ISSN 0020-8671

ACKNOWLEDGEMENTS

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

MEMBERS

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

SPONSORS

REF TEK, Texas, U.S.A.

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

©2012 INTERNATIONAL SEISMOLOGICAL CENTRE
Pipers Lane, Thatcham, Berkshire, RG19 4NS, United Kingdom

Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

ISCJB ***01*** *00:00:14.0±0.6, 39°.13N±0°.04×29°.12E±0°.04, h10km±6km, Error ellipse: s-maj=6.8km s-min=4.5km az=138.6*
CSEM ***01*** *00:00:13.9±0.1, 39°.14N×29°.12E, h10km, MD2.6, Error ellipse: s-maj=3.6km s-min=2.5km az=124.0*
ISK ***01*** *00:00:13.1, 39°.16N×29°.08E, h6km, MD2.5*
DDA ***01*** *00:00:14.2, 39°.10N×29°.15E, h7km, Md2.6*
ISC 01 00:00:13.9±0.9**, 39°.14N**±0°.03×**29°.12E**±0°.03**, h15**km±10km**, n16, σ0s.39**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.28**	**100**	P	**Pg**	**00 00 20.0**	**0.0**
GDZ				S	**Sg**	**00 00 24.0**	**-0.1**
GDZ	**Gediz**	**0.28**	**100**	*i* P	**Pg**	**00 00 20.0**	**0.0**
GDZ				*i* S	**Sg**	**00 00 24.0**	**-0.1**
DEMI	**Demirci**	**0.33**	**253**	P	**Pb**	**00 00 21.3**	**-0.3**
DEMI				S	**Sg**	**00 00 25.9**	**+0.4**
DEMI	**Demirci**	**0.33**	**253**	*i* P	**Pb**	**00 00 21.3**	**-0.3**
DEMI				*i* S	**Sg**	**00 00 25.9**	**+0.4**
TVSB	**Tavsanli**	**0.41**	**40**	*e*PG	**Pg**	**00 00 22.0**	**-0.2**
TVSB				*e*SG	**Sg**	**00 00 27.6**	**-0.1**
TVSB	**Tavsanli**	**0.41**	**40**	*e*Pg	**Pg**	**00 00 22.0**	**-0.2**
TVSB				*e*Sg	**Sg**	**00 00 27.6**	**-0.1**
KULA	**Kula-Manisa**	**0.72**	**210**	*e*PG	**Pg**	**00 00 27.5**	**-0.5**
KULA				*e*SG	**Sg**	**00 00 37.8**	**+0.3**
KULA	**Kula-Manisa**	**0.72**	**210**	*e*Pg	**Pg**	**00 00 27.5**	**-0.5**
KULA				*e*Sg	**Sg**	**00 00 37.8**	**+0.3**
KHAL	**Karahalli**	**0.82**	**159**	P	**Pb**	**00 00 30.2**	**+0.2**
KHAL				S	**Sg**	**00 00 40.2**	**-0.4**
KHAL	**Karahalli**	**0.82**	**159**	*i* P	**Pb**	**00 00 30.2**	**+0.2**
KHAL				*i* S	**Sg**	**00 00 40.2**	**-0.4**
BORA	**Eskisehir**	**1.27**	**54**	P	**Pg**	**00 00 38.7**	**+0.3**
BORA				S	**Sg**	**00 00 54.1**	**-0.8**
BORA	**Eskisehir**	**1.27**	**54**	*i* P	**Pg**	**00 00 38.7**	**+0.3**
BORA				*i* S	**Sg**	**00 00 54.1**	**-0.8**
KCTX	**Karacabey (Bur**	**1.27**	**332**	*e*PN	**Pn**	**00 00 37.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.27**	**332**	*e*Pn	**Pn**	**00 00 37.4**	**+0.2**
ARMT	**Armutlu**	**1.44**	**352**	*e*PN	**Pn**	**00 00 39.9**	**+0.3**
ARMT	**Armutlu**	**1.44**	**352**	*e*Pn	**Pn**	**00 00 39.9**	**+0.3**

IDC 01 00:03:36.6±11.0**, 14°.09N**×**118°.74E, h0**km**, mb3.7**/2**, mb1 4.0**/3**, mb1mx3.4**/36**, mbtmp3.7**/3**, ML4.4**/1**, Error ellipse: s-maj=388.7km s-min=33.2km az=37.0, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.49**	**286**	P	P	00 08 05.3	-0.1
	0.5nm,0.3s,baz=103,slow=8.2,SNR=4.5						
WRA	**Warramunga Arr**	**37.14**	**155**	P	P	00 10 48.8	-0.5
	1.0nm,0.7s,baz=334,slow=9.6,SNR=6.2						
ASAR	**Alice Springs**	**40.35**	**158**	P	P	00 11 16.6	+0.3
	0.6nm,0.5s,baz=337,slow=6.8,SNR=8.6						

ISCJB ***01*** *00:14:36.2±0.3, 21°.63S±0°.03×68°.60W±0°.05, h114km±3km, mb4.4/18, Error ellipse: s-maj=7.1km s-min=4.8km az=163.3*
SJA ***01*** *00:14:36.7±0.7, 21°.65S×68°.66W, h109km±10km, ML3.6, MW4.1*
NEIC ***01*** *00:14:38.0, 21°.61S×68°.82W, h108km, mb4.6/15, After GUC.*
GUC ***01*** *00:14:38.1±0.6, 21°.62S×68°.81W, h108km±4km, ML4.4*
IDC ***01*** *00:14:38.0±0.5, 21°.83S×68°.49W, h113km±5km, mb3.8/7, mb1 4.0/9, mb1mx3.9/16, mbtmp4.2/9, MS3.0/4, Ms1 3.0/4, ms1mx2.8/18, Error ellipse: s-maj=20.1km s-min=12.3km az=115.0*
ISC 01 00:14:36.9±0.6**, 21°.59S**±0°.04×**68°.55W**±0°.05**, h107**km±5km**, n70, σ1s.80**/82**, mb4.3**/18**, 2C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.67**	**252**	*i* P	**Pn**	**00 14 55.2**	**+0.3**
PB09				*i* S	**Sn**	**00 15 07.7**	**-0.7**
PB09				IAML		00 15 10.9	
	comp=N,28μm,0.6s						
PB01	**IPOC Station P**	**1.03**	**302**	*i* P	**Pn**	**00 14 58.4**	**+0.1**
PB01				*i* S	**Sn**	**00 15 13.3**	**-1.0**
PB01	**IPOC Station P**	**1.03**	**302**	*e*Pn	**Pn**	**00 14 57.9**	**-0.4**
PB01				*e*Sn	**Sn**	**00 15 13.8**	**-0.6**
LVC	**Limon Verde**	**1.06**	**198**	*e*P	**Pn**	**00 14 58.9**	**0.0**
LVC				⇓*e*S	**Sn**	**00 15 15.2**	**-0.3**
LVC	**Limon Verde**	**1.06**	**198**	P	**Pn**	**00 14 58.8**	**-0.2**
	comp=N,43μm,0.3s,baz=21,slow=8.2						
LVC				S	**Sn**	**00 15 14.5**	**-1.0**
	comp=N,27μm,0.3s,baz=112,slow=23,SNR=65						
LVC				LR	LR	00 15 14.7	
	comp=N,690nm,19.9s,baz=270,slow=42						
PB07	**IPOC Station P**	**1.25**	**264**	*i* P	**Pn**	**00 15 00.2**	**-0.5**
PB07				*i* S	**Sn**	**00 15 16.5**	**-2.2**
PB07				IAML		00 15 20.0	
	comp=N,8μm,0.2s						
PB06	**IPOC Station P**	**1.46**	**220**	⇑*i*P	**Pn**	**00 15 02.8**	**-0.3**
PB06				*i* S	**Sn**	**00 15 21.9**	**-1.2**
PB08	**IPOC Station P**	**1.55**	**339**	*i* P	**Pn**	**00 15 06.4**	**+1.9**
PB08				*i* S	**Sn**	**00 15 27.5**	**+2.0**
PB08				IAML		00 15 30.1	
	comp=E,6μm,0.5s						
PB04	**IPOC Station P**	**1.66**	**243**	*i* P	**Pn**	**00 15 04.8**	**-0.8**
PB04				*i* S	**Sn**	**00 15 25.4**	**-2.0**
PB04	**IPOC Station P**	**1.66**	**243**	*e*Pn	**Pn**	**00 15 04.6**	**-1.0**
PB04				*e*Sn	**Sn**	**00 15 24.9**	**-2.5**
PB11	**IPOC Station P**	**2.10**	**330**	*i* P	**Pn**	**00 15 12.2**	**+1.0**
PB11				*i* S	**Sn**	**00 15 37.9**	**+0.5**
PB11	**IPOC Station P**	**2.10**	**330**	*e*Pn	**Pn**	**00 15 11.9**	**+0.8**
PB11				*e*Sn	**Sn**	**00 15 36.4**	**-0.9**
PB10	**IPOC Station P**	**2.66**	**224**	*e*Pn	**Pn**	**00 15 17.6**	**-0.7**
PB10				*e*Sn	**Sn**	**00 15 45.4**	**-4.7**
YJA	**Yavi**	**2.88**	**102**	*e*P	**Pn**	**00 15 24.4**	**+2.8**
YJA				IAML		00 15 28.6	
	comp=Z,86nm,0.7s						
HJA	**Humahuaca**	**3.32**	**119**	*e*P	**Pn**	**00 15 30.1**	**+2.6**
HJA				IAML		00 15 31.7	
	comp=Z,100nm,0.4s						
AZAP	**Zapla**	**4.14**	**130**	*e*P	**Pn**	**00 15 39.9**	**+1.6**
AZAP				IAML		00 15 43.5	
	comp=Z,28nm,0.5s						
SLA	**San Lorenzo**	**4.19**	**139**	*e*P	**Pn**	**00 15 41.2**	**+2.3**
SLA				IAML		00 15 43.0	
	comp=Z,68nm,0.8s						
ASTB	**Santa Barbara**	**4.45**	**123**	*e*P	**Pn**	**00 15 43.2**	**+0.8**
FSA	**Cafayete**	**5.08**	**153**	*e*P	**Pn**	**00 15 51.8**	**+0.9**
LPAZ	**La Paz**	**5.29**	**4**	LR	LR	00 18 48.4	
	comp=Z,110nm,20.9s,baz=201,slow=45						
LPAZ	**La Paz**	**5.29**	**4**	*e*Pn	**Pn**	**00 15 57.0**	**+2.7**
AHML	**Horco Molle**	**5.94**	**151**	⇓*e*P	**Pn**	**00 16 03.2**	**+0.7**
AHML				IAML		00 16 04.5	
	comp=Z,18nm,0.8s						
VCA	**Vinchina**	**7.12**	**178**	*e*P	**Pn**	**00 16 18.6**	**0.0**
VCA				IAML		00 17 16.9	
	comp=Z,30nm,0.6s						
CYA	**Choya**	**7.26**	**160**	IAML		00 16 23.0	
	comp=Z,7.5nm,0.5s						
LCO	**Las Campanas**	**7.64**	**194**	Pn	**Pn**	**00 16 25.4**	**-0.3**
LCO				*e*Sn	**Sn**	**00 17 56.0**	**+5.3**
SIV	**San Ignacio**	**9.01**	**53**	P	**Pn**	**00 16 42.2**	**-2.0**
	comp=Z,14nm,0.3s,baz=252,slow=13,SNR=205						
SIV				S	**Sn**	**00 18 18.6**	**-5.4**
	comp=Z,0.3nm,0.3s,baz=136,slow=22,SNR=4.0						
SIV				LR	LR	00 20 42.9	
	comp=Z,73nm,20.9s,baz=296,slow=40						
CPUP	**Villa Florida**	**11.29**	**117**	P	**Pn**	**00 17 12.6**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=298,slow=13,SNR=10						
CPUP	**Villa Florida**	**11.29**	**117**	*e*Pn	**Pn**	**00 17 12.9**	**-2.1**
NNA	**Nana**	**12.41**	**319**	LR	LR	00 21 58.8	
	comp=Z,37nm,19.6s,baz=196,slow=35						
SAML	**Samuel**	**13.59**	**23**	*e*Pn	**Pn**	**00 17 44.1**	**-1.3**
TRQA	**Tornquist**	**17.36**	**162**	*e*P	**P**	**00 18 31.8**	**-0.5**
	comp=Z,7.7nm,0.7s						
PLCA	**Paso Flores**	**19.16**	**185**	P	**P**	**00 18 50.8**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=28,slow=13,SNR=29						
PLCA	**Paso Flores**	**19.16**	**185**	*e*P	**P**	**00 18 51.3**	**-0.6**
	comp=Z,9.5nm,0.8s						
SPB	**Sao Paulo**	**19.60**	**100**	*e*P	**P**	**00 18 56.3**	**-0.6**
	comp=Z,30nm,1.1s						
BDFB	**Brasilia**	**20.34**	**77**	P	**P**	**00 19 03.7**	**-1.3**
	comp=Z,4.1nm,0.4s,baz=246,slow=11,SNR=11						
BDFB	**Brasilia**	**20.34**	**77**	*e*P	**P**	**00 19 04.1**	**-0.8**
	comp=Z,13nm,0.8s						
PTGA	**Pitinga**	**22.36**	**23**	P	**P**	**00 19 24.8**	**-1.5**
	comp=Z,9.3nm,0.5s,baz=218,slow=12,SNR=20						
PTGA	**Pitinga**	**22.36**	**23**	*e*P	**P**	**00 19 24.9**	**-1.4**
	comp=Z,9.8nm,0.7s						
CHRN	**Cochrane**	**25.80**	**186**	*e*P	**P**	**00 19 58.1**	**+0.3**
	comp=Z,4.9nm,0.7s						
RCBR	**Riachuelo**	**35.27**	**68**	*e*P	**P**	**00 21 20.7**	**-1.0**
	comp=Z,24nm,0.9s						
FDF	**Fort de France**	**36.83**	**12**	*e*P	**P**	**00 21 34.6**	**-0.2**
	comp=Z,54nm,1.0s						
CELP	**Cerrillos**	**39.47**	**3**	*e*P	**P**	**00 21 54.5**	**-2.5**
CBYP	**Canovanas**	**39.71**	**4**	*e*P	**P**	**00 21 57.0**	**-2.0**
CBYP				*e*pP	**pP**	**00 22 19.1**	**-4.3**
TXAR	**Lajitas Array**	**60.90**	**325**	P	**P**	**00 24 39.2**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=132,slow=7.3,SNR=4.3						
SNAA	**Sanae**	**62.08**	**161**	*e*P	**P**	**00 24 45.5**	**-0.5**
	comp=Z,4.7nm,0.7s						
LIC	**Lamto**	**68.09**	**74**	*e*P	P	00 25 30.8	+5.1
TIC	**Toumodi**	**68.29**	**73**	*e*P	**P**	**00 25 28.0**	**+1.1**
KIC	**Kosan Boka**	**68.41**	**74**	*e*P	**P**	**00 25 27.3**	**-0.4**
	comp=Z,17nm,0.7s						
DBIC	**Dimbokro**	**68.44**	**73**	P	**P**	**00 25 27.7**	**-0.2**
	comp=Z,8.2nm,0.6s,baz=226,slow=6.6,SNR=20						
DBIC	**Dimbokro**	**68.44**	**73**	*e*P	**P**	**00 25 28.0**	**+0.1**
	comp=Z,14nm,0.9s						
QSPA	**South Pole Qui**	**68.60**	**180**	*e*P	**P**	**00 25 29.1**	**+0.9**
	comp=Z,12nm,0.4s						
KNB	**Kanab**	**71.70**	**324**	*e*P	**P**	**00 25 51.0**	**+3.5**
	comp=Z,4.4nm,1.0s						
KOWA	**Kowa**	**72.75**	**66**	*e*P	**P**	**00 25 53.7**	**-0.3**
	comp=Z,1.8nm,0.7s						
PDAR	**Pinedale Array**	**74.36**	**330**	P	**P**	**00 26 04.5**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=3.8						
SYO	**Syowa Base**	**76.30**	**159**	⇑*e*P	**P**	**00 26 12.7**	**-0.9**
DGMT	**Dagmar**	**76.69**	**337**	*e*P	**P**	**00 26 17.5**	**+1.5**
	comp=Z,18nm,0.4s						
VNDA	**Vanda**	**76.81**	**190**	P	**P**	**00 26 18.4**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=138,slow=4.5,SNR=4.3						
YBMT	**Yellow Bay**	**80.27**	**331**	*e*P	**P**	**00 26 38.0**	**+2.2**
BLMT	**Blacktail Moun**	**80.54**	**331**	*e*P	**P**	**00 26 37.1**	**-0.3**
BSMT	**Bassoo Peak**	**80.61**	**330**	*e*P	**P**	**00 26 39.0**	**+1.1**
MDT	**Midelt**	**81.55**	**50**	LR	LR	01 03 55.5	
	comp=Z,19nm,18.1s,slow=36						
B08A	**Colville Reser**	**83.12**	**329**	*e*P	**P**	**00 26 51.2**	**+0.4**
	comp=Z,34nm,1.1s						
MAW	**Mawson**	**84.14**	**163**	P	**P**	**00 26 56.4**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=205,slow=6.1,SNR=15						
ESDC	**Sonseca Array**	**85.67**	**44**	P	**P**	**00 27 04.5**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=216,slow=4.1,SNR=4.3						
YKA	**Yellowknife Ar**	**91.39**	**340**	P	**P**	**00 27 30.7**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=134,slow=4.4,SNR=22						
YKA				pP	**pP**	**00 28 02.0**	**+3.8**
	comp=Z,0.7nm,0.7s,baz=135,slow=4.5,SNR=3.9						
YKB5	**Yellowknife Ar**	**91.39**	**340**	*e*P	**P**	**00 27 30.6**	**+0.3**
ASAR	**Alice Springs**	**129.98**	**207**	PKP	**PKPdf**	**00 33 35.1**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=165,slow=3.2,SNR=9.0						
ASAR				pPKP	**pPKPdf**	**00 34 06.5**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=145,slow=3.4,SNR=3.0						
WRA	**Warramunga Arr**	**133.04**	**210**	PKP	**PKPdf**	**00 33 41.2**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=154,slow=1.9,SNR=9.0						
ZALV	**Zalesovo Beam**	**141.90**	**25**	pPKP	pPKPdf	00 34 30.1	+5.0
	comp=Z,1.2nm,0.7s,baz=293,slow=3.5,SNR=3.3						
MKAR	**Makanchi Array**	**145.51**	**36**	PKPbc	**PKPab**	**00 34 04.3**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=319,slow=5.5,SNR=17						
MKAR				pPKPbc	pPKPbc	00 34 34.1	+2.5
	comp=Z,3.4nm,0.8s,baz=336,slow=2.7,SNR=13						

ISK ***01*** *00:28:43.2, 39°.12N×29°.07E, h5km, MD2.5*
ISCJB ***01*** *00:28:44.1±0.6, 39°.12N±0°.04×29°.09E±0°.05, h9km, Error ellipse: s-maj=6.8km s-min=4.2km az=146.0*
DDA ***01*** *00:28:44.3, 39°.13N×29°.09E, h7km, Ml1.7*
CSEM ***01*** *00:28:44.1±0.1, 39°.12N×29°.09E, h10km, MD2.5, Error ellipse: s-maj=4.5km s-min=3.3km az=123.0*
ISC 01 00:28:43.7±1.0**, 39°.14N**±0°.03×**29°.05E**±0°.03**, h9**km**, n14, σ0s.35**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**250**	P	**Pb**	**00 28 50.8**	**0.0**
DEMI				S	**Sb**	**00 28 55.2**	**-0.5**
DEMI	**Demirci**	**0.27**	**250**	*i* P	**Pb**	**00 28 50.8**	**0.0**
DEMI				*i* S	**Sb**	**00 28 55.1**	**-0.5**
GDZ	**Gediz**	**0.34**	**98**	P	**Pg**	**00 28 50.8**	**+0.3**
GDZ				S	**Sg**	**00 28 55.1**	**+0.1**
GDZ	**Gediz**	**0.34**	**98**	*i* P	**Pg**	**00 28 50.8**	**+0.3**
GDZ				*i* S	**Sg**	**00 28 55.1**	**+0.1**
TVSB	**Tavsanli**	**0.45**	**46**	*e*PG	**Pg**	**00 28 52.4**	**-0.1**
TVSB				*e*SG	**Sg**	**00 28 58.9**	**+0.5**
TVSB	**Tavsanli**	**0.45**	**46**	*e*Pg	**Pg**	**00 28 52.4**	**-0.1**
TVSB				*e*Sg	**Sg**	**00 28 58.9**	**+0.5**
KULA	**Kula-Manisa**	**0.69**	**206**	*e*PG	**Pg**	**00 28 57.0**	**-0.1**
KULA				*e*SG	**Sg**	**00 29 06.8**	**+0.7**
KULA	**Kula-Manisa**	**0.69**	**206**	*e*Pg	**Pg**	**00 28 57.0**	**-0.1**
KULA				*e*Sg	**Sg**	**00 29 06.8**	**+0.7**
KHAL	**Karahalli**	**0.84**	**155**	P	**Pb**	**00 29 00.2**	**-0.3**
KHAL	**Karahalli**	**0.84**	**155**	*i* P	**Pb**	**00 29 00.2**	**-0.3**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**Pg**	**00 29 07.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn	**Pg**	**00 29 07.7**	**+0.1**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN	**Pg**	**00 29 11.3**	**+0.1**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn	**Pg**	**00 29 11.3**	**+0.1**

SCB 01 00:34:23.0±0.8**, 16°.73S**×**70°.66W, h12**km**, Ml3.7**/1**, 4D, Error ellipse: s-maj=28.7km s-min=14.5km az=151.0, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBOD	**La Paz, Gloria**	**1.98**	**88**	⇓*i*Pn	Pg	00 35 03.0	+1.9
BBOJ	**La Paz, Jacaqu**	**2.38**	**96**	⇓*i*Pn	Pg	00 35 08.5	-0.2
LPAZ	**La Paz**	**2.47**	**80**	*e*Pn	Pg	00 35 10.0	-0.4
LPAZ				*e*Sn	Sg	00 35 43.4	+0.9
BBOB	**La Paz, Bander**	**2.50**	**77**	⇓*i*Pn	Pg	00 35 10.4	-0.6
BBOB				*e*Sn	Sg	00 35 45.0	+1.6
	138nm,0.5s						
BBOE	**La Paz, Chanca**	**2.57**	**92**	⇓*i*Pn	Pg	00 35 11.8	-0.5

ISCJB ***01*** *00:40:33.2±0.9, 51°.41N±0°.04×16°.18E±0°.04, h0km, Error ellipse: s-maj=6.0km s-min=3.5km az=18.7*
CSEM ***01*** *00:40:34.8±0.4, 51°.41N×16°.19E, h2km, ML2.8/8, Error ellipse: s-maj=5.9km s-min=3.3km az=4.0*
WAR ***01*** *00:40:35.1, 51°.44N×16°.20E, h1km, Mw2.1*
ISC 01 00:40:35.2±1.2**, 51°.42N**±0°.06×**16°.15E**±0°.03**, h0**km**, n29, σ0s.40**/55**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58**	**171**	*e*Pg	**Pg**	**00 40 46.4**	**+0.1**
KSP				*e*Sg	**Sg**	**00 40 54.2**	**+0.4**
KSP	**Ksiaz**	**0.58**	**171**	*e*Pg	**Pg**	**00 40 46.4**	**+0.1**
KSP				*e*Sg	**Sg**	**00 40 54.2**	**+0.4**
KSP	**Ksiaz**	**0.58**	**171**	*e*Pg	**Pg**	**00 40 46.4**	**+0.1**
KSP				*e*Sg	**Sg**	**00 40 54.2**	**+0.4**
UPC	**Upice**	**0.92**	**186**	*e*PG	**Pg**	**00 40 53.1**	**+0.4**
UPC				*e*SG	**Sg**	**00 41 05.3**	**+0.8**
	23nm,0.3s						
UPC	**Upice**	**0.92**	**186**	Pg	**Pg**	**00 40 53.1**	**+0.4**
UPC				Sg	**Sg**	**00 41 05.3**	**+0.8**
	23nm,0.3s						
DPC	**Dobruska-Polom**	**1.07**	**174**	*e*PG	**Pg**	**00 40 55.4**	**-0.3**
DPC				*e*SG	**Sg**	**00 41 09.9**	**+0.3**
	7.3nm,0.4s						
DPC	**Dobruska-Polom**	**1.07**	**174**	Pg	**Pg**	**00 40 55.4**	**-0.3**
DPC				Sg	**Sg**	**00 41 09.9**	**+0.3**
	7.3nm,0.4s						
PVCC	**Panska Ves**	**1.34**	**229**	*e*PG	**Pn**	**00 41 01.1**	**0.0**
PVCC				*e*SG	**Sn**	**00 41 19.5**	**-0.1**
	35nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**229**	Pg	**Pn**	**00 41 01.1**	**0.0**
PVCC				Sg	**Sn**	**00 41 19.5**	**-0.1**
	35nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**250**	PG	**Pg**	**00 41 03.8**	**0.0**
BRG				SG	**Sn**	**00 41 23.8**	**+0.3**
	9.8nm,0.8s						
GOPC	**GO Pecny, Ondr**	**1.74**	**211**	*e*PG	**Pb**	**00 41 07.8**	**-0.1**
GOPC				*e*SG	**Sb**	**00 41 30.4**	**+0.1**
	4.4nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.74**	**211**	Pg	**Pb**	**00 41 07.8**	**-0.1**
GOPC				Sg	**Sb**	**00 41 30.4**	**+0.1**
	4.4nm,0.2s						
PRU	**Pruhonice**	**1.76**	**216**	*e*PG	**Pb**	**00 41 08.0**	**-0.3**
PRU				*e*SG	**Sg**	**00 41 31.5**	**-0.2**
	6.7nm,0.3s						
PRU	**Pruhonice**	**1.76**	**216**	Pg	**Pb**	**00 41 08.0**	**-0.3**
PRU				Sg	**Sg**	**00 41 31.5**	**-0.2**
	6.7nm,0.3s						
MORC	**Moravsky Berou**	**1.86**	**151**	*e*Pn	**Pn**	**00 41 07.1**	**-1.3**
MORC				*e*Sg	**Sn**	**00 41 33.1**	**+0.4**
CLL	**Collm**	**1.98**	**268**	*e*Pg	**Pg**	**00 41 13.0**	**-0.1**
CLL				*e*Sg	**Sg**	**00 41 39.0**	**+0.3**
	comp=Z,6.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.03**	**140**	*e*PG	**Pb**	**00 41 13.1**	**+0.2**
OKC				*e*SG	**Sb**	**00 41 38.1**	**-0.5**
	comp=Z,4.2nm,0.5s						
OKC	**Ostrava-Krasne**	**2.03**	**140**	Pg	**Pb**	**00 41 13.1**	**+0.2**
OKC				Sg	**Sb**	**00 41 38.1**	**-0.5**
	comp=Z,4.2nm,0.5s						
TREC	**Trest**	**2.17**	**192**	*e*PG	**Pb**	**00 41 15.5**	**+0.2**
TREC				*e*SG	**Sg**	**00 41 44.2**	**-0.5**
	comp=Z,3.4nm,0.3s						
TREC	**Trest**	**2.17**	**192**	Pg	**Pb**	**00 41 15.5**	**+0.2**
TREC				Sg	**Sg**	**00 41 44.2**	**-0.5**
	comp=Z,3.4nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**245**	*e*PN	**Pn**	**00 41 19.2**	**+0.3**
NKC				*e*PG	**Pg**	**00 41 25.3**	**-0.3**
NKC				*e*SG	**Sg**	**00 41 59.9**	**+0.2**
	comp=Z,8.5nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**245**	Pn	**Pn**	**00 41 19.2**	**+0.3**
KHC	**Kasperske Hory**	**2.82**	**217**	*e*PG	**Pg**	**00 41 29.5**	**+0.3**
KHC				*e*SN	**Sn**	**00 41 56.0**	**-0.3**
KHC				*e*SG	**Sg**	**00 42 05.5**	**-0.3**
KHC	**Kasperske Hory**	**2.82**	**217**	Pg	**Pg**	**00 41 29.5**	**+0.3**
KHC				Sn	**Sn**	**00 41 56.0**	**-0.3**
KHC				Sg	**Sg**	**00 42 05.5**	**-0.3**
SMOL	**Smolenice**	**3.02**	**164**	*e*PG	**Pg**	**00 41 32.8**	**-0.2**
LANS	**Liptovska Anna**	**3.11**	**136**	*e*Sg	**Sb**	**00 42 10.6**	**+0.8**
LANS	**Liptovska Anna**	**3.11**	**136**	*e*SG	**Sb**	**00 42 10.6**	**+0.8**
STHS	**Stebnicka Huta**	**3.82**	**120**	*e*Pg	**Pg**	**00 41 48.3**	**-0.1**
STHS	**Stebnicka Huta**	**3.82**	**120**	*e*PG	**Pg**	**00 41 48.3**	**-0.1**

NIED ***01*** *00:54:00, 36°.80N×140°.60E, h5km, Mw3.5 Best double couple: M0 2.26000×10[14] NP1: φs334.00000°, δ20.00000°, λ-126.00000°. NP2: φs191.00000°, δ74.00000°, λ-78.00000°.*
JMA 01 00:54:57.0, 36°.83N×**140°.57E, h6**km±1km**, M3.7, 7C-1D Broadband fault plane solution: P waves. NP1:** φs180.00000°**,** δ68.00000°**,** λ-76.00000°. **NP2:** φs325.00000°**,** δ26.00000°**,** λ-122.00000°. **Principal axes:** T Plg22.0000°**,** Azm259.0000°**;** N Plg13.0000°**,** Azm354.0000°**;** P Plg64.0000°**,** Azm113.0000°**; Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.22**	**180**	⇓P	Pg	00 55 01.3	0.0
JHO				S	Sg	00 55 04.6	+0.4
ONAJ	**Iwakimizuishiy**	**0.33**	**34**	⇑P	Pg	00 55 03.4	0.0
ONAJ				S	Sg	00 55 08.0	+0.2
JSB	**Shiboa**	**0.54**	**285**	⇑P	Pb	00 55 08.2	-0.7
JSB				S	Sb	00 55 16.0	-0.9
JFK	**Kawauchi**	**0.59**	**24**	⇑P	Pg	00 55 08.0	-0.3
JFK				S	Sg	00 55 16.2	+0.2
JYT	**Yasato**	**0.67**	**207**	⇑P	Pg	00 55 09.7	-0.2
JYT				S	Sg	00 55 18.6	-0.1
JFT	**Otama**	**0.71**	**345**	⇑P	Pg	00 55 10.8	+0.1
JFT				S	Sg	00 55 20.5	+0.5
JFY	**Yanaizu**	**0.90**	**310**	⇑P	Pg	00 55 13.9	-0.4
JFY				S	Sg	00 55 26.0	0.0
JAG	**Ashikaga**	**0.98**	**246**	⇑P	Pg	00 55 15.0	-0.9
JAG				S	Sg	00 55 29.0	+0.3
MAT	**Matsushiro**	**1.92**	**262**	P	Pn	00 55 30.6	+0.3
MAT				S	Sb	00 55 56.2	-0.5

GUC ***01*** *00:56:52.4±0.8, 30°.43S×71°.11W, h67km±349km, ML3.8*
SJA ***01*** *00:56:52.5±1.1, 30°.48S×70°.46W, h128km±26km, ML3.9, MW4.0*
ISCJB ***01*** *00:56:53.9±0.6, 30°.42S±0°.03×70°.59W±0°.07, h50km, Error ellipse: s-maj=8.7km s-min=4.2km az=12.9*
ISC 01 00:56:54.9±1.3**, 30°.42S**±0°.04×**70°.59W**±0°.07**, h50**km**, n19, σ0s.82**/22**, 2C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**1.76**	**141**	*e*P	**Pn**	**00 57 23.9**	**+0.7**
VACH	**Vallenar**	**1.85**	**355**	⇑*i*P	**Pn**	**00 57 23.7**	**-0.5**
VACH				*i* S	**Sn**	**00 57 47.0**	**+0.7**
AMOG	**MOGNA**	**1.88**	**106**	*e*P	**Pn**	**00 57 24.2**	**-0.4**
AMOG				*e*S	**Sn**	**00 57 47.9**	**+0.8**
RTLL	**Cerro Villicun**	**2.03**	**117**	*e*P	**Pn**	**00 57 25.4**	**-1.3**
AGUA	**GUANDACOL**	**2.04**	**63**	*e*P	**Pn**	**00 57 27.1**	**+0.1**
AUSP	**Uspallata**	**2.07**	**151**	*e*P	**Pn**	**00 57 28.3**	**+0.9**
RTCV	**Cerro Valdivia**	**2.27**	**130**	*e*P	**Pn**	**00 57 29.3**	**-0.6**
ROCH	**El Roble**	**2.57**	**188**	*e*P	**Pn**	**00 57 33.4**	**-0.8**
ROCH				*i* S	**Sn**	**00 58 04.6**	**+0.2**
ROCH				AML	AML	00 58 19.0	
	comp=N,466nm,0.6s						
ROC1	**El Roble**	**2.57**	**188**	*e*P	**Pn**	**00 57 33.9**	**-0.4**
VCA	**Vinchina**	**2.67**	**52**	*e*P	**Pn**	**00 57 35.6**	**0.0**
VCA				IAML		00 58 12.0	
	comp=Z,505nm,0.6s						
PEL	**Peldehue**	**2.71**	**182**	⇑*i*P	**Pn**	**00 57 35.8**	**-0.3**
PEL				*i* S	**Sn**	**00 58 08.1**	**+0.4**
PEL				AML	AML	00 58 21.6	
	comp=E,170nm,0.6s						
CLCH	**Cerro Calan**	**2.96**	**179**	*e*P	**Pn**	**00 57 40.3**	**+0.8**
CLCH				*i* S	**Sn**	**00 58 15.2**	**+1.2**
CLCH				AML	AML	00 58 27.8	
	comp=E,382nm,0.5s						
RCDM	**Rinconada Maip**	**3.06**	**183**	*e*P	**Pn**	**00 57 39.5**	**-1.3**
RCDM				*i* S	**Sn**	**00 58 16.1**	**-0.2**
ANTU	**Antumapu**	**3.14**	**181**	*e*P	Pn	00 57 47.1	+5.3
ANTU				*e*S	**Sn**	**00 58 18.6**	**+0.4**
ACAN	**Cantantal**	**3.44**	**123**	*e*P	**Pn**	**00 57 44.4**	**-1.7**
MRA	**San Martin**	**4.61**	**117**	*e*P	Pn	00 57 59.1	-3.1
MRA				IAML		00 58 50.5	
	comp=Z,120nm,0.4s						
CYA	**Choya**	**4.62**	**66**	*e*P	Pn	00 57 58.9	-3.2
CYA				IAML		00 58 01.2	
	comp=Z,71nm,0.7s						
TCA	**Tanti**	**5.23**	**102**	*e*P	Pn	00 58 06.5	-4.1
TCA				IAML		00 59 06.9	
	comp=Z,58nm,0.6s						
FSA	**Cafayete**	**5.91**	**45**	*e*P	**Pn**	**00 58 19.7**	**-0.4**

ISK ***01*** *00:58:35.6, 39°.11N×29°.15E, h7km, MD2.8*
ISCJB ***01*** *00:58:36.1±0.6, 39°.11N±0°.04×29°.12E±0°.04, h7km±7km, Error ellipse: s-maj=7.0km s-min=5.0km az=160.8*
DDA ***01*** *00:58:36.0, 39°.11N×29°.11E, h7km, Ml2.6*
CSEM ***01*** *00:58:36.2±0.1, 39°.10N×29°.14E, h8km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.9km az=2.0*
ISC 01 00:58:36.2±1.0**, 39°.11N**±0°.03×**29°.12E**±0°.03**, h9**km±9km**, n31, σ0s.45**/41**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.28**	**93**	P	**Pg**	**00 58 42.1**	**+0.2**
GDZ				S	**Sg**	**00 58 46.3**	**+0.6**
GDZ	**Gediz**	**0.28**	**93**	*i* P	**Pg**	**00 58 42.1**	**+0.2**
GDZ				*i* S	**Sg**	**00 58 46.3**	**+0.6**
DEMI	**Demirci**	**0.32**	**259**	P	**Pb**	**00 58 43.5**	**-0.7**
DEMI				S	**Sg**	**00 58 47.0**	**+0.1**
DEMI	**Demirci**	**0.32**	**259**	*i* P	**Pb**	**00 58 43.5**	**-0.7**
DEMI				*i* S	**Sg**	**00 58 47.0**	**+0.1**
TVSB	**Tavsanli**	**0.43**	**37**	*e*PG	**Pg**	**00 58 44.3**	**-0.4**
TVSB				*e*SG	**Sg**	**00 58 50.5**	**0.0**
TVSB	**Tavsanli**	**0.43**	**37**	*e*Pg	**Pg**	**00 58 44.3**	**-0.4**
TVSB				*e*Sg	**Sg**	**00 58 50.5**	**0.0**
KHL	**Karahalli**	**0.84**	**158**	*e*PG	**Pg**	**00 58 52.0**	**-0.4**
KHL				*e*SG	**Sb**	**00 59 04.0**	**-0.4**
KHL	**Karahalli**	**0.84**	**158**	*e*Pg	**Pg**	**00 58 52.0**	**-0.4**
KHL				*e*Sg	**Sb**	**00 59 04.1**	**-0.4**
BALB	**Balikesir**	**1.10**	**299**	*e*PN	**Pb**	**00 58 57.5**	**+0.2**
BALB				*e*SN	**Sn**	**00 59 13.8**	**+0.7**
BALB	**Balikesir**	**1.10**	**299**	*e*Pn	**Pb**	**00 58 57.6**	**+0.2**
BALB				*e*Sn	**Sn**	**00 59 13.8**	**+0.7**
IGD	**Bursa**	**1.16**	**3**	*i* P	**Pg**	**00 58 57.5**	**-0.9**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*PN	**Pg**	**00 58 59.1**	**-0.7**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pg**	**00 58 59.1**	**-0.7**
IZI	**Iznik**	**1.26**	**12**	*e*PN	**Pg**	**00 59 00.2**	**-0.2**
IZI	**Iznik**	**1.26**	**12**	*e*Pn	**Pg**	**00 59 00.2**	**-0.2**

MDNY	**Mudanya-Bursa**	**1.27**	**352**	*e*PN	**Pg**	**00 59 00.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**352**	*e*Pn	**Pg**	**00 59 00.5**	**-0.2**
BORA	**Eskisehir**	**1.29**	**53**	P	**Pg**	**00 59 00.9**	**0.0**
BORA	**Eskisehir**	**1.29**	**53**	*i* P	**Pg**	**00 59 00.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*PN	**Pn**	**00 59 00.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*Pn	**Pn**	**00 59 00.6**	**+0.1**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*PN	**Pn**	**00 59 02.0**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*Pn	**Pn**	**00 59 02.1**	**0.0**
GONE	**Gonen-Balikesi**	**1.45**	**311**	*e*PN	**Pb**	**00 59 03.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.45**	**311**	*e*Pn	**Pb**	**00 59 03.4**	**0.0**
ARMT	**Armutlu**	**1.47**	**352**	*e*PN	**Pn**	**00 59 03.2**	**+0.3**
ARMT	**Armutlu**	**1.47**	**352**	*e*Pn	**Pn**	**00 59 03.2**	**+0.3**
EDC	**Edincik**	**1.57**	**322**	*e*PN	**Pn**	**00 59 05.0**	**+0.7**
EDC	**Edincik**	**1.57**	**322**	*e*Pn	**Pn**	**00 59 05.0**	**+0.7**
GULT	**Gulveren**	**1.71**	**39**	*e*PN	**Pb**	**00 59 07.2**	**-0.6**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pb**	**00 59 07.2**	**-0.6**

IDC 01 01:00:02.0±12.0**, 14°.47N**×**119°.16E, h0**km**, mb3.7**/2**, mb1 4.0**/3**, mb1mx3.3**/45**, mbtmp3.7**/3**, ML4.5**/1**, MS2.4**/1**, Ms1 2.6**/1**, ms1mx2.2**/37**, Error ellipse: s-maj=418.7km s-min=33.2km az=37.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.78**	**284**	P	P	01 04 34.0	0.0
	0.5nm,0.3s,baz=92,slow=8.1,SNR=4.6						
CMAR				LR	LR	01 11 39.4	
	comp=Z,11nm,18.6s,baz=15,slow=35						
WRA	**Warramunga Arr**	**37.32**	**156**	P	P	01 07 15.7	-0.5
	0.8nm,0.8s,baz=334,slow=9.4,SNR=5.7						
ASAR	**Alice Springs**	**40.56**	**159**	P	P	01 07 43.6	+0.2
	0.5nm,0.5s,baz=335,slow=6.5,SNR=8.4						

DDA 01 01:07:05.2, 39°.03N×40°.34E, h7km, Md2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGOL	**Bingol**	**0.26**	**99**	*i* P	Pg	01 07 09.9	-0.4
BGOL				*i* S	Sg	01 07 14.0	+0.2
TNCL	**Tunceli-Merkez**	**0.63**	**278**	*i* P	Pg	01 07 17.7	+0.3
TNCL				*i* S	Sb	01 07 26.7	-1.0
BNGL	**BINGOL**	**0.63**	**97**	*i* P	Pb	01 07 18.1	-0.6
BNGL				*i* S	Sb	01 07 27.8	-0.1

*KRNET **01** 01:13:16.5±0.1, 39°.34N×71°.89E, mb2.3*
*ISCJB **01** 01:13:18.0±1.4, 39°.10N±0°.08×71°.78E±0°.07, h33km, Error ellipse: s-maj=11.0km s-min=7.7km az=173.0*
*NNC **01** 01:13:20.6±2.2, 39°.41N×72°.02E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=26.4km s-min=8.1km az=140.0*
ISC 01 01:13:21.6±1.6**, 39°.2N**±0°.1×**71°.80E**±0°.06**, h33**km**, n13, σ1s77**/26**, 14C-11D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.13**	**318**	⇓*e*P	**Pn**	**01 13 37.5**	**-3.7**
	baz=311						
BTK				⇓*i*S	**Sn**	**01 13 53.9**	**-1.7**
	baz=311						
ARSB	**Arslanbob**	**2.29**	**23**	⇑*e*P	**Pn**	**01 13 55.5**	**-1.7**
	baz=22						
ARSB				⇑*e*S	**Sn**	**01 14 25.1**	**+0.9**
	baz=22						
DZET	**Dzherino**	**2.35**	**261**	⇑Pn	**Pb**	**01 14 02.3**	**-1.0**
	2.2nm,0.3s						
DZET				⇓Sn	**Sb**	**01 14 36.9**	**+4.8**
	12nm,0.4s						
ARK	**Arkit**	**2.58**	**3**	⇑*i*P	**Pn**	**01 13 59.8**	**-1.3**
	baz=2.0						
ARK				⇑*i*S	**Sn**	**01 14 32.9**	**+1.5**
	baz=2.0						
AML	**Almayashu**	**3.24**	**26**	⇑*i*P	**Pn**	**01 14 10.6**	**+0.1**
	baz=25						
AML				⇑*i*S	**Sn**	**01 14 47.6**	**-0.6**
	baz=25						
ARLS	**Aral**	**3.26**	**35**	⇓*e*P	**Pn**	**01 14 09.2**	**-1.4**
	baz=36						
ARLS				⇓*e*S	**Sn**	**01 14 48.3**	**-0.1**
	baz=36						
MNAS	**Manas**	**3.31**	**9**	⇓*i*P	**Pn**	**01 14 10.1**	**-1.1**
	baz=8.0						
MNAS				⇓*i*S	**Sn**	**01 14 50.1**	**+0.7**
	baz=8.0						
MNAS	**Manas**	**3.31**	**9**	⇓Pn	**Pn**	**01 14 10.0**	**-1.2**
	1.4nm,0.4s						
MNAS				⇑Sn	**Sn**	**01 14 49.5**	**+0.1**
	8.2nm,0.4s						
UCH	**Uchtor**	**3.64**	**34**	⇑*i*P	**Pn**	**01 14 15.8**	**-0.3**
	baz=34						
UCH				⇑*i*S	**Sn**	**01 14 57.5**	**-0.6**
	baz=34						
KZA	**Kyzart**	**3.88**	**42**	⇑*i*P	**Pn**	**01 14 17.9**	**-1.3**
	baz=42						
KZA				⇑*i*S	**Sn**	**01 15 04.9**	**+1.1**
	baz=42						
AAK	**Ala-Archa**	**3.97**	**30**	⇓Pn	**Pn**	**01 14 19.1**	**-1.3**
	3.3nm,0.8s						
AAK				⇑Sn	**Sn**	**01 15 08.0**	**+2.2**
	5.4nm,0.6s						
KK31	**Karatay Array**	**4.00**	**346**	Pn	**Pn**	**01 14 21.1**	**+0.5**
	1.1nm,0.4s,baz=156,slow=12,SNR=22						
KK31				⇑Sn	**Sn**	**01 15 08.2**	**+1.9**
	0.9nm,0.3s,baz=163,slow=30,SNR=4.1						
TKM2	**Tokmak 2**	**4.68**	**37**	⇓Pn	**Pn**	**01 14 30.5**	**+0.4**
	1.0nm,0.5s						
TKM2				⇓Sn	**Sn**	**01 15 21.1**	**-2.2**
	3.5nm,0.6s						

*ISK **01** 01:14:21.7, 34°.70N×25°.29E, h36km, MD3.6*
*THE **01** 01:14:22.8, 34°.94N×25°.56E, h1km, ML2.8/11, Error ellipse: s-maj=1.2km s-min=0.5km az=167.0*
*ATH **01** 01:14:22.6, 34°.95N×25°.55E, h19km±1km, ML2.8/6, Error ellipse: s-maj=1.8km s-min=0.9km az=352.0*
*ISCJB **01** 01:14:23.1±0.7, 34°.94N±0°.04×25°.55E±0°.02, h7km±3km, Error ellipse: s-maj=6.2km s-min=3.3km az=175.7*
*CSEM **01** 01:14:23.6±0.3, 34°.99N×25°.54E, h2km, ML2.8, Error ellipse: s-maj=7.6km s-min=3.3km az=177.0*
ISC 01 01:14:23.6±0.9**, 34°.94N**±0°.03×**25°.54E**±0°.02**, h19**km±2km**, n103, σ1s46**/135**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.22**	**347**	P	**Pb**	**01 14 27.6**	**-1.2**
LAST				S	**Sb**	**01 14 31.8**	**-0.4**
LAST	**Lasithi**	**0.22**	**347**	P	**Pb**	**01 14 28.0**	**-0.8**
LAST				S	**Sb**	**01 14 31.8**	**-0.4**
LAST	**Lasithi**	**0.22**	**347**	P	**Pb**	**01 14 28.0**	**-0.8**
NPS	**Neapolis**	**0.32**	**11**	P	**Pg**	**01 14 29.4**	**-1.3**
NPS				S	**Sg**	**01 14 34.7**	**-0.8**
NPS	**Neapolis**	**0.32**	**11**	P	**Pg**	**01 14 29.4**	**-1.3**
NPS				S	**Sg**	**01 14 34.2**	**-1.2**
NPS	**Neapolis**	**0.32**	**11**	P	**Pg**	**01 14 29.5**	**-1.2**
NPS				S	**Sg**	**01 14 34.2**	**-1.2**
NPS				AML	AML	01 14 35.4	
	comp=N,2211µm,0.3s						
NPS				AML	AML	01 14 36.7	
	comp=E,2962µm,0.5s						
IACM	**Heraklion**	**0.53**	**313**	P	**Pb**	**01 14 34.1**	**-0.2**
IACM	**Heraklion**	**0.53**	**313**	P	**Pb**	**01 14 34.1**	**-0.2**
IACM	**Heraklion**	**0.53**	**313**	P	**Pg**	**01 14 34.9**	**+0.6**
ZKR	**Zakros**	**0.58**	**73**	P	**Pb**	**01 14 33.7**	**-1.5**
ZKR				S	**Sb**	**01 14 42.8**	**-0.2**
ZKR	**Zakros**	**0.58**	**73**	P	**Pb**	**01 14 33.7**	**-1.5**
ZKR				S	**Sb**	**01 14 42.8**	**-0.2**
ZKR	**Zakros**	**0.58**	**73**	P	**Pb**	**01 14 33.4**	**-1.7**
ZKR				S	**Sb**	**01 14 43.4**	**+0.4**
ZKR				AML	AML	01 14 46.5	
	comp=N,1810µm,0.4s						
ZKR				AML	AML	01 14 47.2	
	comp=E,1418µm,0.4s						
SIVA	**Sivas**	**0.60**	**277**	P	**Pb**	**01 14 34.7**	**-0.8**
SIVA				S	**Sn**	**01 14 44.8**	**-1.7**
SIVA	**Sivas**	**0.60**	**277**	P	**Pb**	**01 14 34.7**	**-0.8**
SIVA				S	**Sn**	**01 14 44.8**	**-1.7**
SIVA	**Sivas**	**0.60**	**277**	P	**Pg**	**01 14 34.8**	**-0.9**
SIVA				S	**Sn**	**01 14 44.8**	**-1.7**
SIVA				AML	AML	01 14 46.8	
	comp=E,2798µm,0.7s						
SIVA				AML	AML	01 14 49.4	
	comp=N,2170µm,0.4s						
IDI	**Anoyia**	**0.63**	**303**	P	**Pb**	**01 14 34.6**	**-1.5**
IDI				S	**Sg**	**01 14 45.5**	**+0.7**
IDI	**Anoyia**	**0.63**	**303**	P	**Pb**	**01 14 34.6**	**-1.5**
IDI				S	**Sg**	**01 14 45.5**	**+0.7**
IDI	**Anoyia**	**0.63**	**303**	P	**Pb**	**01 14 34.2**	**-1.9**
VAM	**Vamos**	**1.19**	**293**	P	**Pn**	**01 14 44.5**	**-0.8**
VAM				S	**Sg**	**01 15 03.0**	**+0.7**
VAM	**Vamos**	**1.19**	**293**	P	**Pn**	**01 14 44.5**	**-0.8**
VAM				S	**Sg**	**01 15 03.0**	**+0.7**
GVD	**Gavdhos**	**1.20**	**265**	P	**Pg**	**01 14 45.9**	**-0.9**
GVD				S	**Sg**	**01 15 03.0**	**+0.5**
GVD	**Gavdhos**	**1.20**	**265**	P	**Pg**	**01 14 45.9**	**-0.9**
GVD				S	**Sg**	**01 15 03.0**	**+0.5**
GVD	**Gavdhos**	**1.20**	**265**	P	**Pg**	**01 14 46.4**	**-0.5**
IMMV	**Iera Moni Meta**	**1.38**	**292**	P	**Pb**	**01 14 47.9**	**-0.9**
IMMV				S	**Sg**	**01 15 07.2**	**-1.0**
IMMV	**Iera Moni Meta**	**1.38**	**292**	P	**Pb**	**01 14 47.9**	**-0.9**
IMMV				S	**Sg**	**01 15 07.2**	**-1.0**
IMMV	**Iera Moni Meta**	**1.38**	**292**	P	**Pn**	**01 14 47.1**	**-0.8**
THR6	**Thira Island,**	**1.42**	**355**	P	**Pn**	**01 14 48.6**	**+0.2**
THR6	**Thira Island,**	**1.42**	**355**	P	**Pn**	**01 14 48.6**	**+0.2**
SANT	**Santorini**	**1.43**	**357**	P	**Pn**	**01 14 48.6**	**0.0**
SANT	**Santorini**	**1.43**	**357**	P	**Pn**	**01 14 48.6**	**0.0**
SANT				AML	AML	01 15 12.9	
	comp=E,1020µm,0.6s						
SANT				AML	AML	01 15 16.1	
	comp=N,479µm,0.5s						
THT1	**Athinios (Pele**	**1.44**	**356**	P	**Pn**	**01 14 48.6**	**-0.2**
THT1				S	**Sb**	**01 15 08.7**	**+0.8**
THT1	**Athinios (Pele**	**1.44**	**356**	P	**Pn**	**01 14 48.6**	**-0.2**
THT1				S	**Sb**	**01 15 08.7**	**+0.8**
KARP	**Karpathos**	**1.46**	**65**	*e*PN	**Pb**	**01 14 50.4**	**+0.2**
KARP	**Karpathos**	**1.46**	**65**	P	**Pn**	**01 14 49.3**	**+0.3**
KARP				S	**Sb**	**01 15 08.7**	**+0.3**
KARP	**Karpathos**	**1.46**	**65**	P	**Pn**	**01 14 49.3**	**+0.3**
KARP	**Karpathos**	**1.46**	**65**	*e*Pn	**Pb**	**01 14 50.4**	**+0.2**
KARP				S	**Sb**	**01 15 08.7**	**+0.3**
KARP	**Karpathos**	**1.46**	**65**	P	**Pb**	**01 14 50.0**	**-0.2**
KARP				S	**Sg**	**01 15 10.8**	**0.0**
KARP				AML	AML	01 15 21.7	
	comp=N,436µm,0.6s						
KARP				AML	AML	01 15 24.1	
	comp=E,345µm,0.6s						
THR3	**Thira Island,**	**1.47**	**356**	P	**Pn**	**01 14 49.1**	**0.0**
THR3	**Thira Island,**	**1.47**	**356**	P	**Pn**	**01 14 49.1**	**0.0**
THR5	**Thira Island,**	**1.48**	**354**	*e*PN	**Pn**	**01 14 49.4**	**+0.1**
THR5				*e*SN	**Sb**	**01 15 10.7**	**+1.7**
THR5	**Thira Island,**	**1.48**	**354**	P	**Pn**	**01 14 49.3**	**0.0**
THR5	**Thira Island,**	**1.48**	**354**	P	**Pn**	**01 14 49.3**	**0.0**
THR5				*e*Sn	**Sb**	**01 15 10.7**	**+1.7**
THR2	**Thira island,**	**1.50**	**357**	P	**Pn**	**01 14 49.8**	**+0.2**
THR2	**Thira island,**	**1.50**	**357**	P	**Pn**	**01 14 49.8**	**+0.2**
CMBO	**Columbo, Santo**	**1.53**	**356**	P	**Pn**	**01 14 50.2**	**+0.2**
CMBO				S	**Sb**	**01 15 11.0**	**+0.6**
CMBO	**Columbo, Santo**	**1.53**	**356**	P	**Pn**	**01 14 50.2**	**+0.2**
CMBO				S	**Sb**	**01 15 11.0**	**+0.6**
MHLO	**Agia Marina, M**	**1.97**	**332**	P	**Pb**	**01 14 58.7**	**-0.3**
MHLO				S	**Sb**	**01 15 23.5**	**+0.3**
MHLO	**Agia Marina, M**	**1.97**	**332**	P	**Pb**	**01 14 58.7**	**-0.3**
MHLO				S	**Sb**	**01 15 23.5**	**+0.3**
MHLO				AML	AML	01 15 30.0	
	comp=E,583µm,0.3s						
MHLO				AML	AML	01 15 32.2	
	comp=N,523µm,0.4s						
ANKY	**Antikythira Is**	**2.05**	**297**	P	**Pb**	**01 14 59.2**	**-1.1**
ANKY	**Antikythira Is**	**2.05**	**297**	P	**Pb**	**01 14 59.2**	**-1.1**
NISR	**Nisiros**	**2.11**	**37**	P	**Pn**	**01 14 58.5**	**+0.6**
NISR	**Nisiros**	**2.11**	**37**	P	**Pn**	**01 14 58.5**	**+0.6**
APE	**Apeiranthos**	**2.12**	**360**	*e*PN	**Pn**	**01 14 60.0**	**+1.8**
APE	**Apeiranthos**	**2.12**	**360**	P	**Pn**	**01 14 58.5**	**+0.3**
APE	**Apeiranthos**	**2.12**	**360**	P	**Pn**	**01 14 59.0**	**+0.8**
APE	**Apeiranthos**	**2.12**	**360**	*e*Pn	**Pn**	**01 15 00.0**	**+1.8**
APE	**Apeiranthos**	**2.12**	**360**	P	**Pn**	**01 14 59.0**	**+0.8**
NIS1	**Nisyros Isl.**	**2.12**	**38**	*e*PN	**Pb**	**01 15 00.4**	**-1.2**
NIS1	**Nisyros Isl.**	**2.12**	**38**	*e*Pn	**Pb**	**01 15 00.4**	**-1.2**
SERI	**Serifos**	**2.37**	**339**	P	**Pn**	**01 15 02.8**	**+1.2**
SERI	**Serifos**	**2.37**	**339**	P	**Pn**	**01 15 02.8**	**+1.2**
KYTH	**Kithira**	**2.42**	**304**	P	**Pn**	**01 15 03.3**	**+1.0**
KYTH	**Kithira**	**2.42**	**304**	P	**Pn**	**01 15 03.3**	**+1.0**
ARG	**Arkhangelos**	**2.46**	**58**	P	**Pn**	**01 15 04.3**	**+1.5**
BODT	**Bodrum**	**2.56**	**34**	*e*PN	**Pb**	**01 15 06.7**	**-2.2**
BODT	**Bodrum**	**2.56**	**34**	*e*Pn	**Pb**	**01 15 06.7**	**-2.2**
VLI	**Veliai**	**2.76**	**311**	P	**Pn**	**01 15 07.5**	**+0.6**
VLI	**Veliai**	**2.76**	**311**	P	**Pn**	**01 15 07.5**	**+0.6**
VLI	**Veliai**	**2.76**	**311**	P	**Pn**	**01 15 07.4**	**+0.5**
SMG	**Samos**	**2.95**	**20**	P	**Pn**	**01 15 10.4**	**+0.8**
SMG	**Samos**	**2.95**	**20**	P	**Pn**	**01 15 10.4**	**+0.8**
YER	**Yerkesik**	**3.12**	**45**	*e*PN	**Pn**	**01 15 15.0**	**+3.1**
YER	**Yerkesik**	**3.12**	**45**	*e*Pn	**Pn**	**01 15 15.0**	**+3.1**
DALY	**Dalyan (Mu˜la**	**3.15**	**53**	*e*PN	**Pn**	**01 15 15.1**	**+2.9**
DALY	**Dalyan (Mu˜la**	**3.15**	**53**	*e*Pn	**Pn**	**01 15 15.1**	**+2.9**
DID	**Didima**	**3.16**	**325**	P	**Pn**	**01 15 13.9**	**+1.4**
DID	**Didima**	**3.16**	**325**	P	**Pn**	**01 15 13.9**	**+1.4**
VLY	**Voula,Athens**	**3.23**	**335**	P	**Pn**	**01 15 13.4**	**+0.1**
VLY	**Voula,Athens**	**3.23**	**335**	P	**Pn**	**01 15 13.4**	**+0.1**
FETY	**Fethiye**	**3.34**	**59**	*e*PN	**Pn**	**01 15 16.8**	**+1.9**
FETY	**Fethiye**	**3.34**	**59**	*e*Pn	**Pn**	**01 15 16.8**	**+1.9**
CHOS	**Chios island**	**3.46**	**7**	*e*PN	**Pn**	**01 15 18.9**	**+2.3**
CHOS	**Chios island**	**3.46**	**7**	*e*Pn	**Pn**	**01 15 18.9**	**+2.3**
KSL	**Kastellorizon**	**3.51**	**69**	P	**Pn**	**01 15 19.0**	**+1.8**
KSL	**Kastellorizon**	**3.51**	**69**	P	**Pn**	**01 15 19.0**	**+1.8**
VLX	**Vlachokerasia**	**3.52**	**314**	P	**Pn**	**01 15 19.1**	**+1.6**
VLX	**Vlachokerasia**	**3.52**	**314**	P	**Pn**	**01 15 19.1**	**+1.6**
PYL	**PYLOS**	**3.65**	**303**	P	**Pn**	**01 15 21.7**	**+2.6**
PYL	**PYLOS**	**3.65**	**303**	P	**Pn**	**01 15 21.7**	**+2.6**
ITM	**Ithomi**	**3.68**	**308**	P	**Pn**	**01 15 22.0**	**+2.4**
ITM	**Ithomi**	**3.68**	**308**	P	**Pn**	**01 15 22.0**	**+2.4**
TRIP	**Tripoli**	**3.69**	**315**	P	**Pn**	**01 15 23.3**	**+3.5**
TRIP	**Tripoli**	**3.69**	**315**	P	**Pn**	**01 15 23.3**	**+3.5**
ELL	**Elmali**	**3.98**	**62**	*e*PN	**Pn**	**01 15 26.8**	**+3.0**
ELL	**Elmali**	**3.98**	**62**	*e*Pn	**Pn**	**01 15 26.8**	**+3.0**
KLV	**Kalavryta, Ach**	**4.13**	**320**	P	**Pn**	**01 15 28.5**	**+2.8**
KLV				S	**Sn**	**01 16 14.9**	**+1.3**
KLV	**Kalavryta, Ach**	**4.13**	**320**	P	**Pn**	**01 15 28.5**	**+2.8**
KLV				S	**Sn**	**01 16 14.8**	**+1.3**
SIGR	**SIGRI**	**4.27**	**3**	*e*PN	**Pn**	**01 15 30.0**	**+2.4**
SIGR	**SIGRI**	**4.27**	**3**	*e*Pn	**Pn**	**01 15 30.0**	**+2.4**
DRO	**Drossia**	**4.31**	**315**	P	**Pn**	**01 15 31.3**	**+3.1**
DRO	**Drossia**	**4.31**	**315**	P	**Pn**	**01 15 31.3**	**+3.1**
LAKA	**Lakka**	**4.36**	**320**	P	**Pn**	**01 15 30.3**	**+1.3**
LAKA	**Lakka**	**4.36**	**320**	P	**Pn**	**01 15 30.3**	**+1.3**

*ISCJB **01** 01:23:26.8±0.5, 39°.11N±0°.03×29°.10E±0°.04, h7km±5km, Error ellipse: s-maj=5.8km s-min=4.5km az=145.4*
*DDA **01** 01:23:26.9, 39°.10N×29°.11E, h7km, Ml2.3*
*CSEM **01** 01:23:26.8±0.1, 39°.11N×29°.10E, h8km, ML2.3, Error ellipse: s-maj=2.2km s-min=1.7km az=118.0*
*ISK **01** 01:23:26.0, 39°.10N×29°.12E, h5km, MD2.7*
ISC 01 01:23:27.0±0.9**, 39°.10N**±0°.03×**29°.11E**±0°.02**, h12**km±8km**, n26, σ0s30**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.29**	**92**	P	**Pg**	**01 23 33.2**	**+0.2**
GDZ				S	**Sg**	**01 23 37.3**	**+0.2**
GDZ	**Gediz**	**0.29**	**92**	*i* P	**Pg**	**01 23 33.2**	**+0.2**
GDZ				*i* S	**Sg**	**01 23 37.3**	**+0.2**
DEMI	**Demirci**	**0.31**	**259**	P	**Pg**	**01 23 33.3**	**0.0**
DEMI				S	**Sg**	**01 23 37.6**	**0.0**
DEMI	**Demirci**	**0.31**	**259**	*i* P	**Pg**	**01 23 33.3**	**0.0**
DEMI				*i* S	**Sg**	**01 23 37.6**	**0.0**
TVSB	**Tavsanli**	**0.44**	**38**	*e*PG	**Pg**	**01 23 35.2**	**-0.6**
TVSB				*e*SG	**Sg**	**01 23 41.3**	**-0.4**
TVSB	**Tavsanli**	**0.44**	**38**	*e*Pg	**Pg**	**01 23 35.2**	**-0.6**
TVSB				*e*Sg	**Sg**	**01 23 41.3**	**-0.4**
KULA	**Kula-Manisa**	**0.68**	**211**	*e*PG	**Pg**	**01 23 39.6**	**-0.6**
KULA				*e*SG	**Sg**	**01 23 49.3**	**+0.1**
KULA	**Kula-Manisa**	**0.68**	**211**	*e*Pg	**Pg**	**01 23 39.6**	**-0.6**
KULA				*e*Sg	**Sg**	**01 23 49.3**	**+0.1**
KHAL	**Karahalli**	**0.79**	**157**	P	**Pb**	**01 23 42.7**	**0.0**
KHAL				S	**Sb**	**01 23 53.2**	**-0.2**
KHAL	**Karahalli**	**0.79**	**157**	*i* P	**Pb**	**01 23 42.6**	**0.0**
KHAL				*i* S	**Sb**	**01 23 53.2**	**-0.2**
BALB	**Balikesir**	**1.09**	**300**	*e*PN	**Pb**	**01 23 47.8**	**0.0**
BALB				*e*SN	**Sn**	**01 24 03.4**	**+0.3**
BALB	**Balikesir**	**1.09**	**300**	*e*Pn	**Pb**	**01 23 47.8**	**0.0**
BALB				*e*Sn	**Sn**	**01 24 03.4**	**+0.3**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*PN	**Pn**	**01 23 50.2**	**+0.1**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*Pn	**Pn**	**01 23 50.2**	**+0.1**
IZI	**Iznik**	**1.27**	**13**	*e*PN	**Pb**	**01 23 51.0**	**+0.2**
IZI	**Iznik**	**1.27**	**13**	*e*Pn	**Pb**	**01 23 51.0**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*PN	**Pb**	**01 23 51.1**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*Pn	**Pb**	**01 23 51.1**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*PN	**Pb**	**01 23 51.6**	**+0.3**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*Pn	**Pb**	**01 23 51.6**	**+0.3**
BORA	**Eskisehir**	**1.30**	**53**	P	**Pb**	**01 23 51.4**	**0.0**
BORA	**Eskisehir**	**1.30**	**53**	*i* P	**Pb**	**01 23 51.4**	**0.0**
ARMT	**Armutlu**	**1.47**	**353**	*e*PN	**Pb**	**01 23 54.0**	**-0.4**
ARMT	**Armutlu**	**1.47**	**353**	*e*Pn	**Pb**	**01 23 54.0**	**-0.4**
GULT	**Gulveren**	**1.72**	**39**	*e*PN	**Pn**	**01 23 57.1**	**+0.4**
GULT	**Gulveren**	**1.72**	**39**	*e*Pn	**Pn**	**01 23 57.2**	**+0.4**

IDC 01 01:24:36.0±6.9**, 15°.43S**×**172°.98W, h0**km**, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.5**/33**, mbtmp3.7**/2**, MS3.1**/3**, Ms1 3.1**/3**, ms1mx2.8**/31**, Error ellipse: s-maj=335.2km s-min=25.1km az=141.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.91**	**38**	Pn	Pn	01 25 08.0	-1.8
	145nm,0.3s,baz=176,slow=1.8,SNR=50						
AFI				Sn	Sn	01 25 25.2	-9.4
	336nm,0.3s,baz=288,slow=23,SNR=28						
PPT2	**Papeete2**	**22.54**	**99**	*e*LR	LR	01 34 53.2	
	101nm,28.0s						
TBI	**Tubuai**	**23.51**	**113**	*e*LR	LR	01 35 29.2	
	92nm,28.0s						
URZ	**Urewera**	**24.36**	**199**	LR	LR	01 37 59.0	
	comp=Z,99nm,20.2s,baz=65,slow=33						
RKT	**Rikitea**	**36.60**	**108**	*e*LR	LR	01 41 39.4	
	101nm,28.5s						
H11S2	**WAKE ISLAND Hy**	**39.20**	**329**	T	T	02 13 28.8	
	baz=143,slow=74,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**39.22**	**329**	T	T	02 13 28.8	
	baz=143,slow=74,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**39.22**	**329**	T	T	02 13 38.8	
	baz=143,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**40.14**	**330**	T	T	02 14 43.9	
	baz=148						
H11N1	**WAKE ISLAND Hy**	**40.15**	**330**	T	T	02 14 44.7	
	baz=148,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**40.16**	**330**	T	T	02 14 51.1	
	baz=148						
WRA	**Warramunga Arr**	**50.23**	**257**	P	P	01 33 33.4	-0.9
	0.3nm,0.4s,baz=93,slow=6.7,SNR=9.0						
ASAR	**Alice Springs**	**50.49**	**252**	P	P	01 33 35.5	-0.8
	1.1nm,0.6s,baz=86,slow=8.1,SNR=12						
MJAR	**Matsushiro Arr**	**69.23**	**320**	LR	LR	02 02 12.6	
	comp=Z,11nm,19.9s,baz=55,slow=33						
KSRS	**Korea Array**	**76.47**	**315**	LR	LR	02 04 07.9	
	comp=Z,5.3nm,21.5s,baz=115,slow=31						
GERES	**GERESS Array B**	**146.23**	**352**	PKPbc	PKPbc	01 44 18.7	+0.1
	0.2nm,0.5s,baz=15,slow=4.1,SNR=4.1						
BRTR	**Keskin Array B**	**146.44**	**321**	PKPbc	PKPab	01 44 20.5	+0.1
	1.6nm,0.9s,baz=102,slow=2.3,SNR=8.9						

*ISCJB **01** 01:40:45.3±0.6, 39°.14N±0°.05×29°.08E±0°.04, h6km±6km, Error ellipse: s-maj=7.7km s-min=4.7km az=175.6*
*DDA **01** 01:40:45.4, 39°.10N×29°.10E, h7km, Ml2.4*
*CSEM **01** 01:40:45.3±0.1, 39°.13N×29°.09E, h6km±1km, ML2.4, Error ellipse: s-maj=3.1km s-min=2.0km az=178.0*
*ISK **01** 01:40:45.3, 39°.18N×29°.07E, h5km, MD2.7*
ISC 01 01:40:45.6±1.0**, 39°.14N**±0°.03×**29°.09E**±0°.02**, h7**km±12km**, n27, σ0s28**/37**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.30**	**251**	P	**Pg**	**01 40 51.6**	**0.0**
DEMI				S	**Sg**	**01 40 56.0**	**+0.4**
DEMI	**Demirci**	**0.30**	**251**	*i* P	**Pg**	**01 40 51.6**	**0.0**
DEMI				*i* S	**Sg**	**01 40 56.0**	**+0.4**
GDZ	**Gediz**	**0.31**	**99**	P	**Pg**	**01 40 51.5**	**-0.2**
GDZ				S	**Sg**	**01 40 56.0**	**+0.1**
GDZ	**Gediz**	**0.31**	**99**	*i* P	**Pg**	**01 40 51.5**	**-0.2**
GDZ				*i* S	**Sg**	**01 40 56.0**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**43**	*e*PG	**Pg**	**01 40 53.7**	**-0.1**
TVSB				*e*SG	**Sg**	**01 40 59.4**	**0.0**
TVSB	**Tavsanli**	**0.42**	**43**	*e*Pg	**Pg**	**01 40 53.7**	**-0.1**
TVSB				*e*Sg	**Sg**	**01 40 59.4**	**0.0**
KHAL	**Karahalli**	**0.83**	**158**	P	**Pg**	**01 41 01.1**	**-0.4**
KHAL	**Karahalli**	**0.83**	**158**	*i* P	**Pg**	**01 41 01.1**	**-0.4**
BALB	**Balikesir**	**1.06**	**298**	*e*PG	**Pg**	**01 41 05.7**	**-0.2**
BALB				*e*SG	**Sb**	**01 41 20.3**	**0.0**
BALB	**Balikesir**	**1.06**	**298**	*e*Pg	**Pg**	**01 41 05.7**	**-0.2**
BALB				*e*Sg	**Sb**	**01 41 20.3**	**0.0**
IGD	**Bursa**	**1.12**	**4**	*i* P	**Pg**	**01 41 06.9**	**-0.3**
IZI	**Iznik**	**1.23**	**14**	*e*PN	**Pg**	**01 41 08.9**	**-0.3**
IZI				*e*SN	**Sb**	**01 41 25.7**	**+0.4**
IZI	**Iznik**	**1.23**	**14**	*e*Pn	**Pg**	**01 41 08.9**	**-0.3**
IZI				*e*Sn	**Sb**	**01 41 25.7**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	*e*PN	**Pb**	**01 41 08.9**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	*e*Pn	**Pb**	**01 41 08.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*PN	**Pn**	**01 41 09.3**	**-0.3**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*Pn	**Pn**	**01 41 09.3**	**-0.3**
BORA	**Eskisehir**	**1.29**	**55**	P	**Pb**	**01 41 10.1**	**-0.1**
BORA	**Eskisehir**	**1.29**	**55**	*i* P	**Pb**	**01 41 10.1**	**-0.1**
ADVT	**Abdulvahap**	**1.39**	**21**	*e*PN	**Pb**	**01 41 11.6**	**-0.2**
ADVT	**Abdulvahap**	**1.39**	**21**	*e*Pn	**Pb**	**01 41 11.6**	**-0.2**
ARMT	**Armutlu**	**1.43**	**353**	*e*PN	**Pn**	**01 41 12.3**	**+0.3**
ARMT	**Armutlu**	**1.43**	**353**	*e*Pn	**Pn**	**01 41 12.3**	**+0.3**
EDC	**Edincik**	**1.53**	**322**	*e*PN	**Pn**	**01 41 13.4**	**0.0**
EDC	**Edincik**	**1.53**	**322**	*e*Pn	**Pn**	**01 41 13.4**	**0.0**
GULT	**Gulveren**	**1.69**	**40**	*e*PN	**Pn**	**01 41 16.2**	**+0.5**
GULT	**Gulveren**	**1.69**	**40**	*e*Pn	**Pn**	**01 41 16.2**	**+0.5**

*ISCJB **01** 01:49:47.0±2.1, 37°.64S±0°.03×74°.02W±0°.09, h14km±14km, mb4.0/7, MS3.5/3, Error ellipse: s-maj=12.1km s-min=5.4km az=9.0*
*NEIC **01** 01:49:47.0, 37°.59S×74°.17W, h28km, mb4.0/1, ML3.7(GUC), After GUC.*
*GUC **01** 01:49:47.2±0.4, 37°.59S×74°.17W, h28km±3km, ML3.7*
*IDC **01** 01:49:52.1±6.9, 37°.68S×73°.89W, h33km±50km, mb3.7/5, mb1 3.9/7, mb1mx3.7/22, mbtmp3.8/7, ML3.8/2, MS3.6/6, Ms1 3.6/6, ms1mx3.2/31, Error ellipse: s-maj=49.1km s-min=26.7km az=82.0*
ISC 01 01:49:46.2±2.0**, 37°.64S**±0°.04×**74°.1W**±0°.1**, h1**km±11km**, n25, σ1s72**/28**, mb4.1**/7**, MS3.5**/3**, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.09**	**44**	*e*P	**Pg**	**01 50 06.2**	**-0.8**
CCSP				*e*S	**Sg**	**01 50 20.6**	**-0.5**
CCSP				AML	AML	01 50 34.7	
	comp=N,2µm,0.6s						
PSCH	**Puerto Saavedr**	**1.27**	**156**	*e*P	**Pg**	**01 50 09.8**	**-0.7**
PSCH				*i* S	**Sg**	**01 50 27.4**	**+0.4**
COCH	**Cobquecura**	**1.81**	**34**	⇑*i*P	**Pn**	**01 50 17.5**	**-1.0**
COCH				*i* S	**Sn**	**01 50 40.0**	**-2.0**
COCH				AML	AML	01 50 58.2	
	comp=E,1µm,0.4s						
CCHI	**Chillan**	**1.88**	**57**	*e*P	**Pn**	**01 50 19.0**	**-0.4**
CCHI				*i* S	**Sn**	**01 50 43.3**	**-0.6**
CCHI				AML	AML	01 51 00.4	
	comp=E,2µm,0.5s						
VLCH	**Valdivia**	**2.25**	**164**	*e*P	**Pn**	**01 50 24.3**	**-0.3**
VLCH				*i* S	**Sn**	**01 50 49.9**	**-3.1**
PLCA	**Paso Flores**	**4.11**	**140**	Pn	**Pn**	**01 50 51.6**	**+1.3**
	comp=E,1.0nm,0.3s,baz=338,slow=9.3,SNR=56						
PLCA				Lg	Lg	01 52 00.0	
	comp=E,2.6nm,0.3s,baz=256,slow=17,SNR=5.9						
PLCA				LR	LR	01 52 25.3	
	comp=E,210nm,19.6s,baz=332,slow=38						
LCO	**Las Campanas**	**9.04**	**19**	*e*Pn	**Pn**	**01 51 59.9**	**+1.7**
LCO				*e*Sn	**Sn**	**01 53 34.9**	**-5.9**
TRQA	**Tornquist**	**9.55**	**96**	*e*Pn	**Pn**	**01 52 06.6**	**+1.7**
	comp=E,10nm,1.0s						
LVC	**Limon Verde**	**15.62**	**18**	LR	LR	02 00 16.7	
	comp=E,687nm,19.2s,baz=204,slow=40						
CPUP	**Villa Florida**	**18.08**	**56**	P	**Pn**	**01 53 58.8**	**+0.1**
	comp=E,0.1nm,0.3s,baz=218,slow=12,SNR=4.1						
CPUP				LR	LR	02 01 57.8	
	comp=E,222nm,18.5s,baz=232,slow=40						
LPAZ	**La Paz**	**21.90**	**15**	P	**P**	**01 54 43.7**	**+2.3**
	comp=E,4.3nm,0.8s,baz=178,slow=9.5,SNR=4.9						
SIV	**San Ignacio**	**24.42**	**31**	P	**P**	**01 55 08.4**	**+2.0**
	comp=E,1.4nm,0.8s,baz=222,slow=13,SNR=4.0						
SIV				LR	LR	02 06 50.4	
	comp=E,257nm,18.0s,baz=262,slow=42						
NNA	**Nana**	**25.66**	**354**	*e*P	**P**	**01 55 18.5**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,15nm,0.6s						
PMSA	**Palmer Station**	**27.82**	**171**	LR	LR	02 07 36.7	
	comp=E,114nm,19.4s,baz=336,slow=38						
SAML	**Samuel**	**30.20**	**22**	eP	**P**	**01 55 58.1**	**-0.1**
	comp=E,2.3nm,0.8s						
BDFB	**Brasilia**	**31.77**	**53**	P	**P**	**01 56 11.9**	**-0.3**
	comp=E,2.2nm,0.8s,baz=247,slow=7.7,SNR=3.1						
PTGA	**Pitinga**	**38.95**	**23**	LR	LR	02 15 14.5	
	comp=E,46nm,20.6s,baz=170,slow=39						
SNAA	**Sanae**	**48.87**	**157**	eP	**P**	**01 58 33.5**	**+0.4**
QSPA	**South Pole Qui**	**52.60**	**180**	eP	**P**	**01 59 02.0**	**+0.6**
TXAR	**Lajitas Array**	**72.17**	**333**	P	**P**	**02 01 13.6**	**+1.0**
	comp=E,0.4nm,0.8s,baz=146,slow=9.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**86.96**	**71**	P	**P**	**02 02 33.4**	**+0.1**
	comp=E,1.4nm,0.9s,baz=229,slow=5.4,SNR=7.4						
ABKAR	**Akbulak array**	**145.15**	**56**	ePKPbc	**PKPbc**	**02 09 24.6**	**+0.1**
BRVK	**Borovoye**	**150.94**	**46**	ePKPbc	**PKPbc**	**02 09 40.0**	**0.0**
BVAR	**Borovoye Array**	**151.01**	**46**	PKPbc	**PKPbc**	**02 09 40.9**	**+0.7**
	comp=E,1.5nm,0.8s,baz=276,slow=4.3,SNR=9.0						
AAK	**Ala-Archa**	**155.52**	**68**	ePKPab	**PKPab**	**02 10 07.7**	**+0.3**

ISK ***01*** *02:08:56.8, 39°.11N×28°.99E, h13km, MD2.5*
ISCJB ***01*** *02:08:57.6±0.6, 39°.13N±0°.04×28°.97E±0°.04, h10km±5km, Error ellipse: s-maj=6.8km s-min=4.8km az=137.8*
DDA ***01*** *02:08:57.6, 39°.13N×29°.01E, h7km, Md2.8*
CSEM ***01*** *02:08:57.6±0.1, 39°.13N×28°.96E, h12km, MD2.8, Error ellipse: s-maj=2.3km s-min=1.8km az=113.0*
ISC 01 02:08:57.6±1.0**, 39°.12N**±0°.03×**28°.98E**±0°.03**, h18**km±5km**, n18, σ0^{s}33**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**249**	P	**Pg**	**02 09 03.0**	**+0.1**
DEMI				S	**Sg**	**02 09 06.5**	**0.0**
DEMI	**Demirci**	**0.22**	**249**	i P	**Pg**	**02 09 03.0**	**+0.1**
DEMI				i S	**Sg**	**02 09 06.5**	**0.0**
GDZ	**Gediz**	**0.39**	**95**	P	**Pg**	**02 09 05.8**	**0.0**
GDZ				S	**Sg**	**02 09 11.4**	**0.0**
GDZ	**Gediz**	**0.39**	**95**	i P	**Pg**	**02 09 05.8**	**0.0**
GDZ				i S	**Sg**	**02 09 11.3**	**0.0**
TVSB	**Tavsanli**	**0.50**	**49**	ePG	**Pg**	**02 09 07.5**	**-0.1**
TVSB				eSG	**Sg**	**02 09 14.1**	**-0.4**
TVSB	**Tavsanli**	**0.50**	**49**	ePg	**Pg**	**02 09 07.6**	**-0.1**
TVSB				eSg	**Sg**	**02 09 14.1**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**202**	ePG	**Pg**	**02 09 10.1**	**-0.5**
KULA				eSG	**Sg**	**02 09 19.0**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**202**	ePg	**Pg**	**02 09 10.1**	**-0.5**
KULA				eSg	**Sg**	**02 09 19.0**	**-0.3**
KHAL	**Karahalli**	**0.85**	**152**	P	**Pn**	**02 09 14.9**	**+0.1**
KHAL				S	**Sg**	**02 09 25.8**	**+0.3**
KHAL	**Karahalli**	**0.85**	**152**	i P	**Pn**	**02 09 14.9**	**+0.1**
KHAL				i S	**Sg**	**02 09 25.8**	**+0.3**
KCTX	**Karacabey (Bur**	**1.24**	**337**	ePN	**Pn**	**02 09 20.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.24**	**337**	ePn	**Pn**	**02 09 20.4**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**357**	ePN	**Pb**	**02 09 20.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**357**	ePn	**Pb**	**02 09 20.8**	**+0.2**
BORA	**Eskisehir**	**1.37**	**56**	P	**Pn**	**02 09 22.4**	**+0.5**
BORA				S	**Sg**	**02 09 41.4**	**-0.5**
BORA	**Eskisehir**	**1.37**	**56**	i P	**Pn**	**02 09 22.4**	**+0.5**
BORA				i S	**Sg**	**02 09 41.4**	**-0.5**
ARMT	**Armutlu**	**1.45**	**356**	ePN	**Pb**	**02 09 23.7**	**-0.3**
ARMT	**Armutlu**	**1.45**	**356**	ePn	**Pb**	**02 09 23.7**	**-0.3**

ISCJB ***01*** *02:10:06.2±0.2, 38°.17N±0°.02×22°.03E±0°.02, h73km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=137.0*
PDG ***01*** *02:10:07.2±1.0, 38°.16N×21°.98E, h56km±5km, ML3.5/12, Error ellipse: s-maj=1.6km s-min=1.7km az=0.0*
CSEM ***01*** *02:10:07.5±0.1, 38°.15N×22°.04E, h60km, ML3.4, Error ellipse: s-maj=2.9km s-min=2.2km az=52.0*
ATH ***01*** *02:10:07.1, 38°.13N×22°.08E, h56km±1km, ML3.3/9, Error ellipse: s-maj=1.9km s-min=0.9km az=260.0*
THE ***01*** *02:10:08.2, 38°.11N×22°.08E, h52km±1km, ML3.4/28, Error ellipse: s-maj=1.0km s-min=0.4km az=275.0*
TIR ***01*** *02:10:09.1, 41°.63N×19°.89E, h6km, ML2.4*
ISC 01 02:10:07.1±1.1**, 38°.15N**±0°.03×**22°.03E**±0°.02**, h60**km±4km**, n219, σ1^{s}48**/331**, 16C-6D, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.10**	**336**	P	**Pn**	**02 10 16.0**	**-0.3**
LAKA				S	**Sn**	**02 10 22.7**	**-0.2**
LAKA	**Lakka**	**0.10**	**336**	P	**Pn**	**02 10 16.0**	**-0.3**
LAKA				S	**Sn**	**02 10 22.7**	**-0.2**
KLV	**Kalavryta, Ach**	**0.14**	**138**	P	**Pn**	**02 10 15.7**	**-0.8**
KLV				S	**Sn**	**02 10 21.9**	**-1.3**
KLV	**Kalavryta, Ach**	**0.14**	**138**	P	**Pn**	**02 10 16.2**	**-0.2**
KLV				S	**Sn**	**02 10 21.9**	**-1.3**
KLV	**Kalavryta, Ach**	**0.14**	**138**	P	**Pn**	**02 10 16.2**	**-0.2**
KLV				S	**Sn**	**02 10 21.6**	**-1.6**
KLV				AML	AML	02 10 22.9	
	comp=E,3229µm,0.5s						
KLV				AML	AML	02 10 23.1	
	comp=N,3918µm,0.2s						
UPR	**University Cam**	**0.23**	**305**	P	**Pn**	**02 10 17.1**	**+0.3**
UPR				S	**Sn**	**02 10 24.7**	**+0.9**
UPR	**University Cam**	**0.23**	**305**	P	**Pn**	**02 10 17.2**	**+0.4**
UPR				S	**Sn**	**02 10 24.7**	**+0.9**
UPR	**University Cam**	**0.23**	**305**	P	**Pn**	**02 10 17.2**	**+0.4**
UPR				S	**Sn**	**02 10 25.5**	**+1.7**
SERG	**Sergoula**	**0.26**	**5**	P	**Pn**	**02 10 17.4**	**+0.3**
SERG				S	**Sn**	**02 10 24.6**	**+0.3**
SERG	**Sergoula**	**0.26**	**5**	P	**Pn**	**02 10 17.4**	**+0.3**
SERG				S	**Sn**	**02 10 24.6**	**+0.3**
EFP	**Efpalio**	**0.29**	**341**	P	**Pn**	**02 10 17.8**	**+0.6**
EFP				S	**Sn**	**02 10 25.7**	**+1.2**
EFP	**Efpalio**	**0.29**	**341**	P	**Pn**	**02 10 17.8**	**+0.6**
EFP				S	**Sn**	**02 10 25.7**	**+1.2**
EFP	**Efpalio**	**0.29**	**341**	P	**Pn**	**02 10 18.3**	**+1.1**
EFP				S	**Sn**	**02 10 23.5**	**-1.0**
EFP				AML	AML	02 10 26.1	
	comp=N,10910µm,0.3s						
EFP				AML	AML	02 10 28.5	
	comp=E,6440µm,0.2s						
DRO	**Drossia**	**0.32**	**232**	P	**Pn**	**02 10 17.1**	**-0.4**
DRO				S	**Sn**	**02 10 24.6**	**-0.3**
DRO	**Drossia**	**0.32**	**232**	P	**Pn**	**02 10 17.1**	**-0.4**
DRO				S	**Sn**	**02 10 24.6**	**-0.3**
DRO	**Drossia**	**0.32**	**232**	P	**Pn**	**02 10 16.7**	**-0.8**
DRO				S	**Sn**	**02 10 24.2**	**-0.8**
DRO				AML	AML	02 10 25.4	
	comp=N,21275µm,0.4s						
DRO				AML	AML	02 10 26.0	
	comp=E,21459µm,0.3s						
ANX	**Ano Chora**	**0.45**	**349**	P	**Pn**	**02 10 19.8**	**+1.1**
ANX				S	**Sn**	**02 10 28.1**	**+1.0**
ANX	**Ano Chora**	**0.45**	**349**	P	**Pn**	**02 10 19.8**	**+1.1**
ANX				S	**Sn**	**02 10 28.1**	**+1.0**
RLS	**Riolos of Patr**	**0.45**	**258**	P	**Pn**	**02 10 18.4**	**-0.2**
RLS				S	**Sn**	**02 10 27.4**	**+0.4**
RLS	**Riolos of Patr**	**0.45**	**258**	P	**Pn**	**02 10 18.4**	**-0.2**
RLS				S	**Sn**	**02 10 26.9**	**-0.1**
DSF	**Desfina**	**0.47**	**56**	P	**Pn**	**02 10 19.1**	**+0.2**
DSF				S	**Sn**	**02 10 27.0**	**-0.4**
DSF	**Desfina**	**0.47**	**56**	P	**Pn**	**02 10 19.1**	**+0.2**
DSF				S	**Sn**	**02 10 27.0**	**-0.4**
DSF	**Desfina**	**0.47**	**56**	P	**Pn**	**02 10 19.6**	**+0.7**
DSF				S	**Sn**	**02 10 27.0**	**-0.4**
DSF				AML	AML	02 10 28.1	
	comp=E,10674µm,0.3s						
DSF				AML	AML	02 10 28.7	
	comp=N,11267µm,0.2s						
AXS	**Araxos**	**0.52**	**275**	P	**Pn**	**02 10 19.7**	**+0.4**
AXS				S	**Sn**	**02 10 29.1**	**+1.0**
AXS	**Araxos**	**0.52**	**275**	P	**Pn**	**02 10 19.7**	**+0.4**
AXS				S	**Sn**	**02 10 27.7**	**-0.4**
AXS	**Araxos**	**0.52**	**275**	P	**Pn**	**02 10 19.1**	**-0.2**
AXS				S	**Sn**	**02 10 27.7**	**-0.4**
PVO	**Paravola**	**0.61**	**320**	P	**Pn**	**02 10 22.0**	**+1.7**
PVO				S	**Sn**	**02 10 32.0**	**+2.0**
PVO	**Paravola**	**0.61**	**320**	P	**Pn**	**02 10 22.0**	**+1.7**
PVO				S	**Sn**	**02 10 32.0**	**+2.0**
PVO	**Paravola**	**0.61**	**320**	P	**Pn**	**02 10 23.0**	**+2.6**
PVO				AML	AML	02 10 35.4	
	comp=Z,3566µm,0.2s						
PVO				AML	AML	02 10 35.6	
	comp=E,3391µm,0.3s						
AMT	**Artemida-Makis**	**0.67**	**202**	P	**Pn**	**02 10 21.1**	**+0.1**
AMT				S	**Sn**	**02 10 31.7**	**+0.5**
AMT	**Artemida-Makis**	**0.67**	**202**	P	**Pn**	**02 10 21.1**	**+0.1**
AMT				S	**Sn**	**02 10 31.7**	**+0.5**
AMT	**Artemida-Makis**	**0.67**	**202**	P	**Pn**	**02 10 21.1**	**+0.1**
VTN	**Vitineika**	**0.70**	**251**	P	**Pn**	**02 10 22.8**	**+1.4**
VTN	**Vitineika**	**0.70**	**251**	P	**Pn**	**02 10 22.8**	**+1.4**
LTK	**Loutraki**	**0.75**	**100**	P	**Pn**	**02 10 22.1**	**+0.1**
LTK				S	**Sn**	**02 10 32.4**	**-0.6**
LTK	**Loutraki**	**0.75**	**100**	P	**Pn**	**02 10 22.1**	**+0.1**
LTK				S	**Sn**	**02 10 32.4**	**-0.6**
LTK	**Loutraki**	**0.75**	**100**	P	**Pn**	**02 10 22.5**	**+0.5**
EVR	**Evrytania**	**0.78**	**347**	P	**Pn**	**02 10 24.5**	**+2.0**
EVR				S	**Sn**	**02 10 35.8**	**+2.0**
EVR	**Evrytania**	**0.78**	**347**	P	**Pn**	**02 10 24.5**	**+2.0**
EVR				S	**Sn**	**02 10 35.8**	**+2.0**
EVR	**Evrytania**	**0.78**	**347**	P	**Pn**	**02 10 26.2**	**+3.7**
PDO	**Prodromos**	**0.80**	**304**	P	**Pn**	**02 10 24.3**	**+1.7**
PDO				S	**Sn**	**02 10 36.0**	**+2.0**
PDO	**Prodromos**	**0.80**	**304**	P	**Pn**	**02 10 24.3**	**+1.7**
PDO				S	**Sn**	**02 10 36.0**	**+2.0**
PDO	**Prodromos**	**0.80**	**304**	P	**Pn**	**02 10 25.2**	**+2.6**
PDO				AML	AML	02 10 39.0	
	comp=E,6671µm,0.4s						
PDO				AML	AML	02 10 39.1	
	comp=N,9398µm,0.5s						
VLX	**Vlachokerasia**	**0.83**	**160**	P	**Pn**	**02 10 23.3**	**+0.2**
VLX				S	**Sn**	**02 10 33.7**	**-1.1**
VLX	**Vlachokerasia**	**0.83**	**160**	P	**Pn**	**02 10 23.3**	**+0.2**
VLX				S	**Sn**	**02 10 33.7**	**-1.1**
VLX	**Vlachokerasia**	**0.83**	**160**	P	**Pn**	**02 10 24.3**	**+1.2**
VLX				S	**Sn**	**02 10 35.6**	**+0.8**
AGG	**Agios Georgios**	**0.90**	**15**	P	**Pn**	**02 10 25.0**	**+1.0**
AGG				S	**Sn**	**02 10 38.0**	**+1.6**
AGG	**Agios Georgios**	**0.90**	**15**	P	**Pn**	**02 10 25.0**	**+1.0**
AGG				S	**Sn**	**02 10 38.0**	**+1.6**
AGG	**Agios Georgios**	**0.90**	**15**	P	**Pn**	**02 10 25.4**	**+1.4**
AGG				S	**Sn**	**02 10 40.2**	**+3.8**
LKR	**Lokris**	**0.91**	**57**	P	**Pn**	**02 10 24.2**	**+0.2**
LKR				S	**Sn**	**02 10 36.7**	**+0.2**
LKR	**Lokris**	**0.91**	**57**	P	**Pn**	**02 10 24.2**	**+0.2**
LKR				S	**Sn**	**02 10 36.8**	**+0.2**
LKR	**Lokris**	**0.91**	**57**	P	**Pn**	**02 10 24.9**	**+0.8**
LKR				S	**Sn**	**02 10 36.8**	**+0.2**
LKR				AML	AML	02 10 38.0	
	comp=N,2996µm,0.3s						
LKR				AML	AML	02 10 38.1	
	comp=E,4864µm,0.3s						
ITM	**Ithomi**	**0.97**	**185**	P	**Pn**	**02 10 25.7**	**+0.8**
ITM				S	**Sn**	**02 10 38.5**	**+0.6**
ITM	**Ithomi**	**0.97**	**185**	P	**Pn**	**02 10 25.7**	**+0.8**
ITM				S	**Sn**	**02 10 38.5**	**+0.6**
ITM	**Ithomi**	**0.97**	**185**	P	**Pn**	**02 10 26.5**	**+1.6**
KFL	**Anninata**	**0.98**	**268**	P	**Pn**	**02 10 26.0**	**+1.1**
KFL				S	**Sn**	**02 10 40.0**	**+1.9**
KFL	**Anninata**	**0.98**	**268**	P	**Pn**	**02 10 26.0**	**+1.1**
KFL				S	**Sn**	**02 10 40.0**	**+1.9**
KFL	**Anninata**	**0.98**	**268**	P	**Pn**	**02 10 26.0**	**+1.1**
ZKS	**Zakynthos**	**1.08**	**246**	P	**Pn**	**02 10 27.0**	**+0.7**
ZKS				S	**Sn**	**02 10 41.9**	**+1.4**
ZKS	**Zakynthos**	**1.08**	**246**	P	**Pn**	**02 10 26.5**	**+0.2**
ZKS				S	**Sn**	**02 10 41.9**	**+1.4**
ZKS	**Zakynthos**	**1.08**	**246**	P	**Pn**	**02 10 26.5**	**+0.2**
VLS	**Valsamata**	**1.13**	**272**	P	**Pn**	**02 10 27.2**	**+0.2**
VLS				S	**Sn**	**02 10 44.3**	**+2.6**
VLS	**Valsamata**	**1.13**	**272**	P	**Pn**	**02 10 27.2**	**+0.2**
VLS				S	**Sn**	**02 10 44.3**	**+2.6**
DID	**Didima**	**1.15**	**124**	P	**Pn**	**02 10 27.0**	**-0.2**
DID				S	**Sn**	**02 10 42.4**	**+0.2**
DID	**Didima**	**1.15**	**124**	P	**Pn**	**02 10 27.0**	**-0.2**
DID				S	**Sn**	**02 10 42.4**	**+0.2**
DID	**Didima**	**1.15**	**124**	P	**Pn**	**02 10 26.7**	**-0.5**
KRND	**KRANIDI**	**1.17**	**130**	P	**Pn**	**02 10 27.4**	**-0.1**
KRND				S	**Sn**	**02 10 42.7**	**+0.1**
KRND	**KRANIDI**	**1.17**	**130**	P	**Pn**	**02 10 27.4**	**-0.1**
KRND				S	**Sn**	**02 10 42.7**	**+0.1**
KRND	**KRANIDI**	**1.17**	**130**	P	**Pn**	**02 10 27.4**	**-0.1**
SMIA	**Simia**	**1.18**	**52**	P	**Pn**	**02 10 28.4**	**+0.9**
SMIA				S	**Sn**	**02 10 44.1**	**+1.3**
SMIA	**Simia**	**1.18**	**52**	P	**Pn**	**02 10 28.4**	**+0.9**
SMIA				S	**Sn**	**02 10 44.1**	**+1.3**
DSL	**Palaion Diasel**	**1.22**	**324**	P	**Pn**	**02 10 30.2**	**+2.0**
DSL				S	**Sn**	**02 10 46.0**	**+2.2**
DSL	**Palaion Diasel**	**1.22**	**324**	P	**Pn**	**02 10 30.2**	**+2.0**
DSL				S	**Sn**	**02 10 46.0**	**+2.2**
DSL	**Palaion Diasel**	**1.22**	**324**	P	**Pn**	**02 10 31.5**	**+3.4**
LKD2	**Lefkada island**	**1.25**	**301**	P	**Pn**	**02 10 29.6**	**+1.0**
LKD2				S	**Sn**	**02 10 47.1**	**+2.6**
LKD2	**Lefkada island**	**1.25**	**301**	P	**Pn**	**02 10 29.5**	**+1.0**
LKD2				S	**Sn**	**02 10 47.1**	**+2.6**
LKD2	**Lefkada island**	**1.25**	**301**	P	**Pn**	**02 10 29.5**	**+1.0**
PYL	**PYLOS**	**1.27**	**190**	P	**Pn**	**02 10 29.5**	**+0.7**
PYL				S	**Sn**	**02 10 45.6**	**+0.6**
PYL	**PYLOS**	**1.27**	**190**	P	**Pn**	**02 10 29.5**	**+0.7**
PYL				S	**Sn**	**02 10 45.6**	**+0.6**
PYL	**PYLOS**	**1.27**	**190**	P	**Pn**	**02 10 30.1**	**+1.3**
ATH	**Athens Observa**	**1.34**	**97**	P	**Pn**	**02 10 30.3**	**+0.6**
ATH				S	**Sn**	**02 10 46.6**	**-0.1**
ATH	**Athens Observa**	**1.34**	**97**	P	**Pn**	**02 10 30.3**	**+0.6**
ATH				S	**Sn**	**02 10 46.6**	**-0.1**
THL	**Klokotos Trika**	**1.41**	**360**	P	**Pn**	**02 10 32.2**	**+1.6**
THL	**Klokotos Trika**	**1.41**	**360**	P	**Pn**	**02 10 32.2**	**+1.6**
VLY	**Voula,Athens**	**1.43**	**102**	P	**Pn**	**02 10 31.1**	**+0.3**
VLY				S	**Sn**	**02 10 48.5**	**-0.1**
VLY	**Voula,Athens**	**1.43**	**102**	P	**Pn**	**02 10 31.1**	**+0.3**
VLY				S	**Sn**	**02 10 48.5**	**-0.1**
VLY	**Voula,Athens**	**1.43**	**102**	P	**Pn**	**02 10 31.2**	**+0.4**
VLY				AML	AML	02 10 49.5	
	comp=N,1368µm,0.4s						
VLY				AML	AML	02 10 50.0	
	comp=E,1558µm,0.2s						
FYTO	**Fytoko, Volos**	**1.44**	**29**	P	**Pn**	**02 10 32.0**	**+0.9**
FYTO	**Fytoko, Volos**	**1.44**	**29**	P	**Pn**	**02 10 32.0**	**+0.9**
PTL	**Penteli**	**1.45**	**93**	P	**Pn**	**02 10 31.7**	**+0.5**
PTL				S	**Sn**	**02 10 49.1**	**-0.2**
PTL	**Penteli**	**1.45**	**93**	P	**Pn**	**02 10 31.7**	**+0.5**
PTL				S	**Sn**	**02 10 49.1**	**-0.2**
PTL	**Penteli**	**1.45**	**93**	P	**Pn**	**02 10 32.1**	**+0.8**
PTL				AML	AML	02 10 50.3	
	comp=E,2704µm,0.5s						
PTL				AML	AML	02 10 50.4	
	comp=N,1670µm,0.4s						
NEO	**Neokhori**	**1.48**	**39**	P	**Pn**	**02 10 32.5**	**+0.8**
NEO	**Neokhori**	**1.48**	**39**	P	**Pn**	**02 10 32.5**	**+0.8**
NEO				S	**Sn**	**02 10 49.4**	**-0.7**
NEO	**Neokhori**	**1.48**	**39**	P	**Pn**	**02 10 32.8**	**+1.1**
NEO				S	**Sn**	**02 10 49.4**	**-0.7**
XOR	**Xorichti**	**1.52**	**37**	P	**Pn**	**02 10 32.8**	**+0.7**
XOR	**Xorichti**	**1.52**	**37**	P	**Pn**	**02 10 32.8**	**+0.7**
XOR	**Xorichti**	**1.52**	**37**	P	**Pn**	**02 10 33.1**	**+1.0**
VLI	**Veliai**	**1.60**	**153**	P	**Pn**	**02 10 33.0**	**-0.2**
VLI				S	**Sn**	**02 10 52.2**	**-0.7**
VLI	**Veliai**	**1.60**	**153**	P	**Pn**	**02 10 33.0**	**-0.2**
VLI				S	**Sn**	**02 10 52.2**	**-0.7**
VLI	**Veliai**	**1.60**	**153**	P	**Pn**	**02 10 32.6**	**-0.6**
JAN	**Janina**	**1.76**	**329**	P	**Pn**	**02 10 37.5**	**+2.1**
JAN	**Janina**	**1.76**	**329**	P	**Pn**	**02 10 37.5**	**+2.1**
AOS	**Alonnisos**	**1.77**	**54**	P	**Pn**	**02 10 36.0**	**+0.5**
AOS	**Alonnisos**	**1.77**	**54**	P	**Pn**	**02 10 36.0**	**+0.5**
AOS	**Alonnisos**	**1.77**	**54**	P	**Pn**	**02 10 35.6**	**+0.1**
KPRO	**Kipourio**	**1.87**	**344**	P	**Pn**	**02 10 41.2**	**+4.2**
KPRO	**Kipourio**	**1.87**	**344**	P	**Pn**	**02 10 41.2**	**+4.2**
IGT	**Igoumenitsa**	**1.91**	**317**	P	**Pn**	**02 10 37.3**	**-0.1**
LIT	**Litokhoron**	**1.98**	**10**	P	**Pn**	**02 10 39.3**	**+0.9**
LIT	**Litokhoron**	**1.98**	**10**	P	**Pn**	**02 10 38.8**	**+0.4**
LIT	**Litokhoron**	**1.98**	**10**	P	**Pn**	**02 10 38.8**	**+0.4**
SGD	**Sagiada**	**2.02**	**317**	P	**Pn**	**02 10 39.3**	**+0.5**
KYTH	**Kithira**	**2.05**	**156**	P	**Pn**	**02 10 41.5**	**+2.2**
KYTH	**Kithira**	**2.05**	**156**	P	**Pn**	**02 10 41.5**	**+2.2**
PENT	**Pentalofos**	**2.16**	**342**	P	**Pn**	**02 10 45.1**	**+4.3**
PENT	**Pentalofos**	**2.16**	**342**	P	**Pn**	**02 10 45.1**	**+4.3**
KZN	**Kozani**	**2.16**	**355**	P	**Pn**	**02 10 42.6**	**+1.7**
KZN	**Kozani**	**2.16**	**355**	P	**Pn**	**02 10 42.6**	**+1.7**
PAIG	**Paliouri**	**2.19**	**35**	P	**Pn**	**02 10 41.7**	**+0.5**
PAIG	**Paliouri**	**2.19**	**35**	P	**Pn**	**02 10 41.7**	**+0.5**
PAIG	**Paliouri**	**2.19**	**35**	P	**Pn**	**02 10 40.9**	**-0.3**
NEST	**Nestorio**	**2.38**	**342**	P	**Pn**	**02 10 47.9**	**+4.0**
NEST	**Nestorio**	**2.38**	**342**	P	**Pn**	**02 10 47.9**	**+4.0**
MHLO	**Agia Marina, M**	**2.39**	**127**	P	**Pn**	**02 10 42.3**	**-1.6**
MHLO	**Agia Marina, M**	**2.39**	**127**	P	**Pn**	**02 10 42.3**	**-1.6**
PLG	**Polygyros**	**2.48**	**26**	P	**Pn**	**02 10 46.0**	**+0.9**
PLG	**Polygyros**	**2.48**	**26**	P	**Pn**	**02 10 46.0**	**+0.9**
PLG	**Polygyros**	**2.48**	**26**	P	**Pn**	**02 10 45.4**	**+0.3**
ANKY	**Antikythira Is**	**2.50**	**156**	P	**Pn**	**02 10 46.0**	**+0.6**
ANKY	**Antikythira Is**	**2.50**	**156**	P	**Pn**	**02 10 46.0**	**+0.6**
HORT	**Hortiatis**	**2.58**	**18**	P	**Pn**	**02 10 46.2**	**-0.4**
HORT	**Hortiatis**	**2.58**	**18**	P	**Pn**	**02 10 46.2**	**-0.4**
THE	**Thessaloniki**	**2.58**	**16**	P	**Pn**	**02 10 45.3**	**-1.2**
THE	**Thessaloniki**	**2.58**	**16**	P	**Pn**	**02 10 45.3**	**-1.2**
OUR	**Ouranopolis**	**2.66**	**34**	P	**Pn**	**02 10 48.5**	**+1.0**
OUR	**Ouranopolis**	**2.66**	**34**	P	**Pn**	**02 10 48.5**	**+1.0**
OUR	**Ouranopolis**	**2.66**	**34**	P	**Pn**	**02 10 47.7**	**+0.2**
FNA	**Florina**	**2.68**	**349**	P	**Pn**	**02 10 49.8**	**+1.9**
FNA	**Florina**	**2.68**	**349**	P	**Pn**	**02 10 49.8**	**+1.9**
GRG	**Griva**	**2.82**	**6**	P	**Pn**	**02 10 50.8**	**+1.0**
GRG	**Griva**	**2.82**	**6**	P	**Pn**	**02 10 50.8**	**+1.0**
SOH	**Sokhos**	**2.86**	**21**	P	**Pn**	**02 10 52.0**	**+1.7**
SOH	**Sokhos**	**2.86**	**21**	P	**Pn**	**02 10 52.0**	**+1.7**
APE	**Apeiranthos**	**2.98**	**110**	P	**Pn**	**02 10 52.5**	**+0.4**
APE	**Apeiranthos**	**2.98**	**110**	P	**Pn**	**02 10 52.2**	**+0.1**
APE	**Apeiranthos**	**2.98**	**110**	P	**Pn**	**02 10 52.2**	**+0.1**
LIA	**Limnos Island**	**3.01**	**54**	P	**Pn**	**02 10 52.3**	**-0.1**
OHR	**Ohrid**	**3.10**	**343**	i Pn	**Pn**	**02 10 57.6**	**+3.9**
OHR				i Sn	**Sn**	**02 11 31.7**	**+2.1**
OHR	**Ohrid**	**3.10**	**343**	i Pn	**Pn**	**02 10 57.6**	**+3.9**
OHR				i Sn	**Sn**	**02 11 31.7**	**+2.1**
IMMV	**Iera Moni Meta**	**3.11**	**149**	P	**Pn**	**02 10 55.2**	**+1.5**
IMMV	**Iera Moni Meta**	**3.11**	**149**	P	**Pn**	**02 10 55.2**	**+1.5**
SIGR	**SIGRI**	**3.18**	**69**	P	**Pn**	**02 10 54.0**	**-0.6**
SIGR	**SIGRI**	**3.18**	**69**	P	**Pn**	**02 10 54.0**	**-0.6**
CHOS	**Chios island**	**3.18**	**85**	P	**Pn**	**02 10 56.1**	**+1.4**
CHOS	**Chios island**	**3.18**	**85**	P	**Pn**	**02 10 56.1**	**+1.4**
VAY	**Valandovo**	**3.19**	**7**	i Pn	**Pn**	**02 10 56.7**	**+1.9**
VAY				i Sn	**Sn**	**02 11 34.1**	**+2.4**
VAY	**Valandovo**	**3.19**	**7**	i Pn	**Pn**	**02 10 56.7**	**+1.9**
VAY				i Sn	**Sn**	**02 11 34.1**	**+2.4**
SRS	**Serrai**	**3.20**	**22**	P	**Pn**	**02 10 55.8**	**+0.9**
SRS	**Serrai**	**3.20**	**22**	P	**Pn**	**02 10 55.8**	**+0.9**
KAVA	**Kavala**	**3.43**	**33**	P	**Pn**	**02 10 56.8**	**-1.3**
KAVA	**Kavala**	**3.43**	**33**	P	**Pn**	**02 10 56.8**	**-1.3**
NVR	**Nevrokopi**	**3.49**	**23**	P	**Pn**	**02 10 59.8**	**+0.8**
PRK	**Paraskevi**	**3.50**	**70**	P	**Pn**	**02 10 59.3**	**+0.3**
PRK	**Paraskevi**	**3.50**	**70**	P	**Pn**	**02 10 59.3**	**+0.3**
SMTH	**Samothraki Isl**	**3.57**	**48**	P	**Pn**	**02 10 58.7**	**-1.3**
SMTH	**Samothraki Isl**	**3.57**	**48**	P	**Pn**	**02 10 58.7**	**-1.3**
IDI	**Anoyia**	**3.67**	**140**	P	**Pn**	**02 11 03.7**	**+2.2**
IDI	**Anoyia**	**3.67**	**140**	P	**Pn**	**02 11 03.7**	**+2.2**
GVD	**Gavdhos**	**3.70**	**153**	P	**Pn**	**02 11 01.6**	**-0.2**
GVD	**Gavdhos**	**3.70**	**153**	P	**Pn**	**02 11 01.6**	**-0.2**
SMG	**Samos**	**3.83**	**95**	P	**Pn**	**02 11 04.4**	**+0.8**
SMG	**Samos**	**3.83**	**95**	P	**Pn**	**02 11 04.4**	**+0.8**
ALN	**Alexandroupoli**	**4.14**	**47**	P	**Pn**	**02 11 06.6**	**-1.3**
ALN	**Alexandroupoli**	**4.14**	**47**	P	**Pn**	**02 11 06.5**	**-1.3**
ULC	**Ulcinj**	**4.37**	**332**	⇑i Pn	**Pn**	**02 11 11.3**	**+0.4**
ULC				eSn	**Sn**	**02 12 00.2**	**-0.3**
ULC	**Ulcinj**	**4.37**	**332**	⇑i Pn	**Pn**	**02 11 11.3**	**+0.4**
ULC				eSn	**Sn**	**02 12 00.2**	**-0.3**
TAR1	**Taranto**	**4.38**	**304**	ePn	**Pn**	**02 11 10.7**	**-0.3**
DRME	**Dracevica, Mon**	**4.58**	**333**	⇑i Pn	**Pn**	**02 11 14.4**	**+0.5**
DRME				eSn	**Sn**	**02 12 04.8**	**-1.0**
DRME	**Dracevica, Mon**	**4.58**	**333**	⇑i Pn	**Pn**	**02 11 14.4**	**+0.5**
DRME				eSn	**Sn**	**02 12 04.8**	**-1.0**
BARS	**Barje**	**4.66**	**358**	ePn	**Pn**	**02 11 16.6**	**+1.6**
PVY	**Plav**	**4.71**	**341**	⇑i Pn	**Pn**	**02 11 16.5**	**+0.7**
PVY				eSn	**Sn**	**02 12 09.2**	**+0.1**
PVY	**Plav**	**4.71**	**341**	⇑i Pn	**Pn**	**02 11 16.5**	**+0.7**
PVY				eSn	**Sn**	**02 12 09.2**	**+0.1**
PDG	**Podgorica**	**4.77**	**334**	⇑i Pn	**Pn**	**02 11 17.5**	**+1.1**
PDG				eSn	**Sn**	**02 12 09.6**	**-0.8**
TTG	**Podgorica**	**4.77**	**334**	⇑i Pn	**Pn**	**02 11 17.5**	**+1.1**
TTG				eSn	**Sn**	**02 12 09.6**	**-0.8**
BUM	**Brajici-Budva**	**4.79**	**331**	⇑i Pn	**Pn**	**02 11 17.3**	**+0.5**
BUM				eSn	**Sn**	**02 12 10.5**	**-0.4**
BUM	**Brajici-Budva**	**4.79**	**331**	⇑i Pn	**Pn**	**02 11 17.3**	**+0.5**
BUM				eSn	**Sn**	**02 12 10.5**	**-0.4**
SG1	**Sgolgore (BA)**	**4.93**	**305**	i Pn	**Pn**	**02 11 18.3**	**-0.4**
SG1				Sn	**Sn**	**02 12 10.4**	**-4.0**
BAI	**Bari**	**4.95**	**308**	ePn	**Pn**	**02 11 18.6**	**-0.3**
BAI				Sn	**Sn**	**02 12 11.8**	**-3.0**
BEY	**Berane**	**4.99**	**342**	⇑i Pn	**Pn**	**02 11 20.8**	**+1.3**
BEY				eSn	**Sn**	**02 12 15.3**	**-0.6**
IVA	**Berane**	**4.99**	**342**	⇑i Pn	**Pn**	**02 11 20.8**	**+1.3**
IVA				eSn	**Sn**	**02 12 15.3**	**-0.6**
CEME	**Cevo**	**4.99**	**333**	⇑i Pn	**Pn**	**02 11 19.7**	**+0.2**
CEME				eSn	**Sn**	**02 12 14.7**	**-1.2**
CEME	**Cevo**	**4.99**	**333**	⇑i Pn	**Pn**	**02 11 19.7**	**+0.2**
CEME				eSn	**Sn**	**02 12 14.7**	**-1.2**
HCY	**Herceg Novi**	**5.07**	**329**	ePn	**Pn**	**02 11 20.9**	**+0.3**
HCY				eSn	**Sn**	**02 12 16.7**	**-1.1**
HCY	**Herceg Novi**	**5.07**	**329**	ePn	**Pn**	**02 11 20.9**	**+0.3**
HCY				eSn	**Sn**	**02 12 16.7**	**-1.1**
NKME	**Niksic**	**5.17**	**334**	ePn	**Pn**	**02 11 22.7**	**+0.7**
NKME				eSn	**Sn**	**02 12 20.0**	**-0.3**
NKME	**Niksic**	**5.17**	**334**	ePn	**Pn**	**02 11 22.7**	**+0.7**
NKME				eSn	**Sn**	**02 12 20.0**	**-0.3**
NKY	**Niksic**	**5.20**	**335**	⇓i Pn	**Pn**	**02 11 22.8**	**+0.4**
NKY				eSn	**Sn**	**02 12 20.2**	**-0.9**
NKY	**Niksic**	**5.20**	**335**	⇓i Pn	**Pn**	**02 11 22.8**	**+0.4**
NKY				eSn	**Sn**	**02 12 20.2**	**-0.9**
BRY	**Bratogost**	**5.44**	**332**	⇑i Pn	**Pn**	**02 11 25.8**	**+0.1**
BRY				eSn	**Sn**	**02 12 25.8**	**-1.2**
BRY	**Bratogost**	**5.44**	**332**	⇑i Pn	**Pn**	**02 11 25.8**	**+0.1**
BRY				eSn	**Sn**	**02 12 25.8**	**-1.2**
PLE	**Pljevlja**	**5.55**	**340**	⇓i Pn	**Pn**	**02 11 27.7**	**+0.5**
PLE				eSn	**Sn**	**02 12 28.9**	**-0.7**
PLE	**Pljevlja**	**5.55**	**340**	⇓i Pn	**Pn**	**02 11 27.7**	**+0.5**
PLE				eSn	**Sn**	**02 12 28.9**	**-0.7**
UPM	**Unac-Piva**	**5.58**	**336**	⇓i Pn	**Pn**	**02 11 28.3**	**+0.6**
UPM				eSn	**Sn**	**02 12 29.2**	**-1.3**
UPM	**Unac-Piva**	**5.58**	**336**	⇓i Pn	**Pn**	**02 11 28.3**	**+0.6**
UPM				eSn	**Sn**	**02 12 29.2**	**-1.3**
IVAS	**Ivanjica**	**5.60**	**346**	ePn	**Pn**	**02 11 29.8**	**+1.9**
GRUS	**Gruza**	**5.82**	**351**	ePn	**Pn**	**02 11 31.4**	**+0.6**
BBLS	**Lazići**	**6.04**	**342**	ePn	**Pn**	**02 11 33.7**	**-0.2**
DIVS	**Divibare**	**6.14**	**346**	ePn	**Pn**	**02 11 35.2**	**0.0**
UDBI	**Udbina**	**7.92**	**326**	i Pn	**Pn**	**02 11 59.6**	**0.0**
UDBI				Sn	**Sn**	**02 13 24.4**	**-3.4**
UDBI	**Udbina**	**7.92**	**326**	i Pn	**Pn**	**02 11 59.6**	**0.0**
NVLJ	**Novalja**	**8.36**	**322**	ePn	**Pn**	**02 12 04.6**	**-1.1**
NVLJ				Sn	**Sn**	**02 13 32.1**	**-6.3**
NVLJ	**Novalja**	**8.36**	**322**	ePn	**Pn**	**02 12 04.5**	**-1.1**
BOJS	**Bojanci**	**8.92**	**328**	i Pn	**Pn**	**02 12 12.4**	**-0.8**
BOJS				i Sn	**Sn**	**02 13 47.2**	**-4.8**
BOJS	**Bojanci**	**8.92**	**328**	i Pn	**Pn**	**02 12 12.4**	**-0.8**
SKDS	**Skadanscina**	**9.50**	**324**	i Pn	**Pn**	**02 12 19.5**	**-1.7**
SKDS				i Sn	**Sn**	**02 13 59.5**	**-6.9**
SKDS	**Skadanscina**	**9.50**	**324**	i Pn	**Pn**	**02 12 19.5**	**-1.7**
JAVS	**Javornik**	**9.74**	**325**	i Pn	**Pn**	**02 12 23.7**	**-0.8**
JAVS				i Sn	**Sn**	**02 14 06.0**	**-6.3**
JAVS	**Javornik**	**9.74**	**325**	i Pn	**Pn**	**02 12 23.7**	**-0.8**

ISCJB ***01*** *02:12:03.3±0.6, 24°.86N±0°.03×122°.45E±0°.03, h4km±5km, Error ellipse: s-maj=5.6km s-min=3.8km az=26.3*
JMA ***01*** *02:12:03.4±0.2, 24°.80N×122°.43E, h0km, M2.0*
TAP ***01*** *02:12:04.2, 24°.91N×122°.40E, h18km, ML2.8, C*
ISC 01 02:12:03.6±1.1**, 24°.85N**±0°.04×**122°.44E**±0°.04**, h10**km±12km**, n16, σ0^{s}42**/30**, 1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.44**	**292**	P	**Pg**	**02 12 12.4**	**+0.2**
	baz=284						
TWB1				i S	**Sg**	**02 12 18.5**	**+0.4**
	baz=284						
TWC	**Suao**	**0.59**	**246**	i P	**Pb**	**02 12 15.5**	**-0.5**
	baz=239						
TWC				i S	**Sb**	**02 12 23.6**	**-0.8**
	baz=239						
JYNG	**Yonagunijimaku**	**0.60**	**130**	P	**Pg**	**02 12 15.2**	**-0.1**
JYNG				eS	**Sg**	**02 12 23.7**	**+0.5**
NWF	**Wu-fen Shan**	**0.64**	**291**	P	**Pb**	**02 12 16.6**	**-0.3**
	baz=286						
NWF				S	**Sb**	**02 12 24.9**	**-1.1**
	baz=286						
YOJ	**Yonaguni jima**	**0.65**	**126**	P	**Pg**	**02 12 15.7**	**-0.4**
YOJ				eS	**Sg**	**02 12 24.6**	**+0.1**
TWE	**Neicheng**	**0.71**	**260**	P	**Pb**	**02 12 17.6**	**-0.6**
	baz=245						
TWE				S	**Sg**	**02 12 26.8**	**+0.1**
	baz=245						
ENA	**Nanau**	**0.76**	**237**	eP	**Pb**	**02 12 18.5**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=231						
ENA				S	Sb	02 12 29.2	-0.2
	baz=231						
ENTT	Nioudou	0.82	256	eP	Pb	02 12 20.1	+0.1
	baz=250						
ENTT				S	Sb	02 12 30.8	-0.4
	baz=250						
PCYT	Pengchaiyu	0.85	337	⇑iP	Pg	02 12 20.0	0.0
	baz=338						
PCYT				S	Sg	02 12 31.2	+0.2
	baz=338						
TWY	Chenhua	0.87	299	P	Pb	02 12 20.8	-0.1
	baz=296						
TWY				eS	Sg	02 12 31.9	0.0
	baz=296						
NSK	Sanguang	1.00	260	eP	Pb	02 12 23.2	+0.2
	baz=270						
NSK				S	Sg	02 12 35.4	-0.4
	baz=270						
NNS	Nan Shan	1.05	248	eP	Pb	02 12 23.8	-0.2
	baz=242						
NNS				eS	Sb	02 12 37.6	-0.3
	baz=242						
WHF	Hehuan Shan	1.28	237	eP	Pb	02 12 28.0	0.0
	baz=233						
WHF				eS	Sb	02 12 44.7	0.0
	baz=233						
WDT	Danda	1.61	228	eP	Pn	02 12 33.0	+0.5
	baz=207						
WDT				eS	Sn	02 12 54.0	+0.5
	baz=207						
TYC	Yuchr	1.72	237	eP	Pb	02 12 34.8	-0.5
	baz=234						
CHN5	Tsauling	2.03	233	eP	Pb	02 12 41.1	+0.3
	baz=230						

*ISCJB **01** 02:23:39.8±0.6, 39.°09N±0.°04×29.°02E±0.°04, h3km±9km, Error ellipse: s-maj=6.9km s-min=4.7km az=153.7*
*DDA **01** 02:23:39.6, 39.°10N×29.°02E, h7km, Md2.7*
*ISK **01** 02:23:39.2, 39.°05N×29.°10E, h8km, MD2.7*
*CSEM **01** 02:23:40.0±0.1, 39.°09N×29.°02E, h5km, MD2.7, Error ellipse: s-maj=2.5km s-min=1.8km az=117.0*
ISC 01 02:23:40.0±1.0**, 39.°09N**±0.°03×**29.°03E**±0.°03**, h9**km±10km**, n21, σ0.s51**/33**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.25	260	P	Pg	02 23 45.1	+0.1
DEMI				S	Sg	02 23 48.7	+0.3
DEMI	Demirci	0.25	260	i P	Pg	02 23 45.1	+0.1
DEMI				i S	Sg	02 23 48.7	+0.3
GDZ	Gediz	0.35	90	P	Pg	02 23 47.0	0.0
GDZ				S	Sg	02 23 52.1	+0.5
GDZ	Gediz	0.35	90	i P	Pg	02 23 47.0	0.0
GDZ				i S	Sg	02 23 52.1	+0.5
TVSB	Tavsanli	0.49	43	PG	Pg	02 23 49.6	0.0
TVSB				SG	Sg	02 23 56.1	0.0
TVSB	Tavsanli	0.49	43	i Pg	Pg	02 23 49.6	0.0
TVSB				i Sg	Sg	02 23 56.1	0.0
KULA	Kula-Manisa	0.64	207	ePG	Pg	02 23 52.0	-0.3
KULA				eSG	Sg	02 24 00.9	+0.1
KULA	Kula-Manisa	0.64	207	ePg	Pg	02 23 52.1	-0.3
KULA				eSg	Sg	02 24 00.9	+0.1
KHAL	Karahalli	0.80	153	P	Pb	02 23 56.0	-0.2
KHAL				S	Sb	02 24 06.7	-0.5
KHAL	Karahalli	0.80	153	i P	Pb	02 23 56.0	-0.2
KHAL				i S	Sb	02 24 06.7	-0.5
IGD	Bursa	1.18	6	i P	Pg	02 24 00.9	-1.8
CAVI	Cavuskoy	1.28	29	ePN	Pg	02 24 04.1	-0.4
CAVI	Cavuskoy	1.28	29	ePn	Pg	02 24 04.1	-0.4
MDNY	Mudanya-Bursa	1.28	355	ePN	Pg	02 24 04.7	0.0
MDNY	Mudanya-Bursa	1.28	355	ePn	Pg	02 24 04.7	0.0
KCTX	Karacabey (Bur	1.29	336	ePN	Pg	02 24 05.0	+0.3
KCTX	Karacabey (Bur	1.29	336	ePn	Pg	02 24 05.0	+0.3
BORA	Eskisehir	1.36	54	P	Pg	02 24 05.8	-0.2
BORA				S	Sn	02 24 24.4	+1.0
BORA	Eskisehir	1.36	54	i P	Pg	02 24 05.8	-0.2
BORA				i S	Sn	02 24 24.4	+1.0
ARMT	Armutlu	1.48	355	ePN	Pb	02 24 07.4	-0.3
ARMT	Armutlu	1.48	355	ePn	Pb	02 24 07.4	-0.3

*ISCJB **01** 02:26:40.0±0.7, 24.°88N±0.°04×122.°46E±0.°03, h7km±5km, Error ellipse: s-maj=7.6km s-min=4.0km az=25.4*
*TAP **01** 02:26:40.6, 24.°91N×122.°40E, h14km, ML2.8, C*
*JMA **01** 02:26:40.8±0.1, 24.°83N×122.°44E, h19km, M2.3*
ISC 01 02:26:40.3±1.1**, 24.°87N**±0.°05×**122.°45E**±0.°03**, h12**km±11km**, n15, σ0.s34**/28**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.44	288	P	Pg	02 26 49.1	+0.1
	baz=284						
TWB1				S	Sg	02 26 55.0	+0.2
	baz=284						
TWC	Suao	0.60	245	P	Pg	02 26 52.0	0.0
	baz=238						
TWC				eS	Sb	02 27 01.1	-0.2
	baz=238						
JYNG	Yonagunijimaku	0.62	133	P	Pg	02 26 52.3	0.0
JYNG				eS	Sg	02 27 00.5	+0.1
NWF	Wu-fen Shan	0.64	288	P	Pg	02 26 53.2	+0.5
	baz=285						
NWF				S	Sb	02 27 02.0	-0.3
	baz=285						
YOJ	Yonaguni jima	0.65	128	P	Pg	02 26 52.9	-0.1
YOJ				eS	Sg	02 27 01.6	0.0
TWE	Neicheng	0.73	258	P	Pg	02 26 54.3	0.0
	baz=245						
TWE				S	Sg	02 27 04.1	+0.3
	baz=245						
ENA	Nanau	0.78	236	eP	Pg	02 26 55.2	-0.1
	baz=230						
ENA				eS	Sb	02 27 06.2	-0.1
	baz=230						
PCYT	Pengchaiyu	0.83	336	eP	Pg	02 26 56.2	-0.1
	baz=338						
ENTT	Nioudou	0.83	254	P	Pb	02 26 56.6	-0.1
	baz=250						
ENTT				eS	Sb	02 27 08.4	+0.5
	baz=250						
TWY	Chenhua	0.87	298	eP	Pg	02 26 56.6	-0.5
	baz=282						
TWY				eS	Sb	02 27 09.1	+0.2
	baz=282						
NSK	Sanguang	1.01	259	P	Pb	02 26 59.5	-0.3
	baz=255						
NSK				eS	Sg	02 27 12.7	-0.3
	baz=255						
NNS	Nan Shan	1.07	247	eP	Pn	02 27 01.6	+0.4
	baz=230						
NNS				eS	Sb	02 27 14.4	-0.4
	baz=230						
WHF	Hehuan Shan	1.30	236	eP	Pn	02 27 04.7	+0.1
	baz=233						
WHF				eS	Sb	02 27 20.7	-0.9
	baz=233						
WDT	Danda	1.64	228	eP	Pn	02 27 09.5	+0.3
	baz=224						
WDT				eS	Sb	02 27 31.7	+0.5
	baz=224						
CHN5	Tsauling	2.05	232	eP	Pn	02 27 15.1	+0.4
	baz=230						

*NEIC **01** 02:27:18.7±0.8, 14.°29N×90.°83W, h127km±8km, mb4.3/27, Error ellipse: s-maj=11.3km s-min=7.3km az=223.0*
*IDC **01** 02:27:23.9±2.8, 14.°44N×90.°37W, h171km±24km, mb3.4/12, mb1 3.6/14, mb1mx3.4/43, mbtmp3.9/14, MS3.2/1, Ms1 3.1/1, ms1mx2.5/13, Error ellipse: s-maj=25.0km s-min=12.7km az=59.0*
ISC 01 02:27:16.5±0.5**, 14.°31N**±0.°06×**90.°89W**±0.°06**, h100**km**, n182, σ1.s93**/190**, mb4.1**/27**, 3C-11D, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUS1	Cusmapa	1.00	113	⇓iP	Pn	02 27 39.6	+2.6
CUS1				eS	Sn	02 27 57.4	+4.9
RBDL	Robledal	1.19	100	⇓iP	Pn	02 27 42.0	+2.8
RTR	El Retiro	1.28	109	⇓iP	Pn	02 27 43.0	+2.8
MONT	Ecomontaæa	1.29	110	⇑iP	Pn	02 27 43.2	+2.7
SBLS	San Blas	1.32	111	eP	Pn	02 27 43.3	+2.5
SBLS				eS	Sn	02 28 05.8	+6.6
SNJE	San Jose	1.32	109	⇓iP	Pn	02 27 43.4	+2.6
MRL	Marmol	1.38	57	⇓eP	Pn	02 27 45.3	+3.8
BOQS	Boqueron	1.67	110	⇑iP	Pn	02 27 47.6	+2.5
COLS	Colinas	1.68	112	⇓iP	Pn	02 27 47.5	+2.4
COLS				eS	Sn	02 28 11.5	+4.7
SNET	Serv Nac Est T	1.73	111	⇓eP	Pn	02 27 48.0	+2.3
SNET				AML	AML	02 27 48.7	
	comp=Z,2µm,0.3s						
SNET				eS	Sn	02 28 12.9	+5.0
LFU	La Fuente	1.81	108	⇓iP	Pn	02 27 49.2	+2.4
LBRS	Las Brisas	1.88	107	⇓iP	Pn	02 27 50.1	+2.4
LFRS	El Faro	1.90	111	⇓iP	Pn	02 27 50.1	+2.1
SNVI	San Vicente	2.11	109	eP	Pn	02 27 53.1	+2.4
CCIG	Comitan	2.30	329	ePn	Pn	02 27 56.8	+3.7
CCIG				eSn	Sn	02 28 21.2	0.0
PACA	Pacayal	2.63	108	eP	Pn	02 27 59.5	+2.0
CAHU	Cacacuatique	2.66	101	⇓eP	Pn	02 28 00.1	+2.2
CNCH	Conchagua	3.15	109	eP	Pn	02 28 06.3	+2.0
TGUH	Tegucigalpa,Un	3.52	94	eP	Pn	02 28 10.8	+1.6
TGUH	Tegucigalpa,Un	3.52	94	ePn	Pn	02 28 11.1	+1.9
TGUH				eSn	Sn	02 28 42.6	-7.4
CRIN	San Cristobal	4.07	113	eP	Pn	02 28 19.7	+3.0
CRIN				eS	Sn	02 29 08.2	+4.9
CRIN				AML	AML	02 29 11.8	
	comp=N,500nm,0.3s						
TEL3	Telica 3	4.30	113	eP	Pn	02 28 21.9	+2.1
CNGN	Cerro Negro	4.46	113	eP	Pn	02 28 24.2	+2.2
CNGN				⇑iP	Pn	02 28 24.7	+2.7
CNGN				eS	Sn	02 29 17.5	+4.6
CNGN				AML	AML	02 29 21.9	
	comp=E,148nm,0.4s						
ESTN	Estel	4.56	105	eP	Pn	02 28 25.2	+1.9
MOMN	Momotombo	4.64	114	eP	Pn	02 28 26.9	+2.5
COPN	Copaltepe	4.69	116	eP	Pn	02 28 27.1	+2.0
APYN	Apoyeque	4.88	115	eP	Pn	02 28 29.7	+2.0
XAVN	Gruta Xavier	4.94	115	eP	Pn	02 28 30.7	+2.2
TISN	Laguna Tiscapa	4.99	115	eP	Pn	02 28 31.4	+2.2
MGAN	Managua	5.01	115	eP	Pn	02 28 31.6	+2.2
TEIG	Tepich	6.39	23	P	Pn	02 28 50.3	+2.2
	comp=E,14nm,0.3s,baz=89,slow=24,SNR=141						
TEIG				S	Sn	02 30 03.1	+3.5
	baz=37,slow=20,SNR=2.1						
TEIG	Tepich	6.39	23	eP	Pn	02 28 50.1	+2.0
ESPN	Las Esperanzas	6.75	107	eP	Pn	02 28 55.2	+2.1
TLIG	Tlapa	8.06	295	ePn	Pn	02 29 12.9	+1.9
MOIG	Morelia	11.20	300	ePn	Pn	02 29 58.1	+4.3
BCIP	Isla Barro Col	11.97	114	ePn	Pn	02 30 04.2	+0.3
345A	Thompson Farm,	16.93	3	P	P	02 31 10.2	+2.5
	baz=183						
344A	Westbrook Farm	17.06	0	P	P	02 31 12.5	+3.5
	baz=180						
347A	Saraland	17.14	7	P	P	02 31 12.6	+2.7
	baz=188,SNR=11						
348A	Jackson	17.24	9	P	P	02 31 14.6	+3.6
	baz=190						
244A	Avery, Jackson	17.65	1	P	Pn	02 31 18.0	+2.1
	baz=180						
245A	Little AP, Sta	17.66	3	P	Pn	02 31 18.2	+2.1
	baz=183						
242A	Grayson	17.70	356	P	Pn	02 31 17.9	+1.3
	baz=176						
241A	Mo Tay, Goldon	17.73	354	P	Pn	02 31 18.6	+1.7
	baz=173						
GUYC	Guyana, Colomb	17.73	119	eP	Pn	02 31 18.6	+1.0
247A	Quitman	17.78	6	P	Pn	02 31 19.4	+1.8
	baz=187						
VBMS	Vicksburg	17.83	1	eP	Pn	02 31 19.8	+1.7
	comp=E,56nm,0.8s						
336A	Riesel	17.85	343	P	Pn	02 31 20.4	+2.0
	baz=161						
335A	Moody	17.92	342	P	Pn	02 31 22.2	+2.9
	baz=159						
248A	Dixon Mills	17.93	9	P	Pn	02 31 22.1	+2.7
	baz=190						
142A	Monroe	18.18	357	P	Pn	02 31 23.4	+1.1
	baz=177						
145A	Houston Renfro	18.23	3	P	Pn	02 31 24.1	+1.2
	baz=183						
334A	Lometa	18.23	340	P	Pn	02 31 24.0	+1.0
	baz=157						
141A	Papa Simpson,	18.30	355	P	Pn	02 31 24.9	+1.1
	baz=174						
143A	Socs Landing,	18.31	359	P	Pn	02 31 24.8	+0.9
	baz=178						
TIGA	Tifton	18.31	20	P	Pn	02 31 24.7	+0.7
	baz=203,SNR=5.5						
TIGA	Tifton	18.31	20	eP	P	02 31 23.2	+0.4
	comp=E,36nm,0.8s						
146A	Union	18.32	5	P	Pn	02 31 24.6	+0.6
	baz=185						
147A	Livingston	18.43	7	P	Pn	02 31 26.6	+1.2
	baz=188						
333A	Richland Sprin	18.49	338	P	Pn	02 31 26.6	+0.5
	baz=154						
OTAV	Otavalo	18.63	138	eP	Pn	02 31 28.5	+0.1
	comp=E,1.6nm,0.7s						
136A	Ennis	18.80	345	P	P	02 31 29.5	+1.4
	baz=163						
Z46A	Louisville	18.88	5	P	Pn	02 31 31.9	+1.2
	baz=186,SNR=5.6						
LRAL	Lakeview Retre	18.97	10	eP	P	02 31 30.5	+0.5
	comp=E,7.3nm,1.0s						
Z47A	Carrollton	18.98	7	P	Pn	02 31 32.3	+0.5
	baz=188						
PRAC	Prado	18.98	122	eP	P	02 31 30.4	+0.1
Z40A	Long Farm, Mag	19.00	354	P	Pn	02 31 32.4	+0.3
	baz=172						
Z45A	Winona	19.00	3	P	Pn	02 31 33.4	+1.2
	baz=183						
TX31	Lajitas Ar. Si	19.05	324	eP	Pn	02 31 32.7	-0.2
TXAR	Lajitas Array	19.05	324	P	Pn	02 31 34.1	+1.2
	comp=E,0.1nm,0.3s,baz=156,slow=13,SNR=9.0						
TXAR				PcP	PcP	02 35 51.5	-0.6
	comp=E,0.1nm,0.3s,baz=171,slow=4.9,SNR=3.5						
233A	Rising Star	19.08	339	P	Pn	02 31 33.4	+0.3
	baz=156						
135A	Vickery Place,	19.11	343	P	P	02 31 32.5	+0.9
	baz=160						
Z38A	Mt. Pleasant	19.22	350	P	Pn	02 31 34.7	0.0
	baz=168						
Z48A	Northport	19.22	9	P	Pn	02 31 34.9	+0.2
	baz=190,SNR=7.0						
134A	White-Moore Ra	19.32	341	P	Pn	02 31 35.6	-0.3
	baz=158						
RUSC	La Rusia	19.41	114	eP	P	02 31 33.3	-2.2
Y45A	Yeager Farm, C	19.50	3	P	Pn	02 31 39.0	+1.0
	baz=184						
Z36A	Blue Ridge	19.53	346	P	P	02 31 36.9	+0.8
	baz=164						
Y41A	Eaglette Beard	19.54	356	P	P	02 31 37.5	+1.3
	baz=175,SNR=5.1						
Y46A	Houston	19.57	5	P	Pn	02 31 38.3	-0.4
	baz=186,SNR=8.5						
133A	Hamilton Ranch	19.63	339	P	Pn	02 31 39.0	-0.5
	baz=156,SNR=9.5						
Y47A	UCPARC, Winfie	19.70	8	P	P	02 31 39.7	+1.8
	baz=189						
Y40A	Okolona	19.73	354	P	P	02 31 39.7	+1.4
	baz=173,SNR=5.1						
Y39A	Lockesburg	19.75	352	P	P	02 31 39.2	+0.8
	baz=171,SNR=6.8						
Z35A	Perchaven, San	19.80	344	P	P	02 31 39.7	+0.7
	baz=161						
Y38A	Idabel	19.84	351	P	P	02 31 40.5	+1.1
	baz=169,SNR=12						
SJAC	San Juan de Ar	19.99	122	eP	P	02 31 39.1	-2.3
OXF	Oxford	20.16	4	eP	P	02 31 43.6	+0.8
	comp=E,45nm,1.0s						
X40A	Basin Creek Fa	20.16	355	P	Pn	02 31 45.0	-0.7
	baz=174						
GOGA	Godfrey	20.17	18	eP	P	02 31 44.5	+1.5
	comp=E,26nm,1.2s						
Z33A	Whitaker Ranch	20.20	341	P	P	02 31 45.2	+1.8
	baz=157						
Y35A	Marietta	20.29	345	P	P	02 31 46.0	+1.7
	baz=162						
MIAR	Mount Ida	20.29	354	P	P	02 31 44.8	+0.5
	baz=172						
MIAR	Mount Ida	20.29	354	eP	P	02 31 43.6	-0.7
	comp=E,7.7nm,0.8s						
X38A	Whitesboro	20.58	351	P	P	02 31 48.2	+0.8
	baz=169,SNR=8.9						
X37A	Clayton	20.59	349	P	P	02 31 48.6	+1.1
	baz=168						
PLAL	Pickwick Lake	20.74	7	eP	P	02 31 51.3	+2.2
	comp=E,18nm,1.4s						
X35A	Drake	20.74	346	P	P	02 31 50.1	+1.0
	baz=163						
X301	Greenbrier Sit	20.88	357	eP	P	02 31 51.1	+0.5
	comp=E,5.4nm,0.7s						
W40A	Ferguson Farm,	20.88	355	P	P	02 31 51.7	+1.0
	baz=174						
W38A	Poteau	20.93	352	P	P	02 31 52.2	+1.1
	baz=170						
WHAR	Wooly Hollow	20.93	357	eP	P	02 31 50.0	-1.1
	comp=E,17nm,1.5s						
W39A	Magazine	20.96	353	P	P	02 31 52.3	+0.8
	baz=172						
W37B	Quinton	21.14	350	P	P	02 31 54.3	+0.9
	baz=168,SNR=7.0						
W36A	Wetumka	21.29	348	P	P	02 31 55.5	+0.5
	baz=166						
SWET	Sewanee	21.29	11	eP	P	02 31 53.8	-1.2
	comp=E,5.2nm,1.1s						
V41A	Mountainview	21.41	357	P	P	02 31 56.3	-0.1
	baz=176						
X32A	Elmer	21.41	341	P	P	02 31 56.9	+0.6
	baz=157						
W35A	Tecumseh	21.44	346	P	P	02 31 57.1	+0.5
	baz=164						
V40A	Witts Springs	21.47	356	P	P	02 31 57.5	+0.5
	baz=175,SNR=6.2						
WMOK	Wichita Mounta	21.55	342	P	P	02 31 58.4	+0.5
	baz=159						
WMOK	Wichita Mounta	21.55	342	eP	P	02 31 58.1	+0.3
	comp=E,3.2nm,1.0s						
V39A	Pettigrew	21.58	354	P	P	02 31 58.6	+0.4
	baz=173,SNR=11						
V38A	Canehill	21.69	352	P	P	02 31 58.9	-0.4
	baz=171,SNR=9.1						
JSC	Jenkinsville	21.71	22	eP	P	02 31 59.5	+0.1
	comp=E,20nm,1.5s						
W34A	Bridge Creek,	21.73	345	P	P	02 32 00.1	+0.3
	baz=162						
W34A	Bridge Creek,	21.73	345	eP	P	02 32 00.8	+1.0
	comp=E,12nm,0.8s						
CPCT	Cooper Cave	21.81	14	eP	P	02 32 01.4	+0.8
	comp=E,4.4nm,0.7s						
V37A	Hulbert	21.82	351	P	P	02 32 00.3	-0.3
	baz=169,SNR=5.5						
TUL1	Leonard	21.95	349	P	P	02 32 03.2	+1.1
	baz=167						
TUL1	Leonard	21.95	349	eP	P	02 32 01.4	-0.6
	comp=E,7.5nm,0.7s						
U40A	Yellville	22.02	356	P	P	02 32 02.8	0.0
	baz=175,SNR=6.1						
HHAR	Hobbs	22.05	353	eP	P	02 32 02.8	-0.3
	comp=E,7.6nm,0.8s						
W32A	Sentinel	22.05	342	P	P	02 32 03.8	+0.7
	baz=158						
U39A	Green Forest	22.10	354	P	P	02 32 03.9	+0.2
	baz=173						
TKL	Tuckaleechee C	22.20	15	P	P	02 32 05.2	+0.6
	comp=E,17nm,0.9s,baz=193,slow=10,SNR=22						
TKL	Tuckaleechee C	22.20	15	eP	P	02 32 05.5	+0.8
	comp=E,42nm,1.2s						
V34A	Guthrie	22.24	346	P	P	02 32 05.1	0.0
	baz=163						
V34A	Guthrie	22.24	346	eP	P	02 32 04.8	-0.3
	comp=E,11nm,0.8s						
U38A	Gravette	22.25	353	P	P	02 32 04.7	-0.5
	baz=171						
U37A	Salina	22.32	351	P	P	02 32 05.8	-0.2
	baz=169,SNR=13						
PBMO	Poplar Bluff	22.38	1	eP	P	02 32 05.7	-0.8
	comp=E,5.9nm,0.6s						
U36A	Oologah	22.41	350	P	P	02 32 06.3	-0.5
	baz=168						
KMSC	Kings Mountain	22.46	21	P	P	02 32 07.6	+0.2
	baz=205						
KMSC	Kings Mountain	22.46	21	eP	P	02 32 08.1	+0.8
	comp=E,16nm,0.8s						
U35A	Pawnee	22.58	348	P	P	02 32 09.2	+0.5
	baz=165						
T39A	Clever	22.73	355	P	P	02 32 09.6	-0.5
	baz=174,SNR=7.2						
T40A	Mansfield	22.79	357	P	P	02 32 10.6	-0.2
	baz=176						
T38A	Diamond	22.83	353	P	P	02 32 10.7	-0.5
	baz=171,SNR=7.0						
T37A	Cheneyville 18	23.00	352	P	P	02 32 12.4	-0.4
	baz=170,SNR=14						
T35A	Sooner Cattle	23.06	348	P	P	02 32 12.6	-0.8
	baz=166						
T36A	Boggs Farm, Ca	23.09	350	P	P	02 32 12.9	-0.7
	baz=168,SNR=7.1						
TZTN	Tazewell	23.09	15	eP	P	02 32 13.9	+0.2
	comp=E,23nm,1.0s						
S40A	Lebanon	23.23	357	P	P	02 32 15.1	+0.1
	baz=176						
T34A	McClaskey Farm	23.30	347	P	P	02 32 15.5	-0.2
	baz=164,SNR=6.3						
S44A	Carbondale	23.33	3	P	P	02 32 16.3	+0.4
	baz=184						
S38A	Stockton	23.38	354	P	P	02 32 16.4	0.0
	baz=172,SNR=6.4						
S39A	Bolivar	23.38	355	P	P	02 32 16.3	-0.1
	baz=174,SNR=13						
S37A	Fort Scott	23.61	352	P	P	02 32 18.5	0.0
	baz=170,SNR=8.8						
S36A	Lake Cedric, C	23.69	351	P	P	02 32 19.1	-0.1
	baz=168,SNR=28						
S35A	Otter Creek Ra	23.77	349	P	P	02 32 19.9	0.0
	baz=167,SNR=5.3						
T32A	Huddler Ranch,	23.87	344	P	P	02 32 21.7	+0.8
	baz=160						
R40A	Maddies Statio	23.91	357	P	P	02 32 21.3	+0.2
	baz=177						
R38A	Fenwick Farm,	23.93	354	P	P	02 32 21.4	+0.1
	baz=173,SNR=5.4						
S34A	Willow Spring	23.94	348	P	P	02 32 21.3	-0.1
	baz=165						
R39A	Chumby, Stover	23.98	356	P	P	02 32 21.6	-0.1
	baz=175						
R37A	Teagarden Farm	24.16	352	P	P	02 32 23.4	0.0
	baz=170						
WCI	Wyandotte Cave	24.17	9	eP	P	02 32 23.4	0.0
	comp=E,16nm,0.6s						
R36A	Gordon, Harris	24.26	351	P	P	02 32 24.5	+0.2
	baz=169						
R35A	Emporia Munici	24.37	350	P	P	02 32 25.8	+0.5
	baz=167						
Y22D	IRIS PASSCAL I	24.45	326	eP	P	02 32 30.1	+3.9
	comp=E,23nm,0.6s						
R34A	Isabella, Hill	24.55	348	P	P	02 32 27.3	+0.4
	baz=165						
PV01	Paradox Valley	28.43	330	eP	P	02 33 01.2	-0.9
NVAR	Mina Array Bea	34.12	320	P	P	02 33 55.1	+3.1
	comp=E,0.5nm,0.6s,baz=133,slow=8.7,SNR=2.3						
HLID	Hailey	35.43	330	eP	P	02 34 03.8	+0.6
	comp=E,1.2nm,0.8s						
SAML	Samuel	35.91	128	eP	P	02 34 04.1	-3.3
	comp=E,2.6nm,0.6s						
ULM	Lac du Bonnet	36.07	355	LR	LR	02 50 43.8	
	comp=E,35nm,19.7s,baz=282,slow=39						
LPAZ	La Paz	37.82	143	P	P	02 34 24.0	-0.2
	comp=E,0.6nm,0.6s,baz=335,slow=14,SNR=4.0						
SIV	San Ignacio	42.13	135	P	P	02 34 57.8	-1.5
	comp=E,2.2nm,0.7s,baz=307,slow=6.7,SNR=5.4						
SCHQ	Schefferville	44.56	20	P	P	02 35 16.8	-1.5
	comp=E,8.1nm,0.6s,baz=223,slow=7.2,SNR=21						
SCHQ	Schefferville	44.56	20	eP	P	02 35 16.7	-1.7
	comp=E,8.3nm,0.7s						
YKA	Yellowknife Ar	50.98	346	P	P	02 36 06.1	-1.5
	comp=E,0.2nm,0.3s,baz=146,slow=7.8,SNR=7.8						
BDFB	Brasilia	51.79	123	P	P	02 36 12.0	-2.5
	comp=E,1.5nm,0.7s,baz=293,slow=9.0,SNR=3.2						
CPUP	Villa Florida	51.94	141	P	P	02 36 13.1	-2.3
	comp=E,0.5nm,0.4s,baz=287,slow=3.3,SNR=2.8						
ILAR	Eielson Array	62.98	336	P	P	02 37 34.1	+1.7
	comp=E,0.2nm,0.6s,baz=108,slow=5.1,SNR=3.6						
ESDC	Sonseca Array	78.68	52	P	P	02 39 04.4	-3.6
	comp=E,0.3nm,0.4s,baz=286,slow=4.7,SNR=5.3						
ARCES	ARCESS Array B	85.50	18	P	P	02 39 40.1	-2.9
	comp=E,0.4nm,0.4s,baz=276,slow=4.4,SNR=11						
TORD	Torodi Ar. Bea	89.26	77	P	P	02 39 56.8	-5.3
	comp=E,0.6nm,1.1s,baz=308,slow=3.0,SNR=3.2						
MAW	Mawson	124.06	168	PKP	PKPdf	02 46 01.3	-1.3
	comp=E,1.8nm,0.9s,baz=135,slow=2.9,SNR=3.5						
WRA	Warramunga Arr	136.51	256	PKP	PKPdf	02 46 27.2	-0.5
	comp=E,1.0nm,0.5s,baz=89,slow=2.7,SNR=19						
ASAR	Alice Springs	136.78	251	PKhKP	PKPpre	02 46 17.4	
	comp=E,0.2nm,0.5s,baz=126,slow=4.0,SNR=3.2						
ASAR				PKP	PKPdf	02 46 25.9	-2.3

	comp=E,0.3nm,0.5s,baz=84,slow=2.7,SNR=2.9						
MBWA	Marble Bar	150.09	252	*e*PKPbc	PKPbc	02 46 56.0	-0.4

ISCJB ***01*** *02:30:24.4±0.2, 18.°14S±0.°04×168.°09E±0.°03, h32km, mb4.8/91, MS3.9/13, Error ellipse: s-maj=5.5km s-min=4.2km az=158.4*

MOS ***01*** *02:30:24.9±1.2, 18.°21S×168.°13E, h43km, mb5.1/31, Error ellipse: s-maj=9.8km s-min=8.3km az=175.1*

BJI ***01*** *02:30:27.9, 17.°83S×168.°65E, h67km, mb4.9/41, mB5.0/25, Ms5.0/10, Ms7 4.9/8*

GCMT ***01*** *02:30:27.0±0.4, 18.°32S×168.°09E, h54km±2km, MW4.9/61, Moment Tensor Solution. s29,c32; s61,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.22±.27; $M_{\theta\theta}$0.05±.20; $M_{\phi\phi}$-2.27±.17; $M_{r\theta}$1.31±.14; $M_{\theta\phi}$1.63±.13; $M_{\phi r}$-0.99±.12; Best double couple: $M_0$3.17300×10^{16} NP1:ϕ_s135.00000°,δ62.00000°,λ69.00000°. NP2: ϕ_s354.00000°,δ34.00000°,λ124.00000°. Principal axes: T 2.8460, Plg66.0000°, Azm7.0000°; N 0.6540, Plg18.0000°, Azm145.0000°; P -3.5000, Plg15.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***01*** *02:30:27.3±2.6, 18.°20S×168.°20E, h54km±23km, mb4.3/25, mb1 4.4/28, mb1mx4.4/36, mbtmp4.7/28, ML5.1/3, MS3.9/15, Ms1 3.9/15, ms1mx3.7/39 Error ellipse: s-maj=13.8km s-min=12.6km az=40.0*

NEIC ***01*** *02:30:27.0±1.3, 18.°17S×168.°09E, h46km±11km, mb5.0/68, Error ellipse: s-maj=8.2km s-min=5.7km az=169.0*

NEIC Felt [III] at Port-Vila.

ISC 01 02:30:25.1±0.3**, 18.°18S**±0.°05**×168.°19E**±0.°05**, h32km, n296, σ1.s60**/291**, mb4.9**/90**, MS3.9**/13**, 5C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.21	203	*e*Pn	Pn	02 31 25.9	-1.2
	161nm,0.2s						
DZM				*e*Sn	Sn	02 32 09.1	-6.2
	137nm,0.2s						
DZM	Mont Dzumac	4.21	203	P	Pn	02 31 27.4	+0.3
	61nm,0.3s,baz=36,slow=18,SNR=179						
DZM				LR	LR	02 32 10.2	
	comp=Z,442nm,21.9s,baz=65,slow=25						
DZM				S	Sn	02 32 12.0	-3.2
	47nm,0.3s,baz=126,slow=23,SNR=9.3						
DZM	Mont Dzumac	4.21	203	*e*Pn	Pn	02 31 25.6	-1.5
DZM				*e*Sn	Sn	02 32 13.6	-1.7
MSVF	Nonsavu	9.40	89	*e*P	Pn	02 32 40.8	+2.4
MSVF	Nonsavu	9.40	89	*e*Pn	Pn	02 32 40.8	+2.4
HNR	Honiara	11.81	316	P	Pn	02 33 14.9	+3.5
	29nm,0.3s,baz=250,slow=1.3,SNR=12						
HNR				S	Sn	02 35 21.3	-0.9
	6.7nm,0.3s,baz=220,slow=16,SNR=1.4						
HNR				LR	LR	02 37 02.8	
	comp=Z,344nm,19.4s,baz=132,slow=33						
HNR	Honiara	11.81	316	*e*P	Pn	02 33 14.0	+2.6
EIDS	Eidsvold	17.42	243	P	P	02 34 29.8	+3.1
	baz=18,SNR=13						
EIDS	Eidsvold	17.42	243	*e*Pn	P	02 34 29.6	+2.8
	129nm,1.5s						
OUZ	Omahuta	17.64	165	*e*Pn	P	02 34 30.5	+1.4
ARMA	Armidale	19.37	228	P	Pn	02 34 52.5	+2.9
	baz=20,SNR=4.9						
ARMA	Armidale	19.37	228	*e*P	Pn	02 34 53.1	+3.5
	244nm,1.9s						
AFI	Afiamalu	19.71	80	P	Pn	02 34 53.4	-0.3
	4.8nm,0.3s,baz=277,slow=16,SNR=3.4						
AFI				LR	LR	02 41 50.4	
	comp=Z,180nm,18.1s,baz=250,slow=35						
RMQ	Roma	19.77	242	P	Pn	02 34 56.3	+2.0
	baz=20,SNR=24						
CTA	Charters Tower	20.81	261	P	P	02 35 04.8	+0.8
	27nm,0.9s,baz=80,slow=13,SNR=28						
CTA				LR	LR	02 42 25.1	
	comp=Z,778nm,21.9s,baz=60,slow=34						
CTA	Charters Tower	20.81	261	P	Pn	02 35 06.5	0.0
	baz=21						
CTAO	Charters Tower	20.81	261	*e*P	Pn	02 35 06.1	-0.4
CTAO				pmax	pmax		
	comp=Z,30nm,0.9s						
CTAO	Charters Tower	20.81	261	*e*P	Pn	02 35 06.1	-0.4
	comp=Z,30nm,0.9s						
URZ	Urewera	21.48	161	P	P	02 35 11.3	+0.4
	comp=Z,17nm,0.7s,baz=320,slow=8.9,SNR=8.2						
URZ				LR	LR	02 42 32.1	
	comp=Z,289nm,19.9s,baz=356,slow=34						
URZ	Urewera	21.48	161	*e*P	P	02 35 13.0	+2.1
	comp=Z,25nm,0.9s						
BKZ	Black Stump Fm	22.13	163	*e*P	P	02 35 21.5	+3.5
	comp=Z,24nm,0.8s						
PMG	Port Moresby	22.19	290	LR	LR	02 42 54.0	
	comp=Z,356nm,19.2s,baz=131,slow=34						
PMG	Port Moresby	22.19	290	*i* P	P	02 35 22.4	+3.6
PMG				pmax	pmax		
	comp=Z,129nm,1.4s						
PMG	Port Moresby	22.19	290	*e*P	P	02 35 19.0	+0.2
	comp=Z,24nm,0.8s						
THZ	Tophouse	23.85	171	*e*P	P	02 35 39.2	+3.7
	comp=Z,39nm,0.7s						
YNG	Young	23.87	224	P	P	02 35 37.4	+1.7
	baz=24,SNR=6.9						
CNB	Canberra Magne	23.89	221	P	P	02 35 37.6	+1.7
	baz=24,SNR=5.1						
CAN	Canberra	24.12	221	P	P	02 35 39.9	+1.8
	baz=24						
CAN	Canberra	24.12	221	*e*P	P	02 35 38.7	+0.6
CAN				pmax	pmax		
	comp=Z,24nm,1.1s						
CAN	Canberra	24.12	221	*e*P	P	02 35 38.7	+0.6
	comp=Z,24nm,1.1s						
CMSA	Cobar Meteorol	24.30	233	P	P	02 35 40.6	+0.8
	baz=24,SNR=14						
COEN	Coen	24.39	276	P	P	02 35 41.5	+0.7
	baz=24,SNR=3.8						
COEN	Coen	24.39	276	*e*P	P	02 35 41.2	+0.4
	comp=Z,22nm,1.0s						
RPZ	Rata Peaks	25.58	175	P	P	02 35 50.9	-0.3
	comp=Z,16nm,1.0s,baz=50,slow=7.9,SNR=3.1						
RPZ				LR	LR	02 45 38.8	
	comp=Z,156nm,18.4s,baz=12,slow=36						
STKA	Stephens Creek	27.60	235	P	P	02 36 10.4	+0.8
	comp=Z,20nm,1.0s,baz=66,slow=8.5,SNR=23						
STKA				LR	LR	02 46 48.7	
	comp=Z,304nm,20.6s,baz=45,slow=36						
STKA	Stephens Creek	27.60	235	P	P	02 36 10.7	+1.2
	baz=28,SNR=15						
STKA	Stephens Creek	27.60	235	*e*P	P	02 36 10.8	+1.2
	comp=Z,7.1nm,1.1s						
HTT	Hallett	30.28	234	P	P	02 36 34.5	+1.1
	baz=30						
RAR	Rarotonga	30.29	101	P	P	02 36 34.1	+0.6
	comp=Z,12nm,0.7s,baz=191,slow=10,SNR=3.9						
WB4	Warramunga Arr	32.00	261	P	P	02 36 48.3	-0.4
	baz=32						
WRAB	Tennant Creek	32.00	261	*i* P	P	02 36 49.0	+0.2
WRAB				pmax	pmax		
	comp=Z,42nm,2.0s						
WRAB	Tennant Creek	32.00	261	*e*P	P	02 36 49.4	+0.6
	comp=Z,14nm,1.2s						
WRA	Warramunga Arr	32.01	261	P	P	02 36 47.9	-0.9
	comp=Z,3.9nm,1.1s,baz=93,slow=8.0,SNR=10						
WRA				LR	LR	02 48 55.9	
	comp=Z,344nm,21.3s,baz=105,slow=35						
BBOO	Buckleboo	32.31	237	P	P	02 36 52.1	+0.8
	baz=32,SNR=7.1						
BBOO	Buckleboo	32.31	237	*e*P	P	02 36 51.4	+0.1
	comp=Z,20nm,1.1s						
AS01	Alice Springs	32.39	254	*e*P	P	02 36 51.6	-0.6
AS31	Alice Springs	32.43	254	*e*P	P	02 36 52.2	-0.4
	comp=Z,5.7nm,0.7s						
ASAR	Alice Springs	32.44	254	P	P	02 36 52.2	-0.4
	comp=Z,6.3nm,0.8s,baz=82,slow=9.2,SNR=37						
ASAR				LR	LR	02 49 47.0	
	comp=Z,570nm,19.7s,baz=94,slow=36						
WRKA	Warakurna	37.61	252	P	P	02 37 36.9	-0.2
	baz=38,SNR=7.0						
KNRA	Kununurra	37.75	268	P	P	02 37 38.4	+0.1
	baz=38						
TBI	Tubuai	39.83	105	*e*S	S	02 44 17.7	+19
	comp=Z,59nm,30.5s						
TBI				*e*LR	LR	02 48 54.0	
	comp=Z,349nm,30.2s						
PPT2	Papeete2	40.13	96	*e*LR	LR	02 49 05.4	
	comp=Z,582nm,26.8s						
PPT	Papeete	40.14	96	P	P	02 37 57.6	-0.7
	comp=Z,36nm,0.9s,baz=257,slow=18,SNR=3.1						
PPT				LR	LR	02 50 46.2	
	comp=Z,139nm,20.2s,baz=302,slow=30						
FITZ	Fitzroy Crossi	40.37	263	P	P	02 38 00.9	+0.7
	baz=40,SNR=14						
FITZ	Fitzroy Crossi	40.37	263	*e*P	P	02 38 00.3	+0.1
	comp=Z,21nm,0.8s						
MBWA	Marble Bar	45.59	258	*e*P	P	02 38 42.7	+0.1
	comp=Z,62nm,0.9s						
KAPI	Kappang	49.06	279	*e*P	P	02 39 09.9	+0.3
	comp=Z,11nm,0.9s						
TWSI	Taliwang, Sumb	50.63	274	P	P	02 39 23.4	+1.8
	comp=Z,21nm,1.4s						
TAOE	Nuku Hiva Isla	50.94	87	*e*LR	LR	02 54 07.8	
	comp=Z,557nm,25.2s						
RKT	Rikitea	53.14	106	*e*LR	LR	02 55 06.4	
	comp=Z,264nm,30.5s						
VNDA	Vanda	59.46	182	P	P	02 40 22.8	-1.6
	comp=Z,1.0nm,0.9s,baz=18,slow=5.8,SNR=4.5						
VNDA				LR	LR	03 02 35.9	
	comp=Z,67nm,21.4s,baz=26,slow=32						
SBA	Scott Base	59.71	180	*e*P	P	02 40 26.9	+0.8
SBA				pmax	pmax		
	comp=Z,51nm,1.9s						
SBA	Scott Base	59.71	180	*e*P	P	02 40 26.9	+0.8
	comp=Z,51nm,1.9s						
KSM	Kuching	60.17	283	*e*P	P	02 40 30.4	+0.1
	comp=Z,19nm,0.7s						
MJAR	Matsushiro Arr	61.35	333	P	P	02 40 37.0	-0.9
	comp=Z,1.1nm,0.4s,baz=168,slow=7.7,SNR=4.1						
MJAR	Matsushiro Arr	61.35	333	P	P	02 40 37.0	-0.9
MAJO	Matsushiro	61.35	333	*e*P	P	02 40 38.3	+0.4
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAJO	Matsushiro	61.35	333	*e*P	P	02 40 38.3	+0.4
	comp=Z,4.7nm,0.5s						
JNU	Nakatsue	62.23	325	P	P	02 40 43.2	-0.7
	comp=Z,5.5nm,0.8s,baz=144,slow=6.6,SNR=3.6						
ASAJ	Asahikawa	66.27	340	P	P	02 41 09.8	-0.2
	comp=Z,3.7nm,0.4s,baz=237,slow=12,SNR=4.4						
TJN	Taejon	66.58	325	*ce*P	P	02 41 13.5	+1.3
KSRS	Korea Array	67.07	326	P	P	02 41 15.7	+0.4
	comp=Z,1.7nm,0.8s,baz=125,slow=8.1,SNR=5.5						
KSRS	Korea Array	67.07	326	P	P	02 41 15.7	+0.4
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSAR	Wonju Array Be	67.08	326	P	P	02 41 15.7	+0.3
KSAR	Wonju Array Be	67.08	326	P	P	02 41 15.7	+0.3
YSS	Yuzh-Sakhalins	68.76	342	*e*P	P	02 41 26.4	+0.7
YSS				*e*		02 41 51.7	
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
IPM	Ipoh	69.89	282	*e*P	P	02 41 33.7	+0.2
	comp=Z,7.9nm,0.5s						
USRK	Ussuriysk Ar.	70.34	333	P	P	02 41 36.3	+0.7
	comp=Z,6.7nm,0.7s,baz=106,slow=6.1,SNR=10						
KULM	Kulim	70.53	283	*e*P	P	02 41 37.7	+0.3
	comp=Z,11nm,0.8s						
PETK	Petropavlovsk-	71.56	353	P	P	02 41 42.5	-0.3
	comp=Z,5.2nm,0.8s,baz=168,slow=7.6,SNR=5.7						
DL2	Dalian	71.57	323	P	P	02 41 44.3	+1.2
DL2				PMZ			
	comp=Z,29nm,1.0s						
MDJ	Mudanjiang	71.72	332	P	P	02 41 42.9	-1.0
MDJ				pmax	pmax		
	comp=Z,14nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,140nm,3.2s						
MDJ	Mudanjiang	71.72	332	P	P	02 41 43.3	-0.6
MDJ				pP	PcP	02 42 01.5	-1.3
MDJ				sP	sP	02 42 09.8	+12
MDJ				S	S	02 50 56.2	-5.5
MDJ				PMZ			
	comp=Z,14nm,1.5s						
MDJ				PMZ			
	comp=Z,140nm,3.5s						
MDJ	Mudanjiang	71.72	332	*e*P	P	02 41 43.8	-0.2
	comp=Z,14nm,0.8s						
QSPA	South Pole Qui	71.87	180	*e*P	P	02 41 43.8	-1.1
	comp=Z,22nm,0.8s						
CN2	Changchun	73.04	329	*e*P	P	02 41 52.3	+0.5
CN2				PcP	sP	02 42 05.9	+0.3
CN2				PMZ			
	comp=Z,20nm,0.7s						
GYA	Guiyang	74.40	305	*e*P	P	02 42 02.4	+2.1
GYA				pP	PcP	02 42 22.8	+7.9
GYA				PP	PP	02 44 51.0	+3.9
GYA				S	S	02 51 29.6	-3.5
GYA				SKS	SKSac	02 51 58.2	-8.2
GYA				SS	SS	02 56 19.4	-0.8
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,5.8s						
GYA				LN			
	comp=Z,510nm,20.0s						
GYA				LE			
	comp=Z,480nm,21.2s						
GYA				LZ			
	comp=Z,460nm,20.8s						
KLR	Kul'dur	74.50	336	P	P	02 42 00.9	+0.6
	comp=Z,7.9nm,0.8s,baz=90,slow=1.1,SNR=14						
BJI	Beijing	75.49	321	P	P	02 42 06.9	+0.7
BJI				PMZ			
	comp=Z,160nm,4.7s						
XAN	Xi'an	76.66	313	P	P	02 42 13.7	+0.6
XAN				PMZ			
	comp=Z,7.0nm,0.7s						
XAN				PMZ			
	comp=Z,24nm,3.5s						
KMI	Kunming	76.87	302	P	P	02 42 16.4	+1.7
KMI				PMZ			
	comp=Z,5.0nm,0.5s						
CM01	Chiang Mai Arr	77.13	294	*e*P	P	02 42 17.8	+1.8
CMAR	Chiang Mai Arr	77.16	294	P	P	02 42 17.4	+1.3
	comp=Z,1.4nm,0.3s,baz=128,slow=4.7,SNR=5.8						
HHC	Hu-ho-hao-te	78.77	320	*e*P	P	02 42 27.3	+2.6
HHC				sP	sP	02 42 52.0	+13
HHC				S	S	02 52 19.3	-1.1
HHC				PMZ			
	comp=Z,19nm,1.3s						
HHC				PMZ			
	comp=Z,86nm,5.3s						
HHC				LN			
	comp=Z,130nm,15.8s						
HHC				LE			
	comp=Z,210nm,17.4s						
HHC				LZ			
	comp=Z,79nm,15.1s						
MAW	Mawson	79.04	202	P	P	02 42 26.2	+0.5
	comp=Z,2.8nm,0.9s,baz=106,slow=8.0,SNR=4.0						
MAW				LR	LR	03 13 27.7	
	comp=Z,89nm,20.1s,baz=60,slow=33						
LZH	Lanzhou	81.28	312	*e*P	P	02 42 40.6	+2.1
LZH				pP	sP	02 42 59.8	+7.5
LZH				sP	pP	02 43 06.8	+18
LZH				PMZ			
	comp=Z,20nm,1.0s						
SEY	Seymchan	81.79	353	P	P	02 42 39.3	-1.1
	comp=Z,4.6nm,0.8s,baz=177,slow=4.1,SNR=11						
RSO	Redoubt South	84.46	18	*e*P	P	02 42 56.5	+2.0
ULN	Ulaanbaatar	85.42	324	⇓*i*P	P	02 42 59.2	-0.3
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	Ulaanbaatar	85.42	324	*e*P	P	02 42 59.9	+0.4
	comp=Z,32nm,1.9s						
YAK	Yakutsk	85.56	343	P	P	02 42 59.1	-0.5
	comp=Z,3.8nm,0.4s,baz=173,slow=23,SNR=4.8						
YAK	Yakutsk	85.56	343	*e*P	P	02 43 01.4	+1.7
YAK				pmax	pmax		
	comp=Z,33nm,0.9s						
SYO	Syowa Base	85.67	196	⇑*e*P	P	02 43 01.7	+1.4
SYO	Syowa Base	85.67	196	⇑*e*pP	pP	02 43 14.8	+4.3
GTA	Gaotai	85.68	314	*e*P	P	02 43 01.8	+0.8
GTA				pP	sP	02 43 16.1	+1.2
GTA				sP	pP	02 43 23.1	+12
GTA				PMZ			
	comp=Z,5.0nm,0.9s						
SONM	Songino Array	85.78	323	P	P	02 43 01.2	-0.1
	comp=Z,2.0nm,0.6s,baz=124,slow=4.4,SNR=5.9						
SONA1	Songino Array	85.78	323	*e*P	P	02 43 01.0	-0.3
KMRM	Mail Ridge	85.87	45	*e*P	P	02 43 03.7	+1.9
	comp=Z,21nm,0.8s						
SAO	San Andreas Ge	85.88	49	*e*P	P	02 43 03.1	+1.2
SAO				pmax	pmax		
	comp=Z,13nm,0.8s						
SAO	San Andreas Ge	85.88	49	*e*P	P	02 43 03.1	+1.2
	comp=Z,13nm,0.8s						
BILL	Bilibino	85.98	359	⇓*i*P	P	02 43 00.8	-0.8
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,63nm,14.0s						
BILL	Bilibino	85.98	359	*e*P	P	02 43 00.4	-1.2
	comp=Z,7.2nm,0.8s						
PKM	Mcpherson Peak	86.27	52	P	P	02 43 05.4	+1.3
	baz=245						
WDC	Whiskeytown Da	86.82	46	*e*P	P	02 43 08.0	+1.6
WDC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WDC	Whiskeytown Da	86.82	46	*e*P	P	02 43 08.0	+1.6
	comp=Z,6.8nm,0.8s						
N02D	Trinity Center	86.89	45	P	P	02 43 08.3	+1.4
	baz=243						
M02C	Callahan	86.98	45	P	P	02 43 08.8	+1.5
	baz=243						
CAST	Castle Rocks	87.02	17	*e*P	P	02 43 02.8	-4.0
	comp=Z,7.7nm,0.8s						
ORV	Oroville	87.08	47	*e*P	P	02 43 09.0	+1.3
ORV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ORV	Oroville	87.08	47	*e*P	P	02 43 09.0	+1.3
	comp=Z,9.4nm,0.8s						
AFDM	Forest Hills D	87.18	48	*e*P	P	02 43 07.7	-0.5
	comp=Z,18nm,0.9s						
CMB	Columbia Colle	87.20	49	*e*P	P	02 43 07.3	-1.1
CMB				pmax	pmax		
	comp=Z,18nm,0.8s						
CMB	Columbia Colle	87.20	49	*e*P	P	02 43 07.3	-1.1
	comp=Z,18nm,0.8s						
O03D	Paynes Creek	87.20	46	P	P	02 43 09.4	+1.1
	baz=243						
YBH	Yreka Blue Hor	87.23	44	LR	LR	03 14 07.9	
	comp=Z,141nm,20.1s,baz=250,slow=30						
YBH	Yreka Blue Hor	87.23	44	*e*P	P	02 43 09.9	+1.4
YBH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YBH	Yreka Blue Hor	87.23	44	*e*P	P	02 43 09.9	+1.4
	comp=Z,4.3nm,0.8s						
MWC	Mount Wilson	87.32	53	*e*P	P	02 43 10.5	+1.3
MWC				pmax	pmax		
	comp=Z,16nm,1.3s						
MWC	Mount Wilson	87.32	53	*e*P	P	02 43 10.5	+1.3
	comp=Z,16nm,1.3s						
HUMO	Hull Mountain	87.47	44	*e*P	P	02 43 09.0	-0.6
	comp=Z,8.4nm,0.9s						
109C	Camp Elliot, M	87.51	54	P	P	02 43 11.0	+1.1
	baz=247						
ISA	Isabella, Lake	87.59	51	P	P	02 43 11.5	+1.2
	baz=246						
ISA	Isabella, Lake	87.59	51	*e*P	P	02 43 11.8	+1.4
ISA				pmax	pmax		
	comp=Z,12nm,0.8s						
ISA	Isabella, Lake	87.59	51	*e*P	P	02 43 11.8	+1.4
	comp=Z,12nm,0.8s						
BFSC	Mount Baldy Ra	87.62	53	P	P	02 43 11.6	+0.9
	baz=246						
EDW2	Edwards Air Fo	87.63	52	P	P	02 43 11.7	+1.1
	baz=246						
MURC	Murrieta	87.72	54	P	P	02 43 12.1	+1.1
	baz=246						
M04C	Macdoel	87.84	45	P	P	02 43 12.6	+1.1
	baz=243						
BOD	Bodaibo	87.95	334	*e*P	P	02 43 04.9	-6.5
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MONP2	Monument Peak	88.04	55	P	P	02 43 14.1	+1.3
	baz=247						
WAKR	Walker	88.07	48	*e*P	P	02 43 14.5	+1.7
I04A	Tendick Farm,	88.37	43	P	P	02 43 14.9	+1.0
	baz=243						
MPMC	Manual Prospec	88.48	51	P	P	02 43 15.8	+1.0
	baz=246						
SWSC	Sam W. Stewart	88.54	55	P	P	02 43 15.8	+0.9
	baz=247						
PAHR	Pah Rah Range	88.62	47	*e*P	P	02 43 16.7	+1.4
	comp=Z,9.8nm,0.8s						
BELC	Belle Mtn. Jos	88.80	54	P	P	02 43 17.1	+0.9
	baz=247						
NV01	Mina Array Sit	88.85	49	*e*P	P	02 43 15.0	-1.5
NVAR	Mina Array Bea	88.85	49	P	P	02 43 15.6	-0.9
	comp=Z,5.8nm,0.7s,baz=231,slow=7.5,SNR=24						
ZAK	Zakamensk	88.86	325	*e*P	P	02 43 14.5	-1.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.8s						
HEC	Hector,Ludlow	88.86	53	P	P	02 43 17.1	+0.6
	baz=247						
K05A	Summer Lake	88.89	44	*e*P	P	02 43 18.1	+1.7
	comp=Z,10nm,0.7s						
J05D	Fort Rock, OR	88.91	44	P	P	02 43 16.9	+0.4
	baz=244						
MOD	Modoc Plateau	88.92	45	*e*P	P	02 43 17.9	+1.3
	comp=Z,8.0nm,0.8s						
NV11	Mina Array Sit	88.96	49	*e*P	P	02 43 18.2	+1.3
	comp=Z,9.7nm,0.8s						
BC3	Big Chuckawall	89.08	54	P	P	02 43 18.1	+0.6
	baz=248						
FURC	Furnace Creek,	89.11	51	P	P	02 43 18.5	+1.1
	baz=247						
I05D	Terrebonne, OR	89.31	43	P	P	02 43 18.8	+0.5
	baz=244						
SHOC	Shoshone, Teco	89.32	52	P	P	02 43 19.4	+1.0
	baz=247						
GMRC	Granite Mounta	89.36	53	P	P	02 43 19.6	+0.8
	baz=247						
IRM	Iron Mountain	89.51	54	P	P	02 43 20.4	+1.0
	baz=248						
IL1	Eielson Array	89.52	18	*e*P	P	02 43 16.8	-1.9
ILAR	Eielson Array	89.52	18	P	P	02 43 15.5	-3.1
	comp=Z,1.4nm,0.7s,baz=236,slow=5.1,SNR=11						
ILB	Eielson Array	89.52	18	*e*P	P	02 43 18.0	-0.7
TPNV	Topopah Spring	89.75	51	P	P	02 43 21.9	+1.2
	baz=247						
Y12C	Blythe	89.84	54	P	P	02 43 22.2	+1.3
	baz=248						
113A	Mohawk Valley,	90.06	56	*e*P	P	02 43 23.4	+1.4
	comp=Z,3.7nm,0.9s						
NEE2	Needles Airpor	90.14	53	P	P	02 43 23.5	+1.2
	baz=248						
G06A	Carlson Farm,	90.15	42	*e*P	P	02 43 23.5	+1.3
	comp=Z,7.1nm,0.8s						
SNAA	Sanae	90.17	183	P	P	02 43 19.9	-2.0
SNAA	Sanae	90.17	183	*i* P	P	02 43 19.6	-2.3
SNAA	Sanae	90.17	183	*e*P	P	02 43 20.2	-1.7
	comp=Z,5.9nm,1.0s						
D05A	Enumclaw	90.17	40	*e*P	P	02 43 24.6	+2.4
	comp=Z,36nm,1.4s						
WVOR	Wild Horse Val	90.27	45	*e*P	P	02 43 22.7	-0.2
WVOR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WVOR	Wild Horse Val	90.27	45	*e*P	P	02 43 22.7	-0.2
	comp=Z,8.7nm,0.8s						
PDMCI	Parker Dam,Lak	90.34	54	P	P	02 43 24.8	+1.5
	baz=248						
SHPR	Sheep Range	90.39	52	*e*P	P	02 43 25.2	+1.6
	comp=Z,4.9nm,0.9s						
BMN	Battle Mountai	90.43	47	*e*P	P	02 43 25.2	+1.5
BMN				pmax	pmax		
	comp=Z,13nm,0.8s						
BMN	Battle Mountai	90.43	47	*e*P	P	02 43 25.2	+1.5
	comp=Z,13nm,0.8s						
A04D	Lummi Island	90.44	38	P	P	02 43 24.9	+1.6
	baz=243						
214A	Organ Pipe Nat	90.52	57	P	P	02 43 25.1	+1.0
	baz=249						
B05A	Bryant	90.60	39	P	P	02 43 25.5	+1.4
	baz=243						
R11A	Troy Canyon, C	90.78	50	P	P	02 43 26.2	+0.8
	baz=247						
R11A	Troy Canyon, C	90.78	50	*e*P	P	02 43 26.3	+0.8
	comp=Z,2.2nm,0.9s						
VNA3	Neumayer Olymp	90.80	181	P	P	02 43 23.2	-1.6
W13A	Hualapai Mount	90.83	53	*e*P	P	02 43 27.1	+1.4
	comp=Z,6.9nm,0.9s						
G08A	Pilot Rock	91.25	42	*e*P	P	02 43 28.3	+0.9
	comp=Z,20nm,0.8s						
HAWA	Hanford	91.34	41	*e*P	P	02 43 29.6	+2.0
	comp=Z,15nm,0.9s						
ELK	Elko	91.94	48	*e*P	P	02 43 32.5	+1.6
ELK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ELK	Elko	91.94	48	*e*P	P	02 43 32.5	+1.6
	comp=Z,3.8nm,1.0s						

LCMT	Little Creek M	92.00	52	eP	P	02 43 32.5	+1.4
	comp=Z,8.2nm,0.8s						
PSUT	Pine Spring	92.11	50	eP	P	02 43 31.8	+0.1
	comp=Z,3.7nm,0.8s						
CCUT	Cedar City	92.11	51	eP	P	02 43 27.8	-3.9
	comp=Z,4.6nm,0.9s						
TUC	Tucson	92.25	57	P	P	02 43 33.6	+1.3
	baz=250						
TUC	Tucson	92.25	57	eP	P	02 43 34.0	+1.7
TUC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TUC	Tucson	92.25	57	eP	P	02 43 34.0	+1.7
	comp=Z,4.0nm,0.9s						
KNB	Kanab	92.32	52	eP	P	02 43 34.1	+1.5
KNB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KNB	Kanab	92.32	52	eP	P	02 43 34.1	+1.5
	comp=Z,5.0nm,0.9s						
X16A	Lo Mia Camp, P	92.46	55	eP	P	02 43 33.3	-0.1
	comp=Z,6.9nm,0.8s						
U15A	North Rim	92.51	53	eP	P	02 43 35.2	+1.6
	comp=Z,10nm,0.8s						
MFID	Camas Ranch	92.55	45	eP	P	02 43 34.5	+1.1
	comp=Z,3.7nm,0.8s						
WUAZ	Wupatki	92.89	54	P	P	02 43 36.4	+1.2
	baz=250						
WUAZ	Wupatki	92.89	54	eP	P	02 43 36.8	+1.5
	comp=Z,5.6nm,0.8s						
319A	Douglas	93.15	58	eP	P	02 43 36.6	+0.1
	comp=Z,8.3nm,0.9s						
MTPU	Mount Pierson	93.16	51	eP	P	02 43 39.2	+2.5
	comp=Z,20nm,1.8s						
DUG	Dugway, Tooele	93.46	49	P	P	02 43 38.8	+1.0
	baz=249						
DUG	Dugway, Tooele	93.46	49	eP	P	02 43 42.5	+4.7
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DUG	Dugway, Tooele	93.46	49	eP	P	02 43 42.5	+4.7
	comp=Z,2.9nm,0.8s						
TIXI	Tiksi	93.50	348	P	P	02 43 35.4	-1.7
	comp=Z,1.8nm,0.5s,baz=290,slow=0.7,SNR=5.4						
TIXI	Tiksi	93.50	348	ceP	P	02 43 35.3	-1.7
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	Tiksi	93.50	348	eP	P	02 43 36.0	-1.0
	comp=Z,4.7nm,1.1s						
HLID	Hailey	93.56	45	P	P	02 43 39.1	+0.9
	baz=248						
HLID	Hailey	93.56	45	eP	P	02 43 39.5	+1.3
	comp=Z,2.0nm,0.8s						
NEW	Newport	93.61	40	LR	LR	03 17 40.5	
	comp=Z,31nm,20.4s,baz=264,slow=30						
HVU	Hansel Valley	94.05	47	eP	P	02 43 42.3	+1.8
HVU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HVU	Hansel Valley	94.05	47	eP	P	02 43 42.2	+1.8
	comp=Z,5.0nm,0.8s						
WMQ	Urumqi	95.75	314	P	P	02 43 48.9	+0.8
WMQ				pP	sP	02 44 09.9	+7.9
WMQ				sP	pP	02 44 18.2	+20
WMQ				PMZ			
	comp=Z,4.0nm,0.6s						
H17A	Grant Village	96.45	45	eP	P	02 43 53.4	+1.9
	comp=Z,2.6nm,0.8s						
ANMO	Albuquerque	96.52	56	P	P	02 43 52.4	+0.5
	baz=252						
ANMO	Albuquerque	96.52	56	i P	P	02 43 51.2	-0.7
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	Pinedale Array	96.63	47	P	P	02 43 52.3	0.0
	comp=Z,0.5nm,0.6s,baz=246,slow=3.3,SNR=6.2						
TX31	Lajitas Ar. Si	97.14	62	eP	Pdif	02 43 55.6	+0.8
TXAR	Lajitas Array	97.14	62	P	Pdif	02 43 55.7	+0.9
	comp=Z,0.9nm,0.8s,baz=229,slow=5.3,SNR=8.7						
YKA	Yellowknife Ar	100.19	27	P	Pdif	02 44 06.4	-1.0
	comp=Z,0.4nm,0.6s,baz=257,slow=4.7,SNR=10						
MKAR	Makanchi Array	100.28	316	P	Pdif	02 44 08.3	0.0
	comp=Z,0.4nm,0.5s,baz=102,slow=5.3,SNR=4.1						
MKAR				PKKPbc	PKKPbc	03 00 25.1	-1.6
	comp=Z,0.4nm,0.6s,baz=266,slow=3.2,SNR=3.9						
MKAR	Makanchi Array	100.28	316	ceP	Pdif	02 44 09.0	+0.7
ZALV	Zalesovo Beam	100.67	323	P	Pdif	02 44 08.5	-1.3
	comp=Z,0.5nm,0.3s,baz=72,slow=4.7,SNR=2.3						
ARCES	ARCESS Array B	123.79	345	PKP	PKPdf	02 49 17.3	-1.8
	comp=Z,2.9nm,0.8s,baz=69,slow=1.6,SNR=18						
KLMR	Klimovskoe	124.14	332	ePKIKP	PKPdf	02 49 16.6	-3.3
KLMR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SCHQ	Schefferville	124.62	35	PKP	PKPdf	02 49 20.3	-0.8
	comp=Z,1.4nm,0.7s,baz=315,slow=5.7,SNR=3.1						
FINES	FINESS Array B	129.23	338	PKP	PKPdf	02 49 28.0	-1.7
	comp=Z,2.9nm,1.1s,baz=67,slow=3.6,SNR=4.1						
FINES	FINESS Array B	129.23	338	PKIKP	PKPdf	02 49 28.0	-1.7
NOA	NORSAR Array B	134.16	345	PKP	PKPdf	02 49 38.4	-0.7
	comp=Z,0.8nm,0.8s,baz=168,slow=1.4,SNR=3.5						
BRTR	Keskin Array B	135.38	309	PKP	PKPdf	02 49 41.3	-0.8
	comp=Z,0.7nm,0.8s,baz=130,slow=6.2,SNR=2.7						
STHS	Stebnicka Huta	139.04	327	ePKHKP	PKPpre	02 49 32.6	
STHS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STHS	Stebnicka Huta	139.04	327	eP	PKPpre	02 49 32.6	
KECS	Kecovo	140.01	326	ePKHKP	PKPpre	02 49 37.5	
KECS				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KECS	Kecovo	140.01	326	eP	PKPpre	02 49 37.5	
CLL	Collm	141.54	335	ePKiKP	PKiKP	02 49 56.0	+0.3
CLL				e		02 53 26.0	
CLL				e		02 53 32.0	
CLL				e		03 03 42.0	
CLL				eSS	SS	03 11 12.0	-12
CLL				eSSSS		03 20 30.0	
CLL	Collm	141.54	335	ePKIKP	PKiKP	02 49 56.0	+0.3
CONA	Conrad Observa	142.72	329	i PKiKP	PKPdf	02 49 56.8	+1.5
	comp=Z,2.4nm,0.6s						
GERES	GERESS Array B	143.09	332	PKhKP	PKPpre	02 49 51.8	
	comp=Z,1.0nm,0.6s,baz=24,slow=2.7,SNR=9.6						
GERES				SKPbc	SKPbc	02 53 28.9	-2.9
	comp=Z,0.4nm,0.8s,baz=50,slow=2.1,SNR=3.7						
ARSA	Arzberg	143.35	328	i PKPdf	PKPdf	02 49 55.3	-1.0
	comp=Z,2.3nm,0.7s						
MOA	Molln	143.55	330	i PKPdf	PKPdf	02 49 57.1	+0.5
	comp=Z,5.7nm,1.0s						
SOKA	Soboth	143.99	328	i PKPdf	PKPdf	02 49 57.2	-0.3
	comp=Z,9.0nm,1.0s						
OBKA	Obir	144.35	328	i PKPdf	PKPab	02 49 56.2	0.0
	comp=Z,5.2nm,0.8s						
TIR	Tirane	144.41	317	ePKIKP	PKPab	02 49 55.5	-1.0
TIR	Tirane	144.41	317	ePKPdf	PKPab	02 49 55.5	-1.0
KBA	Koelnbreinsper	144.53	330	i PKPdf	PKPab	02 49 56.2	-0.8
	comp=Z,8.6nm,0.7s,SNR=9.0						
MEM	Membach	144.65	340	PKP	PKPab	02 49 56.9	-0.2
BOJS	Bojanci	144.67	326	i PKPbc	PKPab	02 49 57.2	-0.1
LJU	Ljubljana	144.68	328	i PKPbc	PKPab	02 49 56.7	-0.6
MYKA	Terra Mystica	144.71	329	i PKPbc	PKPab	02 49 56.1	-1.4
	comp=Z,17nm,0.8s						
CADS	Cadrg	144.95	329	i PKPbc	PKPab	02 49 56.8	-1.6
HLM1	Long Mynd	145.02	350	eP	PKPbc	02 49 57.3	-1.1
BCLA	Clavier	145.04	341	PKP	PKPbc	02 49 58.0	-0.5
WATA	Walderalm	145.16	332	i PKPdf	PKPbc	02 49 58.5	-0.7
	comp=Z,8.1nm,0.5s						
ABTA	Abfaltersbach	145.17	330	i PKPbc	PKPbc	02 49 57.6	-1.5
	comp=Z,38nm,0.8s,SNR=20						
WTTA	Wattenberg	145.19	332	i PKPdf	PKPbc	02 49 58.8	-0.5
	comp=Z,16nm,1.3s						
MOTA	Moosalm	145.37	332	i PKPdf	PKPbc	02 49 59.1	-0.8
	comp=Z,25nm,0.8s,SNR=16						
RETA	Reutte	145.41	333	i PKPdf	PKPbc	02 49 59.4	-0.5
	comp=Z,15nm,1.0s						
LANF	Langenberg	145.41	337	PKP	PKPbc	02 49 59.4	-0.3
SKP1	Kophill	145.41	348	eP	PKPbc	02 49 57.3	-2.3
WLF	Walferdange	145.42	339	P	PKPab	02 49 59.9	0.0
WLF	Walferdange	145.42	339	ePKIKP	PKPab	02 49 59.8	0.0
WLF	Walferdange	145.42	339	ePKPbc	PKPab	02 49 59.8	0.0
DOU	Dourbes	145.54	341	PKP	PKPdf	02 49 59.5	-0.5
MCH1	Michaelchurch	145.54	350	eP	PKPdf	02 49 58.6	-1.2
LPW	Lampeter	145.59	352	eP	PKPdf	02 49 58.5	-1.4
STRD	Stroud	145.62	349	eP	PKPdf	02 49 59.2	-0.8
BFO	Black Forest	145.75	336	ePKP2	PKPdf	02 49 59.6	-0.8
BFO	Black Forest	145.75	336	ePKPbc	PKPdf	02 49 59.6	-0.8
FETA	Feichten	145.78	332	i PKPab	PKPdf	02 50 00.4	-0.3
	comp=Z,22nm,0.8s,SNR=12						
SWN1	Swindon	145.80	349	eP	PKPdf	02 49 60.0	-0.4
WOL	Wolverton	145.88	348	eP	PKPdf	02 49 59.3	-1.2
DAVA	Damuels	145.94	333	i PKPab	PKPdf	02 50 00.8	-0.1
	comp=Z,8.4nm,0.7s						
ECH	Echery	146.29	337	PKP	PKPdf	02 50 01.4	+0.1
FUORN	Ofenpass-Fuorn	146.29	332	ePKPdf	PKPbc	02 50 02.7	-0.1
RCBR	Riachuelo	146.33	133	ePKPbc	PKPdf	02 50 02.6	+0.1
MOF	Molkenrain	146.60	337	PKP	PKPdf	02 50 01.4	-0.5
HTL	Hartland	146.74	352	eP	PKPdf	02 49 59.6	-2.3
TUE	Stuetta	146.81	333	ePKPdf	PKPbc	02 50 03.8	-0.5
LOMF	Lomont	147.13	336	PKP	PKPbc	02 50 04.2	-0.8
TIP	Timpagrande	147.57	316	ePKPbc	PKPbc	02 50 06.1	-0.3
AQU	L'Aquila	147.75	324	ePKP2	PKPbc	02 50 06.9	+0.1
AQU	L'Aquila	147.75	324	ePKPbc	PKPbc	02 50 06.9	+0.1
PLDF	La Plantade	149.47	339	PKP	PKPbc	02 50 11.7	+0.5
AGO	Saint Agoulin	149.56	339	PKP	PKPbc	02 50 11.7	+0.4
SSB	Saint Sauveur	149.73	337	ePKHKP	PKPdf	02 50 09.5	+2.4
SSB	Saint Sauveur	149.73	337	ePKPbc	PKPdf	02 50 09.5	+2.4
PYM	Petit Puy Mans	149.87	339	PKP	PKPbc	02 50 12.9	+0.7
LBL	Lubilhac	150.24	338	PKP	PKPbc	02 50 13.9	+0.8
CLTB	Caltabellotta	150.77	316	ePKPbc	PKPbc	02 50 13.0	-1.6
KEST	Kesra	154.37	317	PKPbc	PKPbc	02 50 22.4	-0.4
	comp=Z,2.7nm,0.8s,baz=66,slow=5.9,SNR=4.1						
ES19	SONSECA Array	157.48	344	ePKPab	PKPab	02 50 49.6	-0.4
ESDC	Sonseca Array	157.52	344	PKPab	PKPab	02 50 49.7	-0.5
	comp=Z,0.8nm,0.6s,baz=14,slow=3.8,SNR=6.8						
TORD	Torodi Ar. Bea	166.07	251	PKP	PKPdf	02 50 26.3	-1.5
	comp=Z,1.6nm,0.9s,baz=292,slow=0.9,SNR=5.9						
TORD				PKPab	PKPab	02 51 28.6	+0.4
	comp=Z,0.8nm,0.7s,baz=95,slow=2.4,SNR=4.5						

---

*DDA **01** 02:32:56.6, 39°.16N×28°.96E, h7km, Md2.4*
*ISK **01** 02:32:56.7, 39°.12N×28°.99E, h8km, MD2.6*
*ISCJB **01** 02:32:57.3±0.5, 39°.13N±0°.03×28°.98E±0°.04, h9km±5km, Error ellipse: s-maj=5.9km s-min=4.5km az=44.1*
*CSEM **01** 02:32:57.4±0.1, 39°.13N×28°.97E, h8km, MD2.4, Error ellipse: s-maj=2.3km s-min=2.2km az=85.0*
ISC 01 02:32:57.1±0.9, **39°.14N**±0°.03×**28°.98E**±0°.03, **h17**km±7km, **n23**, σ**0s.31**/35, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.23	246	P	Pg	02 33 02.6	+0.2
DEMI				S	Sg	02 33 05.7	-0.3
DEMI	Demirci	0.23	246	i P	Pg	02 33 02.6	+0.2
DEMI				i S	Sg	02 33 05.7	-0.3
GDZ	Gediz	0.39	97	P	Pg	02 33 05.2	-0.1
GDZ				S	Sg	02 33 10.6	-0.2
GDZ	Gediz	0.39	97	i P	Pg	02 33 05.2	-0.1
GDZ				i S	Sg	02 33 10.6	-0.2
TVSB	Tavsanli	0.49	50	ePG	Pg	02 33 06.9	-0.1
TVSB				eSG	Sg	02 33 13.8	+0.2
TVSB	Tavsanli	0.49	50	ePg	Pg	02 33 06.9	-0.1
TVSB				eSg	Sg	02 33 13.8	+0.2
KULA	Kula-Manisa	0.67	202	ePG	Pg	02 33 10.0	-0.3
KULA				eSG	Sg	02 33 19.4	+0.2
KHAL	Karahalli	0.86	152	P	Pg	02 33 14.3	+0.4
KHAL				S	Sb	02 33 24.8	-0.2
KHAL	Karahalli	0.86	152	i P	Pg	02 33 14.3	+0.4
KHAL				i S	Sb	02 33 24.8	-0.2
IGD	Bursa	1.14	9	i P	Pn	02 33 17.9	-0.4
IGD				i S	Sn	02 33 33.5	0.0
KCTX	Karacabey (Bur	1.23	337	ePN	Pb	02 33 20.2	+0.3
KCTX	Karacabey (Bur	1.23	337	ePn	Pb	02 33 20.2	+0.3
MDNY	Mudanya-Bursa	1.23	357	ePN	Pg	02 33 21.1	+0.1
MDNY	Mudanya-Bursa	1.23	357	ePn	Pg	02 33 21.1	+0.1
CAVI	Cavuskoy	1.26	32	ePN	Pg	02 33 21.3	-0.1
IZI	Iznik	1.26	17	ePN	Pg	02 33 21.3	-0.2
IZI	Iznik	1.26	17	ePn	Pg	02 33 21.3	-0.2
BORA	Eskisehir	1.36	56	P	Pg	02 33 23.0	-0.4
BORA				S	Sg	02 33 41.5	+0.3
BORA	Eskisehir	1.36	56	i P	Pg	02 33 23.0	-0.4
BORA				i S	Sg	02 33 41.5	+0.3
ARMT	Armutlu	1.43	356	ePN	Pb	02 33 24.1	+0.7
ARMT	Armutlu	1.43	356	ePn	Pb	02 33 24.1	+0.7
EDC	Edincik	1.48	325	ePN	Pb	02 33 24.5	+0.2
EDC	Edincik	1.48	325	ePn	Pb	02 33 24.5	+0.2

JMA 01 02:36:12.3±0.1, **38°.22N**×**141°.82E**, **h47**km±1km, **M1.8**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.44	302	S	Sn	02 36 29.8	-0.2
OFUJ	Ofunato	0.87	352	P	Pn	02 36 28.0	-0.2
JMK	Ichinoseki	0.87	327	P	Pn	02 36 28.6	+0.4
JMM	Marumori	0.89	247	P	Pn	02 36 28.5	+0.1
JMM				eS	Sn	02 36 40.1	0.0
JOU	Okura	0.92	279	S	Sn	02 36 41.7	+0.6
JOM	Ohasama	1.32	342	P	Pn	02 36 34.9	+0.6
JOM				eS	Sn	02 36 51.8	+1.1

---

*NIED **01** 02:36:00, 37°.30N×142°.60E, h11km, Mw3.5 Best double couple: Mo1.87000×10^{14} NP1:φs159.00000°, δ16.00000°, λ52.00000°. NP2:φs17.00000°, δ77.00000°, λ100.00000°.*
JMA 01 02:36:52.3±0.3, **37°.26N**×**142°.56E**, **h12**km±5km, **M3.7**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	1.35	275	P	Pn	02 37 16.7	-0.3
JFK				eS	Sb	02 37 34.2	-0.5
ONAJ	Iwakimizuishiy	1.42	264	P	Pn	02 37 18.0	+0.1
JMM	Marumori	1.53	294	P	Pn	02 37 19.6	+0.2
JMM				eS	Sn	02 37 39.5	+0.3
JIO	Ouri	1.53	322	P	Pn	02 37 19.8	+0.4
JIO				eS	Sn	02 37 39.1	-0.1
JFT	Otama	1.79	279	P	Pb	02 37 24.3	-0.7
JOU	Okura	1.86	307	P	Pn	02 37 24.9	+0.8
JMK	Ichinoseki	1.99	328	P	Pn	02 37 26.4	+0.6
JMK				eS	Sn	02 37 51.7	+1.0
JFY	Yanaizu	2.28	275	P	Pn	02 37 31.2	+1.4
JYK	Kaneyama	2.40	314	P	Pn	02 37 32.6	+1.2
JRG	Rokugo	2.62	325	P	Pn	02 37 35.9	+1.5
JAG	Ashikaga	2.63	252	P	Pn	02 37 35.7	+1.2

---

*ISK **01** 02:39:40.8, 39°.09N×29°.14E, h5km, MD2.2*
*ISCJB **01** 02:39:41.5±0.5, 39°.10N±0°.03×29°.10E±0°.04, h8km±5km, Error ellipse: s-maj=5.8km s-min=4.4km az=135.6*
*DDA **01** 02:39:41.4, 39°.13N×29°.13E, h7km, Md2.8*
*CSEM **01** 02:39:41.6±0.1, 39°.11N×29°.10E, h8km, MD2.8, Error ellipse: s-maj=3.3km s-min=2.6km az=121.0*
ISC 01 02:39:41.6±0.9, **39°.11N**±0°.03×**29°.11E**±0°.03, **h13**km±8km, **n21**, σ**0s.40**/34, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GDZ	Gediz	0.29	93	P	Pg	02 39 47.8	+0.1
GDZ				S	Sg	02 39 51.6	-0.2
GDZ	Gediz	0.29	93	i P	Pg	02 39 47.8	+0.1
GDZ				i S	Sg	02 39 51.6	-0.2
DEMI	Demirci	0.31	258	P	Pg	02 39 48.0	-0.1
DEMI				S	Sg	02 39 52.8	+0.4
DEMI	Demirci	0.31	258	i P	Pg	02 39 48.0	-0.1
DEMI				i S	Sg	02 39 52.8	+0.4
TVSB	Tavsanli	0.44	38	PG	Pg	02 39 50.2	-0.2
TVSB				SG	Sg	02 39 56.2	-0.1
TVSB	Tavsanli	0.44	38	i Pg	Pg	02 39 50.2	-0.2
TVSB				i Sg	Sg	02 39 56.2	-0.1
KULA	Kula-Manisa	0.69	211	ePG	Pg	02 39 54.7	-0.3
KULA				eSG	Sg	02 40 03.8	-0.3
KULA	Kula-Manisa	0.69	211	ePg	Pg	02 39 54.7	-0.3
KULA				eSg	Sg	02 40 03.8	-0.3
KHAL	Karahalli	0.79	158	P	Pb	02 39 57.4	0.0
KHAL				S	Sb	02 40 07.7	-0.4
KHAL	Karahalli	0.79	158	i P	Pb	02 39 57.4	0.0
KHAL				i S	Sb	02 40 07.7	-0.4
BALB	Balikesir	1.09	300	ePN	Pg	02 40 02.2	-0.5
BALB	Balikesir	1.09	300	ePn	Pg	02 40 02.2	-0.5
IGD	Bursa	1.16	3	i P	Pg	02 40 02.9	-1.0
IGD				i S	Sg	02 40 17.9	-1.1
MDNY	Mudanya-Bursa	1.27	352	ePN	Pg	02 40 06.2	+0.1
MDNY	Mudanya-Bursa	1.27	352	ePn	Pg	02 40 06.2	+0.1
BORA	Eskisehir	1.29	53	P	Pn	02 40 05.8	+0.3
BORA				S	Sn	02 40 23.2	+0.4
BORA	Eskisehir	1.29	53	i P	Pn	02 40 05.8	+0.3
BORA				i S	Sn	02 40 23.2	+0.4
KCTX	Karacabey (Bur	1.29	334	PN	Pg	02 40 06.8	+0.3
KCTX	Karacabey (Bur	1.29	334	i Pn	Pg	02 40 06.8	+0.3
ARMT	Armutlu	1.47	353	ePN	Pn	02 40 08.3	+0.4
ARMT	Armutlu	1.47	353	ePn	Pn	02 40 08.3	+0.4

---

*ISK **01** 02:47:22.8, 39°.06N×29°.12E, h5km, MD2.5*
*ISCJB **01** 02:47:23.7±0.6, 39°.10N±0°.04×29°.04E±0°.04, h2km±10km, Error ellipse: s-maj=7.1km s-min=4.7km az=152.4*
*DDA **01** 02:47:23.7, 39°.08N×29°.04E, h7km, Md2.7*
*CSEM **01** 02:47:23.8±0.1, 39°.11N×29°.03E, h2km, MD2.7, Error ellipse: s-maj=3.7km s-min=2.7km az=124.0*
ISC 01 02:47:24.0±0.9, **39°.09N**±0°.03×**29°.05E**±0°.03, **h10**km±10km, **n16**, σ**0s.53**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.27	260	P	Pg	02 47 29.2	-0.2
DEMI				S	Sg	02 47 32.9	-0.1
DEMI	Demirci	0.27	260	i P	Pg	02 47 29.2	-0.2
DEMI				i S	Sg	02 47 32.9	-0.1
GDZ	Gediz	0.33	90	P	Pg	02 47 30.7	0.0
GDZ				S	Sg	02 47 35.9	+0.7
GDZ	Gediz	0.33	90	i P	Pg	02 47 30.7	0.0
GDZ				i S	Sg	02 47 35.9	+0.7
TVSB	Tavsanli	0.48	41	ePG	Pg	02 47 32.5	-0.9
TVSB				eSG	Sg	02 47 39.5	-0.2
TVSB	Tavsanli	0.48	41	ePg	Pg	02 47 32.5	-0.9
TVSB				eSg	Sg	02 47 39.5	-0.2
KULA	Kula-Manisa	0.65	208	ePG	Pg	02 47 35.8	-0.7
KULA				eSG	Sg	02 47 45.0	0.0
KULA	Kula-Manisa	0.65	208	ePg	Pg	02 47 35.8	-0.7
KULA				eSg	Sg	02 47 45.1	0.0
KHAL	Karahalli	0.80	154	P	Pb	02 47 40.2	+0.2
KHAL				S	Sb	02 47 50.4	-0.4
KHAL	Karahalli	0.80	154	i P	Pb	02 47 40.2	+0.2
KHAL				i S	Sb	02 47 50.4	-0.4
KCTX	Karacabey (Bur	1.29	336	ePN	Pb	02 47 48.9	+0.5
KCTX	Karacabey (Bur	1.29	336	ePn	Pb	02 47 48.9	+0.5
BORA	Eskisehir	1.34	53	P	Pb	02 47 49.7	+0.4
BORA				S	Sg	02 48 06.5	-0.7
BORA	Eskisehir	1.34	53	i P	Pb	02 47 49.7	+0.4
BORA				i S	Sg	02 48 06.5	-0.7
ARMT	Armutlu	1.48	354	ePN	Pn	02 47 51.3	+0.5
ARMT	Armutlu	1.48	354	ePn	Pn	02 47 51.3	+0.5

---

*ISCJB **01** 02:52:29.9±0.5, 39°.12N±0°.03×29°.13E±0°.04, h9km±5km, Error ellipse: s-maj=6.0km s-min=4.4km az=135.8*
*CSEM **01** 02:52:29.9±0.1, 39°.12N×29°.14E, h10km, MD2.7, Error ellipse: s-maj=2.0km s-min=1.4km az=117.0*
*ISK **01** 02:52:29.2, 39°.13N×29°.14E, h9km, MD2.6*
*DDA **01** 02:52:30.0, 39°.11N×29°.14E, h7km, Md2.7*
ISC 01 02:52:30.1±0.9, **39°.12N**±0°.03×**29°.14E**±0°.03, **h12**km±8km, **n22**, σ**0s.33**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GDZ	Gediz	0.26	97	P	Pg	02 52 36.0	+0.2
GDZ				S	Sg	02 52 39.7	+0.2
GDZ	Gediz	0.26	97	i P	Pg	02 52 36.0	+0.2
GDZ				i S	Sg	02 52 39.7	+0.2
DEMI	Demirci	0.34	257	P	Pg	02 52 37.2	+0.1
DEMI				S	Sg	02 52 41.9	+0.1
DEMI	Demirci	0.34	257	i P	Pg	02 52 37.2	+0.1
DEMI				i S	Sg	02 52 41.9	+0.1
TVSB	Tavsanli	0.41	37	ePG	Pg	02 52 38.0	-0.4
TVSB				eSG	Sg	02 52 43.6	-0.3
TVSB	Tavsanli	0.41	37	ePg	Pg	02 52 38.0	-0.4
TVSB				eSg	Sg	02 52 43.6	-0.3
KULA	Kula-Manisa	0.71	212	ePG	Pg	02 52 43.4	-0.6
KULA				eSG	Sg	02 52 53.7	+0.3
KULA	Kula-Manisa	0.71	212	ePg	Pg	02 52 43.4	-0.6
KULA				eSg	Sg	02 52 53.7	+0.3
KHAL	Karahalli	0.80	160	P	Pg	02 52 45.4	-0.2
KHAL				S	Sb	02 52 56.5	-0.2
KHAL	Karahalli	0.80	160	i P	Pg	02 52 45.4	-0.2
KHAL				i S	Sb	02 52 56.5	-0.2
CAVI	Cavuskoy	1.21	26	ePN	Pb	02 52 52.6	-0.3
CAVI	Cavuskoy	1.21	26	ePn	Pb	02 52 52.6	-0.3
MDNY	Mudanya-Bursa	1.26	351	ePN	Pn	02 52 53.5	0.0
MDNY				eSN	Sn	02 53 11.2	+0.8
MDNY	Mudanya-Bursa	1.26	351	ePn	Pn	02 52 53.5	0.0
MDNY				eSn	Sn	02 53 11.2	+0.8
BORA	Eskisehir	1.27	53	P	Pn	02 52 53.9	+0.2
BORA				S	Sg	02 53 10.9	-0.1
BORA	Eskisehir	1.27	53	i P	Pn	02 52 53.9	+0.2
BORA				i S	Sg	02 53 10.8	-0.1
KCTX	Karacabey (Bur	1.29	332	ePN	Pn	02 52 53.9	-0.1
KCTX	Karacabey (Bur	1.29	332	ePn	Pn	02 52 53.9	-0.1
ARMT	Armutlu	1.46	352	ePN	Pn	02 52 56.5	+0.2
ARMT	Armutlu	1.46	352	ePn	Pn	02 52 56.5	+0.2
GULT	Gulveren	1.68	38	ePN	Pn	02 52 59.5	+0.1
GULT	Gulveren	1.68	38	ePn	Pn	02 52 59.5	+0.1

---

*ISCJB **01** 02:53:29.1±0.4, 6°.57S±0°.04×147°.85E±0°.06, h51km, mb4.3/18, MS4.3/7, Error ellipse: s-maj=8.5km s-min=6.0km az=4.0*
*IDC **01** 02:53:30.6±2.1, 6°.54S×147°.88E, h48km±20km, mb3.9/11, mb1 4.2/15, mb1mx4.0/35, mbtmp4.3/15, ML4.3/2, MS4.4/7, Ms1 4.4/7, ms1mx3.9/35, Error ellipse: s-maj=21.0km s-min=14.1km az=86.0*
*NEIC **01** 02:53:31.3±0.8, 6°.57S×147°.88E, h56km±7km, mb4.3/5, Error ellipse: s-maj=7.5km s-min=6.6km az=74.0*
ISC 01 02:53:30.8±0.5, **6°.50S**±0°.06×**147°.87E**±0°.08, **h51**km, **n57**, σ**1s.24**/56, **mb4.2**/18, **MS4.2**/7, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.97	194	P	Pn	02 54 14.7	-0.8
	32nm,0.3s,baz=42,slow=8.8,SNR=59						
PMG				S	Sn	02 54 56.7	+6.7
	76nm,0.3s,baz=320,slow=18,SNR=8.6						
JAY	Jayapura	8.17	299	P	Pn	02 55 28.7	+1.8
	0.1nm,0.3s,baz=131,slow=19,SNR=3.5						
COEN	Coen	8.73	212	P	Pn	02 55 33.8	-0.7
	baz=8.2,SNR=11						
COEN	Coen	8.73	212	ePn	Pn	02 55 33.5	-1.1
COEN				eSn	Sn	02 57 09.0	-2.7
HNR	Honiara	12.31	104	P	Pn	02 56 23.7	+0.2
	7.4nm,0.3s,baz=200,slow=6.7,SNR=8.3						
CTA	Charters Tower	13.60	186	P	Pn	02 56 41.1	0.0
	0.5nm,0.3s,baz=7.4,slow=13,SNR=6.3						
CTAO	Charters Tower	13.60	186	ePn	Pn	02 56 40.8	-0.3
QIS	Mount Isa	16.11	209	P	Pn	02 57 12.9	-1.1
	baz=16,SNR=7.0						
MTN	Manton Dam	17.66	248	P	Pn	02 57 33.0	-0.3
	baz=17,SNR=4.5						
WR7	Warramunga Arr	18.66	223	P	P	02 57 43.8	-0.9
	baz=18						
WRAB	Tennant Creek	18.73	223	eP	P	02 57 45.1	-0.4
	6.5nm,0.5s						
WRA	Warramunga Arr	18.74	223	P	P	02 57 44.1	-1.5
	1.7nm,0.3s,baz=52,slow=11,SNR=43						
EIDS	Eidsvold	19.01	171	P	P	02 57 47.5	-1.0
	baz=18,SNR=4.0						
PALU	Palau	19.18	316	P	Pn	02 57 59.5	+7.8
	baz=20						
RMQ	Roma	19.89	178	P	P	02 57 58.4	+0.3
	baz=19,SNR=4.2						
KNRA	Kununurra	20.83	242	P	P	02 58 08.1	-0.3
	baz=20						
ASAR	Alice Springs	21.71	217	P	P	02 58 17.3	-0.6
	5.5nm,0.4s,baz=53,slow=8.8,SNR=116						
ASAR				LR	LR	03 07 34.6	
	comp=Z,788nm,18.2s,baz=46,slow=39						
DZM	Mont Dzumac	23.69	133	P	P	02 58 37.7	-0.5
	7.0nm,1.0s,baz=164,slow=11,SNR=3.1						
DZM				LR	LR	03 05 55.8	
	comp=Z,511nm,21.2s,baz=302,slow=32						
ARMA	Armidale	24.05	172	P	P	02 58 40.4	-1.1
	baz=24,SNR=5.3						
FITZ	Fitzroy Crossi	24.55	240	P	P	02 58 46.1	+0.1
	33nm,0.5s,baz=59,slow=8.7,SNR=58						
FITZ				LR	LR	03 09 59.8	
	comp=Z,505nm,18.1s,baz=60,slow=40						
FITZ	Fitzroy Crossi	24.55	240	P	P	02 58 46.2	+0.1
	baz=24,SNR=16						
FITZ	Fitzroy Crossi	24.55	240	eP	P	02 58 46.0	-0.1
	30nm,0.5s						
CMSA	Cobar Meteorol	24.99	184	P	P	02 58 49.1	-0.8
	baz=24						
MMRI	Maumere	25.50	264	eP	P	02 58 55.2	+0.5
LUWI	Luwuk	25.62	281	eP	P	02 58 56.1	+0.3
	71nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
STKA	Stephens Creek	25.92	192	P	P	02 58 57.2	-1.1
	4.0nm,0.4s,baz=20,slow=9.2,SNR=13						
STKA				LR	LR	03 10 10.0	
	comp=Z,741nm,18.5s,baz=15,slow=39						
STKA	Stephens Creek	25.92	192	P	P	02 58 57.1	-1.1
	baz=25,SNR=13						
WRKA	Warakurna	26.28	223	P	P	02 59 00.7	-1.1
	baz=26,SNR=87						
YNG	Young	27.66	179	P	P	02 59 13.9	-0.1
	baz=27,SNR=5.4						
KAPI	Kappang	28.01	272	LR	LR	03 12 53.8	
	comp=Z,126nm,20.2s,baz=116,slow=42						
HTT	Hallett	28.05	196	P	P	02 59 18.2	+0.6
	baz=28,SNR=7.3						
MBWA	Marble Bar	30.88	239	eP	P	02 59 42.2	-0.5
	42nm,0.5s						
KMBL	Kambalda	34.69	221	P	P	03 00 16.1	+0.3
	baz=34,SNR=5.2						
MORW	Morawa	37.49	229	P	P	03 00 39.8	-0.1
	baz=37						
KLBR	Kellerberrin	37.61	225	P	P	03 00 39.9	-1.0
	baz=37,SNR=21						
NWAO	Narrogin (SRO)	38.75	223	P	P	03 00 50.3	-0.1
	baz=38,SNR=4.0						
MUN	Mundaring	38.92	225	P	P	03 00 52.0	+0.2
	baz=38						
MJAR	Matsushiro Arr	43.77	349	P	P	03 01 31.6	+0.1
	2.3nm,0.9s,baz=171,slow=7.7,SNR=4.9						
MJAR				LR	LR	03 18 07.5	
	comp=Z,3µm,20.7s,baz=65,slow=34						
KSRS	Korea Array	47.53	338	P	P	03 02 01.4	+0.3
	0.5nm,0.5s,baz=155,slow=8.5,SNR=4.7						
KSAR	Wonju Array Be	47.53	338	P	P	03 02 01.4	+0.2
USRK	Ussuriysk Ar.	52.47	346	LR	LR	03 20 48.9	
	comp=Z,1µm,21.7s,baz=82,slow=31						
PETK	Petropavlovsk-	59.97	7	P	P	03 03 33.1	+1.2
	1.5nm,0.5s,baz=160,slow=5.5,SNR=5.0						
SONM	Songino Array	65.26	331	P	P	03 04 07.9	+0.5
	1.4nm,0.6s,baz=110,slow=7.8,SNR=3.0						
VNDA	Vanda	71.36	177	P	P	03 04 45.4	+0.4
	1.4nm,0.5s,baz=337,slow=7.3,SNR=20						
MKAR	Makanchi Array	78.43	320	P	P	03 05 26.3	0.0
	1.0nm,0.5s,baz=98,slow=7.3,SNR=13						
ZALV	Zalesovo Beam	79.90	328	P	P	03 05 32.7	-1.5
	1.4nm,0.5s,baz=118,slow=5.3,SNR=5.3						
TKM2	Tokmak 2	81.61	315	eP	P	03 05 44.0	+0.2
	1.6nm,0.6s						
KURK	Kurchatov	82.13	323	eP	P	03 05 46.1	+0.1
	2.3nm,0.6s						
EKS2	Erkin-Say	82.82	314	eP	P	03 05 50.5	+0.4
	2.0nm,0.7s						
QSPA	South Pole Qui	83.47	180	eP	P	03 05 52.5	-0.5
ILAR	Eielson Array	85.60	23	P	P	03 06 01.9	-1.7
	0.7nm,0.8s,baz=246,slow=4.9,SNR=6.3						
ABKAR	Akbulak array	93.52	319	eP	P	03 06 40.1	-1.1
	1.0nm,0.7s						
GERES	GERESS Array B	122.81	326	PKP	PKPdf	03 12 21.7	+0.2
	0.7nm,0.6s,baz=90,slow=1.3,SNR=7.6						
SAML	Samuel	145.45	116	ePKPbc	PKPdf	03 13 04.2	-0.2
TORD	Torodi Ar. Bea	146.05	284	PKPbc	PKPab	03 13 07.6	+0.7
	2.0nm,0.4s,baz=70,slow=3.4,SNR=91						
DBIC	Dimbokro	152.91	272	PKPbc	PKPbc	03 13 24.2	+0.6
	2.5nm,0.6s,baz=128,slow=0.8,SNR=6.0						
BDFB	Brasilia	152.95	145	PKPbc	PKPbc	03 13 24.4	+0.6
	2.6nm,0.5s,baz=297,slow=1.6,SNR=9.9						

---

*CSEM **01** 03:00:56.6, 14°.78N×42°.11E, h2km, ML3.7*

DHMR 01 03:00:56.6±1.1**, 14°.78N×42°.11E, h2**km±14km**, ML3.7, 1C, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAJJ	Hajjah	1.71	57	iP	Pn	03 01 27.9	+0.4
HAJJ				iS	Sg	03 01 51.8	+0.3
HAJJ				AML	AML	03 02 00.7	
	comp=Z,751nm,0.3s						
HAJJ	Hajjah	1.71	57	iP	Pn	03 01 27.9	+0.3
HAJJ				iS	Sg	03 01 51.8	+0.3
UDYN	Al ‘Udayn	1.98	114	⇑iP	Pb	03 01 32.4	-1.0
UDYN				iS	Sg	03 02 00.7	+0.5
SANA	San‘a	2.12	73	iP	Pb	03 01 35.1	-0.7
SANA				iS	Sg	03 02 04.2	-0.5
DHBB	Dhamar BB	2.22	95	iP	Pn	03 01 36.0	+1.3
DHBB				iS	Sg	03 02 07.1	-0.9
DHBB	Dhamar BB	2.22	95	iP	Pn	03 01 36.0	+1.3
DHBB				iS	Sg	03 02 07.1	-0.9
TRBA	At Turbah	2.48	128	iP	Pn	03 01 39.6	+1.3
TRBA				iS	Sb	03 02 14.4	+1.2
TRBA				AML	AML	03 02 23.7	
	comp=E,368nm,0.4s						
BDHA	Al Bayda’	3.45	103	iP	Pn	03 01 54.7	+3.1
BDHA				iS	Sb	03 02 39.1	-2.0
BDHA				AML	AML	03 02 53.1	
	comp=N,537nm,0.4s						
BDHA	Al Bayda’	3.45	103	iP	Pn	03 01 54.7	+3.1
BDHA				iS	Sb	03 02 39.1	-2.0

---

*ISCJB **01** 03:10:11.7±0.5, 39°.08N±0°.03×28°.83E±0°.03, h6km±5km, Error ellipse: s-maj=5.7km s-min=3.9km az=160.8*
*DDA **01** 03:10:11.6, 39°.09N×28°.84E, h7km, Md2.5*
*CSEM **01** 03:10:11.7±0.1, 39°.09N×28°.83E, h5km, MD2.5, Error ellipse: s-maj=2.8km s-min=2.2km az=159.0*
*ISK **01** 03:10:11.1, 39°.09N×28°.83E, h5km, MD2.6*

ISC 01 03:10:11.9±0.9**, 39°.09N**±0°.03×**28°.83E**±0°.02**, h7**km±7km**, n22, σ0s35**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.10	241	P	Pg	03 10 14.4	+0.1
DEMI				S	Sg	03 10 15.7	-0.2
DEMI	Demirci	0.10	241	iP	Pg	03 10 14.3	+0.1
DEMI				iS	Sg	03 10 15.7	-0.2
GDZ	Gediz	0.51	90	P	Pg	03 10 21.8	+0.1
GDZ				S	Sg	03 10 29.0	+0.6
GDZ	Gediz	0.51	90	iP	Pg	03 10 21.8	+0.1
GDZ				iS	Sg	03 10 29.0	+0.6
KULA	Kula-Manisa	0.59	193	ePG	Pg	03 10 23.1	-0.2
KULA				eSG	Sg	03 10 31.8	+0.7
TVSB	Tavsanli	0.61	54	ePG	Pg	03 10 23.4	-0.2
TVSB				eSG	Sg	03 10 31.6	0.0
AKHS	Akhisar	0.82	255	P	Pg	03 10 27.6	-0.1
AKHS				S	Sb	03 10 39.7	0.0
AKHS	Akhisar	0.82	255	iP	Pg	03 10 27.6	-0.1
AKHS				iS	Sb	03 10 39.7	0.0
AKS	Akhisar	0.82	255	ePG	Pg	03 10 27.3	-0.4
AKS				eSG	Sg	03 10 38.9	+0.6
AKS	Akhisar	0.82	255	ePg	Pg	03 10 27.3	-0.4
AKS				eSg	Sg	03 10 38.9	+0.6
KHAL	Karahalli	0.89	144	P	Pg	03 10 28.5	-0.4
KHAL				S	Sg	03 10 40.3	-0.2
KHAL	Karahalli	0.89	144	iP	Pg	03 10 28.6	-0.4
KHAL				iS	Sg	03 10 40.3	-0.2
KCTX	Karacabey (Bur	1.23	343	ePN	Pg	03 10 35.1	-0.4
KCTX				eSN	Sn	03 10 52.6	+0.2
KCTX	Karacabey (Bur	1.23	343	ePn	Pg	03 10 35.1	-0.4
KCTX				eSn	Sn	03 10 52.6	+0.2
MDNY	Mudanya-Bursa	1.28	2	ePN	Pb	03 10 36.1	-0.2
MDNY	Mudanya-Bursa	1.28	2	ePn	Pb	03 10 36.1	-0.2
CAVI	Cavuskoy	1.36	35	ePN	Pg	03 10 37.5	-0.4
CAVI	Cavuskoy	1.36	35	ePn	Pg	03 10 37.6	-0.4
ARMT	Armutlu	1.47	1	ePN	Pn	03 10 39.0	+0.1
ARMT	Armutlu	1.47	1	ePn	Pn	03 10 39.0	+0.1
BORA	Eskisehir	1.48	57	P	Pn	03 10 39.0	-0.1
BORA				S	Sg	03 11 00.1	+0.5
BORA	Eskisehir	1.48	57	iP	Pn	03 10 39.0	-0.1
BORA				iS	Sg	03 11 00.1	+0.5

---

*NIED **01** 03:14:00, 39°.70N×143°.80E, h8km, Mw5.2 Best double couple: Mo5.97000×10^{16} NP1:φs173.00000°, δ32.00000°, λ59.00000°. NP2:φs28.00000°, δ63.00000°, λ108.00000°.*
*IDC **01** 03:14:09.2±0.5, 39°.72N×143°.67E, h0km, mb4.6/29, mb1 4.7/36, mb1mx4.7/44, mbtmp4.6/36, ML4.2/5, MS4.8/25, Ms1 4.8/25, ms1mx4.4/47, Error ellipse: s-maj=13.5km s-min=10.7km az=109.0*
*ISCJB **01** 03:14:10.6±0.6, 39°.75N±0°.02×143°.60E±0°.02, h19km±4km, mb4.8/199, MS5.0/40, Error ellipse: s-maj=3.8km s-min=2.6km az=146.5*
*JMA **01** 03:14:11.0±0.2, 39°.78N×143°.71E, h33km, M5.1*
JMA Felt I J1.
*BJI **01** 03:14:12.6, 39°.77N×143°.45E, h32km, mb5.0/77, mB5.2/68, Ms5.3/88, Ms7 5.1/81*
*MOS **01** 03:14:13.6±1.2, 39°.93N×143°.52E, h33km, mb5.1/80, Error ellipse: s-maj=6.4km s-min=4.0km az=105.1*
*NEIC **01** 03:14:14.4±0.5, 39°.74N×143°.57E, h36km±4km, mb4.9/121, Error ellipse: s-maj=4.8km s-min=3.1km az=140.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi.
*GCMT **01** 03:14:14.4±0.2, 39°.79N×143°.84E, h14km, MW5.2/110, Moment Tensor Solution. s63,c101; s110,c206; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; Mrr5.48±.19; Mθθ-0.07±.11; Mφφ-5.41±.13; Mrθ1.91±.25; Mθφ-1.17±.07; Mφr5.97±.35; Best double couple: Mo8.38400×10^{16} NP1:φs16.00000°, δ69.00000°, λ93.00000°. NP2:φs187.00000°, δ21.00000°, λ81.00000°. Principal axes: T 8.3140, Plg66.0000°, Azm292.0000°; N 0.1440, Plg3.0000°, Azm195.0000°; P -8.4540, Plg24.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 03:14:13.1±0.5**, 39°.72N**±0°.03×**143°.65E**±0°.03**, h28**km±2km**, h28**km**:pP-P, n521, σ2s10**/605**, mb4.8**/207**, MS5.0**/40**, 44C-17D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.39	280	P	Pn	03 14 35.6	-1.1
MIYJ	Miyakonagasawa	1.42	265	⇑P	Pn	03 14 36.1	-0.9
MIYJ				eS	Sn	03 14 54.2	-0.6
JANG	Nango	1.76	292	⇑P	Pn	03 14 40.3	-1.5
JOM	Ohasama	1.84	263	⇑P	Pn	03 14 42.6	-0.2
JMK	Ichinoseki	2.03	249	⇑P	Pn	03 14 44.8	-0.7
JTM	Tenmabayashi	2.24	299	⇑P	Pn	03 14 47.6	-0.8
ERM	Erimo	2.32	351	ceP	Pn	03 14 47.8	-1.6
ERM				pmax	pmax		
	comp=Z,207nm,1.2s						
ERM	Erimo	2.32	351	ePn	Pn	03 14 48.3	-1.2
JRG	Rokugo	2.35	263	⇑P	Pn	03 14 49.8	-0.1
JAH	Hinai	2.36	282	⇑P	Pn	03 14 50.0	0.0
JOT	Ohata	2.58	311	P	Pn	03 14 52.3	-0.7
JNBK	Urakawa-nobuka	2.65	345	P	Pn	03 14 52.9	-1.0
JYK	Kaneyama	2.67	254	⇑P	Pn	03 14 54.2	-0.1
JOU	Okura	2.69	241	P	Pn	03 14 54.0	-0.5
JCH	Churui	2.90	356	P	Pn	03 14 56.2	-1.2
JCH				eS	Sn	03 15 29.4	-1.9
JKB	Kayabe	2.94	318	P	Pn	03 14 57.4	-0.5
JAK	Akkeshi	3.37	13	P	Pn	03 15 01.2	-2.6
JAK				eS	Sn	03 15 39.3	-3.5
JFT	Otama	3.40	231	P	Pn	03 15 03.4	-0.9
JFT				eS	Sn	03 15 43.4	-0.3
JEW	Eniwo	3.53	333	P	Pn	03 15 06.2	+0.2
JEW				eS	Sn	03 15 46.5	-0.3
JAR	Ashorobuto	3.57	1	P	Pn	03 15 04.1	-2.6
JAW	Awa shima	3.65	251	P	Pn	03 15 08.4	+0.7
ASAJ	Asahikawa	4.46	350	Pn	Pn	03 15 18.2	-0.7
	comp=Z,9.9nm,0.3s,baz=168,slow=11,SNR=30						
ASAJ				Sn	Sn	03 16 11.5	+1.7
	comp=Z,17nm,0.3s,baz=72,slow=20,SNR=5.6						
ASAJ	Asahikawa	4.46	350	ePn	Pn	03 15 18.4	-0.4
ASAJ				eSn	Sn	03 16 02.0	-7.9
YUK	Yuzh-Kuril’sk	4.62	20	iP	Pn	03 15 18.5	-2.5
MJAR	Matsushiro Arr	5.33	235	Pn	Pn	03 15 30.7	-0.2
	comp=Z,12nm,0.3s,baz=44,slow=12,SNR=226						
MAJO	Matsushiro	5.33	235	c iP	Pn	03 15 31.9	+1.0
MAJO	Matsushiro	5.33	235	ePn	Pn	03 15 31.6	+0.7
MAJO				eSn	Sn	03 16 27.6	-3.8
MAT	Matsushiro	5.33	235	P	Pn	03 15 31.5	+0.6
MAT				S	Sn	03 16 33.4	+2.0
MJB9	Matsu-Tunnel	5.33	235	ePn	Pn	03 15 31.7	+0.7
KUR	Kuril’sk	6.33	28	eP	Pn	03 15 43.1	-1.4
KUR				eS	Sn	03 16 48.2	-7.6
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
KUR				smax	smax		
	comp=N,301nm,0.7s						
INU	Inuyama	6.84	232	ePn	Pn	03 15 52.2	+0.7
INU				eSn	Sn	03 17 06.5	-1.9
YSS	Yuzh-Sakhalins	7.26	355	⇑eP	Pn	03 15 57.7	+0.5
YSS				eS	Sn	03 17 16.1	-2.6
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,5µm,15.0s						
YSS				MLR	MLR		
	comp=N,5µm,11.0s						
YSS	Yuzh-Sakhalins	7.26	355	ePn	Pn	03 15 56.2	-1.0
JHJ	Hachijo jima 2	7.29	206	Pn	Pn	03 15 55.9	-1.8
	comp=N,51nm,0.3s,baz=248,slow=18,SNR=3.9						
JHJ				Sn	Sn	03 17 13.3	-6.2
	comp=N,90nm,0.3s,baz=62,slow=23,SNR=8.9						
UGL	Uglegorsk	9.42	354	P	Pn	03 16 25.0	-1.9
UGL				pmax	pmax		
	comp=Z,500nm,0.8s						
UGL				MLR	MLR		
	comp=Z,8µm,16.0s						
UGL				MLR	MLR		
	comp=N,9µm,17.0s						
UGL				MLR	MLR		
	comp=E,18µm,18.0s						
USRK	Ussuriysk Ar.	9.77	301	Pn	Pn	03 16 33.8	+2.2
	comp=E,2.8nm,0.3s,baz=94,slow=13,SNR=52						
HABR	Khabarovsk	10.71	328	ceP	Pn	03 16 40.9	-3.6
HABR				eS	Sn	03 18 37.2	-6.1
HABR				pmax	pmax		
	comp=Z,75nm,1.1s						
HABR				pmax	pmax		
	comp=N,45nm,1.1s						
HABR				pmax	pmax		
	comp=E,51nm,1.1s						
HABR				MLR	MLR		
	comp=Z,8µm,15.0s						
TYV	Tymovskoe	11.16	357	eP	Pn	03 16 50.5	-0.2
TYV				eS	Sn	03 19 02.0	+7.5
TYV				pmax	pmax		
	comp=Z,11nm,0.8s						
TYV				pmax	pmax		
	comp=Z,600nm,8.0s						
TYV				smax	smax		
	comp=N,900nm,5.0s						
TYV				MLR	MLR		
	comp=N,6µm,16.0s						
TYV				MLR	MLR		
	comp=Z,11µm,16.0s						
MDJ	Mudanjiang	11.52	300	P	Pn	03 16 55.7	+0.1
MDJ				S	Sn	03 19 02.2	-1.0
MDJ				ScP	ScP	03 26 17.9	+1.0
MDJ				PcS	PcS	03 26 20.6	+0.6
MDJ				PMZ			
	comp=Z,30nm,2.2s						
MDJ				PMZ			
	comp=Z,1µm,7.7s						
MDJ				LN			
	comp=Z,4µm,13.8s						
MDJ				LE			
	comp=Z,6µm,13.6s						
MDJ				LZ			
	comp=Z,9µm,14.1s						
MDJ	Mudanjiang	11.52	300	ePn	Pn	03 16 55.9	+0.2
JNU	Nakatsue	12.21	241	Pn	Pn	03 17 04.7	-0.5
	comp=Z,0.9nm,0.3s,baz=41,slow=6.3,SNR=9.2						
JNU	Nakatsue	12.21	241	ePn	Pn	03 17 04.4	-0.8
KSRS	Korea Array	12.51	265	Pn	Pn	03 17 12.2	+2.9
	comp=Z,0.9nm,0.3s,baz=87,slow=13,SNR=23						
KSRS				LR	LR	03 21 32.2	
	comp=Z,4µm,18.6s,baz=66,slow=35						
KS01	Wonju Array Si	12.53	265	ePn	Pn	03 17 09.5	0.0
KS15	Wonju Array Si	12.55	265	ePn	Pn	03 17 10.3	+0.6
KS15				eSn	Sn	03 19 34.8	+6.3
KSAR	Wonju Array Be	12.55	265	P	Pn	03 17 12.2	+2.5
KSAR	Wonju Array Be	12.55	265	Pn	Pn	03 17 12.2	+2.5
CBIJ	Chichi jima	12.65	186	Pn	Pn	03 17 12.1	+1.0
CBIJ				Sn	Sn	03 19 15.8	-15
JCJ	Chichijima	12.65	186	Pn	Pn	03 17 12.1	+0.9
	comp=Z,18nm,0.3s,baz=89,slow=22,SNR=4.8						
JCJ				Sn	Sn	03 19 15.8	-15
	baz=270,slow=20						
KLR	Kul’dur	12.73	322	Pn	Pn	03 17 12.0	-0.2
	comp=Z,0.5nm,0.3s,baz=132,slow=13,SNR=24						
KLR				LR	LR	03 22 35.7	
	comp=Z,7µm,18.1s,baz=133,slow=40						
KLR	Kul’dur	12.73	322	P	Pn	03 17 12.0	-0.2
TJN	Taejon	13.26	261	ceP	Pn	03 17 21.3	+1.8
NKL	Nikolayevsk	13.59	352	eP	Pn	03 17 18.0	-5.8
NKL				eS	Sn	03 19 48.0	-5.6
NKL				pmax	pmax		
	comp=Z,88nm,1.8s						
NKL				pmax	pmax		
	comp=N,450nm,7.0s						
NKL				pmax	pmax		
	comp=Z,500nm,7.0s						
NKL				smax	smax		
	comp=E,1µm,12.0s						
NKL				MLR	MLR		
	comp=N,6µm,16.0s						
NKL				MLR	MLR		
	comp=E,4µm,16.0s						
NKL				MLR	MLR		
	comp=Z,9µm,15.0s						
CN2	Changchun	14.18	293	eP	Pn	03 17 31.8	-0.2
CN2				esP	P	03 17 44.1	+5.0
CN2				eS	Sn	03 20 07.1	-1.2
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,5.0s						
CN2				LN			
	comp=Z,3µm,12.0s						
CN2				LE			
	comp=Z,5µm,12.0s						
CN2				LZ			
	comp=Z,2µm,13.0s						
SNY	Shenyang	15.35	284	⇑P	Pn	03 17 46.8	-0.9
SNY				PMZ			
	comp=Z,21nm,2.1s						
SNY				PMZ			
	comp=Z,1µm,12.0s						
SNY				LN			
	comp=Z,5µm,14.6s						
SNY				LE			
	comp=Z,5µm,16.2s						
SNY				LZ			
	comp=Z,8µm,16.0s						
PEA0	Petropavlovsk-	16.48	31	ePn	P	03 18 03.5	-1.1
PEA0B	Petropavlovsk-	16.48	31	ePn	P	03 18 05.1	+0.5
	comp=Z,97nm,1.5s						
PETK	Petropavlovsk-	16.48	31	Pn	Pn	03 18 00.4	-1.8
	comp=Z,0.3nm,0.3s,baz=232,slow=14,SNR=4.5						
PET	Petropavlovsk	16.81	33	eP	P	03 18 08.6	+0.4
PET				eS	Sn	03 21 14.4	+2.4
PET				pmax	pmax		
	comp=Z,200nm,9.8s						
PET				pmax	pmax		
	comp=Z,77nm,1.2s						
PET				pmax	pmax		
	comp=Z,500nm,10.2s						
PET				MLR	MLR		
	comp=Z,5µm,15.0s						
PET				MLR	MLR		
	comp=Z,5µm,15.0s						
PET	Petropavlovsk	16.81	33	ePn	Pn	03 18 07.0	+0.8
	comp=Z,212nm,1.6s						
DL2	Dalian	17.06	274	⇑iP	Pn	03 18 08.3	-1.2
DL2				S	Sn	03 21 14.5	-3.8
DL2				PMZ			
	comp=Z,89nm,1.0s						
DL2				PMZ			
	comp=Z,1µm,7.1s						
DL2				LN			
	comp=Z,4µm,13.4s						
DL2				LZ			
	comp=Z,4µm,18.0s						
HIA	Hailar	19.47	307	eP	P	03 18 35.1	-2.5
HIA				eS	S	03 22 11.4	-4.5
HIA				pmax	pmax		
	comp=Z,31nm,0.9s						
HIA	Hailar	19.47	307	eP	P	03 18 35.1	-2.5
	comp=Z,31nm,0.9s						
HIA				eS	S	03 22 11.4	-4.5
SSE	Sheshan	20.19	252	P	P	03 18 46.0	+0.5
SSE				S	S	03 22 27.2	-3.5
SSE				PMZ			
	comp=Z,18nm,0.7s						
SSE				PMZ			
	comp=Z,480nm,8.9s						
SSE				LN			
	comp=Z,4µm,14.2s						
SSE				LE			
	comp=Z,2µm,14.2s						
SSE				LZ			
	comp=Z,3µm,14.1s						
MA2	Magadan	20.38	10	P	P	03 18 47.4	0.0
	comp=Z,34nm,0.7s,baz=214,slow=9.3,SNR=24						
MA2				LR	LR	03 27 27.8	
	comp=Z,2µm,19.2s,baz=220,slow=39						
BJI	Beijing	21.06	280	P	P	03 18 52.5	-2.4
BJI				pP	pP	03 19 01.7	-0.8
BJI				sP	sP	03 19 06.3	+0.2
BJI				S	S	03 22 45.6	-2.2
BJI				sS	sS	03 22 58.2	-1.7
BJI				PMZ			
	comp=Z,21nm,1.0s						
BJI				PMZ			
	comp=Z,320nm,3.0s						
BJI				LN			
	comp=Z,4µm,14.3s						
BJI				LE			
	comp=Z,4µm,15.6s						
BJI				LZ			
	comp=Z,3µm,18.1s						
BJT	Baijiatuau	21.07	280	eP	P	03 18 53.2	-1.8
BJT				pmax	pmax		
	comp=Z,35nm,1.0s						
BJT	Baijiatuau	21.07	280	eP	P	03 18 53.2	-1.8
	comp=Z,35nm,1.0s						
CLNS	Chul’man	21.07	331	eP	P	03 18 53.6	-1.3
CLNS				e		03 19 08.6	
CLNS				eS	S	03 22 46.5	-1.4
CLNS				e		03 22 59.3	
CLNS				eSS	SnSn	03 23 24.2	+14
CLNS				pmax	pmax		
	comp=E,17nm,1.0s						
CLNS				pmax	pmax		
	comp=N,40nm,1.4s						
CLNS				pmax	pmax		
	comp=Z,33nm,1.1s						
CLNS				smax	smax		
	comp=E,819nm,12.9s						
CLNS				smax	smax		
	comp=N,680nm,14.3s						
CLNS				MLR	MLR		
	comp=E,7µm,16.0s						
CLNS				MLR	MLR		
	comp=Z,7µm,15.0s						
CLNS				MLR	MLR		
	comp=N,4µm,14.0s						
TIA	Tai’an	21.18	269	⇓P	P	03 18 54.6	-1.6
TIA				sP	pP	03 19 03.9	+0.1
TIA				S	S	03 22 49.9	-0.3
TIA				PMZ			
	comp=N,90nm,0.9s						
TIA				PMZ			
	comp=N,970nm,11.9s						
TIA				LN			
	comp=N,4µm,12.5s						
TIA				LE			
	comp=N,7µm,14.9s						
TIA				LZ			
	comp=N,9µm,13.1s						
NJ2	Nanjing	21.45	257	eP	P	03 18 57.5	-1.6
NJ2				sP	sP	03 19 11.9	+1.5
NJ2				S	S	03 22 56.0	+0.3
NJ2				sS	sS	03 23 07.4	-0.4
NJ2				PMZ			
	comp=N,27nm,0.6s						
NJ2				PMZ			
	comp=N,470nm,7.6s						
NJ2				LN			
	comp=N,3µm,12.5s						
NJ2				LE			
	comp=N,5µm,8.1s						
NJ2				LZ			
	comp=N,5µm,10.8s						
TATO	Taipei	23.72	238	eP	P	03 19 22.6	-0.1
	comp=N,115nm,1.0s						
SEY	Seymchan	23.83	10	P	P	03 19 23.0	-0.5
	comp=N,44nm,0.8s,baz=188,slow=6.6,SNR=72						
SEY	Seymchan	23.83	10	⇓iP	P	03 19 23.1	-0.4
YAK	Yakutsk	23.91	344	P	P	03 19 22.9	-1.3
	comp=N,2.1nm,0.3s,baz=163,slow=19,SNR=5.1						
YAK				LR	LR	03 29 08.0	
	comp=N,2µm,19.0s,baz=149,slow=38						

YAK Yakutsk 23.91 344 *e*P **P** **03 19 22.2 -2.0**
YAK *e**PP **pP** **03 19 30.4 -2.0**
YAK *e*PPP PPP 03 19 58.6
YAK *e* 03 23 07.0
YAK *e*S **S** **03 23 33.4 -5.2**
YAK pmax pmax
comp=Z,28nm,1.0s
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax smax
comp=E,451nm,5.3s
YAK smax smax
comp=N,779nm,2.9s
YAK MLR MLR
comp=Z,2µm,17.0s
YAK MLR MLR
comp=N,2µm,15.0s
YAK MLR MLR
comp=E,3µm,18.0s
YAK Yakutsk 23.91 344 *e*P **P** **03 19 22.3 -1.9**
comp=E,113nm,0.8s
YHNB Yeheng 24.00 238 *e*P **P** **03 19 23.2 -2.3**
comp=E,25nm,0.8s
CIT Chita 24.11 311 *e*P **P** **03 19 24.1 -2.2**
CIT *e* 03 19 34.9
CIT *e* 03 19 52.1
CIT *e* 03 20 08.2
CIT pmax pmax
comp=Z,156nm,1.9s
NACB Ninganchiao 24.20 237 *e*P **P** **03 19 25.8 -1.5**
comp=Z,31nm,0.9s
TIY Taiyuan 24.38 275 *e*P **P** **03 19 30.8 +1.9**
TIY S **S** **03 23 42.6 -4.2**
TIY SS **SnSn** **03 24 37.7 +6.6**
TIY PMZ
comp=Z,560nm,7.7s
TIY LN
comp=Z,4µm,16.7s
TIY LE
comp=Z,970nm,12.1s
TIY LZ
comp=Z,2µm,14.2s
HHC Hu-ho-hao-te 24.43 283 *e*P **P** **03 19 27.6 -1.9**
HHC sP sP 03 19 45.6 +4.5
HHC PP **PnPn** **03 20 06.4 +6.0**
HHC S **S** **03 23 44.0 -3.7**
HHC sS sS 03 24 01.2 +0.1
HHC PMZ
comp=Z,23nm,1.0s
HHC PMZ
comp=Z,660nm,8.8s
HHC LN
comp=Z,2µm,12.8s
HHC LE
comp=Z,3µm,15.7s
HHC LZ
comp=Z,4µm,15.1s
SSLB Suanglung 24.89 237 *e*P **P** **03 19 32.6 -1.0**
comp=Z,34nm,0.8s
YULB Yu-li 24.95 236 *e*P **P** **03 19 33.3 -0.8**
comp=Z,25nm,0.8s
TPUB Ta-pu 25.45 237 *e*P **P** **03 19 37.1 -1.5**
comp=Z,46nm,1.0s
TWG Pinlang 25.51 235 *e*P **P** **03 19 41.0 +1.9**
comp=Z,137nm,0.7s
WHN Wuhan 25.56 258 ⇑P **P** **03 19 39.7 +0.1**
WHN pP **pP** **03 19 48.3 +0.6**
WHN S **S** **03 24 11.0 +5.4**
WHN PMZ
comp=Z,200nm,1.0s
WHN LN
comp=Z,15µm,16.0s
WHN LE
comp=Z,7µm,15.8s
WHN LZ
comp=Z,9µm,13.5s
QZH Quanzhou 25.68 243 ⇑*i*P **P** **03 19 34.3 -6.4**
QZH S **S** **03 24 04.4 -3.2**
QZH pmax pmax
comp=Z,1µm,9.2s
QZH LR LR
comp=N,6µm,13.6s
QZH LR LR
comp=E,3µm,12.3s
QZH LR LR
comp=Z,3µm,12.8s
BOD Bodaibo 26.31 323 *e*P **P** **03 19 45.7 -0.4**
BOD pmax pmax
comp=Z,25nm,1.1s
ULN Ulaanbaatar 27.43 299*c i*P **P** **03 19 57.0 +0.4**
ULN pmax pmax
comp=Z,18nm,0.8s
ULN Ulaanbaatar 27.43 299 *e*P **P** **03 19 56.7 +0.1**
comp=Z,26nm,1.0s
SONA1 Songino Array 27.87 299 *e*P **P** **03 20 00.4 0.0**
SONM Songino Array 27.88 299 P **P** **03 20 01.4 +0.9**
comp=Z,7.5nm,0.7s,baz=107,slow=9.5,SNR=17
H11N2 WAKE ISLAND Hy 28.22 128 T T 03 49 29.5
baz=315
H11N1 WAKE ISLAND Hy 28.23 128 T T 03 49 28.9
baz=315
XAN Xi'an 28.23 269 P **P** **03 20 03.9 +0.2**
XAN pP pP 03 20 13.0 +1.1
XAN PP **PnPn** **03 20 59.1 +6.8**
XAN S **S** **03 24 53.8 +5.9**
XAN PMZ
comp=Z,22nm,1.1s
XAN PMZ
comp=Z,500nm,7.5s
XAN LN
comp=Z,3µm,16.3s
XAN LE
comp=Z,4µm,15.0s
XAN LZ
comp=Z,4µm,13.8s
H11N3 WAKE ISLAND Hy 28.24 128 T T 03 49 27.5
baz=315
H11S1 WAKE ISLAND Hy 29.04 130 T T 03 50 35.9
baz=322
H11S3 WAKE ISLAND Hy 29.04 130 T T 03 50 35.9
baz=322
H11S2 WAKE ISLAND Hy 29.06 130 T T 03 50 35.9
baz=322
ENH Enshi 29.38 262 *e*P **P** **03 20 14.2 +0.3**
comp=Z,36nm,0.8s
IRK Irkutsk 29.71 308 *e*P **P** **03 20 14.2 -2.4**
IRK pmax pmax
comp=Z,65nm,2.0s
TLY Talaya 30.01 307 P **P** **03 20 20.7 +1.4**
comp=Z,4.8nm,0.7s,baz=301,slow=2.7,SNR=6.8
TLY Talaya 30.01 307 *e*P **P** **03 20 22.5 +3.2**
TLY *e*SS SS 03 26 47.6 -36
TLY *e*SSS SSS 03 27 13.7
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY MLR MLR
comp=Z,2µm,15.0s
TLY Talaya 30.01 307 *e*P **P** **03 20 19.7 +0.4**
comp=Z,10nm,0.6s
ZAK Zakamensk 30.10 304 *e*P **P** **03 20 18.1 -2.0**
ZAK pmax pmax
comp=Z,13nm,1.5s
GZH Guangzhou 30.53 246 P **P** **03 20 22.7 -1.4**
GZH S **S** **03 25 17.6 -6.3**
GZH PMZ
comp=Z,790nm,7.9s
BILL Bilibino 30.96 16⇓*i*P **P** **03 20 27.1 -0.3**
BILL *e* 03 20 37.2
BILL *e* 03 21 29.9
BILL *e*PPP PPP 03 21 37.4
BILL *i* S **S** **03 25 29.6 -0.2**
BILL pmax pmax
comp=Z,17nm,1.7s
BILL Bilibino 30.96 16 *e*P **P** **03 20 27.4 0.0**
comp=Z,33nm,1.5s
LZH Lanzhou 31.44 276 *e*P **P** **03 20 33.7 +1.5**
LZH pP pP 03 20 42.1 +1.6
LZH sP sP 03 20 46.2 +2.3
LZH PP **PnPn** **03 21 34.0 -1.3**
LZH *e*S **S** **03 25 35.1 -3.2**
LZH sS sS 03 25 49.1 -2.9
LZH SS **SnSn** **03 27 18.2 -5.3**
LZH PMZ
comp=Z,36nm,1.0s
LZH PMZ
comp=Z,170nm,4.2s
LZH LN
comp=Z,2µm,12.3s
LZH LE
comp=Z,5µm,13.7s
LZH LZ
comp=Z,5µm,13.8s
MOY Mondy 31.65 306 *e*P **P** **03 20 35.2 +1.4**
TIXI Tiksi 32.87 351 LR LR 03 35 43.1
comp=Z,2µm,18.5s,baz=166,slow=39
TIXI Tiksi 32.87 351⇓*i*P **P** **03 20 43.2 -0.9**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
TIXI Tiksi 32.87 351 *e*P **P** **03 20 44.0 -0.1**
comp=Z,11nm,1.3s
GYA Guiyang 33.45 258⇑*i*P **P** **03 20 49.7 -0.2**
GYA pP sP 03 21 00.2 -1.4
GYA PP **PnPn** **03 22 02.3 +1.1**
GYA PcP **PcP** **03 23 32.7 +2.0**
GYA S **S** **03 26 10.0 +0.3**
GYA sS sS 03 26 24.4 +1.0
GYA ScP **ScP** **03 27 15.0 +1.9**
GYA SS **SnSn** **03 28 11.3 -1.3**
GYA ScS **ScS** **03 31 13.6 -0.8**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,290nm,8.6s
GYA LN
comp=Z,2µm,13.6s
GYA LE
comp=Z,2µm,14.2s
GYA LZ
comp=Z,2µm,16.7s
CD2 Chengdu 33.49 267 P **P** **03 20 48.0 -2.1**
CD2 pP pP 03 20 56.8 -1.6
CD2 sP sP 03 21 00.7 -1.1
CD2 S **S** **03 26 06.8 -3.4**
CD2 sS sS 03 26 21.9 -1.9
CD2 PMZ
comp=Z,40nm,0.8s
CD2 PMZ
comp=Z,450nm,7.8s
CD2 LN
comp=Z,5µm,13.1s
CD2 LE
comp=Z,3µm,13.3s
CD2 LZ
comp=Z,5µm,13.9s
GTA Gaotai 33.54 284 ⇑P **P** **03 20 51.2 +0.7**
GTA pP sP 03 21 01.3 -1.0
GTA sP pP 03 21 05.4 +6.6
GTA PP **PnPn** **03 22 02.1 -0.1**
GTA PcP **PcP** **03 23 32.0 +1.2**
GTA S **S** **03 26 11.0 0.0**
GTA sS sS 03 26 25.5 +0.9
GTA SS **SnSn** **03 28 15.5 +1.0**
GTA PMZ
comp=Z,31nm,1.4s
GTA PMZ
comp=Z,470nm,5.7s
GTA LN
comp=Z,2µm,13.8s
GTA LE
comp=Z,4µm,16.2s
GTA LZ
comp=Z,4µm,16.2s
QIZ Qiongzhong 35.65 245 P **P** **03 21 09.8 +1.0**
QIZ pP **pP** **03 21 17.6 +0.5**
QIZ S **S** **03 26 41.7 -1.8**
QIZ LN
comp=Z,2µm,16.1s
QIZ LE
comp=Z,1µm,15.3s
QIZ LZ
comp=Z,2µm,19.3s
KMI Kunming 37.14 259 P **P** **03 21 22.5 +0.8**
KMI pP pP 03 21 29.9 -0.2
KMI sP sP 03 21 32.9 -0.6
KMI PP **PnPn** **03 22 49.4 +2.3**
KMI S **S** **03 27 05.6 -1.1**
KMI SS **SnSn** **03 29 36.1 -6.1**
KMI PMZ
comp=Z,26nm,1.0s
KMI PMZ
comp=Z,440nm,5.6s
KMI LN
comp=Z,2µm,16.1s
KMI LE
comp=Z,1µm,19.7s
KMI LZ
comp=Z,3µm,16.5s
NONG Nongkai 41.05 250 P **P** **03 21 55.5 +1.3**
comp=Z,41nm,0.7s,comp=Z,6µm
SKNT Sakolnakorn 41.16 248 P **P** **03 21 56.2 +1.1**
comp=Z,22nm,0.9s
MYLDM Lahad Datu 41.20 220 *e*P **P** **03 21 56.1 +0.7**
comp=Z,47nm,1.2s
WMQ Urumqi 41.26 295 P **P** **03 21 57.3 +1.5**
WMQ pP pP 03 22 04.6 +0.4
WMQ sP sP 03 22 09.7 +2.1
WMQ PP **PnPn** **03 23 35.3 -0.4**
WMQ S **S** **03 28 04.2 -3.7**
WMQ sS sS 03 28 24.0 +2.2
WMQ PMZ
comp=Z,23nm,0.8s
WMQ PMZ
comp=Z,260nm,7.2s
WMQ LN
comp=Z,960nm,16.2s
WMQ LE
comp=Z,1µm,16.2s
WMQ LZ
comp=Z,560nm,15.0s
ZAA0 Zalesovo Array 41.46 310 *e*P **P** **03 21 57.2 0.0**
ZAA0 *e*PcP **PcP** **03 23 55.0 +0.5**
ZALV Zalesovo Beam 41.46 310 P **P** **03 21 57.4 +0.2**
comp=Z,6.6nm,0.5s,baz=95,slow=7.8,SNR=28
ZALV PcP **PcP** **03 23 55.2 +0.7**
comp=Z,6.4nm,0.5s,baz=78,slow=2.6,SNR=5.4
NRIK Noril'sk 41.60 334 P **P** **03 21 58.5 +0.3**
comp=Z,2.8nm,0.5s,baz=106,slow=9.0,SNR=7.2
CRAI Chiangrai 41.74 255 P **P** **03 22 01.4 +1.5**
comp=Z,141nm,0.9s,comp=Z,3µm
NVS Novosibirsk 42.31 312 *e*P **P** **03 22 01.5 -2.6**
NVS pmax pmax
comp=N,16nm,2.1s
NVS pmax pmax
comp=E,27nm,2.1s
NVS pmax pmax
comp=Z,58nm,2.1s
KHON Khomkaen 42.41 249 P **P** **03 22 07.2 +1.8**
comp=Z,22nm,0.8s
UTTA Uttaradit 43.15 252 P **P** **03 22 12.7 +1.4**
comp=Z,7.4nm,0.9s
CHAI Chaiyaphum 43.30 249 P **P** **03 22 13.2 +0.6**
comp=Z,13nm,0.8s,comp=Z,604nm
LAMP Lampang 43.34 254 P **P** **03 22 14.9 +2.0**
comp=Z,8.8nm,1.0s
PBKT Sadao Pong 43.60 251 P **P** **03 22 16.1 +1.1**
comp=Z,18nm,0.9s
CHTO Chiang Mai 43.67 255 P **P** **03 22 16.7 +1.1**
comp=Z,73nm,0.8s,comp=Z,2µm
CHTO Chiang Mai 43.67 255 *e*P **P** **03 22 16.5 +0.9**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 43.67 255 *e*P **P** **03 22 16.5 +0.9**
comp=Z,12nm,0.8s
MRSI Marisa 43.80 212 P **P** **03 22 17.3 +0.8**
comp=Z,26nm,2.6s,comp=Z,1µm
CMAR Chiang Mai Arr 43.89 254 P **P** **03 22 18.6 +1.2**
comp=Z,5.0nm,0.6s,baz=50,slow=6.7,SNR=18
CMAR LR LR 03 41 12.0
comp=Z,566nm,18.1s,baz=55,slow=37
CM01 Chiang Mai Arr 43.91 254 *e*P **P** **03 22 18.2 +0.8**
KDAK Kodiak Island 43.94 44 *i*P **P** **03 22 17.9 +0.7**
SUKH Sukhothai 44.00 253 P **P** **03 22 19.8 +1.7**
comp=Z,7.5nm,0.9s,comp=Z,56nm
CAST Castle Rocks 44.02 36 *e*P **P** **03 22 20.4 +2.5**
comp=Z,9.4nm,1.0s
MK01 Makanchi Array 44.23 300 *e*P **P** **03 22 19.3 -0.5**
MK31 Makanchi Array 44.23 300 *e*P **P** **03 22 20.0 +0.2**
MK31 Makanchi Array 44.23 300 *e*P **P** **03 22 20.0 +0.2**
MKAR Makanchi Array 44.23 300 P **P** **03 22 20.0 +0.1**
comp=Z,11nm,0.8s,baz=81,slow=10.0,SNR=64
MKAR LR LR 03 40 09.5
comp=Z,588nm,20.5s,baz=72,slow=35
MKAR Makanchi Array 44.23 300*ce*P **P** **03 22 20.6 +0.8**
MKAR pmax pmax
comp=Z,11nm,0.9s
MAKZ Makanchi 44.44 300 *e*P **P** **03 22 21.6 +0.2**
MAKZ pmax pmax
comp=Z,20nm,1.0s
MAKZ Makanchi 44.44 300 *e*P **P** **03 22 21.6 +0.2**
comp=Z,20nm,1.0s
SRAK Srakaew 44.53 247 P **P** **03 22 20.8 -1.6**
comp=Z,57nm,1.0s
MLY Manley 44.64 33 *e*P **P** **03 22 23.2 +0.3**
comp=Z,15nm,1.2s
COLD Coldfoot 44.95 30 *e*P **P** **03 22 28.3 +3.1**
comp=Z,9.7nm,1.1s
SHL Shillong 45.23 268 *e*P **P** **03 22 30.5 +2.4**
SHL *e*S S 03 29 20.0 +13
KURK Kurchatov 45.71 306 P **P** **03 22 32.0 +0.6**
KURK pmax pmax
comp=Z,17nm,0.8s
KURK Kurchatov 45.71 306 *e*P **P** **03 22 31.4 0.0**
comp=Z,35nm,0.8s
MDM Murphy Dome 45.71 33 *e*P **P** **03 22 32.4 +1.2**
comp=Z,11nm,0.9s
KURBB Kurchatov Arra 45.78 306 P **P** **03 22 32.0 0.0**
comp=Z,16nm,0.8s,baz=80,slow=8.3,SNR=110
COLA College 45.87 34 *i*P **P** **03 22 34.4 +1.9**
COLA pmax pmax
comp=Z,5.0nm,1.6s
CCB Clear Creek Bu 45.90 34 *e*P **P** **03 22 34.9 +2.2**
comp=Z,7.7nm,1.2s
IL1 Eielson Array 46.29 34 *e*P **P** **03 22 36.3 +0.5**
ILAR Eielson Array 46.29 34 P **P** **03 22 35.7 -0.2**
comp=Z,2.0nm,0.7s,baz=260,slow=6.4,SNR=28
ILAR LR LR 03 41 47.6
comp=Z,456nm,22.0s,baz=284,slow=36
ILB Eielson Array 46.29 34 *e*P **P** **03 22 36.0 +0.2**
SBUM Sibu 46.80 226 *e*P **P** **03 22 39.0 -1.4**
comp=Z,7.6nm,1.0s
PHET Kaeng Krachan 46.99 248 P **P** **03 22 44.2 +2.3**
comp=Z,13nm,0.9s
PDGK Podgornoye 47.12 296 P **P** **03 22 44.3 +1.7**
PDGK pmax pmax
comp=Z,25nm,1.1s
CRQM Cirque 48.40 39 *e*P **P** **03 22 54.6 +2.1**
comp=Z,18nm,1.0s
GUN Gumba 48.67 274 *e*P **P** **03 22 56.2 +1.0**
comp=Z,173nm,0.9s
KSM Kuching 48.67 227 *e*P **P** **03 22 55.1 +0.2**
comp=Z,12nm,0.8s
EGAK Eagle 48.73 33 *e*P **P** **03 22 56.0 +1.2**
comp=Z,8.9nm,0.9s
KKN Kakani 49.19 275 *e*P **P** **03 22 59.8 +0.7**
comp=Z,100nm,0.7s
PKIN Phulchoki 49.20 274 *e*P **P** **03 22 59.7 +0.4**
comp=Z,23nm,0.5s
DMN Daman 49.41 275 *e*P **P** **03 23 01.2 +0.4**
comp=Z,54nm,0.9s
GKN Gorkha 49.58 275 *e*P **P** **03 23 02.6 +0.6**
comp=Z,27nm,0.5s
CHKZ Chkalovo 49.80 312 *i*P **P** **03 23 02.6 -0.4**
CHKZ pmax pmax
comp=Z,33nm,1.3s
TKM2 Tokmak 2 49.94 297 *i*P **P** **03 23 04.6 0.0**
TKM2 pmax pmax
comp=Z,36nm,0.9s
TKM2 Tokmak 2 49.94 297 *e*P **P** **03 23 04.9 +0.4**
comp=Z,33nm,0.9s
BVA0 Borovoye Array 50.10 311 *i*P **P** **03 23 05.8 +0.4**
BVA0 pmax pmax
comp=Z,18nm,1.2s
BRVK Borovoye 50.15 311 *e*P **P** **03 23 06.3 +0.5**
BRVK pmax pmax
comp=Z,27nm,0.6s
BRVK Borovoye 50.15 311 *e*P **P** **03 23 06.2 +0.5**
comp=Z,27nm,0.6s
OTUK Ortayu 50.31 305 P **P** **03 23 06.1 -1.0**
OTUK pmax pmax
comp=Z,25nm,1.3s
KOLN Koldanda 50.49 276 *e*P **P** **03 23 09.5 +0.6**
comp=Z,22nm,0.4s
FRU Bishkek 50.64 297 *e*P **P** **03 23 10.0 +0.3**
FRU *e*S **S** **03 30 24.0 +1.3**
PYUN Piuthan 50.79 276 *e*P **P** **03 23 12.1 +0.9**
comp=Z,107nm,0.9s
AAK Ala-Archa 50.80 297 LR LR 03 44 39.6
comp=Z,651nm,20.3s,baz=55,slow=36
AAK Ala-Archa 50.80 297⇓*i*P **P** **03 23 10.3 -0.7**
AAK pmax pmax
comp=Z,26nm,1.1s
AAK Ala-Archa 50.80 297 *e*P **P** **03 23 10.8 -0.3**
comp=Z,12nm,1.0s
ZRNK Zerenda 50.92 311 *i*P **P** **03 23 11.4 -0.2**
ZRNK pmax pmax
comp=Z,23nm,1.1s
ZRNK Zerenda 50.92 311 *e*P **P** **03 23 12.0 +0.4**
comp=Z,36nm,1.3s
KSH Kashi 50.95 293 P **P** **03 23 15.9 +3.7**
KSH pP sP 03 23 26.1 +2.0
KSH PcP **PcP** **03 24 34.0 +5.8**
KSH PP **PP** **03 25 14.4 +5.9**
KSH S **S** **03 30 21.6 -5.6**
KSH ScS **ScS** **03 33 02.1 +1.2**
KSH SS **SS** **03 33 59.7 -2.2**
KSH PMZ
comp=Z,8.0nm,0.6s
KSH PMZ
comp=Z,260nm,4.4s
KSH LN
comp=Z,1µm,11.5s
KSH LE
comp=Z,1µm,15.0s
KSH LZ
comp=Z,2µm,12.8s
INK Inuvik 51.20 28 P **P** **03 23 14.4 +1.1**
comp=Z,6.2nm,0.5s,baz=285,slow=6.1,SNR=18
INK Inuvik 51.20 28 *e*P **P** **03 23 13.7 +0.3**
comp=Z,6.7nm,0.6s
EKS2 Erkin-Say 51.28 297 *e*P **P** **03 23 13.5 -1.1**
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 51.28 297 *e*P **P** **03 23 13.5 -1.1**
comp=Z,12nm,0.8s
MNAS Manas 52.21 298 P **P** **03 23 21.9 +0.3**
MNAS pmax pmax
comp=Z,20nm,0.7s
KK31 Karatay Array 53.33 299 *i*P **P** **03 23 29.5 -0.2**
KK31 pmax pmax
comp=Z,13nm,1.1s
KKAR Karatay Array 53.33 299 *e*P **P** **03 23 29.3 -0.4**
KKAR Karatay Array 53.33 299 *e*P **P** **03 23 29.3 -0.4**
SVE Sverdlovsk 54.32 318⇓*e*P **P** **03 23 37.5 +0.8**
SVE *e*S **S** **03 31 11.5 -1.0**
SVE pmax pmax
comp=Z,27nm,0.9s
SVE MLR MLR
comp=Z,5µm,14.0s
SVE MLR MLR
comp=E,4µm,14.0s
PSI Prapat 54.67 239 *e*P **P** **03 23 39.4 -0.5**
PSI pmax pmax
comp=Z,13nm,1.0s
PSI Prapat 54.67 239 *e*P **P** **03 23 39.4 -0.5**
comp=Z,13nm,1.0s
SOKR Solikamsk 55.28 322⇑*i*P P 03 23 49.8 +6.3
SOKR S **S** **03 31 24.0 -1.2**
SOKR SS **SS** **03 35 02.8 -6.3**
SOKR pmax pmax
comp=Z,14nm,1.1s
SOKR MLR MLR
comp=Z,2µm,17.0s
ARU Arti 55.53 318 LR LR 03 50 00.8
comp=Z,1µm,19.4s,baz=64,slow=39
ARU Arti 55.53 318*c i*P **P** **03 23 45.8 +0.4**
ARU 03 24 45.3
ARU 03 25 50.5
ARU S **S** **03 31 29.5 +0.7**
ARU 03 33 33.0
ARU SS **SS** **03 35 09.5 -3.7**
ARU pmax pmax
comp=Z,46nm,1.7s
ARU MLR MLR
comp=Z,5µm,16.0s
ARU Arti 55.53 318 *e*P **P** **03 23 44.4 -1.0**
comp=Z,33nm,1.1s

DZET Dzherino 56.29 295 P P 03 23 50.5 -0.8
DZET pmax pmax
comp=Z,18nm,0.7s
AB31 Akbulak array 57.57 310 *i* P **P 03 23 59.9 -0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 57.57 310 *eP* **P 03 23 59.6 -0.5**
KBL Kabul 58.11 290 *eP* **P 03 24 03.7 -0.6**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 58.11 290 *eP* **P 03 24 03.7 -0.6**
comp=Z,13nm,0.8s
AKTO Aktyubinsk 58.20 311 LR LR 03 51 38.7
comp=Z,488nm,18.4s,baz=59,slow=39
AKTO Aktyubinsk 58.20 311 P **P 03 24 04.5 0.0**
AKTO pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 59.56 15 P **P 03 24 14.7 +1.2**
comp=Z,5.6nm,0.8s,baz=336,slow=10.0,SNR=2.7
FITZ Fitzroy Crossi 59.93 200 *eP* **P 03 24 16.8 +0.2**
comp=Z,29nm,1.4s
WRAB Tennant Creek 59.98 190 *eP* **P 03 24 16.7 -0.3**
WRAB pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 59.98 190 *eP* **P 03 24 16.7 -0.3**
comp=Z,9.5nm,0.8s
WB2 Warramunga Arr 59.98 190 *eP* **P 03 24 17.2 +0.1**
WRA Warramunga Arr 59.99 190 P **P 03 24 15.9 -1.2**
comp=Z,7.9nm,0.5s,baz=7.9,slow=6.9,SNR=127
WRA Warramunga Arr 59.99 190 *i* P **P 03 24 17.0 -0.1**
WRA pmax pmax
comp=Z,8.0nm,0.5s
YKA Yellowknife Ar 60.60 31 P **P 03 24 20.8 0.0**
comp=Z,1.2nm,0.6s,baz=300,slow=6.2,SNR=30
YKA LR LR 03 52 27.7
comp=Z,21nm,18.5s,baz=0.0,slow=38
YKA PKP2ab 03 54 01.3
comp=Z,0.1nm,0.5s,baz=107,slow=2.4,SNR=4.1
YKB5 Yellowknife Ar 60.60 31 *eP* **P 03 24 19.9 -0.9**
ARCES ARCESS Array B 62.10 339 P **P 03 24 30.6 -0.2**
comp=Z,2.1nm,0.7s,baz=50,slow=6.5,SNR=8.5
ARCES LR LR 03 54 40.9
comp=Z,983nm,20.2s,baz=34,slow=39
KLMR Klimovskoe 62.43 328 *eP* **P 03 24 31.9 -1.3**
KLMR 03 26 48.0
KLMR pmax pmax
comp=Z,14nm,1.1s
DAG Danmarks Havn 63.24 356 *i* P **P 03 24 38.6 +0.2**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 63.24 356 *i* P **P 03 24 38.6 +0.2**
comp=Z,6.3nm,0.8s
AS01 Alice Springs 63.70 190 *eP* **P 03 24 41.2 -0.8**
AS31 Alice Springs 63.71 190 *eP* **P 03 24 41.8 -0.3**
comp=Z,2.2nm,0.8s
ASAR Alice Springs 63.71 190 P **P 03 24 42.2 +0.2**
comp=Z,3.0nm,0.6s,baz=6.5,slow=6.4,SNR=35
GEYT Alibeck 64.08 299 P **P 03 24 44.5 0.0**
comp=Z,5.4nm,0.8s,baz=7.6,slow=4.5,SNR=8.9
GEYT LR LR 03 55 02.7
comp=Z,564nm,18.7s,baz=55,slow=38
DZM Mont Dzumac 65.06 157 *e*LR LR 03 44 31.9
comp=Z,503nm,22.9s
H04A Detroit Lake 66.04 51 *eP* **P 03 24 58.7 +1.5**
comp=Z,21nm,1.4s
MOS Moscow 66.14 324 *eP* **P 03 24 56.7 -0.8**
MOS MLR MLR
comp=Z,2μm,15.0s
MOS MLR MLR
comp=N,2μm,16.0s
MOS MLR MLR
comp=E,2μm,16.0s
VRH Novokhopyorsk 66.77 318 *eP* **P 03 25 00.5 -1.1**
VRH pmax pmax
comp=Z,10.0nm,0.5s
VRH MLR MLR
comp=Z,3μm,15.0s
OBN Obninsk 66.99 323 ⇓ *iP* **P 03 25 03.6 +0.6**
OBN *e* 03 25 39.5
OBN *e*PPP PPP 03 29 08.3
OBN *e*S **S 03 33 55.4 +1.1**
OBN *e*SS **SS 03 38 12.5 +0.2**
OBN pmax pmax
comp=Z,5.0nm,0.4s
FIA1 FINESS Array S 67.25 332 *eP* **P 03 25 04.6 +0.1**
FINES FINESS Array B 67.25 332 P **P 03 25 05.1 +0.6**
comp=Z,9.6nm,0.7s,baz=51,slow=7.6,SNR=33
FINES LR LR 03 57 39.2
comp=Z,3μm,18.2s,baz=32,slow=39
FINES FINESS Array B 67.25 332 *i* P **P 03 25 05.0 +0.5**
FINES pmax pmax
comp=Z,10.0nm,0.7s
YBH Yreka Blue Hor 67.33 54 *eP* **P 03 25 06.6 +1.1**
YBH pmax pmax
comp=Z,26nm,1.7s
YBH Yreka Blue Hor 67.33 54 *eP* **P 03 25 06.6 +1.1**
comp=Z,26nm,1.7s
LPSR Galich'ya Gora 67.36 320 *eP* **P 03 25 04.8 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR MLR MLR
comp=Z,2μm,14.0s
K05A Summer Lake 67.90 52 *eP* **P 03 25 09.9 +0.6**
comp=Z,22nm,1.1s
SUMG Summit 67.99 1 *i* P **P 03 25 10.3 +0.7**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 67.99 1 *i* P **P 03 25 10.3 +0.7**
comp=Z,10nm,1.0s
SUMG Summit 67.99 1 *eP* **P 03 25 09.1 -0.4**
comp=Z,61nm,1.8s
VSR Storozhevoye 68.06 319 *eP* **P 03 25 08.5 -1.4**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR MLR MLR
comp=Z,2μm,15.0s
BSMT Bassoo Peak 68.51 45 *eP* **P 03 25 13.6 +0.6**
VSU Vasula 69.02 330 ⇓ *iP* **P 03 25 16.5 +0.8**
VSU pmax pmax
comp=Z,97nm,2.5s
SWMT Swartz Lake 69.14 45 *eP* **P 03 25 18.5 +1.7**
WVOR Wild Horse Val 69.44 52 *eP* **P 03 25 19.1 +0.4**
WVOR pmax pmax
comp=Z,23nm,1.5s
WVOR Wild Horse Val 69.44 52 *eP* **P 03 25 19.1 +0.4**
comp=Z,23nm,1.5s
MSO Missoula 69.58 46 *eP* **P 03 25 21.2 +1.6**
GUDG Gudauri 70.29 309 P **P 03 25 25.2 +1.1**
ZEI Tsey 70.45 310 *eP* **P 03 25 22.9 -2.1**
ZEI *e* 03 35 26.9
ZEI pmax pmax
comp=Z,22nm,0.6s
ZEI MLR MLR
comp=Z,3μm,14.0s
KIV Kislovodsk 70.47 311 *eP* **P 03 25 26.1 +1.1**
KIV *e*S **S 03 34 35.6 -0.6**
KIV *e*SS **SS 03 39 07.3 +0.6**
KIV pmax pmax
comp=Z,73nm,3.7s
KIV pmax pmax
comp=Z,49nm,0.9s
KIV Kislovodsk 70.47 311 *eP* **P 03 25 25.7 +0.7**
comp=Z,59nm,1.0s
KBZ Khabaz 70.48 311 P **P 03 25 26.4 +1.5**
comp=Z,16nm,0.9s,baz=47,slow=3.5,SNR=38
KBZ LR LR 03 59 10.3
comp=Z,280nm,18.2s,baz=16,slow=38
FFC Flin Flon 70.50 34 *eP* **P 03 25 24.4 -0.5**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 70.50 34 *eP* **P 03 25 24.4 -0.5**
comp=Z,5.8nm,0.9s
PAHR Pah Rah Range 70.56 54 *eP* **P 03 25 27.8 +2.0**
TBLG Delisi 70.57 308 P **P 03 25 26.1 +0.5**
TBLG Delisi 70.57 308 P **P 03 25 26.0 +0.5**
NEY Neytrino 70.87 311 *eP* **P 03 25 29.3 +1.7**
NEY pmax pmax
comp=Z,2.0nm,0.7s
CMB Columbia Colle 70.90 56 *eP* **P 03 25 26.5 -1.2**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 70.90 56 *eP* **P 03 25 26.5 -1.2**
comp=Z,7.9nm,1.0s
LRM Limekiln Ridge 71.01 46 *eP* **P 03 25 29.3 +0.8**
DLMT Dillon 71.21 46 *eP* **P 03 25 28.9 -0.6**
comp=Z,11nm,1.0s

MICGM Minsk 71.25 326 *eP* P 03 25 24.0 -5.4
MICGM *e*LR LR 03 54 12.0
MNK Minsk 71.25 326 *eP* P 03 25 24.0 -5.4
STKA Stephens Creek 71.26 182 P **P 03 25 30.3 +0.7**
comp=Z,3.1nm,0.4s,baz=358,slow=5.9,SNR=10
HLID Hailey 71.27 49 *eP* **P 03 25 28.7 -1.3**
comp=Z,8.5nm,1.3s
NACGM Naroch 71.44 327 *e* **P 03 25 30.0 -0.6**
NACGM *e*LQ LQ 03 53 09.0
NACGM *e*LR LR 03 56 06.0
BMN Battle Mountai 71.47 53 *eP* **P 03 25 29.3 -1.9**
BMN pmax pmax
comp=Z,21nm,1.5s
BMN Battle Mountai 71.47 53 *eP* **P 03 25 29.3 -1.9**
comp=Z,20nm,1.5s
GNI Garni 71.50 307 ⇓ *iP* **P 03 25 33.6 +2.2**
GNI pmax pmax
comp=Z,30nm,1.2s
AKH Akhalkalaki 71.51 309 ⇑ *iP* **P 03 25 31.7 +0.2**
AKH Akhalkalaki 71.51 309 P **P 03 25 32.9 +1.3**
AKH Akhalkalaki 71.51 309 P **P 03 25 32.8 +1.3**
BOZ Bozeman (W) 71.57 46 *eP* **P 03 25 32.1 +0.3**
BOZ pmax pmax
comp=Z,9.0nm,0.9s
BOZ Bozeman (W) 71.57 46 *eP* **P 03 25 32.1 +0.3**
comp=Z,9.1nm,0.9s
NV01 Mina Array Sit 71.99 55 *eP* **P 03 25 35.2 +0.7**
NVAR Mina Array Bea 71.99 55 P **P 03 25 35.2 +0.8**
comp=Z,2.2nm,0.6s,baz=297,slow=7.0,SNR=18
NVAR LR LR 03 58 20.9
comp=Z,149nm,18.3s,baz=292,slow=37
NV11 Mina Array Sit 72.08 55 *eP* **P 03 25 34.5 -0.4**
comp=Z,8.9nm,1.2s
NC405 NORSAR Array S 72.17 338 *eP* **P 03 25 33.2 -1.7**
NC204 NORSAR Array S 72.32 338 *eP* **P 03 25 35.7 -0.1**
NB201 NORSAR Array S 72.35 338 *eP* **P 03 25 36.5 +0.5**
NB2 NORSAR Subarra 72.38 338 P **P 03 25 36.5 +0.4**
comp=Z,19nm,1.0s,baz=39,slow=6.2
NB2 NORSAR Subarra 72.38 338 P **P 03 25 36.5 +0.4**
baz=39,slow=6.2
NOA NORSAR Array B 72.38 338 P **P 03 25 36.6 +0.4**
comp=Z,6.7nm,0.8s,baz=39,slow=6.0,SNR=27
NOA LR LR 04 01 37.5
comp=Z,915nm,18.0s,baz=45,slow=39
NBO02 NORSAR Array S 72.47 338 *eP* **P 03 25 37.1 +0.4**
NBO00 NORSAR Array S 72.51 338 *eP* **P 03 25 36.5 -0.4**
UOSS Minazif 72.65 288 *eP* **P 03 25 39.0 +0.7**
comp=Z,0.8nm,0.9s
YFT Old Faithful 72.75 46 *eP* **P 03 25 41.3 +2.3**
comp=Z,8.7nm,1.1s
H17A Grant Village 72.94 46 *eP* **P 03 25 40.8 +0.7**
comp=Z,8.8nm,0.6s
IMW Indian Meadow 73.05 47 *eP* **P 03 25 40.8 0.0**
comp=Z,8.2nm,0.9s
FLWY Flagg Ranch 73.06 47 *eP* **P 03 25 43.1 +2.3**
comp=Z,34nm,1.7s
FXWY Fox Creek 73.16 47 *eP* **P 03 25 42.4 +1.0**
comp=Z,7.1nm,1.1s
RLMT Red Lodge 73.19 45 *eP* **P 03 25 41.3 -0.2**
comp=Z,8.6nm,1.2s
AKASG Malin Array Be 73.24 323 P **P 03 25 41.3 0.0**
comp=Z,5.9nm,0.6s,baz=44,slow=6.0,SNR=27
AKASG LR LR 04 00 04.0
comp=Z,467nm,18.3s,baz=35,slow=38
AKASG Malin Array Be 73.24 323 *ceP* **P 03 25 41.2 -0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 73.24 323 *eP* **P 03 25 41.1 -0.3**
AKBB pmax pmax
comp=Z,17nm,1.0s
AKBB Malin Array Si 73.24 323 *eP* **P 03 25 41.1 -0.3**
comp=Z,17nm,1.0s
KIEV Kiev 73.25 323 *c iP* **P 03 25 41.6 +0.2**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 73.25 323 *eP* **P 03 25 41.0 -0.4**
comp=Z,14nm,0.9s
KIEV *e*PP **PP 03 28 19.6 -4.6**
MOOW Moose Ponds 73.25 47 *eP* **P 03 25 42.3 +0.4**
comp=Z,11nm,1.3s
AK11 Malin Array Si 73.28 323 *eP* **P 03 25 41.0 -0.6**
TPAW Teton Pass 73.30 47 *eP* **P 03 25 42.0 -0.3**
comp=Z,29nm,1.8s
HVU Hansel Valley 73.32 49 *eP* **P 03 25 43.7 +1.5**
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU Hansel Valley 73.32 49 *eP* **P 03 25 43.7 +1.5**
comp=Z,7.3nm,0.9s
LOHW Long Hollow 73.41 47 *eP* **P 03 25 43.6 +0.7**
comp=Z,17nm,1.8s
REDW Red Top Meadow 73.43 47 *eP* **P 03 25 43.4 +0.4**
comp=Z,32nm,1.9s
SUW Suwalki 73.56 328 *eP* **P 03 25 43.5 +0.3**
SUW Suwalki 73.56 328 *eP* **P 03 25 43.5 +0.3**
DAC Darwin (Calif) 73.73 56 *eP* **P 03 25 45.3 +0.5**
DAC pmax pmax
comp=Z,5.0nm,0.9s
DAC Darwin (Calif) 73.73 56 *eP* **P 03 25 45.3 +0.5**
comp=Z,5.2nm,0.9s
R11A Troy Canyon, C 73.74 54 *eP* **P 03 25 45.9 +1.1**
comp=Z,27nm,1.8s
HWUT Hardware Ranch 74.13 49 *eP* **P 03 25 47.5 +0.5**
comp=Z,14nm,1.3s
DUG Dugway, Tooele 74.28 51 *eP* **P 03 25 48.8 +0.9**
DUG pmax pmax
comp=Z,14nm,1.3s
DUG Dugway, Tooele 74.28 51 *eP* **P 03 25 48.8 +0.9**
comp=Z,14nm,1.3s
BW06 Boulder Array 74.54 47 *eP* **P 03 25 48.6 -0.9**
comp=Z,27nm,2.0s
PD31 Pinedale Array 74.54 47 *eP* **P 03 25 50.0 +0.4**
PDAR Pinedale Array 74.54 47 P **P 03 25 49.9 +0.4**
comp=Z,1.6nm,0.6s,baz=274,slow=1.6,SNR=25
SIM Simferopol' 74.63 316 *c iP* **P 03 25 49.9 +0.3**
SIM *e* 03 28 33.0
SIM *e*PPP PPP 03 30 16.0
SIM *e*S **S 03 35 20.0 -3.5**
SIM *e*PS **PnS 03 36 02.0 +2.3**
SIM *e*SS **SS 03 40 08.0 -2.0**
SIM *e*SSS SSS 03 43 25.0
SIM pmax pmax
comp=Z,11nm,0.9s
PSUT Pine Spring 74.69 53 *eP* **P 03 25 51.9 +1.5**
comp=Z,12nm,1.1s
SHPR Sheep Range 75.14 55 *eP* **P 03 25 55.4 +2.4**
SORM Soroca 75.41 321 ⇑ *iP* **P 03 25 54.6 +0.5**
CCUT Cedar City 75.61 53 *eP* **P 03 25 56.1 +0.4**
comp=Z,111nm,1.3s
MSU Marysvale 75.73 52 *eP* **P 03 25 56.5 +0.1**
MSU Marysvale 75.73 52 *eP* **P 03 25 56.5 +0.1**
P17A Butcher Ranch, 75.97 50 *eP* **P 03 25 59.1 +1.4**
comp=Z,21nm,1.4s
KIS Kishinev 75.97 320 *eP* P 03 26 07.0 +10
KIS Kishinev 75.97 320 *e*PS 03 36 21.0
KIS *e*SS SS 03 40 42.0 +12
KIS *e*SSS SSS 03 44 14.0
KIS *e*LQ LQ 03 54 23.0
comp=Z,900nm,18.0s
KIS LRM MLR 04 05 46.0
comp=Z,2μm,15.0s
KIS Kishinev 75.97 320 *eP* P 03 26 07.0 +10
KIS *e* 03 26 14.0
KIS *e* 03 30 36.0
KIS *e*S **S 03 35 40.0 +1.7**
KIS *e* 03 36 10.0
KIS *e* 03 36 21.0
MTPU Mount Pierson 76.02 52 *eP* **P 03 25 57.5 -0.7**
comp=Z,39nm,1.9s
LCMT Little Creek M 76.02 53 *eP* **P 03 25 58.5 +0.5**
comp=Z,9.3nm,1.0s
Q16A Castle Valley 76.07 51 *eP* **P 03 25 57.5 -0.9**
comp=Z,27nm,1.6s
P18A Preston Nutter 76.17 50 *eP* **P 03 25 58.9 0.0**
comp=Z,7.7nm,1.0s
LVV L'vov 76.23 325 *eP* **P 03 26 01.9 +3.2**
LVV *e*S **S 03 35 40.7 -0.3**
LVV MLR MLR
comp=N,2μm,15.0s
LVV MLR MLR
comp=E,1μm,15.0s
LVV MLR MLR
comp=N,2μm,14.0s
KNB Kanab 76.28 53 *eP* **P 03 26 00.3 +0.8**
KNB pmax pmax
comp=Z,17nm,1.3s

KNB Kanab 76.28 53 *eP* **P 03 26 00.3 +0.8**
comp=Z,17nm,1.3s
K22A Casper 76.31 46 *eP* **P 03 26 00.0 +0.4**
comp=Z,12nm,1.2s
SRU San Rafael Swe 76.33 50 *eP* **P 03 25 59.9 +0.1**
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU San Rafael Swe 76.33 50 *eP* **P 03 25 59.9 +0.1**
comp=Z,8.8nm,0.9s
RSSD Black Hills 76.66 43 *eP* **P 03 26 02.0 +0.4**
RSSD pmax pmax
comp=Z,12nm,1.3s
RSSD Black Hills 76.66 43 *eP* **P 03 26 02.0 +0.4**
comp=Z,12nm,1.3s
W13A Hualapai Mount 76.83 55 *eP* **P 03 26 02.8 +0.1**
comp=Z,4.9nm,1.1s
KWP Kalwaria Pacla 76.95 325 *eP* **P 03 26 04.1 +1.2**
KWP Kalwaria Pacla 76.95 325 ⇑ *iP* **P 03 26 04.7 +1.8**
KWP Kalwaria Pacla 76.95 325 *eP* **P 03 26 04.1 +1.2**
U15A North Rim 76.98 53 *eP* **P 03 26 03.6 0.0**
comp=Z,20nm,1.3s
O20A White River Ci 77.00 48 *eP* **P 03 26 03.7 +0.1**
comp=Z,14nm,1.3s
BUR08 Bucovina Ar. S 77.26 322 *eP* **P 03 26 04.3 -0.5**
BURAR Bucovina Array 77.28 322 ⇓ *iP* **P 03 26 05.8 +0.9**
BURAR Bucovina Array 77.28 322 P **P 03 26 05.7 +0.9**
TESR Tescani 77.38 321 ⇑ *iP* **P 03 26 05.4 +0.1**
PV09 Paradox Valley 77.56 50 *eP* **P 03 26 06.8 0.0**
PV09 *e*PP **PP 03 28 58.0 -3.3**
CFR Carcaliu 77.58 319 ⇓ *iP* **P 03 26 07.3 +0.9**
PV10 Paradox Valley 77.69 50 *eP* **P 03 26 09.4 +1.9**
STHS Stebnicka Huta 77.75 326 *eP* **P 03 26 09.5 +2.1**
STHS *e* 03 26 15.7
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 77.75 326 *eP* **P 03 26 09.5 +2.1**
STHS *e* 03 26 15.7
OJC Ojcow 77.77 327 *eP* **P 03 26 08.2 +0.8**
OJC Ojcow 77.77 327 *eP* **P 03 26 08.1 +0.7**
OJC pmax pmax
comp=Z,21nm,1.0s
OJC Ojcow 77.77 327 *eP* **P 03 26 08.1 +0.7**
comp=Z,21nm,1.0s
VRI Vrincioaia 77.80 320 ⇓ *iP* **P 03 26 08.8 +1.1**
VRI Vrincioaia 77.80 320 P **P 03 26 08.7 +1.1**
N23A Red Feather La 77.81 47 *eP* **P 03 26 09.9 +1.7**
comp=Z,12nm,1.1s
PV05 Paradox Valley 77.85 50 *eP* **P 03 26 10.9 +2.5**
UZH Uzhgorod 77.88 325 *eP* **P 03 26 06.5 -1.5**
UZH *e* 03 26 18.9
CRVS Cervenica-Dubn 78.04 325 *eP* **P 03 26 10.2 +1.2**
CRVS Cervenica-Dubn 78.04 325 *eP* **P 03 26 10.2 +1.2**
Y14A Wickenburg 78.13 56 *eP* **P 03 26 09.4 -0.4**
comp=Z,28nm,1.1s
PV01 Paradox Valley 78.13 50 *eP* **P 03 26 10.3 +0.3**
TRPA Tarpa 78.14 324 ⇓ *eP* **P 03 26 10.8 +1.4**
WUAZ Wupatki 78.14 54 *eP* **P 03 26 08.8 -1.2**
comp=Z,14nm,1.1s
NIE Niedzica 78.16 326 *eP* **P 03 26 11.0 +1.3**
NIE *e*S **S 03 36 06.4 +4.3**
NIE Niedzica 78.16 326 *eP* **P 03 26 11.0 +1.3**
NIE *e*S **S 03 36 06.4 +4.3**
BR131 Keskin Array S 78.37 312 *eP* **P 03 26 11.3 +0.3**
BRTR Keskin Array B 78.37 312 P **P 03 26 11.8 +0.7**
comp=Z,1.6nm,0.8s,baz=104,slow=5.2,SNR=13
BRTR LR LR 04 07 37.4
comp=Z,364nm,18.2s,baz=9.0,slow=41
BRTR Keskin Array B 78.37 312 *ceP* **P 03 26 12.1 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
SMCO Snowmass 78.37 48 *eP* **P 03 26 11.6 +0.1**
comp=Z,10nm,1.3s
DOPR Dopca 78.38 321 ⇑ *iP* **P 03 26 11.9 +1.0**
MLR Muntele Rosu 78.45 321 ⇓ *iP* **P 03 26 12.6 +1.2**
MLR Muntele Rosu 78.45 321 *eP* **P 03 26 11.7 +0.3**
MLR pmax pmax
comp=Z,13nm,1.3s
MLR Muntele Rosu 78.45 321 *eP* **P 03 26 11.7 +0.3**
comp=Z,13nm,1.3s
MSAB Monastry St. A 78.51 319 ⇑ *iP* **P 03 26 13.2 +1.6**
LANS Liptovska Anna 78.72 326 *eP* **P 03 26 15.1 +2.4**
LANS *e* 03 26 23.0
LANS Liptovska Anna 78.72 326 *eP* **P 03 26 15.1 +2.4**
LANS *e* 03 26 23.0
KSP Ksiaz 78.72 329 *eP* **P 03 26 13.5 +0.8**
KSP Ksiaz 78.72 329 *eP* **P 03 26 13.5 +0.8**
ISCO Idaho Springs 78.73 47 *eP* **P 03 26 13.6 +0.3**
ISCO pmax pmax
comp=Z,10.0nm,1.4s
ISCO Idaho Springs 78.73 47 *eP* **P 03 26 13.6 +0.3**
comp=Z,9.9nm,1.4s
ANTO Ankara 78.75 313 *eP* **P 03 26 12.8 -0.3**
ANTO pmax pmax
comp=Z,12nm,0.9s
ANTO Ankara 78.75 313 *eP* **P 03 26 12.8 -0.3**
comp=Z,12nm,0.9s
OKC Ostrava-Krasne 78.75 327 *eP* **P 03 26 14.4 +1.6**
OKC *e*S **S 03 36 13.7 +5.3**
OKC Ostrava-Krasne 78.75 327 *eP* **P 03 26 14.4 +1.6**
OKC *e*S **S 03 36 13.7 +5.3**
BR231 Keskin MP Arra 78.78 313 *eP* **P 03 26 12.3 -1.0**
BR231 *e*PP **PP 03 29 07.3 -3.9**
MVCO Mesa Verde 78.78 51 *eP* **P 03 26 13.9 +0.3**
comp=Z,8.1nm,1.0s
X16A Lo Mia Camp, P 78.81 55 *eP* **P 03 26 14.7 +1.0**
comp=Z,6.5nm,0.9s
VOIR 78.93 321 ⇑ *iP* **P 03 26 15.9 +1.9**
VOIR 78.93 321 P **P 03 26 15.7 +1.7**
DRGR 79.05 323 ⇓ *iP* **P 03 26 15.9 +1.3**
MORC Moravsky Berou 79.05 328 ⇓ *iP* **P 03 26 16.0 +1.5**
MORC Moravsky Berou 79.05 328 *eP* **P 03 26 14.5 0.0**
MORC pmax pmax
comp=Z,55nm,1.0s
MORC Moravsky Berou 79.05 328 *eP* **P 03 26 14.5 0.0**
comp=Z,55nm,1.0s
DPC Dobruska-Polom 79.10 329 *eP* **P 03 26 16.3 +1.5**
DPC *e*pP **pP 03 26 24.4 +0.6**
DPC *e*S **S 03 36 15.2 +3.1**
DPC AMS AMS 04 06 30.0
comp=Z,1μm,15.5s
DPC Dobruska-Polom 79.10 329 *eP* **P 03 26 16.3 +1.5**
DPC *e* 03 26 24.4
DPC *e*S **S 03 36 15.2 +3.1**
DPC MLR MLR
comp=Z,1μm,15.5s
UPC Upice 79.10 329 *e*S **S 03 36 15.2 +3.1**
UPC AMS AMS 04 06 30.0
comp=Z,2μm,15.0s
ARR Arges 79.18 321 ⇑ *iP* **P 03 26 16.3 +0.9**
S22A 4UR Ranch, Cre 79.42 49 *eP* **P 03 26 13.2 -3.9**
comp=Z,9.8nm,1.3s
PSZ Piszkesteto 79.47 325 ⇑ *iP* **P 03 26 17.9 +1.0**
PSZ Piszkesteto 79.47 325 ⇑ *e*SKKPbc **P 03 26 18.0 +1.0**
PSZ Piszkesteto 79.47 325 *eP* **P 03 26 16.8 -0.1**
PSZ pmax pmax
comp=Z,16nm,1.1s
PSZ Piszkesteto 79.47 325 *eP* **P 03 26 16.8 -0.1**
comp=Z,16nm,1.1s
BRG Berggiesshubel 79.61 330 *eP* **P 03 26 18.3 +0.8**
comp=Z,4.9nm,0.9s
BRG *e* 03 26 27.8
comp=Z,10nm,1.0s
BRG PP **PP 03 29 21.0 +3.3**
BRG S **S 03 36 22.0 +4.5**
comp=N,809nm,13.5s
comp=E,860nm,13.7s
comp=Z,2μm,14.2s
BRG Berggiesshubel 79.61 330 *eP* **P 03 26 18.3 +0.8**
BRG *e* 03 26 27.8
BRG 03 29 21.0
BRG S **S 03 36 22.0 +4.5**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG MLR MLR
comp=N,809nm,13.5s
BRG MLR MLR
comp=E,860nm,13.7s
BRG MLR MLR
comp=Z,2μm,14.2s
CLL Collm 79.62 331 ⇑ *iP* **P 03 26 18.0 +0.5**
comp=Z,10.0nm,1.0s
CLL *i* 03 26 26.8
comp=Z,18nm,1.0s
CLL *e* 03 26 45.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CLL				ePP	PP	03 29 19.0	+1.3
CLL				ePPP	PPP	03 31 06.0	
CLL				eS	S	03 36 22.0	+4.5
CLL				eSSS	SSS	03 44 48.0	
CLL				LmH		04 00 00.0	
	comp=N,2µm,18.9s						
CLL				LmH		04 00 00.0	
	comp=E,2µm,19.8s						
CLL	Collm	79.62	331	⇑iP	P	03 26 18.0	+0.5
CLL				i		03 26 26.8	
CLL				eS	S	03 36 22.0	+4.5
CLL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CLL	Collm	79.62	331	eP	P	03 26 16.1	-1.5
	comp=Z,15nm,1.0s						
PVCC	Panska Ves	79.65	330	eP	P	03 26 19.5	+1.8
PVCC				epP	pP	03 26 27.8	+1.1
PVCC				AMS	AMS	04 05 00.0	
	comp=Z,2µm,16.6s						
PVCC	Panska Ves	79.65	330	eP	P	03 26 19.5	+1.8
PVCC				e		03 26 27.8	
PVCC				MLR	MLR		
	comp=Z,2µm,16.6s						
X18A	Snowflake	79.67	54	eP	P	03 26 16.9	-1.5
	comp=Z,6.9nm,1.1s						
VRAC	Vranov	79.80	328	⇑iP	P	03 26 18.4	-0.2
VRAC	Vranov	79.80	328	P	P	03 26 18.3	-0.3
SIRR	Siria	79.92	323	⇓iP	P	03 26 19.8	+0.5
GZR	Gura Zlata	80.05	322	⇓iP	P	03 26 21.0	+0.9
GOPC	GO Pecny, Ondr	80.05	329	eP	P	03 26 21.5	+1.6
GOPC				epP	pP	03 26 28.8	-0.1
GOPC				ePP	PP	03 29 23.7	+2.4
GOPC				eS	S	03 36 26.0	+3.8
GOPC				AMS	AMS	04 05 20.0	
	comp=Z,2µm,16.0s						
GOPC	GO Pecny, Ondr	80.05	329	eP	P	03 26 21.5	+1.6
GOPC				e		03 26 28.8	
GOPC				e		03 29 23.7	
GOPC				eS	S	03 36 26.0	+3.8
GOPC				MLR	MLR		
	comp=Z,2µm,16.0s						
PRU	Pruhonice	80.09	329	eP	P	03 26 21.2	+1.1
PRU				epP	pP	03 26 30.2	+1.1
PRU				eS	S	03 36 26.0	+3.5
PRU				AMS	AMS	04 05 20.0	
	comp=Z,2µm,16.5s						
PRU	Pruhonice	80.09	329	eP	P	03 26 21.2	+1.1
PRU				e		03 26 30.2	
PRU				eS	S	03 36 26.0	+3.5
PRU				MLR	MLR		
	comp=Z,2µm,16.5s						
SDCO	Great Sand Dun	80.19	49	eP	P	03 26 20.2	-1.0
	comp=Z,7.3nm,1.4s						
TREC	Trest	80.26	329	eS	S	03 36 27.6	+3.2
TREC				AMS	AMS	04 07 20.0	
	comp=Z,2µm,15.5s						
BZS	Buzias	80.43	323	⇑iP	P	03 26 22.8	+0.8
TUC	Tucson	80.60	56	eP	P	03 26 24.1	+0.8
TUC				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TUC	Tucson	80.60	56	eP	P	03 26 24.1	+0.8
	comp=Z,8.8nm,1.4s						
NKC	Novy Kostel	80.70	331	AMS	AMS	04 06 30.0	
	comp=Z,2µm,14.2s						
ECSD	EROS Data Cent	80.73	40	eP	P	03 26 22.7	-1.0
	comp=Z,8.1nm,1.0s						
MDVR	Moldovita	81.01	322	⇑iP	P	03 26 25.8	+0.6
SOP	Sopron	81.09	327	P	P	03 26 27.9	+2.4
KHC	Kasperske Hory	81.15	329	eP	P	03 26 27.0	+1.1
KHC				epP	pP	03 26 35.5	+0.6
KHC	Kasperske Hory	81.15	329	eP	P	03 26 27.0	+1.1
KHC				e		03 26 35.5	
CONA	Conrad Observa	81.19	327	i PcP	P	03 26 28.0	+1.8
	comp=Z,6.7nm,1.0s						
GEC2	GERESS Array S	81.33	329	eP	P	03 26 25.6	-1.3
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GEC2	GERESS Array S	81.33	329	eP	P	03 26 25.6	-1.3
	comp=Z,4.7nm,0.9s						
GERES	GERESS Array B	81.33	329	P	P	03 26 27.4	+0.5
	comp=Z,2.0nm,0.7s,baz=39,slow=5.1,SNR=20						
GERES				LR	LR	04 06 24.5	
	comp=Z,1µm,18.2s,baz=14,slow=38						
GEA0	GERESS Array S	81.34	329	eP	P	03 26 27.4	+0.5
ANMO	Albuquerque	81.53	51	ceP	P	03 26 30.2	+1.9
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ANMO	Albuquerque	81.53	51	eP	P	03 26 29.3	+1.0
	comp=Z,8.6nm,1.1s						
ARSA	Arzberg	81.86	327	i P	P	03 26 30.5	+0.9
	comp=Z,5.5nm,1.1s						
MOA	Molln	81.90	328	i P	P	03 26 29.0	-0.8
	comp=Z,4.6nm,1.4s						
SCHQ	Schefferville	82.26	17	P	P	03 26 31.9	+0.3
	comp=Z,2.5nm,0.8s,baz=30,slow=9.3,SNR=5.4						
SCHQ				LR	LR	04 08 40.5	
	comp=Z,450nm,18.0s,baz=9.5,slow=40						
GROS	Grobnik	82.50	327	i P	P	03 26 33.4	+0.4
SOKA	Soboth	82.52	327	i PcP	P	03 26 34.4	+1.2
	comp=Z,12nm,1.0s						
OBKA	Obir	82.86	327	i P	P	03 26 34.3	-0.7
	comp=Z,3.9nm,0.7s						
KBA	Koelnbreinsper	82.89	328	i PcP	P	03 26 37.0	+1.7
	comp=Z,5.3nm,0.8s						
PDKS	Podkum	83.03	327	i P	P	03 26 36.0	+0.3
MYKA	Terra Mystica	83.14	328	i P	P	03 26 36.9	+0.5
	comp=Z,2.8nm,0.5s						
VAY	Valandovo	83.18	319	i P	P	03 26 37.8	+1.2
SKO	Skopje	83.25	321	i P	P	03 26 38.8	+1.8
WTTA	Wattenberg	83.43	329	i PcP	P	03 26 39.9	+1.9
	comp=Z,10nm,1.7s						
ABTA	Abfaltersbach	83.50	329	i P	P	03 26 38.4	+0.1
	comp=Z,5.5nm,1.2s						
JAVS	Javornik	83.55	327	i P	P	03 26 38.2	-0.3
MOTA	Moosalm	83.57	330	i PcP	P	03 26 40.0	+1.3
	comp=Z,8.6nm,1.0s						
RETA	Reutte	83.58	330	i PcP	P	03 26 40.0	+1.3
	comp=Z,10nm,1.1s						
BFO	Black Forest	83.80	332	i P	P	03 26 41.1	+1.4
FETA	Feichten	83.98	330	i PcP	P	03 26 41.5	+0.7
	comp=Z,5.6nm,0.9s						
DAVA	Damuels	84.09	330	i PcP	P	03 26 42.3	+0.9
	comp=Z,9.9nm,1.1s						
CDF	Champ du Feu	84.11	332	eP	P	03 26 41.7	+0.4
CDF				pmax	pmax		
	comp=Z,8.0nm,1.2s						
FNA	Florina	84.18	320	P	P	03 26 47.2	+5.4
OHR	Ohrid	84.22	320	i P	P	03 26 42.5	+0.5
PPT	Papeete	84.31	118	LR	LR	03 58 01.1	
	comp=Z,340nm,19.9s,baz=312,slow=31						
PPT2	Papeete2	84.32	118	eLR	LR	03 53 19.1	
	comp=Z,751nm,22.5s,baz=314						
AMTX	Amarillo	84.39	49	eP	P	03 26 44.1	+1.1
	comp=Z,11nm,0.9s						
MSTX	Muleshoe	84.40	50	eP	P	03 26 41.9	-1.2
	comp=Z,14nm,1.1s						
MNTX	Cornudas Mount	84.40	53	eP	P	03 26 43.9	+0.8
	comp=Z,7.6nm,1.1s						
FUORN	Ofenpass-Fuorn	84.49	330	eP	P	03 26 43.9	+0.4
	comp=Z,18nm,0.8s						
KARP	Karpathos	84.96	313	eP	P	03 26 45.2	-0.6
	comp=Z,44nm,0.6s						
TUE	Stuetta	84.97	330	eP	P	03 26 46.0	+0.1
	comp=Z,14nm,0.9s						
TAOE	Nuku Hiva Isla	85.16	106	eS	S	03 37 09.9	-5.5
	comp=Z,148nm,24.5s						
TAOE	Nuku Hiva Isla	85.16	106	eLR	LR	03 53 36.9	
	comp=Z,772nm,20.7s						
MEH	Mehetia	85.55	117	eT	T	05 02 52.1	
	comp=Z,19nm,0.3s						
SENIN	Lac Senin/Sane	85.83	331	eP	P	03 26 48.4	-1.8
	comp=Z,4.4nm,0.8s						
V34A	Guthrie	86.06	46	eP	P	03 26 50.5	-0.7
	comp=Z,16nm,1.0s						
LAST	Lasithi	86.18	314	eP	P	03 26 51.0	-0.9
	comp=Z,13nm,0.9s						
FLN	La Foliniere	86.35	337	eP	P	03 26 52.8	+0.4
FLN				pmax	pmax		
	comp=Z,62nm,1.9s						
LDF	La Druitiere	86.39	337	eP	P	03 26 53.3	+0.7
LDF				pmax	pmax		
	comp=Z,61nm,1.9s						
LPL	La Plagne	86.76	331	eP	P	03 26 55.3	+0.5
LPL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LPG	La Plagne	86.77	331	eP	P	03 26 55.4	+0.5
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GRR	Gorron	86.80	337	eP	P	03 26 55.4	+0.8
GRR				pmax	pmax		
	comp=Z,18nm,1.0s						
AVF	Avril sur Loir	86.86	334	eP	P	03 26 55.4	+0.4
AVF				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TX31	Lajitas Ar. Si	87.10	54	eP	P	03 26 55.6	-1.0
TXAR	Lajitas Array	87.11	54	P	P	03 26 57.8	+1.2
	comp=Z,0.7nm,0.5s,baz=292,slow=3.9,SNR=17						
TXAR				LR	LR	04 06 48.7	
	comp=Z,124nm,18.1s,baz=0.0,slow=36						
ROSF	Rostrenen	87.54	339	eP	P	03 26 59.2	+1.0
ROSF				pmax	pmax		
	comp=Z,87nm,1.9s						
TBI	Tubuai	88.43	122	eS	S	03 37 45.4	-1.0
	comp=Z,131nm,28.8s						
TBI	Tubuai	88.43	122	eLR	LR	03 54 27.2	
	comp=Z,387nm,35.2s						
TBI	Tubuai	88.43	122	eT	T	05 06 25.6	
	comp=Z,4.8nm,0.3s						
SIUC	Southern Illin	88.94	39	eP	P	03 27 06.4	+1.4
	comp=Z,23nm,0.9s						
PBMO	Poplar Bluff	89.07	41	eP	P	03 27 05.6	-0.1
	comp=Z,13nm,0.9s						
MIAR	Mount Ida	89.16	44	eP	P	03 27 06.3	+0.2
MIAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MIAR	Mount Ida	89.16	44	eP	P	03 27 06.3	+0.2
	comp=Z,5.8nm,0.9s						
WHAR	Wooly Hollow	89.27	43	eP	P	03 27 06.2	-0.5
	comp=Z,10nm,1.0s						
OXF	Oxford	91.36	41	eP	P	03 27 16.3	-0.1
OXF				pmax	pmax		
	comp=Z,17nm,1.1s						
OXF	Oxford	91.36	41	eP	P	03 27 16.3	-0.1
	comp=Z,18nm,1.1s						
KEST	Kesra	93.91	324	LR	LR	04 14 57.2	
	comp=Z,910nm,19.5s,baz=340,slow=39						
PGAV	Gavieira, Arco	94.79	339	eLR	LR	04 12 30.1	
	comp=Z,429nm,18.0s						
MVO	Moncorvo	95.18	338	eS	S	03 38 48.3	+0.9
MVO				eSS	SS	03 45 27.3	+15
MVO	Moncorvo	95.18	338	eLQ	LQ	04 07 11.1	
MVO				eLR	LR	04 12 42.0	
	comp=Z,679nm,18.0s						
ESDC	Sonseca Array	95.62	335	P	P	03 27 36.8	+0.8
	comp=Z,0.5nm,0.8s,baz=20,slow=3.8,SNR=2.7						
ESDC				LR	LR	04 16 32.9	
	comp=Z,456nm,18.1s,baz=15,slow=39						
MTE	Manteigas	96.04	338	ePP	PP	03 31 35.7	+6.2
MTE				eS	S	03 38 54.6	-0.2
MTE				eSS	SS	03 45 32.6	+8.5
MTE	Manteigas	96.04	338	eLQ	LQ	04 02 09.7	
MTE				eLR	LR	04 10 35.3	
	comp=Z,675nm,16.0s						
PMRV	Marv??o	96.89	338	ePP	PP	03 31 37.9	+1.8
PMRV				eS	S	03 39 10.0	+7.9
PMRV				eSS	SS	03 45 45.5	+9.3
PMRV	Marv??o	96.89	338	eLQ	LQ	04 07 59.3	
PMRV				eLR	LR	04 12 25.4	
	comp=Z,466nm,18.0s						
PESTR	Estremoz	97.47	338	ePP	PP	03 31 38.0	-2.6
RKT	Rikitea	98.17	113	eLR	LR	03 59 37.8	
	comp=Z,460nm,22.8s,baz=312						
PVAQ	Vaqueiros	98.86	337	eS	S	03 39 21.1	+2.2
PVAQ				eSS	SS	03 46 13.5	+10
PVAQ	Vaqueiros	98.86	337	eLQ	LQ	04 04 00.8	
PVAQ				eLR	LR	04 10 02.7	
	comp=Z,1µm,18.0s						
TORD	Torodi Ar. Bea	116.60	318	PKP	PKPdf	03 32 55.2	+0.3
	comp=Z,0.4nm,0.5s,baz=37,slow=1.6,SNR=12						
MAW	Mawson	122.72	207	PKP	PKPdf	03 33 06.7	+1.7
	comp=Z,1.1nm,0.6s,baz=94,slow=6.1,SNR=4.0						
QSPA	South Pole Qui	129.46	180	ePKPdf	PKPdf	03 33 18.8	+0.8
LPAZ	La Paz	143.81	59	PKhKP	PKPpre	03 33 44.0	
	comp=Z,0.4nm,0.5s,baz=352,slow=2.0,SNR=4.3						
LPAZ				PKP	PKiKP	03 33 48.7	-1.5
	comp=Z,0.4nm,0.4s,baz=270,slow=4.0,SNR=3.0						
SNAA	Sanae	143.83	197	PKP	PKPbc	03 33 42.4	+0.1
SNAA	Sanae	143.83	197	ePKIKP	PKPbc	03 33 42.3	+0.1
SNAA	Sanae	143.83	197	ePKPdf	PKPbc	03 33 42.3	+0.1
VNA3	Neumayer Olymp	145.61	195	PKP	PKPdf	03 33 47.7	+0.2

*ISK **01** 03:20:27.1, 39°.11N×29°.09E, h5km, MD2.5*
*ISCJB **01** 03:20:28.2±0.6, 39°.10N±0°.03×29°.11E±0°.04, h9km±5km, Error ellipse: s-maj=6.0km s-min=4.9km az=44.0*
*DDA **01** 03:20:28.7, 39°.08N×29°.12E, h7km, Md2.6*
*CSEM **01** 03:20:28.2±0.1, 39°.11N×29°.11E, h8km, MD2.6, Error ellipse: s-maj=3.9km s-min=3.0km az=104.0*
ISC 01 03:20:28.7±1.1**, 39°.12N**±0°.03×**29°.10E**±0°.03**, h7**km±13km**, n16, σ0s.72**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.29	95	P	Pg	03 20 34.6	0.0
GDZ				S	Sg	03 20 38.8	+0.3
GDZ	Gediz	0.29	95	i P	Pg	03 20 34.6	0.0
GDZ				i S	Sg	03 20 38.8	+0.3
DEMI	Demirci	0.31	256	P	Pg	03 20 35.0	+0.2
DEMI				S	Sg	03 20 39.6	+0.7
DEMI	Demirci	0.31	256	i P	Pg	03 20 35.0	+0.2
DEMI				i S	Sg	03 20 39.6	+0.7
TVSB	Tavsanli	0.43	40	ePG	Pg	03 20 36.4	-0.8
TVSB				eSG	Sg	03 20 43.0	+0.1
TVSB	Tavsanli	0.43	40	ePg	Pg	03 20 36.4	-0.8
TVSB				eSg	Sg	03 20 43.0	+0.1
KULA	Kula-Manisa	0.69	210	ePG	Pg	03 20 40.8	-1.3
KULA				eSG	Sg	03 20 50.9	-0.2
KULA	Kula-Manisa	0.69	210	ePg	Pg	03 20 40.8	-1.3
KULA				eSg	Sg	03 20 50.9	-0.2
KHAL	Karahalli	0.81	158	P	Pg	03 20 44.0	-0.2
KHAL				S	Sg	03 20 54.1	-0.6
KHAL	Karahalli	0.81	158	i P	Pg	03 20 44.0	-0.2
KHAL				i S	Sg	03 20 54.1	-0.6
MDNY	Mudanya-Bursa	1.26	352	ePN	Pg	03 20 51.9	-1.0
MDNY	Mudanya-Bursa	1.26	352	ePn	Pg	03 20 51.9	-1.0
KCTX	Karacabey (Bur	1.28	334	ePN	Pg	03 20 52.2	-1.1
KCTX				eSN	Sb	03 21 10.7	+0.8
KCTX	Karacabey (Bur	1.28	334	ePn	Pg	03 20 52.3	-1.1
KCTX				eSn	Sb	03 21 10.7	+0.8
ARMT	Armutlu	1.46	353	ePN	Pn	03 20 55.8	+0.3
ARMT	Armutlu	1.46	353	ePn	Pn	03 20 55.8	+0.3

*MOS **01** 03:28:23.2±1.6, 47°.86N×155°.13E, h30km, mb4.2/4, Error ellipse: s-maj=12.4km s-min=5.5km az=69.1*
*ISCJB **01** 03:28:24.5±0.6, 48°.02N±0°.07×154°.8E±0°.1, h33km, mb3.7/7, Error ellipse: s-maj=14.5km s-min=3.7km az=41.8*
*KRSC **01** 03:28:29.4±1.7, 48°.23N×156°.83E, h31km±28km, ML4.3*
*SKHL **01** 03:28:29.6±0.2, 48°.17N×154°.32E, h73km±7km, mb4.6/4*
*IDC **01** 03:28:29.2±3.5, 48°.12N×154°.42E, h67km±31km, mb3.3/6, mb1 3.6/9, mb1mx3.3/44, mbtmp3.6/9, ML2.8/3, Error ellipse: s-maj=42.6km s-min=17.6km az=156.0*
ISC 01 03:28:25.5±0.8**, 47°.95N**±0°.09×**154°.84E**±0°.10**, h33**km**, n76, σ2s.54**/71**, mb3.6**/7**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.86	17	ePN	Pn	03 29 10.0	+1.3
SKR				eS	Sn	03 29 40.2	-1.8
SKR				pmax	pmax		
	comp=Z,117nm,0.5s						
SKR				smax	smax		
	comp=E,448nm,0.7s						
SKR				smax	smax		
	comp=N,496nm,0.5s						
SKR	Severo-Kuril's	2.86	17	eP	Pn	03 29 10.6	+1.9
SKR				AMB	AMB	03 29 12.2	
	comp=N,98nm,0.4s						
SKR				eS	Sn	03 29 41.5	-0.5
SKR				A	A	03 29 50.0	
	comp=N,49nm,0.3s						
SKR				A	A	03 29 50.0	
	comp=N,45nm,0.3s						
SKR	Severo-Kuril's	2.86	17	eP	Pn	03 29 09.2	+0.5
SKR				eS	Sn	03 29 39.5	-2.5
PAU	Pauzhetka	3.75	19	PN	Pn	03 29 21.8	+0.9
PAU	Pauzhetka	3.75	19	eP	Pn	03 29 23.9	+3.0
PAU	Pauzhetka	3.75	19	eP	Pn	03 29 21.8	+0.9
PAU				eS	Sn	03 30 01.0	-2.8
ASAK	Asacha	4.85	23	PN	Pn	03 29 36.7	+0.5
ASAK	Asacha	4.85	23	eP	Pn	03 29 36.7	+0.5
MTVR	Mutnovka	5.02	24	eS	Sn	03 30 29.5	-5.9
RUS	Russkaya	5.07	26	PN	Pn	03 29 38.2	-0.9
RUS	Russkaya	5.07	26	eP	Pn	03 29 38.2	-0.9
RUS				eS	Sn	03 30 28.2	-8.2
KRMR	Karymshinskiy	5.32	22	PN	Pn	03 29 42.4	-0.1
KRMR	Karymshinskiy	5.32	22	eP	Pn	03 29 42.4	-0.1
KRMR				eS	Sn	03 30 36.2	-6.4
PETK	Petropavlovsk-	5.48	18	P	Pn	03 29 46.5	+1.8
	comp=N,1.2nm,0.3s,baz=175,slow=13,SNR=15						
PETK				S	Sn	03 30 52.8	+6.3
	comp=N,0.7nm,0.3s,baz=189,slow=14,SNR=2.1						
PETK	Petropavlovsk-	5.48	18	ePN	Pb	03 29 52.6	-7.7
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KUR	Kuril'sk	5.52	243	ePN	Pn	03 29 48.8	+3.6
KUR				pmax	pmax		
	comp=Z,69nm,0.8s						
KUR	Kuril'sk	5.52	243	eP	Pn	03 29 46.0	+0.8
KUR				AMB	AMB	03 29 48.7	
	comp=Z,70nm,0.8s						
KUR				eS	Sn	03 30 43.2	-4.3
KUR				A	A	03 30 55.0	
	comp=Z,30nm,0.4s						
KUR				A	A	03 30 55.0	
	comp=Z,21nm,0.4s						
PET	Petropavlovsk	5.63	24	i PN	Pn	03 29 54.2	+7.4
PET	Petropavlovsk	5.63	24	eP	Pn	03 29 50.3	+3.5
UGLR	Uglovaya	5.84	24	PN	Pn	03 29 50.3	+0.5
UGLR	Uglovaya	5.84	24	eP	Pn	03 29 50.3	+0.5
KOK	Koryaka	5.87	23	PN	Pn	03 29 49.6	-0.5
KOK	Koryaka	5.87	23	eP	Pn	03 29 49.6	-0.5
AVH	Avacha	5.87	24	PN	Pn	03 29 48.8	-1.4
AVH	Avacha	5.87	24	eP	Pn	03 29 48.8	-1.4
SMAR	Somma	5.89	24	PN	Pn	03 29 49.1	-1.4
SMAR	Somma	5.89	24	eP	Pn	03 29 49.1	-1.4
KRER	Koryakskii	5.91	23	PN	Pn	03 29 49.0	-1.8
KRER	Koryakskii	5.91	23	eP	Pn	03 29 49.0	-1.8
KRX	Arik	5.93	23	PN	Pn	03 29 52.4	+1.4
KRX	Arik	5.93	23	eP	Pn	03 29 52.4	+1.4
NLC	Nalytchevo	5.96	27	eS	Sn	03 30 48.0	-10
GNL	Ganaly	6.08	18	PN	Pn	03 29 54.7	+1.7
GNL	Ganaly	6.08	18	eP	Pn	03 29 54.7	+1.7
SHO	Shikotan	6.92	237	eP	Pn	03 30 05.0	+0.6
SHO				AMB	AMB	03 30 08.6	
	comp=Z,57nm,0.8s						
YUK	Yuzh-Kuril'sk	7.37	241	i PN	Pn	03 30 12.9	+2.2
YUK	Yuzh-Kuril'sk	7.37	241	eP	Pn	03 30 12.4	+1.7
YUK				AMB	AMB	03 30 19.6	
	comp=Z,30nm,0.8s						
YUK				eS	Sn	03 31 28.5	-4.7
MKZ	Mys Kozlova	7.90	31	PN	Pn	03 30 15.0	-2.9
MKZ	Mys Kozlova	7.90	31	eP	Pn	03 30 15.0	-2.9
YSS	Yuzh-Sakhalins	8.25	268	ePN	Pn	03 30 29.6	+6.9
JKA	Kamikawa-asahi	9.33	250	eP	Pn	03 30 40.7	+3.1
ASAJ	Asahikawa	9.34	250	P	Pn	03 30 40.7	+3.1
	comp=Z,1.3nm,0.3s,baz=86,slow=21,SNR=14						
BKI	Bering	10.03	39	eS	Sn	03 32 21.3	-17
ERM	Erimo	10.18	239	⇓iPN	Pn	03 30 51.7	+2.6
ERM	Erimo	10.18	239	eP	Pn	03 30 51.7	+2.6
HABR	Khabarovsk	13.21	280	PN	Pn	03 31 32.8	+2.3
HABR				pmax	pmax		
	comp=N,16nm,1.0s						
HABR				MLR	MLR		
	comp=Z,324nm,14.0s						
EKMR	Ekimchan	14.81	298	eP	Pn	03 31 50.2	-2.2
SEY	Seymchan	15.08	356	i P	P	03 32 02.3	+1.6
KLR	Kul'dur	15.32	283	P	Pn	03 32 01.4	+2.4
	comp=Z,0.2nm,0.3s,baz=56,slow=9.4,SNR=5.5						
USRK	Ussuriysk Ar.	16.27	265	P	Pn	03 32 11.9	+0.5
	comp=Z,0.2nm,0.3s,baz=172,slow=17,SNR=4.1						
MJA0	Matsu Arr-Jizo	16.72	233	eP	P	03 32 20.3	+1.2
MAJO	Matsushiro	16.74	233	i P	Pn	03 32 17.0	-0.3
MAJO	Matsushiro	16.74	233	eP	Pn	03 32 17.0	-0.3
MJAR	Matsushiro Arr	16.74	233	P	Pn	03 32 15.9	-1.4
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=6.3						
BILL	Bilibino	20.96	12	⇓eP	Pn	03 33 09.7	+1.7
BILL				pmax	pmax		
	comp=Z,7.0nm,1.6s						
BILL	Bilibino	20.96	12	eP	Pn	03 33 09.7	+1.7
KSRS	Korea Array	22.28	252	P	P	03 33 19.0	-0.7
	comp=Z,4.4nm,0.8s,baz=52,slow=10,SNR=12						
KSRS	Korea Array	22.28	252	P	P	03 33 19.0	-0.7
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TIK	Tiksi	26.65	342	eP	P	03 34 04.1	+3.4
TIXI	Tiksi	26.66	342	eP	P	03 34 04.1	+3.3
TIXI				pmax	pmax		
	comp=Z,6.0nm,3.1s						
H11N2	WAKE ISLAND Hy	29.80	157	T	T	04 06 11.4	
	baz=344,slow=76,SNR=103						
H11N1	WAKE ISLAND Hy	29.82	157	T	T	04 06 11.1	
	baz=344,slow=76,SNR=189						
H11N3	WAKE ISLAND Hy	29.82	157	T	T	04 06 10.4	
	baz=344,slow=76,SNR=94						
H11S1	WAKE ISLAND Hy	30.92	158	T	T	04 07 33.5	
	baz=344,slow=76,SNR=1114						
H11S3	WAKE ISLAND Hy	30.93	158	T	T	04 07 36.3	
	baz=344,slow=76,SNR=1002						
H11S2	WAKE ISLAND Hy	30.94	158	T	T	04 07 34.9	
	baz=344,slow=76,SNR=634						
MKAR	Makanchi Array	47.43	297	P	P	03 36 55.1	-1.5
	comp=Z,0.2nm,0.3s,baz=74,slow=7.7,SNR=2.7						
YKA	Yellowknife Ar	49.26	38	P	P	03 37 10.8	+0.4
	comp=Z,0.2nm,0.8s,baz=298,slow=7.1,SNR=4.3						
YKA	Yellowknife Ar	49.26	38	eP	P	03 37 12.7	+2.3
YKA	Yellowknife Ar	49.26	38	eP	P	03 37 12.7	+2.3
NVAR	Mina Array Bea	60.85	64	P	P	03 38 36.6	+1.9
	comp=Z,0.5nm,0.6s,baz=305,slow=8.6,SNR=3.0						
OBN	Obninsk	64.97	326	eP	P	03 39 02.0	+0.5
OBN				e		03 41 26.0	
OBN				ePPP	PPP	03 42 58.3	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	Obninsk	64.97	326	eP	P	03 39 02.0	+0.5
TXAR	Lajitas Array	75.89	62	P	P	03 40 09.5	+0.8
	comp=Z,0.4nm,0.7s,baz=264,slow=2.5,SNR=4.5						
BRTR	Keskin Array B	78.30	318	P	P	03 40 19.7	-2.6
	comp=Z,0.3nm,0.7s,baz=56,slow=3.6,SNR=3.3						
TORD	Torodi Ar. Bea	114.64	331	PKP	PKPdf	03 47 00.3	-2.2
	comp=Z,0.4nm,1.1s,baz=310,slow=3.2,SNR=2.0						

*ISCJB **01** 03:29:02.8±0.8, 37°.46S±0°.07×142°.40E±0°.09, h10km, Error ellipse: s-maj=12.6km s-min=6.6km az=137.4*
*AUST **01** 03:29:04.3±0.9, 37°.49S×142°.43E, h2km±6km, Error ellipse: s-maj=6.6km s-min=2.7km az=26.0*
*NEIC **01** 03:29:04.0, 37°.49S×142°.43E, h2km, ML3.8(AUST), After AUST.*
NEIC Felt at Dunkeld and Halls Gap.
*IDC **01** 03:29:10.5±5.7, 37°.02S×141°.34E, h0km, mb1 4.0/4, mb1mx3.7/32, mbtmp3.8/4, ML3.9/4, Error ellipse: s-maj=69.8km s-min=38.6km az=116.0*
ISC 01 03:29:03.8±1.0**, 37°.36S**±0°.07×**142°.43E**±0°.06**, h10**km**, n23, σ2s.84**/29**, Near southeast coast of Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS	Mount Arapiles	0.76	321	P	Pn	03 29 21.3	+0.7
	baz=0.9,SNR=1000						
ARPS	Mount Arapiles	0.76	321	P	Pn	03 29 22.0	+1.4
ARPS				S	Sn	03 29 34.0	+1.9
TOO	Toolangi	2.44	96	P	Pn	03 29 45.6	+1.7
	baz=2.4,SNR=115						
TOO	Toolangi	2.44	96	P	Pb	03 29 47.0	-0.9
HTT	Hallett	4.86	323	P	Pn	03 30 19.6	+2.5
	baz=5.0,SNR=24						
HTT	Hallett	4.86	323	P	Pn	03 30 20.0	+3.0
MILA	Mila	5.38	89	P	Pn	03 30 26.4	+2.3
	baz=5.4,SNR=17						
MILA	Mila	5.38	89	P	Pn	03 30 26.0	+1.8
STKA	Stephens Creek	5.52	353	Pn	Pn	03 30 29.0	+2.9
	4.2nm,0.3s,baz=180,slow=13,SNR=47						
STKA				Sn	Sn	03 31 29.2	-0.4
	21nm,0.3s,baz=93,slow=22,SNR=8.8						
STKA				Lg	Lg	03 31 55.1	
	13nm,0.3s,baz=194,slow=8.3,SNR=3.7						
STKA	Stephens Creek	5.52	353	P	Pn	03 30 29.0	+2.9
	baz=5.7,SNR=35						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAN	Canberra	5.68	71	P	Pn	03 30 30.0	+1.6
	baz=5.7						
CAN	Canberra	5.68	71	ePn	Pn	03 30 30.3	+1.9
CAN				eS	Sn	03 31 32.3	-1.3
YNG	Young	5.73	60	P	Pn	03 30 31.0	+2.0
	baz=5.8,SNR=8.6						
YNG	Young	5.73	60	P	Pn	03 30 31.0	+2.0
CNB	Canberra Magne	5.96	72	P	Pn	03 30 34.1	+1.9
	baz=6.0						
MOO	Moorlands	6.25	146	P	Pn	03 30 38.2	+2.0
	baz=6.2						
CMSA	Cobar Meteorol	6.41	26	P	Pn	03 30 39.3	+1.0
	baz=6.5						
TAU	Tasmania Unive	6.69	147	eSn	Sn	03 31 57.0	-1.2
BBOO	Buckleboo	6.92	309	P	Pn	03 30 47.4	+2.1
	baz=7.0,SNR=26						
BBOO	Buckleboo	6.92	309	ePn	Pn	03 30 47.4	+2.1
	28nm,0.8s						
BBOO				eS	Sn	03 32 01.6	-2.5
ASAR	Alice Springs	15.49	329	Pn	Pn	03 32 40.4	-2.1
	0.3nm,0.3s,baz=150,slow=13,SNR=12						
ASAR				Sn	Sn	03 35 25.8	-8.4
	0.4nm,0.3s,baz=158,slow=22,SNR=7.3						
CTA	Charters Tower	17.53	12	P	P	03 33 15.7	+6.1
	0.2nm,0.3s,baz=188,slow=14,SNR=2.0						
CTA				S	S	03 36 29.4	-2.4
	0.1nm,0.3s,baz=292,slow=20,SNR=2.4						
WRA	Warramunga Arr	18.74	336	P	P	03 33 22.8	0.0
	0.5nm,0.3s,baz=160,slow=12,SNR=21						
WRA				S	Sn	03 36 41.3	-12
	0.2nm,0.3s,baz=154,slow=25,SNR=3.7						

*ISCJB **01** 03:30:51.1±0.7, 39°.11N±0°.05×29°.05E±0°.05, h9km, Error ellipse: s-maj=7.3km s-min=4.7km az=155.3*
*CSEM **01** 03:30:51.0±0.3, 39°.11N×29°.03E, h10km, MD2.5, Error ellipse: s-maj=6.8km s-min=4.6km az=137.0*
*DDA **01** 03:30:51.5, 39°.07N×29°.07E, h7km, Md2.5*
ISC 01 03:30:50.0±1.0**, 39°.10N**±0°.05×**29°.05E**±0°.03**, h9**km**, n10, σ0s.56**/18**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.26	259	P	Pb	03 30 57.1	+0.2
DEMI				S	Sb	03 31 00.7	-0.9
DEMI	Demirci	0.26	259	i P	Pb	03 30 57.1	+0.2
DEMI				i S	Sb	03 31 00.7	-0.9
GDZ	Gediz	0.34	91	P	Pb	03 30 58.1	-0.2
GDZ				S	Sb	03 31 02.9	-1.0
GDZ	Gediz	0.34	91	i P	Pb	03 30 58.1	-0.2
GDZ				i S	Sb	03 31 02.9	-1.0
TVSB	Tavsanli	0.48	42	ePG	Pb	03 31 00.6	-0.1
TVSB				eSG	Sg	03 31 06.3	+0.6
TVSB	Tavsanli	0.48	42	ePg	Pb	03 31 00.6	-0.1
TVSB				eSg	Sg	03 31 06.3	+0.6
KULA	Kula-Manisa	0.65	207	ePG	Pb	03 31 03.3	-0.3
KULA	Kula-Manisa	0.65	207	ePg	Pb	03 31 03.3	-0.3
KHAL	Karahalli	0.80	154	P	Pn	03 31 08.0	+0.4
KHAL				S	Sb	03 31 17.3	+0.1
KHAL	Karahalli	0.80	154	i P	Pn	03 31 08.0	+0.4
KHAL				i S	Sb	03 31 17.3	+0.1

*NEIC **01** 03:43:33.4±1.4, 34°.46N×69°.20E, h27km±9km, mb4.1/4, Error ellipse: s-maj=18.3km s-min=13.0km az=155.0*
NEIC Felt [III] at Kabul. Also felt at Charikar.
*MOS **01** 03:43:33.6±2.6, 34°.43N×69°.75E, h36km, mb4.2/26, Error ellipse: s-maj=9.3km s-min=4.9km az=89.8*
*NNC **01** 03:43:36.5±4.0, 34°.68N×69°.59E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=33.8km s-min=29.8km az=80.0*
*IDC **01** 03:43:39.4±3.8, 34°.72N×69°.85E, h64km±33km, mb3.7/18, mb1 3.8/23, mb1mx3.7/53, mbtmp4.0/23, ML3.7/5, MS3.7/1, Ms1 3.7/1, ms1mx2.9/42, Error ellipse: s-maj=25.3km s-min=14.5km az=9.0*
ISC 01 03:43:32.6±0.5**, 34°.36N**±0°.05×**69°.50E**±0°.04**, h24**km**, n99, σ2s.94**/113**, mb4.0**/30**, 14C-5D, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBL	Kabul	0.42	296	eP	Pb	03 43 38.9	-2.8
KBL	Kabul	0.42	296	ePg	Pb	03 43 38.9	-2.8
KBL				eSg	Sb	03 43 43.6	-4.2
CEP	Cherat	2.07	104	P	Pb	03 44 11.7	+2.2
THW	Thamme Wali	2.43	129	P	Pb	03 44 17.1	+1.4
CHCP	Chirah Chowk	3.20	101	⇓P	Pb	03 44 26.7	-2.1
SARP	Sargodha	3.60	132	P	Pb	03 44 32.3	-3.3
DZET	Dzherino	4.47	353	⇑Pn	Pn	03 44 40.9	+1.9
	68nm,0.6s						
DZET				⇑Sn	Sn	03 45 33.5	+3.1
	294nm,0.7s						
DZET	Dzherino	4.47	353	P	Pn	03 44 40.7	+1.7
DZET						03 45 34.0	
DZET				pmax	pmax		
	comp=Z,68nm,0.6s						
DZET				smax	smax		
	comp=N,294nm,0.7s						
THN	Thein Dam	5.54	109	eP	Pn	03 44 54.6	+1.1
THN				eS	Sb	03 46 04.2	-10
MNAS	Manas	8.45	15	⇓Pn	Pn	03 45 35.8	+2.2
	comp=N,14nm,0.7s						
MNAS				⇑Sn	Sn	03 47 07.8	-0.6
	comp=N,43nm,0.9s						
MNAS	Manas	8.45	15	P	Pn	03 45 35.4	+1.7
MNAS						03 47 07.7	
MNAS				pmax	pmax		
	comp=Z,16nm,0.8s						
MNAS				smax	smax		
	comp=N,43nm,0.9s						
NDI	New Delhi	8.68	129	eP	Pn	03 45 33.5	-3.2
NDI				eS	Sn	03 47 11.0	-2.7
KK31	Karatay Array	8.77	5	Pn	Pn	03 45 38.0	0.0
	comp=N,20nm,0.7s,baz=192,slow=11,SNR=166						
KK31				⇑Sn	Sn	03 47 15.6	-0.4
	comp=N,3.8nm,0.4s,baz=187,slow=22,SNR=4.7						
KK31	Karatay Array	8.77	5	i P	Pn	03 45 37.9	0.0
KK31						03 47 16.6	
KK31				pmax	pmax		
	comp=Z,20nm,0.7s						
KK31				smax	smax		
	comp=Z,3.0nm,0.4s						
KKAR	Karatay Array	8.77	5	eP	Pn	03 45 38.3	+0.4
KKAR				e		03 47 10.5	
KKAR	Karatay Array	8.77	5	ePn	Pn	03 45 38.3	+0.4
KKAR				eSn	Sn	03 47 10.5	-5.5
EKS2	Erkin-Say	8.94	21	eP	Pn	03 45 41.5	+1.1
EKS2				e		03 47 16.8	
EKS2	Erkin-Say	8.94	21	ePn	Pn	03 45 41.5	+1.1
EKS2				eSn	Sn	03 47 16.8	-3.6
AAK	Ala-Archa	9.14	24	P	Pn	03 45 43.4	+0.2
	comp=Z,3.8nm,0.3s,baz=177,slow=5.1,SNR=21						
AAK				S	Sn	03 47 24.8	-0.5
	comp=Z,0.5nm,0.3s,baz=145,slow=19,SNR=3.2						
AAK	Ala-Archa	9.14	24	⇑Pn	Pn	03 45 46.5	+3.3
	comp=Z,12nm,0.6s						
AAK				⇑Sn	Sn	03 47 25.9	+0.5
	comp=Z,38nm,1.2s						
AAK	Ala-Archa	9.14	24	P	Pn	03 45 46.0	+2.9
AAK						03 47 25.2	
AAK				pmax	pmax		
	comp=Z,12nm,0.6s						
AAK				smax	smax		
	comp=N,38nm,1.3s						
AAK	Ala-Archa	9.14	24	ePn	Pn	03 45 44.2	+1.1
AAK				eSn	Sn	03 47 22.3	-3.0
FRU	Bishkek	9.36	24	eP	Pn	03 45 52.0	+6.0
FRU				eS	Sn	03 47 33.0	+2.5
FRU				smax	smax		
	comp=E,160nm,2.0s						
TKM2	Tokmak 2	9.79	27	⇓Pn	Pn	03 45 56.3	+4.3
	comp=E,9.7nm,0.7s						
TKM2				⇓Sn	Sn	03 47 44.9	+3.6
	comp=E,11nm,0.9s						
TKM2	Tokmak 2	9.79	27	i P	Pn	03 45 56.3	+4.3
TKM2				pmax	pmax		
	comp=Z,12nm,0.7s						
TKM2	Tokmak 2	9.79	27	ePn	Pn	03 45 54.1	+2.0
GEYT	Alibeck	9.87	294	P	Pn	03 45 54.0	+1.0
	comp=Z,0.1nm,0.3s,baz=75,slow=6.1,SNR=2.6						
GEYT				S	Sn	03 47 53.1	+10
	comp=Z,0.2nm,0.3s,baz=106,slow=18,SNR=2.0						
PYUN	Piuthan	13.11	115	eP	Pn	03 46 37.7	+0.1
	comp=Z,48nm,0.6s						
KOLN	Koldanda	13.74	115	eP	Pn	03 46 45.8	-0.4
	comp=Z,17nm,0.5s						
GKN	Gorkha	14.41	112	eP	Pn	03 46 54.5	-0.8
	comp=Z,26nm,0.5s						
DMN	Daman	14.97	112	eP	Pn	03 47 01.4	-1.5
	comp=Z,21nm,0.5s						
KKN	Kakani	15.01	112	eP	Pn	03 47 02.0	-1.5
	comp=Z,19nm,0.5s						
PKIN	Phulchoki	15.21	112	eP	Pn	03 47 04.0	-2.1
	comp=Z,29nm,0.6s						
MAKZ	Makanchi	15.61	33	eP	Pn	03 47 08.5	-2.5
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAKZ	Makanchi	15.61	33	ePn	Pn	03 47 08.5	-2.5
	comp=Z,7.4nm,0.6s						
MK01	Makanchi Array	15.73	34	ePn	Pn	03 47 12.1	-0.5
MK31	Makanchi Array	15.74	34	eP	Pn	03 47 12.0	-0.8
MK31	Makanchi Array	15.74	34	ePn	Pn	03 47 12.0	-0.8
MKAR	Makanchi Array	15.74	34	P	Pn	03 47 11.6	-1.2
	comp=Z,0.2nm,0.3s,baz=218,slow=9.2,SNR=10						
MKAR	Makanchi Array	15.74	34	ceP	P	03 47 14.8	-1.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	15.74	34	ePn	Pn	03 47 13.1	+0.3
AB31	Akbulak array	16.48	337	P	Pn	03 47 21.5	-0.6
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ABKAR	Akbulak array	16.48	337	ePn	Pn	03 47 20.9	-1.3
ABKAR				eSn	Sn	03 50 19.9	-4.4
KURBB	Kurchatov Arra	17.54	19	P	Pn	03 47 34.3	-1.1
	comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=13						
KURK	Kurchatov	17.65	19	P	Pn	03 47 34.3	-2.4
AKTO	Aktyubinsk	18.13	336	P	P	03 47 44.3	+1.4
	comp=Z,0.1nm,0.3s,baz=140,slow=16,SNR=2.8						
ZRNK	Zerenda	18.59	359	eP	P	03 47 46.5	-1.4
ZRNK				e		03 51 10.1	
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZRNK	Zerenda	18.59	359	eP	P	03 47 46.5	-1.4
	comp=Z,5.3nm,0.7s						
ZRNK				eSn	Sn	03 51 10.1	-5.2
BVAR	Borovoye Array	18.67	2	P	P	03 47 47.6	-1.2
	comp=Z,0.5nm,0.3s,baz=170,slow=10,SNR=8.7						
BRVK	Borovoye	18.70	1	eP	P	03 47 48.9	-0.2
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s						
BRVK	Borovoye	18.70	1	ePn	P	03 47 48.9	-0.2
	comp=Z,14nm,0.8s						
GNI	Garni	20.51	294	P	Pn	03 48 12.9	+1.5
	comp=Z,13nm,0.8s,baz=30,slow=22,SNR=2.5						
ZEI	Tsey	21.65	300	eP	P	03 48 25.8	+4.3
ZEI				pmax	pmax		
	comp=Z,12nm,0.8s						
ZAA0	Zalesovo Array	22.37	24	eP	P	03 48 26.3	-2.5
ZAA0				eS	S	03 52 31.7	-1.5
ZALV	Zalesovo Beam	22.37	24	P	P	03 48 27.3	-1.5
	comp=Z,4.7nm,0.7s,baz=227,slow=11,SNR=10						
KBZ	Khabaz	22.61	302	P	P	03 48 35.0	+3.6
	comp=Z,3.1nm,0.9s,baz=107,slow=9.6,SNR=5.2						
NVS	Novosibirsk	22.62	21	eP	P	03 48 26.5	-4.9
NVS				pmax	pmax		
	comp=N,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,12nm,1.2s						
KVAR	Kislovodsk Arr	22.81	303	P	P	03 48 36.2	+2.5
	comp=Z,2.3nm,0.4s,baz=117,slow=9.0,SNR=2.1						
KIV	Kislovodsk	22.81	303	eP	P	03 48 40.1	+6.3
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARU	Arti	23.32	345	P	P	03 48 40.1	+1.5
	comp=Z,3.6nm,0.2s,baz=126,slow=8.4,SNR=3.5						
ARU	Arti	23.32	345	d iP	P	03 48 42.4	+3.8
ARU						03 49 09.8	
ARU				S	S	03 52 51.4	+1.8
ARU				SS	SnSn	03 53 39.7	+15
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
GTA	Gaotai	24.70	69	eP	P	03 48 54.8	+2.8
GTA				pP	pP	03 48 59.4	+0.3
GTA				sP	sP	03 49 01.8	-0.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VSR	Storozhevoye	27.65	317	⇑iP	P	03 49 22.8	+4.5
VSR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	Keskin Array B	29.00	291	P	P	03 49 35.1	+4.5
	comp=Z,2.1nm,0.9s,baz=82,slow=8.9,SNR=3.6						
BR231	Keskin MP Arra	29.66	291	eP	P	03 49 32.7	-3.8
CHTO	Chiang Mai	30.40	113	P	P	03 49 46.9	+3.9
CHTO				e*PP	sP	03 49 54.3	+1.1
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.4s						
CHTO	Chiang Mai	30.40	113	P	P	03 49 46.9	+3.9
	comp=Z,7.8nm,0.4s						
CHTO				epP	sP	03 49 54.3	+1.1
SONM	Songino Array	30.58	53	P	P	03 49 41.6	-2.9
	comp=Z,0.6nm,0.5s,baz=272,slow=6.6,SNR=3.4						
CMAR	Chiang Mai Arr	30.61	114	P	P	03 49 46.5	+1.6
	comp=Z,1.5nm,0.3s,baz=15,slow=17,SNR=5.1						
CMAR	Chiang Mai Arr	30.61	114	ceP	P	03 49 44.0	-0.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
OBN	Obninsk	30.83	322	eP	P	03 49 49.7	+3.3
OBN				e		03 50 55.4	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	Malin Array Be	33.40	312	P	P	03 50 10.9	+1.9
	comp=Z,0.9nm,0.5s,baz=91,slow=7.5,SNR=5.9						
AKASG	Malin Array Be	33.40	312	ceP	P	03 50 13.3	+4.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIEV	Kiev	33.40	312	⇑iP	P	03 50 13.1	+4.0
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MLR	Muntele Rosu	34.82	302	eP	P	03 50 20.4	-1.2
MLR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MLR	Muntele Rosu	34.82	302	eP	P	03 50 20.4	-1.2
	comp=Z,4.6nm,1.1s						
NRIK	Noril'sk	36.45	11	P	P	03 50 34.0	-1.2
	comp=Z,2.3nm,0.6s,baz=192,slow=16,SNR=2.7						
CRVS	Cervenica-Dubn	38.09	307	eP	P	03 50 54.0	+4.7
CRVS	Cervenica-Dubn	38.09	307	eP	P	03 50 54.0	+4.7
STHS	Stebnicka Huta	38.27	308	eP	P	03 50 57.2	+6.3
STHS				pmax	pmax		
	comp=Z,4.0nm,1.5s						
STHS	Stebnicka Huta	38.27	308	eP	P	03 50 57.2	+6.3
FINES	FINESS Array B	38.62	328	P	P	03 50 56.2	+2.7
	comp=Z,1.9nm,0.9s,baz=112,slow=11,SNR=3.0						
ARCES	ARCESS Array B	42.68	339	P	P	03 51 26.5	-0.5
	comp=Z,1.3nm,0.7s,baz=113,slow=9.3,SNR=6.4						
NB2	NORSAR Subarra	45.38	324	P	P	03 51 53.1	+4.2
	comp=Z,0.7nm,0.6s,baz=98,slow=7.9						
NOA	NORSAR Array B	45.38	324	P	P	03 51 50.0	+1.1
	comp=Z,1.0nm,0.7s,baz=100,slow=8.0,SNR=5.2						
NOA	NORSAR Array B	45.38	324	P	P	03 51 50.0	+1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO	Kilima Mbogo	46.48	227	LR	LR	04 15 20.3	
	comp=Z,76nm,18.2s,baz=66,slow=40						
KLR	Kul'dur	47.41	52	P	P	03 52 03.5	-1.4
	comp=Z,1.2nm,0.8s,baz=231,slow=6.5,SNR=2.8						
TIXI	Tiksi	48.21	21	⇑iP	P	03 52 09.6	-1.2
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI	Tiksi	48.21	21	eP	P	03 52 07.7	-3.1
	comp=Z,4.8nm,0.8s						
ESDC	Sonseca Array	57.39	299	P	P	03 53 21.9	+2.7
	comp=Z,0.6nm,0.8s,baz=88,slow=12,SNR=3.1						
BILL	Bilibino	61.06	25	eP	P	03 53 45.9	+1.9
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TORD	Torodi Ar. Bea	64.45	269	P	P	03 54 07.0	-0.4
	comp=Z,0.7nm,0.7s,baz=53,slow=5.8,SNR=11						
ILAR	Eielson Array	77.17	15	P	P	03 55 22.9	-1.0
	comp=Z,0.4nm,0.4s,baz=308,slow=5.1,SNR=7.0						
ILAR	Eielson Array	77.17	15	P	P	03 55 23.0	-1.0
KDAK	Kodiak Island	81.64	21	ceP	P	03 55 47.6	-0.8
WRA	Warramunga Arr	81.92	121	ceP	P	03 55 47.0	-3.5
YKA	Yellowknife Ar	83.43	2	P	P	03 55 57.8	+0.2
	comp=Z,1.0nm,0.8s,baz=347,slow=5.2,SNR=13						
ASAR	Alice Springs	84.06	124	P	P	03 56 03.5	+2.1
	comp=Z,1.1nm,0.6s,baz=312,slow=5.0,SNR=5.6						

*ISCJB **01** 03:46:41.9±0.5, 18°.71N±0°.06×69°.07W±0°.03, h134km±6km, Error ellipse: s-maj=10.1km s-min=3.7km az=13.1*
*RSPR **01** 03:46:43.6, 19°.39N×68°.90W, h95km±6km, MD4.0/14*
*NEIC **01** 03:46:43.6, 19°.39N×68°.90W, h95km, MD4.0(RSPR), After RSPR.*
ISC 01 03:46:42.4±1.0**, 18°.68N**±0°.09×**69°.05W**±0°.03**, h130**km±9km**, n48, σ1s.63**/66**, 15C-11D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.33	289	⇓iP	Pn	03 46 59.9	-0.8
DR12				eS	Sn	03 47 14.2	-0.3
DR12	Loma Pena Alta	0.33	289	⇓iP	Pn	03 46 59.9	-0.8
DR08	Loma La Naviza	0.96	287	⇓iP	Pn	03 47 05.2	+0.2
DR08				eS	Sn	03 47 21.8	-0.4
IDE	Isla Desecheo	1.52	101	⇓eP	Pn	03 47 11.5	+0.8
IDE	Isla Desecheo	1.52	101	eS	Sn	03 47 33.0	+0.7
IDE	Isla Desecheo	1.52	101	⇓eP	Pn	03 47 11.5	+0.8
IDE				eS	Sn	03 47 33.0	+0.7
AGPR	Aguadilla, PR	1.85	96	⇑eP	Pn	03 47 15.0	+0.5
AGPR	Aguadilla, PR	1.85	96	eS	Sn	03 47 39.2	0.0
AGPR	Aguadilla, PR	1.85	96	⇑eP	Pn	03 47 15.0	+0.5
AGPR				eS	Sn	03 47 39.2	0.0
LSP	Las Mesas	1.93	105	⇑eP	Pn	03 47 16.6	+1.0
LSP	Las Mesas	1.93	105	eS	Sn	03 47 43.2	+2.3
LSP	Las Mesas	1.93	105	⇑eP	Pn	03 47 16.6	+1.0
LSP				eS	Sn	03 47 43.2	+2.3
CRPR	Cabo Rojo, PR	1.96	110	⇓eP	Pn	03 47 15.4	-0.4
CRPR	Cabo Rojo, PR	1.96	110	eS	Sn	03 47 45.3	+3.8
CRPR	Cabo Rojo, PR	1.96	110	⇓eP	Pn	03 47 15.4	-0.4
CRPR				eS	Sn	03 47 45.3	+3.8
LRS	Lares	2.13	100	⇑eP	Pn	03 47 18.5	+0.6
LRS				eS	Sn	03 47 46.4	+1.1
LRS	Lares	2.13	100	⇑eP	Pn	03 47 18.5	+0.6
SDDR	Presa de Saban	2.14	278	⇑eP	Pn	03 47 19.8	+1.6
SDDR				eS	Sn	03 47 47.8	+2.3
SDDR	Presa de Saban	2.14	278	ePn	Pn	03 47 20.3	+2.2
SDDR				eS	Sn	03 47 51.6	+6.0
AOPR	Arecibo Observ	2.20	98	⇑eP	Pn	03 47 19.6	+0.7
AOPR	Arecibo Observ	2.20	98	eS	Sn	03 47 47.5	+0.6
AOPR	Arecibo Observ	2.20	98	⇑eP	Pn	03 47 19.6	+0.7
AOPR				eS	Sn	03 47 47.5	+0.6
OBIP	Obispado Ponce	2.41	105	⇓eP	Pn	03 47 21.4	0.0
OBIP	Obispado Ponce	2.41	105	eS	Sn	03 47 54.0	+2.6
OBIP	Obispado Ponce	2.41	105	⇓eP	Pn	03 47 21.4	0.0
OBIP				eS	Sn	03 47 54.0	+2.6
CELP	Cerrillos	2.42	104	⇑eP	Pn	03 47 22.9	+1.3
CELP				eS	Sn	03 47 53.8	+2.0
CELP	Cerrillos	2.42	104	⇑eP	Pn	03 47 22.9	+1.3
SJG	San Juan	2.81	101	eP	Pn	03 47 26.5	-0.1
SJG	San Juan	2.81	101	ePn	Pn	03 47 26.8	+0.2
SJG				eS	Sn	03 47 59.5	-1.0
CBYP	Canovanas	3.06	97	⇑eP	Pn	03 47 30.4	+0.5
CBYP	Canovanas	3.06	97	eS	Sn	03 48 06.9	+0.5
CBYP	Canovanas	3.06	97	⇑eP	Pn	03 47 30.4	+0.5
CBYP				eS	Sn	03 48 06.9	+0.5
HUMP	Col San Antoni	3.08	99	⇓eP	Pn	03 47 30.9	+0.8
HUMP	Col San Antoni	3.08	99	eS	Sn	03 48 07.8	+0.9
HUMP	Col San Antoni	3.08	99	⇓eP	Pn	03 47 30.9	+0.8
HUMP				eS	Sn	03 48 07.8	+0.9
MTP	Monte Pirata	3.37	99	⇑eP	Pn	03 47 35.2	+1.4
MTP	Monte Pirata	3.37	99	eS	Sn	03 48 14.6	+0.9
MTP	Monte Pirata	3.37	99	⇑eP	Pn	03 47 35.2	+1.4
MTP				eS	Sn	03 48 14.6	+0.9
GRTK	Grand Turk	3.43	326	ePn	Pn	03 47 35.6	+1.0
GRTK				eS	Sn	03 48 14.1	-0.9
GTBY	Guantanamo Bay	5.86	283	ePn	Pn	03 48 06.5	-0.5
GTBY				eS	Sn	03 49 13.2	+0.2
URIC	Uribia, Colomb	7.50	203	eP	Pn	03 48 27.9	-1.3
OCAC	Ocana	11.18	202	eP	Pn	03 49 18.8	+0.2
CBRI	Barrientos, No	11.49	199	eP	Pn	03 49 21.8	-1.1
GRMC	Gramalote, San	11.49	199	eP	Pn	03 49 20.5	-2.3
BARC	Barichara	12.67	199	eP	Pn	03 49 38.0	-0.3
RUSC	La Rusia	13.30	198	eP	P	03 49 48.6	-3.1
HELC	Santa Helena	13.93	208	eP	P	03 49 56.1	-2.4
PRAC	Prado	15.93	202	eP	P	03 50 23.3	+2.8

*ISK **01** 03:49:27.7, 39°.10N×28°.99E, h8km, MD2.7*
*DDA **01** 03:49:28.1, 39°.14N×29°.02E, h7km, Md2.8*
*CSEM **01** 03:49:28.5±0.1, 39°.12N×29°.00E, h5km, MD2.8, Error ellipse: s-maj=3.6km s-min=2.9km az=130.0*
ISC 01 03:49:28.5±0.9**, 39°.11N**±0°.02×**29°.00E**±0°.02**, h11**km±8km**, n40, σ0s.46**/57**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.23	254	P	Pg	03 49 33.7	+0.3
DEMI				S	Sg	03 49 37.1	+0.4
DEMI	Demirci	0.23	254	i P	Pg	03 49 33.7	+0.3
DEMI				i S	Sg	03 49 37.1	+0.4
GDZ	Gediz	0.37	93	P	Pg	03 49 35.7	-0.3
GDZ				S	Sg	03 49 40.6	-0.3
GDZ	Gediz	0.37	93	i P	Pg	03 49 35.7	-0.3
GDZ				i S	Sg	03 49 40.6	-0.3
TVSB	Tavsanli	0.49	46	ePG	Pg	03 49 38.0	-0.2
TVSB	Tavsanli	0.49	46	ePg	Pg	03 49 38.0	-0.2
KULA	Kula-Manisa	0.65	204	ePG	Pg	03 49 40.6	-0.5
KULA				eSG	Sg	03 49 49.9	+0.2
KULA	Kula-Manisa	0.65	204	ePg	Pg	03 49 40.6	-0.5
KULA				eSg	Sg	03 49 49.9	+0.2
KHAL	Karahalli	0.83	152	P	Pg	03 49 44.7	+0.1
KHAL				S	Sg	03 49 55.2	-0.2
KHAL	Karahalli	0.83	152	i P	Pg	03 49 44.7	+0.1
KHAL				i S	Sg	03 49 55.2	-0.2
KHL	Karahalli	0.88	152	ePG	Pg	03 49 45.2	-0.3
KHL				eSG	Sb	03 49 57.6	-0.1
KHL	Karahalli	0.88	152	ePg	Pg	03 49 45.2	-0.3
KHL				eSg	Sb	03 49 57.7	-0.1
ORLT	Orhaneli	0.94	355	ePG	Pb	03 49 46.4	-0.5
ORLT	Orhaneli	0.94	355	ePg	Pb	03 49 46.4	-0.5
AKHS	Akhisar	0.95	256	P	Pn	03 49 47.7	-0.2
AKHS				S	Sb	03 50 00.6	+0.9
AKHS	Akhisar	0.95	256	i P	Pn	03 49 47.7	-0.2
AKHS				i S	Sb	03 50 00.7	+0.9
AKS	Akhisar	0.96	257	ePG	Pg	03 49 46.3	-0.6
AKS				eSG	Sb	03 49 59.5	-0.3
AKS	Akhisar	0.96	257	ePg	Pg	03 49 46.3	-0.6
AKS				eSg	Sb	03 49 59.5	-0.3
IGD	Bursa	1.16	7	i P	Pg	03 49 49.5	-1.4
IGD				i S	Sb	03 50 05.8	0.0
KCTX	Karacabey (Bur	1.26	337	ePN	Pg	03 49 52.1	-0.6
KCTX	Karacabey (Bur	1.26	337	ePn	Pg	03 49 52.1	-0.6
MDNY	Mudanya-Bursa	1.26	356	ePN	Pg	03 49 52.4	-0.4
MDNY	Mudanya-Bursa	1.26	356	ePn	Pg	03 49 52.4	-0.4
CAVI	Cavuskoy	1.27	30	ePN	Pg	03 49 52.5	-0.4
CAVI	Cavuskoy	1.27	30	ePn	Pg	03 49 52.5	-0.4
IZI	Iznik	1.28	16	ePN	Pb	03 49 52.4	-0.3
IZI	Iznik	1.28	16	ePn	Pb	03 49 52.4	-0.3
BORA	Eskisehir	1.36	55	P	Pb	03 49 54.0	-0.1
BORA				S	Sn	03 50 12.1	+0.5
BORA	Eskisehir	1.36	55	i P	Pb	03 49 54.0	-0.1
BORA				i S	Sn	03 50 12.1	+0.5
AYDB	Zeytinkoy-Aydi	1.45	217	ePN	Pn	03 49 54.9	0.0
AYDB	Zeytinkoy-Aydi	1.45	217	ePn	Pn	03 49 54.9	0.0
ARMT	Armutlu	1.46	356	ePN	Pn	03 49 55.1	+0.2
ARMT	Armutlu	1.46	356	ePn	Pn	03 49 55.1	+0.2
ESKT	Eskisehir	1.49	73	i P	Pg	03 49 57.7	+0.6
SEYT	Eskypehyr	1.49	73	P	Pg	03 49 57.7	+0.6
KNL	Bal˜–kesir	1.63	316	i P	Pg	03 50 00.9	+1.1
AYDN	Tasoluk	1.69	212	P	Pg	03 50 00.6	-0.4
AYDN	Tasoluk	1.69	212	i P	Pg	03 50 00.7	-0.4
GULT	Gulveren	1.76	41	ePN	Pn	03 49 59.5	+0.4
GULT	Gulveren	1.76	41	ePn	Pn	03 49 59.5	+0.4

IDC 01 03:55:42.8±7.1**, 6°.81S**×**147°.93E, h80**km±62km**, mb3.6**/2**, mb1 3.6**/4**, mb1mx3.3**/49**, mbtmp3.7**/4**, ML3.4**/1**, Error ellipse: s-maj=85.2km s-min=52.6km az=122.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.69	196	P	Pn	03 56 22.9	-1.1
	3.0nm,0.3s,baz=14,slow=10,SNR=7.7						
PMG				S	Sn	03 56 56.8	+1.1
	3.5nm,0.3s,baz=352,slow=15,SNR=2.7						
WRA	Warramunga Arr	18.56	224	P	P	03 59 53.5	0.0
	0.1nm,0.3s,baz=51,slow=11,SNR=5.5						
ASAR	Alice Springs	21.51	217	P	P	04 00 25.2	-0.2
	1.0nm,0.5s,baz=54,slow=8.9,SNR=9.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FITZ	Fitzroy Crossi	24.46	241	P	P	04 00 53.9	-0.5
	3.5nm,0.6s,baz=54,slow=7.7,SNR=11						
TORD	Torodi Ar. Bea	146.18	283	PKPbc	PKPbc	04 15 14.8	-0.3
	0.3nm,0.5s,baz=64,slow=3.4,SNR=7.0						

---

*ISCJB **01** 03:57:49.9±0.5, 39.°11N±0.°03×28.°99E±0.°04, h7km±6km, Error ellipse: s-maj=5.7km s-min=4.5km az=27.7*
*DDA **01** 03:57:49.8, 39.°11N×28.°99E, h7km, Md2.3*
*ISK **01** 03:57:49.3, 39.°10N×29.°00E, h6km, MD2.5*
*CSEM **01** 03:57:50.1±0.1, 39.°11N×28.°98E, h8km, MD2.3, Error ellipse: s-maj=2.1km s-min=1.6km az=95.0*
ISC 01 03:57:50.2±0.9**, 39.°11N**±0.°03×**28.°98E**±0.°03**, h11**km±9km**, n20,** σ0^{s}**23**/32**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.22	251	P	Pg	03 57 54.8	0.0
DEMI				S	Sg	03 57 58.1	+0.1
DEMI	Demirci	0.22	251	*i* P	Pg	03 57 54.8	0.0
DEMI				*i* S	Sg	03 57 58.1	+0.1
GDZ	Gediz	0.39	93	P	Pg	03 57 57.9	-0.1
GDZ				S	Sg	03 58 03.5	+0.3
GDZ	Gediz	0.39	93	*i* P	Pg	03 57 57.9	-0.1
GDZ				*i* S	Sg	03 58 03.5	+0.3
TVSB	Tavsanli	0.50	48	*e*PG	Pg	03 57 59.7	-0.4
TVSB				*e*SG	Sg	03 58 06.7	-0.1
TVSB	Tavsanli	0.50	48	*e*Pg	Pg	03 57 59.7	-0.4
TVSB				*e*Sg	Sg	03 58 06.7	-0.1
KULA	Kula-Manisa	0.65	203	*e*PG	Pg	03 58 02.5	-0.3
KULA				*e*SG	Sg	03 58 11.0	-0.2
KULA	Kula-Manisa	0.65	203	*e*Pg	Pg	03 58 02.5	-0.3
KULA				*e*Sg	Sg	03 58 11.0	-0.2
KHAL	Karahalli	0.84	151	P	Pb	03 58 06.9	0.0
KHAL				S	Sg	03 58 17.2	-0.2
KHAL	Karahalli	0.84	151	*i* P	Pb	03 58 06.9	0.0
KHAL				*i* S	Sg	03 58 17.2	-0.2
ORLT	Orhaneli	0.94	356	*e*PG	Pg	03 58 08.0	-0.2
ORLT				*e*SG	Sb	03 58 21.2	+0.4
ORLT	Orhaneli	0.94	356	*e*Pg	Pg	03 58 08.0	-0.2
ORLT				*e*Sg	Sb	03 58 21.2	+0.4
KCTX	Karacabey (Bur	1.25	338	*e*PN	Pg	03 58 14.1	-0.1
KCTX	Karacabey (Bur	1.25	338	*e*Pn	Pg	03 58 14.1	-0.1
MDNY	Mudanya-Bursa	1.26	357	*e*PN	Pg	03 58 14.1	-0.2
MDNY	Mudanya-Bursa	1.26	357	*e*Pn	Pg	03 58 14.1	-0.2
CAVI	Cavuskoy	1.28	31	*e*PN	Pn	03 58 14.1	+0.2
CAVI	Cavuskoy	1.28	31	*e*Pn	Pn	03 58 14.1	+0.2
ARMT	Armutlu	1.46	356	*e*PN	Pb	03 58 17.0	-0.2
ARMT	Armutlu	1.46	356	*e*Pn	Pb	03 58 17.0	-0.2

---

*ISCJB **01** 03:58:49.7±0.4, 6.°57S±0.°05×147.°88E±0.°08, h51km, mb4.3/21, MS3.9/11, Error ellipse: s-maj=11.2km s-min=7.3km az=4.1*
*IDC **01** 03:58:51.7±2.3, 6.°59S×147.°94E, h52km±21km, mb4.0/19, mb1 4.1/23, mb1mx4.0/52, mbtmp4.3/23, ML3.9/2, MS4.0/12, Ms1 4.0/12, ms1mx3.7/35, Error ellipse: s-maj=19.3km s-min=12.1km az=92.0*
*NEIC **01** 03:58:52.5±0.8, 6.°60S×147.°87E, h59km±7km, mb4.3/1, Error ellipse: s-maj=8.4km s-min=6.6km az=90.0*
ISC 01 03:58:51.8±0.5**, 6.°53S**±0.°06×**147.°91E**±0.°09**, h51**km**, n40,** σ**1**^{s}**12**/37**, mb4.3**/21**, MS3.9**/11**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.95	195	P	Pn	03 59 35.3	-0.9
	21nm,0.3s,baz=16,slow=9.8,SNR=28						
PMG				S	Sn	04 00 14.4	+3.9
	35nm,0.3s,baz=342,slow=20,SNR=7.4						
PMG				LR	LR	04 01 00.5	
	comp=Z,3µm,21.0s,baz=10,slow=44						
JAY	Jayapura	8.21	299	P	Pn	04 00 49.8	+1.3
	0.0nm,0.3s,baz=128,slow=20,SNR=2.2						
HNR	Honiara	12.26	104	P	Pn	04 01 45.1	+1.3
	7.9nm,0.3s,baz=143,slow=9.5,SNR=11						
HNR	Honiara	12.26	104	*e*Pn	Pn	04 01 45.1	+1.3
	215nm,1.1s						
CTA	Charters Tower	13.57	187	P	Pn	04 02 01.9	+0.2
	0.2nm,0.3s,baz=12,slow=15,SNR=6.6						
CTAO	Charters Tower	13.57	187	*e*Pn	Pn	04 02 01.8	+0.1
	26nm,0.7s						
WRAB	Tennant Creek	18.73	223	*e*P	P	04 03 04.7	-1.8
	20nm,1.0s						
WRA	Warramunga Arr	18.75	223	P	P	04 03 04.8	-1.8
	0.7nm,0.3s,baz=50,slow=11,SNR=18						
GUMO	Guam	20.21	351	LR	LR	04 11 08.5	
	comp=Z,339nm,18.4s,baz=164,slow=36						
ASAR	Alice Springs	21.72	217	P	P	04 03 37.8	-1.0
	5.0nm,0.8s,baz=58,slow=9.4,SNR=33						
ASAR				LR	LR	04 12 35.9	
	comp=Z,479nm,20.9s,baz=46,slow=38						
FITZ	Fitzroy Crossi	24.58	240	P	P	04 04 06.5	-0.7
	19nm,0.7s,baz=54,slow=8.1,SNR=44						
FITZ				LR	LR	04 15 12.1	
	comp=Z,410nm,20.1s,baz=49,slow=40						
STKA	Stephens Creek	25.90	192	P	P	04 04 17.6	-1.5
	7.7nm,0.8s,baz=16,slow=11,SNR=13						
STKA				LR	LR	04 15 28.7	
	comp=Z,627nm,18.5s,baz=12,slow=39						
KAPI	Kappang	28.05	272	LR	LR	04 17 12.4	
	comp=Z,126nm,21.3s,baz=112,slow=39						
MBWA	Marble Bar	30.90	239	*e*P	P	04 05 03.2	-0.6
	35nm,0.7s						
NWAO	Narrogin (SRO)	38.76	223	P	P	04 06 11.4	0.0
	7.7nm,0.7s,baz=270,slow=11						
LEM	Lembang	40.01	267	LR	LR	04 27 47.3	
	comp=Z,80nm,18.1s,baz=32,slow=43						
RPZ	Rata Peaks	42.24	155	P	P	04 06 38.1	-1.9
	11nm,0.8s,baz=323,slow=2.2,SNR=5.8						
JNU	Nakatsue	42.62	339	LR	LR	04 20 55.3	
	comp=Z,178nm,19.5s,baz=118,slow=31						
MJAR	Matsushiro Arr	43.80	349	P	P	04 06 52.0	-0.7
	6.5nm,1.1s,baz=172,slow=7.8,SNR=4.9						
MJAR				LR	LR	04 24 19.0	
	comp=Z,176nm,18.0s,baz=235,slow=35						
KSRS	Korea Array	47.57	338	P	P	04 07 22.2	-0.2
	3.8nm,1.1s,baz=156,slow=9.3,SNR=7.7						
KSRS				LR	LR	04 26 01.1	
	comp=Z,184nm,19.9s,baz=147,slow=34						
KSAR	Wonju Array Be	47.57	338	P	P	04 07 22.2	-0.2
PSI	Prapat	49.78	279	P	P	04 07 40.7	+0.8
	3.2nm,0.7s,baz=72,slow=20,SNR=2.7						
USRK	Ussuriysk Ar.	52.50	346	P	P	04 08 00.3	+0.6
	1.3nm,0.7s,baz=170,slow=9.5,SNR=3.5						
KLR	Kul'dur	57.30	347	P	P	04 08 34.5	+0.2
	2.7nm,0.9s,baz=196,slow=4.6,SNR=5.2						
PETK	Petropavlovsk-	59.99	7	P	P	04 08 53.8	+0.9
	6.0nm,0.8s,baz=90,slow=1.5,SNR=5.4						
SONM	Songino Array	65.31	331	P	P	04 09 29.1	+0.4
	2.8nm,1.0s,baz=160,slow=4.7,SNR=3.8						
SEY	Seymchan	69.35	2	P	P	04 09 54.0	+0.3
	1.0nm,0.5s,baz=180,slow=20,SNR=4.2						
VNDA	Vanda	71.34	177	P	P	04 10 05.8	+0.1
	1.2nm,0.7s,baz=339,slow=7.3,SNR=4.3						
MKAR	Makanchi Array	78.48	320	P	P	04 10 47.4	-0.1
	0.6nm,0.5s,baz=104,slow=8.7,SNR=4.4						
TIXI	Tiksi	79.03	354	P	P	04 10 49.1	-0.8
	1.3nm,0.4s,baz=115,slow=14,SNR=3.4						
ZALV	Zalesovo Beam	79.94	328	P	P	04 10 55.1	-0.1
	0.6nm,0.3s,baz=107,slow=4.8,SNR=3.3						
ZALV				LR	LR	04 45 49.0	
	comp=Z,134nm,20.6s,baz=72,slow=35						
KURK	Kurchatov	82.17	323	P	P	04 11 07.3	+0.1
KURBB	Kurchatov Arra	82.19	323	P	P	04 11 07.3	0.0
	0.6nm,0.7s,baz=109,slow=5.4,SNR=3.7						
QSPA	South Pole Qui	83.44	180	*e*P	P	04 11 13.8	+0.1
	34nm,1.1s						
ILAR	Eielson Array	85.61	23	P	P	04 11 23.1	-1.4
	1.9nm,0.9s,baz=257,slow=4.9,SNR=6.2						
ILAR				LR	LR	04 45 05.8	
	comp=Z,46nm,21.9s,baz=184,slow=32						
GERES	GERESS Array B	122.85	326	PKP	PKPdf	04 17 42.7	+0.2
	0.5nm,0.6s,baz=93,slow=2.7,SNR=6.6						
LPAZ	La Paz	137.74	123	PKP	PKPdf	04 18 13.2	+1.0
	4.1nm,1.3s,baz=312,slow=2.1,SNR=4.6						
SAML	Samuel	145.40	116	*e*PKPdf	PKPab	04 18 25.3	-0.1
TORD	Torodi Ar. Bea	146.10	284	PKPbc	PKPab	04 18 28.0	0.0
	6.2nm,1.0s,baz=63,slow=3.2,SNR=36						
BDFB	Brasilia	152.91	145	PKPbc	PKPbc	04 18 44.8	+0.2
	2.9nm,1.0s,baz=184,slow=5.2,SNR=4.3						

---

*NIED **01** 04:00:00, 36.°70N×142.°20E, h20km, Mw4.5 Best double couple: M0 6.50000×10^15 NP1:φs205.00000°, δ21.00000°, λ91.00000°. NP2:φs24.00000°, δ69.00000°, λ90.00000°.*
*IDC **01** 04:00:00.9±0.6, 36.°79N×142.°06E, h0km, mb4.3/28, mb1 4.4/33, mb1mx4.3/55, mbtmp4.3/33, ML3.9/4, MS3.9/15, Ms1 3.9/15, ms1mx3.5/45, Error ellipse: s-maj=16.1km s-min=12.7km az=124.0*
*JMA **01** 04:00:01.0±0.4, 36.°72N×142.°24E, h16km±4km, M4.5*
*BJI **01** 04:00:04.4, 36.°98N×141.°69E, h23km, mb4.6/34, mB4.9/19, Ms4.5/15, Ms7 4.2/15*
*ISCJB **01** 04:00:05.2±0.6, 36.°70N±0.°03×141.°96E±0.°05, h42km±4km, mb4.5/66, MS4.0/11, Error ellipse: s-maj=6.4km s-min=4.1km az=20.5*
*NEIC **01** 04:00:07.3±0.8, 36.°82N×141.°89E, h40km±7km, mb4.6/31, Error ellipse: s-maj=9.1km s-min=5.7km az=141.0*
*MOS **01** 04:00:08.1±1.2, 37.°26N×141.°70E, h39km, mb4.7/30, Error ellipse: s-maj=8.8km s-min=6.0km az=110.2*
ISC 01 04:00:05.6±0.8**, 36.°78N**±0.°03×**141.°87E**±0.°04**, h29**km±5km**, n187,** σ**1**^{s}**98**/207**, mb4.5**/66**, MS4.1**/11**, 12C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.92	291	P	Pn	04 00 23.1	+0.6
JFK	Kawauchi	0.99	306	P	Pn	04 00 23.5	0.0
JFK				*e*S	Sn	04 00 40.8	+4.3
JHO	Hitachi	1.06	261	P	Pb	04 00 25.0	-0.3
JMM	Marumori	1.38	322	P	Pn	04 00 29.1	+0.3
JMM				S	Sb	04 00 50.4	+2.4
JFT	Otama	1.43	301	P	Pb	04 00 31.1	-0.5
JFT				S	Sb	04 00 53.3	+3.9
JIO	Ouri	1.72	346	P	Pn	04 00 33.3	-0.2
JIO				S	Sb	04 00 56.7	-1.0
JFY	Yanaizu	1.84	290	P	Pb	04 00 37.0	-1.6
JFY				*e*S	Sb	04 01 04.7	+3.5
JOU	Okura	1.85	329	P	Pn	04 00 36.8	+1.5
JOU				S	Sb	04 01 03.0	+1.6
JAG	Ashikaga	1.98	260	P	Pn	04 00 38.4	+1.3
JAG				*e*S	Sb	04 01 06.0	+0.8
JMK	Ichinoseki	2.23	347	P	Pn	04 00 40.6	+0.2
JMK				S	Sn	04 01 08.6	+1.7
BSO1	Boso 1	2.25	199	P	Pn	04 00 38.6	-1.6
BSO1				*e*S	Sn	04 01 06.0	-0.7
JNS	Sasagawa	2.29	298	P	Pn	04 00 42.4	+1.1
JNS				*e*S	Sb	04 01 14.5	+0.6
JYK	Kaneyama	2.44	331	P	Pn	04 00 44.5	+1.0
JRY	Ryogami san	2.52	253	P	Pn	04 00 45.7	+1.2
JRY				*e*S	Sb	04 01 18.7	-1.9
MJAR	Matsushiro Arr	2.96	266	Pn	Pn	04 00 52.8	+2.3
	42nm,0.3s,baz=99,slow=9.0,SNR=308						
MJAR				Sn	Sn	04 01 27.1	+2.0
	15nm,0.3s,baz=93,slow=14,SNR=5.4						
MJAR				LR	LR	04 02 12.6	
	comp=Z,1µm,19.0s,baz=105,slow=43						
MAJO	Matsushiro	2.96	266	⇓*i*P	Pn	04 00 52.7	+2.2
MAJO	Matsushiro	2.96	266	*e*Pn	Pn	04 00 53.6	+3.0
MAJO				*e*Sn	Sn	04 01 16.1	-9.0
MJB9	Matsu-Tunnel	2.96	266	*e*Pn	Pn	04 00 53.6	+3.0
MJB9				*e*Sn	Sn	04 01 15.8	-9.3
JHJ2	Mitsune	4.03	205	*e*Pn	Pn	04 01 05.2	-0.1
JHJ2				*e*Sn	Sn	04 01 46.3	-5.3
JHJ	Hachijo jima 2	4.04	206	Pn	Pn	04 01 04.6	-0.8
	50nm,0.3s,baz=41,slow=20,SNR=5.6						
JHJ				Sn	Sn	04 01 48.5	-3.2
	145nm,0.3s,baz=238,slow=21,SNR=7.2						
INU	Inuyama	4.19	251	*e*Pn	Pn	04 01 09.7	+2.3
INU				*e*Sn	Sn	04 01 48.1	-7.2
ERM	Erimo	5.32	10	*ce*P	Pn	04 01 20.3	-2.6
ERM				pmax	pmax		
	comp=Z,49nm,1.0s						
ERM	Erimo	5.32	10	*e*Pn	Pn	04 01 23.1	+0.1
ERM				*e*Sn	Sn	04 02 16.5	-6.7
ASAJ	Asahikawa	7.35	4	Pn	Pn	04 01 49.3	-1.5
	comp=Z,1.9nm,0.3s,baz=248,slow=7.3,SNR=7.4						
ASAJ				Sn	Sn	04 03 10.8	-2.2
	comp=Z,1.4nm,0.3s,baz=307,slow=20,SNR=3.0						
ASAJ	Asahikawa	7.35	4	*e*Pn	Pn	04 01 49.5	-1.2
ASAJ				*e*Sn	Sn	04 03 05.2	-7.9
CBIJ	Chichi jima	9.66	178	Pn	Pn	04 02 18.6	-4.0
CBIJ				Sn	Sn	04 03 54.7	-15
JCJ	Chichijima	9.66	178	Pn	Pn	04 02 18.6	-4.0
	comp=Z,4.9nm,0.3s,baz=286,slow=19,SNR=2.7						
JCJ				Sn	Sn	04 03 54.7	-15
	comp=Z,12nm,0.3s,baz=282,slow=20,SNR=3.9						
JNU	Nakatsue	9.73	251	Pn	Pn	04 02 26.3	+2.6
	comp=Z,0.5nm,0.3s,baz=148,slow=2.5,SNR=5.7						
JNU				LR	LR	04 06 26.4	
	comp=Z,408nm,18.4s,baz=108,slow=39						
JNU	Nakatsue	9.73	251	*e*Pn	Pn	04 02 20.2	-3.4
YSS	Yuzh-Sakhalins	10.18	3	*e*P	Pn	04 02 27.7	-1.9
YSS				MLR	MLR		
	comp=Z,700nm,11.0s						
YSS	Yuzh-Sakhalins	10.18	3	*e*Pn	Pn	04 02 28.4	-1.2
YSS				*e*Sn	Sn	04 04 27.9	+5.1
USRK	Ussuriysk Ar.	10.55	318	Pn	Pn	04 02 38.1	+3.4
	comp=Z,0.3nm,0.3s,baz=120,slow=14,SNR=3.8						
USRK				LR	LR	04 06 27.9	
	comp=Z,903nm,18.9s,baz=119,slow=36						
KSRS	Korea Array	11.16	278	Pn	Pn	04 02 46.7	+3.6
	comp=Z,0.2nm,0.3s,baz=92,slow=14,SNR=15						
KSRS				LR	LR	04 07 10.7	
	comp=Z,756nm,18.1s,baz=92,slow=38						
KS01	Wonju Array Si	11.18	278	*e*Pn	Pn	04 02 44.7	+1.3
KSAR	Wonju Array Be	11.19	278	P	Pn	04 02 46.7	+3.2
KSAR	Wonju Array Be	11.19	278	Pn	Pn	04 02 46.7	+3.2
MDJ	Mudanjiang	12.16	314	P	Pn	04 02 55.3	-1.4
MDJ				S	Sn	04 05 07.8	-3.4
MDJ				ScP	ScP	04 12 08.1	-1.9
MDJ				PcS	PcS	04 12 15.1	+1.9
MDJ				PMZ			
	comp=Z,10.0nm,1.6s						
MDJ				PMZ			
	comp=Z,130nm,3.2s						
MDJ				LN			
	comp=Z,460nm,16.7s						
MDJ				LE			
	comp=Z,410nm,14.7s						
MDJ				LZ			
	comp=Z,760nm,17.7s						
CN2	Changchun	14.35	304	*e*P	P	04 03 32.6	-0.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,600nm,12.0s						
CN2				LR	LR		
	comp=E,500nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
KLR	Kul'dur	14.46	333	Pn	Pn	04 03 30.2	+2.2
	comp=Z,0.3nm,0.3s,baz=141,slow=13,SNR=3.7						
KLR				LR	LR	04 08 42.3	
	comp=Z,425nm,20.7s,baz=139,slow=36						
PEA0	Petropavlovsk-	19.72	29	*e*P	P	04 04 32.3	-0.3
PEA0B	Petropavlovsk-	19.72	29	*e*P	Pn	04 04 33.7	-0.4
	comp=Z,21nm,1.1s						
PETK	Petropavlovsk-	19.72	29	P	P	04 04 32.6	+0.1
	baz=209,slow=12,SNR=4.4						
TIA	Tai'an	19.90	276	⇑P	Pn	04 04 37.7	+1.3
TIA				PMZ			
	comp=Z,10.0nm,0.7s						
TIA				PMZ			
	comp=Z,220nm,8.9s						
TIA				LN			
	comp=Z,290nm,13.7s						
TIA				LE			
	comp=Z,600nm,13.1s						
TIA				LZ			
	comp=Z,680nm,14.9s						
PET	Petropavlovsk	20.04	31	*e*P	Pn	04 04 39.1	+1.2
PET				pmax	pmax		
	comp=Z,21nm,0.8s						
PET	Petropavlovsk	20.04	31	*e*P	Pn	04 04 39.1	+1.2
	comp=Z,21nm,0.8s						
HIA	Hailar	20.34	315	*e*P	P	04 04 37.5	-1.9
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	Hailar	20.34	315	*e*P	P	04 04 37.5	-1.9
	comp=Z,9.1nm,0.8s						
BJT	Baijiatuau	20.38	287	*e*P	P	04 04 38.5	-1.3
BJT				*e*S	S	04 08 10.6	-16
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
BJT	Baijiatuau	20.38	287	*e*P	P	04 04 38.5	-1.3
	comp=Z,13nm,0.8s						
BJT				*e*S	S	04 08 10.6	-16
MA2	Magadan	23.52	11	P	P	04 05 11.9	-1.0
	comp=Z,5.6nm,0.6s,baz=208,slow=12,SNR=4.8						
MA2				LR	LR	04 13 49.5	
	comp=Z,85nm,18.4s,baz=166,slow=35						
WHN	Wuhan	23.69	263	⇑P	P	04 05 15.7	+0.9
HHC	Hu-ho-hao-te	23.90	289	*e*P	P	04 05 19.5	+2.7
HHC	Hu-ho-hao-te	23.90	289	*e*P	P	04 05 16.6	-0.2
HHC				PMZ			
	comp=Z,14nm,1.1s						
HHC				PMZ			
	comp=Z,260nm,8.9s						
CIT	Chita	25.11	316	*e*P	P	04 05 29.0	+1.3
CIT				*e*		04 05 39.8	
CIT				*e*		04 05 47.0	
YAK	Yakutsk	26.39	347	P	P	04 05 38.1	-0.9
	comp=Z,3.2nm,0.4s,baz=341,slow=24,SNR=4.6						
YAK				LR	LR	04 16 37.3	
	comp=Z,258nm,19.4s,baz=168,slow=38						
YAK	Yakutsk	26.39	347	*e*P	P	04 05 38.2	-0.9
YAK				pmax	pmax		
	comp=Z,39nm,0.8s						
YAK				pmax	pmax		
	comp=N,19nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK	Yakutsk	26.39	347	*e*P	P	04 05 38.6	-0.5
	comp=E,41nm,0.7s						
XAN	Xi'an	26.92	274	P	P	04 05 44.2	-0.1
XAN				PMZ			
	comp=E,8.0nm,0.8s						
SEY	Seymchan	26.97	11	P	P	04 05 44.8	+0.6
	comp=E,4.8nm,0.7s,baz=195,slow=7.6,SNR=18						
SEY	Seymchan	26.97	11	*ce*P	P	04 05 44.2	-0.1
ENH	Enshi	27.68	266	*e*P	P	04 05 51.6	+0.5
	comp=E,24nm,0.8s						
H11N2	WAKE ISLAND Hy	27.70	121	T	T	04 35 05.3	
	baz=315,slow=75,SNR=32						
H11N1	WAKE ISLAND Hy	27.71	121	T	T	04 34 33.4	
	baz=315						
H11N3	WAKE ISLAND Hy	27.72	121	T	T	04 35 19.7	
	baz=315,slow=75,SNR=31						
ULN	Ulaanbaatar	27.80	304	*ce*P	P	04 05 53.2	+1.1
ULN				pmax	pmax		
	comp=Z,17nm,1.2s						
ULN	Ulaanbaatar	27.80	304	*e*P	P	04 05 51.0	-1.1
	comp=Z,12nm,1.0s						
BOD	Bodaibo	27.94	328	*e*P	P	04 05 52.4	-0.6
BOD				pmax	pmax		
	comp=Z,11nm,1.0s						
SONA1	Songino Array	28.23	304	*e*P	P	04 05 56.7	+0.7
SONM	Songino Array	28.23	304	P	P	04 05 56.5	+0.6
	comp=Z,9.9nm,0.8s,baz=103,slow=9.4,SNR=30						
SONM				LR	LR	04 18 03.6	
	comp=Z,207nm,18.5s,baz=52,slow=38						
H11S1	WAKE ISLAND Hy	28.41	123	T	T	04 36 24.2	
	baz=315,slow=75,SNR=36						
H11S3	WAKE ISLAND Hy	28.41	123	T	T	04 36 21.6	
	baz=315,slow=75,SNR=39						
H11S2	WAKE ISLAND Hy	28.43	123	T	T	04 36 17.4	
	baz=315,slow=75,SNR=26						
LZH	Lanzhou	30.47	280	*e*P	P	04 06 16.0	0.0
LZH				pP	sP	04 06 25.4	-2.7
LZH				sP	pP	04 06 29.3	+4.7
LZH				PP	PnPn	04 07 17.4	+2.3
LZH				*e*S	S	04 11 05.2	-10
LZH				SS	SnSn	04 12 52.3	-0.1
LZH				PMZ			
	comp=Z,26nm,1.0s						
LZH				PMZ			
	comp=Z,86nm,4.9s						
LZH				LN			
	comp=Z,2µm,15.4s						
LZH				LE			
	comp=Z,2µm,15.0s						
LZH				LZ			
	comp=Z,2µm,15.4s						
ZAK	Zakamensk	30.71	309	*e*P	P	04 06 16.4	-1.5
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TLY	Talaya	30.77	311	P	P	04 06 18.5	+0.2
	comp=Z,6.6nm,0.5s,baz=1.8,slow=14,SNR=4.5						
TLY	Talaya	30.77	311	*e*P	P	04 06 20.2	+1.9
TLY				pmax	pmax		
	comp=Z,13nm,0.8s						
TLY				MLR	MLR		
	comp=Z,441nm,20.0s						
GYA	Guiyang	31.54	261	⇑*i*P	P	04 06 24.9	-0.5
GYA				pP	sP	04 06 36.7	-0.9
GYA				PP	PnPn	04 07 31.0	+1.9
GYA				PcP	PcP	04 09 20.2	+2.5
GYA				S	S	04 11 30.8	-1.5
GYA				sS	sS	04 11 47.5	+1.0
GYA				ScP	ScP	04 12 58.9	+0.1
GYA				SS	SnSn	04 13 18.2	-0.4
GYA				ScS	ScS	04 16 55.0	-1.9
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,4.9s						
GYA				LN			
	comp=Z,510nm,15.6s						
GYA				LE			
	comp=Z,480nm,15.2s						
GYA				LZ			
	comp=Z,420nm,16.7s						
GTA	Gaotai	32.99	288	*e*P	P	04 06 39.0	+1.0
GTA				pP	sP	04 06 51.8	+1.6
GTA				PcP	PcP	04 09 20.8	-0.7
GTA				PMZ			
	comp=Z,8.0nm,1.1s						
BILL	Bilibino	34.16	16	*i* P	P	04 06 46.9	-0.8
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMI	Kunming	35.29	262	P	P	04 07 08.0	+10
KMI				pmax	pmax		
	comp=Z,18nm,1.0s						
TIXI	Tiksi	35.58	353	P	P	04 06 59.0	-0.9
	comp=Z,1.8nm,0.5s,baz=138,slow=6.4,SNR=3.6						
TIXI	Tiksi	35.58	353	*ce*P	P	04 06 58.8	-1.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TIXI	Tiksi	35.58	353	*e*P	P	04 06 59.2	-0.7
	comp=Z,11nm,1.7s						
MYLDM	Lahad Datu	38.05	220	*e*P	P	04 07 21.9	+0.4
	comp=Z,19nm,1.1s						
CMAR	Chiang Mai Arr	41.79	256	P	P	04 07 53.8	+1.2
	comp=Z,1.3nm,0.5s,baz=49,slow=7.3,SNR=5.0						
CMAR	Chiang Mai Arr	41.79	256	*ce*P	P	04 08 05.9	+13
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAA0	Zalesovo Array	42.35	313	*e*P	P	04 07 57.1	+0.4
ZALV	Zalesovo Beam	42.35	313	P	P	04 07 57.7	+0.9
	comp=Z,4.7nm,0.7s,baz=90,slow=7.4,SNR=19						
ZALV				PcP	PcP	04 09 49.5	-0.3
	comp=Z,1.4nm,0.6s,baz=84,slow=4.6,SNR=4.0						
ZALV				LR	LR	04 26 28.2	
	comp=Z,292nm,18.5s,baz=72,slow=37						
NVS	Novosibirsk	43.28	314	*e*P	P	04 07 59.7	-4.5
NRIK	Noril'sk	43.65	335	P	P	04 08 07.0	-0.1
	comp=Z,1.3nm,0.3s,baz=108,slow=8.2,SNR=4.9						
NRIK				LR	LR	04 28 04.8	
	comp=Z,243nm,19.3s,baz=114,slow=38						
NRIK	Noril'sk	43.65	335	P	P	04 08 07.0	-0.1
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NRIK				MLR	MLR		
	comp=Z,243nm,19.3s						
MK01	Makanchi Array	44.56	302	*e*P	P	04 08 15.4	+0.7
MK31	Makanchi Array	44.56	302	*e*P	P	04 08 15.2	+0.4
MK31	Makanchi Array	44.56	302	*e*P	P	04 08 15.2	+0.4
MKAR	Makanchi Array	44.56	302	P	P	04 08 15.6	+0.8
	comp=Z,4.2nm,0.7s,baz=87,slow=9.8,SNR=27						
MKAR				LR	LR	04 26 52.8	
	comp=Z,156nm,18.5s,baz=42,slow=36						
MAKZ	Makanchi	44.77	302	*e*P	P	04 08 17.3	+0.9
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAKZ	Makanchi	44.77	302	*e*P	P	04 08 17.3	+0.9
	comp=Z,6.5nm,0.9s						
KURK	Kurchatov	46.38	308	P	P	04 08 30.0	+1.0
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURK	Kurchatov	46.38	308	*e*P	P	04 08 29.4	+0.5

	comp=Z,16nm,0.7s						
KAPI	Kappang	46.44	211	P	P	04 08 30.0	+0.3
	comp=Z,2.9nm,0.3s,baz=66,slow=19,SNR=2.3						
KURBB	Kurchatov Arra	46.45	308	P	P	04 08 30.0	+0.5
	comp=Z,5.0nm,0.6s,baz=83,slow=8.0,SNR=55						
CAST	Castle Rocks	47.23	34	eP	P	04 08 38.3	+2.8
	comp=Z,5.8nm,0.8s						
GUN	Gumba	47.55	276	eP	P	04 08 39.0	+0.1
MLY	Manley	47.87	32	eP	P	04 08 42.2	+1.8
	comp=Z,7.1nm,0.8s						
KKN	Kakani	48.08	276	eP	P	04 08 43.5	+0.7
	comp=Z,27nm,0.7s						
GKN	Gorkha	48.50	277	eP	P	04 08 46.6	+0.6
	comp=Z,48nm,0.8s						
MDM	Murphy Dome	48.93	32	eP	P	04 08 48.9	+0.3
	comp=Z,8.7nm,0.7s						
WRH	Wood River Hil	49.00	33	eP	P	04 08 51.0	+1.9
	comp=Z,15nm,1.6s						
KOLN	Koldanda	49.43	277	eP	P	04 08 54.3	+1.1
	comp=Z,9.9nm,0.7s						
ILAR	Eielson Array	49.51	32	P	P	04 08 51.5	-1.5
	comp=Z,2.8nm,0.8s,baz=264,slow=6.2,SNR=20						
ILB	Eielson Array	49.51	32	eP	P	04 08 52.0	-1.1
IL1	Eielson Array	49.51	32	eP	P	04 08 55.7	+2.7
PYUN	Piuthan	49.77	278	eP	P	04 08 56.6	+0.8
TKM2	Tokmak 2	50.07	299	eP	P	04 08 58.2	+0.3
TKM2				pmax	pmax		
	comp=Z,15nm,1.2s						
TKM2	Tokmak 2	50.07	299	eP	P	04 08 58.2	+0.3
	comp=Z,16nm,1.2s						
DIV	Divide	50.25	37	eP	P	04 09 00.9	+2.1
	comp=Z,10nm,1.0s						
AAK	Ala-Archa	50.93	299	P	P	04 09 05.5	+1.2
	comp=Z,1.8nm,0.6s,baz=131,slow=5.5,SNR=3.6						
ZRNK	Zerenda	51.85	313	eP	P	04 09 11.5	+0.7
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZRNK	Zerenda	51.85	313	eP	P	04 09 11.5	+0.7
	comp=Z,4.1nm,0.8s						
KKAR	Karatay Array	53.57	300	eP	P	04 09 23.7	0.0
KKAR				e		04 11 21.2	
KKAR	Karatay Array	53.57	300	eP	P	04 09 23.7	0.0
KKAR				ePP	PP	04 11 21.2	-3.1
INK	Inuvik	54.44	27	eP	P	04 09 33.3	+3.7
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	Inuvik	54.44	27	eP	P	04 09 33.3	+3.7
	comp=Z,4.4nm,0.6s						
ARU	Arti	56.79	319	eP	P	04 09 47.0	+0.3
ARU				pmax	pmax		
	comp=Z,23nm,1.4s						
ARU	Arti	56.79	319	eP	P	04 09 47.0	+0.3
	comp=Z,23nm,1.4s						
WRA	Warramunga Arr	56.87	188	P	P	04 09 46.6	-1.0
	comp=Z,1.0nm,0.8s,baz=5.8,slow=7.1,SNR=5.3						
ABKAR	Akbulak array	58.38	310	eP	P	04 09 58.3	+0.2
ABKAR				ePP	PP	04 12 00.3	-6.7
ASAR	Alice Springs	60.59	188	P	P	04 10 13.5	0.0
	comp=Z,1.2nm,0.9s,baz=5.0,slow=6.2,SNR=7.3						
DZM	Mont Dzumac	62.97	154	eP	P	04 10 32.8	+3.3
	comp=Z,128nm,2.0s						
YKA	Yellowknife Ar	63.84	30	P	P	04 10 33.7	-1.1
	comp=Z,0.9nm,0.8s,baz=302,slow=6.8,SNR=10						
KLMR	Klimovskoe	64.16	328	P	P	04 10 35.8	-1.1
KLMR				e*SP	sP	04 10 49.0	-0.6
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GEYT	Alibeck	64.28	299	P	P	04 10 39.0	+0.8
	comp=Z,1.2nm,0.5s,baz=48,slow=2.2,SNR=6.2						
ARCES	ARCESS Array B	64.36	340	P	P	04 10 39.2	+1.1
	comp=Z,1.0nm,0.7s,baz=50,slow=8.4,SNR=3.0						
ARCES				LR	LR	04 41 24.5	
	comp=Z,89nm,19.4s,baz=70,slow=39						
OBN	Obninsk	68.52	323	eP	P	04 11 04.1	-0.8
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LPSR	Galich'ya Gora	68.73	320	eP	P	04 11 05.6	-0.7
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FINES	FINESS Array B	69.21	332	P	P	04 11 07.8	-1.2
	comp=Z,4.0nm,0.8s,baz=40,slow=3.2,SNR=10						
FINES	FINESS Array B	69.21	332	ceP	P	04 11 09.0	-0.1
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VSR	Storozhevoye	69.36	319	eP	P	04 11 09.4	-0.8
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ZEI	Tsey	71.24	310	eP	P	04 11 21.0	-1.2
ZEI				pmax	pmax		
	comp=Z,15nm,1.0s						
KBZ	Khabaz	71.34	311	P	P	04 11 23.2	+0.7
	comp=Z,5.6nm,0.9s,baz=62,slow=2.2,SNR=13						
KIV	Kislovodsk	71.35	311	eP	P	04 11 24.0	+1.3
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
LRM	Limekiln Ridge	74.07	44	eP	P	04 11 42.5	+3.5
DLMT	Dillon	74.26	45	eP	P	04 11 42.2	+2.3
	comp=Z,7.0nm,1.3s						
NB2	NORSAR Subarra	74.56	337	P	P	04 11 41.1	-0.2
	comp=Z,3.9nm,0.8s,baz=40,slow=5.9						
NOA	NORSAR Array B	74.56	337	P	P	04 11 41.5	+0.2
	comp=Z,2.5nm,0.8s,baz=41,slow=5.7,SNR=7.3						
NOA				LR	LR	04 48 20.6	
	comp=Z,100nm,19.1s,baz=55,slow=39						
BOZ	Bozeman (W)	74.63	44	eP	P	04 11 48.7	+6.5
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOZ	Bozeman (W)	74.63	44	eP	P	04 11 48.7	+6.5
	comp=Z,2.9nm,0.7s						
AKASG	Malin Array Be	74.72	323	P	P	04 11 42.4	0.0
	comp=Z,3.5nm,0.6s,baz=48,slow=6.0,SNR=15						
AKASG				LR	LR	04 48 06.9	
	comp=Z,96nm,18.9s,baz=345,slow=39						
AKASG	Malin Array Be	74.72	323	ceP	P	04 11 42.4	0.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIEV	Kiev	74.73	323⇓	iP	P	04 11 41.9	-0.5
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIEV	Kiev	74.73	323	eP	P	04 11 42.4	0.0
	comp=Z,5.8nm,0.8s						
AK11	Malin Array Si	74.76	323	eP	P	04 11 42.8	+0.2
NV01	Mina Array Sit	74.84	53	eP	P	04 11 46.7	+3.1
NVAR	Mina Array Bea	74.84	53	P	P	04 11 44.4	+0.8
	comp=Z,0.6nm,0.8s,baz=311,slow=5.9,SNR=2.7						
H17A	Grant Village	75.99	45	eP	P	04 11 52.5	+2.4
	comp=Z,5.8nm,1.0s						
DAC	Darwin (Calif)	76.55	55	eP	P	04 11 57.4	+4.1
DAC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DAC	Darwin (Calif)	76.55	55	eP	P	04 11 57.4	+4.1
	comp=Z,3.2nm,0.8s						
DUG	Dugway, Tooele	77.24	49	eP	P	04 12 02.8	+5.7
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DUG	Dugway, Tooele	77.24	49	eP	P	04 12 02.8	+5.7
	comp=Z,2.6nm,0.8s						
BW06	Boulder Array	77.58	46	eP	P	04 11 59.2	+0.2
PDAR	Pinedale Array	77.58	46	P	P	04 11 58.8	-0.3
	comp=Z,1.5nm,0.9s,baz=300,slow=2.9,SNR=3.7						
BUR08	Bucovina Ar. S	78.72	322	eP	P	04 12 06.1	+0.9
LCMT	Little Creek M	78.91	52	eP	P	04 12 07.3	+0.9
	comp=Z,2.6nm,0.8s						
P17A	Butcher Ranch,	78.94	49	eP	P	04 12 04.8	-1.8
	comp=Z,6.6nm,0.9s						
BR131	Keskin Array S	79.29	312	eP	P	04 12 09.8	+1.4
BRTR	Keskin Array B	79.29	312	P	P	04 12 09.0	+0.5
	comp=Z,2.3nm,1.0s,baz=108,slow=4.0,SNR=13						
BRTR	Keskin Array B	79.29	312	ceP	P	04 12 09.8	+1.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SRU	San Rafael Swe	79.30	49	eP	P	04 12 11.5	+2.9
SRU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SRU	San Rafael Swe	79.30	49	eP	P	04 12 11.5	+2.9
	comp=Z,5.7nm,0.7s						
STHS	Stebnicka Huta	79.38	325	eP	P	04 12 08.8	+0.2
STHS				pmax	pmax		
	comp=Z,4.0nm,1.2s						
STHS	Stebnicka Huta	79.38	325	eP	P	04 12 08.8	+0.2
BR231	Keskin MP Arra	79.73	312	eP	P	04 12 09.8	-1.0
DPC	Dobruska-Polom	80.86	328	eP	P	04 12 17.5	+0.9
DPC	Dobruska-Polom	80.86	328	eP	P	04 12 17.5	+0.9
PV01	Paradox Valley	81.10	49	eP	P	04 12 19.7	+1.3
CLL	Collm	81.50	330	iP	P	04 12 19.6	-0.3
	comp=Z,10.0nm,1.4s						
CLL	Collm	81.50	330	iP	P	04 12 19.6	-0.3
CLL				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KHC	Kasperske Hory	82.95	329	eP	P	04 12 28.0	+0.4
KHC	Kasperske Hory	82.95	329	eP	P	04 12 28.0	+0.4
GERES	GERESS Array B	83.12	328	P	P	04 12 28.4	-0.1
	comp=Z,1.4nm,0.8s,baz=39,slow=5.1,SNR=9.6						
GERES				LR	LR	04 51 40.8	
	comp=Z,86nm,18.8s,baz=12,slow=37						
GEA0	GERESS Array S	83.12	328	eP	P	04 12 28.1	-0.5
ANMO	Albuquerque	84.47	50	eP	P	04 12 37.2	+1.3
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ANMO	Albuquerque	84.47	50	eP	P	04 12 37.2	+1.3
	comp=Z,3.4nm,1.1s						
BFO	Black Forest	85.70	331	ceP	P	04 12 42.1	+0.5
FUORN	Ofenpass-Fuorn	86.30	329	eP	P	04 12 45.8	+0.9
	comp=Z,5.6nm,1.0s						
TXAR	Lajitas Array	89.98	53	P	P	04 13 03.2	+0.7
	comp=Z,0.8nm,0.8s,baz=321,slow=1.6,SNR=3.9						
LPAZ	La Paz	146.50	60	PKPbc	PKPdf	04 19 43.7	0.0
	comp=Z,1.3nm,0.8s,baz=302,slow=3.3,SNR=5.4						

*CSEM **01** 04:00:12.1±0.2,45°.96N×15°.05E,h1km,ML0.6,Error ellipse: s-maj=5.9km s-min=3.5km az=35.0,Suspected Mining explosion.*

LJU 01 04:00:13.7,45°.62N×15°.33E,h0km,ML0.6,4C Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	Bojanci	0.13	206⇑	iPg	Pg	04 00 16.1	0.0
BOJS				i Sg	Sg	04 00 18.0	+0.3
	comp=Z,58nm,0.1s						
BOJS	Bojanci	0.13	206⇑	iPg	Pg	04 00 16.1	0.0
CRES	Cresnjev	0.23	23⇑	iPg	Pg	04 00 18.1	+0.1
	comp=Z,2.0nm,0.1s						
CRES	Cresnjev	0.23	23⇑	iPg	Pg	04 00 18.1	+0.1
	comp=Z,2.0nm,0.1s						
GBRS	Gornja Briga	0.38	257	i Pg	Pg	04 00 21.3	+0.4
GBRS				i Sg	Sg	04 00 26.3	+0.5
	comp=Z,1.0nm,0.1s						

JMA 01 04:00:15.1,37°.01N×140°.78E,h7km±1km,M1.2,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.09	9	P	Pg	04 00 17.4	+0.1
ONAJ				S	Sg	04 00 19.0	+0.1
JFK	Kawauchi	0.36	12	P	Pg	04 00 22.3	+0.1
JHO	Hitachi	0.43	203	P	Pg	04 00 23.5	0.0
JFT	Otama	0.62	325	P	Pg	04 00 27.2	+0.2

*VIE **01** 04:00:26.1±0.2,46°.91N×13°.94E,h0km,mb1.0/2,ML1.7/6, Error ellipse: s-maj=1.6km s-min=1.1km az=14.0*

CSEM 01 04:00:26.1,46°.91N×13°.94E,h0km,ML1.7/6,1C,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	Terra Mystica	0.35	217	Pg	Pg	04 00 33.3	+0.5
	0.9nm,0.0s						
MYKA				Sg	Sg	04 00 37.9	+0.6
	5.6nm,0.1s						
KBA	Koelnbreinsper	0.44	292	Pg	Pg	04 00 34.6	0.0
	2.3nm,0.1s						
KBA				Sg	Sg	04 00 40.4	+0.1
	19nm,0.1s						
ACOM	Acomizza, Ital	0.47	219⇑	ePg	Pg	04 00 35.8	+0.7
ACOM				eSg	Sg	04 00 41.9	+0.8
ACOM	Acomizza, Ital	0.47	219	ePg	Pg	04 00 35.8	+0.7
ACOM				eSg	Sb	04 00 50.8	+5.9
OBKA	Obir	0.58	134	Pg	Pg	04 00 37.0	-0.2
	0.5nm,0.1s						
OBKA				Sg	Sg	04 00 45.7	+1.1
	5.3nm,0.1s						
ZOU	Zoufplan	0.76	242	ePg	Pg	04 00 40.8	+0.2
ZOU				eSg	Sg	04 00 50.8	+0.4
SOKA	Soboth	0.78	107	Pg	Pg	04 00 40.6	-0.5
	0.7nm,0.1s						
SOKA				Sg	Sg	04 00 52.1	+0.9
	0.6nm,0.0s						
VINO	Villanova	0.80	215	ePg	Pg	04 00 41.9	+0.5
VINO				eSg	Sb	04 00 53.0	-1.2
VINO	Villanova	0.80	215	eSg	Sb	04 00 53.0	-1.2
MOA	Molln	0.96	13	Sg	Sb	04 00 58.8	-0.2
	0.7nm,0.1s						
ABTA	Abfaltersbach	1.00	261	Pg	Pg	04 00 45.1	-0.1
	0.3nm,0.1s						
ABTA				Sg	Sb	04 00 59.6	-0.4
	1.8nm,0.2s						

*ISK **01** 04:02:23.5,39°.06N×29°.10E,h8km,MD2.8*
*ISCJB **01** 04:02:24.2±0.6,39°.09N±0°.03×29°.03E±0°.04,h3km±6km, Error ellipse: s-maj=6.4km s-min=4.5km az=41.1*
*CSEM **01** 04:02:24.4±0.1,39°.09N×29°.03E,h5km,ML2.8,Error ellipse: s-maj=3.9km s-min=3.2km az=125.0*
*DDA **01** 04:02:24.5,39°.10N×29°.04E,h7km,Ml2.8*

ISC 01 04:02:24.5±1.1,39°.09N±0°.02×29°.04E±0°.02,h6km±10km, n38,σ0s.47/47,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.26	261	P	Pg	04 02 29.4	-0.2
DEMI	Demirci	0.26	261	i P	Pg	04 02 29.4	-0.2
GDZ	Gediz	0.34	89	P	Pg	04 02 31.4	+0.2
GDZ	Gediz	0.34	89	i P	Pg	04 02 31.4	+0.2
TVSB	Tavsanli	0.49	42	ePG	Pg	04 02 33.3	-0.6
TVSB				eSG	Sg	04 02 40.3	0.0
TVSB	Tavsanli	0.49	42	ePg	Pg	04 02 33.3	-0.6
TVSB				eSg	Sg	04 02 40.3	0.0
KULA	Kula-Manisa	0.64	208	ePG	Pg	04 02 36.5	-0.4
KULA				eSG	Sg	04 02 45.7	+0.5
KULA	Kula-Manisa	0.64	208	ePg	Pg	04 02 36.5	-0.4
KULA				eSg	Sg	04 02 45.7	+0.5
KHAL	Karahalli	0.80	154	P	Pb	04 02 40.6	-0.2
KHAL	Karahalli	0.80	154	i P	Pb	04 02 40.6	-0.2
ORLT	Orhaneli	0.97	353	ePG	Pg	04 02 43.1	+0.1
ORLT				eSG	Sb	04 02 57.4	+0.7
ORLT	Orhaneli	0.97	353	ePg	Pg	04 02 43.1	+0.1
ORLT				eSg	Sb	04 02 57.4	+0.7
BALB	Balikesir	1.06	302	ePN	Pb	04 02 45.3	+0.1
BALB				eSN	Sn	04 03 01.2	+0.4
IGD	Bursa	1.18	6	i P	Pg	04 02 46.1	-1.1
CAVI	Cavuskoy	1.27	29	ePN	Pn	04 02 48.2	-0.7
CAVI	Cavuskoy	1.27	29	ePn	Pn	04 02 48.2	-0.7
BALY	Balya	1.28	301	P	Pn	04 02 48.4	-0.6
BALY	Balya	1.28	301	i P	Pn	04 02 48.4	-0.6
MDNY	Mudanya-Bursa	1.29	355	ePN	Pn	04 02 48.4	-0.6
KCTX	Karacabey (Bur	1.29	336	ePN	Pb	04 02 49.1	-0.1
KCTX	Karacabey (Bur	1.29	336	ePn	Pb	04 02 49.1	-0.1
BORA	Eskisehir	1.35	54	P	Pn	04 02 49.5	-0.4
BORA				S	Sn	04 03 08.0	-0.2
BORA	Eskisehir	1.35	54	i P	Pn	04 02 49.5	-0.4
BORA				i S	Sn	04 03 08.0	-0.2
GONE	Gonen-Balikesi	1.42	313	ePN	Pb	04 02 51.1	-0.2
GONE	Gonen-Balikesi	1.42	313	ePn	Pb	04 02 51.2	-0.2
AYDB	Zeytinkoy-Aydi	1.45	219	ePN	Pn	04 02 50.9	-0.5
AYDB	Zeytinkoy-Aydi	1.45	219	ePn	Pn	04 02 50.9	-0.5
ESKT	Eskisehir	1.47	72	i P	Pg	04 02 52.9	+0.3
SEYT	Eskypehyr	1.47	72	P	Pg	04 02 52.9	+0.3
ARMT	Armutlu	1.48	355	ePN	Pn	04 02 51.7	0.0
ARMT	Armutlu	1.48	355	ePn	Pn	04 02 51.7	0.0
GULT	Gulveren	1.76	40	ePN	Pn	04 02 55.0	-0.6
GULT	Gulveren	1.76	40	ePn	Pn	04 02 55.0	-0.6
RKY	Sarkoy-Tekirda	2.15	319	ePN	Pn	04 03 01.6	+0.7
RKY	Sarkoy-Tekirda	2.15	319	ePn	Pn	04 03 01.6	+0.7
SART	Tekirdag	2.15	319	i P	Pg	04 03 05.1	-0.6
CTKS	Kestanelik-??a	2.19	349	ePN	Pn	04 03 01.5	+0.2
KAND	Kocaeli-Kandir	2.19	23	i P	Pb	04 03 05.0	+0.5

IDC 01 04:05:56.7±1.6,18°.20N×145°.67E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/46,mbtmp3.6/4,Error ellipse: s-maj=140.9km s-min=27.6km az=117.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.51	197	P	P	04 13 29.4	+0.1
	0.5nm,0.5s,baz=6.6,slow=8.6,SNR=4.8						
FITZ	Fitzroy Crossi	41.10	210	P	P	04 13 43.2	+0.6
	2.2nm,0.9s,baz=14,slow=9.1,SNR=6.6						
ASAR	Alice Springs	43.17	196	P	P	04 13 58.4	-1.1
	0.2nm,0.6s,baz=8.5,slow=13,SNR=2.7						
YKA	Yellowknife Ar	78.44	28	P	P	04 17 59.9	+0.7
	0.2nm,0.6s,baz=286,slow=5.6,SNR=3.8						
LPAZ	La Paz	147.69	92	PKPbc	PKPdf	04 25 43.3	+1.0
	0.4nm,0.4s,baz=259,slow=4.7,SNR=4.7						

*IDC **01** 04:17:41.6±0.9,21°.68S×168°.71E,h0km,mb4.2/13, mb1 4.4/15,mb1mx4.2/31,mbtmp4.3/15,ML4.3/2,MS3.5/6, Ms1 3.5/6,ms1mx3.1/37,Error ellipse: s-maj=25.5km s-min=17.9km az=140.0*
*ISCJB **01** 04:17:42.7±0.5,21°.65S±0°.09×168°.69E±0°.07,h20km, mb4.4/19,MS3.6/5,Error ellipse: s-maj=12.5km s-min=9.1km az=172.3*
*NEIC **01** 04:17:43.1±0.5,21°.64S×168°.68E,h10km,mb4.8/3,Error ellipse: s-maj=10.6km s-min=10.0km az=154.0*

ISC 01 04:17:44.8±0.6,21°.58S±0°.09×168°.64E±0°.08,h20km,n38, σ1s.22/39,mb4.4/18,MS3.6/5,1D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.09	256	Pn	Pn	04 18 18.6	-0.3
	12nm,0.3s,baz=118,slow=15,SNR=38						
DZM				LR	LR	04 18 43.1	
	comp=Z,333nm,18.7s,baz=166,slow=29						
DZM				Sn	Sn	04 18 44.5	+0.1
	185nm,0.3s,baz=60,slow=20,SNR=20						
DZM	Mont Dzumac	2.09	256	ePn	Pn	04 18 17.8	-1.1
DZM				eS	Sn	04 18 43.7	-0.7
HNR	Honiara	14.69	324	Pn	Pn	04 21 11.2	-0.3
	8.5nm,0.3s,baz=198,slow=19,SNR=1.8						
EIDS	Eidsvold	16.54	253	ePn	Pn	04 21 35.8	+0.2
CTA	Charters Tower	20.97	270	P	P	04 22 28.5	+1.7
	1.4nm,0.6s,baz=90,slow=8.1,SNR=3.0						
RPZ	Rata Peaks	22.16	175	P	P	04 22 44.2	+4.7
	15nm,0.9s,baz=0.0,slow=4.0,SNR=3.6						
STKA	Stephens Creek	26.17	241	P	P	04 23 18.6	+0.6
	2.6nm,0.8s,baz=90,slow=14,SNR=4.8						
STKA				LR	LR	04 32 41.8	
	comp=Z,57nm,19.1s,baz=35,slow=34						
WRAB	Tennant Creek	32.07	267	eP	P	04 24 10.1	-0.5
	1.5nm,0.5s						
WRA	Warramunga Arr	32.08	267	P	P	04 24 09.8	-0.8
	1.6nm,0.5s,baz=96,slow=8.2,SNR=16						
ASAR	Alice Springs	32.08	260	P	P	04 24 10.7	-0.1
	4.7nm,0.9s,baz=83,slow=8.8,SNR=27						
ASAR				LR	LR	04 36 45.0	
	comp=Z,72nm,19.2s,baz=62,slow=36						
FITZ	Fitzroy Crossi	40.50	267	P	P	04 25 23.0	+0.4
	7.0nm,0.7s,baz=127,slow=7.5,SNR=9.7						
MBWA	Marble Bar	45.39	261	eP	P	04 26 02.6	+0.3
	44nm,0.9s						
NWAO	Narrogin (SRO)	46.67	245	P	P	04 26 11.9	-0.3
	11nm,0.8s,baz=122,slow=9.5,SNR=2.8						
VNDA	Vanda	56.09	182	P	P	04 27 20.5	-1.6
	1.5nm,0.9s,baz=13,slow=16,SNR=3.8						
VNDA				LR	LR	04 47 49.5	
	comp=Z,51nm,21.7s,baz=336,slow=32						
SBA	Scott Base	56.33	180	eP	P	04 27 24.4	+0.5
	9.6nm,1.0s						
MJAR	Matsushiro Arr	64.56	333	P	P	04 28 21.3	+0.7
	0.7nm,0.3s,baz=172,slow=7.6,SNR=2.1						
QSPA	South Pole Qui	68.48	180	eP	P	04 28 44.6	-0.9
	23nm,1.2s						
PETK	Petropavlovsk-	74.98	353	P	P	04 29 26.0	+1.6
	5.5nm,0.9s,baz=100,slow=6.8,SNR=5.4						
PETK				LR	LR	05 02 25.1	
	comp=Z,27nm,18.1s,baz=176,slow=36						
MAW	Mawson	76.06	202	P	P	04 29 31.3	+0.8
	4.1nm,0.9s,baz=114,slow=6.2,SNR=5.9						
CMAR	Chiang Mai Arr	78.96	295	P	P	04 29 48.6	+1.0
	1.9nm,0.6s,baz=131,slow=3.9,SNR=8.6						
SYO	Syowa Base	82.54	196⇓	eP	P	04 30 03.5	-2.3
SNAA	Sanae	86.81	183	P	P	04 30 26.1	-1.4
SNAA	Sanae	86.81	183	eP	P	04 30 25.9	-1.6
	135nm,0.6s						
VNA3	Neumayer Olymp	87.42	181	P	P	04 30 28.7	-1.6
YBH	Yreka Blue Hor	89.36	44	LR	LR	05 03 12.9	
	comp=Z,75nm,19.5s,baz=286,slow=31						
NVAR	Mina Array Bea	90.77	49	P	P	04 30 46.7	-0.2
	0.6nm,0.7s,baz=225,slow=7.5,SNR=3.5						
ILAR	Eielson Array	92.62	17	P	P	04 30 53.5	-1.0
	0.4nm,0.7s,baz=216,slow=4.5,SNR=4.0						
ARCES	ARCESS Array B	127.17	345	PKP	PKPdf	04 36 47.5	+0.5
	2.9nm,1.0s,baz=29,slow=2.8,SNR=4.7						
BRG	Berggiesshubel	144.69	332	ePKP	PKPdf	04 37 19.3	-0.6
	13nm,1.4s						
CLL	Collm	144.77	333	e(P)	PKPdf	04 37 20.0	0.0
	comp=Z,9.0nm,1.0s						
CONA	Conrad Observa	145.81	327	i pPKPdf	PKPab	04 37 23.8	+0.8
	comp=Z,4.7nm,0.8s						
KHC	Kasperske Hory	146.10	330	ePKP	PKPab	04 37 23.5	-0.5
GERES	GERESS Array B	146.25	330	PKPbc	PKPab	04 37 24.4	-0.2
	comp=Z,3.6nm,0.9s,baz=38,slow=2.4,SNR=18						
SOKA	Soboth	147.06	326	i pPKPdf	PKPbc	04 37 26.4	+0.1
	comp=Z,2.8nm,0.9s						
KBA	Koelnbreinsper	147.65	328	i PKPbc	PKPbc	04 37 27.2	-0.8
	comp=Z,5.2nm,1.3s						
MOTA	Moosalm	148.54	330	i sPKPdf	PKPbc	04 37 31.0	+0.6
	comp=Z,5.9nm,0.9s						
FETA	Feichten	148.95	330	i sPKPdf	PKPbc	04 37 31.5	+0.1
	comp=Z,7.2nm,1.0s						
DAVA	Damuels	149.14	331	i PKiKP	PKiKP	04 37 32.5	-0.7
	comp=Z,7.6nm,1.1s						

IDC 01 04:19:31.2±2.1,8°.64S×130°.06E,h0km,mb3.7/1, mb1 3.6/4,mb1mx3.5/31,mbtmp3.4/4,ML3.3/3,Error ellipse: s-maj=59.5km s-min=27.4km az=84.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.34	204	Pn	Pn	04 22 01.2	+0.4
	0.2nm,0.3s,baz=38,slow=9.5,SNR=8.9						
FITZ				Sn	Sn	04 24 00.8	+3.3
	0.1nm,0.3s,baz=56,slow=15,SNR=2.5						
WRA	Warramunga Arr	11.97	160	Pn	Pn	04 22 23.0	-0.3
	0.2nm,0.3s,baz=338,slow=13,SNR=14						
WRA				Sn	Sn	04 24 46.0	+8.3
	0.1nm,0.3s,baz=333,slow=22,SNR=3.3						
ASAR	Alice Springs	15.38	167	Pn	Pn	04 23 08.7	-1.1
	0.1nm,0.3s,baz=339,slow=9.5,SNR=4.4						
MKAR	Makanchi Array	69.63	327	P	P	04 30 42.5	0.0
	0.3nm,0.3s,baz=123,slow=5.3,SNR=4.1						

DJA 01 04:20:49.0±0.9,0°N±8°×12°5E±°,h87km±12km,M3.9/4, MLv3.9/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.70	295	P	Pn	04 21 07.7	+2.4
KMSI				S	Sn	04 21 19.6	+2.2
LUWI	Luwuk	2.27	235	P	Pn	04 21 27.8	+3.1
LUWI				S	Sn	04 21 52.3	+0.4
MRSI	Marisa	2.69	274	P	Pn	04 21 28.2	-2.1
SANI	Sanana	2.69	149	P	Pn	04 21 29.1	-1.2

*ISCJB **01** 04:32:16.4±0.7,39°.12N±0°.05×29°.06E±0°.05,h9km,Error ellipse: s-maj=7.3km s-min=4.7km az=154.6*
*DDA **01** 04:32:16.4,39°.08N×29°.07E,h7km,Md2.5*
*CSEM **01** 04:32:16.5±0.2,39°.12N×29°.05E,h5km,MD2.5,Error ellipse: s-maj=4.3km s-min=2.9km az=136.0*

ISC 01 04:32:16.7±1.1,39°.11N±0°.04×29°.07E±0°.03,h9km,n10, σ0s.25/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.28	256	P	Pg	04 32 22.4	+0.1
DEMI				S	Sg	04 32 26.3	+0.2
DEMI	Demirci	0.28	256	i P	Pg	04 32 22.4	+0.1
DEMI				i S	Sg	04 32 26.3	+0.2
GDZ	Gediz	0.32	93	P	Pg	04 32 23.2	0.0
GDZ				S	Sg	04 32 27.7	+0.2
GDZ	Gediz	0.32	93	i P	Pg	04 32 23.2	0.0
GDZ				i S	Sg	04 32 27.7	+0.2
TVSB	Tavsanli	0.46	42	ePG	Pg	04 32 25.6	0.0
TVSB				eSG	Sg	04 32 31.4	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.46**	**42**	*e*Pg	**Pg**	**04 32 25.6**	**0.0**
TVSB				*e*Sg	**Sg**	**04 32 31.4**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*PG	**Pg**	**04 32 29.2**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*Pg	**Pg**	**04 32 29.2**	**-0.5**
KHAL	**Karahalli**	**0.81**	**156**	P	**Pb**	**04 32 33.1**	**+0.1**
KHAL				S	**Sg**	**04 32 43.0**	**+0.2**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pb**	**04 32 33.1**	**+0.1**
KHAL				*i* S	**Sg**	**04 32 43.0**	**+0.2**

*IDC **01** 04:35:17.7±2.6, 7°.22S×129°.69E, h118km±26km, mb3.6/3, mb1 4.1/8, mb1mx3.7/34, mbtmp4.3/8, Error ellipse: s-maj=37.5km s-min=18.7km az=90.0*
*ISCJB **01** 04:35:18.1±0.5, 7°.22S±0°.05×129°.78E±0°.06, h150km, mb3.7/3, Error ellipse: s-maj=8.2km s-min=6.4km az=168.0*
*DJA **01** 04:35:19.3±0.3, 7°S±3°×13°0E±°, h146km±8km, M4.8/8, mb4.8/8, mB5.5/3, MLv4.8/8, Mw(mB)4.9/3*
ISC 01 04:35:18.2±0.7**, 7°.26S**±0°.05×**129°.75E**±0°.07**, h150**km**, n19,** σ**3s65**/23**, mb3.8**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.70**	**115**	P	**Pn**	**04 35 53.0**	**+3.1**
SAUI				S	**Sn**	**04 36 14.3**	**+0.1**
MSAI	**Masohi**	**3.97**	**348**	P	**Pn**	**04 36 20.0**	**+1.9**
NLAI	**Namlea**	**4.78**	**326**	P	Pn	04 36 35.2	+6.4
FAKI	**Fak Fak**	**4.97**	**30**	P	**Pn**	**04 36 29.0**	**-2.4**
SOEI	**Soe**	**5.97**	**245**	P	**Pn**	**04 36 46.9**	**+2.3**
	449nm,0.9s,7µm1.4nm						
SANI	**Sanana**	**6.39**	**324**	P	**Pn**	**04 36 51.4**	**+1.2**
	31nm,0.7s,0.1nm						
SIJI	**Sorong**	**6.52**	**13**	P	**Pn**	**04 36 50.9**	**-1.1**
	3.6nm,0.3s,baz=180,slow=17,SNR=2.3						
SIJI				S	**Sn**	**04 37 56.4**	**-9.0**
	12nm,0.3s,baz=271,slow=24,SNR=6.2						
SWI	**Sorong**	**6.53**	**13**	P	**Pn**	**04 36 49.6**	**-2.4**
	34nm,0.3s,4µm0.5nm						
SWI				S	Sn	04 37 53.6	-12
	34nm,0.3s,4µm0.5nm						
MMRI	**Maumere**	**7.57**	**259**	P	**Pn**	**04 37 07.0**	**+1.1**
	51nm,0.5s,0.3nm						
FITZ	**Fitzroy Crossi**	**11.50**	**200**	P	**Pn**	**04 37 58.1**	**+0.1**
	3.2nm,0.3s,baz=22,slow=8.2,SNR=36						
FITZ				S	**Sn**	**04 39 58.2**	**-7.0**
	4.6nm,0.3s,baz=65,slow=22,SNR=11						
JAY	**Jayapura**	**11.88**	**67**	P	**Pn**	**04 38 05.2**	**+2.0**
	0.2nm,0.3s,baz=200,slow=23,SNR=5.7						
PLAI	**Plampang**	**11.96**	**262**	P	**Pn**	**04 38 03.5**	**-0.6**
	66nm,0.9s						
WRA	**Warramunga Arr**	**13.37**	**161**	P	**Pn**	**04 38 22.2**	**-0.1**
	4.1nm,0.3s,baz=337,slow=11,SNR=84						
WRA				S	**Sn**	**04 40 44.4**	**-6.1**
	4.1nm,0.3s,baz=334,slow=23,SNR=8.7						
ASAR	**Alice Springs**	**16.80**	**167**	P	**Pn**	**04 39 07.5**	**+2.7**
	2.4nm,0.3s,baz=340,slow=9.1,SNR=40						
ASAR				S	**S**	**04 42 06.8**	**-4.8**
	0.6nm,0.3s,baz=349,slow=26,SNR=3.8						
SONM	**Songino Array**	**58.60**	**342**	P	**P**	**04 45 02.1**	**+2.6**
	0.5nm,0.5s,baz=152,slow=6.5,SNR=0.5						
MKAR	**Makanchi Array**	**68.30**	**327**	P	**P**	**04 46 05.8**	**+2.7**
	1.9nm,0.5s,baz=114,slow=8.5,SNR=26						
ILAR	**Eielson Array**	**93.68**	**25**	P	**P**	**04 48 18.8**	**+1.4**
	0.2nm,0.6s,baz=293,slow=4.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**128.62**	**281**	PKP	**PKPdf**	**04 54 11.8**	**+3.2**
	0.2nm,0.4s,baz=99,slow=2.4,SNR=4.1						
CPUP	**Villa Florida**	**145.91**	**169**	PKPbc	**PKPab**	**04 54 43.9**	**+2.4**
	1.6nm,0.7s,baz=200,slow=2.0,SNR=5.3						

*ISCJB **01** 04:42:08.3±0.8, 5°.8N±0°.1×128°.0E±0°.1, h53km, mb4.0/7, Error ellipse: s-maj=27.3km s-min=9.6km az=42.5*
*IDC **01** 04:42:15.9±5.6, 5°.56N×127°.40E, h102km±45km, mb3.7/7, mb1 3.8/8, mb1mx3.5/39, mbtmp4.1/8, Error ellipse: s-maj=120.7km s-min=13.8km az=65.0*
ISC 01 04:42:09.8±1.0**, 5°.9N**±0°.2×**128°.0E**±0°.2**, h53**km**, n9,** σ**1s29**/11**, mb4.1**/7**, East of Philippine Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.72**	**296**	P	**Pn**	**04 42 51.6**	**+0.5**
	74nm,0.3s,baz=288,slow=1.7,SNR=2.5						
DAV				S	**Sn**	**04 43 22.7**	**-0.1**
	42nm,0.3s,baz=317,slow=21,SNR=7.2						
WRA	**Warramunga Arr**	**26.38**	**167**	P	**P**	**04 47 41.4**	**0.0**
	1.9nm,0.5s,baz=342,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**29.90**	**169**	P	**P**	**04 48 12.0**	**-0.8**
	0.5nm,0.5s,baz=342,slow=6.6,SNR=4.2						
ASAR				PcP	**PcP**	**04 51 15.4**	**+0.6**
	0.2nm,0.3s,baz=336,slow=2.0,SNR=3.4						
STKA	**Stephens Creek**	**39.69**	**162**	P	**P**	**04 49 38.2**	**+1.2**
	2.8nm,0.6s,baz=344,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**56.58**	**324**	P	**P**	**04 51 46.8**	**-0.5**
	0.7nm,0.5s,baz=121,slow=8.2,SNR=8.7						
ZALV	**Zalesovo Beam**	**59.31**	**332**	P	**P**	**04 52 07.0**	**+0.8**
	0.7nm,0.5s,baz=148,slow=8.5,SNR=2.3						
ARCES	**ARCESS Array B**	**88.91**	**340**	P	**P**	**04 54 58.5**	**+0.2**
	1.8nm,0.9s,baz=87,slow=6.6,SNR=4.3						
FINES	**FINESS Array B**	**90.58**	**332**	P	**P**	**04 55 06.5**	**+0.3**
	1.0nm,0.7s,baz=54,slow=7.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**123.46**	**290**	PKP	**PKPdf**	**05 00 59.2**	**-3.1**
	0.2nm,0.4s,baz=68,slow=1.9,SNR=5.3						

GUC 01 04:44:32.6±0.6**, 34°.53S**×**72°.03W, h45**km±11km**, ML3.6, 6C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	**Talca**	**0.93**	**160**	⇑*i*P	Pn	04 44 50.7	+1.4
TALC				*i* S	Sn	04 45 03.6	+2.2
ANTU	**Antumapu**	**1.50**	**51**	*e*P	Pn	04 44 58.9	+1.8
ANTU				*i* S	Sn	04 45 18.6	+3.1
ANTU				AML	AML	04 45 22.2	
	comp=E,1µm,0.1s						
CLCH	**Cerro Calan**	**1.68**	**48**	⇑*i*P	Pn	04 45 02.1	+2.5
CLCH				*i* S	Sn	04 45 23.9	+4.1
CLCH				AML	AML	04 45 32.4	
	comp=E,844nm,0.4s						
COCH	**Cobquecura**	**1.72**	**201**	⇑*i*P	Pn	04 45 00.1	+0.1
COCH				*i* S	Sn	04 45 19.7	-1.0
COCH				AML	AML	04 45 27.8	
	comp=E,802nm,0.4s						
ROCH	**El Roble**	**1.77**	**29**	⇑*i*P	Pn	04 45 03.0	+2.0
ROCH				*i* S	Sn	04 45 26.6	+4.3
ROCH				AML	AML	04 45 35.3	
	comp=N,988nm,0.4s						
PEL	**Peldehue**	**1.78**	**39**	⇑*i*P	Pn	04 45 02.8	+1.9
PEL				*i* S	Sn	04 45 26.4	+4.1
PEL				AML	AML	04 45 34.7	
	comp=E,767nm,0.4s						
CCHI	**Chillan**	**2.07**	**181**	⇑*i*P	Pn	04 45 07.4	+2.5
CCHI				*i* S	Sn	04 45 32.9	+3.4
CCHI				AML	AML	04 45 42.6	
	comp=E,828nm,0.4s						

GUC 01 04:51:15.1±0.8**, 20°.30S**×**69°.16W, h103**km±4km**, ML3.6, 6C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.16**	**2**	⇓*i*P	Pn	04 51 30.7	+0.6
PB08				*i* S	Sn	04 51 42.0	+0.7
PB08				IAML		04 51 43.3	
	comp=E,3µm,0.1s						
PB01	**IPOC Station P**	**0.80**	**203**	⇑*i*P	Pn	04 51 34.3	+0.5
PB01				*i* S	Sn	04 51 48.9	+1.0
PB01				IAML		04 51 49.5	
	comp=E,2µm,0.2s						
PSGC	**Pisagua**	**1.15**	**308**	⇑*i*P	Pn	04 51 37.8	+0.3
PSGC				*i* S	Sn	04 51 55.4	+1.0
MNMC	**Minye Minye**	**1.24**	**341**	⇑*i*P	Pn	04 51 39.8	+1.1
MNMC				*i* S	Sn	04 51 57.8	+1.2
MNMC				IAML		04 52 00.3	
	comp=N,2µm,0.2s						
PB09	**IPOC Station P**	**1.49**	**183**	⇓*i*P	Pn	04 51 42.4	+0.8
PB09				*e*S	Sn	04 52 02.4	+0.8
PB09				IAML		04 52 06.5	
	comp=N,995nm,0.5s						
PB07	**IPOC Station P**	**1.57**	**205**	⇑*i*P	Pn	04 51 43.0	+0.4
PB07				*i* S	Sn	04 52 04.0	+0.6
PB13	**IPOC Station P**	**1.98**	**351**	*e*P	Pn	04 51 50.1	+1.8
PB13				*e*S	Sn	04 52 15.7	+2.4
PB12	**IPOC Station P**	**2.01**	**327**	⇑*i*P	Pn	04 51 48.1	+0.1
PB12				*e*S	Sn	04 52 13.3	+0.1
PB04	**IPOC Station P**	**2.22**	**204**	⇑*i*P	Pn	04 51 51.4	+0.5

*ISCJB **01** 05:07:14.9±0.6, 39°.10N±0°.04×29°.02E±0°.04, h3km±8km, Error ellipse: s-maj=6.7km s-min=4.5km az=154.4*
*ISK **01** 05:07:14.3, 39°.07N×29°.07E, h5km, MD2.8*
*DDA **01** 05:07:14.5, 39°.11N×29°.03E, h7km, Md2.5*
*CSEM **01** 05:07:15.0±0.1, 39°.11N×29°.03E, h2km, MD2.5, Error ellipse: s-maj=2.1km s-min=1.6km az=115.0*
ISC 01 05:07:15.1±1.0**, 39°.11N**±0°.03×**29°.03E**±0°.03**, h9**km±9km**, n29,** σ**0s57**/42**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**256**	P	**Pg**	**05 07 20.3**	**+0.2**
DEMI				S	**Sg**	**05 07 23.7**	**+0.1**
DEMI	**Demirci**	**0.25**	**256**	*i* P	**Pg**	**05 07 20.3**	**+0.2**
DEMI				*i* S	**Sg**	**05 07 23.7**	**+0.1**
GDZ	**Gediz**	**0.35**	**93**	P	**Pg**	**05 07 22.2**	**+0.1**
GDZ				S	**Sg**	**05 07 27.3**	**+0.6**
GDZ	**Gediz**	**0.35**	**93**	*i* P	**Pg**	**05 07 22.2**	**+0.1**
GDZ				*i* S	**Sg**	**05 07 27.3**	**+0.6**
TVSB	**Tavsanli**	**0.48**	**44**	*e*PG	**Pg**	**05 07 24.3**	**-0.1**
TVSB				*e*SG	**Sg**	**05 07 30.9**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**44**	*e*Pg	**Pg**	**05 07 24.3**	**-0.1**
TVSB				*e*Sg	**Sg**	**05 07 30.9**	**+0.1**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**05 07 27.4**	**-0.3**
KULA				*e*SG	**Sg**	**05 07 36.2**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**05 07 27.4**	**-0.3**
KULA				*e*Sg	**Sg**	**05 07 36.2**	**-0.1**
KHAL	**Karahalli**	**0.82**	**154**	P	**Pb**	**05 07 30.8**	**-0.7**
KHAL				S	**Sb**	**05 07 42.1**	**-0.6**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pb**	**05 07 30.8**	**-0.7**
KHAL				*i* S	**Sb**	**05 07 42.1**	**-0.6**
IGD	**Bursa**	**1.17**	**6**	*i* P	**Pg**	**05 07 36.5**	**-1.0**
IGD				*i* S	**Sg**	**05 07 52.0**	**-0.6**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pn**	**05 07 39.4**	**+0.5**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pn**	**05 07 39.4**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pn**	**05 07 39.6**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn	**Pn**	**05 07 39.6**	**+0.6**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pn**	**05 07 39.8**	**+0.7**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pn**	**05 07 39.8**	**+0.7**
IZI	**Iznik**	**1.28**	**15**	*e*PN	**Pn**	**05 07 39.5**	**+0.3**
IZI	**Iznik**	**1.28**	**15**	*e*Pn	**Pn**	**05 07 39.5**	**+0.3**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pb**	**05 07 40.2**	**-0.4**
BORA				S	**Sn**	**05 07 58.9**	**+0.7**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pb**	**05 07 40.2**	**-0.4**
BORA				*i* S	**Sn**	**05 07 58.9**	**+0.7**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pg**	**05 07 42.2**	**-0.4**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pg**	**05 07 42.2**	**-0.4**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pg**	**05 07 42.7**	**-0.5**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pg**	**05 07 42.7**	**-0.5**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**05 07 46.3**	**+0.5**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**	**05 07 46.3**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*PN	**Pn**	**05 07 52.1**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*Pn	**Pn**	**05 07 52.1**	**+1.2**

*IDC **01** 05:15:52.6±3.2, 16°.15S×173°.88W, h45km±30km, mb3.6/7, mb1 4.0/8, mb1mx3.7/32, mbtmp3.9/8, ML4.5/1, MS3.2/6, Ms1 3.2/6, ms1mx3.0/41, Error ellipse: s-maj=45.5km s-min=19.1km az=138.0*
*ISCJB **01** 05:15:58.4±0.9, 16°.2S±0°.2×174°.0W±0°.2, h115km, mb3.8/7, Error ellipse: s-maj=40.0km s-min=18.8km az=137.4*
ISC 01 05:16:00.2±0.9**, 16°.1S**±0°.2×**174°.0W**±0°.2**, h115**km**, n19,** σ**0s62**/12**, mb3.7**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.05**	**45**	P	Pn	05 16 38.4	-8.8
	60nm,0.3s,baz=174,slow=1.4,SNR=57						
AFI				S	Sn	05 17 09.0	-14
	198nm,0.3s,baz=248,slow=23,SNR=19						
AFI				LR	LR	05 17 55.6	
	comp=Z,167nm,20.0s,baz=220,slow=41						
DZM	**Mont Dzumac**	**19.42**	**249**	*e*LR	LR	05 25 25.2	
	151nm,28.9s						
DZM	**Mont Dzumac**	**19.42**	**249**	LR	LR	05 26 43.6	
	comp=Z,85nm,20.9s,baz=28,slow=33						
PPT2	**Papeete2**	**23.40**	**97**	*e*LR	LR	05 25 59.3	
	122nm,29.2s						
PPT	**Papeete**	**23.40**	**97**	LR	LR	05 28 06.4	
	comp=Z,30nm,18.9s,baz=330,slow=32						
TBI	**Tubuai**	**24.15**	**111**	*e*LR	LR	05 26 44.6	
	137nm,29.5s						
HNR	**Honiara**	**26.26**	**281**	LR	LR	05 30 22.9	
	comp=Z,138nm,19.6s,baz=177,slow=33						
STKA	**Stephens Creek**	**43.20**	**240**	P	**P**	**05 23 49.6**	**-0.4**
	2.7nm,0.7s,baz=53,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**49.14**	**257**	P	**P**	**05 24 36.6**	**-0.2**
	0.4nm,0.6s,baz=93,slow=5.9,SNR=7.2						
WRA				PcP	**PcP**	**05 25 59.8**	**+1.2**
	1.1nm,0.8s,baz=91,slow=4.0,SNR=4.6						
ASAR	**Alice Springs**	**49.36**	**252**	P	**P**	**05 24 38.1**	**-0.3**
	1.8nm,0.7s,baz=88,slow=8.4,SNR=14						
VNDA	**Vanda**	**62.62**	**186**	P	**P**	**05 26 11.7**	**-0.2**
	1.0nm,1.1s,baz=27,slow=4.5,SNR=3.7						
MJAR	**Matsushiro Arr**	**69.12**	**320**	LR	LR	05 51 10.9	
	comp=Z,12nm,21.5s,baz=120,slow=31						
PDAR	**Pinedale Array**	**83.16**	**42**	P	**P**	**05 28 13.8**	**-0.1**
	0.9nm,0.8s,baz=204,slow=3.3,SNR=6.0						
ILAR	**Eielson Array**	**83.25**	**11**	P	**P**	**05 28 12.8**	**-0.7**
	0.5nm,0.8s,baz=230,slow=6.2,SNR=4.9						
ILAR				LR	LR	06 06 31.3	
	comp=Z,21nm,18.3s,baz=152,slow=36						
YKA	**Yellowknife Ar**	**90.97**	**24**	P	**P**	**05 28 51.0**	**+0.1**
	0.8nm,0.6s,baz=238,slow=3.6,SNR=5.0						
KMBO	**Kilima Mbogo**	**144.72**	**244**	PKP	**PKPdf**	**05 35 25.7**	**+0.9**
	2.1nm,0.6s,baz=164,slow=1.0,SNR=6.8						
BRTR	**Keskin Array B**	**146.34**	**320**	PKPbc	**PKPab**	**05 35 29.7**	**+0.6**
	1.8nm,0.9s,baz=113,slow=2.8,SNR=10						
GERES	**GERESS Array B**	**146.75**	**351**	PKPbc	**PKPab**	**05 35 30.1**	**-0.2**
	0.4nm,0.2s,baz=68,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**174.88**	**125**	PKP	**PKPdf**	**05 35 57.4**	**0.0**
	0.4nm,0.8s,baz=270,slow=1.3,SNR=2.4						

*ISCJB **01** 05:23:07.6±0.6, 39°.14N±0°.04×29°.00E±0°.04, h2km±8km, Error ellipse: s-maj=6.6km s-min=4.6km az=157.0*
*DDA **01** 05:23:07.5, 39°.14N×29°.01E, h7km, Md2.4*
*CSEM **01** 05:23:07.9±0.2, 39°.15N×28°.98E, h5km, MD2.4, Error ellipse: s-maj=4.5km s-min=3.3km az=118.0*
*ISK **01** 05:23:07.0, 39°.10N×29°.08E, h8km, MD2.7*
ISC 01 05:23:07.9±1.0**, 39°.14N**±0°.03×**29°.00E**±0°.03**, h10**km±9km**, n27,** σ**0s38**/42**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**246**	P	**Pg**	**05 23 13.2**	**+0.2**
DEMI				S	**Sg**	**05 23 16.6**	**+0.2**
DEMI	**Demirci**	**0.24**	**246**	*i* P	**Pg**	**05 23 13.2**	**+0.2**
DEMI				*i* S	**Sg**	**05 23 16.6**	**+0.2**
GDZ	**Gediz**	**0.38**	**98**	P	**Pg**	**05 23 15.4**	**0.0**
GDZ				S	**Sg**	**05 23 20.4**	**0.0**
GDZ	**Gediz**	**0.38**	**98**	*i* P	**Pg**	**05 23 15.4**	**0.0**
GDZ				*i* S	**Sg**	**05 23 20.4**	**0.0**
TVSB	**Tavsanli**	**0.47**	**49**	*e*PG	**Pg**	**05 23 16.7**	**-0.4**
TVSB				*e*SG	**Sg**	**05 23 23.2**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**49**	*e*Pg	**Pg**	**05 23 16.7**	**-0.4**
TVSB				*e*Sg	**Sg**	**05 23 23.2**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*PG	**Pg**	**05 23 20.4**	**-0.7**
KULA				*e*SG	**Sg**	**05 23 29.8**	**-0.3**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*Pg	**Pg**	**05 23 20.4**	**-0.7**
KULA				*e*Sg	**Sg**	**05 23 29.8**	**-0.3**
KHAL	**Karahalli**	**0.86**	**154**	P	**Pb**	**05 23 25.1**	**0.0**
KHAL				S	**Sg**	**05 23 35.5**	**-0.2**
KHAL	**Karahalli**	**0.86**	**154**	*i* P	**Pb**	**05 23 25.1**	**0.0**
KHAL				*i* S	**Sg**	**05 23 35.5**	**-0.2**
IGD	**Bursa**	**1.13**	**8**	*i* P	**Pg**	**05 23 28.7**	**-1.0**
IGD				*i* S	**Sb**	**05 23 44.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.23**	**336**	*e*PN	**Pn**	**05 23 31.8**	**+0.5**
KCTX	**Karacabey (Bur**	**1.23**	**336**	*e*Pn	**Pn**	**05 23 31.8**	**+0.5**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*PN	**Pg**	**05 23 31.4**	**-0.3**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*Pn	**Pg**	**05 23 31.5**	**-0.3**
IZI	**Iznik**	**1.25**	**17**	*e*PN	**Pg**	**05 23 31.9**	**0.0**
IZI	**Iznik**	**1.25**	**17**	*e*Pn	**Pg**	**05 23 31.9**	**0.0**
BORA	**Eskisehir**	**1.34**	**56**	P	**Pg**	**05 23 33.9**	**+0.2**
BORA				S	**Sn**	**05 23 51.0**	**+0.1**
BORA	**Eskisehir**	**1.34**	**56**	*i* P	**Pg**	**05 23 33.9**	**+0.2**
BORA				*i* S	**Sn**	**05 23 51.0**	**+0.1**
ARMT	**Armutlu**	**1.43**	**356**	*e*PN	**Pg**	**05 23 35.0**	**-0.3**
ARMT	**Armutlu**	**1.43**	**356**	*e*Pn	**Pg**	**05 23 35.0**	**-0.3**
ESKT	**Eskisehir**	**1.48**	**75**	*i* P	**Pg**	**05 23 37.0**	**+0.6**
ESKT				*i* S	**Sg**	**05 23 55.1**	**-0.5**
SEYT	**Eskypehyr**	**1.48**	**75**	P	**Pg**	**05 23 37.0**	**+0.6**
SEYT				S	**Sg**	**05 23 55.1**	**-0.5**
GULT	**Gulveren**	**1.74**	**42**	*e*PN	**Pn**	**05 23 38.1**	**-0.2**
GULT	**Gulveren**	**1.74**	**42**	*e*Pn	**Pn**	**05 23 38.1**	**-0.2**
SILT	**Sile**	**2.07**	**14**	*e*PN	**Pn**	**05 23 43.0**	**+0.2**
SILT	**Sile**	**2.07**	**14**	*e*Pn	**Pn**	**05 23 43.0**	**+0.2**

GUC 01 05:39:57.7±0.5**, 36°.20S**×**73°.55W, h30**km±4km**, ML3.5, 4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.62**	**84**	⇓*i*P	Pb	05 40 09.5	-0.6
COCH				*i* S	Sb	05 40 18.4	-0.1
COCH				IAML		05 40 19.9	
	comp=N,6µm,0.2s						
CCSP	**San Pedro de C**	**0.74**	**151**	⇑*i*P	Pb	05 40 11.3	-0.7
CCSP				*i* S	Sb	05 40 21.5	-0.3
CCSP				IAML		05 40 25.9	
	comp=N,3µm,0.5s						
CCHI	**Chillan**	**1.26**	**109**	⇑*i*P	Pn	05 40 19.9	+0.7
CCHI				*i* S	Sb	05 40 36.0	-0.6
CCHI				IAML		05 40 41.1	
	comp=N,2µm,0.5s						
TALC	**Talca**	**1.75**	**63**	⇑*i*P	Pb	05 40 28.6	-0.6
TALC				*e*S	Sb	05 40 51.1	+0.4
RCDM	**Rinconada Maip**	**3.52**	**41**	*e*P	Pn	05 40 51.3	+0.9
CLCH	**Cerro Calan**	**3.74**	**42**	*e*P	Pn	05 40 54.8	+1.4
ROCH	**El Roble**	**3.84**	**34**	*e*P	Pn	05 40 56.3	+1.3
PEL	**Peldehue**	**3.86**	**39**	⇑*i*P	Pn	05 40 56.4	+1.4
PEL				*e*S	Sn	05 41 41.0	+1.6

*IDC **01** 05:44:39.2±1.1, 37°.75N×144°.64E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/50, mbtmp3.5/7, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/38, Error ellipse: s-maj=31.2km s-min=25.3km az=155.0*
*JMA **01** 05:44:43.9±0.1, 38°.10N×144°.25E, h22km, M3.9*
ISC 01 05:44:42.1±3.1**, 38°.07N**±0°.05×**144°.48E**±0°.05**, h23**km±23km**, n22,** σ**1s90**/21**, mb3.6**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.42**	**295**	P	Pn	05 45 21.0	+0.7
OFUJ				*e*S	**Sn**	**05 45 48.5**	**-0.7**
JIO	**Ouri**	**2.49**	**280**	P	Pn	05 45 22.0	+0.7
JIO				S	**Sn**	**05 45 49.6**	**-1.4**
MIYJ	**Miyakonagasawa**	**2.56**	**307**	P	Pn	05 45 22.9	+0.6
MIYJ				S	**Sn**	**05 45 52.0**	**-0.7**
JMK	**Ichinoseki**	**2.70**	**290**	P	Pn	05 45 25.3	+1.1
JMK				*e*S	**Sn**	**05 45 55.6**	**-0.5**
JOM	**Ohasama**	**2.86**	**300**	P	Pn	05 45 27.2	+0.9
JOM				S	**Sn**	**05 46 00.4**	**+0.4**
JANG	**Nango**	**3.25**	**316**	P	**Pn**	**05 45 33.2**	**+1.5**
JFT	**Otama**	**3.33**	**262**	S	**Sn**	**05 46 10.3**	**-1.3**
JYK	**Kaneyama**	**3.34**	**286**	P	**Pn**	**05 45 34.3**	**+1.4**
JYK				S	**Sn**	**05 46 12.1**	**+0.2**
JOT	**Ohata**	**4.23**	**322**	S	**Sn**	**05 46 32.9**	**-1.0**
BSO1	**Boso 1**	**4.43**	**221**	*e*S	**Sn**	**05 46 35.3**	**-2.6**
JCH	**Churui**	**4.62**	**350**	P	**Pn**	**05 45 51.5**	**+1.0**
JCH				S	Sn	05 46 40.8	-2.6
JRY	**Ryogami san**	**4.91**	**247**	P	Pn	05 45 54.4	-0.1
JRY				S	Sn	05 46 46.2	-4.4
MJAR	**Matsushiro Arr**	**5.22**	**255**	Pn	**Pn**	**05 45 59.6**	**+0.7**
	1.2nm,0.3s,baz=61,slow=14,SNR=4.9						
MJAR				Sn	Sn	05 46 55.5	-2.9
	0.8nm,0.3s,baz=36,slow=16,SNR=3.1						
NEM2	**Nemuro 2**	**5.38**	**10**	P	Pn	05 45 59.7	-1.2
NEM2				S	Sn	05 46 58.5	-3.5
JTKR	**Abashiri--Toko**	**5.91**	**356**	P	**Pn**	**05 46 08.9**	**+0.7**
JTKR				S	**Sn**	**05 47 13.1**	**-2.1**
KSRS	**Korea Array**	**13.12**	**272**	LR	LR	05 52 08.8	
	comp=Z,31nm,18.1s,baz=98,slow=34						
ZALV	**Zalesovo Beam**	**43.03**	**312**	P	**P**	**05 52 43.9**	**+4.2**
	0.5nm,0.4s,baz=90,slow=8.6,SNR=2.7						
MKAR	**Makanchi Array**	**45.64**	**302**	P	**P**	**05 53 03.2**	**+2.4**
	0.4nm,0.7s,baz=86,slow=7.5,SNR=2.9						
ILAR	**Eielson Array**	**47.31**	**33**	P	**P**	**05 53 16.7**	**+3.1**
	0.3nm,0.9s,baz=269,slow=8.0,SNR=3.1						
WRA	**Warramunga Arr**	**58.48**	**191**	P	**P**	**05 54 35.2**	**-1.2**
	0.5nm,0.6s,baz=10,slow=7.0,SNR=4.8						
AKASG	**Malin Array Be**	**74.94**	**323**	P	**P**	**05 56 22.5**	**+1.4**
	0.5nm,0.5s,baz=44,slow=5.5,SNR=3.3						
PDAR	**Pinedale Array**	**75.19**	**47**	P	**P**	**05 56 24.2**	**+1.1**
	0.2nm,0.6s,baz=297,slow=4.6,SNR=3.2						

*ISCJB **01** 06:13:55.1±0.3, 5°.02S±0°.04×102°.76E±0°.04, h59km, mb4.5/50, MS3.5/5, Error ellipse: s-maj=6.6km s-min=3.6km az=40.9*
*DJA **01** 06:13:55.3±0.7, 5°S±3°×10°3E±°, h15km±7km, M4.8/15, mB5.6/1, mb4.8/10, MLv4.8/15, Mw(mB)5.1/1*
*IDC **01** 06:13:58.5±2.2, 4°.82S×102°.97E, h68km±19km, mb4.1/25, mb1 4.2/27, mb1mx4.1/54, mbtmp4.4/27, MS3.2/3, Ms1 3.3/3, ms1mx2.8/37, Error ellipse: s-maj=16.2km s-min=9.5km az=53.0*
*NEIC **01** 06:13:58.2±0.8, 4°.89S×102°.81E, h69km±6km, mb4.6/17, Error ellipse: s-maj=10.4km s-min=5.4km az=223.0*
NEIC Felt [II] at Kapahiang.
ISC 01 06:13:57.0±0.4**, 4°.97S**±0°.05×**102°.76E**±0°.06**, h59**km**, n322,** σ**1s42**/320**, mb4.5**/50**, MS3.6**/5**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.64**	**18**	P	**Pn**	**06 14 09.5**	**-1.1**
MNAI	**Manna**	**0.64**	**18**	*e*Pn	**Pn**	**06 14 09.6**	**-0.9**
LWLI	**Liwa**	**1.30**	**92**	P	**Pn**	**06 14 17.6**	**-1.5**
LWLI				S	**Sn**	**06 14 36.0**	**+0.4**
LHSI	**Lahat**	**1.37**	**34**	P	**Pn**	**06 14 19.7**	**-0.3**
LHSI				S	**Sn**	**06 14 37.3**	**+0.1**
KASI	**Kota Agung**	**1.82**	**108**	P	**Pn**	**06 14 24.8**	**-1.2**
KLI	**Kotabumi**	**2.10**	**87**	P	**Pn**	**06 14 31.1**	**+1.3**
CGJI	**Cibinong**	**3.35**	**119**	P	**Pn**	**06 14 45.8**	**-1.1**
PPSI	**Pulau Pagai**	**3.51**	**309**	P	**Pn**	**06 14 51.2**	**+2.0**
PDSI	**Padang**	**4.64**	**330**	P	**Pn**	**06 15 05.8**	**+1.1**
CNJI	**Cibinong**	**4.93**	**118**	P	**Pn**	**06 15 07.6**	**-1.0**
LEM	**Lembang**	**5.17**	**111**	P	Pn	06 15 18.0	+5.9
	5.4nm,0.3s,baz=308,slow=19,SNR=4.0						
LEM				S	**Sn**	**06 16 15.6**	**+4.9**
	4.5nm,0.3s,baz=311,slow=20,SNR=3.7						
LEM	**Lembang**	**5.17**	**111**	P	Pn	06 15 19.5	+7.4
BKNI	**Bangkinang**	**5.54**	**342**	*e*Pn	**Pn**	**06 15 16.5**	**-0.4**
CISI	**Cisompet, Garu**	**5.65**	**117**	P	**Pn**	**06 15 17.2**	**-1.3**
	84nm,0.6s,5µm0.8nm						
CISI	**Cisompet, Garu**	**5.65**	**117**	*e*Pn	**Pn**	**06 15 15.9**	**-2.6**
CMJI	**Cimerak**	**6.31**	**117**	P	**Pn**	**06 15 25.4**	**-2.1**
	69nm,0.6s,0.3nm						
MYKOM	**Kota Tinggi**	**6.81**	**9**	*e*Pn	**Pn**	**06 15 35.5**	**+1.2**
GSI	**Gunungsitoli**	**8.10**	**320**	P	**Pn**	**06 15 52.3**	**+0.1**
	60nm,0.7s						
GSI	**Gunungsitoli**	**8.10**	**320**	*e*Pn	**Pn**	**06 15 52.2**	**+0.1**
UGM	**Wanagama**	**8.25**	**111**	P	**Pn**	**06 15 53.3**	**-0.9**
	84nm,1.7s						
PSI	**Prapat**	**8.62**	**334**	P	**Pn**	**06 16 00.2**	**+0.9**
	1.0nm,0.3s,baz=313,slow=13,SNR=2.3						
PWJI	**Pagerwojo**	**9.49**	**109**	P	**Pn**	**06 16 11.8**	**+0.8**
	26nm,1.1s						
KSM	**Kuching**	**9.90**	**50**	*e*Pn	**Pn**	**06 16 16.6**	**0.0**
JAGI	**Jajag, Banyuwa**	**11.84**	**108**	P	**Pn**	**06 16 42.9**	**-0.3**
	49nm,0.7s						
SBUM	**Sibu**	**11.99**	**52**	*e*Pn	**Pn**	**06 16 48.7**	**+3.4**
PLAI	**Plampang**	**15.39**	**105**	P	**Pn**	**06 17 30.4**	**-0.4**
	38nm,0.6s						
KAPI	**Kappang**	**16.93**	**91**	P	**Pn**	**06 17 50.0**	**-0.2**
	0.7nm,0.3s,baz=248,slow=13,SNR=4.0						
KAPI	**Kappang**	**16.93**	**91**	*e*Pn	**P**	**06 17 51.7**	**+0.4**
	28nm,1.4s						
MYLDM	**Lahad Datu**	**18.68**	**58**	*e*P	**Pn**	**06 18 12.3**	**+0.8**
	24nm,0.9s						
SRAK	**Srakaew**	**18.88**	**358**	P	**Pn**	**06 18 17.4**	**+3.6**
	36nm,0.6s						
UBPT	**Khong Chiam**	**20.30**	**8**	P	Pn	06 18 29.2	-1.5
	29nm,1.3s						
PBKT	**Sadao Pong**	**21.48**	**355**	P	**P**	**06 18 43.0**	**+2.2**
	8.9nm,1.0s						
PANO	**Nakornpanom**	**22.06**	**5**	P	**P**	**06 18 47.9**	**+0.8**

34nm,0.7s
LOEI Loei 22.39 356 P P 06 18 51.1 +0.4
5.4nm,0.9s
UTTA Uttaradit 22.68 355 P P 06 18 54.2 +0.5
3.2nm,0.8s
NONG Nongkai 22.89 1 P P 06 18 56.6 +0.6
45nm,1.0s
CM01 Chiang Mai Arr 23.55 351 eP P 06 19 01.6 -0.6
CMAR Chiang Mai Arr 23.58 351 P P 06 19 01.9 -0.7
5.6nm,0.5s,baz=180,slow=8.7,SNR=20
CMAR LR LR 06 27 42.6
comp=Z,52nm,20.4s,baz=176,slow=35
CHTO Chiang Mai 23.93 351 eP P 06 19 05.0 -0.8
8.7nm,0.8s
FITZ Fitzroy Crossi 25.89 122 P P 06 19 22.1 -1.5
10nm,1.0s,baz=310,slow=8.0,SNR=7.6
FITZ LR LR 06 30 16.5
comp=Z,25nm,20.6s,baz=274,slow=38
FITZ Fitzroy Crossi 25.89 122 eP P 06 19 23.6 -0.1
20nm,1.2s
KMI Kunming 29.92 360 P P 06 20 03.7 +3.9
KMI pmax pmax
comp=Z,9.0nm,0.5s
H08S2 Diego Garcia H 30.19 263 T T 06 52 16.0
baz=85,slow=76
H08S3 Diego Garcia H 30.20 263 T T 06 52 17.1
baz=85
H08S1 Diego Carcia H 30.21 263 T T 06 52 14.9
baz=85,slow=76
GYA Guiyang 31.47 7 eP P 06 20 16.0 +2.6
GYA pP pP 06 20 30.3 +2.2
GYA sP sP 06 20 38.0 +3.0
GYA PP PP 06 21 22.4 -3.1
GYA PcP PcP 06 23 06.8 +1.3
GYA S S 06 25 21.2 +3.7
GYA sS sS 06 25 46.0 +3.6
GYA ScP ScP 06 26 44.3 +0.5
GYA ScS SS 06 27 43.4 +9.0
GYA pmax pmax
comp=Z,10.0nm,0.8s
H01W3 Cape Leeuwin H 31.57 162 T T 06 53 54.5
baz=339,slow=76,SNR=15
H01W2 Cape Leeuwin H 31.59 162 T T 06 53 53.2
baz=339,slow=76,SNR=21
H01W1 Cape Leeuwin H 31.59 162 T T 06 53 52.0
baz=339,slow=76,SNR=24
WRA Warramunga Arr 34.14 119 P P 06 20 35.9 -0.9
comp=Z,3.6nm,0.5s,baz=297,slow=11,SNR=30
WRA PcP PcP 06 23 13.3 +0.3
comp=Z,0.8nm,0.4s,baz=305,slow=2.0,SNR=4.8
WRAB Tennant Creek 34.15 119 eP P 06 20 36.2 -0.6
comp=Z,6.1nm,0.6s
WB2 Warramunga Arr 34.15 119 eP P 06 20 36.3 -0.5
comp=Z,42nm,1.8s
AS31 Alice Springs 35.30 125 eP P 06 20 47.0 +0.3
comp=Z,2.5nm,0.4s
ASAR Alice Springs 35.30 125 P P 06 20 46.8 0.0
comp=Z,2.0nm,0.5s,baz=302,slow=8.3,SNR=14
ASAR PcP PcP 06 23 17.0 +0.7
comp=Z,0.9nm,0.5s,baz=295,slow=2.3,SNR=5.0
ASAR S S 06 26 15.6 -1.2
comp=Z,1.1nm,1.0s,baz=297,slow=17,SNR=6.3
ASAR ScP ScP 06 26 57.0 -0.2
comp=Z,1.9nm,0.8s,baz=292,slow=3.1,SNR=10.0
AS01 Alice Springs 35.34 125 eP P 06 20 46.8 -0.2
GUN Gumba 36.52 334 eP P 06 20 57.8 +0.4
comp=Z,30nm,0.6s
KKN Kakani 36.68 334 eP P 06 20 59.0 +0.4
GKN Gorkha 37.15 333 eP P 06 21 02.8 +0.2
comp=Z,12nm,0.4s
KOLN Koldanda 37.44 331 eP P 06 21 05.6 +0.6
comp=Z,18nm,0.7s
PYUN Piuthan 38.01 331 eP P 06 21 10.5 +0.7
comp=Z,16nm,0.5s
XAN Xi'an 39.24 8 P P 06 21 17.4 -2.5
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN pmax pmax
comp=Z,46nm,6.4s
GTA Gaotai 44.25 357 eP P 06 22 00.3 -0.5
GTA pP pP 06 22 15.3 -0.7
GTA sP sP 06 22 22.4 -0.4
GTA S S 06 28 29.7 -0.7
GTA sS sS 06 28 57.8 +1.7
GTA SS SS 06 31 41.9 -8.7
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,51nm,7.1s
GTA LR LR
comp=N,78nm,18.5s
GTA LR LR
comp=E,190nm,19.0s
GTA LR LR
comp=Z,240nm,17.6s
CTA Charters Tower 44.87 114 P P 06 22 06.3 +0.3
comp=Z,4.5nm,0.5s,baz=293,slow=12,SNR=7.6
CTAO Charters Tower 44.87 114 eP P 06 22 06.3 +0.3
comp=Z,18nm,0.8s
STKA Stephens Creek 45.13 131 P P 06 22 08.7 +0.7
comp=Z,5.0nm,0.6s,baz=300,slow=8.7,SNR=13
STKA Stephens Creek 45.13 131 eP P 06 22 08.8 +0.9
comp=Z,1.9nm,0.6s
HHC Hu-ho-hao-te 46.31 9 eP P 06 22 20.0 +2.9
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,120nm,6.3s
JNU Nakatsue 46.33 33 P P 06 22 16.4 -0.9
comp=Z,2.1nm,0.4s,baz=126,slow=19,SNR=10
BJI Beijing 46.47 14 P P 06 22 17.6 -0.6
BJI S S 06 29 06.6 +4.6
BJI pmax pmax
comp=Z,11nm,0.7s
BJI LR LR
comp=E,200nm,17.8s
BJI LR LR
comp=N,93nm,16.6s
BJI LR LR
comp=Z,100nm,17.8s
KSAR Wonju Array Be 48.26 27 P P 06 22 31.0 -1.2
KSRS Korea Array 48.28 27 P P 06 22 31.0 -1.4
comp=Z,1.4nm,0.5s,baz=224,slow=7.3,SNR=8.4
WMQ Urumqi 50.44 346 P P 06 22 49.7 +0.9
WMQ pP pP 06 23 05.0 +0.7
WMQ sP sP 06 23 12.5 +1.5
WMQ pmax pmax
comp=Z,5.0nm,0.6s
KSH Kashi 50.70 333 P P 06 22 50.3 -0.6
KSH pmax pmax
comp=Z,5.0nm,0.3s
SONM Songino Array 52.68 3 P P 06 23 05.5 -0.1
comp=Z,3.9nm,0.6s,baz=178,slow=8.6,SNR=12
SONM PcP PcP 06 24 15.0 +0.3
comp=Z,1.1nm,0.4s,baz=188,slow=4.0,SNR=2.6
SONA1 Songino Array 52.69 3 eP P 06 23 05.5 -0.1
ULN Ulaanbaatar 52.75 4 eP P 06 23 06.1 0.0
comp=Z,3.8nm,0.9s
MJAR Matsushiro Arr 52.95 36 P P 06 23 05.0 -2.6
comp=Z,3.3nm,0.8s,baz=220,slow=7.2,SNR=7.0
TKM2 Tokmak 2 53.65 335 eP P 06 23 13.1 +0.2
comp=Z,6.5nm,0.6s
EKS2 Erkin-Say 54.22 334 eP P 06 23 17.7 +0.8
comp=Z,5.8nm,0.8s
MK01 Makanchi Array 54.61 343 eP P 06 23 19.0 -0.6
MK31 Makanchi Array 54.64 343 eP P 06 23 19.6 -0.2
MKAR Makanchi Array 54.64 343 P P 06 23 19.3 -0.5
comp=Z,9.1nm,0.5s,baz=148,slow=8.6,SNR=102
MKAR Makanchi Array 54.64 343 eP P 06 23 19.6 -0.2
MAKZ Makanchi 54.74 343 eP P 06 23 20.0 -0.5
comp=Z,3.9nm,1.0s
USRK Ussuriysk Ar. 55.56 25 P P 06 23 25.1 -1.3
comp=Z,3.1nm,0.5s,baz=227,slow=4.7,SNR=9.8
KURK Kurchatov 59.23 342 eP P 06 23 52.0 -0.1
comp=Z,7.6nm,0.7s
GEYT Alibeck 59.48 320 P P 06 23 54.8 +0.6
comp=Z,3.7nm,0.6s,baz=160,slow=4.7,SNR=5.6
KLR Kul'dur 59.59 22 P P 06 23 53.1 -1.6
comp=Z,3.5nm,0.6s,baz=218,slow=5.7,SNR=14
ZAA0 Zalesovo Array 60.60 348 eP P 06 24 00.3 -1.1
ZAA0 eP pP 06 24 00.8 -17
ZAA0 epP sP 06 24 13.3 -11
ZALV Zalesovo Beam 60.60 348 P P 06 24 00.8 -0.7
comp=Z,8.1nm,0.5s,baz=171,slow=5.3,SNR=28
ZRNK Zerenda 64.36 338 eP P 06 24 26.1 -0.5
comp=Z,3.4nm,0.9s
ABKAR Akbulak array 65.56 331 eP P 06 24 33.9 -0.6
comp=Z,4.6nm,0.6s
MAW Mawson 68.13 195 P P 06 24 51.9 +1.4
comp=Z,3.0nm,0.9s,baz=90,slow=5.1,SNR=3.1
MAW LR LR 06 46 52.3
comp=Z,45nm,21.9s,baz=47,slow=29
KBZ Khabaz 72.34 319 P P 06 25 17.4 +0.7
comp=Z,2.0nm,0.7s,baz=128,slow=4.8,SNR=7.8
BOSA Boshof 76.67 242 P P 06 25 43.8 +1.4
comp=Z,4.3nm,1.1s,baz=98,slow=4.5,SNR=4.3
BR131 Keskin Array S 77.34 312 eP P 06 25 46.5 +0.6
BRTR Keskin Array B 77.34 312 P P 06 25 46.1 +0.2
comp=Z,1.8nm,0.7s,baz=133,slow=6.7,SNR=12
SEY Seymchan 77.37 21 P P 06 25 43.5 -1.8
comp=Z,0.6nm,0.4s,baz=207,slow=4.9,SNR=4.9
BR231 Keskin MP Arra 78.01 312 eP P 06 25 46.9 -2.7
VNDA Vanda 78.73 169 P P 06 25 53.4 +0.7
comp=Z,0.4nm,0.6s,baz=315,slow=7.1,SNR=3.5
LAST Lasithi 82.51 306 eP P 06 26 13.1 -0.7
LAST epP pP 06 26 31.6 +1.2
IDI Anoyia 83.00 306 P P 06 26 18.1 +1.8
comp=Z,2.1nm,0.5s,baz=62,slow=7.2,SNR=3.7
AKASG Malin Array Be 83.50 322 P P 06 26 18.8 +0.3
comp=Z,1.1nm,0.6s,baz=92,slow=4.9,SNR=4.4
BUR08 Bucovina Ar. S 85.31 319 eP P 06 26 29.4 +1.5
FINES FINESS Array B 88.01 332 P P 06 26 41.2 +0.7
comp=Z,1.4nm,0.5s,baz=114,slow=5.0,SNR=9.7
ARCES ARCESS Array B 90.19 340 P P 06 26 50.9 +0.3
comp=Z,3.4nm,0.8s,baz=87,slow=4.1,SNR=7.1
CUC Castrocucco 90.82 310 eP P 06 26 52.9 -1.4
comp=Z,5.7nm,0.6s
A04D Lummi Island 121.82 34 P PKPdf 06 32 43.4 -1.2
baz=303
B05A Bryant 122.41 34 P PKPdf 06 32 44.3 -1.4
baz=304
G03D McMinnville, O 123.36 38 P PKPdf 06 32 46.1 -1.6
baz=301
I03D Drain, OR 124.08 39 P PKPdf 06 32 47.4 -1.7
baz=300
I04A Tendick Farm, 124.61 39 P PKPdf 06 32 48.8 -1.5
baz=301
L02D Cave Junction, 124.67 41 P PKPdf 06 32 49.1 -1.2
baz=299
I05D Terrebonne, OR 124.99 38 P PKPdf 06 32 49.7 -1.3
baz=302
M02C Callahan 125.53 41 P PKPdf 06 32 50.7 -1.4
baz=299
J05D Fort Rock, OR 125.61 39 P PKPdf 06 32 50.8 -1.5
baz=302
N02D Trinity Center 125.83 42 P PKPdf 06 32 51.3 -1.4
baz=299
M04C Macdoel 126.00 40 P PKPdf 06 32 52.2 -0.9
baz=300
O03D Paynes Creek 126.76 42 P PKPdf 06 32 53.5 -1.0
baz=299
MSO Missoula 127.67 31 P PKPdf 06 32 55.3 -0.8
baz=311
HLID Hailey 129.51 35 P PKPdf 06 32 59.0 -0.8
baz=309
BOZ Bozeman (W) 129.65 31 P PKPdf 06 32 58.9 -1.0
baz=313
MLAC Mammoth, Mammo 130.09 44 P PKPdf 06 33 00.2 -0.9
baz=300
PKM Mcpherson Peak 130.71 47 P PKPdf 06 33 01.3 -1.0
baz=297
VES Vestal, Richgr 130.79 46 P PKPdf 06 33 01.6 -0.6
baz=299
TIN Tinemaha, Big 130.79 44 P PKPdf 06 33 01.7 -0.6
baz=300
DGMT Dagmar 130.94 24 P PKPdf 06 33 01.8 -0.3
baz=323
SBC Santa Barbara 130.99 48 P PKPdf 06 33 02.1 -0.5
baz=297
CWC Cottonwood Cre 131.21 44 P PKPdf 06 33 02.6 -0.6
baz=300
RLMT Red Lodge 131.21 30 P PKPdf 06 33 02.4 -0.7
baz=316
SCZ2 Santa Cruz Isl 131.25 48 P PKPdf 06 33 02.6 -0.5
baz=297
ARVC Arvin 131.31 46 P PKPdf 06 33 02.9 -0.3
baz=298
LAO LASA Array 131.49 26 P PKPdf 06 33 03.0 -0.3
baz=320
B25A Knox Farm, Ray 131.51 23 P PKPdf 06 33 03.1 -0.2
baz=324
BLG Laguna Peak, P 131.61 48 P PKPdf 06 33 03.2 -0.6
baz=297
OSI Osito Audit: C 131.63 47 P PKPdf 06 33 03.3 -0.6
baz=298
SNCC San Nicolas Is 131.66 49 P PKPdf 06 33 03.5 -0.4
baz=296
A27A Ledoux Ranch, 131.66 21 P PKPdf 06 33 02.8 -0.6
baz=327
MPMC Manual Prospec 131.81 45 P PKPdf 06 33 03.7 -0.7
baz=300
EDW2 Edwards Air Fo 132.03 46 P PKPdf 06 33 04.3 -0.3
baz=299
FURC Furnace Creek, 132.04 44 P PKPdf 06 33 04.2 -0.3
baz=301
TPNV Topopah Spring 132.20 43 P PKPdf 06 33 03.7 -1.4
baz=302
D25A Fairfield 132.35 24 P PKPdf 06 33 04.3 -0.6
baz=324
FMP Fort Macarthur 132.37 48 P PKPdf 06 33 03.7 -1.5
baz=298
A29A Manning Farm, 132.38 20 P PKPdf 06 33 04.5 -0.3
baz=330
CIS Catalina Islan 132.42 48 P PKPdf 06 33 03.8 -1.6
baz=298
SCI2 San Clemente I 132.51 49 P PKPdf 06 33 04.8 -0.7
baz=297
DUG Dugway, Tooele 132.54 37 P PKPdf 06 33 04.4 -1.2
baz=308
BFSC Mount Baldy Ra 132.58 47 P PKPdf 06 33 05.2 -0.6
baz=299
C27A Sayler Ranch, 132.60 22 P PKPdf 06 33 03.8 -1.5
baz=326
GSC Goldstone, Bar 132.67 45 P PKPdf 06 33 05.7 -0.2
baz=300
BW06 Boulder Array 132.71 32 P PKPdf 06 33 05.2 -0.7
baz=314
RRX Edison Barstow 132.75 46 P PKPdf 06 33 05.7 -0.3
baz=300
D26A Manning 132.81 23 P PKPdf 06 33 05.2 -0.5
baz=325
E25A Miller Ranch, 132.84 25 P PKPdf 06 33 05.6 -0.3
baz=323
A31A Linda, St. Vin 133.03 18 P PKPdf 06 33 05.9 -0.1
baz=332
MURC Murrieta 133.23 47 P PKPdf 06 33 04.8 -2.1
baz=299
HEC Hector,Ludlow 133.24 45 P PKPdf 06 33 05.0 -2.0
baz=301
109C Camp Elliot, M 133.63 48 P PKPdf 06 33 05.7 -2.0
baz=298
E27A Carson 133.64 23 P PKPdf 06 33 05.5 -1.8
baz=326
C30A Mose, Pekin 133.69 20 P PKPdf 06 33 05.8 -1.5
baz=330
B32A Ashes, Strandq 133.70 18 P PKPdf 06 33 05.8 -1.5
baz=333
GMRC Granite Mounta 133.74 45 P PKPdf 06 33 06.1 -1.9
baz=301
PFO Pinyon Flats O 133.76 47 P PKPdf 06 33 05.7 -2.3
baz=299
TPFO Pinon Flats 133.76 47 P PKPdf 06 33 05.8 -2.2
baz=299
C31A Landman Farms, 133.86 19 P PKPdf 06 33 05.6 -2.0
baz=331
G25A Newell 133.88 26 P PKPdf 06 33 06.2 -1.7
baz=322
BELC Belle Mtn. Jos 133.90 46 P PKPdf 06 33 06.3 -2.0
baz=300
D30A Buchanan 134.11 20 P PKPdf 06 33 06.6 -1.5
baz=330
MONP2 Monument Peak 134.13 48 P PKPdf 06 33 06.8 -2.1
baz=299
IKP In-Ko-Pah, Jac 134.48 48 P PKPdf 06 33 07.4 -1.9
baz=299
B35A Bob, Littlefor 134.53 15 P PKPdf 06 33 07.0 -1.8
baz=337
SWSC Sam W. Stewart 134.57 47 P PKPdf 06 33 07.7 -1.7
baz=300
O20A White River Ci 135.24 34 P PKPdf 06 33 08.8 -1.9
baz=313
D34A Park Rapids 135.28 17 P PKPdf 06 33 08.6 -1.7
baz=334
G29A Hoven 135.31 23 P PKPdf 06 33 08.8 -1.6
baz=327
C36A Pine Crest Far 135.32 15 P PKPdf 06 33 08.6 -1.8
baz=338
J26A Sides Ranch, S 135.51 27 P PKPdf 06 33 08.9 -2.0
baz=322
D37A Cotton 135.98 15 P PKPdf 06 33 10.0 -1.6
baz=338
H33A Prehn Over Nor 136.91 20 P PKPdf 06 33 11.8 -1.6
baz=331
214A Organ Pipe Nat 137.24 47 P PKPdf 06 33 12.4 -2.0
baz=302
S22A 4UR Ranch, Cre 137.67 36 P PKPdf 06 33 13.3 -2.2
baz=313
ECSD EROS Data Cent 137.78 21 P PKPdf 06 33 13.3 -1.8
baz=331
OGNE Ogallala 137.85 28 P PKPdf 06 33 13.4 -1.9
baz=322
SDCO Great Sand Dun 138.43 34 P PKPdf 06 33 14.5 -2.3
baz=315
I37A Lemond, Waseca 138.59 18 P PKPdf 06 33 14.9 -1.6
baz=335
O32A Brockman Farm, 140.09 25 P PKPdf 06 33 17.6 -1.8
baz=326
L37A Phoenix Point, 140.19 19 P PKPdf 06 33 17.8 -1.7
baz=334
N38A Joes South For 141.55 20 P PKPdf 06 33 20.0 -2.1
baz=334
P35A Duane Minner, 141.64 24 P PKPdf 06 33 20.2 -2.0
baz=329
Q35A Mercer Eighty, 142.20 24 P PKPdf 06 33 21.4 -1.9
baz=328
T32A Huddler Ranch, 142.30 29 P PKPdf 06 33 21.5 -2.1
baz=323
Q36A Arnold C. Orve 142.35 24 P PKPdf 06 33 21.4 -2.1
baz=329
P38A Dawn 142.49 21 P PKPdf 06 33 21.5 -2.2
baz=333
MNTX Cornudas Mount 142.55 41 P PKPdf 06 33 22.0 -2.1
baz=310
O40A La Belle 142.60 19 P PKPdf 06 33 21.7 -2.2
baz=336
R36A Gordon, Harris 142.88 24 P PKPdf 06 33 22.3 -2.1
baz=329
P40A Paris 143.09 19 P PKPdf 06 33 22.7 -2.1
baz=335
U33A Lingo Farm, Me 143.29 29 P PKPbc 06 33 23.1 +0.7
baz=324
M54A Oil Creek Stat 143.56 3 P PKPbc 06 33 23.5 +0.6
baz=356
U34A Anderson Ranch 143.56 28 P PKPbc 06 33 23.5 +0.4
baz=324
SFIN Lafayette 143.65 13 P PKPbc 06 33 23.8 +0.6
baz=343
T36A Boggs Farm, Ca 143.79 26 P PKPab 06 33 23.3 +0.2
baz=328
R39A Chumby, Stover 143.83 21 P PKPbc 06 33 23.8 -0.1
baz=333
U35A Pawnee 143.99 27 P PKPab 06 33 23.9 +0.1
baz=326
V34A Guthrie 144.06 29 P PKPab 06 33 24.2 +0.1
baz=324
N54A Moraine State 144.08 4 P PKPab 06 33 24.2 +0.1
baz=355
R40A Maddies Statio 144.13 20 P PKPab 06 33 24.0 -0.3
baz=334
W33A Caddo, Fort Co 144.13 30 P PKPbc 06 33 24.8 0.0
baz=322
T37A Cheneyville 18 144.14 24 P PKPab 06 33 24.1 -0.3
baz=329
N59A State Game Lan 144.19 358 P PKPab 06 33 24.5 0.0
baz=2.4
X32A Elmer 144.28 32 P PKPab 06 33 25.0 0.0
baz=320
S39A Bolivar 144.28 22 P PKPab 06 33 24.8 -0.1
baz=332
WMOK Wichita Mounta 144.30 31 P PKPab 06 33 24.5 -0.6
baz=321
W34A Bridge Creek, 144.41 30 P PKPab 06 33 25.3 -0.2
baz=323
U36A Oologah 144.41 26 P PKPab 06 33 25.1 -0.3
baz=327
V35A Meyer Ranch, C 144.44 28 P PKPab 06 33 25.1 -0.4
baz=325
T38A Diamond 144.47 24 P PKPab 06 33 25.1 -0.5
baz=330
ACSO Alum Creek Sta 144.52 8 ePKPdf PKPab 06 33 25.7 0.0
BDFB Brasilia 144.54 234 PKP PKPdf 06 33 28.6 +0.5
comp=Z,3.9nm,0.4s,baz=130,slow=2.1,SNR=13
S40A Lebanon 144.66 21 P PKPab 06 33 25.5 -0.8
baz=333,SNR=5.4
U37A Salina 144.67 25 P PKPab 06 33 25.4 -1.0
baz=328
TUL1 Leonard 144.79 27 P PKPab 06 33 25.8 -1.0
baz=327
TUL1 Leonard 144.79 27 ePKPbc PKPab 06 33 26.5 -0.3
V36A Jenks 144.83 27 P PKPab 06 33 26.3 -0.7
baz=326,SNR=6.9
O56A Blue Knob Stat 144.84 2 P PKPab 06 33 25.4 -1.5
baz=358
T39A Clever 144.84 23 P PKPab 06 33 26.0 -1.0
baz=331,SNR=8.1
X34A Smith Ranch, M 144.89 30 P PKPab 06 33 26.4 -0.8
baz=323
W35A Tecumseh 144.91 29 P PKPab 06 33 26.5 -0.8
baz=324,SNR=5.6
BLO Bloomington 144.93 13 ePKPbc PKPab 06 33 26.4 -0.8
U38A Gravette 144.95 24 P PKPab 06 33 26.3 -1.1
baz=329,SNR=15
T40A Mansfield 145.05 22 P PKPab 06 33 26.5 -1.3
baz=333,SNR=6.4
V37A Hulbert 145.10 26 P PKPbc 06 33 27.0 -0.9
baz=328,SNR=6.7
MVL Millersville 145.12 359 ePKPbc PKPab 06 33 28.1 +0.2
R44A Waltonville 145.17 16 P PKPbc 06 33 27.2 -0.9
baz=339,SNR=6.3
TX31 Lajitas Ar. Si 145.19 43 ePKPbc PKPbc 06 33 28.4 -0.1
TXAR Lajitas Array 145.19 43 PKP PKPdf 06 33 28.9 0.0
comp=Z,2.9nm,0.7s,baz=283,slow=1.5,SNR=29
W36A Wetumka 145.23 28 P PKPbc 06 33 27.4 -0.9
baz=326
HHAR Hobbs 145.27 24 ePKPbc PKPbc 06 33 27.6 -0.8
U39A Green Forest 145.36 23 P PKPbc 06 33 27.6 -1.2
baz=331,SNR=11
T41A Mountain View 145.42 21 P PKPbc 06 33 28.1 -0.8
baz=334,SNR=19
Z33A Whitaker Ranch 145.42 33 P PKPbc 06 33 28.3 -0.7
baz=320
V38A Canehill 145.43 25 P PKPbc 06 33 27.9 -1.1
baz=329,SNR=7.7
Y34A Reagan Ranch, 145.43 31 P PKPbc 06 33 28.8 -0.2
baz=322
ABTX Abilene, Hawle 145.44 35 P PKPbc 06 33 28.5 -0.6
baz=318
X35A Drake 145.48 30 P PKPbc 06 33 28.6 -0.6
baz=324,SNR=11
W37B Quinton 145.60 27 P PKPdf 06 33 29.1 -0.2
baz=327
SIUC Southern Illin 145.63 17 ePKPdf PKPdf 06 33 29.1 -0.1
U40A Yellville 145.63 23 P PKPdf 06 33 29.0 -0.3
baz=332,SNR=13
S44A Carbondale 145.63 17 P PKPdf 06 33 29.0 -0.2
baz=338
X36A Centrahoma 145.64 29 P PKPbc 06 33 29.6 -0.1
baz=325,SNR=5.6
V39A Pettigrew 145.77 24 P PKPdf 06 33 29.3 -0.3
baz=330
S45A Carrier Mills 145.84 16 P PKPbc 06 33 30.1 -0.1
baz=340
133A Hamilton Ranch 145.86 34 P PKPdf 06 33 30.0 +0.2
baz=319,SNR=11
WCI Wyandotte Cave 145.89 13 ePKPdf PKPdf 06 33 28.3 -1.4
W38A Poteau 146.06 26 P PKPbc 06 33 31.1 +0.1
baz=328
X37A Clayton 146.08 27 P PKPbc 06 33 30.6 -0.4
baz=326
V40A Witts Springs 146.13 23 P PKPbc 06 33 30.9 -0.3
baz=331,SNR=5.9
Z35A Perchaven, San 146.19 31 P PKPbc 06 33 31.0 -0.3
baz=322
Y36A Durant 146.22 29 P PKPbc 06 33 31.1 -0.3
baz=324
X38A Whitesboro 146.26 27 P PKPbc 06 33 31.6 +0.1
baz=327,SNR=5.2
W39A Magazine 146.26 25 P PKPbc 06 33 31.8 +0.2
baz=329
233A Rising Star 146.31 34 P PKPbc 06 33 31.7 -0.1
baz=319,SNR=11
134A White-Moore Ra 146.34 33 P PKPbc 06 33 31.9 0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=320						
V41A	Mountainview	146.40	22	P	PKPbc	06 33 31.5	-0.5
	baz=332,SNR=6.7						
Y37A	Hugo	146.47	28	P	PKPbc	06 33 32.0	-0.1
	baz=326						
W40A	Ferguson Farm,	146.56	24	P	PKPbc	06 33 32.2	-0.2
	baz=330						
Z36A	Blue Ridge	146.65	30	P	PKPbc	06 33 32.9	+0.2
	baz=324						
V42A	Cord	146.66	21	P	PKPbc	06 33 32.4	-0.2
	baz=334,SNR=7.6						
X39A	Fountain Ranch	146.71	26	P	PKPbc	06 33 33.3	+0.5
	baz=328,SNR=6.1						
234A	Clairette	146.74	34	P	PKPbc	06 33 33.4	+0.3
	baz=320						
333A	Richland Sprin	146.77	35	P	PKPbc	06 33 33.3	+0.1
	baz=318						
JCT	Junction City	146.90	37	P	PKPbc	06 33 33.8	+0.1
	baz=316						
JCT	Junction City	146.90	37	*e*PKPdf	PKPbc	06 33 33.6	0.0
W41B	Gary Mavity, V	146.90	23	P	PKPbc	06 33 33.8	+0.4
	baz=332						
MIAR	Mount Ida	146.91	25	P	PKPab	06 33 34.4	-0.4
	baz=329,SNR=9.7						
MIAR	Mount Ida	146.91	25	*e*PKPdf	PKPbc	06 33 33.8	+0.3
WHTX	Lake Whitney,	147.12	33	P	PKPbc	06 33 33.7	-0.4
	baz=321						
433A	Art	147.13	36	P	PKPbc	06 33 33.7	-0.6
	baz=317						
334A	Lometa	147.19	34	P	PKPbc	06 33 34.1	-0.3
	baz=319						
Y39A	Lockesburg	147.20	26	P	PKPbc	06 33 34.1	-0.1
	baz=328						
136A	Ennis	147.23	31	P	PKPbc	06 33 34.1	-0.3
	baz=323						
X40A	Basin Creek Fa	147.27	24	P	PKPbc	06 33 34.2	-0.2
	baz=330						
Z38A	Mt. Pleasant	147.37	28	P	PKPbc	06 33 34.7	0.0
	baz=326						
137A	Heron Place, G	147.53	30	P	PKPbc	06 33 34.9	-0.3
	baz=324						
434A	Burnet	147.56	35	P	PKPbc	06 33 35.1	-0.3
	baz=318						
236A	Katherine and	147.61	32	P	PKPbc	06 33 35.6	+0.2
	baz=322						
533A	Kerrville	147.66	37	P	PKPbc	06 33 35.9	+0.2
	baz=316						
335A	Moody	147.68	34	P	PKPbc	06 33 35.8	+0.1
	baz=320						
138A	Matatall Enter	147.80	29	P	PKPbc	06 33 36.5	+0.5
	baz=325						
Y41A	Eaglette Beard	147.89	24	P	PKPbc	06 33 36.4	+0.2
	baz=330						
336A	Riesel	147.92	33	P	PKPbc	06 33 36.5	+0.2
	baz=321						
435B	Jarrell	147.97	34	P	PKPbc	06 33 36.9	+0.4
	baz=319						
237A	Washetta, Mont	147.98	31	P	PKPbc	06 33 36.8	+0.4
	baz=323						
633A	Saathoff Ranch	148.01	38	P	PKPbc	06 33 36.8	+0.2
	baz=316						
534A	Blanco	148.02	36	P	PKPbc	06 33 36.9	+0.3
	baz=317						
Z40A	Long Farm, Mag	148.08	26	P	PKPbc	06 33 37.3	+0.6
	baz=328						
238A	Jacksonville	148.32	30	P	PKPbc	06 33 37.3	0.0
	baz=324						
832A	Faith Ranch, C	148.32	40	P	PKPbc	06 33 37.6	+0.2
	baz=313						
PLAL	Pickwick Lake	148.50	17	*e*PKPbc	PKPbc	06 33 36.8	-0.9
X45A	UM Field Stati	148.60	20	P	PKPbc	06 33 37.8	-0.2
	baz=336						
833A	Chaparral WMA,	148.67	40	P	PKPbc	06 33 38.3	0.0
	baz=314						
Z42A	Norrel Spur, H	148.69	24	P	PKPbc	06 33 38.1	-0.1
	baz=331						
Y44A	Strider, Charl	148.74	21	P	PKPbc	06 33 38.3	-0.1
	baz=334						
338A	Crockett	148.75	31	P	PKPbc	06 33 38.7	+0.3
	baz=324						
SWET	Sewanee	148.85	14	*e*PKPbc	PKPbc	06 33 38.2	-0.4
CPCT	Cooper Cave	148.94	12	*e*PKPbc	PKPbc	06 33 38.7	-0.1
Y45A	Yeager Farm, C	149.06	20	P	PKPbc	06 33 38.6	-0.5
	baz=336						
933A	Laredo	149.23	41	P	PKPbc	06 33 39.4	-0.4
	baz=313						
636A	Smothers Creek	149.25	35	P	PKPbc	06 33 39.4	-0.4
	baz=319						
Y46A	Houston	149.28	19	P	PKPbc	06 33 39.0	-0.7
	baz=337						
241A	Mo Tay, Goldon	149.34	27	P	PKPbc	06 33 39.1	-0.8
	baz=328						
835A	Beeville	149.67	38	P	PKPbc	06 33 40.0	-0.8
	baz=316						
KMSC	Kings Mountain	149.74	7	P	PKPbc	06 33 39.9	-1.0
	baz=352						
Z48A	Northport	150.15	18	P	PKPbc	06 33 41.0	-0.8
	baz=339						
Z47A	Carrollton	150.16	18	P	PKPbc	06 33 41.7	-0.2
	baz=338						
244A	Avery, Jackson	150.27	23	P	PKPbc	06 33 41.6	-0.6
	baz=332						
146A	Union	150.35	20	P	PKPbc	06 33 41.7	-0.6
	baz=336						
247A	Quitman	151.03	20	P	PKPdf	06 33 36.0	-2.2
	baz=336						
542A	Morse	151.11	28	P	PKPdf	06 33 36.1	-2.2
	baz=327						
345A	Thompson Farm,	151.18	23	P	PKPdf	06 33 36.3	-2.1
	baz=333						
446A	Poplarville	151.90	23	P	PKPdf	06 33 37.4	-2.2
	baz=334						

IDC 01 06:14:58.0±3.4**, 30°.39S**×**138°.36E, h0**km**, mb1 3.1**/3**, mb1mx3.0**/39**, mbtmp2.8**/3**, ML2.8**/3**, Error ellipse: s-maj=79.5km s-min=15.9km az=42.0, South Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.14	119	Pn	Pn	06 15 47.5	-1.3
	0.3nm,0.3s,baz=298,slow=15,SNR=3.5						
STKA				Pg	Pg	06 15 56.9	-1.4
	1.7nm,0.3s,baz=296,slow=14,SNR=16						
STKA				Sn	Sn	06 16 26.2	-0.9
	1.6nm,0.3s,baz=300,slow=16,SNR=4.0						
STKA				Lg	Lg	06 16 38.2	
	4.5nm,0.3s,baz=31,slow=23,SNR=8.0						
ASAR	Alice Springs	7.79	328	Pn	Pn	06 16 53.2	+0.6
	0.2nm,0.3s,baz=151,slow=12,SNR=7.4						
ASAR				Sn	Sn	06 18 22.5	+0.9
	0.2nm,0.3s,baz=152,slow=22,SNR=4.8						
WRA	Warramunga Arr	11.02	340	Pn	Pn	06 17 36.7	-0.3
	0.1nm,0.3s,baz=155,slow=11,SNR=9.2						

*ISK **01** 06:15:33.7, 39°.13N×29°.11E, h6km, MD2.5*
*ISCJB **01** 06:15:34.8±0.6, 39°.13N±0°.03×29°.12E±0°.04, h9km±5km, Error ellipse: s-maj=5.7km s-min=5.1km az=151.1*
*CSEM **01** 06:15:34.6±0.1, 39°.13N×29°.13E, h10km, MD2.6, Error ellipse: s-maj=2.5km s-min=2.3km az=105.0*
*DDA **01** 06:15:35.0, 39°.14N×29°.13E, h7km, Md2.6*
ISC 01 06:15:35.0±0.9**, 39°.14N**±0°.03×**29°.14E**±0°.03**, h12**km±8km**, n19, σ0^{s}53**/34**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.27	101	P	Pg	06 15 40.8	+0.1
GDZ				S	Sg	06 15 45.2	+0.6
GDZ	Gediz	0.27	101	*i* P	Pg	06 15 40.8	+0.1
GDZ				*i* S	Sg	06 15 45.1	+0.6
DEMI	Demirci	0.34	254	P	Pg	06 15 42.0	0.0
DEMI				S	Sg	06 15 46.7	+0.1
DEMI	Demirci	0.34	254	*i* P	Pg	06 15 42.0	0.0
DEMI				*i* S	Sg	06 15 46.7	+0.1
TVSB	Tavsanli	0.40	39	*e*PG	Pg	06 15 42.4	-0.6
TVSB				*e*SG	Sg	06 15 48.2	-0.1
TVSB	Tavsanli	0.40	39	*e*Pg	Pg	06 15 42.4	-0.6
TVSB				*e*Sg	Sg	06 15 48.2	-0.1
KHAL	Karahalli	0.82	160	P	Pg	06 15 50.2	-0.7
KHAL				S	Sg	06 16 00.9	-0.7
KHAL	Karahalli	0.82	160	*i* P	Pg	06 15 50.2	-0.7
KHAL				*i* S	Sg	06 16 00.9	-0.7
IGD	Bursa	1.12	2	*i* P	Pb	06 15 56.5	+0.1
IGD				*i* S	Sg	06 16 11.2	-0.1
IZI	Iznik	1.22	12	*e*PN	Pg	06 15 57.7	-0.9
IZI				*e*SN	Sn	06 16 15.5	+1.0
IZI	Iznik	1.22	12	*e*Pn	Pg	06 15 57.7	-0.9
IZI				*e*Sn	Sn	06 16 15.5	+1.0
BORA	Eskisehir	1.26	54	P	Pg	06 15 59.0	-0.2
BORA				S	Sn	06 16 16.0	+0.6
BORA	Eskisehir	1.26	54	*i* P	Pg	06 15 59.0	-0.2
BORA				*i* S	Sn	06 16 16.0	+0.6
KCTX	Karacabey (Bur	1.27	332	*e*PN	Pn	06 15 58.5	-0.2
KCTX				*e*SN	Sn	06 16 16.3	+0.6
KCTX	Karacabey (Bur	1.27	332	*e*Pn	Pn	06 15 58.5	-0.2
KCTX				*e*Sn	Sn	06 16 16.3	+0.6
ARMT	Armutlu	1.44	352	*e*PN	Pn	06 16 00.8	-0.1
ARMT	Armutlu	1.44	352	*e*Pn	Pn	06 16 00.8	-0.1
GONE	Gonen-Balikesi	1.44	309	*e*PN	Pn	06 16 00.8	-0.1
GONE	Gonen-Balikesi	1.44	309	*e*Pn	Pn	06 16 00.8	-0.1

*NIED **01** 06:22:00, 39°.90N×143°.40E, h17km, Mw4.1 Best double couple: Mo1.78000×10^{15} NP1:φs220.00000°, δ27.00000°, λ109.00000°. NP2:φs19.00000°, δ64.00000°, λ81.00000°.*
*JMA **01** 06:22:20.3±0.2, 39°.86N×143°.44E, h21km±4km, M4.3*
*ISCJB **01** 06:22:22.5±1.0, 39°.78N±0°.05×143°.40E±0°.08, h36km±7km, mb4.0/19, MS3.3/7, Error ellipse: s-maj=11.7km s-min=5.6km az=31.9*
*IDC **01** 06:22:24.6±3.7, 39°.75N×143°.28E, h38km±31km, mb3.8/17, mb1 4.0/19, mb1mx3.9/49, mbtmp4.0/19, ML3.6/2, MS3.3/14, Ms1 3.3/14, ms1mx3.1/47, Error ellipse: s-maj=18.8km s-min=15.5km az=107.0*
*NEIC **01** 06:22:25.2±0.9, 39°.79N×143°.36E, h43km±7km, mb4.3/2, Error ellipse: s-maj=11.4km s-min=6.5km az=120.0*
ISC 01 06:22:24.7±0.8**, 39°.77N**±0°.06×**143°.35E**±0°.09**, h37**km±2km**, n57, σ1^{s}24**/49**, mb4.0**/19**, MS3.1**/7**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.16	279	P	Pn	06 22 42.0	-2.2
JTH				*e*S	Sn	06 22 57.6	-1.2
MIYJ	Miyakonagasawa	1.20	261	P	Pn	06 22 43.2	-1.6
MIYJ				S	Sn	06 22 59.4	-0.4
JANG	Nango	1.53	294	P	Pn	06 22 47.2	-2.2
JOM	Ohasama	1.62	260	P	Pn	06 22 49.9	-0.7
JOM				*e*S	Sn	06 23 11.2	+1.0
JMK	Ichinoseki	1.84	244	P	Pn	06 22 52.8	-0.9
JTM	Tenmabayashi	2.02	301	P	Pn	06 22 55.0	-1.1
JAH	Hinai	2.13	282	P	Pn	06 22 57.0	-0.6
JRG	Rokugo	2.13	261	P	Pn	06 22 57.0	-0.7
ERM	Erimo	2.25	356	*e*Pn	Pn	06 22 59.3	+0.1
JOT	Ohata	2.38	313	P	Pn	06 23 00.0	-1.0
JYK	Kaneyama	2.47	251	P	Pn	06 23 02.0	-0.3
JNBK	Urakawa-nobuka	2.55	350	P	Pn	06 23 02.5	-0.9
JNBK				*e*S	Sn	06 23 32.8	-0.3
JCH	Churui	2.84	0	P	Pn	06 23 05.6	-1.8
JCH				*e*S	Sn	06 23 38.7	-1.6
ASAJ	Asahikawa	4.38	353	Pn	Pn	06 23 28.1	-0.5
	1.8nm,0.3s,baz=218,slow=22,SNR=7.1						
ASAJ	Asahikawa	4.38	353	Pn	Pn	06 23 28.1	-0.5
ASAJ				*e*Pn	Pn	06 23 28.3	-0.2
MJAR	Matsushiro Arr	5.18	233	Pn	Pn	06 23 39.6	0.0
	3.9nm,0.3s,baz=36,slow=12,SNR=52						
MJAR				LR	LR	06 25 53.4	
	comp=Z,263nm,19.8s,baz=60,slow=41						
MAJO	Matsushiro	5.18	233	*e*Pn	Pn	06 23 40.3	+0.7
	36nm,0.6s						
MAT	Matsushiro	5.18	233	P	Pn	06 23 40.0	+0.4
MAT				S	Sn	06 24 35.6	-2.4
JHJ	Hachijo jima 2	7.23	204	LR	LR	06 26 41.2	
	comp=Z,99nm,19.6s,baz=62,slow=36						
USRK	Ussuriysk Ar.	9.54	301	Pn	Pn	06 24 42.8	+3.4
	0.8nm,0.3s,baz=90,slow=14,SNR=11						
USRK				LR	LR	06 28 19.0	
	comp=Z,204nm,18.7s,baz=149,slow=37						
JNU	Nakatsue	12.03	240	LR	LR	06 30 10.1	
	comp=Z,211nm,19.9s,baz=116,slow=39						
KSRS	Korea Array	12.29	264	Pn	Pn	06 25 20.4	+3.4
	0.3nm,0.3s,baz=82,slow=12,SNR=6.9						
KSRS				LR	LR	06 29 33.3	
	comp=Z,196nm,18.9s,baz=72,slow=35						
KSAR	Wonju Array Be	12.32	264	Pn	Pn	06 25 20.4	+2.9
KLR	Kul'dur	12.55	323	LR	LR	06 30 20.4	
	comp=Z,123nm,21.5s,baz=112,slow=38						
PETK	Petropavlovsk-	16.56	32	LR	LR	06 32 17.3	
	comp=Z,52nm,19.7s,baz=204,slow=36						
MA2	Magadan	20.37	11	P	P	06 26 58.0	+0.3
	6.8nm,0.5s,baz=204,slow=12,SNR=5.4						
MA2				LR	LR	06 34 42.1	
	comp=Z,51nm,18.6s,baz=276,slow=36						
YAK	Yakutsk	23.79	344	LR	LR	06 36 34.8	
	comp=Z,44nm,20.7s,baz=352,slow=36						
SONM	Songino Array	27.65	299	P	P	06 28 08.4	-0.5
	1.8nm,0.7s,baz=92,slow=11,SNR=5.7						
SONM				LR	LR	06 39 44.9	
	comp=Z,146nm,18.9s,baz=88,slow=38						
H11N2	WAKE ISLAND Hy	28.43	128	T	T	06 58 15.3	
	baz=318,slow=75,SNR=319						
H11N1	WAKE ISLAND Hy	28.44	128	T	T	06 58 13.0	
	baz=318,slow=75						
H11N3	WAKE ISLAND Hy	28.45	128	T	T	06 58 15.9	
	baz=318,slow=75,SNR=268						
H11S1	WAKE ISLAND Hy	29.25	130	T	T	06 59 17.0	
	baz=320,slow=74						
H11S3	WAKE ISLAND Hy	29.25	130	T	T	06 59 14.2	
	baz=320,slow=74						
H11S2	WAKE ISLAND Hy	29.27	130	T	T	06 59 15.9	
	baz=320						
TLY	Talaya	29.80	307	LR	LR	06 40 46.0	
	comp=Z,44nm,19.2s,baz=92,slow=37						
ZALV	Zalesovo Beam	41.25	310	P	P	06 30 05.8	0.0
	5.1nm,0.5s,baz=93,slow=7.6,SNR=17						
ZALV				PcP	PcP	06 32 04.3	+0.3
	1.0nm,0.4s,baz=103,slow=4.4,SNR=4.0						
CMAR	Chiang Mai Arr	43.69	254	LR	LR	06 49 42.8	
	comp=Z,22nm,18.8s,baz=80,slow=38						
MKAR	Makanchi Array	44.01	300	P	P	06 30 28.1	-0.3
	3.2nm,0.8s,baz=83,slow=9.9,SNR=18						
ILAR	Eielson Array	46.37	34	P	P	06 30 47.0	+0.2
	0.9nm,0.7s,baz=261,slow=6.8,SNR=12						
TKM2	Tokmak 2	49.71	297	*e*P	P	06 31 13.2	+0.1
	9.4nm,0.9s						
AAK	Ala-Archa	50.57	297	LR	LR	06 53 48.1	
	comp=Z,57nm,18.4s,baz=52,slow=37						
KKAR	Karatay Array	53.10	299	*e*P	P	06 31 37.7	-0.6
	0.7nm,0.4s						
ABKAR	Akbulak array	57.36	309	*e*P	P	06 32 08.6	-0.2
	2.7nm,0.6s						
WRA	Warramunga Arr	60.00	190	P	P	06 32 26.5	-0.9
	2.1nm,0.7s,baz=7.2,slow=6.9,SNR=23						
YKA	Yellowknife Ar	60.68	31	P	P	06 32 32.0	+0.4
	0.2nm,0.6s,baz=304,slow=6.6,SNR=3.8						
ASAR	Alice Springs	63.72	190	P	P	06 32 52.4	-0.1
	0.8nm,0.7s,baz=8.6,slow=5.6,SNR=10						
GEYT	Alibeck	63.85	299	P	P	06 32 52.2	-1.1
	1.4nm,0.3s,baz=33,slow=9.1,SNR=3.7						
FINES	FINESS Array B	67.10	332	P	P	06 33 13.2	-0.6
	1.8nm,0.6s,baz=44,slow=6.3,SNR=6.2						
KVAR	Kislovodsk Arr	70.25	311	LR	LR	07 09 25.8	
	comp=Z,47nm,18.0s,slow=40						
KBZ	Khabaz	70.27	311	P	P	06 33 34.3	+0.4
	3.9nm,0.9s,baz=52,slow=2.2,SNR=8.8						
NVAR	Mina Array Bea	72.15	55	P	P	06 33 46.2	+0.5
	1.0nm,0.7s,baz=287,slow=6.0,SNR=5.2						
NB2	NORSAR Subarra	72.24	338	P	P	06 33 45.4	-0.2
	comp=Z,1.1nm,0.6s,baz=38,slow=6.2						
NOA	NORSAR Array B	72.24	338	P	P	06 33 45.5	-0.1
	comp=Z,1.7nm,0.7s,baz=39,slow=6.0,SNR=6.0						
AKASG	Malin Array Be	73.06	323	P	P	06 33 50.2	-0.4
	comp=Z,0.8nm,0.5s,baz=43,slow=5.9,SNR=5.3						
PDAR	Pinedale Array	74.68	47	P	P	06 34 01.0	+0.5
	comp=Z,0.5nm,0.6s,baz=284,slow=3.6,SNR=4.1						
BRTR	Keskin Array B	78.16	312	P	P	06 34 20.4	+0.2
	comp=Z,0.4nm,0.6s,baz=81,slow=4.5,SNR=2.6						
GERES	GERESS Array B	81.17	329	P	P	06 34 36.1	-0.2
	comp=Z,0.6nm,0.4s,baz=22,slow=4.3,SNR=4.7						

*NIED **01** 06:27:00, 39°.90N×143°.40E, h23km, Mw3.5 Best double couple: Mo2.28000×10^{14} NP1:φs181.00000°, δ39.00000°, λ74.00000°. NP2:φs21.00000°, δ53.00000°, λ103.00000°.*
JMA 01 06:27:15.6±0.3**, 39°.85N**×**143°.37E, h19**km±4km**, M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.16	275	P	Pn	06 27 36.6	-0.2
MIYJ	Miyakonagasawa	1.23	258	P	Pn	06 27 37.8	+0.1
JANG	Nango	1.52	291	P	Pn	06 27 41.7	0.0
JOM	Ohasama	1.65	257	P	Pn	06 27 44.3	+0.8
JOM				*e*S	Sb	06 28 05.1	-0.6
JTM	Tenmabayashi	1.99	299	P	Pn	06 27 49.5	+1.2
JAH	Hinai	2.13	280	P	Pn	06 27 51.6	+1.5
JRG	Rokugo	2.16	259	P	Pn	06 27 51.6	+1.0
JOT	Ohata	2.34	312	P	Pn	06 27 54.2	+1.2
JNBK	Urakawa-nobuka	2.47	349	P	Pn	06 27 56.8	+2.0
JNBK				*e*S	Sn	06 28 26.7	+2.2
JYK	Kaneyama	2.51	249	P	Pn	06 27 56.7	+1.3

*ISK **01** 06:34:30.7, 39°.18N×29°.01E, h6km, MD2.4*
*ISCJB **01** 06:34:31.5±0.6, 39°.14N±0°.03×29°.10E±0°.05, h12km±5km, Error ellipse: s-maj=6.7km s-min=5.0km az=40.6*
*CSEM **01** 06:34:31.6±0.1, 39°.14N×29°.09E, h12km, MD2.5, Error ellipse: s-maj=3.7km s-min=2.4km az=114.0*
*DDA **01** 06:34:32.2, 39°.12N×29°.09E, h7km, Md2.5*
ISC 01 06:34:30.6±1.2**, 39°.17N**±0°.03×**29°.14E**±0°.03**, h4**km±14km**, n12, σ0^{s}57**/23**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.28	107	S	Sb	06 34 43.0	-0.3
GDZ	Gediz	0.28	107	*i* P	Pg	06 34 35.0	-1.0
GDZ				*i* S	Sb	06 34 43.0	-0.3
DEMI	Demirci	0.35	249	P	Pb	06 34 38.6	-0.9
DEMI				S	Sg	06 34 42.8	+0.7
DEMI	Demirci	0.35	249	*i* P	Pb	06 34 38.6	-0.9
DEMI				*i* S	Sg	06 34 42.8	+0.7
TVSB	Tavsanli	0.38	42	*e*PG	Pb	06 34 39.9	0.0
TVSB				*e*SG	Sb	06 34 46.3	+0.2
TVSB	Tavsanli	0.38	42	*e*Pg	Pb	06 34 39.9	0.0
TVSB				*e*Sg	Sb	06 34 46.3	+0.2
KULA	Kula-Manisa	0.75	210	*e*PG	Pg	06 34 45.0	-0.1
KULA				*e*SG	Sg	06 34 55.5	+0.6
KULA	Kula-Manisa	0.75	210	*e*Pg	Pg	06 34 45.0	-0.1
KULA				*e*Sg	Sg	06 34 55.5	+0.6
KHAL	Karahalli	0.84	161	P	Pb	06 34 48.2	+0.3
KHAL				S	Sg	06 34 58.2	+0.4
KHAL	Karahalli	0.84	161	*i* P	Pb	06 34 48.2	+0.3
KHAL				*i* S	Sg	06 34 58.2	+0.4
ARMT	Armutlu	1.41	351	*e*PN	Pn	06 34 57.2	+0.1
ARMT				*e*SN	Sg	06 35 16.5	+0.6
ARMT	Armutlu	1.41	351	*e*Pn	Pn	06 34 57.2	+0.1
ARMT				*e*Sn	Sg	06 35 16.5	+0.6

*NIED **01** 06:44:00, 40°.30N×143°.40E, h17km, Mw4.4 Best double couple: Mo4.09000×10^{15} NP1:φs170.00000°, δ23.00000°, λ49.00000°. NP2:φs33.00000°, δ73.00000°, λ105.00000°.*
*ISCJB **01** 06:44:30.2±1.0, 40°.26N±0°.03×143°.45E±0°.04, h18km±6km, mb4.5/69, MS3.9/19, Error ellipse: s-maj=6.7km s-min=3.6km az=38.9*
*JMA **01** 06:44:30.6±0.2, 40°.27N×143°.35E, h10km±2km, M4.5*
JMA Felt I J1.
*BJI **01** 06:44:32.1, 40°.30N×143°.23E, h30km, mb4.8/52, mB4.8/33, Ms4.2/42, Ms7 4.0/39*
*NEIC **01** 06:44:32.9±1.6, 40°.28N×143°.42E, h24km±11km, mb4.7/16, Error ellipse: s-maj=8.4km s-min=5.0km az=125.0*
NEIC Recorded [1 JMA] in Iwate.
*MOS **01** 06:44:32.6±1.1, 40°.30N×143°.37E, h33km, mb4.8/37, Error ellipse: s-maj=8.8km s-min=5.0km az=103.5*
*IDC **01** 06:44:33.8±3.8, 40°.21N×143°.38E, h33km±28km, mb4.2/30, mb1 4.3/37, mb1mx4.2/55, mbtmp4.3/37, ML3.6/6, MS3.8/25, Ms1 3.8/25, ms1mx3.5/52, Error ellipse: s-maj=15.2km s-min=12.3km az=125.0*
ISC 01 06:44:34.3±1.5**, 40°.29N**±0°.04×**143°.35E**±0°.05**, h32**km±10km**, n217, σ1^{s}42**/240**, mb4.6**/69**, MS3.9**/19**, 7C-10D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.19	254	P	Pn	06 44 52.7	-2.0
JTH				*e*S	Sn	06 45 08.6	-1.2
MIYJ	Miyakonagasawa	1.37	239	P	Pn	06 44 55.4	-1.8
MIYJ				*e*S	Sn	06 45 13.6	-0.7
JANG	Nango	1.41	274	P	Pn	06 44 56.3	-1.3
ERM	Erimo	1.73	355	*e*P	Pn	06 45 00.6	-1.5
ERM	Erimo	1.73	355	*e*Pn	Pn	06 45 01.1	-1.0
JOM	Ohasama	1.78	243	P	Pn	06 45 01.9	-0.9
JOM				S	Sn	06 45 25.2	+0.9
JTM	Tenmabayashi	1.81	287	P	Pn	06 45 02.6	-0.6
JTM				*e*S	Sn	06 45 26.2	+1.2
JNBK	Urakawa-nobuka	2.04	347	P	Pn	06 45 06.3	-0.1
JOT	Ohata	2.06	303	P	Pn	06 45 06.0	-0.6
JAH	Hinai	2.08	268	P	Pn	06 45 06.7	-0.2
JMK	Ichinoseki	2.12	232	P	Pn	06 45 06.5	-0.9
JMK				*e*S	Sn	06 45 32.5	-0.1
JRG	Rokugo	2.27	248	P	Pn	06 45 09.6	0.0
JCH	Churui	2.33	0	P	Pn	06 45 09.1	-1.2
JCH				*e*S	Sn	06 45 36.5	-1.2
JKB	Kayabe	2.37	313	P	Pn	06 45 11.8	+0.9
JKB				*e*S	Sn	06 45 42.0	+3.2
ASAJ	Asahikawa	3.87	352	Pn	Pn	06 45 31.3	-0.2
	5.0nm,0.3s,baz=194,slow=15,SNR=10						
ASAJ				Sn	Sn	06 46 18.3	+2.6
	7.7nm,0.3s,baz=18,slow=28,SNR=8.2						
ASAJ	Asahikawa	3.87	352	*e*Pn	Pn	06 45 30.8	-0.6
ASAJ				Sn	Sn	06 46 18.3	+2.6
YUK	Yuzh-Kuril'sk	4.18	26	*e*P	Pn	06 45 33.7	-2.1
MAJO	Matsushiro	5.50	229	*e*P	Pn	06 45 53.7	-0.3
MAJO	Matsushiro	5.50	229	*e*Pn	Pn	06 45 54.1	+0.1
MAT	Matsushiro	5.50	229	P	Pn	06 45 53.8	-0.2
MAT				S	Sn	06 47 01.2	+5.1
MJAR	Matsushiro Arr	5.50	229	Pn	Pn	06 45 54.4	+0.5
	4.9nm,0.3s,baz=30,slow=12,SNR=74						
MJAR				LR	LR	06 48 31.8	
	comp=Z,372nm,18.2s,baz=15,slow=44						
MJB9	Matsu-Tunnel	5.50	229	*e*Pn	Pn	06 45 54.3	+0.3
KUR	Kuril'sk	5.96	32	*e*P	Pn	06 45 58.6	-1.5
KUR				*e*S	Sn	06 47 03.1	-4.1
KUR				pmax	pmax		
	comp=N,30nm,0.4s						
KUR				pmax	pmax		
	comp=Z,65nm,0.4s						
KUR				smax	smax		
	comp=N,197nm,0.6s						
KUR				smax	smax		
	comp=N,59nm,0.3s						
YSS	Yuzh-Sakhalins	6.68	356⇑	*e*P	Pn	06 46 11.9	+1.9
YSS				*e*S	Sn	06 47 25.9	+0.9
YSS				pmax	pmax		
	comp=Z,40nm,0.6s						
YSS				MLR	MLR		
	comp=Z,800nm,11.0s						
YSS	Yuzh-Sakhalins	6.68	356	*e*Pn	Pn	06 46 07.4	-2.6
INU	Inuyama	7.03	227	*e*Pn	Pn	06 46 15.0	+0.1
USRK	Ussuriysk Ar.	9.29	299	Pn	Pn	06 46 47.8	+2.0
	comp=Z,1.4nm,0.3s,baz=96,slow=14,SNR=25						
USRK				LR	LR	06 50 25.0	
	comp=Z,646nm,18.5s,baz=117,slow=38						
MDJ	Mudanjiang	11.05	298	P	Pn	06 47 08.9	-1.0
MDJ				S	Sn	06 49 10.3	-1.9
MDJ				PMZ			
	comp=Z,6.0nm,1.8s						
MDJ				PMZ			
	comp=Z,37nm,2.8s						
MDJ				LN			
	comp=Z,300nm,15.1s						
MDJ				LE			
	comp=Z,470nm,16.8s						
MDJ				LZ			
	comp=Z,850nm,16.4s						
KLR	Kul'dur	12.15	321	Pn	Pn	06 47 26.2	+1.2
	comp=Z,0.1nm,0.3s,baz=126,slow=15,SNR=7.4						
KLR				LR	LR	06 52 31.4	
	comp=Z,409nm,18.8s,baz=127,slow=39						
JNU	Nakatsue	12.29	238	Pn	Pn	06 47 25.5	-1.6
	comp=Z,0.3nm,0.3s,baz=93,slow=5.3,SNR=3.9						
JNU				LR	LR	06 52 28.4	
	comp=Z,416nm,18.9s,baz=110,slow=39						
KSRS	Korea Array	12.35	262	Pn	Pn	06 47 30.1	+2.2
	comp=Z,0.3nm,0.3s,baz=81,slow=12,SNR=6.2						
KSRS				LR	LR	06 51 55.7	
	comp=Z,536nm,18.6s,baz=74,slow=36						
KSAR	Wonju Array Be	12.39	262	P	Pn	06 47 30.1	+1.8
KSAR	Wonju Array Be	12.39	262	Pn	Pn	06 47 30.1	+1.8
CN2	Changchun	13.76	291	*e*P	Pn	06 47 47.3	+0.3

CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 LN
comp=Z,400nm,15.0s
CN2 LE
comp=Z,500nm,15.0s
CN2 LZ
comp=Z,300nm,14.0s
PETK Petropavlovsk- 16.12 33 LR LR 06 55 33.9
comp=Z,95nm,18.4s,baz=217,slow=41
MA2 Magadan 19.87 11 P **P** **06 49 03.4 +1.0**
comp=Z,0.8nm,0.3s,baz=6.5,slow=23,SNR=4.6
MA2 LR LR 06 56 06.1
comp=Z,73nm,21.1s,baz=198,slow=35
BJI Beijing 20.75 278 P **P** **06 49 10.3 -1.8**
BJI S **S** **06 52 56.7 -5.2**
BJI PMZ
comp=Z,12nm,0.8s
BJI PMZ
comp=Z,130nm,3.6s
BJI LN
comp=Z,290nm,13.8s
BJI LE
comp=Z,340nm,20.4s
BJI LZ
comp=Z,220nm,19.8s
TIA Tai'an 20.97 267 ⇓P **P** **06 49 12.8 -1.8**
TIA PMZ
comp=Z,20nm,0.7s
TIA LN
comp=Z,90nm,8.9s
TIA LE
comp=Z,490nm,17.8s
TIA LZ
comp=Z,500nm,14.3s
YAK Yakutsk 23.30 344 LR LR 06 59 39.6
comp=Z,164nm,18.0s,baz=182,slow=39
YAK Yakutsk 23.30 344 *i* P **P** **06 49 37.4 -1.6**
YAK pmax pmax
comp=Z,39nm,0.8s
SEY Seymchan 23.32 10 P **P** **06 49 37.5 -1.7**
comp=Z,4.8nm,0.6s,baz=198,slow=7.9,SNR=22
SEY Seymchan 23.32 10 *i* P **P** **06 49 37.8 -1.3**
HHC Hu-ho-hao-te 24.09 282 *e*P **P** **06 49 46.8 -0.1**
HHC sP sP 06 50 00.7 +0.5
HHC PP **PnPn** **06 50 15.4 -1.1**
HHC S **S** **06 53 59.8 -2.6**
HHC PMZ
comp=Z,14nm,1.1s
HHC PMZ
comp=Z,66nm,5.6s
HHC LN
comp=Z,130nm,12.9s
HHC LE
comp=Z,420nm,12.0s
HHC LZ
comp=Z,340nm,15.9s
WHN Wuhan 25.46 257 ⇓P **P** **06 49 58.9 -0.4**
BOD Bodaibo 25.72 323 *e*P **P** **06 50 00.7 -0.7**
BOD pmax pmax
comp=Z,38nm,1.1s
ULN Ulaanbaatar 26.96 298 *i* P **P** **06 50 12.9 0.0**
ULN pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 26.96 298 *e*P **P** **06 50 13.1 +0.2**
comp=Z,16nm,1.2s
SONM Songino Array 27.40 298 P **P** **06 50 16.9 +0.1**
comp=Z,6.8nm,0.9s,baz=98,slow=9.0,SNR=21
SONM LR LR 07 01 51.6
comp=Z,342nm,18.7s,baz=94,slow=38
XAN Xi'an 28.02 268 P **P** **06 50 21.5 -0.9**
XAN pP pP 06 50 31.0 -0.7
XAN PMZ
comp=Z,10.0nm,0.7s
XAN PMZ
comp=Z,44nm,6.0s
XAN LN
comp=Z,190nm,13.7s
XAN LE
comp=Z,140nm,14.8s
XAN LZ
comp=Z,220nm,14.8s
H11N2 WAKE ISLAND Hy 28.75 129 T T 07 20 29.1
baz=321,slow=75,SNR=242
H11N1 WAKE ISLAND Hy 28.76 129 T T 07 20 29.7
baz=321,slow=75,SNR=201
H11N3 WAKE ISLAND Hy 28.77 129 T T 07 20 28.2
baz=321,slow=75,SNR=227
TLY Talaya 29.49 306 P **P** **06 50 38.1 +2.8**
comp=Z,1.4nm,0.4s,baz=124,slow=3.6,SNR=3.5
TLY LR LR 07 03 09.4
comp=Z,130nm,19.9s,baz=92,slow=38
TLY Talaya 29.49 306 *e*P **P** **06 50 35.8 +0.5**
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY MLR MLR
comp=Z,246nm,15.0s
H11S1 WAKE ISLAND Hy 29.58 130 T T 07 21 29.7
baz=322,slow=76,SNR=56
H11S3 WAKE ISLAND Hy 29.58 130 T T 07 21 33.5
baz=322,slow=76,SNR=52
ZAK Zakamensk 29.59 303 *e*P **P** **06 50 34.1 -2.2**
ZAK pmax pmax
comp=Z,3.0nm,1.6s
H11S2 WAKE ISLAND Hy 29.60 130 T T 07 21 31.6
baz=322,slow=76,SNR=52
BILL Bilibino 30.48 17 *e*P **P** **06 50 42.5 -1.3**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 30.48 17 *e*P **P** **06 50 43.0 -0.8**
comp=Z,4.2nm,0.6s
LZH Lanzhou 31.16 275 *e*P **P** **06 50 53.1 +2.8**
LZH pP pP 06 51 02.0 +2.3
LZH sP sP 06 51 05.9 +2.3
LZH PMZ
comp=Z,37nm,1.4s
LZH PMZ
comp=Z,130nm,4.3s
LZH LN
comp=Z,270nm,15.8s
LZH LE
comp=Z,230nm,14.0s
LZH LZ
comp=Z,210nm,16.1s
TIXI Tiksi 32.27 351 P **P** **06 50 58.2 -1.3**
comp=Z,2.4nm,0.7s,baz=144,slow=6.4,SNR=6.5
TIXI Tiksi 32.27 351 *i* P **P** **06 50 58.2 -1.3**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 32.27 351 *e*P **P** **06 50 58.2 -1.3**
comp=Z,5.0nm,1.1s
GTA Gaotai 33.19 283 *e*P **P** **06 51 07.8 -0.2**
GTA pP pP 06 51 17.1 -0.4
GTA sP sP 06 51 21.5 +0.1
GTA PcP **PcP** **06 53 51.4 +1.1**
GTA S **S** **06 56 22.0 -3.7**
GTA sS sS 06 56 39.4 -1.8
GTA SS **SnSn** **06 58 23.4 -3.0**
GTA PMZ
comp=Z,14nm,1.0s
GTA PMZ
comp=Z,110nm,4.8s
GTA LN
comp=Z,160nm,18.1s
GTA LE
comp=Z,320nm,18.5s
GTA LZ
comp=Z,390nm,18.1s
GYA Guiyang 33.35 257 P **P** **06 51 11.0 +1.4**
GYA pP pP 06 51 20.2 +1.2
GYA PP **PnPn** **06 52 23.4 +2.7**
GYA PcP **PcP** **06 53 52.0 +1.1**
GYA S **S** **06 56 28.6 +0.2**
GYA sS sS 06 56 44.4 +0.5
GYA ScP **ScP** **06 57 33.3 +0.5**
GYA SS **SnSn** **06 58 31.9 +1.2**
GYA ScS **ScS** **07 01 33.0 -0.9**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,110nm,4.9s
GYA LN
comp=Z,510nm,15.8s
GYA LE
comp=Z,480nm,16.2s
GYA LZ
comp=Z,420nm,16.7s
QIZ Qiongzhong 35.69 244 P **P** **06 51 30.4 +0.7**
QIZ PP **PP** **06 52 51.0 -0.1**
QIZ S **S** **06 56 59.7 -4.7**
QIZ LZ
comp=Z,160nm,15.5s
KMI Kunming 37.03 258 P **P** **06 51 41.1 -0.2**
KMI PMZ
comp=Z,15nm,1.0s
KMI LN
comp=Z,320nm,14.4s
KMI LE
comp=Z,230nm,13.3s
KMI LZ
comp=Z,350nm,16.8s
WMQ Urumqi 40.82 294 P **P** **06 52 13.7 +1.0**
WMQ pP pP 06 52 24.6 +2.3
WMQ sP sP 06 52 27.7 +1.5
WMQ PMZ
comp=Z,10.0nm,0.8s
WMQ PMZ
comp=Z,53nm,4.2s
WMQ LN
comp=Z,81nm,13.8s
WMQ LE
comp=Z,71nm,15.0s
ZAA0 Zalesovo Array 40.93 310 *e*P **P** **06 52 13.2 -0.2**
ZALV Zalesovo Beam 40.93 310 P **P** **06 52 13.3 -0.1**
comp=Z,4.3nm,0.5s,baz=101,slow=7.6,SNR=8.1
ZALV PcP **PcP** **06 54 13.1 -0.2**
comp=Z,2.6nm,0.7s,baz=113,slow=3.2,SNR=3.8
ZALV LR LR 07 10 10.5
comp=Z,159nm,18.8s,baz=64,slow=38
NRIK Noril'sk 40.99 333 P **P** **06 52 13.2 -0.6**
comp=Z,4.9nm,0.5s,baz=131,slow=5.7,SNR=8.7
NRIK LR LR 07 11 17.3
comp=Z,114nm,18.0s,baz=110,slow=39
MK01 Makanchi Array 43.75 300 *e*P **P** **06 52 36.0 -0.6**
MKAR Makanchi Array 43.76 300 P **P** **06 52 36.4 -0.2**
comp=Z,3.8nm,0.6s,baz=83,slow=9.9,SNR=10
MKAR LR LR 07 11 58.1
comp=Z,187nm,18.1s,baz=69,slow=38
CMAR Chiang Mai Arr 43.83 254 P **P** **06 52 37.3 -0.1**
comp=Z,2.6nm,0.4s,baz=45,slow=7.4,SNR=6.1
CMAR LR LR 07 12 59.3
comp=Z,56nm,18.8s,baz=48,slow=39
CMAR Chiang Mai Arr 43.83 254 *ce*P **P** **06 52 37.5 +0.1**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
MAKZ Makanchi 43.96 300 *e*P **P** **06 52 38.2 0.0**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
MAKZ Makanchi 43.96 300 *e*P **P** **06 52 38.2 0.0**
comp=Z,6.9nm,0.8s
BWN Browne 44.85 35 *e*P **P** **06 52 44.8 -0.2**
comp=Z,122nm,0.9s
SHL Shillong 45.02 267 *ex* **P** **06 52 46.0 -1.1**
SHL *ex* **P** **06 52 46.0 -1.1**
KURK Kurchatov 45.19 306 P **P** **06 52 48.1 +0.2**
KURK Kurchatov 45.19 306 P **P** **06 52 48.1 +0.2**
KURBB Kutov Arra 45.27 306 P **P** **06 52 48.1 -0.4**
comp=Z,30nm,0.7s,baz=79,slow=8.4,SNR=54
COLA College 45.53 34 *e*P **P** **06 52 49.6 -0.7**
COLA pmax pmax
comp=Z,2.0nm,1.0s
IL1 Eielson Array 45.95 34 *e*P **P** **06 52 53.1 -0.5**
ILAR Eielson Array 45.95 34 P **P** **06 52 53.6 -0.1**
comp=Z,1.9nm,0.7s,baz=261,slow=6.2,SNR=26
ILB Eielson Array 45.95 34 *e*P **P** **06 52 53.3 -0.4**
GUN Gumba 48.40 274 *e*P **P** **06 53 13.5 -0.2**
comp=Z,35nm,0.7s
KKN Kakani 48.92 274 *e*P **P** **06 53 17.4 -0.2**
comp=Z,31nm,0.6s
DMN Daman 49.14 274 *e*P **P** **06 53 18.5 -0.8**
comp=Z,25nm,0.9s
GKN Gorkha 49.30 275 *e*P **P** **06 53 20.0 -0.4**
comp=Z,9.4nm,0.3s
TKM2 Tokmak 2 49.48 297 *e*P **P** **06 53 21.8 +0.2**
TKM2 pmax pmax
comp=Z,16nm,0.8s
TKM2 Tokmak 2 49.48 297 *e*P **P** **06 53 21.8 +0.2**
comp=Z,16nm,0.8s
BVAR Borovoye Array 49.56 311 P **P** **06 53 21.8 0.0**
comp=Z,7.0nm,0.7s,baz=78,slow=8.0,SNR=33
KOLN Koldanda 50.21 275 *e*P **P** **06 53 27.1 -0.3**
comp=Z,9.0nm,0.6s
AAK Ala-Archa 50.34 297 P **P** **06 53 27.8 -0.3**
comp=Z,2.8nm,0.6s,baz=113,slow=3.1,SNR=7.3
AAK LR LR 07 15 56.6
comp=Z,143nm,20.0s,baz=10.0,slow=37
AAK Ala-Archa 50.34 297 *e*P **P** **06 53 26.8 -1.3**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 50.34 297 *e*P **P** **06 53 27.8 -0.3**
comp=Z,7.2nm,1.1s
ZRNK Zerenda 50.38 311 *e*P **P** **06 53 28.2 +0.1**
ZRNK pmax pmax
comp=Z,12nm,0.9s
ZRNK Zerenda 50.38 311 *e*P **P** **06 53 28.2 +0.1**
comp=Z,12nm,0.9s
PYUN Piuthan 50.51 276 *e*P **P** **06 53 29.4 -0.2**
KSH Kashi 50.52 292 P **P** **06 53 31.7 +2.2**
KSH pP sP 06 53 44.8 +1.7
KSH PcP **PcP** **06 54 50.1 +3.0**
KSH PP **PP** **06 55 31.1 +5.9**
KSH S **S** **07 00 43.7 +2.2**
KSH ScS **ScS** **07 03 22.1 +4.0**
KSH SS **SS** **07 04 16.7 +1.4**
KSH PMZ
comp=Z,4.0nm,0.4s
KSH PMZ
comp=Z,34nm,3.0s
KSH LN
comp=Z,350nm,10.3s
KSH LE
comp=Z,180nm,9.9s
KSH LZ
comp=Z,300nm,15.9s
INK Inuvik 50.81 28 P **P** **06 53 31.5 +0.5**
comp=Z,1.5nm,0.5s,baz=286,slow=8.6,SNR=4.2
EKS2 Erkin-Say 50.82 297 *e*P **P** **06 53 31.4 -0.3**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 50.82 297 *e*P **P** **06 53 31.4 -0.3**
comp=Z,6.6nm,0.8s
KKAR Karatay Array 52.85 299 *e*P **P** **06 53 46.4 -0.3**
KKAR Karatay Array 52.85 299 *e*P **P** **06 53 46.4 -0.3**
SVE Sverdlovsk 53.75 317 *e*P **P** **06 53 53.6 +0.6**
SVE pmax pmax
comp=Z,23nm,1.1s
ARU Arti 54.96 317 P **P** **06 54 01.6 -0.2**
comp=Z,4.2nm,0.2s,baz=81,slow=6.2,SNR=11
ARU LR LR 07 20 12.0
comp=Z,246nm,18.2s,baz=204,slow=39
ARU Arti 54.96 317 *i* P **P** **06 54 01.8 -0.1**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 54.96 317 *e*P **P** **06 54 01.8 -0.1**
comp=Z,17nm,1.2s
ABKAR Akbulak array 57.03 309 *e*P **P** **06 54 16.5 -0.4**
comp=Z,4.2nm,0.5s
AKTO Aktyubinsk 57.66 311 P **P** **06 54 21.1 -0.1**
comp=Z,4.5nm,0.7s,baz=36,slow=8.7,SNR=14
AKTO LR LR 07 20 36.1
comp=Z,92nm,18.7s,baz=59,slow=38
YKA Yellowknife Ar 60.24 32 P **P** **06 54 39.0 +0.1**
comp=Z,0.3nm,0.6s,baz=302,slow=6.2,SNR=5.7
YKA Yellowknife Ar 60.24 32 P **P** **06 54 39.0 +0.1**
YKA Yellowknife Ar 60.24 32 P **P** **06 54 39.0 +0.1**
WRA Warramunga Arr 60.50 190 P **P** **06 54 39.0 -2.2**
comp=Z,0.9nm,0.7s,baz=7.3,slow=7.0,SNR=15
WRA Warramunga Arr 60.50 190 *i* P **P** **06 54 41.2 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 61.49 339 P **P** **06 54 46.8 -0.5**
comp=Z,1.8nm,0.9s,baz=22,slow=9.7,SNR=2.9
ARCES LR LR 07 24 13.6
comp=Z,61nm,21.7s,baz=61,slow=39
KLMR Klimovskoe 61.83 327 *e*P **P** **06 54 47.8 -1.9**
KLMR *e* 06 57 03.1
KLMR pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 62.66 355 *i* P **P** **06 54 54.8 -0.2**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 62.66 355 *i* P **P** **06 54 54.8 -0.2**
comp=Z,4.0nm,0.8s
GEYT Alibeck 63.61 298 P **P** **06 55 01.7 -0.3**
comp=Z,4.1nm,0.6s,baz=45,slow=4.4,SNR=6.5
ASAR Alice Springs 64.23 190 P **P** **06 55 04.2 -1.8**
comp=Z,0.6nm,0.8s,baz=14,slow=4.2,SNR=4.3
VRH Novokhopyorsk 66.19 318 *e*P **P** **06 55 16.9 -1.6**
VRH pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 66.40 323 *e*P **P** **06 55 17.9 -1.9**
OBN pmax pmax
comp=Z,6.0nm,0.9s
FIA1 FINESS Array S 66.64 332 *e*P **P** **06 55 20.8 -0.4**
FINES FINESS Array B 66.64 332 P **P** **06 55 21.1 -0.1**
comp=Z,7.9nm,0.7s,baz=43,slow=8.6,SNR=21
FINES LR LR 07 27 35.9
comp=Z,144nm,18.5s,baz=36,slow=39
LPSR Galich'ya Gora 66.78 320 *e*P **P** **06 55 20.5 -1.8**
LPSR pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 67.43 1 *i* P **P** **06 55 26.6 0.0**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 67.43 1 *i* P **P** **06 55 26.6 0.0**
comp=Z,7.4nm,0.8s
SUMG Summit 67.43 1 *e*P **P** **06 55 26.7 +0.2**
comp=Z,7.1nm,0.8s
VSR Storozhevoye 67.49 319 *e*P **P** **06 55 24.5 -2.3**
VSR pmax pmax
comp=Z,10.0nm,1.2s
ZEI Tsey 69.91 309 *e*P **P** **06 55 41.1 -1.2**
ZEI pmax pmax
comp=Z,22nm,0.9s
KVAR Kislovodsk Arr 69.92 311 P **P** **06 55 43.5 +1.2**
comp=Z,12nm,0.7s,baz=348,slow=0.1,SNR=9.6
KIV Kislovodsk 69.92 311 *e*P **P** **06 55 42.8 +0.6**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,158nm,18.0s
KIV Kislovodsk 69.92 311 *e*P **P** **06 55 43.9 +1.7**
comp=Z,20nm,0.9s
KBZ Khabaz 69.94 311 P **P** **06 55 42.5 +0.3**
comp=Z,7.8nm,0.8s,baz=61,slow=4.3,SNR=19
NEY Neytrino 70.33 310 *e*P **P** **06 55 45.4 +0.6**
NEY pmax pmax
comp=Z,1.0nm,0.8s
NACGM Naroch 70.84 327 *e* **P** **06 55 46.0 -1.5**
AKH Akhalkalaki 70.98 306 ⇓*i*P **P** **06 55 50.3 +1.5**
BOZ Bozeman (W) 71.34 46 *e*P **P** **06 55 51.5 +0.6**
BOZ pmax pmax
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 71.34 46 *e*P **P** **06 55 51.5 +0.6**
comp=Z,2.5nm,0.7s
NC204 NORSAR Array S 71.71 338 *e*P **P** **06 55 53.0 +0.4**
NB2 NORSAR Subarra 71.77 338 P **P** **06 55 52.6 -0.4**
comp=Z,4.5nm,0.8s,baz=40,slow=6.2
NOA NORSAR Array B 71.77 338 P **P** **06 55 52.8 -0.3**
comp=Z,4.4nm,0.8s,baz=39,slow=6.0,SNR=14
NOA LR LR 07 30 44.8
comp=Z,59nm,21.8s,baz=25,slow=39
NVAR Mina Array Bea 71.85 55 P **P** **06 55 54.7 +0.5**
comp=Z,0.7nm,0.7s,baz=287,slow=6.8,SNR=3.5
NBO02 NORSAR Array S 71.86 338 *e*P **P** **06 55 53.8 +0.2**
AKASG Malin Array Be 72.65 323 P **P** **06 55 57.9 -0.5**
comp=Z,4.7nm,0.7s,baz=44,slow=6.8,SNR=14
AKASG LR LR 07 30 53.1
comp=Z,77nm,18.2s,baz=35,slow=38
KIEV Kiev 72.66 323 *e*P **P** **06 55 57.7 -0.7**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 72.66 323 *e*P **P** **06 55 57.8 -0.7**
comp=Z,8.0nm,0.9s
AK11 Malin Array Si 72.69 323 *e*P **P** **06 55 58.5 -0.2**
FRB Frobisher Bay 73.26 14 P **P** **06 56 01.4 -0.3**
comp=Z,4.5nm,0.7s,baz=340,slow=6.4,SNR=6.2
PDAR Pinedale Array 74.32 47 P **P** **06 56 08.7 0.0**
comp=Z,0.4nm,0.5s,baz=286,slow=0.8,SNR=5.9
MWC Mount Wilson 74.58 58 *e*P **P** **06 56 15.0 +4.7**
MWC pmax pmax
comp=Z,27nm,1.4s
MWC Mount Wilson 74.58 58 *e*P **P** **06 56 15.0 +4.7**
comp=Z,27nm,1.4s
SORM Soroca 74.83 321 ⇓*i*P **P** **06 56 11.0 -0.2**
KWP Kalwaria Pacla 76.36 325 *e*P **P** **06 56 21.0 +1.0**
KWP Kalwaria Pacla 76.36 325 ⇑*i*P **P** **06 56 21.1 +1.1**
KWP Kalwaria Pacla 76.36 325 *e*P **P** **06 56 21.0 +1.0**
BUR08 Bucovina Ar. S 76.67 322 *e*P **P** **06 56 22.5 +0.5**
BURAR Bucovina Array 76.69 322 ⇓*i*P **P** **06 56 22.5 +0.5**
BURAR Bucovina Array 76.69 322 P **P** **06 56 22.5 +0.5**
TESR Tescani 76.80 321 ⇓*i*P **P** **06 56 22.8 +0.3**
STHS Stebnicka Huta 77.16 325 *e*P **P** **06 56 26.0 +1.4**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 77.16 325 *e*P **P** **06 56 26.0 +1.4**
OJC Ojcow 77.17 327 *e*P **P** **06 56 24.9 +0.3**
OJC Ojcow 77.17 327 *e*P **P** **06 56 24.9 +0.3**
OJC Ojcow 77.17 327 *e*P **P** **06 56 24.9 +0.3**
VRI Vrincioaia 77.22 320 ⇑*i*P **P** **06 56 26.0 +1.1**
VRI Vrincioaia 77.22 320 P **P** **06 56 26.0 +1.1**
CRVS Cervenica-Dubn 77.45 325 *e*P **P** **06 56 26.5 +0.3**
CRVS Cervenica-Dubn 77.45 325 *e*P **P** **06 56 26.5 +0.3**
NIE Niedzica 77.56 326 *e*P **P** **06 56 28.0 +1.2**
NIE Niedzica 77.56 326 *e*P **P** **06 56 28.0 +1.2**
BRTR Keskin Array B 77.82 312 P **P** **06 56 28.0 -0.6**
comp=Z,0.9nm,0.8s,baz=96,slow=3.7,SNR=6.4
BRTR LR LR 07 36 11.0
comp=Z,33nm,18.6s,baz=11,slow=40
BRTR Keskin Array B 77.82 312 *ce*P **P** **06 56 28.7 +0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 77.87 320 ⇓*i*P **P** **06 56 30.3 +1.6**
MSAB Monastry St. A 77.93 318 ⇓*i*P **P** **06 56 29.3 +0.4**
KSP Ksiaz 78.12 329 *e*P **P** **06 56 30.3 +0.4**
KSP Ksiaz 78.12 329 *e*P **P** **06 56 30.3 +0.4**
LANS Liptovska Anna 78.12 326 *e*P **P** **06 56 31.7 +1.7**
LANS Liptovska Anna 78.12 326 *e*P **P** **06 56 31.7 +1.7**
KECS Kecovo 78.19 325 *e*P **P** **06 56 31.2 +0.9**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 78.19 325 *e*P **P** **06 56 31.2 +0.9**
BR231 Keskin MP Arra 78.23 313 *e*P **P** **06 56 28.9 -1.9**
MORC Moravsky Berou 78.45 328 ⇓*i*P **P** **06 56 31.9 +0.1**
MORC Moravsky Berou 78.45 328 *e*P **P** **06 56 32.6 +0.8**
MORC pmax pmax
comp=Z,25nm,0.9s
MORC Moravsky Berou 78.45 328 *e*P **P** **06 56 32.6 +0.8**
comp=Z,25nm,0.9s
DPC Dobruska-Polom 78.50 329 *e*P **P** **06 56 32.9 +0.9**
DPC Dobruska-Polom 78.50 329 *e*P **P** **06 56 32.9 +0.9**
PSZ Piszkesteto 78.88 325 ⇓*i*P **P** **06 56 34.4 +0.2**
VYHS Vyhne 78.89 326 *e*P **P** **06 56 34.8 +0.6**
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 78.89 326 *e*P **P** **06 56 34.8 +0.6**
BRG Berggiesshubel 79.01 330 *e*P **P** **06 56 35.7 +0.9**
comp=Z,3.3nm,0.7s
BRG Berggiesshubel 79.01 330 *e*P **P** **06 56 35.7 +0.9**
BRG pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 79.02 331 *i* P **P** **06 56 34.7 -0.1**
comp=Z,10.0nm,0.9s
CLL Collm 79.02 331 *i* P **P** **06 56 34.7 -0.1**
CLL pmax pmax
comp=Z,10.0nm,0.9s
VRAC Vranov 79.20 328 ⇑*i*P **P** **06 56 36.6 +0.7**
VRAC Vranov 79.20 328 P **P** **06 56 36.5 +0.7**
PRU Pruhonice 79.48 329 *e*P **P** **06 56 37.8 +0.4**
PRU Pruhonice 79.48 329 *e*P **P** **06 56 37.8 +0.4**
KHC Kasperske Hory 80.55 329 *e*P **P** **06 56 43.0 -0.2**
KHC Kasperske Hory 80.55 329 *e*P **P** **06 56 43.0 -0.2**
GERES GERESS Array B 80.73 329 P **P** **06 56 44.1 -0.2**
comp=Z,1.4nm,0.6s,baz=25,slow=4.4,SNR=11
GERES LR LR 07 34 59.1
comp=Z,49nm,21.1s,baz=314,slow=37
GEA0 GERESS Array S 80.74 329 *e*P **P** **06 56 44.1 -0.1**
CDF Champ du Feu 83.50 332 *e*P **P** **06 56 58.7 0.0**
CDF pmax pmax
comp=Z,9.0nm,1.0s
FUORN Ofenpass-Fuorn 83.89 330 *e*P **P** **06 57 01.6 +0.7**
PPT Papeete 84.78 118 LR LR 07 27 25.9
comp=Z,57nm,21.8s,baz=302,slow=30
LAST Lasithi 85.63 313 ⇑*i*P P 06 57 18.6 +8.9
SSF Saint Saulge 85.97 334 *e*P **P** **06 57 11.1 0.0**
SSF pmax pmax
comp=Z,12nm,1.0s

LPL	La Plagne	86.15	331	eP	P	06 57 12.5	+0.2
LPL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LPG	La Plagne	86.16	331	eP	P	06 57 12.7	+0.2
LPG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AVF	Avril sur Loir	86.25	334	eP	P	06 57 12.6	+0.1
AVF				pmax	pmax		
	comp=Z,19nm,0.8s						
TXAR	Lajitas Array	86.95	54	P	P	06 57 17.8	+1.4
	comp=Z,0.4nm,0.6s,baz=328,slow=4.4,SNR=2.8						
CAF	Calviac	88.32	334	eP	P	06 57 23.5	+0.9
CAF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KEST	Kesra	93.32	324	LR	LR	07 44 02.1	
	comp=Z,49nm,19.2s,baz=250,slow=38						

*SOME **01** 06:49:26.8, 49°.52N×83°.70E, h0km*
*NNC **01** 06:49:32.7±3.9, 49°.43N×84°.01E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=37.7km s-min=12.2km az=60.0, Suspected Mining explosion.*
*ISCJB **01** 06:49:34.1±2.1, 49°.5N±0°.1×83°.5E±0°.2, h0km, Error ellipse: s-maj=25.2km s-min=7.8km az=144.9*
ISC 01 06:49:32.8±2.1**, 49°.5N**±0°.1×**83°.3E**±0°.1**, h0km, n5, σ0s.50**/9**, 4C, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZSN	Zaisan	2.16	159	eP	Pn	06 50 09.9	-0.1
	24nm,0.5s						
ZSN				eS	Sg	06 50 41.7	-0.3
	60nm,0.6s						
SEM	Semipalatinsk	2.16	297	eP	Pn	06 50 10.1	+0.1
	5.6nm,0.2s						
SEM				eS	Sg	06 50 41.8	-0.4
	38nm,0.2s						
MK31	Makanchi Array	2.75	194	Pn	Pn	06 50 19.0	+0.7
	0.2nm,0.2s,baz=26,slow=15,SNR=64						
MK31				⇑Sn	Sb	06 50 56.7	-0.5
	10nm,0.6s,baz=20,slow=27,SNR=21						
KURK	Kurchatov	3.24	294	⇑Sn	Sg	06 51 16.5	-0.3
	16nm,0.6s						
KURBB	Kurchatov Arra	3.26	293	⇑Pn	Pb	06 50 31.9	+0.3
	1.3nm,0.2s						
KURBB				⇑Sn	Sg	06 51 17.2	-0.3
	28nm,0.7s						

KRSC 01 06:54:41.7±1.2**, 50°.52N×158°.13E, h70km**±26km**, ML3.6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	1.26	319	eP	Pn	06 55 05.2	+1.6
PAU				eS	Sn	06 55 22.0	+2.1
SKR	Severo-Kuril's	1.29	278	eP	Pn	06 55 05.4	+1.5
ASAK	Asacha	1.87	356	eP	Pn	06 55 13.1	+1.4
RUS	Russkaya	1.93	7	eP	Pn	06 55 14.1	+1.7
PET	Petropavlovsk	2.53	7	eP	Pn	06 55 22.1	+1.6
UGLR	Uglovaya	2.73	9	eP	Pn	06 55 25.7	+2.4
AVH	Avacha	2.77	8	eP	Pn	06 55 27.1	+3.2
SMAR	Somma	2.78	8	eP	Pn	06 55 26.7	+2.6
SDLR	Sedlovina	2.80	9	eP	Pn	06 55 26.3	+2.0
KRER	Koryakskii	2.81	8	eP	Pn	06 55 27.5	+2.9
KRX	Arik	2.86	6	eP	Pn	06 55 27.9	+2.8
GNL	Ganaly	3.18	358	eP	Pn	06 55 31.5	+2.0

IDC 01 07:01:29.6±2.6**, 54°.54N×86°.20E, h0km, mb1 3.0**/3**, mb1mx2.9**/58**, mbtmp3.0**/3**, ML2.7**/3**, Error ellipse: s-maj=21.1km s-min=13.1km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	234	i		07 08 40.0	
	baz=50,slow=320,SNR=1.0						
ZALV	Zalesovo Beam	1.00	234	Pg	Pg	07 01 46.9	-1.8
	1.6nm,0.3s,baz=51,slow=18,SNR=7.4						
ZALV				Lg	Lg	07 02 03.5	
	4.2nm,0.3s,baz=52,slow=28,SNR=14						
ZALV				Rg	Rg	07 02 07.0	
	8.9nm,0.4s,baz=44,slow=36,SNR=9.5						
KURBB	Kurchatov Arra	6.10	233	Pn	Pn	07 03 01.2	+0.4
	0.1nm,0.3s,baz=51,slow=14,SNR=13						
KURBB				Lg	Lg	07 04 42.9	
	0.0nm,0.3s,baz=50,slow=29,SNR=3.0						
MKAR	Makanchi Array	8.14	199	Pn	Pn	07 03 29.3	+0.3
	0.1nm,0.3s,baz=21,slow=12,SNR=4.8						
MKAR				Sn	Sn	07 05 01.0	-0.6
	0.1nm,0.3s,baz=21,slow=28,SNR=3.3						
BVAR	Borovoye Array	9.48	267	Pn	Pn	07 03 47.8	+0.5
	0.1nm,0.3s,baz=71,slow=15,SNR=2.7						

*ISN **01** 07:03:34.4±0.3, 36°.08N×45°.02E, h0km, ML2.6*
*CSEM **01** 07:03:43.1, 36°.91N×45°.21E, h2km, ML2.6*
TEH 01 07:03:43.1, 36°.91N×45°.21E, h2km, ML2.6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISHB	Shabestar	1.41	13	eSg	Sg	07 04 26.8	-1.6
ISHB				ePg	Pn	07 04 08.5	-1.5
ISHB				eAMB	AMB	07 04 32.8	
	comp=Z,1μm,0.2s						
ITBZ	Tabriz	1.52	29	ePn	Pn	07 04 11.2	-0.2
ITBZ				eSg	Sb	07 04 30.8	-1.0
ITBZ				eAMB	AMB	07 04 38.1	
	comp=Z,637nm,0.2s						
ITBZ	Tabriz	1.52	29	ePn	Pn	07 04 11.2	-0.2
ITBZ				eSg	Sb	07 04 30.8	-1.0
IBST	Bostanabad	1.56	59	ePn	Pn	07 04 11.7	-0.3
IBST				eAMB	AMB	07 04 12.7	
	comp=Z,663nm,0.2s						
IBST				eSg	Sn	07 04 31.7	-1.2
IBST	Bostanabad	1.56	59	ePn	Pn	07 04 11.7	-0.3
IBST				eSg	Sn	07 04 31.7	-1.2
IMRD	Marand	1.84	12	ePn	Pn	07 04 15.9	0.0
IMRD	Marand	1.84	12	ePn	Pn	07 04 15.9	0.0
IHRS	Heris	2.02	45	ePn	Pb	07 04 20.8	+0.1
IHRS				eAMB	AMB	07 04 22.1	
	comp=Z,395nm,0.1s						
IHRS	Heris	2.02	45	ePn	Pb	07 04 20.8	+0.1
ISRB	Sarab	2.16	64	ePn	Pb	07 04 22.6	-0.5
ISRB				eAMB	AMB	07 04 26.2	
	comp=Z,309nm,0.2s						
ISRB	Sarab	2.16	64	ePn	Pb	07 04 22.6	-0.5
IDHR	Dehrash	2.40	156	ePn	Pb	07 04 27.9	+0.7
IDHR				eAMB	AMB	07 05 10.8	
	comp=Z,293nm,0.4s						
IDHR	Dehrash	2.40	156	ePn	Pb	07 04 27.9	+0.7

*ISCJB **01** 07:06:02.7±0.5, 24°.86N±0°.04×122°.44E±0°.02, h2km±4km, Error ellipse: s-maj=6.3km s-min=2.6km az=10.2*
*TAP **01** 07:06:02.9, 24°.91N×122°.42E, h16km, ML3.0, C*
*JMA **01** 07:06:02.7±0.2, 24°.79N×122°.41E, h0km, M2.4*
ISC 01 07:06:02.7±1.1**, 24°.86N**±0°.04×**122°.43E**±0°.02**, h8km**±10km**, n26, σ0s.51**/45**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.42	291	i P	Pb	07 06 11.7	-0.7
	baz=284						
TWB1				eS	Sg	07 06 17.7	+1.1
	baz=284						
TWC	Suao	0.58	245	P	Pb	07 06 14.6	-0.5
	baz=239						
TWC				eS	Sb	07 06 22.4	-1.0
	baz=239						
JYNG	Yonagunijimaku	0.62	130	P	Pg	07 06 14.8	+0.1
JYNG				eS	Sg	07 06 23.1	+0.3
NWF	Wu-fen Shan	0.62	290	i P	Pb	07 06 15.8	-0.1
	baz=285						
NWF				S	Sb	07 06 24.6	-0.2
	baz=285						
YOJ	Yonaguni jima	0.66	126	P	Pg	07 06 15.2	-0.2
YOJ				S	Sg	07 06 24.2	+0.1
TWE	Neicheng	0.70	259	P	Pb	07 06 16.8	-0.4
	baz=245						
TWE				S	Sb	07 06 26.7	-0.3
	baz=245						
ENA	Nanau	0.76	236	eP	Pb	07 06 17.9	-0.2
	baz=232						
ENA				S	Sb	07 06 28.8	+0.2
	baz=232						
TWA	Mucha	0.78	279	eP	Pb	07 06 18.6	+0.2
	baz=275						
TWA				eS	Sb	07 06 28.6	-0.6
	baz=275						
ENTT	Nioudou	0.81	255	eP	Pb	07 06 19.2	+0.1
	baz=250						
ENTT				S	Sb	07 06 30.1	-0.1
	baz=250						
PCYT	Pengchaiyu	0.83	337	eP	Pg	07 06 18.2	-0.6
	baz=337						
TWY	Chenhua	0.86	299	eP	Pg	07 06 19.4	+0.2
	baz=296						
TWY				eS	Sb	07 06 31.4	-0.1
	baz=296						
NSK	Sanguang	0.99	260	P	Pb	07 06 22.0	-0.1
	baz=270						
NSK				S	Sg	07 06 34.7	+0.2
	baz=270						
NNS	Nan Shan	1.04	247	eP	Pb	07 06 23.2	+0.1
	baz=243						
NNS				eS	Sb	07 06 37.2	+0.2
	baz=243						
WHF	Hehuan Shan	1.27	236	P	Pn	07 06 27.5	+0.3
	baz=233						
WHF				S	Sb	07 06 43.8	-0.1
	baz=233						
TWT	Tachien	1.29	242	eP	Pg	07 06 27.9	+0.5
	baz=230						
TWT				eS	Sn	07 06 45.4	+0.7
	baz=230						
IRIF	Iriomote-Funau	1.30	113	P	Pn	07 06 26.6	-0.5
IRIF				S	Sg	07 06 44.5	+0.1
NSTT	Nanjuang	1.31	260	eP	Pb	07 06 27.6	-0.1
	baz=257						
NSTT				eS	Sn	07 06 45.1	0.0
	baz=257						
HATJ	Hateruma jima	1.49	122	eS	Sg	07 06 50.5	0.0
JKRS	Kuro-shima	1.57	113	P	Pg	07 06 32.8	+0.1
JKRS				S	Sb	07 06 52.4	+0.5
WDT	Danda	1.61	227	eP	Pn	07 06 31.5	-0.2
	baz=207						
WDT				eS	Sb	07 06 53.2	-0.2
	baz=207						
JIJ	Ishigaki jima	1.64	107	S	Sb	07 06 54.5	+0.5
SMLT	Sun Moon Lake	1.70	235	eP	Pg	07 06 34.9	-0.3
	baz=220						
TYC	Yuchr	1.72	237	eP	Pb	07 06 33.7	-0.7
	baz=234						
TYC				eS	Sg	07 06 57.0	-0.9
	baz=234						
ALS	Alishan	2.00	228	eP	Pn	07 06 37.5	+0.5
	baz=209						
CHN5	Tsauling	2.03	232	eP	Pb	07 06 38.7	-1.2
	baz=213						
CHN4	Tsaushan	2.25	229	eP	Pn	07 06 41.4	+1.2
	baz=211						

*IDC **01** 07:10:22.1±0.9, 12°.30N×144°.08E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/45, mbtmp3.8/8, MS3.2/1, Ms1 3.2/1, ms1mx2.4/39, Error ellipse: s-maj=42.1km s-min=16.7km az=114.0*
*ISCJB **01** 07:10:24.6±0.7, 12°.3N±0°.1×144°.0E±0°.2, h27km, mb3.8/8, MS3.0/1, Error ellipse: s-maj=33.2km s-min=9.8km az=29.8*
ISC 01 07:10:26.2±0.9**, 12°.3N**±0°.2×**144°.1E**±0°.3**, h27km, n10, σ0s.73**/10**, mb3.7**/8**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	1.50	29	Pn	Pn	07 10 51.7	+0.4
	61nm,0.3s,baz=211,slow=2.0,SNR=25						
GUMO				Sn	Sn	07 11 09.7	-0.3
	66nm,0.3s,baz=306,slow=23,SNR=15						
JHJ	Hachijo jima 2	21.12	350	LR	LR	07 21 51.2	
	comp=Z,63nm,21.6s,baz=131,slow=33						
WRA	Warramunga Arr	33.43	197	P	P	07 17 03.0	0.0
	0.7nm,0.7s,baz=21,slow=9.9,SNR=8.3						
ASAR	Alice Springs	37.09	196	P	P	07 17 34.6	0.0
	0.6nm,0.6s,baz=17,slow=9.7,SNR=7.7						
MKAR	Makanchi Array	61.92	317	P	P	07 20 44.4	+0.8
	0.2nm,0.4s,baz=90,slow=8.6,SNR=4.4						
ILAR	Eielson Array	70.06	25	P	P	07 21 35.4	-0.2
	0.1nm,0.5s,baz=243,slow=5.8,SNR=3.1						
YKA	Yellowknife Ar	84.36	27	P	P	07 22 55.1	-0.7
	0.2nm,0.6s,baz=286,slow=4.8,SNR=4.1						
ARCES	ARCESS Array B	88.10	342	P	P	07 23 14.3	+0.2
	7.0nm,1.3s,baz=57,slow=6.6,SNR=4.0						
NVAR	Mina Array Bea	88.31	51	P	P	07 23 16.8	+0.7
	0.5nm,0.8s,baz=261,slow=5.4,SNR=3.3						
FINES	FINESS Array B	92.03	335	P	P	07 23 31.2	-1.4
	1.7nm,0.9s,baz=48,slow=2.8,SNR=6.7						

IDC 01 07:26:46.0±2.0**, 43°.03N×29°.22W, h0km, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.4**/39**, mbtmp3.6**/4**, MS3.2**/7**, Ms1 3.2**/7**, ms1mx2.8**/42**, Error ellipse: s-maj=62.2km s-min=29.6km az=40.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDT	Midelt	21.85	110	LR	LR	07 38 06.7	
	comp=Z,45nm,20.4s,baz=352,slow=31						
SFJD	Kangerlussuaq	26.68	341	LR	LR	07 40 48.7	
	comp=Z,28nm,20.5s,baz=157,slow=32						
DAVOX	Davos/Dischmat	27.75	69	LR	LR	07 42 01.4	
	comp=Z,54nm,19.5s,baz=281,slow=33						
JMIC	Jan Mayen	29.87	13	LR	LR	07 41 46.5	
	comp=Z,21nm,21.9s,baz=254,slow=30						
TORD	Torodi Ar. Bea	39.96	129	P	P	07 34 22.0	-0.3
	1.1nm,0.9s,baz=324,slow=7.8,SNR=5.9						
TORD				LR	LR	07 49 58.7	
	comp=Z,61nm,19.1s,baz=300,slow=35						
ULM	Lac du Bonnet	44.94	303	LR	LR	07 52 20.6	
	comp=Z,59nm,19.6s,baz=3.5,slow=34						
BRTR	Keskin Array B	46.31	72	P	P	07 35 13.9	+0.3
	1.6nm,1.0s,baz=285,slow=6.3,SNR=5.5						
YKA	Yellowknife Ar	50.98	323	P	P	07 35 49.0	-0.1
	0.3nm,0.8s,baz=62,slow=7.8,SNR=3.7						
TXAR	Lajitas Array	59.80	283	LR	LR	08 01 06.5	
	comp=Z,23nm,18.1s,baz=0.0,slow=34						
MKAR	Makanchi Array	71.98	42	P	P	07 38 11.2	-0.2
	0.5nm,0.7s,baz=308,slow=7.1,SNR=5.4						

*ISCJB **01** 07:43:22.2±0.5, 24°.84N±0°.03×122°.44E±0°.02, h2km±4km, Error ellipse: s-maj=5.6km s-min=3.0km az=15.9*
*TAP **01** 07:43:22.6, 24°.89N×122°.40E, h13km, ML3.1, C*
*JMA **01** 07:43:22.2±0.2, 24°.80N×122°.44E, h0km, M2.5*
ISC 01 07:43:22.0±1.1**, 24°.86N**±0°.04×**122°.46E**±0°.02**, h8km**±10km**, n28, σ0s.72**/45**, 1C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.45	289	P	Pg	07 43 31.2	+0.4
	baz=288						
TWB1				S	Sg	07 43 37.1	+0.4
	baz=288						
JYNG	Yonagunijimaku	0.60	133	P	Pg	07 43 34.0	+0.4
JYNG				eS	Sb	07 43 42.5	-0.9
TWC	Suao	0.61	246	P	Pg	07 43 33.8	0.0
	baz=240						
TWC				i S	Sg	07 43 41.9	+0.1
	baz=240						
YOJ	Yonaguni jima	0.64	128	P	Pg	07 43 34.4	0.0
YOJ				eS	Sg	07 43 43.2	+0.4
NWF	Wu-fen Shan	0.65	289	i P	Pg	07 43 34.9	+0.4
	baz=288						
NWF				i S	Sb	07 43 44.2	-0.7
	baz=288						
TWE	Neicheng	0.73	259	P	Pg	07 43 36.3	+0.1
	baz=255						
TWE				S	Sg	07 43 45.1	-0.6
	baz=255						
ENA	Nanau	0.79	237	eP	Pg	07 43 37.3	+0.2
	baz=232						
ENA				eS	Sb	07 43 47.9	-0.8
	baz=232						
TWA	Mucha	0.80	279	eP	Pb	07 43 37.9	-0.4
	baz=277						
TWA				eS	Sg	07 43 47.9	0.0
	baz=277						
PCYT	Pengchaiyu	0.84	335⇑	eP	Pg	07 43 37.3	-0.9
	baz=338						
PCYT				S	Sb	07 43 51.1	+0.8
	baz=338						
ENTT	Nioudou	0.84	255⇓	eP	Pb	07 43 38.5	-0.4
	baz=251						
ENTT				eS	Sb	07 43 49.7	-0.7
	baz=251						
TWY	Chenhua	0.88	298	eP	Pb	07 43 39.8	+0.2
	baz=283						
TWY				S	Sb	07 43 51.7	+0.2
	baz=283						
NSK	Sanguang	1.02	260	P	Pg	07 43 41.3	-0.3
	baz=257						
NSK				eS	Sg	07 43 54.5	-0.3
	baz=257						
NNS	Nan Shan	1.07	247	eP	Pb	07 43 42.9	0.0
	baz=232						
NNS				eS	Sb	07 43 56.9	-0.3
	baz=232						
IRIF	Iriomote-Funau	1.27	114	P	Pg	07 43 46.2	-0.2
WHF	Hehuan Shan	1.30	237	eP	Pb	07 43 46.7	-0.3
	baz=234						
TWT	Tachien	1.32	243	eP	Pg	07 43 49.9	+2.6
	baz=231						
NSTT	Nanjuang	1.35	260	eP	Pn	07 43 46.6	-0.5
	baz=258						
NSTT				eS	Sg	07 44 05.1	-0.3
	baz=258						
HATJ	Hateruma jima	1.47	123	P	Pg	07 43 50.3	+0.2
JKRS	Kuro-shima	1.54	114	P	Pg	07 43 51.8	+0.2
JIJ	Ishigaki jima	1.61	108	P	Pb	07 43 52.3	+0.3
TWQ1	Liyutan	1.62	252	eP	Pb	07 43 51.7	-0.4
	baz=263						
TWQ1				eS	Sb	07 44 12.9	+0.2
	baz=263						
WDT	Danda	1.64	228	eP	Pn	07 43 51.3	-0.1
	baz=209						
TYC	Yuchr	1.75	237	eP	Pb	07 43 53.5	-0.8
	baz=235						
TWF1	Yuli	1.84	215	eP	Pn	07 43 53.8	-0.2
	baz=213						
YUS	Yu-Shan	1.94	226	eP	Pn	07 43 56.0	+0.3
	baz=206						
YUS				eS	Sn	07 44 20.6	0.0
	baz=206						
CHN5	Tsauling	2.06	233	eP	Pn	07 43 57.9	+0.9
	baz=212						
CHN4	Tsaushan	2.27	229	eP	Pn	07 44 01.2	+1.3
	baz=210						
CHN4				eS	Sn	07 44 28.8	+0.6
	baz=210						
CHN1	Nanshi	2.43	227	eP	Pb	07 44 04.0	-2.0
	baz=225						

*NIED **01** 07:52:00, 39°.80N×143°.40E, h23km, Mw4.2 Best double couple: M0 2.51000×10^15 NP1:φs185.00000°, δ24.00000°, λ63.00000°. NP2:φs34.00000°, δ69.00000°, λ101.00000°.*
*IDC **01** 07:52:57.0±0.8, 39°.76N×143°.27E, h0km, mb4.0/16, mb1 4.0/20, mb1mx3.9/74, mbtmp4.0/20, ML3.5/4, MS3.5/19, Ms1 3.6/19, ms1mx3.2/64, Error ellipse: s-maj=20.4km s-min=15.9km az=99.0*
*ISCJB **01** 07:52:58.3±1.7, 39°.79N±0°.04×143°.42E±0°.08, h22km±11km, mb4.0/17, MS3.6/13, Error ellipse: s-maj=11.4km s-min=5.2km az=30.4*
*JMA **01** 07:52:58.6±0.2, 39°.84N×143°.41E, h24km±5km, M4.3*
*NEIC **01** 07:53:00.9±2.4, 39°.80N×143°.27E, h25km±17km, mb4.3/1, Error ellipse: s-maj=13.5km s-min=7.0km az=115.0*
ISC 01 07:52:58.5±2.6**, 39°.85N**±0°.05×**143°.34E**±0°.08**, h8km**±15km**, n56, σ1s.07**/50**, mb4.1**/17**, MS3.6**/13**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	1.14	275	P	Pb	07 53 19.7	-0.8
JTH				eS	Sg	07 53 35.0	-0.2
MIYJ	Miyakonagasawa	1.20	257	P	Pb	07 53 21.0	-0.6
MIYJ				eS	Sg	07 53 37.3	+0.1
JANG	Nango	1.49	291	P	Pn	07 53 25.2	-0.5
JOM	Ohasama	1.62	257	P	Pn	07 53 27.6	+0.1
JOM				eS	Sn	07 53 48.5	-0.1
JMK	Ichinoseki	1.87	242	P	Pn	07 53 30.1	-0.8
JMK				eS	Sn	07 53 53.4	-1.3
JTM	Tenmabayashi	1.97	299	P	Pn	07 53 32.7	+0.4
ERM	Erimo	2.17	356	ePn	Pb	07 53 37.4	-0.6
JOT	Ohata	2.32	312	P	Pn	07 53 37.7	+0.7
JNBK	Urakawa-nobuka	2.47	350	P	Pn	07 53 40.2	+1.1
JNBK				eS	Sn	07 54 11.2	+1.8
JYK	Kaneyama	2.49	249	P	Pn	07 53 39.9	+0.5
JCH	Churui	2.76	0	P	Pn	07 53 43.5	+0.4
JCH				eS	Sn	07 54 15.4	-1.3
ASAJ	Asahikawa	4.30	353	Pn	Pn	07 54 04.0	-0.3
	3.0nm,0.3s,baz=211,slow=10,SNR=11						
ASAJ				Sn	Sn	07 54 52.4	-2.2
	2.8nm,0.3s,baz=247,slow=30,SNR=4.1						
ASAJ	Asahikawa	4.30	353	ePn	Pn	07 54 03.7	-0.5
ASAJ				Pn	Pn	07 54 04.0	-0.3
ASAJ				Sn	Sn	07 54 52.4	-2.2
MJAR	Matsushiro Arr	5.22	232	Pn	Pn	07 54 16.6	-0.3
	1.5nm,0.3s,baz=35,slow=12,SNR=9.5						
MJAR				LR	LR	07 56 38.7	
	comp=Z,237nm,18.2s,baz=55,slow=43						
MAJO	Matsushiro	5.22	232	ePn	Pn	07 54 16.9	0.0
	22nm,0.6s						
MAT	Matsushiro	5.22	232	P	Pn	07 54 17.8	+0.9
MAT				eS	Sn	07 55 19.9	+2.6
USRK	Ussuriysk Ar.	9.50	301	Pn	Pn	07 55 18.3	+2.7
	0.8nm,0.3s,baz=90,slow=14,SNR=9.8						
USRK				LR	LR	07 58 58.0	
	comp=Z,307nm,18.1s,baz=92,slow=38						
JNU	Nakatsue	12.06	240	LR	LR	08 00 48.4	
	comp=Z,305nm,18.4s,baz=110,slow=39						
KSRS	Korea Array	12.29	264	Pn	Pn	07 55 53.1	-0.7
	0.3nm,0.3s,baz=75,slow=14,SNR=9.6						
KSRS				LR	LR	08 00 21.1	
	comp=Z,226nm,18.2s,baz=80,slow=36						
KSAR	Wonju Array Be	12.32	264	Pn	Pn	07 55 53.1	-1.2
KLR	Kul'dur	12.49	322	Pn	Pn	07 55 57.6	+1.2
	0.1nm,0.3s,baz=118,slow=15,SNR=4.0						
KLR				LR	LR	08 00 58.7	
	comp=Z,217nm,19.8s,baz=133,slow=38						
PETK	Petropavlovsk-	16.50	32	LR	LR	08 02 54.8	
	comp=Z,41nm,21.2s,baz=200,slow=36						
MA2	Magadan	20.30	11	P	P	07 57 34.7	+0.1
	2.5nm,0.4s,baz=191,slow=10,SNR=6.9						
SEY	Seymchan	23.75	10	P	P	07 58 10.4	-0.6
	3.5nm,0.8s,baz=185,slow=6.2,SNR=12						
GUMO	Guam	26.19	177	LR	LR	08 07 41.1	
	comp=Z,34nm,21.8s,baz=338,slow=34						
SONM	Songino Array	27.60	299	LR	LR	08 10 23.7	
	comp=Z,202nm,18.0s,baz=80,slow=38						
H11N2	WAKE ISLAND Hy	28.48	128	T	T	08 28 43.4	
	baz=318,slow=75						
H11N1	WAKE ISLAND Hy	28.49	128	T	T	08 28 42.9	
	baz=318,slow=75						
H11N3	WAKE ISLAND Hy	28.50	128	T	T	08 28 48.5	
	baz=318,slow=75						
H11S1	WAKE ISLAND Hy	29.31	130	T	T	08 29 56.0	
	baz=322,slow=76,SNR=24						
H11S3	WAKE ISLAND Hy	29.31	130	T	T	08 29 55.6	
	baz=322,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	29.32	130	T	T	08 29 55.9	
	baz=322,slow=76,SNR=21						
ZALV	Zalesovo Beam	41.20	310	P	P	08 00 43.7	+0.2
	4.1nm,0.4s,baz=94,slow=7.8,SNR=4.5						
ZALV				LR	LR	08 18 45.4	
	comp=Z,80nm,18.3s,baz=258,slow=38						
NRIK	Noril'sk	41.38	334	P	P	08 00 46.5	+1.7
	2.1nm,0.4s,baz=104,slow=8.3,SNR=5.0						
NRIK				LR	LR	08 19 34.8	
	comp=Z,78nm,18.8s,baz=109,slow=39						
CMAR	Chiang Mai Arr	43.70	254	LR	LR	08 21 00.9	
	comp=Z,37nm,18.0s,baz=75,slow=39						
MKAR	Makanchi Array	43.96	300	P	P	08 01 05.9	-0.1
	1.5nm,0.7s,baz=87,slow=9.7,SNR=15						
MKAR				LR	LR	08 20 21.3	
	comp=Z,100nm,18.7s,baz=58,slow=37						
KURK	Kurchatov	45.44	306	P	P	08 01 18.2	+0.5
KURBB	Kurchatov Arra	45.52	306	P	P	08 01 18.2	-0.1
	2.3nm,0.5s,baz=81,slow=8.5,SNR=19						
ILAR	Eielson Array	46.31	34	P	P	08 01 25.4	+1.0
	0.6nm,0.8s,baz=264,slow=5.3,SNR=7.9						
TKM2	Tokmak 2	49.66	297	eP	P	08 01 50.9	-0.1
	5.7nm,0.8s						
BVAR	Borovoye Array	49.84	311	P	P	08 01 52.1	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.6nm,0.6s,baz=72,slow=9.5,SNR=11						
ABKAR	Akbulak array	57.30	309	eP	P	08 02 46.4	-0.3
	1.6nm,0.5s						
AKTO	Aktyubinsk	57.94	311	P	P	08 02 49.8	-1.4
	1.1nm,0.5s,baz=58,slow=9.5,SNR=3.3						
WRA	Warramunga Arr	60.07	190	P	P	08 03 04.5	-1.7
	1.1nm,0.7s,baz=7.6,slow=6.9,SNR=9.6						
ARCES	ARCESS Array B	61.90	339	LR	LR	08 32 52.6	
	comp=Z,44nm,20.5s,baz=101,slow=39						
ASAR	Alice Springs	63.80	190	P	P	08 03 30.3	-0.9
	0.6nm,0.7s,baz=9.5,slow=5.4,SNR=7.2						
FINES	FINESS Array B	67.03	332	P	P	08 03 51.5	-0.2
	1.7nm,0.7s,baz=52,slow=9.0,SNR=3.0						
FINES				LR	LR	08 36 03.1	
	comp=Z,86nm,19.2s,baz=52,slow=39						
KVAR	Kislovodsk Arr	70.20	311	LR	LR	08 40 04.3	
	comp=Z,73nm,18.0s,baz=320,slow=40						
NVAR	Mina Array Bea	72.11	55	P	P	08 04 25.2	+1.4
	1.2nm,0.9s,baz=308,slow=9.1,SNR=2.6						
HFS	Hagfors	72.14	336	P	P	08 04 23.5	+0.2
	1.2nm,0.5s,baz=46,slow=8.5,SNR=4.7						
NB2	NORSAR Subarra	72.17	338	P	P	08 04 23.4	-0.1
	comp=Z,1.2nm,0.7s,baz=37,slow=6.2						
NOA	NORSAR Array B	72.17	338	P	P	08 04 23.6	+0.1
	comp=Z,0.8nm,0.6s,baz=38,slow=5.8,SNR=3.9						
NOA				LR	LR	08 40 10.1	
	comp=Z,26nm,18.7s,baz=35,slow=39						
AKASG	Malin Array Be	72.99	323	P	P	08 04 27.2	-1.3
	comp=Z,0.3nm,0.4s,baz=46,slow=4.0,SNR=2.7						
MLR	Muntele Rosu	78.20	320	LR	LR	08 42 13.2	
	comp=Z,13nm,18.7s,baz=19,slow=38						
VRAC	Vranov	79.57	328	LR	LR	08 43 32.9	
	comp=Z,70nm,18.5s,baz=68,slow=38						
DAVOX	Davos/Dischmat	84.28	330	LR	LR	08 48 36.0	
	comp=Z,51nm,18.7s,baz=91,slow=40						

IDC 01 07:59:29.0±2.7**, 52°.17N×35°.69E, h0km, mb3.0**/1**, mb1 3.3**/4**, mb1mx3.0**/52**, mbtmp3.1**/4**, ML3.4**/3**, MS2.1**/1**, Ms1 2.2**/1**, ms1mx1.8**/21**, Error ellipse: s-maj=39.6km s-min=10.4km az=132.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OBN	Obninsk	2.99	10	Pn	Pn	08 00 18.3	+0.7
	8.3nm,0.3s,baz=162,slow=20,SNR=1.8						
OBN				Sn	Sn	08 00 55.6	+1.4
	11nm,0.3s,baz=174,slow=19,SNR=7.9						
AKASG	Malin Array Be	4.31	253	Pn	Pn	08 00 35.2	-0.5
	1.0nm,0.3s,baz=61,slow=15,SNR=2.9						
AKASG				Pg	Pb	08 00 44.9	-0.6
	2.1nm,0.3s,baz=68,slow=17,SNR=7.6						
AKASG				Sn	Sn	08 01 24.6	-2.0
	1.7nm,0.3s,baz=62,slow=23,SNR=3.5						
AKASG				Lg	Lg	08 01 41.9	
	3.0nm,0.3s,baz=67,slow=31,SNR=6.0						
FINES	FINESS Array B	10.67	334	Sn	Sn	08 03 47.4	-16
	0.1nm,0.3s,baz=150,slow=25,SNR=2.4						
FINES				Lg	Lg	08 04 55.0	
	0.2nm,0.3s,baz=143,slow=28,SNR=2.8						
I26DE	FREYUNG INFRAS	14.36	265	i		09 23 10.0	
	baz=66,slow=318,SNR=1.8						
NOA	NORSAR Array B	16.05	313	Pn	Pn	08 03 07.5	-8.3
	0.1nm,0.3s,baz=113,slow=12,SNR=2.8						
NOA				LR	LR	08 09 07.0	
	comp=Z,6.8nm,19.7s,baz=170,slow=36						
YKA	Yellowknife Ar	63.29	345	P	P	08 09 57.1	-1.8
	0.1nm,0.5s,baz=9.5,slow=7.2,SNR=3.6						

*ISCJB **01** 08:00:18.5±0.6, 24°.84N±0°.04×122°.44E±0°.02, h6km±5km, Error ellipse: s-maj=6.9km s-min=3.4km az=12.4*
*TAP **01** 08:00:18.6, 24°.92N×122°.43E, h19km±1km, ML2.7, C*
*JMA **01** 08:00:18.1±0.2, 24°.84N×122°.44E, h0km, M2.8*
ISC 01 08:00:17.6±1.4**, 24°.89N**±0°.05×**122°.46E**±0°.03**, h13**km±12km**, n19, σ0ˢ31**/30**, 2C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.44	286	i P	Pb	08 00 27.3	0.0
	baz=282						
TWB1				S	Sb	08 00 33.4	-0.4
	baz=282						
TWC	Suao	0.62	244	⇓P	Pb	08 00 30.4	+0.1
	baz=238						
TWC				S	Sb	08 00 38.8	-0.1
	baz=238						
JYNG	Yonagunijimaku	0.62	134	P	Pb	08 00 30.2	-0.1
JYNG				S	Sb	08 00 39.0	+0.1
NWF	Wu-fen Shan	0.64	287	⇑iP	Pn	08 00 31.6	-0.9
	baz=284						
NWF				S	Sb	08 00 40.0	+0.3
	baz=284						
YOJ	Yonaguni jima	0.66	130	P	Pb	08 00 30.7	-0.2
YOJ				eS	Sb	08 00 39.7	-0.3
TWE	Neicheng	0.74	257	eP	Pb	08 00 32.5	+0.2
	baz=245						
ENA	Nanau	0.80	235	eP	Pb	08 00 33.3	0.0
	baz=231						
ENA				eS	Sb	08 00 44.5	+0.5
	baz=231						
PCYT	Pengchaiyu	0.82	335	⇑P	Pn	08 00 34.9	0.0
	baz=330						
ENTT	Nioudou	0.85	253	P	Pn	08 00 34.8	-0.4
	baz=237						
ENTT				eS	Sb	08 00 45.9	+0.4
	baz=237						
TWY	Chenhua	0.87	297	eP	Pn	08 00 35.4	-0.2
	baz=295						
NSK	Sanguang	1.02	258	eP	Pn	08 00 37.5	-0.2
	baz=255						
NSK				eS	Sb	08 00 50.8	+0.3
	baz=255						
NNS	Nan Shan	1.08	246	eP	Pn	08 00 38.6	0.0
	baz=231						
NNS				eS	Sg	08 00 52.5	-0.1
	baz=231						
IRIF	Iriomote-Funau	1.28	115	P	Pg	08 00 42.3	0.0
WHF	Hehuan Shan	1.31	236	eP	Pn	08 00 41.9	-0.2
	baz=233						
TWT	Tachien	1.33	242	eP	Pg	08 00 43.0	-0.2
	baz=239						
TWT				eS	Sb	08 00 59.7	+0.2
	baz=239						
HATJ	Hateruma jima	1.48	124	P	Pg	08 00 46.4	+0.4
JKRS	Kuro-shima	1.55	114	P	Pg	08 00 47.8	+0.3
JIJ	Ishigaki jima	1.62	108	P	Pg	08 00 49.0	+0.3
WDT	Danda	1.65	227	eP	Pb	08 00 48.1	0.0
	baz=207						
WDT				eS	Sn	08 01 08.2	+0.3
	baz=207						

IDC 01 08:01:26.4±6.0**, 20°.56S×176°.38W, h0km, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/37**, mbtmp3.8**/3**, Error ellipse: s-maj=278.9km s-min=66.9km az=152.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	35.00	264	P	P	08 08 22.2	+1.4
	2.4nm,0.4s,baz=88,slow=7.8,SNR=3.9						
ASAR	Alice Springs	45.98	257	P	P	08 09 50.8	-1.0
	0.2nm,0.4s,baz=90,slow=9.0,SNR=4.1						
WRA	Warramunga Arr	46.10	262	P	P	08 09 52.2	-0.5
	0.2nm,0.4s,baz=97,slow=8.3,SNR=11						
BRTR	Keskin Array B	148.00	313	PKPbc	PKPbc	08 21 13.6	-0.6
	0.5nm,0.5s,baz=106,slow=7.6,SNR=2.8						

IDC 01 08:01:43.8±13.0**, 2°.06N×128°.66E, h0km, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/42**, mbtmp3.5**/3**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx2.6**/33**, Error ellipse: s-maj=203.4km s-min=142.4km az=159.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.56	166	P	P	08 06 45.6	-0.2
	0.7nm,0.6s,baz=346,slow=12,SNR=7.4						
ASAR	Alice Springs	26.07	169	P	P	08 07 19.4	+0.1
	0.4nm,0.9s,baz=346,slow=13,SNR=3.1						
MJAR	Matsushiro Arr	35.43	13	LR	LR	08 20 56.0	
	comp=Z,147nm,20.8s,baz=130,slow=32						
STKA	Stephens Creek	35.91	161	P	P	08 08 46.0	0.0
	0.7nm,0.4s,baz=350,slow=6.1,SNR=4.2						

*IDC **01** 08:02:46.2±1.9, 2°.66N×95°.71E, h0km, mb3.3/4, mb1 3.4/5, mb1mx3.3/54, mbtmp3.3/5, ML2.9/1, Error ellipse: s-maj=56.0km s-min=23.1km az=42.0*
*DJA **01** 08:02:54.3±0.8, 3°N±5°×9°6E±°, h10km, M3.4/5, MLv3.4/5*
ISC 01 08:02:52.9±1.3**, 3°.02N**±0°.07×**96°.32E**±0°.08**, h31**km**, n15, σ1ˢ08**/11**, mb3.3**/4**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TPTI		0.89	75	P	Pn	08 03 08.6	-0.7
TPTI				S	Sn	08 03 21.2	+0.1
MLSI	Meulaboh, Aceh	1.24	4	P	Pb	08 03 16.2	+0.5
KCSI	Kotacane, Aceh	1.53	71	P	Pb	08 03 20.0	-0.7
KCSI				S	Sb	08 03 42.0	+2.3
GSI	Gunungsitoli	2.12	144	P	Pb	08 03 31.2	+0.5
PSI	Prapat	2.61	95	Pn	Pb	08 03 38.5	-0.6
	1.4nm,0.3s,baz=293,slow=13,SNR=8.1						
PSI				Sn	Sb	08 04 18.2	+7.3
	1.0nm,0.3s,baz=311,slow=22,SNR=2.9						
H08S2	Diego Garcia H	26.03	246	T	T	08 34 44.1	
	baz=68,slow=75,SNR=12						
H08S3	Diego Garcia H	26.03	246	T	T	08 34 43.6	
	baz=68,slow=75,SNR=8.6						
H08S1	Diego Carcia H	26.05	246	T	T	08 34 43.0	
	baz=68,slow=75,SNR=9.9						
H01W3	Cape Leeuwin H	41.26	158	T	T	08 53 51.7	
	baz=333,slow=76,SNR=6.0						
H01W2	Cape Leeuwin H	41.27	158	T	T	08 53 53.4	
	baz=333,slow=76,SNR=6.3						
H01W1	Cape Leeuwin H	41.27	158	T	T	08 53 51.5	
	baz=333,slow=76,SNR=5.6						
WRA	Warramunga Arr	43.75	123	P	P	08 10 55.0	-0.9
	0.1nm,0.4s,baz=299,slow=9.3,SNR=2.5						
ASAR	Alice Springs	45.20	128	P	P	08 11 08.5	+1.1
	0.1nm,0.5s,baz=296,slow=7.1,SNR=2.5						
MKAR	Makanchi Array	45.27	346	P	P	08 11 07.1	-0.6
	0.4nm,0.3s,baz=151,slow=9.7,SNR=6.0						
KURBB	Kurchatov Arra	49.75	345	P	P	08 11 42.0	-0.4
	0.5nm,0.7s,baz=171,slow=6.9,SNR=4.4						

*ISCJB **01** 08:08:41.6±0.4, 6°.83N±0°.04×73°.07W±0°.04, h159km±3km, mb3.1/3, Error ellipse: s-maj=8.5km s-min=3.7km az=38.6*
*FUNV **01** 08:08:43.0, 6°.79N×73°.12W, h157km, MW3.4*
*RSNC **01** 08:08:44.0±0.6, 6°.79N×73°.12W, h146km±3km, ML3.2*
*IDC **01** 08:08:45.2±2.0, 6°.95N×73°.85W, h146km±29km, mb2.9/3, mb1 3.3/5, mb1mx3.1/28, mbtmp3.5/5, Error ellipse: s-maj=34.1km s-min=23.9km az=1.0*
ISC 01 08:08:42.0±1.0**, 6°.82N**±0°.04×**73°.07W**±0°.05**, h159**km±6km**, n36, σ1ˢ03**/53**, mb3.0**/3**, 7C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLC	Betulia, Santa	0.22	296	eP	Pn	08 09 03.8	+0.1
BTLC				eS	Sn	08 09 18.7	-1.5
BARC	Barichara	0.26	207	i P	Pn	08 09 03.7	-0.1
BARC				eS	Sn	08 09 18.9	-1.5
BARC				i		08 09 20.2	
	comp=Z,234nm,0.4s						
GIRC	Giron, Santand	0.28	334	eP	Pn	08 09 03.7	-0.1
GIRC				eS	Sn	08 09 18.7	-1.6
PAMC	Pamplona, Colo	0.63	35	eP	Pn	08 09 06.5	+0.9
PAMC				eS	Sn	08 09 23.5	-0.1
BRRC	Barranca, Sant	0.70	294	eP	Pn	08 09 05.5	0.0
BRRC				eS	Sn	08 09 22.6	-0.8
BRRC				i		08 09 25.9	
	comp=Z,382nm,0.2s						
RUSC	La Rusia	0.92	181	eP	Pn	08 09 07.8	+0.2
RUSC				i		08 09 09.1	
	comp=Z,140nm,0.1s						
RUSC				eS	Sn	08 09 26.2	-1.0
GRMC	Gramalote, San	0.93	16	i P	Pn	08 09 09.4	+2.2
GRMC				eS	Sn	08 09 28.9	+2.3
GRMC				i		08 09 30.2	
	comp=Z,315nm,0.3s						
CBRI	Barrientos, No	0.93	17	i P	Pn	08 09 08.1	+0.9
CBRI				eS	Sn	08 09 26.9	+0.2
CBRI				i		08 09 29.7	
	comp=Z,212nm,0.4s						
GUEC	Guerrero, Nort	1.01	8	eP	Pn	08 09 08.7	+0.6
GUEC				eS	Sn	08 09 27.4	-0.7
CAPV	Capacho	1.28	36	⇑eP	Pn	08 09 11.6	+1.3
CAPV				eS	Sn	08 09 31.2	-0.9
OCAC	Ocana	1.43	350	eP	Pn	08 09 12.1	+0.4
OCAC				eS	Sn	08 09 34.4	-0.2
OCAC				i		08 09 38.4	
	comp=Z,241nm,0.2s						
NORC	Norcasia	2.19	235	eP	Pn	08 09 19.9	0.0
NORC				eS	Sn	08 09 47.4	-1.7
ROSC	El Rosal	2.33	212	P	Pn	08 09 23.8	+1.9
	comp=Z,23nm,0.3s,baz=308,slow=19,SNR=100						
ROSC				S	Sn	08 09 50.7	-2.0
	comp=Z,32nm,0.3s,baz=69,slow=19,SNR=8.0						
HELC	Santa Helena	2.52	256	eP	Pn	08 09 24.3	+0.1
HELC				eS	Sn	08 09 56.3	-0.4
HELC				i		08 10 03.2	
	comp=Z,128nm,0.4s						
VIGV	El Vigia	2.62	40	⇑iP	Pn	08 09 26.1	+1.0
VIGV				eS	Sn	08 09 57.6	-0.8
SOCV	Socops	2.63	56	⇑eP	Pn	08 09 25.9	+0.8
SOCV				eS	Sn	08 09 57.4	-1.2
VILC	Villavicencio,	2.76	193	eP	Pn	08 09 27.4	+0.5
VILC				eS	Sn	08 10 01.7	0.0
VILC				i		08 10 12.6	
	comp=Z,83nm,0.4s						
GUYC	Guyana, Colomb	2.80	236	eP	Pn	08 09 28.6	+0.8
GUYC				i		08 10 10.0	
	comp=Z,83nm,0.4s						
DBBC	Dabeiba	3.13	274	eP	Pn	08 09 32.2	+0.9
TOLC	Tolima	3.16	225	eP	Pn	08 09 33.0	+0.9
SDV	Santo Domingo	3.17	49	eP	Pn	08 09 33.1	+1.2
SDV				i		08 09 34.0	
	comp=Z,51nm,0.2s						
PRAC	Prado	3.58	211	eP	Pn	08 09 37.5	+0.4
PRAC				eS	Sn	08 10 19.8	-0.2
VIRV	Villa del Rosa	3.72	10	⇑iP	Pn	08 09 38.3	-0.6
VIRV				eS	Sn	08 10 20.4	-2.7
SANV	Sanarito	4.39	52	eP	Pn	08 09 48.0	+0.3
CURV	Curarigua	4.42	44	⇑eP	Pn	08 09 48.2	+0.2
DABV	Dabajuro	4.73	30	eP	Pn	08 09 52.4	+0.3
TEPV	Terepaima	4.94	51	⇑eP	Pn	08 09 55.2	+0.3
SIQV	Siquisique	4.98	40	eP	Pn	08 09 54.7	-0.7
BAUV	El Baul	5.41	67	eP	Pn	08 09 60.0	-1.0
MAPV	Macapo	5.45	56	⇑iP	Pn	08 10 01.5	-0.1
MONV	Montecano	5.95	31	eP	Pn	08 10 07.8	-0.3
TURV	Turiamo	6.30	55	eP	Pn	08 10 12.8	0.0
PCRV	Puerto La Cruz	8.98	68	P	Pn	08 11 01.2	+13
	comp=Z,0.6nm,0.3s,baz=274,slow=7.0,SNR=3.1						
TXAR	Lajitas Array	36.50	312	P	P	08 15 32.7	+0.4
	comp=Z,0.1nm,0.4s,baz=120,slow=8.9,SNR=4.8						
YKA	Yellowknife Ar	63.28	340	P	P	08 18 53.9	+0.4
	comp=Z,0.4nm,0.5s,baz=137,slow=6.3,SNR=8.2						
TORD	Torodi Ar. Bea	73.69	78	P	P	08 20 08.5	+9.4
	comp=Z,0.3nm,0.9s,baz=284,slow=5.8,SNR=2.2						

MEX 01 08:14:27.3±0.5**, 20°.77N×104°.74W, h16**km±10km**, MD3.6, Jalisco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANIG	Ahuacatlan	0.35	35	eP	Pg	08 14 33.6	-1.0
ANIG				eS	Sg	08 14 39.1	-0.5
R15V		1.74	156	eP	Pn	08 14 53.7	-3.2
R15V				eS	Sn	08 15 13.5	-5.3

*NIED **01** 08:18:00, 35°.50N×140°.80E, h38km, Mw4.6 Best double couple: M₀9.60000×10¹⁵ NP1:φₛ285.00000°, δ60.00000°, λ153.00000°. NP2:φₛ30.00000°, δ67.00000°, λ33.00000°.*
*IDC **01** 08:18:15.9±0.5, 35°.33N×140°.60E, h0km, mb4.3/28, mb1 4.4/33, mb1mx4.3/70, mbtmp4.3/33, ML4.0/4, MS3.8/11, Ms1 3.8/11, ms1mx3.5/42, Error ellipse: s-maj=15.0km s-min=11.0km az=96.0*
*ISCJB **01** 08:18:17.2±0.2, 35°.41N±0°.03×140°.55E±0°.03, h10km, mb4.5/76, MS3.8/8, Error ellipse: s-maj=4.3km s-min=3.7km az=138.5*
*BJI **01** 08:18:17.1, 35°.25N×140°.73E, h25km, mb4.6/37, mB4.8/27, Ms4.3/26, Ms7 4.1/22*
*MOS **01** 08:18:18.6±1.4, 35°.34N×140°.57E, h27km, mb4.7/26, Error ellipse: s-maj=9.9km s-min=6.0km az=114.3*
*JMA **01** 08:18:18.9±0.1, 35°.53N×140°.72E, h28km±1km, M4.5*
JMA Felt III J1.
*NEIC **01** 08:18:20.4±1.7, 35°.33N×140°.56E, h24km±12km, mb4.5/40, Error ellipse: s-maj=6.3km s-min=5.2km az=128.0*
NEIC Recorded [3 JMA] in Chiba.
ISC 01 08:18:18.5±0.3**, 35°.49N**±0°.03×**140°.68E**±0°.04**, h10**km**, n193, σ2ˢ14**/207**, mb4.5**/76**, MS3.8**/8**, 6C-8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.26	35	⇑P	Pb	08 18 24.9	-0.5
CHOJ				S	Sb	08 18 29.3	-0.7
JCN	Nagara	0.39	260	⇑P	Pb	08 18 28.7	+1.1
KTR	Katsuura	0.45	221	⇑P	Pb	08 18 28.9	+0.4
KTR				S	Sb	08 18 36.2	+1.0
BSO4	Boso 4	0.56	209	P	Pb	08 18 31.4	+0.9
BSO4				X		08 18 40.6	
BSO3	Boso 3	0.69	191	⇓P	Pn	08 18 33.4	-0.8
JYT	Yasato	0.84	332	⇓P	Pg	08 18 34.0	-0.7
BSO1	Boso 1	0.87	163	⇓P	Pg	08 18 34.4	-0.7
JHO	Hitachi	1.13	356	⇓P	Pb	08 18 37.7	-2.4
MJAR	Matsushiro Arr	2.26	299	Pn	Pn	08 18 56.1	+0.1
	12nm,0.3s,baz=95,slow=14,SNR=168						
MAJO	Matsushiro	2.26	299	d iP	Pn	08 18 56.2	+0.2
MAJO	Matsushiro	2.26	299	ePn	Pn	08 18 56.7	+0.7
MAT	Matsushiro	2.26	299	P	Pn	08 18 56.3	+0.3
MAT				S	Sb	08 19 26.3	-1.2
MJB9	Matsu-Tunnel	2.27	299	ePn	Pn	08 18 56.7	+0.7
JHJ2	Mitsune	2.47	197	ePn	Pn	08 18 57.0	-1.8
JHJ	Hachijo jima 2	2.47	198	Pn	Pn	08 18 56.9	-2.0
	203nm,0.3s,baz=93,slow=22,SNR=12						
JHJ				Sn	Sn	08 19 25.8	-3.4
	187nm,0.3s,baz=59,slow=23,SNR=4.1						
INU	Inuyama	2.99	268	ePn	Pn	08 19 07.0	+1.0
ERM	Erimo	6.80	16	eP	Pn	08 19 55.9	-2.4
ERM	Erimo	6.80	16	ePn	Pn	08 20 00.5	+2.2
JNU	Nakatsue	8.44	257	Pn	Pn	08 20 21.6	+0.7
	0.4nm,0.3s,baz=135,slow=20,SNR=4.9						
JNU				LR	LR	08 24 03.5	
	comp=Z,769nm,18.0s,baz=114,slow=42						
JNU	Nakatsue	8.44	257	ePn	Pn	08 20 24.6	+3.7
CBIJ	Chichi jima	8.46	171	ePn	Pn	08 20 18.5	-2.7
JCJ	Chichijima	8.46	171	Pn	Pn	08 20 17.9	-3.3
	73nm,0.3s,baz=340,slow=9.4,SNR=18						
ASAJ	Asahikawa	8.75	9	Pn	Pn	08 20 23.8	-1.3
	4.0nm,0.3s,baz=223,slow=11,SNR=12						
ASAJ	Asahikawa	8.75	9	ePn	Pn	08 20 24.6	-0.5
KSRS	Korea Array	10.46	285	Pn	Pn	08 20 50.7	+2.3
	0.2nm,0.3s,baz=101,slow=14,SNR=13						
KSRS				LR	LR	08 24 54.4	
	comp=Z,327nm,20.6s,baz=93,slow=38						
KSAR	Wonju Array Be	10.49	284	P	Pn	08 20 50.7	+1.8
KSAR	Wonju Array Be	10.49	284	Pn	Pn	08 20 50.7	+1.8
USRK	Ussuriysk Ar.	10.96	325	Pn	Pn	08 20 58.1	+2.7
	0.3nm,0.3s,baz=149,slow=14,SNR=9.3						
YSS	Yuzh-Sakhalins	11.56	7	eP	Pn	08 21 06.8	+3.2
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS	Yuzh-Sakhalins	11.56	7	ePn	Pn	08 21 06.7	+3.1
MDJ	Mudanjiang	12.45	320	P	Pn	08 21 15.6	-0.1
MDJ				S	Sn	08 23 33.9	-0.5
MDJ				ScP	ScP	08 30 28.0	-0.8
MDJ				PcS	PcS	08 30 30.0	+0.2
MDJ				PMZ			
	comp=Z,8.0nm,1.9s						
MDJ				PMZ			
	comp=Z,69nm,3.6s						
MDJ				LN			
	comp=Z,300nm,14.5s						
MDJ				LE			
	comp=Z,180nm,15.7s						
MDJ				LZ			
	comp=Z,390nm,14.9s						
CN2	Changchun	14.36	310	eP	Pn	08 21 44.8	+3.0
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				LN			
	comp=Z,300nm,12.0s						
CN2				LE			
	comp=Z,300nm,12.0s						
CN2				LZ			
	comp=Z,300nm,14.0s						
KLR	Kul'dur	15.22	337	Pn	Pn	08 21 54.5	+1.1
	comp=Z,0.1nm,0.3s,baz=132,slow=13,SNR=4.5						
KLR				LR	LR	08 27 41.3	
	comp=Z,532nm,18.9s,baz=138,slow=37						
TYV	Tymovskoe	15.44	5	eP	Pn	08 21 57.0	+0.7
TYV				pmax	pmax		
	comp=Z,22nm,1.0s						
TYV				MLR	MLR		
	comp=Z,500nm,16.0s						
DL2	Dalian	15.56	288	P	P	08 22 09.1	+6.9
DL2				eS	S	08 25 10.2	+4.3
DL2				pmax	pmax		
	comp=Z,21nm,1.2s						
DL2				LR	LR		
	comp=N,480nm,20.1s						
DL2				LR	LR		
	comp=Z,390nm,21.6s						
TIA	Tai'an	19.10	279	⇓P	Pn	08 22 42.3	+0.1
TIA				PMZ			
	comp=Z,10.0nm,0.9s						
TIA				PMZ			
	comp=Z,130nm,4.2s						
TIA				LN			
	comp=Z,220nm,8.9s						
TIA				LE			
	comp=Z,440nm,13.7s						
TIA				LZ			
	comp=Z,320nm,13.7s						
BJI	Beijing	19.88	291	P	P	08 22 49.9	+0.1
BJI				S	S	08 26 25.5	-8.0
BJI				PMZ			
	comp=Z,16nm,0.9s						
BJI				PMZ			
	comp=Z,100nm,4.8s						
BJI				LN			
	comp=Z,300nm,22.9s						
BJI				LE			
	comp=Z,200nm,22.2s						
BJT	Baijiatuau	19.88	290	eP	P	08 22 49.2	-0.7
BJT				pmax	pmax		
	comp=Z,14nm,0.9s						
BJT	Baijiatuau	19.88	290	eP	P	08 22 49.2	-0.7
	comp=Z,14nm,0.9s						
PEA0	Petropavlovsk-	21.33	29	eP	P	08 23 07.2	+1.7
PEA0B	Petropavlovsk-	21.33	29	eP	P	08 23 08.5	+3.1
	comp=Z,34nm,1.3s						
PETK	Petropavlovsk-	21.33	29	P	P	08 23 06.4	+0.9
	comp=Z,3.6nm,0.7s,baz=215,slow=4.9,SNR=5.7						
GUMO	Guam	22.13	169	LR	LR	08 30 31.7	
	comp=Z,150nm,18.3s,baz=23,slow=34						
WHN	Wuhan	22.59	265	⇓P	P	08 23 18.3	-0.9
MA2	Magadan	24.99	12	P	P	08 23 42.5	+0.3
	comp=Z,13nm,0.8s,baz=224,slow=8.9,SNR=9.4						
MA2				LR	LR	08 35 00.6	
	comp=Z,154nm,18.2s,baz=218,slow=40						
XAN	Xi'an	26.07	276	P	P	08 23 50.1	-2.2
XAN				PMZ			
	comp=Z,5.0nm,0.8s						
XAN				PMZ			
	comp=Z,40nm,5.1s						
ENH	Enshi	26.64	268	eP	P	08 23 55.6	-1.8
	comp=Z,18nm,0.7s						
YAK	Yakutsk	27.46	349	eP	P	08 24 05.3	+0.9
YAK				pmax	pmax		
	comp=Z,31nm,1.1s						
YAK				pmax	pmax		
	comp=N,20nm,1.3s						
ULN	Ulaanbaatar	27.77	307	eP	P	08 24 04.4	-3.2
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	Ulaanbaatar	27.77	307	eP	P	08 24 08.8	+1.2
	comp=Z,4.9nm,1.1s						
H11N2	WAKE ISLAND Hy	27.92	117	T	T	08 53 10.8	
	baz=310,slow=75,SNR=1024						
H11N1	WAKE ISLAND Hy	27.93	117	T	T	08 53 12.7	
	baz=310,slow=75,SNR=829						
H11N3	WAKE ISLAND Hy	27.94	117	T	T	08 53 12.5	
	baz=310,slow=75,SNR=735						
SONA1	Songino Array	28.19	307	eP	P	08 24 11.9	+0.5
SONM	Songino Array	28.19	307	P	P	08 24 11.0	-0.3
	comp=Z,1.1nm,0.8s,baz=99,slow=9.3,SNR=3.7						

SONM LR LR 08 35 59.5
comp=Z,217nm,18.2s,baz=74,slow=38
SONM Songino Array 28.19 307 P **P 08 24 11.0 -0.3**
SEY Seymchan 28.42 11 P **P 08 24 13.5 +0.5**
comp=Z,1.0nm,0.4s,baz=228,slow=7.0,SNR=8.5
SEY Seymchan 28.42 11 *i* P **P 08 24 11.8 -1.2**
H11S3 WAKE ISLAND Hy 28.57 120 T T 08 53 58.1
baz=312,slow=75,SNR=2438
H11S1 WAKE ISLAND Hy 28.57 119 T T 08 53 58.6
baz=312,slow=75,SNR=3911
H11S2 WAKE ISLAND Hy 28.59 119 T T 08 53 58.1
baz=312,slow=75,SNR=2687
LZH Lanzhou 29.77 282 *e*P **P 08 24 26.2 +0.7**
LZH pP sP 08 24 33.0 +3.2
LZH sP pP 08 24 36.3 +7.7
LZH PMZ
comp=Z,21nm,1.2s
LZH PMZ
comp=Z,95nm,4.6s
LZH LN
comp=Z,770nm,12.8s
LZH LE
comp=Z,1μm,11.6s
LZH LZ
comp=Z,760nm,11.6s
GYA Guiyang 30.40 262 *e*P **P 08 24 31.2 +0.1**
GYA PMZ
comp=Z,10.0nm,0.8s
TLY Talaya 30.92 313 LR LR 08 37 23.3
comp=Z,95nm,18.2s,baz=112,slow=37
TLY Talaya 30.92 313 *e*P **P 08 24 39.7 +4.3**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,184nm,16.0s
GTA Gaotai 32.48 289 *e*P **P 08 24 48.0 -1.3**
GTA pP sP 08 24 55.5 +1.9
GTA sP pP 08 24 58.5 +6.1
GTA PcP **PcP 08 27 34.1 -2.1**
GTA S **S 08 30 00.7 -3.6**
GTA sS sS 08 30 12.8 +3.5
GTA SS **SnSn 08 31 54.7 -2.5**
GTA PMZ
comp=Z,3.0nm,0.9s
GTA PMZ
comp=Z,36nm,5.9s
GTA LN
comp=Z,170nm,20.9s
GTA LE
comp=Z,180nm,20.0s
GTA LZ
comp=Z,190nm,19.5s
BILL Bilibino 35.68 16 *e*P **P 08 25 16.1 -0.5**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 35.68 16 P **P 08 25 17.0 +0.4**
comp=Z,7.0nm,1.1s
TIXI Tiksi 36.76 354 P **P 08 25 25.7 -0.1**
comp=Z,2.8nm,0.7s,baz=154,slow=7.3,SNR=5.4
TIXI Tiksi 36.76 354 *i* P **P 08 25 23.8 -1.9**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 36.76 354 *e*P **P 08 25 27.0 +1.3**
comp=Z,3.5nm,0.9s
CMAR Chiang Mai Arr 40.54 256 PcP **PcP 08 27 58.6 -1.9**
comp=Z,0.9nm,0.4s,baz=32,slow=2.5,SNR=4.4
CMAR Chiang Mai Arr 40.54 256 *ce*P **P 08 26 00.7 +2.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
WMQ Urumqi 41.03 298 P **P 08 26 03.3 +1.3**
WMQ pP sP 08 26 12.0 +5.7
WMQ sP pP 08 26 14.5 +9.4
WMQ PMZ
comp=Z,7.0nm,0.8s
WMQ PMZ
comp=Z,52nm,7.2s
WMQ LN
comp=Z,100nm,20.8s
WMQ LE
comp=Z,68nm,15.6s
ZAA0 Zalesovo Array 42.53 314 *e*P **P 08 26 13.7 -0.3**
ZAA0 *e*P **P 08 26 14.2 +0.1**
ZALV Zalesovo Beam 42.53 314 P **P 08 26 14.1 0.0**
comp=Z,3.7nm,0.7s,baz=90,slow=7.3,SNR=8.8
NVS Novosibirsk 43.49 315 *e*P **P 08 26 21.2 -0.6**
NVS pmax pmax
comp=N,3.0nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.4s
NVS pmax pmax
comp=Z,12nm,1.4s
NRIK Noril'sk 44.43 336 P **P 08 26 29.3 +0.1**
comp=Z,5.3nm,0.8s,baz=103,slow=12,SNR=8.2
NRIK LR LR 08 45 57.8
comp=Z,203nm,18.2s,baz=109,slow=37
NRIK Noril'sk 44.43 336 P **P 08 26 29.3 +0.1**
NRIK pmax pmax
comp=Z,4.0nm,0.7s
NRIK MLR MLR
comp=Z,203nm,18.2s
MK01 Makanchi Array 44.45 303 *e*P **P 08 26 29.0 -0.7**
MK31 Makanchi Array 44.45 303 *e*P **P 08 26 29.5 -0.2**
MK31 Makanchi Array 44.45 303 *e*P **P 08 26 29.4 -0.2**
MKAR Makanchi Array 44.45 303 P **P 08 26 29.3 -0.4**
comp=Z,5.0nm,0.8s,baz=90,slow=10,SNR=18
MKAR Makanchi Array 44.45 303 *e*P **P 08 26 29.4 -0.2**
KURK Kurchatov 46.43 309 P **P 08 26 44.4 -0.8**
KURK pmax pmax
comp=Z,47nm,0.8s
KURK Kurchatov 46.43 309 P **P 08 26 44.4 -0.8**
comp=Z,47nm,0.8s
KURK P **pP 08 26 45.0 -3.4**
KURBB Kurchatov Arra 46.50 309 P **P 08 26 45.0 -0.7**
comp=Z,10nm,0.9s,baz=85,slow=8.1,SNR=52
PDGK Podgornoye 46.99 299 P **P 08 26 49.9 +0.2**
PDGK pmax pmax
comp=Z,14nm,0.7s
TKM2 Tokmak 2 49.85 299 *e*P **P 08 27 14.5 +2.4**
TKM2 pmax pmax
comp=Z,11nm,0.9s
TKM2 Tokmak 2 49.85 299 *e*P **P 08 27 14.5 +2.4**
comp=Z,10nm,0.9s
PSI Prapat 50.49 240 P **P 08 27 14.2 -2.9**
comp=Z,1.9nm,0.4s,baz=165,slow=2.9,SNR=3.6
KSH Kashi 50.51 295 P **P 08 27 20.7 +3.7**
KSH pP sP 08 27 30.0 +8.6
KSH PcP **PcP 08 28 38.0 +3.0**
KSH PP **PP 08 29 18.0 +5.5**
KSH PcS **PcS 08 32 35.4 +3.1**
KSH S **S 08 34 34.5 +3.4**
KSH SS **SS 08 38 11.5 +6.8**
KSH PMZ
comp=Z,3.0nm,0.4s
KSH PMZ
comp=Z,63nm,3.3s
KSH LN
comp=Z,370nm,13.3s
KSH LE
comp=Z,190nm,10.2s
KSH LZ
comp=Z,180nm,10.1s
MDM Murphy Dome 50.54 31 *e*P **P 08 27 18.2 +1.4**
comp=Z,9.1nm,0.8s
WRH Wood River Hil 50.61 32 *e*P **P 08 27 18.7 +1.5**
comp=Z,10nm,1.4s
AAK Ala-Archa 50.71 299 P **P 08 27 18.8 +0.2**
comp=Z,2.3nm,0.6s,baz=91,slow=5.9,SNR=6.7
AAK Ala-Archa 50.71 299 *e*P **P 08 27 16.8 -1.8**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 50.71 299 *e*P **P 08 27 18.9 +0.3**
comp=Z,3.8nm,0.9s
IL1 Eielson Array 51.12 32 *e*P **P 08 27 20.9 -0.2**
ILAR Eielson Array 51.12 32 P **P 08 27 21.4 +0.3**
comp=Z,3.0nm,0.8s,baz=268,slow=6.4,SNR=36
ILB Eielson Array 51.12 32 *e*P **P 08 27 21.4 +0.3**
ZRNK Zerenda 52.02 313 *e*P **P 08 27 28.2 +0.2**
ZRNK pmax pmax
comp=Z,9.0nm,1.1s
ZRNK Zerenda 52.02 313 *e*P **P 08 27 28.2 +0.2**
comp=Z,9.1nm,1.1s
MNAS Manas 52.17 300 P **P 08 27 33.1 +3.7**
MNAS pmax pmax
comp=Z,5.0nm,0.8s
BMRM Bremner River 52.45 36 *e*P **P 08 27 32.6 +1.4**
comp=Z,11nm,1.1s

KKAR Karatay Array 53.39 301 *e*P **P 08 27 38.3 -0.1**
KKAR Karatay Array 53.39 301 *e*P **P 08 27 38.3 -0.1**
EGAK Eagle 53.57 31 *e*P **P 08 27 38.3 -0.9**
comp=Z,26nm,1.8s
WRAB Tennant Creek 55.44 187 *e*P **P 08 27 51.8 -1.5**
WRAB pmax pmax
comp=Z,46nm,1.7s
WRAB Tennant Creek 55.44 187 *e*P **P 08 27 51.8 -1.5**
comp=Z,46nm,1.7s
WB2 Warramunga Arr 55.45 187 *e*P **P 08 27 51.9 -1.5**
comp=Z,10nm,0.7s
WRA Warramunga Arr 55.45 187 P **P 08 27 51.7 -1.7**
comp=Z,7.0nm,0.6s,baz=6.7,slow=7.7,SNR=82
DZET Dzherino 55.99 296 P **P 08 27 57.1 -0.3**
DZET pmax pmax
comp=Z,14nm,0.6s
ARU Arti 57.13 319 *d i*P **P 08 28 04.5 -0.5**
ARU 08 28 55.9
ARU 08 30 10.7
ARU S **S 08 35 56.1 -3.9**
ARU SS **SS 08 39 41.2 -7.1**
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 57.13 319 *e*P **P 08 28 05.2 +0.2**
comp=Z,9.6nm,0.9s
ABKAR Akbulak array 58.49 311 *e*P **P 08 28 14.1 -0.6**
comp=Z,7.6nm,0.6s
AS01 Alice Springs 59.17 187 *e*P **P 08 28 17.8 -1.8**
AS31 Alice Springs 59.18 187 *e*P **P 08 28 19.4 -0.2**
comp=Z,1.5nm,0.6s
ASAR Alice Springs 59.18 187 P **P 08 28 18.4 -1.3**
comp=Z,1.6nm,0.6s,baz=18,slow=12,SNR=44
AKTO Aktyubinsk 59.27 312 P **P 08 28 19.9 -0.2**
comp=Z,1.3nm,0.7s,baz=78,slow=19
MBWA Marble Bar 59.73 203 *e*P **P 08 28 21.9 -1.6**
comp=Z,35nm,0.7s
KLMR Klimovskoe 64.75 328 *e*P **P 08 28 58.4 +1.7**
KLMR pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 65.23 339 P **P 08 28 59.0 -0.8**
comp=Z,2.2nm,0.7s,baz=44,slow=6.6,SNR=4.7
YKA Yellowknife Ar 65.45 30 P **P 08 29 01.9 +0.7**
comp=Z,1.1nm,0.7s,baz=302,slow=6.5,SNR=15
YKB5 Yellowknife Ar 65.45 30 *e*P **P 08 29 03.3 +2.1**
OBN Obninsk 68.98 323 *e*P **P 08 29 25.8 +2.1**
OBN pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 69.90 332 P **P 08 29 28.6 -0.8**
comp=Z,2.1nm,0.8s,baz=32,slow=7.6,SNR=5.3
FINES FINESS Array B 69.90 332 *i* P **P 08 29 30.7 +1.3**
FINES pmax pmax
comp=Z,2.0nm,0.8s
ZEI Tsey 71.32 309 *e*P **P 08 29 37.0 -1.6**
ZEI pmax pmax
comp=Z,10.0nm,0.4s
KBZ Khabaz 71.46 311 P **P 08 29 38.2 -0.9**
comp=Z,4.9nm,0.9s,baz=26,slow=4.6,SNR=7.9
KIV Kislovodsk 71.47 311 *e*P **P 08 29 38.9 -0.5**
KIV pmax pmax
comp=Z,17nm,1.1s
NWAO Narrogin (SRO) 71.51 201 P **P 08 29 35.8 -3.6**
comp=Z,9.7nm,0.8s,baz=86,slow=14,SNR=2.3
SUMG Summit 72.23 360 *e*P **P 08 29 45.5 +1.7**
SUMG Summit 72.23 360 *i* P **P 08 29 45.5 +1.7**
SWMT Swartz Lake 73.82 43 *e*P **P 08 29 54.7 +1.3**
AKASG Malin Array Be 75.15 322 P **P 08 29 59.8 -1.1**
comp=Z,1.2nm,0.5s,baz=46,slow=6.3,SNR=6.8
AKASG Malin Array Be 75.15 322 *ce*P **P 08 30 00.8 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 75.25 336 P **P 08 30 00.8 -0.5**
comp=Z,1.5nm,0.7s,baz=98,slow=10,SNR=3.6
FFC Flin Flon 75.33 32 *e*P **P 08 30 04.5 +2.7**
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC Flin Flon 75.33 32 *e*P **P 08 30 04.5 +2.7**
comp=Z,5.4nm,0.9s
NC204 NORSAR Array S 75.34 337 *e*P **P 08 30 02.3 +0.4**
NB2 NORSAR Subarra 75.38 337 P **P 08 30 01.3 -0.7**
comp=Z,4.7nm,0.9s,baz=42,slow=6.2
NOA NORSAR Array B 75.38 337 P **P 08 30 01.6 -0.4**
comp=Z,2.2nm,0.7s,baz=40,slow=5.8,SNR=10
NOA LR LR 09 05 55.3
comp=Z,133nm,20.2s,baz=75,slow=38
LRM Limekiln Ridge 75.67 44 *e*P **P 08 30 05.3 +1.1**
DLMT Dillon 75.86 44 *e*P **P 08 30 06.5 +1.2**
comp=Z,7.8nm,1.0s
BOZ Bozeman (W) 76.24 43 *e*P **P 08 30 08.4 +1.0**
BOZ pmax pmax
comp=Z,4.0nm,1.0s
BOZ Bozeman (W) 76.24 43 *e*P **P 08 30 08.4 +1.0**
comp=Z,3.6nm,1.0s
NV01 Mina Array Sit 76.40 52 *e*P **P 08 30 09.4 +0.9**
NVAR Mina Array Bea 76.40 52 P **P 08 30 08.9 +0.4**
comp=Z,1.1nm,0.6s,baz=306,slow=6.2,SNR=9.5
NVAR LR LR 08 57 43.0
comp=Z,44nm,21.2s,baz=250,slow=31
H17A Grant Village 77.59 44 *e*P **P 08 30 18.2 +3.1**
comp=Z,6.4nm,1.1s
PLEC Pleito Hills 77.86 56 *e*P **P 08 30 20.4 +3.8**
R11A Troy Canyon, C 78.19 51 *e*P **P 08 30 19.7 +1.2**
comp=Z,10.0nm,1.8s
LAO LASA Array 78.54 40 *e*P **P 08 30 24.0 +3.9**
comp=Z,19nm,1.6s
HWUT Hardware Ranch 78.72 47 *e*P **P 08 30 25.5 +4.1**
comp=Z,4.7nm,1.3s
DUG Dugway, Tooele 78.82 48 *e*P **P 08 30 23.3 +1.4**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 78.82 48 *e*P **P 08 30 23.3 +1.4**
comp=Z,2.6nm,0.8s
BW06 Boulder Array 79.18 45 *e*P **P 08 30 23.8 -0.2**
BW06 *e*P **P 08 30 24.8 +0.9**
PD31 Pinedale Array 79.18 45 *e*P **P 08 30 24.1 +0.2**
PDAR Pinedale Array 79.18 45 P **P 08 30 24.1 +0.2**
comp=Z,1.2nm,0.6s,baz=265,slow=1.8,SNR=12
BRTR Keskin Array B 79.43 311 P **P 08 30 23.6 -1.6**
comp=Z,1.5nm,0.9s,baz=112,slow=5.5,SNR=7.6
BRTR Keskin Array B 79.43 311 *ce*P **P 08 30 25.2 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BR231 Keskin MP Arra 79.88 312 *e*P **P 08 30 26.2 -1.5**
MSU Marysvale 80.23 50 *e*P **P 08 30 27.7 -2.0**
MSU Marysvale 80.23 50 *e*P **P 08 30 27.7 -2.0**
LCMT Little Creek M 80.48 51 *e*P **P 08 30 32.5 +1.5**
comp=Z,3.0nm,1.1s
KNB Kanab 80.74 51 *e*P **P 08 30 36.9 +4.4**
KNB pmax pmax
comp=Z,8.0nm,1.2s
KNB Kanab 80.74 51 *e*P **P 08 30 36.9 +4.4**
comp=Z,7.6nm,1.2s
SRU San Rafael Swe 80.88 48 *e*P **P 08 30 34.7 +1.5**
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 80.88 48 *e*P **P 08 30 34.7 +1.5**
comp=Z,3.3nm,0.8s
W13A Hualapai Mount 81.22 53 *e*P **P 08 30 38.8 +3.7**
comp=Z,6.9nm,1.4s
Y12C Blythe 81.61 55 *e*P **P 08 30 40.0 +3.1**
comp=Z,4.1nm,0.8s
PV05 Paradox Valley 82.40 48 *e*P **P 08 30 42.6 +1.3**
Y14A Wickenburg 82.50 54 *e*P **P 08 30 45.4 +3.8**
comp=Z,35nm,1.6s
PV01 Paradox Valley 82.69 48 *e*P **P 08 30 42.2 -0.6**
113A Mohawk Valley, 82.71 55 *e*P **P 08 30 46.2 +3.6**
comp=Z,3.3nm,1.0s
X16A Lo Mia Camp, P 83.22 52 *e*P **P 08 30 46.3 +0.8**
comp=Z,2.4nm,0.9s
S22A 4UR Ranch, Cre 83.99 47 *e*P **P 08 30 51.4 +1.9**
comp=Z,2.9nm,0.9s
ESK Eskdalemuir 84.41 340 *i* P **P 08 30 50.6 -0.4**
EIL Elat 84.71 303 P **P 08 30 52.7 -0.3**
comp=Z,3.2nm,0.6s,baz=25,slow=8.9,SNR=3.9
SDCO Great Sand Dun 84.78 47 *e*P **P 08 30 55.4 +1.8**
comp=Z,3.7nm,1.3s
TUC Tucson 84.97 54 *e*P **P 08 30 55.4 +1.1**
TUC pmax pmax
comp=Z,2.0nm,0.9s
TUC Tucson 84.97 54 *e*P **P 08 30 55.4 +1.1**
comp=Z,1.9nm,0.9s
ECSD EROS Data Cent 85.50 38 *e*P **P 08 30 58.2 +1.5**
comp=Z,4.9nm,1.1s
ANMO Albuquerque 86.04 49 *e*P **P 08 31 01.4 +1.6**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 86.04 49 *e*P **P 08 31 01.4 +1.6**

comp=Z,3.7nm,1.3s
V34A Guthrie 90.73 44 P **P 08 31 24.2 +2.3**
TX31 Lajitas Ar. Si 91.54 52 *e*P **P 08 31 26.6 +0.8**
TX31 *e*P **P 08 31 26.8 +0.9**
TXAR Lajitas Array 91.54 52 P **P 08 31 25.1 -0.7**
comp=Z,0.4nm,0.7s,baz=297,slow=4.0,SNR=6.6
TXAR LR LR 09 08 04.1
comp=Z,45nm,20.4s,baz=0.0,slow=33
TZTN Tazewell 97.38 34 P Pdif 08 31 53.0 +0.6
TAM Tamanrasset 108.14 317 *e*P **Pdif 08 32 35.6 -5.1**
TAM Tamanrasset 108.14 317 *e*Pdif **Pdif 08 32 35.6 -5.1**
TORD Torodi Ar. Bea 117.98 314 PKP **PKPdf 08 37 04.8 -1.3**
comp=Z,0.3nm,0.6s,baz=36,slow=2.0,SNR=4.2
SAML Samuel 145.76 45 *e*PKPdf **PKPdf 08 37 57.5 -0.5**
LPAZ La Paz 147.98 61 PKPbc **PKPdf 08 38 03.9 +1.5**
comp=Z,2.0nm,0.8s,baz=20,slow=4.5,SNR=11

IDC ***01*** *08:21:45.7±2.5, 39.°23N×142.°98E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/61, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=68.0km s-min=28.4km az=73.0*
ISCJB ***01*** *08:21:51.4±1.6, 39.°09N±0.°05×142.°4E±0.°1, h31km±7km, mb3.8/4, Error ellipse: s-maj=13.2km s-min=9.1km az=7.6*
JMA ***01*** *08:21:52.9±0.1, 39.°12N×142.°35E, h35km±1km, M3.4*
ISC 01 08:21:52.2±2.3**, 39.°05N**±0.°06×**142.°3E**±0.°1**, h26**km±13km**, n16,** σ1.°**49**/19**, mb3.9**/4**, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OFUJ Ofunato 0.50 273 P **Pn 08 22 03.8 +0.1**
OFUJ S **Sn 08 22 11.4 -0.1**
MIYJ Miyakonagasawa 0.65 324 P **Pb 08 22 04.8 -0.1**
MIYJ *e*S **Sb 08 22 13.4 -0.2**
JMK Ichinoseki 0.86 264 P **Pn 08 22 09.3 +0.7**
JMK *e*S **Sn 08 22 20.8 +0.5**
JOM Ohasama 0.90 298 P **Pb 08 22 09.4 +0.3**
JOM S **Sb 08 22 20.9 +0.2**
JIO Ouri 0.96 232 S **Sn 08 22 22.7 -0.1**
JKZ Kuzumaki 1.20 321 P **Pn 08 22 13.7 +0.3**
JKZ *e*S **Sn 08 22 28.9 0.0**
JRG Rokugo 1.35 285 P **Pb 08 22 16.7 -0.1**
JRG *e*S **Sb 08 22 34.1 +0.5**
MJAR Matsushiro Arr 4.11 234 Pn **Pn 08 22 57.2 +3.9**
2.3nm,0.3s,baz=40,slow=12,SNR=21
MAT Matsushiro 4.11 234 P Pn 08 22 57.5 +4.3
MAT *e*S **Sb 08 23 49.0 -3.9**
H11N2 WAKE ISLAND Hy 28.65 125 T T 08 58 06.8
baz=317,slow=75,SNR=4.2
H11N1 WAKE ISLAND Hy 28.66 125 T T 08 58 06.3
baz=317,slow=75,SNR=4.7
H11N3 WAKE ISLAND Hy 28.66 125 T T 08 58 06.8
baz=317,slow=75,SNR=4.5
MKAR Makanchi Array 43.68 300 P **P 08 29 54.2 -0.5**
0.3nm,0.3s,baz=79,slow=9.5,SNR=3.8
KURBB Kurchatov Arra 45.35 307 P **P 08 30 07.6 -0.3**
1.3nm,0.6s,baz=80,slow=8.3,SNR=5.1
BVAR Borovoye Array 49.76 311 P **P 08 30 42.4 +0.2**
0.7nm,0.6s,baz=58,slow=8.7,SNR=3.3
WRA Warramunga Arr 59.16 189 P **P 08 31 50.0 -0.7**
0.6nm,0.6s,baz=6.6,slow=7.1,SNR=8.2

THE ***01*** *08:27:27.7, 45.°17N×15.°71E, h2km±47km, Error ellipse: s-maj=63.1km s-min=51.5km az=328.0*
BEO ***01*** *08:27:51.4±0.6, 43.°68N×16.°76E, h9km±4km, M3.6/7*
IDC ***01*** *08:27:53.6±0.9, 43.°77N×17.°19E, h0km, mb3.8/11, mb1 3.9/19, mb1mx3.8/51, mbtmp3.7/19, ML3.6/8, MS2.5/3, Ms1 2.5/3, ms1mx2.2/56, Error ellipse: s-maj=17.8km s-min=10.8km az=46.0*
ROM ***01*** *08:27:53.2±0.2, 43.°69N×17.°37E, h10km, Ml3.7/36, Error ellipse: s-maj=4.2km s-min=1.6km az=94.0*
PDG ***01*** *08:27:54.0±0.9, 43.°72N×17.°21E, h3km±2km, MD3.8/5, ML3.8/12, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0*
CSEM ***01*** *08:27:54.2±0.1, 43.°71N×17.°17E, h2km, ML3.8/8, Error ellipse: s-maj=2.6km s-min=2.2km az=39.0*
MOS ***01*** *08:27:55.0±1.0, 43.°79N×17.°16E, h14km, mb4.1/9, Error ellipse: s-maj=7.2km s-min=4.2km az=101.0*
LDG ***01*** *08:27:55.1±0.1, 43.°76N×17.°15E, h10km, Ml3.8/11, Error ellipse: s-maj=3.1km s-min=2.6km az=24.0*
PRU ***01*** *08:27:56.0, 43.°77N×17.°25E, h0km*
ISC 01 08:27:54.1±1.1**, 43.°72N**±0.°02×**17.°16E**±0.°02**, h4**km±7km**, n333,** σ1.°**74**/435**, mb3.9**/14**, 17C-19D, Northwestern Balkan Peninsula**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
BLY Banja Luka 1.03 1 ⇓*i*P **Pg 08 28 12.4 -1.4**
BLY S **Sg 08 28 26.4 -0.7**
BLY Banja Luka 1.03 1 *e*Pg **Pg 08 28 12.8 -1.0**
BLY Banja Luka 1.03 1 Pn **Pg 08 28 12.4 -1.4**
BLY Sn **Sb 08 28 28.4 +0.2**
2μm,0.5s
BLY Banja Luka 1.03 1 Pn **Pg 08 28 12.4 -1.4**
BLY Banja Luka 1.03 1 *e*Pg **Pg 08 28 12.8 -1.0**
BLY Sn **Sb 08 28 28.4 +0.2**
2μm,0.5s
DOB Doboj 1.22 34 *e*Pg **Pg 08 28 15.7 -1.7**
DOB *e*Sg **Sg 08 28 32.5 -0.7**
UDBI Udbina 1.28 309 *i* Pg **Pb 08 28 19.3 +0.4**
UDBI Sg **Sn 08 28 37.6 +1.0**
UDBI Udbina 1.28 309 *i* Pg **Pb 08 28 19.3 +0.4**
UDBI Sg **Sn 08 28 37.6 +1.0**
BRY Bratogost 1.30 129 ⇑*i*Pg **Pg 08 28 17.6 -1.4**
BRY *e*Sg **Sn 08 28 37.3 +0.2**
BRY Bratogost 1.30 129 *e*Pg **Pg 08 28 17.6 -1.4**
BRY *e*Sg **Sn 08 28 36.7 -0.4**
TREB Trebinje 1.33 139 *e*Pg **Pg 08 28 18.6 -1.0**
TREB *e*Sg **Sn 08 28 37.9 +0.3**
UPM Unac-Piva 1.38 112 ⇓*i*Pg **Pg 08 28 19.0 -1.5**
UPM *e*Sg **Sn 08 28 39.9 +0.9**
UPM Unac-Piva 1.38 112 *e*Pg **Pg 08 28 19.5 -1.0**
UPM Unac-Piva 1.38 112 P **Pn 08 28 20.4 +0.2**
UPM *e*Sg **Sb 08 28 38.5 0.0**
HCY Herceg Novi 1.61 142 ⇓*i*Pn **Pn 08 28 22.7 -0.6**
HCY *e*Sn **Sg 08 28 47.7 +2.0**
HCY Herceg Novi 1.61 142 P **Pn 08 28 22.5 -0.8**
HCY Herceg Novi 1.61 142 *e*Pn **Pg 08 28 24.6 -0.3**
HCY *e*Sn **Sg 08 28 45.8 +0.1**
NKY Niksic 1.62 124 ⇓*i*Pn **Pn 08 28 23.2 -0.3**
NKY *e*Sn **Sg 08 28 48.1 +1.9**
NKY Niksic 1.62 124 P **Pn 08 28 23.6 +0.1**
NKY Niksic 1.62 124 ⇓*i*Pn **Pn 08 28 23.2 -0.3**
NKY *e*Sn **Sg 08 28 48.1 +1.9**
NKME Niksic 1.62 125 ⇓*i*Pn **Pn 08 28 23.3 -0.2**
NKME *e*Sn **Sg 08 28 48.1 +1.8**
NKME Niksic 1.62 125 ⇓*i*Pn **Pn 08 28 23.3 -0.2**
NKME *e*Sn **Sg 08 28 48.1 +1.8**
BBLS Lazići 1.64 84 *e*Pn **Pn 08 28 24.2 +0.5**
BBLS *e*Sn **Sg 08 28 48.4 +1.8**
BBLS Lazići 1.64 84 ⇑*i*Pn **Pn 08 28 24.0 +0.3**
BBLS *e*Sn **Sb 08 28 45.9 +0.1**
PLE Pljevlja 1.67 103 *e*Pn **Pb 08 28 25.0 -0.5**
PLE *e*Sn **Sg 08 28 49.2 +1.4**
PLE Pljevlja 1.67 103 P **Pb 08 28 25.3 -0.2**
PLE S **Sg 08 28 49.0 +1.2**
PLE Pljevlja 1.67 103 *e*Pn **Pb 08 28 25.0 -0.5**
PLE *e*Sn **Sg 08 28 49.2 +1.4**
CEME Cevo 1.75 132 ⇓*i*Pn **Pn 08 28 25.5 +0.3**
CEME *e*Sn **Sg 08 28 50.9 +0.8**
CEME Cevo 1.75 132 ⇓*i*Pn **Pn 08 28 25.5 +0.3**
CEME *e*Sn **Sg 08 28 50.9 +0.8**
NVLJ Novalja 1.85 298 *e*Pn **Pb 08 28 28.1 -0.4**
NVLJ Sn **Sg 08 28 53.8 +0.3**
NVLJ Novalja 1.85 298 *e*Pn **Pb 08 28 28.0 -0.4**
NVLJ Sn **Sg 08 28 53.7 +0.3**
TEKS Tekeris 1.90 63 *e*Pn **Pn 08 28 27.0 -0.3**
TEKS *e*Sn **Sg 08 28 55.1 +0.1**
TEKS Tekeris 1.90 63 *e*Pn **Pn 08 28 27.0 -0.3**
TEKS *e*Sn **Sn 08 28 51.7 +0.1**
BUM Brajici-Budva 1.91 138 ⇑*i*Pn **Pn 08 28 28.5 +1.0**
BUM *e*Sn **Sg 08 28 55.2 -0.2**
BUM Brajici-Budva 1.91 138 ⇑*i*Pn **Pn 08 28 28.5 +1.0**
BUM *e*Sn **Sg 08 28 55.2 -0.2**
PDG Podgorica 2.01 129 ⇓*i*P **Pb 08 28 30.8 -0.3**
PDG Podgorica 2.01 129 S **Sg 08 28 58.3 -0.3**
PDG Podgorica 2.01 129 *e*Pg **Pb 08 28 31.1 -0.1**
PDG *e*Sg **Sg 08 29 01.3 +2.7**
PDG Podgorica 2.01 129 ⇓*i*Pn **Pb 08 28 30.1 -1.1**

PDG	**Podgorica**	**2.01**	**129**	*e*Pg	**Pb**	**08 28 31.1**	**-0.1**
PDG				*e*Sn	**Sb**	**08 28 55.4**	**-1.1**
TTG	**Podgorica**	**2.01**	**129**	⇓*i*Pn	**Pb**	**08 28 30.1**	**-1.1**
TTG				*e*Sn	**Sg**	**08 28 57.8**	**-0.8**
DIVS	**Divibare**	**2.08**	**79**	*e*Pn	**Pn**	**08 28 29.7**	**-0.2**
DIVS				*e*Sn	**Sg**	**08 29 00.2**	**-0.8**
DIVS	**Divibare**	**2.08**	**79**	*e*Pn	**Pn**	**08 28 30.2**	**+0.3**
DIVS				*e*Sn	**Sn**	**08 28 56.1**	**-0.2**
DRME	**Dracevica, Mon**	**2.14**	**135**	⇑*i*Pn	**Pn**	**08 28 31.1**	**+0.5**
DRME				*e*Sn	**Sb**	**08 29 01.1**	**+0.8**
DRME	**Dracevica, Mon**	**2.14**	**135**	*e*Pn	**Pn**	**08 28 31.1**	**+0.5**
DRME				*e*Sn	**Sn**	**08 28 58.6**	**+1.1**
BEY	**Berane**	**2.17**	**112**	⇑*i*Pn	**Pn**	**08 28 32.0**	**+0.9**
BEY	**Berane**	**2.17**	**112**	P	**Pg**	**08 28 35.2**	**-0.5**
BEY				*e*Sn	**Sb**	**08 29 01.4**	**+0.1**
IVA	**Berane**	**2.17**	**112**	⇑*i*Pn	**Pn**	**08 28 32.0**	**+0.9**
IVA				*e*Sn	**Sb**	**08 29 01.4**	**+0.1**
IVAS	**Ivanjica**	**2.18**	**93**	*e*Pn	**Pn**	**08 28 31.3**	**+0.1**
IVAS				*e*Sn	**Sg**	**08 29 02.8**	**-1.3**
IVAS	**Ivanjica**	**2.18**	**93**	*e*Pn	**Pn**	**08 28 31.3**	**+0.1**
MS1	**Monte Sant'Ang**	**2.21**	**204**	*e*Pn	**Pn**	**08 28 30.8**	**-0.7**
MSAG	**Monte S. Angel**	**2.21**	**205**	Pn	**Pn**	**08 28 30.8**	**-0.8**
	731nm,0.6s						
MSAG	**Monte S. Angel**	**2.21**	**205**	Pn	**Pn**	**08 28 30.8**	**-0.8**
	731nm,0.6s						
SGRT	**San Giovanni R**	**2.23**	**208**	Pn	**Pn**	**08 28 30.9**	**-0.9**
	428nm,0.5s						
SGRT	**San Giovanni R**	**2.23**	**208**	Pn	**Pn**	**08 28 30.9**	**-0.9**
	428nm,0.5s						
BOJS	**Bojanci**	**2.24**	**323**	*i* Pn	**Pn**	**08 28 32.7**	**+0.7**
BOJS				*i* Sn	**Sb**	**08 29 04.2**	**+1.0**
	comp=Z,239nm,0.6s						
BOJS	**Bojanci**	**2.24**	**323**	*i* Pn	**Pn**	**08 28 32.7**	**+0.7**
BOJS				*i* Sn	**Sb**	**08 29 04.2**	**+1.0**
	comp=Z,239nm,0.6s						
ULC	**Ulcinj**	**2.33**	**138**	⇓*i*Pn	**Pn**	**08 28 34.5**	**+1.2**
ULC				*e*Sn	**Sb**	**08 29 05.1**	**-0.8**
ULC	**Ulcinj**	**2.33**	**138**	⇓*i*Pn	**Pn**	**08 28 34.5**	**+1.2**
ULC	**Ulcinj**	**2.33**	**138**	P	**Pb**	**08 28 36.3**	**-0.4**
ULC				*e*Sn	**Sb**	**08 29 05.1**	**-0.8**
PVY	**Plav**	**2.34**	**118**	*e*Pn	**Pn**	**08 28 35.0**	**+1.6**
PVY				*e*Sn	**Sb**	**08 29 05.3**	**-0.9**
PVY	**Plav**	**2.34**	**118**	*e*Pn	**Pn**	**08 28 35.0**	**+1.6**
PVY				*e*Sn	**Sb**	**08 29 05.3**	**-0.9**
FGSL	**Fruska Gora**	**2.38**	**52**	*e*Pn	**Pn**	**08 28 33.2**	**-0.7**
FRGS	**Fruska Gora**	**2.38**	**52**	*e*Pn	**Pn**	**08 28 33.2**	**-0.7**
FRGS	**Fruska Gora**	**2.38**	**52**	*e*Pn	**Pn**	**08 28 33.7**	**-0.2**
FRGS				*e*Sn	**Sn**	**08 29 03.6**	**0.0**
TRUS	**Trudelj**	**2.40**	**77**	*e*Pn	**Pn**	**08 28 34.3**	**+0.2**
TRUS				*e*Sn	**Sb**	**08 29 08.6**	**+0.8**
TRUS	**Trudelj**	**2.40**	**77**	*e*Pn	**Pn**	**08 28 34.3**	**+0.2**
CRES	**Cresnjev**	**2.43**	**331**	*e*Pn	**Pn**	**08 28 34.3**	**-0.2**
CRES				*e*Sn	**Sn**	**08 29 05.5**	**+0.9**
PEJK	**Peje**	**2.53**	**114**	P	**Pb**	**08 28 40.4**	**+0.4**
FRES	**Fresagrandinar**	**2.53**	**227**	Pn	**Pn**	**08 28 36.7**	**+0.8**
	comp=Z,562nm,1.0s						
FRES	**Fresagrandinar**	**2.53**	**227**	Pn	**Pn**	**08 28 36.7**	**+0.8**
	comp=Z,562nm,1.0s						
GRUS	**Gruza**	**2.58**	**85**	*e*Pn	**Pn**	**08 28 37.1**	**+0.5**
GRUS				*e*Sn	**Sn**	**08 29 10.5**	**+2.0**
GRUS	**Gruza**	**2.58**	**85**	*e*Pn	**Pn**	**08 28 37.1**	**+0.5**
GRUS				*e*Sn	**Sn**	**08 29 10.5**	**+2.0**
AOI	**Ancona**	**2.59**	**267**	Pn	**Pn**	**08 28 38.5**	**+1.8**
	comp=Z,299nm,1.0s						
AOI	**Ancona**	**2.59**	**267**	Pn	**Pn**	**08 28 38.5**	**+1.8**
	comp=Z,299nm,1.0s						
BAI	**Bari**	**2.62**	**185**	*e*Pn	**Pb**	**08 28 42.1**	**+0.5**
CIGN	**Sant'Elia a Pi**	**2.65**	**220**	Pn	**Pn**	**08 28 38.0**	**+0.4**
	comp=Z,232nm,1.0s						
CIGN	**Sant'Elia a Pi**	**2.65**	**220**	Pn	**Pn**	**08 28 38.0**	**+0.4**
	comp=Z,232nm,1.0s						
OFFI	**Offida**	**2.65**	**254**	Pn	**Pn**	**08 28 39.2**	**+1.6**
	comp=Z,729nm,0.6s						
OFFI	**Offida**	**2.65**	**254**	Pn	**Pn**	**08 28 39.2**	**+1.6**
	comp=Z,729nm,0.6s						
VISS	**Visnje**	**2.66**	**322**	*i* Pn	**Pn**	**08 28 38.5**	**+0.8**
VISS				*i* Sn	**Sb**	**08 29 15.1**	**0.0**
	comp=Z,149nm,0.6s						
VISS	**Visnje**	**2.66**	**322**	*i* Pn	**Pn**	**08 28 38.5**	**+0.8**
MRVN	**Minervino Murg**	**2.75**	**195**	Pn	**Pn**	**08 28 38.0**	**-1.0**
	comp=Z,142nm,0.6s						
MRVN	**Minervino Murg**	**2.75**	**195**	Pn	**Pn**	**08 28 38.0**	**-1.0**
	comp=Z,142nm,0.6s						
BEHE	**Becsehely**	**2.76**	**355**	*e*Pn	**Pn**	**08 28 39.7**	**+0.6**
BEHE				*e*Sn	**Sn**	**08 29 12.7**	**-0.2**
VCEL	**Villa Celiera**	**2.77**	**242**	Pn	**Pn**	**08 28 40.0**	**+0.7**
	comp=Z,272nm,0.8s						
VCEL	**Villa Celiera**	**2.77**	**242**	Pn	**Pn**	**08 28 40.0**	**+0.7**
	comp=Z,272nm,0.8s						
MOCO	**Biccari - m.te**	**2.78**	**213**	Pn	**Pn**	**08 28 40.5**	**+1.1**
	comp=Z,187nm,0.6s						
CEY	**Cerknica**	**2.80**	**317**	*e*Pn	**Pn**	**08 28 40.8**	**+1.1**
CEY				*e*Sn	**Sn**	**08 29 15.1**	**+1.2**
TERO	**Teramo**	**2.82**	**248**	Pn	**Pn**	**08 28 40.6**	**+0.6**
	comp=Z,146nm,0.6s						
TERO	**Teramo**	**2.82**	**248**	Pn	**Pn**	**08 28 40.6**	**+0.6**
	comp=Z,146nm,0.6s						
AMUR	**Altamura**	**2.84**	**188**	Pn	**Pn**	**08 28 39.3**	**-1.0**
	comp=Z,209nm,0.6s						
AMUR	**Altamura**	**2.84**	**188**	Pn	**Pn**	**08 28 39.3**	**-1.0**
	comp=Z,209nm,0.6s						
CING	**Cingoli**	**2.90**	**264**	Pn	**Pn**	**08 28 41.4**	**+0.3**
	comp=Z,153nm,0.7s						
CING	**Cingoli**	**2.90**	**264**	Pn	**Pn**	**08 28 41.4**	**+0.3**
	comp=Z,153nm,0.7s						
SG1	**Sgolgore (BA)**	**2.90**	**187**	*e*Pn	**Pn**	**08 28 40.3**	**-0.8**
SELS	**Selova**	**2.93**	**99**	*e*Pn	**Pn**	**08 28 41.9**	**+0.5**
SELS	**Selova**	**2.93**	**99**	*e*Pn	**Pn**	**08 28 41.9**	**+0.5**
NOCI	**Noci**	**2.93**	**181**	Pn	**Pn**	**08 28 40.6**	**-0.9**
	comp=Z,284nm,0.3s						
NOCI	**Noci**	**2.93**	**181**	Pn	**Pn**	**08 28 40.6**	**-0.9**
	comp=Z,284nm,0.3s						
INTR	**Introdacqua**	**2.94**	**236**	Pn	**Pn**	**08 28 41.8**	**+0.2**
	comp=Z,384nm,0.9s						
INTR	**Introdacqua**	**2.94**	**236**	Pn	**Pn**	**08 28 41.8**	**+0.2**
	comp=Z,384nm,0.9s						
SACR	**S. Croce Del S**	**2.95**	**219**	Pn	**Pn**	**08 28 42.4**	**+0.7**
	comp=Z,142nm,0.7s						
SACR	**S. Croce Del S**	**2.95**	**219**	Pn	**Pn**	**08 28 42.4**	**+0.7**
	comp=Z,142nm,0.7s						
LJU	**Ljubljana**	**2.98**	**322**	*e*Pn	**Pn**	**08 28 43.5**	**+1.4**
LJU				*e*		08 28 48.8	
LJU				*e*		08 28 52.5	
LJU				*i* Sn	**Sn**	**08 29 20.4**	**+2.1**
LJU				*i*		08 29 25.0	
LJU				*i*		08 29 28.9	
	comp=Z,312nm,1.0s						
LJU	**Ljubljana**	**2.98**	**322**	*e*Pn	**Pn**	**08 28 43.3**	**+1.2**
LJU				*e*Sn	**Sn**	**08 29 18.2**	**-0.1**
MIDA	**Miranda**	**2.98**	**227**	Pn	**Pn**	**08 28 43.6**	**+1.3**
MIDA	**Miranda**	**2.98**	**227**	Pn	**Pn**	**08 28 43.6**	**+1.3**
CAMP	**Campotosto**	**2.99**	**248**	Pn	**Pn**	**08 28 43.1**	**+0.7**
	comp=Z,119nm,0.5s						
CAMP	**Campotosto**	**2.99**	**248**	Pn	**Pn**	**08 28 43.1**	**+0.7**
	comp=Z,119nm,0.5s						
FAGN	**Fagnano**	**3.00**	**242**	Pn	**Pn**	**08 28 43.1**	**+0.7**
	comp=Z,501nm,0.5s						
FAGN	**Fagnano**	**3.00**	**242**	Pn	**Pn**	**08 28 43.1**	**+0.7**
	comp=Z,501nm,0.5s						
FDMO	**Fiordimonte**	**3.04**	**258**	Pn	**Pn**	**08 28 44.1**	**+1.1**
	comp=Z,211nm,1.1s						
FDMO	**Fiordimonte**	**3.04**	**258**	Pn	**Pn**	**08 28 44.1**	**+1.1**
	comp=Z,211nm,1.1s						
CAFE	**Carife**	**3.05**	**208**	Pn	**Pn**	**08 28 42.8**	**-0.3**
	comp=Z,322nm,1.1s						
CAFE	**Carife**	**3.05**	**208**	Pn	**Pn**	**08 28 42.8**	**-0.3**
	comp=Z,322nm,1.1s						
RM32	**Poggio Cancell**	**3.05**	**249**	Pn	**Pn**	**08 28 43.9**	**+0.7**
	comp=Z,162nm,0.7s						
RM32	**Poggio Cancell**	**3.05**	**249**	Pn	**Pn**	**08 28 43.9**	**+0.7**
	comp=Z,162nm,0.7s						
PTRJ	**Pietraroja**	**3.05**	**220**	Pn	**Pn**	**08 28 44.2**	**+1.0**
	comp=Z,339nm,0.7s						
PTRJ	**Pietraroja**	**3.05**	**220**	Pn	**Pn**	**08 28 44.2**	**+1.0**
	comp=Z,339nm,0.7s						
ARVD	**Arcevia**	**3.07**	**267**	Pn	**Pn**	**08 28 43.9**	**+0.5**
	comp=Z,95nm,0.7s						
ARVD	**Arcevia**	**3.07**	**267**	Pn	**Pn**	**08 28 43.9**	**+0.5**
	comp=Z,95nm,0.7s						
AQU	**L'Aquila**	**3.07**	**245**	*e*Pn	**Pn**	**08 28 44.9**	**+1.4**
AQU				*e*Sn	**Sn**	**08 29 22.0**	**+1.3**
JAVS	**Javornik**	**3.09**	**316**	*i* Pn	**Pn**	**08 28 45.3**	**+1.6**
JAVS				*i* Sn	**Sn**	**08 29 25.2**	**+4.1**
	comp=Z,151nm,0.7s						
JAVS	**Javornik**	**3.09**	**316**	*i* Pn	**Pn**	**08 28 45.3**	**+1.6**
JAVS				*i* Sn	**Sn**	**08 29 25.2**	**+4.1**
	comp=Z,151nm,0.7s						
MATE	**Matera**	**3.09**	**186**	⇑*i*P	**Pn**	**08 28 43.2**	**-0.4**
SNTG	**Esanatoglia**	**3.10**	**263**	Pn	**Pn**	**08 28 44.3**	**+0.4**
	comp=Z,133nm,0.8s						
SNTG	**Esanatoglia**	**3.10**	**263**	Pn	**Pn**	**08 28 44.3**	**+0.4**
	comp=Z,133nm,0.8s						
TIR	**Tirane**	**3.10**	**139**	⇑*i*P	**Pn**	**08 28 45.4**	**+1.6**
TIR	**Tirane**	**3.10**	**139**	*e*Pn	**Pn**	**08 28 43.8**	**0.0**
TIR	**Tirane**	**3.10**	**139**	*e*P	**Pn**	**08 28 43.8**	**0.0**
TIR	**Tirane**	**3.10**	**139**	*e*Pn	**Pn**	**08 28 43.8**	**0.0**
LTRZ	**Laterza**	**3.13**	**185**	Pn	**Pn**	**08 28 43.4**	**-0.8**
	comp=Z,234nm,0.8s						
LTRZ	**Laterza**	**3.13**	**185**	Pn	**Pn**	**08 28 43.4**	**-0.8**
	comp=Z,234nm,0.8s						
TRI	**Trieste**	**3.13**	**311**	P	**Pn**	**08 28 45.8**	**+1.7**
SNAL	**S. Angelo Dei**	**3.15**	**208**	Pn	**Pn**	**08 28 44.3**	**-0.2**
	comp=Z,348nm,0.9s						
SNAL	**S. Angelo Dei**	**3.15**	**208**	Pn	**Pn**	**08 28 44.3**	**-0.2**
	comp=Z,348nm,0.9s						
SSFR	**Montelago di S**	**3.19**	**266**	Pn	**Pn**	**08 28 45.4**	**+0.3**
	comp=Z,125nm,0.3s						
SSFR	**Montelago di S**	**3.19**	**266**	Pn	**Pn**	**08 28 45.4**	**+0.3**
	comp=Z,125nm,0.3s						
TAR1	**Taranto**	**3.20**	**178**	*e*Pn	**Pn**	**08 28 44.7**	**-0.4**
LNSS	**Leonessa**	**3.21**	**251**	Pn	**Pn**	**08 28 46.2**	**+0.8**
	comp=Z,177nm,0.6s						
LNSS	**Leonessa**	**3.21**	**251**	Pn	**Pn**	**08 28 46.2**	**+0.8**
	comp=Z,177nm,0.6s						
MRLC	**Muro Lucano**	**3.21**	**203**	Pn	**Pn**	**08 28 44.6**	**-0.8**
	comp=Z,129nm,0.6s						
MRLC	**Muro Lucano**	**3.21**	**203**	Pn	**Pn**	**08 28 44.6**	**-0.8**
	comp=Z,129nm,0.6s						
FRON	**Frontone**	**3.22**	**268**	Pn	**Pn**	**08 28 46.2**	**+0.7**
	comp=Z,152nm,0.6s						
FRON	**Frontone**	**3.22**	**268**	Pn	**Pn**	**08 28 46.2**	**+0.7**
	comp=Z,152nm,0.6s						
PERS	**Pernice**	**3.25**	**334**	*i* Pn	**Pn**	**08 28 45.9**	**0.0**
PERS				*i* Sn	**Sn**	**08 29 25.8**	**+0.8**
	comp=Z,26nm,0.4s						
PERS	**Pernice**	**3.25**	**334**	*i* Pn	**Pn**	**08 28 45.9**	**0.0**
PERS				*i* Sn	**Sn**	**08 29 25.8**	**+0.8**
	comp=Z,26nm,0.4s						
MCRV	**Calabrutti - M**	**3.29**	**207**	Pn	**Pn**	**08 28 46.2**	**-0.3**
	comp=Z,201nm,0.5s						
MCRV	**Calabrutti - M**	**3.29**	**207**	Pn	**Pn**	**08 28 46.2**	**-0.3**
	comp=Z,201nm,0.5s						
BANR	**Banloc**	**3.29**	**58**	⇓*i*P	**Pn**	**08 28 47.0**	**+0.6**
FIAM	**Fiamignano**	**3.30**	**245**	Pn	**Pn**	**08 28 47.9**	**+1.3**
	comp=Z,318nm,0.8s						
FIAM	**Fiamignano**	**3.30**	**245**	Pn	**Pn**	**08 28 47.9**	**+1.3**
	comp=Z,318nm,0.8s						
BOVS	**Bovan**	**3.30**	**90**	*e*Pn	**Pn**	**08 28 46.8**	**+0.3**
BOVS	**Bovan**	**3.30**	**90**	*e*Pn	**Pn**	**08 28 46.8**	**+0.3**
SOKA	**Soboth**	**3.31**	**334**	*e*Pn	**Pn**	**08 28 47.0**	**+0.2**
	comp=Z,12nm,0.3s,SNR=19						
SOKA				*e*Sn	**Sn**	**08 29 27.9**	**+1.3**
	comp=Z,22nm,0.6s						
SOKA	**Soboth**	**3.31**	**334**	Pn	**Pn**	**08 28 47.0**	**+0.2**
	comp=Z,12nm,0.3s,SNR=19						
SOKA				Sn	**Sn**	**08 29 27.9**	**+1.3**
	comp=Z,22nm,0.6s						
KUBS	**Kucevo**	**3.33**	**76**	*e*Pn	**Pn**	**08 28 47.9**	**+1.0**
KUBS	**Kucevo**	**3.33**	**76**	*e*Pn	**Pn**	**08 28 47.9**	**+1.0**
OBKA	**Obir**	**3.34**	**327**	*e*Pn	**Pn**	**08 28 50.5**	**+3.3**
	comp=Z,13nm,0.4s						
OBKA				*e*Sn	**Sg**	**08 29 39.2**	**-2.2**
	comp=Z,232nm,0.7s						
OBKA	**Obir**	**3.34**	**327**	Pn	**Pn**	**08 28 50.5**	**+3.3**
	comp=Z,13nm,0.4s						
PIEI	**Pieia**	**3.36**	**268**	Pn	**Pn**	**08 28 48.0**	**+0.6**
	comp=Z,111nm,0.6s						
PIEI	**Pieia**	**3.36**	**268**	Pn	**Pn**	**08 28 48.0**	**+0.6**
	comp=Z,111nm,0.6s						
SABO	**M.te Sabotino**	**3.39**	**313**	Pn	**Pn**	**08 28 48.6**	**+0.8**
	comp=Z,625nm,0.8s						
SABO	**M.te Sabotino**	**3.39**	**313**	Pn	**Pn**	**08 28 48.6**	**+0.8**
	comp=Z,625nm,0.8s						
ATPC	**Poggio Castell**	**3.42**	**268**	Pn	**Pn**	**08 28 49.0**	**+0.8**
	comp=Z,350nm,1.0s						
ATPC	**Poggio Castell**	**3.42**	**268**	Pn	**Pn**	**08 28 49.0**	**+0.8**
	comp=Z,350nm,1.0s						
MDVR	**Moldovita**	**3.44**	**71**	⇓*i*P	**Pn**	**08 28 48.0**	**-0.5**
CDRU	**Civita di Ruta**	**3.51**	**204**	Pn	**Pn**	**08 28 49.2**	**-0.3**
	comp=Z,102nm,0.6s						
CDRU	**Civita di Ruta**	**3.51**	**204**	Pn	**Pn**	**08 28 49.2**	**-0.3**
	comp=Z,102nm,0.6s						
BARS	**Barje**	**3.52**	**103**	*e*Pn	**Pn**	**08 28 51.7**	**+2.1**
BARS				*e*Sn	**Sn**	**08 29 33.3**	**+1.6**
BARS	**Barje**	**3.52**	**103**	*e*Pn	**Pn**	**08 28 51.7**	**+2.1**
BARS				*e*Sn	**Sn**	**08 29 33.3**	**+1.6**
SKO	**Skopje**	**3.60**	**118**	*e*Pn	**Pn**	**08 28 52.2**	**+1.5**
SKO	**Skopje**	**3.60**	**118**	*e*Pn	**Pn**	**08 28 52.2**	**+1.5**
BZS	**Buzias**	**3.70**	**58**	⇑*i*P	**Pn**	**08 28 51.0**	**-1.1**
BZS	**Buzias**	**3.70**	**58**	*e*Pn	**Pn**	**08 28 50.9**	**-1.1**
BZS				*e*Sn	**Sn**	**08 29 37.0**	**+0.9**
BZS	**Buzias**	**3.70**	**58**	*e*Pn	**Pn**	**08 28 50.9**	**-1.1**
BZS				*e*Sn	**Sn**	**08 29 37.0**	**+0.9**
ARSA	**Arzberg**	**3.71**	**343**	Pn	**Pn**	**08 28 52.3**	**+0.1**
	comp=Z,70nm,0.4s,SNR=42						
ARSA	**Arzberg**	**3.71**	**343**	Pg	**Pn**	**08 28 52.3**	**+0.1**
	comp=Z,70nm,0.4s,SNR=42						
OHR	**Ohrid**	**3.75**	**133**	*e*Pn	**Pn**	**08 28 55.4**	**+2.5**
OHR	**Ohrid**	**3.75**	**133**	*e*Pn	**Pn**	**08 28 55.3**	**+2.5**
MYKA	**Terra Mystica**	**3.82**	**321**	*e*Pn	**Pn**	**08 28 57.0**	**+3.2**
	comp=Z,4.0nm,0.3s						
MYKA				*e*Sn	**Sn**	**08 29 43.2**	**+4.0**
	comp=Z,45nm,0.6s						
MYKA	**Terra Mystica**	**3.82**	**321**	Pn	**Pn**	**08 28 57.0**	**+3.2**
	comp=Z,4.0nm,0.3s						
MYKA				Sn	**Sn**	**08 29 43.2**	**+4.0**
	comp=Z,45nm,0.6s						
SFI	**Santa Sofia**	**3.85**	**275**	P	**Pn**	**08 28 57.0**	**+2.9**
BUD	**Budapest**	**3.98**	**19**	P	**Pn**	**08 28 57.2**	**+1.3**
BUD	**Budapest**	**3.98**	**19**	*e*Pg	**Pn**	**08 28 57.2**	**+1.3**
SOP	**Sopron**	**3.98**	**354**	P	**Pn**	**08 28 57.1**	**+1.2**
SOP	**Sopron**	**3.98**	**354**	*e*Pn	**Pn**	**08 28 54.1**	**-1.8**
SOP	**Sopron**	**3.98**	**354**	*e*Pg	**Pn**	**08 28 55.9**	**0.0**
SOP				*e*Sn	**Sn**	**08 29 44.2**	**+1.2**
ZAPS	**Zavoj**	**4.01**	**95**	*e*Pn	**Pn**	**08 28 57.6**	**+1.3**
ZAPS				*e*Sn	**Sn**	**08 29 46.9**	**+3.1**
SIRR	**Siria**	**4.08**	**50**	⇓*i*P	**Pn**	**08 28 57.1**	**-0.2**
FVI	**Forni Avoltri**	**4.22**	**314**	P	**Pn**	**08 28 58.0**	**-1.3**
FNA	**Florina**	**4.29**	**132**	P	**Pn**	**08 29 03.9**	**+3.7**
KBA	**Koelnbreinsper**	**4.30**	**323**	*e*Pn	**Pn**	**08 29 03.5**	**+3.1**
	comp=Z,8.6nm,0.5s						
KBA				*e*Sn	**Sn**	**08 29 54.5**	**+3.5**
	comp=Z,22nm,0.8s						
KBA	**Koelnbreinsper**	**4.30**	**323**	P	**Pn**	**08 29 03.1**	**+2.7**
KBA	**Koelnbreinsper**	**4.30**	**323**	Pn	**Pn**	**08 29 03.5**	**+3.1**
	comp=Z,8.6nm,0.5s						
KBA				Sn	**Sn**	**08 29 54.5**	**+3.5**
	comp=Z,22nm,0.8s						
CONA	**Conrad Observa**	**4.30**	**348**	*i* Pn	**Pn**	**08 29 00.5**	**+0.1**
	SNR=49						
CONA	**Conrad Observa**	**4.30**	**348**	Pn	**Pn**	**08 29 00.5**	**+0.1**
	SNR=49						
SRE	**Strehaia**	**4.45**	**76**	⇓*i*P	**Pn**	**08 29 03.7**	**+1.4**
ABTA	**Abfaltersbach**	**4.46**	**314**	*e*Pn	**Pn**	**08 29 04.0**	**+1.4**
	comp=Z,5.8nm,0.3s						
ABTA				*i* Sn	**Sn**	**08 29 58.1**	**+3.2**
	comp=Z,84nm,0.9s						
ABTA	**Abfaltersbach**	**4.46**	**314**	Pn	**Pn**	**08 29 04.0**	**+1.4**
	comp=Z,5.8nm,0.3s						
ABTA				Sn	**Sn**	**08 29 58.1**	**+3.2**
	comp=Z,84nm,0.9s						
TIP	**Timpagrande**	**4.55**	**184**	⇓*i*P	**Pn**	**08 29 04.3**	**+0.5**
MOA	**Molln**	**4.59**	**335**	*e*Pn	**Pn**	**08 29 05.4**	**+1.1**
	comp=Z,12nm,0.3s,SNR=19						
MOA				*e*Sn	**Sn**	**08 29 59.3**	**+1.1**
	comp=Z,15nm,0.4s						
MOA	**Molln**	**4.59**	**335**	Pn	**Pn**	**08 29 05.4**	**+1.1**
	comp=Z,12nm,0.3s,SNR=19						
MOA				Sn	**Sn**	**08 29 59.3**	**+1.1**
	comp=Z,15nm,0.4s						
PSZ	**Piszkesteto**	**4.61**	**24**	⇑*i*P	**Pn**	**08 29 03.9**	**-0.7**
PSZ	**Piszkesteto**	**4.61**	**24**	*e*Pn	**Pn**	**08 29 04.1**	**-0.5**
PSZ	**Piszkesteto**	**4.61**	**24**	*e*Pg	**Pn**	**08 29 05.9**	**+1.3**
PSZ				*e*Sn	**Sn**	**08 29 56.2**	**-2.4**
VAY	**Valandovo**	**4.67**	**119**	*e*Pn	**Pn**	**08 29 09.1**	**+3.8**
VAY	**Valandovo**	**4.67**	**119**	*e*Pn	**Pn**	**08 29 09.1**	**+3.8**
GRG	**Griva**	**4.77**	**124**	P	**Pn**	**08 29 10.0**	**+3.2**
SMOL	**Smolenice**	**4.80**	**2**	*e*P	**Pn**	**08 29 06.7**	**-0.4**
SMOL				*e*		08 30 01.0	
SMOL	**Smolenice**	**4.80**	**2**	*e*Pn	**Pn**	**08 29 06.7**	**-0.4**
SMOL				*e*Sn	**Sn**	**08 30 01.0**	**-2.1**
SMOL	**Smolenice**	**4.80**	**2**	*e*PN	**Pn**	**08 29 06.7**	**-0.4**
SMOL				*e*SN	**Sn**	**08 30 01.0**	**-2.1**
MAIM	**Mastiano**	**4.83**	**275**	P	**Pn**	**08 29 07.5**	**0.0**
MAIM				S	**Sn**	**08 29 59.5**	**-4.3**
VYHS	**Vyhne**	**4.91**	**13**	*e*P	**Pn**	**08 29 08.5**	**-0.2**
VYHS				*e*		08 30 04.7	
VYHS				pmax	pmax		
	comp=N,29nm,0.8s						
VYHS	**Vyhne**	**4.91**	**13**	*e*Pn	**Pn**	**08 29 08.5**	**-0.2**
VYHS				*e*Sn	**Sn**	**08 30 04.7**	**-1.2**
VYHS	**Vyhne**	**4.91**	**13**	*e*PN	**Pn**	**08 29 08.5**	**-0.2**
VYHS				*e*SN	**Sn**	**08 30 04.7**	**-1.2**
VYHS				*e*LG	Lg	08 30 08.8	
DRGR		**4.98**	**50**	⇑*i*P	**Pn**	**08 29 09.3**	**-0.4**
WTTA	**Wattenberg**	**5.25**	**314**	*e*Pn	**Pn**	**08 29 15.3**	**+1.8**
	comp=N,16nm,0.3s,SNR=10						
WTTA				*e*Sn	**Sn**	**08 30 16.4**	**+1.8**
	comp=N,52nm,0.6s						
WTTA	**Wattenberg**	**5.25**	**314**	Pn	**Pn**	**08 29 15.3**	**+1.8**
	comp=N,16nm,0.3s,SNR=10						
WTTA				Sn	**Sn**	**08 30 16.4**	**+1.8**
	comp=N,52nm,0.6s						
KECS	**Kecovo**	**5.29**	**25**	*e*P	**Pn**	**08 29 14.8**	**+0.9**
KECS				*e*		08 30 12.0	
KECS				pmax	pmax		
	comp=N,6.0nm,0.7s						
KECS	**Kecovo**	**5.29**	**25**	*e*Pn	**Pn**	**08 29 14.8**	**+0.9**
KECS				*e*Sn	**Sn**	**08 30 12.0**	**-3.4**
KECS	**Kecovo**	**5.29**	**25**	*e*PN	**Pn**	**08 29 14.8**	**+0.9**
KECS				*e*SN	**Sn**	**08 30 11.9**	**-3.4**
KECS				*e*LG	Lg	08 30 17.5	
WATA	**Walderalm**	**5.33**	**315**	*e*Pn	**Pn**	**08 29 16.7**	**+2.2**
	comp=N,26nm,0.3s,SNR=22						
WATA	**Walderalm**	**5.33**	**315**	Pn	**Pn**	**08 29 16.7**	**+2.2**
	comp=N,26nm,0.3s,SNR=22						
LIT	**Litokhoron**	**5.38**	**130**	P	**Pn**	**08 29 18.1**	**+3.0**
LIT				pmax	pmax		
	comp=Z,19nm,0.8s						
SOH	**Sokhos**	**5.43**	**120**	P	**Pn**	**08 29 20.2**	**+4.3**
SOH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SC2M	**Scurtabo**	**5.54**	**280**	P	**Pn**	**08 29 18.8**	**+1.5**
MOTA	**Moosalm**	**5.58**	**313**	*e*Pn	**Pn**	**08 29 20.2**	**+2.2**
	SNR=24						
MOTA	**Moosalm**	**5.58**	**313**	Pn	**Pn**	**08 29 20.2**	**+2.2**
	SNR=24						
LKD2	**Lefkada island**	**5.59**	**151**	P	**Pn**	**08 29 18.0**	**0.0**
LKD2	**Lefkada island**	**5.59**	**151**	P	**Pn**	**08 29 18.0**	**0.0**
LKD2	**Lefkada island**	**5.59**	**151**	P	**Pn**	**08 29 18.0**	**0.0**
FETA	**Feichten**	**5.60**	**308**	*e*Pn	**Pn**	**08 29 20.2**	**+1.9**
	comp=Z,13nm,0.6s						
FETA				*e*Sn	**Sn**	**08 30 25.7**	**+2.6**
	comp=Z,25nm,0.7s						
FETA	**Feichten**	**5.60**	**308**	Pn	**Pn**	**08 29 20.2**	**+1.9**
	comp=Z,13nm,0.6s						
VRAC	**Vranov**	**5.60**	**356**	Pn	**Pn**	**08 29 18.2**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=174,slow=16,SNR=9.9						
VRAC				Sn	**Sn**	**08 30 22.8**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=256,slow=21,SNR=5.0						
VRAC				LR	LR	08 31 57.8	
	comp=Z,46nm,18.1s,baz=195,slow=44						
VRAC	**Vranov**	**5.60**	**356**	⇑*i*P	**Pn**	**08 29 17.8**	**-0.3**
VRAC	**Vranov**	**5.60**	**356**	*e*Pn	**Pn**	**08 29 18.2**	**+0.1**
VRAC				*e*Sn	**Sn**	**08 30 21.9**	**-1.0**
GERES	**GERESS Array B**	**5.65**	**336**	Pn	**Pn**	**08 29 19.2**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=157,slow=14,SNR=30						
GERES				Sn	**Sn**	**08 30 23.5**	**-0.9**
	comp=Z,2.4nm,0.3s,baz=142,slow=23,SNR=7.1						
GERES				LR	LR	08 31 32.0	
	comp=Z,24nm,18.7s,baz=136,slow=39						
LANS	**Liptovska Anna**	**5.66**	**16**	*e*P	**Pn**	**08 29 19.3**	**+0.3**
LANS	**Liptovska Anna**	**5.66**	**16**	*e*Pn	**Pn**	**08 29 19.3**	**+0.3**
LANS	**Liptovska Anna**	**5.66**	**16**	*e*PN	**Pn**	**08 29 19.3**	**+0.3**
RETA	**Reutte**	**5.86**	**312**	*e*Sn	**Sn**	**08 30 31.2**	**+2.0**
	comp=Z,38nm,0.6s						
VOIR		**5.89**	**70**	P	**Pn**	**08 29 26.7**	**+4.5**
VOIR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KHC	**Kasperske Hory**	**5.95**	**337**	*e*x	x	08 29 36.0	
KHC				*e*SN	**Sn**	**08 30 30.0**	**-1.5**
KHC				*e*x	x	08 30 42.5	
KHC	**Kasperske Hory**	**5.95**	**337**	*e*P	**Pb**	**08 29 36.0**	**-2.3**
KHC				*e*		08 30 30.0	
PDO	**Prodromos**	**5.95**	**148**	P	**Pn**	**08 29 23.3**	**+0.3**
PDO	**Prodromos**	**5.95**	**148**	P	**Pn**	**08 29 23.3**	**+0.3**
PDO	**Prodromos**	**5.95**	**148**	P	**Pn**	**08 29 23.3**	**+0.3**
CRVS	**Cervenica-Dubn**	**5.98**	**28**	*e*P	**Pn**	**08 29 23.9**	**+0.6**
CRVS				*e*		08 30 33.7	
CRVS	**Cervenica-Dubn**	**5.98**	**28**	*e*Pn	**Pn**	**08 29 23.9**	**+0.6**
CRVS				*e*Sn	**Sn**	**08 30 33.7**	**+1.6**
CRVS	**Cervenica-Dubn**	**5.98**	**28**	*e*PN	**Pn**	**08 29 23.9**	**+0.6**
CRVS				*e*SN	**Sn**	**08 30 33.7**	**+1.6**
DAVOX	**Davos/Dischmat**	**5.98**	**303**	Pn	**Pn**	**08 29 25.2**	**+1.8**
	comp=Z,4.3nm,0.3s,baz=132,slow=9.6,SNR=18						
DAVOX				Sn	**Sn**	**08 30 35.8**	**+3.4**
	comp=Z,2.5nm,0.3s,baz=104,slow=23,SNR=6.8						
MORC	**Moravsky Berou**	**6.06**	**2**	⇑*i*P	**Pn**	**08 29 23.7**	**-0.8**
MORC	**Moravsky Berou**	**6.06**	**2**	P	**Pn**	**08 29 25.3**	**+0.8**
MORC				pmax	pmax		
	comp=Z,180nm,0.7s						
MORC	**Moravsky Berou**	**6.06**	**2**	*e*Pn	**Pn**	**08 29 24.8**	**+0.3**
PGF	**Pioggiola**	**6.08**	**262**	*e*Pn	**Pn**	**08 29 23.5**	**-1.3**
PGF	**Pioggiola**	**6.08**	**262**	*e*Pn	**Pn**	**08 29 23.5**	**-1.3**
AGG	**Agios Georgios**	**6.10**	**139**	P	**Pn**	**08 29 28.6**	**+3.6**
AGG				pmax	pmax		
	comp=Z,29nm,0.4s						
VLS	**Valsamata**	**6.12**	**154**	P	**Pn**	**08 29 24.2**	**-1.1**
VLS	**Valsamata**	**6.12**	**154**	P	**Pn**	**08 29 24.2**	**-1.1**
VLS	**Valsamata**	**6.12**	**154**	P	**Pn**	**08 29 24.2**	**-1.1**
OKC	**Ostrava-Krasne**	**6.15**	**6**	*e*PN	**Pn**	**08 29 27.4**	**+1.7**
OKC				*e*SN	**Sn**	**08 30 35.5**	**-1.0**
OKC	**Ostrava-Krasne**	**6.15**	**6**	*e*P	**Pn**	**08 29 27.4**	**+1.7**
OKC				*e*		08 30 35.5	
OKC	**Ostrava-Krasne**	**6.15**	**6**	Pn	**Pn**	**08 29 27.4**	**+1.7**
OKC				Sn	**Sn**	**08 30 35.5**	**-1.0**
PAIG	**Paliouri**	**6.17**	**126**	P	**Pn**	**08 29 28.9**	**+2.9**
PAIG				pmax	pmax		
	comp=Z,15nm,0.9s						
DAVA	**Damuels**	**6.23**	**307**	*e*Pn	**Pn**	**08 29 30.2**	**+3.3**
	comp=Z,4.3nm,0.3s						
DAVA				*i* Sn	**Sn**	**08 30 40.4**	**+1.7**
	comp=Z,17nm,0.6s						
PCP	**Piancastagn**	**6.25**	**280**	P	**Pn**	**08 29 28.5**	**+1.4**
STHS	**Stebnicka Huta**	**6.35**	**25**	*e*P	**Pn**	**08 29 30.1**	**+1.6**
STHS				*e*		08 30 46.0	
STHS	**Stebnicka Huta**	**6.35**	**25**	*e*Pn	**Pn**	**08 29 30.1**	**+1.6**
STHS	**Stebnicka Huta**	**6.35**	**25**	*e*PN	**Pn**	**08 29 30.0**	**+1.6**
STHS				*e*SN	**Sn**	**08 30 46.0**	**+4.6**
GOPC	**GO Pecny, Ondr**	**6.40**	**346**	*e*x	x	08 30 54.3	
MLR	**Muntele Rosu**	**6.52**	**71**	Pn	**Pn**	**08 29 32.2**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=167,slow=16,SNR=2.7						
MLR	**Muntele Rosu**	**6.52**	**71**	⇑*i*P	**Pn**	**08 29 32.1**	**+1.3**
ZKS	**Zakynthos**	**6.62**	**154**	P	**Pn**	**08 29 30.7**	**-1.5**
ZKS	**Zakynthos**	**6.62**	**154**	P	**Pn**	**08 29 30.7**	**-1.5**
ZKS	**Zakynthos**	**6.62**	**154**	P	**Pn**	**08 29 30.7**	**-1.5**
DPC	**Dobruska-Polom**	**6.65**	**355**	*e*PN	**Pn**	**08 29 35.3**	**+2.7**
DPC				*e*x	x	08 29 44.3	
DPC	**Dobruska-Polom**	**6.65**	**355**	*e*P	**Pn**	**08 29 35.3**	**+2.7**
DPC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
DPC	**Dobruska-Polom**	**6.65**	**355**	Pn	**Pn**	**08 29 35.3**	**+2.7**
BURAR	**Bucovina Array**	**6.86**	**53**	⇑*i*P	**Pn**	**08 29 36.0**	**+0.5**
BURAR	**Bucovina Array**	**6.86**	**53**	P	**Pn**	**08 29 35.9**	**+0.5**
SBF	**Sospel**	**7.04**	**274**	*e*Pn	**Pn**	**08 29 35.7**	**-2.2**
SBF				*e*Sn	**Sn**	**08 30 50.9**	**-7.5**
	comp=Z,17nm,0.6s						
SLE	**Schleitheim**	**7.28**	**307**	P	**Pn**	**08 29 43.7**	**+2.4**
SLE				pmax	pmax		
	comp=Z,21nm,0.7s						
BRG	**Berggiesshubel**	**7.48**	**344**	PN	**Pn**	**08 29 44.6**	**+0.7**
BRG				PG	**Pb**	**08 30 01.2**	**-3.1**
BRG				*e*		08 30 48.0	
BRG	**Berggiesshubel**	**7.48**	**344**	SG	**Sb**	**08 31 27.0**	**-6.8**
	comp=Z,7.7nm,0.6s						
BRG	**Berggiesshubel**	**7.48**	**344**	P	**Pn**	**08 29 44.6**	**+0.7**
MBDF	**Montbardon**	**7.53**	**281**	*e*Pn	**Pn**	**08 29 42.0**	**-2.7**
MBDF				*e*Sn	Sn	08 31 01.2	-9.4
	comp=Z,24nm,0.6s						
FRF	**La Foret Royal**	**7.63**	**272**	*e*Pn	**Pn**	**08 29 44.2**	**-1.7**
FRF				*e*Sn	**Sn**	**08 31 05.4**	**-7.4**
	comp=Z,9.0nm,0.4s						

FRF La Foret Royal 7.63 272 ePn Pn 08 29 44.2 -1.7
LPG La Plagne 7.63 287 ePn Pn 08 29 43.8 -2.5
LPG eSn Sn 08 31 05.3 -8.1
comp=Z,30nm,0.6s
LPL La Plagne 7.65 287 ePn Pn 08 29 44.3 -2.2
LPL eSn Sn 08 31 06.5 -7.2
comp=Z,56nm,0.6s
BFO Black Forest 7.68 310 i P Pn 08 29 49.3 +2.7
CLL Collm 8.09 341 ePn Pn 08 29 46.0 -6.3
CLL ePg Pb 08 30 19.0 +4.3
CLL eSb Sb 08 31 53.0 +1.7
CLL eSg Sg 08 32 14.0 +0.3
CLL Collm 8.09 341 eP Pn 08 29 46.0 -6.3
ORIF Oris-en-Rattie 8.18 282 ePn Pn 08 29 52.9 -0.6
ORIF eSn Sn 08 31 17.9 -8.5
comp=Z,30nm,0.6s
ORIF Oris-en-Rattie 8.18 282 ePn Pn 08 29 52.9 -0.6
HINF Hinteralfeld 8.28 303 ePn Pn 08 29 53.0 -2.0
HINF eSn Sn 08 31 20.7 -8.2
comp=Z,11nm,0.5s
HINF Hinteralfeld 8.28 303 ePn Pn 08 29 53.0 -2.0
CDF Champ du Feu 8.31 308 ePn Pn 08 29 54.5 -1.0
CDF eSn Sn 08 31 21.1 -8.7
comp=Z,2.0nm,0.4s
CDF Champ du Feu 8.31 308 ePn Pn 08 29 54.5 -1.0
CABF La Chapelle 8.34 294 ePn Pn 08 29 53.7 -2.1
CABF eSn Sn 08 31 22.0 -8.3
comp=Z,8.9nm,0.6s
HAU Haudompre 8.67 303 ePn Pn 08 29 58.8 -1.5
HAU eSn Sn 08 31 29.0 -9.5
comp=Z,12nm,0.6s
HAU Haudompre 8.67 303 ePn Pn 08 29 58.8 -1.5
VIVF Saint-Julien-l 9.03 282 ePn Pn 08 30 02.9 -2.3
APE Apeiranthos 9.21 133 eP Pn 08 30 09.4 +1.6
SMF Signal de Mont 9.85 292 ePn Pn 08 30 13.4 -3.0
LOR Lormes 9.99 295 ePn Pn 08 30 17.0 -1.3
baz=128
LOR eSn Sn 08 32 01.3 -9.4
comp=Z,12nm,0.6s
IDI Anoyia 10.32 142 Pn Pn 08 30 23.1 +0.2
comp=Z,0.5nm,0.3s,baz=344,slow=21,SNR=3.5
IDI Sn Sn 08 32 10.6 -8.5
comp=Z,0.6nm,0.3s,baz=307,slow=20,SNR=3.3
IDI LR LR 08 35 12.9
comp=Z,34nm,21.6s,baz=290,slow=42
AKASG Malin Array Be 10.77 45 i P Pn 08 30 32.2 +3.3
ISP Isparta 11.72 116 eP Pn 08 30 45.2 +3.1
ANN Anapa 14.57 79 eP Pn 08 31 15.5 -5.4
ANN eS Sn 08 33 53.0 -10
ANN pmax pmax
comp=Z,19nm,1.1s
ESDC Sonseca Array 16.28 263 Pn Pn 08 31 44.7 +1.1
comp=Z,0.4nm,0.3s,baz=72,slow=12,SNR=2.7
HFS Hagfors 16.57 354 Pn Pn 08 31 46.9 -0.1
comp=Z,0.1nm,0.3s,baz=188,slow=16,SNR=3.6
OBN Obninsk 16.95 41 eP P 08 31 54.7 +0.9
OBN pmax pmax
comp=Z,6.0nm,0.4s
FINES FINESS Array B 18.53 14 P Pn 08 32 12.1 +0.8
comp=Z,0.2nm,0.3s,baz=195,slow=10,SNR=4.6
KLMR Klimovskoe 21.75 30 eP P 08 32 46.1 -0.2
KLMR pmax pmax
comp=Z,7.0nm,1.1s
ARU Arti 28.98 49 i P P 08 33 56.7 +2.2
ARU pmax pmax
comp=Z,2.0nm,1.0s
GEYT Alibeck 31.29 86 P P 08 34 15.5 +0.3
comp=Z,2.0nm,0.6s,baz=289,slow=9.2,SNR=4.4
BVAR Borovoye Array 35.80 56 P P 08 34 53.8 -0.4
comp=Z,0.8nm,0.7s,baz=284,slow=6.0,SNR=5.9
ZALV Zalesovo Beam 44.08 52 P P 08 36 02.3 -0.6
comp=Z,0.7nm,0.4s,baz=268,slow=6.8,SNR=3.3
MKAR Makanchi Array 44.77 62 P P 08 36 08.8 +0.2
comp=Z,0.2nm,0.4s,baz=308,slow=4.7,SNR=4.1
SCHQ Schefferville 52.72 314 P P 08 37 10.7 +1.1
comp=Z,1.8nm,0.7s,baz=62,slow=5.4,SNR=3.8
SONM Songino Array 58.97 52 P P 08 37 54.3 -0.4
comp=Z,1.2nm,0.8s,baz=298,slow=11,SNR=3.8
SHEL Horse Pasture 62.98 205 i P P 08 38 19.9 -2.1
BILL Bilibino 66.16 12 eP P 08 38 42.7 +0.5
BILL pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 67.31 338 P P 08 38 48.6 -0.9
comp=Z,0.9nm,0.7s,baz=36,slow=6.2,SNR=11
ILAR Eielson Array 71.12 353 P P 08 39 13.3 +0.2
comp=Z,0.2nm,0.6s,baz=359,slow=7.2,SNR=3.8
CMAR Chiang Mai Arr 71.64 82 ceP P 08 39 22.1 +5.1
CMAR pmax pmax
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 81.56 323 P P 08 40 12.8 -0.3
comp=Z,0.4nm,0.6s,baz=45,slow=6.5,SNR=5.2
NVAR Mina Array Bea 88.83 327 P P 08 40 49.7 +0.1
comp=Z,0.2nm,0.5s,baz=332,slow=7.5,SNR=2.7
TXAR Lajitas Array 89.35 311 P P 08 40 52.7 +0.7
comp=Z,0.7nm,1.0s,baz=101,slow=2.6,SNR=4.0
ASAR Alice Springs 125.04 90 PKP PKPdf 08 46 54.7 -1.0
comp=Z,0.3nm,0.7s,baz=297,slow=1.8,SNR=4.1

---

*BKK **01** 08:37:32.3±1.0, 28°N±10°×9°6E±1°5, h135km±47km, M4.9/9, mB4.5/6, mb4.3/9, MLv6.0/1, Mw(mB)3.6/6*
*IDC **01** 08:37:59.4±0.7, 25.°40N×96.°65E, h0km, mb3.9/17, mb1 4.1/18, mb1mx3.8/67, mbtmp3.9/18, ML4.2/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/42, Error ellipse: s-maj=32.2km s-min=13.1km az=59.0*
*ISCJB **01** 08:38:03.2±0.6, 25.°54N±0.°08×96.°33E±0.°07, h25km, mb4.0/21, MS3.6/7, Error ellipse: s-maj=11.3km s-min=9.1km az=15.0*
*NEIC **01** 08:38:05.1±1.3, 25.°43N×96.°74E, h42km±13km, mb4.2/2, Error ellipse: s-maj=21.1km s-min=8.3km az=56.0*
ISC 01 08:38:03.9±0.5**, 25.°52N**±0.°06×**96.°57E**±0.°06**, h25**km**, n54, σ1s78**/53**, mb4.1**/21**, MS3.5**/7**, Myanmar**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHL Shillong 4.24 272 ePN Pn 08 39 06.5 -0.5
SHL ePG Pb 08 39 25.0 +7.2
SHL eSN Sn 08 39 59.0 +3.2
SHL eSG Sb 08 40 09.0 +0.4
CRAI Chiangrai 6.33 146 P Pn 08 39 33.6 -2.1
286nm,0.9s,6μm2.2nm
CRAI S Sb 08 41 12.1 +3.4
286nm,0.9s,6μm2.2nm
CRAI Chiangrai 6.33 146 P Pn 08 39 40.8 +5.1
LSA Lhasa 6.36 312 ePn Pn 08 39 39.2 +2.8
18nm,0.6s
PAYA Payao 6.85 153 P Pb 08 40 06.8 +4.5
CHTO Chiang Mai 7.03 161 P Pn 08 39 44.5 -0.8
136nm,0.9s
CHTO S Sb 08 41 29.8 +1.0
136nm,0.9s
CHTO Chiang Mai 7.03 161 P Pb 08 40 07.7 +2.4
136nm,0.9s,2μm1.5nm
CMMT Chiang Mai 7.03 161 P Pn 08 39 43.7 -1.6
30nm,0.9s,499nm
CMMT S Sb 08 41 32.0 +3.1
30nm,0.9s,499nm
CMMT Chiang Mai 7.03 161 P Pb 08 40 07.6 +2.2
30nm,0.9s,678nm0.3nm
CMAR Chiang Mai Arr 7.37 162 Pn Pn 08 39 47.9 -2.0
1.0nm,0.3s,baz=336,slow=14,SNR=3.7
CMAR Pg Pb 08 40 14.6 +3.5
1.9nm,0.3s,baz=343,slow=15,SNR=14
CMAR Lg Lg 08 41 47.6
0.6nm,0.3s,baz=330,slow=32,SNR=3.5
CMAR LR LR 08 43 12.2
comp=Z,121nm,20.7s,baz=305,slow=43
MHMT Maesarieng 7.42 170 P Pn 08 39 49.0 -1.6
36nm,1.2s
MHMT S Sb 08 41 38.1 -1.9
36nm,1.2s
MHMT Maesarieng 7.42 170 P Pb 08 40 16.7 +4.7
39nm,0.8s,507nm
LAMP Lampang 7.52 157 P Pn 08 39 50.5 -1.6
6.4nm,1.2s,178nm
LAMP S Sb 08 41 41.8 -1.2
6.4nm,1.2s,178nm
LAMP Lampang 7.52 157 P Pb 08 40 19.1 +5.4
SUKH Sukhothai 8.49 160 P Pn 08 40 03.9 -1.5
6.2nm,0.5s,96nm
SUKH S Sb 08 42 05.4 -5.5
6.2nm,0.5s,96nm
UTTA Uttaradit 8.58 154 P Pn 08 40 02.9 -3.7
LOEI Loei 9.09 150 P Pn 08 40 15.5 +1.9
LOEI Loei 9.09 150 P Pn 08 40 19.4 +5.8
5.7nm,0.8s,0.0nm
GUN Gumba 9.85 286 eP Pn 08 40 23.8 -0.5
95nm,0.7s
PKIN Phulchoki 10.21 284 eP Pn 08 40 27.3 -1.9
52nm,0.7s
KKN Kakani 10.35 285 eP Pn 08 40 30.1 -0.9
81nm,0.7s
DMN Daman 10.47 284 eP Pn 08 40 31.0 -1.7
52nm,0.7s
GKN Gorkha 10.95 286 eP Pn 08 40 38.3 -0.8
93nm,0.6s
KOLN Koldanda 11.82 284 eP Pn 08 40 48.5 -2.6
12nm,0.3s
PYUN Piuthan 12.40 285 eP Pn 08 40 57.4 -1.6
27nm,0.6s
HYB Hyderabad 18.59 248 i P P 08 42 19.0 -0.4
HYB e 08 42 32.5
SONM Songino Array 23.58 17 P P 08 43 11.8 -0.9
1.1nm,0.6s,baz=196,slow=10,SNR=3.7
MKAR Makanchi Array 24.08 335 P P 08 43 17.8 +0.4
2.1nm,0.5s,baz=138,slow=7.8,SNR=20
TKM2 Tokmak 2 24.43 321 eP P 08 43 22.1 +1.3
15nm,1.4s
AAK Ala-Archa 24.90 319 P P 08 43 26.8 +1.8
1.0nm,0.5s,baz=126,slow=5.4,SNR=3.1
AAK Ala-Archa 24.90 319 P P 08 43 26.8 +1.8
AAK eP P 08 43 27.1 +2.2
EKS2 Erkin-Say 25.34 318 eP P 08 43 29.7 +0.7
3.8nm,0.8s
KURBB Kurchatov Arra 28.65 336 P P 08 43 58.7 +0.3
0.7nm,0.6s,baz=147,slow=9.5,SNR=6.5
KURK Kurchatov 28.69 336 P P 08 43 58.7 -0.1
KSRS Korea Array 29.13 58 LR LR 08 56 13.0
comp=Z,79nm,18.2s,baz=251,slow=38
ZALV Zalesovo Beam 29.71 346 P P 08 44 09.1 +1.2
1.8nm,0.5s,baz=170,slow=10,SNR=6.0
ZALV LR LR 08 56 43.5
comp=Z,93nm,18.2s,baz=222,slow=38
BVAR Borovoye Array 33.77 331 P P 08 44 43.9 +0.4
0.9nm,0.4s,baz=132,slow=10,SNR=7.5
GEYT Alibeck 34.73 300 P P 08 44 52.8 +0.7
1.2nm,0.4s,baz=161,slow=6.3,SNR=3.6
ABKAR Akbulak array 36.98 319 eP P 08 45 11.6 +0.5
11nm,0.3s
AKTO Aktyubinsk 38.62 320 LR LR 09 02 18.6
comp=Z,80nm,21.0s,baz=114,slow=38
ARU Arti 41.25 329 LR LR 09 04 60.0
comp=Z,76nm,19.3s,baz=162,slow=39
NRIK Noril'sk 44.16 355 LR LR 09 05 30.5
comp=Z,45nm,18.7s,baz=146,slow=37
BRTR Keskin Array B 53.85 302 P P 08 47 24.9 -0.2
0.6nm,0.6s,baz=81,slow=7.6,SNR=3.6
WRA Warramunga Arr 58.22 137 P P 08 47 54.8 -1.5
3.6nm,0.9s,baz=328,slow=7.6,SNR=14
FINES FINESS Array B 58.62 328 P P 08 47 58.0 -0.5
1.9nm,0.9s,baz=76,slow=5.9,SNR=2.5
ARCES ARCESS Array B 59.72 337 P P 08 48 07.9 +1.8
1.8nm,0.8s,baz=67,slow=6.9,SNR=2.3
ASAR Alice Springs 60.81 140 P P 08 48 12.6 -1.6
1.9nm,0.7s,baz=320,slow=6.6,SNR=18
HFS Hagfors 64.72 327 P P 08 48 40.4 +0.7
3.6nm,1.0s,baz=107,slow=9.2,SNR=2.4
NOA NORSAR Array B 65.80 328 P P 08 48 46.6 -0.2
0.6nm,0.7s,baz=83,slow=6.6,SNR=2.6
GERES GERESS Array B 66.68 314 P P 08 48 52.4 -0.4
0.4nm,0.2s,baz=99,slow=8.2,SNR=3.7
ILAR Eielson Array 77.64 23 P P 08 49 58.0 +0.2
0.3nm,0.8s,baz=292,slow=4.8,SNR=3.3
TSUM Tsumeb 88.68 248 LR LR 09 29 46.4
comp=Z,28nm,18.6s,baz=336,slow=35
TORD Torodi Ar. Bea 88.74 284 P P 08 50 55.4 -0.6
0.4nm,0.8s,baz=56,slow=5.7,SNR=2.0
TORD LR LR 09 35 23.2
comp=Z,47nm,18.2s,baz=335,slow=39
YKA Yellowknife Ar 88.82 14 P P 08 50 52.4 -3.0
0.2nm,0.8s,baz=324,slow=4.1,SNR=4.0

---

*IDC **01** 08:41:14.1±3.9, 36.°09S×179.°94E, h222km±31km, mb3.3/2, mb1 3.6/4, mb1mx3.2/31, mbtmp3.9/4, Error ellipse: s-maj=54.4km s-min=44.2km az=152.0*
ISC 01 08:41:18.4±1.7**, 35.°9S**±0.°1×**179.°2E**±0.°2**, h226**km±10km**, n58, σ2s93**/67**, Off east coast of North Island**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXZ Matakaoa Point 1.80 203 PN Pn 08 41 52.2 -4.7
MXZ SN S 08 42 27.2 +0.2
WMGZ Waiomatatini S 2.01 198 PN Pn 08 41 55.1 -3.7
WMGZ SN S 08 42 33.7 +3.2
HAZ Te Kaha 2.17 211 PN Pn 08 41 56.5 -3.9
PKGZ Pakihiroa 2.17 204 PN Pn 08 41 56.6 -4.0
PKGZ SN S 08 42 34.9 +1.3
PUZ Puketiti 2.29 199 PN Pn 08 41 58.9 -2.8
PUZ SN S 08 42 37.7 +2.1
TWGZ Tauwhareparae 2.47 203 PN Pn 08 42 01.8 -1.8
TWGZ SN S 08 42 42.5 +3.6
CNGZ Carnagh Statio 2.69 197 ePN Pn 08 42 03.5 -2.4
TKGZ Te Karaka 2.75 203 ePN Pn 08 42 03.1 -3.4
MWZ Matawai 2.77 208 ePN Pn 08 42 03.3 -3.5
MWZ SN S 08 42 48.0 +3.2
OPRZ Ohinepanea 2.87 227 ePN Pn 08 42 04.8 -3.1
URZ Urewera 2.88 215 P Pn 08 42 04.4 -3.5
3.4nm,0.3s,baz=40,slow=0.8,SNR=44
URZ S S 08 42 48.8 +1.9
9.7nm,0.3s,baz=14,slow=23,SNR=13
URZ Urewera 2.88 215 ePN Pn 08 42 04.3 -3.6
RIGZ Rimuhau 3.02 202 ePN Pn 08 42 06.0 -3.6
SNGZ Shannon Statio 3.23 207 ePN Pn 08 42 09.2 -2.8
RTZ Ruatahuna 3.23 213 ePN Pn 08 42 09.1 -2.9
RTZ SN S 08 42 57.7 +3.4
KNZ Kokohu 3.34 201 PN Pn 08 42 10.6 -2.6
RAHZ Arahi 3.44 209 PN Pn 08 42 11.7 -2.7
MRHZ Matea Rd 3.67 216 PN Pn 08 42 15.3 -1.9
NMHZ Naumai 3.71 210 PN Pn 08 42 15.5 -2.1
ARHZ Aropaoanui 3.78 207 ePN Pn 08 42 15.8 -2.6
BKZ Black Stump Fm 3.90 213 ePN Pn 08 42 16.8 -3.1
KWHZ Kaweka Forest 4.15 211 PN Pn 08 42 20.1 -2.8
KAHZ Kahuranaki 4.30 205 ePN Pn 08 42 22.7 -2.0
KRHZ Kereru 4.35 210 ePN Pn 08 42 22.5 -2.9
BHHZ Black Hill Sta 4.36 214 ePN Pn 08 42 23.0 -2.5
WNVZ Wahianoa 4.46 219 PN Pn 08 42 25.1 -1.6
PXZ Pawanui 4.51 204 ePN Pn 08 42 23.8 -3.4
PNHZ Pukenui 4.65 210 ePN Pn 08 42 25.7 -3.3
WPHZ Waipukurau 4.69 207 PN Pn 08 42 28.8 -0.7
VRZ Vera Road 4.78 226 ePN Pn 08 42 30.2 -0.3
PRHZ Porangahau 4.80 204 PN Pn 08 42 28.7 -2.1
TSZ Takapari Road 4.87 211 PN Pn 08 42 28.0 -3.8
ANWZ Angora Road 5.03 205 PN Pn 08 42 32.0 -1.7
WAZ Wanganui 5.09 220 PN Pn 08 42 32.7 -1.7
PRWZ Pori Road 5.29 208 ePN Pn 08 42 34.0 -3.0
BFZ Birch Farm 5.30 205 PN Pn 08 42 34.3 -2.9
BFZ SN S 08 43 43.4 +3.8
TIWZ Tintock 5.52 207 ePN Pn 08 42 37.9 -2.0
MRZ Mangatainoka R 5.54 210 PN Pn 08 42 36.3 -3.8
HOWZ Holdsworth Sta 5.76 209 PN Pn 08 42 39.8 -3.2
OGWZ Otaki Gorge 5.84 212 ePN Pn 08 42 40.8 -3.1
KIW Kapiti Island 5.99 213 PN Pn 08 42 43.0 -2.7
MTW Mount Morrison 5.99 208 ePN Pn 08 42 42.4 -3.5
CAW Cannon Point 6.12 211 PN Pn 08 42 45.0 -2.5
MSWZ Moikau Station 6.31 208 PN Pn 08 42 47.1 -2.8
DUWZ D'Urville Isla 6.41 219 PN Pn 08 42 48.0 -3.1
PLWZ Palliser 6.44 207 PN Pn 08 42 48.3 -3.2
TCW Tory Channel 6.55 215 PN Pn 08 42 49.7 -3.2
TUWZ Tuamarina 6.88 215 PN Pn 08 42 53.7 -3.4
NNZ Nelson 7.00 219 ePN Pn 08 42 55.2 -3.4
QRZ Quartz Range 7.18 225 PN Pn 08 42 57.1 -3.9
THZ Tophouse 7.64 218 ePN Pn 08 43 03.1 -3.8
KHZ Kahutara 7.85 212 ePN Pn 08 43 06.7 -2.8
MQZ McQueen's Vall 9.28 211 PN Pn 08 43 24.5 -3.3
RPZ Rata Peaks 10.00 216 P Pn 08 43 34.1 -3.0
0.6nm,0.3s,baz=331,slow=10,SNR=8.9
RPZ S S 08 45 28.5 -0.9
0.5nm,0.3s,baz=49,slow=19,SNR=7.5
ODZ Otahua Downs 11.21 213 PN Pn 08 43 50.5 -2.0
ASAR Alice Springs 40.83 275 P P 08 48 39.6 +1.3
0.4nm,0.3s,baz=114,slow=7.8,SNR=12
WRA Warramunga Arr 42.33 280 P P 08 48 51.0 +0.6
0.9nm,0.4s,baz=121,slow=8.0,SNR=33
FINES FINESS Array B 149.32 335 PKPbc PKPdf 09 00 36.8 +1.9
1.1nm,0.7s,baz=50,slow=2.2,SNR=3.6

---

*ISCJB **01** 08:48:10.2±0.4, 5.°40S±0.°05×153.°40E±0.°07, h10km, mb4.5/32, MS3.6/18, Error ellipse: s-maj=10.7km s-min=7.4km az=15.3*
*IDC **01** 08:48:10.9±0.6, 5.°35S×153.°10E, h0km, mb4.4/19, mb1 4.5/21, mb1mx4.3/41, mbtmp4.4/21, ML2.9/2, MS3.6/20, Ms1 3.6/20, ms1mx3.5/39, Error ellipse: s-maj=21.7km s-min=12.8km az=104.0*
*NEIC **01** 08:48:14.4±3.7, 5.°37S×153.°42E, h27km±25km, mb4.7/17, Error ellipse: s-maj=15.0km s-min=8.3km az=89.0*
*BJI **01** 08:48:14.1, 5.°20S×153.°40E, h31km, mb4.7/19, mB5.0/10, Ms4.8/5, Ms7 4.7/3*
ISC 01 08:48:12.7±0.5**, 5.°39S**±0.°06×**153.°35E**±0.°08**, h10**km**, n86, σ1s79**/83**, mb4.6**/32**, MS3.6**/18**, 1C, New Ireland region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RABL Rabaul 1.67 315 ePn Pn 08 48 42.1 0.0
MANU Manus Island 6.83 299 ePn Pn 08 49 54.7 +1.7
PMG Port Moresby 7.32 237 Pn Pn 08 49 57.3 -2.5
2.7nm,0.3s,baz=22,slow=8.6,SNR=7.6
PMG Sn Sn 08 51 18.1 -5.0
2.3nm,0.3s,baz=40,slow=14,SNR=7.7
PMG LR LR 08 51 56.2
comp=Z,101nm,21.9s,baz=32,slow=32
PMG Port Moresby 7.32 237 ePn Pn 08 50 01.2 +1.4
PMG eSn Sn 08 51 20.0 -3.0
HNR Honiara 7.68 122 LR LR 08 53 18.2
comp=Z,323nm,20.8s,baz=292,slow=39
CTA Charters Tower 16.16 205 Pn Pn 08 52 00.0 -0.1
0.1nm,0.3s,baz=35,slow=13,SNR=5.6
EIDS Eidsvold 19.99 186 eP P 08 52 45.9 +0.4
17nm,1.0s
GUMO Guam 20.65 336 LR LR 09 01 43.1
comp=Z,139nm,18.3s,baz=158,slow=40
DZM Mont Dzumac 20.88 144 P P 08 52 57.0 +1.7
13nm,1.1s,baz=333,slow=16,SNR=3.2
DZM Mont Dzumac 20.88 144 eP Pn 08 53 00.6 +2.8
30nm,1.2s
WRAB Tennant Creek 23.46 230 eP P 08 53 26.4 +3.7
9.4nm,0.8s
WB2 Warramunga Arr 23.47 230 eP P 08 53 22.4 -0.4
18nm,1.1s
WRA Warramunga Arr 23.48 230 P P 08 53 19.9 -2.9
5.7nm,0.9s,baz=54,slow=10.0,SNR=20
WRA PcP PcP 08 57 10.0 +1.0
0.7nm,0.7s,baz=60,slow=1.6,SNR=4.4
WRA ScP ScP 09 00 49.1 +1.7
1.1nm,1.0s,baz=59,slow=3.0,SNR=3.8
WRA LR LR 09 04 00.3
comp=Z,137nm,18.2s,baz=40,slow=41
ASAR Alice Springs 26.10 224 P P 08 53 45.0 -2.0
1.4nm,0.7s,baz=61,slow=8.6,SNR=18
ASAR PcP PcP 08 57 14.5 -0.2
0.6nm,0.8s,baz=75,slow=2.8,SNR=2.7
ASAR ScP ScP 09 00 56.6 +1.9
0.7nm,0.9s,baz=57,slow=4.6,SNR=4.0
ASAR LR LR 09 03 22.6
comp=Z,193nm,21.4s,baz=48,slow=35
H11S3 WAKE ISLAND Hy 27.13 29 T T 09 22 19.1
baz=206
H11S2 WAKE ISLAND Hy 27.14 29 T T 09 22 20.8
baz=206
H11S1 WAKE ISLAND Hy 27.15 29 T T 09 22 21.4
baz=206
STKA Stephens Creek 28.56 201 P P 08 54 07.0 -1.9
3.5nm,0.8s,baz=14,slow=15,SNR=6.8
STKA LR LR 09 05 18.1
comp=Z,141nm,19.3s,baz=19,slow=36
FITZ Fitzroy Crossi 29.87 243 P P 08 54 17.8 -2.9
7.9nm,1.0s,baz=58,slow=8.0,SNR=9.6
FITZ LR LR 09 07 51.4
comp=Z,99nm,19.1s,baz=50,slow=40
FITZ Fitzroy Crossi 29.87 243 eP P 08 54 22.6 +1.9
18nm,1.3s
DAV Davao City (W) 30.35 294 LR LR 09 05 57.4
comp=Z,110nm,18.2s,baz=179,slow=35
JNU Nakatsue 43.83 332 eP P 08 56 17.2 -2.0
27nm,0.9s
MJAR Matsushiro Arr 44.05 342 P P 08 56 18.0 -2.9
2.8nm,0.9s,baz=169,slow=8.0,SNR=5.7
MJAR PcP PP 08 58 06.2 +2.5
1.9nm,0.8s,baz=166,slow=3.7,SNR=3.7
MJAR LR LR 09 14 52.3
comp=Z,62nm,18.3s,baz=110,slow=36
KSRS Korea Array 48.77 333 P P 08 56 57.1 -0.8
1.1nm,0.7s,baz=148,slow=7.4,SNR=5.9
KSRS LR LR 09 16 58.1
comp=Z,37nm,18.4s,baz=40,slow=36
KSAR Wonju Array Be 48.77 333 P P 08 56 57.1 -0.9
ASAJ Asahikawa 50.22 350 eP P 08 57 09.4 +0.5
18nm,0.9s
USRK Ussuriysk Ar. 52.98 341 P P 08 57 28.2 -1.3
2.7nm,0.8s,baz=172,slow=8.3,SNR=4.8
BJI Beijing 56.68 326 P P 08 57 51.2 -5.2
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI pmax pmax
comp=Z,81nm,3.4s
KLR Kul'dur 57.56 343 P P 08 58 01.0 -1.5
comp=Z,6.8nm,1.1s,baz=150,slow=8.7,SNR=9.3
KLR PcP PcP 08 58 55.6 -0.2
comp=Z,3.7nm,0.7s,baz=214,slow=1.3,SNR=5.6
KLR LR LR 09 22 21.1
comp=Z,45nm,18.9s,baz=135,slow=36
KMI Kunming 57.76 304 P P 08 58 04.0 -0.7
KMI PMZ
comp=Z,11nm,0.6s
PEA0 Petropavlovsk- 58.39 3 eP P 08 58 08.6 +0.3
PETK Petropavlovsk- 58.39 3 P P 08 58 08.5 +0.2
comp=Z,6.1nm,0.5s,baz=163,slow=5.9,SNR=11
PETK LR LR 09 19 14.8
comp=Z,55nm,21.4s,baz=194,slow=32
CM01 Chiang Mai Arr 58.59 295 eP P 08 58 10.2 -0.1
CMAR Chiang Mai Arr 58.62 295 P P 08 58 08.4 -2.1
comp=Z,1.5nm,0.3s,baz=124,slow=5.9,SNR=9.7
CMAR LR LR 09 22 58.4
comp=Z,12nm,19.5s,baz=150,slow=36
CD2 Chengdu 59.53 311 eP P 08 58 16.6 -0.1
HHC Hu-ho-hao-te 59.84 324 eP P 08 58 18.8 +0.1
HHC PMZ
comp=Z,44nm,1.1s
HHC PMZ
comp=Z,130nm,6.8s
MA2 Magadan 64.79 359 LR LR 09 27 16.4
comp=Z,69nm,18.9s,baz=196,slow=36
GTA Gaotai 66.45 317 eP P 08 59 05.4 +2.7
GTA pP sP 08 59 14.8 +7.6
GTA sP pP 08 59 19.2 +13
GTA PMZ
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 66.78 328 eP P 08 59 04.9 +0.3
comp=Z,7.3nm,1.2s
SONM Songino Array 67.11 328 P P 08 59 06.2 -0.6
comp=Z,2.0nm,0.6s,baz=151,slow=4.3,SNR=7.2
YAK Yakutsk 69.65 348 LR LR 09 28 34.1
comp=Z,20nm,18.7s,baz=144,slow=35
GUN Gumba 72.89 301 eP P 08 59 42.1 -0.8
comp=Z,22nm,0.9s
DMN Daman 73.47 301 eP P 08 59 45.5 -0.8
BILL Bilibino 73.82 5 eP P 08 59 47.3 +0.1
comp=Z,5.5nm,0.7s
GKN Gorkha 73.97 301 eP P 08 59 48.1 -1.0
comp=Z,19nm,0.7s
KOLN Koldanda 74.80 301 eP P 08 59 53.0 -1.0
comp=Z,12nm,0.6s
PYUN Piuthan 75.40 301 eP P 08 59 56.3 -1.2
WMQ Urumqi 76.54 317 eP P 09 00 03.8 +0.4
WMQ pP PcP 09 00 13.4 -1.6
WMQ sP sP 09 00 18.8 +11
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,45nm,4.6s
WMQ LN
comp=Z,54nm,22.6s
TIXI Tiksi 78.55 352 P P 09 00 12.7 -1.2
comp=Z,3.6nm,0.8s,baz=122,slow=7.9,SNR=10.0
TIXI Tiksi 78.55 352 eP P 09 00 13.6 -0.4
comp=Z,11nm,1.2s
MK01 Makanchi Array 81.11 319 eP P 09 00 27.9 -0.5
MK31 Makanchi Array 81.12 319 eP P 09 00 28.4 -0.1
MKAR Makanchi Array 81.12 319 P P 09 00 28.1 -0.4
comp=Z,1.6nm,0.6s,baz=103,slow=5.2,SNR=9.2
MKAR Makanchi Array 81.12 319 eP P 09 00 28.5 -0.1
MCK McKinley 81.19 22 eP P 09 00 28.1 -0.4
comp=Z,16nm,1.2s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	81.94	326	eP	P	09 00 31.3	-1.3
ZAA0				eP	P	09 00 31.7	-0.9
ZALV	Zalesovo Beam	81.94	326	P	P	09 00 31.6	-1.0
	comp=Z,4.7nm,0.5s,baz=112,slow=5.5,SNR=15						
CCB	Clear Creek Bu	82.09	22	eP	P	09 00 32.3	-0.9
	comp=Z,9.1nm,1.5s						
ILAR	Eielson Array	82.50	22	P	P	09 00 33.8	-1.5
	comp=Z,1.3nm,0.8s,baz=248,slow=5.2,SNR=12						
ILAR				LR	LR	09 35 03.4	
	comp=Z,46nm,19.0s,baz=266,slow=34						
ILB	Eielson Array	82.50	22	eP	P	09 00 34.0	-1.4
IL1	Eielson Array	82.50	22	eP	P	09 00 33.5	-1.8
KSH	Kashi	83.73	311	P	P	09 00 43.7	+1.3
KSH				pP	sP	09 00 55.7	+8.7
KSH				PP	PP	09 04 01.1	+5.6
KSH				S	S	09 11 07.5	+1.8
KSH				SS	SS	09 16 35.9	+3.1
KSH				PMZ			
	comp=Z,3.0nm,0.5s						
KSH				PMZ			
	comp=Z,40nm,2.9s						
KSH				LN			
	comp=Z,220nm,7.9s						
KSH				LE			
	comp=Z,140nm,8.2s						
QSPA	South Pole Qui	84.58	180	eP	P	09 00 49.5	+3.3
	comp=Z,3.9nm,0.8s						
TKM2	Tokmak 2	84.73	314	eP	P	09 00 47.4	-0.1
	comp=Z,5.3nm,0.9s						
MAW	Mawson	85.24	203	LR	LR	09 36 56.7	
	comp=Z,40nm,18.5s,baz=61,slow=34						
AAK	Ala-Archa	85.46	313	P	P	09 00 50.8	-0.4
	comp=Z,4.9nm,0.8s,baz=131,slow=3.3,SNR=11						
AAK	Ala-Archa	85.46	313	eP	P	09 00 50.9	-0.4
	comp=Z,5.5nm,0.8s						
AAK				eP	P	09 00 51.5	+0.3
EKS2	Erkin-Say	85.98	313	eP	P	09 00 52.2	-1.6
	comp=Z,5.7nm,0.9s						
NRIK	Noril'sk	86.69	341	P	P	09 00 56.2	-0.2
	comp=Z,3.5nm,0.5s,baz=124,slow=5.3,SNR=5.7						
NRIK				LR	LR	09 39 00.6	
	comp=Z,36nm,20.7s,baz=110,slow=35						
BVAR	Borovoye Array	90.03	323	P	P	09 01 11.2	-1.5
	comp=Z,5.9nm,0.7s,baz=104,slow=6.3,SNR=28						
ZRNK	Zerenda	90.85	323	eP	P	09 01 14.8	-1.7
	comp=Z,5.3nm,1.0s						
NVAR	Mina Array Bea	92.02	52	LR	LR	09 36 18.5	
	comp=Z,63nm,19.7s,baz=270,slow=31						
SYO	Syowa Base	93.30	199	⇑eP	P	09 01 28.7	+1.2
YKA	Yellowknife Ar	95.69	28	P	P	09 01 36.7	-1.8
	comp=Z,0.6nm,0.9s,baz=273,slow=4.9,SNR=5.5						
YHB	Horse Butte	97.64	46	eP	P	09 01 47.4	-0.8
YMC	Maple Creek	97.77	46	eP	P	09 01 45.5	-3.2
YPM	Purple Mountai	97.87	46	eP	P	09 01 47.8	-1.5
YHH	Holmes Hill	97.88	46	eP	P	09 01 46.2	-3.1
PDAR	Pinedale Array	98.84	48	LR	LR	09 43 31.8	
	comp=Z,81nm,18.4s,baz=275,slow=34						
KIS	Kishinev	117.02	321	e	PKPpre	09 06 44.0	
CLL	Collm	123.62	331	ePKPdf	PKPdf	09 07 10.0	-0.7
GERES	GERESS Array B	124.83	329	PKP	PKPdf	09 07 12.7	-0.5
	comp=Z,0.7nm,0.4s,baz=85,slow=1.5,SNR=6.0						
LPAZ	La Paz	133.66	118	PKP	PKPdf	09 07 30.1	-1.4
	comp=Z,0.8nm,0.6s,baz=243,slow=5.5,SNR=5.2						
CPUP	Villa Florida	136.66	138	PKP	PKPdf	09 07 37.5	+1.3
	comp=Z,1.2nm,1.0s,baz=152,slow=7.6,SNR=3.3						
BDFB	Brasilia	150.27	135	PKPbc	PKPbc	09 08 05.9	+0.5
	comp=Z,6.7nm,0.8s,baz=285,slow=5.0,SNR=9.6						
TORD	Torodi Ar. Bea	151.00	287	PKPbc	PKPdf	09 08 05.9	+4.6
	comp=Z,6.0nm,0.8s,baz=70,slow=2.2,SNR=37						

*IDC **01** 08:53:47.0±2.5, 53.°57N×87.°71E, h0km, mb1 3.4/3, mb1mx3.1/39, mbtmp3.4/3, ML3.1/3, Error ellipse: s-maj=21.8km s-min=13.1km az=63.0*
*NNC **01** 08:53:48.0±3.4, 53.°55N×87.°58E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=26.2km s-min=22.0km az=12.0*
ISC 01 08:53:49.8±3.8**, 53.°7N**±0.°1×**87.°7E**±0.°2**, h35km, n8, σ1.s24**/13**, 7C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.73	279	i		09 05 25.0	
	baz=98,slow=317,SNR=12						
ZALV	Zalesovo Beam	1.73	279	Pg	Pn	08 54 18.3	+1.0
	6.0nm,0.3s,baz=100,slow=16,SNR=21						
ZALV				Lg	Lg	08 54 43.6	
	6.0nm,0.3s,baz=105,slow=26,SNR=5.1						
KURK	Kurchatov	6.35	245	⇓Pn	Pn	08 55 21.4	+0.7
	2.2nm,0.6s						
KURK				⇑Sn	Sn	08 56 32.3	+0.4
	3.1nm,0.6s						
KURK				⇑Lg	Lg	08 57 09.1	
	15nm,0.8s						
KURBB	Kurchatov Arra	6.44	245	Pn	Pn	08 55 23.0	+0.9
	0.3nm,0.3s,baz=62,slow=14,SNR=24						
KURBB				Sn	Sn	08 56 35.2	+0.9
	0.1nm,0.3s,baz=59,slow=28,SNR=3.4						
KURBB				Lg	Lg	08 57 09.2	
	0.0nm,0.3s,baz=64,slow=34,SNR=4.4						
KURBB	Kurchatov Arra	6.44	245	⇑Pn	Pn	08 55 22.4	+0.3
	4.0nm,0.5s						
KURBB				⇑Sn	Sn	08 56 35.4	+1.1
	4.9nm,0.7s						
KURBB				⇑Lg	Lg	08 57 13.0	
	12nm,0.8s						
MK31	Makanchi Array	7.76	209	⇑Pn	Pn	08 55 39.3	-0.9
	0.1nm,0.2s,baz=28,slow=13,SNR=4.1						
MK31				⇑Sn	Sn	08 57 07.0	+0.3
	0.7nm,0.6s						
MK31				⇓Lg	Lg	08 57 50.8	
	2.9nm,0.8s,baz=32,slow=28,SNR=4.1						
MKAR	Makanchi Array	7.76	209	Pn	Pn	08 55 40.1	-0.1
	0.2nm,0.3s,baz=25,slow=13,SNR=7.1						
MKAR				Sn	Sn	08 57 06.5	-0.2
	0.3nm,0.3s,baz=68,slow=29,SNR=4.1						
MKAR				Lg	Lg	08 57 48.1	
	0.1nm,0.3s,baz=27,slow=32,SNR=5.4						
BVAR	Borovoye Array	10.38	273	Pn	Pn	08 56 16.6	+0.6
	0.4nm,0.3s,baz=76,slow=13,SNR=4.9						
BVAR				Sn	Sn	08 58 07.8	-3.1
	0.3nm,0.3s,baz=236,slow=37,SNR=3.1						

*ISK **01** 08:58:45.4, 37.°29N×28.°19E, h4km, MD2.5*
*ISCJB **01** 08:58:47.0±0.6, 37.°27N±0.°03×28.°22E±0.°03, h0km, Error ellipse: s-maj=4.8km s-min=3.6km az=29.5*
*CSEM **01** 08:58:47.0±0.3, 37.°27N×28.°23E, h1km, MD2.5, Error ellipse: s-maj=6.2km s-min=4.8km az=24.0, Suspected Mining explosion.*
*DDA **01** 08:59:42.9, 37.°23N×28.°24E, h2km, Md2.7, Suspected Mining explosion.*
ISC 01 08:58:46.9±1.1**, 37.°28N**±0.°03×**28.°22E**±0.°02**, h0km, n15, σ0.s84**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.15	161	ePG	Pg	08 58 49.5	-0.3
YER				eSG	Sg	08 58 53.5	+1.7
YER	Yerkesik	0.15	161	ePg	Pg	08 58 49.5	-0.3
YER				eSg	Sg	08 58 53.5	+1.7
AYDN	Tasoluk	0.47	325	P	Pg	08 58 56.8	+1.0
AYDN				S	Sb	08 59 04.5	-1.0
AYDN	Tasoluk	0.47	325	i P	Pg	08 58 56.8	+1.0
AYDN				i S	Sb	08 59 04.5	-1.0
TURN	Turunc	0.51	143	i P	Pg	08 58 55.8	-0.9
TURN				i S	Sg	08 59 04.2	+1.0
DALY	Dalyan (Mu˜la	0.58	143	ePG	Pg	08 58 57.8	-0.2
DALY				eSG	Sg	08 59 06.5	+1.1
DALY	Dalyan (Mu˜la	0.58	143	ePg	Pg	08 58 57.8	-0.2
DALY				eSg	Sg	08 59 06.5	+1.1
BDRM	Kayabasi	0.66	251	P	Pg	08 58 59.2	-0.2
BDRM				S	Sb	08 59 10.5	-0.3
BDRM	Kayabasi	0.66	251	i P	Pg	08 58 59.2	-0.2
BDRM				i S	Sb	08 59 10.5	-0.3
BODT	Bodrum	0.76	254	ePG	Pg	08 59 00.8	-0.6
BODT				eSG	Sg	08 59 11.2	0.0
BODT	Bodrum	0.76	254	ePg	Pg	08 59 00.8	-0.6
BODT				eSg	Sg	08 59 11.2	0.0
DNZL	Cakiroluk	0.78	58	P	Pg	08 59 01.3	-0.4
DNZL				S	Sb	08 59 13.4	-1.1
DNZL	Cakiroluk	0.78	58	i P	Pg	08 59 01.3	-0.4
DNZL				i S	Sb	08 59 13.4	-1.1
FETY	Fethiye	0.95	133	ePG	Pg	08 59 05.1	+0.1
FETY	Fethiye	0.95	133	ePg	Pg	08 59 05.1	+0.1

*ISK **01** 09:10:57.5, 39.°10N×29.°12E, h6km, MD2.7*
*ISCJB **01** 09:10:58.0±0.5, 39.°10N±0.°03×29.°12E±0.°03, h6km±5km, Error ellipse: s-maj=4.5km s-min=3.9km az=136.8*
*DDA **01** 09:10:58.0, 39.°11N×29.°13E, h7km, Md2.9*
*CSEM **01** 09:10:58.2±0.1, 39.°10N×29.°12E, h8km, MD2.9, Error ellipse: s-maj=2.0km s-min=1.7km az=83.0*
ISC 01 09:10:58.3±0.9**, 39.°10N**±0.°02×**29.°13E**±0.°02**, h14km**±8km**, n33, σ0.s42**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.28	93	P	Pg	09 11 04.3	+0.1
GDZ				S	Sg	09 11 08.2	0.0
GDZ	Gediz	0.28	93	i P	Pg	09 11 04.3	+0.1
GDZ				i S	Sg	09 11 08.2	0.0
DEMI	Demirci	0.33	259	P	Pg	09 11 05.1	+0.1
DEMI				S	Sg	09 11 09.6	0.0
DEMI	Demirci	0.33	259	i P	Pg	09 11 05.1	+0.1
DEMI				i S	Sg	09 11 09.6	0.0
TVSB	Tavsanli	0.43	37	PG	Pg	09 11 06.6	-0.3
TVSB				eSG	Sg	09 11 12.5	-0.3
TVSB	Tavsanli	0.43	37	i Pg	Pg	09 11 06.6	-0.3
TVSB				eSg	Sg	09 11 12.5	-0.3
DST	Dursunbey	0.64	322	ePG	Pg	09 11 10.6	-0.1
DST				eSG	Sg	09 11 19.1	-0.1
DST	Dursunbey	0.64	322	ePg	Pg	09 11 10.6	-0.1
DST				eSg	Sg	09 11 19.1	-0.1
KULA	Kula-Manisa	0.69	212	ePG	Pg	09 11 11.2	-0.6
KULA				eSG	Sg	09 11 21.0	+0.1
KULA	Kula-Manisa	0.69	212	ePg	Pg	09 11 11.2	-0.6
KULA				eSg	Sg	09 11 21.0	+0.1
KHAL	Karahalli	0.79	159	P	Pb	09 11 13.8	0.0
KHAL				S	Sg	09 11 24.0	+0.1
KHAL	Karahalli	0.79	159	i P	Pb	09 11 13.8	0.0
KHAL				i S	Sg	09 11 24.0	+0.1
KHL	Karahalli	0.84	158	ePG	Pg	09 11 14.0	-0.5
KHL	Karahalli	0.84	158	ePg	Pg	09 11 14.0	-0.5
ORLT	Orhaneli	0.96	349	ePG	Pb	09 11 16.4	-0.2
ORLT	Orhaneli	0.96	349	ePg	Pb	09 11 16.5	-0.2
AKHS	Akhisar	1.05	258	P	Pg	09 11 18.6	+0.1
AKHS				S	Sg	09 11 32.3	+0.1
AKHS	Akhisar	1.05	258	i P	Pg	09 11 18.6	+0.1
AKHS				i S	Sg	09 11 32.3	+0.1
BALB	Balikesir	1.10	299	ePN	Pg	09 11 19.6	0.0
BALB	Balikesir	1.10	299	ePn	Pg	09 11 19.6	0.0
IGD	Bursa	1.16	3	i P	Pb	09 11 19.6	-0.6
IGD				i S	Sn	09 11 36.3	+0.5
CAVI	Cavuskoy	1.23	26	ePN	Pb	09 11 21.6	+0.3
IZI	Iznik	1.26	12	ePN	Pg	09 11 22.4	-0.2
MDNY	Mudanya-Bursa	1.28	352	ePN	Pb	09 11 22.2	+0.1
MDNY	Mudanya-Bursa	1.28	352	ePn	Pb	09 11 22.2	+0.1
KCTX	Karacabey (Bur	1.30	333	ePN	Pg	09 11 23.2	-0.2
KCTX	Karacabey (Bur	1.30	333	ePn	Pg	09 11 23.2	-0.2
BALY	Balya	1.33	299	P	Pb	09 11 23.2	+0.2
BALY				S	Sb	09 11 38.6	-1.4
BALY	Balya	1.33	299	i P	Pb	09 11 23.2	+0.2
BALY				i S	Sb	09 11 38.6	-1.4
ARMT	Armutlu	1.47	352	ePN	Pb	09 11 25.4	-0.1
ARMT	Armutlu	1.47	352	ePn	Pb	09 11 25.4	-0.1
GULT	Gulveren	1.70	38	ePN	Pn	09 11 28.6	+0.9
GULT	Gulveren	1.70	38	ePn	Pn	09 11 28.6	+0.9

*NIED **01** 09:13:00, 39.°90N×143.°50E, h26km, Mw3.7 Best double couple: M0 4.70000×10^14 NP1:φs193.00000°, δ32.00000°, λ82.00000°. NP2:φs23.00000°, δ58.00000°, λ95.00000°.*
*IDC **01** 09:13:37.1±1.1, 39.°18N×145.°64E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.6/42, mbtmp3.7/10, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/44, Error ellipse: s-maj=29.8km s-min=20.0km az=79.0*
*ISCJB **01** 09:13:50.8±1.1, 39.°80N±0.°06×143.°5E±0.°1, h6km, mb3.6/7, MS3.2/1, Error ellipse: s-maj=13.0km s-min=5.1km az=30.8*
*JMA **01** 09:13:52.8±0.2, 39.°87N×143.°46E, h22km, M3.7*
ISC 01 09:13:53.2±1.6**, 39.°85N**±0.°07×**143.°3E**±0.°1**, h6km, n22, σ0.s72**/21**, mb3.6**/7**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.13	275	P	Pg	09 14 14.8	0.0
JTH				eS	Sn	09 14 30.7	-0.6
MIYJ	Miyakonagasawa	1.19	257	P	Pg	09 14 16.0	0.0
JANG	Nango	1.48	291	P	Pn	09 14 20.0	-0.4
JOM	Ohasama	1.61	257	P	Pn	09 14 22.6	+0.4
JMK	Ichinoseki	1.86	242	P	Pn	09 14 25.4	-0.2
JMK				eS	Sn	09 14 49.8	+0.4
JTM	Tenmabayashi	1.96	299	P	Pn	09 14 27.7	+0.7
JNBK	Urakawa-nobuka	2.47	350	P	Pn	09 14 35.1	+1.2
JYK	Kaneyama	2.48	249	P	Pn	09 14 34.9	+0.8
JCH	Churui	2.76	1	P	Pn	09 14 37.9	-0.1
JCH				eS	Sn	09 15 10.3	-1.3
ASAJ	Asahikawa	4.30	353	Pn	Pn	09 15 00.2	+1.2
	baz=90,slow=20						
ASAJ				Sn	Sn	09 15 50.0	+0.5
	0.6nm,0.3s,baz=180,slow=20,SNR=3.2						
MJAR	Matsushiro Arr	5.21	232	Pn	Pn	09 15 11.2	-0.5
	2.1nm,0.3s,baz=40,slow=11,SNR=15						
MAT	Matsushiro	5.21	232	P	Pn	09 15 11.9	+0.3
MAT				eS	Sn	09 16 13.3	+1.3
USRK	Ussuriysk Ar.	9.49	301	Pn	Pn	09 16 15.2	+4.9
	0.3nm,0.3s,baz=94,slow=13,SNR=4.7						
KLR	Kul'dur	12.48	323	Pn	Pn	09 17 00.5	+9.3
	0.2nm,0.3s,baz=131,slow=11,SNR=6.5						
GUMO	Guam	26.19	177	LR	LR	09 27 25.3	
	comp=Z,68nm,19.9s,baz=333,slow=32						
SONM	Songino Array	27.59	299	P	P	09 19 41.4	+0.2
	0.9nm,0.7s,baz=99,slow=8.5,SNR=4.7						
ZALV	Zalesovo Beam	41.19	310	P	P	09 21 38.1	-0.2
	1.6nm,0.4s,baz=80,slow=8.0,SNR=4.2						
MKAR	Makanchi Array	43.95	300	P	P	09 22 00.6	-0.3
	0.4nm,0.4s,baz=75,slow=9.4,SNR=4.6						
ILAR	Eielson Array	46.32	34	P	P	09 22 00.0	-19
	0.4nm,0.8s,baz=270,slow=8.8,SNR=3.1						
BVAR	Borovoye Array	49.83	311	P	P	09 22 46.0	-0.7
	0.8nm,0.6s,baz=64,slow=6.8,SNR=4.9						
WRA	Warramunga Arr	60.07	190	P	P	09 23 45.7	-15
	0.5nm,0.6s,baz=13,slow=7.6,SNR=6.7						
ASAR	Alice Springs	63.80	190	P	P	09 24 07.7	-18
	0.1nm,0.4s,baz=354,slow=7.4,SNR=2.9						

*CSEM **01** 09:25:57.5, 39.°11N×29.°02E, h7km, MD2.9*
DDA 01 09:25:57.5, 39.°11N×29.°02E, h7km, Md2.9, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.24	254	P	Pg	09 26 03.3	+0.9
DEMI				S	Sg	09 26 06.7	+1.0
DEMI	Demirci	0.24	254	i P	Pg	09 26 03.3	+0.9
DEMI				i S	Sg	09 26 06.7	+1.0
GDZ	Gediz	0.36	93	P	Pg	09 26 05.4	+0.8
GDZ				S	Sg	09 26 10.4	+1.0
GDZ	Gediz	0.36	93	i P	Pg	09 26 05.4	+0.7
GDZ				i S	Sg	09 26 10.4	+1.0
KHAL	Karahalli	0.83	153	P	Pb	09 26 15.0	+0.7
KHAL				S	Sb	09 26 25.0	-0.7
KHAL	Karahalli	0.83	153	i P	Pb	09 26 15.0	+0.7
KHAL				i S	Sb	09 26 25.0	-0.7
AKHS	Akhisar	0.97	256	P	Pn	09 26 17.5	-0.1
AKHS				S	Sb	09 26 30.3	+0.7
AKHS	Akhisar	0.97	256	i P	Pn	09 26 17.5	-0.1
AKHS				i S	Sb	09 26 30.3	+0.7
BORA	Eskisehir	1.35	55	P	Pg	09 26 23.6	+0.2
BORA				S	Sn	09 26 41.8	+0.6
BORA	Eskisehir	1.35	55	i P	Pg	09 26 23.6	+0.2
BORA				i S	Sn	09 26 41.8	+0.6

*DHMR **01** 09:26:16.9±1.4, 14.°80N×42.°10E, h2km±13km, ML4.3*
*CSEM **01** 09:26:16.9, 14.°80N×42.°10E, h2km, ML4.3*
*IDC **01** 09:26:20.4±1.0, 14.°72N×42.°22E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/55, mbtmp3.8/8, ML3.5/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/34, Error ellipse: s-maj=27.9km s-min=17.0km az=86.0*
ISC 01 09:26:20.8±2.0**, 14.°77N**±0.°05×**42.°27E**±0.°06**, h3km**±13km**, n21, σ1.s01**/31**, mb4.1**/7**, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAJJ	Hajjah	1.59	54	i P	Pn	09 26 48.4	-1.6
HAJJ				i S	Sg	09 27 12.0	+0.1
HAJJ	Hajjah	1.59	54	i P	Pn	09 26 48.4	-1.6
HAJJ				i S	Sg	09 27 12.0	+0.1
UDYN	Al 'Udayn	1.83	115	i P	Pn	09 26 52.7	-0.6
UDYN				i S	Sg	09 27 21.7	+2.0
SANA	San'a	1.97	72	i P	Pn	09 26 55.5	+0.1
SANA				i S	Sg	09 27 23.6	-0.7
DHBB	Dhamar BB	2.07	95	i P	Pn	09 26 56.8	+0.1
DHBB				i S	Sg	09 27 27.4	+0.1
DHBB				AML	AML	09 27 36.2	
	comp=N,3µm,0.7s						
DHBB	Dhamar BB	2.07	95	i P	Pn	09 26 56.8	+0.1
DHBB				i S	Sg	09 27 27.4	+0.1
	comp=N,1µm,0.7s						
TRBA	At Turbah	2.36	130	i P	Pn	09 26 59.8	-0.8
TRBA				i S	Sg	09 27 35.3	-1.3
ATD	Arta Tunnel	3.27	170	Pn	Pn	09 27 12.1	-0.8
	comp=N,4.9nm,0.3s,baz=139,slow=18,SNR=8.3						
ATD				Pg	Pg	09 27 23.7	+0.3
	comp=N,14nm,0.3s,baz=332,slow=15,SNR=30						
ATD				Lg	Lg	09 28 03.1	
	comp=N,41nm,0.3s,baz=281,slow=23,SNR=9.0						
BDHA	Al Bayda'	3.29	103	i P	Pn	09 27 14.7	+1.2
BDHA				i S	Sb	09 27 59.8	-0.9
BDHA				AML	AML	09 28 13.3	
	comp=N,2µm,0.5s						
BDHA	Al Bayda'	3.29	103	i P	Pn	09 27 14.7	+1.2
BDHA				i S	Sb	09 27 59.8	-0.9
	comp=N,815nm,0.5s						
ADEN	Aden	3.30	127	i P	Pn	09 27 13.9	+0.5
ADEN				i S	Sb	09 27 58.7	-1.9
ADEN				AML	AML	09 28 26.6	
	comp=E,1µm,0.7s						
ADEN	Aden	3.30	127	i P	Pn	09 27 13.9	+0.5
ADEN				i S	Sb	09 27 58.7	-1.9
	comp=E,500nm,0.7s						
MMAI	Mount Meron Ar	19.21	342	LR	LR	09 37 11.5	
	comp=E,20nm,19.5s,baz=105,slow=34						
BRTR	Keskin Array B	25.99	345	LR	LR	09 40 37.0	
	comp=E,24nm,20.5s,baz=166,slow=33						
TORD	Torodi Ar. Bea	39.37	273	P	P	09 33 51.8	-0.2
	comp=E,1.0nm,1.1s,baz=88,slow=7.4,SNR=4.0						
GERES	GERESS Array B	41.29	331	P	P	09 34 07.8	+0.3
	comp=E,0.8nm,0.6s,baz=128,slow=7.6,SNR=6.7						
MKAR	Makanchi Array	46.13	38	P	P	09 34 47.6	+1.1
	comp=E,1.4nm,0.8s,baz=214,slow=4.9,SNR=8.8						
KURBB	Kurchatov Arra	46.20	31	P	P	09 34 47.6	+0.7
	comp=E,0.9nm,0.8s,baz=232,slow=8.2,SNR=5.9						
FINES	FINESS Array B	48.05	350	P	P	09 35 01.0	-0.1
	comp=E,1.2nm,0.8s,baz=38,slow=7.0,SNR=2.3						
ZALV	Zalesovo Beam	51.28	31	P	P	09 35 25.6	-0.3
	comp=E,1.8nm,0.6s,baz=241,slow=7.2,SNR=5.5						
SONM	Songino Array	61.87	43	P	P	09 36 42.4	+0.8
	comp=E,1.0nm,0.7s,baz=243,slow=5.9,SNR=4.0						

IDC 01 09:26:24.6±0.6**, 14.°13N×144.°77E, h133km**±4km**, mb3.3**/9**, mb1 3.5**/9**, mb1mx3.3**/60**, mbtmp3.7**/9**, Error ellipse: s-maj=28.1km s-min=13.3km az=86.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.55	170	P	Pn	09 26 46.2	+1.9
	951nm,0.3s,baz=143,slow=0.9,SNR=442						
GUMO				S	Sn	09 27 00.1	+0.9
	326nm,0.3s,baz=328,slow=20,SNR=8.5						
MJAR	Matsushiro Arr	23.07	346	P	P	09 31 19.3	+0.7
	0.7nm,0.5s,baz=168,slow=12,SNR=3.0						
WRA	Warramunga Arr	35.38	197	P	P	09 33 07.7	-0.1
	1.8nm,0.6s,baz=21,slow=9.9,SNR=29						
WRA				PcP	PcP	09 35 36.0	+1.0
	0.2nm,0.5s,baz=20,slow=3.1,SNR=2.8						
WRA				ScP	ScP	09 39 07.2	-1.4
	0.6nm,0.9s,baz=15,slow=3.8,SNR=3.6						
ASAR	Alice Springs	39.04	196	P	P	09 33 38.1	-0.5
	0.8nm,0.9s,baz=16,slow=6.6,SNR=11						
DZM	Mont Dzumac	41.79	149	P	P	09 34 02.1	+0.8
	4.4nm,0.6s,baz=328,slow=17,SNR=8.8						
STKA	Stephens Creek	45.85	184	P	P	09 34 33.1	-0.4
	0.8nm,0.4s,baz=26,slow=6.6,SNR=7.0						
MKAR	Makanchi Array	61.04	316	P	P	09 36 24.9	+0.6
	0.2nm,0.3s,baz=95,slow=7.7,SNR=2.6						
KURBB	Kurchatov Arra	64.15	320	P	P	09 36 43.5	-1.3
	0.4nm,0.4s,baz=100,slow=6.6,SNR=5.4						
ILAR	Eielson Array	68.12	25	P	P	09 37 09.1	-0.9
	0.1nm,0.5s,baz=247,slow=6.1,SNR=4.5						
YKA	Yellowknife Ar	82.42	27	P	P	09 38 31.8	0.0
	0.1nm,0.5s,baz=270,slow=4.3,SNR=3.0						
LPAZ	La Paz	148.20	98	PKPbc	PKPbc	09 45 55.1	-1.6
	0.5nm,0.8s,baz=243,slow=4.5,SNR=2.3						

*CSEM **01** 09:50:31.7±0.4, 37.°28N×31.°86E, h2km, MD3.1, Error ellipse: s-maj=9.7km s-min=6.5km az=82.0*
*DDA **01** 09:51:17.9, 37.°21N×31.°69E, h10km, Md3.1*
ISC 01 09:50:30.5±1.5**, 37.°26N**±0.°03×**31.°79E**±0.°06**, h6km**±12km**, n14, σ0.s56**/22**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUTC	Sutluce-Ispart	0.67	290	ePG	Pn	09 50 46.1	-0.5
SUTC	Sutluce-Ispart	0.67	290	ePg	Pn	09 50 46.1	-0.5
KONT	Konya--Tatoy	0.82	33	ePG	Pg	09 50 45.9	-0.4
KONT				eSG	Sg	09 50 57.6	+0.6
KONT	Konya--Tatoy	0.82	33	ePg	Pg	09 50 45.9	-0.4
KONT				eSg	Sg	09 50 57.6	+0.6
LADK	Ladik-KONYA	1.05	26	ePG	Pg	09 50 50.3	-0.3
LADK	Ladik-KONYA	1.05	26	ePg	Pg	09 50 50.3	-0.3
ERMK	Ermenek	1.09	124	S	Sb	09 51 06.5	+0.1
ERMK	Ermenek	1.09	124	i P	Pg	09 50 49.8	-1.6
ERMK				i S	Sb	09 51 06.5	+0.1
GAZI	Gazipasa	1.10	157	P	Pg	09 50 51.7	+0.1
GAZI				S	Sn	09 51 08.4	+0.3
GAZI	Gazipasa	1.10	157	i P	Pg	09 50 51.7	+0.1
GAZI				i S	Sn	09 51 08.4	+0.3
KDHN	Kadinhani	1.29	11	P	Pb	09 50 55.7	+0.4
KDHN				S	Sn	09 51 12.8	-0.1
KDHN	Kadinhani	1.29	11	i P	Pb	09 50 55.7	+0.4
KDHN				i S	Sn	09 51 12.8	-0.1
KERG	Konya-Eregli	1.87	84	P	Pb	09 51 05.3	+0.2
KERG	Konya-Eregli	1.87	84	i P	Pb	09 51 05.3	+0.2
KERG				i S	Sg	09 51 31.3	+0.8

*ISCJB **01** 10:00:13.2±0.6, 38.°37N±0.°03×28.°13E±0.°04, h6km±6km, Error ellipse: s-maj=5.7km s-min=4.6km az=40.3*
*DDA **01** 10:00:13.5, 38.°37N×28.°12E, h7km, Md2.6*
*CSEM **01** 10:00:13.5±0.1, 38.°37N×28.°13E, h8km, MD2.5, Error ellipse: s-maj=2.2km s-min=2.0km az=113.0*
*ISK **01** 10:00:13.9, 38.°52N×28.°19E, h5km, MD2.5*
ISC 01 10:00:13.4±1.1**, 38.°37N**±0.°03×**28.°11E**±0.°03**, h10km**±9km**, n16, σ0.s67**/32**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULA	Kula-Manisa	0.46	71	ePG	Pg	10 00 22.2	-0.2
KULA				eSG	Sg	10 00 28.4	-0.1
KULA	Kula-Manisa	0.46	71	ePg	Pg	10 00 22.2	-0.2
KULA				eSg	Sg	10 00 28.4	-0.1
AKHS	Akhisar	0.56	336	P	Pg	10 00 24.8	+0.4
AKHS				S	Sg	10 00 32.7	+0.9
AKHS	Akhisar	0.56	336	i P	Pg	10 00 24.8	+0.4
AKHS				i S	Sg	10 00 32.7	+0.9
AKS	Akhisar	0.56	336	ePG	Pg	10 00 24.0	-0.4
AKS				eSG	Sg	10 00 31.3	-0.5
AKS	Akhisar	0.56	336	ePg	Pg	10 00 24.0	-0.4
AKS				eSg	Sg	10 00 31.3	-0.5
AYDN	Tasoluk	0.73	194	P	Pg	10 00 27.6	+0.1
AYDN				S	Sg	10 00 37.4	+0.4
AYDN	Tasoluk	0.73	194	i P	Pg	10 00 27.6	+0.1
AYDN				i S	Sg	10 00 37.4	+0.4
DGB	˜zmir	1.01	252	i P	Pn	10 00 33.7	0.0
DGB				i S	Sg	10 00 43.4	-2.7
URLA	Izmir	1.19	270	P	Pg	10 00 36.7	+0.4
URLA				S	Sn	10 00 52.9	+0.4
URLA	Izmir	1.19	270	i P	Pg	10 00 36.7	+0.4
URLA				i S	Sn	10 00 52.9	+0.4
ZEY	˜zmir	1.27	265	i P	Pn	10 00 37.0	-0.3
ZEY				i S	Sb	10 00 54.0	+0.1
BALY	Balya	1.42	345	P	Pn	10 00 39.8	+0.3
BALY				S	Sn	10 00 57.7	-0.6
BALY	Balya	1.42	345	i P	Pn	10 00 39.8	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALY				*i* S	Sn	10 00 57.7	-0.6
TVSB	Tavsanli	1.51	44	*e*PN	Pn	10 00 40.9	+0.2
TVSB				*e*SN	Sn	10 01 00.4	-0.1
TVSB	Tavsanli	1.51	44	*e*Pn	Pn	10 00 40.9	+0.2
TVSB				*e*Sn	Sn	10 01 00.4	-0.1

*ISK **01** 10:08:51.9, 39°.07N×29°.09E, h6km, MD2.7*
*ISCJB **01** 10:08:52.5±0.5, 39°.10N±0°.03×29°.04E±0°.04, h5km±7km, Error ellipse: s-maj=5.6km s-min=4.6km az=143.7*
*DDA **01** 10:08:52.1, 39°.13N×29°.04E, h7km, Md2.7*
*CSEM **01** 10:08:52.6±0.1, 39°.10N×29°.05E, h5km, MD2.7, Error ellipse: s-maj=3.5km s-min=2.7km az=102.0*
ISC 01 10:08:52.5±0.9**, 39°.09N**±0°.02×**29°.05E**±0°.03**, h15**km±8km**, n25, σ0s.36**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.26	260	P	Pg	10 08 58.2	0.0
DEMI				S	Sg	10 09 01.9	-0.2
DEMI	Demirci	0.26	260	*i* P	Pg	10 08 58.2	0.0
DEMI				*i* S	Sg	10 09 01.9	-0.2
GDZ	Gediz	0.34	90	P	Pg	10 08 59.5	0.0
GDZ				S	Sg	10 09 04.5	+0.2
GDZ	Gediz	0.34	90	*i* P	Pg	10 08 59.5	0.0
GDZ				*i* S	Sg	10 09 04.5	+0.2
TVSB	Tavsanli	0.48	42	*e*PG	Pg	10 09 01.6	-0.5
TVSB				*e*SG	Sg	10 09 08.7	0.0
TVSB	Tavsanli	0.48	42	*e*Pg	Pg	10 09 01.6	-0.5
TVSB				*e*Sg	Sg	10 09 08.7	0.0
DST	Dursunbey	0.61	327	*e*PG	Pb	10 09 04.8	-0.2
DST	Dursunbey	0.61	327	*e*Pg	Pb	10 09 04.8	-0.2
KULA	Kula-Manisa	0.65	208	*e*PG	Pg	10 09 04.9	-0.3
KULA				*e*SG	Sg	10 09 14.3	+0.5
KULA	Kula-Manisa	0.65	208	*e*Pg	Pg	10 09 04.9	-0.3
KULA				*e*Sg	Sg	10 09 14.3	+0.5
KHAL	Karahalli	0.80	154	P	Pn	10 09 09.3	-0.1
KHAL				S	Sb	10 09 19.3	+0.4
KHAL	Karahalli	0.80	154	*i* P	Pn	10 09 09.3	-0.1
KHAL				*i* S	Sb	10 09 19.3	+0.4
KHL	Karahalli	0.85	154	*e*PG	Pg	10 09 08.2	-0.9
KHL	Karahalli	0.85	154	*e*Pg	Pg	10 09 08.2	-0.9
IGD	Bursa	1.18	6	*i* P	Pb	10 09 14.1	-0.6
IGD				*i* S	Sb	10 09 29.4	-0.3
CAVI	Cavuskoy	1.27	29	*e*PN	Pb	10 09 16.5	+0.3
CAVI	Cavuskoy	1.27	29	*e*Pn	Pb	10 09 16.5	+0.3
IZI	Iznik	1.29	15	*e*PN	Pg	10 09 17.1	-0.2
IZI	Iznik	1.29	15	*e*Pn	Pg	10 09 17.1	-0.2
KCTX	Karacabey (Bur	1.29	336	*e*PN	Pg	10 09 17.4	+0.1
KCTX	Karacabey (Bur	1.29	336	*e*Pn	Pg	10 09 17.5	+0.1
BORA	Eskisehir	1.34	54	P	Pb	10 09 17.9	+0.4
BORA				S	Sg	10 09 36.0	+0.1
BORA	Eskisehir	1.34	54	*i* P	Pb	10 09 17.9	+0.4
BORA				*i* S	Sg	10 09 36.0	+0.1
ARMT	Armutlu	1.48	355	*e*PN	Pb	10 09 20.0	+0.2
ARMT	Armutlu	1.48	355	*e*Pn	Pb	10 09 20.0	+0.2

*ISK **01** 10:09:36.8, 39°.13N×29°.02E, h7km, MD2.7*
*DDA **01** 10:09:36.8, 39°.17N×28°.98E, h7km, Md2.8*
*ISCJB **01** 10:09:37.1±0.5, 39°.13N±0°.03×28°.99E±0°.03, h4km±6km, Error ellipse: s-maj=5.4km s-min=4.2km az=175.5*
*CSEM **01** 10:09:37.3±0.1, 39°.13N×29°.00E, h5km, MD2.8, Error ellipse: s-maj=1.8km s-min=1.5km az=48.0*
ISC 01 10:09:37.2±0.9**, 39°.13N**±0°.02×**28°.99E**±0°.02**, h13**km±8km**, n37, σ0s.24**/50**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.23	247	P	Pg	10 09 42.3	0.0
DEMI				S	Sg	10 09 45.5	-0.1
DEMI	Demirci	0.23	247	*i* P	Pg	10 09 42.3	0.0
DEMI				*i* S	Sg	10 09 45.5	-0.1
GDZ	Gediz	0.39	96	P	Pg	10 09 45.1	+0.1
GDZ				S	Sg	10 09 50.6	+0.4
GDZ	Gediz	0.39	96	*i* P	Pg	10 09 45.1	+0.1
GDZ				*i* S	Sg	10 09 50.6	+0.4
TVSB	Tavsanli	0.48	49	*e*PG	Pg	10 09 46.6	-0.2
TVSB				*e*SG	Sg	10 09 53.2	-0.1
TVSB	Tavsanli	0.48	49	*e*Pg	Pg	10 09 46.6	-0.2
TVSB				*e*Sg	Sg	10 09 53.2	-0.1
DST	Dursunbey	0.55	329	*e*PG	Pb	10 09 48.5	-0.3
DST	Dursunbey	0.55	329	*e*Pg	Pb	10 09 48.5	-0.3
KULA	Kula-Manisa	0.67	203	*e*PG	Pg	10 09 50.2	0.0
KULA	Kula-Manisa	0.67	203	*e*Pg	Pg	10 09 50.2	0.0
KHAL	Karahalli	0.86	153	P	Pb	10 09 54.0	0.0
KHAL				S	Sg	10 10 05.1	+0.1
KHAL	Karahalli	0.86	153	*i* P	Pb	10 09 54.0	0.0
KHAL				*i* S	Sg	10 10 05.1	+0.1
KHL	Karahalli	0.91	153	*e*PG	Pg	10 09 54.4	-0.4
KHL	Karahalli	0.91	153	*e*Pg	Pg	10 09 54.4	-0.4
ORLT	Orhaneli	0.92	355	*e*PG	Pg	10 09 54.5	-0.4
ORLT	Orhaneli	0.92	355	*e*Pg	Pg	10 09 54.6	-0.4
BALB	Balikesir	1.00	301	*e*PG	Pn	10 09 56.9	0.0
BALB	Balikesir	1.00	301	*e*Pg	Pn	10 09 56.9	0.0
IGD	Bursa	1.14	8	*i* P	Pb	10 09 58.1	-0.8
IGD				*i* S	Sn	10 10 14.6	+0.2
BALY	Balya	1.22	300	P	Pg	10 10 00.8	0.0
BALY				S	Sb	10 10 15.9	0.0
BALY	Balya	1.22	300	*i* P	Pg	10 10 00.8	0.0
BALY				*i* S	Sb	10 10 15.9	0.0
KCTX	Karacabey (Bur	1.23	337	*e*PN	Pg	10 10 01.3	+0.3
KCTX	Karacabey (Bur	1.23	337	*e*Pn	Pg	10 10 01.3	+0.3
MDNY	Mudanya-Bursa	1.24	356	*e*PN	Pg	10 10 01.1	0.0
MDNY	Mudanya-Bursa	1.24	356	*e*Pn	Pg	10 10 01.1	0.0
CAVI	Cavuskoy	1.25	31	*e*PN	Pb	10 10 01.1	+0.3
CAVI	Cavuskoy	1.25	31	*e*Pn	Pb	10 10 01.1	+0.3
IZI	Iznik	1.26	17	*e*PN	Pg	10 10 01.2	-0.3
IZI	Iznik	1.26	17	*e*Pn	Pg	10 10 01.2	-0.3
BORA	Eskisehir	1.36	56	P	Pb	10 10 02.4	-0.1
BORA				S	Sg	10 10 21.2	+0.2
BORA	Eskisehir	1.36	56	*i* P	Pb	10 10 02.4	-0.1
BORA				*i* S	Sg	10 10 21.2	+0.2
GONE	Gonen-Balikesi	1.36	313	*e*PN	Pg	10 10 03.2	-0.2
GONE	Gonen-Balikesi	1.36	313	*e*Pn	Pg	10 10 03.2	-0.2
ARMT	Armutlu	1.44	356	*e*PN	Pb	10 10 04.0	+0.1
ARMT	Armutlu	1.44	356	*e*Pn	Pb	10 10 04.0	+0.1
EDC	Edincik	1.49	325	*e*PN	Pb	10 10 05.0	+0.2
EDC	Edincik	1.49	325	*e*Pn	Pb	10 10 05.0	+0.2

*IDC **01** 10:23:34.9±0.8, 39°.36N×54°.61E, h0km, mb4.0/17, mb1 4.2/26, mb1mx4.1/45, mbtmp4.1/26, ML4.0/8, MS3.1/18, Ms1 3.2/18, ms1mx3.0/55, Error ellipse: s-maj=16.5km s-min=8.0km az=179.0*
*NEIC **01** 10:23:37.2±0.3, 39°.58N×54°.72E, h10km, mb4.2/12, MN4.4(TEH), Error ellipse: s-maj=6.3km s-min=4.3km az=181.0*
NEIC Felt at Turkmenbasy.
*MOS **01** 10:23:37.2±1.4, 39°.80N×54°.78E, h16km, mb4.5/18, Error ellipse: s-maj=6.7km s-min=5.2km az=35.5*
*CSEM **01** 10:23:37.6±0.1, 39°.67N×54°.80E, h10km, mb4.5/8, Error ellipse: s-maj=5.2km s-min=3.5km az=3.0*
*ISCJB **01** 10:23:38.4±0.2, 39°.66N±0°.02×54°.73E±0°.02, h29km, mb4.1/26, MS3.2/12, Error ellipse: s-maj=3.6km s-min=2.2km az=8.2*
*AZER **01** 10:23:41.7±0.0, 39°.35N×54°.03E, h5km, Error ellipse: s-maj=1.9km s-min=1.5km az=33.0*
*TEH **01** 10:23:43.0, 39°.58N×54°.81E, h40km, ML4.4*
*NNC **01** 10:23:44.7±4.5, 40°.13N×55°.52E, h0km, mb4.6, mpv4.9, Error ellipse: s-maj=46.5km s-min=18.0km az=71.0*
ISC 01 10:23:39.6±0.4**, 39°.70N**±0°.04×**54°.81E**±0°.03**, h29**km**, n246, σ2s.45**/311**, mb4.2**/29**, MS3.1**/12**, 37C-52D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	3.13	123	Pn	Pn	10 24 27.1	0.0
	55nm,0.3s,baz=306,slow=16,SNR=149						
GEYT				Sn	Sn	10 25 02.9	-0.6
	54nm,0.3s,baz=313,slow=18,SNR=6.4						
GEYT				Lg	Lg	10 25 16.9	
	43nm,0.3s,baz=281,slow=16,SNR=4.2						
GEYT				LR	LR	10 26 13.4	
	comp=Z,187nm,22.0s,baz=265,slow=51						
IGLO	Ghaloghah	3.29	194	*e*P	Pn	10 24 27.7	-1.6
IGLO	Ghaloghah	3.29	194	P	Pn	10 24 27.6	-1.7
ASHT	Ashkhabad	3.30	121	⇓Pg	Pb	10 24 37.9	+0.4
	198nm,0.4s						
ASHT				⇓Lg	Lg	10 25 29.1	
	2μm,1.1s						
ASHT	Ashkhabad	3.30	121	P	Pn	10 24 30.8	+1.5
ASHT				pmax	pmax		
	comp=Z,198nm,0.4s						
ASHT				pmax	pmax		
	comp=Z,822nm,1.7s						
ASHT	Ashkhabad	3.30	121	Pg	Pb	10 24 37.9	+0.4
	comp=Z,198nm,0.4s						
ASHT				Lg	Lg	10 25 29.1	
	comp=Z,2μm,1.1s						
ISFR	Sfrayin	3.65	135	*e*P	Pn	10 24 35.3	+0.9
ISFR	Sfrayin	3.65	135	P	Pn	10 24 35.2	+0.9
ISFR	Sfrayin	3.65	135	P	Pn	10 24 35.2	+0.9
IEMG	Emamgholi	3.78	126	*e*P	Pn	10 24 36.4	+0.2
IEMG	Emamgholi	3.78	126	*e*P	Pn	10 24 36.4	+0.2
GOBA	Gobu	3.96	282	⇑P	Pn	10 24 38.8	+0.5
GOBA	Gobu	3.96	282	P	Pn	10 24 38.8	+0.5
IPRN	Peran	3.97	210	*e*P	Pn	10 24 37.3	-1.4
IPRN	Peran	3.97	210	P	Pn	10 24 37.2	-1.4
ISHM	Shahmirzad	4.07	198	*e*P	Pn	10 24 40.0	-0.2
IANJ	Anjilo	4.29	190	*e*P	Pn	10 24 43.7	+0.6
IANJ	Anjilo	4.29	190	P	Pn	10 24 43.6	+0.5
IANJ	Anjilo	4.29	190	P	Pn	10 24 43.6	+0.5
IAKL	Akhelmad	4.39	134	*e*P	Pn	10 24 45.2	+0.6
IAKL	Akhelmad	4.39	134	*e*P	Pn	10 24 45.2	+0.6
IAKL	Akhelmad	4.39	134	P	Pn	10 24 45.1	+0.5
ILAS	Lasjerd	4.55	199	*e*P	Pn	10 24 47.7	+0.9
ILAS	Lasjerd	4.55	199	*e*P	Pn	10 24 47.7	+0.9
GBS	Qobustan	4.57	282	⇓P	Pn	10 24 47.2	+0.4
GBS				⇑S	Sn	10 25 40.3	+1.3
GBS	Qobustan	4.57	282	P	Pn	10 24 47.2	+0.4
GBS				S	Sn	10 25 40.3	+1.3
ATGJ	Altiaghaj	4.63	286	⇓P	Pn	10 24 49.9	+2.2
	SNR=4.8						
ATGJ				⇑S	Sn	10 25 42.0	+1.4
ATGJ	Altiaghaj	4.63	286	P	Pn	10 24 49.9	+2.2
	SNR=4.8						
ATGJ				S	Sn	10 25 42.0	+1.4
SIZA	Siyzn	4.71	289	⇑P	Pn	10 24 52.0	+3.2
	SNR=4.7						
SIZA				⇑S	Sn	10 25 45.2	+2.7
SIZA	Siyzn	4.71	289	P	Pn	10 24 52.0	+3.2
	SNR=4.7						
SIZA				S	Sn	10 25 45.2	+2.7
LKRN	Lenkeran, Azer	4.79	260	⇑P	Pn	10 24 48.8	-0.9
	SNR=4.2						
LKRN				⇑S	Sn	10 25 39.0	-5.2
LKRN	Lenkeran, Azer	4.79	260	P	Pn	10 24 48.8	-0.9
	SNR=4.2						
LKRN				S	Sn	10 25 39.0	-5.2
ASTR	Astara	4.81	258	⇓P	Pn	10 24 48.9	-1.2
	SNR=12						
ASTR				⇑S	Sn	10 25 39.5	-5.4
ASTR	Astara	4.81	258	P	Pn	10 24 48.9	-1.2
	SNR=12						
ASTR				S	Sn	10 25 39.5	-5.4
PQL	Pirkuli	4.88	285	⇑P	Pn	10 24 53.1	+2.0
	SNR=8.6						
PQL				⇑S	Sn	10 25 48.2	+1.5
PQL	Pirkuli	4.88	285	P	Pn	10 24 53.1	+2.0
	SNR=8.6						
PQL				S	Sn	10 25 48.2	+1.5
GLBA	Clilabad	4.98	267	⇓P	Pn	10 24 53.0	+0.6
	SNR=16						
GLBA				⇓S	Sn	10 25 45.6	-3.4
GLBA	Clilabad	4.98	267	P	Pn	10 24 53.0	+0.6
	SNR=16						
GLBA				S	Sn	10 25 45.6	-3.4
QUBA	Quba, Azerbaij	5.08	291	⇑P	Pn	10 24 56.8	+2.9
	SNR=3.8						
QUBA				⇑S	Sn	10 25 51.8	+0.2
QUBA	Quba, Azerbaij	5.08	291	P	Pn	10 24 56.8	+2.9
	SNR=3.8						
QUBA				S	Sn	10 25 51.8	+0.2
KDMR	Kurdemir	5.13	280	⇓P	Pn	10 24 56.4	+2.0
KDMR				⇑S	Sn	10 25 52.1	-0.5
KDMR	Kurdemir	5.13	280	P	Pn	10 24 56.4	+2.0
KDMR				S	Sn	10 25 52.1	-0.5
LRK	Lerik	5.13	260	⇓P	Pn	10 24 54.2	-0.5
	SNR=5.0						
LRK				⇓S	Sn	10 25 47.2	-5.8
LRK	Lerik	5.13	260	P	Pn	10 24 54.2	-0.5
	SNR=5.0						
LRK				S	Sn	10 25 47.2	-5.8
IML	Ismayilli	5.18	284	⇓P	Pn	10 24 57.3	+2.0
	SNR=6.8						
IML				⇓S	Sn	10 25 53.7	-0.4
IML	Ismayilli	5.18	284	P	Pn	10 24 57.3	+2.0
	SNR=6.8						
IML				S	Sn	10 25 53.7	-0.4
XNQ	Khinaliq	5.29	288	⇑P	Pn	10 24 58.8	+1.9
	SNR=4.3						
XNQ				⇑S	Sn	10 25 55.9	-1.1
XNQ	Khinaliq	5.29	288	P	Pn	10 24 58.8	+1.9
	SNR=4.3						
XNQ				S	Sn	10 25 55.9	-1.1
QSAR	Qusar	5.30	292	⇓P	Pn	10 24 59.2	+2.4
QSAR				⇑S	Sn	10 25 57.5	+0.6
QBL	Gabala	5.47	285	⇓P	Pn	10 25 00.9	+1.8
QBL				⇑S	Sn	10 25 58.4	-2.7
QBL	Gabala	5.47	285	P	Pn	10 25 00.9	+1.8
QBL				S	Sn	10 25 58.4	-2.7
ZRD	Zardab	5.50	278	⇓S	Sn	10 26 00.5	-1.3
ZRD	Zardab	5.50	278	S	Sn	10 26 00.5	-1.3
BRDA	Brd	5.88	278	⇑S	Sn	10 26 10.5	-0.7
BRDA	Brd	5.88	278	S	Sn	10 26 10.5	-0.7
SEKA	Sheki	5.99	287	⇓P	Pn	10 25 07.9	+1.5
	SNR=3.9						
SEKA				⇓S	Sn	10 26 13.1	-1.0
SEKA	Sheki	5.99	287	P	Pn	10 25 07.9	+1.5
	SNR=3.9						
SEKA				S	Sn	10 26 13.1	-1.0
MNGR	Mingechevir, A	6.00	283	⇑S	Sn	10 26 12.9	-1.3
MNGR	Mingechevir, A	6.00	283	S	Sn	10 26 12.9	-1.3
ZKTA	Zakatala	6.51	290	⇑P	Pn	10 25 15.3	+1.8
	SNR=3.1						
ZKTA				⇓S	Sn	10 26 27.1	+0.3
QAM	Ghamsar	6.52	206	*e*P	Pn	10 25 12.9	-0.8
GANJ	Ganja	6.56	281	⇓P	Pn	10 25 14.2	0.0
	SNR=4.6						
GANJ	Ganja	6.56	281	P	Pn	10 25 14.2	0.0
	SNR=4.6						
IKLH	Kolahrood	6.88	203	*e*P	Pn	10 25 18.1	-0.6
IKLH	Kolahrood	6.88	203	*e*P	Pn	10 25 18.1	-0.6
GDB	GEDABAY	7.00	281	⇑P	Pn	10 25 20.3	0.0
	SNR=25						
GDB				⇑S	Sn	10 26 34.0	-5.1
GDB	GEDABAY	7.00	281	P	Pn	10 25 20.3	0.0
	SNR=25						
GDB				S	Sn	10 26 34.0	-5.1
IZEF	Zefreh	7.08	197	*e*P	Pn	10 25 20.7	-0.8
IZEF	Zefreh	7.08	197	*e*P	Pn	10 25 20.7	-0.8
NAX	Nakhchivan	7.23	269	⇓P	Pn	10 25 22.3	-1.0
NAX				⇓S	Sn	10 26 40.9	-3.5
NAX	Nakhchivan	7.23	269	P	Pn	10 25 22.3	-1.0
NAX				S	Sn	10 26 40.9	-3.5
QZX	Qazax, Azerbai	7.33	284	⇓P	Pn	10 25 24.8	+0.1
	SNR=4.0						
QZX				⇓S	Sn	10 26 42.8	-4.1
QZX	Qazax, Azerbai	7.33	284	P	Pn	10 25 24.8	+0.1
	SNR=4.0						
QZX				S	Sn	10 26 42.8	-4.1
ICHK	Chekchek	7.45	183	*e*P	Pn	10 25 26.4	-0.1
ICHK	Chekchek	7.45	183	*e*P	Pn	10 25 26.4	-0.1
IPIR	Pirpir	7.68	205	*e*P	Pn	10 25 31.5	+1.7
IPIR	Pirpir	7.68	205	*e*P	Pn	10 25 31.5	+1.7
GNI	Garni	7.75	277	Pn	Pn	10 25 29.9	-0.6
	comp=Z,1.5nm,0.3s,baz=68,slow=19,SNR=2.2						
GNI				Sn	Sn	10 26 57.1	-0.3
	comp=Z,2.2nm,0.3s,baz=58,slow=13,SNR=3.4						
GNI				LR	LR	10 28 26.0	
	comp=Z,20nm,21.9s,baz=96,slow=38						
GNI	Garni	7.75	277	*e*Pn	Pn	10 25 28.8	-1.7
	comp=Z,155nm,0.8s						
GNI				*e*Sn	Sn	10 26 54.8	-2.6
GNI	Garni	7.75	277	*e*Pn	Pn	10 25 28.8	-1.7
	comp=Z,155nm,0.8s						
GNI				*e*Sn	Sn	10 26 54.8	-2.6
GNI				Sn	Sn	10 26 57.1	-0.3
ISAD	Sadrabad	7.83	187	*e*P	Pn	10 25 31.3	-0.5
ISAD	Sadrabad	7.83	187	*e*P	Pn	10 25 31.3	-0.5
GUDG	Gudauri	8.27	293	P	Sn	10 27 09.5	-0.9
ZEI	Tsey	8.77	294	*e*P	Pn	10 25 46.3	+1.7
ZEI				pmax	pmax		
	comp=Z,26nm,0.6s						
KBZ	Khabaz	9.77	298	Pn	Pn	10 25 56.5	-1.5
	comp=Z,2.3nm,0.3s,baz=93,slow=3.5,SNR=18						
KBZ				Sn	Sn	10 27 42.2	-4.5
	comp=Z,1.3nm,0.3s,baz=83,slow=4.4,SNR=3.0						
KVAR	Kislovodsk Arr	9.99	299	Pn	Pn	10 26 00.1	-1.1
	baz=88,slow=9.4,SNR=12						
KVAR				Sn	Sn	10 27 45.5	-6.7
	baz=45,slow=20,SNR=3.3						
KIV	Kislovodsk	9.99	299	*e*P	Pn	10 26 00.5	-0.7
KIV				*e*S	Sn	10 27 52.5	+0.1
KIV				pmax	pmax		
	comp=Z,19nm,0.9s						
KIV	Kislovodsk	9.99	299	*e*Pn	Pn	10 26 00.7	-0.5
KIV	Kislovodsk	9.99	299	*e*Pn	Pn	10 26 00.7	-0.5
AB31	Akbulak array	10.23	19	⇑Pn	Pn	10 26 04.5	+0.1
	comp=Z,7.3nm,0.4s,baz=200,slow=13,SNR=141						
AB31				⇑Sn	Sn	10 27 53.4	-4.6
	comp=Z,6.5nm,0.3s,baz=191,slow=24,SNR=6.5						
AB31	Akbulak array	10.23	19	P	Pn	10 26 05.6	+1.2
AB31				S	Sn	10 27 52.7	-5.3
AB31				pmax	pmax		
	comp=Z,13nm,0.7s						
AB31				smax	smax		
	comp=N,16nm,0.4s						
AB31	Akbulak array	10.23	19	Pn	Pn	10 26 04.5	+0.1
	comp=N,7.3nm,0.4s,SNR=141						
AB31				Sn	Sn	10 27 53.4	-4.6
	comp=N,6.5nm,0.3s,SNR=6.5						
ABKAR	Akbulak array	10.23	19	*e*Pn	Pn	10 26 04.8	+0.5
ABKAR	Akbulak array	10.23	19	*e*Pn	Pn	10 26 04.8	+0.5
DZET	Dzherino	10.91	90	P	Pn	10 26 18.5	+4.6
DZET				pmax	pmax		
	comp=Z,19nm,0.5s						
AKTO	Aktyubinsk	10.97	11	Pn	Pn	10 26 16.1	+1.6
	comp=Z,1.0nm,0.3s,baz=229,slow=4.4,SNR=8.9						
AKTO				Sn	Sn	10 28 14.1	-2.1
	comp=Z,4.5nm,0.3s,baz=198,slow=20,SNR=8.6						
AKTO				LR	LR	10 31 33.9	
	comp=Z,133nm,20.0s,baz=183,slow=42						
AKTO	Aktyubinsk	10.97	11	⇓Pn	Pn	10 26 17.0	+2.5
	comp=Z,15nm,0.5s						
AKTO				⇑Sn	Sn	10 28 14.0	-2.1
	comp=Z,40nm,0.8s						
AKTO	Aktyubinsk	10.97	11	Pn	Pn	10 26 16.1	+1.6
AKTO				Sn	Sn	10 28 14.0	-2.1
	comp=Z,40nm,0.8s						
KK31	Karatay Array	12.27	69	⇓P	Pn	10 26 31.7	-0.7
	comp=Z,1.3nm,0.3s,baz=254,slow=17,SNR=21						
KK31				⇓S	Sn	10 28 44.9	-3.2
	comp=Z,3.8nm,0.4s,baz=251,slow=28,SNR=3.9						
KK31	Karatay Array	12.27	69	*i* P	Pn	10 26 31.6	-0.7
KK31				S	Sn	10 28 43.0	-5.1
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KK31				smax	smax		
	comp=N,29nm,1.0s						
KK31	Karatay Array	12.27	69	P	Pn	10 26 31.7	-0.7
	comp=N,1.3nm,0.3s,SNR=21						
KK31				S	Sn	10 28 44.9	-3.2
	comp=N,3.8nm,0.4s,SNR=3.9						
KKAR	Karatay Array	12.27	69	*e*P	Pn	10 26 32.3	-0.1
KKAR	Karatay Array	12.27	69	*e*Pn	Pn	10 26 32.3	-0.1
KKAR	Karatay Array	12.27	69	*e*Pn	Pn	10 26 32.3	-0.1
MNAS	Manas	13.64	73	⇑P	Pn	10 26 51.3	+0.2
	comp=N,3.5nm,0.8s						
MNAS				⇑S	Sn	10 29 17.4	-4.2
	comp=N,16nm,0.8s						
MNAS	Manas	13.64	73	P	Pn	10 26 51.3	+0.2
MNAS				S	Sn	10 29 17.4	-4.2
MNAS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MNAS				smax	smax		
	comp=N,16nm,0.8s						
MNAS	Manas	13.64	73	P	Pn	10 26 51.3	+0.2
	comp=N,3.5nm,0.8s						
MNAS				S	Sn	10 29 17.4	-4.2
	comp=N,16nm,0.8s						
ANN	Anapa	13.83	297	*e*P	Pn	10 26 49.7	-3.9
ANN				*e*SS	Sn	10 29 36.4	+10
ANN				pmax	pmax		
	comp=Z,11nm,0.9s						
EKS2	Erkin-Say	14.59	72	*e*P	Pn	10 27 05.8	+1.7
EKS2	Erkin-Say	14.59	72	*e*Pn	Pn	10 27 05.8	+1.7
EKS2	Erkin-Say	14.59	72	*e*Pn	Pn	10 27 05.8	+1.7
AAK	Ala-Archa	15.11	72	Pn	Pn	10 27 11.4	+0.2
	comp=Z,0.4nm,0.3s,baz=214,slow=6.2,SNR=10						
AAK				Sn	Sn	10 29 54.1	-3.5
	comp=Z,0.6nm,0.3s,baz=185,slow=11,SNR=3.1						
AAK				LR	LR	10 33 55.8	
	comp=Z,117nm,18.1s,baz=236,slow=40						
AAK	Ala-Archa	15.11	72	⇓P	Pn	10 27 12.8	+1.6
	comp=Z,2.9nm,0.6s						
AAK	Ala-Archa	15.11	72	*e*Pn	Pn	10 27 13.0	+1.8
	comp=Z,10nm,1.2s						
AAK	Ala-Archa	15.11	72	*e*Pn	Pn	10 27 13.0	+1.8
	comp=Z,10nm,1.2s						
AAK				Sn	Sn	10 29 54.1	-3.5
OTUK	Ortayu	15.21	50	⇑P	P	10 27 16.6	-0.4
	comp=Z,4.4nm,0.3s						
OTUK				⇓S	Sn	10 29 50.5	-9.3
	comp=Z,21nm,0.7s						
OTUK	Ortayu	15.21	50	P	P	10 27 16.6	-0.4
OTUK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
OTUK	Ortayu	15.21	50	P	P	10 27 16.6	-0.4
	comp=Z,4.4nm,0.3s						
OTUK				S	Sn	10 29 50.5	-9.3
	comp=Z,21nm,0.7s						
FRU	Bishkek	15.22	72	*e*P	P	10 27 19.0	+1.9
FRU				pmax	pmax		
	comp=E,90nm,2.0s						
VSR	Storozhevoye	15.87	322	*e*P	Pn	10 27 18.7	-2.0
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TKM2	Tokmak 2	15.95	72	P	Pn	10 27 22.7	+0.7
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TKM2	Tokmak 2	15.95	72	Pn	Pn	10 27 22.7	+0.7
	comp=Z,3.5nm,0.8s						
TKM2	Tokmak 2	15.95	72	Pn	Pn	10 27 22.7	+0.7
	comp=Z,3.5nm,0.8s						
BR131	Keskin Array S	16.29	277	*e*Pn	P	10 27 31.8	+2.7
BRTR	Keskin Array B	16.29	277	Pn	Pn	10 27 26.6	+0.2
	comp=Z,0.2nm,0.3s,baz=96,slow=12,SNR=6.3						
ZRNK	Zerenda	16.44	32	*e*P	P	10 27 32.4	+1.9
ZRNK				*e*		10 30 25.1	
ZRNK				pmax	pmax		
	comp=Z,12nm,0.7s						
ZRNK	Zerenda	16.44	32	*e*Pn	P	10 27 32.4	+1.9
	comp=Z,12nm,0.7s						
ZRNK				*e*Sn	Sn	10 30 25.1	-4.4
WSAR	Wadi Sarin	16.73	168	LR	LR	10 35 50.6	
	comp=Z,34nm,18.5s,baz=36,slow=45						
LPSR	Galich'ya Gora	16.90	325	*e*P	Pn	10 27 31.9	-1.9
LPSR				pmax	pmax		
	comp=Z,20nm,0.7s						
ARU	Arti	16.92	7	Pn	Pn	10 27 34.5	+0.5
	comp=Z,0.0nm,0.3s,baz=170,slow=5.7,SNR=7.4						
ARU				Sn	Sn	10 30 30.6	-10
	comp=Z,0.0nm,0.3s,baz=108,slow=20,SNR=4.2						
ARU				LR	LR	10 35 24.8	
	comp=Z,136nm,20.6s,baz=213,slow=41						
ARU	Arti	16.92	7*c*	*i*P	Pn	10 27 33.9	-0.1
ARU				S	Sn	10 30 35.5	-5.5
ARU				pmax	pmax		
	comp=Z,13nm,1.7s						
ARU	Arti	16.92	7	*e*Pn	Pn	10 27 34.7	+0.6
	comp=Z,18nm,0.9s						
ARU	Arti	16.92	7	*e*Pn	Pn	10 27 34.7	+0.6
	comp=Z,18nm,0.9s						
ARU				Sn	Sn	10 30 30.6	-10
ARU				*e*Sn	S	10 30 37.1	-14
BVA0	Borovoye Array	17.07	34	⇑P	P	10 27 39.7	+2.1
	comp=Z,13nm,0.8s,baz=234,slow=12,SNR=50						
BVA0				⇓S	Sn	10 30 35.6	-9.1
	comp=Z,6.8nm,0.6s,baz=224,slow=33,SNR=12						
BVA0	Borovoye Array	17.07	34	P	P	10 27 39.6	+2.1
BVA0				S	Sn	10 30 35.6	-9.1
BVA0				pmax	pmax		
	comp=Z,13nm,0.8s						
BVA0	Borovoye Array	17.07	34	P	P	10 27 39.7	+2.1
	comp=Z,13nm,0.8s,SNR=50						
BVAR	Borovoye Array	17.07	34	Pn	P	10 27 37.0	-0.5

	comp=Z,1.2nm,0.3s,baz=218,slow=11,SNR=11						
BVAR				Sn	**Sn**	**10 30 34.6**	**-10**
	comp=Z,0.6nm,0.3s,baz=232,slow=24,SNR=4.4						
BVAR	**Borovoye Array**	**17.07**	**34**	Pn	**P**	**10 27 37.0**	**-0.5**
OBN	**Obninsk**	**19.65**	**328**	LR	LR	10 37 09.2	
	comp=Z,66nm,18.4s,baz=102,slow=41						
OBN	**Obninsk**	**19.65**	**328**	*e*P	**Pn**	**10 28 08.4**	**+1.0**
OBN				pmax	pmax		
	comp=Z,11nm,0.9s						
KURBB	**Kurchatov Arra**	**19.89**	**49**	P	**Pn**	**10 28 10.8**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=243,slow=9.4,SNR=4.2						
KURBB				S	**S**	**10 31 49.0**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=252,slow=24,SNR=3.9						
TLCR		**19.91**	**294**	⇓*i*P	**P**	**10 28 09.4**	**+0.7**
TLCR		**19.91**	**294**	⇓P	**P**	**10 28 09.4**	**+0.7**
KURK	**Kurchatov**	**19.98**	**49**	P	**Pn**	**10 28 10.8**	**-0.5**
KURK				S	**S**	**10 31 49.0**	**-3.5**
KURK	**Kurchatov**	**19.98**	**49**	P	**Pn**	**10 28 10.8**	**-0.5**
KURK	**Kurchatov**	**19.98**	**49**	P	**Pn**	**10 28 10.8**	**-0.5**
KURK				S	**S**	**10 31 49.0**	**-3.5**
TIRR	**Tirgusor**	**20.12**	**292**	⇓*i*P	**P**	**10 28 11.0**	**0.0**
TIRR	**Tirgusor**	**20.12**	**292**	*e*P	**P**	**10 28 11.3**	**+0.3**
TIRR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIRR	**Tirgusor**	**20.12**	**292**	*e*P	**P**	**10 28 11.3**	**+0.3**
	comp=Z,5.1nm,0.6s						
TIRR	**Tirgusor**	**20.12**	**292**	*e*P	**P**	**10 28 11.3**	**+0.3**
	comp=Z,5.1nm,0.6s						
CFR	**Carcaliu**	**20.38**	**294**	⇓*i*P	**P**	**10 28 14.0**	**+0.1**
CFR	**Carcaliu**	**20.38**	**294**	⇓P	**P**	**10 28 14.0**	**+0.1**
HARR	**Harsova**	**20.48**	**293**	⇓*i*P	**P**	**10 28 15.5**	**+0.6**
HARR	**Harsova**	**20.48**	**293**	⇓P	**P**	**10 28 15.5**	**+0.6**
MSAB	**Monastry St. A**	**20.52**	**291**	⇓*i*P	Pn	10 28 16.6	-1.0
SORM	**Soroca**	**20.76**	**303**	⇓*i*P	**P**	**10 28 17.9**	**0.0**
SORM	**Soroca**	**20.76**	**303**	⇓P	**P**	**10 28 17.9**	**0.0**
AKASG	**Malin Array Be**	**21.01**	**310**	P	**P**	**10 28 20.8**	**+0.2**
	comp=Z,13nm,0.6s,baz=104,slow=8.6,SNR=23						
AKBB	**Malin Array Si**	**21.01**	**310**	*e*P	**P**	**10 28 21.1**	**+0.5**
AKBB				pmax	pmax		
	comp=Z,27nm,0.5s						
AKBB	**Malin Array Si**	**21.01**	**310**	*e*P	**P**	**10 28 21.1**	**+0.5**
	comp=Z,27nm,0.5s						
AKBB	**Malin Array Si**	**21.01**	**310**	*e*P	**P**	**10 28 21.1**	**+0.5**
	comp=Z,27nm,0.5s						
KIEV	**Kiev**	**21.01**	**310**	*i* P	**P**	**10 28 20.7**	**+0.1**
KIEV				pmax	pmax		
	comp=Z,15nm,0.6s						
KIEV	**Kiev**	**21.01**	**310**	*e*P	**P**	**10 28 20.6**	**-0.1**
	comp=Z,27nm,0.5s						
KIEV	**Kiev**	**21.01**	**310**	*e*P	**P**	**10 28 20.6**	**-0.1**
	comp=Z,27nm,0.5s						
AK11	**Malin Array Si**	**21.03**	**310**	*e*P	**P**	**10 28 20.7**	**-0.1**
AK11	**Malin Array Si**	**21.03**	**310**	*e*P	**P**	**10 28 20.7**	**-0.1**
MKAR	**Makanchi Array**	**21.17**	**61**	P	**P**	**10 28 24.2**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=251,slow=12,SNR=3.2						
MKAR				S	**S**	**10 32 14.5**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=254,slow=25,SNR=2.9						
MKAR				LR	LR	10 37 34.4	
	comp=Z,68nm,19.1s,baz=264,slow=39						
VRI	**Vrincioaia**	**21.44**	**296**	⇓*i*P	**P**	**10 28 26.5**	**+1.1**
VRI	**Vrincioaia**	**21.44**	**296**	⇓P	**P**	**10 28 26.5**	**+1.1**
PLOR	**Plostina**	**21.50**	**296**	⇓*i*P	**P**	**10 28 27.2**	**+1.3**
PLOR	**Plostina**	**21.50**	**296**	⇓P	**P**	**10 28 27.2**	**+1.3**
ISR	**Istrita**	**21.50**	**294**	⇓*i*P	**P**	**10 28 28.1**	**+2.1**
ISR	**Istrita**	**21.50**	**294**	⇓P	**P**	**10 28 28.1**	**+2.1**
MLR	**Muntele Rosu**	**21.95**	**295**	P	**P**	**10 28 32.0**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=94,slow=5.6,SNR=12						
MLR	**Muntele Rosu**	**21.95**	**295**	⇓*i*P	**P**	**10 28 32.9**	**+2.0**
MLR	**Muntele Rosu**	**21.95**	**295**	*e*P	**P**	**10 28 32.8**	**+1.9**
MLR				pmax	pmax		
	comp=Z,57nm,1.6s						
MLR	**Muntele Rosu**	**21.95**	**295**	*e*P	**P**	**10 28 32.8**	**+1.9**
	comp=Z,57nm,1.6s						
MLR	**Muntele Rosu**	**21.95**	**295**	*e*P	**P**	**10 28 32.8**	**+1.9**
	comp=Z,57nm,1.6s						
DOPR	**Dopca**	**22.38**	**296**	⇑*i*P	**P**	**10 28 36.0**	**+0.5**
VOIR		**22.57**	**294**	⇓*i*P	**P**	**10 28 38.5**	**+0.9**
VOIR		**22.57**	**294**	⇓P	**P**	**10 28 38.5**	**+0.9**
BURAR	**Bucovina Array**	**22.72**	**300**	⇓*i*P	**P**	**10 28 39.3**	**+0.2**
BURAR	**Bucovina Array**	**22.72**	**300**	⇓P	**P**	**10 28 39.3**	**+0.2**
BUR08	**Bucovina Ar. S**	**22.73**	**300**	*e*P	**P**	**10 28 39.3**	**+0.1**
BUR08	**Bucovina Ar. S**	**22.73**	**300**	*e*P	**P**	**10 28 39.4**	**+0.1**
ARR	**Arges**	**22.86**	**294**	⇓*i*P	**P**	**10 28 43.2**	**+2.6**
KLMR	**Klimovskoe**	**23.20**	**341**	*e*P	**P**	**10 28 40.5**	**-3.3**
KLMR				*e*S	**S**	**10 32 52.0**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ARCR	**ARCALIA**	**23.22**	**299**	⇓*i*P	**P**	**10 28 45.0**	**+0.9**
LAST	**Lasithi**	**23.67**	**268**	*e*P	**P**	**10 28 49.4**	**+0.7**
	comp=Z,14nm,0.8s						
LAST	**Lasithi**	**23.67**	**268**	*e*P	**P**	**10 28 49.4**	**+0.7**
	comp=Z,14nm,0.8s						
SOH	**Sokhos**	**23.96**	**283**	P	**P**	**10 28 54.0**	**+2.6**
SOH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
IDI	**Anoyia**	**24.08**	**269**	P	**P**	**10 28 52.0**	**-0.6**
	comp=Z,3.7nm,0.3s,baz=86,slow=8.0,SNR=13						
IDI	**Anoyia**	**24.08**	**269**	*e*P	**P**	**10 28 53.5**	**+0.9**
	comp=Z,6.7nm,0.9s						
IDI	**Anoyia**	**24.08**	**269**	*e*P	**P**	**10 28 53.5**	**+0.9**
	comp=Z,6.7nm,0.9s						
DRGR		**24.31**	**298**	⇑*i*P	**P**	**10 28 56.0**	**+1.4**
DRGR		**24.31**	**298**	⇑P	**P**	**10 28 56.0**	**+1.4**
GRG	**Griva**	**24.66**	**283**	P	**P**	**10 29 00.0**	**+2.2**
GRG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZAA0	**Zalesovo Array**	**24.76**	**45**	*e*P	**P**	**10 29 00.0**	**+1.5**
ZAA0	**Zalesovo Array**	**24.76**	**45**	*e*P	**P**	**10 29 00.0**	**+1.5**
ZALV	**Zalesovo Beam**	**24.76**	**45**	P	**P**	**10 28 59.8**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=258,slow=9.5,SNR=7.7						
ZALV				LR	LR	10 40 10.5	
	comp=Z,51nm,18.1s,baz=61,slow=40						
ZALV	**Zalesovo Beam**	**24.76**	**45**	*i* P	**P**	**10 28 59.5**	**+1.0**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WMQ	**Urumqi**	**24.78**	**70**	*e*P	**P**	**10 29 02.4**	**+3.5**
WMQ				pP	sP	10 29 09.4	-1.5
WMQ				sP	pP	10 29 13.0	+5.7
WMQ				PMZ			
	comp=Z,4.0nm,0.6s						
WMQ				PMZ			
	comp=Z,45nm,4.8s						
UZH	**Uzhgorod**	**24.81**	**302**	*e*P	**P**	**10 29 00.7**	**+1.7**
UZH				*e*		10 29 04.9	
UZH				*e*		10 29 09.7	
CRVS	**Cervenica-Dubn**	**25.40**	**302**	*e*P	**P**	**10 29 06.2**	**+1.8**
CRVS	**Cervenica-Dubn**	**25.40**	**302**	*e*P	**P**	**10 29 06.2**	**+1.8**
CRVS	**Cervenica-Dubn**	**25.40**	**302**	*e*P	**P**	**10 29 06.2**	**+1.8**
FNA	**Florina**	**25.46**	**283**	P	**P**	**10 29 06.7**	**+1.7**
FNA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VSU	**Vasula**	**25.96**	**326**	*i* P	**P**	**10 29 09.3**	**0.0**
VSU				pmax	pmax		
	comp=Z,35nm,0.9s						
FINES	**FINESS Array B**	**27.99**	**331**	P	**P**	**10 29 28.4**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=129,slow=15,SNR=5.5						
FINES				LR	LR	10 41 28.5	
	comp=Z,49nm,20.5s,baz=144,slow=38						
ATD	**Arta Tunnel**	**30.00**	**204**	LR	LR	10 42 08.1	
	comp=Z,25nm,19.1s,baz=53,slow=38						
BRG	**Berggiesshubel**	**30.47**	**305**	*e*P	**P**	**10 29 51.3**	**+1.7**
	comp=Z,4.7nm,0.7s						
BRG	**Berggiesshubel**	**30.47**	**305**	*e*P	**P**	**10 29 51.3**	**+1.7**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GEA0	**GERESS Array S**	**30.49**	**301**	*e*P	**P**	**10 29 50.9**	**+0.9**
GEA0	**GERESS Array S**	**30.49**	**301**	*e*P	**P**	**10 29 50.9**	**+0.9**
GEC2	**GERESS Array S**	**30.49**	**301**	*e*P	**P**	**10 29 51.3**	**+1.3**
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GEC2	**GERESS Array S**	**30.49**	**301**	*e*P	**P**	**10 29 51.3**	**+1.3**
	comp=Z,3.0nm,0.7s						
GEC2	**GERESS Array S**	**30.49**	**301**	*e*P	**P**	**10 29 51.3**	**+1.3**
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**30.49**	**301**	P	**P**	**10 29 51.0**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=91,slow=8.8,SNR=15						
GERES				LR	LR	10 43 53.1	
	comp=Z,30nm,19.2s,baz=58,slow=40						
MOX	**Moxa**	**31.92**	**305**	P	**P**	**10 30 05.5**	**+3.0**
MOX				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARCES	**ARCESS Array B**	**33.67**	**342**	P	**P**	**10 30 19.4**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=133,slow=7.1,SNR=7.3						
ARCES				LR	LR	10 45 17.8	
	comp=Z,28nm,19.8s,baz=83,slow=38						
NC405	**NORSAR Array S**	**33.92**	**324**	*e*P	**P**	**10 30 20.9**	**+1.1**
NC405	**NORSAR Array S**	**33.92**	**324**	*e*P	**P**	**10 30 20.9**	**+1.1**
NB2	**NORSAR Subarra**	**34.13**	**323**	P	**P**	**10 30 22.0**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=112,slow=8.6						
NB2	**NORSAR Subarra**	**34.13**	**323**	P	**P**	**10 30 22.0**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=112,slow=8.4,SNR=7.7						
NOA	**NORSAR Array B**	**34.13**	**323**	P	**P**	**10 30 22.1**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=115,slow=8.2,SNR=7.5						
NOA				LR	LR	10 45 37.4	
	comp=Z,46nm,18.0s,baz=90,slow=38						
NRIK	**Noril'sk**	**34.40**	**20**	LR	LR	10 46 53.3	
	comp=Z,52nm,20.7s,baz=287,slow=40						
ULN	**Ulaanbaatar**	**37.96**	**60**	*ce*P	**P**	**10 30 57.3**	**+2.6**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ULN	**Ulaanbaatar**	**37.96**	**60**	*e*P	**P**	**10 30 57.1**	**+2.4**
	comp=Z,3.7nm,1.0s						
ULN	**Ulaanbaatar**	**37.96**	**60**	*e*P	**P**	**10 30 57.1**	**+2.4**
	comp=Z,3.7nm,1.0s						
HHC	**Hu-ho-hao-te**	**42.66**	**69**	*e*P	**P**	**10 31 36.3**	**+2.6**
HHC				PMZ			
	comp=Z,19nm,1.0s						
HHC				PMZ			
	comp=Z,70nm,5.2s						
ESDC	**Sonseca Array**	**44.49**	**290**	P	**P**	**10 31 47.9**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=68,slow=8.3,SNR=6.6						
TIXI	**Tiksi**	**47.89**	**24**	*ce*P	**P**	**10 32 15.3**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.5s						
YAK	**Yakutsk**	**49.00**	**37**	LR	LR	10 54 54.3	
	comp=Z,45nm,21.2s,baz=254,slow=38						
TORD	**Torodi Ar. Bea**	**53.49**	**256**	P	**P**	**10 32 56.4**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=36,slow=10.0,SNR=7.2						
KLR	**Kul'dur**	**53.51**	**53**	*i* P	**P**	**10 32 57.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**55.59**	**58**	LR	LR	11 00 15.3	
	comp=Z,43nm,18.4s,baz=193,slow=39						
KSAR	**Wonju Array Be**	**55.67**	**67**	P	**P**	**10 33 14.3**	**+1.1**
KSAR	**Wonju Array Be**	**55.67**	**67**	P	**P**	**10 33 14.2**	**+1.1**
KSAR	**Wonju Array Be**	**55.67**	**67**	P	**P**	**10 33 14.2**	**+1.1**
KSRS	**Korea Array**	**55.70**	**67**	P	**P**	**10 33 14.2**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=282,slow=6.3,SNR=6.2						
KSRS				LR	LR	10 58 59.5	
	comp=Z,21nm,19.9s,baz=112,slow=38						
SEY	**Seymchan**	**58.72**	**32**	*ce*P	**P**	**10 33 36.1**	**+1.9**
BILL	**Bilibino**	**61.10**	**24**	*ce*P	**P**	**10 33 52.9**	**+2.4**
BILL				*e*		10 34 33.7	
BILL				*e*		10 36 08.1	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,46nm,21.0s						
ILAR	**Eielson Array**	**74.48**	**9**	P	**P**	**10 35 16.2**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=338,slow=4.6,SNR=11						
YKA	**Yellowknife Ar**	**77.79**	**355**	P	**P**	**10 35 34.2**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=7.3,slow=6.1,SNR=15						
WRA	**Warramunga Arr**	**94.81**	**112**	P	**P**	**10 36 58.0**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=322,slow=4.0,SNR=11						
ASAR	**Alice Springs**	**96.90**	**115**	P	**P**	**10 37 06.9**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=330,slow=5.4,SNR=3.4						

DJA 01 10:25:33.3±1.7, **8˚S**±17˚×**10˚9E**±˚, **h33**km±15km, **M3.6**/5, **MLv3.6**/5, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.76**	**316**	P	Pb	10 25 48.2	0.0
CMJI				S	Sb	10 25 58.8	+0.5
CISI	**Cisompet, Garu**	**1.39**	**304**	P	Pn	10 25 56.9	+0.4
UGM	**Wanagama**	**1.59**	**75**	P	Pn	10 25 58.9	-0.2
CNJI	**Cibinong**	**2.10**	**299**	P	Pn	10 26 06.2	0.0
PCJI	**Pacitan**	**2.18**	**86**	P	Pn	10 26 07.6	+0.3

---

*ISCJB **01** 10:29:35.4±0.5, 39˚15N±0˚03×28˚99E±0˚03, h1km±6km, Error ellipse: s-maj=4.9km s-min=4.3km az=167.1*
*DDA **01** 10:29:35.3, 39˚14N×29˚00E, h7km, Ml2.9*
*CSEM **01** 10:29:35.9±0.1, 39˚14N×28˚99E, h5km, ML2.9, Error ellipse: s-maj=1.8km s-min=1.7km az=28.0*
*ISK **01** 10:29:35.4, 39˚15N×28˚98E, h5km, MD2.9*
ISC 01 10:29:35.9±1.0, **39˚14N**±0˚02×**28˚99E**±0˚02, **h6**km±12km, **n49**, σ**0s37**/58, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**245**	P	**Pg**	**10 29 40.7**	**+0.1**
DEMI				S	**Sg**	**10 29 43.9**	**+0.2**
DEMI	**Demirci**	**0.23**	**245**	*i* P	**Pg**	**10 29 40.7**	**+0.1**
DEMI				*i* S	**Sg**	**10 29 43.9**	**+0.2**
GDZ	**Gediz**	**0.39**	**98**	P	**Pg**	**10 29 43.4**	**-0.1**
GDZ				S	**Sg**	**10 29 48.5**	**-0.1**
GDZ	**Gediz**	**0.39**	**98**	*i* P	**Pg**	**10 29 43.4**	**-0.1**
GDZ				*i* S	**Sg**	**10 29 48.5**	**-0.1**
TVSB	**Tavsanli**	**0.48**	**50**	*e*PG	**Pg**	**10 29 45.2**	**0.0**
TVSB				*e*SG	**Sg**	**10 29 51.6**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**50**	*e*Pg	**Pg**	**10 29 45.2**	**0.0**
TVSB				*e*Sg	**Sg**	**10 29 51.6**	**+0.1**
DST	**Dursunbey**	**0.54**	**328**	*e*PG	**Pg**	**10 29 45.7**	**-0.8**
DST				*e*SG	**Sg**	**10 29 54.3**	**+0.8**
KULA	**Kula-Manisa**	**0.68**	**202**	*e*PG	**Pg**	**10 29 48.4**	**-0.6**
KHAL	**Karahalli**	**0.87**	**153**	P	**Pg**	**10 29 52.1**	**-0.5**
KHAL	**Karahalli**	**0.87**	**153**	*i* P	**Pg**	**10 29 52.1**	**-0.5**
ORLT	**Orhaneli**	**0.91**	**355**	*e*PG	**Pg**	**10 29 53.3**	**0.0**
ORLT				*e*SG	**Sg**	**10 30 05.2**	**+0.1**
ORLT	**Orhaneli**	**0.91**	**355**	*e*Pg	**Pg**	**10 29 53.3**	**0.0**
ORLT				*e*Sg	**Sg**	**10 30 05.2**	**+0.1**
KHL	**Karahalli**	**0.92**	**153**	*e*PG	**Pg**	**10 29 53.8**	**+0.2**
KHL	**Karahalli**	**0.92**	**153**	*e*Pg	**Pg**	**10 29 53.8**	**+0.2**
AKHS	**Akhisar**	**0.95**	**254**	P	**Pb**	**10 29 54.6**	**-0.3**
AKHS	**Akhisar**	**0.95**	**254**	*i* P	**Pb**	**10 29 54.6**	**-0.3**
AKS	**Akhisar**	**0.95**	**254**	*e*PG	**Pg**	**10 29 54.3**	**+0.1**
AKS	**Akhisar**	**0.95**	**254**	*e*Pg	**Pg**	**10 29 54.3**	**+0.1**
BALB	**Balikesir**	**0.99**	**300**	*e*PG	**Pg**	**10 29 55.0**	**0.0**
BALB	**Balikesir**	**0.99**	**300**	*e*Pg	**Pg**	**10 29 55.0**	**0.0**
IGD	**Bursa**	**1.13**	**8**	*i* P	**Pg**	**10 29 56.4**	**-1.3**
KCTX	**Karacabey (Bur**	**1.22**	**337**	*e*PN	**Pb**	**10 29 59.1**	**-0.4**
KCTX	**Karacabey (Bur**	**1.22**	**337**	*e*Pn	**Pb**	**10 29 59.1**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.23**	**356**	*e*PN	**Pb**	**10 29 59.0**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.23**	**356**	*e*Pn	**Pb**	**10 29 59.0**	**-0.5**
CAVI	**Cavuskoy**	**1.25**	**32**	*e*PN	**Pb**	**10 29 59.7**	**-0.2**
IZI	**Iznik**	**1.25**	**17**	*e*PN	**Pg**	**10 30 00.3**	**+0.5**
IZI	**Iznik**	**1.25**	**17**	*e*Pn	**Pg**	**10 30 00.4**	**+0.5**
GEMT	**Gemlik**	**1.30**	**7**	*e*PN	**Pb**	**10 30 00.7**	**-0.2**
GEMT	**Gemlik**	**1.30**	**7**	*e*Pn	**Pb**	**10 30 00.6**	**-0.2**
GONE	**Gonen-Balikesi**	**1.35**	**312**	*e*PN	**Pg**	**10 30 01.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.35**	**312**	*e*Pn	**Pg**	**10 30 01.7**	**-0.1**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*PN	**Pb**	**10 30 02.4**	**-0.3**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*Pn	**Pb**	**10 30 02.4**	**-0.3**
ARMT	**Armutlu**	**1.42**	**356**	*e*PN	**Pn**	**10 30 02.3**	**-0.1**
ARMT	**Armutlu**	**1.42**	**356**	*e*Pn	**Pn**	**10 30 02.3**	**-0.1**
EDC	**Edincik**	**1.48**	**325**	*e*PN	**Pn**	**10 30 03.3**	**+0.1**
EDC	**Edincik**	**1.48**	**325**	*e*Pn	**Pn**	**10 30 03.3**	**+0.1**
ESKT	**Eskisehir**	**1.49**	**75**	*e*PN	**Pb**	**10 30 04.0**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**75**	*e*Pn	**Pb**	**10 30 04.0**	**-0.2**
GPA	**Golpazari**	**1.53**	**41**	*e*PN	**Pb**	**10 30 04.3**	**-0.5**
GULT	**Gulveren**	**1.74**	**42**	*e*PN	**Pn**	**10 30 07.1**	**+0.2**
HRT	**Hereke**	**1.76**	**17**	*e*PN	**Pn**	**10 30 07.3**	**+0.3**
HRT	**Hereke**	**1.76**	**17**	*e*Pn	**Pn**	**10 30 07.3**	**+0.3**
ISK	**Istanbul-Kandi**	**1.92**	**2**	*e*PN	**Pn**	**10 30 09.7**	**+0.5**
ISK	**Istanbul-Kandi**	**1.92**	**2**	*e*Pn	**Pn**	**10 30 09.7**	**+0.5**
SILT	**Sile**	**2.07**	**14**	*e*PN	**Pn**	**10 30 11.6**	**+0.4**
SILT	**Sile**	**2.07**	**14**	*e*Pn	**Pn**	**10 30 11.6**	**+0.4**
MDUB	**Mudurnu**	**2.16**	**51**	*e*PN	**Pn**	**10 30 13.1**	**+0.6**

---

*IDC **01** 10:33:52.2±2.4, 38˚17N×142˚24E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/30, mbtmp3.4/3, ML3.1/1, MS2.1/1, Ms1 2.1/1, ms1mx1.9/32, Error ellipse: s-maj=46.1km s-min=36.0km az=60.0*
*JMA **01** 10:34:00.4±0.1, 38˚04N×141˚71E, h48km±1km, M3.4*
ISC 01 10:33:56.6±1.7, **38˚06N**±0˚04×**141˚88E**±0˚09, **h18**km±8km, **n23**, σ**1s17**/30, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.57**	**313**	P	**Pn**	**10 34 11.6**	**+1.7**
JIO				S	**Sn**	**10 34 19.2**	**+0.3**
JMM	**Marumori**	**0.88**	**257**	P	**Pn**	**10 34 14.6**	**+0.5**
JMM				*e*S	**Sb**	**10 34 25.0**	**+0.1**
JOU	**Okura**	**1.01**	**288**	P	**Pg**	**10 34 16.9**	**+0.8**
JOU				S	**Sb**	**10 34 28.6**	**+0.2**
JMK	**Ichinoseki**	**1.03**	**330**	P	**Pg**	**10 34 18.2**	**+1.6**
JMK				*e*S	**Sn**	**10 34 31.0**	**+0.9**
JFK	**Kawauchi**	**1.06**	**229**	P	**Pb**	**10 34 17.1**	**+0.7**
JFK				S	**Sb**	**10 34 29.2**	**-0.8**
JFT	**Otama**	**1.34**	**247**	P	**Pb**	**10 34 21.5**	**+0.3**
JFT				*e*S	**Sn**	**10 34 36.7**	**-1.1**
JYS	**Shirataka**	**1.44**	**277**	P	**Pb**	**10 34 22.8**	**-0.1**
JYS				*e*S	**Sn**	**10 34 39.4**	**-0.9**
JYK	**Kaneyama**	**1.47**	**306**	P	**Pb**	**10 34 23.6**	**+0.2**
JYK				*e*S	**Sn**	**10 34 40.7**	**-0.3**
JOM	**Ohasama**	**1.48**	**342**	P	**Pg**	**10 34 24.9**	**-0.3**
JOM				S	**Sg**	**10 34 43.0**	**-1.5**
JRG	**Rokugo**	**1.65**	**324**	P	**Pg**	**10 34 27.1**	**-1.3**
JRG				*e*S	**Sb**	**10 34 46.6**	**-0.4**
JYA	**Atsumi**	**1.79**	**288**	P	**Pn**	**10 34 27.7**	**+1.1**
JYA				*e*S	**Sn**	**10 34 47.8**	**-1.0**
JFY	**Yanaizu**	**1.85**	**250**	P	**Pn**	**10 34 28.6**	**+1.2**
JFY				*e*S	**Sn**	**10 34 49.4**	**-1.0**
MJAR	**Matsushiro Arr**	**3.30**	**244**	Pn	**Pn**	**10 34 48.8**	**+1.4**
	1.7nm,0.3s,baz=62,slow=12,SNR=16						
MJAR				Sn	**Sb**	**10 35 33.8**	**-0.7**
	1.0nm,0.3s,baz=78,slow=33,SNR=4.8						
MAT	**Matsushiro**	**3.30**	**244**	P	**Pn**	**10 34 46.0**	**-1.4**
MAT				*e*S	**Sn**	**10 35 29.6**	**+3.4**
KSRS	**Korea Array**	**11.07**	**271**	LR	LR	10 40 41.1	
	comp=Z,9.9nm,19.8s,baz=105,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.38**	**123**	T	T	11 10 02.5	
	baz=316,slow=75,SNR=108						
H11N1	**WAKE ISLAND Hy**	**28.38**	**123**	T	T	11 10 03.2	
	baz=316,slow=75,SNR=127						
H11N3	**WAKE ISLAND Hy**	**28.39**	**123**	T	T	11 10 03.9	
	baz=316,slow=75,SNR=102						
H11S1	**WAKE ISLAND Hy**	**29.12**	**125**	T	T	11 10 57.9	
	baz=318,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.13**	**125**	T	T	11 10 59.1	
	baz=318,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**29.14**	**125**	T	T	11 10 59.1	
	baz=318,slow=76,SNR=22						
MKAR	**Makanchi Array**	**43.90**	**301**	P	**P**	**10 42 01.8**	**-0.3**
	0.1nm,0.3s,baz=89,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**58.13**	**188**	P	**P**	**10 43 48.6**	**-0.6**
	0.8nm,1.1s,baz=4.6,slow=7.1,SNR=4.3						

---

*ATH **01** 10:38:12.7, 34˚43N×26˚27E, h10km±41km, ML2.5/1, Error ellipse: s-maj=42.0km s-min=1.5km az=345.0*
*ISCJB **01** 10:38:13.1±0.5, 34˚46N±0˚04×26˚18E±0˚06, h53km±18km, Error ellipse: s-maj=9.1km s-min=5.5km az=37.2*
*CSEM **01** 10:38:13.7±0.6, 34˚47N×26˚14E, h24km±6km, ML2.5, Error ellipse: s-maj=7.6km s-min=5.9km az=118.0*
*HLW **01** 10:38:14.8, 34˚52N×26˚21E, h33km±23km, Md3.5*
*ISK **01** 10:38:14.1, 34˚78N×26˚05E, h12km, ML3.6*
*THE **01** 10:38:15.0, 34˚55N×26˚08E, h8km±1km, ML2.5/5, Error ellipse: s-maj=2.0km s-min=1.0km az=355.0*
*DDA **01** 10:39:32.4, 35˚46N×27˚34E, h45km, Md3.6*
ISC 01 10:38:14.8±5.5, **34˚48N**±0˚03×**26˚12E**±0˚04, **h38**km±8km, **n47**, σ**1s52**/70, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.64**	**7**	P	**Pn**	**10 38 26.1**	**-1.3**
ZKR				S	**Sn**	**10 38 35.5**	**-0.8**
ZKR	**Zakros**	**0.64**	**7**	P	**Pn**	**10 38 26.1**	**-1.3**
ZKR				S	**Sn**	**10 38 35.5**	**-0.8**
ZKR	**Zakros**	**0.64**	**7**	P	**Pn**	**10 38 25.8**	**-1.6**
ZKR				S	**Sn**	**10 38 34.0**	**-2.3**
ZKR				AML	AML	10 38 40.0	
	comp=E,1213µm,0.6s						
ZKR				AML	AML	10 38 40.4	
	comp=N,1214µm,0.4s						
LAST	**Lasithi**	**0.86**	**322**	P	**Pn**	**10 38 30.0**	**-0.4**
LAST				S	**Sn**	**10 38 41.6**	**-0.2**
LAST	**Lasithi**	**0.86**	**322**	P	**Pn**	**10 38 30.0**	**-0.4**
LAST				S	**Sn**	**10 38 41.6**	**-0.2**
LAST	**Lasithi**	**0.86**	**322**	P	**Pn**	**10 38 30.7**	**+0.3**
NPS	**Neapolis**	**0.88**	**332**	P	**Pn**	**10 38 31.0**	**+0.3**
NPS				S	**Sn**	**10 38 42.3**	**0.0**
NPS	**Neapolis**	**0.88**	**332**	P	**Pn**	**10 38 31.0**	**+0.3**
NPS				S	**Sn**	**10 38 42.3**	**0.0**
NPS	**Neapolis**	**0.88**	**332**	P	**Pn**	**10 38 31.3**	**+0.6**
SIVA	**Sivas**	**1.20**	**297**	P	**Pn**	**10 38 37.8**	**+2.8**
SIVA	**Sivas**	**1.20**	**297**	P	**Pn**	**10 38 37.8**	**+2.8**
IDI	**Anoyia**	**1.29**	**309**	P	**Pn**	**10 38 37.2**	**+0.9**
IDI				S	**Sn**	**10 38 54.1**	**+1.7**
IDI	**Anoyia**	**1.29**	**309**	P	**Pn**	**10 38 37.2**	**+0.9**
IDI				S	**Sn**	**10 38 54.1**	**+1.7**
KARP	**Karpathos**	**1.36**	**39**	*e*PN	**Pn**	**10 38 37.0**	**-0.3**
KARP				*e*SN	**Sn**	**10 38 54.2**	**+0.1**
KARP	**Karpathos**	**1.36**	**39**	P	**Pn**	**10 38 38.0**	**+0.7**
KARP				S	**Sn**	**10 38 56.6**	**+2.4**
KARP	**Karpathos**	**1.36**	**39**	*e*Pn	**Pn**	**10 38 37.0**	**-0.3**
KARP	**Karpathos**	**1.36**	**39**	P	**Pn**	**10 38 38.3**	**+1.0**
KARP				*e*Sn	**Sn**	**10 38 54.2**	**+0.1**
KARP				S	**Sn**	**10 38 56.1**	**+2.0**
KARP	**Karpathos**	**1.36**	**39**	P	**Pn**	**10 38 38.3**	**+1.0**
KARP				S	**Sn**	**10 38 56.1**	**+2.0**
THR5	**Thira Island,**	**2.03**	**342**	*e*PN	**Pn**	**10 38 45.5**	**-0.9**
THR5	**Thira Island,**	**2.03**	**342**	*e*Pn	**Pn**	**10 38 45.5**	**-0.9**
APE	**Apeiranthos**	**2.62**	**350**	*e*PN	**Pn**	**10 38 53.2**	**-1.4**
APE				*e*SN	**Sn**	**10 39 21.6**	**-3.7**
APE	**Apeiranthos**	**2.62**	**350**	*e*Pn	**Pn**	**10 38 53.2**	**-1.4**
SLUM	**Salum**	**3.08**	**195**	P	**Pn**	**10 39 00.9**	**+0.1**
	baz=196						
SLUM				S	**Sn**	**10 39 35.3**	**-1.1**
	baz=196						
SLUM	**Salum**	**3.08**	**195**	P	**Pn**	**10 39 00.9**	**+0.1**
SLUM				S	**Sn**	**10 39 35.3**	**-1.1**
DALY	**Dalyan (Mu˜la**	**3.11**	**41**	*e*PN	**Pn**	**10 39 01.2**	**0.0**
DALY	**Dalyan (Mu˜la**	**3.11**	**41**	*e*Pn	**Pn**	**10 39 01.2**	**0.0**
TURN	**Turunc**	**3.13**	**40**	*i* P	**Pn**	**10 38 58.4**	**-3.0**
TURN				*i* S	Sn	10 39 27.9	-10
YER	**Yerkesik**	**3.18**	**33**	*e*PN	**Pn**	**10 39 02.1**	**-0.2**
YER	**Yerkesik**	**3.18**	**33**	*e*Pn	**Pn**	**10 39 02.1**	**-0.2**
AKAS	**Kas**	**3.34**	**58**	P	**Pn**	**10 39 04.0**	**-0.6**
AKAS	**Kas**	**3.34**	**58**	*i* P	**Pn**	**10 39 04.0**	**-0.6**
AKAS				*i* S	**Sn**	**10 39 38.6**	**-4.5**
ELL	**Elmali**	**3.83**	**53**	*e*PN	**Pn**	**10 39 12.5**	**+1.3**
ELL	**Elmali**	**3.83**	**53**	*e*Pn	**Pn**	**10 39 12.5**	**+1.3**
GLHS	**Glhisar (BURDU**	**3.83**	**45**	*e*PN	**Pn**	**10 39 12.6**	**+1.4**
GLHS	**Glhisar (BURDU**	**3.83**	**45**	*e*Pn	**Pn**	**10 39 12.6**	**+1.4**
CHOS	**Chios island**	**3.90**	**359**	*e*PN	**Pn**	**10 39 11.5**	**-0.7**
CHOS	**Chios island**	**3.90**	**359**	*e*Pn	**Pn**	**10 39 11.5**	**-0.7**
GOLH	**Golhisar**	**3.92**	**44**	P	**Pn**	**10 39 12.1**	**-0.4**
GOLH				S	**Sn**	**10 39 56.0**	**-1.3**
GOLH	**Golhisar**	**3.92**	**44**	*i* P	**Pn**	**10 39 12.1**	**-0.4**
GOLH				*i* S	**Sn**	**10 39 56.0**	**-1.3**
KORT	**Korkueli**	**4.26**	**53**	P	**Pn**	**10 39 19.3**	**+2.1**
KORT				S	**Sn**	**10 40 04.9**	**-0.8**
KORT	**Korkueli**	**4.26**	**53**	*i* P	**Pn**	**10 39 19.3**	**+2.1**
KORT				*i* S	**Sn**	**10 40 05.0**	**-0.8**
SIGR	**SIGRI**	**4.72**	**358**	*e*PN	**Pn**	**10 39 23.3**	**-0.1**
SIGR	**SIGRI**	**4.72**	**358**	*e*Pn	**Pn**	**10 39 23.3**	**-0.1**
SWA2		**5.25**	**186**	P	**Pn**	**10 39 30.2**	**-0.5**
	baz=188						
SWA2		**5.25**	**186**	P	**Pn**	**10 39 30.2**	**-0.5**
HFRF	**Wahat Farafira**	**7.55**	**165**	P	**Pn**	**10 40 01.3**	**-1.0**
	baz=165						
HFRF				S	**Sn**	**10 41 21.6**	**-4.9**
	baz=165						
HFRF	**Wahat Farafira**	**7.55**	**165**	P	**Pn**	**10 40 01.3**	**-1.0**

MEX 01 10:40:02.2±0.4, **14˚38N**×**92˚34W**, **h16**km±87km, **MD4.1**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		**1.57**	**327**	*e*P	Pn	10 40 26.0	-3.4
PCIG				*e*S	Sn	10 40 41.6	-7.8
CCIG	**Comitan**	**1.90**	**6**	*e*P	Pn	10 40 32.1	-2.1
CCIG				*e*S	Sn	10 40 55.1	-2.9

ISK 01 10:40:05.5, 39˚10N×29˚08E, h5km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.46**	**40**	*e*PG	Pg	10 40 14.8	+0.5
TVSB				*e*SG	Sb	10 40 21.9	-1.4
KULA	**Kula-Manisa**	**0.67**	**209**	*e*PG	Pb	10 40 19.1	-0.6
KULA				*e*SG	Sb	10 40 28.6	-0.7
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	Pb	10 40 33.5	+0.1
ARMT				*e*SN	Sg	10 40 53.8	+0.9

MEX 01 10:42:32.5±0.4, 14°.69N×92°.85W, h59km±47km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.07	341	eP	Pn	10 42 50.0	-1.4
PCIG				eS	Sn	10 43 03.3	-2.2
CCIG	Comitan	1.73	23	eP	Pn	10 42 54.7	-5.7
CCIG				eS	Sn	10 43 16.4	-5.1

*ROM **01** 10:45:54.5±0.2, 46°.01N×12°.85E, h4km±3km, Md2.5/14, Ml2.0/12, Error ellipse: s-maj=3.3km s-min=1.4km az=161.0*
*VIE **01** 10:45:55.9±0.2, 46°.02N×12°.86E, h6km, mb2.1/10, ML2.5/13, Error ellipse: s-maj=2.3km s-min=0.9km az=11.0*
*CSEM **01** 10:45:55.0±0.1, 45°.98N×12°.81E, h5km, ML2.5/13, Error ellipse: s-maj=2.4km s-min=1.4km az=174.0*
ISC 01 10:45:55.5±0.9, 46°.01N±0°.02×12°.82E±0°.02, h8km±8km, n85, $\sigma 0^{s}73$/124, 8C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLNI	Malnisio	0.21	314⇓	ePg	Pg	10 45 59.4	-0.4
MLNI				eSg	Sg	10 46 03.3	+0.7
MLNI	Malnisio	0.21	314	ePg	Pg	10 45 59.4	-0.4
MLNI				eSg	Sg	10 46 03.3	+0.7
TLI	Talmassons	0.21	113	ePg	Pg	10 45 59.2	-0.6
TLI	Talmassons	0.21	113	ePg	Pg	10 45 59.2	-0.6
POLC	Polcenigo	0.23	275	Pg	Pg	10 45 59.8	-0.3
POLC				Sg	Sg	10 46 04.4	+1.3
	378nm,0.3s						
POLC	Polcenigo	0.23	275⇓	ePg	Pg	10 45 59.8	-0.3
POLC				eSg	Sg	10 46 03.9	+0.8
POLC	Polcenigo	0.23	275	Pg	Pg	10 45 59.8	-0.3
POLC				Sg	Sg	10 46 04.4	+1.3
	378nm,0.3s						
MPRI	Monte Prat	0.26	26⇑	ePg	Pg	10 46 00.8	0.0
MPRI	Monte Prat	0.26	26	ePg	Pg	10 46 00.8	0.0
STAL	STALIGIAL	0.27	343	Pg	Pg	10 46 00.3	-0.6
STAL				Sg	Sg	10 46 04.2	-0.3
	167nm,0.2s						
STAL	STALIGIAL	0.27	343	Pg	Pg	10 46 00.3	-0.6
STAL				Sg	Sg	10 46 04.2	-0.3
	167nm,0.2s						
CAE	Caneva	0.27	270⇑	ePg	Pg	10 46 00.5	-0.4
CAE				eSg	Sg	10 46 04.9	+0.3
CAE	Caneva	0.27	270	ePg	Pg	10 46 00.5	-0.4
CAE				eSg	Sg	10 46 04.9	+0.3
BUA	Buia	0.30	44⇑	ePg	Pg	10 46 01.2	-0.2
BUA				eSg	Sb	10 46 06.9	-1.4
BUA	Buia	0.30	44	ePg	Pg	10 46 01.2	-0.2
BAD	Bernadia	0.37	51⇑	ePg	Pg	10 46 02.0	-0.8
BAD				eSg	Sg	10 46 08.8	+1.0
BAD	Bernadia	0.37	51	ePg	Pg	10 46 02.0	-0.8
VINO	Villanova	0.41	52	Pg	Pg	10 46 02.7	-0.8
VINO				Sg	Sb	10 46 09.9	-1.5
	66nm,0.4s						
VINO	Villanova	0.41	52⇑	ePg	Pg	10 46 02.7	-0.8
VINO				eSg	Sb	10 46 09.9	-1.5
VINO	Villanova	0.41	52	Pg	Pg	10 46 02.7	-0.8
VINO				Sg	Sb	10 46 09.9	-1.5
	66nm,0.4s						
COLI	Coloredo	0.41	71⇑	ePg	Pg	10 46 02.9	-0.6
COLI				eSg	Sb	10 46 10.0	-1.4
COLI	Coloredo	0.41	71	ePg	Pg	10 46 02.9	-0.6
FUSE	Fusea	0.43	17⇑	ePg	Pg	10 46 03.4	-0.5
FUSE				eSg	Sb	10 46 10.8	-1.2
FUSE	Fusea	0.43	17	ePg	Pg	10 46 03.4	-0.5
FUSE				eSg	Sb	10 46 10.8	-1.2
VARN	Col Varnada, M	0.50	269⇑	ePg	Pg	10 46 04.9	-0.4
VARN				eSg	Sg	10 46 12.9	+1.0
VARN	Col Varnada, M	0.50	269	ePg	Pg	10 46 04.9	-0.4
ROBS	Robic	0.53	63	i Pg	Pg	10 46 05.8	0.0
ROBS				i Sg	Sb	10 46 13.9	-1.1
	comp=Z,5.0nm,0.1s						
ROBS	Robic	0.53	63	i Pg	Pg	10 46 05.8	0.0
ROBS				i Sg	Sb	10 46 13.9	-1.1
	comp=Z,5.0nm,0.1s						
SABO	M.te Sabotino	0.54	92	Pg	Pg	10 46 06.1	+0.1
SABO				Sg	Sb	10 46 14.6	-0.7
	comp=Z,112nm,0.4s						
SABO	M.te Sabotino	0.54	92	ePg	Pg	10 46 05.9	-0.1
SABO				eSg	Sb	10 46 14.6	-0.7
SABO	M.te Sabotino	0.54	92	Pg	Pg	10 46 06.1	+0.1
SABO				Sg	Sb	10 46 14.6	-0.7
	comp=Z,112nm,0.4s						
MTLO	Montello	0.54	250	ePg	Pg	10 46 05.7	-0.3
MTLO	Montello	0.54	250	ePg	Pg	10 46 05.7	-0.3
PTCC	Patocco-Chiusa	0.54	42	Pg	Pg	10 46 05.2	-0.9
	comp=Z,31nm,0.7s						
PTCC	Patocco-Chiusa	0.54	42	Pg	Pg	10 46 05.2	-0.9
	comp=Z,31nm,0.7s						
ZOU	Zoufplan	0.56	11⇓	ePg	Pg	10 46 05.7	-0.7
ZOU				eSg	Sb	10 46 15.0	-1.0
FVI	Forni Avoltri	0.59	357	Pg	Pg	10 46 07.1	+0.1
	comp=Z,21nm,0.2s						
FVI	Forni Avoltri	0.59	357	Pg	Pg	10 46 07.1	+0.1
	comp=Z,21nm,0.2s						
DRE	Drenchia	0.59	73	ePg	Pg	10 46 07.2	+0.2
DRE	Drenchia	0.59	73	ePg	Pg	10 46 07.2	+0.2
AGOR	Agordo	0.61	297	Pg	Pg	10 46 07.7	+0.4
AGOR	Agordo	0.61	297	ePg	Pg	10 46 07.3	+0.1
CADS	Cadrg	0.67	70	i Pg	Pg	10 46 07.8	-0.7
CADS				i Sg	Sb	10 46 18.4	-0.7
	comp=Z,9.0nm,0.1s						
CADS	Cadrg	0.67	70	i Pg	Pg	10 46 07.8	-0.7
CADS				i Sg	Sb	10 46 18.4	-0.7
	comp=Z,9.0nm,0.1s						
LSR	Lussari	0.68	46	ePg	Pg	10 46 08.1	-0.5
LSR				eSg	Sb	10 46 18.8	-0.6
LSR	Lussari	0.68	46	ePg	Pg	10 46 08.1	-0.5
LSR				eSg	Sb	10 46 18.8	-0.6
ACOM	Acomizza, Ital	0.72	41	Pg	Pg	10 46 09.3	-0.2
	comp=Z,36nm,0.4s						
ACOM	Acomizza, Ital	0.72	41	ePg	Pg	10 46 09.4	-0.1
ACOM	Acomizza, Ital	0.72	41	Pg	Pg	10 46 09.3	-0.2
	comp=Z,36nm,0.4s						
CGRP	Cima Grappa	0.73	260	Pg	Pg	10 46 09.2	-0.3
	comp=Z,24nm,0.3s						
CGRP	Cima Grappa	0.73	260	ePg	Pg	10 46 09.3	-0.3
CGRP				eSg	Sb	10 46 20.2	-0.6
CGRP	Cima Grappa	0.73	260	Pg	Pg	10 46 09.2	-0.3
	comp=Z,24nm,0.3s						
VOJS	Vojsko	0.74	88	i Pg	Pg	10 46 09.8	0.0
VOJS				i Sg	Sb	10 46 20.6	-0.5
	comp=Z,13nm,0.1s						
VOJS	Vojsko	0.74	88	i Pg	Pg	10 46 09.8	0.0
VOJS				i Sg	Sb	10 46 20.6	-0.5
	comp=Z,13nm,0.1s						
ABTA	Abfaltersbach	0.77	344	Pg	Pg	10 46 10.6	+0.2
	comp=Z,2.3nm,0.3s						
MYKA	Terra Mystica	0.84	42	Sg	Sb	10 46 23.7	-0.4
	comp=Z,2.7nm,0.2s,SNR=5.3						
JAVS	Javornik	0.87	97	i Pg	Pg	10 46 11.6	-0.7
	comp=Z,5.0nm,0.1s						
JAVS	Javornik	0.87	97	i Pg	Pg	10 46 11.6	-0.7
	comp=Z,5.0nm,0.1s						
SKDS	Skadanscina	0.95	118	i Pg	Pg	10 46 13.1	-0.7
SKDS				i Sg	Sb	10 46 26.8	-0.3
	comp=Z,7.0nm,0.1s						
SKDS	Skadanscina	0.95	118	i Pg	Pg	10 46 13.1	-0.7
SKDS				i Sg	Sb	10 46 26.8	-0.3
	comp=Z,7.0nm,0.1s						
CRNS	Crni Vrh	1.00	85	i Pg	Pg	10 46 14.2	-0.6
	comp=Z,7.0nm,0.1s						
CRNS	Crni Vrh	1.00	85	i Pg	Pg	10 46 14.2	-0.6
	comp=Z,7.0nm,0.1s						
TEOL	Teolo	1.03	232	Pg	Pg	10 46 14.7	-0.7
	comp=Z,201nm,0.5s						
TEOL	Teolo	1.03	232	Pg	Pg	10 46 14.7	-0.7
	comp=Z,201nm,0.5s						
PANI	Panarotta	1.04	273	ePg	Pg	10 46 15.0	-0.5
KBA	Koelnbreinsper	1.13	18	Pg	Pb	10 46 17.5	0.0
	comp=Z,2.8nm,0.2s,SNR=6.0						
KBA				Sg	Sn	10 46 33.1	-0.7
	comp=Z,2.7nm,0.2s						
DDS	Dosso del Somm	1.15	264	ePg	Pg	10 46 16.8	-0.8
DDS	Dosso del Somm	1.15	264	ePg	Pg	10 46 16.8	-0.8
LJU	Ljubljana	1.19	88	i Pg	Pn	10 46 18.4	-0.1
LJU				i Sg	Sn	10 46 36.9	+2.0
	comp=Z,10.0nm,0.1s						
LJU	Ljubljana	1.19	88	i Pg	Pn	10 46 18.4	-0.1
LJU				i Sg	Sn	10 46 36.9	+2.0
	comp=Z,10.0nm,0.1s						
APPI	Appiano	1.21	294	Pg	Pg	10 46 18.2	-0.5
	comp=Z,101nm,0.3s						
APPI	Appiano	1.21	294	Pg	Pg	10 46 18.2	-0.5
	comp=Z,101nm,0.3s						
ROVR	Roverˆ¤ Verone	1.28	254	Pg	Pn	10 46 18.9	-0.9
ROVR	Roverˆ¤ Verone	1.28	254	Pg	Pn	10 46 18.9	-0.9
OZOL	Ozolo	1.29	289	ePg	Pn	10 46 19.6	-0.5
OZOL	Ozolo	1.29	289	ePg	Pn	10 46 19.6	-0.5
OBKA	Obir	1.30	67	Pg	Pg	10 46 20.4	-0.1
	comp=Z,1.0nm,0.2s						
OBKA				Sg	Sn	10 46 38.7	+1.0
	comp=Z,8.4nm,0.2s						
WTTA	Wattenberg	1.50	327	Pg	Pg	10 46 24.7	+0.3
	comp=Z,5.6nm,0.2s,SNR=8.4						
WTTA				Sg	Sg	10 46 46.2	+2.4
	comp=Z,18nm,0.4s,SNR=5.0						
MAGA	Magasa	1.55	262	Pg	Pn	10 46 23.7	+0.1
	comp=Z,92nm,0.3s						
MAGA	Magasa	1.55	262	Pg	Pn	10 46 23.7	+0.1
	comp=Z,92nm,0.3s						
WATA	Walderalm	1.58	328	Pg	Pg	10 46 26.1	+0.2
	comp=Z,2.3nm,0.2s						
SOKA	Soboth	1.67	65	Pg	Pb	10 46 26.8	+0.2
	comp=Z,3.1nm,0.4s						
SOKA				Sg	Sg	10 46 50.1	+0.9
	comp=Z,2.3nm,0.2s						
MOTA	Moosalm	1.79	319	Pg	Pg	10 46 29.6	-0.2
	comp=Z,2.2nm,0.2s						
NVLJ	Novalja	2.04	134	Sn	Sb	10 46 58.0	-0.5
NVLJ	Novalja	2.04	134	Sn	Sb	10 46 57.9	-0.5

IDC 01 10:47:10.7±535.0, 50°.51N×112°.68E, h0km, Error ellipse: s-maj=199.0km s-min=102.8km az=60.0, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	SONGINO INFRAS	4.93	239	i		11 18 00.0	
	baz=56,slow=321,SNR=0.4						
I45RU	USSURIYSK INFR	14.50	108	i		12 21 20.0	
	baz=302,slow=348,SNR=1.8						
I46RU	ZALESOVO INFRA	17.36	292	i		12 33 00.0	
	baz=87,slow=320,SNR=0.8						

IDC 01 10:48:53.4±1.2, 25°.62N×141°.50E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/49, mbtmp3.6/3, Error ellipse: s-maj=75.6km s-min=19.0km az=105.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.59	23	Pn	Pn	10 49 22.8	-0.1
	97nm,0.3s,baz=263,slow=24,SNR=33						
JCJ				Sn	Sg	10 49 45.0	+0.3
	baz=180,slow=20						
WRA	Warramunga Arr	45.82	189	P	P	10 57 17.1	-0.1
	0.6nm,0.6s,baz=9.1,slow=8.6,SNR=8.4						
ASAR	Alice Springs	49.54	189	P	P	10 57 45.9	-0.2
	0.2nm,0.7s,baz=8.5,slow=7.5,SNR=3.2						
FINES	FINESS Array B	79.00	334	P	P	11 00 59.0	+0.2
	1.0nm,0.5s,baz=67,slow=4.7,SNR=5.6						

*IDC **01** 10:52:07.6±1.6, 38°.67N×142°.95E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/44, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=71.1km s-min=29.3km az=124.0*
*ISCJB **01** 10:52:08.8±1.3, 38°.99N±0°.05×142°.46E±0°.09, h24km±8km, mb3.4/3, Error ellipse: s-maj=11.4km s-min=7.9km az=176.3*
*JMA **01** 10:52:10.7±0.1, 39°.06N×142°.38E, h31km±1km, M3.2*
ISC 01 10:52:10.3±2.3, 39°.04N±0°.05×142°.4E±0°.1, h24km±16km, n18, $\sigma 0^{s}99$/19, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.55	274	P	Pb	10 52 21.9	+0.5
OFUJ				S	Sb	10 52 29.5	+0.6
MIYJ	Miyakonagasawa	0.69	321	P	Pb	10 52 23.5	-0.2
MIYJ				S	Sb	10 52 32.5	-0.3
JMK	Ichinoseki	0.91	265	P	Pb	10 52 27.3	-0.1
JMK				S	Sb	10 52 38.9	-0.1
JOM	Ohasama	0.95	297	P	Pn	10 52 28.0	-0.1
JOM				S	Sn	10 52 40.6	-0.3
JTH	Tanohata	0.98	336	P	Pn	10 52 28.3	-0.3
JIO	Ouri	1.00	234	P	Pn	10 52 28.0	-0.8
JIO				S	Sb	10 52 39.8	-1.8
JKZ	Kuzumaki	1.24	320	P	Pn	10 52 32.5	+0.2
JKZ				S	Sb	10 52 48.3	-0.4
JRG	Rokugo	1.40	285	P	Pb	10 52 35.4	-0.4
JRG				eS	Sb	10 52 53.6	+0.4
MJAR	Matsushiro Arr	4.14	234	Pn	Pn	10 53 14.4	+2.3
	0.8nm,0.3s,baz=40,slow=11,SNR=7.2						
H11N2	WAKE ISLAND Hy	28.60	125	T	T	11 28 26.2	
	baz=317,slow=75,SNR=17						
H11N1	WAKE ISLAND Hy	28.61	125	T	T	11 28 21.7	
	baz=317,slow=75,SNR=17						
H11N3	WAKE ISLAND Hy	28.62	125	T	T	11 28 25.1	
	baz=317,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	29.39	127	T	T	11 29 23.6	
	baz=319,slow=76,SNR=3.9						
H11S3	WAKE ISLAND Hy	29.39	127	T	T	11 29 25.8	
	baz=319,slow=76,SNR=8.3						
H11S2	WAKE ISLAND Hy	29.40	127	T	T	11 29 24.1	
	baz=319,slow=76,SNR=3.1						
ILAR	Eielson Array	47.40	33	P	P	11 00 43.6	+1.3
	0.2nm,0.6s,baz=274,slow=6.0,SNR=3.8						
WRA	Warramunga Arr	59.16	189	P	P	11 02 07.8	-1.3
	0.5nm,1.0s,baz=6.7,slow=7.1,SNR=4.7						
ASAR	Alice Springs	62.88	189	P	P	11 02 33.6	-0.8
	0.3nm,0.8s,baz=1.0,slow=5.6,SNR=2.6						

*ISCJB **01** 10:53:40.6±0.5, 39°.13N±0°.03×29°.07E±0°.03, h2km±6km, Error ellipse: s-maj=4.7km s-min=3.6km az=156.2*
*CSEM **01** 10:53:40.9±0.1, 39°.13N×29°.08E, h5km, ML3.0, Error ellipse: s-maj=1.5km s-min=1.3km az=136.0*
*ISK **01** 10:53:40.3, 39°.11N×29°.08E, h5km, ML2.7*
*DDA **01** 10:53:40.8, 39°.12N×29°.08E, h7km, Ml3.0*
ISC 01 10:53:41.1±1.0, 39°.13N±0°.02×29°.08E±0°.02, h9km±10km, n41, $\sigma 0^{s}37$/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.29	254	P	Pg	10 53 47.2	+0.2
DEMI				S	Sg	10 53 51.1	+0.1
DEMI	Demirci	0.29	254	i P	Pg	10 53 47.2	+0.2
DEMI				i S	Sg	10 53 51.1	+0.1
GDZ	Gediz	0.31	96	P	Pg	10 53 47.3	-0.1
GDZ				S	Sg	10 53 51.8	+0.2
GDZ	Gediz	0.31	96	i P	Pg	10 53 47.3	-0.1
GDZ				i S	Sg	10 53 51.8	+0.2
TVSB	Tavsanli	0.44	42	ePG	Pg	10 53 49.6	-0.1
TVSB				eSG	Sg	10 53 55.2	-0.3
TVSB	Tavsanli	0.44	42	ePg	Pg	10 53 49.6	-0.1
TVSB				eSg	Sg	10 53 55.2	-0.3
KULA	Kula-Manisa	0.69	208	ePG	Pg	10 53 54.0	-0.5
KULA				eSG	Sg	10 54 03.3	-0.2
KULA	Kula-Manisa	0.69	208	ePg	Pg	10 53 54.0	-0.5
KULA				eSg	Sg	10 54 03.3	-0.2
KHAL	Karahalli	0.82	157	P	Pg	10 53 56.9	0.0
KHAL				S	Sg	10 54 07.7	+0.1
KHAL	Karahalli	0.82	157	i P	Pg	10 53 56.9	0.0
KHAL				i S	Sg	10 54 07.7	+0.1
KHL	Karahalli	0.87	156	ePG	Pg	10 53 57.4	-0.5
KHL				eSG	Sb	10 54 09.9	-0.4
KHL	Karahalli	0.87	156	ePg	Pg	10 53 57.4	-0.5
KHL				eSg	Sb	10 54 09.9	-0.4
ORLT	Orhaneli	0.93	351	ePG	Pg	10 53 58.4	-0.7
ORLT	Orhaneli	0.93	351	ePg	Pg	10 53 58.4	-0.7
AKHS	Akhisar	1.02	256	P	Pb	10 54 00.7	-0.2
AKHS				S	Sg	10 54 13.9	0.0
AKHS	Akhisar	1.02	256	i P	Pb	10 54 00.7	-0.2
AKHS				i S	Sg	10 54 13.9	0.0
AKS	Akhisar	1.02	256	ePG	Pg	10 54 00.3	-0.4
AKS	Akhisar	1.02	256	ePg	Pg	10 54 00.3	-0.4
BALB	Balikesir	1.06	299	ePG	Pg	10 54 01.5	-0.1
BALB	Balikesir	1.06	299	ePg	Pg	10 54 01.5	-0.1
IGD	Bursa	1.14	5	i P	Pg	10 54 02.3	-0.7
IGD				i S	Sg	10 54 16.8	-1.1
CAVI	Cavuskoy	1.23	28	ePN	Pg	10 54 04.3	-0.3
CAVI	Cavuskoy	1.23	28	ePn	Pg	10 54 04.3	-0.3
IZI	Iznik	1.25	14	ePN	Pg	10 54 04.8	-0.3
IZI	Iznik	1.25	14	ePn	Pg	10 54 04.8	-0.3
MDNY	Mudanya-Bursa	1.25	353	ePN	Pg	10 54 05.0	-0.2
MDNY	Mudanya-Bursa	1.25	353	ePn	Pg	10 54 05.0	-0.2
KCTX	Karacabey (Bur	1.27	334	ePN	Pb	10 54 05.5	+0.3
KCTX	Karacabey (Bur	1.27	334	ePn	Pb	10 54 05.5	+0.3
BORA	Eskisehir	1.30	54	P	Pn	10 54 05.8	+0.2
BORA				S	Sb	10 54 23.4	+0.7
BORA	Eskisehir	1.30	54	i P	Pn	10 54 05.8	+0.2
BORA				i S	Sb	10 54 23.4	+0.7
ADVT	Abdulvahap	1.40	21	ePN	Pn	10 54 07.1	+0.2
ADVT	Abdulvahap	1.40	21	ePn	Pn	10 54 07.1	+0.2
ESKT	Eskisehir	1.43	73	ePN	Pn	10 54 07.5	+0.2
ESKT	Eskisehir	1.43	73	ePn	Pn	10 54 07.5	+0.2
ESKT	Eskisehir	1.43	73	i P	Pg	10 54 08.3	-0.2
ESKT				i S	Sb	10 54 26.1	-0.2
SEYT	Eskypehyr	1.43	73	P	Pg	10 54 08.3	-0.2
SEYT				S	Sb	10 54 26.1	-0.2
ARMT	Armutlu	1.45	353	ePN	Pn	10 54 08.0	+0.5
ARMT	Armutlu	1.45	353	ePn	Pn	10 54 08.0	+0.5
GULT	Gulveren	1.71	40	ePN	Pn	10 54 11.6	+0.4
GULT	Gulveren	1.71	40	ePn	Pn	10 54 11.6	+0.4

*ATH **01** 10:54:16.0, 36°.62N×22°.92E, h24km, ML3.8/13, Error ellipse: s-maj=1.5km s-min=0.8km az=234.0*
*ISCJB **01** 10:54:16.4±0.5, 36°.60N±0°.02×22°.92E±0°.03, h12km±3km, mb3.6/11, MS2.7/1, Error ellipse: s-maj=4.1km s-min=2.5km az=150.5*
*THE **01** 10:54:16.9, 36°.62N×22°.93E, h7km, ML3.9/20, Error ellipse: s-maj=0.9km s-min=0.4km az=245.0*
*CSEM **01** 10:54:16.6±0.1, 36°.62N×22°.92E, h10km, ML3.8, Error ellipse: s-maj=2.9km s-min=1.7km az=57.0*
*HLW **01** 10:54:17.0, 36°.85N×22°.97E, h29km±13km, Md4.0, Ml4.1*
*IDC **01** 10:54:22.2±2.0, 36°.49N×23°.11E, h72km±22km, mb3.5/11, mb1 3.7/16, mb1mx3.5/45, mbtmp3.8/16, MS2.8/3, Ms1 2.9/3, ms1mx2.4/30, Error ellipse: s-maj=19.2km s-min=17.8km az=123.0*
ISC 01 10:54:15.9±0.8, 36°.59N±0°.02×22°.93E±0°.02, h12km±5km, n136, $\sigma 1^{s}12$/191, mb3.7/11, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	Veliai	0.13	2	P	Pg	10 54 19.3	+0.1
VLI				S	Sg	10 54 21.3	-0.2
VLI	Veliai	0.13	2	P	Pg	10 54 19.3	+0.1
VLI				S	Sg	10 54 21.3	-0.2
VLI	Veliai	0.13	2	P	Pg	10 54 18.7	-0.5
VLI				AML	AML	10 54 21.7	
VLI				AML	AML	10 54 21.9	
KYTH	Kithira	0.34	164	P	Pb	10 54 24.4	+0.5
KYTH				S	Sb	10 54 29.9	+0.6
KYTH	Kithira	0.34	164	P	Pb	10 54 24.4	+0.5
KYTH				S	Sb	10 54 29.3	0.0
KYTH	Kithira	0.34	164	P	Pn	10 54 25.2	-1.6
ANKY	Antikythira Is	0.78	157	P	Pn	10 54 32.4	-0.4
ANKY				S	Sb	10 54 43.4	+1.4
ANKY	Antikythira Is	0.78	157	P	Pn	10 54 32.4	-0.4
ANKY				S	Sb	10 54 43.0	+1.0
ANKY	Antikythira Is	0.78	157	P	Pn	10 54 32.5	-0.3
ANKY				S	Sb	10 54 43.0	+1.0
ANKY				AML	AML	10 54 44.3	
	comp=E,12584μm,0.4s						
ANKY				AML	AML	10 54 47.7	
	comp=N,13038μm,0.5s						
KRND	KRANIDI	0.81	12	P	Pb	10 54 31.6	-0.4
KRND				S	Sb	10 54 42.8	-0.1
KRND	KRANIDI	0.81	12	P	Pb	10 54 32.0	0.0
KRND				S	Sb	10 54 42.6	-0.3
KRND	KRANIDI	0.81	12	P	Pb	10 54 32.0	0.0
KRND				S	Sb	10 54 42.6	-0.3
KRND				AML	AML	10 54 47.6	
	comp=N,8926μm,0.3s						
KRND				AML	AML	10 54 48.6	
	comp=E,10132μm,0.3s						
VLX	Vlachokerasia	0.90	331	P	Pg	10 54 32.6	-0.7
VLX				S	Sb	10 54 45.9	+0.5
VLX	Vlachokerasia	0.90	331	P	Pg	10 54 32.6	-0.7
VLX				S	Sb	10 54 45.9	+0.5
VLX	Vlachokerasia	0.90	331	P	Pg	10 54 32.2	-1.0
VLX				AML	AML	10 54 48.7	
	comp=E,13915μm,0.7s						
VLX				AML	AML	10 54 49.5	
	comp=N,18852μm,0.7s						
DID	Didima	0.95	15	P	Pg	10 54 33.5	-0.7
DID				S	Sb	10 54 47.1	+0.3
DID	Didima	0.95	15	P	Pb	10 54 34.6	+0.3
DID				S	Sb	10 54 47.1	+0.3
DID	Didima	0.95	15	P	Pb	10 54 34.6	+0.3
DID				S	Sb	10 54 47.3	+0.4
DID				AML	AML	10 54 52.7	
	comp=E,15187μm,0.7s						
DID				AML	AML	10 54 53.9	
	comp=N,12619μm,0.8s						
ITM	Ithomi	1.00	306	P	Pg	10 54 34.0	-1.2
ITM				S	Sb	10 54 48.8	+0.5
ITM	Ithomi	1.00	306	P	Pg	10 54 34.0	-1.2
ITM				S	Sb	10 54 48.8	+0.5
ITM	Ithomi	1.00	306	P	Pg	10 54 33.9	-1.2
ITM				S	Sb	10 54 48.4	+0.1
ITM				AML	AML	10 54 54.8	
	comp=N,4083μm,0.3s						
ITM				AML	AML	10 54 58.1	
	comp=E,5520μm,0.7s						
PYL	PYLOS	1.00	288	P	Pb	10 54 34.9	-0.4
PYL				S	Sn	10 54 49.8	-0.1
PYL	PYLOS	1.00	288	P	Pb	10 54 34.9	-0.4
PYL				S	Sb	10 54 48.7	+0.3
PYL	PYLOS	1.00	288	P	Pb	10 54 34.8	-0.5
PYL				S	Sb	10 54 48.7	+0.3
PYL				AML	AML	10 54 58.0	
	comp=E,5367μm,0.9s						
PYL				AML	AML	10 54 59.2	
	comp=N,3900μm,0.8s						
MHLO	Agia Marina, M	1.19	85	P	Pn	10 54 38.8	+0.4
MHLO				S	Sn	10 54 55.9	+1.5
MHLO	Agia Marina, M	1.19	85	P	Pn	10 54 38.9	+0.5
MHLO				S	Sn	10 54 55.9	+1.5
MHLO	Agia Marina, M	1.19	85	P	Pn	10 54 38.9	+0.5
MHLO				AML	AML	10 55 01.6	
	comp=E,18177μm,0.4s						
MHLO				AML	AML	10 55 04.3	
	comp=N,14967μm,0.4s						
AMT	Artemida-Makis	1.36	314	P	Pn	10 54 40.4	-0.4
AMT	Artemida-Makis	1.36	314	P	Pn	10 54 40.4	-0.4
AMT	Artemida-Makis	1.36	314	P	Pn	10 54 40.3	-0.5
AMT				AML	AML	10 55 08.2	
	comp=N,10156μm,0.8s						
AMT				AML	AML	10 55 08.8	
	comp=E,8341μm,0.7s						
IMMV	Iera Moni Meta	1.41	143	P	Pg	10 54 42.3	-0.7
IMMV				S	Sg	10 55 02.1	+0.7
IMMV	Iera Moni Meta	1.41	143	P	Pg	10 54 42.4	-0.7
IMMV				S	Sg	10 55 02.1	+0.7
IMMV	Iera Moni Meta	1.41	143	P	Pg	10 54 42.4	-0.7
IMMV				AML	AML	10 55 16.2	
	comp=E,5228μm,0.3s						
IMMV				AML	AML	10 55 17.8	
	comp=N,5353μm,0.4s						
LTK	Loutraki	1.43	1	P	Pn	10 54 42.2	+0.4
LTK				S	Sb	10 55 01.1	+0.3
LTK	Loutraki	1.43	1	P	Pb	10 54 42.4	-0.2
LTK				S	Sb	10 55 01.1	+0.3
LTK	Loutraki	1.43	1	P	Pb	10 54 42.4	-0.2
LTK				AML	AML	10 55 04.4	
	comp=E,6425μm,0.8s						
LTK				AML	AML	10 55 06.3	
	comp=N,6146μm,0.8s						
VLY	Voula,Athens	1.44	28	P	Pn	10 54 41.9	+0.1
VLY				S	Sb	10 55 01.2	+0.3
VLY	Voula,Athens	1.44	28	P	Pn	10 54 41.9	+0.1
VLY				S	Sb	10 55 01.1	+0.2
VLY	Voula,Athens	1.44	28	P	Pn	10 54 41.7	-0.1
VLY				S	Sb	10 55 01.1	+0.2
VLY				AML	AML	10 55 10.5	

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	comp=E,7138µm,0.6s						
VLY				AML	AML	10 55 11.6	
	comp=N,3899µm,0.5s						
THAL	Thalero	1.46	352	P	Pn	10 54 42.4	+0.3
THAL				S	Sg	10 55 02.2	-0.8
THAL	Thalero	1.46	352	P	Pn	10 54 42.4	+0.3
THAL				S	Sg	10 55 02.2	-0.8
ATH	Athens Observa	1.51	24	P	Pn	10 54 43.6	+0.7
ATH				S	Sb	10 55 03.8	+0.6
ATH	Athens Observa	1.51	24	P	Pn	10 54 43.5	+0.7
ATH				S	Sb	10 55 03.8	+0.6
VAM	Vamos	1.57	139	P	Pb	10 54 44.5	-0.4
VAM				S	Sg	10 55 05.6	-0.7
VAM	Vamos	1.57	139	P	Pb	10 54 44.5	-0.4
VAM				S	Sg	10 55 05.6	-0.7
KLV	Kalavryta, Ach	1.58	337	P	Pn	10 54 44.1	+0.3
KLV				S	Sn	10 55 05.0	+0.8
KLV	Kalavryta, Ach	1.58	337	P	Pn	10 54 44.4	+0.5
KLV				S	Sn	10 55 05.0	+0.8
KLV	Kalavryta, Ach	1.58	337	P	Pn	10 54 44.4	+0.5
KLV				S	Sn	10 55 04.3	0.0
KLV				AML	AML	10 55 13.0	
	comp=N,3523µm,0.9s						
KLV				AML	AML	10 55 17.1	
	comp=E,3376µm,0.8s						
VILL	Villia	1.60	11	P	Pn	10 54 44.0	-0.1
VILL				S	Sn	10 55 05.1	+0.3
VILL	Villia	1.60	11	P	Pn	10 54 44.0	-0.1
VILL				S	Sn	10 55 05.1	+0.3
PTL	Penteli	1.63	27	P	Pn	10 54 45.0	+0.4
PTL				S	Sn	10 55 05.8	+0.2
PTL	Penteli	1.63	27	P	Pn	10 54 44.6	0.0
PTL				S	Sn	10 55 05.8	+0.2
PTL	Penteli	1.63	27	P	Pn	10 54 44.6	0.0
DRO	Drossia	1.67	325	P	Pb	10 54 46.4	-0.3
DRO	Drossia	1.67	325	P	Pb	10 54 46.3	-0.4
DRO	Drossia	1.67	325	P	Pb	10 54 46.3	-0.4
LAKA	Lakka	1.81	336	P	Pb	10 54 48.1	-1.0
LAKA				S	Sn	10 55 10.9	+0.9
LAKA	Lakka	1.81	336	P	Pb	10 54 48.1	-1.0
LAKA				S	Sn	10 55 10.9	+0.9
DSF	Desfina	1.84	350	P	Pn	10 54 47.9	+0.4
DSF				S	Sn	10 55 11.7	+0.9
DSF	Desfina	1.84	350	P	Pn	10 54 47.9	+0.4
DSF				S	Sn	10 55 11.7	+0.9
DSF	Desfina	1.84	350	P	Pn	10 54 47.8	+0.3
KALE	Kalithea	1.90	341	P	Pn	10 54 48.8	+0.5
KALE	Kalithea	1.90	341	P	Pn	10 54 48.8	+0.5
SERG	Sergoula	1.95	339	P	Pn	10 54 49.6	+0.7
THR5	Thira Island,	1.95	94	P	Pn	10 54 49.9	+1.0
THR5	Thira Island,	1.95	94	P	Pn	10 54 49.9	+1.0
CMBO	Columbo, Santo	2.00	93	P	Pn	10 54 50.5	+1.0
CMBO	Columbo, Santo	2.00	93	P	Pn	10 54 50.5	+1.0
THR3	Thira Island,	2.00	94	P	Pn	10 54 50.8	+1.3
THR3	Thira Island,	2.00	94	P	Pn	10 54 50.8	+1.3
EFP	Efpalio	2.01	336	P	Pn	10 54 50.7	+1.1
EFP	Efpalio	2.01	336	P	Pn	10 54 50.7	+1.1
ZKS	Zakynthos	2.04	303	P	Pb	10 54 51.7	-1.3
ZKS	Zakynthos	2.04	303	P	Pb	10 54 51.7	-1.3
SANT	Santorini	2.05	95	P	Pn	10 54 51.2	+0.9
SANT	Santorini	2.05	95	P	Pn	10 54 51.2	+0.9
SANT	Santorini	2.05	95	P	Pn	10 54 50.7	+0.4
IDI	Anoyia	2.05	129	P	Pn	10 54 51.0	+0.6
	comp=E,24nm,0.3s,baz=323,slow=14,SNR=74						
IDI				S	Sb	10 55 18.6	-0.2
	comp=E,69nm,0.3s,baz=275,slow=22,SNR=4.3						
IDI	Anoyia	2.05	129	P	Pn	10 54 51.0	+0.6
IDI	Anoyia	2.05	129	P	Pn	10 54 51.0	+0.6
IDI	Anoyia	2.05	129	P	Pn	10 54 50.8	+0.4
LKR	Lokris	2.06	1	P	Pn	10 54 50.2	-0.2
LKR	Lokris	2.06	1	P	Pn	10 54 50.2	-0.2
ATAL	Atalanti	2.10	2	P	Pn	10 54 51.0	0.0
APE	Apeiranthos	2.14	76	P	Pn	10 54 51.9	+0.4
APE				S	Sn	10 55 19.5	+1.5
APE	Apeiranthos	2.14	76	P	Pn	10 54 51.9	+0.4
APE				S	Sn	10 55 19.5	+1.5
APE	Apeiranthos	2.14	76	P	Pn	10 54 51.5	0.0
ANX	Ano Chora	2.15	338	P	Pn	10 54 52.7	+0.9
ANX	Ano Chora	2.15	338	P	Pn	10 54 52.7	+0.9
AGG	Agios Georgios	2.47	349	P	Pn	10 54 57.0	+0.9
AGG	Agios Georgios	2.47	349	P	Pn	10 54 57.0	+0.9
LAST	Lasithi	2.51	124	P	Pn	10 54 58.1	+1.4
LAST	Lasithi	2.51	124	P	Pn	10 54 58.1	+1.4
NPS	Neapolis	2.55	121	P	Pb	10 54 59.5	-2.1
NPS	Neapolis	2.55	121	P	Pb	10 54 59.5	-2.1
SKIA	Skiathos	2.61	9	P	Pn	10 54 58.2	+0.3
SKIA	Skiathos	2.61	9	P	Pn	10 54 58.2	+0.3
ZKR	Zakros	3.05	118	P	Pn	10 55 06.1	+2.1
ZKR	Zakros	3.05	118	P	Pn	10 55 06.1	+2.1
THL	Klokotos Trika	3.06	347	P	Pn	10 55 04.9	+0.8
ZEY	˜zmir	3.29	59	*i* P	Pn	10 55 07.0	-0.2
ZEY				*i* S	Sn	10 55 44.6	-1.6
URLA	Izmir	3.41	58	P	Pn	10 55 09.2	+0.3
URLA				S	Sn	10 55 47.4	-1.9
URLA	Izmir	3.41	58	*i* P	Pn	10 55 09.2	+0.3
URLA				*i* S	Sn	10 55 47.4	-1.9
BDRM	Kayabasi	3.65	81	P	Pn	10 55 13.2	+0.9
BDRM	Kayabasi	3.65	81	*i* P	Pn	10 55 13.2	+0.9
BOZC	Bozcaada	4.07	36	*i* P	Pn	10 55 17.9	-0.2
BOZC				*i* S	Sn	10 55 59.5	-6.1
OHR	Ohrid	4.81	340	*e*Pn	Pb	10 55 35.5	-4.7
MMB	Musomiste	5.03	7	P	Pn	10 55 33.0	+1.7
KKB	Krupnik	5.27	1	P	Pn	10 55 37.8	+3.3
RZN	Rozhen	5.28	15	P	Pn	10 55 35.3	+0.5
SLUM	Salum	5.43	159	P	Pn	10 55 37.8	+1.1
	baz=160						
SLUM				S	Sn	10 56 38.4	-0.7
	baz=160						
SLUM	Salum	5.43	159	P	Pn	10 55 37.8	+1.1
SLUM				S	Sn	10 56 38.4	-0.7
SWA2		7.63	163	P	Pn	10 56 08.1	+1.2
	baz=163						
SWA2				AMP		10 57 00.0	
	comp=E,130µm,0.3s,logA/T=5.6,baz=163						
SWA2				S	Sn	10 57 31.2	-2.1
	baz=163						
SWA2		7.63	163	P	Pn	10 56 08.1	+1.2
SWA2				S	Sn	10 57 31.2	-2.1
BRTR	Keskin Array B	8.99	66	P	Pn	10 56 31.2	+5.4
	comp=E,0.1nm,0.3s,baz=243,slow=14,SNR=10.0						
MLR	Muntele Rosu	9.18	13	P	Pn	10 56 33.8	+5.6
	comp=E,0.1nm,0.3s,baz=168,slow=14,SNR=2.7						
MMAI	Mount Meron Ar	10.86	106	P	Pn	10 56 48.9	-2.4
	comp=E,2.1nm,0.3s,baz=312,slow=11,SNR=4.3						
KEST	Kesra	11.02	270	LR	LR	11 01 33.5	
	comp=E,73nm,21.9s,baz=328,slow=39						
EIL	Elat	12.21	121	P	Pn	10 57 07.0	-2.6
	comp=E,1.0nm,0.3s,baz=300,slow=10,SNR=4.5						
GERES	GERESS Array B	13.99	334	P	P	10 57 39.6	-2.4
	comp=E,0.1nm,0.3s,baz=148,slow=10,SNR=3.5						
GERES				LR	LR	11 04 46.9	
	comp=E,30nm,19.9s,baz=148,slow=44						
AKASG	Malin Array Be	14.81	16	P	Pn	10 57 47.9	+2.8
	comp=E,1.2nm,0.3s,baz=205,slow=10,SNR=4.0						
BRG	Berggiesshubel	15.67	338	*e*P	P	10 58 02.4	+1.9
	comp=E,3.3nm,0.9s						
CLL	Collm	16.33	337	*e*(P)	P	10 58 09.0	+1.1
CLL				*i*		10 58 11.8	
	comp=Z,7.0nm,0.8s						
CLL				*e*		10 58 20.0	
KVAR	Kislovodsk Arr	16.76	58	P	P	10 58 13.1	+0.3
	baz=231,slow=6.5,SNR=2.2						
KBZ	Khabaz	16.82	59	P	P	10 58 14.2	+0.9
	comp=Z,0.2nm,0.3s,baz=289,slow=7.0,SNR=5.5						
ESDC	Sonseca Array	21.35	286	P	P	10 59 06.2	+3.2
	comp=Z,0.7nm,0.4s,baz=75,slow=10,SNR=4.9						
HFS	Hagfors	24.30	349	P	P	10 59 32.6	-0.4
	comp=Z,1.6nm,0.5s,baz=158,slow=12,SNR=10						
FINES	FINESS Array B	24.95	4	P	P	10 59 39.3	+0.4
	comp=Z,1.1nm,0.6s,baz=182,slow=9.7,SNR=3.1						
NOA	NORSAR Array B	25.57	347	P	P	10 59 44.9	+0.3
	comp=Z,0.5nm,0.6s,baz=153,slow=9.6,SNR=4.6						
NOA				LR	LR	11 10 38.0	
	comp=Z,22nm,18.6s,baz=330,slow=38						
EKA	Eskdalemuir Ar	25.83	325	P	P	10 59 47.9	+1.0
	comp=Z,4.2nm,0.4s,baz=123,slow=8.8,SNR=33						
TORD	Torodi Ar. Bea	30.13	225	P	P	11 00 26.2	+0.5
	comp=Z,0.3nm,0.3s,baz=32,slow=9.1,SNR=8.8						
ARCES	ARCESS Array B	33.03	2	P	P	11 00 51.7	+0.9
	comp=Z,0.4nm,0.4s,baz=184,slow=12,SNR=3.9						
MKAR	Makanchi Array	44.52	57	P	P	11 02 26.5	-0.8
	comp=Z,0.7nm,0.4s,baz=270,slow=4.9,SNR=6.9						
ZALV	Zalesovo Beam	45.34	47	P	P	11 02 32.4	-1.3
	comp=Z,1.6nm,0.3s,baz=270,slow=7.8,SNR=5.1						
YKA	Yellowknife Ar	75.52	341	P	P	11 05 59.1	-0.7
	comp=Z,0.2nm,0.5s,baz=35,slow=5.9,SNR=4.4						
ILAR	Eielson Array	78.65	356	P	P	11 06 15.9	-1.5
	comp=Z,0.2nm,0.6s,baz=18,slow=3.1,SNR=4.1						

ISCJB ***01*** *11:12:58.5±0.9, 18.°4N±0.°1×145.°6E±0.°2, h400km, mb3.1/8, Error ellipse: s-maj=30.0km s-min=16.6km az=10.3*

IDC ***01*** *11:13:00.8±10.0, 18.°36N×145.°62E, h412km±117km, mb2.9/8, mb1 3.1/8, mb1mx2.9/47, mbtmp3.7/8, Error ellipse: s-maj=33.0km s-min=17.2km az=74.0*

ISC 01 11:13:00.2±1.0**, 18.°4N**±0.°2×**145.°5E**±0.°2**, h400km, n9, σ0.s88**/9**, mb3.2**/8**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.63	197	P	P	11 19 54.6	-0.8
	0.5nm,0.3s,baz=18,slow=8.3,SNR=2.8						
FITZ	Fitzroy Crossi	41.19	209	P	P	11 20 08.2	+0.2
	1.0nm,0.3s,baz=26,slow=9.9,SNR=9.4						
ASAR	Alice Springs	43.30	196	P	P	11 20 24.6	-0.1
	0.5nm,0.4s,baz=15,slow=7.0,SNR=5.1						
CMAR	Chiang Mai Arr	44.11	278	P	P	11 20 31.1	-0.1
	0.6nm,0.5s,baz=79,slow=6.8,SNR=3.2						
ZALV	Zalesovo Beam	58.18	323	P	P	11 22 13.7	-0.1
	0.4nm,0.4s,baz=123,slow=7.4,SNR=2.0						
MKAR	Makanchi Array	58.57	314	P	P	11 22 17.1	+0.4
	0.6nm,0.4s,baz=96,slow=7.3,SNR=6.6						
ILAR	Eielson Array	64.00	26	P	P	11 22 51.6	-0.7
	0.1nm,0.5s,baz=246,slow=6.6,SNR=2.6						
YKA	Yellowknife Ar	78.34	28	P	P	11 24 17.0	-0.2
	0.1nm,0.3s,baz=287,slow=5.1,SNR=4.7						
LPAZ	La Paz	147.82	92	PKPbc	PKPdf	11 31 58.8	+1.8
	1.0nm,0.5s,baz=6.8,slow=3.0,SNR=5.1						

IDC 01 11:13:24.8±1.6**, 1.°61N**×**127.°37E, h0km, mb4.2**/4**, mb1 4.2**/5**, mb1mx3.8**/40**, mbtmp4.1**/5**, ML3.9**/1**, MS2.5**/1**, Ms1 2.5**/1**, ms1mx2.0**/39**, Error ellipse: s-maj=99.2km s-min=20.9km az=68.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DAV	Davao City (W)	5.71	342	LR	LR	11 16 34.0	
	comp=Z,44nm,20.6s,baz=125,slow=33						
FITZ	Fitzroy Crossi	19.66	185	P	P	11 17 55.8	+0.4
	0.3nm,0.3s,baz=10,slow=9.7,SNR=11						
WRA	Warramunga Arr	22.48	163	P	P	11 18 26.9	+0.9
	5.0nm,0.4s,baz=340,slow=11,SNR=54						
ASAR	Alice Springs	25.91	166	P	P	11 18 58.6	-0.3
	1.4nm,0.5s,baz=351,slow=7.6,SNR=36						
STKA	Stephens Creek	35.93	159	P	P	11 20 26.3	-0.8
	1.2nm,0.3s,baz=330,slow=11,SNR=9.6						
MKAR	Makanchi Array	59.65	326	P	P	11 23 31.0	0.0
	0.9nm,0.4s,baz=118,slow=7.6,SNR=17						

ISCJB ***01*** *11:14:52.3±0.3, 43.°15S±0.°03×71.°80W±0.°10, h174km±2km, mb4.4/33, Error ellipse: s-maj=11.8km s-min=4.2km az=2.9*

NEIC ***01*** *11:14:52.6±0.2, 43.°12S×71.°79W, mb4.4/23, MD4.4(SJA), Error ellipse: s-maj=11.6km s-min=6.2km az=91.0*

GUC ***01*** *11:14:53.4±0.4, 43.°15S×72.°03W, h172km±2km, ML3.9, MW4.0*

IDC ***01*** *11:14:53.5±0.7, 43.°14S×71.°69W, h174km±5km, mb4.2/14, mb1 4.3/16, mb1mx4.2/25, mbtmp4.7/16, MS2.9/1, Ms1 2.8/1, ms1mx2.5/20, Error ellipse: s-maj=16.7km s-min=7.9km az=100.0*

ISC 01 11:14:53.0±0.5**, 43.°14S**±0.°03×**71.°85W**±0.°09**, h172km**±4km**, h172km:pP-P, n117, σ0.s98**/156**, mb4.5**/33**, 5C-3D, Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FUTA	Futaleufœ	0.05	180⇑	*i*P	Pn	11 15 15.8	0.0
FUTA				*e*S	Sn	11 15 33.2	-0.3
FUTA				IAML		11 15 34.1	
	comp=E,5µm,0.9s						
PUEL	Puelo Alto	1.51	347	*i* P	Pn	11 15 24.4	+0.1
PUEL				*i* S	Sn	11 15 48.0	-0.5
PMCH	Puerto Montt	1.82	334⇓	*i*P	Pn	11 15 27.2	-0.3
PMCH				*i* S	Sn	11 15 53.0	-1.3
COYC	Coyhaique	2.44	184	*e*P	Pn	11 15 34.5	+0.1
COYC				*i* S	Sn	11 16 06.3	-0.5
COYC				IAML		11 16 09.1	
	comp=N,210nm,2.0s						
PLCA	Paso Flores	2.59	22	*e*P	Pn	11 15 37.8	+1.4
PLCA				*e*S	Sn	11 16 11.3	+1.1
PLCA	Paso Flores	2.59	22	P	Pn	11 15 37.8	+1.4
	comp=N,23nm,0.3s,baz=230,slow=11,SNR=951						
PLCA				S	Sn	11 16 11.0	+0.8
	comp=N,13nm,0.3s,baz=228,slow=14,SNR=17						
PLCA				LR	LR	11 16 43.1	
	comp=N,221nm,20.8s,baz=64,slow=43						
PLCA	Paso Flores	2.59	22⇑	*i*P	Pn	11 15 37.6	+1.2
PLCA				*i* S	Sn	11 16 11.4	+1.3
CHRN	Cochrane	4.14	187⇓	*i*P	Pn	11 15 56.5	+1.0
CHRN				*i* S	Sn	11 16 43.6	-1.0
CHRN	Cochrane	4.14	187	*e*Pn	Pn	11 15 56.4	+0.8
PSCH	Puerto Saavedr	4.49	344⇑	*i*P	Pn	11 16 00.7	+0.6
CANA	Caviahue	5.28	7	*e*P	Pn	11 16 12.4	+1.8
GO08	Villa O'Higgin	5.35	185⇓	*i*P	Pn	11 16 12.0	+0.8
GO08				*e*S	Sn	11 17 12.2	-0.5
TRQA	Tornquist	9.06	59	*e*Pn	Pn	11 17 02.2	+1.9
AUSP	Uspallata	11.07	11	*e*P	Pn	11 17 25.0	-1.8
RTLS	Leoncito	11.50	11	*e*P	Pn	11 17 30.6	-1.8
USHA	Ushuaia	11.91	170	P	Pn	11 17 38.5	+1.2
	comp=N,31nm,0.3s,baz=343,slow=11,SNR=4.9						
CYA	Choya	15.46	20	*e*P	P	11 18 23.7	+1.0
AHML	Horco Molle	17.16	20	*e*P	P	11 18 39.6	-1.9
AHML				*e*S	Pn	11 18 46.4	+3.8
FSA	Cafayete	17.65	18	*e*P	Pn	11 18 48.6	+0.1
SLA	San Lorenzo	19.10	18	*e*P	Pn	11 19 04.2	-1.3
SLA				IAML		11 19 06.7	
	comp=Z,51nm,0.6s						
AZAP	Zapla	19.68	19	*e*P	P	11 19 10.1	+1.1
AZAP				IAML		11 19 10.8	
	comp=Z,23nm,0.8s						
CPUP	Villa Florida	20.53	40	P	P	11 19 17.8	-0.1
	comp=Z,13nm,0.5s,baz=180,slow=20,SNR=46						
CPUP				PcP	PcP	11 23 22.1	+0.3
	comp=Z,1.5nm,0.6s,baz=180,slow=20,SNR=4.0						
CPUP	Villa Florida	20.53	40	*e*P	P	11 19 19.1	+1.2
CPUP				PcP	PcP	11 23 22.1	+0.3
HJA	Humahuaca	20.58	17	*e*P	P	11 19 20.2	+1.3
LVC	Limon Verde	20.62	8	P	P	11 19 20.0	+0.8
	comp=Z,22nm,0.4s,baz=190,slow=8.7,SNR=18						
LVC				S	S	11 23 00.8	+0.4
	comp=Z,11nm,0.9s,baz=270,slow=20,SNR=8.0						
LVC	Limon Verde	20.62	8	*e*P	P	11 19 20.1	+0.8
	comp=Z,8.8nm,0.5s						
LVC				S	S	11 23 00.8	+0.4
YJA	Yavi	21.56	16	*e*P	P	11 19 30.5	+1.1
PB01	IPOC Station P	22.12	6	*e*P	P	11 19 34.9	+0.2
	comp=Z,16nm,1.0s						
PMSA	Palmer Station	22.12	171	P	P	11 19 35.1	+1.0
	comp=Z,20nm,0.9s,baz=21,slow=4.0,SNR=4.5						
LPAZ	La Paz	26.95	8	P	P	11 20 19.6	+0.5
	comp=Z,3.2nm,0.3s,baz=169,slow=4.3,SNR=22						
LPAZ				PcP	PcP	11 23 37.0	+0.5
	comp=Z,1.0nm,0.4s,baz=164,slow=5.7,SNR=4.8						
LPAZ				ScP	ScP	11 27 00.5	+0.2
	comp=Z,1.9nm,0.8s,baz=194,slow=5.3,SNR=7.3						
LPAZ	La Paz	26.95	8	*e*P	P	11 20 19.9	+0.8
	comp=Z,5.6nm,0.8s						
LPAZ				PcP	PcP	11 23 37.0	+0.5
LPAZ				ScP	ScP	11 27 00.5	+0.2
SIV	San Ignacio	28.58	22	P	P	11 20 32.5	-0.4
	comp=Z,11nm,0.7s,baz=220,slow=9.9,SNR=28						
SIV				PcP	PcP	11 23 39.5	-0.2
	comp=Z,1.7nm,0.5s,baz=283,slow=14,SNR=2.8						
BDFB	Brasilia	34.15	44	P	P	11 21 19.7	-2.0
	comp=Z,3.9nm,0.5s,baz=197,slow=6.2,SNR=5.7						
VNA3	Neumayer Olymp	40.96	154	P	P	11 22 17.9	-0.3
SNAA	Sanae	43.18	154	P	P	11 22 35.9	-0.3
SNAA	Sanae	43.18	154	*e*P	P	11 22 35.8	-0.4
	comp=Z,15nm,1.1s						
SNAA				*i* PcP	PcP	11 24 22.0	-0.2
PTGA	Pitinga	43.54	17	*e*P	P	11 22 39.5	-0.1
	comp=Z,25nm,0.6s						
QSPA	South Pole Qui	47.11	180	*e*P	P	11 23 08.6	+1.3
	comp=Z,170nm,0.7s						
QSPA				*e*PcP	PcP	11 24 36.9	+0.8
SDV	Santo Domingo	51.79	2	*e*P	P	11 23 42.5	-0.8
	comp=Z,8.0nm,0.7s						
VNDA	Vanda	55.20	192	P	P	11 24 08.8	+1.7
	comp=Z,15nm,1.3s,baz=143,slow=3.9,SNR=12						
VNDA	Vanda	55.20	192	*e*P	P	11 24 09.7	+2.6
	comp=Z,4.6nm,0.9s						
SYO	Syowa Base	57.38	157⇑	*e*P	P	11 24 20.9	-1.7
SYO	Syowa Base	57.38	157⇑	*e*PcP	PcP	11 25 12.9	-1.6
MAW	Mawson	64.41	162	P	P	11 25 10.4	+0.4
	comp=Z,8.9nm,0.5s,baz=196,slow=6.7,SNR=32						
MAW	Mawson	64.41	162	*e*P	P	11 25 10.6	+0.6
	comp=Z,3.3nm,0.9s						
CASY	Casey	70.90	181	*e*P	P	11 25 51.7	+1.1
	comp=Z,16nm,0.9s						
BOSA	Boshof	75.82	116	P	P	11 26 19.2	-1.1
	comp=Z,5.5nm,0.7s,baz=237,slow=5.5,SNR=7.5						
LRAL	Lakeview Retre	77.06	347	*e*P	P	11 26 27.6	+0.9
	comp=Z,10nm,0.6s						
LIC	Lamto	77.70	69	*e*P	P	11 26 30.0	-0.7
TXAR	Lajitas Array	77.81	332	P	P	11 26 32.3	+1.2
	comp=Z,1.6nm,0.7s,baz=153,slow=8.3,SNR=18						
TXAR				pP	pP	11 27 12.9	-0.2
	comp=Z,1.5nm,0.9s,baz=148,slow=7.4,SNR=5.5						
TX31	Lajitas Ar. Si	77.82	332	*e*P	P	11 26 32.3	+1.2
KIC	Kosan Boka	78.00	69	*e*P	P	11 26 31.9	-0.5
	comp=Z,24nm,0.7s						
TIC	Toumodi	78.01	69	*e*P	P	11 26 31.9	-0.6
DBIC	Dimbokro	78.14	69	P	P	11 26 32.9	-0.3
	comp=Z,18nm,0.7s,baz=195,slow=5.9,SNR=21						
CPCT	Cooper Cave	79.06	349	*e*P	P	11 26 38.0	+0.4
	comp=Z,3.7nm,0.8s						
PLAL	Pickwick Lake	79.15	346	*e*P	P	11 26 38.2	+0.1
	comp=Z,4.5nm,0.8s						
TZTN	Tazewell	80.02	350	*e*P	P	11 26 42.2	-0.6
	comp=Z,1.9nm,0.4s						
X301	Greenbrier Sit	80.23	343	*e*P	P	11 26 44.8	+0.9
	comp=Z,7.4nm,0.6s						
WHAR	Wooly Hollow	80.25	343	*e*P	P	11 26 44.7	+0.7
	comp=Z,7.4nm,0.9s						
X201	Greenbrier Sit	80.27	343	*e*P	P	11 26 45.0	+0.8
	comp=Z,8.8nm,0.8s						
MNTX	Cornudas Mount	80.57	331	*e*P	P	11 26 46.2	+0.4
	comp=Z,14nm,2.0s						
319A	Douglas	81.71	328	*e*P	P	11 26 54.2	+2.2
	comp=Z,4.7nm,0.8s						
ANMO	Albuquerque	83.89	332	*e*P	P	11 27 04.9	+1.6
	comp=Z,6.8nm,1.3s						
ANMO				*e*pP	pP	11 27 45.9	0.0
X18A	Snowflake	84.77	329	*e*P	P	11 27 09.8	+2.1
	comp=Z,3.2nm,1.1s						
NCB	Newcomb	86.75	358	*e*P	P	11 27 17.2	+0.3
TOA0	Torodi Ar. Sit	87.25	69	*e*P	P	11 27 19.1	-1.0
	comp=Z,5.7nm,0.8s						
TORD	Torodi Ar. Bea	87.25	69	P	P	11 27 19.1	-1.0
	comp=Z,5.6nm,0.6s,baz=218,slow=5.1,SNR=32						
ECSD	EROS Data Cent	89.28	342	*e*P	P	11 27 28.8	-0.2
	comp=Z,3.3nm,0.7s						
ECSD				*e*pP	pP	11 28 10.8	-1.2
NVAR	Mina Array Bea	91.47	325	P	P	11 27 40.9	+1.3
	comp=Z,0.2nm,0.3s,baz=145,slow=4.9,SNR=2.6						
NVAR				PKKPbc	PKKPbc	11 44 59.5	-0.1
	comp=Z,0.6nm,0.6s,baz=318,slow=2.3,SNR=4.3						
HWUT	Hardware Ranch	91.63	331	*e*P	P	11 27 41.2	+1.1
	comp=Z,3.0nm,0.9s						
BW06	Boulder Array	91.98	333	*e*P	P	11 27 41.8	0.0
PDAR	Pinedale Array	91.98	333	P	P	11 27 42.0	+0.2
	comp=Z,1.0nm,0.7s,baz=137,slow=5.2,SNR=10						
PDAR				pP	pP	11 28 23.9	-1.0
	comp=Z,0.8nm,0.8s,baz=120,slow=5.3,SNR=3.6						
ASAR	Alice Springs	109.42	205	Pdiff	Pdif	11 29 01.6	+1.1
	comp=Z,0.6nm,1.0s,baz=162,slow=3.9,SNR=2.9						
ASAR				PKiKP	PKiKP	11 33 02.0	-1.0
	comp=Z,0.2nm,0.4s,baz=118,slow=1.4,SNR=5.6						
ASAR				PKKPbc	PKKPbc	11 44 07.8	+0.8
	comp=Z,0.4nm,0.7s,baz=357,slow=4.4,SNR=4.2						
YKA	Yellowknife Ar	110.72	340	PKiKP	PKiKP	11 33 03.5	-0.5
	comp=Z,0.3nm,0.9s,baz=151,slow=2.6,SNR=3.6						
YKA				PKKPbc	PKKPbc	11 44 01.7	-2.2
	comp=Z,0.4nm,0.3s,baz=323,slow=3.3,SNR=14						
WRA	Warramunga Arr	112.76	207	Pdiff	Pdif	11 29 17.6	+2.2
	comp=Z,0.6nm,1.0s,baz=124,slow=4.1,SNR=2.8						
WRA				PKiKP	PKiKP	11 33 08.6	-0.8
	comp=Z,0.7nm,0.5s,baz=172,slow=1.5,SNR=24						
GEA0	GERESS Array S	118.29	48	*e*PKPdf	PKPdf	11 33 18.6	-0.5
GERES	GERESS Array B	118.30	48	PKP	PKPdf	11 33 18.6	-0.5
	comp=Z,1.5nm,0.5s,baz=208,slow=1.9,SNR=11						
ILAR	Eielson Array	122.31	331	PKP	PKPdf	11 33 26.1	-0.1
	comp=Z,1.0nm,0.7s,baz=170,slow=2.6,SNR=11						
NB2	NORSAR Subarra	123.52	35	PKPdf	PKPdf	11 33 28.5	-0.1
	comp=Z,1.7nm,0.7s,baz=248,slow=1.9						
NOA	NORSAR Array B	123.52	35	PKP	PKPdf	11 33 28.7	0.0
	comp=Z,1.5nm,0.6s,baz=245,slow=2.2,SNR=5.2						
H11S2	WAKE ISLAND Hy	125.25	263	T	T	13 49 45.3	
	baz=130						
H11S1	WAKE ISLAND Hy	125.26	263	T	T	13 49 47.2	
	baz=130						
H11S3	WAKE ISLAND Hy	125.27	262	T	T	13 49 48.3	
	baz=130						
BR131	Keskin Array S	125.77	66	*e*PKPdf	PKPdf	11 33 34.0	+0.2
BRTR	Keskin Array B	125.77	66	PKP	PKPdf	11 33 34.0	+0.2
	comp=Z,4.1nm,0.7s,baz=200,slow=3.8,SNR=22						
H11N3	WAKE ISLAND Hy	125.88	264	T	T	13 50 35.6	
	baz=128						
H11N1	WAKE ISLAND Hy	125.89	264	T	T	13 50 36.6	
	baz=128						
H11N2	WAKE ISLAND Hy	125.90	264	T	T	13 50 35.4	
	baz=128						
AK11	Malin Array Si	127.93	52	*e*PKPdf	PKPdf	11 33 36.7	-0.6
AKASG	Malin Array Be	127.97	52	PKP	PKPdf	11 33 36.3	-1.1
	comp=Z,0.9nm,0.3s,baz=258,slow=2.8,SNR=7.5						
FINES	FINESS Array B	130.24	39	PKP	PKPdf	11 33 41.7	+0.4
	comp=Z,0.9nm,0.4s,baz=175,slow=3.8,SNR=9.8						
ARCES	ARCESS Array B	132.13	28	PKP	PKPdf	11 33 45.4	+0.6
	comp=Z,1.2nm,0.6s,baz=239,slow=3.8,SNR=7.0						
KBZ	Khabaz	133.75	66	PKP	PKPdf	11 33 48.3	-0.2
	comp=Z,2.5nm,0.7s,baz=168,slow=1.2,SNR=8.0						
GEYT	Alibeck	142.08	80	PKP	PKPdf	11 34 04.2	0.0
	comp=Z,4.9nm,0.5s,baz=262,slow=4.0,SNR=8.5						
ARU	Arti	146.11	49	*e*PKPdf	PKPbc	11 34 11.9	+0.2
ABKAR	Akbulak array	146.55	62	*e*PKPdf	PKPdf	11 34 11.7	+0.2
ABKAR				*e*PKPbc	PKPab	11 34 14.3	-0.4
ABKAR				*e*PKPab	PKiKP	11 34 16.9	+1.0
SEY	Seymchan	147.75	323	PKPbc	PKPbc	11 34 14.8	-1.4
	comp=Z,3.5nm,0.5s,baz=94,slow=5.0,SNR=11						
SEY				pPKPbc	pPKPbc	11 35 00.8	-0.1
	comp=Z,2.6nm,0.9s,baz=58,slow=1.6,SNR=2.2						
KBL	Kabul	148.59	93	*e*PKPbc	PKPbc	11 34 20.7	+1.2
MA2	Magadan	149.38	317	PKPbc	PKPbc	11 34 19.2	-1.2
	comp=Z,8.1nm,0.7s,baz=159,slow=4.1,SNR=11						
TIXI	Tiksi	149.67	347	PKPbc	PKPbc	11 34 19.8	-0.9
	comp=Z,5.4nm,0.5s,baz=0.5,slow=2.3,SNR=18						
TIXI	Tiksi	149.67	347	*e*PKPbc	PKPbc	11 34 20.2	-0.5
TIXI				*e*PKPab	PKPab	11 34 26.4	-0.2
NRIK	Noril'sk	151.66	15	PKPbc	PKPbc	11 34 25.2	-0.3
	comp=Z,4.8nm,0.6s,baz=28,slow=1.5,SNR=4.5						
ZRNK	Zerenda	152.37	55	*e*PKPdf	PKPdf	11 34 21.3	+0.7
ZRNK				*e*PKPbc	PKiKP	11 34 28.0	+0.2
ZRNK				*e*PKPab	PKPab	11 34 38.6	+0.1
KKAR	Karatay Array	152.68	77	*e*PKPbc	PKPbc	11 34 28.4	-0.2
BVAR	Borovoye Array	153.19	55	PKP	PKPdf	11 34 22.2	+0.4
	comp=Z,2.8nm,0.9s,baz=259,slow=1.5,SNR=13						
BVAR				PKPbc	PKiKP	11 34 29.9	+0.4
	comp=Z,3.2nm,0.6s,baz=282,slow=2.9,SNR=16						
CM01	Chiang Mai Arr	154.16	160	*e*PKPdf	PKPdf	11 34 25.1	+0.9
CM01				*e*PKPbc	PKiKP	11 34 32.6	0.0
CM01				*e*PKPab	PKPab	11 34 45.6	-1.2
CMAR	Chiang Mai Arr	154.19	160	PKP	PKPdf	11 34 24.6	+0.3
	comp=Z,1.0nm,0.5s,baz=225,slow=2.6,SNR=7.4						
CMAR				PKPbc	PKiKP	11 34 32.7	+0.1
	comp=Z,6.5nm,0.7s,baz=219,slow=3.9,SNR=24						
CMAR				PKPab	PKPab	11 34 46.0	-0.9
	comp=Z,2.8nm,0.6s,baz=221,slow=4.5,SNR=5.3						
AAK	Ala-Archa	155.43	80	PKP	PKPdf	11 34 26.1	+0.6
	comp=Z,0.8nm,0.4s,baz=236,slow=1.8,SNR=4.1						
AAK				PKPbc	PKPbc	11 34 35.2	
	comp=Z,6.9nm,0.6s,baz=184,slow=3.0,SNR=17						
AAK	Ala-Archa	155.43	80	*e*PKPdf	PKPdf	11 34 26.1	+0.6
AAK				PKPbc	PKPbc	11 34 35.2	
AAK				*e*PKPab	PKPab	11 34 51.8	-0.2
DMN	Daman	155.76	122	*e*P	PKPdf	11 34 35.5	+9.0
KKN	Kakani	156.00	122	*e*P	PKPdf	11 34 35.5	+8.7
	comp=Z,8.6nm,0.5s						
KURBB	Kurchatov Arra	158.52	59	PKP	PKPdf	11 34 29.4	+0.5
	comp=Z,3.4nm,0.9s,baz=272,slow=1.5,SNR=16						
KURBB				PKPab	PKPab	11 35 04.5	-0.4
	comp=Z,1.9nm,0.8s,baz=281,slow=4.7,SNR=7.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	158.56	59	PKP	PKPdf	11 34 29.4	+0.4
KURK				PKPab	PKPab	11 35 04.5	-0.6
ZALV	Zalesovo Beam	161.24	47	PKP	PKPdf	11 34 31.6	-0.2
	comp=Z,0.6nm,0.5s,baz=231,slow=0.9,SNR=4.2						
ZALV				PKPab	PKPab	11 35 15.7	-0.9
	comp=Z,2.0nm,0.4s,baz=296,slow=5.8,SNR=9.3						
MKAR	Makanchi Array	161.37	70	PKP	PKPdf	11 34 32.4	+0.1
	comp=Z,1.0nm,0.6s,baz=288,slow=1.2,SNR=11						
MKAR				PKPab	PKPab	11 35 16.4	-1.1
	comp=Z,1.5nm,0.6s,baz=272,slow=3.2,SNR=10						
MK01	Makanchi Array	161.38	70	ePKPdf	PKPdf	11 34 31.9	-0.4
SONM	Songino Array	175.14	14	PKP	PKPdf	11 34 40.7	-0.9
	comp=Z,0.8nm,1.0s,baz=39,slow=7.4,SNR=4.1						
SONM				PKPab	PKPab	11 36 18.7	+0.3
	comp=Z,1.1nm,0.6s,baz=332,slow=4.2,SNR=4.7						

*IDC **01** 11:15:55.8±2.3, 2°.90S×129°.22E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.7/39, mbtmp4.0/4, ML4.0/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/32, Error ellipse: s-maj=120.7km s-min=27.4km az=72.0*
*ISCJB **01** 11:15:58.2±0.7, 2°.90S±0°.07×129°.33E±0°.06, h28km, mb3.9/2, Error ellipse: s-maj=10.4km s-min=7.8km az=30.5*
*DJA **01** 11:16:00.2±0.8, 3°S±5°×12°9E±°, h20km±10km, M3.8/8, MLv3.8/8*
ISC 01 11:15:59.6±0.9**, 2°.86S**±0°.07×**129°.37E**±0°.06**, h28km, n12,** σ1^s**96**/13**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.65	222	P	Pn	11 16 13.5	+0.5
BNDI	Bandanaira	1.74	162	P	Pb	11 16 32.8	+1.9
NLAI	Namlea	2.29	260	P	Pn	11 16 37.8	+2.2
SWI	Sorong	2.74	44	P	Pn	11 16 42.8	+1.1
FAKI	Fak Fak	2.88	91	P	Pn	11 16 44.0	+0.3
LBMI	Labuha	2.89	320	P	Pn	11 16 43.7	-0.1
SANI	Sanana	3.47	283	P	Pn	11 16 52.3	+0.5
SANI				S	Sn	11 17 30.3	-1.7
KAPI	Kappang	9.83	257	LR	LR	11 22 33.4	
	comp=Z,57nm,20.6s,baz=117,slow=41						
FITZ	Fitzroy Crossi	15.58	193	Pn	Pn	11 19 37.6	+0.1
	0.3nm,0.3s,baz=19,slow=9.8,SNR=4.7						
WRA	Warramunga Arr	17.66	164	P	Pn	11 20 02.9	-0.8
	0.8nm,0.3s,baz=345,slow=13,SNR=6.7						
WRA				S	Sn	11 23 09.4	-10
	0.1nm,0.3s,baz=335,slow=23,SNR=3.5						
ASAR	Alice Springs	21.15	168	P	P	11 20 42.5	-0.2
	8.0nm,0.7s,baz=349,slow=10,SNR=39						
ASAR				S	S	11 24 31.6	-4.9
	0.4nm,0.5s,baz=349,slow=24,SNR=5.1						
MKAR	Makanchi Array	64.45	326	P	P	11 26 33.8	+0.2
	0.4nm,0.6s,baz=119,slow=8.9,SNR=3.7						

JMA 01 11:24:50.0±0.4**, 37°.69N**×**144°.76E, h44km, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	Ouri	2.80	287	P	Pn	11 25 33.8	+1.6
JIO				eS	Sn	11 26 06.3	+1.6
OFUJ	Ofunato	2.80	301	P	Pn	11 25 33.8	+1.6
JMK	Ichinoseki	3.06	295	P	Pn	11 25 37.8	+2.0
JOM	Ohasama	3.25	304	P	Pn	11 25 40.4	+2.0
JFT	Otama	3.52	269	P	Pn	11 25 44.4	+2.3
JFT				eS	Sn	11 26 24.5	+2.0
JANG	Nango	3.68	318	P	Pn	11 25 46.2	+1.8
JCH	Churui	5.03	348	P	Pn	11 26 02.9	0.0
JCH				eS	Sn	11 26 56.9	-2.9
NEM2	Nemuro 2	5.72	7	P	Pn	11 26 09.9	-2.4
NEM2				eS	Sn	11 27 09.3	-7.3
JTKR	Abashiri--Toko	6.31	354	P	Pn	11 26 20.2	-0.2
JTKR				eS	Sn	11 27 27.4	-3.7

*NIED **01** 11:33:00, 38°.90N×142°.50E, h29km, Mw3.7 Best double couple: $M_0$4.60000×10^{14} NP1:ϕ_s324.00000°, δ16.00000°, λ-119.00000°. NP2:ϕ_s174.00000°, δ76.00000°, λ-82.00000°.*
*JMA **01** 11:33:36.9±0.1, 38°.93N×142°.41E, h36km±2km, M4.0*
JMA Felt I J1.
*IDC **01** 11:33:41.6±3.1, 38°.84N×142°.37E, h70km±29km, mb3.4/12, mb1 3.6/15, mb1mx3.4/49, mbtmp3.7/15, MS2.9/3, Ms1 2.9/3, ms1mx2.6/22, Error ellipse: s-maj=21.8km s-min=14.9km az=103.0*
ISC 01 11:33:35.1±1.8**, 38°.93N**±0°.05×**142°.38E**±0°.06**, h12km**±10km**, n34,** σ1^s**43**/36**, mb3.8**/12**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.57	286	P	Pn	11 33 48.9	-0.3
OFUJ				S	Sn	11 33 57.1	-1.5
MIYJ	Miyakonagasawa	0.78	326	P	Pn	11 33 51.4	-0.6
MIYJ				S	Sb	11 34 01.5	+0.2
JMK	Ichinoseki	0.91	272	P	Pn	11 33 53.8	+0.1
JMK				S	Sn	11 34 05.8	-0.9
JIO	Ouri	0.94	240	P	Pn	11 33 53.6	-0.5
JIO				S	Sg	11 34 04.9	-0.5
JOM	Ohasama	1.01	303	P	Pn	11 33 55.3	+0.2
JOM				S	Sb	11 34 08.2	+0.5
JTH	Tanohata	1.09	339	P	Pg	11 33 55.8	-0.2
JRG	Rokugo	1.44	290	P	Pb	11 34 01.9	+0.1
JRG				eS	Sb	11 34 20.4	+0.3
JOU	Okura	1.46	248	P	Pb	11 34 01.6	-0.6
JOU				eS	Sn	11 34 19.9	-0.5
JYK	Kaneyama	1.58	270	P	Pb	11 34 03.7	-0.5
JYK				eS	Sn	11 34 23.2	-0.1
JANG	Nango	1.59	335	P	Pn	11 34 03.3	+0.1
MAT	Matsushiro	4.08	236	P	Pn	11 34 40.5	+3.1
MAT				eS	Sn	11 35 28.9	+3.9
MJAR	Matsushiro Arr	4.08	236	P	Pn	11 34 39.9	+2.6
	2.8nm,0.3s,baz=38,slow=11,SNR=66						
MJAR				LR	LR	11 36 27.1	
	comp=Z,228nm,18.8s,baz=60,slow=41						
ASAJ	Asahikawa	5.19	2	P	Pn	11 34 54.2	+1.6
	0.7nm,0.3s,baz=216,slow=14,SNR=9.8						
ASAJ				S	Sn	11 35 52.2	-0.1
	0.5nm,0.3s,baz=258,slow=20,SNR=3.1						
USRK	Ussuriysk Ar.	9.40	307	P	Pn	11 35 54.5	+4.1
	0.2nm,0.3s,baz=112,slow=14,SNR=3.3						
JNU	Nakatsue	10.96	242	LR	LR	11 40 36.7	
	comp=Z,82nm,19.7s,baz=118,slow=38						
KSRS	Korea Array	11.47	267	P	Pn	11 36 24.1	+5.3
	0.1nm,0.3s,baz=81,slow=14,SNR=9.9						
KSRS				LR	LR	11 39 51.1	
	comp=Z,34nm,20.0s,baz=78,slow=32						
SEY	Seymchan	24.79	11	P	P	11 38 56.3	-0.3
	0.9nm,0.6s,baz=143,slow=20,SNR=4.6						
SONM	Songino Array	27.42	301	P	P	11 39 20.4	-0.4
	0.5nm,0.6s,baz=90,slow=10,SNR=3.5						
H11N2	WAKE ISLAND Hy	28.53	125	T	T	12 09 53.6	
	baz=318,slow=76,SNR=54						
H11N1	WAKE ISLAND Hy	28.54	125	T	T	12 09 56.4	
	baz=318,slow=76,SNR=89						
H11N3	WAKE ISLAND Hy	28.55	125	T	T	12 09 54.7	
	baz=318,slow=76,SNR=78						
H11S1	WAKE ISLAND Hy	29.32	127	T	T	12 10 52.1	
	baz=320,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	29.32	127	T	T	12 10 51.5	
	baz=320,slow=76,SNR=28						
H11S2	WAKE ISLAND Hy	29.33	127	T	T	12 10 52.6	
	baz=320,slow=76,SNR=14						
TIXI	Tiksi	33.51	352	P	P	11 40 15.4	+1.3
	2.8nm,0.4s,baz=279,slow=7.2,SNR=8.8						
ZALV	Zalesovo Beam	41.23	311	P	P	11 41 19.8	+0.1
	0.8nm,0.5s,baz=76,slow=6.1,SNR=3.5						
MKAR	Makanchi Array	43.79	301	P	P	11 41 40.9	+0.2
	1.2nm,0.7s,baz=100,slow=6.6,SNR=4.6						
KURBB	Kurchatov Arra	45.46	307	P	P	11 41 53.3	-0.6
	1.4nm,0.6s,baz=82,slow=8.1,SNR=16						
ILAR	Eielson Array	47.49	33	P	P	11 42 09.8	+0.1
	1.0nm,0.7s,baz=273,slow=6.4,SNR=12						
INK	Inuvik	52.36	28	P	P	11 42 46.9	+0.4
	1.5nm,0.7s,baz=311,slow=19,SNR=2.7						
WRA	Warramunga Arr	59.04	189	P	P	11 43 33.5	-1.6
	0.3nm,0.4s,baz=6.7,slow=6.9,SNR=13						
YKA	Yellowknife Ar	61.79	31	P	P	11 43 53.3	-0.1
	0.2nm,0.7s,baz=305,slow=6.7,SNR=3.5						
ASAR	Alice Springs	62.77	189	P	P	11 43 59.4	-1.0
	0.2nm,0.7s,baz=17,slow=10,SNR=3.5						
TXAR	Lajitas Array	88.37	53	P	P	11 46 25.7	-1.6
	0.1nm,0.6s,baz=309,slow=5.7,SNR=2.6						

*IDC **01** 12:18:41.6±1.0, 7°.65S×130°.78E, h0km, mb4.0/3, mb1 4.3/7, mb1mx3.9/40, mbtmp4.2/7, ML4.4/4, Error ellipse: s-maj=53.2km s-min=20.3km az=80.0*
*ISCJB **01** 12:18:42.3±0.6, 7°.85S±0°.04×131°.03E±0°.07, h33km, mb3.8/3, Error ellipse: s-maj=9.7km s-min=5.8km az=0.1*
*NEIC **01** 12:18:46.1±1.3, 7°.84S×130°.92E, h40km±16km, mb4.5/1, Error ellipse: s-maj=19.4km s-min=11.5km az=105.0*
*DJA **01** 12:18:49.0±0.4, 8°S±4°×13°1E±°, h77km±7km, M4.9/7, mB5.2/2, mb4.9/7, MLv4.9/5, Mw(mB)4.6/2*
ISC 01 12:18:44.9±0.7**, 7°.86S**±0°.05×**130°.91E**±0°.07**, h35km, n16,** σ2^s**35**/23**, mb3.8**/3**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	5.09	15	P	Pn	12 20 00.2	+1.5
	160nm,0.8s,2μm0.5nm						
FAKI				S	Sn	12 20 53.4	-2.9
	160nm,0.8s,2μm0.5nm						
FAKI	Fak Fak	5.09	15	ePn	Pn	12 19 60.0	+1.3
	62nm,0.4s						
FAKI				eSn	Sn	12 20 52.4	-3.9
SIJI	Sorong	6.96	3	Pn	Pn	12 20 23.1	-1.3
	21nm,0.3s,baz=174,slow=5.1,SNR=4.6						
SIJI				Sn	Sn	12 21 33.4	-9.0
	20nm,0.3s,baz=189,slow=23,SNR=3.6						
RKPI	Ransiki, Papua	7.10	27	P	Pn	12 20 29.6	+3.2
	186nm,0.7s,0.7nm						
FITZ	Fitzroy Crossi	11.40	206	Pn	Pn	12 21 27.0	+1.7
	3.0nm,0.3s,baz=26,slow=9.4,SNR=99						
FITZ				Sn	Sn	12 23 28.9	-2.6
	3.5nm,0.3s,baz=236,slow=20,SNR=17						
FITZ	Fitzroy Crossi	11.40	206	ePn	Pn	12 21 26.6	+1.2
	12nm,0.6s						
FITZ				Sn	Sn	12 23 28.9	-2.6
WRA	Warramunga Arr	12.46	165	Pn	Pn	12 21 42.7	+2.8
	1.2nm,0.3s,baz=338,slow=12,SNR=58						
WRA				Sn	Sn	12 23 55.0	-2.6
	2.6nm,0.3s,baz=336,slow=22,SNR=17						
PLAI	Plampang	13.03	265	P	Pn	12 21 47.5	-0.2
	29nm,0.9s						
COEN	Coen	13.47	118	ePn	Pn	12 21 53.5	-0.2
COEN				eSn	Sn	12 24 19.1	-3.3
ASAR	Alice Springs	15.97	170	Pn	P	12 22 29.4	-1.0
	0.8nm,0.3s,baz=343,slow=10,SNR=45						
ASAR				Sn	Sn	12 25 20.8	-2.5
	0.7nm,0.3s,baz=2.9,slow=28,SNR=8.0						
MBWA	Marble Bar	17.07	218	eP	Pn	12 22 40.7	-0.3
	30nm,0.8s						
STKA	Stephens Creek	25.88	159	P	P	12 24 17.8	+4.3
	1.3nm,0.7s,baz=1.3,slow=5.5,SNR=5.3						
MKAR	Makanchi Array	69.44	327	P	P	12 29 50.4	+0.8
	1.6nm,0.5s,baz=120,slow=7.9,SNR=15						
ILAR	Eielson Array	93.74	25	P	P	12 31 57.5	-0.3
	0.2nm,0.6s,baz=280,slow=5.1,SNR=2.6						
TORD	Torodi Ar. Bea	129.86	281	PKP	PKPdf	12 37 53.2	+1.4
	0.3nm,0.5s,baz=59,slow=2.5,SNR=3.9						
LPAZ	La Paz	149.49	142	PKPbc	PKPab	12 38 37.2	+0.1
	1.2nm,0.7s,baz=206,slow=1.9,SNR=3.7						

KRSC 01 12:33:56.8±0.9**, 54°.33N**×**161°.66E, h36km**±9km**, ML3.7, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.23	10	eP	Pn	12 34 04.7	-0.2
MKZ				eS	Sn	12 34 09.0	-3.1
KMNR	Kamenistaya	1.65	331	eP	Pn	12 34 25.4	+2.1
KMNR				eS	Sn	12 34 45.4	+2.2
BZMR	Bezymyannaya	1.75	338	eP	Pn	12 34 26.9	+2.3
ZLN	Zelenaya	1.76	344	eP	Pn	12 34 27.0	+2.2
ZLN				eS	Sn	12 34 48.2	+2.1
KIRR	Kirishev	1.80	336	eP	Pn	12 34 27.8	+2.5
NLC	Nalytchevo	1.80	231	eP	Pn	12 34 27.6	+2.4
NLC				eS	Sn	12 34 49.0	+2.3
KPT	Kopyto	1.84	334	eP	Pn	12 34 28.5	+2.7
LGNR	Loginova	1.84	343	eP	Pn	12 34 27.5	+1.4
LGNR				eS	Sn	12 34 48.7	+0.4
CIRR	Tsirk	1.87	344	eP	Pn	12 34 28.7	+2.4
CIRR				eS	Sn	12 34 51.1	+2.4
SDLR	Sedlovina	1.95	239	eP	Pn	12 34 30.3	+2.8
SDLR				eS	Sn	12 34 53.2	+2.4
KRSR	Krestovskiy	1.99	342	eP	Pn	12 34 30.0	+2.0
SMAR	Somma	2.00	239	eP	Pn	12 34 31.1	+2.9
SMAR				eS	Sn	12 34 54.6	+2.5
KRER	Koryakskii	2.01	240	eP	Pn	12 34 31.3	+3.0
KRER				eS	Sn	12 34 55.1	+2.9
KOZ	Kozyrevsk	2.01	330	eP	Pn	12 34 31.9	+3.7
KBG	Krutoberegovo	2.02	17	eP	Pn	12 34 32.6	+4.3
KBG				eS	Sn	12 34 58.2	+6.0
UGLR	Uglovaya	2.02	237	eP	Pn	12 34 31.1	+2.7
UGLR				eS	Sn	12 34 55.1	+2.7
KRX	Arik	2.03	243	eP	Pn	12 34 31.1	+2.6
KRX				eS	Sn	12 34 55.2	+2.5
AVH	Avacha	2.03	240	eP	Pn	12 34 31.8	+3.3
AVH				eS	Sn	12 34 55.9	+3.2
KOK	Koryaka	2.07	241	eP	Pn	12 34 32.1	+3.0
KOK				eS	Sn	12 34 57.0	+3.4
KLY	Klyuchi	2.07	344	eP	Pn	12 34 30.8	+1.9
KLY				eS	Sn	12 34 54.8	+1.3
DALK	Dalny	2.16	234	eP	Pn	12 34 33.2	+3.0
PET	Petropavlovsk	2.21	235	eP	Pn	12 34 33.9	+3.0
PET				eS	Sn	12 34 59.4	+2.4
BDR	Baidarnaya	2.26	354	eP	Pn	12 34 34.6	+3.0
SMKR	Semkarok	2.26	357	eP	Pn	12 34 34.6	+2.9
SMKR				eS	Sn	12 35 01.5	+3.2
GNL	Ganaly	2.28	255	eP	Pn	12 34 35.4	+3.4
GNL				eS	Sn	12 35 02.8	+3.9
ESO	Esso	2.33	314	eP	Pn	12 34 35.0	+2.4
SRKR	Sorokina	2.35	353	eP	Pn	12 34 35.1	+2.3
KRMR	Karymshinskiy	2.58	236	eP	Pn	12 34 39.6	+3.6
KRMR				eS	Sn	12 35 09.4	+3.3
BKI	Bering	2.65	69	eP	Pn	12 34 39.7	+2.8
BKI				eS	Sn	12 35 10.2	+2.5
RUS	Russkaya	2.67	226	eP	Pn	12 34 39.5	+2.3
RUS				eS	Sn	12 35 09.9	+1.6
MTVR	Mutnovka	2.78	230	eP	Pn	12 34 41.4	+2.5
MTVR				eS	Sn	12 35 13.1	+1.9
ASAK	Asacha	2.98	231	eP	Pn	12 34 45.5	+4.0
ASAK				eS	Sn	12 35 20.7	+4.7

*IDC **01** 12:43:47.8±1.2, 18°.83N×121°.21E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/39, mbtmp3.7/6, MS3.3/3, Ms1 3.3/3, ms1mx2.9/53, Error ellipse: s-maj=81.4km s-min=24.8km az=63.0*
*MAN **01** 12:43:52, 20°.20N×121°.09E, h16km, mb5.0, ML3.9, MS4.0*
ISC 01 12:43:55.8±2.1**, 20°.14N**±0°.07×**121°.1E**±0°.1**, h18km**±10km**, n18,** σ2^s**39**/19**, mb3.8**/6**, 2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	1.85	194	⇓iP	Pn	12 44 24.8	-1.9
PIP				eS	Sn	12 44 49.7	-0.1
SGCP	Mt. Cagua	2.10	154	eP	Pn	12 44 27.4	-2.7
SGCP				eS	Sn	12 44 56.1	+0.4
APYP	Conner	2.27	176	eP	Pn	12 44 30.8	-1.7
APYP				eS	Sn	12 44 58.8	-1.2
ABRA	Dolores	2.50	188	eP	Pn	12 44 34.0	-1.7
ABRA				eS	Sb	12 45 12.5	+1.8
CVP	Callao Caves	2.52	164	⇓iP	Pn	12 44 34.8	-1.2
CVP				i S	Sn	12 45 00.0	-6.2
CAUP	Cauayan	3.25	167	eP	Pn	12 44 46.7	+0.7
CAUP				eS	Sg	12 45 42.4	+2.0
BOLP	Bolinao	3.90	197	eP	Pn	12 44 53.0	-1.8
BOLP				eS	Sb	12 45 56.4	+5.4
BALP	Baler	4.40	174	eP	Pn	12 45 00.4	-1.4
BALP				eS	Sn	12 45 56.0	+3.5
SCZP	Santa Cruz	4.48	195	eP	Pg	12 45 20.9	-0.7
SCZP				eS	Sb	12 46 07.0	-0.6
POLP	Polilio Island	5.44	171	eP	Pn	12 45 17.2	+1.1
KSRS	Korea Array	18.25	18	LR	LR	12 55 48.5	
	comp=Z,42nm,18.9s,baz=196,slow=37						
CMAR	Chiang Mai Arr	20.96	269	LR	LR	12 57 10.8	
	comp=Z,68nm,18.1s,baz=85,slow=38						
SONM	Songino Array	30.08	340	P	P	12 50 10.0	+5.7
	0.2nm,0.5s,baz=163,slow=10,SNR=2.8						
SONM				LR	LR	13 04 23.8	
	comp=Z,82nm,18.9s,baz=128,slow=39						
MKAR	Makanchi Array	41.25	319	P	P	12 51 43.9	+4.0
	0.2nm,0.5s,baz=116,slow=9.8,SNR=3.8						
ZALV	Zalesovo Beam	43.62	330	P	P	12 52 03.0	+3.9
	0.5nm,0.3s,baz=86,slow=7.5,SNR=2.6						
STKA	Stephens Creek	55.33	159	P	P	12 53 14.2	-14
	4.0nm,0.8s,baz=327,slow=12,SNR=7.2						
AKASG	Malin Array Be	75.83	319	P	P	12 55 41.7	+0.8
	0.6nm,0.4s,baz=60,slow=5.5,SNR=4.2						
YKA	Yellowknife Ar	86.72	23	P	P	12 56 39.2	+0.7
	0.4nm,0.7s,baz=322,slow=4.7,SNR=4.1						

*IDC **01** 12:47:12.7±4.7, 7°.22S×129°.28E, h106km±47km, mb3.6/5, mb1 4.0/9, mb1mx3.6/30, mbtmp4.2/9, Error ellipse: s-maj=41.9km s-min=21.2km az=56.0*
*ISCJB **01** 12:47:13.7±0.7, 7°.30S±0°.07×129°.3E±0°.1, h139km, mb3.7/5, Error ellipse: s-maj=18.0km s-min=10.1km az=169.1*
ISC 01 12:47:15.2±0.8**, 7°.22S**±0°.08×**129°.5E**±0°.1**, h139km, n11,** σ1^s**76**/12**, mb3.7**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.57	16	P	Pn	12 48 50.6	+1.0
	22nm,0.3s,baz=175,slow=22,SNR=3.8						
SIJI				S	Sn	12 50 00.1	-3.1
	17nm,0.3s,baz=240,slow=20,SNR=4.4						
FITZ	Fitzroy Crossi	11.43	199	P	Pn	12 49 51.9	-2.5
	1.7nm,0.3s,baz=30,slow=11,SNR=86						
FITZ				S	Sn	12 51 48.8	-12
	2.7nm,0.3s,baz=76,slow=15,SNR=8.4						
WRA	Warramunga Arr	13.51	160	P	Pn	12 50 19.0	-2.4
	1.6nm,0.3s,baz=342,slow=13,SNR=44						
WRA				S	Sn	12 52 41.4	-9.3
	4.8nm,0.3s,baz=331,slow=23,SNR=13						
ASAR	Alice Springs	16.90	166	P	Pn	12 51 04.7	+1.1
	2.0nm,0.3s,baz=341,slow=9.4,SNR=178						
ASAR				S	Sn	12 53 55.5	-17
	0.5nm,0.3s,baz=325,slow=17,SNR=5.0						
PMG	Port Moresby	17.66	98	P	Pn	12 51 13.8	+1.0
	0.5nm,0.3s,baz=225,slow=6.3,SNR=3.7						
STKA	Stephens Creek	27.02	157	P	P	12 52 45.7	+1.3
	3.4nm,0.6s,baz=321,slow=9.2,SNR=10						
CMAR	Chiang Mai Arr	39.46	311	P	P	12 54 32.3	+0.1
	0.4nm,0.3s,baz=138,slow=6.7,SNR=4.3						
SONM	Songino Array	58.48	342	P	P	12 56 57.4	+0.6
	0.2nm,0.4s,baz=144,slow=11,SNR=2.8						
MKAR	Makanchi Array	68.11	327	P	P	12 58 00.6	+0.5
	0.8nm,0.4s,baz=101,slow=8.8,SNR=8.3						
ZALV	Zalesovo Beam	71.54	334	P	P	12 58 20.7	-0.2
	0.6nm,0.4s,baz=79,slow=3.2,SNR=4.2						
TORD	Torodi Ar. Bea	128.31	281	PKP	PKPdf	13 06 07.0	+0.7
	0.4nm,0.6s,baz=99,slow=2.4,SNR=2.9						

*ISCJB **01** 12:47:55.3±0.5, 37°.43N±0°.03×28°.10E±0°.03, h0km, Error ellipse: s-maj=4.5km s-min=3.5km az=34.0*
*DDA **01** 12:47:55.4, 37°.43N×28°.07E, h7km, Md2.7, Suspected Mining explosion.*
*CSEM **01** 12:47:55.4±0.2, 37°.43N×28°.11E, h1km, MD2.7, Error ellipse: s-maj=3.6km s-min=3.2km az=32.0, Suspected Mining explosion.*
*ISK **01** 12:47:55.1, 37°.40N×28°.10E, h14km, MD2.6*
ISC 01 12:47:55.7±1.1**, 37°.43N**±0°.02×**28°.11E**±0°.02**, h0km, n19,** σ0^s**43**/31**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AYDN	Tasoluk	0.29	322	P	Pg	12 48 01.2	-0.1
AYDN				S	Sg	12 48 05.4	+0.2
AYDN	Tasoluk	0.29	322	i P	Pg	12 48 01.2	-0.1
AYDN				i S	Sg	12 48 05.4	+0.2
YER	Yerkesik	0.32	154	ePG	Pg	12 48 01.7	-0.1
YER				eSG	Sg	12 48 06.6	+0.6
YER	Yerkesik	0.32	154	ePg	Pg	12 48 01.7	-0.1
YER				eSg	Sg	12 48 06.6	+0.6
AYDB	Zeytinkoy-Aydi	0.55	342	ePG	Pg	12 48 06.7	+0.5
AYDB	Zeytinkoy-Aydi	0.55	342	ePg	Pg	12 48 06.7	+0.5
BDRM	Kayabasi	0.64	236	P	Pg	12 48 07.8	-0.1
BDRM	Kayabasi	0.64	236	i P	Pg	12 48 07.8	-0.1
BDRM				i S	Sb	12 48 19.4	+0.1
TURN	Turunc	0.68	144	i P	Pg	12 48 08.1	-0.6
TURN				i S	Sg	12 48 18.6	+1.1
BODT	Bodrum	0.73	240	ePG	Pg	12 48 09.4	-0.3
BODT				eSG	Sg	12 48 19.8	+0.6
BODT	Bodrum	0.73	240	ePg	Pg	12 48 09.4	-0.3
BODT				eSg	Sg	12 48 19.8	+0.6
GCAM	G?zelcaml?	0.75	292	P	Pg	12 48 09.6	-0.3
GCAM				S	Sg	12 48 19.6	0.0
GCAM	G?zelcaml?	0.75	292	i P	Pg	12 48 09.6	-0.3
GCAM				i S	Sg	12 48 19.6	0.0
DALY	Dalyan (Mu˜la	0.75	144	ePG	Pg	12 48 09.8	-0.2
DALY	Dalyan (Mu˜la	0.75	144	ePg	Pg	12 48 09.8	-0.2
DNZL	Cakiroluk	0.79	70	P	Pg	12 48 10.8	0.0
DNZL				S	Sb	12 48 23.1	-0.7
DNZL	Cakiroluk	0.79	70	i P	Pg	12 48 10.8	0.0
DNZL				i S	Sb	12 48 23.1	-0.7
KULA	Kula-Manisa	1.17	22	ePN	Pg	12 48 17.9	-0.1
KULA	Kula-Manisa	1.17	22	ePn	Pg	12 48 18.0	-0.1

*GUC **01** 12:55:07.0±0.6, 37°.58S×75°.22W, h10km±8km, ML6.1*
*ISCJB **01** 12:55:18.4±0.1, 37°.51S±0°.02×73°.91W±0°.04, h10km, mb5.5/207, MS6.3/194, Error ellipse: s-maj=4.4km s-min=3.1km az=162.9*
*IDC **01** 12:55:18.9±0.3, 37°.60S×73°.70W, h0km, mb5.1/18, mb1 5.2/21, mb1mx5.1/23, mbtmp5.1/21, ML4.9/4, MS6.3/19, Ms1 6.3/19, ms1mx6.1/26, Error ellipse: s-maj=15.2km s-min=10.4km az=89.0*
*NEIC **01** 12:55:21.0±0.0, 37°.54S×73°.16W, h15km, Moment Tensor Solution. s17 Moment tensor: Scale 10^{18}Nm; M_{rr}0.70; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-0.50; $M_{r\theta}$-0.10; $M_{\theta\phi}$-0.60; $M_{\phi r}$-2.70; Best double couple: $M_0$3.00000×10^{18} NP1:ϕ_s185.00000°, δ83.00000°, λ78.00000°. NP2:ϕ_s65.00000°, δ13.00000°, λ150.00000°. Principal axes: T 3.0000, Plg50.0000°, Azm81.0000°; N -0.2000, Plg11.0000°, Azm186.0000°; P -2.8000, Plg37.0000°, Azm285.0000°;*
*BJI **01** 12:55:21.9, 37°.45S×73°.45W, h20km, mB6.2/46, Ms6.6/74, Ms7 6.5/73*
*GCMT **01** 12:55:22.4±0.1, 37°.74S×74°.41W, h12km, MW6.3/140, Moment Tensor Solution. s136,c285; s140,c554; Duration: 3^{s}6 Moment tensor: Scale 10^{18}Nm; M_{rr}2.25±.01; $M_{\theta\theta}$0.02±.01; $M_{\phi\phi}$-2.27±.01; $M_{r\theta}$-0.19±.03; $M_{\theta\phi}$-0.07±.01; $M_{\phi r}$-3.40±.03; Best double couple: $M_0$4.08800×10^{18} NP1:ϕ_s183.00000°, δ73.00000°, λ91.00000°. NP2:ϕ_s1.00000°, δ17.00000°, λ88.00000°. Principal axes: T 4.0770, Plg62.0000°, Azm94.0000°; N 0.0180, Plg1.0000°, Azm3.0000°; P -4.0990, Plg28.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **01** 12:55:22.4±0.2, 37°.58S×73°.69W, h21km, mb5.6/176, ME6.1, MS6.2/134, MW6.3, MW6.3, ML6.1(GUC) Error ellipse: s-maj=7.1km s-min=4.6km az=77.0, Moment Tensor Solution. s62 Moment tensor: Scale 10^{18}Nm; M_{rr}1.78; $M_{\theta\theta}$0.34; $M_{\phi\phi}$-2.12; $M_{r\theta}$-1.13; $M_{\theta\phi}$1.60; $M_{\phi r}$-3.04; Best double couple: $M_0$4.10000×10^{18} NP1:ϕ_s188.00000°, δ76.00000°, λ119.00000°. NP2:ϕ_s303.00000°, δ32.00000°, λ28.00000°. Principal axes: T 4.2500, Plg51.0000°, Azm131.0000°; N -0.2800, Plg28.0000°, Azm1.0000°; P -3.9700, Plg25.0000°, Azm256.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s5.00000°, δ10.00000°, λ90.00000°. NP2:ϕ_s185.00000°, δ80.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm95.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm275.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Arauco, Canete, Carahue, Concepcion, Contulmo, Curarrehue, Lebu, Los Alamos, Lota, Puerto Saavedra and Tirua. Felt widely in Araucania and Bio-Bio and in parts of Los Rios. Felt at Neuquen, Argentina.
*MOS **01** 12:55:23.5±1.2, 37°.50S×73°.67W, h33km, mb5.7/55, MS6.3/48 Error ellipse: s-maj=13.5km s-min=7.2km az=96.9*
ISC 01 12:55:21.0±0.2**, 37°.56S**±0°.03×**73°.83W**±0°.04**, h10km, n1397,** σ2^s**58**/1338**, mb5.6**/207**, MS6.3**/200**, 23C-17D, Near**

coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCSP	San Pedro de C	0.92	39	*e*P	Pg	12 55 37.3	-1.3
PSCH	Puerto Saavedr	1.29	165	*e*P	Pn	12 55 40.3	-4.8
PSCH				*e*S	Sb	12 56 02.6	+0.6
COCH	Cobquecura	1.65	31⇑	*i*P	Pn	12 55 47.3	-2.8
COCH				*e*S	Sg	12 56 17.3	+3.3
COCH				IAML		12 56 25.0	
	comp=E,90µm,1.5s						
CCHI	Chillan	1.69	56⇑	*i*P	Pn	12 55 50.5	-0.2
CCHI				*i* S	Sg	12 56 24.0	+8.5
CCHI				IAML		12 56 36.1	
	comp=E,113µm,1.0s						
CANA	Caviahue	2.22	99	*e*P	Pb	12 56 03.2	+1.9
CANA				*e*S	Sg	12 56 38.7	+6.3
CANA				IAML		12 56 49.7	
	comp=Z,15µm,0.7s						
VLCH	Valdivia	2.29	169	*e*P	Pn	12 55 56.2	-2.7
VLCH				*e*S	Sn	12 56 23.8	-3.4
PLCA	Paso Flores	4.07	142	*e*P	Pn	12 56 22.4	-1.0
PLCA				IAML		12 58 11.1	
	comp=Z,2µm,0.6s						
PLCA	Paso Flores	4.07	142	Pn	Pn	12 56 22.8	-0.6
	comp=Z,5.4nm,0.3s,baz=337,slow=13,SNR=144						
PLCA				Lg	Lg	12 57 25.1	
	comp=Z,90nm,0.3s,baz=262,slow=7.6,SNR=3.4						
PLCA	Paso Flores	4.07	142	*e*Pn	Pn	12 56 23.2	-0.2
PLCA				Lg	Lg	12 57 25.1	
ROC1	El Roble	5.12	28	*e*P	Pn	12 56 35.5	-2.4
ROC1	El Roble	5.12	28	*e*Pn	Pn	12 56 35.5	-2.4
SJA	San Juan	7.42	37	IAML		12 57 19.8	
	comp=Z,254nm,0.5s						
MRA	San Martin	8.40	55	IAML		12 57 39.8	
	comp=Z,152nm,0.6s						
SUCO	SUCO	8.42	63	IAML		12 57 40.2	
	comp=Z,203nm,0.6s						
LCO	Las Campanas	8.91	18	*e*Pn	Pn	12 57 19.4	-11
LCO				*e*Sn	Sn	12 59 10.4	-0.3
TRQA	Tornquist	9.39	97	*e*Pn	Pn	12 57 36.0	-0.5
CHRN	Cochrane	9.73	175	*e*Pn	Pn	12 57 40.4	-0.6
TCA	Tanti	9.83	54	IAML		12 57 53.8	
	comp=Z,80nm,0.5s						
VCA	Vinchina	9.98	30	IAML		12 58 19.5	
	comp=Z,163nm,0.5s						
LPA	La Plata	13.11	83*c*	*i*P	Pn	12 58 28.0	+0.8
LPA				PP	PnPn	12 58 36.0	+1.1
LPA				S	Sn	13 00 55.0	+2.0
PB10	IPOC Station P	14.28	12	*e*Pn	Pn	12 58 44.1	+0.8
LVC	Limon Verde	15.49	17	Pn	Pn	12 58 57.6	-2.3
	comp=Z,23nm,0.3s,baz=209,slow=19,SNR=6.9						
LVC				Sn	S	13 02 05.7	-2.0
	comp=Z,12nm,0.3s,baz=288,slow=20,SNR=2.0						
LVC				LR	LR	13 05 48.5	
	comp=Z,498µm,18.1s,baz=203,slow=41						
LVC	Limon Verde	15.49	17	*e*Pn	Pn	12 58 59.6	-0.3
	comp=Z,272nm,1.3s						
LVC				Sn	S	13 02 05.7	-2.0
PB04	IPOC Station P	15.50	13	*e*Pn	Pn	12 58 58.6	-1.3
	comp=Z,635nm,1.1s						
PB01	IPOC Station P	16.88	14	*e*Pn	Pn	12 59 14.8	-2.8
	comp=Z,622nm,1.3s						
USHA	Ushuaia	17.67	170	P	Pn	12 59 25.5	-1.6
	comp=Z,32nm,0.3s,baz=320,slow=11,SNR=14						
USHA				S	Sn	13 02 42.8	-1.0
	comp=Z,11nm,0.3s,baz=340,slow=15,SNR=2.0						
USHA				LR	LR	13 06 15.9	
	comp=Z,1100µm,19.5s,baz=324,slow=37						
CPUP	Villa Florida	17.90	56	P	Pn	12 59 29.0	-1.1
	comp=Z,0.4nm,0.3s,baz=233,slow=11,SNR=28						
CPUP				S	S	13 03 05.2	+8.9
	comp=Z,0.2nm,0.3s,baz=302,slow=19,SNR=1.7						
CPUP				LR	LR	13 07 31.4	
	comp=Z,128µm,18.3s,baz=233,slow=41						
CPUP	Villa Florida	17.90	56	*e*Pn	Pn	12 59 27.9	-2.2
CPUP				S	S	13 03 05.2	+8.9
PB11	IPOC Station P	18.10	13	*e*Pn	Pn	12 59 33.4	+0.6
	comp=Z,705nm,0.9s						
LPAZ	La Paz	21.77	15	P	P	13 00 13.2	-0.4
	comp=Z,52nm,0.9s,baz=177,slow=10,SNR=42						
LPAZ				S	S	13 04 13.1	-1.8
	comp=Z,6.1nm,1.0s,baz=170,slow=18,SNR=1.7						
LPAZ	La Paz	21.77	15	*e*P	P	13 00 13.2	-0.4
	comp=Z,420nm,1.3s						
LPAZ				S	S	13 04 13.1	-1.8
SIV	San Ignacio	24.26	31	P	P	13 00 35.9	-2.5
	comp=Z,20nm,1.0s,baz=226,slow=13,SNR=29						
SIV				S	S	13 04 58.2	+1.0
	comp=Z,3.3nm,0.8s,baz=49,slow=19,SNR=1.7						
SIV				LR	LR	13 12 14.2	
	comp=Z,163µm,18.6s,baz=220,slow=42						
NNA	Nana	25.60	353	P	P	13 00 49.5	-1.1
	comp=Z,15nm,0.7s,baz=200,slow=11,SNR=7.2						
NNA				S	S	13 05 13.5	-5.2
	comp=Z,3.2nm,0.3s,baz=308,slow=17,SNR=1.7						
NNA				LR	LR	13 09 02.8	
	comp=Z,24µm,20.7s,baz=178,slow=32						
SPB	Sao Paulo	26.54	66	*e*P	P	13 00 58.3	-0.7
	comp=Z,353nm,1.1s						
SPB				LR	LR		
	comp=Z,180µm,18.0s						
PMSA	Palmer Station	27.87	171	P	P	13 01 08.7	-1.8
	comp=Z,106nm,1.2s,baz=108,slow=3.2,SNR=2.9						
PMSA				LR	LR	13 13 03.3	
	comp=Z,123µm,18.4s,baz=338,slow=38						
SAML	Samuel	30.06	21	*e*P	P	13 01 28.5	-1.9
	comp=Z,85nm,1.2s						
SAML				LR	LR		
	comp=Z,25µm,21.0s						
ATAH	Atahualpa	30.56	351	P	P	13 01 35.9	+0.5
	comp=Z,3.2nm,0.5s,baz=149,slow=7.8,SNR=8.8						
BDFB	Brasilia	31.58	53	P	P	13 01 41.8	-2.3
	comp=Z,39nm,1.0s,baz=218,slow=8.3,SNR=28						
BDFB				LR	LR	13 15 56.4	
	comp=Z,97µm,18.9s,baz=222,slow=39						
BDFB	Brasilia	31.58	53	*e*P	P	13 01 42.7	-1.4
	comp=Z,851nm,1.9s						
OTAV	Otavalo	37.85	352	*e*P	P	13 02 43.3	+4.8
OTAV	Otavalo	37.85	352	*e*P	P	13 02 38.7	+0.2
	comp=Z,262nm,1.6s						
OTAV				LR	LR		
	comp=Z,29µm,19.0s						
PTGA	Pitinga	38.81	22	*e*P	P	13 02 44.3	-1.8
	comp=Z,141nm,1.4s						
PTGA				LR	LR		
	comp=Z,42µm,22.0s						
PAYG	Puerto Ayora	39.71	334	PFAKE		13 03 10.0	+16
PAYG				LR	LR		
	comp=Z,10µm,20.0s						
SJAC	San Juan de Ar	40.62	360	*e*P	P	13 03 02.5	+1.2
PRAC	Prado	41.07	358	*e*P	P	13 03 08.8	+3.8
PRAC	Prado	41.07	358	*e*P	P	13 03 04.9	-0.1
	comp=Z,456nm,1.3s						
TOLC	Tolima	41.95	358	*e*P	P	13 03 11.4	-1.1
ROSC	El Rosal	42.18	359	P	P	13 03 13.9	-0.5
	comp=Z,7.1nm,0.3s,baz=144,slow=19,SNR=7.7						
ROSC	El Rosal	42.18	359	*e*P	P	13 03 18.4	+3.9
ROSC	El Rosal	42.18	359	*e*P	P	13 03 14.6	+0.2
	comp=Z,82nm,1.3s						
GUYC	Guyana, Colomb	42.58	358	*e*P	P	13 03 21.8	+4.0
NORC	Norcasia	42.91	358	*e*P	P	13 03 20.0	+0.1
RUSC	La Rusia	43.23	1	*e*P	P	13 03 24.0	+1.0
HELC	Santa Helena	43.55	358	*e*P	P	13 03 29.1	+3.7
HELC	Santa Helena	43.55	358	*e*P	P	13 03 24.8	-0.7
	comp=Z,386nm,1.1s						
BARC	Barichara	43.92	1	*e*P	P	13 03 26.6	-1.8
CBRI	Barrientos, No	45.05	1	*e*P	P	13 03 38.2	+0.9
GRMC	Gramalote, San	45.05	1	*e*P	P	13 03 38.8	+1.5
MOTC	Monteria, Cord	46.12	357	*e*P	P	13 03 46.7	+1.1
SDV	Santo Domingo	46.29	4	*e*P	P	13 03 45.5	-1.6
SDV	Santo Domingo	46.29	4	*e*P	P	13 03 45.8	-1.4
	comp=Z,73nm,1.0s						
SDV				*e*ScP	ScP	13 09 13.1	-2.7
SDV				LR	LR		
	comp=Z,45µm,21.0s						
RCBR	Riachuelo	46.77	57	*e*P	P	13 03 50.5	-0.3
	comp=Z,178nm,1.3s						
RCBR				LR	LR		
	comp=Z,54µm,21.0s						
BCIP	Isla Barro Col	46.81	352	*e*P	P	13 03 51.5	+0.5
	comp=Z,222nm,1.7s						
BCIP				LR	LR		
	comp=Z,13µm,21.0s						
VNA1	Neumayer--Stat	47.02	155	P	P	13 03 51.8	-0.2
TRIS	Tristan da Cun	48.13	109	PFAKE		13 04 10.0	+8.9
TRIS				LR	LR		
	comp=Z,21µm,19.0s						
SNAA	Sanae	48.88	157	P	P	13 04 05.8	-0.7
SNAA	Sanae	48.88	157	*e*P	P	13 04 04.9	-1.6
SNAA				pmax	pmax		
	comp=Z,284nm,1.2s						
SNAA	Sanae	48.88	157	*e*P	P	13 04 04.8	-1.6
	comp=Z,284nm,1.2s						
PTCN	Pitcairn Islan	49.00	268	PFAKE		13 04 20.0	+12
PTCN				LR	LR		
	comp=Z,27µm,19.0s						
TOSP	Speyside	50.17	17	*e*		13 11 27.0	
GRGR	Grenville	50.73	15	PFAKE		13 04 30.0	+8.9
GRGR				LR	LR		
	comp=Z,32µm,19.0s						
SVB	Belmont	51.92	16	*e*	P	13 04 26.0	-4.0
SVB	Belmont	51.92	16	*e*	S	13 11 45.6	-7.3
SVV	Soufriere Volc	51.97	16	*e*	P	13 04 30.6	+0.2
BBGH	Gun Hill	52.18	18	*e*	S	13 12 01.6	+5.0
BBGH	Gun Hill	52.18	18	PFAKE		13 04 40.0	+8.0
BBGH				LR	LR		
	comp=Z,39µm,21.0s						
MCLT	Moule a Chique	52.41	16	*e*	P	13 04 26.7	-6.9
MCLT	Moule a Chique	52.41	16	*e*	S	13 11 52.3	-7.4
QSPA	South Pole Qui	52.69	180	*e*P	P	13 04 34.1	-1.3
	comp=Z,363nm,1.1s						
QSPA				LR	LR		
	comp=Z,32µm,19.0s						
TGUH	Tegucigalpa,Un	52.87	344	*e*P	P	13 04 36.2	-0.8
	comp=Z,112nm,1.1s						
FDF	Fort de France	53.36	15	*e*	P	13 04 36.0	-4.7
FDF	Fort de France	53.36	15	*e*	S	13 12 02.9	-10
FDF	Fort de France	53.36	15	PFAKE		13 04 50.0	+9.3
FDF				LR	LR		
	comp=Z,29µm,19.0s						
NVL	N'lazarevskaya	53.66	156	*e*P	P	13 04 42.5	+0.2
NVL				*e**SP	sP	13 04 50.5	+3.8
NVL				*e*		13 05 47.6	
NVL				*e*		13 06 43.9	
NVL				*e*PPP	PPP	13 07 51.6	
NVL				*e*S	S	13 12 16.6	+1.0
NVL				*e*SS	SKiKP	13 16 00.0	+3.2
NVL				MLR	MLR		
	comp=Z,59µm,18.0s						
RKT	Rikitea	53.84	267	*e*S	S	13 12 22.3	+3.1
	comp=Z,16µm,26.2s						
RKT				*e*LQ	LQ	13 18 07.8	
	comp=Z,10µm,28.8s						
RKT				*e*LR	LR	13 20 25.3	
	comp=Z,80µm,26.8s,baz=125						
RKT	Rikitea	53.84	267	*e*T	T	14 02 10.8	
	comp=Z,2.2nm,0.2s						
DLPL	La Plaine	53.92	15	*e*	P	13 04 50.6	+5.8
MLYT	Lee's Yard	55.09	14	*e*	P	13 04 46.8	-6.4
MLYT	Lee's Yard	55.09	14	*e*	S	13 12 29.7	-6.2
MTDJ	Mount Denham	55.59	356	PFAKE		13 05 10.0	+13
MTDJ				LR	LR		
	comp=Z,11µm,20.0s						
SEUS	St. Eustatius	55.70	13	*e*	P	13 04 54.3	-3.3
SEUS	St. Eustatius	55.70	13	*e*	S	13 12 44.1	+0.1
SABA	Saba	55.78	12	*e*	P	13 04 52.5	-5.7
SABA	Saba	55.78	12	*e*	S	13 12 40.7	-4.4
SABA	Saba	55.78	12	*e*P	P	13 04 59.2	+1.0
	comp=Z,167nm,1.0s						
MPR	Mayaguez	55.82	8	*e*P	P	13 04 57.9	-0.6
	comp=Z,66nm,1.1s						
SJG	San Juan	55.84	9	*e*P	P	13 04 57.1	-1.5
SJG				pmax	pmax		
	comp=Z,135nm,1.2s						
SJG				MLR	MLR		
	comp=Z,27µm,19.0s						
SJG	San Juan	55.84	9	*e*P	P	13 04 57.1	-1.5
	comp=Z,135nm,1.2s						
SJG				LR	LR		
	comp=Z,27µm,19.0s						
MTP	Monte Pirata	55.90	10	*e*P	P	13 04 59.9	+0.9
	comp=Z,95nm,1.2s						
HUMP	Col San Antoni	55.91	9	*e*P	P	13 04 58.2	-0.9
	comp=Z,149nm,1.4s						
CBYP	Canovanas	56.03	9	*e*P	P	13 04 59.3	-0.8
	comp=Z,315nm,1.6s						
ANWB	Willy Bob	56.09	14	*e*	P	13 04 53.0	-7.3
ANWB	Willy Bob	56.09	14	*e*	S	13 12 36.1	-13
ANWB	Willy Bob	56.09	14	*e*P	P	13 05 00.8	+0.5
	comp=Z,122nm,1.0s						
ANWB				LR	LR		
	comp=Z,21µm,19.0s						
SMRT	St. Maarten	56.23	12	*e*	P	13 04 57.2	-4.2
STVI	Saint Thomas	56.23	10	*e*P	P	13 05 00.8	-0.6
	comp=Z,68nm,1.2s						
SDDR	Presa de Saban	56.28	3	*e*P	P	13 05 03.7	+1.9
	comp=Z,47nm,1.1s						
SDDR				LR	LR		
	comp=Z,19µm,21.0s						
ABVI	Anegada Island	56.69	11	*e*P	P	13 05 02.4	-2.3
	comp=Z,502nm,1.7s						
GTBY	Guantanamo Bay	57.19	359	*e*P	P	13 05 09.2	+1.0
	comp=Z,116nm,1.1s						
GTBY				LR	LR		
	comp=Z,9µm,20.0s						
GRTK	Grand Turk	58.80	3	*e*P	P	13 05 23.2	+3.8
	comp=Z,112nm,0.9s						
GRTK				LR	LR		
	comp=Z,20µm,20.0s						
TEIG	Tepich	59.06	344	*e*P	P	13 05 21.4	+0.1
	comp=Z,32nm,1.0s						
TEIG				*e*ScP	ScP	13 10 09.3	-1.4
TEIG				LR	LR		
	comp=Z,4µm,20.0s						
SBA	Scott Base	59.30	192	*e*P	P	13 05 23.6	+1.2
SBA				pmax	pmax		
	comp=Z,86nm,1.3s						
SBA				MLR	MLR		
	comp=Z,17µm,19.0s						
SBA	Scott Base	59.30	192	*e*P	P	13 05 23.6	+1.2
	comp=Z,86nm,1.3s						
SBA				LR	LR		
	comp=Z,17µm,19.0s						
TLIG	Tlapa	59.56	332	*e*P	P	13 05 26.3	+1.3
	comp=Z,114nm,1.6s						
VNDA	Vanda	60.33	192	P	P	13 05 29.4	0.0
	comp=Z,8.9nm,1.2s,baz=131,slow=6.2,SNR=6.9						
VNDA				S	S	13 13 33.6	-10
	comp=Z,0.6nm,0.5s,baz=124,slow=6.0,SNR=7.8						
VNDA				LR	LR	13 30 01.3	
	comp=Z,27µm,18.1s,baz=125,slow=34						
VNDA				PKP2bc		13 34 59.3	
	comp=Z,1.4nm,1.0s,baz=345,slow=2.4,SNR=2.1						
VNDA	Vanda	60.33	192	*e*P	P	13 05 30.5	+1.1
	comp=Z,132nm,1.6s						
VNDA				S	S	13 13 33.6	-10
VNDA			⇑	*e*		13 34 59.3	
SYO	Syowa Base	63.11	158⇓	*i*P	P	13 05 44.5	-3.7
SYO	Syowa Base	63.11	158⇑	*e*pP	P	13 05 49.8	+1.6
TBI	Tubuai	65.14	259	*e*P	P	13 06 06.5	+4.2
	comp=Z,67nm,0.8s						
TBI				*e*S	S	13 14 47.7	+2.5
	comp=Z,46µm,27.8s						
TBI				*e*LQ	LQ	13 22 55.7	
	comp=Z,12µm,27.8s						
TBI				*e*LR	LR	13 25 34.1	
	comp=Z,61µm,26.5s,baz=125						
TAOE	Nuku Hiva Isla	65.90	278	*e*S	S	13 14 56.1	+1.1
	comp=Z,32µm,27.3s						
TAOE	Nuku Hiva Isla	65.90	278	*e*LR	LR	13 26 09.2	
	comp=Z,57µm,26.0s,baz=136						
MEH	Mehetia	67.00	265	*e*T	T	14 18 44.4	
	comp=Z,28nm,0.2s						
035Z	Hargill	67.63	337	P	P	13 06 15.0	-2.9
	baz=159						
035Z				S	S	13 15 13.8	-1.2
	baz=159						
TVO	Taravao	67.98	264	*e*T	T	14 19 55.3	
	comp=Z,1.7nm,0.3s						
035A	Encino	68.08	337	P	P	13 06 18.6	-2.2
	baz=159						
VAH	Vaihoa	68.12	267	*e*P	P	13 06 24.3	+2.8
	comp=Z,142nm,1.2s						
TIAR	Tiarei	68.18	264	*e*P	P	13 06 25.1	+3.2
	comp=Z,28nm,1.0s						
TIAR	Tiarei	68.18	264	*e*T	T	14 20 12.7	
	comp=Z,4.6nm,0.2s						
936A	North Padre Is	68.29	338	P	P	13 06 21.5	-0.6
	baz=160						
PAE	Paea	68.31	264	*e*P	P	13 06 25.9	+3.3
	comp=Z,25nm,1.1s						
PAE	Paea	68.31	264	*e*T	T	14 20 19.5	
	comp=Z,1.3nm,0.2s						
PPT2	Papeete2	68.35	264	*e*P	P	13 06 26.3	+3.3
	comp=Z,147nm,1.2s						
PPT2				*e*S	S	13 15 26.3	+1.9
	comp=Z,42µm,26.8s						
PPT2	Papeete2	68.35	264	*e*LR	LR	13 27 01.5	
	comp=Z,57µm,25.5s,baz=120						
PPT2	Papeete2	68.35	264	*e*T	T	14 20 17.7	
	comp=Z,2.2nm,0.3s						
PPT	Papeete	68.36	264	P	P	13 06 22.0	-1.0
	comp=Z,48nm,0.9s,baz=131,slow=0.5,SNR=4.5						
PPT				LR	LR	13 28 50.1	
	comp=Z,24µm,18.3s,baz=100,slow=29						
PPT	Papeete	68.36	264	P	P	13 06 22.0	-1.0
034A	Hebbronville	68.38	336	P	P	13 06 20.9	-1.9
	baz=159						
646A	Port Sulphur	68.45	345	P	P	13 06 21.4	-1.6
	baz=166						
645A	Chauvin	68.49	344	P	P	13 06 21.5	-1.7
	baz=166						
934A	Benavides	68.83	337	P	P	13 06 24.9	-0.6
	baz=159						
545A	Edgard	69.03	345	P	P	13 06 26.8	+0.1
	baz=166						
546A	Slidell	69.06	345	P	P	13 06 25.7	-1.1
	baz=166						
933A	Laredo	69.08	336	P	P	13 06 25.6	-1.5
	baz=159						
738A	Farr-Stevens R	69.14	340	P	P	13 06 26.2	-1.2
	baz=162						
544A	White Castle	69.24	344	P	P	13 06 28.1	+0.1
	baz=165						
TIGA	Tifton	69.24	351	P	P	13 06 27.4	-0.5
	baz=172						
835A	Beeville	69.26	337	P	P	13 06 28.2	0.0
	baz=160						
737A	Port Lavaca	69.29	339	P	P	13 06 27.8	-0.5
	baz=161						
834A	Tilden	69.33	337	P	P	13 06 29.2	+0.6
	baz=159						
543A	St. Martinvill	69.37	343	P	P	13 06 28.3	-0.5
	baz=165						
448A	Bay Minette	69.38	347	P	P	13 06 28.3	-0.5
	baz=168						
447A	Lucedale	69.39	346	P	P	13 06 29.6	+0.7
	baz=167						
BRAL	Brewton	69.48	348	PFAKE		13 06 40.0	+11
BRAL				LR	LR		
	comp=Z,7µm,19.0s						
446A	Poplarville	69.53	346	P	P	13 06 30.5	+0.7
	baz=167						
542A	Morse	69.57	343	P	P	13 06 29.5	-0.5
	baz=164						
638A	Rosharon	69.64	340	P	P	13 06 29.5	-1.0
	baz=162						
736A	Circle Diamond	69.66	338	P	P	13 06 30.3	-0.3
	baz=160						
541A	Lake Charles	69.66	342	P	P	13 06 28.8	-1.7
	baz=164						
445A	Amite	69.66	345	P	P	13 06 29.5	-1.1
	baz=166						
444A	Pine Grove	69.73	345	P	P	13 06 29.9	-1.1
	baz=166						
SLBS	Sierra La Lagu	69.75	325	*e*P	P	13 06 35.1	+3.7
	comp=Z,49nm,1.1s						
833A	Chaparral WMA,	69.78	336	P	P	13 06 29.5	-1.8
	baz=159						
735A	Kenedy	69.78	338	P	P	13 06 29.5	-1.8
	baz=160						
348A	Jackson	69.86	347	P	P	13 06 30.7	-1.1
	baz=168						
637A	Eagle Lake	69.90	339	P	P	13 06 32.1	+0.1
	baz=161						
832A	Faith Ranch, C	69.93	336	P	P	13 06 32.3	0.0
	baz=158						
347A	Saraland	69.96	347	P	P	13 06 31.9	-0.5
	baz=168						
540A	Vidor	70.00	342	P	P	13 06 30.9	-1.7
	baz=163						
734A	La Parita Cree	70.00	337	P	P	13 06 31.5	-1.2
	baz=159						
443A	Delano Plantat	70.01	344	P	P	13 06 31.0	-1.7
	baz=165						
BBSR	BB Station	70.09	8	*e*P	P	13 06 34.1	+1.0
	comp=Z,79nm,1.0s						
BBSR				LR	LR		
	comp=Z,8µm,21.0s						
539A	Cross D Ranch,	70.09	341	P	P	13 06 32.7	-0.5
	baz=162						
442A	Mamou	70.11	343	P	P	13 06 33.4	+0.1
	baz=164						
733A	Divot King Ran	70.12	336	P	P	13 06 31.5	-2.0
	baz=159						
346A	Big Creek Wild	70.12	346	P	P	13 06 32.3	-1.1
	baz=167						
636A	Smothers Creek	70.15	339	P	P	13 06 32.8	-0.8
	baz=160						
345A	Thompson Farm,	70.16	345	P	P	13 06 33.2	-0.5
	baz=166						
MAW	Mawson	70.19	164	P	P	13 06 31.2	-2.2
	comp=Z,41nm,1.0s,baz=200,slow=7.6,SNR=36						
MAW				S	S	13 15 42.6	-1.9
	comp=Z,0.6nm,0.2s,baz=66,slow=20,SNR=2.0						
MAW				LR	LR	13 37 53.3	
	comp=Z,42µm,18.0s,baz=231,slow=36						
635A	Leesville	70.27	338	P	P	13 06 32.9	-1.5
	baz=160						
LPIG	La Paz	70.27	325	S	S	13 15 46.3	-0.2
	comp=Z,16nm,0.3s,baz=250,slow=3.1,SNR=2.2						
538A	Harpers Horsep	70.41	340	P	P	13 06 34.2	-1.0
	baz=162						
634A	China Grove, S	70.44	337	P	P	13 06 35.4	0.0
	baz=160						
344A	Westbrook Farm	70.44	345	P	P	13 06 34.7	-0.7
	baz=166						
343A	Vidalia	70.47	344	P	P	13 06 34.4	-1.2
	baz=165						
248A	Dixon Mills	70.50	348	P	P	13 06 34.3	-1.4
	baz=168						
537A	Green Hill Far	70.50	339	P	P	13 06 34.6	-1.2
	baz=161						
440A	Kirbyville	70.51	342	P	P	13 06 34.6	-1.1
	baz=163						
NHSC	New Hope	70.55	354	P	P	13 06 35.8	-0.1
	comp=Z,284nm,1.1s						
NHSC				LR	LR		
	comp=Z,9µm,20.0s						
247A	Quitman	70.61	347	P	P	13 06 34.6	-1.7
	baz=168						
246A	Jackson Lee, B	70.67	346	P	P	13 06 35.1	-1.6
	baz=167						
536A	Bastrop	70.71	339	P	P	13 06 36.7	-0.3
	baz=161						
342A	Flagon Creek P	70.72	343	P	P	13 06 36.6	-0.5
	baz=164						
439A	Center Grove,	70.76	341	P	P	13 06 36.8	-0.5
	baz=162						
633A	Saathoff Ranch	70.77	337	P	P	13 06 35.9	-1.5
	baz=159						
HPIG		70.77	330	*e*P	P	13 06 37.8	0.0
	comp=Z,88nm,1.5s						
535A	Dale	70.81	338	P	P	13 06 36.5	-1.2
	baz=160						
245A	Little AP, Sta	70.83	346	P	P	13 06 36.6	-1.2
	baz=166						
341A	Kurthwood	70.88	343	P	P	13 06 36.8	-1.2
	baz=164						
438A	Sam Houston St	70.90	340	P	P	13 06 37.4	-0.7
	baz=162						
244A	Avery, Jackson	71.00	345	P	P	13 06 37.8	-0.9
	baz=166						
243A	Waterproof	71.02	344	P	P	13 06 37.7	-1.1
	baz=165						
534A	Blanco	71.08	338	P	P	13 06 38.1	-1.2
	baz=160						
340A	Bronson	71.13	342	P	P	13 06 38.6	-0.9
	baz=163						
VBMS	Vicksburg	71.14	345	P	P	13 06 38.9	-0.7
	baz=166						
147A	Livingston	71.16	347	P	P	13 06 38.3	-1.4
	baz=168						
437A	Phantom Ranch,	71.16	340	P	P	13 06 38.3	-1.4
	baz=161						
GOGA	Godfrey	71.17	351	*e*P	P	13 06 38.3	-1.5
GOGA				pmax	pmax		
	comp=Z,46nm,1.1s						
GOGA				MLR	MLR		

comp=Z,5µm,19.0s
GOGA Godfrey 71.17 351 *eP* **P 13 06 38.3 -1.5**
comp=Z,46nm,1.1s
GOGA LR LR
comp=Z,5µm,19.0s
339A Huntington 71.22 341 P **P 13 06 39.1 -0.9**
baz=163
146A Union 71.26 346 P **P 13 06 39.4 -0.9**
baz=167
436A Wall Ranch, Ga 71.28 339 P **P 13 06 39.3 -1.2**
baz=161
533A Kerrville 71.29 337 P **P 13 06 39.3 -1.3**
baz=159
LRAL Lakeview Retre 71.29 348 *eP* **P 13 06 41.5 +1.0**
comp=Z,64nm,1.1s
242A Grayson 71.34 344 P **P 13 06 39.9 -0.9**
baz=165
145A Houston Renfro 71.40 346 P **P 13 06 40.2 -0.9**
baz=166
338A Crockett 71.43 341 P **P 13 06 40.9 -0.5**
baz=162
241A Mo Tay, Goldon 71.48 343 P **P 13 06 40.9 -0.7**
baz=164
144A Alexander Plac 71.52 345 P **P 13 06 40.9 -0.9**
baz=166
435B Jarrell 71.52 339 P **P 13 06 40.9 -1.0**
baz=160
337A Centerville 71.55 340 P **P 13 06 41.6 -0.5**
baz=162
Z47A Carrollton 71.63 347 P **P 13 06 41.6 -0.9**
baz=168
NATX Nacogdoches 71.65 341 P **P 13 06 41.5 -1.2**
baz=163
NATX Nacogdoches 71.65 341 *eP* **P 13 06 43.5 +0.8**
NATX LR LR
comp=Z,5µm,22.0s
240A Hunter Patters 71.69 342 P **P 13 06 42.2 -0.7**
baz=163
Z48A Northport 71.72 348 P **P 13 06 42.1 -0.9**
baz=168
434A Burnet 71.75 338 P **P 13 06 42.3 -1.0**
baz=160
142A Monroe 71.76 344 P **P 13 06 42.6 -0.7**
baz=165
Z46A Louisville 71.78 347 P **P 13 06 43.2 -0.2**
baz=167
143A Socs Landing, 71.79 344 P **P 13 06 41.7 -1.8**
baz=165
JSC Jenkinsville 71.81 354 *eP* **P 13 06 44.3 +0.7**
JSC pmax pmax
comp=Z,61nm,1.2s
JSC Jenkinsville 71.81 354 *eP* **P 13 06 44.3 +0.7**
comp=Z,61nm,1.2s
239A Gary 71.85 342 P **P 13 06 42.4 -1.4**
baz=163
336A Riesel 71.88 339 P **P 13 06 43.6 -0.5**
baz=161
JCT Junction City 71.91 337 P **P 13 06 42.3 -2.0**
baz=158
JCT Junction City 71.91 337 *eP* **P 13 06 44.7 +0.3**
JCT pmax pmax
comp=Z,89nm,1.0s
JCT MLR MLR
comp=Z,3µm,22.0s
JCT Junction City 71.91 337 *eP* **P 13 06 44.7 +0.3**
comp=Z,89nm,1.0s
JCT LR LR
comp=Z,3µm,22.0s
335A Moody 71.94 339 P **P 13 06 43.0 -1.5**
baz=160
433A Art 71.94 337 P **P 13 06 43.7 -0.8**
baz=159
238A Jacksonville 72.00 341 P **P 13 06 44.9 +0.1**
baz=162
141A Papa Simpson, 72.03 343 P **P 13 06 43.8 -1.2**
baz=164
Z45A Winona 72.09 346 P **P 13 06 43.6 -1.7**
baz=167
Z44A Pea Ridge, Bel 72.15 345 P **P 13 06 43.8 -1.8**
baz=166
TXAR Lajitas Array 72.17 333 P **P 13 06 44.4 -1.7**
comp=Z,4.2nm,0.8s,baz=154,slow=8.0,SNR=26
TXAR LR LR 13 34 22.0
comp=Z,12µm,18.3s,baz=357,slow=2.6,SNR=32
TXAR PKPPKP P'P'df 13 34 41.5 +15
comp=Z,0.8nm,1.1s,baz=357,slow=2.6,SNR=4.0
TX31 Lajitas Ar. Si 72.17 333 *eP* **P 13 06 46.0 0.0**
237A Washetta, Mont 72.18 340 P **P 13 06 44.6 -1.2**
baz=162
140A Cam and Jess, 72.22 343 P **P 13 06 44.7 -1.4**
baz=164
334A Lometa 72.23 338 P **P 13 06 44.7 -1.5**
baz=160
Z43A Armstrong Fami 72.25 345 P **P 13 06 44.9 -1.4**
baz=166
Y47A UCPARC, Winfie 72.28 348 P **P 13 06 44.8 -1.6**
baz=168
236A Katherine and 72.37 340 P **P 13 06 45.9 -1.1**
baz=161
Y46A Houston 72.44 347 P **P 13 06 46.2 -1.1**
baz=168
333A Richland Sprin 72.44 338 P **P 13 06 46.0 -1.5**
baz=159
139A Bunkhouse Ranc 72.46 342 P **P 13 06 46.4 -1.1**
baz=163
Z42A Norrel Spur, H 72.46 344 P **P 13 06 45.6 -1.8**
baz=165
CNNC Cliffs of the 72.53 357 *eP* **P 13 06 47.0 -0.8**
comp=Z,137nm,1.1s
CNNC LR LR
comp=Z,8µm,19.0s
Y45A Yeager Farm, C 72.55 346 P **P 13 06 46.9 -1.1**
baz=167
138A Matatall Enter 72.61 341 P **P 13 06 47.5 -0.9**
baz=162
WHTX Lake Whitney, 72.62 339 P **P 13 06 47.8 -0.7**
baz=160
WHTX Lake Whitney, 72.62 339 *eP* **P 13 06 51.5 +3.0**
comp=Z,70nm,1.0s
Z41A Richland Creek 72.64 343 P **P 13 06 48.1 -0.4**
baz=164
KMSC Kings Mountain 72.67 354 P **P 13 06 47.0 -1.7**
baz=174
KMSC Kings Mountain 72.67 354 *eP* **P 13 06 46.7 -2.0**
comp=Z,81nm,1.2s
137A Heron Place, G 72.73 341 P **P 13 06 48.2 -0.9**
baz=162
Y44A Strider, Charl 72.77 346 P **P 13 06 47.7 -1.6**
baz=166
Z40A Long Farm, Mag 72.77 343 P **P 13 06 48.2 -1.1**
baz=164
136A Ennis 72.82 340 P **P 13 06 48.7 -0.9**
baz=161
234A Clairette 72.83 339 P **P 13 06 47.3 -2.4**
baz=160
Y43A Makayla and Ka 72.86 345 P **P 13 06 48.2 -1.7**
baz=166
Z39A Irene McRaven, 72.94 342 P **P 13 06 49.4 -0.9**
baz=163
Y42A Garnett, Star 72.97 344 P **P 13 06 49.6 -0.9**
baz=165
X45A UM Field Stati 73.06 347 P P 13 06 47.8 -3.3
baz=167
233A Rising Star 73.06 338 P **P 13 06 49.0 -2.2**
baz=159
135A Vickery Place, 73.14 339 P **P 13 06 49.2 -2.4**
baz=161
Z38A Mt. Pleasant 73.15 342 P **P 13 06 49.3 -2.3**
baz=162
OXF Oxford 73.15 347 *eP* **P 13 06 51.9 +0.3**
OXF pmax pmax
comp=Z,68nm,1.1s
OXF Oxford 73.15 347 *eP* **P 13 06 51.9 +0.3**
comp=Z,68nm,1.1s
Y41A Eaglette Beard 73.19 344 P **P 13 06 49.5 -2.3**
baz=164
Z37A Pogue Cattle C 73.26 341 P **P 13 06 50.5 -1.7**
baz=162
SWET Sewanee 73.27 350 *eP* **P 13 06 51.3 -1.0**
comp=Z,62nm,1.2s
X44A Crenshaw 73.28 346 P **P 13 06 50.2 -2.1**
baz=166
CPCT Cooper Cave 73.31 351 *eP* **P 13 06 51.6 -1.0**
comp=Z,45nm,1.1s
134A White-Moore Ra 73.34 339 P **P 13 06 51.6 -1.2**
baz=160
TKL Tuckaleechee C 73.43 352 S **S 13 16 18.1 -4.3**
comp=Z,4.0nm,0.6s,baz=131,slow=20,SNR=4.8
TKL Tuckaleechee C 73.43 352 *eP* **P 13 06 52.7 -0.5**
TKL S **S 13 16 18.1 -4.3**
TKL pmax pmax
comp=Z,64nm,1.2s
TKL Tuckaleechee C 73.43 352 *eP* **P 13 06 52.7 -0.5**
comp=Z,64nm,1.2s
TKL S **S 13 16 18.1 -4.3**
X43A Marvell 73.44 345 P **P 13 06 51.2 -2.1**
baz=166
Y40A Okolona 73.47 343 P **P 13 06 52.4 -1.1**
baz=164
Z36A Blue Ridge 73.54 340 P **P 13 06 51.6 -2.4**
baz=161
Y39A Lockesburg 73.59 343 P **P 13 06 52.1 -2.1**
baz=163
133A Hamilton Ranch 73.62 338 P **P 13 06 52.2 -2.2**
baz=159
Y38A Idabel 73.73 342 P **P 13 06 53.1 -1.9**
baz=163
W45A Hickory Valley 73.74 347 P **P 13 06 52.2 -2.8**
baz=167
X41A Kaden, Bauxite 73.76 344 P P 13 06 52.2 -2.9
baz=165
X40A Basin Creek Fa 73.82 344 P **P 13 06 53.4 -2.1**
baz=164
Z35A Perchaven, San 73.82 340 P **P 13 06 53.2 -2.4**
baz=161
W44A Shelby Farms P 73.84 346 P **P 13 06 53.0 -2.5**
baz=167
ABTX Abilene, Hawle 73.85 338 P **P 13 06 53.4 -2.5**
baz=159
ABTX Abilene, Hawle 73.85 338 *eP* **P 13 06 54.1 -1.7**
comp=Z,125nm,1.4s
Y37A Hugo 74.00 341 P **P 13 06 54.3 -2.4**
baz=162
Z34A Collier Ranch, 74.05 339 P **P 13 06 54.3 -2.6**
baz=160
MIAR Mount Ida 74.05 343 P **P 13 06 54.5 -2.3**
baz=164
MIAR Mount Ida 74.05 343 *eP* **P 13 06 57.2 +0.3**
MIAR pmax pmax
comp=Z,80nm,1.7s
MIAR MLR MLR
comp=Z,7µm,19.0s
MIAR Mount Ida 74.05 343 *eP* **P 13 06 57.2 +0.3**
comp=Z,80nm,1.7s
MIAR LR LR
comp=Z,7µm,19.0s
Y36A Durant 74.10 341 P P 13 06 54.2 -3.0
baz=162
X39A Fountain Ranch 74.14 343 P P 13 06 54.4 -3.0
baz=163
Z33A Whitaker Ranch 74.21 338 P P 13 06 54.8 -3.0
baz=160
TZTN Tazewell 74.28 352 *eP* **P 13 06 58.5 +0.3**
comp=Z,64nm,1.1s
RAR Rarotonga 74.29 255 P **P 13 07 00.1 +1.4**
RAR Rarotonga 74.29 255 PFAKE 13 07 10.0 +11
RAR LR LR
comp=Z,9µm,21.0s
Y35A Marietta 74.31 340 P P 13 06 55.4 -3.0
baz=161
W41B Gary Mavity, V 74.36 344 P **P 13 06 56.3 -2.3**
baz=165
X301 Greenbrier Sit 74.45 344 *eP* **P 13 06 57.9 -1.2**
comp=Z,118nm,1.3s
X38A Whitesboro 74.46 342 P **P 13 06 56.9 -2.3**
baz=163
WHAR Wooly Hollow 74.48 344 *eP* **P 13 07 00.2 +0.9**
comp=Z,113nm,1.3s
X201 Greenbrier Sit 74.50 344 *eP* **P 13 06 58.0 -1.5**
comp=Z,130nm,1.3s
V44A Blytheville 74.52 347 P **P 13 06 58.5 -1.1**
baz=167
X37A Clayton 74.52 342 P P 13 06 55.4 -4.2
baz=162
W40A Ferguson Farm, 74.55 344 P P 13 06 55.6 -4.2
baz=164
BLA Blacksburg 74.64 355 *eP* **P 13 07 01.2 +0.9**
BLA pmax pmax
comp=Z,95nm,1.4s
BLA MLR MLR
comp=Z,8µm,21.0s
BLA Blacksburg 74.64 355 *eP* **P 13 07 01.2 +0.9**
comp=Z,95nm,1.4s
BLA LR LR
comp=Z,8µm,21.0s
W39A Magazine 74.72 343 P P 13 06 57.2 -3.6
baz=164
X36A Centrahoma 74.75 341 P P 13 06 57.4 -3.6
baz=162
X35A Drake 74.75 340 P P 13 06 57.4 -3.6
baz=161
W38A Poteau 74.77 343 P P 13 06 56.2 -4.8
baz=163
V42A Cord 74.79 345 P P 13 06 55.7 -5.4
baz=166
HSIG 74.80 327 *eP* **P 13 07 00.3 -1.1**
comp=Z,70nm,1.4s
URVA University of 74.83 357 *eP* **P 13 07 02.0 +0.7**
Y33A Hilltop Ranch, 74.84 339 P P 13 06 57.7 -3.8
baz=160
V41A Mountainview 74.92 345 P **P 13 06 59.6 -2.4**
baz=165
MNTX Cornudas Mount 74.93 332 P P 13 06 58.7 -3.5
baz=154
MNTX Cornudas Mount 74.93 332 *eP* **P 13 07 01.6 -0.5**
comp=Z,20nm,1.1s
MNTX LR LR
comp=Z,8µm,19.0s
W37B Quinton 75.06 342 P P 13 06 59.2 -3.5
baz=162
V40A Wits Springs 75.09 344 P P 13 06 59.3 -3.6
baz=164
X34A Smith Ranch, M 75.18 340 P P 13 07 00.4 -3.0
baz=160
W36A Wetumka 75.26 341 P **P 13 07 01.3 -2.6**
baz=162
V39A Pettigrew 75.30 343 P P 13 07 00.5 -3.7
baz=164
X33A Lawton 75.31 339 P **P 13 07 01.6 -2.6**
baz=160
X32A Elmer 75.42 338 P P 13 07 01.8 -3.0
baz=159
W35A Tecumseh 75.44 341 P P 13 07 01.9 -3.0
baz=161
CBN Corbin Frederi 75.46 357 PFAKE 13 07 20.0 +15
CBN LR LR
comp=Z,10µm,20.0s
V38A Canehill 75.50 343 P **P 13 07 03.5 -1.7**
baz=163
PBMO Poplar Bluff 75.54 346 *eP* **P 13 07 06.0 +0.5**
comp=Z,48nm,1.1s
WMOK Wichita Mounta 75.57 339 P **P 13 07 03.8 -1.9**
baz=160
WMOK Wichita Mounta 75.57 339 *eP* **P 13 07 03.1 -2.6**
WMOK pmax pmax
comp=Z,114nm,1.6s
WMOK MLR MLR
comp=Z,4µm,20.0s
WMOK Wichita Mounta 75.57 339 *eP* **P 13 07 03.1 -2.6**
comp=Z,114nm,1.6s
WMOK LR LR
comp=Z,4µm,20.0s
U40A Yellville 75.62 344 P **P 13 07 03.6 -2.4**
baz=164
V37A Hulbert 75.69 342 P **P 13 07 04.5 -1.9**
baz=163
MIR Mirnyy 75.73 175 *eP* **P 13 07 05.0 -1.3**
MIR / S **S 13 16 44.0 -3.5**
MIR pmax pmax
comp=Z,4µm,16.0s
MIR smax smax
comp=E,6µm,14.0s
MIR MLR MLR
comp=N,18µm,18.0s
MIR MLR MLR
comp=E,26µm,18.0s
MIR MLR MLR
comp=Z,43µm,18.0s
W34A Bridge Creek, 75.76 340 P **P 13 07 04.4 -2.4**
baz=161
W34A Bridge Creek, 75.76 340 *eP* **P 13 07 05.5 -1.2**
comp=Z,84nm,1.3s
U39A Green Forest 75.79 344 P **P 13 07 04.5 -2.4**
baz=164
V36A Jenks 75.80 342 P P 13 07 04.0 -3.0
baz=162
W33A Caddo, Fort Co 75.87 339 P **P 13 07 04.8 -2.6**
baz=160
TUL1 Leonard 75.88 342 P **P 13 07 05.1 -2.4**
baz=162
TUL1 Leonard 75.88 342 *eP* **P 13 07 08.7 +1.3**
comp=Z,71nm,1.0s
V35A Meyer Ranch, C 76.01 341 P **P 13 07 05.8 -2.4**
baz=161
U38A Gravette 76.05 343 P P 13 07 04.6 -3.8
baz=163
T41A Mountain View 76.06 345 P P 13 07 05.4 -3.0
baz=165
W32A Sentinel 76.07 339 P P 13 07 05.5 -3.0
baz=159
MSTX Muleshoe 76.09 336 P P 13 07 05.0 -3.8
baz=157
MSTX Muleshoe 76.09 336 *eP* **P 13 07 09.3 +0.5**
comp=Z,81nm,1.3s
S45A Carrier Mills 76.09 348 P P 13 07 04.4 -4.1
baz=168
319A Douglas 76.16 329 *eP* **P 13 07 09.4 +0.2**
comp=Z,58nm,1.1s
U37A Salina 76.19 342 P P 13 07 05.0 -4.2
baz=163
S44A Carbondale 76.22 347 P P 13 07 05.1 -4.2
baz=167
S43A Fulton Ridge, 76.25 347 P P 13 07 05.5 -4.0
baz=167
V34A Guthrie 76.25 340 P P 13 07 06.0 -3.6
baz=161
V34A Guthrie 76.25 340 *eP* **P 13 07 08.2 -1.4**
comp=Z,150nm,1.4s
WCI Wyandotte Cave 76.28 350 *eP* **P 13 07 08.9 -0.8**
WCI pmax pmax
comp=Z,131nm,1.3s
WCI Wyandotte Cave 76.28 350 *eP* **P 13 07 08.9 -0.8**
comp=Z,131nm,1.3s
T40A Mansfield 76.32 345 P P 13 07 06.4 -3.5
baz=165
U36A Oologah 76.32 342 P P 13 07 06.4 -3.6
baz=162
T39A Clever 76.38 344 P P 13 07 07.0 -3.3
baz=164
CASY Casey 76.44 182 *eP* **P 13 07 09.2 -1.1**
comp=Z,138nm,1.4s
CASY LR LR
comp=Z,5µm,19.0s
V33A Lossen Ranch, 76.45 340 P P 13 07 07.1 -3.6
baz=160
U35A Pawnee 76.55 341 P P 13 07 08.3 -3.0
baz=161
V32A Arapaho 76.57 339 P P 13 07 08.3 -3.0
baz=160
AMTX Amarillo 76.58 337 P **P 13 07 09.0 -2.5**
baz=158
AMTX Amarillo 76.58 337 *eP* **P 13 07 09.9 -1.6**
comp=Z,254nm,1.6s
121A Cookes Peak, D 76.58 331 P **P 13 07 09.0 -2.7**
baz=153
121A Cookes Peak, D 76.58 331 *eP* **P 13 07 10.4 -1.3**
comp=Z,40nm,1.2s
T38A Diamond 76.59 343 P P 13 07 07.9 -3.6
baz=163
SDMD Soldier's Deli 76.64 358 *eP* **P 13 07 13.5 +1.9**
comp=Z,25nm,1.3s
R44A Waltonville 76.73 348 P **P 13 07 10.1 -2.1**
baz=168
S40A Lebanon 76.75 345 P **P 13 07 10.2 -2.1**
baz=165
T37A Cheneyville 18 76.82 343 P **P 13 07 10.9 -1.9**
baz=163
U34A Anderson Ranch 76.83 341 P **P 13 07 10.9 -1.9**
baz=161
U34A Anderson Ranch 76.83 341 *eP* **P 13 07 14.3 +1.5**
comp=Z,155nm,1.5s
U33A Lingo Farm, Me 76.98 340 P **P 13 07 11.3 -2.4**
baz=160
T36A Boggs Farm, Ca 76.99 342 P **P 13 07 12.0 -1.7**
baz=162
S39A Bolivar 77.01 344 P **P 13 07 11.7 -2.1**
baz=164
T35A Sooner Cattle 77.02 342 P **P 13 07 11.5 -2.4**
baz=162
S38A Stockton 77.08 344 P **P 13 07 11.8 -2.3**
baz=164
U32A Winter Ranch, 77.17 339 P **P 13 07 12.8 -1.9**
baz=160
MVL Millersville 77.21 358 *eP* **P 13 07 15.9 +1.1**
comp=Z,56nm,1.5s
BLO Bloomington 77.24 350 *eP* **P 13 07 16.5 +1.5**
BLO pmax pmax
comp=Z,86nm,1.4s
BLO Bloomington 77.24 350 *eP* **P 13 07 16.5 +1.5**
comp=Z,86nm,1.4s
LIC Lamto 77.27 72 *eP* **P 13 07 13.4 -2.5**
comp=Z,209nm,1.6s
T34A McClaskey Farm 77.29 341 P **P 13 07 13.5 -1.9**
baz=161
R40A Maddies Statio 77.36 345 P **P 13 07 14.7 -1.1**
baz=165
S37A Fort Scott 77.41 343 P **P 13 07 14.4 -1.6**
baz=163
Q43A New Douglas 77.51 347 P **P 13 07 14.3 -2.3**
baz=167
R39A Chumby, Stover 77.55 345 P **P 13 07 15.7 -1.1**
baz=164
TIC Toumodi 77.55 72 *eP* **P 13 07 16.3 -1.1**
S36A Lake Cedric, C 77.56 342 P **P 13 07 15.0 -1.9**
baz=162
O56A Blue Knob Stat 77.57 356 P **P 13 07 15.8 -1.2**
baz=176
KIC Kosan Boka 77.58 72 *eP* **P 13 07 16.7 -0.9**
comp=Z,204nm,0.9s
TUC Tucson 77.59 329 P **P 13 07 15.8 -1.4**
baz=151
TUC Tucson 77.59 329 *eP* **P 13 07 17.8 +0.5**
TUC pmax pmax
comp=Z,45nm,1.2s
TUC MLR MLR
comp=Z,6µm,20.0s
TUC Tucson 77.59 329 *eP* **P 13 07 17.8 +0.5**
comp=Z,45nm,1.2s
TUC LR LR
comp=Z,6µm,20.0s
BNM Barren Site 77.59 333 *eP* **P 13 07 18.3 +0.9**
R38A Fenwick Farm, 77.61 344 P **P 13 07 14.8 -2.3**
baz=164
T33A Patterson Ranc 77.62 340 P **P 13 07 15.3 -1.9**
baz=160
Y22D IRIS PASSCAL I 77.63 332 P P 13 07 13.9 -3.6
baz=154
Q42A Golden Eagle 77.63 347 P P 13 07 12.4 -4.8
baz=166
DBIC Dimbokro 77.69 72 P **P 13 07 17.0 -1.2**
comp=Z,56nm,0.9s,baz=206,slow=6.5,SNR=28
DBIC S **S 13 17 07.6 -2.9**
comp=Z,0.9nm,0.6s,baz=198,slow=20,SNR=1.9
DBIC LR LR 13 39 45.9
comp=Z,15µm,18.2s,baz=212,slow=34
DBIC Dimbokro 77.69 72 *eP* **P 13 07 17.8 -0.4**
comp=Z,107nm,1.0s
DBIC S **S 13 17 07.6 -2.9**
S35A Otter Creek Ra 77.69 342 P **P 13 07 15.3 -2.4**
baz=162
LPM Los Pinos Moun 77.74 333 *eP* **P 13 07 18.9 +0.7**
ACSO Alum Creek Sta 77.86 353 *eP* **P 13 07 18.2 -0.3**
comp=Z,101nm,1.1s
ACSO LR LR
comp=Z,10µm,21.0s
T32A Huddler Ranch, 77.90 340 P **P 13 07 17.0 -1.8**
baz=160
SSPA Standing Stone 77.90 357 *eP* **P 13 07 18.6 -0.1**
comp=Z,94nm,1.6s
S34A Willow Spring 77.91 341 P **P 13 07 16.5 -2.4**
baz=161
R37A Teagarden Farm 77.94 343 P **P 13 07 16.6 -2.3**
baz=163
LAZ Ladron 78.00 332 *eP* **P 13 07 19.2 -0.5**
Q40A Laux Farm, Aux 78.00 346 P **P 13 07 17.6 -1.7**
baz=165
S33A Kaszmaul Farm, 78.04 341 P **P 13 07 17.2 -2.4**
baz=161
R36A Gordon, Harris 78.11 343 P **P 13 07 18.8 -1.1**
baz=162
N59A State Game Lan 78.12 358 P **P 13 07 18.1 -1.8**
baz=178
214A Organ Pipe Nat 78.14 327 P **P 13 07 18.9 -1.4**
baz=149

214A	Organ Pipe Nat	78.14	327	eP	P	13 07 19.8	-0.5
	comp=Z,235nm,1.2s						
Q39A	Willow Grove F	78.24	345	P	P	13 07 18.3	-2.3
	baz=164						
ANMO	Albuquerque	78.24	333	P	P	13 07 18.9	-2.1
	baz=154						
ANMO	Albuquerque	78.24	333⇑	iP	P	13 07 22.2	+1.2
ANMO				pmax	pmax		
	comp=Z,16nm,1.1s						
ANMO	Albuquerque	78.24	333	eP	P	13 07 19.6	-1.4
	comp=Z,65nm,1.2s						
ANMO				LR	LR		
	comp=Z,7µm,20.0s						
ODNJ	Ogdensburg	78.26	359	eP	P	13 07 22.1	+1.5
	comp=Z,82nm,1.9s						
R35A	Emporia Munici	78.27	342	P	P	13 07 19.2	-1.7
	baz=162						
Q38A	Cooks Store, C	78.29	344	P	P	13 07 18.6	-2.3
	baz=164						
N54A	Moraine State	78.34	355	P	P	13 07 18.8	-2.4
	baz=175						
S32A	Newby Ranch, P	78.39	340	P	P	13 07 19.4	-2.2
	baz=160						
Q37A	Longview Farm,	78.39	344	P	P	13 07 18.4	-3.0
	baz=163						
SFIN	Lafayette	78.51	350	P	P	13 07 19.3	-2.8
	baz=169						
SFIN	Lafayette	78.51	350	eP	P	13 07 23.8	+1.7
	comp=Z,73nm,1.6s						
R34A	Isabella, Hill	78.51	341	P	P	13 07 20.5	-1.7
	baz=161						
P40A	Paris	78.52	346	P	P	13 07 20.3	-1.8
	baz=165						
P39B	Salisbury	78.62	345	P	P	13 07 21.6	-1.1
	baz=165						
Q36A	Arnold C. Orve	78.70	343	P	P	13 07 20.2	-3.0
	baz=163						
R33A	Olander Ranch,	78.71	341	P	P	13 07 20.9	-2.4
	baz=161						
Q35A	Mercer Eighty,	78.74	342	P	P	13 07 22.3	-1.1
	baz=162						
M54A	Oil Creek Stat	78.87	356	P	P	13 07 23.5	-0.5
	baz=175						
P38A	Dawn	78.91	345	P	P	13 07 22.0	-2.3
	baz=164						
R32A	Long Quarter,	79.01	340	P	P	13 07 23.7	-1.2
	baz=160						
HDIL	Hopedale	79.02	348	P	P	13 07 23.0	-1.8
	baz=168						
HDIL	Hopedale	79.02	348	eP	P	13 07 25.4	+0.6
	comp=Z,173nm,1.4s						
HDIL				LR	LR		
	comp=Z,9µm,19.0s						
Q34A	Chapman	79.02	342	P	P	13 07 23.2	-1.8
	baz=161						
P37A	Lathrop	79.05	344	P	P	13 07 24.0	-1.1
	baz=164						
O40A	La Belle	79.06	346	P	P	13 07 23.9	-1.1
	baz=165						
KSU1	Kansas State U	79.11	342	P	P	13 07 23.5	-1.9
	baz=162						
KSU1	Kansas State U	79.11	342	PFAKE		13 07 40.0	+15
KSU1				LR	LR		
	comp=Z,6µm,21.0s						
BRYW	Bryant College	79.12	2	eP	P	13 07 26.9	+1.5
X18A	Snowflake	79.19	330	eP	P	13 07 26.1	-0.1
	comp=Z,61nm,1.6s						
113A	Mohawk Valley,	79.25	327	eP	P	13 07 25.2	-1.1
	comp=Z,63nm,1.5s						
P36A	Good Intent, A	79.27	343	P	P	13 07 24.4	-1.9
	baz=163						
O39A	Kirksville	79.31	346	P	P	13 07 24.6	-1.9
	baz=165						
Q33A	Connelly Farm,	79.32	341	P	P	13 07 24.0	-2.6
	baz=161						
P35A	Duane Minner,	79.37	343	P	P	13 07 24.5	-2.4
	baz=162						
O38A	Galt	79.38	345	P	P	13 07 24.5	-2.3
	baz=164						
BINY	Binghamton	79.40	358	eP	P	13 07 27.7	+0.7
	comp=Z,43nm,1.4s						
BINY				LR	LR		
	comp=Z,11µm,19.0s						
QUA2	Belchertown	79.47	1	eP	P	13 07 29.9	+2.6
Q32A	Meitler Ranch,	79.50	341	P	P	13 07 25.4	-2.2
	baz=160						
T25A	Trinidad	79.52	336	P	P	13 07 25.0	-3.0
	baz=156						
T25A	Trinidad	79.52	336	eP	P	13 07 27.5	-0.5
	comp=Z,252nm,1.6s						
O37A	Wolven Farm, M	79.56	344	P	P	13 07 25.5	-2.3
	baz=164						
P34A	Walnut Farm, R	79.59	342	P	P	13 07 25.6	-2.4
	baz=162						
WES	Weston	79.59	2	eP	P	13 07 28.0	+0.1
WES	Weston	79.59	2	eP	P	13 07 28.0	+0.1
W18A	Petrified Fore	79.62	331	P	P	13 07 25.2	-3.4
	baz=152						
W18A	Petrified Fore	79.62	331	eP	P	13 07 27.8	-0.8
	comp=Z,82nm,1.3s						
SNZO	South Karori	79.63	225	PFAKE		13 07 40.0	+12
SNZO				LR	LR		
	comp=Z,11µm,19.0s						
TSUM	Tsumeb	79.64	106	eP	P	13 07 28.7	-0.4
	comp=Z,53nm,1.1s						
TSUM				LR	LR		
	comp=Z,13µm,19.0s						
CBKS	Cedar Bluff	79.65	340	P	P	13 07 26.0	-2.5
	baz=159						
CBKS	Cedar Bluff	79.65	340	eP	P	13 07 32.3	+3.9
CBKS				pmax	pmax		
	comp=Z,90nm,1.3s						
CBKS				MLR	MLR		
	comp=Z,5µm,21.0s						
CBKS	Cedar Bluff	79.65	340	eP	P	13 07 32.3	+3.9
	comp=Z,90nm,1.3s						
CBKS				LR	LR		
	comp=Z,5µm,21.0s						
X16A	Lo Mia Camp, P	79.69	329	eP	P	13 07 27.9	-1.0
	comp=Z,42nm,1.1s						
P33A	Williams Farm,	79.70	341	P	P	13 07 25.6	-3.0
	baz=161						
BOSA	Boshof	79.70	118	P	P	13 07 27.6	-1.8
	comp=Z,43nm,0.9s,baz=226,slow=5.3,SNR=33						
BOSA				S	S	13 17 29.5	-2.6
	comp=Z,4.9nm,1.1s,baz=270,slow=6.1,SNR=2.6						
BOSA				LR	LR	13 39 48.2	
	comp=Z,13µm,19.3s,baz=220,slow=34						
BOSA	Boshof	79.70	118	eP	P	13 07 28.2	-1.1
	comp=Z,105nm,1.1s						
BOSA				S	S	13 17 29.5	-2.6
O36A	Bolckow	79.71	344	P	P	13 07 26.3	-2.4
	baz=163						
HRV	Adam Dziewonsk	79.71	2	eP	P	13 07 29.6	+1.0
HRV				pmax	pmax		
	comp=Z,56nm,1.1s						
HRV	Adam Dziewonsk	79.71	2	eP	P	13 07 29.6	+1.0
	comp=Z,56nm,1.1s						
N39A	Derby Farms, D	79.91	346	P	P	13 07 26.8	-3.0
	baz=165						
TRY	Troy	79.91	0	eP	P	13 07 31.5	+1.8
Y14A	Wickenburg	79.92	328	eP	P	13 07 28.9	-1.2
	comp=Z,139nm,1.2s						
GLA	Glamis	79.96	326	P	P	13 07 27.3	-2.9
	baz=148						
GLA	Glamis	79.96	326	eP	P	13 07 31.2	+0.9
GLA				pmax	pmax		
	comp=Z,98nm,1.6s						
GLA	Glamis	79.96	326	eP	P	13 07 31.2	+0.9
	comp=Z,98nm,1.6s						
N38A	Joes South For	79.97	345	P	P	13 07 27.1	-3.0
	baz=164						
AAM	Ann Arbor	79.98	353	PFAKE		13 07 40.0	+10
AAM				LR	LR		
	comp=Z,10µm,19.0s						
LTZ	Lake Taylor	80.00	223	eP	P	13 07 30.9	+0.3
	comp=Z,54nm,1.1s						
RPZ	Rata Peaks	80.02	222	LR	LR	13 34 57.4	
	comp=Z,18µm,20.1s,baz=128,slow=30						
RPZ	Rata Peaks	80.02	222	eP	P	13 07 31.2	+0.6
	comp=Z,117nm,1.4s						
O35A	Humboldt	80.05	343	P	P	13 07 27.2	-3.3
	baz=162						
P32A	Huiting Farm,	80.11	341	P	P	13 07 29.7	-1.2
	baz=160						
N37A	Lee Faris, Mou	80.14	344	P	P	13 07 29.1	-1.9
	baz=164						
O34A	Beatrice	80.16	342	P	P	13 07 29.0	-2.1
	baz=162						
IKP	In-Ko-Pah, Jac	80.20	325	P	P	13 07 30.0	-1.6
	baz=147						
URZ	Urewera	80.21	229	S	S	13 17 35.2	-1.6
	comp=Z,5.9nm,1.1s,baz=176,slow=16,SNR=2.1						
URZ				LR	LR	13 34 50.9	
	comp=Z,14µm,20.3s,baz=131,slow=30						
O33A	Hebron	80.27	342	P	P	13 07 30.0	-1.7
	baz=161						
SWSC	Sam W. Stewart	80.31	325	P	P	13 07 30.1	-1.9
	baz=147						
THZ	Tophouse	80.33	224	eP	P	13 07 32.9	+0.4
	comp=Z,42nm,0.9s						
N36A	Muff Farm, Cla	80.36	344	P	P	13 07 29.8	-2.4
	baz=163						
Y12C	Blythe	80.42	327	P	P	13 07 30.0	-2.6
	baz=148						
Y12C	Blythe	80.42	327	eP	P	13 07 33.3	+0.7
	comp=Z,71nm,1.1s						
SDCO	Great Sand Dun	80.43	335	P	P	13 07 30.6	-2.4
	baz=155						
SDCO	Great Sand Dun	80.43	335	eP	P	13 07 32.5	-0.6
	comp=Z,36nm,1.4s						
SDCO				LR	LR		
	comp=Z,6µm,20.0s						
BAR	Barrett	80.48	324	eP	P	13 07 35.6	+2.5
	comp=Z,37nm,1.3s						
MONP2	Monument Peak	80.55	325	P	P	13 07 32.1	-1.5
	baz=147						
N35A	Tabor	80.56	343	P	P	13 07 32.0	-1.2
	baz=162						
ACCN	Adirondack Com	80.56	0	eP	P	13 07 34.8	+1.6
	comp=Z,51nm,1.1s						
M38A	Pleasantville	80.57	345	P	P	13 07 32.8	-0.5
	baz=164						
WUAZ	Wupatki	80.62	330	P	P	13 07 32.8	-1.1
	baz=151						
WUAZ	Wupatki	80.62	330	eP	P	13 07 32.9	-1.0
	comp=Z,62nm,1.2s						
WUAZ				LR	LR		
	comp=Z,6µm,20.0s						
O32A	Brockman Farm,	80.62	341	P	P	13 07 32.4	-1.2
	baz=160						
KSCO	Kaye Shedlock’	80.67	338	P	P	13 07 33.3	-0.7
	baz=157						
KSCO	Kaye Shedlock’	80.67	338	eP	P	13 07 32.0	-2.0
	comp=Z,185nm,1.5s						
PDMCI	Parker Dam,Lak	80.72	327	P	P	13 07 34.3	0.0
	baz=149						
M37A	Trindle Farm,	80.73	345	P	P	13 07 34.4	+0.2
	baz=164						
N34A	Lincoln	80.73	343	P	P	13 07 34.3	+0.1
	baz=162						
BC3	Big Chuckawall	80.75	326	P	P	13 07 33.2	-1.4
	baz=148						
O31A	Woolen Ranch,	80.79	340	P	P	13 07 33.5	-1.0
	baz=160						
109C	Camp Elliot, M	80.86	324	P	P	13 07 34.5	-0.5
	baz=147						
N33A	J Bar K, Exete	80.87	342	P	P	13 07 34.4	-0.5
	baz=161						
S22A	4UR Ranch, Cre	80.89	334	P	P	13 07 35.7	+0.2
	baz=154						
S22A	4UR Ranch, Cre	80.89	334	eP	P	13 07 33.5	-2.0
	comp=Z,61nm,1.3s						
M36A	Felix, Anita	80.94	344	P	P	13 07 34.5	-0.7
	baz=163						
MVCO	Mesa Verde	81.00	333	P	P	13 07 35.7	-0.3
	baz=153						
MVCO	Mesa Verde	81.00	333	eP	P	13 07 34.7	-1.3
	comp=Z,72nm,1.3s						
MVCO				LR	LR		
	comp=Z,11µm,19.0s						
IRM	Iron Mountain	81.04	326	P	P	13 07 35.7	-0.3
	baz=148						
SCIA	State Center	81.04	345	PFAKE		13 07 50.0	+14
SCIA				LR	LR		
	comp=Z,7µm,19.0s						
N32A	Stulken Farm,	81.10	341	P	P	13 07 36.8	+0.7
	baz=160						
M35A	Neola	81.14	344	P	P	13 07 35.8	-0.5
	baz=162						
NCB	Newcomb	81.15	360	eP	P	13 07 36.9	+0.5
	comp=Z,0.1nm,0.9s						
TPFO	Pinon Flats	81.16	325	P	P	13 07 35.6	-1.2
	baz=147						
L38A	Oak Wood Farm,	81.22	346	P	P	13 07 36.7	0.0
	baz=165						
BELC	Belle Mtn. Jos	81.28	326	P	P	13 07 37.1	-0.4
	baz=147						
W13A	Hualapai Mount	81.29	328	eP	P	13 07 36.7	-0.9
	comp=Z,41nm,1.3s						
NEE2	Needles Airpor	81.32	327	P	P	13 07 37.3	-0.2
	baz=148						
N31A	Bailey Ranch,	81.33	341	P	P	13 07 36.8	-0.6
	baz=160						
L37A	Phoenix Point,	81.36	345	P	P	13 07 35.6	-1.9
	baz=164						
M34A	Aspy Farms, Fr	81.38	343	P	P	13 07 36.4	-1.2
	baz=162						
Q24A	Divide	81.42	336	P	P	13 07 36.0	-2.3
	baz=155						
JFWS	Jewell Farm	81.47	348	eP	P	13 07 38.9	+0.8
JFWS				pmax	pmax		
	comp=Z,121nm,1.5s						
JFWS				MLR	MLR		
	comp=Z,12µm,22.0s						
JFWS	Jewell Farm	81.47	348	eP	P	13 07 38.9	+0.8
	comp=Z,121nm,1.5s						
JFWS				LR	LR		
	comp=Z,12µm,22.0s						
MURC	Murrieta	81.49	325	P	P	13 07 36.3	-2.1
	baz=147						
L36A	Harm Buss Farm	81.53	344	P	P	13 07 36.0	-2.4
	baz=163						
M33A	Taylor Creek F	81.59	342	P	P	13 07 36.3	-2.4
	baz=161						
SCI2	San Clemente I	81.61	323	P	P	13 07 35.7	-3.3
	baz=146						
K38A	Parkersburg	81.67	346	P	P	13 07 36.7	-2.4
	baz=165						
BGNE	Belgrade	81.67	342	P	P	13 07 37.4	-1.8
	baz=161						
BGNE	Belgrade	81.67	342	eP	P	13 07 37.1	-2.0
L35A	Bielow Farm, R	81.73	344	P	P	13 07 37.7	-1.8
	baz=163						
U15A	North Rim	81.78	330	eP	P	13 07 39.3	-0.9
	comp=Z,40nm,1.0s						
L34A	Svendsen Farm,	81.78	343	P	P	13 07 37.9	-1.8
	baz=162						
GMRC	Granite Mounta	81.79	326	P	P	13 07 37.3	-2.8
	baz=148						
LONY	Lake Ozonia	81.80	359	eP	P	13 07 41.0	+1.3
	comp=Z,90nm,1.4s						
LONY				LR	LR		
	comp=Z,10µm,20.0s						
M31A	Lambtecht Ranc	81.82	341	P	P	13 07 37.5	-2.5
	baz=160						
PV01	Paradox Valley	81.85	333	eP	P	13 07 39.1	-1.3
CIS	Catalina Islan	81.90	324	P	P	13 07 39.1	-1.5
	baz=146						
BBRC	Big Bear Solar	81.92	325	P	P	13 07 38.6	-2.4
	baz=147						
K37A	Belmond	81.95	345	P	P	13 07 38.8	-1.8
	baz=164						
K36A	Gilmore City	82.00	345	P	P	13 07 40.1	-0.7
	baz=164						
FRNY	Flat Rock	82.01	0	eP	P	13 07 40.1	-0.7
	comp=Z,64nm,1.1s						
SADO	Sadowa	82.09	356	S	S	13 17 49.1	-6.4
	comp=Z,2.0nm,0.6s,baz=249,slow=14,SNR=2.0						
SADO	Sadowa	82.09	356	eP	P	13 07 41.3	+0.1
	comp=Z,43nm,1.1s						
SADO				S	S	13 17 49.1	-6.4
FMP	Fort Macarthur	82.10	324	P	P	13 07 41.3	-0.2
	baz=146						
LBTB	Lobatse	82.12	115	eP	P	13 07 40.5	-1.8
LBTB				pmax	pmax		
	comp=Z,90nm,0.9s						
LBTB	Lobatse	82.12	115	eP	P	13 07 40.5	-1.8
	comp=Z,90nm,0.9s						
HEC	Hector,Ludlow	82.13	326	P	P	13 07 39.7	-2.2
	baz=147						
L33A	Hoskins	82.17	343	P	P	13 07 39.4	-2.4
	baz=161						
L32A	Elgin	82.20	342	P	P	13 07 40.7	-1.2
	baz=161						
PV04	Paradox Valley	82.20	333	eP	P	13 07 41.3	-1.0
SMCO	Snowmass	82.22	335	eP	P	13 07 41.5	-1.1
	comp=Z,115nm,1.3s						
BFSC	Mount Baldy Ra	82.24	325	P	P	13 07 41.3	-1.2
	baz=146						
K35A	Storm Lake	82.24	344	P	P	13 07 40.3	-1.8
	baz=163						
J38A	Wedel Dairy, R	82.26	346	P	P	13 07 40.4	-1.8
	baz=165						
OGNE	Ogallala	82.28	339	P	P	13 07 41.8	-0.7
	baz=158						
OGNE	Ogallala	82.28	339	PFAKE		13 07 50.0	+7.5
OGNE				LR	LR		
	comp=Z,5µm,21.0s						
SNCC	San Nicolas Is	82.30	323	P	P	13 07 41.1	-1.5
	baz=145						
ISCO	Idaho Springs	82.33	336	P	P	13 07 42.0	-1.0
	baz=155						
ISCO	Idaho Springs	82.33	336	eP	P	13 07 43.3	+0.2
ISCO				pmax	pmax		
	comp=Z,31nm,1.2s						
ISCO				MLR	MLR		
	comp=Z,5µm,22.0s						
ISCO	Idaho Springs	82.33	336	eP	P	13 07 43.3	+0.2
	comp=Z,31nm,1.2s						
ISCO				LR	LR		
	comp=Z,5µm,22.0s						
PV09	Paradox Valley	82.38	333	eP	P	13 07 44.4	+1.1
K34A	Le Mars	82.40	344	P	P	13 07 43.0	+0.1
	baz=162						
PASC	Pasadena Art C	82.42	324	eP	P	13 07 42.4	-0.9
TUQ	Turquoise Moun	82.46	326	P	P	13 07 42.4	-1.2
	baz=148						
J37A	Redenius Farm,	82.46	346	P	P	13 07 42.1	-1.1
	baz=164						
RRX	Edison Barstow	82.47	325	P	P	13 07 42.2	-1.3
	baz=147						
KNB	Kanab	82.50	329	eP	P	13 07 43.0	-0.8
KNB				pmax	pmax		
	comp=Z,76nm,1.1s						
KNB	Kanab	82.50	329	eP	P	13 07 43.0	-0.8
	comp=Z,76nm,1.1s						
K33A	Hardington	82.53	343	P	P	13 07 42.4	-1.2
	baz=162						
PKME	Peaks-Kenny Pk	82.54	3	eP	P	13 07 45.5	+1.9
	comp=Z,48nm,1.2s						
PKME				LR	LR		
	comp=Z,13µm,21.0s						
DECC	Green Verdugo	82.56	324	P	P	13 07 42.2	-1.8
	baz=146						
L31A	Butterfield Fa	82.57	342	P	P	13 07 43.3	-0.6
	baz=160						
J36A	Seneca 1, Swea	82.64	345	P	P	13 07 41.3	-2.9
	baz=164						
LCMT	Little Creek M	82.66	329	eP	P	13 07 43.4	-1.2
	comp=Z,22nm,1.1s						
GSC	Goldstone, Bar	82.73	326	P	P	13 07 42.4	-2.6
	baz=147						
RAO	Raoul Island	82.76	239	LR	LR	13 35 15.5	
	comp=Z,5µm,20.9s,baz=139,slow=29						
RAO	Raoul Island	82.76	239	PFAKE		13 08 00.0	+15
RAO				LR	LR		
	comp=Z,599µm,21.0s						
BLG	Laguna Peak, P	82.78	324	P	P	13 07 42.2	-3.0
	baz=145						
K32A	Verdigre	82.81	342	P	P	13 07 43.3	-1.8
	baz=161						
J35A	Milford	82.85	344	P	P	13 07 43.5	-1.8
	baz=163						
EDW2	Edwards Air Fo	82.92	325	P	P	13 07 43.8	-2.2
	baz=146						
I38A	Scanlan Farm,	82.93	347	P	P	13 07 43.9	-1.8
	baz=165						
J34A	George	82.94	344	P	P	13 07 44.6	-1.2
	baz=162						
SCZ2	Santa Cruz Isl	82.96	323	P	P	13 07 44.6	-1.5
	baz=145						
K31A	O’Neill	82.97	342	P	P	13 07 45.9	0.0
	baz=160						
SHOC	Shoshone, Teco	83.00	326	P	P	13 07 46.1	-0.2
	baz=147						
SHPR	Sheep Range	83.03	328	eP	P	13 07 46.0	-0.6
	comp=Z,44nm,1.2s						
OSI	Osito Audit: C	83.04	324	P	P	13 07 46.2	-0.3
	baz=146						
I37A	Lemond, Waseca	83.11	346	P	P	13 07 47.3	+0.7
	baz=164						
CCUT	Cedar City	83.17	329	eP	P	13 07 46.8	-0.6
	comp=Z,50nm,1.0s						
J33A	Davis	83.19	343	P	P	13 07 46.5	-0.6
	baz=162						
K30A	Basset	83.23	341	P	P	13 07 46.7	-0.6
	baz=160						
I36A	Fitzsimmons Fa	83.23	345	P	P	13 07 46.7	-0.5
	baz=164						
I35A	Creekview Farm	83.27	345	P	P	13 07 45.7	-1.8
	baz=163						
LRMC	Laurel Mtn Rad	83.28	325	P	P	13 07 47.1	-0.7
	baz=146						
SBC	Santa Barbara	83.36	323	P	P	13 07 47.9	-0.2
	baz=145						
TRQ	Mont Tremblant	83.40	359	eP	P	13 07 48.0	-0.1
KOWA	Kowa	83.42	66	eP	P	13 07 47.7	-1.2
	comp=Z,102nm,1.9s						
LMN	Caledonia Moun	83.42	6	eP	P	13 07 48.2	0.0
	comp=Z,100nm,1.0s						
N23A	Red Feather La	83.43	336	P	P	13 07 47.9	-0.7
	baz=155						
N23A	Red Feather La	83.43	336	eP	P	13 07 50.2	+1.5
	comp=Z,66nm,1.3s						
SRU	San Rafael Swe	83.43	332	eP	P	13 07 47.9	-0.7
SRU				pmax	pmax		
	comp=Z,39nm,1.1s						
SRU	San Rafael Swe	83.43	332	eP	P	13 07 47.9	-0.7
	comp=Z,39nm,1.1s						
J32A	Parkston	83.45	343	P	P	13 07 48.4	0.0
	baz=161						
ECSD	EROS Data Cent	83.51	344	P	P	13 07 47.5	-1.2
	baz=162						
ECSD	EROS Data Cent	83.51	344	eP	P	13 07 47.3	-1.3
	comp=Z,98nm,1.1s						
ECSD				LR	LR		
	comp=Z,7µm,19.0s						
ARVC	Arvin	83.51	324	P	P	13 07 48.0	-0.9
	baz=146						
O20A	White River Ci	83.51	334	P	P	13 07 48.7	-0.3
	baz=153						
O20A	White River Ci	83.51	334	eP	P	13 07 47.9	-1.2
	comp=Z,188nm,2.0s						
H37A	Dierke Farm, C	83.56	346	P	P	13 07 48.4	-0.5
	baz=165						
J31A	Geddes	83.59	342	P	P	13 07 47.9	-1.3
	baz=160						
PHWY	Pilot Hill	83.64	337	eP	P	13 07 49.6	-0.2
	comp=Z,80nm,1.6s						
MPMC	Manual Prospec	83.67	326	P	P	13 07 46.8	-3.2
	baz=146						
FURC	Furnace Creek,	83.73	326	P	P	13 07 48.0	-1.9
	baz=147						
H36A	Jessenland, He	83.75	346	P	P	13 07 48.4	-1.4
	baz=164						
PKM	Mcpherson Peak	83.78	324	P	P	13 07 48.5	-2.1
	baz=145						
P18A	Preston Nutter	83.78	333	eP	P	13 07 50.5	-0.1
	comp=Z,82nm,1.1s						
ISA	Isabella, Lake	83.79	325	P	P	13 07 48.1	-2.3
	baz=146						
ISA	Isabella, Lake	83.79	325	eP	P	13 07 51.7	+1.3
ISA				pmax	pmax		
	comp=Z,37nm,1.1s						
ISA	Isabella, Lake	83.79	325	eP	P	13 07 51.7	+1.3
	comp=Z,37nm,1.1s						
J30A	Dallas	83.81	341	P	P	13 07 49.0	-1.2
	baz=160						
I33A	Coleman	83.85	344	P	P	13 07 48.6	-1.8
	baz=162						
TPNV	Topopah Spring	83.87	327	P	P	13 07 48.0	-2.9
	baz=147						
DAC	Darwin (Calif)	83.90	326	eP	P	13 07 50.1	-1.0
DAC				pmax	pmax		
	comp=Z,38nm,1.1s						
DAC	Darwin (Calif)	83.90	326	eP	P	13 07 50.1	-1.0
	comp=Z,38nm,1.1s						
I32A	Karley and Nic	83.98	343	P	P	13 07 48.7	-2.4
	baz=161						
H35A	Sunnyside Ranc	84.05	345	P	P	13 07 49.0	-2.4
	baz=163						
SPMN	Marine on St.	84.16	347	P	P	13 07 50.8	-1.2
	baz=165						

SPMN Marine on St. 84.16 347 eP P 13 07 51.1 -0.9
comp=Z,60nm,1.3s
SMMC Simmler 84.21 324 P P 13 07 50.7 -1.9
baz=145
H34A Spellman Lake, 84.22 344 P P 13 07 51.1 -1.2
baz=163
VES Vestal, Richgr 84.22 325 P P 13 07 51.0 -1.5
baz=146
I31A Royce, Wessing 84.24 342 P P 13 07 51.2 -1.2
baz=160
I30A Oacoma 84.35 342 P P 13 07 51.1 -1.9
baz=160
G36A St. Michael 84.35 346 P P 13 07 51.1 -1.8
baz=164
GRAC Grapevine Rang 84.40 326 P P 13 07 51.9 -1.5
baz=147
COWI Conover 84.41 349 P P 13 07 50.2 -3.0
comp=Z,39nm,1.3s
COWI LR LR
comp=Z,6µm,20.0s
H32A Carlson Farm, 84.43 343 P P 13 07 52.1 -1.2
baz=161
H33A Prehn Over Nor 84.44 344 P P 13 07 51.6 -1.8
baz=162
G35A Watkins 84.48 345 P P 13 07 51.8 -1.8
baz=164
H31A Wolsey 84.65 343 P P 13 07 52.6 -1.8
baz=160
I29A Vivian Onida 84.67 341 P P 13 07 52.7 -1.9
baz=159
SUSD Miller 84.73 342 P P 13 07 53.6 -1.2
baz=160
G34A Benson 84.73 345 P P 13 07 53.7 -1.2
baz=163
J26A Sides Ranch, S 84.76 339 P P 13 07 53.8 -1.4
baz=157
R11A Troy Canyon, C 84.77 328 P P 13 07 53.8 -1.7
baz=148
R11A Troy Canyon, C 84.77 328 eP P 13 07 54.3 -1.2
comp=Z,102nm,1.8s
LMQ La Malbaie 84.78 2 eP P 13 07 55.3 +0.2
comp=Z,88nm,1.0s
TIN Tinemaha, Big 84.83 326 P P 13 07 54.1 -1.6
baz=146
G33A Ortonville 84.86 344 P P 13 07 54.3 -1.2
baz=162
F36A Milaca 84.91 346 P P 13 07 53.3 -2.4
baz=164
JLU Jordanelle 85.08 332 eP P 13 07 56.3 -0.8
comp=Z,32nm,1.1s
F35A Swanville 85.11 346 P P 13 07 54.3 -2.4
baz=164
G32A Webster 85.15 343 P P 13 07 54.5 -2.5
baz=161
F34A Alexandria 85.19 345 P P 13 07 55.3 -1.8
baz=163
K22A Casper 85.20 336 P P 13 07 56.0 -1.5
baz=154
K22A Casper 85.20 336 eP P 13 07 56.8 -0.7
comp=Z,195nm,1.6s
H29A Onida 85.21 341 P P 13 07 56.0 -1.3
baz=159
DUG Dugway, Tooele 85.24 331 P P 13 07 55.1 -2.6
baz=150
DUG Dugway, Tooele 85.24 331 eP P 13 07 56.4 -1.3
DUG pmax pmax
comp=Z,71nm,1.2s
DUG MLR MLR
comp=Z,7µm,19.0s
DUG Dugway, Tooele 85.24 331 eP P 13 07 56.4 -1.3
comp=Z,71nm,1.2s
DUG LR LR
comp=Z,7µm,19.0s
G31A Conde 85.29 343 P P 13 07 55.8 -1.8
baz=161
E37A Wrenshall 85.39 347 P P 13 07 55.9 -2.2
baz=165
G30A Faulkton 85.42 342 P P 13 07 55.8 -2.5
baz=160
F33A 5 Mile Ranch, 85.44 344 P P 13 07 55.3 -3.1
baz=162
E36A McGregor 85.49 347 P P 13 07 57.4 -1.2
baz=165
MLAC Mammoth, Mammo 85.58 326 P P 13 07 57.7 -1.9
baz=146
F32A Veblen 85.65 344 P P 13 07 58.2 -1.2
baz=162
G29A Hoven 85.67 342 P P 13 07 57.7 -1.9
baz=159
E35A Pequot Lakes 85.75 346 P P 13 07 57.5 -2.4
baz=164
RSSD Black Hills 85.78 339 P P 13 07 58.2 -2.2
baz=156
RSSD Black Hills 85.78 339 eP P 13 08 01.1 +0.7
RSSD pmax pmax
comp=Z,29nm,0.9s
RSSD Black Hills 85.78 339 eP P 13 08 01.1 +0.7
comp=Z,29nm,0.9s
E34A Wadena 85.86 345 P P 13 07 59.8 -0.6
baz=163
H26A Fairpoint 85.88 340 P P 13 07 60.0 -0.7
baz=157
F31A Hecla 85.90 343 P P 13 07 58.8 -1.8
baz=161
NV11 Mina Array Sit 85.94 327 eP P 13 08 00.1 -1.2
comp=Z,27nm,1.3s
D37A Cotton 85.96 347 P P 13 07 59.8 -1.2
baz=165
HWUT Hardware Ranch 85.99 333 eP P 13 07 59.9 -1.6
comp=Z,171nm,1.5s
HWUT LR LR
comp=Z,6µm,21.0s
NV01 Mina Array Sit 86.00 327 eP P 13 08 01.1 -0.6
NVAR Mina Array Bea 86.00 327 P P 13 08 02.5 +0.8
comp=Z,4.5nm,0.9s,baz=156,slow=5.1,SNR=15
NVAR PKKPbc PKKPdf 13 26 01.1 +4.6
comp=Z,0.6nm,0.7s,baz=307,slow=0.9,SNR=4.0
NVAR LR LR 13 39 02.6
comp=Z,3µm,19.6s,baz=134,slow=30
H07S1 FLORES T-PHASE 86.00 32 eP P 13 08 01.1 -0.3
E33A Westby DABS, E 86.02 345 P P 13 07 58.8 -2.5
baz=162
F30A Leola 86.05 343 P P 13 07 59.7 -1.8
baz=160
SAO San Andreas Ge 86.07 324 P P 13 08 01.5 -0.3
SAO San Andreas Ge 86.07 324 P P 13 08 01.4 -0.3
D36A Goodland 86.11 347 P P 13 07 59.9 -1.8
baz=165
H25A Fruitdale 86.11 339 P P 13 07 59.7 -2.1
baz=157
D35A Remer 86.18 346 P P 13 07 59.0 -3.1
baz=164
C39A Grand Marais 86.23 349 P P 13 07 59.2 -3.1
baz=167
F29A Eureka 86.25 342 P P 13 08 00.5 -1.9
baz=160
BW06 Boulder Array 86.30 334 P P 13 08 00.8 -2.3
baz=152
BW06 Boulder Array 86.30 334 eP P 13 08 00.9 -2.2
comp=Z,38nm,1.1s
BW06 LR LR
comp=Z,11µm,19.0s
PD31 Pinedale Array 86.30 334 eP P 13 08 02.2 -0.8
PDAR Pinedale Array 86.30 334 P P 13 08 03.3 +0.2
comp=Z,4.9nm,1.0s,baz=184,slow=8.9,SNR=24
PDAR PKKPbc PKKPdf 13 25 59.8 +3.5
comp=Z,0.4nm,0.8s,baz=77,slow=5.1,SNR=2.8
PDAR LR LR 13 43 10.5
comp=Z,10µm,18.2s,baz=151,slow=33
C38A Sawbill Land. 86.31 348 P P 13 07 59.8 -2.9
baz=166
E32A Braaten, Kindr 86.33 344 P P 13 08 00.8 -2.0
baz=162
D34A Park Rapids 86.41 346 P P 13 08 00.7 -2.5
baz=163
PCAN Candelaria 86.42 34 eP P 13 08 04.9 +1.5
comp=Z,114nm,1.2s
PCED Cedros 86.46 34 eP P 13 08 04.2 +0.6
comp=Z,53nm,0.4s
PICO Pico 86.47 34 eP P 13 08 07.1 +3.3
comp=Z,30nm,0.4s
C37A Embarrass 86.47 348 P P 13 08 01.0 -2.5
baz=165
E31A Nome 86.47 344 P P 13 08 01.0 -2.5
baz=161
PPNO Prainha do Nor 86.52 34 eP P 13 08 04.0 0.0
comp=Z,88nm,0.5s
WAKR Walker 86.56 326 eP P 13 08 03.9 -0.5

EYMN Ely 86.57 348 P P 13 08 01.5 -2.5
baz=166
EYMN Ely 86.57 348 eP P 13 08 03.6 -0.3
comp=Z,49nm,1.3s
EYMN LR LR
comp=Z,7µm,19.0s
G25A Newell 86.59 340 P P 13 08 01.6 -2.6
baz=157
D33A AnnSam, Waubun 86.59 345 P P 13 08 01.6 -2.5
baz=163
CMB Columbia Colle 86.61 325 eP P
CMB pmax pmax
comp=Z,144nm,1.3s
CMB Columbia Colle 86.61 325 eP P 13 08 05.7 +1.3
comp=Z,144nm,1.3s
C36A Pine Crest Far 86.61 347 P P 13 08 02.9 -1.2
baz=165
E30A Jud 86.66 343 P P 13 08 02.5 -1.9
baz=160
ELK Elko 86.66 330 eP P 13 08 04.2 -0.7
ELK pmax pmax
comp=Z,39nm,1.2s
ELK Elko 86.66 330 eP P 13 08 04.2 -0.7
comp=Z,40nm,1.2s
PMAN Manadas 86.73 34 eP P 13 08 06.5 +1.6
comp=Z,64nm,1.4s
ROSA Rosais 86.73 34 eP P 13 08 05.6 +0.6
comp=Z,66nm,1.3s
C35A Jirik Farms, M 86.77 347 P P 13 08 03.1 -1.8
baz=164
TOA0 Torodi Ar. Sit 86.77 71 eP P 13 08 03.5 -2.2
TORD Torodi Ar. Bea 86.77 71 P P 13 08 03.7 -2.0
comp=Z,26nm,0.9s,baz=226,slow=4.0,SNR=71
TORD PP PP 13 11 24.8 -3.7
comp=Z,7.3nm,1.0s,baz=238,slow=8.9,SNR=3.6
TORD S S 13 18 28.6 -15
comp=Z,0.7nm,1.1s,baz=259,slow=2.9,SNR=2.4
PSMA Santa Maria 86.78 37 eP P 13 08 04.0 -1.2
comp=Z,57nm,1.6s
PSMN Pico do Norte, 86.81 37 eP P 13 08 04.3 -1.1
comp=Z,123nm,1.4s
D32A Dogwood Acres, 86.83 344 P P 13 08 03.2 -2.0
baz=162
AHID Auburn Hatcher 86.84 333 eP P 13 08 05.4 -0.2
comp=Z,38nm,1.2s
AHID LR LR
comp=Z,7µm,20.0s
E29A Napoleon 86.89 342 P P 13 08 03.5 -2.1
baz=160
C34A RKJ Ranch, Bem 86.89 346 P P 13 08 03.8 -1.8
baz=163
D31A Mcclaflin, Tow 86.90 344 P P 13 08 04.0 -1.5
baz=161
F26A Lodgepole 86.99 340 P P 13 08 04.9 -1.2
baz=157
PGRA Graciosa 87.11 34 eP P 13 08 07.6 +0.8
comp=Z,62nm,1.0s
E28A Huff 87.15 342 P P 13 08 05.2 -1.6
baz=159
PSET Sete Cidades 87.16 36 eP P 13 08 05.1 -2.0
comp=Z,173nm,1.1s
C33A Trail 87.17 345 P P 13 08 05.5 -1.3
baz=163
D30A Buchanan 87.19 343 P P 13 08 05.4 -1.6
baz=160
BMN Battle Mountai 87.20 328 eP P 13 08 07.9 +0.5
BMN pmax pmax
comp=Z,11nm,1.1s
BMN Battle Mountai 87.20 328 eP P 13 08 07.9 +0.5
comp=Z,11nm,1.1s
E27A Carson 87.24 341 P P 13 08 06.1 -1.2
baz=158
PCALD Caldeiras da R 87.25 36 eP P 13 08 02.6 -4.9
comp=Z,91nm,0.6s
F25A Bowman 87.27 340 P P 13 08 06.3 -1.2
baz=157
REDW Red Top Meadow 87.28 334 eP P 13 08 07.7 -0.1
comp=Z,55nm,1.4s
SNOW Snow King Moun 87.33 334 eP P 13 08 09.4 +1.3
comp=Z,42nm,1.3s
D29A Pettibone, Tap 87.34 343 P P 13 08 06.6 -1.1
baz=160
B35A Bob, Littlefor 87.35 347 P P 13 08 06.2 -1.5
baz=164
BART Pico Bartolome 87.38 37 eP P 13 08 10.2 +2.0
comp=Z,130nm,1.3s
C32A Crookston 87.38 345 P P 13 08 06.3 -1.5
baz=162
LOHW Long Hollow 87.41 334 eP P 13 08 07.4 -1.0
comp=Z,25nm,1.1s
TPAW Teton Pass 87.42 334 eP P 13 08 09.6 +1.0
comp=Z,36nm,1.1s
E26A Carlson Angus 87.51 341 P P 13 08 06.5 -2.1
baz=158
PAHR Pah Rah Range 87.53 327 eP P 13 08 10.7 +1.7
comp=Z,64nm,1.7s
MOOW Moose Ponds 87.58 334 eP P 13 08 10.1 +0.8
comp=Z,18nm,1.3s
C31A Landman Farms, 87.61 344 P P 13 08 06.7 -2.3
baz=161
B33A Robert and Kas 87.62 346 P P 13 08 07.2 -1.8
baz=163
B34A Aery, Baudette 87.64 346 P P 13 08 08.1 -1.1
baz=164
PMOZ Porto Moniz, M 87.67 45 eP P 13 08 12.0 +2.2
PMOZ Porto Moniz, M 87.67 45 eSKS S 13 18 53.9 +2.1
PMOZ Porto Moniz, M 87.67 45 eLQ LQ 13 34 55.7
PMOZ eLR LR 13 37 48.2
comp=Z,12µm,18.0s
C30A Mose, Pekin 87.69 344 P P 13 08 08.7 -0.7
baz=161
D28A Regan 87.70 342 P P 13 08 07.6 -1.9
baz=159
IMW Indian Meadow 87.78 334 eP P 13 08 09.6 -0.7
comp=Z,24nm,1.0s
E25A Miller Ranch, 87.79 340 P P 13 08 08.5 -1.4
baz=157
PAF Port-aux-Franc 87.80 157 PFAKE 13 08 20.0 +10
PAF LR LR
comp=Z,29µm,19.0s
AFI Afiamalu 87.80 254 LR LR 13 39 06.3
comp=Z,16µm,18.2s,baz=128,slow=30
AFI Afiamalu 87.80 254 PFAKE 13 08 20.0 +9.1
AFI LR LR
comp=Z,283µm,20.0s
FLWY Flagg Ranch 87.86 334 eP P 13 08 11.8 +1.3
comp=Z,105nm,1.4s
D27A Center 87.86 341 P P 13 08 09.5 -0.7
baz=158
B32A Ashes, Strandq 87.93 345 P P 13 08 09.2 -1.3
baz=162
D26A Manning 88.02 341 P P 13 08 09.1 -1.9
baz=158
MDND Maddock 88.08 343 P P 13 08 09.4 -1.8
baz=160
MDND Maddock 88.08 343 eP P 13 08 13.7 +2.4
comp=Z,364nm,1.4s
H17A Grant Village 88.09 335 P P 13 08 11.6 -0.1
baz=152
H17A Grant Village 88.09 335 eP P 13 08 11.8 +0.1
comp=Z,23nm,1.4s
C28A Hauser Farms 88.14 342 P P 13 08 09.9 -1.6
baz=159
LKWY Lake 88.18 335 PFAKE 13 08 20.0 +7.9
LKWY LR LR
comp=Z,14µm,19.0s
B31A Greenbush Farm 88.19 344 P P 13 08 10.4 -1.3
baz=161
A33A Warroad 88.22 346 P P 13 08 10.0 -1.8
baz=163
YFT Old Faithful 88.22 334 eP P 13 08 12.7 +0.4
comp=Z,67nm,1.5s
RLMT Red Lodge 88.29 336 P P 13 08 11.3 -1.3
baz=152
RLMT Red Lodge 88.29 336 eP P 13 08 11.5 -1.1
comp=Z,20nm,1.0s
RLMT LR LR
comp=Z,6µm,20.0s
B30A Myrvik Farm, E 88.36 344 P P 13 08 11.9 -0.7
baz=161
D25A Fairfield 88.36 340 P P 13 08 11.9 -0.8
baz=157
C27A Sayler Ranch, 88.42 342 P P 13 08 11.2 -1.6
baz=158
A32A Rocking H Ranc 88.42 345 P P 13 08 11.0 -1.8
baz=162
A31A Linda, St. Vin 88.57 345 P P 13 08 11.5 -2.0
baz=162

B29A Wagenman Farm, 88.60 343 P P 13 08 11.2 -2.6
baz=160
C26A Wahner Farm, P 88.67 341 P P 13 08 12.1 -2.0
baz=158
HLID Hailey 88.74 332 P P 13 08 12.3 -2.5
baz=149
HLID Hailey 88.74 332 eP P 13 08 14.5 -0.2
comp=Z,39nm,1.3s
HLID LR LR
comp=Z,5µm,20.0s
LAO LASA Array 88.75 338 P P 13 08 12.8 -1.7
baz=155
LAO LASA Array 88.75 338 PFAKE 13 08 30.0 +15
LAO LR LR
comp=Z,5µm,19.0s
A30A Hoffart Farm, 88.82 344 P P 13 08 12.2 -2.5
baz=161
B28A Dugan Ranch, T 88.82 343 P P 13 08 12.7 -2.1
baz=159
C25A Freed Ranch, W 88.86 341 P P 13 08 13.8 -1.2
baz=157
B27A Peters Farms, 89.00 342 P P 13 08 15.5 -0.1
baz=158
A29A Manning Farm, 89.01 344 P P 13 08 14.3 -1.3
baz=160
O03D Paynes Creek 89.08 325 P P 13 08 15.8 -0.5
baz=144
MFID Camas Ranch 89.16 331 eP P 13 08 18.4 +1.8
comp=Z,40nm,1.3s
B26A Jensen Ranch, 89.21 342 P P 13 08 18.3 +1.7
baz=158
A28A Rude Farm, Bot 89.23 343 P P 13 08 18.4 +1.7
baz=159
B25A Knox Farm, Ray 89.35 341 P P 13 08 19.6 +2.3
baz=157
WVOR Wild Horse Val 89.46 329 eP P 13 08 18.6 +0.5
WVOR pmax pmax
comp=Z,50nm,1.4s
WVOR MLR MLR
comp=Z,5µm,20.0s
WVOR Wild Horse Val 89.46 329 eP P 13 08 18.6 +0.5
comp=Z,50nm,1.4s
WVOR LR LR
comp=Z,5µm,20.0s
A27A Ledoux Ranch, 89.50 342 P P 13 08 19.1 +1.2
baz=158
BOZ Bozeman (W) 89.54 335 P P 13 08 19.9 +1.5
baz=151
BOZ Bozeman (W) 89.54 335 eP P 13 08 19.5 +1.1
BOZ pmax pmax
comp=Z,27nm,1.5s
BOZ MLR MLR
comp=Z,6µm,19.0s
BOZ Bozeman (W) 89.54 335 eP P 13 08 19.5 +1.1
comp=Z,27nm,1.5s
BOZ LR LR
comp=Z,6µm,19.0s
ULM Lac du Bonnet 89.57 346 P P 13 08 19.5 +1.4
comp=Z,33nm,1.1s,baz=180,slow=4.2,SNR=9.1
ULM Lac du Bonnet 89.57 346 eP P 13 08 21.5 +3.3
comp=Z,46nm,1.1s
DLMT Dillon 89.63 334 eP P 13 08 20.7 +1.9
comp=Z,71nm,1.7s
A26A Wade Farm, Ken 89.65 342 P P 13 08 20.4 +1.7
baz=158
MOD Modoc Plateau 89.73 327 eP P 13 08 18.8 -0.6
comp=Z,40nm,1.4s
DGMT Dagmar 89.81 340 P P 13 08 21.7 +2.3
baz=156
DGMT Dagmar 89.81 340 eP P 13 08 18.2 -1.2
comp=Z,46nm,1.2s
DGMT LR LR
comp=Z,5µm,20.0s
N02D Trinity Center 90.04 325 P P 13 08 22.7 +2.0
baz=143
LSZ Lusaka 90.05 109 eP P 13 08 22.0 +0.5
LSZ pmax pmax
comp=Z,53nm,1.0s
LSZ MLR MLR
comp=Z,25µm,19.0s
LSZ Lusaka 90.05 109 eP P 13 08 22.0 +0.5
comp=Z,53nm,1.0s
LSZ LR LR
comp=Z,25µm,19.0s
M04C Macdoel 90.30 326 P P 13 08 25.8 +3.8
baz=144
M02C Callahan 90.44 325 P P 13 08 25.8 +3.3
baz=143
BMO Blue Mountains 90.94 331 eP P 13 08 26.2 +1.3
comp=Z,12nm,1.0s
BMO LR LR
comp=Z,5µm,20.0s
K04D Chiloquin, OR 90.94 327 P P 13 08 28.2 +3.2
baz=144
EGMT Eagleton 91.02 337 P P 13 08 26.4 +1.3
baz=152
EGMT Eagleton 91.02 337 PFAKE 13 08 40.0 +15
EGMT LR LR
comp=Z,8µm,19.0s
J05D Fort Rock, OR 91.25 327 P P 13 08 29.0 +2.6
baz=144
MSO Missoula 91.37 334 P P 13 08 29.6 +2.8
baz=149
MSO Missoula 91.37 334 eP P 13 08 29.4 +2.5
comp=Z,42nm,1.7s
L02D Cave Junction, 91.39 325 P P 13 08 30.2 +3.3
baz=143
F10A Beach Ranch, E 91.85 331 eP P 13 08 30.9 +1.9
comp=Z,38nm,1.5s
I05D Terrebonne, OR 92.15 328 P P 13 08 33.8 +3.3
baz=144
I04A Tendick Farm, 92.17 327 P P 13 08 32.6 +2.1
baz=143
SCHQ Schefferville 92.22 4 P P 13 08 31.5 +1.1
comp=Z,14nm,1.1s,baz=74,slow=7.4,SNR=2.4
SCHQ LR LR 13 49 41.6
comp=Z,4µm,21.3s,baz=176,slow=35
SCHQ Schefferville 92.22 4 eP P 13 08 30.9 +0.5
comp=Z,48nm,1.6s
I03D Drain, OR 92.50 326 P P 13 08 34.7 +2.8
baz=143
H04A Detroit Lake 92.79 328 eP P 13 08 37.1 +3.8
comp=Z,14nm,1.0s
G05D Wamic, OR 92.87 329 P P 13 08 36.5 +2.8
baz=144
HAWA Hanford 93.09 330 PFAKE 13 08 50.0 +15
HAWA LR LR
comp=Z,5µm,19.0s
WALA Waterton Lakes 93.28 335 eP P 13 08 36.9 +1.3
comp=Z,28nm,0.9s
G03D McMinnville, O 93.67 327 P P 13 08 38.8 +1.5
baz=143
NEW Newport 93.73 333 P P 13 08 39.6 +2.0
baz=147
NEW Newport 93.73 333 eP P 13 08 36.7 -0.9
NEW pmax pmax
comp=Z,14nm,1.0s
NEW MLR MLR
comp=Z,5µm,20.0s
NEW Newport 93.73 333 eP P 13 08 36.7 -0.9
comp=Z,14nm,1.0s
NEW LR LR
comp=Z,5µm,20.0s
F04D Rainier, OR 94.25 328 P P 13 08 43.4 +3.4
baz=143
LON Longmire 94.29 329 eP P 13 08 40.7 +0.5
LON pmax pmax
comp=Z,15nm,1.2s
LON Longmire 94.29 329 eP P 13 08 40.7 +0.5
comp=Z,15nm,1.2s
RTC Rabat Centre 94.56 50 PFAKE 13 08 50.0 +8.3
RTC LR LR
comp=Z,56µm,19.0s
C06D Leavenworth 94.88 330 P P 13 08 46.2 +3.4
baz=144
POHA Pohakuloa 95.50 291 PFAKE 13 09 00.0 +13
POHA LR LR
comp=Z,10µm,21.0s
PFVI Vila Bisbo 95.53 47 eP P 13 08 46.5 +0.4
PFVI Vila Bisbo 95.53 47 ePP PP 13 12 34.2 -3.4
B05A Bryant 95.63 330 P P 13 08 49.6 +3.4
baz=143
TAM Tamanrasset 95.64 66 eP P 13 08 45.9 -1.2
TAM pmax pmax
comp=Z,21nm,1.1s
TAM MLR MLR
comp=Z,16µm,19.0s
TAM Tamanrasset 95.64 66 eP P 13 08 45.9 -1.2

comp=Z,21nm,1.1s
TAM LR LR
comp=Z,16µm,19.0s
NLWA Neilton Lookou 95.65 328 PFAKE 13 09 00.0 +14
NLWA LR LR
comp=Z,4µm,21.0s
MORF Marmelete 95.76 47 *e*P **P 13 08 46.0 -1.3**
MORF *e*PP **PP 13 12 37.4 -2.0**
MORF *e*S **SKSac 13 19 20.1 -3.2**
MORF *e*SS **SS 13 26 32.9 -2.3**
MORF AMS AMS 13 52 48.4
comp=Z,16µm,13.4s
MORF Marmelete 95.76 47 *e*PP PP 13 12 38.0 -1.4
MORF Marmelete 95.76 47 *e*P **P 13 08 45.9 -1.3**
MORF *e* 13 12 37.4
MORF *e*S **SKSac 13 19 20.1 -3.2**
MORF *e*SS **SS 13 26 32.8 -2.3**
PBDV Barranco-do-Ve 96.13 47 *e*P **P 13 08 48.5 -0.4**
PBDV Barranco-do-Ve 96.13 47 *e*PP PP 13 12 43.7 +1.4
A04D Lummi Island 96.24 330 P **P 13 08 48.8 -0.2**
baz=143
PCVE Castro Verde 96.33 47 *e*P **P 13 08 50.7 +1.0**
comp=Z,34nm,1.8s
PCVE Castro Verde 96.33 47 *e*PP PP 13 12 41.0 -2.8
PVAQ Vaqueiros 96.36 47 *e*P **P 13 08 51.0 +1.1**
comp=Z,40nm,1.6s
PVAQ Vaqueiros 96.36 47 *e*PP PP 13 12 43.7 -0.3
PVAQ *e*SKS **SKSac 13 19 31.7 +5.3**
PVAQ *e*SS **SS 13 26 45.2 +1.6**
PVAQ Vaqueiros 96.36 47 *e*LQ LQ 13 40 01.2
PVAQ *e*LR LR 13 43 38.9
comp=Z,22µm,18.0s
MESJ Messejana 96.37 47 *e*P **P 13 08 48.8 -1.1**
MESJ *e*PP **PP 13 12 42.0 -2.0**
MESJ *e*S **SKSac 13 19 23.7 -2.7**
MESJ *e*SS **SS 13 26 40.9 -2.8**
MESJ AMS AMS 13 54 06.6
comp=Z,16µm,13.9s
MESJ Messejana 96.37 47 *e*P **P 13 08 48.4 -1.5**
MESJ Messejana 96.37 47 *e*PP PP 13 12 43.4 -0.7
MESJ Messejana 96.37 47 *e*P **P 13 08 48.7 -1.1**
MESJ *e* 13 12 42.0
MESJ *e*S **SKSac 13 19 23.7 -2.7**
MESJ *e*SS **SS 13 26 40.9 -2.8**
PNCL Nicolau / Gran 96.38 46 *e*P P 13 08 55.0 +5.1
PNCL Nicolau / Gran 96.38 46 *e*PP PP 13 12 42.8 -1.3
LIS Lisbon 96.44 45 *e*P **P 13 08 48.9 -1.3**
LIS *e*PP **PP 13 12 42.8 -1.8**
LIS AMS AMS 13 50 58.9
comp=Z,20µm,19.6s
LIS Lisbon 96.44 45 *e*P **P 13 08 48.8 -1.3**
LIS *e* 13 12 42.8
PMAFR Mafra 96.53 45 *e*P **P 13 08 50.6 0.0**
PMAFR Mafra 96.53 45 *e*PP PP 13 12 52.2 +6.9
EVO Evora 96.96 46 *e*P **P 13 08 54.3 +1.7**
comp=Z,19nm,1.8s
EVO Evora 96.96 46 *e*PP PP 13 12 49.3 +0.7
PMTG Montargil 97.21 46 *e*P **P 13 08 51.4 -2.2**
PMTG Montargil 97.21 46 *e*PP PP 13 12 47.1 -3.4
PBAR Barrancos 97.28 47 *e*P **P 13 08 51.9 -2.1**
PBAR Barrancos 97.28 47 *e*PP PP 13 12 48.6 -2.5
CAN Canberra 97.31 214 PFAKE 13 09 10.0 +15
CAN LR LR
comp=Z,12µm,21.0s
PESTR Estremoz 97.43 46 *e*P **P 13 08 55.2 +0.5**
comp=Z,23nm,2.0s
PESTR Estremoz 97.43 46 *e*PP PP 13 12 48.7 -3.6
PMRV Marv??o 97.93 46 *e*P **P 13 08 57.1 +0.2**
PMRV Marv??o 97.93 46 *e*PP PP 13 12 54.4 -1.7
PMRV *e*SKS **SKSac 13 19 37.3 +2.9**
PMRV *e*SS **SS 13 27 10.7 +5.0**
PMRV Marv??o 97.93 46 *e*LQ LQ 13 38 33.0
PMRV *e*LR LR 13 42 21.3
comp=Z,12µm,18.0s
DZM Mont Dzumac 97.98 234 *e*PP PP 13 12 45.0 -11
comp=Z,1µm,26.7s
DZM Mont Dzumac 97.98 234 *e*SS SS 13 27 06.9 +1.4
comp=Z,10µm,24.5s
DZM *e*LQ LQ 13 36 43.2
comp=Z,13µm,27.6s
DZM *e*LR LR 13 40 55.9
comp=Z,26µm,26.0s
FUNA Funafuti 98.05 253 PFAKE 13 09 10.0 +12
FUNA LR LR
comp=Z,10µm,19.0s
KIP Kipapa 98.36 290 *i* P **P 13 08 59.5 +0.3**
KIP Kipapa 98.36 290 PFAKE 13 09 10.0 +11
KIP LR LR
comp=Z,17µm,21.0s
MTE Manteigas 98.50 45 *e*P **P 13 08 59.0 -0.5**
comp=Z,43nm,1.4s
MTE Manteigas 98.50 45 *e*PP PP 13 12 58.0 -2.5
MTE *e*SKS **SKSac 13 19 37.8 +0.4**
MTE *e*SS **SS 13 27 18.4 +4.7**
MTE Manteigas 98.50 45 *e*LQ LQ 13 40 54.0
MTE *e*LR LR 13 45 24.3
comp=Z,28µm,18.0s
MTE Manteigas 98.50 45 PFAKE 13 09 10.0 +10
MTE LR LR
comp=Z,28µm,20.0s
POLO Lamas de Olo 99.02 44 *e*P **Pdif 13 09 02.2 +0.3**
POLO Lamas de Olo 99.02 44 *e*PP PP 13 13 04.1 -0.4
PGAV Gavieira, Arco 99.16 43 *e*P **Pdif 13 09 02.5 0.0**
PGAV Gavieira, Arco 99.16 43 *e*PP PP 13 13 05.7 +0.2
PGAV *e*SKS **SKSac 13 19 46.0 +5.3**
PGAV *e*SS **SS 13 27 26.7 +3.7**
PGAV Gavieira, Arco 99.16 43 *e*LQ LQ 13 41 09.0
PGAV *e*LR LR 13 44 48.4
comp=Z,22µm,20.0s
MVO Moncorvo 99.30 45 *e*PP PP 13 13 05.8 -0.8
MVO *e*SKS **SKSac 13 19 46.8 +5.4**
MVO *e*SS **SS 13 27 27.8 +2.8**
MVO Moncorvo 99.30 45 *e*LQ LQ 13 41 05.5
MVO *e*LR LR 13 43 21.4
comp=Z,23µm,18.0s
PAB San Pablo 99.76 47 PFAKE 13 09 20.0 +15
PAB LR LR
comp=Z,17µm,20.0s
PBRG Braganca 99.89 44 *e*P **Pdif 13 09 03.4 -2.3**
PBRG Braganca 99.89 44 *e*PP PP 13 13 10.2 -0.9
ESDC Sonseca Array 100.07 47 P **Pdif 13 09 06.3 -0.2**
comp=Z,0.2nm,0.3s,baz=228,slow=2.7,SNR=5.5
ES19 SONSECA Array 100.12 47 *e*Pdif **Pdif 13 09 07.0 +0.3**
NRS Narsarsuaq 101.06 14 *e*P **Pdif 13 09 14.1 +3.8**
NRS Narsarsuaq 101.06 14 *i* P **Pdif 13 09 14.1 +3.8**
NRS *i* 13 13 09.7
JOHN Johnston Islan 104.43 280 PFAKE 13 09 40.0 +14
JOHN LR LR
comp=Z,775nm,19.0s
RER Riviere de l'E 104.76 132 PFAKE 13 09 40.0 +12
RER LR LR
comp=Z,8µm,20.0s
VAL Valentia 104.94 35 *e*P **Pdif 13 09 26.3 -1.4**
VAL *e*PP **PKiKP 13 13 42.8 +0.2**
YKA Yellowknife Ar 104.96 342 Pdiff **Pdif 13 09 29.2 +1.6**
comp=Z,0.3nm,0.7s,baz=138,slow=4.9,SNR=5.1
SFJD Kangerlussuaq 105.73 9 *e*P **Pdif 13 09 36.2 +5.3**
SFJD *i* 13 14 00.5
SFJD MLR MLR
comp=Z,6µm,20.0s
SFJD Kangerlussuaq 105.73 9 *i* P **Pdif 13 09 36.2 +5.3**
SFJD *i* 13 14 00.5
comp=Z,6µm,20.0s
SFJD Kangerlussuaq 105.73 9 PFAKE 13 13 50.0
SFJD LR LR
comp=Z,6µm,19.0s
WRAK Wrangell Islan 105.90 330 PFAKE 13 14 00.0
WRAK LR LR
comp=Z,5µm,21.0s
KMBO Kilima Mbogo 105.90 104 PFAKE 13 14 00.0
KMBO LR LR
comp=Z,10µm,19.0s
CCA1 Carnmenellis 106.17 39 *e*P **Pdif 13 09 25.7 -7.6**
CCA1 AMS AMS 13 57 01.5
comp=Z,13µm,18.4s
DYA Yadsworthy 106.98 39 *e*P **Pdif 13 09 28.0 -8.8**
DYA AMS AMS 14 03 11.0
comp=Z,8µm,18.0s
HTL Hartland 107.05 38 *e*P **Pdif 13 09 30.4 -6.8**
HTL AMS AMS 13 57 56.9
comp=Z,6µm,18.0s
JSA Saint Aubin 107.10 41 *e*P **Pdif 13 09 29.2 -8.2**
ILULI Ilulissat 107.77 8 *e*P **Pdif 13 09 42.6 +2.6**
ILULI *i* 13 14 10.9
ILULI Ilulissat 107.77 8 *i* P **Pdif 13 09 42.6 +2.6**
ILULI *i* 13 14 10.9
LPW Lampeter 107.96 37 *e*P **Pdif 13 09 34.5 -6.7**
LPW AMS AMS 13 55 26.4
comp=Z,7µm,22.5s
VSL Villasalto 108.17 54 PFAKE 13 14 00.0
VSL LR LR
comp=Z,17µm,19.0s
MCH1 Michaelchurch 108.40 38 *e*P **Pdif 13 09 34.5 -8.7**
MCH1 AMS AMS 13 58 48.5
comp=Z,13µm,18.2s
SSB Saint Sauveur 108.47 47 PFAKE 13 14 00.0
SSB LR LR
comp=Z,14µm,22.0s
WLF1 Llynfaes 108.53 36 *e*P **Pdif 13 09 37.4 -6.2**
WLF1 AMS AMS 13 57 08.5
comp=Z,21µm,17.9s
WPS Cemaes, Angles 108.55 36 *e*P **Pdif 13 09 33.9 -10**
WPS AMS AMS 13 56 59.6
comp=Z,10µm,19.1s
STRD Stroud 108.68 39 *e*P **Pdif 13 09 37.4 -7.0**
STRD AMS AMS 13 59 48.5
comp=Z,8µm,18.6s
SWN1 Swindon 108.70 39 *e*P **Pdif 13 09 37.4 -7.1**
SWN1 AMS AMS 13 57 28.1
comp=Z,8µm,18.6s
HLM1 Long Mynd 108.78 38 *e*P **Pdif 13 09 37.4 -7.4**
FOEL Foel Wylfa 108.85 37 *e*P **Pdif 13 09 37.4 -7.8**
FOEL AMS AMS 13 57 46.4
comp=Z,10µm,20.2s
NWAO Narrogin (SRO) 109.12 190 PFAKE 13 14 00.0
NWAO LR LR
comp=Z,11µm,19.0s
TARA Tarawa 109.14 256 PFAKE 13 14 00.0
TARA LR LR
comp=Z,370nm,19.0s
GAL1 Galloway 109.36 35 *e*P **Pdif 13 09 42.1 -5.2**
HMNX Herstmonceux 109.40 40 *e*P **Pdif 13 09 41.5 -6.1**
HMNX AMS AMS 14 00 14.7
comp=Z,8µm,16.7s
STNC Stoke 109.45 37 *e*P **Pdif 13 09 42.1 -5.7**
STNC AMS AMS 13 58 25.6
comp=Z,11µm,20.0s
BNI Bardonecchia 109.59 48 PFAKE 13 14 00.0
BNI LR LR
comp=Z,23µm,20.0s
CLTB Caltabellotta 109.64 57 PFAKE 13 14 00.0
CLTB LR LR
comp=Z,13µm,20.0s
CWF Charnwood Fore 109.68 38 *e*P **Pdif 13 09 42.1 -6.7**
CWF AMS AMS 13 59 36.6
comp=Z,9µm,18.0s
KESW Keswick, Cumbr 109.93 36 *e*P **Pdif 13 09 40.4 -10**
ELSH Elham, Standar 109.97 40 *e*P **Pdif 13 09 42.1 -8.0**
PGBU Glenifferbraes 110.05 34 *e*P **Pdif 13 09 43.1 -7.3**
PGBU AMS AMS 14 00 51.6
comp=Z,13µm,17.5s
VLC Villacollemand 111.33 50 PFAKE 13 14 10.0
VLC LR LR
comp=Z,4µm,19.0s
CTAO Charters Tower 111.36 221 PFAKE 13 14 10.0
CTAO LR LR
comp=Z,11µm,19.0s
HNR Honiara 111.38 239 PFAKE 13 14 10.0
HNR LR LR
comp=Z,6µm,19.0s
DRUM Mains of Drumt 111.60 34 AMS AMS 14 05 05.0
comp=Z,10µm,17.2s
CEL Celeste 111.80 58 PFAKE 13 14 10.0
CEL LR LR
comp=Z,22µm,20.0s
WLF Walferdange 111.81 44 PFAKE 13 14 10.0
WLF LR LR
comp=Z,16µm,19.0s
TUE Stuetta 111.93 48 PFAKE 13 14 10.0
TUE LR LR
comp=Z,12µm,21.0s
AQU L'Aquila 112.27 53 PFAKE 13 14 10.0
AQU LR LR
comp=Z,16µm,19.0s
KULLO Kullorsuaq 112.40 5 *e*P **Pdif 13 10 06.0 +5.6**
KULLO Kullorsuaq 112.40 5 *i* P **Pdif 13 10 06.0 +5.6**
SUMG Summit 112.55 11 *e*P **Pdif 13 10 06.3 +4.6**
SUMG Summit 112.55 11 *i* P **Pdif 13 10 06.3 +4.6**
SUMG Summit 112.55 11 *e*PP PP 13 14 46.6 +2.5
CUC Castrocucco 112.63 56 PFAKE 13 14 10.0
CUC LR LR
comp=Z,12µm,19.0s
DAVA Damuels 112.66 47 *i* pPKiKP **PKiKP 13 14 04.8 +7.3**
comp=Z,8.7nm,1.1s
TIP Timpagrande 112.85 57 PFAKE 13 14 10.0
TIP LR LR
comp=Z,17µm,20.0s
FETA Feichten 113.02 48 *i* PKiKP **PKiKP 13 13 55.2 -3.0**
comp=Z,9.3nm,1.3s
RETA Reutte 113.28 47 *i* pPKiKP **PKiKP 13 14 03.9 +5.3**
comp=Z,11nm,1.2s
MOTA Moosalm 113.41 48 *i* PKiKP **PKiKP 13 14 02.1 +3.2**
comp=Z,2.6nm,0.6s
WTTA Wattenberg 113.68 48 *i* pPKPdf **PKiKP 13 14 06.4 +6.9**
comp=Z,6.3nm,0.9s
ASAR Alice Springs 113.75 208 PKiKP **PKiKP 13 13 60.0 -0.3**
comp=Z,0.5nm,0.9s,baz=129,slow=1.4,SNR=3.3
ASAR PKKPab **PKKPbc 13 24 45.9 +3.8**
comp=Z,2.0nm,1.0s,baz=340,slow=3.4,SNR=7.2
ASAR Alice Springs 113.75 208 PKIKP **PKiKP 13 14 00.0 -0.3**
SCO Scoresbysund 114.00 17 *e*P **Pdif 13 10 16.4 +8.8**
SCO MLR MLR
comp=Z,7µm,21.0s
SCO Scoresbysund 114.00 17 *i* P **Pdif 13 10 16.4 +8.8**
comp=Z,7µm,21.0s
CADS Cadrg 114.42 50 *e*Pdiff **Pdif 13 10 13.1 +2.9**
CADS *e*PP PP 13 14 49.2 -8.4
KBA Koelnbreinsper 114.60 49 *i* pPKPdf PKPdf 13 14 07.7 +6.5
comp=Z,5.5nm,1.1s
EGAK Eagle 114.65 334 PFAKE 13 14 10.0 +9.5
EGAK LR LR
comp=Z,6µm,20.0s
LJU Ljubljana 114.81 50 *e*Pdiff **Pdif 13 10 14.5 +2.6**
LJU *e*PP PP 13 14 53.6 -6.8
LJU *e* 13 17 19.9
LJU *e* 13 24 41.6
LJU *e* 13 31 05.9
OBKA Obir 115.05 50 *i* pPKPdf **PKPdf 13 14 08.2 +6.3**
comp=Z,3.3nm,0.5s
SOKA Soboth 115.42 50 *i* PKiKP **PKPdf 13 14 03.6 +0.9**
comp=Z,12nm,1.6s
MOA Molln 115.52 48 *i* PKPdf **PKPdf 13 14 02.6 -0.2**
comp=Z,12nm,1.3s
NKC Novy Kostel 115.60 45 *e*PP PP 13 14 57.2 -8.7
NKC AMS AMS 14 00 50.0
comp=Z,15µm,20.1s
GEA0 GERESS Array S 115.66 47 *e*PKPdf **PKPdf 13 14 01.5 -1.6**
GEC2 GERESS Array S 115.66 47 *e*PKIKP **PKPdf 13 14 03.1 0.0**
GEC2 GERESS Array S 115.66 47 *e*PKPdf **PKPdf 13 14 03.1 0.0**
GERES GERESS Array B 115.66 47 PKP **PKPdf 13 14 01.9 -1.1**
comp=Z,2.0nm,0.9s,baz=211,slow=1.6,SNR=11
GERES GERESS Array B 115.66 47 PKIKP **PKPdf 13 14 02.0 -1.1**
KHC Kasperske Hory 115.73 47 *e*PKP **PKPdf 13 14 02.5 -0.6**
KHC *ex* x 13 14 09.5
KHC Kasperske Hory 115.73 47 *e*PKIKP **PKPdf 13 14 02.5 -0.6**
KHC *e* 13 14 09.5
TIR Tirane 115.98 57 PFAKE 13 14 10.0 +6.2
TIR LR LR
comp=Z,16µm,19.0s
ARSA Arzberg 115.99 49 *i* PKiKP **PKPdf 13 14 03.7 +0.1**
comp=Z,8.7nm,0.9s
CLL Collm 116.42 44 *e*Pdif **Pdif 13 10 19.0 +0.1**
CLL *e*PKiKP **PKPdf 13 14 04.0 -0.3**
CLL *i* 13 14 09.7
comp=Z,17nm,1.3s
CLL *e*PPlp 13 15 09.0
CLL *e*PP PP 13 15 24.0 +12
CLL *e*PPP PPP 13 17 42.0
CLL *e*SKSac **SKSac 13 20 55.0 +0.2**
CLL *e*SKKSac **SKKSac 13 22 15.0 +3.3**
CLL *e*Sdif **Sdif 13 23 03.0 +5.9**
CLL *e*PS **PS 13 24 48.0 -5.3**
CLL *e*PPS PPS 13 26 15.0
CLL *e*SS **SS 13 31 14.0 -2.2**
CLL *e*SSS SSS 13 35 37.0
CLL *e*SSSS 13 39 00.0
CLL LmH 14 01 00.0
comp=N,1µm,20.8s
CLL LmH 14 01 00.0
comp=E,11µm,19.9s
CLL LmV 14 02 00.0
comp=Z,12µm,20.8s
CLL Lmax 14 06 00.0
CLL Collm 116.42 44 *e*PKIKP **PKPdf 13 14 04.0 -0.3**
CLL *i* 13 14 09.7
CLL *e* 13 20 55.0
CLL MLR MLR
comp=Z,12µm,20.8s
CONA Conrad Observa 116.51 49 *i* PKPdf **PKPdf 13 14 01.0 -3.7**
comp=Z,11nm,1.0s
PRU Pruhonice 116.68 46 *e*PDIFF **Pdif 13 10 20.8 +0.7**
PRU *ex* x 13 15 02.0
PRU *e*SKP 13 17 32.9
PRU *e*SKS **SKSac 13 20 56.4 +0.5**
PRU *e*SKKS **SKKSac 13 22 16.7 +3.2**
PRU *e*XS 13 23 09.3
PRU *e*SP **SP 13 24 51.5 -2.6**
PRU *e*SS **SS 13 31 15.3 -4.4**
PRU AMS AMS 14 17 00.0
comp=Z,12µm,18.6s
PRU Pruhonice 116.68 46 *e*P **Pdif 13 10 20.8 +0.7**
PRU *e* 13 20 56.4
PRU *e*SP SP 13 24 51.5 -2.6
PRU *e*SS **SS 13 31 15.3 -4.4**
PRU MLR MLR
comp=Z,12µm,18.6s
IL1 Eielson Array 116.69 333 *e*PKPdf **PKPdf 13 14 06.7 +2.3**
IL1 *e*PP **PP 13 15 19.4 +6.4**
ILAR Eielson Array 116.69 333 PKP **PKPdf 13 14 04.9 +0.5**
comp=Z,2.7nm,1.0s,baz=191,slow=2.4,SNR=12
ILAR PP **PP 13 15 15.5 +2.5**
comp=Z,1.8nm,1.1s,baz=180,slow=1.8,SNR=2.5
ILAR PKKPbc **PKKPbc 13 24 30.4 -2.3**
comp=Z,0.6nm,0.9s,baz=271,slow=4.1,SNR=4.2
MIDW Midway 116.72 286 PFAKE 13 14 20.0 +14
MIDW LR LR
comp=Z,7µm,19.0s
BRG Berggiesshubel 116.75 45 PDIFF **Pdif 13 10 25.0 +4.7**
BRG Berggiesshubel 116.75 45 *e*PKP **PKPdf 13 14 05.1 +0.1**
comp=Z,5.3nm,1.2s
BRG *e* 13 14 11.3
comp=Z,18nm,1.4s
BRG PP **PP 13 15 08.0 -5.8**
BRG SKP 13 17 45.0
BRG SKS **SKSac 13 21 03.0 +6.9**
BRG SDIFF **Sdif 13 23 15.0 +15**
BRG SS **SS 13 31 19.0 -1.5**
comp=N,8µm,19.4s
comp=E,11µm,20.9s
comp=Z,14µm,21.8s
BRG Berggiesshubel 116.75 45 *e*PKIKP **PKPdf 13 14 05.1 +0.1**
BRG *e* 13 14 11.3
BRG 13 17 45.0
BRG SS SS 13 31 19.0 -1.5
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG MLR MLR
comp=N,8µm,19.4s
BRG MLR MLR
comp=E,11µm,20.9s
BRG MLR MLR
comp=Z,14µm,21.8s
GOPC GO Pecny, Ondr 116.79 46 *e*PDIFF **Pdif 13 10 21.4 +0.8**
GOPC *ex* x 13 15 01.5
GOPC *e*SKS **SKSac 13 20 56.8 +0.5**
GOPC *e*SKKS **SKKSac 13 22 17.0 +2.7**
GOPC *e*SDIF **Sdif 13 23 06.7 +6.4**
GOPC *e*SP **SP 13 24 52.5 -2.7**
GOPC *e*SS **SS 13 31 17.3 -3.8**
GOPC AMS AMS 14 18 00.0
comp=Z,10µm,18.2s
GOPC GO Pecny, Ondr 116.79 46 *e*P **Pdif 13 10 21.4 +0.8**
GOPC *e* 13 20 56.8
GOPC *e*SP SP 13 24 52.5 -2.7
GOPC *e*SS **SS 13 31 17.3 -3.8**
GOPC MLR MLR
comp=Z,10µm,18.2s
MUD Monsted U'grnd 116.81 38 *e*P **Pdif 13 10 27.6 +7.2**
MUD MLR MLR
comp=Z,10µm,17.0s
MUD Monsted U'grnd 116.81 38 *i* P **Pdif 13 10 27.6 +7.2**
comp=Z,10µm,17.0s
BER Bergen 116.91 33 *e*PP PP 13 15 11.2 -3.5
BER *e*SS SS 13 31 21.6 -0.5
BER IVMs_BB IVMs_BB 14 06 00.9
comp=Z,4µm,17.9s
TREC Trest 116.91 47 *e*PDIFF **Pdif 13 10 20.4 -0.7**
TREC *ex* x 13 15 01.2
TREC *e*SKS **SKSac 13 20 56.9 -0.2**
TREC *e*SP **SP 13 24 54.9 -1.4**
TREC AMS AMS 14 10 00.0
comp=Z,8µm,17.4s
TREC Trest 116.91 47 *e*P **Pdif 13 10 20.4 -0.7**
TREC *e* 13 20 56.6
TREC *e*SP SP 13 24 54.9 -1.4
TREC MLR MLR
comp=Z,8µm,17.4s
PVCC Panska Ves 116.94 46 *e*PDIFF **Pdif 13 10 21.9 +0.7**
PVCC *e*PKP **PKiKP 13 14 07.2 +1.8**
PVCC *e*PP PP 13 15 04.2 -11
PVCC *ex* x 13 17 29.3
PVCC *e*SP SP 13 24 54.6 -1.9
PVCC AMS AMS 14 01 50.0
comp=Z,12µm,20.8s
PVCC Panska Ves 116.94 46 *e*P **Pdif 13 10 21.9 +0.7**
PVCC *e*SP SP 13 24 54.6 -1.9
PVCC MLR MLR
comp=Z,12µm,20.8s
WRA Warramunga Arr 116.96 210 PKP **PKPdf 13 14 04.9 -1.6**
comp=Z,1.3nm,0.9s,baz=155,slow=1.5,SNR=6.0
WRA PKKPab **PKKPbc 13 24 32.9 +2.0**
comp=Z,1.4nm,1.0s,baz=337,slow=4.1,SNR=5.0
SUE Sulen 116.99 32 *e*PP PP 13 15 14.9 -0.3
SUE IVMs_BB IVMs_BB 14 03 44.1
comp=Z,4µm,19.0s
COLA College 117.09 333 *i* PKIKP **PKPdf 13 14 02.6 -2.6**
COLA College 117.09 333 PFAKE 13 14 20.0 +15
COLA LR LR
comp=Z,4µm,19.0s
HOMB Homborsund 117.34 36 *e*PP PP 13 15 19.1 +1.4
FOO Floro 117.37 32 *e*PP PP 13 15 16.7 -1.1
FOO *e*SS SS 13 31 27.8 -0.3
FOO IVMs_BB IVMs_BB 13 59 52.0
comp=Z,3µm,21.6s
SANT Santorini 117.51 64 *e*PKPdf **PKPdf 13 14 04.9 -2.1**
SANT LR LR
comp=Z,6µm,20.0s
VRAC Vranov 117.56 48 PKP **PKPdf 13 14 06.8 +0.2**
comp=Z,1.9nm,0.5s,baz=353,slow=1.8,SNR=3.7
HYA Hoyanger 117.65 33 *e*PP PP 13 15 18.0 -1.8
HYA *e*SS SS 13 31 31.5 -0.2
HYA IVMs_BB IVMs_BB 14 06 16.7
comp=Z,4µm,19.3s
UPC Upice 117.76 46 *e*PDIFF **Pdif 13 10 26.3 +1.4**
UPC *e*PKP **PKPdf 13 14 07.7 +0.8**
UPC *ex* x 13 15 07.5
UPC *e*SKS **SKSac 13 21 00.9 +1.1**
UPC *e*SP **SP 13 25 03.6 -0.3**
UPC *e*SS **SS 13 31 31.0 -2.7**
UPC AMS AMS 14 17 40.0
comp=Z,10µm,18.4s
UPC Upice 117.76 46 *e*P **Pdif 13 10 26.3 +1.4**
UPC *e* 13 14 07.7
UPC *e* 13 21 00.9
UPC *e*SP SP 13 25 03.6 -0.3
UPC *e*SS **SS 13 31 31.0 -2.7**
UPC MLR MLR
comp=Z,10µm,18.4s
DPC Dobruska-Polom 117.87 46 *e*PDIFF **Pdif 13 10 26.5 +1.1**
DPC *e*PKP **PKPdf 13 14 08.0 +0.8**
DPC *ex* x 13 14 25.7
DPC *ex* x 13 15 09.2
DPC *e*SKS **SKSac 13 21 01.3 +1.0**
DPC *e*SKKS **SKKSac 13 22 24.6 +3.1**
DPC *eXS* 13 23 19.1
DPC *ex* x 13 25 14.7
DPC *e*SS SS 13 31 25.1 -10
DPC AMS AMS 14 07 20.0
comp=Z,8µm,17.8s
DPC Dobruska-Polom 117.87 46 *e*P **Pdif 13 10 26.5 +1.1**
DPC *e* 13 14 08.0

DPC *e* 13 21 01.3
DPC *eSS* SS 13 31 25.1 -10
DPC MLR MLR
comp=Z,8µm,17.8s
BPAW Bear Paw Mtn. 117.88 331 *ePKPdf* **PKPdf 13 14 10.8 +4.0**
APE Apeiranthos 117.89 63 *i PKIKP* **PKPdf 13 14 05.6 -2.1**
KSP Ksiaz 118.06 46 *ePKPdf* **PKPdf 13 14 14.4 +6.9**
KSP *eSP* SP 13 25 14.3 +7.6
KSP LMZ LR 14 02 35.6
comp=Z,12µm,20.9s
KSP Ksiaz 118.06 46 *ePKIKP* **PKPdf 13 14 14.4 +6.9**
KSP *eSP* SP 13 25 14.3 +7.6
KSP MLR MLR
comp=Z,12µm,20.9s
COP Copenhagen 118.09 40 *eP* **Pdif 13 10 34.5 +8.4**
COP *i* 13 14 08.4
COP MLR MLR
comp=Z,3µm,20.0s
COP Copenhagen 118.09 40 *i P* **Pdif 13 10 34.5 +8.4**
COP *i* 13 14 08.4
comp=Z,3µm,20.0s
MORC Moravsky Berou 118.33 47⇑ *iP* **PKPdf 13 14 14.0 +5.9**
MORC Moravsky Berou 118.33 47 ⇑*PKIKP* **PKPdf 13 14 14.0 +5.9**
MORC Moravsky Berou 118.33 47 *epPKPdf* **PKPdf 13 14 14.1 +5.9**
AKN Aaknes 118.46 32 *ePP* PP 13 15 23.0 -2.5
AKN *eSS* SS 13 31 41.9 -0.3
KONO Kongsberg 118.47 35 *ePP* PP 13 15 26.5 +0.9
KONO *eSS* SS 13 31 43.5 +1.1
KONO IVMs_BB IVMs_BB 14 04 14.1
comp=Z,4µm,18.5s
KONO Kongsberg 118.47 35 PFAKE 13 14 20.0 +12
KONO LR LR
comp=Z,11µm,19.0s
VYHS Vyhne 118.54 49 *ePKIKP* **PKPdf 13 14 07.6 -0.9**
VYHS *e* 13 15 29.4
VYHS *e* 13 25 13.9
VYHS Vyhne 118.54 49 *ePKP* **PKPdf 13 14 07.6 -0.9**
VYHS *ePP* **PP 13 15 29.4 +3.0**
VYHS *e* 13 25 13.9
OKC Ostrava-Krasne 118.71 48 *ePDIFF* **Pdif 13 10 29.7 +0.6**
OKC *ePP* PP 13 15 17.3 -10
OKC *eSP* SP 13 25 13.0 +0.5
OKC AMS AMS 14 09 10.0
comp=Z,7µm,18.4s
OKC Ostrava-Krasne 118.71 48 *eP* **Pdif 13 10 29.7 +0.6**
OKC *eSP* SP 13 25 13.0 +0.5
OKC MLR MLR
comp=Z,7µm,18.4s
MDVR Moldovita 118.74 54⇑ *iP* **PKPdf 13 14 08.8 -0.3**
PSZ Piszkesteto 118.94 50 PFAKE 13 14 20.0 +11
PSZ LR LR
comp=Z,8µm,19.0s
BZS Buzias 119.03 53⇑ *iP* PKPpre 13 13 57.5
DAG Danmarks Havn 119.09 12 *eP* **Pdif 13 10 37.1 +6.9**
DAG Danmarks Havn 119.09 12 *i P* **Pdif 13 10 37.1 +6.9**
DAG *i* 13 14 12.7
COLD Coldfoot 119.09 334 *ePKPdf* **PKPdf 13 14 13.1 +4.1**
BSD Bornholm Skovb 119.13 41 *eP* **Pdif 13 10 31.1 +0.3**
BSD *i* 13 14 07.8
BSD MLR MLR
comp=Z,10µm,22.0s
BSD Bornholm Skovb 119.13 41 *i P* **Pdif 13 10 31.1 +0.3**
BSD *i* 13 14 07.8
comp=Z,10µm,22.0s
LANS Liptovska Anna 119.20 49 *ePKIKP* **PKPdf 13 14 07.6 -2.2**
LANS Liptovska Anna 119.20 49 *ePKP* **PKPdf 13 14 07.6 -2.2**
KECS Kecovo 119.53 50 *ePKIKP* **PKPdf 13 14 09.1 -1.3**
KECS Kecovo 119.53 50 *ePKP* **PKPdf 13 14 09.1 -1.3**
PMG Port Moresby 119.56 228 PFAKE 13 14 20.0 +8.4
PMG LR LR
comp=Z,8µm,22.0s
NB2 NORSAR Subarra1 119.79 34 PKPdf **PKPdf 13 14 09.9 -0.7**
comp=Z,13nm,1.2s,baz=248,slow=1.9
NB2 NORSAR Subarra1 119.79 34 PKPdf **PKPdf 13 14 09.9 -0.7**
baz=248,slow=1.9
NOA NORSAR Array B 119.79 34 PKP **PKPdf 13 14 10.5 -0.1**
comp=Z,1.4nm,0.8s,baz=245,slow=1.8,SNR=4.4
NIE Niedzica 119.81 49 *ePKPdf* **PKPdf 13 14 12.0 +1.0**
NIE *ePS* **PS 13 25 37.3 +13**
NIE LMZ LR 14 01 46.3
comp=Z,6µm,23.6s
NIE Niedzica 119.81 49 *ePKIKP* **PKPdf 13 14 12.0 +1.0**
OJC Ojcow 119.83 48 *ePKPdf* **PKPdf 13 14 17.5 +6.6**
OJC *ePP* **PP 13 15 41.1 +5.9**
OJC *ePS* **PS 13 25 38.9 +15**
OJC LMZ LR 14 01 56.6
comp=Z,9µm,23.2s
OJC Ojcow 119.83 48 *ePKIKP* **PKPdf 13 14 17.5 +6.6**
OJC *e* 13 15 41.1
OJC Ojcow 119.83 48 *epPKPdf* **PKPdf 13 14 17.5 +6.6**
DRGR 120.21 52⇑ *iP* **PKPdf 13 14 10.7 -1.2**
DRGR 120.21 52 ⇑*PKIKP* **PKPdf 13 14 10.7 -1.2**
MBWA Marble Bar 120.22 195 PFAKE 13 14 20.0 +7.3
MBWA LR LR
comp=Z,15µm,19.0s
TBLU Trondheim 120.28 31 *ePP* PP 13 15 35.8 -2.1
TBLU *eSS* SS 13 32 10.3 +4.7
TBLU IVMs_BB IVMs_BB 14 05 52.0
comp=Z,3µm,20.5s
CRVS Cervenica-Dubn 120.29 50 *ePKIKP* **PKPdf 13 14 10.6 -1.3**
CRVS *e* 13 25 31.4
CRVS Cervenica-Dubn 120.29 50 *ePKP* **PKPdf 13 14 10.6 -1.3**
CRVS *ePP* PP 13 15 29.4 -9.1
CRVS *e* 13 25 31.4
HFS Hagfors 120.55 35 PKP **PKPdf 13 14 11.1 -0.9**
comp=Z,2.9nm,0.7s,baz=197,slow=4.6,SNR=6.1
UZH Uzhgorod 120.69 50 *ePKIKP* **PKPdf 13 14 15.1 +2.5**
UZH *i* 13 14 25.3
UZH *e* 13 15 40.5
UZH *e* 13 21 06.5
UZH *eSS* SS 13 32 18.9 +7.3
KOLS Kolonicke sedl 120.80 50 *ePP* PP 13 15 35.6 -6.3
KOLS *e* 13 25 39.9
KOLS *eL* L 14 03 41.1
BEL Belsk 121.05 46 *ePKPdf* **PKPdf 13 14 14.3 +1.1**
BEL LMZ LR 14 04 44.4
comp=Z,13µm,21.1s
BEL Belsk 121.05 46 *ePKIKP* **PKPdf 13 14 14.3 +1.1**
BEL MLR MLR
comp=Z,13µm,21.1s
KWP Kalwaria Pacla 121.33 49 *ePKPdf* **PKPdf 13 14 17.2 +3.3**
KWP *ePP* **PP 13 15 42.5 -3.0**
KWP LMZ LR 14 03 01.1
comp=Z,11µm,23.2s
KWP Kalwaria Pacla 121.33 49 *ePKIKP* **PKPdf 13 14 17.2 +3.3**
KWP *e* 13 15 42.5
EIL Elat 121.44 75 PKP **PKPdf 13 14 14.7 0.0**
comp=Z,2.7nm,0.5s,baz=344,slow=2.1,SNR=4.6
NSS Namsos 121.47 30 *ePP* PP 13 15 44.9 -1.2
NSS *ePS* **PS 13 25 37.8 -0.6**
MLR Muntele Rosu 121.76 55 PKP **PKPdf 13 14 14.0 -1.0**
comp=Z,0.4nm,0.3s,baz=215,slow=3.3,SNR=7.8
MLR Muntele Rosu 121.76 55⇓ *iP* **PKPdf 13 14 11.9 -3.1**
MLR Muntele Rosu 121.76 55 ⇓*PKIKP* **PKPdf 13 14 11.9 -3.1**
MLR Muntele Rosu 121.76 55 *ePKPdf* **PKPdf 13 14 14.4 -0.6**
ISP Isparta 121.78 64 PFAKE 13 14 30.0 +15
ISP LR LR
comp=Z,10µm,21.0s
BUR08 Bucovina Ar. S 122.11 52 *ePKPdf* **PKPdf 13 14 16.2 +0.7**
PLOR Plostina 122.35 54⇓ *iP* **PKPdf 13 14 13.6 -2.4**
PLOR Plostina 122.35 54 ⇓*PKIKP* **PKPdf 13 14 13.6 -2.4**
VRI Vrincioaia 122.41 54⇑ *iP* **PKPdf 13 14 13.5 -2.6**
VRI Vrincioaia 122.41 54 ⇑*PKIKP* **PKPdf 13 14 13.5 -2.6**
TESR Tescani 122.60 54⇓ *iP* PKPdf 13 14 09.1 -7.3
CSS Mathiatis 122.61 69 *epPKPdf* **pPKPdf 13 14 22.2 +2.0**
CSS LR LR
comp=Z,2µm,19.0s
TIRR Tirgusor 122.98 57⇑ *iP* **PKPdf 13 14 15.4 -1.7**
TIRR Tirgusor 122.98 57 ⇑*PKIKP* **PKPdf 13 14 15.5 -1.7**
TIRR Tirgusor 122.98 57 *ePKPdf* **PKPdf 13 14 16.1 -1.0**
CFR Carcaliu 123.07 56⇓ *iP* **PKPdf 13 14 15.5 -1.8**
CFR Carcaliu 123.07 56 ⇓*PKIKP* **PKPdf 13 14 15.5 -1.8**
SUW Suwalki 123.18 44 *ePKPdf* **PKPdf 13 14 16.8 -0.4**
SUW LMZ LR 14 08 15.3
comp=Z,11µm,19.9s
SUW Suwalki 123.18 44 *ePKIKP* **PKPdf 13 14 16.8 -0.4**
SUW MLR MLR
comp=Z,11µm,19.9s
LOF Lofoten 123.31 27 *ePP* PP 13 15 57.1 -1.3
LOF *eSS* SS 13 32 48.2 +4.3
MMAI Mount Meron Ar 123.31 72 PKP **PKPdf 13 14 18.0 -0.3**
comp=Z,1.2nm,0.5s,baz=64,slow=5.0,SNR=2.5
ASF Jabal al Asfar 124.07 73 PKP **PKPdf 13 14 21.0 +1.2**
comp=Z,3.7nm,0.8s,baz=83,slow=4.0,SNR=5.3
ASF Jabal al Asfar 124.07 73 PKIKP **PKPdf 13 14 21.0 +1.2**
KIS Kishinev 124.17 54 *eP* **Pdif 13 11 04.0 +11**
KIS Kishinev 124.17 54 *ePKP* **PKPdf 13 14 17.0 -2.4**
KIS Kishinev 124.17 54 *ePP* PP 13 16 00.0 -4.8
KIS Kishinev 124.17 54 *ePPP* PPP 13 18 49.0
KIS *eSKS* SKSdf 13 20 43.0 -48
KIS *eSKSP* 13 25 30.0
KIS Kishinev 124.17 54 *ePS* PS 13 26 05.0 +2.1
KIS Kishinev 124.17 54 *ePPS* PPS 13 27 48.0
KIS *eSS* SS 13 32 53.0 -3.0
KIS *eSSS* SSS 13 35 36.0
KIS LRM MLR 14 12 06.0
comp=Z,4µm,17.0s
KIS Kishinev 124.17 54 *eP* **Pdif 13 11 04.0 +11**
KIS *e* 13 14 17.0
KIS *e* 13 14 25.0
KIS *e* 13 14 30.0
KIS *ePPP* PPP 13 18 49.0
KIS *ePS* **PS 13 26 05.0 +2.1**
KIS *eSS* SS 13 32 53.0 -3.0
BR231 Keskin MP Arra 124.21 63 *ePKPdf* **PKPdf 13 14 18.8 -1.0**
BRTR Keskin Array B 124.78 64 PKP **PKPdf 13 14 19.2 -1.7**
comp=Z,3.9nm,0.8s,baz=201,slow=2.4,SNR=18
BR131 Keskin Array S 124.78 64 *ePKPdf* **PKPdf 13 14 20.5 -0.5**
NACGM Naroch 125.45 44 *ePKP* **PKPdf 13 14 20.0 -1.6**
NACGM *ePP* PP 13 16 40.0 +27
NACGM *ePKS* PKSdf 13 17 43.0 -15
NACGM *ePPP* PPP 13 19 14.0
NACGM *eSKS* **SKSdf 13 21 29.0 -4.1**
NACGM *eSKKS* **SKKSac 13 23 06.0 -4.5**
NACGM *eSKKKS* 13 24 17.0
NACGM *eSKSP* 13 26 16.0
NACGM *eSS* **SS 13 33 04.0 -7.7**
NACGM *eSSS* SSS 13 37 44.0
NACGM *eLQ* LQ 13 56 38.0
NACGM *eLR* LR 14 03 20.0
NACGM LRM MLR 14 10 28.0
comp=Z,14nm,20.0s
TRO Tromso 125.59 25 *ePP* PP 13 16 09.4 -4.2
TRO IVMs_BB IVMs_BB 14 04 30.8
comp=Z,2µm,25.6s
AK11 Malin Array Si 125.59 50 *ePKPdf* **PKPdf 13 14 20.1 -1.9**
KIEV Kiev 125.62 50 *ePKIKP* **PKPdf 13 14 21.5 -0.5**
KIEV *e* 13 16 10.7
KIEV MLR MLR
comp=Z,6µm,19.0s
KIEV Kiev 125.62 50 *ePKPdf* **PKPdf 13 14 21.5 -0.5**
KIEV *ePP* **PP 13 16 10.7 -3.7**
KIEV LR LR
comp=Z,6µm,19.0s
AKASG Malin Array Be 125.63 50 PKP **PKPdf 13 14 21.0 -1.0**
comp=Z,1.5nm,0.5s,baz=271,slow=2.2,SNR=15
AKASG PP **PP 13 16 10.1 -4.4**
comp=Z,10nm,1.2s,baz=256,slow=6.3,SNR=8.4
AKBB Malin Array Si 125.63 50 *ePKIKP* **PKPdf 13 14 27.0 +5.0**
AKBB Malin Array Si 125.63 50 *ePKPdf* **PKPdf 13 14 27.0 +5.0**
KBS Kingsbay 125.74 14 *ePP* PP 13 16 13.5 -1.0
KBS *eSS* SS 13 33 14.7 +0.4
KBS IVMs_BB IVMs_BB 14 05 13.9
comp=Z,2µm,17.8s
KBS Kingsbay 125.74 14 PFAKE 13 14 30.0 +8.5
KBS LR LR
comp=Z,5µm,22.0s
MICGM Minsk 125.95 45 *ePKP* **PKPdf 13 14 22.0 -0.5**
MICGM *ePP* PP 13 16 10.0 -6.5
MICGM *ePKS* PKSdf 13 17 36.0 -23
MICGM *ePPP* PPP 13 18 54.0
MICGM *eSKS* SKSdf 13 21 24.0 -10
MICGM *eSKSP* 13 26 06.0
MICGM *ePS* **PS 13 26 20.0 +1.6**
MICGM *eSS* **SS 13 33 12.0 -6.0**
MICGM *eSSS* SSS 13 36 10.0
MICGM *eLR* LR 14 05 20.0
MICGM LRM MLR 14 09 18.0
comp=Z,15nm,18.0s
MICGM LRM MLR 14 09 30.0
comp=E,8.3nm,18.0s
MNK Minsk 125.95 45 *ePKIKP* **PKPdf 13 14 22.0 -0.5**
MNK *ePPP* PPP 13 18 54.0
MNK *e* 13 21 24.0
MNK *e* 13 26 06.0
MNK *ePS* **PS 13 26 20.0 +1.6**
MNK *eSS* SS 13 33 12.0 -6.0
MNK MLR MLR
comp=Z,15µm,18.0s
MNK MLR MLR
comp=E,8µm,18.0s
HSPB Hornsund (broa 126.10 16 *ePP* PP 13 16 15.7 -1.1
HSPB *eSS* SS 13 33 20.4 +1.6
HSPB IVMs_BB IVMs_BB 14 06 45.2
comp=Z,2µm,17.7s
VSU Vasula 126.37 40 *ePKIKP* **PKPdf 13 14 21.6 -1.6**
SPA0 Spitsbergen Ar 126.48 15 *ePKPdf* **PKPdf 13 14 24.9 +2.0**
SPA0 *ePP* **PP 13 16 16.9 -2.5**
SPA0 *eSS* SS 13 33 25.6 +2.1
BJO Bjornoya 126.57 20 *ePP* PP 13 16 15.1 -4.9
BJO *eSS* SS 13 33 26.3 +1.6
FINES FINESS Array B 126.73 36 PKP **PKPdf 13 14 23.4 -0.4**
comp=Z,3.4nm,1.0s,baz=330,slow=8.0,SNR=3.7
FIA1 FINESS Array S 126.73 36 *ePKPdf* **PKPdf 13 14 28.1 +4.3**
FIA1 *epPKPdf* **pPKPdf 13 14 30.1 +2.9**
SIM Simferopol' 126.96 58 *eP* **Pdif 13 11 14.0 +8.1**
SIM *e* 13 14 23.0
SIM *e* 13 16 24.0
SIM *ePPP* PPP 13 19 11.0
SIM *eSSS* SSS 13 38 17.0
SIM pmax pmax
comp=Z,19nm,1.2s
SIM pmax pmax
comp=Z,950nm,12.1s
HAMF Hammerfest 127.36 25 *ePP* PP 13 16 26.2 +0.9
HAMF *eSS* SS 13 33 33.7 -1.1
ARCES ARCESS Array B 127.84 26 PKP **PKPdf 13 14 26.4 +0.6**
comp=Z,2.7nm,0.7s,baz=245,slow=5.1,SNR=8.3
ARE0 ARCESS Array S 127.84 26 *ePKPdf* **PKPdf 13 14 26.2 +0.4**
ARE0 *ePP* **PP 13 16 28.8 +0.2**
ARE0 *eSS* SS 13 33 41.1 +0.2
HOPEN Hopen 128.22 17 *ePKPdf* **PKPdf 13 14 25.7 -0.5**
HOPEN *eSS* SS 13 33 47.4 +2.3
KEV Kevo 128.39 26 PFAKE 13 14 40.0 +13
KEV LR LR
comp=Z,6µm,21.0s
ANN Anapa 129.16 59 *eP* **Pdif 13 11 10.6 -5.0**
ANN *e* 13 21 28.9
ANN pmax pmax
comp=Z,23nm,1.6s
SOC Sochi 130.37 61 *i PKIKP* **PKPdf 13 14 31.1 -0.2**
SOC *i* 13 16 41.6
SOC *ePPP* PPP 13 19 33.5
SOC *i SS* SS 13 34 30.3 +17
SOC pmax pmax
comp=Z,60nm,1.2s
APA Apatity 130.61 29 *i PKIKP* PKPpre 13 14 23.0
APA *i* 13 16 49.0
APA *i* 13 21 34.0
APA pmax pmax
comp=Z,14nm,1.0s
OBN Obninsk 130.99 46 *ePKPdf* **PKPdf 13 14 32.1 0.0**
comp=Z,16nm,0.3s,baz=160,slow=3.7,SNR=6.6
OBN Obninsk 130.99 46 *d iPKIKP* **PKPdf 13 14 31.5 -0.6**
OBN *i* 13 14 37.7
OBN *e* 13 16 46.8
OBN *ePPP* PPP 13 19 35.7
OBN *eSS* SS 13 34 20.0 -0.3
OBN *eSSS* SSS 13 39 11.7
OBN pmax pmax
comp=Z,38nm,1.3s
OBN MLR MLR
comp=Z,13µm,18.0s
LVZ Lovozero 131.08 28 *i PKIKP* **PKPdf 13 14 30.8 -1.2**
MOS Moscow 131.68 45 *ePKIKP* **PKPdf 13 14 38.7 +5.3**
MOS *e* 13 28 38.2
MOS pmax pmax
comp=Z,42nm,1.0s
MOS MLR MLR
comp=Z,12µm,22.0s
CHVG Ch'k'valeri 131.78 63 P **PKPdf 13 14 40.9 +6.8**
VSR Storozhevoye 131.85 51 *ePKIKP* **PKPdf 13 14 32.7 -1.2**
VSR pmax pmax
comp=Z,30nm,1.3s
VSR MLR MLR
comp=Z,9µm,19.0s
LPSR Galich'ya Gora 131.95 49 *ePKIKP* **PKPdf 13 14 31.8 -2.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
NEY Neytrino 132.38 62 *i PKIKP* **PKPdf 13 14 34.1 -1.3**
AKH Akhalkalaki 132.40 65 P **PKPdf 13 14 34.6 -1.0**
AKH Akhalkalaki 132.40 65 PKIKP **PKPdf 13 14 34.5 -1.0**
KIV Kislovodsk 132.54 61 *eP* **Pdif 13 11 29.3 -1.6**
KIV *i* 13 14 35.3
KIV *e* 13 16 57.2
KIV *ePS* **PS 13 27 14.2 -2.1**
KIV *eSS* SS 13 34 37.7 -2.4
KIV *eSSS* SSS 13 39 30.2
KIV pmax pmax
comp=Z,34nm,1.1s
KVAR Kislovodsk Arr 132.54 61 PKP **PKPdf 13 14 35.7 +0.1**
comp=Z,6.0nm,0.6s,baz=32,slow=1.3,SNR=14
KBZ Khabaz 132.63 62 PKhKP PKPpre 13 14 29.9
comp=Z,1.8nm,0.7s,baz=214,slow=2.8,SNR=5.1
KBZ PKP **PKPdf 13 14 36.3 +0.8**
comp=Z,3.4nm,0.9s,baz=257,slow=3.5,SNR=12
ONI Oni 132.71 63 P **PKPdf 13 14 36.1 +0.2**
ONI Oni 132.71 63 PKIKP **PKPdf 13 14 36.1 +0.2**
GNI Garni 132.94 67 PKP **PKPdf 13 14 37.7 +1.2**
comp=Z,3.9nm,0.4s,baz=190,slow=5.9,SNR=7.3
GNI Garni 132.94 67 P **PKPdf 13 14 37.8 +1.2**
GNI Garni 132.94 67 PKIKP **PKPdf 13 14 37.7 +1.2**
GNI *e* 13 14 44.0
GNI MLR MLR
comp=Z,7µm,20.0s
GNI Garni 132.94 67 PKP **PKPdf 13 14 37.7 +1.2**
GNI *ep*PKPdf **pPKPdf 13 14 44.0 +4.1**
GNI LR LR
comp=Z,7µm,20.0s
ZEI Tsey 133.08 63 *i PKIKP* **PKPdf 13 14 35.5 -1.3**
ZEI *eSS* SS 13 34 48.2 +1.2
ZEI pmax pmax
comp=Z,76nm,1.5s
ZEI MLR MLR
comp=Z,15µm,20.0s
ZEI MLR MLR
comp=E,5µm,17.0s
ZEI MLR MLR
comp=N,2µm,14.0s
KLMR Klimovskoe 133.11 38 *ePKHKP* PKPpre 13 14 27.1
KLMR pmax pmax
comp=Z,43nm,1.1s
TBLG Delisi 133.39 65 P **PKPdf 13 14 35.6 -1.6**
TBLG Delisi 133.39 65 PKIKP **PKPdf 13 14 35.5 -1.6**
BILL Bilibino 135.35 332 *i PKIKP* **PKPdf 13 14 39.4 -0.6**
BILL *eSS* SS 13 35 11.6 -0.7
BILL pmax pmax
comp=Z,34nm,1.8s
BILL Bilibino 135.35 332 *ePKPdf* **PKPdf 13 14 40.7 +0.7**
BILL LR LR
comp=Z,6µm,22.0s
FAQ Al Faqa, Dubai 135.36 92 P **PKPdf 13 14 39.4 -1.9**
NAZ Nazwa, Dubai 135.53 91 P **PKPdf 13 14 40.6 -1.0**
ASHO Ashiyiah 135.70 92 P **PKPdf 13 14 41.2 -0.8**
HATD Hatta, Dubai 135.83 92 P **PKPdf 13 14 40.4 -1.8**
BANOM Banah 136.49 91 P **PKPdf 13 14 42.2 -1.2**
WSAR Wadi Sarin 137.03 95 PKP **PKPdf 13 14 44.8 +0.3**
comp=Z,6.9nm,0.9s,baz=205,slow=1.8,SNR=5.7
GUMO Guam 138.14 246 PFAKE 13 15 00.0 +13
GUMO LR LR
comp=Z,5µm,22.0s
PET Petropavlovsk 140.90 311 *i PKIKP* **PKPdf 13 14 47.9 -2.7**
PET *e* 13 17 54.9
PET *eSS* SS 13 36 18.4 -0.5
PET pmax pmax
comp=Z,28nm,1.2s
PET pmax pmax
comp=Z,1µm,12.7s
PET pmax pmax
comp=Z,2µm,12.7s
PET pmax pmax
comp=Z,2µm,13.8s
PET pmax pmax
comp=Z,2µm,13.6s
PET Petropavlovsk 140.90 311 *ePKPdf* **PKPdf 13 14 53.5 +2.9**
PET LR LR
comp=Z,5µm,20.0s
PEA0 Petropavlovsk- 141.47 311 *ePKPdf* **PKPdf 13 14 53.4 +1.7**
PEA0B Petropavlovsk- 141.47 311 *ePKPdf* **PKPdf 13 14 53.9 +2.3**
PETK Petropavlovsk- 141.47 311 PKP **PKPdf 13 14 51.8 +0.1**
comp=Z,5.1nm,0.8s,baz=100,slow=7.4,SNR=13
SOKR Solikamsk 141.79 39 *d iPKHKP* PKPpre 13 14 43.2
SOKR SS SS 13 36 29.1 +0.4
SEY Seymchan 142.31 327 PKP **PKPdf 13 14 51.5 -1.3**
comp=Z,9.1nm,0.9s,baz=144,slow=4.7,SNR=19
SEY Seymchan 142.31 327 *c iPKIKP* **PKPdf 13 14 52.3 -0.5**
GEYT Alibeck 142.34 74 PKHKP PKPpre 13 14 47.7
comp=Z,9.6nm,1.0s,baz=282,slow=7.4,SNR=15
GSI Gunungsitoli 143.07 166 *ePKPdf* PKPbc 13 14 55.5 +3.1
ARU Arti 143.35 43 PKhKP PKPpre 13 14 49.9
comp=Z,5.9nm,0.5s,baz=273,slow=2.3,SNR=15
ARU PKP PKPbc 13 14 53.8 +1.8
comp=Z,7.5nm,0.5s,baz=288,slow=3.5,SNR=15
ARU Arti 143.35 43 *i PKIKP* PKPab 13 14 50.5 -0.4
ARU MLR MLR
comp=Z,12µm,20.0s
AKTO Aktyubinsk 143.68 54 PKhKP PKPpre 13 14 51.4
comp=Z,28nm,1.0s,baz=269,slow=3.2,SNR=46
AKTO Aktyubinsk 143.68 54 PKHKP PKPpre 13 14 50.4
KSM Kuching 143.89 187 ⇓*P* PKPab 13 14 54.2 -0.1
KSM Kuching 143.89 187 *ePKPpre* PKPpre 13 14 53.2
KSM LR LR
comp=Z,7µm,21.0s
TIXI Tiksi 143.89 348 PKhKP PKPpre 13 14 50.5
comp=Z,15nm,0.9s,baz=34,slow=2.7,SNR=11
TIXI Tiksi 143.89 348 *ePKHKP* PKPpre 13 14 49.8
TIXI MLR MLR
comp=Z,5µm,20.0s
TIXI Tiksi 143.89 348 *ePKPpre* PKPpre 13 14 49.8
TIXI LR LR
comp=Z,5µm,20.0s
GOA Goa 143.95 119 *eP* PKPab 13 14 54.3 0.0
MA2 Magadan 144.14 322 PKP **PKPab 13 14 54.3 +0.5**
comp=Z,13nm,0.8s,baz=163,slow=2.2,SNR=11
MA2 Magadan 144.14 322 PKIKP **PKPab 13 14 54.3 +0.5**
MA2 MLR MLR
comp=Z,7µm,19.0s
MA2 Magadan 144.14 322 PKP **PKPab 13 14 54.3 +0.5**
MA2 LR LR
comp=Z,7µm,19.0s
MYKOM Kota Tinggi 144.34 176 ⇓*P* **PKPab 13 14 55.7 -0.2**
MYKOM Kota Tinggi 144.34 176 *ePKPdf* **PKPab 13 14 54.7 -1.3**
SVE Sverdlovsk 144.40 42 *d iPKHKP* PKPpre 13 14 51.1
SVE *e* 13 36 52.5
SVE MLR MLR
comp=Z,12µm,19.0s
SVE MLR MLR
comp=E,9µm,19.0s
SVE MLR MLR
comp=N,3µm,19.0s
SBUM Sibu 144.62 190 *ePKPdf* **PKPab 13 14 55.1 -1.9**
PSI Prapat 144.78 167 PKP **PKPab 13 14 55.9 -1.8**
comp=N,65nm,0.9s,baz=195,slow=5.9,SNR=42
PSI Prapat 144.78 167 *ePKPdf* **PKPab 13 14 55.3 -2.4**
DAV Davao City (W) 144.90 215⇓ *eP* **PKPab 13 14 55.8 -2.2**
DAV Davao City (W) 144.90 215 PFAKE 13 15 10.0 +11
DAV LR LR
comp=Z,4µm,19.0s
AB31 Akbulak array 144.96 55 *i PKIKP* **PKPab 13 14 54.6 -2.6**
AB31 pmax pmax
comp=Z,103nm,0.9s
ABKAR Akbulak array 144.96 55 *ePKPdf* **PKPab 13 14 55.0 -2.2**
CTBH Cotabato--PC H 145.63 213⇓ *iP* **PKPdf 13 14 59.6 -0.5**
BHJ Bhuj 145.66 104 *eP* **PKPdf 13 14 59.3 -0.6**
BUKP Musuan 145.85 215 *eP* **PKPdf 13 14 58.1 -2.5**
MYLDM Lahad Datu 145.86 202 *ePKPdf* **PKPdf 13 15 01.2 +0.6**
POO Poona 145.99 115 *eP* **PKPdf 13 14 59.8 -0.9**
MDRS Chennai 146.40 130 *eP* **PKPdf 13 14 57.9 -3.5**
PAGZ Pagadian 146.56 212 *eP* **PKPdf 13 15 02.1 +0.4**
SKHT Srikalahasti 146.58 128 *ePKPdf* **PKPdf 13 14 59.4 -2.3**
SKHT *ePKPbc* **PKPbc 13 15 01.1 -2.0**
NRIK Noril'sk 146.59 12 PKP **PKPdf 13 14 58.5 -1.5**
comp=Z,19nm,1.0s,baz=9.1,slow=1.0,SNR=26
NRIK PKPbc **PKPbc 13 15 02.2 +0.6**
comp=Z,56nm,1.1s,baz=345,slow=3.9,SNR=26
NRIK Noril'sk 146.59 12 PKIKP **PKPdf 13 14 58.6 -1.5**
NRIK 13 15 02.2
NRIK pmax pmax
comp=Z,17nm,1.0s
NRIK pmax pmax

comp=Z,56nm,1.1s
SDKM Sandakan 146.68 200 ⇑P **PKPdf** **13 15 01.7 -0.3**
IPIL Ipil 146.84 211 *e*P **PKPdf** **13 15 01.1 -1.2**
KKM Kota Kinabalu 147.32 199 *e*PKPdf **PKPdf** **13 15 03.4 +0.2**
KKM LR LR
comp=Z,5μm,19.0s
RCLA Racherla 147.38 125 *e*PKPbc **PKPdf** **13 15 03.3 +0.3**
KULM Kulim 147.49 170 *e*PKPdf **PKPdf** **13 15 05.0 +1.6**
KULM LR LR
comp=Z,11μm,20.0s
KLRI Killari 147.64 119 *e*PKPbc **PKPdf** **13 15 03.9 +0.4**
SRLM Srisailam 147.81 124 *e*PKPdf **PKPdf** **13 15 02.4 -1.4**
KUR Kuril'sk 148.08 297 *i* PKP2 **PKPab** **13 15 13.9 +4.6**
KUR 13 22 11.6
KUR *e*SS SS 13 37 44.0 +2.2
KUR MLR MLR
comp=N,4μm,20.0s
KUR MLR MLR
comp=E,2μm,20.0s
KUR MLR MLR
comp=Z,4μm,20.0s
ADKI Addanki 148.32 126 *e*PKPbc **PKPdf** **13 15 06.3 +1.8**
NJS Nagarjunasagar 148.41 124 *e*PKPdf **PKPdf** **13 15 04.2 -0.5**
HYB Hyderabad 148.53 122 *i* PKP **PKPdf** **13 15 07.0 +2.1**
HYB *es*PKP 13 15 18.0
HYB *e*PP **PP** **13 18 40.0 +2.4**
HYB *e* 13 29 00.0
HYB *e*SS SS 13 37 44.0 -2.6
HYB Hyderabad 148.53 122 *e*P **PKPdf** **13 15 02.8 -2.1**
HYBB Hyderabad (bro 148.53 122 *e*PKPdf **PKPdf** **13 15 04.6 -0.4**
OCLP Ormoc 148.84 217 *e*P **PKPdf** **13 15 06.9 +1.4**
BESP Borongan 148.91 219 *e*P **PKPab** **13 15 18.0 +4.6**
GUIM Jordan 149.39 213 *e*P **PKPdf** **13 15 04.8 -1.6**
SRSP Sriramsagar 149.43 120 *e*PKPdf **PKPdf** **13 15 05.7 -0.6**
BATP Bataraza 149.50 203 *e*P **PKPdf** **13 15 09.0 +2.4**
JAP San Jose, Anti 149.77 212μ *e*P **PKPab** **13 15 16.9 0.0**
TRTT Trang 149.84 167 PKP **PKPbc** **13 15 12.0 +0.1**
KBL Kabul 149.96 84 *e*PKP2 **PKPdf** **13 15 10.7 +3.7**
KBL Kabul 149.96 84 *e*PKPbc **PKPdf** **13 15 10.7 +3.7**
ZRNK Zerenda 150.05 47 *e*PKIKP **PKPdf** **13 15 04.9 -1.3**
ZRNK Zerenda 150.05 47 *e*PKPdf **PKPdf** **13 15 04.9 -1.3**
CUYO Cuyo Island 150.25 210 *e*P **PKPdf** **13 15 10.5 +2.7**
PVM Polavaram 150.42 126 *e*PKPdf **PKPdf** **13 15 06.5 -1.4**
PVM *e*PKPbc **PKPbc** **13 15 11.1 -2.0**
DZET Dzherino 150.75 76 PKIKP **PKPdf** **13 15 11.8 +3.8**
DZET pmax pmax
comp=Z,198nm,1.4s
CHKZ Chkalovo 150.75 45 PKIKP **PKPdf** **13 15 11.0 +3.7**
CHKZ pmax pmax
comp=Z,181nm,1.1s
BVA0 Borovoye Array 150.83 46 PKIKP **PKPdf** **13 15 07.2 -0.3**
BVA0 pmax pmax
comp=Z,131nm,1.5s
BVAR Borovoye Array 150.83 46 PKP **PKPdf** **13 15 07.2 -0.3**
comp=Z,5.3nm,0.8s,baz=293,slow=1.1,SNR=12
BVAR PKPbc **PKPbc** **13 15 13.4 +0.3**
comp=Z,17nm,0.8s,baz=263,slow=2.3,SNR=41
TYV Tymovskoe 150.98 309 *e*PKIKP **PKPdf** **13 15 11.8 +4.1**
TYV pmax pmax
comp=Z,66nm,1.0s
TYV pmax pmax
comp=Z,2μm,11.0s
OTRP Odiongan 151.18 214 *e*P **PKPdf** **13 15 13.5 +4.3**
ENPP El Nido 151.19 208 *e*P **PKPdf** **13 15 10.6 +1.5**
PVCP Virac 151.25 219 *e*P **PKPdf** **13 15 13.2 +4.0**
YAK Yakutsk 151.50 337 PKPbc **PKPbc** **13 15 13.1 -1.2**
comp=Z,6.6nm,0.8s,baz=236,slow=19,SNR=16
YAK Yakutsk 151.50 337 *e*PKIKP **PKPdf** **13 15 11.4 +3.2**
YAK *e* 13 18 58.3
YAK pmax pmax
comp=Z,56nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,1μm,6.2s
YAK pmax pmax
comp=N,253nm,5.1s
YAK pmax pmax
comp=E,263nm,5.5s
YAK Yakutsk 151.50 337 *e*pPKPdf **pPKPdf** **13 15 12.4 +0.8**
YAK LR LR
comp=Z,4μm,20.0s
NKL Nikolayevsk 151.51 314 *e*PKIKP **PKPbc** **13 15 15.0 +0.4**
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=E,43nm,1.0s
NKL pmax pmax
comp=Z,220nm,1.0s
NKL pmax pmax
comp=Z,1μm,6.0s
BHPL Bhopal 151.53 112 *e*P **PKPdf** **13 15 08.5 -1.0**
BHPL IAMs_20 IAMs_20 14 34 50.0
comp=Z,2μm,20.9s
YSS Yuzh-Sakhalins 151.56 301 ⇑*i*PKIKP **PKPdf** **13 15 12.5 +3.8**
YSS *e* 13 19 04.0
YSS *e* 13 22 32.0
YSS *e*SS SS 13 38 17.0 -3.4
YSS pmax pmax
comp=Z,20nm,1.4s
YSS Yuzh-Sakhalins 151.56 301 *e*PKPdf **PKPdf** **13 15 12.2 +3.4**
YSS LR LR
comp=Z,2μm,19.0s
BUSP Coron 151.62 210 *e*P **PKPdf** **13 15 12.3 +2.5**
SJMP San Jose 151.66 212 *e*P **PKPbc** **13 15 15.0 -1.1**
AUQP San Andres 151.73 216 *e*P **PKPbc** **13 15 21.6 +5.4**
ASAJ Asahikawa 151.84 295 PKPbc **PKPdf** **13 15 14.1 +4.8**
comp=Z,60nm,1.1s,baz=82,slow=18,SNR=13
ASAJ Asahikawa 151.84 295 *e*PKPdf **PKPdf** **13 15 13.3 +4.1**
VIS Vishakhapatnam 151.85 128 *e*P **PKPdf** **13 15 08.8 -1.3**
IUG luzhnay 152.02 69 *i* PKP **PKPdf** **13 15 07.4 -2.4**
IUG *i* PP **PP** **13 18 55.6 -2.6**
IUG LR LR 14 26 40.7
comp=Z,2μm,19.3s
BOAC Boac 152.23 214 *e*P **PKPbc** **13 15 16.8 -0.6**
KK31 Karatay Array 152.40 67 *i* PKIKP **PKPdf** **13 15 09.6 -0.6**
KK31 pmax pmax
comp=Z,29nm,1.0s
KKAR Karatay Array 152.40 67 *e*PKIKP **PKPdf** **13 15 10.6 +0.4**
KKAR Karatay Array 152.40 67 *e*PKPdf **PKPdf** **13 15 10.6 +0.4**
CHLP Challavanipeta 152.90 128 *e*PKPdf **PKPdf** **13 15 09.4 -2.1**
DGPR DIGLIPUR 153.00 151 *e*P **PKPdf** **13 15 10.8 -1.0**
DGPR IAmb IAmb 13 15 16.0
LUBP Lubang 153.16 212 *e*P **PKPbc** **13 15 17.9 -1.6**
OTUK Ortayu 153.22 56 PKIKP **PKPdf** **13 15 15.5 +4.3**
OTUK pmax pmax
comp=Z,53nm,1.2s
MNAS Manas 153.86 69 PKIKP **PKPdf** **13 15 11.4 -1.1**
MNAS pmax pmax
comp=Z,45nm,1.2s
NDI New Delhi 154.27 102 *ex* PKPpre 13 15 05.0
MJAR Matsushiro Arr 154.47 278 PKP **PKPdf** **13 15 14.4 +1.0**
comp=Z,2.9nm,0.9s,baz=183,slow=2.1,SNR=8.0
MJAR PKPab **PKPab** **13 15 34.3 -1.9**
comp=Z,6.9nm,0.9s,baz=89,slow=2.4,SNR=7.6
MAJO Matsushiro 154.47 278 PFAKE 13 15 20.0 -1.8
MAJO LR LR
comp=Z,6μm,19.0s
MAT Matsushiro 154.47 278 *e*PKP **PKPdf** **13 15 09.6 -3.8**
MJB9 Matsu-Tunnel 154.47 278 *e*pPKPdf pPKPdf 13 15 17.8 +0.9
THN Thein Dam 154.60 92 *ex* **PKPdf** **13 15 09.2 -4.4**
EKS2 Erkin-Say 154.80 68 *e*PKIKP **PKPdf** **13 15 12.9 -0.9**
EKS2 MLR MLR
comp=Z,7μm,21.0s
EKS2 Erkin-Say 154.80 68 *e*PKPdf **PKPdf** **13 15 12.9 -0.9**
EKS2 LR LR
comp=Z,7μm,21.0s
DHRM DHARAMSHALA 155.00 93 *e*P **PKPdf** **13 15 11.3 -3.2**
SDNR Sundarnagar 155.26 95 *ex* **PKPdf** **13 15 20.0 +5.4**
SMLA Simla 155.27 96 *e*P **PKPdf** **13 15 13.5 -1.1**
BWNR Bhubaneshwar 155.32 129 *e*P **PKPdf** **13 15 13.7 -1.3**
AAK Ala-Archa 155.33 68 PP PP 13 19 19.4 +2.5
comp=Z,6.0nm,1.0s,baz=54,slow=6.0,SNR=3.8
AAK Ala-Archa 155.33 68 *e*PKIKP **PKPdf** **13 15 15.2 +0.6**
AAK 13 19 19.4
AAK Ala-Archa 155.33 68 *e*PKPdf **PKPdf** **13 15 15.2 +0.6**
AAK PP **PP** **13 19 19.4 +2.5**
FRU Bishkek 155.41 68 *i* PKIKP **PKPdf** **13 15 15.0 +0.5**
FRU *i* 13 15 20.0
FRU *e* 13 19 14.0
FRU *e*PPP PPP 13 22 50.0
FRU pmax pmax
comp=Z,120nm,2.5s
DDI Dehra Dun 155.65 99 *e*P **PKPdf** **13 15 14.9 -0.4**
TKM2 Tokmak 2 156.13 67 PKIKP **PKPdf** **13 15 15.0 -0.7**
TKM2 pmax pmax
comp=Z,81nm,2.1s
TKM2 Tokmak 2 156.13 67 *e*PKPdf **PKPdf** **13 15 14.1 -1.6**
TKM2 LR LR
comp=Z,7μm,20.0s
KSH Kashi 156.35 76 PKP **PKPdf** **13 15 16.2 +0.2**
KSH SKS **SKSdf** **13 22 15.1 -7.2**
KSH SKKS **SKKSac** **13 26 02.9 -8.9**
KSH PPMZ
comp=Z,1μm,7.8s
KSH LN
comp=Z,3μm,21.1s
KSH LE
comp=Z,2μm,19.8s
KSH LZ
comp=Z,6μm,24.5s
HABR Khabarovsk 156.37 307 *e*PKIKP **PKPdf** **13 15 14.1 -1.4**
HABR *e* 13 15 19.4
HABR *e* 13 15 43.1
HABR *e* 13 19 21.3
HABR *e* 13 22 19.9
HABR *e*PPP PPP 13 22 54.9
HABR *e*SS SS 13 39 12.7 +0.2
HABR pmax pmax
comp=N,4.0nm,0.8s
HABR pmax pmax
comp=Z,17nm,1.5s
HABR pmax pmax
comp=E,13nm,1.6s
KURBB Kurchatov Arra 156.40 48 PKP **PKPdf** **13 15 14.5 -1.0**
comp=E,3.0nm,1.1s,baz=290,slow=1.8,SNR=18
KURBB PP **PP** **13 19 23.2 +1.2**
comp=E,3.5nm,0.9s,baz=295,slow=6.7,SNR=6.9
KURK Kurchatov 156.41 47 PKIKP **PKPdf** **13 15 14.5 -1.0**
KURK 13 19 23.3
KURK Kurchatov 156.41 47 PKP **PKPdf** **13 15 14.5 -1.0**
KURK PP **PP** **13 19 23.2 +1.1**
KUU Kurty 156.60 65 *i* PKP **PKPdf** **13 15 13.6 -2.4**
comp=E,82nm,1.8s
KUU *i* PP **PP** **13 19 21.3 -2.4**
KUU LR LR 14 29 24.2
comp=E,1μm,16.3s
NVS Novosibirsk 156.70 35 ⇑*i*PKIKP **PKPdf** **13 15 15.5 -0.2**
NVS *e* 13 19 20.6
NVS pmax pmax
comp=Z,54nm,1.5s
AAA Alma-Ata 157.10 66 *e*PKP **PKPdf** **13 15 14.2 -2.5**
AAA *e*PP **PP** **13 19 24.1 -2.5**
AAA LR LR 14 29 24.1
comp=Z,3μm,20.4s
MDOK Medeo 157.18 67 *i* PKP **PKPdf** **13 15 14.4 -2.5**
comp=Z,99nm,1.7s
MDOK *i* PP **PP** **13 19 24.4 -2.7**
MDOK *i* SKKSac SKKSac 13 26 10.3 -5.9
MDOK *i* SS **SS** **13 39 18.1 -4.1**
MDOK LR LR 14 30 49.8
comp=Z,3μm,18.2s
SEM Semipalatinsk 157.49 47 *i* PKP **PKPdf** **13 15 15.0 -1.9**
comp=Z,63nm,1.9s
SEM *i* PP **PP** **13 19 26.2 -1.9**
SEM *i* PPP PPP 13 23 01.6
SEM LR LR 14 30 16.5
comp=Z,1μm,19.0s
BOK Bokaro 157.87 123 *e*P **PKPdf** **13 15 16.5 -1.7**
ZAA0 Zalesovo Array 157.99 35 *e*PKPdf **PKPdf** **13 15 13.5 -3.9**
ZAA0 *e*PKPdf **PKPdf** **13 15 16.8 -0.6**
ZALV Zalesovo Beam 157.99 35 PKP **PKPdf** **13 15 16.7 -0.7**
comp=Z,4.5nm,0.8s,baz=276,slow=2.7,SNR=16
ZALV PKPab **PKPab** **13 15 49.8 -0.9**
comp=Z,14nm,0.7s,baz=294,slow=4.7,SNR=10
KLR Kul'dur 158.16 310 PKP **PKPdf** **13 15 16.9 -0.9**
comp=Z,1.1nm,0.8s,baz=102,slow=4.3,SNR=3.6
ZHN Zhinishke 158.19 66 *e*PKP **PKPdf** **13 15 16.1 -2.1**
comp=Z,32nm,1.3s
ZHN *i* PP **PP** **13 19 30.5 -2.2**
ZHN LR LR 14 31 14.4
comp=Z,1μm,19.4s
KPKS Kokpek 158.34 66 *i* PKP **PKPdf** **13 15 15.9 -2.4**
comp=Z,182nm,1.8s
KPKS *i* PP **PP** **13 19 30.9 -2.5**
KPKS LR LR 14 30 21.6
comp=Z,1μm,18.0s
PYUN Piuthan 158.41 109 *e*P **PKPab** **13 15 54.0 +0.4**
comp=Z,176nm,1.0s
UZB Uzynbulak 158.62 66 *i* PKP **PKPdf** **13 15 15.9 -2.8**
comp=Z,64nm,1.3s
UZB *i* PP **PP** **13 19 31.9 -3.1**
UZB LR LR 14 31 24.5
comp=Z,1μm,18.4s
KOLN Koldanda 158.69 111 *e*P **PKPab** **13 15 54.8 0.0**
comp=Z,77nm,1.1s
PDGK Podgornoye 158.94 66 PKIKP **PKPdf** **13 15 18.4 -0.4**
PDGK pmax pmax
comp=Z,72nm,1.3s
BOD Bodaibo 159.08 348 *e*PKIKP PKPdf 13 15 27.9 +9.4
BOD pmax pmax
comp=Z,25nm,1.1s
SHLS Shalkode 159.25 66 *e*PKP **PKPdf** **13 15 19.1 -0.4**
comp=Z,77nm,1.5s
SHLS *i* PP **PP** **13 19 37.2 -1.3**
SHLS LR LR 14 30 53.2
comp=Z,960nm,20.0s
GKN Gorkha 159.58 112 *e*P **PKPab** **13 15 58.5 -0.1**
comp=Z,70nm,0.9s
DMN Daman 159.71 113 *e*P **PKPab** **13 15 59.3 0.0**
comp=Z,151nm,1.0s
MAKZ Makanchi 159.90 55 *e*PKIKP **PKPdf** **13 15 18.0 -1.9**
MAKZ Makanchi 159.90 55 *e*PKPdf **PKPdf** **13 15 18.0 -1.9**
PKIN Phulchoki 159.90 114 *e*P **PKPab** **13 15 59.8 -0.4**
comp=Z,51nm,0.9s
CM01 Chiang Mai Arr 159.92 160 *e*PKPdf **PKPdf** **13 15 18.0 -2.7**
KKN Kakani 159.94 113 *e*P **PKPab** **13 16 00.2 -0.1**
comp=Z,121nm,0.9s
CMAR Chiang Mai Arr 159.95 160 PKP **PKPdf** **13 15 20.1 -0.8**
comp=Z,0.5nm,0.5s,baz=237,slow=3.0,SNR=8.1
CMAR PKPab **PKPab** **13 15 58.9 -1.1**
comp=Z,3.6nm,1.0s,baz=223,slow=4.9,SNR=4.4
MK31 Makanchi Array 160.10 55 *e*PKIKP **PKPdf** **13 15 17.6 -2.6**
MK31 Makanchi Array 160.10 55 *e*PKPdf **PKPdf** **13 15 17.6 -2.6**
MKAR Makanchi Array 160.10 55 PKP **PKPdf** **13 15 18.1 -2.1**
comp=Z,5.4nm,1.2s,baz=270,slow=1.2,SNR=12
MKAR PKPab **PKPab** **13 15 59.5 -0.7**
comp=Z,7.6nm,0.9s,baz=291,slow=3.8,SNR=5.8
MKAR PP **PP** **13 19 41.5 -1.2**
comp=Z,2.6nm,1.0s,baz=264,slow=3.9,SNR=4.0
MKAR Makanchi Array 160.10 55 *e*PKIKP **PKPdf** **13 15 17.6 -2.6**
MKAR 13 15 59.5
MKAR 13 19 41.5
MKAR Makanchi Array 160.10 55 *e*PKPdf **PKPdf** **13 15 17.6 -2.6**
MKAR PKPab **PKPab** **13 15 59.5 -0.7**
MKAR PP **PP** **13 19 41.5 -1.2**
MK01 Makanchi Array 160.12 55 *e*PKPdf **PKPdf** **13 15 17.8 -2.4**
CHTO Chiang Mai 160.29 159 *e*PKIKP **PKPdf** **13 15 26.0 +4.8**
CHTO MLR MLR
comp=Z,9μm,19.0s
CHTO Chiang Mai 160.29 159 *e*PKPdf **PKPdf** **13 15 26.0 +4.8**
CHTO LR LR
comp=Z,9μm,19.0s
GUN Gumba 160.44 114 *e*P **PKPab** **13 16 02.6 0.0**
comp=Z,111nm,1.0s
MDJ Mudanjiang 161.02 299 PKPbc PKPpre 13 15 13.8
MDJ PP **PP** **13 19 44.1 -3.6**
MDJ Mudanjiang 161.02 299 PFAKE 13 15 30.0 +8.8
MDJ LR LR
comp=Z,6μm,22.0s
ZSN Zaisan 161.21 51 *i* PKP **PKPdf** **13 15 17.2 -4.1**
ZSN *i* PP **PP** **13 19 44.5 -4.0**
ZSN LR LR 14 33 02.6
comp=Z,1μm,18.3s
QIZ Qiongzhong 161.26 191 PKP **PKPdf** **13 15 19.5 -2.7**
QIZ SS SS 13 39 59.1 -3.6
QIZ LN
comp=Z,5μm,17.8s
QIZ LZ
comp=Z,6μm,18.0s
QIZ Qiongzhong 161.26 191 PFAKE 13 15 30.0 +7.8
QIZ LR LR
comp=Z,6μm,20.0s
YHNB Yeheng 161.74 230 PFAKE 13 15 30.0 +7.3
YHNB LR LR
comp=Z,6μm,21.0s
TATO Taipei 161.90 231 PFAKE 13 15 30.0 +7.3
TATO LR LR
comp=Z,5μm,19.0s
KSRS Korea Array 162.74 276 PKP **PKPdf** **13 15 22.1 -1.0**
comp=Z,4.5nm,1.0s,baz=48,slow=0.1,SNR=14
KSRS PKPab **PKPab** **13 16 12.3 +0.3**
comp=Z,3.0nm,1.0s,baz=103,slow=3.4,SNR=4.5
KS01 Wonju Array Si 162.76 276 *e*PKPdf **PKPdf** **13 15 21.4 -1.8**
KSAR Wonju Array Be 162.77 276 PKIKP **PKPdf** **13 15 22.2 -1.0**
KSAR 13 16 12.3
KSAR Wonju Array Be 162.77 276 PKP **PKPdf** **13 15 22.1 -1.0**
KSAR PKPab **PKPab** **13 16 12.3 +0.2**
SHL Shillong 162.97 130 *e*P **PKPdf** **13 15 22.9 -1.1**
SHL *ex* x 13 20 15.0
QZH Quanzhou 163.56 224 ⇑PKP PKPpre 13 15 16.0
QZH PKPab **PKPab** **13 16 12.8 -3.0**
QZH PP PP 13 19 53.0 -7.7
QZH Quanzhou 163.56 224 SKKS 13 26 42.1
INCN Inchon 163.76 276 PFAKE 13 15 30.0 +5.8
INCN LR LR
comp=Z,6μm,19.0s
CN2 Changchun 164.11 299 PKP **PKPdf** **13 15 21.9 -2.4**
CN2 PKPab **PKPab** **13 16 20.0 +2.2**
CN2 PP **PP** **13 20 05.6 +1.5**
CN2 SKKS 13 26 47.4
CN2 SS **SS** **13 40 30.7 -3.8**
CN2 LN
comp=Z,4μm,19.0s
CN2 LE
comp=Z,4μm,19.0s
CN2 LZ
comp=Z,1μm,19.0s
GZH Guangzhou 164.31 205 PKP **PKPdf** **13 15 25.1 0.0**
GZH PP **PP** **13 20 10.5 +6.4**
GZH SKS **SKSdf** **13 22 22.8 -6.8**
GZH SKKS **SKKSac** **13 26 54.4 +1.4**
GZH PPMZ
comp=Z,4μm,11.0s
WMQ Urumqi 164.66 60 PKP **PKPdf** **13 15 23.9 -1.0**
WMQ PKPab **PKPab** **13 16 20.9 +0.5**
WMQ PKS **PKSdf** **13 18 55.6 -2.1**
WMQ PP **PP** **13 20 08.5 +1.4**
WMQ SKKS 13 26 50.8
WMQ SS **SS** **13 40 34.9 -5.4**
WMQ PPMZ
comp=Z,3μm,11.2s
WMQ LN
comp=Z,4μm,18.6s
WMQ LE
comp=Z,3μm,18.6s
WMQ LZ
comp=Z,4μm,20.0s
HIA Hailar 164.72 324 PFAKE 13 15 40.0 +15
HIA LR LR
comp=Z,6μm,20.0s
LSA Lhasa 165.25 118 PKP **PKPdf** **13 15 26.0 -0.4**
LSA LN
comp=Z,1μm,22.4s
LSA LE
comp=Z,5μm,21.1s
LSA LZ
comp=Z,4μm,16.8s
LSA Lhasa 165.25 118 *e*PKIKP **PKPdf** **13 15 25.9 -0.4**
LSA MLR MLR
comp=Z,11μm,20.0s
LSA Lhasa 165.25 118 *e*PKPdf **PKPdf** **13 15 25.9 -0.4**
LSA LR LR
comp=Z,11μm,20.0s
MOY Mondy 165.42 13 *e*PKIKP PKPdf 13 15 34.3 +9.0
TLY Talaya 165.76 6 PKPab **PKPab** **13 16 26.0 +1.2**
comp=Z,8.0nm,1.0s,baz=15,slow=2.9,SNR=3.1
TLY Talaya 165.76 6 *i* PKIKP **PKPdf** **13 15 23.1 -2.4**
TLY *e* 13 20 10.2
TLY *e* 13 24 03.1
TLY *e*SS SS 13 40 46.4 -2.8
SNY Shenyang 165.93 293 ⇑PKP **PKPdf** **13 15 21.9 -4.0**
SNY SS SS 13 40 52.1 -1.2
SNY PPMZ
comp=Z,3μm,12.0s
SNY LN
comp=Z,2μm,22.9s
SNY LE
comp=Z,5μm,22.6s
SNY LZ
comp=Z,9μm,22.5s
SSE Sheshan 166.02 247 PKP **PKPdf** **13 15 22.5 -3.8**
SSE SKKS 13 27 02.4
SSE PPMZ
comp=Z,1μm,12.0s
SSE LN
comp=Z,4μm,18.8s
SSE LE
comp=Z,2μm,19.7s
SSE LZ
comp=Z,5μm,19.1s
ZAK Zakamensk 167.01 8 *e*PKIKP **PKPdf** **13 15 29.7 +3.1**
ZAK *e* 13 16 30.5
ZAK pmax pmax
comp=Z,5.0nm,1.6s
ZAK pmax pmax
comp=Z,20nm,1.2s
KMI Kunming 167.27 166 PKP **PKPdf** **13 15 26.0 -1.7**
KMI pPKP pPKPdf 13 15 30.8 -0.4
KMI sPKP 13 15 34.1
DL2 Dalian 167.76 281 ⇑PKP **PKPdf** **13 15 23.9 -3.4**
DL2 pPKP **pPKPdf** **13 15 31.1 +0.3**
DL2 SKKS 13 27 04.6
DL2 SS **SS** **13 41 10.1 -2.1**
DL2 PPMZ
comp=Z,3μm,11.9s
DL2 LN
comp=Z,4μm,18.8s
DL2 LE
comp=Z,2μm,20.2s
DL2 LZ
comp=Z,7μm,19.4s
NJ2 Nanjing 168.22 246 *e*PKP **PKPdf** **13 15 28.7 +0.8**
NJ2 PP **PP** **13 20 27.6 +2.2**
NJ2 SS SS 13 41 18.9 +2.5
NJ2 PPMZ
comp=Z,2μm,9.8s
NJ2 LN
comp=Z,4μm,15.2s
NJ2 LE
comp=Z,4μm,16.8s
NJ2 LZ
comp=Z,7μm,18.4s
GYA Guiyang 168.93 182 PKP **PKPdf** **13 15 26.9 -1.8**
GYA PKS **PKSdf** **13 18 59.2 -2.2**
GYA PP **PP** **13 20 30.9 +3.1**
GYA SKKS 13 27 15.0
GYA SS **SS** **13 41 21.2 0.0**
GYA PPMZ
comp=Z,2μm,11.7s
GYA LN
comp=Z,6μm,19.5s
GYA LE
comp=Z,5μm,19.2s
GYA LZ
comp=Z,9μm,20.1s
ULN Ulaanbaatar 169.68 357 *e*PKP2 **PKPab** **13 16 48.9 +6.6**
ULN MLR MLR
comp=Z,6μm,21.0s
ULN Ulaanbaatar 169.68 357 *e*PKPab **PKPab** **13 16 48.9 +6.6**
ULN LR LR
comp=Z,6μm,21.0s
SONA1 Songino Array 169.71 359 *e*PKPdf **PKPdf** **13 15 27.1 -1.4**
SONA1 *e*PKPab **PKPab** **13 16 45.5 +3.1**
SONM Songino Array 169.72 359 PKP **PKPdf** **13 15 27.5 -1.0**
comp=Z,1.0nm,0.9s,baz=323,slow=0.7,SNR=6.6
SONM PKPab **PKPab** **13 16 42.9 +0.4**
comp=Z,19nm,1.1s,baz=342,slow=3.3,SNR=9.3
SONM PP **PP** **13 20 30.8 -1.1**
comp=Z,2.8nm,1.2s,baz=101,slow=3.0,SNR=3.6
WHN Wuhan 170.26 227 ⇓PKP **PKPdf** **13 15 29.0 -0.2**
WHN PKPab **PKPab** **13 16 45.4 +0.2**
WHN PP **PP** **13 20 41.8 +6.6**
WHN LN
comp=Z,17μm,18.4s
WHN LE
comp=Z,8μm,16.9s
WHN LZ
comp=Z,21μm,19.6s
TIA Tai'an 171.12 265 PKP **PKPdf** **13 15 26.4 -3.1**
TIA pPKP **pPKPdf** **13 15 36.2 +3.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIA				PPMZ			
	comp=Z,5µm,11.3s						
TIA				LN			
	comp=Z,2µm,17.8s						
TIA				LE			
	comp=Z,7µm,17.8s						
TIA				LZ			
	comp=Z,8µm,16.7s						
BJI	**Beijing**	**171.80**	**291**	PKP	**PKPdf**	**13 15 28.6**	**-1.1**
BJT	**Baijiatuau**	**171.81**	**291**	PFAKE		13 15 40.0	+10
BJT				LR	LR		
	comp=Z,9µm,19.0s						
ENH	**Enshi**	**172.23**	**202**	*e*PKPdf	**PKPdf**	**13 15 29.5**	**-0.7**
ENH				LR	LR		
	comp=Z,49nm,19.0s						
CD2	**Chengdu**	**173.08**	**163**	PKP	**PKPdf**	**13 15 28.6**	**-2.0**
CD2				pPKP	pPKPdf	13 15 34.5	+0.4
CD2				sPKP		13 15 36.4	
CD2				PP	**PP**	**13 20 45.3**	**-3.2**
CD2				SKS	**SKSdf**	**13 22 32.1**	**-1.9**
CD2				SKKS	**SKKSac**	**13 27 34.0**	**-1.9**
CD2				SS	**SS**	**13 42 02.7**	**+0.5**
CD2				PPMZ			
	comp=Z,3µm,7.7s						
CD2				LN			
	comp=Z,10µm,17.9s						
CD2				LE			
	comp=Z,6µm,17.9s						
CD2				LZ			
	comp=Z,9µm,18.7s						
HHC	**Hu-ho-hao-te**	**174.67**	**310**	*e*PKP	**PKPdf**	**13 15 28.9**	**-2.0**
HHC				PKS	**PKSdf**	**13 19 02.4**	**-0.8**
HHC				SS	SS	13 42 18.8	-0.5
HHC				PPMZ			
	comp=Z,2µm,10.6s						
HHC				LN			
	comp=Z,5µm,22.7s						
HHC				LE			
	comp=Z,3µm,20.8s						
HHC				LZ			
	comp=Z,7µm,20.9s						
GTA	**Gaotai**	**174.68**	**68**	*e*PKP	**PKPdf**	**13 15 29.1**	**-1.9**
GTA				PKPab	**PKPab**	**13 17 05.4**	**+0.4**
GTA				PP	**PP**	**13 20 56.7**	**-1.1**
GTA				SKS	**SKSdf**	**13 22 31.0**	**-3.2**
GTA				SKKS	**SKKSac**	**13 27 42.8**	**-1.2**
GTA				SS	**SS**	**13 42 14.8**	**-5.5**
GTA				PPMZ			
	comp=Z,5µm,11.2s						
GTA				LN			
	comp=Z,4µm,21.9s						
GTA				LE			
	comp=Z,6µm,23.3s						
GTA				LZ			
	comp=Z,8µm,22.8s						
TIY	**Taiyuan**	**175.02**	**274**	PKP	**PKPdf**	**13 15 28.6**	**-2.5**
TIY				PP	**PP**	**13 21 04.9**	**+5.3**
TIY				PPMZ			
	comp=Z,3µm,9.8s						
TIY				LN			
	comp=Z,2µm,12.8s						
TIY				LE			
	comp=Z,3µm,14.5s						
TIY				LZ			
	comp=Z,5µm,15.7s						
BTO	**Baotou**	**175.73**	**317**	*e*PKP	**PKPdf**	**13 15 33.6**	**+2.4**
XAN	**Xi'an**	**175.84**	**213**	PKP	**PKPdf**	**13 15 29.0**	**-2.4**
XAN				pPKP	pPKPdf	13 15 35.7	+0.8
XAN				PKS	**PKSdf**	**13 18 59.5**	**-4.1**
XAN				SKS	**SKSdf**	**13 22 26.9**	**-7.6**
XAN				LN			
	comp=Z,8µm,18.4s						
XAN				LE			
	comp=Z,5µm,18.4s						
XAN				LZ			
	comp=Z,9µm,17.4s						
LZH	**Lanzhou**	**177.63**	**127**	*e*PKP	**PKPdf**	**13 15 32.7**	**+0.9**
LZH				SKS	**SKSdf**	**13 22 27.6**	**-7.3**
LZH				PPMZ			
	comp=Z,1µm,5.2s						
LZH				LN			
	comp=Z,8µm,18.3s						
LZH				LE			
	comp=Z,10µm,19.9s						
LZH				LZ			
	comp=Z,12µm,19.9s						

---

*NIED **01** 12:59:00, 38°.80N×142°.40E, h35km, Mw3.8 Best double couple: $M_0$5.33000×10^{14} NP1:ϕ_s118.00000°, δ19.00000°, λ-8.00000°. NP2:ϕ_s216.00000°, δ87.00000°, λ-109.00000°.*
*IDC **01** 12:59:14.1±1.0, 38°.71N×142°.58E, h0km, mb3.6/8, mb1 3.7/13, mb1mx3.6/66, mbtmp3.6/13, ML3.1/5, MS2.6/2, Ms1 2.6/2, ms1mx2.5/51, Error ellipse: s-maj=25.3km s-min=18.1km az=94.0*
*JMA **01** 12:59:18.6±0.1, 38°.80N×142°.41E, h34km±2km, M3.7*
ISC 01 12:59:17.2±2.1**, 38°.78N**±0°.05×**142°.46E**±0°.08**, h15**km±12km**, n30,** σ1s**16**/31**, mb3.6**/8**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.68**	**296**	P	**Pn**	**12 59 31.3**	**-0.9**
OFUJ				*e*S	**Sg**	**12 59 39.8**	**+0.2**
JIO	**Ouri**	**0.93**	**250**	P	**Pg**	**12 59 34.6**	**-0.6**
JIO				*e*S	**Sb**	**12 59 45.8**	**-1.2**
JMK	**Ichinoseki**	**0.98**	**280**	P	**Pn**	**12 59 35.7**	**-0.6**
JOM	**Ohasama**	**1.14**	**308**	P	**Pb**	**12 59 38.3**	**-0.2**
JOM				*e*S	**Sb**	**12 59 52.0**	**-1.1**
JTH	**Tanohata**	**1.24**	**338**	P	**Pn**	**12 59 39.4**	**-0.5**
JTH				*e*S	**Sb**	**12 59 55.2**	**-0.9**
JOU	**Okura**	**1.47**	**254**	P	**Pn**	**12 59 42.9**	**-0.1**
JRG	**Rokugo**	**1.55**	**294**	P	**Pn**	**12 59 44.4**	**+0.3**
JMM	**Marumori**	**1.60**	**236**	P	**Pn**	**12 59 44.1**	**-0.7**
JMM				*e*S	**Sn**	**13 00 04.4**	**-0.7**
JYK	**Kaneyama**	**1.64**	**275**	P	**Pn**	**12 59 45.6**	**+0.1**
JANG	**Nango**	**1.75**	**336**	P	**Pn**	**12 59 46.6**	**-0.3**
MAT	**Matsushiro**	**4.05**	**238**	P	**Pn**	**13 00 20.1**	**+1.6**
MAT				*e*S	**Sn**	**13 01 08.4**	**+2.8**
MJAR	**Matsushiro Arr**	**4.05**	**238**	Pn	**Pn**	**13 00 19.2**	**+0.7**
	2.4nm,0.3s,baz=50,slow=10,SNR=22						
MJAR				LR	LR	13 01 43.1	
	comp=Z,54nm,18.6s,baz=90,slow=37						
ASAJ	**Asahikawa**	**5.33**	**1**	Pn	**Pn**	**13 00 37.1**	**+1.1**
	0.9nm,0.3s,baz=218,slow=16,SNR=12						
ASAJ				Sn	**Sn**	**13 01 36.9**	**-0.3**
	0.8nm,0.3s,baz=94,slow=19,SNR=2.5						
USRK	**Ussuriysk Ar.**	**9.54**	**308**	Pn	**Pn**	**13 01 35.9**	**+2.1**
	0.2nm,0.3s,baz=116,slow=16,SNR=4.7						
KSRS	**Korea Array**	**11.53**	**268**	Pn	**Pn**	**13 02 03.4**	**+2.2**
	0.2nm,0.3s,baz=80,slow=14,SNR=3.1						
KSRS				LR	LR	13 06 31.2	
	comp=Z,37nm,18.1s,baz=138,slow=38						
KLR	**Kul'dur**	**12.96**	**327**	Pn	**Pn**	**13 02 22.4**	**+1.8**
	0.1nm,0.3s,baz=153,slow=4.5,SNR=2.6						
SEY	**Seymchan**	**24.92**	**11**	P	**P**	**13 04 40.1**	**+0.9**
	1.1nm,0.7s,baz=176,slow=4.7,SNR=5.7						
SONM	**Songino Array**	**27.54**	**301**	P	**P**	**13 05 03.4**	**+0.1**
	0.4nm,0.5s,baz=95,slow=8.9,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**28.40**	**125**	T	T	13 35 09.8	
	baz=318,slow=75,SNR=123						
H11N1	**WAKE ISLAND Hy**	**28.41**	**125**	T	T	13 35 04.6	
	baz=318,slow=75,SNR=88						
H11N3	**WAKE ISLAND Hy**	**28.42**	**125**	T	T	13 35 03.6	
	baz=318,slow=75,SNR=110						
H11S1	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	13 36 44.9	
	baz=319,slow=76,SNR=8.7						
H11S3	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	13 36 38.2	
	baz=319,slow=76,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	13 36 37.9	
	baz=319,slow=76,SNR=7.4						
ZALV	**Zalesovo Beam**	**41.37**	**311**	P	**P**	**13 07 02.1**	**-0.2**
	1.3nm,0.5s,baz=82,slow=8.0,SNR=6.8						
MKAR	**Makanchi Array**	**43.91**	**301**	P	**P**	**13 07 22.9**	**-0.2**
	0.6nm,0.5s,baz=94,slow=8.0,SNR=6.2						
ILAR	**Eielson Array**	**47.58**	**33**	P	**P**	**13 07 52.0**	**+0.2**
	0.3nm,0.7s,baz=256,slow=5.5,SNR=4.1						
WRA	**Warramunga Arr**	**58.91**	**189**	P	**P**	**13 09 14.5**	**-1.1**
	0.5nm,0.7s,baz=8.0,slow=7.0,SNR=3.9						
ASAR	**Alice Springs**	**62.64**	**189**	P	**P**	**13 09 40.1**	**-0.9**
	0.2nm,0.7s,baz=17,slow=7.9,SNR=4.7						
NOA	**NORSAR Array B**	**72.89**	**337**	P	**P**	**13 10 43.7**	**-1.5**
	0.7nm,0.8s,baz=37,slow=6.1,SNR=2.7						

IDC 01 13:07:27.3±6.5**, 5°.53S**×**153°.03E, h57**km±52km**, mb3.5**/4**, mb1 3.7**/5**, mb1mx3.4**/53**, mbtmp3.8**/5**, ML2.0**/1**, Error ellipse: s-maj=71.1km s-min=25.8km az=115.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.97**	**236**	P	Pn	13 09 07.2	+0.3
	1.7nm,0.3s,baz=77,slow=14,SNR=5.3						
PMG				S	Sn	13 10 25.7	+0.9
	4.0nm,0.3s,baz=168,slow=17,SNR=6.7						
WRA	**Warramunga Arr**	**23.14**	**230**	P	P	13 12 28.7	-0.3
	1.8nm,0.9s,baz=54,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**25.77**	**224**	P	P	13 12 53.1	+0.1
	0.5nm,0.6s,baz=54,slow=9.1,SNR=11						
PETK	**Petropavlovsk-**	**58.55**	**3**	P	P	13 17 17.7	-0.3
	1.6nm,0.5s,baz=158,slow=6.7,SNR=10						
SONM	**Songino Array**	**67.06**	**328**	P	P	13 18 15.2	+0.4
	0.8nm,0.7s,baz=110,slow=5.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**150.74**	**287**	PKPbc	PKPbc	13 27 13.8	-0.5
	1.0nm,0.8s,baz=55,slow=2.7,SNR=4.2						

---

*ISK **01** 13:24:36.6, 39°.85N×32°.35E, h8km, MD2.5*
*CSEM **01** 13:24:37.6±0.3, 39°.83N×32°.37E, h2km, MD2.5, Error ellipse: s-maj=6.7km s-min=5.1km az=174.0*
ISC 01 13:24:36.7±1.6**, 39°.81N**±0°.04×**32°.38E**±0°.04**, h4**km±13km**, n14,** σ1s**14**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.31**	**75**	*e*PG	**Pg**	**13 24 43.0**	**+0.3**
LOD				*e*SG	**Sb**	**13 24 48.7**	**-1.6**
LOD	**Lodumlu**	**0.31**	**75**	*e*Pg	**Pg**	**13 24 43.0**	**+0.3**
LOD				*e*Sg	**Sb**	**13 24 48.7**	**-1.6**
AFSR	**Af¯ar-Bala (A**	**0.65**	**124**	*e*PG	**Pg**	**13 24 50.4**	**+1.2**
AFSR				*e*SG	**Sb**	**13 24 59.9**	**-0.1**
AFSR	**Af¯ar-Bala (A**	**0.65**	**124**	*e*Pg	**Pg**	**13 24 50.4**	**+1.2**
AFSR				*e*Sg	**Sb**	**13 24 59.9**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.75**	**241**	*e*PG	**Pb**	**13 24 51.7**	**-0.7**
SVRH				*e*SG	**Sb**	**13 25 02.0**	**-1.1**
SVRH	**Sivrihisar-ESK**	**0.75**	**241**	*e*Pg	**Pb**	**13 24 51.7**	**-0.7**
SVRH				*e*Sg	**Sb**	**13 25 02.0**	**-1.1**
KIZT	**Kizilcal**	**1.01**	**203**	*e*PG	**Pn**	**13 24 57.2**	**-0.4**
KIZT				*e*SG	**Sn**	**13 25 12.3**	**-0.1**
KIZT	**Kizilcal**	**1.01**	**203**	*e*Pg	**Pn**	**13 24 57.3**	**-0.4**
KIZT				*e*Sg	**Sn**	**13 25 12.3**	**-0.1**
BCAM	**Yenicaga**	**1.03**	**347**	P	**Pn**	**13 24 58.2**	**+0.2**
BCAM	**Yenicaga**	**1.03**	**347**	*i* P	**Pn**	**13 24 58.2**	**+0.2**
BCAM				*i* S	**Sn**	**13 25 15.2**	**+2.2**
MDUB	**Mudurnu**	**1.12**	**306**	*e*PG	**Pn**	**13 24 58.0**	**-1.3**
MDUB	**Mudurnu**	**1.12**	**306**	*e*Pg	**Pn**	**13 24 58.0**	**-1.3**
ESKT	**Eskisehir**	**1.21**	**257**	*i* P	**Pn**	**13 25 00.9**	**+0.3**
ESKT				*i* S	**Sn**	**13 25 19.4**	**+1.9**
SEYT	**Eskypehyr**	**1.21**	**257**	P	**Pn**	**13 25 00.9**	**+0.3**
SEYT				S	**Sn**	**13 25 19.4**	**+1.9**

---

*ISCJB **01** 13:39:46.2±0.8, 38°.14N±0°.04×141°.82E±0°.08, h57km±6km, mb3.5/9, Error ellipse: s-maj=10.8km s-min=5.3km az=21.2*
*IDC **01** 13:39:46.8±2.6, 38°.08N×141°.92E, h49km±25km, mb3.4/9, mb1 3.6/12, mb1mx3.4/41, mbtmp3.6/12, ML3.0/3, Error ellipse: s-maj=24.2km s-min=16.6km az=106.0*
*JMA **01** 13:39:47.0±0.1, 38°.15N×141°.77E, h54km±1km, M4.0*
JMA Felt I J1.
ISC 01 13:39:46.6±1.5**, 38°.15N**±0°.05×**141°.89E**±0°.09**, h44**km±14km**, n32,** σ1s**23**/39**, mb3.6**/9**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.52**	**306**	P	**Pn**	**13 39 58.1**	**+0.3**
JIO				S	**Sn**	**13 40 05.8**	**+0.1**
JMM	**Marumori**	**0.91**	**252**	P	**Pn**	**13 40 02.4**	**-0.5**
JMM				S	**Sn**	**13 40 13.8**	**-1.0**
OFUJ	**Ofunato**	**0.95**	**350**	P	**Pn**	**13 40 03.9**	**+0.4**
OFUJ				S	**Sn**	**13 40 16.0**	**+0.1**
JMK	**Ichinoseki**	**0.96**	**327**	P	**Pn**	**13 40 04.0**	**+0.4**
JMK				S	**Sn**	**13 40 16.1**	**0.0**
JOU	**Okura**	**0.99**	**283**	P	**Pn**	**13 40 03.8**	**-0.2**
JOU				S	**Sn**	**13 40 15.9**	**-0.9**
JFK	**Kawauchi**	**1.12**	**226**	P	**Pn**	**13 40 05.6**	**-0.2**
JFK				S	**Sn**	**13 40 19.1**	**-0.9**
JFT	**Otama**	**1.38**	**243**	P	**Pn**	**13 40 09.5**	**+0.2**
JFT				*e*S	**Sn**	**13 40 26.1**	**-0.3**
JOM	**Ohasama**	**1.41**	**341**	P	**Pn**	**13 40 10.3**	**+0.6**
JOM				*e*S	**Sn**	**13 40 27.5**	**+0.4**
JYK	**Kaneyama**	**1.43**	**303**	P	**Pn**	**13 40 09.9**	**-0.1**
JYK				*e*S	**Sn**	**13 40 26.8**	**-0.7**
JYS	**Shirataka**	**1.44**	**274**	P	**Pn**	**13 40 10.0**	**-0.1**
JYS				*e*S	**Sn**	**13 40 26.8**	**-1.0**
JRG	**Rokugo**	**1.59**	**322**	P	**Pn**	**13 40 12.7**	**+0.5**
JRG				*e*S	**Sn**	**13 40 31.8**	**+0.3**
JYA	**Atsumi**	**1.77**	**285**	P	**Pn**	**13 40 14.5**	**-0.1**
JYA				*e*S	**Sn**	**13 40 35.1**	**-0.8**
MJAR	**Matsushiro Arr**	**3.34**	**242**	P	**Pn**	**13 40 37.4**	**+1.1**
	2.6nm,0.3s,baz=64,slow=11,SNR=37						
MAT	**Matsushiro**	**3.34**	**243**	P	**Pn**	**13 40 37.6**	**+1.3**
MAT				S	**Sn**	**13 41 20.4**	**+5.7**
ASAJ	**Asahikawa**	**5.99**	**5**	P	**Pn**	**13 41 12.1**	**-0.5**
	0.5nm,0.3s,baz=204,slow=12,SNR=9.2						
USRK	**Ussuriysk Ar.**	**9.60**	**312**	P	**Pn**	**13 42 02.7**	**+0.6**
	0.3nm,0.3s,baz=125,slow=13,SNR=4.2						
SEY	**Seymchan**	**25.63**	**11**	P	**P**	**13 45 12.9**	**+1.3**
	0.6nm,0.5s,baz=237,slow=4.7,SNR=4.4						
SONM	**Songino Array**	**27.50**	**302**	P	**P**	**13 45 30.8**	**+2.0**
	0.2nm,0.4s,baz=93,slow=8.8,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.42**	**123**	T	T	14 15 52.0	
	baz=316,slow=75,SNR=211						
H11N1	**WAKE ISLAND Hy**	**28.43**	**123**	T	T	14 15 59.7	
	baz=316,slow=75,SNR=191						
H11N3	**WAKE ISLAND Hy**	**28.43**	**123**	T	T	14 16 05.2	
	baz=316,slow=75,SNR=123						
H11S1	**WAKE ISLAND Hy**	**29.17**	**125**	T	T	14 16 52.8	
	baz=318,slow=76,SNR=106						
H11S3	**WAKE ISLAND Hy**	**29.17**	**125**	T	T	14 16 53.0	
	baz=318,slow=76,SNR=90						
H11S2	**WAKE ISLAND Hy**	**29.19**	**125**	T	T	14 16 54.1	
	baz=318,slow=76,SNR=84						
ZALV	**Zalesovo Beam**	**41.45**	**311**	P	**P**	**13 47 27.6**	**-1.1**
	0.8nm,0.4s,baz=88,slow=8.0,SNR=2.8						
MKAR	**Makanchi Array**	**43.86**	**301**	P	**P**	**13 47 47.7**	**-0.7**
	0.2nm,0.5s,baz=101,slow=8.5,SNR=3.2						
ILAR	**Eielson Array**	**48.36**	**33**	P	**P**	**13 48 23.4**	**-0.1**
	0.4nm,0.7s,baz=256,slow=6.8,SNR=5.8						
WRA	**Warramunga Arr**	**58.21**	**188**	P	**P**	**13 49 35.0**	**-1.2**
	0.8nm,0.5s,baz=5.9,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**61.94**	**188**	P	**P**	**13 50 00.9**	**-0.9**
	0.7nm,0.7s,baz=1.2,slow=5.0,SNR=8.5						
PDAR	**Pinedale Array**	**76.62**	**46**	P	**P**	**13 51 33.0**	**+0.1**
	0.3nm,0.6s,baz=295,slow=4.2,SNR=3.4						
TXAR	**Lajitas Array**	**89.15**	**53**	P	**P**	**13 52 37.9**	**+0.1**
	0.3nm,0.6s,baz=273,slow=3.0,SNR=4.5						
LPAZ	**La Paz**	**145.80**	**59**	PKPbc	**PKPdf**	**13 59 20.8**	**-0.8**
	0.8nm,0.5s,baz=338,slow=5.4,SNR=3.3						

---

*CSEM **01** 13:40:50.8±0.2, 38°.78N×35°.81E, h2km, MD2.7, Error ellipse: s-maj=5.0km s-min=4.2km az=72.0*
*ISK **01** 13:40:50.5, 38°.81N×35°.77E, h6km, MD2.7*
*ISCJB **01** 13:40:51.1±1.1, 38°.79N±0°.03×35°.79E±0°.07, h2km±8km, Error ellipse: s-maj=8.9km s-min=5.3km az=165.7*
ISC 01 13:40:50.9±1.1**, 38°.80N**±0°.04×**35°.80E**±0°.04**, h4**km±8km**, n17,** σ0s**56**/26**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.07**	**37**	*e*PG	**Pg**	**13 40 52.1**	**-0.4**
BNN				*e*SG	**Sg**	**13 40 54.2**	**+0.6**
BNN	**Bunyan**	**0.07**	**37**	*e*Pg	**Pg**	**13 40 52.1**	**-0.4**
BNN				*e*Sg	**Sg**	**13 40 54.2**	**+0.6**
SARI	**SarD1z-Kayseri**	**0.62**	**129**	*e*PG	**Pb**	**13 41 03.9**	**-0.6**
SARI				*e*SG	**Sb**	**13 41 12.8**	**-0.8**
CUSAR	**Sarkisla-SIVAS**	**0.71**	**29**	P	**Pg**	**13 41 04.4**	**-0.2**
CUSAR				S	**Sb**	**13 41 15.2**	**-0.9**
CUSAR	**Sarkisla-SIVAS**	**0.71**	**29**	*i* P	**Pg**	**13 41 04.4**	**-0.2**
CUSAR				*i* S	**Sb**	**13 41 15.2**	**-0.9**
CUALT	**Altinyayla-SIV**	**0.89**	**57**	P	Pg	13 41 02.6	-5.3
CUALT				S	**Sb**	**13 41 21.5**	**+0.3**
CUALT	**Altinyayla-SIV**	**0.89**	**57**	*i* P	Pg	13 41 02.6	-5.3
CUALT				*i* S	**Sb**	**13 41 21.5**	**+0.3**
KOZT	**Kozan**	**1.32**	**179**	*e*PN	**Pb**	**13 41 16.0**	**-0.1**
KOZT				*e*SN	**Sn**	**13 41 34.5**	**+0.5**
KOZT	**Kozan**	**1.32**	**179**	*e*Pn	**Pb**	**13 41 16.0**	**-0.1**
KOZT				*e*Sn	**Sn**	**13 41 34.5**	**+0.5**
DARE	**Darende-Malaty**	**1.34**	**99**	*e*PN	**Pb**	**13 41 17.1**	**+0.5**
DARE	**Darende-Malaty**	**1.34**	**99**	*e*Pn	**Pb**	**13 41 17.1**	**+0.5**
CUKAN	**kangal_SIVAS**	**1.40**	**68**	S	**Sg**	**13 41 35.5**	**-0.4**
CUKAN	**kangal_SIVAS**	**1.40**	**68**	*i* P	Pn	13 41 11.0	-6.4
CUKAN				*i* S	**Sg**	**13 41 35.5**	**-0.4**
COAL	**Corum-Alaca**	**1.58**	**337**	P	**Pn**	**13 41 20.1**	**+0.3**
COAL				S	**Sg**	**13 41 42.5**	**+0.7**
COAL	**Corum-Alaca**	**1.58**	**337**	*i* P	**Pn**	**13 41 20.1**	**+0.3**
COAL				*i* S	**Sg**	**13 41 42.5**	**+0.7**
CORM	**Corum**	**1.65**	**327**	*e*PN	**Pb**	**13 41 21.3**	**-0.5**
CORM	**Corum**	**1.65**	**327**	*e*Pn	**Pb**	**13 41 21.3**	**-0.5**

---

*IDC **01** 13:43:49.6±3.5, 52°.29N×169°.41W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/46, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=96.0km s-min=56.8km az=66.0*
*ISCJB **01** 13:43:54.4±1.1, 52°.0N±0°.1×169°.8W±0°.1, h29km, mb3.5/2, Error ellipse: s-maj=19.8km s-min=4.3km az=154.5*
*NEIC **01** 13:43:55.2, 52°.23N×170°.00W, h10km, ML3.1(AEIC), After AEIC.*
ISC 01 13:43:56.4±1.5**, 52°.1N**±0°.2×**169°.89W**±0°.09**, h29**km**, n19,** σ1s**18**/23**, Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.06**	**36**	P	**Pn**	**13 44 13.7**	**-1.6**
NIKH				S	**Sn**	**13 44 28.1**	**-0.9**
OKWR	**Okmok West Rim**	**1.66**	**37**	P	**Pn**	**13 44 24.1**	**+0.4**
OKWE	**Okmok W'ng Wal**	**1.68**	**36**	P	**Pn**	**13 44 24.2**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.69**	**41**	P	**Pn**	**13 44 23.9**	**-0.1**
OKTU				S	**Sb**	**13 44 48.6**	**+0.9**
OKER	**Okmok East Rim**	**1.74**	**39**	P	**Pn**	**13 44 25.0**	**+0.3**
MSOM	**Makushin Julie**	**2.46**	**45**	P	**Pn**	**13 44 35.2**	**+0.7**
KOFP	**Korovin Flat P**	**2.59**	**275**	P	**Pn**	**13 44 37.0**	**+0.6**
KOFP				S	**Sn**	**13 45 08.5**	**+1.5**
KOKL	**Mount Kliuchef**	**2.66**	**276**	P	**Pn**	**13 44 37.7**	**+0.4**
UNV	**Unalaska Valle**	**2.68**	**49**	P	**Pn**	**13 44 38.5**	**+1.0**
UNV				S	**Sn**	**13 45 12.3**	**+3.4**
MTBL	**Makushin Table**	**2.68**	**45**	P	**Pn**	**13 44 37.9**	**+0.3**
ZRO	**Akutan Zero**	**3.07**	**49**	P	**Pn**	**13 44 43.6**	**+0.6**
GSMY	**Great Sitkin M**	**3.81**	**271**	P	**Pn**	**13 44 53.1**	**+0.1**
GSTD	**Great Sitkin T**	**3.86**	**271**	P	**Pn**	**13 44 53.9**	**0.0**
TAPA	**Tanaga Point A**	**4.91**	**269**	P	**Pn**	**13 45 08.3**	**0.0**
TASE	**Tanaga Southea**	**5.04**	**270**	P	**Pn**	**13 45 10.7**	**+0.6**
GANE	**Gareloi Northe**	**5.50**	**270**	P	**Pn**	**13 45 18.0**	**+1.6**
PETK	**Petropavlovsk-**	**19.62**	**286**	P	**P**	**13 48 21.9**	**-0.3**
	0.5nm,0.3s,baz=84,slow=14,SNR=13						
MKAR	**Makanchi Array**	**63.74**	**313**	P	**P**	**13 54 23.5**	**-1.7**
	0.2nm,0.5s,baz=59,slow=8.0,SNR=2.5						
ASAR	**Alice Springs**	**89.99**	**230**	P	**P**	**13 56 52.2**	**-0.7**
	0.1nm,0.3s,baz=31,slow=4.7,SNR=5.7						

---

*ISK **01** 13:44:03.3, 39°.90N×33°.08E, h8km, MD2.5*
*DDA **01** 13:44:04.8, 39°.89N×33°.15E, h7km, Md2.8*
*CSEM **01** 13:44:04.1±0.3, 39°.89N×33°.08E, h10km, MD2.5, Error ellipse: s-maj=6.6km s-min=5.5km az=42.0*
ISC 01 13:44:04.1±1.2**, 39°.90N**±0°.03×**33°.09E**±0°.03**, h3**km±12km**, n19,** σ1s**21**/29**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.25**	**269**	*e*PG	**Pg**	**13 44 08.7**	**-0.2**
LOD				*e*SG	**Sg**	**13 44 12.4**	**+0.3**
LOD	**Lodumlu**	**0.25**	**269**	*e*Pg	**Pg**	**13 44 08.7**	**-0.2**
LOD				*e*Sg	**Sg**	**13 44 12.5**	**+0.3**
AFSR	**Af¯ar-Bala (A**	**0.45**	**182**	*e*PG	**Pg**	**13 44 12.2**	**-0.5**
AFSR				*e*SG	**Sg**	**13 44 19.8**	**+1.2**
AFSR	**Af¯ar-Bala (A**	**0.45**	**182**	*e*Pg	**Pg**	**13 44 12.2**	**-0.5**
AFSR				*e*Sg	**Sg**	**13 44 19.8**	**+1.2**
ELDT	**Eldivan**	**0.65**	**24**	S	**Sb**	**13 44 26.8**	**-1.0**
ELDT	**Eldivan**	**0.65**	**24**	*i* P	**Pg**	**13 44 16.7**	**+0.1**
ELDT				*i* S	**Sb**	**13 44 26.8**	**-1.0**
KAMT	**Kaman**	**0.71**	**137**	*e*PG	**Pg**	**13 44 17.7**	**-0.1**
KAMT				*e*SG	**Sg**	**13 44 28.1**	**+1.0**
KAMT	**Kaman**	**0.71**	**137**	*e*Pg	**Pg**	**13 44 17.7**	**-0.1**
KAMT				*e*Sg	**Sg**	**13 44 28.1**	**+1.0**
BCAM	**Yenicaga**	**1.21**	**320**	P	**Pg**	**13 44 27.1**	**-0.2**
BCAM				S	**Sn**	**13 44 47.3**	**+2.3**
BCAM	**Yenicaga**	**1.21**	**320**	*i* P	**Pg**	**13 44 27.1**	**-0.2**
BCAM				*i* S	**Sn**	**13 44 47.3**	**+2.3**
CORM	**Corum**	**1.22**	**76**	*e*PN	**Pb**	**13 44 27.4**	**-0.6**
CORM	**Corum**	**1.22**	**76**	*e*Pn	**Pb**	**13 44 27.4**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.29**	**250**	*e*PN	**Pn**	**13 44 28.1**	**-1.1**
SVRH	**Sivrihisar-ESK**	**1.29**	**250**	*e*Pn	**Pn**	**13 44 28.1**	**-1.1**
KIZT	**Kizilcal**	**1.38**	**223**	*e*PN	**Pn**	**13 44 29.2**	**-1.2**
KIZT	**Kizilcal**	**1.38**	**223**	*e*Pn	**Pn**	**13 44 29.2**	**-1.2**
COAL	**Corum-Alaca**	**1.50**	**76**	*i* P	**Pg**	**13 44 33.2**	**+0.3**
KDHN	**Kadinhani**	**1.57**	**209**	P	**Pg**	**13 44 33.7**	**-0.5**
KDHN	**Kadinhani**	**1.57**	**209**	*i* P	**Pg**	**13 44 33.7**	**-0.5**
KDHN				*i* S	**Sg**	**13 44 57.9**	**+3.5**

---

*IDC **01** 13:47:25.2±0.5, 37°.62S×73°.83W, h0km, mb4.6/14, mb1 4.8/17, mb1mx4.7/24, mbtmp4.7/17, ML4.8/4, MS5.1/3, Ms1 5.0/3, ms1mx4.6/22, Error ellipse: s-maj=19.6km s-min=13.4km az=86.0*
*GUC **01** 13:47:26.0±0.5, 37°.56S×74°.12W, h36km±2km, ML5.2*
*ISCJB **01** 13:47:27.4±0.2, 37°.57S±0°.03×73°.76W±0°.05, h23km, mb4.9/68, MS5.3/3, Error ellipse: s-maj=6.0km s-min=4.1km az=179.8*
*NEIC **01** 13:47:29.6±1.8, 37°.49S×73°.67W, h28km±12km, mb5.1/60, ML5.2(GUC), Error ellipse: s-maj=9.2km s-min=4.8km az=78.0*
NEIC Felt [IV] at Curanilahue and Lebu; [III] at Arauco, Concepcion, Contulmo, Coronel, Hualpen, La Laja, Longavi, Melipeuco, Penco, San Pedro de la Paz, San Rosendo, Tirua and Tolten; [II] at Carahue, Los Sauces, Parral and Temuco. Also felt at Chillan and Talcahuano.
*MOS **01** 13:47:29.4±1.3, 37°.50S×73°.82W, h33km, mb5.2/24, Error ellipse: s-maj=16.9km s-min=9.3km az=98.1*
*GCMT **01** 13:47:29.6±0.5, 37°.37S×74°.30W, h27km±1km, MW5.4/60, Moment Tensor Solution. s22,c26; s60,c79; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.06±.10; $M_{\theta\theta}$-0.15±.06; $M_{\phi\phi}$-0.90±.07; $M_{r\theta}$-0.44±.09; $M_{\theta\phi}$-0.21±.03; $M_{\phi r}$-0.90±.10; Best double couple: $M_0$1.42400×10^{17} NP1:ϕ_s202.00000°, δ68.00000°, λ95.00000°. NP2: ϕ_s9.00000°, δ23.00000°, λ77.00000°. Principal axes: T 1.4840, Plg67.0000°, Azm122.0000°; N -0.1190, Plg5.0000°, Azm20.0000°; P -1.3630, Plg22.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 13:47:28.6±0.3**, 37°.59S**±0°.03×**73°.72W**±0°.06**, h23**km**, n341,** σ1s**22**/360**, mb5.0**/68**, MS5.3**/3**, 16C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.89**	**33**	*i* P	**Pb**	**13 47 43.3**	**-2.0**
CCSP				*i* S	**Sn**	**13 47 58.5**	**+0.8**
CCSP				AML	AML	13 48 06.8	
	comp=N,82µm,0.5s						
PSCH	**Puerto Saavedr**	**1.24**	**168**	*i* P	**Pn**	**13 47 48.8**	**-1.6**
COCH	**Cobquecura**	**1.63**	**27**	*i* P	**Pn**	**13 47 55.0**	**-0.9**
COCH				*i* S	**Sb**	**13 48 17.2**	**-0.9**
COCH				AML	AML	13 48 30.2	
	comp=E,21µm,0.6s						
CCHI	**Chillan**	**1.64**	**54**	*i* P	**Pn**	**13 47 56.4**	**+0.5**
CCHI				*i* S	**Sb**	**13 48 19.7**	**+1.3**
VLCH	**Valdivia**	**2.25**	**171**	*e*P	**Pn**	**13 48 01.1**	**-3.1**
VLCH				*e*S	**Sn**	**13 48 28.9**	**-2.4**
VLCH				AML	AML	13 48 56.6	
	comp=E,34µm,0.6s						
PLCA	**Paso Flores**	**3.99**	**143**	Pn	**Pn**	**13 48 30.2**	**+1.9**
	comp=E,3.3nm,0.3s,baz=338,slow=14,SNR=103						
PLCA				Sn	**Sb**	**13 49 22.0**	**-4.0**
	comp=E,26nm,0.3s,baz=2.5,slow=22,SNR=3.5						
PLCA	**Paso Flores**	**3.99**	**143**	*e*Pn	**Pn**	**13 48 29.8**	**+1.4**
PLCA				Sn	**Sb**	**13 49 22.0**	**-4.0**
ROC1	**El Roble**	**5.11**	**26**	*e*Pn	**Pn**	**13 48 43.0**	**-0.8**
LCO	**Las Campanas**	**8.92**	**17**	*e*Pn	**Pn**	**13 49 33.5**	**-2.7**
TRQA	**Tornquist**	**9.30**	**96**	*e*Pn	**Pn**	**13 49 43.9**	**+2.6**

CHRN Cochrane 9.69 175 ePn Pn 13 49 47.1 +0.6
PB10 IPOC Station P 14.29 12 ePn Pn 13 50 48.3 -1.2
LVC Limon Verde 15.49 17 Pn Pn 13 51 05.2 -0.7
comp=E,15nm,0.3s,baz=211,slow=12,SNR=9.3
LVC Limon Verde 15.49 17 ePn Pn 13 51 04.4 -1.6
comp=E,120nm,1.1s
PB04 IPOC Station P 15.51 12 ePn Pn 13 51 04.5 -1.5
comp=E,318nm,1.0s
PB01 IPOC Station P 16.89 14 ePn Pn 13 51 21.7 -1.9
comp=E,331nm,1.1s
USHA Ushuaia 17.62 170 P P 13 51 33.5 +0.2
comp=E,24nm,0.3s,baz=317,slow=8.4,SNR=7.7
CPUP Villa Florida 17.84 56 P P 13 51 35.8 -0.1
comp=E,0.5nm,0.3s,baz=230,slow=11,SNR=26
CPUP LR LR 13 59 17.9
comp=E,6µm,19.3s,baz=274,slow=40
CPUP Villa Florida 17.84 56 ePn Pn 13 51 33.6 -1.7
PB11 IPOC Station P 18.11 12 eP Pn 13 51 38.4 -0.4
comp=E,337nm,0.9s
LPAZ La Paz 21.78 15 P P 13 52 21.2 +1.7
comp=E,37nm,0.9s,baz=183,slow=9.2,SNR=60
LPAZ La Paz 21.78 15 eP P 13 52 21.0 +1.5
comp=E,111nm,1.1s
SIV San Ignacio 24.24 31 P P 13 52 44.8 +0.9
comp=E,17nm,0.9s,baz=227,slow=12,SNR=34
NNA Nana 25.65 353 P P 13 52 56.7 +0.1
comp=E,8.0nm,0.6s,baz=220,slow=14,SNR=3.9
SPB Sao Paulo 26.47 66 eP P 13 53 02.6 -1.4
comp=E,117nm,1.0s
SAML Samuel 30.06 21 eP P 13 53 35.6 -0.4
comp=E,37nm,1.2s
ATAH Atahualpa 30.61 351 P P 13 53 41.5 +0.1
comp=E,2.6nm,0.6s,baz=215,slow=12,SNR=2.1
BDFB Brasilia 31.53 53 P P 13 53 49.5 +0.3
comp=E,20nm,1.0s,baz=214,slow=6.4,SNR=16
BDFB LR LR 14 06 50.0
comp=E,2µm,18.6s,baz=229,slow=37
OTAV Otavalo 37.89 352 eP P 13 54 47.5 +3.0
OTAV Otavalo 37.89 352 eP P 13 54 44.0 -0.5
comp=E,34nm,1.3s
PTGA Pitinga 38.81 22 eP P 13 54 51.1 -0.6
comp=E,27nm,1.0s
SJAC San Juan de Ar 40.65 360 eP P 13 55 08.4 +1.3
PRAC Prado 41.10 358 eP P 13 55 12.0 +1.2
comp=E,126nm,1.4s
ROSC El Rosal 42.21 359 P P 13 55 21.4 +1.2
comp=E,6.5nm,0.5s,baz=135,slow=20,SNR=4.8
GUYC Guyana, Colomb 42.62 358 eP P 13 55 23.7 +0.1
NORC Norcasia 42.94 358 eP P 13 55 27.1 +1.3
RUSC La Rusia 43.26 1 eP P 13 55 29.4 +0.5
HELC Santa Helena 43.58 357 eP P 13 55 32.2 +0.9
HELC Santa Helena 43.58 357 eP P 13 55 31.3 0.0
comp=E,126nm,1.1s
SDV Santo Domingo 46.32 4 eP P 13 55 50.9 -2.0
SDV Santo Domingo 46.32 4 eP P 13 55 51.4 -1.5
comp=E,20nm,1.0s
VNA1 Neumayer--Stat 46.95 155 P P 13 55 59.1 +2.1
SNAA Sanae 48.81 157 P P 13 56 12.9 +1.4
SNAA Sanae 48.81 157 eP P 13 56 12.4 +0.8
SNAA pmax pmax
comp=Z,101nm,1.2s
SNAA Sanae 48.81 157 eP P 13 56 12.4 +0.8
comp=Z,101nm,1.2s
QSPA South Pole Qui 52.66 180 eP P 13 56 41.8 +1.1
comp=Z,66nm,1.1s
NVL N'lazarevskaya 53.59 156 eP P 13 56 50.2 +2.9
SJG San Juan 55.86 9 eP P 13 57 02.8 -1.4
SJG pmax pmax
comp=Z,23nm,0.8s
SJG San Juan 55.86 9 eP P 13 57 02.8 -1.4
comp=Z,23nm,0.8s
SBA Scott Base 59.29 192 eP P 13 57 30.3 +2.5
SBA pmax pmax
comp=Z,62nm,1.9s
SBA Scott Base 59.29 192 eP P 13 57 30.3 +2.5
comp=Z,62nm,1.9s
VNDA Vanda 60.32 192 P P 13 57 36.2 +1.3
comp=Z,1.8nm,1.0s,baz=155,slow=6.9,SNR=6.1
VNDA Vanda 60.32 192 eP P 13 57 36.6 +1.7
VNDA pmax pmax
comp=Z,21nm,1.4s
VNDA Vanda 60.32 192 eP P 13 57 36.6 +1.7
comp=Z,21nm,1.4s
SYO Syowa Base 63.04 158⇑ eP P 13 57 52.5 -0.8
SYO Syowa Base 63.04 158⇑ epP pP 13 58 02.6 +2.0
BBSR BB Station 70.11 8 eP P 13 58 34.4 -4.3
comp=Z,40nm,0.4s
MAW Mawson 70.13 164 P P 13 58 38.2 -0.3
comp=Z,15nm,1.1s,baz=198,slow=6.6,SNR=17
LRAL Lakeview Retre 71.34 348 eP P 13 58 45.1 -1.2
comp=Z,11nm,1.0s
533A Kerrville 71.36 337 P P 13 58 47.8 +1.3
baz=159
Z48A Northport 71.77 348 P P 13 58 49.3 +0.5
baz=168
434A Burnet 71.82 338 P P 13 58 49.8 +0.6
baz=160
JCT Junction City 71.98 336 P P 13 58 51.4 +1.2
baz=158
JCT Junction City 71.98 336 eP P 13 58 48.5 -1.7
JCT pmax pmax
comp=Z,15nm,1.0s
JCT Junction City 71.98 336 eP P 13 58 48.5 -1.7
comp=Z,15nm,1.0s
433A Art 72.01 337 P P 13 58 51.9 +1.5
baz=159
TX31 Lajitas Ar. Si 72.24 333 eP P 13 58 51.7 -0.2
TXAR Lajitas Array 72.24 333 P P 13 58 52.5 +0.6
comp=Z,1.0nm,0.8s,baz=156,slow=7.8,SNR=8.8
334A Lometa 72.29 338 P P 13 58 53.0 +1.0
baz=160
Y47A UCPARC, Winfie 72.33 348 P P 13 58 52.8 +0.6
baz=168
333A Richland Sprin 72.51 337 P P 13 58 53.8 +0.5
baz=159
KMSC Kings Mountain 72.71 353 P P 13 58 54.5 +0.1
baz=174
SWET Sewanee 73.32 350 eP P 13 58 57.5 -0.6
comp=Z,8.8nm,0.9s
CPCT Cooper Cave 73.36 351 eP P 13 58 57.7 -0.6
comp=Z,7.8nm,0.9s
133A Hamilton Ranch 73.69 338 P P 13 59 01.9 +1.6
baz=159
X39A Fountain Ranch 74.20 343 P P 13 59 04.3 +1.1
baz=163
TZTN Tazewell 74.32 352 eP P 13 59 03.6 -0.3
W41B Gary Mavity, V 74.41 344 P P 13 59 04.4 0.0
baz=165
X301 Greenbrier Sit 74.51 344 eP P 13 59 04.2 -0.8
comp=Z,73nm,1.9s
X38A Whitesboro 74.52 342 P P 13 59 05.4 +0.4
baz=163
WHAR Wooly Hollow 74.53 344 eP P 13 59 05.6 +0.5
comp=Z,50nm,1.8s
X201 Greenbrier Sit 74.55 344 eP P 13 59 05.5 +0.3
comp=Z,20nm,1.3s
W39A Magazine 74.78 343 P P 13 59 06.9 +0.4
baz=164
V41A Mountainview 74.98 345 P P 13 59 08.0 +0.3
baz=165
MNTX Cornudas Mount 75.00 332 P P 13 59 08.3 +0.3
baz=154
MNTX Cornudas Mount 75.00 332 eP P 13 59 09.7 +1.7
comp=Z,7.0nm,1.2s
X34A Smith Ranch, M 75.24 340 P P 13 59 09.2 -0.1
baz=160
WMOK Wichita Mounta 75.64 339 P P 13 59 11.2 -0.3
baz=160
WMOK Wichita Mounta 75.64 339 eP P 13 59 09.2 -2.3
WMOK pmax pmax
comp=Z,27nm,1.8s
WMOK Wichita Mounta 75.64 339 eP P 13 59 09.2 -2.3
comp=Z,27nm,1.8s
U40A Yellville 75.68 344 P P 13 59 11.4 -0.4
baz=164
V36A Jenks 75.86 342 P P 13 59 12.8 0.0
baz=162
TUL1 Leonard 75.94 342 P P 13 59 13.6 +0.4
baz=162
V35A Meyer Ranch, C 76.07 341 P P 13 59 13.9 0.0
baz=161
T41A Mountain View 76.11 345 P P 13 59 14.2 0.0
baz=165
W32A Sentinel 76.13 339 P P 13 59 14.3 -0.1
baz=159
S43A Fulton Ridge, 76.30 347 P P 13 59 15.2 -0.1
baz=167

CASY Casey 76.41 182 eP P 13 59 16.4 +0.7
comp=Z,38nm,1.3s
V33A Lossen Ranch, 76.51 340 P P 13 59 18.9 +2.4
baz=160
U35A Pawnee 76.61 341 P P 13 59 17.5 +0.5
baz=161
AMTX Amarillo 76.64 337 P P 13 59 18.4 +1.0
baz=158
T38A Diamond 76.65 343 P P 13 59 17.3 0.0
baz=163
S40A Lebanon 76.80 345 P P 13 59 18.1 0.0
baz=165
T37A Cheneyville 18 76.88 343 P P 13 59 18.3 -0.2
baz=163
S39A Bolivar 77.06 344 P P 13 59 19.7 +0.2
baz=164
T35A Sooner Cattle 77.08 341 P P 13 59 19.6 0.0
baz=162
LIC Lamto 77.20 72 eP P 13 59 22.3 +1.4
comp=Z,73nm,1.1s
T34A McClaskey Farm 77.35 341 P P 13 59 21.5 +0.4
baz=161
R40A Maddies Statio 77.42 345 P P 13 59 21.2 -0.3
baz=165
TIC Toumodi 77.48 71 eP P 13 59 23.7 +1.2
KIC Kosan Boka 77.50 72 eP P 13 59 23.9 +1.3
comp=Z,113nm,1.0s
Q43A New Douglas 77.56 347 P P 13 59 22.4 +0.1
baz=167
R39A Chumby, Stover 77.60 345 P P 13 59 22.3 -0.2
baz=164
O56A Blue Knob Stat 77.61 356 P P 13 59 22.4 -0.2
baz=176
DBIC Dimbokro 77.62 72 P P 13 59 24.9 +1.6
comp=Z,28nm,0.9s,baz=206,slow=5.6,SNR=19
DBIC Dimbokro 77.62 72 eP P 13 59 24.1 +0.9
DBIC pmax pmax
comp=Z,48nm,1.1s
DBIC Dimbokro 77.62 72 eP P 13 59 24.1 +0.9
comp=Z,48nm,1.1s
TUC Tucson 77.66 329 P P 13 59 23.8 +0.6
baz=151
TUC Tucson 77.66 329 eP P 13 59 23.8 +0.6
TUC pmax pmax
comp=Z,12nm,1.5s
TUC Tucson 77.66 329 eP P 13 59 23.8 +0.6
comp=Z,12nm,1.5s
Q40A Laux Farm, Aux 78.06 345 P P 13 59 24.3 -0.8
baz=165
214A Organ Pipe Nat 78.22 327 P P 13 59 27.4 +1.3
baz=149
ANMO Albuquerque 78.31 333 P P 13 59 28.0 +1.2
baz=154
ANMO Albuquerque 78.31 333 iP P 13 59 27.2 +0.4
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO Albuquerque 78.31 333 eP P 13 59 28.1 +1.2
comp=Z,12nm,1.1s
Q38A Cooks Store, C 78.35 344 P P 13 59 27.0 +0.3
baz=164
N54A Moraine State 78.38 355 P P 13 59 27.4 +0.6
baz=175
P40A Paris 78.57 346 P P 13 59 27.8 0.0
baz=165
R34A Isabella, Hill 78.57 341 P P 13 59 28.6 +0.6
baz=161
P39B Salisbury 78.67 345 P P 13 59 28.3 -0.2
baz=165
TSUM Tsumeb 79.54 106 eP P 13 59 35.0 +1.0
comp=Z,37nm,1.4s
T25A Trinidad 79.59 335 eP P 13 59 34.2 +0.4
comp=Z,53nm,1.7s
BOSA Boshof 79.61 118 P P 13 59 35.4 +1.1
comp=Z,22nm,1.0s,baz=245,slow=4.8,SNR=14
BOSA Boshof 79.61 118 eP P 13 59 34.5 +0.3
BOSA pmax pmax
comp=Z,45nm,1.1s
BOSA Boshof 79.61 118 eP P 13 59 34.5 +0.3
comp=Z,45nm,1.1s
N39A Derby Farms, D 79.96 346 P P 13 59 35.4 0.0
baz=165
M38A Pleasantville 80.62 345 P P 13 59 38.9 -0.1
baz=164
WUAZ Wutki 80.69 330 eP P 13 59 39.4 -0.4
comp=Z,6.0nm,0.9s
S22A 4UR Ranch, Cre 80.95 334 P P 13 59 43.0 +1.7
baz=154
S22A 4UR Ranch, Cre 80.95 334 eP P 13 59 41.5 +0.3
comp=Z,12nm,1.5s
MVCO Mesa Verde 81.07 333 P P 13 59 43.5 +1.6
baz=153
MVCO Mesa Verde 81.07 333 eP P 13 59 41.5 -0.3
comp=Z,12nm,1.3s
IRM Iron Mountain 81.11 326 P P 13 59 43.6 +1.7
baz=148
TPFO Pinon Flats 81.24 325 P P 13 59 44.4 +1.7
baz=147
Q24A Divide 81.49 336 P P 13 59 45.9 +1.8
baz=155
GMRC Granite Mounta 81.87 326 P P 13 59 47.3 +1.4
baz=148
LBTB Lobatse 82.02 115 eP P 13 59 48.1 +0.9
LBTB pmax pmax
comp=Z,34nm,0.9s
LBTB Lobatse 82.02 115 eP P 13 59 48.1 +0.9
comp=Z,34nm,0.9s
SMCO Snowmass 82.29 335 eP P 13 59 49.5 +1.1
comp=Z,18nm,1.3s
KNB Kanab 82.57 329 eP P 13 59 51.4 +1.8
KNB pmax pmax
comp=Z,12nm,1.2s
KNB Kanab 82.57 329 eP P 13 59 51.4 +1.8
comp=Z,12nm,1.2s
K31A O'Neill 83.03 342 P P 13 59 53.0 +1.3
baz=160
SHPR Sheep Range 83.11 328 eP P 13 59 53.9 +1.5
comp=Z,6.5nm,1.1s
CCUT Cedar City 83.25 329 eP P 13 59 54.2 +0.9
comp=Z,31nm,1.9s
KOWA Kowa 83.35 66 eP P 13 59 55.3 +1.4
comp=Z,5.8nm,0.8s
SRU San Rafael Swe 83.50 332 eP P 13 59 54.1 -0.3
SRU pmax pmax
comp=Z,7.0nm,1.1s
SRU San Rafael Swe 83.50 332 eP P 13 59 54.1 -0.3
comp=Z,7.0nm,1.1s
ECSD EROS Data Cent 83.57 344 P P 13 59 54.7 +0.2
baz=162
ECSD EROS Data Cent 83.57 344 eP P 13 59 54.3 -0.2
comp=Z,15nm,0.9s
DAC Darwin (Calif) 83.98 326 eP P 13 59 56.1 -0.8
DAC pmax pmax
comp=Z,13nm,1.5s
DAC Darwin (Calif) 83.98 326 eP P 13 59 56.1 -0.8
comp=Z,13nm,1.5s
H33A Prehn Over Nor 84.50 344 P P 13 59 59.5 +0.3
baz=162
R11A Troy Canyon, C 84.84 328 P P 14 00 02.4 +1.1
baz=148
R11A Troy Canyon, C 84.84 328 eP P 14 00 01.8 +0.5
comp=Z,7.2nm,1.3s
F36A Milaca 84.96 346 P P 14 00 00.7 -0.7
baz=164
DUG Dugway, Tooele 85.31 331 eP P 14 00 01.9 -1.6
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG Dugway, Tooele 85.31 331 eP P 14 00 01.9 -1.6
comp=Z,9.7nm,1.2s
F33A 5 Mile Ranch, 85.50 344 P P 14 00 03.6 -0.5
baz=162
E36A McGregor 85.55 347 P P 14 00 04.4 0.0
baz=164
RSSD Black Hills 85.84 339 P P 14 00 06.7 +0.5
baz=156
RSSD Black Hills 85.84 339 eP P 14 00 04.9 -1.2
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 85.84 339 eP P 14 00 04.9 -1.2
comp=Z,7.0nm,0.9s
HWUT Hardware Ranch 86.06 333 eP P 14 00 07.8 +0.5
comp=Z,29nm,1.5s
NV01 Mina Array Sit 86.08 326 eP P 14 00 07.7 +0.2
NVAR Mina Array Bea 86.08 326 P P 14 00 09.0 +1.5
comp=Z,1.3nm,0.9s,baz=164,slow=4.4,SNR=6.3
BW06 Boulder Array 86.37 334 P P 14 00 09.3 +0.5
baz=152
BW06 Boulder Array 86.37 334 eP P 14 00 09.1 +0.3
PD31 Pinedale Array 86.37 334 eP P 14 00 08.5 -0.4

PDAR Pinedale Array 86.37 334 P P 14 00 09.3 +0.5
comp=Z,1.5nm,1.0s,baz=142,slow=5.1,SNR=8.4
E31A Nome 86.53 344 P P 14 00 09.7 +0.5
baz=161
HVU Hansel Valley 86.66 332 eP P 14 00 12.9 +2.7
HVU pmax pmax
comp=Z,9.0nm,1.2s
HVU Hansel Valley 86.66 332 eP P 14 00 12.9 +2.7
comp=Z,9.2nm,1.2s
TOA0 Torodi Ar. Sit 86.70 71 eP P 14 00 10.8 0.0
TORD Torodi Ar. Bea 86.70 71 P P 14 00 11.4 +0.7
comp=Z,15nm,1.0s,baz=230,slow=4.4,SNR=43
TORD PP PP 14 03 29.4 -4.0
comp=Z,3.3nm,1.1s,baz=235,slow=8.9,SNR=3.5
ELK Elko 86.73 330 eP P 14 00 11.6 +0.9
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 86.73 330 eP P 14 00 11.6 +0.9
comp=Z,4.6nm,1.0s
TPAW Teton Pass 87.49 334 eP P 14 00 15.1 +0.8
comp=Z,6.0nm,0.8s
E26A Carlson Angus 87.57 341 P P 14 00 14.5 +0.2
baz=158
MOOW Moose Ponds 87.65 334 eP P 14 00 16.1 +1.1
comp=Z,6.0nm,1.3s
C31A Landman Farms, 87.67 344 P P 14 00 15.0 +0.3
baz=161
C30A Mose, Pekin 87.75 344 P P 14 00 15.5 +0.4
baz=160
D28A Regan 87.76 342 P P 14 00 15.1 -0.1
baz=159
IMW Indian Meadow 87.84 334 eP P 14 00 16.6 +0.6
comp=Z,5.2nm,0.9s
FLWY Flagg Ranch 87.92 334 eP P 14 00 17.3 +1.0
comp=Z,13nm,1.0s
B32A Ashes, Strandq 87.98 345 P P 14 00 16.4 +0.2
baz=162
D26A Manning 88.08 341 P P 14 00 17.1 +0.3
baz=158
MDND Maddock 88.14 343 P P 14 00 17.4 +0.4
baz=160
MDND Maddock 88.14 343 eP P 14 00 16.7 -0.3
comp=Z,82nm,1.6s
A33A Warroad 88.27 346 P P 14 00 17.9 +0.3
baz=163
RLMT Red Lodge 88.36 336 P P 14 00 18.9 +0.5
baz=152
RLMT Red Lodge 88.36 336 eP P 14 00 17.6 -0.7
comp=Z,3.8nm,0.9s
B30A Myrvik Farm, E 88.42 344 P P 14 00 18.8 +0.5
baz=161
B29A Wagenman Farm, 88.66 343 P P 14 00 20.1 +0.7
baz=160
HLID Hailey 88.81 332 P P 14 00 21.9 +1.5
baz=149
HLID Hailey 88.81 332 eP P 14 00 20.1 -0.4
comp=Z,20nm,1.8s
A29A Manning Farm, 89.06 343 P P 14 00 21.5 +0.2
baz=160
BOZ Bozeman (W) 89.61 334 P P 14 00 24.3 +0.2
baz=151
LSZ Lusaka 89.95 109 eP P 14 00 28.7 +2.2
LSZ pmax pmax
comp=Z,19nm,1.0s
LSZ Lusaka 89.95 109 eP P 14 00 28.7 +2.2
comp=Z,19nm,1.0s
DZM Mont Dzumac 98.03 234 LR LR 14 36 28.4
comp=Z,1µm,19.7s,baz=290,slow=30
KIP Kipapa 98.45 290 eP P 14 01 04.8 -0.3
ESDC Sonseca Array 100.03 47 P Pdif 14 01 12.7 +1.0
comp=Z,0.2nm,0.2s,baz=261,slow=3.7,SNR=4.7
ES19 SONSECA Array 100.08 47 ePdif Pdif 14 01 12.0 0.0
FETA Feichten 112.98 48 i Pdiff Pdif 14 02 09.8 +0.4
comp=Z,13nm,1.0s
RETA Reutte 113.24 47 i Pdiff Pdif 14 02 11.5 +1.2
comp=Z,4.4nm,0.8s
MOTA Moosalm 113.36 48 i Pdiff Pdif 14 02 12.9 +1.9
comp=Z,2.5nm,0.4s
ASAR Alice Springs 113.76 208 PKKPbc PKKPbc 14 16 47.2 -0.2
comp=Z,0.8nm,1.0s,baz=119,slow=1.6,SNR=4.6
ASAR PKKPab PKKPab 14 16 55.7 -2.3
comp=Z,1.1nm,0.8s,baz=342,slow=4.0,SNR=6.8
ABTA Abfaltersbach 113.90 49 i Pdiff Pdif 14 02 10.8 -2.5
comp=Z,4.1nm,0.6s
KBA Koelnbreinsper 114.56 49 i Pdiff Pdif 14 02 15.8 -0.5
comp=Z,1.7nm,0.4s
MOA Molln 115.48 48 i Pdiff Pdif 14 02 18.6 -1.6
comp=Z,5.1nm,0.9s
GEA0 GERESS Array S 115.61 47 ePKPdf PKPdf 14 06 08.0 -0.3
GERES GERESS Array B 115.62 47 PKP PKPdf 14 06 08.7 +0.3
comp=Z,1.5nm,0.8s,baz=163,slow=1.4,SNR=11
ILAR Eielson Array 116.76 333 PKP PKPdf 14 06 09.3 -0.6
comp=Z,0.5nm,0.9s,baz=193,slow=1.9,SNR=4.9
WRA Warramunga Arr 116.97 210 PKP PKPdf 14 06 11.3 -0.6
comp=Z,0.7nm,1.0s,baz=172,slow=1.5,SNR=3.1
VYHS Vyhne 118.50 49 eL L 14 07 56.9
PMG Port Moresby 119.61 228 i PKIKP PKPdf 14 06 14.4 -2.6
DRGR 120.16 52⇑ iP PKPdf 14 06 17.7 +0.6
DRGR 120.16 52⇑ PKIKP PKPdf 14 06 17.7 +0.6
KWP Kalwaria Pacla 121.28 49⇑ iP PKPdf 14 06 19.4 +0.3
KWP Kalwaria Pacla 121.28 49⇑ PKIKP PKPdf 14 06 19.4 +0.3
PLAR PLOIESTI 121.53 55⇑ iP PKPdf 14 06 20.9 +1.2
MLR Muntele Rosu 121.70 55 ePKIKP PKPdf 14 06 19.5 -0.7
MLR Muntele Rosu 121.70 55 ePKPdf PKPdf 14 06 19.5 -0.7
BURAR Bucovina Array 122.06 52⇑ iP PKPdf 14 06 22.5 +1.7
BURAR Bucovina Array 122.06 52⇑ PKIKP PKPdf 14 06 22.5 +1.7
BUR08 Bucovina Ar. S 122.06 52 ePKPdf PKPdf 14 06 21.8 +1.0
VRI Vrincioaia 122.36 54⇑ iP PKPdf 14 06 21.0 -0.3
VRI Vrincioaia 122.36 54⇑ PKIKP PKPdf 14 06 21.0 -0.3
TIRR Tirgusor 122.92 57⇑ iP PKPdf 14 06 23.3 +0.9
TIRR Tirgusor 122.92 57⇑ PKIKP PKPdf 14 06 23.3 +0.9
CFR Carcaliu 123.01 56⇓ iP PKPdf 14 06 23.4 +0.9
CFR Carcaliu 123.01 56⇓ PKIKP PKPdf 14 06 23.4 +0.9
BR231 Keskin MP Arra 124.14 63 ePKPdf PKPdf 14 06 26.1 +1.0
BR131 Keskin Array S 124.71 64 ePKPdf PKPdf 14 06 26.5 +0.2
BRTR Keskin Array B 124.71 64 PKP PKPdf 14 06 26.4 +0.2
comp=Z,5.2nm,0.9s,baz=188,slow=3.6,SNR=27
BRTR Keskin Array B 124.71 64c i PKIKP PKPdf 14 06 26.8 +0.6
BRTR pmax pmax
comp=Z,5.0nm,0.9s
AK11 Malin Array Si 125.54 50 ePKPdf PKPdf 14 06 26.7 -0.5
KIEV Kiev 125.57 50 i PKIKP PKPdf 14 06 27.2 -0.1
AKASG Malin Array Be 125.58 50 PKP PKPdf 14 06 25.4 -1.9
comp=Z,2.9nm,0.8s,baz=272,slow=2.1,SNR=9.0
AKASG PP PP 14 08 16.9 -2.8
comp=Z,0.3nm,0.3s,baz=257,slow=6.1,SNR=10
AKASG Malin Array Be 125.58 50c i PKIKP PKPdf 14 06 27.1 -0.2
AKASG pmax pmax
comp=Z,3.0nm,0.8s
VSU Vasula 126.33 40 i PKIKP PKPdf 14 06 26.6 -1.9
FINES FINESS Array B 126.70 36 PKP PKPdf 14 06 28.9 -0.2
comp=Z,3.2nm,0.9s,baz=197,slow=6.0,SNR=4.9
OBN Obninsk 130.95 46 ePKIKP PKPdf 14 06 37.9 +0.6
OBN pmax pmax
comp=Z,11nm,0.9s
NEY Neytrino 132.31 62 i PKIKP PKPdf 14 06 40.7 +0.1
KIV Kislovodsk 132.47 61 ePKIKP PKPdf 14 06 41.6 +0.8
KIV pmax pmax
comp=Z,13nm,1.1s
KBZ Khabaz 132.56 62 PKhKP PKPpre 14 06 38.2
comp=Z,2.8nm,0.9s,baz=180,slow=7.1,SNR=2.8
GNI Garni 132.87 67 i PKIKP PKPdf 14 06 44.1 +2.3
ZEI Tsey 133.02 63 i PKIKP PKPdf 14 06 42.2 +0.2
ZEI pmax pmax
comp=Z,22nm,1.4s
KLMR Klimovskoe 133.08 38 ePKIKP PKPdf 14 06 40.2 -1.0
KLMR pmax pmax
comp=Z,13nm,1.1s
BILL Bilibino 135.42 332 ePKIKP PKPdf 14 06 46.1 +0.7
BILL pmax pmax
comp=Z,3.0nm,1.5s
PEA0 Petropavlovsk- 141.56 311 ePKPdf PKPdf 14 06 58.0 +0.8
PETK Petropavlovsk- 141.56 311 PKhKP PKPpre 14 06 54.1
comp=Z,6.3nm,1.0s,baz=64,slow=5.1,SNR=5.7
GEYT Alibeck 142.26 74 PKhKP PKPpre 14 06 55.4
comp=Z,5.3nm,0.9s,baz=256,slow=6.0,SNR=11
SEY Seymchan 142.38 327 PKhKP PKPpre 14 06 54.1
comp=Z,1.4nm,0.8s,baz=18,slow=9.6,SNR=4.5
SEY Seymchan 142.38 327 i PKIKP PKPdf 14 06 58.2 -0.1
ARU Arti 143.32 43 i PKIKP PKPbc 14 06 57.5 +0.2
KSM Kuching 143.87 187 ePKPdf PKPbc 14 07 00.0 -0.2
TIXI Tiksi 143.94 348 PKhKP PKPpre 14 06 57.6
comp=Z,5.7nm,0.9s,baz=33,slow=3.8,SNR=16
TIXI Tiksi 143.94 348 ePKPpre PKPpre 14 06 57.2
MA2 Magadan 144.22 322 PKP PKPab 14 06 59.4 -0.1
comp=Z,2.7nm,0.7s,baz=69,slow=6.2,SNR=5.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVE	**Sverdlovsk**	**144.36**	**42**	*e*PKIKP	**PKPdf**	**14 07 01.6**	**-0.4**
SVE				pmax	pmax		
	comp=Z,32nm,1.5s						
SBUM	**Sibu**	**144.61**	**190**	*e*PKPdf	PKPbc	14 07 02.6	+0.1
PSI	**Prapat**	**144.73**	**167**	*e*PKIKP	**PKPab**	**14 07 02.3**	**-0.6**
PSI	**Prapat**	**144.73**	**167**	*e*PKPdf	**PKPab**	**14 07 02.3**	**-0.6**
TPTI		**144.83**	**164**	PKP	PKPdf	14 07 12.4	+8.2
ABKAR	**Akbulak array**	**144.91**	**56**	*e*PKPdf	**PKPdf**	**14 07 02.8**	**-0.3**
TSI	**Tuntungan**	**145.34**	**166**	PKP	**PKPdf**	**14 07 06.2**	**+1.1**
MYLDM	**Lahad Datu**	**145.87**	**202**	*e*PKPdf	**PKPab**	**14 07 07.8**	**+0.9**
NRIK	**Noril'sk**	**146.60**	**12**	PKPbc	**PKPdf**	**14 07 05.4**	**0.0**
	comp=Z,21nm,1.0s,baz=21,slow=1.0,SNR=20						
IPM	**Ipoh**	**146.70**	**170**	*e*PKPdf	**PKPdf**	**14 07 08.2**	**+0.8**
HYB	**Hyderabad**	**148.43**	**122**	*i* PKP	**PKPbc**	**14 07 15.0**	**+1.4**
SKLT	**Songkhla**	**149.29**	**169**	PKP	PKPab	14 07 32.8	+12
KBL	**Kabul**	**149.87**	**84**	*e*PKP2	**PKPbc**	**14 07 17.3**	**+0.2**
KBL	**Kabul**	**149.87**	**84**	*e*PKPbc	**PKPbc**	**14 07 17.3**	**+0.2**
ZRNK	**Zerenda**	**150.00**	**47**	*e*PKIKP	**PKPdf**	**14 07 12.0**	**+0.5**
ZRNK				*e*		14 07 17.3	
ZRNK	**Zerenda**	**150.00**	**47**	*e*PKPdf	**PKPdf**	**14 07 12.0**	**+0.5**
ZRNK				*e*PKPbc	**PKiKP**	**14 07 17.3**	**-0.1**
TYV	**Tymovskoe**	**151.07**	**309**	*e*PKIKP	**PKPbc**	**14 07 19.0**	**0.0**
TYV				pmax	pmax		
	comp=Z,100nm,1.6s						
YAK	**Yakutsk**	**151.57**	**337**	PKPbc	**PKPbc**	**14 07 18.3**	**-1.5**
	comp=Z,1.9nm,0.4s,baz=234,slow=23,SNR=9.9						
YAK	**Yakutsk**	**151.57**	**337**	*e*PKIKP	**PKPbc**	**14 07 19.7**	**-0.1**
YAK				pmax	pmax		
	comp=Z,39nm,0.9s						
YAK	**Yakutsk**	**151.57**	**337**	*e*PKPbc	**PKPbc**	**14 07 19.5**	**-0.3**
NKL	**Nikolayevsk**	**151.60**	**314**	*e*PKIKP	**PKPbc**	**14 07 18.8**	**-1.4**
YSS	**Yuzh-Sakhalins**	**151.65**	**301**⇑	*e*PKIKP	**PKPbc**	**14 07 20.2**	**-0.3**
YSS				*e*		14 07 25.8	
YSS				*e*		14 07 31.2	
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**151.65**	**301**	*e*PKPbc	**PKPbc**	**14 07 20.0**	**-0.5**
ASAJ	**Asahikawa**	**151.93**	**295**	*e*PKPbc	**PKPbc**	**14 07 21.6**	**+0.3**
KKAR	**Karatay Array**	**152.33**	**67**	*e*PKIKP	**PKPbc**	**14 07 22.0**	**-0.2**
KKAR	**Karatay Array**	**152.33**	**67**	*e*PKPbc	**PKPbc**	**14 07 22.0**	**-0.2**
MJAR	**Matsushiro Arr**	**154.56**	**277**	PKPab	**PKPab**	**14 07 42.0**	**0.0**
	comp=Z,2.7nm,0.9s,baz=118,slow=3.4,SNR=6.0						
MJAR	**Matsushiro Arr**	**154.56**	**277**	PKP2	**PKPab**	**14 07 42.0**	**0.0**
EKS2	**Erkin-Say**	**154.73**	**68**	*e*PKIKP	**PKPdf**	**14 07 19.1**	**+0.1**
EKS2				*e*		14 07 43.2	
EKS2	**Erkin-Say**	**154.73**	**68**	*e*PKPdf	**PKPdf**	**14 07 19.1**	**+0.1**
EKS2				*e*PKPab	**PKPab**	**14 07 43.2**	**+0.5**
AAK	**Ala-Archa**	**155.26**	**68**	*e*PKIKP	**PKPdf**	**14 07 20.7**	**+0.9**
AAK				*e*		14 07 46.1	
AAK	**Ala-Archa**	**155.26**	**68**	*e*PKPdf	**PKPdf**	**14 07 20.7**	**+0.9**
AAK				*e*PKPab	**PKPab**	**14 07 46.1**	**+1.1**
FRU	**Bishkek**	**155.34**	**68**	*e*PKIKP	**PKPdf**	**14 07 20.0**	**+0.2**
FRU				*i*		14 07 29.0	
FRU				*i*		14 07 46.0	
FRU				*e*		14 11 22.0	
TKM2	**Tokmak 2**	**156.06**	**67**	*e*PKIKP	**PKPdf**	**14 07 21.1**	**+0.2**
TKM2				*e*		14 07 49.0	
TKM2	**Tokmak 2**	**156.06**	**67**	*e*PKPdf	**PKPdf**	**14 07 21.1**	**+0.2**
TKM2				*e*PKPab	**PKPab**	**14 07 49.0**	**+0.5**
KSH	**Kashi**	**156.27**	**76**	SKKS	SKKSac	14 18 00.7	-15
KSH				AMB	AMB		
	comp=Z,200nm,8.3s						
KSH				LR	LR		
	comp=N,730nm,14.8s						
KSH				LR	LR		
	comp=E,720nm,16.7s						
KSH				LR	LR		
	comp=Z,1μm,18.5s						
NVS	**Novosibirsk**	**156.68**	**35**	*e*PKIKP	**PKPdf**	**14 07 20.3**	**-0.7**
NVS				*e*		14 11 27.5	
NVS				pmax	pmax		
	comp=Z,35nm,1.4s						
ZAA0	**Zalesovo Array**	**157.96**	**35**	*e*PKPdf	**PKPdf**	**14 07 21.8**	**-0.9**
ZAA0				*e*PKPdf	**PKPdf**	**14 07 21.9**	**-0.8**
ZAA0				*e*PKPab	**PKPab**	**14 07 56.9**	**+1.0**
ZALV	**Zalesovo Beam**	**157.96**	**35**	PKP	**PKPdf**	**14 07 22.1**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=285,slow=2.9,SNR=21						
ZALV				PKPab	**PKPab**	**14 07 57.5**	**+1.5**
	comp=Z,18nm,0.8s,baz=297,slow=5.8,SNR=15						
PYUN	**Piuthan**	**158.31**	**109**	*e*P	**PKPab**	**14 07 59.2**	**+0.6**
	comp=Z,89nm,1.0s						
KOLN	**Koldanda**	**158.59**	**111**	*e*P	**PKPab**	**14 08 00.2**	**+0.4**
	comp=Z,30nm,1.1s						
MHMT	**Maesarieng**	**159.32**	**157**	PKP	**PKPdf**	**14 07 20.4**	**-5.0**
GKN	**Gorkha**	**159.49**	**111**	*e*P	**PKPab**	**14 08 04.0**	**+0.4**
	comp=Z,63nm,1.2s						
DMN	**Daman**	**159.61**	**113**	*e*P	**PKPab**	**14 08 04.8**	**+0.5**
	comp=Z,71nm,0.9s						
PKIN	**Phulchoki**	**159.81**	**114**	*e*P	**PKPab**	**14 08 05.3**	**+0.1**
	comp=Z,17nm,0.9s						
KKN	**Kakani**	**159.84**	**113**	*e*P	**PKPab**	**14 08 05.7**	**+0.4**
	comp=Z,51nm,1.0s						
CM01	**Chiang Mai Arr**	**159.85**	**159**	*e*PKPdf	**PKPdf**	**14 07 25.1**	**-0.9**
CM01				*e*PKPab	**PKPab**	**14 08 04.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**159.88**	**159**	PKP	**PKPdf**	**14 07 26.1**	**0.0**
	comp=Z,0.8nm,0.9s,baz=253,slow=2.2,SNR=6.1						
CMAR				PKPab	**PKPab**	**14 08 04.5**	**-0.7**
	comp=Z,2.4nm,1.0s,baz=215,slow=5.1,SNR=6.4						
MK31	**Makanchi Array**	**160.05**	**55**	*e*PKIKP	**PKPdf**	**14 07 25.3**	**-0.1**
MK31				*e*		14 08 05.9	
MK31	**Makanchi Array**	**160.05**	**55**	*e*PKPdf	**PKPdf**	**14 07 25.3**	**-0.1**
MK31				*e*PKPab	**PKPab**	**14 08 05.9**	**+0.5**
MKAR	**Makanchi Array**	**160.05**	**55**	PKP	**PKPdf**	**14 07 26.1**	**+0.6**
	comp=Z,4.6nm,1.1s,baz=318,slow=1.6,SNR=21						
MKAR				PKPab	**PKPab**	**14 08 06.3**	**+0.9**
	comp=Z,5.3nm,0.8s,baz=289,slow=4.2,SNR=13						
MKAR	**Makanchi Array**	**160.05**	**55**	*e*PKPdf	**PKPdf**	**14 07 25.4**	**0.0**
MKAR				PKPab	**PKPab**	**14 08 06.3**	**+0.9**
MK01	**Makanchi Array**	**160.06**	**55**	*e*PKPdf	**PKPdf**	**14 07 25.1**	**-0.3**
MK01				*e*PKPab	**PKPab**	**14 08 05.7**	**+0.3**
GUN	**Gumba**	**160.35**	**113**	*e*P	**PKPab**	**14 08 08.0**	**+0.4**
	comp=Z,47nm,1.0s						
KSRS	**Korea Array**	**162.83**	**276**	PKP	**PKPdf**	**14 07 28.1**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=110,slow=1.2,SNR=7.0						
KSRS				PKPab	**PKPab**	**14 08 18.9**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=144,slow=4.5,SNR=3.6						
KS01	**Wonju Array Si**	**162.86**	**276**	*e*PKPdf	**PKPdf**	**14 07 27.1**	**-1.6**
KS01				*e*pPKPab	**pPKPab**	**14 08 27.8**	**+2.2**
KSAR	**Wonju Array Be**	**162.86**	**276**	PKIKP	**PKPdf**	**14 07 28.2**	**-0.5**
KSAR						14 08 19.0	
KSAR	**Wonju Array Be**	**162.86**	**276**	PKP	**PKPdf**	**14 07 28.1**	**-0.5**
KSAR				PKPab	**PKPab**	**14 08 18.9**	**+1.0**
SHL	**Shillong**	**162.88**	**130**	*e*x	**PKPdf**	**14 07 30.0**	**+0.7**
WMQ	**Urumqi**	**164.60**	**60**	*e*PKP	**PKPdf**	**14 07 29.1**	**-1.1**
WMQ				LZ			
	comp=Z,250nm,18.0s						
LSA	**Lhasa**	**165.16**	**118**	*e*PKP2	**PKPab**	**14 08 30.3**	**+1.5**
LSA	**Lhasa**	**165.16**	**118**	*e*PKPab	**PKPab**	**14 08 30.3**	**+1.5**
ZAK	**Zakamensk**	**167.03**	**9**	*e*PKP2	**PKPab**	**14 08 35.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GYA	**Guiyang**	**168.90**	**182**	*e*PKP	**PKPdf**	**14 07 34.0**	**0.0**
GYA				PKPab	**PKPab**	**14 08 47.4**	**+2.7**
GYA				PKS	**PKSdf**	**14 11 05.2**	**-1.5**
GYA				PP	**PP**	**14 12 37.8**	**+4.7**
GYA				PPMZ			
	comp=Z,120nm,8.0s						
ULN	**Ulaanbaatar**	**169.71**	**357**	*e*PKIKP	**PKPdf**	**14 07 33.3**	**-0.6**
ULN	**Ulaanbaatar**	**169.71**	**357**	*e*PKPdf	**PKPdf**	**14 07 33.3**	**-0.6**
SONA1	**Songino Array**	**169.75**	**360**	*e*PKPdf	**PKPdf**	**14 07 32.3**	**-1.6**
SONA1				*e*PKPab	**PKPab**	**14 08 48.9**	**+0.9**
SONM	**Songino Array**	**169.76**	**360**	PKP	**PKPdf**	**14 07 33.6**	**-0.3**
	comp=Z,0.9nm,1.0s,baz=323,slow=1.3,SNR=7.0						
SONM				PKPab	**PKPab**	**14 08 49.1**	**+1.1**
	comp=Z,3.0nm,1.1s,baz=330,slow=1.5,SNR=11						
CD2	**Chengdu**	**173.02**	**162**	PKP	**PKPdf**	**14 07 34.6**	**-1.3**
CD2				pPKP	pPKPdf	14 07 44.7	+0.9
CD2				sPKP		14 07 48.4	
CD2				PP	**PP**	**14 12 54.1**	**+0.4**
CD2				SKS	**SKSdf**	**14 14 35.5**	**-2.3**
CD2				SKKS	**SKKSac**	**14 19 37.9**	**-1.7**
CD2				SS	**SS**	**14 34 07.2**	**+1.5**
CD2				PPMZ			
	comp=Z,160nm,7.0s						
GTA	**Gaotai**	**174.61**	**68**	*e*PKP	**PKPdf**	**14 07 36.9**	**+0.5**
GTA				pPKP	pPKPdf	14 07 43.9	-0.3
GTA				sPKP		14 07 46.9	
GTA				PKPab	**PKPab**	**14 09 11.6**	**+1.5**
HHC	**Hu-ho-hao-te**	**174.76**	**310**	*e*PKP	**PKPdf**	**14 07 34.9**	**-1.4**

---

*ISCJB **01** 13:50:23.8±1.2,6°.94N±0°.05×72°.11W±0°.04,h30km±10km, Error ellipse: s-maj=9.8km s-min=4.8km az=146.1*
*FUNV **01** 13:50:25.0,6°.92N×72°.21W,h19km,MW2.9*
*RSNC **01** 13:50:25.1±0.8,6°.91N×72°.23W,h8km±7km,ML2.5*
ISC 01 13:50:22.1±1.3**,6°.89N**±0°.07×**72°.15W**±0°.04**,h17**km±14km**,n20,**σ1.49/29**,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.71**	**310**	*e*P	**Pb**	**13 50 36.3**	**+0.1**
PAMC				*e*S	**Sb**	**13 50 45.6**	**-0.3**
PAMC				*i*		13 50 47.3	
	comp=Z,81nm,0.2s						
CAPV	**Capacho**	**0.99**	**350**	*e*P	**Pn**	**13 50 42.6**	**+1.2**
CAPV				*e*S	**Sn**	**13 50 55.6**	**+0.6**
CBRI	**Barrientos, No**	**1.05**	**322**	*e*P	**Pn**	**13 50 42.8**	**+0.7**
GRMC	**Gramalote, San**	**1.05**	**322**	*e*P	**Pn**	**13 50 45.2**	**+3.1**
GRMC				*i*		13 51 05.3	
	comp=Z,153nm,0.3s						
GIRC	**Giron, Santand**	**1.06**	**281**	*e*P	**Pn**	**13 50 42.4**	**+0.2**
BARC	**Barichara**	**1.07**	**254**	*e*P	**Pg**	**13 50 42.5**	**-0.3**
BARC				*i*		13 51 01.2	
	comp=Z,100nm,0.4s						
BTLC	**Betulia, Santa**	**1.11**	**272**	*e*P	**Pg**	**13 50 43.7**	**0.0**
RUSC	**La Rusia**	**1.35**	**223**	*e*P	**Pg**	**13 50 48.0**	**-0.4**
RUSC				*i*		13 50 48.7	
	comp=Z,51nm,0.2s						
RUSC				*e*S	**Sg**	**13 51 06.6**	**+0.5**
BRRC	**Barranca, Sant**	**1.57**	**278**	*i*	**Pg**	**13 50 53.6**	**+1.3**
	comp=Z,81nm,0.1s						
BRRC				*e*S	**Sg**	**13 51 10.7**	**-2.1**
SOCV	**Socops**	**1.89**	**43**	*e*P	**Pb**	**13 50 56.0**	**-0.1**
SOCV				*e*S	**Sb**	**13 51 19.6**	**+0.1**
SDV	**Santo Domingo**	**2.49**	**37**	*e*P	**Pb**	**13 51 05.2**	**-1.3**
SDV				*i*		13 51 42.8	
	comp=Z,27nm,0.4s						
VIRV	**Villa del Rosa**	**3.60**	**356**	*e*P	**Pn**	**13 51 18.9**	**+1.8**
VIRV				*e*S	**Sn**	**13 51 57.2**	**-2.1**
GUYC	**Guyana, Colomb**	**3.62**	**243**	*e*P	**Pn**	**13 51 19.9**	**+2.0**
GUYC				*i*		13 52 15.6	
	comp=Z,16nm,0.5s						
SANV	**Sanarito**	**3.67**	**45**	*e*P	**Pn**	**13 51 19.9**	**+1.8**
CURV	**Curarigua**	**3.79**	**35**	*e*P	**Pn**	**13 51 21.8**	**+2.1**
CURV				*e*S	**Sn**	**13 52 02.7**	**-1.3**
SIQV	**Siquisique**	**4.40**	**32**	*e*P	**Pn**	**13 51 29.3**	**+1.2**
BAUV	**El Baul**	**4.55**	**63**	*e*P	**Pn**	**13 51 31.4**	**+1.2**
BAUV				*e*S	**Sn**	**13 52 21.9**	**-0.9**
MONV	**Montecano**	**5.48**	**23**	*e*P	**Pn**	**13 51 44.0**	**+1.1**
MONV				*e*S	**Sn**	**13 52 43.2**	**-2.4**
TURV	**Turiamo**	**5.54**	**50**	*e*P	**Pn**	**13 51 45.3**	**+1.5**
CUPV	**Cœpira**	**7.04**	**63**	*e*P	**Pn**	**13 52 06.0**	**+1.5**

---

*ISK **01** 13:55:33.6,39°.12N×29°.00E,h5km,ML3.5*
*DDA **01** 13:55:33.8,39°.14N×29°.03E,h2km,Ml3.7*
*ISCJB **01** 13:55:34.4±0.5,39°.12N±0°.02×29°.01E±0°.02,h1km±4km, Error ellipse: s-maj=3.3km s-min=3.0km az=139.8*
*CSEM **01** 13:55:34.7±0.1,39°.11N×29°.01E,h2km,ML3.7,Error ellipse: s-maj=3.0km s-min=2.7km az=115.0*
ISC 01 13:55:34.5±1.0**,39°.13N**±0°.02×**29°.00E**±0°.02**,h5**km±9km**,n130,**σ0.75/148**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**248**	P	**Pg**	**13 55 39.8**	**+0.7**
DEMI				S	**Sg**	**13 55 43.3**	**+1.0**
DEMI	**Demirci**	**0.24**	**248**	*i* P	**Pg**	**13 55 39.8**	**+0.7**
DEMI				*i* S	**Sg**	**13 55 43.3**	**+1.0**
GDZ	**Gediz**	**0.38**	**96**	P	**Pg**	**13 55 41.6**	**-0.2**
GDZ				S	**Sg**	**13 55 46.6**	**-0.2**
GDZ	**Gediz**	**0.38**	**96**	*i* P	**Pg**	**13 55 41.6**	**-0.2**
GDZ				*i* S	**Sg**	**13 55 46.6**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**48**	PG	**Pg**	**13 55 43.5**	**-0.1**
TVSB	**Tavsanli**	**0.48**	**48**	*i* Pg	**Pg**	**13 55 43.6**	**-0.1**
DST	**Dursunbey**	**0.56**	**328**	*e*PG	**Pg**	**13 55 45.6**	**+0.4**
DST				*e*SG	**Sb**	**13 55 54.2**	**-0.8**
DST	**Dursunbey**	**0.56**	**328**	*e*Pg	**Pg**	**13 55 45.6**	**+0.4**
DST				*e*Sg	**Sb**	**13 55 54.2**	**-0.8**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*PG	**Pg**	**13 55 47.0**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**203**	P	**Pg**	**13 55 47.3**	**-0.1**
KULA				S	**Sg**	**13 55 56.0**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*Pg	**Pg**	**13 55 47.0**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**203**	P	**Pg**	**13 55 47.3**	**-0.1**
KULA				S	**Sg**	**13 55 56.0**	**-0.1**
KHAL	**Karahalli**	**0.85**	**153**	P	**Pg**	**13 55 50.6**	**-0.2**
KHAL	**Karahalli**	**0.85**	**153**	*i* P	**Pg**	**13 55 50.6**	**-0.2**
KHL	**Karahalli**	**0.91**	**153**	*e*PG	**Pb**	**13 55 52.4**	**-0.3**
KHL	**Karahalli**	**0.91**	**153**	*e*Pg	**Pb**	**13 55 52.4**	**-0.3**
ORLT	**Orhaneli**	**0.92**	**355**	*e*PG	**Pg**	**13 55 52.3**	**+0.2**
ORLT				*e*SG	**Sb**	**13 56 05.7**	**+0.3**
ORLT	**Orhaneli**	**0.92**	**355**	*e*Pg	**Pg**	**13 55 52.3**	**+0.2**
ORLT				*e*Sg	**Sb**	**13 56 05.7**	**+0.3**
AKHS	**Akhisar**	**0.96**	**255**	P	**Pb**	**13 55 53.4**	**-0.1**
AKHS				S	**Sb**	**13 56 05.9**	**-0.6**
AKHS	**Akhisar**	**0.96**	**255**	*i* P	**Pb**	**13 55 53.4**	**-0.1**
AKHS				*i* S	**Sb**	**13 56 05.9**	**-0.6**
AKS	**Akhisar**	**0.96**	**255**	*e*PG	**Pb**	**13 55 53.4**	**-0.1**
AKS				*e*SG	**Sb**	**13 56 06.7**	**+0.2**
AKS	**Akhisar**	**0.96**	**255**	*e*Pg	**Pb**	**13 55 53.4**	**-0.1**
AKS				*e*Sg	**Sb**	**13 56 06.7**	**+0.2**
BALB	**Balikesir**	**1.00**	**301**	*e*PG	**Pb**	**13 55 54.6**	**+0.3**
BALB				*e*SG	**Sn**	**13 56 09.7**	**0.0**
BALB	**Balikesir**	**1.00**	**301**	*e*Pg	**Pb**	**13 55 54.6**	**+0.3**
BALB				*e*Sg	**Sn**	**13 56 09.7**	**0.0**
IGD	**Bursa**	**1.14**	**8**	*i* P	**Pg**	**13 55 54.9**	**-1.5**
BALY	**Balya**	**1.23**	**300**	*i* P	**Pg**	**13 55 55.5**	**-2.5**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*PN	**Pn**	**13 55 59.0**	**+0.6**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*Pn	**Pn**	**13 55 59.0**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.24**	**356**	*e*PN	**Pg**	**13 55 58.0**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**356**	*e*Pn	**Pg**	**13 55 58.0**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*PN	**Pb**	**13 55 58.5**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pb**	**13 55 58.5**	**-0.1**
IZI	**Iznik**	**1.26**	**17**	*e*PN	**Pn**	**13 55 58.9**	**+0.1**
IZI				*e*SN	**Sn**	**13 56 18.1**	**+2.1**
IZI	**Iznik**	**1.26**	**17**	*e*Pn	**Pn**	**13 55 58.9**	**+0.1**
IZI				*e*Sn	**Sn**	**13 56 18.1**	**+2.1**
GEMT	**Gemlik**	**1.31**	**6**	*e*PN	**Pb**	**13 56 00.2**	**+0.7**
GEMT	**Gemlik**	**1.31**	**6**	*e*Pn	**Pb**	**13 56 00.2**	**+0.7**
BORA	**Eskisehir**	**1.35**	**56**	P	**Pn**	**13 55 59.3**	**-0.7**
BORA	**Eskisehir**	**1.35**	**56**	*i* P	**Pn**	**13 55 59.3**	**-0.7**
DENT	**Denizli**	**1.38**	**179**	*e*PN	**Pn**	**13 56 00.5**	**+0.2**
DENT	**Denizli**	**1.38**	**179**	*e*Pn	**Pn**	**13 56 00.5**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pg**	**13 56 01.9**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pg**	**13 56 01.9**	**+0.2**
ARMT	**Armutlu**	**1.44**	**356**	*e*PN	**Pg**	**13 56 02.3**	**+0.3**
ARMT	**Armutlu**	**1.44**	**356**	*e*Pn	**Pg**	**13 56 02.3**	**+0.3**
DNZL	**Cakiroluk**	**1.44**	**179**	P	**Pn**	**13 56 01.0**	**-0.4**
DNZL	**Cakiroluk**	**1.44**	**179**	*i* P	**Pn**	**13 56 01.0**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*PN	**Pb**	**13 56 02.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*Pn	**Pb**	**13 56 02.3**	**0.0**
ESKT	**Eskisehir**	**1.49**	**74**	*e*PN	**Pg**	**13 56 02.9**	**-0.1**
ESKT	**Eskisehir**	**1.49**	**74**	*e*Pn	**Pg**	**13 56 02.9**	**-0.1**
ESKT	**Eskisehir**	**1.49**	**74**	*i* P	**Pn**	**13 56 01.7**	**-0.2**
SEYT	**Eskypehyr**	**1.49**	**74**	P	**Pn**	**13 56 01.7**	**-0.2**
EDC	**Edincik**	**1.50**	**325**	*e*PN	**Pg**	**13 56 03.6**	**+0.5**
EDC	**Edincik**	**1.50**	**325**	*e*Pn	**Pg**	**13 56 03.6**	**+0.5**
GPA	**Golpazari**	**1.54**	**41**	*e*PN	**Pg**	**13 56 03.8**	**-0.1**
GPA	**Golpazari**	**1.54**	**41**	*e*Pn	**Pg**	**13 56 03.8**	**-0.1**
BOLV	**Bolvadin**	**1.58**	**105**	P	**Pg**	**13 56 05.4**	**+0.7**
BOLV	**Bolvadin**	**1.58**	**105**	*i* P	**Pg**	**13 56 05.4**	**+0.7**
KNL	**Bal˜–kesir**	**1.61**	**315**	*i* P	**Pb**	**13 56 04.0**	**-0.6**
DKL	**Dikili**	**1.63**	**269**	*e*PN	**Pb**	**13 56 04.6**	**-0.4**
DKL	**Dikili**	**1.63**	**269**	*e*Pn	**Pb**	**13 56 04.6**	**-0.4**
AYDN	**Tasoluk**	**1.71**	**211**	P	**Pn**	**13 56 04.6**	**-0.4**
AYDN	**Tasoluk**	**1.71**	**211**	*i* P	**Pn**	**13 56 04.6**	**-0.4**
BUY	**Buyukada**	**1.72**	**3**	P	**Pn**	**13 56 04.4**	**-0.6**
BUY	**Buyukada**	**1.72**	**3**	*i* P	**Pn**	**13 56 04.4**	**-0.6**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pb**	**13 56 06.3**	**-0.7**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pb**	**13 56 06.3**	**-0.7**
HRT	**Hereke**	**1.76**	**17**	*e*PN	**Pb**	**13 56 06.9**	**-0.4**
HRT	**Hereke**	**1.76**	**17**	*e*Pn	**Pb**	**13 56 06.9**	**-0.4**
ISP	**Isparta**	**1.77**	**137**	*e*PN	**Pn**	**13 56 06.6**	**+0.8**
ISP	**Isparta**	**1.77**	**137**	P	**Pb**	**13 56 06.8**	**-0.7**
ISP	**Isparta**	**1.77**	**137**	*e*Pn	**Pn**	**13 56 06.6**	**+0.8**
ISP	**Isparta**	**1.77**	**137**	P	**Pb**	**13 56 06.8**	**-0.7**
AYVA	**Ayvalik**	**1.80**	**276**	P	**Pg**	**13 56 08.4**	**-0.6**
AYVA	**Ayvalik**	**1.80**	**276**	*i* P	**Pg**	**13 56 08.4**	**-0.6**
SPNC	**Sapanca-Adapaz**	**1.85**	**33**	*e*PN	**Pb**	**13 56 07.8**	**-0.9**
SPNC	**Sapanca-Adapaz**	**1.85**	**33**	*e*Pn	**Pb**	**13 56 07.8**	**-0.9**
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*PN	**Pb**	**13 56 09.0**	**-1.1**
ISK	**Istanbul-Kandi**	**1.93**	**1**	P	**Pg**	**13 56 10.8**	**-0.7**
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*Pn	**Pb**	**13 56 09.0**	**-1.1**
ISK	**Istanbul-Kandi**	**1.93**	**1**	P	**Pg**	**13 56 10.8**	**-0.7**
GOLH	**Golhisar**	**1.94**	**167**	P	**Pb**	**13 56 09.7**	**-0.7**
GOLH	**Golhisar**	**1.94**	**167**	*i* P	**Pb**	**13 56 09.7**	**-0.7**
DGB	**˜zmir**	**1.98**	**238**	*i* P	**Pg**	**13 56 11.9**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*PN	**Pb**	**13 56 10.2**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*Pn	**Pb**	**13 56 10.2**	**-0.9**
GCAM	**G?zelcaml?**	**1.99**	**225**	*i* P	**Pg**	**13 56 13.7**	**+1.1**
URLA	**Izmir**	**2.03**	**248**	P	**Pb**	**13 56 12.2**	**+0.3**
URLA	**Izmir**	**2.03**	**248**	*i* P	**Pb**	**13 56 12.2**	**+0.3**
BGKT	**Bogazkoy**	**2.05**	**355**	*e*PN	**Pb**	**13 56 10.9**	**-1.3**
BGKT	**Bogazkoy**	**2.05**	**355**	*e*Pn	**Pb**	**13 56 10.9**	**-1.3**
YER	**Yerkesik**	**2.07**	**196**	P	**Pn**	**13 56 09.1**	**-0.8**
YER	**Yerkesik**	**2.07**	**196**	P	**Pn**	**13 56 09.1**	**-0.8**
SILT	**Sile**	**2.08**	**14**	*e*PN	**Pb**	**13 56 11.2**	**-1.4**
SILT	**Sile**	**2.08**	**14**	*e*Pn	**Pb**	**13 56 11.2**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.09**	**319**	*e*PN	**Pn**	**13 56 11.3**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.09**	**319**	*e*Pn	**Pn**	**13 56 11.3**	**+1.1**
SART	**Tekirdag**	**2.09**	**319**	P	**Pb**	**13 56 12.4**	**-0.5**
SART	**Tekirdag**	**2.09**	**319**	*i* P	**Pb**	**13 56 12.4**	**-0.5**
KLYT	**Kilyos**	**2.12**	**1**	*e*PN	**Pb**	**13 56 12.0**	**-1.3**
KLYT	**Kilyos**	**2.12**	**1**	*e*Pn	**Pb**	**13 56 12.0**	**-1.3**
CTKS	**Kestanelik-??a**	**2.13**	**350**	*e*PN	**Pb**	**13 56 12.5**	**-1.1**
CTKS	**Kestanelik-??a**	**2.13**	**350**	*e*Pn	**Pb**	**13 56 12.5**	**-1.1**
ZEY	**˜zmir**	**2.15**	**246**	*i* P	**Pg**	**13 56 14.7**	**-0.9**
MDUB	**Mudurnu**	**2.16**	**51**	*e*PN	**Pn**	**13 56 12.2**	**+1.0**
MDUB	**Mudurnu**	**2.16**	**51**	*e*Pn	**Pn**	**13 56 12.2**	**+1.0**
KAND	**Kocaeli-Kandir**	**2.16**	**25**	P	**Pn**	**13 56 10.8**	**-0.3**
KAND	**Kocaeli-Kandir**	**2.16**	**25**	*i* P	**Pn**	**13 56 10.8**	**-0.3**
SMG	**Samos**	**2.21**	**231**	P	**Pn**	**13 56 09.8**	**-2.0**
SMG	**Samos**	**2.21**	**231**	P	**Pn**	**13 56 09.8**	**-2.0**
SAHE	**Sakarya_HENDEK**	**2.23**	**39**	P	**Pn**	**13 56 11.5**	**-0.6**
SAHE	**Sakarya_HENDEK**	**2.23**	**39**	*i* P	**Pn**	**13 56 11.5**	**-0.6**
KIZT	**Kizilcal**	**2.26**	**95**	*e*PN	**Pn**	**13 56 13.1**	**+0.6**
KIZT	**Kizilcal**	**2.26**	**95**	*e*Pn	**Pn**	**13 56 13.1**	**+0.6**
KORT	**Korkueli**	**2.38**	**153**	P	**Pn**	**13 56 15.4**	**+1.2**
KORT	**Korkueli**	**2.38**	**153**	*i* P	**Pn**	**13 56 15.4**	**+1.2**
BOZC	**Bozcaada**	**2.39**	**288**	*i* P	**Pn**	**13 56 14.1**	**-0.1**
CHOS	**Chios island**	**2.42**	**253**	P	**Pn**	**13 56 13.5**	**-1.2**
CHOS	**Chios island**	**2.42**	**253**	P	**Pn**	**13 56 13.5**	**-1.2**
SIGR	**SIGRI**	**2.44**	**273**	P	**Pn**	**13 56 15.0**	**0.0**
SIGR	**SIGRI**	**2.44**	**273**	P	**Pn**	**13 56 15.0**	**0.0**
KESN	**Edirne-Kesan**	**2.46**	**314**	*i* P	**Pg**	**13 56 21.4**	**-0.2**
GADA	**Gvkgeada**	**2.62**	**295**	P	**Pn**	**13 56 17.8**	**+0.5**
GADA	**Gvkgeada**	**2.62**	**295**	P	**Pn**	**13 56 17.8**	**+0.5**
ALN	**Alexandroupoli**	**2.87**	**309**	P	**Pn**	**13 56 21.1**	**+0.2**
ALN	**Alexandroupoli**	**2.87**	**309**	P	**Pn**	**13 56 21.1**	**+0.2**
SMTH	**Samothraki Isl**	**2.99**	**298**	P	**Pn**	**13 56 22.9**	**+0.4**
SMTH	**Samothraki Isl**	**2.99**	**298**	P	**Pn**	**13 56 22.9**	**+0.4**
LIA	**Limnos Island**	**3.05**	**286**	P	**Pn**	**13 56 23.7**	**+0.4**
LIA	**Limnos Island**	**3.05**	**286**	P	**Pn**	**13 56 23.7**	**+0.4**

IDC 01 14:04:23.6±58.0**,14°.67S**×**170°.74W,h0**km**,mb4.0**/3**, mb1 4.2**/3**,mb1mx3.6**/31**,mbtmp4.0**/3**,Error ellipse: s-maj=1152.0km s-min=200.5km az=79.0,Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.63**	**240**	P	P	14 12 53.9	0.0
	1.6nm,0.4s,baz=83,slow=8.3,SNR=9.3						
WRA	**Warramunga Arr**	**52.52**	**256**	P	P	14 13 38.5	-0.5
	0.3nm,0.7s,baz=84,slow=6.9,SNR=4.8						
ASAR	**Alice Springs**	**52.78**	**251**	P	P	14 13 41.1	+0.1
	3.3nm,0.5s,baz=89,slow=8.1,SNR=82						

---

*DJA **01** 14:23:37.3±1.1,8°S±5°×11°9E±°,h17km±15km,M4.1/5, MLv4.1/5*
*IDC **01** 14:23:40.6±16.0,9°.09S×118°.67E,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.3/34,mbtmp3.5/3,ML3.5/1,Error ellipse: s-maj=296.5km s-min=167.2km az=4.0*
ISC 01 14:23:36.6±2.0**,8°.39S**±0°.07×**118°.62E**±0°.05**,h13**km±13km**,n12,**σ1.54/17**,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.94**	**242**	P	**Pn**	**14 23 55.6**	**0.0**
PLAI				S	**Sn**	**14 24 08.6**	**-0.4**
TWSI	**Taliwang, Sumb**	**1.76**	**258**	P	**Pn**	**14 24 07.4**	**+0.6**
TWSI				S	**Sn**	**14 24 28.3**	**-0.7**
WSI	**Waingapu**	**2.09**	**128**	P	**Pb**	**14 24 13.5**	**-0.9**
WSI				S	**Sg**	**14 24 46.1**	**+2.2**
BASI	**Baing, Sumba**	**2.65**	**133**	P	**Pg**	**14 24 25.3**	**-2.3**
BASI				S	**Sb**	**14 24 56.8**	**+0.2**
BSSI	**Bau Bau, Buton**	**2.90**	**40**	P	**Pn**	**14 24 22.8**	**+0.3**
BSSI				S	**Sn**	**14 24 53.9**	**-3.4**
MMRI	**Maumere**	**3.58**	**94**	P	**Pg**	**14 24 45.7**	**+0.3**
MMRI				S	**Sn**	**14 25 15.1**	**+0.9**
ABJI	**Asem Bagus**	**4.38**	**277**	P	Pn	14 24 47.8	+4.9
JAGI	**Jajag, Banyuwa**	**4.42**	**269**	P	**Pn**	**14 24 45.0**	**+1.5**
TTSI	**Tana Toraja**	**5.44**	**13**	P	**Pn**	**14 24 58.9**	**+1.5**
WRA	**Warramunga Arr**	**19.06**	**129**	P	**Pn**	**14 27 59.0**	**-0.7**
	0.2nm,0.3s,baz=302,slow=13,SNR=11						
ASAR	**Alice Springs**	**21.10**	**138**	P	**P**	**14 28 22.4**	**+1.3**
	0.9nm,0.6s,baz=312,slow=9.5,SNR=27						
STKA	**Stephens Creek**	**31.66**	**141**	P	**P**	**14 30 00.0**	**+0.2**
	1.3nm,0.7s,baz=315,slow=10,SNR=3.5						

---

*IDC **01** 14:27:56.5±2.8,36°.35N×141°.88E,h0km,mb3.4/4, mb1 3.5/5,mb1mx3.3/45,mbtmp3.3/5,ML3.5/1,Error ellipse: s-maj=79.9km s-min=24.4km az=57.0*
*ISCJB **01** 14:27:59.2±1.0,36°.29N±0°.05×141°.74E±0°.09,h26km, mb3.3/4,Error ellipse: s-maj=10.5km s-min=7.5km az=15.9*
*JMA **01** 14:28:02.0±0.1,36°.32N×141°.48E,h60km±3km,M3.0*
ISC 01 14:28:00.8±1.4**,36°.37N**±0°.05×**141°.7E**±0°.1**,h26**km**,n11,**σ1.09/15**,mb3.4**/4**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.90**	**286**	P	**Pn**	**14 28 17.3**	**-0.5**
CHOJ	**Chosi**	**0.92**	**224**	P	**Pb**	**14 28 17.6**	**-0.5**
CHOJ				S	**Sb**	**14 28 29.1**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.00**	**317**	P	**Pn**	**14 28 19.4**	**+0.2**
JYT	**Yasato**	**1.18**	**264**	P	**Pn**	**14 28 20.8**	**-0.9**
JYT				S	**Sn**	**14 28 35.4**	**-1.5**
JMM	**Marumori**	**1.65**	**336**	P	**Pb**	**14 28 29.2**	**-1.2**
JMM				S	**Sb**	**14 28 50.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.78**	**275**	Pn	**Pn**	**14 28 44.7**	**+1.0**
	7.3nm,0.3s,baz=114,slow=9.1,SNR=72						
MAT	**Matsushiro**	**2.78**	**275**	P	**Pn**	**14 28 45.0**	**+1.3**
MAT				S	**Sn**	**14 29 18.2**	**+1.8**
SONM	**Songino Array**	**28.32**	**305**	P	**P**	**14 33 53.1**	**+0.7**
	0.4nm,0.6s,baz=108,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**44.63**	**303**	P	**P**	**14 36 12.0**	**+1.0**
	0.3nm,0.7s,baz=95,slow=9.3,SNR=3.7						
WRA	**Warramunga Arr**	**56.43**	**188**	P	**P**	**14 37 39.7**	**-0.5**
	0.4nm,0.8s,baz=6.2,slow=7.5,SNR=5.4						
ASAR	**Alice Springs**	**60.16**	**188**	P	**P**	**14 38 06.2**	**0.0**
	0.3nm,1.0s,baz=1.1,slow=6.3,SNR=2.8						

---

*IDC **01** 14:36:34.5±1.9,38°.06N×142°.45E,h0km,mb3.5/2, mb1 3.6/4,mb1mx3.2/54,mbtmp3.4/4,ML3.1/2,Error ellipse: s-maj=56.0km s-min=33.0km az=98.0*
*JMA **01** 14:36:40.0±0.1,38°.29N×141°.90E,h47km±1km,M3.8*
JMA Felt I J1.
ISC 01 14:36:39.1±1.9**,38°.27N**±0°.05×**141°.99E**±0°.09**,h30**km±12km**,n22,**σ1.43/25**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.54**	**290**	P	**Pb**	**14 36 50.6**	**+0.5**
JIO				S	**Sb**	**14 36 57.8**	**+0.2**
OFUJ	**Ofunato**	**0.85**	**343**	P	**Pn**	**14 36 55.0**	**0.0**
OFUJ				S	**Sb**	**14 37 05.3**	**-1.0**
JMK	**Ichinoseki**	**0.91**	**319**	P	**Pn**	**14 36 55.9**	**+0.1**
JMK				*e*S	**Sb**	**14 37 07.2**	**-0.9**
JMM	**Marumori**	**1.02**	**247**	P	**Pn**	**14 36 56.9**	**-0.5**
JMM				*e*S	**Sb**	**14 37 09.2**	**-2.1**
JOU	**Okura**	**1.04**	**276**	P	**Pn**	**14 36 57.7**	**0.0**
JOU				S	**Sn**	**14 37 10.7**	**-0.6**
JFK	**Kawauchi**	**1.26**	**225**	P	**Pn**	**14 37 00.6**	**-0.1**
JFK				*e*S	**Sn**	**14 37 15.7**	**-0.9**
JOM	**Ohasama**	**1.32**	**336**	P	**Pn**	**14 37 01.8**	**+0.3**
JYK	**Kaneyama**	**1.43**	**297**	P	**Pn**	**14 37 03.0**	**0.0**
JFT	**Otama**	**1.50**	**241**	P	**Pn**	**14 37 04.4**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFT				S	Sn	14 37 22.4	-0.3
JYS	Shirataka	1.51	269	P	Pn	14 37 04.2	+0.1
JRG	Rokugo	1.54	317	P	Pn	14 37 05.0	+0.4
JRG				eS	Sn	14 37 23.7	+0.1
MJAR	Matsushiro Arr	3.47	241	Pn	Pn	14 37 32.9	+1.9
	1.0nm,0.3s,baz=57,slow=11,SNR=8.0						
MAT	Matsushiro	3.47	241	P	Pn	14 37 32.7	+1.7
MAT				eS	Sn	14 38 15.9	+4.8
ASAJ	Asahikawa	5.86	4	Pn	Pn	14 38 05.3	+1.5
	0.5nm,0.3s,baz=200,slow=15,SNR=8.4						
H11N2	WAKE ISLAND Hy	28.42	124	T	T	15 12 44.4	
	baz=316,slow=75,SNR=76						
H11N1	WAKE ISLAND Hy	28.43	124	T	T	15 12 45.2	
	baz=316,slow=75,SNR=122						
H11N3	WAKE ISLAND Hy	28.44	124	T	T	15 12 46.6	
	baz=316,slow=75,SNR=96						
H11S1	WAKE ISLAND Hy	29.18	126	T	T	15 13 40.8	
	baz=318,slow=76,SNR=79						
H11S3	WAKE ISLAND Hy	29.18	126	T	T	15 13 43.1	
	baz=318,slow=76,SNR=90						
H11S2	WAKE ISLAND Hy	29.19	126	T	T	15 13 42.5	
	baz=318,slow=76,SNR=81						
WRA	Warramunga Arr	58.35	188	P	P	14 46 30.2	-1.2
	0.6nm,0.7s,baz=6.2,slow=7.1,SNR=7.7						
ASAR	Alice Springs	62.07	188	P	P	14 46 56.0	-1.0
	0.3nm,0.7s,baz=354,slow=5.2,SNR=6.0						

MAN 01 14:36:43, 9°.32N×124°.73E, h191km, mb4.8, ML3.7, MS3.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	0.86	182⇑	eP	Pn	14 37 12.0	+1.0
CGP				eS	Sn	14 37 28.5	-4.1
BUKP	Musuan	1.47	167	eP	Pn	14 37 16.7	+1.0
BUKP				eS	Sn	14 37 43.5	+2.4
OCLP	Ormoc	1.73	356	eP	Pn	14 37 21.8	+3.7
OCLP				eS	Sn	14 37 52.0	+6.5
BESP	Borongan	2.37	17	eP	Pn	14 37 27.0	+2.0
BESP				eS	Sn	14 37 59.0	+1.3
MATI	Mati	2.80	147	eP	Pn	14 37 31.6	+1.8
MATI				eS	Sn	14 38 06.0	-0.5

*IDC **01** 14:42:08.0±2.8, 35°.40N×140°.78E, h42km±25km, mb3.2/3, mb1 3.5/6, mb1mx3.2/50, mbtmp3.5/6, ML3.2/3, Error ellipse: s-maj=47.6km s-min=21.1km az=78.0*
*ISCJB **01** 14:42:09.6±1.0, 35°.40N±0°.06×140°.5E±0°.1, h45km, mb3.4/3, Error ellipse: s-maj=14.1km s-min=8.2km az=157.8*
*JMA **01** 14:42:09.9±0.2, 35°.42N×140°.40E, h50km±3km, M2.9*
JMA Felt I J1.
ISC 01 14:42:09.5±1.1, **35°.39N**±0°.06×**140°.47E**±0°.08, **h45km, n17,** σ**1s.47**/14, **mb3.4**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.23	279	P	Pn	14 42 18.7	+1.2
KTR	Katsuura	0.27	209	P	Pn	14 42 18.7	+0.8
KTR				S	Sn	14 42 25.7	+1.9
BSO4	Boso 4	0.41	196	P	Pn	14 42 20.3	+1.0
CHOJ	Chosi	0.45	45	P	Pn	14 42 21.1	+1.3
MJAR	Matsushiro Arr	2.17	303	P	Pn	14 42 42.9	-0.3
	7.5nm,0.3s,baz=125,slow=10,SNR=48						
MAT	Matsushiro	2.17	303	P	Pn	14 42 43.3	+0.1
MAT				S	Sn	14 43 09.9	+1.0
JHJ	Hachijo jima 2	2.33	194	P	Pn	14 42 46.0	+0.7
	34nm,0.3s,baz=336,slow=20,SNR=5.3						
JHJ				S	Sn	14 43 10.6	-2.2
	68nm,0.3s,baz=138,slow=23,SNR=6.7						
ASAJ	Asahikawa	8.87	10	P	Pn	14 44 12.8	-2.2
	0.2nm,0.3s,baz=251,slow=18,SNR=3.2						
H11N2	WAKE ISLAND Hy	28.02	117	T	T	15 17 16.5	
	baz=309,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy	28.03	117	T	T	15 17 17.6	
	baz=309,slow=75,SNR=22						
H11N3	WAKE ISLAND Hy	28.04	117	T	T	15 17 18.1	
	baz=309,slow=75,SNR=23						
H11S3	WAKE ISLAND Hy	28.66	119	T	T	15 18 12.6	
	baz=312,slow=76,SNR=27						
H11S1	WAKE ISLAND Hy	28.66	119	T	T	15 17 59.9	
	baz=312,slow=76,SNR=30						
H11S2	WAKE ISLAND Hy	28.68	119	T	T	15 18 15.6	
	baz=312,slow=76,SNR=32						
MKAR	Makanchi Array	44.37	303	P	P	14 50 16.3	+0.9
	0.1nm,0.3s,baz=76,slow=12,SNR=2.4						
WRA	Warramunga Arr	55.33	187	P	P	14 51 37.1	-1.6
	0.5nm,0.7s,baz=4.7,slow=7.4,SNR=9.3						
ASAR	Alice Springs	59.06	187	P	P	14 52 04.3	-0.7
	0.2nm,0.6s,baz=18,slow=12,SNR=4.2						

IDC 01 14:43:06.4±791.0, **29°.24N×13°.41E, h0km, Error ellipse: s-maj=326.8km s-min=118.1km az=139.0, Libya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I48TN	KESRA INFRASON	7.40	333	i		15 28 10.0	
	baz=148,slow=320,SNR=1.6						
I26DE	FREYUNG INFRAS	19.58	1	i		16 46 10.0	
	baz=186,slow=329,SNR=0.6						
I42PT	GRACIOSA ISLAN	35.38	297	i		18 21 10.0	
	baz=94,slow=318,SNR=0.3						

*ISK **01** 14:49:53.8, 37°.27N×28°.17E, h5km, ML2.3*
*ISCJB **01** 14:49:55.6±0.6, 37°.25N±0°.03×28°.18E±0°.03, h0km, Error ellipse: s-maj=5.0km s-min=3.8km az=20.0*
*DDA **01** 14:49:55.2, 37°.23N×28°.19E, h7km, Md2.5, Suspected Mining explosion.*
*CSEM **01** 14:49:55.8±0.4, 37°.23N×28°.18E, h2km, ML2.3, Error ellipse: s-maj=8.8km s-min=6.5km az=8.0, Suspected Mining explosion.*
ISC 01 14:49:53.9±0.8, **37°.33N**±0°.04×**28°.27E**±0°.04, **h0km, n13,** σ**0s.51**/23, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.19	176	ePG	Pg	14 49 57.3	-0.3
YER				eSG	Sg	14 50 00.7	+0.7
YER	Yerkesik	0.19	176	ePg	Pg	14 49 57.3	-0.3
YER				eSg	Sg	14 50 00.7	+0.7
AYDN	Tasoluk	0.45	318	S	Sb	14 50 12.1	-0.1
AYDN	Tasoluk	0.45	318	i P	Pb	14 50 04.8	-0.1
AYDN				i S	Sb	14 50 12.1	-0.1
TURN	Turunc	0.53	149	i P	Pg	14 50 03.5	-0.6
DALY	Dalyan (Mu˜la	0.60	148	ePG	Pb	14 50 06.8	-0.4
DALY				eSG	Sb	14 50 16.2	+0.1
DALY	Dalyan (Mu˜la	0.60	148	ePg	Pb	14 50 06.8	-0.4
DALY				eSg	Sb	14 50 16.2	+0.1
BDRM	Kayabasi	0.70	249	S	Sg	14 50 17.6	+1.0
BDRM	Kayabasi	0.70	249	i P	Pg	14 50 07.4	0.0
BDRM				i S	Sg	14 50 17.6	+1.0
DNZL	Cakiroluk	0.72	59	P	Pn	14 50 11.8	+0.3
DNZL				S	Sn	14 50 23.6	+0.2
DNZL	Cakiroluk	0.72	59	i P	Pn	14 50 11.8	+0.3
DNZL				i S	Sn	14 50 23.6	+0.2
BODT	Bodrum	0.81	251	ePG	Pg	14 50 08.6	-0.8
BODT				eSG	Sg	14 50 19.8	0.0
BODT	Bodrum	0.81	251	ePg	Pg	14 50 08.6	-0.8
BODT				eSg	Sg	14 50 19.8	0.0

*ISCJB **01** 14:52:22.6±0.4, 31°.27N±0°.03×140°.49E±0°.09, h97km, mb3.8/12, Error ellipse: s-maj=11.0km s-min=3.6km az=163.1*
*JMA **01** 14:52:23.3±0.3, 31°.33N×140°.51E, h117km±3km, M3.9*
*IDC **01** 14:52:24.2±1.3, 31°.26N×140°.03E, h108km±10km, mb3.6/12, mb1 3.7/15, mb1mx3.5/45, mbtmp3.9/15, Error ellipse: s-maj=24.4km s-min=11.7km az=80.0*
ISC 01 14:52:22.9±0.6, **31°.29N**±0°.05×**140°.44E**±0°.09, **h97km, n46,** σ**1s.68**/47, **mb3.8**/12, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	1.86	343	P	Pn	14 52 55.0	+1.4
JHCJ				S	Sn	14 53 17.4	+0.5
JHJ2	Mitsune	1.89	344	P	Pn	14 52 55.6	+1.6
JHJ	Hachijo jima 2	1.91	343	P	Pn	14 52 55.9	+1.7
	66nm,0.3s,baz=157,slow=23,SNR=12						
JHJ				S	Sn	14 53 19.4	+1.4
	219nm,0.3s,baz=224,slow=22,SNR=10						
JKO	Kozu shima	3.09	340	P	Pn	14 53 12.2	+2.4
BSO1	Boso 1	3.39	8	P	Pn	14 53 13.7	+0.4
TK02	Tokai 2	3.48	320	P	Pn	14 53 17.3	+2.4
BSO3	Boso 3	3.50	1	P	Pn	14 53 15.5	+0.4
JIM2	Oshima 3	3.52	346	P	Pn	14 53 16.6	+1.0
JIM2				S	Sn	14 53 57.6	+1.2
JIZS	Izushimoda	3.66	339	P	Pn	14 53 19.0	+1.5
BSO4	Boso 4	3.69	359	eS	Sn	14 54 01.1	+0.8
TTO5	TONANKAI O.B.S	3.74	323	P	Pn	14 53 20.6	+2.2
TATJ	Tateyama 2	3.76	353	P	Pn	14 53 20.3	+1.5
TATJ				eS	Sn	14 54 04.1	+2.0
TTO2	TONANKAI O.B.S	3.77	311	P	Pn	14 53 20.7	+2.0
TTO1	TONANKAI O.B.S	3.87	308	P	Pn	14 53 21.8	+1.8
JYO	Yokosk	3.98	351	P	Pn	14 53 24.0	+2.3
JOD2	Odawara 2	4.12	344	P	Pn	14 53 25.3	+1.6
CBIJ	Chichi jima	4.45	159	P	Pn	14 53 29.9	+1.7
CBIJ				eS	Sn	14 54 19.4	+0.6
JCJ	Chichijima	4.45	159	P	Pn	14 53 29.4	+1.2
	15nm,0.3s,baz=0.4,slow=22,SNR=7.6						
JCJ				S	Sn	14 54 20.8	+1.9
	27nm,0.3s,baz=180,slow=20,SNR=4.4						
JNY	Yasuok	4.59	333	P	Pn	14 53 33.1	+2.9
JAO	Obara	4.78	327	P	Pn	14 53 35.0	+2.4
JRY	Ryogami san	4.89	345	P	Pn	14 53 35.2	+1.1
MJAR	Matsushiro Arr	5.56	341	P	Pn	14 53 44.3	+1.1
	1.1nm,0.3s,baz=130,slow=16,SNR=12						
MAT	Matsushiro	5.56	341	P	Pn	14 53 44.6	+1.4
MAT				eS	Sn	14 54 46.6	+0.9
JNU	Nakatsue	8.30	285	P	Pn	14 54 23.1	+2.5
	0.6nm,0.3s,baz=185,slow=3.5,SNR=6.2						
KSRS	Korea Array	12.02	304	P	Pn	14 55 12.4	+1.5
	0.1nm,0.3s,baz=115,slow=14,SNR=16						
ASAJ	Asahikawa	12.92	7	P	Pn	14 55 19.5	-3.3
	baz=225,slow=14						
KLR	Kul'dur	19.08	342	P	P	14 56 37.3	-0.4
	0.2nm,0.3s,baz=128,slow=3.0,SNR=4.1						
H11N2	WAKE ISLAND Hy	26.44	109	T	T	15 25 39.7	
	baz=310,slow=74,SNR=3.8						
H11N1	WAKE ISLAND Hy	26.44	110	T	T	15 25 54.0	
	baz=310						
H11N3	WAKE ISLAND Hy	26.46	109	T	T	15 25 51.6	
	baz=310,slow=74,SNR=3.4						
H11S3	WAKE ISLAND Hy	26.93	112	T	T	15 26 48.5	
	baz=304,slow=75,SNR=7.0						
H11S1	WAKE ISLAND Hy	26.93	112	T	T	15 26 46.0	
	baz=304,slow=75,SNR=6.9						
H11S2	WAKE ISLAND Hy	26.94	112	T	T	15 26 45.6	
	baz=304,slow=75,SNR=6.6						
SONM	Songino Array	30.70	312	P	P	14 58 26.6	-2.0
	0.4nm,0.5s,baz=111,slow=6.9,SNR=4.2						
MKAR	Makanchi Array	46.69	307	P	P	15 00 39.6	-2.3
	0.5nm,0.5s,baz=81,slow=9.3,SNR=5.4						
WRA	Warramunga Arr	51.27	187	P	P	15 01 16.9	-0.1
	0.7nm,0.4s,baz=5.6,slow=7.6,SNR=26						
ILAR	Eielson Array	54.82	30	P	P	15 01 43.5	+0.9
	0.7nm,0.7s,baz=270,slow=6.5,SNR=9.3						
ASAR	Alice Springs	55.00	187	P	P	15 01 44.1	-0.2
	0.2nm,0.4s,baz=0.4,slow=4.9,SNR=13						
ARCES	ARCESS Array B	69.09	340	P	P	15 03 17.8	-0.2
	2.0nm,0.6s,baz=76,slow=8.9,SNR=12						
FINES	FINESS Array B	73.53	333	P	P	15 03 44.0	-0.8
	1.0nm,0.3s,baz=74,slow=5.1,SNR=16						
AKASG	Malin Array Be	78.35	323	P	P	15 04 11.0	-1.5
	0.6nm,0.3s,baz=52,slow=5.7,SNR=4.3						
NVAR	Mina Array Bea	79.13	52	P	P	15 04 19.3	+2.0
	0.8nm,0.7s,baz=301,slow=5.4,SNR=6.2						
NB2	NORSAR Subarra	79.16	337	P	P	15 04 15.9	-0.9
	comp=Z,0.8nm,0.5s,baz=44,slow=5.6						
NOA	NORSAR Array B	79.16	337	P	P	15 04 16.2	-0.6
	comp=Z,0.7nm,0.5s,baz=51,slow=6.3,SNR=6.5						
BRTR	Keskin Array B	82.06	312	P	P	15 04 31.8	-1.0
	comp=Z,0.6nm,0.7s,baz=132,slow=1.8,SNR=3.9						
TXAR	Lajitas Array	94.28	52	P	P	15 05 34.0	+2.2
	comp=Z,0.5nm,0.8s,baz=260,slow=2.5,SNR=6.6						

*MAN **01** 14:56:08, 14°.92N×119°.44E, h1km, mb5.1, ML4.0, MS4.2*
*IDC **01** 14:56:11.8±2.1, 14°.23N×119°.49E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.3/37, mbtmp3.6/3, Error ellipse: s-maj=48.5km s-min=26.7km az=12.0*
ISC 01 14:56:11.5±1.0, **15°.01N**±0°.03×**119°.50E**±0°.07, **h20km**±6km, **n18,** σ**1s.79**/27, **Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.86	28	eP	Pn	14 56 27.8	-0.6
SCZP				eS	Sn	14 56 39.9	-0.6
BOLP	Bolinao	1.42	16	eP	Pb	14 56 36.4	-0.9
BOLP				eS	Sb	14 56 54.5	-0.6
LUBP	Lubang	1.46	150	eP	Pn	14 56 35.7	-1.0
PCPH	Palayan	1.64	70	eP	Pb	14 56 43.2	+2.2
TGY	Tagaytay City	1.66	123	Pn	Pn	14 56 38.8	-0.7
	206nm,0.3s,baz=263,slow=2.6,SNR=11						
TGY				Sn	Sb	14 57 03.3	+1.4
	261nm,0.3s,baz=163,slow=21,SNR=7.3						
BALP	Baler	2.13	70	eP	Pn	14 56 45.0	-0.9
BALP				eS	Sn	14 57 11.9	+0.1
POLP	Polilio Island	2.38	96	eP	Pn	14 56 49.6	+0.3
POLP				eS	Sb	14 57 21.6	-0.9
ABRA	Dolores	2.87	24	eP	Pn	14 56 58.4	+2.3
ABRA				eS	Sb	14 57 35.9	-0.9
CAUP	Cauayan	2.95	49	eP	Pn	14 56 59.3	+2.1
CAUP				eS	Sb	14 57 38.0	-1.0
SJMP	San Jose	2.98	148	eP	Pn	14 56 59.4	+1.8
SJMP				eS	Sn	14 57 34.1	+1.4
BUSP	Coron	3.06	167	eP	Pn	14 56 58.9	+0.2
BUSP				eS	Sn	14 57 35.6	+0.8
APYP	Conner	3.30	30	eP	Pn	14 57 04.8	+2.9
APYP	Conner	3.30	30	eS	Sb	14 57 45.8	-3.1
ENPP	El Nido	3.78	181	eP	Pn	14 57 08.6	0.0
CUYO	Cuyo Island	4.39	160	eP	Pn	14 57 16.5	-0.5
CMAR	Chiang Mai Arr	19.98	283	P	Pn	15 00 47.9	+3.3
	0.3nm,0.4s,baz=91,slow=9.3,SNR=5.3						
WRA	Warramunga Arr	37.67	157	P	P	15 03 22.4	-3.2
	1.0nm,0.7s,baz=337,slow=9.3,SNR=7.9						
ASAR	Alice Springs	40.94	160	P	P	15 03 50.6	-2.2
	0.5nm,0.4s,baz=336,slow=7.4,SNR=22						

*ISK **01** 14:57:06.8, 39°.10N×28°.98E, h6km, MD2.6*
*DDA **01** 14:57:07.0, 39°.08N×29°.05E, h7km, Md2.6*
*ISCJB **01** 14:57:07.3±0.6, 39°.08N±0°.04×29°.05E±0°.04, h5km±8km, Error ellipse: s-maj=7.3km s-min=5.0km az=162.3*
*CSEM **01** 14:57:07.4±0.1, 39°.10N×29°.06E, h5km, MD2.6, Error ellipse: s-maj=3.4km s-min=2.7km az=117.0*
ISC 01 14:57:07.5±1.0, **39°.09N**±0°.03×**29°.05E**±0°.03, **h9km**±9km, **n21,** σ**0s.46**/34, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.26	261	P	Pg	14 57 13.1	+0.3
DEMI				S	Sg	14 57 16.4	+0.1
DEMI	Demirci	0.26	261	i P	Pg	14 57 13.1	+0.3
DEMI				i S	Sg	14 57 16.4	+0.1
GDZ	Gediz	0.34	89	P	Pg	14 57 14.0	-0.1
GDZ				S	Sg	14 57 18.5	-0.1
GDZ	Gediz	0.34	89	i P	Pg	14 57 14.0	-0.1
GDZ				i S	Sg	14 57 18.5	-0.1
TVSB	Tavsanli	0.48	41	ePG	Pg	14 57 16.7	-0.2
TVSB	Tavsanli	0.48	41	ePg	Pg	14 57 16.7	-0.2
KULA	Kula-Manisa	0.65	208	ePG	Pg	14 57 19.6	-0.4
KULA				eSG	Sg	14 57 28.7	+0.3
KULA	Kula-Manisa	0.65	208	ePg	Pg	14 57 19.6	-0.4
KULA				eSg	Sg	14 57 28.7	+0.3
KHAL	Karahalli	0.79	154	P	Pb	14 57 23.0	-0.5
KHAL				S	Sg	14 57 33.6	+0.5
KHAL	Karahalli	0.79	154	i P	Pb	14 57 22.9	-0.5
KHAL				i S	Sg	14 57 33.6	+0.5
AKHS	Akhisar	0.98	258	P	Pn	14 57 27.5	0.0
AKHS	Akhisar	0.98	258	i P	Pn	14 57 27.6	0.0
IGD	Bursa	1.18	6	i P	Pg	14 57 29.5	-0.7
IGD				i S	Sn	14 57 46.2	-0.3
CAVI	Cavuskoy	1.27	28	ePN	Pn	14 57 31.9	+0.4
CAVI				eSN	Sn	14 57 49.9	+1.2
CAVI	Cavuskoy	1.27	28	ePn	Pn	14 57 31.9	+0.4
CAVI				eSn	Sn	14 57 49.9	+1.2
IZI	Iznik	1.29	14	ePN	Pb	14 57 32.1	+0.1
IZI	Iznik	1.29	14	ePn	Pb	14 57 32.1	+0.1
KCTX	Karacabey (Bur	1.29	336	ePN	Pn	14 57 31.3	-0.5
KCTX				eSN	Sn	14 57 49.2	-0.1
KCTX	Karacabey (Bur	1.29	336	ePn	Pn	14 57 31.3	-0.5
KCTX				eSn	Sn	14 57 49.2	-0.1
ARMT	Armutlu	1.49	354	ePN	Pn	14 57 34.4	0.0
ARMT	Armutlu	1.49	354	ePn	Pn	14 57 34.4	0.0

*ISK **01** 15:00:03.7, 39°.10N×29°.01E, h5km, MD2.6*
*ISCJB **01** 15:00:04.8±0.6, 39°.11N±0°.04×29°.03E±0°.04, h6km±6km, Error ellipse: s-maj=6.3km s-min=5.4km az=158.9*
*CSEM **01** 15:00:04.7±0.2, 39°.11N×29°.00E, h5km, MD2.5, Error ellipse: s-maj=4.6km s-min=3.8km az=102.0*
*DDA **01** 15:00:04.7, 39°.10N×29°.03E, h7km, Md2.5*
ISC 01 15:00:05.1±0.9, **39°.09N**±0°.03×**29°.03E**±0°.03, **h11km**±9km, **n16,** σ**0s.56**/26, **Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.25	260	P	Pg	15 00 10.3	+0.1
DEMI				S	Sg	15 00 13.9	+0.2
DEMI	Demirci	0.25	260	i P	Pg	15 00 10.3	+0.1
DEMI				i S	Sg	15 00 13.8	+0.2
GDZ	Gediz	0.35	90	P	Pg	15 00 12.0	-0.1
GDZ				S	Sg	15 00 17.2	+0.4
GDZ	Gediz	0.35	90	i P	Pg	15 00 12.0	-0.1
GDZ				i S	Sg	15 00 17.2	+0.4
TVSB	Tavsanli	0.49	43	ePG	Pg	15 00 14.1	-0.7
TVSB				eSG	Sg	15 00 20.4	-0.9
TVSB	Tavsanli	0.49	43	ePg	Pg	15 00 14.1	-0.7
TVSB				eSg	Sg	15 00 20.4	-0.9
KULA	Kula-Manisa	0.64	207	ePG	Pg	15 00 16.2	-1.3
KULA	Kula-Manisa	0.64	207	ePg	Pg	15 00 16.2	-1.3
KHAL	Karahalli	0.80	153	P	Pb	15 00 21.5	+0.4
KHAL				S	Sb	15 00 32.2	+0.2
KHAL	Karahalli	0.80	153	i P	Pb	15 00 21.5	+0.4
KHAL				i S	Sb	15 00 32.2	+0.2
CAVI	Cavuskoy	1.28	29	ePN	Pn	15 00 29.3	+0.4
CAVI	Cavuskoy	1.28	29	ePn	Pn	15 00 29.3	+0.4
KCTX	Karacabey (Bur	1.29	336	ePN	Pn	15 00 29.2	+0.1
KCTX				eSN	Sb	15 00 46.0	+0.1
KCTX	Karacabey (Bur	1.29	336	ePn	Pn	15 00 29.2	+0.1
KCTX				eSn	Sb	15 00 46.0	+0.1
ARMT	Armutlu	1.48	355	ePN	Pn	15 00 31.9	+0.2
ARMT	Armutlu	1.48	355	ePn	Pn	15 00 31.9	+0.2

*DJA **01** 15:06:14.3±0.6, 8°S±5°×10°7E±°, h20km±7km, M4.6/12, mb4.6/2, MLv4.6/12*
*IDC **01** 15:06:20.9±2.8, 7°.32S×106°.96E, h121km±19km, mb3.4/6, mb1 3.5/6, mb1mx3.2/35, mbtmp3.8/6, Error ellipse: s-maj=68.5km s-min=15.0km az=50.0*
ISC 01 15:06:15.3±0.9, **7°.4S**±0°.2×**107°.0E**±0°.1, **h63km, n29,** σ**1s.73**/19, **mb3.6**/6, **Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.20	47	P	Pn	15 06 26.2	+1.1
SKJI	Sukabumi	0.61	316	P	Pn	15 06 30.8	+2.1
CISI	Cisompet, Garu	0.83	98	P	Pn	15 06 31.8	+0.4
LEM	Lembang	0.88	46	P	Pn	15 06 41.0	+8.9
	1μm,0.3s,baz=100,slow=23,SNR=318						
LEM				S	Sn	15 06 57.9	+13
	358nm,0.3s,baz=332,slow=21,SNR=18						
LEM	Lembang	0.88	46	P	Pn	15 06 40.6	+8.5
TNG	Tangerang	1.31	345	P	Pn	15 06 46.5	+9.0
CMJI	Cimerak	1.49	103	P	Pn	15 06 40.1	+0.2
CGJI	Cibinong	1.52	303	P	Pn	15 06 41.3	+0.9
SBJI	Serang	1.56	327	P	Pn	15 06 44.3	+3.3
KPJI	Karang Pucung	1.93	87	P	Pn	15 06 48.2	+2.3
KASI	Kota Agung	3.12	308	P	Pn	15 07 05.1	+3.0
UGM	Wanagama	3.54	98	P	Pn	15 07 09.1	+1.2
PCJI	Pacitan	4.22	100	P	Pn	15 07 18.6	+1.4
PWJI	Pagerwojo	4.81	97	P	Pn	15 07 26.5	+1.3
MNAI	Manna	5.04	307	P	Pn	15 07 30.4	+1.9
	158nm,1.2s						
GMJI	Gumukmas	6.45	98	P	Pn	15 07 50.7	+3.0
CMAR	Chiang Mai Arr	26.93	343	P	P	15 11 50.0	-0.9
	0.6nm,0.6s,baz=178,slow=8.3,SNR=6.7						
H01W3	Cape Leeuwin H	28.09	167	T	T	15 41 31.8	
	baz=344,slow=77,SNR=6.6						
H01W1	Cape Leeuwin H	28.10	167	T	T	15 41 33.8	
	baz=344,slow=77,SNR=6.0						
H01W2	Cape Leeuwin H	28.10	167	T	T	15 41 32.8	
	baz=344,slow=77,SNR=9.2						
WRA	Warramunga Arr	29.28	118	P	P	15 12 12.2	+0.3
	0.6nm,0.5s,baz=290,slow=11,SNR=9.9						
ASAR	Alice Springs	30.45	125	P	P	15 12 22.7	+0.5
	0.2nm,0.5s,baz=299,slow=8.2,SNR=9.5						
H08S2	Diego Garcia H	34.19	267	T	T	15 48 30.4	
	baz=94,slow=76,SNR=16						
H08S3	Diego Garcia H	34.20	267	T	T	15 48 26.7	
	baz=94,SNR=16						
H08S1	Diego Carcia H	34.21	267	T	T	15 48 31.7	
	baz=94,slow=76,SNR=14						
STKA	Stephens Creek	40.36	132	P	P	15 13 48.2	+1.2
	2.3nm,0.4s,baz=311,slow=7.0,SNR=22						
MKAR	Makanchi Array	58.30	340	P	P	15 16 01.7	-1.9
	0.5nm,0.4s,baz=147,slow=7.3,SNR=8.8						
BRTR	Keskin Array B	82.11	312	P	P	15 18 28.3	-1.2
	0.4nm,0.5s,baz=104,slow=6.1,SNR=3.5						
TXAR	Lajitas Array	143.87	49	PKP	PKPdf	15 25 43.0	-1.3
	0.2nm,0.5s,baz=351,slow=2.8,SNR=3.8						

*ISCJB **01** 15:07:35.6±0.6, 9°.56N±0°.08×84°.10W±0°.05, h50km±7km, Error ellipse: s-maj=15.2km s-min=5.6km az=24.2*
*CASC **01** 15:07:36.2±1.1, 9°.53N×84°.12W, h35km±3km, MD4.1*
ISC 01 15:07:36.7±1.3, **9°.55N**±0°.06×**84°.13W**±0°.05, **h34km**±2km, **n15,** σ**1s.14**/20, **6C-1D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QCR	Quepos	0.13	196⇓	iP	Pb	15 07 42.5	-0.3
LCR2	La Lucha 2	0.23	33⇑	iP	Pn	15 07 43.7	+0.5
LCR2				eS	Sb	15 07 49.5	+0.6
BUS	Buena Vista	0.37	89⇑	eP	Pb	15 07 45.1	-0.7
BUS				eS	Sb	15 07 52.8	+0.7
URSC	Urasca	0.45	51⇑	iP	Pb	15 07 46.4	-0.4
CGA2	Cerro Gallo 2	0.57	325⇑	iP	Pn	15 07 48.0	-0.4
JCR	Jicaral	1.01	287⇑	iP	Pn	15 07 53.6	-0.9
JCR				eS	Sn	15 08 07.8	+0.1
ACR	Cerro Adams	1.30	133	eP	Pn	15 07 57.2	-1.2
ACR				eS	Sn	15 08 14.6	-0.2
A494	Palo Verde	1.44	304⇑	eP	Pn	15 08 00.1	-0.2
A494				eS	Sn	15 08 19.1	+1.0
BCIP	Isla Barro Col	4.25	95	eP	Pn	15 08 39.0	-0.1
MOTC	Monteria, Cord	8.39	95	eP	Pn	15 09 38.2	+2.2
SJCC	San Jacinto, C	8.83	87	eP	Pn	15 09 41.5	-0.6
GUYC	Guyana, Colomb	9.67	116	eP	Pn	15 09 56.0	+2.1
NORC	Norcasia	10.00	113	eP	Pn	15 09 58.1	0.0
BRRC	Barranca, Sant	10.59	102	eP	Pn	15 10 04.1	-2.0
PRAC	Prado	10.86	122	eP	Pn	15 10 11.1	+1.3

MAN 01 15:08:12, 12°.56N×123°.59E, h5km, mb4.5, ML3.3, MS3.2, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.20	170⇑	iP	Pg	15 08 20.2	+4.3
MMPH				i S	Sg	15 08 23.3	+4.7
PVCP	Virac	1.17	28	eP	Pn	15 08 35.0	0.0
PVCP				eS	Sn	15 08 51.8	+0.4
AUQP	San Andres	1.17	311	eP	Pn	15 08 37.1	+2.1
AUQP				eS	Sn	15 08 56.1	+4.6
RCP	Roxas	1.29	220⇑	eP	Pn	15 08 36.7	0.0
RCP				eS	Sn	15 08 54.8	+0.4
OTRP	Odiongan	1.54	263	eP	Pn	15 08 39.5	-0.7
OTRP				eS	Sg	15 09 02.4	+0.7
OCLP	Ormoc	1.80	146	eP	Pn	15 08 43.7	0.0
OCLP				eS	Sg	15 09 12.5	+2.6
BOAC	Boac	1.92	298	eP	Pn	15 08 45.4	0.0
BOAC				eS	Sg	15 09 16.1	+2.2
BESP	Borongan	2.04	118	eP	Pn	15 08 48.1	+1.1
BESP				eS	Sb	15 09 14.3	-1.1
GUIM	Jordan	2.15	207	eP	Pn	15 08 50.0	+1.3
GUIM				eS	Sb	15 09 19.4	+0.8
LLP	Lapu-Lapu	2.26	171	eP	Pn	15 08 50.1	+0.1
LLP				eS	Sg	15 09 23.3	-1.2
JAP	San Jose, Anti	2.41	222⇓	eP	Pn	15 08 53.0	+0.8
ENPP	El Nido	4.29	252	eP	Pn	15 09 19.0	+1.0
ENPP				eS	Pb	15 09 23.6	-4.3

IDC 01 15:14:28.6±1.2, 33.15S×109.57W, h0km, mb4.1/6, mb1 4.5/6, mb1mx4.0/35, mbtmp4.1/6, Error ellipse: s-maj=40.8km s-min=38.1km az=14.0

ISC 01 15:14:29.7±1.5**, 33.2S**±0.3×**109.6W**±0.3**, h10km, n14, σ1.20**/11**, mb4.0**/6**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**40.96**	**76**	P	**P**	**15 22 14.1**	**+0.6**
	0.9nm,0.6s,baz=248,slow=7.0,SNR=5.0						
TXAR	**Lajitas Array**	**62.41**	**6**	P	**P**	**15 24 52.1**	**-0.9**
	0.6nm,0.8s,baz=186,slow=11,SNR=5.4						
NVAR	**Mina Array Bea**	**71.69**	**353**	P	**P**	**15 25 52.5**	**+0.6**
	3.0nm,0.8s,baz=185,slow=8.0,SNR=14						
PDAR	**Pinedale Array**	**75.56**	**0**	P	**P**	**15 26 16.2**	**+1.7**
	1.7nm,0.9s,baz=172,slow=4.5,SNR=9.2						
NEW	**Newport**	**81.34**	**355**	P	**P**	**15 26 47.9**	**+1.8**
	5.5nm,0.8s,baz=228,slow=3.1,SNR=4.2						
YKA	**Yellowknife Ar**	**95.41**	**358**	P	**P**	**15 27 52.5**	**-1.2**
	0.2nm,0.5s,baz=141,slow=3.2,SNR=3.7						
H01W1	**Cape Leeuwin H**	**100.83**	**215**	T	T	17 21 15.4	
	baz=142,slow=76,SNR=6.4						
H01W2	**Cape Leeuwin H**	**100.83**	**215**	T	T	17 21 14.8	
	baz=142,slow=76,SNR=7.0						
H01W3	**Cape Leeuwin H**	**100.84**	**215**	T	T	17 21 23.2	
	baz=142,slow=76,SNR=6.1						
AKASG	**Malin Array Be**	**145.26**	**47**	PKPbc	**PKPbc**	**15 34 05.7**	**-1.3**
	0.5nm,0.4s,baz=278,slow=4.1,SNR=4.2						
SONM	**Songino Array**	**149.26**	**309**	PKPbc	**PKPbc**	**15 34 18.4**	**-0.1**
	1.4nm,0.8s,baz=119,slow=1.0,SNR=11						
BRTR	**Keskin Array B**	**149.88**	**67**	PKPbc	**PKPbc**	**15 34 19.7**	**-0.6**
	0.2nm,0.3s,baz=127,slow=0.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**150.53**	**247**	PKPbc	**PKPbc**	**15 34 23.1**	**+0.8**
	2.6nm,0.9s,baz=187,slow=1.6,SNR=18						
ZALV	**Zalesovo Beam**	**156.83**	**338**	PKPab	**PKPab**	**15 34 54.2**	**-0.3**
	0.4nm,0.4s,baz=19,slow=4.9,SNR=3.8						

ISCJB 01 15:14:42.8±0.6, 37.79N±0.03×26.90E±0.05, h9km±5km, Error ellipse: s-maj=7.2km s-min=3.8km az=149.0
DDA 01 15:14:42.5, 37.78N×26.87E, h7km, Ml2.8
ISK 01 15:14:42.6, 37.79N×26.94E, h9km, MD2.8
CSEM 01 15:14:43.0±0.2, 37.80N×26.91E, h10km, ML2.8, Error ellipse: s-maj=5.5km s-min=2.8km az=72.0

ISC 01 15:14:43.0±1.0**, 37.80N**±0.03×**26.91E**±0.04**, h12km**±9km**, n26, σ0.49**/42**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**˜zmir**	**0.25**	**356**	*i* P	**Pg**	**15 14 48.2**	**-0.1**
DGB				*i* S	**Sg**	**15 14 52.0**	**+0.2**
GCAM	**G?zelcaml?**	**0.28**	**111**	P	**Pg**	**15 14 48.7**	**0.0**
GCAM				S	**Sb**	**15 14 53.7**	**-1.0**
GCAM	**G?zelcaml?**	**0.28**	**111**	*i* P	**Pg**	**15 14 48.7**	**0.0**
GCAM				*i* S	**Sb**	**15 14 53.6**	**-1.0**
ZEY	**˜zmir**	**0.54**	**324**	*i* P	**Pg**	**15 14 53.3**	**-0.3**
ZEY				*i* S	**Sb**	**15 15 01.6**	**-0.6**
URLA	**Izmir**	**0.61**	**336**	P	**Pg**	**15 14 54.6**	**-0.4**
URLA				S	**Sb**	**15 15 03.9**	**-0.4**
URLA	**Izmir**	**0.61**	**336**	*i* P	**Pg**	**15 14 54.6**	**-0.4**
URLA				*i* S	**Sb**	**15 15 03.9**	**-0.4**
IZM	**Izmir**	**0.66**	**25**	*e*PG	**Pg**	**15 14 55.4**	**-0.4**
IZM				*e*SG	**Sb**	**15 15 05.9**	**+0.1**
IZM	**Izmir**	**0.66**	**25**	*e*Pg	**Pg**	**15 14 55.4**	**-0.5**
IZM				*e*Sg	**Sb**	**15 15 05.9**	**+0.2**
AYDN	**Tasoluk**	**0.78**	**100**	P	**Pg**	**15 14 58.0**	**-0.2**
AYDN				S	**Sg**	**15 15 08.2**	**-0.3**
AYDN	**Tasoluk**	**0.78**	**100**	*i* P	**Pg**	**15 14 58.0**	**-0.2**
AYDN				*i* S	**Sg**	**15 15 08.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**79**	*e*PG	**Pg**	**15 14 58.0**	**-0.4**
AYDB				*e*SG	**Sg**	**15 15 08.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**79**	*e*Pg	**Pg**	**15 14 58.0**	**-0.4**
AYDB				*e*Sg	**Sg**	**15 15 08.8**	**0.0**
BODT	**Bodrum**	**0.80**	**156**	*e*PG	**Pg**	**15 14 58.2**	**-0.3**
BODT				*e*SG	**Sb**	**15 15 09.7**	**-0.1**
BODT	**Bodrum**	**0.80**	**156**	*e*Pg	**Pg**	**15 14 58.2**	**-0.3**
BODT				*e*Sg	**Sb**	**15 15 09.7**	**-0.1**
BDRM	**Kayabasi**	**0.85**	**150**	P	**Pb**	**15 14 59.9**	**+0.1**
BDRM				S	**Sg**	**15 15 10.7**	**+0.2**
BDRM	**Kayabasi**	**0.85**	**150**	*i* P	**Pb**	**15 14 59.9**	**+0.1**
BDRM				*i* S	**Sg**	**15 15 10.7**	**+0.2**
YER	**Yerkesik**	**1.28**	**121**	*e*PN	**Pb**	**15 15 07.0**	**-0.2**
YER	**Yerkesik**	**1.28**	**121**	*e*Pn	**Pb**	**15 15 07.0**	**-0.2**
AKHS	**Akhisar**	**1.29**	**33**	P	**Pb**	**15 15 07.4**	**+0.1**
AKHS	**Akhisar**	**1.29**	**33**	*i* P	**Pb**	**15 15 07.4**	**+0.1**
AKS	**Akhisar**	**1.29**	**33**	*e*PN	**Pn**	**15 15 06.8**	**-0.2**
AKS	**Akhisar**	**1.29**	**33**	*e*Pn	**Pn**	**15 15 06.8**	**-0.2**
KULA	**Kula-Manisa**	**1.56**	**62**	*e*PN	**Pn**	**15 15 11.1**	**+0.4**
KULA	**Kula-Manisa**	**1.56**	**62**	*e*Pn	**Pn**	**15 15 11.1**	**+0.4**
TVSB	**Tavsanli**	**2.59**	**50**	*e*PN	**Pn**	**15 15 26.4**	**+1.5**
TVSB	**Tavsanli**	**2.59**	**50**	*e*Pn	**Pn**	**15 15 26.4**	**+1.5**

IDC 01 15:23:50.7±3.0**, 4.48S**×**152.72E, h0km, mb3.5**/4**, mb1 3.6**/4**, mb1mx3.4**/34**, mbtmp3.5**/4**, Error ellipse: s-maj=103.0km s-min=28.9km az=111.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.60**	**228**	P	P	15 29 04.6	+1.1
	0.7nm,0.5s,baz=54,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**26.33**	**222**	P	P	15 29 28.7	+0.1
	0.5nm,1.1s,baz=56,slow=9.1,SNR=6.4						
MKAR	**Makanchi Array**	**80.04**	**319**	P	P	15 36 03.3	+0.9
	0.4nm,0.5s,baz=100,slow=5.8,SNR=4.1						
KURBB	**Kurchatov Arra**	**83.50**	**322**	P	P	15 36 20.1	-0.4
	0.1nm,0.3s,baz=88,slow=4.3,SNR=4.6						
TORD	**Torodi Ar. Bea**	**150.13**	**289**	PKPbc	PKPbc	15 43 42.6	-2.1
	0.4nm,0.6s,baz=84,slow=2.5,SNR=3.9						

IDC 01 15:33:46.1±2.0, 19.30S×168.05E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/35, mbtmp3.7/5, ML3.3/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/38, Error ellipse: s-maj=63.3km s-min=28.8km az=131.0
NEIC 01 15:33:53.5±4.6, 19.85S×168.25E, h67km±52km, mb4.3/1, Error ellipse: s-maj=84.9km s-min=29.7km az=159.0

ISC 01 15:33:47.4±2.0**, 20.0S**±0.3×**168.5E**±0.4**, h25km, n9, σ0.68**/10**, mb4.0**/5**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.81**	**222**	Pn	**Pb**	**15 34 36.7**	**-0.2**
	3.2nm,0.3s,baz=51,slow=10.0,SNR=70						
DZM				Sn	**Sb**	**15 35 11.4**	**+0.5**
	4.7nm,0.3s,baz=108,slow=20,SNR=5.0						
DZM	**Mont Dzumac**	**2.81**	**222**	*e*Pn	**Pb**	**15 34 35.9**	**-1.0**
DZM				Sn	**Sb**	**15 35 11.4**	**+0.5**
WRA	**Warramunga Arr**	**32.03**	**264**	P	**P**	**15 40 11.4**	**-0.8**
	0.3nm,0.5s,baz=82,slow=6.0,SNR=12						
ASAR	**Alice Springs**	**32.23**	**257**	P	**P**	**15 40 14.8**	**+0.7**
	0.7nm,0.6s,baz=81,slow=8.4,SNR=32						
KAPI	**Kappang**	**49.62**	**281**	LR	LR	16 03 59.3	
	comp=Z,142nm,21.0s,slow=37						
ULN	**Ulaanbaatar**	**87.01**	**324**	*e*P	**P**	**15 46 31.1**	**+0.4**
	2.4nm,1.0s						
SONM	**Songino Array**	**87.36**	**323**	P	**P**	**15 46 32.5**	**+0.2**
	1.1nm,0.9s,baz=143,slow=5.0,SNR=6.4						
ILAR	**Eielson Array**	**91.15**	**18**	P	**P**	**15 46 49.5**	**-0.2**
	0.7nm,0.8s,baz=227,slow=6.1,SNR=6.5						
GERES	**GERESS Array B**	**144.78**	**331**	PKP	**PKPdf**	**15 53 22.6**	**+0.4**
	0.6nm,0.6s,baz=35,slow=5.3,SNR=4.4						

IDC 01 15:41:47.4±67.0**, 20.55S**×**178.54W, h0km, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/30**, mbtmp3.5**/3**, Error ellipse: s-maj=1212.0km s-min=158.9km az=83.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.31**	**244**	P	P	15 49 01.7	+0.2
	1.1nm,0.9s,baz=90,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**44.02**	**257**	P	P	15 49 56.7	-0.4
	0.6nm,0.8s,baz=101,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**44.09**	**262**	P	P	15 49 57.5	-0.2
	0.1nm,0.3s,baz=97,slow=8.2,SNR=12						

PDG 01 15:43:40.8±0.2, 43.17N×18.75E, h15km, MD2.5/4, ML2.5/10, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0
CSEM 01 15:43:41.0±0.2, 43.16N×18.73E, h5km, ML2.5, Error ellipse: s-maj=5.0km s-min=2.7km az=107.0
BEO 01 15:43:41.3±0.4, 43.15N×18.63E, h0km, M2.4/4

ISC 01 15:43:41.3±0.9**, 43.15N**±0.02×**18.72E**±0.02**, h9km**±7km**, n46, σ0.87**/86**, 14C-11D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.14**	**70**	⇑*i*Pg	**Pg**	**15 43 44.4**	**-0.1**
UPM				*e*Sg	**Sg**	**15 43 46.6**	**-0.2**
UPM	**Unac-Piva**	**0.14**	**70**	⇑*i*Pg	**Pg**	**15 43 44.4**	**-0.1**
UPM				*e*Sg	**Sg**	**15 43 46.6**	**-0.2**
BRY	**Bratogost**	**0.29**	**208**	⇓*i*Pg	**Pg**	**15 43 47.1**	**0.0**
BRY				*e*Sg	**Sg**	**15 43 52.2**	**+1.3**
BRY	**Bratogost**	**0.29**	**208**	⇓*i*Pg	**Pg**	**15 43 47.1**	**0.0**
BRY				*e*Sg	**Sg**	**15 43 51.6**	**+0.7**
NKY	**Niksic**	**0.39**	**150**	⇑*i*Pg	**Pg**	**15 43 48.8**	**-0.3**
NKY				*e*Sg	**Sb**	**15 43 55.4**	**-1.4**
NKY	**Niksic**	**0.39**	**150**	⇑*i*Pg	**Pg**	**15 43 48.8**	**-0.3**
NKY				*e*Sg	**Sb**	**15 43 55.4**	**-1.4**
NKME	**Niksic**	**0.42**	**156**	⇑*i*Pg	**Pg**	**15 43 49.2**	**-0.4**
NKME				*e*Sg	**Sg**	**15 43 56.0**	**+0.9**
NKME	**Niksic**	**0.42**	**156**	⇑*i*Pg	**Pg**	**15 43 49.2**	**-0.4**
NKME				*e*Sg	**Sg**	**15 43 56.0**	**+0.9**
TREB	**Trebinje**	**0.52**	**212**	*e*Sg	**Sb**	**15 43 59.3**	**-0.9**
PLE	**Pljevlja**	**0.52**	**70**	⇓*i*Pg	**Pg**	**15 43 50.3**	**-1.1**
PLE				*e*Sg	**Sg**	**15 43 58.0**	**-0.2**
PLE	**Pljevlja**	**0.52**	**70**	⇓*i*Pg	**Pg**	**15 43 50.3**	**-1.1**
PLE				*e*Sg	**Sg**	**15 43 58.0**	**-0.2**
CEME	**Cevo**	**0.62**	**167**	⇑*i*Pg	**Pg**	**15 43 52.4**	**-1.0**
CEME				*e*Sg	**Sb**	**15 44 02.5**	**-0.9**
CEME	**Cevo**	**0.62**	**167**	⇑*i*Pg	**Pg**	**15 43 52.4**	**-1.0**
CEME				*e*Sg	**Sb**	**15 44 02.5**	**-0.9**
HCY	**Herceg Novi**	**0.73**	**194**	⇓*i*Pg	**Pg**	**15 43 54.7**	**-0.6**
HCY				*e*Sg	**Sb**	**15 44 06.8**	**+0.5**
HCY	**Herceg Novi**	**0.73**	**194**	⇓*i*Pg	**Pg**	**15 43 54.7**	**-0.6**
HCY				*e*Sg	**Sb**	**15 44 05.6**	**-0.7**
PDG	**Podgorica**	**0.82**	**151**	*e*Pg	**Pg**	**15 43 56.0**	**-1.1**
PDG	**Podgorica**	**0.82**	**151**	*e*Pg	**Pg**	**15 43 56.1**	**-1.1**
PDG				*e*Sg	**Sg**	**15 44 07.8**	**0.0**
TTG	**Podgorica**	**0.82**	**151**	⇓*i*Pg	**Pg**	**15 43 56.0**	**-1.1**
TTG				*e*Sg	**Sb**	**15 44 08.6**	**-0.4**
BUM	**Brajici-Budva**	**0.86**	**172**	⇓*i*Pg	**Pg**	**15 43 57.1**	**-0.8**
BUM				*e*Sg	**Sb**	**15 44 11.2**	**+1.0**
BUM	**Brajici-Budva**	**0.86**	**172**	⇓*i*Pg	**Pg**	**15 43 57.1**	**-0.8**
BUM				*e*Sg	**Sb**	**15 44 11.2**	**+1.0**
BBLS	**Lazići**	**0.87**	**35**	*e*Pn	**Pn**	**15 44 00.1**	**+0.2**
BBLS				*e*Sg	**Sb**	**15 44 09.9**	**-0.5**
BBLS	**Lazići**	**0.87**	**35**	*e*Pn	**Pn**	**15 44 00.1**	**+0.2**
BBLS				*e*Sg	**Sb**	**15 44 09.7**	**-0.7**
BEY	**Berane**	**0.90**	**108**	⇑*i*Pg	**Pg**	**15 43 57.1**	**-1.6**
BEY				*e*Sg	**Sb**	**15 44 11.3**	**-0.2**
IVA	**Berane**	**0.90**	**108**	⇑*i*Pg	**Pg**	**15 43 57.1**	**-1.6**
IVA				*e*Sg	**Sb**	**15 44 11.3**	**-0.2**
DRME	**Dracevica, Mon**	**1.02**	**160**	⇓*i*Pg	**Pg**	**15 44 00.0**	**-1.0**
DRME				*e*Sg	**Sn**	**15 44 16.2**	**-0.3**
DRME	**Dracevica, Mon**	**1.02**	**160**	⇓*i*Pg	**Pg**	**15 44 00.0**	**-1.0**
DRME				*e*Sg	**Sg**	**15 44 14.3**	**0.0**
PVY	**Plav**	**1.07**	**121**	⇑*i*Pg	**Pg**	**15 44 00.5**	**-1.3**
PVY				*e*Sg	**Sn**	**15 44 17.1**	**-0.6**
PVY	**Plav**	**1.07**	**121**	⇑*i*Pg	**Pg**	**15 44 00.5**	**-1.3**
PVY				*e*Sg	**Sn**	**15 44 17.1**	**-0.6**
IVAS	**Ivanjica**	**1.12**	**67**	*e*Pg	**Pg**	**15 44 02.5**	**-0.4**
IVAS				*e*Sg	**Sb**	**15 44 18.3**	**+0.5**
ULC	**Ulcinj**	**1.25**	**162**	⇑*i*Pg	**Pg**	**15 44 04.0**	**-1.3**
ULC				*e*Sg	**Sn**	**15 44 23.6**	**+1.5**
ULC	**Ulcinj**	**1.25**	**162**	⇑*i*Pg	**Pg**	**15 44 04.0**	**-1.3**
ULC				*e*Sg	**Sn**	**15 44 23.6**	**+1.5**
DIVS	**Divibare**	**1.32**	**44**	*e*Pg	**Pg**	**15 44 06.2**	**-0.4**
DIVS				*e*Sg	**Sn**	**15 44 24.1**	**+0.2**
DIVS	**Divibare**	**1.32**	**44**	*e*Pg	**Pg**	**15 44 06.2**	**-0.4**
DIVS				*e*Sg	**Sn**	**15 44 23.8**	**-0.1**
TEKS	**Tekeris**	**1.51**	**22**	*e*Pg	**Pb**	**15 44 09.2**	**-0.4**
TEKS				*e*Sg	**Sg**	**15 44 29.5**	**-0.4**
TRUS	**Trudelj**	**1.62**	**48**	*e*Pg	**Pb**	**15 44 10.8**	**-0.7**
TRUS				*e*Sg	**Sg**	**15 44 34.4**	**+0.9**
TRUS	**Trudelj**	**1.62**	**48**	*e*Pg	**Pb**	**15 44 10.8**	**-0.7**
TRUS				*e*Sg	**Sg**	**15 44 34.4**	**+0.9**
GRUS	**Gruza**	**1.62**	**62**	*e*Pn	**Pg**	**15 44 12.4**	**-0.1**
GRUS				*e*Sg	**Sg**	**15 44 35.5**	**+2.0**
GRUS	**Gruza**	**1.62**	**62**	*e*Pn	**Pg**	**15 44 12.4**	**-0.1**
GRUS				*e*Sg	**Sg**	**15 44 35.5**	**+2.0**
SELS	**Selova**	**1.75**	**87**	*e*Pg	**Pg**	**15 44 14.5**	**-0.4**
BLY	**Banja Luka**	**1.94**	**326**	*e*Pn	**Pn**	**15 44 14.9**	**+0.3**
BLY				*e*Sn	**Sb**	**15 44 41.2**	**-0.1**
BLY	**Banja Luka**	**1.94**	**326**	*e*Pn	**Pn**	**15 44 14.9**	**+0.3**
BLY				*e*Sn	**Sb**	**15 44 40.7**	**-0.6**
BOVS	**Bovan**	**2.23**	**77**	*e*Sn	**Sb**	**15 44 49.9**	**+0.5**
BOVS	**Bovan**	**2.23**	**77**	*e*Sn	**Sb**	**15 44 49.9**	**+0.5**
BARS	**Barje**	**2.29**	**97**	*e*Pn	**Pn**	**15 44 20.4**	**+1.0**
BARS				*e*Sn	**Sb**	**15 44 51.8**	**+0.4**
UDBI	**Udbina**	**2.54**	**304**	*e*Pn	**Pb**	**15 44 27.2**	**-0.1**
UDBI				Sn	**Sg**	**15 45 02.2**	**-0.8**
ZAPS	**Zavoj**	**2.86**	**86**	*e*Pn	**Pn**	**15 44 29.0**	**+1.8**

IDC 01 15:44:50.9±1.1, 36.13S×100.23W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.1/37, mbtmp4.2/8, MS4.3/5, Ms1 4.3/5, ms1mx3.9/23, Error ellipse: s-maj=28.6km s-min=26.0km az=50.0
GCMT 01 15:44:52.2±0.5, 36.43S×100.07W, h22km±2km, MW5.1/77, Moment Tensor Solution. s17,c18; s77,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.70±.44; $M_{\theta\theta}$-1.24±.29; $M_{\phi\phi}$2.93±.32; $M_{r\theta}$0.27±.52; $M_{\theta\phi}$-5.09±.28; $M_{\phi r}$2.65±.56; Best double couple: $M_0$6.17400×10^{16} NP1:ϕ_s188.00000°, δ82.00000°, λ-29.00000°. NP2: ϕ_s282.00000°, δ61.00000°, λ-171.00000°. Principal axes: T 6.8520, Plg14.0000°, Azm238.0000°; N -1.3660, Plg60.0000°, Azm353.0000°; P -5.4960, Plg26.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 01 15:44:52.2±0.8, 36.15S×100.19W, h10km, mb4.2/1 Error ellipse: s-maj=18.9km s-min=17.8km az=191.0

ISC 01 15:44:51.6±2.2**, 36.4S**±0.3×**100.4W**±0.2**, h14km, n19, σ0.76**/11**, mb4.0**/9**, MS4.5**/5**, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**23.65**	**110**	P	**P**	**15 50 03.3**	**+0.8**
	3.4nm,0.8s,baz=315,slow=12,SNR=10.0						
LCO	**Las Campanas**	**25.94**	**82**	*e*P	**P**	**15 50 23.6**	**-0.3**
	3.7nm,0.6s						
LVC	**Limon Verde**	**30.46**	**72**	P	**P**	**15 51 04.6**	**+0.2**
	21nm,0.8s,baz=257,slow=12,SNR=4.3						
LVC	**Limon Verde**	**30.46**	**72**	*e*P	**P**	**15 51 04.4**	**0.0**
NNA	**Nana**	**32.22**	**47**	LR	LR	15 59 22.2	
	comp=Z,160nm,21.8s,baz=276,slow=27						
LPAZ	**La Paz**	**34.89**	**64**	P	**P**	**15 51 43.0**	**-0.4**
	5.6nm,0.9s,baz=207,slow=5.7,SNR=16						
ATAH	**Atahualpa**	**35.35**	**40**	P	**P**	**15 51 47.5**	**+0.4**
	7.2nm,0.8s,baz=224,slow=5.0,SNR=4.0						
SAML	**Samuel**	**43.40**	**60**	*e*P	**P**	**15 52 53.6**	**-0.3**
ROSC	**El Rosal**	**47.69**	**36**	LR	LR	16 10 17.8	
	comp=Z,459nm,18.3s,baz=102,slow=32						
VNDA	**Vanda**	**56.46**	**195**	P	P	15 54 36.4	+4.0
	1.0nm,0.9s,baz=80,slow=11,SNR=4.1						
VNDA				LR	LR	16 15 06.8	
	comp=Z,311nm,18.1s,baz=109,slow=32						
TXAR	**Lajitas Array**	**65.44**	**357**	P	**P**	**15 55 33.8**	**-0.2**
	0.6nm,0.8s,baz=170,slow=7.6,SNR=4.5						
NVAR	**Mina Array Bea**	**76.26**	**346**	P	**P**	**15 56 41.1**	**+1.4**
	0.8nm,0.7s,baz=166,slow=5.0,SNR=5.6						
PDAR	**Pinedale Array**	**79.21**	**353**	P	**P**	**15 56 55.5**	**-0.7**
	0.6nm,0.6s,baz=161,slow=6.8,SNR=6.4						
STKA	**Stephens Creek**	**90.72**	**229**	LR	LR	16 33 17.1	
	comp=Z,169nm,18.1s,baz=176,slow=32						
SCHQ	**Schefferville**	**95.30**	**19**	LR	LR	16 36 36.0	
	comp=Z,200nm,18.3s,baz=264,slow=33						
H01W1	**Cape Leeuwin H**	**102.15**	**208**	T	T	17 54 06.6	
	baz=150,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**102.15**	**208**	T	T	17 53 58.0	
	baz=150,slow=76,SNR=8.3						
H01W3	**Cape Leeuwin H**	**102.16**	**208**	T	T	17 54 02.1	
	baz=150,slow=76,SNR=8.3						
BRTR	**Keskin Array B**	**143.92**	**70**	PKP	**PKPdf**	**16 04 25.5**	**-1.0**
	0.7nm,0.7s,baz=200,slow=6.6,SNR=4.8						

ISCJB 01 15:46:12.3±0.8, 23.45S±0.09×66.89W±0.06, h201km, Error ellipse: s-maj=12.7km s-min=6.7km az=16.6
GUC 01 15:46:13.7±0.3, 23.29S×67.21W, h224km±5km, ML3.6
SJA 01 15:46:19.2±0.5, 23.11S×64.70W, h169km±36km, ML2.4, MW3.0

ISC 01 15:46:10.5±1.3**, 23.49S**±0.09×**66.72W**±0.05**, h201km, n11, σ1.93**/20**, 1C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.24**	**77**	*e*P	**Pn**	**15 46 45.0**	**+2.3**
HJA				IAML		15 46 46.3	
	comp=Z,47nm,0.4s						
AZAP	**Zapla**	**1.68**	**116**	*e*P	**Pn**	**15 46 48.5**	**+2.2**
AZAP				IAML		15 46 49.1	
	comp=Z,25nm,0.3s						
AZAP				*e*S	**S**	**15 47 09.6**	**-4.0**
YJA	**Yavi**	**1.72**	**41**	*e*P	**Pn**	**15 46 48.8**	**+1.9**
YJA				*e*S	**S**	**15 47 11.3**	**-3.3**
LVC	**Limon Verde**	**2.20**	**293**	*i* P	**Pn**	**15 46 52.9**	**+1.3**
LVC				*i* S	**S**	**15 47 23.1**	**+0.2**
PB06	**IPOC Station P**	**2.74**	**286**	*i* P	**Pn**	**15 46 58.4**	**+1.0**
PB06				*i* S	**S**	**15 47 32.0**	**-1.1**
PB06				AML	AML	15 47 34.7	
	comp=N,118nm,0.2s						
PB09	**IPOC Station P**	**2.87**	**305**	*e*S	**S**	**15 47 34.4**	**-1.7**
PB09				AML	AML	15 47 40.8	
	comp=E,128nm,0.1s						
PB04	**IPOC Station P**	**3.36**	**289**	*i* P	**Pn**	**15 47 05.4**	**+0.7**
PB04				*i* S	**S**	**15 47 44.7**	**-1.7**
PB04				AML	AML	15 47 48.3	
	comp=N,84nm,0.3s						
PB07	**IPOC Station P**	**3.41**	**300**	*i* P	**Pn**	**15 47 06.0**	**+0.7**
PB07				*i* S	**S**	**15 47 45.7**	**-1.8**
PB07				AML	AML	15 47 47.1	
	comp=N,173nm,0.2s						
PB10	**IPOC Station P**	**3.52**	**269**	⇑*i*P	**Pn**	**15 47 07.8**	**+1.3**
PB10				*i* S	**S**	**15 47 48.3**	**-1.2**
PB10				AML	AML	15 47 50.7	
	comp=N,100nm,0.3s						
PB01	**IPOC Station P**	**3.53**	**313**	*i* P	**Pn**	**15 47 07.4**	**+0.6**
PB01				*i* S	**S**	**15 47 48.5**	**-1.6**
PB01				AML	AML	15 47 50.4	
	comp=E,50nm,0.3s						
PB08	**IPOC Station P**	**4.03**	**325**	*i* P	**Pn**	**15 47 14.6**	**+1.5**
PB08				*i* S	**S**	**15 48 01.7**	**+0.1**
PB08				AML	AML	15 48 06.5	
	comp=E,33nm,0.7s						

IDC 01 15:47:40.1±3.2**, 35.74S**×**47.60E, h0km, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.2**/43**, mbtmp3.5**/2**, Error ellipse: s-maj=573.4km s-min=58.5km az=10.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**53.31**	**110**	T	T	16 53 34.3	
	baz=248						
H01W3	**Cape Leeuwin H**	**53.32**	**110**	T	T	16 53 28.8	
	baz=248,slow=74,SNR=2.9						
H01W1	**Cape Leeuwin H**	**53.33**	**110**	T	T	16 53 28.8	
	baz=248,slow=74,SNR=3.4						
ASAR	**Alice Springs**	**73.73**	**108**	P	P	15 59 14.9	-1.4
	0.2nm,0.8s,baz=230,slow=5.8,SNR=4.1						
WRA	**Warramunga Arr**	**76.08**	**105**	P	P	15 59 30.9	+1.0
	0.7nm,1.0s,baz=251,slow=7.9,SNR=2.7						
TXAR	**Lajitas Array**	**155.00**	**263**	PKPbc	PKPbc	16 07 44.0	0.0
	0.6nm,0.8s,baz=147,slow=5.1,SNR=4.0						

MEX 01 15:49:32.6±1.1**, 18.82N**×**104.50W, h16km**±13km**, MD3.7, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.60**	**54**	*e*P	Pg	15 49 41.7	-2.8
R15V				*i* S	Sg	15 49 49.9	-2.7
CJM	**Chamela**	**0.85**	**323**	*e*P	Pb	15 49 45.8	-3.2
CJM				*e*S	Sb	15 49 56.5	-3.8
EZ5V		**1.07**	**52**	*e*P	Pb	15 49 50.2	-2.8
EZ5V				*e*S	Sb	15 50 02.9	-4.0
MMIG	**Aquila**	**1.21**	**115**	*e*P	Pn	15 49 51.3	-3.6
MMIG				*e*S	Sb	15 50 05.1	-5.5

SJA 01 15:49:51.0±0.7, 36.38S×71.22W, h166km±31km, ML3.9, MW3.9
ISCJB 01 15:49:53.0±0.7, 36.30S±0.07×71.05W±0.07, h149km, Error ellipse: s-maj=11.7km s-min=5.4km az=141.4
GUC 01 15:49:57.0±0.5, 36.37S×71.36W, h150km±5km, ML3.9

ISC 01 15:49:53.4±1.5**, 36.31S**±0.09×**71.03W**±0.08**, h149km, n16, σ0.77**/22**, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.89**	**251**	*i* P	**Pn**	**15 50 18.0**	**+0.9**
CCHI				*i* S	**Sn**	**15 50 34.6**	**-0.7**
CCHI				AML	AML	15 50 39.5	
	comp=N,3μm,0.3s						
TALC	**Talca**	**1.03**	**332**	*i* P	**Pn**	**15 50 19.3**	**+0.9**
TALC				*i* S	**Sn**	**15 50 37.4**	**0.0**
TALC				AML	AML	15 50 38.7	
	comp=N,5μm,0.1s						
TALC				AML	AML	15 50 54.0	
	comp=E,6μm,0.1s						
COCH	**Cobquecura**	**1.43**	**277**	*i* P	**Pn**	**15 50 23.0**	**+0.8**
COCH				*i* S	**Sn**	**15 50 43.3**	**-0.8**
COCH				AML	AML	15 50 47.8	
	comp=E,2μm,0.5s						
CCSP	**San Pedro de C**	**1.75**	**252**	*i* P	**Pn**	**15 50 26.3**	**+0.7**
CCSP				*i* S	**Sn**	**15 50 49.0**	**-1.3**
CCSP				AML	AML	15 50 55.3	
	comp=N,1μm,0.2s						
ROC1	**El Roble**	**3.33**	**0**	*e*P	**Pn**	**15 50 45.0**	**-0.2**
ROC1				*e*S	**Sn**	**15 51 24.9**	**-0.2**
AUSP	**Uspallata**	**4.30**	**19**	*e*P	**Pn**	**15 50 58.9**	**+1.0**
RTLS	**Leoncito**	**4.72**	**18**	*e*P	**Pn**	**15 51 04.7**	**+1.2**
RTLS				*e*S	**Sn**	**15 51 58.2**	**+0.3**
RTCV	**Cerro Valdivia**	**4.89**	**26**	*e*P	**Pn**	**15 51 06.2**	**+0.7**
ACAN	**Cantantal**	**5.13**	**39**	*e*P	**Pn**	**15 51 09.2**	**+0.7**
RTLL	**Cerro Villicun**	**5.40**	**24**	*e*P	**Pn**	**15 51 12.2**	**-0.1**
AMOG	**MOGNA**	**5.76**	**22**	*e*P	**Pn**	**15 51 16.5**	**-0.5**
SUCO	**SUCO**	**5.86**	**61**	*e*P	**Pn**	**15 51 18.7**	**+0.4**
SUCO				IAML		15 51 29.8	
	comp=Z,18nm,0.5s						
MRA	**San Martin**	**5.86**	**50**	*e*P	**Pn**	**15 51 19.1**	**+0.7**
MRA				IAML		15 51 20.0	
	comp=Z,27nm,0.3s						
AGUA	**GUANDACOL**	**7.13**	**18**	*e*P	**Pn**	**15 51 34.7**	**-0.6**
TCA	**Tanti**	**7.30**	**49**	*e*P	**Pn**	**15 51 36.7**	**-0.9**
VCA	**Vinchina**	**7.92**	**18**	*e*P	**Pn**	**15 51 45.8**	**-0.2**
VCA				IAML		15 53 16.1	
	comp=Z,30nm,0.3s						

MEX 01 16:02:00.6±0.4**, 14.71N**×**92.86W, h37km**±38km**, MD3.5, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.05**	**341**	*e*P	Pn	16 02 17.1	-1.7
PCIG				*e*S	Sn	16 02 29.8	-2.4
CCIG	**Comitan**	**1.71**	**24**	*e*P	Pn	16 02 26.6	-1.4
CCIG				*e*S	Sn	16 02 46.4	-2.3

ISK 01 16:06:44.4, 39.08N×29.15E, h6km, MD2.5
ISCJB 01 16:06:45.6±0.6, 39.11N±0.04×29.10E±0.04, h3km±9km, Error ellipse: s-maj=7.1km s-min=4.7km az=150.7
CSEM 01 16:06:45.8±0.2, 39.13N×29.08E, h2km, MD2.6, Error ellipse: s-maj=5.9km s-min=3.8km az=124.0
DDA 01 16:06:45.7, 39.08N×29.11E, h7km, Md2.6

ISC 01 16:06:45.8±1.0**, 39.09N**±0.03×**29.11E**±0.03**, h9km**±9km**, n14, σ0.53**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.29**	**90**	P	**Pg**	**16 06 51.7**	**+0.1**
GDZ				S	**Sg**	**16 06 56.1**	**+0.7**
GDZ	**Gediz**	**0.29**	**90**	*i* P	**Pg**	**16 06 51.7**	**+0.1**
GDZ				*i* S	**Sg**	**16 06 56.1**	**+0.7**
DEMI	**Demirci**	**0.31**	**262**	P	**Pg**	**16 06 52.1**	**0.0**
DEMI				S	**Sg**	**16 06 56.8**	**+0.5**
DEMI	**Demirci**	**0.31**	**262**	*i* P	**Pg**	**16 06 52.1**	**0.0**
DEMI				*i* S	**Sg**	**16 06 56.8**	**+0.5**
TVSB	**Tavsanli**	**0.45**	**37**	*e*PG	**Pg**	**16 06 53.8**	**-0.9**

TVSB				eSG	Sg	16 06 60.0	-0.6
TVSB	Tavsanli	0.45	37	ePg	Pg	16 06 53.8	-0.9
TVSB				eSg	Sg	16 07 00.0	-0.6
KULA	Kula-Manisa	0.67	212	ePG	Pg	16 06 58.6	-0.3
KULA				eSG	Sg	16 07 07.4	-0.3
KULA	Kula-Manisa	0.67	212	ePg	Pg	16 06 58.6	-0.3
KULA				eSg	Sg	16 07 07.4	-0.3
KHAL	Karahalli	0.78	158	P	Pn	16 07 03.2	+0.1
KHAL				S	Sb	16 07 11.5	-0.8
KHAL	Karahalli	0.78	158	i P	Pn	16 07 03.2	+0.1
KHAL				i S	Sb	16 07 11.5	-0.8
BORA	Eskisehir	1.30	52	P	Pn	16 07 10.6	+0.2
BORA				S	Sb	16 07 28.1	+0.6
BORA	Eskisehir	1.30	52	i P	Pn	16 07 10.6	+0.2
BORA				i S	Sb	16 07 28.1	+0.6
ARMT	Armutlu	1.49	353	ePN	Pn	16 07 12.7	-0.1
ARMT				eSN	Sn	16 07 32.9	+0.5
ARMT	Armutlu	1.49	353	ePn	Pn	16 07 12.7	-0.1
ARMT				eSn	Sn	16 07 32.9	+0.5

JMA 01 16:08:27.4,36°.95N×140°.61E,h8km±1km,M2.7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.21	45	P	Pg	16 08 31.9	+0.1
ONAJ				S	Sg	16 08 35.0	+0.3
JHO	Hitachi	0.34	186	P	Pg	16 08 34.0	-0.1
JHO				S	Sg	16 08 38.6	0.0
JYT	Yasato	0.80	205	P	Pg	16 08 42.2	-0.5
MAT	Matsushiro	1.97	259	P	Pb	16 09 02.4	-1.2
MAT				S	Sb	16 09 28.1	-0.2

GUC 01 16:09:54.5±0.5,35°.00S×72°.14W,h35km±2km,ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.57	134	i P	Pn	16 10 05.9	-0.3
TALC				i S	Sn	16 10 13.7	-0.6
CHPI	Pichilemu	0.62	10	i P	Pn	16 10 06.2	-0.6
CHPI				i S	Sn	16 10 14.8	-0.7
COCH	Cobquecura	1.25	205	i P	Pn	16 10 15.5	0.0
COCH				i S	Sn	16 10 31.4	+0.4
CCHI	Chillan	1.60	178	i P	Pn	16 10 21.5	+1.2
CCHI				i S	Sn	16 10 41.2	+1.6
CCHI				AML	AML	16 10 47.7	
	comp=E,1μm,0.3s						
RCDM	Rinconada Maip	1.87	37	i P	Pn	16 10 24.7	+0.7
RCDM				eS	Sn	16 10 45.9	-0.5
RCDM				AML	AML	16 10 56.9	
	comp=E,556nm,0.1s						
ANTU	Antumapu	1.89	41	i P	Pn	16 10 25.3	+0.9
ANTU				i S	Sn	16 10 48.5	+1.5
ANTU				AML	AML	16 10 55.1	
	comp=E,1μm,0.4s						

*ISCJB **01** 16:21:08.8±0.2,6°.97S±0°.03×126°.59E±0°.04,h412km, mb4.0/30,Error ellipse: s-maj=5.5km s-min=4.1km az=164.6*
*NEIC **01** 16:21:10.5±0.4,6°.96S×126°.60E,h419km±6km,mb4.0/12, Error ellipse: s-maj=9.6km s-min=6.2km az=62.0*
*DJA **01** 16:21:10.1±0.3,7°S±5°×12°7E±°,h431km±7km,M4.7/15, mb4.5/15,mB4.8/4,MLv4.9/10,Mw(mB)4.1/4*
*IDC **01** 16:21:11.2±1.3,6°.98S×126°.59E,h423km±14km,mb3.7/18, mb1 3.8/22,mb1mx3.6/45,mbtmp4.6/22,Error ellipse: s-maj=18.0km s-min=7.0km az=77.0*
ISC 01 16:21:10.0±0.4,6°.99S±0°.04×126°.65E±0°.05,h412km,n84, σ1s.42/99,mb4.0/30,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.62	220	P	P	16 22 21.1	+1.7
SOEI				S	S	16 23 16.8	+1.0
SOEI	Soe	3.62	220	eP	P	16 22 21.1	+1.7
NLAI	Namlea	3.76	7	P	P	16 22 23.0	+2.4
NLAI				S	S	16 23 20.3	+2.4
MSAI	Masohi	4.28	32	P	P	16 22 25.8	+0.4
MMRI	Maumere	4.66	249	P	P	16 22 29.4	+0.3
MMRI				S	S	16 23 33.0	-0.6
MMRI	Maumere	4.66	249	eP	P	16 22 29.0	-0.1
SAUI	Saumlaki	4.72	102	S	S	16 23 34.1	-0.5
SAUI	Saumlaki	4.72	102	eP	P	16 22 31.8	+2.2
SAUI				eS	S	16 23 30.3	-4.3
SANI	Sanana	4.96	352	P	P	16 22 32.8	+0.8
SANI				S	S	16 23 37.1	-1.9
BSSI	Bau Bau, Buton	6.17	278	P	P	16 22 47.2	+2.4
	82nm,0.9s,0.4nm						
WSI	Waingapu	6.82	247	P	P	16 22 51.6	-0.8
	231nm,0.7s,4μm5.3nm						
FAKI	Fak Fak	6.89	54	P	P	16 22 51.6	-1.7
	87nm,1.1s,2μm0.7nm						
FAKI	Fak Fak	6.89	54	eP	P	16 22 51.9	-1.4
LUWI	Luwuk	7.06	327	P	P	16 22 58.2	+3.1
LUWI	Luwuk	7.06	327	eP	P	16 22 56.3	+1.2
MTN	Manton Dam	7.30	143	eP	P	16 22 59.1	+1.4
SWI	Sorong	7.63	37	P	P	16 23 01.8	+0.4
	34nm,0.6s,0.3nm						
MRSI	Marisa	8.78	327	P	P	16 23 16.8	+2.8
PLAI	Plampang	8.97	258	P	P	16 23 14.1	-2.0
	85nm,0.7s						
TWSI	Taliwang, Sumb	9.83	259	P	P	16 23 23.7	-1.9
	16nm,0.8s,1μm						
FITZ	Fitzroy Crossi	11.09	185	P	P	16 23 40.6	+1.3
	1.8nm,0.3s,baz=354,slow=7.2,SNR=61						
FITZ				S	S	16 25 40.3	-2.4
	1.1nm,0.3s,baz=186,slow=18,SNR=5.1						
FITZ	Fitzroy Crossi	11.09	185	eP	P	16 23 40.5	+1.1
GENI	Genyem	14.16	73	P	P	16 24 15.6	+2.4
	112nm,0.7s						
JAY	Jayapura	14.70	73	P	P	16 24 20.5	+1.5
	0.2nm,0.3s,baz=245,slow=23,SNR=12						
JAY	Jayapura	14.70	73	P	P	16 24 20.5	+1.5
	29nm,1.0s						
WRA	Warramunga Arr	14.88	151	P	P	16 24 21.6	+0.7
	7.1nm,0.3s,baz=325,slow=12,SNR=290						
WRA				S	S	16 26 56.8	-2.0
	1.6nm,0.3s,baz=325,slow=18,SNR=14						
WB2	Warramunga Arr	14.89	151	eP	P	16 24 21.6	+0.6
MBWA	Marble Bar	15.59	205	eP	P	16 24 28.9	+0.3
	103nm,0.8s						
SBUM	Sibu	17.19	303	eP	P	16 24 45.7	0.0
	3.8nm,0.8s						
AS31	Alice Springs	17.98	158	eP	P	16 24 54.7	+0.6
	41nm,0.4s						
ASAR	Alice Springs	17.98	158	P	P	16 24 55.0	+1.0
	16nm,0.3s,baz=337,slow=8.4,SNR=262						
ASAR				S	S	16 28 00.1	+1.0
	2.1nm,0.3s,baz=341,slow=23,SNR=15						
ASAR				ScP	ScP	16 32 01.4	-1.5
	baz=344,slow=3.2,SNR=5.0						
AS01	Alice Springs	18.00	158	eP	P	16 24 54.3	+0.1
KSM	Kuching	18.35	297	eP	P	16 24 55.1	-2.8
	12nm,0.8s						
PMG	Port Moresby	20.44	98	eP	P	16 25 13.3	-4.6
CTA	Charters Tower	23.04	126	P	P	16 25 46.0	+4.5
	1.9nm,0.5s,baz=311,slow=15,SNR=6.8						
NWAO	Narrogin (SRO)	27.25	197	P	P	16 26 19.1	+0.3
	18nm,0.6s,baz=243,slow=8.0,SNR=13						
STKA	Stephens Creek	28.42	153	P	P	16 26 30.2	+1.1
	16nm,0.5s,baz=327,slow=9.0,SNR=66						
STKA				pP	PP	16 27 44.0	-0.2
	9.8nm,0.7s,baz=324,slow=12,SNR=7.0						
STKA				ScP	ScP	16 32 29.2	-1.6
	3.1nm,0.9s,baz=270,slow=5.1,SNR=3.2						
STKA	Stephens Creek	28.42	153	eP	P	16 26 30.1	+1.1
	3.7nm,0.8s						
STKA				epP	PP	16 27 43.9	-0.3
CM01	Chiang Mai Arr	37.20	313	eP	P	16 27 44.7	+0.3
CMAR	Chiang Mai Arr	37.24	313	P	P	16 27 45.3	+0.6
	1.2nm,0.8s,baz=147,slow=6.7,SNR=11						
CMAR				ScP	ScP	16 33 01.4	-0.3
	1.0nm,0.7s,baz=171,slow=2.8,SNR=9.1						
WHN	Wuhan	39.14	343	⇑P	P	16 28 00.6	+0.4
XAN	Xi'an	44.13	339	P	P	16 28 38.7	-1.4
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,42nm,5.3s						
KSRS	Korea Array	44.23	1	P	P	16 28 40.9	+0.2
	comp=Z,4.0nm,1.0s,baz=175,slow=9.0,SNR=18						
KSRS				PcP	PcP	16 30 17.1	+0.2
	comp=Z,1.0nm,0.7s,baz=176,slow=3.5,SNR=5.7						
KS01	Wonju Array Si	44.25	1	eP	P	16 28 40.9	0.0
MJAR	Matsushiro Arr	44.64	13	P	P	16 28 43.0	-0.9
	comp=Z,6.0nm,0.8s,baz=188,slow=8.3,SNR=16						
MAT	Matsushiro	44.64	13	P	P	16 28 42.6	-1.4
HHC	Hu-ho-hao-te	49.59	345	eP	P	16 29 24.0	+2.3
HHC				pmax	pmax		
	comp=Z,26nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,6.3s						
LSA	Lhasa	49.95	319	eP	P	16 29 25.2	+0.3
	comp=Z,4.9nm,0.8s						
USRK	Ussuriysk Ar.	51.18	5	P	P	16 29 33.2	0.0
	comp=Z,4.7nm,0.8s,baz=176,slow=6.1,SNR=8.2						
GTA	Gaotai	52.43	334	eP	P	16 29 42.6	0.0
GTA				pP	pP	16 31 03.5	-2.7
GTA				sP	sP	16 31 48.9	-2.8
GTA				pmax	pmax		
	comp=Z,12nm,1.0s						
GUN	Gumba	52.48	313	eP	P	16 29 43.4	0.0
	comp=Z,26nm,0.7s						
PKIN	Phulchoki	52.64	313	eP	P	16 29 43.7	-0.8
	comp=Z,2.1nm,0.4s						
KKN	Kakani	52.85	313	eP	P	16 29 45.7	-0.2
	comp=Z,6.5nm,0.7s						
DMN	Daman	52.87	312	eP	P	16 29 45.5	-0.7
	comp=Z,23nm,1.0s						
RPZ	Rata Peaks	53.31	141	P	P	16 29 49.7	+1.0
	comp=Z,12nm,0.8s,baz=213,slow=6.8,SNR=6.9						
GKN	Gorkha	53.44	313	eP	P	16 29 49.9	-0.2
	comp=Z,17nm,0.6s						
KOLN	Koldanda	54.07	312	eP	P	16 29 54.7	0.0
	comp=Z,23nm,0.7s						
PYUN	Piuthan	54.70	312	eP	P	16 29 59.4	+0.2
	comp=Z,52nm,0.9s						
KLR	Kul'dur	56.16	4	P	P	16 30 08.3	-0.4
	comp=Z,0.9nm,0.8s,baz=226,slow=2.6,SNR=4.1						
ULN	Ulaanbaatar	57.30	344	eP	P	16 30 17.0	+0.2
	comp=Z,6.3nm,0.9s						
SONM	Songino Array	57.45	344	P	P	16 30 18.1	+0.3
	comp=Z,4.0nm,0.9s,baz=164,slow=7.1,SNR=23						
SONM				PcP	PcP	16 31 05.9	-0.4
	comp=Z,0.5nm,0.7s,baz=160,slow=4.6,SNR=2.6						
SONA1	Songino Array	57.46	344	eP	P	16 30 17.6	-0.3
CASY	Casey	60.24	187	eP	P	16 30 36.5	+0.2
	comp=Z,4.4nm,0.8s						
WMQ	Urumqi	61.62	329	P	P	16 30 46.3	+0.3
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
PEA0	Petropavlovsk-	65.41	20	eP	P	16 31 10.8	+0.7
PETK	Petropavlovsk-	65.41	20	P	P	16 31 11.0	+0.9
	comp=Z,7.6nm,0.7s,baz=192,slow=5.2,SNR=9.6						
MK31	Makanchi Array	66.44	328	eP	P	16 31 16.4	-0.4
MKAR	Makanchi Array	66.44	328	P	P	16 31 16.6	-0.2
	comp=Z,3.9nm,0.9s,baz=127,slow=7.9,SNR=21						
MKAR	Makanchi Array	66.44	328	eP	P	16 31 16.4	-0.4
TKM2	Tokmak 2	67.89	322	eP	P	16 31 25.7	-0.4
	comp=Z,2.6nm,0.8s						
MA2	Magadan	69.08	13	P	P	16 31 33.5	+0.7
	comp=Z,7.1nm,0.8s,baz=223,slow=5.7,SNR=10						
ZALV	Zalesovo Beam	70.14	335	P	P	16 31 38.5	-0.8
	comp=Z,9.2nm,0.8s,baz=127,slow=4.4,SNR=31						
KKAR	Karatay Array	71.17	320	P	P	16 31 44.0	-1.7
	comp=Z,1.1nm,0.3s						
SEY	Seymchan	72.45	12	P	P	16 31 53.1	+0.4
	comp=Z,7.4nm,0.8s,baz=209,slow=4.2,SNR=32						
VNDA	Vanda	72.87	172	P	P	16 31 55.1	+0.1
	comp=Z,1.0nm,0.6s,baz=328,slow=6.9,SNR=11						
VNDA	Vanda	72.87	172	eP	P	16 31 54.8	-0.2
	comp=Z,10nm,1.8s						
BVAR	Borovoye Array	76.31	329	P	P	16 32 14.7	-0.2
	comp=Z,2.3nm,0.7s,baz=134,slow=6.4,SNR=18						
ZRNK	Zerenda	76.99	328	eP	P	16 32 17.9	-0.8
	comp=Z,7.6nm,1.0s						
TIXI	Tiksi	78.49	1	P	P	16 32 25.7	-0.8
	comp=Z,6.6nm,1.0s,baz=184,slow=2.8,SNR=13						
TIXI	Tiksi	78.49	1	eP	P	16 32 25.3	-1.2
	comp=Z,6.3nm,1.1s						
ABKAR	Akbulak array	80.45	322	eP	P	16 32 36.5	-0.8
	comp=Z,0.6nm,0.6s						
NRIK	Noril'sk	80.77	347	P	P	16 32 38.5	-0.1
	comp=Z,1.7nm,0.5s,baz=92,slow=4.5,SNR=4.1						
PDAR	Pinedale Array	119.24	45	PKP	PKPdf	16 39 11.3	-0.4
	comp=Z,0.2nm,0.6s,baz=272,slow=5.1,SNR=2.9						
CPUP	Villa Florida	146.65	174	PKPbc	PKPdf	16 40 03.3	+0.6
	comp=Z,1.8nm,0.8s,baz=214,slow=3.2,SNR=5.3						

*ARO **01** 16:22:29.2,16°N±14°×4°2E±6°4,h15km±99km,ML3.9*
*DHMR **01** 16:22:37.5±1.8,14°.93N×42°.10E,h2km±21km,ML4.0*
*CSEM **01** 16:22:37.5,14°.93N×42°.10E,h2km,ML4.0*
*ISCJB **01** 16:22:39.4±0.9,14°.84N±0°.06×41°.99E±0°.06,h10km, mb3.7/3,Error ellipse: s-maj=9.8km s-min=6.7km az=36.7*
*IDC **01** 16:22:41.9±15.0,14°.57N×42°.21E,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.3/47,mbtmp3.7/3,Error ellipse: s-maj=346.1km s-min=48.6km az=11.0*
*SGS **01** 16:23:06.9,16°.70N×42°.37E,h11km*
ISC 01 16:22:38.4±1.6,14°.90N±0°.05×42°.13E±0°.07,h10km,n19, σ1s.57/25,mb3.9/3,1C,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAJJ	Hajjah	1.63	61	i P	Pb	16 23 08.3	-0.4
HAJJ				i S	Sg	16 23 30.2	-0.6
HAJJ				AML	AML	16 23 45.1	
	comp=Z,1μm,0.8s						
HAJJ	Hajjah	1.63	61	i P	Pb	16 23 08.3	-0.4
HAJJ				i S	Sg	16 23 30.2	-0.6
	comp=Z,749nm,0.8s						
UDYN	Al 'Udayn	2.01	117	i P	Pb	16 23 13.9	-1.3
UDYN				i S	Sg	16 23 43.3	+0.1
SANA	San'a	2.07	76	i P	Pb	16 23 15.6	-0.6
SANA				i S	Sg	16 23 44.2	-0.7
DHBB	Dhamar BB	2.22	98	i P	Pb	16 23 18.1	-0.7
DHBB				i S	Sg	16 23 48.4	-1.3
DHBB	Dhamar BB	2.22	98	i P	Pb	16 23 18.1	-0.7
DHBB				i S	Sg	16 23 48.4	-1.3
TRBA	At Turbah	2.55	130	⇑i P	Pn	16 23 21.5	+1.5
TRBA				i S	Sg	16 23 58.4	-1.9
TRBA				AML	AML	16 24 11.4	
	comp=E,731nm,0.7s						
MAOD	Malaho	2.79	178	eP	Pn	16 23 24.1	+0.9
DJNS	Zahran al Janu	3.10	26	P	Pb	16 23 31.9	-1.9
OBO	Obock	3.11	158	eP	Pn	16 23 28.9	+1.4
TDD	Tadjoura Ara	3.17	166	eP	Pn	16 23 29.9	+1.4
ATD	Arta Tunnel	3.42	168	eP	Pn	16 23 33.7	+1.8
BDHA	Al Bayda'	3.46	105	i P	Pn	16 23 35.7	+3.1
BDHA				i S	Sb	16 24 21.5	-0.7
BDHA				AML	AML	16 24 33.6	
	comp=N,1μm,0.5s						
BDHA	Al Bayda'	3.46	105	i P	Pn	16 23 35.7	+3.1
BDHA				i S	Sb	16 24 21.5	-0.7
	comp=N,575nm,0.5s						
SGH	Sud-Ghoubbet	3.48	172	eP	Pn	16 23 34.6	+1.9
ATA	Atar	3.58	163	eP	Pn	16 23 36.2	+2.2
GERES	GERESS Array B	41.10	331	P	P	16 30 30.2	+7.7
	comp=N,0.5nm,0.6s,baz=129,slow=4.2,SNR=5.4						
MKAR	Makanchi Array	46.11	38	P	P	16 31 09.5	+6.7
	comp=N,1.2nm,0.8s,baz=239,slow=6.2,SNR=9.0						
SONM	Songino Array	61.86	43	P	P	16 33 04.5	+6.4
	comp=N,0.7nm,0.8s,baz=263,slow=7.3,SNR=5.2						

MEX 01 16:23:02.7±0.7,14°.59N×93°.35W,h16km±999km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.12	7	eP	Pb	16 23 19.5	-4.1
PCIG				i S	Sb	16 23 33.2	-4.7
CCIG	Comitan	2.05	35	eP	Pn	16 23 33.6	-3.1
CCIG				i S	Sn	16 23 58.5	-3.6

*ISCJB **01** 16:24:56.7±1.1,27°.75S±0°.04×71°.1W±0°.1,h67km±7km, mb4.0/2,Error ellipse: s-maj=21.7km s-min=6.6km az=2.7*
*GUC **01** 16:25:00.9±0.4,28°.14S×70°.50W,h72km±10km,ML3.8*
*SJA **01** 16:25:00.6±1.1,28°.01S×71°.03W,h54km±16km,ML3.6, MW4.2*
*IDC **01** 16:25:21.9±7.9,24°.35S×65°.74W,h0km,mb4.2/2, mb1 4.0/3,mb1mx3.7/30,mbtmp4.1/3,ML4.4/1,Error ellipse: s-maj=351.8km s-min=34.5km az=14.0*
ISC 01 16:24:56.6±1.5,27°.78S±0°.05×71°.3W±0°.1,h64km±11km, n23,σ2s.09/26,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.82	31	i P	Pn	16 25 12.4	-0.1
CDCH				i S	Sn	16 25 22.8	-1.5
VACH	Vallenar	0.93	149	i P	Pn	16 25 14.3	+0.5
VACH				i S	Sn	16 25 24.8	-1.8
CPCH	Copiapo	0.94	64	i P	Pn	16 25 21.7	+7.7
CPCH				i S	Sn	16 25 32.0	+5.2
LCO	Las Campanas	1.34	157	eP	Pn	16 25 20.3	+0.8
LCO				eS	Sn	16 25 35.0	-1.5
LCO	Las Campanas	1.34	157	i P	Pn	16 25 19.6	+0.1
LCO				i S	Sn	16 25 33.9	-2.7
LCO				AML	AML	16 25 37.5	
	comp=E,3μm,0.3s						
TLL	Tololo Astrono	2.42	170	i P	Pn	16 25 35.2	+1.1
TLL				i S	Sn	16 26 00.9	-1.8
TLL				AML	AML	16 26 09.9	
	comp=N,1μm,0.6s						
VCA	Vinchina	2.89	110	eP	Pn	16 25 41.8	+1.5
VCA				IAML		16 26 21.3	
	comp=Z,299nm,0.3s						
AGUA	GUANDACOL	3.00	125	eP	Pn	16 25 44.2	+2.4
AMOG	MOGNA	3.99	143	eP	Pn	16 25 57.3	+2.0
RTLL	Cerro Villicun	4.31	146	eP	Pn	16 26 01.4	+1.8
RTLS	Leoncito	4.37	157	eP	Pn	16 26 03.8	+3.1
RTCV	Cerro Valdivia	4.72	150	eP	Pn	16 26 07.4	+2.0
AUSP	Uspallata	4.73	160	eP	Pn	16 26 09.2	+3.6
CYA	Choya	4.90	99	eP	Pn	16 26 06.6	-1.1
CYA				IAML		16 26 27.3	
	comp=Z,35nm,0.3s						
AHML	Horco Molle	5.40	81	eP	Pn	16 26 14.4	-0.2
AHML				IAML		16 26 44.9	
	comp=Z,26nm,0.4s						
LVC	Limon Verde	5.58	23	Pn	Pn	16 26 16.3	-1.1
	comp=Z,34nm,0.3s,baz=166,slow=7.3,SNR=26						
ACAN	Cantantal	5.72	143	eP	Pn	16 26 19.6	+0.5
MRA	San Martin	6.69	135	eP	Pn	16 26 31.5	-0.8
MRA				IAML		16 28 09.6	
	comp=Z,35nm,0.5s						
TCA	Tanti	6.83	123	eP	Pn	16 26 32.4	-1.8
TCA				IAML		16 27 49.0	
	comp=Z,16nm,0.7s						
DBIC	Dimbokro	72.64	73	P	P	16 36 17.8	-0.1
	comp=Z,2.6nm,0.6s,baz=193,slow=6.1,SNR=4.6						
TORD	Torodi Ar. Bea	81.50	70	P	P	16 37 07.5	0.0
	comp=Z,1.2nm,0.7s,baz=257,slow=4.2,SNR=6.1						
ZALV	Zalesovo Beam	148.52	27	PKP	PKPab	16 44 57.4	+18
	comp=Z,1.4nm,0.7s,baz=299,slow=3.4,SNR=6.1						
MKAR	Makanchi Array	151.89	40	PKPbc	PKPab	16 45 03.3	+10
	comp=Z,0.4nm,0.4s,baz=280,slow=1.9,SNR=5.9						

*NEIC **01** 16:27:44.7±0.5,52°.23N×170°.00W,mb4.2/2,ML3.8(AEIC), Error ellipse: s-maj=13.1km s-min=3.8km az=161.0*
*IDC **01** 16:27:44.2±0.7,52°.20N×170°.10W,h36km±5km,mb3.7/25, mb1 3.9/27,mb1mx3.8/55,mbtmp3.9/27,ML3.8/2,Error ellipse: s-maj=18.5km s-min=12.0km az=180.0*
ISC 01 16:27:43.5±0.7,52°.3N±0°.1×170°.03W±0°.05,h29km,n54, σ1s.25/64,mb4.0/27,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.00	45	P	Pn	16 28 00.5	-1.1
NIKH				S	Sb	16 28 17.2	+2.1
OKWR	Okmok West Rim	1.60	43	P	Pn	16 28 10.7	+0.7
OKTU	Okmok Mt. Tuli	1.64	47	P	Pn	16 28 10.7	+0.3
OKTU				S	Sb	16 28 34.2	+0.9
OKRE	Okmok R'deer P	1.68	42	P	Pn	16 28 12.1	+1.1
MSOM	Makushin Julie	2.42	49	P	Pn	16 28 22.1	+1.1
KOFP	Korovin Flat P	2.50	272	P	Pn	16 28 23.8	+1.5
KOFP				S	Sb	16 28 55.9	-2.1
MSW	Makushin Switc	2.56	49	P	Pn	16 28 23.3	+0.4
KOKL	Mount Kliuchef	2.56	273	P	Pn	16 28 25.3	+2.2
KOWE	Korovin West	2.59	274	P	Pn	16 28 26.3	+2.8
MTBL	Makushin Table	2.64	49	P	Pn	16 28 26.0	+1.8
UNV	Unalaska Valle	2.65	52	P	Pn	16 28 24.2	0.0
UNV				S	Sb	16 29 00.8	-1.4
AKRB	Akutan Reef Bi	3.02	51	P	Pn	16 28 30.2	+0.9
ZRO	Akutan Zero	3.04	52	P	Pn	16 28 31.5	+1.8
AHB	Akutan Harbor	3.13	52	P	Pn	16 28 32.5	+1.5
AKUT	Akutan	3.17	52	ePn	Pn	16 28 34.3	+2.9
AKSA	Akutan Strait	3.20	53	P	Pn	16 28 34.4	+2.5
GSMY	Great Sitkin M	3.72	269	P	Pn	16 28 39.9	+1.0
GSTD	Great Sitkin T	3.77	269	P	Pn	16 28 40.7	+1.0
GSCK	Great Sitkin C	3.79	268	P	Pn	16 28 40.9	+1.1
TAPA	Tanaga Point A	4.83	268	P	Pn	16 28 57.1	+2.9
SDPT	Sand Point	6.44	58	ePn	Pn	16 29 16.6	+0.3
ILAR	Eielson Array	17.26	35	P	Pn	16 31 42.5	+0.4
	0.1nm,0.3s,baz=226,slow=9.8,SNR=6.0						
PETK	Petropavlovsk-	19.49	285	P	P	16 32 08.7	+0.6
	2.5nm,0.3s,baz=84,slow=14,SNR=42						
SEY	Seymchan	22.43	313	P	P	16 32 39.7	+0.1
	1.9nm,0.7s,baz=114,slow=9.6,SNR=6.4						
MA2	Magadan	22.86	304	P	P	16 32 45.6	+1.5
	6.5nm,0.7s,baz=105,slow=10,SNR=10						
DLBC	Dease Lake	23.28	59	P	P	16 32 51.0	+2.5
	4.0nm,1.1s,baz=281,slow=12,SNR=3.8						
YKA	Yellowknife Ar	30.61	49	P	P	16 33 55.0	+0.5
	0.9nm,0.6s,baz=271,slow=7.4,SNR=6.5						
YKA	Yellowknife Ar	30.61	49	P	P	16 33 55.0	+0.5
TIXI	Tiksi	32.60	329	P	P	16 34 11.8	-0.2
	0.3nm,0.3s,baz=117,slow=11,SNR=3.3						
TIXI				PcP	PcP	16 36 57.4	0.0
	0.8nm,0.3s,baz=87,slow=3.2,SNR=7.2						
NVAR	Mina Array Bea	38.07	90	P	P	16 34 59.9	+0.2
	0.9nm,0.8s,baz=298,slow=6.6,SNR=4.4						
MJAR	Matsushiro Arr	39.28	267	P	P	16 35 08.0	-1.6
	0.9nm,0.7s,baz=39,slow=5.8,SNR=3.7						
PDAR	Pinedale Array	40.82	79	P	P	16 35 22.5	0.0
	1.9nm,0.5s,baz=293,slow=3.7,SNR=21						
KSRS	Korea Array	45.01	276	P	P	16 35 55.7	-0.5
	1.1nm,0.8s,baz=55,slow=7.4,SNR=6.7						
KSAR	Wonju Array Be	45.04	276	P	P	16 35 55.7	-0.7
SONM	Songino Array	51.00	301	P	P	16 36 42.7	+0.2
	0.5nm,0.6s,baz=58,slow=6.2,SNR=5.8						
SONM				pP	sP	16 36 53.6	-1.2
	0.5nm,0.6s,baz=78,slow=5.4,SNR=3.7						
SONM				PcP	PcP	16 37 58.2	-0.1
	0.8nm,0.7s,baz=50,slow=2.0,SNR=6.1						
TXAR	Lajitas Array	53.16	88	P	P	16 36 58.4	-0.4
	1.4nm,0.7s,baz=296,slow=5.6,SNR=12						
ARCES	ARCESS Array B	57.97	354	P	P	16 37 31.9	-0.7
	0.7nm,0.5s,baz=26,slow=8.6,SNR=4.8						
BVAR	Borovoye Array	63.54	324	P	P	16 38 10.6	-0.2
	4.4nm,0.6s,baz=48,slow=6.8,SNR=23						
MKAR	Makanchi Array	63.57	313	P	P	16 38 09.7	-1.4
	0.2nm,0.3s,baz=56,slow=6.6,SNR=4.9						
MKAR				pP	pP	16 38 20.9	+0.8
	0.2nm,0.2s,baz=57,slow=8.8,SNR=2.0						
FINES	FINESS Array B	65.90	352	P	P	16 38 25.4	-0.6
	1.2nm,0.7s,baz=6.8,slow=8.2,SNR=6.4						
NOA	NORSAR Array B	67.03	359	P	P	16 38 33.3	0.0
	0.9nm,0.7s,baz=5.3,slow=6.7,SNR=3.3						
ABKAR	Akbulak array	70.30	328	eP	P	16 38 53.4	-0.4
	0.4nm,0.4s						
LSA	Lhasa	72.12	295	eP	P	16 39 06.2	+0.4
	3.4nm,0.6s						
AKASG	Malin Array Be	76.11	348	P	P	16 39 27.3	-0.8
	1.3nm,0.6s,baz=14,slow=5.9,SNR=5.5						
CMAR	Chiang Mai Arr	76.24	282	P	P	16 39 29.4	+0.1
	2.2nm,0.7s,baz=26,slow=6.9,SNR=15						
GERES	GERESS Array B	79.20	357	P	P	16 39 45.6	+0.1
	0.2nm,0.3s,baz=29,slow=6.1,SNR=4.9						
KBZ	Khabaz	80.23	336	P	P	16 39 51.9	+0.9
	1.1nm,0.8s,baz=63,slow=4.5,SNR=3.5						
GEYT	Alibeck	80.86	323	P	P	16 39 53.9	-0.7
	1.2nm,0.6s,baz=349,slow=3.2,SNR=4.2						
BRTR	Keskin Array B	86.08	342	P	P	16 40 21.9	+0.3
	0.9nm,0.7s,baz=296,slow=1.2,SNR=6.2						
WRA	Warramunga Arr	86.63	231	P	P	16 40 22.8	-1.3
	0.3nm,0.8s,baz=35,slow=5.3,SNR=4.4						
WRA				pP	pP	16 40 34.2	+0.8
	0.9nm,0.7s,baz=34,slow=5.8,SNR=5.9						
ESDC	Sonseca Array	87.62	11	P	P	16 40 29.4	+0.4
	0.2nm,0.3s,baz=1.6,slow=4.1,SNR=3.7						
ASAR	Alice Springs	90.03	230	P	P	16 40 38.9	-1.3
	1.4nm,0.6s,baz=25,slow=4.7,SNR=28						
ASAR				pP	pP	16 40 51.0	+1.5
	2.2nm,0.9s,baz=25,slow=5.0,SNR=9.6						
MATP	Matopo	145.09	329	PKPbc	PKPbc	16 47 17.1	-0.5
	3.0nm,0.7s,baz=356,slow=3.2,SNR=7.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	150.30	330	PKPbc	PKPbc	16 47 32.2	+0.4
	4.9nm,0.6s,baz=16,slow=0.8,SNR=11						

*NEIC **01** 16:29:50.3, 19°.23N×64°.63W, h24km, MD3.5(RSPR), After RSPR.*
*RSPR **01** 16:29:50.3, 19°.23N×64°.63W, h24km±32km, MD3.4/4*
ISC 01 16:29:50.0±2.7**, 19°.1N**±0°.2×**64°.62W**±0°.05**, h42**km**, n26, σ0s.48**/35**, 19C-4D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABV	Anegada	0.49	146	⇑eP	Pn	16 30 00.4	-0.3
ABV	Anegada	0.49	146	eS	Sn	16 30 08.7	+0.4
ABV	Anegada	0.49	146	⇑eP	Pn	16 30 00.4	-0.3
ABV	Anegada	0.49	146	⇑eP	Pn	16 30 00.4	-0.3
ABV				eS	Sn	16 30 08.7	+0.4
ABVI	Anegada Island	0.49	146	⇑eP	Pn	16 30 00.4	-0.3
ABVI				eS	Sn	16 30 08.7	+0.4
STVI	Saint Thomas	0.84	202	⇑eP	Pn	16 30 04.8	-0.6
STVI				eS	Sn	16 30 16.3	-0.4
STVI	Saint Thomas	0.84	202	eS	Sn	16 30 17.6	+0.9
STVI	Saint Thomas	0.84	202	⇑eP	Pn	16 30 04.9	-0.5
STVI	Saint Thomas	0.84	202	⇑eP	Pn	16 30 04.8	-0.6
STVI				eS	Sn	16 30 16.3	-0.4
STVI	Saint Thomas	0.84	202	⇑eP	Pn	16 30 04.9	-0.5
STVI	Saint Thomas	0.84	202	⇑eP	Pn	16 30 04.8	-0.6
STVI	Saint Thomas	0.84	202	⇑eP	Pn	16 30 04.9	-0.5
STVI				eS	Sn	16 30 16.3	-0.4
STVI				eS	Sn	16 30 17.6	+0.9
STVI	Saint Thomas	0.84	202	⇑eP	Pn	16 30 04.8	-0.6
STVI				eS	Sn	16 30 17.6	+0.9
MTP	Monte Pirata	1.36	220	⇑eP	Pn	16 30 12.5	0.0
MTP	Monte Pirata	1.36	220	⇑eP	Pn	16 30 12.5	0.0
MTP	Monte Pirata	1.36	220	⇑eP	Pn	16 30 12.5	0.0
MTP	Monte Pirata	1.36	220	⇑eP	Pn	16 30 12.5	0.0
CBYP	Canovanas	1.45	234	⇑eP	Pn	16 30 13.3	-0.5
CBYP	Canovanas	1.45	234	eS	Sn	16 30 32.0	+0.3
CBYP	Canovanas	1.45	234	⇑eP	Pn	16 30 13.3	-0.5
CBYP	Canovanas	1.45	234	⇑eP	Pn	16 30 13.3	-0.5
CBYP				eS	Sn	16 30 32.0	+0.3
CBYP	Canovanas	1.45	234	⇑eP	Pn	16 30 13.3	-0.5
CBYP				eS	Sn	16 30 32.0	+0.3
HUMP	Col San Antoni	1.53	230	⇓eP	Pn	16 30 15.0	+0.2
HUMP	Col San Antoni	1.53	230	⇓eP	Pn	16 30 15.0	+0.2
HUMP	Col San Antoni	1.53	230	⇓eP	Pn	16 30 15.0	+0.2
HUMP	Col San Antoni	1.53	230	⇓eP	Pn	16 30 15.0	+0.2

*NIED **01** 16:39:00, 41°.70N×142°.20E, h26km, Mw4.2 Best double couple: $M_0$2.29000×10^15 NP1:ϕ_s164.00000°, δ27.00000°, λ83.00000°. NP2:ϕ_s352.00000°, δ63.00000°, λ94.00000°.*
*JMA **01** 16:39:26.8±0.1, 41°.67N×142°.24E, h42km±4km, M4.1*
JMA Felt II J1.
*BJI **01** 16:39:27.1, 41°.64N×142°.33E, h61km, mb4.6/34, mB4.9/22, Ms4.1/13, Ms7 3.8/13*
*MOS **01** 16:39:27.1±1.1, 41°.76N×142°.25E, h47km, mb4.8/20, Error ellipse: s-maj=8.5km s-min=5.5km az=93.2*
*ISCJB **01** 16:39:27.5±0.3, 41°.74N±0°.02×142°.23E±0°.03, h50km±2km, mb4.4/60, MS3.4/1, Error ellipse: s-maj=4.8km s-min=2.8km az=137.6*
*IDC **01** 16:39:28.6±0.7, 41°.78N×142°.11E, h37km±5km, mb3.9/21, mb1 4.1/25, mb1mx4.0/44, mbtmp4.1/25, ML4.4/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/55, Error ellipse: s-maj=15.4km s-min=11.1km az=118.0*
*NEIC **01** 16:39:30.9±0.6, 41°.81N×142°.23E, h62km±5km, mb4.7/10, Error ellipse: s-maj=8.2km s-min=5.1km az=122.0*
NEIC Recorded [2 JMA] in Aomori, Honshu.
ISC 01 16:39:27.5±0.5**, 41°.76N**±0°.03×**142°.23E**±0°.03**, h31**km±3km**, h31**km**:pP-P, n157, σ1s.90**/187**, mb4.5**/60**, 6C-9D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.65	37	⇓P	Pb	16 39 39.9	-0.5
ERM	Erimo	0.73	70c	iP	Pn	16 39 41.5	-0.2
JEM	Erimo	0.73	70	⇓P	Pn	16 39 41.2	-0.5
JEM				eS	Sb	16 39 51.5	-0.1
JKB	Kayabe	0.91	278	⇓P	Pn	16 39 43.0	-1.1
JKB				eS	Sn	16 39 54.7	-1.4
JOT	Ohata	0.97	247	⇓P	Pn	16 39 43.8	-1.1
JOT				eS	Sn	16 39 56.2	-1.4
JBT2	Biratori 2	1.02	5	⇓P	Pb	16 39 46.3	-0.3
JNB	Noboribetsu	1.14	309	⇑P	Pn	16 39 46.7	-0.5
JNB				eS	Sn	16 40 01.0	-0.7
JCH	Churui	1.20	44	⇓P	Pn	16 39 48.6	+0.5
JCH				eS	Sb	16 40 05.1	+0.4
JEW	Eniwo	1.22	332	P	Pn	16 39 49.0	+0.5
JEW				eS	Sb	16 40 05.5	0.0
JTM	Tenmabayashi	1.31	222	⇓P	Pn	16 39 49.4	-0.3
JTM				eS	Sn	16 40 05.5	-0.6
JSR	Shiriuchi	1.38	261	P	Pn	16 39 50.2	-0.4
JSR				eS	Sn	16 40 07.8	0.0
JFR	Furan	1.43	11	P	Pn	16 39 51.9	+0.6
JFR				eS	Sb	16 40 10.8	-0.5
JYM2	Yakumo 2	1.44	285	P	Pn	16 39 51.3	0.0
JYM2				eS	Sn	16 40 09.8	+0.7
JANG	Nango	1.49	202	P	Pn	16 39 50.6	-1.5
JANG				eS	Sn	16 40 08.1	-2.4
JSI2	Shiura 2	1.54	243	⇓P	Pn	16 39 52.7	-0.1
JOB	Onbets	1.65	46	⇓P	Pb	16 39 56.0	-1.2
JAB	Ashibetsu	1.74	360	P	Pb	16 39 57.2	-1.6
JAB				eS	Sb	16 40 20.0	-0.3
ASAJ	Asahikawa	2.37	6	Pn	Pn	16 40 05.7	+1.5
	29nm,0.3s,baz=211,slow=12,SNR=373						
ASAJ				Sn	Sn	16 40 34.8	+2.6
	45nm,0.3s,baz=124,slow=9.8,SNR=6.4						
YUK	Yuzh-Kuril'sk	3.50	48	eP	Pn	16 40 20.6	+0.9
YSS	Yuzh-Sakhalins	5.20	4	⇑eP	Pn	16 40 47.2	+4.1
YSS				eS	Sn	16 41 45.1	+3.1
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=N,40nm,0.5s						
YSS				smax	smax		
	comp=N,30nm,1.4s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
YSS				MLR	MLR		
	comp=N,400nm,15.0s						
YSS				MLR	MLR		
	comp=E,400nm,15.0s						
YSS	Yuzh-Sakhalins	5.20	4	ePn	Pn	16 40 46.0	+2.9
KUR	Kuril'sk	5.37	48	eP	Pn	16 40 47.4	+2.0
KUR				eS	Sn	16 41 51.0	+4.9
KUR				pmax	pmax		
	comp=E,13nm,1.0s						
KUR				pmax	pmax		
	comp=Z,42nm,1.0s						
KUR				pmax	pmax		
	comp=N,19nm,0.5s						
KUR				smax	smax		
	comp=E,7.0nm,0.3s						
KUR				smax	smax		
	comp=N,29nm,0.6s						
MJB9	Matsu-Tunnel	6.08	212	ePn	Pn	16 40 57.9	+2.7
MAJO	Matsushiro	6.08	212	iP	Pn	16 40 55.5	+0.3
MAJO	Matsushiro	6.08	212	ePn	Pn	16 40 57.7	+2.5
MAT	Matsushiro	6.08	212	P	Pn	16 40 57.7	+2.5
MAT				eS	Sn	16 42 08.4	+4.7
MJAR	Matsushiro Arr	6.08	212	Pn	Pn	16 40 57.6	+2.3
	comp=N,1.2nm,0.3s,baz=23,slow=15,SNR=22						
MJAR				LR	LR	16 43 47.9	
	comp=N,309nm,19.4s,baz=20,slow=43						
INU	Inuyama	7.59	214	ePn	Pn	16 41 20.6	+4.6
USRK	Ussuriysk Ar.	7.90	291	Pn	Pn	16 41 22.2	+2.1
	comp=N,0.5nm,0.3s,baz=98,slow=15,SNR=8.8						
HABR	Khabarovsk	8.41	325	eP	Pn	16 41 22.7	-4.4
HABR				e		16 42 55.3	
HABR				pmax	pmax		
	comp=N,4.0nm,0.8s						
HABR				pmax	pmax		
	comp=E,17nm,1.6s						
HABR				pmax	pmax		
	comp=Z,20nm,1.6s						
HABR				MLR	MLR		
	comp=Z,168nm,14.0s						
TYV	Tymovskoe	9.11	2	eP	Pn	16 41 39.0	+2.3
TYV				pmax	pmax		
	comp=Z,22nm,1.0s						
MDJ	Mudanjiang	9.66	291	P	Pn	16 41 47.1	+2.8
MDJ				ScP	ScP	16 51 25.1	-2.9
MDJ				PMZ			
	comp=Z,7.0nm,1.1s						
MDJ				PMZ			
	comp=Z,84nm,3.9s						
MDJ				LN			
	comp=Z,150nm,13.1s						
MDJ				LE			
	comp=Z,170nm,15.0s						
MDJ				LZ			
	comp=Z,380nm,15.7s						
MDJ	Mudanjiang	9.66	291	Pn	Pn	16 41 47.8	+3.5
KLR	Kul'dur	10.48	319	Pn	Pn	16 41 58.5	+3.1
	comp=Z,0.1nm,0.3s,baz=124,slow=14,SNR=16						
KLR				LR	LR	16 46 11.3	
	comp=Z,270nm,18.3s,baz=130,slow=39						
KSRS	Korea Array	11.85	253	Pn	Pn	16 42 18.4	+4.2
	comp=Z,1.9nm,0.3s,baz=63,slow=14,SNR=45						
KSRS				Sn	Sn	16 44 30.4	+5.2
	comp=Z,1.3nm,0.3s,baz=66,slow=25,SNR=15						
KS01	Wonju Array Si	11.86	254	ePn	Pn	16 42 18.3	+3.9
KS01				eSn	Sn	16 44 29.9	+4.4
KS15	Wonju Array Si	11.88	253	ePn	Pn	16 42 18.9	+4.3
KS15				eSn	Sn	16 44 30.7	+4.6
KSAR	Wonju Array Be	11.88	253	P	Pn	16 42 18.4	+3.7
KSAR						16 44 30.4	
KSAR	Wonju Array Be	11.88	253	Pn	Pn	16 42 18.4	+3.7
KSAR				Sn	Sn	16 44 30.4	+4.3
CN2	Changchun	12.50	285	eP	Pn	16 42 27.0	+3.8
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				LN			
	comp=Z,300nm,12.0s						
CN2				LE			
	comp=Z,300nm,12.0s						
CN2				LZ			
	comp=Z,300nm,13.0s						
PETK	Petropavlovsk-	15.40	37	Pn	Pn	16 43 01.5	-0.9
	comp=Z,0.2nm,0.3s,baz=197,slow=4.6,SNR=3.6						
MA2	Magadan	18.61	14	P	P	16 43 40.6	-1.5
	comp=Z,0.4nm,0.3s,baz=215,slow=11,SNR=7.5						
MA2	Magadan	18.61	14	eP	P	16 43 41.1	-0.9
MA2				pmax	pmax		
	comp=Z,73nm,1.3s						
MA2	Magadan	18.61	14	eP	P	16 43 41.1	-0.9
	comp=Z,73nm,1.3s						
BJI	Beijing	19.75	274	P	P	16 43 53.4	-1.3
BJI				pP	sP	16 44 07.6	+0.7
BJI				S	S	16 47 28.8	-6.8
BJI				PMZ			
	comp=Z,12nm,0.8s						
BJI				PMZ			
	comp=Z,74nm,3.9s						
BJI				LN			
	comp=Z,130nm,15.6s						
BJI				LE			
	comp=Z,220nm,18.3s						
BJI				LZ			
	comp=Z,150nm,20.1s						
YAK	Yakutsk	21.65	344	eP	P	16 44 12.5	-2.5
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SEY	Seymchan	22.04	12	P	P	16 44 17.7	-1.5
	comp=Z,1.4nm,0.4s,baz=209,slow=8.5,SNR=14						
SEY	Seymchan	22.04	12	eP	P	16 44 17.3	-1.9
HHC	Hu-ho-hao-te	23.00	278	eP	P	16 44 30.3	+0.6
HHC				pP	sP	16 44 45.8	+3.7
HHC				PP	PnPn	16 45 00.7	+5.8
HHC				S	S	16 48 33.3	-4.9
HHC				PMZ			
	comp=Z,9.0nm,1.0s						
HHC				PMZ			
	comp=Z,100nm,5.8s						
HHC				LN			
	comp=Z,110nm,9.4s						
HHC				LE			
	comp=Z,150nm,9.6s						
HHC				LZ			
	comp=Z,160nm,9.1s						
ULN	Ulaanbaatar	25.54	296	eP	P	16 44 52.6	-0.8
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONA1	Songino Array	25.97	296	eP	P	16 44 56.5	-0.9
SONM	Songino Array	25.98	296	P	P	16 44 56.5	-0.9
	comp=Z,2.5nm,0.7s,baz=88,slow=8.9,SNR=18						
ZAK	Zakamensk	28.09	301	eP	P	16 45 13.4	-2.9
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
BILL	Bilibino	29.33	18	eP	P	16 45 25.2	-1.8
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
H11N2	WAKE ISLAND Hy	30.33	129	T	T	17 18 04.4	
	baz=321,slow=75,SNR=26						
H11N1	WAKE ISLAND Hy	30.34	129	T	T	17 18 03.5	
	baz=321,slow=75,SNR=34						
H11N3	WAKE ISLAND Hy	30.35	129	T	T	17 18 05.0	
	baz=321,slow=75,SNR=33						
TIXI	Tiksi	30.69	352	P	P	16 45 37.0	-2.0
	comp=Z,0.2nm,0.3s,baz=198,slow=3.7,SNR=2.4						
TIXI	Tiksi	30.69	352	eP	P	16 45 35.5	-3.4
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
H11S1	WAKE ISLAND Hy	31.18	131	T	T	17 19 04.5	
	baz=323,slow=76,SNR=99						
H11S3	WAKE ISLAND Hy	31.18	131	T	T	17 18 42.4	
	baz=323,slow=76,SNR=74						
H11S2	WAKE ISLAND Hy	31.20	131	T	T	17 19 05.6	
	baz=323,slow=76,SNR=88						
GTA	Gaotai	32.06	280	eP	P	16 45 41.9	-10
GTA				pP	pP	16 45 59.8	-0.8
GTA				sP	sP	16 46 09.4	+5.0
GTA				PcP	PcP	16 48 41.8	+1.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CD2	Chengdu	32.59	263	eP	P	16 45 55.8	-0.3
GYA	Guiyang	32.91	254	eP	P	16 46 00.2	+1.2
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
ZAA0	Zalesovo Array	39.34	308	eP	P	16 46 52.9	-0.7
ZAA0				ePcP	PcP	16 49 01.6	+0.1
ZALV	Zalesovo Beam	39.34	308	P	P	16 46 53.4	-0.3
	comp=Z,7.7nm,0.6s,baz=90,slow=7.9,SNR=26						
ZALV				PcP	PcP	16 49 02.0	+0.5
	comp=Z,2.7nm,0.7s,baz=118,slow=2.5,SNR=7.3						
WMQ	Urumqi	39.47	292	P	P	16 46 55.2	+0.3
WMQ				pP	sP	16 47 06.5	-1.3
WMQ				PMZ			
	comp=Z,6.0nm,0.6s						
WMQ				PMZ			
	comp=Z,34nm,4.6s						
WMQ				LN			
	comp=Z,51nm,12.4s						
WMQ				LE			
	comp=Z,130nm,13.8s						
WMQ				LZ			
	comp=Z,60nm,17.4s						
MK01	Makanchi Array	42.30	298	eP	P	16 47 17.4	-0.8
MK01				ePcP	PcP	16 49 11.3	-0.1
MK31	Makanchi Array	42.30	298	eP	P	16 47 17.4	-0.8
MK31	Makanchi Array	42.30	298	eP	P	16 47 17.4	-0.8
MKAR	Makanchi Array	42.30	298	P	P	16 47 17.7	-0.5
	comp=Z,5.5nm,0.6s,baz=84,slow=9.3,SNR=49						
MKAR				PcP	PcP	16 49 11.7	+0.3
	comp=Z,1.0nm,0.6s,baz=60,slow=5.8,SNR=4.2						
CAST	Castle Rocks	43.01	37	eP	P	16 47 25.0	+1.3
	comp=Z,20nm,1.8s						
CHTO	Chiang Mai	43.24	251	eP	P	16 47 27.3	+1.3
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CHTO	Chiang Mai	43.24	251	eP	P	16 47 27.3	+1.3
	comp=Z,6.6nm,1.2s						
CMAR	Chiang Mai Arr	43.47	251	P	P	16 47 28.4	+0.5
	comp=Z,0.9nm,0.5s,baz=41,slow=7.9,SNR=11						
CMAR				PcP	PcP	16 49 16.4	+0.7
	comp=Z,0.8nm,0.6s,baz=28,slow=2.2,SNR=6.4						
CMAR				LR	LR	17 06 47.8	
	comp=Z,51nm,19.5s,baz=45,slow=38						
CMAR	Chiang Mai Arr	43.47	251	iP	P	16 47 28.2	+0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	45.21	35	P	P	16 47 42.1	+0.9
	comp=Z,1.0nm,0.5s,baz=258,slow=5.5,SNR=16						
ILB	Eielson Array	45.21	35	eP	P	16 47 41.6	+0.4
IL1	Eielson Array	45.21	35	eP	P	16 47 41.5	+0.3
VOSK	Vostochnaya	47.71	309	iP	P	16 47 59.8	-1.2
VOSK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TKM2	Tokmak 2	48.07	295	iP	P	16 48 03.7	-0.5
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TKM2	Tokmak 2	48.07	295	eP	P	16 48 04.5	+0.2
ZRNK	Zerenda	48.78	310	eP	P	16 48 09.1	-0.2
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZRNK	Zerenda	48.78	310	eP	P	16 48 09.1	-0.2
	comp=Z,8.4nm,0.8s						
AAK	Ala-Archa	48.93	295	eP	P	16 48 09.9	-0.9
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH	Kashi	49.19	291	P	P	16 48 16.5	+3.7
KSH				pP	sP	16 48 33.5	+7.6
KSH				PMZ			
	comp=Z,92nm,5.2s						
EKS2	Erkin-Say	49.41	295	eP	P	16 48 13.6	-0.8
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKS2	Erkin-Say	49.41	295	eP	P	16 48 13.6	-0.8
	comp=Z,3.6nm,0.8s						
INK	Inuvik	49.92	29	P	P	16 48 18.5	+0.8
	comp=Z,1.5nm,0.6s,baz=285,slow=15,SNR=4.3						
MNAS	Manas	50.34	296	P	P	16 48 20.8	-0.7
MNAS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KK31	Karatay Array	51.42	297	iP	P	16 48 28.7	-0.7
KK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	Karatay Array	51.42	297	eP	P	16 48 28.8	-0.7
KKAR	Karatay Array	51.42	297	eP	P	16 48 28.8	-0.7
SVE	Sverdlovsk	52.09	316	⇑eP	P	16 48 34.9	+0.7
SVE				pmax	pmax		
	comp=Z,16nm,0.9s						
ARU	Arti	53.31	316c	iP	P	16 48 42.8	-0.4
ARU						16 49 50.3	
ARU						16 50 41.8	
ARU				S	S	16 56 13.7	+1.3
ARU				SS	SS	16 59 51.3	-0.5
ARU				pmax	pmax		
	comp=Z,13nm,1.2s						
PSI	Prapat	54.83	237	P	P	16 48 54.9	-0.1
	comp=Z,1.7nm,0.4s,baz=122,slow=3.2,SNR=3.7						
PSI				pP	sP	16 49 06.9	-1.2
	comp=Z,2.2nm,0.5s,baz=158,slow=6.7,SNR=2.4						
AB31	Akbulak array	55.46	308	iP	P	16 48 58.4	-0.5
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ABKAR	Akbulak array	55.46	308	eP	P	16 48 58.3	-0.6
YKA	Yellowknife Ar	59.43	32	P	P	16 49 27.6	+0.9
	comp=Z,0.6nm,0.7s,baz=306,slow=6.8,SNR=5.4						
ARCES	ARCESS Array B	59.81	339	P	P	16 49 29.5	+0.2
	comp=Z,1.7nm,0.6s,baz=52,slow=7.9,SNR=13						
KLMR	Klimovskoe	60.13	327	eP	P	16 49 29.9	-1.6
KLMR				e		16 50 14.6	
KLMR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DAG	Danmarks Havn	61.12	355	iP	P	16 49 37.5	-0.6
DAG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DAG	Danmarks Havn	61.12	355	iP	P	16 49 37.5	-0.6
	comp=Z,1.4nm,0.8s						
WRA	Warramunga Arr	61.83	188	P	P	16 49 42.4	-1.1
	comp=Z,3.5nm,0.8s,baz=6.0,slow=6.9,SNR=28						
GEYT	Alibeck	62.17	297	P	P	16 49 45.1	-0.8
	comp=Z,2.1nm,0.7s,baz=20,slow=4.7,SNR=5.5						
GEYT				pP	pP	16 49 56.0	+0.6
	comp=Z,2.4nm,0.6s,baz=18,slow=5.2,SNR=4.5						
OBN	Obninsk	64.72	322	eP	P	16 50 01.6	-0.7
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FIA1	FINESS Array S	64.94	332	eP	P	16 50 03.1	-0.5
FINES	FINESS Array B	64.95	332	P	P	16 50 03.5	-0.2
	comp=Z,14nm,0.5s,baz=56,slow=6.9,SNR=150						
AS01	Alice Springs	65.55	188	eP	P	16 50 07.3	-0.7
ASAR	Alice Springs	65.55	188	P	P	16 50 07.6	-0.4
	comp=Z,1.7nm,0.8s,baz=6.5,slow=7.6,SNR=21						
SUMG	Summit	65.96	0	eP	P	16 50 11.0	+0.4
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SUMG	Summit	65.96	0	iP	P	16 50 11.0	+0.4
	comp=Z,5.1nm,0.8s						
SUMG	Summit	65.96	0	eP	P	16 50 10.9	+0.4
	comp=Z,5.0nm,0.7s						
VSU	Vasula	66.72	329	eP	P	16 50 13.0	-2.1
VSU				pmax	pmax		
	comp=Z,22nm,0.8s						
KIV	Kislovodsk	68.33	310	eP	P	16 50 24.9	-0.8
KIV				pmax	pmax		
	comp=Z,23nm,0.9s						
ZEI	Tsey	68.33	308	eP	P	16 50 24.5	-1.4
ZEI				pmax	pmax		
	comp=Z,26nm,1.0s						
KBZ	Khabaz	68.34	310	P	P	16 50 26.0	+0.4
	comp=Z,5.7nm,0.8s,baz=48,slow=5.1,SNR=16						
NEY	Neytrino	68.73	309	eP	P	16 50 27.2	-1.2
GNI	Garni	69.43	306	eP	P	16 50 30.1	-2.6
GNI				pmax	pmax		
	comp=Z,18nm,1.1s						
NC405	NORSAR Array S	69.88	337	eP	P	16 50 34.8	-0.1
NB2	NORSAR Subarra	70.08	337	P	P	16 50 35.8	-0.4
	comp=Z,4.2nm,0.7s,baz=39,slow=6.5						
NB2	NORSAR Subarra	70.08	337	P	P	16 50 35.7	-0.4
NB2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA	NORSAR Array B	70.08	337	P	P	16 50 36.1	-0.1
	comp=Z,3.7nm,0.6s,baz=38,slow=6.2,SNR=15						
AKASG	Malin Array Be	70.97	322	P	P	16 50 41.1	-0.5
	comp=Z,3.9nm,0.5s,baz=45,slow=6.1,SNR=23						
KIEV	Kiev	70.98	322c	iP	P	16 50 41.1	-0.6
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIEV	Kiev	70.98	322	eP	P	16 50 40.5	-1.3
	comp=Z,7.4nm,0.8s						
AK11	Malin Array Si	71.01	322	eP	P	16 50 40.8	-1.1
NVAR	Mina Array Bea	71.69	55	P	P	16 50 48.6	+2.0
	comp=Z,0.3nm,0.6s,baz=313,slow=9.2,SNR=2.3						
NVAR				pP	sP	16 50 58.8	-1.1
	comp=Z,0.8nm,0.4s,baz=283,slow=5.9,SNR=3.9						
BUR08	Bucovina Ar. S	74.99	321	eP	P	16 51 04.7	-1.1
OJC	Ojcow	75.48	326	eP	P	16 51 08.1	-0.3
OJC				pmax	pmax		
	comp=Z,11nm,0.9s						
OJC	Ojcow	75.48	326	eP	P	16 51 08.1	-0.3
	comp=Z,11nm,0.9s						
BR131	Keskin Array S	76.21	311	eP	P	16 51 12.6	-0.3
BRTR	Keskin Array B	76.21	311	P	P	16 51 12.9	+0.1
	comp=Z,2.0nm,0.7s,baz=71,slow=3.8,SNR=15						
BRTR	Keskin Array B	76.21	311	iP	P	16 51 13.0	+0.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BR231	Keskin MP Arra	76.61	312	eP	P	16 51 13.2	-2.0
MORC	Moravsky Berou	76.75	327	eP	P	16 51 15.4	-0.3
MORC				pmax	pmax		
	comp=Z,22nm,0.9s						
MORC	Moravsky Berou	76.75	327	eP	P	16 51 15.4	-0.3
	comp=Z,22nm,0.9s						
DPC	Dobruska-Polom	76.80	328	eP	P	16 51 16.7	+0.8
DPC				epP	sP	16 51 29.4	+0.1
DPC	Dobruska-Polom	76.80	328	eP	P	16 51 16.7	+0.8
DPC				e		16 51 29.4	
CLL	Collm	77.32	330	iP	P	16 51 18.5	-0.2
	comp=Z,6.0nm,1.2s						
CLL				e		16 51 23.0	
CLL				e		16 51 32.0	
CLL				ePP	PP	16 54 12.0	-0.4
CLL	Collm	77.32	330	iP	P	16 51 18.5	-0.2
CLL				e		16 51 32.0	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KHC	Kasperske Hory	78.85	328	eP	P	16 51 27.0	-0.3
KHC				ex	x	16 51 40.0	
KHC	Kasperske Hory	78.85	328	eP	P	16 51 27.0	-0.3
KHC				e		16 51 40.0	
GERES	GERESS Array B	79.03	328	P	P	16 51 28.2	-0.2
	comp=Z,1.0nm,0.7s,baz=35,slow=7.3,SNR=7.0						
GERES				pP	sP	16 51 40.4	-1.5
	comp=Z,0.8nm,0.6s,baz=24,slow=4.7,SNR=3.0						
MOA	Molln	79.61	327	eP	P	16 51 31.2	-0.2
	comp=Z,3.1nm,0.9s						
SOKA	Soboth	80.23	326	iP	P	16 51 35.4	+0.5
	comp=Z,4.2nm,0.8s						
OBKA	Obir	80.56	326	iP	P	16 51 31.2	-5.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.1nm,0.5s						
KBA	**Koelnbreinsper**	**80.60**	**327**	P	**P**	**16 51 35.2**	**-1.8**
	comp=Z,2.8nm,0.7s						
MYKA	**Terra Mystica**	**80.84**	**327**	*i* P	**P**	**16 51 37.8**	**-0.4**
	comp=Z,1.4nm,0.4s						
WATA	**Walderalm**	**81.09**	**329**	*i* P	**P**	**16 51 37.7**	**-2.0**
	comp=Z,2.2nm,0.5s						
MOTA	**Moosalm**	**81.27**	**329**	*i* P	**P**	**16 51 41.1**	**+0.6**
	comp=Z,4.6nm,0.8s						
RETA	**Reutte**	**81.28**	**329**	*i* P	**P**	**16 51 37.2**	**-3.4**
	comp=Z,3.0nm,0.7s						
FETA	**Feichten**	**81.68**	**329**	*i* P	**P**	**16 51 43.2**	**+0.4**
	comp=Z,4.5nm,1.1s						
DAVA	**Damuels**	**81.78**	**329**	*i* pP	pP	16 51 55.5	+2.3
	comp=Z,9.6nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**82.19**	**329**	*e*P	**P**	**16 51 46.0**	**+0.4**
	comp=Z,6.8nm,0.7s						
TXAR	**Lajitas Array**	**86.75**	**53**	P	**P**	**16 52 09.6**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=272,slow=4.1,SNR=3.2						

JMA 01 16:40:56.0±0.2**,39°.46N**×**143°.82E,h15**km**,M3.9,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.55**	**275**	P	Pn	16 41 23.3	+0.2
MIYJ				*e*S	Sn	16 41 43.4	+0.5
JTH	**Tanohata**	**1.58**	**288**	P	Pn	16 41 24.1	+0.6
JOM	**Ohasama**	**1.96**	**271**	P	Pn	16 41 29.4	+0.8
JNBK	**Urakawa-nobuka**	**2.93**	**344**	*e*S	Sn	16 42 18.7	+1.7
JCH	**Churui**	**3.17**	**354**	*e*S	Sn	16 42 23.1	+0.2

*ISCJB **01** 16:48:05.9±1.0, 9°.05S±0°.10×108°.54E±0°.09, h31km, mb3.5/4, Error ellipse: s-maj=17.0km s-min=9.1km az=39.3*
*DJA **01** 16:48:05.5±0.5, 9°S±5°×10°9E±°, h10km, M3.9/12, mb4.2/1, MLv3.8/12*
*IDC **01** 16:48:15.7±4.1, 8°.91S×108°.65E, h111km±26km, mb3.3/4, mb1 3.5/5, mb1mx3.1/43, mbtmp3.7/5, Error ellipse: s-maj=142.4km s-min=18.9km az=51.0*
ISC 01 16:48:08.0±1.2**,9°.1S**±0°.1×**108°.54E**±0°.09**,h31**km**,n14,** σ**1°.71**/15**,mb3.5**/4**,South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**1.26**	**356**	P	**Pn**	**16 48 27.1**	**-2.5**
CISI	**Cisompet, Garu**	**1.65**	**334**	P	**Pn**	**16 48 33.2**	**-1.8**
KPJI	**Karang Pucung**	**1.75**	**13**	P	**Pn**	**16 48 36.0**	**-0.3**
CNJI	**Cibinong**	**2.23**	**321**	P	**Pn**	**16 48 42.5**	**-0.3**
UGM	**Wanagama**	**2.26**	**60**	P	**Pn**	**16 48 41.6**	**-1.8**
LEM	**Lembang**	**2.39**	**337**	P	**Pb**	**16 48 52.0**	**+1.5**
	25nm,0.3s,baz=224,slow=5.0,SNR=19						
LEM				S	**Sb**	**16 49 22.2**	**+2.5**
	21nm,0.3s,baz=163,slow=22,SNR=3.6						
LEM	**Lembang**	**2.39**	**337**	P	**Pb**	**16 48 51.5**	**+0.9**
PCJI	**Pacitan**	**2.74**	**72**	P	**Pn**	**16 48 48.6**	**-1.3**
PWJI	**Pagerwojo**	**3.38**	**73**	P	**Pn**	**16 48 57.6**	**-1.1**
JAGI	**Jajag, Banyuwa**	**5.58**	**84**	P	**Pn**	**16 49 30.2**	**+1.3**
WRA	**Warramunga Arr**	**27.18**	**116**	P	**P**	**16 53 47.4**	**-1.7**
	0.4nm,0.7s,baz=288,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**28.27**	**124**	P	**P**	**16 54 00.5**	**+1.7**
	0.4nm,0.6s,baz=294,slow=9.1,SNR=6.9						
STKA	**Stephens Creek**	**38.14**	**131**	P	**P**	**16 55 24.5**	**-0.2**
	2.0nm,0.7s,baz=308,slow=9.6,SNR=7.0						
MKAR	**Makanchi Array**	**60.33**	**340**	P	**P**	**16 58 12.1**	**-1.8**
	0.3nm,0.4s,baz=152,slow=8.5,SNR=6.8						

MEX 01 16:53:01.9±0.5**,13°.92N**×**91°.53W,h20**km**,MD3.7,1D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		**1.21**	**324**	*e*P	Pn	16 53 20.8	-3.0
THIG				*e*S	Sb	16 53 35.5	-3.9
PCIG		**2.41**	**318**	*e*P	Pn	16 53 38.2	-2.1
PCIG				*e*S	Sn	16 54 05.1	-4.1
CCIG	**Comitan**	**2.42**	**346**⇓	*e*P	Pn	16 53 38.6	-2.0

*ISCJB **01** 16:54:22.5±0.8, 23°.81N±0°.05×122°.74E±0°.02, h20km±7km, Error ellipse: s-maj=8.1km s-min=3.3km az=176.6*
*JMA **01** 16:54:23.6±0.1, 23°.96N×122°.69E, h32km, M2.2*
*TAP **01** 16:54:24.5, 23°.85N×122°.61E, h17km±2km, ML2.6, D*
ISC 01 16:54:22.7±1.4**,23°.84N**±0°.06×**122°.74E**±0°.02**,h21**km±5km**, n18,** σ**0°.91**/33**,1C,Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.64**	**17**	P	**Pb**	**16 54 34.5**	**-0.7**
JYNG				S	**Sb**	**16 54 41.7**	**-2.0**
YOJ	**Yonaguni jima**	**0.67**	**22**	P	**Pb**	**16 54 35.1**	**-0.6**
YOJ				S	**Sb**	**16 54 42.6**	**-1.9**
HATJ	**Hateruma jima**	**1.00**	**77**	P	**Pb**	**16 54 41.5**	**+0.3**
HATJ				*e*S	**Sn**	**16 54 55.0**	**+0.2**
IRIF	**Iriomote-Funau**	**1.03**	**61**	P	**Pb**	**16 54 41.6**	**-0.2**
IRIF				S	**Sb**	**16 54 55.1**	**+0.2**
ENA	**Nanau**	**1.08**	**303**	*e*P	**Pn**	**16 54 42.9**	**+0.3**
	baz=306						
ENA				S	**Sn**	**16 54 58.0**	**+0.9**
	baz=306						
TWC	**Suao**	**1.12**	**313**	⇑P	**Pb**	**16 54 43.8**	**+0.4**
	baz=306						
TWC				S	**Sb**	**16 54 57.5**	**+0.1**
	baz=306						
ESL	**Shilin**	**1.20**	**269**	*e*P	**Pn**	**16 54 44.3**	**+0.1**
	baz=268						
ESL				*e*S	**Sb**	**16 54 57.9**	**-1.9**
	baz=268						
JKRS	**Kuro-shima**	**1.23**	**71**	P	**Pb**	**16 54 45.7**	**+0.6**
JKRS				*e*S	**Sb**	**16 55 01.3**	**+0.8**
TWE	**Neicheng**	**1.31**	**312**	P	**Pb**	**16 54 47.0**	**+0.4**
	baz=316						
TWE				S	**Sb**	**16 55 04.4**	**+1.3**
	baz=316						
ENTT	**Nioudou**	**1.34**	**307**	*e*P	**Pb**	**16 54 47.4**	**+0.3**
	baz=293						
ENTT				*e*S	**Sb**	**16 55 04.4**	**+0.7**
	baz=293						
JIJ	**Ishigaki jima**	**1.38**	**68**	P	**Pb**	**16 54 47.9**	**+0.1**
JIJ				*e*S	**Sn**	**16 55 04.2**	**-0.2**
NNS	**Nan Shan**	**1.39**	**296**	*e*P	**Pb**	**16 54 49.0**	**+1.0**
	baz=284						
NNS				*e*S	**Sn**	**16 55 04.4**	**-0.2**
	baz=284						
TWF1	**Yuli**	**1.41**	**250**	*e*P	**Pn**	**16 54 47.2**	**0.0**
	baz=248						
TWF1				*e*S	**Sn**	**16 55 03.9**	**-1.2**
	baz=248						
CHKT	**Chengkung**	**1.46**	**240**	*e*S	**Sn**	**16 55 05.2**	**-1.1**
	baz=237						
NSK	**Sanguang**	**1.51**	**304**	*e*P	**Pb**	**16 54 50.3**	**+0.2**
	baz=306						
NSK				S	**Sb**	**16 55 08.8**	**0.0**
	baz=306						
JISG	**Ishigakijimahi**	**1.61**	**62**	P	**Pn**	**16 54 50.7**	**+0.8**
JISG				*e*S	**Sn**	**16 55 10.6**	**+0.5**
ELDTW	**Lidau**	**1.71**	**248**	*e*P	**Pn**	**16 54 50.2**	**-1.1**
	baz=246						
CHN5	**Tsauling**	**1.91**	**263**	*e*P	**Pb**	**16 54 58.0**	**+1.2**
	baz=262						

RSPR 01 16:58:06.0,18°.88N×**68°.28W,h119**km±2km**,MD3.7**/9**, 5C-5D,Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**1.05**	**265**⇓	*i*P	Pn	16 58 27.9	-0.6
DR12				*e*S	Sn	16 58 45.1	-0.4
CRPR	**Cabo Rojo, PR**	**1.41**	**128**⇑	*e*P	Pn	16 58 32.1	-0.2
CRPR	**Cabo Rojo, PR**	**1.41**	**128**	*e*S	Sn	16 58 51.9	-0.4
AOPR	**Arecibo Observ**	**1.54**	**110**⇑	*e*P	Pn	16 58 34.1	+0.2
AOPR	**Arecibo Observ**	**1.54**	**110**	*e*S	Sn	16 58 55.6	+0.6
DR08	**Loma La Naviza**	**1.66**	**273**⇓	*e*P	Pn	16 58 35.1	-0.2
DR08				*e*S	Sn	16 58 57.9	+0.3
OBIP	**Obispado Ponce**	**1.79**	**118**⇓	*e*P	Pn	16 58 36.8	0.0
OBIP	**Obispado Ponce**	**1.79**	**118**	*e*S	Sn	16 59 00.8	+0.4
SJG	**San Juan**	**2.16**	**110**⇑	*e*P	Pn	16 58 41.1	-0.2
CBYP	**Canovanas**	**2.37**	**104**⇑	*e*P	Pn	16 58 43.9	-0.3
CBYP	**Canovanas**	**2.37**	**104**	*e*S	Sn	16 59 13.6	+0.1
HUMP	**Col San Antoni**	**2.42**	**107**⇑	*e*P	Pn	16 58 44.4	-0.3
HUMP	**Col San Antoni**	**2.42**	**107**	*e*S	Sn	16 59 14.2	-0.1
MTP	**Monte Pirata**	**2.70**	**106**⇓	*e*P	Pn	16 58 48.3	0.0
STVI	**Saint Thomas**	**3.19**	**99**⇓	*e*P	Pn	16 58 55.8	+1.0
STVI	**Saint Thomas**	**3.19**	**99**	*e*S	Sn	16 59 32.5	0.0

*ISCJB **01** 16:59:44.5±2.2, 35°.78N±0°.06×141°.6E±0°.1, h21km±12km, mb3.4/3, MS3.5/1, Error ellipse: s-maj=16.7km s-min=9.5km az=162.8*
*IDC **01** 16:59:46.0±1.6, 35°.35N×141°.00E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/47, mbtmp3.2/4, ML2.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/27, Error ellipse: s-maj=53.8km s-min=26.1km az=57.0*
*JMA **01** 16:59:46.1±0.2, 35°.78N×141°.46E, h13km±3km, M3.1*
ISC 01 16:59:44.3±2.3**,35°.77N**±0°.06×**141°.49E**±0°.08**,h3**km±14km**, n14,** σ**0°.87**/17**,mb3.5**/3**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.52**	**263**	P	**Pb**	**16 59 55.9**	**-0.1**
CHOJ				S	**Sb**	**17 00 03.0**	**-1.0**
JCN	**Nagara**	**1.11**	**252**	P	**Pn**	**17 00 07.7**	**+1.0**
JCN				*e*S	**Sn**	**17 00 23.1**	**+0.6**
JHO	**Hitachi**	**1.12**	**319**	P	**Pn**	**17 00 06.9**	**-0.1**
JHO				S	**Sb**	**17 00 21.3**	**-0.1**
JYT	**Yasato**	**1.15**	**294**	P	**Pb**	**17 00 06.3**	**-0.5**
JYT				S	**Sb**	**17 00 21.8**	**-0.3**
BSO1	**Boso 1**	**1.19**	**201**	P	**Pg**	**17 00 07.2**	**+0.2**
BSO1				*e*X		17 00 23.7	
BSO3	**Boso 3**	**1.25**	**220**	P	**Pn**	**17 00 08.7**	**+0.2**
BSO3				X		17 00 24.2	
MJAR	**Matsushiro Arr**	**2.77**	**287**	Pn	**Pn**	**17 00 29.5**	**-0.1**
	1.1nm,0.3s,baz=101,slow=9.4,SNR=12						
MAT	**Matsushiro**	**2.77**	**287**	P	**Pn**	**17 00 30.9**	**+1.3**
MAT				*e*S	**Sn**	**17 01 03.5**	**-0.1**
JNU	**Nakatsue**	**9.15**	**256**	LR	LR	17 05 41.0	
	comp=Z,73nm,18.7s,baz=106,slow=41						
MKAR	**Makanchi Array**	**44.85**	**303**	P	**P**	**17 08 00.2**	**+0.4**
	0.2nm,0.3s,baz=98,slow=8.9,SNR=2.9						
INK	**Inuvik**	**55.48**	**27**	LR	LR	17 36 48.1	
	comp=Z,41nm,19.6s,baz=136,slow=40						
WRA	**Warramunga Arr**	**55.82**	**188**	P	**P**	**17 09 21.6**	**-1.4**
	0.4nm,0.7s,baz=6.1,slow=7.6,SNR=3.8						
ASAR	**Alice Springs**	**59.55**	**188**	P	**P**	**17 09 48.1**	**-1.1**
	0.3nm,0.8s,baz=3.0,slow=7.4,SNR=4.1						
LPAZ	**La Paz**	**147.26**	**61**	PKPbc	**PKPab**	**17 19 33.6**	**+1.5**
	2.3nm,0.6s,baz=327,slow=3.3,SNR=5.4						

*ISK **01** 17:03:52.9, 39°.17N×28°.77E, h8km, MD2.6*
*ISCJB **01** 17:03:54.0±0.7, 39°.10N±0°.03×29°.03E±0°.04, h6km±7km, Error ellipse: s-maj=6.1km s-min=5.5km az=136.2*
*CSEM **01** 17:03:53.9±0.2, 39°.13N×29°.01E, h8km, MD2.5, Error ellipse: s-maj=6.1km s-min=4.3km az=115.0*
*DDA **01** 17:03:53.6, 39°.11N×29°.06E, h7km, Md2.5*
ISC 01 17:03:54.1±0.9**,39°.11N**±0°.03×**29°.04E**±0°.03**,h10**km±9km**, n16,** σ**0°.73**/30**,Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**254**	P	**Pg**	**17 03 59.7**	**+0.3**
DEMI				S	**Sg**	**17 04 03.6**	**+0.7**
DEMI	**Demirci**	**0.26**	**254**	*i* P	**Pg**	**17 03 59.6**	**+0.3**
DEMI				*i* S	**Sg**	**17 04 03.6**	**+0.7**
GDZ	**Gediz**	**0.35**	**94**	P	**Pg**	**17 04 00.9**	**-0.2**
GDZ				S	**Sg**	**17 04 05.5**	**-0.2**
GDZ	**Gediz**	**0.35**	**94**	*i* P	**Pg**	**17 04 00.8**	**-0.2**
GDZ				*i* S	**Sg**	**17 04 05.5**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**206**	PG	**Pg**	**17 04 06.9**	**-0.1**
KULA				SG	**Sg**	**17 04 15.0**	**-0.8**
KULA	**Kula-Manisa**	**0.67**	**206**	*i* Pg	**Pg**	**17 04 06.9**	**-0.1**
KULA				*i* Sg	**Sg**	**17 04 15.0**	**-0.8**
KHAL	**Karahalli**	**0.82**	**154**	P	**Pb**	**17 04 10.9**	**+0.4**
KHAL				S	**Sg**	**17 04 20.7**	**-0.1**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pb**	**17 04 10.9**	**+0.4**
KHAL				*i* S	**Sg**	**17 04 20.7**	**-0.1**
IGD	**Bursa**	**1.16**	**6**	*i* P	**Pb**	**17 04 15.4**	**-0.7**
IGD				*i* S	**Sn**	**17 04 31.7**	**-0.4**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*PN	**Pg**	**17 04 18.0**	**-0.1**
CAVI				*e*SN	**Sn**	**17 04 36.6**	**+2.1**
IZI	**Iznik**	**1.27**	**15**	*e*PN	**Pn**	**17 04 17.7**	**-0.2**
IZI				*e*SN	**Sn**	**17 04 36.0**	**+1.0**
IZI	**Iznik**	**1.27**	**15**	*e*Pn	**Pn**	**17 04 17.7**	**-0.2**
IZI				*e*Sn	**Sn**	**17 04 36.0**	**+1.0**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pb**	**17 04 19.3**	**0.0**
BORA				S	**Sg**	**17 04 37.7**	**+0.5**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pb**	**17 04 19.3**	**0.0**
BORA				*i* S	**Sg**	**17 04 37.6**	**+0.5**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pn**	**17 04 19.1**	**-1.3**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pn**	**17 04 19.1**	**-1.3**

*ISCJB **01** 17:09:16.2±0.7, 34°.03N±0°.04×140°.04E±0°.10, h95km±7km, mb3.3/2, Error ellipse: s-maj=13.8km s-min=6.6km az=166.3*
*JMA **01** 17:09:17.2±0.2, 34°.04N×140°.08E, h81km±2km, M2.9*
*IDC **01** 17:09:17.3±4.3, 33°.49N×138°.58E, h48km±82km, mb3.1/2, mb1 3.4/3, mb1mx3.0/54, mbtmp3.3/3, ML3.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/17, Error ellipse: s-maj=108.7km s-min=18.5km az=46.0*
ISC 01 17:09:17.7±1.2**,34°.03N**±0°.04×**140°.05E**±0°.07**,h79**km±11km**, n17,** σ**1°.22**/19**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.78**	**282**	P	**Pn**	**17 09 34.1**	**0.0**
JKO				*e*S	**Sn**	**17 09 46.8**	**+0.4**
BSO3	**Boso 3**	**0.86**	**26**	P	**Pn**	**17 09 35.1**	**+0.3**
BSO3				X		17 09 49.9	
JIM2	**Oshima 3**	**0.86**	**323**	P	**Pn**	**17 09 34.6**	**-0.5**
JIM2				*e*S	**Sn**	**17 09 47.8**	**-0.3**
JHJ	**Hachijo jima 2**	**0.93**	**194**	P	**Pn**	**17 09 36.1**	**+0.2**
	63nm,0.3s,baz=87,slow=22,SNR=9.9						
JHJ				S	**Sn**	**17 09 50.6**	**+1.1**
	99nm,0.3s,baz=150,slow=24,SNR=20						
JHJ2	**Mitsune**	**0.93**	**192**	P	**Pn**	**17 09 36.1**	**+0.2**
JHJ2				S	**Sn**	**17 09 50.5**	**+1.0**
BSO1	**Boso 1**	**0.99**	**50**	P	**Pn**	**17 09 36.0**	**0.0**
BSO1				X		17 09 51.3	
JIZS	**Izushimoda**	**1.19**	**306**	P	**Pn**	**17 09 38.8**	**-0.3**
JIZS				S	**Sn**	**17 09 54.8**	**-0.3**
JOD2	**Odawara 2**	**1.47**	**327**	P	**Pn**	**17 09 42.4**	**-0.2**
JOD2				S	**Sn**	**17 09 59.5**	**-1.9**
SHZ3	**Shizuoka 3**	**1.84**	**305**	P	**Pn**	**17 09 48.0**	**+0.5**
MJAR	**Matsushiro Arr**	**2.93**	**329**	P	**Pn**	**17 10 02.9**	**+0.8**
	2.3nm,0.3s,baz=158,slow=12,SNR=21						
MAT	**Matsushiro**	**2.93**	**329**	P	**Pn**	**17 10 03.2**	**+1.1**
MAT				S	**Sn**	**17 10 39.8**	**+3.5**
JCJ	**Chichijima**	**7.15**	**165**	LR	LR	17 13 42.0	
	comp=Z,224nm,18.7s,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.75**	**114**	T	T	17 43 59.4	
	baz=306,slow=75,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**27.76**	**114**	T	T	17 44 08.1	
	baz=306,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**27.77**	**114**	T	T	17 44 05.3	
	baz=306,slow=75,SNR=9.6						
WRA	**Warramunga Arr**	**53.94**	**187**	P	P	17 18 30.6	-2.7
	0.2nm,0.3s,baz=0.8,slow=7.4,SNR=9.7						
ASAR	**Alice Springs**	**57.67**	**187**	P	**P**	**17 18 58.8**	**-1.2**
	0.1nm,0.5s,baz=0.2,slow=6.4,SNR=6.2						

*ARO **01** 17:17:31.7, 16°N±23°×4°2E±10°0, h15km±99km, ML3.9*
*CSEM **01** 17:17:40.9, 14°.81N×42°.10E, h4km, ML4.1*
*DHMR **01** 17:17:40.9±0.9, 14°.81N×42°.10E, h5km±15km, ML4.1*
*ISCJB **01** 17:17:42.2±0.9, 14°.82N±0°.05×41°.97E±0°.06, h10km, mb3.9/3, Error ellipse: s-maj=9.2km s-min=6.3km az=17.7*
*IDC **01** 17:17:43.7±3.8, 14°.76N×42°.07E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.5/56, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=106.7km s-min=17.1km az=89.0*
ISC 01 17:17:44.5±1.2**,14°.83N**±0°.05×**42°.09E**±0°.08**,h10**km**,n17,** σ**1°.59**/24**,mb4.0**/3**,Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**1.70**	**59**	*i* P	**Pn**	**17 18 11.8**	**-2.6**
HAJJ				*i* S	**Sn**	**17 18 36.0**	**-0.3**
HAJJ	**Hajjah**	**1.70**	**59**	*i* P	**Pn**	**17 18 11.8**	**-2.6**
HAJJ				*i* S	**Sn**	**17 18 36.0**	**-0.3**
UDYN	**Al 'Udayn**	**2.02**	**115**	*i* P	**Pn**	**17 18 17.1**	**-1.6**
UDYN				*i* S	**Sn**	**17 18 44.7**	**+0.6**
TRBA	**At Turbah**	**2.53**	**129**	*i* P	**Pn**	**17 18 24.1**	**-1.8**
TRBA				*i* S	**Sb**	**17 18 59.3**	**-2.3**
MAOD	**Malaho**	**2.73**	**177**	*e*P	**Pn**	**17 18 26.9**	**-1.5**
OBO	**Obock**	**3.06**	**157**	*e*P	**Pn**	**17 18 31.6**	**-1.4**
TDD	**Tadjoura Ara**	**3.12**	**165**	*e*P	**Pn**	**17 18 32.2**	**-1.5**
ATD	**Arta Tunnel**	**3.37**	**167**	Pn	**Pn**	**17 18 36.3**	**-0.9**
	3.4nm,0.3s,baz=122,slow=18,SNR=9.4						
ATD				Sn	**Sn**	**17 19 16.4**	**-0.9**
	7.4nm,0.3s,baz=347,slow=8.3,SNR=4.0						
ATD				Lg	Lg	17 19 29.2	
	30nm,0.3s,baz=274,slow=22,SNR=10						
ATD	**Arta Tunnel**	**3.37**	**167**	*e*P	**Pn**	**17 18 36.4**	**-0.9**
SGH	**Sud-Ghoubbet**	**3.42**	**171**	*e*P	**Pn**	**17 18 37.0**	**-1.0**
BDHA	**Al Bayda'**	**3.48**	**104**	*i* P	**Pn**	**17 18 38.7**	**-0.3**
BDHA				*i* S	**Sn**	**17 19 22.9**	**+2.5**
BDHA				AML	AML	17 19 36.0	
	comp=N,781nm,0.6s						
BDHA	**Al Bayda'**	**3.48**	**104**	*i* P	**Pn**	**17 18 38.7**	**-0.3**
BDHA				*i* S	**Sn**	**17 19 22.9**	**+2.5**
	comp=N,391nm,0.6s						
ATA	**Atar**	**3.53**	**162**	*e*P	**Pn**	**17 18 38.8**	**-0.6**
WSAR	**Wadi Sarin**	**17.72**	**59**	Pn	**P**	**17 21 52.0**	**-0.4**
	comp=N,0.4nm,0.3s,baz=304,slow=17,SNR=7.0						
MKAR	**Makanchi Array**	**46.19**	**38**	P	**P**	**17 26 11.3**	**+1.7**
	comp=N,1.0nm,0.7s,baz=241,slow=6.5,SNR=9.1						
ZALV	**Zalesovo Beam**	**51.31**	**31**	P	**P**	**17 26 49.7**	**+0.9**
	comp=N,1.2nm,0.7s,baz=242,slow=6.6,SNR=4.7						
SONM	**Songino Array**	**61.94**	**43**	P	**P**	**17 28 05.9**	**+1.2**
	comp=N,0.9nm,0.8s,baz=256,slow=7.3,SNR=5.8						

*ISN **01** 17:18:29.8±0.6, 33°.52N×47°.05E, h0km±2km, ML3.0*
*CSEM **01** 17:18:30.5±0.3, 33°.67N×47°.06E, h2km, ML3.3, Error ellipse: s-maj=7.4km s-min=3.8km az=41.0*
TEH 01 17:18:30.8,33°.61N×**47°.09E,h0**km**,ML3.3,Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**0.66**	**32**	*e*Pg	Pg	17 18 42.1	-1.4
IKOM				*e*Sg	Sg	17 18 51.8	-0.3
IKOM				*e*AMB	AMB	17 18 52.4	
	comp=Z,50µm,0.2s						
IKOM	**Komasi**	**0.66**	**32**	*e*Pg	Pg	17 18 42.1	-1.4
IKOM				*e*Sg	Sg	17 18 51.8	-0.3
IGHG	**Ghaleghazi**	**0.83**	**329**	*e*Pg	Pg	17 18 45.8	-1.0
IGHG				*e*AMB	AMB	17 19 00.2	
	comp=Z,7µm,0.1s						
IGHG	**Ghaleghazi**	**0.83**	**329**	*e*Pg	Pg	17 18 45.8	-1.0
IVIS	**Veis**	**0.93**	**348**	*e*Pg	Pg	17 18 46.9	-1.8
IVIS				*e*AMB	AMB	17 19 02.5	
	comp=Z,10µm,0.2s						
IVIS	**Veis**	**0.93**	**348**	*e*Pg	Pg	17 18 46.9	-1.8
IBZA	**Bozab**	**1.07**	**37**	*e*Pg	Pg	17 18 50.6	-0.7
IBZA				*e*AMB	AMB	17 18 52.6	
	comp=Z,9µm,0.2s						
IBZA	**Bozab**	**1.07**	**37**	*e*Pg	Pg	17 18 50.6	-0.7
IDHR	**Dehrash**	**1.23**	**332**	*e*Pg	Pg	17 18 53.5	-0.9
IDHR				*e*AMB	AMB	17 19 14.8	
	comp=Z,22µm,0.2s						
IDHR	**Dehrash**	**1.23**	**332**	*e*Pg	Pg	17 18 53.5	-0.9
ILIN	**Lien**	**1.31**	**356**	*e*Pg	Pg	17 18 54.5	-1.4
ILIN				*e*AMB	AMB	17 19 18.0	
	comp=Z,5µm,0.2s						
ILIN	**Lien**	**1.31**	**356**	*e*Pg	Pg	17 18 54.5	-1.4
SNGE	**Sanandaj**	**1.49**	**8**	*e*Pg	Pn	17 18 59.0	0.0
SNGE				*e*Sg	Sg	17 19 17.4	-1.4
KHMZ	**Khomeyn**	**2.40**	**86**	*e*Pn	Pn	17 19 11.8	+0.3
KHMZ				*e*Sg	Sb	17 19 43.5	-1.6
ASAO	**Ashtian**	**2.61**	**68**	*e*Pn	Pn	17 19 14.6	+0.2
IRAZ	**Razeghan**	**2.95**	**52**	*e*Pn	Pn	17 19 18.9	-0.2
IRAZ				*e*AMB	AMB	17 19 29.4	
	comp=Z,1µm,0.3s						
IRAZ	**Razeghan**	**2.95**	**52**	*e*Pn	Pn	17 19 18.9	-0.2
IPIR	**Pirpir**	**3.32**	**105**	*e*Pn	Pn	17 19 23.9	-0.4
IPIR				*e*AMB	AMB	17 20 33.4	
	comp=Z,512nm,0.4s						
IPIR	**Pirpir**	**3.32**	**105**	*e*Pn	Pn	17 19 23.9	-0.4
GHVR	**GHOM**	**3.60**	**75**	*e*Pn	Pn	17 19 27.5	-0.4
IMHD	**Mahdasht**	**3.60**	**54**	*e*Pn	Pn	17 19 27.0	-1.0
IMHD				*e*AMB	AMB	17 19 37.9	
	comp=Z,347nm,0.3s						
IMHD	**Mahdasht**	**3.60**	**54**	*e*Pn	Pn	17 19 27.0	-1.0

*ISCJB **01** 17:18:52.3±0.2, 36°.26N±0°.02×22°.08E±0°.02, h11km, mb4.5/58, MS3.7/21, Error ellipse: s-maj=2.9km s-min=2.0km az=35.5*
*IDC **01** 17:18:52.3±0.5, 36°.41N×22°.31E, h0km, mb4.5/32, mb1 4.5/42, mb1mx4.4/61, mbtmp4.4/42, ML4.2/8, MS3.6/28, Ms1 3.6/28, ms1mx3.4/59, Error ellipse: s-maj=11.0km s-min=10.4km az=33.0*
*BJI **01** 17:18:55.9, 36°.59N×22°.10E, h49km, mb4.8/22, mB4.8/11, Ms4.5/3, Ms7 4.2/2*
*CSEM **01** 17:18:55.5±0.2, 36°.27N×22°.14E, h20km, mb4.5/16, ML4.5/7, Error ellipse: s-maj=5.4km s-min=3.1km az=40.0*
*TIR **01** 17:18:56.4, 36°.76N×21°.14E, h8km, ML3.9*
*ATH **01** 17:18:56.9, 36°.35N×22°.25E, h27km±1km, ML4.3/7, Error ellipse: s-maj=2.2km s-min=1.0km az=45.0*
*PDG **01** 17:18:56.7±0.3, 36°.59N×22°.15E, h11km±3km, ML4.5/11, Error ellipse: s-maj=4.0km s-min=1.5km az=90.0*
*HLW **01** 17:18:57.9, 36°.41N×22°.54E, h24km±20km, Md4.3, Ml4.1*
*NEIC **01** 17:18:58.1, 36°.37N×22°.29E, h11km, mb4.5/17, ML4.5(THE), After THE.*
*THE **01** 17:18:58.1, 36°.37N×22°.29E, h11km±1km, ML4.5/10, Error ellipse: s-maj=2.0km s-min=0.9km az=47.0*
*MOS **01** 17:18:59.2±1.1, 36°.49N×22°.26E, h64km, mb4.8/28, Error ellipse: s-maj=5.6km s-min=3.0km az=89.1*
*GII **01** 17:19:02.6±0.1, 35°.66N×22°.84E, h32km, mb4.4/3, MD4.3/3*
ISC 01 17:18:53.8±0.3**,36°.34N**±0°.02×**22°.26E**±0°.02**,h11**km**,n661,** σ**2°.09**/736**,mb4.6**/58**,MS3.6**/21**,34C-22D,Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.64**	**97**	P	**Pn**	**17 19 10.6**	**+1.7**
KYTH				S	**Sn**	**17 19 19.2**	**+0.1**
KYTH	**Kithira**	**0.64**	**97**	P	**Pn**	**17 19 10.8**	**+1.9**
KYTH				S	**Sn**	**17 19 19.4**	**+0.3**
KYTH	**Kithira**	**0.64**	**97**	P	**Pn**	**17 19 10.8**	**+1.9**
VLI	**Veliai**	**0.67**	**55**	P	**Pn**	**17 19 10.6**	**+1.4**
VLI				S	**Sn**	**17 19 20.5**	**+0.9**
VLI	**Veliai**	**0.67**	**55**	P	**Pn**	**17 19 10.9**	**+1.7**
VLI				S	**Sn**	**17 19 21.8**	**+2.2**
VLI	**Veliai**	**0.67**	**55**	P	**Pn**	**17 19 10.9**	**+1.7**
VLI				S	**Sn**	**17 19 21.8**	**+2.2**
VLI				AML	AML	17 19 26.4	
	comp=E,66050µm,1.1s						
VLI				AML	AML	17 19 33.1	
	comp=N,29699µm,0.7s						
PYL	**PYLOS**	**0.69**	**323**	P	**Pn**	**17 19 10.4**	**+0.9**
PYL				S	**Sn**	**17 19 20.1**	**-0.1**
PYL	**PYLOS**	**0.69**	**323**	P	**Pn**	**17 19 10.4**	**+0.9**
PYL				S	**Sn**	**17 19 20.2**	**-0.1**
PYL	**PYLOS**	**0.69**	**323**	P	**Pn**	**17 19 09.7**	**+0.2**
PYL				S	**Sn**	**17 19 20.2**	**-0.1**
PYL				AML	AML	17 19 21.2	
	comp=N,37834µm,0.8s						
PYL				AML	AML	17 19 27.9	
	comp=E,30041µm,0.5s						
ITM	**Ithomi**	**0.88**	**343**	P	**Pn**	**17 19 13.5**	**+1.4**
ITM				S	**Sn**	**17 19 26.3**	**+1.4**
ITM	**Ithomi**	**0.88**	**343**	P	**Pn**	**17 19 13.5**	**+1.4**
ITM				S	**Sn**	**17 19 26.3**	**+1.4**
ITM	**Ithomi**	**0.88**	**343**	P	**Pn**	**17 19 12.9**	**+0.8**
ITM				S	**Sn**	**17 19 26.3**	**+1.4**
ITM				AML	AML	17 19 30.9	
	comp=N,21305µm,0.6s						
ITM				AML	AML	17 19 31.2	
	comp=E,17308µm,0.3s						
ANKY	**Antikythira Is**	**0.97**	**119**	P	**Pn**	**17 19 16.9**	**+3.6**
ANKY				S	**Sn**	**17 19 30.4**	**+3.3**
ANKY	**Antikythira Is**	**0.97**	**119**	P	**Pn**	**17 19 16.9**	**+3.6**
ANKY				S	**Sn**	**17 19 30.4**	**+3.3**
ANKY	**Antikythira Is**	**0.97**	**119**	P	**Pn**	**17 19 17.3**	**+3.9**
ANKY				S	**Sn**	**17 19 28.8**	**+1.8**
ANKY				AML	AML	17 19 36.1	
	comp=N,73336µm,0.6s						

ANKY				AML	AML	17 19 37.3	
	comp=E,95752µm,1.1s						
VLX	Vlachokerasia	1.03	5	P	Pn	17 19 16.6	+2.3
VLX				S	Sn	17 19 31.2	+2.4
VLX	Vlachokerasia	1.03	5	P	Pn	17 19 16.6	+2.3
VLX				S	Sn	17 19 30.3	+1.5
VLX	Vlachokerasia	1.03	5	P	Pn	17 19 15.6	+1.3
VLX				S	Sn	17 19 30.3	+1.5
VLX				AML	AML	17 19 41.2	
	comp=N,37570µm,0.6s						
VLX				AML	AML	17 19 41.2	
	comp=E,48962µm,0.7s						
KRND	KRANIDI	1.26	34	P	Pg	17 19 20.9	+2.8
KRND	KRANIDI	1.26	34	P	Pg	17 19 20.5	+2.4
KRND				S	Sg	17 19 39.4	+4.9
KRND	KRANIDI	1.26	34	P	Pg	17 19 20.5	+2.4
KRND				S	Sg	17 19 39.4	+4.9
AMT	Artemida-Makis	1.27	340	P	Pg	17 19 20.6	+2.4
AMT				S	Sn	17 19 38.5	+4.0
AMT	Artemida-Makis	1.27	340	P	Pg	17 19 20.6	+2.4
AMT	Artemida-Makis	1.27	340	P	Pg	17 19 20.6	+2.4
DID	Didima	1.40	34	P	Pg	17 19 22.8	+2.0
DID				S	Sg	17 19 42.5	+3.5
DID	Didima	1.40	34	P	Pg	17 19 22.8	+2.0
DID	Didima	1.40	34	P	Pg	17 19 22.8	+2.0
DID				S	Sg	17 19 44.2	+5.2
DID				AML	AML	17 19 47.7	
	comp=N,15224µm,0.9s						
DID				AML	AML	17 19 48.8	
	comp=E,12067µm,0.7s						
IMMV	Iera Moni Meta	1.65	122	P	Pg	17 19 27.1	+1.6
IMMV				S	Sb	17 19 46.8	+1.7
IMMV	Iera Moni Meta	1.65	122	P	Pg	17 19 27.1	+1.6
IMMV				S	Sb	17 19 46.8	+1.7
IMMV	Iera Moni Meta	1.65	122	P	Pg	17 19 27.2	+1.7
IMMV				S	Sn	17 19 45.4	+1.4
IMMV				AML	AML	17 19 58.9	
	comp=E,21614µm,0.7s						
IMMV				AML	AML	17 20 12.3	
	comp=N,21198µm,1.0s						
DRO	Drossia	1.67	345	P	Pg	17 19 27.3	+1.5
DRO	Drossia	1.67	345	P	Pg	17 19 27.6	+1.8
DRO	Drossia	1.67	345	P	Pg	17 19 27.6	+1.8
KLV	Kalavryta, Ach	1.70	357	P	Pg	17 19 27.2	+0.7
KLV	Kalavryta, Ach	1.70	357	P	Pg	17 19 27.2	+0.7
KLV	Kalavryta, Ach	1.70	357	P	Pg	17 19 27.2	+0.7
KLV	Kalavryta, Ach	1.70	357	P	Pg	17 19 27.2	+0.7
THAL	Thalero	1.72	11	P	Pg	17 19 27.5	+0.6
THAL				S	Sg	17 19 48.1	-1.2
THAL	Thalero	1.72	11	P	Pg	17 19 27.5	+0.6
THAL				S	Sg	17 19 48.1	-1.2
MHLO	Agia Marina, M	1.76	78	P	Pg	17 19 27.7	+0.1
MHLO	Agia Marina, M	1.76	78	P	Pg	17 19 27.7	+0.1
MHLO	Agia Marina, M	1.76	78	P	Pb	17 19 27.0	+0.9
LTK	Loutraki	1.77	18	P	Pg	17 19 27.7	-0.1
LTK	Loutraki	1.77	18	P	Pb	17 19 26.7	+0.4
LTK	Loutraki	1.77	18	P	Pb	17 19 26.7	+0.4
VTN	Vitineika	1.79	332	P	Pg	17 19 30.4	+2.2
VTN	Vitineika	1.79	332	P	Pg	17 19 30.4	+2.2
ZKS	Zakynthos	1.79	319	P	Pb	17 19 27.0	+0.3
ZKS	Zakynthos	1.79	319	P	Pb	17 19 25.8	-0.9
ZKS	Zakynthos	1.79	319	P	Pb	17 19 25.8	-0.9
RLS	Riolos of Patr	1.83	340	P	Pg	17 19 29.8	+1.0
RLS	Riolos of Patr	1.83	340	P	Pg	17 19 29.2	+0.4
VAM	Vamos	1.83	120	P	Pg	17 19 29.4	+0.4
VAM	Vamos	1.83	120	P	Pg	17 19 29.3	+0.3
VAM				S	Sg	17 19 54.0	+1.3
VAM	Vamos	1.83	120	P	Pg	17 19 29.4	+0.4
VAM				S	Sg	17 19 54.5	+1.8
LAKA	Lakka	1.91	353	P	Pg	17 19 30.0	-0.4
LAKA	Lakka	1.91	353	P	Pg	17 19 30.0	-0.4
LAKA	Lakka	1.91	353	P	Pg	17 19 30.0	-0.4
VLY	Voula,Athens	1.95	39	P	Pb	17 19 29.4	+0.1
VLY	Voula,Athens	1.95	39	P	Pb	17 19 29.4	+0.1
VLY	Voula,Athens	1.95	39	P	Pb	17 19 29.4	+0.1
VLY	Voula,Athens	1.95	39	P	Pb	17 19 28.7	-0.6
AXS	Araxos	1.98	339	P	Pg	17 19 31.9	+0.1
AXS	Araxos	1.98	339	P	Pg	17 19 33.3	+1.5
AXS	Araxos	1.98	339	P	Pg	17 19 33.3	+1.5
ATH	Athens Observa	2.00	35	P	Pb	17 19 30.0	-0.2
ATH	Athens Observa	2.00	35	P	Pb	17 19 30.0	-0.2
ATH	Athens Observa	2.00	35	P	Pb	17 19 30.0	-0.2
ATH	Athens Observa	2.00	35	P	Pb	17 19 30.0	-0.2
ATHU	Athens Univers	2.03	36	P	Pb	17 19 30.0	-0.7
ATHU	Athens Univers	2.03	36	P	Pb	17 19 30.0	-0.7
ATHU	Athens Univers	2.03	36	P	Pb	17 19 30.0	-0.7
KALE	Kalithea	2.05	357	P	Pg	17 19 32.3	-0.8
KALE	Kalithea	2.05	357	P	Pg	17 19 32.3	-0.8
KALE	Kalithea	2.05	357	P	Pg	17 19 32.3	-0.8
DSF	Desfina	2.08	6	P	Pb	17 19 31.7	+0.1
DSF	Desfina	2.08	6	P	Pb	17 19 31.7	+0.1
DSF	Desfina	2.08	6	P	Pb	17 19 31.7	+0.1
EFP	Efpalio	2.10	352	P	Pg	17 19 33.8	-0.3
GVD	Gavdhos	2.12	135	P	Pb	17 19 32.8	+0.7
GVD	Gavdhos	2.12	135	P	Pb	17 19 32.8	+0.7
GVD	Gavdhos	2.12	135	P	Pb	17 19 32.8	+0.7
GVD	Gavdhos	2.12	135	P	Pg	17 19 35.3	+1.0
KFL	Anninata	2.12	327	P	Pb	17 19 32.2	0.0
KFL	Anninata	2.12	327	P	Pb	17 19 32.2	0.0
KFL	Anninata	2.12	327	P	Pb	17 19 32.4	+0.1
PTL	Penteli	2.13	37	P	Pb	17 19 32.3	-0.2
PTL	Penteli	2.13	37	P	Pb	17 19 32.3	-0.2
PTL	Penteli	2.13	37	P	Pb	17 19 32.3	-0.2
PTL	Penteli	2.13	37	P	Pb	17 19 31.5	-1.0
ANX	Ano Chora	2.26	353	P	Pb	17 19 35.6	+0.8
VLS	Valsamata	2.27	325	P	Pb	17 19 33.8	-0.9
VLS	Valsamata	2.27	325	P	Pb	17 19 33.8	-0.9
VLS	Valsamata	2.27	325	P	Pb	17 19 33.1	-1.6
VLS	Valsamata	2.27	325	P	Pb	17 19 33.8	-0.9
PVO	Paravola	2.34	346	P	Pb	17 19 37.1	+1.0
LKR	Lokris	2.38	14	P	Pb	17 19 35.7	-1.0
LKR	Lokris	2.38	14	P	Pb	17 19 34.9	-1.8
LKR	Lokris	2.38	14	P	Pb	17 19 35.7	-1.0
LKR	Lokris	2.38	14	P	Pb	17 19 34.9	-1.8
IDI	Anoyia	2.38	115	Pn	Pn	17 19 34.7	+1.8
	comp=N,26nm,0.3s,baz=322,slow=15,SNR=140						
IDI				LR	LR	17 20 44.8	
	comp=N,779nm,18.5s,baz=310,slow=47						
IDI	Anoyia	2.38	115	P	Pn	17 19 35.6	+2.7
IDI	Anoyia	2.38	115	P	Pn	17 19 35.6	+2.7
IDI	Anoyia	2.38	115	P	Pn	17 19 35.4	+2.5
PDO	Prodromos	2.41	340	P	Pb	17 19 38.0	+0.8
PDO	Prodromos	2.41	340	P	Pg	17 19 39.5	-0.5
PDO	Prodromos	2.41	340	P	Pg	17 19 39.5	-0.5
ATAL	Atalanti	2.42	14	P	Pb	17 19 36.0	-1.5
ATAL	Atalanti	2.42	14	P	Pb	17 19 36.0	-1.5
ATAL	Atalanti	2.42	14	P	Pb	17 19 36.0	-1.5
SIVA	Sivas	2.46	122	P	Pb	17 19 37.8	-0.3
SIVA	Sivas	2.46	122	P	Pb	17 19 37.8	-0.3
SIVA	Sivas	2.46	122	P	Pb	17 19 37.8	-0.3
SIVA	Sivas	2.46	122	P	Pb	17 19 37.9	-0.3
EREA	Eretria	2.47	32	P	Pb	17 19 36.6	-1.6
EREA	Eretria	2.47	32	P	Pb	17 19 36.6	-1.6
THR3	Thira Island,	2.54	88	P	Pb	17 19 38.2	-1.2
THR3	Thira Island,	2.54	88	P	Pb	17 19 38.2	-1.2
THR3	Thira Island,	2.54	88	P	Pb	17 19 38.2	-1.2
CMBO	Columbo, Santo	2.54	86	P	Pb	17 19 38.1	-1.4
CMBO	Columbo, Santo	2.54	86	P	Pb	17 19 38.1	-1.4
CMBO	Columbo, Santo	2.54	86	P	Pb	17 19 37.9	-1.5
THR2	Thira island,	2.57	87	P	Pb	17 19 39.6	-0.3
THR2	Thira island,	2.57	87	P	Pb	17 19 39.6	-0.3
THR2	Thira island,	2.57	87	P	Pb	17 19 39.6	-0.3
SANT	Santorini	2.58	88	P	Pb	17 19 38.7	-1.5
SANT	Santorini	2.58	88	P	Pb	17 19 38.7	-1.5
SANT	Santorini	2.58	88	P	Pb	17 19 38.7	-1.5
SANT	Santorini	2.58	88	P	Pn	17 19 37.8	+2.2
EVR	Evrytania	2.60	352	P	Pb	17 19 41.1	+0.7
EVR	Evrytania	2.60	352	P	Pb	17 19 41.1	+0.7
SMIA	Simia	2.64	16	P	Pb	17 19 40.1	-1.1
SMIA	Simia	2.64	16	P	Pb	17 19 40.1	-1.1
AGG	Agios Georgios	2.68	1	P	Pb	17 19 41.2	-0.6
AGG	Agios Georgios	2.68	1	P	Pb	17 19 41.2	-0.6
AGG	Agios Georgios	2.68	1	P	Pb	17 19 43.1	+1.3
AGG	Agios Georgios	2.68	1	P	Pb	17 19 41.2	-0.6
AGG	Agios Georgios	2.68	1	P	Pb	17 19 43.1	+1.3
APE	Apeiranthos	2.73	74	P	Pb	17 19 41.0	-1.7
APE	Apeiranthos	2.73	74c	iP	Pn	17 19 40.3	+2.7
APE	Apeiranthos	2.73	74	P	Pb	17 19 41.0	-1.7
APE	Apeiranthos	2.73	74	P	Pb	17 19 41.0	-1.7
APE	Apeiranthos	2.73	74	P	Pn	17 19 40.6	+3.0

LKD2	Lefkada island	2.75	333	P	Pb	17 19 41.6	-1.5
LKD2	Lefkada island	2.75	333	P	Pb	17 19 41.5	-1.5
LKD2	Lefkada island	2.75	333	P	Pb	17 19 41.6	-1.5
LKD2	Lefkada island	2.75	333	P	Pb	17 19 41.5	-1.5
LAST	Lasithi	2.87	113	P	Pb	17 19 43.2	-1.9
LAST	Lasithi	2.87	113	P	Pb	17 19 43.2	-1.9
LAST	Lasithi	2.87	113	P	Pb	17 19 43.2	-1.9
LAST	Lasithi	2.87	113	P	Pn	17 19 42.8	+3.1
NPS	Neapolis	2.93	111	P	Pn	17 19 43.1	+2.7
NPS	Neapolis	2.93	111	P	Pn	17 19 43.1	+2.7
NPS	Neapolis	2.93	111	P	Pn	17 19 43.1	+2.7
NPS	Neapolis	2.93	111	P	Pn	17 19 43.1	+2.7
NPS	Neapolis	2.93	111	P	Pn	17 19 42.3	+1.9
DSL	Palaion Diasel	2.94	342	P	Pb	17 19 44.5	-1.7
DSL	Palaion Diasel	2.94	342	P	Pb	17 19 44.9	-1.3
DSL	Palaion Diasel	2.94	342	P	Pb	17 19 44.5	-1.7
DSL	Palaion Diasel	2.94	342	P	Pb	17 19 44.9	-1.3
SKIA	Skiathos	2.98	18	P	Pn	17 19 43.7	+2.7
SKIA	Skiathos	2.98	18	P	Pn	17 19 43.7	+2.7
NEO	Neokhori	3.06	14	P	Pb	17 19 45.2	-3.1
NEO	Neokhori	3.06	14	P	Pb	17 19 45.1	-3.1
NEO	Neokhori	3.06	14	P	Pb	17 19 45.2	-3.1
NEO	Neokhori	3.06	14	P	Pb	17 19 45.1	-3.1
AOS	Alonnisos	3.10	24	P	Pn	17 19 44.7	+2.0
AOS	Alonnisos	3.10	24	P	Pn	17 19 44.7	+2.0
AOS	Alonnisos	3.10	24	P	Pn	17 19 44.7	+2.0
FYTO	Fytoko, Volos	3.11	10	P	Pb	17 19 46.3	-2.8
FYTO	Fytoko, Volos	3.11	10	P	Pb	17 19 46.3	-2.8
FYTO	Fytoko, Volos	3.11	10	P	Pb	17 19 46.3	-2.8
XOR	Xorichti	3.11	13	P	Pn	17 19 45.2	+2.4
XOR	Xorichti	3.11	13	P	Pn	17 19 45.2	+2.4
XOR	Xorichti	3.11	13	P	Pn	17 19 45.2	+2.4
THL	Klokotos Trika	3.22	357	P	Pb	17 19 48.3	-2.8
THL	Klokotos Trika	3.22	357	P	Pb	17 19 48.3	-2.8
ZKR	Zakros	3.45	110	P	Pn	17 19 51.1	+3.7
ZKR	Zakros	3.45	110	P	Pn	17 19 51.1	+3.7
ZKR	Zakros	3.45	110	P	Pn	17 19 51.1	+3.7
ZKR	Zakros	3.45	110	P	Pn	17 19 50.1	+2.7
IGT	Igoumenitsa	3.53	335	P	Pn	17 19 51.0	+2.4
IGT	Igoumenitsa	3.53	335	P	Pn	17 19 51.0	+2.4
IGT	Igoumenitsa	3.53	335	P	Pn	17 19 51.0	+2.4
IGT	Igoumenitsa	3.53	335	P	Pn	17 19 51.0	+2.4
CHOS	Chios island	3.65	55	P	Pn	17 19 52.7	+2.4
CHOS	Chios island	3.65	55	P	Pn	17 19 52.7	+2.4
CHOS	Chios island	3.65	55	P	Pn	17 19 52.7	+2.4
KPRO	Kipourio	3.68	349	P	Pb	17 19 55.2	-3.6
KPRO	Kipourio	3.68	349	P	Pb	17 19 55.7	-3.1
KPRO	Kipourio	3.68	349	P	Pb	17 19 55.7	-3.1
PAIG	Paliouri	3.75	17	P	Pn	17 19 54.0	+2.4
PAIG	Paliouri	3.75	17	P	Pn	17 19 54.0	+2.4
PAIG	Paliouri	3.75	17	P	Pn	17 19 54.0	+2.4
PAIG	Paliouri	3.75	17	P	Pn	17 19 54.0	+2.4
LIT	Litokhoron	3.76	3	P	Pn	17 19 55.5	+3.8
LIT	Litokhoron	3.76	3	P	Pn	17 19 55.5	+3.8
LIT	Litokhoron	3.76	3	P	Pn	17 19 55.5	+3.8
LIT	Litokhoron	3.76	3	P	Pn	17 19 55.5	+3.8
ZEY	˜zmir	3.88	60	iP	Pn	17 19 57.2	+3.8
ZEY				iS	Sn	17 20 41.6	+2.7
PENT	Pentalofos	3.95	347	P	Pn	17 19 58.7	+4.3
PENT	Pentalofos	3.95	347	P	Pb	17 19 59.2	-4.3
PENT	Pentalofos	3.95	347	P	Pb	17 19 59.2	-4.3
KZN	Kozani	3.98	355	P	Pn	17 19 58.1	+3.3
KZN	Kozani	3.98	355	P	Pn	17 19 58.1	+3.3
KZN	Kozani	3.98	355	P	Pn	17 19 58.1	+3.3
KZN	Kozani	3.98	355	P	Pn	17 19 58.1	+3.3
URLA	Izmir	4.00	58	P	Pn	17 19 58.0	+2.9
URLA				S	Sn	17 20 41.7	-0.3
URLA	Izmir	4.00	58	iP	Pn	17 19 58.0	+2.9
URLA				iS	Sn	17 20 41.7	-0.3
SIGR	SIGRI	4.04	44	P	Pn	17 19 57.4	+1.8
SIGR	SIGRI	4.04	44	P	Pn	17 19 57.4	+1.8
SIGR	SIGRI	4.04	44	P	Pn	17 19 57.4	+1.8
DGB	˜zmir	4.07	64	iP	Pn	17 19 58.8	+2.8
BODT	Bodrum	4.12	78	P	Pn	17 20 00.6	+3.8
BODT	Bodrum	4.12	78	P	Pn	17 20 00.6	+3.8
BODT	Bodrum	4.12	78	P	Pn	17 20 00.6	+3.8
GCAM	G?zelcaml?	4.21	70	P	Pn	17 20 02.9	+5.0
GCAM	G?zelcaml?	4.21	70	iP	Pn	17 20 02.9	+5.0
OUR	Ouranopolis	4.21	18	P	Pn	17 19 59.2	+1.3
OUR	Ouranopolis	4.21	18	P	Pn	17 19 59.2	+1.3
OUR	Ouranopolis	4.21	18	P	Pn	17 19 59.2	+1.3
OUR	Ouranopolis	4.21	18	P	Pn	17 19 59.2	+1.3
BDRM	Kayabasi	4.23	79	P	Pn	17 20 02.0	+3.8
BDRM	Kayabasi	4.23	79	iP	Pn	17 20 02.0	+3.8
LIA	Limnos Island	4.24	32	P	Pn	17 19 59.8	+1.6
LIA	Limnos Island	4.24	32	P	Pn	17 19 59.8	+1.6
LIA	Limnos Island	4.24	32	P	Pn	17 19 59.8	+1.6
HORT	Hortiatis	4.30	9	P	Pn	17 20 02.1	+2.8
HORT	Hortiatis	4.30	9	P	Pn	17 20 02.1	+2.8
HORT	Hortiatis	4.30	9	P	Pn	17 20 02.1	+2.8
FNA	Florina	4.49	351	P	Pn	17 20 05.2	+3.4
FNA	Florina	4.49	351	P	Pn	17 20 05.2	+3.4
FNA	Florina	4.49	351	P	Pn	17 20 05.2	+3.4
FNA	Florina	4.49	351	P	Pn	17 20 05.2	+3.4
LTBQ	Tobruq	4.49	162	iP	Pn	17 20 05.5	+3.7
	SNR=76						
LTBQ				eS	Sn	17 20 54.5	+0.5
	SNR=76						
SOH	Sokhos	4.56	11	P	Pn	17 20 06.4	+3.7
SOH	Sokhos	4.56	11	P	Pn	17 20 06.4	+3.7
SOH	Sokhos	4.56	11	P	Pn	17 20 06.4	+3.7
SOH	Sokhos	4.56	11	P	Pn	17 20 06.4	+3.7
AYVA	Ayvalik	4.59	49	P	Pn	17 20 07.7	+4.5
AYVA	Ayvalik	4.59	49	iP	Pn	17 20 07.7	+4.5
BOZC	Bozcaada	4.60	39	iP	Pn	17 20 05.3	+2.0
GRG	Griva	4.61	1	P	Pn	17 20 06.3	+2.8
AYDN	Tasoluk	4.69	72	P	Pn	17 20 09.4	+4.8
AYDN	Tasoluk	4.69	72	iP	Pn	17 20 09.4	+4.8
ARG	Arkhangelos	4.74	90	P	Pn	17 20 11.0	+5.7
SRS	Serrai	4.88	12	P	Pn	17 20 11.0	+3.8
SRS	Serrai	4.88	12	P	Pn	17 20 11.0	+3.8
SRS	Serrai	4.88	12	P	Pn	17 20 11.0	+3.8
SRS	Serrai	4.88	12	P	Pn	17 20 11.0	+3.8
OHR	Ohrid	4.90	347	iPn	Pn	17 20 11.1	+3.6
OHR	Ohrid	4.90	347	iPn	Pn	17 20 11.0	+3.6
VAY	Valandovo	4.98	3	iPn	Pn	17 20 10.5	+2.0
VAY	Valandovo	4.98	3	P	Pn	17 20 12.2	+3.7
VAY	Valandovo	4.98	3	iPn	Pn	17 20 10.4	+2.0
TURN	Turunc	5.13	82	iP	Pn	17 20 11.9	+1.4
NVR	Nevrokopi	5.16	14	P	Pn	17 20 14.2	+3.2
NVR	Nevrokopi	5.16	14	P	Pn	17 20 14.2	+3.2
NVR	Nevrokopi	5.16	14	P	Pn	17 20 14.2	+3.2
TIP	Timpagrande	5.20	305	ePn	Pn	17 20 11.7	+0.2
	comp=N,56nm,0.6s						
TIP	Timpagrande	5.20	305	ePn	Pn	17 20 11.7	+0.2
	comp=N,56nm,0.6s						
TIR	Tirane	5.34	340	iPN	Pn	17 20 16.9	+3.5
TIR				iSN	Sn	17 21 16.7	+1.9
TIR	Tirane	5.34	340	eP	Pn	17 20 16.1	+2.7
TIR				pmax	pmax		
	comp=Z,168nm,0.8s						
TIR	Tirane	5.34	340	ePn	Pn	17 20 16.1	+2.7
	comp=Z,168nm,0.8s						
TIR				iSn	Sn	17 21 16.7	+1.9
TIR	Tirane	5.34	340	ePn	Pn	17 20 16.1	+2.7
	comp=Z,168nm,0.8s						
CEL	Celeste	5.42	293	ePn	Pn	17 20 15.2	+0.6
	comp=Z,58nm,0.6s						
CEL	Celeste	5.42	293	ePn	Pn	17 20 15.2	+0.6
	comp=Z,58nm,0.6s						
BALY	Balya	5.42	50	P	Pn	17 20 18.4	+3.8
BALY	Balya	5.42	50	iP	Pn	17 20 18.4	+3.8
SLUM	Salum	5.42	152	P	Pn	17 20 15.3	+0.7
	baz=154						
SLUM				AMP		17 21 00.0	
	comp=N,280µm,0.6s,logA/T=5.7,baz=154						
ALN	Alexandroupoli	5.43	32	P	Pn	17 20 20.1	+5.4
ALN				pmax	pmax		
	comp=Z,37nm,0.8s						
DNZL	Cakiroluk	5.60	74	iP	Pn	17 20 22.9	+5.7
SKO	Skopje	5.66	354	iPn	Pn	17 20 20.0	+2.1
SKO	Skopje	5.66	354	iPn	Pn	17 20 19.9	+2.1
LJBD	Adjabya	5.68	198	iP	Pn	17 20 19.9	+1.8
	SNR=70						
TAR1	Taranto	5.72	318	ePn	Pn	17 20 19.7	+1.1
ULC	Ulcinj	6.08	338⇑	iPn	Pn	17 20 24.7	+1.0
ULC				eSn	Sn	17 21 30.8	-2.5
ULC	Ulcinj	6.08	338⇑	iPn	Pn	17 20 24.7	+1.0
ULC				eSn	Sn	17 21 30.8	-2.5
KHAL	Karahalli	6.11	68	iP	Pn	17 20 24.0	-0.2
CUC	Castrocucco	6.25	308	ePn	Pn	17 20 27.9	+1.9

	comp=Z,216nm,0.6s						
CUC	Castrocucco	6.25	308	ePn	Pn	17 20 27.9	+1.9
	comp=Z,216nm,0.6s						
SG1	Sgolgore (BA)	6.26	317	iPn	Pn	17 20 27.1	+0.9
DRME	Dracevica, Mon	6.30	339⇓	iPn	Pn	17 20 27.5	+0.8
DRME				eSn	Sn	17 21 35.9	-2.8
DRME	Dracevica, Mon	6.30	339⇓	iPn	Pn	17 20 27.5	+0.8
DRME				eSn	Sn	17 21 35.9	-2.8
BAI	Bari	6.35	320	iPn	Pn	17 20 28.4	+1.1
VAE	Valguarnera	6.39	283	Pn	Pn	17 20 31.4	+3.5
	comp=Z,1.3nm,0.3s,baz=218,slow=4.3,SNR=6.0						
VAE				Sn	Sn	17 21 39.9	-1.0
	comp=Z,4.9nm,0.3s,baz=1.3,slow=15,SNR=3.3						
BARS	Barje	6.48	357	eP	Pn	17 20 31.7	+2.6
PVY	Plav	6.49	345	ePn	Pn	17 20 31.2	+1.8
PVY				eSn	Sn	17 21 40.9	-2.6
PVY	Plav	6.49	345	ePn	Pn	17 20 31.2	+1.8
PVY				eSn	Sn	17 21 40.9	-2.6
BUM	Brajici-Budva	6.50	337⇓	iPn	Pn	17 20 30.5	+1.1
BUM				eSn	Sn	17 21 41.2	-2.3
BUM	Brajici-Budva	6.50	337⇓	iPn	Pn	17 20 30.5	+1.1
BUM				eSn	Sn	17 21 41.2	-2.3
PDG	Podgorica	6.51	340⇓	iPn	Pn	17 20 30.8	+1.3
PDG				eSn	Sn	17 21 40.9	-2.8
TTG	Podgorica	6.51	340⇓	iPn	Pn	17 20 30.8	+1.3
TTG				eSn	Sn	17 21 40.9	-2.8
KORT	Korkueli	6.54	82	iP	Pn	17 20 35.9	+5.8
CEME	Cevo	6.71	338⇑	iPn	Pn	17 20 32.7	+0.3
CEME				eSn	Sn	17 21 46.4	-2.5
CEME	Cevo	6.71	338⇑	iPn	Pn	17 20 32.7	+0.3
CEME				eSn	Sn	17 21 46.4	-2.5
HCY	Herceg Novi	6.76	336⇑	iPn	Pn	17 20 33.0	+0.1
HCY				eSn	Sn	17 21 47.2	-2.6
HCY	Herceg Novi	6.76	336⇑	iPn	Pn	17 20 33.0	+0.1
HCY				eSn	Sn	17 21 47.2	-2.6
BEY	Berane	6.77	345	ePn	Pn	17 20 34.5	+1.3
BEY				eSn	Sn	17 21 47.8	-2.5
IVA	Berane	6.77	345	ePn	Pn	17 20 34.5	+1.3
IVA				eSn	Sn	17 21 47.8	-2.5
NKME	Niksic	6.91	339⇑	iPn	Pn	17 20 35.6	+0.6
NKME				eSn	Sn	17 21 50.5	-3.1
NKME	Niksic	6.91	339⇑	iPn	Pn	17 20 35.6	+0.6
NKY	Niksic	6.94	340⇓	iPn	Pn	17 20 36.4	+0.9
NKY				eSn	Sn	17 21 51.7	-2.7
NKY	Niksic	6.94	340⇓	iPn	Pn	17 20 36.4	+0.9
NKY				eSn	Sn	17 21 51.7	-2.7
TREB	Trebinje	7.05	336⇓	iPn	Pn	17 20 36.8	-0.1
BRY	Bratogost	7.15	338	ePn	Pn	17 20 38.7	+0.2
BRY				eSn	Sn	17 21 56.6	-3.2
BRY	Bratogost	7.15	338	ePn	Pn	17 20 38.7	+0.2
LMSR	Misrath	7.22	238	iP	Pn	17 20 39.7	+0.5
	SNR=70						
MS1	Monte Sant'Ang	7.27	319	iPn	Pn	17 20 40.7	+0.7
BOVS	Bovan	7.30	357	eP	Pn	17 20 42.1	+1.8
PLE	Pljevlja	7.32	343⇓	iPn	Pn	17 20 42.2	+1.5
PLE				eSn	Sn	17 22 00.8	-3.1
PLE	Pljevlja	7.32	343⇓	iPn	Pn	17 20 42.2	+1.5
UPM	Unac-Piva	7.32	340⇑	iPn	Pn	17 20 41.8	+1.0
UPM				eSn	Sn	17 22 01.2	-2.8
UPM	Unac-Piva	7.32	340⇑	iPn	Pn	17 20 41.8	+1.0
UPM				eSn	Sn	17 22 01.2	-2.8
CLTB	Caltabellotta	7.34	282	ePn	Pn	17 20 47.0	+6.0
	comp=Z,19nm,0.8s						
IVAS	Ivanjica	7.41	348	eP	Pn	17 20 42.0	+0.1
BOLS	Boljevac	7.48	358	eP	Pn	17 20 43.8	+0.9
SWA2		7.57	158	P	Pn	17 20 44.9	+0.8
	baz=160						
SWA2				AMP		17 22 00.0	
	comp=N,330µm,0.4s,logA/T=5.9,baz=160						
SWA2				S	Sn	17 22 05.0	-5.0
	baz=160						
SWA2		7.57	158	P	Pn	17 20 44.9	+0.8
GRUS	Gruza	7.63	352	eP	Pn	17 20 45.7	+0.8
BBLS	Lazići	7.83	345⇑	iPn	Pn	17 20 47.7	+0.1
BBLS	Lazići	7.83	345	eP	Pn	17 20 48.5	+0.9
DIVS	Divibare	7.94	348⇑	iPn	Pn	17 20 49.3	+0.1
DIVS	Divibare	7.94	348	eP	Pn	17 20 49.5	+0.3
TRUS	Trudelj	8.00	350	eP	Pn	17 20 50.4	+0.5
KUBS	Kucevo	8.07	357	eP	Pn	17 20 50.7	-0.3
MDVR	Moldovita	8.44	357⇓	iP	Pn	17 20 57.4	+1.3
TEKS	Tekeris	8.46	347	ePn	Pn	17 20 56.0	-0.3
TEKS	Tekeris	8.46	347	eP	Pn	17 20 56.5	+0.2
MSAB	Monastry St. A	8.83	27⇑	iP	Pn	17 21 04.0	+2.6
FGSL	Fruska Gora	9.00	349	eP	Pn	17 21 04.2	+0.5
GZR	Gura Zlata	9.05	2⇑	iP	Pn	17 21 06.3	+1.9
BANR	Banloc	9.07	355⇓	iP	Pn	17 21 00.1	-4.5
AQU	L'Aquila	9.11	314	eP	Pn	17 21 07.2	+1.9
AQU				pmax	pmax		
	comp=Z,49nm,0.8s						
AQU	L'Aquila	9.11	314	ePn	Pn	17 21 07.2	+1.9
	comp=Z,49nm,0.8s						
AQU	L'Aquila	9.11	314	ePn	Pn	17 21 07.2	+1.9
	comp=Z,49nm,0.8s						
CSS	Mathiatis	9.12	95	Pn	Pn	17 21 04.8	-0.5
CSS	Mathiatis	9.12	95	Pn	Pn	17 21 04.8	-0.5
BLY	Banja Luka	9.24	337	ePn	Pn	17 21 07.0	0.0
BZS	Buzias	9.28	357⇑	iP	Pn	17 21 08.4	+0.9
VOIR		9.33	12⇓	iP	Pn	17 21 11.2	+3.0
VOIR		9.33	12	P	Pn	17 21 11.7	+3.5
VOIR				pmax	pmax		
	comp=Z,19nm,0.9s						
ISR	Istrita	9.35	19⇓	iP	Pn	17 21 10.4	+1.9
TIRR	Tirgusor	9.37	28⇓	iP	Pn	17 21 11.4	+2.7
TIRR	Tirgusor	9.37	28	eP	Pn	17 21 10.9	+2.2
TIRR				pmax	pmax		
	comp=Z,15nm,1.0s						
TIRR	Tirgusor	9.37	28	ePn	Pn	17 21 10.9	+2.2
	comp=Z,15nm,1.0s						
TIRR	Tirgusor	9.37	28	ePn	Pn	17 21 10.9	+2.2
	comp=Z,15nm,1.0s						
UDBI	Udbina	9.55	331	ePn	Pn	17 21 12.3	+1.0
UDBI				Sn	Sn	17 22 54.9	-3.8
UDBI	Udbina	9.55	331	ePn	Pn	17 21 12.3	+1.0
MLR	Muntele Rosu	9.56	16	Pn	Pn	17 21 14.4	+3.0
	comp=Z,0.0nm,0.3s,baz=158,slow=15,SNR=7.3						
MLR				LR	LR	17 25 48.4	
	comp=Z,193nm,18.3s,baz=183,slow=44						
MLR	Muntele Rosu	9.56	16⇑	iP	Pn	17 21 14.2	+2.8
BRTR	Keskin Array B	9.59	66	Pn	Pn	17 21 16.5	+4.5
	comp=Z,0.3nm,0.3s,baz=245,slow=13,SNR=44						
BRTR				LR	LR	17 25 29.8	
	comp=Z,332nm,20.8s,baz=252,slow=42						
AWBH		9.77	143	P	Pn	17 21 14.4	+0.1
	baz=144						
CFR	Carcaliu	9.89	25⇑	iP	Pn	17 21 18.8	+3.0
DOPR	Dopca	9.90	13⇑	iP	Pn	17 21 19.7	+3.7
NVLJ	Novalja	9.95	328	ePn	Pn	17 21 17.9	+1.2
NVLJ				Sn	Sn	17 23 01.8	-6.5
NVLJ	Novalja	9.95	328	ePn	Pn	17 21 17.9	+1.2
PLOR	Plostina	10.06	18⇑	iP	Pn	17 21 20.2	+2.0
VRI	Vrincioaia	10.09	18⇑	iP	Pn	17 21 22.1	+3.4
VRI	Vrincioaia	10.09	18	P	Pn	17 21 24.8	+6.1
VRI				pmax	pmax		
	comp=Z,38nm,0.9s						
GLL	Jalalah	10.41	128	P	Pn	17 21 22.7	-0.4
	baz=129						
KEST	Kesra	10.47	270	Pn	Pn	17 21 26.2	+2.2
	comp=Z,0.4nm,0.3s,baz=4.5,slow=3.3,SNR=6.1						
KEST				Sn	Sn	17 23 17.9	-3.4
	comp=Z,0.4nm,0.3s,baz=70,slow=22,SNR=6.6						
KEST				LR	LR	17 24 59.4	
	comp=Z,175nm,21.6s,baz=352,slow=35						
HFRF	Wahat Farafira	10.51	149	P	Pn	17 21 24.2	-0.2
	baz=150						
HFRF				S	Sn	17 23 15.0	-7.1
	baz=150						
HFRF				AMP		17 24 51.2	
	comp=N,60µm,0.8s,logA/T=4.9,baz=150						
BOJS	Bojanci	10.57	332	iPn	Pn	17 21 25.1	-0.1
BOJS				iSn	Sn	17 23 16.3	-7.3
TESR	Tescani	10.68	17⇓	iP	Pn	17 21 30.0	+3.3
CRES	Cresnjev	10.77	334⇑	iPn	Pn	17 21 27.1	-0.8
NBNS	Bani Suef	10.83	133	P	Pn	17 21 29.0	+0.1
	baz=134						
ARCR	ARCALIA	10.85	8⇑	iP	Pn	17 21 33.7	+4.7
BEHE	Becsehely	10.92	340	ePn	Pn	17 21 29.7	-0.3
BEHE	Becsehely	10.92	340	ePn	Pn	17 21 29.7	-0.3
VISS	Visnje	10.98	332	iPn	Pn	17 21 31.2	+0.4
VISS				iSn	Sn	17 23 27.6	-6.0
SUZ	Suez	10.98	123	P	Pn	17 21 30.1	-0.7
	baz=124						
CEY	Cerknica	11.09	330	ePn	Pn	17 21 31.8	-0.5
LJU	Ljubljana	11.30	331	ePn	Pn	17 21 35.6	+0.4

LJU eSn **Sn** 17 23 34.5 -6.9
comp=Z,73nm,0.8s
LJU Ljubljana 11.30 331 ePn **Pn** 17 21 34.7 -0.5
MMA0B Mount Meron ar 11.32 103 Pn **Pn** 17 21 36.1 +0.5
MMA0B Mount Meron ar 11.32 103 Pn **Pn** 17 21 36.1 +0.5
MMAI Mount Meron Ar 11.32 103 Pn **Pn** 17 21 34.1 -1.4
comp=Z,4.8nm,0.3s,baz=283,slow=11,SNR=20
MMAI Sn **Sn** 17 23 35.4 -6.8
comp=Z,3.1nm,0.3s,baz=290,slow=22,SNR=5.3
SLTI Sal'it 11.34 107 Pn **Pn** 17 21 35.0 -0.7
SLTI Sal'it 11.34 107 Pn **Pn** 17 21 35.0 -0.7
JAVS Javornik 11.36 330 *i* Pn **Pn** 17 21 36.3 +0.2
JAVS *i* Sn **Sn** 17 23 34.4 -8.6
KZIT Kziot 11.48 115 Pn **Pn** 17 21 36.1 -1.5
KZIT Sn Sn 17 23 36.4 -9.4
KZIT Kziot 11.48 115 Pn **Pn** 17 21 36.1 -1.5
KZIT Sn Sn 17 23 36.4 -9.4
BURAR Bucovina Array 11.48 10⇓ *i*P **Pn** 17 21 40.3 +2.6
MMLI Mount Malkishu 11.55 106 Pn **Pn** 17 21 38.2 -0.5
MMLI Mount Malkishu 11.55 106 Pn **Pn** 17 21 38.2 -0.5
AMAZ Amatzia 11.55 111 Pn **Pn** 17 21 37.9 -0.8
AMAZ Sn Sn 17 23 38.4 -9.3
AMAZ Amatzia 11.55 111 Pn **Pn** 17 21 37.9 -0.8
AMAZ Sn Sn 17 23 38.4 -9.3
PERS Pernice 11.59 335 *i* Pn **Pn** 17 21 38.8 -0.4
SOKA Soboth 11.65 335 ePn **Pn** 17 21 39.5 -0.6
comp=Z,9.4nm,0.4s,SNR=16
SOKA Soboth 11.65 335 Pn **Pn** 17 21 39.5 -0.6
comp=Z,9.4nm,0.4s,SNR=16
OBKA Obir 11.68 333 ePn **Pn** 17 21 40.5 0.0
comp=Z,6.2nm,0.2s
OBKA Obir 11.68 333 Pn **Pn** 17 21 40.5 0.0
comp=Z,6.2nm,0.2s
PSZ Piszkesteto 11.70 352⇑ *i*P **Pn** 17 21 40.0 -0.7
PSZ Piszkesteto 11.70 352 S **Sn** 17 23 49.3 -2.0
PSZ Piszkesteto 11.70 352⇓ ePn **Pn** 17 21 42.2 +1.5
PSZ eSn **Sn** 17 23 50.5 -0.8
PSZ Piszkesteto 11.70 352 eP **Pn** 17 21 39.7 -1.0
PSZ pmax pmax
comp=Z,17nm,0.8s
PSZ Piszkesteto 11.70 352⇓ eP **Pn** 17 21 42.2 +1.5
PSZ eS **Sn** 17 23 50.5 -0.8
PSZ Piszkesteto 11.70 352 ePn **Pn** 17 21 39.7 -1.0
comp=Z,17nm,0.8s
HMDT Nahal Hemdat 11.71 107 Pn **Pn** 17 21 40.0 -0.8
HMDT Sn **Sn** 17 23 44.5 -6.9
HMDT Nahal Hemdat 11.71 107 Pn **Pn** 17 21 40.0 -0.8
HMDT Sn **Sn** 17 23 44.5 -6.9
TRPA Tarpa 11.78 1 ePn **Pn** 17 21 43.9 +2.2
TRPA Tarpa 11.78 1 eP **Pn** 17 21 43.9 +2.2
DSI Dead Sea 11.89 110 Pn **Pn** 17 21 41.8 -1.5
DSI Sn **Sn** 17 23 48.6 -7.3
DSI Dead Sea 11.89 110 Pn **Pn** 17 21 41.8 -1.5
DSI Sn **Sn** 17 23 48.6 -7.3
ARSA Arzberg 12.00 337 ePn **Pn** 17 21 44.6 -0.1
comp=Z,8.4nm,0.5s,SNR=6.1
ARSA Arzberg 12.00 337 Pn **Pn** 17 21 44.6 -0.1
comp=Z,8.4nm,0.5s,SNR=6.1
MYKA Terra Mystica 12.13 331 ePn **Pn** 17 21 48.1 +1.5
comp=Z,4.1nm,0.5s
MYKA Sn **Sn** 17 24 03.0 +1.2
comp=Z,7.6nm,0.5s
MYKA Terra Mystica 12.13 331 Pn **Pn** 17 21 48.1 +1.5
comp=Z,4.1nm,0.5s
MYKA Sn **Sn** 17 24 03.0 +1.2
comp=Z,7.6nm,0.5s
KECS Kecovo 12.21 354 eP **Pn** 17 21 48.7 +1.2
KECS Kecovo 12.21 354 ePn **Pn** 17 21 48.7 +1.2
KECS Kecovo 12.21 354 ePN **Pn** 17 21 48.7 +1.2
KECS *e* 17 22 03.5
PRNI Paran 12.21 116 Pn **Pn** 17 21 45.8 -1.9
PRNI Paran 12.21 116 Pn **Pn** 17 21 45.8 -1.9
UZH Uzhgorod 12.28 0 eP P 17 21 55.1 -5.8
VYHS Vyhne 12.40 349 eP **Pn** 17 21 50.0 -0.2
VYHS *e* 17 24 07.8
VYHS Vyhne 12.40 349 ePn **Pn** 17 21 50.0 -0.2
VYHS eSn **Sn** 17 24 07.8 -0.6
VYHS Vyhne 12.40 349 ePN **Pn** 17 21 50.0 -0.2
HRFI Mount Harif 12.41 117 Pn **Pn** 17 21 48.9 -1.5
HRFI Mount Harif 12.41 117 Pn **Pn** 17 21 48.9 -1.5
MBRI Mt Berech 12.46 118 Pn **Pn** 17 21 49.8 -1.3
MBRI Sn Sn 17 24 00.9 -9.1
MBRI Mt Berech 12.46 118 Pn **Pn** 17 21 49.8 -1.3
MBRI Sn Sn 17 24 00.9 -9.1
CONA Conrad Observa 12.51 340 ePn **Pn** 17 21 51.4 -0.4
comp=Z,2.6nm,0.5s
CONA Conrad Observa 12.51 340 Pn **Pn** 17 21 51.4 -0.4
comp=Z,2.6nm,0.5s
EIL Elat 12.55 118 Pn **Pn** 17 21 51.0 -1.4
comp=Z,1.1nm,0.3s,baz=278,slow=1.8,SNR=13
EIL Sn Sn 17 24 01.7 -11
comp=Z,0.9nm,0.3s,baz=303,slow=18,SNR=5.1
EIL Elat 12.55 118 Pn **Pn** 17 21 51.1 -1.3
EIL Elat 12.55 118 Pn **Pn** 17 21 51.1 -1.3
CRVS Cervenica-Dubn 12.57 358 eP **Pn** 17 21 53.1 +0.6
CRVS Cervenica-Dubn 12.57 358 ePn **Pn** 17 21 53.1 +0.6
CRVS Cervenica-Dubn 12.57 358 ePN **Pn** 17 21 53.1 +0.6
CRVS *e* 17 22 06.6
SORM Soroca 12.62 19⇑ *i*P **Pn** 17 21 56.3 +3.2
KBA Koelnbreinsper 12.62 331 ePn **Pn** 17 21 52.4 -0.9
comp=Z,5.9nm,0.7s,SNR=7.0
KBA Sn **Sn** 17 24 13.7 -0.1
comp=Z,4.8nm,0.4s
KBA Koelnbreinsper 12.62 331 P **Pn** 17 21 55.6 +2.3
KBA pmax pmax
comp=Z,15nm,1.1s
KBA Koelnbreinsper 12.62 331 Pn **Pn** 17 21 52.4 -0.9
comp=Z,5.9nm,0.7s,SNR=7.0
KBA Sn **Sn** 17 24 13.7 -0.1
comp=Z,4.8nm,0.4s
ABTA Abfaltersbach 12.69 328 ePn **Pn** 17 21 55.7 +1.4
comp=Z,2.6nm,0.3s,SNR=7.4
ABTA eSn **Sn** 17 24 14.5 -1.1
comp=Z,7.3nm,0.6s
ABTA Abfaltersbach 12.69 328 Pn **Pn** 17 21 55.7 +1.4
comp=Z,2.6nm,0.3s,SNR=7.4
ABTA Sn **Sn** 17 24 14.5 -1.1
comp=Z,7.3nm,0.6s
ASF Jabal al Asfar 12.80 105 Pn **Pn** 17 21 56.8 +0.9
comp=Z,0.9nm,0.3s,baz=246,slow=21,SNR=6.9
MOA Molln 12.93 335 ePn **Pn** 17 21 57.4 -0.1
comp=Z,6.9nm,0.5s
MOA Sn **Sn** 17 24 22.2 +0.9
comp=Z,2.6nm,0.3s
MOA Molln 12.93 335 Pn **Pn** 17 21 57.4 -0.1
comp=Z,6.9nm,0.5s
MOA Sn **Sn** 17 24 22.2 +0.9
comp=Z,2.6nm,0.3s
STHS Stebnicka Huta 13.09 357 *e* **P** 17 22 12.4 +2.5
NIE Niedzica 13.15 354 eP **P** 17 22 13.8 +3.2
NIE Niedzica 13.15 354 eP **P** 17 22 13.8 +3.2
KWP Kalwaria Pacla 13.29 1 eP **Pn** 17 22 05.3 +3.0
KWP Kalwaria Pacla 13.29 1 eP **Pn** 17 22 05.3 +3.0
KWP Kalwaria Pacla 13.29 1 eP **Pn** 17 22 05.3 +3.0
WTTA Wattenberg 13.47 327 ePn **Pn** 17 22 05.5 +0.6
comp=Z,3.4nm,0.3s
WTTA Sn **Sn** 17 24 33.6 -1.1
comp=Z,32nm,0.9s
WTTA Wattenberg 13.47 327 Pn **Pn** 17 22 05.5 +0.6
comp=Z,3.4nm,0.3s
WTTA Sn **Sn** 17 24 33.6 -1.1
comp=Z,32nm,0.9s
LVV L'vov 13.53 5 eP **P** 17 22 19.1 +4.3
WATA Walderalm 13.55 327 ePn **Pn** 17 22 08.7 +2.7
comp=Z,11nm,0.5s,SNR=7.3
WATA Walderalm 13.55 327 Pn **Pn** 17 22 08.7 +2.7
comp=Z,11nm,0.5s,SNR=7.3
VRAC Vranov 13.60 344 Pn **Pn** 17 22 06.4 -0.2
baz=162,slow=13,SNR=3.7
VRAC LR LR 17 28 36.2
comp=Z,219nm,21.5s,baz=166,slow=43
VRAC Vranov 13.60 344⇓ *i*P **Pn** 17 22 06.2 -0.4
FETA Feichten 13.70 325 ePn **Pn** 17 22 11.2 +3.2
comp=Z,2.9nm,0.5s
FETA Sn **Sn** 17 24 40.2 0.0
comp=Z,9.5nm,0.7s
FETA Feichten 13.70 325 Pn **Pn** 17 22 11.2 +3.2
comp=Z,2.9nm,0.5s
FETA Sn **Sn** 17 24 40.2 0.0
comp=Z,9.5nm,0.7s
MOTA Moosalm 13.77 326 ePn **Pn** 17 22 11.9 +2.9
comp=Z,16nm,0.7s,SNR=14
MOTA Moosalm 13.77 326 Pn **Pn** 17 22 11.9 +2.9
comp=Z,16nm,0.7s,SNR=14

OKC Ostrava-Krasne 13.82 349 eP **P** 17 22 19.8 +1.8
OKC AMS AMS 17 28 40.0
comp=Z,300nm,16.4s
OKC Ostrava-Krasne 13.82 349 eP **P** 17 22 19.8 +1.8
OKC MLR MLR
comp=Z,300nm,16.4s
TREC Trest 13.86 341 AMS AMS 17 28 10.0
comp=Z,400nm,15.7s
MORC Moravsky Berou 13.86 347⇑ *i*P **Pn** 17 22 11.2 +1.1
MORC Moravsky Berou 13.86 347⇑ P **Pn** 17 22 11.2 +1.1
MORC Moravsky Berou 13.86 347 ePn **Pn** 17 22 09.7 -0.4
DAVOX Davos/Dischmat 13.93 322 Pn **Pn** 17 22 11.8 +0.5
comp=Z,0.7nm,0.3s,baz=140,slow=20,SNR=7.7
DAVOX Sn **Sn** 17 24 40.3 -5.8
comp=Z,0.8nm,0.3s,baz=313,slow=11,SNR=8.3
DAVOX LR LR 17 28 54.1
comp=Z,109nm,19.4s,baz=94,slow=43
GERES GERESS Array B 13.98 336 Pn **Pn** 17 22 11.4 -0.4
comp=Z,1.0nm,0.3s,baz=157,slow=13,SNR=22
GERES Sn **Sn** 17 24 40.0 -7.1
comp=Z,0.3nm,0.3s,baz=163,slow=24,SNR=5.5
OJC Ojcow 13.99 353 eP **P** 17 22 21.6 +1.7
OJC Ojcow 13.99 353 eP **P** 17 22 21.6 +1.7
OJC Ojcow 13.99 353 eP **P** 17 22 21.6 +1.7
TUE Stuetta 13.99 320 ePn **Pn** 17 22 14.5 +2.4
comp=Z,6.9nm,0.6s
TUE Stuetta 13.99 320 ePn **Pn** 17 22 14.5 +2.4
comp=Z,6.9nm,0.6s
RETA Reutte 14.03 326 Pn **Pn** 17 22 14.6 +2.1
comp=Z,1.8nm,0.3s
RETA Reutte 14.03 326 Pn **Pn** 17 22 14.6 +2.1
comp=Z,1.8nm,0.3s
KHC Kasperske Hory 14.27 336 eP **Pn** 17 22 16.0 +0.2
KHC *ex* x 17 22 24.0
KHC Kasperske Hory 14.27 336 eP **Pn** 17 22 16.0 +0.2
KHC Kasperske Hory 14.27 336 P **Pn** 17 22 16.0 +0.2
ANN Anapa 14.28 49 eP **Pn** 17 22 13.0 -2.9
ANN *eS* **Sn** 17 24 50.2 -4.0
ANN pmax pmax
comp=Z,17nm,1.1s
DAVA Damuels 14.29 324 Pn **Pn** 17 22 19.3 +3.2
comp=Z,6.8nm,0.5s,SNR=4.9
DAVA Sn **Sn** 17 24 55.0 +0.3
comp=Z,6.9nm,0.5s
DAVA Damuels 14.29 324 Pn **Pn** 17 22 19.3 +3.2
comp=Z,6.8nm,0.5s,SNR=4.9
DAVA Sn **Sn** 17 24 55.0 +0.3
comp=Z,6.9nm,0.5s
GOPC GO Pecny, Ondr 14.61 341 eP **Pn** 17 22 22.7 +2.3
GOPC *ex* x 17 22 27.8
GOPC AMS AMS 17 28 40.0
comp=Z,400nm,12.9s
GOPC GO Pecny, Ondr 14.61 341 eP **Pn** 17 22 22.7 +2.3
GOPC MLR MLR
comp=Z,400nm,12.9s
DPC Dobruska-Polom 14.65 345 eP **Pn** 17 22 21.3 +0.4
DPC *ex* x 17 22 26.7
DPC *ex* x 17 22 28.7
DPC *ex* x 17 22 38.5
DPC Dobruska-Polom 14.65 345 eP **Pn** 17 22 21.3 +0.4
DPC Dobruska-Polom 14.65 345 P **Pn** 17 22 21.3 +0.4
PRU Pruhonice 14.74 340 eP **Pn** 17 22 23.0 +0.8
PRU *ex* x 17 22 29.0
PRU AMS AMS 17 28 40.0
comp=Z,400nm,11.8s
PRU Pruhonice 14.74 340 eP **Pn** 17 22 23.0 +0.8
PRU MLR MLR
comp=Z,400nm,11.8s
PRU Pruhonice 14.74 340 P **Pn** 17 22 23.0 +0.8
LPG La Plagne 14.85 313 eP **P** 17 22 29.6 -0.2
LPG pmax pmax
comp=Z,8.0nm,1.1s
UPC Upice 14.86 344 eP **Pn** 17 22 24.1 +0.3
UPC *ex* x 17 22 31.5
UPC Upice 14.86 344 eP **Pn** 17 22 24.1 +0.3
UPC Upice 14.86 344 P **Pn** 17 22 24.1 +0.3
KSP Ksiaz 15.12 345 eP **P** 17 22 34.0 +1.6
KSP Ksiaz 15.12 345 eP **P** 17 22 34.0 +1.6
KSP Ksiaz 15.12 345 eP **P** 17 22 34.0 +1.6
KIEV Kiev 15.20 17 eP **Pn** 17 22 27.5 -0.7
AKASG Malin Array Be 15.21 17 Pn **Pn** 17 22 27.4 -1.0
comp=Z,1.6nm,0.3s,baz=206,slow=12,SNR=8.2
AKASG LR LR 17 29 02.1
comp=Z,217nm,20.2s,baz=195,slow=40
AKASG Malin Array Be 15.21 17 *i* P **Pn** 17 22 27.8 -0.6
AKASG pmax pmax
comp=Z,2.0nm,0.4s
PVCC Panska Ves 15.23 341 AMS AMS 17 29 10.0
BEL Belsk 15.53 357 eP **P** 17 22 38.8 +1.9
BEL Belsk 15.53 357 eP **P** 17 22 38.8 +1.9
BEL Belsk 15.53 357 eP **P** 17 22 38.8 +1.9
GRF Grafenberg Arr 15.57 332 P **P** 17 22 38.1 +0.6
GRF pmax pmax
comp=Z,28nm,0.9s
BRG Berggiesshubel 15.71 340 eP **Pn** 17 22 35.3 +0.4
comp=Z,6.4nm,1.1s
BRG *e* 17 22 39.8
comp=Z,9.2nm,0.9s
comp=N,333nm,17.3s
comp=E,208nm,16.1s
comp=Z,466nm,16.5s
BRG Berggiesshubel 15.71 340 eP **Pn** 17 22 35.3 +0.4
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG MLR MLR
comp=N,333nm,17.3s
BRG MLR MLR
comp=E,208nm,16.1s
BRG MLR MLR
comp=Z,466nm,16.5s
BFO Black Forest 15.77 324 eP **P** 17 22 38.1 -1.6
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 15.77 324 eP **P** 17 22 38.1 -1.6
comp=Z,6.6nm,0.9s
BFO Black Forest 15.77 324 eP **P** 17 22 38.1 -1.6
comp=Z,6.6nm,0.9s
MOX Moxa 16.22 335 P **P** 17 22 44.8 +0.1
MOX pmax pmax
comp=Z,8.0nm,1.1s
CDF Champ du Feu 16.34 322 eP **P** 17 22 45.0 -1.0
CLL Collm 16.36 339 eP **Pn** 17 22 44.0 +0.7
CLL *i* 17 22 46.1
CLL *i* 17 22 47.3
comp=Z,20nm,1.0s
CLL *e* 17 22 54.0
CLL *eS* **Sn** 17 25 48.0 +3.2
CLL Lm MLR 17 29 00.0
comp=Z,400nm,19.3s
CLL Collm 16.36 339 eP **Pn** 17 22 44.0 +0.7
CLL MLR MLR
comp=Z,400nm,19.3s
NEY Neytrino 17.15 60 eP **P** 17 22 56.0 +0.8
KIV Kislovodsk 17.34 58 eP **P** 17 22 58.6 +1.3
KIV pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 17.34 58 eP **P** 17 22 58.8 +1.6
comp=Z,16nm,0.8s
KIV Kislovodsk 17.34 58 eP **P** 17 22 58.9 +1.6
comp=Z,16nm,0.8s
KVAR Kislovodsk Arr 17.35 58 P **P** 17 22 58.7 +1.4
baz=186,slow=3.5,SNR=8.8
KBZ Khabaz 17.42 59 P **P** 17 22 59.6 +1.7
comp=Z,0.6nm,0.3s,baz=267,slow=7.9,SNR=30
KBZ LR LR 17 31 29.5
comp=Z,136nm,18.1s,baz=264,slow=44
AVF Avril sur Loir 17.54 312 eP **P** 17 23 00.4 +1.2
AVF pmax pmax
comp=Z,37nm,1.9s
SUW Suwalki 17.68 2 eP **Pn** 17 22 59.7 -0.2
SUW Suwalki 17.68 2 eP **Pn** 17 22 59.7 -0.2
SUW Suwalki 17.68 2 eP **Pn** 17 22 59.7 -0.2
WLF Walferdange 17.73 324 P **P** 17 23 04.0 +2.7
ZEI Tsey 17.86 62 eP **P** 17 23 03.5 +0.4
ZEI pmax pmax
comp=Z,45nm,1.1s
GOF Gofitskoye 17.97 55⇑ eP **P** 17 23 06.0 +2.0
GNI Garni 18.06 71 P **P** 17 23 05.4 +0.2
comp=Z,1.6nm,0.3s,baz=238,slow=1.8,SNR=5.4
GNI LR LR 17 30 57.9
comp=Z,150nm,18.2s,baz=270,slow=40
GNI Garni 18.06 71 *i* P **P** 17 23 07.5 +2.3
GNI pmax pmax
comp=Z,79nm,1.2s
GNI Garni 18.06 71 ePn **P** 17 23 07.5 +2.3

GNI Garni 18.06 71 ePn **P** 17 23 07.5 +2.3
MEM Membach 18.45 326 P **Pn** 17 23 12.6 +3.3
BUG Bochum--Univer 18.50 329 P **Pn** 17 23 14.0 +4.0
BUG pmax pmax
comp=Z,13nm,0.5s
BCLA Clavier 18.64 324 P **Pn** 17 23 15.1 +3.4
GIVF Givet 18.66 323 eP **Pn** 17 23 13.9 +2.0
GIVF pmax pmax
comp=Z,55nm,1.3s
DOU Dourbes 18.77 323 P **Pn** 17 23 15.4 +2.2
comp=Z,15nm,1.6s
NACGM Naroch 18.82 8 *e* **P** 17 23 12.0 -1.3
BAIF Baives 18.93 322 eP **Pn** 17 23 15.4 +0.2
BAIF pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 19.17 34 eP **Pn** 17 23 18.0 -0.1
VSR pmax pmax
comp=Z,10.0nm,0.6s
IDID Didziasalis 19.22 8 eP **Pn** 17 23 18.4 -0.3
IDID IAmb IAmb 17 23 19.9
comp=Z,8.6nm,0.5s
IDID Didziasalis 19.22 8 eP **Pn** 17 23 18.4 -0.3
SNR=29
ISAL Salakas 19.41 7 eP **P** 17 23 20.3 +0.5
ISAL IAmb IAmb 17 23 21.2
comp=Z,12nm,0.5s
ISAL Salakas 19.41 7 eP **P** 17 23 20.3 +0.5
SNR=28
BSD Bornholm Skovb 19.44 347 *i* P **P** 17 23 20.0 -0.1
BSD pmax pmax
comp=Z,43nm,0.9s
BSD Bornholm Skovb 19.44 347 *i* P **P** 17 23 20.0 -0.1
comp=Z,43nm,0.9s
BSD Bornholm Skovb 19.44 347 *i* P **P** 17 23 20.0 -0.1
comp=Z,43nm,0.9s
IZAR Zarasai 19.60 7 eP **P** 17 23 22.1 +0.3
IZAR IAmb IAmb 17 23 23.0
comp=Z,26nm,0.9s
IZAR Zarasai 19.60 7 eP **P** 17 23 22.1 +0.3
SNR=28
TAM Tamanrasset 19.81 232 eP **Pn** 17 23 28.7 +2.6
TAM pmax pmax
comp=Z,6.0nm,0.9s
TAM Tamanrasset 19.81 232 eP **Pn** 17 23 28.7 +2.6
comp=Z,6.4nm,0.9s
LPSR Galich'ya Gora 20.06 31 eP **P** 17 23 26.2 -0.7
LPSR pmax pmax
comp=Z,20nm,0.6s
FLN La Foliniere 20.76 314 eP **P** 17 23 31.9 -2.6
FLN pmax pmax
comp=Z,16nm,0.8s
GRR Gorron 20.80 313 eP Pn 17 23 36.5 -0.9
GRR pmax pmax
comp=Z,32nm,1.5s
ESDC Sonseca Array 20.90 287 P **P** 17 23 36.6 +0.4
comp=Z,1.9nm,0.6s,baz=86,slow=11,SNR=12
OBN Obninsk 21.19 23 P **P** 17 23 38.0 -1.0
comp=Z,24nm,0.4s,baz=20,slow=21,SNR=7.6
OBN Obninsk 21.19 23 *i* P **P** 17 23 37.7 -1.4
OBN pmax pmax
comp=Z,37nm,0.8s
OBN MLR MLR
comp=Z,133nm,18.0s
QUIF Quistinic 22.01 310 eP **P** 17 23 48.6 +0.6
QUIF pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 22.05 24 eP **P** 17 23 48.4 +0.1
MOS *e* 17 24 11.3
MOS pmax pmax
comp=Z,75nm,0.7s
ROSF Rostrenen 22.24 311 eP **P** 17 23 50.3 -0.2
ROSF pmax pmax
comp=Z,51nm,1.8s
VSU Vasula 22.33 6*c i*P **P** 17 23 50.0 -1.3
VSU pmax pmax
comp=Z,140nm,0.8s
MDT Midelt 22.38 269 P **P** 17 23 52.9 +0.8
comp=Z,1.7nm,0.6s,baz=112,slow=11,SNR=3.7
MDT LR LR 17 34 24.0
comp=Z,118nm,19.5s,baz=106,slow=42
HFS Hagfors 24.44 350 P **P** 17 24 11.3 -1.0
comp=Z,6.3nm,0.4s,baz=153,slow=10,SNR=32
HFS LR LR 17 36 14.0
comp=Z,113nm,20.2s,baz=173,slow=43
FINES FINESS Array B 25.24 4 P **P** 17 24 18.8 -0.7
comp=Z,16nm,0.6s,baz=167,slow=11,SNR=98
FINES PcP **PcP** 17 27 51.6 -0.9
comp=Z,0.5nm,0.4s,baz=117,slow=0.3,SNR=5.2
FINES LR LR 17 35 29.2
comp=Z,420nm,18.9s,baz=219,slow=40
FINES FINESS Array B 25.24 4 *i* P **P** 17 24 18.7 -0.8
FINES pmax pmax
comp=Z,16nm,0.6s
NB2 NORSAR Subarra 25.70 348 P **P** 17 24 23.1 -0.6
comp=Z,5.8nm,0.7s,baz=158,slow=11
NB2 NORSAR Subarra 25.70 348 P **P** 17 24 23.1 -0.6
comp=Z,5.8nm,0.7s,SNR=8.9
NOA NORSAR Array B 25.70 348 P **P** 17 24 22.9 -0.8
comp=Z,2.6nm,0.7s,baz=151,slow=9.5,SNR=25
EKA Eskdalemuir Ar 25.72 326 P **P** 17 24 24.2 +0.3
comp=Z,6.3nm,0.6s,baz=127,slow=8.9,SNR=14
KLMR Klimovskoe 26.88 19 eP **P** 17 24 32.2 -2.2
KLMR *e* 17 25 15.0
KLMR pmax pmax
comp=Z,18nm,0.9s
GEYT Alibeck 28.53 76 P **P** 17 24 49.5 0.0
comp=Z,5.8nm,0.6s,baz=277,slow=8.9,SNR=18
AKTO Aktyubinsk 29.24 50 P **P** 17 24 54.4 -1.2
comp=Z,3.2nm,0.7s,baz=247,slow=6.7,SNR=8.9
AKTO LR LR 17 39 44.6
comp=Z,73nm,20.9s,baz=264,slow=43
TORD Torodi Ar. Bea 29.57 224 P **P** 17 24 59.4 +0.6
comp=Z,1.8nm,0.6s,baz=39,slow=9.8,SNR=17
TORD LR LR 17 38 44.4
comp=Z,94nm,18.4s,baz=40,slow=40
ABKAR Akbulak array 30.19 53 eP **P** 17 25 02.1 -1.9
comp=Z,1.7nm,0.4s
ARU Arti 31.56 39 LR LR 17 38 49.1
comp=Z,144nm,21.9s,baz=217,slow=38
ARU Arti 31.56 39*d i*P **P** 17 25 14.9 -1.1
ARU S **S** 17 30 23.5 -0.8
ARU SS **SnSn** 17 32 05.0 -4.4
ARU pmax pmax
comp=Z,13nm,1.2s
SOKR Solikamsk 32.19 33*c i*P **P** 17 25 18.5 -2.9
SOKR pmax pmax
comp=Z,20nm,1.1s
SVE Sverdlovsk 32.78 39 eP **P** 17 25 26.1 -0.5
SVE pmax pmax
comp=Z,32nm,0.9s
ARCES ARCESS Array B 33.30 2 P **P** 17 25 30.6 -0.5
comp=Z,11nm,0.7s,baz=185,slow=8.5,SNR=30
ARCES LR LR 17 40 28.5
comp=Z,165nm,18.0s,baz=192,slow=39
WSAR Wadi Sarin 33.96 102 P **P** 17 25 37.6 +0.3
comp=Z,1.7nm,0.4s,baz=305,slow=11,SNR=5.1
BRVK Borovoye 37.22 48 eP **P** 17 26 04.6 -0.4
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK Borovoye 37.22 48 eP **P** 17 26 04.6 -0.4
comp=Z,21nm,0.8s
BRVK Borovoye 37.22 48 eP **P** 17 26 04.6 -0.4
comp=Z,21nm,0.8s
KKAR Karatay Array 37.30 64 eP **P** 17 26 05.8 -0.1
KKAR pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 37.30 64 eP **P** 17 26 05.8 -0.1
comp=Z,5.9nm,0.5s
KKAR Karatay Array 37.30 64 eP **P** 17 26 05.8 -0.1
comp=Z,5.9nm,0.5s
JMIC Jan Mayen 38.30 344 LR LR 17 43 13.3
comp=Z,33nm,20.1s,baz=220,slow=38
DBIC Dimbokro 38.56 227 P **P** 17 26 16.7 0.0
comp=Z,5.2nm,0.8s,baz=136,slow=3.4,SNR=4.4
DBIC LR LR 17 42 40.0
comp=Z,46nm,21.3s,baz=30,slow=37
EKS2 Erkin-Say 39.74 65 eP **P** 17 26 26.4 -0.1
EKS2 pmax pmax
comp=Z,35nm,1.3s
EKS2 Erkin-Say 39.74 65 eP **P** 17 26 26.4 -0.1
comp=Z,35nm,1.3s
EKS2 Erkin-Say 39.74 65 eP **P** 17 26 26.4 -0.1
comp=Z,35nm,1.3s
AAK Ala-Archa 40.27 65 P **P** 17 26 31.3 +0.4
comp=Z,7.2nm,0.7s,baz=228,slow=4.3,SNR=16
AAK Ala-Archa 40.27 65*c i*P **P** 17 26 30.8 -0.1

AAK				pmax	pmax		
	comp=Z,23nm,1.0s						
TKM2	**Tokmak 2**	**41.02**	**64**	*e*P	**P**	**17 26 36.6**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TKM2	**Tokmak 2**	**41.02**	**64**	*e*P	**P**	**17 26 36.6**	**-0.6**
	comp=Z,4.1nm,0.9s						
TKM2	**Tokmak 2**	**41.02**	**64**	*e*P	**P**	**17 26 36.6**	**-0.6**
	comp=Z,4.1nm,0.9s						
SCO	**Scoresbysund**	**41.39**	**339**	*i* P	**P**	**17 26 40.9**	**+1.3**
SCO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SCO	**Scoresbysund**	**41.39**	**339**	*i* P	**P**	**17 26 40.9**	**+1.3**
	comp=Z,8.8nm,0.8s						
SCO	**Scoresbysund**	**41.39**	**339**	*i* P	**P**	**17 26 40.9**	**+1.3**
	comp=Z,8.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**42.02**	**358**	P	**P**	**17 26 45.7**	**+1.0**
	comp=Z,3.6nm,0.6s,baz=156,slow=13,SNR=15						
DAG	**Danmarks Havn**	**44.38**	**348**	*i* P	**P**	**17 27 04.0**	**+0.2**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DAG	**Danmarks Havn**	**44.38**	**348**	*i* P	**P**	**17 27 04.0**	**+0.2**
	comp=Z,4.4nm,0.9s						
NVS	**Novosibirsk**	**44.94**	**46**⇑	*i*P	**P**	**17 27 08.1**	**-0.4**
NVS				pmax	pmax		
	comp=Z,25nm,1.0s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.7s						
MKAR	**Makanchi Array**	**45.11**	**57**	P	**P**	**17 27 09.3**	**-0.7**
	comp=E,6.7nm,0.3s,baz=269,slow=7.7,SNR=107						
ZALV	**Zalesovo Beam**	**45.91**	**47**	P	**P**	**17 27 14.9**	**-1.3**
	comp=E,11nm,0.4s,baz=272,slow=8.8,SNR=46						
ZALV				LR	LR	17 50 25.4	
	comp=E,60nm,18.2s,baz=233,slow=41						
SUMG	**Summit**	**47.03**	**339**	*i* P	**P**	**17 27 26.2**	**+1.0**
SUMG				pmax	pmax		
	comp=Z,9.0nm,1.2s						
SUMG	**Summit**	**47.03**	**339**	*i* P	**P**	**17 27 26.2**	**+1.0**
	comp=Z,8.7nm,1.2s						
SUMG	**Summit**	**47.03**	**339**	*i* P	**P**	**17 27 26.2**	**+1.0**
	comp=Z,8.7nm,1.2s						
NRIK	**Noril'sk**	**47.83**	**26**	P	**P**	**17 27 31.7**	**+0.7**
	comp=Z,4.7nm,0.6s,baz=254,slow=6.2,SNR=7.8						
NRIK				LR	LR	17 51 18.6	
	comp=Z,56nm,18.6s,baz=284,slow=41						
SFJD	**Kangerlussuaq**	**50.51**	**331**	LR	LR	17 49 35.4	
	comp=Z,102nm,21.9s,baz=90,slow=36						
LSZ	**Lusaka**	**51.64**	**173**	P	**P**	**17 28 02.5**	**+1.8**
	comp=Z,3.8nm,0.5s,baz=0.7,slow=9.6,SNR=10.0						
LSA	**Lhasa**	**57.06**	**75**	*e*P	**P**	**17 28 40.3**	**-0.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LSA	**Lhasa**	**57.06**	**75**	*e*P	**P**	**17 28 40.2**	**-0.4**
	comp=Z,6.4nm,0.8s						
LSA	**Lhasa**	**57.06**	**75**	*e*P	**P**	**17 28 40.2**	**-0.4**
	comp=Z,6.4nm,0.8s						
GTA	**Gaotai**	**59.48**	**61**	*e*P	**P**	**17 28 56.3**	**-0.7**
GTA				pP	sP	17 29 07.9	+6.0
GTA				sP	pP	17 29 13.1	+13
GTA				PMZ			
	comp=Z,9.0nm,1.1s						
SONM	**Songino Array**	**60.56**	**50**	P	**P**	**17 29 03.7**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=279,slow=8.8,SNR=26						
SONM				LR	LR	17 57 55.2	
	comp=Z,46nm,18.7s,baz=302,slow=39						
SCHQ	**Schefferville**	**60.75**	**318**	P	**P**	**17 29 05.0**	**-0.3**
	comp=Z,7.3nm,0.7s,baz=58,slow=4.3,SNR=5.9						
TIXI	**Tiksi**	**60.89**	**20**	*i* P	**P**	**17 29 04.9**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
TIXI	**Tiksi**	**60.89**	**20**	*e*P	**P**	**17 29 05.0**	**-1.0**
	comp=Z,1.3nm,0.6s						
TIXI	**Tiksi**	**60.89**	**20**	*e*P	**P**	**17 29 05.0**	**-1.0**
	comp=Z,1.3nm,0.6s						
ULN	**Ulaanbaatar**	**60.95**	**50***c*	*i*P	**P**	**17 29 06.2**	**-0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**60.95**	**50**	*e*P	**P**	**17 29 05.8**	**-1.2**
	comp=Z,3.6nm,0.8s						
ULN	**Ulaanbaatar**	**60.95**	**50**	*e*P	**P**	**17 29 05.8**	**-1.2**
	comp=Z,3.6nm,0.8s						
LZH	**Lanzhou**	**63.79**	**63**	*e*P	**P**	**17 29 26.8**	**+0.6**
LZH				pP	sP	17 29 38.4	+7.3
LZH				sP	pP	17 29 44.3	+15
LZH				PMZ			
	comp=Z,15nm,1.0s						
BOSA	**Boshof**	**64.67**	**177**	P	**P**	**17 29 32.1**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=350,slow=7.9,SNR=6.0						
BOSA				LR	LR	17 59 57.8	
	comp=Z,72nm,20.2s,baz=10,slow=38						
YAK	**Yakutsk**	**66.03**	**29**	*e*P	**P**	**17 29 38.6**	**-1.4**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHTO	**Chiang Mai**	**68.58**	**82**	*e*P	**P**	**17 29 56.0**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	**Chiang Mai**	**68.58**	**82**	*e*P	**P**	**17 29 56.0**	**-1.0**
	comp=Z,5.7nm,1.1s						
CHTO	**Chiang Mai**	**68.58**	**82**	*e*P	**P**	**17 29 56.0**	**-1.0**
	comp=Z,5.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**68.77**	**82**	P	**P**	**17 29 57.6**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=302,slow=7.7,SNR=23						
CMAR	**Chiang Mai Arr**	**68.77**	**82**	*i* P	**P**	**17 29 57.7**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BILL	**Bilibino**	**72.49**	**13**	*e*P	**P**	**17 30 19.4**	**-0.6**
BILL				*e*		17 30 35.2	
BILL				*e*		17 33 00.7	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,81nm,21.0s						
BILL	**Bilibino**	**72.49**	**13**	*e*P	**P**	**17 30 16.6**	**-3.4**
	comp=Z,12nm,1.5s						
SEY	**Seymchan**	**73.34**	**21**	P	**P**	**17 30 25.4**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=310,slow=7.0,SNR=13						
SEY	**Seymchan**	**73.34**	**21**	*i* P	**P**	**17 30 24.0**	**-1.2**
INK	**Inuvik**	**74.10**	**351**	P	**P**	**17 30 29.1**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=18,slow=9.0,SNR=8.7						
CN2	**Changchun**	**74.12**	**47**	*e*P	**P**	**17 30 29.2**	**-0.9**
CN2				PMZ			
	comp=Z,10.0nm,0.7s						
KLR	**Kul'dur**	**74.40**	**40**	P	**P**	**17 30 30.8**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=311,slow=7.5,SNR=8.1						
MA2	**Magadan**	**75.40**	**24**	P	**P**	**17 30 37.7**	**+0.5**
	comp=Z,8.5nm,0.7s,baz=354,slow=7.2,SNR=17						
YKA	**Yellowknife Ar**	**75.58**	**341**	P	**P**	**17 30 38.1**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=36,slow=5.8,SNR=12						
COLD	**Coldfoot**	**76.59**	**357**	*e*P	**P**	**17 30 44.2**	**+0.3**
	comp=Z,4.1nm,1.0s						
COLD	**Coldfoot**	**76.59**	**357**	*e*P	**P**	**17 30 44.2**	**+0.3**
	comp=Z,4.1nm,1.0s						
FFC	**Flin Flon**	**77.46**	**331**	*e*P	**P**	**17 30 49.1**	**+0.1**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FFC	**Flin Flon**	**77.46**	**331**	*e*P	**P**	**17 30 49.1**	**+0.1**
	comp=Z,4.3nm,0.9s						
FFC	**Flin Flon**	**77.46**	**331**	*e*P	**P**	**17 30 49.1**	**+0.1**
	comp=Z,4.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**77.65**	**44**	P	**P**	**17 30 49.4**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=301,slow=4.2,SNR=8.2						
ULM	**Lac du Bonnet**	**78.00**	**325**	LR	LR	18 04 45.3	
	comp=Z,58nm,21.8s,baz=343,slow=35						
EGAK	**Eagle**	**78.37**	**353**	*e*P	**P**	**17 30 53.8**	**-0.1**
EGAK	**Eagle**	**78.37**	**353**	*e*P	**P**	**17 30 53.8**	**-0.1**
ILAR	**Eielson Array**	**78.86**	**355**	P	**P**	**17 30 57.0**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=356,slow=4.2,SNR=18						
ILAR	**Eielson Array**	**78.86**	**355**	P	**P**	**17 30 57.0**	**+0.4**
ILAR	**Eielson Array**	**78.86**	**355**	P	**P**	**17 30 57.0**	**+0.4**
KSAR	**Wonju Array Be**	**79.39**	**51**	P	**P**	**17 30 59.5**	**-0.5**
KSAR	**Wonju Array Be**	**79.39**	**51**	P	**P**	**17 30 59.5**	**-0.5**
KSAR	**Wonju Array Be**	**79.39**	**51**	P	**P**	**17 30 59.5**	**-0.5**
KSRS	**Korea Array**	**79.41**	**51**	P	**P**	**17 30 59.5**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=309,slow=5.1,SNR=16						
BPAW	**Bear Paw Mtn.**	**79.75**	**357**	*e*P	**P**	**17 31 01.1**	**-0.4**
	comp=Z,0.5nm,0.5s						
BPAW	**Bear Paw Mtn.**	**79.75**	**357**	*e*P	**P**	**17 31 01.1**	**-0.4**
	comp=Z,0.5nm,0.5s						
DOT	**Dot Lake**	**79.75**	**354**	*e*P	**P**	**17 31 02.2**	**+0.7**
	comp=Z,10nm,0.6s						
DOT	**Dot Lake**	**79.75**	**354**	*e*P	**P**	**17 31 02.2**	**+0.7**
	comp=Z,10nm,0.6s						
YSS	**Yuzh-Sakhalins**	**81.42**	**37**⇑	*e*P	P	17 31 03.5	-7.2
PETK	**Petropavlovsk-**	**82.88**	**25**	LR	LR	18 13 30.1	
	comp=Z,40nm,18.1s,baz=331,slow=40						
BDFB	**Brasilia**	**84.00**	**246**	P	**P**	**17 31 26.4**	**+1.8**
	comp=Z,1.9nm,0.4s,baz=55,slow=7.8,SNR=4.3						
BDFB				LR	LR	18 09 29.0	
	comp=Z,86nm,18.4s,baz=50,slow=36						
DAV	**Davao City (W)**	**96.46**	**76**	LR	LR	18 20 31.7	
	comp=Z,307nm,21.9s,baz=258,slow=38						
NVAR	**Mina Array Bea**	**97.15**	**330**	LR	LR	18 18 34.8	
	comp=Z,92nm,18.4s,baz=50,slow=37						
WRA	**Warramunga Arr**	**119.05**	**94**	PKP	**PKPdf**	**17 37 42.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=318,slow=1.3,SNR=17						
ASAR	**Alice Springs**	**120.57**	**98**	PKP	**PKPdf**	**17 37 45.4**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=314,slow=1.5,SNR=22						

DDA 01 17:19:22.4, 39°.06N×29°.07E, h7km, Md2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**267**	*i* P	Pg	17 19 28.4	+0.5
DEMI				*i* S	Sg	17 19 32.3	+0.8
GDZ	**Gediz**	**0.32**	**84**	*i* P	Pg	17 19 29.3	+0.5
GDZ				*i* S	Sg	17 19 33.9	+0.9
KHAL	**Karahalli**	**0.76**	**154**	*i* P	Pg	17 19 36.9	-0.1

---

*NIED **01** 17:27:00, 38°.00N×143°.20E, h8km, Mw3.8 Best double couple: Mo5.54000×10¹⁴ NP1:φs340.00000°, δ56.00000°, λ-144.00000°. NP2:φs228.00000°, δ60.00000°, λ-39.00000°.*

*IDC **01** 17:27:54.6±1.1, 37°.82N×143°.51E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/50, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=30.4km s-min=21.4km az=90.0*

*ISCJB **01** 17:27:56.2±0.8, 37°.93N±0°.05×143°.30E±0°.07, h19km, mb3.5/6, Error ellipse: s-maj=7.8km s-min=7.1km az=141.5*

*JMA **01** 17:27:59.3±0.4, 37°.98N×143°.16E, h39km, M3.6*

ISC 01 17:27:58.0±1.1**, 37°.99N**±0°.06×**143°.32E**±0°.08**, h19km, n17, σ1s79**/24**, mb3.5**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.62**	**287**	S	**Sn**	**17 28 43.6**	**-2.4**
OFUJ	**Ofunato**	**1.70**	**311**	P	**Pn**	**17 28 26.5**	**-0.1**
OFUJ				*e*S	**Sn**	**17 28 45.7**	**-2.1**
JMK	**Ichinoseki**	**1.91**	**301**	P	**Pn**	**17 28 29.5**	**-0.1**
JMK				*e*S	**Sn**	**17 28 52.6**	**-0.5**
JOM	**Ohasama**	**2.17**	**314**	P	**Pn**	**17 28 32.3**	**-0.9**
JFT	**Otama**	**2.41**	**260**	P	**Pn**	**17 28 36.3**	**-0.2**
JFT				S	**Sn**	**17 29 04.3**	**-1.2**
JYK	**Kaneyama**	**2.51**	**293**	P	**Pn**	**17 28 37.3**	**-0.5**
JYK				S	**Sn**	**17 29 07.2**	**-0.6**
JANG	**Nango**	**2.77**	**330**	P	**Pn**	**17 28 41.7**	**+0.3**
JAG	**Ashikaga**	**3.46**	**244**	P	**Pn**	**17 28 49.9**	**-1.0**
JAG				S	**Sn**	**17 29 28.0**	**-3.3**
MJAR	**Matsushiro Arr**	**4.33**	**252**	Pn	**Pn**	**17 29 03.8**	**+0.9**
	1.8nm,0.3s,baz=85,slow=15,SNR=18						
MAT	**Matsushiro**	**4.33**	**252**	P	**Pn**	**17 29 03.9**	**+1.1**
MAT				*e*S	**Sn**	**17 29 51.7**	**-1.1**
ASAJ	**Asahikawa**	**6.15**	**355**	Pn	**Pn**	**17 29 27.3**	**-0.6**
	0.7nm,0.3s,baz=196,slow=12,SNR=11						
ASAJ				Sn	**Sn**	**17 30 34.2**	**-3.4**
	0.7nm,0.3s,baz=217,slow=20,SNR=2.4						
SONM	**Songino Array**	**28.54**	**302**	P	**P**	**17 33 53.0**	**+0.5**
	0.4nm,0.7s,baz=90,slow=4.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**42.41**	**312**	P	**P**	**17 35 55.2**	**+4.2**
	0.3nm,0.3s,baz=108,slow=9.4,SNR=2.3						
MKAR	**Makanchi Array**	**44.91**	**302**	P	**P**	**17 36 13.2**	**+1.8**
	0.1nm,0.2s,baz=72,slow=9.3,SNR=2.9						
ILAR	**Eielson Array**	**47.88**	**33**	P	**P**	**17 36 34.9**	**+0.5**
	0.4nm,0.8s,baz=263,slow=7.0,SNR=3.5						
WRA	**Warramunga Arr**	**58.23**	**190**	P	**P**	**17 37 49.0**	**-2.1**
	1.9nm,0.8s,baz=8.5,slow=7.1,SNR=15						
ASAR	**Alice Springs**	**61.96**	**190**	P	**P**	**17 38 15.8**	**-0.9**
	0.4nm,0.7s,baz=16,slow=9.0,SNR=5.6						

---

*ISCJB **01** 17:39:12.6±0.5, 36°.48N±0°.03×28°.77E±0°.03, h1km±4km, Error ellipse: s-maj=4.4km s-min=3.5km az=179.3*

*ATH **01** 17:39:12.4, 36°.52N×28°.75E, h18km±2km, ML2.4/3, Error ellipse: s-maj=3.4km s-min=1.3km az=181.0*

*DDA **01** 17:39:12.4, 36°.43N×28°.75E, h22km, Ml3.2*

*CSEM **01** 17:39:12.8±0.2, 36°.49N×28°.79E, h5km, MD2.8, Error ellipse: s-maj=4.7km s-min=3.4km az=4.0*

*ISK **01** 17:39:13.1, 36°.56N×28°.82E, h16km, MD2.8*

ISC 01 17:39:12.7±0.9**, 36°.49N**±0°.02×**28°.77E**±0°.02**, h15km**±7km**, n52, σ1s36**/82**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.29**	**60**	*e*PG	**Pg**	**17 39 18.7**	**0.0**
FETY				*e*SG	**Sg**	**17 39 22.6**	**-0.3**
FETY	**Fethiye**	**0.29**	**60**	*e*Pg	**Pg**	**17 39 18.7**	**0.0**
FETY				*e*Sg	**Sg**	**17 39 22.6**	**-0.3**
DALY	**Dalyan (Mu˜la**	**0.34**	**343**	*e*PG	**Pg**	**17 39 19.6**	**0.0**
DALY				*e*SG	**Sg**	**17 39 24.5**	**+0.2**
DALY	**Dalyan (Mu˜la**	**0.34**	**343**	*e*Pg	**Pg**	**17 39 19.6**	**0.0**
DALY				*e*Sg	**Sg**	**17 39 24.5**	**+0.2**
TURN	**Turunc**	**0.40**	**340**	*i* P	**Pn**	**17 39 22.7**	**-1.3**
TURN				*i* S	**Sn**	**17 39 31.3**	**-0.1**
ARG	**Arkhangelos**	**0.59**	**242**	P	**Pb**	**17 39 23.3**	**-1.4**
ARG				S	**Sb**	**17 39 32.3**	**-0.6**
AKAS	**Kas**	**0.72**	**111**	P	**Pb**	**17 39 25.8**	**-1.2**
AKAS				S	**Sn**	**17 39 38.2**	**-1.1**
AKAS	**Kas**	**0.72**	**111**	*i* P	**Pb**	**17 39 25.8**	**-1.2**
AKAS				*i* S	**Sn**	**17 39 38.2**	**-1.1**
KSL	**Kastellorizon**	**0.74**	**117**	P	**Pb**	**17 39 27.0**	**-0.3**
KSL				S	**Sn**	**17 39 38.4**	**-1.1**
YER	**Yerkesik**	**0.75**	**329**	*e*PG	**Pg**	**17 39 27.6**	**+0.3**
YER				*e*SG	**Sg**	**17 39 38.2**	**+0.9**
YER	**Yerkesik**	**0.75**	**329**	*e*Pg	**Pg**	**17 39 27.6**	**+0.3**
YER				*e*Sg	**Sg**	**17 39 38.2**	**+0.9**
GLHS	**Glhisar (BURDU**	**0.88**	**41**	*e*PG	**Pb**	**17 39 29.0**	**-0.8**
GLHS	**Glhisar (BURDU**	**0.88**	**41**	*e*Pg	**Pb**	**17 39 29.0**	**-0.8**
ELL	**Elmali**	**0.95**	**74**	*e*PG	**Pn**	**17 39 31.0**	**-0.6**
ELL	**Elmali**	**0.95**	**74**	*e*Pg	**Pn**	**17 39 31.0**	**-0.6**
GOLH	**Golhisar**	**0.97**	**40**	P	**Pb**	**17 39 31.0**	**-0.4**
GOLH				S	**Sn**	**17 39 47.5**	**+1.9**
GOLH	**Golhisar**	**0.97**	**40**	*i* P	**Pb**	**17 39 31.0**	**-0.4**
GOLH				*i* S	**Sn**	**17 39 47.5**	**+1.9**
BDRM	**Kayabasi**	**1.21**	**299**	P	**Pg**	**17 39 36.3**	**+0.3**
BDRM				S	**Sg**	**17 39 54.0**	**+2.2**
BDRM	**Kayabasi**	**1.21**	**299**	*i* P	**Pg**	**17 39 36.3**	**+0.3**
BDRM				*i* S	**Sg**	**17 39 54.0**	**+2.2**
DNZL	**Cakiroluk**	**1.21**	**10**	P	**Pg**	**17 39 35.7**	**-0.4**
DNZL				S	**Sg**	**17 39 55.8**	**+3.8**
DNZL	**Cakiroluk**	**1.21**	**10**	*i* P	**Pg**	**17 39 35.7**	**-0.4**
DNZL				*i* S	**Sg**	**17 39 55.8**	**+3.8**
DENT	**Denizli**	**1.28**	**9**	*e*PN	**Pn**	**17 39 35.2**	**-0.9**
DENT	**Denizli**	**1.28**	**9**	*e*Pn	**Pn**	**17 39 35.2**	**-0.9**
NIS1	**Nisyros Isl.**	**1.29**	**275**	*e*PN	**Pg**	**17 39 37.5**	**0.0**
NIS1	**Nisyros Isl.**	**1.29**	**275**	P	**Pg**	**17 39 37.5**	**0.0**
NIS1	**Nisyros Isl.**	**1.29**	**275**	P	**Pg**	**17 39 37.5**	**0.0**
NIS1				AML	AML	17 40 00.9	
	comp=N,607µm,0.5s						
NIS1				AML	AML	17 40 03.7	
	comp=E,382µm,0.6s						
BODT	**Bodrum**	**1.30**	**296**	*e*PN	**Pb**	**17 39 37.4**	**+0.5**
BODT	**Bodrum**	**1.30**	**296**	*e*Pn	**Pb**	**17 39 37.4**	**+0.5**
KORT	**Korkueli**	**1.36**	**68**	P	**Pg**	**17 39 39.7**	**+0.8**
KORT	**Korkueli**	**1.36**	**68**	*i* P	**Pg**	**17 39 39.7**	**+0.8**
KORT				*i* S	**Sg**	**17 40 02.0**	**+5.2**
AYDN	**Tasoluk**	**1.37**	**329**	P	**Pg**	**17 39 38.8**	**-0.2**
AYDN				S	**Sg**	**17 39 59.2**	**+2.4**
AYDN	**Tasoluk**	**1.37**	**329**	*i* P	**Pg**	**17 39 38.8**	**-0.2**
AYDN				*i* S	**Sg**	**17 39 59.2**	**+2.4**
KARP	**Karpathos**	**1.61**	**235**	*e*PN	**Pb**	**17 39 42.6**	**+0.4**
KARP	**Karpathos**	**1.61**	**235**	P	**Pb**	**17 39 42.1**	**-0.1**
KARP	**Karpathos**	**1.61**	**235**	*e*Pn	**Pb**	**17 39 42.6**	**+0.4**
KARP				S	**Sg**	**17 40 04.8**	**+0.2**
KARP	**Karpathos**	**1.61**	**235**	P	**Pb**	**17 39 42.1**	**-0.1**
KARP				S	**Sg**	**17 40 04.8**	**+0.2**
KARP				AML	AML	17 40 10.0	
	comp=N,138µm,0.4s						
KARP				AML	AML	17 40 11.7	
	comp=E,160µm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.61**	**334**	*e*PN	**Pn**	**17 39 41.0**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.61**	**334**	*e*Pn	**Pn**	**17 39 41.0**	**+0.2**
GCAM	**G?zelcaml?**	**1.72**	**315**	P	**Pg**	**17 39 45.5**	**-0.3**
GCAM				S	**Sg**	**17 40 07.1**	**-1.0**
GCAM	**G?zelcaml?**	**1.72**	**315**	*i* P	**Pg**	**17 39 45.5**	**-0.3**
GCAM				*i* S	**Sg**	**17 40 07.1**	**-1.0**
KHAL	**Karahalli**	**1.96**	**17**	P	**Pb**	**17 39 47.0**	**-1.2**
KHAL				S	**Sg**	**17 40 14.3**	**-1.4**
KHAL	**Karahalli**	**1.96**	**17**	*i* P	**Pb**	**17 39 47.0**	**-1.2**
KHAL				*i* S	**Sg**	**17 40 14.3**	**-1.4**
SMG	**Samos**	**1.97**	**309**	P	**Pn**	**17 39 46.3**	**+0.8**
SMG	**Samos**	**1.97**	**309**	P	**Pn**	**17 39 46.3**	**+0.8**
SMG				AML	AML	17 40 17.8	
	comp=N,154µm,0.3s						
SMG				AML	AML	17 40 21.1	
	comp=E,160µm,0.4s						
SUTC	**Sutluce-Ispart**	**2.04**	**60**	*e*PN	**Pn**	**17 39 47.4**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.04**	**60**	*e*Pn	**Pn**	**17 39 47.4**	**+0.8**
DGB	**˜zmir**	**2.17**	**316**	*i* P	**Pn**	**17 39 49.3**	**+1.0**
DGB				*i* S	**Sb**	**17 40 18.5**	**+0.2**
ZEY	**˜zmir**	**2.51**	**315**	*i* P	**Pb**	**17 39 55.1**	**-2.4**
ZEY				*i* S	**Sn**	**17 40 24.8**	**+1.4**
URLA	**Izmir**	**2.55**	**318**	P	**Pb**	**17 39 55.6**	**-2.5**
URLA				S	**Sb**	**17 40 27.8**	**-1.5**
URLA	**Izmir**	**2.55**	**318**	*i* P	**Pb**	**17 39 55.6**	**-2.5**
URLA				*i* S	**Sb**	**17 40 27.8**	**-1.5**
CHOS	**Chios island**	**2.87**	**312**	P	**Pn**	**17 39 59.2**	**+1.1**
CHOS	**Chios island**	**2.87**	**312**	P	**Pn**	**17 39 59.2**	**+1.1**

IDC 01 17:48:38.1±3.7**, 1°.95S**×**68°.36E, h0km, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.4**/40**, mbtmp3.6**/5**, MS3.0**/1**, Ms1 3.0**/1**, ms1mx2.5**/36**, Error ellipse: s-maj=95.6km s-min=35.0km az=64.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**5.09**	**149**	Pn	Pn	17 49 55.3	-0.1
H08N2				T	T	17 55 12.2	
	baz=326,slow=75,SNR=267						
H08N3	**Diego Garcia H**	**5.10**	**149**	Pn	Pn	17 49 55.5	-0.1
H08N3				T	T	17 55 10.5	
	baz=326,slow=75,SNR=304						
H08N1	**Diego Carcia H**	**5.11**	**149**	Pn	Pn	17 49 55.6	-0.1
H08N1				T	T	17 55 13.9	
	baz=326,slow=75,SNR=306						
PALK	**Pallekele**	**15.35**	**53**	LR	LR	17 57 01.4	
	comp=Z,53nm,20.2s,baz=296,slow=33						
CMAR	**Chiang Mai Arr**	**36.29**	**55**	P	P	17 55 43.0	-0.7
	0.4nm,0.8s,baz=247,slow=14,SNR=3.8						
MKAR	**Makanchi Array**	**50.06**	**12**	P	P	17 57 34.2	-0.5
	0.8nm,0.8s,baz=180,slow=5.6,SNR=5.2						
KURBB	**Kurchatov Arra**	**53.09**	**8**	P	P	17 57 56.5	-0.8
	0.6nm,0.9s,baz=201,slow=7.9,SNR=5.6						
SONM	**Songino Array**	**59.64**	**29**	P	P	17 58 45.8	+1.5
	0.8nm,0.9s,baz=218,slow=7.0,SNR=5.5						
WRA	**Warramunga Arr**	**66.79**	**111**	P	P	17 59 32.1	-0.1
	0.6nm,0.8s,baz=279,slow=5.8,SNR=3.4						

---

*ISK **01** 17:52:57.8, 37°.81N×26°.95E, h5km, MD2.5*

*ISCJB **01** 17:52:58.4±0.5, 37°.80N±0°.04×26°.92E±0°.05, h11km±6km, Error ellipse: s-maj=7.8km s-min=3.7km az=135.6*

*CSEM **01** 17:52:58.4±0.2, 37°.80N×26°.94E, h15km, MD2.5, Error ellipse: s-maj=4.8km s-min=2.5km az=46.0*

*DDA **01** 17:52:58.4, 37°.79N×26°.89E, h7km, Md2.5*

ISC 01 17:52:58.8±1.0**, 37°.81N**±0°.03×**26°.95E**±0°.03**, h14km**±9km**, n16, σ0s37**/32**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**˜zmir**	**0.25**	**348**	*i* P	**Pg**	**17 53 03.6**	**-0.5**
DGB				*i* S	**Sg**	**17 53 08.0**	**+0.3**
GCAM	**G?zelcaml?**	**0.25**	**116**	P	**Pg**	**17 53 04.1**	**0.0**
GCAM				S	**Sb**	**17 53 09.0**	**-0.3**
GCAM	**G?zelcaml?**	**0.25**	**116**	*i* P	**Pg**	**17 53 04.1**	**0.0**
GCAM				*i* S	**Sb**	**17 53 09.0**	**-0.3**
ZEY	**˜zmir**	**0.56**	**321**	*i* P	**Pg**	**17 53 09.2**	**-0.4**
ZEY				*i* S	**Sg**	**17 53 17.1**	**+0.1**
URLA	**Izmir**	**0.62**	**333**	P	**Pg**	**17 53 10.4**	**-0.4**
URLA				S	**Sb**	**17 53 19.9**	**0.0**
URLA	**Izmir**	**0.62**	**333**	*i* P	**Pg**	**17 53 10.4**	**-0.4**
URLA				*i* S	**Sb**	**17 53 19.9**	**0.0**
AYDN	**Tasoluk**	**0.75**	**101**	P	**Pb**	**17 53 14.1**	**+0.4**
AYDN				S	**Sg**	**17 53 23.3**	**0.0**
AYDN	**Tasoluk**	**0.75**	**101**	*i* P	**Pb**	**17 53 14.1**	**+0.4**
AYDN				*i* S	**Sg**	**17 53 23.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**79**	*e*PG	**Pg**	**17 53 13.0**	**-0.5**
AYDB				*e*SG	**Sb**	**17 53 24.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**79**	*e*Pg	**Pg**	**17 53 13.0**	**-0.5**
AYDB				*e*Sg	**Sb**	**17 53 24.1**	**0.0**
BODT	**Bodrum**	**0.80**	**159**	*e*PG	**Pg**	**17 53 13.7**	**-0.6**
BODT				*e*SG	**Sb**	**17 53 25.2**	**+0.1**
BODT	**Bodrum**	**0.80**	**159**	*e*Pg	**Pg**	**17 53 13.7**	**-0.6**
BODT				*e*Sg	**Sb**	**17 53 25.2**	**+0.1**
BDRM	**Kayabasi**	**0.84**	**152**	P	**Pg**	**17 53 14.8**	**-0.2**
BDRM				S	**Sg**	**17 53 26.0**	**-0.1**
BDRM	**Kayabasi**	**0.84**	**152**	*i* P	**Pg**	**17 53 14.8**	**-0.2**
BDRM				*i* S	**Sg**	**17 53 26.0**	**-0.1**
CHOS	**Chios island**	**0.91**	**310**	*e*PG	**Pg**	**17 53 15.8**	**-0.5**
CHOS				*e*SG	**Sb**	**17 53 29.0**	**+0.6**
CHOS	**Chios island**	**0.91**	**310**	*e*Pg	**Pg**	**17 53 15.9**	**-0.5**
CHOS				*e*Sg	**Sb**	**17 53 29.0**	**+0.6**

IDC 01 18:06:58.2±4.2**, 2°.02S**×**125°.70E, h347km**±52km**, mb2.7**/3**, mb1 3.0**/5**, mb1mx2.7**/29**, mbtmp3.6**/5**, Error ellipse: s-maj=68.9km s-min=16.7km az=74.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.68**	**79**	P	Pn	18 08 25.5	+0.1
	22nm,0.3s,baz=175,slow=4.1,SNR=2.5						
FITZ	**Fitzroy Crossi**	**15.99**	**180**	P	P	18 10 24.1	+0.4
	0.2nm,0.3s,baz=10.0,slow=9.4,SNR=7.1						
WRA	**Warramunga Arr**	**19.72**	**155**	P	P	18 11 03.5	-0.1
	0.4nm,0.3s,baz=334,slow=11,SNR=27						
ASAR	**Alice Springs**	**22.94**	**160**	P	P	18 11 33.4	0.0
	0.5nm,0.7s,baz=333,slow=7.4,SNR=11						
STKA	**Stephens Creek**	**33.27**	**155**	P	P	18 13 03.8	-0.6
	0.7nm,0.5s,baz=336,slow=8.1,SNR=5.0						
MKAR	**Makanchi Array**	**61.74**	**328**	P	P	18 16 40.8	-0.1
	0.2nm,0.5s,baz=109,slow=5.4,SNR=2.5						

---

*IDC **01** 18:24:09.1±1.1, 21°.55S×66°.63W, h234km±19km, mb3.1/1, mb1 3.3/6, mb1mx3.2/28, mbtmp3.9/6, Error ellipse: s-maj=33.3km s-min=12.5km az=106.0*

*ISCJB **01** 18:24:10.2±1.2, 21°.50S±0°.07×66°.60W±0°.08, h200km, mb3.3/1, Error ellipse: s-maj=11.7km s-min=7.8km az=42.8*

*GUC **01** 18:24:10.8±0.5, 21°.46S×67°.15W, h255km, ML3.7*

ISC 01 18:24:07.8±1.2**, 21°.55S**±0°.08×**66°.46W**±0°.09**, h200km, n13, σ1s97**/19**, 5C-1D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.50**	**245**	P	**Pn**	**18 24 55.4**	**+3.3**
	94nm,0.3s,baz=54,slow=6.9,SNR=18						
LVC				S	**Sn**	**18 25 30.0**	**+3.4**
	170nm,0.3s,baz=240,slow=22,SNR=28						
PB09	**IPOC Station P**	**2.60**	**264**	IAML		18 25 37.5	
	comp=E,170nm,0.3s						
PB01	**IPOC Station P**	**2.87**	**280**⇓	*i*P	**Pn**	**18 24 57.8**	**+1.8**
PB01				*i* S	**Sn**	**18 25 33.5**	**0.0**
PB01				IAML		18 25 35.2	
	comp=E,124nm,0.2s						
PB08	**IPOC Station P**	**2.88**	**299**⇑	*i*P	**Pn**	**18 24 58.9**	**+2.4**
PB07	**IPOC Station P**	**3.19**	**266**⇑	*i*P	**Pn**	**18 25 01.5**	**+1.6**
PB07				*i* S	**Sn**	**18 25 39.5**	**-1.0**
PB07				IAML		18 25 40.5	
	comp=E,158nm,0.3s						
PB11	**IPOC Station P**	**3.48**	**300**⇑	*i*P	**Pn**	**18 25 04.4**	**+1.0**
PB11				*i* S	**Sn**	**18 25 46.0**	**-0.9**
PB04	**IPOC Station P**	**3.51**	**257**⇑	*i*P	**Pn**	**18 25 05.4**	**+1.7**
PB04				*i* S	**Sn**	**18 25 46.1**	**-1.4**
PB04				IAML		18 25 47.0	
	comp=N,102nm,0.1s						
MNMC	**Minye Minye**	**3.80**	**309**⇑	*i*P	**Pn**	**18 25 08.9**	**+1.5**
MNMC				*i* S	**Sn**	**18 25 53.6**	**-0.5**
LPAZ	**La Paz**	**5.47**	**343**	P	**Pn**	**18 25 30.7**	**+1.8**
	comp=N,0.7nm,0.3s,baz=165,slow=10,SNR=15						
LPAZ				S	**Sn**	**18 26 33.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=253,slow=13,SNR=3.7						
SIV	**San Ignacio**	**7.53**	**44**	P	**Pn**	**18 25 56.9**	**+1.9**
	comp=N,2.1nm,0.3s,baz=265,slow=9.9,SNR=22						
NNA	**Nana**	**13.75**	**312**	P	**Pn**	**18 27 13.5**	**-1.3**
	comp=N,2.4nm,0.3s,baz=233,slow=15,SNR=3.0						
PLCA	**Paso Flores**	**19.43**	**189**	P	**P**	**18 28 16.4**	**-2.7**
	comp=N,0.1nm,0.3s,baz=21,slow=15,SNR=5.2						
TORD	**Torodi Ar. Bea**	**75.23**	**69**	P	**P**	**18 35 28.2**	**-0.8**

comp=N,0.3nm,0.4s,baz=256,slow=5.8,SNR=9.1

---

*ISCJB **01** 18:29:28.7±0.7, 39°.14N±0°.05×28°.98E±0°.05, h2km±9km, Error ellipse: s-maj=9.8km s-min=4.7km az=145.4*
*DDA **01** 18:29:28.8, 39°.12N×28°.98E, h7km, Ml2.4*
*ISK **01** 18:29:28.0, 39°.06N×29°.12E, h5km, MD2.5*
*CSEM **01** 18:29:28.8±0.2, 39°.15N×28°.97E, h2km, MD2.5, Error ellipse: s-maj=4.9km s-min=3.0km az=128.0*
ISC 01 18:29:28.9±1.1, **39°.14N**±0°.03×**28°.98E**±0°.03, **h6**km±10km, **n17**, σ**0s.48**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.23	244	P	Pg	18 29 33.7	+0.2
DEMI				S	Sg	18 29 36.9	+0.4
DEMI	Demirci	0.23	244	*i* P	Pg	18 29 33.7	+0.2
DEMI				*i* S	Sg	18 29 36.9	+0.4
GDZ	Gediz	0.39	98	P	Pg	18 29 37.0	+0.4
GDZ				S	Sg	18 29 42.5	+0.8
GDZ	Gediz	0.39	98	*i* P	Pg	18 29 37.0	+0.4
GDZ				*i* S	Sg	18 29 42.5	+0.8
TVSB	Tavsanli	0.48	50	*e*PG	Pg	18 29 37.5	-0.8
TVSB				*e*SG	Sg	18 29 44.4	-0.2
TVSB	Tavsanli	0.48	50	*e*Pg	Pg	18 29 37.5	-0.8
TVSB				*e*Sg	Sg	18 29 44.4	-0.2
KULA	Kula-Manisa	0.68	202	*e*PG	Pg	18 29 41.7	-0.2
KULA				*e*SG	Sg	18 29 50.0	-0.7
KULA	Kula-Manisa	0.68	202	*e*Pg	Pg	18 29 41.7	-0.2
KULA				*e*Sg	Sg	18 29 50.0	-0.7
KHAL	Karahalli	0.87	152	P	Pb	18 29 46.2	-0.3
KHAL	Karahalli	0.87	152	*i* P	Pb	18 29 46.2	-0.3
KHAL	Karahalli	0.87	152	*i* P	Pb	18 29 46.1	-0.3
CAVI	Cavuskoy	1.25	32	*e*PN	Pn	18 29 52.9	-0.1
CAVI				*e*SN	Sn	18 30 10.8	+0.6
CAVI	Cavuskoy	1.25	32	*e*Pn	Pn	18 29 52.9	-0.1
CAVI				*e*Sn	Sn	18 30 10.8	+0.6
ARMT	Armutlu	1.42	356	*e*PN	Pg	18 29 56.4	+0.1
ARMT	Armutlu	1.42	356	*e*Pn	Pg	18 29 56.4	+0.1
AYDB	Zeytinkoy-Aydi	1.47	216	*e*PN	Pn	18 29 56.2	+0.1
AYDB	Zeytinkoy-Aydi	1.47	216	*e*Pn	Pn	18 29 56.2	+0.1

---

*ISCJB **01** 18:32:47.8±0.7, 37°.36N±0°.04×36°.58E±0°.04, h3km±8km, Error ellipse: s-maj=7.2km s-min=4.8km az=20.6*
*CSEM **01** 18:32:47.8±0.4, 37°.32N×36°.53E, h5km, MD2.7, Error ellipse: s-maj=9.6km s-min=8.9km az=14.0*
*ISK **01** 18:32:47.1, 37°.28N×36°.58E, h8km, MD2.6*
*DDA **01** 18:32:48.4, 37°.35N×36°.60E, h3km, Md2.7*
ISC 01 18:32:48.2±1.0, **37°.32N**±0°.03×**36°.56E**±0°.03, **h13**km±7km, **n18**, σ**1s.05**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMA	Osmaniye	0.16	146	*i* P	Pg	18 32 52.5	+0.5
KAMA				*i* S	Sg	18 32 55.5	+0.8
GAZ	Gaziantep	0.54	105	*e*PG	Pg	18 32 57.3	-1.5
GAZ				*e*SG	Sg	18 33 05.6	-0.5
GAZ	Gaziantep	0.54	105	*e*Pg	Pg	18 32 57.3	-1.5
GAZ				*e*Sg	Sg	18 33 05.6	-0.5
KOZT	Kozan	0.60	286	*e*PG	Pg	18 32 59.5	-0.5
KOZT				*e*SG	Sb	18 33 09.6	+0.5
KOZT	Kozan	0.60	286	*e*Pg	Pg	18 32 59.5	-0.5
KOZT				*e*Sg	Sb	18 33 09.6	+0.5
KUZU	Kuzuini	0.69	142	P	Pb	18 33 02.2	+0.1
KUZU				S	Sb	18 33 11.8	+0.3
KUZU	Kuzuini	0.69	142	*i* P	Pb	18 33 02.2	+0.1
KUZU				*i* S	Sb	18 33 11.8	+0.3
GZT	Gaziantep	0.81	87	*i* P	Pg	18 33 04.0	+0.2
GZT				*i* S	Sg	18 33 12.8	-1.6
TAHT	Tahtakopru-Hat	0.99	198	*e*PG	Pg	18 33 05.2	-1.9
TAHT				*e*SG	Sg	18 33 19.6	-0.4
TAHT	Tahtakopru-Hat	0.99	198	*e*Pg	Pg	18 33 05.3	-1.9
TAHT				*e*Sg	Sg	18 33 19.7	-0.4
SARI	SarD1z-Kayseri	1.09	354	*e*PN	Pb	18 33 09.0	-0.1
DARE	Darende-Malaty	1.45	30	*e*PN	Pn	18 33 14.8	+0.6
DARE	Darende-Malaty	1.45	30	*e*Pn	Pn	18 33 14.8	+0.6
AKCD	Akcadag	1.46	48	P	Pn	18 33 14.6	+0.2
AKCD	Akcadag	1.46	48	*i* P	Pn	18 33 14.6	+0.2
AKCD	Akcadag	1.46	48	*i* P	Pn	18 33 13.7	-0.7
AKCD				*i* S	Sb	18 33 31.8	-2.0
SURC	SANLIURFA_SURC	1.70	104	P	Pb	18 33 20.2	+0.8
SURC				S	Sn	18 33 41.0	+1.6
SURC	SANLIURFA_SURC	1.70	104	*i* P	Pb	18 33 20.2	+0.8
SURC				*i* S	Sn	18 33 41.0	+1.6

---

*BJI **01** 18:36:58.0, 40°.00N×142°.30E, h30km, mb4.6/28, mB4.8/16, Ms4.2/10, Ms7 4.0/10*
*ISCJB **01** 18:36:58.8±0.5, 39°.74N±0°.03×142°.33E±0°.06, h50km±3km, mb4.5/49, MS3.5/11, Error ellipse: s-maj=7.6km s-min=4.5km az=15.9*
*JMA **01** 18:37:00.0, 39°.73N×142°.25E, h44km±1km, M4.3*
JMA Felt II J1.
*NIED **01** 18:37:00, 39°.70N×142°.20E, h47km, Mw4.4 Best double couple: $M_0$4.26000×10[15] NP1:ϕ_s189.00000°, δ18.00000°, λ78.00000°. NP2:ϕ_s21.00000°, δ72.00000°, λ94.00000°.*
*NEIC **01** 18:37:01.6±0.6, 39°.75N×142°.24E, h61km±4km, mb4.7/15, Error ellipse: s-maj=7.4km s-min=4.3km az=120.0*
NEIC Recorded [2 JMA] in Aomori and Iwate.
*IDC **01** 18:37:01.9±1.9, 39°.72N×142°.22E, h62km±16km, mb4.1/30, mb1 4.2/36, mb1mx4.1/58, mbtmp4.4/36, MS3.4/16, Ms1 3.5/16, ms1mx3.2/45, Error ellipse: s-maj=14.4km s-min=10.5km az=107.0*
ISC 01 18:37:00.0±1.0, **39°.69N**±0°.03×**142°.32E**±0°.06, **h44**km±8km, **n105**, σ**1s.68**/114, **mb4.5**/54, **MS3.6**/11, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.40	254	P	Pn	18 37 09.2	-0.5
MIYJ				S	Sn	18 37 15.6	-0.9
JTH	Tanohata	0.43	306	P	Pn	18 37 09.2	-0.8
JTH				S	Sn	18 37 15.6	-1.5
OFUJ	Ofunato	0.79	220	P	Pn	18 37 14.5	-0.3
OFUJ				*e*S	Sn	18 37 25.2	-0.2
JKZ	Kuzumaki	0.81	291	P	Pn	18 37 14.4	-0.8
JKZ				*e*S	Sn	18 37 24.6	-1.5
JOM	Ohasama	0.82	255	P	Pn	18 37 14.8	-0.4
JOM				*e*S	Sn	18 37 25.5	-0.7
JANG	Nango	0.92	318	P	Pn	18 37 15.3	-1.2
JANG				*e*S	Sn	18 37 26.5	-2.1
JMK	Ichinoseki	1.13	229	P	Pn	18 37 19.3	0.0
JMK				*e*S	Sn	18 37 33.4	-0.2
JRG	Rokugo	1.33	258	P	Pn	18 37 21.8	-0.4
JAH	Hinai	1.38	292	P	Pn	18 37 22.4	-0.5
JIO	Ouri	1.45	212	P	Pn	18 37 23.7	0.0
JIO				*e*S	Sn	18 37 42.4	+0.9
JTM	Tenmabayashi	1.45	319	P	Pn	18 37 23.0	-0.8
JTM				*e*S	Sn	18 37 40.6	-1.0
ERM	Erimo	2.41	15	*e*Pn	Pn	18 37 37.4	+0.5
ASAJ	Asahikawa	4.43	3	P	Pn	18 38 04.8	+0.2
	6.7nm,0.3s,baz=201,slow=7.6,SNR=56						
ASAJ				S	Sn	18 39 00.8	+6.0
	9.5nm,0.3s,baz=350,slow=28,SNR=6.3						
ASAJ	Asahikawa	4.43	3	*e*Pn	Pn	18 38 04.3	-0.3
ASAJ				S	Sn	18 39 00.8	+6.0
MJAR	Matsushiro Arr	4.51	227	P	Pn	18 38 07.9	+2.0
	11nm,0.3s,baz=30,slow=13,SNR=155						
MJAR				LR	LR	18 39 47.7	
	comp=Z,217nm,19.4s,baz=55,slow=37						
MAJO	Matsushiro	4.51	227	*e*Pn	Pn	18 38 07.7	+1.8
MAT	Matsushiro	4.51	227	P	Pn	18 38 08.3	+2.4
MAT				*e*S	Sn	18 39 01.8	+4.7
JHJ	Hachijo jima 2	6.87	198	P	Pn	18 38 43.5	+5.4
	22nm,0.3s,baz=42,slow=22,SNR=3.4						
JHJ				S	Sn	18 39 52.1	-2.9
	25nm,0.3s,baz=243,slow=21,SNR=2.2						
YSS	Yuzh-Sakhalins	7.27	2	*e*Pn	Pn	18 38 43.8	+0.3
	18nm,0.7s						
USRK	Ussuriysk Ar.	8.91	304	P	Pn	18 39 08.0	+1.9
	1.8nm,0.3s,baz=112,slow=14,SNR=23						
USRK				LR	LR	18 42 16.7	
	comp=Z,357nm,21.8s,baz=137,slow=36						
MDJ	Mudanjiang	10.65	302	*e*Pn	Pn	18 39 31.0	+1.1
	33nm,1.0s						
JNU	Nakatsue	11.30	238	P	Pn	18 39 40.1	+1.1
	0.6nm,0.3s,baz=97,slow=1.1,SNR=6.5						
KSRS	Korea Array	11.49	263	P	Pn	18 39 43.1	+1.8
	2.4nm,0.3s,baz=73,slow=14,SNR=36						
KSRS				S	Sn	18 41 53.4	+5.2
	0.2nm,0.3s,baz=68,slow=8.4,SNR=3.8						
KSRS				LR	LR	18 43 43.6	
	comp=Z,158nm,20.3s,baz=80,slow=35						
KSAR	Wonju Array Be	11.52	263	P	Pn	18 39 43.1	+1.3
KSAR				S	Sn	18 41 53.4	+4.3
KLR	Kul'dur	12.15	325	P	Pn	18 39 51.3	+0.9
	0.3nm,0.3s,baz=129,slow=15,SNR=4.5						
KLR				LR	LR	18 44 31.7	
	comp=Z,219nm,19.5s,baz=170,slow=37						
CN2	Changchun	13.25	294	*e*P	Pn	18 40 08.6	+3.2
CN2				PMZ			
	10.0nm,0.6s						
PETK	Petropavlovsk-	17.05	33	LR	LR	18 47 60.0	
	comp=Z,32nm,18.4s,baz=221,slow=38						
MA2	Magadan	20.61	12	P	P	18 41 35.3	+0.1
	6.8nm,0.8s,baz=222,slow=9.5,SNR=12						
YAK	Yakutsk	23.66	345	P	P	18 42 04.7	-2.4
	1.4nm,0.3s,baz=344,slow=23,SNR=11						
YAK				LR	LR	18 51 44.5	
	comp=Z,49nm,20.2s,baz=150,slow=37						
SEY	Seymchan	24.05	11	P	P	18 42 10.7	0.0
	16nm,1.0s,baz=197,slow=7.5,SNR=31						
ULN	Ulaanbaatar	26.55	300	*e*Pn	P	18 42 32.0	-1.8
	7.2nm,1.0s						
SONM	Songino Array	26.99	299	P	P	18 42 36.5	-1.2
	3.9nm,0.7s,baz=90,slow=8.9,SNR=28						
SONM				LR	LR	18 53 49.2	
	comp=Z,160nm,18.9s,baz=86,slow=37						
ENH	Enshi	28.36	261	*e*P	P	18 42 48.3	-1.7
	11nm,0.8s						
H11N2	WAKE ISLAND Hy	29.02	126	T	T	19 13 33.6	
	baz=319,slow=75,SNR=1508						
H11N1	WAKE ISLAND Hy	29.03	126	T	T	19 13 32.6	
	baz=319,slow=75,SNR=1407						
H11N3	WAKE ISLAND Hy	29.04	126	T	T	19 13 33.6	
	baz=319,slow=75,SNR=912						
TLY	Talaya	29.21	307	P	P	18 42 57.2	-0.1
	3.4nm,0.8s,baz=159,slow=3.9,SNR=6.3						
TLY	Talaya	29.21	307	*e*P	P	18 42 55.5	-1.8
	11nm,1.2s						
H11S1	WAKE ISLAND Hy	29.82	128	T	T	19 14 44.4	
	baz=321,slow=76,SNR=168						
H11S3	WAKE ISLAND Hy	29.82	128	T	T	19 14 45.4	
	baz=321,slow=76,SNR=83						
H11S2	WAKE ISLAND Hy	29.84	128	T	T	19 14 42.6	
	baz=321,slow=76,SNR=128						
LZH	Lanzhou	30.42	276	*e*P	P	18 43 11.8	+3.4
LZH				pP	pP	18 43 20.2	+0.1
LZH				sP	sP	18 43 24.0	-1.3
LZH				PMZ			
	17nm,1.0s						
GTA	Gaotai	32.55	283	*e*P	P	18 43 27.6	+0.6
GTA				pP	pP	18 43 32.1	-6.7
GTA				PcP	PcP	18 46 13.2	+0.4
GTA				S	S	18 48 43.0	+3.6
GTA				PMZ			
	3.0nm,1.0s						
GTA				PMZ			
	36nm,5.7s						
GTA				LN			
	67nm,16.2s						
GTA				LE			
	140nm,17.6s						
GTA				LZ			
	200nm,17.1s						
TIXI	Tiksi	32.75	352	*e*P	P	18 43 26.6	-1.6
	3.9nm,0.7s						
ZALV	Zalesovo Beam	40.70	310	P	P	18 44 35.3	-0.7
	5.4nm,0.4s,baz=89,slow=7.6,SNR=24						
ZALV				PcP	PcP	18 46 36.6	-0.2
	1.3nm,0.4s,baz=95,slow=3.1,SNR=5.0						
ZALV				LR	LR	19 02 15.1	
	comp=Z,83nm,18.4s,baz=72,slow=37						
NRIK	Noril'sk	41.17	334	P	P	18 44 38.9	-0.9
	1.7nm,0.4s,baz=95,slow=9.0,SNR=3.5						
NRIK				LR	LR	19 02 43.5	
	comp=Z,122nm,20.1s,baz=104,slow=38						
CHTO	Chiang Mai	42.68	254	*e*P	P	18 44 51.8	-0.8
	3.4nm,0.7s						
LSA	Lhasa	42.73	273	*e*P	P	18 44 53.6	+0.1
	6.0nm,0.6s						
CMAR	Chiang Mai Arr	42.90	253	P	P	18 44 53.8	-0.7
	1.6nm,0.8s,baz=44,slow=6.7,SNR=13						
CMAR				PcP	PcP	18 46 44.8	+0.1
	0.3nm,0.6s,baz=23,slow=3.4,SNR=4.4						
CMAR				LR	LR	19 02 19.7	
	comp=Z,17nm,20.7s,baz=305,slow=35						
MKAR	Makanchi Array	43.36	300	P	P	18 44 57.1	-0.8
	14nm,1.0s,baz=85,slow=9.9,SNR=74						
MKAR				LR	LR	19 03 48.1	
	comp=Z,71nm,19.6s,baz=62,slow=37						
KURK	Kurchatov	44.90	306	*e*P	P	18 45 08.9	-1.1
	28nm,0.6s						
KURBB	Kurchatov Arra	44.97	306	P	P	18 45 09.7	-0.9
	12nm,0.5s,baz=81,slow=8.5,SNR=89						
ILAR	Eielson Array	46.88	34	P	P	18 45 25.9	+0.4
	1.2nm,0.7s,baz=268,slow=6.1,SNR=17						
DIV	Divide	47.74	39	*e*P	P	18 45 31.3	-1.1
	16nm,0.7s						
TKM2	Tokmak 2	49.03	297	*e*P	P	18 45 42.3	-0.4
	11nm,0.8s						
BVAR	Borovoye Array	49.34	311	P	P	18 45 44.0	-0.7
	3.8nm,0.5s,baz=73,slow=8.6,SNR=17						
BVAR				PcP	PcP	18 47 06.4	-0.3
	1.1nm,0.5s,baz=86,slow=4.6,SNR=3.9						
BRVK	Borovoye	49.40	311	*e*P	P	18 45 44.2	-0.9
AAK	Ala-Archa	49.89	297	P	P	18 45 48.6	-0.6
	2.2nm,0.4s,baz=119,slow=7.7,SNR=7.0						
EKS2	Erkin-Say	50.38	297	*e*P	P	18 45 51.5	-1.3
	4.2nm,0.8s						
INK	Inuvik	51.71	28	P	P	18 46 03.5	+1.2
	1.5nm,0.7s,baz=316,slow=12,SNR=3.0						
KKAR	Karatay Array	52.44	299	*e*P	P	18 46 07.0	-1.2
	6.1nm,0.8s						
PSI	Prapat	53.78	238	P	P	18 46 17.9	-0.6
	3.2nm,0.7s,baz=79,slow=8.4,SNR=3.3						
ARU	Arti	54.86	318	P	P	18 46 25.1	-0.6
	15nm,0.6s,baz=69,slow=4.8,SNR=39						
ARU	Arti	54.86	318	*e*P	P	18 46 24.7	-0.9
	30nm,1.0s						
ABKAR	Akbulak array	56.79	309	*e*P	P	18 46 38.4	-1.2
	8.9nm,0.5s						
AKTO	Aktyubinsk	57.45	311	P	P	18 46 43.4	-0.8
	5.9nm,0.7s,baz=69,slow=12,SNR=20						
FITZ	Fitzroy Crossi	59.56	198	P	P	18 46 59.3	+0.1
	3.2nm,1.0s,baz=14,slow=4.2,SNR=4.0						
WRAB	Tennant Creek	59.78	189	*e*P	P	18 46 59.8	-0.8
WRA	Warramunga Arr	59.79	189	P	P	18 46 59.8	-0.9
	4.1nm,0.6s,baz=6.5,slow=7.1,SNR=60						
YKA	Yellowknife Ar	61.16	31	P	P	18 47 09.8	+0.2
	0.4nm,0.5s,baz=304,slow=6.6,SNR=3.0						
ARCES	ARCESS Array B	61.77	339	P	P	18 47 12.1	-1.5
	2.4nm,0.8s,baz=19,slow=7.7,SNR=5.0						
ARCES				LR	LR	19 16 48.1	
	comp=Z,29nm,20.8s,baz=72,slow=39						
GEYT	Alibeck	63.19	298	P	P	18 47 23.1	-0.6
	4.7nm,0.8s,baz=26,slow=3.8,SNR=11						
ASAR	Alice Springs	63.52	189	P	P	18 47 25.4	-0.4
	2.9nm,0.9s,baz=8.2,slow=8.9,SNR=42						
FINES	FINESS Array B	66.80	332	P	P	18 47 45.7	-0.9
	5.1nm,0.7s,baz=52,slow=7.5,SNR=29						
FINES				LR	LR	19 18 51.1	
	comp=Z,75nm,18.4s,baz=55,slow=38						
KVAR	Kislovodsk Arr	69.70	311	P	P	18 48 05.1	-0.2
	12nm,0.8s,baz=50,slow=7.9,SNR=7.4						
KIV	Kislovodsk	69.71	311	*e*P	P	18 48 06.0	+0.7
	21nm,1.0s						
KBZ	Khabaz	69.72	310	P	P	18 48 05.7	+0.5
	6.9nm,0.8s,baz=41,slow=2.6,SNR=14						
NB2	NORSAR Subarra	72.01	337	P	P	18 48 18.3	-0.6
	comp=Z,2.0nm,0.5s,baz=37,slow=6.5						
NOA	NORSAR Array B	72.01	337	P	P	18 48 17.9	-1.0
	comp=Z,2.5nm,0.6s,baz=38,slow=6.0,SNR=9.7						
NOA				LR	LR	19 22 36.1	
	comp=Z,29nm,21.7s,baz=30,slow=38						
AKASG	Malin Array Be	72.63	322	P	P	18 48 21.9	-0.9
	comp=Z,6.1nm,0.4s,baz=44,slow=6.3,SNR=52						
AKASG				LR	LR	19 23 28.1	
	comp=Z,32nm,18.5s,baz=265,slow=38						
KIEV	Kiev	72.64	322	*e*P	P	18 48 21.8	-1.0
	comp=Z,8.6nm,0.9s						
KWP	Kalwaria Pacla	76.39	324	*e*P	P	18 48 45.1	+0.6
STHS	Stebnicka Huta	77.19	325	*e*P	P	18 48 49.0	-0.1
OJC	Ojcow	77.23	326	*e*P	P	18 48 49.7	+0.4
BRTR	Keskin Array B	77.62	312	P	P	18 48 51.4	-0.5
	comp=Z,0.9nm,0.5s,baz=104,slow=3.4,SNR=7.6						
LANS	Liptovska Anna	78.17	326	*e*P	P	18 48 55.7	+1.1
DPC	Dobruska-Polom	78.58	328	*e*P	P	18 48 57.3	+0.4
VYHS	Vyhne	78.94	326	*e*P	P	18 48 59.1	+0.3
BRG	Berggiesshubel	79.13	330	*e*P	P	18 48 59.3	-0.5
	comp=Z,3.3nm,0.9s						
CLL	Collm	79.14	330	*i* P	P	18 48 59.3	-0.5
	comp=Z,5.0nm,0.8s						
CLL				*e*		18 49 11.0	
CLL				*i*		18 49 16.8	
CLL				*e*PP	PP	18 52 03.0	+4.2
PRU	Pruhonice	79.58	329	*e*P	P	18 49 02.3	0.0
CONA	Conrad Observa	80.65	327	*e*PcP	P	18 49 08.9	+0.7
	comp=Z,3.3nm,1.1s						
GERES	GERESS Array B	80.83	328	P	P	18 49 08.6	-0.6
	comp=Z,0.8nm,0.5s,baz=38,slow=6.5,SNR=9.7						
GERES				LR	LR	19 26 58.5	
	comp=Z,37nm,19.3s,baz=55,slow=37						
SOKA	Soboth	81.98	326	*i* P	P	18 49 15.0	-0.2
	comp=Z,6.3nm,1.1s						
OBKA	Obir	82.32	327	*i* P	P	18 49 12.5	-4.5
	comp=Z,7.1nm,1.5s						
KBA	Koelnbreinsper	82.37	328	*i* PcP	P	18 49 17.4	0.0
	comp=Z,3.2nm,0.7s						
ABTA	Abfaltersbach	82.98	328	*i* PcP	P	18 49 20.3	-0.2
	comp=Z,4.8nm,0.9s						
MOTA	Moosalm	83.07	329	*i* PcP	P	18 49 21.0	0.0
	comp=Z,3.2nm,0.7s						
RETA	Reutte	83.09	329	*i* PcP	P	18 49 21.2	+0.2
	comp=Z,4.1nm,0.9s						
FETA	Feichten	83.48	329	*i* P	P	18 49 17.9	-5.3
	comp=Z,5.4nm,1.3s						
DAVA	Damuels	83.60	330	*i* P	P	18 49 17.1	-6.7
	comp=Z,6.6nm,1.0s						
TXAR	Lajitas Array	87.95	53	P	P	18 49 46.4	+0.9
	comp=Z,0.2nm,0.6s,baz=328,slow=3.3,SNR=2.7						
TORD	Torodi Ar. Bea	115.93	317	PP	PP	18 56 40.0	-1.9
	comp=Z,1.3nm,1.0s,baz=20,slow=9.9,SNR=5.1						
SNAA	Sanae	143.49	198	*e*PKPdf	PKPab	18 56 24.8	-0.2
LPAZ	La Paz	144.70	57	PKP	PKPdf	18 56 32.3	-0.8
	comp=Z,0.6nm,0.6s,baz=233,slow=5.1,SNR=2.7						

---

*ISK **01** 18:45:19.8, 39°.06N×29°.08E, h5km, MD2.5*
*ISCJB **01** 18:45:20.7±0.6, 39°.09N±0°.04×29°.03E±0°.04, h2km±7km, Error ellipse: s-maj=6.5km s-min=4.4km az=145.7*
*DDA **01** 18:45:20.6, 39°.09N×29°.04E, h7km, Md2.6*
*CSEM **01** 18:45:20.8±0.1, 39°.09N×29°.01E, h5km, MD2.6, Error ellipse: s-maj=4.3km s-min=2.7km az=126.0*
ISC 01 18:45:20.9±1.0, **39°.09N**±0°.03×**29°.04E**±0°.03, **h8**km±9km, **n21**, σ**0s.66**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.26	259	P	Pg	18 45 26.3	+0.2
DEMI				S	Sg	18 45 30.0	+0.5
DEMI	Demirci	0.26	259	*i* P	Pg	18 45 26.3	+0.2
DEMI				*i* S	Sg	18 45 30.0	+0.5
GDZ	Gediz	0.34	90	P	Pg	18 45 27.8	0.0
GDZ				S	Sg	18 45 32.8	+0.5
GDZ	Gediz	0.34	90	*i* P	Pg	18 45 27.8	0.0
GDZ				*i* S	Sg	18 45 32.8	+0.5
TVSB	Tavsanli	0.49	42	*e*PG	Pg	18 45 29.7	-0.7
TVSB				*e*SG	Sg	18 45 37.1	+0.3
TVSB	Tavsanli	0.49	42	*e*Pg	Pg	18 45 29.7	-0.7
TVSB				*e*Sg	Sg	18 45 37.1	+0.3
KULA	Kula-Manisa	0.65	207	*e*PG	Pg	18 45 32.5	-0.9
KULA				*e*SG	Sg	18 45 41.6	-0.2
KULA	Kula-Manisa	0.65	207	*e*Pg	Pg	18 45 32.5	-0.9
KULA				*e*Sg	Sg	18 45 41.6	-0.2
KHAL	Karahalli	0.80	154	P	Pb	18 45 37.1	0.0
KHAL				S	Sb	18 45 47.8	-0.4
KHAL	Karahalli	0.80	154	*i* P	Pb	18 45 37.1	0.0
KHAL				*i* S	Sb	18 45 47.8	-0.4
IGD	Bursa	1.18	6	*i* P	Pg	18 45 41.7	-1.8
IGD				*i* S	Sn	18 45 59.9	-0.1
CAVI	Cavuskoy	1.27	29	*e*PN	Pg	18 45 45.0	-0.3
CAVI				*e*SN	Sn	18 46 03.4	+1.1
CAVI	Cavuskoy	1.27	29	*e*Pn	Pg	18 45 45.0	-0.3
CAVI				*e*Sn	Sn	18 46 03.4	+1.1
KCTX	Karacabey (Bur	1.29	336	*e*PN	Pb	18 45 45.6	+0.2
KCTX	Karacabey (Bur	1.29	336	*e*Pn	Pb	18 45 45.6	+0.2
BORA	Eskisehir	1.35	54	P	Pg	18 45 46.7	-0.1
BORA				S	Sn	18 46 05.3	+1.0
BORA	Eskisehir	1.35	54	*i* P	Pg	18 45 46.7	-0.1
BORA				*i* S	Sn	18 46 05.3	+1.0
AYDB	Zeytinkoy-Aydi	1.45	219	*e*PN	Pn	18 45 47.6	0.0
AYDB	Zeytinkoy-Aydi	1.45	219	*e*Pn	Pn	18 45 47.6	0.0
GULT	Gulveren	1.76	40	*e*PN	Pb	18 45 52.7	-0.8
GULT	Gulveren	1.76	40	*e*Pn	Pb	18 45 52.7	-0.8

---

*IDC **01** 18:46:29.5±2.8, 9°.50S×109°.45E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/44, mbtmp3.7/8, ML3.6/1, MS2.6/2, Ms1 2.6/2, ms1mx2.4/39, Error ellipse: s-maj=138.8km s-min=16.6km az=51.0*
*DJA **01** 18:46:32.1±0.6, 10°S±5°×10°9E±°, h10km, M4.3/18, mb4.6/5, MLv4.1/18*
ISC 01 18:46:32.7±0.9, **9°.68S**±0°.08×**109°.18E**±0°.04, **h27**km, **n31**, σ**2s.13**/35, **mb3.7**/7, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	2.02	339	P	Pb	18 47 04.7	-4.0
UGM	Wanagama	2.20	37	P	Pb	18 47 10.8	-1.1
UGM				S	Sb	18 47 41.4	+2.6
KPJI	Karang Pucung	2.34	354	P	Pb	18 47 12.4	-1.9
PCJI	Pacitan	2.47	53	P	Pb	18 47 13.8	-2.6
PCJI				S	Sb	18 47 45.1	-1.2
CISI	Cisompet, Garu	2.50	327	P	Pn	18 47 11.1	-0.6
CISI				S	Sn	18 47 40.7	-0.7
WOJI	Wonogiri, Jawa	2.52	43	P	Pb	18 47 15.0	-2.2
WOJI				S	Sb	18 47 48.1	+0.3
PWJI	Pagerwojo	3.07	58	P	Pb	18 47 22.6	-4.1
PWJI				S	Sb	18 47 59.8	-4.0
CNJI	Cibinong	3.11	319	P	Pn	18 47 18.8	-1.2
NGJI	Ngawi	3.22	45	P	Pb	18 47 28.1	-1.2
LEM	Lembang	3.23	331	Pn	Pb	18 47 29.1	-0.3
	13nm,0.3s,baz=112,slow=6.9,SNR=19						
LEM				Sn	Sb	18 48 11.8	+3.4
	6.7nm,0.3s,baz=237,slow=19,SNR=3.3						
LEM				LR	LR	18 48 17.9	
	comp=Z,80nm,18.6s,baz=204,slow=34						
LEM	Lembang	3.23	331	P	Pn	18 47 22.7	+0.9
SKJI	Sukabumi	3.71	315	P	Pn	18 47 29.3	+1.0
SKJI				S	Sn	18 48 11.0	-0.2
GMJI	Gumukmas	4.44	72	P	Pn	18 47 40.3	+2.0
GMJI				S	Sn	18 48 05.4	-24
CGJI	Cibinong	4.60	311	P	Pn	18 47 40.9	+0.4
BLJI	Banyuglugur	4.77	67	P	Pn	18 47 46.2	+3.3
JAGI	Jajag, Banyuwa	5.06	77	P	Pn	18 47 48.4	+1.5
	126nm,0.7s,0.5nm						
JAGI				S	Sn	18 48 46.1	+1.6
	126nm,0.7s,0.5nm						
ABJI	Asem Bagus	5.34	70	P	Pn	18 47 53.8	+3.1
	66nm,0.8s,0.4nm						
DNP	Denpasar	6.04	81	S	Sn	18 49 14.6	+6.0
KASI	Kota Agung	6.21	311	P	Pn	18 48 03.4	+0.7
	23nm,0.9s,0.1nm						
TWSI	Taliwang, Sumb	7.66	84	P	Pn	18 48 23.8	+1.1
PLAI	Plampang	8.53	85	P	Pn	18 48 35.8	+1.2
KAPI	Kappang	11.46	67	LR	LR	18 53 17.7	
	comp=Z,32nm,19.9s,baz=174,slow=37						
FITZ	Fitzroy Crossi	18.03	119	P	P	18 50 40.2	-1.6
	0.1nm,0.3s,baz=296,slow=12,SNR=7.0						
WRA	Warramunga Arr	26.34	116	P	P	18 52 05.5	-1.3
	0.3nm,0.5s,baz=286,slow=12,SNR=6.7						
ASAR	Alice Springs	27.40	124	P	P	18 52 16.2	-0.1
	0.3nm,0.5s,baz=298,slow=9.9,SNR=15						
CMAR	Chiang Mai Arr	29.73	340	P	P	18 52 36.8	-0.1
	0.5nm,0.7s,baz=172,slow=8.2,SNR=5.0						
STKA	Stephens Creek	37.26	131	P	P	18 53 42.5	+0.1
	1.0nm,0.7s,baz=320,slow=17,SNR=3.7						
SONM	Songino Array	57.31	358	P	P	18 56 18.1	-0.2
	0.9nm,0.6s,baz=178,slow=8.2,SNR=5.8						
MKAR	Makanchi Array	61.13	339	P	P	18 56 44.5	-0.2
	1.1nm,0.6s,baz=147,slow=7.7,SNR=20						
ZALV	Zalesovo Beam	66.66	345	P	P	18 57 22.1	+1.2
	0.4nm,0.4s,baz=157,slow=4.1,SNR=2.7						
PPT	Papeete	97.66	109	LR	LR	19 46 36.3	
	comp=Z,114nm,18.0s,baz=264,slow=37						

ISCJB ***01*** *19:03:32.5±0.9, 35°.75N±0°.06×142°.08E±0°.08, h22km, mb3.4/3, Error ellipse: s-maj=9.9km s-min=8.2km az=158.1*
IDC ***01*** *19:03:32.0±1.7, 35°.69N×141°.99E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/49, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=44.0km s-min=23.0km az=62.0*
JMA ***01*** *19:03:35.4±0.3, 35°.75N×141°.83E, h34km±4km, M3.0*
ISC 01 19:03:35.3±1.2**, 35°.75N**±0°.07×**141°.85E**±0°.08**, h22**km**, n17, σ1s.63**/15**, mb3.5**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.81	267	P	Pb	19 03 50.3	-0.4
BSO1	Boso 1	1.30	214	P	Pb	19 03 57.2	-1.5
BSO1				S	Sb	19 04 15.8	+1.0
JHO	Hitachi	1.35	310	P	Pn	19 03 58.6	-0.2
BSO3	Boso 3	1.45	230	P	Pb	19 03 59.9	-1.5
JAG	Ashikaga	2.06	290	P	Pn	19 04 08.4	-0.2
JAG				eS	Sn	19 04 33.2	-0.4
MJAR	Matsushiro Arr	3.06	286	Pn	Pn	19 04 23.3	+1.0
	2.0nm,0.3s,baz=102,slow=9.1,SNR=18						
MJAR				Sn	Sb	19 05 02.7	-3.1
	0.7nm,0.3s,baz=96,slow=34,SNR=4.2						
MAT	Matsushiro	3.06	286	P	Pn	19 04 23.4	+1.1
MAT				eS	Sn	19 05 01.9	+3.7
ASAJ	Asahikawa	8.38	4	Pn	Pn	19 05 35.6	+0.2
	0.4nm,0.3s,baz=211,slow=20,SNR=5.1						
H11N2	WAKE ISLAND Hy	27.20	119	T	T	19 37 45.8	
	baz=311,slow=75,SNR=4.6						
H11N1	WAKE ISLAND Hy	27.20	119	T	T	19 37 50.1	
	baz=311,slow=75,SNR=6.9						
H11N3	WAKE ISLAND Hy	27.21	119	T	T	19 38 05.1	
	baz=311,slow=75,SNR=5.9						
H11S1	WAKE ISLAND Hy	27.87	121	T	T	19 38 41.0	
	baz=311						
H11S3	WAKE ISLAND Hy	27.87	122	T	T	19 38 38.2	
	baz=311						
H11S2	WAKE ISLAND Hy	27.89	121	T	T	19 38 39.3	
	baz=311						
MKAR	Makanchi Array	45.11	303	P	P	19 11 50.6	+0.7
	0.2nm,0.6s,baz=86,slow=8.8,SNR=3.5						
WRA	Warramunga Arr	55.84	189	P	P	19 13 10.9	-0.1
	0.6nm,1.0s,baz=3.0,slow=7.4,SNR=2.9						
ASAR	Alice Springs	59.56	188	P	P	19 13 37.1	-0.1
	0.3nm,0.8s,baz=0.0,slow=7.4,SNR=3.3						

GUC 01 19:07:58.0±0.6**, 22°.58S**×**69°.13W, h94**km±5km**, ML3.5, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB06	IPOC Station P	0.43	253	iP	Pn	19 08 13.0	+0.2
PB06				iS	Sn	19 08 24.3	+0.5
PB06				AML	AML	19 08 24.9	
	comp=E,3µm,0.1s						
PB09	IPOC Station P	0.79	352	iP	Pn	19 08 16.6	+0.7
PB09				iS	Sn	19 08 30.2	+0.9
PB09				AML	AML	19 08 31.9	
	comp=E,5µm,0.4s						
PB04	IPOC Station P	0.98	285	iP	Pn	19 08 18.2	+0.3
PB04				iS	Sn	19 08 34.0	+1.2
PB04				AML	AML	19 08 40.1	
	comp=N,786nm,0.2s						
PB07	IPOC Station P	1.10	320	iP	Pn	19 08 20.1	+0.8
PB07				iS	Sn	19 08 36.1	+0.7
PB07				AML	AML	19 08 37.1	
	comp=E,2µm,0.3s						
PB01	IPOC Station P	1.57	348	iP	Pn	19 08 25.2	+0.3
PB01				iS	Sn	19 08 46.4	+1.1
PB01				AML	AML	19 08 48.1	
	comp=E,514nm,0.3s						
PB10	IPOC Station P	1.61	235	eP	Pn	19 08 24.9	-0.3
PB10				eS	Sn	19 08 45.2	-0.8
PB10				AML	AML	19 09 04.3	
	comp=E,615nm,0.6s						
PB08	IPOC Station P	2.43	359	iP	Pn	19 08 37.4	+1.0

CSEM ***01*** *19:10:28.1±0.5, 50°.43N×18°.97E, h1km, Error ellipse: s-maj=14.3km s-min=5.2km az=6.0*
PRU 01 19:10:29.3, 50°.30N×**18°.98E, h0**km**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHZP	Chorzow	0.01	139	ePg	Pg	19 10 31.0	+1.5
OJC	Ojcow	0.53	98	ePg	Pg	19 10 39.0	-0.5
OJC				eSg	Sg	19 10 46.3	-0.1
OJC	Ojcow	0.53	98	ePg	Pg	19 10 39.0	-0.5
OJC				eSg	Sg	19 10 46.3	0.0
MORC	Moravsky Berou	1.06	241	ePg	Pg	19 10 50.0	+0.3
MORC				eSg	Sg	19 11 02.7	-0.8
DPC	Dobruska-Polom	1.70	273	ePG	Pn	19 11 00.3	0.0
DPC				eSG	Sg	19 11 24.0	0.0
DPC	Dobruska-Polom	1.70	273	Pg	Pn	19 11 00.3	0.0
DPC				Sg	Sg	19 11 24.0	0.0

GUC ***01*** *19:10:31.1±0.5, 27°.57S×71°.83W, h35km±10km, ML3.4*
ISC 01 19:10:31.7±3.0**, 27°.50S**±0°.08×**71°.7W**±0°.2**, h13**km±14km**, n11, σ1s.69**/16**, 2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CDCH	Caldera	0.90	61	eP	Pg	19 10 49.0	-0.1
CDCH				eS	Sn	19 11 03.2	+0.2
CPCH	Copiapo	1.21	83	eP	Pb	19 10 54.1	-0.5
CPCH				iS	Sn	19 11 11.9	+1.1
VACH	Vallenar	1.36	142	eP	Pn	19 10 56.0	-0.5
VACH				iS	Sb	19 11 14.2	-0.2
LCO	Las Campanas	1.75	150	eP	Pg	19 11 06.7	+1.4
LCO				eS	Sn	19 11 24.1	-0.2
LCO	Las Campanas	1.75	150	⇓iP	Pn	19 11 01.4	-0.6
LCO				iS	Sn	19 11 23.5	-0.8
LCO				IAML		19 11 26.7	
	comp=N,307nm,0.3s						
TLL	Tololo Astrono	2.77	164	⇓iP	Pn	19 11 14.6	-1.5
TLL				IAML		19 11 51.6	
	comp=E,263nm,0.5s						
VCA	Vinchina	3.33	112	eP	Pb	19 11 29.2	-1.6
VCA				IAML		19 12 24.3	
	comp=Z,45nm,0.6s						
AGUA	GUANDACOL	3.45	126	eP	Pb	19 11 30.4	-2.5
AMOG	MOGNA	4.43	141	eP	Pn	19 11 41.4	+2.6
RTLS	Leoncito	4.77	154	eP	Pn	19 11 46.1	+2.5
AUSP	Uspallata	5.12	157	eP	Pn	19 11 50.8	+2.4

ISCJB ***01*** *19:11:26.9±0.6, 39°.14N±0°.03×29°.07E±0°.03, h2km±8km, Error ellipse: s-maj=5.6km s-min=3.9km az=151.1*
ISK ***01*** *19:11:26.5, 39°.13N×29°.10E, h7km, MD2.8*
CSEM ***01*** *19:11:27.1±0.1, 39°.15N×29°.07E, h5km, MD2.8, Error ellipse: s-maj=2.3km s-min=1.9km az=123.0*
DDA ***01*** *19:11:27.1, 39°.11N×29°.08E, h7km, Md2.8*
ISC 01 19:11:27.2±1.0**, 39°.14N**±0°.02×**29°.08E**±0°.02**, h9**km±9km**, n40, σ0s.40**/56**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.30	251	P	Pg	19 11 33.2	0.0
DEMI				S	Sg	19 11 37.3	+0.1
DEMI	Demirci	0.30	251	iP	Pg	19 11 33.2	0.0
DEMI				iS	Sg	19 11 37.3	+0.1
GDZ	Gediz	0.32	99	P	Pg	19 11 33.5	-0.1
GDZ				S	Sg	19 11 38.3	+0.5
GDZ	Gediz	0.32	99	iP	Pg	19 11 33.5	-0.1
GDZ				iS	Sg	19 11 38.3	+0.5
TVSB	Tavsanli	0.43	44	ePG	Pg	19 11 35.5	-0.2
TVSB				eSG	Sg	19 11 41.0	-0.3
TVSB	Tavsanli	0.43	44	ePg	Pg	19 11 35.5	-0.2
TVSB				eSg	Sg	19 11 41.0	-0.3
KULA	Kula-Manisa	0.70	208	ePG	Pg	19 11 40.8	0.0
KULA				eSG	Sg	19 11 50.2	+0.2
KULA	Kula-Manisa	0.70	208	ePg	Pg	19 11 40.8	0.0
KULA				eSg	Sg	19 11 50.2	+0.2
KHAL	Karahalli	0.83	157	P	Pb	19 11 43.7	-0.2
KHAL				S	Sb	19 11 55.4	+0.1
KHAL	Karahalli	0.83	157	iP	Pb	19 11 43.7	-0.2
KHAL				iS	Sb	19 11 55.4	+0.1
KHL	Karahalli	0.89	157	ePG	Pg	19 11 43.8	-0.5
KHL				eSG	Sb	19 11 56.0	-0.8
KHL	Karahalli	0.89	157	ePg	Pg	19 11 43.8	-0.5
KHL				eSg	Sb	19 11 56.0	-0.8
AKHS	Akhisar	1.02	256	P	Pb	19 11 46.9	-0.2
AKHS	Akhisar	1.02	256	iP	Pb	19 11 46.9	-0.2
AKS	Akhisar	1.02	256	ePG	Pb	19 11 47.0	-0.1
AKS	Akhisar	1.02	256	ePg	Pb	19 11 47.0	-0.1
BALB	Balikesir	1.05	299	ePN	Pg	19 11 47.3	-0.2
BALB	Balikesir	1.05	299	ePn	Pg	19 11 47.3	-0.2
IGD	Bursa	1.13	5	iP	Pg	19 11 47.3	-1.6
IGD				iS	Sb	19 12 04.2	+0.5
CAVI	Cavuskoy	1.21	29	ePN	Pn	19 11 50.7	+0.3
CAVI	Cavuskoy	1.21	29	ePn	Pn	19 11 50.7	+0.3
IZI	Iznik	1.23	14	ePN	Pn	19 11 51.3	+0.6
IZI	Iznik	1.23	14	ePn	Pn	19 11 51.3	+0.6
MDNY	Mudanya-Bursa	1.24	353	ePN	Pb	19 11 51.0	+0.3
MDNY	Mudanya-Bursa	1.24	353	ePn	Pb	19 11 51.0	+0.3
KCTX	Karacabey (Bur	1.25	334	ePN	Pn	19 11 51.0	0.0
KCTX	Karacabey (Bur	1.25	334	ePn	Pn	19 11 51.0	0.0
BORA	Eskisehir	1.30	55	P	Pn	19 11 51.4	-0.2
BORA				S	Sn	19 12 09.6	+0.5
BORA	Eskisehir	1.30	55	iP	Pn	19 11 51.4	-0.2
BORA				iS	Sn	19 12 09.6	+0.5
GONE	Gonen-Balikesi	1.41	311	ePN	Pb	19 11 53.5	-0.1
GONE	Gonen-Balikesi	1.41	311	ePn	Pb	19 11 53.5	-0.1
ARMT	Armutlu	1.43	353	ePN	Pb	19 11 54.5	+0.4
ARMT	Armutlu	1.43	353	ePn	Pb	19 11 54.5	+0.4
AYDB	Zeytinkoy-Aydi	1.51	218	ePN	Pn	19 11 54.8	+0.2
AYDB	Zeytinkoy-Aydi	1.51	218	ePn	Pn	19 11 54.8	+0.2
EDC	Edincik	1.53	323	ePN	Pn	19 11 54.3	-0.4
EDC	Edincik	1.53	323	ePn	Pn	19 11 54.3	-0.4
GULT	Gulveren	1.70	40	ePN	Pn	19 11 57.5	+0.3
GULT	Gulveren	1.70	40	ePn	Pn	19 11 57.5	+0.3
SART	Tekirdag	2.13	317	iP	Pb	19 12 06.5	+0.5
SART				iS	Sg	19 12 35.2	-0.4

IDC 01 19:12:32.4±4.4**, 5°.36S**×**149°.86E, h0**km**, mb3.3**/4**, mb1 3.5**/5**, mb1mx3.4**/33**, mbtmp3.4**/5**, ML1.4**/1**, Error ellipse: s-maj=125.2km s-min=29.7km az=106.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.83	213	Pn	Pn	19 13 46.1	-0.4
	1.1nm,0.3s,baz=37,slow=8.4,SNR=3.9						
WRA	Warramunga Arr	20.93	225	P	P	19 17 16.1	-0.9
	0.2nm,0.5s,baz=51,slow=11,SNR=2.7						
ASAR	Alice Springs	23.82	219	P	P	19 17 47.6	+0.2
	0.2nm,0.4s,baz=51,slow=9.3,SNR=6.6						
FITZ	Fitzroy Crossi	26.83	240	P	P	19 18 16.0	+1.1
	2.3nm,0.8s,baz=54,slow=3.5,SNR=5.6						
MKAR	Makanchi Array	78.83	320	P	P	19 24 37.1	-0.3
	0.2nm,0.7s,baz=112,slow=6.6,SNR=2.4						

ISCJB ***01*** *19:13:21.3±0.5, 7°.10S±0°.07×155°.76E±0°.09, h100km, mb4.2/16, Error ellipse: s-maj=12.8km s-min=10.0km az=12.3*
IDC ***01*** *19:13:21.8±2.1, 7°.11S×155°.79E, h87km±18km, mb4.0/12, mb1 4.0/16, mb1mx3.9/38, mbtmp4.3/16, MS2.8/2, Ms1 2.8/2, ms1mx2.6/28, Error ellipse: s-maj=17.9km s-min=14.3km az=113.0*
NEIC ***01*** *19:13:23.0±1.0, 7°.10S×155°.75E, h99km±9km, mb4.4/4, Error ellipse: s-maj=9.3km s-min=8.2km az=151.0*
ISC 01 19:13:22.9±0.6**, 7°.13S**±0°.09×**155°.82E**±0°.08**, h100**km**, n35, σ1s.21**/29**, mb4.3**/16**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	4.68	119	P	Pn	19 14 32.2	+0.8
	5.0nm,0.3s,baz=302,slow=4.3,SNR=3.2						
HNR				LR	LR	19 16 09.1	
	comp=Z,83nm,18.7s,baz=6.5,slow=35						
HNR	Honiara	4.68	119	P	Pn	19 14 40.0	+8.6
HNR				S	Sn	19 15 34.0	+9.4
PMG	Port Moresby	8.86	255	P	Pn	19 15 26.6	-1.6
	0.4nm,0.3s,baz=63,slow=3.6,SNR=2.3						
PMG				S	Sn	19 17 09.5	+3.2
	1.0nm,0.3s,baz=197,slow=17,SNR=3.3						
PMG				LR	LR	19 18 47.7	
	comp=Z,78nm,21.4s,baz=70,slow=37						
CTA	Charters Tower	15.87	215	P	P	19 17 01.4	-1.1
	0.3nm,0.3s,baz=37,slow=12,SNR=14						
CTAO	Charters Tower	15.87	215	eP	P	19 17 02.8	+0.3
DZM	Mont Dzumac	18.05	146	P	Pn	19 17 27.0	-0.4
	0.3nm,0.3s,baz=200,slow=14,SNR=4.1						
WRAB	Tennant Creek	24.40	236	eP	P	19 18 31.6	-0.6
WRA	Warramunga Arr	24.41	236	P	P	19 18 31.9	-0.5
	3.5nm,0.4s,baz=60,slow=9.5,SNR=68						
WRA				ScP	ScP	19 25 42.7	+3.8
	0.7nm,0.8s,baz=66,slow=2.9,SNR=5.5						
ASAR	Alice Springs	26.70	230	P	P	19 18 52.0	-1.0
	4.0nm,0.6s,baz=59,slow=9.9,SNR=46						
H11S3	WAKE ISLAND Hy	27.63	23	T	T	19 47 27.0	
	baz=202,slow=76,SNR=113						
H11S2	WAKE ISLAND Hy	27.64	23	T	T	19 47 18.2	
	baz=202,slow=76,SNR=125						
H11S1	WAKE ISLAND Hy	27.65	23	T	T	19 47 19.4	
	baz=202,slow=76,SNR=87						
STKA	Stephens Creek	27.97	206	P	P	19 19 04.1	-0.1
	4.2nm,0.6s,baz=34,slow=14,SNR=14						
H11N1	WAKE ISLAND Hy	28.82	22	T	T	19 48 58.3	
	baz=203,slow=76,SNR=9.5						
H11N3	WAKE ISLAND Hy	28.83	22	T	T	19 48 56.7	
	baz=203,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	28.84	22	T	T	19 49 13.8	
	baz=203,slow=76,SNR=6.1						
FITZ	Fitzroy Crossi	31.35	247	P	P	19 19 33.6	-0.7
	4.5nm,0.5s,baz=66,slow=8.7,SNR=21						
MBWA	Marble Bar	37.55	244	eP	P	19 20 26.5	-1.3
	18nm,0.7s						
MJAR	Matsushiro Arr	46.48	340	P	P	19 21 38.8	-1.3
	0.5nm,0.5s,baz=165,slow=8.8,SNR=6.1						
ASAJ	Asahikawa	52.39	348	P	P	19 22 25.2	+0.3
	2.2nm,0.6s,baz=178,slow=9.6,SNR=3.7						
USRK	Ussuriysk Ar.	55.44	339	P	P	19 22 46.4	-0.7
	3.5nm,0.9s,baz=112,slow=8.1,SNR=4.3						
PETK	Petropavlovsk-	60.03	1	P	P	19 23 19.2	+0.2
	1.5nm,0.6s,baz=184,slow=3.7,SNR=4.3						
CMAR	Chiang Mai Arr	61.58	295	P	P	19 23 30.8	+0.5
	0.9nm,0.6s,baz=124,slow=6.0,SNR=9.8						
ULN	Ulaanbaatar	69.56	327	eP	P	19 24 21.8	+0.5
	6.7nm,1.4s						
SONM	Songino Array	69.89	327	P	P	19 24 23.8	+0.5
	4.3nm,0.9s,baz=127,slow=6.0,SNR=16						
QSPA	South Pole Qui	82.84	180	eP	P	19 25 36.5	+0.3
	2.4nm,0.5s						
MKAR	Makanchi Array	84.05	319	P	P	19 25 43.0	+0.5
	1.9nm,0.7s,baz=100,slow=6.1,SNR=20						
ZALV	Zalesovo Beam	84.75	326	P	P	19 25 45.2	-0.6
	1.3nm,0.6s,baz=113,slow=5.4,SNR=6.8						
KURK	Kurchatov	87.44	322	eP	P	19 25 58.5	-0.7
	1.6nm,0.4s						
ARCES	ARCESS Array B	109.95	343	PKiKP	PKiKP	19 31 42.3	+0.2
	1.8nm,0.9s,baz=62,slow=2.9,SNR=5.4						
FINES	FINESS Array B	114.39	336	PKP	PKPdf	19 31 50.2	-0.6
	1.0nm,0.9s,baz=95,slow=3.1,SNR=4.4						
NOA	NORSAR Array B	120.10	341	PKP	PKPdf	19 32 01.5	-0.4
	0.3nm,0.5s,baz=262,slow=3.5,SNR=2.6						
GERES	GERESS Array B	127.59	329	PKP	PKPdf	19 32 17.4	+0.7
	0.6nm,0.5s,baz=45,slow=0.8,SNR=4.4						
BDFB	Brasilia	147.30	134	PKPbc	PKPbc	19 32 55.9	-0.1
	2.2nm,0.5s,baz=253,slow=5.9,SNR=3.7						
TORD	Torodi Ar. Bea	153.85	285	PKPbc	PKPbc	19 33 11.2	-0.4
	0.1nm,0.3s,baz=48,slow=2.1,SNR=5.3						

NEIC ***01*** *19:21:42.3±4.0, 31°.96S×177°.94W, h2km±24km, mb5.1/59, Error ellipse: s-maj=11.0km s-min=6.5km az=174.0*
IDC ***01*** *19:21:42.3±0.4, 31°.69S×177°.84W, h0km, mb4.8/17, mb1 4.9/20, mb1mx4.8/26, mbtmp4.8/20, ML4.4/3, MS4.4/19, Ms1 4.4/19, ms1mx4.3/28, Error ellipse: s-maj=16.1km s-min=14.5km az=124.0*
GCMT ***01*** *19:21:42.3±0.4, 31°.81S×177°.52W, h18km±1km, MW5.2/70, Moment Tensor Solution. s38,c52; s70,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.25±.30; $M_{\theta\theta}$-0.43±.20; $M_{\phi\phi}$-3.82±.20; $M_{r\theta}$2.31±.58; $M_{\theta\phi}$-1.67±.13; $M_{\phi r}$5.23±.61; Best double couple: $M_0$7.20100×10^{16} NP1:ϕ_s24.00000°,δ71.00000°,λ91.00000°. NP2: ϕ_s201.00000°,δ19.00000°,λ87.00000°. Principal axes: T 7.0750, Plg64.0000°, Azm295.0000°; N 0.2550, Plg1.0000°, Azm203.0000°; P -7.3260, Plg26.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***01*** *19:21:45.6±0.1, 32°.10S±0°.03×177°.96W±0°.04, h33km, mb5.1/80, MS4.4/19 Error ellipse: s-maj=6.2km s-min=2.4km az=33.3*
BJI ***01*** *19:21:45.7, 31°.70S×177°.90W, h32km, mb5.1/25, mB5.5/20, Ms5.1/14, Ms7 4.7/14*
MOS ***01*** *19:21:46.4±1.4, 31°.65S×177°.92W, h33km, mb5.3/22, Error ellipse: s-maj=11.6km s-min=8.6km az=80.3*
ISC 01 19:21:45.8±0.3**, 31°.88S**±0°.04×**177°.83W**±0°.06**, h24**km**, n428, σ1s.85**/447**, mb5.1**/79**, MS4.5**/19**, 21C-12D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.62	358	Pn	Pn	19 22 23.2	-3.5
	320nm,0.3s,baz=94,slow=22,SNR=9.5						
RAO				Sn	Sn	19 22 54.6	-3.2
	1µm,0.3s,baz=48,slow=23,SNR=8.7						
RAO				LR	LR	19 23 02.0	
	comp=Z,1µm,19.2s,baz=143,slow=33						
RAO	Raoul Island	2.62	358	eP	Pn	19 22 22.0	-4.7
RAO						19 22 54.6	
RAO	Raoul Island	2.62	358	ePn	Pn	19 22 22.0	-4.7
RAO				Sn	Sn	19 22 54.6	-3.2
MXZ	Matakaoa Point	6.50	208	ePn	Pn	19 23 17.0	-3.0
MXZ	Matakaoa Point	6.50	208	PN	Pn	19 23 17.1	-2.8
MXZ				SN	Sn	19 24 30.4	-2.8
WMGZ	Waiomatatini S	6.68	207	PN	Pn	19 23 19.7	-2.7
PKGZ	Pakihiroa	6.87	208	PN	Pn	19 23 21.8	-3.3
PKGZ				SN	Sn	19 24 41.9	-0.6
HAZ	Te Kaha	6.88	210	PN	Pn	19 23 23.9	-1.3
HAZ				SN	Sn	19 24 43.6	+0.9
PUZ	Puketiti	6.96	206	PN	Pn	19 23 22.9	-3.4
PUZ				SN	Sn	19 24 43.3	-1.4
TWGZ	Tauwhareparae	7.16	208	PN	Pn	19 23 25.5	-3.5
TWGZ				SN	Sn	19 24 49.2	-0.5
CNGZ	Carnagh Statio	7.34	205	PN	Pn	19 23 27.5	-4.0
CNGZ				SN	Sn	19 24 56.6	+2.6
TKGZ	Te Karaka	7.44	207	PN	Pn	19 23 29.4	-3.4
TKGZ				SN	Sn	19 24 54.2	-2.2
MWZ	Matawai	7.48	209	PN	Pn	19 23 29.5	-3.9
MWZ				SN	Sn	19 24 55.8	-1.6
URZ	Urewera	7.59	212	Pn	Pn	19 23 31.1	-3.9
	2.6nm,0.3s,baz=290,slow=3.7,SNR=14						
URZ				Sn	Sn	19 24 59.5	-0.8
	20nm,0.3s,baz=11,slow=23,SNR=3.2						
URZ	Urewera	7.59	212	ePn	Pn	19 23 31.9	-3.0
URZ				Sn	Sn	19 24 59.5	-0.8
URZ	Urewera	7.59	212	PN	Pn	19 23 30.9	-4.0
URZ				SN	Sn	19 24 56.4	-3.8
RIGZ	Rimuhau	7.70	207	PN	Pn	19 23 32.0	-4.5
OUZ	Omahuta	7.89	243	ePn	Pn	19 23 44.7	+5.6
TOZ	Tahuroa Road	8.01	221	PN	Pn	19 23 44.8	+4.2
KNZ	Kokohu	8.01	206	PN	Pn	19 23 36.7	-3.9
MHGZ	Mahia Peninsul	8.04	204	PN	Pn	19 23 37.1	-4.1
BKZ	Black Stump Fm	8.61	211	ePn	Pn	19 23 47.2	-1.8
HIZ	Hauiti	8.92	220	ePn	Pn	19 23 52.3	-0.9
BHHZ	Black Hill Sta	9.07	212	PN	Pn	19 23 53.4	-1.9
BHHZ				SN	Sn	19 25 32.5	-4.2
PXZ	Pawanui	9.20	206	PN	Pn	19 23 54.0	-2.9
PXZ				SN	Sn	19 25 34.5	-5.2
BFZ	Birch Farm	9.99	207	ePn	Pn	19 24 04.8	-3.1
BFZ				eSn	Sn	19 25 55.4	-3.9
MRZ	Mangatainoka R	10.24	209	PN	Pn	19 24 04.6	-6.7
HOWZ	Holdsworth Sta	10.47	209	SN	Sn	19 26 02.1	-8.8
PAWZ	Paruwai Farm	10.91	208	SN	Sn	19 26 13.1	-8.8
SNZO	South Karori	11.15	210	ePn	Pn	19 24 20.4	-3.3
SNZO				eSn	Sn	19 26 23.5	-4.1
TUWZ	Tuamarina	11.59	212	SN	Sn	19 26 28.3	-10
THZ	Tophouse	12.33	214	ePn	Pn	19 24 36.6	-3.3
THZ				eSn	Sn	19 26 51.0	-5.6
THZ	Tophouse	12.33	214	PN	Pn	19 24 36.6	-3.3
KHZ	Kahutara	12.56	211	ePn	Pn	19 24 39.0	-4.0
KHZ				eSn	Sn	19 26 55.2	-6.8
OXZ	Oxford	13.95	212	ePn	Pn	19 24 58.6	-3.4
OXZ				eSn	Sn	19 27 27.7	-8.3
MQZ	McQueen's Vall	13.98	210	ePn	Pn	19 24 56.1	-6.3
MQZ				eSn	Sn	19 27 25.3	-12
MSVF	Nonsavu	14.57	344	eP	Pn	19 25 09.3	-1.4
MSVF				pmax	pmax		
	comp=Z,49nm,1.0s						
MSVF	Nonsavu	14.57	344	eP	Pn	19 25 09.3	-1.4
	comp=Z,49nm,1.0s						
RPZ	Rata Peaks	14.71	213	Pn	Pn	19 25 06.7	-5.5
	comp=Z,2.0nm,0.3s,baz=20,slow=5.5,SNR=7.6						
RPZ				Sn	Sn	19 27 44.1	-10
	comp=Z,1.4nm,0.3s,baz=56,slow=23,SNR=6.2						
RPZ	Rata Peaks	14.71	213	ePn	Pn	19 25 07.2	-5.1
RPZ				eSn	Sn	19 27 44.3	-10
ODZ	Otahua Downs	15.92	211	ePn	Pn	19 25 23.2	-5.0
	comp=Z,51nm,1.3s						
DZM	Mont Dzumac	17.07	301	eP	P	19 25 46.7	+2.0
	comp=Z,182nm,1.2s						
DZM				eLR	LR	19 29 34.7	
	comp=Z,4µm,23.1s						
DZM	Mont Dzumac	17.07	301	Pn	P	19 25 47.5	+2.8
	comp=Z,0.7nm,0.3s,baz=89,slow=16,SNR=11						
DZM				LR	LR	19 30 37.1	
	comp=Z,3µm,21.3s,baz=138,slow=32						
DZM	Mont Dzumac	17.07	301	ePn	Pn	19 25 41.3	-1.8
	comp=Z,80nm,1.1s						
AFI	Afiamalu	18.73	19	P	P	19 26 00.0	-3.0
	comp=Z,2.1nm,0.3s,baz=258,slow=17,SNR=3.6						
AFI	Afiamalu	18.73	19	eP	P	19 25 59.7	-3.3
AFI				pmax	pmax		
	comp=Z,113nm,1.1s						
AFI	Afiamalu	18.73	19	eP	P	19 25 59.7	-3.3
	comp=Z,113nm,1.1s						
RAR	Rarotonga	19.31	61	P	P	19 26 07.8	-1.3
	comp=Z,2.1nm,0.3s,baz=158,slow=12,SNR=3.8						
ARMA	Armidale	26.14	265	eP	P	19 27 14.8	-3.6
	comp=Z,133nm,1.8s						
TBI	Tubuai	26.47	78	eLR	LR	19 33 50.4	
	comp=Z,1µm,29.0s,baz=238						
EIDS	Eidsvold	27.99	275	P	P	19 27 36.6	+1.7
	baz=28,SNR=9.7						
EIDS	Eidsvold	27.99	275	eP	P	19 27 35.4	+0.6
	comp=Z,55nm,1.4s						
PPT2	Papeete2	29.23	68	eLR	LR	19 35 01.7	
	comp=Z,1µm,27.8s,baz=235						
PPT	Papeete	29.24	68	P	P	19 27 44.9	-1.2
	comp=Z,20nm,0.5s,baz=238,slow=22,SNR=2.6						
PPT				LR	LR	19 36 09.1	
	comp=Z,292nm,19.9s,baz=264,slow=30						
RMQ	Roma	29.59	272	P	P	19 27 52.0	+2.9
	baz=30,SNR=9.0						
TOO	Toolangi	30.54	249	P	P	19 28 00.3	+2.8
	baz=31,SNR=6.7						
TOO	Toolangi	30.54	249	P	P	19 27 57.5	0.0
TOO				pmax	pmax		
	comp=Z,17nm,0.8s						
CMSA	Cobar Meteorol	30.95	261	P	P	19 28 02.8	+1.8
	baz=31,SNR=36						
VAH	Vaihoa	32.11	66	eT	T	20 01 33.9	
	comp=Z,8.2nm,0.2s						
ARPS	Mount Arapiles	33.49	250	P	P	19 28 24.6	+1.4
	baz=34,SNR=18						
CTAO	Charters Tower	34.21	281	eP	P	19 28 31.2	+1.5
CTAO				pmax	pmax		
	comp=Z,128nm,1.4s						
CTAO	Charters Tower	34.21	281	eP	P	19 28 31.2	+1.5
	comp=Z,128nm,1.4s						
STKA	Stephens Creek	34.31	259	P	P	19 28 31.4	+0.8
	comp=Z,10nm,0.8s,baz=102,slow=12,SNR=15						
STKA				LR	LR	19 42 21.9	
	comp=Z,2µm,18.6s,baz=90,slow=36						
STKA	Stephens Creek	34.31	259	P	P	19 28 31.7	+1.2
	baz=34,SNR=10						
STKA	Stephens Creek	34.31	259	eP	P	19 28 31.3	+0.8
STKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	Stephens Creek	34.31	259	eP	P	19 28 31.3	+0.8
	comp=Z,3.3nm,0.9s						
HTT	Hallett	36.26	256	P	P	19 28 47.6	+0.3
	baz=36,SNR=15						
BBOO	Buckleboo	38.73	256	P	P	19 29 07.5	-0.6
	baz=39,SNR=27						
BBOO	Buckleboo	38.73	256	eP	P	19 29 07.6	-0.6
	comp=Z,27nm,0.8s						
RKT	Rikitea	38.80	88	eLR	LR	19 39 34.2	
	comp=Z,1µm,29.5s,baz=252						
QIS	Mount Isa	39.59	276	P	P	19 29 15.9	+0.3
	baz=40,SNR=6.2						

COEN Coen 39.84 288 P P 19 29 18.4 +0.8
baz=40,SNR=8.8
TAOE Nuku Hiva Isla 41.78 65 eLQ LQ 19 40 49.0
comp=Z,664nm,27.7s
AS01 Alice Springs 43.16 268 eP P 19 29 43.9 -0.9
AS31 Alice Springs 43.20 268 eP P 19 29 44.6 -0.5
comp=Z,7.4nm,0.7s
ASAR Alice Springs 43.20 268 P P 19 29 44.4 -0.7
comp=Z,14nm,0.7s,baz=106,slow=8.0,SNR=56
ASAR ScP ScP 19 35 28.3 +4.1
comp=Z,1.5nm,0.8s,baz=111,slow=4.5,SNR=5.2
ASAR LR LR 19 48 27.3
comp=Z,891nm,18.1s,baz=111,slow=37
WB2 Warramunga Arr 44.31 274 eP P 19 29 53.5 -0.6
comp=Z,140nm,1.7s
WRAB Tennant Creek 44.31 274 d iP P 19 29 51.3 -2.8
WRAB pmax pmax
comp=Z,105nm,1.2s
WRAB Tennant Creek 44.31 274 eP P 19 29 53.4 -0.7
comp=Z,66nm,1.3s
WRA Warramunga Arr 44.32 274 P P 19 29 53.4 -0.8
comp=Z,18nm,0.6s,baz=112,slow=8.0,SNR=108
WRA ScP ScP 19 35 31.5 +2.8
comp=Z,5.1nm,1.1s,baz=114,slow=3.4,SNR=6.4
WRA LR LR 19 48 08.0
comp=Z,2µm,18.2s,baz=115,slow=36
SBA Scott Base 46.57 184 eP P 19 30 14.5 +3.3
SBA pmax pmax
comp=Z,23nm,1.1s
SBA Scott Base 46.57 184 eP P 19 30 14.5 +3.3
comp=Z,23nm,1.1s
VNDA Vanda 46.64 186 P P 19 30 13.9 +2.2
comp=Z,1.2nm,0.7s,baz=12,slow=6.1,SNR=4.3
VNDA LR LR 19 48 16.2
comp=Z,536nm,19.1s,baz=16,slow=34
VNDA Vanda 46.64 186 eP P 19 30 14.6 +2.9
VNDA pmax pmax
comp=Z,24nm,1.8s
VNDA Vanda 46.64 186 eP P 19 30 14.6 +2.9
comp=Z,24nm,1.8s
GENI Genyem 49.07 298 P P 19 30 32.3 +0.9
comp=Z,32nm,1.2s
FITZ Fitzroy Crossi 52.52 271 P P 19 30 56.6 -0.7
baz=53,SNR=18
FITZ Fitzroy Crossi 52.52 271 eP P 19 30 56.9 -0.4
comp=Z,90nm,1.8s
CASY Casey 53.91 208 eP P 19 31 07.2 +0.4
comp=Z,28nm,0.8s
MBWA Marble Bar 56.22 265 eP P 19 31 22.0 -2.3
SOEI Soe 57.72 279 P P 19 31 38.5 +3.4
SOEI Soe 57.72 279 eP P 19 31 36.7 +1.5
comp=Z,76nm,1.1s
QSPA South Pole Qui 58.23 180 eP P 19 31 39.4 +1.4
comp=Z,224nm,0.9s
MMRI Maumere 60.01 279 P P 19 31 53.3 +2.4
comp=Z,62nm,1.2s,comp=Z,1µm
MMRI Maumere 60.01 279 eP P 19 31 50.9 0.0
comp=Z,84nm,1.2s
MIR Mirnyy 60.87 207 i P P 19 31 56.0 0.0
SPSI Sidrap Palu 64.58 282 P P 19 32 20.5 -1.0
comp=Z,25nm,1.2s
PCI Palu 66.22 285 P P 19 32 33.4 +1.2
PCI pmax pmax
comp=Z,38nm,1.2s
BBKI Banjar Baru 68.97 279 P P 19 32 49.8 +0.3
comp=Z,57nm,1.2s
PWJI Pagerwojo 69.15 273 P P 19 32 55.3 +4.7
PMSA Palmer Station 70.86 155 P P 19 33 02.5 +2.2
comp=Z,54nm,1.1s,baz=150,slow=10,SNR=3.0
MAW Mawson 70.98 201 P P 19 33 02.0 +1.1
comp=Z,20nm,1.2s,baz=109,slow=8.3,SNR=11
MAW LR LR 20 04 55.0
comp=Z,852nm,18.2s,baz=85,slow=36
MAW Mawson 70.98 201 P P 19 33 01.5 +0.6
baz=71,SNR=4.3
MAW Mawson 70.98 201 eP P 19 33 01.9 +1.0
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 70.98 201 eP P 19 33 01.9 +1.0
comp=Z,3.2nm,0.9s
PBKI Pangkalan Bun 72.05 278 P P 19 33 12.1 +3.8
STKI Sintang 73.70 280 P P 19 33 18.2 +0.1
comp=Z,28nm,1.1s,comp=Z,5µm
SBUM Sibu 74.39 283 eP P 19 33 21.2 -1.0
comp=Z,13nm,1.1s
KSM Kuching 75.45 281 eP P 19 33 27.9 -0.3
comp=Z,13nm,0.9s
SYO Syowa Base 75.71 193 ⇑ eX P 19 33 23.6 -5.2
SNAA Sanae 76.67 178 P P 19 33 35.0 +0.6
SNAA Sanae 76.67 178 eP P 19 33 34.1 -0.3
SNAA Sanae 76.67 178 eP P 19 33 34.2 -0.1
comp=Z,28nm,1.2s
VNA1 Neumayer--Stat 77.48 176 P P 19 33 39.1 +0.3
MJAR Matsushiro Arr 79.54 325 P P 19 33 49.0 -1.6
comp=Z,3.0nm,0.8s,baz=166,slow=5.7,SNR=6.8
MJAR LR LR 20 07 32.6
comp=Z,87nm,18.7s,baz=130,slow=35
MAJO Matsushiro 79.54 325 eP P 19 33 48.6 -2.0
MAJO pmax pmax
comp=Z,47nm,1.1s
PLCA Paso Flores 81.39 133 P P 19 34 01.3 +0.4
comp=Z,9.7nm,1.0s,baz=241,slow=6.2,SNR=13
PLCA LR LR 20 04 06.6
comp=Z,318nm,18.1s,baz=238,slow=31
PLCA Paso Flores 81.39 133 eP P 19 34 01.2 +0.4
PLCA pmax pmax
comp=Z,18nm,1.1s
PLCA Paso Flores 81.39 133 eP P 19 34 01.1 +0.4
comp=Z,18nm,1.1s
TJN Taejon 85.11 319 i P P 19 34 18.4 -1.3
SLBS Sierra La Lagu 85.20 58 eP P 19 34 22.1 +1.6
comp=Z,34nm,1.2s
ROC1 El Roble 85.53 126 eP P 19 34 24.7 +2.2
comp=Z,18nm,1.0s
KSRS Korea Array 85.57 320 P P 19 34 21.9 -0.1
comp=Z,3.1nm,1.0s,baz=135,slow=5.9,SNR=12
KSRS LR LR 20 12 11.4
comp=Z,89nm,18.2s,baz=129,slow=36
KSAR Wonju Array Be 85.58 320 P P 19 34 21.9 -0.1
KSAR Wonju Array Be 85.58 320 P P 19 34 21.9 -0.1
KS01 Wonju Array Si 85.60 320 eP P 19 34 21.2 -0.9
QIZ Qiongzhong 85.76 295 P P 19 34 28.4 +5.1
QIZ sP sP 19 34 37.9 +3.9
QIZ Qiongzhong 85.76 295 S S 19 44 54.5 -0.5
QIZ pmax pmax
comp=Z,110nm,10.1s
QIZ LR LR
comp=Z,170nm,30.2s
PKM Mcpherson Peak 85.92 44 P P 19 34 24.8 +0.8
baz=226
YSS Yuzh-Sakhalins 86.14 334 ⇑ eP P 19 34 24.6 +0.1
YSS pmax pmax
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 86.14 334 eP P 19 34 25.5 +1.0
comp=Z,12nm,0.8s
MURC Murrieta 86.64 47 P P 19 34 27.8 +0.4
baz=228
MONP2 Monument Peak 86.65 48 P P 19 34 28.2 +0.5
baz=228
ARVC Arvin 86.67 45 P P 19 34 28.2 +0.7
baz=227
IKP In-Ko-Pah, Jac 86.69 48 P P 19 34 28.2 +0.5
baz=228
BFSC Mount Baldy Ra 86.78 46 P P 19 34 28.2 0.0
baz=228
EDW2 Edwards Air Fo 87.01 45 P P 19 34 28.8 -0.4
baz=227,SNR=5.6
VES Vestal, Richgr 87.01 44 P P 19 34 29.9 +0.9
baz=227
SWSC Sam W. Stewart 87.08 48 P P 19 34 29.6 +0.2
baz=229
ISA Isabella, Lake 87.25 45 P P 19 34 30.4 0.0
baz=227
ISA Isabella, Lake 87.25 45 eP P 19 34 31.6 +1.3
ISA pmax pmax
comp=Z,21nm,1.0s
ISA Isabella, Lake 87.25 45 eP P 19 34 31.6 +1.3
comp=Z,20nm,1.0s
PEA0 Petropavlovsk- 87.28 346 eP P 19 34 29.2 -0.8
PETK Petropavlovsk- 87.28 346 P P 19 34 29.9 -0.1
comp=Z,18nm,1.0s,baz=114,slow=7.2,SNR=12
PETK LR LR 20 10 11.2
comp=Z,79nm,19.6s,baz=149,slow=33
BELC Belle Mtn. Jos 87.65 47 P P 19 34 32.9 +0.4
baz=228
BC3 Big Chuckawall 87.76 48 P P 19 34 33.2 +0.3
baz=229,SNR=8.4
GLA Glamis 87.76 48 P P 19 34 33.4 +0.5
baz=229
CMB Columbia Colle 87.76 42 eP P 19 34 33.2 +0.5
CMB pmax pmax
comp=Z,13nm,1.2s
CMB Columbia Colle 87.76 42 eP P 19 34 33.2 +0.5
comp=Z,13nm,1.2s
HEC Hector,Ludlow 87.98 46 P P 19 34 34.4 +0.4
baz=228,SNR=9.8
CWC Cottonwood Cre 88.01 44 P P 19 34 34.4 +0.3
baz=227
GSC Goldstone, Bar 88.01 46 P P 19 34 34.2 +0.2
baz=228,SNR=9.2
GSC Goldstone, Bar 88.01 46 eP P 19 34 35.1 +1.1
GSC pmax pmax
comp=Z,14nm,0.9s
GSC Goldstone, Bar 88.01 46 eP P 19 34 35.1 +1.1
comp=Z,14nm,0.9s
LCO Las Campanas 88.04 123 eP P 19 34 35.5 +0.7
comp=Z,17nm,1.2s
AFDM Forest Hills D 88.07 41 eP P 19 34 34.6 +0.4
comp=Z,6.7nm,1.0s
MPMC Manual Prospec 88.10 45 P P 19 34 34.9 +0.3
baz=228,SNR=9.8
DAC Darwin (Calif) 88.19 45 eP P 19 34 35.2 +0.2
DAC pmax pmax
comp=Z,6.0nm,1.1s
DAC Darwin (Calif) 88.19 45 eP P 19 34 35.2 +0.2
comp=Z,6.0nm,1.1s
113A Mohawk Valley, 88.26 49 eP P 19 34 36.5 +1.3
IRM Iron Mountain 88.28 47 P P 19 34 36.1 +0.8
baz=229,SNR=19
TIN Tinemaha, Big 88.33 44 P P 19 34 36.0 +0.5
baz=227
214A Organ Pipe Nat 88.36 50 P P 19 34 36.0 +0.3
baz=230,SNR=5.3
GMRC Granite Mounta 88.37 47 P P 19 34 36.1 +0.2
baz=229,SNR=7.3
Y12C Blythe 88.41 48 P P 19 34 36.9 +1.1
baz=229
Y12C Blythe 88.41 48 eP P 19 34 38.0 +2.1
comp=Z,18nm,1.3s
USRK Ussuriysk Ar. 88.47 326 P P 19 34 36.5 +0.6
comp=Z,3.8nm,0.7s,baz=116,slow=4.4,SNR=7.9
USRK LR LR 20 11 45.5
comp=Z,164nm,19.4s,baz=141,slow=34
O03D Paynes Creek 88.57 39 P P 19 34 37.5 +1.0
baz=225
N02D Trinity Center 88.57 38 P P 19 34 37.3 +0.8
baz=224
WAKR Walker 88.63 42 eP P 19 34 37.7 +0.6
TUQ Turquoise Moun 88.64 46 P P 19 34 37.7 +0.6
baz=228,SNR=5.7
SHOC Shoshone, Teco 88.73 46 P P 19 34 38.7 +1.3
baz=228
FURC Furnace Creek, 88.75 45 P P 19 34 38.3 +1.0
baz=228
M02C Callahan 88.79 38 P P 19 34 38.8 +1.2
baz=224
GRAC Grapevine Rang 88.81 44 P P 19 34 38.7 +1.0
baz=228
PDMCI Parker Dam,Lak 89.01 48 P P 19 34 39.8 +1.1
baz=230,SNR=8.3
NEE2 Needles Airpor 89.01 47 P P 19 34 39.8 +1.2
baz=229
SKNT Salinakorn 89.19 290 P P 19 34 41.2 +1.3
NV01 Mina Array Sit 89.23 43 eP P 19 34 39.9 0.0
NVAR Mina Array Bea 89.23 43 P P 19 34 40.4 +0.5
comp=Z,7.4nm,0.9s,baz=221,slow=7.9,SNR=14
NVAR LR LR 20 10 52.2
comp=Z,294nm,18.2s,baz=266,slow=33
NV11 Mina Array Sit 89.31 43 eP P 19 34 40.7 +0.5
comp=Z,11nm,1.2s
TPNV Topopah Spring 89.44 45 P P 19 34 41.9 +1.0
baz=228
TYV Tymovskoe 89.47 336 eP P 19 34 42.0 +1.6
TYV pmax pmax
comp=Z,18nm,0.8s
PAHR Pah Rah Range 89.48 41 eP P 19 34 42.0 +1.0
comp=Z,9.4nm,1.1s
Y14A Wickenburg 89.50 49 eP P 19 34 41.8 +0.7
comp=Z,71nm,1.1s
M04C Macdoel 89.60 38 P P 19 34 42.0 +0.6
baz=225
HUMO Hull Mountain 89.61 37 eP P 19 34 42.5 +1.2
comp=Z,15nm,1.5s
W13A Hualapai Mount 89.68 47 eP P 19 34 42.9 +0.8
comp=Z,16nm,1.0s
SHPR Sheep Range 89.81 46 eP P 19 34 43.6 +1.1
comp=Z,10nm,1.1s
TUC Tucson 89.92 51 P P 19 34 43.8 +0.7
baz=231
TUC Tucson 89.92 51 P P 19 34 44.1 +1.0
TUC pmax pmax
comp=Z,16nm,1.0s
MDJ Mudanjiang 89.93 325 P P 19 34 41.0 -1.7
MDJ PMZ
comp=Z,7.0nm,1.6s
MDJ PMZ
comp=Z,67nm,5.3s
I03D Drain, OR 90.19 36 P P 19 34 45.0 +1.1
baz=224
319A Douglas 90.36 53 eP P 19 34 46.7 +1.5
comp=Z,16nm,1.1s
HABR Khabarovsk 90.41 331 ceP P 19 34 44.2 -0.6
HABR e*PP pP 19 34 53.6 +0.9
HABR e*SP sP 19 34 57.8 +2.3
HABR e 19 38 15.9
HABR ePPP PPP 19 40 13.1
HABR eS SKSac 19 45 10.9 -3.4
HABR e 19 45 36.9
HABR MLR MLR
comp=Z,214nm,18.0s
MOD Modoc Plateau 90.50 39 eP P 19 34 46.8 +1.1
comp=Z,7.7nm,0.9s
I04A Tendick Farm, 90.73 37 P P 19 34 47.4 +0.8
baz=224
R11A Troy Canyon, C 90.76 44 P P 19 34 47.3 +0.3
baz=229
K05A Summer Lake 90.76 38 eP P 19 34 47.7 +0.8
comp=Z,22nm,1.2s
X16A Lo Mia Camp, P 90.80 49 eP P 19 34 48.4 +1.1
comp=Z,18nm,1.0s
J05D Fort Rock, OR 90.98 38 P P 19 34 48.5 +0.7
baz=225
TIA Tai'an 91.09 313 ⇓ P P 19 34 48.9 +0.6
TIA PMZ
comp=Z,20nm,1.1s
BMN Battle Mountai 91.19 42 eP P 19 34 49.4 +0.5
BMN pmax pmax
comp=Z,9.0nm,1.1s
BMN Battle Mountai 91.19 42 eP P 19 34 49.4 +0.5
comp=Z,9.1nm,1.1s
LCMT Little Creek M 91.31 46 eP P 19 34 50.6 +1.1
comp=Z,5.9nm,0.8s
CN2 Changchun 91.41 323 eP P 19 34 49.1 -0.5
CN2 epP sP 19 34 59.7 -0.6
CN2 eS S 19 45 43.6 -3.7
CN2 PMZ
comp=Z,20nm,1.2s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,200nm,16.0s
CN2 LE
comp=Z,200nm,16.0s
CN2 LZ
comp=Z,200nm,18.0s
U15A North Rim 91.53 47 eP P 19 34 51.6 +0.9
WUAZ Wupatki 91.53 48 P P 19 34 50.8 +0.1
baz=231
WUAZ Wupatki 91.53 48 eP P 19 34 51.0 +0.3
comp=Z,14nm,0.9s
KNB Kanab 91.57 47 eP P 19 34 51.8 +1.0
KNB pmax pmax
comp=Z,12nm,0.9s
KNB Kanab 91.57 47 eP P 19 34 51.8 +1.0
comp=Z,12nm,0.9s
CCUT Cedar City 91.58 46 eP P 19 34 52.9 +2.0
comp=Z,7.8nm,1.1s
I05D Terrebonne, OR 91.67 37 P P 19 34 51.3 +0.5
baz=225
WVOR Wild Horse Val 91.77 40 P P 19 34 51.3 -0.2
WVOR pmax pmax
comp=Z,9.0nm,0.9s
X18A Snowflake 91.84 50 eP P 19 34 54.1 +2.0
comp=Z,10nm,1.1s
KLR Kul'dur 92.39 330 LR LR 20 20 36.2
comp=Z,21nm,18.2s,baz=154,slow=38
KLR Kul'dur 92.39 330 eP P 19 34 51.4 -2.6
GYA Guiyang 92.41 300 eP P 19 34 57.0 +2.1
GYA pP sP 19 35 06.8 +1.2
GYA PP PP 19 38 40.4 +4.1
GYA SKS SKSac 19 45 26.2 -0.9
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.8s
ELK Elko 92.53 42 eP P 19 34 56.3 +1.1
ELK pmax pmax
comp=Z,4.0nm,1.1s
ELK Elko 92.53 42 eP P 19 34 56.3 +1.1
comp=Z,3.9nm,1.1s
ENH Enshi 92.56 304 eP P 19 34 55.6 +0.3
comp=Z,12nm,1.3s
MTPU Mount Pierson 92.61 46 eP P 19 34 57.6 +1.8
comp=Z,11nm,1.1s
TX31 Lajitas Ar. Si 93.06 57 eP P 19 34 57.2 -0.6
TXAR Lajitas Array 93.06 57 P P 19 34 57.4 -0.4
comp=Z,4.8nm,1.1s,baz=207,slow=5.2,SNR=20
TXAR LR LR 20 09 29.3
comp=Z,128nm,20.4s,baz=0.0,slow=31
MNTX Cornudas Mount 93.22 54 P P 19 34 58.4 0.0
baz=234
MNTX Cornudas Mount 93.22 54 eP P 19 34 58.0 -0.3
comp=Z,4.1nm,1.1s
MFID Camas Ranch 93.95 40 eP P 19 35 01.9 +0.4
comp=Z,6.0nm,0.9s
TMUT Trail Mountain 93.99 46 eP P 19 35 03.8 +1.7
comp=Z,7.2nm,0.9s
CM01 Chiang Mai Arr 94.00 289 eP P 19 35 03.9 +1.7
CMAR Chiang Mai Arr 94.03 289 P P 19 35 02.2 -0.1
comp=Z,2.4nm,1.2s,baz=118,slow=3.6,SNR=4.4
CMAR PP PP 19 38 50.7 +1.8
comp=Z,1.7nm,1.0s,baz=131,slow=6.0,SNR=6.8
BJI Beijing 94.08 315 P P 19 35 01.6 -0.4
BJI PP PP 19 38 50.5 +1.5
BJI SKS SKSac 19 45 36.3 +1.0
BJI S ScS 19 46 14.2 +1.7
BJI PMZ
comp=Z,7.0nm,1.0s
BJI PMZ
comp=Z,61nm,7.2s
BJI LN
comp=Z,190nm,17.8s
BJI LE
comp=Z,160nm,17.0s
BJI LZ
comp=Z,150nm,22.6s
SRU San Rafael Swe 94.29 46 eP P 19 35 04.3 +1.0
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 94.29 46 eP P 19 35 04.2 +1.0
comp=Z,3.9nm,0.8s
ANMO Albuquerque 94.39 51 P P 19 35 04.0 +0.1
baz=234
ANMO Albuquerque 94.39 51 i P P 19 35 04.0 +0.1
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 94.39 51 eP P 19 35 04.4 +0.6
comp=Z,6.5nm,1.3s
MVCO Mesa Verde 94.40 49 P P 19 35 04.3 +0.3
baz=233
KMI Kunming 94.62 297 P P 19 35 07.0 +1.8
KMI PMZ
comp=Z,6.0nm,0.6s
HLID Hailey 94.83 41 P P 19 35 06.3 +0.6
baz=230
HLID Hailey 94.83 41 eP P 19 35 06.4 +0.7
comp=Z,3.2nm,0.9s
F10A Beach Ranch, E 94.90 38 eP P 19 35 07.1 +1.3
comp=Z,8.0nm,1.0s
HWUT Hardware Ranch 95.22 44 eP P 19 35 07.7 +0.2
comp=Z,1.7nm,0.9s
933A Laredo 95.31 61 P P 19 35 08.6 +0.6
baz=237
034A Hebbronville 95.45 62 P P 19 35 10.0 +1.3
baz=237
NEW Newport 96.48 36 P P 19 35 13.7 +0.7
baz=228
CD2 Chengdu 97.00 302 eP P 19 35 16.0 +0.3
CD2 pP sP 19 35 26.3 -0.1
CD2 PP PP 19 39 11.9 0.0
CD2 SKS SKSac 19 45 50.3 -1.1
CD2 S S 19 46 36.5 -0.6
CD2 sS sS 19 46 54.1 +3.9
CD2 SS SS 19 53 15.1 +0.7
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
BW06 Boulder Array 97.10 44 P P 19 35 15.9 -0.2
baz=233
PDAR Pinedale Array 97.10 44 P P 19 35 15.5 -0.7
comp=Z,0.6nm,0.4s,baz=214,slow=5.0,SNR=5.5
PDAR LR LR 20 16 31.9
comp=Z,156nm,18.1s,baz=249,slow=34
433A Art 97.15 58 P P 19 35 15.9 -0.5
baz=237
HHC Hu-ho-hao-te 97.37 314 eP Pdif 19 35 21.8 +4.5
HHC PMZ
comp=Z,15nm,1.4s
HHC PMZ
comp=Z,76nm,8.0s
HHC LN
comp=Z,180nm,18.1s
HHC LE
comp=Z,170nm,18.0s
HHC LZ
comp=Z,170nm,18.4s
LPAZ La Paz 97.40 114 LR LR 20 13 24.6
comp=Z,66nm,18.0s,baz=224,slow=32
SEY Seymchan 97.45 347 eP P 19 35 16.2 -0.6
BOZ Bozeman (W) 97.69 40 P Pdif 19 35 18.9 +0.3
baz=232
CPUP Villa Florida 98.95 128 LR LR 20 13 45.8
comp=Z,65nm,18.1s,baz=218,slow=32
ILAR Eielson Array 99.33 13 P Pdif 19 35 24.8 -0.5
comp=Z,0.5nm,0.9s,baz=228,slow=4.1,SNR=4.5
ILAR PP PP 19 39 32.8 +3.7
comp=Z,1.1nm,1.0s,baz=234,slow=6.8,SNR=4.3
LZH Lanzhou 99.72 306 eP Pdif 19 35 31.9 +4.0
LZH pP sP 19 35 38.7 +0.1
LZH sP pP 19 35 41.9 +6.1
LZH PMZ
comp=Z,13nm,1.0s
BILL Bilibino 100.33 354 eP Pdif 19 35 29.9 +0.3
BILL pmax pmax
comp=Z,3.0nm,1.4s
448A Bay Minette 105.57 63 PKiKP PKiKP 19 40 07.1 0.0
baz=242
J34A George 105.74 49 PKiKP PKiKP 19 40 07.6 +0.5
baz=241
WMQ Urumqi 114.25 308 ePKP PKPdf 19 40 22.9 -0.3
WMQ LN
comp=Z,31nm,20.8s
WMQ LE
comp=Z,32nm,19.2s
WMQ LZ
comp=Z,28nm,19.2s
MK01 Makanchi Array 118.82 309 ePKPdf PKPdf 19 40 30.4 -1.4
MK31 Makanchi Array 118.83 309 ePKIKP PKPdf 19 40 30.9 -1.0
MK31 Makanchi Array 118.83 309 ePKPdf PKPdf 19 40 30.9 -1.0
MKAR Makanchi Array 118.83 309 PKP PKPdf 19 40 31.0 -0.8
comp=Z,1.3nm,0.6s,baz=187,slow=0.5,SNR=18
MKAR SKP SKPdf 19 44 10.6 +4.8
comp=Z,1.3nm,1.0s,baz=76,slow=5.1,SNR=5.1
MKAR Makanchi Array 118.83 309 ePKIKP PKPdf 19 40 30.9 -1.0
MKAR Makanchi Array 118.83 309 ePKPdf PKPdf 19 40 30.9 -1.0
ZALV Zalesovo Beam 119.23 318 PKP PKPdf 19 40 31.2 -1.1
comp=Z,1.2nm,0.7s,baz=122,slow=1.9,SNR=4.9
NRIK Noril'sk 121.05 336 PKP PKPdf 19 40 34.1 -1.3
comp=Z,1.4nm,0.5s,baz=197,slow=9.2,SNR=1.7
KSH Kashi 121.11 300 PKP PKPdf 19 40 37.5 +0.9
KSH PP PP 19 42 12.8 +5.6
KSH PKS PKSdf 19 44 12.5 -0.8
KSH SKS SKSdf 19 47 42.7 -4.5
KSH SS SS 19 58 38.6 -0.5
KSH PPMZ
comp=Z,70nm,3.6s
KSH LN
comp=Z,80nm,5.5s
KSH LE

	comp=Z,65nm,4.5s						
KSH				LZ			
	comp=Z,120nm,5.4s						
KURK	Kurchatov	122.17	313	ePKIKP	PKPdf	19 40 36.4	-1.7
KURK	Kurchatov	122.17	313	ePKPdf	PKPdf	19 40 36.4	-1.7
TKM2	Tokmak 2	122.34	304	ePKIKP	PKPdf	19 40 38.1	-0.9
TKM2	Tokmak 2	122.34	304	ePKPdf	PKPdf	19 40 38.1	-0.9
FRU	Bishkek	123.01	303	ePKIKP	PKPdf	19 40 39.0	-1.0
AAK	Ala-Archa	123.05	303	i PKIKP	PKPdf	19 40 39.2	-1.1
AAK	Ala-Archa	123.05	303	ePKPdf	PKPdf	19 40 40.7	+0.4
EKS2	Erkin-Say	123.57	303	ePKIKP	PKPdf	19 40 41.3	+0.1
EKS2	Erkin-Say	123.57	303	ePKPdf	PKPdf	19 40 41.3	+0.1
KBL	Kabul	124.93	292	ePKIKP	PKPdf	19 40 45.0	+0.8
KBL	Kabul	124.93	292	ePKPdf	PKPdf	19 40 45.0	+0.8
SCHQ	Schefferville	127.23	43	PKP	PKPdf	19 40 46.8	-0.9
	comp=Z,7.1nm,0.9s,baz=301,slow=17,SNR=3.1						
BRVK	Borovoye	127.63	315	ePKIKP	PKPdf	19 40 47.7	-0.8
BRVK	Borovoye	127.63	315	ePKPdf	PKPdf	19 40 47.7	-0.8
ZRNK	Zerenda	128.39	315	ePKIKP	PKPdf	19 40 49.5	-0.5
ZRNK	Zerenda	128.39	315	ePKPdf	PKPdf	19 40 49.5	-0.5
KMBO	Kilima Mbogo	133.30	232	SKPab	SKiKP	19 44 33.1	-3.5
	comp=Z,5.7nm,1.0s,baz=39,slow=5.2,SNR=6.5						
GEYT	Alibeck	134.31	294	PKhKP	PKPpre	19 40 58.3	
	comp=Z,2.8nm,1.0s,baz=199,slow=8.8,SNR=3.8						
GEYT				PKP	PKPdf	19 41 02.2	+0.5
	comp=Z,2.3nm,0.9s,baz=222,slow=2.0,SNR=8.0						
GEYT				SKPbc	SKPab	19 44 33.5	+0.6
	comp=Z,2.3nm,0.8s,baz=204,slow=3.3,SNR=8.7						
ARU	Arti	134.32	320	i PKIKP	PKPdf	19 40 59.3	-1.7
ARU	Arti	134.32	320	ePKPdf	PKPdf	19 41 01.1	+0.1
H10S2	ASCENSION HYDR	136.32	156	T	T	22 13 24.8	
	baz=207						
H10S3	ASCENSION HYDR	136.32	156	T	T	22 13 29.1	
	baz=207						
H10S1	ASCENSION HYDR	136.33	156	T	T	22 13 26.5	
	baz=207						
H10N3	ASCENSION HYDR	137.41	155	T	T	22 14 43.8	
	baz=203,slow=75,SNR=5.0						
H10N1	ASCENSION HYDR	137.41	155	T	T	22 14 42.2	
	baz=203,slow=75,SNR=4.8						
H10N2	ASCENSION HYDR	137.42	155	T	T	22 14 41.9	
	baz=203,slow=75,SNR=4.0						
ARCES	ARCESS Array B	140.07	347	PKhKP	PKPpre	19 41 06.5	
	comp=Z,1.5nm,0.6s,baz=35,slow=3.3,SNR=6.9						
KLMR	Klimovskoe	142.13	331	ePKHKP	PKPpre	19 41 08.2	
KLMR				pmax	pmax		
	comp=Z,12nm,1.4s						
TBLG	Delisi	144.84	298	P	PKPab	19 41 19.6	-0.2
TBLG	Delisi	144.84	298	PKIKP	PKPab	19 41 19.5	-0.2
GNI	Garni	144.87	296	i PKIKP	PKPab	19 41 19.4	-0.7
GNI	Garni	144.87	296	ePKPdf	PKPab	19 41 19.8	-0.3
GUDG	Gudauri	145.00	300	P	PKPdf	19 41 21.5	+0.3
ZEI	Tsey	145.40	300	i PKIKP	PKPab	19 41 24.6	+2.6
ZEI				pmax	pmax		
	comp=Z,137nm,1.0s						
MOS	Moscow	145.63	324	ePKIKP	PKPdf	19 41 21.2	-0.3
MOS				pmax	pmax		
	comp=Z,182nm,1.1s						
BGD	Bogdanovka	145.71	298	P	PKPab	19 41 23.6	+0.4
ONI	Oni	145.75	300	P	PKPab	19 41 23.4	+0.2
ONI	Oni	145.75	300	PKP2	PKPab	19 41 23.3	+0.2
GOF	Gofitskoye	145.77	304	⇓iPKP2	PKPab	19 41 23.0	0.0
GOF				pmax	pmax		
	comp=Z,96nm,0.9s						
AKH	Akhalkalaki	145.79	298	P	PKPab	19 41 23.5	+0.1
AKH	Akhalkalaki	145.79	298	PKP2	PKPab	19 41 23.5	+0.1
KBZ	Khabaz	146.04	302	PKPbc	PKPdf	19 41 22.6	0.0
	comp=Z,36nm,1.0s,baz=79,slow=1.7,SNR=33						
KIV	Kislovodsk	146.17	303	i PKP2	PKPdf	19 41 23.4	+0.4
KIV				pmax	pmax		
	comp=Z,36nm,1.1s						
KIV	Kislovodsk	146.17	303	ePKPdf	PKPbc	19 41 24.1	+0.1
NEY	Neytrino	146.22	301	i PKIKP	PKPdf	19 41 21.2	-2.0
LPSR	Galich'ya Gora	146.33	319	ePKP2	PKPbc	19 41 23.5	-0.5
LPSR				pmax	pmax		
	comp=Z,130nm,1.0s						
PUL	Pulkovo	146.41	334	i PKIKP	PKPdf	19 41 21.7	-1.0
OBN	Obninsk	146.46	324	i PKP2	PKPbc	19 41 24.1	-0.2
OBN				pmax	pmax		
	comp=Z,93nm,1.2s						
OBN	Obninsk	146.46	324	ePKPdf	PKPdf	19 41 23.4	+0.5
FINES	FINESS Array B	146.58	339	PKPbc	PKPdf	19 41 23.3	+0.4
	comp=Z,20nm,0.7s,baz=46,slow=3.0,SNR=64						
VSR	Storozhevoye	146.72	316	ePKP2	PKPdf	19 41 24.1	+0.6
VSR				pmax	pmax		
	comp=Z,80nm,1.0s						
CHVG	Ch'k'valeri	146.74	300	P	PKPbc	19 41 25.7	+0.1
MZRK	Al-Mazaregh	147.94	288	eP	PKPab	19 41 33.4	+1.6
SOC	Sochi	148.35	302	ePKP2	PKPbc	19 41 29.3	-0.6
SOC				pmax	pmax		
	comp=Z,23nm,0.6s						
VSU	Vasula	148.63	335	i PKP2	PKPbc	19 41 29.7	-0.5
VSU				pmax	pmax		
	comp=Z,118nm,1.2s						
ELZG	Elazig	149.35	293	i P	PKPbc	19 41 34.0	+1.1
REFA	Refahiye_ERZ˜	149.49	295	i P	PKPbc	19 41 33.9	+0.7
KEMA	Kemaliye	149.71	294	i P	PKPbc	19 41 34.3	+0.6
ANN	Anapa	149.73	305	i PKHKP	PKPpre	19 41 32.3	
ANN				e		19 45 03.7	
ANN				pmax	pmax		
	comp=Z,55nm,1.2s						
SUSE	Susehri	149.87	296	i P	PKPbc	19 41 34.5	+0.4
ORDU	Ordu-Boztepe	150.06	298	i P	PKPbc	19 41 34.4	+0.1
AKCD	Akcadag	150.19	292	i P	PKPbc	19 41 36.4	+1.4
CUZAR	Zara_SIVAS	150.22	296	i P	PKPbc	19 41 35.8	+0.8
NB2	NORSAR Subarra	150.24	351	PKP	PKPbc	19 41 33.6	-0.6
	comp=Z,18nm,1.2s,baz=17,slow=2.6						
NOA	NORSAR Array B	150.24	351	PKPbc	PKPbc	19 41 33.6	-0.6
	comp=Z,7.5nm,1.0s,baz=15,slow=4.2,SNR=9.5						
ZALF	Zalf	150.38	282	eP	PKPbc	19 41 35.5	+0.1
CUKAN	kangal_SIVAS	150.50	294	i P	PKPbc	19 41 36.1	+0.5
ROOS	tl_alroos	150.56	284	eP	PKPbc	19 41 35.8	-0.1
IZAR	Zarasai	150.78	332	eP	PKPbc	19 41 33.5	-2.0
IZAR				IAmb	IAmb	19 41 45.1	
	comp=Z,16nm,0.9s						
SALA	Sala	150.85	281	eP	PKPbc	19 41 40.2	+3.5
IDID	Didziasalis	150.88	331	eP	PKPbc	19 41 34.6	-1.2
IDID				IAmb	IAmb	19 41 45.3	
	comp=Z,12nm,1.1s						
ERBA	Erbaa	150.92	297	i P	PKPbc	19 41 37.0	+0.5
MICGM	Minsk	150.93	329	e	PKPbc	19 41 35.0	-0.9
MNK	Minsk	150.93	329	ePKIKP	PKPbc	19 41 35.0	-0.9
ISAL	Salakas	150.95	332	eP	PKPbc	19 41 35.4	-0.5
ISAL				IAmb	IAmb	19 41 46.0	
	comp=Z,17nm,1.1s						
CUALT	Altinyayla-SIV	151.05	294	i P	PKPbc	19 41 37.6	+0.7
NACGM	Naroch	151.14	330	e	PKPbc	19 41 35.0	-1.4
TOTH	TOTAH	151.18	282	eP	PKPbc	19 41 36.3	-1.0
MARH	Ras Al Marh	151.21	284	eP	PKPbc	19 41 38.5	+0.9
CUSAR	Sarkisla-SIVAS	151.44	295	i P	PKPbc	19 41 37.9	0.0
TCHB	Talchebab	151.48	281	eP	PKPbc	19 41 38.0	0.0
HAVZ	Havza	151.65	298	i P	PKPbc	19 41 39.8	+1.6
SIM	Simferopol'	151.97	307	ePKIKP	PKPbc	19 41 38.4	-0.3
SIM				pmax	pmax		
	comp=Z,27nm,0.9s						
COAL	Corum-Alaca	152.31	297	i P	PKPbc	19 41 39.9	+0.2
AKASG	Malin Array Be	152.56	321	PKPbc	PKPbc	19 41 39.1	-0.7
	comp=Z,6.8nm,0.7s,baz=49,slow=2.8,SNR=23						
KIEV	Kiev	152.57	321	ePKIKP	PKPbc	19 41 39.0	-0.8
KIEV	Kiev	152.57	321	ePKPbc	PKPbc	19 41 39.0	-0.8
CDAG	Cicekdag	152.86	296	i P	PKPbc	19 41 41.1	+0.1
BRTR	Keskin Array B	153.41	296	PKP	PKPdf	19 41 33.7	-0.9
	comp=Z,0.6nm,1.0s,baz=82,slow=1.9,SNR=4.3						
BRTR				PKPbc	PKiKP	19 41 42.5	+0.2
	comp=Z,3.5nm,0.5s,baz=156,slow=3.4,SNR=16						
ANTO	Ankara	154.03	296	ePKIKP	PKPbc	19 41 45.2	+1.7
ANTO	Ankara	154.03	296	ePKPbc	PKPbc	19 41 45.2	+1.7
TLCR		155.42	310	⇑iP	PKPab	19 42 02.6	0.0
TLCR		155.42	310	⇑PKP2	PKPab	19 42 02.6	0.0
CFR	Carcaliu	155.86	311	⇑iP	PKPab	19 42 03.2	-1.3
CFR	Carcaliu	155.86	311	⇑PKP2	PKPab	19 42 03.2	-1.3
TIRR	Tirgusor	155.97	309	ePKP2	PKPab	19 42 05.1	+0.1
TIRR	Tirgusor	155.97	309	ePKPab	PKPab	19 42 05.0	+0.1
TESR	Tescani	156.19	315	⇑iP	PKPab	19 42 04.4	-1.5
VRI	Vrincioaia	156.45	313	⇑iP	PKPab	19 42 07.6	+0.5
VRI	Vrincioaia	156.45	313	⇑PKP2	PKPab	19 42 07.6	+0.5
BURAR	Bucovina Array	156.45	318	⇑iP	PKPab	19 42 07.2	+0.1
BURAR	Bucovina Array	156.45	318	⇑PKP2	PKPab	19 42 07.2	+0.1
PLOR	Plostina	156.50	313	⇑iP	PKPab	19 42 07.3	0.0
PLOR	Plostina	156.50	313	⇑PKP2	PKPab	19 42 07.3	0.0
KWP	Kalwaria Pacla	156.54	325	⇓iP	PKPab	19 42 07.4	+0.1
KWP	Kalwaria Pacla	156.54	325	⇓PKP2	PKPab	19 42 07.4	+0.1
ISR	Istrita	156.90	312	⇓iP	PKPab	19 42 10.0	+0.9
ISR	Istrita	156.90	312	⇓PKP2	PKPab	19 42 10.0	+0.9
DOPR	Dopca	157.22	315	⇓iP	PKPab	19 42 09.8	-0.6
KOLS	Kolonicke sedl	157.22	324	ePKP2	PKPab	19 42 10.0	-0.2
KOLS	Kolonicke sedl	157.22	324	ePKP	PKPab	19 42 10.0	-0.2
SECR		157.24	312	⇑iP	PKPab	19 42 09.1	-1.4
STHS	Stebnicka Huta	157.39	326	ePKP	PKPab	19 42 11.7	+0.7
UZH	Uzhgorod	157.40	324	⇓iPKP2	PKPab	19 42 11.0	0.0
CRVS	Cervenica-Dubn	157.64	325	ePKP2	PKPab	19 42 11.3	-0.7
CRVS	Cervenica-Dubn	157.64	325	ePKP	PKPab	19 42 11.3	-0.7
ARR	Arges	157.98	314	⇓iP	PKPab	19 42 14.4	+0.7
DRGR		158.32	319	⇓iP	PKPab	19 42 15.0	-0.2
DRGR		158.32	319	⇓PKP2	PKPab	19 42 15.0	-0.2
KECS	Kecovo	158.40	325	ePKP2	PKPab	19 42 12.7	-2.6
KECS	Kecovo	158.40	325	ePKP	PKPab	19 42 12.7	-2.6
LANS	Liptovska Anna	158.40	328	ePKP2	PKPab	19 42 16.1	+0.7
LANS	Liptovska Anna	158.40	328	ePKP	PKPab	19 42 16.1	+0.7
LOT	Lotru	158.46	315	⇑iP	PKPab	19 42 17.1	+1.2
DPC	Dobruska-Polom	158.76	334	ePKPAB	PKPab	19 42 16.5	-0.4
DPC				ex	x	19 42 28.4	
CLL	Collm	159.01	341	i PKPab	PKPab	19 42 16.6	-1.2
	comp=Z,11nm,1.1s						
CLL				epPKPab	pPKPab	19 42 24.0	-1.7
	comp=Z,20nm,1.7s						
CLL	Collm	159.01	341	i PKP2	PKPab	19 42 16.6	-1.2
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
PSZ	Piszkesteto	159.07	325	⇑iP	PKPab	19 42 19.5	+1.1
PSZ	Piszkesteto	159.07	325	⇑esPKPdf	PKPab	19 42 18.0	-0.4
PSZ	Piszkesteto	159.07	325	⇑PKP2	PKPab	19 42 19.5	+1.1
BRG	Berggiesshubel	159.12	339	e	PKPab	19 42 17.5	-0.8
	comp=Z,13nm,1.1s						
VYHS	Vyhne	159.16	328	ePKP	PKPab	19 42 18.0	-0.7
PVCC	Panska Ves	159.22	337	ePKPAB	PKPab	19 42 18.8	0.0
PVCC	Panska Ves	159.22	337	ePKP2	PKPab	19 42 18.8	0.0
BZS	Buzias	159.63	318	⇑iP	PKPab	19 42 20.4	-0.4
BZS	Buzias	159.63	318	⇑PKP2	PKPab	19 42 20.4	-0.4
PRU	Pruhonice	159.69	337	ePKPAB	PKPab	19 42 21.3	+0.5
PRU	Pruhonice	159.69	337	ePKP2	PKPab	19 42 21.3	+0.5
TREC	Trest	159.94	334	AMS	AMS	20 57 20.0	
	comp=Z,200nm,14.1s						
NKC	Novy Kostel	160.13	340	ePKPAB	PKPab	19 42 23.0	+0.2
NKC				ex	x	19 42 33.3	
NKC	Novy Kostel	160.13	340	ePKP2	PKPab	19 42 23.0	+0.2
KHC	Kasperske Hory	160.75	337	ePKPAB	PKPab	19 42 25.0	-0.6
KHC	Kasperske Hory	160.75	337	ePKP2	PKPab	19 42 25.0	-0.6
CONA	Conrad Observa	160.89	331	i PKPab	PKPab	19 42 26.1	-0.1
	comp=Z,8.0nm,1.0s						
GERES	GERESS Array B	160.95	336	PKP	PKPdf	19 41 45.5	+1.7
	comp=Z,0.3nm,0.7s,baz=268,slow=4.9,SNR=2.6						
GERES				PKPab	PKPab	19 42 26.1	-0.5
	comp=Z,3.2nm,0.9s,baz=35,slow=4.9,SNR=12						
TORD	Torodi Ar. Bea	161.35	179	PKP	PKPdf	19 41 44.6	-0.5
	comp=Z,3.6nm,1.2s,baz=87,slow=0.9,SNR=6.3						
TORD				PKPab	PKPab	19 42 29.0	+0.2
	comp=Z,3.7nm,0.9s,baz=169,slow=3.0,SNR=8.1						
TORD				PP	PP	19 46 21.6	+11
	comp=Z,1.3nm,1.1s,baz=164,slow=6.0,SNR=3.6						
ARSA	Arzberg	161.56	330	i PKPab	PKPab	19 42 28.6	-0.5
	comp=Z,4.7nm,1.1s						
MOA	Molln	161.59	333	i PKPab	PKPab	19 42 29.5	+0.3
	comp=Z,13nm,1.4s						
SOKA	Soboth	162.22	330	i PKPab	PKPab	19 42 31.3	-0.9
	comp=Z,10nm,1.3s						
KBA	Koelnbreinsper	162.58	334	i PKPab	PKPab	19 42 33.4	-0.4
	comp=Z,6.6nm,1.1s						
MYKA	Terra Mystica	162.83	332	i PKPab	PKPab	19 42 34.0	-0.8
	comp=Z,7.7nm,1.0s						
WATA	Walderalm	162.97	338	i sPKPab	PKPab	19 42 36.5	+1.0
	comp=Z,22nm,1.5s						
WTTA	Wattenberg	163.02	337	i PKPab	PKPab	19 42 34.8	-0.9
	comp=Z,8.6nm,1.1s						
RETA	Reutte	163.09	340	i PKPab	PKPab	19 42 35.5	-0.3
	comp=Z,16nm,1.2s						
MOTA	Moosalm	163.12	339	i PKPab	PKPab	19 42 36.0	-0.1
	comp=Z,15nm,1.1s						
ABTA	Abfaltersbach	163.16	335	i PKPab	PKPab	19 42 35.3	-1.0
	comp=Z,8.1nm,1.0s						
FETA	Feichten	163.52	339	i PKPab	PKPab	19 42 35.6	-2.3
	comp=Z,9.7nm,1.1s						
DAVA	Damuels	163.52	341	i PKPab	PKPab	19 42 37.8	-0.1
	comp=Z,8.5nm,1.0s						
ESDC	Sonseca Array	170.77	31	PKP	PKPdf	19 41 53.6	+1.7
	comp=Z,0.2nm,0.4s,baz=8.5,slow=5.0,SNR=4.6						
ESDC				PKPab	PKPab	19 43 10.0	0.0
	comp=Z,0.2nm,0.3s,baz=332,slow=2.6,SNR=3.1						

*ISK **01** 19:38:06.6, 39°.01N×29°.22E, h11km, MD2.6*
*ISCJB **01** 19:38:07.3±0.6, 39°.09N±0°.04×29°.09E±0°.04, h5km±10km, Error ellipse: s-maj=7.4km s-min=5.1km az=168.6*
*CSEM **01** 19:38:07.3±0.2, 39°.07N×29°.11E, h5km, MD2.7, Error ellipse: s-maj=6.6km s-min=4.9km az=110.0*
*DDA **01** 19:38:07.1, 39°.12N×29°.10E, h7km, Md2.7*
ISC 01 19:38:07.4±0.9**, 39°.07N**±0°.03×**29°.11E**±0°.03**, h12**km±8km**, n21,** σ0^s**81**/32**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GDZ	Gediz	0.29	85	P	Pg	19 38 13.5	0.0
GDZ				S	Sg	19 38 18.0	+0.4
GDZ	Gediz	0.29	85	i P	Pg	19 38 13.5	0.0
GDZ				i S	Sg	19 38 17.9	+0.4
DEMI	Demirci	0.30	266	P	Pg	19 38 13.5	-0.1
DEMI				S	Sg	19 38 17.8	0.0
DEMI	Demirci	0.30	266	i P	Pg	19 38 13.5	-0.1
DEMI				i S	Sg	19 38 17.8	0.0
TVSB	Tavsanli	0.47	36	ePG	Pg	19 38 16.4	-0.3
TVSB	Tavsanli	0.47	36	ePg	Pg	19 38 16.5	-0.3
KULA	Kula-Manisa	0.65	212	ePG	Pg	19 38 19.9	-0.2
KULA				eSG	Sb	19 38 29.4	-0.4
KULA	Kula-Manisa	0.65	212	ePg	Pg	19 38 19.9	-0.2
KULA				eSg	Sb	19 38 29.4	-0.4
KHAL	Karahalli	0.76	156	P	Pb	19 38 23.0	+0.5
KHAL				S	Sb	19 38 34.2	+1.3
KHAL	Karahalli	0.76	156	i P	Pb	19 38 23.0	+0.5
KHAL				i S	Sb	19 38 34.2	+1.3
KHL	Karahalli	0.81	156	ePG	Pg	19 38 21.1	-2.0
KHL	Karahalli	0.81	156	ePg	Pg	19 38 21.1	-2.0
IGD	Bursa	1.20	4	i P	Pg	19 38 28.5	-2.0
IGD				i S	Sg	19 38 45.0	-1.1
IZI	Iznik	1.30	12	ePN	Pn	19 38 31.5	0.0
IZI	Iznik	1.30	12	ePn	Pn	19 38 31.5	0.0
BORA	Eskisehir	1.32	52	P	Pb	19 38 32.2	0.0
BORA				S	Sn	19 38 49.8	+0.4
BORA	Eskisehir	1.32	52	i P	Pb	19 38 32.2	0.0
BORA				i S	Sn	19 38 49.8	+0.4
KCTX	Karacabey (Bur	1.33	334	ePN	Pg	19 38 33.3	+0.3
KCTX	Karacabey (Bur	1.33	334	ePn	Pg	19 38 33.3	+0.3
ARMT	Armutlu	1.51	353	ePN	Pb	19 38 35.3	-0.1
ARMT	Armutlu	1.51	353	ePn	Pb	19 38 35.3	-0.1

*ISCJB **01** 19:41:01.3±0.8, 50°.22N±0°.05×19°.25E±0°.04, h0km, Error ellipse: s-maj=7.5km s-min=3.8km az=1.8*
*CSEM **01** 19:41:01.9±0.3, 50°.22N×19°.27E, h1km, Error ellipse: s-maj=6.6km s-min=3.5km az=2.0*
*PRU **01** 19:41:02.6, 50°.22N×19°.28E, h0km*
ISC 01 19:41:01.7±0.9**, 50°.23N**±0°.05×**19°.27E**±0°.03**, h0**km**, n16,** σ1^s**02**/25**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.34	91	ePg	Pg	19 41 08.6	+0.4
OJC				eSg	Sg	19 41 12.9	+0.4
OJC	Ojcow	0.34	91	ePg	Pg	19 41 08.6	+0.4
OJC				eSg	Sg	19 41 12.9	+0.4
OKC	Ostrava-Krasne	0.82	242	eSG	Sg	19 41 29.5	+1.3
OKC	Ostrava-Krasne	0.82	242	Sg	Sg	19 41 29.5	+1.3
LANS	Liptovska Anna	1.08	173	ePg	Pg	19 41 23.1	+0.6
LANS				eSg	Sg	19 41 36.9	+0.4
LANS	Liptovska Anna	1.08	173	ePG	Pg	19 41 23.1	+0.6
LANS				eSG	Sg	19 41 36.9	+0.4
MORC	Moravsky Berou	1.20	249	ePg	Pg	19 41 25.3	+0.5
MORC				eSg	Sb	19 41 41.6	+0.1
STHS	Stebnicka Huta	1.51	122	eSn	Sn	19 41 51.5	+1.1
STHS	Stebnicka Huta	1.51	122	eSN	Sn	19 41 51.5	+1.1
STHS				eLG	Lg	19 41 55.2	
VYHS	Vyhne	1.76	190	ePKIKP	Pn	19 41 32.7	-0.7
VYHS				pmax	pmax		
	comp=N,1.0nm,0.3s						
VYHS	Vyhne	1.76	190	ePn	Pn	19 41 32.7	-0.7
VYHS				eSn	Sn	19 41 55.1	-1.4
VYHS	Vyhne	1.76	190	ePN	Pn	19 41 32.7	-0.7
VYHS				eSN	Sn	19 41 55.1	-1.4
VYHS				eLG	Lg	19 41 58.2	
DPC	Dobruska-Polom	1.90	275	ePG	Pb	19 41 38.0	+0.8
DPC				eSG	Sg	19 42 03.5	+0.9
	comp=N,3.0nm,0.4s						
DPC	Dobruska-Polom	1.90	275	Pg	Pb	19 41 38.0	+0.8
DPC				Sg	Sg	19 42 03.5	+0.9
	comp=N,3.0nm,0.4s						
BRG	Berggiesshubel	3.46	283	ePKP2	Pb	19 42 02.0	-1.9
BRG				pmax	pmax		
	comp=Z,8.0nm,1.6s						
BRG	Berggiesshubel	3.46	283	ePKP	Pb	19 42 02.0	-1.9
	comp=Z,8.0nm,1.6s						

*NIED **01** 19:42:00, 38°.10N×144°.10E, h5km, Mw3.6 Best double couple: M0 2.65000×10^14 NP1: φs 238.00000°, δ44.00000°, λ32.00000°. NP2: φs 123.00000°, δ68.00000°, λ130.00000°.*
*JMA **01** 19:42:23.8±0.5, 38°.10N×144°.10E, h0km, M3.8*
*IDC **01** 19:42:23.7±1.1, 37°.59N×144°.39E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.5/35, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=30.5km s-min=20.4km az=104.0*
ISC 01 19:42:23.9±2.4**, 37°.64N**±0°.05×**143°.56E**±0°.08**, h6**km±13km**, n23,** σ1^s**62**/30**, mb3.6**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	1.93	296	P	Pg	19 43 02.7	+1.9
JIO				eS	Sg	19 43 28.8	+3.0
OFUJ	Ofunato	2.07	315	P	Pb	19 43 01.0	-0.9
OFUJ				S	Sg	19 43 28.5	-1.9
JMK	Ichinoseki	2.26	306	P	Pb	19 43 05.9	+0.8
JMK				eS	Sg	19 43 36.3	-0.3
MIYJ	Miyakonagasawa	2.37	325	P	Pn	19 43 03.6	+0.3
MIYJ				eS	Sb	19 43 34.8	-1.7
JOU	Okura	2.40	289	P	Pg	19 43 10.4	+0.5
JOU				S	Sg	19 43 42.2	+1.2
JOM	Ohasama	2.56	317	P	Pb	19 43 09.9	-0.2
JOM				eS	Sb	19 43 42.4	+0.6
JFT	Otama	2.56	268	P	Pg	19 43 13.2	+0.2
JFT				eS	Sg	19 43 47.2	+0.9
JYK	Kaneyama	2.83	298	P	Pb	19 43 15.4	+0.7
JYK				eS	Sg	19 43 51.2	-3.5
JRG	Rokugo	2.89	308	P	Pb	19 43 15.9	0.0
JRG				S	Sg	19 43 52.9	-3.9
JANG	Nango	3.16	330	eS	Sn	19 43 52.8	+0.5
JTM	Tenmabayashi	3.69	329	S	Sn	19 44 06.1	+0.7
MJAR	Matsushiro Arr	4.42	257	Pn	Pb	19 43 39.7	-2.2
	2.4nm,0.3s,baz=85,slow=14,SNR=18						
MJAR				Sn	Sb	19 44 34.4	-1.0
	0.4nm,0.3s,baz=89,slow=28,SNR=2.7						
MAT	Matsushiro	4.42	257	P	Pb	19 43 39.7	-2.2
MAT				eS	Sb	19 44 35.9	+0.5
ASAJ	Asahikawa	6.51	354	Pn	Pn	19 44 01.2	+1.0
	0.7nm,0.3s,baz=183,slow=8.1,SNR=6.5						
ASAJ				Sn	Sn	19 45 14.2	-0.6
	0.5nm,0.3s,baz=115,slow=31,SNR=4.2						
KSRS	Korea Array	12.42	274	Pn		19 45 32.5	
	baz=91,slow=14,SNR=4.5						
SEY	Seymchan	25.90	9	P	P	19 47 56.6	+0.3
	0.8nm,0.6s,baz=193,slow=6.1,SNR=3.7						
H11N2	WAKE ISLAND Hy	27.03	125	T	T	20 15 53.4	
	baz=312						
H11N1	WAKE ISLAND Hy	27.04	125	T	T	20 15 57.1	
	baz=312						
H11N3	WAKE ISLAND Hy	27.05	125	T	T	20 15 57.4	
	baz=312						
MKAR	Makanchi Array	45.25	302	P	P	19 50 47.6	+5.6
	0.6nm,0.8s,baz=70,slow=6.3,SNR=6.2						
ILAR	Eielson Array	48.07	33	P	P	19 51 02.3	-1.5
	0.6nm,0.7s,baz=263,slow=7.1,SNR=8.0						
WRA	Warramunga Arr	57.92	190	P	P	19 52 18.0	+1.1
	1.4nm,0.7s,baz=9.4,slow=7.0,SNR=8.9						
ASAR	Alice Springs	61.65	190	P	P	19 52 43.7	+1.1
	0.2nm,0.6s,baz=9.8,slow=13,SNR=4.7						

*ISCJB **01** 19:55:23.3±0.5, 38°.13N±0°.03×27°.20E±0°.03, h8km±9km, Error ellipse: s-maj=6.0km s-min=3.8km az=29.0*
*DDA **01** 19:55:23.3, 38°.12N×27°.18E, h7km, Md2.7*
*CSEM **01** 19:55:23.5±0.2, 38°.13N×27°.22E, h8km, MD2.6, Error ellipse: s-maj=4.7km s-min=2.8km az=40.0*
*ISK **01** 19:55:23.0, 38°.14N×27°.22E, h6km, MD2.6*
ISC 01 19:55:22.9±0.9**, 38°.14N**±0°.03×**27°.24E**±0°.03**, h17**km±7km**, n17,** σ1^s**03**/31**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IZM	Izmir	0.25	4	PG	Pg	19 55 28.6	0.0
IZM				eSG	Sg	19 55 32.8	+0.2
IZM	Izmir	0.25	4	i Pg	Pg	19 55 28.7	0.0
IZM				eSg	Sg	19 55 32.8	+0.2
DGB	˜zmir	0.30	252	i P	Pg	19 55 28.6	-0.7
DGB				i S	Sg	19 55 32.4	-1.2
GCAM	G?zelcaml?	0.44	181	P	Pg	19 55 31.4	-0.5
GCAM				S	Sg	19 55 38.0	+0.1
GCAM	G?zelcaml?	0.44	181	i P	Pg	19 55 31.4	-0.5
GCAM				i S	Sg	19 55 38.0	+0.1
AYDB	Zeytinkoy-Aydi	0.55	111	ePG	Pg	19 55 34.1	+0.2
AYDB				eSG	Sb	19 55 42.9	+1.0
AYDB	Zeytinkoy-Aydi	0.55	111	ePg	Pg	19 55 34.1	+0.2
AYDB				eSg	Sb	19 55 42.9	+1.0
URLA	Izmir	0.55	293	P	Pg	19 55 33.7	-0.2
URLA				S	Sg	19 55 41.4	+0.1
URLA	Izmir	0.55	293	i P	Pg	19 55 33.7	-0.2
URLA				i S	Sg	19 55 41.4	+0.1
ZEY	˜zmir	0.59	279	i P	Pg	19 55 34.1	-0.5
ZEY				i S	Sg	19 55 42.4	-0.1
AYDN	Tasoluk	0.70	134	P	Pb	19 55 37.2	+0.5
AYDN				S	Sn	19 55 48.2	-0.3
AYDN	Tasoluk	0.70	134	i P	Pb	19 55 37.2	+0.5
AYDN				i S	Sn	19 55 48.2	-0.3
CHOS	Chios island	0.96	285	ePG	Pg	19 55 41.7	+0.1
CHOS				eSG	Sn	19 55 55.4	+0.2
CHOS	Chios island	0.96	285	ePg	Pg	19 55 41.7	+0.1
CHOS				eSg	Sn	19 55 55.4	+0.2
DEMI	Demirci	1.46	52	i P	Pg	19 55 58.3	+7.2
DEMI				i S	Sn	19 56 02.8	-4.7
SIGR	SIGRI	1.52	315	ePN	Pb	19 55 51.3	+0.6
SIGR	SIGRI	1.52	315	ePn	Pb	19 55 51.3	+0.6

*ISCJB **01** 19:56:08.9±0.7, 51°.51N±0°.04×16°.14E±0°.03, h0km, Error ellipse: s-maj=5.3km s-min=2.8km az=10.8*
*CSEM **01** 19:56:10.9±0.3, 51°.50N×16°.10E, h2km, ML3.0/7*
*WAR **01** 19:56:11.4, 51°.54N×16°.08E, h1km, Mw2.4*
ISC 01 19:56:10.9±1.1**, 51°.49N**±0°.05×**16°.09E**±0°.02**, h0**km**, n33,** σ0^s**56**/68**, 1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	169	i Pg	Pb	19 56 24.7	-0.6
KSP				eSg	Sb	19 56 34.5	-0.6
KSP	Ksiaz	0.66	169	⇓iPg	Pb	19 56 24.7	-0.6
KSP				eSg	Sb	19 56 34.5	-0.6
UPC	Upice	0.99	183	ePG	Pb	19 56 30.7	-0.1
UPC				eSG	Sb	19 56 44.2	-0.2
UPC	Upice	0.99	183	Pg	Pb	19 56 30.7	-0.1
UPC				Sg	Sb	19 56 44.2	-0.2
DPC	Dobruska-Polom	1.15	172	ePG	Pb	19 56 33.6	-0.1
DPC				eSG	Sb	19 56 48.9	-0.3
	19nm,0.5s						
DPC	Dobruska-Polom	1.15	172	Pg	Pb	19 56 33.6	-0.1
DPC				Sg	Sb	19 56 48.9	-0.3
	19nm,0.5s						
PVCC	Panska Ves	1.36	225	ePG	Pn	19 56 37.1	0.0
PVCC				eSG	Sn	19 56 56.6	+0.8
	50nm,0.2s						
PVCC	Panska Ves	1.36	225	Pg	Pn	19 56 37.1	0.0
PVCC				Sg	Sn	19 56 56.6	+0.8
	50nm,0.2s						
BRG	Berggiesshubel	1.48	246	PG	Pg	19 56 39.2	-0.2
BRG				SG	Sn	19 56 59.6	+0.7
	27nm,0.4s						
GOPC	GO Pecny, Ondr	1.78	208	ePN	Pn	19 56 43.1	+0.1
GOPC				ePG	Pg	19 56 44.9	-0.1
GOPC				eSG	Sg	19 57 08.8	+0.7
	18nm,0.7s						
GOPC	GO Pecny, Ondr	1.78	208	Pn	Pn	19 56 43.1	+0.1
GOPC	GO Pecny, Ondr	1.78	208	Pg	Pg	19 56 44.9	-0.1

GOPC				Sg	Sg	19 57 08.8	+0.7
	18nm,0.7s						
PRU	Pruhonice	1.80	214	ePN	Pn	19 56 43.5	+0.4
PRU				ePG	Pb	19 56 44.9	+0.2
PRU				eSG	Sg	19 57 08.4	-0.2
	11nm,0.4s						
PRU	Pruhonice	1.80	214	Pn	Pn	19 56 43.5	+0.4
PRU	Pruhonice	1.80	214	Pg	Pb	19 56 44.9	+0.2
PRU				Sg	Sg	19 57 08.4	-0.2
	11nm,0.4s						
CLL	Collm	1.94	266	i Pn	Pn	19 56 44.0	-1.1
CLL				i Pg	Pb	19 56 46.8	-0.3
CLL				i		19 56 50.9	
CLL				i Sg	Sg	19 57 13.0	-0.2
	comp=Z,13nm,0.8s						
MORC	Moravsky Berou	1.95	151	ePn	Pn	19 56 45.0	-0.3
MORC				eSg	Sb	19 57 12.5	+0.3
OKC	Ostrava-Krasne	2.11	141	ePG	Pg	19 56 51.2	-0.1
OKC				eSG	Sg	19 57 18.0	-0.7
	comp=Z,30nm,0.7s						
OKC	Ostrava-Krasne	2.11	141	Pg	Pg	19 56 51.2	-0.1
OKC				Sg	Sg	19 57 18.0	-0.7
	comp=Z,30nm,0.7s						
VRAC	Vranov	2.21	171	ePn	Pn	19 56 49.3	+0.5
VRAC				eSg	Sg	19 57 21.5	-0.3
TREC	Trest	2.23	190	ePN	Pn	19 56 50.2	+1.1
TREC				ePG	Pg	19 56 53.5	-0.2
TREC				eSG	Sg	19 57 23.2	+0.6
	comp=Z,9.9nm,0.5s						
TREC	Trest	2.23	190	Pn	Pn	19 56 50.2	+1.1
NKC	Novy Kostel	2.63	243	ePN	Pn	19 56 55.0	+0.4
NKC				ePG	Pg	19 57 01.1	-0.1
NKC				eSG	Sg	19 57 35.9	+0.6
	comp=Z,21nm,0.6s						
NKC	Novy Kostel	2.63	243	Pn	Pn	19 56 55.0	+0.4
OJC	Ojcow	2.67	117	ePg	Pg	19 57 02.0	-0.1
OJC				eSg	Sg	19 57 37.8	+1.0
OJC	Ojcow	2.67	117	ePg	Pg	19 57 02.0	-0.1
OJC				eSg	Sg	19 57 37.8	+1.0
OJC	Ojcow	2.67	117	ePg	Pg	19 57 02.0	-0.1
OJC				eSg	Sg	19 57 37.8	+1.0
KHC	Kasperske Hory	2.86	215	ePN	Pn	19 56 58.0	+0.2
KHC				ePG	Pg	19 57 05.5	-0.1
KHC				eSN	Sn	19 57 33.0	+0.1
KHC				eSG	Sg	19 57 41.0	-1.7
KHC	Kasperske Hory	2.86	215	Pn	Pn	19 56 58.0	+0.2
LANS	Liptovska Anna	3.19	136	ePg	Pg	19 57 11.1	-0.9
LANS				eSg	Sg	19 57 52.6	-0.8
LANS	Liptovska Anna	3.19	136	ePG	Pg	19 57 11.1	-0.9
LANS				eSG	Sg	19 57 52.6	-0.8
STHS	Stebnicka Huta	3.90	120	ePg	Pg	19 57 25.4	-0.1
STHS				eSg	Sg	19 58 16.4	+0.4
STHS	Stebnicka Huta	3.90	120	ePG	Pg	19 57 25.4	-0.1
STHS				eSG	Sg	19 58 16.4	+0.4
STHS				eLG	Lg	19 58 25.5	

JMA 01 19:57:55.5,36°.64N×139°.47E,h4km,M2.9,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAG	Ashikaga	0.21	184	P	Pg	19 57 59.9	+0.2
JAG				eS	Sg	19 58 02.8	+0.3
JKT	Katashina	0.22	305	P	Pg	19 58 00.1	+0.3
JKT				S	Sg	19 58 03.4	+0.7
JSB	Shiboa	0.49	48	P	Pg	19 58 05.4	+0.5
JHK	Hiroka	0.71	329	P	Pg	19 58 09.1	0.0
MAT	Matsushiro	1.02	265	P	Pg	19 58 14.7	-0.4
MAT				S	Sg	19 58 27.9	-0.4

*ISCJB **01** 20:01:25.1±0.6,35°.55N±0°.04×141°.27E±0°.07,h33km, mb3.6/8,Error ellipse: s-maj=7.9km s-min=5.1km az=178.8*
*JMA **01** 20:01:27.1±0.1,35°.55N×141°.01E,h37km±1km,M3.3*
*IDC **01** 20:01:30.4±2.6,35°.48N×140°.93E,h59km±23km,mb3.4/8, mb1 3.5/10,mb1mx3.3/45,mbtmp3.7/10,ML3.4/2,Error ellipse: s-maj=29.8km s-min=12.4km az=85.0*
ISC 01 20:01:27.2±0.7,**35°.51N**±0°.05×**141°.09E**±0°.07,**h33km,n27,** σ**1s.68**/27,**mb3.6**/8,**1C-4D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.27	316	⇓P	Pb	20 01 34.0	-0.6
CHOJ				S	Sn	20 01 39.0	-0.3
KTR	Katsuura	0.73	241	⇑P	Pn	20 01 40.6	-0.6
JCN	Nagara	0.73	263	P	Pn	20 01 41.2	0.0
BSO4	Boso 4	0.80	230	⇓P	Pn	20 01 41.8	-0.3
BSO3	Boso 3	0.85	214	⇓P	Pn	20 01 42.4	-0.2
BSO1	Boso 1	0.86	186	P	Pn	20 01 42.7	+0.2
BSO1				eX		20 01 55.6	
JYT	Yasato	1.02	315	⇓P	Pn	20 01 43.9	-1.3
JYT				eS	Sn	20 01 56.6	-1.8
MJAR	Matsushiro Arr	2.55	295	P	Pn	20 02 06.8	+0.5
	7.0nm,0.3s,baz=91,slow=8.4,SNR=54						
MAT	Matsushiro	2.55	295	P	Pn	20 02 07.3	+1.0
MAT				eS	Sb	20 02 41.5	-1.9
JHJ	Hachijo jima 2	2.62	205	P	Pn	20 02 08.3	+1.2
	25nm,0.3s,baz=264,slow=24,SNR=2.5						
JHJ				S	Sn	20 02 39.8	+2.0
	61nm,0.3s,baz=79,slow=22,SNR=4.9						
JCJ	Chichijima	8.44	173	P	Pn	20 03 26.2	-1.0
	5.6nm,0.3s,baz=275,slow=24,SNR=4.7						
JCJ				S	Sn	20 04 56.6	-4.7
	6.4nm,0.3s,baz=275,slow=22,SNR=3.2						
ASAJ	Asahikawa	8.68	7	P	Pn	20 03 28.0	-2.4
ASAJ				S	Sn	20 05 07.8	+0.8
	0.2nm,0.3s,baz=160,slow=28,SNR=2.6						
KSRS	Korea Array	10.78	284	P	Pn	20 04 03.3	+4.1
	baz=95,slow=14,SNR=3.6						
H11N2	WAKE ISLAND Hy	27.63	118	T	T	20 36 14.7	
	baz=310,slow=75,SNR=43						
H11N1	WAKE ISLAND Hy	27.64	118	T	T	20 36 18.0	
	baz=310,slow=75,SNR=41						
H11N3	WAKE ISLAND Hy	27.65	118	T	T	20 36 20.4	
	baz=310,slow=75,SNR=34						
H11S1	WAKE ISLAND Hy	28.29	120	T	T	20 37 01.4	
	baz=312,slow=75,SNR=231						
H11S3	WAKE ISLAND Hy	28.29	120	T	T	20 37 06.7	
	baz=312,slow=75,SNR=150						
H11S2	WAKE ISLAND Hy	28.30	120	T	T	20 37 10.1	
	baz=312,slow=75,SNR=126						
SEY	Seymchan	28.34	11	P	P	20 07 19.3	+1.6
	0.9nm,0.7s,baz=138,slow=2.4,SNR=2.9						
SONM	Songino Array	28.45	306	P	P	20 07 19.8	+0.7
	0.4nm,0.6s,baz=115,slow=9.7,SNR=2.9						
ZALV	Zalesovo Beam	42.76	314	P	P	20 09 20.5	-0.7
	0.6nm,0.4s,baz=91,slow=8.6,SNR=3.3						
MKAR	Makanchi Array	44.72	303	P	P	20 09 36.6	-0.6
	0.3nm,0.5s,baz=85,slow=9.9,SNR=7.7						
ILAR	Eielson Array	50.92	32	P	P	20 10 25.9	+0.9
	0.4nm,0.7s,baz=266,slow=6.0,SNR=4.9						
WRA	Warramunga Arr	55.52	188	P	P	20 10 58.5	-0.7
	1.9nm,0.7s,baz=6.7,slow=7.9,SNR=19						
ASAR	Alice Springs	59.24	188	P	P	20 11 25.5	+0.1
	0.3nm,0.5s,baz=11,slow=8.7,SNR=10						
FINES	FINESS Array B	70.04	332	P	P	20 12 35.4	-0.1
	0.9nm,0.7s,baz=57,slow=7.0,SNR=4.5						

*ISCJB **01** 20:07:36.8±0.5,6°.32S±0°.07×154°.46E±0°.07,h48km, mb4.1/16,MS3.7/3,Error ellipse: s-maj=11.1km s-min=8.6km az=135.1*
*IDC **01** 20:07:41.2±2.6,6°.38S×154°.36E,h75km±23km,mb3.8/12, mb1 4.0/16,mb1mx3.9/33,mbtmp4.2/16,MS3.6/5, Ms1 3.6/5,ms1mx3.1/39,Error ellipse: s-maj=17.3km s-min=15.9km az=75.0*
*NEIC **01** 20:07:42.6±1.5,6°.43S×154°.35E,h86km±14km,mb4.5/3, Error ellipse: s-maj=12.9km s-min=12.4km az=142.0*
ISC 01 20:07:38.7±0.5,**6°.33S**±0°.08×**154°.44E**±0°.07,**h48km,n32,** σ**1s.78**/33,**mb4.0**/16,**MS3.8**/3,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	6.26	120	P	Pn	20 09 13.3	+4.6
	3.9nm,0.3s,baz=261,slow=7.7,SNR=6.1						
HNR				S	Sn	20 10 32.2	+13
	4.2nm,0.3s,baz=227,slow=4.8,SNR=7.9						
HNR				LR	LR	20 11 30.8	
	comp=Z,355nm,20.4s,baz=226,slow=36						
HNR	Honiara	6.26	120	eP	Pn	20 09 12.0	+3.3
HNR				eS	Sn	20 10 34.0	+15
PMG	Port Moresby	7.83	247	P	Pn	20 09 31.4	+1.3
	1.8nm,0.3s,baz=62,slow=11,SNR=7.2						
PMG				S	Sn	20 11 00.7	+3.2
	4.7nm,0.3s,baz=192,slow=19,SNR=4.4						
PMG				LR	LR	20 13 02.6	
	comp=Z,367nm,18.4s,baz=50,slow=42						
PMG	Port Moresby	7.83	247	ePn	Pn	20 09 30.8	+0.6
	24nm,0.8s						
PMG				S	Sn	20 11 00.7	+3.2
CTA	Charters Tower	15.82	209	P	P	20 11 20.6	-0.9
	0.5nm,0.3s,baz=30,slow=13,SNR=15						
CTAO	Charters Tower	15.82	209	eP	P	20 11 20.6	-0.8
	82nm,0.8s						
DZM	Mont Dzumac	19.48	145	P	P	20 12 01.4	-0.5
	0.4nm,0.3s,baz=322,slow=19,SNR=4.5						
WRAB	Tennant Creek	23.74	233	eP	P	20 12 45.0	-1.8
	9.7nm,0.7s						
WRA	Warramunga Arr	23.75	233	P	P	20 12 45.2	-1.7
	10nm,0.8s,baz=57,slow=9.6,SNR=33						
WRA				PcP	PcP	20 16 30.0	+0.1
	0.7nm,0.5s,baz=61,slow=2.5,SNR=10						
ASAR	Alice Springs	26.21	227	P	P	20 13 07.5	-1.8
	1.1nm,0.4s,baz=55,slow=9.1,SNR=14						
ASAR				PcP	PcP	20 16 35.4	0.0
	0.5nm,0.6s,baz=60,slow=2.8,SNR=5.0						
ASAR				LR	LR	20 23 10.7	
	comp=Z,136nm,18.4s,baz=30,slow=36						
H11S3	WAKE ISLAND Hy	27.47	26	T	T	20 41 24.0	
	baz=201						
H11S2	WAKE ISLAND Hy	27.47	26	T	T	20 42 03.7	
	baz=201						
H11S1	WAKE ISLAND Hy	27.49	26	T	T	20 42 04.8	
	baz=201						
STKA	Stephens Creek	28.11	204	P	P	20 13 24.0	-2.2
	2.8nm,0.7s,baz=12,slow=12,SNR=6.2						
JNU	Nakatsue	45.17	332	P	P	20 15 50.1	-0.9
	4.0nm,0.8s,baz=49,slow=7.2,SNR=3.6						
KSRS	Korea Array	50.10	332	P	P	20 16 28.6	-0.5
	1.1nm,0.7s,baz=143,slow=7.0,SNR=6.6						
KSAR	Wonju Array Be	50.11	332	P	P	20 16 28.6	-0.6
PETK	Petropavlovsk-	59.28	2	P	P	20 17 38.0	+2.7
	1.8nm,0.8s,baz=194,slow=10,SNR=2.9						
CMAR	Chiang Mai Arr	60.00	295	P	P	20 17 43.0	+2.0
	0.7nm,0.7s,baz=113,slow=6.2,SNR=7.2						
SONM	Songino Array	68.48	327	P	P	20 18 35.7	-0.4
	0.5nm,0.5s,baz=147,slow=3.5,SNR=3.9						
LSA	Lhasa	70.44	304	eP	P	20 18 49.9	+0.8
	3.6nm,0.6s						
VNDA	Vanda	71.25	178	P	P	20 18 51.9	-0.7
	0.6nm,0.7s,baz=5.3,slow=6.3,SNR=4.2						
MKAR	Makanchi Array	82.55	319	P	P	20 19 56.6	0.0
	0.7nm,0.7s,baz=93,slow=4.8,SNR=7.9						
ILAR	Eielson Array	82.96	22	P	P	20 19 56.6	-1.8
	0.8nm,0.8s,baz=258,slow=5.6,SNR=6.7						
ZALV	Zalesovo Beam	83.33	326	P	P	20 19 59.4	-1.0
	0.3nm,0.3s,baz=120,slow=8.5,SNR=3.3						
QSPA	South Pole Qui	83.64	180	eP	P	20 20 00.9	-1.1
MAW	Mawson	84.79	203	P	P	20 20 07.0	-0.7
	1.5nm,0.6s,baz=88,slow=8.3,SNR=4.3						
INK	Inuvik	89.30	21	LR	LR	20 55 32.0	
	comp=Z,38nm,21.2s,baz=204,slow=32						
NVAR	Mina Array Bea	91.75	52	P	P	20 20 42.1	+0.3
	1.0nm,0.3s,baz=275,slow=8.8,SNR=4.1						
NEW	Newport	93.64	42	LR	LR	20 59 44.1	
	comp=Z,28nm,18.6s,baz=203,slow=33						
BDFB	Brasilia	148.84	135	PKPbc	PKPbc	20 27 21.2	-1.1
	3.2nm,0.7s,baz=256,slow=7.4,SNR=4.3						
BDFB				PKPab	PKPab	20 27 25.0	-1.2
	3.2nm,0.7s,baz=149,slow=21,SNR=4.3						
TORD	Torodi Ar. Bea	152.32	286	PKP	PKPdf	20 27 23.2	-0.5
	0.7nm,1.0s,baz=92,slow=1.2,SNR=3.1						
TORD				PKPbc	PKPbc	20 27 29.6	-0.8
	3.4nm,0.7s,baz=76,slow=2.3,SNR=23						

IDC 01 20:18:28.0±34.0,**31°.50S**×**179°.10E,h688**km±373km, **mb2.5**/2,**mb1 2.8**/2,**mb1mx2.5**/30,**mbtmp3.7**/2,**Error ellipse: s-maj=259.1km s-min=45.3km az=76.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	40.59	270	P	P	20 25 12.1	-0.3
	0.6nm,0.6s,baz=108,slow=7.1,SNR=13						
WRA	Warramunga Arr	41.68	275	P	P	20 25 21.0	+0.1
	0.4nm,0.3s,baz=112,slow=8.1,SNR=24						
KBZ	Khabaz	143.62	302	PKP	PKPbc	20 36 46.2	-0.1
	1.6nm,0.8s,baz=279,slow=3.5,SNR=3.0						
FINES	FINESS Array B	145.26	338	PKPbc	PKPbc	20 36 50.9	+0.2
	1.1nm,0.8s,baz=72,slow=6.2,SNR=4.8						
NOA	NORSAR Array B	149.39	348	PKPbc	PKPbc	20 37 00.0	-1.4
	1.2nm,0.9s,baz=59,slow=5.4,SNR=3.4						
TORD	Torodi Ar. Bea	161.58	188	PKPab	PKPab	20 38 02.8	-0.2
	0.6nm,0.9s,baz=235,slow=5.1,SNR=2.9						

*DDA **01** 20:20:36.4,39°.13N×29°.03E,h5km,Ml3.1*
*CSEM **01** 20:20:36.9±0.1,39°.12N×29°.06E,h2km,ML3.1,Error ellipse: s-maj=3.0km s-min=2.4km az=97.0*
*ISK **01** 20:20:36.4,39°.10N×29°.10E,h5km,MD2.8*
ISC 01 20:20:36.8±1.1,**39°.12N**±0°.02×**29°.06E**±0°.02,**h4**km±10km, **n48,**σ**0s.68**/65,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.27	254	P	Pg	20 20 42.3	+0.2
DEMI				S	Sg	20 20 46.0	+0.3
DEMI	Demirci	0.27	254	i P	Pg	20 20 42.4	+0.2
DEMI				i S	Sg	20 20 46.0	+0.3
GDZ	Gediz	0.33	95	P	Pg	20 20 43.7	+0.5
GDZ	Gediz	0.33	95	i P	Pg	20 20 43.7	+0.5
TVSB	Tavsanli	0.46	44	ePG	Pg	20 20 45.5	-0.1
TVSB				eSG	Sg	20 20 51.8	+0.2
TVSB	Tavsanli	0.46	44	ePg	Pg	20 20 45.5	-0.1
TVSB				eSg	Sg	20 20 51.8	+0.2
KULA	Kula-Manisa	0.68	207	ePG	Pg	20 20 50.0	+0.2
KULA	Kula-Manisa	0.68	207	ePg	Pg	20 20 50.0	+0.2
KHAL	Karahalli	0.82	155	P	Pb	20 20 53.5	-0.1
KHAL				S	Sb	20 21 03.9	-1.1
KHAL	Karahalli	0.82	155	i P	Pb	20 20 53.5	-0.1
KHAL				i S	Sb	20 21 03.9	-1.1
KHL	Karahalli	0.87	155	ePG	Pg	20 20 53.2	-0.2
KHL				eSG	Sg	20 21 04.9	+0.1
KHL	Karahalli	0.87	155	ePg	Pg	20 20 53.3	-0.2
KHL				eSg	Sg	20 21 04.9	+0.1
ORLT	Orhaneli	0.94	353	ePG	Pb	20 20 54.9	-0.6
ORLT	Orhaneli	0.94	353	ePg	Pb	20 20 54.9	-0.6
AKS	Akhisar	1.00	257	ePG	Pb	20 20 56.6	0.0
AKS	Akhisar	1.00	257	ePg	Pb	20 20 56.6	0.0
BALB	Balikesir	1.05	300	ePN	Pn	20 20 57.8	-0.4
BALB	Balikesir	1.05	300	ePn	Pn	20 20 57.8	-0.4
IGD	Bursa	1.15	6	i P	Pg	20 20 57.7	-1.1
IGD				i S	Sn	20 21 15.2	-0.6
CAVI	Cavuskoy	1.24	29	ePN	Pn	20 21 00.8	-0.1
CAVI	Cavuskoy	1.24	29	ePn	Pn	20 21 00.8	-0.1
MDNY	Mudanya-Bursa	1.26	354	ePN	Pn	20 21 01.3	+0.3
MDNY				eSN	Sn	20 21 19.8	+1.5
MDNY	Mudanya-Bursa	1.26	354	ePn	Pn	20 21 01.3	+0.3
MDNY				eSn	Sn	20 21 19.8	+1.5
IZI	Iznik	1.26	15	ePN	Pn	20 21 01.0	-0.2
IZI	Iznik	1.26	15	ePn	Pn	20 21 01.0	-0.2
KCTX	Karacabey (Bur	1.27	335	ePN	Pn	20 21 01.1	0.0
KCTX				eSN	Sn	20 21 20.4	+1.8
KCTX	Karacabey (Bur	1.27	335	ePn	Pn	20 21 01.2	0.0
KCTX				eSn	Sn	20 21 20.5	+1.8
BORA	Eskisehir	1.32	54	P	Pn	20 21 01.5	-0.6
BORA				S	Sn	20 21 19.8	-0.3
BORA	Eskisehir	1.32	54	i P	Pn	20 21 01.5	-0.6
BORA				i S	Sn	20 21 19.8	-0.3
GONE	Gonen-Balikesi	1.41	312	ePN	Pg	20 21 03.8	+0.1
GONE	Gonen-Balikesi	1.41	312	ePn	Pg	20 21 03.8	+0.1
ESKT	Eskisehir	1.45	73	i P	Pg	20 21 06.7	+2.2
ARMT	Armutlu	1.45	354	ePN	Pg	20 21 04.2	-0.4
ARMT	Armutlu	1.45	354	ePn	Pg	20 21 04.2	-0.4
AYDB	Zeytinkoy-Aydi	1.48	218	ePN	Pb	20 21 04.3	-0.6
AYDB	Zeytinkoy-Aydi	1.48	218	ePn	Pb	20 21 04.3	-0.6
EDC	Edincik	1.53	324	ePN	Pb	20 21 05.4	-0.3
EDC	Edincik	1.53	324	ePn	Pb	20 21 05.4	-0.3
KNL	Bal˜–kesir	1.65	315	i P	Pn	20 21 06.5	+0.1
KNL				i S	Sb	20 21 28.9	+0.1
GULT	Gulveren	1.73	40	ePN	Pn	20 21 07.9	+0.3
GULT	Gulveren	1.73	40	ePn	Pn	20 21 07.9	+0.3
BUY	Buyukada	1.73	2	P	Pg	20 21 09.6	-0.3
BUY	Buyukada	1.73	2	i P	Pg	20 21 09.7	-0.3
MRMT	Marmara Adasi	1.86	323	ePN	Pb	20 21 10.4	-0.9
MRMT	Marmara Adasi	1.86	323	ePn	Pb	20 21 10.4	-0.9
SILT	Sile	2.08	12	ePN	Pn	20 21 13.2	+0.8
SILT	Sile	2.08	12	ePn	Pn	20 21 13.2	+0.8
SART	Tekirdag	2.13	318	i P	Pg	20 21 17.4	-0.2
SART				i S	Sg	20 21 45.6	+0.4

*ISCJB **01** 20:27:10.0±0.7,35°.59N±0°.04×141°.39E±0°.07,h33km, mb3.6/5,Error ellipse: s-maj=8.1km s-min=5.5km az=175.5*
*IDC **01** 20:27:12.9±3.1,35°.55N×141°.32E,h38km±25km,mb3.3/5, mb1 3.6/9,mb1mx3.3/53,mbtmp3.7/9,ML3.4/3,Error ellipse: s-maj=39.0km s-min=16.0km az=80.0*
*JMA **01** 20:27:13.4±0.1,35°.55N×141°.03E,h37km±1km,M3.3*
JMA Felt I J1.
ISC 01 20:27:12.3±0.9,**35°.55N**±0°.05×**141°.21E**±0°.07,**h33km,n26,** σ**1s.04**/26,**mb3.6**/5,**1C-1D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.33	298	⇓P	Pn	20 27 20.4	-0.4
CHOJ				S	Sb	20 27 25.5	-0.4
JCN	Nagara	0.84	261	P	Pb	20 27 27.8	-0.7
KTR	Katsuura	0.84	242	P	Pn	20 27 27.0	-0.8
BSO4	Boso 4	0.91	232	⇑P	Pn	20 27 28.3	-0.4
BSO1	Boso 1	0.92	192	P	Pn	20 27 28.8	+0.4
BSO1				X		20 27 42.1	
BSO3	Boso 3	0.94	218	P	Pn	20 27 28.8	-0.2
BSO3				X		20 27 41.2	
JYT	Yasato	1.07	309	P	Pn	20 27 30.4	-0.6
JAG	Ashikaga	1.67	302	P	Pn	20 27 39.6	+0.3
JIM2	Oshima 3	1.68	241	P	Pn	20 27 37.6	-1.9
JOD2	Odawara 2	1.76	261	P	Pn	20 27 40.3	-0.2
MJAR	Matsushiro Arr	2.63	293	Pn	Pn	20 27 53.6	+1.1
	4.6nm,0.3s,baz=94,slow=7.9,SNR=34						
MJAR				Sn	Sb	20 28 30.7	+0.1
	3.2nm,0.3s,baz=61,slow=22,SNR=6.8						
MAT	Matsushiro	2.63	293	P	Pn	20 27 53.6	+1.1
MAT				eS	Sn	20 28 24.7	+1.4
JHJ	Hachijo jima 2	2.70	206	Pn	Pn	20 27 54.1	+0.7
	25nm,0.3s,baz=106,slow=22,SNR=3.5						
JHJ				Sn	Sn	20 28 26.9	+2.0
	49nm,0.3s,baz=72,slow=23,SNR=4.2						
JCJ	Chichijima	8.47	174	Pn	Pn	20 29 12.6	-0.1
JCJ				Sn	Sn	20 30 44.5	-2.8
	3.1nm,0.3s,baz=266,slow=22,SNR=2.2						
ASAJ	Asahikawa	8.62	7	Pn	Pn	20 29 15.7	+1.0
	0.4nm,0.3s,baz=262,slow=9.0,SNR=4.0						
ASAJ				Sn	Sn	20 30 50.0	-0.7
	0.2nm,0.3s,baz=29,slow=18,SNR=2.2						
H11N2	WAKE ISLAND Hy	27.56	118	T	T	21 02 01.2	
	baz=310,slow=75,SNR=44						
H11N1	WAKE ISLAND Hy	27.57	118	T	T	21 02 05.2	
	baz=310,slow=75,SNR=35						
H11N3	WAKE ISLAND Hy	27.58	118	T	T	21 02 01.1	
	baz=310,slow=75,SNR=38						
H11S1	WAKE ISLAND Hy	28.22	120	T	T	21 02 51.2	
	baz=312,slow=75,SNR=210						
H11S3	WAKE ISLAND Hy	28.22	120	T	T	21 02 51.7	
	baz=312,slow=75,SNR=217						
H11S2	WAKE ISLAND Hy	28.24	120	T	T	21 02 53.4	
	baz=312,slow=75,SNR=156						
MKAR	Makanchi Array	44.78	303	P	P	20 35 23.0	+0.2
	0.1nm,0.2s,baz=101,slow=7.8,SNR=2.0						
KURBB	Kurchatov Arra	46.80	309	P	P	20 35 39.0	+0.4
	0.2nm,0.3s,baz=81,slow=7.9,SNR=2.9						
FITZ	Fitzroy Crossi	55.37	198	P	P	20 36 44.0	+0.9
	1.7nm,0.8s,baz=0.0,slow=5.1,SNR=3.7						
WRA	Warramunga Arr	55.57	188	P	P	20 36 44.5	-0.2
	0.6nm,0.5s,baz=5.7,slow=8.5,SNR=16						
ASAR	Alice Springs	59.30	188	P	P	20 37 10.4	-0.5
	0.2nm,0.8s,baz=11,slow=8.9,SNR=4.9						

*NIED **01** 20:33:00,40°.40N×142°.30E,h50km,Mw3.8 Best double couple: Mo5.48000×10^14 NP1:φs201.00000°,δ20.00000°, λ94.00000°. NP2:φs17.00000°,δ70.00000°,λ89.00000°.*
*JMA **01** 20:33:29.3±0.1,40°.38N×142°.27E,h40km±1km,M4.1*
JMA Felt I J1.
*IDC **01** 20:33:30.7±2.2,40°.33N×142°.33E,h64km±18km,mb3.7/11, mb1 3.7/16,mb1mx3.5/46,mbtmp3.9/16,MS2.8/1, Ms1 2.8/1,ms1mx2.3/59,Error ellipse: s-maj=29.8km s-min=12.7km az=88.0*
ISC 01 20:33:27.3±1.7,**40°.41N**±0°.05×**142°.41E**±0°.08,**h28**km±11km, **n33,**σ**1s.54**/34,**mb4.1**/11,**2C,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTH	Tanohata	0.62	222	P	Pn	20 33 40.5	+0.2
JTH				eS	Sn	20 33 48.5	-0.8
JANG	Nango	0.68	268	P	Pn	20 33 41.1	+0.1
JANG				eS	Sb	20 33 49.2	-0.5
JKZ	Kuzumaki	0.93	243	P	Pb	20 33 44.8	0.0
JKZ				eS	Sb	20 33 55.6	-1.1
JTM	Tenmabayashi	1.09	291	P	Pn	20 33 46.7	+0.1
JTM				eS	Sn	20 33 59.7	-1.0
JOM	Ohasama	1.27	223	P	Pb	20 33 49.7	-0.8
JOM				eS	Sn	20 34 05.1	0.0
JAH	Hinai	1.37	261	P	Pn	20 33 50.9	+0.4
JAH				eS	Sn	20 34 06.7	-1.0
JOT	Ohata	1.42	314	P	Pn	20 33 51.7	+0.5
ASAJ	Asahikawa	3.71	2	P	Pn	20 34 25.5	+2.8
	2.9nm,0.3s,baz=204,slow=13,SNR=17						
ASAJ				S	Sb	20 35 14.7	-2.0
	3.3nm,0.3s,baz=61,slow=10,SNR=4.3						
MJAR	Matsushiro Arr	5.07	222	P	Pn	20 34 44.8	+3.4
	1.2nm,0.3s,baz=33,slow=13,SNR=15						
JHJ	Hachijo jima 2	7.57	197	P	Pn	20 35 15.8	+0.1
	17nm,0.3s,baz=102,slow=22,SNR=3.6						
JHJ				S	Sn	20 36 39.6	-0.9
	25nm,0.3s,baz=74,slow=16,SNR=3.1						
USRK	Ussuriysk Ar.	8.60	300	P	Pn	20 35 32.0	+2.2
	0.7nm,0.3s,baz=100,slow=16,SNR=9.2						
KLR	Kul'dur	11.61	323	P	Pn	20 36 16.0	+5.0
	0.2nm,0.3s,baz=144,slow=14,SNR=2.8						
KLR				LR	LR	20 40 34.2	
	comp=Z,49nm,18.7s,baz=128,slow=36						
KSRS	Korea Array	11.66	260	P	Pn	20 36 16.3	+4.6
	0.2nm,0.3s,baz=60,slow=14,SNR=3.2						
SEY	Seymchan	23.34	12	P	P	20 38 34.6	+1.7
	1.2nm,0.2s,baz=183,slow=23,SNR=3.7						
SONM	Songino Array	26.71	298	P	P	20 39 04.4	+0.2
	0.3nm,0.3s,baz=93,slow=8.7,SNR=2.3						
H11N2	WAKE ISLAND Hy	29.39	127	T	T	21 10 21.9	
	baz=318,slow=75,SNR=44						
H11N1	WAKE ISLAND Hy	29.40	127	T	T	21 10 22.6	
	baz=318,slow=75,SNR=53						
H11N3	WAKE ISLAND Hy	29.41	127	T	T	21 10 23.3	
	baz=318,slow=75,SNR=40						
H11S1	WAKE ISLAND Hy	30.21	129	T	T	21 11 52.3	
	baz=321,slow=76,SNR=19						
H11S3	WAKE ISLAND Hy	30.22	129	T	T	21 11 45.7	
	baz=321,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	30.23	129	T	T	21 11 29.4	
	baz=321,slow=76,SNR=18						
ZALV	Zalesovo Beam	40.29	310	P	P	20 41 01.0	-0.7
	1.5nm,0.4s,baz=92,slow=9.1,SNR=7.2						
MKAR	Makanchi Array	43.07	299	P	P	20 41 23.9	-0.7
	1.5nm,0.7s,baz=84,slow=10.0,SNR=12						
WRA	Warramunga Arr	60.50	189	P	P	20 43 33.6	-1.1
	0.5nm,0.7s,baz=5.8,slow=6.6,SNR=3.8						
ARCES	ARCESS Array B	61.12	339	P	P	20 43 38.3	-0.1
	3.6nm,0.9s,baz=51,slow=7.1,SNR=3.9						
GEYT	Alibeck	62.91	298	P	P	20 43 50.0	-1.0
	1.0nm,0.5s,baz=89,slow=5.9,SNR=2.4						
ASAR	Alice Springs	64.23	189	P	P	20 43 59.2	-0.4
	0.4nm,0.8s,baz=1.8,slow=5.3,SNR=4.6						
FINES	FINESS Array B	66.20	332	P	P	20 44 11.3	-0.7
	1.5nm,0.7s,baz=41,slow=8.7,SNR=6.8						
NB2	NORSAR Subarra	71.38	337	P	P	20 44 43.6	-0.7
	comp=Z,1.1nm,0.6s,baz=37,slow=6.5						
NOA	NORSAR Array B	71.38	337	P	P	20 44 43.9	-0.4
	comp=Z,1.1nm,0.7s,baz=39,slow=6.2,SNR=4.4						
AKASG	Malin Array Be	72.11	322	P	P	20 44 47.9	-0.9
	comp=Z,0.9nm,0.5s,baz=46,slow=6.8,SNR=5.0						
SYO	Syowa Base	131.55	208	⇑eP	PKPdf	20 52 35.4	-0.5
SYO	Syowa Base	131.55	208	⇑eP	PKPdf	20 52 38.6	+2.7

*ISCJB **01** 20:45:17.2±0.7, 28°.52N±0°.08×55°.09E±0°.08, h10km, mb3.5/6, Error ellipse: s-maj=14.7km s-min=5.8km az=38.0*
*TEH **01** 20:45:17.2, 28°.47N×55°.05E, h25km, ML3.2*
*CSEM **01** 20:45:17.2, 28°.47N×55°.05E, h25km, ML3.2*
*IDC **01** 20:45:26.9±14.0, 28°.49N×54°.92E, h106km±135km, mb3.3/7, mb1 3.4/7, mb1mx3.2/51, mbtmp3.7/7, Error ellipse: s-maj=51.6km s-min=25.5km az=160.0*
ISC 01 20:45:16.2±0.8**, 28°.4N**±0°.1×**55°.09E**±0°.07**, h10**km**, n29, σ1s36**/31**, mb3.5**/7**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GENO	**Geno**	**1.38**	**136**	*e*Pn	**Pg**	**20 45 44.4**	**+1.8**
GENO	**Geno**	**1.38**	**136**	*e*Pn	**Pg**	**20 45 44.4**	**+1.8**
IBND	**Bandar-abas**	**1.59**	**126**	*e*Pn	**Pg**	**20 45 47.6**	**+0.9**
IBND				*e*AMB	AMB	20 46 24.7	
	comp=Z,6μm,0.3s						
IBND	**Bandar-abas**	**1.59**	**126**	*e*Pn	**Pg**	**20 45 47.6**	**+0.9**
NIAN	**Nian**	**1.75**	**118**	*e*Pn	**Pg**	**20 45 49.8**	**+0.1**
NIAN	**Nian**	**1.75**	**118**	*e*Pn	**Pg**	**20 45 49.8**	**+0.1**
ISRV	**Sarvestan**	**2.00**	**300**	*e*Pn	**Pb**	**20 45 52.2**	**-0.6**
ISRV				*e*AMB	AMB	20 45 54.5	
	comp=Z,3μm,0.2s						
ISRV				*e*Sg	**Sg**	**20 46 22.8**	**+2.4**
ISRV	**Sarvestan**	**2.00**	**300**	*e*Pn	**Pb**	**20 45 52.2**	**-0.6**
ISRV				*e*Sg	**Sg**	**20 46 22.8**	**+2.4**
IMEH	**Mehriz**	**3.02**	**352**	*e*Pn	**Pn**	**20 46 05.8**	**+1.6**
IMEH				*e*AMB	AMB	20 47 00.0	
	comp=Z,384nm,0.2s						
IMEH	**Mehriz**	**3.02**	**352**	*e*Pn	**Pn**	**20 46 05.8**	**+1.6**
IBAF	**Bafgh**	**3.21**	**7**	*e*AMB	AMB	20 46 46.7	
	comp=Z,346nm,0.2s						
IBAF				*e*Pn	**Pn**	**20 46 08.1**	**+1.3**
ISAD	**Sadrabad**	**3.71**	**341**	*e*Pn	**Pn**	**20 46 15.7**	**+1.8**
ISAD				*e*AMB	AMB	20 46 17.2	
	comp=Z,501nm,0.1s						
ISAD	**Sadrabad**	**3.71**	**341**	*e*Pn	**Pn**	**20 46 15.7**	**+1.8**
IRAM	**Ramesheh**	**4.14**	**326**	*e*Pn	**Pn**	**20 46 20.8**	**+1.2**
IRAM				*e*AMB	AMB	20 46 21.5	
	comp=Z,667nm,0.2s						
IRAM	**Ramesheh**	**4.14**	**326**	*e*Pn	**Pn**	**20 46 20.8**	**+1.2**
IGAR	**Gharneh**	**4.79**	**327**	*e*Pn	**Pn**	**20 46 29.9**	**+1.3**
IZEF	**Zefreh**	**5.08**	**333**	*e*Pn	**Pn**	**20 46 32.7**	**+0.1**
IZEF				*e*AMB	AMB	20 46 35.0	
	comp=Z,80nm,0.1s						
IZEF	**Zefreh**	**5.08**	**333**	*e*Pn	**Pn**	**20 46 32.7**	**+0.1**
IPIR	**Pirpir**	**5.61**	**321**	*e*Pn	**Pn**	**20 46 40.9**	**+1.0**
IPIR				*e*AMB	AMB	20 47 47.0	
	comp=Z,196nm,0.2s						
IPIR	**Pirpir**	**5.61**	**321**	*e*Pn	**Pn**	**20 46 40.9**	**+1.0**
IKLH	**Kolahrood**	**5.76**	**329**	*e*Pn	**Pn**	**20 46 42.9**	**+0.9**
IKLH				*e*AMB	AMB	20 46 46.2	
	comp=Z,88nm,0.1s						
IKLH	**Kolahrood**	**5.76**	**329**	*e*Pn	**Pn**	**20 46 42.9**	**+0.9**
BRTR	**Keskin Array B**	**21.01**	**308**	P	**P**	**20 50 00.3**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=127,slow=13,SNR=10						
MKAR	**Makanchi Array**	**28.10**	**42**	P	**P**	**20 51 08.9**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=216,slow=4.8,SNR=2.2						
AKASG	**Malin Array Be**	**29.63**	**326**	P	**P**	**20 51 20.4**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=133,slow=8.4,SNR=3.1						
GERES	**GERESS Array B**	**37.65**	**314**	P	**P**	**20 52 29.8**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=101,slow=6.9,SNR=5.0						
FINES	**FINESS Array B**	**38.27**	**338**	P	**P**	**20 52 35.7**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=156,slow=11,SNR=6.8						
NOA	**NORSAR Array B**	**43.75**	**331**	P	**P**	**20 53 20.0**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=116,slow=7.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**51.78**	**264**	P	**P**	**20 54 23.0**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=62,slow=8.4,SNR=9.3						

---

*ISCJB **01** 20:50:28.4±0.6, 58°.23N±0°.06×155°.9W±0°.1, h149km±5km, mb3.7/1, Error ellipse: s-maj=12.0km s-min=6.6km az=137.4*
*NEIC **01** 20:50:30.2, 58°.29N×155°.98W, h143km, MG2.7(AEIC), After AEIC.*
*IDC **01** 20:50:30.2±9.0, 58°.50N×155°.48W, h109km±90km, mb3.3/2, mb1 3.4/3, mb1mx2.9/57, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=79.4km s-min=29.9km az=173.0*
ISC 01 20:50:30.3±1.1**, 58°.31N**±0°.06×**155°.84W**±0°.06**, h140**km±7km**, n41, σ1s55**/47**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNTC	**Contact Creek**	**0.05**	**212**	P	**Pn**	**20 50 48.7**	**-0.7**
KELA	**Mount Kelaz**	**0.14**	**20**	P	**Pn**	**20 50 48.7**	**-0.7**
ACHA	**Angle Creek He**	**0.29**	**109**	P	**Pn**	**20 50 49.5**	**-0.2**
ACHA				S	**Sn**	**20 51 04.7**	**+0.2**
KABU	**Katmai Buttres**	**0.29**	**97**	P	**Pn**	**20 50 49.6**	**-0.2**
KABU				S	**Sn**	**20 51 05.2**	**+0.7**
KVTA	**Katmai Vly 10**	**0.29**	**75**	P	**Pn**	**20 50 49.4**	**-0.3**
KCE	**Katmai Mt Cerb**	**0.35**	**100**	P	**Pn**	**20 50 50.1**	**+0.1**
KAKN	**Katmai Knife C**	**0.41**	**91**	P	**Pn**	**20 50 50.0**	**-0.2**
KAKN				S	**Sn**	**20 51 06.0**	**+0.7**
KABR	**Katmai Barrier**	**0.49**	**110**	P	**Pn**	**20 50 50.3**	**-0.3**
KAWH	**Katmai**	**0.55**	**81**	P	**Pn**	**20 50 50.7**	**-0.2**
KAHC	**Katmai Hardscr**	**0.56**	**51**	P	**Pn**	**20 50 50.7**	**-0.3**
PLK5	**Peulik 5**	**0.63**	**241**	P	**Pn**	**20 50 50.4**	**-0.9**
PLK1	**Peulik 1**	**0.65**	**219**	P	**Pn**	**20 50 50.4**	**-1.0**
PLK3	**Peulik 3**	**0.66**	**201**	P	**Pn**	**20 50 50.8**	**-0.7**
PLK3				S	**Sn**	**20 51 07.3**	**-0.3**
PLBL	**Peulik Blue Cr**	**0.80**	**221**	P	**Pn**	**20 50 51.4**	**-1.2**
FOSS	**Fourpeaked Sta**	**1.23**	**65**	P	**Pn**	**20 50 56.3**	**0.0**
CDD	**Cape Douglas**	**1.31**	**60**	P	**Pn**	**20 50 57.3**	**+0.2**
FOPK	**Fourpeaked Vol**	**1.32**	**69**	P	**Pn**	**20 50 57.0**	**-0.3**
AUL	**Augustine Lava**	**1.65**	**48**	P	**Pn**	**20 51 01.2**	**+0.4**
OHAK	**Old Harbor**	**1.75**	**127**	P	**Pn**	**20 51 00.9**	**-0.9**
KDAK	**Kodiak Island**	**1.81**	**105**	P	**Pn**	**20 51 01.9**	**-0.6**
KDAK				S	**Sn**	**20 51 26.5**	**-0.7**
ANNE	**Aniakchak Nort**	**1.84**	**222**	P	**Pn**	**20 51 01.1**	**-1.9**
OPT	**Oil Point**	**1.91**	**44**	P	**Pn**	**20 51 04.0**	**+0.2**
ANPK	**Aniakchak Peak**	**1.92**	**221**	P	**Pn**	**20 51 02.1**	**-1.9**
CHGN	**Chignik**	**2.45**	**216**	*e*Pn	**Pn**	**20 51 07.2**	**-3.0**
CNPM	**China Poot**	**2.68**	**61**	P	**Pn**	**20 51 13.1**	**-0.2**
SVW2	**Sparrevohn**	**2.80**	**3**	P	**Pn**	**20 51 13.9**	**-0.8**
CKL	**Chakachamna La**	**3.40**	**30**	P	**Pn**	**20 51 23.0**	**+0.5**
SLKM	**Skilak Lake**	**3.62**	**50**	P	**Pn**	**20 51 25.9**	**+0.6**
SEW	**Seward**	**3.75**	**59**	P	**Pn**	**20 51 27.2**	**+0.3**
STLK	**Strandline Lak**	**3.79**	**30**	P	**Pn**	**20 51 28.3**	**+0.8**
SUA	**Susitna One**	**4.08**	**37**	P	**Pn**	**20 51 31.1**	**-0.2**
RC01	**Rabbit Creek A**	**4.17**	**45**	P	**Pn**	**20 51 31.8**	**-0.5**
SKT	**Skwentna**	**4.27**	**28**	P	**Pn**	**20 51 34.1**	**+0.3**
TT01	**Tatalina**	**4.62**	**359**	P	**Pn**	**20 51 38.0**	**-0.3**
DT1	**Dutton Round H**	**4.78**	**231**	P	**Pn**	**20 51 39.1**	**-1.5**
KNK	**Knik Glacier**	**4.85**	**47**	P	**Pn**	**20 51 40.9**	**-0.6**
PPLA	**Purkeypile**	**4.95**	**20**	P	**Pn**	**20 51 44.5**	**+1.7**
CUT	**Chulitna**	**4.95**	**32**	P	**Pn**	**20 51 42.0**	**-0.7**
ILAR	**Eielson Array**	**7.76**	**30**	P	**Pn**	**20 52 16.7**	**-3.6**
	0.5nm,0.3s,baz=216,slow=13,SNR=24						
ILAR				S	**Sn**	**20 53 40.4**	**-6.3**
	0.4nm,0.3s,baz=218,slow=18,SNR=16						
YKA	**Yellowknife Ar**	**20.52**	**61**	P	**P**	**20 54 56.9**	**-0.2**
	0.8nm,0.4s,baz=274,slow=9.5,SNR=7.5						
PETK	**Petropavlovsk-**	**26.26**	**279**	P	**P**	**20 55 56.2**	**+4.1**
	1.1nm,0.6s,baz=59,slow=11,SNR=3.0						

---

*IDC **01** 20:52:02.4±0.8, 9°.06S×158°.08E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.1/45, mbtmp4.2/16, ML3.8/1, MS3.5/5, Ms1 3.5/5, ms1mx3.0/31, Error ellipse: s-maj=24.5km s-min=15.7km az=130.0*
*ISCJB **01** 20:52:05.0±0.5, 9°.09S±0°.09×158°.06E±0°.09, h29km, mb4.2/17, MS3.4/3, Error ellipse: s-maj=15.4km s-min=10.1km az=136.5*
*NEIC **01** 20:52:09.1±1.6, 9°.26S×158°.24E, h54km±17km, mb4.6/2, Error ellipse: s-maj=19.9km s-min=10.1km az=145.0*
ISC 01 20:52:06.9±0.6**, 9°.2S**±0°.1×**158°.11E**±0°.07**, h29**km**, n32, σ1s38**/24**, mb4.2**/17**, MS3.5**/3**, 1C, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.84**	**99**	Pn	**Pn**	**20 52 36.1**	**-0.5**
	81nm,0.3s,baz=114,slow=2.2,SNR=20						
HNR				Sn	Sb	20 53 09.5	+7.0
	313nm,0.3s,baz=179,slow=13,SNR=5.8						
HNR	**Honiara**	**1.84**	**99**	*i* P	**Pn**	**20 52 36.0**	**-0.5**
HNR				*i* S	**Sb**	**20 53 05.0**	**+2.4**
PMG	**Port Moresby**	**10.81**	**268**	LR	LR	20 58 44.7	
	comp=Z,309nm,18.0s,baz=87,slow=37						
DZM	**Mont Dzumac**	**15.15**	**149**	LR	LR	21 00 02.7	
	comp=Z,96nm,18.3s,baz=76,slow=32						
CTA	**Charters Tower**	**15.79**	**225**	Pn	**Pn**	**20 55 47.8**	**+0.3**
	0.2nm,0.3s,baz=34,slow=14,SNR=3.6						
JAY	**Jayapura**	**18.51**	**290**	P	**Pn**	**20 56 25.3**	**+3.8**
	0.1nm,0.3s,baz=118,slow=24,SNR=3.7						
WRAB	**Tennant Creek**	**25.34**	**242**	*e*P	**P**	**20 57 31.1**	**-0.4**
	12nm,1.1s						
WRA	**Warramunga Arr**	**25.35**	**242**	P	**P**	**20 57 31.1**	**-0.6**
	5.3nm,0.8s,baz=68,slow=9.4,SNR=27						
ASAR	**Alice Springs**	**27.27**	**235**	P	**P**	**20 57 47.8**	**-1.3**
	1.9nm,0.8s,baz=63,slow=9.2,SNR=14						
ASAR				LR	LR	21 08 08.5	
	comp=Z,107nm,18.6s,baz=64,slow=35						
STKA	**Stephens Creek**	**27.32**	**212**	P	**P**	**20 57 51.0**	**+1.7**
	5.9nm,0.8s,baz=29,slow=14,SNR=4.9						
STKA				LR	LR	21 08 11.0	
	comp=Z,135nm,18.6s,baz=30,slow=35						
H11S3	**WAKE ISLAND Hy**	**28.74**	**17**	T	T	21 26 31.1	
	baz=199,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.74**	**17**	T	T	21 26 41.2	
	baz=199,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.76**	**17**	T	T	21 26 25.5	
	baz=199,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.95**	**17**	T	T	21 28 23.5	
	baz=203						
H11N3	**WAKE ISLAND Hy**	**29.96**	**17**	T	T	21 28 19.4	
	baz=203						
H11N2	**WAKE ISLAND Hy**	**29.97**	**17**	T	T	21 28 17.3	
	baz=203						
FITZ	**Fitzroy Crossi**	**32.74**	**251**	P	**P**	**20 58 37.0**	**-0.5**
	2.4nm,0.8s,baz=118,slow=2.3,SNR=2.7						
FITZ				LR	LR	21 09 59.5	
	comp=Z,53nm,20.7s,baz=150,slow=33						
PETK	**Petropavlovsk-**	**62.01**	**360**	P	**P**	**21 02 24.1**	**-0.2**
	6.3nm,0.8s,baz=170,slow=11,SNR=6.5						
KLR	**Kul'dur**	**62.56**	**341**	P	**P**	**21 02 27.8**	**-0.3**
	1.0nm,0.7s,baz=117,slow=9.0,SNR=3.5						
CMAR	**Chiang Mai Arr**	**64.48**	**295**	P	**P**	**21 02 42.3**	**+0.9**
	1.9nm,1.0s,baz=109,slow=4.5,SNR=8.9						
MA2	**Magadan**	**68.75**	**356**	P	**P**	**21 03 06.6**	**-1.2**
	2.0nm,0.3s,baz=193,slow=7.4,SNR=4.1						
SEY	**Seymchan**	**72.00**	**357**	P	**P**	**21 03 27.1**	**-0.4**
	0.9nm,0.2s,baz=184,slow=3.0,SNR=5.4						
SONM	**Songino Array**	**72.81**	**326**	P	**P**	**21 03 34.2**	**+1.2**
	1.1nm,0.7s,baz=123,slow=6.1,SNR=4.6						
ILAR	**Eielson Array**	**84.26**	**21**	P	**P**	**21 04 34.7**	**-0.9**
	1.4nm,0.8s,baz=256,slow=5.0,SNR=12						
DOT	**Dot Lake**	**84.65**	**22**	*e*P	**P**	**21 04 37.8**	**+0.2**
	8.6nm,0.8s						
MKAR	**Makanchi Array**	**87.05**	**318**	P	**P**	**21 04 49.1**	**-0.7**
	1.3nm,0.8s,baz=104,slow=5.9,SNR=12						
ZALV	**Zalesovo Beam**	**87.68**	**325**	P	**P**	**21 04 51.3**	**-1.3**
	0.3nm,0.4s,baz=111,slow=7.9,SNR=2.3						
SYO	**Syowa Base**	**91.29**	**198**	⇑*e*P	**P**	**21 05 07.4**	**-2.0**
BVAR	**Borovoye Array**	**95.86**	**323**	P	**P**	**21 05 29.2**	**-1.5**
	0.4nm,0.5s,baz=75,slow=6.1,SNR=3.4						
YKA	**Yellowknife Ar**	**96.79**	**28**	P	**P**	**21 05 34.8**	**+0.1**
	0.5nm,0.9s,baz=278,slow=4.3,SNR=3.1						
BDFB	**Brasilia**	**144.28**	**133**	PKP	PKPbc	21 11 40.5	+0.8
	10.0nm,1.1s,baz=203,slow=4.6,SNR=7.7						
ESDC	**Sonseca Array**	**145.64**	**335**	PKPbc	**PKPdf**	**21 11 43.6**	**+0.6**
	0.5nm,0.7s,baz=29,slow=2.9,SNR=3.4						

---

*ISCJB **01** 21:00:41.9±0.7, 10°.37N±0°.03×63°.02W±0°.03, h5km±6km, Error ellipse: s-maj=5.7km s-min=4.8km az=5.7*
*FUNV **01** 21:00:42.5, 10°.35N×62°.92W, h2km, MW3.6*
ISC 01 21:00:42.1±1.0**, 10°.38N**±0°.04×**62°.96W**±0°.03**, h11**km±8km**, n14, σ1s50**/22**, 1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.22**	**176**	⇓*i*P	**Pg**	**21 00 46.1**	**-0.6**
GUNV				*e*S	**Sg**	**21 00 48.9**	**-1.0**
CRUV	**Carupano**	**0.40**	**317**	*e*P	**Pg**	**21 00 50.6**	**+0.6**
CRUV				*e*S	**Sg**	**21 00 54.7**	**-0.6**
GUIV	**Guiria**	**0.77**	**70**	*e*P	**Pb**	**21 00 56.5**	**-1.0**
GUIV				*e*S	**Sn**	**21 01 08.0**	**-2.5**
ORIV	**Oritupano**	**1.38**	**199**	*e*P	**Pb**	**21 01 08.3**	**+0.4**
ORIV				*e*S	**Sg**	**21 01 26.9**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.48**	**92**	*e*S	**Sg**	**21 01 31.7**	**+1.8**
TRN	**Trinidad (W)**	**1.55**	**80**	*e*P	**Pg**	**21 01 11.3**	**-0.6**
TRN				*e*S	**Sg**	**21 01 35.2**	**+3.1**
PCRV	**Puerto La Cruz**	**1.66**	**263**	*e*P	**Pn**	**21 01 12.4**	**+1.2**
PRGV	**PARIAGUAN**	**2.32**	**226**	*e*P	**Pn**	**21 01 21.6**	**+1.4**
PRGV				*e*S	**Sn**	**21 01 49.9**	**+1.2**
GURV	**El Guri**	**2.61**	**183**	*e*S	**Sn**	**21 01 55.4**	**-0.6**
CUPV	**Cœpira**	**2.80**	**264**	*e*P	**Pn**	**21 01 28.6**	**+1.6**
MERV	**Las Mercedes**	**3.48**	**251**	*e*P	**Pn**	**21 01 36.4**	**+0.2**
MERV				*e*S	**Sn**	**21 02 16.3**	**-1.1**
TURV	**Turiamo**	**4.80**	**271**	*e*P	**Pn**	**21 01 55.0**	**+0.5**
BAUV	**El Baul**	**5.21**	**254**	*e*P	**Pn**	**21 02 00.3**	**+0.2**
BAUV				*e*S	**Sn**	**21 02 57.4**	**-2.9**
MAPV	**Macapo**	**5.44**	**265**	*e*P	**Pn**	**21 02 03.8**	**+0.5**

---

*IDC **01** 21:08:17.6±1.4, 61°.05N×148°.29W, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.6/48, mbtmp3.7/8, ML3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/35, Error ellipse: s-maj=24.5km s-min=13.7km az=64.0*
*ISCJB **01** 21:08:24.2±0.3, 61°.39N±0°.02×147°.20W±0°.03, h31km±3km, mb3.5/4, Error ellipse: s-maj=3.8km s-min=2.6km az=21.2*
*NEIC **01** 21:08:24.9, 61°.39N×147°.15W, h12km, ML3.7(AEIC), After AEIC.*
NEIC Felt at Girdwood.
ISC 01 21:08:24.5±0.9**, 61°.34N**±0°.03×**147°.25W**±0°.02**, h29**km±8km**, n95, σ1s22**/104**, mb3.5**/4**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLZ	**Valdez**	**0.49**	**115**	P	**Pb**	**21 08 34.3**	**-0.4**
VLZ				S	**Sb**	**21 08 41.8**	**+0.2**
SCM	**Sheep Creek Mo**	**0.50**	**356**	P	**Pb**	**21 08 34.1**	**-0.8**
SCM				S	**Sb**	**21 08 41.3**	**-0.7**
VMT	**TAPS Tl Valdez**	**0.50**	**121**	P	**Pb**	**21 08 34.5**	**-0.3**
VMT				S	**Sb**	**21 08 42.4**	**+0.6**
KNK	**Knik Glacier**	**0.58**	**278**	P	**Pb**	**21 08 36.6**	**+0.4**
KLU	**Klutina**	**0.66**	**76**	P	**Pb**	**21 08 36.3**	**-1.3**
KLU				S	**Sb**	**21 08 45.0**	**-1.4**
SML	**Sawmill**	**0.70**	**313**	P	**Pb**	**21 08 37.4**	**-0.8**
DIV	**Divide**	**0.75**	**106**	P	**Pb**	**21 08 37.7**	**-1.2**
PMR	**Palmer**	**0.94**	**287**	P	**Pn**	**21 08 41.4**	**-0.3**
PMR				S	**Sn**	**21 08 53.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**1.08**	**137**	P	**Pb**	**21 08 44.2**	**-0.3**
PS11	**TAPS Pump St11**	**1.13**	**48**	P	**Pn**	**21 08 43.9**	**-0.4**
RC01	**Rabbit Creek A**	**1.23**	**259**	P	**Pb**	**21 08 46.6**	**-0.4**
RC01				S	**Sb**	**21 09 03.3**	**+0.8**
BMRM	**Bremner River**	**1.34**	**105**	P	**Pn**	**21 08 46.4**	**-0.8**
BMRM				S	**Sn**	**21 09 04.7**	**+0.6**
FIB	**Fire Island**	**1.42**	**264**	P	**Pb**	**21 08 50.3**	**0.0**
RAGM	**Ragged Mountai**	**1.58**	**126**	P	**Pn**	**21 08 51.0**	**+0.4**
SEW	**Seward**	**1.64**	**222**	P	**Pn**	**21 08 52.6**	**+1.2**
SLKM	**Skilak Lake**	**1.67**	**241**	P	**Pb**	**21 08 53.6**	**-1.0**
SUA	**Susitna One**	**1.69**	**276**	P	**Pn**	**21 08 53.0**	**+0.9**
DHY	**Denali Highway**	**1.75**	**358**	P	**Pn**	**21 08 52.4**	**-0.6**
CUT	**Chulitna**	**1.79**	**308**	P	**Pn**	**21 08 54.3**	**+0.9**
VRDI	**Verde Repeater**	**1.84**	**92**	P	**Pn**	**21 08 54.1**	**-0.2**
PAX	**Paxson**	**1.84**	**26**	P	**Pn**	**21 08 53.9**	**-0.3**
NICHA	**Nichawak Mount**	**1.95**	**123**	P	**Pn**	**21 08 55.9**	**+0.2**
MID	**Middleton Isla**	**1.97**	**166**	P	**Pn**	**21 08 57.7**	**+1.8**
BERG	**Berg Lake**	**1.98**	**117**	P	**Pn**	**21 08 55.8**	**-0.2**
HUR	**Hurricane**	**1.99**	**327**	P	**Pn**	**21 08 56.8**	**+0.6**
MCARA	**McCarthy VSAT**	**2.04**	**87**	P	**Pn**	**21 08 57.4**	**+0.5**
CRQM	**Cirque**	**2.08**	**104**	P	**Pn**	**21 08 58.0**	**+0.3**
SUCK	**Suckling Hills**	**2.13**	**125**	P	**Pn**	**21 08 59.6**	**+1.5**
SKT	**Skwentna**	**2.14**	**289**	P	**Pn**	**21 08 58.9**	**+0.6**
KHIT	**Khitrov Hills**	**2.15**	**113**	P	**Pn**	**21 08 58.4**	**-0.1**
GRIN	**Grindle Hills**	**2.20**	**117**	P	**Pn**	**21 09 00.3**	**+1.2**
PS10	**TAPS Pump St10**	**2.20**	**18**	P	**Pn**	**21 08 59.9**	**+0.8**
RND	**Reindeer**	**2.21**	**341**	P	**Pn**	**21 08 59.8**	**+0.5**
STLK	**Strandline Lak**	**2.21**	**276**	P	**Pn**	**21 09 00.5**	**+1.3**
PTPK	**Patty Peak**	**2.32**	**92**	P	**Pn**	**21 09 01.5**	**+0.6**
BRLK	**Bradley Lake**	**2.39**	**230**	P	**Pn**	**21 09 03.4**	**+1.6**
BALM	**Baldy**	**2.40**	**95**	P	**Pn**	**21 09 01.9**	**0.0**
SPCR	**Spurr Chakacha**	**2.40**	**269**	P	**Pn**	**21 09 02.9**	**+1.0**
KIAG	**Kiagna River**	**2.41**	**98**	P	**Pn**	**21 09 02.1**	**0.0**
CKL	**Chakachamna La**	**2.46**	**269**	P	**Pn**	**21 09 03.7**	**+0.9**
KULT	**Kultieth River**	**2.48**	**114**	P	**Pn**	**21 09 02.8**	**-0.1**
ISLE	**Juniper Island**	**2.51**	**105**	P	**Pn**	**21 09 03.4**	**0.0**
BARK	**Barkley Ridge**	**2.51**	**110**	P	**Pn**	**21 09 03.5**	**+0.1**
MCK	**McKinley**	**2.53**	**343**	P	**Pn**	**21 09 04.5**	**+1.0**
TRF	**Thorofare Moun**	**2.55**	**328**	P	**Pn**	**21 09 04.9**	**+0.9**
SPWE	**Spurr West**	**2.56**	**271**	P	**Pn**	**21 09 05.5**	**+1.4**
BAGL	**Bagley Icefiel**	**2.66**	**106**	P	**Pn**	**21 09 05.5**	**+0.1**
CNPM	**China Poot**	**2.69**	**229**	P	**Pn**	**21 09 07.1**	**+1.4**
BARN	**Barnard Glacie**	**2.72**	**93**	P	**Pn**	**21 09 07.0**	**+0.6**
GRNC	**Granite Creek**	**2.74**	**100**	P	**Pn**	**21 09 06.7**	**-0.1**
DOT	**Dot Lake**	**2.75**	**31**	P	**Pn**	**21 09 07.5**	**+0.9**
PPLA	**Purkeypile**	**2.80**	**306**	P	**Pn**	**21 09 07.8**	**+0.4**
KTH	**Kantishna Hill**	**2.80**	**324**	P	**Pn**	**21 09 08.1**	**+0.7**
RDJH	**Redoubt Jeurge**	**2.81**	**257**	P	**Pn**	**21 09 08.4**	**+0.9**
MESA	**MESA**	**2.85**	**112**	P	**Pn**	**21 09 08.6**	**+0.4**
RDWB	**Redoubt West**	**2.86**	**255**	P	**Pn**	**21 09 09.1**	**+0.8**
NCT	**North Crescent**	**2.88**	**257**	P	**Pn**	**21 09 09.4**	**+1.0**
CTGM	**Chitina Glacie**	**2.89**	**95**	P	**Pn**	**21 09 09.4**	**+0.7**
BWN	**Browne**	**3.02**	**341**	P	**Pn**	**21 09 10.5**	**+0.2**
CAST	**Castle Rocks**	**3.07**	**315**	P	**Pn**	**21 09 11.2**	**+0.2**
RKAV	**Rock Avalanche**	**3.08**	**107**	P	**Pn**	**21 09 11.5**	**+0.3**
LOGN	**Logan Glacier**	**3.08**	**97**	P	**Pn**	**21 09 11.6**	**+0.3**
HDA	**Harding Lake**	**3.09**	**2**	P	**Pn**	**21 09 11.8**	**+0.5**
BCA3	**Beaver Creek A**	**3.09**	**54**	P	**Pn**	**21 09 11.6**	**+0.3**
TABL	**Table Mountain**	**3.12**	**104**	P	**Pn**	**21 09 12.2**	**+0.3**
ILW	**Iliamna West**	**3.17**	**249**	P	**Pn**	**21 09 12.3**	**-0.2**
WRH	**Wood River Hil**	**3.17**	**353**	P	**Pn**	**21 09 12.5**	**+0.1**
PS08	**TAPS Pump Stn8**	**3.22**	**3**	P	**Pn**	**21 09 13.4**	**+0.3**
BPAW	**Bear Paw Mtn.**	**3.26**	**330**	P	**Pn**	**21 09 13.7**	**0.0**
CCB	**Clear Creek Bu**	**3.33**	**356**	P	**Pn**	**21 09 14.5**	**-0.1**
ILAR	**Eielson Array**	**3.45**	**3**	Pn	**Pn**	**21 09 15.5**	**-0.7**
	21nm,0.3s,baz=188,slow=13,SNR=208						
ILAR				Sn	**Sn**	**21 09 58.4**	**+2.3**
	13nm,0.3s,baz=191,slow=17,SNR=5.2						
ILB	**Eielson Array**	**3.45**	**3**	P	**Pn**	**21 09 15.6**	**-0.7**
COLA	**College**	**3.56**	**356**	P	**Pn**	**21 09 17.6**	**0.0**
MDM	**Murphy Dome**	**3.66**	**353**	P	**Pn**	**21 09 19.2**	**+0.1**
CDD	**Cape Douglas**	**4.01**	**236**	P	**Pn**	**21 09 25.5**	**+1.6**
MLY	**Manley**	**4.03**	**338**	P	**Pn**	**21 09 24.2**	**0.0**
SVW2	**Sparrevohn**	**4.04**	**270**	P	**Pn**	**21 09 24.2**	**0.0**
FOPK	**Fourpeaked Vol**	**4.05**	**233**	P	**Pn**	**21 09 26.1**	**+1.6**
TT01	**Tatalina**	**4.41**	**295**	P	**Pn**	**21 09 28.9**	**-0.5**
TTA	**Tatalina**	**4.41**	**295**	P	**Pn**	**21 09 29.3**	**-0.2**
EGAK	**Eagle**	**4.43**	**36**	*e*Pn	**Pn**	**21 09 30.4**	**+0.8**
EGAK				*e*Pg	**Pb**	**21 09 45.0**	**+3.6**
EGAK				Sg	**Sb**	**21 10 41.4**	**+7.2**
KDAK	**Kodiak Island**	**4.48**	**220**	P	**Pn**	**21 09 30.9**	**+0.5**
DAWY	**Dawson**	**4.54**	**49**	*e*Pn	**Pn**	**21 09 31.3**	**+0.1**
IM3	**Indian Mountai**	**5.49**	**331**	P	**Pn**	**21 09 43.8**	**-0.3**
COLD	**Coldfoot**	**6.05**	**349**	P	**Pn**	**21 09 51.8**	**-0.1**
WHY	**Whitehorse**	**6.06**	**91**	P	**Pn**	**21 09 50.6**	**-1.6**
BM3	**Burnt Mountain**	**6.21**	**9**	P	**Pn**	**21 09 54.1**	**0.0**
INK	**Inuvik**	**9.10**	**34**	Pn	Pn	21 10 39.4	+5.8
	0.1nm,0.3s,baz=253,slow=15,SNR=2.7						
INK				Lg	Lg	21 13 11.5	
	baz=288,slow=29,SNR=3.1						
DLBC	**Dease Lake**	**9.13**	**101**	Pn	**Pn**	**21 10 36.8**	**+2.6**
	0.3nm,0.3s,baz=178,slow=20,SNR=3.1						
DLBC				Lg	Lg	21 13 10.3	
	baz=227,slow=13,SNR=3.1						
DLBC				LR	LR	21 14 09.0	
	comp=Z,103nm,18.3s,baz=66,slow=37						
BBB	**Bella Bella**	**13.88**	**123**	Pn	**Pn**	**21 11 41.0**	**+2.0**
	0.3nm,0.3s,baz=231,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**15.33**	**71**	Pn	**Pn**	**21 11 56.3**	**-2.1**
	0.1nm,0.3s,baz=279,slow=12,SNR=3.4						
TXAR	**Lajitas Array**	**42.95**	**118**	P	**P**	**21 16 21.4**	**+0.7**
	0.8nm,0.7s,baz=343,slow=6.3,SNR=6.3						
FINES	**FINESS Array B**	**57.44**	**4**	P	**P**	**21 18 07.7**	**-2.1**
	0.5nm,0.5s,baz=354,slow=9.6,SNR=6.8						
MKAR	**Makanchi Array**	**65.06**	**325**	P	**P**	**21 18 59.3**	**-2.5**
	0.1nm,0.3s,baz=30,slow=9.2,SNR=2.8						
BRTR	**Keskin Array B**	**79.28**	**359**	P	**P**	**21 20 25.9**	**-1.1**
	0.3nm,0.6s,baz=15,slow=5.1,SNR=3.5						

---

*BJI **01** 21:16:31.6, 28°.36N×104°.92E, h5km, ML3.7/19, Ms3.5/2, Ms7 3.5/2*
*ISCJB **01** 21:16:32.0±0.5, 28°.46N±0°.06×105°.03E±0°.09, h19km, mb3.8/11, Error ellipse: s-maj=11.6km s-min=7.4km az=155.0*
*IDC **01** 21:16:38.5±3.7, 28°.40N×105°.08E, h63km±37km, mb3.6/11, mb1 3.7/13, mb1mx3.4/45, mbtmp3.8/13, ML3.7/2, MS3.1/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=19.5km s-min=14.4km az=50.0*
ISC 01 21:16:34.0±0.6**, 28°.43N**±0°.05×**104°.94E**±0°.07**, h19**km**, n18, σ1s45**/24**, mb3.8**/11**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.49**	**142**	Pn	**Pn**	**21 17 14.4**	**+0.7**
GYA				Pg	**Pg**	**21 17 20.3**	**-1.6**
GYA				Sn	**Sn**	**21 17 43.4**	**-0.3**
GYA				Sg	**Sb**	**21 17 48.4**	**-0.3**
GYA				SMN			
	390nm,0.7s						
GYA				SME			
	440nm,0.7s						
CD2	**Chengdu**	**2.67**	**338**	Pn	**Pn**	**21 17 16.3**	**+0.2**
CD2				Pg	**Pg**	**21 17 24.0**	**-1.3**
CD2				Sn	**Sn**	**21 17 47.8**	**-0.2**
CD2				Sg	**Sg**	**21 17 58.0**	**-2.0**
CD2				SMN			
	810nm,0.4s						
CD2				SME			
	2μm,0.8s						
XAN	**Xi'an**	**6.55**	**30**	Pn	**Pn**	**21 18 09.5**	**+0.2**
XAN				Sn	Sb	21 19 35.9	-9.3
XAN				Sg	**Sg**	**21 20 07.6**	**+3.5**
XAN				SMN			
	95nm,0.9s						
XAN				SME			
	77nm,1.0s						
XAN				LN			
	160nm,6.7s						
XAN				LE			
	140nm,5.6s						
XAN				LZ			
	240nm,7.0s						
LZH	**Lanzhou**	**7.69**	**353**	*e*Pg	Pb	21 18 52.7	+5.9
LZH				Sg	Sb	21 20 31.0	+13
LZH				smax	smax		
	comp=N,24nm,0.5s						
LZH				smax	smax		
	comp=E,40nm,0.8s						
LZH				LR	LR		
	comp=N,130nm,5.8s						
LZH				LR	LR		
	comp=E,280nm,5.8s						
LZH				LR	LR		
	comp=Z,220nm,7.4s						
CMAR	**Chiang Mai Arr**	**11.35**	**210**	P	**Pn**	**21 19 17.6**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=17,slow=12,SNR=17						
CMAR				LR	LR	21 24 00.1	
	comp=Z,70nm,18.8s,baz=10.0,slow=39						
SONM	**Songino Array**	**19.40**	**3**	P	**P**	**21 20 58.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=191,slow=11,SNR=4.2						
SONM				LR	LR	21 28 48.4	
	comp=Z,56nm,18.5s,baz=99,slow=38						
WMQ	**Urumqi**	**20.67**	**323**	P	**P**	**21 21 13.6**	**+0.8**
KSRS	**Korea Array**	**21.24**	**59**	P	**P**	**21 21 17.9**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=242,slow=12,SNR=11						
JNU	**Nakatsue**	**22.75**	**72**	P	**P**	**21 21 34.8**	**-0.4**
	comp=Z,5.3nm,1.0s,baz=241,slow=1.3,SNR=3.2						
MKAR	**Makanchi Array**	**25.50**	**322**	P	**P**	**21 22 02.0**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=129,slow=9.6,SNR=11						
USRK	**Ussuriysk Ar.**	**26.72**	**47**	P	**P**	**21 22 11.5**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=244,slow=8.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**29.44**	**336**	P	**P**	**21 22 37.9**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=146,slow=10,SNR=2.8						
GEYT	**Alibeck**	**39.96**	**296**	P	**P**	**21 24 09.2**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=87,slow=9.1,SNR=2.9						
WRA	**Warramunga Arr**	**55.86**	**146**	P	**P**	**21 26 08.7**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=316,slow=12,SNR=23						
ASAR	**Alice Springs**	**58.84**	**149**	P	**P**	**21 26 30.4**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=330,slow=6.6,SNR=9.1						
ARCES	**ARCESS Array B**	**59.99**	**336**	P	**P**	**21 26 38.5**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=90,slow=6.3,SNR=3.6						
FINES	**FINESS Array B**	**60.19**	**327**	P	**P**	**21 26 39.0**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=98,slow=7.9,SNR=8.0						
NOA	**NORSAR Array B**	**67.30**	**328**	P	**P**	**21 27 26.0**	**-1.3**
	comp=Z,1.6nm,1.0s,baz=83,slow=7.2,SNR=2.4						

---

*NIED **01** 21:25:00, 38°.00N×141°.80E, h56km, Mw3.5 Best double couple: $M_0$2.33000×10^{14} NP1:ϕ_s47.00000°, δ50.00000°, λ141.00000°. NP2:ϕ_s165.00000°, δ61.00000°, λ47.00000°.*

JMA 01 21:25:40.7±0.1, 38°.01N×141°.85E, h48km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.59	318	P	Pn	21 25 53.0	0.0
JIO				S	Sn	21 26 01.6	-0.2
JMM	Marumori	0.85	261	P	Pn	21 25 56.2	-0.1
JMM				S	Sn	21 26 08.0	+0.3
JOU	Okura	1.00	291	P	Pn	21 25 58.7	+0.3
JOU				eS	Sn	21 26 11.6	+0.2
JFK	Kawauchi	1.01	231	P	Pn	21 25 58.4	-0.1
JFK				S	Sn	21 26 11.3	-0.3
JMK	Ichinoseki	1.06	332	P	Pn	21 25 59.4	+0.2
JMK				S	Sn	21 26 13.1	+0.2
JFT	Otama	1.30	248	P	Pn	21 26 03.1	+0.7
JFT				S	Sn	21 26 19.3	+0.7
JYS	Shirataka	1.42	279	P	Pn	21 26 04.6	+0.5
JYS				S	Sn	21 26 23.0	+1.3
JYK	Kaneyama	1.48	308	P	Pn	21 26 05.3	+0.4
JYK				eS	Sn	21 26 23.3	+0.2
JOM	Ohasama	1.52	344	P	Pn	21 26 06.2	+0.7
JOM				eS	Sn	21 26 25.0	+0.8
JRG	Rokugo	1.68	326	P	Pn	21 26 08.6	+1.0
JRG				S	Sn	21 26 30.0	+2.0
JYA	Atsumi	1.78	290	P	Pn	21 26 09.6	+0.6
JYA				S	Sn	21 26 31.1	+0.7
JFY	Yanaizu	1.81	251	P	Pn	21 26 10.6	+1.2
JFY				eS	Sn	21 26 32.2	+1.1

ISK 01 21:37:54.3, 40°.00N×38°.92E, h5km, MD2.7
DDA 01 21:37:55.6, 40°.01N×38°.83E, h8km, Md2.6
CSEM 01 21:37:55.2±0.2, 40°.01N×38°.88E, h15km, MD2.6, Error ellipse: s-maj=6.1km s-min=4.6km az=161.0
ISC 01 21:37:54.7±1.2, 39°.98N±0°.05×38°.90E±0°.03, h9km±13km, n15, σ0s.22/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KELT	Kelkit	0.33	58	P	Pb	21 38 03.1	+0.3
KELT				S	Sb	21 38 08.1	-0.1
KELT	Kelkit	0.33	58	iP	Pb	21 38 03.1	+0.3
KELT				iS	Sb	21 38 08.1	-0.1
SUSE	Susehri	0.58	294	P	Pg	21 38 06.1	+0.1
SUSE				S	Sg	21 38 13.8	+0.2
SUSE	Susehri	0.58	294	iP	Pg	21 38 06.1	+0.1
SUSE				iS	Sg	21 38 13.8	+0.2
REFA	Refahiye_ERZ˜	0.59	190	iP	Pg	21 37 58.5	-7.7
REFA				iS	Sg	21 38 00.3	-14
GUMT	Gumushane	0.66	43	ePG	Pg	21 38 07.4	-0.1
GUMT				eSG	Sg	21 38 16.3	+0.2
GUMT	Gumushane	0.66	43	ePg	Pg	21 38 07.4	-0.1
GUMT				eSg	Sg	21 38 16.3	+0.2
CUZAR	Zara_SIVAS	0.87	264	P	Pg	21 38 11.2	-0.3
CUZAR				S	Sb	21 38 23.7	-0.2
CUZAR	Zara_SIVAS	0.87	264	iP	Pg	21 38 11.2	-0.3
CUZAR				iS	Sb	21 38 23.7	-0.2
ESPY	Espiye-Giresun	0.94	352	ePG	Pg	21 38 12.6	-0.3
ESPY				eSG	Sg	21 38 25.0	-0.2
ESPY	Espiye-Giresun	0.94	352	ePg	Pg	21 38 12.6	-0.3
ESPY				eSg	Sg	21 38 25.0	-0.2
PTK	Pertek	1.15	160	ePN	Pb	21 38 17.0	+0.1
PTK				eSN	Sn	21 38 33.2	0.0
PTK	Pertek	1.15	160	ePn	Pb	21 38 17.0	+0.1
PTK				eSn	Sn	21 38 33.2	0.0
SVSK	Karacayir	1.46	268	ePN	Pb	21 38 22.3	+0.3
SVSK	Karacayir	1.46	268	ePn	Pb	21 38 22.3	+0.3

ISK 01 21:51:34.9, 39°.03N×29°.14E, h9km, MD2.7
ISCJB 01 21:51:35.9±0.6, 39°.11N±0°.04×29°.01E±0°.04, h1km±8km, Error ellipse: s-maj=6.5km s-min=4.3km az=152.8
CSEM 01 21:51:36.2±0.2, 39°.11N×29°.01E, h5km, MD2.8, Error ellipse: s-maj=4.6km s-min=3.3km az=129.0
DDA 01 21:51:36.2, 39°.12N×29°.05E, h7km, Md2.8
ISC 01 21:51:36.2±1.0, 39°.10N±0°.02×29°.03E±0°.02, h6km±9km, n29, σ0s.52/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.25	257	P	Pg	21 51 41.4	+0.3
DEMI				S	Sg	21 51 45.0	+0.5
DEMI	Demirci	0.25	257	iP	Pg	21 51 41.4	+0.3
DEMI				iS	Sg	21 51 45.0	+0.5
GDZ	Gediz	0.35	92	P	Pg	21 51 43.2	+0.1
GDZ				S	Sg	21 51 48.5	+0.8
GDZ	Gediz	0.35	92	iP	Pg	21 51 43.2	+0.1
GDZ				iS	Sg	21 51 48.5	+0.8
TVSB	Tavsanli	0.48	44	ePG	Pg	21 51 45.1	-0.5
TVSB				eSG	Sg	21 51 51.6	-0.3
TVSB	Tavsanli	0.48	44	ePg	Pg	21 51 45.1	-0.5
TVSB				eSg	Sg	21 51 51.6	-0.3
KULA	Kula-Manisa	0.65	206	ePG	Pg	21 51 48.3	-0.4
KULA				eSG	Sg	21 51 56.4	-0.8
KULA	Kula-Manisa	0.65	206	ePg	Pg	21 51 48.3	-0.4
KULA				eSg	Sg	21 51 56.4	-0.8
KHAL	Karahalli	0.81	153	P	Pb	21 51 52.6	-0.1
KHAL				S	Sb	21 52 04.1	+0.1
KHAL	Karahalli	0.81	153	iP	Pb	21 51 52.6	-0.1
KHAL				iS	Sb	21 52 04.1	+0.1
AKHS	Akhisar	0.97	257	P	Pb	21 51 55.5	+0.1
AKHS	Akhisar	0.97	257	iP	Pb	21 51 55.5	+0.1
IGD	Bursa	1.17	6	iP	Pg	21 51 57.9	-0.7
MDNY	Mudanya-Bursa	1.27	355	ePN	Pb	21 52 00.3	-0.2
MDNY				eSN	Sn	21 52 18.9	+1.1
MDNY	Mudanya-Bursa	1.27	355	ePn	Pb	21 52 00.3	-0.2
MDNY				eSn	Sn	21 52 18.9	+1.1
KCTX	Karacabey (Bur	1.27	336	ePN	Pg	21 52 00.8	+0.2
KCTX	Karacabey (Bur	1.27	336	ePn	Pg	21 52 00.8	+0.2
IZI	Iznik	1.28	15	ePN	Pn	21 52 00.3	-0.3
IZI	Iznik	1.28	15	ePn	Pn	21 52 00.3	-0.3
BORA	Eskisehir	1.35	54	P	Pb	21 52 01.5	-0.4
BORA				S	Sn	21 52 19.8	-0.1
BORA	Eskisehir	1.35	54	iP	Pb	21 52 01.5	-0.4
BORA				iS	Sn	21 52 19.8	-0.1
AYDB	Zeytinkoy-Aydi	1.46	218	ePN	Pn	21 52 02.9	-0.2
AYDB	Zeytinkoy-Aydi	1.46	218	ePn	Pn	21 52 02.9	-0.2
ARMT	Armutlu	1.47	355	ePN	Pb	21 52 03.6	-0.3
ARMT	Armutlu	1.47	355	ePn	Pb	21 52 03.6	-0.3
ESKT	Eskisehir	1.47	73	eP	Pg	21 52 05.4	+1.0
SEYT	Eskypehyr	1.47	73	P	Pg	21 52 05.4	+1.0
GULT	Gulveren	1.75	40	ePN	Pn	21 52 06.7	-0.5
GULT	Gulveren	1.75	40	ePn	Pn	21 52 06.7	-0.5

NEIC 01 21:55:24.0±0.6, 14°.70S×167°.35E, h159km±5km, mb5.0/33, Error ellipse: s-maj=7.7km s-min=6.1km az=84.0
BJI 01 21:55:25.1, 14°.29S×167°.20E, h150km, mb4.7/13, mB4.9/9
IDC 01 21:55:26.0±0.7, 14°.72S×167°.25E, h174km±5km, mb4.0/19, mb1 4.0/21, mb1mx3.8/49, mbtmp4.5/21, MS3.1/1, Ms1 3.1/1, ms1mx2.6/27, Error ellipse: s-maj=12.3km s-min=9.8km az=90.0
ISCJB 01 21:55:26.2±1.0, 14°.81S±0°.04×167°.28E±0°.06, h193km±9km, mb4.6/41, Error ellipse: s-maj=9.5km s-min=6.3km az=151.8
ISC 01 21:55:25.7±0.5, 14°.78S±0°.05×167°.31E±0°.06, h169km±4km, h169km:pP-P, n86, σ1s.46/111, mb4.8/41, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.30	186	P	Pn	21 57 10.3	+0.4
	11nm,0.3s,baz=40,slow=16,SNR=83						
DZM				S	Sn	21 58 32.5	+0.4
	6.0nm,0.3s,baz=336,slow=18,SNR=3.4						
DZM				LR	LR	21 59 51.3	
	comp=Z,131nm,19.4s,baz=62,slow=36						
DZM	Mont Dzumac	7.30	186	ePn	Pn	21 57 09.3	-0.6
DZM				eSn	Sn	21 58 31.0	-1.1
HNR	Honiara	8.95	306	P	Pn	21 57 30.9	-0.7
	11nm,0.3s,baz=214,slow=2.5,SNR=7.7						
HNR				S	Sn	21 59 12.3	+1.0
	12nm,0.3s,baz=82,slow=22,SNR=3.3						
HNR	Honiara	8.95	306	eP	Pn	21 57 30.0	-1.6
HNR				eS	Sn	21 59 13.0	+1.6
HNR	Honiara	8.95	306	ePn	Pn	21 57 31.3	-0.3
HNR				eSn	Sn	21 59 12.3	+1.0
MSVF	Nonsavu	10.72	107	ePn	Pn	21 57 57.3	+2.3
RABL	Rabaul	18.25	304	esP	sP	22 00 12.7	-3.9
EIDS	Eidsvold	18.51	233	eP	Pn	21 59 31.7	+0.2
	13nm,0.7s						
AFI	Afiamalu	20.28	90	P	Pn	21 59 50.8	-1.8
	18nm,0.7s,baz=224,slow=23,SNR=3.9						
AFI	Afiamalu	20.28	90	eP	P	21 59 48.5	0.0
	35nm,0.9s						
PMG	Port Moresby	20.41	283	P	P	21 59 50.0	+0.2
	22nm,0.9s,baz=344,slow=23,SNR=3.2						
PMG	Port Moresby	20.41	283	eP	P	21 59 49.7	-0.1
	28nm,1.0s						
CTA	Charters Tower	20.77	252	P	P	21 59 54.0	+0.5
	9.1nm,0.8s,baz=76,slow=14,SNR=6.7						
CTAO	Charters Tower	20.77	252	eP	P	21 59 54.3	+0.8
	9.7nm,0.9s						
OUZ	Omahuta	21.13	166	eP	P	21 59 57.0	-0.2
	69nm,1.3s						
ARMA	Armidale	21.22	220	eP	P	22 00 00.1	+1.7
	23nm,0.8s						
PATS	Pohnpei	23.25	337	eP	P	22 00 17.7	-0.5
	152nm,1.3s						
URZ	Urewera	24.95	161	P	P	22 00 34.6	+1.3
	6.7nm,0.7s,baz=13,slow=14,SNR=2.3						
URZ	Urewera	24.95	161	eP	P	22 00 34.6	+1.3
	19nm,1.1s						
THZ	Tophouse	27.32	171	eP	P	22 00 55.2	+0.4
	119nm,1.9s						
KHZ	Kahutara	28.06	170	eP	P	22 01 02.7	+1.6
	130nm,1.9s						
STKA	Stephens Creek	28.99	230	P	P	22 01 10.5	+0.8
	17nm,0.6s,baz=43,slow=8.7,SNR=38						
STKA				pP	pP	22 01 46.4	+1.5
	2.2nm,0.7s,baz=193,slow=23,SNR=1.8						
STKA				PcP	PcP	22 04 13.9	-0.1
	1.5nm,0.7s,baz=210,slow=6.2,SNR=3.6						
STKA	Stephens Creek	28.99	230	eP	P	22 01 10.5	+0.8
	4.1nm,0.8s						
STKA				epP	pP	22 01 46.4	+1.5
STKA				ePcP	PcP	22 04 13.9	-0.1
RPZ	Rata Peaks	29.02	174	P	P	22 01 10.8	+1.1
	9.4nm,0.8s,baz=354,slow=2.6,SNR=5.8						
RPZ	Rata Peaks	29.02	174	eP	P	22 01 10.3	+0.6
	52nm,1.4s						
MQZ	McQueen's Vall	29.19	172	eP	P	22 01 10.2	-1.0
	109nm,1.7s						
LBZ	Lake Benmore	29.61	176	eP	P	22 01 14.8	-0.1
	85nm,1.8s						
WKZ	Wanaka	29.99	178	eP	P	22 01 15.6	-2.7
	52nm,1.2s						
MLZ	Mavora Lakes	30.50	179	eP	P	22 01 22.5	-0.3
	102nm,1.8s						
DCZ	Deep Cove	30.59	180	eP	P	22 01 22.9	-0.6
	32nm,1.0s						
WHZ	Wether Hill Ro	31.02	179	eP	P	22 01 26.2	-1.1
	126nm,1.8s						
WB2	Warramunga Arr	31.84	256	eP	P	22 01 33.1	-1.8
	42nm,1.8s						
WR1	Warramunga Arr	31.85	256	eP	P	22 01 32.8	-2.2
	33nm,1.9s						
WR1				epP	pP	22 02 11.0	+0.6
WRA	Warramunga Arr	31.85	256	P	P	22 01 32.8	-2.2
	1.1nm,0.3s,baz=84,slow=8.7,SNR=33						
WRA				pP	pP	22 02 11.0	+0.6
	1.5nm,0.9s,baz=85,slow=9.2,SNR=3.0						
AS01	Alice Springs	32.65	249	eP	P	22 01 40.7	-1.2
AS31	Alice Springs	32.69	249	eP	P	22 01 41.1	-1.2
	1.9nm,0.8s						
AS31				epP	pP	22 02 18.2	+0.4
AS31				eScP	ScP	22 07 53.1	+0.8
ASAR	Alice Springs	32.69	249	P	P	22 01 41.1	-1.2
	3.3nm,0.5s,baz=80,slow=8.9,SNR=52						
ASAR				pP	pP	22 02 18.2	+0.4
	2.3nm,0.6s,baz=74,slow=9.5,SNR=3.7						
ASAR				ScP	ScP	22 07 53.1	+0.8
	1.0nm,1.0s,baz=72,slow=4.1,SNR=4.6						
BBOO	Buckleboo	33.58	232	eP	P	22 01 50.5	+0.7
	27nm,0.6s						
SAUI	Saumlaki	35.91	277	eP	P	22 02 10.7	+0.7
	363nm,1.0s						
FITZ	Fitzroy Crossi	40.05	259	P	P	22 02 44.4	-0.2
	3.6nm,0.4s,baz=78,slow=8.8,SNR=8.4						
FITZ	Fitzroy Crossi	40.05	259	eP	P	22 02 44.2	-0.4
	31nm,1.8s						
MBWA	Marble Bar	45.57	255	eP	P	22 03 29.0	-0.1
	32nm,1.5s						
KAPI	Kappang	47.75	277	P	P	22 03 45.2	-0.9
	5.6nm,0.4s,baz=90,slow=18,SNR=4.1						
KAPI	Kappang	47.75	277	eP	P	22 03 45.2	-0.9
	12nm,0.9s						
NWAO	Narrogin (SRO)	48.76	239	eP	P	22 03 52.9	-0.7
	114nm,1.5s						
KIP	Kipapa	49.52	44	eP	P	22 03 56.8	-2.6
	335nm,1.6s						
JOW	Kunigami	56.11	317	eP	P	22 04 43.6	-4.1
	50nm,1.3s						
VNDA	Vanda	62.82	181	P	P	22 05 32.4	-0.4
	3.2nm,0.7s,baz=355,slow=7.8,SNR=36						
SBA	Scott Base	63.09	180	eP	P	22 05 35.2	+0.6
	15nm,0.9s						
CASY	Casey	63.50	202	eP	P	22 05 37.1	-0.3
	6.2nm,0.7s						
PETK	Petropavlovsk-	68.11	354	P	P	22 06 06.0	-1.1
	2.9nm,0.8s,baz=150,slow=6.0,SNR=2.5						
PEA1	Petropavlovsk-	68.12	354	eP	P	22 06 06.0	-1.1
KLR	Kul'dur	71.07	336	P	P	22 06 24.8	-0.4
	0.7nm,0.6s,baz=138,slow=2.3,SNR=4.5						
GYA	Guiyang	71.77	305	eP	P	22 06 32.3	+2.2
GYA				pP	pP	22 07 08.9	-2.0
GYA				sP	sP	22 07 26.4	-2.6
GYA				PP	PP	22 09 14.5	+2.5
GYA				S	S	22 15 39.3	+2.3
GYA				SKS	SKSac	22 16 17.0	-1.2
GYA				PMZ			
	20nm,1.0s						
UNV	Unalaska Valle	71.93	16	eP	P	22 06 29.1	-1.2
	219nm,1.8s						
KMI	Kunming	74.36	302	P	P	22 06 45.3	-0.2
KMI				PMZ			
	8.0nm,0.6s						
QSPA	South Pole Qui	75.25	180	eP	P	22 06 49.2	-0.6
HHC	Hu-ho-hao-te	75.65	320	eP	P	22 06 51.2	-1.2
HHC				PMZ			
	11nm,1.2s						
HHC				PMZ			
	95nm,7.5s						
CD2	Chengdu	76.07	308	eP	P	22 06 56.0	+1.1
CD2				pP	pP	22 07 33.2	-2.9
CD2				sP	sP	22 07 49.7	-4.4
CD2				S	S	22 16 28.3	+3.6
CD2				sS	sS	22 17 33.2	-3.0
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
SEY	Seymchan	78.33	353	P	P	22 07 06.9	+0.2
	1.0nm,0.4s,baz=145,slow=5.0,SNR=2.7						
SEY				pP	pP	22 07 48.6	+0.5
	1.6nm,0.6s,baz=112,slow=4.3,SNR=2.7						
MAW	Mawson	81.86	202	P	P	22 07 25.3	-0.3
	5.4nm,0.8s,baz=81,slow=8.2,SNR=7.0						
MAW	Mawson	81.86	202	eP	P	22 07 25.3	-0.3
	1.8nm,0.9s						
YAK	Yakutsk	82.09	343	P	P	22 07 26.2	-0.6
	1.7nm,0.5s,baz=164,slow=21,SNR=2.3						
YAK	Yakutsk	82.09	343	eP	P	22 07 26.2	-0.6
	16nm,0.5s						
SONA0	Songino Array	82.56	324	eP	P	22 07 29.3	-0.4
	7.2nm,1.8s						
SONM	Songino Array	82.56	324	P	P	22 07 29.3	-0.4
	0.8nm,0.8s,baz=124,slow=8.9,SNR=3.6						
NSHM	Saint Helena R	84.19	48	eP	P	22 07 41.0	+2.9
ILAR	Eielson Array	86.56	18	P	P	22 07 47.2	-2.0
	0.8nm,0.6s,baz=239,slow=5.2,SNR=9.7						
ILAR				pP	pP	22 08 32.5	+1.0
	0.8nm,0.7s,baz=241,slow=5.5,SNR=4.3						
ILB	Eielson Array	86.56	18	eP	P	22 07 47.2	-2.0
ILB				epP	pP	22 08 32.5	+1.0
WMQ	Urumqi	92.79	315	P	P	22 08 19.4	+0.3
WMQ				pP	pP	22 09 00.0	-1.6
WMQ				sP	sP	22 09 17.0	-2.2
WMQ				PMZ			
	4.0nm,0.6s						
SNAA	Sanae	93.50	183	P	P	22 08 19.2	-2.7
REDW	Red Top Meadow	94.20	46	eP	P	22 08 29.8	+4.0
	19nm,1.5s						
MK32	Makanchi Array	97.27	316	eP	P	22 08 38.8	-0.5
MK32				epP	pP	22 09 20.5	-1.4
MKAR	Makanchi Array	97.27	316	P	P	22 08 38.8	-0.5
	0.6nm,0.7s,baz=94,slow=6.2,SNR=5.8						
MKAR				pP	pP	22 09 20.5	-1.4
	0.5nm,0.7s,baz=98,slow=7.5,SNR=2.3						
KSH	Kashi	100.26	308	P	Pdif	22 08 57.6	+4.6
KSH				SKS	SKSac	22 19 18.7	+2.7
KSH				S	Sdif	22 20 16.8	+2.7
KSH				SS	SS	22 27 14.7	+1.6
KSH				PMZ			
	2.0nm,0.3s						
KSH				PMZ			
	86nm,4.7s						
KSH				LN			
	84nm,4.0s						
KSH				LE			
	73nm,4.4s						
KSH				LZ			
	160nm,5.0s						
ARA0	ARCESS Array S	120.31	345	ePKPdf	PKPdf	22 13 54.9	-1.3
ARCES	ARCESS Array B	120.31	345	PKP	PKPdf	22 13 54.9	-1.3
	2.2nm,0.6s,baz=29,slow=2.8,SNR=12						
FIA0	FINESS Array S	125.78	338	ePKPdf	PKPdf	22 14 06.2	-0.6
FINES	FINESS Array B	125.78	338	PKP	PKPdf	22 14 06.2	-0.6
	0.5nm,0.7s,baz=92,slow=4.3,SNR=4.8						
NB2	NORSAR Subarra	130.68	345	SKPa	SKPbc	22 17 24.7	+0.3
	comp=Z,3.3nm,0.8s,baz=38,slow=4.8						
NB200	NORSAR Array S	130.68	345	eSKPbc	SKPbc	22 17 26.5	+2.1
NOA	NORSAR Array B	130.68	345	SKPbc	SKPbc	22 17 26.5	+2.1
	comp=Z,3.7nm,0.8s,baz=31,slow=3.1,SNR=8.8						
GERES	GERESS Array B	139.70	333	PKP	PKPdf	22 14 33.7	+0.2
	comp=Z,0.3nm,0.7s,baz=264,slow=2.7,SNR=4.0						
TIP	Timpagrande	144.51	319	ePKPdf	PKPab	22 14 41.1	-0.1
KEST	Kesra	151.27	321	PKPbc	PKPbc	22 14 59.1	-0.6
	comp=Z,3.1nm,0.8s,baz=129,slow=3.6,SNR=10						
TOA0	Torodi Ar. Sit	165.94	265	ePKPab	PKPab	22 16 11.5	-0.8

IDC 01 22:00:34.1±0.8, 8°.34N×103°.53W, h0km, mb4.0/8, mb1 4.4/8, mb1mx4.1/35, mbtmp4.1/8, MS4.0/21, Ms1 4.0/21, ms1mx3.9/23, Error ellipse: s-maj=57.1km s-min=18.4km az=69.0
NEIC 01 22:00:35.4±0.5, 8°.36N×103°.32W, h10km, mb4.6/36, Error ellipse: s-maj=15.4km s-min=8.4km az=65.0
ISCJB 01 22:00:38.3±0.6, 8°.55N±0°.08×103°.08W±0°.10, h33km, mb4.5/41, MS3.9/19, Error ellipse: s-maj=15.8km s-min=7.8km az=146.7
ISC 01 22:00:39.7±0.7, 8°.51N±0°.10×103°.2W±0°.1, h35km, n94, σ1s.69/74, mb4.5/41, MS4.0/19, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TLIG	Tlapa	10.06	26	ePn	Pn	22 03 00.8	-1.0
MOIG	Morelia	11.27	10	ePn	Pn	22 03 17.1	-1.4
ZAIG	Zacatecas	14.19	2	ePn	Pn	22 03 55.3	-3.2
LPIG	La Paz	16.93	337	LR	LR	22 09 32.1	
	comp=Z,1µm,18.5s,baz=168,slow=32						
HPIG		18.47	353	eP	P	22 04 53.4	+0.5
	48nm,1.8s						
TEIG	Tepich	18.53	49	LR	LR	22 11 06.4	
	comp=Z,457nm,21.6s,baz=160,slow=33						
SRIG	Santa Rosalia	20.58	337	eP	P	22 05 14.1	-1.5
LTX	Lajitas	20.72	359	eP	P	22 05 18.6	+1.4
TXAR	Lajitas Array	20.72	359	P	P	22 05 18.6	+1.4
	1.9nm,0.7s,baz=183,slow=11,SNR=15						
TXAR				LR	LR	22 12 08.8	
	comp=Z,305nm,20.2s,baz=0.0,slow=33						
TX31	Lajitas Ar. Si	20.72	359	eP	P	22 05 19.3	+2.0
JCT	Junction City	22.08	8	eP	P	22 05 33.0	+1.1
	13nm,1.1s						
MNTX	Cornudas Mount	23.16	355	eP	P	22 05 44.3	+1.1
	14nm,1.4s						
WHTX	Lake Whitney,	23.96	12	eP	P	22 05 49.6	-1.2
	11nm,1.0s						
ABTX	Abilene, Hawle	24.22	7	eP	P	22 05 54.8	+1.6
	29nm,1.5s						
NATX	Nacogdoches	24.45	18	eP	P	22 05 54.1	-1.2
BNM	Barren Site	25.71	353	eP	P	22 06 07.0	0.0
OTAV	Otavalo	25.97	107	eP	P	22 06 08.9	-1.0
	16nm,1.2s						
LAZ	Ladron	26.02	353	eP	P	22 06 07.3	-2.5
113A	Mohawk Valley,	26.05	339	eP	P	22 06 09.3	-0.6
	13nm,0.9s						
ANMO	Albuquerque	26.48	354	LR	LR	22 15 18.4	
	comp=Z,256nm,18.4s,baz=178,slow=33						
ANMO	Albuquerque	26.48	354	eP	P	22 06 11.2	-2.7
	10nm,1.7s						
GLA	Glamis	26.69	338	eP	P	22 06 17.3	+1.6
	12nm,0.8s						
WLAR	White Oak Lake	26.72	19	eP	P	22 06 14.7	-1.2
	20nm,1.2s						
W18A	Petrified Fore	27.15	348	eP	P	22 06 19.3	-0.6
	22nm,1.5s						
MIAR	Mount Ida	27.37	17	eP	P	22 06 22.5	+0.8
	11nm,1.0s						
MIAR				ePcP	PcP	22 09 36.7	-3.7
PFO	Pinyon Flats O	27.82	336	LR	LR	22 15 56.8	
	comp=Z,372nm,19.7s,baz=140,slow=33						
PFO	Pinyon Flats O	27.82	336	eP	P	22 06 23.3	-2.7
	36nm,1.9s						
WUAZ	Wupatki	27.90	346	eP	P	22 06 24.7	-1.9
	10nm,1.0s						
UALR	University of	27.97	19	eP	P	22 06 27.8	+0.8
	11nm,1.3s						
X301	Greenbrier Sit	28.38	19	eP	P	22 06 32.4	+1.7
	21nm,1.5s						
WHAR	Wooly Hollow	28.46	19	eP	P	22 06 33.8	+2.4
	42nm,1.7s						
ROSC	El Rosal	28.89	95	LR	LR	22 15 22.7	
	comp=Z,160nm,20.3s,baz=286,slow=30						
ATAH	Atahualpa	29.19	121	LR	LR	22 15 53.8	
	comp=Z,836nm,20.6s,baz=285,slow=31						
KNB	Kanab	29.70	344	eP	P	22 06 44.8	+2.2
	18nm,1.4s						
PV01	Paradox Valley	29.89	351	eP	P	22 06 42.0	-2.4
TJR	Tejon Ranch	30.00	334	eP	P	22 06 42.8	-2.3
P17A	Butcher Ranch,	31.56	349	eP	P	22 07 01.8	+2.8
	11nm,1.2s						
SDV	Santo Domingo	32.17	87	eP	P	22 07 05.2	+0.4
	11nm,1.0s						
MPU	Maple Canyon	32.27	348	eP	P	22 07 07.8	+2.5
	18nm,1.3s						
DUG	Dugway, Tooele	32.70	346	eP	P	22 07 09.1	+0.1
	24nm,1.5s						
NV01	Mina Array Sit	32.76	338	eP	P	22 07 10.7	+1.1
NVAR	Mina Array Bea	32.76	338	P	P	22 07 10.7	+1.1
	0.9nm,0.3s,baz=142,slow=8.0,SNR=3.6						
NVAR				LR	LR	22 18 31.3	
	comp=Z,294nm,20.4s,baz=118,slow=33						
CSR	Chase Ranch	32.88	332	eP	P	22 07 10.6	+0.1
HWUT	Hardware Ranch	33.78	349	eP	P	22 07 20.5	+2.0
	21nm,1.7s						
BMN	Battle Mountai	34.16	341	eP	P	22 07 23.7	+2.0
	18nm,1.5s						
HVU	Hansel Valley	34.20	347	eP	P	22 07 25.8	+3.7
	32nm,1.8s						
BW06	Boulder Array	34.58	352	eP	P	22 07 26.4	+1.0
PD31	Pinedale Array	34.58	352	eP	P	22 07 25.7	+0.3
PDAR	Pinedale Array	34.58	352	P	P	22 07 25.7	+0.3
	2.3nm,0.9s,baz=160,slow=9.3,SNR=11						
LOHW	Long Hollow	35.56	351	eP	P	22 07 35.3	+1.4
	6.7nm,1.3s						
HLID	Hailey	36.27	346	eP	P	22 07 41.5	+1.7
	5.4nm,1.3s						
BOZ	Bozeman (W)	37.71	350	eP	P	22 07 54.4	+2.4
	24nm,1.9s						
LRM	Limekiln Ridge	38.02	349	eP	P	22 07 55.9	+1.1
TAOE	Nuku Hiva Isla	40.66	246	eLR	LR	22 19 06.7	
	373nm,25.1s						
LON	Longmire	41.30	341	eP	P	22 08 23.1	+1.2
	8.5nm,1.1s						
ULM	Lac du Bonnet	42.05	7	LR	LR	22 25 51.0	
	comp=Z,136nm,19.3s,baz=180,slow=36						
LPAZ	La Paz	42.55	125	eP	P	22 08 32.8	-0.3
	4.6nm,0.9s						
SAML	Samuel	43.46	113	eP	P	22 08 40.1	+0.3
	8.6nm,1.2s						
RKT	Rikitea	44.23	224	eLR	LR	22 20 47.3	
	595nm,27.2s						
RKT	Rikitea	44.23	224	eT	T	22 55 29.6	
	14nm,0.4s						
PPT	Papeete	52.65	240	LR	LR	22 25 34.2	
	comp=Z,207nm,20.8s,baz=108,slow=29						
PPT2	Papeete2	52.66	240	eLR	LR	22 24 44.3	
	509nm,24.2s,baz=60						
SCHQ	Schefferville	54.49	25	LR	LR	22 35 11.7	
	comp=Z,178nm,19.7s,baz=260,slow=38						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SCHQ	**Schefferville**	**54.49**	**25**	*e*P	**P**	**22 10 04.2**	**+0.4**
	10nm,1.1s						
YKA	**Yellowknife Ar**	**54.52**	**354**	P	**P**	**22 10 02.9**	**-0.9**
	1.0nm,0.9s,baz=168,slow=6.9,SNR=4.6						
YKA				LR	LR	22 33 00.3	
	comp=Z,17nm,20.5s,baz=180,slow=36						
YKB5	**Yellowknife Ar**	**54.52**	**354**	*e*P	**P**	**22 10 02.9**	**-0.9**
TBI	**Tubuai**	**55.22**	**234**	*e*LR	LR	22 25 54.2	
	306nm,29.2s						
CPUP	**Villa Florida**	**56.40**	**129**	P	**P**	**22 10 18.6**	**+0.7**
	3.7nm,0.9s,baz=311,slow=6.6,SNR=8.3						
CPUP				LR	LR	22 32 27.3	
	comp=Z,118nm,21.2s,baz=317,slow=34						
PLCA	**Paso Flores**	**57.49**	**151**	P	**P**	**22 10 25.9**	**+0.4**
	5.6nm,1.1s,baz=352,slow=11,SNR=4.9						
PLCA				LR	LR	22 28 57.6	
	comp=Z,264nm,19.5s,baz=348,slow=30						
PLCA	**Paso Flores**	**57.49**	**151**	*e*P	**P**	**22 10 25.9**	**+0.4**
	9.4nm,1.3s						
BDFB	**Brasilia**	**59.68**	**114**	LR	LR	22 34 47.4	
	comp=Z,144nm,19.3s,baz=253,slow=34						
EGAK	**Eagle**	**62.16**	**343**	*e*P	**P**	**22 11 00.8**	**+3.7**
	12nm,1.6s						
SCM	**Sheep Creek Mo**	**62.21**	**338**	*e*P	**P**	**22 10 58.3**	**+0.7**
	21nm,0.8s						
INK	**Inuvik**	**63.01**	**348**	P	**P**	**22 11 03.5**	**+0.8**
	2.1nm,0.8s,baz=154,slow=7.7,SNR=4.4						
RND	**Reindeer**	**63.74**	**339**	*e*P	**P**	**22 11 12.2**	**+4.4**
	25nm,1.6s						
IL1	**Eielson Array**	**63.94**	**341**	*e*P	**P**	**22 11 07.6**	**-1.3**
ILAR	**Eielson Array**	**63.94**	**341**	P	**P**	**22 11 08.7**	**-0.3**
	1.3nm,0.8s,baz=149,slow=4.5,SNR=7.3						
ILAR				LR	LR	22 36 16.7	
	comp=Z,75nm,19.3s,baz=178,slow=34						
ILB	**Eielson Array**	**63.94**	**341**	*e*P	**P**	**22 11 08.7**	**-0.3**
PETK	**Petropavlovsk-**	**88.69**	**323**	LR	LR	22 44 26.9	
	comp=Z,33nm,21.8s,baz=101,slow=30						
MA2	**Magadan**	**90.72**	**331**	LR	LR	22 48 24.7	
	comp=Z,42nm,19.4s,baz=136,slow=32						
ESDC	**Sonseca Array**	**91.65**	**50**	LR	LR	22 53 05.9	
	comp=Z,41nm,18.2s,baz=335,slow=34						
DZM	**Mont Dzumac**	**93.49**	**248**	*e*LR	LR	22 43 45.4	
	144nm,21.9s						
ARCES	**ARCESS Array B**	**94.58**	**16**	LR	LR	22 56 57.0	
	comp=Z,98nm,21.3s,baz=313,slow=36						
DBIC	**Dimbokro**	**97.20**	**82**	LR	LR	22 57 30.9	
	comp=Z,63nm,18.8s,baz=255,slow=35						
WR1	**Warramunga Arr**	**123.33**	**252**	*e*PKPdf	**PKPdf**	**22 19 32.6**	**-1.4**
WRA	**Warramunga Arr**	**123.33**	**252**	PKP	**PKPdf**	**22 19 32.6**	**-1.4**
	2.0nm,0.9s,baz=96,slow=1.7,SNR=6.9						
AS31	**Alice Springs**	**123.47**	**247**	*e*PKPdf	**PKPdf**	**22 19 32.7**	**-1.5**
ASAR	**Alice Springs**	**123.47**	**247**	PKP	**PKPdf**	**22 19 32.7**	**-1.5**
	1.1nm,0.9s,baz=119,slow=2.4,SNR=7.2						
MK32	**Makanchi Array**	**124.73**	**355**	*e*PKPdf	**PKPdf**	**22 19 36.8**	**+0.8**
MKAR	**Makanchi Array**	**124.73**	**355**	PKP	**PKPdf**	**22 19 36.8**	**+0.8**
	0.1nm,0.2s,baz=354,slow=1.4,SNR=3.2						
CHTO	**Chiang Mai**	**145.16**	**321**	*e*PKPbc	**PKPbc**	**22 20 13.7**	**-0.4**
KSM	**Kuching**	**145.17**	**285**	*e*PKPbc	**PKPbc**	**22 20 14.2**	**-0.1**
CM31	**Chiang Mai Arr**	**145.43**	**321**	*e*PKPbc	**PKPbc**	**22 20 14.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**145.43**	**321**	PKPbc	**PKPbc**	**22 20 14.8**	**-0.1**
	6.1nm,0.9s,baz=17,slow=3.1,SNR=22						

---

*NIED **01** 22:06:00, 40°.40N×142°.30E, h47km, Mw3.9 Best double couple: M₀8.41000×10¹⁴ NP1:φs203.00000°, δ22.00000°, λ93.00000°. NP2:φs20.00000°, δ68.00000°, λ89.00000°.*
*ISCJB **01** 22:06:40.2±0.9, 40°.39N±0°.04×142°.2E±0°.1, h57km±6km, mb3.9/12, MS3.3/5, Error ellipse: s-maj=13.2km s-min=7.2km az=176.3*
*JMA **01** 22:06:41.0±0.1, 40°.37N×142°.26E, h40km±1km, M4.1*
JMA Felt I J1.
*IDC **01** 22:06:42.9±2.7, 40°.41N×142°.38E, h70km±21km, mb3.7/12, mb1 3.8/16, mb1mx3.6/48, mbtmp4.0/16, MS3.1/9, Ms1 3.1/9, ms1mx2.8/37, Error ellipse: s-maj=31.2km s-min=16.4km az=88.0*
ISC 01 22:06:41.9±1.2**, 40°.37N**±0°.04×**142°.12E**±0°.09**, h49**km±9km**, n35, σ2ˢ15**/32**, mb4.0**/12**, MS3.2**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.47**	**271**	P	**Pn**	**22 06 52.8**	**+0.1**
JANG				S	**Sn**	**22 07 01.0**	**+0.6**
JTH	**Tanohata**	**0.47**	**205**	P	**Pn**	**22 06 52.0**	**-0.8**
JTH				S	**Sn**	**22 06 59.8**	**-0.8**
JKZ	**Kuzumaki**	**0.72**	**238**	P	**Pn**	**22 06 56.4**	**+0.4**
JKZ				S	**Sn**	**22 07 07.1**	**+1.0**
JTM	**Tenmabayashi**	**0.91**	**298**	P	**Pn**	**22 06 58.3**	**-0.1**
JTM				S	**Sn**	**22 07 10.2**	**-0.2**
JOM	**Ohasama**	**1.10**	**216**	P	**Pn**	**22 07 01.3**	**+0.3**
JOM				S	**Sn**	**22 07 15.7**	**+0.6**
JAH	**Hinai**	**1.15**	**261**	P	**Pn**	**22 07 02.5**	**+0.8**
JAH				S	**Sn**	**22 07 17.5**	**+1.1**
JOT	**Ohata**	**1.30**	**321**	P	**Pn**	**22 07 03.4**	**-0.3**
JOT				*e*S	**Sn**	**22 07 21.0**	**+1.1**
ASAJ	**Asahikawa**	**3.76**	**5**	P	**Pn**	**22 07 37.7**	**+0.3**
	4.4nm,0.3s,baz=202,slow=18,SNR=19						
ASAJ				S	**Sn**	**22 08 26.2**	**+5.8**
	5.7nm,0.3s,baz=162,slow=19,SNR=3.9						
MAT	**Matsushiro**	**4.90**	**220**	P	**Pn**	**22 07 56.2**	**+3.1**
MAT				*e*S	**Sn**	**22 08 56.2**	**+7.6**
MJAR	**Matsushiro Arr**	**4.90**	**220**	P	**Pn**	**22 07 56.2**	**+3.0**
	1.6nm,0.3s,baz=33,slow=13,SNR=21						
USRK	**Ussuriysk Ar.**	**8.43**	**300**	P	**Pn**	**22 08 43.3**	**+1.9**
	1.0nm,0.3s,baz=100,slow=16,SNR=12						
KSRS	**Korea Array**	**11.44**	**260**	P	Pn	22 09 28.2	+5.7
	0.2nm,0.3s,baz=73,slow=14,SNR=3.9						
KSRS				LR	LR	22 13 26.8	
	comp=Z,53nm,18.7s,baz=88,slow=35						
KLR	**Kul'dur**	**11.51**	**324**	LR	LR	22 13 45.4	
	comp=Z,68nm,20.2s,baz=162,slow=36						
JNU	**Nakatsue**	**11.56**	**235**	LR	LR	22 14 24.9	
	comp=Z,31nm,18.2s,baz=166,slow=39						
PETK	**Petropavlovsk-**	**16.57**	**35**	LR	LR	22 16 17.2	
	comp=Z,20nm,18.8s,baz=86,slow=35						
SONM	**Songino Array**	**26.54**	**298**	P	**P**	**22 12 15.0**	**-0.1**
	0.5nm,0.4s,baz=76,slow=8.0,SNR=3.4						
SONM				LR	LR	22 23 21.8	
	comp=Z,34nm,19.9s,baz=92,slow=37						
H11N2	**WAKE ISLAND Hy**	**29.54**	**127**	T	T	22 44 18.3	
	baz=320,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**29.55**	**127**	T	T	22 44 19.1	
	baz=320,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**29.56**	**127**	T	T	22 44 21.0	
	baz=320,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	**30.36**	**129**	T	T	22 45 16.3	
	baz=322,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**30.36**	**129**	T	T	22 45 24.2	
	baz=322,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**30.37**	**129**	T	T	22 45 23.3	
	baz=322,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**40.15**	**310**	P	**P**	**22 14 12.3**	**-0.6**
	2.2nm,0.4s,baz=91,slow=7.1,SNR=11						
ZALV				LR	LR	22 31 31.1	
	comp=Z,29nm,18.1s,baz=60,slow=37						
NRIK	**Noril'sk**	**40.50**	**334**	LR	LR	22 31 57.4	
	comp=Z,44nm,18.5s,baz=128,slow=37						
MKAR	**Makanchi Array**	**42.90**	**299**	P	**P**	**22 14 35.1**	**-0.4**
	1.8nm,0.6s,baz=84,slow=9.5,SNR=16						
MKAR				LR	LR	22 33 20.1	
	comp=Z,20nm,19.3s,baz=72,slow=37						
CMAR	**Chiang Mai Arr**	**42.96**	**252**	P	**P**	**22 14 36.9**	**+0.6**
	0.4nm,0.4s,baz=42,slow=8.9,SNR=4.1						
WRA	**Warramunga Arr**	**60.44**	**188**	P	**P**	**22 16 45.2**	**-1.3**
	0.7nm,0.8s,baz=6.0,slow=6.8,SNR=5.2						
ARCES	**ARCESS Array B**	**61.08**	**339**	P	**P**	**22 16 49.2**	**-1.1**
	7.8nm,1.1s,baz=51,slow=8.5,SNR=4.2						
ASAR	**Alice Springs**	**64.16**	**188**	P	**P**	**22 17 10.4**	**-1.0**
	0.3nm,0.6s,baz=359,slow=5.0,SNR=5.0						
FINES	**FINESS Array B**	**66.13**	**332**	P	**P**	**22 17 22.9**	**-0.8**
	1.7nm,0.7s,baz=40,slow=9.9,SNR=7.8						
KBZ	**Khabaz**	**69.17**	**310**	P	**P**	**22 17 43.4**	**+0.3**
	2.0nm,0.7s,baz=21,slow=8.6,SNR=4.6						
NOA	**NORSAR Array B**	**71.33**	**337**	P	**P**	**22 17 55.6**	**-0.6**
	1.9nm,0.8s,baz=38,slow=6.1,SNR=5.8						
AKASG	**Malin Array Be**	**72.01**	**322**	P	**P**	**22 17 59.3**	**-1.0**
	1.3nm,0.5s,baz=46,slow=6.0,SNR=6.3						
BRTR	**Keskin Array B**	**77.06**	**311**	P	**P**	**22 18 29.1**	**-1.0**
	0.3nm,0.5s,baz=110,slow=4.8,SNR=3.0						
GERES	**GERESS Array B**	**80.17**	**328**	LR	LR	22 56 11.3	
	comp=Z,93nm,19.6s,baz=269,slow=37						

---

*NIED **01** 22:17:00, 38°.70N×142°.30E, h53km, Mw3.6 Best double couple: M₀2.38000×10¹⁴ NP1:φs191.00000°, δ18.00000°, λ110.00000°. NP2:φs351.00000°, δ73.00000°, λ84.00000°.*
JMA 01 22:17:05.6±0.1**, 38°.70N**×**142°.24E, h38**km±1km**, M3.7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.58**	**311**	P	Pn	22 17 17.5	0.0
OFUJ				S	Sn	22 17 25.7	-0.2
JIO	**Ouri**	**0.74**	**251**	P	Pn	22 17 19.4	-0.1
JIO				*e*S	Sn	22 17 29.0	-0.5
JMK	**Ichinoseki**	**0.84**	**288**	P	Pn	22 17 21.1	+0.3
JMK				*e*S	Sn	22 17 32.1	+0.2
JOM	**Ohasama**	**1.07**	**317**	P	Pn	22 17 24.6	+0.6
JOM				S	Sn	22 17 38.2	+0.6
JTH	**Tanohata**	**1.27**	**347**	P	Pn	22 17 27.3	+0.5
JTH				S	Sn	22 17 43.7	+1.1
JOU	**Okura**	**1.28**	**255**	P	Pn	22 17 27.5	+0.6
JOU				*e*S	Sn	22 17 44.0	+1.1
JMM	**Marumori**	**1.41**	**234**	P	Pn	22 17 28.8	+0.1
JRG	**Rokugo**	**1.43**	**300**	P	Pn	22 17 30.0	+1.0
JYK	**Kaneyama**	**1.49**	**279**	P	Pn	22 17 30.4	+0.7
JYK				*e*S	Sn	22 17 49.3	+1.4
MAT	**Matsushiro**	**3.86**	**237**	P	Pn	22 18 05.1	+2.7
MAT				*e*S	Sn	22 18 53.7	+7.2

MEX 01 22:37:57.2±0.8**, 17°.08N**×**100°.03W, h31**km±8km**, MD3.9, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**261**	*e*P	Pb	22 38 02.3	-1.6
CAIG				*e*S	Sb	22 38 07.0	-1.4
ACP2	**Acapulco**	**0.25**	**146**	*e*P	Pb	22 38 02.5	-1.6
ACP2				*e*S	Sb	22 38 07.4	-1.3
ACX	**Acapulco**	**0.27**	**142**	*e*P	Pn	22 38 07.5	+2.4
ACX				*e*S	Sn	22 38 12.2	+2.1
MEIG	**Mezcala**	**0.93**	**25**	*e*P	Pn	22 38 11.7	-2.5
MEIG				*e*S	Sn	22 38 23.0	-3.5
ARIG	**Puente Sto Nin**	**1.23**	**346**	*e*P	Pn	22 38 16.7	-1.7
ARIG				*e*S	Sn	22 38 31.1	-2.8
TLIG	**Tlapa**	**1.48**	**71**	*e*P	Pn	22 38 20.5	-1.4
TLIG				*e*S	Sn	22 38 37.3	-2.9

NNC 01 22:41:49.0±2.6**, 36°.82N**×**70°.74E, h170**km±21km**, mb2.7, mpv3.6, 6C-8D, Error ellipse: s-maj=24.0km s-min=14.1km az=157.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.50**	**323**	⇓P	Pn	22 42 30.2	-0.9
	10nm,0.3s						
DZET				⇓S	Sn	22 43 04.7	+0.8
	39nm,0.3s						
MNAS	**Manas**	**5.83**	**13**	⇑P	Pn	22 43 12.8	-0.8
	1.8nm,0.4s						
MNAS				⇑S	Sn	22 44 20.5	+0.4
	11nm,0.7s						
KK31	**Karatay Array**	**6.28**	**358**	⇓P	Pn	22 43 20.0	+0.5
	3.4nm,0.3s,baz=183,slow=13						
KK31				⇑S	Sn	22 44 31.9	+1.2
	3.5nm,0.5s,baz=178,slow=21,SNR=8.6						
AAK	**Ala-Archa**	**6.49**	**25**	⇓P	Pn	22 43 22.3	-0.1
	1.4nm,0.4s						
AAK				⇓S	Sn	22 44 35.7	-0.2
	5.5nm,0.5s						
TKM2	**Tokmak 2**	**7.15**	**30**	⇓P	Pn	22 43 32.5	+1.3
	2.9nm,0.6s						
TKM2				⇑S	Sn	22 44 52.0	+0.4
	2.1nm,0.7s						
AB31	**Akbulak array**	**14.71**	**331**	⇑P	P	22 45 11.7	+1.4
	0.3nm,0.3s,baz=164,slow=12,SNR=5.2						
AB31				⇓S	Sn	22 47 50.1	-2.1
	0.6nm,0.5s,baz=144,slow=21,SNR=9.1						
AKTO	**Aktyubinsk**	**16.40**	**330**	⇓P	Pn	22 45 33.1	+3.7
	2.9nm,0.8s						
AKTO				⇑S	S	22 48 28.0	-2.7
	1.2nm,0.7s						

---

*KRNET **01** 22:44:45.9±0.1, 39°.36N×71°.97E, mb2.7*
*ISCJB **01** 22:44:48.9±1.0, 39°.32N±0°.06×71°.97E±0°.05, h10km, Error ellipse: s-maj=8.3km s-min=5.5km az=166.8*
*NNC **01** 22:44:51.1±2.6, 39°.42N×71°.94E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=27.7km s-min=13.1km az=137.0*
ISC 01 22:44:49.8±1.7**, 39°.38N**±0°.09×**71°.97E**±0°.05**, h10**km**, n20, σ2ˢ28**/38**, 33C-8D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.12**	**308**	⇑*e*P	**Pg**	**22 45 08.0**	**-3.4**
	baz=309						
BTK				⇑*e*S	**Sg**	**22 45 24.1**	**-1.8**
	baz=309						
OHH	**Osh**	**1.30**	**28**	⇑*e*P	**Pn**	**22 45 11.3**	**-2.9**
	baz=28						
OHH				⇑*i*S	**Sb**	**22 45 30.5**	**-0.9**
	baz=28						
ARSB	**Arslanbob**	**2.09**	**21**	⇑*e*P	**Pn**	**22 45 25.2**	**+0.1**
	baz=21						
ARSB				⇑*i*S	**Sn**	**22 45 53.1**	**+1.8**
	baz=21						
ARK	**Arkit**	**2.42**	**360**	⇑*e*P	**Pn**	**22 45 29.3**	**-0.3**
	baz=0.0						
ARK				⇑*e*S	**Sn**	**22 46 00.7**	**+1.4**
	baz=0.0						
DZET	**Dzherino**	**2.51**	**258**	⇓Pn	**Pn**	**22 45 32.9**	**+2.1**
	15nm,0.4s						
DZET				⇑Lg	Lg	22 46 07.3	
	78nm,0.4s						
TOKL	**Toktogul**	**2.65**	**15**	⇑*e*P	**Pn**	**22 45 32.4**	**-0.3**
	baz=15						
TOKL				⇑*i*S	**Sn**	**22 46 06.3**	**+1.3**
	baz=15						
AML	**Almayashu**	**3.05**	**25**	⇑*i*P	**Pn**	**22 45 40.2**	**+1.7**
	baz=25						
AML				⇑*i*S	**Sn**	**22 46 17.1**	**+1.9**
	baz=25						
ARLS	**Aral**	**3.06**	**35**	⇑*e*P	**Pn**	**22 45 38.8**	**+0.4**
	baz=35						
ARLS				⇑*e*S	**Sn**	**22 46 16.3**	**+1.1**
	baz=35						
MNAS	**Manas**	**3.13**	**7**	⇑*i*P	**Pn**	**22 45 39.8**	**+0.4**
	baz=7.0						
MNAS				⇑*i*S	**Sn**	**22 46 18.3**	**+1.3**
	baz=7.0						
MNAS	**Manas**	**3.13**	**7**	⇓Pn	**Pn**	**22 45 41.8**	**+2.4**
	5.2nm,0.5s						
MNAS				⇓Sn	**Sn**	**22 46 20.1**	**+3.1**
	25nm,0.5s						
UCH	**Uchtor**	**3.44**	**33**	⇑*i*P	**Pn**	**22 45 45.3**	**+1.4**
	baz=33						
UCH				⇑*i*S	**Sn**	**22 46 28.2**	**+3.2**
	baz=33						
EKS2	**Erkin-Say**	**3.55**	**22**	⇑*i*P	**Pn**	**22 45 47.1**	**+1.9**
	baz=22						
EKS2				⇑*i*S	**Sn**	**22 46 31.2**	**+3.9**
	baz=22						
KZA	**Kyzart**	**3.67**	**42**	⇑*i*P	**Pn**	**22 45 47.5**	**+0.4**
	baz=42						
KZA				⇑*i*S	**Sn**	**22 46 33.3**	**+2.7**
	baz=42						
NRN	**Naryn**	**3.70**	**55**	⇑*e*P	**Pn**	**22 45 47.4**	**0.0**
	baz=55						
NRN				⇑*e*S	**Sn**	**22 46 31.3**	**+0.1**
	baz=55						
AAK	**Ala-Archa**	**3.77**	**30**	⇑*i*P	**Pn**	**22 45 50.1**	**+1.9**
	baz=30						
AAK				⇑*i*S	**Sn**	**22 46 37.7**	**+5.0**
	baz=30						
AAK	**Ala-Archa**	**3.77**	**30**	⇑Pn	**Pn**	**22 45 51.6**	**+3.3**
	3.4nm,0.4s						
AAK				⇓Sn	**Sn**	**22 46 38.2**	**+5.4**
	15nm,0.6s						
KK31	**Karatay Array**	**3.88**	**344**	⇓Pn	**Pn**	**22 45 52.1**	**+2.5**
	3.5nm,0.5s,baz=159,slow=12,SNR=9.9						
KK31				⇓Sn	**Sn**	**22 46 37.5**	**+2.3**
	1.9nm,0.3s,baz=158,slow=22,SNR=5.0						
KK31				⇓Lg	Lg	22 46 50.2	
	7.3nm,0.5s,baz=158,slow=32,SNR=5.0						
FRU1	**Bishkek**	**3.97**	**30**	⇑*i*P	**Pn**	**22 45 50.2**	**-0.7**
	baz=29						
FRU1				⇑*e*S	**Sn**	**22 46 37.6**	**0.0**
	baz=29						
BOOM	**Boomskoye usch**	**4.33**	**43**	⇑*e*P	**Pn**	**22 45 55.8**	**0.0**
	baz=43						
BOOM				⇑*e*S	**Sn**	**22 46 46.6**	**+0.2**
	baz=43						
TKM2	**Tokmak 2**	**4.47**	**37**	⇑Pn	**Pn**	**22 45 58.9**	**+1.0**
	1.0nm,0.4s						
TKM2				⇓Lg	Lg	22 47 07.9	
	4.8nm,0.6s						

---

*MOS **01** 22:57:56.2±0.9, 4°.72N×75°.90W, h50km, mb5.2/48, Error ellipse: s-maj=10.2km s-min=6.1km az=110.6*
*BJI **01** 22:57:59.2, 4°.80N×75°.80W, h78km, mB5.2/3, Ms5.2/3, Ms7 5.2/3*
*ISCJB **01** 22:57:59.4±0.3, 4°.90N±0°.02×75°.93W±0°.02, h75km±2km, mb4.9/194, Error ellipse: s-maj=3.3km s-min=3.0km az=37.5*
*RSNC **01** 22:58:00.1±1.0, 4°.88N×75°.96W, h20km±4km, ML4.5*
*IDC **01** 22:58:02.0±1.3, 4°.78N×75°.84W, h90km±11km, mb4.3/21, mb1 4.4/24, mb1mx4.4/27, mbtmp4.6/24, MS3.6/13, Ms1 3.6/13, ms1mx3.5/22, Error ellipse: s-maj=14.2km s-min=10.0km az=61.0*
*NEIC **01** 22:58:01.1±0.5, 4°.79N×75°.77W, h80km±4km, mb5.0/168, Error ellipse: s-maj=4.8km s-min=3.2km az=58.0*
NEIC Felt [IV] at Pereira. Also felt at Andes, Manizales, Medellin and Tunja.
ISC 01 22:57:59.6±0.3**, 4°.84N**±0°.03×**75°.92W**±0°.03**, h66**km±2km**, h66**km**:pP-P, n689, σ1ˢ21**/739**, mb5.0**/201**, 2C-3D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLC	**Tolima**	**0.65**	**113**	*e*P	**Pn**	**22 58 12.6**	**-1.3**
TOLC				*e*S	**Sn**	**22 58 22.7**	**-1.7**
GUYC	**Guyana, Colomb**	**0.65**	**54**	*e*P	**Pn**	**22 58 13.2**	**-1.0**
GUYC				*e*S	**Sn**	**22 58 22.2**	**-2.6**
GUYC				*i*		22 58 26.0	
	comp=Z,25μm,0.5s						
NORC	**Norcasia**	**1.27**	**55**	*e*P	**Pn**	**22 58 22.2**	**+0.8**
NORC				*e*S	**Sn**	**22 58 38.4**	**+0.6**
HELC	**Santa Helena**	**1.40**	**16**	*e*P	**Pn**	**22 58 23.2**	**-0.3**
HELC				*e*S	**Sn**	**22 58 41.6**	**+0.2**
HELC				*i*		22 58 46.5	
	comp=Z,6μm,0.7s						
HELC	**Santa Helena**	**1.40**	**16**	*e*Pn	**Pn**	**22 58 23.8**	**+0.3**
HELC				*e*Sn	**Sn**	**22 58 41.6**	**+0.2**
PRAC	**Prado**	**1.52**	**137**	*e*P	**Pn**	**22 58 25.4**	**+0.6**
PRAC				*e*S	**Sn**	**22 58 46.8**	**+3.1**
PRAC				*i*		22 58 49.6	
	comp=Z,19μm,0.3s						
PRAC	**Prado**	**1.52**	**137**	*e*Pn	**Pn**	**22 58 25.3**	**+0.6**
ROSC	**El Rosal**	**1.59**	**90**	P	**Pn**	**22 58 28.0**	**+2.0**
	comp=Z,183nm,0.3s,baz=281,slow=2.6,SNR=248						
ROSC				S	**Sn**	**22 58 48.2**	**+2.3**
	comp=Z,165nm,0.3s,baz=93,slow=22,SNR=9.4						
ROSC	**El Rosal**	**1.59**	**90**	*e*P	**Pn**	**22 58 28.0**	**+2.0**
ROSC				*i*		22 58 39.3	
	comp=Z,3μm,0.7s						
MALC	**Bahia Malaga**	**1.63**	**240**	*e*P	**Pn**	**22 58 26.8**	**+0.6**
MALC				*e*S	**Sn**	**22 58 47.0**	**+0.7**
MALC				*i*		22 59 04.0	
	comp=Z,3μm,0.7s						
SOLC	**Bahia Solano**	**2.03**	**313**	*e*P	**Pn**	**22 58 31.5**	**0.0**
SOLC				*e*S	**Sn**	**22 58 56.0**	**+0.1**
VILC	**Villavicencio,**	**2.33**	**108**	*e*P	**Pn**	**22 58 37.8**	**+2.0**
VILC				*e*S	**Sn**	**22 59 05.8**	**+2.3**
VILC				*i*		22 59 25.5	
	comp=Z,2μm,0.6s						
SJAC	**San Juan de Ar**	**2.50**	**128**	*e*P	**Pn**	**22 58 38.9**	**+0.8**
SJAC				*i*		22 59 21.9	
	comp=Z,5μm,0.4s						
RUSC	**La Rusia**	**3.01**	**69**	*e*P	**Pn**	**22 58 46.4**	**+1.1**
RUSC				*e*S	**Sn**	**22 59 23.4**	**+2.9**
RUSC				*i*		22 59 42.5	
	comp=Z,857nm,0.7s						
BRRC	**Barranca, Sant**	**3.15**	**44**	*e*P	**Pn**	**22 58 46.9**	**+0.2**
BRRC				*e*S	**Sn**	**22 59 24.1**	**+0.9**
BRRC				*i*		22 59 39.6	
	comp=Z,788nm,0.7s						
BARC	**Barichara**	**3.23**	**57**	*e*P	**Pn**	**22 58 49.5**	**+1.4**
BARC				*e*S	**Sn**	**22 59 27.2**	**+1.6**
BARC				*i*		22 59 44.9	
	comp=Z,2μm,0.7s						
CRUC	**La Cruz**	**3.41**	**198**	*e*P	**Pn**	**22 58 52.4**	**+1.7**
CRUC				*e*S	**Sn**	**22 59 33.1**	**+3.0**
MOTC	**Monteria, Cord**	**3.92**	**4**	*e*P	**Pn**	**22 58 57.6**	**+0.2**
MOTC				*e*S	**Sn**	**22 59 42.8**	**+0.6**
MOTC				*i*		22 59 47.2	
	comp=Z,434nm,0.8s						
CAPC	**Capurgana**	**4.04**	**339**	*e*P	**Pn**	**22 58 59.4**	**+0.4**
CAPC				*e*S	**Sn**	**22 59 45.2**	**+0.2**
PAMC	**Pamplona, Colo**	**4.05**	**52**	*e*P	**Pn**	**22 59 01.3**	**+1.7**
PAMC				*e*S	**Sn**	**22 59 47.8**	**+1.7**
CBRI	**Barrientos, No**	**4.22**	**47**	*e*P	**Pn**	**22 59 03.4**	**+1.8**
OCAC	**Ocana**	**4.25**	**37**	*e*P	**Pn**	**22 59 03.3**	**+1.2**
OCAC				*e*S	**Sn**	**22 59 51.9**	**+1.4**
OCAC				*i*		22 59 55.1	
	comp=Z,1μm,0.8s						
SJCC	**San Jacinto, C**	**5.08**	**8**	*e*P	**Pn**	**22 59 13.4**	**+0.1**
SJCC				*e*S	**Sn**	**23 00 11.1**	**+0.3**
SJCC				*i*		23 00 33.3	
	comp=Z,202nm,0.4s						
OTAV	**Otavalo**	**5.22**	**209**	*e*Pn	**Pn**	**22 59 16.0**	**+0.4**
OTAV				*e*Sn	**Sn**	**23 00 08.3**	**-6.4**
BCIP	**Isla Barro Col**	**5.80**	**318**	*e*P	**Pn**	**22 59 23.8**	**+0.7**
BCIP	**Isla Barro Col**	**5.80**	**318**	*e*Pn	**Pn**	**22 59 22.1**	**-0.9**
SDV	**Santo Domingo**	**6.61**	**52**	P	**Pn**	**22 59 35.5**	**+1.2**
	comp=Z,15nm,0.3s,baz=237,slow=8.2,SNR=55						
SDV				S	**Sn**	**23 00 48.2**	**-0.2**
	comp=Z,34nm,0.3s,baz=26,slow=19,SNR=6.0						
SDV	**Santo Domingo**	**6.61**	**52**	*e*P	**Pn**	**22 59 35.0**	**+0.7**
SDV				*i*		23 00 53.6	
	comp=Z,149nm,0.4s						
SDV	**Santo Domingo**	**6.61**	**52**	*e*Pn	**Pn**	**22 59 35.2**	**+0.8**
SDV				*e*Sn	**Sn**	**23 00 47.9**	**-0.6**
ATAH	**Atahualpa**	**12.14**	**192**	P	**Pn**	**23 00 53.1**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=331,slow=12,SNR=4.3						
PCRV	**Puerto La Cruz**	**12.38**	**64**	P	**Pn**	**23 00 51.5**	**-1.6**
	comp=Z,2.1nm,0.3s,baz=221,slow=9.3,SNR=12						
PCRV				S	**Sn**	**23 03 08.2**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=187,slow=17,SNR=4.2						
MTDJ	**Mount Denham**	**13.40**	**353**	*e*Pn	**Pn**	**23 01 06.8**	**-0.2**
PAPH	**Port-au-Prince**	**14.05**	**14**	*e*Pn	**Pn**	**23 01 16.8**	**+1.2**
PAPH				*e*Sn	**Sn**	**23 03 45.9**	**-4.3**
SDDR	**Presa de Saban**	**14.77**	**17**	*e*Pn	**Pn**	**23 01 23.5**	**-1.4**
GTBY	**Guantanamo Bay**	**15.02**	**3**	*e*Pn	**P**	**23 01 31.6**	**-0.5**
	comp=Z,51nm,0.8s						
MPR	**Mayaguez**	**15.82**	**32**	*e*P	**P**	**23 01 43.3**	**+2.3**
	comp=Z,31nm,0.9s						
CELP	**Cerrillos**	**16.02**	**34**	*e*Pn	**Pn**	**23 01 39.5**	**-1.4**
SJG	**San Juan**	**16.29**	**35**	P	**Pn**	**23 01 41.4**	**-2.8**
	comp=Z,1.8nm,0.3s,baz=222,slow=13,SNR=4.4						
SJG	**San Juan**	**16.29**	**35**	*e*P	**Pn**	**23 01 44.4**	**+0.2**
SJG				pmax	pmax		
	comp=Z,22nm,0.8s						
SJG	**San Juan**	**16.29**	**35**	*e*Pn	**Pn**	**23 01 44.4**	**+0.2**
	comp=Z,22nm,0.8s						
HUMP	**Col San Antoni**	**16.49**	**36**	*e*Pn	**P**	**23 01 49.2**	**+0.8**
	comp=Z,32nm,0.9s						
CBYP	**Canovanas**	**16.58**	**36**	*e*Pn	**P**	**23 01 51.3**	**+1.8**
	comp=Z,28nm,0.7s						
PTGA	**Pitinga**	**16.87**	**109**	P	**Pn**	**23 01 48.6**	**-2.9**
	comp=Z,1.4nm,0.3s,baz=292,slow=15,SNR=14						
PTGA	**Pitinga**	**16.87**	**109**	*e*Pn	**Pn**	**23 01 48.6**	**-2.9**
	comp=Z,20nm,0.8s						
STVI	**Saint Thomas**	**17.18**	**38**	*e*Pn	**P**	**23 01 57.8**	**+1.7**
	comp=Z,30nm,0.8s						
SAML	**Samuel**	**18.67**	**137**	*e*P	**P**	**23 02 12.1**	**-0.4**
	comp=Z,84nm,1.3s						
TEIG	**Tepich**	**19.46**	**323**	P	**Pn**	**23 02 22.6**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=269,slow=23,SNR=8.8						
TEIG	**Tepich**	**19.46**	**323**	*e*P	**Pn**	**23 02 22.6**	**-0.2**
	comp=Z,70nm,1.8s						
CCIG	**Comitan**	**19.57**	**307**	*e*P	**Pn**	**23 02 23.4**	**-0.9**
	comp=Z,32nm,0.9s						
LPAZ	**La Paz**	**22.36**	**160**	P	**P**	**23 02 53.1**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=321,slow=9.2,SNR=10						
LPAZ				LR	LR	23 12 14.9	
	comp=Z,330nm,18.4s,baz=333,slow=38						
LPAZ	**La Paz**	**22.36**	**160**	*e*P	**P**	**23 02 53.1**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,16nm,0.8s						

LPAZ **La Paz** 22.36 160 *e*P P 23 02 53.1 +0.1
comp=Z,16nm,0.8s
PB11 **IPOC Station P** 25.21 166 *e*P P 23 03 18.5 -1.0
comp=Z,46nm,1.0s
SIV **San Ignacio** 25.38 145 P P 23 03 20.5 -0.4
comp=Z,4.9nm,0.5s,baz=328,slow=10,SNR=16
TLIG **Tlapa** 25.52 302 *e*P P 23 03 25.5 +3.1
TLIG *e*pP pP 23 03 41.8 +3.7
PB01 **IPOC Station P** 26.48 166 *e*P P 23 03 30.8 -0.1
comp=Z,49nm,0.9s
PB04 **IPOC Station P** 27.59 168 *e*P P 23 03 43.2 +2.4
comp=Z,52nm,1.0s
LVC **Limon Verde** 28.12 166 P P 23 03 45.6 -0.3
comp=Z,7.1nm,0.7s,baz=45,slow=5.7,SNR=3.1
LVC **Limon Verde** 28.12 166 *e*P P 23 03 45.6 -0.3
comp=Z,5.1nm,1.0s
446A **Poplarville** 28.76 335 P P 23 03 52.4 +1.4
baz=151
248A **Dixon Mills** 29.29 339 P P 23 03 57.6 +1.8
baz=155
247A **Quitman** 29.57 338 P P 23 03 59.8 +1.5
baz=154
JSC **Jenkinsville** 29.72 351 *e*P P 23 04 01.5 +2.0
JSC pmax pmax
comp=Z,16nm,0.8s
JSC **Jenkinsville** 29.72 351 *e*P P 23 04 01.5 +2.0
comp=Z,16nm,0.8s
LRAL **Lakeview Retre** 29.90 341 *e*P P 23 04 02.9 +1.8
comp=Z,12nm,0.9s
344A **Westbrook Farm** 29.91 334 P P 23 04 02.5 +1.2
baz=149
245A **Little AP, Sta** 30.06 336 P P 23 04 03.4 +0.8
baz=151
Z48A **Northport** 30.40 341 P P 23 04 06.5 +1.0
baz=156,SNR=6.0
VBMS **Vicksburg** 30.48 335 P P 23 04 07.4 +1.1
baz=150
KMSC **Kings Mountain** 30.57 351 P P 23 04 07.7 +0.6
baz=169
KMSC **Kings Mountain** 30.57 351 *e*P P 23 04 08.9 +1.9
comp=Z,15nm,1.1s
145A **Houston Renfro** 30.57 336 P P 23 04 07.7 +0.5
baz=152
Z46A **Louisville** 30.72 338 P P 23 04 09.8 +1.4
baz=154
737A **Port Lavaca** 30.75 323 P P 23 04 10.1 +1.4
baz=137
Y47A **UCPARC, Winfie** 30.98 340 P P 23 04 11.6 +1.0
baz=156,SNR=6.7
034A **Hebbronville** 30.99 318 P P 23 04 11.3 +0.4
baz=132
Z45A **Winona** 31.16 337 P P 23 04 13.0 +0.8
baz=153
934A **Benavides** 31.24 319 P P 23 04 13.6 +0.5
baz=132
736A **Circle Diamond** 31.26 322 P P 23 04 14.4 +1.1
baz=136
835A **Beeville** 31.26 321 P P 23 04 14.2 +1.0
baz=134
Y46A **Houston** 31.31 339 P P 23 04 14.2 +0.6
baz=154,SNR=8.2
ZAIG **Zacatecas** 31.32 307 *e*P P 23 04 16.7 +2.5
comp=Z,20nm,1.4s
439A **Center Grove,** 31.33 328 P P 23 04 14.9 +1.1
baz=142
Z44A **Pea Ridge, Bel** 31.37 336 P P 23 04 14.7 +0.7
baz=151
142A **Monroe** 31.38 333 P P 23 04 14.8 +0.6
baz=148
CPCT **Cooper Cave** 31.48 346 *e*P P 23 04 17.2 +2.0
comp=Z,11nm,1.1s
TKL **Tuckaleechee C** 31.52 348 *e*P P 23 04 17.2 +1.8
TKL pmax pmax
comp=Z,19nm,1.4s
TKL **Tuckaleechee C** 31.52 348 *e*P P 23 04 17.1 +1.8
comp=Z,19nm,1.4s
Y45A **Yeager Farm, C** 31.54 338 P P 23 04 16.4 +0.8
baz=153
834A **Tilden** 31.61 320 P P 23 04 16.5 +0.2
baz=133
SWET **Sewanee** 31.62 344 *e*P P 23 04 17.9 +1.5
comp=Z,24nm,2.0s
636A **Smothers Creek** 31.64 323 P P 23 04 17.2 +0.7
baz=137
438A **Sam Houston St** 31.68 327 P P 23 04 17.2 +0.4
baz=140
933A **Laredo** 31.75 318 P P 23 04 18.4 +0.9
baz=131
240A **Hunter Patters** 31.81 330 P P 23 04 19.3 +1.3
baz=144
141A **Papa Simpson,** 31.87 332 P P 23 04 19.7 +1.2
baz=146
Y44A **Strider, Charl** 31.88 337 P P 23 04 19.3 +0.7
baz=152
635A **Leesville** 32.00 322 P P 23 04 20.0 +0.3
baz=136
PLAL **Pickwick Lake** 32.04 341 *e*P P 23 04 21.0 +1.0
comp=Z,18nm,1.2s
140A **Cam and Jess,** 32.21 331 P P 23 04 22.2 +0.7
baz=145
833A **Chaparral WMA,** 32.29 319 P P 23 04 21.9 -0.4
baz=132,SNR=6.7
TZTN **Tazewell** 32.33 348 *e*P P 23 04 24.4 +1.9
comp=Z,15nm,1.0s
Z41A **Richland Creek** 32.36 333 P P 23 04 23.1 +0.2
baz=147
BLA **Blacksburg** 32.49 353 *e*P P 23 04 25.8 +1.9
BLA pmax pmax
comp=Z,26nm,0.9s
BLA **Blacksburg** 32.49 353 *e*P P 23 04 25.8 +1.9
comp=Z,26nm,0.9s
733A **Divot King Ran** 32.49 320 P P 23 04 24.2 +0.2
baz=133
Z40A **Long Farm, Mag** 32.64 332 P P 23 04 25.7 +0.5
baz=146
832A **Faith Ranch, C** 32.65 318 P P 23 04 24.8 -0.6
baz=131,SNR=6.4
435B **Jarrell** 32.90 324 P P 23 04 27.5 -0.1
baz=137
336A **Riesel** 32.92 326 P P 23 04 27.9 +0.1
baz=139
633A **Saathoff Ranch** 32.92 321 P P 23 04 27.3 -0.5
baz=134,SNR=7.6
138A **Matatall Enter** 32.97 329 P P 23 04 29.0 +0.8
baz=143
335A **Moody** 33.17 325 P P 23 04 29.8 -0.2
baz=138
Y40A **Okolona** 33.21 333 P P 23 04 30.2 0.0
baz=147
236A **Katherine and** 33.22 327 P P 23 04 30.3 0.0
baz=140
533A **Kerrville** 33.26 322 P P 23 04 30.9 +0.1
baz=134
434A **Burnet** 33.32 323 P P 23 04 30.5 -0.8
baz=136
Z38A **Mt. Pleasant** 33.39 330 P P 23 04 32.0 +0.1
baz=144
X40A **Basin Creek Fa** 33.41 334 P P 23 04 31.8 -0.2
baz=148,SNR=5.2
Y39A **Lockesburg** 33.52 332 P P 23 04 33.2 +0.2
baz=146
136A **Ennis** 33.58 327 P P 23 04 33.9 +0.5
baz=141
Z37A **Pogue Cattle C** 33.67 329 P P 23 04 34.9 +0.6
baz=143
334A **Lometa** 33.68 324 P P 23 04 33.9 -0.5
baz=137,SNR=10
WHTX **Lake Whitney,** 33.72 326 P P 23 04 34.9 +0.2
baz=139
W41B **Gary Mavity, V** 33.75 336 P P 23 04 34.9 0.0
baz=150
433A **Art** 33.77 322 P P 23 04 34.8 -0.5
baz=135,SNR=31
MIAR **Mount Ida** 33.79 333 P P 23 04 34.8 -0.5
baz=147
Y38A **Idabel** 33.82 331 P P 23 04 35.1 -0.4
baz=145
WHAR **Wooly Hollow** 33.87 336 *e*P P 23 04 36.1 +0.1
comp=Z,9.9nm,1.1s
V42A **Cord** 33.96 337 P P 23 04 36.4 -0.4
baz=152,SNR=6.8
X39A **Fountain Ranch** 34.01 333 P P 23 04 37.2 0.0
baz=146
JCT **Junction City** 34.02 321 P P 23 04 37.3 -0.1
baz=134
LCO **Las Campanas** 34.02 172 *e*P P 23 04 34.9 -2.8
comp=Z,34nm,1.5s
234A **Clairette** 34.12 325 P P 23 04 37.9 -0.3
baz=138
333A **Richland Sprin** 34.12 323 P P 23 04 37.8 -0.4
baz=136,SNR=8.5
W40A **Ferguson Farm,** 34.12 334 P P 23 04 38.1 0.0
baz=148
135A **Vickery Place,** 34.12 327 P P 23 04 38.4 +0.2
baz=139
V41A **Mountainview** 34.24 336 P P 23 04 38.8 -0.4
baz=150
Y37A **Hugo** 34.29 330 P P 23 04 39.7 0.0
baz=143
BDFB **Brasilia** 34.31 127 P P 23 04 39.5 -0.6
comp=Z,2.3nm,0.4s,baz=287,slow=11,SNR=6.6
BDFB LR LR 23 19 34.4
comp=Z,333nm,20.0s,baz=298,slow=38
W39A **Magazine** 34.43 334 P P 23 04 41.0 +0.2
baz=147,SNR=5.6
PBMO **Poplar Bluff** 34.47 339 *e*P P 23 04 41.6 +0.5
comp=Z,10nm,0.8s
X38A **Whitesboro** 34.47 332 P P 23 04 41.6 +0.4
baz=145
134A **White-Moore Ra** 34.50 326 P P 23 04 41.5 0.0
baz=138
V40A **Witts Springs** 34.53 335 P P 23 04 41.6 -0.2
baz=149,SNR=7.6
WCI **Wyandotte Cave** 34.56 346 *e*P P 23 04 42.6 +0.7
WCI pmax pmax
comp=Z,19nm,0.8s
WCI **Wyandotte Cave** 34.56 346 *e*P P 23 04 42.6 +0.7
comp=Z,19nm,0.8s
233A **Rising Star** 34.56 324 P P 23 04 42.0 -0.1
baz=137,SNR=7.6
Z35A **Perchaven, San** 34.63 328 P P 23 04 42.6 +0.1
baz=140
W38A **Poteau** 34.66 333 P P 23 04 42.7 -0.1
baz=146
X37A **Clayton** 34.66 331 P P 23 04 43.0 +0.1
baz=144,SNR=6.0
USIN **University of** 34.67 344 *e*P P 23 04 43.9 +1.1
comp=Z,69nm,0.8s
S45A **Carrier Mills** 34.67 342 P P 23 04 42.9 +0.1
baz=157
S44A **Carbondale** 34.90 341 P P 23 04 45.0 +0.2
baz=156
SIUC **Southern Illin** 34.91 341 *e*P P 23 04 43.5 -1.4
comp=Z,25nm,0.8s
V39A **Pettigrew** 34.91 334 P P 23 04 44.8 -0.2
baz=148,SNR=7.4
Y35A **Marietta** 34.96 328 P P 23 04 45.5 +0.1
baz=141
133A **Hamilton Ranch** 35.01 325 P P 23 04 46.0 +0.2
baz=137,SNR=7.8
Z34A **Collier Ranch,** 35.01 327 P P 23 04 46.2 +0.3
baz=139
U40A **Yellville** 35.02 336 P P 23 04 45.8 -0.2
baz=150,SNR=11
S43A **Fulton Ridge,** 35.06 340 P P 23 04 46.0 -0.2
baz=155,SNR=5.0
X36A **Centrahoma** 35.13 330 P P 23 04 47.0 +0.1
baz=143
W37B **Quinton** 35.14 332 P P 23 04 47.0 0.0
baz=145
T41A **Mountain View** 35.19 338 P P 23 04 46.9 -0.5
baz=152,SNR=11
V38A **Canehill** 35.27 334 P P 23 04 47.6 -0.5
baz=147
U39A **Green Forest** 35.30 335 P P 23 04 48.0 -0.3
baz=149
X35A **Drake** 35.31 329 P P 23 04 48.2 -0.2
baz=142
R44A **Waltonville** 35.35 342 P P 23 04 48.8 0.0
baz=157
O56A **Blue Knob Stat** 35.36 356 P P 23 04 50.6 +1.8
baz=175
Y34A **Reagan Ranch,** 35.38 328 P P 23 04 49.0 0.0
baz=140
HHAR **Hobbs** 35.41 334 *e*P P 23 04 49.1 -0.2
comp=Z,16nm,0.9s
Z33A **Whitaker Ranch** 35.42 326 P P 23 04 49.5 +0.1
baz=138
ABTX **Abilene, Hawle** 35.44 324 P P 23 04 49.5 0.0
baz=136,SNR=6.1
ABTX **Abilene, Hawle** 35.44 324 *e*P P 23 04 49.6 0.0
comp=Z,39nm,1.1s
BLO **Bloomington** 35.51 346 *e*P P 23 04 51.3 +1.3
BLO pmax pmax
comp=Z,47nm,0.6s
BLO **Bloomington** 35.51 346 *e*P P 23 04 51.3 +1.3
comp=Z,46nm,0.6s
OLIL **Olney** 35.51 343 *e*P P 23 04 50.8 +0.7
comp=Z,34nm,1.0s
OLIL *e*pP sP 23 05 12.5 -1.5
W36A **Wetumka** 35.52 331 P P 23 04 50.1 -0.1
baz=143
T40A **Mansfield** 35.58 337 P P 23 04 50.2 -0.5
baz=151,SNR=12
SSPA **Standing Stone** 35.69 357 *e*P P 23 04 53.4 +1.8
SSPA *e* 23 05 15.1
U38A **Gravette** 35.74 334 P P 23 04 51.3 -0.8
baz=147,SNR=6.3
T39A **Clever** 35.81 336 P P 23 04 51.8 -0.9
baz=149
ACSO **Alum Creek Sta** 35.81 351 *e*P P 23 04 53.8 +1.2
comp=Z,31nm,1.1s
LTX **Lajitas** 35.82 316 *e*P P 23 04 53.7 +0.7
LTX *e* 23 07 20.5
LTX **Lajitas** 35.82 316 *e*P P 23 04 53.7 +0.7
LTX *e*PcP PcP 23 07 20.5 +1.0
TXAR **Lajitas Array** 35.82 316 P P 23 04 53.7 +0.7
comp=Z,5.3nm,0.9s,baz=137,slow=8.2,SNR=34
TXAR PcP PcP 23 07 20.5 +1.0
comp=Z,3.6nm,0.8s,baz=139,slow=4.8,SNR=12
TXAR LR LR 23 21 49.0
comp=Z,63nm,18.7s,baz=0.0,slow=40
TX31 **Lajitas Ar. Si** 35.82 316 *e*P P 23 04 54.0 +1.0
TX31 *e*PcP PcP 23 07 20.9 +1.4
CPUP **Villa Florida** 35.84 151 P P 23 04 50.3 -2.7
comp=Z,1.1nm,0.5s,baz=327,slow=7.0,SNR=4.9
CPUP LR LR 23 20 25.2
comp=Z,148nm,19.5s,baz=332,slow=38
W35A **Tecumseh** 35.85 330 P P 23 04 52.4 -0.7
baz=142,SNR=8.1
Y33A **Hilltop Ranch,** 35.88 327 P P 23 04 53.5 +0.1
baz=139
HPIG 35.89 311 *e*P P 23 04 55.6 +1.8
comp=Z,29nm,0.9s
HPIG *e*ScS ScS 23 15 11.4 +5.1
V36A **Jenks** 35.91 332 P P 23 04 53.1 -0.4
baz=144,SNR=5.3
X34A **Smith Ranch, M** 35.91 328 P P 23 04 53.8 +0.2
baz=141,SNR=5.1
N59A **State Game Lan** 35.92 0 P P 23 04 55.1 +1.5
baz=180
TUL1 **Leonard** 35.94 332 P P 23 04 53.4 -0.4
baz=145,SNR=6.3
TUL1 **Leonard** 35.94 332 *e*P P 23 04 53.9 +0.1
comp=Z,34nm,1.0s
S40A **Lebanon** 35.96 337 P P 23 04 53.6 -0.4
baz=151,SNR=18
U37A **Salina** 36.03 333 P P 23 04 54.1 -0.5
baz=146,SNR=6.4
N54A **Moraine State** 36.15 355 P P 23 04 57.5 +1.9
baz=173,SNR=7.7
T38A **Diamond** 36.20 335 P P 23 04 55.2 -0.8
baz=148,SNR=9.0
X33A **Lawton** 36.22 328 P P 23 04 55.9 -0.4
baz=140
U36A **Oologah** 36.30 332 P P 23 04 56.5 -0.4
baz=145
V35A **Meyer Ranch, C** 36.32 331 P P 23 04 56.5 -0.5
baz=143
S39A **Bolivar** 36.36 336 P P 23 04 56.7 -0.7
baz=150,SNR=11
W34A **Bridge Creek,** 36.37 329 P P 23 04 57.4 -0.1
baz=141
W34A **Bridge Creek,** 36.37 329 *e*P P 23 04 57.8 +0.3
comp=Z,61nm,1.4s
Q42A **Golden Eagle** 36.42 341 P P 23 04 57.6 -0.2
baz=155
R40A **Maddies Statio** 36.48 338 P P 23 04 57.8 -0.6
baz=152,SNR=6.0
WMOK **Wichita Mounta** 36.52 327 P P 23 04 58.4 -0.4
baz=139
WMOK **Wichita Mounta** 36.52 327 *e*P P 23 04 58.6 -0.2
WMOK pmax pmax
comp=Z,13nm,1.0s
WMOK **Wichita Mounta** 36.52 327 *e*P P 23 04 58.6 -0.2
comp=Z,13nm,1.0s
T37A **Cheneyville 18** 36.54 334 P P 23 04 58.4 -0.6
baz=147,SNR=7.7
S38A **Stockton** 36.55 336 P P 23 04 58.0 -0.9
baz=149
X32A **Elmer** 36.55 327 P P 23 04 59.2 +0.1
baz=138
M54A **Oil Creek Stat** 36.67 355 P P 23 05 01.5 +1.6
baz=174,SNR=7.5
W33A **Caddo, Fort Co** 36.67 328 P P 23 05 00.1 0.0
baz=140
V34A **Guthrie** 36.71 330 P P 23 04 60.0 -0.4
baz=142,SNR=7.8
V34A **Guthrie** 36.71 330 *e*P P 23 05 00.3 -0.1
comp=Z,56nm,1.0s
U35A **Pawnee** 36.75 331 P P 23 05 00.6 -0.2
baz=144,SNR=6.1
R39A **Chumby, Stover** 36.79 337 P P 23 04 60.0 -1.0
baz=151
SFIN **Lafayette** 36.79 346 P P 23 05 00.6 -0.3
baz=161,SNR=5.2
SFIN **Lafayette** 36.79 346 *e*P P 23 05 01.2 +0.2
comp=Z,14nm,0.8s
T36A **Boggs Farm, Ca** 36.92 333 P P 23 05 01.6 -0.6
baz=145,SNR=6.2
R38A **Fenwick Farm,** 37.02 336 P P 23 05 01.9 -1.1
baz=149,SNR=7.9
Q40A **Laux Farm, Aux** 37.03 339 P P 23 05 02.3 -0.8
baz=152,SNR=5.7
S37A **Fort Scott** 37.04 335 P P 23 05 02.4 -0.7
baz=148
W32A **Sentinel** 37.06 327 P P 23 05 03.0 -0.4
baz=139
V33A **Lossen Ranch,** 37.09 329 P P 23 05 03.1 -0.5
baz=141
T35A **Sooner Cattle** 37.09 332 P P 23 05 03.2 -0.4
baz=144,SNR=6.9
U34A **Anderson Ranch** 37.20 331 P P 23 05 04.0 -0.6
baz=143
U34A **Anderson Ranch** 37.20 331 *e*P P 23 05 04.7 +0.1
comp=Z,44nm,1.0s
BINY **Binghamton** 37.20 360 *e*P P 23 05 06.8 +2.3
comp=Z,23nm,1.0s
S36A **Lake Cedric, C** 37.34 334 P P 23 05 05.0 -0.7
baz=146
V32A **Arapaho** 37.40 328 P P 23 05 05.9 -0.4
baz=140
Q39A **Willow Grove F** 37.40 338 P P 23 05 05.4 -0.8
baz=151
U33A **Lingo Farm, Me** 37.48 330 P P 23 05 06.6 -0.3
baz=142
P40A **Paris** 37.49 339 P P 23 05 06.4 -0.5
baz=153
T34A **McClaskey Farm** 37.49 332 P P 23 05 06.8 -0.2
baz=144,SNR=5.2
R37A **Teagarden Farm** 37.51 335 P P 23 05 06.0 -1.1
baz=148
HDIL **Hopedale** 37.54 343 P P 23 05 06.5 -0.8
baz=158
Q38A **Cooks Store, C** 37.58 337 P P 23 05 07.0 -0.6
baz=150,SNR=6.1
S35A **Otter Creek Ra** 37.63 333 P P 23 05 07.7 -0.5
baz=145,SNR=6.3
P39B **Salisbury** 37.71 339 P P 23 05 07.8 -1.0
baz=152
SLBS **Sierra La Lagu** 37.76 303 *e*P P 23 05 12.5 +3.0
comp=Z,33nm,0.9s
R36A **Gordon, Harris** 37.80 335 P P 23 05 08.6 -1.0
baz=147
Q37A **Longview Farm,** 37.83 336 P P 23 05 08.8 -1.1
baz=149
U32A **Winter Ranch,** 37.89 329 P P 23 05 10.0 -0.4
baz=140
O40A **La Belle** 37.96 340 P P 23 05 10.0 -0.9
baz=153
S34A **Willow Spring** 38.01 332 P P 23 05 10.8 -0.5
baz=144
T33A **Patterson Ranc** 38.05 330 P P 23 05 11.8 0.0
baz=142
R35A **Emporia Munici** 38.10 334 P P 23 05 11.6 -0.5
baz=146
P38A **Dawn** 38.12 338 P P 23 05 11.3 -0.9
baz=151
AMTX **Amarillo** 38.24 325 P P 23 05 13.5 0.0
baz=136
MSTX **Muleshoe** 38.24 323 P P 23 05 13.4 -0.1
baz=133,SNR=9.0
MSTX **Muleshoe** 38.24 323 *e*P P 23 05 13.8 +0.3
comp=Z,53nm,1.2s
O39A **Kirksville** 38.31 339 P P 23 05 13.0 -0.9
baz=152
Q36A **Arnold C. Orve** 38.32 335 P P 23 05 12.8 -1.1
baz=147
S33A **Kaszmaul Farm,** 38.34 331 P P 23 05 14.0 -0.2
baz=143
P37A **Lathrop** 38.40 337 P P 23 05 13.4 -1.2
baz=149
MNTX **Cornudas Mount** 38.43 318 P P 23 05 15.5 +0.4
baz=128,SNR=37
MNTX **Cornudas Mount** 38.43 318 *e*P P 23 05 15.5 +0.4
comp=Z,22nm,0.9s
T32A **Huddler Ranch,** 38.47 330 P P 23 05 15.5 +0.2
baz=141
Q35A **Mercer Eighty,** 38.48 334 P P 23 05 14.3 -1.0
baz=146,SNR=6.1
O38A **Galt** 38.53 338 P P 23 05 14.6 -1.0
baz=151
R34A **Isabella, Hill** 38.55 333 P P 23 05 15.6 -0.3
baz=144
P36A **Good Intent, A** 38.77 336 P P 23 05 16.6 -1.1
baz=148
N39A **Derby Farms, D** 38.85 340 P P 23 05 17.8 -0.5
baz=153
S32A **Newby Ranch, P** 38.88 330 P P 23 05 18.7 0.0
baz=142
R33A **Olander Ranch,** 38.90 332 P P 23 05 18.8 -0.1
baz=143
Q34A **Chapman** 38.92 334 P P 23 05 18.5 -0.5
baz=145
N38A **Joes South For** 39.03 339 P P 23 05 19.1 -0.8
baz=152
R32A **Long Quarter,** 39.34 331 P P 23 05 22.2 -0.4
baz=142
Q33A **Connelly Farm,** 39.39 333 P P 23 05 23.0 +0.1
baz=144,SNR=5.8
P34A **Walnut Farm, R** 39.39 334 P P 23 05 22.4 -0.5
baz=146
P33A **Williams Farm,** 39.68 333 P P 23 05 25.0 -0.3
baz=145
N36A **Muff Farm, Cla** 39.70 337 P P 23 05 24.6 -0.8
baz=149
Q32A **Meitler Ranch,** 39.72 332 P P 23 05 25.2 -0.5
baz=143
O34A **Beatrice** 39.86 335 P P 23 05 26.4 -0.4
baz=146
SADO **Sadowa** 39.87 356 *e*P P 23 05 28.3 +1.5
comp=Z,36nm,0.9s
JFWS **Jewell Farm** 39.99 344 *e*P P 23 05 27.6 -0.3
JFWS pmax pmax
comp=Z,20nm,0.7s
JFWS **Jewell Farm** 39.99 344 *e*P P 23 05 27.6 -0.3
comp=Z,20nm,0.7s
N35A **Tabor** 40.00 337 P P 23 05 27.5 -0.5
baz=148
O33A **Hebron** 40.16 334 P P 23 05 28.6 -0.7
baz=145
M36A **Felix, Anita** 40.19 338 P P 23 05 29.4 -0.1
baz=150
K38A **Parkersburg** 40.52 341 P P 23 05 31.4 -0.8
baz=154
121A **Cookes Peak, D** 40.56 317 P P 23 05 35.2 +2.3
baz=126,SNR=44
L36A **Harm Buss Farm** 40.70 338 P P 23 05 32.6 -1.1
baz=150
BNM **Barren Site** 40.77 320 *e*P P 23 05 36.2 +1.4
LPM **Los Pinos Moun** 40.88 320 *e*P P 23 05 37.3 +1.8
M34A **Aspy Farms, Fr** 40.92 336 P P 23 05 34.3 -1.3
baz=147
319A **Douglas** 40.95 314 *e*P P 23 05 38.2 +2.1
comp=Z,59nm,0.9s
319A *e*ScP ScP 23 11 22.4 +2.8
L35A **Bielow Farm, R** 41.03 338 P P 23 05 36.0 -0.5
baz=149
ANMO **Albuquerque** 41.17 321 P P 23 05 39.2 +1.3
baz=130
ANMO **Albuquerque** 41.17 321 *e*P P 23 05 38.5 +0.6
ANMO pmax pmax
comp=Z,16nm,1.1s
ANMO **Albuquerque** 41.17 321 *e*P P 23 05 39.5 +1.6

LAZ Ladron 41.26 319 eP P 23 05 40.3 +1.6
T25A Trinidad 41.39 325 P P 23 05 41.2 +1.4
baz=134
T25A Trinidad 41.39 325 eP P 23 05 41.8 +2.0
comp=Z,35nm,1.4s
I38A Scanlan Farm, 41.64 342 P P 23 05 40.4 -0.9
baz=155
KSCO Kaye Shedlock' 41.76 328 P P 23 05 43.3 +0.7
baz=138
KSCO Kaye Shedlock' 41.76 328 eP P 23 05 44.3 +1.7
comp=Z,31nm,0.9s
L33A Hoskins 41.76 336 P P 23 05 41.2 -1.2
baz=147
M31A Lambtecht Ranc 41.80 334 P P 23 05 42.1 -0.8
baz=144
H37A Dierke Farm, C 42.31 342 P P 23 05 45.7 -1.1
baz=154
I35A Creekview Farm 42.34 339 P P 23 05 45.9 -1.2
baz=151
L31A Butterfield Fa 42.42 335 P P 23 05 47.0 -0.9
baz=145
SDCO Great Sand Dun 42.44 325 P P 23 05 49.9 +1.5
baz=133,SNR=8.6
SDCO Great Sand Dun 42.44 325 eP P 23 05 50.3 +1.9
comp=Z,26nm,1.3s
SDCO epP pP 23 06 04.5 -0.4
TUC Tucson 42.53 314 P P 23 05 50.1 +1.1
baz=123
TUC Tucson 42.53 314 eP P 23 05 50.5 +1.5
TUC pmax pmax
comp=Z,28nm,0.9s
TUC Tucson 42.53 314 eP P 23 05 50.5 +1.5
comp=Z,28nm,0.9s
COWI Conover 42.68 346 eP P 23 05 50.4 +0.5
K31A O'Neill 42.75 335 P P 23 05 49.9 -0.6
baz=145
ECSD EROS Data Cent 42.83 338 P P 23 05 49.7 -1.4
baz=149,SNR=8.2
ECSD EROS Data Cent 42.83 338 eP P 23 05 50.1 -1.0
comp=Z,11nm,0.9s
SPMN Marine on St. 42.85 342 P P 23 05 50.8 -0.5
baz=155
OGNE Ogallala 42.91 331 P P 23 05 51.9 +0.1
baz=140
J32A Parkston 43.00 336 P P 23 05 51.5 -0.9
baz=147
Q24A Divide 43.08 326 P P 23 05 54.1 +0.6
baz=134
K30A Basset 43.16 344 P P 23 05 53.2 -0.6
baz=144,SNR=12
X18A Snowflake 43.19 318 eP P 23 05 55.9 +1.5
comp=Z,36nm,0.8s
S22A 4UR Ranch, Cre 43.22 324 P P 23 05 56.0 +1.3
baz=132,SNR=11
S22A 4UR Ranch, Cre 43.22 324 eP P 23 05 56.3 +1.6
comp=Z,28nm,1.3s
W18A Petrified Fore 43.39 318 P P 23 05 57.8 +1.8
baz=126,SNR=14
W18A Petrified Fore 43.39 318 eP P 23 05 58.3 +2.3
comp=Z,73nm,0.9s
J30A Dallas 43.63 335 P P 23 05 55.9 -1.7
baz=145
F36A Milaca 43.65 342 P P 23 05 56.8 -0.8
baz=154,SNR=14
H33A Prehn Over Nor 43.69 338 P P 23 05 56.6 -1.4
baz=149
H32A Carlson Farm, 43.79 338 P P 23 05 57.6 -1.3
baz=148,SNR=6.6
214A Organ Pipe Nat 43.82 313 P P 23 06 01.0 +1.7
baz=120,SNR=33
MVCO Mesa Verde 43.88 322 P P 23 06 00.8 +0.9
baz=129,SNR=7.2
MVCO Mesa Verde 43.88 322 eP P 23 06 01.5 +1.6
comp=Z,46nm,1.5s
MVCO epP sP 23 06 24.8 +0.6
ISCO Idaho Springs 43.92 327 P P 23 06 01.3 +0.9
baz=135
ISCO Idaho Springs 43.92 327 eP P 23 06 01.8 +1.5
ISCO pmax pmax
comp=Z,27nm,1.5s
ISCO Idaho Springs 43.92 327 eP P 23 06 01.8 +1.5
comp=Z,27nm,1.5s
X16A Lo Mia Camp, P 44.15 316 eP P 23 06 04.2 +2.2
comp=Z,21nm,0.8s
E36A McGregor 44.16 343 P P 23 06 01.1 -0.6
baz=155,SNR=8.1
H31A Wolsey 44.17 337 P P 23 06 01.2 -0.7
baz=147
SMCO Snowmass 44.26 325 eP P 23 06 04.7 +1.6
comp=Z,17nm,1.5s
SMCO eScP ScP 23 11 37.6 +4.5
SUSD Miller 44.33 336 P P 23 06 02.2 -1.0
baz=146
D37A Cotton 44.50 344 P P 23 06 04.3 -0.1
baz=156,SNR=8.3
PV01 Paradox Valley 44.51 323 eP P 23 06 07.0 +2.0
C39A Grand Marais 44.53 346 P P 23 06 04.0 -0.6
baz=159
F33A 5 Mile Ranch, 44.53 340 P P 23 06 03.8 -0.9
baz=150
I29A Vivian Onida 44.54 335 P P 23 06 04.1 -0.8
baz=144
TRQA Tornquist 44.60 164 epP pP 23 06 19.7 -2.3
G31A Conde 44.70 338 P P 23 06 04.7 -1.3
baz=147
C38A Sawbill Land. 44.71 345 P P 23 06 05.9 -0.3
baz=158
WUAZ Wupatki 44.72 318 P P 23 06 08.1 +1.5
baz=125,SNR=17
WUAZ Wupatki 44.72 318 eP P 23 06 08.7 +2.1
comp=Z,67nm,1.0s
D36A Goodland 44.73 343 P P 23 06 06.0 -0.3
baz=155
E34A Wadena 44.74 341 P P 23 06 06.2 -0.2
baz=152
PV05 Paradox Valley 44.80 322 eP P 23 06 08.6 +1.4
N23A Red Feather La 44.88 327 P P 23 06 08.6 +0.7
baz=135,SNR=6.0
N23A Red Feather La 44.88 327 eP P 23 06 10.0 +2.2
comp=Z,21nm,1.0s
D35A Remer 44.90 342 P P 23 06 06.9 -0.8
baz=154
PHWY Pilot Hill 44.91 328 eP P 23 06 09.3 +1.1
comp=Z,13nm,1.1s
113A Mohawk Valley, 44.92 313 eP P 23 06 09.9 +1.9
comp=Z,53nm,1.8s
C37A Embarrass 44.96 344 P P 23 06 07.9 -0.2
baz=157,SNR=7.5
Y14A Wickenburg 44.98 315 eP P 23 06 10.1 +1.5
comp=Z,60nm,0.6s
EYMN Ely 44.98 345 P P 23 06 07.8 -0.4
baz=158,SNR=5.0
EYMN Ely 44.98 345 eP P 23 06 08.2 0.0
comp=Z,29nm,0.6s
C36A Pine Crest Far 45.16 344 P P 23 06 09.4 -0.3
baz=156,SNR=9.2
C35A Jirik Farms, M 45.44 343 P P 23 06 11.2 -0.7
baz=154,SNR=6.1
D33A AnnSam, Waubun 45.52 341 P P 23 06 11.8 -0.7
baz=152
PLCA Paso Flores 45.61 174 P P 23 06 13.4 0.0
comp=Z,4.2nm,0.9s,baz=22,slow=10,SNR=4.9
PLCA LR LR 23 24 31.2
comp=Z,102nm,18.5s,baz=5.0,slow=35
PLCA Paso Flores 45.61 174 eP P 23 06 13.4 0.0
PLCA e*PP pP 23 06 28.8 -1.3
PLCA Paso Flores 45.61 174 eP P 23 06 13.4 0.0
PLCA epP pP 23 06 28.8 -1.3
GLA Glamis 45.84 313 P P 23 06 16.8 +1.4
baz=119,SNR=6.6
GLA Glamis 45.84 313 eP P 23 06 17.3 +2.0
GLA pmax pmax
comp=Z,34nm,1.1s
GLA Glamis 45.84 313 eP P 23 06 17.3 +2.0
comp=Z,34nm,1.1s
U15A North Rim 45.85 318 eP P 23 06 17.5 +1.9
comp=Z,17nm,0.8s
B35A Bob, Littlefor 45.96 344 P P 23 06 15.1 -0.9
baz=155,SNR=7.3
Y12C Blythe 45.96 314 P P 23 06 17.7 +1.4
baz=120,SNR=6.3
Y12C Blythe 45.96 314 eP P 23 06 18.2 +2.0
comp=Z,24nm,1.1s
PDMCI Parker Dam,Lak 45.97 315 P P 23 06 17.5 +1.2
baz=121
W13A Hualapai Mount 46.20 316 eP P 23 06 20.5 +2.1
comp=Z,9.3nm,0.8s
RSSD Black Hills 46.29 332 P P 23 06 19.3 +0.4
baz=139
RSSD Black Hills 46.29 332 eP P 23 06 19.8 +0.9
RSSD pmax pmax
comp=Z,20nm,0.9s
RSSD Black Hills 46.29 332 eP P 23 06 19.8 +0.9
comp=Z,20nm,0.9s
SRU San Rafael Swe 46.31 322 eP P 23 06 20.5 +1.4
SRU pmax pmax
comp=Z,23nm,0.9s
SRU San Rafael Swe 46.31 322 eP P 23 06 20.5 +1.4
comp=Z,22nm,0.9s
B34A Aery, Baudette 46.34 343 P P 23 06 18.3 -0.6
baz=154,SNR=8.1
E29A Napoleon 46.37 337 P P 23 06 18.7 -0.5
baz=146
P18A Preston Nutter 46.47 323 eP P 23 06 22.0 +1.5
comp=Z,12nm,0.8s
KNB Kanab 46.53 319 eP P 23 06 23.0 +2.1
KNB pmax pmax
comp=Z,26nm,1.0s
KNB Kanab 46.53 319 eP P 23 06 22.9 +2.1
comp=Z,26nm,1.0s
BC3 Big Chuckawall 46.59 313 P P 23 06 22.6 +1.3
baz=119,SNR=8.4
IRM Iron Mountain 46.61 314 P P 23 06 22.8 +1.4
baz=120,SNR=9.2
P17A Butcher Ranch, 46.67 323 eP P 23 06 23.5 +1.5
comp=Z,21nm,1.0s
MTPU Mount Pierson 46.70 320 eP P 23 06 24.2 +1.7
comp=Z,38nm,1.7s
C31A Landman Farms, 46.71 340 P P 23 06 21.6 -0.3
baz=149
LCMT Little Creek M 46.81 318 eP P 23 06 25.0 +2.0
comp=Z,19nm,1.0s
G25A Newell 46.83 333 P P 23 06 21.9 -1.0
baz=141
B32A Ashes, Strandq 46.84 341 P P 23 06 22.3 -0.6
baz=151,SNR=6.2
TMUT Trail Mountain 46.85 322 eP P 23 06 24.8 +1.4
comp=Z,18nm,1.3s
C30A Mose, Pekin 46.90 339 P P 23 06 22.3 -1.1
baz=148
MONP2 Monument Peak 46.94 312 P P 23 06 24.9 +0.7
baz=118
A33A Warroad 46.97 342 P P 23 06 23.3 -0.5
baz=153,SNR=6.9
E27A Carson 47.01 336 P P 23 06 24.4 0.0
baz=144
F26A Lodgepole 47.02 335 P P 23 06 23.6 -0.7
baz=142
BELC Belle Mtn. Jos 47.15 313 P P 23 06 27.1 +1.3
baz=119,SNR=8.8
CCUT Cedar City 47.19 319 eP P 23 06 28.0 +2.0
comp=Z,9.4nm,0.9s
A32A Roking H Ranc 47.29 342 P P 23 06 25.8 -0.6
baz=151
GMRC Granite Mounta 47.30 314 P P 23 06 28.2 +1.3
baz=120,SNR=8.4
TPFO Pinon Flats 47.30 312 P P 23 06 27.9 +1.0
baz=118
PFO Pinyon Flats O 47.31 312 P P 23 06 28.2 +1.3
baz=118
PFO Pinyon Flats O 47.31 312 eP P 23 06 28.7 +1.8
PFO pmax pmax
comp=Z,27nm,1.4s
PFO Pinyon Flats O 47.31 312 eP P 23 06 28.7 +1.8
comp=Z,27nm,1.4s
E26A Carlson Angus 47.42 335 P P 23 06 26.8 -0.7
baz=143
MDND Maddock 47.42 338 P P 23 06 26.8 -0.6
baz=147
B30A Myrvik Farm, E 47.48 340 P P 23 06 26.9 -1.0
baz=149
MPU Maple Canyon 47.55 323 eP P 23 06 30.1 +1.4
comp=Z,19nm,0.9s
JLU Jordanelle 47.80 323 eP P 23 06 32.2 +1.4
comp=Z,11nm,0.9s
HEC Hector,Ludlow 47.80 314 P P 23 06 32.4 +1.7
baz=119,SNR=5.4
SHPR Sheep Range 47.83 317 eP P 23 06 32.5 +1.6
comp=Z,7.4nm,0.9s
MURC Murrieta 47.84 312 P P 23 06 32.3 +1.4
baz=118
B29A Wagenman Farm, 47.85 339 P P 23 06 30.3 -0.5
baz=148,SNR=6.1
D26A Manning 47.85 336 P P 23 06 31.1 +0.3
baz=143
A30A Hoffart Farm, 47.90 340 P P 23 06 30.1 -1.0
baz=149
BW06 Boulder Array 48.12 327 P P 23 06 33.3 +0.1
baz=132,SNR=15
BW06 Boulder Array 48.12 327 eP P 23 06 33.8 +0.5
PD31 Pinedale Array 48.12 327 eP P 23 06 33.3 +0.1
PD31 eScP ScP 23 11 49.4 +0.5
PDAR Pinedale Array 48.12 327 P P 23 06 33.3 +0.1
comp=Z,6.8nm,0.8s,baz=119,slow=7.3,SNR=21
PDAR ScP ScP 23 11 49.4 +0.5
comp=Z,0.4nm,0.9s,baz=133,slow=5.0,SNR=4.4
A29A Manning Farm, 48.20 340 P P 23 06 32.9 -0.6
baz=148,SNR=15
ULM Lac du Bonnet 48.28 343 P P 23 06 33.1 -0.9
comp=Z,13nm,0.8s,baz=152,slow=9.3,SNR=12
ULM LR LR 23 28 59.2
comp=Z,76nm,18.8s,baz=86,slow=38
ULM Lac du Bonnet 48.28 343 eP P 23 06 32.9 -1.1
ULM pmax pmax
comp=Z,24nm,1.0s
ULM Lac du Bonnet 48.28 343 eP P 23 06 32.9 -1.1
comp=Z,24nm,1.0s
GSC Goldstone, Bar 48.37 314 P P 23 06 36.4 +1.3
baz=119,SNR=8.5
GSC Goldstone, Bar 48.37 314 eP P 23 06 36.5 +1.4
GSC pmax pmax
comp=Z,17nm,0.9s
GSC Goldstone, Bar 48.37 314 eP P 23 06 36.5 +1.4
comp=Z,17nm,0.9s
DUG Dugway, Tooele 48.38 322 P P 23 06 36.3 +1.3
baz=127,SNR=15
DUG Dugway, Tooele 48.38 322 eP P 23 06 36.4 +1.3
DUG pmax pmax
comp=Z,19nm,0.8s
DUG Dugway, Tooele 48.38 322 eP P 23 06 36.4 +1.3
comp=Z,19nm,0.8s
HWUT Hardware Ranch 48.50 324 eP P 23 06 36.9 +0.8
comp=Z,3µm,1.2s
BGU Big Grassy Mou 48.95 323 eP P 23 06 40.7 +1.2
comp=Z,19nm,0.9s
AHID Auburn Hatcher 48.97 326 eP P 23 06 40.3 +0.6
comp=Z,14nm,0.8s
EDW2 Edwards Air Fo 49.02 313 P P 23 06 41.3 +1.2
baz=118,SNR=9.0
R11A Troy Canyon, C 49.09 318 P P 23 06 42.0 +1.3
baz=123,SNR=9.8
R11A Troy Canyon, C 49.09 318 eP P 23 06 42.5 +1.8
comp=Z,12nm,0.8s
MPMC Manual Prospec 49.22 315 P P 23 06 42.6 +0.8
baz=119,SNR=5.3
REDW Red Top Meadow 49.23 327 eP P 23 06 42.3 +0.6
comp=Z,36nm,0.9s
SNOW Snow King Moun 49.24 327 eP P 23 06 42.9 +1.1
comp=Z,30nm,1.0s
LOHW Long Hollow 49.25 327 eP P 23 06 42.4 +0.5
comp=Z,27nm,1.1s
HVU Hansel Valley 49.31 324 eP P 23 06 43.0 +0.7
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU Hansel Valley 49.31 324 eP P 23 06 43.0 +0.7
comp=Z,8.9nm,0.9s
TPAW Teton Pass 49.36 327 eP P 23 06 43.6 +0.9
comp=Z,14nm,0.9s
DAC Darwin (Calif) 49.40 315 eP P 23 06 44.4 +1.3
DAC pmax pmax
comp=Z,4.0nm,0.8s
DAC Darwin (Calif) 49.40 315 eP P 23 06 44.4 +1.3
comp=Z,4.3nm,0.8s
MOOW Moose Ponds 49.42 327 eP P 23 06 43.5 +0.4
comp=Z,16nm,0.9s
FXWY Fox Creek 49.50 327 eP P 23 06 44.2 +0.4
comp=Z,13nm,0.9s
RLMT Red Lodge 49.58 329 P P 23 06 44.5 +0.2
baz=134,SNR=9.6
RLMT Red Lodge 49.58 329 eP P 23 06 44.5 +0.2
comp=Z,15nm,1.0s
FLWY Flagg Ranch 49.62 327 eP P 23 06 45.7 +1.1
comp=Z,29nm,1.4s
IMW Indian Meadow 49.62 327 eP P 23 06 45.2 +0.4
comp=Z,17nm,0.8s
H17A Grant Village 49.76 328 eP P 23 06 49.5 +3.8
comp=Z,4.2nm,0.8s
CWC Cottonwood Cre 49.82 315 P P 23 06 47.6 +1.4
baz=119
SCZ2 Santa Cruz Isl 49.84 311 P P 23 06 46.7 +0.5
baz=116
YFT Old Faithful 49.94 328 eP P 23 06 49.3 +2.2
comp=Z,16nm,1.1s
ELK Elko 50.20 321 eP P 23 06 50.1 +1.0
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 50.20 321 eP P 23 06 50.1 +1.0
comp=Z,4.4nm,0.8s
GCMT Greycliff 50.24 330 eP P 23 06 50.0 +0.8
VES Vestal, Richgr 50.26 314 P P 23 06 50.8 +1.4
baz=118,SNR=6.3
PKM Mcpherson Peak 50.36 312 P P 23 06 51.8 +1.4
baz=116
SCHQ Schefferville 50.39 7 P P 23 06 51.2 +1.2
comp=Z,20nm,0.9s,baz=188,slow=7.5,SNR=14
SCHQ LR LR 23 27 50.4
comp=Z,58nm,21.2s,baz=281,slow=36
SCHQ Schefferville 50.39 7 eP P 23 06 51.2 +1.2
comp=Z,19nm,0.8s
QLMT Earthquake Lak 50.51 328 eP P 23 06 53.4 +2.0
NV11 Mina Array Sit 50.86 317 eP P 23 06 55.8 +1.8
comp=Z,29nm,1.0s
NV01 Mina Array Sit 50.96 317 eP P 23 06 56.2 +1.4
NV01 ePcP PcP 23 08 11.4 +1.0
NVAR Mina Array Bea 50.96 317 P P 23 06 56.2 +1.4
comp=Z,20nm,0.8s,baz=129,slow=6.3,SNR=31
NVAR PcP PcP 23 08 11.4 +1.0
comp=Z,2.7nm,0.5s,baz=145,slow=3.3,SNR=4.7
NVAR LR LR 23 35 10.9
comp=Z,48nm,18.5s,baz=84,slow=44
BOZ Bozeman (W) 51.15 328 P P 23 06 56.6 +0.5
baz=132,SNR=26
BOZ Bozeman (W) 51.15 328 eP P 23 06 56.6 +0.5
BOZ pmax pmax
comp=Z,22nm,1.0s
BOZ Bozeman (W) 51.15 328 eP P 23 06 56.6 +0.5
comp=Z,22nm,1.0s
MCMT McKenzie Canyo 51.27 327 eP P 23 06 58.8 +1.6
BMN Battle Mountai 51.28 320 eP P 23 06 58.4 +1.2
BMN pmax pmax
comp=Z,25nm,0.9s
BMN Battle Mountai 51.28 320 eP P 23 06 58.4 +1.2
comp=Z,26nm,0.9s
HLID Hailey 51.36 325 P P 23 06 58.4 +0.7
baz=127,SNR=15
HLID Hailey 51.36 325 eP P 23 06 58.5 +0.7
comp=Z,11nm,0.9s
LRM Limekiln Ridge 51.70 328 eP P 23 07 00.9 +0.6
WAKR Walker 51.77 317 eP P 23 07 02.6 +1.7
WAKR epP sP 23 07 26.4 +1.0
MFID Camas Ranch 52.10 324 eP P 23 07 04.0 +0.9
comp=Z,22nm,0.9s
PAHR Pah Rah Range 52.32 318 eP P 23 07 06.5 +1.6
comp=Z,14nm,0.8s
AFDM Forest Hills D 53.03 316 eP P 23 07 11.2 +1.1
comp=Z,7.7nm,0.9s
MSO Missoula 53.14 328 P P 23 07 11.0 +0.2
baz=130,SNR=7.0
MSO Missoula 53.14 328 eP P 23 07 11.4 +0.6
comp=Z,10nm,0.9s
WVOR Wild Horse Val 53.25 321 eP P 23 07 12.9 +1.2
WVOR pmax pmax
comp=Z,50nm,1.0s
WVOR Wild Horse Val 53.25 321 eP P 23 07 12.9 +1.2
comp=Z,50nm,1.0s
ORV Oroville 53.68 317 eP P 23 07 16.1 +1.3
ORV pmax pmax
comp=Z,27nm,1.1s
ORV Oroville 53.68 317 eP P 23 07 16.1 +1.3
comp=Z,27nm,1.1s
BMO Blue Mountains 53.80 324 eP P 23 07 15.7 0.0
comp=Z,7.7nm,1.0s
YBMT Yellow Bay 53.84 329 eP P 23 07 17.1 +1.1
JTMT Jette 53.91 329 eP P 23 07 17.5 +1.1
FFC Flin Flon 54.02 342 eP P 23 07 15.7 -1.3
FFC e*PP sP 23 07 39.1 -2.5
FFC pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 54.02 342 eP P 23 07 15.7 -1.3
comp=Z,9.5nm,1.0s
FFC epP sP 23 07 39.1 -2.5
BLMT Blacktail Moun 54.12 329 eP P 23 07 19.2 +1.2
O03D Paynes Creek 54.23 317 P P 23 07 18.7 -0.1
baz=118
BSMT Bassoo Peak 54.24 329 eP P 23 07 20.0 +1.1
K05A Summer Lake 54.83 320 eP P 23 07 25.0 +1.7
comp=Z,16nm,1.1s
M04C Macdoel 54.97 319 P P 23 07 24.8 +0.6
baz=119,SNR=14
G08A Pilot Rock 55.01 324 eP P 23 07 25.6 +1.2
comp=Z,31nm,0.9s
N02D Trinity Center 55.16 318 P P 23 07 25.4 -0.1
baz=118
E09A Wood Farm, Sta 55.24 326 eP P 23 07 26.8 +0.8
comp=Z,31nm,0.9s
K04D Chiloquin, OR 55.33 320 P P 23 07 27.6 +0.8
baz=120
J05D Fort Rock, OR 55.33 321 P P 23 07 27.5 +0.7
baz=120,SNR=16
M02C Callahan 55.45 318 P P 23 07 27.0 -0.6
baz=118
BUOR Burton Butte 55.47 319 P P 23 07 28.9 +0.9
KMRM Mail Ridge 55.50 317 eP P 23 07 29.8 +1.8
comp=Z,41nm,1.0s
FCC Fort Churchill 55.60 349 eP P 23 07 27.3 -1.0
FCC pmax pmax
comp=Z,29nm,0.9s
FCC Fort Churchill 55.60 349 eP P 23 07 27.3 -1.0
comp=Z,29nm,0.9s
NEW Newport 55.72 328 P P 23 07 29.4 0.0
baz=127
KHMM Horse Mountain 55.80 317 eP P 23 07 32.0 +1.8
comp=Z,34nm,0.9s
I05D Terrebonne, OR 55.93 322 P P 23 07 32.3 +1.3
baz=121,SNR=5.3
G06A Carlson Farm, 55.97 323 eP P 23 07 33.2 +2.0
comp=Z,27nm,0.9s
G06A epP sP 23 07 58.0 +2.0
D08A Wollman Farm, 55.99 326 eP P 23 07 32.3 +1.0
comp=Z,22nm,0.9s
CROR Criterion Ridg 56.05 323 P P 23 07 33.5 +1.6
C09A Chrisman Ranch 56.06 327 eP P 23 07 32.9 +1.0
comp=Z,14nm,1.0s
HUMO Hull Mountain 56.09 319 eP P 23 07 32.2 +0.1
comp=Z,20nm,1.6s
L02D Cave Junction, 56.30 319 P P 23 07 34.3 +0.7
baz=118
I04A Tendick Farm, 56.32 321 P P 23 07 34.1 +0.3
baz=120,SNR=7.6
G05D Wamic, OR 56.39 323 P P 23 07 36.2 +2.0
baz=122
H04A Detroit Lake 56.63 322 eP P 23 07 36.9 +1.0
comp=Z,27nm,0.8s
I03D Drain, OR 56.87 320 P P 23 07 39.3 +1.7
baz=119,SNR=9.2
B08A Colville Reser 56.96 327 eP P 23 07 38.7 +0.4
comp=Z,22nm,0.8s
NLW Nelson Butte 57.36 326 P P 23 07 41.8 +0.6
MPOR Mary's Peak 57.38 321 P P 23 07 42.9 +1.5
LON Longmire 57.47 324 eP P 23 07 42.9 +1.0
LON pmax pmax
comp=Z,15nm,1.0s
LON Longmire 57.47 324 eP P 23 07 42.9 +1.0
comp=Z,15nm,1.0s
G03D McMinnville, O 57.55 322 P P 23 07 43.5 +1.1
baz=120
D05A Enumclaw 57.81 325 eP P 23 07 45.4 +1.2
comp=Z,27nm,0.9s
RPW Rockport 58.22 326 eP P 23 07 47.4 +0.3
JCW Jim Creek 58.31 326 eP P 23 07 47.5 -0.2
B05A Bryant 58.44 326 P P 23 07 48.3 -0.2
baz=122
NLWA Neilton Lookou 59.01 324 eP P 23 07 54.0 +1.4
comp=Z,34nm,0.8s
A04D Lummi Island 59.03 326 P P 23 07 53.4 +0.8
baz=122
MCW Mount Constitu 59.08 326 P P 23 07 54.0 +1.0
MCW Mount Constitu 59.08 326 P P 23 07 54.0 +1.0
OSD Olympics--Snow 59.13 324 P P 23 07 55.4 +1.8
PGC Sidney 59.41 325 eP P 23 07 56.6 +1.3
comp=Z,35nm,1.3s
YKA Yellowknife Ar 64.19 341 P P 23 08 26.3 -0.8

	comp=Z,20nm,0.7s,baz=134,slow=6.2,SNR=131						
YKB5	**Yellowknife Ar**	**64.19**	**341**	*e*P	**P**	**23 08 26.3**	**-0.8**
YKW3	**Yellowknife Ar**	**64.25**	**341**	*e*P	**P**	**23 08 26.6**	**-0.8**
	comp=Z,19nm,0.7s						
DLBC	**Dease Lake**	**67.76**	**333**	*e*P	**P**	**23 08 50.8**	**+0.6**
	comp=Z,26nm,1.2s						
PESTR	**Estremoz**	**70.15**	**50**	*e*P	**P**	**23 09 05.7**	**+0.3**
	comp=Z,19nm,1.1s						
PVRL	**Vila Real**	**70.49**	**48**	*e*P	**P**	**23 09 04.5**	**-3.0**
DBIC	**Dimbokro**	**70.67**	**85**	P	**P**	**23 09 07.5**	**-1.4**
	comp=Z,3.7nm,0.4s,baz=260,slow=7.4,SNR=11						
DBIC				LR	LR	23 38 40.2	
	comp=Z,44nm,19.2s,baz=228,slow=34						
DBIC	**Dimbokro**	**70.67**	**85**	*e*P	**P**	**23 09 07.6**	**-1.4**
DBIC				pmax	pmax		
	comp=Z,42nm,1.5s						
DBIC	**Dimbokro**	**70.67**	**85**	*e*P	**P**	**23 09 07.5**	**-1.4**
	comp=Z,42nm,1.5s						
KOWA	**Kowa**	**71.30**	**76**	*e*P	**P**	**23 09 12.1**	**-0.6**
	comp=Z,7.1nm,1.7s						
PBRG	**Braganca**	**71.31**	**48**	*e*P	P	23 09 03.8	-8.6
	comp=Z,20nm,2.3s						
SUMG	**Summit**	**71.45**	**11**	*e*P	**P**	**23 09 13.6**	**+0.5**
SUMG				pmax	pmax		
	comp=Z,45nm,0.9s						
SUMG	**Summit**	**71.45**	**11**	⇓*i*P	**P**	**23 09 13.6**	**+0.5**
	comp=Z,39nm,0.8s						
SUMG	**Summit**	**71.45**	**11**	*e*P	**P**	**23 09 13.6**	**+0.5**
	comp=Z,45nm,0.9s						
ESDC	**Sonseca Array**	**73.05**	**50**	P	**P**	**23 09 23.1**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=265,slow=5.3,SNR=9.3						
ES19	**SONSECA Array**	**73.11**	**50**	*e*P	**P**	**23 09 23.6**	**+0.4**
ES19				*e*sP	**sP**	**23 09 51.4**	**+3.0**
BALM	**Baldy**	**74.51**	**332**	*e*P	**P**	**23 09 32.2**	**+1.2**
BALM				pmax	pmax		
	comp=Z,11nm,1.0s						
BALM	**Baldy**	**74.51**	**332**	*e*P	**P**	**23 09 32.2**	**+1.2**
	comp=Z,11nm,1.0s						
EGAK	**Eagle**	**75.26**	**336**	*e*P	**P**	**23 09 35.7**	**+0.6**
	comp=Z,39nm,1.6s						
BMRM	**Bremner River**	**75.53**	**332**	*e*P	**P**	**23 09 38.0**	**+1.1**
	comp=Z,14nm,0.7s						
DOT	**Dot Lake**	**76.08**	**335**	*e*P	**P**	**23 09 40.5**	**+0.6**
	comp=Z,80nm,0.7s						
FLN	**La Foliniere**	**76.79**	**41**	*e*P	**P**	**23 09 44.4**	**+0.3**
FLN				pmax	pmax		
	comp=Z,42nm,1.4s						
TOA1	**Torodi Ar. Sit**	**76.87**	**78**	*e*P	**P**	**23 09 43.9**	**-1.3**
	comp=Z,26nm,1.9s						
TOA0	**Torodi Ar. Sit**	**76.87**	**78**	*e*P	**P**	**23 09 43.9**	**-1.4**
	comp=Z,30nm,1.9s						
TORD	**Torodi Ar. Bea**	**76.87**	**78**	P	**P**	**23 09 43.9**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=280,slow=6.0,SNR=34						
TORD				LR	LR	23 43 50.7	
	comp=Z,54nm,19.2s,baz=175,slow=36						
LDF	**La Druitiere**	**77.00**	**41**	*e*P	**P**	**23 09 45.6**	**+0.3**
LDF				pmax	pmax		
	comp=Z,27nm,1.4s						
DHY	**Denali Highway**	**77.36**	**334**	*e*P	**P**	**23 09 48.0**	**+0.7**
	comp=Z,4.8nm,0.9s						
FYU	**Fort Yukon**	**77.44**	**337**	*e*P	**P**	**23 09 48.2**	**+0.8**
	comp=Z,31nm,1.3s						
HDA	**Harding Lake**	**77.52**	**335**	*e*P	**P**	**23 09 47.8**	**-0.2**
	comp=Z,36nm,0.6s						
IL1	**Eielson Array**	**77.59**	**335**	*e*P	**P**	**23 09 47.7**	**-0.6**
ILAR	**Eielson Array**	**77.59**	**335**	P	**P**	**23 09 48.0**	**-0.4**
	comp=Z,7.2nm,0.6s,baz=122,slow=4.1,SNR=82						
ILAR	**Eielson Array**	**77.59**	**335**	P	**P**	**23 09 48.0**	**-0.4**
ILB	**Eielson Array**	**77.59**	**335**	*e*P	**P**	**23 09 48.0**	**-0.4**
CCB	**Clear Creek Bu**	**77.94**	**335**	*e*P	**P**	**23 09 50.0**	**-0.3**
	comp=Z,11nm,1.2s						
COLA	**College**	**78.02**	**335**	*e*P	**P**	**23 09 49.7**	**-0.9**
COLA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WRH	**Wood River Hil**	**78.02**	**335**	*e*P	**P**	**23 09 50.4**	**-0.3**
	comp=Z,6.3nm,0.9s						
RND	**Reindeer**	**78.09**	**334**	*e*P	**P**	**23 09 52.1**	**+0.9**
RND				pmax	pmax		
	comp=Z,30nm,0.8s						
RND	**Reindeer**	**78.09**	**334**	*e*P	**P**	**23 09 52.1**	**+0.9**
	comp=Z,30nm,0.8s						
CAF	**Calviac**	**78.09**	**45**	*e*P	**P**	**23 09 51.7**	**+0.1**
CAF				pmax	pmax		
	comp=Z,35nm,1.5s						
DAG	**Danmarks Havn**	**78.14**	**11**	*i* P	**P**	**23 09 50.8**	**-0.3**
DAG				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DAG	**Danmarks Havn**	**78.14**	**11**	*i* P	**P**	**23 09 50.8**	**-0.3**
	comp=Z,8.0nm,0.9s						
MDM	**Murphy Dome**	**78.19**	**336**	*e*P	**P**	**23 09 51.9**	**+0.2**
	comp=Z,36nm,1.3s						
MCK	**McKinley**	**78.20**	**334**	*e*P	**P**	**23 09 52.2**	**+0.4**
MCK				pmax	pmax		
	comp=Z,15nm,0.8s						
MCK	**McKinley**	**78.20**	**334**	*e*P	**P**	**23 09 52.2**	**+0.4**
	comp=Z,15nm,0.8s						
TRF	**Thorofare Moun**	**78.73**	**334**	*e*P	**P**	**23 09 55.4**	**+0.5**
	comp=Z,11nm,0.8s						
KTH	**Kantishna Hill**	**79.03**	**334**	*e*P	**P**	**23 09 56.5**	**+0.1**
	comp=Z,12nm,0.9s						
AVF	**Avril sur Loir**	**79.14**	**43**	*e*P	**P**	**23 09 57.0**	**-0.3**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BPAW	**Bear Paw Mtn.**	**79.16**	**334**	*e*P	**P**	**23 09 56.8**	**-0.2**
	comp=Z,33nm,0.8s						
MLY	**Manley**	**79.25**	**335**	*e*P	**P**	**23 09 57.4**	**-0.2**
	comp=Z,18nm,1.0s						
RSO	**Redoubt South**	**79.33**	**331**	*e*P	**P**	**23 09 58.2**	**0.0**
PPLA	**Purkeypile**	**79.47**	**333**	*e*P	**P**	**23 09 58.9**	**0.0**
	comp=Z,16nm,0.6s						
COLD	**Coldfoot**	**79.50**	**338**	*e*P	**P**	**23 09 59.6**	**+0.8**
	comp=Z,32nm,1.4s						
CAST	**Castle Rocks**	**79.52**	**334**	*e*P	**P**	**23 09 58.7**	**-0.2**
	comp=Z,16nm,0.9s						
VIVF	**Saint-Julien-l**	**79.94**	**45**	*e*P	**P**	**23 10 02.7**	**+1.0**
VIVF				pmax	pmax		
	comp=Z,63nm,2.2s						
DOU	**Dourbes**	**80.22**	**40**	P	**P**	**23 10 03.7**	**+0.7**
TAM	**Tamanrasset**	**80.26**	**68**	*e*P	**P**	**23 10 05.9**	**+1.9**
TAM				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TAM	**Tamanrasset**	**80.26**	**68**	*e*P	**P**	**23 10 05.9**	**+1.9**
	comp=Z,7.2nm,1.3s						
SVW2	**Sparrevohn**	**80.79**	**331**	*e*P	**P**	**23 10 05.3**	**-0.5**
	comp=Z,12nm,0.9s						
ORIF	**Oris-en-Rattie**	**80.80**	**45**	*e*P	**P**	**23 10 07.4**	**+1.0**
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WLF	**Walferdange**	**81.20**	**41**	P	**P**	**23 10 09.2**	**+0.9**
WLF	**Walferdange**	**81.20**	**41**	*e*P	**P**	**23 10 09.2**	**+0.9**
WLF				pmax	pmax		
	comp=Z,16nm,0.8s						
WLF	**Walferdange**	**81.20**	**41**	*e*P	**P**	**23 10 09.2**	**+0.9**
	comp=Z,16nm,0.8s						
LPG	**La Plagne**	**81.43**	**45**	*e*P	**P**	**23 10 10.9**	**+0.9**
LPG				pmax	pmax		
	comp=Z,17nm,1.4s						
KEST	**Kesra**	**83.36**	**55**	P	**P**	**23 10 19.4**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=135,slow=2.9,SNR=9.1						
KEST	**Kesra**	**83.36**	**55**	*e*P	**P**	**23 10 19.4**	**-0.5**
	comp=Z,14nm,1.1s						
DAVA	**Damuels**	**83.62**	**43**	*i* PcP	**P**	**23 10 22.6**	**+1.4**
	comp=Z,13nm,1.0s						
FETA	**Feichten**	**84.21**	**43**	*i* P	**P**	**23 10 22.6**	**-1.5**
	comp=Z,8.5nm,1.0s						
RETA	**Reutte**	**84.22**	**43**	*i* P	**P**	**23 10 24.9**	**+0.8**
	comp=Z,4.7nm,0.9s						
NBO02	**NORSAR Array S**	**84.23**	**29**	*e*P	**P**	**23 10 24.6**	**+0.7**
NB2	**NORSAR Subarra**	**84.41**	**29**	P	**P**	**23 10 25.5**	**+0.8**
	comp=Z,12nm,0.8s,baz=268,slow=5.1						
NB2	**NORSAR Subarra**	**84.41**	**29**	P	**P**	**23 10 25.5**	**+0.8**
	baz=268,slow=5.1						
NB2	**NORSAR Subarra**	**84.41**	**29**	P	**P**	**23 10 25.4**	**+0.8**
NB2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NB200	**NORSAR Array S**	**84.41**	**29**	*e*P	**P**	**23 10 25.5**	**+0.8**
NOA	**NORSAR Array B**	**84.41**	**29**	P	**P**	**23 10 25.5**	**+0.8**
	comp=Z,7.3nm,0.8s,baz=270,slow=4.9,SNR=14						
NOA				LR	LR	23 42 33.9	
	comp=Z,11nm,21.8s,baz=290,slow=32						
MOTA	**Moosalm**	**84.46**	**43**	*i* P	**P**	**23 10 25.6**	**+0.2**
	comp=Z,4.3nm,0.9s						
ABTA	**Abfaltersbach**	**85.44**	**44**	*i* P	**P**	**23 10 30.6**	**+0.4**
	comp=Z,5.9nm,0.9s						
CLL	**Collm**	**85.58**	**39**	*i* P	**P**	**23 10 31.3**	**+0.6**
	comp=Z,6.0nm,1.1s						
CLL				*i*		23 10 57.9	
	comp=Z,9.0nm,1.2s						
CLL				*e*		23 11 36.0	
CLL	**Collm**	**85.58**	**39**	*i* P	**P**	**23 10 31.3**	**+0.6**
CLL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KBA	**Koelnbreinsper**	**85.99**	**43**	*i* PcP	**P**	**23 10 34.2**	**+1.1**
	comp=Z,7.5nm,1.4s						
KHC	**Kasperske Hory**	**86.05**	**41**	*e*P	**P**	**23 10 33.5**	**+0.3**
KHC				*e*sP	**sP**	**23 11 00.0**	**+1.3**
KHC	**Kasperske Hory**	**86.05**	**41**	*e*P	**P**	**23 10 33.5**	**+0.3**
GEC2	**GERESS Array S**	**86.14**	**41**	*e*P	**P**	**23 10 34.4**	**+0.7**
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GEC2	**GERESS Array S**	**86.14**	**41**	*e*P	**P**	**23 10 34.4**	**+0.7**
	comp=Z,4.4nm,0.8s						
GERES	**GERESS Array B**	**86.14**	**41**	P	**P**	**23 10 34.0**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=262,slow=2.7,SNR=17						
GERES				LR	LR	23 50 28.6	
	comp=Z,21nm,18.1s,baz=314,slow=36						
GEA0	**GERESS Array S**	**86.14**	**41**	*e*P	**P**	**23 10 33.9**	**+0.2**
GEA0				*e*pP	**sP**	**23 11 00.6**	**+1.3**
BRG	**Berggiesshubel**	**86.20**	**39**	*e*P	**P**	**23 10 31.7**	**-2.1**
	comp=Z,9.0nm,1.9s						
BRG				*e*		23 10 34.8	
	comp=Z,7.1nm,1.1s						
BRG				*i*		23 11 01.2	
	comp=Z,6.4nm,1.1s						
BRG	**Berggiesshubel**	**86.20**	**39**	*e*P	**P**	**23 10 31.7**	**-2.1**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.9s						
MYKA	**Terra Mystica**	**86.22**	**44**	*i* PcP	**P**	**23 10 34.7**	**+0.6**
	comp=Z,7.2nm,0.7s						
CADS	**Cadrg**	**86.31**	**44**	*i* P	**P**	**23 10 34.9**	**+0.4**
JAVS	**Javornik**	**86.55**	**44**	*i* P	**P**	**23 10 36.4**	**+0.6**
MOA	**Molln**	**86.58**	**42**	*i* PcP	**P**	**23 10 36.6**	**+0.8**
	comp=Z,7.0nm,1.1s						
PRU	**Pruhonice**	**86.63**	**40**	*e*P	**P**	**23 10 37.1**	**+1.2**
PRU				*e*sP	**sP**	**23 11 03.7**	**+2.2**
PRU	**Pruhonice**	**86.63**	**40**	*e*P	**P**	**23 10 37.1**	**+1.2**
OBKA	**Obir**	**86.85**	**44**	*i* PcP	**P**	**23 10 39.9**	**+2.7**
	comp=Z,4.5nm,0.8s						
SOKA	**Soboth**	**87.17**	**44**	*i* P	**P**	**23 10 38.2**	**-0.5**
	comp=Z,4.5nm,1.3s						
PDKS	**Podkum**	**87.19**	**44**	*i* P	**P**	**23 10 39.8**	**+0.9**
TREC	**Trest**	**87.29**	**41**	*e*P	**P**	**23 10 40.1**	**+0.9**
TREC	**Trest**	**87.29**	**41**	*e*P	**P**	**23 10 40.1**	**+0.9**
ARSA	**Arzberg**	**87.47**	**43**	*i* PcP	**P**	**23 10 40.6**	**+0.5**
	comp=Z,4.5nm,0.8s						
UPC	**Upice**	**87.53**	**40**	*e*P	**P**	**23 10 41.5**	**+1.2**
UPC	**Upice**	**87.53**	**40**	*e*P	**P**	**23 10 41.5**	**+1.2**
CONA	**Conrad Observa**	**87.64**	**42**	*i* PcP	**P**	**23 10 41.2**	**+0.2**
	comp=Z,4.1nm,0.9s						
DPC	**Dobruska-Polom**	**87.75**	**40**	*e*P	**P**	**23 10 42.8**	**+1.4**
DPC				*e*pP	**pP**	**23 10 59.8**	**0.0**
DPC				*e*sP	**sP**	**23 11 07.4**	**+0.4**
DPC	**Dobruska-Polom**	**87.75**	**40**	*e*P	**P**	**23 10 42.8**	**+1.4**
DPC				*e*		23 10 59.8	
DPC				*e*		23 11 07.4	
SNAA	**Sanae**	**89.29**	**162**	*e*P	**P**	**23 10 47.4**	**-0.8**
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SNAA	**Sanae**	**89.29**	**162**	*e*P	**P**	**23 10 47.4**	**-0.8**
	comp=Z,8.0nm,1.3s						
ARA0	**ARCESS Array S**	**89.49**	**20**	*e*P	**P**	**23 10 49.2**	**0.0**
ARCES	**ARCESS Array B**	**89.49**	**20**	P	**P**	**23 10 49.2**	**0.0**
	comp=Z,2.3nm,0.8s,baz=277,slow=4.8,SNR=6.7						
VYHS	**Vyhne**	**89.56**	**42**	*e*P	**P**	**23 10 49.8**	**-0.2**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.3s						
VYHS	**Vyhne**	**89.56**	**42**	*e*P	**P**	**23 10 49.8**	**-0.2**
FIA0	**FINESS Array S**	**91.49**	**28**	*e*P	**P**	**23 10 58.4**	**-0.2**
FIA0	**FINESS Array S**	**91.49**	**28**	*e*P	**P**	**23 10 58.4**	**-0.2**
FINES	**FINESS Array B**	**91.49**	**28**	P	**P**	**23 10 58.4**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=267,slow=2.6,SNR=11						
BZS	**Buzias**	**91.84**	**44**	⇓*i*P	**P**	**23 11 01.9**	**+1.3**
DRGR		**92.40**	**43**	⇑*i*P	**P**	**23 11 04.4**	**+1.1**
GZR	**Gura Zlata**	**92.68**	**44**	⇑*i*P	**P**	**23 11 05.9**	**+1.3**
MLR	**Muntele Rosu**	**94.85**	**44**	*e*P	**P**	**23 11 15.8**	**+1.2**
MLR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MLR	**Muntele Rosu**	**94.85**	**44**	*e*P	**P**	**23 11 15.8**	**+1.2**
	comp=Z,9.3nm,1.3s						
QSPA	**South Pole Qui**	**94.86**	**180**	*e*P	**P**	**23 11 14.9**	**+0.8**
BILL	**Bilibino**	**95.58**	**340**	*e*P	**P**	**23 11 16.1**	**-1.2**
BILL				*e*		23 15 05.9	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**95.79**	**38**	LR	LR	23 56 30.4	
	comp=Z,15nm,18.6s,baz=290,slow=37						
SORM	**Soroca**	**95.87**	**41**	⇓*i*P	**P**	**23 11 19.5**	**+0.5**
OBN	**Obninsk**	**98.65**	**32**	*e*P	**P**	**23 11 30.2**	**-1.2**
OBN				*e*		23 15 33.6	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ERM	**Erimo**	**121.38**	**327**	*i* PKIKP	**PKPdf**	**23 16 45.3**	**-0.4**
MK32	**Makanchi Array**	**125.09**	**18**	*e*PKPdf	**PKPdf**	**23 16 51.1**	**-1.6**
MKAR	**Makanchi Array**	**125.09**	**18**	PKP	**PKPdf**	**23 16 51.1**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=334,slow=2.6,SNR=6.9						
AAK	**Ala-Archa**	**125.66**	**27**	*i* PKIKP	**PKPdf**	**23 16 53.0**	**-1.1**
SONA0	**Songino Array**	**127.51**	**358**	*e*PKPdf	**PKPdf**	**23 16 56.0**	**-1.4**
SONM	**Songino Array**	**127.51**	**358**	PKP	**PKPdf**	**23 16 56.0**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=15,slow=1.6,SNR=4.4						
MJAR	**Matsushiro Arr**	**127.93**	**325**	PKP	**PKPdf**	**23 16 57.9**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=66,slow=3.4,SNR=8.0						
MAJO	**Matsushiro**	**127.93**	**325**	*i* PKIKP	**PKPdf**	**23 16 56.7**	**-1.7**
KSH	**Kashi**	**128.82**	**28**	PKP	**PKPdf**	**23 16 52.5**	**-7.7**
WMQ	**Urumqi**	**129.36**	**15**	*e*PKP	**PKPdf**	**23 17 00.7**	**-0.3**
KS01	**Wonju Array Si**	**132.42**	**334**	*e*PKPdf	**PKPdf**	**23 17 06.3**	**-0.6**
KSRS	**Korea Array**	**132.43**	**334**	PKP	**PKPdf**	**23 17 07.0**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=10,slow=1.8,SNR=12						
KS15	**Wonju Array Si**	**132.45**	**334**	*e*PKPdf	**PKPdf**	**23 17 07.0**	**0.0**
KSAR	**Wonju Array Be**	**132.45**	**334**	PKIKP	**PKPdf**	**23 17 07.0**	**0.0**
KSAR	**Wonju Array Be**	**132.45**	**334**	PKP	**PKPdf**	**23 17 07.0**	**0.0**
HHC	**Hu-ho-hao-te**	**134.02**	**352**	*e*PKP	**PKPdf**	**23 17 08.7**	**-1.3**
CD2	**Chengdu**	**144.46**	**0**	PKP	**PKPab**	**23 17 27.3**	**-0.2**
AS01	**Alice Springs**	**145.66**	**234**	*e*PKPdf	**PKPdf**	**23 17 29.6**	**-1.8**
AS31	**Alice Springs**	**145.70**	**234**	*e*PKPdf	**PKPdf**	**23 17 30.4**	**-1.0**
ASAR	**Alice Springs**	**145.70**	**234**	PKPbc	**PKPdf**	**23 17 30.4**	**-1.0**
	comp=Z,8.9nm,0.6s,baz=120,slow=4.0,SNR=69						
HYB	**Hyderabad**	**146.47**	**48**	*i* PKP	**PKPab**	**23 17 35.0**	**-0.3**
WB2	**Warramunga Arr**	**146.94**	**240**	*e*PKPdf	**PKPdf**	**23 17 34.6**	**+1.0**
WRAB	**Tennant Creek**	**146.94**	**240**	*i* PKIKP	**PKPdf**	**23 17 31.0**	**-2.6**
WR1	**Warramunga Arr**	**146.94**	**240**	*e*PKPdf	**PKPdf**	**23 17 32.9**	**-0.8**
WRA	**Warramunga Arr**	**146.95**	**240**	PKPbc	**PKPdf**	**23 17 32.9**	**-0.8**
	comp=Z,8.8nm,1.0s,baz=107,slow=3.3,SNR=29						
GYA	**Guiyang**	**148.79**	**356**	*e*PKPbc	**PKPdf**	**23 17 34.8**	**-1.9**
GYA				PKPab	**PKPab**	**23 17 45.0**	**+0.7**
GYA				sPKP		23 18 05.6	
GYA				PKS	**PP**	**23 21 08.2**	**-1.1**
GYA				PP	PP	23 21 12.6	+3.3
GYA				PPMZ			
	comp=Z,120nm,7.9s						
CM31	**Chiang Mai Arr**	**156.31**	**12**	*e*PKPdf	**PKPdf**	**23 17 47.9**	**+0.1**
CM31				*e*PKPab	**PKPab**	**23 18 15.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**156.31**	**12**	PKP	**PKPdf**	**23 17 47.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=316,slow=2.5,SNR=5.0						
CMAR				PKPab	**PKPab**	**23 18 15.1**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=331,slow=4.7,SNR=6.6						

*JMA **01** 23:09:51.1±0.3, 33°.55N×127°.06E, h0km, M3.1*
*KMA **01** 23:09:57.2±0.7, 33°.63N×127°.24E, h0km, Error ellipse: s-maj=7.4km s-min=2.3km az=122.0*
ISC 01 23:09:56.8±1.2**, 33°.54N**±0°.04×**127°.27E**±0°.04**, h29**km±18km**, n12,** σ**0s.57**/19**, 6C-4D, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJJU	**Jeju**	**0.62**	**260**	⇑P	**Pn**	**23 10 09.3**	**-0.4**
	SNR=14						
KSJJU				⇑S	**Sb**	**23 10 18.0**	**+0.5**
KSGOS	**Gosan**	**0.96**	**255**	⇑P	**Pb**	**23 10 15.0**	**+0.1**
KSWAN	**Wando**	**0.97**	**331**	P	**Pn**	**23 10 14.6**	**+0.1**
	SNR=58						
KSWAN				⇑S	**Sb**	**23 10 27.4**	**0.0**
KOHB	**KOHEUNG**	**1.07**	**0**	⇓P	**Pb**	**23 10 16.2**	**-0.6**
KSJDO	**Jindo**	**1.22**	**320**	⇓P	**Pn**	**23 10 18.4**	**+0.4**
	SNR=21						
KSJDO				⇑S	**Sb**	**23 10 34.9**	**+0.3**
KSMOK	**Mokpo**	**1.30**	**340**	⇑P	**Pb**	**23 10 20.2**	**-0.4**
JFU	**Fukue jima 2**	**1.52**	**125**	P	**Pn**	**23 10 22.1**	**-0.1**
JFU				S	**Sb**	**23 10 43.3**	**0.0**
KSKWJ	**Gwangju**	**1.63**	**352**	P	**Pb**	**23 10 25.4**	**-0.8**
	SNR=27						
KSKWJ				⇓S	**Sb**	**23 10 47.1**	**+0.7**
KSHUK	**Heuksando**	**1.89**	**307**	P	**Pb**	**23 10 30.0**	**-0.6**
	SNR=12						
KSHUK				⇓S	**Sb**	**23 10 54.6**	**+0.8**
KSJEU	**Jeongeup**	**1.96**	**352**	P	**Pb**	**23 10 31.2**	**-0.8**
	SNR=16						
JTU	**Tsushima**	**2.02**	**60**	P	**Pn**	**23 10 29.4**	**+0.5**
JTU				*e*S	**Sb**	**23 10 58.3**	**+0.8**
JII	**Iki**	**2.07**	**82**	P	**Pn**	**23 10 29.8**	**+0.2**

*NIED **01** 23:34:00, 27°.00N×140°.40E, h440km, Mw4.9 Best double couple: $M_0$2.62000×10^{16} NP1:ϕ_s233.00000°, δ35.00000°, λ-58.00000°. NP2:ϕ_s17.00000°, δ61.00000°, λ-110.00000°.*
*BJI **01** 23:34:12.5, 26°.78N×140°.69E, h445km, mb4.7/54, mB4.5/42*
*ISCJB **01** 23:34:17.6±0.3, 27°.04N±0°.02×140°.29E±0°.02, h468km±2km, mb4.6/210, Error ellipse: s-maj=3.5km s-min=2.8km az=33.0*
*MOS **01** 23:34:17.0±0.9, 27°.08N×140°.29E, h462km, mb4.6/61, Error ellipse: s-maj=7.0km s-min=4.4km az=108.5*
*NEIC **01** 23:34:18.0±0.1, 27°.03N×140°.29E, mb4.6/134, Error ellipse: s-maj=3.4km s-min=2.8km az=128.0*
*JMA **01** 23:34:18.3±0.1, 27°.01N×140°.44E, h463km, M5.1*
*GCMT **01** 23:34:18.0±0.6, 27°.12N×140°.60E, h477km±4km, MW5.2/42, Moment Tensor Solution. s42,c58; Duration: 1s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.70±.05; $M_{\theta\theta}$-0.01±.07; $M_{\phi\phi}$0.70±.09; $M_{r\theta}$0.44±.09; $M_{\theta\phi}$0.03±.07; $M_{\phi r}$0.10±.10; Best double couple: $M_0$0.82100×10^{17} NP1:ϕ_s208.00000°, δ56.00000°, λ-59.00000°. NP2: ϕ_s341.00000°, δ45.00000°, λ-127.00000°. Principal axes: T 0.7210, Plg6.0000°, Azm276.0000°; N 0.2000, Plg25.0000°, Azm9.0000°; P -0.9210, Plg64.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s.*
*IDC **01** 23:34:18.4±0.4, 27°.06N×140°.38E, h468km±4km, mb4.1/34, mb1 4.3/41, mb1mx4.2/52, mbtmp5.0/41 Error ellipse: s-maj=8.3km s-min=6.2km az=84.0*
ISC 01 23:34:18.2±0.3**, 27°.07N**±0°.03×**140°.40E**±0°.04**, h467**km±2km**, h467km:pP-P, n622,** σ**1s.49**/784**, mb4.5**/220**, 39C-11D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.59**	**89**	P	**P**	**23 35 18.5**	**+0.2**
CBIJ				*e*S	**S**	**23 36 04.3**	**-2.8**
CBIJ	**Chichi jima**	**1.59**	**89**	*e*P	**P**	**23 35 18.4**	**+0.2**
CBIJ				*e*S	**S**	**23 36 02.7**	**-4.4**
JCJ	**Chichijima**	**1.59**	**89**	P	**P**	**23 35 18.4**	**+0.1**
	1µm,0.3s,baz=174,slow=23,SNR=336						
JCJ				S	**S**	**23 36 03.9**	**-3.2**
	1µm,0.3s,baz=314,slow=23,SNR=16						
JHCJ	**Hachijojimakas**	**6.01**	**355**	P	**P**	**23 35 54.9**	**+1.8**
JHCJ				*e*S	**S**	**23 37 09.6**	**-1.1**
JHJ2	**Mitsune**	**6.04**	**355**	P	**P**	**23 35 54.8**	**+1.3**
JHJ2				*e*S	**S**	**23 37 11.3**	**-0.1**
JHJ2	**Mitsune**	**6.04**	**355**	*e*P	**P**	**23 35 55.2**	**+1.7**
JHJ2				*e*S	**S**	**23 37 05.0**	**-6.4**
JHJ	**Hachijo jima 2**	**6.05**	**355**	P	**P**	**23 35 55.2**	**+1.7**
	210nm,0.3s,baz=248,slow=22,SNR=38						
JHJ				S	**S**	**23 37 07.7**	**-4.0**
	331nm,0.3s,baz=56,slow=18,SNR=11						
JWZ	**Kozaga**	**7.61**	**329**	P	**P**	**23 36 11.7**	**+2.2**
JIE	**Ise**	**7.96**	**337**	P	**P**	**23 36 15.9**	**+2.6**
JOD2	**Odawara 2**	**8.25**	**353**	P	**P**	**23 36 17.1**	**+0.8**
JOD2				*e*S	**S**	**23 37 51.6**	**-1.8**
INU	**Inuyama**	**8.75**	**342**	*e*P	**P**	**23 36 22.7**	**+1.1**
INU				*e*S	**S**	**23 38 03.9**	**+0.7**
JTO	**Tosashimizu**	**8.76**	**313**	P	**P**	**23 36 24.4**	**+2.6**
JRY	**Ryogami san**	**9.01**	**352**	P	**P**	**23 36 24.3**	**-0.2**
JRY				*e*S	**S**	**23 38 07.4**	**-1.1**
MJAR	**Matsushiro Arr**	**9.63**	**349**	P	**P**	**23 36 30.3**	**-0.9**
	21nm,0.3s,baz=170,slow=10,SNR=124						
MJAR				S	**S**	**23 38 18.8**	**-1.8**
	6.2nm,0.3s,baz=155,slow=15,SNR=5.1						
MAJO	**Matsushiro**	**9.63**	**349**	*e*P	**P**	**23 36 30.3**	**-0.8**
MAJO	**Matsushiro**	**9.63**	**349**	*e*P	**P**	**23 36 30.8**	**-0.3**
MAJO				*e*S	**S**	**23 38 15.1**	**-5.5**
MAT	**Matsushiro**	**9.63**	**349**	P	**P**	**23 36 30.4**	**-0.8**
MAT				S	**S**	**23 38 18.4**	**-2.2**
MJB9	**Matsu-Tunnel**	**9.63**	**349**	*e*P	**P**	**23 36 30.9**	**-0.3**
MJB9				*e*S	**S**	**23 38 18.2**	**-2.5**
JAMN	**Amaminishikomi**	**10.02**	**279**	P	**P**	**23 36 38.1**	**+2.6**
JHS	**Saijyo**	**10.07**	**323**	P	**P**	**23 36 38.1**	**+2.1**
JNU	**Nakatsue**	**10.21**	**308**	P	**P**	**23 36 39.7**	**+2.2**
	18nm,0.3s,baz=113,slow=6.2,SNR=206						
JNU				S	**S**	**23 38 34.7**	**+2.4**
	baz=201,slow=18,SNR=3.4						
JOW	**Kunigami**	**10.82**	**272**	P	**P**	**23 36 46.5**	**+2.4**
JOW	**Kunigami**	**10.82**	**272**	*e*P	**P**	**23 36 46.7**	**+2.5**
JOW				*e*S	**S**	**23 38 44.2**	**-0.2**
JTU	**Tsushima**	**12.02**	**311**	P	**P**	**23 36 58.6**	**+1.6**
JKE	**Kume jima 2**	**12.19**	**270**	P	**P**	**23 37 00.6**	**+1.7**
GUMO	**Guam**	**14.05**	**162**	P	**P**	**23 37 19.5**	**+0.6**
	26nm,0.3s,baz=342,slow=3.2,SNR=12						
GUMO				S	**S**	**23 39 54.3**	**+6.1**
	6.1nm,0.3s,baz=54,slow=23,SNR=2.6						
GUMO	**Guam**	**14.05**	**162**	*e*P	**P**	**23 37 20.1**	**+1.2**
GUMO				*e*S	**S**	**23 39 44.6**	**-3.6**
GUMO	**Guam**	**14.05**	**162**	*e*P	**P**	**23 37 20.1**	**+1.2**
GUMO				*e*S	**S**	**23 39 44.6**	**-3.6**
JOT	**Ohata**	**14.29**	**2**	P	**P**	**23 37 22.4**	**+1.2**
TJN	**Taejon**	**14.45**	**313***c*	*i*P	**P**	**23 37 21.9**	**-1.0**
KSRS	**Korea Array**	**14.77**	**318**	P	**P**	**23 37 25.7**	**-0.6**
	1.5nm,0.3s,baz=123,slow=11,SNR=94						
KSRS				PcP	**PcP**	**23 42 04.4**	**+0.3**
	0.2nm,0.3s,baz=170,slow=2.2,SNR=5.8						
KSRS				ScP	**ScP**	**23 44 52.8**	**-0.5**
	0.3nm,0.3s,baz=107,slow=1.3,SNR=4.4						
KS15	**Wonju Array Si**	**14.79**	**317**	*e*P	**P**	**23 37 25.7**	**-0.8**
KS15				*e*PcP	**PcP**	**23 42 04.4**	**+0.3**
KS15				*e*ScP	**ScP**	**23 44 52.8**	**-0.6**
KSAR	**Wonju Array Be**	**14.79**	**317**	P	**P**	**23 37 25.7**	**-0.8**
KSAR	**Wonju Array Be**	**14.79**	**317**	P	**P**	**23 37 25.7**	**-0.8**
JKB	**Kayabe**	**14.79**	**2**	P	**P**	**23 37 27.6**	**+1.1**
KS01	**Wonju Array Si**	**14.80**	**318**	*e*P	**P**	**23 37 25.0**	**-1.7**
JOSM	**Okushiri--Mats**	**15.00**	**357**	P	**P**	**23 37 29.5**	**+0.8**
ERM	**Erimo**	**15.08**	**8**	*i* P	**P**	**23 37 30.1**	**+0.5**
ERM				pmax	pmax		
	comp=Z,69nm,1.7s						
ERM	**Erimo**	**15.08**	**8**	*e*P	**P**	**23 37 29.9**	**+0.3**
	comp=Z,56nm,0.7s						
ERM				*e*S	**S**	**23 40 09.4**	**+1.7**
INCN	**Inchon**	**15.58**	**315**	*e*P	**P**	**23 37 34.9**	**-0.1**
	comp=Z,69nm,0.6s						
YOJ	**Yonaguni jima**	**15.88**	**264**	*e*P	**P**	**23 37 38.3**	**+0.1**
YOJ				pmax	pmax		
	comp=Z,201nm,1.4s						
YOJ	**Yonaguni jima**	**15.88**	**264**	*e*P	**P**	**23 37 38.3**	**+0.1**
	comp=Z,201nm,1.4s						
ASAJ	**Asahikawa**	**17.11**	**5**	P	**P**	**23 37 51.6**	**+0.7**
	comp=Z,4.0nm,0.3s,baz=158,slow=8.8,SNR=17						
ASAJ	**Asahikawa**	**17.11**	**5**	*e*P	**P**	**23 37 51.6**	**+0.7**
	comp=Z,41nm,0.9s						
NACB	**Ninganchiao**	**17.20**	**265**	*e*P	**P**	**23 37 49.8**	**-2.3**
	comp=Z,22nm,0.9s						
YHNB	**Yeheng**	**17.28**	**266**	*e*P	**P**	**23 37 51.8**	**-1.3**
	comp=Z,27nm,0.7s						
VLA	**Vladivostok**	**17.45**	**339**	*e*P	**P**	**23 37 54.5**	**+0.1**
YULB	**Yu-li**	**17.66**	**262**	*e*P	**P**	**23 37 56.0**	**-0.9**
	comp=Z,28nm,0.7s						
SSLB	**Suanglung**	**17.86**	**264**	*e*P	**P**	**23 37 59.1**	**+0.3**
	comp=Z,100nm,0.8s						
TWG	**Pinlang**	**18.02**	**261**	*e*P	**P**	**23 37 57.9**	**-2.5**
	comp=Z,286nm,0.9s						
TPUB	**Ta-pu**	**18.28**	**263**	*e*P	**P**	**23 38 01.4**	**-1.5**
	comp=Z,250nm,2.0s						
USRK	**Ussuriysk Ar.**	**18.39**	**341**	P	**P**	**23 38 04.2**	**+0.6**
	comp=Z,6.5nm,0.3s,baz=162,slow=9.5,SNR=116						
KUR	**Kuril'sk**	**19.09**	**16**	*i* P	**P**	**23 38 10.5**	**+0.5**
MDJ	**Mudanjiang**	**19.55**	**336**	P	**P**	**23 38 15.1**	**+0.9**
MDJ				sP	sP	23 40 15.5	-2.2
MDJ				S	**S**	**23 41 30.6**	**+4.0**
MDJ				ScP	**ScP**	**23 45 05.9**	**+2.8**
MDJ				ScS	**ScS**	**23 48 45.6**	**0.0**
MDJ				PMZ			
	comp=Z,53nm,1.0s						
MDJ				PMZ			
	comp=Z,150nm,4.1s						
MDJ	**Mudanjiang**	**19.55**	**336**	*e*P	**P**	**23 38 15.6**	**+1.4**

comp=Z,43nm,0.8s
DL2 **Dalian** **19.64** **312** P **P** **23 38 16.3 +1.2**
DL2 PMZ
comp=Z,100nm,0.6s
YSS **Yuzh-Sakhalins** **19.94** **5**⇓ *e*P **P** **23 38 19.9 +2.2**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS **Yuzh-Sakhalins** **19.94** **5** *e*P **P** **23 38 20.3 +2.6**
comp=Z,42nm,1.0s
SNY **Shenyang** **20.17** **321**⇑ P **P** **23 38 19.4 -0.5**
SNY sP **sP** **23 40 24.2 -0.4**
SNY PMZ
comp=Z,49nm,0.6s
SNY PMZ
comp=Z,400nm,3.5s
CN2 **Changchun** **20.61** **328** *e*P **P** **23 38 25.8 +1.9**
CN2 *e*S **S** **23 41 47.2 +3.4**
CN2 PMZ
comp=Z,30nm,0.7s
CN2 PMZ
comp=Z,200nm,4.0s
HABR **Khabarovsk** **21.77** **350** *e*P **P** **23 38 33.2 -1.1**
HABR *e**SP **sP** **23 40 37.0 -5.2**
HABR *e*S **S** **23 42 03.2 +1.1**
HABR *e* 23 48 53.9
HABR pmax pmax
comp=N,4.0nm,0.8s
HABR pmax pmax
comp=Z,16nm,0.8s
HABR pmax pmax
comp=E,1.0nm,0.4s
TGY **Tagaytay City** **22.28** **238** P **P** **23 38 40.0 +0.5**
comp=E,252nm,0.5s,baz=327,slow=1.8,SNR=5.4
WHN **Wuhan** **23.07** **285**⇑ P **P** **23 38 49.5 +3.2**
KLR **Kul'dur** **23.12** **345** P **P** **23 38 47.2 +0.8**
comp=E,15nm,0.5s,baz=166,slow=8.3,SNR=49
KLR ScP **ScP** **23 45 11.4 -0.7**
comp=E,2.3nm,0.6s,baz=192,slow=3.0,SNR=8.7
BJI **Beijing** **23.89** **309** P **P** **23 38 52.5 -1.0**
BJI sP **sP** **23 41 00.7 -4.4**
BJI S **S** **23 42 34.6 -1.1**
BJI PMZ
comp=E,16nm,1.1s
BJI PMZ
comp=E,47nm,5.2s
HIA **Hailar** **27.31** **330** *e*P **P** **23 39 23.5 -0.2**
HIA pmax pmax
comp=Z,33nm,0.9s
HIA **Hailar** **27.31** **330** *e*P **P** **23 39 23.5 -0.2**
comp=Z,33nm,0.9s
HIA *e*pP **pP** **23 40 46.9 +2.8**
HHC **Hu-ho-hao-te** **27.44** **307** *e*P **P** **23 39 20.9 -4.2**
HHC sP sP 23 41 37.2 -3.1
HHC S **S** **23 43 28.2 -3.6**
HHC PcS **PcS** **23 46 05.7 -5.8**
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,140nm,5.8s
XAN **Xi'an** **27.91** **292** P **P** **23 39 29.4 +0.2**
XAN ScS ScS 23 49 23.9 +4.1
XAN PMZ
comp=Z,9.0nm,0.7s
XAN PMZ
comp=Z,27nm,4.8s
PETK **Petropavlovsk-** **29.03** **22** P **P** **23 39 39.9 +1.2**
comp=Z,1.6nm,0.6s,baz=216,slow=7.3,SNR=5.3
PETK PcP **PcP** **23 42 32.6 -0.1**
comp=Z,5.4nm,0.8s,baz=153,slow=4.2,SNR=5.3
PEA1 **Petropavlovsk-** **29.03** **22** *e*P **P** **23 39 39.9 +1.1**
PEA1 *e*PcP **PcP** **23 42 32.6 -0.1**
SWI **Sorong** **29.13** **199** P **P** **23 39 39.7 -0.4**
comp=Z,43nm,0.9s
SWI **Sorong** **29.13** **199** P **P** **23 39 40.8 +0.7**
SWI pmax pmax
comp=Z,42nm,0.9s
QIZ **Qiongzhong** **29.17** **261** *e*P **P** **23 39 41.5 +1.0**
comp=Z,44nm,1.2s
MANU **Manus Island** **29.71** **166** *e*P **P** **23 39 45.0 -0.1**
comp=Z,13nm,0.6s
KDM **Kudat** **30.05** **232**⇓ P **P** **23 39 48.5 +0.4**
GYA **Guiyang** **30.07** **277**⇑ P **P** **23 39 48.7 +0.3**
GYA pP pP 23 41 10.2 +0.4
GYA sP sP 23 42 02.8 -1.4
GYA PcP **PcP** **23 42 36.5 +0.4**
GYA S **S** **23 44 15.0 +1.8**
GYA ScP **ScP** **23 45 35.6 +2.0**
GYA PcS **PcS** **23 46 21.8 +1.3**
GYA ScS **ScS** **23 49 31.0 +0.5**
GYA PMZ
comp=Z,20nm,0.6s
GYA PMZ
comp=Z,120nm,5.0s
MYLDM **Lahad Datu** **30.16** **228**⇑ P **P** **23 39 49.7 +0.7**
MYLDM **Lahad Datu** **30.16** **228** *e*P **P** **23 39 50.9 +1.9**
comp=Z,126nm,1.8s
LBMI **Labuha** **30.21** **206** P **P** **23 39 48.7 -0.8**
comp=Z,153nm,1.0s,comp=Z,2μm
SDKM **Sandakan** **30.70** **230**⇓ P **P** **23 39 54.4 +0.6**
FAKI **Fak Fak** **30.83** **196** *e*P **P** **23 39 54.8 -0.1**
comp=Z,160nm,1.7s
KKM **Kota Kinabalu** **31.09** **232**⇓ P **P** **23 39 57.7 +0.5**
KKM **Kota Kinabalu** **31.09** **232** *e*P **P** **23 39 58.1 +0.9**
comp=Z,53nm,1.3s
TSM **Tawau** **31.23** **227**⇓ P **P** **23 39 58.8 +0.5**
MRSI **Marisa** **31.84** **217** P **P** **23 40 04.3 +0.8**
comp=Z,155nm,1.1s,comp=Z,3μm
SANI **Sanana** **32.11** **208** P **P** **23 40 04.1 -1.7**
comp=Z,118nm,1.1s,comp=Z,1μm
CD2 **Chengdu** **32.18** **286** P **P** **23 40 05.8 -0.6**
CD2 pP pP 23 41 26.8 -1.9
CD2 sP sP 23 42 19.9 -2.9
CD2 S **S** **23 44 45.9 +0.5**
CD2 PcS **PcS** **23 46 26.9 -0.5**
CD2 sS sS 23 47 16.2 -1.3
CD2 SS **SS** **23 47 32.0 -6.2**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
LZH **Lanzhou** **32.26** **295** *e*P **P** **23 40 08.6 +1.5**
LZH pP pP 23 41 30.9 +1.5
LZH PP **PP** **23 41 37.4 -0.4**
LZH sP sP 23 42 16.9 -6.7
LZH PcP **PcP** **23 42 42.9 +0.9**
LZH *e*S **S** **23 44 46.6 0.0**
LZH sS sS 23 47 12.6 -6.2
LZH SS **SS** **23 47 37.7 -2.1**
LZH PMZ
comp=Z,22nm,1.0s
LZH PMZ
comp=Z,110nm,5.3s
LUWI **Luwuk** **32.70** **214** P **P** **23 40 09.6 -1.3**
comp=Z,111nm,0.9s,comp=Z,3μm
LUWI **Luwuk** **32.70** **214** *e*P **P** **23 40 09.5 -1.4**
comp=Z,69nm,0.7s
ULN **Ulaanbaatar** **33.26** **318***c* *i*P **P** **23 40 15.9 +0.5**
ULN pmax pmax
comp=Z,19nm,0.9s
ULN **Ulaanbaatar** **33.26** **318** *e*P **P** **23 40 15.7 +0.3**
comp=Z,19nm,0.8s
SONA0 **Songino Array** **33.64** **317** *e*P **P** **23 40 18.9 +0.3**
comp=Z,11nm,0.6s
SONA0 *e*pP **pP** **23 41 43.6 +2.1**
SONA0 *e*PcP **PcP** **23 42 45.8 +0.2**
SONA0 *e*ScP **ScP** **23 45 45.0 -0.4**
SONA1 **Songino Array** **33.64** **317** *e*P **P** **23 40 18.9 +0.2**
SONA1 *e*ScP **ScP** **23 45 44.8 -0.6**
SONM **Songino Array** **33.64** **317** P **P** **23 40 18.9 +0.3**
comp=Z,11nm,0.6s,baz=124,slow=8.0,SNR=99
SONM pP **pP** **23 41 43.6 +2.1**
comp=Z,2.7nm,0.9s,baz=131,slow=8.9,SNR=2.4
SONM PcP **PcP** **23 42 45.8 +0.2**
comp=Z,1.7nm,0.4s,baz=127,slow=3.3,SNR=6.4
SONM ScP **ScP** **23 45 45.0 -0.4**
comp=Z,1.7nm,0.6s,baz=146,slow=3.5,SNR=4.0
KMI **Kunming** **33.79** **275** P **P** **23 40 20.9 +0.5**
KMI S **S** **23 45 08.9 -1.5**
KMI sS sS 23 47 38.6 -4.7
KMI PMZ
comp=Z,21nm,0.9s
KMI PMZ
comp=Z,110nm,5.5s
PCI **Palu** **34.14** **219** P **P** **23 40 22.7 -0.4**
comp=Z,142nm,1.0s,comp=Z,1μm
PCI **Palu** **34.14** **219** P **P** **23 40 22.9 -0.2**
PCI pmax pmax
comp=Z,142nm,1.0s
UBPT **Khong Chiam** **34.50** **257** P **P** **23 40 27.0 +0.9**
comp=Z,26nm,1.0s
SKNT **Sakolnakorn** **35.11** **261** P **P** **23 40 31.9 +0.6**
comp=Z,42nm,1.1s
BTM **Bintulu** **35.30** **232**⇑ P **P** **23 40 33.7 +0.8**
KDI **Kendari** **35.30** **212** P **P** **23 40 34.0 +1.1**
comp=Z,99nm,1.0s,comp=Z,888nm
YAK **Yakutsk** **35.69** **351** *i*P **P** **23 40 34.3 -1.1**
YAK pmax pmax
comp=Z,16nm,0.9s
GTA **Gaotai** **35.82** **301** *e*P **P** **23 40 37.3 +0.2**
GTA pP pP 23 41 59.7 -1.2
GTA sP PcP 23 42 48.3 -3.9
GTA PcP **sP** **23 42 53.1 -1.6**
GTA S **S** **23 45 39.3 -1.2**
GTA ScP **ScP** **23 45 52.2 -1.3**
GTA PMZ
comp=Z,12nm,1.0s
GTA PMZ
comp=Z,49nm,5.5s
TTSI **Tana Toraja** **35.93** **217** P **P** **23 40 35.4 -2.7**
comp=Z,21nm,1.0s
KHON **Khomkaen** **36.38** **261** P **P** **23 40 42.9 +1.0**
comp=Z,17nm,0.7s,comp=Z,655nm
SBUM **Sibu** **36.43** **233**⇑ P **P** **23 40 42.9 +0.5**
SBUM **Sibu** **36.43** **233** *e*P **P** **23 40 42.6 +0.3**
comp=Z,49nm,1.3s
ZAK **Zakamensk** **36.59** **320** *e*P **P** **23 40 43.3 0.0**
ZAK pmax pmax
comp=Z,15nm,1.1s
SEY **Seymchan** **36.73** **9** *i*P **P** **23 40 45.0 +1.0**
comp=Z,5.2nm,0.5s,baz=197,slow=7.9,SNR=14
SEY **Seymchan** **36.73** **9** *i*P **P** **23 40 43.2 -0.9**
TLY **Talaya** **36.96** **322** P **P** **23 40 47.2 +0.9**
comp=Z,9.8nm,0.6s,baz=154,slow=4.3,SNR=26
TLY **Talaya** **36.96** **322** *e*P **P** **23 40 47.2 +0.9**
TLY *e*S **S** **23 45 49.4 -7.7**
TLY pmax pmax
comp=Z,16nm,0.9s
TLY **Talaya** **36.96** **322** *e*P **P** **23 40 46.8 +0.5**
comp=Z,13nm,0.6s
CRAI **Chiangrai** **37.17** **268** P **P** **23 40 49.1 +0.7**
comp=Z,152nm,1.1s,comp=Z,16μm
KAPI **Kappang** **37.63** **215** P **P** **23 40 52.5 +0.4**
comp=Z,22nm,0.8s,baz=232,slow=2.7,SNR=8.7
KAPI **Kappang** **37.63** **215** *e*P **P** **23 40 51.0 -1.1**
comp=Z,30nm,0.9s
UTTA **Uttaradit** **37.85** **264** P **P** **23 40 54.2 +0.2**
comp=Z,13nm,0.7s,comp=Z,112nm
PBKT **Sadao Pong** **37.92** **262** P **P** **23 40 55.3 +0.7**
comp=Z,57nm,1.0s
SRAK **Srakaew** **38.03** **258** P **P** **23 40 52.2 -3.3**
comp=Z,332nm,0.8s,comp=Z,2μm
CHBT **CHBT** **38.35** **256** P **P** **23 40 59.1 +1.0**
comp=Z,61nm,1.0s
LAMP **Lampang** **38.39** **266** P **P** **23 40 59.0 +0.5**
comp=Z,64nm,0.8s
KSM **Kuching** **38.48** **234** *e*P **P** **23 40 59.2 +0.1**
comp=Z,18nm,0.6s
STKI **Sintang** **38.65** **231** P **P** **23 41 01.2 +0.7**
comp=Z,107nm,0.9s
SUKH **Sukhothai** **38.77** **264** P **P** **23 41 02.2 +0.7**
comp=Z,4.3nm,0.6s,comp=Z,56nm
CMMT **Chiang Mai** **38.90** **267** P **P** **23 41 02.7 +0.1**
comp=Z,25nm,1.0s
CHTO **Chiang Mai** **38.91** **267** P **P** **23 41 02.7 +0.1**
comp=Z,108nm,1.0s
CHTO **Chiang Mai** **38.91** **267** *e*P **P** **23 41 03.1 +0.5**
CHTO pmax pmax
comp=Z,16nm,0.8s
CHTO **Chiang Mai** **38.91** **267** *e*P **P** **23 41 03.1 +0.5**
comp=Z,16nm,0.8s
CM01 **Chiang Mai Arr** **39.03** **266** *e*P **P** **23 41 03.9 +0.3**
CM01 *e*PcP **PcP** **23 43 03.4 +1.0**
CM31 **Chiang Mai Arr** **39.03** **266** *e*P **P** **23 41 04.0 +0.4**
CM31 *e*PcP **PcP** **23 43 03.5 +1.0**
CMAR **Chiang Mai Arr** **39.03** **266** P **P** **23 41 04.0 +0.4**
comp=Z,12nm,0.9s,baz=57,slow=8.4,SNR=50
CMAR PcP **PcP** **23 43 03.5 +1.0**
comp=Z,5.8nm,0.7s,baz=67,slow=1.5,SNR=18
CMAR **Chiang Mai Arr** **39.03** **266***c* *e*P **P** **23 41 04.0 +0.4**
CMAR pmax pmax
comp=Z,11nm,0.9s
BBKI **Banjar Baru** **39.12** **223** P **P** **23 41 03.1 -1.2**
comp=Z,209nm,1.1s,comp=Z,105μm
MMRI **Maumere** **39.62** **209** P **P** **23 41 08.7 +0.3**
comp=Z,211nm,0.9s
MMRI **Maumere** **39.62** **209** *e*P **P** **23 41 08.5 +0.1**
comp=Z,151nm,0.8s
SOEI **Soe** **39.81** **205** P **P** **23 41 09.6 -0.4**
comp=Z,139nm,1.1s,comp=Z,2μm
SOEI **Soe** **39.81** **205** *e*P **P** **23 41 09.8 -0.2**
comp=Z,117nm,1.0s
SRDT **SRDT** **40.45** **260** P **P** **23 41 16.3 +1.2**
comp=Z,69nm,1.2s
PHET **Kaeng Krachan** **40.62** **258** P **P** **23 41 18.3 +1.8**
comp=Z,34nm,1.1s
MTN **Manton Dam** **40.68** **194** *e*P **P** **23 41 16.6 -0.2**
comp=Z,100nm,0.6s
COEN **Coen** **40.87** **176** *e*P **P** **23 41 19.0 +0.6**
comp=Z,14nm,0.6s
KTGM **Kuala Trenggan** **41.55** **245**⇓ P **P** **23 41 23.9 0.0**
PLAI **Plampang** **41.88** **215** P **P** **23 41 25.4 -1.1**
comp=Z,161nm,0.9s,comp=Z,1μm
TWSI **Taliwang, Sumb** **42.27** **216** P **P** **23 41 28.9 -0.7**
comp=Z,100nm,0.8s,comp=Z,873nm
ABJI **Asem Bagus** **42.94** **220** P **P** **23 41 35.7 +0.8**
comp=Z,196nm,0.9s
MYKOM **Kota Tinggi** **43.11** **241** *e*P **P** **23 41 37.4 +1.1**
comp=Z,46nm,0.9s
TPRI **Tanjung Pinang** **43.14** **239** P **P** **23 41 37.3 +0.8**
KRAB **Krabi** **43.24** **252** P **P** **23 41 38.3 +1.0**
comp=Z,97nm,0.8s
BLJI **Banyuglugur** **43.27** **221** P **P** **23 41 37.1 -0.3**
comp=Z,56nm,1.1s,comp=Z,3μm
JAGI **Jajag, Banyuwa** **43.53** **219** P **P** **23 41 38.0 -1.5**
comp=Z,93nm,1.1s
JAGI **Jajag, Banyuwa** **43.53** **219** *e*P **P** **23 41 38.2 -1.3**
comp=Z,159nm,1.3s
KULM **Kulim** **43.60** **247** *e*P **P** **23 41 40.5 +0.4**
comp=Z,52nm,0.7s
IPM **Ipoh** **43.75** **246** *e*P **P** **23 41 41.1 -0.2**
comp=Z,50nm,0.8s
BILL **Bilibino** **43.85** **14** *e*P **P** **23 41 42.5 +1.2**
BILL *e**PP **PcP** **23 43 13.7 -3.8**
BILL *e* 23 43 30.7
BILL *e*S **S** **23 47 36.3 -0.7**
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL **Bilibino** **43.85** **14** *e*P **P** **23 41 42.9 +1.6**
comp=Z,8.1nm,0.9s
NGJI **Ngawi** **44.24** **223** P **P** **23 41 41.8 -3.3**
PWJI **Pagerwojo** **44.55** **223** P **P** **23 41 46.1 -1.3**
comp=Z,112nm,0.8s
TIXI **Tiksi** **45.09** **355** P **P** **23 41 50.6 -0.1**
comp=Z,1.7nm,0.3s,baz=203,slow=6.2,SNR=7.6
TIXI pP **pP** **23 43 20.5 +1.2**
comp=Z,1.4nm,0.4s,baz=167,slow=5.2,SNR=2.1
TIXI **Tiksi** **45.09** **355** *i*P **P** **23 41 50.8 0.0**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
TIXI **Tiksi** **45.09** **355** *e*P **P** **23 41 50.2 -0.5**
comp=Z,4.8nm,1.1s
TIXI *e*pP **pP** **23 43 20.5 +1.2**
UGM **Wanagama** **45.25** **224** *e*P **P** **23 41 52.4 -0.5**
comp=Z,578nm,1.9s
WMQ **Urumqi** **45.30** **306** P **P** **23 41 55.0 +2.0**
WMQ PMZ
comp=Z,10.0nm,0.6s
WMQ PMZ
comp=Z,51nm,5.6s
JMBI **JAMBI** **45.47** **237** P **P** **23 41 58.1 +3.6**
JCJI **Jatiwangi** **45.61** **228** P **P** **23 41 57.6 +2.0**
KPJI **Karang Pucung** **45.81** **226** P **P** **23 41 57.0 -0.1**
comp=Z,236nm,0.8s
LEM **Lembang** **46.29** **228** P P 23 42 06.6 +5.6
PSI **Prapat** **46.42** **246** P **P** **23 42 02.4 +0.4**
comp=Z,56nm,0.7s,baz=46,slow=4.2,SNR=77
PSI PcP **PcP** **23 43 28.1 +0.4**
comp=Z,18nm,0.7s,baz=27,slow=6.1,SNR=9.8
PSI **Prapat** **46.42** **246** *e*P **P** **23 42 02.4 +0.4**
PSI *e* 23 43 28.1
PSI pmax pmax
comp=Z,63nm,0.8s
PSI **Prapat** **46.42** **246** *e*P **P** **23 42 02.4 +0.4**
PSI *e*PcP **PcP** **23 43 28.1 +0.4**
comp=Z,63nm,0.8s
CBJI **Citeko** **46.50** **229** P **P** **23 41 58.3 -4.2**
SDSI **Sungai Dareh** **46.69** **240** P **P** **23 42 00.9 -3.0**
CISI **Cisompet, Garu** **46.70** **227** P **P** **23 42 02.1 -1.9**
comp=Z,72nm,1.2s,comp=Z,5μm
CISI **Cisompet, Garu** **46.70** **227** *e*P **P** **23 42 02.2 -1.8**
comp=Z,50nm,0.8s
LHMI **Lhok Sumawe** **46.71** **250** *e*P **P** **23 42 05.9 +1.8**
comp=Z,238nm,1.2s
BLSI **Bandar Lampung** **46.85** **232** P **P** **23 42 03.3 -1.8**
comp=Z,158nm,0.5s
MNSI **Mandailing Nat** **47.08** **243** P **P** **23 42 06.8 0.0**
comp=Z,87nm,0.8s
WRAB **Tennant Creek** **47.09** **188** *e*P **P** **23 42 06.2 -0.6**
WRAB pmax pmax
comp=Z,92nm,1.1s
WRAB **Tennant Creek** **47.09** **188** *e*P **P** **23 42 06.2 -0.6**
comp=Z,92nm,1.1s
WB2 **Warramunga Arr** **47.10** **188** *e*P **P** **23 42 05.4 -1.5**
comp=Z,81nm,1.2s
WR1 **Warramunga Arr** **47.10** **188** *e*P **P** **23 42 06.1 -0.7**
comp=Z,98nm,1.2s
WR1 *e*PcP **PcP** **23 43 29.9 +0.2**
WR1 *e*ScP **ScP** **23 46 37.6 -0.9**
WR1 *e*S **S** **23 48 19.9 -4.0**
WRA **Warramunga Arr** **47.10** **188** P **P** **23 42 06.1 -0.7**
comp=Z,36nm,0.4s,baz=4.3,slow=7.5,SNR=409
WRA PcP **PcP** **23 43 29.9 +0.2**
comp=Z,5.1nm,0.6s,baz=2.9,slow=3.8,SNR=6.9
WRA ScP **ScP** **23 46 37.6 -0.9**
comp=Z,8.0nm,0.8s,baz=6.9,slow=4.5,SNR=14
WRA S **S** **23 48 19.9 -4.0**
comp=Z,2.7nm,0.8s,baz=3.7,slow=14,SNR=7.4
WRA PKiKP **PKiKP** **23 50 20.0 -1.5**
comp=Z,0.4nm,0.4s,baz=328,slow=1.6,SNR=5.2
FITZ **Fitzroy Crossi** **47.13** **199** *e*P **P** **23 42 07.1 0.0**
comp=Z,44nm,1.0s
CTAO **Charters Tower** **47.22** **172** *e*P **P** **23 42 08.1 +0.3**
CTAO **Charters Tower** **47.22** **172** *e*P **P** **23 42 08.1 +0.3**
GSI **Gunungsitoli** **48.38** **245** *e*P **P** **23 42 16.4 -0.4**
comp=Z,158nm,1.2s
ZAA0 **Zalesovo Array** **48.47** **319** *e*P **P** **23 42 16.7 0.0**
ZAA0 *e*PcP **PcP** **23 43 33.6 -0.6**
ZAA0 *e*PcP **PcP** **23 43 33.8 -0.5**
ZAA0 *e*ScP **ScP** **23 46 42.0 -1.9**
ZAA1 **Zalesovo Array** **48.47** **319** *e*P **P** **23 42 16.5 -0.2**
ZAA1 *e*PcP **PcP** **23 43 33.7 -0.6**
ZAA1 *e*ScP **ScP** **23 46 42.0 -1.8**
ZAA1 *e*S **S** **23 48 40.4 -1.7**
ZALV **Zalesovo Beam** **48.47** **319** P **P** **23 42 16.5 -0.2**
comp=Z,8.8nm,0.5s,baz=102,slow=6.9,SNR=46
ZALV PcP **PcP** **23 43 33.7 -0.6**
comp=Z,13nm,0.7s,baz=112,slow=3.7,SNR=20
ZALV ScP **ScP** **23 46 42.0 -1.8**
comp=Z,6.2nm,0.8s,baz=108,slow=3.5,SNR=9.8
ZALV S **S** **23 48 40.4 -1.7**
comp=Z,2.8nm,0.9s,baz=120,slow=13,SNR=5.6
MK01 **Makanchi Array** **49.26** **310** *e*P **P** **23 42 23.0 +0.2**
MK01 *e*ScP **ScP** **23 46 46.3 -1.1**
MK31 **Makanchi Array** **49.26** **310** *e*P **P** **23 42 23.6 +0.7**
MK31 **Makanchi Array** **49.26** **310** *e*P **P** **23 42 23.6 +0.7**
MK32 **Makanchi Array** **49.26** **310** *e*P **P** **23 42 23.1 +0.2**
MK32 *e*PcP **PcP** **23 43 37.0 -0.3**
MK32 *e*ScP **ScP** **23 46 46.8 -0.7**
MK32 *e*S **S** **23 48 52.8 -0.6**
MKAR **Makanchi Array** **49.26** **310** P **P** **23 42 23.1 +0.2**
comp=Z,3.0nm,0.4s,baz=90,slow=9.4,SNR=53
MKAR PcP **PcP** **23 43 37.0 -0.3**
comp=Z,8.5nm,0.7s,baz=83,slow=6.3,SNR=14
MKAR ScP **ScP** **23 46 46.8 -0.7**
comp=Z,3.1nm,0.5s,baz=82,slow=4.8,SNR=10
MKAR S **S** **23 48 52.8 -0.6**
comp=Z,2.5nm,0.9s,baz=95,slow=16,SNR=8.8
MKAR **Makanchi Array** **49.26** **310** *e*P **P** **23 42 23.6 +0.7**
MAKZ **Makanchi** **49.48** **310** *e*P **P** **23 42 25.1 +0.6**
MAKZ pmax pmax
comp=Z,12nm,1.4s
MAKZ **Makanchi** **49.48** **310** *e*P **P** **23 42 25.1 +0.6**
comp=Z,12nm,1.4s
NVS **Novosibirsk** **49.54** **320** *e*P **P** **23 42 21.8 -2.9**
NVS *e* 23 43 33.8
NVS *e*S **S** **23 48 54.9 -1.8**
NVS pmax pmax
comp=Z,5.0nm,0.6s
NVS smax smax
comp=N,58nm,2.0s
NVS smax smax
comp=E,25nm,1.4s
AS01 **Alice Springs** **50.82** **188** *e*P **P** **23 42 33.9 -0.6**
AS01 *e*ScP **ScP** **23 46 53.2 -1.2**
AS31 **Alice Springs** **50.82** **188** *e*P **P** **23 42 34.0 -0.5**
comp=E,15nm,0.4s
AS31 *e*PcP **PcP** **23 43 43.8 +0.4**
AS31 *e*ScP **ScP** **23 46 53.4 -1.0**
AS31 *e*S **S** **23 49 13.4 -1.6**
ASAR **Alice Springs** **50.83** **188** P **P** **23 42 34.0 -0.5**
comp=E,13nm,0.4s,baz=360,slow=5.3,SNR=306
ASAR PcP **PcP** **23 43 43.8 +0.4**
comp=E,9.4nm,0.8s,baz=1.4,slow=3.9,SNR=15
ASAR ScP **ScP** **23 46 53.4 -1.0**
comp=E,3.1nm,0.8s,baz=6.5,slow=5.5,SNR=8.6
ASAR S **S** **23 49 13.4 -1.6**
comp=E,1.8nm,0.8s,baz=16,slow=18,SNR=7.5
PDGK **Podgornoye** **51.26** **305** *i*P **P** **23 42 37.8 +0.3**
PDGK pmax pmax
comp=Z,6.0nm,0.5s
KURK **Kurchatov** **51.87** **315** P **P** **23 42 42.4 +0.6**
KURK 23 43 46.3
KURK *PP **pP** **23 44 18.6 +5.0**
KURK pmax pmax
comp=Z,15nm,0.7s
KURK **Kurchatov** **51.87** **315** *e*P **P** **23 42 41.9 +0.1**
comp=Z,12nm,0.7s
KURK *e*PcP **PcP** **23 43 46.3 -0.6**
KURK *e*pP **pP** **23 44 18.6 +5.0**
KURBB **Kurchatov Arra** **51.92** **314** P **P** **23 42 42.4 +0.1**
comp=Z,15nm,0.7s,baz=92,slow=7.3,SNR=195
KURBB PcP **PcP** **23 43 46.3 -0.8**
comp=Z,6.8nm,0.8s,baz=95,slow=4.2,SNR=10.0
KURBB pP **pP** **23 44 18.6 +4.6**
comp=Z,6.4nm,0.9s,baz=94,slow=7.6,SNR=4.7
NRIK **Noril'sk** **52.10** **339** P **P** **23 42 43.1 0.0**
comp=Z,3.8nm,0.6s,baz=113,slow=9.3,SNR=8.5
NRIK PcP **PcP** **23 43 47.4 -0.1**
comp=Z,3.5nm,0.4s,baz=93,slow=4.2,SNR=4.6
NRIK S **S** **23 49 30.0 -1.0**
comp=Z,3.0nm,0.7s,baz=1.0,slow=22,SNR=19
EIDS **Eidsvold** **53.14** **168** *e*P **P** **23 42 52.0 +0.7**
comp=Z,17nm,0.6s
TKM2 **Tokmak 2** **54.12** **305** *e*P **P** **23 42 59.8 +1.4**
TKM2 pmax pmax
comp=Z,9.0nm,1.0s
TKM2 **Tokmak 2** **54.12** **305** *e*P **P** **23 42 59.8 +1.4**
comp=Z,8.9nm,1.0s
SVW2 **Sparrevohn** **54.17** **33** *e*P **P** **23 42 59.1 +0.9**
comp=Z,36nm,1.8s
KSH **Kashi** **54.22** **301** P **P** **23 43 03.3 +4.2**
KSH PcP **PcP** **23 44 02.9 +6.5**
KSH pP pP 23 44 34.8 +2.8
KSH PP **PP** **23 45 14.5 +7.5**
KSH S **S** **23 50 06.3 +5.9**
KSH ScS **ScS** **23 52 03.4 +4.0**
KSH PMZ
comp=Z,13nm,0.6s
FRU **Bishkek** **54.85** **305** *e*P **P** **23 43 04.0 +0.7**
OHAK **Old Harbor** **54.93** **37** *e*P **P** **23 43 03.8 +0.3**
comp=Z,61nm,1.4s
AAK **Ala-Archa** **54.96** **305** *e*P **P** **23 43 04.6 +0.3**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK **Ala-Archa** **54.96** **305** *e*P **P** **23 43 05.0 +0.7**
AAK *e*PcP **PcP** **23 43 59.3 +0.1**
DZM **Mont Dzumac** **54.97** **150** P **P** **23 43 06.3 +1.9**
comp=Z,3.8nm,0.6s,baz=322,slow=22,SNR=5.8
DZM **Mont Dzumac** **54.97** **150** *e*P **P** **23 43 04.3 -0.1**
comp=Z,16nm,1.1s
KDAK **Kodiak Island** **55.34** **37** *i*P **P** **23 43 07.1 +0.7**
RSO **Redoubt South** **55.47** **34** *e*P **P** **23 43 06.6 -1.0**
EKS2 **Erkin-Say** **55.48** **305** *e*P **P** **23 43 08.6 +0.7**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 **Erkin-Say** **55.48** **305** *e*P **P** **23 43 08.6 +0.7**

comp=Z,8.5nm,0.8s
CAST Castle Rocks 56.11 30 *e*P P 23 43 13.1 +1.3
comp=Z,7.7nm,0.8s
CNPM China Poot 56.16 35 *e*P P 23 43 11.8 -0.3
comp=Z,124nm,1.7s
SUA Susitna One 56.53 32 *e*P P 23 43 15.3 +0.4
comp=Z,13nm,1.0s
VOSK Vostochnaya 56.64 317 *ce*P P 23 43 15.1 -0.5
VOSK pmax pmax
comp=Z,9.0nm,1.2s
VOSK Vostochnaya 56.64 317 *e*P P 23 43 15.5 0.0
comp=Z,11nm,1.1s
BPAW Bear Paw Mtn. 56.67 29 *e*P P 23 43 17.1 +1.4
comp=Z,5.4nm,0.5s
MLY Manley 56.89 28 *e*P P 23 43 18.5 +1.3
comp=Z,5.8nm,0.6s
BRVK Borovoye 57.05 317 *e*P P 23 43 18.6 +0.2
BRVK pmax pmax
comp=Z,29nm,0.8s
BRVK Borovoye 57.05 317 *e*P P 23 43 18.6 +0.2
comp=Z,29nm,0.8s
PMR Palmer 57.31 32 *e*P P 23 43 20.3 +0.3
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 57.31 32 *e*P P 23 43 20.3 +0.3
comp=Z,8.0nm,0.8s
MCK McKinley 57.54 30 *e*P P 23 43 22.3 +0.7
MCK pmax pmax
comp=Z,18nm,0.7s
MCK McKinley 57.54 30 *e*P P 23 43 22.3 +0.7
comp=Z,18nm,0.7s
RND Reindeer 57.55 30 *e*P P 23 43 22.2 +0.4
RND pmax pmax
comp=Z,13nm,0.7s
RND Reindeer 57.55 30 *e*P P 23 43 22.2 +0.4
comp=Z,13nm,0.7s
HYB Hyderabad 57.56 274 *i*P P 23 43 22.0 -0.5
HYB *e*PcP **PcP** 23 44 09.0 -0.7
KKAR Karatay Array 57.81 306 *e*P P 23 43 24.3 +0.5
KKAR Karatay Array 57.81 306 *e*P P 23 43 24.3 +0.5
ZRNK Zerenda 57.82 317 *e*P P 23 43 23.9 +0.2
ZRNK pmax pmax
comp=Z,7.0nm,0.8s
ZRNK Zerenda 57.82 317 *e*P P 23 43 23.9 +0.2
comp=Z,7.4nm,0.8s
MDM Murphy Dome 57.94 28 *e*P P 23 43 25.1 +0.7
comp=Z,23nm,1.7s
COLA College 58.10 29 *e*P P 23 43 25.8 +0.5
COLA pmax pmax
comp=Z,4.0nm,0.9s
CCB Clear Creek Bu 58.10 29 *e*P P 23 43 26.2 +0.8
comp=Z,5.2nm,0.7s
SCM Sheep Creek Mo 58.18 32 *e*P P 23 43 26.9 +0.8
SCM pmax pmax
comp=Z,20nm,0.9s
SCM Sheep Creek Mo 58.18 32 *e*P P 23 43 26.9 +0.8
comp=Z,20nm,0.9s
DHY Denali Highway 58.20 31 *e*P P 23 43 27.0 +0.7
comp=Z,4.6nm,0.7s
IL1 Eielson Array 58.50 29 *e*P P 23 43 27.5 -0.6
ILAR Eielson Array 58.50 29 P P 23 43 27.6 -0.5
comp=Z,3.7nm,0.8s,baz=252,slow=5.7,SNR=32
ILAR PcP **PcP** 23 44 11.7 -0.9
comp=Z,1.0nm,0.8s,baz=282,slow=4.2,SNR=4.8
ILAR pP **pP** 23 45 00.8 -2.0
comp=Z,1.5nm,0.9s,baz=257,slow=6.1,SNR=4.3
ILB Eielson Array 58.50 29 *e*P P 23 43 27.6 -0.5
ILB *e*PcP **PcP** 23 44 11.7 -0.9
ILB *e*pP **pP** 23 45 00.8 -2.0
STKA Stephens Creek 58.63 179 P P 23 43 29.1 -0.3
comp=Z,27nm,0.7s,baz=334,slow=8.4,SNR=44
STKA Stephens Creek 58.63 179 *e*P P 23 43 29.1 -0.3
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 58.63 179 *e*P P 23 43 29.1 -0.3
comp=Z,5.4nm,0.8s
DZET Dzherino 59.82 301 *i*P P 23 43 38.0 +0.4
DZET pmax pmax
comp=Z,11nm,0.9s
CRQM Cirque 60.21 33 *e*P P 23 43 40.7 +0.8
comp=Z,12nm,0.9s
BALM Baldy 60.59 33 *e*P P 23 43 43.1 +0.8
BALM pmax pmax
comp=Z,6.0nm,0.9s
BALM Baldy 60.59 33 *e*P P 23 43 43.1 +0.8
comp=Z,6.0nm,0.9s
KBL Kabul 60.60 296 *e*P P 23 43 43.4 +0.4
KBL pmax pmax
comp=Z,37nm,1.0s
KBL Kabul 60.60 296 *e*P P 23 43 43.4 +0.4
comp=Z,37nm,1.0s
CAN Canberra 62.58 172 *e*P P 23 43 55.6 0.0
CAN pmax pmax
comp=Z,56nm,1.3s
CAN Canberra 62.58 172 *e*P P 23 43 55.6 0.0
comp=Z,56nm,1.3s
ARU Arti 63.47 322 P P 23 44 00.9 -0.1
comp=Z,9.3nm,0.5s,baz=80,slow=3.3,SNR=21
ARU Arti 63.47 322 *d*P P 23 44 00.8 -0.2
ARU 23 44 30.6
ARU *PP **pP** 23 45 34.7 -3.1
ARU 23 46 28.3
ARU S **S** 23 51 58.1 +1.4
ARU SS **SS** 23 56 12.2 -1.6
ARU pmax pmax
comp=Z,21nm,1.2s
ARU Arti 63.47 322 *e*P P 23 44 00.9 -0.1
comp=Z,12nm,0.8s
NWAO Narrogin (SRO) 63.60 202 *e*P P 23 44 02.2 +0.1
NWAO pmax pmax
comp=Z,55nm,0.8s
NWAO Narrogin (SRO) 63.60 202 *e*P P 23 44 02.2 +0.1
comp=Z,55nm,0.8s
INK Inuvik 63.72 24 P P 23 44 02.6 +0.2
comp=Z,4.8nm,0.6s,baz=274,slow=4.7,SNR=14
ABKAR Akbulak array 63.97 314 *e*P P 23 44 04.3 -0.1
ABKAR *e*pP **pP** 23 45 47.3 +6.0
GEYT Alibeck 68.17 302 P P 23 44 31.6 +0.6
comp=Z,7.5nm,0.8s,baz=45,slow=2.3,SNR=24
KLMR Klimovskoe 71.80 330 *e*P P 23 44 50.5 -1.6
KLMR *e* 23 47 38.0
KLMR *e*S **S** 23 53 34.0 -0.1
KLMR pmax pmax
comp=Z,7.0nm,0.7s
RES Resolute Bay 72.46 13 P P 23 44 56.0 +0.3
comp=Z,4.6nm,0.8s,baz=325,slow=8.5,SNR=6.1
YKW3 Yellowknife Ar 72.89 28 *e*P P 23 44 58.6 +0.2
comp=Z,8.8nm,1.0s
YKA Yellowknife Ar 72.92 28 P P 23 44 58.6 +0.1
comp=Z,9.9nm,0.7s,baz=294,slow=5.6,SNR=41
YKA pP **pP** 23 46 37.7 -1.1
comp=Z,1.4nm,0.7s,baz=292,slow=6.0,SNR=3.6
YKB5 Yellowknife Ar 72.92 28 *e*P P 23 44 58.6 +0.1
YKB5 *e*pP **pP** 23 46 37.7 -1.1
ARA0 ARCESS Array S 73.04 341 *e*P P 23 44 59.2 0.0
ARCES ARCESS Array B 73.04 341 P P 23 44 59.2 0.0
comp=Z,3.1nm,0.5s,baz=75,slow=8.6,SNR=24
BANOM Banah 73.78 291 P P 23 45 05.0 +0.7
UOSS Minazif 74.23 290 *e*P P 23 45 06.9 0.0
comp=Z,1.9nm,1.1s
HATD Hatta, Dubai 74.34 290 *i*P P 23 45 07.9 +0.5
SNR=17
A04D Lummi Island 74.44 43 P P 23 45 09.1 +1.6
baz=293
ASHO Ashiyiah 74.45 290 *i*P P 23 45 08.4 +0.3
SNR=12
NAZ Nazwa, Dubai 74.67 290 P P 23 45 09.4 +0.1
FAQ Al Faqa, Dubai 74.82 290 *i*P P 23 45 10.1 0.0
SNR=9.2
B05A Bryant 75.00 43 P P 23 45 12.1 +1.5
baz=294
G03D McMinnville, O 75.49 47 P P 23 45 15.1 +1.6
baz=294
LPSR Galich'ya Gora 75.49 322 *e*P P 23 45 11.5 -1.9
LPSR pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 75.60 355 *i*P pP 23 46 58.1 +3.4
comp=Z,6.4nm,1.0s
OBN Obninsk 75.64 325 *e*P P 23 45 13.3 -0.8
OBN pmax pmax
comp=Z,14nm,1.0s
RPZ Rata Peaks 75.85 158 P P 23 45 14.5 -0.8
comp=Z,12nm,0.6s,baz=52,slow=4.1,SNR=8.4
VSR Storozhevoye 75.96 321 *e*P P 23 45 13.9 -2.1
VSR pmax pmax
comp=Z,50nm,1.2s

I03D Drain, OR 76.05 48 P P 23 45 18.4 +1.8
baz=294
H04A Detroit Lake 76.41 47 *e*P P 23 45 20.5 +1.8
comp=Z,12nm,0.8s
TDH Tom, Dick, Har 76.41 46 P P 23 45 20.3 +1.4
NAC Naches 76.41 44 P P 23 45 20.1 +1.4
L02D Cave Junction, 76.51 50 P P 23 45 20.4 +1.1
baz=294
ZEI Tsey 76.58 311 *e*P P 23 45 18.3 -1.6
ZEI pmax pmax
comp=Z,27nm,0.6s
I04A Tendick Farm, 76.63 48 P P 23 45 20.8 +0.9
baz=295
B08A Colville Reser 76.63 42 *e*P P 23 45 20.8 +0.9
comp=Z,14nm,0.8s
KBZ Khabaz 76.86 312 P P 23 45 21.8 +0.7
comp=Z,29nm,0.8s,baz=96,slow=3.7,SNR=57
SAW Saint Andrews 76.88 43 P P 23 45 22.1 +0.9
KIV Kislovodsk 76.90 313 *e*P P 23 45 22.6 +1.1
KIV pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 76.90 313 *e*P P 23 45 22.4 +1.0
comp=Z,16nm,0.8s
GNI Garni 77.09 309 *i*P P 23 45 23.3 +0.6
GNI pmax pmax
comp=Z,34nm,1.1s
GNI Garni 77.09 309 *e*P P 23 45 23.9 +1.2
comp=Z,20nm,1.1s
NEY Neytrino 77.17 312 *e*P P 23 45 22.2 -0.9
NEY pmax pmax
comp=Z,2.0nm,0.9s
FIA1 FINESS Array S 77.26 333 *e*P P 23 45 22.7 -0.3
FIA0 FINESS Array S 77.26 333 *e*P P 23 45 22.7 -0.3
FIA0 FINESS Array S 77.26 333 *e*P P 23 45 22.7 -0.3
FINES FINESS Array B 77.26 333 P P 23 45 22.7 -0.3
comp=Z,20nm,0.3s,baz=69,slow=4.9,SNR=367
M02C Callahan 77.33 50 P P 23 45 25.5 +1.6
baz=295
N02D Trinity Center 77.61 50 P P 23 45 27.0 +1.6
baz=295
J05D Fort Rock, OR 77.62 48 P P 23 45 27.0 +1.5
baz=296
VAF Ylistaro 77.65 336 P P 23 45 25.0 -0.1
VAF pmax pmax
comp=Z,39nm,1.0s
M04C Macdoel 77.86 49 P P 23 45 28.1 +1.3
baz=296
NEW Newport 78.00 42 P P 23 45 28.3 +1.0
comp=Z,7.8nm,0.7s,baz=300,slow=6.1,SNR=8.0
NEW Newport 78.00 42 P P 23 45 28.3 +1.0
baz=297
NEW Newport 78.00 42 *e*P P 23 45 28.3 +1.0
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW Newport 78.00 42 *e*P P 23 45 28.3 +1.0
comp=Z,8.7nm,0.8s
K05A Summer Lake 78.08 48 *e*P P 23 45 29.9 +1.8
comp=Z,16nm,0.8s
K05A *e*pP **pP** 23 47 17.6 +7.6
O03D Paynes Creek 78.52 51 P P 23 45 30.8 +0.4
baz=296
VSU Vasula 78.64 331 *i*P P 23 45 30.3 -0.2
VSU pmax pmax
comp=Z,47nm,1.1s
F10A Beach Ranch, E 78.98 44 *e*P P 23 45 34.5 +1.7
comp=Z,4.9nm,0.6s
ORV Oroville 79.05 51 *e*P P 23 45 34.0 +0.9
ORV pmax pmax
comp=Z,7.0nm,0.9s
ORV Oroville 79.05 51 *e*P P 23 45 34.0 +0.9
comp=Z,7.2nm,0.9s
BMO Blue Mountains 79.45 45 *e*P P 23 45 35.6 +0.4
BMO pmax pmax
comp=Z,10.0nm,0.8s
BMO Blue Mountains 79.45 45 *e*P P 23 45 35.6 +0.4
comp=Z,10nm,0.8s
WALA Waterton Lakes 79.50 40 *e*P P 23 45 37.0 +1.5
comp=Z,8.8nm,0.8s
BSMT Bassoo Peak 79.57 41 *e*P P 23 45 37.4 +1.4
BLMT Blacktail Moun 79.75 41 *e*P P 23 45 38.1 +1.2
ANN Anapa 79.89 315 *e*P P 23 45 34.7 -2.7
ANN *e*PP **pP** 23 47 13.7 -6.2
ANN *e* 23 48 42.8
ANN *e*PPP PPP 23 50 37.9
ANN *e*S **S** 23 54 59.0 -2.8
ANN *e*SS **SS** 00 00 23.6 +0.5
ANN pmax pmax
comp=Z,54nm,1.0s
JTMT Jette 79.92 41 *e*P P 23 45 39.2 +1.5
SWMT Swartz Lake 80.21 41 *e*P P 23 45 40.2 +1.0
PAHR Pah Rah Range 80.45 50 *e*P P 23 45 42.2 +1.6
comp=Z,8.2nm,0.8s
CMB Columbia Colle 80.51 52 *e*P P 23 45 41.7 +0.8
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB Columbia Colle 80.51 52 *e*P P 23 45 41.7 +0.8
comp=Z,5.8nm,0.8s
SUMG Summit 80.62 360 *i*P P 23 45 40.7 -0.5
SUMG pmax pmax
comp=Z,4.0nm,0.8s
SUMG Summit 80.62 360 *i*P P 23 45 40.7 -0.5
comp=Z,3.8nm,0.8s
CHMT Chamberlain Mo 80.94 42 *e*P P 23 45 43.4 +0.2
WAKR Walker 80.96 51 *e*P P 23 45 44.9 +1.4
MFID Camas Ranch 81.07 46 *e*P P 23 45 45.3 +1.5
comp=Z,13nm,0.9s
MFID *e*pP **pP** 23 47 27.0 +0.4
AKASG Malin Array Be 81.69 323 P P 23 45 45.8 -0.9
comp=Z,16nm,0.6s,baz=51,slow=5.3,SNR=56
AKASG pP **pP** 23 47 30.7 +1.0
comp=Z,0.5nm,0.4s,baz=53,slow=5.2,SNR=2.2
AKBB Malin Array Si 81.69 323 *e*P P 23 45 45.8 -0.9
AKBB *e*PP **pP** 23 47 30.7 +1.0
AKBB pmax pmax
comp=Z,23nm,0.6s
AKBB Malin Array Si 81.69 323 *e*P P 23 45 45.8 -0.9
comp=Z,23nm,0.6s
AKBB *e*pP **pP** 23 47 30.7 +1.0
KIEV Kiev 81.70 323 *e*P P 23 45 45.8 -0.9
KIEV pmax pmax
comp=Z,20nm,0.9s
KIEV Kiev 81.70 323 *e*P P 23 45 46.2 -0.5
comp=Z,25nm,0.7s
AK11 Malin Array Si 81.73 323 *e*P P 23 45 46.4 -0.5
NV01 Mina Array Sit 81.78 51 *e*P P 23 45 48.8 +1.1
NV01 *e*pP **pP** 23 47 30.1 -0.6
NVAR Mina Array Bea 81.78 51 P P 23 45 48.8 +1.1
comp=Z,6.8nm,0.6s,baz=302,slow=6.2,SNR=14
NVAR pP **pP** 23 47 30.1 -0.6
comp=Z,1.7nm,0.5s,baz=317,slow=6.3,SNR=2.5
NV11 Mina Array Sit 81.89 51 *e*P P 23 45 49.5 +1.4
comp=Z,5.5nm,0.9s
HRY Holter Researc 81.89 41 *e*P P 23 45 49.1 +1.2
HLID Hailey 81.90 45 P P 23 45 49.2 +1.1
baz=300,SNR=9.6
HLID Hailey 81.90 45 *e*P P 23 45 49.7 +1.6
comp=Z,5.9nm,0.8s
LRM Limekiln Ridge 81.97 42 *e*P P 23 45 49.8 +1.2
LRM *e*pP **pP** 23 47 31.8 +0.1
PKM Mcpherson Peak 82.35 55 P P 23 45 51.6 +1.0
baz=298
VES Vestal, Richgr 82.44 54 P P 23 45 51.1 +0.3
baz=298
BOZ Bozeman (W) 82.56 42 P P 23 45 52.3 +0.9
baz=301,SNR=13
BOZ Bozeman (W) 82.56 42 *e*P P 23 45 52.3 +0.9
BOZ pmax pmax
comp=Z,8.0nm,1.1s
BOZ Bozeman (W) 82.56 42 *e*P P 23 45 52.3 +0.9
comp=Z,8.3nm,1.1s
FFC Flin Flon 82.60 31 *e*P P 23 45 51.6 +0.4
FFC *e*PP **pP** 23 47 35.6 +1.1
FFC pmax pmax
comp=Z,10.0nm,0.9s
FFC Flin Flon 82.60 31 *e*P P 23 45 51.6 +0.4
comp=Z,10nm,0.9s
FFC *e*pP **pP** 23 47 35.6 +1.1
ELK Elko 82.75 48 *e*P P 23 45 54.1 +1.5
ELK pmax pmax
comp=Z,6.0nm,0.8s
ELK Elko 82.75 48 *e*P P 23 45 54.0 +1.5
comp=Z,6.2nm,0.8s
NC405 NORSAR Array S 82.82 338 *e*P P 23 45 51.6 -0.6
SUW Suwalki 82.84 328 *e*P P 23 45 51.6 -0.8
SUW Suwalki 82.84 328 *e*P P 23 45 51.6 -0.8
ISA Isabella, Lake 82.96 54 P P 23 45 53.7 +0.1

baz=298
NB201 NORSAR Array S 83.00 338 *e*P P 23 45 52.6 -0.6
NC204 NORSAR Array S 83.02 338 *e*P P 23 45 53.1 -0.2
NB2 NORSAR Subarra 83.04 338 P P 23 45 52.3 -1.1
comp=Z,8.2nm,0.6s,baz=51,slow=4.6
NB2 NORSAR Subarra 83.04 338 P P 23 45 52.3 -1.1
baz=51,slow=4.6
NB200 NORSAR Array S 83.04 338 *e*P P 23 45 52.2 -1.2
NB200 *e*pP **pP** 23 47 36.9 +0.1
NOA NORSAR Array B 83.04 338 P P 23 45 52.2 -1.2
comp=Z,10nm,0.7s,baz=47,slow=4.8,SNR=30
NOA pP **pP** 23 47 36.9 +0.1
comp=Z,2.6nm,0.9s,baz=43,slow=5.4,SNR=3.8
KSRV Kasrt alli 83.06 307 *e*P P 23 45 54.0 0.0
QLMT Earthquake Lak 83.10 43 *e*P P 23 45 56.1 +1.8
NBO02 NORSAR Array S 83.15 338 *e*P P 23 45 53.0 -0.9
DAC Darwin (Calif) 83.30 53 *e*P P 23 45 56.0 +0.6
DAC pmax pmax
comp=Z,6.0nm,0.8s
DAC Darwin (Calif) 83.30 53 *e*P P 23 45 56.0 +0.6
comp=Z,5.8nm,0.8s
MPMC Manual Prospec 83.48 53 P P 23 45 56.9 +0.6
baz=299,SNR=5.5
YFT Old Faithful 83.66 43 *e*P P 23 46 00.5 +3.4
comp=Z,11nm,0.7s
EDW2 Edwards Air Fo 83.68 54 P P 23 45 58.2 +1.0
baz=299,SNR=6.8
R11A Troy Canyon, C 83.69 50 P P 23 45 58.1 +0.7
baz=300,SNR=13
R11A Troy Canyon, C 83.69 50 *e*P P 23 45 58.2 +0.9
comp=Z,8.8nm,0.9s
R11A *e*pP **pP** 23 47 41.0 0.0
HVU Hansel Valley 83.84 46 *e*P P 23 45 59.6 +1.7
HVU pmax pmax
comp=Z,9.0nm,0.7s
HVU Hansel Valley 83.84 46 *e*P P 23 45 59.6 +1.7
comp=Z,9.1nm,0.7s
H17A Grant Village 83.85 43 P P 23 46 00.5 +2.4
baz=302
H17A Grant Village 83.85 43 *e*P P 23 46 00.3 +2.3
comp=Z,14nm,1.1s
LKWY Lake 83.87 43 *e*P P 23 46 00.7 +2.6
LKWY pmax pmax
comp=Z,14nm,0.8s
LKWY Lake 83.87 43 *e*P P 23 46 00.7 +2.6
comp=Z,14nm,0.8s
IMW Indian Meadow 83.89 44 *e*P P 23 46 00.1 +1.8
comp=Z,10.0nm,0.8s
IMW *e*pP **pP** 23 47 45.4 +3.4
TPNV Topopah Spring 83.92 52 P P 23 45 59.2 +0.8
baz=299,SNR=5.3
FLWY Flagg Ranch 83.94 43 *e*P P 23 46 00.5 +2.1
comp=Z,12nm,0.8s
MOOW Moose Ponds 84.09 44 *e*P P 23 46 00.6 +1.3
comp=Z,3.3nm,0.6s
TPAW Teton Pass 84.10 44 *e*P P 23 46 01.1 +1.7
comp=Z,8.6nm,0.8s
LOHW Long Hollow 84.25 44 *e*P P 23 46 01.6 +1.5
comp=Z,4.1nm,0.8s
RLMT Red Lodge 84.25 42 P P 23 46 01.3 +1.3
baz=303,SNR=13
RLMT Red Lodge 84.25 42 *e*P P 23 46 01.4 +1.4
comp=Z,9.7nm,0.6s
GSC Goldstone, Bar 84.33 53 P P 23 46 01.3 +0.8
baz=299,SNR=8.2
GSC Goldstone, Bar 84.33 53 *e*P P 23 46 01.6 +1.2
GSC pmax pmax
comp=Z,13nm,0.8s
GSC Goldstone, Bar 84.33 53 *e*P P 23 46 01.6 +1.2
comp=Z,13nm,0.8s
DRWC Darouich 84.34 308 *e*P P 23 45 57.3 -3.1
DUG Dugway, Tooele 84.63 47 P P 23 46 02.7 +0.9
baz=301,SNR=7.5
DUG Dugway, Tooele 84.63 47 *e*P P 23 46 03.2 +1.3
DUG *e*PP **pP** 23 47 47.1 +1.4
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG Dugway, Tooele 84.63 47 *e*P P 23 46 03.1 +1.3
comp=Z,8.2nm,0.9s
DUG *e*pP **pP** 23 47 47.1 +1.4
HWUT Hardware Ranch 84.70 46 *e*P P 23 46 03.5 +1.2
comp=Z,8.7nm,0.9s
HWUT *e*pP **pP** 23 47 47.1 +0.9
BR101 Keskin Array S 84.84 312 *e*P P 23 46 02.1 -0.8
BR101 *e*pP **pP** 23 47 46.8 -0.1
BR131 Keskin Array S 84.84 312 *e*P P 23 46 02.5 -0.4
BR131 *e*pP **pP** 23 47 47.2 +0.4
BRTR Keskin Array B 84.84 312 P P 23 46 02.1 -0.8
comp=Z,4.7nm,0.6s,baz=89,slow=3.2,SNR=43
BRTR pP **pP** 23 47 46.8 -0.1
comp=Z,2.1nm,0.9s,baz=106,slow=3.1,SNR=6.5
BRTR PKKPbc **PKKPbc** 00 04 07.9 -0.3
comp=Z,0.4nm,0.5s,baz=224,slow=3.2,SNR=4.5
MURC Murrieta 84.87 55 P P 23 46 03.5 +0.4
baz=299
TUQ Turquoise Moun 84.89 53 P P 23 46 04.0 +0.7
baz=300
HEC Hector,Ludlow 84.90 54 P P 23 46 03.8 +0.6
baz=300,SNR=5.2
SHPR Sheep Range 84.90 52 *e*P P 23 46 04.7 +1.4
comp=Z,7.1nm,0.9s
TLCR 84.95 319 ⇑*i*P P 23 46 02.7 -0.4
TLCR 84.95 319 ⇑P P 23 46 02.7 -0.4
ROOS tl_alroos 85.10 306 *e*P P 23 46 03.9 -0.3
LAO LASA Array 85.14 39 P P 23 46 03.7 -0.5
baz=305
NLU North Lily Min 85.23 47 *e*P P 23 46 07.2 +2.3
comp=Z,188nm,1.2s
BW06 Boulder Array 85.35 44 P P 23 46 05.7 +0.3
baz=303,SNR=5.4
BW06 Boulder Array 85.35 44 *e*P P 23 46 06.0 +0.5
PD31 Pinedale Array 85.35 44 *e*P P 23 46 05.8 +0.3
PD31 *e*pP **pP** 23 47 48.8 -0.8
PDAR Pinedale Array 85.35 44 P P 23 46 05.8 +0.3
comp=Z,2.2nm,0.6s,baz=259,slow=3.0,SNR=18
PDAR pP **pP** 23 47 48.8 -0.8
comp=Z,0.8nm,0.7s,baz=255,slow=3.5,SNR=5.4
CFR Carcaliu 85.35 319 ⇑*i*P P 23 46 04.6 -0.4
CFR Carcaliu 85.35 319 ⇑P P 23 46 04.6 -0.4
BR231 Keskin MP Arra 85.35 313 *e*P P 23 46 02.7 -2.7
GMRC Granite Mounta 85.40 53 P P 23 46 06.7 +1.0
baz=300,SNR=13
PFO Pinyon Flats O 85.40 55 *e*P P 23 46 06.8 +1.0
PFO pmax pmax
comp=Z,15nm,0.8s
PFO Pinyon Flats O 85.40 55 *e*P P 23 46 06.8 +1.0
comp=Z,15nm,0.8s
TPFO Pinon Flats 85.41 55 P P 23 46 06.4 +0.6
baz=300
TESR Tescani 85.45 321 ⇑*i*P P 23 46 05.1 -0.5
BELC Belle Mtn. Jos 85.55 54 P P 23 46 06.8 +0.4
baz=300,SNR=6.1
TIRR Tirgusor 85.59 318 ⇑*i*P P 23 46 05.6 -0.7
TIRR Tirgusor 85.59 318 *e*P P 23 46 05.5 -0.7
TIRR pmax pmax
comp=Z,7.0nm,0.9s
TIRR Tirgusor 85.59 318 *e*P P 23 46 05.5 -0.7
comp=Z,6.8nm,0.9s
BUR08 Bucovina Ar. S 85.60 322 *e*P P 23 46 06.4 0.0
BUR08 *e*pP **pP** 23 47 55.9 +5.3
BURAR Bucovina Array 85.61 322 ⇑*i*P P 23 46 06.4 0.0
BURAR Bucovina Array 85.61 322 ⇑P P 23 46 06.4 0.0
ZALF Zalf 85.68 305 *e*P P 23 46 04.1 -2.9
KWP Kalwaria Pacla 85.73 325 *e*P P 23 46 06.6 -0.2
KWP Kalwaria Pacla 85.73 325 ⇓*i*P P 23 46 06.9 +0.1
KWP Kalwaria Pacla 85.73 325 ⇓P P 23 46 07.0 +0.2
VRI Vrincioaia 85.78 320 ⇑*i*P P 23 46 07.8 +0.6
VRI Vrincioaia 85.78 320 ⇑P P 23 46 07.8 +0.6
MONP2 Monument Peak 85.78 55 P P 23 46 08.3 +0.6
baz=300
PLOR Plostina 85.83 320 ⇑*i*P P 23 46 07.3 -0.1
PLOR Plostina 85.83 320 ⇑P P 23 46 07.3 -0.1
LCMT Little Creek M 85.97 50 *e*P P 23 46 10.3 +1.9
comp=Z,4.7nm,0.9s
IRM Iron Mountain 86.08 54 P P 23 46 09.8 +0.9
baz=300
BC3 Big Chuckawall 86.11 54 P P 23 46 09.9 +0.7
baz=300,SNR=5.4
TOTH TOTAH 86.12 306 *e*P P 23 46 07.8 -1.4
IKP In-Ko-Pah, Jac 86.13 55 P P 23 46 09.9 +0.7
baz=300
MSAB Monastry St. A 86.14 318 ⇑*i*P P 23 46 09.0 +0.1
SALA Sala 86.22 305 *e*P P 23 46 10.1 +0.3
MLR Muntele Rosu 86.44 320 ⇑*i*P P 23 46 10.7 +0.2
MLR Muntele Rosu 86.44 320 ⇑P P 23 46 10.7 +0.2

DOPR	**Dopca**	**86.48**	**321**	⇑*i*P	**P**	**23 46 10.8**	**+0.3**
UZH	**Uzhgorod**	**86.56**	**324**	*e*P	**P**	**23 46 10.2**	**-0.6**
STHS	**Stebnicka Huta**	**86.61**	**325**	*e*P	**P**	**23 46 11.8**	**+0.7**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
STHS	**Stebnicka Huta**	**86.61**	**325**	*e*P	**P**	**23 46 11.8**	**+0.7**
SECR		**86.63**	**320**	⇑*i*P	**P**	**23 46 11.0**	**-0.3**
PDMCI	**Parker Dam,Lak**	**86.73**	**53**	P	**P**	**23 46 12.7**	**+0.8**
	baz=301						
Y12C	**Blythe**	**86.73**	**54**	P	**P**	**23 46 12.8**	**+0.8**
	baz=301						
TCHB	**Talchebab**	**86.80**	**305**	*e*P	**P**	**23 46 09.9**	**-2.4**
CRVS	**Cervenica-Dubn**	**86.82**	**325**	*e*P	**P**	**23 46 12.0**	**-0.1**
CRVS	**Cervenica-Dubn**	**86.82**	**325**	*e*P	**P**	**23 46 12.0**	**-0.1**
OJC	**Ojcow**	**86.83**	**326**	*e*P	**P**	**23 46 11.8**	**-0.3**
OJC	**Ojcow**	**86.83**	**326**	*e*P	**P**	**23 46 11.6**	**-0.4**
OJC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
OJC	**Ojcow**	**86.83**	**326**	*e*P	**P**	**23 46 11.6**	**-0.4**
	comp=Z,9.6nm,1.1s						
GLA	**Glamis**	**86.87**	**54**	P	**P**	**23 46 13.4**	**+0.8**
	baz=300						
VOIR		**86.98**	**320**	⇑*i*P	**P**	**23 46 12.7**	**-0.3**
VOIR		**86.98**	**320**	⇑P	**P**	**23 46 12.7**	**-0.3**
A28A	**Rude Farm, Bot**	**87.03**	**35**	P	**P**	**23 46 13.7**	**+0.7**
	baz=309						
NIE	**Niedzica**	**87.09**	**326**	*e*P	**P**	**23 46 13.4**	**0.0**
NIE	**Niedzica**	**87.09**	**326**	*e*P	**P**	**23 46 13.4**	**+0.1**
ARR	**Arges**	**87.26**	**321**	⇑*i*P	**P**	**23 46 14.6**	**+0.3**
K22A	**Casper**	**87.27**	**43**	P	**P**	**23 46 14.9**	**+0.4**
	baz=305						
DRGR		**87.47**	**322**	⇑*i*P	**P**	**23 46 14.6**	**-0.6**
DRGR		**87.47**	**322**	⇑P	**P**	**23 46 14.6**	**-0.6**
A29A	**Manning Farm,**	**87.55**	**35**	P	**P**	**23 46 16.2**	**+0.7**
	baz=310						
O20A	**White River Ci**	**87.62**	**46**	P	**P**	**23 46 16.7**	**+0.5**
	baz=304						
F26A	**Lodgepole**	**87.63**	**39**	P	**P**	**23 46 16.6**	**+0.6**
	baz=307						
LOT	**Lotru**	**87.70**	**321**	⇑*i*P	**P**	**23 46 16.0**	**-0.4**
Y14A	**Wickenburg**	**87.72**	**53**	*e*P	**P**	**23 46 17.9**	**+1.2**
	comp=Z,32nm,0.8s						
B29A	**Wagenman Farm,**	**87.78**	**35**	P	**P**	**23 46 17.1**	**+0.5**
	baz=310						
113A	**Mohawk Valley,**	**87.78**	**54**	*e*P	**P**	**23 46 18.1**	**+1.3**
	comp=Z,6.5nm,0.9s						
H25A	**Fruitdale**	**87.84**	**40**	P	**P**	**23 46 17.5**	**+0.4**
	baz=307						
OKC	**Ostrava-Krasne**	**87.89**	**327**	*e*P	**P**	**23 46 16.9**	**-0.1**
OKC	**Ostrava-Krasne**	**87.89**	**327**	*e*P	**P**	**23 46 16.9**	**-0.1**
RSSD	**Black Hills**	**87.89**	**41**	*e*P	**P**	**23 46 17.7**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RSSD	**Black Hills**	**87.89**	**41**	*e*P	**P**	**23 46 17.7**	**+0.2**
	comp=Z,5.5nm,0.9s						
A30A	**Hoffart Farm,**	**88.00**	**34**	P	**P**	**23 46 18.1**	**+0.5**
	baz=310						
KSP	**Ksiaz**	**88.11**	**328**	*e*P	**P**	**23 46 17.6**	**-0.4**
KSP	**Ksiaz**	**88.11**	**328**	*e*P	**P**	**23 46 17.6**	**-0.4**
PV05	**Paradox Valley**	**88.20**	**48**	*e*P	**P**	**23 46 20.1**	**+1.1**
MORC	**Moravsky Berou**	**88.22**	**327**	⇑*i*P	**P**	**23 46 18.4**	**-0.3**
MORC	**Moravsky Berou**	**88.22**	**327**	*e*P	**P**	**23 46 18.5**	**-0.2**
MORC				pmax	pmax		
	comp=Z,20nm,0.8s						
MORC	**Moravsky Berou**	**88.22**	**327**	*e*P	**P**	**23 46 18.4**	**-0.2**
	comp=Z,20nm,0.8s						
PSZ	**Piszkesteto**	**88.25**	**325**	⇑*i*P	**P**	**23 46 18.8**	**-0.1**
PSZ	**Piszkesteto**	**88.25**	**325**	*e*P	**P**	**23 46 18.0**	**-0.9**
PSZ				pmax	pmax		
	comp=Z,12nm,0.9s						
PSZ	**Piszkesteto**	**88.25**	**325**	*e*P	**P**	**23 46 18.0**	**-0.9**
	comp=Z,12nm,0.9s						
B30A	**Myrvik Farm, E**	**88.31**	**35**	P	**P**	**23 46 19.4**	**+0.4**
	baz=310						
H26A	**Fairpoint**	**88.32**	**40**	P	**P**	**23 46 19.6**	**+0.3**
	baz=307						
SIRR	**Siria**	**88.36**	**323**	⇑*i*P	**P**	**23 46 18.8**	**-0.5**
VYHS	**Vyhne**	**88.42**	**325**	*e*P	**P**	**23 46 19.4**	**-0.2**
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VYHS	**Vyhne**	**88.42**	**325**	*e*P	**P**	**23 46 19.4**	**-0.2**
DPC	**Dobruska-Polom**	**88.42**	**328**	*e*P	**P**	**23 46 19.5**	**-0.1**
DPC	**Dobruska-Polom**	**88.42**	**328**	*e*P	**P**	**23 46 19.5**	**-0.1**
UPC	**Upice**	**88.47**	**328**	*e*P	**P**	**23 46 19.5**	**-0.2**
UPC	**Upice**	**88.47**	**328**	*e*P	**P**	**23 46 19.5**	**-0.2**
N23A	**Red Feather La**	**88.63**	**44**	P	**P**	**23 46 21.9**	**+0.9**
	baz=305						
N23A	**Red Feather La**	**88.63**	**44**	*e*P	**P**	**23 46 22.7**	**+1.7**
	comp=Z,11nm,1.2s						
N23A				*e*pP	**pP**	**23 48 07.0**	**+0.9**
PHWY	**Pilot Hill**	**88.69**	**43**	*e*P	**P**	**23 46 22.8**	**+1.4**
	comp=Z,5.5nm,0.8s						
BZS	**Buzias**	**88.79**	**322**	⇑*i*P	**P**	**23 46 20.2**	**-1.1**
BZS	**Buzias**	**88.79**	**322**	⇑P	**P**	**23 46 20.2**	**-1.1**
214A	**Organ Pipe Nat**	**88.89**	**54**	P	**P**	**23 46 23.2**	**+1.1**
	baz=302						
SMCO	**Snowmass**	**88.96**	**46**	*e*P	**P**	**23 46 23.9**	**+1.0**
	comp=Z,17nm,1.7s						
SMCO				*e*pP	**pP**	**23 48 09.3**	**+1.4**
VRAC	**Vranov**	**89.00**	**327**	⇓*i*P	**P**	**23 46 22.4**	**+0.2**
VRAC	**Vranov**	**89.00**	**327**	⇓P	**P**	**23 46 22.4**	**+0.2**
PVCC	**Panska Ves**	**89.12**	**329**	*e*P	**P**	**23 46 22.5**	**-0.3**
PVCC	**Panska Ves**	**89.12**	**329**	*e*P	**P**	**23 46 22.5**	**-0.3**
BRG	**Berggiesshubel**	**89.17**	**329**	*i* PKP	**P**	**23 46 21.6**	**-1.4**
	comp=Z,8.6nm,1.1s						
BRG	**Berggiesshubel**	**89.17**	**329**	*i* P	**P**	**23 46 21.6**	**-1.4**
MDVR	**Moldovita**	**89.26**	**321**	⇑*i*P	**P**	**23 46 22.8**	**-0.8**
CLL	**Collm**	**89.29**	**330**	*i* P	**P**	**23 46 22.0**	**-1.5**
	comp=Z,9.0nm,1.3s						
CLL	**Collm**	**89.29**	**330**	*e*P	**P**	**23 46 22.3**	**-1.2**
CLL				pmax	pmax		
	comp=Z,11nm,1.4s						
CLL	**Collm**	**89.29**	**330**	*e*P	**P**	**23 46 22.3**	**-1.2**
	comp=Z,11nm,1.4s						
GOPC	**GO Pecny, Ondr**	**89.44**	**328**	*e*P	**P**	**23 46 24.0**	**-0.3**
GOPC	**GO Pecny, Ondr**	**89.44**	**328**	*e*P	**P**	**23 46 24.0**	**-0.3**
ISCO	**Idaho Springs**	**89.47**	**45**	P	**P**	**23 46 25.9**	**+0.9**
	baz=306						
ISCO	**Idaho Springs**	**89.47**	**45**	*e*P	**P**	**23 46 26.4**	**+1.4**
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ISCO	**Idaho Springs**	**89.47**	**45**	*e*P	**P**	**23 46 26.4**	**+1.4**
	comp=Z,4.2nm,0.8s						
PRU	**Pruhonice**	**89.51**	**328**	*e*P	**P**	**23 46 24.2**	**-0.4**
PRU	**Pruhonice**	**89.51**	**328**	*e*P	**P**	**23 46 24.2**	**-0.4**
D31A	**Mcclaflin, Tow**	**89.53**	**35**	P	**P**	**23 46 25.3**	**+0.6**
	baz=311						
TREC	**Trest**	**89.54**	**328**	*e*P	**P**	**23 46 24.5**	**-0.3**
TREC	**Trest**	**89.54**	**328**	*e*P	**P**	**23 46 24.5**	**-0.3**
E31A	**Nome**	**89.77**	**36**	P	**P**	**23 46 26.0**	**+0.2**
	baz=311						
TUC	**Tucson**	**90.16**	**53**	P	**P**	**23 46 28.9**	**+0.8**
	baz=303						
TUC	**Tucson**	**90.16**	**53**	*e*P	**P**	**23 46 29.3**	**+1.2**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TUC	**Tucson**	**90.16**	**53**	*e*P	**P**	**23 46 29.3**	**+1.2**
	comp=Z,5.2nm,1.0s						
Q24A	**Divide**	**90.25**	**45**	P	**P**	**23 46 29.3**	**+0.6**
	baz=306						
Q24A	**Divide**	**90.25**	**45**	*e*P	**P**	**23 46 29.8**	**+1.1**
	comp=Z,6.6nm,0.9s						
CONA	**Conrad Observa**	**90.29**	**326**	*e*PcP	**P**	**23 46 28.1**	**-0.2**
	comp=Z,6.8nm,1.2s						
NKC	**Novy Kostel**	**90.30**	**330**	*e*P	**P**	**23 46 28.0**	**-0.3**
NKC	**Novy Kostel**	**90.30**	**330**	*e*P	**P**	**23 46 28.0**	**-0.3**
D33A	**AnnSam, Waubun**	**90.43**	**35**	P	**P**	**23 46 29.1**	**+0.2**
	baz=312						
KHC	**Kasperske Hory**	**90.56**	**328**	*e*P	**P**	**23 46 28.5**	**-1.0**
KHC	**Kasperske Hory**	**90.56**	**328**	*e*P	**P**	**23 46 28.5**	**-1.0**
GEC2	**GERESS Array S**	**90.70**	**328**	*e*P	**P**	**23 46 29.6**	**-0.6**
GEC2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GEC2	**GERESS Array S**	**90.70**	**328**	*e*P	**P**	**23 46 29.6**	**-0.6**
	comp=Z,6.3nm,0.9s						
GERES	**GERESS Array B**	**90.70**	**328**	P	**P**	**23 46 29.2**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=35,slow=4.9,SNR=26						
GEA0	**GERESS Array S**	**90.70**	**328**	*e*P	**P**	**23 46 29.2**	**-1.0**
SDCO	**Great Sand Dun**	**90.73**	**46**	P	**P**	**23 46 31.5**	**+0.6**
	baz=306						
SDCO	**Great Sand Dun**	**90.73**	**46**	*e*P	**P**	**23 46 32.2**	**+1.4**
	comp=Z,5.2nm,0.9s						
E33A	**Westby DABS, E**	**90.78**	**35**	P	**P**	**23 46 30.5**	**0.0**
	baz=312						
D34A	**Park Rapids**	**90.80**	**34**	P	**P**	**23 46 30.9**	**+0.3**
	baz=313						
ARSA	**Arzberg**	**90.92**	**326**	*i* PcP	**P**	**23 46 30.9**	**-0.3**
	comp=Z,4.4nm,1.0s						
F33A	**5 Mile Ranch,**	**91.07**	**36**	P	**P**	**23 46 32.3**	**+0.4**
	baz=312						
MOA	**Molln**	**91.12**	**327**	*i* PcP	**P**	**23 46 31.8**	**-0.3**
	comp=Z,3.6nm,0.7s						
G33A	**Ortonville**	**91.42**	**36**	P	**P**	**23 46 33.9**	**+0.3**
	baz=312						
SOKA	**Soboth**	**91.55**	**326**	*i* PcP	**P**	**23 46 33.6**	**-0.6**
	comp=Z,2.6nm,0.6s,SNR=5.6						
H33A	**Prehn Over Nor**	**91.60**	**37**	P	**P**	**23 46 34.6**	**+0.2**
	baz=312						
ANMO	**Albuquerque**	**91.71**	**49**	P	**P**	**23 46 36.3**	**+0.9**
	baz=305						
ANMO	**Albuquerque**	**91.71**	**49**	*i* P	**P**	**23 46 36.4**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ANMO	**Albuquerque**	**91.71**	**49**	*e*P	**P**	**23 46 36.6**	**+1.2**
	comp=Z,7.1nm,0.8s						
319A	**Douglas**	**91.74**	**53**	*e*P	**P**	**23 46 37.0**	**+1.6**
	comp=Z,10nm,1.1s						
OBKA	**Obir**	**91.91**	**326**	*i* PcP	**P**	**23 46 35.2**	**-0.7**
	comp=Z,3.4nm,0.7s						
FNA	**Florina**	**91.95**	**318**	P	**P**	**23 46 36.4**	**+0.3**
KBA	**Koelnbreinsper**	**92.11**	**327**	P	**P**	**23 46 40.0**	**+3.1**
KBA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
121A	**Cookes Peak, D**	**92.16**	**52**	P	**P**	**23 46 38.6**	**+1.2**
	baz=304						
MYKA	**Terra Mystica**	**92.28**	**326**	*i* P	**P**	**23 46 36.3**	**-1.2**
	comp=Z,3.0nm,0.4s						
ECSD	**EROS Data Cent**	**92.30**	**37**	P	**P**	**23 46 37.4**	**-0.2**
	baz=312						
ABTA	**Abfaltersbach**	**92.75**	**327**	*i* P	**P**	**23 46 38.3**	**-1.4**
	comp=Z,5.2nm,0.7s,SNR=5.0						
WATA	**Walderalm**	**92.77**	**328**	*i* PcP	**P**	**23 46 39.2**	**-0.7**
	comp=Z,1.8nm,0.5s						
WTTA	**Wattenberg**	**92.80**	**328**	*i* P	**P**	**23 46 38.0**	**-2.0**
	comp=Z,2.8nm,0.6s						
MOTA	**Moosalm**	**92.99**	**328**	*i* PcP	**P**	**23 46 40.1**	**-0.8**
	comp=Z,1.1nm,0.4s						
RETA	**Reutte**	**93.05**	**328**	*i* PcP	**P**	**23 46 40.3**	**-0.8**
	comp=Z,0.4nm,0.3s						
FETA	**Feichten**	**93.40**	**328**	*i* PcP	**P**	**23 46 42.2**	**-0.6**
	comp=Z,0.8nm,0.4s						
BFO	**Black Forest**	**93.53**	**330**	*i* P	**P**	**23 46 42.9**	**-0.3**
DAVA	**Damuels**	**93.60**	**329**	*i* PcP	**P**	**23 46 42.8**	**-0.9**
	comp=Z,3.3nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**93.91**	**328**	*e*P	**P**	**23 46 44.9**	**-0.4**
	comp=Z,11nm,0.9s						
MNTX	**Cornudas Mount**	**94.31**	**51**	P	**P**	**23 46 47.5**	**+0.4**
	baz=306						
MNTX	**Cornudas Mount**	**94.31**	**51**	*e*pP	pP	23 48 33.0	+0.3
I38A	**Scanlan Farm,**	**94.35**	**35**	P	**P**	**23 46 46.4**	**-0.6**
	baz=315						
K37A	**Belmond**	**94.56**	**37**	P	**P**	**23 46 48.2**	**+0.2**
	baz=314						
KSU1	**Kansas State U**	**95.37**	**41**	P	**P**	**23 46 51.1**	**-0.6**
	baz=312						
TIP	**Timpagrande**	**95.69**	**319**	*e*P	**P**	**23 46 53.1**	**-0.2**
	comp=Z,6.9nm,1.0s						
M38A	**Pleasantville**	**95.73**	**37**	P	**P**	**23 46 53.0**	**-0.3**
	baz=314						
CEL	**Celeste**	**96.81**	**319**	*e*P	**P**	**23 46 57.5**	**-0.8**
	comp=Z,22nm,0.8s						
TX31	**Lajitas Ar. Si**	**96.89**	**52**	*e*P	**P**	**23 46 59.9**	**+1.0**
TX31				*e*pP	**pP**	**23 48 44.8**	**+0.1**
LTX	**Lajitas**	**96.89**	**52**	*e*P	**P**	**23 46 59.8**	**+0.9**
LTX				*e**PP	**pP**	**23 48 44.5**	**-0.2**
LTX	**Lajitas**	**96.89**	**52**	*e*P	**P**	**23 46 59.8**	**+0.9**
LTX				*e*pP	**pP**	**23 48 44.5**	**-0.2**
TXAR	**Lajitas Array**	**96.89**	**52**	P	**P**	**23 46 59.8**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=306,slow=2.4,SNR=24						
TXAR				pP	**pP**	**23 48 44.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=316,slow=2.5,SNR=7.3						
LSZ	**Lusaka**	**116.34**	**266**	*e*PKIKP	**PKPdf**	**23 52 09.2**	**+0.5**
LSZ	**Lusaka**	**116.34**	**266**	*e*PKPdf	**PKPdf**	**23 52 09.2**	**+0.5**
QSPA	**South Pole Qui**	**116.84**	**180**	*e*PKPdf	**PKPdf**	**23 52 07.7**	**-0.4**
LBTB	**Lobatse**	**121.98**	**256**	*e*PKIKP	**PKPdf**	**23 52 19.7**	**+0.4**
LBTB	**Lobatse**	**121.98**	**256**	*e*PKPdf	**PKPdf**	**23 52 19.7**	**+0.4**
BOSA	**Boshof**	**123.28**	**252**	PKP	**PKPdf**	**23 52 21.6**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=125,slow=1.1,SNR=10						
TOA1	**Torodi Ar. Sit**	**123.39**	**310**	*e*PKPdf	**PKPdf**	**23 52 21.7**	**-0.5**
TOA0	**Torodi Ar. Sit**	**123.39**	**310**	*e*PKPdf	**PKPdf**	**23 52 21.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**123.39**	**310**	PKP	**PKPdf**	**23 52 21.7**	**-0.5**
	comp=Z,4.6nm,0.7s,baz=57,slow=1.1,SNR=66						
TSUM	**Tsumeb**	**127.20**	**266**	*e*PKPdf	**PKPdf**	**23 52 31.0**	**+1.6**
SNAA	**Sanae**	**130.95**	**195**	*e*PKIKP	**PKPdf**	**23 52 34.5**	**-0.5**
SNAA	**Sanae**	**130.95**	**195**	*e*PKPdf	**PKPdf**	**23 52 34.5**	**-0.5**
DBIC	**Dimbokro**	**132.50**	**310**	PKP	**PKPdf**	**23 52 39.9**	**+0.3**
	comp=Z,5.3nm,0.8s,baz=78,slow=2.5,SNR=5.2						
SDV	**Santo Domingo**	**133.28**	**44**	*e*PKPdf	**PKPdf**	**23 52 41.7**	**+0.4**
USHA	**Ushuaia**	**145.20**	**151**	PKPbc	**PKPab**	**23 53 02.6**	**-0.3**
	comp=Z,144nm,0.9s,baz=226,slow=2.2,SNR=8.7						
PTGA	**Pitinga**	**147.31**	**40**	*e*PKPdf	**PKPdf**	**23 53 07.0**	**+0.8**
PLCA	**Paso Flores**	**151.09**	**126**	PKPbc	**PKPbc**	**23 53 18.4**	**+0.6**
	comp=Z,22nm,0.6s,baz=258,slow=4.2,SNR=66						
SAML	**Samuel**	**151.33**	**55**	*e*PKPdf	**PKPdf**	**23 53 12.9**	**+0.4**
SAML				*e*PKPbc	**PKPbc**	**23 53 19.0**	**+0.1**
LPAZ	**La Paz**	**151.47**	**74**	PKPbc	**PKPbc**	**23 53 20.6**	**+0.7**
	comp=Z,20nm,0.7s,baz=289,slow=3.6,SNR=78						
LPAZ	**La Paz**	**151.47**	**74**	*e*PKIKP	**PKPdf**	**23 53 14.3**	**+1.0**
LPAZ	**La Paz**	**151.47**	**74**	*e*PKPdf	**PKPdf**	**23 53 14.3**	**+1.0**
LPAZ				*e*PKPbc	**PKPbc**	**23 53 20.6**	**+0.7**
PB11	**IPOC Station P**	**151.53**	**82**	*e*PKPdf	**PKPdf**	**23 53 13.6**	**+0.9**
PB04	**IPOC Station P**	**151.89**	**87**	*e*PKPbc	**PKPbc**	**23 53 20.9**	**+0.6**
PB01	**IPOC Station P**	**152.10**	**84**	*e*PKPdf	**PKPdf**	**23 53 13.8**	**+0.2**
ROC1	**El Roble**	**152.24**	**110**	*e*PKPbc	**PKPbc**	**23 53 20.8**	**0.0**
LCO	**Las Campanas**	**152.52**	**101**	*e*PKPbc	**PKPbc**	**23 53 21.7**	**+0.2**
LVC	**Limon Verde**	**153.07**	**87**	PKPbc	**PKPbc**	**23 53 23.9**	**+0.9**
	comp=Z,25nm,0.7s,baz=295,slow=2.3,SNR=9.5						
LVC	**Limon Verde**	**153.07**	**87**	*e*PKPdf	**PKPdf**	**23 53 16.4**	**+1.2**
LVC				*e*PKPbc	**PKPbc**	**23 53 23.9**	**+0.9**
SIV	**San Ignacio**	**157.23**	**65**	PKP	**PKPdf**	**23 53 20.6**	**0.0**
	comp=Z,2.0nm,0.6s,baz=224,slow=2.9,SNR=4.9						
SIV				PKPab	**PKPab**	**23 53 53.7**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=301,slow=4.8,SNR=5.5						
CPUP	**Villa Florida**	**164.14**	**91**	PKP	**PKPdf**	**23 53 27.8**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=352,slow=2.3,SNR=9.6						
CPUP				PKPab	**PKPab**	**23 54 24.6**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=260,slow=2.9,SNR=3.4						

JMA 01 23:34:38.7±0.4**, 37°.92N**×**144°.21E, h31**km**, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.31**	**301**	*e*S	Sn	23 35 43.9	+2.0
JIO	**Ouri**	**2.32**	**284**	*e*S	Sn	23 35 43.6	+1.5
JMK	**Ichinoseki**	**2.56**	**295**	*e*S	Sn	23 35 50.3	+2.1
JOM	**Ohasama**	**2.76**	**305**	S	Sn	23 35 55.2	+2.1
JOU	**Okura**	**2.83**	**280**	P	Pn	23 35 24.0	+2.2
JOU				*e*S	Sn	23 35 57.0	+2.1
JFT	**Otama**	**3.10**	**264**	*e*S	Sn	23 36 03.6	+2.2
JRG	**Rokugo**	**3.16**	**299**	P	Pn	23 35 29.5	+3.2
JRG				*e*S	Sn	23 36 06.0	+3.0
JYK	**Kaneyama**	**3.19**	**289**	P	Pn	23 35 28.8	+2.2
JYK				*e*S	Sn	23 36 06.6	+3.1
JANG	**Nango**	**3.22**	**320**	P	Pn	23 35 28.4	+1.2
JANG				*e*S	Sn	23 36 05.7	+1.2
JTM	**Tenmabayashi**	**3.76**	**321**	*e*S	Sn	23 36 17.4	-0.3
JRY	**Ryogami san**	**4.66**	**248**	P	Pn	23 35 47.8	+0.9
JCH	**Churui**	**4.73**	**352**	P	Pn	23 35 47.4	-0.5
JCH				*e*S	Sn	23 36 38.1	-3.6
JTKR	**Abashiri--Toko**	**6.05**	**358**	P	Pn	23 36 04.8	-1.2
JTKR				*e*S	Sn	23 37 08.7	-5.4

GUC 01 23:46:03.8±0.7**, 19°.86S**×**69°.18W, h100**km±3km**, ML3.6, 5C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.29**	**175**	⇑*i*P	Pn	23 46 19.3	+0.4
PB08				*i* S	Sn	23 46 30.9	+0.8
PB08				IAML		23 46 31.0	
	comp=N,3μm,0.2s						
PB11	**IPOC Station P**	**0.46**	**282**	⇑*i*P	Pn	23 46 19.7	+0.2
PB11				*i* S	Sn	23 46 32.0	+0.7
MNMC	**Minye Minye**	**0.82**	**331**	⇓*i*P	Pn	23 46 23.2	+0.5
MNMC				*i* S	Sn	23 46 37.9	+1.0
MNMC				IAML		23 46 38.5	
	comp=E,4μm,0.3s						
PSGC	**Pisagua**	**0.92**	**286**	⇑*i*P	Pn	23 46 23.9	+0.3
PSGC				*i* S	Sn	23 46 39.0	+0.6
PSGC				IAML		23 46 39.6	
	comp=E,859nm,0.2s						
PB01	**IPOC Station P**	**1.22**	**194**	⇑*i*P	Pn	23 46 27.5	+0.7
PB01				*i* S	Sn	23 46 45.4	+1.3
PB01				IAML		23 46 46.9	
	comp=E,1μm,0.4s						
PB13	**IPOC Station P**	**1.54**	**349**	⇓*i*P	Pn	23 46 32.2	+1.0
PB13				*i* S	Sn	23 46 53.8	+1.9
PB12	**IPOC Station P**	**1.64**	**319**	⇑*i*P	Pn	23 46 31.8	-0.1
PB12				*i* S	Sn	23 46 53.5	+0.2
ARCH	**Arica**	**1.72**	**322**	*e*P	Pn	23 46 33.5	+0.7
PB09	**IPOC Station P**	**1.93**	**182**	*e*P	Pn	23 46 36.9	+1.1
PB09				IAML		23 47 08.6	
	comp=N,1μm,0.5s						
PB07	**IPOC Station P**	**1.98**	**199**	⇓*i*P	Pn	23 46 37.0	+0.7
PB07				*i* S	Sn	23 47 02.2	+1.3
PB07				IAML		23 47 10.4	
	comp=E,592nm,0.5s						
PB04	**IPOC Station P**	**2.63**	**200**	*e*P	Pn	23 46 45.6	+0.8

*ISCJB **02** 00:00:57.4±0.5, 39°.14N±0°.03×29°.06E±0°.03, h1km±6km, Error ellipse: s-maj=5.5km s-min=3.8km az=162.5*
*CSEM **02** 00:00:57.7±0.1, 39°.13N×29°.07E, h5km, ML3.0, Error ellipse: s-maj=2.1km s-min=1.6km az=151.0*
*ISK **02** 00:00:57.0, 39°.13N×29°.06E, h5km, MD2.8*
*DDA **02** 00:00:57.6, 39°.14N×29°.08E, h7km, Ml3.0*
ISC 02 00:00:57.9±1.0**, 39°.14N**±0°.03×**29°.07E**±0°.02**, h9**km±9km**, n49, σ0s.40**/61**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**251**	P	**Pg**	**00 01 03.8**	**+0.1**
DEMI				S	**Sg**	**00 01 08.1**	**+0.5**
DEMI	**Demirci**	**0.29**	**251**	*i* P	**Pg**	**00 01 03.8**	**+0.1**
DEMI				*i* S	**Sg**	**00 01 08.1**	**+0.5**
GDZ	**Gediz**	**0.33**	**99**	P	**Pg**	**00 01 04.2**	**-0.2**
GDZ				S	**Sg**	**00 01 09.0**	**+0.3**
GDZ	**Gediz**	**0.33**	**99**	*i* P	**Pg**	**00 01 04.2**	**-0.2**
GDZ				*i* S	**Sg**	**00 01 09.0**	**+0.3**
TVSB	**Tavsanli**	**0.44**	**44**	*e*PG	**Pg**	**00 01 06.5**	**0.0**
TVSB				*e*SG	**Sg**	**00 01 12.0**	**-0.3**
TVSB	**Tavsanli**	**0.44**	**44**	*e*Pg	**Pg**	**00 01 06.5**	**0.0**
TVSB				*e*Sg	**Sg**	**00 01 12.0**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**207**	*e*PG	**Pg**	**00 01 10.9**	**-0.4**
KULA				*e*SG	**Sg**	**00 01 20.0**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**207**	*e*Pg	**Pg**	**00 01 11.0**	**-0.4**
KULA				*e*Sg	**Sg**	**00 01 20.0**	**-0.6**
KHAL	**Karahalli**	**0.83**	**157**	P	**Pg**	**00 01 13.9**	**-0.1**
KHAL	**Karahalli**	**0.83**	**157**	*i* P	**Pg**	**00 01 13.9**	**-0.1**
ORLT	**Orhaneli**	**0.92**	**352**	*e*PG	**Pg**	**00 01 14.5**	**-1.1**
ORLT	**Orhaneli**	**0.92**	**352**	*e*Pg	**Pg**	**00 01 14.5**	**-1.1**
AKHS	**Akhisar**	**1.01**	**256**	P	**Pb**	**00 01 17.4**	**-0.3**
AKHS	**Akhisar**	**1.01**	**256**	*i* P	**Pb**	**00 01 17.4**	**-0.3**
AKS	**Akhisar**	**1.01**	**256**	*e*PG	**Pg**	**00 01 17.2**	**-0.2**
AKS	**Akhisar**	**1.01**	**256**	*e*Pg	**Pg**	**00 01 17.2**	**-0.2**
BALB	**Balikesir**	**1.05**	**299**	*e*PG	**Pb**	**00 01 18.5**	**+0.2**
BALB				*e*SG	**Sb**	**00 01 32.1**	**0.0**
BALB	**Balikesir**	**1.05**	**299**	*e*Pg	**Pb**	**00 01 18.5**	**+0.2**
BALB				*e*Sg	**Sb**	**00 01 32.1**	**0.0**
IGD	**Bursa**	**1.13**	**5**	*i* P	**Pg**	**00 01 18.5**	**-1.1**
CAVI	**Cavuskoy**	**1.22**	**29**	*e*PN	**Pn**	**00 01 21.6**	**+0.4**
CAVI	**Cavuskoy**	**1.22**	**29**	*e*Pn	**Pn**	**00 01 21.6**	**+0.4**
IZI	**Iznik**	**1.24**	**14**	*e*PN	**Pn**	**00 01 21.8**	**+0.2**
IZI	**Iznik**	**1.24**	**14**	*e*Pn	**Pn**	**00 01 21.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	*e*PN	**Pn**	**00 01 21.8**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	*e*Pn	**Pn**	**00 01 21.8**	**+0.3**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*PN	**Pn**	**00 01 22.2**	**+0.5**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*Pn	**Pn**	**00 01 22.2**	**+0.5**
BALY	**Balya**	**1.27**	**299**	P	**Pb**	**00 01 22.5**	**+0.4**
BALY	**Balya**	**1.27**	**299**	*i* P	**Pb**	**00 01 22.5**	**+0.4**
BORA	**Eskisehir**	**1.30**	**55**	P	**Pn**	**00 01 22.1**	**-0.3**
BORA				S	**Sn**	**00 01 40.2**	**+0.2**
BORA	**Eskisehir**	**1.30**	**55**	*i* P	**Pn**	**00 01 22.1**	**-0.3**
BORA				*i* S	**Sn**	**00 01 40.2**	**+0.2**
ADVT	**Abdulvahap**	**1.39**	**22**	*e*PN	**Pb**	**00 01 24.2**	**0.0**
ADVT	**Abdulvahap**	**1.39**	**22**	*e*Pn	**Pb**	**00 01 24.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*PN	**Pn**	**00 01 24.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*Pn	**Pn**	**00 01 24.0**	**+0.3**
ESKT	**Eskisehir**	**1.43**	**74**	*i* P	**Pg**	**00 01 24.9**	**-0.5**
SEYT	**Eskypehyr**	**1.43**	**74**	P	**Pg**	**00 01 25.0**	**-0.5**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN	**Pn**	**00 01 23.9**	**-0.3**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn	**Pn**	**00 01 23.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**218**	*e*PN	**Pn**	**00 01 25.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**218**	*e*Pn	**Pn**	**00 01 25.1**	**-0.1**
EDC	**Edincik**	**1.52**	**323**	*e*PN	**Pn**	**00 01 25.6**	**+0.2**
EDC	**Edincik**	**1.52**	**323**	*e*Pn	**Pn**	**00 01 25.6**	**+0.2**
KNL	**Bal˜–kesir**	**1.64**	**314**	*i* P	**Pb**	**00 01 28.5**	**+0.1**
GULT	**Gulveren**	**1.71**	**40**	*e*PN	**Pn**	**00 01 28.4**	**+0.4**
GULT	**Gulveren**	**1.71**	**40**	*e*Pn	**Pn**	**00 01 28.4**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.93**	**80**	*e*PN	**Pn**	**00 01 31.4**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.93**	**80**	*e*Pn	**Pn**	**00 01 31.4**	**+0.3**
KAND	**Kocaeli-Kandir**	**2.14**	**23**	*i* P	**Pg**	**00 01 39.4**	**+0.5**

*ISCJB **02** 00:05:59.6±1.3, 36°.05N±0°.03×142°.21E±0°.06, h20km±8km, mb4.4/31, MS3.7/9, Error ellipse: s-maj=8.1km s-min=4.7km az=5.8*
*IDC **02** 00:05:59.1±0.8, 36°.07N×142°.13E, h0km, mb4.1/15, mb1 4.1/21, mb1mx3.9/69, mbtmp4.1/21, ML4.0/5, MS3.6/12, Ms1 3.6/12, ms1mx3.3/42, Error ellipse: s-maj=19.5km s-min=16.7km az=111.0*
*NIED **02** 00:06:00, 36°.10N×142°.10E, h14km, Mw4.3 Best double couple: $M_0$3.08000×10^{15} NP1:ϕ_s212.00000°, δ39.00000°, λ104.00000°. NP2:ϕ_s14.00000°, δ52.00000°, λ79.00000°.*
*JMA **02** 00:06:01.8±0.2, 36°.09N×142°.09E, h68km±4km, M3.8*
*NEIC **02** 00:06:04.1±0.9, 36°.01N×142°.10E, h35km±7km, mb4.7/16, Error ellipse: s-maj=8.7km s-min=6.2km az=67.0*
ISC 02 00:05:59.3±3.2**, 36°.09N**±0°.04×**142°.14E**±0°.06**, h2**km±19km**, n91, σ1s.46**/95**, mb4.4**/31**, MS3.8**/9**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.11**	**250**	P	**Pb**	**00 06 21.4**	**+0.3**
CHOJ				*e*S	**Sb**	**00 06 35.7**	**-0.2**
JHO	**Hitachi**	**1.37**	**293**	P	**Pn**	**00 06 24.5**	**-0.8**
JFK	**Kawauchi**	**1.63**	**322**	P	**Pn**	**00 06 28.3**	**-0.7**
JFK				*e*S	**Sn**	**00 06 48.7**	**-1.8**
BSO1	**Boso 1**	**1.72**	**214**	P	**Pn**	**00 06 29.7**	**+0.1**
BSO1				*e*S	**Sn**	**00 06 50.6**	**-1.2**
BSO3	**Boso 3**	**1.85**	**226**	P	**Pn**	**00 06 31.6**	**-0.1**
BSO3				*e*S	**Sn**	**00 06 53.2**	**-2.3**
JFT	**Otama**	**2.03**	**315**	P	**Pn**	**00 06 34.8**	**+0.4**
JMM	**Marumori**	**2.07**	**329**	P	**Pn**	**00 06 34.4**	**-0.6**
JAG	**Ashikaga**	**2.19**	**280**	P	**Pn**	**00 06 36.3**	**-0.4**
JOD2	**Odawara 2**	**2.62**	**253**	P	**Pn**	**00 06 42.5**	**0.0**
JRY	**Ryogami san**	**2.62**	**269**	P	**Pn**	**00 06 42.4**	**-0.2**
JMK	**Ichinoseki**	**2.95**	**346**	P	**Pn**	**00 06 47.2**	**+0.2**
JMK				*e*S	**Sn**	**00 07 20.9**	**-2.1**
JYN	**Shimob**	**2.98**	**260**	P	**Pn**	**00 06 48.1**	**+0.5**
MJAR	**Matsushiro Arr**	**3.20**	**279**	Pn	**Pn**	**00 06 51.1**	**+0.5**
	14nm,0.3s,baz=98,slow=8.0,SNR=80						
MJAR				LR	LR	00 08 10.9	
	comp=Z,254nm,21.4s,baz=105,slow=42						
MAJO	**Matsushiro**	**3.21**	**279**	*e*Pn	**Pn**	**00 06 51.8**	**+1.1**
MAT	**Matsushiro**	**3.21**	**279**	P	**Pn**	**00 06 51.3**	**+0.7**
MAT				S	**Sn**	**00 07 29.9**	**+0.5**
MJB9	**Matsu-Tunnel**	**3.21**	**279**	*e*Pn	**Pn**	**00 06 52.0**	**+1.4**
JHJ2	**Mitsune**	**3.53**	**213**	*e*Pn	**Pn**	**00 06 54.8**	**-0.3**
JHJ2				*e*Sn	**Sn**	**00 07 33.3**	**-4.1**
JHJ	**Hachijo jima 2**	**3.54**	**214**	Pn	**Pn**	**00 06 55.2**	**-0.1**
	47nm,0.3s,baz=26,slow=21,SNR=8.7						
JHJ				Sn	**Sn**	**00 07 33.7**	**-3.9**
	74nm,0.3s,baz=215,slow=22,SNR=7.7						
INU	**Inuyama**	**4.23**	**261**	*e*Pn	**Pn**	**00 07 03.5**	**-1.2**
ERM	**Erimo**	**5.97**	**7**	*e*Pn	**Pn**	**00 07 25.2**	**-3.4**
ERM				*e*Sn	**Sn**	**00 08 33.0**	**-4.4**
ASAJ	**Asahikawa**	**8.03**	**2**	Pn	**Pn**	**00 07 56.1**	**-0.7**
	2.3nm,0.3s,baz=215,slow=12,SNR=7.8						
ASAJ				Sn	**Sn**	**00 09 27.1**	**-0.9**
	1.5nm,0.3s,baz=282,slow=32,SNR=3.2						
ASAJ	**Asahikawa**	**8.03**	**2**	*e*Pn	**Pn**	**00 07 52.9**	**-3.9**
ASAJ				*e*Sn	**Sn**	**00 09 27.1**	**-0.9**
CBIJ	**Chichi jima**	**8.97**	**180**	*e*Pn	**Pn**	**00 08 09.0**	**-0.8**
CBIJ				*e*Sn	Sn	00 09 39.2	-12
JCJ	**Chichijima**	**8.97**	**180**	Pn	**Pn**	**00 08 09.0**	**-0.8**

9.6nm,0.3s,baz=272,slow=23,SNR=4.7
JCJ Sn Sn 00 09 42.2 -9.1
9.4nm,0.3s,baz=96,slow=22,SNR=4.7
JNU Nakatsue 9.74 256 Pn **Pn 00 08 22.0 +1.6**
0.4nm,0.3s,baz=73,slow=8.7,SNR=5.0
USRK Ussuriysk Ar. 11.21 319 Pn **Pn 00 08 42.3 +1.8**
0.2nm,0.3s,baz=125,slow=14,SNR=6.7
USRK LR LR 00 12 59.2
comp=Z,158nm,19.0s,baz=116,slow=37
KSRS Korea Array 11.48 281 Pn **Pn 00 08 47.7 +3.5**
0.2nm,0.3s,baz=96,slow=13,SNR=22
KSRS LR LR 00 13 14.2
comp=Z,168nm,18.9s,baz=89,slow=38
KS15 Wonju Array Si 11.51 281 *e*Pn **Pn 00 08 47.7 +3.1**
KSAR Wonju Array Be 11.51 281 Pn **Pn 00 08 47.7 +3.1**
KLR Kul'dur 15.17 333 Pn **Pn 00 09 32.2 -2.2**
0.1nm,0.3s,baz=143,slow=14,SNR=2.4
H11N2 WAKE ISLAND Hy 27.17 120 T T 00 40 14.4
baz=313,slow=75,SNR=16
H11N1 WAKE ISLAND Hy 27.18 120 T T 00 40 12.1
baz=313,slow=75,SNR=22
H11N3 WAKE ISLAND Hy 27.19 120 T T 00 40 07.3
baz=313,slow=75,SNR=19
H11S1 WAKE ISLAND Hy 27.86 122 T T 00 41 04.1
baz=314,slow=76,SNR=23
H11S3 WAKE ISLAND Hy 27.86 122 T T 00 41 08.3
baz=314,slow=76,SNR=21
H11S2 WAKE ISLAND Hy 27.88 122 T T 00 41 00.5
baz=314,slow=76,SNR=18
ULN Ulaanbaatar 28.37 305 *e*P **P 00 11 53.8 -1.1**
6.6nm,0.8s
SONA1 Songino Array 28.80 305 *e*P **P 00 11 56.3 -2.3**
SONA0 Songino Array 28.80 305 *e*P **P 00 11 59.3 +0.7**
6.8nm,1.0s
SONM Songino Array 28.80 305 P **P 00 11 59.3 +0.7**
3.4nm,0.8s,baz=101,slow=9.3,SNR=19
SONM LR LR 00 23 58.5
comp=Z,60nm,19.6s,baz=70,slow=38
CHTO Chiang Mai 41.64 257 *e*P **P 00 13 48.2 -0.9**
4.4nm,0.9s
CM31 Chiang Mai Arr 41.84 257 *e*P **P 00 13 50.7 0.0**
CMAR Chiang Mai Arr 41.84 257 P **P 00 13 50.7 0.0**
1.0nm,0.6s,baz=49,slow=6.7,SNR=7.3
CM01 Chiang Mai Arr 41.84 257 *e*P **P 00 13 49.8 -0.9**
LSA Lhasa 42.88 277 *e*P **P 00 13 58.7 -1.0**
LSA pmax pmax
comp=Z,5.0nm,0.9s
LSA Lhasa 42.88 277 *e*P **P 00 13 58.7 -1.0**
comp=Z,4.7nm,0.9s
ZAA0 Zalesovo Array 42.98 313 *e*P **P 00 14 00.4 +0.8**
ZAA1 Zalesovo Array 42.98 313 *e*P **P 00 13 59.6 0.0**
ZAA1 *e*PcP **PcP 00 15 49.6 -0.3**
ZALV Zalesovo Beam 42.98 313 P **P 00 13 59.6 0.0**
comp=Z,1.9nm,0.5s,baz=96,slow=7.6,SNR=12
ZALV PcP **PcP 00 15 49.6 -0.3**
comp=Z,0.7nm,0.4s,baz=99,slow=3.7,SNR=2.8
ZALV LR LR 00 32 29.3
comp=Z,63nm,18.7s,baz=70,slow=37
NRIK Noril'sk 44.37 336 LR LR 00 34 35.5
comp=Z,106nm,19.1s,baz=118,slow=39
MK01 Makanchi Array 45.11 303 *e*P **P 00 14 16.8 -0.1**
MK31 Makanchi Array 45.12 303 *e*P **P 00 14 17.4 +0.5**
MK32 Makanchi Array 45.12 303 *e*P **P 00 14 17.1 +0.2**
MKAR Makanchi Array 45.12 303 P **P 00 14 17.1 +0.2**
comp=Z,5.1nm,0.8s,baz=88,slow=10.0,SNR=30
MKAR LR LR 00 33 56.6
comp=Z,50nm,18.3s,baz=58,slow=37
MKAR Makanchi Array 45.12 303 *e*P **P 00 14 17.4 +0.5**
MAKZ Makanchi 45.33 303 *e*P **P 00 14 19.1 +0.5**
comp=Z,6.5nm,0.8s
KSM Kuching 45.34 228 *e*P **P 00 14 19.2 +0.3**
comp=Z,4.4nm,0.6s
KURK Kurchatov 46.97 309 *e*P **P 00 14 31.3 -0.1**
comp=Z,15nm,1.0s
ILAR Eielson Array 49.98 32 P **P 00 14 55.4 +1.0**
comp=Z,0.3nm,0.7s,baz=256,slow=5.4,SNR=4.5
ILB Eielson Array 49.98 32 *e*P **P 00 14 55.4 +1.0**
TKM2 Tokmak 2 50.59 299 *e*P **P 00 15 00.9 +1.2**
comp=Z,10.0nm,1.3s
BVAR Borovoye Array 51.64 313 P **P 00 15 07.0 0.0**
comp=Z,2.1nm,0.9s,baz=69,slow=8.3,SNR=9.0
BVAR PcP **PcP 00 16 20.9 +0.1**
comp=Z,1.2nm,0.7s,baz=91,slow=5.9,SNR=3.6
BRVK Borovoye 51.70 313 *e*P **P 00 15 07.6 +0.1**
comp=Z,7.4nm,0.9s
BKNI Bangkinang 52.14 236 *e*P **P 00 15 12.1 +0.8**
comp=Z,118nm,0.4s
ZRNK Zerenda 52.47 313 *e*P **P 00 15 13.4 +0.1**
comp=Z,9.8nm,1.5s
KKAR Karatay Array 54.10 301 *e*P **P 00 15 25.9 +0.5**
INK Inuvik 54.96 27 LR LR 00 41 16.1
comp=Z,48nm,20.3s,baz=260,slow=38
WB2 Warramunga Arr 56.21 189 *e*P **P 00 15 40.4 -0.4**
comp=Z,41nm,1.8s
WR1 Warramunga Arr 56.21 189 *e*P **P 00 15 40.3 -0.5**
comp=Z,14nm,1.4s
WRA Warramunga Arr 56.21 189 P **P 00 15 40.3 -0.5**
comp=Z,1.1nm,0.7s,baz=5.5,slow=6.9,SNR=7.2
ARU Arti 57.45 319 P **P 00 15 49.3 0.0**
comp=Z,4.6nm,0.7s,baz=88,slow=2.9,SNR=9.9
ARU Arti 57.45 319 *e*P **P 00 15 49.3 0.0**
comp=Z,6.6nm,0.9s
ABKAR Akbulak array 58.99 311 *e*P **P 00 16 00.2 +0.1**
AKTO Aktyubinsk 59.74 313 P **P 00 16 05.6 +0.3**
comp=Z,2.8nm,0.9s,baz=78,slow=12,SNR=8.6
YKA Yellowknife Ar 64.33 30 P **P 00 16 36.3 +0.4**
comp=Z,0.6nm,0.7s,baz=295,slow=6.3,SNR=3.1
YKB5 Yellowknife Ar 64.33 30 *e*P **P 00 16 36.3 +0.4**
ARCES ARCESS Array B 65.08 340 LR LR 00 50 59.8
comp=Z,56nm,18.2s,baz=26,slow=42
FIA0 FINESS Array S 69.92 333 *e*P **P 00 17 11.6 +0.2**
FINES FINESS Array B 69.92 333 P **P 00 17 11.6 +0.2**
comp=Z,1.6nm,0.8s,baz=94,slow=7.6,SNR=5.8
FINES LR LR 00 51 34.3
comp=Z,106nm,18.3s,baz=32,slow=39
NB2 NORSAR Subarra 75.28 338 P **P 00 17 41.6 -1.8**
comp=Z,1.3nm,0.6s,baz=40,slow=6.2
NB200 NORSAR Array S 75.28 338 *e*P **P 00 17 43.6 +0.2**
NOA NORSAR Array B 75.28 338 P **P 00 17 43.6 +0.2**
comp=Z,1.9nm,0.8s,baz=40,slow=5.7,SNR=4.9
NOA LR LR 00 54 38.0
comp=Z,51nm,19.4s,baz=225,slow=39
AKASG Malin Array Be 75.40 323 P **P 00 17 44.0 -0.3**
comp=Z,1.0nm,0.5s,baz=46,slow=5.4,SNR=4.3
AKBB Malin Array Si 75.40 323 *e*P **P 00 17 44.0 -0.3**
comp=Z,6.3nm,0.6s
FRB Frobisher Bay 77.56 13 P **P 00 17 56.5 +0.3**
comp=Z,1.4nm,0.7s,baz=354,slow=7.0,SNR=4.5
BR101 Keskin Array S 79.91 312 *e*P **P 00 18 09.4 -0.4**
BRTR Keskin Array B 79.91 312 P **P 00 18 09.4 -0.4**
comp=Z,0.9nm,0.8s,baz=114,slow=4.6,SNR=7.9
OXZ Oxford 83.60 159 *e*P **P 00 18 31.4 +2.7**
comp=Z,74nm,1.6s
T25A Trinidad 84.55 47 *e*P **P 00 18 38.3 +4.0**
comp=Z,39nm,1.3s
ESDC Sonseca Array 98.39 334 LR LR 01 10 41.9
comp=Z,43nm,18.1s,baz=105,slow=40
LPAZ La Paz 146.65 62 PKPbc **PKPbc 00 25 44.6 +0.9**
comp=Z,0.6nm,0.5s,baz=297,slow=2.3,SNR=3.5

---

*TIF **02** 00:06:26.6, 43.°08N×44.°22E, h12km*
*MOS **02** 00:06:27.0±1.2, 43.°10N×44.°19E, h15km, mb4.1/2, Error ellipse: s-maj=7.9km s-min=5.8km az=101.9*
*CSEM **02** 00:06:29.2±1.2, 43.°09N×44.°18E, h2km, ML2.5, Error ellipse: s-maj=25.2km s-min=10.4km az=24.0*
*DDA **02** 00:06:44.0, 41.°95N×43.°64E, h7km, Md3.2*
ISC 02 00:06:28.0±1.0**, 43.°08N**±0.°02×**44.°18E**±0.°02**, h3**km±9km**, n55,** σ**1.s49**/79**, 5C-3D, Western Caucasus**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KORR Kora 0.09 277 *i* PG **Pg 00 06 29.8 0.0**
KORR pmax pmax
comp=Z,90nm,0.1s
ARNR Ardon 0.13 35 *i* PG **Pg 00 06 29.6 -0.9**
ARNR pmax pmax
comp=Z,4μm,0.1s
LACR Lac 0.26 162 *i* PG **Pg 00 06 32.7 -0.4**
LACR pmax pmax
comp=Z,99nm,0.2s
STDR Stavd-Durt 0.31 343⇓*i*PG **Pg 00 06 33.6 -0.3**
STDR *e*S **Sg 00 06 38.2 +0.3**
LSNR Lesken 0.33 308⇑*i*PG **Pg 00 06 34.6 +0.2**
LSNR *e*S **Sb 00 06 40.1 -2.2**
ZEI Tsey 0.35 216⇑*i*PG **Pg 00 06 34.6 -0.3**
ZEI *e*S **Sg 00 06 40.2 +0.7**
VLKR Vladikavkaz 0.36 94 *i* PG **Pg 00 06 34.1 -0.9**
VLKR pmax pmax
comp=Z,68nm,0.1s
DIGR Digorskoe uzhe 0.48 248 *i* PG **Pg 00 06 36.6 -0.6**
DIGR pmax pmax
comp=Z,37nm,0.1s
KMGR Komgaron 0.50 92 *e*PG **Pg 00 06 36.0 -1.6**
KMGR *e*S **Sg 00 06 42.9 -1.2**
GUDG Gudauri 0.65 160 P **Pg 00 06 40.3 -0.1**
GUDG S **Sg 00 06 49.2 +0.4**
GUDG Gudauri 0.65 160 P **Pg 00 06 40.7 +0.3**
GUDG S **Sb 00 06 50.5 -1.1**
PRTR Priterechnaya 0.68 6 *e*PG **Pb 00 06 41.8 -0.7**
PRTR *e*S **Sb 00 06 51.6 -0.7**
ONI Oni 0.72 228 P **Pg 00 06 41.5 -0.4**
ONI S **Sb 00 06 52.8 -0.9**
ONI Oni 0.72 228 PG **Pg 00 06 41.5 -0.4**
ONI S **Sb 00 06 52.7 -0.9**
ONI Oni 0.72 228 P **Pg 00 06 41.5 -0.4**
ONI S **Sb 00 06 52.8 -0.9**
TRKR Terskaya 0.76 31 *i* PG **Pb 00 06 43.0 -0.9**
TRKR pmax pmax
comp=Z,61nm,0.1s
KBTC Kuba-Taba 0.93 323⇓*e*PG **Pg 00 06 45.8 -0.1**
KBTC *e*S **Sn 00 06 59.8 -2.1**
DUS Dusheti 1.06 159 P **Pn 00 06 52.2 +2.4**
DUS S **Sn 00 07 07.7 +2.7**
DUS Dusheti 1.06 159 PG **Pn 00 06 52.1 +2.4**
DUS S **Sn 00 07 07.7 +2.7**
DUS Dusheti 1.06 159 P **Pn 00 06 52.2 +2.4**
DUS S **Sn 00 07 07.7 +2.7**
NEY Neytrino 1.08 280⇑*i*PG **Pg 00 06 47.4 -1.4**
NEY *e*S **Sg 00 07 02.0 -0.8**
GROC Groznyy 1.19 83 *e*PG **Pg 00 06 49.9 -0.8**
GROC *e* 00 07 07.0
GROC pmax pmax
comp=Z,39nm,0.4s
GROC smax smax
comp=N,209nm,0.5s
GROC smax smax
comp=N,245nm,0.5s
GROC smax smax
comp=E,153nm,0.4s
SHA1 Shidzhatmaz 1.29 301⇓*e*PG **Pn 00 06 51.7 -1.5**
SHA1 *e*S **Sg 00 07 09.3 -0.3**
KIV Kislovodsk 1.40 309 *e*PG **Pn 00 06 53.2 -1.3**
TBLG Delisi 1.41 163 P **Pn 00 06 53.8 -0.7**
TBLG S **Sg 00 07 14.3 +1.1**
TBLG Delisi 1.41 163 PG **Pb 00 06 54.4 -0.4**
TBLG S **Sg 00 07 14.2 +1.1**
TBLG Delisi 1.41 163 P **Pb 00 06 54.5 -0.4**
TBLG S **Sg 00 07 14.3 +1.1**
CHVG Ch'k'valeri 1.58 258 P **Pb 00 06 57.2 -0.7**
CHVG S **Sg 00 07 19.3 +0.4**
CHVG Ch'k'valeri 1.58 258 P **Pg 00 06 58.4 +0.1**
CHVG S **Sg 00 07 20.6 +1.7**
AKH Akhalkalaki 1.74 197 P **Pn 00 06 58.9 -0.4**
AKH Akhalkalaki 1.74 197 PN **Pb 00 06 59.8 -0.9**
AKH Akhalkalaki 1.74 197 P **Pb 00 06 59.9 -0.8**
DGRG David-gareji 1.85 151 P **Pb 00 07 01.3 -1.2**
DGRG S **Sg 00 07 28.8 +1.5**
DGRG David-gareji 1.85 151 PN **Pb 00 07 01.2 -1.2**
DGRG S **Sg 00 07 28.8 +1.5**
DGRG David-gareji 1.85 151 P **Pb 00 07 01.3 -1.2**
DGRG S **Sg 00 07 28.8 +1.5**
BGD Bogdanovka 1.86 194 P **Pn 00 07 00.2 -0.7**
BGD S **Sn 00 07 25.1 0.0**
BGD Bogdanovka 1.86 194 P **Pb 00 07 02.1 -0.7**
BGD S **Sg 00 07 28.8 +1.0**
EPOS Posof 1.91 215 P **Pb 00 07 02.9 -0.6**
EPOS Posof 1.91 215 *i* P **Pb 00 07 02.9 -0.6**
GOF Gofitskoye 2.15 338⇑*e*PN **Pg 00 07 12.5 +3.4**
GOF *e*S **Sg 00 07 43.2 +6.3**
GOF pmax pmax
comp=Z,16nm,0.4s
GOF pmax pmax
comp=E,39nm,0.6s
GNBR Gunib 2.16 108 *e*PN **Pn 00 07 05.6 +0.7**
GNBR *e* 00 07 33.6
GNBR pmax pmax
comp=Z,10.0nm,0.5s
GNBR smax smax
comp=E,61nm,0.5s
GNBR smax smax
comp=E,51nm,0.5s
GNBR smax smax
comp=N,47nm,0.5s
EAK Akyaka 2.43 190 P **Pb 00 07 11.5 -0.8**
EAK Akyaka 2.43 190 *i* P **Pb 00 07 11.5 -0.8**
ARTV Artvin 2.53 222 P **Pb 00 07 12.6 -1.5**
ARTV Artvin 2.53 222 *i* P **Pb 00 07 12.6 -1.5**
DAGI Agillar 2.62 221 *i* P **Pn 00 07 12.7 +1.5**
DBAD Bademkaya 2.77 223 P **Pb 00 07 16.1 -2.0**
DBAD Bademkaya 2.77 223 *i* P **Pb 00 07 16.1 -2.0**
GNI Garni 2.95 172 *e*PN **Pn 00 07 17.1 +1.2**
EATA Eleskirt 3.45 202 P Pg 00 07 47.5 +13
EATA Eleskirt 3.45 202 *i* P Pg 00 07 47.5 +13
HOMI Horasan 3.48 210 *i* P Pg 00 07 41.6 +7.0
VSR Storozhevoye 8.83 339 *i* P **Pn 00 08 37.3 +0.9**
KIEV Kiev 12.75 312⇑*i*P **Pn 00 09 30.4 +0.3**
KIEV pmax pmax
comp=Z,1.0nm,0.9s
AAK Ala-Archa 22.17 81 *i* P **P 00 11 23.1 -2.1**
AAK pmax pmax
comp=Z,1.0nm,0.8s

---

*ISCJB **02** 00:21:43.4±0.8, 6.°78N±0.°05×73.°07W±0.°06, h165km±6km, Error ellipse: s-maj=11.4km s-min=5.5km az=34.8*
*RSNC **02** 00:21:45.8±0.5, 6.°76N×73.°11W, h152km±3km, ML2.4*
*FUNV **02** 00:21:48.2, 7.°05N×72.°85W, h171km, MW3.2*
ISC 02 00:21:41.5±1.5**, 6.°81N**±0.°05×**73.°02W**±0.°06**, h180**km±9km**, n17,** σ**2.s29**/30**, 1D, Northern Colombia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
BARC Barichara 0.27 217 *e*P **Pn 00 22 06.2 +0.3**
BARC *e*S **Sn 00 22 21.9 -2.7**
BARC *i* 00 22 24.0
comp=Z,36nm,0.2s
BRRC Barranca, Sant 0.75 293 *e*P **Pn 00 22 08.1 +0.6**
BRRC *i* 00 22 08.5
comp=Z,55nm,0.1s
BRRC *e*S **Sn 00 22 25.6 -2.1**
RUSC La Rusia 0.91 184 *e*P **Pn 00 22 10.2 +1.0**
RUSC *e*S **Sn 00 22 28.4 -2.2**
RUSC *i* 00 22 29.9
comp=Z,19nm,0.3s
CBRI Barrientos, No 0.93 14 *e*P **Pn 00 22 10.7 +1.8**
CBRI *e*S **Sn 00 22 29.7 -0.5**
CBRI *i* 00 22 35.1
comp=Z,30nm,0.7s
GRMC Gramalote, San 0.93 13 *i* P **Pn 00 22 12.0 +3.1**
GRMC *e*S **Sn 00 22 32.3 +2.1**
GRMC *i* 00 22 34.2
comp=Z,28nm,0.3s
CAPV Capacho 1.26 34⇓*i*P **Pn 00 22 14.1 +2.5**
CAPV *e*S **Sn 00 22 33.9 -0.9**
OCAC Ocana 1.45 348 *e*P **Pn 00 22 15.1 +1.9**
OCAC *e*S **Sn 00 22 37.7 -0.1**
OCAC *i* 00 22 42.0
comp=Z,33nm,0.2s
NORC Norcasia 2.22 236 *e*P **Pn 00 22 21.8 +0.7**
NORC *e*S **Sn 00 22 50.0 -1.7**
ROSC El Rosal 2.35 214 *e*P **Pn 00 22 23.7 +0.8**
HELC Santa Helena 2.57 256 *e*P **Pn 00 22 26.4 +1.0**
HELC *e*S **Sn 00 22 58.5 -0.9**
HELC *i* 00 23 07.4
comp=Z,6.9nm,0.2s
SOCV Socops 2.59 56 *e*P **Pn 00 22 27.4 +2.1**
VIGV El Vigia 2.60 39 *e*P **Pn 00 22 27.5 +2.2**
VIGV *e*S **Sn 00 22 56.1 -3.5**
PRAC Prado 3.59 211 *e*P **Pn 00 22 38.9 +1.3**
SJAC San Juan de Ar 3.63 195 *e*P **Pn 00 22 39.7 +1.5**
SJAC *e*S **Sn 00 23 23.3 +0.8**
SJAC *i* 00 23 32.9
comp=Z,17nm,0.6s
VIRV Villa del Rosa 3.72 9 *e*P **Pn 00 22 41.2 +2.1**
VIRV *e*S **Sn 00 23 19.9 -4.3**
CURV Curarigua 4.39 43 *e*P **Pn 00 22 49.7 +2.0**
CURV *e*S **Sn 00 23 34.2 -5.3**
BAUV El Baul 5.37 66 *e*P **Pn 00 23 01.5 +1.3**

---

*ISK **02** 00:27:44.8, 39.°10N×29.°01E, h3km, MD2.7*
*DDA **02** 00:27:45.3, 39.°10N×29.°04E, h7km, Ml2.9*
*CSEM **02** 00:27:45.5±0.1, 39.°11N×29.°02E, h2km, ML2.9, Error ellipse: s-maj=2.5km s-min=1.8km az=166.0*
ISC 02 00:27:45.7±1.0**, 39.°10N**±0.°03×**29.°02E**±0.°02**, h7**km±10km**, n39,** σ**0.s32**/49**, Turkey**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
DEMI Demirci 0.24 257 P **Pg 00 27 50.4 -0.1**
DEMI S **Sg 00 27 54.1 +0.3**
DEMI Demirci 0.24 257 *i* P **Pg 00 27 50.4 -0.1**
DEMI *i* S **Sg 00 27 54.1 +0.3**
GDZ Gediz 0.36 91 P **Pg 00 27 52.4 -0.3**
GDZ S **Sg 00 27 57.6 +0.1**
GDZ Gediz 0.36 91 *i* P **Pg 00 27 52.4 -0.3**
GDZ *i* S **Sg 00 27 57.6 +0.1**
TVSB Tavsanli 0.49 44 *e*PG **Pg 00 27 55.1 0.0**
TVSB Tavsanli 0.49 44 *e*Pg **Pg 00 27 55.2 0.0**
KULA Kula-Manisa 0.65 206 *e*PG **Pg 00 27 57.8 -0.4**
KHAL Karahalli 0.81 153 P **Pg 00 28 01.2 -0.1**
KHAL Karahalli 0.81 153 *i* P **Pg 00 28 01.2 -0.1**
KHL Karahalli 0.87 153 *e*PG **Pg 00 28 02.6 +0.3**
AKHS Akhisar 0.96 257 P **Pb 00 28 04.7 0.0**
AKHS Akhisar 0.96 257 *i* P **Pb 00 28 04.7 0.0**
AKS Akhisar 0.96 257 *e*PG **Pg 00 28 04.0 -0.2**
AKS Akhisar 0.96 257 *e*Pg **Pg 00 28 04.0 -0.2**
BALB Balikesir 1.04 302 *e*PG **Pg 00 28 05.4 -0.1**
BALB Balikesir 1.04 302 *e*Pg **Pg 00 28 05.4 -0.1**
IGD Bursa 1.17 7 *i* P **Pg 00 28 07.0 -1.2**
IGD *i* S **Sb 00 28 23.5 -0.1**
BALY Balya 1.26 301 P **Pn 00 28 09.3 -0.4**
BALY Balya 1.26 301 *i* P **Pn 00 28 09.3 -0.4**
KCTX Karacabey (Bur 1.27 337 *e*PN **Pn 00 28 09.4 -0.5**
KCTX Karacabey (Bur 1.27 337 *e*Pn **Pn 00 28 09.4 -0.5**
MDNY Mudanya-Bursa 1.27 355 *e*PN **Pg 00 28 10.3 +0.2**
MDNY Mudanya-Bursa 1.27 355 *e*Pn **Pg 00 28 10.3 +0.2**
BORA Eskisehir 1.36 54 P **Pn 00 28 10.8 -0.3**
BORA S **Sn 00 28 29.4 +0.1**
BORA Eskisehir 1.36 54 *i* P **Pn 00 28 10.8 -0.3**
BORA *i* S **Sn 00 28 29.4 +0.1**
ADVT Abdulvahap 1.45 22 *e*PN **Pn 00 28 12.5 +0.3**
ADVT Abdulvahap 1.45 22 *e*Pn **Pn 00 28 12.5 +0.3**
AYDB Zeytinkoy-Aydi 1.45 218 *e*PN **Pg 00 28 13.4 -0.1**
AYDB Zeytinkoy-Aydi 1.45 218 *e*Pn **Pg 00 28 13.4 -0.1**
ARMT Armutlu 1.47 355 *e*PN **Pn 00 28 12.8 +0.2**
ARMT *e*SN **Sg 00 28 33.4 +0.4**
ARMT Armutlu 1.47 355 *e*Pn **Pn 00 28 12.8 +0.2**
ARMT *e*Sn **Sg 00 28 33.4 +0.4**
ESKT Eskisehir 1.48 73 *i* P **Pb 00 28 13.5 -0.1**
SEYT Eskypehyr 1.48 73 P **Pb 00 28 13.5 0.0**
EDC Edincik 1.53 325 *e*PN **Pn 00 28 13.7 +0.3**
EDC Edincik 1.53 325 *e*Pn **Pn 00 28 13.7 +0.3**
KNL Bal˜–kesir 1.64 316 *i* P **Pn 00 28 15.2 +0.3**
KNL *i* S **Sg 00 28 38.0 -0.5**
GULT Gulveren 1.76 40 *e*PN **Pn 00 28 17.0 +0.4**
GULT Gulveren 1.76 40 *e*Pn **Pn 00 28 17.0 +0.4**
SART Tekirdag 2.13 319 *i* P **Pg 00 28 26.6 +0.2**

---

*NIED **02** 00:29:00, 38.°30N×141.°90E, h62km, Mw3.9 Best double couple: $M_0$7.91000×10[14] NP1:ϕ_s177.00000°, δ44.00000°, λ95.00000°. NP2:ϕ_s351.00000°, δ46.00000°, λ85.00000°.*
*ISCJB **02** 00:29:42.9±0.7, 38.°25N±0.°04×141.°92E±0.°08, h68km±5km, mb3.8/16, Error ellipse: s-maj=11.0km s-min=5.3km az=17.7*
*JMA **02** 00:29:44.0±0.1, 38.°27N×141.°88E, h64km±1km, M3.9*
JMA Felt II J1.
*IDC **02** 00:29:45.3±2.5, 38.°20N×141.°89E, h77km±23km, mb3.7/16, mb1 3.9/19, mb1mx3.7/40, mbtmp4.0/19, MS2.8/2, Ms1 2.8/2, ms1mx2.4/42, Error ellipse: s-maj=20.4km s-min=14.2km az=82.0*
ISC 02 00:29:43.9±0.8**, 38.°23N**±0.°04×**141.°95E**±0.°07**, h63**km±6km**, n39,** σ**0.s95**/47**, mb3.9**/16**, Near east coast of eastern Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
JIO Ouri 0.52 296 P **Pn 00 29 56.0 -0.3**
JIO S **Sn 00 30 04.2 -1.2**
OFUJ Ofunato 0.88 346 P **Pn 00 30 00.0 -0.5**
OFUJ S **Sn 00 30 11.7 -1.1**
JMK Ichinoseki 0.92 322 P **Pn 00 30 00.7 -0.3**
JMK S **Sn 00 30 12.6 -1.1**
JMM Marumori 0.98 249 P **Pn 00 30 01.3 -0.5**
JMM S **Sn 00 30 14.1 -1.0**
JOU Okura 1.02 278 P **Pn 00 30 01.9 -0.4**
JOU S **Sn 00 30 15.0 -1.0**
JFK Kawauchi 1.21 225 P **Pn 00 30 04.8 0.0**
JFK S **Sn 00 30 19.8 -0.7**
JOM Ohasama 1.34 338 P **Pn 00 30 06.2 -0.4**
JOM S **Sn 00 30 22.7 -0.8**
JYK Kaneyama 1.42 299 P **Pn 00 30 07.1 -0.5**
JYK *e*S **Sn 00 30 24.3 -1.1**
JFT Otama 1.46 241 P **Pn 00 30 08.4 +0.3**
JFT *e*S **Sn 00 30 25.9 -0.4**
JYS Shirataka 1.48 270 P **Pn 00 30 08.2 -0.2**
JYS *e*S **Sn 00 30 26.2 -0.7**
JRG Rokugo 1.55 319 P **Pn 00 30 08.9 -0.4**
JRG S **Sn 00 30 27.3 -1.2**
MAT Matsushiro 3.42 242 P **Pn 00 30 36.1 +1.3**
MAT S **Sn 00 31 15.8 +1.7**
MJAR Matsushiro Arr 3.42 242 P **Pn 00 30 36.0 +1.2**
12nm,0.3s,baz=35,slow=14,SNR=40
MJAR LR LR 00 32 13.9
comp=Z,90nm,19.1s,baz=70,slow=44
JHJ Hachijo jima 2 5.39 200 P **Pn 00 31 01.6 -0.2**
13nm,0.3s,baz=324,slow=23,SNR=5.2
JHJ S **Sn 00 31 59.0 -3.5**
42nm,0.3s,baz=50,slow=22,SNR=11
USRK Ussuriysk Ar. 9.58 312 P **Pn 00 31 59.4 +0.5**
1.4nm,0.3s,baz=126,slow=14,SNR=16
JNU Nakatsue 10.34 244 LR LR 00 36 15.2
comp=Z,67nm,20.5s,baz=116,slow=38
SEY Seymchan 25.54 11 P **P 00 35 07.1 +0.8**
0.4nm,0.3s,baz=180,slow=17,SNR=3.7
SONM Songino Array 27.49 302 P **P 00 35 24.9 +0.6**
0.6nm,0.4s,baz=102,slow=9.4,SNR=4.4
H11N2 WAKE ISLAND Hy 28.42 123 T T 01 05 58.7
baz=316,slow=75,SNR=42
H11N1 WAKE ISLAND Hy 28.43 123 T T 01 05 59.5
baz=316,slow=75,SNR=35
H11N3 WAKE ISLAND Hy 28.44 123 T T 01 06 05.2
baz=316,slow=75,SNR=55
H11S1 WAKE ISLAND Hy 29.18 125 T T 01 07 00.5
baz=317,slow=76,SNR=62
H11S3 WAKE ISLAND Hy 29.18 125 T T 01 06 52.8
baz=317,slow=76,SNR=94
H11S2 WAKE ISLAND Hy 29.20 125 T T 01 06 55.5
baz=317,slow=76,SNR=83
ZALV Zalesovo Beam 41.43 311 P **P 00 37 24.7 +0.8**
1.9nm,0.6s,baz=88,slow=6.7,SNR=7.7
MKAR Makanchi Array 43.85 301 P **P 00 37 44.1 +0.4**
2.7nm,0.7s,baz=85,slow=9.7,SNR=22
ILAR Eielson Array 48.26 33 P **P 00 38 18.5 +0.4**
0.6nm,0.9s,baz=273,slow=5.9,SNR=4.2
ILAR pP **pP 00 38 35.5 +1.2**
0.6nm,0.6s,baz=272,slow=6.7,SNR=5.5
WRA Warramunga Arr 58.30 188 P **P 00 39 31.7 -0.5**
2.6nm,0.4s,baz=6.3,slow=7.0,SNR=45
RES Resolute Bay 61.34 15 P **P 00 39 52.3 -0.1**
2.5nm,1.0s,baz=300,slow=2.8,SNR=5.2
ASAR Alice Springs 62.03 188 P **P 00 39 57.5 -0.1**
1.6nm,0.6s,baz=2.9,slow=4.7,SNR=13
ARCES ARCESS Array B 63.03 339 P **P 00 40 03.5 -0.3**
2.3nm,0.8s,baz=54,slow=9.1,SNR=6.7
GEYT Alibeck 63.63 299 P **P 00 40 07.9 -0.4**
0.6nm,0.5s,baz=10,slow=8.8,SNR=3.4
FINES FINESS Array B 67.95 332 P **P 00 40 34.8 -0.8**
1.9nm,0.6s,baz=48,slow=8.5,SNR=9.5
NOA NORSAR Array B 73.25 337 P **P 00 41 07.7 -0.2**
0.8nm,0.7s,baz=41,slow=5.9,SNR=3.6
AKASG Malin Array Be 73.61 322 P **P 00 41 09.2 -1.0**
0.8nm,0.5s,baz=46,slow=5.6,SNR=5.6
PDAR Pinedale Array 76.53 46 P **P 00 41 27.8 +0.3**
0.5nm,0.6s,baz=277,slow=3.1,SNR=5.1
BRTR Keskin Array B 78.38 312 P **P 00 41 37.3 -0.4**
0.3nm,0.4s,baz=107,slow=3.5,SNR=5.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	89.06	53	P	P	00 42 33.0	+0.6
	0.5nm,0.6s,baz=317,slow=3.8,SNR=6.7						
TXAR				pP	pP	00 42 51.6	+1.5
	0.4nm,0.8s,baz=266,slow=2.7,SNR=3.1						
LPAZ	La Paz	145.72	59	PKPbc	PKPbc	00 49 16.5	-0.3
	1.0nm,0.6s,baz=7.7,slow=4.0,SNR=7.3						

*ISCJB **02** 00:30:47.4±0.3, 60°.12N±0°.02×153°.07W±0°.06, h126^{km}±3^{km}, mb3.6/4, Error ellipse: s-maj=5.2km s-min=3.4km az=23.0*
*NEIC **02** 00:30:49.4, 60°.12N×153°.10W, h116^{km}, MG3.0(AEIC), After AEIC.*
*IDC **02** 00:30:54.0±7.6, 60°.56N×152°.76W, h152^{km}±67^{km}, mb3.2/4, mb1 3.4/6, mb1mx3.1/39, mbtmp3.6/6, Error ellipse: s-maj=66.3km s-min=18.4km az=31.0*
ISC 02 00:30:49.0±0.8, **60°.13N**±0°.03×**153°.10W**±0°.04, **h118**^{km}±6^{km}, **n89**, σ**0^{s}96**/88, **mb3.5**/4, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INE	Iliamna NE	0.07	165	P	Pn	00 31 04.8	-0.5
ILW	Iliamna West	0.07	196	P	Pn	00 31 04.6	-0.7
ILW				S	Sn	00 31 17.6	0.0
ILIM	Iliamna	0.08	124	P	Pn	00 31 04.6	-0.6
IVE	Iliamna Volcan	0.12	160	P	Pn	00 31 04.6	-0.7
RDWB	Redoubt West	0.39	19	P	Pn	00 31 05.6	-0.7
NCT	North Crescent	0.45	11	P	Pn	00 31 06.1	-0.4
OPT	Oil Point	0.48	188	P	Pn	00 31 06.4	-0.2
OPT				S	Sn	00 31 18.9	-0.9
RDJH	Redoubt Jeurge	0.49	17	P	Pn	00 31 06.2	-0.6
RDJH				S	Sn	00 31 20.0	-0.2
AUL	Augustine Lava	0.77	193	P	Pn	00 31 08.5	-0.2
AUL				S	Sn	00 31 23.6	+0.1
AUE	Augustine Isla	0.78	190	P	Pn	00 31 08.3	-0.4
AUSE	Augustine SEas	0.80	191	P	Pn	00 31 08.6	-0.3
AUI	Augustine Isla	0.81	192	P	Pn	00 31 08.9	-0.1
AUI				S	Sn	00 31 23.9	-0.2
CNPM	China Poot	1.12	122	P	Pn	00 31 11.5	-0.5
MCNL	McNeil River	1.14	214	P	Pn	00 31 11.7	-0.5
CKL	Chakachamna La	1.14	19	P	Pn	00 31 12.2	-0.1
SPCR	Spurr Chakacha	1.16	22	P	Pn	00 31 12.3	-0.3
SPCR				S	Sn	00 31 31.3	+0.9
BRLK	Bradley Lake	1.17	107	P	Pn	00 31 11.9	-0.7
SPWE	Spurr West	1.18	13	P	Pn	00 31 12.8	+0.1
CDD	Cape Douglas	1.23	193	P	Pn	00 31 12.6	-0.6
FOSS	Fourpeaked Sta	1.37	193	P	Pn	00 31 14.3	-0.4
FOPK	Fourpeaked Vol	1.39	188	P	Pn	00 31 14.3	-0.6
SLKM	Skilak Lake	1.48	74	P	Pn	00 31 15.7	-0.3
STLK	Strandline Lak	1.51	24	P	Pn	00 31 16.2	-0.1
SVW2	Sparrevohn	1.56	310	P	Pn	00 31 16.1	-0.9
SVW2				S	Sn	00 31 37.0	-1.3
VOGL	Vogel Lake	1.58	55	P	Pn	00 31 18.2	+1.1
SUA	Susitna One	1.77	40	P	Pn	00 31 19.4	-0.1
KAHC	Katmai Hardscr	1.77	214	P	Pn	00 31 19.1	-0.6
FIB	Fire Island	1.78	53	P	Pn	00 31 20.4	+0.9
SEW	Seward	1.83	89	P	Pn	00 31 19.0	-1.0
RC01	Rabbit Creek A	1.92	58	P	Pn	00 31 20.7	-0.5
KAWH	Katmai	1.96	207	P	Pn	00 31 21.2	-0.5
SKT	Skwentna	2.01	22	P	Pn	00 31 22.1	-0.3
KVTA	Katmai Vly 10	2.08	214	P	Pn	00 31 23.0	-0.3
KAKN	Katmai Knife C	2.10	210	P	Pn	00 31 23.1	-0.4
KAKN				S	Sn	00 31 48.8	-1.2
KELA	Mount Kelaz	2.17	220	P	Pn	00 31 24.1	-0.4
KABU	Katmai Buttres	2.17	212	P	Pn	00 31 24.4	-0.1
KABR	Katmai Barrier	2.22	207	P	Pn	00 31 25.1	-0.1
KDAK	Kodiak Island	2.37	173	P	Pn	00 31 25.4	-1.5
KDAK				S	Sn	00 31 54.2	-1.7
PMR	Palmer	2.44	51	P	Pn	00 31 27.2	-0.5
KNK	Knik Glacier	2.62	58	P	Pn	00 31 28.7	-1.4
GHO	Glory Hole Cre	2.62	49	P	Pn	00 31 28.9	-1.4
PPLA	Purkeypile	2.81	9	ePn	Pn	00 31 33.7	+0.9
PPLA				eSn	Sn	00 32 07.0	+0.5
SML	Sawmill	2.87	52	P	Pn	00 31 32.5	-1.0
OHAK	Old Harbor	2.91	182	P	Pn	00 31 32.1	-1.9
TT01	Tatalina	3.12	335	P	Pn	00 31 35.9	-0.8
TTA	Tatalina	3.14	335	P	Pn	00 31 36.3	-0.8
SCM	Sheep Creek Mo	3.29	56	P	Pn	00 31 37.5	-1.5
HIN	Hinchinbrook I	3.30	82	P	Pn	00 31 37.0	-2.1
CAST	Castle Rocks	3.34	8	P	Pn	00 31 39.5	0.0
VLZ	Valdez	3.48	70	P	Pn	00 31 41.3	-0.1
MID	Middleton Isla	3.49	99	P	Pn	00 31 40.9	-0.6
KTH	Kantishna Hill	3.59	16	P	Pn	00 31 42.5	-0.5
TRF	Thorofare Moun	3.59	21	P	Pn	00 31 42.8	-0.2
EYAK	Cordova Ski Ar	3.68	80	P	Pn	00 31 43.3	-0.7
DIV	Divide	3.75	71	P	Pn	00 31 44.2	-0.8
KLU	Klutina	3.77	66	P	Pn	00 31 43.7	-1.7
CHUM	Lake Minchumin	3.79	5	P	Pn	00 31 45.5	+0.1
RND	Reindeer	3.86	30	P	Pn	00 31 46.5	0.0
DHY	Denali Highway	4.03	40	P	Pn	00 31 48.0	-0.9
BPAW	Bear Paw Mtn.	4.11	13	P	Pn	00 31 49.3	-0.5
BMRM	Bremner River	4.28	75	P	Pn	00 31 51.3	-0.9
BERG	Berg Lake	4.69	83	P	Pn	00 31 57.0	-0.6
VRDI	Verde Repeater	4.87	73	P	Pn	00 31 59.5	-0.7
KHIT	Khitrov Hills	4.91	82	P	Pn	00 31 59.6	-1.0
WRH	Wood River Hil	4.95	26	P	Pn	00 32 00.1	-0.9
CRQM	Cirque	4.97	78	P	Pn	00 32 01.1	-0.5
MLY	Manley	5.04	11	P	Pn	00 32 01.5	-0.8
CCB	Clear Creek Bu	5.16	26	P	Pn	00 32 02.7	-1.1
HDA	Harding Lake	5.17	31	P	Pn	00 32 03.1	-0.8
BARK	Barkley Ridge	5.29	82	P	Pn	00 32 05.5	-0.2
MDM	Murphy Dome	5.35	23	P	Pn	00 32 05.5	-0.9
ISLE	Juniper Island	5.36	80	P	Pn	00 32 06.1	-0.7
KIAG	Kiagna River	5.36	77	P	Pn	00 32 06.5	-0.3
BALM	Baldy	5.38	76	P	Pn	00 32 06.5	-0.5
IL1	Eielson Array	5.48	29	P	Pn	00 32 07.0	-1.2
ILAR	Eielson Array	5.48	29	P	Pn	00 32 07.0	-1.2
	1.8nm,0.3s,baz=210,slow=13,SNR=74						
ILAR				S	Sn	00 33 05.8	-4.2
	1.5nm,0.3s,baz=98,slow=21,SNR=8.5						
ILB	Eielson Array	5.48	29	P	Pn	00 32 07.0	-1.2
BAGL	Bagley Icefiel	5.49	81	P	Pn	00 32 07.6	-0.7
DOT	Dot Lake	5.54	47	ePn	Pn	00 32 08.2	-0.9
DOT				Sn	Sn	00 33 12.1	+0.6
MESA	MESA	5.57	85	P	Pn	00 32 09.4	-0.2
GRNC	Granite Creek	5.65	79	P	Pn	00 32 08.9	-1.9
RKAV	Rock Avalanche	5.86	83	P	Pn	00 32 13.6	+0.1
IM3	Indian Mountai	5.89	357	P	Pn	00 32 13.2	-0.5
TABL	Table Mountain	5.96	82	P	Pn	00 32 14.5	-0.3
YKA	Yellowknife Ar	18.44	66	P	P	00 34 53.8	-1.1
	0.1nm,0.3s,baz=277,slow=10.0,SNR=5.2						
PDAR	Pinedale Array	31.47	104	P	P	00 37 00.9	+1.5
	0.2nm,0.3s,baz=322,slow=8.2,SNR=3.9						
TXAR	Lajitas Array	45.07	110	P	P	00 38 54.5	+1.5
	0.5nm,0.8s,baz=319,slow=5.1,SNR=4.6						
SONM	Songino Array	54.68	306	P	P	00 40 06.4	+1.0
	0.4nm,0.5s,baz=38,slow=9.7,SNR=3.3						
ZALV	Zalesovo Beam	57.24	323	P	P	00 40 22.5	-0.9
	0.7nm,0.5s,baz=25,slow=5.7,SNR=3.8						

*PDA **02** 00:32:48.7±1.1, 38°.53N×26°.73W, h0^{km}±5^{km}, MD3.6, ML2.3, Error ellipse: s-maj=9.3km s-min=1.5km az=31.0*
CSEM 02 00:32:48.7, 38°.53N×26°.73W, h0^{km}, ML2.3, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ADH	Angra Heroismo	0.42	288	eP	Pg	00 32 56.0	-0.7
ADH				eS	Sg	00 33 02.1	0.0
ADH				A	A	00 33 02.8	
	112nm,0.2s						
ADH	Angra Heroismo	0.42	288	eP	Pg	00 32 56.0	-0.7
ADH				eS	Sg	00 33 02.1	0.0
PSET	Sete Cidades	1.06	131	eS	Sg	00 33 18.9	-3.8
PSET				A	A	00 33 20.3	
	14nm,0.1s						
PSET	Sete Cidades	1.06	131	eS	Sg	00 33 18.9	-3.8
PMAN	Manadas	1.07	276	eP	Pg	00 33 05.5	-3.8
PMAN				eS	Sg	00 33 19.0	-4.1
PMAN				A	A	00 33 19.5	
	56nm,0.2s						
PMAN	Manadas	1.07	276	eP	Pg	00 33 05.5	-3.8
PMAN				eS	Sg	00 33 19.0	-4.1
PGRA	Graciosa	1.10	298	eP	Pg	00 33 06.6	-3.2
PGRA				eS	Sg	00 33 20.4	-3.7
PGRA				A	A	00 33 24.6	
	26nm,0.4s						
PGRA	Graciosa	1.10	298	eP	Pg	00 33 06.6	-3.2
PGRA				eS	Sg	00 33 20.4	-3.7
PDA	Ponta Delgada	1.14	132	eS	Sg	00 33 20.7	-4.7
PDA				A	A	00 33 21.4	
	18nm,0.2s						
PDA	Ponta Delgada	1.14	132	eS	Sg	00 33 20.7	-4.7
ROSA	Rosais	1.20	280	eP	Pg	00 33 07.7	-4.0
ROSA				eS	Sg	00 33 22.4	-4.9
ROSA				A	A	00 33 23.2	
	21nm,0.1s						
ROSA	Rosais	1.20	280	eP	Pg	00 33 07.7	-4.0
ROSA				eS	Sg	00 33 22.4	-4.9
PICO	Pico	1.33	269	eP	Pg	00 33 09.7	-4.5
PICO				eS	Sg	00 33 25.6	-5.9
PICO				A	A	00 33 27.7	
	46nm,0.3s						
PICO	Pico	1.33	269	eP	Pg	00 33 09.7	-4.5
PICO				eS	Sg	00 33 25.6	-5.9
PCAN	Candelaria	1.38	268	eP	Pg	00 33 10.1	-5.1
PCAN				eS	Sg	00 33 26.8	-6.2
PCAN				A	A	00 33 29.1	
	21nm,0.2s						
PCAN	Candelaria	1.38	268	eP	Pg	00 33 10.1	-5.1
PCAN				eS	Sg	00 33 26.8	-6.2
BART	Pico Bartolome	1.44	121	eP	Pn	00 33 11.0	-5.1
BART				eS	Sg	00 33 28.1	-6.8
BART				A	A	00 33 29.0	
	25nm,0.5s						
BART	Pico Bartolome	1.44	121	eP	Pn	00 33 11.0	-5.1
BART				eS	Sg	00 33 28.1	-6.8
CALA	Caldeira	1.55	273	eP	Pn	00 33 12.8	-4.8
CALA				eS	Sg	00 33 31.0	-7.5
CALA	Caldeira	1.55	273	eP	Pn	00 33 12.8	-4.8
CALA				eS	Sg	00 33 31.0	-7.5
PCED	Cedros	1.55	274	eP	Pn	00 33 12.0	-5.6
PCED				eS	Sn	00 33 30.7	-7.7
PCED				A	A	00 33 33.0	
	12nm,0.1s						
PCED	Cedros	1.55	274	eP	Pn	00 33 12.0	-5.6
PCED				eS	Sn	00 33 30.7	-7.7
PSMA	Santa Maria	1.98	140	eP	Pn	00 33 19.0	-4.5
PSMA				eS	Sn	00 33 41.3	-7.8
PSMA				A	A	00 33 42.6	
	3.6nm,0.1s						
PSMN	Pico do Norte,	2.01	139	eP	Pn	00 33 19.3	-4.6
PSMN				eS	Sn	00 33 41.8	-8.0
PSMN				A	A	00 33 42.5	
	5.2nm,0.3s						
PSMN	Pico do Norte,	2.01	139	eP	Pn	00 33 19.3	-4.6
PSMN				eS	Sn	00 33 41.8	-8.0

*DDA **02** 00:33:01.8, 41°.27N×43°.85E, h6^{km}, Md2.8*
*TIF **02** 00:33:02.0, 41°.15N×44°.03E, h14^{km}±1^{km}*
*CSEM **02** 00:33:02.6±0.2, 41°.15N×43°.99E, h8^{km}, ML1.6, Error ellipse: s-maj=4.6km s-min=2.8km az=151.0*
ISC 02 00:33:02.5±1.2, **41°.18N**±0°.04×**43°.94E**±0°.03, **h12**^{km}±11^{km}, **n12**, σ**0^{s}22**/24, **Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BGD	Bogdanovka	0.27	287	P	Pb	00 33 09.2	-0.3
BGD				S	Sb	00 33 14.2	0.0
BGD	Bogdanovka	0.27	287	P	Pb	00 33 09.2	-0.3
BGD				S	Sb	00 33 14.2	0.0
AKH	Akhalkalaki	0.41	304	P	Pb	00 33 11.9	+0.1
AKH				S	Sb	00 33 17.8	-0.2
AKH	Akhalkalaki	0.41	304	P	Pb	00 33 11.9	+0.1
AKH				S	Sb	00 33 17.8	-0.2
TBLG	Delisi	0.81	47	P	Pg	00 33 17.9	-0.2
TBLG				S	Sg	00 33 29.1	+0.4
TBLG	Delisi	0.81	47	P	Pg	00 33 17.9	-0.2
TBLG				S	Sg	00 33 29.1	+0.4
DIGO	Kars	0.88	210	P	Pg	00 33 19.5	0.0
DIGO				S	Sb	00 33 31.6	-0.1
DIGO	Kars	0.88	210	iP	Pg	00 33 19.5	0.0
DIGO				iS	Sb	00 33 31.6	-0.1
DUS	Dusheti	1.07	32	P	Pb	00 33 23.0	0.0
DUS				S	Sn	00 33 38.4	+0.1
DUS	Dusheti	1.07	32	P	Pb	00 33 23.0	0.0
DUS				S	Sn	00 33 38.4	+0.1
DGRG	David-gareji	1.11	76	P	Pb	00 33 23.4	-0.2
DGRG				S	Sn	00 33 39.5	+0.3
DGRG	David-gareji	1.11	76	P	Pb	00 33 23.4	-0.2
DGRG				S	Sn	00 33 39.5	+0.3

*ARO **02** 00:57:01.1, 16°N±44°×4°2E±10°0, h15^{km}±99^{km}, ML3.7*
*DHMR **02** 00:57:11.4±0.7, 14°.79N×42°.12E, h14^{km}±9^{km}, ML4.0*
*CSEM **02** 00:57:11.4, 14°.79N×42°.12E, h13^{km}, ML4.0*
ISC 02 00:57:11.4±2.6, **14°.97N**±0°.08×**42°.0E**±0°.1, **h10**^{km}, **n14**, σ**0^{s}77**/23, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAJJ	Hajjah	1.71	65	iP	Pn	00 57 41.2	-0.3
HAJJ				iS	Sb	00 58 04.9	+0.1
HAJJ	Hajjah	1.71	65	iP	Pn	00 57 41.2	-0.3
HAJJ				iS	Sb	00 58 04.9	+0.1
UDYN	Al ‘Udayn	2.15	117	iP	Pn	00 57 46.5	-1.0
UDYN				iS	Sn	00 58 13.4	-1.0
DHBB	Dhamar BB	2.35	99	iP	Pn	00 57 50.0	-0.4
DHBB				iS	Sn	00 58 19.7	+0.2
DHBB	Dhamar BB	2.35	99	iP	Pn	00 57 50.0	-0.4
DHBB				iS	Sn	00 58 19.7	+0.2
TRBA	At Turbah	2.69	130	iP	Pn	00 57 53.5	-1.4
TRBA				iS	Sn	00 58 27.1	-0.5
MAOD	Malaho	2.86	175	eP	Pn	00 57 56.4	-0.8
OBO	Obock	3.22	157	eP	Pn	00 58 01.2	-0.9
TDD	Tadjoura Ara	3.27	164	eP	Pn	00 58 01.8	-0.9
LDLD	Lac de Lave	3.40	172	eP	Pn	00 58 05.0	+0.5
ATD	Arta Tunnel	3.52	166	eP	Pn	00 58 06.0	-0.2
ATD				eS	Sb	00 58 58.1	+1.5
BDHA	Al Bayda’	3.60	105	iP	Pn	00 58 07.7	+0.2
BDHA				iS	Sn	00 58 51.2	+1.0
BDHA				AML	AML	00 59 05.6	
	comp=N,641nm,0.5s						
BDHA	Al Bayda’	3.60	105	iP	Pn	00 58 07.7	+0.2
BDHA				iS	Sn	00 58 51.2	+1.0
	comp=N,320nm,0.5s						
ATA	Atar	3.69	161	eP	Pn	00 58 08.0	-0.4

MAN 02 00:58:34, 9°.17N×125°.60E, h4^{km}, mb3.5, ML3.4, MS3.3, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	1.14	232⇑	iP	Pg	00 58 55.6	-0.3
CGP				iS	Sn	00 59 12.7	-0.2
BIPH	Bislig	1.23	142⇓	iP	Pg	00 58 56.4	-1.2
BIPH				iS	Sg	00 59 12.0	-1.6
BUKP	Musuan	1.39	203	eP	Pg	00 59 00.8	+0.1
BUKP				eS	Sn	00 59 24.2	+5.2
TBP	Tagbilaran	1.79	287	eP	Pg	00 59 09.3	+0.9
TBP				eS	Sg	00 59 31.6	-0.1
LLP	Lapu-Lapu	1.98	305⇓	eP	Pn	00 59 05.8	-2.5
LLP				eS	Sn	00 59 31.3	-2.3
PLP	Palo	2.08	343⇓	eP	Pn	00 59 08.4	-1.3
PLP				iS	Sb	00 59 38.5	-0.1
OCLP	Ormoc	2.11	332	eP	Pn	00 59 08.7	-1.5
OCLP				eS	Sg	00 59 43.1	+1.2
DCPH	Dipolog City	2.30	256⇓	eP	Pn	00 59 12.5	-0.2
MATI	Mati	2.30	164	eP	Pb	00 59 14.5	-1.5
MATI				eS	Sb	00 59 46.2	+1.3
CTBH	Cotabato--PC H	2.35	215⇑	iP	Pn	00 59 14.6	+1.1
BESP	Borongan	2.42	356	eP	Pn	00 59 14.7	+0.2
BESP				eS	Sb	00 59 46.7	-1.8
PAGZ	Pagadian	2.56	239	eP	Pn	00 59 17.1	+0.8
PAGZ				eS	Sn	00 59 49.8	+1.9
IPIL	Ipil	3.30	246	eP	Pn	00 59 25.8	-0.6
RCP	Roxas	3.68	310⇑	eP	Pn	00 59 30.7	-1.1

*ISCJB **02** 01:00:40.4±1.3, 36°.12N±0°.04×142°.1E±0°.1, h23^{km}, mb3.5/3, Error ellipse: s-maj=14.7km s-min=5.4km az=2.5*
*JMA **02** 01:00:41.0±0.2, 36°.11N×142°.13E, h58^{km}, M3.2*
*IDC **02** 01:00:42.4±2.9, 36°.56N×141°.84E, h0^{km}, mb3.5/3, mb1 3.6/4, mb1mx3.3/43, mbtmp3.4/4, ML3.1/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/36, Error ellipse: s-maj=72.3km s-min=31.6km az=59.0*
ISC 02 01:00:40.4±1.5, **36°.18N**±0°.05×**142°.1E**±0°.1, **h23**^{km}, **n18**, σ**1^{s}75**/22, **mb3.6**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	1.13	245	P	Pb	01 01 00.8	-0.5
JHO	Hitachi	1.33	289	P	Pb	01 01 04.0	-0.6
ONAJ	Iwakimizuishiy	1.41	311	P	Pb	01 01 05.4	-0.7
JFK	Kawauchi	1.55	320	P	Pb	01 01 07.7	-0.8
JFK				eS	Sb	01 01 27.8	+0.1
BSO1	Boso 1	1.79	212	P	Pn	01 01 09.1	-0.3
BSO1				S	Sn	01 01 31.2	+0.1
BSO3	Boso 3	1.91	224	P	Pn	01 01 10.9	-0.3
JFT	Otama	1.96	313	P	Pb	01 01 14.4	-1.0
JFT				eS	Sb	01 01 37.9	-1.5
JAG	Ashikaga	2.17	277	P	Pn	01 01 15.9	+0.7
JRY	Ryogami san	2.62	267	P	Pn	01 01 21.7	+0.4
JOD2	Odawara 2	2.64	251	P	Pn	01 01 22.1	+0.5
JOD2				eS	Sn	01 01 52.8	0.0
JMK	Ichinoseki	2.86	346	eS	Sb	01 02 00.5	-4.7
MJAR	Matsushiro Arr	3.18	278	Pn	Pn	01 01 30.5	+1.5
	3.1nm,0.3s,baz=89,slow=15,SNR=13						
MAT	Matsushiro	3.18	278	P	Pn	01 01 30.4	+1.3
MAT				eS	Sb	01 02 12.6	-2.1
JHJ	Hachijo jima 2	3.61	213	Pn	Pn	01 01 36.0	+1.0
	13nm,0.3s,baz=85,slow=23,SNR=3.6						
JHJ				Sn	Sn	01 02 13.3	-3.6
	17nm,0.3s,baz=71,slow=22,SNR=4.5						
KSRS	Korea Array	11.46	281	LR	LR	01 07 37.8	
	comp=Z,14nm,19.5s,baz=88,slow=37						
SONM	Songino Array	28.74	305	P	P	01 06 37.9	+1.7
	0.7nm,0.8s,baz=66,slow=3.6,SNR=3.5						
MKAR	Makanchi Array	45.06	303	P	P	01 08 56.5	+2.1
	0.7nm,0.8s,baz=82,slow=10,SNR=3.1						
WRA	Warramunga Arr	56.30	189	P	P	01 10 27.1	+7.7
	0.5nm,0.8s,baz=1.1,slow=7.4,SNR=4.7						

*ISCJB **02** 01:18:37.9±0.4, 39°.05N±0°.03×29°.01E±0°.04, h9^{km}, Error ellipse: s-maj=4.5km s-min=3.8km az=174.4*
*DDA **02** 01:18:37.5, 39°.10N×29°.02E, h5^{km}, Ml2.9*
*ISK **02** 01:18:37.5, 39°.05N×28°.99E, h8^{km}, MD2.8*
*CSEM **02** 01:18:37.9±0.1, 39°.06N×29°.01E, h5^{km}, ML2.9, Error ellipse: s-maj=2.5km s-min=2.3km az=84.0*
ISC 02 01:18:37.7±0.8, **39°.07N**±0°.02×**29°.03E**±0°.03, **h9**^{km}, **n44**, σ**0^{s}71**/52, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.24	264	P	Pg	01 18 42.5	-0.1
DEMI				S	Sg	01 18 46.0	+0.1
DEMI	Demirci	0.24	264	iP	Pg	01 18 42.5	-0.1
DEMI				iS	Sg	01 18 46.0	+0.1
GDZ	Gediz	0.36	86	P	Pg	01 18 44.7	-0.1
GDZ	Gediz	0.36	86	iP	Pg	01 18 44.7	-0.1
TVSB	Tavsanli	0.51	41	ePG	Pg	01 18 48.0	+0.4
TVSB	Tavsanli	0.51	41	ePg	Pg	01 18 48.0	+0.4
DST	Dursunbey	0.62	330	ePG	Pg	01 18 50.1	+0.4
DST	Dursunbey	0.62	330	ePg	Pg	01 18 50.1	+0.4
KULA	Kula-Manisa	0.62	207	ePG	Pg	01 18 49.6	-0.1
KULA				eSG	Sg	01 18 57.7	-0.2
KULA	Kula-Manisa	0.62	207	ePg	Pg	01 18 49.6	-0.1
KULA				eSg	Sg	01 18 57.7	-0.2
KHAL	Karahalli	0.79	152	P	Pg	01 18 53.2	+0.4
KHAL	Karahalli	0.79	152	iP	Pg	01 18 53.2	+0.4
KHL	Karahalli	0.84	152	ePG	Pb	01 18 54.6	+0.1
KHL				eSG	Sb	01 19 06.0	+0.1
KHL	Karahalli	0.84	152	ePg	Pb	01 18 54.6	+0.1
KHL				eSg	Sb	01 19 06.0	+0.1
AKHS	Akhisar	0.96	259	P	Pn	01 18 57.0	-0.4
AKHS	Akhisar	0.96	259	iP	Pn	01 18 57.0	-0.4
AKS	Akhisar	0.96	259	ePG	Pb	01 18 56.5	0.0
AKS	Akhisar	0.96	259	ePg	Pb	01 18 56.6	0.0
BALB	Balikesir	1.06	303	ePG	Pg	01 18 58.0	0.0
BALB	Balikesir	1.06	303	ePg	Pg	01 18 58.0	0.0
IGD	Bursa	1.20	6	iP	Pb	01 18 59.2	-1.5
BALY	Balya	1.28	302	P	Pn	01 19 01.9	+0.1
BALY	Balya	1.28	302	iP	Pn	01 19 01.9	+0.1
CAVI	Cavuskoy	1.30	29	ePN	Pg	01 19 03.3	+0.7
CAVI	Cavuskoy	1.30	29	ePn	Pg	01 19 03.3	+0.7
KCTX	Karacabey (Bur	1.30	337	ePN	Pg	01 19 02.8	+0.1
KCTX				eSN	Sn	01 19 20.3	+0.6
KCTX	Karacabey (Bur	1.30	337	ePn	Pg	01 19 02.8	+0.1
KCTX				eSn	Sn	01 19 20.3	+0.6
MDNY	Mudanya-Bursa	1.30	355	ePN	Pb	01 19 02.6	+0.2
MDNY	Mudanya-Bursa	1.30	355	ePn	Pb	01 19 02.6	+0.2
GONE	Gonen-Balikesi	1.42	314	ePN	Pg	01 19 05.1	+0.1
GONE	Gonen-Balikesi	1.42	314	ePn	Pg	01 19 05.1	+0.1
AYDB	Zeytinkoy-Aydi	1.43	219	ePN	Pn	01 19 03.6	-0.3
AYDB	Zeytinkoy-Aydi	1.43	219	ePn	Pn	01 19 03.6	-0.3
ADVT	Abdulvahap	1.47	22	ePN	Pb	01 19 05.4	+0.2
ADVT	Abdulvahap	1.47	22	ePn	Pb	01 19 05.4	+0.2
ARMT	Armutlu	1.50	355	ePN	Pb	01 19 06.3	+0.6
ARMT	Armutlu	1.50	355	ePn	Pb	01 19 06.3	+0.6
EDC	Edincik	1.56	325	ePN	Pn	01 19 06.0	+0.4
EDC	Edincik	1.56	325	ePn	Pn	01 19 06.0	+0.4
KNL	Bal˜–kesir	1.67	317	iP	Pn	01 19 07.3	+0.2
GULT	Gulveren	1.78	40	ePN	Pb	01 19 10.0	-0.6
GULT	Gulveren	1.78	40	ePn	Pb	01 19 10.0	-0.6
DGB	˜zmir	1.96	240	iP	Pg	01 19 16.6	+1.3
KESN	Edirne-Kesan	2.52	315	iP	Pn	01 19 15.2	-3.9

*ISCJB **02** 01:23:56.5±1.0, 5°.2S±0°.1×154°.2E±0°.2, h400^{km}, mb3.9/9, Error ellipse: s-maj=29.1km s-min=12.6km az=16.4*
*IDC **02** 01:23:57.0±4.7, 5°.24S×154°.36E, h394^{km}±48^{km}, mb3.6/9, mb1 3.7/11, mb1mx3.4/33, mbtmp4.3/11, Error ellipse: s-maj=36.4km s-min=15.0km az=97.0*
ISC 02 01:23:57.8±1.0, **5°.2S**±0°.1×**154°.4E**±0°.2, **h400**^{km}, **n13**, σ**1^{s}83**/14, **mb3.8**/9, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	13.88	280	P	P	01 26 57.5	-0.9
	0.2nm,0.3s,baz=97,slow=22,SNR=10						
CTA	Charters Tower	16.80	207	P	P	01 27 30.1	+0.3
	1.6nm,0.3s,baz=31,slow=10,SNR=17						
WRA	Warramunga Arr	24.40	231	P	P	01 28 41.3	-1.0
	10nm,0.7s,baz=55,slow=9.9,SNR=116						
ASAR	Alice Springs	26.96	225	P	P	01 29 03.6	-1.5
	3.6nm,0.3s,baz=55,slow=9.1,SNR=54						
ASAR				pP	PP	01 30 21.7	+5.2
	0.9nm,0.7s,baz=67,slow=9.6,SNR=3.4						
STKA	Stephens Creek	29.14	203	P	P	01 29 23.0	-1.1
	1.6nm,0.5s,baz=19,slow=10,SNR=5.3						
MJAR	Matsushiro Arr	44.16	341	P	P	01 31 28.2	-0.8
	1.9nm,0.5s,baz=167,slow=8.5,SNR=3.5						
USRK	Ussuriysk Ar.	53.12	340	P	P	01 32 36.6	+0.6
	2.1nm,0.7s,baz=169,slow=11,SNR=6.0						
PETK	Petropavlovsk-	58.13	2	P	P	01 33 11.9	+0.8
	2.7nm,0.6s,baz=139,slow=6.4,SNR=4.5						
SONM	Songino Array	67.47	327	P	P	01 34 13.2	+0.9
	0.8nm,0.4s,baz=136,slow=5.7,SNR=5.0						
MKAR	Makanchi Array	81.63	319	P	P	01 35 33.0	+0.4
	1.1nm,0.6s,baz=102,slow=5.7,SNR=10						
ILAR	Eielson Array	81.92	22	P	P	01 35 32.9	-0.8
	1.5nm,0.5s,baz=246,slow=5.1,SNR=26						
BDFB	Brasilia	149.69	133	PKPbc	PKPbc	01 43 02.8	+0.5
	1.0nm,0.4s,baz=184,slow=3.1,SNR=3.4						
TORD	Torodi Ar. Bea	151.91	288	PKPbc	PKPbc	01 43 06.5	-0.7
	0.1nm,0.3s,baz=95,slow=2.1,SNR=6.1						

*NIED **02** 01:28:00, 37°.00N×140°.70E, h23^{km}, Mw3.5 Best double couple: M$_0$1.99000×10^{14} NP1:φ$_s$288.00000°, δ51.00000°, λ-179.00000°. NP2:φ$_s$197.00000°, δ89.00000°, λ-39.00000°.*
*ISCJB **02** 01:28:17.9±0.9, 36°.92N±0°.04×140°.84E±0°.08, h17^{km}±8^{km}, mb3.9/1, Error ellipse: s-maj=10.9km s-min=5.4km az=19.4*
*JMA **02** 01:28:18.8, 36°.96N×140°.70E, h17^{km}±1^{km}, M3.9 Broadband fault plane solution: P waves. NP1: φ$_s$201.00000°, δ75.00000°, λ-32.00000°. NP2: φ$_s$300.00000°, δ59.00000°, λ-163.00000°. Principal axes: T Plg11.0000°, Azm253.0000°; N Plg55.0000°, Azm359.0000°; P Plg33.0000°, Azm156.0000°;*
JMA Felt II J1.
*IDC **02** 01:28:18.1±4.2, 36°.56N×140°.80E, h0^{km}, mb3.8/1, mb1 3.9/3, mb1mx3.4/29, mbtmp3.6/3, ML3.6/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/43 Error ellipse: s-maj=81.4km s-min=28.6km az=29.0*
ISC 02 01:28:18.3±1.1, **36°.94N**±0°.04×**140°.76E**±0°.07, **h20**^{km}±4^{km},

n11, σ0ˢ47/18, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.16	10	⇑P	Pg	01 28 23.0	0.0
ONAJ				S	Sg	01 28 25.9	-0.3
JHO	Hitachi	0.37	205	⇑P	Pg	01 28 26.0	-0.1
JHO				S	Sg	01 28 30.9	-0.5
JFK	Kawauchi	0.43	12	⇓P	Pg	01 28 27.2	-0.1
JFK				S	Sg	01 28 33.3	-0.1
JFT	Otama	0.67	329	⇓P	Pg	01 28 31.2	-0.4
JFT				S	Sb	01 28 39.8	-0.4
JSB	Shiboa	0.68	272	⇑P	Pb	01 28 31.6	+0.1
JSB				S	Sb	01 28 40.3	-0.1
JYT	Yasato	0.85	213	⇑P	Pb	01 28 34.1	-0.3
JMM	Marumori	0.92	1	⇓P	Pb	01 28 35.4	-0.3
JMM				S	Sb	01 28 47.2	-0.3
MJAR	Matsushiro Arr	2.09	260	Pn	Pn	01 28 53.2	+0.9
	38nm,0.3s,baz=84,slow=15,SNR=150						
MJAR				Sn	Sb	01 29 20.7	-0.5
	29nm,0.3s,baz=79,slow=30,SNR=11						
MJAR				LR	LR	01 30 01.1	
	comp=Z,108nm,18.4s,baz=100,slow=50						
MAT	Matsushiro	2.09	260	P	Pn	01 28 53.2	+0.9
MAT				S	Sb	01 29 20.7	-0.5
KSRS	Korea Array	10.26	277	Pn	Pn	01 30 50.2	+5.8
	0.2nm,0.3s,baz=94,slow=15,SNR=5.5						
WRA	Warramunga Arr	56.90	187	P	P	01 38 02.1	+0.1
	0.7nm,0.6s,baz=4.7,slow=7.4,SNR=9.9						

*ISCJB **02** 01:53:54.7±0.3, 1°.55N±0°.04×126°.72E±0°.05, h47km, mb4.4/24, MS2.9/3, Error ellipse: s-maj=7.9km s-min=5.8km az=164.8*
*BJI **02** 01:53:56.8, 1°.05N×126°.95E, h104km, mb4.6/4, mB4.8/4*
*DJA **02** 01:53:57.5±0.4, 1°N±5°×12°7E±°, h10km, M4.4/4, mB5.1/2, mb4.7/4, MLv4.2/4, Mw(mB)4.5/2*
*IDC **02** 01:53:58.6±3.7, 1°.40N×126°.48E, h69km±36km, mb3.9/16, mb1 4.0/18, mb1mx3.9/41, mbtmp4.2/18, ML4.1/2, MS2.9/4, Ms1 3.0/4, ms1mx2.6/46, Error ellipse: s-maj=28.0km s-min=12.5km az=78.0*
*NEIC **02** 01:53:58.8±1.1, 1°.42N×126°.67E, h76km±11km, mb4.6/9, Error ellipse: s-maj=13.0km s-min=7.1km az=53.0*
ISC 02 01:53:56.2±0.5, 1°.57N±0°.06×126°.75E±0°.07, h47km, n53, σ1ˢ71/50, mb4.3/24, MS3.1/3, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBMI	Labuha	2.32	161	P	Pn	01 54 33.9	+2.0
SGSI	Sangihe	2.43	330	P	Pn	01 54 33.3	-0.1
KMSI	Cibinong	2.94	250	P	Pn	01 54 41.0	+0.6
SANI	Sanana	3.67	192	P	Pn	01 54 49.6	-0.9
LUWI	Luwuk	4.75	237	P	Pn	01 55 07.1	+1.9
LUWI	Luwuk	4.75	237	ePn	Pn	01 55 07.2	+2.0
LUWI				eSn	Sn	01 56 03.2	+4.2
NLAI	Namlea	4.79	176	P	Pn	01 55 07.7	+1.9
MRSI	Marisa	4.92	257	P	Pn	01 55 05.7	-2.0
FAKI	Fak Fak	7.08	129	ePn	Pn	01 55 37.6	+0.3
TTSI	Tana Toraja	8.30	237	P	Pn	01 55 52.4	-1.7
	30nm,0.6s,2μm						
MYLDM	Lahad Datu	8.98	294	ePn	Pn	01 56 06.3	+3.0
KAPI	Kappang	9.57	227	P	Pn	01 56 11.0	-0.4
	1.7nm,0.3s,baz=55,slow=7.0,SNR=6.2						
KAPI	Kappang	9.57	227	Pn	Pn	01 56 10.6	-0.9
TWSI	Taliwang, Sumb	14.20	224	P	P	01 57 21.1	+0.2
SBUM	Sibu	14.54	274	ePn	P	01 57 24.4	-0.4
KSM	Kuching	16.43	270	ePn	Pn	01 57 44.5	+0.9
	9.4nm,0.7s						
FITZ	Fitzroy Crossi	19.58	183	P	P	01 58 18.1	-2.3
	0.5nm,0.3s,baz=16,slow=11,SNR=12						
FITZ				LR	LR	02 05 31.0	
	comp=Z,25nm,20.1s,baz=116,slow=36						
FITZ	Fitzroy Crossi	19.58	183	eP	P	01 58 18.2	-2.2
	12nm,1.3s						
COEN	Coen	22.43	134	eP	P	01 58 51.3	+0.1
	67nm,1.8s						
WRAB	Tennant Creek	22.63	161	eP	P	01 58 52.9	-0.5
	16nm,0.9s						
WRA	Warramunga Arr	22.64	161	P	P	01 58 52.5	-0.9
	12nm,0.5s,baz=339,slow=11,SNR=97						
WB2	Warramunga Arr	22.64	161	eP	P	01 58 52.5	-0.9
	14nm,0.8s						
PMG	Port Moresby	23.07	119	LR	LR	02 09 18.6	
	comp=Z,59nm,18.5s,baz=181,slow=40						
ASAR	Alice Springs	26.03	165	P	P	01 59 24.9	-0.3
	2.6nm,0.4s,baz=348,slow=9.6,SNR=57						
PSI	Prapat	27.83	273	LR	LR	02 11 13.4	
	comp=Z,58nm,19.5s,baz=66,slow=38						
CMAR	Chiang Mai Arr	32.02	303	LR	LR	02 14 35.2	
	comp=Z,9.6nm,21.3s,baz=190,slow=39						
KSAR	Wonju Array Be	35.71	2	P	P	02 00 52.6	+2.4
KSRS	Korea Array	35.73	2	P	P	02 00 52.6	+2.3
	0.7nm,0.4s,baz=186,slow=10,SNR=5.9						
STKA	Stephens Creek	36.12	158	P	P	02 00 53.8	-0.1
	1.7nm,0.4s,baz=334,slow=8.8,SNR=5.9						
MJAR	Matsushiro Arr	36.38	16	P	P	02 00 58.5	+2.5
	0.9nm,0.4s,baz=183,slow=10.0,SNR=2.7						
USRK	Ussuriysk Ar.	42.70	6	P	P	02 01 50.7	+2.2
	2.4nm,0.6s,baz=179,slow=6.2,SNR=7.1						
KLR	Kul'dur	47.67	4	P	P	02 02 29.6	+1.7
	1.3nm,0.4s,baz=221,slow=3.0,SNR=5.6						
SONM	Songino Array	49.34	342	P	P	02 02 41.4	+0.5
	0.6nm,0.5s,baz=161,slow=7.1,SNR=4.3						
PETK	Petropavlovsk-	57.42	22	pP	pP	02 03 59.7	+6.6
	1.6nm,0.5s,baz=189,slow=7.9,SNR=2.2						
MKAR	Makanchi Array	59.34	326	P	P	02 03 52.9	-0.7
	3.2nm,0.4s,baz=121,slow=7.8,SNR=39						
MKAR	Makanchi Array	59.34	326	eP	P	02 03 52.6	-0.9
TKM2	Tokmak 2	61.38	319	eP	P	02 04 07.0	-0.7
	3.4nm,0.7s						
ZALV	Zalesovo Beam	62.51	334	P	P	02 04 14.2	-0.6
	1.0nm,0.4s,baz=126,slow=9.9,SNR=4.0						
KURK	Kurchatov	63.56	328	eP	P	02 04 21.6	-0.4
	10.0nm,0.5s						
KKAR	Karatay Array	64.82	318	eP	P	02 04 29.5	-0.9
BRVK	Borovoye	69.20	327	eP	P	02 04 57.3	-0.7
	13nm,1.0s						
ZRNK	Zerenda	69.85	327	eP	P	02 05 01.3	-0.6
	5.1nm,0.6s						
GEYT	Alibeck	72.26	309	P	P	02 05 16.1	-0.9
	2.9nm,0.8s,baz=172,slow=4.3,SNR=6.7						
ABKAR	Akbulak array	73.83	321	eP	P	02 05 25.5	-0.4
ARU	Arti	76.76	328	eP	P	02 05 41.5	-1.1
	7.5nm,0.5s						
VNDA	Vanda	81.30	173	P	P	02 06 07.2	+0.2
	1.2nm,0.5s,baz=316,slow=6.3,SNR=14						
KBZ	Khabaz	84.47	314	P	P	02 06 25.5	+1.4
	2.3nm,0.8s,baz=72,slow=2.7,SNR=5.3						
ILAR	Eielson Array	87.04	25	P	P	02 06 37.0	+0.5
	0.4nm,0.7s,baz=234,slow=4.3,SNR=4.0						
SYO	Syowa Base	90.43	201	⇓eP	P	02 06 52.0	-0.3
BRTR	Keskin Array B	91.40	310	P	P	02 06 56.1	-1.7
	0.6nm,0.8s,baz=111,slow=6.8,SNR=4.8						
BR231	Keskin MP Arra	92.06	310	eP	P	02 06 57.3	-3.4
FINES	FINESS Array B	93.73	332	P	P	02 07 08.4	+0.6
	1.2nm,0.7s,baz=113,slow=2.9,SNR=6.2						
ISCO	Idaho Springs	116.94	43	ePKPdf	PKPdf	02 12 31.5	-5.1

*IDC **02** 01:58:27.8±1.1, 26°.83N×143°.88E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.7/43, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=30.5km s-min=18.9km az=87.0*
*ISCJB **02** 01:58:31.1±0.9, 26°.8N±0°.1×143°.8E±0°.1, h33km, mb3.9/5, Error ellipse: s-maj=17.2km s-min=11.6km az=30.6*
ISC 02 01:58:32.9±1.1, 26°.9N±0°.1×143°.8E±0°.1, h35km, n8, σ1ˢ07/9, mb3.6/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	1.41	278	Pn	Pn	01 58 55.9	-0.1
JCJ				Sn	Sn	01 59 13.4	+0.1
MJAR	Matsushiro Arr	10.70	335	Pn	Pn	02 01 02.2	-1.4
	0.8nm,0.3s,baz=153,slow=10.0,SNR=7.5						
KSRS	Korea Array	17.01	312	Pn	P	02 02 30.4	+0.9
	0.2nm,0.3s,baz=135,slow=16,SNR=3.7						
KLR	Kul'dur	24.15	341	P	P	02 03 47.3	+1.8
	0.6nm,0.6s,baz=151,slow=11,SNR=5.4						
WRA	Warramunga Arr	47.45	192	P	P	02 07 03.8	-0.5
	3.6nm,0.8s,baz=12,slow=8.3,SNR=16						
FITZ	Fitzroy Crossi	48.07	203	P	P	02 07 09.6	+0.5
	4.7nm,0.8s,baz=16,slow=10,SNR=6.4						
ASAR	Alice Springs	51.17	192	P	P	02 07 32.0	-0.7
	0.4nm,0.6s,baz=12,slow=6.0,SNR=6.0						
ILAR	Eielson Array	57.21	28	P	P	02 08 16.3	0.0
	0.3nm,0.6s,baz=253,slow=6.2,SNR=3.0						

*NIED **02** 02:03:00, 38°.80N×142°.20E, h71km, Mw4.4 Best double couple: M0 4.16000×10^15 NP1:φs105.00000°, δ51.00000°, λ-140.00000°. NP2:φs347.00000°, δ60.00000°, λ-47.00000°.*
JMA 02 02:03:55.7±0.1, 38°.76N×142°.18E, h37km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.51	309	P	Pn	02 04 06.4	-0.1
OFUJ				eS	Sn	02 04 13.7	-0.3
JIO	Ouri	0.72	245	P	Pn	02 04 09.1	-0.2
JIO				eS	Sn	02 04 18.0	-1.1
JMK	Ichinoseki	0.77	285	P	Pn	02 04 10.2	+0.2
JMK				eS	Sn	02 04 20.2	-0.2
JOM	Ohasama	0.99	316	P	Pn	02 04 13.4	+0.3
JOM				eS	Sn	02 04 26.0	+0.2
JTH	Tanohata	1.20	348	P	Pn	02 04 15.9	-0.1
JOU	Okura	1.25	252	P	Pn	02 04 17.2	+0.6
JOU				eS	Sn	02 04 33.0	+0.8
JRG	Rokugo	1.36	298	P	Pn	02 04 19.0	+0.9
JMM	Marumori	1.41	231	P	Pn	02 04 18.7	-0.1
JMM				eS	Sn	02 04 36.0	-0.1
JYK	Kaneyama	1.43	277	P	Pn	02 04 19.9	+0.8
JYK				eS	Sn	02 04 38.2	+1.6

*NIED **02** 02:15:00, 38°.20N×141°.80E, h50km, Mw4.1 Best double couple: M0 1.68000×10^15 NP1:φs10.00000°, δ27.00000°, λ98.00000°. NP2:φs180.00000°, δ63.00000°, λ86.00000°.*
*ISCJB **02** 02:15:36.8±0.7, 38°.17N±0°.04×141°.80E±0°.08, h61km±5km, mb4.0/18, Error ellipse: s-maj=11.4km s-min=5.4km az=24.4*
*JMA **02** 02:15:37.7±0.1, 38°.17N×141°.76E, h55km±1km, M4.0*
JMA Felt II J1.
*IDC **02** 02:15:39.8±2.3, 38°.14N×141°.68E, h74km±21km, mb3.7/18, mb1 3.9/22, mb1mx3.8/36, mbtmp4.0/22, MS2.9/6, Ms1 2.9/6, ms1mx2.7/56, Error ellipse: s-maj=18.2km s-min=13.7km az=90.0*
ISC 02 02:15:37.0±1.1, 38°.14N±0°.05×141°.89E±0°.08, h49km±9km, n47, σ1ˢ17/51, mb4.1/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	0.53	307	P	Pn	02 15 48.6	+0.1
JIO				eS	Sn	02 15 56.1	-0.6
JMM	Marumori	0.91	253	P	Pn	02 15 53.0	-0.4
JMM				eS	Sn	02 16 04.1	-1.4
OFUJ	Ofunato	0.95	350	P	Pn	02 15 54.3	+0.2
OFUJ				eS	Sn	02 16 06.3	-0.3
JMK	Ichinoseki	0.96	327	P	Pn	02 15 54.3	+0.1
JMK				eS	Sn	02 16 06.3	-0.6
JOU	Okura	0.99	283	P	Pn	02 15 54.3	-0.3
JOU				eS	Sn	02 16 06.4	-1.1
JFK	Kawauchi	1.11	226	P	Pn	02 15 56.4	+0.1
JFT	Otama	1.38	244	P	Pn	02 16 00.2	+0.4
JFT				eS	Sn	02 16 17.1	+0.2
JOM	Ohasama	1.41	341	P	Pn	02 16 00.7	+0.4
JOM				eS	Sn	02 16 17.9	+0.2
JYK	Kaneyama	1.43	303	P	Pn	02 16 00.2	-0.3
JYS	Shirataka	1.44	274	P	Pn	02 16 00.5	-0.2
JYS				eS	Sn	02 16 17.7	-0.7
JRG	Rokugo	1.59	322	P	Pn	02 16 03.1	+0.4
JYA	Atsumi	1.77	285	P	Pn	02 16 04.9	-0.3
MJAR	Matsushiro Arr	3.34	243	P	Pn	02 16 28.1	+1.4
	8.3nm,0.3s,baz=63,slow=11,SNR=52						
MJAR				LR	LR	02 18 03.1	
	comp=Z,251nm,21.0s,baz=60,slow=45						
MAT	Matsushiro	3.34	243	P	Pn	02 16 27.7	+1.0
MAT				S	Sn	02 17 09.8	+4.6
JHJ	Hachijo jima 2	5.30	200	P	Pn	02 16 54.4	+0.8
	20nm,0.3s,baz=257,slow=15,SNR=4.1						
JHJ				S	Sn	02 17 50.2	-3.1
	36nm,0.3s,baz=80,slow=19,SNR=3.6						
JHJ				LR	LR	02 18 46.3	
	comp=Z,51nm,18.6s,baz=146,slow=36						
ASAJ	Asahikawa	5.99	5	P	Pn	02 17 02.8	-0.2
	2.9nm,0.3s,baz=223,slow=8.5,SNR=7.0						
USRK	Ussuriysk Ar.	9.61	312	P	Pn	02 17 53.2	+0.7
	0.7nm,0.3s,baz=125,slow=14,SNR=13						
USRK				LR	LR	02 21 15.7	
	comp=Z,94nm,20.7s,baz=118,slow=35						
JNU	Nakatsue	10.26	244	P	Pn	02 18 02.6	+0.9
	0.1nm,0.3s,baz=45,slow=5.7,SNR=2.4						
JCJ	Chichijima	11.02	179	LR	LR	02 22 52.4	
	comp=Z,60nm,20.1s,baz=129,slow=39						
KSRS	Korea Array	11.07	271	P	Pn	02 18 15.9	+3.2
	0.3nm,0.3s,baz=84,slow=14,SNR=5.2						
KSRS				LR	LR	02 22 13.0	
	comp=Z,51nm,20.9s,baz=77,slow=36						
SEY	Seymchan	25.63	11	P	P	02 21 02.7	+1.0
	1.3nm,0.2s,baz=187,slow=8.3,SNR=8.0						
SONM	Songino Array	27.50	302	P	P	02 21 19.2	+0.4
	0.4nm,0.4s,baz=103,slow=13,SNR=3.4						
H11N2	WAKE ISLAND Hy	28.41	123	T	T	02 51 40.6	
	baz=316,slow=75,SNR=609						
H11N1	WAKE ISLAND Hy	28.42	123	T	T	02 51 49.8	
	baz=316,slow=75,SNR=435						
H11N3	WAKE ISLAND Hy	28.43	123	T	T	02 51 47.8	
	baz=316,slow=75,SNR=485						
H11S1	WAKE ISLAND Hy	29.17	125	T	T	02 52 47.8	
	baz=318,slow=76,SNR=263						
H11S3	WAKE ISLAND Hy	29.17	125	T	T	02 52 43.5	
	baz=318,slow=76,SNR=174						
H11S2	WAKE ISLAND Hy	29.18	125	T	T	02 52 48.0	
	baz=318,slow=76,SNR=117						
ZALV	Zalesovo Beam	41.46	311	P	P	02 23 17.7	-1.1
	1.6nm,0.3s,baz=88,slow=7.4,SNR=5.4						
ZALV				pP	pP	02 23 31.0	-0.7
	1.3nm,0.6s,baz=93,slow=7.4,SNR=2.9						
ZALV				PcP	PcP	02 25 15.4	-0.3
	0.8nm,0.3s,baz=90,slow=3.3,SNR=2.6						
MKAR	Makanchi Array	43.86	301	P	P	02 23 37.6	-0.8
	1.0nm,0.7s,baz=83,slow=10.0,SNR=8.4						
ILAR	Eielson Array	48.36	33	P	P	02 24 14.0	+0.5
	1.2nm,0.7s,baz=269,slow=6.7,SNR=15						
INK	Inuvik	53.23	28	P	P	02 24 50.9	+0.9
	2.0nm,0.6s,baz=270,slow=3.0,SNR=3.4						
WRA	Warramunga Arr	58.21	188	P	P	02 25 25.7	-0.5
	2.1nm,0.5s,baz=6.1,slow=7.1,SNR=43						
ASAR	Alice Springs	61.94	188	P	P	02 25 51.6	-0.1
	1.8nm,0.7s,baz=13,slow=6.7,SNR=17						
YKA	Yellowknife Ar	62.66	31	P	P	02 25 56.3	+0.1
	0.3nm,0.6s,baz=296,slow=6.8,SNR=3.9						
ARCES	ARCESS Array B	63.09	339	P	P	02 25 58.4	-0.6
	2.8nm,0.8s,baz=52,slow=7.9,SNR=8.8						
FINES	FINESS Array B	68.01	332	P	P	02 26 29.8	-0.9
	1.3nm,0.6s,baz=37,slow=8.2,SNR=9.1						
NB2	NORSAR Subarra	73.31	337	P	P	02 27 02.2	-0.9
	comp=Z,1.0nm,0.6s,baz=39,slow=6.2						
NOA	NORSAR Array B	73.31	337	P	P	02 27 02.6	-0.5
	comp=Z,1.7nm,0.7s,baz=51,slow=7.1,SNR=5.4						
AKASG	Malin Array Be	73.65	322	P	P	02 27 04.0	-1.2
	comp=Z,0.8nm,0.3s,baz=46,slow=6.2,SNR=6.5						
NVAR	Mina Array Bea	74.03	54	P	P	02 27 09.3	+1.3
	comp=Z,0.3nm,0.4s,baz=309,slow=4.2,SNR=5.1						
PDAR	Pinedale Array	76.62	46	P	P	02 27 23.6	+0.8
	comp=Z,1.0nm,0.6s,baz=256,slow=2.4,SNR=7.4						
BRTR	Keskin Array B	78.40	312	P	P	02 27 32.0	-0.7
	comp=Z,0.3nm,0.6s,baz=50,slow=7.8,SNR=3.2						
GERES	GERESS Array B	81.97	328	P	P	02 27 51.1	-0.5
	comp=Z,0.4nm,0.6s,baz=30,slow=8.0,SNR=3.2						
EIL	Elat	84.09	303	LR	LR	03 12 07.4	
	comp=Z,16nm,18.3s,baz=51,slow=40						
TXAR	Lajitas Array	89.15	53	P	P	02 28 28.3	+0.7
	comp=Z,1.2nm,0.8s,baz=292,slow=3.2,SNR=10						
LPAZ	La Paz	145.80	59	PKPbc	PKPdf	02 35 11.5	+0.1
	comp=Z,2.1nm,0.6s,baz=345,slow=4.2,SNR=18						

*NIED **02** 02:26:00, 36°.30N×143°.70E, h8km, Mw3.6 Best double couple: M0 3.16000×10^14 NP1:φs36.00000°, δ35.00000°, λ-83.00000°. NP2:φs208.00000°, δ55.00000°, λ-95.00000°.*
*IDC **02** 02:26:32.9±1.4, 36°.26N×143°.88E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.6/52, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=33.5km s-min=26.3km az=120.0*
*ISCJB **02** 02:26:35.6±0.8, 36°.35N±0°.06×143°.79E±0°.06, h33km, mb3.7/5, Error ellipse: s-maj=8.8km s-min=6.3km az=161.2*
*JMA **02** 02:26:37.9±0.3, 36°.33N×143°.67E, h65km, M3.8*
ISC 02 02:26:37.0±1.0, 36°.42N±0°.07×143°.91E±0°.08, h35km, n27, σ2ˢ26/30, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	2.59	286	P	Pn	02 27 16.3	-0.1
ONAJ				S	Sn	02 27 45.5	-1.1
JFK	Kawauchi	2.61	292	P	Pn	02 27 16.3	-0.3
JFK				S	Sn	02 27 44.9	-2.2
JHO	Hitachi	2.69	275	P	Pn	02 27 17.1	-0.7
BSO1	Boso 1	2.97	234	P	Pn	02 27 20.3	-0.7
JFT	Otama	3.06	292	P	Pn	02 27 23.8	+0.9
JFT				eS	Sn	02 27 57.8	-0.5
JMK	Ichinoseki	3.31	321	P	Pn	02 27 26.9	+0.7
JAG	Ashikaga	3.59	271	P	Pn	02 27 29.8	-0.3
JAG				S	Sn	02 28 08.8	-2.5
JRY	Ryogami san	4.07	266	P	Pn	02 27 36.1	-0.6
JRY				S	Sn	02 28 19.9	-3.2
JOD2	Odawara 2	4.08	255	S	Sn	02 28 21.1	-2.3
MJAR	Matsushiro Arr	4.59	273	Pn	Pn	02 27 44.4	+0.5
	1.3nm,0.3s,baz=89,slow=9.1,SNR=6.0						
MAT	Matsushiro	4.59	273	P	Pn	02 27 43.4	-0.5
MAT				eS	Sn	02 28 34.3	-1.8
JHJ	Hachijo jima 2	4.73	227	Pn	Pn	02 27 43.9	-1.9
	12nm,0.3s,baz=20,slow=15,SNR=3.4						
JHJ				Sn	Sn	02 28 34.8	-4.6
	22nm,0.3s,baz=270,slow=20,SNR=4.3						
JOT	Ohata	5.43	337	P	Pn	02 27 56.0	+0.6
JCH	Churui	6.20	356	P	Pn	02 28 05.4	-0.6
JCH				S	Sn	02 29 10.1	-5.5
NEM2	Nemuro 2	7.08	11	P	Pn	02 28 15.7	-2.3
JTKR	Abashiri--Toko	7.54	0	P	Pn	02 28 23.6	-0.8
JTKR				eS	Sn	02 29 43.4	-5.2
H11N2	WAKE ISLAND Hy	26.12	123	T	T	02 59 11.2	
	baz=314,slow=75,SNR=30						
H11N1	WAKE ISLAND Hy	26.13	123	T	T	02 59 14.2	
	baz=314,slow=75,SNR=33						
H11N3	WAKE ISLAND Hy	26.14	123	T	T	02 59 14.5	
	baz=314,slow=75,SNR=36						
H11S1	WAKE ISLAND Hy	26.86	126	T	T	03 00 10.2	
	baz=316,slow=76,SNR=26						
H11S3	WAKE ISLAND Hy	26.86	126	T	T	03 00 10.2	
	baz=316,slow=76,SNR=28						
H11S2	WAKE ISLAND Hy	26.87	126	T	T	03 00 10.8	
	baz=316,slow=76,SNR=25						
SONM	Songino Array	29.79	304	P	P	02 32 41.0	+0.6
	0.3nm,0.4s,baz=100,slow=7.7,SNR=2.4						
ZALV	Zalesovo Beam	43.80	313	P	P	02 34 40.3	+1.2
	1.2nm,0.6s,baz=83,slow=13,SNR=4.8						
ILAR	Eielson Array	48.95	32	P	P	02 35 21.6	+2.2
	0.6nm,0.6s,baz=250,slow=6.2,SNR=8.5						
WRA	Warramunga Arr	56.78	191	P	P	02 36 17.4	-0.2
	0.4nm,0.7s,baz=9.6,slow=7.2,SNR=3.8						
FINES	FINESS Array B	70.28	333	P	P	02 37 49.2	+2.9
	0.8nm,0.7s,baz=39,slow=7.1,SNR=3.8						

PRU 02 02:29:15.8, 50°.13N×19°.17E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.41	77	ePg	Pg	02 29 23.5	-0.2
OJC				eSg	Sg	02 29 29.9	+0.8
DPC	Dobruska-Polom	1.84	278	eSG	Sg	02 30 14.5	-0.4

*NIED **02** 02:33:00, 37°.00N×138°.70E, h5km, Mw4.6 Best double couple: M0 8.80000×10^15 NP1:φs47.00000°, δ35.00000°, λ93.00000°. NP2:φs222.00000°, δ55.00000°, λ88.00000°.*
*BJI **02** 02:33:42.3, 36°.81N×139°.24E, h10km, mb4.5/48, mB4.8/30, Ms4.4/37, Ms7 4.1/35*
*ISCJB **02** 02:33:48.0±0.4, 37°.00N±0°.02×138°.70E±0°.03, h18km±2km, mb4.5/97, MS4.0/29, Error ellipse: s-maj=4.5km s-min=2.8km az=39.2*
*IDC **02** 02:33:48.5±2.0, 36°.95N×138°.73E, h11km±12km, mb4.2/31, mb1 4.4/34, mb1mx4.3/57, mbtmp4.3/34, ML3.8/3, MS3.9/28, Ms1 3.9/28, ms1mx3.7/53, Error ellipse: s-maj=14.3km s-min=12.0km az=114.0*
*JMA **02** 02:33:48.0, 37°.02N×138°.71E, h6km±3km, M4.7 Broadband fault plane solution: P waves. NP1: φs2.00000°, δ86.00000°, λ-47.00000°. NP2:φs96.00000°, δ43.00000°, λ-175.00000°. Principal axes: T Plg28.0000°, Azm59.0000°; N Plg43.0000°, Azm179.0000°; P Plg34.0000°, Azm308.0000°;*
*NEIC **02** 02:33:50.0±0.8, 36°.89N×138°.72E, h25km±6km, mb4.7/48 Error ellipse: s-maj=5.7km s-min=4.6km az=139.0*
NEIC Recorded [5U JMA] in Niigata.
*MOS **02** 02:33:49.7±1.2, 36°.93N×138°.67E, h33km, mb4.7/39, Error ellipse: s-maj=8.1km s-min=5.1km az=103.1*
ISC 02 02:33:50.3±0.6, 36°.97N±0°.03×138°.77E±0°.03, h25km±4km, n248, σ1ˢ81/271, mb4.6/101, MS4.0/29, 10C-8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHK	Hiroka	0.34	36	⇑P	Pb	02 33 54.4	-3.6
JHK				S	Sb	02 33 59.8	-3.4
JGK	Kuni	0.42	194	⇓P	Pb	02 33 57.3	-1.9
JGK				S	Sb	02 34 04.0	-1.3
JKT	Katashina	0.44	117	⇓P	Pb	02 33 57.9	-1.6
JIZZ	Izumozaki	0.56	355	⇓P	Pb	02 33 58.5	-3.1
JIZZ				S	Sb	02 34 07.2	-2.0
MJAR	Matsushiro Arr	0.62	227	Pg	Pb	02 33 59.6	-2.9
	520nm,0.3s,baz=34,slow=18,SNR=1411						
MJAR				Lg	Lg	02 34 07.6	
	1μm,0.3s,baz=33,slow=30,SNR=106						
MJAR				LR	LR	02 34 31.0	
	comp=Z,2μm,18.5s,baz=35,slow=74						
MJB9	Matsu-Tunnel	0.62	227	ePg	Pb	02 33 60.0	-2.5
MAJO	Matsushiro	0.62	227c	iP	Pb	02 33 59.6	-2.9
MAJO	Matsushiro	0.62	227	ePg	Pb	02 33 59.9	-2.6
MAJO				eS	Sb	02 34 07.7	-3.1
MAT	Matsushiro	0.62	227	P	Pb	02 33 59.2	-3.3
MAT				S	Sb	02 34 07.5	-3.3
MAT	Matsushiro	0.62	227	P	Pb	02 33 59.6	-2.9
MAT				S	Sb	02 34 07.8	-3.0
JNG	Nsakai	0.78	224	S	Sb	02 34 12.7	-2.6
JFY	Yanaizu	0.87	59	⇑P	Pb	02 34 04.4	-2.3
JFY				S	Sb	02 34 16.9	-1.0
JNS	Sasagawa	0.95	27	⇑P	Pb	02 34 04.9	-3.3
JNS				S	Sb	02 34 17.8	-2.6
INU	Inuyama	2.15	222	ePn	Pn	02 34 25.4	+0.9
JHJ	Hachijo jima 2	3.93	167	Pn	Pn	02 34 51.9	+3.0
	57nm,0.3s,baz=237,slow=4.7,SNR=9.3						
JHJ				Sn	Sn	02 35 39.3	+5.0
	21nm,0.3s,baz=253,slow=19,SNR=3.1						
JHJ2	Mitsune	3.94	167	ePn	Pn	02 34 49.0	-0.2
JHJ2				eS	Sb	02 35 40.6	-5.7
ERM	Erimo	6.08	33	iP	Pn	02 35 18.7	+0.3
ERM				pmax	pmax		
	comp=Z,59nm,0.8s						
ERM	Erimo	6.08	33	ePn	Pn	02 35 19.5	+1.1
ERM				eS	Sb	02 36 43.8	-3.7
JNU	Nakatsue	7.52	242	Pn	Pn	02 35 40.0	+1.6
	comp=Z,0.8nm,0.3s,baz=42,slow=9.3,SNR=9.9						
JNU	Nakatsue	7.52	242	ePn	Pn	02 35 39.7	+1.4
ASAJ	Asahikawa	7.71	21	Pn	Pn	02 35 43.1	+2.3
	comp=Z,1.4nm,0.3s,baz=242,slow=12,SNR=8.8						
ASAJ				Sn	Sn	02 37 10.8	+3.5
	comp=Z,0.8nm,0.3s,baz=233,slow=20,SNR=2.8						
ASAJ				LR	LR	02 38 59.8	
	comp=Z,641nm,19.4s,baz=190,slow=40						
ASAJ	Asahikawa	7.71	21	ePn	Pn	02 35 42.1	+1.3
ASAJ				Sn	Sn	02 37 10.8	+3.5
KSRS	Korea Array	8.66	276	Pn	Pn	02 35 54.5	+0.5
	comp=Z,1.9nm,0.3s,baz=90,slow=14,SNR=15						
KSRS				LR	LR	02 39 03.4	
	comp=Z,840nm,19.7s,baz=94,slow=36						
KS01	Wonju Array Si	8.69	277	ePn	Pn	02 35 54.4	+0.1
KS15	Wonju Array Si	8.70	276	ePn	Pn	02 35 54.0	-0.3
KSAR	Wonju Array Be	8.70	276	P	Pn	02 35 54.5	+0.1
KSAR	Wonju Array Be	8.70	276	Pn	Pn	02 35 54.5	+0.1
USRK	Ussuriysk Ar.	8.87	327	Pn	Pn	02 35 59.4	+2.6
	comp=Z,0.4nm,0.3s,baz=139,slow=13,SNR=11						
USRK				LR	LR	02 39 05.3	
	comp=Z,1μm,18.7s,baz=145,slow=36						
TJN	Taejon	9.18	270	eP	Pn	02 35 59.2	-1.8

JCJ Chichijima 10.26 163 LR LR 02 40 03.3
comp=Z,354nm,21.2s,baz=55,slow=37
MDJ Mudanjiang 10.32 321 P **Pn** **02 36 17.7 +1.0**
MDJ S **Sn** **02 38 12.1 +0.6**
MDJ PMZ
comp=Z,12nm,0.9s
MDJ LN
comp=Z,490nm,19.8s
MDJ LE
comp=Z,640nm,15.2s
MDJ LZ
comp=Z,1μm,16.8s
MDJ Mudanjiang 10.32 321 *e*Pn **Pn** **02 36 18.3 +1.6**
MDJ *e*Sn Sn 02 37 56.8 -15
YSS Yuzh-Sakhalins 10.41 15 *e*P **Pn** **02 36 18.6 +0.8**
YSS *e*S **Sn** **02 38 09.2 -4.3**
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,700nm,15.0s
YSS MLR MLR
comp=N,600nm,14.0s
YSS MLR MLR
comp=E,600nm,19.0s
YSS Yuzh-Sakhalins 10.41 15 *e*Pn **Pn** **02 36 18.8 +1.0**
HABR Khabarovsk 11.81 348 *e*P **Pn** **02 36 36.1 -0.9**
HABR *e*S **Sn** **02 38 48.5 +0.5**
HABR MLR MLR
comp=Z,473nm,14.0s
KLR Kul'dur 13.28 340 Pn **Pn** **02 36 59.1 +2.1**
comp=Z,0.3nm,0.3s,baz=148,slow=11,SNR=20
KLR LR LR 02 41 53.6
comp=Z,562nm,18.5s,baz=150,slow=36
TYV Tymovskoe 14.17 10 *e*P **Pn** **02 37 09.0 -0.1**
TYV pmax pmax
comp=Z,22nm,0.8s
TYV MLR MLR
comp=Z,1μm,16.0s
SSE Sheshan 15.70 253 P **Pn** **02 37 27.5 -2.2**
SSE S **Sn** **02 40 27.6 +4.7**
SSE PMZ
comp=Z,14nm,0.6s
SSE PMZ
comp=Z,80nm,5.3s
SSE LN
comp=Z,900nm,16.2s
SSE LE
comp=Z,560nm,16.5s
SSE LZ
comp=Z,740nm,15.4s
TIA Tai'an 17.40 274 *e*P **P** **02 37 54.0 +1.6**
TIA PMZ
comp=Z,20nm,1.1s
BJI Beijing 17.94 287 P **P** **02 37 58.0 -0.3**
BJI S **S** **02 41 24.4 +1.4**
BJI PMZ
comp=Z,9.0nm,1.2s
BJI LN
comp=Z,250nm,13.6s
BJI LE
comp=Z,360nm,11.9s
BJI LZ
comp=Z,320nm,29.3s
BJT Baijiatuau 17.94 287 *e*P **Pn** **02 37 57.8 -0.1**
BJT pmax pmax
comp=Z,25nm,1.1s
BJT Baijiatuau 17.94 287 *e*P **Pn** **02 37 57.8 -0.1**
comp=Z,25nm,1.1s
HIA Hailar 18.48 318 *e*P **Pn** **02 38 05.0 +0.5**
HIA pmax pmax
comp=Z,23nm,1.2s
HIA Hailar 18.48 318 *e*P **Pn** **02 38 05.0 +0.5**
comp=Z,23nm,1.2s
NACB Ninganchiao 19.49 234 *e*P **P** **02 38 12.2 -3.2**
comp=Z,47nm,1.5s
PETK Petropavlovsk- 20.86 33 P Pn 02 38 32.0 -0.7
comp=Z,7.6nm,1.0s,baz=241,slow=4.6,SNR=3.8
PETK LR LR 02 46 34.6
comp=Z,86nm,19.6s,baz=204,slow=37
PETK Petropavlovsk- 20.86 33 P Pn 02 38 32.0 -0.7
HHC Hu-ho-hao-te 21.48 289 *e*P **P** **02 38 38.6 +1.5**
HHC sP sP 02 38 48.5 +1.2
HHC PP **PnPn** **02 39 04.5 +7.0**
HHC S **S** **02 42 32.4 -1.7**
HHC PMZ
comp=Z,27nm,1.0s
HHC PMZ
comp=Z,160nm,6.2s
HHC LN
comp=Z,370nm,10.8s
HHC LE
comp=Z,420nm,12.3s
HHC LZ
comp=Z,450nm,11.6s
GUMO Guam 23.91 165 LR LR 02 47 19.2
comp=Z,192nm,21.7s,baz=356,slow=34
MA2 Magadan 23.91 15 LR LR 02 48 43.6
comp=Z,201nm,19.3s,baz=220,slow=37
ENH Enshi 25.22 263 *e*P **P** **02 39 14.4 +0.4**
comp=Z,29nm,1.1s
ULN Ulaanbaatar 25.65 305 *e*P **P** **02 39 16.2 -1.8**
ULN pmax pmax
comp=Z,6.0nm,1.2s
YAK Yakutsk 25.72 350 LR LR 02 49 26.1
comp=Z,445nm,18.4s,baz=169,slow=36
YAK Yakutsk 25.72 350 *e*P **P** **02 39 19.7 +1.5**
YAK *e**PP **sP** **02 39 29.2 +0.4**
YAK *e* 02 39 55.9
YAK *e*S **S** **02 43 46.9 +1.6**
YAK *e**SS **sS** **02 44 01.0 +3.4**
YAK *e*SS **SnSn** **02 44 47.8 +6.8**
YAK *e*SSS SSS 02 45 05.0
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,7.0nm,0.2s
YAK smax smax
comp=E,134nm,3.2s
YAK smax smax
comp=N,201nm,2.5s
YAK MLR MLR
comp=Z,387nm,16.0s
YAK MLR MLR
comp=N,331nm,18.0s
YAK MLR MLR
comp=E,85nm,15.0s
SONA1 Songino Array 26.07 305 *e*P **P** **02 39 19.9 -1.8**
SONM Songino Array 26.07 305 P **P** **02 39 21.0 -0.8**
comp=E,2.0nm,0.9s,baz=104,slow=6.3,SNR=8.2
SONM LR LR 02 50 04.0
comp=E,422nm,18.6s,baz=90,slow=37
SEY Seymchan 27.31 14 P **P** **02 39 32.9 +0.3**
comp=E,2.9nm,0.7s,baz=200,slow=6.0,SNR=9.0
SEY Seymchan 27.31 14 *i*P **P** **02 39 32.7 +0.1**
LZH Lanzhou 27.98 279 *e*P **P** **02 39 38.0 -1.1**
LZH pP pP 02 39 44.5 -2.1
LZH sP sP 02 39 47.8 -1.9
LZH PP **PnPn** **02 40 27.9 +1.4**
LZH PMZ
comp=E,20nm,1.1s
LZH PMZ
comp=E,72nm,5.0s
LZH LN
comp=E,400nm,13.0s
LZH LE
comp=E,370nm,12.7s
LZH LZ
comp=E,420nm,16.2s
GYA Guiyang 29.13 258 *e*P **P** **02 39 49.8 +0.5**
GYA PMZ
comp=E,10.0nm,0.8s
CD2 Chengdu 29.55 269 *e*P **P** **02 39 50.8 -2.2**
GTA Gaotai 30.55 287 *e*P **P** **02 40 02.5 +0.6**
GTA pP pP 02 40 08.3 -1.1
GTA sP sP 02 40 11.1 -1.4
GTA S **S** **02 45 02.1 -0.1**
GTA sS sS 02 45 12.6 -2.0
GTA PMZ
comp=E,4.0nm,1.0s
GTA PMZ
comp=E,68nm,7.1s
GTA LN
comp=E,280nm,15.2s
GTA LE
comp=E,250nm,15.2s
GTA LZ
comp=E,230nm,16.2s
KMI Kunming 32.86 259 P **P** **02 40 24.5 +2.1**
KMI PMZ
comp=E,5.0nm,0.5s
BILL Bilibino 34.71 18 *i*P **P** **02 40 35.0 -2.7**
BILL *i* 02 43 09.5
BILL pmax pmax
comp=Z,13nm,2.5s
BILL MLR MLR
comp=Z,274nm,19.0s
TIXI Tiksi 35.13 355 P **P** **02 40 40.3 -0.9**
comp=Z,1.5nm,0.5s,baz=122,slow=6.0,SNR=4.4
TIXI Tiksi 35.13 355 *i*P **P** **02 40 42.2 +1.0**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 35.13 355 *e*P **P** **02 40 39.9 -1.3**
comp=Z,2.7nm,0.8s
WMQ Urumqi 38.97 296 *e*P **P** **02 41 13.8 -0.6**
WMQ pP pP 02 41 21.4 -0.6
WMQ sP sP 02 41 25.2 +0.1
WMQ PMZ
comp=Z,4.0nm,0.8s
WMQ PMZ
comp=Z,54nm,4.2s
WMQ LN
comp=Z,200nm,12.6s
WMQ LE
comp=Z,130nm,15.2s
WMQ LZ
comp=Z,63nm,17.6s
CMAR Chiang Mai Arr 39.44 253 LR LR 02 58 35.3
comp=Z,81nm,19.5s,baz=38,slow=38
ZALV Zalesovo Beam 40.39 312 P **P** **02 41 27.0 +1.1**
comp=Z,0.5nm,0.3s,baz=81,slow=9.1,SNR=2.8
ZALV PcP **PcP** **02 43 28.9 +0.3**
comp=Z,2.1nm,0.6s,baz=97,slow=3.7,SNR=6.0
ZALV LR LR 02 58 38.4
comp=Z,133nm,18.3s,baz=70,slow=37
ZALV Zalesovo Beam 40.39 312 P **P** **02 41 27.0 +1.1**
ZALV 02 43 29.0
MK01 Makanchi Array 42.35 302 *e*P **P** **02 41 41.5 -0.7**
MKAR Makanchi Array 42.35 302 P **P** **02 41 42.9 +0.7**
comp=Z,0.9nm,0.7s,baz=83,slow=9.9,SNR=6.7
MKAR PcP **PcP** **02 43 35.5 +0.2**
comp=Z,0.9nm,0.8s,baz=72,slow=4.0,SNR=4.2
MKAR LR LR 02 59 50.1
comp=Z,201nm,21.9s,baz=90,slow=37
MKAR Makanchi Array 42.35 302 *i*P **P** **02 41 43.0 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
NRIK Noril'sk 42.45 336 P **P** **02 41 42.7 +0.1**
comp=Z,5.3nm,0.7s,baz=130,slow=9.2,SNR=6.5
NRIK LR LR 03 00 11.0
comp=Z,208nm,19.0s,baz=110,slow=37
KURK Kurchatov 44.30 308 P **P** **02 41 57.9 +0.1**
KURK Kurchatov 44.30 308 P **P** **02 41 57.9 +0.1**
KURBB Kurchatov Arra 44.37 308 P **P** **02 41 57.9 -0.4**
comp=Z,1.9nm,0.7s,baz=84,slow=8.3,SNR=10.0
PDGK Podgornoye 44.93 297 P **P** **02 42 04.7 +1.8**
PDGK pmax pmax
comp=Z,3.0nm,1.1s
RSO Redoubt South 48.26 38 *e*P **P** **02 42 30.9 +1.9**
KSH Kashi 48.49 293 P **P** **02 42 31.4 +0.4**
KSH pP sP 02 42 43.0 +1.2
KSH PcP **PcP** **02 43 58.9 +2.1**
KSH PP **PP** **02 44 25.4 +1.7**
KSH ScS ScS 02 52 20.6 -1.6
KSH PMZ
comp=Z,2.0nm,0.2s
KSH PMZ
comp=Z,68nm,4.4s
KSH LN
comp=Z,130nm,6.8s
KSH LE
comp=Z,100nm,7.5s
KSH LZ
comp=Z,240nm,14.2s
AAK Ala-Archa 48.65 298 *e*P **P** **02 42 32.0 -0.3**
AAK pmax pmax
comp=Z,4.0nm,1.1s
OTUK Ortayu 48.74 305 P **P** **02 42 34.9 +2.2**
OTUK pmax pmax
comp=Z,4.0nm,1.5s
KTH Kantishna Hill 48.99 34 *e*P **P** **02 42 34.4 0.0**
comp=Z,8.7nm,0.9s
MLY Manley 49.03 32 *e*P **P** **02 42 33.4 -1.2**
comp=Z,3.8nm,0.8s
BVAR Borovoye Array 49.04 312 P **P** **02 42 34.1 -0.9**
comp=Z,0.7nm,0.6s,baz=90,slow=5.8,SNR=3.9
BVAR PcP **PcP** **02 43 58.5 +0.1**
comp=Z,1.5nm,0.6s,baz=84,slow=4.6,SNR=6.2
SUA Susitna One 49.18 37 *e*P **P** **02 42 37.2 +1.2**
comp=Z,34nm,1.5s
COLD Coldfoot 49.24 29 *e*P **P** **02 42 37.0 +0.8**
comp=Z,5.8nm,1.2s
TRF Thorofare Moun 49.27 34 *e*P **P** **02 42 36.9 +0.2**
comp=Z,42nm,1.8s
ZRNK Zerenda 49.88 312 *e*P **P** **02 42 39.7 -1.6**
ZRNK pmax pmax
comp=Z,6.0nm,1.0s
ZRNK Zerenda 49.88 312 *e*P **P** **02 42 39.6 -1.6**
comp=Z,5.6nm,1.0s
RND Reindeer 49.92 34 *e*P **P** **02 42 42.3 +0.7**
RND pmax pmax
comp=Z,29nm,1.9s
RND Reindeer 49.92 34 *e*P **P** **02 42 42.3 +0.7**
comp=Z,29nm,1.9s
SEW Seward 49.93 38 *e*P **P** **02 42 42.6 +1.0**
comp=Z,16nm,1.1s
MDM Murphy Dome 50.10 32 *e*P **P** **02 42 42.9 +0.1**
comp=Z,6.3nm,0.8s
WRH Wood River Hil 50.19 33 *e*P **P** **02 42 44.0 +0.6**
comp=Z,30nm,2.0s
WRH *e*PcP **PcP** **02 44 01.2 -1.2**
COLA College 50.26 32 *e*P **P** **02 42 43.8 -0.2**
COLA pmax pmax
comp=Z,2.0nm,0.9s
DHY Denali Highway 50.62 34 *e*P **P** **02 42 47.1 +0.2**
comp=Z,14nm,1.5s
IL1 Eielson Array 50.68 32 *e*P **P** **02 42 47.2 0.0**
IL1 *e*PcP **PcP** **02 44 04.3 +0.1**
ILAR Eielson Array 50.68 32 P **P** **02 42 47.1 0.0**
comp=Z,3.7nm,0.8s,baz=277,slow=6.4,SNR=35
ILAR LR LR 03 05 36.6
comp=Z,41nm,19.1s,baz=274,slow=38
ILB Eielson Array 50.68 32 *e*P **P** **02 42 46.6 -0.6**
HDA Harding Lake 50.68 33 *e*P **P** **02 42 47.8 +0.6**
comp=Z,5.5nm,1.0s
KKAR Karatay Array 51.32 299 *e*P **P** **02 42 52.0 -0.3**
KKAR Karatay Array 51.32 299 *e*P **P** **02 42 52.0 -0.3**
KLU Klutina 51.48 36 *e*P **P** **02 42 53.8 +0.5**
comp=Z,6.9nm,0.8s
DIV Divide 51.60 37 *e*P **P** **02 42 54.9 +0.7**
comp=Z,7.7nm,0.9s
BMRM Bremner River 52.19 37 *e*P **P** **02 42 58.9 +0.3**
comp=Z,12nm,0.9s
MENT Mentasta 52.29 34 *e*P **P** **02 42 59.3 0.0**
comp=Z,51nm,1.8s
EGAK Eagle 53.12 32 *e*P **P** **02 43 05.4 +0.1**
comp=Z,4.1nm,0.9s
BALM Baldy 53.26 37 *e*P **P** **02 43 06.5 -0.1**
BALM pmax pmax
comp=Z,7.0nm,0.9s
BALM Baldy 53.26 37 *e*P **P** **02 43 06.5 -0.1**
comp=Z,6.7nm,0.9s
DZET Dzherino 53.96 295 P **P** **02 43 13.6 +1.6**
DZET pmax pmax
comp=Z,8.0nm,1.3s
ARU Arti 55.00 318 P **P** **02 43 19.7 +0.5**
comp=Z,5.1nm,0.2s,baz=65,slow=4.0,SNR=8.1
ARU Arti 55.00 318 *d*/*i*P **P** **02 43 16.8 -2.4**
ARU S **S** **02 50 57.7 -1.8**
ARU SS **SS** **02 54 34.8 -7.9**
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU MLR MLR
comp=Z,312nm,17.0s
ARU Arti 55.00 318 *e*P **P** **02 43 19.4 +0.2**
comp=Z,16nm,1.0s
ABKAR Akbulak array 56.35 309 *e*P **P** **02 43 28.1 -0.9**
WRAB Tennant Creek 56.75 185 *i*P **P** **02 43 31.1 -0.9**
WRAB pmax pmax
comp=Z,38nm,1.0s
WRAB Tennant Creek 56.75 185 *e*P **P** **02 43 31.3 -0.8**
comp=Z,11nm,0.8s
WB2 Warramunga Arr 56.76 185 *e*P **P** **02 43 31.3 -0.7**
comp=Z,13nm,0.8s
WRA Warramunga Arr 56.76 185 P **P** **02 43 31.6 -0.5**
comp=Z,11nm,0.6s,baz=1.6,slow=7.4,SNR=94
WRA PcP **PcP** **02 44 29.3 +1.5**
comp=Z,2.1nm,1.0s,baz=357,slow=4.3,SNR=4.8
AKTO Aktyubinsk 57.13 311 P **P** **02 43 36.4 +1.8**
comp=Z,3.0nm,0.9s,baz=76,slow=13,SNR=11
AKTO LR LR 03 09 24.0
comp=Z,194nm,18.2s,baz=72,slow=37
SPITS Spitsbergen Ar 60.17 348 LR LR 03 11 56.6
comp=Z,100nm,18.8s,baz=10.0,slow=38
AS01 Alice Springs 60.48 185 *e*P **P** **02 43 57.8 -0.1**
AS31 Alice Springs 60.48 185 *e*P **P** **02 43 56.9 -1.1**
comp=Z,1.5nm,0.9s
ASAR Alice Springs 60.48 185 P **P** **02 43 58.4 +0.3**
comp=Z,3.4nm,0.8s,baz=5.4,slow=5.5,SNR=21
GEYT Alibeck 62.00 298 P **P** **02 44 09.6 +1.2**
comp=Z,2.7nm,0.7s,baz=52,slow=9.3,SNR=3.2
GEYT LR LR 03 11 32.5
comp=Z,73nm,21.5s,baz=20,slow=36
KLMR Klimovskoe 62.67 327 *e*P **P** **02 44 09.7 -2.6**
KLMR pmax pmax
comp=Z,12nm,1.5s
RES Resolute Bay 63.18 14 *e*P **P** **02 44 15.4 -0.1**
RES pmax pmax
comp=Z,6.0nm,0.8s
RES Resolute Bay 63.18 14 *e*P **P** **02 44 15.4 -0.1**
comp=Z,6.3nm,0.8s
ARCES ARCESS Array B 63.30 339 P **P** **02 44 17.0 +0.6**
comp=Z,3.3nm,1.0s,baz=40,slow=8.0,SNR=3.6
ARCES LR LR 03 14 53.0
comp=Z,164nm,20.1s,baz=74,slow=39
YKA Yellowknife Ar 64.92 29 P **P** **02 44 27.1 0.0**
comp=Z,2.1nm,0.7s,baz=305,slow=6.7,SNR=12
DAG Danmarks Havn 65.64 354 *i*P **P** **02 44 31.2 -0.4**
DAG pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 66.86 322 *i*P **P** **02 44 39.7 -0.1**
OBN *i* SS SS 02 57 53.0 +4.8
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,195nm,16.0s
LPSR Galich'ya Gora 66.98 319 *e*P **P** **02 44 38.0 -2.6**
LPSR pmax pmax
comp=Z,4.0nm,0.7s
VSR Storozhevoye 67.57 318 *e*P **P** **02 44 43.3 -1.0**
VSR pmax pmax
comp=Z,8.0nm,0.9s
FIA1 FINESS Array S 67.87 331 *e*P **P** **02 44 45.5 -0.5**
FINES FINESS Array B 67.87 331 P **P** **02 44 46.2 +0.2**
comp=Z,5.9nm,0.9s,baz=83,slow=6.1,SNR=13
FINES LR LR 03 15 53.7
comp=Z,130nm,19.3s,baz=34,slow=37
KBZ Khabaz 69.32 310 LR LR 03 17 54.6
comp=Z,94nm,18.4s,baz=50,slow=38
KIV Kislovodsk 69.33 310 *e*P **P** **02 44 54.8 -0.8**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,81nm,17.0s
VSU Vasula 69.42 329 *i*P **P** **02 44 56.5 +0.8**
VSU pmax pmax
comp=Z,33nm,1.7s
NEY Neytrino 69.68 309 *e*P **P** **02 44 57.0 -0.9**
NEY pmax pmax
comp=Z,1.0nm,0.9s
GNI Garni 70.03 306 LR LR 03 17 16.2
comp=Z,112nm,21.7s,baz=90,slow=37
GNI Garni 70.03 306 *e*P **P** **02 44 59.5 -0.6**
GNI pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 70.73 359 *i*P **P** **02 45 04.4 +0.3**
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 70.73 359 *e*P **P** **02 45 04.1 0.0**
comp=Z,13nm,0.9s
ANN Anapa 72.03 313 *e*P **P** **02 45 11.9 0.0**
ANN pmax pmax
comp=Z,64nm,1.2s
AKASG Malin Array Be 73.03 321 P **P** **02 45 17.1 -0.7**
comp=Z,4.8nm,0.8s,baz=47,slow=6.8,SNR=17
AKASG LR LR 03 20 02.5
comp=Z,391nm,18.7s,baz=45,slow=38
KIEV Kiev 73.05 321 *e*P **P** **02 45 17.0 -0.8**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
KIEV Kiev 73.05 321 *e*P **P** **02 45 16.8 -1.0**
comp=Z,7.6nm,0.8s
AK11 Malin Array Si 73.08 321 *e*P **P** **02 45 17.4 -0.6**
HFS Hagfors 73.26 335 P **P** **02 45 17.9 -1.0**
comp=Z,4.6nm,0.9s,baz=51,slow=5.7,SNR=3.2
NB2 NORSAR Subarra 73.41 336 P **P** **02 45 19.8 -0.1**
comp=Z,1.7nm,0.7s,baz=41,slow=5.9
NOA NORSAR Array B 73.41 336 P **P** **02 45 19.8 -0.1**
comp=Z,4.7nm,0.9s,baz=41,slow=5.9,SNR=8.9
NOA LR LR 03 21 40.7
comp=Z,88nm,18.2s,baz=50,slow=39
SWMT Swartz Lake 73.78 42 *e*P **P** **02 45 20.9 -1.5**
FCC Fort Churchill 74.99 25 *e*P **P** **02 45 29.2 +0.2**
FCC pmax pmax
comp=Z,7.0nm,1.1s
FCC Fort Churchill 74.99 25 *e*P **P** **02 45 29.1 +0.2**
comp=Z,7.2nm,1.1s
CMB Columbia Colle 75.62 53 *e*P **P** **02 45 34.2 +1.1**
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 75.62 53 *e*P **P** **02 45 34.2 +1.1**
comp=Z,3.8nm,0.8s
LRM Limekiln Ridge 75.66 43 *e*P **P** **02 45 33.8 +0.4**
DLMT Dillon 75.86 44 *e*P **P** **02 45 35.4 +0.9**
comp=Z,6.0nm,0.9s
BOZ Bozeman (W) 76.22 43 *e*P **P** **02 45 38.4 +1.9**
BOZ pmax pmax
comp=Z,4.0nm,0.9s
BOZ Bozeman (W) 76.22 43 *e*P **P** **02 45 38.4 +1.9**
comp=Z,4.3nm,0.9s
NV01 Mina Array Sit 76.71 52 *e*P **P** **02 45 41.1 +1.6**
NVAR Mina Array Bea 76.71 52 P **P** **02 45 41.2 +1.6**
comp=Z,3.4nm,0.8s,baz=290,slow=6.2,SNR=15
KWP Kalwaria Pacla 76.93 323 ⇑P **P** **02 45 41.2 +0.9**
BUR08 Bucovina Ar. S 77.02 321 *e*P **P** **02 45 40.4 -0.6**
BURAR Bucovina Array 77.03 320 ⇑P **P** **02 45 41.3 +0.3**
GCMT Greycliff 77.18 42 *e*P **P** **02 45 41.0 -1.0**
BR131 Keskin Array S 77.29 310 *e*P **P** **02 45 41.0 -1.7**
BRTR Keskin Array B 77.29 310 P **P** **02 45 43.8 +1.1**
comp=Z,2.1nm,1.0s,baz=111,slow=5.4,SNR=9.4
BRTR LR LR 03 24 08.5
comp=Z,57nm,18.5s,baz=48,slow=39
VRI Vrincioaia 77.39 318 ⇓P **P** **02 45 44.1 +1.1**
PLOR Plostina 77.44 318 ⇓*i*P **P** **02 45 46.1 +2.8**
PLOR Plostina 77.44 318 ⇓P **P** **02 45 46.1 +2.8**
H17A Grant Village 77.59 43 *e*P **P** **02 45 44.6 +0.2**
comp=Z,7.0nm,1.1s
IMW Indian Meadow 77.71 44 *e*P **P** **02 45 46.6 +1.4**
comp=Z,2.6nm,0.8s
BR231 Keskin MP Arra 77.75 311 *e*P **P** **02 45 44.7 -0.5**
STHS Stebnicka Huta 77.77 324 *e*P **P** **02 45 46.2 +1.1**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 77.77 324 *e*P **P** **02 45 46.2 +1.1**
RLMT Red Lodge 77.83 42 *e*P **P** **02 45 46.9 +1.2**
comp=Z,17nm,1.8s
OJC Ojcow 77.89 325 *e*P **P** **02 45 46.2 +0.5**
OJC pmax pmax
comp=Z,11nm,1.0s
OJC Ojcow 77.89 325 *e*P **P** **02 45 46.2 +0.5**
comp=Z,11nm,1.0s
MSAB Monastry St. A 77.94 317 ⇑*i*P **P** **02 45 46.8 +0.8**
CRVS Cervenica-Dubn 78.02 323 *e*P **P** **02 45 49.1 +2.7**
CRVS Cervenica-Dubn 78.02 323 *e*P **P** **02 45 49.1 +2.7**
DOPCR Dopca 78.03 319 ⇓*i*P **P** **02 45 47.5 +1.0**
MLR Muntele Rosu 78.05 318 P **P** **02 45 48.3 +1.5**
comp=Z,0.4nm,0.9s,baz=31,slow=8.3,SNR=4.0
MLR Muntele Rosu 78.05 318 ⇑*i*P **P** **02 45 48.8 +2.0**
LANS Liptovska Anna 78.80 324 *e*P **P** **02 45 54.3 +3.6**
LANS Liptovska Anna 78.80 324 *e*P **P** **02 45 54.3 +3.6**
ARR Arges 78.82 319 ⇑*i*P **P** **02 45 52.1 +1.1**
OKC Ostrava-Krasne 78.92 325 *e*P **P** **02 45 54.1 +2.8**
OKC AMS AMS 03 24 30.0
comp=Z,300nm,14.7s
OKC Ostrava-Krasne 78.92 325 *e*P **P** **02 45 54.1 +2.8**

OKC MLR MLR
comp=Z,300nm,14.7s
KSP Ksiaz 79.02 327 P **P 02 45 54.7 +2.8**
KSP pmax pmax
comp=Z,9.0nm,1.1s
BW06 Boulder Array 79.20 44 eP **P 02 45 53.7 +0.3**
PD31 Pinedale Array 79.20 44 eP **P 02 45 53.9 +0.6**
PDAR Pinedale Array 79.20 44 P **P 02 45 54.0 +0.6**
comp=Z,1.7nm,0.7s,baz=299,slow=1.5,SNR=11
MORC Moravsky Berou 79.23 326 eP **P 02 45 54.0 +0.9**
MORC pmax pmax
comp=Z,27nm,1.1s
MORC Moravsky Berou 79.23 326 eP **P 02 45 54.0 +0.9**
comp=Z,27nm,1.1s
DPC Dobruska-Polom 79.37 327 eP **P 02 45 55.4 +1.6**
DPC Dobruska-Polom 79.37 327 eP **P 02 45 55.4 +1.6**
UPC Upice 79.39 327 AMS AMS 03 25 40.0
comp=Z,200nm,14.8s
PSZ Piszkesteto 79.46 323 eP **P 02 45 55.4 +1.0**
PSZ pmax pmax
comp=Z,11nm,1.2s
PSZ Piszkesteto 79.46 323 eP **P 02 45 55.4 +1.0**
comp=Z,11nm,1.2s
WMUT West Mountain 79.64 47 eP **P 02 45 56.4 +0.6**
VRAC Vranov 80.00 326 ⇑P **P 02 45 57.8 +0.5**
BRG Berggiesshubel 80.01 328 eP **P 02 45 56.9 -0.3**
BRG e 02 46 00.8
BRG pmax pmax
comp=Z,2.0nm,0.9s
CLL Collm 80.08 329 eP **P 02 45 57.0 -0.6**
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 80.08 329 eP **P 02 45 56.9 -0.7**
comp=Z,6.6nm,1.0s
GOPC GO Pecny, Ondr 80.36 327 AMS AMS 03 26 10.0
comp=Z,200nm,14.7s
PRU Pruhonice 80.41 327 eP **P 02 46 00.9 +1.5**
PRU Pruhonice 80.41 327 eP **P 02 46 00.9 +1.5**
TREC Trest 80.51 326 eP **P 02 46 01.2 +1.2**
TREC AMS AMS 03 26 00.0
comp=Z,200nm,15.2s
TREC Trest 80.51 326 eP **P 02 46 01.2 +1.2**
TREC MLR MLR
comp=Z,200nm,15.2s
ULM Lac du Bonnet 80.70 32 P **P 02 46 01.6 +0.6**
comp=Z,3.5nm,0.6s,baz=282,slow=4.0,SNR=3.8
RSSD Black Hills 81.27 40 eP **P 02 46 02.5 -2.0**
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 81.27 40 eP **P 02 46 02.5 -2.0**
comp=Z,3.7nm,1.0s
CONA Conrad Observa 81.34 325 i P **P 02 46 05.8 +1.2**
comp=Z,3.7nm,0.9s
KHC Kasperske Hory 81.47 327 eP **P 02 46 05.5 +0.3**
KHC Kasperske Hory 81.47 327 eP **P 02 46 05.5 +0.3**
GEC2 GERESS Array S 81.63 327 eP **P 02 46 05.9 -0.2**
GEC2 pmax pmax
comp=Z,3.0nm,0.9s
GEC2 GERESS Array S 81.63 327 eP **P 02 46 05.9 -0.2**
comp=Z,3.0nm,0.9s
GERES GERESS Array B 81.63 327 P **P 02 46 06.1 0.0**
comp=Z,1.5nm,0.8s,baz=35,slow=4.9,SNR=8.5
GERES LR LR 03 24 28.7
comp=Z,60nm,21.1s,baz=73,slow=37
GEA0 GERESS Array S 81.63 327 eP **P 02 46 05.0 -1.1**
MOA Molln 82.12 326 i PcP **P 02 46 11.4 +2.8**
comp=Z,5.0nm,1.6s
EKA Eskdalemuir Ar 82.46 339 P **P 02 46 11.4 +1.2**
comp=Z,0.8nm,0.7s,baz=42,slow=6.7,SNR=2.9
N23A Red Feather La 82.46 44 eP **P 02 46 09.2 -1.7**
comp=Z,4.1nm,0.9s
SOKA Soboth 82.64 325 i P **P 02 46 11.2 -0.3**
comp=Z,6.9nm,0.9s
KBA Koelnbreinsper 83.11 326 i PcP **P 02 46 16.2 +2.2**
comp=Z,6.3nm,0.9s
X16A Lo Mia Camp, P 83.53 52 eP **P 02 46 16.8 +0.4**
comp=Z,3.4nm,1.3s
ABTA Abfaltersbach 83.74 326 i P **P 02 46 12.5 -4.6**
comp=Z,3.7nm,0.9s
RETA Reutte 83.94 327 i P **P 02 46 17.6 -0.5**
comp=Z,4.1nm,0.8s
BFO Black Forest 84.30 329 eP **P 02 46 17.3 -2.6**
BFO pmax pmax
comp=Z,28nm,1.8s
BFO Black Forest 84.30 329 eP **P 02 46 17.3 -2.6**
comp=Z,28nm,1.8s
FETA Feichten 84.31 327 i PcP **P 02 46 20.5 +0.4**
comp=Z,5.3nm,1.4s
DAVA Damuels 84.47 328 i PcP **P 02 46 23.7 +2.8**
comp=Z,8.9nm,0.9s
FUORN Ofenpass-Fuorn 84.83 327 eP **P 02 46 22.2 -0.6**
comp=Z,33nm,1.8s
DAVOX Davos/Dischmat 84.87 328 P **P 02 46 23.8 +0.8**
comp=Z,3.7nm,0.8s,baz=21,slow=9.6,SNR=5.9
LAST Lasithi 85.19 311 eP **P 02 46 23.2 -1.5**
comp=Z,17nm,1.0s
LBZ Lake Benmore 85.83 158 eP **P 02 46 23.9 -3.3**
comp=Z,90nm,1.6s
SCHQ Schefferville 85.96 15 P **P 02 46 28.4 +0.4**
comp=Z,3.3nm,0.7s,baz=10,slow=11,SNR=2.8
SCHQ LR LR 03 26 59.8
comp=Z,39nm,20.1s,baz=24,slow=37
ANMO Albuquerque 86.23 48 i P **P 02 46 30.7 +0.7**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
TX31 Lajitas Ar. Si 91.82 51 eP **P 02 46 56.1 -0.3**
TXAR Lajitas Array 91.82 51 P **P 02 46 57.2 +0.8**
comp=Z,0.9nm,0.7s,baz=278,slow=2.6,SNR=11
KEST Kesra 93.76 321 LR LR 03 34 18.6
comp=Z,88nm,18.1s,baz=252,slow=39
TORD Torodi Ar. Bea 115.84 313 PKP **PKPdf 02 52 30.6 -0.5**
comp=Z,0.2nm,0.5s,baz=46,slow=1.3,SNR=4.2
SAML Samuel 145.74 41 ePKPdf **PKPdf 02 53 27.0 -0.1**
LPAZ La Paz 148.52 56 PKPbc **PKPbc 02 53 36.0 0.0**
comp=Z,3.0nm,0.8s,baz=0.0,slow=2.0,SNR=15
LPAZ La Paz 148.52 56 ePKPbc **PKPbc 02 53 36.5 +0.4**

DJA 02 02:35:29.7±1.0, 9°S±5°×11°0E±°, h39km±9km, M3.7/18, MLv3.7/18, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.86**	**9**	P	Pn	02 35 46.1	+0.7
UGM				S	Sn	02 35 58.0	+1.2
PCJI	**Pacitan**	**0.97**	**54**	P	Pn	02 35 45.4	-1.4
WOJI	**Wonogiri, Jawa**	**1.07**	**30**	P	Pn	02 35 48.2	+0.1
WOJI				S	Sn	02 36 02.8	+1.1
PWJI	**Pagerwojo**	**1.58**	**62**	P	Pn	02 35 54.2	-1.1
PWJI				S	Sn	02 36 12.7	-1.8
SMRI	**Semarang**	**1.71**	**2**	P	Pn	02 35 56.9	-0.1
NGJI	**Ngawi**	**1.75**	**37**	P	Pn	02 36 01.3	+3.7
KPJI	**Karang Pucung**	**2.03**	**315**	P	Pn	02 36 01.3	-0.1
CMJI	**Cimerak**	**2.16**	**297**	P	Pn	02 36 02.8	-0.3
CMJI				S	Sn	02 36 28.5	-0.2
TBJI	**Tambak Boyo**	**2.42**	**37**	P	Pn	02 36 06.9	+0.2
GRJI	**Gresik**	**2.77**	**48**	P	Pn	02 36 11.4	-0.2
GMJI	**Gumukmas**	**3.06**	**81**	P	Pn	02 36 15.5	-0.1
BLJI	**Banyuglugur**	**3.33**	**72**	P	Pn	02 36 19.6	+0.3
CNJI	**Cibinong**	**3.54**	**294**	P	Pn	02 36 22.8	+0.6
JAGI	**Jajag, Banyuwa**	**3.73**	**86**	P	Pn	02 36 24.9	+0.1
ABJI	**Asem Bagus**	**3.93**	**76**	P	Pn	02 36 28.3	+0.8

MEX 02 02:39:57.6±0.5, 16°26N×92°19W, h70km±167km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.13**	**241**	eP	Pn	02 40 17.7	-0.1
PCIG				eS	Sn	02 40 30.2	-2.5

IDC 02 02:49:55.0±0.8, 52°26S×14°07E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/33, mbtmp4.0/7, MS3.7/12, Ms1 3.7/12, ms1mx3.6/25, Error ellipse: s-maj=36.6km s-min=24.6km az=21.0
NEIC 02 02:49:56.4±0.4, 52°23S×14°12E, h10km, mb4.4/1, Error ellipse: s-maj=13.7km s-min=10.2km az=59.0
ISC 02 02:49:56.3±0.8, 52°2S±0°2×14°1E±0°2, h10km, n34, σ0s36/19, mb4.3/9, MS3.8/12, Southwest of Africa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SUR Sutherland 20.42 16 P Pn 02 54 40.0 +4.2
0.7nm,0.8s,baz=178,slow=13,SNR=5.6
SUR LR LR 03 00 19.9
comp=Z,36nm,20.1s,baz=154,slow=30
SUR Sutherland 20.42 16 eP Pn 02 54 40.0 +4.2
SNAA Sanae 20.93 195 eP **P 02 54 38.9 +0.1**
2μm,1.0s
BOSA Boshof 25.00 24 LR LR 03 03 29.0
comp=Z,340nm,20.4s,baz=195,slow=32
MAW Mawson 27.91 142 LR LR 03 04 32.5
comp=Z,266nm,21.8s,baz=246,slow=31
QSPA South Pole Qui 38.01 180 eP **P 02 57 14.2 -0.2**
200nm,2.0s
VNDA Vanda 48.98 171 P **P 02 58 42.8 +0.5**
1.4nm,0.9s,baz=239,slow=8.2,SNR=7.3
VNDA LR LR 03 18 12.2
comp=Z,339nm,20.8s,baz=206,slow=35
PLCA Paso Flores 56.23 246 P **P 02 59 36.1 -0.5**
0.8nm,0.7s,baz=142,slow=10,SNR=3.7
PLCA LR LR 03 21 58.5
comp=Z,34nm,18.2s,baz=183,slow=34
CPUP Villa Florida 58.44 267 P **P 02 59 52.1 -0.1**
1.9nm,0.8s,baz=118,slow=5.3,SNR=7.5
BDFB Brasilia 60.77 283 P **P 03 00 08.8 +0.3**
2.6nm,1.0s,baz=201,slow=10.0,SNR=3.6
DBIC Dimbokro 60.86 338 LR LR 03 21 50.3
comp=Z,69nm,18.6s,baz=109,slow=32
H08N3 Diego Garcia H 65.12 67 T T 04 11 27.9
baz=220
H08N1 Diego Garcia H 65.13 67 T T 04 11 32.5
baz=220
H08N2 Diego Garcia H 65.14 67 T T 04 11 30.1
baz=220
H01W2 Cape Leeuwin H 68.83 120 T T 04 16 47.6
baz=219
H01W3 Cape Leeuwin H 68.84 120 T T 04 16 47.6
baz=219
H01W1 Cape Leeuwin H 68.85 120 T T 04 16 47.6
baz=219
LPAZ La Paz 72.58 266 P **P 03 01 24.5 -0.1**
3.3nm,0.9s,baz=118,slow=5.3,SNR=17
SAML Samuel 75.20 275 eP **P 03 01 39.2 +0.1**
4.2nm,1.1s
ASAR Alice Springs 88.02 127 P **P 03 02 46.9 +0.1**
1.4nm,0.8s,baz=209,slow=5.6,SNR=10
ASAR LR LR 03 38 42.5
comp=Z,49nm,18.5s,baz=149,slow=33
WRA Warramunga Arr 91.37 126 P **P 03 03 02.1 -0.4**
0.5nm,0.9s,baz=276,slow=8.3,SNR=3.0
GNI Garni 95.77 23 LR LR 03 46 49.0
comp=Z,75nm,20.0s,baz=210,slow=36
MLR Muntele Rosu 97.86 8 LR LR 03 49 11.6
comp=Z,5.5nm,19.0s,baz=218,slow=36
DAVOX Davos/Dischmat 98.69 357 LR LR 03 49 54.1
comp=Z,34nm,20.0s,baz=268,slow=36
KBZ Khabaz 98.75 21 LR LR 03 48 19.1
comp=Z,79nm,19.7s,baz=196,slow=36
KVAR Kislovodsk Arr 98.92 20 LR LR 03 48 11.7
comp=Z,52nm,20.3s,baz=187,slow=35
RES Resolute Bay 144.42 334 PKP **PKPdf 03 09 30.6 -0.4**
4.4nm,0.9s,baz=104,slow=4.6,SNR=4.7
NVAR Mina Array Bea 144.49 266 PKP **PKPdf 03 09 32.4 -0.1**
0.6nm,0.7s,baz=111,slow=2.2,SNR=3.3
CMB Columbia Colle 145.51 264 ePKPdf **PKPab 03 09 34.8 +0.2**
TIXI Tiksi 146.03 31 PKPbc **PKPbc 03 09 34.5 -0.2**
5.7nm,0.7s,baz=17,slow=1.7,SNR=12
TIXI Tiksi 146.03 31 ePKPdf **PKPdf 03 09 34.1 +0.2**
TIXI PKPbc **PKPbc 03 09 34.5 -0.2**
WVOR Wild Horse Val 147.06 272 ePKPbc **PKPbc 03 09 38.9 0.0**
YKA Yellowknife Ar 151.28 311 PKPbc **PKPbc 03 09 48.3 -0.3**
3.9nm,0.8s,baz=88,slow=2.4,SNR=20
ILAR Eielson Array 164.07 329 PKPab **PKPab 03 10 52.8 +0.9**
0.5nm,1.0s,baz=13,slow=4.5,SNR=4.5

JMA 02 03:02:03.3±0.2, 37°62N×144°13E, h3km, M4.1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.42**	**308**	P	Pn	03 02 44.6	+0.8
OFUJ				S	Sn	03 03 15.1	+1.1
JMK	**Ichinoseki**	**2.65**	**301**	eS	Sn	03 03 21.4	+1.9
JOM	**Ohasama**	**2.89**	**311**	P	Pn	03 02 52.3	+2.0
JOM				eS	Sn	03 03 27.8	+2.2
JFT	**Otama**	**3.02**	**269**	P	Pn	03 02 53.2	+1.2
JFT				eS	Sn	03 03 29.6	+1.0
JYK	**Kaneyama**	**3.24**	**295**	P	Pn	03 02 56.7	+1.7
JYK				eS	Sn	03 03 36.6	+2.5
JANG	**Nango**	**3.42**	**324**	P	Pn	03 02 58.7	+1.2
JANG				eS	Sn	03 03 39.4	+0.8
BSO1	**Boso 1**	**3.91**	**222**	P	Pn	03 02 58.9	-4.8
MAT	**Matsushiro**	**4.86**	**259**	P	Pn	03 03 17.7	+0.4
MAT				S	Sn	03 04 14.5	+0.5
JCH	**Churui**	**5.02**	**354**	P	Pn	03 03 18.1	-1.4
JCH				eS	Sn	03 04 14.3	-3.8
NEM2	**Nemuro 2**	**5.87**	**12**	P	Pn	03 03 26.0	-5.1
NEM2				eS	Sn	03 04 30.1	-8.8
JTKR	**Abashiri--Toko**	**6.35**	**359**	P	Pn	03 03 35.5	-2.2
JTKR				eS	Sn	03 04 44.0	-6.6

JMA 02 03:10:28.0±0.2, 37°60N×142°02E, h25km±4km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.94**	**256**	P	Pn	03 10 45.2	-0.5
JFK				eS	Sb	03 10 57.5	-0.2
JIO	**Ouri**	**1.00**	**328**	P	Pb	03 10 46.8	+0.1
JIO				S	Sb	03 10 59.5	0.0
JMM	**Marumori**	**1.01**	**286**	P	Pn	03 10 46.2	-0.3
JMM				S	Sb	03 10 59.1	-0.5
ONAJ	**Iwakimizuishiy**	**1.09**	**243**	P	Pn	03 10 47.3	-0.5
ONAJ				eS	Sn	03 11 01.3	-0.8
JOU	**Okura**	**1.32**	**306**	P	Pb	03 10 51.6	-0.5
JOU				S	Sb	03 11 09.1	+0.6
JFT	**Otama**	**1.34**	**267**	P	Pb	03 10 52.2	-0.3
JFT				eS	Sb	03 11 09.4	+0.2
JMK	**Ichinoseki**	**1.49**	**335**	P	Pn	03 10 53.5	+0.3
JYS	**Shirataka**	**1.67**	**292**	P	Pb	03 10 57.9	-0.1
JYS				eS	Sb	03 11 18.2	-0.3
JFY	**Yanaizu**	**1.85**	**265**	P	Pb	03 11 00.1	-1.1
JYK	**Kaneyama**	**1.85**	**316**	P	Pb	03 10 59.8	-1.4
JOM	**Ohasama**	**1.96**	**343**	P	Pn	03 11 00.0	+0.4
JYA	**Atsumi**	**2.07**	**299**	P	Pn	03 11 02.6	+1.4
MAT	**Matsushiro**	**3.23**	**252**	P	Pn	03 11 20.6	+3.5
MAT				S	Sn	03 11 56.8	+2.1

NIED 02 03:18:00, 38°30N×142°00E, h68km, Mw4.3 Best double couple: Mo3.07000×10^15 NP1:φs35.00000°, δ36.00000°, λ137.00000°. NP2:φs162.00000°, δ66.00000°, λ62.00000°.
JMA 02 03:18:30.1±0.1, 38°34N×141°89E, h63km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.44**	**285**	P	Pn	03 18 41.8	+0.1
JIO				S	Sn	03 18 49.9	-0.2
OFUJ	**Ofunato**	**0.76**	**347**	P	Pn	03 18 45.3	+0.1
OFUJ				S	Sn	03 18 56.3	-0.1
JMK	**Ichinoseki**	**0.81**	**320**	P	Pn	03 18 46.1	+0.3
JMK				S	Sn	03 18 57.6	+0.3
JOU	**Okura**	**0.96**	**272**	P	Pn	03 18 47.9	+0.1
JOU				S	Sn	03 19 01.1	+0.2
JMM	**Marumori**	**0.99**	**242**	P	Pn	03 18 47.8	-0.3
JMM				S	Sn	03 19 00.7	-0.7
JOM	**Ohasama**	**1.22**	**338**	P	Pn	03 18 51.4	+0.2
JOM				S	Sn	03 19 07.7	+0.8
JFK	**Kawauchi**	**1.26**	**220**	P	Pn	03 18 51.4	-0.3
JFK				S	Sn	03 19 07.2	-0.7
JYK	**Kaneyama**	**1.33**	**296**	P	Pn	03 18 52.9	+0.3
JYK				S	Sn	03 19 10.2	+0.8
JRG	**Rokugo**	**1.44**	**317**	P	Pn	03 18 54.6	+0.6
JRG				S	Sn	03 19 13.9	+1.8
JYS	**Shirataka**	**1.44**	**266**	P	Pn	03 18 54.4	+0.3
JYS				S	Sn	03 19 12.7	+0.6
JFT	**Otama**	**1.48**	**237**	P	Pn	03 18 54.9	+0.3
JFT				S	Sn	03 19 12.7	-0.3

SJA 02 03:27:47.5±0.5, 31°80S×69°66W, h98km±4km, ML1.9, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.31**	**90**	eP	Pn	03 28 03.6	+1.3
RTLS				eS	Sn	03 28 15.0	+1.6
RTLS	**Leoncito**	**0.31**	**90**	eP	Pn	03 28 03.6	+1.3
RTLS				eS	Sn	03 28 15.0	+1.6
AUSP	**Uspallata**	**0.48**	**151**	eP	Pn	03 28 04.6	+1.3
AUSP	**Uspallata**	**0.48**	**151**	eP	Pn	03 28 04.6	+1.3
AUSP	**Uspallata**	**0.48**	**151**	eP	Pn	03 28 04.6	+1.3
AUSP				eS	Sn	03 28 16.8	+1.7
RTCV	**Cerro Valdivia**	**0.96**	**94**	eP	Pn	03 28 08.2	+0.8
RTCV	**Cerro Valdivia**	**0.96**	**94**	eP	Pn	03 28 08.2	+0.8
RTCV				eS	Sn	03 28 23.1	+0.8
RTLL	**Cerro Villicun**	**1.12**	**65**	eP	Pn	03 28 09.9	+0.7
RTLL	**Cerro Villicun**	**1.12**	**65**	eP	Pn	03 28 09.8	+0.7
RTLL				eS	Sn	03 28 24.7	-0.7
AMOG	**MOGNA**	**1.32**	**50**	eS	Sn	03 28 30.9	+1.2
AMOG	**MOGNA**	**1.32**	**50**	eP	Pn	03 28 12.7	+1.2
AMOG	**MOGNA**	**1.32**	**50**	eP	Pn	03 28 12.7	+1.2
ROC1	**El Roble**	**1.64**	**224**	eP	Pn	03 28 16.7	+1.1
ROC1	**El Roble**	**1.64**	**224**	eP	Pn	03 28 16.7	+1.1
ROC1				eS	Sn	03 28 38.5	+1.6
MRA	**San Martin**	**3.40**	**101**	eP	Pn	03 28 38.0	-0.7
MRA				IAML		03 29 37.3	
	comp=Z,2.5nm,0.6s						
MRA	**San Martin**	**3.40**	**101**	eP	Pn	03 28 38.0	-0.7
MRA				IAML		03 29 37.3	
	comp=Z,2.5nm,0.6s						
MRA	**San Martin**	**3.40**	**101**	eP	Pn	03 28 38.0	-0.7
MRA				IAML		03 29 37.3	
	comp=Z,2.5nm,0.6s						

JMA 02 03:28:22.9±0.1, 38°67N×142°11E, h34km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.54**	**320**	P	Pn	03 28 34.0	-0.1
OFUJ				S	Sb	03 28 41.4	-0.4
JIO	**Ouri**	**0.63**	**250**	P	Pn	03 28 35.0	-0.4
JIO				S	Sn	03 28 43.1	-1.2
JMK	**Ichinoseki**	**0.75**	**292**	P	Pn	03 28 37.0	-0.1
JMK				S	Sn	03 28 46.7	-0.6
JOM	**Ohasama**	**1.02**	**322**	P	Pn	03 28 41.2	+0.3
JOM				S	Sn	03 28 54.5	+0.5
JOU	**Okura**	**1.17**	**255**	P	Pn	03 28 43.3	+0.4
JOU				S	Sn	03 28 58.0	+0.2
JTH	**Tanohata**	**1.28**	**351**	P	Pn	03 28 44.5	+0.1
JTH				eS	Sn	03 29 00.4	0.0
JMM	**Marumori**	**1.31**	**233**	P	Pn	03 28 44.4	-0.4
JMM				eS	Sn	03 29 00.7	-0.4
JRG	**Rokugo**	**1.36**	**303**	P	Pn	03 28 46.6	+1.1
JRG				S	Sb	03 29 04.5	-0.4
JYK	**Kaneyama**	**1.39**	**281**	P	Pn	03 28 46.4	+0.5
JYK				S	Sn	03 29 04.4	+1.3

ISCJB 02 03:39:33.2±0.5, 24°73N×0°04×122°47E×0°02, h7km±4km, Error ellipse: s-maj=7.5km s-min=2.8km az=16.9
JMA 02 03:39:33.2±0.2, 24°71N×122°47E, h3km±2km, M2.7
TAP 02 03:39:33.6, 24°77N×122°47E, h22km, ML3.0, C
ISC 02 03:39:33.1±1.0, 24°72N±0°04×122°48E±0°02, h16km±10km, n23, σ0s38/33, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.50**	**122**	P	**Pb**	**03 39 43.2**	**-0.4**
JYNG				S	**Sb**	**03 39 50.3**	**-0.3**
TWB1	**Santiao Chiao**	**0.53**	**303**	P	**Pg**	**03 39 43.7**	**0.0**
	baz=299						
TWB1				S	**Sg**	**03 39 50.7**	**-0.2**
	baz=299						
YOJ	**Yonaguni jima**	**0.55**	**118**	P	**Pb**	**03 39 44.1**	**-0.2**
YOJ				S	**Sg**	**03 39 51.4**	**+0.1**
TWC	**Suao**	**0.58**	**260**	eP	**Pb**	**03 39 45.2**	**+0.2**
	baz=254						
TWC				eS	**Sg**	**03 39 52.6**	**+0.1**
	baz=254						
NWF	**Wu-fen Shan**	**0.73**	**299**	P	**Pb**	**03 39 47.7**	**+0.2**
	baz=295						
NWF				S	**Sg**	**03 39 57.0**	**0.0**
	baz=295						
TWY	**Chenhua**	**0.97**	**305**	eP	**Pn**	**03 39 52.3**	**+0.1**
	baz=302						
TWY				eS	**Sb**	**03 40 04.1**	**-0.2**
	baz=302						
PCYT	**Pengchaiyu**	**0.98**	**338**	eP	**Pn**	**03 39 52.2**	**-0.2**
	baz=337						
NSK	**Sanguang**	**1.02**	**268**	eP	**Pn**	**03 39 52.9**	**0.0**
	baz=264						
NSK				S	**Sb**	**03 40 05.3**	**-0.4**
	baz=264						
TWD	**Chiawan**	**1.02**	**232**	eP	**Pn**	**03 39 52.9**	**0.0**
	baz=236						
IRIF	**Iriomote-Funau**	**1.20**	**108**	P	**Pg**	**03 39 56.4**	**+0.1**
IRIF				eS	**Sn**	**03 40 11.1**	**-0.2**
WHF	**Hehuan Shan**	**1.25**	**243**	eP	**Pn**	**03 39 57.3**	**+0.1**
	baz=248						
NSTT	**Nanjuang**	**1.35**	**267**	eP	**Pg**	**03 39 58.9**	**-0.3**
	baz=264						
NSTT				eS	**Sb**	**03 40 15.5**	**+0.4**
	baz=264						
HATJ	**Hateruma jima**	**1.38**	**118**	P	**Pg**	**03 39 59.3**	**-0.3**
HATJ				S	**Sg**	**03 40 17.9**	**+0.3**
JKRS	**Kuro-shima**	**1.47**	**109**	P	**Pg**	**03 40 01.6**	**+0.1**
JIJ	**Ishigaki jima**	**1.56**	**103**	eS	**Sb**	**03 40 20.9**	**-0.1**
WDT	**Danda**	**1.56**	**232**	eP	**Pb**	**03 40 01.5**	**-0.3**
	baz=216						
SMLT	**Sun Moon Lake**	**1.66**	**240**	eP	**Pb**	**03 40 03.5**	**0.0**
	baz=221						
JISG	**Ishigakijimahi**	**1.67**	**94**	S	**Sb**	**03 40 25.2**	**+0.8**
TYC	**Yuchr**	**1.69**	**242**	eP	**Pb**	**03 40 03.6**	**-0.2**
	baz=224						
TWF1	**Yuli**	**1.74**	**219**	eP	**Pb**	**03 40 03.9**	**-0.8**
	baz=205						
YUS	**Yu-Shan**	**1.85**	**229**	eP	**Pb**	**03 40 06.9**	**-0.1**
	baz=227						
ALS	**Alishan**	**1.94**	**232**	eP	**Pn**	**03 40 07.1**	**+1.2**
	baz=215						
CHN4	**Tsaushan**	**2.20**	**232**	eP	**Pn**	**03 40 09.1**	**0.0**
	baz=215						

ISCJB 02 03:39:35.6±3.5, 31°9S±0°1×177°8W±0°6, h24km, mb4.1/3, Error ellipse: s-maj=71.0km s-min=7.7km az=14.1
IDC 02 03:39:35.6±1.5, 31°72S×177°89W, h0km, mb4.2/3, mb1 4.4/5, mb1mx4.0/32, mbtmp4.2/5, ML4.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/32, Error ellipse: s-maj=38.4km s-min=23.4km az=109.0
ISC 02 03:39:38.7±1.6, 31°8S±0°1×177°9W±0°3, h24km, n9, σ1s07/10, mb4.2/3, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 2.50 360 Pn **Pn 03 40 17.2 -0.8**
73nm,0.3s,baz=34,slow=23,SNR=4.1
RAO Sn **Sn 03 40 46.8 -0.9**
150nm,0.3s,baz=143,slow=20,SNR=3.4
URZ Urewera 7.66 211 Pn **Pn 03 41 28.2 -0.6**
2.2nm,0.3s,baz=283,slow=4.0,SNR=6.2
URZ Sn **Sn 03 42 53.3 -1.5**
4.8nm,0.3s,baz=275,slow=19,SNR=10
DZM Mont Dzumac 16.95 301 LR LR 03 48 41.3
comp=Z,198nm,21.1s,baz=138,slow=32
STKA Stephens Creek 34.27 259 P **P 03 46 23.8 +0.8**
1.1nm,0.3s,baz=131,slow=9.3,SNR=2.4
ASAR Alice Springs 43.13 268 P **P 03 47 38.1 +0.7**
1.5nm,0.5s,baz=106,slow=7.2,SNR=17
WRA Warramunga Arr 44.24 273 P **P 03 47 46.7 +0.3**
1.7nm,0.4s,baz=112,slow=7.9,SNR=45
FINES FINESS Array B 146.44 339 PKPbc **PKPbc 03 59 16.8 -0.2**
1.1nm,0.4s,baz=49,slow=4.0,SNR=9.6
BRTR Keskin Array B 153.29 296 PKPbc **PKPbc 03 59 36.5 +1.7**
0.3nm,0.4s,baz=131,slow=3.6,SNR=3.6
TORD Torodi Ar. Bea 161.47 179 PKPab **PKPab 04 00 22.6 +0.3**
0.6nm,1.0s,baz=174,slow=2.9,SNR=2.5

IDC 02 03:42:54.1±22.0, 22°93S×176°86W, h489km±174km, mb3.0/4, mb1 3.2/5, mb1mx3.0/34, mbtmp4.0/5, Error ellipse: s-maj=235.6km s-min=25.8km az=45.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.13	197	P	P	03 46 16.2	+0.1
	1.4nm,0.3s,baz=356,slow=15,SNR=6.1						
RPZ	Rata Peaks	23.01	203	P	P	03 47 20.3	0.0
	9.2nm,0.9s,baz=27,slow=2.3,SNR=3.0						
ASAR	Alice Springs	45.04	259	P	P	03 50 25.3	-0.4
	0.4nm,0.5s,baz=93,slow=7.7,SNR=4.2						
WRA	Warramunga Arr	45.36	264	P	P	03 50 28.2	+0.1
	1.0nm,0.4s,baz=101,slow=8.3,SNR=15						
VNDA	Vanda	55.60	185	P	P	03 51 42.1	-0.1
	0.2nm,0.3s,baz=41,slow=4.0,SNR=2.3						

JMA 02 03:50:37.5±0.1, 35.°75N×140.°92E, h12^{km}±1^{km}, M2.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.07	227	P	Pg	03 50 39.9	-0.1
CHOJ				S	Sg	03 50 41.9	+0.1
JYT	Yasato	0.76	309	P	Pg	03 50 51.8	-0.4
JYT				S	Sg	03 51 01.8	-0.3
JHO	Hitachi	0.91	342	P	Pg	03 50 54.8	-0.2
JHO				S	Sg	03 51 06.0	-0.8

*NIED **02** 03:51:00, 37.°00N×138.°70E, h5^{km}, Mw4.1 Best double couple: $M_0$1.35000×10^{15} NP1:ϕ_s207.00000°, δ34.00000°, λ67.00000°. NP2:ϕ_s54.00000°, δ59.00000°, λ105.00000°.*
*ISCJB **02** 03:51:02.9±0.3, 37.°04N±0.°02×138.°69E±0.°03, h21^{km}±3^{km}, mb3.9/17, MS3.4/10, Error ellipse: s-maj=4.5km s-min=3.6km az=7.3*
*IDC **02** 03:51:03.6±2.6, 37.°02N×138.°56E, h16^{km}±17^{km}, mb3.8/18, mb1 4.1/19, mb1mx4.0/36, mbtmp3.9/19, ML3.0/1, MS3.3/13, Ms1 3.3/13, ms1mx3.1/47, Error ellipse: s-maj=19.3km s-min=16.2km az=91.0*
*JMA **02** 03:51:03.0, 37.°04N×138.°71E, h8^{km}±2^{km}, M4.1*
JMA Felt IV J1.
ISC 02 03:51:02.3±1.1, 37.°04N±0.°02×138.°65E±0.°03, h6^{km}±7^{km}, n44, σ1.s20/49, mb4.0/17, MS3.3/10, 4C-1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHK	Hiroka	0.36	55	⇑P	Pg	03 51 09.2	-0.2
JHK				S	Sg	03 51 14.0	-0.2
JJN	Nakama	0.39	279	P	Pb	03 51 11.5	-0.2
JJN				S	Sb	03 51 18.1	+0.1
JGK	Kuni	0.48	181	P	Pb	03 51 12.8	-0.4
JGK				S	Sb	03 51 19.8	-0.7
JIZZ	Izumozaki	0.49	6	P	Pb	03 51 13.2	-0.3
JIZZ				S	Sb	03 51 21.4	+0.5
JKT	Katashina	0.56	119	P	Pg	03 51 12.9	-0.1
JKT				eS	Sg	03 51 19.9	-0.4
MJAR	Matsushiro Arr	0.61	215	Pg	Pg	03 51 14.0	0.0
	154nm,0.3s,baz=34,slow=18,SNR=152						
MJAR				Lg	Lg	03 51 23.3	
	257nm,0.3s,baz=33,slow=30,SNR=34						
MAT	Matsushiro	0.61	215	P	Pb	03 51 15.1	-0.3
MAT				eS	Sb	03 51 23.5	-0.8
JAG	Ashikaga	0.89	133	⇓P	Pg	03 51 19.4	-0.1
JAG				S	Sg	03 51 30.8	-0.3
JFY	Yanaizu	0.92	66	⇑P	Pg	03 51 19.1	-0.9
JFY				S	Sg	03 51 30.9	-1.1
JNS	Sasagawa	0.94	34	⇑P	Pg	03 51 19.3	-1.2
JNS				eS	Sg	03 51 31.8	-0.9
JSD	Sado	1.04	343	⇑P	Pg	03 51 21.5	-0.8
JSD				eS	Sg	03 51 35.5	-0.3
JRY	Ryogami san	1.04	168	P	Pg	03 51 22.2	-0.1
JRY				eS	Sb	03 51 36.5	-0.3
JHJ	Hachijo jima 2	4.02	166	Sn	Sn	03 52 54.8	+2.8
	8.8nm,0.3s,baz=66,slow=19,SNR=2.2						
JNU	Nakatsue	7.47	241	LR	LR	03 56 11.8	
	comp=Z,87nm,19.0s,baz=302,slow=42						
ASAJ	Asahikawa	7.68	22	Pn	Pn	03 52 57.9	+3.2
	2.3nm,0.3s,baz=218,slow=11,SNR=10						
KSRS	Korea Array	8.56	276	Pn	Pn	03 53 07.8	+1.0
	0.2nm,0.3s,baz=88,slow=14,SNR=3.3						
KSRS				LR	LR	03 56 17.3	
	comp=Z,158nm,19.0s,baz=108,slow=37						
USRK	Ussuriysk Ar.	8.76	327	Pn	Pn	03 53 13.6	+4.1
	0.2nm,0.3s,baz=140,slow=13,SNR=2.9						
KLR	Kul'dur	13.18	340	Pn	Pn	03 54 12.8	+2.9
	0.2nm,0.3s,baz=132,slow=11,SNR=7.5						
KLR				LR	LR	03 58 57.1	
	comp=Z,104nm,18.6s,baz=144,slow=36						
PETK	Petropavlovsk-	20.85	34	P	Pn	03 55 47.1	-0.1
	5.5nm,1.0s,baz=221,slow=14,SNR=3.6						
YAK	Yakutsk	25.63	350	LR	LR	04 06 29.6	
	comp=Z,63nm,19.0s,baz=78,slow=36						
SONM	Songino Array	25.95	305	P	P	03 56 34.9	-0.7
	0.5nm,0.6s,baz=90,slow=8.6,SNR=2.6						
SONM				LR	LR	04 07 07.9	
	comp=Z,58nm,19.4s,baz=90,slow=37						
TLY	Talaya	28.66	312	LR	LR	04 09 01.4	
	comp=Z,68nm,18.6s,baz=112,slow=38						
TIXI	Tiksi	35.05	355	LR	LR	04 12 46.6	
	comp=Z,29nm,19.4s,baz=350,slow=37						
CMAR	Chiang Mai Arr	39.37	253	LR	LR	04 16 25.3	
	comp=Z,24nm,19.1s,baz=195,slow=39						
MKAR	Makanchi Array	42.23	302	P	P	03 58 54.8	-1.4
	0.2nm,0.4s,baz=95,slow=7.2,SNR=2.9						
MKAR				LR	LR	04 17 12.3	
	comp=Z,53nm,18.9s,baz=64,slow=37						
NRIK	Noril'sk	42.34	336	P	P	03 58 56.1	-0.7
	2.4nm,0.8s,baz=134,slow=8.1,SNR=3.7						
KURBB	Kurchatov Arra	44.25	308	P	P	03 59 11.8	-0.6
	0.6nm,0.5s,baz=83,slow=8.4,SNR=3.7						
HNR	Honiara	50.37	152	LR	LR	04 17 03.5	
	comp=Z,54nm,21.3s,baz=240,slow=31						
ILAR	Eielson Array	50.67	32	P	P	04 00 01.5	-0.7
	1.2nm,0.8s,baz=282,slow=6.4,SNR=14						
WRA	Warramunga Arr	56.82	185	P	P	04 00 46.6	-1.0
	6.2nm,1.0s,baz=2.3,slow=7.3,SNR=15						
ASAR	Alice Springs	60.55	185	P	P	04 01 13.0	-0.5
	1.6nm,0.9s,baz=7.1,slow=5.6,SNR=7.8						
ARCES	ARCESS Array B	63.20	339	P	P	04 01 30.7	-0.2
	1.4nm,0.8s,baz=62,slow=9.7,SNR=3.7						
ARCES				LR	LR	04 33 17.6	
	comp=Z,30nm,18.3s,baz=60,slow=40						
YKA	Yellowknife Ar	64.90	29	P	P	04 01 41.5	-0.7
	0.6nm,0.6s,baz=309,slow=6.9,SNR=5.8						
FINES	FINESS Array B	67.76	331	P	P	04 01 59.4	-1.1
	2.1nm,0.7s,baz=81,slow=12,SNR=5.7						
AKASG	Malin Array Be	72.92	321	P	P	04 02 31.5	-0.7
	0.5nm,0.3s,baz=47,slow=6.2,SNR=7.9						
AKASG				LR	LR	04 37 15.8	
	comp=Z,72nm,18.0s,baz=60,slow=38						
NB2	NORSAR Subarra	73.31	336	P	P	04 02 33.9	-0.5
	comp=Z,2.0nm,0.7s,baz=43,slow=6.2						
NOA	NORSAR Array B	73.31	336	P	P	04 02 34.2	-0.3
	comp=Z,2.7nm,1.0s,baz=41,slow=5.9,SNR=3.6						
NOA				LR	LR	04 37 08.3	
	comp=Z,19nm,19.6s,baz=190,slow=38						
NVAR	Mina Array Bea	76.74	52	P	P	04 02 55.5	+0.5
	comp=Z,1.2nm,0.8s,baz=288,slow=5.6,SNR=5.7						
NVAR				PP	PP	04 05 48.6	+1.6
	comp=Z,0.3nm,0.3s,baz=280,slow=12,SNR=3.6						
BRTR	Keskin Array B	77.17	310	P	P	04 02 57.7	+0.4
	comp=Z,0.7nm,0.7s,baz=125,slow=3.5,SNR=4.7						
PDAR	Pinedale Array	79.22	44	P	P	04 03 08.9	+0.2
	comp=Z,1.2nm,0.8s,baz=142,slow=3.4,SNR=3.9						
GERES	GERESS Array B	81.52	327	P	P	04 03 20.2	-0.6
	comp=Z,0.8nm,0.7s,baz=38,slow=6.8,SNR=7.5						
TXAR	Lajitas Array	91.85	51	P	P	04 04 11.6	-0.2
	comp=Z,0.3nm,0.7s,baz=297,slow=4.0,SNR=2.6						
TORD	Torodi Ar. Bea	115.72	312	PKP	PKPdf	04 09 44.8	-1.5
	comp=Z,0.2nm,0.5s,baz=8.4,slow=0.2,SNR=5.7						
LPAZ	La Paz	148.56	56	PKPbc	PKPbc	04 10 51.2	-0.2
	comp=Z,0.6nm,0.7s,baz=333,slow=4.5,SNR=4.3						

*ISCJB **02** 04:11:24.8±0.8, 5.°55S±0.°09×149.°9E±0.°1, h10^{km}, mb3.9/7, MS3.6/1, Error ellipse: s-maj=21.7km s-min=9.9km az=26.2*
*IDC **02** 04:11:24.6±1.0, 5.°60S×150.°00E, h0^{km}, mb4.0/8, mb1 4.2/9, mb1mx4.0/35, mbtmp4.0/9, ML2.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/37, Error ellipse: s-maj=28.9km s-min=18.1km az=108.0*
ISC 02 04:11:26.2±1.0, 5.°6S±0.°1×150.°0E±0.°2, h10^{km}, n11, σ1.s14/9, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.76	217	Pn	Pn	04 12 38.6	+0.5
	4.6nm,0.3s,baz=350,slow=5.7,SNR=9.8						
PMG				Sn	Sn	04 13 33.7	+0.3
	7.8nm,0.3s,baz=67,slow=14,SNR=9.4						
GUMO	Guam	19.71	345	LR	LR	04 23 08.7	
	comp=Z,24nm,18.2s,baz=98,slow=36						
WRA	Warramunga Arr	20.91	225	P	Pn	04 16 08.2	-3.4
	14nm,0.8s,baz=51,slow=11,SNR=49						
DZM	Mont Dzumac	22.82	138	P	P	04 16 30.6	+0.9
	9.7nm,0.8s,baz=308,slow=19,SNR=4.7						
ASAR	Alice Springs	23.77	219	P	P	04 16 38.0	-1.2
	1.1nm,0.6s,baz=52,slow=8.7,SNR=13						
FITZ	Fitzroy Crossi	26.88	240	P	P	04 17 06.4	-1.1
	12nm,0.7s,baz=80,slow=6.7,SNR=17						
KSRS	Korea Array	47.51	336	P	P	04 20 02.4	+0.7
	0.4nm,0.3s,baz=150,slow=10,SNR=4.9						
SONM	Songino Array	65.54	329	P	P	04 22 11.2	+1.1
	1.2nm,0.9s,baz=152,slow=6.7,SNR=5.8						
MKAR	Makanchi Array	79.11	320	P	P	04 23 31.2	+0.1
	0.2nm,0.4s,baz=96,slow=5.7,SNR=3.6						
ILAR	Eielson Array	83.91	23	P	P	04 23 54.6	-1.5
	0.3nm,0.7s,baz=256,slow=5.5,SNR=3.9						
NRIK	Noril'sk	85.81	342	LR	LR	05 02 36.5	
	comp=Z,22nm,18.5s,baz=102,slow=36						

*OBM **02** 04:25:08.8±0.1, 51.°88N×98.°19E, h2^{km}, Ml3.6/3, Error ellipse: s-maj=1.7km s-min=0.8km az=2.0*
MOS 02 04:25:15.1±2.9, 51.°92N×98.°51E, h9^{km}, mb4.4/1, 1C-4D, Error ellipse: s-maj=18.2km s-min=11.6km az=19.1, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORL	Orlik	1.01	52	⇓iPG	Pg	04 25 32.8	-1.8
ORL				e		04 25 49.6	
ORL				pmax	pmax		
	comp=Z,84nm,0.3s						
ORL				smax	smax		
	comp=N,404nm,0.8s						
MOY	Mondy	1.56	98	⇑iPN	Pn	04 25 42.0	-1.1
MOY				e		04 26 05.6	
MOY				pmax	pmax		
	comp=Z,126nm,0.6s						
MOY				smax	smax		
	comp=E,1μm,0.5s						
HTG	Hatgal	1.75	138	ePn	Pn	04 25 42.3	+2.1
HTG				eSg	Sb	04 26 08.2	+4.1
	comp=E,2μm,0.2s						
ARS	Arshan	2.42	88	ePN	Pn	04 25 55.2	+0.3
ARS				e		04 26 33.4	
ARS				pmax	pmax		
	comp=Z,143nm,0.5s						
ARS				smax	smax		
	comp=E,2μm,0.5s						
TSC	Tosontsengel	3.00	181	ePn	Pb	04 26 02.3	-0.9
TSC				eSg	Sg	04 26 47.0	+1.0
	comp=E,338nm,0.3s						
TLY	Talaya	3.19	92	iPN	Pn	04 26 07.2	+1.7
TLY				i		04 26 55.4	
TLY				pmax	pmax		
	comp=Z,54nm,0.5s						
ZAK	Zakamensk	3.37	115	ePN	Pn	04 26 06.5	-1.5
ZAK				e		04 26 59.8	
ZAK				pmax	pmax		
	comp=Z,87nm,0.8s						
ZAK				smax	smax		
	comp=N,442nm,0.9s						
TBRR	Tiberkul'	3.50	306	d iPN	Pn	04 26 06.3	-3.3
TBRR				i		04 26 51.4	
IRK	Irkutsk	3.57	82	ePN	Pb	04 26 17.8	-0.5
IRK				e		04 27 06.7	
IRK				pmax	pmax		
	comp=Z,143nm,0.1s						
IRK				smax	smax		
	comp=N,869nm,0.5s						
IVK	Ivanovka	3.66	90	ePN	Pb	04 26 18.6	-1.3
IVK				e		04 27 08.7	
IVK				pmax	pmax		
	comp=Z,34nm,0.7s						
IVK				smax	smax		
	comp=N,238nm,1.3s						
KTRR	Kuturchin	3.97	321	d iPN	Pn	04 26 19.2	+3.1
KTRR				i		04 27 12.3	
ULG	Ulaangom	4.36	248	ePn	Pn	04 26 18.0	+2.1
ULG				eSg	Sb	04 27 20.6	+1.7
	comp=N,775nm,0.6s						
CERR	Cheremushki	4.45	285	iPN	Pn	04 26 20.4	-2.3
CERR				i		04 27 18.1	
BLGM	Bulgan	4.48	130	ePg	Pb	04 26 31.1	+2.7
BLGM				eSg	Sg	04 27 33.7	+0.4
	comp=N,201nm,0.6s						
TTS	Tsetserleg	4.75	153	ePg	Pb	04 26 37.3	+4.3
TTS				eSg	Sg	04 27 41.6	-0.4
	comp=N,261nm,0.4s						
TBTR	Tabat	4.88	285	iPN	Pn	04 26 33.7	+5.1
TBTR				i		04 27 31.5	
KAB	Kabansk	5.03	85	ePN	Pb	04 26 44.5	+1.2
KAB				pmax	pmax		
	comp=Z,97nm,0.3s						
SHRR	Shira	5.64	300	d iPN	Pn	04 26 46.1	+7.0
SHRR				i		04 27 59.7	
HBD	Hovd	5.72	231	ePg	Pb	04 26 49.4	-0.1
HBD				eSg	Sg	04 28 05.9	-7.2
OGRR	Ongureny	5.78	69	ePN	Pn	04 26 39.5	-1.4
OGRR				e		04 26 57.4	
OGRR				e		04 28 13.7	
OGRR				pmax	pmax		
	comp=Z,12nm,0.7s						
OGRR				smax	smax		
	comp=N,182nm,1.1s						
BYO	Bayan-Olgiy	6.04	246	ePn	Pn	04 26 41.6	+2.4
BYO				eSg	Sb	04 28 12.5	+5.1
	comp=N,249nm,0.7s						
UB0M		6.23	125	ePg	Pb	04 27 02.0	+3.9
UB0M				eSg	Sg	04 28 27.5	-1.9
	comp=N,48nm,0.4s						
SONB5	Songino Array	6.52	124	ePg	Pb	04 27 09.5	+6.4
SONB5				eSg	Sg	04 28 37.1	-1.6
	comp=N,78nm,0.6s						
SONB4	Songino Array	6.53	124	ePg	Pb	04 27 09.4	+6.2
SONB4				eSg	Sg	04 28 36.9	-2.1
	comp=N,144nm,0.8s						
SONB1	Songino Array	6.53	124	ePg	Pb	04 27 10.0	+6.7
SONB1				eSg	Sg	04 28 36.6	-2.5
	comp=N,62nm,0.5s						
SONA2	Songino Array	6.54	124	ePg	Pb	04 27 10.1	+6.7
SONA2				eSg	Sg	04 28 36.5	-2.8
	comp=N,73nm,0.6s						
SONA1	Songino Array	6.54	124	ePg	Pb	04 27 10.2	+6.7
SONA1				eSg	Sg	04 28 36.5	-2.9
	comp=N,89nm,0.7s						
SONA3	Songino Array	6.54	124	ePg	Pb	04 27 10.4	+6.9
SONA3				eSg	Sg	04 28 36.7	-2.8
	comp=N,96nm,0.9s						
SONA0	Songino Array	6.54	124	ePg	Pb	04 27 08.9	+5.4
SONA0				eSg	Sg	04 28 38.4	-1.1
SONA4	Songino Array	6.54	124	ePg	Pb	04 27 10.2	+6.6
SONA4				eSg	Sg	04 28 36.7	-2.9
	comp=N,100nm,0.7s						
SONB2	Songino Ar. Si	6.55	124	ePg	Pb	04 27 10.3	+6.7
SONB2				eSg	Sg	04 28 37.1	-2.6
	comp=N,99nm,0.9s						
SONB3	Songino Array	6.55	124	ePg	Pb	04 27 10.5	+6.8
SONB3				eSg	Sg	04 28 37.3	-2.6
	comp=N,105nm,0.7s						
UB1M		6.59	123	ePg	Pb	04 27 09.4	+5.1
UB1M				eSg	Sg	04 28 39.8	-1.1
	comp=N,54nm,0.5s						
ALFM		6.65	121	ePg	Pb	04 27 10.0	+4.7
ALFM				eSg	Sg	04 28 39.8	-3.1
	comp=N,104nm,0.7s						
UB5M		6.75	123	ePg	Pb	04 27 13.0	+5.9
UB5M				eSg	Sg	04 28 44.6	-1.7
	comp=N,61nm,0.8s						
ARTM		6.95	120	ePg	Pb	04 27 16.0	+5.6
ARTM				eSg	Sg	04 28 51.0	-1.4
	comp=N,164nm,0.8s						
SEMM		7.02	123	ePg	Pb	04 27 18.9	+7.2
SEMM				eSg	Sg	04 28 52.0	-2.9
BRCR	Berchikul'	7.10	306	iPN	Pb	04 27 13.2	-5.2
BRCR				i		04 28 49.4	
UGDM		7.19	122	ePg	Pb	04 27 20.3	+5.7
UGDM				eSg	Sg	04 28 57.9	-2.4
	comp=N,157nm,1.0s						
DZBM		8.98	150	eSg	Sn	04 29 54.0	+53
	comp=N,85nm,1.2s						

MEX 02 04:29:45.7±0.5, 13.°54N×91.°13W, h18^{km}±20^{km}, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.89	340	eP	Pn	04 30 28.4	-2.7
CCIG				eS	Sn	04 31 01.9	-3.6
PCIG		2.95	317	eP	Pn	04 30 29.4	-2.3
PCIG				iS	Sn	04 31 03.4	-3.4

IDC 02 04:34:04.3±1.8, 15.°98N×120.°20E, h0^{km}, mb3.5/4, mb1 3.8/4, mb1mx3.4/53, mbtmp3.6/4, Error ellipse: s-maj=79.8km s-min=23.6km az=53.0, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.45	280	P	P	04 38 43.8	+0.2
	0.7nm,0.3s,baz=110,slow=9.3,SNR=4.8						
WRA	Warramunga Arr	38.31	158	P	P	04 41 26.6	-0.3
	1.1nm,0.8s,baz=338,slow=9.3,SNR=4.9						
ASAR	Alice Springs	41.62	161	P	P	04 41 54.5	0.0
	0.4nm,0.6s,baz=332,slow=6.3,SNR=5.8						
MKAR	Makanchi Array	43.93	323	P	P	04 42 12.7	-0.3
	0.2nm,0.5s,baz=138,slow=9.0,SNR=2.7						

*CSEM **02** 04:35:29.5, 39.°15N×29.°07E, h7^{km}, ML3.0*
DDA 02 04:35:29.5, 39.°15N×29.°07E, h7^{km}, Ml3.0, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.29	249	P	Pg	04 35 35.8	+0.5
DEMI				S	Sg	04 35 40.1	+0.8
DEMI	Demirci	0.29	249	iP	Pg	04 35 35.8	+0.5
DEMI				iS	Sg	04 35 40.1	+0.8
GDZ	Gediz	0.32	100	P	Pb	04 35 36.9	-0.8
GDZ				S	Sg	04 35 41.5	+1.3
GDZ	Gediz	0.32	100	iP	Pb	04 35 36.9	-0.9
GDZ				iS	Sg	04 35 41.5	+1.3
KHAL	Karahalli	0.84	157	P	Pg	04 35 46.0	+0.3
KHAL				S	Sg	04 35 56.5	-0.1
KHAL	Karahalli	0.84	157	iP	Pg	04 35 46.0	+0.3
KHAL				iS	Sg	04 35 56.5	-0.2
AKHS	Akhisar	1.02	255	P	Pb	04 35 49.6	+0.2
AKHS				S	Sg	04 36 00.9	-1.3
AKHS	Akhisar	1.02	255	iP	Pb	04 35 49.6	+0.1
AKHS				iS	Sg	04 36 00.9	-1.2
IGD	Bursa	1.12	5	iP	Pg	04 35 50.5	-0.6
IGD				iS	Sn	04 36 10.9	+3.5

*ISK **02** 04:35:37.8, 39.°11N×29.°06E, h12^{km}, ML3.4*
*ISCJB **02** 04:35:38.4±0.5, 39.°11N±0.°02×29.°08E±0.°04, h12^{km}±4^{km}, Error ellipse: s-maj=4.9km s-min=3.7km az=170.3*
*DDA **02** 04:35:41.4, 39.°14N×29.°02E, h7^{km}, Ml3.6*
*CSEM **02** 04:35:41.4, 39.°14N×29.°02E, h7^{km}, ML3.6*
ISC 02 04:35:39.3±1.1, 39.°14N±0.°02×29.°01E±0.°02, h6^{km}±10^{km}, n100, σ1.s26/114, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.25	247	P	Pg	04 35 45.9	+1.6
DEMI				S	Sb	04 35 50.9	0.0
DEMI	Demirci	0.25	247	iP	Pg	04 35 45.9	+1.6
DEMI				iS	Sb	04 35 50.9	0.0
GDZ	Gediz	0.37	98	P	Pn	04 35 52.2	+0.9
GDZ				S	Sb	04 35 58.2	+3.9
GDZ	Gediz	0.37	98	iP	Pn	04 35 52.2	+0.9
GDZ				iS	Sb	04 35 58.2	+3.9
DST	Dursunbey	0.55	327	ePG	Pg	04 35 49.7	-0.2
DST				eSG	Sb	04 35 59.6	0.0
DST	Dursunbey	0.55	327	ePg	Pg	04 35 49.7	-0.2
DST				eSg	Sb	04 35 59.6	0.0
KULA	Kula-Manisa	0.69	204	ePG	Pg	04 35 51.3	-1.2
KULA				eSG	Sg	04 36 00.7	-0.7
KULA	Kula-Manisa	0.69	204	ePg	Pg	04 35 51.3	-1.2
KULA				eSg	Sg	04 36 00.7	-0.7
KHAL	Karahalli	0.86	154	P	Pn	04 35 58.6	+0.6
KHAL				S	Sn	04 36 11.1	+0.2
KHAL	Karahalli	0.86	154	iP	Pn	04 35 58.6	+0.6
KHAL				iS	Sn	04 36 11.1	+0.2
ORLT	Orhaneli	0.91	354	ePG	Pg	04 35 56.8	+0.1
ORLT	Orhaneli	0.91	354	ePg	Pg	04 35 56.8	+0.1
KHL	Karahalli	0.91	154	ePG	Pg	04 35 55.4	-1.4
KHL				eSG	Sg	04 36 07.4	-1.2
KHL	Karahalli	0.91	154	ePg	Pg	04 35 55.4	-1.4
KHL				eSg	Sg	04 36 07.4	-1.2
AKHS	Akhisar	0.97	255	P	Pn	04 36 00.3	+0.9
AKHS				S	Sn	04 36 13.7	+0.2
AKHS	Akhisar	0.97	255	iP	Pn	04 36 00.3	+0.9
AKHS				iS	Sn	04 36 13.7	+0.2
AKS	Akhisar	0.97	255	ePG	Pg	04 35 57.5	-0.4
AKS	Akhisar	0.97	255	ePg	Pg	04 35 57.5	-0.4
BALB	Balikesir	1.01	300	ePG	Pg	04 35 58.5	-0.1
BALB	Balikesir	1.01	300	ePg	Pg	04 35 58.5	-0.1
IGD	Bursa	1.13	7	iP	Pg	04 36 01.5	+0.5
MDNY	Mudanya-Bursa	1.23	355	ePN	Pn	04 36 01.7	-1.2
MDNY	Mudanya-Bursa	1.23	355	ePn	Pn	04 36 01.7	-1.2
CAVI	Cavuskoy	1.24	31	ePN	Pn	04 36 02.1	-1.0
CAVI	Cavuskoy	1.24	31	ePn	Pn	04 36 02.1	-1.0
IZI	Iznik	1.24	16	ePN	Pn	04 36 01.7	-1.6
IZI	Iznik	1.24	16	ePn	Pn	04 36 01.7	-1.6
GEMT	Gemlik	1.30	6	ePN	Pn	04 36 02.8	-1.1
GEMT	Gemlik	1.30	6	ePn	Pn	04 36 02.8	-1.1
DENT	Denizli	1.39	179	ePN	Pn	04 36 03.8	-1.4
DENT	Denizli	1.39	179	ePn	Pn	04 36 03.8	-1.4
ADVT	Abdulvahap	1.40	23	ePN	Pn	04 36 04.5	-0.9
ADVT	Abdulvahap	1.40	23	ePn	Pn	04 36 04.5	-0.9
ARMT	Armutlu	1.43	355	ePN	Pn	04 36 04.2	-1.5
ARMT	Armutlu	1.43	355	ePn	Pn	04 36 04.2	-1.5
DNZL	Cakiroluk	1.45	179	P	Pg	04 36 08.7	+1.6
DNZL	Cakiroluk	1.45	179	iP	Pg	04 36 08.7	+1.6
ESKT	Eskisehir	1.47	75	ePN	Pn	04 36 04.7	-1.8
ESKT	Eskisehir	1.47	75	ePn	Pn	04 36 04.7	-1.8
AYDB	Zeytinkoy-Aydi	1.48	217	ePN	Pn	04 36 05.6	-1.0
AYDB	Zeytinkoy-Aydi	1.48	217	ePn	Pn	04 36 05.6	-1.0
EDC	Edincik	1.49	324	ePN	Pn	04 36 06.0	-0.6
EDC	Edincik	1.49	324	ePn	Pn	04 36 06.0	-0.6
GPA	Golpazari	1.52	41	ePN	Pn	04 36 05.2	-1.7
GPA	Golpazari	1.52	41	ePn	Pn	04 36 05.3	-1.7
IZM	Izmir	1.56	242	ePN	Pn	04 36 06.3	-1.2
IZM	Izmir	1.56	242	ePn	Pn	04 36 06.3	-1.2
KNL	Bal˜–kesir	1.61	315	iP	Pb	04 36 10.3	+1.0
AYDN	Tasoluk	1.73	211	P	Pg	04 36 13.5	+1.1
AYDN	Tasoluk	1.73	211	iP	Pg	04 36 13.5	+1.1
GULT	Gulveren	1.73	41	ePN	Pn	04 36 08.4	-1.6
GULT	Gulveren	1.73	41	ePn	Pn	04 36 08.4	-1.6
HRT	Hereke	1.75	17	ePN	Pn	04 36 08.8	-1.4
HRT	Hereke	1.75	17	ePn	Pn	04 36 08.8	-1.4
ISP	Isparta	1.77	138	ePN	Pn	04 36 08.2	-2.3
ISP	Isparta	1.77	138	ePn	Pn	04 36 08.2	-2.3
SPNC	Sapanca-Adapaz	1.83	32	ePN	Pn	04 36 10.9	-0.4
SPNC	Sapanca-Adapaz	1.83	32	ePn	Pn	04 36 10.9	-0.4
ISK	Istanbul-Kandi	1.92	1	ePN	Pn	04 36 11.2	-1.2
ISK	Istanbul-Kandi	1.92	1	ePn	Pn	04 36 11.2	-1.2
GLHS	Glhisar (BURDU	2.02	169	ePN	Pn	04 36 11.6	-2.4
GLHS	Glhisar (BURDU	2.02	169	ePn	Pn	04 36 11.6	-2.4
BGKT	Bogazkoy	2.04	355	ePN	Pn	04 36 13.0	-1.2
BGKT	Bogazkoy	2.04	355	ePn	Pn	04 36 13.0	-1.2
YER	Yerkesik	2.09	196	ePN	Pn	04 36 13.0	-1.8
YER	Yerkesik	2.09	196	ePn	Pn	04 36 13.0	-1.8
RKY	Sarkoy-Tekirda	2.09	318	ePN	Pn	04 36 13.7	-1.2
RKY	Sarkoy-Tekirda	2.09	318	ePn	Pn	04 36 13.7	-1.2
KLYT	Kilyos	2.11	1	ePN	Pn	04 36 14.1	-0.9
KLYT	Kilyos	2.11	1	ePn	Pn	04 36 14.1	-0.9
CTKS	Kestanelik-??a	2.13	350	ePN	Pn	04 36 15.1	-0.2
CTKS	Kestanelik-??a	2.13	350	ePn	Pn	04 36 15.1	-0.2
LPK	Lapseki	2.13	306	ePN	Pn	04 36 15.5	+0.2
LPK	Lapseki	2.13	306	ePn	Pn	04 36 15.5	+0.2
MDUB	Mudurnu	2.14	51	ePN	Pn	04 36 14.1	-1.6
MDUB	Mudurnu	2.14	51	ePn	Pn	04 36 14.1	-1.6
EZN	Ezine	2.19	289	ePN	Pn	04 36 15.5	-0.7
EZN	Ezine	2.19	289	ePn	Pn	04 36 15.5	-0.7
KIZT	Kizilcal	2.25	96	ePN	Pn	04 36 15.8	-1.3

KIZT	Kizilcal	2.25	96	ePn	Pn	04 36 15.8	-1.3
GELI	Tayfur-Gelibol	2.32	303	ePN	Pn	04 36 17.9	0.0
GELI	Tayfur-Gelibol	2.32	303	ePn	Pn	04 36 18.0	0.0
CTYL	Yalikoy Yolu	2.39	347	ePN	Pn	04 36 18.3	-0.7
CTYL	Yalikoy Yolu	2.39	347	ePn	Pn	04 36 18.3	-0.7
CHOS	Chios island	2.43	253	ePN	Pn	04 36 18.1	-1.5
CHOS	Chios island	2.43	253	ePn	Pn	04 36 18.1	-1.5
ERIK	Erikli-Kesan	2.45	309	ePN	Pn	04 36 19.4	-0.4
ERIK	Erikli-Kesan	2.45	309	ePn	Pn	04 36 19.4	-0.4
SIGR	SIGRI	2.46	273	ePN	Pn	04 36 19.2	-0.5
SIGR	SIGRI	2.46	273	ePn	Pn	04 36 19.3	-0.5
BODT	Bodrum	2.47	213	ePN	Pn	04 36 19.4	-0.7
BODT	Bodrum	2.47	213	ePn	Pn	04 36 19.4	-0.7
FETY	Fethiye	2.50	179	ePN	Pn	04 36 19.1	-1.5
FETY	Fethiye	2.50	179	ePn	Pn	04 36 19.1	-1.5
GADA	Gvkgeada	2.62	295	ePN	Pn	04 36 21.5	-0.6
GADA	Gvkgeada	2.62	295	ePn	Pn	04 36 21.5	-0.6
ENEZ	Enez	2.71	307	ePN	Pn	04 36 23.2	-0.1
ENEZ	Enez	2.71	307	ePn	Pn	04 36 23.2	-0.1
KONT	Konya--Tatoy	2.88	113	ePN	Pn	04 36 24.3	-1.5
KONT	Konya--Tatoy	2.88	113	ePn	Pn	04 36 24.3	-1.5

IDC 02 04:37:37.6±1.2**, 15°.65N×119°.83E, h0^{km}, mb3.7**/5**, mb1 4.0**/5**, mb1mx3.5**/52**, mbtmp3.7**/5**, Error ellipse: s-maj=59.0km s-min=19.8km az=61.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.16	281	P	P	04 42 14.0	+0.3
	1.1nm,0.3s,baz=101,slow=7.1,SNR=5.7						
SONM	Songino Array	33.96	344	P	P	04 44 22.9	+0.1
	0.5nm,0.6s,baz=148,slow=8.5,SNR=2.2						
WRA	Warramunga Arr	38.14	158	P	P	04 44 58.4	-0.4
	1.4nm,0.7s,baz=337,slow=9.3,SNR=9.3						
ASAR	Alice Springs	41.43	160	P	P	04 45 26.3	+0.2
	0.5nm,0.5s,baz=336,slow=6.7,SNR=8.3						
MKAR	Makanchi Array	43.98	323	P	P	04 45 46.3	-0.4
	0.5nm,0.7s,baz=131,slow=6.5,SNR=3.2						

*MOS **02** 05:13:58.2±1.4, 43°.76N×77°.55E, h12^{km}, mb4.3/1, Error ellipse: s-maj=16.9km s-min=9.5km az=67.0*
MOS Felt (III) at Talgar; (II) at Almaty.
*NNC **02** 05:13:58.5±0.5, 43°.59N×77°.70E, h6^{km}±3^{km}, mb4.1, mpv3.8, Error ellipse: s-maj=6.9km s-min=2.2km az=169.0*
*IDC **02** 05:13:58.1±2.6, 43°.62N×77°.55E, h12^{km}±20^{km}, mb3.2/1, mb1 3.5/6, mb1mx3.3/58, mbtmp3.5/6, ML3.3/5, MS3.0/2, Ms1 3.0/2, ms1mx2.4/39, Error ellipse: s-maj=17.2km s-min=9.8km az=133.0*
*KRNET **02** 05:13:58.4±0.1, 43°.60N×77°.66E, h35^{km}, mb3.9*
*SOME **02** 05:13:59.1, 43°.62N×77°.68E, h15^{km}, MS2.5*
*ISCJB **02** 05:13:59.2±0.4, 43°.61N±0°.02×77°.68E±0°.02, h9^{km}±3^{km}, mb3.4/1, MS3.7/1, Error ellipse: s-maj=3.1km s-min=2.0km az=160.9*
ISC 02 05:13:58.7±0.7**, 43°.62N**±0°.02×**77°.66E**±0°.02**, h16^{km}**±5^{km}**, n65, σ1^{s}32**/108**, 31C-26D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURS	Kuram	0.40	109	eP	Pb	05 14 07.7	+0.3
	240nm,0.3s						
KURS				eS	Sb	05 14 13.4	+0.1
	397nm,0.4s						
CHKK	Chushkaly	0.54	298	eP	Pb	05 14 10.4	+0.6
	155nm,0.2s						
CHKK				eS	Sb	05 14 18.3	+1.0
	4μm,0.3s						
KOTS	Kotyrbulak	0.55	226	eP	Pb	05 14 10.6	+0.4
KOTS				eS	Sb	05 14 18.5	+0.6
ARXS	Arharly	0.60	12	eP	Pb	05 14 11.7	+0.7
	355nm,0.1s						
ARXS				eS	Sb	05 14 20.6	+1.3
	2μm,0.2s						
AAA	Alma-Ata	0.62	236	eP	Pn	05 14 12.5	-0.5
	979nm,0.2s						
AAA				eS	Sn	05 14 21.8	-0.9
	9μm,0.2s						
AAA	Alma-Ata	0.62	236	ePG	Pn	05 14 12.5	-0.5
AAA				eS	Sn	05 14 22.1	-0.6
AAA				pmax	pmax		
	comp=Z,10.0nm,0.2s						
AAA				smax	smax		
	comp=E,9μm,0.2s						
MDOK	Medeo	0.64	224	eP	Pb	05 14 11.4	-0.1
	comp=E,162nm,0.2s						
MDOK				eS	Sb	05 14 20.0	-0.3
	comp=E,2μm,0.2s						
KNDC	Almaty	0.65	232	⇓P	Pb	05 14 11.8	+0.2
	comp=E,117nm,0.1s						
KNDC				⇑S	Sb	05 14 20.8	+0.4
	comp=E,454nm,0.2s						
MNBS	Baschi	0.71	49	eP	Pb	05 14 13.1	+0.3
	comp=E,120nm,0.2s						
MNBS				eS	Sb	05 14 22.8	+0.5
	comp=E,2μm,0.5s						
KTBS	Karatobe	0.71	278	eP	Pb	05 14 13.5	+0.7
KTBS				eS	Sb	05 14 23.5	+1.1
ZHN	Zhinishke	0.72	128	⇓iP	Pg	05 14 12.5	-0.4
	comp=E,668nm,0.1s						
ZHN				⇑iS	Sg	05 14 22.0	-0.6
	comp=E,15μm,0.2s						
KPKS	Kokpek	0.76	101	eP	Pg	05 14 13.3	-0.3
	comp=E,592nm,0.1s						
KPKS				eS	Sg	05 14 23.3	-0.4
	comp=E,5μm,0.2s						
TNSS	Tian-Shan	0.78	222	eP	Pb	05 14 14.0	-0.1
	comp=E,208nm,0.2s						
TNSS				eS	Sb	05 14 24.6	+0.1
	comp=E,2μm,0.4s						
SATY	Saty	0.78	136	⇓iP	Pg	05 14 13.7	-0.3
	comp=E,3μm,0.1s						
SATY				⇑iS	Sg	05 14 24.0	-0.4
	comp=E,22μm,0.1s						
IZV	Izvestkoviy	0.96	233	eP	Pb	05 14 17.4	+0.3
	comp=E,122nm,0.2s						
IZV				eS	Sb	05 14 30.3	+0.7
	comp=E,722nm,0.2s						
KUU	Kurty	0.99	286	⇑iP	Pb	05 14 17.7	+0.1
	comp=E,204nm,0.1s						
KUU				⇓iS	Sb	05 14 31.4	+1.0
	comp=E,1μm,0.2s						
MTBS	Maitube	1.02	242	eP	Pn	05 14 28.2	+10
	comp=E,312nm,0.2s						
MTBS				eS	Sn	05 14 42.5	+10
	comp=E,1μm,0.2s						
UZB	Uzynbulak	1.10	115	⇓iP	Pb	05 14 19.2	-0.2
	comp=E,994nm,0.2s						
UZB				eS	Sb	05 14 33.2	-0.5
	comp=E,1μm,0.2s						
PRZ	Przheval'sk	1.26	154	⇓eP	Pg	05 14 23.1	+0.1
	baz=154						
PRZ				⇓iS	Sg	05 14 40.1	+0.6
	baz=154						
PDGK	Podgornoye	1.36	102	⇑eP	Pn	05 14 23.4	+0.4
	baz=101						
PDGK				⇑eS	Sg	05 14 41.7	-1.0
	baz=101						
PDGK	Podgornoye	1.36	102	⇓P	Pn	05 14 23.2	+0.2
	comp=E,201nm,0.4s						
PDGK				⇑S	Sb	05 14 41.0	0.0
	comp=E,283nm,0.5s						
PDGK	Podgornoye	1.36	102	PG	Pn	05 14 23.2	+0.2
PDGK				pmax	pmax		
	comp=Z,201nm,0.4s						
KST	Kastek	1.36	246	⇑iP	Pn	05 14 23.7	+0.4
	comp=Z,62nm,0.2s						
KST				⇑iS	Sg	05 14 42.2	-0.6
	comp=Z,472nm,0.2s						
DGS	Degeres	1.42	255	eP	Pg	05 14 25.6	-0.5
	comp=Z,81nm,0.2s						
DGS				eS	Sg	05 14 44.1	-0.6
	comp=Z,1μm,0.2s						
TDK	Taldyqorghan	1.48	21	eP	Pb	05 14 26.4	+0.5
	comp=Z,750nm,0.3s						
TDK				eS	Sg	05 14 46.2	-0.5
	comp=Z,3μm,1.0s						
KDJ	Kajisay	1.53	193	⇓eP	Pb	05 14 27.1	+0.3
	baz=194						
KDJ				⇓eS	Sb	05 14 46.7	+0.7
	baz=194						
TKM2	Tokmak 2	1.66	246	⇑iP	Pn	05 14 28.3	+0.9
	baz=246						
TKM2				⇑iS	Sb	05 14 50.7	+0.9
	baz=246						
TKM2	Tokmak 2	1.66	246	⇑P	Pn	05 14 28.3	+0.9
	comp=Z,55nm,0.5s						
TKM2				⇓S	Sb	05 14 50.7	+0.9
	comp=Z,104nm,0.3s						
TKM2	Tokmak 2	1.66	246	PN	Pn	05 14 28.3	+0.9
TKM2				S	Sb	05 14 50.7	+0.9
TKM2				pmax	pmax		
	comp=Z,55nm,0.5s						
TKM2				smax	smax		
	comp=N,105nm,0.3s						
SHLS	Shalkode	1.69	105	eP	Pb	05 14 29.0	-0.5
	comp=N,133nm,0.1s						
SHLS				eS	Sb	05 14 51.4	+0.7
	comp=N,996nm,0.3s						
BOOM	Boomskoye usch	1.69	229	⇑eP	Pb	05 14 29.3	-0.3
	baz=229						
BOOM				⇑eS	Sb	05 14 51.3	+0.6
	baz=229						
DJR	Jarkent	1.70	64	eP	Pb	05 14 29.3	-0.3
	comp=N,164nm,0.2s						
DJR				eS	Sb	05 14 51.6	+0.8
	comp=N,613nm,0.3s						
ULHL	Ulahol	1.72	218	⇑iP	Pb	05 14 30.1	0.0
	baz=218						
ULHL				⇑iS	Sb	05 14 52.2	+0.6
	baz=218						
KTMS	Ketmen	1.97	94	eP	Pb	05 14 34.4	+0.2
	comp=N,70nm,0.3s						
KTMS				eS	Sb	05 14 59.5	+0.9
	comp=N,603nm,0.4s						
KAPS	Kapalarasan	2.06	36	⇓iP	Pb	05 14 36.0	+0.2
	comp=N,108nm,0.4s						
KAPS				eS	Sb	05 15 03.0	+1.8
	comp=N,898nm,0.5s						
KBK	Karagaybulak	2.21	245	⇑iP	Pn	05 14 36.6	+1.8
	baz=245						
KBK				⇑iS	Sb	05 15 06.0	+0.5
	baz=245						
CHMS	Chumysh	2.21	255	⇑iP	Pn	05 14 35.6	+0.8
	baz=255						
CHMS				⇑iS	Sb	05 15 04.7	-0.8
	baz=255						
USP	Ospenovka	2.33	262	⇓iP	Pn	05 14 38.5	+2.1
	baz=263						
USP				⇓iS	Sb	05 15 09.4	+0.6
	baz=263						
KZA	Kyzart	2.35	230	⇓iP	Pb	05 14 39.6	-1.3
	baz=230						
KZA				⇓iS	Sb	05 15 10.5	+0.7
	baz=230						
NRN	Naryn	2.51	210	⇑eP	Pn	05 14 41.1	+2.0
	baz=210						
NRN				⇑eS	Sn	05 15 11.3	+1.8
	baz=210						
AAK	Ala-Archa	2.52	248	Pn	Pn	05 14 41.3	+2.1
	comp=N,13nm,0.3s,baz=77,slow=6.7,SNR=65						
AAK				Lg	Lg	05 15 16.1	
	comp=N,22nm,0.3s,baz=346,slow=23,SNR=17						
AAK	Ala-Archa	2.52	248	⇑iP	Pb	05 14 43.0	-0.6
	baz=248						
AAK				⇑iS	Sb	05 15 14.1	-0.3
	baz=248						
AAK	Ala-Archa	2.52	248	Pn	Pn	05 14 41.1	+1.9
	comp=N,38nm,0.4s						
AAK				⇑Lg	Lg	05 15 20.4	
	comp=N,58nm,0.6s						
AAK	Ala-Archa	2.52	248	PN	Pn	05 14 41.0	+1.9
AAK						05 15 22.4	
AAK				pmax	pmax		
	comp=Z,38nm,0.4s						
AAK				pmax	pmax		
	comp=Z,58nm,0.6s						
ARLS	Aral	3.02	236	⇓eP	Pn	05 14 47.8	+1.8
	baz=236						
ARLS				⇓eS	Sn	05 15 23.5	+1.5
	baz=236						
MRKS	Merke	3.36	256	eP	Pb	05 14 59.7	+1.8
	comp=Z,21nm,0.4s						
MRKS				⇑iS	Sg	05 15 42.7	-3.8
	comp=Z,108nm,0.3s						
KSH	Kashi	4.29	198	Pn	Pb	05 15 16.8	+3.0
KSH				Sn	Sg	05 16 19.7	+3.2
KSH				smax	smax		
	comp=N,35nm,0.7s						
KSH				smax	smax		
	comp=E,28nm,0.5s						
MAKZ	Makanchi	4.41	42	⇓Pn	Pn	05 15 07.4	+2.4
	comp=E,2.2nm,0.3s						
MAKZ				⇓Lg	Lg	05 16 17.6	
	comp=E,24nm,0.8s						
MAKZ	Makanchi	4.41	42	PN	Pn	05 15 07.4	+2.4
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	Makanchi Array	4.56	44	⇓Pn	Pn	05 15 08.8	+1.7
	comp=Z,2.5nm,0.3s,baz=218,slow=15						
MK31				⇑Sn	Sn	05 16 01.8	+2.1
	comp=Z,4.4nm,0.3s,baz=214,slow=25,SNR=4.0						
MK31				⇓Lg	Lg	05 16 21.6	
	comp=Z,18nm,0.6s,baz=219,slow=29,SNR=4.4						
MK31	Makanchi Array	4.56	44	PN	Pn	05 15 08.7	+1.7
MK31						05 16 01.8	
MK31						05 16 20.2	
MK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	Makanchi Array	4.56	44	Pn	Pn	05 15 09.2	+2.1
	comp=Z,1.1nm,0.3s,baz=224,slow=14,SNR=20						
MKAR				Lg	Lg	05 16 19.7	
	comp=Z,9.3nm,0.3s,baz=227,slow=28,SNR=15						
MKAR				LR	LR	05 16 59.1	
	comp=Z,38nm,19.6s,baz=114,slow=39						
KK31	Karatay Array	5.24	267	⇑Pg	Pb	05 15 33.4	+3.6
	comp=Z,0.6nm,0.2s,baz=77,slow=14,SNR=16						
KK31				⇑Lg	Lg	05 16 43.6	
	comp=Z,34nm,0.6s,baz=84,slow=30,SNR=6.6						
KK31	Karatay Array	5.24	267	PN	Pb	05 15 31.1	+1.2
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KK31				pmax	pmax		
	comp=Z,35nm,0.6s						
OTUK	Ortayu	5.93	323	⇑Pn	Pn	05 15 26.4	+0.5
	comp=Z,2.7nm,0.4s						
OTUK				⇓Lg	Lg	05 17 06.5	
	comp=Z,48nm,0.7s						
OTUK	Ortayu	5.93	323	PN	Pn	05 15 26.3	+0.5
OTUK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
OTUK				pmax	pmax		
	comp=Z,49nm,0.7s						
KURBB	Kurchatov Arra	7.03	5	Pn	Pn	05 15 41.3	+0.4
	comp=Z,0.5nm,0.3s,baz=192,slow=12,SNR=32						
KURBB				Sn	Sn	05 16 59.0	-1.4
	comp=Z,0.4nm,0.3s,baz=173,slow=16,SNR=4.9						
KURBB				Lg	Lg	05 17 38.1	
	comp=Z,0.8nm,0.3s,baz=171,slow=31,SNR=16						
KURBB	Kurchatov Arra	7.03	5	⇓Pn	Pn	05 15 41.6	+0.7
	comp=Z,1.8nm,0.3s						
KURBB				⇓Lg	Lg	05 17 41.3	
	comp=Z,64nm,0.6s						
KURK	Kurchatov	7.13	5	⇓Pn	Pn	05 15 42.8	+0.6
	comp=Z,2.6nm,0.5s						
KURK				⇑Lg	Lg	05 17 44.8	
	comp=Z,70nm,0.6s						
KURK	Kurchatov	7.13	5	PN	Pn	05 15 42.8	+0.6
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KURK				pmax	pmax		
	comp=Z,70nm,0.6s						
BVAR	Borovoye Array	10.57	335	Pn	Pn	05 16 28.8	-0.7
	comp=Z,0.6nm,0.3s,baz=148,slow=13,SNR=11						
BVAR				Sn	Sn	05 18 21.6	-5.9
	comp=Z,0.8nm,0.3s,baz=145,slow=24,SNR=5.4						
BVAR				Lg	Lg	05 19 29.7	
	comp=Z,0.8nm,0.3s,baz=176,slow=25,SNR=3.7						
ZALV	Zalesovo Beam	11.36	22	Pn	Pn	05 16 40.5	+0.4
	comp=Z,0.4nm,0.3s,baz=212,slow=14,SNR=3.7						
ZALV				Lg	Lg	05 19 58.5	
	baz=200,slow=25,SNR=5.2						
FINES	FINESS Array B	34.94	319	pP	pP	05 20 56.5	+2.1
	comp=Z,1.0nm,0.8s,baz=95,slow=8.4,SNR=2.1						
PETK	Petropavlovsk-	51.38	49	LR	LR	05 46 26.4	
	comp=Z,69nm,18.4s,baz=133,slow=38						
ILAR	Eielson Array	66.47	19	P	P	05 24 46.2	-0.7
	comp=Z,0.3nm,0.8s,baz=324,slow=4.8,SNR=3.6						
ILAR				pP	sP	05 24 53.8	-0.2
	comp=Z,0.5nm,0.8s,baz=323,slow=5.2,SNR=6.1						

IDC 02 05:21:25.7±2.6**, 9°.04S×161°.37E, h0^{km}, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.5**/45**, mbtmp3.7**/3**, Error ellipse: s-maj=76.8km s-min=32.2km az=146.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.45	254	Pn	Pb	05 21 54.3	+0.7
	81nm,0.3s,baz=34,slow=1.9,SNR=12						
HNR				Sn	Sn	05 22 13.0	0.0
	327nm,0.3s,baz=53,slow=22,SNR=8.1						
HNR	Honiara	1.45	254	i P	Pb	05 21 54.0	+0.4
HNR				i S	Sg	05 22 10.5	-1.9
WRA	Warramunga Arr	28.27	244	P	P	05 27 20.7	-0.3
	0.4nm,0.3s,baz=72,slow=9.2,SNR=11						
ASAR	Alice Springs	30.01	238	P	P	05 27 36.0	-0.4
	0.3nm,0.4s,baz=62,slow=9.7,SNR=5.0						
MKAR	Makanchi Array	89.13	318	P	P	05 34 23.3	+0.1
	0.3nm,0.5s,baz=106,slow=5.9,SNR=3.0						

IDC 02 05:24:22.8±5.5**, 10°.39S×119°.11E, h63^{km}**±52^{km}**, mb3.6**/1**, mb1 3.6**/4**, mb1mx3.3**/52**, mbtmp3.7**/4**, ML3.4**/3**, MS2.8**/3**, Ms1 2.8**/3**, ms1mx2.6**/45**, Error ellipse: s-maj=89.7km s-min=18.9km az=74.0, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	5.38	7	P	Pn	05 25 42.1	+1.6
	3.6nm,0.3s,baz=220,slow=9.0,SNR=4.7						
KAPI				S	Sn	05 26 41.2	0.0
	7.1nm,0.3s,baz=77,slow=23,SNR=7.3						
KAPI				LR	LR	05 27 47.1	
	comp=Z,87nm,20.4s,baz=153,slow=38						
FITZ	Fitzroy Crossi	9.94	141	P	Pn	05 26 43.1	+0.2
	0.4nm,0.3s,baz=330,slow=9.2,SNR=8.8						
FITZ				S	Sn	05 28 27.0	-6.0
	0.7nm,0.3s,baz=192,slow=19,SNR=8.8						
FITZ				LR	LR	05 30 36.2	
	comp=Z,51nm,18.6s,baz=342,slow=38						
WRA	Warramunga Arr	17.49	125	P	Pn	05 28 22.2	-0.3
	0.1nm,0.3s,baz=298,slow=13,SNR=3.7						
WRA				S	Sn	05 31 25.0	-12
	0.1nm,0.3s,baz=306,slow=22,SNR=4.1						
ASAR	Alice Springs	19.33	135	P	Pn	05 28 46.8	+2.1
	0.2nm,0.3s,baz=312,slow=10.0,SNR=11						
ASAR				S	S	05 32 10.4	-8.4
	0.0nm,0.3s,baz=229,slow=38,SNR=2.7						
SONM	Songino Array	59.06	350	P	P	05 34 16.6	+0.2
	7μm,0.9s,baz=170,slow=8.8,SNR=4.7						
MKAR	Makanchi Array	65.73	333	P	P	05 35 00.7	-0.3
	0.9nm,0.6s,baz=148,slow=7.0,SNR=7.7						
BRTR	Keskin Array B	93.10	310	LR	LR	06 26 43.6	
	comp=Z,5.5nm,19.0s,baz=7.5,slow=40						

TRN 02 05:30:25.3, 15°.14N×61°.28W, h185^{km}, MD3.5, M2.6(FDF)**, 4C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DLPL	La Plaine	0.19	9	eP	Pn	05 30 50.7	+0.8
DLPL				eS	Sn	05 31 09.6	+0.7
PCM	Pelee Case Pet	0.33	169	eP	Pn	05 30 50.9	+0.7
BAMF	Morne Balai	0.35	159	eP	Pn	05 30 51.0	+0.7
GBMF	Grand Be	0.36	162	eP	Pn	05 30 51.3	+0.9
FDF	Fort de France	0.42	163	eP	Pn	05 30 50.7	+0.2
FDF				eS	Sn	05 31 09.2	-0.8
BBL	Barber's Block	0.43	334	eP	Pn	05 30 51.0	+0.6
DWS	Wesley	0.43	356	eP	Pn	05 30 51.2	+0.8
DWS				eS	Sn	05 31 10.1	+0.2
ZAM	Aeronautique	0.61	157	eP	Pn	05 30 53.0	+1.8
LPMF	Morne Lapointe	0.64	152	eP	Pn	05 30 51.7	+0.4
TRMF	Trois Ilets	0.64	160	eP	Pn	05 30 53.0	+1.6
MGG	Marie-Galante	0.77	357	eP	Pn	05 30 53.0	+1.0
TBG	Guadaloupe-3	0.79	333	eP	Pn	05 30 52.9	+0.8
PHG	Guadaloupe-2	0.94	338	⇑iP	Pn	05 30 54.4	+1.2
FNG	Fond-Bernard	1.00	337	⇑iP	Pn	05 30 54.6	+1.0
MLG	Mont-d'or	1.01	336	eP	Pn	05 30 54.7	+1.0
DEG	La Desirade	1.19	10	⇑iP	Pn	05 30 56.3	+1.3
SEG	Port Louis	1.27	350	⇑iP	Pn	05 30 57.0	+1.3
MLYT	Lee's Yard	1.80	331	eP	Pn	05 31 01.6	+0.9
BPA	Boggy Peak	1.98	344	eP	Pn	05 31 03.1	+0.6
ANWB	Willy Bob	2.56	349	eP	Pn	05 31 09.3	+0.4
ANWB				eS	Sn	05 31 42.1	-1.1

*NIED **02** 05:33:00, 37°.00N×143°.70E, h5^{km}, Mw4.2 Best double couple: $M_0$2.27000×10^{15} NP1:ϕ_s78.00000°, δ38.00000°, λ-41.00000°. NP2:ϕ_s203.00000°, δ66.00000°, λ-121.00000°.*
*IDC **02** 05:33:15.0±0.7, 36°.86N×143°.93E, h0^{km}, mb4.2/20, mb1 4.3/26, mb1mx4.2/60, mbtmp4.1/26, ML3.9/5, MS3.2/15, Ms1 3.2/15, ms1mx3.0/49, Error ellipse: s-maj=16.7km s-min=14.7km az=130.0*
*NEIC **02** 05:33:16.0±0.4, 36°.83N×143°.97E, h10^{km}, mb4.3/8, Error ellipse: s-maj=8.9km s-min=6.8km az=113.0*
*ISCJB **02** 05:33:17.3±1.3, 36°.96N±0°.03×143°.76E±0°.04, h25^{km}±10^{km}, mb4.3/30, MS3.3/11, Error ellipse: s-maj=5.8km s-min=4.8km az=144.4*
*JMA **02** 05:33:19.9±0.3, 37°.00N×143°.69E, h51^{km}, M4.5*
*BJI **02** 05:33:20.0, 37°.62N×143°.57E, h5^{km}, mb4.1/4, mB4.4/3, Ms3.8/1, Ms7 3.6/1*
ISC 02 05:33:19.6±3.9**, 36°.99N**±0°.05×**143°.80E**±0°.07**, h29^{km}**±27^{km}**, n81, σ2^{s}02**/88**, mb4.2**/30**, MS3.3**/11**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	2.37	280	P	Pn	05 33 55.6	-0.9
JFK				eS	Sn	05 34 22.9	-1.7
ONAJ	Iwakimizuishiy	2.41	273	P	Pn	05 33 56.6	-0.5
ONAJ				S	Sn	05 34 24.1	-1.5
JIO	Ouri	2.43	308	S	Sn	05 34 24.4	-1.7
JMM	Marumori	2.55	291	P	Pn	05 33 58.9	-0.1
JMM				S	Sn	05 34 28.0	-1.0
JFT	Otama	2.81	282	P	Pn	05 34 03.1	+0.4
JFT				S	Sn	05 34 35.2	-0.4
JMK	Ichinoseki	2.83	315	P	Pn	05 34 02.6	-0.2
JMK				S	Sn	05 34 34.0	-1.9
JOM	Ohasama	3.17	322	P	Pn	05 34 08.5	+1.0
JOM				S	Sn	05 34 42.5	-1.8
BSO1	Boso 1	3.27	225	P	Pn	05 34 07.0	-1.4
BSO1				S	Sn	05 34 45.4	-0.7
JYK	Kaneyama	3.33	306	P	Pn	05 34 10.7	+1.0
JYK				eS	Sn	05 34 47.9	-0.4
JAG	Ashikaga	3.54	262	P	Pn	05 34 12.3	-0.3
JAG				S	Sn	05 34 51.5	-2.0
JRY	Ryogami san	4.07	258	P	Pn	05 34 19.3	-0.6
JRY				eS	Sn	05 35 03.4	-3.1
JOD2	Odawara 2	4.19	247	P	Pn	05 34 21.0	-0.5
JOD2				eS	Sn	05 35 07.3	-2.2
MJAR	Matsushiro Arr	4.51	266	Pn	Pn	05 34 26.2	+0.2
	12nm,0.3s,baz=87,slow=15,SNR=43						
MJAR				Sn	Sn	05 35 18.9	+1.3
	3.8nm,0.3s,baz=89,slow=15,SNR=3.5						
MJAR				LR	LR	05 36 54.5	
	comp=Z,98nm,18.2s,baz=80,slow=48						
MAJO	Matsushiro	4.51	266	ePn	Pn	05 34 27.1	+1.1
JOT	Ohata	4.88	335	P	Pn	05 34 31.3	+0.3
JOT				eS	Sn	05 35 23.7	-2.7
ERM	Erimo	5.04	355	ePn	Pn	05 34 32.0	-1.2
	111nm,0.6s						
ERM				eSn	Sn	05 35 26.6	-3.8
JHJ2	Mitsune	5.07	221	P	Pn	05 34 31.5	-2.1
JHJ2				S	Sn	05 35 24.9	-6.2
JHJ2	Mitsune	5.07	221	ePn	Pn	05 34 31.5	-2.1
JHJ2				eSn	Sn	05 35 26.8	-4.3
JHJ	Hachijo jima 2	5.08	222	Pn	Pn	05 34 31.0	-2.7
	47nm,0.3s,baz=344,slow=20,SNR=9.8						
JHJ				Sn	Sn	05 35 24.9	-6.5
	116nm,0.3s,baz=34,slow=22,SNR=6.8						
JKB	Kayabe	5.34	337	P	Pn	05 34 37.0	-0.3
JKB				S	Sn	05 35 32.6	-5.1
JCH	Churui	5.62	357	P	Pn	05 34 39.3	-1.9
JCH				S	Sn	05 35 39.1	-5.7
NEM2	Nemuro 2	6.54	13	P	Pn	05 34 49.6	-4.1
NEM2				S	Sn	05 35 58.7	-8.5
ASAJ	Asahikawa	7.17	353	Pn	Pn	05 35 00.8	-1.7
	5.0nm,0.3s,baz=218,slow=17,SNR=17						
ASAJ				Sn	Sn	05 36 19.7	-3.3
	4.1nm,0.3s,baz=253,slow=33,SNR=6.1						

ASAJ	Asahikawa	7.17	353	ePn	Pn	05 35 03.3	+0.8
ASAJ				eSn	Sn	05 36 17.4	-5.6
ASAJ				Sn	Sn	05 36 19.7	-3.3
CBIJ	Chichi jima	9.96	188	Pn	Pn	05 35 34.4	-6.4
JCJ	Chichijima	9.96	188	Pn	Pn	05 35 34.4	-6.4
	baz=270,slow=20						
YSS	Yuzh-Sakhalins	9.98	356	ePn	Pn	05 35 41.4	+0.4
JNU	Nakatsue	11.27	254	Pn	Pn	05 36 00.1	+1.3
	0.5nm,0.3s,baz=38,slow=17,SNR=2.8						
USRK	Ussuriysk Ar.	11.50	312	Pn	Pn	05 36 01.9	+0.1
	0.2nm,0.3s,baz=113,slow=14,SNR=4.0						
USRK				LR	LR	05 40 28.1	
	comp=Z,115nm,18.8s,baz=112,slow=37						
KSRS	Korea Array	12.67	277	Pn	Pn	05 36 18.9	+1.2
	0.3nm,0.3s,baz=95,slow=13,SNR=8.8						
KSRS				LR	LR	05 41 30.1	
	comp=Z,30nm,20.9s,baz=69,slow=39						
KSAR	Wonju Array Be	12.70	277	Pn	Pn	05 36 18.9	+0.7
MDJ	Mudanjiang	13.18	310	ePn	Pn	05 36 27.3	+2.7
KLR	Kul'dur	15.04	328	Pn	Pn	05 36 49.9	-0.2
	0.2nm,0.3s,baz=129,slow=11,SNR=8.9						
KLR				LR	LR	05 42 26.8	
	comp=Z,147nm,20.9s,baz=129,slow=36						
BJT	Baijiatuau	21.80	286	eP	P	05 38 07.6	-1.6
	7.4nm,0.8s						
MA2	Magadan	23.04	9	LR	LR	05 48 11.2	
	comp=Z,28nm,20.6s,baz=154,slow=39						
GUMO	Guam	23.33	177	LR	LR	05 46 08.2	
	comp=Z,34nm,18.8s,baz=114,slow=33						
SEY	Seymchan	26.50	9	P	P	05 38 55.2	+1.0
	7.2nm,0.8s,baz=185,slow=6.6,SNR=23						
H11N2	WAKE ISLAND Hy	26.51	124	T	T	06 05 54.1	
	baz=316,slow=75,SNR=61						
H11N1	WAKE ISLAND Hy	26.52	124	T	T	06 05 55.2	
	baz=316,slow=75,SNR=32						
H11N3	WAKE ISLAND Hy	26.53	124	T	T	06 05 54.8	
	baz=316,slow=75,SNR=55						
YAK	Yakutsk	26.57	345	LR	LR	05 50 44.0	
	comp=Z,56nm,18.1s,baz=134,slow=39						
YAK	Yakutsk	26.57	345	eP	P	05 38 55.5	+0.8
	23nm,0.6s						
H11S1	WAKE ISLAND Hy	27.26	126	T	T	06 06 49.2	
	baz=318,slow=76,SNR=20						
H11S3	WAKE ISLAND Hy	27.26	126	T	T	06 06 52.9	
	baz=318,slow=76,SNR=18						
H11S2	WAKE ISLAND Hy	27.28	126	T	T	06 06 56.0	
	baz=318,slow=76,SNR=16						
ULN	Ulaanbaatar	28.96	304	eP	P	05 39 15.3	-1.3
	4.3nm,1.1s						
SONM	Songino Array	29.40	304	P	P	05 39 22.4	+2.0
	3μm,1.0s,baz=92,slow=8.7,SNR=4.3						
SONM				LR	LR	05 50 56.4	
	comp=Z,62nm,20.5s,baz=66,slow=36						
TLY	Talaya	31.81	310	LR	LR	05 52 44.5	
	comp=Z,44nm,19.8s,baz=98,slow=37						
BILL	Bilibino	33.55	15	eP	P	05 39 56.6	+0.2
	3.6nm,1.0s						
GTA	Gaotai	34.40	288	eP	P	05 40 10.9	+6.5
GTA				pP	sP	05 40 15.0	-1.6
GTA				sP	pP	05 40 17.7	+4.7
GTA				PMZ			
	3.0nm,1.1s						
TIXI	Tiksi	35.58	352	P	P	05 40 14.0	+0.1
	2.4nm,0.3s,baz=324,slow=4.3,SNR=1.8						
CMAR	Chiang Mai Arr	43.34	257	P	P	05 41 21.1	+1.7
	1.1nm,0.6s,baz=58,slow=8.6,SNR=3.8						
ZALV	Zalesovo Beam	43.35	312	P	P	05 41 19.7	+0.7
	0.5nm,0.4s,baz=67,slow=5.0,SNR=3.7						
ZALV				PcP	PcP	05 43 06.8	-0.3
	1.4nm,0.4s,baz=74,slow=3.1,SNR=4.5						
ZALV				LR	LR	05 59 39.9	
	comp=Z,37nm,19.6s,baz=68,slow=36						
NRIK	Noril'sk	44.11	335	LR	LR	06 00 40.2	
	comp=Z,86nm,19.3s,baz=98,slow=37						
MKAR	Makanchi Array	45.76	303	P	P	05 41 38.9	+0.6
	0.7nm,0.8s,baz=88,slow=9.8,SNR=6.5						
MKAR				LR	LR	06 01 24.7	
	comp=Z,32nm,18.8s,baz=76,slow=37						
KURK	Kurchatov	47.46	308	eP	P	05 41 52.2	+0.7
	7.4nm,0.6s						
KURBB	Kurchatov Arra	47.53	308	P	P	05 41 52.7	+0.6
	1.6nm,0.6s,baz=85,slow=8.6,SNR=15						
ILAR	Eielson Array	48.51	32	P	P	05 41 59.5	+0.1
	2.2nm,0.7s,baz=266,slow=6.4,SNR=24						
TKM2	Tokmak 2	51.33	299	eP	P	05 42 21.3	-0.1
	1.4nm,0.6s						
BVAR	Borovoye Array	52.01	313	P	P	05 42 27.0	+0.9
	0.5nm,0.7s,baz=129,slow=8.0,SNR=3.6						
WRAB	Tennant Creek	57.32	191	eP	P	05 43 03.8	-1.1
	9.7nm,1.3s						
WRA	Warramunga Arr	57.33	191	P	P	05 43 03.5	-1.5
	1.2nm,0.4s,baz=9.4,slow=7.1,SNR=30						
ABKAR	Akbulak array	59.42	311	eP	P	05 43 19.6	+0.3
	0.9nm,0.5s						
ASAR	Alice Springs	61.05	190	P	P	05 43 29.2	-1.5
	0.7nm,0.6s,baz=5.5,slow=6.3,SNR=7.1						
YKA	Yellowknife Ar	62.87	31	P	P	05 43 42.6	+0.2
	1.2nm,0.8s,baz=296,slow=6.8,SNR=5.7						
ARCES	ARCESS Array B	64.70	340	P	P	05 43 54.9	+0.4
	2.2nm,0.9s,baz=66,slow=9.4,SNR=6.7						
ARCES				LR	LR	06 18 15.1	
	comp=Z,26nm,18.5s,baz=74,slow=42						
FINES	FINESS Array B	69.73	333	P	P	05 44 27.5	+1.1
	5.5nm,0.8s,baz=52,slow=7.5,SNR=17						
FINES				LR	LR	06 18 18.5	
	comp=Z,56nm,18.7s,baz=42,slow=39						
KBZ	Khabaz	72.37	312	P	P	05 44 44.7	+2.0
	4.9nm,0.9s,baz=86,slow=1.8,SNR=9.6						
NVAR	Mina Array Bea	73.47	54	P	P	05 44 50.7	+1.0
	1.4nm,0.9s,baz=294,slow=7.6,SNR=6.4						
NB2	NORSAR Subarra	74.95	338	P	P	05 44 58.4	+0.8
	comp=Z,5.4nm,0.7s,baz=38,slow=5.9						
NOA	NORSAR Array B	74.95	338	P	P	05 44 58.7	+1.1
	comp=Z,5.7nm,0.8s,baz=39,slow=5.8,SNR=16						
NOA				LR	LR	06 23 00.3	
	comp=Z,18nm,18.7s,baz=20,slow=40						
AKASG	Malin Array Be	75.49	323	P	P	05 45 01.1	+0.2
	comp=Z,2.0nm,0.8s,baz=44,slow=6.2,SNR=7.3						
STHS	Stebnicka Huta	80.08	326	eP	P	05 45 25.6	-0.9
BRTR	Keskin Array B	80.30	313	P	P	05 45 28.6	+0.6
	comp=Z,0.6nm,0.7s,baz=96,slow=5.0,SNR=5.3						
CRVS	Cervenica-Dubn	80.35	326	eP	P	05 45 27.1	-0.9
CLL	Collm	82.07	331	i P	P	05 45 38.0	+1.0
	comp=Z,7.0nm,0.9s						
KHC	Kasperske Hory	83.56	330	eP	P	05 45 45.5	+0.6
GERES	GERESS Array B	83.74	329	P	P	05 45 46.9	+1.0
	comp=Z,0.8nm,0.7s,baz=79,slow=6.9,SNR=8.5						
TXAR	Lajitas Array	88.62	54	P	P	05 46 10.5	+0.3
	comp=Z,1.4nm,0.7s,baz=306,slow=3.0,SNR=13						
LPAZ	La Paz	145.04	62	PKPbc	PKPbc	05 52 54.5	-0.2
	comp=Z,0.8nm,0.6s,baz=352,slow=2.9,SNR=7.6						
LCO	Las Campanas	150.11	85	ePKPdf	PKPdf	05 53 00.7	-2.2

IDC 02 05:34:00.4±3.9, 20°.44S×168°.38E, h137km±44km, mb3.4/5, mb1 3.6/6, mb1mx3.3/43, mbtmp3.8/6, MS2.9/2, Ms1 2.9/2, ms1mx2.6/19, Error ellipse: s-maj=100.0km s-min=30.5km az=161.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.43	228	P	Pn	05 34 38.5	-1.6
	8.5nm,0.3s,baz=176,slow=22,SNR=115						
DZM				S	Sn	05 35 11.6	+0.9
	24nm,0.3s,baz=111,slow=21,SNR=8.1						
DZM				LR	LR	05 35 28.7	
	comp=Z,75nm,19.4s,baz=338,slow=36						
CTA	Charters Tower	20.76	267	P	P	05 38 32.1	+1.4
	0.8nm,0.3s,baz=80,slow=12,SNR=2.9						
WRA	Warramunga Arr	31.93	265	P	P	05 40 11.7	-1.6
	0.4nm,0.4s,baz=91,slow=8.3,SNR=17						
ASAR	Alice Springs	32.07	258	P	P	05 40 15.4	+0.8
	0.7nm,0.6s,baz=81,slow=8.3,SNR=8.0						
ASAR				LR	LR	05 52 16.7	
	comp=Z,58nm,21.5s,baz=124,slow=34						
FITZ	Fitzroy Crossi	40.34	266	P	P	05 41 24.4	-0.4
	2.8nm,0.7s,baz=95,slow=8.0,SNR=2.8						
ILAR	Eielson Array	91.61	18	P	P	05 46 52.1	+0.7
	0.4nm,0.8s,baz=231,slow=5.6,SNR=4.7						
KVAR	Kislovodsk Arr	129.44	311	PKP	PKPdf	05 52 51.5	-1.5
	5.0nm,0.4s,baz=66,slow=4.4,SNR=3.3						
GERES	GERESS Array B	145.15	330	PKPbc	PKPab	05 53 22.3	+0.6
	0.3nm,0.7s,baz=66,slow=3.3,SNR=3.8						

---

*NIED **02** 05:47:00, 36°.80N×140°.70E, h5km, Mw4.0 Best double couple: M0 1.14000×10^15 NP1:φs12.00000°, δ43.00000°, λ-111.00000°. NP2:φs220.00000°, δ50.00000°, λ-72.00000°.*

*BJI **02** 05:47:51.9, 36°.62N×140°.77E, h36km, mb4.4/21, mB4.6/12, Ms4.3/6, Ms7 3.9/6*

*ISCJB **02** 05:47:51.9±0.5, 36°.83N±0°.02×140°.68E±0°.04, h19km±3km, mb4.2/30, MS3.4/2, Error ellipse: s-maj=5.1km s-min=3.6km az=31.8*

*JMA **02** 05:47:52.5, 36°.83N×140°.59E, h7km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs233.00000°, δ57.00000°, λ-77.00000°. NP2:φs29.00000°, δ35.00000°, λ-110.00000°. Principal axes: T Plg11.0000°, Azm313.0000°; N Plg11.0000°, Azm45.0000°; P Plg74.0000°, Azm179.0000°;*

JMA Felt II J1.

*NEIC **02** 05:47:57.1±0.6, 36°.84N×140°.47E, h45km±5km, mb4.6/9 Error ellipse: s-maj=6.7km s-min=5.1km az=137.0*

NEIC Recorded [2 JMA] in Fukushima and Ibaraki.

*IDC **02** 05:47:58.5±2.1, 36°.79N×140°.45E, h62km±19km, mb3.9/21, mb1 4.1/22, mb1mx3.9/50, mbtmp4.2/22, MS3.1/6, Ms1 3.1/6, ms1mx2.8/50, Error ellipse: s-maj=15.8km s-min=13.9km az=47.0*

ISC 02 05:47:52.5±0.8, 36°.82N±0°.03×140°.60E±0°.05, h12km±5km, n85, σ1s.31/89, mb4.3/30, 6C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	Hitachi	0.21	187	⇑P	Pg	05 47 56.8	-0.2
JHO				S	Sg	05 47 59.9	-0.2
ONAJ	Iwakimizuishiy	0.32	29	⇓P	Pg	05 47 58.9	-0.1
JSB	Shiboa	0.57	285	⇑P	Pb	05 48 03.9	-0.5
JSB				S	Sb	05 48 12.0	-0.4
JFK	Kawauchi	0.59	22	⇑P	Pg	05 48 03.5	-0.4
JYT	Yasato	0.68	209	⇓P	Pg	05 48 05.3	-0.3
JYT				S	Sg	05 48 14.4	-0.1
JFT	Otama	0.73	343	⇑P	Pb	05 48 06.3	-0.8
JFT				S	Sb	05 48 16.0	-1.1
JFY	Yanaizu	0.93	309	⇑P	Pb	05 48 09.6	-0.9
JFY				S	Sb	05 48 22.2	-0.6
JAG	Ashikaga	1.00	247	⇑P	Pb	05 48 10.9	-0.9
JAG				S	Sb	05 48 24.1	-0.9
MJAR	Matsushiro Arr	1.94	262	P	Pn	05 48 26.2	+0.8
	93nm,0.3s,baz=89,slow=15,SNR=372						
MJAR				S	Sn	05 48 49.6	-0.1
	158nm,0.3s,baz=79,slow=25,SNR=23						
MAJO	Matsushiro	1.94	263	ePn	Pn	05 48 26.5	+1.1
MAJO				eSn	Sb	05 48 52.3	+0.2
MAT	Matsushiro	1.94	263	P	Pn	05 48 26.2	+0.8
MAT				S	Sb	05 48 51.6	-0.5
MJB9	Matsu-Tunnel	1.95	263	ePn	Pb	05 48 26.6	-1.3
MJB9				eSn	Sb	05 48 51.5	-0.6
INU	Inuyama	3.25	244	ePn	Pn	05 48 45.3	+1.9
INU				eSn	Sn	05 49 25.8	+3.8
JHJ	Hachijo jima 2	3.75	191	P	Pn	05 48 51.4	+1.2
	15nm,0.3s,baz=135,slow=19,SNR=3.4						
JHJ				S	Sn	05 49 37.0	+2.7
	27nm,0.3s,baz=221,slow=19,SNR=4.6						
JHJ				LR	LR	05 50 16.1	
	comp=Z,220nm,18.0s,baz=71,slow=37						
JHJ2	Mitsune	3.76	190	ePn	Pn	05 48 52.0	+1.8
ERM	Erimo	5.55	20	ePn	Pn	05 49 16.5	+1.6
ERM				eSn	Sn	05 50 18.2	-0.4
ASAJ	Asahikawa	7.45	11	P	Pn	05 49 41.9	+1.0
	3.9nm,0.3s,baz=216,slow=13,SNR=8.9						
ASAJ				S	Sn	05 51 08.1	+2.9
	0.5nm,0.3s,baz=311,slow=20,SNR=3.5						
ASAJ	Asahikawa	7.45	11	ePn	Pn	05 49 42.5	+1.6
ASAJ				S	Sn	05 51 08.1	+2.9
JNU	Nakatsue	8.79	248	P	Pn	05 50 03.5	+4.0
	0.3nm,0.3s,baz=42,slow=7.9,SNR=8.6						
JNU	Nakatsue	8.79	248	ePn	Pn	05 50 01.4	+1.9
USRK	Ussuriysk Ar.	9.86	321	P	Pn	05 50 18.9	+4.8
	0.6nm,0.3s,baz=128,slow=12,SNR=13						
USRK				LR	LR	05 53 33.0	
	comp=Z,96nm,21.7s,baz=108,slow=34						
KSRS	Korea Array	10.14	277	P	Pn	05 50 23.2	+5.3
	0.3nm,0.3s,baz=97,slow=14,SNR=24						
KSRS				LR	LR	05 53 55.2	
	comp=Z,100nm,20.2s,baz=95,slow=36						
KS15	Wonju Array Si	10.18	277	ePn	Pn	05 50 27.4	+9.1
KSAR	Wonju Array Be	10.18	277	P	Pn	05 50 23.2	+4.9
MDJ	Mudanjiang	11.41	316	P	Pn	05 50 37.4	+2.1
MDJ				PMZ			
	5.0nm,0.4s						
MDJ				PMZ			
	70nm,5.5s						
KLR	Kul'dur	13.98	335	LR	LR	05 56 04.0	
	comp=Z,52nm,18.6s,baz=122,slow=35						
BJI	Beijing	19.39	287	P	P	05 52 17.9	-0.3
BJI				PMZ			
	9.0nm,0.7s						
HHC	Hu-ho-hao-te	22.93	289	eP	P	05 52 56.8	+0.3
HHC				PMZ			
	12nm,1.1s						
HHC				PMZ			
	120nm,5.3s						
SEY	Seymchan	27.13	12	P	P	05 53 35.1	0.0
	2.8nm,0.6s,baz=0.0,slow=20,SNR=7.0						
SONM	Songino Array	27.37	305	P	P	05 53 36.8	-0.8
	3.6nm,0.9s,baz=96,slow=9.1,SNR=7.2						
H11N2	WAKE ISLAND Hy	28.60	119	T	T	06 23 35.1	
	baz=313,slow=75,SNR=1086						
H11N1	WAKE ISLAND Hy	28.61	119	T	T	06 23 35.4	
	baz=313,slow=75,SNR=1859						
H11N3	WAKE ISLAND Hy	28.62	119	T	T	06 23 36.2	
	baz=313,slow=75,SNR=1130						
H11S1	WAKE ISLAND Hy	29.30	121	T	T	06 24 26.6	
	baz=314,slow=75,SNR=2691						
H11S3	WAKE ISLAND Hy	29.30	121	T	T	06 24 26.3	
	baz=314,slow=75,SNR=2650						
H11S2	WAKE ISLAND Hy	29.31	121	T	T	06 24 28.0	
	baz=314,slow=75,SNR=1966						
LZH	Lanzhou	29.46	280	eP	P	05 53 54.0	-2.4
LZH				pP	sP	05 54 05.2	+3.7
LZH				sP	pP	05 54 10.0	+10
LZH				ePP	PnPn	05 54 50.0	-0.3
LZH				PMZ			
	19nm,1.0s						
LZH				PMZ			
	67nm,5.2s						
LZH				LN			
	380nm,12.8s						
LZH				LE			
	380nm,13.2s						
LZH				LZ			
	410nm,16.5s						
CD2	Chengdu	31.02	270	eP	P	05 54 08.8	-1.3
KMI	Kunming	34.29	261	P	P	05 54 40.2	+1.2
KMI				PMZ			
	14nm,0.5s						
WMQ	Urumqi	40.36	297	eP	P	05 55 30.4	+0.3
WMQ				pP	sP	05 55 42.4	+7.2
WMQ				sP	pP	05 55 48.1	+14
WMQ				PMZ			
	5.0nm,0.6s						
WMQ				PMZ			
	45nm,4.8s						
CMAR	Chiang Mai Arr	40.81	255	P	P	05 55 32.4	-1.6
	1.0nm,0.6s,baz=55,slow=9.3,SNR=2.5						
ZALV	Zalesovo Beam	41.58	313	P	P	05 55 38.5	-1.4
	1.9nm,0.5s,baz=89,slow=5.7,SNR=4.3						
MK01	Makanchi Array	43.68	302	eP	P	05 55 56.5	-0.6
MKAR	Makanchi Array	43.68	302	P	P	05 55 56.3	-0.8
	0.8nm,0.6s,baz=88,slow=9.8,SNR=6.1						
KURK	Kurchatov	45.55	308	eP	P	05 56 11.2	-0.7
	5.6nm,0.8s						
KURBB	Kurchatov Arra	45.62	308	P	P	05 56 11.0	-1.5
	2.5nm,0.6s,baz=84,slow=8.3,SNR=8.7						
TKM2	Tokmak 2	49.16	298	eP	P	05 56 40.4	-0.1
	18nm,1.8s						
KSH	Kashi	49.90	294	P	P	05 56 47.2	+1.2
KSH				pP	sP	05 57 00.5	+9.3
AAK	Ala-Archa	50.02	298	LR	LR	06 18 47.1	
	comp=Z,58nm,19.7s,baz=35,slow=37						
IL1	Eielson Array	50.02	32	eP	P	05 56 47.0	+0.6
ILAR	Eielson Array	50.02	32	P	P	05 56 47.0	+0.6
	2.1nm,0.9s,baz=271,slow=5.8,SNR=15						
ILB	Eielson Array	50.02	32	eP	P	05 56 46.4	0.0
BVAR	Borovoye Array	50.23	312	P	P	05 56 47.6	-0.6
	baz=76,slow=6.1						
BRVK	Borovoye	50.29	312	eP	P	05 56 48.7	+0.1
	39nm,0.9s						
ZRNK	Zerenda	51.07	312	eP	P	05 56 54.1	-0.4
	3.3nm,0.8s						
ARU	Arti	56.09	318	P	P	05 57 29.7	-1.6
	1.8nm,0.3s,baz=76,slow=3.2,SNR=5.9						
ARU	Arti	56.09	318	eP	P	05 57 30.9	-0.4
	5.4nm,0.8s						
WRA	Warramunga Arr	56.77	187	P	P	05 57 35.1	-1.3
	3.4nm,0.7s,baz=3.6,slow=7.4,SNR=32						
ABKAR	Akbulak array	57.58	310	eP	P	05 57 41.1	-0.9
AKTO	Aktyubinsk	58.33	312	P	P	05 57 47.1	-0.1
	1.6nm,0.8s,baz=224,slow=21,SNR=6.1						
AS01	Alice Springs	60.49	187	eP	P	05 58 02.1	-0.2
ASAR	Alice Springs	60.49	187	P	P	05 58 02.0	-0.4
	1.6nm,0.9s,baz=359,slow=5.7,SNR=9.2						
ASAR	Alice Springs	60.49	187	P	P	05 58 02.0	-0.4
ARCES	ARCESS Array B	63.97	339	P	P	05 58 24.6	-0.6
	2.1nm,0.8s,baz=57,slow=7.4,SNR=6.6						
YKA	Yellowknife Ar	64.32	30	P	P	05 58 27.0	-0.5
	1.0nm,0.6s,baz=305,slow=6.6,SNR=6.5						
FINES	FINESS Array B	68.70	332	P	P	05 58 54.7	-0.8
	3.2nm,0.8s,baz=75,slow=8.7,SNR=7.1						
AKASG	Malin Array Be	74.07	322	P	P	05 59 27.0	-1.2
	1.0nm,0.6s,baz=50,slow=6.0,SNR=6.2						
NB2	NORSAR Subarra	74.13	337	P	P	05 59 27.3	-1.1
	comp=Z,1.6nm,0.7s,baz=41,slow=5.9						
NOA	NORSAR Array B	74.13	337	P	P	05 59 27.6	-0.9
	comp=Z,2.8nm,0.9s,baz=39,slow=5.8,SNR=6.2						
LRM	Limekiln Ridge	74.75	44	eP	P	05 59 32.5	-0.1
NVAR	Mina Array Bea	75.64	53	P	P	05 59 39.1	+1.3
	comp=Z,2.0nm,0.7s,baz=300,slow=6.2,SNR=9.1						
R11A	Troy Canyon, C	77.40	51	eP	P	05 59 49.4	+1.6
	comp=Z,11nm,1.6s						
TPNV	Topopah Spring	77.82	53	eP	P	05 59 51.2	+1.1
	comp=Z,6.2nm,1.0s						
DUG	Dugway, Tooele	77.98	49	eP	P	05 59 51.4	+0.5
DUG				ePcP	pP	05 59 55.5	+0.7
PDAR	Pinedale Array	78.28	45	P	P	05 59 53.5	+0.9
	comp=Z,1.2nm,0.8s,baz=264,slow=3.0,SNR=9.6						
BRTR	Keskin Array B	78.50	311	P	P	05 59 53.9	+0.1
	comp=Z,0.6nm,0.5s,baz=97,slow=3.2,SNR=3.3						
MLR	Muntele Rosu	79.12	319	LR	LR	06 37 52.8	
	comp=Z,9.4nm,18.0s,baz=288,slow=38						
KNB	Kanab	79.95	51	eP	P	06 00 05.1	+3.3
	comp=Z,5.6nm,1.0s						
CLL	Collm	80.95	330	i P	P	06 00 06.4	-0.3
	comp=Z,23nm,2.0s						
Y14A	Wickenburg	81.76	54	eP	P	06 00 10.7	-0.7
GERES	GERESS Array B	82.55	328	P	P	06 00 14.6	-0.7
	comp=Z,0.4nm,0.4s,baz=42,slow=4.3,SNR=4.8						
S22A	4UR Ranch, Cre	83.13	48	eP	P	06 00 21.3	+2.5
	comp=Z,2.5nm,0.9s						
TX31	Lajitas Ar. Si	90.76	52	eP	P	06 00 55.6	-0.3
TXAR	Lajitas Array	90.77	52	P	P	06 00 56.5	+0.6
	comp=Z,1.8nm,0.6s,baz=286,slow=3.8,SNR=17						
LPAZ	La Paz	147.36	59	PKPbc	PKPbc	06 07 37.0	-0.4
	comp=Z,1.9nm,0.9s,baz=344,slow=1.5,SNR=9.1						

---

*DDA **02** 05:57:51.8, 39°.15N×29°.08E, h7km, Md2.9*

*ISK **02** 05:57:51.3, 39°.11N×29°.13E, h8km, MD2.5*

*ISCJB **02** 05:57:52.0±0.6, 39°.14N±0°.04×29°.07E±0°.04, h5km±7km, Error ellipse: s-maj=6.6km s-min=5.1km az=151.8*

*CSEM **02** 05:57:52.0±0.1, 39°.15N×29°.08E, h8km, MD2.9, Error ellipse: s-maj=4.2km s-min=2.9km az=117.0*

ISC 02 05:57:52.2±1.0, 39°.15N±0°.03×29°.08E±0°.03, h10km±9km, n21, σ0s.64/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.30	249	P	Pg	05 57 58.5	+0.2
DEMI				S	Sg	05 58 02.8	+0.4
DEMI	Demirci	0.30	249	i P	Pg	05 57 58.5	+0.2
DEMI				i S	Sg	05 58 02.8	+0.4
GDZ	Gediz	0.32	101	P	Pg	05 57 58.7	+0.1
GDZ				S	Sg	05 58 03.5	+0.6
GDZ	Gediz	0.32	101	i P	Pg	05 57 58.7	+0.1
GDZ				i S	Sg	05 58 03.5	+0.6
TVSB	Tavsanli	0.42	45	ePG	Pg	05 57 59.9	-0.6
TVSB				eSG	Sg	05 58 06.4	+0.3
TVSB	Tavsanli	0.42	45	ePg	Pg	05 57 59.9	-0.6
TVSB				eSg	Sg	05 58 06.4	+0.3
KULA	Kula-Manisa	0.71	207	ePG	Pg	05 58 05.4	-0.6
KULA	Kula-Manisa	0.71	207	ePg	Pg	05 58 05.4	-0.6
KHAL	Karahalli	0.84	157	P	Pg	05 58 08.6	+0.2
KHAL				S	Sb	05 58 20.0	-0.5
KHAL	Karahalli	0.84	157	i P	Pg	05 58 08.7	+0.2
KHAL				i S	Sb	05 58 20.0	-0.5
IGD	Bursa	1.12	5	i P	Pb	05 58 12.3	-1.4
IGD				i S	Sn	05 58 29.6	+0.2
CAVI	Cavuskoy	1.21	29	ePN	Pb	05 58 14.6	-0.6
CAVI				eSN	Sn	05 58 33.3	+1.7
CAVI	Cavuskoy	1.21	29	ePn	Pb	05 58 14.6	-0.6
CAVI				eSn	Sn	05 58 33.3	+1.7
IZI	Iznik	1.22	14	ePN	Pn	05 58 15.4	-0.1
IZI	Iznik	1.22	14	ePn	Pn	05 58 15.4	-0.1
MDNY	Mudanya-Bursa	1.23	353	ePN	Pg	05 58 15.7	-0.1
MDNY	Mudanya-Bursa	1.23	353	ePn	Pg	05 58 15.7	-0.1
BORA	Eskisehir	1.29	55	P	Pn	05 58 16.0	-0.4
BORA				S	Sg	05 58 34.3	+0.6
BORA	Eskisehir	1.29	55	i P	Pn	05 58 16.0	-0.4
BORA				i S	Sg	05 58 34.3	+0.6
ARMT	Armutlu	1.42	353	ePN	Pb	05 58 18.9	0.0
ARMT	Armutlu	1.42	353	ePn	Pb	05 58 18.9	0.0

---

*NNC **02** 06:13:44.2±3.3, 54°.02N×85°.98E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=37.9km s-min=28.9km az=161.0*

IDC 02 06:13:40.1±2.5, 54°.29N×86°.24E, h0km, mb1 3.3/2, mb1mx3.1/54, mbtmp3.3/2, ML3.0/2, 3C-3D, Error ellipse: s-maj=20.2km s-min=14.2km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.91	248	i		06 19 20.0	
	baz=69,slow=318,SNR=4.7						
ZALV	Zalesovo Beam	0.91	248	Pg	Pg	06 13 55.5	-2.0
	1.9nm,0.3s,baz=66,slow=17,SNR=13						
ZALV				Lg	Lg	06 14 10.7	
	8.6nm,0.3s,baz=75,slow=29,SNR=31						
ZALV				Rg	Rg	06 14 12.8	
	94nm,1.0s,baz=70,slow=34,SNR=36						
KURK	Kurchatov	5.87	236	⇑Pn	Pn	06 15 08.1	-0.2
	6.5nm,1.1s						
KURK				⇑Lg	Lg	06 16 39.6	
	6.7nm,0.8s						
KURBB	Kurchatov Arra	5.97	235	Pn	Pn	06 15 10.9	+1.2
	0.2nm,0.3s,baz=52,slow=13,SNR=20						
KURBB				Lg	Lg	06 16 50.4	
	0.1nm,0.3s,baz=58,slow=30,SNR=5.4						
KURBB	Kurchatov Arra	5.97	235	⇓Pn	Pn	06 15 10.5	+0.7
	6.2nm,1.0s						
KURBB				⇓Lg	Lg	06 16 46.8	
	8.4nm,1.2s						
MK31	Makanchi Array	7.91	200	⇑Pn	Pn	06 15 36.3	-0.2
	0.5nm,0.5s,baz=24,slow=12,SNR=12						
MK31				⇓Lg	Lg	06 17 46.9	
	0.8nm,0.6s,baz=23,slow=32,SNR=4.6						
MKAR	Makanchi Array	7.91	200	Pn	Pn	06 15 37.4	+1.0
	0.3nm,0.3s,baz=23,slow=14,SNR=12						
MKAR				Lg	Lg	06 17 51.5	
	0.2nm,0.3s,baz=24,slow=29,SNR=5.7						

---

*ISCJB **02** 06:19:41.5±0.8, 17°.50S±0°.06×69°.58W±0°.10, h152km, mb3.3/2, Error ellipse: s-maj=13.7km s-min=8.3km az=14.7*

*IDC **02** 06:19:43.0±1.4, 17°.41S×69°.55W, h157km±11km, mb3.3/3, mb1 3.7/7, mb1mx3.4/27, mbtmp4.2/7, Error ellipse: s-maj=23.3km s-min=17.0km az=124.0*

ISC 02 06:19:42.5±0.9, 17°.52S±0°.06×69°.47W±0°.09, h152km, n8, σ1s.76/11, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.77	46	P	Pn	06 20 17.5	+1.7
	88nm,0.3s,baz=229,slow=6.1,SNR=5058						
LPAZ				S	Sn	06 20 42.0	+0.7
	8.1nm,0.3s,baz=324,slow=21,SNR=4.1						
LVC	Limon Verde	5.09	174	P	Pn	06 20 58.8	+1.4
	333nm,0.3s,baz=337,slow=12,SNR=182						
LVC				S	Sn	06 21 54.9	-1.1
	851nm,0.3s,baz=128,slow=17,SNR=31						
SIV	San Ignacio	8.19	81	P	Pn	06 21 39.1	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	5.9nm,0.3s,baz=280,slow=11,SNR=54						
SIV				S	Sn	06 23 06.4	-3.3
	0.4nm,0.3s,baz=344,slow=21,SNR=7.2						
NNA	**Nana**	**9.00**	**307**	P	**Pn**	**06 21 47.6**	**-1.7**
	3.3nm,0.3s,baz=128,slow=12,SNR=12						
PTGA	**Pitinga**	**19.13**	**30**	P	**P**	**06 23 53.4**	**-0.6**
	1.1nm,0.3s,baz=174,slow=18,SNR=11						
BDFB	**Brasilia**	**20.65**	**88**	P	**P**	**06 24 11.4**	**+0.9**
	2.3nm,0.4s,baz=263,slow=9.0,SNR=8.1						
PLCA	**Paso Flores**	**23.15**	**182**	P	**P**	**06 24 37.0**	**+1.6**
	1.0nm,0.7s,baz=25,slow=14,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.56**	**71**	P	**P**	**06 31 16.8**	**+0.2**
	0.3nm,0.5s,baz=252,slow=4.7,SNR=6.2						

*ISK **02** 06:20:12.7, 39°.10N×29°.01E, h6km, MD2.6*
*ISCJB **02** 06:20:13.2±0.5, 39°.09N±0°.03×29°.02E±0°.04, h9km±5km, Error ellipse: s-maj=5.2km s-min=4.5km az=41.1*
*CSEM **02** 06:20:13.3±0.1, 39°.09N×29°.01E, h10km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.5km az=97.0*
*DDA **02** 06:20:13.2, 39°.10N×29°.03E, h7km, Md2.7*
ISC 02 06:20:13.3±0.9**, 39°.10N**±0°.03×**29°.02E**±0°.03**, h16**km±8km**, n23,** σ**0s.52**/35**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**256**	P	**Pg**	**06 20 18.9**	**+0.1**
DEMI				S	**Sg**	**06 20 22.6**	**+0.1**
DEMI	**Demirci**	**0.24**	**256**	*i* P	**Pg**	**06 20 18.9**	**+0.1**
DEMI				*i* S	**Sg**	**06 20 22.6**	**+0.1**
GDZ	**Gediz**	**0.36**	**92**	P	**Pg**	**06 20 20.7**	**-0.1**
GDZ				S	**Sg**	**06 20 25.5**	**-0.4**
GDZ	**Gediz**	**0.36**	**92**	*i* P	**Pg**	**06 20 20.7**	**-0.1**
GDZ				*i* S	**Sg**	**06 20 25.6**	**-0.4**
TVSB	**Tavsanli**	**0.49**	**45**	*e*PG	**Pg**	**06 20 23.0**	**-0.1**
TVSB				*e*SG	**Sg**	**06 20 29.6**	**-0.1**
TVSB	**Tavsanli**	**0.49**	**45**	*e*Pg	**Pg**	**06 20 23.0**	**-0.1**
TVSB				*e*Sg	**Sg**	**06 20 29.6**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG	**Pg**	**06 20 25.6**	**-0.5**
KULA				*e*SG	**Sg**	**06 20 34.8**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg	**Pg**	**06 20 25.6**	**-0.5**
KULA				*e*Sg	**Sg**	**06 20 34.8**	**0.0**
KHAL	**Karahalli**	**0.82**	**153**	P	**Pg**	**06 20 29.2**	**-0.1**
KHAL				S	**Sg**	**06 20 40.0**	**-0.1**
KHAL	**Karahalli**	**0.82**	**153**	*i* P	**Pg**	**06 20 29.2**	**-0.1**
KHAL				*i* S	**Sg**	**06 20 40.0**	**-0.1**
KHL	**Karahalli**	**0.87**	**153**	*e*PG	**Pg**	**06 20 30.2**	**-0.1**
KHL	**Karahalli**	**0.87**	**153**	*e*Pg	**Pg**	**06 20 30.2**	**-0.1**
ORLT	**Orhaneli**	**0.95**	**354**	*e*PG	**Pg**	**06 20 31.4**	**-0.3**
ORLT	**Orhaneli**	**0.95**	**354**	*e*Pg	**Pg**	**06 20 31.4**	**-0.3**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pb**	**06 20 35.6**	**+0.4**
IGD				*i* S	**Sn**	**06 20 51.6**	**+0.9**
BALY	**Balya**	**1.26**	**301**	P	**Pb**	**06 20 37.3**	**+0.7**
BALY	**Balya**	**1.26**	**301**	*i* P	**Pb**	**06 20 37.3**	**+0.7**
BALY				*i* S	**Sb**	**06 20 50.8**	**-1.8**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*PN	**Pb**	**06 20 37.4**	**+0.5**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*Pn	**Pb**	**06 20 37.4**	**+0.5**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pb**	**06 20 37.7**	**+0.8**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pb**	**06 20 37.7**	**+0.8**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pb**	**06 20 40.4**	**+0.2**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pb**	**06 20 40.4**	**+0.2**

*ISK **02** 06:21:02.7, 37°.25N×28°.17E, h5km, MD2.5*
*ISCJB **02** 06:21:03.4±0.6, 37°.26N±0°.04×28°.22E±0°.04, h0km, Error ellipse: s-maj=6.2km s-min=3.5km az=38.6*
*DDA **02** 06:21:03.3, 37°.22N×28°.21E, h7km, Md2.8, Suspected Mining explosion.*
*CSEM **02** 06:21:03.4±0.4, 37°.28N×28°.23E, h1km, MD2.5, Error ellipse: s-maj=8.5km s-min=6.3km az=43.0, Suspected Mining explosion.*
ISC 02 06:21:02.9±0.8**, 37°.28N**±0°.03×**28°.24E**±0°.03**, h0**km**, n17,** σ**1s.13**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.15**	**167**	*e*PG	**Pg**	**06 21 06.1**	**+0.3**
YER				*e*SG	**Sg**	**06 21 08.8**	**+1.1**
YER	**Yerkesik**	**0.15**	**167**	*e*Pg	**Pg**	**06 21 06.1**	**+0.3**
YER				*e*Sg	**Sg**	**06 21 08.8**	**+1.1**
AYDN	**Tasoluk**	**0.47**	**323**	P	**Pb**	**06 21 13.5**	**-0.6**
AYDN				S	**Sb**	**06 21 21.4**	**-0.3**
AYDN	**Tasoluk**	**0.47**	**323**	*i* P	**Pb**	**06 21 13.5**	**-0.6**
AYDN				*i* S	**Sb**	**06 21 21.4**	**-0.3**
TURN	**Turunc**	**0.50**	**145**	*i* P	**Pg**	**06 21 12.0**	**-0.5**
TURN				*i* S	**Sg**	**06 21 19.4**	**+0.4**
DALY	**Dalyan (Mu˜la**	**0.57**	**144**	*e*PG	**Pb**	**06 21 14.9**	**-0.8**
DALY				*e*SG	**Sb**	**06 21 23.8**	**-0.6**
DALY	**Dalyan (Mu˜la**	**0.57**	**144**	*e*Pg	**Pb**	**06 21 14.9**	**-0.8**
DALY				*e*Sg	**Sb**	**06 21 23.8**	**-0.6**
BDRM	**Kayabasi**	**0.67**	**251**	P	**Pg**	**06 21 15.1**	**-0.6**
BDRM				S	**Sg**	**06 21 25.3**	**+0.9**
BDRM	**Kayabasi**	**0.67**	**251**	*i* P	**Pg**	**06 21 15.1**	**-0.6**
BDRM				*i* S	**Sg**	**06 21 25.3**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**337**	*e*PG	**Pb**	**06 21 18.0**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**337**	*e*Pg	**Pb**	**06 21 18.0**	**-0.3**
DNZL	**Cakiroluk**	**0.76**	**58**	P	**Pg**	**06 21 16.5**	**-0.9**
DNZL				S	**Sn**	**06 21 36.4**	**+3.1**
DNZL	**Cakiroluk**	**0.76**	**58**	*i* P	**Pg**	**06 21 16.5**	**-0.9**
DNZL				*i* S	**Sn**	**06 21 36.4**	**+3.1**
BODT	**Bodrum**	**0.77**	**254**	*e*PG	**Pg**	**06 21 17.1**	**-0.6**
BODT				*e*SG	**Sg**	**06 21 28.6**	**+1.0**
BODT	**Bodrum**	**0.77**	**254**	*e*Pg	**Pg**	**06 21 17.1**	**-0.6**
BODT				*e*Sg	**Sg**	**06 21 28.7**	**+1.0**
FETY	**Fethiye**	**0.94**	**134**	*e*PG	**Pn**	**06 21 22.1**	**-1.1**
FETY	**Fethiye**	**0.94**	**134**	*e*Pg	**Pn**	**06 21 22.2**	**-1.1**

IDC 02 06:30:47.6±1.6**, 9°.63S**×**148°.78E, h0**km**, mb3.7**/2**, mb1 4.1**/4**, mb1mx3.6**/39**, mbtmp3.8**/4**, ML4.0**/2**, Error ellipse: s-maj=44.2km s-min=26.5km az=157.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.61**	**278**	Pn	Pn	06 31 16.7	-0.7
	baz=34,slow=4.6,SNR=3.0						
PMG				Sn	Sb	06 31 39.1	-0.1
	29nm,0.3s,baz=227,slow=4.1,SNR=5.4						
WRA	**Warramunga Arr**	**17.30**	**232**	P	Pn	06 34 50.0	-0.8
	0.8nm,0.3s,baz=59,slow=13,SNR=10						
ASAR	**Alice Springs**	**19.91**	**224**	P	Pn	06 35 22.4	-0.3
	0.2nm,0.3s,baz=60,slow=10,SNR=12						
FITZ	**Fitzroy Crossi**	**23.97**	**247**	P	P	06 36 03.9	-0.1
	2.5nm,0.9s,baz=61,slow=13,SNR=4.1						
ILAR	**Eielson Array**	**88.12**	**23**	P	P	06 43 39.7	-0.2
	0.3nm,0.8s,baz=258,slow=4.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**147.56**	**279**	PKPbc	PKPbc	06 50 34.4	-0.6
	0.4nm,0.8s,baz=114,slow=1.7,SNR=2.9						

*DDA **02** 06:32:42.0, 39°.16N×28°.97E, h7km, Md2.8*
*ISK **02** 06:32:41.3, 39°.11N×29°.01E, h5km, MD2.6*
*ISCJB **02** 06:32:42.1±0.5, 39°.13N±0°.03×28°.98E±0°.04, h5km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=30.3*
*CSEM **02** 06:32:42.2±0.1, 39°.12N×28°.96E, h8km, MD2.8, Error ellipse: s-maj=2.8km s-min=2.0km az=101.0*
ISC 02 06:32:42.4±0.9**, 39°.13N**±0°.02×**28°.98E**±0°.03**, h12**km±9km**, n28,** σ**0s.33**/42**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**248**	P	**Pg**	**06 32 47.3**	**+0.2**
DEMI				S	**Sg**	**06 32 50.3**	**-0.1**
DEMI	**Demirci**	**0.22**	**248**	*i* P	**Pg**	**06 32 47.3**	**+0.2**
DEMI				*i* S	**Sg**	**06 32 50.3**	**-0.1**
GDZ	**Gediz**	**0.40**	**95**	P	**Pg**	**06 32 50.2**	**-0.1**
GDZ				S	**Sg**	**06 32 55.9**	**+0.3**
GDZ	**Gediz**	**0.40**	**95**	*i* P	**Pg**	**06 32 50.2**	**-0.1**
GDZ				*i* S	**Sg**	**06 32 55.9**	**+0.3**
TVSB	**Tavsanli**	**0.50**	**49**	*e*PG	**Pg**	**06 32 51.5**	**-0.7**
TVSB				*e*SG	**Sg**	**06 32 58.2**	**-0.5**
TVSB	**Tavsanli**	**0.50**	**49**	*e*Pg	**Pg**	**06 32 51.5**	**-0.7**
TVSB				*e*Sg	**Sg**	**06 32 58.3**	**-0.5**
KULA	**Kula-Manisa**	**0.66**	**202**	*e*PG	**Pg**	**06 32 54.4**	**-0.8**
KULA				*e*SG	**Sg**	**06 33 03.8**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**202**	*e*Pg	**Pg**	**06 32 54.4**	**-0.8**
KULA				*e*Sg	**Sg**	**06 33 03.8**	**-0.1**
KHAL	**Karahalli**	**0.86**	**152**	P	**Pb**	**06 32 59.4**	**+0.2**
KHAL				S	**Sg**	**06 33 10.0**	**-0.1**
KHAL	**Karahalli**	**0.86**	**152**	*i* P	**Pb**	**06 32 59.4**	**+0.2**
KHAL				*i* S	**Sg**	**06 33 10.0**	**-0.1**
ORLT	**Orhaneli**	**0.92**	**356**	*e*PG	**Pg**	**06 32 59.8**	**-0.4**
ORLT				*e*SG	**Sb**	**06 33 12.9**	**+0.5**
ORLT	**Orhaneli**	**0.92**	**356**	*e*Pg	**Pg**	**06 32 59.8**	**-0.4**
ORLT				*e*Sg	**Sb**	**06 33 13.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*PN	**Pb**	**06 33 05.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*Pn	**Pb**	**06 33 05.6**	**0.0**
MDNY	**Mudanya-Bursa**	**1.24**	**357**	*e*PN	**Pg**	**06 33 06.0**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**357**	*e*Pn	**Pg**	**06 33 06.0**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**32**	*e*PN	**Pb**	**06 33 06.3**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**32**	*e*Pn	**Pb**	**06 33 06.3**	**+0.1**
IZI	**Iznik**	**1.27**	**17**	*e*PN	**Pg**	**06 33 06.6**	**-0.2**
IZI	**Iznik**	**1.27**	**17**	*e*Pn	**Pg**	**06 33 06.6**	**-0.2**
BORA	**Eskisehir**	**1.37**	**56**	P	**Pb**	**06 33 08.2**	**+0.3**
BORA				S	**Sg**	**06 33 26.6**	**+0.1**
BORA	**Eskisehir**	**1.37**	**56**	*i* P	**Pb**	**06 33 08.2**	**+0.3**
BORA				*i* S	**Sg**	**06 33 26.6**	**+0.1**
ADVT	**Abdulvahap**	**1.43**	**24**	*e*PN	**Pb**	**06 33 08.8**	**-0.2**
ADVT	**Abdulvahap**	**1.43**	**24**	*e*Pn	**Pb**	**06 33 08.8**	**-0.2**
ARMT	**Armutlu**	**1.44**	**357**	*e*PN	**Pb**	**06 33 09.2**	**+0.1**
ARMT	**Armutlu**	**1.44**	**357**	*e*Pn	**Pb**	**06 33 09.2**	**+0.1**
GULT	**Gulveren**	**1.76**	**42**	*e*PN	**Pn**	**06 33 12.9**	**+0.1**
GULT	**Gulveren**	**1.76**	**42**	*e*Pn	**Pn**	**06 33 12.9**	**+0.1**

*NIED **02** 06:37:00, 39°.10N×144°.10E, h5km, Mw3.7 Best double couple: M0 3.62000×10^14 NP1:φs 32.00000°, δ30.00000°, λ-49.00000°. NP2:φs 167.00000°, δ68.00000°, λ-111.00000°.*
*IDC **02** 06:37:30.6±1.1, 38°.86N×144°.54E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/59, mbtmp3.7/6, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/46, Error ellipse: s-maj=36.4km s-min=23.2km az=124.0*
*ISCJB **02** 06:37:32.8±0.8, 39°.10N±0°.06×144°.22E±0°.06, h19km, mb3.7/5, MS4.2/1, Error ellipse: s-maj=9.5km s-min=6.1km az=147.3*
*JMA **02** 06:37:35.4±0.2, 39°.11N×144°.12E, h38km, M3.6*
ISC 02 06:37:33.5±0.9**, 39°.12N**±0°.07×**144°.31E**±0°.07**, h19**km**, n24,** σ**1s.71**/27**, mb3.8**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.98**	**284**	P	**Pn**	**06 38 05.7**	**-0.4**
OFUJ	**Ofunato**	**2.05**	**270**	P	**Pn**	**06 38 06.4**	**-0.6**
JTH	**Tanohata**	**2.06**	**294**	P	**Pn**	**06 38 06.9**	**-0.2**
JOM	**Ohasama**	**2.37**	**280**	P	**Pn**	**06 38 11.1**	**-0.2**
JOM				*e*S	**Sn**	**06 38 37.7**	**-2.1**
JMK	**Ichinoseki**	**2.41**	**267**	P	**Pn**	**06 38 11.7**	**-0.2**
JANG	**Nango**	**2.49**	**301**	P	**Pn**	**06 38 12.6**	**-0.5**
JRG	**Rokugo**	**2.87**	**277**	P	**Pn**	**06 38 18.5**	**+0.3**
JOU	**Okura**	**2.94**	**256**	P	**Pn**	**06 38 19.3**	**0.0**
JOU				*e*S	**Sn**	**06 38 52.2**	**-2.0**
JAH	**Hinai**	**3.03**	**292**	P	**Pn**	**06 38 20.9**	**+0.5**
JAH				*e*S	**Sn**	**06 38 55.1**	**-1.1**
JYK	**Kaneyama**	**3.08**	**268**	P	**Pn**	**06 38 21.3**	**+0.1**
JYK				*e*S	**Sn**	**06 38 56.3**	**-1.2**
JNBK	**Urakawa-nobuka**	**3.37**	**340**	*e*S	**Sn**	**06 39 04.3**	**-0.4**
JFT	**Otama**	**3.51**	**244**	*e*S	**Sn**	**06 39 05.2**	**-2.8**
NEM2	**Nemuro 2**	**4.38**	**14**	P	**Pn**	**06 38 38.0**	**-1.0**
NEM2				*e*S	**Sn**	**06 39 25.6**	**-3.9**
JTKR	**Abashiri--Toko**	**4.86**	**357**	*e*S	**Sn**	**06 39 38.3**	**-3.0**
MJAR	**Matsushiro Arr**	**5.47**	**244**	Pn	**Pn**	**06 38 54.2**	**+0.2**
	2.5nm,0.3s,baz=59,slow=11,SNR=14						
MAT	**Matsushiro**	**5.47**	**244**	P	**Pn**	**06 38 54.5**	**+0.5**
MAT				*e*S	**Sn**	**06 39 53.0**	**-3.4**
JNU	**Nakatsue**	**12.39**	**245**	LR	LR	06 44 52.1	
	comp=Z,37nm,18.5s,baz=153,slow=36						
KSRS	**Korea Array**	**12.98**	**268**	LR	LR	06 44 59.8	
	comp=Z,31nm,19.6s,baz=81,slow=34						
SEY	**Seymchan**	**24.34**	**9**	P	**P**	**06 42 52.4**	**+2.5**
	0.9nm,0.2s,baz=160,slow=13,SNR=3.6						
ILAR	**Eielson Array**	**46.51**	**33**	P	**P**	**06 45 59.9**	**+0.7**
	0.7nm,0.7s,baz=255,slow=6.4,SNR=9.9						
KURBB	**Kurchatov Arra**	**46.55**	**307**	P	**P**	**06 46 01.9**	**+2.1**
	0.5nm,0.3s,baz=79,slow=8.8,SNR=5.1						
WRA	**Warramunga Arr**	**59.48**	**191**	P	**P**	**06 47 33.9**	**-1.4**
	0.3nm,0.4s,baz=8.5,slow=7.0,SNR=7.5						
RES	**Resolute Bay**	**60.01**	**15**	LR	LR	07 16 13.0	
	comp=Z,158nm,19.5s,baz=24,slow=39						
PDAR	**Pinedale Array**	**74.58**	**47**	P	**P**	**06 49 12.1**	**+0.6**
	0.2nm,0.5s,baz=243,slow=0.2,SNR=4.2						

*IDC **02** 06:47:27.2±0.5, 10°.43S×161°.31E, h79km±3km, mb4.6/28, mb1 4.8/30, mb1mx4.7/38, mbtmp4.9/30, MS4.2/28, Ms1 4.2/28, ms1mx4.1/36, Error ellipse: s-maj=11.2km s-min=6.7km az=39.0*
*ISCJB **02** 06:47:27.7±0.7, 10°.45S±0°.03×161°.19E±0°.03, h92km±6km, mb5.1/110, Error ellipse: s-maj=4.8km s-min=4.3km az=21.1*
*BJI **02** 06:47:28.5, 9°.92S×161°.45E, h89km, mb5.0/50, mB4.9/39, Ms4.8/35, Ms7 4.5/36*
*MOS **02** 06:47:28.5±0.9, 10°.38S×161°.15E, h100km, mb5.2/24, MS4.4/4, Error ellipse: s-maj=8.5km s-min=7.3km az=90.1*
*NEIC **02** 06:47:29.3±0.7, 10°.45S×161°.23E, h95km±6km, mb5.3/80, Error ellipse: s-maj=4.5km s-min=3.6km az=89.0*
NEIC Felt at Honiara.
*GCMT **02** 06:47:29.3±0.1, 10°.45S×161°.27E, h81km±1km, MW5.3/112, Moment Tensor Solution. s104,c168; s112,c211; Duration: 1s.1 Moment tensor: Scale 10^17 Nm; Mrr0.73±.02; Mθθ-0.83±.02; Mφφ0.09±.02; Mrθ-0.67±.01; Mθφ0.68±.02; Mφr-0.27±.01; Best double couple: M0 1.26200×10^17 NP1:φs 268.00000°, δ67.00000°, λ53.00000°. NP2:φs 150.00000°, δ43.00000°, λ144.00000°. Principal axes: T 1.2180, Plg53.0000°, Azm133.0000°; N 0.0880, Plg33.0000°, Azm284.0000°; P -1.3060, Plg14.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 02 06:47:27.7±0.3**, 10°.39S**±0°.04×**161°.33E**±0°.04**, h84**km±2km**, h84**km**:pP-P, n331,** σ**1s.56**/375**, mb5.2**/109**, 10C-5D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.67**	**305**	P	**Pn**	**06 47 55.8**	**+0.4**
	2μm,0.3s,baz=172,slow=3.0,SNR=902						
HNR				LR	LR	06 48 11.4	
	comp=Z,2μm,18.6s,baz=154,slow=26						
HNR				S	**Sn**	**06 48 15.8**	**-0.5**
	5μm,0.3s,baz=352,slow=21,SNR=32						
HNR	**Honiara**	**1.67**	**305**	*i* P	**Pn**	**06 47 55.0**	**-0.3**
HNR				*i* S	Sn	06 48 38.0	+22
HNR	**Honiara**	**1.67**	**305**	*e*Pn	**Pn**	**06 47 55.7**	**+0.4**
HNR				*e*Sn	**Sn**	**06 48 18.3**	**+2.0**
RABL	**Rabaul**	**10.98**	**303**	*e*Pn	**Pn**	**06 50 05.1**	**+3.1**
DZM	**Mont Dzumac**	**12.61**	**158**	*e*Pn	**Pn**	**06 50 24.7**	**+0.7**
	43nm,0.2s						
DZM				*e*Sn	**Sn**	**06 52 38.6**	**-4.1**
	68nm,0.3s						
DZM				*e*LR	LR	06 53 24.5	
	7μm,27.4s						
DZM	**Mont Dzumac**	**12.61**	**158**	P	**Pn**	**06 50 24.8**	**+0.7**
	8.2nm,0.3s,baz=3.9,slow=8.4,SNR=286						
DZM				S	**Sn**	**06 52 39.9**	**-2.8**
	18nm,0.3s,baz=134,slow=23,SNR=10						
DZM				LR	LR	06 54 19.4	
	comp=Z,2μm,22.0s,baz=342,slow=33						
DZM	**Mont Dzumac**	**12.61**	**158**	*e*Pn	**Pn**	**06 50 24.6**	**+0.5**
DZM				*e*Sn	Sn	06 52 32.3	-10
DZM				S	**Sn**	**06 52 39.9**	**-2.8**
PMG	**Port Moresby**	**14.00**	**273**	P	**Pn**	**06 50 42.6**	**+0.3**
	0.7nm,0.3s,baz=197,slow=11,SNR=2.0						
PMG				LR	LR	06 55 47.3	
	comp=Z,1μm,19.4s,baz=116,slow=36						
PMG	**Port Moresby**	**14.00**	**273**	Pn	**Pn**	**06 50 41.4**	**-0.9**
MANU	**Manus Island**	**16.16**	**300**	*e*Pn	**P**	**06 51 11.8**	**+0.1**
	74nm,0.7s						
TARA	**Tarawa**	**16.40**	**45**	*e*Pn	**P**	**06 51 13.8**	**-0.6**
	590nm,0.6s						
TARA				*e*Sn	**Sn**	**06 54 11.0**	**-3.6**
PATS	**Pohnpei**	**17.37**	**350**	P	**P**	**06 51 26.3**	**+1.3**
	baz=18,SNR=7.8						
PATS	**Pohnpei**	**17.37**	**350**	*e*Pn	**P**	**06 51 25.4**	**+0.3**
	342nm,0.9s						
CTA	**Charters Tower**	**17.44**	**235**	P	**P**	**06 51 27.1**	**+1.3**
	3.3nm,0.3s,baz=70,slow=16,SNR=36						
CTA				LR	LR	06 57 26.7	
	comp=Z,745nm,18.2s,baz=62,slow=34						
CTAO	**Charters Tower**	**17.44**	**235**	*e*P	**P**	**06 51 27.8**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,342nm,1.6s						
CTAO	**Charters Tower**	**17.44**	**235**	*e*Pn	**P**	**06 51 27.8**	**+2.0**
	comp=Z,342nm,1.6s						
FUNA	**Funafuti**	**17.72**	**86**	*e*P	**Pn**	**06 51 31.1**	**+2.0**
	comp=Z,454nm,1.4s						
MSVF	**Nonsavu**	**17.77**	**116**	*e*P	**Pn**	**06 51 30.8**	**+1.0**
MSVF				pmax	pmax		
	comp=Z,242nm,1.5s						
MSVF	**Nonsavu**	**17.77**	**116**	*e*P	**Pn**	**06 51 30.8**	**+1.0**
	comp=Z,242nm,1.5s						
EIDS	**Eidsvold**	**17.79**	**212**	P	**Pn**	**06 51 31.5**	**+1.6**
	baz=18,SNR=21						
EIDS	**Eidsvold**	**17.79**	**212**	P	**Pn**	**06 51 30.5**	**+0.5**
	comp=Z,412nm,1.9s						
COEN	**Coen**	**18.10**	**257**	P	**Pn**	**06 51 37.3**	**+3.5**
	baz=18,SNR=8.2						
COEN	**Coen**	**18.10**	**257**	*e*P	**Pn**	**06 51 35.6**	**+1.9**
	comp=Z,59nm,1.0s						
COEN				*e*S	**S**	**06 54 49.5**	**-6.0**
RMQ	**Roma**	**19.94**	**215**	P	**Pn**	**06 51 55.1**	**-0.4**
	baz=20,SNR=34						
KWAJ	**Kwajalein Atol**	**20.06**	**18**	*e*P	Pn	06 51 56.8	-0.1
KWAJ				pmax	pmax		
	comp=Z,1μm,0.7s						
KWAJ	**Kwajalein Atol**	**20.06**	**18**	*e*P	Pn	06 51 56.8	-0.2
	comp=Z,1μm,0.7s						
ARMA	**Armidale**	**21.88**	**203**	P	**P**	**06 52 14.5**	**+0.5**
	baz=22,SNR=8.8						
ARMA	**Armidale**	**21.88**	**203**	*e*P	**P**	**06 52 14.0**	**+0.1**
	comp=Z,94nm,1.1s						
JAY	**Jayapura**	**21.93**	**289**	P	**P**	**06 52 12.8**	**-1.7**
	comp=Z,2.0nm,0.5s,baz=36,slow=22,SNR=9.9						
JAY				LR	LR	07 01 44.9	
	comp=Z,20nm,19.0s,baz=31,slow=39						
JAY	**Jayapura**	**21.93**	**289**	P	**P**	**06 52 13.3**	**-1.2**
	comp=Z,92nm,1.0s,comp=Z,952nm						
GENI	**Genyem**	**22.40**	**289**	P	**P**	**06 52 25.3**	**+5.8**
QIS	**Mount Isa**	**23.23**	**242**	P	**P**	**06 52 27.9**	**0.0**
	baz=23,SNR=14						
MGCD	**Mangrove Creek**	**24.59**	**201**	P	**P**	**06 52 40.7**	**+0.8**
	baz=25						
CMSA	**Cobar Meteorol**	**25.55**	**212**	P	**P**	**06 52 49.0**	**+0.2**
	baz=26,SNR=32						
AFI	**Afiamalu**	**26.51**	**100**	LR	LR	07 01 46.4	
	comp=Z,175nm,18.9s,baz=274,slow=32						
YNG	**Young**	**26.58**	**204**	P	**P**	**06 52 58.8**	**+0.7**
	baz=27,SNR=6.1						
RAO	**Raoul Island**	**26.99**	**137**	LR	LR	07 02 17.5	
	comp=Z,339nm,19.8s,baz=110,slow=33						
CAN	**Canberra**	**27.25**	**202**	P	**P**	**06 53 04.9**	**+0.8**
	baz=27						
CAN	**Canberra**	**27.25**	**202**	*e*P	**P**	**06 53 04.1**	**+0.1**
CAN	**Canberra**	**27.25**	**202**	*e*P	**P**	**06 53 04.1**	**+0.1**
WR0	**Warramunga Arr**	**27.52**	**247**	P	**P**	**06 53 06.4**	**-0.2**
	baz=28						
WRAB	**Tennant Creek**	**27.68**	**247*c***	*i*P	**P**	**06 53 08.1**	**0.0**
WRAB				pmax	pmax		
	comp=Z,262nm,1.7s						
WRAB	**Tennant Creek**	**27.68**	**247**	*e*P	**P**	**06 53 07.7**	**-0.4**
	comp=Z,128nm,1.5s						
WB2	**Warramunga Arr**	**27.68**	**247**	*e*P	**P**	**06 53 08.1**	**-0.1**
	comp=Z,48nm,0.8s						
WRA	**Warramunga Arr**	**27.69**	**247**	P	**P**	**06 53 07.4**	**-0.9**
	comp=Z,37nm,0.7s,baz=77,slow=9.0,SNR=215						
WRA				ScP	**ScP**	**06 59 56.6**	**-0.3**
	comp=Z,2.9nm,1.1s,baz=82,slow=3.3,SNR=4.6						
WRA				LR	LR	07 02 59.6	
	comp=Z,598nm,21.6s,baz=80,slow=34						
STKA	**Stephens Creek**	**28.12**	**218**	P	**P**	**06 53 12.4**	**+0.6**
	comp=Z,9.4nm,0.8s,baz=38,slow=10,SNR=8.4						
STKA				LR	LR	07 04 04.7	
	comp=Z,1μm,18.1s,baz=40,slow=36						
STKA	**Stephens Creek**	**28.12**	**218**	P	**P**	**06 53 12.3**	**+0.4**
	baz=28,SNR=11						
STKA	**Stephens Creek**	**28.12**	**218**	P	**P**	**06 53 12.5**	**+0.6**
STKA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
STKA				MLR	MLR		
	comp=Z,1μm,18.1s						
STKA	**Stephens Creek**	**28.12**	**218**	*e*P	**P**	**06 53 12.4**	**+0.6**
	comp=Z,13nm,1.1s						
KDU	**Kakadu**	**28.36**	**263**	P	**P**	**06 53 14.6**	**+0.4**
	baz=28,SNR=3.4						
GUMO	**Guam**	**28.89**	**325**	LR	LR	07 04 10.3	
	comp=Z,790nm,21.8s,baz=137,slow=35						
AS01	**Alice Springs**	**29.25**	**240**	*e*P	**P**	**06 53 20.7**	**-1.3**
AS31	**Alice Springs**	**29.29**	**240**	*e*P	**P**	**06 53 21.7**	**-0.8**
	comp=Z,5.5nm,0.6s						
ASAR	**Alice Springs**	**29.29**	**240**	P	**P**	**06 53 21.3**	**-1.1**
	comp=Z,16nm,0.9s,baz=71,slow=9.3,SNR=91						
ASAR				ScP	**ScP**	**07 00 00.5**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=50,slow=2.9,SNR=3.7						
ASAR				LR	LR	07 04 34.4	
	comp=Z,818nm,18.1s,baz=66,slow=35						
MTN	**Manton Dam**	**29.68**	**262**	P	**P**	**06 53 25.8**	**0.0**
	baz=30,SNR=4.8						
TOO	**Toolangi**	**30.59**	**205**	P	**P**	**06 53 34.7**	**+0.9**
	baz=31,SNR=18						
TOO	**Toolangi**	**30.59**	**205**	P	**P**	**06 53 34.8**	**+1.0**
TOO				pmax	pmax		
	comp=Z,61nm,2.1s						
HTT	**Hallett**	**30.82**	**218**	P	**P**	**06 53 36.2**	**+0.4**
	baz=31,SNR=8.7						
URZ	**Urewera**	**31.15**	**156**	P	**P**	**06 53 37.1**	**-1.4**
	comp=Z,7.3nm,0.7s,baz=86,slow=2.8,SNR=3.3						
BNDI	**Bandanaira**	**31.69**	**278**	P	**P**	**06 53 43.8**	**+0.2**
	comp=Z,387nm,0.7s						
BKZ	**Black Stump Fm**	**31.69**	**157**	*e*P	**P**	**06 53 42.3**	**-1.1**
	comp=Z,32nm,0.8s						
KNRA	**Kununurra**	**32.14**	**257**	P	**P**	**06 53 47.9**	**+0.3**
	baz=32						
BBOO	**Buckleboo**	**32.24**	**222**	P	**P**	**06 53 48.6**	**+0.3**
	baz=32,SNR=7.2						
BBOO	**Buckleboo**	**32.24**	**222**	*e*P	**P**	**06 53 47.9**	**-0.4**
	comp=Z,135nm,1.4s						
THZ	**Tophouse**	**32.87**	**164**	*e*P	**P**	**06 53 54.2**	**+0.6**
	comp=Z,82nm,1.1s						
THZ				*e*pP	**pP**	**06 54 17.5**	**+4.4**
LTZ	**Lake Taylor**	**33.66**	**165**	*e*P	**P**	**06 54 00.2**	**-0.3**
	comp=Z,52nm,1.0s						
FOZ	**Fox Glacier**	**33.83**	**169**	*e*P	**P**	**06 54 01.8**	**-0.1**
OXZ	**Oxford**	**34.11**	**166**	*e*P	**P**	**06 54 03.8**	**-0.6**
	comp=Z,105nm,1.1s						
RPZ	**Rata Peaks**	**34.26**	**167**	P	**P**	**06 54 05.1**	**-0.6**
	comp=Z,32nm,0.8s,baz=358,slow=3.3,SNR=12						
RPZ	**Rata Peaks**	**34.26**	**167**	*e*P	**P**	**06 54 06.3**	**+0.7**
	comp=Z,88nm,1.2s						
CRLZ	**Canterbury Las**	**34.49**	**165**	*e*P	**P**	**06 54 07.5**	**-0.2**
	comp=Z,253nm,1.5s						
WRKA	**Warakurna**	**34.56**	**241**	P	**P**	**06 54 07.9**	**-0.7**
	baz=35,SNR=35						
MQZ	**McQueen's Vall**	**34.62**	**165**	*e*P	**P**	**06 54 08.3**	**-0.4**
	comp=Z,58nm,1.0s						
TAU	**Tasmania Unive**	**34.63**	**198**	*e*P	**P**	**06 54 08.0**	**-0.8**
TAU				pmax	pmax		
	comp=Z,126nm,1.4s						
TAU	**Tasmania Unive**	**34.63**	**198**	*e*P	**P**	**06 54 08.0**	**-0.8**
	comp=Z,126nm,1.4s						
LBZ	**Lake Benmore**	**34.73**	**169**	*e*P	**P**	**06 54 08.9**	**-0.8**
	comp=Z,30nm,1.0s						
WKZ	**Wanaka**	**34.95**	**170**	*e*P	**P**	**06 54 11.5**	**-0.2**
	comp=Z,264nm,1.9s						
DCZ	**Deep Cove**	**35.31**	**173**	*e*P	**P**	**06 54 14.5**	**-0.2**
	comp=Z,72nm,0.9s						
MLZ	**Mavora Lakes**	**35.34**	**172**	*e*P	**P**	**06 54 14.4**	**-0.5**
	comp=Z,79nm,1.1s						
FITZ	**Fitzroy Crossi**	**35.39**	**253**	P	**P**	**06 54 15.4**	**-0.3**
	baz=36,SNR=35						
FITZ	**Fitzroy Crossi**	**35.39**	**253**	*e*P	**P**	**06 54 15.0**	**-0.7**
	comp=Z,41nm,0.6s						
WHZ	**Wether Hill Ro**	**35.83**	**172**	*e*P	**P**	**06 54 18.6**	**-0.5**
	comp=Z,48nm,1.0s						
WBSI	**Waikabubak, Su**	**41.29**	**267**	P	**P**	**06 55 04.9**	**-0.5**
	comp=Z,82nm,0.9s						
MBWA	**Marble Bar**	**41.33**	**250**	*e*P	**P**	**06 55 05.1**	**-0.5**
	comp=Z,156nm,0.9s						
KAPI	**Kappang**	**41.52**	**274**	*e*P	**P**	**06 55 07.8**	**+0.5**
	comp=Z,42nm,1.1s						
CBIJ	**Chichi jima**	**41.64**	**334**	P	**P**	**06 55 06.3**	**-1.5**
JCJ	**Chichijima**	**41.64**	**334**	P	**P**	**06 55 06.3**	**-1.5**
	comp=Z,137nm,0.9s,baz=108,slow=15,SNR=3.9						
JCJ				LR	LR	07 10 54.4	
	comp=Z,365nm,20.8s,baz=134,slow=34						
KMBL	**Kambalda**	**42.05**	**234**	P	**P**	**06 55 11.6**	**+0.3**
	baz=42,SNR=9.3						
PLAI	**Plampang**	**42.95**	**268**	P	**P**	**06 55 17.4**	**-1.4**

comp=Z,97nm,1.0s,comp=Z,1µm
TWSI Taliwang, Sumb 43.84 268 P **P** 06 55 24.5 -1.5
comp=Z,41nm,0.7s
MYLDM Lahad Datu 45.37 288 *e*P **P** 06 55 37.6 -0.6
comp=Z,70nm,1.0s
BLDU Balliduu 46.02 237 P **P** 06 55 42.8 -0.3
baz=46,SNR=18
MORW Morawa 46.17 240 P **P** 06 55 44.5 +0.1
baz=46,SNR=6.0
NWAO Narrogin (SRO) 46.28 234 P **P** 06 55 45.2 +0.1
baz=46,SNR=7.5
JAGI Jajag, Banyuwa 46.55 268 P **P** 06 55 45.7 -1.8
comp=Z,124nm,1.1s
JAGI Jajag, Banyuwa 46.55 268 *e*P **P** 06 55 45.6 -1.8
comp=Z,127nm,1.1s
GIRL Giralia 46.59 249 P **P** 06 55 49.0 +1.4
baz=47,SNR=5.1
MUN Mundaring 46.82 236 P **P** 06 55 49.5 +0.1
baz=47
TGY Tagaytay City 46.88 301 LR LR 07 15 48.9
comp=Z,50nm,20.2s,baz=158,slow=36
KKM Kota Kinabalu 47.80 288 *e*P **P** 06 55 57.0 -0.4
KKM *e*pP **pP** 06 56 14.7 -3.1
PPT Papeete 48.06 104 LR LR 07 11 03.9
comp=Z,167nm,20.7s,baz=302,slow=30
PPT2 Papeete2 48.06 104 *e*LR LR 07 09 54.7
comp=Z,1µm,28.5s
TBI Tubuai 48.60 112 *e*LR LR 07 10 14.5
comp=Z,934nm,31.8s
PWJI Pagerwojo 48.91 268 P **P** 06 56 04.0 -1.7
comp=Z,41nm,1.1s
UGM Wanagama 50.19 268 P **P** 06 56 13.6 -1.9
INU Inuyama 50.97 334 *e*P **P** 06 56 20.8 -0.1
comp=Z,42nm,0.9s
MJAR Matsushiro Arr 51.51 336 P **P** 06 56 24.4 -0.5
comp=Z,10nm,0.6s,baz=169,slow=8.9,SNR=26
MJAR LR LR 07 17 42.2
comp=Z,72nm,20.5s,baz=140,slow=35
MAJO Matsushiro 51.51 336 ‖ *i*P **P** 06 56 24.4 -0.5
MAJO pmax pmax
comp=Z,101nm,0.6s
MAJO Matsushiro 51.51 336 *e*P **P** 06 56 24.5 -0.4
comp=Z,23nm,0.6s
MAT Matsushiro 51.51 336 P **P** 06 56 24.0 -0.9
MAT *e*S **S** 07 03 37.0 -2.0
MJB9 Matsu-Tunnel 51.51 336 *e*P **P** 06 56 24.9 -0.1
comp=Z,5.8nm,0.6s
JNU Nakatsue 52.10 327 *e*P **P** 06 56 29.5 +0.1
comp=Z,45nm,0.8s
KSM Kuching 52.12 280 *e*P **P** 06 56 29.5 -0.4
KSM *e*pP **pP** 06 56 47.8 -2.9
QZH Quanzhou 54.49 311 P P 06 56 57.8 +11
QZH S **S** 07 04 15.2 -4.8
QZH sS sS 07 04 46.8 -8.9
QZH LR LR
comp=Z,990nm,27.2s
TJN Taejon 56.45 327 ⇑ *i*P **P** 06 57 01.6 +0.7
TJN *i* *PP **pP** 06 57 21.3 -0.6
ASAJ Asahikawa 56.85 344 P **P** 06 57 05.0 +1.4
comp=Z,48nm,0.8s,baz=226,slow=8.8,SNR=30
ASAJ Asahikawa 56.85 344 *e*P **P** 06 57 04.3 +0.7
comp=Z,45nm,0.8s
KSRS Korea Array 56.97 328 P **P** 06 57 05.2 +0.7
comp=Z,9.6nm,0.7s,baz=140,slow=7.6,SNR=50
KSRS pP **pP** 06 57 23.7 -1.9
comp=Z,15nm,1.0s,baz=145,slow=7.4,SNR=8.2
KSRS LR LR 07 19 31.6
comp=Z,250nm,21.6s,baz=134,slow=34
KS15 Wonju Array Si 56.98 328 *e*P **P** 06 57 05.5 +0.9
KSAR Wonju Array Be 56.98 328 P **P** 06 57 05.2 +0.6
KSAR Wonju Array Be 56.98 328 P P 06 57 05.2 +0.6
KSAR pP **pP** 06 57 23.7 -2.0
KS01 Wonju Array Si 57.00 328 *e*P **P** 06 57 04.8 0.0
TAOE Nuku Hiva Isla 57.65 94 *e*LR LR 07 14 21.4
comp=Z,455nm,27.9s
QIZ Qiongzhong 58.57 300 P **P** 06 57 17.6 +1.4
QIZ sP **sP** 06 57 46.3 -0.4
QIZ S **S** 07 05 16.1 +2.0
QIZ PMZ
comp=Z,6.0nm,0.8s
QIZ LE
comp=Z,180nm,25.9s
QIZ LZ
comp=Z,370nm,25.1s
YSS Yuzh-Sakhalins 59.45 345 ⇑ *e*P **P** 06 57 22.9 +1.3
YSS *e**SP **PcP** 06 58 02.5 -6.0
YSS *e*S **S** 07 05 24.0 -0.4
YSS *e*SS **SS** 07 09 25.0 +3.9
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 59.45 345 *e*P **P** 06 57 23.1 +1.4
comp=Z,33nm,1.1s
VLA Vladivostok 59.65 335 ⇑ *e*P **P** 06 57 24.8 +1.7
USRK Ussuriysk Ar. 60.51 336 P **P** 06 57 29.9 +0.9
comp=Z,30nm,0.7s,baz=152,slow=6.2,SNR=63
USRK LR LR 07 21 33.7
comp=Z,118nm,21.5s,baz=136,slow=34
MDJ Mudanjiang 61.83 335 P **P** 06 57 38.9 +1.0
MDJ pP pP 06 57 58.7 -0.5
MDJ S **S** 07 05 57.8 +2.9
MDJ PMZ
comp=Z,20nm,1.0s
MDJ PMZ
comp=Z,70nm,4.8s
MDJ LN
comp=Z,160nm,19.0s
MDJ LE
comp=Z,310nm,24.9s
MDJ LZ
comp=Z,370nm,34.2s
MDJ Mudanjiang 61.83 335 *e*P **P** 06 57 38.6 +0.8
comp=Z,14nm,0.9s
IPM Ipoh 61.84 281 *e*P **P** 06 57 38.5 -0.1
RKT Rikitea 61.88 111 *e*LR LR 07 16 17.9
comp=Z,1µm,32.2s
TIA Tai'an 62.29 320 ‖ P pP 06 58 01.6 -1.0
CN2 Changchun 63.03 332 *e*P **P** 06 57 46.4 +0.5
CN2 PMZ
comp=Z,50nm,0.6s
HABR Khabarovsk 63.04 341 *e*P **P** 06 57 44.7 -1.2
HABR *e**PP **pP** 06 58 07.5 +0.2
HABR *e**SP **sP** 06 58 17.7 +1.1
HABR *e* 06 58 21.6
HABR *e*PPP PPP 07 01 33.4
HABR *e*S **S** 07 06 08.2 -1.7
HABR *e**SS **sS** 07 06 47.6 +1.1
HABR *e* 07 07 28.2
HABR *e*SS **SS** 07 10 16.1 -1.3
HABR pmax pmax
comp=E,38nm,1.5s
HABR pmax pmax
comp=N,18nm,1.5s
HABR pmax pmax
comp=Z,30nm,1.5s
PET Petropavlovsk 63.20 358 *e*P P 06 57 39.8 -7.0
PET *e*S **S** 07 06 07.9 -3.8
PETK Petropavlovsk- 63.32 358 P **P** 06 57 48.5 +0.8
comp=Z,11nm,0.8s,baz=152,slow=6.7,SNR=11
PETK LR LR 07 21 13.6
comp=Z,370nm,21.8s,baz=169,slow=32
PSI Prapat 63.49 278 *e*P **P** 06 57 48.2 -1.5
PSI Prapat 63.49 278 *e*P **P** 06 57 48.2 -1.5
GSI Gunungsitoli 64.48 276 *e*P **P** 06 57 55.7 -0.4
comp=Z,24nm,0.6s
GYA Guiyang 64.49 306 *e*P **P** 06 57 58.0 +1.9
GYA pP pP 06 58 20.5 +2.9
GYA sP PcP 06 58 30.0 +0.3
GYA PP **PP** 07 00 22.3 +3.3
GYA S **S** 07 06 29.6 +0.5
GYA sS sS 07 07 07.0 +1.3
GYA SKS **SKSac** 07 07 40.4 -2.8
GYA SS **SS** 07 10 43.2 +2.1
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,140nm,5.9s
GYA LN
comp=Z,560nm,20.3s
GYA LE
comp=Z,510nm,21.0s
GYA LZ
comp=Z,550nm,20.8s
KLR Kul'dur 64.81 339 LR LR 07 23 24.7
comp=Z,251nm,22.0s,baz=168,slow=33
KLR Kul'dur 64.81 339 *i* P **P** 06 57 58.2 +0.7
BJI Beijing 65.30 323 P **P** 06 58 02.3 +1.4
BJI PP **PP** 07 00 24.8 -0.9
BJI S **S** 07 06 35.3 -2.9
BJI PMZ
comp=Z,6.0nm,0.8s
BJI LN
comp=Z,260nm,25.2s
BJI LE
comp=Z,130nm,18.3s
BJI LZ
comp=Z,540nm,39.9s
CASY Casey 65.46 200 *e*P **P** 06 58 01.2 -0.2
XAN Xi'an 66.52 314 P **P** 06 58 09.4 +0.5
XAN pP pP 06 58 29.6 -0.9
XAN sP PcP 06 58 38.4 +0.6
XAN PP **PP** 07 00 38.4 +1.9
XAN S **S** 07 06 49.6 -3.7
XAN SS **SS** 07 11 09.6 -2.5
XAN PMZ
comp=Z,9.0nm,0.6s
XAN PMZ
comp=Z,20nm,4.0s
XAN LN
comp=Z,160nm,24.5s
XAN LE
comp=Z,190nm,22.3s
XAN LZ
comp=Z,260nm,21.5s
SUKH Sukhothai 66.94 294 P pP 06 58 35.4 +2.0
comp=Z,9.8nm,0.8s
KMI Kunming 67.10 303 P **P** 06 58 14.9 +1.9
KMI pP pP 06 58 34.9 +0.3
KMI S **S** 07 07 00.2 -0.9
KMI SS **SS** 07 11 23.9 +2.0
KMI PMZ
comp=Z,19nm,0.6s
KMI PMZ
comp=Z,73nm,3.7s
KMI LN
comp=Z,65nm,5.3s
KMI LE
comp=Z,67nm,4.9s
KMI LZ
comp=Z,80nm,5.1s
VNDA Vanda 67.12 180 P **P** 06 58 12.6 +0.7
comp=Z,34nm,0.9s,baz=345,slow=6.8,SNR=176
VNDA LR LR 07 22 09.1
comp=Z,211nm,21.0s,baz=5.5,slow=31
SBA Scott Base 67.51 179 *e*P **P** 06 58 16.1 +1.7
SBA Scott Base 67.51 179 *e*P **P** 06 58 16.1 +1.7
CMAR Chiang Mai Arr 67.89 295 P **P** 06 58 18.4 +0.6
comp=Z,3.4nm,0.6s,baz=120,slow=4.8,SNR=7.9
CMAR pP **pP** 06 58 39.3 -0.2
comp=Z,14nm,0.8s,baz=122,slow=4.7,SNR=5.2
CMAR Chiang Mai Arr 67.89 295 *c**eP **P** 06 58 18.3 +0.5
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMMT Chiang Mai 68.00 295 P pP 06 58 41.6 +1.4
comp=Z,16nm,1.1s
CHTO Chiang Mai 68.01 295 P pP 06 58 41.6 +1.4
comp=Z,70nm,1.2s
CHTO Chiang Mai 68.01 295 *e*P **P** 06 58 18.7 +0.1
CHTO Chiang Mai 68.01 295 *e*P **P** 06 58 18.7 +0.1
HHC Hu-ho-hao-te 68.57 322 *e*P **P** 06 58 23.2 +1.4
HHC pP pP 06 58 42.5 -1.0
HHC sP sP 06 58 55.9 +3.2
HHC S **S** 07 07 19.1 +1.2
HHC PMZ
comp=Z,47nm,1.1s
HHC PMZ
comp=Z,78nm,4.4s
HHC LN
comp=Z,140nm,12.3s
HHC LE
comp=Z,190nm,14.8s
HHC LZ
comp=Z,180nm,14.8s
CD2 Chengdu 68.79 309 P **P** 06 58 24.0 +0.7
CD2 pP pP 06 58 46.1 +1.1
CD2 sP sP 06 58 55.8 +1.6
CD2 S **S** 07 07 22.0 +1.4
CD2 sS sS 07 08 00.4 +2.7
CD2 SKS **SKSac** 07 08 15.3 -0.2
CD2 SS **SS** 07 11 49.8 +2.4
CD2 PMZ
comp=Z,70nm,0.7s
CD2 PMZ
comp=Z,160nm,5.0s
CD2 LN
comp=Z,220nm,22.8s
CD2 LE
comp=Z,310nm,18.9s
CD2 LZ
comp=Z,330nm,24.8s
HIA Hailar 69.72 332 *e*P **P** 06 58 28.8 +0.2
HIA pmax pmax
comp=Z,19nm,0.8s
HIA Hailar 69.72 332 *e*P **P** 06 58 28.8 +0.2
comp=Z,19nm,0.8s
MA2 Magadan 70.25 354 P **P** 06 58 31.4 -0.1
comp=Z,12nm,0.7s,baz=191,slow=9.4,SNR=5.7
LZH Lanzhou 71.14 314 *e*P **P** 06 58 39.7 +2.0
LZH pP pP 06 59 02.8 +3.3
LZH sP sP 06 59 12.5 +3.8
LZH PP **PP** 07 01 20.6 +4.0
LZH S **S** 07 07 48.0 -0.2
LZH sS sS 07 08 25.3 -0.2
LZH PMZ
comp=Z,51nm,1.4s
LZH PMZ
comp=Z,240nm,7.8s
LZH LN
comp=Z,580nm,15.3s
LZH LE
comp=Z,420nm,16.0s
LZH LZ
comp=Z,1µm,19.5s
MIR Mirnyy 71.96 203 *i* P **P** 06 58 43.0 +1.1
MIR pmax pmax
comp=Z,12nm,1.5s
CLNS Chul'man 73.42 340 *e*P **P** 06 58 48.8 -1.9
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=Z,23nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.9s
SEY Seymchan 73.42 356 P **P** 06 58 51.1 +0.7
comp=E,7.1nm,0.7s,baz=152,slow=5.5,SNR=26
SEY pP **pP** 06 59 10.5 -1.9
comp=E,9.3nm,0.9s,baz=168,slow=4.8,SNR=5.1
SEY Seymchan 73.42 356 ‖ *i*P **P** 06 58 51.4 +0.9
ULN Ulaanbaatar 75.27 326 *c* *i*P **P** 06 59 03.0 +1.2
ULN pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 75.27 326 *e*P **P** 06 59 03.2 +1.4
GTA Gaotai 75.51 315 *e*P **P** 06 59 05.4 +2.1
GTA pP pP 06 59 29.1 +3.8
GTA sP sP 06 59 39.8 +5.3
GTA S **S** 07 08 40.6 +3.1
GTA SKS **SKSac** 07 09 04.8 -1.2
GTA sS sS 07 09 15.8 +0.7
GTA PMZ
comp=Z,5.0nm,0.8s
GTA PMZ
comp=Z,40nm,5.5s
GTA LN
comp=Z,140nm,20.0s
GTA LE
comp=Z,170nm,18.5s
GTA LZ
comp=Z,160nm,20.9s
SONM Songino Array 75.62 325 P **P** 06 59 04.5 +0.7
comp=Z,8.9nm,0.6s,baz=136,slow=5.9,SNR=49
SONM pP **pP** 06 59 24.5 -1.3
comp=Z,12nm,0.6s,baz=143,slow=5.8,SNR=7.5
SONM LR LR 07 32 07.0
comp=Z,155nm,20.1s,baz=110,slow=35
YAK Yakutsk 76.30 345 *e*P **P** 06 59 07.5 +0.5
YAK *e* 06 59 20.0
YAK *e**PP **pP** 06 59 29.4 +0.3
YAK *e* 07 01 57.1
YAK *e*PPP PPP 07 03 42.8
YAK *e*S **S** 07 08 41.8 -3.0
YAK *e*SS **SS** 07 13 41.4 +0.6
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK smax smax
comp=N,89nm,18.0s
YAK smax smax
comp=E,58nm,15.1s
YAK Yakutsk 76.30 345 *e*P **P** 06 59 07.5 +0.5
comp=E,97nm,0.8s
OHAK Old Harbor 76.96 23 *e*P **P** 06 59 11.3 +0.4
comp=E,168nm,1.8s
KDAK Kodiak Island 77.63 23 *c**eP **P** 06 59 15.9 +1.3
KDAK Kodiak Island 77.63 23 *e*P **P** 06 59 16.2 +1.6
BILL Bilibino 78.31 2 *d* *i*P **P** 06 59 18.8 +0.6
BILL *i* 06 59 26.1
BILL *i* 07 02 13.0
BILL pmax pmax
comp=Z,22nm,1.0s
BILL Bilibino 78.31 2 *e*P **P** 06 59 18.9 +0.7
comp=Z,73nm,1.1s
ZAK Zakamensk 78.72 326 *e*P **P** 06 59 21.3 +0.3
ZAK pmax pmax
comp=Z,13nm,1.2s
SVW2 Sparrevohn 78.90 20 *e*P **P** 06 59 23.1 +1.5
TNA Tin City 79.11 13 *e*P **P** 06 59 23.4 +0.7
comp=Z,36nm,1.1s
TLY Talaya 79.21 328 P **P** 06 59 22.7 -0.9
comp=Z,4.1nm,0.7s,baz=141,slow=1.8,SNR=6.8
TLY Talaya 79.21 328 *e*P **P** 06 59 25.0 +1.5
TLY *e*S **S** 07 09 17.4 +0.7
TLY *e*SS **SS** 07 14 18.5 -6.7
TLY pmax pmax
comp=Z,11nm,1.0s
TLY MLR MLR
comp=Z,140nm,18.0s
QSPA South Pole Qui 79.61 180 *e*P **P** 06 59 25.9 +0.2
comp=Z,331nm,1.0s
SEW Seward 80.39 23 *e*P **P** 06 59 30.8 +1.1
comp=Z,97nm,1.4s
MOY Mondy 80.62 327 *e*P **P** 06 59 33.8 +2.5
RC01 Rabbit Creek A 80.94 22 *e*P **P** 06 59 33.4 +0.8
comp=Z,36nm,1.0s
PPLA Purkeypile 81.31 20 *e*P **P** 06 59 35.5 +0.7
comp=Z,30nm,1.2s
PMR Palmer 81.49 22 *e*P **P** 06 59 36.5 +1.0
PMR pmax pmax
comp=Z,4.0nm,0.8s
PMR Palmer 81.49 22 *e*P **P** 06 59 36.5 +1.0
comp=Z,4.2nm,0.8s
SML Sawmill 81.92 22 *e*P **P** 06 59 38.5 +0.7
SML pmax pmax
comp=Z,4.0nm,1.0s
SML Sawmill 81.92 22 *e*P **P** 06 59 38.5 +0.7
comp=Z,3.8nm,1.0s
KTH Kantishna Hill 82.18 20 *e*P **P** 06 59 39.4 +0.2
comp=Z,81nm,1.1s
TRF Thorofare Moun 82.32 20 *e*P **P** 06 59 39.9 -0.1
comp=Z,44nm,1.1s
DIV Divide 82.45 23 *e*P **P** 06 59 41.9 +1.3
comp=Z,15nm,1.1s
BPAW Bear Paw Mtn. 82.53 19 *e*P **P** 06 59 41.1 +0.1
comp=Z,13nm,1.4s
BMRM Bremner River 82.80 23 *e*P **P** 06 59 41.7 -0.8
comp=Z,69nm,1.2s
MCK McKinley 82.96 20 *e*P **P** 06 59 43.9 +0.7
MCK pmax pmax
comp=Z,166nm,1.1s
MCK McKinley 82.96 20 *e*P **P** 06 59 43.9 +0.7
comp=Z,166nm,1.1s
MAW Mawson 83.69 202 P **P** 06 59 47.5 +0.6
comp=Z,39nm,0.8s,baz=104,slow=6.2,SNR=51
MAW LR LR 07 31 26.7
comp=Z,171nm,21.9s,baz=61,slow=32
COLA College 84.06 19 *e*P **P** 06 59 48.8 +0.1
COLA pmax pmax
comp=Z,69nm,1.1s
COLA College 84.06 19 *e*P **P** 06 59 48.8 +0.1
comp=Z,69nm,1.1s
ILAR Eielson Array 84.32 20 P **P** 06 59 50.2 +0.2
comp=Z,4.9nm,0.9s,baz=250,slow=5.0,SNR=32
ILAR pP **pP** 07 00 10.9 -1.5
comp=Z,26nm,1.0s,baz=255,slow=4.1,SNR=21
ILAR LR LR 07 34 59.2
comp=Z,172nm,18.8s,baz=244,slow=34
DOT Dot Lake 84.61 21 *e*P **P** 06 59 53.0 +1.4
comp=Z,97nm,1.0s
TIXI Tiksi 84.66 350 P **P** 06 59 51.6 -0.1
comp=Z,2.9nm,0.4s,baz=125,slow=8.2,SNR=8.0
TIXI pP **pP** 07 00 14.2 +0.1
comp=Z,14nm,0.9s,baz=142,slow=5.5,SNR=6.2
TIXI Tiksi 84.66 350 ⇑ *i*P **P** 06 59 53.0 +1.4
TIXI *i* *PP **pP** 07 00 16.2 +2.1
TIXI pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 84.66 350 *e*P **P** 06 59 51.9 +0.3
comp=Z,10nm,1.1s
TIXI pP **pP** 07 00 14.2 +0.1
COLD Coldfoot 84.90 17 *e*P **P** 06 59 53.0 0.0
comp=Z,31nm,1.5s
WMQ Urumqi 85.58 316 P **P** 06 59 56.7 -0.3
WMQ pP pP 07 00 19.7 +0.2
WMQ sP sP 07 00 28.7 +0.2
WMQ PMZ
comp=Z,4.0nm,0.8s
WMQ PMZ
comp=Z,46nm,3.6s
WMQ LN
comp=Z,50nm,25.8s
WMQ LE
comp=Z,150nm,28.0s
WMQ LZ
comp=Z,130nm,23.6s
SKAG Skagway 85.90 27 *e*P **P** 06 59 59.4 +1.4
comp=Z,29nm,1.1s
L02D Cave Junction, 86.06 46 P **P** 07 00 01.2 +1.9
baz=252
SAO San Andreas Ge 86.10 52 *e*P **P** 07 00 00.6 +1.0
SAO pmax pmax
comp=Z,13nm,1.1s
SAO San Andreas Ge 86.10 52 *e*P **P** 07 00 00.6 +1.0
comp=Z,13nm,1.1s
N02D Trinity Center 86.35 47 P **P** 07 00 02.2 +1.4
baz=253
M02C Callahan 86.36 47 P **P** 07 00 02.8 +1.9
baz=253,SNR=9.1
HUMO Hull Mountain 86.65 46 *e*P **P** 07 00 04.4 +2.2
comp=Z,74nm,0.9s
I03D Drain, OR 86.70 45 P **P** 07 00 04.0 +1.6
baz=252
O03D Paynes Creek 86.81 48 P **P** 07 00 04.4 +1.3
baz=254,SNR=7.8
SMMC Simmler 86.85 53 P **P** 07 00 05.1 +1.7
baz=255
PKM Mcpherson Peak 86.88 54 P **P** 07 00 05.1 +1.4
baz=255
M04C Macdoel 87.20 47 P **P** 07 00 06.8 +1.7
baz=254,SNR=8.2
G03D McMinnville, O 87.22 43 P **P** 07 00 06.3 +1.5
baz=252
CMB Columbia Colle 87.25 51 *e*P **P** 07 00 05.9 +0.6
CMB pmax pmax
comp=Z,50nm,1.0s
CMB Columbia Colle 87.25 51 *e*P **P** 07 00 05.9 +0.6
comp=Z,50nm,1.0s
I04A Tendick Farm, 87.38 45 P **P** 07 00 07.3 +1.6
baz=253
K04D Chiloquin, OR 87.50 46 P **P** 07 00 08.3 +1.8
baz=254
VES Vestal, Richgr 87.70 53 P **P** 07 00 08.5 +1.1
baz=256
DECC Green Verdugo 87.91 55 P **P** 07 00 09.6 +1.1
baz=256
DLBC Dease Lake 87.93 29 LR LR 07 33 21.8
comp=Z,68nm,20.6s,baz=260,slow=31
DLBC Dease Lake 87.93 29 *e*P **P** 07 00 06.4 -1.6
comp=Z,19nm,1.2s
J05D Fort Rock, OR 88.05 45 P **P** 07 00 10.7 +1.6
baz=254
I05D Terrebonne, OR 88.27 44 P **P** 07 00 11.5 +1.5
baz=254
EDW2 Edwards Air Fo 88.33 54 P **P** 07 00 11.8 +1.3
baz=256
MOD Modoc Plateau 88.34 47 *e*P **P** 07 00 11.9 +1.4
comp=Z,9.2nm,1.0s

G05D	**Wamic, OR**	**88.54**	**44**	P	**P**	**07 00 12.4**	**+1.2**
	baz=254						
A04D	**Lummi Island**	**88.63**	**40**	P	**P**	**07 00 13.1**	**+1.7**
	baz=253						
LRMC	**Laurel Mtn Rad**	**88.72**	**54**	P	**P**	**07 00 14.0**	**+1.5**
	baz=256,SNR=6.0						
B05A	**Bryant**	**88.89**	**41**	P	**P**	**07 00 14.2**	**+1.5**
	baz=253						
NVAR	**Mina Array Bea**	**88.94**	**51**	P	**P**	**07 00 15.0**	**+1.5**
	comp=Z,6.7nm,0.8s,baz=244,slow=7.2,SNR=22						
NVAR				pP	**pP**	**07 00 36.4**	**+0.3**
	comp=Z,8.9nm,0.8s,baz=243,slow=6.0,SNR=11						
NVAR				LR	LR	07 33 18.4	
	comp=Z,73nm,21.8s,baz=271,slow=31						
DAC	**Darwin (Calif)**	**88.98**	**53**	*e*P	**P**	**07 00 14.6**	**+0.9**
DAC				pmax	pmax		
	comp=Z,41nm,1.3s						
DAC	**Darwin (Calif)**	**88.98**	**53**	*e*P	**P**	**07 00 14.6**	**+0.9**
	comp=Z,41nm,1.3s						
MPMC	**Manual Prospec**	**89.01**	**53**	P	**P**	**07 00 15.3**	**+1.5**
	baz=256,SNR=7.6						
MONP2	**Monument Peak**	**89.15**	**56**	P	**P**	**07 00 15.5**	**+0.9**
	baz=257						
TPFO	**Pinon Flats**	**89.28**	**56**	P	**P**	**07 00 16.4**	**+1.3**
	baz=257						
GRAC	**Grapevine Rang**	**89.32**	**52**	P	**P**	**07 00 16.3**	**+1.2**
	baz=256						
GSC	**Goldstone, Bar**	**89.38**	**54**	P	**P**	**07 00 16.6**	**+1.2**
	baz=257						
FURC	**Furnace Creek,**	**89.59**	**53**	P	**P**	**07 00 17.9**	**+1.6**
	baz=257,SNR=10						
HEC	**Hector,Ludlow**	**89.65**	**55**	P	**P**	**07 00 17.7**	**+1.0**
	baz=257						
WVOR	**Wild Horse Val**	**89.67**	**47**	*e*P	**P**	**07 00 18.7**	**+2.0**
WVOR				pmax	pmax		
	comp=Z,62nm,1.4s						
WVOR	**Wild Horse Val**	**89.67**	**47**	*e*P	**P**	**07 00 18.7**	**+2.0**
	comp=Z,62nm,1.4s						
BELC	**Belle Mtn. Jos**	**89.74**	**55**	P	**P**	**07 00 18.7**	**+1.5**
	baz=257,SNR=8.0						
SHOC	**Shoshone, Teco**	**89.93**	**54**	P	**P**	**07 00 18.9**	**+1.0**
	baz=257						
MKAR	**Makanchi Array**	**90.10**	**318**	P	**P**	**07 00 17.9**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=94,slow=6.0,SNR=22						
MKAR				pP	**pP**	**07 00 40.5**	**-0.6**
	comp=Z,8.6nm,0.9s,baz=99,slow=6.3,SNR=7.6						
MKAR				LR	LR	07 40 32.5	
	comp=Z,89nm,21.3s,baz=88,slow=35						
MKAR	**Makanchi Array**	**90.10**	**318**	*ce*P	**P**	**07 00 17.8**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BC3	**Big Chuckawall**	**90.11**	**56**	P	**P**	**07 00 20.2**	**+1.3**
	baz=258						
TUQ	**Turquoise Moun**	**90.11**	**54**	P	**P**	**07 00 20.0**	**+1.1**
	baz=257						
GMRC	**Granite Mounta**	**90.18**	**55**	P	**P**	**07 00 20.5**	**+1.2**
	baz=258						
TPNV	**Topopah Spring**	**90.18**	**53**	P	**P**	**07 00 20.7**	**+1.4**
	baz=257,SNR=12						
GLA	**Glamis**	**90.49**	**57**	P	**P**	**07 00 21.6**	**+1.0**
	baz=258						
ZALV	**Zalesovo Beam**	**90.51**	**325**	P	**P**	**07 00 19.3**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=164,slow=5.8,SNR=3.2						
ZALV				LR	LR	07 41 39.0	
	comp=Z,94nm,20.4s,baz=70,slow=36						
Y12C	**Blythe**	**90.88**	**56**	P	**P**	**07 00 23.6**	**+1.2**
	baz=258						
R11A	**Troy Canyon, C**	**91.00**	**51**	P	**P**	**07 00 24.6**	**+1.5**
	baz=258,SNR=20						
R11A	**Troy Canyon, C**	**91.00**	**51**	*e*P	**P**	**07 00 24.6**	**+1.5**
	comp=Z,24nm,1.3s						
PDGK	**Podgornoye**	**91.19**	**314**	P	**P**	**07 00 22.7**	**-0.8**
PDGK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BMO	**Blue Mountains**	**91.19**	**45**	*e*P	**P**	**07 00 26.0**	**+2.3**
BMO				pmax	pmax		
	comp=Z,11nm,1.2s						
BMO	**Blue Mountains**	**91.19**	**45**	*e*P	**P**	**07 00 26.0**	**+2.3**
	comp=Z,11nm,1.2s						
PDMCI	**Parker Dam,Lak**	**91.31**	**56**	P	**P**	**07 00 25.5**	**+1.2**
	baz=258						
ELK	**Elko**	**91.77**	**49**	*e*P	**P**	**07 00 28.4**	**+1.7**
ELK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ELK	**Elko**	**91.77**	**49**	*e*P	**P**	**07 00 28.4**	**+1.7**
	comp=Z,7.1nm,1.0s						
MFID	**Camas Ranch**	**91.91**	**46**	*e*P	**P**	**07 00 28.0**	**+1.0**
	comp=Z,11nm,1.1s						
NEW	**Newport**	**92.10**	**41**	P	**P**	**07 00 27.4**	**-0.3**
	comp=Z,6.3nm,0.9s,baz=93,slow=4.6,SNR=4.8						
NEW				pP	**pP**	**07 00 49.4**	**-1.0**
	comp=Z,12nm,0.8s,baz=233,slow=1.5,SNR=8.0						
NEW	**Newport**	**92.10**	**41**	P	**P**	**07 00 29.0**	**+1.3**
	baz=257						
NEW	**Newport**	**92.10**	**41**	*e*P	**P**	**07 00 28.5**	**+0.7**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	**Newport**	**92.10**	**41**	*e*P	**P**	**07 00 28.4**	**+0.7**
	comp=Z,4.1nm,0.8s						
NEW				pP	**pP**	**07 00 49.4**	**-1.0**
HLID	**Hailey**	**92.95**	**46**	P	**P**	**07 00 33.4**	**+1.4**
	baz=259						
HLID	**Hailey**	**92.95**	**46**	*e*P	**P**	**07 00 33.9**	**+2.0**
	comp=Z,24nm,1.2s						
KSH	**Kashi**	**92.98**	**309**	P	**P**	**07 00 34.3**	**+2.2**
KSH				pP	pP	07 00 58.9	+4.1
KSH				PP	**PP**	**07 04 19.6**	**+3.5**
KSH				SKS	**SKSac**	**07 10 57.1**	**-1.8**
KSH				S	**S**	**07 11 26.6**	**-5.0**
KSH				SS	**SS**	**07 17 51.6**	**+3.8**
KSH				PMZ			
	comp=Z,3.0nm,0.2s						
KSH				PMZ			
	comp=Z,49nm,3.7s						
KSH				LN			
	comp=Z,150nm,6.9s						
KSH				LE			
	comp=Z,150nm,5.1s						
DUG	**Dugway, Tooele**	**93.48**	**50**	P	**P**	**07 00 35.9**	**+1.5**
	baz=259						
TUC	**Tucson**	**93.70**	**58**	P	**P**	**07 00 36.5**	**+0.9**
	baz=260						
TUC	**Tucson**	**93.70**	**58**	*e*P	**P**	**07 00 37.0**	**+1.5**
TUC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TUC	**Tucson**	**93.70**	**58**	*e*P	**P**	**07 00 37.0**	**+1.5**
	comp=Z,2.6nm,0.9s						
NRIK	**Noril'sk**	**94.01**	**340**	P	**P**	**07 00 35.5**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=117,slow=6.8,SNR=2.9						
NRIK				LR	LR	07 41 59.9	
	comp=Z,421nm,21.5s,baz=110,slow=35						
WALA	**Waterton Lakes**	**94.34**	**41**	*e*P	**P**	**07 00 39.3**	**+1.1**
	comp=Z,11nm,1.5s						
BOZ	**Bozeman (W)**	**95.28**	**45**	P	**P**	**07 00 43.1**	**+0.6**
	baz=261						
BOZ	**Bozeman (W)**	**95.28**	**45**	*e*P	**P**	**07 00 44.1**	**+1.5**
BOZ				pmax	pmax		
	comp=Z,11nm,1.2s						
BOZ	**Bozeman (W)**	**95.28**	**45**	*e*P	**P**	**07 00 44.1**	**+1.5**
	comp=Z,11nm,1.2s						
IMW	**Indian Meadow**	**95.48**	**47**	*e*P	**P**	**07 00 45.9**	**+2.1**
	comp=Z,8.6nm,1.3s						
MOOW	**Moose Ponds**	**95.60**	**47**	*e*P	**P**	**07 00 46.1**	**+1.9**
	comp=Z,3.6nm,1.0s						
H17A	**Grant Village**	**95.82**	**46**	*e*P	**P**	**07 00 48.1**	**+2.9**
	comp=Z,3.6nm,0.9s						
PDAR	**Pinedale Array**	**96.31**	**48**	P	**P**	**07 00 49.0**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=236,slow=3.8,SNR=8.1						
PDAR				LR	LR	07 38 49.2	
	comp=Z,54nm,21.2s,baz=265,slow=32						
YKA	**Yellowknife Ar**	**96.40**	**28**	P	**P**	**07 00 47.0**	**0.0**
	comp=Z,2.6nm,0.9s,baz=261,slow=4.7,SNR=12						
YKA				pP	**pP**	**07 01 07.5**	**-2.2**
	comp=Z,3.4nm,0.8s,baz=258,slow=4.6,SNR=10						
SNAA	**Sanae**	**97.44**	**185**	P	**P**	**07 00 50.7**	**-1.1**
SNAA	**Sanae**	**97.44**	**185**	⇑*i*P	**P**	**07 00 51.6**	**-0.2**
SNAA	**Sanae**	**97.44**	**185**	*e*P	P	07 00 46.5	-5.3
	comp=Z,1µm,1.5s						
ANMO	**Albuquerque**	**97.66**	**56**	P	**P**	**07 00 53.3**	**-0.4**
	baz=263						
ANMO	**Albuquerque**	**97.66**	**56**	⇓*i*P	Pdif	07 00 54.9	+1.2
ANMO				*e**PP	pP	07 01 17.0	+0.6
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LAO	**LASA Array**	**99.14**	**44**	Pdiff	**Pdif**	**07 01 00.7**	**+0.8**
	baz=265						
TXAR	**Lajitas Array**	**99.33**	**62**	P	**Pdif**	**07 01 02.5**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=231,slow=7.9,SNR=4.7						
TXAR				LR	LR	07 40 15.8	
	comp=Z,44nm,19.2s,baz=0.0,slow=32						
MSTX	**Muleshoe**	**100.58**	**57**	Pdiff	**Pdif**	**07 01 07.5**	**+0.9**
	baz=265						
F25A	**Bowman**	**100.99**	**45**	Pdiff	**Pdif**	**07 01 08.1**	**0.0**
	baz=266						
B25A	**Knox Farm, Ray**	**101.32**	**43**	Pdiff	**Pdif**	**07 01 10.5**	**+1.0**
	baz=267						
D26A	**Manning**	**101.75**	**44**	Pdiff	**Pdif**	**07 01 11.8**	**+0.3**
	baz=267						
E27A	**Carson**	**102.33**	**45**	Pdiff	**Pdif**	**07 01 14.2**	**+0.2**
	baz=268						
ARCES	**ARCESS Array B**	**114.58**	**344**	PKP	PKPdf	07 05 56.5	-1.1
	comp=Z,1.7nm,0.8s,baz=318,slow=1.6,SNR=4.9						
NB2	**NORSAR Subarra**	**124.87**	**343**	PKPdf	PKPdf	07 06 31.9	+14
	comp=Z,1.8nm,0.8s,baz=34,slow=1.8						
CPUP	**Villa Florida**	**127.62**	**135**	PKP	**PKPdf**	**07 06 23.5**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=144,slow=2.8,SNR=5.9						
DPC	**Dobruska-Polom**	**130.84**	**331**	AMS	AMS	08 03 00.0	
	comp=Z,300nm,20.4s						
UPC	**Upice**	**130.88**	**331**	AMS	AMS	08 03 10.0	
	comp=Z,400nm,17.8s						
PVCC	**Panska Ves**	**131.54**	**332**	AMS	AMS	08 03 00.0	
BRG	**Berggiesshubel**	**131.58**	**333**	*e*PKP	**pPKPdf**	**07 06 55.2**	**+0.9**
	comp=Z,3.9nm,1.1s						
BRG				*e*		07 09 50.8	
	comp=Z,5.5nm,1.3s						
BRG				*e*		07 10 40.3	
	comp=Z,26nm,1.8s						
CLL	**Collm**	**131.69**	**334**	*e*PKPdf	**PKPdf**	**07 06 31.0**	**+0.1**
CLL				*e*SKPbc	**SKPbc**	**07 09 49.0**	**-0.2**
CLL	**Collm**	**131.69**	**334**	*e*PKIKP	**PKPdf**	**07 06 31.0**	**+0.1**
GOPC	**GO Pecny, Ondr**	**131.86**	**331**	AMS	AMS	08 03 30.0	
	comp=Z,300nm,20.9s						
PRU	**Pruhonice**	**131.93**	**332**	AMS	AMS	08 03 30.0	
	comp=Z,300nm,16.8s						
TREC	**Trest**	**131.95**	**330**	AMS	AMS	08 04 10.0	
	comp=Z,400nm,17.4s						
GERES	**GERESS Array B**	**133.11**	**331**	PKP	**PKPdf**	**07 06 33.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=90,slow=4.0,SNR=4.4						
GERES	**GERESS Array B**	**133.11**	**331**	PKIKP	**PKPdf**	**07 06 33.0**	**-0.9**
KEST	**Kesra**	**144.18**	**319**	PKP	**PKPdf**	**07 06 54.4**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=179,slow=11,SNR=4.4						
PGAV	**Gavieira, Arco**	**147.25**	**346**	*e*PKP	**PKPab**	**07 07 02.9**	**-0.8**
POLO	**Lamas de Olo**	**147.68**	**345**	*e*PKP	**PKPbc**	**07 07 03.3**	**+0.2**
ESDC	**Sonseca Array**	**148.03**	**338**	PKPbc	**PKPbc**	**07 07 04.0**	**0.0**
	comp=Z,0.4nm,0.3s,baz=48,slow=2.5,SNR=5.1						
PVIS	**Viseu**	**148.33**	**344**	*e*PKP	**PKPab**	**07 07 07.0**	**-1.0**
MTE	**Manteigas**	**148.53**	**344**	*e*PKP	**PKPbc**	**07 07 06.0**	**+0.7**
PCBR	**Castelo Branco**	**149.03**	**343**	*e*PKP	**PKPbc**	**07 07 04.8**	**-1.7**
PMRV	**Marv??o**	**149.38**	**343**	*e*PKP	**PKPbc**	**07 07 06.5**	**-0.9**
PTOM	**Tomar**	**149.49**	**344**	*e*PKP	**PKPbc**	**07 07 07.8**	**+0.1**
PMTG	**Montargil**	**149.96**	**344**	*e*PKP	**PKPbc**	**07 07 09.9**	**+1.1**
MESJ	**Messejana**	**151.10**	**343**	*e*PKP	**PKPbc**	**07 07 13.3**	**+1.8**
PCVE	**Castro Verde**	**151.24**	**342**	*e*PKP	**PKPbc**	**07 07 11.8**	**-0.1**
PTEO	**Sao Teotonio**	**151.52**	**343**	*e*PKP	**PKPbc**	**07 07 14.5**	**+2.0**
TORD	**Torodi Ar. Bea**	**159.88**	**280**	PKP	**PKPdf**	**07 07 16.4**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=63,slow=1.2,SNR=7.5						
TORD				pPKP	**pPKPdf**	**07 07 38.4**	**-3.4**
	comp=Z,1.2nm,0.9s,baz=31,slow=1.6,SNR=3.6						
TORD				PKPab	**PKPab**	**07 07 58.1**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=90,slow=3.6,SNR=4.4						
TORD				pPKPab	**pPKPab**	**07 08 18.9**	**-1.5**
	comp=Z,3.4nm,1.0s,baz=85,slow=2.9,SNR=5.1						

---

*NIED **02** 06:59:00, 36.°70N×142.°30E, h23km, Mw3.5 Best double couple: Mo2.10000×10^14 NP1:φs186.00000°, δ42.00000°, λ-100.00000°. NP2:φs20.00000°, δ49.00000°, λ-81.00000°.*
*IDC **02** 06:59:44.2±1.2, 36.°49N×142.°64E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/47, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=32.5km s-min=25.8km az=90.0*
*JMA **02** 06:59:46.7±0.2, 36.°71N×142.°34E, h27km±5km, M3.5*
ISC 02 06:59:45.5±3.5**, 36.°71N**±0.°04×**142.°27E**±0.°07**, h5**km±22km**,**
n21, σ1.15/32, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.25**	**289**	P	**Pn**	**07 00 09.5**	**0.0**
JFK	**Kawauchi**	**1.30**	**301**	P	**Pn**	**07 00 10.0**	**-0.2**
JFK				*e*S	**Sb**	**07 00 27.1**	**-0.2**
JHO	**Hitachi**	**1.38**	**266**	P	**Pn**	**07 00 11.3**	**0.0**
JHO				*e*S	**Sn**	**07 00 29.4**	**-0.4**
JMM	**Marumori**	**1.65**	**315**	P	**Pn**	**07 00 15.3**	**+0.3**
JMM				*e*S	**Sn**	**07 00 36.3**	**-0.3**
JFT	**Otama**	**1.75**	**298**	P	**Pb**	**07 00 17.5**	**-0.5**
JFT				S	**Sb**	**07 00 39.8**	**-0.4**
JIO	**Ouri**	**1.89**	**337**	*e*S	**Sn**	**07 00 40.8**	**-1.6**
JOU	**Okura**	**2.09**	**323**	P	**Pb**	**07 00 23.0**	**-0.8**
JOU				*e*S	**Sb**	**07 00 48.8**	**-1.2**
JAG	**Ashikaga**	**2.29**	**264**	P	**Pn**	**07 00 24.7**	**+0.9**
JAG				*e*S	**Sn**	**07 00 51.7**	**-0.7**
BSO1	**Boso 1**	**2.31**	**208**	P	**Pn**	**07 00 23.8**	**+0.2**
BSO1				*e*S	**Sn**	**07 00 52.7**	**+0.6**
JMK	**Ichinoseki**	**2.39**	**340**	P	**Pn**	**07 00 25.8**	**+0.6**
JMK				*e*S	**Sn**	**07 00 54.3**	**-0.4**
JYK	**Kaneyama**	**2.67**	**326**	P	**Pn**	**07 00 30.4**	**+1.3**
JRY	**Ryogami san**	**2.81**	**257**	P	**Pn**	**07 00 31.6**	**+0.6**
JRY				S	**Sn**	**07 01 04.8**	**-0.5**
JOM	**Ohasama**	**2.86**	**345**	S	**Sn**	**07 01 07.4**	**+0.9**
JOD2	**Odawara 2**	**2.96**	**242**	P	**Pn**	**07 00 33.2**	**+0.1**
JOD2				*e*S	**Sn**	**07 01 08.5**	**-0.5**
JAW	**Awa shima**	**2.97**	**307**	S	**Sn**	**07 01 08.3**	**-0.8**
MJAR	**Matsushiro Arr**	**3.27**	**268**	Pn	**Pn**	**07 00 39.2**	**+1.8**
	4.4nm,0.3s,baz=102,slow=10.0,SNR=18						
MAT	**Matsushiro**	**3.28**	**268**	P	**Pn**	**07 00 39.2**	**+1.8**
MAT				*e*S	**Sn**	**07 01 15.9**	**-0.9**
SONM	**Songino Array**	**28.54**	**304**	P	**P**	**07 05 45.6**	**+3.6**
	0.3nm,0.3s,baz=99,slow=8.9,SNR=1.8						
ILAR	**Eielson Array**	**49.40**	**32**	P	**P**	**07 08 35.1**	**-0.6**
	0.6nm,0.9s,baz=262,slow=6.9,SNR=4.4						
WRA	**Warramunga Arr**	**56.84**	**189**	P	**P**	**07 09 29.2**	**-1.7**
	0.4nm,0.7s,baz=6.0,slow=8.1,SNR=4.2						
ASAR	**Alice Springs**	**60.57**	**189**	P	**P**	**07 09 55.6**	**-1.3**
	0.3nm,0.5s,baz=0.0,slow=6.7,SNR=4.5						

---

*IDC **02** 07:01:47.9±2.3, 37.°06N×138.°72E, h0km, mb3.9/1, mb1 3.9/2, mb1mx3.3/49, mbtmp3.6/2, ML3.3/1, MS4.2/1, Ms1 4.2/1, ms1mx2.7/42, Error ellipse: s-maj=16.3km s-min=12.1km az=32.0*
*ISCJB **02** 07:01:49.5±0.6, 37.°03N±0.°03×138.°67E±0.°04, h13km±6km, mb4.0/1, MS4.3/1, Error ellipse: s-maj=6.4km s-min=3.9km az=142.5*
*JMA **02** 07:01:50.0, 37.°03N×138.°69E, h8km±2km, M3.4*
JMA Felt IV J1.
ISC 02 07:01:48.9±1.2**, 37.°04N**±0.°04×**138.°72E**±0.°04**, h14**km±10km**,**
n15, σ0.75/24, 5C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.32**	**48**	⇑P	**Pb**	**07 01 56.4**	**0.0**
JHK				S	**Sb**	**07 02 01.5**	**+0.1**
JJN	**Nakama**	**0.45**	**278**	⇓P	**Pg**	**07 01 58.2**	**+0.4**
JJN				S	**Sb**	**07 02 04.7**	**-0.5**
JGK	**Kuni**	**0.48**	**188**	⇑P	**Pb**	**07 01 59.3**	**+0.2**
JGK				S	**Sb**	**07 02 06.1**	**0.0**
JIZZ	**Izumozaki**	**0.49**	**359**	⇑P	**Pn**	**07 02 00.4**	**-1.2**
JKT	**Katashina**	**0.50**	**122**	⇓P	**Pb**	**07 01 59.9**	**+0.3**
JKT				S	**Sb**	**07 02 07.3**	**+0.5**
MAT	**Matsushiro**	**0.64**	**220**	P	**Pg**	**07 02 01.3**	**-0.1**
MAT				S	**Sg**	**07 02 09.4**	**-0.5**
MAT	**Matsushiro**	**0.64**	**220**	P	**Pg**	**07 02 01.4**	**0.0**
MAT				S	**Sg**	**07 02 09.8**	**-0.1**
MJAR	**Matsushiro Arr**	**0.64**	**220**	Pg	**Pg**	**07 02 01.2**	**-0.3**
	182nm,0.3s,baz=33,slow=18,SNR=204						
MJAR				Lg	Lg	07 02 09.3	
	144nm,0.3s,baz=35,slow=30,SNR=26						
JNG	**Nsakai**	**0.80**	**219**	⇑P	**Pb**	**07 02 04.4**	**-0.3**
JNG				S	**Sb**	**07 02 14.8**	**-0.6**
JAG	**Ashikaga**	**0.85**	**136**	⇓P	**Pn**	**07 02 06.4**	**-0.1**
JAG				S	**Sn**	**07 02 18.1**	**-0.6**
JFY	**Yanaizu**	**0.87**	**65**	⇑P	**Pn**	**07 02 06.5**	**-0.2**
JFY				S	**Sn**	**07 02 18.3**	**-0.9**
JNS	**Sasagawa**	**0.91**	**31**	P	**Pn**	**07 02 06.8**	**-0.5**
JNS				S	**Sn**	**07 02 19.5**	**-0.8**
KSRS	**Korea Array**	**8.62**	**276**	Pn	**Pn**	**07 03 55.6**	**+2.4**
	0.3nm,0.3s,baz=90,slow=15,SNR=2.9						
INK	**Inuvik**	**55.36**	**27**	LR	LR	07 39 11.6	
	comp=Z,226nm,19.1s,baz=228,slow=40						
WRA	**Warramunga Arr**	**56.82**	**185**	P	**P**	**07 11 33.5**	**+0.6**
	1.0nm,0.7s,baz=1.6,slow=7.5,SNR=12						

---

*ISCJB **02** 07:12:22.6±0.6, 5.°25N±0.°04×73.°65W±0.°04, h164km±6km, Error ellipse: s-maj=8.3km s-min=4.9km az=37.5*
*FUNV **02** 07:12:23.8, 5.°27N×73.°78W, h190km, MW3.8*
*RSNC **02** 07:12:25.4±0.8, 5.°28N×73.°75W, h146km±5km, ML3.4*
ISC 02 07:12:21.2±1.6**, 5.°23N**±0.°05×**73.°68W**±0.°05**, h177**km±11km**,**
n32, σ2.07/51, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**0.75**	**239**	*e*S	**Sn**	**07 13 05.9**	**-1.6**
ROSC				*i*		07 13 09.3	
	comp=Z,296nm,0.2s						
RUSC	**La Rusia**	**0.88**	**42**	⇓*i*P	**Pn**	**07 12 49.4**	**+1.1**
RUSC				*i*		07 12 50.0	
	comp=Z,320nm,0.3s						
RUSC				*e*S	**Sn**	**07 13 07.7**	**-1.6**
VILC	**Villavicencio,**	**1.11**	**181**	*e*P	**Pn**	**07 12 50.6**	**+0.9**
VILC				*e*S	**Sn**	**07 13 10.5**	**-1.2**
VILC				*i*		07 13 12.6	
	comp=Z,296nm,0.5s						
NORC	**Norcasia**	**1.23**	**286**	*e*P	**Pn**	**07 12 51.0**	**+0.4**
NORC				*e*S	**Sn**	**07 13 09.7**	**-3.4**
BARC	**Barichara**	**1.44**	**20**	*e*P	**Pn**	**07 12 53.2**	**+0.5**
BARC				*e*S	**Sn**	**07 13 15.2**	**-1.8**
BARC				*i*		07 13 20.6	
	comp=Z,371nm,0.5s						
GUYC	**Guyana, Colomb**	**1.71**	**270**	*e*P	**Pn**	**07 12 56.2**	**+0.7**
TOLC	**Tolima**	**1.76**	**249**	*e*P	**Pn**	**07 12 56.9**	**+1.1**
BRRC	**Barranca, Sant**	**1.86**	**359**	*e*P	**Pn**	**07 12 57.9**	**+1.3**
BRRC				*i*		07 12 58.6	
	comp=Z,715nm,0.1s						
BRRC				*e*S	**Sn**	**07 13 22.7**	**-1.5**
PRAC	**Prado**	**1.93**	**219**	*e*P	**Pn**	**07 12 59.0**	**+1.6**
PRAC				*e*S	**Sn**	**07 13 25.3**	**-0.1**
SJAC	**San Juan de Ar**	**1.96**	**188**	*e*P	**Pn**	**07 12 59.4**	**+1.5**
SJAC				*i*		07 13 29.5	
	comp=Z,223nm,0.3s						
HELC	**Santa Helena**	**2.08**	**297**	*e*P	**Pn**	**07 13 00.3**	**+1.1**
HELC				*e*S	**Sn**	**07 13 27.3**	**-1.5**
PAMC	**Pamplona, Colo**	**2.31**	**25**	*e*P	**Pn**	**07 13 04.5**	**+2.4**
PAMC				*e*S	**Sn**	**07 13 33.9**	**+0.1**
GRMC	**Gramalote, San**	**2.62**	**19**	*e*P	**Pn**	**07 13 09.2**	**+3.9**
GRMC				*e*S	**Sn**	**07 13 43.2**	**+3.6**
GRMC				*i*		07 13 49.7	
	comp=Z,139nm,0.3s						
CBRI	**Barrientos, No**	**2.62**	**19**	*e*P	**Pn**	**07 13 07.4**	**+2.1**
CBRI				*e*S	**Sn**	**07 13 40.3**	**+0.6**
CBRI				*i*		07 13 41.9	
	comp=Z,120nm,0.4s						
CAPV	**Capacho**	**2.95**	**27**	*e*P	**Pn**	**07 13 11.6**	**+2.3**
CAPV				*e*S	**Sn**	**07 13 47.5**	**+0.8**
OCAC	**Ocana**	**3.01**	**7**	*e*P	**Pn**	**07 13 11.9**	**+1.9**
DBBC	**Dabeiba**	**3.08**	**305**	*e*P	**Pn**	**07 13 12.7**	**+1.9**
SOCV	**Socops**	**4.13**	**43**	*e*P	**Pn**	**07 13 25.5**	**+1.6**
SOCV				*e*S	**Sn**	**07 14 12.4**	**-0.5**
VIGV	**El Vigia**	**4.26**	**32**	*e*P	**Pn**	**07 13 27.1**	**+1.5**
VIGV				*e*S	**Sn**	**07 14 14.4**	**-1.5**
ELOV	**Elorza**	**4.53**	**67**	*e*P	**Pn**	**07 13 31.2**	**+2.2**
ELOV				*e*S	**Sn**	**07 14 21.4**	**-0.6**
VIRV	**Villa del Rosa**	**5.39**	**13**	*e*P	**Pn**	**07 13 40.9**	**+0.7**
VIRV				*e*S	**Sn**	**07 14 37.9**	**-4.4**
QARV	**Quebrada Arrib**	**5.85**	**32**	*e*P	**Pn**	**07 13 47.6**	**+1.3**
QARV				*e*S	**Sn**	**07 14 49.8**	**-3.4**
SANV	**Sanarito**	**5.90**	**44**	*e*P	**Pn**	**07 13 49.0**	**+2.0**
SANV				*e*S	**Sn**	**07 14 51.3**	**-3.3**
CURV	**Curarigua**	**6.01**	**38**	*e*P	**Pn**	**07 13 49.9**	**+1.5**
TEPV	**Terepaima**	**6.47**	**43**	*e*P	**Pn**	**07 13 56.1**	**+1.7**
SIQV	**Siquisique**	**6.61**	**35**	*e*P	**Pn**	**07 13 57.8**	**+1.6**
BAUV	**El Baul**	**6.70**	**56**	*e*P	**Pn**	**07 13 58.2**	**+0.8**
BAUV				*e*S	**Sn**	**07 15 09.1**	**-4.2**
BAUV				*e*S	**Sn**	**07 15 09.3**	**-4.0**
MAPV	**Macapo**	**6.90**	**48**	*e*P	**Pn**	**07 14 01.4**	**+1.3**
MONV	**Montecano**	**7.62**	**28**	*e*P	**Pn**	**07 14 10.5**	**+1.0**
TURV	**Turiamo**	**7.76**	**48**	*e*P	**Pn**	**07 14 13.0**	**+1.5**
BIRV	**Birongo**	**9.00**	**54**	*e*P	**Pn**	**07 14 29.2**	**+1.5**
CUPV	**Cœpira**	**9.17**	**58**	*e*P	**Pn**	**07 14 31.5**	**+1.4**

---

*CSEM **02** 07:25:22.1, 42.°58N×13.°24E, h11km, MD1.9/10*
ROM 02 07:25:22.1±0.1**, 42.°58N×13.°24E, h11**km**, Md1.9**/10**,**
Ml1.7/4**, Error ellipse: s-maj=1.2km s-min=0.9km az=19.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RM29	**Verrico (Monte**	**0.04**	**237**	Pg	Pg	07 25 24.8	+0.4
RM29				Sg	Sg	07 25 26.5	+0.5
	997nm,0.2s						
RM29	**Verrico (Monte**	**0.04**	**237**	Pg	Pg	07 25 24.8	+0.4
RM29				Sg	Sg	07 25 26.5	+0.5
	997nm,0.2s						
RM32	**Poggio Cancell**	**0.04**	**105**	Pg	Pg	07 25 24.8	+0.4
RM32				Sg	Sg	07 25 25.8	-0.2
	178nm,0.2s						
RM32	**Poggio Cancell**	**0.04**	**105**	Pg	Pg	07 25 24.8	+0.4
RM32				Sg	Sg	07 25 25.8	-0.2
	178nm,0.2s						
RM33	**Pellescritta (**	**0.07**	**196**	Pg	Pg	07 25 25.1	+0.4
RM33				Sg	Sg	07 25 26.9	+0.4
	503nm,0.1s						
RM33	**Pellescritta (**	**0.07**	**196**	Pg	Pg	07 25 25.1	+0.4
RM33				Sg	Sg	07 25 26.9	+0.4
	503nm,0.1s						
CAMP	**Campotosto**	**0.13**	**110**	Pg	Pg	07 25 26.0	+0.6
CAMP				Sg	Sg	07 25 28.6	+0.8
	60nm,0.6s						
CAMP	**Campotosto**	**0.13**	**110**	Pg	Pg	07 25 26.0	+0.6
CAMP				Sg	Sg	07 25 28.6	+0.8
	60nm,0.6s						
LNSS	**Leonessa**	**0.15**	**279**	Pg	Pg	07 25 26.2	+0.5
LNSS				Sg	Sg	07 25 28.9	+0.7
	203nm,0.3s						
LNSS	**Leonessa**	**0.15**	**279**	Pg	Pg	07 25 26.2	+0.5
LNSS				Sg	Sg	07 25 28.9	+0.7
	203nm,0.3s						
NRCA	**Norcia**	**0.27**	**340**	Pg	Pg	07 25 28.1	+0.4
NRCA				Sg	Sg	07 25 32.3	+0.8
	88nm,0.1s						
NRCA	**Norcia**	**0.27**	**340**	Pg	Pg	07 25 28.1	+0.4
NRCA				Sg	Sg	07 25 32.3	+0.8
	88nm,0.1s						
TERO	**Teramo**	**0.27**	**81**	Pg	Pg	07 25 28.1	+0.4
TERO				Sg	Sg	07 25 32.3	+0.9
	131nm,0.1s						
TERO	**Teramo**	**0.27**	**81**	Pg	Pg	07 25 28.1	+0.4
TERO				Sg	Sg	07 25 32.3	+0.9
	131nm,0.1s						
FIAM	**Fiamignano**	**0.33**	**197**	Pg	Pg	07 25 29.0	+0.3
FIAM				Sg	Sg	07 25 34.1	+1.0
FIAM	**Fiamignano**	**0.33**	**197**	Pg	Pg	07 25 29.0	+0.3
FIAM				Sg	Sg	07 25 34.1	+1.0
FDMO	**Fiordimonte**	**0.47**	**346**	Pg	Pg	07 25 31.6	+0.2
FDMO				Sg	Sb	07 25 38.9	-0.5
FDMO	**Fiordimonte**	**0.47**	**346**	Pg	Pg	07 25 31.6	+0.2
FDMO				Sg	Sb	07 25 38.9	-0.5
VCEL	**Villa Celiera**	**0.48**	**113**	Pg	Pb	07 25 32.5	-0.1
VCEL	**Villa Celiera**	**0.48**	**113**	Pg	Pb	07 25 32.5	-0.1

WEL 02 07:26:12.0±0.9**, 34.°95S×178.°28E, h225**km±20km**,**
ML3.7/11**, Error ellipse: s-maj=20.4km s-min=15.0km az=90.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.61**	**179**	PN	Pn	07 26 58.9	+0.3
MXZ				*e*SN	S	07 27 34.3	-0.7
HAZ	**Te Kaha**	**2.83**	**188**	PN	Pn	07 27 01.4	+0.5
WMGZ	**Waiomatatini S**	**2.86**	**178**	PN	Pn	07 27 01.8	+0.4
PUZ	**Puketiti**	**3.11**	**180**	PN	Pn	07 27 03.8	-0.4
PUZ				*e*SN	S	07 27 43.0	-2.3
TWGZ	**Tauwhareparae**	**3.23**	**184**	PN	Pn	07 27 06.3	+0.7
TWGZ				SN	S	07 27 47.2	-0.5
MWZ	**Matawai**	**3.43**	**190**	PN	Pn	07 27 07.4	-0.5
MWZ				*e*SN	S	07 27 51.9	+0.1
URZ	**Urewera**	**3.43**	**196**	PN	Pn	07 27 08.2	+0.3
CNGZ	**Carnagh Statio**	**3.53**	**181**	PN	Pn	07 27 08.9	-0.1
RIGZ	**Rimuhau**	**3.77**	**186**	PN	Pn	07 27 11.4	-0.5

RIGZ				SN	S	07 27 59.3	+0.1
RAHZ	**Arahi**	**4.07**	**193**	PN	Pn	07 27 15.5	0.0
RAHZ				SN	S	07 28 05.9	+0.3
KNZ	**Kokohu**	**4.09**	**187**	PN	Pn	07 27 14.8	-0.9
NMHZ	**Naumai**	**4.30**	**195**	PN	Pn	07 27 18.7	+0.3
ARHZ	**Aropaoanui**	**4.42**	**193**	PN	Pn	07 27 20.0	+0.2
BKZ	**Black Stump Fm**	**4.44**	**198**	PN	Pn	07 27 20.3	+0.3
KWHZ	**Kaweka Forest**	**4.70**	**198**	PN	Pn	07 27 23.0	-0.3
BHHZ	**Black Hill Sta**	**4.86**	**201**	PN	Pn	07 27 24.5	-0.8
KRHZ	**Kereru**	**4.92**	**197**	PN	Pn	07 27 24.9	-1.1
KAHZ	**Kahuranaki**	**4.96**	**193**	PN	Pn	07 27 25.8	-0.7
PXZ	**Pawanui**	**5.19**	**192**	PN	Pn	07 27 27.6	-1.7
PXZ				SN	S	07 28 27.7	-3.0
PNHZ	**Pukenui**	**5.22**	**198**	PN	Pn	07 27 28.2	-1.5
TSZ	**Takapari Road**	**5.42**	**199**	PN	Pn	07 27 30.9	-1.4
BFZ	**Birch Farm**	**5.94**	**195**	PN	Pn	07 27 37.2	-1.6
MRZ	**Mangatainoka R**	**6.09**	**200**	PN	Pn	07 27 38.5	-2.1
TIWZ	**Tintock**	**6.12**	**197**	PN	Pn	07 27 39.3	-1.7
HOWZ	**Holdsworth Sta**	**6.33**	**199**	PN	Pn	07 27 41.2	-2.5
OGWZ	**Otaki Gorge**	**6.35**	**202**	PN	Pn	07 27 42.0	-2.0
MTW	**Mount Morrison**	**6.57**	**199**	PN	Pn	07 27 44.2	-2.6
CAW	**Cannon Point**	**6.65**	**201**	PN	Pn	07 27 45.2	-2.5
TUWZ	**Tuamarina**	**7.31**	**207**	PN	Pn	07 27 53.6	-2.7

---

*IDC **02** 07:27:55.3±0.7, 30°.15S×60°.67E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/38, mbtmp4.1/12, ML4.2/1, MS3.6/4, Ms1 3.7/4, ms1mx3.2/35, Error ellipse: s-maj=25.1km s-min=17.9km az=49.0*
*NEIC **02** 07:27:56.8±0.4, 30°.14S×60°.64E, h10km, mb4.5/1, Error ellipse: s-maj=14.9km s-min=9.3km az=40.0*
ISC 02 07:27:57.0±0.6**, 30°.1S**±0°.1×**60°.4E**±0°.1**, h10km, n24, σ1s60**/18**, mb4.2**/12**, MS3.7**/3**, 1D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.61**	**311**	Pn	**P**	**07 31 52.6**	**0.0**
	0.8nm,0.3s,baz=121,slow=11,SNR=6.0						
OPO				Sn	**Sn**	**07 34 50.1**	**-4.7**
	0.5nm,0.3s,baz=246,slow=20,SNR=2.4						
OPO				LR	LR	07 37 03.0	
	comp=Z,140nm,21.4s,baz=108,slow=33						
H08S1	**Diego Carcia H**	**25.00**	**29**	T	T	07 59 01.3	
	baz=204,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**25.01**	**29**	T	T	07 59 01.4	
	baz=204,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**25.02**	**29**	T	T	07 59 02.8	
	baz=204,slow=75,SNR=16						
LSZ	**Lusaka**	**33.05**	**289**	P	**P**	**07 34 34.2**	**+1.2**
	1.7nm,0.4s,baz=27,slow=14,SNR=3.5						
MAW	**Mawson**	**37.60**	**178**	P	**P**	**07 35 11.0**	**-0.4**
	2.6nm,0.5s,baz=31,slow=12,SNR=5.3						
MAW				LR	LR	07 47 34.8	
	comp=Z,78nm,18.8s,baz=54,slow=31						
SYO	**Syowa Base**	**40.81**	**191**	⇓eP	**P**	**07 35 38.0**	**-0.2**
H01W2	**Cape Leeuwin H**	**45.11**	**111**	T	T	08 24 35.9	
	baz=260,slow=75,SNR=24						
H01W3	**Cape Leeuwin H**	**45.12**	**111**	T	T	08 24 36.2	
	baz=260,slow=75,SNR=21						
H01W1	**Cape Leeuwin H**	**45.13**	**111**	T	T	08 24 37.1	
	baz=260,slow=75,SNR=22						
QSPA	**South Pole Qui**	**60.10**	**180**	eP	**P**	**07 38 04.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**60.85**	**43**	P	**P**	**07 38 10.1**	**+0.3**
	2.1nm,0.8s,baz=230,slow=7.6,SNR=8.9						
CMAR				LR	LR	08 02 17.7	
	comp=Z,48nm,18.1s,baz=187,slow=34						
VNDA	**Vanda**	**63.31**	**166**	P	**P**	**07 38 24.5**	**-1.1**
	1.3nm,0.7s,baz=274,slow=8.1,SNR=4.7						
ASAR	**Alice Springs**	**64.84**	**104**	P	**P**	**07 38 34.7**	**-1.9**
	1.1nm,0.7s,baz=243,slow=6.1,SNR=13						
WRA	**Warramunga Arr**	**66.73**	**100**	P	**P**	**07 38 47.2**	**-1.6**
	1.1nm,0.5s,baz=243,slow=5.7,SNR=24						
WRAB	**Tennant Creek**	**66.74**	**100**	eP	**P**	**07 38 47.9**	**-0.9**
	3.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**71.00**	**298**	P	**P**	**07 39 17.0**	**+1.8**
	1.1nm,0.9s,baz=107,slow=4.9,SNR=5.2						
BRTR	**Keskin Array B**	**73.76**	**339**	P	**P**	**07 39 32.5**	**+1.1**
	0.9nm,0.9s,baz=177,slow=7.3,SNR=5.5						
ABKAR	**Akbulak array**	**78.96**	**360**	eP	**P**	**07 40 01.4**	**+1.0**
MKAR	**Makanchi Array**	**79.00**	**15**	P	**P**	**07 40 01.1**	**+0.2**
	0.5nm,0.6s,baz=162,slow=5.0,SNR=5.5						
AKASG	**Malin Array Be**	**85.01**	**341**	P	**P**	**07 40 32.6**	**+0.4**
	0.2nm,0.3s,baz=165,slow=3.8,SNR=2.0						
ZALV	**Zalesovo Beam**	**86.29**	**14**	P	**P**	**07 40 38.1**	**-0.4**
	0.8nm,0.4s,baz=203,slow=6.7,SNR=3.4						
URZ	**Urewera**	**89.95**	**135**	LR	LR	08 14 03.5	
	comp=Z,59nm,19.3s,baz=190,slow=31						
YKA	**Yellowknife Ar**	**147.40**	**356**	PKPbc	**PKPbc**	**07 47 39.3**	**-1.0**
	0.7nm,0.6s,baz=352,slow=3.0,SNR=4.9						

---

*ISCJB **02** 07:33:23.6±0.5, 26°.40S±0°.03×27°.42E±0°.03, h9km±3km, Error ellipse: s-maj=5.1km s-min=4.3km az=43.6*
*PRE **02** 07:33:23.9±1.8, 26°.41S×27°.40E, h2km, ML3.1*
ISC 02 07:33:23.9±0.9**, 26°.41S**±0°.03×**27°.39E**±0°.03**, h6**km±6km**, n14, σ1s11**/28**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.03**	**112**	eP	**Pg**	**07 33 25.5**	**+0.1**
WDLM				eS	**Sg**	**07 33 25.8**	**-0.7**
WDLM				AML	AML	07 33 26.5	
	comp=Z,107μm,0.7s						
KLOF	**Kloof**	**0.21**	**72**	eP	**Pg**	**07 33 28.5**	**+0.4**
KLOF				eS	**Sg**	**07 33 30.3**	**-0.5**
KLOF				AML	AML	07 33 30.8	
	comp=Z,3μm,0.2s						
PRYS	**Parys**	**0.51**	**183**	eP	**Pg**	**07 33 34.1**	**+0.3**
PRYS				eS	**Sg**	**07 33 40.4**	**-0.1**
PRYS				AML	AML	07 33 45.7	
	comp=Z,738nm,0.6s						
BFSD	**Buffelsfontein**	**0.70**	**230**	eP	**Pb**	**07 33 38.4**	**-0.3**
BFSD				eS	**Sg**	**07 33 46.9**	**+0.2**
BFSD				AML	AML	07 33 55.6	
	comp=Z,254nm,0.5s						
KSR	**Koster**	**0.71**	**321**	eP	**Pb**	**07 33 38.6**	**-0.2**
KSR				eS	**Sg**	**07 33 46.9**	**0.0**
ERPM	**east rand prop**	**0.77**	**85**	eP	**Pg**	**07 33 38.4**	**-0.3**
ERPM				eS	**Sg**	**07 33 47.8**	**-0.8**
ERPM				AML	AML	07 33 55.3	
	comp=Z,162nm,0.9s						
TLEK	**Tau Lekoa**	**0.85**	**230**	eP	**Pg**	**07 33 40.2**	**+0.1**
TLEK				eS	**Sg**	**07 33 50.4**	**-0.8**
TLEK				AML	AML	07 33 52.4	
	comp=Z,191nm,0.6s						
SEK	**Senekal**	**1.91**	**174**	eP	**Pn**	**07 33 58.5**	**+1.3**
SEK				eS	**Sn**	**07 34 22.4**	**+0.8**
SEK				AML	AML	07 34 24.9	
	comp=Z,229nm,0.3s						
SWZ	**Schweizer**	**1.99**	**247**	eP	**Pn**	**07 33 59.6**	**+1.3**
SWZ				eS	**Sb**	**07 34 25.9**	**+0.1**
SWZ				AML	AML	07 34 26.7	
	comp=Z,232nm,0.2s						
BOSA	**Boshof**	**2.90**	**220**	i P	**Pn**	**07 34 12.0**	**+1.3**
BOSA				i		07 34 12.1	
	baz=35,slow=16						
BOSA				i S	**Sb**	**07 34 51.0**	**-0.8**
KSD	**Kokstad**	**4.48**	**157**	eP	**Pn**	**07 34 33.6**	**+1.1**
KSD				eS	**Sn**	**07 35 24.5**	**-0.5**
KSD				AML	AML	07 35 43.9	
	comp=Z,19nm,0.4s						
UPI	**Upington**	**5.79**	**249**	eP	**Pn**	**07 34 52.0**	**+1.5**
UPI				eS	**Sn**	**07 35 55.5**	**-1.7**
UPI				AML	AML	07 36 34.5	
	comp=Z,18nm,0.4s						
MATP	**Matopo**	**6.05**	**10**	i P	**Pn**	**07 34 55.3**	**+1.3**
MATP				i		07 34 55.5	
	baz=188,slow=16						
MATP				i S	**Sn**	**07 36 03.6**	**0.0**
KOMG	**Komaggas**	**9.38**	**247**	eP	**Pn**	**07 35 41.4**	**+1.8**
KOMG				eS	**Sn**	**07 37 22.3**	**-3.0**
KOMG				AML	AML	07 38 30.3	
	comp=Z,11nm,0.6s						

---

*ISK **02** 07:37:01.6, 39°.10N×29°.06E, h8km, MD2.8*
*ISCJB **02** 07:37:02.2±0.5, 39°.10N±0°.03×29°.07E±0°.04, h2km±7km, Error ellipse: s-maj=5.9km s-min=4.0km az=146.1*
*DDA **02** 07:37:02.3, 39°.10N×29°.08E, h7km, Md2.9*
*CSEM **02** 07:37:02.3±0.1, 39°.10N×29°.06E, h8km, MD2.9, Error ellipse: s-maj=2.0km s-min=1.5km az=111.0*
ISC 02 07:37:02.6±0.9**, 39°.10N**±0°.03×**29°.06E**±0°.02**, h10**km±8km**, n31, σ0s39**/45**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**258**	P	**Pg**	**07 37 08.2**	**0.0**
DEMI				S	**Sg**	**07 37 12.2**	**+0.3**
DEMI	**Demirci**	**0.28**	**258**	i P	**Pg**	**07 37 08.2**	**0.0**
DEMI				i S	**Sg**	**07 37 12.2**	**+0.3**
GDZ	**Gediz**	**0.33**	**92**	P	**Pg**	**07 37 09.1**	**-0.1**
GDZ				S	**Sg**	**07 37 14.0**	**+0.4**
GDZ	**Gediz**	**0.33**	**92**	i P	**Pg**	**07 37 09.1**	**-0.1**
GDZ				i S	**Sg**	**07 37 14.0**	**+0.4**
TVSB	**Tavsanli**	**0.47**	**42**	ePG	**Pg**	**07 37 11.4**	**-0.3**
TVSB				eSG	**Sg**	**07 37 18.2**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**42**	ePg	**Pg**	**07 37 11.5**	**-0.3**
TVSB				eSg	**Sg**	**07 37 18.2**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**208**	ePG	**Pg**	**07 37 14.9**	**-0.6**
KULA				eSG	**Sg**	**07 37 24.1**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**208**	ePg	**Pg**	**07 37 14.9**	**-0.6**
KULA				eSg	**Sg**	**07 37 24.1**	**-0.1**
KHAL	**Karahalli**	**0.80**	**155**	P	**Pb**	**07 37 18.4**	**-0.3**
KHAL				S	**Sg**	**07 37 28.9**	**+0.3**
KHAL	**Karahalli**	**0.80**	**155**	i P	**Pb**	**07 37 18.4**	**-0.3**
KHAL				i S	**Sg**	**07 37 28.9**	**+0.3**
KHL	**Karahalli**	**0.86**	**155**	ePG	**Pg**	**07 37 18.6**	**-0.5**
KHL	**Karahalli**	**0.86**	**155**	ePg	**Pg**	**07 37 18.6**	**-0.5**
ORLT	**Orhaneli**	**0.95**	**352**	ePG	**Pg**	**07 37 20.4**	**-0.5**
ORLT	**Orhaneli**	**0.95**	**352**	ePg	**Pg**	**07 37 20.5**	**-0.5**
AKHS	**Akhisar**	**1.00**	**257**	P	**Pb**	**07 37 22.0**	**0.0**
AKHS	**Akhisar**	**1.00**	**257**	i P	**Pb**	**07 37 22.0**	**0.0**
AKHS				i S	**Sn**	**07 37 37.7**	**+0.9**
IGD	**Bursa**	**1.17**	**5**	i P	**Pg**	**07 37 23.9**	**-1.1**
IGD				i S	**Sn**	**07 37 40.8**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**29**	ePN	**Pn**	**07 37 25.9**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**29**	ePn	**Pn**	**07 37 25.9**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	ePN	**Pn**	**07 37 26.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	ePn	**Pn**	**07 37 26.3**	**-0.1**
IZI	**Iznik**	**1.27**	**14**	ePN	**Pn**	**07 37 26.3**	**-0.2**
IZI	**Iznik**	**1.27**	**14**	ePn	**Pn**	**07 37 26.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.28**	**335**	ePN	**Pn**	**07 37 26.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**335**	ePn	**Pn**	**07 37 26.6**	**0.0**
BORA	**Eskisehir**	**1.33**	**54**	P	**Pn**	**07 37 27.4**	**+0.1**
BORA				S	**Sn**	**07 37 45.8**	**+0.7**
BORA	**Eskisehir**	**1.33**	**54**	i P	**Pn**	**07 37 27.4**	**+0.1**
BORA				i S	**Sn**	**07 37 45.8**	**+0.7**
ARMT	**Armutlu**	**1.47**	**354**	ePN	**Pn**	**07 37 29.3**	**+0.1**
ARMT	**Armutlu**	**1.47**	**354**	ePn	**Pn**	**07 37 29.3**	**+0.1**
GULT	**Gulveren**	**1.74**	**40**	ePN	**Pn**	**07 37 33.0**	**+0.2**
GULT	**Gulveren**	**1.74**	**40**	ePn	**Pn**	**07 37 33.1**	**+0.2**

---

*ISCJB **02** 07:46:50.8±0.5, 39°.12N±0°.03×29°.02E±0°.04, h6km±5km, Error ellipse: s-maj=4.7km s-min=4.2km az=14.9*
*DDA **02** 07:46:50.9, 39°.11N×29°.06E, h7km, Md2.9*
*CSEM **02** 07:46:50.9±0.2, 39°.12N×28°.98E, h10km, MD2.9, Error ellipse: s-maj=4.5km s-min=3.9km az=80.0*
*ISK **02** 07:46:50.3, 39°.14N×28°.88E, h8km, MD2.7*
ISC 02 07:46:51.4±0.9**, 39°.12N**±0°.02×**29°.01E**±0°.02**, h13**km±8km**, n39, σ0s89**/51**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**252**	P	**Pg**	**07 46 57.1**	**+0.5**
DEMI				S	**Sg**	**07 47 00.7**	**+0.6**
DEMI	**Demirci**	**0.24**	**252**	i P	**Pg**	**07 46 57.1**	**+0.5**
DEMI				i S	**Sg**	**07 47 00.7**	**+0.6**
GDZ	**Gediz**	**0.37**	**95**	P	**Pg**	**07 46 58.4**	**-0.5**
GDZ				S	**Sg**	**07 47 03.1**	**-0.7**
GDZ	**Gediz**	**0.37**	**95**	i P	**Pg**	**07 46 58.4**	**-0.5**
GDZ				i S	**Sg**	**07 47 03.1**	**-0.7**
TVSB	**Tavsanli**	**0.48**	**47**	ePG	**Pg**	**07 47 00.7**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**47**	ePg	**Pg**	**07 47 00.7**	**-0.2**
KULA	**Kula-Manisa**	**0.66**	**204**	ePG	**Pg**	**07 47 03.4**	**-0.9**
KULA				eSG	**Sg**	**07 47 12.8**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**204**	ePg	**Pg**	**07 47 03.4**	**-0.9**
KHAL	**Karahalli**	**0.84**	**153**	P	**Pg**	**07 47 07.1**	**-0.5**
KHAL				S	**Sg**	**07 47 17.6**	**-1.0**
KHAL	**Karahalli**	**0.84**	**153**	i P	**Pg**	**07 47 07.1**	**-0.5**
KHAL				i S	**Sg**	**07 47 17.6**	**-1.0**
KHL	**Karahalli**	**0.89**	**153**	ePG	**Pb**	**07 47 09.1**	**+0.3**
KHL	**Karahalli**	**0.89**	**153**	ePg	**Pb**	**07 47 09.1**	**+0.3**
ORLT	**Orhaneli**	**0.93**	**355**	ePG	**Pg**	**07 47 08.2**	**-1.2**
ORLT				eSG	**Sg**	**07 47 21.1**	**-0.5**
ORLT	**Orhaneli**	**0.93**	**355**	ePg	**Pg**	**07 47 08.2**	**-1.2**
BALB	**Balikesir**	**1.02**	**301**	ePG	**Pg**	**07 47 08.6**	**-2.5**
BALB	**Balikesir**	**1.02**	**301**	ePg	**Pg**	**07 47 08.6**	**-2.5**
IGD	**Bursa**	**1.15**	**7**	i P	**Pg**	**07 47 12.4**	**-1.2**
IGD				i S	**Sb**	**07 47 28.7**	**+0.6**
BALY	**Balya**	**1.24**	**300**	P	**Pg**	**07 47 16.0**	**+0.7**
BALY	**Balya**	**1.24**	**300**	i P	**Pg**	**07 47 16.0**	**+0.7**
BALY				i S	**Sn**	**07 47 33.4**	**+2.1**
KCTX	**Karacabey (Bur**	**1.25**	**336**	ePN	**Pn**	**07 47 13.8**	**-0.9**
KCTX	**Karacabey (Bur**	**1.25**	**336**	ePn	**Pn**	**07 47 13.8**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	ePN	**Pn**	**07 47 14.3**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	ePn	**Pn**	**07 47 14.3**	**-0.3**
CAVI	**Cavuskoy**	**1.26**	**30**	ePN	**Pb**	**07 47 15.1**	**+0.1**
CAVI	**Cavuskoy**	**1.26**	**30**	ePn	**Pb**	**07 47 15.1**	**+0.1**
IZI	**Iznik**	**1.27**	**16**	ePN	**Pn**	**07 47 15.0**	**+0.1**
IZI	**Iznik**	**1.27**	**16**	ePn	**Pn**	**07 47 15.0**	**+0.1**
BORA	**Eskisehir**	**1.35**	**55**	P	**Pn**	**07 47 16.3**	**+0.2**
BORA				S	**Sb**	**07 47 34.5**	**+0.6**
BORA	**Eskisehir**	**1.35**	**55**	i P	**Pn**	**07 47 16.3**	**+0.2**
BORA				i S	**Sb**	**07 47 34.5**	**+0.6**
ADVT	**Abdulvahap**	**1.43**	**23**	ePN	**Pn**	**07 47 17.4**	**+0.3**
ADVT	**Abdulvahap**	**1.43**	**23**	ePn	**Pn**	**07 47 17.4**	**+0.3**
ARMT	**Armutlu**	**1.45**	**356**	ePN	**Pn**	**07 47 17.1**	**-0.3**
ARMT	**Armutlu**	**1.45**	**356**	ePn	**Pn**	**07 47 17.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**217**	ePN	**Pn**	**07 47 16.9**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**217**	ePn	**Pn**	**07 47 16.9**	**-0.8**
EDC	**Edincik**	**1.51**	**325**	ePN	**Pn**	**07 47 17.3**	**-0.9**
EDC	**Edincik**	**1.51**	**325**	ePn	**Pn**	**07 47 17.3**	**-0.9**
GULT	**Gulveren**	**1.75**	**41**	ePN	**Pn**	**07 47 22.4**	**+0.8**
GULT	**Gulveren**	**1.75**	**41**	ePn	**Pn**	**07 47 22.4**	**+0.8**

IDC 02 07:48:45.6±3.4**, 31°.58S**×**178°.05W, h0km, mb3.9**/2**, mb1 4.2**/3**, mb1mx3.8**/24**, mbtmp4.0**/3**, ML4.5**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.6**/33**, Error ellipse: s-maj=77.8km s-min=27.6km az=121.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.33**	**3**	Pn	Pn	07 49 24.7	-0.5
	119nm,0.3s,baz=72,slow=24,SNR=3.5						
RAO				Sn	Sb	07 49 57.3	-0.4
	112nm,0.3s,baz=269,slow=23,SNR=3.1						
DZM	**Mont Dzumac**	**16.75**	**301**	LR	LR	07 57 11.5	
	comp=Z,75nm,18.8s,baz=48,slow=30						
ASAR	**Alice Springs**	**43.02**	**268**	P	P	07 56 47.0	-0.1
	0.9nm,0.5s,baz=107,slow=7.3,SNR=18						
WRA	**Warramunga Arr**	**44.11**	**273**	P	P	07 56 55.9	-0.1
	0.9nm,0.5s,baz=113,slow=7.9,SNR=22						
FINES	**FINESS Array B**	**146.24**	**339**	PKPbc	PKPdf	08 08 26.4	+0.2
	0.8nm,0.5s,baz=47,slow=4.4,SNR=9.3						

---

*ISCJB **02** 08:02:26.9±0.6, 39°.11N±0°.03×29°.05E±0°.04, h9km±6km, Error ellipse: s-maj=6.4km s-min=4.9km az=137.2*
*CSEM **02** 08:02:26.9±0.1, 39°.11N×29°.04E, h8km, MD2.6, Error ellipse: s-maj=2.4km s-min=1.8km az=106.0*
*ISK **02** 08:02:26.1, 39°.08N×29°.11E, h10km, MD2.5*
*DDA **02** 08:02:27.1, 39°.08N×29°.05E, h7km, Md2.6*
ISC 02 08:02:27.1±0.9**, 39°.10N**±0°.04×**29°.05E**±0°.03**, h14**km±8km**, n18, σ0s46**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**258**	P	**Pg**	**08 02 32.7**	**0.0**
DEMI				S	**Sg**	**08 02 36.5**	**0.0**
DEMI	**Demirci**	**0.26**	**258**	i P	**Pg**	**08 02 32.7**	**0.0**
DEMI				i S	**Sg**	**08 02 36.5**	**0.0**
GDZ	**Gediz**	**0.34**	**91**	P	**Pg**	**08 02 34.1**	**0.0**
GDZ				S	**Sg**	**08 02 39.2**	**+0.4**
GDZ	**Gediz**	**0.34**	**91**	i P	**Pg**	**08 02 34.1**	**0.0**
GDZ				i S	**Sg**	**08 02 39.2**	**+0.4**
TVSB	**Tavsanli**	**0.48**	**42**	ePG	**Pg**	**08 02 36.1**	**-0.5**
TVSB				eSG	**Sg**	**08 02 42.3**	**-0.7**
TVSB	**Tavsanli**	**0.48**	**42**	ePg	**Pg**	**08 02 36.1**	**-0.5**
TVSB				eSg	**Sg**	**08 02 42.3**	**-0.7**
KULA	**Kula-Manisa**	**0.66**	**207**	ePG	**Pg**	**08 02 39.2**	**-0.7**
KULA				eSG	**Sb**	**08 02 49.0**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**207**	ePg	**Pg**	**08 02 39.2**	**-0.7**
KULA				eSg	**Sb**	**08 02 49.0**	**-0.4**
KHAL	**Karahalli**	**0.81**	**154**	P	**Pb**	**08 02 43.1**	**+0.2**
KHAL				S	**Sb**	**08 02 53.6**	**-0.1**
KHAL	**Karahalli**	**0.81**	**154**	i P	**Pb**	**08 02 43.1**	**+0.2**
KHAL				i S	**Sb**	**08 02 53.6**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	ePN	**Pn**	**08 02 51.0**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	ePn	**Pn**	**08 02 51.0**	**+0.5**
IZI	**Iznik**	**1.28**	**15**	ePN	**Pn**	**08 02 50.9**	**+0.2**
IZI	**Iznik**	**1.28**	**15**	ePn	**Pn**	**08 02 50.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**	ePN	**Pn**	**08 02 51.3**	**+0.7**
KCTX	**Karacabey (Bur**	**1.28**	**336**	ePn	**Pn**	**08 02 51.3**	**+0.7**
ARMT	**Armutlu**	**1.47**	**355**	ePN	**Pn**	**08 02 53.6**	**+0.4**
ARMT	**Armutlu**	**1.47**	**355**	ePn	**Pn**	**08 02 53.6**	**+0.4**

---

*ISCJB **02** 08:05:24.5±0.5, 37°.27N±0°.05×72°.14E±0°.07, h130km, mb3.5/7, Error ellipse: s-maj=8.3km s-min=6.1km az=158.7*
*IDC **02** 08:05:26.3±4.1, 37°.24N×72°.16E, h141km±28km, mb3.4/7, mb1 3.4/13, mb1mx3.2/46, mbtmp3.8/13, Error ellipse: s-maj=44.8km s-min=19.3km az=147.0*
*NNC **02** 08:05:32.8±1.3, 37°.73N×71°.90E, h142km±18km, mb3.0, mpv3.7, Error ellipse: s-maj=13.7km s-min=5.8km az=140.0*
ISC 02 08:05:25.5±0.7**, 37°.30N**±0°.06×**72°.12E**±0°.06**, h130km, n21, σ2s47**/29**, mb3.7**/7**, 5C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.00**	**301**	⇑P	**Pn**	**08 06 15.1**	**+2.9**
	12nm,0.2s						
DZET				⇓S	**Sn**	**08 06 49.0**	**+0.7**
	149nm,0.2s						
MNAS	**Manas**	**5.19**	**3**	⇓P	**Pn**	**08 06 43.8**	**+2.6**
	9.7nm,0.4s						
MNAS				⇓S	**Sn**	**08 07 38.9**	**-1.3**
	68nm,0.7s						
AAK	**Ala-Archa**	**5.63**	**18**	P	**Pn**	**08 06 50.6**	**+3.5**
	3.0nm,0.3s,baz=171,slow=6.1,SNR=16						
AAK				S	**Sn**	**08 07 51.7**	**+0.9**
	2.8nm,0.3s,baz=325,slow=19,SNR=14						
AAK	**Ala-Archa**	**5.63**	**18**	⇓P	**Pn**	**08 06 50.3**	**+3.2**
	3.5nm,0.4s						
AAK				⇑S	**Sn**	**08 07 50.2**	**-0.6**
	38nm,0.9s						
THN	**Thein Dam**	**5.68**	**148**	eP	**Pn**	**08 06 48.8**	**+1.1**
THN				eS	**Sn**	**08 07 50.7**	**-1.2**
KK31	**Karatay Array**	**5.93**	**349**	⇑P	**Pn**	**08 06 53.1**	**+2.2**
	1.2nm,0.2s,baz=166,slow=12,SNR=83						
KK31				⇑S	**Sn**	**08 07 54.8**	**-2.9**
	148nm,0.7s,baz=169,slow=23,SNR=45						
GEYT	**Alibeck**	**11.13**	**277**	P	**Pn**	**08 08 01.0**	**+0.2**
	0.6nm,0.3s,baz=95,slow=13,SNR=4.3						
GEYT				S	**Sn**	**08 09 57.3**	**-6.1**
	1.0nm,0.3s,baz=33,slow=42,SNR=4.3						
MKAR	**Makanchi Array**	**12.12**	**35**	P	**Pn**	**08 08 15.2**	**+1.4**
	0.1nm,0.3s,baz=219,slow=13,SNR=3.2						
MKAR				S	**Sn**	**08 10 20.0**	**-7.3**
	0.1nm,0.3s,baz=28,slow=26,SNR=13						
KURBB	**Kurchatov Arra**	**14.09**	**17**	P	**P**	**08 08 42.5**	**-0.2**
	0.0nm,0.3s,baz=210,slow=11,SNR=8.8						
AB31	**Akbulak array**	**14.86**	**327**	P	**Pn**	**08 08 49.7**	**+0.9**
	1.8nm,0.5s,baz=149,slow=12,SNR=41						
BVAR	**Borovoye Array**	**15.77**	**356**	P	**Pn**	**08 09 00.1**	**-0.1**
	0.2nm,0.3s,baz=156,slow=12,SNR=7.3						
AKTO	**Aktyubinsk**	**16.57**	**327**	P	**P**	**08 09 10.9**	**+0.7**
	0.6nm,0.3s,baz=132,slow=14,SNR=13						
AKTO	**Aktyubinsk**	**16.57**	**327**	⇑P	**P**	**08 09 10.5**	**+0.3**
	5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**18.82**	**24**	P	**P**	**08 09 36.0**	**+1.1**
	0.5nm,0.3s,baz=207,slow=9.3,SNR=3.2						
BRTR	**Keskin Array B**	**30.05**	**287**	P	**P**	**08 11 23.3**	**+0.9**
	0.6nm,0.6s,baz=98,slow=8.5,SNR=3.6						
AKASG	**Malin Array Be**	**33.16**	**308**	P	**P**	**08 11 50.7**	**+1.5**
	0.2nm,0.3s,baz=100,slow=9.5,SNR=3.5						
FINES	**FINESS Array B**	**37.33**	**325**	P	**P**	**08 12 25.0**	**+0.2**
	1.4nm,0.7s,baz=113,slow=9.2,SNR=6.4						
ARCES	**ARCESS Array B**	**40.76**	**337**	P	**P**	**08 12 52.9**	**-0.3**
	1.0nm,0.7s,baz=114,slow=8.1,SNR=4.3						
NOA	**NORSAR Array B**	**44.29**	**322**	P	**P**	**08 13 21.9**	**0.0**
	1.4nm,0.8s,baz=94,slow=7.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**66.63**	**269**	P	**P**	**08 16 01.0**	**-1.3**
	0.5nm,0.5s,baz=47,slow=5.5,SNR=10.0						
YKA	**Yellowknife Ar**	**80.40**	**3**	P	**P**	**08 17 22.0**	**-0.1**
	0.5nm,0.5s,baz=352,slow=5.8,SNR=4.0						

IDC 02 08:06:46.3±3.1**, 54°.57N**×**86°.55E, h0km, mb1 3.0**/2**, mb1mx2.9**/42**, mbtmp3.0**/2**, ML2.7**/2**, Error ellipse: s-maj=25.7km s-min=17.0km az=48.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.19**	**239**	i		08 14 49.9	
	baz=57,slow=304,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.19**	**239**	Pg	Pg	08 07 07.5	-1.6
	1.3nm,0.3s,baz=60,slow=16,SNR=7.0						
ZALV				Lg	Lg	08 07 24.7	
	1.8nm,0.3s,baz=57,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.28**	**234**	Pn	Pn	08 08 21.1	+1.1
	0.1nm,0.3s,baz=52,slow=14,SNR=22						
KURBB				Lg	Lg	08 10 07.2	
	0.0nm,0.3s,baz=48,slow=32,SNR=6.6						
MKAR	**Makanchi Array**	**8.24**	**201**	Pn	Pn	08 08 47.7	+0.7
	0.1nm,0.3s,baz=21,slow=12,SNR=4.4						
MKAR				Lg	Lg	08 11 09.3	
	0.0nm,0.3s,baz=25,slow=32,SNR=7.4						

MEX 02 08:11:35.3±0.6**, 17°.41N**×**101°.65W, h10**km±8km**, MD3.8, 1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.26**	**41**	eP	Pg	08 11 39.9	-0.8
ZIIG				eS	Sg	08 11 44.4	+0.1
ARIG	**Puente Sto Nin**	**1.51**	**55**	eP	Pn	08 11 59.2	-3.3
ARIG				i S	Sn	08 12 16.6	-5.7
EZ5V		**2.77**	**318**	⇓eP	Pn	08 12 17.8	-2.2
R15V		**2.83**	**309**	eP	Pn	08 12 18.3	-2.4
R15V				eS	Sn	08 12 51.0	-3.8

---

*IDC **02** 08:14:10.2±1.8, 41°.49S×90°.47W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.1/26, mbtmp4.1/7, ML3.4/1, MS3.9/8, Ms1 3.9/8, ms1mx3.6/22, Error ellipse: s-maj=49.1km s-min=28.9km az=174.0*
*ISCJB **02** 08:14:11.4±0.9, 41°.3S±0°.1×90°.4W±0°.2, h10km, mb4.3/9, MS3.7/6, Error ellipse: s-maj=20.1km s-min=16.6km az=4.3*
*NEIC **02** 08:14:12.5±0.7, 41°.27S×90°.47W, h10km, mb4.4/2, Error ellipse: s-maj=17.4km s-min=15.4km az=116.0*
ISC 02 08:14:12.6±0.8**, 41°.3S**±0°.1×**90°.4W**±0°.2**, h10km, n18, σ1s09**/14**, mb4.3**/9**, MS3.7**/6**, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**15.02**	**95**	Pn	**Pn**	**08 17 45.8**	**+0.8**
	0.0nm,0.3s,baz=269,slow=11,SNR=4.5						
PLCA				LR	LR	08 22 08.4	
	comp=Z,668nm,20.1s,baz=307,slow=32						
USHA	**Ushuaia**	**19.90**	**140**	LR	LR	08 24 40.8	
	comp=Z,2μm,19.8s,baz=166,slow=32						
LVC	**Limon Verde**	**25.94**	**51**	P	**P**	**08 19 46.3**	**+0.7**
	20nm,0.9s,baz=213,slow=12,SNR=5.8						
LVC				LR	LR	08 27 21.1	
	comp=Z,384nm,21.1s,baz=222,slow=30						
PMSA	**Palmer Station**	**27.99**	**156**	LR	LR	08 28 56.7	
	comp=Z,183nm,18.0s,baz=273,slow=32						
CPUP	**Villa Florida**	**31.06**	**72**	P	**P**	**08 20 29.9**	**-0.9**
	5.0nm,1.1s,baz=235,slow=11,SNR=6.2						
CPUP				LR	LR	08 31 45.7	
	comp=Z,146nm,19.2s,baz=254,slow=34						
LPAZ	**La Paz**	**31.46**	**44**	P	**P**	**08 20 36.1**	**+1.0**
	1.5nm,1.0s,baz=223,slow=8.8,SNR=3.6						
LPAZ				LR	LR	08 30 34.4	
	comp=Z,71nm,18.6s,baz=233,slow=31						
ATAH	**Atahualpa**	**35.63**	**21**	P	**P**	**08 21 12.6**	**+1.4**
	5.8nm,0.8s,baz=247,slow=7.7,SNR=3.0						
SAML	**Samuel**	**40.20**	**44**	eP	**P**	**08 21 47.5**	**-1.8**
	2.2nm,0.8s						
BDFB	**Brasilia**	**44.58**	**68**	LR	LR	08 40 10.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,107nm,20.3s,baz=256,slow=35						
QSPA	**South Pole Qui**	**48.97**	**180**	*e*P	**P**	**08 22 59.9**	**+0.9**
	13nm,1.1s						
SNAA	**Sanae**	**50.71**	**156**	*e*P	**P**	**08 23 12.0**	**0.0**
	144nm,1.1s						
TXAR	**Lajitas Array**	**71.30**	**348**	P	**P**	**08 25 32.2**	**0.0**
	0.5nm,0.8s,baz=165,slow=7.5,SNR=6.3						
NVAR	**Mina Array Bea**	**83.29**	**338**	P	**P**	**08 26 40.1**	**+0.6**
	0.4nm,0.7s,baz=159,slow=7.7,SNR=3.1						
DBIC	**Dimbokro**	**91.03**	**82**	LR	LR	09 02 04.7	
	comp=Z,46nm,21.4s,baz=140,slow=32						
KSRS	**Korea Array**	**150.27**	**275**	PKPbc	**PKPbc**	**08 34 02.9**	**-0.8**
	0.4nm,0.3s,baz=102,slow=3.3,SNR=5.2						
KSAR	**Wonju Array Be**	**150.29**	**275**	PKPbc	**PKPbc**	**08 34 02.9**	**-0.8**
ABKAR	**Akbulak array**	**157.77**	**59**	*e*PKPdf	**PKPdf**	**08 34 07.8**	**-1.0**
BVAR	**Borovoye Array**	**162.49**	**41**	PKP	**PKPdf**	**08 34 12.8**	**-1.1**
	0.7nm,0.7s,baz=316,slow=4.0,SNR=3.6						

IDC 02 08:28:37.2±3.2**, 6°.29S**×**147°.82E, h0km, mb3.4**/2**, mb1 3.5**/4**, mb1mx3.3**/39**, mbtmp3.4**/4**, ML3.3**/1**, Error ellipse: s-maj=77.8km s-min=33.6km az=97.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.16**	**192**	Pn	Pn	08 29 30.2	+1.9
	2.3nm,0.3s,baz=16,slow=15,SNR=3.3						
PMG				Sn	Sn	08 30 08.7	+1.9
	4.6nm,0.3s,baz=344,slow=22,SNR=6.1						
WRA	**Warramunga Arr**	**18.86**	**223**	P	P	08 32 58.8	-0.3
	0.1nm,0.3s,baz=50,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**21.85**	**216**	P	P	08 33 30.2	-1.5
	0.3nm,0.5s,baz=52,slow=8.8,SNR=7.4						
FITZ	**Fitzroy Crossi**	**24.61**	**240**	P	P	08 33 59.0	-0.5
	1.4nm,0.4s,baz=54,slow=11,SNR=7.5						
TORD	**Torodi Ar. Bea**	**145.95**	**284**	PKPbc	PKPbc	08 48 19.9	-0.1
	0.1nm,0.4s,baz=75,slow=1.6,SNR=3.7						

JMA 02 08:33:44.9±0.2**, 37°.90N**×**144°.33E, h5km, M3.8, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.40**	**300**	P	Pn	08 34 25.8	+1.0
OFUJ				S	Sn	08 34 55.9	+1.3
JIO	**Ouri**	**2.41**	**284**	S	Sn	08 34 56.1	+1.2
JMK	**Ichinoseki**	**2.66**	**294**	S	Sn	08 35 03.1	+2.1
JOM	**Ohasama**	**2.85**	**304**	P	Pn	08 34 32.5	+1.5
JOM				*e*S	Sn	08 35 07.5	+1.8
JFT	**Otama**	**3.19**	**264**	S	Sn	08 35 15.2	+1.1
JYK	**Kaneyama**	**3.28**	**289**	P	Pn	08 34 38.9	+1.9
JYK				*e*S	Sn	08 35 19.4	+3.0
JANG	**Nango**	**3.30**	**319**	P	Pn	08 34 38.7	+1.5
JANG				S	Sn	08 35 18.4	+1.6

IDC 02 08:37:22.1±9.0**, 15°.54N**×**119°.64E, h121km**±91km**, mb3.4**/8**, mb1 3.6**/8**, mb1mx3.3**/42**, mbtmp3.8**/8**, MS3.2**/2**, Ms1 3.3**/2**, ms1mx2.6**/39**, Error ellipse: s-maj=34.3km s-min=14.5km az=66.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.90**	**139**	LR	LR	08 38 46.3	
	comp=Z,234nm,19.6s,baz=326,slow=44						
CMAR	**Chiang Mai Arr**	**20.01**	**281**	P	P	08 41 45.8	+0.3
	2.4nm,0.8s,baz=98,slow=7.2,SNR=8.4						
CMAR				LR	LR	08 49 03.0	
	comp=Z,36nm,18.9s,baz=127,slow=35						
KSRS	**Korea Array**	**23.02**	**17**	P	P	08 42 17.2	+0.6
	0.3nm,0.4s,baz=197,slow=10,SNR=5.7						
SONM	**Songino Array**	**34.01**	**344**	P	P	08 43 53.0	-1.4
	0.7nm,0.6s,baz=180,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**38.11**	**157**	P	P	08 44 29.0	-0.5
	3.0nm,0.7s,baz=337,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**41.39**	**160**	P	P	08 44 56.8	+0.2
	1.0nm,0.5s,baz=336,slow=6.6,SNR=24						
MKAR	**Makanchi Array**	**43.95**	**323**	P	P	08 45 16.7	-0.4
	0.6nm,0.7s,baz=129,slow=9.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**46.96**	**332**	P	P	08 45 41.1	+0.5
	1.5nm,0.4s,baz=114,slow=5.0,SNR=4.1						
ZALV				LR	LR	09 06 04.9	
	comp=Z,44nm,18.3s,baz=70,slow=37						
BRTR	**Keskin Array B**	**77.21**	**308**	P	P	08 49 03.4	+0.2
	0.4nm,0.6s,baz=112,slow=3.9,SNR=3.5						

---

*ISCJB **02** 08:38:34.0±0.5, 39°.26N±0°.03×27°.74E±0°.06, h0km, Error ellipse: s-maj=6.5km s-min=3.3km az=161.6*
*CSEM **02** 08:38:33.2±0.4, 39°.27N×27°.64E, h1km, MD2.6, Error ellipse: s-maj=13.6km s-min=6.9km az=76.0, Suspected Mining explosion.*
*ISK **02** 08:38:33.8, 39°.28N×27°.71E, h20km, MD2.6*
*DDA **02** 08:38:34.7, 39°.26N×27°.67E, h7km, Md2.6, Suspected Mining explosion.*
ISC 02 08:38:32.9±0.9**, 39°.27N**±0°.02×**27°.73E**±0°.04**, h0km, n25, σ0s73**/37**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.39**	**17**	*e*PG	**Pb**	**08 38 42.4**	**-0.3**
BALB				*e*SG	**Sb**	**08 38 48.9**	**-0.3**
BALB	**Balikesir**	**0.39**	**17**	*e*Pg	**Pb**	**08 38 42.4**	**-0.3**
BALB				*e*Sg	**Sb**	**08 38 48.9**	**-0.3**
AKHS	**Akhisar**	**0.39**	**171**	P	**Pb**	**08 38 41.6**	**-1.1**
AKHS				S	**Sb**	**08 38 49.8**	**+0.5**
AKHS	**Akhisar**	**0.39**	**171**	*i* P	**Pb**	**08 38 41.6**	**-1.1**
AKHS				*i* S	**Sb**	**08 38 49.9**	**+0.5**
AKS	**Akhisar**	**0.39**	**171**	*e*PG	**Pb**	**08 38 42.6**	**-0.1**
AKS				*e*SG	**Sb**	**08 38 49.2**	**-0.1**
AKS	**Akhisar**	**0.39**	**171**	*e*Pg	**Pb**	**08 38 42.6**	**-0.1**
AKS				*e*Sg	**Sb**	**08 38 49.2**	**-0.1**
BALY	**Balya**	**0.48**	**349**	P	**Pb**	**08 38 43.9**	**-0.4**
BALY				S	**Sb**	**08 38 52.6**	**+0.7**
BALY	**Balya**	**0.48**	**349**	*i* P	**Pb**	**08 38 43.9**	**-0.4**
BALY				*i* S	**Sb**	**08 38 52.6**	**+0.7**
KULA	**Kula-Manisa**	**1.04**	**136**	*e*PG	**Pb**	**08 38 54.1**	**+0.3**
KULA				*e*SG	**Sb**	**08 39 08.8**	**+0.7**
KULA	**Kula-Manisa**	**1.04**	**136**	*e*Pg	**Pb**	**08 38 54.1**	**+0.3**
KULA				*e*Sg	**Sb**	**08 39 08.8**	**+0.7**
KCTX	**Karacabey (Bur**	**1.11**	**26**	*e*PN	**Pb**	**08 38 54.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.11**	**26**	*e*Pn	**Pb**	**08 38 54.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**175**	*e*PN	**Pg**	**08 38 58.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**175**	*e*Pn	**Pg**	**08 38 58.1**	**-0.2**
LPK	**Lapseki**	**1.33**	**326**	*e*PN	**Pg**	**08 38 57.6**	**-0.9**
LPK	**Lapseki**	**1.33**	**326**	*e*Pn	**Pg**	**08 38 57.6**	**-0.9**
MRMT	**Marmara Adasi**	**1.34**	**355**	*e*PN	**Pg**	**08 38 58.0**	**-0.5**
MRMT	**Marmara Adasi**	**1.34**	**355**	*e*Pn	**Pg**	**08 38 58.0**	**-0.5**
TVSB	**Tavsanli**	**1.35**	**82**	*e*PN	**Pg**	**08 38 58.6**	**-0.2**
TVSB	**Tavsanli**	**1.35**	**82**	*e*Pn	**Pg**	**08 38 58.6**	**-0.2**
BOZC	**Bozcaada**	**1.42**	**294**	*i* P	**Pb**	**08 39 01.4**	**+1.1**
BOZC				*i* S	**Sn**	**08 39 20.3**	**+1.0**
SIGR	**SIGRI**	**1.46**	**268**	*e*PN	**Pn**	**08 38 59.6**	**-0.9**
SIGR	**SIGRI**	**1.46**	**268**	*e*Pn	**Pn**	**08 38 59.6**	**-0.9**
SART	**Tekirdag**	**1.48**	**343**	P	**Pb**	**08 39 01.4**	**0.0**
SART	**Tekirdag**	**1.48**	**343**	*i* P	**Pb**	**08 39 01.4**	**0.0**
SART				*i* S	**Sn**	**08 39 23.5**	**+2.5**

GUC 02 08:46:01.4±0.3**, 33°.10S**×**70°.33W, h106km**±3km**, ML2.6, 1C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.30**	**262**⇑	*e*P	Pn	08 46 16.2	-0.6
PEL				*e*S	Sn	08 46 27.6	-0.7
PEL				IAML		08 46 29.0	
	comp=E,470nm,0.5s						
CLCH	**Cerro Calan**	**0.34**	**211**⇓	*e*P	Pn	08 46 16.6	-0.4
CLCH				*e*S	Sn	08 46 28.1	-0.6
CLCH				IAML		08 46 28.5	
	comp=N,186nm,0.4s						
FSR	**Penalolen**	**0.41**	**204**	*e*P	Pn	08 46 16.8	-0.6
FSR				*e*S	Sn	08 46 28.8	-0.6
RCDM	**Rinconada Maip**	**0.56**	**226**	*e*P	Pn	08 46 18.0	-0.3
RCDM				*e*S	Sn	08 46 30.5	-0.4
ROCH	**El Roble**	**0.59**	**282**⇓	*e*P	Pn	08 46 18.8	+0.1
ROCH				*e*S	Sn	08 46 31.8	+0.1
ROCH				IAML		08 46 33.3	
	comp=N,302nm,0.4s						

---

*IDC **02** 08:49:54.9±2.6, 35°.76N×142°.24E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/47, mbtmp3.6/5, ML3.5/2, MS2.9/2, Ms1 3.0/2, ms1mx2.5/41, Error ellipse: s-maj=60.7km s-min=27.4km az=69.0*
*ISCJB **02** 08:49:56.3±1.1, 35°.81N±0°.06×142°.13E±0°.09, h23km, mb3.6/3, MS2.9/1, Error ellipse: s-maj=10.8km s-min=7.8km az=161.2*
*JMA **02** 08:49:56.6±0.2, 35°.86N×142°.14E, h63km±5km, M3.1*
ISC 02 08:49:58.2±1.6**, 35°.85N**±0°.07×**142°.0E**±0°.1**, h23km, n16, σ1s62**/19**, mb3.6**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.94**	**261**	P	**Pn**	**08 50 15.7**	**-0.2**
CHOJ				*e*S	**Sn**	**08 50 29.7**	**+1.1**
JHO	**Hitachi**	**1.38**	**304**	P	**Pn**	**08 50 21.3**	**-0.8**
JHO				*e*S	**Sb**	**08 50 40.5**	**-0.1**
BSO1	**Boso 1**	**1.45**	**215**	P	**Pn**	**08 50 22.1**	**-0.5**
BSO3	**Boso 3**	**1.60**	**230**	P	**Pn**	**08 50 25.1**	**+0.2**
JFT	**Otama**	**2.14**	**322**	S	**Sb**	**08 50 59.6**	**-2.7**
JAG	**Ashikaga**	**2.14**	**286**	P	**Pn**	**08 50 32.3**	**-0.2**
JOD2	**Odawara 2**	**2.44**	**257**	P	**Pn**	**08 50 37.0**	**+0.3**
JOD2				*e*S	**Sn**	**08 51 07.0**	**+1.2**
JRY	**Ryogami san**	**2.52**	**275**	P	**Pn**	**08 50 38.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.14**	**284**	Pn	**Pn**	**08 50 47.5**	**+1.2**
	1.8nm,0.3s,baz=99,slow=9.1,SNR=24						
MAT	**Matsushiro**	**3.14**	**284**	P	**Pn**	**08 50 47.5**	**+1.2**
MAT				*e*S	**Sn**	**08 51 19.9**	**-3.2**
JHJ	**Hachijo jima 2**	**3.28**	**215**	Pn	**Pn**	**08 50 48.1**	**-0.1**
	29nm,0.3s,baz=147,slow=22,SNR=7.6						
JHJ				Sn	**Sn**	**08 51 23.6**	**-2.8**
	20nm,0.3s,baz=246,slow=20,SNR=4.3						
JNU	**Nakatsue**	**9.57**	**257**	LR	LR	08 56 43.6	
	comp=Z,74nm,18.7s,baz=119,slow=42						
CMAR	**Chiang Mai Arr**	**41.67**	**257**	LR	LR	09 15 29.2	
	comp=Z,14nm,18.8s,baz=170,slow=37						
MKAR	**Makanchi Array**	**45.15**	**303**	P	**P**	**08 58 16.0**	**+3.0**
	0.6nm,0.4s,baz=95,slow=7.7,SNR=6.5						
KURBB	**Kurchatov Arra**	**47.11**	**309**	P	**P**	**08 58 28.9**	**+0.7**
	0.4nm,0.7s,baz=84,slow=7.6,SNR=4.9						
WRA	**Warramunga Arr**	**55.96**	**189**	P	**P**	**08 59 34.3**	**-0.4**
	0.5nm,0.7s,baz=12,slow=7.3,SNR=4.2						

IDC 02 09:00:01.3±6.9**, 6°.08S**×**151°.59E, h72km**±56km**, mb3.4**/3**, mb1 3.7**/4**, mb1mx3.3**/33**, mbtmp3.7**/4**, ML1.6**/1**, Error ellipse: s-maj=111.6km s-min=35.1km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**233**	P	Pn	09 01 21.2	+0.6
	1.3nm,0.3s,baz=230,slow=9.0,SNR=3.7						
PMG				S	Sn	09 02 23.1	+0.6
	6.9nm,0.3s,baz=6.3,slow=19,SNR=8.2						
WRA	**Warramunga Arr**	**21.70**	**229**	P	P	09 04 45.8	-0.7
	1.2nm,0.8s,baz=55,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**24.40**	**222**	P	P	09 05 13.5	+0.4
	2.2nm,0.8s,baz=56,slow=8.9,SNR=26						
ILAR	**Eielson Array**	**83.79**	**22**	P	P	09 12 22.3	-0.1
	0.6nm,0.8s,baz=246,slow=3.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.52**	**286**	PKPbc	PKPbc	09 19 43.2	-0.4
	0.3nm,0.7s,baz=84,slow=3.2,SNR=2.9						

---

*ISCJB **02** 09:07:51.6±0.4, 35°.59N±0°.03×26°.43E±0°.03, h65km±7km, Error ellipse: s-maj=4.5km s-min=3.3km az=156.7*
*CSEM **02** 09:07:52.7±0.1, 35°.63N×26°.42E, h30km, MD3.4, Error ellipse: s-maj=3.8km s-min=2.8km az=156.0*
*ATH **02** 09:07:52.2, 35°.67N×26°.43E, h44km±3km, ML3.3/6, Error ellipse: s-maj=4.3km s-min=1.2km az=143.0*
*THE **02** 09:07:53.7, 35°.66N×26°.43E, h38km±6km, ML3.4/7, Error ellipse: s-maj=6.6km s-min=0.8km az=159.0*
*ISK **02** 09:07:54.2, 35°.78N×26°.55E, h32km, MD3.4*
*HLW **02** 09:07:55.2, 35°.47N×26°.69E, h33km±33km, Md3.0, Ml2.9*
*DDA **02** 09:08:16.4, 35°.90N×26°.77E, h26km, Md3.4*
ISC 02 09:07:52.9±1.1**, 35°.61N**±0°.03×**26°.44E**±0°.02**, h51km**±10km**, n107, σ1s50**/153**, 1C, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.53**	**200**	P	**Pn**	**09 08 05.1**	**+0.5**
ZKR				S	**Sn**	**09 08 13.6**	**+0.6**
ZKR	**Zakros**	**0.53**	**200**	P	**Pn**	**09 08 05.1**	**+0.5**
ZKR				S	**Sn**	**09 08 12.7**	**-0.3**
ZKR	**Zakros**	**0.53**	**200**	P	**Pn**	**09 08 05.9**	**+1.2**
ZKR				S	**Sn**	**09 08 12.7**	**-0.3**
ZKR				AML	AML	09 08 14.5	
	comp=N,8167µm,0.2s						
ZKR				AML	AML	09 08 14.6	
	comp=E,10696µm,0.5s						
KARP	**Karpathos**	**0.59**	**96**	*e*PG	**Pn**	**09 08 05.5**	**+0.1**
KARP				*e*SG	**Sn**	**09 08 14.5**	**+0.2**
KARP	**Karpathos**	**0.59**	**96**	P	**Pn**	**09 08 05.3**	**-0.1**
KARP				S	**Sn**	**09 08 14.1**	**-0.3**
KARP	**Karpathos**	**0.59**	**96**	P	**Pn**	**09 08 05.5**	**+0.1**
KARP				S	**Sn**	**09 08 14.1**	**-0.3**
KARP	**Karpathos**	**0.59**	**96**	P	**Pn**	**09 08 05.5**	**+0.1**
KARP				S	**Sn**	**09 08 12.0**	**-2.4**
KARP				AML	AML	09 08 14.7	
	comp=N,5672µm,0.1s						
KARP				AML	AML	09 08 15.1	
	comp=E,9772µm,0.2s						
NPS	**Neapolis**	**0.76**	**243**	P	**Pn**	**09 08 07.8**	**+0.2**
NPS				S	**Sn**	**09 08 17.8**	**-0.4**
NPS	**Neapolis**	**0.76**	**243**	P	**Pn**	**09 08 07.7**	**+0.2**
NPS				S	**Sn**	**09 08 17.8**	**-0.4**
NPS	**Neapolis**	**0.76**	**243**	P	**Pn**	**09 08 07.7**	**+0.1**
NPS				S	**Sn**	**09 08 16.1**	**-2.1**
NPS				AML	AML	09 08 18.2	
	comp=N,7236µm,0.3s						
NPS				AML	AML	09 08 18.9	
	comp=E,6435µm,0.3s						
LAST	**Lasithi**	**0.91**	**241**	P	**Pn**	**09 08 09.8**	**+0.2**
LAST				S	**Sn**	**09 08 21.7**	**0.0**
LAST	**Lasithi**	**0.91**	**241**	P	**Pn**	**09 08 09.7**	**+0.2**
LAST				S	**Sn**	**09 08 21.7**	**0.0**
LAST	**Lasithi**	**0.91**	**241**	P	**Pn**	**09 08 09.7**	**+0.2**
SANT	**Santorini**	**1.10**	**314**	P	**Pn**	**09 08 12.0**	**-0.1**
SANT				S	**Sn**	**09 08 25.3**	**-0.9**
SANT	**Santorini**	**1.10**	**314**	P	**Pn**	**09 08 12.0**	**-0.1**
SANT				S	**Sn**	**09 08 25.3**	**-0.9**
SANT	**Santorini**	**1.10**	**314**	P	**Pn**	**09 08 12.4**	**+0.3**
THR1	**Thera Island**	**1.10**	**314**	*e*PG	**Pn**	**09 08 13.1**	**+1.1**
THR1				*e*SG	**Sn**	**09 08 27.0**	**+0.8**
THR1	**Thera Island**	**1.10**	**314**	*e*Pg	**Pn**	**09 08 13.1**	**+1.1**
THR1				*e*Sg	**Sn**	**09 08 27.0**	**+0.8**
THR6	**Thira Island,**	**1.13**	**312**	P	**Pn**	**09 08 12.3**	**-0.1**
THR6	**Thira Island,**	**1.13**	**312**	P	**Pn**	**09 08 12.3**	**-0.1**
NISR	**Nisiros**	**1.14**	**29**	P	**Pn**	**09 08 12.2**	**-0.4**
NISR				S	**Sn**	**09 08 24.5**	**-2.7**
NISR	**Nisiros**	**1.14**	**29**	P	**Pn**	**09 08 12.2**	**-0.4**
NISR				S	**Sn**	**09 08 24.5**	**-2.7**
NIS1	**Nisyros Isl.**	**1.16**	**31**	*e*PG	**Pn**	**09 08 11.7**	**-1.1**
NIS1				*e*SG	**Sn**	**09 08 24.4**	**-3.1**
NIS1	**Nisyros Isl.**	**1.16**	**31**	*e*Pg	**Pn**	**09 08 11.7**	**-1.1**
THR3	**Thira Island,**	**1.16**	**314**	P	**Pn**	**09 08 12.8**	**0.0**
THR3	**Thira Island,**	**1.16**	**314**	P	**Pn**	**09 08 12.8**	**0.0**
THR5	**Thira Island,**	**1.20**	**313**	*e*PN	**Pn**	**09 08 14.5**	**+1.2**
THR5	**Thira Island,**	**1.20**	**313**	P	**Pn**	**09 08 13.3**	**0.0**
THR5	**Thira Island,**	**1.20**	**313**	P	**Pn**	**09 08 13.3**	**0.0**
THR5	**Thira Island,**	**1.20**	**313**	*e*Pn	**Pn**	**09 08 14.5**	**+1.2**
IDI	**Anoyia**	**1.31**	**256**	P	**Pn**	**09 08 14.6**	**-0.3**
IDI	**Anoyia**	**1.31**	**256**	P	**Pn**	**09 08 14.6**	**-0.3**
IDI	**Anoyia**	**1.31**	**256**	P	**Pn**	**09 08 14.6**	**-0.3**
SIVA	**Sivas**	**1.46**	**247**	P	**Pn**	**09 08 17.8**	**+0.9**
SIVA	**Sivas**	**1.46**	**247**	P	**Pn**	**09 08 17.8**	**+0.9**
SIVA				S	**Sn**	**09 08 35.6**	**+0.7**
SIVA	**Sivas**	**1.46**	**247**	P	**Pn**	**09 08 18.7**	**+1.8**
SIVA				S	**Sn**	**09 08 35.6**	**+0.7**
SIVA				AML	AML	09 08 44.4	
	comp=N,1127µm,0.5s						
SIVA				AML	AML	09 08 49.4	
	comp=E,1238µm,0.4s						
ARG	**Arkhangelos**	**1.50**	**66**	P	**Pn**	**09 08 17.7**	**+0.3**
ARG				S	**Sn**	**09 08 35.4**	**-0.4**
ARG	**Arkhangelos**	**1.50**	**66**	P	**Pn**	**09 08 17.7**	**+0.3**
ARG				S	**Sn**	**09 08 35.4**	**-0.4**
BODT	**Bodrum**	**1.61**	**26**	*e*PN	**Pn**	**09 08 18.2**	**-0.8**
BODT	**Bodrum**	**1.61**	**26**	*e*Pn	**Pn**	**09 08 18.2**	**-0.8**
APE	**Apeiranthos**	**1.63**	**333**	*e*PN	**Pn**	**09 08 18.9**	**-0.4**
APE	**Apeiranthos**	**1.63**	**333**	P	**Pn**	**09 08 19.1**	**-0.2**
APE				S	**Sn**	**09 08 38.0**	**-1.1**
APE	**Apeiranthos**	**1.63**	**333**	P	**Pn**	**09 08 19.1**	**-0.2**
APE				S	**Sn**	**09 08 38.0**	**-1.1**
APE	**Apeiranthos**	**1.63**	**333**	P	**Pn**	**09 08 19.1**	**-0.2**
APE				S	**Sn**	**09 08 36.7**	**-2.4**
APE				AML	AML	09 08 38.5	
	comp=E,2151µm,0.2s						
APE				AML	AML	09 08 39.0	
	comp=N,1940µm,0.2s						
BDRM	**Kayabasi**	**1.66**	**29**	P	**Pn**	**09 08 18.5**	**-1.2**
BDRM				S	**Sn**	**09 08 37.9**	**-2.0**
BDRM	**Kayabasi**	**1.66**	**29**	*i* P	**Pn**	**09 08 18.5**	**-1.2**
BDRM				*i* S	**Sn**	**09 08 37.9**	**-2.0**
IMMV	**Iera Moni Meta**	**2.01**	**266**	P	**Pn**	**09 08 24.1**	**-0.3**
IMMV	**Iera Moni Meta**	**2.01**	**266**	P	**Pn**	**09 08 24.1**	**-0.3**
IMMV	**Iera Moni Meta**	**2.01**	**266**	P	**Pn**	**09 08 23.9**	**-0.6**
SMG	**Samos**	**2.12**	**9**	P	**Pn**	**09 08 25.2**	**-0.7**
SMG				S	**Sn**	**09 08 47.7**	**-3.3**
SMG	**Samos**	**2.12**	**9**	P	**Pn**	**09 08 25.2**	**-0.7**
SMG				S	**Sn**	**09 08 47.7**	**-3.3**
SMG				AML	AML	09 08 53.9	
	comp=N,324µm,0.2s						
SMG				AML	AML	09 08 54.1	
	comp=E,286µm,0.2s						
YER	**Yerkesik**	**2.13**	**44**	*e*PN	**Pn**	**09 08 25.9**	**-0.1**
YER	**Yerkesik**	**2.13**	**44**	*e*Pn	**Pn**	**09 08 25.9**	**-0.1**
TURN	**Turunc**	**2.15**	**54**	*i* P	**Pn**	**09 08 22.6**	**-3.7**
TURN				*i* S	**Sn**	**09 08 43.6**	**-8.3**
DALY	**Dalyan (Mu˜la**	**2.16**	**55**	*e*PN	**Pn**	**09 08 26.6**	**+0.2**
DALY	**Dalyan (Mu˜la**	**2.16**	**55**	*e*Pn	**Pn**	**09 08 26.6**	**+0.2**
AYDN	**Tasoluk**	**2.35**	**29**	P	**Pn**	**09 08 30.1**	**+1.0**
AYDN				S	**Sn**	**09 09 00.6**	**+3.8**
AYDN	**Tasoluk**	**2.35**	**29**	*i* P	**Pn**	**09 08 30.1**	**+1.0**
AYDN				*i* S	**Sn**	**09 09 00.6**	**+3.8**
FETY	**Fethiye**	**2.37**	**64**	*e*PN	**Pn**	**09 08 29.8**	**+0.4**
FETY	**Fethiye**	**2.37**	**64**	*e*Pn	**Pn**	**09 08 29.8**	**+0.4**
ANKY	**Antikythira Is**	**2.57**	**277**	P	**Pn**	**09 08 30.7**	**-1.3**
ANKY	**Antikythira Is**	**2.57**	**277**	P	**Pn**	**09 08 30.7**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**2.60**	**26**	*e*PN	**Pn**	**09 08 32.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**2.60**	**26**	*e*Pn	**Pn**	**09 08 32.6**	**-0.1**
AKAS	**Kas**	**2.64**	**76**	P	**Pn**	**09 08 33.5**	**+0.3**
AKAS				S	**Sn**	**09 09 04.7**	**+0.6**
AKAS	**Kas**	**2.64**	**76**	*i* P	**Pn**	**09 08 33.5**	**+0.3**
AKAS				*i* S	**Sn**	**09 09 04.7**	**+0.6**
CHOS	**Chios island**	**2.79**	**354**	*e*PN	**Pn**	**09 08 35.8**	**+0.6**
CHOS	**Chios island**	**2.79**	**354**	P	**Pn**	**09 08 34.0**	**-1.1**
CHOS	**Chios island**	**2.79**	**354**	P	**Pn**	**09 08 34.0**	**-1.1**
CHOS	**Chios island**	**2.79**	**354**	*e*Pn	**Pn**	**09 08 35.8**	**+0.6**
IZM	**Izmir**	**2.86**	**13**	*e*PN	**Pn**	**09 08 36.2**	**+0.2**
IZM	**Izmir**	**2.86**	**13**	*e*Pn	**Pn**	**09 08 36.3**	**+0.2**
GLHS	**Glhisar (BURDU**	**2.91**	**57**	*e*PN	**Pn**	**09 08 37.1**	**+0.3**
GLHS	**Glhisar (BURDU**	**2.91**	**57**	*e*Pn	**Pn**	**09 08 37.2**	**+0.3**
DNZL	**Cakiroluk**	**2.95**	**45**	P	**Pn**	**09 08 39.2**	**+1.7**
DNZL				S	**Sn**	**09 09 13.8**	**+2.1**
DNZL	**Cakiroluk**	**2.95**	**45**	*i* P	**Pn**	**09 08 39.2**	**+1.7**
DNZL				*i* S	**Sn**	**09 09 13.8**	**+2.1**
GOLH	**Golhisar**	**2.99**	**56**	P	**Pn**	**09 08 40.1**	**+2.1**
GOLH				S	**Sn**	**09 09 12.9**	**+0.2**
GOLH	**Golhisar**	**2.99**	**56**	*i* P	**Pn**	**09 08 40.1**	**+2.1**
GOLH				*i* S	**Sn**	**09 09 12.9**	**+0.2**
ELL	**Elmali**	**3.02**	**67**	*e*PN	**Pn**	**09 08 39.1**	**+0.7**
ELL	**Elmali**	**3.02**	**67**	*e*Pn	**Pn**	**09 08 39.1**	**+0.7**
VLI	**Veliai**	**3.04**	**292**	P	**Pn**	**09 08 38.5**	**-0.1**
VLI				S	**Sn**	**09 09 12.7**	**-1.1**
VLI	**Veliai**	**3.04**	**292**	P	**Pn**	**09 08 38.5**	**-0.1**
VLI				S	**Sn**	**09 09 12.7**	**-1.1**
VLI	**Veliai**	**3.04**	**292**	P	**Pn**	**09 08 39.0**	**+0.5**
DID	**Didima**	**3.20**	**307**	P	**Pn**	**09 08 41.1**	**+0.4**
DID	**Didima**	**3.20**	**307**	P	**Pn**	**09 08 41.1**	**+0.4**
KULA	**Kula-Manisa**	**3.40**	**31**	*e*PN	**Pn**	**09 08 43.9**	**+0.4**
KULA	**Kula-Manisa**	**3.40**	**31**	*e*Pn	**Pn**	**09 08 43.9**	**+0.4**
KORT	**Korkueli**	**3.45**	**65**	P	**Pn**	**09 08 45.5**	**+1.3**
KORT				S	**Sn**	**09 09 24.9**	**+1.0**
KORT	**Korkueli**	**3.45**	**65**	*i* P	**Pn**	**09 08 45.5**	**+1.3**
KORT				*i* S	**Sn**	**09 09 24.9**	**+1.0**
SIGR	**SIGRI**	**3.62**	**353**	P	**Pn**	**09 08 46.0**	**-0.5**
SIGR	**SIGRI**	**3.62**	**353**	P	**Pn**	**09 08 46.0**	**-0.5**
ANTB	**Antalya**	**3.64**	**68**	*e*PN	**Pn**	**09 08 48.1**	**+1.4**
ANTB	**Antalya**	**3.64**	**68**	*e*Pn	**Pn**	**09 08 48.1**	**+1.4**
KHL	**Karahalli**	**3.66**	**41**	*e*PN	**Pn**	**09 08 47.9**	**+0.7**
KHL	**Karahalli**	**3.66**	**41**	*e*Pn	**Pn**	**09 08 47.9**	**+0.7**
SUTC	**Sutluce-Ispart**	**4.12**	**62**	*e*PN	**Pn**	**09 08 54.5**	**+1.1**
SUTC	**Sutluce-Ispart**	**4.12**	**62**	*e*Pn	**Pn**	**09 08 54.5**	**+1.1**
SLUM	**Salum**	**4.24**	**194**	P	**Pn**	**09 08 55.4**	**+0.5**
	baz=198						
SLUM				AMP		09 09 00.0	
	comp=N,20µm,0.3s,logA/T=4.8,baz=198						
SLUM				S	**Sn**	**09 09 40.6**	**-2.5**
	baz=198						
SLUM	**Salum**	**4.24**	**194**	P	**Pn**	**09 08 55.4**	**+0.5**
SLUM				S	**Sn**	**09 09 40.6**	**-2.5**
SWA2		**6.41**	**188**	P	**Pn**	**09 09 24.1**	**-0.6**
	baz=190						
SWA2				AMP		09 10 00.0	
	comp=E,20µm,0.4s,logA/T=4.7,baz=190						
SWA2				S	**Sn**	**09 10 31.2**	**-5.2**
	baz=190						
SWA2		**6.41**	**188**	P	**Pn**	**09 09 24.1**	**-0.6**
GLL	**Jalalah**	**7.48**	**142**	P	**Pn**	**09 09 37.5**	**-1.9**
	baz=142						
SUZ	**Suez**	**7.88**	**135**	P	**Pn**	**09 09 43.5**	**-1.3**
	baz=135						
SUZ	**Suez**	**7.88**	**135**	P	**Pn**	**09 09 43.6**	**-1.3**
HFRF	**Wahat Farafira**	**8.59**	**169**	P	**Pn**	**09 09 53.3**	**-1.3**
	baz=170						
HFRF	**Wahat Farafira**	**8.59**	**169**	P	**Pn**	**09 09 53.3**	**-1.3**
HARR	**Harsova**	**9.14**	**7**⇑	*i*P	**Pn**	**09 10 06.6**	**+4.5**

---

*ARO **02** 09:13:51.1, 16°N±13°×4°2E±5°0, h15km±99km, ML3.5*
*CSEM **02** 09:13:58.8, 14°.91N×42°.05E, h2km, ML3.7*
*DHMR **02** 09:13:58.8±1.4, 14°.91N×42°.05E, h2km±19km, ML3.7*
ISC 02 09:14:02.0±2.1**, 14°.83N**±0°.06×**42°.16E**±0°.09**, h10km, n12, σ1s29**/20**, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAJJ	**Hajjah**	**1.64**	**58**	*i* P	**Pn**	**09 14 30.4**	**-0.7**
HAJJ				*i* S	**Sb**	**09 14 53.6**	**+0.5**
HAJJ				AML	AML	09 15 07.2	
	comp=Z,702nm,0.6s						
HAJJ	**Hajjah**	**1.64**	**58**	*i* P	**Pn**	**09 14 30.4**	**-0.7**
HAJJ				*i* S	**Sb**	**09 14 53.7**	**+0.5**
	comp=Z,351nm,0.6s						
DHBB	**Dhamar BB**	**2.17**	**97**	*i* P	**Pn**	**09 14 39.5**	**+0.9**
DHBB				*i* S	**Sg**	**09 15 11.5**	**-0.5**
DHBB	**Dhamar BB**	**2.17**	**97**	*i* P	**Pn**	**09 14 39.5**	**+0.9**
DHBB				*i* S	**Sg**	**09 15 11.5**	**-0.5**
TRBA	**At Turbah**	**2.48**	**130**	*i* P	**Pn**	**09 14 43.6**	**+0.9**
TRBA				*i* S	**Sg**	**09 15 20.4**	**-1.3**
TRBA				AML	AML	09 15 33.7	
	comp=E,403nm,0.5s						
MAOD	**Malaho**	**2.72**	**179**	*e*P	**Pn**	**09 14 46.1**	**+0.2**
OBO	**Obock**	**3.04**	**159**	*e*P	**Pn**	**09 14 51.3**	**+1.1**
TDD	**Tadjoura Ara**	**3.10**	**166**	*e*P	**Pn**	**09 14 51.9**	**+0.8**
ATD	**Arta Tunnel**	**3.35**	**168**	*e*P	**Pn**	**09 14 55.8**	**+1.3**
ATD				*e*S	**Sg**	**09 15 48.0**	**-1.7**
SGH	**Sud-Ghoubbet**	**3.41**	**172**	*e*P	**Pn**	**09 14 56.5**	**+1.1**
BDHA	**Al Bayda’**	**3.41**	**104**	*i* P	**Pn**	**09 14 58.0**	**+2.5**
BDHA				*i* S	**Sb**	**09 15 43.3**	**-1.1**
BDHA				AML	AML	09 15 57.1	
	comp=N,586nm,0.5s						
BDHA	**Al Bayda’**	**3.41**	**104**	*i* P	**Pn**	**09 14 58.0**	**+2.5**
BDHA				*i* S	**Sb**	**09 15 43.3**	**-1.1**
	comp=N,293nm,0.5s						

---

*ISK **02** 09:19:38.7, 37°.12N×28°.12E, h13km, MD2.7*
*ISCJB **02** 09:19:39.0±0.5, 37°.15N±0°.03×28°.11E±0°.03, h0km, Error ellipse: s-maj=5.2km s-min=3.2km az=27.5*
*DDA **02** 09:19:39.6, 37°.20N×28°.06E, h7km, Md2.7, Suspected Mining explosion.*
*CSEM **02** 09:19:39.1±0.3, 37°.19N×28°.15E, h1km, MD2.7, Error ellipse: s-maj=7.7km s-min=4.8km az=28.0, Suspected Mining explosion.*
ISC 02 09:19:38.8±0.9**, 37°.25N**±0°.05×**28°.14E**±0°.03**, h0km, n19, σ0s56**/31**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.16**	**135**	*e*PG	**Pg**	**09 19 42.4**	**+0.5**
YER				*e*SG	**Sg**	**09 19 44.9**	**+0.9**
YER	**Yerkesik**	**0.16**	**135**	*e*Pg	**Pg**	**09 19 42.4**	**+0.5**
YER				*e*Sg	**Sg**	**09 19 44.9**	**+0.9**
AYDN	**Tasoluk**	**0.46**	**333**	P	**Pb**	**09 19 49.6**	**-0.2**
AYDN				S	**Sb**	**09 19 56.7**	**-0.5**
AYDN	**Tasoluk**	**0.46**	**333**	*i* P	**Pb**	**09 19 49.6**	**-0.2**
AYDN				*i* S	**Sb**	**09 19 56.7**	**-0.5**
TURN	**Turunc**	**0.53**	**135**	*i* P	**Pg**	**09 19 48.0**	**-1.0**
TURN				*i* S	**Sg**	**09 19 56.1**	**+0.3**
BDRM	**Kayabasi**	**0.58**	**252**	P	**Pg**	**09 19 50.4**	**+0.4**
BDRM				S	**Sg**	**09 19 56.7**	**-0.8**
BDRM	**Kayabasi**	**0.58**	**252**	*i* P	**Pg**	**09 19 50.4**	**+0.4**
BDRM				*i* S	**Sg**	**09 19 56.7**	**-0.8**
DALY	**Dalyan (Mu˜la**	**0.60**	**136**	*e*PG	**Pg**	**09 19 49.7**	**-0.5**
DALY				*e*SG	**Sg**	**09 19 57.6**	**-0.4**
DALY	**Dalyan (Mu˜la**	**0.60**	**136**	*e*Pg	**Pg**	**09 19 49.7**	**-0.5**
DALY				*e*Sg	**Sg**	**09 19 57.6**	**-0.4**
BODT	**Bodrum**	**0.69**	**254**	*e*PG	**Pg**	**09 19 51.8**	**-0.2**
BODT				*e*SG	**Sg**	**09 20 01.2**	**+0.4**
BODT	**Bodrum**	**0.69**	**254**	*e*Pg	**Pg**	**09 19 51.8**	**-0.2**
BODT				*e*Sg	**Sg**	**09 20 01.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**344**	*e*PG	**Pb**	**09 19 55.1**	**+0.8**
AYDB				*e*SG	**Sn**	**09 20 08.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**344**	*e*Pg	**Pb**	**09 19 55.1**	**+0.8**
FETY	**Fethiye**	**0.98**	**129**	*e*PG	**Pg**	**09 19 56.9**	**-0.6**
FETY	**Fethiye**	**0.98**	**129**	*e*Pg	**Pg**	**09 19 56.9**	**-0.6**
GLHS	**Glhisar (BURDU**	**1.09**	**95**	*e*PN	**Pg**	**09 19 59.4**	**-0.3**
GLHS	**Glhisar (BURDU**	**1.09**	**95**	*e*Pn	**Pg**	**09 19 59.4**	**-0.3**
KULA	**Kula-Manisa**	**1.33**	**18**	*e*PN	**Pn**	**09 20 04.9**	**+0.2**
KULA	**Kula-Manisa**	**1.33**	**18**	*e*Pn	**Pn**	**09 20 04.9**	**+0.2**

*ISCJB **02** 09:22:03.2±0.9, 17°.4S±0°.2×175°.1W±0°.2, h250km, mb4.0/4, Error ellipse: s-maj=38.0km s-min=9.7km az=138.3*
*IDC **02** 09:22:05.3±2.2, 17°.27S×174°.73W, h291km±54km, mb3.7/4, mb1 3.7/6, mb1mx3.2/43, mbtmp4.2/6, Error ellipse: s-maj=51.9km s-min=37.9km az=75.0*
ISC 02 09:22:04.0±1.1**, 17°.4S**±0°.3×**175°.0W**±0°.2**, h250**km**, n6, σ1s.35**/7**, mb4.0**/4**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.66**	**42**	P	**Pn**	**09 23 17.2**	**+1.4**
	5.5nm,0.3s,baz=210,slow=2.9,SNR=18						
AFI				S	**S**	**09 24 11.4**	**-1.5**
	27nm,0.3s,baz=111,slow=19,SNR=13						
DZM	**Mont Dzumac**	**18.08**	**252**	P	**P**	**09 25 59.1**	**+1.3**
	0.2nm,0.3s,baz=68,slow=18,SNR=3.3						
URZ	**Urewera**	**21.89**	**197**	P	**P**	**09 26 36.8**	**-0.2**
	9.8nm,1.0s,baz=79,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**41.73**	**241**	P	**P**	**09 29 28.6**	**-0.4**
	1.2nm,0.4s,baz=75,slow=9.7,SNR=8.3						
WRA	**Warramunga Arr**	**47.93**	**259**	P	**P**	**09 30 17.1**	**-0.9**
	1.4nm,0.4s,baz=98,slow=6.8,SNR=58						
ASAR	**Alice Springs**	**48.07**	**254**	P	**P**	**09 30 18.4**	**-0.6**
	10.0nm,0.6s,baz=89,slow=8.4,SNR=180						

*NIED **02** 09:25:00, 35°.90N×142°.10E, h5km, Mw4.3 Best double couple: M₀2.70000×10¹⁵ NP1:φs357.00000°, δ18.00000°, λ144.00000°. NP2:φs122.00000°, δ80.00000°, λ75.00000°.*
*IDC **02** 09:25:24.2±0.7, 35°.71N×142°.20E, h0km, mb3.9/12, mb1 4.1/17, mb1mx3.9/54, mbtmp3.9/17, ML3.2/4, MS3.3/6, Ms1 3.3/6, ms1mx3.0/35, Error ellipse: s-maj=18.5km s-min=15.9km az=128.0*
*ISCJB **02** 09:25:25.8±0.5, 35°.80N±0°.03×142°.09E±0°.04, h23km, mb3.9/14, MS3.5/3, Error ellipse: s-maj=5.3km s-min=3.8km az=27.4*
*JMA **02** 09:25:26.5±0.2, 35°.85N×142°.11E, h57km±4km, M3.7*
*NEIC **02** 09:25:29.4±0.6, 35°.81N×142°.12E, h35km, mb4.2/2, Error ellipse: s-maj=13.3km s-min=9.7km az=140.0*
ISC 02 09:25:27.8±0.6**, 35°.83N**±0°.05×**142°.06E**±0°.05**, h23**km**, n50, σ1s.72**/57**, mb3.8**/14**, MS3.6**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.99**	**263**	P	**Pb**	**09 25 45.0**	**-1.2**
CHOJ				*e*S	**Sb**	**09 25 58.7**	**-0.1**
JHO	**Hitachi**	**1.44**	**303**	P	**Pn**	**09 25 50.7**	**-1.8**
JHO				*e*S	**Sn**	**09 26 09.1**	**-1.6**
BSO1	**Boso 1**	**1.47**	**218**	P	**Pn**	**09 25 51.5**	**-0.9**
BSO3	**Boso 3**	**1.63**	**232**	P	**Pn**	**09 25 54.5**	**-0.4**
BSO3				*e*S	**Sn**	**09 26 13.3**	**-1.7**
JFK	**Kawauchi**	**1.81**	**328**	P	**Pn**	**09 25 55.9**	**-1.7**
JFK				S	**Sn**	**09 26 18.2**	**-1.7**
JFT	**Otama**	**2.19**	**321**	P	**Pn**	**09 26 02.4**	**-0.4**
JFT				S	**Sn**	**09 26 29.3**	**+0.2**
JAG	**Ashikaga**	**2.20**	**287**	P	**Pn**	**09 26 01.6**	**-1.3**
JMM	**Marumori**	**2.28**	**334**	P	**Pn**	**09 26 02.2**	**-1.8**
JIM2	**Oshima 3**	**2.42**	**244**	P	**Pn**	**09 26 04.8**	**-1.2**
JIM2				*e*S	**Sn**	**09 26 33.8**	**-1.1**
JOD2	**Odawara 2**	**2.49**	**258**	P	**Pn**	**09 26 06.2**	**-0.8**
JOD2				*e*S	**Sn**	**09 26 35.6**	**-1.0**
JRY	**Ryogami san**	**2.57**	**275**	P	**Pn**	**09 26 07.4**	**-0.7**
JYN	**Shimob**	**2.88**	**265**	P	**Pn**	**09 26 12.3**	**-0.1**
JYN				*e*S	**Sn**	**09 26 47.1**	**+0.7**
JNS	**Sasagawa**	**2.97**	**313**	P	**Pn**	**09 26 13.1**	**-0.4**
JNS				S	**Sn**	**09 26 48.4**	**0.0**
MJAR	**Matsushiro Arr**	**3.20**	**284**	Pn	**Pn**	**09 26 16.6**	**-0.1**
	7.1nm,0.3s,baz=97,slow=9.1,SNR=93						
MJAR				LR	LR	09 27 46.5	
	comp=Z,140nm,19.4s,baz=100,slow=43						
MAJO	**Matsushiro**	**3.20**	**284**	*e*Pn	**Pn**	**09 26 17.1**	**+0.3**
MAT	**Matsushiro**	**3.20**	**284**	P	**Pn**	**09 26 16.4**	**-0.3**
MAT				*e*S	**Sn**	**09 26 49.3**	**-4.9**
JHJ2	**Mitsune**	**3.28**	**215**	*e*Pn	**Pn**	**09 26 17.1**	**-0.7**
JHJ2				*e*Sn	**Sn**	**09 26 54.8**	**-1.4**
JHJ	**Hachijo jima 2**	**3.29**	**216**	Pn	**Pn**	**09 26 16.9**	**-1.1**
	123nm,0.3s,baz=67,slow=2.6,SNR=22						
JHJ				Sn	**Sn**	**09 26 53.9**	**-2.5**
	72nm,0.3s,baz=80,slow=22,SNR=7.0						
ERM	**Erimo**	**6.24**	**8**	*e*Pn	**Pn**	**09 26 58.1**	**-0.3**
ERM				*e*Sn	**Sn**	**09 28 08.5**	**-0.5**
ASAJ	**Asahikawa**	**8.29**	**3**	Pn	**Pn**	**09 27 23.7**	**-2.9**
	3.1nm,0.3s,baz=228,slow=6.9,SNR=21						
ASAJ				Sn	**Sn**	**09 28 55.0**	**-4.4**
	0.3nm,0.3s,baz=107,slow=19,SNR=6.1						
ASAJ	**Asahikawa**	**8.29**	**3**	Pn	**Pn**	**09 27 23.7**	**-2.9**
ASAJ				*e*Pn	**Pn**	**09 27 24.4**	**-2.2**
ASAJ				Sn	**Sn**	**09 28 55.0**	**-4.4**
JNU	**Nakatsue**	**9.62**	**257**	Pn	**Pn**	**09 27 45.6**	**+0.7**
	0.3nm,0.3s,baz=68,slow=11,SNR=4.7						
JNU				LR	LR	09 32 11.7	
	comp=Z,288nm,18.3s,baz=120,slow=42						
USRK	**Ussuriysk Ar.**	**11.38**	**320**	Pn	**Pn**	**09 28 10.5**	**+1.6**
	0.2nm,0.3s,baz=118,slow=12,SNR=4.6						
KSRS	**Korea Array**	**11.48**	**282**	Pn	**Pn**	**09 28 13.3**	**+3.1**
	0.2nm,0.3s,baz=102,slow=13,SNR=16						
KSRS				LR	LR	09 32 41.4	
	comp=Z,44nm,19.1s,baz=96,slow=38						
KSAR	**Wonju Array Be**	**11.51**	**282**	Pn	**Pn**	**09 28 13.3**	**+2.7**
H11N2	**WAKE ISLAND Hy**	**27.09**	**120**	T	T	09 59 26.4	
	baz=311,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**27.09**	**120**	T	T	09 59 27.4	
	baz=311,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**27.11**	**120**	T	T	09 59 30.3	
	baz=311,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**27.77**	**122**	T	T	10 00 11.9	
	baz=314,slow=75,SNR=45						
H11S3	**WAKE ISLAND Hy**	**27.77**	**122**	T	T	10 00 22.9	
	baz=314,slow=75,SNR=43						
H11S2	**WAKE ISLAND Hy**	**27.79**	**122**	T	T	10 00 22.4	
	baz=314,slow=75,SNR=34						
SEY	**Seymchan**	**27.88**	**10**	P	**P**	**09 31 16.6**	**+1.1**
	0.8nm,0.4s,baz=174,slow=23,SNR=4.3						
SONM	**Songino Array**	**28.90**	**306**	P	**P**	**09 31 26.1**	**+1.1**
	1.0nm,0.6s,baz=90,slow=7.4,SNR=5.7						
CMAR	**Chiang Mai Arr**	**41.72**	**257**	LR	LR	09 51 07.5	
	comp=Z,39nm,18.4s,baz=353,slow=37						
MKAR	**Makanchi Array**	**45.21**	**303**	P	**P**	**09 33 45.5**	**+2.5**
	2.2nm,0.7s,baz=91,slow=10.0,SNR=16						
KURK	**Kurchatov**	**47.09**	**309**	P	**P**	**09 33 58.1**	**+0.4**
KURBB	**Kurchatov Arra**	**47.16**	**309**	P	**P**	**09 33 58.1**	**-0.2**
	1.9nm,0.7s,baz=84,slow=8.1,SNR=16						
ILAR	**Eielson Array**	**50.24**	**32**	P	**P**	**09 34 22.1**	**+0.4**
	0.8nm,0.8s,baz=271,slow=6.1,SNR=7.7						
TKM2	**Tokmak 2**	**50.67**	**299**	*e*P	**P**	**09 34 27.9**	**+2.3**
	2.2nm,0.6s						
INK	**Inuvik**	**55.22**	**27**	P	**P**	**09 34 59.0**	**+0.6**
	1.0nm,0.5s,baz=342,slow=5.5,SNR=5.1						
WRA	**Warramunga Arr**	**55.94**	**189**	P	**P**	**09 35 03.2**	**-1.0**
	2.5nm,0.7s,baz=7.0,slow=7.3,SNR=29						
ABKAR	**Akbulak array**	**59.12**	**311**	*e*P	**P**	**09 35 27.1**	**+0.7**
	0.8nm,0.5s						
ASAR	**Alice Springs**	**59.67**	**189**	P	**P**	**09 35 29.5**	**-0.8**
	0.5nm,0.7s,baz=0.2,slow=4.9,SNR=7.0						
SPITS	**Spitsbergen Ar**	**61.81**	**349**	LR	LR	10 05 50.2	
	comp=Z,39nm,18.5s,baz=40,slow=39						
YKA	**Yellowknife Ar**	**64.59**	**30**	P	**P**	**09 36 02.5**	**-0.4**
	0.7nm,0.8s,baz=297,slow=6.9,SNR=3.0						
NWAO	**Narrogin (SRO)**	**72.24**	**202**	LR	LR	10 10 42.0	
	comp=Z,35nm,19.4s,slow=38						
NOA	**NORSAR Array B**	**75.50**	**338**	P	**P**	**09 37 09.8**	**-0.2**
	0.5nm,0.5s,baz=40,slow=5.8,SNR=3.4						
PDAR	**Pinedale Array**	**78.14**	**46**	P	**P**	**09 37 25.9**	**+0.4**
	0.2nm,0.6s,baz=306,slow=7.7,SNR=3.4						
TXAR	**Lajitas Array**	**90.44**	**53**	P	**P**	**09 38 28.5**	**+0.6**
	0.3nm,0.7s,baz=302,slow=3.5,SNR=4.6						
LPAZ	**La Paz**	**146.82**	**62**	PKPbc	**PKPbc**	**09 45 09.4**	**0.0**
	0.7nm,0.5s,baz=40,slow=5.6,SNR=6.9						

*DDA **02** 09:31:38.4, 39°.15N×28°.99E, h7km, Ml2.8*
*ISK **02** 09:31:38.1, 39°.12N×29°.02E, h5km, MD2.8*
*CSEM **02** 09:31:38.6±0.1, 39°.14N×29°.01E, h2km, ML2.8, Error ellipse: s-maj=1.9km s-min=1.7km az=156.0*
ISC 02 09:31:38.6±1.0**, 39°.13N**±0°.02×**29°.02E**±0°.02**, h7**km±9km**, n58, σ0s.91**/78**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**250**	P	**Pg**	**09 31 43.6**	**0.0**
DEMI				S	**Sg**	**09 31 46.8**	**-0.1**
DEMI	**Demirci**	**0.25**	**250**	*i* P	**Pg**	**09 31 43.6**	**0.0**
DEMI				*i* S	**Sg**	**09 31 46.8**	**-0.1**
GDZ	**Gediz**	**0.36**	**96**	P	**Pg**	**09 31 45.3**	**-0.5**
GDZ				S	**Sg**	**09 31 51.2**	**+0.6**
GDZ	**Gediz**	**0.36**	**96**	*i* P	**Pg**	**09 31 45.3**	**-0.5**
GDZ				*i* S	**Sg**	**09 31 51.2**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**47**	*e*PG	**Pg**	**09 31 47.8**	**0.0**
TVSB				*e*SG	**Sg**	**09 31 54.1**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**47**	*e*Pg	**Pg**	**09 31 47.8**	**0.0**
TVSB				*e*Sg	**Sg**	**09 31 54.1**	**+0.1**
DST	**Dursunbey**	**0.56**	**327**	*e*PG	**Pg**	**09 31 49.7**	**+0.1**
DST	**Dursunbey**	**0.56**	**327**	*e*Pg	**Pg**	**09 31 49.7**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*PG	**Pg**	**09 31 51.3**	**-0.3**
KULA				*e*SG	**Sg**	**09 32 00.5**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*Pg	**Pg**	**09 31 51.3**	**-0.3**
KULA				*e*Sg	**Sg**	**09 32 00.5**	**+0.1**
KHAL	**Karahalli**	**0.84**	**154**	P	**Pb**	**09 31 55.7**	**0.0**
KHAL				S	**Sg**	**09 32 06.2**	**+0.3**
KHAL	**Karahalli**	**0.84**	**154**	*i* P	**Pb**	**09 31 55.6**	**0.0**
KHAL				*i* S	**Sg**	**09 32 06.2**	**+0.3**
KHL	**Karahalli**	**0.90**	**154**	*e*PG	**Pg**	**09 31 56.0**	**+0.1**
KHL	**Karahalli**	**0.90**	**154**	*e*Pg	**Pg**	**09 31 56.0**	**+0.1**
ORLT	**Orhaneli**	**0.92**	**354**	*e*PG	**Pg**	**09 31 56.3**	**0.0**
ORLT	**Orhaneli**	**0.92**	**354**	*e*Pg	**Pg**	**09 31 56.3**	**0.0**
AKHS	**Akhisar**	**0.97**	**255**	P	**Pb**	**09 31 57.5**	**-0.3**
AKHS				S	**Sb**	**09 32 10.0**	**-0.8**
AKHS	**Akhisar**	**0.97**	**255**	*i* P	**Pb**	**09 31 57.5**	**-0.3**
AKHS				*i* S	**Sb**	**09 32 10.0**	**-0.8**
AKS	**Akhisar**	**0.97**	**255**	*e*PG	**Pb**	**09 31 57.4**	**-0.4**
AKS	**Akhisar**	**0.97**	**255**	*e*Pg	**Pb**	**09 31 57.4**	**-0.4**
BALB	**Balikesir**	**1.02**	**300**	*e*PG	**Pb**	**09 31 58.2**	**-0.4**
BALB	**Balikesir**	**1.02**	**300**	*e*Pg	**Pb**	**09 31 58.2**	**-0.4**
IGD	**Bursa**	**1.14**	**7**	*i* P	**Pg**	**09 31 59.5**	**-1.0**
IGD				*i* S	**Sg**	**09 32 15.2**	**-0.2**
BALY	**Balya**	**1.24**	**300**	P	**Pn**	**09 32 02.4**	**-0.1**
BALY				S	**Sg**	**09 32 17.5**	**-1.1**
BALY	**Balya**	**1.24**	**300**	*i* P	**Pn**	**09 32 02.4**	**-0.1**
BALY				*i* S	**Sg**	**09 32 17.5**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*PN	**Pg**	**09 32 02.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*Pn	**Pg**	**09 32 02.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	**Pg**	**09 32 02.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*Pn	**Pg**	**09 32 02.4**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*PN	**Pg**	**09 32 02.5**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pg**	**09 32 02.5**	**-0.1**
IZI	**Iznik**	**1.26**	**16**	*e*PN	**Pn**	**09 32 02.2**	**-0.5**
IZI	**Iznik**	**1.26**	**16**	*e*Pn	**Pn**	**09 32 02.2**	**-0.5**
BORA	**Eskisehir**	**1.34**	**56**	P	**Pg**	**09 32 04.4**	**0.0**
BORA				S	**Sn**	**09 32 22.1**	**+0.1**
BORA	**Eskisehir**	**1.34**	**56**	*i* P	**Pg**	**09 32 04.4**	**0.0**
BORA				*i* S	**Sn**	**09 32 22.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*PN	**Pg**	**09 32 04.6**	**-0.4**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pg**	**09 32 04.6**	**-0.4**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pb**	**09 32 05.2**	**-0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pb**	**09 32 05.2**	**-0.2**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pb**	**09 32 05.5**	**-0.3**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pb**	**09 32 05.5**	**-0.3**
ESKT	**Eskisehir**	**1.48**	**74**	*i* P	**Pg**	**09 32 06.9**	**0.0**
ESKT				*i* S	**Sg**	**09 32 26.8**	**+0.7**
SEYT	**Eskypehyr**	**1.48**	**74**	P	**Pg**	**09 32 06.9**	**0.0**
SEYT				S	**Sg**	**09 32 26.8**	**+0.7**
EDC	**Edincik**	**1.50**	**324**	*e*PN	**Pb**	**09 32 06.8**	**-0.1**
EDC	**Edincik**	**1.50**	**324**	*e*Pn	**Pb**	**09 32 06.8**	**-0.1**
GPA	**Golpazari**	**1.53**	**40**	*e*PN	**Pb**	**09 32 07.1**	**-0.2**
GPA	**Golpazari**	**1.53**	**40**	*e*Pn	**Pb**	**09 32 07.1**	**-0.2**
KNL	**Bal˜–kesir**	**1.62**	**315**	*i* P	**Sg**	**09 32 36.7**	**+6.0**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pb**	**09 32 10.3**	**-0.7**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pb**	**09 32 10.3**	**-0.7**
HRT	**Hereke**	**1.76**	**16**	*e*PN	**Pb**	**09 32 10.7**	**-0.7**
HRT	**Hereke**	**1.76**	**16**	*e*Pn	**Pb**	**09 32 10.7**	**-0.7**
SPNC	**Sapanca-Adapaz**	**1.85**	**32**	*e*PN	**Pn**	**09 32 11.6**	**+0.9**
SPNC	**Sapanca-Adapaz**	**1.85**	**32**	*e*Pn	**Pn**	**09 32 11.6**	**+0.9**
URLA	**Izmir**	**2.04**	**249**	*i* P	**Sg**	**09 32 47.2**	**+3.0**
SILT	**Sile**	**2.08**	**13**	*e*PN	**Pn**	**09 32 14.8**	**+1.0**
SILT	**Sile**	**2.08**	**13**	*e*Pn	**Pn**	**09 32 14.9**	**+1.0**
SART	**Tekirdag**	**2.10**	**318**	*i* P	**Pg**	**09 32 18.3**	**-0.6**
SART				*i* S	**Sg**	**09 32 45.4**	**-0.8**

MEX 02 09:40:11.0±0.4**, 14°.18N**×**92°.05W, h20**km**, MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.89**	**323**	*e*P	Pn	09 40 39.7	-2.5

*ISCJB **02** 09:49:10.2±0.7, 38°.05N±0°.05×73°.16E±0°.08, h127km, Error ellipse: s-maj=9.3km s-min=6.5km az=176.7*
*NNC **02** 09:49:17.0±2.0, 38°.42N×72°.85E, h122km±48km, mb2.8, mpv3.5, Error ellipse: s-maj=20.0km s-min=7.4km az=138.0*
ISC 02 09:49:11.1±1.0**, 38°.07N**±0°.06×**73°.13E**±0°.06**, h127**km**, n7, σ2s.11**/13**, 5C-4D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.46**	**284**	⇑P	**Pn**	**09 50 05.6**	**+1.9**
	7.9nm,0.4s						
DZET				⇓S	**Sn**	**09 50 43.7**	**-0.7**
	70nm,0.5s						
MNAS	**Manas**	**4.44**	**354**	⇓P	**Pn**	**09 50 18.3**	**+1.6**
	5.2nm,0.4s						
MNAS				⇓S	**Sn**	**09 51 05.3**	**-2.4**
	21nm,0.4s						
AAK	**Ala-Archa**	**4.68**	**12**	⇓P	**Pn**	**09 50 22.8**	**+2.8**
	2.4nm,0.5s						
AAK				⇑S	**Sn**	**09 51 13.6**	**+0.2**
	23nm,0.6s						
TKM2	**Tokmak 2**	**5.20**	**20**	⇑P	**Pn**	**09 50 28.6**	**+1.6**
	0.7nm,0.5s						
TKM2				⇑S	**Sn**	**09 51 24.7**	**-1.4**
	6.1nm,0.6s						
KK31	**Karatay Array**	**5.41**	**339**	P	**Pn**	**09 50 31.0**	**+1.4**
	20nm,0.4s,baz=150,slow=12,SNR=261						
KK31				⇑S	**Sn**	**09 51 26.9**	**-3.9**
	13nm,0.4s,baz=158,slow=23,SNR=29						
THN	**Thein Dam**	**6.01**	**159**	*e*P	**Pn**	**09 50 38.0**	**+0.3**
THN				*e*S	**Sn**	**09 51 43.6**	**-1.6**
AB31	**Akbulak array**	**14.68**	**324**	P	**Pn**	**09 52 32.2**	**-0.1**
	0.8nm,0.5s,baz=136,slow=12,SNR=23						

*ISCJB **02** 10:25:47.1±1.1, 5°.5S±0°.2×151°.3E±0°.2, h57km, mb4.1/7, MS3.3/5, Error ellipse: s-maj=44.1km s-min=10.1km az=38.4*
*IDC **02** 10:25:49.0±4.9, 5°.57S×151°.39E, h65km±41km, mb3.9/7, mb1 4.1/8, mb1mx3.7/35, mbtmp4.2/8, ML2.3/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/31, Error ellipse: s-maj=49.2km s-min=25.5km az=124.0*
ISC 02 10:25:48.1±1.1**, 5°.5S**±0°.2×**151°.4E**±0°.3**, h57**km**, n15, σ1s.01**/12**, mb3.9**/7**, MS3.2**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.73**	**227**	P	**Pn**	**10 27 12.5**	**+1.8**
	6.2nm,0.3s,baz=50,slow=10,SNR=15						
PMG				S	**Sn**	**10 28 13.9**	**-1.3**
	17nm,0.3s,baz=307,slow=11,SNR=12						
HNR	**Honiara**	**9.29**	**115**	LR	LR	10 30 57.5	
	comp=Z,146nm,21.4s,baz=289,slow=33						
GUMO	**Guam**	**20.07**	**341**	LR	LR	10 36 22.0	
	comp=Z,70nm,21.6s,baz=120,slow=32						
DZM	**Mont Dzumac**	**21.95**	**140**	LR	LR	10 38 00.5	
	comp=Z,209nm,19.0s,baz=248,slow=33						
WRA	**Warramunga Arr**	**21.95**	**228**	P	**P**	**10 30 36.6**	**-0.6**
	10nm,1.1s,baz=53,slow=9.8,SNR=38						
WRA				PcP	**PcP**	**10 34 34.0**	**-0.5**
	0.9nm,0.8s,baz=43,slow=2.2,SNR=3.9						
ASAR	**Alice Springs**	**24.71**	**221**	P	**P**	**10 31 03.9**	**-0.3**
	3.5nm,0.9s,baz=57,slow=9.2,SNR=23						
ASAR				LR	LR	10 41 12.1	
	comp=Z,70nm,18.5s,baz=80,slow=38						
STKA	**Stephens Creek**	**27.80**	**198**	LR	LR	10 42 46.3	
	comp=Z,96nm,18.1s,baz=30,slow=37						
FITZ	**Fitzroy Crossi**	**28.12**	**241**	P	**P**	**10 31 34.4**	**-0.5**
	8.1nm,0.3s,baz=55,slow=8.9,SNR=48						
FITZ				LR	LR	10 43 25.4	
	comp=Z,70nm,19.9s,baz=73,slow=38						
MJAR	**Matsushiro Arr**	**43.63**	**345**	LR	LR	10 50 47.8	
	comp=Z,34nm,20.2s,baz=215,slow=34						
SONM	**Songino Array**	**66.21**	**329**	P	**P**	**10 36 31.1**	**+0.9**
	0.8nm,0.6s,baz=134,slow=6.2,SNR=4.4						
MKAR	**Makanchi Array**	**79.97**	**319**	P	**P**	**10 37 51.1**	**-0.3**
	0.7nm,0.8s,baz=114,slow=6.5,SNR=4.1						
ILAR	**Eielson Array**	**83.33**	**22**	P	**P**	**10 38 07.5**	**-1.1**
	0.5nm,0.6s,baz=240,slow=5.1,SNR=8.7						
NVAR	**Mina Array Bea**	**93.60**	**52**	P	**P**	**10 38 59.5**	**+0.8**
	0.7nm,0.7s,baz=264,slow=6.2,SNR=6.0						
GERES	**GERESS Array B**	**123.94**	**328**	PKP	**PKPdf**	**10 44 39.9**	**-0.3**
	0.4nm,0.6s,baz=80,slow=1.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.22**	**286**	PKPbc	**PKPbc**	**10 45 31.1**	**-0.3**
	4.1nm,0.7s,baz=78,slow=2.1,SNR=23						

PGC 02 10:37:07.5±0.3**, 60°.55N**×**141°.66W, h5**km**, ML2.0**/7**, 185km Wnw of Yakutat, Ak Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTGM	**Chitina Glacie**	**0.45**	**21**	P	Pg	10 37 15.9	-0.3
CTGM				S	Sg	10 37 21.9	-0.1
BALM	**Baldy**	**0.59**	**326**	P	Pg	10 37 17.9	-0.9
BALM				S	Sg	10 37 25.4	-1.2
YUK2	**White River**	**1.30**	**17**	P	Pn	10 37 30.2	-2.3
YUK2				S	Sg	10 37 47.2	-2.1
YUK3	**Moose Creek**	**1.36**	**25**	P	Pn	10 37 31.2	-2.1
YUK3				S	Sg	10 37 49.5	-1.6
YUK7	**Dusty Glacier**	**1.74**	**89**	Pn	Pn	10 37 37.7	-0.8
YUK7				Sg	Sb	10 38 01.8	-0.4
BVCY	**Beaver Creek**	**1.91**	**11**	Pn	Pn	10 37 40.6	-0.1
BVCY				Sg	Sn	10 38 05.0	-0.1
YUK5	**Granite Creek**	**1.95**	**71**	Pn	Pn	10 37 41.6	+0.3
YUK5				Sg	Sn	10 38 06.7	+0.4
HYT	**Haines Junctio**	**2.06**	**80**	Pn	Pn	10 37 42.2	-0.7
HYT				Sn	Sn	10 38 06.8	-2.3
HYT				Sg	Sb	10 38 12.3	+0.9
DIV	**Divide**	**2.10**	**288**	Pn	Pn	10 37 42.8	-0.4
DIV				Sn	Sn	10 38 08.3	-1.4
DIV				Sg	Sb	10 38 10.5	-1.8
DOT	**Dot Lake**	**3.31**	**341**	Pn	Pn	10 37 59.2	-0.7
DOT				Sn	Sn	10 38 38.5	-1.1
WHY	**Whitehorse**	**3.35**	**85**	Pn	Pn	10 37 58.4	-2.1
WHY				Sn	Sn	10 38 38.7	-1.9
DAWY	**Dawson**	**3.69**	**16**	Pn	Pn	10 38 04.6	-0.4
DAWY				Pg	Pg	10 38 16.0	-1.9
DAWY				Sn	Sn	10 38 46.3	-2.6
DAWY				Sg	Sb	10 39 00.8	+2.9

IDC 02 10:53:13.9±3.3**, 23°.61S**×**179°.71W, h479**km±47km**, mb3.4**/5**, mb1 3.7**/7**, mb1mx3.3**/26**, mbtmp4.4**/7**, Error ellipse: s-maj=28.6km s-min=21.8km az=146.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.23**	**39**	P	P	10 55 55.6	+0.5
	5.1nm,0.3s,baz=199,slow=21,SNR=8.2						
AFI				S	S	10 57 59.2	-8.9
	2.1nm,0.3s,baz=41,slow=20,SNR=3.0						
DZM	**Mont Dzumac**	**12.86**	**274**	P	P	10 56 05.3	+3.4
	0.7nm,0.3s,baz=141,slow=16,SNR=9.7						
URZ	**Urewera**	**14.85**	**190**	P	P	10 56 21.6	-1.1
	2.3nm,0.3s,baz=278,slow=2.0,SNR=14						
URZ				S	S	10 58 56.7	-1.8
	0.5nm,0.3s,baz=146,slow=18,SNR=4.4						
RPZ	**Rata Peaks**	**21.45**	**199**	P	P	10 57 26.6	0.0
	5.8nm,0.4s,baz=28,slow=4.2,SNR=14						
STKA	**Stephens Creek**	**35.07**	**248**	P	P	10 59 26.3	+0.5
	2.8nm,0.7s,baz=96,slow=9.5,SNR=6.9						
ASAR	**Alice Springs**	**42.34**	**260**	P	P	11 00 25.1	-0.1
	1.9nm,0.4s,baz=95,slow=7.4,SNR=94						
WRA	**Warramunga Arr**	**42.69**	**266**	P	P	11 00 27.2	-0.6
	2.8nm,0.3s,baz=102,slow=8.3,SNR=223						
TXAR	**Lajitas Array**	**90.06**	**58**	P	P	11 05 22.1	-0.2
	0.2nm,0.6s,baz=217,slow=6.1,SNR=4.0						

*ISCJB **02** 10:55:51.1±0.8, 39°.17N±0°.05×30°.10E±0°.04, h0km, Error ellipse: s-maj=7.5km s-min=4.5km az=158.9*
*ISK **02** 10:55:51.0, 39°.15N×30°.03E, h10km, MD2.6*
*CSEM **02** 10:55:51.1±0.4, 39°.17N×30°.10E, h1km, MD2.6, Error ellipse: s-maj=9.7km s-min=5.4km az=155.0, Suspected Mining explosion.*
*DDA **02** 10:55:53.1, 39°.37N×29°.87E, h7km, Md2.4, Suspected Mining explosion.*
ISC 02 10:55:50.5±1.1**, 39°.21N**±0°.05×**30°.04E**±0°.03**, h0**km**, n20, σ0s.48**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.45**	**255**	P	**Pb**	**10 56 00.9**	**-0.5**
GDZ				S	**Sb**	**10 56 08.3**	**-0.4**
GDZ	**Gediz**	**0.45**	**255**	*i* P	**Pb**	**10 56 00.8**	**-0.5**
GDZ				*i* S	**Sb**	**10 56 08.3**	**-0.4**
TVSB	**Tavsanli**	**0.51**	**298**	*e*PG	**Pb**	**10 56 01.5**	**-0.8**
TVSB				*e*SG	**Sb**	**10 56 10.2**	**-0.1**
TVSB	**Tavsanli**	**0.51**	**298**	*e*Pg	**Pb**	**10 56 01.5**	**-0.8**
TVSB				*e*Sg	**Sb**	**10 56 10.2**	**-0.1**
BORA	**Eskisehir**	**0.74**	**25**	P	**Pb**	**10 56 05.8**	**-0.6**
BORA				S	**Sb**	**10 56 17.0**	**-0.1**
BORA	**Eskisehir**	**0.74**	**25**	*i* P	**Pb**	**10 56 05.8**	**-0.6**
BORA				*i* S	**Sb**	**10 56 17.0**	**-0.1**
CAVI	**Cavuskoy**	**1.00**	**351**	*e*PG	**Pn**	**10 56 12.1**	**+0.2**
CAVI				*e*SG	**Sn**	**10 56 27.0**	**+0.3**
CAVI	**Cavuskoy**	**1.00**	**351**	*e*Pg	**Pn**	**10 56 12.1**	**+0.2**
CAVI				*e*Sg	**Sn**	**10 56 27.0**	**+0.3**
DEMI	**Demirci**	**1.04**	**261**	P	**Pn**	**10 56 13.3**	**+0.9**
DEMI	**Demirci**	**1.04**	**261**	*i* P	**Pn**	**10 56 13.3**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.18**	**78**	*e*PN	**Pn**	**10 56 14.5**	**+0.2**
SVRH				*e*SN	**Sn**	**10 56 31.2**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.18**	**78**	*e*Pn	**Pn**	**10 56 14.5**	**+0.2**
SVRH				*e*Sn	**Sn**	**10 56 31.3**	**+0.2**
IZI	**Iznik**	**1.21**	**339**	*e*PN	**Pn**	**10 56 15.1**	**+0.4**
IZI	**Iznik**	**1.21**	**339**	*e*Pn	**Pn**	**10 56 15.1**	**+0.4**
ORLT	**Orhaneli**	**1.22**	**314**	*e*PN	**Pn**	**10 56 15.1**	**+0.3**
ORLT	**Orhaneli**	**1.22**	**314**	*e*Pn	**Pn**	**10 56 15.1**	**+0.3**
GULT	**Gulveren**	**1.27**	**17**	*e*PN	**Pn**	**10 56 16.2**	**+0.6**
GULT	**Gulveren**	**1.27**	**17**	*e*Pn	**Pn**	**10 56 16.2**	**+0.6**
ARMT	**Armutlu**	**1.63**	**327**	*e*PN	**Pb**	**10 56 21.2**	**-0.2**
ARMT	**Armutlu**	**1.63**	**327**	*e*Pn	**Pb**	**10 56 21.2**	**-0.2**

MEX 02 10:56:33.7±0.7**, 16°.81N**×**100°.16W, h4**km±4km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.26**	**338**	*e*P	Pg	10 56 38.4	-0.3
CAIG				*i* S	Sg	10 56 42.4	+0.3

ACP2	**Acapulco**	**0.27**	**76**	*i* P	Pg	10 56 38.7	-0.3
ACP2				*e*S	Sg	10 56 42.5	-0.1
ACX	**Acapulco**	**0.30**	**78**	*e*P	Pb	10 56 42.7	+1.0
ACX				*i* S	Sb	10 56 46.9	-0.1
MEIG	**Mezcala**	**1.23**	**25**	*e*P	Pg	10 56 54.2	-3.1
MEIG				*e*S	Sg	10 57 10.2	-3.1
ARIG	**Puente Sto Nin**	**1.48**	**353**	*e*P	Pn	10 56 57.8	-3.4
ARIG				*e*S	Sb	10 57 15.0	-5.9
PLIG	**Platanillo**	**1.70**	**22**	*e*P	Pn	10 57 01.1	-3.1
PLIG				*e*S	Sn	10 57 21.4	-5.2
TLIG	**Tlapa**	**1.70**	**64**	*e*P	Pn	10 57 00.7	-3.7
TLIG				*e*S	Sn	10 57 21.8	-4.9

IDC 02 11:19:36.7±2.5**, 25°.57N×143°.66E, h0km, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.3**/57**, mbtmp3.5**/4**, Error ellipse: s-maj=92.0km s-min=21.8km az=70.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.02**	**319**	Pn	Pn	11 20 12.7	+0.7
	baz=270,slow=20						
JCJ				Sn	Sn	11 20 37.0	-0.9
	baz=90,slow=20						
WRA	**Warramunga Arr**	**46.14**	**192**	P	P	11 28 02.1	-0.9
	0.2nm,0.4s,baz=15,slow=8.6,SNR=5.5						
ASAR	**Alice Springs**	**49.85**	**192**	P	P	11 28 32.3	+0.5
	0.2nm,0.8s,baz=19,slow=8.9,SNR=2.8						
FINES	**FINESS Array B**	**79.89**	**334**	P	P	11 31 47.0	0.0
	1.1nm,0.8s,baz=50,slow=7.4,SNR=4.2						

*NIED **02** 11:22:00, 39°.10N×142°.50E, h32km, Mw3.7 Best double couple: Mo4.07000×10^14 NP1:φs316.00000°, δ24.00000°, λ-132.00000°. NP2:φs180.00000°, δ72.00000°, λ-74.00000°.*
*ISCJB **02** 11:22:35.0±1.3, 39°.08N±0°.04×142°.46E±0°.08, h27km±6km, mb3.7/7, MS2.9/1, Error ellipse: s-maj=10.7km s-min=6.0km az=11.0*
*JMA **02** 11:22:35.9±0.1, 39°.13N×142°.42E, h32km±1km, M3.9*
JMA Felt I J1.
*IDC **02** 11:22:37.3±0.9, 38°.97N×142°.30E, h35km±7km, mb3.6/6, mb1 3.7/7, mb1mx3.4/60, mbtmp3.8/7, MS2.9/2, Ms1 2.9/2, ms1mx2.4/41, Error ellipse: s-maj=29.7km s-min=20.0km az=99.0*
ISC 02 11:22:38.0±0.8**, 39°.11N**±0°.04×**142°.22E**±0°.06**, h29**km±5km**, n30,** σ1s69/34**, mb3.8**/7**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.43**	**266**	P	**Pb**	**11 22 47.6**	**+0.4**
OFUJ				S	**Sn**	**11 22 55.7**	**+0.6**
MIYJ	**Miyakonagasawa**	**0.56**	**327**	P	**Pb**	**11 22 48.3**	**-1.1**
MIYJ				*e*S	**Sb**	**11 22 57.2**	**+0.1**
JMK	**Ichinoseki**	**0.79**	**259**	P	**Pn**	**11 22 53.1**	**-0.1**
JMK				S	**Sn**	**11 23 05.4**	**+1.3**
JOM	**Ohasama**	**0.81**	**297**	P	**Pn**	**11 22 53.1**	**-0.3**
JOM				S	**Sn**	**11 23 05.5**	**+1.1**
JTH	**Tanohata**	**0.87**	**342**	P	**Pn**	**11 22 52.5**	**-1.8**
JTH				*e*S	**Sb**	**11 23 04.9**	**-1.0**
JIO	**Ouri**	**0.94**	**226**	P	**Pn**	**11 22 54.3**	**-1.0**
JIO				S	**Sn**	**11 23 07.4**	**-0.3**
JKZ	**Kuzumaki**	**1.11**	**322**	P	**Pn**	**11 22 57.3**	**-0.3**
JKZ				S	**Sb**	**11 23 12.6**	**-0.1**
JRG	**Rokugo**	**1.26**	**284**	P	**Pb**	**11 23 00.5**	**-0.7**
JRG				S	**Sb**	**11 23 19.5**	**+2.5**
JANG	**Nango**	**1.37**	**337**	P	**Pn**	**11 23 00.4**	**-0.8**
JANG				S	**Sn**	**11 23 19.0**	**+0.6**
JOU	**Okura**	**1.43**	**239**	P	**Pn**	**11 23 02.6**	**+0.7**
MAT	**Matsushiro**	**4.08**	**232**	P	**Pn**	**11 23 41.8**	**+3.4**
MAT				*e*S	**Sn**	**11 24 25.2**	**0.0**
MJAR	**Matsushiro Arr**	**4.08**	**232**	Pn	**Pn**	**11 23 40.7**	**+2.2**
	1.6nm,0.3s,baz=45,slow=10.0,SNR=67						
ASAJ	**Asahikawa**	**5.01**	**3**	Pn	**Pn**	**11 23 53.9**	**+2.7**
	baz=180,slow=8.1						
ASAJ				Sn	**Sn**	**11 24 53.6**	**+5.5**
	0.4nm,0.3s,baz=308,slow=19,SNR=7.4						
USRK	**Ussuriysk Ar.**	**9.19**	**307**	Pn	Pn	11 24 53.7	+5.2
	0.1nm,0.3s,baz=102,slow=14,SNR=4.7						
JNU	**Nakatsue**	**10.94**	**240**	LR	LR	11 29 49.9	
	comp=Z,52nm,19.8s,baz=305,slow=40						
H11N2	**WAKE ISLAND Hy**	**28.74**	**125**	T	T	11 58 53.6	
	baz=318,slow=75,SNR=144						
H11N1	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	11 58 55.4	
	baz=318,slow=75,SNR=94						
H11N3	**WAKE ISLAND Hy**	**28.76**	**125**	T	T	11 58 55.6	
	baz=318,slow=75,SNR=129						
TLY	**Talaya**	**29.50**	**308**	LR	LR	11 40 42.0	
	comp=Z,30nm,19.1s,baz=90,slow=37						
H11S1	**WAKE ISLAND Hy**	**29.53**	**127**	T	T	11 59 53.5	
	baz=319,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**29.53**	**127**	T	T	11 59 53.7	
	baz=319,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**29.54**	**127**	T	T	11 59 54.8	
	baz=319,slow=76,SNR=24						
ZALV	**Zalesovo Beam**	**41.02**	**311**	P	**P**	**11 30 17.7**	**-0.6**
	1.0nm,0.5s,baz=112,slow=6.4,SNR=2.2						
MKAR	**Makanchi Array**	**43.59**	**300**	P	**P**	**11 30 38.6**	**-0.7**
	1.0nm,0.7s,baz=85,slow=9.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**45.25**	**306**	P	**P**	**11 30 51.7**	**-0.9**
	2.5nm,0.5s,baz=79,slow=8.0,SNR=7.3						
ILAR	**Eielson Array**	**47.41**	**33**	P	**P**	**11 31 08.1**	**-1.2**
	0.5nm,0.6s,baz=264,slow=6.1,SNR=8.2						
ILAR				pP	**pP**	**11 31 18.4**	**+0.4**
	0.4nm,0.7s,baz=265,slow=6.6,SNR=3.6						
BVAR	**Borovoye Array**	**49.67**	**311**	P	**P**	**11 31 26.2**	**-0.6**
	0.8nm,0.5s,baz=75,slow=7.1,SNR=6.5						
WRA	**Warramunga Arr**	**59.20**	**189**	P	**P**	**11 32 34.0**	**-2.4**
	0.3nm,0.4s,baz=7.4,slow=7.0,SNR=7.9						
WRA				pP	**pP**	**11 32 45.0**	**-0.4**
	1.0nm,0.7s,baz=6.3,slow=7.0,SNR=5.1						
WRA				sP	**sP**	**11 32 48.7**	**-0.1**
	0.5nm,0.6s,baz=6.7,slow=7.0,SNR=3.0						
ASAR	**Alice Springs**	**62.93**	**189**	pP	pP	11 33 10.7	0.0
	0.4nm,0.7s,baz=11,slow=5.5,SNR=3.4						
TXAR	**Lajitas Array**	**88.36**	**53**	P	**P**	**11 35 29.3**	**+1.9**
	0.2nm,1.0s,baz=297,slow=4.0,SNR=2.7						

*CASC **02** 11:24:15.9±1.2, 10°.49N×86°.14W, h34km±15km, MD4.0, ML3.2*
*IDC **02** 11:24:20.8±2.1, 11°.02N×86°.95W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/34, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/33, Error ellipse: s-maj=398.2km s-min=25.8km az=53.0*
ISC 02 11:24:19.0±1.1**, 10°.7N**±0°.2×**85°.9W**±0°.2**, h31**km**, n16,** σ2s03/18**, mb3.6**/3**, 2C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A494	**Palo Verde**	**0.63**	**128**⇑	*e*P	**Pn**	**11 24 29.0**	**-2.8**
A494				*e*S	**Sn**	**11 24 41.6**	**+0.8**
TISN	**Laguna Tiscapa**	**1.45**	**344**	*e*P	**Pn**	**11 24 42.2**	**-1.0**
XAVN	**Gruta Xavier**	**1.48**	**342**	*e*P	**Pn**	**11 24 42.7**	**-0.8**
CGA2	**Cerro Gallo 2**	**1.54**	**118**⇑	*e*P	**Pn**	**11 24 42.8**	**-1.8**
APYN	**Apoyeque**	**1.56**	**342**	*e*P	**Pn**	**11 24 44.3**	**-0.4**
COPN	**Copaltepe**	**1.60**	**333**	*e*P	**Pn**	**11 24 43.8**	**-1.4**
COPN				*e*S	**Sn**	**11 25 04.5**	**-0.4**
MOMN	**Momotombo**	**1.79**	**338**	*e*P	**Pn**	**11 24 46.8**	**-1.0**
CNGN	**Cerro Negro**	**1.94**	**335**	*e*P	**Pn**	**11 24 48.6**	**-1.3**
LCR2	**La Lucha 2**	**2.08**	**118**	*e*P	**Pn**	**11 24 51.0**	**-0.9**
LCR2				*e*S	**Sn**	**11 25 17.7**	**+0.9**
QCR	**Quepos**	**2.12**	**128**	*e*P	**Pn**	**11 24 50.9**	**-1.3**
URSC	**Urasca**	**2.23**	**114**	*e*P	**Pn**	**11 24 53.9**	**-0.1**
TXAR	**Lajitas Array**	**24.88**	**321**	P	**P**	**11 29 36.8**	**-2.4**
	0.6nm,0.5s,baz=137,slow=9.8,SNR=12						
TXAR				LR	LR	11 39 51.6	
	comp=Z,52nm,19.5s,baz=0.0,slow=39						
LPAZ	**La Paz**	**32.07**	**147**	P	P	11 30 57.9	+14
	0.6nm,0.4s,baz=263,slow=5.2,SNR=5.3						
NVAR	**Mina Array Bea**	**40.01**	**319**	P	**P**	**11 31 50.8**	**-0.6**
	1.1nm,0.8s,baz=122,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	**140.04**	**246**	PKP	**PKPdf**	**11 43 49.3**	**+4.0**
	1.6nm,0.9s,baz=106,slow=4.5,SNR=9.8						
WRA	**Warramunga Arr**	**140.26**	**252**	PKP	**PKPdf**	**11 43 50.0**	**+4.2**
	1.0nm,0.8s,baz=103,slow=3.9,SNR=5.0						

*NIED **02** 11:26:00, 39°.10N×142°.50E, h32km, Mw3.5 Best double couple: Mo1.87000×10^14 NP1:φs344.00000°, δ13.00000°, λ-116.00000°. NP2:φs191.00000°, δ78.00000°, λ-84.00000°.*
*IDC **02** 11:26:39.4±2.1, 38°.92N×142°.13E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.5/60, mbtmp3.8/6, ML3.0/1, MS2.5/2, Ms1 2.5/2, ms1mx2.2/44, Error ellipse: s-maj=58.8km s-min=24.8km az=81.0*
*ISCJB **02** 11:26:41.7±1.3, 39°.10N±0°.04×142°.47E±0°.08, h26km±6km, mb3.8/5, Error ellipse: s-maj=10.9km s-min=6.1km az=9.5*
*JMA **02** 11:26:43.0±0.1, 39°.13N×142°.40E, h34km±1km, M3.9*
JMA Felt I J1.
ISC 02 11:26:42.9±1.1**, 39°.07N**±0°.04×**142°.35E**±0°.08**, h21**km±4km**, n26,** σ1s97/31**, mb3.9**/5**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.53**	**272**	P	**Pb**	**11 26 54.6**	**+1.0**
OFUJ				S	**Sb**	**11 27 02.5**	**+1.6**
MIYJ	**Miyakonagasawa**	**0.66**	**321**	P	**Pb**	**11 26 55.3**	**-0.5**
MIYJ				S	**Sb**	**11 27 03.7**	**-0.8**
JMK	**Ichinoseki**	**0.89**	**263**	P	**Pb**	**11 27 00.0**	**+0.4**
JMK				*e*S	**Sn**	**11 27 12.2**	**-0.2**
JOM	**Ohasama**	**0.92**	**297**	P	**Pb**	**11 27 00.0**	**-0.1**
JOM				S	**Sb**	**11 27 12.4**	**+0.5**
JTH	**Tanohata**	**0.95**	**337**	P	**Pb**	**11 26 59.3**	**-1.4**
JTH				S	**Sb**	**11 27 11.8**	**-1.1**
JIO	**Ouri**	**0.99**	**232**	P	**Pb**	**11 27 01.1**	**-0.3**
JIO				S	**Sb**	**11 27 14.2**	**+0.2**
JKZ	**Kuzumaki**	**1.21**	**320**	P	**Pn**	**11 27 04.1**	**-0.6**
JKZ				S	**Sn**	**11 27 19.1**	**-1.4**
JRG	**Rokugo**	**1.37**	**284**	P	**Pn**	**11 27 07.3**	**+0.4**
JRG				S	**Sb**	**11 27 26.2**	**+1.2**
JANG	**Nango**	**1.46**	**334**	P	**Pn**	**11 27 07.2**	**-0.8**
JANG				*e*S	**Sn**	**11 27 25.5**	**-1.0**
JOU	**Okura**	**1.49**	**243**	P	**Pn**	**11 27 09.3**	**+0.8**
MJAR	**Matsushiro Arr**	**4.14**	**234**	Pn	**Pn**	**11 27 47.7**	**+2.8**
	1.3nm,0.3s,baz=45,slow=10,SNR=26						
MJAR				LR	LR	11 28 59.7	
	comp=Z,25nm,19.5s,baz=275,slow=36						
MAT	**Matsushiro**	**4.14**	**234**	P	**Pn**	**11 27 48.9**	**+4.0**
MAT				*e*S	**Sb**	**11 28 40.5**	**-4.1**
ASAJ	**Asahikawa**	**5.05**	**2**	Pn	**Pn**	**11 27 59.1**	**+1.7**
	0.5nm,0.3s,baz=205,slow=11,SNR=4.4						
ASAJ				Sn	**Sn**	**11 28 60.0**	**+4.9**
	baz=90,slow=20						
USRK	**Ussuriysk Ar.**	**9.30**	**307**	Pn	**Pn**	**11 28 59.9**	**+4.3**
	baz=102,slow=13,SNR=2.7						
USRK				LR	LR	11 32 32.9	
	comp=Z,54nm,18.3s,baz=128,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.63**	**125**	T	T	12 03 01.8	
	baz=318,slow=75,SNR=75						
H11N1	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	12 03 02.5	
	baz=318,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	12 03 03.0	
	baz=318,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**29.42**	**127**	T	T	12 04 11.2	
	baz=319,slow=76,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**29.42**	**127**	T	T	12 04 00.4	
	baz=319,slow=76,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	12 04 01.7	
	baz=319,slow=76,SNR=7.9						
ZALV	**Zalesovo Beam**	**41.12**	**311**	P	**P**	**11 34 24.7**	**-0.5**
	1.3nm,0.5s,baz=69,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**43.70**	**300**	P	**P**	**11 34 45.4**	**-0.8**
	0.6nm,0.6s,baz=82,slow=9.9,SNR=5.8						
KURBB	**Kurchatov Arra**	**45.36**	**307**	P	**P**	**11 34 58.7**	**-0.8**
	1.6nm,0.3s,baz=79,slow=8.3,SNR=9.5						
BVAR	**Borovoye Array**	**49.77**	**311**	P	**P**	**11 35 32.8**	**-0.9**
	0.7nm,0.5s,baz=73,slow=7.0,SNR=6.6						
WRA	**Warramunga Arr**	**59.17**	**189**	P	**P**	**11 36 40.9**	**-1.3**
	0.2nm,0.4s,baz=6.9,slow=6.9,SNR=5.8						
WRA				pP	**sP**	**11 36 51.9**	**+0.3**
	0.3nm,0.4s,baz=7.0,slow=7.0,SNR=2.6						
ASAR	**Alice Springs**	**62.90**	**189**	pP	pP	11 37 17.4	+3.1
	0.4nm,1.0s,baz=87,slow=38,SNR=3.1						

*ISK **02** 11:27:26.8, 39°.08N×29°.07E, h18km, MD2.7*
*ISCJB **02** 11:27:27.7±0.4, 39°.11N±0°.03×29°.04E±0°.04, h13km±4km, Error ellipse: s-maj=5.8km s-min=4.3km az=143.0*
*CSEM **02** 11:27:27.8±0.2, 39°.11N×29°.04E, h15km, MD2.6, Error ellipse: s-maj=5.2km s-min=4.3km az=135.0*
*DDA **02** 11:27:28.4, 39°.08N×29°.05E, h7km, Md2.6*
ISC 02 11:27:27.6±0.9**, 39°.09N**±0°.03×**29°.06E**±0°.02**, h15**km±8km**, n38,** σ0s39/48**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**260**	P	**Pg**	**11 27 33.7**	**+0.3**
DEMI				S	**Sg**	**11 27 37.2**	**-0.2**
DEMI	**Demirci**	**0.27**	**260**	*i* P	**Pg**	**11 27 33.7**	**+0.3**
DEMI				*i* S	**Sg**	**11 27 37.2**	**-0.2**
GDZ	**Gediz**	**0.33**	**90**	P	**Pb**	**11 27 35.5**	**+0.2**
GDZ				S	**Sb**	**11 27 40.6**	**+0.1**
GDZ	**Gediz**	**0.33**	**90**	*i* P	**Pb**	**11 27 35.5**	**+0.2**
GDZ				*i* S	**Sb**	**11 27 40.6**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**41**	*e*PG	**Pg**	**11 27 37.0**	**-0.2**
TVSB				*e*SG	**Sg**	**11 27 44.1**	**+0.5**
TVSB	**Tavsanli**	**0.48**	**41**	*e*Pg	**Pg**	**11 27 37.0**	**-0.2**
TVSB				*e*Sg	**Sg**	**11 27 44.1**	**+0.5**
DST	**Dursunbey**	**0.61**	**327**	*e*PG	**Pb**	**11 27 40.0**	**-0.1**
DST	**Dursunbey**	**0.61**	**327**	*e*Pg	**Pb**	**11 27 40.0**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*PG	**Pg**	**11 27 39.6**	**-0.8**
KULA				*e*SG	**Sb**	**11 27 49.7**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*Pg	**Pg**	**11 27 39.6**	**-0.8**
KULA				*e*Sg	**Sb**	**11 27 49.7**	**0.0**
KHAL	**Karahalli**	**0.80**	**155**	P	**Pn**	**11 27 44.8**	**+0.4**
KHAL	**Karahalli**	**0.80**	**155**	*i* P	**Pn**	**11 27 44.8**	**+0.4**
ORLT	**Orhaneli**	**0.96**	**353**	*e*PG	**Pb**	**11 27 45.8**	**-0.2**
ORLT				*e*SG	**Sn**	**11 28 00.1**	**0.0**
ORLT	**Orhaneli**	**0.96**	**353**	*e*Pg	**Pb**	**11 27 45.8**	**-0.2**
ORLT				*e*Sg	**Sn**	**11 28 00.1**	**0.0**
AKHS	**Akhisar**	**0.99**	**258**	P	**Pn**	**11 27 47.3**	**+0.3**
AKHS	**Akhisar**	**0.99**	**258**	*i* P	**Pn**	**11 27 47.3**	**+0.3**
AKS	**Akhisar**	**0.99**	**258**	*e*PG	**Pb**	**11 27 46.6**	**+0.1**
AKS	**Akhisar**	**0.99**	**258**	*e*Pg	**Pb**	**11 27 46.6**	**+0.1**
BALB	**Balikesir**	**1.06**	**301**	*e*PN	**Pb**	**11 27 47.7**	**0.0**
BALB	**Balikesir**	**1.06**	**301**	*e*Pn	**Pb**	**11 27 47.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*PN	**Pn**	**11 27 50.8**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*Pn	**Pn**	**11 27 50.8**	**-0.2**
IZI	**Iznik**	**1.28**	**14**	*e*PN	**Pn**	**11 27 50.2**	**-0.9**
IZI	**Iznik**	**1.28**	**14**	*e*Pn	**Pn**	**11 27 50.2**	**-0.9**
BALY	**Balya**	**1.29**	**301**	P	**Pg**	**11 27 53.0**	**+0.5**
BALY	**Balya**	**1.29**	**301**	*i* P	**Pg**	**11 27 53.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*PN	**Pn**	**11 27 50.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*Pn	**Pn**	**11 27 50.9**	**-0.2**
BORA	**Eskisehir**	**1.34**	**53**	P	**Pg**	**11 27 53.7**	**+0.3**
BORA	**Eskisehir**	**1.34**	**53**	*i* P	**Pg**	**11 27 53.7**	**+0.3**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*PN	**Pn**	**11 27 52.5**	**-0.6**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*Pn	**Pn**	**11 27 52.5**	**-0.6**
ARMT	**Armutlu**	**1.48**	**354**	*e*PN	**Pn**	**11 27 53.6**	**-0.1**
ARMT	**Armutlu**	**1.48**	**354**	*e*Pn	**Pn**	**11 27 53.6**	**-0.1**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**11 27 57.3**	**-0.2**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**	**11 27 57.3**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*PN	**Pn**	**11 27 59.8**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*Pn	**Pn**	**11 27 59.8**	**-0.4**

*PGC **02** 11:31:47.1±0.7, 58°.15N×143°.05W, h10km, ML3.1/6, 242km Wsw of Yakutat, Ak Gulf Of Alaska*
*NEIC **02** 11:31:49.7, 58°.03N×143°.22W, h7km, ML3.1(AEIC), After AEIC.*
ISC 02 11:31:45.2±1.0**, 58°.02N**±0°.05×**143°.13W**±0°.05**, h25**km**, n96,** σ1s99/121**, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUCK	**Suckling Hills**	**2.09**	**351**	P	**Pn**	**11 32 20.4**	**+1.8**
SUCK				S	**Sn**	**11 32 42.7**	**-1.1**
BGLC	**Bering Glacier**	**2.11**	**358**	P	**Pn**	**11 32 20.7**	**+1.8**
BGLC				S	**Sn**	**11 32 45.4**	**+1.1**
MID	**Middleton Isla**	**2.19**	**312**	P	**Pn**	**11 32 21.0**	**+1.0**
KULT	**Kultieth River**	**2.25**	**5**	P	**Pn**	**11 32 22.3**	**+1.5**
KULT				S	**Sn**	**11 32 47.3**	**-0.5**
MESA	**MESA**	**2.25**	**15**	P	**Pn**	**11 32 22.6**	**+1.6**
MESA				S	**Sn**	**11 32 48.6**	**+0.5**
NICHA	**Nichawak Mount**	**2.27**	**349**	P	**Pn**	**11 32 22.6**	**+1.5**
NICHA				S	**Sn**	**11 32 47.7**	**-0.6**
GRIN	**Grindle Hills**	**2.27**	**358**	P	**Pn**	**11 32 23.0**	**+1.8**
GRIN				S	**Sn**	**11 32 48.7**	**+0.3**
CHX	**Chaix Hills**	**2.30**	**26**	P	**Pn**	**11 32 23.7**	**+2.1**
YKU2	**Yakutat**	**2.34**	**49**	P	**Pn**	**11 32 24.5**	**+2.5**
YKU2				S	**Sn**	**11 32 50.5**	**+0.5**
BERG	**Berg Lake**	**2.40**	**353**	P	**Pn**	**11 32 24.1**	**+1.3**
BARK	**Barkley Ridge**	**2.42**	**8**	P	**Pn**	**11 32 24.6**	**+1.4**
KHIT	**Khitrov Hills**	**2.44**	**359**	P	**Pn**	**11 32 24.7**	**+1.3**
KHIT				S	**Sn**	**11 32 51.7**	**-0.7**
YAH	**Yahtse**	**2.46**	**16**	P	**Pn**	**11 32 25.6**	**+1.8**
RKAV	**Rock Avalanche**	**2.47**	**21**	P	**Pn**	**11 32 26.0**	**+2.1**
BAGL	**Bagley Icefiel**	**2.54**	**12**	P	**Pn**	**11 32 26.3**	**+1.6**
ISLE	**Juniper Island**	**2.63**	**9**	P	**Pn**	**11 32 27.4**	**+1.4**
TABL	**Table Mountain**	**2.64**	**22**	P	**Pn**	**11 32 28.4**	**+2.0**
CRQM	**Cirque**	**2.75**	**360**	P	**Pn**	**11 32 28.9**	**+1.1**
TGL	**Tana Glacier**	**2.75**	**3**	P	**Pn**	**11 32 29.0**	**+1.2**
DHAK	**Deception Hill**	**2.79**	**65**	P	**Pn**	**11 32 30.4**	**+2.1**
GRNC	**Granite Creek**	**2.81**	**14**	P	**Pn**	**11 32 30.3**	**+1.6**
EYAK	**Cordova Ski Ar**	**2.88**	**333**	P	**Pn**	**11 32 30.2**	**+0.8**
KIAG	**Kiagna River**	**2.94**	**7**	P	**Pn**	**11 32 31.9**	**+1.4**
LOGN	**Logan Glacier**	**3.02**	**20**	P	**Pn**	**11 32 33.3**	**+1.8**
BMRM	**Bremner River**	**3.06**	**346**	P	**Pn**	**11 32 32.8**	**+0.9**
BALM	**Baldy**	**3.06**	**7**	Pn	**Pn**	**11 32 33.4**	**+1.5**
BALM				Sn	**Sn**	**11 33 05.8**	**-2.0**
BALM	**Baldy**	**3.06**	**7**	P	**Pn**	**11 32 33.5**	**+1.5**
CTGM	**Chitina Glacie**	**3.10**	**16**	Pn	**Pn**	**11 32 34.0**	**+1.5**
CTGM				Sn	**Sn**	**11 33 06.8**	**-2.0**
CTGM	**Chitina Glacie**	**3.10**	**16**	P	**Pn**	**11 32 34.5**	**+1.9**
BARN	**Barnard Glacie**	**3.15**	**13**	P	**Pn**	**11 32 34.8**	**+1.5**
PTPK	**Patty Peak**	**3.20**	**6**	P	**Pn**	**11 32 35.8**	**+1.8**
VRDI	**Verde Repeater**	**3.23**	**357**	P	**Pn**	**11 32 35.6**	**+1.2**
MCARA	**McCarthy VSAT**	**3.38**	**1**	P	**Pn**	**11 32 37.8**	**+1.4**
DIV	**Divide**	**3.40**	**338**	Pn	**Pn**	**11 32 36.7**	**+0.1**
DIV				Sn	**Sn**	**11 33 14.0**	**-2.2**
DIV	**Divide**	**3.40**	**338**	P	**Pn**	**11 32 37.6**	**+1.0**
DIV				*e*Pn	**Pb**	**11 32 41.9**	**-2.8**
VLZ	**Valdez**	**3.52**	**334**	P	**Pn**	**11 32 39.0**	**+0.8**
YUK7	**Dusty Glacier**	**3.59**	**43**	Pn	**Pn**	**11 32 42.9**	**+3.5**
YUK7				Sn	**Sn**	**11 33 20.6**	**-0.6**
PS12	**TAPS Pump St12**	**3.62**	**344**	P	**Pn**	**11 32 40.9**	**+1.3**
KLU	**Klutina**	**3.76**	**339**	P	**Pn**	**11 32 42.6**	**+1.0**
PLBC	**Pleasant Camp**	**3.81**	**65**	Pn	**Pn**	**11 32 44.7**	**+2.5**
PLBC				Sn	**Sn**	**11 33 25.2**	**-0.9**
PLBC	**Pleasant Camp**	**3.81**	**65**	P	**Pn**	**11 32 44.6**	**+2.5**
SEW	**Seward**	**3.88**	**305**	P	**Pn**	**11 32 43.9**	**+0.8**
YUK2	**White River**	**3.96**	**16**	Pn	**Pn**	**11 32 47.0**	**+2.8**
YUK2				Sn	**Sn**	**11 33 29.3**	**-0.6**
YUK3	**Moose Creek**	**4.00**	**18**	Pn	**Pn**	**11 32 48.2**	**+3.1**
YUK3				Sn	**Sn**	**11 33 31.9**	**+0.7**
HYT	**Haines Junctio**	**4.02**	**43**	Pn	**Pn**	**11 32 48.0**	**+2.7**
HYT				Sn	**Sn**	**11 33 30.6**	**-1.0**
HYT	**Haines Junctio**	**4.02**	**43**	P	**Pn**	**11 32 47.7**	**+2.5**
YUK5	**Granite Creek**	**4.12**	**38**	Pn	**Pn**	**11 32 49.6**	**+3.1**
YUK5				Sn	**Sn**	**11 33 32.8**	**-1.1**
SKAG	**Skagway**	**4.32**	**67**	P	**Pn**	**11 32 51.5**	**+2.3**
KNK	**Knik Glacier**	**4.34**	**324**	P	**Pn**	**11 32 51.4**	**+1.9**
SCM	**Sheep Creek Mo**	**4.37**	**333**	P	**Pn**	**11 32 51.5**	**+1.5**
BRLK	**Bradley Lake**	**4.39**	**297**	P	**Pn**	**11 32 52.1**	**+1.9**
SLKM	**Skilak Lake**	**4.42**	**307**	P	**Pn**	**11 32 52.5**	**+1.9**
CNPM	**China Poot**	**4.48**	**293**	P	**Pn**	**11 32 53.3**	**+1.8**
BVCY	**Beaver Creek**	**4.56**	**13**	P	**Pn**	**11 32 54.9**	**+2.5**
RC01	**Rabbit Creek A**	**4.56**	**315**	P	**Pn**	**11 32 53.4**	**+0.9**
PMR	**Palmer**	**4.70**	**322**	*e*Pn	**Pn**	**11 32 57.1**	**+2.8**
GHO	**Glory Hole Cre**	**4.76**	**325**	P	**Pn**	**11 32 57.6**	**+2.2**
WHY	**Whitehorse**	**4.99**	**54**	Pn	**Pn**	**11 33 01.1**	**+2.6**
WHY				Sn	**Sn**	**11 33 53.9**	**-1.3**
WHY	**Whitehorse**	**4.99**	**54**	P	**Pn**	**11 33 01.1**	**+2.6**
KDAK	**Kodiak Island**	**5.05**	**271**	P	**Pn**	**11 33 01.9**	**+2.7**
PAX	**Paxson**	**5.11**	**348**	Pn	**Pn**	**11 33 01.8**	**+1.7**
BCA3	**Beaver Creek A**	**5.11**	**7**	P	**Pn**	**11 33 01.9**	**+1.9**
SUA	**Susitna One**	**5.17**	**315**	P	**Pn**	**11 33 02.6**	**+1.6**
FOPK	**Fourpeaked Vol**	**5.49**	**282**	P	**Pn**	**11 33 07.6**	**+2.2**
OPT	**Oil Point**	**5.50**	**292**	P	**Pn**	**11 33 07.6**	**+2.2**
AUE	**Augustine Isla**	**5.51**	**288**	P	**Pn**	**11 33 07.9**	**+2.4**
OHAK	**Old Harbor**	**5.52**	**266**	P	**Pn**	**11 33 08.2**	**+2.6**
RDWB	**Redoubt West**	**5.56**	**301**	P	**Pn**	**11 33 08.4**	**+2.0**
CDD	**Cape Douglas**	**5.59**	**284**	P	**Pn**	**11 33 09.3**	**+2.6**
STLK	**Strandline Lak**	**5.62**	**312**	P	**Pn**	**11 33 09.5**	**+2.4**
CKL	**Chakachamna La**	**5.66**	**308**	P	**Pn**	**11 33 09.6**	**+1.9**
DOT	**Dot Lake**	**5.67**	**356**	Pn	**Pn**	**11 33 09.8**	**+2.0**
DOT	**Dot Lake**	**5.67**	**356**	*e*Pn	**Pn**	**11 33 10.1**	**+2.3**
	5.1nm,0.7s						
SKT	**Skwentna**	**5.79**	**317**	P	**Pn**	**11 33 11.2**	**+1.8**
CRAG	**Craig**	**6.07**	**111**	P	**Pn**	**11 33 14.5**	**+1.3**
WRAK	**Wrangell Islan**	**6.07**	**101**	P	**Pn**	**11 33 15.6**	**+2.4**
RND	**Reindeer**	**6.09**	**335**	P	**Pn**	**11 33 15.4**	**+1.8**
KABR	**Katmai Barrier**	**6.29**	**276**	P	**Pn**	**11 33 18.3**	**+2.1**
KAHC	**Katmai Hardscr**	**6.29**	**281**	P	**Pn**	**11 33 18.3**	**+2.0**
DAWY	**Dawson**	**6.34**	**15**	Pn	**Pn**	**11 33 19.2**	**+2.4**
DAWY				Sn	**Sn**	**11 34 26.0**	**-2.4**
DAWY	**Dawson**	**6.34**	**15**	P	**Pn**	**11 33 18.7**	**+1.8**
TRF	**Thorofare Moun**	**6.48**	**330**	P	**Pn**	**11 33 20.4**	**+1.4**
EGAK	**Eagle**	**6.85**	**7**	*e*Pn	**Pn**	**11 33 26.6**	**+2.7**
	2.3nm,0.7s						
DLBC	**Dease Lake**	**6.94**	**81**	Pn	**Pn**	**11 33 28.2**	**+3.1**
DLBC	**Dease Lake**	**6.94**	**81**	P	**Pn**	**11 33 27.9**	**+2.8**
NDB	**Naden**	**7.01**	**121**	Pn	**Pn**	**11 33 27.8**	**+1.6**
NDB				Sn	**Sn**	**11 34 42.8**	**-2.3**
ILB	**Eielson Array**	**7.01**	**347**	P	**Pn**	**11 33 26.4**	**+0.2**
IL1	**Eielson Array**	**7.01**	**347**	P	**Pn**	**11 33 26.4**	**+0.2**
VIB	**Van Inlet**	**7.66**	**124**	Pn	**Pn**	**11 33 37.1**	**+2.0**
VIB				Sn	**Sn**	**11 34 57.4**	**-3.5**
DIB	**Dawson Inlet,**	**7.72**	**124**	Pn	**Pn**	**11 33 38.2**	**+2.4**
DIB				Sn	**Sn**	**11 34 59.0**	**-3.3**
MOBC	**Moresby Island**	**7.98**	**123**	Pn	**Pn**	**11 33 42.5**	**+3.0**
MOBC				Sn	**Sn**	**11 35 06.8**	**-2.1**
TT01	**Tatalina**	**8.03**	**313**	P	**Pn**	**11 33 41.6**	**+1.5**
BNAB	**Bonilla**	**8.37**	**117**	Pn	**Pn**	**11 33 47.3**	**+2.6**
BNB	**Barry Inlet**	**8.47**	**125**	Pn	**Pn**	**11 33 48.7**	**+2.5**
BNB				Sn	**Sn**	**11 35 17.0**	**-3.9**
COLD	**Coldfoot**	**9.79**	**344**	Pn	**Pn**	**11 34 05.3**	**+1.1**
FNBB	**Fort Nelson**	**10.57**	**77**	Pn	**Pn**	**11 34 18.4**	**+3.4**

*IDC **02** 11:31:49.5±6.8, 23°.43S×179°.78W, h424km±76km, mb3.7/9, mb1 3.9/10, mb1mx3.4/38, mbtmp4.5/10, Error ellipse: s-maj=43.6km s-min=20.3km az=11.0*
*ISCJB **02** 11:31:57.2±0.9, 23°.7S±0°.1×179°.9W±0°.2, h532km, mb4.1/9, Error ellipse: s-maj=19.0km s-min=13.8km az=7.0*
ISC 02 11:31:57.7±1.0**, 23°.8S**±0°.1×**179°.8W**±0°.2**, h532**km**, n11,** σ0s97/12**, mb4.2**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.62**	**190**	P	**P**	**11 35 02.0**	**-1.3**
	1.4nm,0.3s,baz=270,slow=1.5,SNR=9.0						
URZ				S	**S**	**11 37 37.3**	**+0.8**
	0.5nm,0.3s,baz=76,slow=21,SNR=9.4						
RPZ	**Rata Peaks**	**21.21**	**199**	P	**P**	**11 36 06.9**	**+1.5**
	4.3nm,0.4s,baz=6.0,slow=2.8,SNR=7.8						
CTA	**Charters Tower**	**31.65**	**270**	P	**P**	**11 37 37.7**	**+0.2**
	18nm,0.5s,baz=95,slow=11,SNR=55						
STKA	**Stephens Creek**	**34.91**	**248**	P	**P**	**11 38 04.8**	**-0.1**
	4.9nm,0.8s,baz=94,slow=10.0,SNR=10						
ASAR	**Alice Springs**	**42.21**	**260**	P	**P**	**11 39 04.2**	**-0.1**
	9.5nm,0.8s,baz=102,slow=7.0,SNR=93						
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**11 39 06.2**	**-1.0**
	3.1nm,0.4s,baz=90,slow=5.8,SNR=235						
FITZ	**Fitzroy Crossi**	**51.00**	**265**	P	**P**	**11 40 10.9**	**+0.1**
	8.1nm,0.9s,baz=93,slow=8.5,SNR=12						
NVAR	**Mina Array Bea**	**84.58**	**44**	P	**P**	**11 43 35.1**	**-0.2**
	0.6nm,0.8s,baz=208,slow=5.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**11 44 00.7**	**+1.2**
	0.8nm,0.6s,baz=117,slow=2.4,SNR=5.9						
TXAR	**Lajitas Array**	**90.25**	**58**	P	**P**	**11 44 02.3**	**+0.3**
	0.7nm,0.7s,baz=213,slow=6.7,SNR=9.9						
BRTR	**Keskin Array B**	**147.67**	**307**	PKPbc	**PKPab**	**11 50 45.9**	**-1.1**
	1.0nm,0.6s,baz=74,slow=3.5,SNR=5.4						

*IDC **02** 11:43:35.8±1.0, 34°.14S×108°.69W, h0km, mb3.6/4, mb1 4.1/4, mb1mx3.9/25, mbtmp3.6/4, MS3.9/12, Ms1 3.9/12, ms1mx3.7/29, Error ellipse: s-maj=40.8km s-min=37.6km az=136.0*
*GCMT **02** 11:43:36.0±0.4, 34°.85S×109°.06W, h15km±2km, MW4.8/63, Moment Tensor Solution. s19,c21; s63,c83; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.26±.12; Mθθ-1.24±.10; Mφφ1.50±.11; Mrθ-0.68±.34; Mθφ-1.28±.08; Mφr0.17±.30; Best double couple: Mo2.01000×10^16 NP1:φs115.00000°, δ84.00000°, λ-159.00000°. NP2: φs22.00000°, δ69.00000°, λ-7.00000°. Principal axes: T 2.0770, Plg10.0000°, Azm247.0000°; N -0.1350,*

Plg68.0000°, Azm131.0000°; P -1.9420, Plg19.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 02 11:43:36.5±1.1**, 34°.3S**±0°.3×**108°.7W**±0°.3**, h10**km**, n25, σ0s.55**/11**, mb3.7**/4**, MS4.0**/12**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKT	Rikitea	25.56	289	eLR	LR	11 55 19.5	
	226nm,34.2s						
RKT	Rikitea	25.56	289	eT	T	12 14 56.9	
	2.1nm,0.3s						
RKT				eT	T	12 15 00.0	
PLCA	Paso Flores	30.72	113	LR	LR	11 58 46.0	
	comp=Z,134nm,21.1s,baz=293,slow=30						
NNA	Nana	36.48	60	LR	LR	12 01 46.0	
	comp=Z,338nm,20.5s,baz=230,slow=30						
TBI	Tubuai	37.16	276	eLR	LR	12 00 37.2	
	565nm,27.5s						
PPT2	Papeete2	40.08	284	eLR	LR	12 02 06.0	
	384nm,24.0s						
PPT	Papeete	40.09	284	LR	LR	12 03 17.3	
	comp=Z,218nm,18.3s,baz=80,slow=30						
LPAZ	La Paz	40.48	74	P	P	11 51 16.3	0.0
	1.2nm,0.7s,baz=244,slow=5.6,SNR=5.0						
LPAZ				LR	LR	12 04 22.4	
	comp=Z,90nm,18.4s,baz=231,slow=31						
CPUP	Villa Florida	44.62	94	LR	LR	12 07 41.9	
	comp=Z,159nm,18.8s,baz=252,slow=32						
ROSC	El Rosal	50.65	47	LR	LR	12 10 11.3	
	comp=Z,87nm,21.7s,baz=262,slow=32						
BDFB	Brasilia	57.23	87	LR	LR	12 16 06.7	
	comp=Z,155nm,18.1s,baz=233,slow=34						
TXAR	Lajitas Array	63.48	5	P	P	11 54 07.4	+0.6
	0.2nm,0.7s,baz=181,slow=8.1,SNR=4.4						
NVAR	Mina Array Bea	72.93	352	P	P	11 55 06.1	0.0
	0.7nm,0.7s,baz=174,slow=5.9,SNR=4.8						
NVAR				LR	LR	12 20 47.9	
	comp=Z,72nm,19.3s,baz=201,slow=31						
DZM	Mont Dzumac	73.87	254	LR	LR	12 24 30.9	
	comp=Z,86nm,18.6s,baz=136,slow=33						
PDAR	Pinedale Array	76.71	359	P	P	11 55 26.8	-1.1
	0.2nm,0.3s,baz=151,slow=6.1,SNR=3.2						
PDAR				LR	LR	12 24 14.7	
	comp=Z,63nm,19.8s,baz=235,slow=32						
MAW	Mawson	78.20	177	LR	LR	12 27 37.7	
	comp=Z,73nm,19.0s,baz=102,slow=34						
DLBC	Dease Lake	94.11	349	LR	LR	12 34 32.3	
	comp=Z,96nm,18.4s,baz=180,slow=32						
H01W1	Cape Leeuwin H	100.35	215	T	T	13 49 27.6	
	baz=143,slow=75,SNR=5.3						
H01W2	Cape Leeuwin H	100.36	215	T	T	13 49 19.8	
	baz=143,slow=75,SNR=6.4						
H01W3	Cape Leeuwin H	100.37	215	T	T	13 49 22.7	
	baz=143,slow=75,SNR=6.0						
AKASG	Malin Array Be	145.43	49	PKPbc	PKPab	12 03 14.6	+0.1
	0.5nm,0.5s,baz=279,slow=3.6,SNR=4.7						
BRTR	Keskin Array B	149.57	69	PKP	PKPdf	12 03 21.6	-0.2
	0.7nm,0.9s,baz=281,slow=0.7,SNR=3.3						
BRTR				PKPbc	PKiKP	12 03 27.7	+0.3
	0.9nm,0.9s,baz=284,slow=0.6,SNR=4.3						
SONM	Songino Array	150.60	308	PKPbc	PKPbc	12 03 28.5	-0.1
	2.3nm,0.8s,baz=98,slow=2.2,SNR=7.6						
CMAR	Chiang Mai Arr	150.79	244	PKP	PKPdf	12 03 23.5	-0.6
	0.8nm,0.6s,baz=126,slow=1.2,SNR=7.4						
CMAR				PKPbc	PKiKP	12 03 30.8	+0.4
	2.8nm,0.8s,baz=187,slow=1.6,SNR=13						
KURBB	Kurchatov Arra	162.87	344	PKP	PKPdf	12 03 38.9	+0.4
	0.5nm,0.8s,baz=353,slow=0.6,SNR=4.8						

*KRNET **02** 11:55:16.2±0.1, 39°.52N×72°.23E, h19km, mb2.7*
*NNC **02** 11:55:22.0±3.6, 39°.70N×71°.85E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=45.0km s-min=10.0km az=128.0*

ISC 02 11:55:19.1±2.9**, 39°.61N**±0°.10×**72°.22E**±0°.07**, h21**km±7km**, n9, σ2s.12**/16**, 14C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHH	Osh	1.01	25	⇑eP	Pb	11 55 37.8	-0.1
	baz=23						
OHH				⇑eS	Sn	11 55 53.2	+1.5
	baz=23						
BTK	Batken	1.17	293	⇑eP	Pb	11 55 39.5	-1.2
	baz=297						
BTK				⇑eS	Sn	11 55 57.5	+1.8
	baz=297						
ARSB	Arslanbob	1.81	18	⇓eP	Pb	11 55 51.9	+0.3
	baz=17						
ARSB				⇓eS	Sb	11 56 17.4	+3.6
	baz=17						
ARK	Arkit	2.19	355	⇑eP	Pb	11 55 57.5	-0.7
	baz=355						
ARK				⇑eS	Sb	11 56 27.3	+2.4
	baz=355						
DZET	Dzherino	2.76	254	⇑Pg	Pb	11 56 07.1	-0.6
	7.2nm,0.5s						
DZET				⇓Lg	Lg	11 56 41.1	
	36nm,0.6s						
ARLS	Aral	2.76	35	⇑eP	Pb	11 56 05.1	-2.7
	baz=34						
ARLS				⇑eS	Sb	11 56 40.9	-0.3
	baz=34						
MNAS	Manas	2.88	4	⇑eP	Pb	11 56 07.4	-2.5
	baz=4.0						
MNAS				⇑eS	Sb	11 56 44.2	-0.5
	baz=4.0						
MNAS	Manas	2.88	4	⇑Pn	Pb	11 56 08.8	-1.1
	3.0nm,0.5s						
MNAS				⇑Sn	Sb	11 56 43.9	-0.8
	3.0nm,0.4s						
MNAS				⇑Lg	Lg	11 56 50.4	
	2.9nm,0.5s						
KK31	Karatay Array	3.72	340	Pn	Pb	11 56 20.6	-3.5
	0.4nm,0.2s,baz=150,slow=11,SNR=16						
KK31				⇓Pg	Pn	11 56 27.1	+12
	1.1nm,0.5s,baz=159,slow=16,SNR=3.9						
KK31				⇓Lg	Lg	11 57 13.5	
	2.1nm,0.5s,baz=166,slow=26,SNR=3.6						

*NIED **02** 12:00:00, 36°.50N×137°.60E, h8km, Mw4.3 Best double couple: M0 2.94000×10^15 NP1:φs276.00000°, δ76.00000°, λ-170.00000°. NP2:φs184.00000°, δ80.00000°, λ-14.00000°.*
*JMA **02** 12:00:07.8±0.1, 36°.48N×137°.64E, h1km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs188.00000°, δ86.00000°, λ6.00000°. NP2:φs98.00000°, δ84.00000°, λ176.00000°. Principal axes: T Plg7.0000°, Azm53.0000°; N Plg83.0000°, Azm217.0000°; P Plg2.0000°, Azm323.0000°;*
JMA Felt II J1.
*ISCJB **02** 12:00:08.5±0.5, 36°.43N±0°.06×137°.66E±0°.03, h11km, mb3.6/7, MS3.5/11 Error ellipse: s-maj=8.1km s-min=3.9km az=174.7*
*IDC **02** 12:00:08.7±0.8, 36°.36N×137°.70E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.6/51, mbtmp3.7/9, ML3.3/2, MS3.5/15, Ms1 3.5/15, ms1mx3.3/56, Error ellipse: s-maj=22.2km s-min=7.5km az=161.0*

ISC 02 12:00:10.2±0.7**, 36°.44N**±0°.06×**137°.65E**±0°.03**, h11**km**, n26, σ1s.67**/18**, mb3.7**/7**, MS3.4**/11**, 1C-2D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTT	Ttatey	0.31	303	⇓P	Pg	12 00 14.0	-2.4
JTT				S	Sg	12 00 18.5	-2.1
JGN	Niukaw	0.35	232	⇑P	Pg	12 00 15.2	-2.0
JGN				S	Sg	12 00 20.3	-1.6
JNG	Nsakai	0.36	95	⇓P	Pg	12 00 15.7	-1.8
JNG				S	Sg	12 00 21.1	-1.2
MAT	Matsushiro	0.46	77	P	Pg	12 00 17.1	-2.1
MAT				S	Sg	12 00 23.4	-1.9
MJAR	Matsushiro Arr	0.46	77	Pg	Pg	12 00 17.7	-1.6
	307nm,0.3s,baz=274,slow=16,SNR=1599						
MJAR				Lg	Lg	12 00 24.2	
	1μm,0.3s,baz=268,slow=39,SNR=122						
JNU	Nakatsue	6.48	241	Pn	Pn	12 01 46.6	+1.0
	0.5nm,0.3s,baz=66,slow=20,SNR=5.7						
JNU				LR	LR	12 04 19.0	
	comp=Z,340nm,18.1s,baz=107,slow=39						
KSRS	Korea Array	7.86	280	Pn	Pn	12 02 05.8	+1.4
	0.6nm,0.3s,baz=98,slow=14,SNR=6.1						
KSRS				LR	LR	12 04 59.2	
	comp=Z,242nm,18.3s,baz=97,slow=37						
USRK	Ussuriysk Ar.	8.87	333	LR	LR	12 05 25.3	
	comp=Z,228nm,18.0s,baz=138,slow=35						
KLR	Kul'dur	13.49	343	LR	LR	12 08 21.9	
	comp=Z,166nm,19.0s,baz=158,slow=36						
PETK	Petropavlovsk-	21.79	34	LR	LR	12 13 55.8	
	comp=Z,126nm,18.4s,baz=216,slow=38						
GUMO	Guam	23.66	162	LR	LR	12 13 49.9	
	comp=Z,78nm,18.7s,baz=14,slow=35						
MA2	Magadan	24.66	16	LR	LR	12 15 46.4	
	comp=Z,63nm,18.1s,baz=221,slow=38						
SONM	Songino Array	25.65	306	P	P	12 05 40.2	+0.2
	0.7nm,0.7s,baz=89,slow=7.9,SNR=3.5						
YAK	Yakutsk	26.10	351	LR	LR	12 15 49.1	
	comp=Z,112nm,18.1s,baz=175,slow=36						
CMAR	Chiang Mai Arr	38.43	253	LR	LR	12 22 41.8	
	comp=Z,43nm,18.6s,baz=40,slow=35						
ZALV	Zalesovo Beam	40.09	313	LR	LR	12 24 40.7	
	comp=Z,32nm,19.4s,baz=70,slow=37						
MKAR	Makanchi Array	41.88	302	LR	LR	12 25 55.2	
	comp=Z,75nm,19.3s,baz=84,slow=37						
NRIK	Noril'sk	42.57	336	LR	LR	12 26 36.5	
	comp=Z,123nm,20.0s,baz=118,slow=37						
WRA	Warramunga Arr	56.16	184	P	P	12 09 48.4	-1.6
	0.8nm,0.6s,baz=358,slow=7.5,SNR=14						
INK	Inuvik	56.28	27	LR	LR	12 37 05.2	
	comp=Z,63nm,18.1s,baz=98,slow=39						
AKTO	Aktyubinsk	56.81	311	LR	LR	12 35 24.7	
	comp=Z,56nm,18.1s,baz=26,slow=37						
ASAR	Alice Springs	59.89	184	P	P	12 10 16.8	+0.7
	0.3nm,0.6s,baz=13,slow=13,SNR=9.9						
ASAR				LR	LR	12 34 30.8	
	comp=Z,46nm,19.9s,baz=155,slow=34						
AKASG	Malin Array Be	72.88	321	P	P	12 11 39.2	+0.2
	0.4nm,0.4s,baz=51,slow=6.4,SNR=2.3						
BRTR	Keskin Array B	76.95	310	P	P	12 12 04.6	+1.6
	0.5nm,0.6s,baz=35,slow=7.8,SNR=2.6						
PDAR	Pinedale Array	80.21	44	P	P	12 12 22.1	+1.1
	0.5nm,0.6s,baz=306,slow=2.1,SNR=2.5						
GERES	GERESS Array B	81.58	326	P	P	12 12 28.8	+0.8
	0.3nm,0.7s,baz=52,slow=7.9,SNR=3.1						

*NNC **02** 12:02:53.5±2.3, 43°.81N×86°.67E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=17.3km s-min=13.0km az=103.0*

IDC 02 12:02:49.2±3.2**, 43°.86N**×**87°.23E, h0**km**, mb3.4**/1**, mb1 3.7**/4**, mb1mx3.3**/51**, mbtmp3.6**/4**, ML3.2**/3**, 9C-2D, Error ellipse: s-maj=57.7km s-min=21.3km az=29.0, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	4.56	312	⇑Pn	Pn	12 04 01.0	+1.6
	1.4nm,0.3s,baz=316,slow=38,SNR=103						
MK31				Sn	Sn	12 04 52.4	-0.8
	5.8nm,0.4s,baz=132,slow=25,SNR=5.4						
MK31				⇓Lg	Lg	12 05 08.8	
	6.1nm,0.4s,baz=133,slow=30,SNR=5.5						
MKAR	Makanchi Array	4.56	312	Pn	Pn	12 04 01.1	+1.7
	2.5nm,0.3s,baz=131,slow=14,SNR=74						
MKAR				Sn	Sn	12 04 52.8	-0.4
	6.2nm,0.3s,baz=127,slow=27,SNR=9.4						
MKAR				Lg	Lg	12 05 11.1	
	6.0nm,0.3s,baz=131,slow=35,SNR=7.4						
MAKZ	Makanchi	4.74	310	Pn	Pn	12 04 03.4	+1.5
	5.9nm,0.3s						
MAKZ				⇑Sn	Sn	12 04 56.3	-1.3
	8.6nm,0.5s						
MAKZ				⇑Lg	Lg	12 05 14.3	
	22nm,1.0s						
PDGK	Podgornoye	5.65	267	⇑Pn	Pn	12 04 13.3	-1.1
	3.5nm,0.8s						
PDGK				⇑Sn	Sn	12 05 15.3	-4.7
	9.7nm,0.5s						
PDGK				⇑Lg	Lg	12 05 39.0	
	40nm,0.9s						
KURBB	Kurchatov Arra	8.99	322	Pn	Pn	12 05 00.9	+0.7
	0.2nm,0.3s,baz=134,slow=13,SNR=11						
KURBB				Sn	Sn	12 06 40.6	-1.5
	0.1nm,0.3s,baz=131,slow=20,SNR=3.9						
KURBB				Lg	Lg	12 07 36.5	
	0.2nm,0.3s,baz=136,slow=37,SNR=5.1						
KURBB	Kurchatov Arra	8.99	322	⇓Pn	Pn	12 05 00.5	+0.3
	1.1nm,0.5s						
KURBB				⇑Lg	Lg	12 07 33.8	
	33nm,0.7s						
KURK	Kurchatov	9.02	323	⇑Pn	Pn	12 04 58.5	-2.1
	4.1nm,0.8s						
KURK				⇑Lg	Lg	12 07 31.0	
	18nm,0.6s						
ZALV	Zalesovo Beam	10.22	352	Pn	Pn	12 05 17.8	+0.7
	0.6nm,0.3s,baz=173,slow=13,SNR=4.1						
ILAR	Eielson Array	63.76	23	P	P	12 13 21.9	-0.6
	0.3nm,0.7s,baz=316,slow=5.3,SNR=5.2						

*SKO **02** 12:10:50.7, 40°.65N×21°.42E, h15km, M2.0, ML2.7*
*ISCJB **02** 12:10:51.7±0.4, 40°.69N±0°.02×21°.45E±0°.03, h4km±4km, Error ellipse: s-maj=4.2km s-min=3.1km az=3.2*
*ATH **02** 12:10:51.8, 40°.68N×21°.45E, h13km±3km, ML2.7/4, Error ellipse: s-maj=3.5km s-min=1.4km az=330.0*
*THE **02** 12:10:51.7, 40°.69N×21°.44E, h12km, ML2.8/8, Error ellipse: s-maj=0.8km s-min=0.3km az=298.0*
*CSEM **02** 12:10:52.2±0.2, 40°.67N×21°.46E, h10km, ML2.8, Error ellipse: s-maj=5.0km s-min=3.7km az=95.0*

ISC 02 12:10:51.5±0.8**, 40°.67N**±0°.02×**21°.45E**±0°.03**, h10**km±6km**, n38, σ0s.70**/66**, 2C-2D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	Florina	0.12	334	P	Pg	12 10 54.7	+0.2
FNA				S	Sg	12 10 56.7	+0.1
FNA	Florina	0.12	334	P	Pg	12 10 54.7	+0.2
FNA				S	Sg	12 10 56.4	-0.2
FNA	Florina	0.12	334	P	Pg	12 10 54.7	+0.2
FNA				S	Sg	12 10 56.4	-0.2
FNA				AML	AML	12 10 57.1	
	comp=E,31471μm,0.3s						
FNA				AML	AML	12 10 57.1	
	comp=N,33364μm,0.3s						
NEST	Nestorio	0.40	230	P	Pg	12 10 59.2	-0.2
NEST				S	Sg	12 11 05.5	+0.9
NEST	Nestorio	0.40	230	P	Pg	12 10 59.5	+0.1
NEST				S	Sg	12 11 05.5	+0.9
NEST	Nestorio	0.40	230	P	Pg	12 10 59.5	+0.1
NEST				S	Sg	12 11 05.6	+1.0
NEST				AML	AML	12 11 07.9	
	comp=N,2336μm,0.3s						
NEST				AML	AML	12 11 09.4	
	comp=E,2520μm,0.3s						
KZN	Kozani	0.44	146	P	Pg	12 11 00.6	+0.4
KZN				S	Sb	12 11 07.5	-0.7
KZN	Kozani	0.44	146	P	Pg	12 11 00.6	+0.4
KZN				S	Sb	12 11 07.5	-0.7
PENT	Pentalofos	0.53	206	P	Pg	12 11 02.1	+0.2
PENT				S	Sb	12 11 10.3	-0.5
PENT	Pentalofos	0.53	206	P	Pg	12 11 02.1	+0.2
PENT				S	Sb	12 11 10.3	-0.5
PENT	Pentalofos	0.53	206	P	Pg	12 11 02.1	+0.2
PENT				S	Sb	12 11 11.2	+0.4
PENT				AML	AML	12 11 13.4	
	comp=E,886μm,0.3s						
PENT				AML	AML	12 11 16.0	
	comp=N,1235μm,0.3s						
OHR	Ohrid	0.66	312	⇑iPg	Pg	12 11 03.8	-0.5
OHR				i Sg	Sg	12 11 13.4	+0.5
OHR				eLg	Lg	12 11 14.2	
	comp=N,364nm,0.5s						
OHR				eLg	Lg	12 11 14.2	
	comp=E,467nm,0.5s						
OHR	Ohrid	0.66	312	⇑iPg	Pg	12 11 03.8	-0.5
OHR				i Sg	Sg	12 11 13.4	+0.5
OHR				eLg	Lg	12 11 14.1	
	comp=E,364nm,0.5s						
KPRO	Kipourio	0.72	185	P	Pg	12 11 05.3	-0.1
KPRO				S	Sb	12 11 16.5	+0.3
KPRO	Kipourio	0.72	185	P	Pg	12 11 05.4	-0.1
KPRO				S	Sg	12 11 15.7	+0.9
KPRO	Kipourio	0.72	185	P	Pg	12 11 05.4	-0.1
KPRO				S	Sg	12 11 15.7	+0.9
KPRO				AML	AML	12 11 20.5	
	comp=N,1162μm,0.4s						
KPRO				AML	AML	12 11 22.3	
	comp=E,1925μm,0.3s						
GRG	Griva	0.78	68	P	Pg	12 11 06.5	0.0
GRG				S	Sb	12 11 17.7	-0.2
GRG	Griva	0.78	68	P	Pg	12 11 06.9	+0.4
GRG				S	Sb	12 11 17.7	-0.2
GRG	Griva	0.78	68	P	Pg	12 11 06.9	+0.4
LIT	Litokhoron	0.98	125	P	Pb	12 11 10.3	-0.3
LIT				S	Sn	12 11 24.7	-0.7
LIT	Litokhoron	0.98	125	P	Pn	12 11 11.2	-0.2
LIT				S	Sn	12 11 24.7	-0.7
LIT	Litokhoron	0.98	125	P	Pn	12 11 11.2	-0.2
VAY	Valandovo	1.07	52	P	Pb	12 11 11.6	-0.5
VAY				S	Sn	12 11 26.9	-0.6
VAY	Valandovo	1.07	52	⇓iPg	Pb	12 11 12.0	-0.2
VAY				i Sg	Sn	12 11 27.6	0.0
VAY				eLg	Lg	12 11 30.4	
	comp=N,79nm,0.5s						
VAY				eLg	Lg	12 11 30.4	
	comp=E,94nm,0.7s						
VAY	Valandovo	1.07	52	P	Pb	12 11 11.6	-0.5
VAY	Valandovo	1.07	52	⇓iPg	Pb	12 11 11.9	-0.2
VAY				S	Sn	12 11 26.9	-0.6
VAY				i Sg	Sn	12 11 27.5	0.0
VAY				eLg	Lg	12 11 30.3	
	comp=E,79nm,0.5s						
THL	Klokotos Trika	1.19	158	P	Pn	12 11 13.4	-0.8
THL				S	Sn	12 11 30.5	0.0
THL	Klokotos Trika	1.19	158	P	Pn	12 11 13.4	-0.8
THL				S	Sn	12 11 30.5	0.0
SKO	Skopje	1.30	360	ePg	Pb	12 11 16.0	-0.1
SKO				i Sg	Sg	12 11 34.8	+1.4
SKO				eLg	Lg	12 11 35.2	
	comp=N,9.1nm,0.3s						
SKO				eLg	Lg	12 11 35.5	
	comp=E,7.5nm,0.5s						
SKO	Skopje	1.30	360	ePg	Pb	12 11 15.9	-0.1
SKO				i Sg	Sg	12 11 34.7	+1.4
SKO				eLg	Lg	12 11 35.2	
	comp=E,9.1nm,0.3s						
KEK	Kerkira	1.58	233	P	Pg	12 11 22.9	+1.0
EVR	Evrytania	1.78	171	P	Pb	12 11 24.1	-0.1
EVR	Evrytania	1.78	171	P	Pb	12 11 24.1	-0.1
BARS	Barje	2.16	7	ePn	Pn	12 11 28.5	+0.9
IVAS	Ivanjica	3.06	342	ePn	Pb	12 11 43.1	-3.0
GRUS	Gruza	3.26	351	ePn	Pn	12 11 43.9	+1.2
DIVS	Divibare	3.59	343	ePn	Pn	12 11 48.5	+1.2
TEKS	Tekeris	4.12	341	ePn	Pn	12 11 55.9	+1.3

*ISCJB **02** 12:21:34.1±1.6, 34°.04S±0°.04×72°.27W±0°.06, h31km±12km, mb4.4/13, MS3.7/7, Error ellipse: s-maj=8.5km s-min=5.9km az=23.8*
*GUC **02** 12:21:34.0±0.4, 34°.05S×72°.19W, h45km±3km, ML4.4*
*NEIC **02** 12:21:34.0, 34°.05S×72°.19W, h45km, mb4.5/4, After GUC.*
NEIC Felt [III] at Pichilemu and [II] at Limache, Melipilla, Rancagua, San Antonio and Talca.
*IDC **02** 12:21:36.3±7.3, 34°.02S×72°.00W, h29km±49km, mb4.0/9, mb1 4.2/12, mb1mx3.9/37, mbtmp4.2/12, ML4.2/3, MS3.8/9, Ms1 3.8/9, ms1mx3.7/26, Error ellipse: s-maj=31.2km s-min=21.0km az=88.0*

ISC 02 12:21:33.6±2.1**, 34°.05S**±0°.04×**72°.19W**±0°.07**, h14**km±12km**, n59, σ2s.07**/59**, mb4.5**/13**, MS3.5**/7**, 1C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCDM	Rinconada Maip	1.28	65	eP	Pn	12 21 56.4	-0.7
RCDM				eS	Sn	12 22 13.2	-0.9
ANTU	Antumapu	1.38	70	eP	Pn	12 21 58.1	-0.4
ANTU				eS	Sn	12 22 16.2	-0.4
TALC	Talca	1.43	161	eP	Pn	12 21 58.3	-0.7
TALC				eS	Sn	12 22 17.2	-0.3
ROC1	El Roble	1.45	43	eP	Pn	12 21 59.6	0.0
ROC1				⇓eS	Sg	12 22 24.7	+4.2
ROCH	El Roble	1.46	43	eP	Pn	12 21 59.5	-0.2
ROCH				eS	Sb	12 22 19.0	-0.1
CLCH	Cerro Calan	1.52	65	eP	Pn	12 22 00.4	-0.1
CLCH				eS	Sn	12 22 20.2	0.0
CLCH				IAML		12 22 32.7	
	comp=N,9μm,0.6s						
PEL	Peldehue	1.55	55	eP	Pn	12 22 00.6	-0.2
PEL				eS	Sn	12 22 20.6	-0.1
PEL				IAML		12 22 28.4	
	comp=N,8μm,0.6s						
AUSP	Uspallata	2.97	53	eP	Pn	12 22 23.2	+2.6
AUSP				eS	Sb	12 23 05.4	+2.5
RTLS	Leoncito	3.31	48	eP	Pn	12 22 28.1	+2.8
RTLS				eS	Sg	12 23 17.2	-2.8
RTCV	Cerro Valdivia	3.77	56	eP	Pn	12 22 33.3	+2.1
RTCV				⇓eS	Sb	12 23 26.8	+1.4
CANA	Caviahue	3.94	167	eP	Pn	12 22 38.3	+4.5
CANA				eS	Sg	12 23 40.3	+0.1
SJA	San Juan	3.96	52	⇓eS	Sg	12 23 36.4	-4.4
SJA				IAML		12 23 44.3	
	comp=Z,307nm,0.6s						
RTLL	Cerro Villicun	4.14	50	eP	Pn	12 22 39.3	+2.8
RTLL				eS	Sb	12 23 33.2	-3.1
AMOG	MOGNA	4.40	46	eP	Pn	12 22 41.8	+1.8
ACAN	Cantantal	4.55	69	eP	Pn	12 22 45.1	+3.0
LCO	Las Campanas	5.18	15	ePn	Pn	12 22 50.9	0.0
	comp=Z,60nm,0.5s						
AGUA	GUANDACOL	5.53	36	eP	Pn	12 22 56.5	+0.9
MRA	San Martin	5.66	75	IAML		12 24 45.7	
	comp=Z,103nm,0.6s						
SUCO	SUCO	6.13	85	eP	Pn	12 23 06.9	+3.0
SUCO				IAML		12 24 49.5	
	comp=Z,70nm,0.4s						
VCA	Vinchina	6.29	34	eP	Pn	12 23 05.8	-0.4
VCA				⇓eS	Sb	12 24 35.2	-3.1
VCA				IAML		12 25 01.9	
	comp=Z,260nm,0.6s						
PLCA	Paso Flores	6.80	169	IAML		12 23 24.2	
	comp=Z,29nm,0.5s						
PLCA	Paso Flores	6.80	169	Pn	Pn	12 23 14.0	+1.0
	comp=Z,2.5nm,0.3s,baz=0.6,slow=10,SNR=79						
PLCA				Lg	Lg	12 25 06.2	
	comp=Z,1.6nm,0.3s,baz=305,slow=18,SNR=3.4						
PLCA				LR	LR	12 26 16.1	
	comp=Z,579nm,20.4s,baz=10,slow=41						
TCA	Tanti	6.95	69	eP	Pn	12 23 15.1	0.0
TCA				IAML		12 25 15.6	
	comp=Z,66nm,0.6s						
CYA	Choya	7.82	46	eP	Pn	12 23 24.5	-2.5
CYA				eS	Sn	12 25 03.8	+8.4
CYA				IAML		12 25 39.4	
	comp=Z,62nm,0.7s						
TRQA	Tornquist	9.19	119	ePn	Pn	12 23 47.4	+1.7
	comp=Z,31nm,1.0s						
FSA	Cafayete	9.56	36	eP	Pn	12 23 57.7	+6.7
FSA				IAML		12 24 00.6	
	comp=Z,18nm,0.6s						
LVC	Limon Verde	11.75	15	ePn	Pn	12 24 21.7	+0.5
	comp=Z,4.6nm,0.6s						
CPUP	Villa Florida	14.97	63	Pn	Pn	12 25 05.8	+1.1
	comp=Z,0.1nm,0.3s,baz=220,slow=15,SNR=6.5						
CPUP				LR	LR	12 31 13.1	
	comp=Z,719nm,19.8s,baz=242,slow=39						
LPAZ	La Paz	18.06	13	P	P	12 25 45.2	+0.1
	comp=Z,0.2nm,0.3s,baz=190,slow=7.4,SNR=15						
SIV	San Ignacio	20.58	32	P	P	12 26 11.1	-1.1
	comp=Z,2.7nm,0.6s,baz=218,slow=7.6,SNR=10						
SIV				LR	LR	12 35 32.6	
	comp=Z,555nm,19.1s,baz=223,slow=41						
USHA	Ushuaia	20.95	174	LR	LR	12 34 03.9	
	comp=Z,1μm,21.8s,baz=1.0,slow=36						
NNA	Nana	22.36	348	LR	LR	12 33 07.7	
	comp=Z,82nm,21.2s,baz=171,slow=31						
SPB	Sao Paulo	24.01	71	eP	P	12 26 47.5	-0.5
	comp=Z,6.6nm,0.6s						
SAML	Samuel	26.32	20	eP	P	12 27 08.4	-0.6
	comp=Z,13nm,1.0s						
ATAH	Atahualpa	27.39	347	LR	LR	12 36 09.0	
	comp=Z,101nm,19.3s,baz=205,slow=32						
BDFB	Brasilia	28.47	56	P	P	12 27 26.6	-1.8
	comp=Z,2.4nm,0.5s,baz=190,slow=7.2,SNR=4.4						
PTGA	Pitinga	35.07	22	LR	LR	12 42 31.1	
	comp=Z,34nm,20.0s,baz=198,slow=36						
ROSC	El Rosal	38.73	357	LR	LR	12 45 14.1	
	comp=Z,66nm,18.4s,baz=288,slow=37						
RCBR	Riachuelo	43.78	58	P	P	12 29 38.7	-0.4
	comp=Z,9.8nm,0.8s,baz=255,slow=12						
SNAA	Sanae	51.59	158	eP	P	12 30 39.2	+0.2
	comp=Z,1μm,1.3s						
SYO	Syowa Base	65.87	158	⇓epP	pP	12 32 28.2	+5.3
SYO	Syowa Base	65.87	158	⇑esP	sP	12 32 30.0	+5.4
TXAR	Lajitas Array	69.71	331	P	P	12 32 43.8	+0.7
	comp=Z,0.1nm,0.4s,baz=146,slow=7.9,SNR=3.9						

PPT Papeete 70.11 262 LR LR 12 57 02.2
comp=Z,283nm,18.5s,baz=105,slow=30

MAW Mawson 73.17 164 P **P** **12 33 03.3 0.0**
comp=Z,1.6nm,0.3s,baz=247,slow=13,SNR=4.3

SMCO Snowmass 79.66 333 P **P** **12 33 40.4 -0.5**
comp=Z,7.9nm,1.4s

BOSA Boshof 80.16 118 P **P** **12 33 43.8 0.0**
comp=Z,2.6nm,0.7s,baz=225,slow=5.9,SNR=5.1

ECSD EROS Data Cent 80.55 342 *eP* **P** **12 33 44.8 -0.4**
comp=Z,15nm,1.3s

LBTB Lobatse 82.40 115 P **P** **12 33 55.3 -0.4**
comp=Z,2.4nm,0.7s,baz=226,slow=9.0,SNR=3.2

NVAR Mina Array Bea 83.85 325 P **P** **12 34 03.7 +0.8**
comp=Z,0.4nm,0.6s,baz=133,slow=5.0,SNR=3.2

TORD Torodi Ar. Bea 84.35 70 P **P** **12 34 04.8 -0.8**
comp=Z,4.2nm,0.9s,baz=234,slow=2.5,SNR=17

H11S2 WAKE ISLAND Hyl 25.64 269 T T 14 59 12.6
baz=120,slow=75,SNR=6.5

H11S1 WAKE ISLAND Hyl 25.66 269 T T 14 59 02.1
baz=120,slow=75,SNR=6.0

H11S3 WAKE ISLAND Hyl 25.66 269 T T 14 58 56.3
baz=120,slow=75,SNR=4.0

BVAR Borovoye Array 147.40 43 PKPbc **PKPbc** **12 41 16.7 +0.3**
comp=Z,2.2nm,0.5s,baz=301,slow=2.6,SNR=9.9

KURBB Kurchatov Arra 152.99 43 PKPbc **PKPbc** **12 41 29.8 -0.2**
comp=Z,1.1nm,0.5s,baz=295,slow=2.8,SNR=7.8

KURK Kurchatov 153.00 43 PKPbc **PKPbc** **12 41 29.8 -0.2**

ZALV Zalesovo Beam 154.33 32 PKPbc **PKPbc** **12 41 32.4 -0.4**
comp=Z,3.0nm,0.6s,baz=310,slow=3.5,SNR=8.9

MKAR Makanchi Array 156.89 49 PKPab **PKPab** **12 41 57.6 -0.6**
comp=Z,0.8nm,0.7s,baz=316,slow=5.1,SNR=5.7

LJU 02 12:24:45.4, 46°.11N×15°.58E, h4km, ML0.5, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOBS	**Dobrina**	**0.09**	**296**	⇓*i*	Pg	12 24 47.3	+0.1
DOBS				*i*	Sg	12 24 48.5	+0.1
	comp=Z,19nm,0.1s						
GOLS	**Golise**	**0.11**	**163**	⇑*i*	Pg	12 24 47.6	+0.1
GOLS				*i*	Sg	12 24 49.2	+0.2
	comp=Z,21nm,0.3s						
LEGS	**Legarje**	**0.24**	**228**	*i*	Pg	12 24 50.2	+0.1
LEGS				*i*	Sg	12 24 53.8	+0.4

NIED ***02*** *12:26:00, 38°.40N×142°.20E, h35km, Mw3.6 Best double couple: M₀2.46000×10¹⁴ NP1:φs334.00000°, δ39.00000°, λ-103.00000°. NP2:φs171.00000°, δ52.00000°, λ-79.00000°.*

JMA 02 12:26:45.5±0.1, 38°.45N×142°.24E, h28km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.70**	**271**	P	Pb	12 26 58.9	-0.2
JIO				S	Sb	12 27 07.7	-0.7
OFUJ	**Ofunato**	**0.77**	**325**	P	Pb	12 27 00.1	-0.3
OFUJ				S	Sb	12 27 10.0	-0.5
JMK	**Ichinoseki**	**0.94**	**302**	P	Pn	12 27 02.8	-0.1
JMK				S	Sb	12 27 15.1	-0.2
JOU	**Okura**	**1.24**	**267**	P	Pn	12 27 07.5	+0.5
JOU				S	Sb	12 27 23.4	-0.5
JOM	**Ohasama**	**1.26**	**324**	P	Pn	12 27 07.7	+0.4
JOM				S	Sb	12 27 24.1	-0.4
JMM	**Marumori**	**1.28**	**243**	P	Pn	12 27 07.2	-0.3
JMM				S	Sn	12 27 22.9	-0.8
JFK	**Kawauchi**	**1.53**	**225**	P	Pn	12 27 10.1	-0.9
JFK				*e*S	Sn	12 27 27.5	-2.4

IDC ***02*** *12:30:24.9±0.5, 11°.56S×13°.16W, h0km, mb4.3/20, mb1 4.3/21, mb1mx4.2/43, mbtmp4.3/21, ML3.4/1, MS4.5/24, Ms1 4.5/24, ms1mx4.5/25, Error ellipse: s-maj=17.7km s-min=13.1km az=159.0*

MOS ***02*** *12:30:25.5±1.4, 11°.58S×13°.32W, h10km, mb5.0/22, Error ellipse: s-maj=17.3km s-min=7.5km az=61.4*

BJI ***02*** *12:30:26.2, 11°.50S×13°.50W, h10km, mb5.5/1, mB5.7/6, Ms5.1/7, Ms7 4.8/7*

NEIC ***02*** *12:30:27.1±0.3, 11°.70S×13°.21W, h10km, mb5.2/26, Error ellipse: s-maj=11.8km s-min=7.9km az=136.0*

ISCJB ***02*** *12:30:27.4±0.3, 11°.44S±0°.04×13°.42W±0°.04, h20km, mb4.7/67, MS4.6/27, Error ellipse: s-maj=5.8km s-min=5.1km az=169.9*

GCMT ***02*** *12:30:27.1±0.2, 11°.57S×13°.22W, h12km, MW5.2/103, Moment Tensor Solution. s58,c72; s103,c182; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr0.65±.14; Mθθ-3.02±.14; Mφφ2.37±.14; Mrθ-1.79±.38; Mθφ6.33±.11; Mφr-2.06±.38; Best double couple: M₀7.41500×10¹⁶ NP1:φs260.00000°, δ77.00000°, λ17.00000°. NP2:φs166.00000°, δ73.00000°, λ167.00000°. Principal axes: T 7.6080, Plg21.0000°, Azm124.0000°; N -0.3850, Plg69.0000°, Azm296.0000°; P -7.2220, Plg3.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 12:30:28.7±0.3, 11°.51S±0°.05×13°.34W±0°.06, h20km, n198, σ1s74/175, mb4.8/67, MS4.6/28, 13C-7D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**2.84**	**333**	Pn	**Pn**	**12 31 11.2**	**-1.6**
H10S2				Sn	**Sn**	**12 31 43.7**	**-2.7**
H10S2				T	T	12 34 22.1	
	baz=153,slow=74,SNR=876						
H10S3	**ASCENSION HYDR**	**2.86**	**333**	Pn	**Pn**	**12 31 11.4**	**-1.6**
H10S3				Sn	**Sn**	**12 31 43.9**	**-2.9**
H10S3				T	T	12 34 10.0	
	baz=153,slow=74,SNR=790						
H10S1	**ASCENSION HYDR**	**2.86**	**333**	Pn	**Pn**	**12 31 11.5**	**-1.6**
H10S1				Sn	**Sn**	**12 31 43.6**	**-3.2**
H10S1				T	T	12 34 10.4	
	baz=153,slow=74,SNR=763						
H10N1	**ASCENSION HYDR**	**3.81**	**343**	Pn	**Pn**	**12 31 24.9**	**-1.3**
	baz=162,slow=20,SNR=14						
H10N1				T	T	12 35 28.7	
	baz=160,slow=75,SNR=27						
H10N3	**ASCENSION HYDR**	**3.82**	**342**	Pn	**Pn**	**12 31 25.3**	**-1.0**
	baz=162,slow=20,SNR=14						
H10N3				T	T	12 35 29.0	
	baz=160,slow=75,SNR=40						
H10N2	**ASCENSION HYDR**	**3.83**	**343**	Pn	**Pn**	**12 31 25.7**	**-0.7**
	baz=162,slow=20,SNR=12						
H10N2				T	T	12 35 34.9	
	baz=160,slow=75,SNR=24						
LIC	**Lamto**	**19.47**	**26**	*e*P	**Pn**	**12 34 55.3**	**-0.4**
KIC	**Kosan Boka**	**19.71**	**26**	*e*P	**Pn**	**12 34 58.1**	**-0.5**
	322nm,1.9s						
TIC	**Toumodi**	**19.85**	**25**	*e*P	**P**	**12 34 56.9**	**-1.7**
DBIC	**Dimbokro**	**19.94**	**25**	P	**P**	**12 34 57.3**	**-2.3**
	0.1nm,0.3s,baz=198,slow=16,SNR=2.9						
DBIC				LR	LR	12 40 52.3	
	comp=Z,2μm,19.8s,baz=158,slow=32						
RCBR	**Riachuelo**	**23.00**	**282**	LR	LR	12 42 04.4	
	comp=Z,2μm,21.4s,baz=90,slow=30						
BBTS	**Babate**	**26.20**	**353**	P	**P**	**12 36 03.8**	**+1.5**
	19nm,0.7s,baz=140,slow=7.4,SNR=3.1						
BBTS				LR	LR	12 45 10.3	
	comp=Z,1μm,18.4s,baz=172,slow=34						
KOWA	**Kowa**	**27.45**	**20**	*e*P	**P**	**12 36 13.5**	**0.0**
	15nm,1.6s						
TOA0	**Torodi Ar. Sit**	**28.69**	**32**	*e*P	**P**	**12 36 23.6**	**-1.0**
	21nm,1.1s						
TOA0				*e*P	**P**	**12 36 24.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**28.69**	**32**	P	**P**	**12 36 22.6**	**-2.0**
	5.3nm,0.9s,baz=212,slow=9.0,SNR=12						
TORD				LR	LR	12 46 07.1	
	comp=Z,2μm,19.9s,baz=220,slow=33						
TSUM	**Tsumeb**	**30.75**	**108**	P	**P**	**12 36 39.4**	**-3.7**
	2.5nm,0.9s,baz=283,slow=8.6,SNR=4.6						
TSUM				LR	LR	12 46 22.6	
	comp=Z,2μm,21.4s,baz=319,slow=31						
BDFB	**Brasilia**	**33.93**	**259**	P	**P**	**12 37 11.2**	**+0.2**
	8.3nm,0.9s,baz=111,slow=8.6,SNR=7.0						
BDFB				LR	LR	12 49 01.2	
	comp=Z,316nm,18.8s,baz=84,slow=33						
SPB	**Sao Paulo**	**34.55**	**245**	*e*P	**P**	**12 37 16.5**	**+0.3**
	113nm,2.0s						
SUR	**Sutherland**	**37.63**	**129**	P	**P**	**12 37 41.3**	**-1.3**
	0.3nm,0.7s,baz=327,slow=6.8,SNR=4.2						

BOSA Boshof 39.83 121 LR LR 12 51 21.1
comp=Z,2μm,21.3s,baz=266,slow=32

LSZ Lusaka 40.53 100 P **P** **12 38 05.3 -1.8**
1.9nm,0.6s,baz=236,slow=7.3,SNR=3.3

LSZ Lusaka 40.53 100 P **P** **12 38 05.3 -1.8**
LSZ *e* **P** 12 38 06.1
LSZ Lusaka 40.53 100 P **P** **12 38 05.3 -1.8**
LSZ *eP* **P** **12 38 06.1 -1.0**

CPUP Villa Florida 43.92 244 P **P** **12 38 34.9 +0.4**
8.5nm,1.1s,baz=82,slow=7.6,SNR=11

CPUP LR LR 12 54 15.5
comp=Z,798nm,19.7s,baz=86,slow=32

CPUP Villa Florida 43.92 244 *eP* **P** **12 38 34.7 +0.3**
CPUP Villa Florida 43.92 244 *eP* **P** **12 38 34.7 +0.3**

SIV San Ignacio 46.50 259 P **P** **12 38 56.0 +0.9**
3.0nm,0.8s,baz=93,slow=9.7,SNR=5.8

PTGA Pitinga 47.50 280 P **P** **12 39 03.2 +0.2**
1.9nm,0.8s,baz=105,slow=10,SNR=6.8

PTGA Pitinga 47.50 280 *eP* **P** **12 39 04.7 +1.7**
32nm,1.5s

SAML Samuel 49.07 268 *eP* **P** **12 39 15.6 +0.5**
21nm,1.2s

TRQA Tornquist 50.73 230 *eP* **P** **12 39 27.9 +0.5**
16nm,1.1s

KMBO Kilima Mbogo 51.25 82 P **P** **12 39 30.8 -1.1**
0.6nm,0.4s,baz=216,slow=19,SNR=2.4

KMBO LR LR 12 59 55.6
comp=Z,394nm,18.6s,baz=263,slow=35

KMBO Kilima Mbogo 51.25 82 *eP* **P** **12 39 34.6 +2.7**
KMBO pmax pmax
comp=Z,11nm,1.3s

KMBO Kilima Mbogo 51.25 82 *eP* **P** **12 39 34.6 +2.7**
comp=Z,11nm,1.3s

KEST Kesra 51.65 24 P **P** **12 39 36.7 +2.4**
comp=Z,7.8nm,1.1s,baz=217,slow=5.1,SNR=3.5

KEST LR LR 13 00 32.1
comp=Z,961nm,20.7s,baz=186,slow=35

ESDC Sonseca Array 51.67 9 LR LR 13 00 50.0
comp=Z,582nm,18.6s,baz=165,slow=35

LPAZ La Paz 53.27 258 P **P** **12 39 47.1 -0.2**
comp=Z,2.0nm,0.8s,baz=117,slow=6.5,SNR=7.8

LPAZ La Paz 53.27 258 *eP* **P** **12 39 47.1 -0.2**
comp=Z,10nm,0.9s

H05S1 Guadeloupe/Mar 53.66 298 T T 13 37 44.7
SNR=78

H05N1 Guadeloupe/Mar 54.70 299 T T 13 38 59.0
SNR=14

LCO Las Campanas 56.03 243 *eP* **P** **12 40 07.2 +0.4**
comp=Z,46nm,1.5s

TIP Timpagrande 57.70 27 *eP* **P** **12 40 21.5 +3.3**
comp=Z,17nm,1.3s

PLCA Paso Flores 57.84 229 LR LR 13 01 36.8
comp=Z,385nm,21.1s,baz=114,slow=32

IDI Anoyia 58.95 36 *eP* **P** **12 40 27.2 +0.3**
comp=Z,29nm,1.1s

VNA1 Neumayer--Stat 59.18 178 P pP 12 40 33.9 -0.4
LAST Lasithi 59.20 37 *eP* **P** **12 40 31.6 +2.9**
comp=Z,21nm,1.1s

AGG Agios Georgios 60.27 32 *eP* **P** **12 40 37.5 +1.5**
AGG pmax pmax
comp=Z,44nm,1.4s

AGG Agios Georgios 60.27 32 *eP* **P** **12 40 37.5 +1.5**
comp=Z,44nm,1.4s

SNAA Sanae 60.46 176 P **P** **12 40 36.8 0.0**
SNAA Sanae 60.46 176 ⇑*i* pP **P** **12 40 37.6 +0.8**
SNAA *i* *PP **pP** **12 40 42.3 -1.0**
SNAA Sanae 60.46 176 *eP* **P** **12 40 36.2 -0.6**
comp=Z,30nm,1.3s

GRG Griva 61.77 30 P **P** **12 40 44.7 -1.4**
GRG pmax pmax
comp=Z,6.0nm,1.8s

SJAC San Juan de Ar 62.03 280 *eP* **P** **12 40 48.4 -0.1**
DAVA Damuels 62.10 18 *i* pP pP 12 40 52.8 -2.0
comp=Z,13nm,1.0s

FETA Feichten 62.12 18 *i* pP pP 12 40 53.2 -1.7
comp=Z,12nm,1.3s

SOH Sokhos 62.14 31 P **P** **12 40 49.0 +0.4**
SOH pmax pmax
comp=Z,5.0nm,1.3s

CBRI Barrientos, No 62.15 285 *eP* **P** **12 40 49.5 +0.2**
GRMC Gramalote, San 62.15 285 *eP* **P** **12 40 50.1 +0.8**
BARC Barichara 62.19 284 *eP* **P** **12 40 48.4 -1.2**
JAVS Javornik 62.24 21 *i* P pP 12 40 56.2 +0.5
BOJS Bojanci 62.34 22 *i* P pP 12 40 57.3 +1.1
VISS Visnje 62.44 22 *i* P pP 12 40 56.5 -0.4
ABTA Abfaltersbach 62.45 20 *i* pP pP 12 40 56.1 -0.9
comp=Z,5.0nm,1.3s

MOTA Moosalm 62.52 18 *i* pP pP 12 40 55.2 -2.4
comp=Z,13nm,1.4s

RETA Reutte 62.55 18 *i* pP pP 12 40 55.7 -2.0
comp=Z,6.9nm,1.2s

BFO Black Forest 62.60 16 *eP* **P** **12 40 55.7 +4.2**
BFO pmax pmax
comp=Z,25nm,1.6s

BFO Black Forest 62.60 16 *eP* **P** **12 40 55.7 +4.2**
comp=Z,25nm,1.6s

URIC Uribia, Colomb 62.65 290 *eP* **P** **12 40 50.7 -1.7**
ROSC El Rosal 62.79 282 P **P** **12 40 55.4 +1.5**
comp=Z,5.3nm,0.6s,baz=145,slow=7.8,SNR=5.0

ROSC LR LR 13 07 48.2
comp=Z,649nm,18.3s,baz=108,slow=36

PRAC Prado 63.05 280 *eP* **P** **12 40 55.8 +0.6**
SOKA Soboth 63.26 21 *i* P **P** **12 40 57.0 +1.1**
comp=Z,7.4nm,1.1s

NORC Norcasia 63.51 282 *eP* **P** **12 40 56.4 -1.9**
ALN Alexandroupoli 63.58 32 P **P** **12 40 58.6 +0.5**
ALN pmax pmax
comp=Z,10.0nm,1.2s

ARSA Arzberg 63.92 21 *i* pP pP 12 41 05.6 -1.1
comp=Z,7.1nm,1.1s

MOA Molln 64.00 20 *i* P **P** **12 41 01.1 +0.4**
comp=Z,7.9nm,1.1s

HELC Santa Helena 64.31 283 *eP* **P** **12 41 03.7 -0.2**
MDVR Moldovita 64.39 27 ⇓*i* P P 12 41 10.1 +6.7
CONA Conrad Observa 64.62 21 *i* P **P** **12 41 08.3 +3.4**
comp=Z,13nm,1.5s

GEA0 GERESS Array S 64.66 19 *eP* **P** **12 41 05.5 +0.3**
WET Wettzell 64.67 19 P **P** **12 41 03.7 -1.4**
WET pmax pmax
comp=Z,12nm,1.3s

GEC2 GERESS Array S 64.67 19 *eP* **P** **12 41 07.3 +2.0**
GEC2 pmax pmax
comp=Z,23nm,1.7s

GEC2 GERESS Array S 64.67 19 *eP* **P** **12 41 07.2 +2.0**
comp=Z,23nm,1.7s

GERES GERESS Array B 64.67 19 P **P** **12 41 04.0 -1.2**
comp=Z,1.5nm,1.0s,baz=199,slow=2.7,SNR=11

GERES LR LR 13 09 08.4
comp=Z,676nm,19.2s,baz=232,slow=36

GERES GERESS Array B 64.67 19 P **P** **12 41 04.0 -1.2**
GERES GERESS Array B 64.67 19 P **P** **12 41 04.0 -1.2**
CWF Charnwood Fore 64.82 8 *eP* **P** **12 41 09.5 +3.6**
comp=Z,11nm,1.0s

KHC Kasperske Hory 64.88 19 *eP* **P** **12 41 04.5 -2.0**
KHC Kasperske Hory 64.88 19 *eP* **P** **12 41 04.5 -2.0**
SJCC San Jacinto, C 65.04 287 *eP* **P** **12 41 06.5 -1.8**
MOTC Monteria, Cord 65.17 285 *eP* **P** **12 41 09.9 +0.9**
SIRR Siria 65.54 26 ⇑*i* P P 12 41 17.8 +7.0
TREC Trest 65.65 20 AMS AMS 13 12 10.0
comp=Z,700nm,16.4s

LOT Lotru 65.83 28 ⇑*i* P P 12 41 24.0 +11
PRU Pruhonice 65.94 19 AMS AMS 13 08 00.0
comp=Z,600nm,20.8s

GOPC GO Pecny, Ondr 65.95 19 *eP* P 12 41 18.6 +5.2
GOPC AMS AMS 13 09 10.0
comp=Z,500nm,18.5s

GOPC GO Pecny, Ondr 65.95 19 *eP* P 12 41 18.6 +5.2
GOPC MLR MLR
comp=Z,500nm,18.5s

PSZ Piszkesteto 66.13 24 ⇑*i* P P 12 41 21.4 +6.8
ARR Arges 66.17 28 ⇑*i* P **P** **12 41 18.2 +3.2**
VYHS Vyhne 66.19 23 *eP* **P** **12 41 13.9 -1.0**
VYHS *e* 12 41 20.6
VYHS pmax pmax
comp=Z,9.0nm,1.4s

VYHS Vyhne 66.19 23 *eP* **P** **12 41 13.9 -1.0**
VYHS *e* 12 41 20.6
DRGR 66.40 26 ⇑*i* P P 12 41 22.5 +6.1
DRGR 66.40 26 ⇑P P 12 41 22.5 +6.1
PVCC Panska Ves 66.41 19 *eP* P 12 41 22.0 +5.7
PVCC AMS AMS 13 11 20.0
comp=Z,600nm,16.3s

PVCC Panska Ves 66.41 19 *eP* P 12 41 22.0 +5.7
PVCC MLR MLR
comp=Z,600nm,16.3s

VOIR 66.42 28 ⇑*i* P P 12 41 22.1 +5.5
VOIR 66.42 28 P **P** **12 41 16.0 -0.6**
VOIR pmax pmax
comp=Z,7.0nm,1.3s

BRG Berggiesshubel 66.52 18 *eP* **P** **12 41 19.1 +2.1**
comp=Z,3.3nm,1.1s

BRG *e* 12 41 26.3
comp=Z,19nm,1.8s
comp=N,531nm,16.4s
comp=E,370nm,19.1s
comp=Z,651nm,20.7s

BRG Berggiesshubel 66.52 18 *eP* **P** **12 41 19.1 +2.1**
BRG *e* 12 41 26.3
BRG pmax pmax
comp=Z,3.0nm,1.1s

BRG MLR MLR
comp=N,531nm,16.4s

BRG MLR MLR
comp=E,370nm,19.1s

BRG MLR MLR
comp=Z,651nm,20.7s

SYO Syowa Base 66.56 162 ⇑*e*P **P** **12 41 14.6 -2.4**
SYO Syowa Base 66.56 162 ⇑*e*pP **P** **12 41 16.9 -0.1**
BR231 Keskin MP Arra 66.64 37 *eP* **P** **12 41 21.4 +3.3**
MORC Moravsky Berou 66.78 21 ⇓*i* P P 12 41 24.9 +6.2
MORC Moravsky Berou 66.78 21 *eP* **P** **12 41 20.7 +2.0**
MORC pmax pmax
comp=Z,70nm,1.5s

MORC Moravsky Berou 66.78 21 *eP* **P** **12 41 20.7 +2.0**
comp=Z,70nm,1.5s

KECS Kecovo 66.82 24 *eP* **P** **12 41 18.4 -0.6**
KECS *e* 12 41 25.6
KECS pmax pmax
comp=Z,7.0nm,1.3s

KECS Kecovo 66.82 24 *eP* **P** **12 41 18.4 -0.6**
KECS *e* 12 41 25.6
DPC Dobruska-Polom 66.84 20 *eP* **P** **12 41 20.5 +1.4**
DPC AMS AMS 13 10 00.0
comp=Z,700nm,19.4s

DPC Dobruska-Polom 66.84 20 *eP* **P** **12 41 20.5 +1.4**
DPC MLR MLR
comp=Z,700nm,19.4s

UPC Upice 66.87 20 AMS AMS 13 10 00.0
comp=Z,700nm,19.5s

MLR Muntele Rosu 66.88 29 ⇓*i* P **P** **12 41 22.6 +3.0**
MLR Muntele Rosu 66.88 29 *eP* **P** **12 41 21.0 +1.4**
MLR pmax pmax
comp=Z,46nm,1.3s

MLR Muntele Rosu 66.88 29 *eP* **P** **12 41 21.0 +1.4**
comp=Z,46nm,1.3s

LANS Liptovska Anna 66.96 23 *eP* **P** **12 41 21.0 +1.1**
LANS Liptovska Anna 66.96 23 *eP* **P** **12 41 21.0 +1.1**
OKC Ostrava-Krasne 67.04 22 *eS* **S** **12 50 09.4 -3.6**
OKC AMS AMS 13 10 40.0
comp=Z,600nm,20.0s

BR131 Keskin Array S 67.08 38 *eP* **P** **12 41 22.4 +1.4**
BRTR Keskin Array B 67.08 38 P **P** **12 41 21.1 +0.1**
comp=Z,1.3nm,0.9s,baz=183,slow=8.3,SNR=7.8

BRTR LR LR 13 13 34.8
comp=Z,122nm,18.1s,baz=230,slow=39

BRTR Keskin Array B 67.08 38 *i* P **P** **12 41 21.8 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.9s

TIRR Tirgusor 67.34 31 ⇑*i* P P 12 41 27.1 +4.7
TIRR Tirgusor 67.34 31 *eP* **P** **12 41 23.8 +1.4**
TIRR pmax pmax
comp=Z,20nm,1.3s

TIRR Tirgusor 67.34 31 *eP* **P** **12 41 23.8 +1.4**
comp=Z,20nm,1.3s

VRI Vrincioaia 67.53 29 ⇓*i* P **P** **12 41 26.5 +2.9**
VRI Vrincioaia 67.53 29 ⇓P **P** **12 41 26.5 +2.9**
CRVS Cervenica-Dubn 67.54 24 *eP* **P** **12 41 23.8 +0.2**
CRVS *e* 12 41 29.7
CRVS Cervenica-Dubn 67.54 24 *eP* **P** **12 41 23.8 +0.2**
CRVS *e* 12 41 29.7

UZH Uzhgorod 67.66 25 *eP* **P** **12 41 22.6 -1.7**
UZH *i* 12 41 26.6
UZH *i* 12 41 51.7

STHS Stebnicka Huta 67.86 24 *eP* **P** **12 41 27.7 +2.1**
STHS *e* 12 41 31.6
STHS pmax pmax
comp=Z,4.0nm,1.1s

STHS Stebnicka Huta 67.86 24 *eP* **P** **12 41 27.6 +2.0**
STHS *e* 12 41 31.6
KOLS Kolonicke sedl 67.89 24 *eP* **P** **12 41 24.7 -1.1**
KOLS *e* 12 41 31.9
KOLS pmax pmax
comp=Z,15nm,1.8s

KOLS Kolonicke sedl 67.89 24 *eP* **P** **12 41 24.7 -1.1**
KOLS *e* 12 41 31.9
KWP Kalwaria Pacla 68.62 24 P P 12 41 31.0 +0.7
SIM Simferopol' 70.67 34 *eP* P 12 41 47.7 +4.6
SIM pmax pmax
comp=Z,9.0nm,0.7s

SIM MLR MLR
comp=N,200nm,18.3s

KLNR Kaliningrad 71.70 20 *eP* **P** **12 41 50.1 +1.1**
AK11 Malin Array Si 72.14 27 *eP* **P** **12 41 51.5 -0.3**
KIEV Kiev 72.17 27*c* *i*P **P** **12 41 51.7 -0.3**
KIEV *i* *PP **pP** **12 41 56.2 -2.3**
KIEV pmax pmax
comp=Z,13nm,1.1s

KIEV Kiev 72.17 27 *eP* **P** **12 41 52.5 +0.6**
comp=Z,18nm,1.0s

AKASG Malin Array Be 72.18 27 P **P** **12 41 50.8 -1.3**
comp=Z,2.1nm,0.7s,baz=226,slow=6.3,SNR=12

AKASG Malin Array Be 72.18 27 *i* P **P** **12 41 51.5 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.7s

AKBB Malin Array Si 72.18 27 *eP* **P** **12 41 53.2 +1.2**
AKBB pmax pmax
comp=Z,19nm,1.0s

AKBB Malin Array Si 72.18 27 *eP* **P** **12 41 53.2 +1.2**
comp=Z,19nm,1.0s

SUW Suwalki 72.25 22 P **P** **12 41 52.9 +0.5**
MAW Mawson 74.18 157 P **P** **12 42 01.6 -2.1**
comp=Z,3.6nm,0.8s,baz=281,slow=9.3,SNR=3.8

MAW LR LR 13 08 27.7
comp=Z,297nm,18.7s,baz=248,slow=31

MICGM Minsk 74.40 24 *e* P 12 42 10.0 +4.9
MNK Minsk 74.40 24 *eP* P 12 42 10.0 +4.9
NEY Neytrino 74.67 39 ⇓P **P** **12 42 09.8 +2.7**
NEY *e**PP **pP** **12 42 14.1 +0.4**
NB2 NORSAR Subarra 74.89 12 P **P** **12 42 07.3 -0.5**
comp=Z,9.3nm,1.2s,baz=206,slow=5.9

NOA NORSAR Array B 74.89 12 P **P** **12 42 07.3 -0.5**
comp=Z,2.5nm,1.1s,baz=193,slow=6.9,SNR=2.6

KIV Kislovodsk 75.03 38 *eP* **P** **12 42 10.3 +1.2**
KIV *eS* **S** **12 51 49.0 +2.9**
KIV pmax pmax
comp=Z,20nm,1.0s

KBZ Khabaz 75.03 39 LR LR 13 16 40.5
comp=Z,88nm,20.6s,baz=257,slow=37

UOSS Minazif 76.83 61 *eP* **P** **12 42 20.1 +0.4**
comp=Z,1.2nm,1.3s

VSR Storozhevoye 77.23 31 *eP* **P** **12 42 24.2 +2.9**
VSR pmax pmax
comp=Z,20nm,1.2s

LPSR Galich'ya Gora 77.95 30 *eP* **P** **12 42 28.6 +3.3**
LPSR pmax pmax
comp=Z,10.0nm,1.1s

OBN Obninsk 78.44 27 *eP* P 12 42 32.7 +4.8
OBN pmax pmax
comp=Z,11nm,1.0s

QSPA South Pole Qui 78.63 180 *eP* **P** **12 42 29.8 +0.7**
comp=Z,172nm,1.4s

FINES FINESS Array B 79.05 18 P **P** **12 42 30.2 -1.0**
comp=Z,1.6nm,0.7s,baz=220,slow=5.4,SNR=3.8

FINES LR LR 13 18 57.9
comp=Z,419nm,18.6s,baz=220,slow=37

FIA1 FINESS Array S 79.05 18 *eP* **P** **12 42 32.8 +1.6**
GEYT Alibeck 82.81 49 P **P** **12 42 50.8 -1.1**
comp=Z,1.2nm,0.4s,baz=258,slow=7.2,SNR=2.4

GEYT LR LR 13 18 51.4
comp=Z,196nm,21.4s,baz=75,slow=35

KLMR Klimovskoe 83.29 23 *eP* **P** **12 42 54.8 +1.1**
KLMR pmax pmax
comp=Z,15nm,1.4s

MIR Mirnyy 85.91 157 *eP* P 12 43 12.0 +5.0
MIR pmax pmax
comp=Z,4.0nm,1.5s

AKTO Aktyubinsk 87.25 37 LR LR 13 26 48.6
comp=Z,87nm,18.9s,slow=39

HHAR Hobbs 89.28 307 *eP* **P** **12 43 24.2 +0.4**
comp=Z,13nm,1.4s

ARU	Arti	89.76	32	LR	LR	13 26 30.2	
	comp=Z,116nm,20.1s,baz=255,slow=38						
ARU	Arti	89.76	32 d	iP	P	12 43 25.5	0.0
ARU						12 46 53.7	
ARU				S	SKSac	12 53 55.8	+0.9
ARU				SS	SS	13 00 13.4	-0.1
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						
SBA	Scott Base	90.79	180	P	P	12 43 28.8	-1.3
SBA				pmax	pmax		
	comp=Z,51nm,1.9s						
SBA	Scott Base	90.79	180	P	P	12 43 28.8	-1.3
	comp=Z,51nm,1.9s						
VNDA	Vanda	91.08	179	P	P	12 43 31.5	0.0
	comp=Z,0.8nm,0.8s,baz=270,slow=5.1,SNR=3.3						
VNDA				LR	LR	13 18 46.5	
	comp=Z,301nm,21.9s,baz=176,slow=32						
VNDA	Vanda	91.08	179	P	P	12 43 31.5	0.0
VNDA				e		12 43 37.9	
VNDA	Vanda	91.08	179	P	P	12 43 31.5	0.0
VNDA				eP	pP	12 43 37.9	-0.3
JCT	Junction City	92.74	300	eP	P	12 43 40.9	+0.8
JCT	Junction City	92.74	300	eP	P	12 43 40.9	+0.8
ECSD	EROS Data Cent	93.06	314	eP	P	12 43 42.2	+0.9
	comp=Z,31nm,1.9s						
ULM	Lac du Bonnet	94.03	320	LR	LR	13 19 36.4	
	comp=Z,587nm,20.0s,baz=72,slow=31						
BVAR	Borovoye Array	95.36	37	LR	LR	13 31 30.6	
	comp=Z,201nm,20.1s,baz=251,slow=38						
TXAR	Lajitas Array	95.83	299	P	P	12 43 54.5	+0.2
	comp=Z,1.3nm,1.0s,baz=106,slow=3.2,SNR=7.0						
TX31	Lajitas Ar. Si	95.83	299	eP	P	12 43 54.8	+0.4
TX31				eP	P	12 43 55.8	+1.4
AAK	Ala-Archa	96.11	48⇑	eP	P	12 43 54.8	-0.6
AAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KSH	Kashi	96.70	51	P	P	12 43 57.7	-0.4
KSH				pP	pP	12 44 04.0	-0.8
KSH				PP	PP	12 47 55.7	+2.6
KSH				SKS	SKSac	12 54 35.2	+0.9
KSH				S	S	12 55 14.6	-4.3
KSH				SS	SS	13 01 55.3	+1.3
KSH				PMZ			
	comp=Z,2.0nm,0.2s						
KSH				PMZ			
	comp=Z,100nm,4.4s						
KSH				LN			
	comp=Z,150nm,5.3s						
KSH				LE			
	comp=Z,100nm,6.4s						
KSH				LZ			
	comp=Z,140nm,5.8s						
MKAR	Makanchi Array	102.13	44	PP	PP	12 48 33.3	-0.8
	comp=Z,0.3nm,0.7s,baz=211,slow=1.7,SNR=2.2						
LZH	Lanzhou	118.62	55	ePKP	PKPdf	12 49 15.0	-1.0
LZH				sPKP		12 49 19.6	
LZH				LN			
	comp=Z,170nm,18.0s						
LZH				LE			
	comp=Z,160nm,18.2s						
LZH				LZ			
	comp=Z,200nm,20.1s						
CD2	Chengdu	119.02	61	PKP	PKPdf	12 49 17.0	+0.3
GYA	Guiyang	121.82	66	ePdif	Pdif	12 45 51.0	+0.8
GYA				PKP	PKiKP	12 49 22.4	-0.1
GYA				PP	PP	12 51 02.8	+6.9
GYA				PPMZ			
	comp=Z,120nm,8.0s						
HHC	Hu-ho-hao-te	123.69	48	ePKP	PKPdf	12 49 22.5	-3.0
HHC				PP	PP	12 51 08.2	+0.3
HHC				SS	SS	13 08 02.2	+6.8
HHC				PPMZ			
	comp=Z,23nm,5.6s						
HHC				LN			
	comp=Z,140nm,19.2s						
HHC				LE			
	comp=Z,250nm,19.0s						
HHC				LZ			
	comp=Z,140nm,22.0s						
TBI	Tubuai	124.83	231	eLR	LR	13 28 16.6	
	comp=Z,400nm,22.5s						
QIZ	Qiongzhong	124.88	75	PKP	PKPdf	12 49 25.9	-2.3
QIZ				PP	PP	12 51 18.0	+1.4
QIZ				SS	SS	13 08 14.0	+2.4
QIZ				LE			
	comp=Z,94nm,19.4s						
QIZ				LZ			
	comp=Z,140nm,19.2s						
BJI	Beijing	127.29	48	PKP	PKPdf	12 49 33.1	+0.9
BJI				PP	PP	12 51 31.7	0.0
BJI				SS	SS	13 08 41.3	+1.0
BJI				PPMZ			
	comp=Z,130nm,5.4s						
BJI				LN			
	comp=Z,190nm,18.6s						
BJI				LE			
	comp=Z,180nm,16.6s						
BJI				LZ			
	comp=Z,200nm,21.0s						
PPT2	Papeete2	128.00	237	eLR	LR	13 29 42.2	
	comp=Z,260nm,21.8s						
ASAR	Alice Springs	132.58	138	PKP	PKPdf	12 49 41.9	-1.0
	comp=Z,0.6nm,0.9s,baz=225,slow=39,SNR=3.5						
WRA	Warramunga Arr	135.40	134	PKP	PKPdf	12 49 46.4	-1.9
	comp=Z,0.8nm,1.0s,baz=210,slow=3.0,SNR=3.1						

*BYKL **02** 12:30:47.5±0.3, 51°.86N×105°.28E, h26km±4km*
*MOS **02** 12:30:47.2±0.9, 51°.94N×105°.31E, h8km, mb4.4/1, Error ellipse: s-maj=18.6km s-min=11.6km az=151.8*
ISC 02 12:30:47.3±1.1**, 51°.96N**±0°.03×**105°.30E**±0°.02**, h4km**±10km**, n36, σ1^{s}97/69, 3C-3D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSTR	Listvyanka	0.30	253⇓	iPg	Pg	12 30 54.2	+1.0
LSTR				eSg	Sg	12 30 58.7	+1.5
LSTR				Pmax			
	313nm,0.1s						
LSTR				Smax			
	3µm,0.1s						
LSTR	Listvyanka	0.30	253⇓	iPG	Pg	12 30 54.2	+1.0
LSTR				e		12 30 58.6	
LSTR				pmax	pmax		
	comp=Z,343nm,0.1s						
LSTR				smax	smax		
	comp=E,3µm,0.1s						
IVK	Ivanovka	0.57	254	ePg	Pg	12 30 58.5	+0.2
IVK				i Sg	Sg	12 31 06.0	+0.3
IVK				Pmax			
	comp=E,200nm,0.1s						
IVK				Smax			
	comp=E,5µm,0.1s						
IVK	Ivanovka	0.57	254⇑	iPG	Pg	12 30 58.5	+0.2
IVK				e		12 31 06.0	
IVK				pmax	pmax		
	comp=Z,200nm,0.1s						
IVK				smax	smax		
	comp=N,5µm,0.1s						
STDB	Stepnoy Dvoret	0.69	72	ePg	Pb	12 31 02.6	+0.7
STDB				i Sg	Sn	12 31 13.8	-1.2
STDB				eSb	Sb	12 31 15.7	+3.9
IRK	Irkutsk	0.70	294⇑	iPg	Pb	12 31 01.9	-0.1
IRK				ePb	Pn	12 31 04.7	+0.7
IRK				i Sg	Sb	12 31 11.6	-0.4
IRK				eSb	Sn	12 31 16.9	+1.7
IRK				Pmax			
	comp=N,625nm,0.3s						
IRK				max			
	comp=N,3µm,0.4s						
IRK	Irkutsk	0.70	294	ePG	Pb	12 31 01.4	-0.6
IRK				e		12 31 10.7	
IRK				pmax	pmax		
	comp=Z,621nm,0.2s						
IRK				smax	smax		
	comp=E,3µm,0.4s						
KAB	Kabansk	0.84	83	ePg	Pg	12 31 03.8	+0.4
KAB				eSg	Sg	12 31 15.8	+1.5
KAB				Pmax			
	comp=E,37nm,0.3s						
KAB				Smax			
	comp=E,3µm,0.6s						
KAB	Kabansk	0.84	83⇑	iPG	Pg	12 31 03.9	+0.5
KAB				e		12 31 15.8	
KAB				pmax	pmax		
	comp=Z,293nm,0.5s						
KAB				smax	smax		
	comp=E,3µm,0.7s						
TRG	Tyrgan	1.03	38	ePg	Pb	12 31 07.7	0.0
TRG				eSg	Sn	12 31 22.5	-0.9
TRG				Pmax			
	comp=E,77nm,0.1s						
TRG				Smax			
	comp=E,1µm,0.2s						
TRG	Tyrgan	1.03	38	ePG	Pb	12 31 07.7	0.0
TRG				e		12 31 22.0	
TRG				pmax	pmax		
	comp=Z,80nm,0.1s						
TRG				smax	smax		
	comp=E,1µm,0.2s						
TLY	Talaya	1.07	255	ePg	Pg	12 31 06.8	-0.9
TLY				eSg	Sg	12 31 20.8	-0.7
TLY				Pmax			
	comp=E,62nm,0.1s						
TLY				Smax			
	comp=E,946nm,0.3s						
TLY	Talaya	1.07	255	ePG	Pg	12 31 06.8	-0.9
TLY				e		12 31 20.6	
TLY				pmax	pmax		
	comp=Z,55nm,0.1s						
TLY				smax	smax		
	comp=N,905nm,0.1s						
ZRHB	Zarechye	1.28	62	ePg	Pn	12 31 12.2	+0.2
ZRHB				eSg	Sn	12 31 30.5	+0.8
ZRHB				Pmax			
	comp=N,65nm,0.4s						
ZRHB				Smax			
	comp=N,592nm,0.9s						
ARS	Arshan	1.78	270	ePg	Pn	12 31 18.9	0.0
ARS				eSg	Sb	12 31 42.5	-0.8
ARS				e		12 31 46.2	
ARS				Pmax			
	comp=N,85nm,0.2s						
ARS				max			
	comp=N,1µm,0.4s						
ARS	Arshan	1.78	270	ePN	Pn	12 31 19.0	0.0
ARS				e		12 31 42.4	
ARS				pmax	pmax		
	comp=Z,84nm,0.2s						
ARS				smax	smax		
	comp=E,1µm,0.4s						
ZAK	Zakamensk	2.03	220	ePg	Pn	12 31 22.9	+0.5
ZAK				e		12 31 31.6	
ZAK				eSg	Sn	12 31 49.3	+1.1
ZAK				e		12 31 51.4	
ZAK				Pmax			
	comp=E,33nm,0.2s						
ZAK				max			
	comp=E,226nm,0.2s						
ZAK	Zakamensk	2.03	220	ePN	Pn	12 31 22.9	+0.5
ZAK				e		12 31 23.6	
ZAK				e		12 31 49.0	
ZAK				pmax	pmax		
	comp=Z,33nm,0.1s						
ZAK				smax	smax		
	comp=N,226nm,0.2s						
OGRR	Ongureny	2.19	39	ePn	Pn	12 31 25.0	+0.6
OGRR				ePg	Pb	12 31 27.4	0.0
OGRR				e		12 31 30.5	
OGRR				eSg	Sg	12 31 57.0	-0.5
OGRR				e		12 32 08.2	
OGRR				max			
	comp=N,22nm,0.3s						
OGRR				Smax			
	comp=N,200nm,0.5s						
OGRR	Ongureny	2.19	39	ePN	Pn	12 31 24.8	+0.4
OGRR				e		12 31 27.6	
OGRR				e		12 31 56.8	
OGRR				pmax	pmax		
	comp=Z,22nm,0.4s						
OGRR				smax	smax		
	comp=E,193nm,0.5s						
MXMB	Maximikha	2.47	57	ePg	Pb	12 31 32.2	-0.1
MXMB				eSg	Sg	12 32 05.7	-0.9
MXMB				Pmax			
	comp=E,19nm,0.2s						
MXMB				Smax			
	comp=E,1µm,0.6s						
MOY	Mondy	2.69	265	ePg	Pb	12 31 34.8	-1.3
MOY				e		12 32 06.3	
MOY				eSg	Sb	12 32 10.0	+0.6
MOY				Pmax			
	comp=E,52nm,0.8s						
MOY				Smax			
	comp=E,231nm,0.8s						
MOY	Mondy	2.69	265	ePN	Pb	12 31 34.8	-1.3
MOY				e		12 32 09.9	
MOY				pmax	pmax		
	comp=Z,56nm,0.5s						
MOY				smax	smax		
	comp=N,229nm,0.8s						
SYVR	Suvo	3.32	57	ePn	Pn	12 31 39.7	-0.3
SYVR				ePg	Pb	12 31 47.6	+0.9
SYVR				eSg	Sg	12 32 31.6	-2.2
SYVR				Pmax			
	comp=N,5.0nm,0.3s						
SYVR				Smax			
	comp=N,38nm,0.9s						
ORL	Orlik	3.42	282	ePn	Pn	12 31 42.8	+1.2
ORL				ePg	Pb	12 31 48.0	-0.6
ORL				ePgPg	PbPb	12 31 50.0	-1.7
ORL				eSn	Sn	12 32 21.4	-1.2
ORL				eSg	Sb	12 32 32.2	+1.6
ORL				max			
	comp=N,31nm,0.5s						
ORL				Smax			
	comp=N,118nm,0.8s						
ORL	Orlik	3.42	282	ePN	Pn	12 31 42.7	+1.2
ORL				e		12 31 48.0	
ORL				e		12 32 32.0	
ORL				pmax	pmax		
	comp=Z,32nm,0.5s						
ORL				smax	smax		
	comp=N,109nm,0.7s						
ULN	Ulaanbaatar	4.25	164	e	Pn	12 31 51.1	-1.9
ULN				ePg	Pb	12 32 01.6	-1.1
ULN				eSg	Sb	12 32 56.0	+1.6
ULN				e		12 33 01.5	
YLYR	Ulyunkhan	4.56	48	ePn	Pn	12 31 57.3	+0.2
YLYR				e		12 32 06.0	
YLYR				ePg	Pb	12 32 10.5	+2.6
YLYR				eSg	Sg	12 33 10.3	-3.4
YLYR				e		12 33 19.7	
YLYR				Pmax			
	comp=N,2.0nm,0.3s						
YLYR				Smax			
	comp=N,24nm,1.2s						
NIZ	Nizh Angarsk	4.57	32	ePn	Pn	12 31 58.0	+0.8
NIZ				ePg	Pb	12 32 10.8	+2.8
NIZ				eSn	Sn	12 32 48.8	-1.9
NIZ				eSg	Sg	12 33 10.4	-3.6
NIZ				Pmax			
	comp=N,6.0nm,0.3s						
NIZ				Smax			
	comp=N,33nm,1.0s						
KPC	Khapcheranga	5.02	114	ePn	Pn	12 32 00.4	-3.0
KPC				e		12 32 04.9	
KPC				ePg	Pb	12 32 17.8	+2.1
KPC				eSg	Sb	12 33 21.4	+4.9
KPC				e		12 33 23.3	
KPC				Pmax			
	comp=N,4.0nm,0.3s						
KPC				max			
	comp=N,71nm,1.0s						
KMO	Kumora	5.25	39	ePn	Pn	12 32 07.7	+1.1
KMO				e		12 32 26.2	
KMO				e		12 33 18.1	
KMO				eSg	Sg	12 33 34.0	-1.9
KMO				max			
	comp=N,3.0nm,0.4s						
KMO				Smax			
	comp=N,34nm,1.1s						
UKT	Uakit	6.07	51	e	Pn	12 32 09.8	-8.1
UKT				e		12 32 25.1	
UKT				ePg	Pb	12 32 37.8	+4.1
UKT				eSg	Sg	12 33 58.0	-4.2
UKT				Pmax			
	comp=N,1.0nm,1.2s						
UKT				Smax			
	comp=N,14nm,1.2s						
TBRR	Tiberkul'	7.25	290 d	iPG	Pb	12 32 57.4	+3.8
TBRR				i		12 34 32.6	
NLYR	Nelyaty	7.60	49	eSg	Sg	12 34 45.9	-5.1
NLYR				Smax			
	comp=N,27nm,1.1s						
BOD	Bodaibo	7.72	37	eSg	Sg	12 34 49.5	-5.3
BOD				Smax			
	comp=N,16nm,1.4s						
TUP	Tupik	9.14	69	e		12 34 55.3	
TUP				e		12 35 30.7	
TUP				eSg	Sn	12 35 32.8	+50
TUP				Smax			
	comp=N,15nm,1.4s						

IDC 02 12:32:29.8±1.5**, 15°.06N×119°.55E, h0km, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.4**/63**, mbtmp3.7**/4**, MS3.3**/3**, Ms1 3.4**/3**, ms1mx2.8**/47**, Error ellipse: s-maj=62.1km s-min=24.2km az=57.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.02	283	P	P	12 37 04.4	0.0
	0.8nm,0.4s,baz=94,slow=7.6,SNR=8.4						
CMAR				LR	LR	12 44 31.9	
	comp=Z,31nm,18.9s,baz=190,slow=36						
LEM	Lembang	24.75	209	LR	LR	12 47 50.4	
	comp=Z,68nm,19.3s,baz=186,slow=37						
SONM	Songino Array	34.45	344	P	P	12 39 19.2	-0.1
	0.5nm,0.5s,baz=167,slow=9.3,SNR=2.0						
WRA	Warramunga Arr	37.70	157	P	P	12 39 46.8	-0.5
	1.2nm,0.6s,baz=336,slow=9.4,SNR=13						
ASAR	Alice Springs	40.97	160	P	P	12 40 14.8	+0.3
	0.6nm,0.5s,baz=339,slow=6.9,SNR=6.4						
YKA	Yellowknife Ar	91.95	22	LR	LR	13 31 28.9	
	comp=Z,42nm,18.1s,baz=180,slow=38						

*ISCJB **02** 12:33:57.7±0.9, 51°.8N±0°.2×178°.6E±0°.2, h113km, mb3.3/6, Error ellipse: s-maj=29.6km s-min=15.1km az=157.5*
*IDC **02** 12:34:02.7±8.4, 51°.98N×178°.28E, h150km±83km, mb3.0/6, mb1 3.3/7, mb1mx3.0/68, mbtmp3.5/7, MS3.0/1, Ms1 3.0/1, ms1mx2.4/10, Error ellipse: s-maj=68.2km s-min=17.6km az=150.0*
ISC 02 12:33:59.1±1.1**, 51°.8N**±0°.2×**178°.5E**±0°.1**, h113km, n8, σ0^{s}82**/7**, mb3.3**/6**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	12.77	284	P	Pn	12 36 56.8	+0.4
	0.3nm,0.3s,baz=93,slow=19,SNR=7.7						
ILAR	Eielson Array	21.99	41	P	P	12 38 42.9	-0.8
	0.4nm,0.6s,baz=241,slow=8.6,SNR=6.4						
INK	Inuvik	28.09	36	P	P	12 39 39.6	0.0
	0.9nm,0.6s,baz=276,slow=10,SNR=3.9						
YKA	Yellowknife Ar	36.16	46	P	P	12 40 49.7	-0.3
	0.3nm,0.5s,baz=287,slow=7.9,SNR=4.1						
JCJ	Chichijima	36.77	242	LR	LR	12 53 48.9	
	comp=Z,25nm,22.0s,baz=357,slow=32						
NVAR	Mina Array Bea	45.15	81	P	P	12 42 05.5	+1.0
	0.3nm,0.6s,baz=313,slow=8.2,SNR=2.9						
WRA	Warramunga Arr	81.18	222	P	P	12 46 01.2	-0.9
	0.2nm,0.6s,baz=33,slow=6.1,SNR=4.4						
ASAR	Alice Springs	84.69	220	P	P	12 46 20.0	-0.2
	0.2nm,0.4s,baz=7.8,slow=7.5,SNR=3.1						

*INMG **02** 12:40:20.2±0.5, 32°.31N×7°.90W, h10km, ML2.4, Error ellipse: s-maj=4.6km s-min=3.3km az=121.0*
*IGIL **02** 12:40:21.3, 32°.21N×7°.99W, h23km*
*CSEM **02** 12:40:22.7±0.4, 32°.56N×7°.54W, h10km, mb3.6, Error ellipse: s-maj=8.8km s-min=6.2km az=72.0*
MDD 02 12:40:18.6±3.0**, 32°.26N×7°.60W, h0km, mb3.6**/4**, Error ellipse: s-maj=37.8km s-min=26.5km az=83.0, PRXIMO, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECEU	Ceuta	4.07	26	P	Pn	12 41 20.1	-2.1
	8.8nm,0.1s,SNR=4.0						
ECEU	Ceuta	4.07	26	P	Pn	12 41 20.1	-2.1
	8.8nm,0.1s,SNR=4.0						
PFVI	Vila Bisbo	4.97	349	eSn	Sn	12 42 27.4	-5.2
PFVI	Vila Bisbo	4.97	349	eSn	Sn	12 42 27.4	-5.2
PFVI				S	Sn	12 42 28.4	-4.2
	1.6nm,0.2s,SNR=7.9						
PBDV	Barranco-do-Ve	4.98	357	ePn	Pn	12 41 33.3	-1.4
PBDV	Barranco-do-Ve	4.98	357	P	Pn	12 41 33.3	-1.4
PBDV	Barranco-do-Ve	4.98	357	P	Pn	12 41 33.3	-1.4
MORF	Marmelete	5.11	351	eP	Pn	12 41 34.7	-1.8
MORF	Marmelete	5.11	351	ePn	Pn	12 41 35.0	-1.5
MORF	Marmelete	5.11	351	P	Pn	12 41 35.0	-1.5
MORF	Marmelete	5.11	351	P	Pn	12 41 35.0	-1.5
PVAQ	Vaqueiros	5.13	359	ePn	Pn	12 41 35.6	-1.2
PVAQ				eSn	Sn	12 42 32.0	-4.7
PVAQ				A	A	12 42 36.1	
	2.6nm,0.5s						
PVAQ	Vaqueiros	5.13	359	P	Pn	12 41 35.6	-1.2
PVAQ				S	Sn	12 42 32.0	-4.7
	2.6nm,0.5s						
PVAQ	Vaqueiros	5.13	359	P	Pn	12 41 35.6	-1.2
PVAQ				S	Sn	12 42 32.0	-4.7
	2.6nm,0.5s						
EGRO	El Granado	5.26	1	P	Pn	12 41 37.1	-1.4
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	12 42 34.9	-5.0
	1.8nm,0.4s,SNR=7.9						
EGRO	El Granado	5.26	1	P	Pn	12 41 37.1	-1.4
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	12 42 34.9	-5.0
	1.8nm,0.4s,SNR=7.9						
PCVE	Castro Verde	5.37	356	ePn	Pn	12 41 39.0	-1.0
PCVE				eSn	Sn	12 42 37.7	-4.9
PCVE				A	A	12 42 39.6	
	2.3nm,0.5s						
PCVE	Castro Verde	5.37	356	P	Pn	12 41 39.0	-1.0
PCVE				S	Sn	12 42 37.7	-4.9
	2.3nm,0.5s						
PCVE	Castro Verde	5.37	356	P	Pn	12 41 39.0	-1.0
PCVE				S	Sn	12 42 37.7	-4.9
	2.3nm,0.5s						
EMIN	Mina Concepcio	5.55	8	P	Pn	12 41 41.2	-1.2
	0.6nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 42 41.1	-5.8
	0.4nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.55	8	P	Pn	12 41 41.2	-1.3
	0.6nm,0.1s,SNR=7.9						
EMIN				S	Sn	12 42 41.1	-5.8
	0.4nm,0.2s,SNR=7.9						
MESJ	Messejana	5.59	355	eP	Pn	12 41 41.6	-1.5
MESJ	Messejana	5.59	355	ePn	Pn	12 41 41.9	-1.1
MESJ				eSn	Sn	12 42 42.9	-5.1
MESJ				A	A	12 42 46.1	
	2.3nm,0.4s						
MESJ	Messejana	5.59	355	P	Pn	12 41 41.9	-1.1
MESJ				S	Sn	12 42 42.9	-5.1
	2.3nm,0.4s						
MESJ	Messejana	5.59	355	P	Pn	12 41 41.9	-1.1
MESJ				S	Sn	12 42 42.9	-5.1
	2.3nm,0.4s						
PNCL	Nicolau / Gran	5.89	353	eSn	Sn	12 42 49.8	-5.5
PNCL				A	A	12 42 50.5	
	2.3nm,0.5s						
PNCL	Nicolau / Gran	5.89	353	eSn	Sn	12 42 49.8	-5.5
	2.3nm,0.5s						
PBAR	Barrancos	5.92	4	ePn	Pn	12 41 46.7	-0.9
PBAR				eSn	Sn	12 42 51.1	-5.0
PBAR				A	A	12 42 55.4	
	3.2nm,0.5s						
PBAR	Barrancos	5.92	4	P	Pn	12 41 46.7	-0.9
PBAR				S	Sn	12 42 51.1	-5.0
	3.2nm,0.5s						
PBAR	Barrancos	5.92	4	P	Pn	12 41 46.7	-0.9
PBAR				S	Sn	12 42 51.1	-5.0
	3.2nm,0.5s						
ECAB	El Cabril	6.07	16	P	Pn	12 41 48.8	-0.8
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	12 42 54.8	-5.1
	0.9nm,0.3s,SNR=7.9						
ECAB	El Cabril	6.07	16	P	Pn	12 41 48.8	-0.9
	0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	12 42 54.8	-5.1
	0.9nm,0.3s,SNR=7.9						
EADA	Adamuz	6.39	22	P	Pn	12 41 53.6	-0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	12 43 02.4	-5.4
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.39**	**22**	P	Pn	12 41 53.6	-0.5
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	12 43 02.4	-5.4
	0.4nm,0.1s,SNR=7.9						

*ISCJB **02** 12:47:58.0±0.4, 40°.70N±0°.02×21°.41E±0°.04, h10km±4km, Error ellipse: s-maj=5.3km s-min=3.7km az=15.5*
*ATH **02** 12:47:57.3, 40°.71N×21°.46E, h18km±5km, ML2.5/4, Error ellipse: s-maj=5.6km s-min=1.4km az=349.0*
*SKO **02** 12:47:57.4, 40°.69N×21°.41E, h19km, M2.0, ML2.3*
*CSEM **02** 12:47:58.1±0.2, 40°.68N×21°.43E, h2km, ML2.5, Error ellipse: s-maj=3.6km s-min=2.9km az=98.0*
*THE **02** 12:47:58.3, 40°.68N×21°.44E, h8km±1km, ML2.4/8, Error ellipse: s-maj=1.3km s-min=0.4km az=316.0*
ISC 02 12:47:57.8±0.8**, 40°.69N**±0°.02×**21°.42E**±0°.02**, h15**km±4km**, n28, σ0.66**/53**, 4C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	**Florina**	**0.10**	**342**	P	**Pb**	**12 48 01.0**	**-0.2**
FNA				S	**Sb**	**12 48 03.0**	**-0.4**
FNA	**Florina**	**0.10**	**342**	P	**Pb**	**12 48 01.0**	**-0.2**
FNA				S	**Sb**	**12 48 02.8**	**-0.6**
FNA	**Florina**	**0.10**	**342**	P	**Pg**	**12 48 01.3**	**+0.1**
FNA				S	**Sb**	**12 48 02.8**	**-0.6**
FNA				AML	AML	12 48 03.3	
	comp=N,27601μm,0.2s						
FNA				AML	AML	12 48 03.4	
	comp=E,16471μm,0.3s						
NEST	**Nestorio**	**0.39**	**225**	P	**Pg**	**12 48 05.8**	**0.0**
NEST				S	**Sg**	**12 48 11.9**	**+0.6**
NEST	**Nestorio**	**0.39**	**225**	P	**Pg**	**12 48 06.0**	**+0.1**
NEST				S	**Sg**	**12 48 11.4**	**+0.1**
NEST	**Nestorio**	**0.39**	**225**	P	**Pg**	**12 48 06.0**	**+0.1**
NEST				S	**Sg**	**12 48 11.4**	**+0.1**
NEST				AML	AML	12 48 15.5	
	comp=N,1069μm,0.2s						
NEST				AML	AML	12 48 15.7	
	comp=E,1189μm,0.3s						
KZN	**Kozani**	**0.47**	**145**	P	**Pg**	**12 48 07.0**	**-0.2**
KZN				S	**Sb**	**12 48 14.1**	**-0.5**
KZN	**Kozani**	**0.47**	**145**	P	**Pg**	**12 48 07.3**	**+0.1**
KZN				S	**Sg**	**12 48 13.9**	**+0.3**
PENT	**Pentalofos**	**0.54**	**203**	P	**Pg**	**12 48 08.4**	**-0.1**
PENT				S	**Sg**	**12 48 16.5**	**+0.8**
PENT	**Pentalofos**	**0.54**	**203**	P	**Pg**	**12 48 08.6**	**+0.1**
PENT				S	**Sg**	**12 48 16.5**	**+0.8**
PENT	**Pentalofos**	**0.54**	**203**	P	**Pg**	**12 48 08.6**	**+0.1**
PENT				S	**Sb**	**12 48 18.1**	**+1.5**
PENT				AML	AML	12 48 23.6	
	comp=N,654μm,0.4s						
PENT				AML	AML	12 48 24.6	
	comp=E,427μm,0.5s						
OHR	**Ohrid**	**0.63**	**312**⇑	*i*Pg	**Pb**	**12 48 10.2**	**-0.4**
OHR				*i* Sg	**Sg**	**12 48 18.6**	**0.0**
OHR				*e*Lg	Lg	12 48 20.3	
	comp=E,214nm,0.5s						
OHR				*e*Lg	Lg	12 48 20.4	
	comp=N,166nm,0.5s						
OHR	**Ohrid**	**0.63**	**312**⇑	*i*Pg	**Pb**	**12 48 10.1**	**-0.4**
OHR				*i* Sg	**Sg**	**12 48 18.5**	**0.0**
OHR				*e*Lg	Lg	12 48 20.2	
	comp=N,214nm,0.5s						
KPRO	**Kipourio**	**0.74**	**183**	P	**Pb**	**12 48 11.5**	**-0.9**
KPRO				S	**Sg**	**12 48 22.6**	**+0.6**
KPRO	**Kipourio**	**0.74**	**183**	P	**Pb**	**12 48 11.5**	**-0.9**
KPRO				S	**Sb**	**12 48 21.9**	**-0.3**
KPRO	**Kipourio**	**0.74**	**183**	P	**Pb**	**12 48 11.5**	**-0.9**
KPRO				S	**Sb**	**12 48 21.9**	**-0.3**
KPRO				AML	AML	12 48 26.8	
	comp=N,607μm,0.2s						
KPRO				AML	AML	12 48 28.6	
	comp=E,950μm,0.4s						
GRG	**Griva**	**0.79**	**70**	P	**Pb**	**12 48 12.9**	**-0.4**
GRG				S	**Sg**	**12 48 24.0**	**+0.2**
GRG	**Griva**	**0.79**	**70**	P	**Pb**	**12 48 12.9**	**-0.4**
GRG				S	**Sg**	**12 48 24.0**	**+0.2**
LIT	**Litokhoron**	**1.01**	**125**	P	**Pb**	**12 48 16.9**	**-0.1**
LIT				S	**Sn**	**12 48 31.1**	**-0.3**
LIT	**Litokhoron**	**1.01**	**125**	P	**Pb**	**12 48 16.9**	**-0.1**
LIT				S	**Sn**	**12 48 31.1**	**-0.3**
VAY	**Valandovo**	**1.08**	**54**	P	**Pn**	**12 48 18.2**	**-0.1**
VAY				S	**Sg**	**12 48 33.8**	**+1.1**
VAY	**Valandovo**	**1.08**	**54**⇑	*i*Pg	**Pg**	**12 48 18.5**	**-0.1**
VAY				*i* Sg	**Sg**	**12 48 34.0**	**+1.3**
VAY				*e*Lg	Lg	12 48 36.9	
	comp=N,38nm,0.5s						
VAY				*e*Lg	Lg	12 48 36.9	
	comp=E,34nm,0.5s						
VAY	**Valandovo**	**1.08**	**54**	P	**Pn**	**12 48 18.2**	**-0.1**
VAY	**Valandovo**	**1.08**	**54**⇑	*i*Pg	**Pg**	**12 48 18.5**	**-0.1**
VAY				S	**Sg**	**12 48 33.8**	**+1.1**
VAY				*e*Lg	Lg	12 48 36.8	
	comp=E,34nm,0.5s						
THL	**Klokotos Trika**	**1.22**	**158**	P	**Pn**	**12 48 19.9**	**-0.3**
THL				S	**Sg**	**12 48 38.2**	**+1.1**
THL	**Klokotos Trika**	**1.22**	**158**	P	**Pn**	**12 48 19.9**	**-0.3**
THL				S	**Sg**	**12 48 38.2**	**+1.1**
BARS	**Barje**	**2.14**	**8**	*e*P	**Pb**	**12 48 34.9**	**-1.4**
GRUS	**Gruza**	**3.24**	**351**	*e*P	**Pn**	**12 48 49.8**	**+1.8**

*ISCJB **02** 12:53:57.5±0.6, 6°.82N±0°.04×73°.02W±0°.05, h162km±5km, Error ellipse: s-maj=10.0km s-min=4.3km az=38.3*
*FUNV **02** 12:53:57.1, 6°.62N×73°.15W, h160km, MW3.1*
*RSNC **02** 12:54:00.7±0.9, 6°.79N×73°.14W, h141km±6km, ML3.0*
ISC 02 12:53:57.0±1.4**, 6°.78N**±0°.05×**73°.03W**±0°.05**, h165**km±8km**, n26, σ1.38**/42**, 2C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**219**	*i* P	**Pn**	**12 54 19.8**	**+0.2**
BARC				*i*		12 54 20.0	
	comp=Z,167nm,0.2s						
BARC				*e*S	**Sn**	**12 54 34.5**	**-2.4**
PAMC	**Pamplona, Colo**	**0.64**	**30**	*e*P	**Pn**	**12 54 22.6**	**+1.1**
PAMC				*e*S	**Sn**	**12 54 39.9**	**-0.2**
BRRC	**Barranca, Sant**	**0.75**	**295**⇑	*i*P	**Pn**	**12 54 21.7**	**+0.1**
BRRC				*i*		12 54 21.9	
	comp=Z,323nm,0.1s						
BRRC				*e*S	**Sn**	**12 54 38.2**	**-2.1**
RUSC	**La Rusia**	**0.89**	**184**	*e*P	**Pn**	**12 54 23.6**	**+0.5**
RUSC				*e*S	**Sn**	**12 54 42.0**	**-1.0**
RUSC				*i*		12 54 43.7	
	comp=Z,72nm,0.3s						
CBRI	**Barrientos, No**	**0.95**	**14**	*i* P	**Pn**	**12 54 24.3**	**+1.1**
CBRI				*e*S	**Sn**	**12 54 42.3**	**-1.0**
CBRI				*i*		12 54 46.1	
	comp=Z,115nm,0.2s						
GRMC	**Gramalote, San**	**0.95**	**13**	*i* P	**Pn**	**12 54 25.6**	**+2.5**
GRMC				*e*S	**Sn**	**12 54 45.0**	**+1.7**
GRMC				*i*		12 54 46.3	
	comp=Z,170nm,0.3s						
CAPV	**Capacho**	**1.28**	**33**⇑	*i*P	**Pn**	**12 54 27.6**	**+1.6**
CAPV				*e*S	**Sn**	**12 54 48.4**	**+0.1**
OCAC	**Ocana**	**1.48**	**349**	*e*P	**Pn**	**12 54 28.2**	**+0.4**
OCAC				*e*S	**Sn**	**12 54 50.4**	**-1.1**
OCAC				*i*		12 54 56.2	
	comp=Z,132nm,0.3s						
NORC	**Norcasia**	**2.20**	**237**	*e*P	**Pn**	**12 54 35.6**	**+0.1**
NORC				*e*S	**Sn**	**12 55 03.2**	**-1.9**
ROSC	**El Rosal**	**2.32**	**214**	*e*P	**Pn**	**12 54 39.4**	**+2.1**
ROSC				*e*S	**Sn**	**12 55 08.3**	**0.0**
ROSC				*i*		12 55 14.7	
	comp=Z,67nm,0.5s						
HELC	**Santa Helena**	**2.56**	**257**	*e*P	**Pn**	**12 54 41.1**	**+1.1**
HELC				*i*		12 55 18.1	
	comp=Z,29nm,0.4s						
SOCV	**Socops**	**2.62**	**55**	*e*P	**Pn**	**12 54 42.0**	**+1.6**
SOCV				*e*S	**Sn**	**12 55 14.1**	**+0.2**
VILC	**Villavicencio,**	**2.74**	**194**	*e*P	**Pn**	**12 54 43.5**	**+1.5**
GUYC	**Guyana, Colomb**	**2.82**	**237**	*e*P	**Pn**	**12 54 44.0**	**+0.8**
GUYC				*i*		12 55 26.1	
	comp=Z,69nm,0.4s						
TOLC	**Tolima**	**3.16**	**226**	*e*P	**Pn**	**12 54 49.0**	**+1.6**
DBBC	**Dabeiba**	**3.17**	**274**	*e*P	**Pn**	**12 54 48.6**	**+1.4**
ELOV	**Elorza**	**3.52**	**86**	*e*P	**Pn**	**12 54 51.8**	**+0.2**
PRAC	**Prado**	**3.57**	**211**	*e*P	**Pn**	**12 54 53.2**	**+0.9**
VIRV	**Villa del Rosa**	**3.75**	**9**	*e*P	**Pn**	**12 54 54.7**	**+0.2**
VIRV				*e*S	**Sn**	**12 55 38.5**	**-0.8**
QARV	**Quebrada Arrib**	**4.21**	**36**	*e*P	**Pn**	**12 55 01.3**	**+0.9**
QARV				*e*S	**Sn**	**12 55 49.7**	**-0.2**
SANV	**Sanarito**	**4.38**	**52**	*e*P	**Pn**	**12 55 04.1**	**+1.3**
CURV	**Curarigua**	**4.41**	**43**	*e*P	**Pn**	**12 55 04.4**	**+1.2**
CURV				*e*S	**Sn**	**12 55 54.0**	**-0.8**
DABV	**Dabajuro**	**4.74**	**30**	*e*P	**Pn**	**12 55 08.6**	**+1.3**
SIQV	**Siquisique**	**4.99**	**39**	*e*P	**Pn**	**12 55 11.6**	**+1.0**
BAUV	**El Baul**	**5.38**	**66**	*e*P	**Pn**	**12 55 15.6**	**-0.2**
BAUV				*e*S	**Sn**	**12 56 14.8**	**-2.6**
MONV	**Montecano**	**5.96**	**30**	*e*P	**Pn**	**12 55 23.7**	**+0.3**
MONV				*e*S	**Sn**	**12 56 28.1**	**-3.0**

*IDC **02** 13:08:14.7±0.8, 19°.47S×169°.83E, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.4/29, mbtmp4.3/19, ML3.9/1, MS4.0/15, Ms1 4.0/15, ms1mx3.7/35, Error ellipse: s-maj=26.2km s-min=15.8km az=121.0*
*BJI **02** 13:08:16.0, 19°.60S×169°.70E, h20km, mb4.8/13, mB4.8/11, Ms4.7/3, Ms7 4.5/3*
*ISCJB **02** 13:08:17.6±0.4, 19°.54S±0°.08×169°.83E±0°.08, h33km, mb4.5/24, MS4.1/11, Error ellipse: s-maj=13.4km s-min=7.3km az=136.3*
*NEIC **02** 13:08:19.6±0.5, 19°.53S×169°.77E, h35km, mb5.1/7, Error ellipse: s-maj=15.0km s-min=9.6km az=147.0*
ISC 02 13:08:19.6±0.5**, 19°.54S**±0°.10×**169°.83E**±0°.09**, h35**km**, n57, σ1.15**/47**, mb4.4**/24**, MS4.1**/11**, 1C-1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.04**	**231**	Pn	**Pn**	**13 09 19.1**	**0.0**
	6.8nm,0.3s,baz=86,slow=9.6,SNR=109						
DZM				Sn	**Sn**	**13 10 06.6**	**+1.3**
	10nm,0.3s,baz=103,slow=23,SNR=4.6						
DZM				LR	LR	13 10 45.1	
	comp=Z,2μm,18.2s,baz=70,slow=37						
DZM	**Mont Dzumac**	**4.04**	**231**	*e*Pn	**Pn**	**13 09 17.2**	**-1.9**
DZM				*e*Sn	**Sn**	**13 10 05.9**	**+0.6**
MSVF	**Nonsavu**	**8.00**	**78**	*e*Pn	**Pn**	**13 10 13.8**	**+0.3**
	121nm,1.4s						
HNR	**Honiara**	**13.87**	**315**	LR	LR	13 16 27.3	
	comp=Z,166nm,19.6s,baz=210,slow=36						
AFI	**Afiamalu**	**18.48**	**75**	LR	LR	13 17 50.5	
	comp=Z,204nm,21.4s,baz=195,slow=31						
URZ	**Urewera**	**19.70**	**163**	LR	LR	13 18 51.1	
	comp=Z,539nm,19.1s,baz=344,slow=32						
CTA	**Charters Tower**	**22.18**	**265**	P	**P**	**13 13 14.1**	**+1.2**
	9.0nm,0.9s,baz=87,slow=16,SNR=7.2						
CTAO	**Charters Tower**	**22.18**	**265**	*e*P	**P**	**13 13 09.5**	**-3.4**
	77nm,1.0s						
RPZ	**Rata Peaks**	**24.12**	**178**	LR	LR	13 21 48.7	
	comp=Z,599nm,19.0s,baz=9.0,slow=34						
STKA	**Stephens Creek**	**28.16**	**239**	P	**P**	**13 14 09.8**	**+1.1**
	2.2nm,0.7s,baz=77,slow=14,SNR=5.0						
STKA				LR	LR	13 25 03.5	
	comp=Z,306nm,18.5s,baz=91,slow=36						
WRAB	**Tennant Creek**	**33.36**	**263**	*e*P	**P**	**13 14 54.0**	**-0.8**
WRA	**Warramunga Arr**	**33.37**	**263**	P	**P**	**13 14 53.9**	**-0.9**
	2.9nm,0.7s,baz=98,slow=8.3,SNR=28						
WRA				PcP	**PcP**	**13 17 36.4**	**+0.3**
	0.7nm,0.9s,baz=98,slow=2.5,SNR=4.5						
ASAR	**Alice Springs**	**33.60**	**256**	P	**P**	**13 14 56.5**	**-0.3**
	7.7nm,0.6s,baz=86,slow=8.8,SNR=160						
ASAR				PcP	**PcP**	**13 17 37.3**	**+0.5**
	0.9nm,0.8s,baz=100,slow=3.9,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**37.92**	**355**	T	T	13 55 35.7	
	baz=181,slow=76,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**37.92**	**355**	T	T	13 55 42.4	
	baz=181,slow=76,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**37.94**	**355**	T	T	13 55 39.1	
	baz=181,slow=76,SNR=2.9						
H11N1	**WAKE ISLAND Hy**	**39.12**	**356**	T	T	13 57 07.9	
	baz=174,slow=76,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**39.12**	**356**	T	T	13 57 07.2	
	baz=174,slow=76,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**39.13**	**356**	T	T	13 57 08.9	
	baz=174,slow=76,SNR=7.0						
VNDA	**Vanda**	**58.15**	**182**	P	**P**	**13 18 09.9**	**+0.6**
	1.6nm,0.8s,baz=3.3,slow=6.8,SNR=6.7						
VNDA				LR	LR	13 39 57.9	
	comp=Z,112nm,19.4s,baz=5.5,slow=33						
MJAR	**Matsushiro Arr**	**63.28**	**332**	P	**P**	**13 18 44.0**	**-0.9**
	2.2nm,0.9s,baz=160,slow=8.1,SNR=5.3						
ASAJ	**Asahikawa**	**68.08**	**339**	*e*P	**P**	**13 19 14.9**	**-0.7**
	6.6nm,1.0s						
KSRS	**Korea Array**	**69.07**	**325**	P	**P**	**13 19 21.8**	**-0.2**
	1.2nm,1.0s,baz=157,slow=6.6,SNR=4.9						
KSAR	**Wonju Array Be**	**69.08**	**325**	P	**P**	**13 19 21.8**	**-0.2**
QSPA	**South Pole Qui**	**70.51**	**180**	*e*P	**P**	**13 19 29.9**	**-0.7**
	34nm,1.1s						
USRK	**Ussuriysk Ar.**	**72.26**	**332**	P	**P**	**13 19 41.7**	**+0.5**
	1.5nm,0.8s,baz=70,slow=5.5,SNR=4.4						
PETK	**Petropavlovsk-**	**73.11**	**352**	P	**P**	**13 19 46.9**	**+0.8**
	6.9nm,0.9s,baz=132,slow=4.2,SNR=4.8						
PETK				LR	LR	13 47 38.6	
	comp=Z,110nm,20.4s,baz=309,slow=32						
KLR	**Kul'dur**	**76.38**	**335**	P	**P**	**13 20 06.2**	**+1.1**
	2.1nm,0.8s,baz=138,slow=2.6,SNR=8.7						
KLR				LR	LR	13 50 18.9	
	comp=Z,113nm,21.7s,baz=326,slow=33						
MAW	**Mawson**	**78.36**	**202**	P	**P**	**13 20 17.7**	**+1.6**
	2.5nm,0.7s,baz=113,slow=7.7,SNR=4.5						
MAW				LR	LR	13 51 46.4	
	comp=Z,108nm,18.7s,baz=61,slow=33						
XAN	**Xi'an**	**78.72**	**312**	P	**P**	**13 20 19.0**	**+0.4**
XAN				PMZ			
	11nm,1.0s						
XAN				PMZ			
	34nm,4.9s						
CMAR	**Chiang Mai Arr**	**79.13**	**294**	P	**P**	**13 20 22.4**	**+1.3**
	3.3nm,0.9s,baz=126,slow=4.0,SNR=20						
CHTO	**Chiang Mai**	**79.28**	**294**	P	**P**	**13 20 22.2**	**+0.2**
	2.8nm,0.8s						
MA2	**Magadan**	**80.36**	**350**	P	**P**	**13 20 26.5**	**-0.3**
	3.5nm,0.7s,baz=158,slow=11,SNR=3.9						
MA2				LR	LR	13 50 38.9	
	comp=Z,115nm,20.8s,baz=318,slow=32						
SEY	**Seymchan**	**83.34**	**352**	P	**P**	**13 20 43.0**	**+0.5**
	4.1nm,0.9s,baz=113,slow=5.7,SNR=10						
SYO	**Syowa Base**	**84.80**	**196**⇑	*e*P	**P**	**13 20 48.9**	**-1.1**
SYO	**Syowa Base**	**84.80**	**196**⇓	*e*PcP	**PcP**	**13 20 52.0**	**-1.4**
CMB	**Columbia Colle**	**86.94**	**48**	P	**P**	**13 20 59.9**	**-1.3**
	83nm,1.8s						
BILL	**Bilibino**	**87.36**	**359**	*e*P	**P**	**13 21 02.3**	**-0.2**
	17nm,1.1s						
ULN	**Ulaanbaatar**	**87.44**	**323**	*e*P	**P**	**13 21 01.6**	**-1.9**
	10nm,1.2s						
GTA	**Gaotai**	**87.74**	**313**	*e*P	**P**	**13 21 06.4**	**+1.3**
GTA				pP	pP	13 21 11.6	-4.6
GTA				sP	sP	13 21 14.9	-5.3
GTA				PMZ			
	8.0nm,0.8s						
GTA				PMZ			
	46nm,4.3s						
GTA				LN			
	84nm,17.6s						
GTA				LE			
	130nm,19.0s						
GTA				LZ			
	190nm,20.9s						
SONM	**Songino Array**	**87.80**	**323**	P	**P**	**13 21 05.8**	**+0.7**
	3.7nm,0.9s,baz=136,slow=5.1,SNR=17						
NVAR	**Mina Array Bea**	**88.58**	**48**	P	**P**	**13 21 10.9**	**+1.6**
	0.6nm,0.7s,baz=234,slow=7.7,SNR=4.6						
NVAR				LR	LR	13 53 15.4	
	comp=Z,56nm,20.0s,baz=267,slow=30						
ILAR	**Eielson Array**	**90.35**	**17**	P	**P**	**13 21 15.4**	**-1.3**
	1.0nm,0.8s,baz=233,slow=5.5,SNR=12						
ILAR				LR	LR	13 59 24.1	
	comp=Z,81nm,18.1s,baz=200,slow=34						
TLY	**Talaya**	**91.32**	**325**	P	**P**	**13 21 21.8**	**+0.3**
	0.9nm,0.5s,baz=135,slow=4.3,SNR=4.3						
TXAR	**Lajitas Array**	**96.42**	**61**	LR	LR	13 58 35.5	
	comp=Z,76nm,19.4s,baz=0.0,slow=31						
PLCA	**Paso Flores**	**97.94**	**138**	LR	LR	14 00 20.8	
	comp=Z,26nm,18.6s,baz=214,slow=32						
MKAR	**Makanchi Array**	**102.34**	**315**	P	**Pdif**	**13 22 12.5**	**+1.0**
	0.2nm,0.5s,baz=102,slow=7.0,SNR=2.6						
GEYT	**Alibeck**	**118.65**	**303**	PKP	**PKPdf**	**13 27 04.4**	**+0.2**
	1.1nm,0.6s,baz=141,slow=4.8,SNR=2.6						
KOLS	**Kolonicke sedl**	**140.79**	**326**	*e*PKP	**PKPdf**	**13 27 42.4**	**-3.3**
CLL	**Collm**	**143.42**	**336**	*e*PKPdf	PKPbc	13 27 48.0	+0.5
	comp=Z,5.0nm,1.3s						
CONA	**Conrad Observa**	**144.69**	**329**	*i* PKPdf	**PKPdf**	**13 27 53.1**	**+0.4**
	comp=Z,6.3nm,1.5s						
KHC	**Kasperske Hory**	**144.86**	**333**	*e*PKP	**PKPab**	**13 27 52.0**	**0.0**
GERES	**GERESS Array B**	**145.02**	**332**	PKP	PKPbc	13 27 52.4	-0.2
	comp=Z,1.4nm,0.8s,baz=35,slow=4.9,SNR=8.3						
ARSA	**Arzberg**	**145.32**	**329**	*i* PKPdf	**PKPdf**	**13 27 54.7**	**+1.0**
	comp=Z,6.9nm,1.3s						
MOA	**Molln**	**145.50**	**331**	*i* PKPab	**PKPab**	**13 27 54.5**	**+0.2**
	comp=Z,7.5nm,1.0s						
MOTA	**Moosalm**	**147.29**	**333**	*i* PKPbc	**PKPbc**	**13 27 59.3**	**-0.3**
	comp=Z,2.3nm,0.7s						
FETA	**Feichten**	**147.70**	**333**	*i* PKPbc	**PKPbc**	**13 28 00.7**	**0.0**
	comp=Z,5.3nm,0.9s						

*ISCJB **02** 13:17:00.9±0.5, 39°.10N±0°.03×29°.06E±0°.03, h8km±5km, Error ellipse: s-maj=4.9km s-min=4.4km az=161.8*
*ISK **02** 13:17:00.3, 39°.08N×29°.09E, h14km, MD2.7*
*DDA **02** 13:17:01.6, 39°.09N×29°.05E, h7km, Md2.7*
*CSEM **02** 13:17:01.1±0.1, 39°.10N×29°.07E, h12km, MD2.7, Error ellipse: s-maj=3.6km s-min=3.2km az=91.0*
ISC 02 13:17:00.9±1.0**, 39°.08N**±0°.03×**29°.09E**±0°.02**, h12**km±9km**, n34, σ0.44**/46**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**263**	P	**Pg**	**13 17 07.2**	**+0.3**
DEMI				S	**Sg**	**13 17 10.6**	**-0.3**
DEMI	**Demirci**	**0.29**	**263**	*i* P	**Pg**	**13 17 07.2**	**+0.3**
DEMI				*i* S	**Sg**	**13 17 10.6**	**-0.3**
GDZ	**Gediz**	**0.31**	**88**	P	**Pb**	**13 17 08.6**	**+0.1**
GDZ				S	**Sb**	**13 17 13.2**	**-0.3**
GDZ	**Gediz**	**0.31**	**88**	*i* P	**Pb**	**13 17 08.7**	**+0.1**
GDZ				*i* S	**Sb**	**13 17 13.2**	**-0.3**
TVSB	**Tavsanli**	**0.47**	**38**	*e*PG	**Pg**	**13 17 10.2**	**0.0**
TVSB				*e*SG	**Sg**	**13 17 17.1**	**+0.5**
TVSB	**Tavsanli**	**0.47**	**38**	*e*Pg	**Pg**	**13 17 10.2**	**0.0**
TVSB				*e*Sg	**Sg**	**13 17 17.1**	**+0.5**
DST	**Dursunbey**	**0.64**	**326**	*e*PG	**Pg**	**13 17 13.4**	**+0.1**
DST	**Dursunbey**	**0.64**	**326**	*e*Pg	**Pg**	**13 17 13.5**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**211**	*e*PG	**Pg**	**13 17 12.9**	**-0.8**
KULA	**Kula-Manisa**	**0.65**	**211**	*e*Pg	**Pg**	**13 17 12.9**	**-0.8**
KHAL	**Karahalli**	**0.77**	**156**	P	**Pn**	**13 17 17.9**	**+0.1**
KHAL				S	**Sb**	**13 17 28.0**	**+1.1**
KHAL	**Karahalli**	**0.77**	**156**	*i* P	**Pn**	**13 17 17.9**	**+0.1**
KHAL				*i* S	**Sb**	**13 17 28.0**	**+1.1**
KHL	**Karahalli**	**0.83**	**155**	*e*PG	**Pg**	**13 17 16.7**	**-0.3**
KHL				*e*SG	**Sb**	**13 17 28.8**	**+0.4**
KHL	**Karahalli**	**0.83**	**155**	*e*Pg	**Pg**	**13 17 16.7**	**-0.3**
KHL				*e*Sg	**Sb**	**13 17 28.8**	**+0.4**
AKHS	**Akhisar**	**1.01**	**259**	P	**Pn**	**13 17 21.1**	**+0.1**
AKHS				S	**Sb**	**13 17 34.2**	**+0.5**
AKHS	**Akhisar**	**1.01**	**259**	*i* P	**Pn**	**13 17 21.1**	**+0.1**
AKHS				*i* S	**Sb**	**13 17 34.2**	**+0.5**
AKS	**Akhisar**	**1.01**	**259**	*e*PG	**Pb**	**13 17 20.2**	**-0.2**
AKS	**Akhisar**	**1.01**	**259**	*e*Pg	**Pb**	**13 17 20.2**	**-0.2**
CAVI	**Cavuskoy**	**1.27**	**27**	*e*PN	**Pn**	**13 17 24.2**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**27**	*e*Pn	**Pn**	**13 17 24.2**	**-0.3**
IZI	**Iznik**	**1.29**	**13**	*e*PN	**Pn**	**13 17 24.1**	**-0.8**
IZI	**Iznik**	**1.29**	**13**	*e*Pn	**Pn**	**13 17 24.1**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	*e*PN	**Pn**	**13 17 24.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	*e*Pn	**Pn**	**13 17 24.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**335**	*e*PN	**Pb**	**13 17 25.3**	**-0.3**
KCTX	**Karacabey (Bur**	**1.31**	**335**	*e*Pn	**Pb**	**13 17 25.3**	**-0.3**
ADVT	**Abdulvahap**	**1.44**	**20**	*e*PN	**Pn**	**13 17 26.4**	**-0.5**
ADVT	**Abdulvahap**	**1.44**	**20**	*e*Pn	**Pn**	**13 17 26.4**	**-0.5**
GONE	**Gonen-Balikesi**	**1.45**	**312**	*e*PN	**Pn**	**13 17 26.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.45**	**312**	*e*Pn	**Pn**	**13 17 26.8**	**-0.2**
ARMT	**Armutlu**	**1.50**	**353**	*e*PN	**Pn**	**13 17 27.7**	**0.0**
ARMT	**Armutlu**	**1.50**	**353**	*e*Pn	**Pn**	**13 17 27.7**	**0.0**
EDC	**Edincik**	**1.58**	**324**	*e*PN	**Pn**	**13 17 28.9**	**+0.1**
EDC	**Edincik**	**1.58**	**324**	*e*Pn	**Pn**	**13 17 28.9**	**+0.1**

*IDC **02** 13:41:35.0±0.6, 25°.42N×142°.73E, h0km, mb4.2/22, mb1 4.3/25, mb1mx4.2/46, mbtmp4.2/25, ML3.1/3, Error ellipse: s-maj=20.0km s-min=13.5km az=85.0*
*BJI **02** 13:41:37.0, 25°.04N×143°.00E, h52km, mb4.5/16, mB4.8/13, Ms4.6/2, Ms7 4.3/2*
*ISCJB **02** 13:41:38.5±0.5, 25°.41N±0°.06×142°.76E±0°.10, h38km, mb4.3/32, Error ellipse: s-maj=12.6km s-min=8.6km az=171.3*
*NEIC **02** 13:41:41.1±1.4, 25°.48N×142°.67E, h42km±11km, mb4.7/11, Error ellipse: s-maj=11.4km s-min=9.0km az=104.0*
ISC 02 13:41:40.3±0.6**, 25°.39N**±0°.08×**142°.7E**±0°.1**, h38**km**, n52, σ1.14**/51**, mb4.5**/32**, 1D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.75**	**346**	Pn	**Pn**	**13 42 07.9**	**-0.2**
CBIJ				Sn	**Sn**	**13 42 32.0**	**+2.8**
JCJ	**Chichijima**	**1.75**	**346**	Pn	**Pn**	**13 42 07.9**	**-0.2**
	192nm,0.3s,baz=171,slow=7.3,SNR=93						
JCJ				Sn	**Sn**	**13 42 32.0**	**+2.8**
	200nm,0.3s,baz=271,slow=23,SNR=9.2						
MJAR	**Matsushiro Arr**	**11.75**	**342**	Pn	**Pn**	**13 44 23.6**	**-1.8**
	0.3nm,0.3s,baz=157,slow=10,SNR=4.6						
KSRS	**Korea Array**	**17.37**	**317**	P	**P**	**13 45 40.9**	**+0.1**
	0.0nm,0.3s,baz=125,slow=12,SNR=8.3						
KSAR	**Wonju Array Be**	**17.39**	**317**	P	**P**	**13 45 40.9**	**-0.1**
ASAJ	**Asahikawa**	**18.69**	**360**	P	**Pn**	**13 45 55.5**	**-0.3**
	0.2nm,0.3s,baz=331,slow=19,SNR=3.8						
USRK	**Ussuriysk Ar.**	**20.68**	**338**	P	**P**	**13 46 16.7**	**-0.2**
	5.9nm,0.8s,baz=149,slow=12,SNR=14						
MDJ	**Mudanjiang**	**21.91**	**334**	P	**P**	**13 46 32.1**	**+1.9**
MDJ				PMZ			
	9.0nm,1.0s						
MDJ				PMZ			
	35nm,4.0s						
MDJ	**Mudanjiang**	**21.91**	**334**	P	**P**	**13 46 30.9**	**+0.7**
	10nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**23.07**	**99**	T	T	14 10 24.2	
	baz=290,slow=74,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**23.07**	**99**	T	T	14 10 38.2	
	baz=290,slow=74,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**23.09**	**99**	T	T	14 10 25.3	
	baz=290,slow=74,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**23.31**	**102**	T	T	14 10 36.7	
	baz=292,slow=76,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**23.32**	**102**	T	T	14 10 39.9	
	baz=292,slow=76,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**23.33**	**102**	T	T	14 10 38.2	
	baz=292,slow=76,SNR=5.4						
TIA	**Tai'an**	**24.37**	**302**	⇓P	**P**	**13 46 54.2**	**-0.6**
TIA				PMZ			
	10.0nm,0.8s						
KLR	**Kul'dur**	**25.28**	**343**	P	**P**	**13 47 03.7**	**+0.7**
	16nm,0.8s,baz=143,slow=8.5,SNR=55						
SONM	**Songino Array**	**36.24**	**318**	P	**P**	**13 48 39.4**	**-0.4**
	1.2nm,0.6s,baz=121,slow=8.3,SNR=5.3						
SEY	**Seymchan**	**38.10**	**7**	P	**P**	**13 48 55.5**	**+0.3**
	2.5nm,0.7s,baz=193,slow=6.6,SNR=11						
CMAR	**Chiang Mai Arr**	**40.99**	**269**	P	**P**	**13 49 21.3**	**+1.4**
	0.8nm,0.7s,baz=60,slow=8.4,SNR=6.7						
BILL	**Bilibino**	**45.03**	**12**	*e*P	**P**	**13 49 51.5**	**-0.4**
	22nm,1.7s						
WRAB	**Tennant Creek**	**45.77**	**191**	*e*P	**P**	**13 49 59.6**	**+1.3**
	4.1nm,0.4s						
WRA	**Warramunga Arr**	**45.78**	**191**	P	**P**	**13 49 59.5**	**+1.2**
	2.5nm,0.4s,baz=9.8,slow=8.5,SNR=23						
TIXI	**Tiksi**	**46.95**	**354**	P	**P**	**13 50 06.8**	**-0.1**
	0.7nm,0.3s,baz=162,slow=4.3,SNR=5.0						
ASAR	**Alice Springs**	**49.49**	**191**	P	**P**	**13 50 28.1**	**+0.9**
	0.8nm,0.6s,baz=16,slow=13,SNR=18						
ZALV	**Zalesovo Beam**	**51.05**	**320**	P	**P**	**13 50 38.5**	**-0.1**
	0.7nm,0.4s,baz=95,slow=7.7,SNR=2.8						
ZALV				PcP	**PcP**	**13 51 54.1**	**0.0**
	2.4nm,0.7s,baz=113,slow=4.4,SNR=6.9						
MKAR	**Makanchi Array**	**51.89**	**311**	P	**P**	**13 50 44.6**	**-0.4**
	1.0nm,0.5s,baz=91,slow=9.5,SNR=15						
MKAR				PcP	**PcP**	**13 51 58.1**	**+0.6**
	1.0nm,0.8s,baz=86,slow=4.9,SNR=5.9						
NRIK	**Noril'sk**	**54.38**	**339**	P	**P**	**13 51 03.4**	**+0.4**
	4.7nm,0.7s,baz=106,slow=7.0,SNR=3.7						
KURK	**Kurchatov**	**54.48**	**315**	*e*P	**P**	**13 51 02.6**	**-1.4**
	13nm,0.8s						
TRF	**Thorofare Moun**	**57.36**	**29**	*e*P	**P**	**13 51 24.1**	**-0.5**
	4.3nm,0.8s						
PMR	**Palmer**	**57.66**	**32**	*e*P	**P**	**13 51 24.4**	**-2.1**
	2.9nm,0.7s						
ILAR	**Eielson Array**	**59.01**	**28**	P	**P**	**13 51 35.1**	**-0.8**
	2.1nm,0.7s,baz=258,slow=5.9,SNR=27						
ILAR				PcP	**PcP**	**13 52 24.7**	**+0.2**
	0.6nm,0.8s,baz=275,slow=5.5,SNR=2.6						

BRVK	**Borovoye**	**59.65**	**318**	*e*P		**P**	**13 51 40.5**	**0.0**
	15nm,0.9s							
DOT	**Dot Lake**	**60.16**	**30**	*e*P		**P**	**13 51 43.5**	**-0.4**
	4.9nm,0.7s							
KKAR	**Karatay Array**	**60.43**	**307**	*e*P		**P**	**13 51 44.9**	**-1.2**
	2.4nm,0.6s							
INK	**Inuvik**	**64.41**	**24**	P		**P**	**13 52 12.4**	**+0.2**
	0.9nm,0.6s,baz=234,slow=3.3,SNR=4.0							
ARU	**Arti**	**66.03**	**323**	P		**P**	**13 52 19.4**	**-3.4**
	8.8nm,0.8s							
ABKAR	**Akbulak array**	**66.59**	**315**	*e*P		**P**	**13 52 24.3**	**-2.3**
	4.1nm,0.7s							
YKA	**Yellowknife Ar**	**73.44**	**28**	P		**P**	**13 53 08.3**	**-0.1**
	2.0nm,0.8s,baz=303,slow=5.7,SNR=8.7							
ARCES	**ARCESS Array B**	**75.28**	**341**	P		**P**	**13 53 19.6**	**+0.6**
	2.7nm,0.8s,baz=71,slow=5.3,SNR=6.8							
KBZ	**Khabaz**		**79.48**	**313**	P	**P**	**13 53 44.3**	**+1.3**
	6.9nm,0.8s,baz=76,slow=3.3,SNR=19							
FINES	**FINESS Array B**	**79.66**	**334**		P	**P**	**13 53 44.0**	**+0.4**
	3.4nm,0.5s,baz=74,slow=4.5,SNR=22							
NVAR	**Mina Array Bea**	**81.25**	**52**		P	**P**	**13 53 53.7**	**+0.8**
	0.8nm,0.8s,baz=296,slow=5.9,SNR=4.7							
AKASG	**Malin Array Be**	**84.24**	**324**		P	**P**	**13 54 08.1**	**+0.2**
	2.2nm,0.6s,baz=52,slow=5.1,SNR=7.9							
NB2	**NORSAR Subarra**	**85.35**	**339**		P	**P**	**13 54 12.9**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=45,slow=4.8							
NOA	**NORSAR Array B**	**85.35**	**339**		P	**P**	**13 54 12.9**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=46,slow=4.8,SNR=6.4							
BRTR	**Keskin Array B**	**87.47**	**313**		P	**P**	**13 54 24.3**	**0.0**
	comp=Z,0.7nm,0.7s,baz=54,slow=1.6,SNR=3.3							
VYHS	**Vyhne**	**90.94**	**326**	*e*P		**P**	**13 54 40.9**	**+0.6**
CLL	**Collm**	**91.74**	**331**	*e*P		**P**	**13 54 43.0**	**-0.9**
GERES	**GERESS Array B**	**93.18**	**329**	P		**P**	**13 54 50.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=24,slow=7.5,SNR=4.1							
PLCA	**Paso Flores**	**148.47**	**127**	PKPbc		**PKPbc**	**14 01 22.9**	**-0.2**
	comp=Z,2.2nm,1.0s,baz=304,slow=3.6,SNR=3.2							
LPAZ	**La Paz**	**149.41**	**79**	PKPbc		**PKPbc**	**14 01 28.7**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=333,slow=2.3,SNR=5.6							

IDC 02 14:00:31.2±3.6, 39.09N×142.38E, h60km±32km, mb3.0/3, mb1 3.2/5, mb1mx3.0/43, mbtmp3.3/5, ML2.8/2, Error ellipse: s-maj=49.6km s-min=26.6km az=88.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**4.17**	**234**	P	Pn	14 01 32.2	0.0
	1.3nm,0.3s,baz=32,slow=13,SNR=16						
MAT	**Matsushiro**	**4.17**	**234**	P	Pn	14 01 32.7	+0.4
ASAJ	**Asahikawa**	**5.03**	**2**	P	Pn	14 01 43.9	-0.2
	0.2nm,0.3s,baz=108,slow=19,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**28.63**	**125**	T	T	14 36 42.3	
	baz=318,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	14 36 45.8	
	baz=318,slow=76,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**28.65**	**125**	T	T	14 36 43.6	
	baz=318,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**29.42**	**127**	T	T	14 37 44.3	
	baz=319,slow=76,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**29.42**	**127**	T	T	14 37 45.0	
	baz=319,slow=76,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	14 37 48.4	
	baz=319,slow=76,SNR=5.9						
MKAR	**Makanchi Array**	**43.70**	**300**	P	P	14 08 30.3	+0.1
	0.2nm,0.6s,baz=94,slow=5.9,SNR=2.9						
WRA	**Warramunga Arr**	**59.20**	**189**	P	P	14 10 25.2	-0.8
	0.2nm,0.4s,baz=7.0,slow=7.6,SNR=2.4						
ASAR	**Alice Springs**	**62.93**	**189**	P	P	14 10 51.7	+0.4
	0.1nm,0.3s,baz=8.5,slow=8.8,SNR=1.6						

*ATH **02** 14:08:04.6, 36.65N×23.00E, h18km, ML3.1/22, Error ellipse: s-maj=1.0km s-min=0.7km az=252.0*
*THE **02** 14:08:04.9, 36.65N×22.96E, h14km, ML3.4/7, Error ellipse: s-maj=1.6km s-min=0.6km az=69.0*
*ISCJB **02** 14:08:05.2±0.5, 36.64N±0.02×22.99E±0.03, h10km±3km, mb3.2/3, MS3.4/1, Error ellipse: s-maj=4.2km s-min=2.8km az=151.0*
*CSEM **02** 14:08:05.9±0.2, 36.62N×22.97E, h15km, ML3.4, Error ellipse: s-maj=5.9km s-min=3.7km az=58.0*
*IDC **02** 14:08:15.1±4.3, 36.40N×23.28E, h115km±44km, mb3.1/3, mb1 3.1/5, mb1mx2.9/39, mbtmp3.4/5, MS3.4/1, Ms1 3.4/1, ms1mx2.3/25, Error ellipse: s-maj=53.6km s-min=24.9km az=146.0*

ISC 02 14:08:05.0±0.8, 36.63N±0.02×22.99E±0.02, h13km±4km, n111, σ1°40/154, mb3.4/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.10**	**336**	P	Pg	**14 08 07.7**	**-0.3**
VLI				S	Sg	**14 08 09.7**	**-0.5**
VLI	**Veliai**	**0.10**	**336**	P	Pg	**14 08 07.7**	**-0.3**
VLI				S	Sg	**14 08 09.7**	**-0.5**
VLI	**Veliai**	**0.10**	**336**	P	Pg	**14 08 07.7**	**-0.3**
VLI				S	Sg	**14 08 09.2**	**-1.0**
VLI				AML	AML	14 08 09.9	
VLI				AML	AML	14 08 09.9	
	comp=E,42802μm,0.2s						
KYTH	**Kithira**	**0.36**	**172**	P	Pb	**14 08 12.8**	**-0.5**
KYTH				S	Sb	**14 08 18.9**	**0.0**
KYTH	**Kithira**	**0.36**	**172**	P	Pb	**14 08 12.8**	**-0.5**
KYTH				S	Sg	**14 08 16.9**	**-0.3**
KYTH	**Kithira**	**0.36**	**172**	P	Pb	**14 08 14.2**	**+0.9**
KRND	**KRANIDI**	**0.77**	**10**	P	Pg	**14 08 19.9**	**0.0**
KRND				S	Sg	**14 08 30.4**	**+0.4**
KRND	**KRANIDI**	**0.77**	**10**	P	Pg	**14 08 19.9**	**0.0**
KRND				S	Sg	**14 08 30.4**	**+0.4**
KRND	**KRANIDI**	**0.77**	**10**	P	Pb	**14 08 21.1**	**+0.9**
KRND				S	Sb	**14 08 31.3**	**+0.7**
KRND				AML	AML	14 08 34.7	
	comp=E,3128μm,0.2s						
KRND				AML	AML	14 08 35.4	
	comp=N,2570μm,0.2s						
ANKY	**Antikythira Is**	**0.80**	**161**	P	Pb	**14 08 20.5**	**-0.2**
ANKY				S	Sb	**14 08 32.4**	**+1.0**
ANKY	**Antikythira Is**	**0.80**	**161**	P	Pb	**14 08 21.0**	**+0.3**
ANKY				S	Sb	**14 08 31.6**	**+0.2**
ANKY	**Antikythira Is**	**0.80**	**161**	P	Pb	**14 08 21.0**	**+0.3**
ANKY				S	Sb	**14 08 31.6**	**+0.2**
ANKY				AML	AML	14 08 34.5	
	comp=E,4109μm,0.4s						
ANKY				AML	AML	14 08 37.4	
	comp=N,6445μm,0.5s						
VLX	**Vlachokerasia**	**0.89**	**327**	P	Pg	**14 08 20.3**	**-1.9**
VLX				S	Sg	**14 08 31.4**	**-2.5**
VLX	**Vlachokerasia**	**0.89**	**327**	P	Pg	**14 08 20.3**	**-1.9**
VLX				S	Sg	**14 08 32.5**	**-1.4**
VLX	**Vlachokerasia**	**0.89**	**327**	P	Pg	**14 08 20.3**	**-1.9**
VLX				S	Sg	**14 08 32.5**	**-1.4**
VLX				AML	AML	14 08 38.0	
	comp=N,4077μm,0.4s						
VLX				AML	AML	14 08 38.0	
	comp=E,3570μm,0.3s						
DID	**Didima**	**0.90**	**13**	P	Pb	**14 08 22.8**	**+0.3**
DID				S	Sb	**14 08 35.2**	**+0.7**
DID	**Didima**	**0.90**	**13**	P	Pb	**14 08 22.8**	**+0.3**
DID				S	Sb	**14 08 35.2**	**+0.7**
DID				AML	AML	14 08 39.6	
	comp=E,3622μm,0.4s						
DID				AML	AML	14 08 40.1	
	comp=N,1853μm,0.4s						
ITM	**Ithomi**	**1.01**	**303**	P	Pg	**14 08 22.4**	**-2.2**
ITM				S	Sg	**14 08 37.6**	**-0.2**
ITM	**Ithomi**	**1.01**	**303**	P	Pg	**14 08 22.4**	**-2.2**
ITM				S	Sg	**14 08 37.6**	**-0.2**
ITM	**Ithomi**	**1.01**	**303**	P	Pg	**14 08 21.7**	**-2.9**
ITM				S	Sn	**14 08 40.2**	**+1.1**
ITM				AML	AML	14 08 43.8	
	comp=N,1646μm,0.6s						
ITM				AML	AML	14 08 47.3	
	comp=E,1594μm,0.4s						
PYL	**PYLOS**	**1.04**	**285**	P	Pg	**14 08 23.4**	**-1.6**
PYL				S	Sg	**14 08 38.3**	**-0.2**
PYL	**PYLOS**	**1.04**	**285**	P	Pg	**14 08 23.8**	**-1.2**
PYL				S	Sg	**14 08 38.3**	**-0.2**
PYL	**PYLOS**	**1.04**	**285**	P	Pg	**14 08 23.8**	**-1.2**
PYL				S	Sb	**14 08 39.0**	**+0.7**
PYL				AML	AML	14 08 41.1	
	comp=E,1948μm,0.4s						
PYL				AML	AML	14 08 49.1	
	comp=N,1338μm,0.5s						
TRIP	**Tripoli**	**1.07**	**328**	P	Pg	**14 08 22.3**	**-3.3**
TRIP				S	Sb	**14 08 40.2**	**+0.9**
TRIP	**Tripoli**	**1.07**	**328**	P	Pg	**14 08 22.3**	**-3.3**
TRIP				S	Sb	**14 08 40.2**	**+0.9**
TRIP				AML	AML	14 08 43.4	
	comp=N,1733μm,0.7s						
TRIP				AML	AML	14 08 50.5	
	comp=E,1478μm,0.4s						
SERI	**Serifos**	**1.31**	**66**	P	Pn	**14 08 30.7**	**+1.6**
SERI				S	Sg	**14 08 45.9**	**-1.5**
SERI	**Serifos**	**1.31**	**66**	P	Pn	**14 08 30.7**	**+1.6**
SERI				S	Sg	**14 08 45.9**	**-1.5**
SERI				AML	AML	14 08 53.4	
	comp=N,1050μm,0.3s						
SERI				AML	AML	14 08 56.0	
	comp=E,815μm,0.4s						
AMT	**Artemida-Makis**	**1.37**	**312**	P	Pg	**14 08 29.5**	**-1.7**
AMT	**Artemida-Makis**	**1.37**	**312**	P	Pg	**14 08 29.5**	**-1.7**
AMT				AML	AML	14 08 55.1	
	comp=N,2464μm,0.5s						
AMT				AML	AML	14 08 57.3	
	comp=E,2387μm,0.5s						
VLY	**Voula,Athens**	**1.38**	**27**	P	Pn	**14 08 29.7**	**-0.3**
VLY				S	Sg	**14 08 47.0**	**-2.6**
VLY	**Voula,Athens**	**1.38**	**27**	P	Pn	**14 08 29.7**	**-0.3**
VLY				S	Sg	**14 08 47.0**	**-2.6**
VLY				AML	AML	14 08 59.3	
	comp=E,1768μm,0.4s						
VLY				AML	AML	14 08 59.3	
	comp=N,1193μm,0.8s						
LTK	**Loutraki**	**1.40**	**359**	P	Pb	**14 08 31.6**	**+0.7**
LTK				S	Sn	**14 08 51.7**	**+3.2**
LTK	**Loutraki**	**1.40**	**359**	P	Pb	**14 08 31.6**	**+0.7**
LTK				S	Sn	**14 08 51.7**	**+3.2**
LTK				AML	AML	14 08 52.2	
	comp=E,1345μm,0.6s						
LTK				AML	AML	14 08 54.1	
	comp=N,1267μm,0.3s						
IMMV	**Iera Moni Meta**	**1.41**	**145**	P	Pn	**14 08 30.9**	**+0.5**
IMMV				S	Sn	**14 08 51.1**	**+2.2**
IMMV	**Iera Moni Meta**	**1.41**	**145**	P	Pn	**14 08 30.9**	**+0.5**
IMMV				S	Sn	**14 08 51.1**	**+2.2**
IMMV				AML	AML	14 09 02.7	
	comp=N,1502μm,0.3s						
IMMV				AML	AML	14 09 03.6	
	comp=E,1558μm,0.4s						
THAL	**Thalero**	**1.43**	**350**	P	Pb	**14 08 33.6**	**+2.0**
THAL				S	Sg	**14 08 49.8**	**-1.4**
THAL	**Thalero**	**1.43**	**350**	P	Pb	**14 08 33.6**	**+2.0**
THAL				S	Sg	**14 08 49.8**	**-1.4**
THAL				AML	AML	14 08 57.8	
	comp=N,3046μm,0.5s						
THAL				AML	AML	14 08 58.0	
	comp=E,3690μm,0.5s						
ATH	**Athens Observa**	**1.47**	**23**	P	Pn	**14 08 32.3**	**+1.2**
ATH				S	Sg	**14 08 50.5**	**-1.7**
ATHU	**Athens Univers**	**1.48**	**25**	P	Pg	**14 08 33.4**	**-0.1**
ATHU				S	Sg	**14 08 51.1**	**-1.6**
ATHU	**Athens Univers**	**1.48**	**25**	P	Pg	**14 08 33.4**	**-0.1**
ATHU				S	Sg	**14 08 51.1**	**-1.6**
ATHU				AML	AML	14 08 57.3	
	comp=N,316μm,0.5s						
ATHU				AML	AML	14 08 58.5	
	comp=E,256μm,0.4s						
VAM	**Vamos**	**1.56**	**141**	P	Pn	**14 08 32.6**	**+0.1**
KLV	**Kalavryta, Ach**	**1.57**	**335**	P	Pn	**14 08 33.5**	**+0.9**
KLV	**Kalavryta, Ach**	**1.57**	**335**	P	Pn	**14 08 33.5**	**+0.9**
KLV				AML	AML	14 09 00.8	
	comp=N,873μm,0.7s						
KLV				AML	AML	14 09 04.9	
	comp=E,718μm,0.7s						
PTL	**Penteli**	**1.58**	**26**	P	Pn	**14 08 33.8**	**+1.0**
PTL				S	Sn	**14 08 52.6**	**-0.6**
PTL	**Penteli**	**1.58**	**26**	P	Pn	**14 08 33.8**	**+1.0**
PTL				S	Sn	**14 08 52.6**	**-0.6**
PTL				AML	AML	14 09 00.8	
	comp=N,526μm,0.6s						
PTL				AML	AML	14 09 02.0	
	comp=E,770μm,0.3s						
DRO	**Drossia**	**1.67**	**323**	P	Pn	**14 08 35.4**	**+1.4**
DRO	**Drossia**	**1.67**	**323**	P	Pn	**14 08 35.4**	**+1.4**
DRO				AML	AML	14 09 05.5	
	comp=N,1348μm,0.5s						
DRO				AML	AML	14 09 07.8	
	comp=E,1774μm,0.5s						
LAKA	**Lakka**	**1.80**	**334**	P	Pn	**14 08 37.2**	**+1.4**
LAKA	**Lakka**	**1.80**	**334**	P	Pn	**14 08 37.2**	**+1.4**
LAKA				AML	AML	14 09 11.2	
	comp=E,391μm,0.7s						
LAKA				AML	AML	14 09 12.1	
	comp=N,412μm,0.7s						
DSF	**Desfina**	**1.82**	**349**	P	Pn	**14 08 37.9**	**+1.8**
DSF				S	Sn	**14 09 00.3**	**+1.2**
DSF	**Desfina**	**1.82**	**349**	P	Pn	**14 08 37.9**	**+1.8**
DSF				S	Sn	**14 09 00.3**	**+1.2**
DSF				AML	AML	14 09 06.6	
	comp=N,563μm,0.4s						
DSF				AML	AML	14 09 08.3	
	comp=E,508μm,0.3s						
RLS	**Riolos of Patr**	**1.88**	**320**	P	Pn	**14 08 38.5**	**+1.7**
KALE	**Kalithea**	**1.89**	**339**	P	Pb	**14 08 39.0**	**-0.3**
KALE	**Kalithea**	**1.89**	**339**	P	Pb	**14 08 39.0**	**-0.3**
KALE				AML	AML	14 09 11.6	
	comp=E,540μm,0.5s						
KALE				AML	AML	14 09 15.2	
	comp=N,584μm,0.5s						
CMBO	**Columbo, Santo**	**1.95**	**94**	P	Pn	**14 08 39.4**	**+1.6**
CMBO	**Columbo, Santo**	**1.95**	**94**	P	Pn	**14 08 39.4**	**+1.6**
GVD	**Gavdhos**	**1.99**	**153**	P	Pb	**14 08 41.2**	**+0.1**
GVD	**Gavdhos**	**1.99**	**153**	P	Pb	**14 08 41.2**	**+0.1**
LKR	**Lokris**	**2.02**	**0**	P	Pn	**14 08 40.5**	**+1.7**
LKR	**Lokris**	**2.02**	**0**	P	Pn	**14 08 40.5**	**+1.7**
ATAL	**Atalanti**	**2.06**	**1**	P	Pn	**14 08 39.6**	**+0.2**
ATAL	**Atalanti**	**2.06**	**1**	P	Pn	**14 08 39.6**	**+0.2**
APE	**Apeiranthos**	**2.09**	**77**	P	Pn	**14 08 39.5**	**-0.2**
APE				S	Sn	**14 09 07.7**	**+2.1**
APE	**Apeiranthos**	**2.09**	**77**	P	Pn	**14 08 39.5**	**-0.2**
APE				S	Sn	**14 09 07.7**	**+2.1**
APE				AML	AML	14 09 16.7	
	comp=N,516μm,0.7s						
APE				AML	AML	14 09 26.4	
	comp=E,257μm,0.4s						
ANX	**Ano Chora**	**2.14**	**337**	P	Pn	**14 08 40.9**	**+0.4**
PVO	**Paravola**	**2.30**	**330**	P	Pn	**14 08 42.2**	**-0.4**
PVO	**Paravola**	**2.30**	**330**	P	Pn	**14 08 42.2**	**-0.4**
PDO	**Prodromos**	**2.44**	**325**	P	Pn	**14 08 45.1**	**+0.6**
PDO	**Prodromos**	**2.44**	**325**	P	Pn	**14 08 45.1**	**+0.6**
AGG	**Agios Georgios**	**2.45**	**348**	P	Pn	**14 08 45.9**	**+1.2**
AGG	**Agios Georgios**	**2.45**	**348**	P	Pn	**14 08 45.9**	**+1.2**
EVR	**Evrytania**	**2.47**	**338**	P	Pn	**14 08 47.6**	**+2.6**
EVR	**Evrytania**	**2.47**	**338**	P	Pn	**14 08 47.6**	**+2.6**
LAST	**Lasithi**	**2.50**	**125**	P	Pn	**14 08 45.6**	**+0.2**
LAST	**Lasithi**	**2.50**	**125**	P	Pn	**14 08 45.6**	**+0.2**
NPS	**Neapolis**	**2.53**	**122**	P	Pn	**14 08 46.3**	**+0.6**
NPS	**Neapolis**	**2.53**	**122**	P	Pn	**14 08 46.3**	**+0.6**
SKIA	**Skiathos**	**2.56**	**8**	P	Pn	**14 08 46.2**	**-0.1**
SKIA				S	Sn	**14 09 16.7**	**-0.7**
SKIA	**Skiathos**	**2.56**	**8**	P	Pn	**14 08 46.2**	**-0.1**
SKIA				S	Sn	**14 09 16.7**	**-0.7**
XOR	**Xorichti**	**2.74**	**3**	P	Pn	**14 08 50.4**	**+1.7**
XOR	**Xorichti**	**2.74**	**3**	P	Pn	**14 08 50.4**	**+1.7**
LKD2	**Lefkada island**	**2.84**	**320**	P	Pn	**14 08 51.8**	**+1.7**
LKD2	**Lefkada island**	**2.84**	**320**	P	Pn	**14 08 51.8**	**+1.7**
DSL	**Palaion Diasel**	**2.92**	**330**	P	Pn	**14 08 52.9**	**+1.7**
DSL	**Palaion Diasel**	**2.92**	**330**	P	Pn	**14 08 52.9**	**+1.7**
CHOS	**Chios island**	**3.01**	**53**	P	Pn	**14 08 52.1**	**-0.3**
CHOS	**Chios island**	**3.01**	**53**	P	Pn	**14 08 52.1**	**-0.3**
ZKR	**Zakros**	**3.02**	**119**	P	Pn	**14 08 54.9**	**+2.3**
ZKR	**Zakros**	**3.02**	**119**	P	Pn	**14 08 54.9**	**+2.3**
PAIG	**Paliouri**	**3.34**	**9**	P	Pn	**14 08 55.9**	**-1.0**
PAIG	**Paliouri**	**3.34**	**9**	P	Pn	**14 08 55.9**	**-1.0**
SIGR	**SIGRI**	**3.44**	**40**	P	Pn	**14 08 57.3**	**-0.9**
SIGR	**SIGRI**	**3.44**	**40**	P	Pn	**14 08 57.3**	**-0.9**
LIT	**Litokhoron**	**3.49**	**354**	P	Pn	**14 09 00.8**	**+1.8**
LIT	**Litokhoron**	**3.49**	**354**	P	Pn	**14 09 00.8**	**+1.8**
KARP	**Karpathos**	**3.55**	**106**	P	Pn	**14 09 01.4**	**+1.6**
KARP	**Karpathos**	**3.55**	**106**	P	Pn	**14 09 01.4**	**+1.6**
IGT	**Igoumenitsa**	**3.58**	**325**	P	Pn	**14 09 01.2**	**+1.0**
IGT	**Igoumenitsa**	**3.58**	**325**	P	Pn	**14 09 01.2**	**+1.0**
LIA	**Limnos Island**	**3.70**	**27**	P	Pn	**14 09 00.8**	**-1.0**
HORT	**Hortiatis**	**3.97**	**1**	P	Pn	**14 09 07.4**	**+1.8**
HORT	**Hortiatis**	**3.97**	**1**	P	Pn	**14 09 07.4**	**+1.8**
KEK	**Kerkira**	**3.98**	**322**	P	Pn	**14 09 06.8**	**+1.1**
NEST	**Nestorio**	**4.08**	**339**	P	Pn	**14 09 09.7**	**+2.5**
NEST	**Nestorio**	**4.08**	**339**	P	Pn	**14 09 09.7**	**+2.5**
BRTR	**Keskin Array B**	**8.94**	**67**	P	Pn	14 10 19.8	+5.9
	comp=E,0.1nm,0.3s,baz=245,slow=15,SNR=4.2						
GERES	**GERESS Array B**	**13.97**	**334**	P	P	**14 11 31.8**	**+1.0**
	comp=E,0.2nm,0.3s,baz=132,slow=18,SNR=4.3						
TORD	**Torodi Ar. Bea**	**30.18**	**225**	P	P	**14 14 14.7**	**-0.4**
	comp=E,0.4nm,0.7s,baz=47,slow=10,SNR=2.2						
BBTS	**Babate**		**41.41**	**249**	LR	LR	14 34 59.4	
	comp=E,51nm,19.7s,baz=34,slow=39							
KURBB	**Kurchatov Arra**	**41.60**	**52**	P	P	**14 15 51.3**	**-1.1**
	comp=E,0.2nm,0.5s,baz=278,slow=8.4,SNR=2.4							
MKAR	**Makanchi Array**	**44.46**	**58**	P	P	**14 16 13.7**	**-2.0**
	comp=E,0.4nm,0.5s,baz=274,slow=7.7,SNR=4.9							

*ISK **02** 14:15:35.8, 38.90N×27.74E, h7km, MD2.5*
*ISCJB **02** 14:15:36.5±0.5, 38.92N±0.03×27.76E±0.04, h8km±4km, Error ellipse: s-maj=5.5km s-min=4.7km az=136.5*
*CSEM **02** 14:15:36.6±0.2, 38.90N×27.76E, h8km, MD2.4, Error ellipse: s-maj=3.8km s-min=3.1km az=144.0*
*DDA **02** 14:15:37.7, 38.86N×27.84E, h8km, Md2.4*

ISC 02 14:15:36.8±0.9, 38.90N±0.03×27.76E±0.03, h13km±5km, n24, σ0°60/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.05**	**118**	P	Pg	**14 15 39.3**	**+0.1**
AKHS				S	Sg	**14 15 40.6**	**-0.4**
AKHS	**Akhisar**	**0.05**	**118**	*i* P	Pg	**14 15 39.3**	**+0.1**
AKHS				*i* S	Sg	**14 15 40.6**	**-0.4**
IZM	**Izmir**	**0.64**	**218**	*e*PG	Pg	**14 15 48.3**	**-0.9**
IZM				*e*SG	Sg	**14 15 57.7**	**+0.2**
IZM	**Izmir**	**0.64**	**218**	*e*Pg	Pg	**14 15 48.3**	**-0.9**
IZM				*e*Sg	Sg	**14 15 57.7**	**+0.2**
DKL	**Dikili**	**0.68**	**285**	*e*PG	Pg	**14 15 48.8**	**-1.2**
DKL				*e*SG	Sg	**14 15 58.9**	**-0.1**
DKL	**Dikili**	**0.68**	**285**	*e*Pg	Pg	**14 15 48.8**	**-1.2**
DKL				*e*Sg	Sg	**14 15 58.9**	**-0.1**
BALB	**Balikesir**	**0.74**	**7**	*e*PG	Pg	**14 15 50.8**	**-0.4**
BALB				*e*SG	Sb	**14 16 01.6**	**0.0**
BALB	**Balikesir**	**0.74**	**7**	*e*Pg	Pg	**14 15 50.8**	**-0.4**
BALB				*e*Sg	Sb	**14 16 01.7**	**0.0**
DEMI	**Demirci**	**0.76**	**79**	P	Pg	**14 15 51.6**	**+0.1**
DEMI				S	Sg	**14 16 01.0**	**-0.6**
DEMI	**Demirci**	**0.76**	**79**	*i* P	Pg	**14 15 51.6**	**+0.1**
DEMI				*i* S	Sg	**14 16 01.0**	**-0.6**
KULA	**Kula-Manisa**	**0.81**	**118**	*e*PG	Pg	**14 15 51.6**	**-0.8**
KULA	**Kula-Manisa**	**0.81**	**118**	*e*Pg	Pg	**14 15 51.6**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**174**	*e*PG	Pg	**14 15 54.8**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**174**	*e*Pg	Pg	**14 15 54.8**	**-0.5**
DST	**Dursunbey**	**0.97**	**43**	*e*PG	Pg	**14 15 55.5**	**0.0**
DST	**Dursunbey**	**0.97**	**43**	*e*Pg	Pg	**14 15 55.5**	**0.0**
URLA	**Izmir**	**1.06**	**240**	P	Pn	**14 15 58.4**	**+1.0**
URLA	**Izmir**	**1.06**	**240**	*i* P	Pn	**14 15 58.4**	**+1.0**
DGB	**˜zmir**	**1.09**	**219**	*i* P	Pg	**14 15 58.2**	**+0.4**
ZEY	**˜zmir**	**1.18**	**236**	*i* P	Pg	**14 16 00.7**	**+1.2**
AYDN	**Tasoluk**	**1.24**	**175**	P	Pn	**14 16 00.1**	**+0.1**
AYDN				S	Sn	**14 16 16.8**	**+0.2**
AYDN	**Tasoluk**	**1.24**	**175**	*i* P	Pn	**14 16 00.1**	**+0.1**
AYDN				*i* S	Sn	**14 16 16.8**	**+0.2**
CHOS	**Chios island**	**1.43**	**249**	*e*PN	Pn	**14 16 02.8**	**+0.3**
CHOS	**Chios island**	**1.43**	**249**	*e*Pn	Pn	**14 16 02.8**	**+0.3**

*ISCJB **02** 14:16:36.7±0.5, 36.63N±0.02×22.98E±0.02, h9km±3km, mb3.5/5, Error ellipse: s-maj=3.6km s-min=2.2km az=151.4*
*ATH **02** 14:16:36.5, 36.66N×23.04E, h19km, ML3.1/43, Error ellipse: s-maj=1.2km s-min=0.7km az=242.0*
*THE **02** 14:16:36.8, 36.62N×22.89E, h8km, ML3.4/16, Error ellipse: s-maj=0.7km s-min=0.4km az=246.0*
*CSEM **02** 14:16:36.7±0.1, 36.65N×23.00E, h5km, ML3.1, Error ellipse: s-maj=4.0km s-min=2.5km az=60.0*
*IDC **02** 14:16:42.3±2.8, 36.50N×23.20E, h67km±34km, mb3.4/5, mb1 3.4/7, mb1mx3.1/49, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=30.0km s-min=23.4km az=150.0*

ISC 02 14:16:36.4±0.8, 36.61N±0.02×22.91E±0.02, h10km±5km, n122, σ0°97/190, mb3.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.11**	**11**	P	Pg	**14 16 39.5**	**+0.2**
VLI				S	Sg	**14 16 41.6**	**+0.4**
VLI	**Veliai**	**0.11**	**11**	P	Pg	**14 16 39.4**	**+0.2**
VLI				S	Sg	**14 16 40.7**	**-0.5**
VLI	**Veliai**	**0.11**	**11**	P	Pg	**14 16 39.4**	**+0.2**
VLI				S	Sg	**14 16 40.7**	**-0.5**
VLI				AML	AML	14 16 42.0	
	comp=E,51137μm,0.3s						
VLI				AML	AML	14 16 42.0	
KYTH	**Kithira**	**0.36**	**162**	P	Pb	**14 16 44.4**	**-0.4**
KYTH				S	Sb	**14 16 50.1**	**-0.4**
KYTH	**Kithira**	**0.36**	**162**	P	Pb	**14 16 45.6**	**+0.8**
KYTH				S	Sb	**14 16 50.1**	**-0.4**
KYTH	**Kithira**	**0.36**	**162**	P	Pb	**14 16 45.6**	**+0.8**
KRND	**KRANIDI**	**0.80**	**14**	P	Pg	**14 16 51.8**	**0.0**
KRND				S	Sg	**14 17 03.7**	**+1.5**
KRND	**KRANIDI**	**0.80**	**14**	P	Pg	**14 16 51.8**	**0.0**
KRND				S	Sg	**14 17 03.7**	**+1.5**
KRND	**KRANIDI**	**0.80**	**14**	P	Pb	**14 16 53.1**	**+0.8**
KRND				AML	AML	14 17 06.5

AMT						AML	AML	14 17 29.1			
	comp=N,3010μm,0.6s										
SERI	**Serifos**	**1.38**	**66**	P		**Pn**	**Pn**	**14 17 01.6**	**0.0**		
SERI				S		**Sn**	**Sn**	**14 17 19.6**	**-0.3**		
SERI	**Serifos**	**1.38**	**66**	P		**Pn**	**Pn**	**14 17 01.6**	**0.0**		
SERI				S		**Sn**	**Sn**	**14 17 19.6**	**-0.3**		
SERI						AML	AML	14 17 26.7			
	comp=E,548μm,0.4s										
SERI						AML	AML	14 17 26.9			
	comp=N,686μm,0.4s										
LTK	**Loutraki**	**1.41**	**2**	P		**Pn**	**Pn**	**14 17 02.0**	**-0.1**		
LTK				S		**Sb**	**Sb**	**14 17 21.4**	**+0.5**		
LTK	**Loutraki**	**1.41**	**2**	P		**Pn**	**Pn**	**14 17 02.0**	**-0.1**		
LTK	**Loutraki**	**1.41**	**2**	P		**Pn**	**Pn**	**14 17 02.6**	**+0.5**		
LTK						AML	AML	14 17 23.8			
	comp=E,1994μm,0.6s										
LTK						AML	AML	14 17 30.6			
	comp=N,1573μm,0.6s										
VLY	**Voula,Athens**	**1.43**	**29**	P		**Pn**	**Pn**	**14 17 02.0**	**-0.3**		
VLY				S		**Sn**	**Sn**	**14 17 21.6**	**+0.5**		
VLY	**Voula,Athens**	**1.43**	**29**	P		**Pn**	**Pn**	**14 17 02.0**	**-0.3**		
VLY				S		**Sn**	**Sn**	**14 17 21.6**	**+0.5**		
VLY	**Voula,Athens**	**1.43**	**29**	P		**Pn**	**Pn**	**14 17 02.7**	**+0.4**		
VLY				S		**Sn**	**Sn**	**14 17 22.0**	**+0.9**		
VLY						AML	AML	14 17 30.9			
	comp=N,1839μm,0.7s										
VLY						AML	AML	14 17 31.2			
	comp=E,1577μm,0.4s										
IMMV	**Iera Moni Meta**	**1.44**	**143**	P		**Pn**	**Pn**	**14 17 02.5**	**+0.1**		
IMMV				S		**Sg**	**Sg**	**14 17 22.7**	**+0.1**		
IMMV	**Iera Moni Meta**	**1.44**	**143**	P		**Pn**	**Pn**	**14 17 02.5**	**+0.1**		
IMMV				S		**Sb**	**Sb**	**14 17 21.7**	**+0.2**		
IMMV	**Iera Moni Meta**	**1.44**	**143**	P		**Pn**	**Pn**	**14 17 02.2**	**-0.2**		
IMMV				S		**Sb**	**Sb**	**14 17 21.7**	**+0.2**		
IMMV						AML	AML	14 17 35.2			
	comp=E,1984μm,0.9s										
IMMV						AML	AML	14 17 38.1			
	comp=N,1776μm,0.5s										
THAL	**Thalero**	**1.44**	**352**	P		**Pn**	**Pn**	**14 17 02.5**	**0.0**		
THAL				S		**Sb**	**Sb**	**14 17 21.8**	**+0.2**		
THAL	**Thalero**	**1.44**	**352**	P		**Pn**	**Pn**	**14 17 02.5**	**0.0**		
THAL				S		**Sb**	**Sb**	**14 17 21.8**	**+0.2**		
THAL	**Thalero**	**1.44**	**352**	P		**Pb**	**Pb**	**14 17 03.3**	**0.0**		
THAL						AML	AML	14 17 32.8			
	comp=N,3650μm,0.4s										
THAL						AML	AML	14 17 39.6			
	comp=E,4982μm,0.4s										
ATH	**Athens Observa**	**1.51**	**25**	P		**Pn**	**Pn**	**14 17 04.3**	**+0.9**		
ATH				S		**Sn**	**Sn**	**14 17 22.7**	**-0.3**		
ATHU	**Athens Univers**	**1.52**	**27**	P		**Pn**	**Pn**	**14 17 01.9**	**-1.7**		
ATHU				S		**Sn**	**Sn**	**14 17 22.1**	**-1.4**		
ATHU	**Athens Univers**	**1.52**	**27**	P		**Pn**	**Pn**	**14 17 01.9**	**-1.7**		
ATHU				S		**Sn**	**Sn**	**14 17 22.1**	**-1.4**		
ATHU						AML	AML	14 17 30.7			
	comp=E,259μm,0.5s										
ATHU						AML	AML	14 17 30.9			
	comp=N,326μm,0.4s										
KLV	**Kalavryta, Ach**	**1.56**	**337**	P		**Pn**	**Pn**	**14 17 04.1**	**0.0**		
KLV				S		**Sn**	**Sn**	**14 17 24.3**	**-0.1**		
KLV	**Kalavryta, Ach**	**1.56**	**337**	P		**Pn**	**Pn**	**14 17 04.1**	**0.0**		
KLV				S		**Sn**	**Sn**	**14 17 24.3**	**-0.1**		
KLV	**Kalavryta, Ach**	**1.56**	**337**	P		**Pn**	**Pn**	**14 17 04.0**	**0.0**		
KLV						AML	AML	14 17 33.1			
	comp=N,970μm,0.7s										
KLV						AML	AML	14 17 37.3			
	comp=E,934μm,0.9s										
VILL	**Villia**	**1.59**	**12**	P		**Pn**	**Pn**	**14 17 03.9**	**-0.6**		
VILL				S		**Sn**	**Sn**	**14 17 25.6**	**+0.5**		
VILL	**Villia**	**1.59**	**12**	P		**Pn**	**Pn**	**14 17 04.0**	**-0.6**		
VILL				S		**Sn**	**Sn**	**14 17 25.0**	**-0.1**		
VAM	**Vamos**	**1.59**	**139**	P		**Pn**	**Pn**	**14 17 04.2**	**-0.3**		
VAM				S		**Sb**	**Sb**	**14 17 25.7**	**-0.2**		
VAM	**Vamos**	**1.59**	**139**	P		**Pn**	**Pn**	**14 17 04.3**	**-0.3**		
VAM				S		**Sb**	**Sb**	**14 17 25.7**	**-0.2**		
VIL2	**Platees**	**1.63**	**10**	P		**Pn**	**Pn**	**14 17 04.0**	**-1.0**		
VIL2				S		**Sn**	**Sn**	**14 17 25.0**	**-1.1**		
VIL2						AML	AML	14 17 32.9			
	comp=E,898μm,0.5s										
VIL2						AML	AML	14 17 43.2			
	comp=N,1177μm,0.7s										
PTL	**Penteli**	**1.63**	**28**	P		**Pn**	**Pn**	**14 17 04.7**	**-0.4**		
PTL				S		**Sn**	**Sn**	**14 17 25.4**	**-0.6**		
PTL	**Penteli**	**1.63**	**28**	P		**Pn**	**Pn**	**14 17 04.7**	**-0.4**		
PTL				S		**Sn**	**Sn**	**14 17 25.4**	**-0.6**		
PTL						AML	AML	14 17 33.7			
	comp=N,382μm,0.5s										
PTL						AML	AML	14 17 35.8			
	comp=E,871μm,0.7s										
PROD	**Prodromos**	**1.65**	**360**	P		**Pn**	**Pn**	**14 17 04.9**	**-0.4**		
PROD	**Prodromos**	**1.65**	**360**	P		**Pn**	**Pn**	**14 17 05.0**	**-0.4**		
PROD						AML	AML	14 17 33.6			
	comp=N,1128μm,0.4s										
PROD						AML	AML	14 17 37.0			
	comp=E,870μm,0.3s										
DRO	**Drossia**	**1.65**	**325**	P		**Pb**	**Pb**	**14 17 05.8**	**-1.0**		
DRO	**Drossia**	**1.65**	**325**	P		**Pb**	**Pb**	**14 17 05.8**	**-1.0**		
DRO				S		**Sg**	**Sg**	**14 17 29.6**	**+0.2**		
DRO	**Drossia**	**1.65**	**325**	P		**Pg**	**Pg**	**14 17 07.6**	**-0.4**		
DRO				S		**Sg**	**Sg**	**14 17 29.6**	**+0.2**		
DRO						AML	AML	14 17 36.3			
	comp=N,1987μm,0.7s										
DRO						AML	AML	14 17 42.0			
	comp=E,2051μm,0.7s										
DSF	**Desfina**	**1.83**	**350**	P		**Pn**	**Pn**	**14 17 08.9**	**+1.1**		
DSF				S		**Sb**	**Sb**	**14 17 32.7**	**-0.1**		
DSF	**Desfina**	**1.83**	**350**	P		**Pn**	**Pn**	**14 17 08.9**	**+1.1**		
DSF				S		**Sb**	**Sb**	**14 17 32.7**	**-0.1**		
DSF						AML	AML	14 17 39.5			
	comp=N,707μm,0.4s										
DSF						AML	AML	14 17 41.7			
	comp=E,518μm,0.4s										
RLS	**Riolos of Patr**	**1.85**	**322**	P		**Pb**	**Pb**	**14 17 10.4**	**+0.2**		
RLS	**Riolos of Patr**	**1.85**	**322**	AML		AML	AML	14 17 48.9			
	comp=E,480μm,1.2s										
RLS						AML	AML	14 17 49.8			
	comp=N,746μm,0.6s										
KALE	**Kalithea**	**1.88**	**341**	P		**Pn**	**Pn**	**14 17 08.3**	**-0.3**		
KALE	**Kalithea**	**1.88**	**341**	P		**Pn**	**Pn**	**14 17 08.3**	**-0.3**		
KALE				S		**Sg**	**Sg**	**14 17 36.3**	**-0.6**		
KALE						AML	AML	14 17 41.5			
	comp=E,619μm,0.6s										
KALE						AML	AML	14 17 41.7			
	comp=N,751μm,0.5s										
RODI	**Rodini**	**1.89**	**335**	P		**Pb**	**Pb**	**14 17 10.2**	**-0.7**		
RODI				S		**Sb**	**Sb**	**14 17 34.7**	**+0.1**		
RODI	**Rodini**	**1.89**	**335**	P		**Pb**	**Pb**	**14 17 10.2**	**-0.7**		
RODI				S		**Sb**	**Sb**	**14 17 34.7**	**+0.1**		
RODI						AML	AML	14 17 45.1			
	comp=E,667μm,0.9s										
RODI						AML	AML	14 17 45.6			
	comp=N,713μm,0.8s										
EREA	**Eretria**	**1.98**	**24**	P		**Pn**	**Pn**	**14 17 10.0**	**+0.1**		
EREA				S		**Sn**	**Sn**	**14 17 34.9**	**+0.1**		
EREA	**Eretria**	**1.98**	**24**	P		**Pn**	**Pn**	**14 17 10.0**	**+0.1**		
EREA				S		**Sn**	**Sn**	**14 17 34.9**	**+0.1**		
EREA						AML	AML	14 17 42.5			
	comp=N,363μm,0.4s										
EREA						AML	AML	14 17 48.2			
	comp=E,426μm,0.5s										
EFP	**Efpalio**	**1.98**	**337**	P		**Pb**	**Pb**	**14 17 12.6**	**+0.1**		
EFP	**Efpalio**	**1.98**	**337**	P		**Pb**	**Pb**	**14 17 12.6**	**+0.1**		
EFP						AML	AML	14 17 51.3			
	comp=N,767μm,0.6s										
EFP						AML	AML	14 17 54.3			
	comp=E,975μm,0.8s										
GVD	**Gavdhos**	**2.01**	**151**	P		**Pb**	**Pb**	**14 17 11.4**	**-1.5**		
GVD	**Gavdhos**	**2.01**	**151**	P		**Pb**	**Pb**	**14 17 11.4**	**-1.5**		
GVD						AML	AML	14 17 57.2			
	comp=N,828μm,0.6s										
GVD						AML	AML	14 18 00.9			
	comp=E,671μm,0.4s										
ZKS	**Zakynthos**	**2.02**	**303**	P		**Pb**	**Pb**	**14 17 13.1**	**0.0**		
ZKS	**Zakynthos**	**2.02**	**303**	P		**Pb**	**Pb**	**14 17 13.1**	**0.0**		
ZKS				S		**Sg**	**Sg**	**14 17 40.9**	**-0.3**		
ZKS						AML	AML	14 17 55.2			
	comp=N,1438μm,0.6s										
ZKS						AML	AML	14 17 55.7			
	comp=E,1271μm,0.6s										
LKR	**Lokris**	**2.04**	**2**	P		**Pn**	**Pn**	**14 17 10.1**	**-0.6**		
LKR				S		**Sb**	**Sb**	**14 17 38.2**	**-0.7**		
LKR	**Lokris**	**2.04**	**2**	P		**Pn**	**Pn**	**14 17 10.1**	**-0.6**		
LKR				S		**Sb**	**Sb**	**14 17 38.2**	**-0.7**		
LKR						AML	AML	14 17 44.2			
	comp=E,522μm,0.5s										
LKR						AML	AML	14 17 49.1			
	comp=N,474μm,0.5s										
SANT	**Santorini**	**2.07**	**96**	P		**Pn**	**Pn**	**14 17 11.8**	**+0.7**		
SANT	**Santorini**	**2.07**	**96**	P		**Pn**	**Pn**	**14 17 11.8**	**+0.7**		
SANT				S		**Sn**	**Sn**	**14 17 33.8**	**-3.1**		
SANT						AML	AML	14 17 48.1			
	comp=E,1174μm,0.6s										
SANT						AML	AML	14 17 49.2			
	comp=N,516μm,0.6s										
IDI	**Anoyia**	**2.08**	**129**	P		**Pn**	**Pn**	**14 17 11.4**	**+0.1**		
comp=N,9.4nm,0.3s,baz=316,slow=15,SNR=36											
IDI				S		**Sn**	**Sn**	**14 17 36.1**	**-1.0**		
	comp=N,17nm,0.3s,baz=333,slow=5.3,SNR=8.3										
IDI	**Anoyia**	**2.08**	**129**	P		**Pn**	**Pn**	**14 17 11.2**	**-0.1**		
IDI				S		**Sn**	**Sn**	**14 17 38.5**	**+1.3**		
IDI	**Anoyia**	**2.08**	**129**	P		**Pn**	**Pn**	**14 17 11.2**	**-0.1**		
IDI				S		**Sn**	**Sn**	**14 17 38.5**	**+1.3**		
IDI	**Anoyia**	**2.08**	**129**	P		**Pn**	**Pn**	**14 17 11.0**	**-0.3**		
IDI				S		**Sb**	**Sb**	**14 17 38.8**	**-1.2**		
IDI						AML	AML	14 17 46.7			
	comp=E,550μm,0.5s										
IDI						AML	AML	14 17 52.0			
	comp=N,635μm,0.6s										
ATAL	**Atalanti**	**2.08**	**2**	P		**Pn**	**Pn**	**14 17 11.4**	**+0.1**		
ATAL				S		**Sn**	**Sn**	**14 17 36.8**	**-0.5**		
ATAL	**Atalanti**	**2.08**	**2**	P		**Pn**	**Pn**	**14 17 11.4**	**+0.1**		
ATAL				S		**Sn**	**Sn**	**14 17 36.8**	**-0.5**		
ATAL						AML	AML	14 17 46.6			
	comp=E,437μm,0.8s										
ATAL						AML	AML	14 17 48.2			
	comp=N,342μm,0.9s										
APE	**Apeiranthos**	**2.15**	**77**	P		**Pn**	**Pn**	**14 17 12.4**	**+0.1**		
APE	**Apeiranthos**	**2.15**	**77**	P		**Pn**	**Pn**	**14 17 12.4**	**+0.1**		
APE						AML	AML	14 17 48.7			
	comp=E,248μm,0.5s										
APE						AML	AML	14 17 49.0			
	comp=N,514μm,0.6s										
SIVA	**Sivas**	**2.21**	**135**	P		**Pn**	**Pn**	**14 17 12.6**	**-0.5**		
SIVA	**Sivas**	**2.21**	**135**	P		**Pn**	**Pn**	**14 17 12.6**	**-0.5**		
SIVA						AML	AML	14 17 57.1			
	comp=N,901μm,0.7s										
SIVA						AML	AML	14 18 00.5			
	comp=E,916μm,0.8s										
PDO	**Prodromos**	**2.42**	**326**	P		**Pb**	**Pb**	**14 17 18.8**	**-1.1**		
PDO	**Prodromos**	**2.42**	**326**	P		**Pb**	**Pb**	**14 17 18.8**	**-1.1**		
PDO						AML	AML	14 18 06.0			
	comp=N,880μm,0.5s										
PDO						AML	AML	14 18 09.6			
	comp=E,510μm,0.8s										
VLS	**Valsamata**	**2.42**	**311**	P		**Pn**	**Pn**	**14 17 17.1**	**+1.1**		
AGG	**Agios Georgios**	**2.45**	**349**	P		**Pn**	**Pn**	**14 17 17.0**	**+0.6**		
AGG	**Agios Georgios**	**2.45**	**349**	P		**Pn**	**Pn**	**14 17 17.0**	**+0.6**		
AGG						AML	AML	14 18 03.4			
	comp=N,500μm,0.5s										
AGG						AML	AML	14 18 08.5			
	comp=E,531μm,0.7s										
EVR	**Evrytania**	**2.46**	**340**	P		**Pn**	**Pn**	**14 17 16.0**	**-0.6**		
EVR	**Evrytania**	**2.46**	**340**	P		**Pn**	**Pn**	**14 17 16.0**	**-0.6**		
EVR						AML	AML	14 18 04.4			
	comp=N,439μm,0.7s										
LAST	**Lasithi**	**2.54**	**124**	P		**Pn**	**Pn**	**14 17 17.7**	**+0.1**		
LAST	**Lasithi**	**2.54**	**124**	P		**Pn**	**Pn**	**14 17 17.7**	**+0.1**		
LAST				S		**Sn**	**Sn**	**14 17 48.2**	**-0.4**		
LAST	**Lasithi**	**2.54**	**124**	P		**Pb**	**Pb**	**14 17 20.2**	**-1.8**		
NPS	**Neapolis**	**2.57**	**121**	P		**Pn**	**Pn**	**14 17 20.0**	**+2.0**		
NPS				S		**Sn**	**Sn**	**14 17 52.0**	**+2.7**		
NPS	**Neapolis**	**2.57**	**121**	P		**Pn**	**Pn**	**14 17 20.0**	**+2.0**		
NPS				S		**Sn**	**Sn**	**14 17 52.0**	**+2.7**		
NPS						AML	AML	14 18 05.2			
	comp=E,380μm,0.4s										
NPS						AML	AML	14 18 05.4			
	comp=N,338μm,0.5s										
SKIA	**Skiathos**	**2.59**	**10**	P		**Pn**	**Pn**	**14 17 17.9**	**-0.4**		
SKIA				S		**Sn**	**Sn**	**14 17 49.4**	**-0.4**		
SKIA	**Skiathos**	**2.59**	**10**	P		**Pn**	**Pn**	**14 17 17.9**	**-0.4**		
SKIA				S		**Sn**	**Sn**	**14 17 49.4**	**-0.4**		
SKIA						AML	AML	14 17 56.8			
	comp=E,202μm,0.6s										
SKIA						AML	AML	14 18 03.5			
	comp=N,187μm,0.5s										
AOS	**Alonnisos**	**2.67**	**16**	P		**Pn**	**Pn**	**14 17 18.2**	**-1.2**		
AOS	**Alonnisos**	**2.67**	**16**	P		**Pn**	**Pn**	**14 17 18.2**	**-1.2**		
AOS						AML	AML	14 18 09.3			
	comp=E,220μm,0.8s										
AOS						AML	AML	14 18 10.8			
	comp=N,152μm,0.7s										
XOR	**Xorichti**	**2.76**	**5**	P		**Pn**	**Pn**	**14 17 20.0**	**-0.7**		
XOR	**Xorichti**	**2.76**	**5**	P		**Pn**	**Pn**	**14 17 20.0**	**-0.7**		
XOR						AML	AML	14 18 10.3			
	comp=E,136μm,0.6s										
XOR						AML	AML	14 18 11.9			
	comp=N,248μm,0.8s										
DSL	**Palaion Diasel**	**2.90**	**331**	P		**Pb**	**Pb**	**14 17 25.9**	**-2.3**		
DSL						AML	AML	14 18 20.3			
	comp=E,279μm,0.6s										
DSL						AML	AML	14 18 30.0			
	comp=N,332μm,0.7s										
THL	**Klokotos Trika**	**3.04**	**347**	P		**Pn**	**Pn**	**14 17 26.9**	**+2.5**		
CHOS	**Chios island**	**3.07**	**54**	P		**Pn**	**Pn**	**14 17 24.2**	**-0.7**		
CHOS	**Chios island**	**3.07**	**54**	P		**Pn**	**Pn**	**14 17 24.2**	**-0.7**		
CHOS						AML	AML	14 18 23.1			
	comp=N,224μm,0.9s										
CHOS						AML	AML	14 18 24.0			
	comp=E,250μm,0.8s										
ZKR	**Zakros**	**3.07**	**118**	P		**Pn**	**Pn**	**14 17 27.0**	**+2.1**		
ZKR	**Zakros**	**3.07**	**118**	P		**Pn**	**Pn**	**14 17 27.0**	**+2.1**		
ZKR						AML	AML	14 18 23.8			
	comp=N,216μm,1.1s										
ZKR						AML	AML	14 18 26.9			
	comp=E,255μm,0.7s										
VAE	**Valguarnera**	**6.85**	**280**	S		**Sn**		**14 19 39.5**	**+4.5**		
comp=E,1.3nm,0.3s,baz=202,slow=19,SNR=1.9											
BRTR	**Keskin Array B**	**9.00**	**67**	P		**Pn**		**14 18 49.0**	**+2.5**		
comp=E,0.1nm,0.3s,baz=263,slow=12,SNR=1.6											
MMAI	**Mount Meron Ar**	**10.88**	**106**	P		**Pn**		**14 19 10.3**	**-1.8**		
comp=E,0.8nm,0.3s,baz=305,slow=10,SNR=2.5											
GERES	**GERESS Array B**	**13.96**	**334**	P		**P**		**14 20 04.2**	**+1.9**		
comp=E,0.1nm,0.3s,baz=143,slow=9.9,SNR=5.2											
HFS	**Hagfors**	**24.28**	**349**	P		**P**		**14 21 52.9**	**-0.5**		
comp=E,0.5nm,0.4s,baz=173,slow=16,SNR=1.5											
EKA	**Eskdalemuir Ar**	**25.81**	**325**	P		**P**		**14 22 09.5**	**+2.1**		
comp=E,2.0nm,0.4s,baz=117,slow=8.8,SNR=12											
TORD	**Torodi Ar. Bea**	**30.13**	**225**	P		**P**		**14 22 46.6**	**+0.2**		
comp=E,0.4nm,0.6s,baz=33,slow=9.4,SNR=2.9											
KURBB	**Kurchatov Arra**	**41.66**	**52**	P		**P**		**14 24 23.3**	**-1.4**		
comp=E,0.4nm,0.6s,baz=279,slow=7.9,SNR=4.3											
MKAR	**Makanchi Array**	**44.52**	**57**	P		**P**		**14 24 45.8**	**-2.2**		
comp=E,0.5nm,0.5s,baz=284,slow=6.5,SNR=8.0											

ISCJB ***02*** *14:22:35.7±0.4, 36.65N±0.02×22.98E±0.03, h12km±3km, mb3.5/5, Error ellipse: s-maj=3.8km s-min=2.4km az=152.3*

ATH ***02*** *14:22:35.0, 36.67N×23.05E, h16km, ML3.2/38, Error ellipse: s-maj=1.1km s-min=0.7km az=248.0*

THE ***02*** *14:22:35.4, 36.62N×22.88E, h8km, ML3.5/15, Error ellipse: s-maj=0.7km s-min=0.4km az=246.0*

CSEM ***02*** *14:22:35.5±0.2, 36.67N×23.02E, h2km, ML3.2, Error ellipse: s-maj=4.9km s-min=3.1km az=59.0*

IDC ***02*** *14:22:40.2±4.0, 36.55N×23.20E, h51km±46km, mb3.5/5, mb1 3.6/6, mb1mx3.2/58, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=37.8km s-min=24.4km az=157.0*

ISC 02 14:22:35.6±0.7, **36.67N**±0.01×**22.96E**±0.02, **h15**km±4km, **n129**, σ1§**08**/197, **mb3.6**/5, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.06**	**342**	P	**Pg**	**14 22 38.3**	**-0.2**
VLI				S	**Sg**	**14 22 40.4**	**0.0**
VLI	**Veliai**	**0.06**	**342**	P	**Pg**	**14 22 38.3**	**-0.2**
VLI				S	**Sg**	**14 22 40.4**	**0.0**
VLI	**Veliai**	**0.06**	**342**	P	**Pg**	**14 22 38.8**	**+0.3**
VLI				S	**Sg**	**14 22 40.4**	**0.0**
VLI				AML	AML	14 22 40.7	
VLI				AML	AML	14 22 40.7	
KYTH	**Kithira**	**0.41**	**170**	P	**Pg**	**14 22 43.3**	**-0.5**
KYTH				S	**Sg**	**14 22 48.3**	**-1.1**
KYTH	**Kithira**	**0.41**	**170**	P	**Pg**	**14 22 43.9**	**+0.1**
KYTH				S	**Sg**	**14 22 48.4**	**-1.0**
KYTH	**Kithira**	**0.41**	**170**	P	**Pg**	**14 22 43.9**	**+0.1**
KRND	**KRANIDI**	**0.73**	**12**	P	**Pb**	**14 22 50.1**	**0.0**
KRND				S	**Sn**	**14 23 01.6**	**-0.8**
KRND	**KRANIDI**	**0.73**	**12**	P	**Pb**	**14 22 50.1**	**0.0**
KRND				S	**Sg**	**14 22 58.5**	**-1.1**
KRND	**KRANIDI**	**0.73**	**12**	P	**Pn**	**14 22 51.5**	**+0.1**
KRND				S	**Sg**	**14 22 58.5**	**-1.1**
KRND				AML	AML	14 23 03.7	
	comp=N,2925μm,0.3s						
KRND				AML	AML	14 23 04.5	
	comp=E,2714μm,0.3s						
ANKY	**Antikythira Is**	**0.84**	**161**	P	**Pg**	**14 22 51.2**	**-0.8**
ANKY				S	**Sg**	**14 23 03.2**	**+0.1**
ANKY	**Antikythira Is**	**0.84**	**161**	P	**Pg**	**14 22 51.2**	**-0.8**
ANKY				S	**Sg**	**14 23 01.8**	**-1.3**
ANKY	**Antikythira Is**	**0.84**	**161**	P	**Pb**	**14 22 52.2**	**+0.2**
ANKY				S	**Sg**	**14 23 01.8**	**-1.3**
ANKY				AML	AML	14 23 04.7	
	comp=E,5218μm,0.6s						
ANKY				AML	AML	14 23 07.6	
	comp=N,5778μm,0.5s						
VLX	**Vlachokerasia**	**0.84**	**327**	P	**Pb**	**14 22 51.3**	**-0.8**
VLX				S	**Sb**	**14 23 02.3**	**-0.9**
VLX	**Vlachokerasia**	**0.84**	**327**	P	**Pb**	**14 22 51.4**	**-0.7**
VLX				S	**Sb**	**14 23 03.0**	**-0.2**
VLX	**Vlachokerasia**	**0.84**	**327**	P	**Pb**	**14 22 51.4**	**-0.7**
VLX				S	**Sb**	**14 23 03.0**	**-0.2**
VLX				AML	AML	14 23 08.2	
	comp=E,6005μm,0.6s						
VLX				AML	AML	14 23 08.5	
	comp=N,6604μm,0.5s						
DID	**Didima**	**0.87**	**15**	P	**Pn**	**14 22 52.8**	**-0.6**
DID				S	**Sn**	**14 23 06.2**	**+0.4**
DID	**Didima**	**0.87**	**15**	P	**Pn**	**14 22 52.8**	**-0.6**
DID				S	**Sn**	**14 23 04.9**	**-0.9**
DID	**Didima**	**0.87**	**15**	P	**Pn**	**14 22 54.7**	**+1.4**
DID				S	**Sn**	**14 23 04.9**	**-0.9**
DID				AML	AML	14 23 10.2	
	comp=E,5728μm,0.4s						
DID				AML	AML	14 23 12.9	
	comp=N,3408μm,0.3s						
ITM	**Ithomi**	**0.97**	**302**	P	**Pg**	**14 22 52.7**	**-1.8**
ITM				S	**Sg**	**14 23 06.0**	**-1.2**
ITM	**Ithomi**	**0.97**	**302**	P	**Pg**	**14 22 52.7**	**-1.8**
ITM				S	**Sg**	**14 23 06.0**	**-1.2**
ITM	**Ithomi**	**0.97**	**302**	P	**Pg**	**14 22 52.0**	**-2.5**
ITM				S	**Sn**	**14 23 08.6**	**+0.2**
ITM				AML	AML	14 23 10.7	
	comp=N,2257μm,0.4s						
ITM				AML	AML	14 23 11.0	
	comp=E,1441μm,0.3s						
PYL	**PYLOS**	**1.00**	**284**	P	**Pb**	**14 22 52.8**	**-1.9**
PYL				S	**Sg**	**14 23 07.7**	**-0.5**
PYL	**PYLOS**	**1.00**	**284**	P	**Pb**	**14 22 53.5**	**-1.2**
PYL				S	**Sn**	**14 23 09.7**	**+0.6**
PYL	**PYLOS**	**1.00**	**284**	P	**Pb**	**14 22 53.5**	**-1.2**
PYL				S	**Sn**	**14 23 09.7**	**+0.6**
PYL				AML	AML	14 23 11.4	
	comp=E,2928μm,0.5s						
PYL				AML	AML	14 23 18.9	
	comp=N,1484μm,0.9s						
TRIP	**Tripoli**	**1.02**	**328**	P	**Pb**	**14 22 54.3**	**-0.8**
TRIP	**Tripoli**	**1.02**	**328**	P	**Pb**	**14 22 54.3**	**-0.8**
SERI	**Serifos**	**1.32**	**68**	P	**Pg**	**14 23 00.8**	**-0.3**
SERI				S	**Sb**	**14 23 14.8**	**-2.1**
SERI	**Serifos**	**1.32**	**68**	P	**Pg**	**14 23 00.8**	**-0.3**
SERI				S	**Sb**	**14 23 14.8**	**-2.1**
AMT	**Artemida-Makis**	**1.32**	**311**	P	**Pn**	**14 22 59.3**	**-0.3**
AMT				S	**Sg**	**14 23 17.4**	**-0.9**
AMT	**Artemida-Makis**	**1.32**	**311**	P	**Pb**	**14 22 59.8**	**-0.4

DRO				AML	AML	14 23 36.4		
	comp=N,2171µm,0.5s							
DRO				AML	AML	14 23 40.0		
	comp=E,1976µm,0.5s							
DSF	**Desfina**	**1.78**	**349**	P	**Pb**	**14 23 06.8**	**-1.1**	
DSF				S	**Sg**	**14 23 34.0**	**+1.2**	
DSF	**Desfina**	**1.78**	**349**	P	**Pb**	**14 23 06.8**	**-1.1**	
DSF				S	**Sg**	**14 23 34.0**	**+1.2**	
DSF				AML	AML	14 23 36.9		
	comp=E,604µm,0.5s							
DSF				AML	AML	14 23 38.1		
	comp=N,921µm,0.7s							
RLS	**Riolos of Patr**	**1.83**	**320**	P	**Pg**	**14 23 10.3**	**-0.5**	
RLS	**Riolos of Patr**	**1.83**	**320**	AML	AML	14 23 47.6		
	comp=E,511µm,0.9s							
RLS				AML	AML	14 23 48.5		
	comp=N,783µm,0.7s							
TRIZ	**Trizonia**	**1.84**	**338**	P	**Pb**	**14 23 07.9**	**-1.0**	
KALE	**Kalithea**	**1.84**	**340**	P	**Pn**	**14 23 07.2**	**+0.4**	
KALE				S	**Sg**	**14 23 34.7**	**-0.2**	
KALE	**Kalithea**	**1.84**	**340**	P	**Pn**	**14 23 07.2**	**+0.4**	
KALE				S	**Sg**	**14 23 34.7**	**-0.2**	
KALE				AML	AML	14 23 39.3		
	comp=E,703µm,0.5s							
KALE				AML	AML	14 23 39.9		
	comp=N,877µm,0.6s							
SERG	**Sergoula**	**1.89**	**338**	P	**Pb**	**14 23 08.5**	**-1.3**	
EREA	**Eretria**	**1.92**	**24**	P	**Pb**	**14 23 08.6**	**-1.7**	
EREA	**Eretria**	**1.92**	**24**	P	**Pb**	**14 23 08.7**	**-1.6**	
EREA				S	**Sb**	**14 23 33.0**	**-1.0**	
EREA	**Eretria**	**1.92**	**24**	P	**Pb**	**14 23 08.7**	**-1.6**	
EREA				S	**Sb**	**14 23 33.0**	**-1.0**	
EREA				AML	AML	14 23 44.8		
	comp=N,540µm,0.3s							
EREA				AML	AML	14 23 47.7		
	comp=E,387µm,0.4s							
EFP	**Efpalio**	**1.95**	**335**	P	**Pg**	**14 23 12.1**	**-0.9**	
EFP	**Efpalio**	**1.95**	**335**	P	**Pg**	**14 23 12.1**	**-0.9**	
EFP				AML	AML	14 23 52.3		
	comp=N,636µm,1.0s							
EFP				AML	AML	14 23 53.0		
	comp=E,1056µm,0.5s							
CMBO	**Columbo, Santo**	**1.98**	**95**	P	**Pb**	**14 23 10.4**	**-1.0**	
CMBO	**Columbo, Santo**	**1.98**	**95**	P	**Pb**	**14 23 10.4**	**-1.0**	
CMBO				AML	AML	14 23 50.3		
	comp=E,1597µm,0.5s							
CMBO				AML	AML	14 23 51.4		
	comp=N,1896µm,0.5s							
AXS	**Araxos**	**1.98**	**321**	P	**Pn**	**14 23 07.2**	**-1.4**	
AXS	**Araxos**	**1.98**	**321**	P	**Pn**	**14 23 07.2**	**-1.4**	
LKR	**Lokris**	**1.98**	**1**	P	**Pn**	**14 23 09.1**	**+0.4**	
LKR	**Lokris**	**1.98**	**1**	P	**Pn**	**14 23 09.1**	**+0.4**	
LKR				S	**Sb**	**14 23 34.7**	**-1.2**	
LKR	**Lokris**	**1.98**	**1**	P	**Pn**	**14 23 09.0**	**+0.4**	
LKR				S	**Sb**	**14 23 34.7**	**-1.2**	
LKR				AML	AML	14 23 43.0		
	comp=E,715µm,0.3s							
LKR				AML	AML	14 23 43.2		
	comp=N,799µm,0.5s							
ZKS	**Zakynthos**	**2.02**	**301**	P	**Pb**	**14 23 11.6**	**-0.4**	
ZKS	**Zakynthos**	**2.02**	**301**	P	**Pb**	**14 23 11.7**	**-0.4**	
ZKS				AML	AML	14 23 57.5		
	comp=N,990µm,0.5s							
ZKS				AML	AML	14 23 57.5		
	comp=E,1080µm,0.9s							
ATAL	**Atalanti**	**2.02**	**1**	P	**Pn**	**14 23 09.5**	**+0.3**	
ATAL				S	**Sn**	**14 23 34.3**	**0.0**	
ATAL	**Atalanti**	**2.02**	**1**	P	**Pn**	**14 23 09.5**	**+0.3**	
ATAL				S	**Sn**	**14 23 34.3**	**0.0**	
ATAL				AML	AML	14 23 45.3		
	comp=E,463µm,0.8s							
ATAL				AML	AML	14 23 45.9		
	comp=N,420µm,0.9s							
SANT	**Santorini**	**2.04**	**98**	P	**Pn**	**14 23 10.4**	**+1.0**	
SANT	**Santorini**	**2.04**	**98**	P	**Pn**	**14 23 10.4**	**+1.0**	
SANT				AML	AML	14 23 46.9		
	comp=E,1043µm,0.6s							
SANT				AML	AML	14 23 47.9		
	comp=N,564µm,0.6s							
GVD	**Gavdhos**	**2.04**	**153**	P	**Pb**	**14 23 12.5**	**+0.1**	
GVD	**Gavdhos**	**2.04**	**153**	P	**Pb**	**14 23 12.5**	**+0.1**	
GVD				AML	AML	14 23 55.4		
	comp=E,621µm,0.4s							
GVD				AML	AML	14 23 55.9		
	comp=N,671µm,0.6s							
IDI	**Anoyia**	**2.08**	**131**	P	**Pn**	**14 23 10.1**	**0.0**	
	comp=N,8.3nm,0.3s,baz=318,slow=17,SNR=26							
IDI	**Anoyia**	**2.08**	**131**	P	**Pn**	**14 23 09.7**	**-0.4**	
IDI	**Anoyia**	**2.08**	**131**	P	**Pn**	**14 23 09.7**	**-0.4**	
IDI	**Anoyia**	**2.08**	**131**	P	**Pn**	**14 23 08.6**	**-1.5**	
IDI				AML	AML	14 23 46.2		
	comp=E,342µm,0.3s							
IDI				AML	AML	14 23 50.7		
	comp=N,434µm,0.4s							
APE	**Apeiranthos**	**2.10**	**78**	P	**Pn**	**14 23 11.0**	**+0.7**	
APE				S	**Sn**	**14 23 35.2**	**-1.0**	
APE	**Apeiranthos**	**2.10**	**78**	P	**Pn**	**14 23 11.0**	**+0.7**	
APE				S	**Sn**	**14 23 35.2**	**-1.0**	
APE				AML	AML	14 23 47.1		
	comp=N,500µm,0.7s							
APE				AML	AML	14 23 47.4		
	comp=E,243µm,0.6s							
SIVA	**Sivas**	**2.23**	**137**	P	**Pb**	**14 23 15.1**	**-0.5**	
SIVA	**Sivas**	**2.23**	**137**	P	**Pb**	**14 23 15.1**	**-0.5**	
SIVA				AML	AML	14 23 58.6		
	comp=E,798µm,0.6s							
SIVA				AML	AML	14 23 60.0		
	comp=N,855µm,0.5s							
KFL	**Anninata**	**2.25**	**310**	P	**Pb**	**14 23 15.8**	**-0.2**	
KFL	**Anninata**	**2.25**	**310**	P	**Pb**	**14 23 15.8**	**-0.2**	
PVO	**Paravola**	**2.26**	**330**	P	**Pb**	**14 23 16.4**	**+0.3**	
PVO	**Paravola**	**2.26**	**330**	P	**Pb**	**14 23 16.4**	**+0.3**	
AGG	**Agios Georgios**	**2.41**	**348**	P	**Pn**	**14 23 15.6**	**+1.1**	
AGG	**Agios Georgios**	**2.41**	**348**	P	**Pn**	**14 23 15.6**	**+1.1**	
AGG				AML	AML	14 23 58.4		
	comp=N,555µm,0.5s							
AGG				AML	AML	14 23 59.2		
	comp=E,603µm,0.7s							
VLS	**Valsamata**	**2.42**	**309**	P	**Pb**	**14 23 17.5**	**-1.3**	
EVR	**Evrytania**	**2.42**	**338**	P	**Pb**	**14 23 17.2**	**-1.9**	
EVR				S	**Sb**	**14 23 49.2**	**+0.4**	
EVR	**Evrytania**	**2.42**	**338**	P	**Pb**	**14 23 17.2**	**-1.9**	
EVR				S	**Sb**	**14 23 49.2**	**+0.4**	
EVR				AML	AML	14 24 03.1		
	comp=N,464µm,0.6s							
SKIA	**Skiathos**	**2.53**	**9**	P	**Pn**	**14 23 17.0**	**+0.8**	
SKIA				S	**Sn**	**14 23 48.0**	**+1.3**	
SKIA	**Skiathos**	**2.53**	**9**	P	**Pn**	**14 23 17.1**	**+0.8**	
SKIA				S	**Sn**	**14 23 48.0**	**+1.3**	
SKIA				AML	AML	14 24 01.8		
	comp=N,157µm,0.4s							
SKIA				AML	AML	14 24 07.0		
	comp=E,223µm,0.6s							
LAST	**Lasithi**	**2.54**	**126**	P	**Pn**	**14 23 16.6**	**+0.3**	
LAST	**Lasithi**	**2.54**	**126**	P	**Pn**	**14 23 17.0**	**+0.7**	
LAST				S	**Sb**	**14 23 49.8**	**-2.2**	
LAST	**Lasithi**	**2.54**	**126**	P	**Pn**	**14 23 17.1**	**+0.7**	
NPS	**Neapolis**	**2.57**	**122**	P	**Pn**	**14 23 15.5**	**-1.2**	
NPS	**Neapolis**	**2.57**	**122**	P	**Pn**	**14 23 15.5**	**-1.2**	
NPS				AML	AML	14 24 04.1		
	comp=N,278µm,0.4s							
NPS				AML	AML	14 24 04.4		
	comp=E,311µm,0.4s							
FYTO	**Fytoko, Volos**	**2.74**	**360**	P	**Pn**	**14 23 19.7**	**+0.7**	
FYTO	**Fytoko, Volos**	**2.74**	**360**	P	**Pn**	**14 23 19.7**	**+0.7**	
LKD2	**Lefkada island**	**2.80**	**320**	P	**Pb**	**14 23 22.3**	**-3.0**	
LKD2	**Lefkada island**	**2.80**	**320**	P	**Pb**	**14 23 22.3**	**-3.0**	
LKD2				AML	AML	14 24 17.7		
	comp=N,241µm,0.8s							
LKD2				AML	AML	14 24 19.7		
	comp=E,238µm,0.7s							
ZKR	**Zakros**	**3.06**	**119**	P	**Pn**	**14 23 25.6**	**+2.1**	
ZKR	**Zakros**	**3.06**	**119**	P	**Pn**	**14 23 25.6**	**+2.1**	
ZKR				AML	AML	14 24 23.4		
	comp=N,209µm,0.6s							
ZKR				AML	AML	14 24 24.6		
	comp=E,201µm,0.6s							
KARP	**Karpathos**	**3.58**	**107**	P	**Pn**	**14 23 32.4**	**+1.7**	
KARP	**Karpathos**	**3.58**	**107**	P	**Pn**	**14 23 32.4**	**+1.7**	
VAE	**Valguarnera**	**6.88**	**279**	S	**Sn**	**14 25 36.1**	**+2.1**	
	comp=E,1.5nm,0.3s,baz=122,slow=19,SNR=1.7							
BRTR	**Keskin Array B**	**8.95**	**67**	P	Pn	14 24 49.9	+5.5	
	comp=E,0.1nm,0.3s,baz=251,slow=13,SNR=6.0							
MMAI	**Mount Meron Ar**	**10.85**	**106**	P	**Pn**	**14 25 09.1**	**-1.4**	
	comp=E,0.9nm,0.3s,baz=307,slow=11,SNR=3.4							
GERES	**GERESS Array B**	**13.93**	**334**	P	**P**	**14 26 01.9**	**+1.4**	
	comp=E,0.2nm,0.3s,baz=156,slow=10,SNR=4.8							
EKA	**Eskdalemuir Ar**	**25.78**	**325**	P	**P**	**14 28 07.9**	**+2.2**	
	comp=E,3.0nm,0.5s,baz=122,slow=9.0,SNR=9.3							
TORD	**Torodi Ar. Bea**	**30.20**	**225**	P	**P**	**14 28 45.7**	**+0.2**	
	comp=E,0.3nm,0.6s,baz=23,slow=7.8,SNR=2.3							
KURBB	**Kurchatov Arra**	**41.59**	**52**	P	**P**	**14 30 22.2**	**-0.5**	
	comp=E,0.4nm,0.6s,baz=278,slow=8.3,SNR=5.1							
MKAR	**Makanchi Array**	**44.46**	**58**	P	**P**	**14 30 45.2**	**-0.8**	
	comp=E,0.6nm,0.6s,baz=264,slow=7.9,SNR=7.0							
YKA	**Yellowknife Ar**	**75.46**	**341**	P	**P**	**14 34 19.7**	**+1.0**	
	comp=E,0.4nm,0.6s,baz=39,slow=5.0,SNR=2.8							

NIED ***02*** *14:28:00,35˚.70N×140˚.20E,h62km,Mw4.1 Best double couple: M₀1.52000×10¹⁵ NP1:φs194.00000°,δ22.00000°, λ99.00000°. NP2:φs4.00000°,δ68.00000°,λ86.00000°.*

ISCJB ***02*** *14:28:05.5±0.4,35˚.62N±0˚.03×140˚.19E±0˚.06,h71km±3km, mb3.8/13,Error ellipse: s-maj=8.0km s-min=5.4km az=161.0*

IDC ***02*** *14:28:05.8±1.6,35˚.58N×140˚.25E,h57km±15km,mb3.6/13, mb1 3.8/18,mb1mx3.6/64,mbtmp3.9/18,MS2.7/1, Ms1 2.7/1,ms1mx2.3/39,Error ellipse: s-maj=21.3km s-min=9.7km az=77.0*

JMA ***02*** *14:28:05.7±0.2,35˚.65N×140˚.18E,h69km±2km,M3.5 Broadband fault plane solution: P waves. NP1: φs197.00000°,δ88.00000°,λ-90.00000°. NP2:φs17.00000°, δ2.00000°,λ-90.00000°. Principal axes: T Plg43.0000°, Azm287.0000°; N Plg0.0000°, Azm17.0000°; P Plg47.0000°, Azm107.0000°;*

JMA Felt I J1.

ISC 02 14:28:06.6±0.8,35˚.64N±0˚.04×140˚.22E±0˚.05,h65km±7km, n34,σ1°34/39,mb3.8/13,2C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.22**	**184**	↑P		**Pn**	**14 28 17.0**	**+0.4**
JCN				S		**Sn**	**14 28 26.0**	**+2.1**
TOK	**Tokyo**	**0.38**	**278**	P		**Pn**	**14 28 18.2**	**+0.5**
JYT	**Yasato**	**0.59**	**358**	P		**Pn**	**14 28 19.4**	**-0.5**
JYT				eS		**Sn**	**14 28 28.3**	**-1.3**
BSO3	**Boso 3**	**0.86**	**164**	↑P		**Pn**	**14 28 22.6**	**-0.2**
BSO3				X			14 28 37.0	
JOD2	**Odawara 2**	**1.00**	**248**	↓P		**Pn**	**14 28 23.8**	**-1.0**
JOD2				S		**Sn**	**14 28 36.8**	**-1.5**
JAG	**Ashikaga**	**1.00**	**322**	↓P		**Pn**	**14 28 24.5**	**-0.4**
JAG				S		**Sn**	**14 28 37.6**	**-0.8**
JIM2	**Oshima 2**	**1.12**	**215**	P		**Pn**	**14 28 24.9**	**-1.5**
JIM2				S		**Sn**	**14 28 39.8**	**-1.4**
JRY	**Ryogami san**	**1.14**	**290**	↓P		**Pn**	**14 28 26.4**	**-0.2**
JRY				eS		**Sn**	**14 28 42.5**	**+0.9**
BSO1	**Boso 1**	**1.16**	**147**	P		**Pn**	**14 28 25.8**	**-0.5**
BSO1				S		**Sn**	**14 28 42.6**	**+1.4**
MJAR	**Matsushiro Arr**	**1.86**	**300**	P		**Pn**	**14 28 35.3**	**-0.9**
	51nm,0.3s,baz=128,slow=14,SNR=300							
MJAR				LR		LR	14 29 32.1	
	comp=Z,226nm,21.2s,baz=115,slow=46							
JHJ	**Hachijo jima 2**	**2.54**	**188**	P		**Pn**	**14 28 45.2**	**-0.2**
	102nm,0.3s,baz=98,slow=22,SNR=16							
JHJ				S		**Sn**	**14 29 13.5**	**-1.7**
	145nm,0.3s,baz=240,slow=23,SNR=10							
JNU	**Nakatsue**	**8.12**	**255**	P		**Pn**	**14 30 03.0**	**+1.2**
	0.8nm,0.3s,baz=67,slow=3.8,SNR=10							
ASAJ	**Asahikawa**	**8.66**	**11**	P		**Pn**	**14 30 07.6**	**-1.5**
	0.9nm,0.3s,baz=212,slow=14,SNR=5.6							
ASAJ				S		**Sn**	**14 31 40.7**	**-4.5**
	0.2nm,0.3s,baz=270,slow=19,SNR=3.8							
JCJ	**Chichijima**	**8.68**	**168**	P		**Pn**	**14 30 06.3**	**-3.1**
	baz=293,slow=16							
JCJ				S		Sn	14 31 36.0	-10
	5.3nm,0.3s,baz=277,slow=19,SNR=3.3							
KSRS	**Korea Array**	**10.06**	**284**	P		**Pn**	**14 30 29.1**	**+0.8**
	0.1nm,0.3s,baz=93,slow=14,SNR=7.5							
KSRS				LR		LR	14 34 28.2	
	comp=Z,46nm,21.7s,baz=90,slow=38							
SONM	**Songino Array**	**27.80**	**306**	P		**P**	**14 33 50.3**	**+0.7**
	0.4nm,0.4s,baz=111,slow=6.8,SNR=2.5							
H11N2	**WAKE ISLAND Hy 28.32 117**			T		T	15 03 49.5	
	baz=308,slow=76,SNR=24							
H11N1	**WAKE ISLAND Hy 28.32 117**			T		T	15 03 53.1	
	baz=308,slow=76,SNR=28							
H11N3	**WAKE ISLAND Hy 28.34 117**			T		T	15 03 46.4	
	baz=308,slow=76,SNR=29							
H11S3	**WAKE ISLAND Hy 28.96 119**			T		T	15 03 55.5	
	baz=312,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy 28.97 119**			T		T	15 03 54.7	
	baz=312,slow=75,SNR=11							
H11S2	**WAKE ISLAND Hy 28.98 119**			T		T	15 03 57.2	
	baz=312,slow=75,SNR=12							
TIXI	**Tiksi**	**36.57**	**354**	P		**P**	**14 35 05.4**	**-0.3**
	0.6nm,0.5s,baz=97,slow=3.1,SNR=3.7							
ZALV	**Zalesovo Beam**	**42.16**	**314**	P		**P**	**14 35 52.4**	**-0.1**
	1.4nm,0.6s,baz=99,slow=6.6,SNR=6.6							
ZALV				PcP		**PcP**	**14 37 45.9**	**+0.2**
	0.5nm,0.3s,baz=90,slow=2.9,SNR=2.8							
MKAR	**Makanchi Array**	**44.06**	**303**	P		**P**	**14 36 08.1**	**+0.2**
	1.3nm,0.7s,baz=85,slow=9.7,SNR=15							
MKAR				PcP		**PcP**	**14 37 52.7**	**+0.4**
	0.2nm,0.6s,baz=57,slow=4.0,SNR=2.2							
KURBB	**Kurchatov Arra**	**46.12**	**309**	P		**P**	**14 36 23.9**	**-0.3**
	1.2nm,0.4s,baz=84,slow=7.9,SNR=13							
BVAR	**Borovoye Array**	**50.81**	**313**	P		**P**	**14 37 00.7**	**+0.5**
	0.3nm,0.3s,baz=116,slow=6.9,SNR=3.6							
ILAR	**Eielson Array**	**51.19**	**32**	P		**P**	**14 37 03.8**	**+0.9**
	0.6nm,0.8s,baz=269,slow=6.8,SNR=6.7							
WRA	**Warramunga Arr**	**55.55**	**187**	P		**P**	**14 37 34.6**	**-0.7**
	1.8nm,0.4s,baz=2.8,slow=7.6,SNR=46							
ASAR	**Alice Springs**	**59.28**	**187**	P		**P**	**14 38 01.2**	**-0.4**
	0.4nm,0.5s,baz=21,slow=12,SNR=16							
ARCES	**ARCESS Array B**	**64.96**	**339**	P		**P**	**14 38 39.7**	**+0.6**
	4.2nm,1.1s,baz=36,slow=6.8,SNR=3.2							
KBZ	**Khabaz**	**71.08**	**311**	P		**P**	**14 39 19.0**	**+1.2**
	1.1nm,0.7s,baz=31,slow=5.9,SNR=3.5							
AKASG	**Malin Array Be**	**74.81**	**322**	P		**P**	**14 39 39.7**	**0.0**
	0.5nm,0.3s,baz=44,slow=6.1,SNR=6.7							
PDAR	**Pinedale Array**	**79.33**	**45**	P		**P**	**14 40 06.8**	**+1.2**
	0.3nm,0.6s,baz=204,slow=2.0,SNR=3.3							

IDC 02 14:31:43.2±2.9,23˚.40N×142˚.35E,h106km±30km,mb3.1/4, mb1 3.4/6,mb1mx3.0/56,mbtmp3.6/6,Error ellipse: s-maj=46.0km s-min=20.7km az=90.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.68**	**358**	P		Pn	14 32 40.1	+1.9
	baz=281,slow=19							
JCJ				S		Sn	14 33 20.5	-0.3
	32nm,0.3s,baz=289,slow=23,SNR=12							
KSRS	**Korea Array**	**18.70**	**322**	P		Pn	14 35 55.2	+0.3
	0.1nm,0.3s,baz=141,slow=11,SNR=5.1							
WRA	**Warramunga Arr**	**43.78**	**191**	P		P	14 39 38.3	-0.3
	1.2nm,0.6s,baz=8.2,slow=7.9,SNR=9.0							
ASAR	**Alice Springs**	**47.50**	**191**	P		P	14 40 07.4	-0.5
	0.3nm,0.6s,baz=16,slow=12,SNR=5.9							
MKAR	**Makanchi Array**	**52.99**	**312**	P		P	14 40 48.5	-0.6
	0.1nm,0.5s,baz=87,slow=11,SNR=2.6							
ILAR	**Eielson Array**	**60.89**	**28**	P		P	14 41 44.6	+0.2
	0.2nm,0.5s,baz=252,slow=5.4,SNR=3.3							

CASC ***02*** *14:35:56.0±77.0,8˚.28N×77˚.27W,h694km±684km*

ISCJB ***02*** *14:37:12.6±0.4,7˚.20N±0˚.03×77˚.06W±0˚.03,h47km±5km, mb4.0/15,MS3.2/4,Error ellipse: s-maj=5.9km s-min=4.3km az=27.8*

NEIC ***02*** *14:37:13.8±0.8,7˚.18N×77˚.16W,h43km±8km,mb4.1/3, Error ellipse: s-maj=9.9km s-min=7.7km az=50.0*

RSNC ***02*** *14:37:13.6±0.9,7˚.19N×77˚.02W,h26km±10km,ML3.5*

IDC ***02*** *14:37:13.3±0.6,7˚.09N×77˚.13W,h40km±5km,mb3.8/12, mb1 4.1/15,mb1mx4.0/30,mbtmp4.1/15,ML3.8/3,MS3.3/11, Ms1 3.3/11,ms1mx3.1/35,Error ellipse: s-maj=21.7km s-min=14.4km az=45.0*

ISC 02 14:37:12.1±0.7,7˚.10N±0˚.04×77˚.03W±0˚.03,h32km±5km, n43,σ1°55/55,mb3.9/15,MS3.4/5,1C,Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.82**	**96**	*e*P		**Pb**	**14 37 28.6**	**+0.7**
DBBC				*e*S		**Sn**	**14 37 39.7**	**+1.2**
DBBC				*i*			14 37 42.6	
	comp=Z,473nm,0.2s							
SOLC	**Bahia Solano**	**0.94**	**204**	*e*P		**Pb**	**14 37 30.9**	**+0.9**
SOLC				*e*S		**Sb**	**14 37 45.5**	**+3.2**
SOLC				*i*			14 37 50.3	
	comp=Z,860nm,0.3s							
CAPC	**Capurgana**	**1.56**	**348**	*e*S		**Sn**	**14 37 56.8**	**+0.1**
CAPC				*i*			14 37 60.0	
	comp=Z,2µm,0.6s							
UPD2	**Meteti**	**1.74**	**326**	*i* P		**Pn**	**14 37 39.6**	**-0.4**
UPD2				*e*S		**Sn**	**14 37 59.8**	**-1.3**
HELC	**Santa Helena**	**1.74**	**121**	*e*P		**Pb**	**14 37 43.0**	**-0.6**
HELC				*i*			14 37 55.4	
	comp=Z,687nm,0.5s							
HELC				*e*S		**Sb**	**14 38 04.1**	**-1.2**
MOTC	**Monteria, Cord**	**2.15**	**39**	*e*P		**Pn**	**14 37 46.2**	**+0.6**
MOTC				*e*S		**Sn**	**14 38 10.8**	**-0.4**
MOTC				*i*			14 38 21.2	
	comp=Z,242nm,0.3s							
AZU	**Azuero**	**3.29**	**282**	↑*i* P		**Pn**	**14 38 02.0**	**+0.6**
AZU				*e*S		**Sn**	**14 38 40.5**	**+1.1**
SJCC	**San Jacinto, C**	**3.33**	**33**	*e*P		**Pn**	**14 38 02.0**	**0.0**
SJCC				*i*			14 38 49.4	
	comp=Z,98nm,0.6s							
BCIP	**Isla Barro Col**	**3.46**	**307**	*e*P		**Pn**	**14 38 03.4**	**-0.3**
BCIP				*e*S		**Sn**	**14 38 42.8**	**-0.8**
BCIP	**Isla Barro Col**	**3.46**	**307**	*e*P		**Pn**	**14 38 03.4**	**-0.3**
BCIP				*i*			14 39 05.9	
	comp=Z,149nm,0.7s							
BCIP	**Isla Barro Col**	**3.46**	**307**	*e*Pn		**Pn**	**14 38 01.7**	**-1.9**
BCIP				*e*Sn		**Sn**	**14 38 42.5**	**-1.1**
ROSC	**El Rosal**	**3.51**	**130**	Pn		**Pb**	**14 38 10.4**	**-3.3**
ROSC	comp=Z,32nm,0.3s,baz=359,slow=3.8,SNR=32			Lg		Lg	14 39 04.6	
	comp=Z,15nm,0.3s,baz=344,slow=21,SNR=4.0							
ROSC				LR		LR	14 39 50.9	
	comp=Z,388nm,18.0s,baz=271,slow=44							
PNME	**Penonome**	**3.55**	**293**	*e*P		**Pn**	**14 38 05.1**	**+0.1**
PNME				*e*S		**Sn**	**14 38 44.9**	**-0.9**
SDV	**Santo Domingo**	**6.58**	**74**	Pn		**Pn**	**14 38 50.4**	**+3.7**
	comp=Z,11nm,0.3s,baz=239,slow=12,SNR=3.7							
SDV				Sn		**Sn**	**14 40 00.4**	**-0.5**
	comp=Z,14nm,0.3s,baz=186,slow=2.7,SNR=3.1							
SDV				LR		LR	14 41 52.8	
	comp=Z,200nm,20.0s,baz=128,slow=42							
OTAV	**Otavalo**	**6.96**	**192**	*e*Pn		**Pn**	**14 38 54.2**	**+1.9**
	comp=Z,14nm,0.6s							
OTAV				Sn		**Sn**	**14 40 06.8**	**-3.9**
PCRV	**Puerto La Cruz**	**12.63**	**75**	Pn		**Pn**	**14 40 11.4**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=248,slow=5.4,SNR=4.4							
SDDR	**Presa de Saban**	**13.07**	**25**	*e*Pn		**Pn**	**14 40 15.9**	**+0.4**
	comp=Z,32nm,0.8s							
ATAH	**Atahualpa**	**14.20**	**186**	LR		LR	14 47 48.6	
	comp=Z,76nm,20.4s,baz=7.1,slow=45							
SJG	**San Juan**	**15.24**	**43**	LR		LR	14 46 51.4	
	comp=Z,72nm,21.4s,baz=125,slow=38							
PTGA	**Pitinga**	**18.71**	**114**	P		**Pn**	**14 41 29.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=308,slow=8.8,SNR=4.8							
PTGA				LR		LR	14 49 20.3	
	comp=Z,152nm,18.1s,baz=292,slow=39							
NNA	**Nana**	**18.96**	**179**	LR		LR	14 50 59.2	
	comp=Z,98nm,20.0s,baz=345,slow=44							
CMIG	**Matias Romero**	**20.07**	**301**	LR		LR	14 50 48.0	
	comp=Z,160nm,20.4s,slow=41							
SAML	**Samuel**	**21.08**	**139**	*e*P		**P**	**14 41 49.7**	**-4.2**
	comp=Z,6.3nm,0.8s							
LPAZ	**La Paz**	**24.85**	**159**	P		**P**	**14 42 34.1**	**+1.7**
	comp=Z,2.7nm,0.6s,baz=346,slow=6.2,SNR=12							
SIV	**San Ignacio**	**27.86**	**146**	P		**P**	**14 42 59.4**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=329,slow=8.4,SNR=3.7							
SIV				LR		LR	14 55 16.7	
	comp=Z,54nm,18.6s,baz=1.5,slow=39							
TKL	**Tuckaleechee C**	**29.09**	**349**	LR		LR	14 55 43.8	
	comp=Z,88nm,19.3s,baz=257,slow=38							
TXAR	**Lajitas Array**	**33.44**	**315**	P		**P**	**14 43 48.9**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=162,slow=15,SNR=3.5							
TXAR				pP		**sP**	**14 44 00.3**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=128,slow=9.6,SNR=4.1							
TXAR				PcP		**PcP**	**14 46 28.8**	**-0.5**
	comp=Z,1.2nm,1.0s,baz=152,slow=4.1,SNR=6.4							
BDFB	**Brasilia**	**36.56**	**128**	LR		LR	14 59 58.4	
	comp=Z,94nm,18.3s,baz=224,slow=37							
PDAR	**Pinedale Array**	**45.63**	**326**	P		**P**	**14 45 30.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=120,slow=8.8,SNR=5.1

ISCJB ***02*** *14:37:48.1±0.8,37.˚50N±0.˚02×142.˚72E±0.˚02,h15km±5km, mb4.7/156,MS4.4/27,Error ellipse: s-maj=4.0km s-min=2.7km az=158.6*

JMA ***02*** *14:37:49.6±0.2,37.˚51N×142.˚72E,h31km,M4.9*

JMA Felt II J1.

BJI ***02*** *14:37:50.7,37.˚50N×142.˚70E,h35km,mb4.7/65,mB4.9/46, Ms4.7/65,Ms7 4.6/57*

NEIC ***02*** *14:37:50.1±1.9,37.˚45N×142.˚76E,h19km±11km,mb4.9/87, Error ellipse: s-maj=4.9km s-min=3.5km az=136.0*

NEIC Felt at Fukushima. Recorded [2 JMA] in Fukushima.

MOS ***02*** *14:37:51.2±1.1,37.˚70N×142.˚71E,h33km,mb4.9/65,Error ellipse: s-maj=6.5km s-min=4.2km az=106.6*

ISC 02 14:37:50.9±0.5,37.˚45N±0.˚04×142.˚88E±0.˚04,h29km±3km, h29km:pP-P,n395,σ1§88/432,mb4.8/157,MS4.4/30, 27C-13D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.57**	**310**	P	**Pn**	**14 38 14.3**	**-2.5**
JIO				S	**Sn**	**14 38 32.1**	**-4.1**
JFK	**Kawauchi**	**1.60**	**268**	P	**Pn**	**14 38 14.6**	**-2.6**
JFK				*e*S	**Sn**	**14 38 32.8**	**-4.1**
ONAJ	**Iwakimizuishiy**	**1.69**	**259**	P	**Pn**	**14 38 16.0**	**-2.6**
ONAJ				S	**Sn**	**14 38 35.6**	**-3.7**
JMM	**Marumori**	**1.71**	**285**	P	**Pn**	**14 38 15.9**	**-2.8**
JMM				S	**Sn**	**14 38 35.7**	**-3.8**
JOU	**Okura**	**1.98**	**298**	P	**Pn**	**14 38 20.2**	**-2.2**
JMK	**Ichinoseki**	**1.99**	**319**	P	**Pn**	**14 38 20.4**	**-2.2**
JMK				*e*S	**Sn**	**14 38 43.2**	**-3.3**
JFT	**Otama**	**2.02**	**273**	P	**Pn**	**14 38 21.5**	**-1.6**
JFT				S	**Sn**	**14 38 44.5**	**-2.9**
JOM	**Ohasama**	**2.37**	**329**	P	**Pn**	**14 38 26.2**	**-1.7**
JOM				*e*S	**Sn**	**14 38 53.5**	**-2.5**
JYK	**Kaneyama**	**2.47**	**307**	P	**Pn**	**14 38 27.2**	**-2.0**
JNS	**Sasagawa**	**2.85**	**279**	P	**Pn**	**14 38 33.3**	**-1.1**
JAG	**Ashikaga**	**2.93**	**251**	P	**Pn**	**14 38 34.1**	**-1.4**
JAG				*e*S	**Sn**	**14 39 07.8**	**-1.9**
JAW	**Awa shima**	**3.04**	**290**	P	**Pn**	**14 38 36.0**	**-1.0**
JANG	**Nango**	**3.11**	**340**	P	**Pn**	**14 38 35.9**	**-2.1**
JRY	**Ryogami san**	**3.50**	**247**	P	**Pn**	**14 38 42.2**	**-1.2**
JRY				S	**Sn**	**14 39 22.1**	**-1.7**
MJAR	**Matsushiro Arr**	**3.85**	**258**	Pn	**Pn**	**14 38 48.0**	**-0.2**
	29nm,0.3s,baz=81,slow=14,SNR=108						
MJAR				LR	LR	14 40 30.3	
	comp=Z,4μm,18.6s,baz=80,slow=44						
MJAR	**Matsushiro Arr**	**3.85**	**258**	P	**Pn**	**14 38 48.0**	**-0.2**
MAJO	**Matsushiro**	**3.85**	**258**	⇑*i*P	**Pn**	**14 38 48.9**	**+0.7**
MAJO	**Matsushiro**	**3.85**	**258**	*e*Pn	**Pn**	**14 38 48.1**	**0.0**
MAJO				*e*Sn	**Sn**	**14 39 31.0**	**-1.4**
MAT	**Matsushiro**	**3.85**	**258**	P	**Pn**	**14 38 47.9**	**-0.3**
MAT				S	**Sn**	**14 39 32.4**	**0.0**
MJB9	**Matsu-Tunnel**	**3.85**	**258**	*e*Pn	**Pn**	**14 38 47.9**	**-0.3**
ERM	**Erimo**	**4.56**	**3**	⇑*i*P	**Pn**	**14 38 56.5**	**-1.5**
ERM	**Erimo**	**4.56**	**3**	*e*Pn	**Pn**	**14 38 53.8**	**-4.1**
ERM				*e*Sn	**Sn**	**14 39 51.0**	**+1.0**
JHJ2	**Mitsune**	**5.00**	**211**	*e*Pn	**Pn**	**14 39 02.5**	**-1.5**
JHJ2				*e*Sn	**Sn**	**14 39 58.3**	**-2.5**
JHJ	**Hachijo jima 2**	**5.01**	**211**	Pn	**Pn**	**14 39 02.8**	**-1.3**
	110nm,0.3s,baz=321,slow=18,SNR=23						
JHJ				Sn	**Sn**	**14 39 55.1**	**-5.9**
	163nm,0.3s,baz=100,slow=22,SNR=7.6						
INU	**Inuyama**	**5.17**	**248**	*e*Pn	**Pn**	**14 39 05.9**	**-0.4**
ASAJ	**Asahikawa**	**6.66**	**358**	Pn	**Pn**	**14 39 25.9**	**-0.9**
	7.8nm,0.3s,baz=222,slow=8.8,SNR=82						
ASAJ				Sn	**Sn**	**14 40 38.6**	**-3.1**
	baz=83,slow=19						
ASAJ	**Asahikawa**	**6.66**	**358**	*e*Pn	**Pn**	**14 39 25.5**	**-1.3**
ASAJ				*e*Sn	**Sn**	**14 40 38.0**	**-3.7**
ASAJ				Sn	**Sn**	**14 40 38.6**	**-3.1**
YUK	**Yuzh-Kuril'sk**	**6.96**	**18**	*e*P	**Pn**	**14 39 26.9**	**-3.9**
YUK				*e*S	**Sn**	**14 40 40.8**	**-8.1**
YUK				pmax	pmax		
	comp=N,57nm,0.2s						
YUK				pmax	pmax		
	comp=Z,169nm,0.2s						
YUK				MLR	MLR		
	comp=Z,2μm,11.0s						
YUK				MLR	MLR		
	comp=N,1μm,10.0s						
YUK				MLR	MLR		
	comp=E,916nm,8.0s						
SHO	**Shikotan**	**7.08**	**24**	*e*P	**Pn**	**14 39 29.3**	**-3.2**
SHO				*i* S	**Sn**	**14 40 43.7**	**-8.3**
SHO				pmax	pmax		
	comp=Z,83nm,0.7s						
SHO				pmax	pmax		
	comp=E,30nm,0.3s						
KUR	**Kuril'sk**	**8.63**	**24**	*e*P	**Pn**	**14 39 51.0**	**-2.8**
KUR				*i* S	**Sn**	**14 41 22.8**	**-7.3**
KUR				pmax	pmax		
	comp=N,12nm,0.5s						
KUR				pmax	pmax		
	comp=Z,41nm,0.5s						
KUR				pmax	pmax		
	comp=E,32nm,0.6s						
KUR				MLR	MLR		
	comp=Z,752nm,9.0s						
KUR				MLR	MLR		
	comp=E,992nm,5.0s						
KUR				MLR	MLR		
	comp=N,1μm,6.0s						
YSS	**Yuzh-Sakhalins**	**9.50**	**359**	*e*P	**Pn**	**14 40 05.1**	**-0.5**
YSS				*e*S	**Sn**	**14 41 46.2**	**-5.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=N,1μm,13.0s						
YSS				MLR	MLR		
	comp=Z,1μm,13.0s						
YSS				MLR	MLR		
	comp=E,1μm,20.0s						
YSS	**Yuzh-Sakhalins**	**9.50**	**359**	*e*Pn	**Pn**	**14 40 05.4**	**-0.2**
YSS				*e*Sn	**Sn**	**14 41 52.3**	**+0.9**
VLA	**Vladivostok**	**10.13**	**307**	⇓*i*P	**Pn**	**14 40 14.6**	**+0.3**
CBIJ	**Chichi jima**	**10.34**	**183**	*e*Pn	**Pn**	**14 40 14.7**	**-2.6**
CBIJ				Sn	Sn	14 42 00.2	-12
JCJ	**Chichijima**	**10.34**	**183**	Pn	**Pn**	**14 40 13.7**	**-3.6**
	comp=E,20nm,0.3s,baz=266,slow=21,SNR=16						
JCJ				Sn	Sn	14 42 00.2	-12
	baz=221,slow=19						
JCJ				LR	LR	14 46 09.7	
	comp=E,250nm,20.1s,baz=352,slow=49						
USRK	**Ussuriysk Ar.**	**10.65**	**313**	Pn	**Pn**	**14 40 20.7**	**-0.7**
	comp=E,0.7nm,0.3s,baz=124,slow=14,SNR=6.9						
USRK				LR	LR	14 44 11.2	
	comp=E,2μm,19.6s,baz=138,slow=36						
JNU	**Nakatsue**	**10.71**	**250**	Pn	**Pn**	**14 40 22.6**	**+0.2**
	comp=E,1.0nm,0.3s,baz=38,slow=5.4,SNR=14						
JNU				LR	LR	14 44 50.0	
	comp=E,691nm,19.9s,baz=113,slow=40						
KSRS	**Korea Array**	**11.89**	**275**	Pn	**Pn**	**14 40 40.1**	**+1.7**
	comp=E,0.5nm,0.3s,baz=91,slow=13,SNR=16						
KSRS				LR	LR	14 45 09.0	
	comp=E,2μm,18.1s,baz=79,slow=37						
KS01	**Wonju Array Si**	**11.91**	**275**	*e*Pn	**Pn**	**14 40 38.3**	**-0.4**
KS15	**Wonju Array Si**	**11.92**	**275**	*e*Pn	**Pn**	**14 40 39.6**	**+0.8**
KSAR	**Wonju Array Be**	**11.92**	**275**	P	**Pn**	**14 40 40.1**	**+1.2**
KSAR	**Wonju Array Be**	**11.92**	**275**	Pn	**Pn**	**14 40 40.1**	**+1.2**
MDJ	**Mudanjiang**	**12.32**	**310**	P	**Pn**	**14 40 44.0**	**-0.2**
MDJ				S	**Sn**	**14 42 59.8**	**-0.6**
MDJ				PMZ			
	comp=E,7.0nm,1.7s						
MDJ				PMZ			
	comp=E,150nm,5.0s						
MDJ				LN			
	comp=E,1μm,14.8s						
MDJ				LE			
	comp=E,1μm,15.3s						
MDJ				LZ			
	comp=E,3μm,14.3s						
MDJ	**Mudanjiang**	**12.32**	**310**	*e*Pn	**Pn**	**14 40 45.5**	**+1.2**
	comp=E,62nm,1.2s						
HABR	**Khabarovsk**	**12.41**	**335**	*ce*P	**Pn**	**14 40 43.0**	**-2.5**
HABR				*e*S	**Sn**	**14 42 59.8**	**-2.9**
HABR				pmax	pmax		
	comp=Z,26nm,1.4s						
HABR				pmax	pmax		
	comp=N,14nm,1.5s						
HABR				pmax	pmax		
	comp=E,5.0nm,0.7s						
HABR				MLR	MLR		
	comp=Z,1μm,14.0s						
TJN	**Taejon**	**12.47**	**270**	*de*P	**Pn**	**14 40 47.8**	**+1.5**
TYV	**Tymovskoe**	**13.41**	**359**	*e*P	**Pn**	**14 40 57.5**	**-1.6**
TYV				*e*		14 43 34.0	
TYV				pmax	pmax		
	comp=Z,26nm,1.0s						
TYV				MLR	MLR		
	comp=N,1μm,20.0s						
TYV				MLR	MLR		
	comp=Z,1μm,20.0s						
KLR	**Kul'dur**	**14.27**	**329**	Pn	**Pn**	**14 41 07.7**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=119,slow=14,SNR=9.3						
KLR				LR	LR	14 46 38.3	
	comp=Z,2μm,19.1s,baz=135,slow=37						
CN2	**Changchun**	**14.67**	**301**	*e*P	**P**	**14 41 24.0**	**+1.8**
CN2				*e*S	**Sn**	**14 44 05.6**	**+7.8**
CN2				LR	LR		
	comp=N,1μm,16.0s						
CN2				LR	LR		
	comp=E,2μm,16.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
SNY	**Shenyang**	**15.49**	**292**	⇓P	**P**	**14 41 31.6**	**+0.2**
SNY				S	S	14 44 44.4	+11
SNY				pmax	pmax		
	comp=Z,15nm,1.3s						
SNY				pmax	pmax		
	comp=Z,160nm,6.4s						
SNY				LR	LR		
	comp=N,740nm,11.8s						
SNY				LR	LR		
	comp=E,3μm,15.5s						
SNY				LR	LR		
	comp=Z,3μm,16.2s						
DL2	**Dalian**	**16.77**	**281**	P	**P**	**14 41 48.9**	**+3.3**
DL2				*e*S	**S**	**14 44 54.3**	**-4.9**
DL2				pmax	pmax		
	comp=Z,61nm,1.1s						
DL2				pmax	pmax		
	comp=Z,220nm,4.8s						
DL2				LR	LR		
	comp=N,370nm,12.7s						
DL2				LR	LR		
	comp=E,970nm,17.1s						
DL2				LR	LR		
	comp=Z,1μm,16.8s						
PEA0	**Petropavlovsk-**	**18.75**	**29**	*e*P	**P**	**14 42 06.5**	**-0.8**
PETK	**Petropavlovsk-**	**18.75**	**29**	P	**P**	**14 42 05.4**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=3.9						
PETK				LR	LR	14 50 04.5	
	comp=Z,365nm,19.2s,baz=218,slow=39						
NJ2	**Nanjing**	**20.44**	**262**	*e*P	Pn	14 42 29.2	+1.1
NJ2				PMZ			
	comp=Z,20nm,0.8s						
NJ2				LN			
	comp=Z,910nm,16.8s						
NJ2				LE			
	comp=Z,930nm,20.6s						
NJ2				LZ			
	comp=Z,1μm,16.3s						
TIA	**Tai'an**	**20.64**	**274**	*e*P	**P**	**14 42 26.4**	**-1.6**
TIA				PMZ			
	comp=Z,10.0nm,1.1s						
TIA				LN			
	comp=Z,640nm,15.6s						
TIA				LE			
	comp=Z,1μm,15.1s						
TIA				LZ			
	comp=Z,1μm,13.7s						
BJI	**Beijing**	**20.96**	**285**	P	**P**	**14 42 29.9**	**-1.6**
BJI				S	**S**	**14 46 22.0**	**-1.5**
BJI				PMZ			
	comp=Z,10.0nm,0.6s						
BJI				LN			
	comp=Z,620nm,16.4s						
BJI				LE			
	comp=Z,410nm,15.7s						
BJI				LZ			
	comp=Z,340nm,19.6s						
BJT	**Baijiatuau**	**20.97**	**285**	*e*P	**P**	**14 42 29.3**	**-2.3**
BJT				pmax	pmax		
	comp=Z,18nm,0.6s						
BJT	**Baijiatuau**	**20.97**	**285**	*e*P	**P**	**14 42 29.3**	**-2.3**
	comp=Z,18nm,0.6s						
MA2	**Magadan**	**22.72**	**10**	P	**P**	**14 42 49.6**	**-0.6**
	comp=Z,7.8nm,0.7s,baz=221,slow=10,SNR=13						
MA2				LR	LR	14 52 16.1	
	comp=Z,223nm,19.1s,baz=220,slow=38						
CLNS	**Chul'man**	**22.80**	**334**	*e*P	**P**	**14 42 49.7**	**-1.4**
CLNS				pmax	pmax		
	comp=Z,16nm,1.1s						
CLNS				pmax	pmax		
	comp=N,17nm,1.2s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,2μm,16.0s						
CLNS				MLR	MLR		
	comp=E,336nm,14.0s						
CLNS				MLR	MLR		
	comp=N,1μm,15.0s						
GUMO	**Guam**	**23.83**	**175**	LR	LR	14 52 27.0	
	comp=N,229nm,18.4s,baz=18,slow=37						
QZH	**Quanzhou**	**24.15**	**246**	*e*P	**P**	**14 43 03.0**	**-1.5**
QZH				S	**S**	**14 47 14.5**	**-6.1**
QZH				LN			
	comp=N,1μm,15.6s						
QZH				LE			
	comp=N,690nm,14.9s						
QZH				LZ			
	comp=N,1μm,14.1s						
HHC	**Hu-ho-hao-te**	**24.45**	**288**	*e*P	**P**	**14 43 07.3**	**0.0**
HHC				sP	sP	14 43 21.0	+1.6
HHC				PP	**PnPn**	**14 43 41.9**	**+3.5**
HHC				S	**S**	**14 47 22.7**	**-2.9**
HHC				sS	sS	14 47 33.6	-6.0
HHC				PMZ			
	comp=N,12nm,1.1s						
HHC				PMZ			
	comp=N,150nm,5.1s						
HHC				LN			
	comp=N,580nm,14.1s						
HHC				LE			
	comp=N,1μm,12.0s						
HHC				LZ			
	comp=N,850nm,12.0s						
WHN	**Wuhan**	**24.58**	**262**	⇑P	**P**	**14 43 07.3**	**-1.0**
WHN				S	**S**	**14 47 19.6**	**-7.8**
WHN				LN			
	comp=N,690nm,16.0s						
WHN				LE			
	comp=N,2μm,13.4s						
WHN				LZ			
	comp=N,2μm,14.1s						
CIT	**Chita**	**25.20**	**315**	*e*P	**P**	**14 43 13.4**	**-0.5**
CIT				*e*		14 43 30.4	
CIT				pmax	pmax		
	comp=Z,203nm,1.2s						
YAK	**Yakutsk**	**25.94**	**346**	P	**P**	**14 43 16.7**	**-3.6**
	comp=Z,1.8nm,0.4s,baz=227,slow=19,SNR=4.3						
YAK				LR	LR	14 53 56.9	
	comp=Z,341nm,18.4s,baz=176,slow=37						
YAK	**Yakutsk**	**25.94**	**346**	*e*P	**P**	**14 43 18.1**	**-2.2**
YAK				*e*		14 43 53.7	
YAK				*e*PPP	PPP	14 44 10.3	
YAK				*e*S	**S**	**14 47 50.3**	**+1.8**
YAK				*e*SS	**SnSn**	**14 48 52.4**	**+6.0**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YAK				pmax	pmax		
	comp=Z,23nm,0.7s						
YAK				pmax	pmax		
	comp=N,15nm,0.8s						
YAK				pmax	pmax		
	comp=E,13nm,0.8s						
YAK				smax	smax		
	comp=E,64nm,2.0s						
YAK				smax	smax		
	comp=N,105nm,2.2s						
YAK				MLR	MLR		
	comp=Z,952nm,15.0s						
YAK				MLR	MLR		
	comp=N,784nm,16.0s						
YAK				MLR	MLR		
	comp=E,134nm,14.0s						
YAK	**Yakutsk**	**25.94**	**346**	*e*P	**P**	**14 43 18.4**	**-1.9**
	comp=E,56nm,0.9s						
SEY	**Seymchan**	**26.17**	**10**	P	**P**	**14 43 23.8**	**+1.3**
	comp=E,8.4nm,0.5s,baz=192,slow=8.5,SNR=67						
SEY	**Seymchan**	**26.17**	**10**	⇑*i*P	**P**	**14 43 23.4**	**+0.9**
SEY				*i* *PP	**sP**	**14 43 34.6**	**0.0**
H11N2	**WAKE ISLAND Hy**	**27.38**	**124**	T	T	15 12 35.8	
	baz=316,slow=75,SNR=135						
H11N1	**WAKE ISLAND Hy**	**27.39**	**124**	T	T	15 12 36.3	
	baz=316,slow=75,SNR=313						
H11N3	**WAKE ISLAND Hy**	**27.40**	**124**	T	T	15 12 43.0	
	baz=316,slow=75,SNR=139						
XAN	**Xi'an**	**27.68**	**273**	P	**P**	**14 43 34.8**	**-1.7**
XAN				pP	pP	14 43 44.8	-0.2
XAN				sP	sP	14 43 48.9	+0.3
XAN				PP	**PnPn**	**14 44 22.5**	**-0.1**
XAN				S	**S**	**14 48 10.4**	**-6.4**
XAN				sS	sS	14 48 26.8	-4.1
XAN				SS	**SnSn**	**14 49 27.8**	**-1.8**
XAN				PMZ			
	comp=E,9.0nm,0.7s						
XAN				PMZ			
	comp=E,31nm,4.2s						
XAN				LN			
	comp=E,330nm,15.3s						
XAN				LE			
	comp=E,610nm,14.2s						
XAN				LZ			
	comp=E,640nm,14.6s						
BOD	**Bodaibo**	**27.82**	**326**	*e*P	**P**	**14 43 35.7**	**-1.6**
BOD				pmax	pmax		
	comp=Z,14nm,1.3s						
ULN	**Ulaanbaatar**	**28.10**	**303**	⇑*i*P	**P**	**14 43 40.2**	**0.0**
ULN				pmax	pmax		
	comp=Z,19nm,1.2s						
ULN	**Ulaanbaatar**	**28.10**	**303**	*e*P	**P**	**14 43 40.1**	**-0.1**
	comp=Z,62nm,1.9s						
H11S1	**WAKE ISLAND Hy**	**28.13**	**126**	T	T	15 14 25.5	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**28.13**	**126**	T	T	15 13 41.4	
	baz=312,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.14**	**126**	T	T	15 13 32.0	
	baz=312,slow=74						
SONA1	**Songino Array**	**28.53**	**303**	*e*P	**P**	**14 43 43.5**	**-0.5**
ENH	**Enshi**	**28.53**	**265**	*e*P	**P**	**14 43 43.8**	**-0.3**
	comp=Z,77nm,0.9s						
SONM	**Songino Array**	**28.53**	**303**	P	**P**	**14 43 44.2**	**+0.2**
	comp=Z,6.0nm,0.7s,baz=100,slow=8.4,SNR=27						
ZAK	**Zakamensk**	**30.94**	**307**	*e*P	**P**	**14 44 04.6**	**-0.6**
ZAK				*e*		14 44 12.6	
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
ZAK				pmax	pmax		
	comp=Z,14nm,1.3s						
TLY	**Talaya**	**30.95**	**310**	P	**P**	**14 44 05.0**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=188,slow=3.7,SNR=6.1						
TLY	**Talaya**	**30.95**	**310**	*e*P	**P**	**14 44 09.2**	**+4.0**
TLY				*e*S	S	14 48 56.1	-12
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,1μm,18.0s						
LZH	**Lanzhou**	**31.15**	**280**	*e*P	**P**	**14 44 08.0**	**+0.7**
LZH				pP	sP	14 44 18.1	-1.4
LZH				sP	pP	14 44 22.3	+6.4
LZH				PP	**PnPn**	**14 45 10.5**	**+1.2**
LZH				*e*S	**S**	**14 49 10.0**	**-1.4**
LZH				sS	sS	14 49 26.0	+0.4
LZH				*e*SS	**SnSn**	**14 50 55.0**	**+0.8**
LZH				PMZ			
	comp=Z,59nm,1.3s						
LZH				PMZ			
	comp=Z,140nm,5.2s						
LZH				LN			
	comp=Z,570nm,13.0s						
LZH				LE			
	comp=Z,780nm,13.1s						
LZH				LZ			
	comp=Z,990nm,17.0s						
GYA	**Guiyang**	**32.44**	**261**	*e*P	**P**	**14 44 20.0**	**+1.3**
GYA				pP	sP	14 44 29.6	-1.2
GYA				PP	**PnPn**	**14 45 28.2**	**+2.1**
GYA				PcP	**PcP**	**14 47 08.4**	**+2.9**
GYA				S	**S**	**14 49 30.0**	**-1.7**
GYA				ScP	**ScP**	**14 50 46.7**	**-0.5**
GYA				ScS	**ScS**	**14 54 45.8**	**-1.0**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,100nm,5.0s						
GYA				LN			
	comp=Z,520nm,17.3s						
GYA				LE			
	comp=Z,480nm,17.6s						
GYA				LZ			
	comp=Z,500nm,18.0s						
MOY	**Mondy**	**32.57**	**309**	*e*P	**P**	**14 44 19.3**	**-0.3**
CD2	**Chengdu**	**32.84**	**270**	P	**P**	**14 44 21.0**	**-1.1**
CD2				sP	sP	14 44 35.5	+1.3
CD2				PP	**PP**	**14 45 35.2**	**-1.3**
CD2				S	**S**	**14 49 35.4**	**-2.3**
CD2				sS	sS	14 49 52.5	+0.7
CD2				PMZ			
	comp=Z,20nm,0.4s						
CD2				PMZ			
	comp=Z,140nm,5.2s						
CD2				LN			
	comp=Z,840nm,16.1s						
CD2				LE			
	comp=Z,820nm,14.3s						
CD2				LZ			
	comp=Z,1μm,14.3s						
BILL	**Bilibino**	**33.30**	**16**	⇑*i*P	**P**	**14 44 24.2**	**-1.4**
BILL				*i* *PP	**pP**	**14 44 35.1**	**+0.9**
BILL				*i*		14 45 39.2	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,264nm,16.0s						
BILL	**Bilibino**	**33.30**	**16**	*e*P	**P**	**14 44 25.1**	**-0.6**
	comp=Z,20nm,1.2s						
GTA	**Gaotai**	**33.56**	**287**	*e*P	**P**	**14 44 27.3**	**-1.1**
GTA				pP	pP	14 44 37.0	0.0
GTA				sP	sP	14 44 41.0	+0.5
GTA				PcP	**PcP**	**14 47 13.3**	**+4.8**
GTA				S	**S**	**14 49 44.8**	**-4.0**
GTA				sS	sS	14 49 58.8	-4.2
GTA				SS	**SnSn**	**14 51 50.0**	**-2.6**
GTA				PMZ			
	comp=Z,3.0nm,1.0s						
GTA				PMZ			
	comp=Z,120nm,6.4s						
GTA				LN			
	comp=Z,350nm,17.6s						
GTA				LE			
	comp=Z,490nm,17.6s						
GTA				LZ			
	comp=Z,660nm,17.6s						
QIZ	**Qiongzhong**	**34.17**	**247**	P	**P**	**14 44 34.3**	**+0.7**
QIZ				pP	**sP**	**14 44 43.7**	**-2.1**
QIZ				PP	**PP**	**14 45 51.3**	**0.0**
QIZ				S	**S**	**14 49 59.3**	**+1.1**
QIZ				sS	**sS**	**14 50 14.2**	**+1.8**
QIZ				PMZ			
	comp=Z,7.0nm,1.2s						
QIZ				LN			
	comp=Z,270nm,19.6s						
QIZ				LE			
	comp=Z,300nm,18.9s						
QIZ				LZ			
	comp=Z,320nm,13.9s						
TIXI	**Tiksi**	**35.03**	**352**	P	**P**	**14 44 39.3**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=140,slow=3.8,SNR=11						
TIXI				LR	LR	15 00 19.5	
	comp=Z,227nm,20.1s,baz=168,slow=39						
TIXI	**Tiksi**	**35.03**	**352**	⇑*i*P	**P**	**14 44 39.9**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
TIXI	**Tiksi**	**35.03**	**352**	*e*P	**P**	**14 44 39.1**	**-1.3**
	comp=Z,3.0nm,0.7s						
KMI	**Kunming**	**36.18**	**262**	P	**P**	**14 44 50.6**	**-0.6**
KMI				pP	pP	14 44 58.7	-1.1
KMI				sP	sP	14 45 02.5	-0.9
KMI				PMZ			
	comp=Z,10.0nm,1.0s						
KMI				LN			
	comp=Z,360nm,15.6s						
KMI				LE			
	comp=Z,570nm,18.7s						

KMI LZ
comp=Z,720nm,16.8s
MYLDM **Lahad Datu** 39.08 221 *eP* **P** **14 45 14.1 -1.4**
comp=Z,30nm,1.2s
PANO **Nakornpanom** 39.21 250 P P 14 45 26.8 +10
comp=Z,13nm,0.9s
SWI **Sorong** 39.61 198 P **P** **14 45 21.3 +1.4**
SWI pmax pmax
comp=Z,28nm,1.1s
NONG **Nongkai** 39.75 252 P P 14 45 27.3 +6.2
comp=Z,43nm,1.3s
SKNT **Sakolnakorn** 39.79 250 P P 14 45 32.9 +11
comp=Z,10nm,1.0s
JAY **Jayapura** 39.81 183 P **P** **14 45 22.3 +0.7**
comp=Z,2.0nm,1.1s,baz=270,slow=20,SNR=5.8
LOEI **Loei** 41.51 253 P **P** **14 45 38.7 +3.0**
comp=Z,7.8nm,0.8s
WMQ **Urumqi** 41.70 297 P **P** **14 45 37.7 +0.7**
WMQ pP pP 14 45 46.2 +0.4
WMQ sP sP 14 45 52.2 +2.9
WMQ S **S** **14 51 52.2 +0.2**
WMQ sS sS 14 52 08.4 +2.0
WMQ PMZ
comp=Z,15nm,1.0s
WMQ PMZ
comp=Z,71nm,4.0s
WMQ LN
comp=Z,180nm,17.4s
WMQ LE
comp=Z,180nm,14.4s
WMQ LZ
comp=Z,120nm,19.6s
PBKT **Sadao Pong** 42.30 252 P P 14 45 50.2 +8.1
comp=Z,8.5nm,1.1s
ZAA0 **Zalesovo Array** 42.50 312 *eP* **P** **14 45 42.8 -0.5**
ZALV **Zalesovo Beam** 42.50 312 P **P** **14 45 43.1 -0.2**
comp=Z,3.1nm,0.5s,baz=93,slow=7.5,SNR=19
ZALV PcP **PcP** **14 47 34.9 -0.7**
comp=Z,2.2nm,0.6s,baz=64,slow=3.6,SNR=3.4
ZALV LR LR 15 03 53.4
comp=Z,389nm,20.1s,baz=70,slow=37
CMMT **Chiang Mai** 42.52 256 P P 14 45 54.0 +10
comp=Z,5.9nm,1.2s
CHTO **Chiang Mai** 42.53 256 P P 14 45 54.0 +10
comp=Z,27nm,1.1s
CHTO **Chiang Mai** 42.53 256 *eP* **P** **14 45 44.0 0.0**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO **Chiang Mai** 42.53 256 *eP* **P** **14 45 44.0 0.0**
comp=Z,4.6nm,0.9s
CMAR **Chiang Mai Arr** 42.73 256 P **P** **14 45 45.5 -0.2**
comp=Z,0.3nm,0.3s,baz=45,slow=6.1,SNR=4.6
CMAR LR LR 15 04 47.4
comp=Z,230nm,18.2s,baz=61,slow=38
CM01 **Chiang Mai Arr** 42.74 256 *eP* **P** **14 45 47.3 +1.6**
SRAK **Srakaew** 43.10 248 P P 14 45 56.6 +8.0
comp=Z,23nm,0.9s
LSA **Lhasa** 43.33 276 *eP* **P** **14 45 50.7 -0.3**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA **Lhasa** 43.33 276 *eP* **P** **14 45 50.7 -0.3**
comp=Z,12nm,0.8s
NRIK **Noril'sk** 43.38 335 P **P** **14 45 50.8 +0.5**
comp=Z,4.8nm,0.6s,baz=95,slow=9.7,SNR=8.5
NRIK LR LR 15 04 53.7
comp=Z,887nm,18.7s,baz=112,slow=38
NVS **Novosibirsk** 43.40 313 *eP* **P** **14 45 50.4 -0.2**
PCI **Palu** 43.72 214 P **P** **14 45 55.0 +1.4**
PCI pmax pmax
comp=Z,27nm,1.0s
SVW2 **Sparrevohn** 44.48 38 *eP* **P** **14 46 00.8 +1.6**
comp=Z,45nm,1.4s
SHL **Shillong** 44.58 270 *eP* **P** **14 46 00.0 -0.7**
SHL *eP* **P** **14 46 00.0 -0.7**
SBUM **Sibu** 44.79 226 *eP* **P** **14 46 02.1 -0.1**
comp=Z,13nm,1.2s
MK01 **Makanchi Array** 44.89 302 *eP* **P** **14 46 02.2 -0.5**
MK31 **Makanchi Array** 44.89 302 *i P* **P** **14 46 02.3 -0.4**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 **Makanchi Array** 44.89 302 *eP* **P** **14 46 02.7 0.0**
MKAR **Makanchi Array** 44.89 302 P **P** **14 46 02.2 -0.5**
comp=Z,3.4nm,0.6s,baz=85,slow=9.6,SNR=34
MKAR LR LR 15 05 14.6
comp=Z,140nm,20.3s,baz=75,slow=37
MKAR **Makanchi Array** 44.89 302 *eP* **P** **14 46 02.7 0.0**
MAKZ **Makanchi** 45.10 302 P **P** **14 46 02.5 -1.9**
MAKZ pmax pmax
comp=Z,16nm,1.4s
MAKZ **Makanchi** 45.10 302 *eP* **P** **14 46 04.3 0.0**
comp=Z,17nm,1.3s
RSO **Redoubt South** 45.85 39 *eP* **P** **14 46 11.8 +1.5**
KDAK **Kodiak Island** 46.01 42 *ceP* **P** **14 46 11.8 +0.5**
SPU **Mount Spurr** 46.19 38 *eP* **P** **14 46 14.7 +1.8**
CAST **Castle Rocks** 46.22 34 *eP* **P** **14 46 14.9 +1.9**
comp=Z,64nm,2.0s
KURK **Kurchatov** 46.60 308 P **P** **14 46 14.9 -1.2**
KURK pmax pmax
comp=Z,27nm,0.5s
KURK **Kurchatov** 46.60 308 *eP* **P** **14 46 15.2 -0.9**
comp=Z,22nm,0.5s
KURBB **Kurchatov Arra** 46.67 308 P **P** **14 46 16.1 -0.6**
comp=Z,16nm,0.5s,baz=81,slow=7.9,SNR=80
KSM **Kuching** 46.69 228 *eP* **P** **14 46 17.8 +0.6**
comp=Z,22nm,1.2s
BPAW **Bear Paw Mtn.** 46.74 33 *eP* **P** **14 46 18.5 +1.5**
comp=Z,38nm,2.0s
KTH **Kantishna Hill** 46.75 34 *eP* **P** **14 46 18.9 +1.7**
comp=Z,11nm,0.9s
PMG **Port Moresby** 46.78 174⇑ *eP* **P** **14 46 19.1 +1.3**
PMG pmax pmax
comp=Z,70nm,1.0s
SUA **Susitna One** 46.82 37 *eP* **P** **14 46 20.2 +2.3**
comp=Z,12nm,1.0s
MLY **Manley** 46.88 32 *eP* **P** **14 46 20.0 +1.8**
comp=Z,19nm,1.4s
TRF **Thorofare Moun** 47.03 34 *eP* **P** **14 46 21.9 +2.4**
comp=Z,46nm,2.0s
RC01 **Rabbit Creek A** 47.32 38 *eP* **P** **14 46 22.8 +1.2**
comp=Z,20nm,1.0s
BWN **Browne** 47.40 33 *eP* **P** **14 46 24.6 +2.4**
comp=Z,123nm,1.7s
SEW **Seward** 47.51 39 *eP* **P** **14 46 24.4 +1.4**
comp=Z,32nm,1.2s
PMR **Palmer** 47.59 37 *eP* **P** **14 46 24.4 +0.7**
PMR pmax pmax
comp=Z,25nm,1.4s
PMR **Palmer** 47.59 37 *eP* **P** **14 46 24.4 +0.7**
comp=Z,24nm,1.4s
PDGK **Podgornoye** 47.62 298 P **P** **14 46 24.4 +0.3**
PDGK pmax pmax
comp=Z,17nm,1.3s
MCK **McKinley** 47.64 34 *eP* **P** **14 46 25.1 +1.1**
MCK pmax pmax
comp=Z,34nm,1.6s
MCK **McKinley** 47.64 34 *eP* **P** **14 46 25.1 +1.1**
comp=Z,34nm,1.6s
RND **Reindeer** 47.68 34 *eP* **P** **14 46 25.1 +0.7**
RND pmax pmax
comp=Z,55nm,1.7s
RND **Reindeer** 47.68 34 *eP* **P** **14 46 25.1 +0.7**
comp=Z,55nm,1.7s
MDM **Murphy Dome** 47.94 32 *eP* **P** **14 46 28.0 +1.6**
comp=Z,50nm,1.5s
WRH **Wood River Hil** 48.00 33 *eP* **P** **14 46 27.8 +0.9**
comp=Z,4.9nm,0.7s
COLA **College** 48.10 32⇑ *iP* **P** **14 46 28.8 +1.2**
COLA pmax pmax
comp=Z,5.0nm,0.9s
COLA **College** 48.10 32 *eP* **P** **14 46 27.8 +0.2**
comp=Z,3.3nm,0.8s
CCB **Clear Creek Bu** 48.12 33 *eP* **P** **14 46 29.0 +1.2**
comp=Z,14nm,1.8s
GUN **Gumba** 48.28 276 *eP* **P** **14 46 31.6 +1.7**
comp=Z,36nm,0.4s
DHY **Denali Highway** 48.35 35 *eP* **P** **14 46 30.9 +1.1**
comp=Z,35nm,1.7s
IL1 **Eielson Array** 48.52 33 *eP* **P** **14 46 30.5 -0.3**
ILAR **Eielson Array** 48.52 33 P **P** **14 46 31.1 +0.3**
comp=Z,6.5nm,0.7s,baz=261,slow=6.2,SNR=96
ILB **Eielson Array** 48.52 33 *eP* **P** **14 46 31.4 +0.6**
KKN **Kakani** 48.80 276 *eP* **P** **14 46 33.3 -0.5**
comp=Z,24nm,0.6s
GKN **Gorkha** 49.22 277 *eP* **P** **14 46 36.5 -0.4**
comp=Z,67nm,0.9s
PAX **Paxson** 49.23 35 *eP* **P** **14 46 39.8 +3.4**
PAX pmax pmax
comp=Z,16nm,0.9s
PAX **Paxson** 49.23 35 *eP* **P** **14 46 39.8 +3.4**
comp=Z,16nm,0.9s
DOT **Dot Lake** 49.81 34 *eP* **P** **14 46 41.4 +0.6**
comp=Z,64nm,1.7s
BMRM **Bremner River** 49.82 38 *eP* **P** **14 46 42.5 +1.6**
comp=Z,25nm,1.3s
KOLN **Koldanda** 50.14 277 *eP* **P** **14 46 44.0 0.0**
comp=Z,20nm,0.7s
MYKOM **Kota Tinggi** 50.45 235 *eP* **P** **14 46 47.5 +1.3**
comp=Z,15nm,1.2s
TKM2 **Tokmak 2** 50.46 299 *eP* **P** **14 46 46.5 +0.3**
TKM2 pmax pmax
comp=Z,11nm,0.7s
TKM2 **Tokmak 2** 50.46 299 *eP* **P** **14 46 46.5 +0.3**
comp=Z,11nm,0.7s
PYUN **Piuthan** 50.47 278 *eP* **P** **14 46 45.8 -0.7**
comp=Z,115nm,1.0s
CRQM **Cirque** 50.56 38 *eP* **P** **14 46 48.5 +1.9**
comp=Z,56nm,1.6s
OTUK **Ortayu** 51.13 306 P **P** **14 46 51.8 +0.9**
OTUK pmax pmax
comp=Z,11nm,1.3s
COEN **Coen** 51.13 180 *eP* **P** **14 46 52.6 +1.5**
comp=Z,36nm,1.3s
BVA0 **Borovoye Array** 51.16 312 P **P** **14 46 50.1 -1.0**
BVA0 pmax pmax
comp=Z,3.0nm,0.6s
BVAR **Borovoye Array** 51.16 312 P **P** **14 46 50.7 -0.4**
comp=Z,3.8nm,0.6s,baz=73,slow=7.8,SNR=24
FRU **Bishkek** 51.17 299 *eP* **P** **14 46 54.5 +3.1**
BRVK **Borovoye** 51.21 312 *eP* **P** **14 46 51.2 -0.2**
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK **Borovoye** 51.21 312 *eP* **P** **14 46 51.2 -0.2**
comp=Z,17nm,1.0s
KSH **Kashi** 51.30 294 P P 14 46 59.0 +6.5
KSH pP sP 14 47 06.4 +1.5
KSH PcP **PcP** **14 48 10.3 +3.1**
KSH PP **PP** **14 48 57.0 +7.6**
KSH S **S** **14 54 14.6 +4.9**
KSH ScS **ScS** **14 56 42.9 +1.9**
KSH SS **SS** **14 57 45.2 0.0**
KSH PMZ
comp=Z,110nm,5.2s
KSH LN
comp=Z,1μm,14.8s
KSH LE
comp=Z,490nm,13.4s
KSH LZ
comp=Z,870nm,15.9s
AAK **Ala-Archa** 51.32 298 LR LR 15 10 09.4
comp=Z,535nm,18.1s,baz=64,slow=38
AAK **Ala-Archa** 51.32 298⇑ *eP* **P** **14 46 53.0 +0.4**
AAK pmax pmax
comp=Z,10.0nm,1.7s
AAK **Ala-Archa** 51.32 298 *eP* **P** **14 46 54.5 +1.8**
comp=Z,4.4nm,0.7s
EKS2 **Erkin-Say** 51.81 299 *eP* **P** **14 46 57.4 +1.1**
EKS2 pmax pmax
comp=Z,6.0nm,1.0s
EKS2 **Erkin-Say** 51.81 299 *eP* **P** **14 46 57.4 +1.1**
comp=Z,5.8nm,1.0s
DAWY **Dawson** 51.82 33 *eP* **P** **14 46 57.1 +1.3**
comp=Z,19nm,1.7s
ZRNK **Zerenda** 51.99 312 *eP* **P** **14 46 57.1 -0.2**
ZRNK pmax pmax
comp=Z,9.0nm,1.0s
ZRNK **Zerenda** 51.99 312 *eP* **P** **14 46 57.1 -0.2**
comp=Z,8.6nm,1.0s
MNAS **Manas** 52.76 299 P **P** **14 47 03.8 +0.5**
MNAS pmax pmax
comp=Z,10.0nm,0.6s
INK **Inuvik** 53.48 27 P **P** **14 47 08.9 +0.9**
comp=Z,4.0nm,0.6s,baz=301,slow=5.3,SNR=14
INK **Inuvik** 53.48 27 *eP* **P** **14 47 09.2 +1.1**
comp=Z,5.2nm,0.8s
KK31 **Karatay Array** 53.93 300 *i P* **P** **14 47 09.6 -2.1**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR **Karatay Array** 53.93 300 *eP* **P** **14 47 11.9 +0.2**
KKAR **Karatay Array** 53.93 300 *eP* **P** **14 47 11.9 +0.2**
GSI **Gunungsitoli** 55.02 240 *eP* **P** **14 47 19.6 -0.4**
comp=Z,60nm,1.2s
SVE **Sverdlovsk** 55.61 319⇓ *eP* **P** **14 47 24.0 +0.4**
SVE pmax pmax
comp=Z,17nm,0.8s
DZET **Dzherino** 56.72 296 P **P** **14 47 30.4 -1.6**
DZET pmax pmax
comp=Z,13nm,0.8s
ARU **Arti** 56.82 319 *eP* **P** **14 47 31.7 -0.6**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU **Arti** 56.82 319 *eP* **P** **14 47 31.7 -0.6**
comp=Z,13nm,1.0s
DLBC **Dease Lake** 57.58 38 P **P** **14 47 39.3 +1.6**
comp=Z,3.8nm,0.6s,baz=338,slow=6.5,SNR=8.6
DLBC **Dease Lake** 57.58 38 *eP* **P** **14 47 40.2 +2.5**
comp=Z,6.1nm,0.8s
FITZ **Fitzroy Crossi** 57.59 200 *eP* **P** **14 47 38.8 +0.8**
comp=Z,38nm,1.4s
WRAB **Tennant Creek** 57.64 190 *eP* **P** **14 47 37.8 -0.6**
WRAB pmax pmax
comp=Z,42nm,1.0s
WRAB **Tennant Creek** 57.64 190 *eP* **P** **14 47 37.8 -0.6**
comp=Z,42nm,1.0s
WB2 **Warramunga Arr** 57.65 190 *eP* **P** **14 47 37.9 -0.6**
comp=Z,45nm,1.0s
WRA **Warramunga Arr** 57.65 190 P **P** **14 47 37.9 -0.6**
comp=Z,29nm,0.9s,baz=7.3,slow=7.1,SNR=160
AB31 **Akbulak array** 58.56 310 *i P* **P** **14 47 43.8 -0.9**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR **Akbulak array** 58.56 310 *eP* **P** **14 47 44.1 -0.6**
KBS **Kingsbay** 60.45 350 IAMs_20 IAMs_20 15 16 51.1
comp=Z,228nm,18.0s
AS01 **Alice Springs** 61.37 189 *eP* **P** **14 48 03.3 -0.8**
AS31 **Alice Springs** 61.37 189 *eP* **P** **14 48 03.9 -0.3**
comp=Z,2.7nm,0.6s
ASAR **Alice Springs** 61.37 189 P **P** **14 48 03.9 -0.3**
comp=Z,7.5nm,0.9s,baz=2.9,slow=6.7,SNR=75
YKA **Yewknife Ar** 62.86 31 P **P** **14 48 13.6 0.0**
comp=Z,2.5nm,0.7s,baz=304,slow=6.7,SNR=12
YKA PcP **PcP** **14 48 51.1 -0.7**
comp=Z,1.0nm,0.5s,baz=299,slow=4.1,SNR=6.3
KEV **Kevo** 63.47 340 *eP* **P** **14 48 18.1 +0.5**
ARCES **ARCESS Array B** 64.02 340 P **P** **14 48 21.1 -0.2**
comp=Z,2.1nm,0.6s,baz=50,slow=7.4,SNR=25
ARCES LR LR 15 19 18.5
comp=Z,133nm,20.2s,baz=40,slow=39
ARE0 **ARCESS Array S** 64.02 340 *eP* **P** **14 48 21.4 +0.1**
GEYT **Alibeck** 64.65 299 P **P** **14 48 24.6 -1.4**
comp=Z,5.3nm,0.8s,baz=35,slow=3.6,SNR=12
GEYT LR LR 15 18 22.4
comp=Z,198nm,20.4s,baz=95,slow=38
MSF **Maaselka** 65.16 336 P **P** **14 48 30.4 +1.6**
MSF pmax pmax
comp=Z,32nm,2.2s
HEF **Hetta** 65.25 339 *eP* **P** **14 48 29.6 +0.2**
DAG **Danmarks Havn** 65.46 355 *eP* **P** **14 48 30.2 -0.3**
DAG pmax pmax
comp=Z,7.0nm,1.1s
DAG **Danmarks Havn** 65.46 355 *i P* **P** **14 48 30.2 -0.3**
comp=Z,5.7nm,1.1s
KIF **Kilpisjarvi** 65.64 340 *eP* **P** **14 48 31.5 -0.2**
TRO **Tromso** 65.70 341 *eP* **P** **14 48 32.2 +0.1**
TRO IAMs_20 IAMs_20 15 24 25.6
comp=Z,366nm,15.9s
OBN **Obninsk** 68.46 324 *i P* **P** **14 48 50.0 +0.1**
OBN *i* 14 49 18.1
OBN pmax pmax
comp=Z,12nm,1.5s
OBN MLR MLR
comp=Z,490nm,14.0s
D08A **Wollman Farm,** 68.64 47 *eP* **P** **14 48 51.8 +0.5**
comp=Z,10.0nm,0.9s
LPSR **Galich'ya Gora** 68.73 321 *eP* **P** **14 48 49.9 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR MLR MLR
comp=Z,900nm,17.0s
STKA **Stephens Creek** 68.98 181 P **P** **14 48 53.3 0.0**
comp=Z,1.7nm,0.5s,baz=4.2,slow=7.5,SNR=6.3
STKA LR LR 15 23 01.4
comp=Z,44nm,18.9s,baz=24,slow=39
FIA1 **FINESS Array S** 68.99 333 *eP* **P** **14 48 53.0 0.0**
FINES **FINESS Array B** 68.99 333 P **P** **14 48 52.9 -0.2**
comp=Z,7.0nm,0.6s,baz=31,slow=9.4,SNR=34
FINES LR LR 15 21 08.8
comp=Z,208nm,19.7s,baz=40,slow=38
VSR **Storozhevoye** 69.39 319 *eP* **P** **14 48 55.0 -0.8**
VSR pmax pmax
comp=Z,20nm,1.5s
VSR MLR MLR
comp=Z,1μm,16.0s
K05A **Summer Lake** 69.78 51 *eP* **P** **14 49 00.9 +2.3**
comp=Z,28nm,1.2s
SUMG **Summit** 70.27 0 *eP* **P** **14 49 01.5 +0.2**
SUMG pmax pmax
comp=Z,7.0nm,0.7s
SUMG **Summit** 70.27 0 *eP* **P** **14 49 01.5 +0.2**
comp=Z,6.9nm,0.7s
VSU **Vasula** 70.69 330⇓ *iP* **P** **14 49 04.4 +0.8**
VSU pmax pmax
comp=Z,34nm,1.7s
ZEI **Tsey** 71.44 310 *eP* **P** **14 49 06.8 -1.9**
ZEI pmax pmax
comp=Z,59nm,1.6s
KIV **Kislovodsk** 71.51 311 *eP* **P** **14 49 09.8 +0.7**
KIV pmax pmax
comp=Z,29nm,1.0s
KIV **Kislovodsk** 71.51 311 *eP* **P** **14 49 09.8 +0.7**
comp=Z,86nm,1.6s
KBZ **Khabaz** 71.52 311 P **P** **14 49 08.4 -0.4**
comp=Z,7.4nm,0.9s,baz=64,slow=4.8,SNR=16
NEY **Neytrino** 71.89 311⇓ *eP* **P** **14 49 10.1 -1.3**
NEY pmax pmax
comp=Z,3.0nm,1.6s
PAHR **Pah Rah Range** 72.39 53 *eP* **P** **14 49 15.9 +1.5**
comp=Z,7.0nm,1.2s
MFID **Camas Ranch** 72.48 49 *eP* **P** **14 49 16.4 +1.6**
comp=Z,5.3nm,1.1s
CMB **Columbia Colle** 72.67 55 *eP* **P** **14 49 17.8 +1.8**
CMB pmax pmax
comp=Z,13nm,1.4s
CMB **Columbia Colle** 72.67 55 *eP* **P** **14 49 17.8 +1.8**
comp=Z,13nm,1.4s
FFC **Flin Flon** 72.72 33 *eP* **P** **14 49 16.7 +0.8**
FFC pmax pmax
comp=Z,16nm,1.2s
FFC **Flin Flon** 72.72 33 *eP* **P** **14 49 16.7 +0.8**
comp=Z,16nm,1.2s
UOSS **Minazif** 72.79 288 *eP* **P** **14 49 17.1 +0.2**
comp=Z,0.4nm,0.8s
NV01 **Mina Array Sit** 73.80 54 *eP* **P** **14 49 24.2 +1.3**
NVAR **Mina Array Bea** 73.80 54 P **P** **14 49 24.2 +1.3**
comp=Z,2.7nm,0.7s,baz=290,slow=6.7,SNR=15
NC405 **NORSAR Array S** 74.04 338 *eP* **P** **14 49 23.9 +0.3**
ANN **Anapa** 74.08 314 *eP* **P** **14 49 23.1 -1.0**
ANN pmax pmax
comp=Z,39nm,1.3s
ANN MLR MLR
comp=Z,334nm,18.0s
NC204 **NORSAR Array S** 74.20 338 *eP* **P** **14 49 25.2 +0.6**
NB201 **NORSAR Array S** 74.22 338 *eP* **P** **14 49 24.9 +0.3**
NB2 **NORSAR Subarra** 74.25 338 P **P** **14 49 24.7 -0.2**
comp=Z,5.1nm,0.6s,baz=39,slow=6.2
NB2 **NORSAR Subarra** 74.25 338 P **P** **14 49 24.7 -0.2**
baz=39,slow=6.2
NB2 **NORSAR Subarra** 74.25 338 P **P** **14 49 24.6 -0.3**
NB2 pmax pmax
comp=Z,4.0nm,0.6s
NOA **NORSAR Array B** 74.25 338 P **P** **14 49 24.9 +0.1**
comp=Z,3.0nm,0.6s,baz=43,slow=5.4,SNR=21
NOA LR LR 15 24 55.2
comp=Z,286nm,19.9s,baz=45,slow=38
NBO02 **NORSAR Array S** 74.35 338 *eP* **P** **14 49 25.8 +0.3**
AKASG **Malin Array Be** 74.68 323 P **P** **14 49 27.2 -0.3**
comp=Z,5.6nm,0.6s,baz=44,slow=6.3,SNR=22
AKASG LR LR 15 23 41.0
comp=Z,110nm,19.1s,baz=60,slow=37
AKASG **Malin Array Be** 74.68 323 *ceP* **P** **14 49 27.2 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
KIEV **Kiev** 74.69 323⇑ *iP* **P** **14 49 27.4 -0.1**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV **Kiev** 74.69 323 *eP* **P** **14 49 27.3 -0.2**
comp=Z,16nm,1.1s
AK11 **Malin Array Si** 74.72 323 *eP* **P** **14 49 27.4 -0.4**
H17A **Grant Village** 74.95 45 *eP* **P** **14 49 32.8 +3.3**
comp=Z,15nm,1.3s
IMW **Indian Meadow** 75.05 46 *eP* **P** **14 49 32.1 +2.0**
comp=Z,18nm,1.4s
HVU **Hansel Valley** 75.26 49 *eP* **P** **14 49 33.2 +1.9**
HVU pmax pmax
comp=Z,14nm,1.6s
HVU **Hansel Valley** 75.26 49 *eP* **P** **14 49 33.2 +1.9**
comp=Z,14nm,1.6s
TPAW **Teton Pass** 75.29 46 *eP* **P** **14 49 33.6 +2.1**
comp=Z,16nm,1.4s
DAC **Darwin (Calif)** 75.51 55 *eP* **P** **14 49 35.5 +2.7**
DAC pmax pmax
comp=Z,8.0nm,1.3s
DAC **Darwin (Calif)** 75.51 55 *eP* **P** **14 49 35.5 +2.7**
comp=Z,8.4nm,1.3s
R11A **Troy Canyon, C** 75.58 53 *eP* **P** **14 49 34.4 +1.2**
comp=Z,9.9nm,1.3s
SIM **Simferopol'** 75.85 316 *eP* **P** **14 49 34.2 -0.1**
SIM pmax pmax
comp=Z,11nm,0.8s
SIM MLR MLR
comp=E,240nm,17.3s
TPNV **Topopah Spring** 75.99 54 *eP* **P** **14 49 37.0 +1.5**
TPNV pmax pmax
comp=Z,10.0nm,1.1s
TPNV **Topopah Spring** 75.99 54 *eP* **P** **14 49 37.0 +1.5**
comp=Z,10nm,1.1s
HWUT **Hardware Ranch** 76.08 48 *eP* **P** **14 49 37.7 +1.7**
comp=Z,10nm,1.2s
DUG **Dugway, Tooele** 76.20 50 *eP* **P** **14 49 38.4 +1.8**
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG **Dugway, Tooele** 76.20 50 *eP* **P** **14 49 38.4 +1.8**
comp=Z,6.4nm,1.0s
BW06 **Boulder Array** 76.54 46 *eP* **P** **14 49 38.6 0.0**
PD31 **Pinedale Array** 76.54 46 *eP* **P** **14 49 39.5 +0.9**
PDAR **Pinedale Array** 76.54 46 P **P** **14 49 39.5 +0.9**
comp=Z,2.4nm,0.5s,baz=273,slow=1.6,SNR=26
SORM **Soroca** 76.81 321⇑ *iP* **P** **14 49 39.2 -0.5**
SHPR **Sheep Range** 76.95 54 *eP* **P** **14 49 42.8 +1.8**
comp=Z,11nm,1.3s
CCUT **Cedar City** 77.47 52 *eP* **P** **14 49 45.8 +1.9**
comp=Z,8.4nm,1.2s
MSU **Marysvale** 77.62 51 *eP* **P** **14 49 47.0 +2.2**
MSU **Marysvale** 77.62 51 *eP* **P** **14 49 47.0 +2.2**
LCMT **Little Creek M** 77.87 53 *eP* **P** **14 49 48.0 +1.9**
comp=Z,11nm,1.2s
P17A **Butcher Ranch,** 77.90 49 *eP* **P** **14 49 48.0 +1.8**
comp=Z,26nm,1.4s
MTPU **Mount Pierson** 77.90 51 *eP* **P** **14 49 48.7 +2.2**
comp=Z,34nm,1.9s
SRU **San Rafael Swe** 78.26 50 *eP* **P** **14 49 49.7 +1.5**
SRU pmax pmax
comp=Z,18nm,1.5s
SRU **San Rafael Swe** 78.26 50 *eP* **P** **14 49 49.7 +1.5**
comp=Z,18nm,1.5s
KWP **Kalwaria Pacla** 78.47 325 *eP* **P** **14 49 50.0 +1.0**
KWP **Kalwaria Pacla** 78.47 325⇑ *iP* **P** **14 49 49.9 +1.0**
KWP **Kalwaria Pacla** 78.47 325 *eP* **P** **14 49 50.0 +1.0**
BUR08 **Bucovina Ar. S** 78.69 322 *eP* **P** **14 49 50.6 +0.2**
BURAR **Bucovina Array** 78.70 322⇑ *iP* **P** **14 49 50.8 +0.3**
BURAR **Bucovina Array** 78.70 322 P **P** **14 49 50.7 +0.3**
TESR **Tescani** 78.76 321⇓ *iP* **P** **14 49 50.7 +0.1**
U15A **North Rim** 78.83 53 *eP* **P** **14 49 53.1 +1.6**
comp=Z,33nm,1.9s
CFR **Carcaliu** 78.91 319⇓ *iP* **P** **14 49 51.7 +0.3**
VRI **Vrincioaia** 79.16 320⇓ *iP* **P** **14 49 54.4 +1.6**
VRI **Vrincioaia** 79.16 320 P **P** **14 49 54.3 +1.5**
KOLS **Kolonicke sedl** 79.17 325 *eP* **P** **14 49 53.2 +0.4**
KOLS pmax pmax
comp=Z,9.0nm,1.5s
KOLS **Kolonicke sedl** 79.17 325 *eP* **P** **14 49 53.2 +0.4**
TIRR **Tirgusor** 79.25 318⇑ *iP* **P** **14 49 54.3 +1.0**
TIRR **Tirgusor** 79.25 318 P **P** **14 49 54.3 +1.0**
STHS **Stebnicka Huta** 79.29 326 *eP* **P** **14 49 54.6 +1.1**
STHS pmax pmax
comp=Z,6.0nm,1.2s
STHS **Stebnicka Huta** 79.29 326 *eP* **P** **14 49 54.6 +1.1**
OJC **Ojcow** 79.34 327 *eP* **P** **14 49 53.9 +0.2**
OJC **Ojcow** 79.34 327 *eP* **P** **14 49 54.3 +0.6**
OJC pmax pmax

	comp=Z,34nm,1.5s						
OJC	**Ojcow**	**79.34**	**327**	*e*P	**P**	**14 49 54.3**	**+0.6**
	comp=Z,34nm,1.5s						
UZH	**Uzhgorod**	**79.37**	**324**	*e*P	**P**	**14 49 51.0**	**-2.9**
UZH				*i*		14 50 00.6	
UZH				*e*		14 50 07.2	
BR131	**Keskin Array S**	**79.45**	**312**	*e*P	**P**	**14 49 55.6**	**+0.9**
BRTR	**Keskin Array B**	**79.45**	**312**	P	**P**	**14 49 54.8**	**+0.1**
	comp=Z,4.5nm,1.0s,baz=98,slow=3.7,SNR=16						
BRTR				LR	LR	15 28 43.3	
	comp=Z,71nm,18.6s,baz=68,slow=38						
BRTR	**Keskin Array B**	**79.45**	**312**	*ce*P	**P**	**14 49 55.5**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CRVS	**Cervenica-Dubn**	**79.56**	**325**	*e*P	**P**	**14 49 55.1**	**+0.1**
CRVS	**Cervenica-Dubn**	**79.56**	**325**	*e*P	**P**	**14 49 55.1**	**+0.1**
NIE	**Niedzica**	**79.71**	**326**	*e*P	**P**	**14 49 56.7**	**+0.9**
NIE	**Niedzica**	**79.71**	**326**	*e*P	**P**	**14 49 56.7**	**+0.9**
MLR	**Muntele Rosu**	**79.82**	**320**	⇑*i*P	**P**	**14 49 56.8**	**+0.2**
BR231	**Keskin MP Arra**	**79.88**	**313**	*e*P	**P**	**14 49 55.2**	**-1.7**
Y14A	**Wickenburg**	**79.92**	**55**	*e*P	**P**	**14 49 58.7**	**+1.5**
WUAZ	**Wupatki**	**79.98**	**53**	*e*P	**P**	**14 49 59.6**	**+1.9**
	comp=Z,8.8nm,1.0s						
LANS	**Liptovska Anna**	**80.27**	**326**	*e*P	**P**	**14 50 00.8**	**+1.9**
LANS	**Liptovska Anna**	**80.27**	**326**	*e*P	**P**	**14 50 00.8**	**+1.9**
VOIR		**80.31**	**321**	⇑*i*P	**P**	**14 50 00.3**	**+1.1**
VOIR		**80.31**	**321**	P	**P**	**14 50 00.2**	**+1.1**
OKC	**Ostrava-Krasne**	**80.34**	**327**	AMS	AMS	15 28 40.0	
	comp=Z,500nm,18.2s						
DRGR		**80.50**	**323**	⇓*i*P	**P**	**14 50 01.4**	**+1.3**
ARR	**Arges**	**80.56**	**321**	⇑*i*P	**P**	**14 50 01.9**	**+1.4**
X16A	**Lo Mia Camp, P**	**80.63**	**54**	*e*P	**P**	**14 50 03.2**	**+2.0**
MORC	**Moravsky Berou**	**80.64**	**328**	⇓*i*P	**P**	**14 50 01.9**	**+1.1**
MORC	**Moravsky Berou**	**80.64**	**328**	*e*P	**P**	**14 50 01.9**	**+1.1**
MORC				pmax	pmax		
	comp=Z,61nm,1.5s						
MORC	**Moravsky Berou**	**80.64**	**328**	*e*P	**P**	**14 50 01.9**	**+1.1**
	comp=Z,61nm,1.5s						
DPC	**Dobruska-Polom**	**80.72**	**329**	*e*P	**P**	**14 50 02.1**	**+0.9**
DPC				*ep*P	**pP**	**14 50 10.6**	**0.0**
DPC				AMS	AMS	15 28 40.0	
	comp=Z,400nm,18.2s						
DPC	**Dobruska-Polom**	**80.72**	**329**	*e*P	**P**	**14 50 02.1**	**+0.9**
DPC				*e*		14 50 10.6	
DPC				MLR	MLR		
	comp=Z,400nm,18.2s						
UPC	**Upice**	**80.73**	**329**	AMS	AMS	15 28 40.0	
	comp=Z,500nm,17.2s						
PSZ	**Piszkesteto**	**80.99**	**325**	⇓*i*P	**P**	**14 50 03.5**	**+0.7**
PSZ	**Piszkesteto**	**80.99**	**325**	*e*P	**P**	**14 50 03.5**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,26nm,1.4s						
PSZ	**Piszkesteto**	**80.99**	**325**	*e*P	**P**	**14 50 03.5**	**+0.7**
	comp=Z,26nm,1.4s						
VYHS	**Vyhne**	**81.04**	**326**	*e*P	**P**	**14 50 03.6**	**+0.7**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.5s						
VYHS	**Vyhne**	**81.04**	**326**	*e*P	**P**	**14 50 03.6**	**+0.7**
BRG	**Berggiesshubel**	**81.28**	**330**	*e*P	**P**	**14 50 04.4**	**+0.3**
	comp=Z,24nm,1.9s						
BRG	**Berggiesshubel**	**81.28**	**330**	*e*P	**P**	**14 50 04.4**	**+0.3**
BRG				pmax	pmax		
	comp=Z,24nm,1.9s						
PVCC	**Panska Ves**	**81.30**	**330**	AMS	AMS	15 29 00.0	
	comp=Z,500nm,15.0s						
CLL	**Collm**	**81.31**	**331**	*e*P	**P**	**14 50 04.0**	**-0.3**
	comp=Z,5.0nm,1.0s						
CLL				*i*		14 50 14.4	
	comp=Z,10.0nm,1.1s						
CLL	**Collm**	**81.31**	**331**	*e*P	**P**	**14 50 04.0**	**-0.3**
CLL				*i*		14 50 14.4	
CLL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VRAC	**Vranov**	**81.40**	**328**	⇓*i*P	**P**	**14 50 06.2**	**+1.4**
GZR	**Gura Zlata**	**81.47**	**322**	⇑*i*P	**P**	**14 50 05.7**	**+0.4**
GOPC	**GO Pecny, Ondr**	**81.69**	**329**	AMS	AMS	15 29 40.0	
	comp=Z,400nm,15.4s						
PRU	**Pruhonice**	**81.73**	**329**	*e*P	**P**	**14 50 07.1**	**+0.6**
PRU				AMS	AMS	15 29 30.0	
	comp=Z,500nm,15.6s						
PRU	**Pruhonice**	**81.73**	**329**	*e*P	**P**	**14 50 07.1**	**+0.6**
PRU				MLR	MLR		
	comp=Z,500nm,15.6s						
BZS	**Buzias**	**81.87**	**323**	⇑*i*P	**P**	**14 50 07.4**	**0.0**
TREC	**Trest**	**81.88**	**328**	AMS	AMS	15 31 00.0	
	comp=Z,500nm,11.6s						
NKC	**Novy Kostel**	**82.38**	**330**	AMS	AMS	15 30 00.0	
	comp=Z,500nm,16.8s						
MDVR	**Moldovita**	**82.43**	**322**	⇑*i*P	**P**	**14 50 10.3**	**-0.1**
CONA	**Conrad Observa**	**82.77**	**327**	*i* P	**P**	**14 50 13.0**	**+0.8**
	comp=Z,8.7nm,1.3s						
KHC	**Kasperske Hory**	**82.79**	**329**	*e*P	**P**	**14 50 12.0**	**-0.2**
KHC	**Kasperske Hory**	**82.79**	**329**	*e*P	**P**	**14 50 12.0**	**-0.2**
GERES	**GERESS Array B**	**82.97**	**329**	P	**P**	**14 50 13.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=37,slow=5.6,SNR=6.8						
GERES				LR	LR	15 30 11.1	
	comp=Z,275nm,18.7s,baz=67,slow=38						
GEA0	**GERESS Array S**	**82.97**	**329**	*e*P	**P**	**14 50 12.8**	**-0.4**
ANMO	**Albuquerque**	**83.42**	**51**	⇑*i*P	**P**	**14 50 17.8**	**+1.9**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ANMO	**Albuquerque**	**83.42**	**51**	*e*P	**P**	**14 50 17.6**	**+1.7**
	comp=Z,7.8nm,1.0s						
MOA	**Molln**	**83.51**	**328**	*i* PcP	**P**	**14 50 17.0**	**+1.1**
	comp=Z,8.6nm,1.5s						
BNM	**Barren Site**	**83.84**	**51**	*e*P	**P**	**14 50 19.7**	**+1.6**
SOKA	**Soboth**	**84.09**	**327**	*i* P	**P**	**14 50 19.2**	**+0.3**
	comp=Z,10.0nm,1.1s						
MEM	**Membach**	**84.46**	**334**	P	**P**	**14 50 21.5**	**+0.9**
MYKA	**Terra Mystica**	**84.73**	**328**	*i* P	**P**	**14 50 21.6**	**-0.6**
	comp=Z,6.2nm,1.0s						
BCLA	**Clavier**	**84.86**	**334**	P	**P**	**14 50 23.5**	**+0.8**
WLF	**Walferdange**	**85.20**	**333**	P	**P**	**14 50 26.1**	**+1.7**
	comp=Z,12nm,1.7s						
DOU	**Dourbes**	**85.38**	**335**	P	**P**	**14 50 25.6**	**+0.3**
BFO	**Black Forest**	**85.51**	**332**	*ce*P	**P**	**14 50 26.5**	**+0.5**
BFO	**Black Forest**	**85.51**	**332**	*e*P	**P**	**14 50 26.1**	**+0.2**
	comp=Z,20nm,1.3s						
FETA	**Feichten**	**85.63**	**329**	*i* P	**P**	**14 50 26.8**	**0.0**
	comp=Z,3.2nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**86.14**	**329**	*e*P	**P**	**14 50 29.7**	**+0.2**
	comp=Z,11nm,1.0s						
WMOK	**Wichita Mounta**	**88.15**	**46**	*e*P	**P**	**14 50 40.3**	**+1.2**
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WMOK	**Wichita Mounta**	**88.15**	**46**	*e*P	**P**	**14 50 40.3**	**+1.2**
	comp=Z,3.7nm,0.8s						
TX31	**Lajitas Ar. Si**	**88.94**	**53**	*e*P	**P**	**14 50 44.1**	**+1.1**
TXAR	**Lajitas Array**	**88.94**	**53**	P	**P**	**14 50 43.7**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=305,slow=2.9,SNR=35						
JCT	**Junction City**	**90.56**	**50**	*e*P	**P**	**14 50 51.1**	**+0.6**
JCT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
JCT	**Junction City**	**90.56**	**50**	*e*P	**P**	**14 50 51.1**	**+0.6**
	comp=Z,5.9nm,0.6s						
MIAR	**Mount Ida**	**91.22**	**43**	*e*P	**P**	**14 50 54.4**	**+0.9**
MIAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MIAR	**Mount Ida**	**91.22**	**43**	*e*P	**P**	**14 50 54.4**	**+0.9**
	comp=Z,9.4nm,1.1s						
WHAR	**Wooly Hollow**	**91.36**	**42**	*e*P	**P**	**14 50 54.9**	**+0.9**
	comp=Z,8.2nm,0.8s						
ESDC	**Sonseca Array**	**97.42**	**335**	LR	LR	15 40 31.2	
	comp=Z,197nm,18.3s,baz=70,slow=39						
TORD	**Torodi Ar. Bea**	**117.85**	**316**	PP	PP	14 57 47.6	-0.3
	comp=Z,0.5nm,0.9s,baz=33,slow=5.8,SNR=3.5						
SNAA	**Sanae**	**141.48**	**197**	PKP	PKPpre	14 57 12.0	
VNA1	**Neumayer--Stat**	**143.44**	**196**	PKP	PKPbc	14 57 18.9	+0.2
LPAZ	**La Paz**	**145.47**	**61**	PKPbc	**PKPab**	**14 57 27.5**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=7.6,slow=2.3,SNR=15						
PLCA	**Paso Flores**	**153.94**	**108**	PKPbc	**PKPbc**	**14 57 48.1**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=233,slow=15,SNR=5.4						
BDFB	**Brasilia**	**156.23**	**27**	PKPab	**PKPab**	**14 58 11.2**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=281,slow=10,SNR=2.6						
CPUP	**Villa Florida**	**159.62**	**63**	PKPab	**PKPab**	**14 58 25.8**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=236,slow=11,SNR=3.1						

*IDC **02** 14:41:34.3±1.2,37.09N×140.61E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.6/48,mbtmp3.8/6,ML3.6/1,Error ellipse: s-maj=25.9km s-min=20.1km az=89.0*
*ISCJB **02** 14:41:35.4±0.5,37.10N±0.03×140.66E±0.04,h18km±4km, mb3.7/5,Error ellipse: s-maj=5.9km s-min=4.9km az=10.6*
*JMA **02** 14:41:35.5,37.10N×140.59E,h7km±1km,M3.8*

JMA Felt III J1.
ISC 02 14:41:36.1±1.0,37.11N±0.03×140.61E±0.03,h9km±7km, n21,σ0893/24,mb3.6/5,6C-1D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.15**	**92**	⇑P	**Pg**	**14 41 39.1**	**-0.3**
ONAJ				S	**Sg**	**14 41 41.8**	**+0.1**
JFK	**Kawauchi**	**0.34**	**39**	⇑P	**Pg**	**14 41 42.5**	**-0.2**
JFK				S	**Sg**	**14 41 47.4**	**+0.2**
JFT	**Otama**	**0.47**	**332**	⇑P	**Pg**	**14 41 44.9**	**-0.2**
JFT				*e*S	**Sg**	**14 41 51.4**	**+0.1**
JHO	**Hitachi**	**0.50**	**184**	⇑P	**Pg**	**14 41 44.8**	**-0.9**
JHO				*e*S	**Sg**	**14 41 51.8**	**-0.4**
JSB	**Shiboa**	**0.57**	**256**	⇑P	**Pg**	**14 41 47.0**	**-0.1**
JSB				S	**Sg**	**14 41 55.0**	**+0.4**
JMM	**Marumori**	**0.77**	**11**	⇑P	**Pg**	**14 41 50.1**	**-0.9**
JMM				S	**Sg**	**14 42 00.4**	**-0.6**
JFY	**Yanaizu**	**0.78**	**293**	⇓P	**Pg**	**14 41 50.6**	**-0.5**
JFY				S	**Sg**	**14 42 00.5**	**-0.8**
MJAR	**Matsushiro Arr**	**2.01**	**254**	Pn	**Pn**	**14 42 10.1**	**0.0**
	19nm,0.3s,baz=73,slow=14,SNR=8.0						
MJAR				Sn	**Sb**	**14 42 37.0**	**-0.9**
	46nm,0.3s,baz=203,slow=24,SNR=11						
JHJ	**Hachijo jima 2**	**4.04**	**190**	Pn	**Pn**	**14 42 39.2**	**+1.2**
	11nm,0.3s,baz=273,slow=22,SNR=3.3						
JHJ				Sn	**Sn**	**14 43 25.5**	**+0.1**
	18nm,0.3s,baz=242,slow=21,SNR=2.4						
KSRS	**Korea Array**	**10.12**	**276**	Pn	**Pn**	**14 44 04.1**	**+2.6**
	baz=70,slow=18,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.74**	**120**	T	T	15 17 12.3	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.75**	**120**	T	T	15 17 22.3	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.76**	**120**	T	T	15 17 24.3	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**29.44**	**122**	T	T	15 18 16.5	
	baz=314,SNR=10						
H11S3	**WAKE ISLAND Hy**	**29.44**	**122**	T	T	15 18 13.7	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**29.46**	**122**	T	T	15 18 16.0	
	baz=314						
MKAR	**Makanchi Array**	**43.53**	**302**	P	**P**	**14 49 39.6**	**-0.4**
	0.4nm,0.7s,baz=98,slow=8.9,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.45**	**308**	P	**P**	**14 49 53.8**	**-1.4**
	1.0nm,0.5s,baz=85,slow=8.2,SNR=5.4						
ILAR	**Eielson Array**	**49.78**	**32**	P	**P**	**14 50 29.3**	**+0.7**
	0.6nm,0.8s,baz=267,slow=5.5,SNR=4.1						
WRA	**Warramunga Arr**	**57.05**	**187**	P	**P**	**14 51 21.2**	**-1.3**
	1.5nm,0.6s,baz=2.4,slow=7.3,SNR=8.3						
ASAR	**Alice Springs**	**60.78**	**187**	P	**P**	**14 51 47.5**	**-0.9**
	0.4nm,0.8s,baz=14,slow=7.8,SNR=4.3						

WEL 02 14:47:32.2±0.5,46.32S×165.93E,h5km,ML3.8/11,2C-3D, Error ellipse: s-maj=5.7km s-min=3.1km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.54**	**74**	⇑PG	Pb	14 47 43.6	-0.5
PYZ				SG	Sb	14 47 51.5	-0.8
DCZ	**Deep Cove**	**1.21**	**46**	⇓P*	Pg	14 47 52.1	-3.1
DCZ				AML	AML	14 48 07.6	
DCZ				AML	AML	14 48 07.7	
DCZ				AML	AML	14 48 10.2	
DCZ				AML	AML	14 48 10.2	
WHZ	**Wether Hill Ro**	**1.47**	**74**	PN	Pn	14 47 57.8	-1.5
WHZ				SN	Sn	14 48 16.6	-2.2
WHZ				AML	AML	14 48 20.3	
APZ	**The Paps**	**1.51**	**111**	⇓PN	Pn	14 47 59.2	-0.8
APZ				AML	AML	14 48 19.9	
APZ				AML	AML	14 48 22.0	
MLZ	**Mavora Lakes**	**1.80**	**59**	PN	Pn	14 48 03.2	-0.6
MLZ				SN	Sn	14 48 27.1	0.0
MLZ				AML	AML	14 48 30.8	
MSZ	**Milford Sound**	**2.16**	**41**	PN	Pn	14 48 06.9	-1.9
MSZ				AML	AML	14 48 48.9	
MSZ				AML	AML	14 48 48.9	
MSZ				AML	AML	14 48 50.3	
MSZ				AML	AML	14 49 00.1	
SYZ	**Scrubby Hill**	**2.23**	**97**	PN	Pn	14 48 09.3	-0.4
SYZ				AML	AML	14 48 40.7	
SYZ				AML	AML	14 48 41.1	
SYZ				AML	AML	14 48 42.3	
SYZ				AML	AML	14 48 42.3	
TUZ	**Tuapeka**	**2.60**	**83**	⇓PN	Pn	14 48 14.5	-0.3
TUZ				AML	AML	14 48 48.8	
TUZ				AML	AML	14 48 48.8	
TUZ				AML	AML	14 48 52.4	
TUZ				AML	AML	14 48 52.4	
EAZ	**Earnscleugh**	**2.60**	**67**	PN	Pn	14 48 14.9	0.0
EAZ				AML	AML	14 48 50.4	
EAZ				AML	AML	14 48 51.9	
EAZ				AML	AML	14 48 53.2	
WKZ	**Wanaka**	**2.63**	**57**	PN	Pn	14 48 15.7	+0.4
WKZ				AML	AML	14 48 58.5	
WKZ				AML	AML	14 49 00.1	
JCZ	**Jackson Bay**	**3.02**	**43**	PN	Pn	14 48 19.7	-0.9
JCZ				AML	AML	14 49 10.6	
JCZ				AML	AML	14 49 13.2	
HHSZ	**Highcliff Hill**	**3.28**	**84**	PN	Pn	14 48 23.9	-0.2
ODZ	**Otahua Downs**	**3.54**	**71**	⇑PN	Pn	14 48 26.0	-1.8
ODZ				AML	AML	14 49 24.5	
LBZ	**Lake Benmore**	**3.57**	**59**	PN	Pn	14 48 27.0	-1.2
FOZ	**Fox Glacier**	**3.92**	**46**	PN	Pn	14 48 31.3	-1.6
RPZ	**Rata Peaks**	**4.47**	**56**	PN	Pn	14 48 38.3	-2.2
WVZ	**Waitaha Valley**	**4.72**	**48**	PN	Pn	14 48 41.7	-2.2

*IDC **02** 14:51:01.1±0.9,52.04N×170.12W,h0km,mb3.7/10, mb1 3.9/12,mb1mx3.7/49,mbtmp3.6/12,ML3.4/2,Error ellipse: s-maj=34.2km s-min=14.9km az=2.0*
*ISCJB **02** 14:51:03.7±0.7,51.95N±0.08×169.85W±0.07,h29km, mb3.6/10,Error ellipse: s-maj=12.4km s-min=4.0km az=156.9*
*NEIC **02** 14:51:03.3,51.88N×169.76W,h26km,ML3.5(AEIC),After AEIC.*
ISC 02 14:51:05.9±0.8,52.1N±0.1×169.92W±0.06,h29km,n29, σ1937/31,mb3.6/10,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.07**	**37**	P	**Pn**	**14 51 23.5**	**-1.3**
NIKH				S	**Sb**	**14 51 41.0**	**+1.8**
OKWE	**Okmok W'ng Wal**	**1.69**	**37**	P	**Pn**	**14 51 33.5**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.70**	**42**	P	**Pn**	**14 51 33.5**	**0.0**
OKTU				S	**Sb**	**14 51 56.6**	**-0.7**
OKAK	**Okmok**	**1.73**	**32**	P	**Pn**	**14 51 32.4**	**-1.6**
MSOM	**Makushin Julie**	**2.46**	**46**	P	**Pn**	**14 51 44.1**	**0.0**
KOFP	**Korovin Flat P**	**2.58**	**275**	P	**Pn**	**14 51 45.9**	**+0.3**
KOFP				S	**Sn**	**14 52 19.0**	**+3.0**
MCIR	**Makushin Cirqu**	**2.58**	**44**	P	**Pn**	**14 51 45.8**	**+0.1**
KOKL	**Mount Kliuchef**	**2.64**	**276**	P	**Pn**	**14 51 47.4**	**+0.9**
KOWE	**Korovin West**	**2.67**	**277**	P	**Pn**	**14 51 47.9**	**+0.9**
UNV	**Unalaska Valle**	**2.69**	**49**	P	**Pn**	**14 51 46.7**	**-0.4**
UNV				S	**Sn**	**14 52 22.2**	**+3.6**
ZRO	**Akutan Zero**	**3.08**	**49**	P	**Pn**	**14 51 53.2**	**+0.7**
GSMY	**Great Sitkin M**	**3.79**	**271**	P	**Pn**	**14 52 02.6**	**+0.3**
GSTD	**Great Sitkin T**	**3.84**	**271**	P	**Pn**	**14 52 03.5**	**+0.5**
GSTD				S	**Sn**	**14 52 48.3**	**+1.1**
ETKA	**Kagalaska Isla**	**4.02**	**269**	P	**Pn**	**14 52 05.5**	**+0.1**
ILAR	**Eielson Array**	**17.34**	**34**	P	**Pn**	**14 55 04.8**	**-0.6**
	0.0nm,0.3s,baz=218,slow=11,SNR=3.3						
PETK	**Petropavlovsk-**	**19.60**	**286**	P	**P**	**14 55 31.5**	**0.0**
	1.3nm,0.5s,baz=85,slow=14,SNR=31						
SEY	**Seymchan**	**22.59**	**313**	P	**P**	**14 56 01.6**	**-2.0**
	1.1nm,0.7s,baz=73,slow=14,SNR=5.2						
YKA	**Yellowknife Ar**	**30.65**	**48**	P	**P**	**14 57 18.2**	**+0.9**
	0.4nm,0.6s,baz=275,slow=9.2,SNR=3.7						
NVAR	**Mina Array Bea**	**38.00**	**90**	P	**P**	**14 58 23.0**	**+1.7**
	0.4nm,0.7s,baz=307,slow=8.9,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**38.25**	**217**	T	T	15 39 17.9	
	baz=23,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**38.26**	**217**	T	T	15 39 00.7	
	baz=23,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**38.26**	**217**	T	T	15 39 23.9	
	baz=23,slow=76,SNR=27						
PDAR	**Pinedale Array**	**40.78**	**78**	P	**P**	**14 58 45.5**	**+1.0**
	0.9nm,0.5s,baz=289,slow=4.5,SNR=7.2						
KSRS	**Korea Array**	**45.10**	**277**	P	**P**	**14 59 19.4**	**+0.2**
	0.8nm,0.8s,baz=52,slow=8.0,SNR=4.1						
SONM	**Songino Array**	**51.13**	**301**	P	**P**	**15 00 06.0**	**+0.1**
	0.3nm,0.5s,baz=68,slow=8.2,SNR=2.0						
TXAR	**Lajitas Array**	**53.09**	**88**	P	**P**	**15 00 20.8**	**+0.1**
	0.7nm,0.7s,baz=312,slow=5.9,SNR=6.8						
MKAR	**Makanchi Array**	**63.72**	**313**	P	**P**	**15 01 32.8**	**-1.7**
	0.1nm,0.4s,baz=25,slow=7.9,SNR=3.0						
CMAR	**Chiang Mai Arr**	**76.34**	**282**	P	**P**	**15 02 51.5**	**-0.7**
	0.8nm,0.5s,baz=24,slow=7.1,SNR=7.1						
ASAR	**Alice Springs**	**89.98**	**230**	P	**P**	**15 03 59.9**	**-2.5**
	0.6nm,0.6s,baz=29,slow=4.9,SNR=15						

*IDC **02** 15:05:16.0±8.3,6.37S×129.93E,h50km±86km,mb3.7/3, mb1 4.1/5,mb1mx3.6/27,mbtmp4.2/5,ML4.7/2,Error ellipse: s-maj=76.0km s-min=32.6km az=75.0*
*ISCJB **02** 15:05:22.6±0.3,6.45S±0.03×130.26E±0.06,h146km, mb4.3/8,Error ellipse: s-maj=8.5km s-min=4.2km az=164.7*
*NEIC **02** 15:05:22.9±1.1,6.44S×130.20E,h127km±13km,mb4.2/6, Error ellipse: s-maj=16.1km s-min=10.1km az=75.0*
*DJA **02** 15:05:24.3±0.3,6.3S±3.3×13.0E±1.1,h137km±6km,M4.8/12, mb4.7/10,mB5.3/6,MLv4.8/12,Mw(mB)4.8/6*
ISC 02 15:05:24.6±0.6,6.46S±0.04×130.16E±0.06,h146km,n42, σ2931/48,mb4.2/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.89**	**143**	P	**Pn**	**15 05 58.5**	**+0.3**
SAUI				S	**Sn**	**15 06 25.7**	**+1.6**
SAUI	**Saumlaki**	**1.89**	**143**	*e*Pn	**Pn**	**15 05 58.1**	**-0.1**
BNDI	**Bandanaira**	**1.94**	**352**	P	**Pn**	**15 05 57.1**	**-1.8**
BNDI				S	**Sn**	**15 06 21.6**	**-3.5**
MSAI	**Masohi**	**3.33**	**338**	P	**Pn**	**15 06 14.9**	**-1.2**
FAKI	**Fak Fak**	**4.09**	**31**	P	**Pn**	**15 06 21.9**	**-4.1**
FAKI	**Fak Fak**	**4.09**	**31**	*e*Pn	**Pn**	**15 06 22.0**	**-3.9**
FAKI				*e*Sn	Sn	15 07 02.2	-11
NLAI	**Namlea**	**4.42**	**316**	P	**Pn**	**15 06 30.1**	**-0.2**
SWI	**Sorong**	**5.67**	**11**	P	**Pn**	**15 06 42.6**	**-4.3**
	36nm,0.5s,7μm1.3nm						
SANI	**Sanana**	**6.04**	**316**	P	**Pn**	**15 06 53.2**	**+1.3**
	35nm,1.6s,0.1nm						
RKPI	**Ransiki, Papua**	**6.34**	**39**	P	**Pn**	**15 06 53.5**	**-2.4**
	120nm,0.9s,7μm2.4nm						
LBMI	**Labuha**	**6.36**	**335**	P	**Pn**	**15 06 55.0**	**-1.2**
	109nm,0.9s,1μm0.4nm						
MTN	**Manton Dam**	**6.42**	**171**	*e*Pn	**Pn**	**15 06 56.0**	**-0.9**
MTN				*e*Sn	**Sn**	**15 08 05.2**	**-3.9**
SOEI	**Soe**	**6.69**	**240**	P	**Pn**	**15 07 01.3**	**+0.6**
	229nm,0.8s,2μm0.7nm						
SOEI	**Soe**	**6.69**	**240**	*e*Pn	**Pn**	**15 07 00.1**	**-0.6**
SOEI				*e*Sn	**Sn**	**15 08 12.0**	**-3.9**
KDI	**Kendari**	**7.91**	**288**	P	**Pn**	**15 07 15.0**	**-1.9**
MMRI	**Maumere**	**8.15**	**254**	P	**Pn**	**15 07 19.2**	**-0.9**
MRSI	**Marisa**	**10.71**	**310**	P	**Pn**	**15 07 55.1**	**+0.9**
	42nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.38**	**200**	*e*Pn	**Pn**	**15 08 13.2**	**-2.8**
FITZ				*e*Sn	Sn	15 10 20.1	-13
WR1	**Warramunga Arr**	**14.00**	**164**	*e*Pn	**Pn**	**15 08 33.1**	**-3.8**
WR1				*e*Sn	Sn	15 11 01.0	-11
WRA	**Warramunga Arr**	**14.00**	**164**	P	**Pn**	**15 08 33.1**	**-3.8**
	4.3nm,0.3s,baz=345,slow=13,SNR=79						
WRA				S	Sn	15 11 01.0	-11
	3.0nm,0.3s,baz=338,slow=23,SNR=8.3						
WB2	**Warramunga Arr**	**14.01**	**164**	*e*Pn	**Pn**	**15 08 34.1**	**-2.8**
COEN	**Coen**	**14.81**	**121**	*e*Pn	**Pn**	**15 08 47.1**	**+0.1**
COEN				*e*Sn	Sn	15 11 19.6	-12
AS31	**Alice Springs**	**17.48**	**169**	*e*P	**Pn**	**15 09 19.5**	**-0.2**
	4.9nm,0.6s						
AS31				*e*S	**S**	**15 12 27.8**	**-5.4**
ASAR	**Alice Springs**	**17.48**	**169**	P	**Pn**	**15 09 19.4**	**-0.3**
	1.5nm,0.3s,baz=342,slow=8.9,SNR=96						
AS01	**Alice Springs**	**17.49**	**168**	*e*P	**Pn**	**15 09 19.3**	**-0.5**
AS01				*e*S	S	15 12 19.0	-14
KKM	**Kota Kinabalu**	**18.65**	**311**	*e*P	**P**	**15 09 32.2**	**+0.6**
	17nm,1.5s						
CISI	**Cisompet, Garu**	**22.20**	**266**	*e*P	**

LPK	**Lapseki**	**1.07**	**291**	*e*Pg	**Pn**	**15 08 35.6**	**-0.3**
DEMI	**Demirci**	**1.08**	**152**	P	**Pg**	**15 08 35.4**	**0.0**
DEMI				S	**Sb**	**15 08 50.3**	**+0.4**
DEMI	**Demirci**	**1.08**	**152**	*i* P	**Pg**	**15 08 35.4**	**0.0**
DEMI				*i* S	**Sb**	**15 08 50.4**	**+0.4**
IZI	**Iznik**	**1.13**	**72**	*e*PN	**Pb**	**15 08 36.6**	**+0.1**
IZI	**Iznik**	**1.13**	**72**	*e*Pn	**Pb**	**15 08 36.6**	**+0.1**
TVSB	**Tavsanli**	**1.21**	**117**	*e*Pn	**Pg**	**15 08 37.8**	**-0.1**
TVSB	**Tavsanli**	**1.21**	**117**	*e*Pn	**Pg**	**15 08 37.8**	**-0.1**
CTKS	**Kestanelik-??a**	**1.28**	**15**	*e*PN	**Pn**	**15 08 38.1**	**-0.7**
CTKS	**Kestanelik-??a**	**1.28**	**15**	*e*Pn	**Pn**	**15 08 38.1**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.28**	**289**	*e*PN	**Pn**	**15 08 38.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.28**	**289**	*e*Pn	**Pn**	**15 08 38.7**	**-0.1**
DKL	**Dikili**	**1.29**	**224**	*e*PN	**Pg**	**15 08 39.4**	**-0.1**
DKL	**Dikili**	**1.29**	**224**	*e*Pn	**Pg**	**15 08 39.4**	**-0.1**
EZN	**Ezine**	**1.35**	**263**	*e*PN	**Pn**	**15 08 39.6**	**-0.1**
EZN	**Ezine**	**1.35**	**263**	*e*Pn	**Pn**	**15 08 39.7**	**-0.1**
ERIK	**Erikli-Kesan**	**1.36**	**300**	*e*PN	**Pb**	**15 08 40.3**	**-0.1**
ERIK	**Erikli-Kesan**	**1.36**	**300**	*e*Pn	**Pb**	**15 08 40.3**	**-0.1**
CAVI	**Cavuskoy**	**1.38**	**81**	*e*PN	**Pb**	**15 08 40.6**	**-0.1**
CAVI	**Cavuskoy**	**1.38**	**81**	*e*Pn	**Pb**	**15 08 40.6**	**-0.1**
KLYT	**Kilyos**	**1.46**	**30**	*e*PN	**Pn**	**15 08 41.2**	**0.0**
KLYT	**Kilyos**	**1.46**	**30**	*e*Pn	**Pn**	**15 08 41.2**	**0.0**
ALN	**Alexandroupoli**	**1.78**	**301**	*e*PN	**Pn**	**15 08 46.0**	**+0.3**
ALN	**Alexandroupoli**	**1.78**	**301**	*e*Pn	**Pn**	**15 08 46.0**	**+0.3**

JMA 02 15:22:16.7±0.1, 36°.48N×137°.63E, h2$^{km}_{\pm 2km}$, M1.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTT	**Ttatey**	**0.27**	**298**	P	Pg	15 22 22.7	+0.8
JTT				S	Sg	15 22 26.7	+1.3
JGN	**Niukaw**	**0.36**	**225**	P	Pg	15 22 23.9	+0.3
JGN				S	Sg	15 22 28.8	+0.5
JNG	**Nsakai**	**0.39**	**101**	P	Pg	15 22 24.5	+0.4
JNG				S	Sg	15 22 29.9	+0.8
MAT	**Matsushiro**	**0.47**	**82**	P	Pg	15 22 25.9	+0.2
MAT				S	Sg	15 22 32.3	+0.4
MAT	**Matsushiro**	**0.47**	**82**	P	Pg	15 22 25.9	+0.2
MAT				S	Sg	15 22 32.1	+0.3

*IDC **02** 15:28:13.3±0.5, 16°.28S×173°.31W, h0^{km}, mb4.5/18, mb1 4.7/18, mb1mx4.6/33, mbtmp4.5/18, MS4.1/15, Ms1 4.1/15, ms1mx3.7/41, Error ellipse: s-maj=20.8km s-min=14.1km az=130.0*

*NEIC **02** 15:28:14.8±0.1, 16°.28S×173°.34W, h10^{km}, mb4.9/96, Error ellipse: s-maj=6.2km s-min=2.9km az=126.0*

*BJI **02** 15:28:15.4, 15°.81S×173°.17W, h13^{km}, mb4.9/20, mB5.2/14, Ms4.7/5, Ms7 4.3/5*

*ISCJB **02** 15:28:16.6±0.2, 16°.32S±0°.04×173°.36W±0°.05, h33^{km}, mb4.8/113, MS4.1/13, Error ellipse: s-maj=7.9km s-min=4.0km az=37.6*

*MOS **02** 15:28:17.7±1.5, 16°.19S×173°.40W, h33^{km}, mb5.0/29, Error ellipse: s-maj=13.4km s-min=8.9km az=49.7*

ISC 02 15:28:16.8±0.4, 16°.17S±0°.07×173°.13W±0°.08, h26^{km}, n302, σ1$ 61/285, mb4.8/113, MS4.0/14, 23C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.60**	**30**	Pn	**Pn**	**15 28 55.1**	**-2.1**
	128nm,0.3s,baz=205,slow=2.7,SNR=109						
AFI				Sn	**Sn**	**15 29 23.8**	**-4.3**
	505nm,0.3s,baz=77,slow=23,SNR=14						
AFI	**Afiamalu**	**2.60**	**30**	*e*Pn	**Pn**	**15 28 55.0**	**-2.3**
AFI				*e*Sn	**Sn**	**15 29 22.0**	**-6.1**
MSVF	**Nonsavu**	**8.58**	**258**	*e*P	Pn	15 30 25.7	+6.2
MSVF	**Nonsavu**	**8.58**	**258**	*e*Pn	Pn	15 30 25.7	+6.3
KNTN	**Kanton**	**13.38**	**6**	*e*Pn	**Pn**	**15 31 25.8**	**+0.6**
KNTN				*e*Sn	Sn	15 33 41.0	-12
RAR	**Rarotonga**	**13.61**	**114**	LR	LR	15 35 16.6	
	comp=Z,1μm,21.5s,baz=279,slow=31						
DZM	**Mont Dzumac**	**20.16**	**250**	*e*P	Pn	15 32 50.4	-1.0
DZM				*e*LR	LR	15 38 33.1	
	2μm,25.4s						
DZM	**Mont Dzumac**	**20.16**	**250**	LR	LR	15 39 26.7	
	comp=Z,1μm,20.2s,baz=84,slow=34						
DZM	**Mont Dzumac**	**20.16**	**250**	*e*P	**P**	**15 32 47.1**	**-2.4**
	58nm,0.8s						
OUZ	**Omahuta**	**22.38**	**210**	*e*P	**P**	**15 33 11.6**	**-1.6**
	144nm,1.4s						
PPT	**Papeete**	**22.58**	**97**	LR	LR	15 39 44.6	
	comp=Z,525nm,19.9s,baz=290,slow=30						
PPT2	**Papeete2**	**22.58**	**97**	*e*LR	LR	15 38 41.1	
	1μm,25.0s						
PPT2	**Papeete2**	**22.58**	**97**	*e*T	T	15 56 32.5	
	6.5nm,0.3s						
MXZ	**Matakaoa Point**	**22.61**	**198**	*e*P	**P**	**15 33 15.5**	**-0.1**
	65nm,1.0s						
TIAR	**Tiarei**	**22.80**	**97**	*e*T	T	15 56 47.3	
	3.3nm,0.3s						
TBI	**Tubuai**	**23.37**	**112**	*e*LR	LR	15 38 54.1	
	1μm,27.8s						
TBI	**Tubuai**	**23.37**	**112**	*e*T	T	15 57 36.8	
	19nm,0.3s						
URZ	**Urewera**	**23.62**	**199**	P	**P**	**15 33 23.3**	**-2.4**
	24nm,0.5s,baz=300,slow=3.0,SNR=33						
URZ	**Urewera**	**23.62**	**199**	*e*P	**P**	**15 33 23.7**	**-2.1**
	60nm,1.3s						
HIZ	**Hauiti**	**24.64**	**203**	*e*P	**P**	**15 33 32.4**	**-2.8**
	188nm,1.5s						
BKZ	**Black Stump Fm**	**24.65**	**200**	*e*P	**P**	**15 33 33.3**	**-2.0**
	64nm,1.6s						
BFZ	**Birch Farm**	**26.11**	**199**	*e*P	**P**	**15 33 48.0**	**-0.5**
	134nm,1.7s						
HNR	**Honiara**	**27.07**	**281**	LR	LR	15 43 06.2	
	comp=Z,2μm,21.0s,baz=135,slow=33						
SNZO	**South Karori**	**27.17**	**200**	*e*P	**P**	**15 33 55.7**	**-2.3**
	303nm,1.8s						
THZ	**Tophouse**	**28.20**	**202**	*e*P	**P**	**15 34 05.9**	**-1.4**
	45nm,1.2s						
KHZ	**Kahutara**	**28.55**	**201**	*e*P	**P**	**15 34 08.0**	**-2.4**
	35nm,1.2s						
LTZ	**Lake Taylor**	**29.32**	**202**	*e*P	**P**	**15 34 14.3**	**-3.0**
	28nm,0.9s						
OXZ	**Oxford**	**29.87**	**202**	*e*P	**P**	**15 34 19.9**	**-2.3**
	30nm,0.7s						
MQZ	**McQueen's Vall**	**29.99**	**201**	*e*P	**P**	**15 34 22.8**	**-0.3**
	56nm,1.5s						
RPZ	**Rata Peaks**	**30.57**	**203**	P	**P**	**15 34 27.1**	**-1.2**
	9.5nm,0.5s,baz=39,slow=5.2,SNR=5.7						
RPZ	**Rata Peaks**	**30.57**	**203**	*e*P	**P**	**15 34 27.1**	**-1.2**
	29nm,1.1s						
FOZ	**Fox Glacier**	**30.89**	**205**	*e*P	**P**	**15 34 30.2**	**-1.0**
	37nm,1.3s						
ODZ	**Otahua Downs**	**31.86**	**202**	*e*P	**P**	**15 34 41.0**	**+1.3**
WKZ	**Wanaka**	**32.29**	**204**	*e*P	**P**	**15 34 41.8**	**-1.7**
	99nm,1.5s						
TAOE	**Nuku Hiva Isla**	**32.97**	**81**	*e*LR	LR	15 43 25.0	
	770nm,26.3s						
TAOE	**Nuku Hiva Isla**	**32.97**	**81**	*e*T	T	16 09 21.7	
	55nm,0.2s						
MLZ	**Mavora Lakes**	**33.09**	**205**	*e*P	**P**	**15 34 49.4**	**-1.2**
	64nm,1.7s						
DCZ	**Deep Cove**	**33.57**	**205**	*e*P	**P**	**15 34 53.3**	**-1.3**
	67nm,1.8s						
WHZ	**Wether Hill Ro**	**33.60**	**204**	*e*P	**P**	**15 34 54.5**	**-0.3**
	17nm,0.9s						
PYZ	**Puysegur Point**	**34.33**	**205**	*e*P	**P**	**15 35 02.3**	**+1.1**
	75nm,1.3s						
EIDS	**Eidsvold**	**34.60**	**249**	*e*P	**P**	**15 35 01.6**	**-2.3**
	22nm,1.3s						
ARMA	**Armidale**	**35.17**	**240**	*e*P	**P**	**15 35 07.1**	**-1.8**
	78nm,1.8s						
RKT	**Rikitea**	**36.52**	**107**	*e*LR	LR	15 44 57.4	
	822nm,27.5s						
RKT	**Rikitea**	**36.52**	**107**	*e*T	T	16 13 55.5	
	8.2nm,0.3s						
CAN	**Canberra**	**38.77**	**233**	*e*P	**P**	**15 35 36.8**	**-2.6**
CAN				pmax	pmax		
	comp=Z,46nm,1.4s						
CAN	**Canberra**	**38.77**	**233**	*e*P	**P**	**15 35 36.8**	**-2.6**
	comp=Z,46nm,1.4s						
PMG	**Port Moresby**	**39.25**	**275**	P	**P**	**15 35 42.9**	**-0.7**
	comp=Z,36nm,0.9s,baz=97,slow=4.9,SNR=5.6						
PMG	**Port Moresby**	**39.25**	**275**	⇑*e*P	**P**	**15 35 42.5**	**-1.0**
PMG	**Port Moresby**	**39.25**	**275**	*e*P	**P**	**15 35 42.1**	**-1.4**
	comp=Z,40nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**39.75**	**329**	T	T	16 17 27.1	
	baz=146,slow=74,SNR=40						
H11S3	**WAKE ISLAND Hy**	**39.77**	**329**	T	T	16 17 20.4	
	baz=146,SNR=35						
H11S1	**WAKE ISLAND Hy**	**39.77**	**329**	T	T	16 17 26.1	
	baz=146,slow=74,SNR=36						
KIP	**Kipapa**	**40.20**	**22**	⇑P	**P**	**15 35 48.2**	**-3.0**
H11N3	**WAKE ISLAND Hy**	**40.70**	**330**	T	T	16 18 38.4	
	baz=150,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**40.71**	**330**	T	T	16 18 38.7	
	baz=150,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**40.72**	**330**	T	T	16 18 34.7	
	baz=150,slow=76,SNR=34						
TOO	**Toolangi**	**42.19**	**231**	P	**P**	**15 36 04.7**	**-2.9**
TOO				pmax	pmax		
	comp=Z,19nm,1.4s						
COEN	**Coen**	**42.19**	**267**	*e*P	**P**	**15 36 08.2**	**+0.4**
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**43.88**	**241**	P	**P**	**15 36 19.5**	**-1.9**
	comp=Z,16nm,0.9s,baz=89,slow=11,SNR=24						
STKA				LR	LR	15 52 08.4	
	comp=Z,224nm,19.7s,baz=43,slow=33						
STKA	**Stephens Creek**	**43.88**	**241**	*e*P	**P**	**15 36 19.4**	**-1.9**
	comp=Z,2.6nm,0.8s						
WB2	**Warramunga Arr**	**49.91**	**257**	*e*P	**P**	**15 37 07.2**	**-1.5**
	comp=Z,9.7nm,1.0s						
WRAB	**Tennant Creek**	**49.91**	**257**	⇑*i*P	**P**	**15 37 07.1**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,13nm,1.2s						
WR1	**Warramunga Arr**	**49.92**	**257**	*e*P	**P**	**15 37 06.9**	**-1.9**
	comp=Z,19nm,1.4s						
WRA	**Warramunga Arr**	**49.92**	**257**	P	**P**	**15 37 06.9**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=98,slow=6.2,SNR=83						
AS01	**Alice Springs**	**50.08**	**253**	*e*P	**P**	**15 37 07.6**	**-2.3**
AS31	**Alice Springs**	**50.12**	**253**	*e*P	**P**	**15 37 08.1**	**-2.2**
	comp=Z,9.1nm,0.7s						
ASAR	**Alice Springs**	**50.12**	**253**	P	**P**	**15 37 07.8**	**-2.5**
	comp=Z,26nm,0.6s,baz=91,slow=7.5,SNR=502						
ASAR				LR	LR	15 57 24.5	
	comp=Z,457nm,19.1s,baz=94,slow=35						
MTN	**Manton Dam**	**53.93**	**266**	*e*P	**P**	**15 37 37.2**	**-1.4**
	comp=Z,30nm,1.3s						
SWI	**Sorong**	**56.85**	**280**	P	**P**	**15 37 59.4**	**-0.3**
SWI				pmax	pmax		
	comp=Z,28nm,0.8s						
FITZ	**Fitzroy Crossi**	**58.31**	**258**	LR	LR	16 01 42.2	
	comp=Z,297nm,19.7s,slow=35						
SOEI	**Soe**	**61.15**	**268**	*e*P	**P**	**15 38 29.8**	**0.0**
	comp=Z,32nm,0.8s						
VNDA	**Vanda**	**62.64**	**186**	P	**P**	**15 38 39.8**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=21,slow=6.0,SNR=5.0						
VNDA	**Vanda**	**62.64**	**186**	*e*P	**P**	**15 38 39.7**	**+1.2**
	comp=Z,3.8nm,1.1s						
MJAR	**Matsushiro Arr**	**69.69**	**320**	P	**P**	**15 39 24.7**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=132,slow=5.4,SNR=4.3						
MJAR				LR	LR	16 04 20.6	
	comp=Z,58nm,22.0s,baz=115,slow=31						
ASAJ	**Asahikawa**	**72.33**	**328**	*e*P	**P**	**15 39 41.6**	**+1.4**
	comp=Z,10nm,0.9s						
MWC	**Mount Wilson**	**72.49**	**45**	*e*P	**P**	**15 39 43.1**	**+1.5**
MWC				pmax	pmax		
	comp=Z,18nm,1.4s						
MWC	**Mount Wilson**	**72.49**	**45**	*e*P	**P**	**15 39 43.1**	**+1.5**
	comp=Z,18nm,1.4s						
KMRM	**Mail Ridge**	**72.51**	**38**	*e*P	**P**	**15 39 44.1**	**+2.6**
	comp=Z,34nm,0.9s						
CMB	**Columbia Colle**	**73.17**	**41**	*e*P	**P**	**15 39 46.7**	**+1.3**
CMB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMB	**Columbia Colle**	**73.17**	**41**	*e*P	**P**	**15 39 46.7**	**+1.3**
	comp=Z,8.9nm,1.0s						
AFDM	**Forest Hills D**	**73.36**	**40**	*e*P	**P**	**15 39 47.9**	**+1.4**
	comp=Z,7.7nm,1.0s						
ORV	**Oroville**	**73.41**	**39**	*e*P	**P**	**15 39 48.3**	**+1.6**
ORV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ORV	**Oroville**	**73.41**	**39**	*e*P	**P**	**15 39 48.3**	**+1.6**
	comp=Z,5.6nm,1.0s						
WDC	**Whiskeytown Da**	**73.42**	**38**	*e*P	**P**	**15 39 48.4**	**+1.6**
WDC				pmax	pmax		
	comp=Z,20nm,1.5s						
WDC	**Whiskeytown Da**	**73.42**	**38**	*e*P	**P**	**15 39 48.4**	**+1.6**
	comp=Z,20nm,1.5s						
PEA0	**Petropavlovsk-**	**73.44**	**342**	*e*P	**P**	**15 39 47.5**	**+0.9**
PETK	**Petropavlovsk-**	**73.44**	**342**	P	**P**	**15 39 48.0**	**+1.4**
	comp=Z,6.4nm,0.9s,baz=128,slow=10,SNR=5.5						
PETK				LR	LR	16 07 26.6	
	comp=Z,48nm,19.4s,baz=119,slow=32						
PETK	**Petropavlovsk-**	**73.44**	**342**	P	**P**	**15 39 48.0**	**+1.4**
PEA1	**Petropavlovsk-**	**73.44**	**342**	*e*P	**P**	**15 39 48.0**	**+1.4**
QSPA	**South Pole Qui**	**73.88**	**180**	*e*P	**P**	**15 39 50.0**	**+0.8**
GSC	**Goldstone, Bar**	**73.94**	**45**	*e*P	**P**	**15 39 51.8**	**+1.7**
GSC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GSC	**Goldstone, Bar**	**73.94**	**45**	*e*P	**P**	**15 39 51.8**	**+1.7**
	comp=Z,7.7nm,0.9s						
DAC	**Darwin (Calif)**	**73.96**	**44**	*e*P	**P**	**15 39 51.9**	**+1.6**
DAC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DAC	**Darwin (Calif)**	**73.96**	**44**	*e*P	**P**	**15 39 51.9**	**+1.6**
	comp=Z,5.2nm,1.1s						
WAKR	**Walker**	**74.05**	**41**	*e*P	**P**	**15 39 52.8**	**+2.0**
GLA	**Glamis**	**74.11**	**48**	*e*P	**P**	**15 39 52.5**	**+1.4**
GLA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GLA	**Glamis**	**74.11**	**48**	*e*P	**P**	**15 39 52.5**	**+1.4**
	comp=Z,10nm,1.1s						
YSS	**Yuzh-Sakhalins**	**74.28**	**330**	⇑*e*P	**P**	**15 39 52.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**74.28**	**330**	*e*P	**P**	**15 39 52.2**	**+0.6**
	comp=Z,11nm,0.9s						
HUMO	**Hull Mountain**	**74.47**	**36**	*e*P	**P**	**15 39 55.5**	**+2.6**
	comp=Z,11nm,1.0s						
Y12C	**Blythe**	**74.69**	**48**	*e*P	**P**	**15 39 56.0**	**+1.6**
	comp=Z,8.7nm,1.1s						
113A	**Mohawk Valley,**	**74.72**	**49**	*e*P	**P**	**15 39 56.3**	**+1.8**
	comp=Z,3.7nm,0.8s						
NV01	**Mina Array Sit**	**74.73**	**42**	*e*P	**P**	**15 39 56.6**	**+1.8**
NVAR	**Mina Array Bea**	**74.73**	**42**	P	**P**	**15 39 56.6**	**+1.8**
	comp=Z,6.4nm,0.8s,baz=233,slow=9.6,SNR=35						
NVAR				LR	LR	16 05 48.3	
	comp=Z,237nm,20.0s,baz=251,slow=30						
PAHR	**Pah Rah Range**	**74.80**	**40**	*e*P	**P**	**15 39 57.1**	**+2.1**
	comp=Z,11nm,1.2s						
NV11	**Mina Array Sit**	**74.82**	**42**	*e*P	**P**	**15 39 57.1**	**+1.9**
	comp=Z,17nm,1.2s						
TPNV	**Topopah Spring**	**75.23**	**44**	*e*P	**P**	**15 39 59.4**	**+1.8**
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TPNV	**Topopah Spring**	**75.23**	**44**	*e*P	**P**	**15 39 59.4**	**+1.8**
	comp=Z,7.8nm,0.9s						
MOD	**Moc Plateau**	**75.57**	**38**	*e*P	**P**	**15 40 01.5**	**+2.1**
	comp=Z,9.3nm,0.9s						
SHPR	**Sheep Range**	**75.72**	**45**	*e*P	**P**	**15 40 02.4**	**+1.9**
K05A	**Summer Lake**	**75.73**	**37**	*e*P	**P**	**15 40 02.7**	**+2.3**
	comp=Z,16nm,0.9s						
W13A	**Hualapai Mount**	**75.85**	**47**	*e*P	**P**	**15 40 03.1**	**+1.8**
	comp=Z,4.6nm,1.0s						
Y14A	**Wickenburg**	**75.87**	**48**	*e*P	**P**	**15 40 03.1**	**+1.9**
	comp=Z,22nm,0.8s						
R11A	**Troy Canyon, C**	**76.44**	**43**	*e*P	**P**	**15 40 06.2**	**+1.6**
	comp=Z,6.8nm,1.2s						
TUC	**Tucson**	**76.68**	**50**	*e*P	**P**	**15 40 08.0**	**+2.1**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TUC	**Tucson**	**76.68**	**50**	*e*P	**P**	**15 40 08.0**	**+2.1**
	comp=Z,6.6nm,1.0s						
WVOR	**Wild Horse Val**	**76.87**	**38**	*e*P	**P**	**15 40 08.8**	**+2.0**
WVOR				pmax	pmax		
	comp=Z,14nm,1.4s						
WVOR	**Wild Horse Val**	**76.87**	**38**	*e*P	**P**	**15 40 08.8**	**+2.0**
	comp=Z,14nm,1.4s						
KSRS	**Korea Array**	**76.89**	**316**	P	**P**	**15 40 07.9**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=102,slow=5.2,SNR=3.1						
KSRS				LR	LR	16 07 52.6	
	comp=Z,44nm,21.2s,baz=118,slow=31						
KS15	**Wonju Array Si**	**76.91**	**316**	*e*P	**P**	**15 40 07.7**	**+0.8**
KSAR	**Wonju Array Be**	**76.91**	**316**	P	**P**	**15 40 08.0**	**+1.1**
KSAR	**Wonju Array Be**	**76.91**	**316**	P	**P**	**15 40 08.0**	**+1.1**
X16A	**Lo Mia Camp, P**	**77.23**	**48**	*e*P	**P**	**15 40 11.6**	**+2.5**
	comp=Z,6.2nm,0.8s						
LCMT	**Little Creek M**	**77.29**	**45**	*e*P	**P**	**15 40 11.0**	**+1.7**
	comp=Z,7.5nm,1.0s						
319A	**Douglas**	**77.36**	**52**	*e*P	**P**	**15 40 12.0**	**+2.2**
	comp=Z,12nm,0.8s						
CCUT	**Cedar City**	**77.49**	**45**	*e*P	**P**	**15 40 12.9**	**+2.4**
	comp=Z,9.9nm,1.2s						
KSM	**Kuching**	**77.52**	**275**	*e*P	**P**	**15 40 10.7**	**-0.2**
	comp=Z,7.3nm,0.9s						
KNB	**Kanab**	**77.58**	**45**	*e*P	**P**	**15 40 13.3**	**+2.3**
KNB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KNB	**Kanab**	**77.58**	**45**	*e*P	**P**	**15 40 13.3**	**+2.3**
	comp=Z,9.5nm,1.0s						
U15A	**North Rim**	**77.64**	**46**	*e*P	**P**	**15 40 13.2**	**+1.8**
	comp=Z,9.5nm,1.1s						
B04A	**Port Angeles**	**77.74**	**32**	*e*P	**P**	**15 40 12.9**	**+1.5**
ELK	**Elko**	**77.99**	**41**	*e*P	**P**	**15 40 14.8**	**+1.6**
ELK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ELK	**Elko**	**77.99**	**41**	*e*P	**P**	**15 40 14.8**	**+1.6**
	comp=Z,6.3nm,1.1s						
USRK	**Ussuriysk Ar.**	**78.15**	**323**	P	**P**	**15 40 14.7**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=104,slow=4.8,SNR=4.2						
USRK				LR	LR	16 07 01.6	
	comp=Z,54nm,21.7s,baz=150,slow=30						
MTPU	**Mount Pierson**	**78.54**	**45**	*e*P	**P**	**15 40 19.1**	**+2.6**
	comp=Z,10nm,1.0s						
MSU	**Marysvale**	**78.79**	**44**	*e*P	**P**	**15 40 20.1**	**+2.4**
MSU	**Marysvale**	**78.79**	**44**	*e*P	**P**	**15 40 20.1**	**+2.4**
MFID	**Camas Ranch**	**79.12**	**39**	*e*P	**P**	**15 40 20.7**	**+1.4**
	comp=Z,14nm,1.5s						
DUG	**Dugway, Tooele**	**79.25**	**43**	*e*P	**P**	**15 40 20.5**	**+0.4**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DUG	**Dugway, Tooele**	**79.25**	**43**	*e*P	**P**	**15 40 20.5**	**+0.4**
	comp=Z,5.2nm,0.9s						
SUA	**Susitna One**	**79.41**	**11**	*e*P	**P**	**15 40 20.8**	**+0.4**
	comp=Z,7.8nm,0.8s						
TMUT	**Trail Mountain**	**79.84**	**44**	*e*P	**P**	**15 40 25.9**	**+2.4**
	comp=Z,13nm,0.9s						
TT01	**Tatalina**	**79.95**	**8**	*e*P	**P**	**15 40 24.2**	**+1.1**
TTA	**Tatalina**	**79.98**	**8**	*e*P	**P**	**15 40 26.9**	**+3.5**
TTA	**Tatalina**	**79.98**	**8**	*e*P	**P**	**15 40 26.9**	**+3.5**
HLID	**Hailey**	**80.06**	**39**	*e*P	**P**	**15 40 25.9**	**+1.5**
	comp=Z,7.7nm,1.0s						
DIV	**Divide**	**80.08**	**13**	*e*P	**P**	**15 40 25.3**	**+1.3**
	comp=Z,9.6nm,0.9s						
HVU	**Hansel Valley**	**80.11**	**41**	*e*P	**P**	**15 40 26.5**	**+1.8**
HVU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HVU	**Hansel Valley**	**80.11**	**41**	*e*P	**P**	**15 40 26.5**	**+1.8**
	comp=Z,4.8nm,0.8s						
BMRM	**Bremner River**	**80.20**	**14**	*e*P	**P**	**15 40 26.1**	**+1.5**
	comp=Z,11nm,1.0s						
SRU	**San Rafael Swe**	**80.21**	**45**	*e*P	**P**	**15 40 27.6**	**+2.3**
SRU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SRU	**San Rafael Swe**	**80.21**	**45**	*e*P	**P**	**15 40 27.6**	**+2.3**
	comp=Z,8.2nm,1.0s						
P17A	**Butcher Ranch,**	**80.24**	**44**	*e*P	**P**	**15 40 27.6**	**+2.0**
	comp=Z,7.7nm,1.0s						
SCM	**Sheep Creek Mo**	**80.39**	**12**	*e*P	**P**	**15 40 26.8**	**+1.1**
SCM				pmax	pmax		
	comp=Z,14nm,1.1s						
SCM	**Sheep Creek Mo**	**80.39**	**12**	*e*P	**P**	**15 40 26.8**	**+1.1**
	comp=Z,14nm,1.1s						
MNTX	**Cornudas Mount**	**80.48**	**53**	*e*P	**P**	**15 40 28.3**	**+1.5**
	comp=Z,6.0nm,1.0s						
LTX	**Lajitas**	**80.83**	**56**	*e*P	**P**	**15 40 30.1**	**+1.3**
LTX	**Lajitas**	**80.83**	**56**	*e*P	**P**	**15 40 30.1**	**+1.3**
TX31	**Lajitas Ar. Si**	**80.83**	**56**	*e*P	**P**	**15 40 30.6**	**+1.8**
TXAR	**Lajitas Array**	**80.83**	**56**	P	**P**	**15 40 30.1**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=225,slow=6.4,SNR=15						
PV09	**Paradox Valley**	**80.85**	**46**	*e*P	**P**	**15 40 27.6**	**-1.4**
CAST	**Castle Rocks**	**81.01**	**9**	*e*P	**P**	**15 40 29.4**	**+0.5**
	comp=Z,12nm,1.6s						
ANMO	**Albuquerque**	**81.10**	**50**	P	**P**	**15 40 32.4**	**+2.1**
	comp=Z,2.2nm,0.6s,baz=233,slow=6.2,SNR=6.3						
ANMO	**Albuquerque**	**81.10**	**50**	⇑*i*P	**P**	**15 40 28.5**	**-1.7**
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANMO	**Albuquerque**	**81.10**	**50**	*e*P	**P**	**15 40 30.7**	**+0.5**
	comp=Z,4.8nm,1.1s						
TRF	**Thorofare Moun**	**81.33**	**10**	*e*P	**P**	**15 40 31.4**	**+0.6**

HHC				LE			
	comp=Z,110nm,17.5s						
HHC				LZ			
	comp=Z,80nm,16.0s						
YAK	**Yakutsk**	**89.92**	**337**	⇓*i*P	**P**	**15 41 13.1**	**-0.1**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KMI	**Kunming**	**91.59**	**296**	P	**P**	**15 41 22.0**	**-0.2**
KMI				PMZ			
	comp=Z,3.0nm,0.6s						
SYO	**Syowa Base**	**91.90**	**191**	⇑*e*P	**P**	**15 41 20.0**	**-2.5**
SYO	**Syowa Base**	**91.90**	**191**	⇑*i*sP	P	15 41 27.4	+4.9
CD2	**Chengdu**	**92.43**	**301**	*e*P	**P**	**15 41 25.5**	**-0.2**
VNA1	**Neumayer--Stat**	**92.77**	**175**	P	**P**	**15 41 25.3**	**-1.1**
CM01	**Chiang Mai Arr**	**93.08**	**288**	*e*P	**P**	**15 41 29.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**93.10**	**288**	P	**P**	**15 41 30.4**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=82,slow=3.2,SNR=9.3						
CMAR				LR	LR	16 19 28.4	
	comp=Z,24nm,19.2s,baz=134,slow=33						
LZH	**Lanzhou**	**93.89**	**306**	*e*P	**P**	**15 41 32.0**	**-0.5**
LZH				sP	sP	15 41 46.7	+2.7
LZH				*e*PP	**PP**	**15 45 21.2**	**+2.6**
LZH				PMZ			
	comp=Z,17nm,1.5s						
LZH				PMZ			
	comp=Z,78nm,9.2s						
LZH				LN			
	comp=Z,200nm,16.2s						
LZH				LE			
	comp=Z,190nm,16.7s						
LZH				LZ			
	comp=Z,280nm,19.6s						
ULN	**Ulaanbaatar**	**95.18**	**318**	⇓P	**P**	**15 41 37.5**	**-0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSH	**Kashi**	**116.14**	**306**	*e*PKP	**PKPdf**	**15 47 01.0**	**+2.9**
ARA0	**ARCESS Array S**	**125.40**	**352**	*e*PKPdf	**PKPdf**	**15 47 14.9**	**+0.1**
ARCES	**ARCESS Array B**	**125.40**	**352**	PKP	**PKPdf**	**15 47 14.9**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=360,slow=0.4,SNR=9.4						
CLL	**Collm**	**144.60**	**353**	*e*PKPdf	**PKPdf**	**15 47 50.0**	**-1.0**
	comp=Z,3.0nm,0.7s						
CLL				*e*		15 48 03.0	
CLL	**Collm**	**144.60**	**353**	*e*PKIKP	**PKPdf**	**15 47 50.0**	**-1.0**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
STHS	**Stebnicka Huta**	**144.84**	**344**	*e*PKIKP	**PKPdf**	**15 47 51.6**	**+0.1**
STHS	**Stebnicka Huta**	**144.84**	**344**	*e*PKP	**PKPdf**	**15 47 51.6**	**+0.1**
KOLS	**Kolonicke sedl**	**144.98**	**342**	*e*PKIKP	**PKPdf**	**15 47 52.6**	**+0.9**
KOLS	**Kolonicke sedl**	**144.98**	**342**	*e*PKP	**PKPdf**	**15 47 52.6**	**+0.9**
DPC	**Dobruska-Polom**	**145.06**	**349**	*e*PKP	**PKPdf**	**15 47 52.4**	**+0.5**
DPC				*ex*	x	15 48 06.0	
DPC	**Dobruska-Polom**	**145.06**	**349**	*e*PKIKP	**PKPdf**	**15 47 52.4**	**+0.5**
DPC				*e*		15 48 06.0	
BUR08	**Bucovina Ar. S**	**145.16**	**338**	*e*PKPbc	**PKPdf**	**15 47 52.0**	**-0.2**
BURAR	**Bucovina Array**	**145.18**	**338**	⇑*i*P	**PKPdf**	**15 47 53.1**	**+0.9**
BURAR	**Bucovina Array**	**145.18**	**338**	⇑PKIKP	**PKPdf**	**15 47 53.1**	**+0.9**
OKC	**Ostrava-Krasne**	**145.20**	**347**	*e*PKP	**PKPdf**	**15 47 53.2**	**+1.2**
OKC				*ex*	x	15 48 06.9	
OKC	**Ostrava-Krasne**	**145.20**	**347**	*e*PKIKP	**PKPdf**	**15 47 53.2**	**+1.2**
OKC				*e*		15 48 06.9	
CRVS	**Cervenica-Dubn**	**145.25**	**343**	*e*PKIKP	**PKPdf**	**15 47 55.0**	**+2.8**
CRVS	**Cervenica-Dubn**	**145.25**	**343**	*e*PKP	**PKPdf**	**15 47 55.0**	**+2.8**
UZH	**Uzhgorod**	**145.25**	**342**	*e*PKIKP	**PKPdf**	**15 47 51.8**	**-0.3**
UZH				*i*		15 47 54.2	
UZH				*i*		15 48 03.2	
MORC	**Moravsky Berou**	**145.38**	**348**	⇓*i*P	**PKPab**	**15 47 53.3**	**+0.8**
MORC	**Moravsky Berou**	**145.38**	**348**	*e*PKIKP	**PKPab**	**15 47 53.3**	**+0.8**
MORC	**Moravsky Berou**	**145.38**	**348**	*e*PKPbc	**PKPab**	**15 47 53.2**	**+0.8**
KMBO	**Kilima Mbogo**	**145.43**	**243**	PKPbc	**PKPdf**	**15 47 54.9**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=38,slow=3.3,SNR=5.8						
KMBO	**Kilima Mbogo**	**145.43**	**243**	*e*PKIKP	**PKPdf**	**15 47 53.8**	**-0.1**
KMBO	**Kilima Mbogo**	**145.43**	**243**	*e*PKPbc	**PKPdf**	**15 47 53.8**	**-0.1**
LANS	**Liptovska Anna**	**145.54**	**345**	*e*PKIKP	**PKPab**	**15 47 55.4**	**+2.3**
LANS	**Liptovska Anna**	**145.54**	**345**	*e*PKP	**PKPab**	**15 47 55.4**	**+2.3**
TESR	**Tescani**	**145.56**	**336**	⇓*i*P	**PKPab**	**15 47 53.7**	**+0.5**
TLCR		**145.69**	**332**	⇑*i*P	**PKPab**	**15 47 54.3**	**+0.6**
TLCR		**145.69**	**332**	⇑PKP2	**PKPab**	**15 47 54.3**	**+0.6**
PRU	**Pruhonice**	**145.70**	**351**	*e*PKP	**PKPab**	**15 47 54.0**	**+0.4**
PRU				*ex*	x	15 48 07.8	
PRU	**Pruhonice**	**145.70**	**351**	*e*PKP2	**PKPab**	**15 47 54.0**	**+0.4**
KECS	**Kecovo**	**145.89**	**344**	*e*PKP2	**PKPab**	**15 47 54.9**	**+0.5**
KECS	**Kecovo**	**145.89**	**344**	*e*PKP	**PKPab**	**15 47 54.9**	**+0.5**
KECS				*e*		15 48 11.0	
PETR	**Petresti**	**145.96**	**334**	⇑*i*P	**PKPbc**	**15 47 53.1**	**-1.0**
CFR	**Carcaliu**	**146.00**	**333**	⇑*i*P	**PKPab**	**15 47 55.1**	**+0.3**
CFR	**Carcaliu**	**146.00**	**333**	⇑PKP2	**PKPab**	**15 47 55.1**	**+0.3**
VRI	**Vrincioaia**	**146.05**	**335**	⇑*i*P	**PKPab**	**15 47 55.2**	**+0.1**
VRI	**Vrincioaia**	**146.05**	**335**	⇑PKP2	**PKPab**	**15 47 55.2**	**+0.1**
PLOR	**Plostina**	**146.09**	**335**	⇑*i*P	**PKPab**	**15 47 55.9**	**+0.6**
PLOR	**Plostina**	**146.09**	**335**	⇑PKP2	**PKPab**	**15 47 55.9**	**+0.6**
VYHS	**Vyhne**	**146.30**	**346**	⇑PKP2	**PKPab**	**15 47 56.7**	**+0.8**
VYHS	**Vyhne**	**146.30**	**346**	*e*PKP	**PKPab**	**15 47 56.7**	**+0.8**
VYHS				*e*		15 48 08.5	
HARR	**Harsova**	**146.47**	**332**	⇓*i*P	PKPab	15 48 04.5	+7.8
DOPR	**Dopca**	**146.50**	**336**	⇑*i*P	**PKPab**	**15 47 57.6**	**+0.8**
MLR	**Muntele Rosu**	**146.67**	**335**	⇓*i*P	**PKPab**	**15 47 58.0**	**+0.4**
MLR	**Muntele Rosu**	**146.67**	**335**	*e*PKIKP	**PKPbc**	**15 47 55.6**	**-0.9**
MLR	**Muntele Rosu**	**146.67**	**335**	*e*PKPdf	**PKPbc**	**15 47 55.6**	**-0.9**
DRGR		**146.75**	**340**	⇓*i*P	**PKPbc**	**15 47 57.6**	**-0.2**
DRGR		**146.75**	**340**	⇓PKP2	**PKPab**	**15 47 57.6**	**-0.2**
BR101	**Keskin Array S**	**146.91**	**320**	*e*PKPdf	**PKPbc**	**15 47 58.1**	**-0.7**
BR131	**Keskin Array S**	**146.91**	**320**	*e*PKPdf	**PKPbc**	**15 47 57.3**	**-0.1**
BRTR	**Keskin Array B**	**146.91**	**320**	PKPbc	**PKPab**	**15 47 58.1**	**-0.7**
	comp=Z,7.4nm,0.8s,baz=112,slow=2.2,SNR=42						
GEC2	**GERESS Array S**	**146.94**	**352**	*e*PKP2	**PKPab**	**15 47 57.5**	**-1.0**
GEC2	**GERESS Array S**	**146.94**	**352**	*e*PKPdf	**PKPab**	**15 47 57.5**	**-1.0**
GERES	**GERESS Array B**	**146.94**	**352**	PKPbc	**PKPab**	**15 47 58.0**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=5.7,slow=2.7,SNR=5.5						
GERES	**GERESS Array B**	**146.94**	**352**	PKP2	**PKPab**	**15 47 58.0**	**-0.5**
GEA0	**GERESS Array S**	**146.94**	**352**	*e*PKPdf	**PKPab**	**15 47 57.6**	**-0.9**
MSAB	**Monastry St. A**	**146.99**	**332**	⇑*i*P	**PKPab**	**15 47 58.2**	**-0.5**
VOIR		**147.07**	**336**	⇓*i*P	**PKPab**	**15 47 59.2**	**+0.1**
VOIR		**147.07**	**336**	⇓PKP2	**PKPab**	**15 47 59.2**	**+0.1**
ARR	**Arges**	**147.29**	**337**	⇑*i*P	**PKPab**	**15 47 59.9**	**0.0**
BR231	**Keskin MP Arra**	**147.37**	**321**	*e*PKPdf	**PKPbc**	**15 47 58.6**	**-0.1**
BTMR	**Bucharest-Geot**	**147.47**	**334**	⇑*i*P	**PKPdf**	**15 47 53.6**	**-2.4**
CONA	**Conrad Observa**	**147.47**	**349**	*i* PKPab	**PKPab**	**15 47 59.9**	**-0.7**
	comp=Z,3.4nm,0.6s						
LOT	**Lotru**	**147.54**	**338**	⇑*i*P	**PKPdf**	**15 47 52.9**	**-3.4**
MOA	**Molln**	**147.83**	**351**	*i* pPKPdf	**PKPab**	**15 48 00.3**	**-1.6**
	comp=Z,1.2nm,0.5s						
BFO	**Black Forest**	**147.91**	**358**	*e*PKP2	**PKPab**	**15 48 01.5**	**-0.7**
BFO	**Black Forest**	**147.91**	**358**	*e*PKPbc	**PKPab**	**15 48 01.5**	**-0.7**
BZS	**Buzias**	**148.14**	**340**	⇓*i*P	**PKPab**	**15 48 01.5**	**-1.7**
BZS	**Buzias**	**148.14**	**340**	⇓PKP2	**PKPab**	**15 48 01.5**	**-1.7**
ARSA	**Arzberg**	**148.19**	**349**	*i* PKPbc	**PKPbc**	**15 47 59.3**	**-1.2**
	comp=Z,1.3nm,0.9s						
RETA	**Reutte**	**148.61**	**355**	*i* sPKPbc	**PKPab**	**15 48 06.3**	**+1.2**
	comp=Z,6.5nm,1.2s						
KBA	**Koelnbreinsper**	**148.72**	**351**	*i* sPKPdf	**PKPbc**	**15 48 03.0**	**+0.9**
	comp=Z,1.5nm,0.5s						
MOTA	**Moosalm**	**148.72**	**354**	*i* PKPab	**PKPab**	**15 48 05.6**	**-0.1**
WTTA	**Wattenberg**	**148.75**	**354**	*i* PKiKP	**PKiKP**	**15 48 03.5**	**-0.1**
	comp=Z,3.0nm,0.5s						
SOKA	**Soboth**	**148.83**	**349**	*i* sPKPdf	**PKPbc**	**15 48 03.3**	**+1.0**
	comp=Z,3.2nm,0.9s						
MDVR	**Moldovita**	**148.85**	**339**	⇓*i*P	**PKPab**	**15 48 05.2**	**-1.0**
DAVA	**Damuels**	**148.87**	**356**	*i* pPKPbc	**PKPab**	**15 48 05.0**	**-1.3**
	comp=Z,8.2nm,1.2s						
FETA	**Feichten**	**149.07**	**355**	*i* pPKPbc	**PKPab**	**15 48 05.6**	**-1.5**
	comp=Z,15nm,1.7s						
ABTA	**Abfaltersbach**	**149.15**	**352**	*i* sPKPdf	**PKPbc**	**15 48 03.3**	**+0.2**
	comp=Z,10nm,0.8s						
MPEP	**Malo Peshtene**	**149.33**	**335**	*e*PKP	**PKPdf**	**15 48 00.1**	**+1.0**
FUORN	**Ofenpass-Fuorn**	**149.51**	**355**	*e*PKPbc	**PKPbc**	**15 48 05.2**	**+1.0**
TUE	**Stuetta**	**149.72**	**357**	*e*PKPbc	**PKPab**	**15 48 06.7**	**-3.1**
SENIN	**Lac Senin/Sane**	**149.90**	**359**	*e*PKPbc	**PKPbc**	**15 48 06.8**	**+1.7**
KDZ	**Kurdzhali**	**150.00**	**332**	*e*P	**PKPbc**	**15 48 05.7**	**+0.5**
RZN	**Rozhen**	**150.28**	**332**	*e*P	**PKPbc**	**15 48 06.5**	**+0.4**
MMB	**Musomiste**	**150.79**	**334**	*e*P	**PKPbc**	**15 48 07.7**	**+0.6**
KKB	**Krupnik**	**150.84**	**335**	*e*P	**PKPbc**	**15 48 07.2**	**0.0**
TOA1	**Torodi Ar. Sit**	**174.16**	**120**	*e*PKPab	**PKPab**	**15 49 57.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**174.16**	**120**	PKPab	**PKPab**	**15 49 57.1**	**+0.4**
	comp=Z,1.3nm,1.0s,baz=264,slow=6.0,SNR=4.1						

PRU ***02*** *15:31:25.4,50°.14N×19°.15E,h0km*
CSEM 02 15:31:24.7±0.3,50°.14N×19°.12E,h1km,Error ellipse: s-maj=7.5km s-min=5.0km az=3.0,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.44**	**79**	*e*Pg	Pg	15 31 33.3	+0.1
OJC				*e*Sg	Sg	15 31 39.2	+0.3
OJC	**Ojcow**	**0.44**	**79**	*e*Pg	Pg	15 31 33.3	+0.1
OJC				*e*Sg	Sg	15 31 39.2	+0.3
OKC	**Ostrava-Krasne**	**0.70**	**245**	*e*SG	Sb	15 31 48.5	-1.2
LANS	**Liptovska Anna**	**1.01**	**167**	*e*Pg	Pg	15 31 44.3	+0.2
LANS				*e*Sg	Sg	15 31 58.0	+0.8
LANS	**Liptovska Anna**	**1.01**	**167**	*e*PG	Pg	15 31 44.2	+0.1
LANS				*e*SG	Sg	15 31 58.0	+0.8
MORC	**Moravsky Berou**	**1.08**	**251**	*e*Pg	Pb	15 31 46.5	+0.3
VYHS	**Vyhne**	**1.65**	**187**	*e*Pn	Pn	15 31 54.4	-0.5
VYHS				*e*Sn	Sn	15 32 15.4	-1.4
VYHS	**Vyhne**	**1.65**	**187**	*e*PN	Pn	15 31 54.3	-0.6
VYHS				*e*SN	Sn	15 32 15.4	-1.4
VYHS				*e*LG	Lg	15 32 17.9	
DPC	**Dobruska-Polom**	**1.81**	**278**	*e*PG	Pb	15 31 58.9	+0.3
DPC				*e*SG	Sg	15 32 22.8	0.0
	2.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.81**	**278**	Pg	Pb	15 31 58.9	+0.3
DPC				Sg	Sg	15 32 22.8	0.0
	2.3nm,0.3s						

NIED ***02*** *15:33:00,38°.90N×142°.40E,h32km,Mw3.5 Best double couple: M0 2.03000×10^14 NP1:φs57.00000°,δ15.00000°, λ-50.00000°. NP2:φs197.00000°,δ79.00000°, λ-99.00000°.*
IDC ***02*** *15:33:46.9±2.7,39°.24N×142°.94E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/35,mbtmp3.4/4,ML3.1/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/35,Error ellipse: s-maj=68.3km s-min=35.4km az=60.0*
ISCJB ***02*** *15:33:52.9±1.3,38°.85N±0°.04×142°.51E±0°.08,h23km±7km, mb3.5/3,Error ellipse: s-maj=10.1km s-min=6.6km az=14.2*
JMA ***02*** *15:33:54.7±0.1,38°.90N×142°.42E,h35km±2km,M3.5*
ISC 02 15:33:53.6±2.3,38°.87N±0°.05×142°.49E±0°.10,h26km±13km, n16,σ1ş50/26,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.67**	**288**	P	**Pb**	**15 34 07.0**	**+0.3**
OFUJ				S	**Sb**	**15 34 15.7**	**0.0**
MIYJ	**Miyakonagasawa**	**0.87**	**324**	P	**Pn**	**15 34 09.7**	**-0.5**
MIYJ				S	**Sb**	**15 34 20.3**	**-1.2**
JIO	**Ouri**	**0.98**	**245**	P	**Pn**	**15 34 11.2**	**-0.5**
JIO				S	**Sb**	**15 34 22.8**	**-1.8**
JMK	**Ichinoseki**	**0.99**	**275**	P	**Pn**	**15 34 11.8**	**0.0**
JMK				S	**Sn**	**15 34 23.8**	**-1.2**
JOM	**Ohasama**	**1.11**	**303**	P	**Pn**	**15 34 13.6**	**+0.2**
JOM				S	**Sn**	**15 34 26.9**	**-0.9**
JTH	**Tanohata**	**1.17**	**336**	P	**Pn**	**15 34 14.2**	**-0.1**
JOU	**Okura**	**1.52**	**251**	P	**Pn**	**15 34 20.2**	**+1.1**
JOU				*e*S	**Sn**	**15 34 38.3**	**+0.4**
JRG	**Rokugo**	**1.53**	**291**	P	**Pn**	**15 34 20.2**	**+0.9**
JRG				*e*S	**Sn**	**15 34 38.5**	**+0.1**
JYK	**Kaneyama**	**1.66**	**272**	P	**Pn**	**15 34 22.2**	**+1.2**
JYK				*e*S	**Sn**	**15 34 42.2**	**+0.7**
JMM	**Marumori**	**1.67**	**233**	P	**Pn**	**15 34 21.5**	**+0.4**
JMM				*e*S	**Sn**	**15 34 41.5**	**-0.2**
JANG	**Nango**	**1.68**	**334**	P	**Pn**	**15 34 22.1**	**+0.8**
JANG				*e*S	**Sn**	**15 34 43.4**	**+1.5**
MJAR	**Matsushiro Ar**	**4.11**	**237**	Pn	**Pn**	**15 34 57.8**	**+3.0**
	0.8nm,0.3s,baz=37,slow=12,SNR=14						
USRK	**Ussuriysk Ar.**	**9.50**	**307**	Pn	**Pn**	**15 36 13.3**	**+4.7**
	0.1nm,0.3s,baz=128,slow=12,SNR=5.6						
USRK				LR	LR	15 39 43.4	
	comp=Z,77nm,19.0s,baz=157,slow=37						
MKAR	**Makanchi Array**	**43.89**	**301**	P	**P**	**15 41 55.8**	**-2.0**
	0.4nm,0.8s,baz=88,slow=5.0,SNR=4.2						
WRA	**Warramunga Arr**	**59.00**	**189**	P	**P**	**15 43 50.9**	**-0.1**
	0.5nm,0.6s,baz=5.9,slow=6.9,SNR=6.3						
ASAR	**Alice Springs**	**62.73**	**189**	P	**P**	**15 44 16.7**	**+0.3**
	0.3nm,0.8s,baz=12,slow=9.6,SNR=4.3						

SJA ***02*** *15:43:26.7±0.6,24°.23S×67°.08W,h193km±7km,ML2.4, MW2.8*
ISCJB ***02*** *15:43:27.4±0.4,24°.22S±0°.04×67°.18W±0°.04,h178km, Error ellipse: s-maj=7.0km s-min=3.8km az=34.6*
GUC ***02*** *15:43:29.5±0.3,23°.96S×67°.65W,h232km±10km,ML4.0*
ISC 02 15:43:27.6±1.2,24°.21S±0°.05×67°.14W±0°.04,h178km,n17, σ1ş05/28,6C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.57**	**109**	*e*P	**Pn**	**15 44 00.9**	**+0.7**
SLA				IAML		15 44 02.7	
	comp=Z,65nm,0.6s						
SLA				*e*S	**Sn**	**15 44 25.8**	**+0.2**
AZAP	**Zapla**	**1.89**	**91**	⇓*e*P	**Pn**	**15 44 03.7**	**+0.1**
FSA	**Cafayete**	**2.17**	**151**	*e*P	**Pn**	**15 44 06.5**	**0.0**
FSA				IAML		15 44 07.6	
	comp=Z,7.2nm,0.3s						
LVC	**Limon Verde**	**2.28**	**314**	*e*P	**Pn**	**15 44 09.3**	**+1.3**
ASTB	**Santa Barbara**	**2.46**	**85**	*e*P	**Pn**	**15 44 09.9**	**-0.1**
YJA	**Yavi**	**2.51**	**37**	*e*P	**Pn**	**15 44 11.8**	**+1.0**
YJA				IAML		15 44 13.0	
	comp=Z,4.6nm,0.2s						
YJA				*e*S	**Sn**	**15 44 45.4**	**+1.1**
PB06	**IPOC Station P**	**2.69**	**303**	⇑*i*P	**Pn**	**15 44 13.8**	**+1.1**
PB06				*i* S	**Sn**	**15 44 47.4**	**-0.2**
PB06				IAML		15 44 49.5	
	comp=E,274nm,0.1s						
ALOL	**LOMAS DE OLMED**	**2.91**	**83**	*e*P	**Pn**	**15 44 15.0**	**-0.1**
AHML	**Horco Molle**	**3.04**	**148**	*e*P	**Pn**	**15 44 16.7**	**0.0**
AHML				*e*S	**Sn**	**15 44 53.5**	**-1.5**
ANCH	**Antofagasta**	**3.04**	**279**	⇓*i*P	**Pn**	**15 44 17.7**	**+1.1**
ANCH				*i* S	**Sn**	**15 44 54.0**	**-0.8**
PB09	**IPOC Station P**	**3.09**	**321**	⇑*i*P	**Pn**	**15 44 18.8**	**+1.3**
PB09				*i* S	**Sn**	**15 44 56.3**	**+0.1**
PB09				IAML		15 45 01.5	
	comp=E,311nm,0.3s						
PB10	**IPOC Station P**	**3.21**	**282**	⇑*i*P	**Pn**	**15 44 19.4**	**+0.7**
PB10				*i* S	**Sn**	**15 44 57.1**	**-1.4**
PB10				IAML		15 45 00.8	
	comp=N,481nm,0.4s						
PB04	**IPOC Station P**	**3.34**	**303**	*e*P	**Pn**	**15 44 21.1**	**+0.6**
PB04				*i* S	**Sn**	**15 45 00.2**	**-1.5**
PB04				IAML		15 45 06.4	
	comp=N,169nm,0.2s						
PB07	**IPOC Station P**	**3.54**	**314**	⇑*i*P	**Pn**	**15 44 23.4**	**+0.4**
PB07				*i* S	**Sn**	**15 45 04.6**	**-1.7**
PB07				IAML		15 45 09.2	
	comp=N,165nm,0.3s						
PB01	**IPOC Station P**	**3.83**	**325**	⇑*i*P	**Pn**	**15 44 26.4**	**-0.1**
PB01				*i* S	**Sn**	**15 45 10.8**	**-1.9**
PB01				IAML		15 45 14.9	
	comp=E,113nm,0.2s						
PB08	**IPOC Station P**	**4.46**	**335**	⇑*i*P	**Pn**	**15 44 35.4**	**+0.5**
PB08				*i* S	**Sn**	**15 45 26.6**	**-1.0**
VCA	**Vinchina**	**4.61**	**192**	*e*P	**Pn**	**15 44 38.4**	**+1.8**
VCA				IAML		15 44 38.8	
	comp=Z,6.5nm,0.3s						

JMA 02 15:59:10.7±0.1,38°.26N×142°.11E,h41km±1km,M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.63**	**288**	P	Pn	15 59 23.3	+0.1
JIO				*i* S	Sn	15 59 31.9	-0.2
OFUJ	**Ofunato**	**0.89**	**337**	P	Pn	15 59 26.7	-0.1
OFUJ				S	Sn	15 59 38.1	-0.4
JMK	**Ichinoseki**	**0.98**	**315**	P	Pn	15 59 28.5	+0.5
JMK				S	Sn	15 59 41.0	+0.3
JMM	**Marumori**	**1.11**	**250**	P	Pn	15 59 29.5	-0.3
JOU	**Okura**	**1.14**	**276**	P	Pn	15 59 30.8	+0.6
JFK	**Kawauchi**	**1.32**	**228**	P	Pn	15 59 32.1	-0.6
JOM	**Ohasama**	**1.37**	**332**	P	Pn	15 59 34.2	+0.9
JYK	**Kaneyama**	**1.52**	**296**	P	Pn	15 59 36.3	+0.9
JFT	**Otama**	**1.59**	**243**	P	Pn	15 59 37.1	+0.8
JYS	**Shirataka**	**1.61**	**269**	P	Pn	15 59 37.4	+0.8
JRG	**Rokugo**	**1.62**	**315**	P	Pn	15 59 38.4	+1.7

NIED ***02*** *16:14:00,38°.40N×141°.80E,h53km,Mw3.7 Best double couple: M0 4.62000×10^14 NP1:φs278.00000°,δ59.00000°, λ177.00000°. NP2:φs9.00000°,δ87.00000°,λ31.00000°.*
ISCJB ***02*** *16:14:56.5±1.0,38°.42N±0°.04×141°.86E±0°.10,h61km±7km, mb3.5/3,Error ellipse: s-maj=13.7km s-min=5.9km az=19.7.*
JMA ***02*** *16:14:57.6±0.1,38°.43N×141°.82E,h57km±1km,M3.8*
JMA Felt II J1.
IDC ***02*** *16:15:01.3±1.8,39°.18N×140°.37E,h0km,mb3.6/3, mb1 3.5/5,mb1mx3.3/44,mbtmp3.5/5,ML2.7/1,Error ellipse: s-maj=48.0km s-min=25.3km az=89.0*
ISC 02 16:14:57.0±1.6,38°.41N±0°.05×141°.9E±0°.1,h53km±11km, n16,σ0ş47/25,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.43**	**276**	P	**Pn**	**16 15 08.0**	**+0.3**
JIO				*e*S	**Sn**	**16 15 15.2**	**-0.2**
OFUJ	**Ofunato**	**0.69**	**345**	P	**Pn**	**16 15 11.1**	**+0.3**
OFUJ				*e*S	**Sn**	**16 15 20.8**	**0.0**
JMK	**Ichinoseki**	**0.75**	**316**	P	**Pn**	**16 15 12.0**	**+0.4**
JMK				*e*S	**Sn**	**16 15 22.0**	**-0.2**
JOU	**Okura**	**0.97**	**268**	P	**Pn**	**16 15 14.4**	**0.0**
JOU				*e*S	**Sn**	**16 15 26.9**	**-0.4**
JMM	**Marumori**	**1.03**	**238**	P	**Pn**	**16 15 15.1**	**-0.1**
JMM				*e*S	**Sn**	**16 15 27.7**	**-0.9**
JOM	**Ohasama**	**1.16**	**336**	P	**Pn**	**16 15 17.4**	**+0.5**
JOM				*e*S	**Sn**	**16 15 32.1**	**+0.3**
JYK	**Kaneyama**	**1.30**	**293**	P	**Pn**	**16 15 19.1**	**+0.2**
JYK				*e*S	**Sn**	**16 15 34.9**	**-0.4**
JFK	**Kawauchi**	**1.32**	**218**	P	**Pn**	**16 15 19.4**	**+0.2**
JFK				*e*S	**Sn**	**16 15 35.4**	**-0.4**
JRG	**Rokugo**	**1.39**	**315**	P	**Pn**	**16 15 20.3**	**+0.2**
JYS	**Shirataka**	**1.45**	**263**	P	**Pn**	**16 15 21.2**	**+0.3**
JYS				*e*S	**Sn**	**16 15 39.0**	**+0.1**
JFT	**Otama**	**1.52**	**235**	P	**Pn**	**16 15 22.5**	**+0.6**
JFT				*e*S	**Sn**	**16 15 40.4**	**-0.2**
MJAR	**Matsushiro Ar**	**3.48**	**239**	Pn	**Pn**	**16 15 50.0**	**+1.3**
	0.8nm,0.3s,baz=34,slow=13,SNR=8.9						
ASAJ	**Asahikawa**	**5.72**	**5**	Pn	**Pn**	**16 16 19.1**	**-0.2**
ZALV	**Zalesovo Beam**	**41.28**	**311**	P	**P**	**16 22 36.5**	**-0.3**
	1.0nm,0.4s,baz=85,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**43.72**	**301**	P	**P**	**16 22 56.8**	**0.0**
	0.3nm,0.5s,baz=93,slow=8.7,SNR=4.2						
WRA	**Warramunga Arr**	**58.48**	**188**	P	P	16 25 04.1	+16
	0.4nm,0.8s,baz=5.7,slow=7.3,SNR=5.5						

IDC 02 16:26:32.2±1.3,13°.19N×145°.53E,h0km,mb3.3/4, mb1 3.6/4,mb1mx3.3/47,mbtmp3.3/4,Error ellipse: s-maj=29.9km s-min=17.7km az=54.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.75**	**302**	LR	LR	16 26 49.9	
	comp=Z,49nm,21.7s,baz=115,slow=24						
GUMO				Pn	Pn	16 26 50.6	+0.5
	196nm,0.3s,baz=161,slow=12,SNR=174						
GUMO				Sn	Sn	16 27 01.4	-0.8
	640nm,0.3s,baz=342,slow=18,SNR=25						
WRA	**Warramunga Arr**	**34.72**	**199**	P	P	16 33 22.6	-1.5
	0.5nm,0.7s,baz

TPIG *i* S **Sn** 16 31 28.1 +1.3
ZAIG Zacatecas 4.25 346 *e*P **Pn** 16 30 48.3 +1.7
ZAIG *i* S **Sn** 16 31 39.8 +4.5
ZAIG Zacatecas 4.25 346 *e*Pn **Pn** 16 30 48.3 +1.7
VHO Vista Hermosa 4.78 108 *e*P **Pn** 16 30 55.8 +2.1
VHO *i* S **Sn** 16 31 49.1 +1.2
VHO Vista Hermosa 4.78 108 *e*Pn **Pn** 16 30 55.8 +2.1
VHO *e*Sn **Sn** 16 31 49.1 +1.2
CMIG Matias Romero 6.46 103 P **Pn** 16 31 18.6 +1.9
035Z Hargill 8.42 21 P **Pn** 16 31 46.9 +3.5
baz=202
034A Hebbronville 8.80 17 P **Pn** 16 31 51.8 +3.2
baz=197,SNR=13
035A Encino 8.85 20 P **Pn** 16 31 51.9 +2.7
baz=200
HPIG 9.13 336 *e*Pn **Pn** 16 31 56.3 +2.9
933A Laredo 9.18 12 P **Pn** 16 31 56.6 +2.7
baz=192,SNR=11
934A Benavides 9.35 16 P **Pn** 16 31 58.5 +2.4
baz=197
SLBS Sierra La Lagu 9.37 304 *e*Pn **Pn** 16 32 00.7 +4.2
936A North Padre Is 9.57 23 P **Pn** 16 32 00.6 +1.6
baz=204
832A Faith Ranch, C 9.72 8 P **Pn** 16 32 04.5 +3.3
baz=188,SNR=18
834A Tilden 9.84 15 P **Pn** 16 32 05.8 +3.0
baz=196
833A Chaparral WMA, 9.85 11 P **Pn** 16 32 06.0 +3.0
baz=191,SNR=7.9
LPIG La Paz 9.87 305 LR LR 16 35 41.6
comp=Z,2µm,20.8s,baz=114,slow=36
835A Beeville 10.19 19 P **Pn** 16 32 11.2 +3.6
baz=199,SNR=6.0
733A Divot King Ran 10.26 11 P **Pn** 16 32 11.6 +3.1
baz=191
734A La Parita Cree 10.53 14 P **Pn** 16 32 16.0 +3.7
baz=195,SNR=8.2
735A Kenedy 10.73 18 P **Pn** 16 32 18.1 +3.2
baz=198
LTX Lajitas 10.86 350 *e*P **Pn** 16 32 21.0 +4.2
LTX Lajitas 10.86 350 *e*Pn **Pn** 16 32 21.0 +4.2
TX31 Lajitas Ar. Si 10.86 350 *e*Pn **Pn** 16 32 20.3 +3.5
TXAR Lajitas Array 10.86 350 P **Pn** 16 32 21.0 +4.3
1.5nm,0.3s,baz=178,slow=14,SNR=62
TXAR LR LR 16 37 03.4
comp=Z,3µm,19.9s,baz=0.0,slow=41
633A Saathoff Ranch 11.00 11 P **Pn** 16 32 21.8 +3.2
baz=191,SNR=14
736A Circle Diamond 11.06 21 P **Pn** 16 32 22.4 +3.0
baz=202
634A China Grove, S 11.09 14 P **Pn** 16 32 22.6 +2.7
baz=195
737A Port Lavaca 11.11 24 P **Pn** 16 32 22.9 +2.8
baz=205
635A Leesville 11.24 17 P **Pn** 16 32 24.0 +2.0
baz=198
738A Farr-Stevens R 11.49 27 P **Pn** 16 32 27.7 +2.4
baz=208
636A Smothers Creek 11.55 20 P **Pn** 16 32 28.6 +2.5
baz=201,SNR=14
533A Kerrville 11.62 11 P **Pn** 16 32 29.5 +2.4
baz=191,SNR=20
534A Blanco 11.69 13 P **Pn** 16 32 30.2 +2.2
baz=194,SNR=39
637A Eagle Lake 11.76 23 P **Pn** 16 32 30.7 +1.8
baz=204
535A Dale 11.91 17 P **Pn** 16 32 33.3 +2.3
baz=198,SNR=6.6
JCT Junction City 11.91 7 P **Pn** 16 32 33.8 +2.6
baz=187,SNR=26
JCT Junction City 11.91 7 *e*P **Pn** 16 32 33.6 +2.5
JCT Junction City 11.91 7 *e*Pn **Pn** 16 32 33.6 +2.5
638A Rosharon 12.08 26 P **Pn** 16 32 35.0 +1.6
baz=208
536A Bastrop 12.10 19 P **Pn** 16 32 35.4 +1.8
baz=200
433A Art 12.28 10 P **Pn** 16 32 38.5 +2.4
baz=190,SNR=45
537A Green Hill Far 12.34 21 P **Pn** 16 32 38.8 +1.9
baz=203
434A Burnet 12.49 13 P **Pn** 16 32 40.6 +1.6
baz=194,SNR=13
TEIG Tepich 12.56 81 *e*Pn **Pn** 16 32 40.5 +0.5
435B Jarrell 12.62 16 P **Pn** 16 32 42.2 +1.5
baz=196
538A Harpers Horsep 12.78 24 P **Pn** 16 32 43.8 +1.0
baz=206
436A Wall Ranch, Ga 12.83 18 P **Pn** 16 32 45.2 +1.6
baz=200,SNR=14
333A Richland Sprin 12.86 10 P **Pn** 16 32 45.7 +1.7
baz=190
539A Cross D Ranch, 12.99 27 P **Pn** 16 32 46.6 +0.8
baz=209
334A Lometa 13.00 12 P **Pn** 16 32 47.2 +1.3
baz=193,SNR=29
437A Phantom Ranch, 13.09 21 P **Pn** 16 32 48.1 +1.0
baz=202,SNR=5.1
335A Moody 13.13 15 P **Pn** 16 32 48.8 +1.1
baz=196,SNR=6.3
SRIG Santa Rosalia 13.15 313 *e*Pn **P** 16 32 54.7 -1.2
438A Sam Houston St 13.25 23 P **Pn** 16 32 50.5 +1.1
baz=205,SNR=5.6
336A Riesel 13.39 17 P **Pn** 16 32 52.0 +0.8
baz=199,SNR=7.2
540A Vidor 13.41 29 P **Pn** 16 32 52.5 +1.1
baz=212
MNTX Cornudas Mount 13.49 346 P **Pn** 16 32 55.3 +2.6
baz=163,SNR=57
MNTX Cornudas Mount 13.49 346 *e*Pn **Pn** 16 32 54.9 +2.2
233A Rising Star 13.55 9 P **Pn** 16 32 54.7 +1.4
baz=190,SNR=27
439A Center Grove, 13.57 25 P **Pn** 16 32 54.4 +0.9
baz=208,SNR=8.1
541A Lake Charles 13.67 32 P **Pn** 16 32 54.3 -0.6
baz=215
234A Clairette 13.67 12 P **Pn** 16 32 56.6 +1.6
baz=193,SNR=29
CLNB Carlsbad 13.76 351 *e*Pn **Pn** 16 32 57.7 +1.5
CLNB *e*Sn **Sn** 16 35 19.0 -8.5
WHTX Lake Whitney, 13.80 14 *e*Pn **Pn** 16 32 55.9 -0.9
338A Crockett 13.86 23 P **Pn** 16 32 58.1 +0.7
baz=205,SNR=12
440A Kirbyville 13.87 28 P **Pn** 16 32 57.8 +0.2
baz=211
ABTX Abilene, Hawle 14.05 6 P **Pn** 16 33 01.4 +1.4
baz=187,SNR=16
ABTX Abilene, Hawle 14.05 6 *e*Pn **Pn** 16 33 00.7 +0.7
236A Katherine and 14.06 18 P **Pn** 16 33 00.5 +0.4
baz=199
133A Hamilton Ranch 14.12 9 P **Pn** 16 33 01.8 +0.8
baz=189,SNR=8.3
339A Huntington 14.13 25 P **Pn** 16 33 01.7 +0.7
baz=207,SNR=12
441A DeRidder 14.23 30 P **Pn** 16 33 02.5 +0.2
baz=213
134A White-Moore Ra 14.23 12 P **Pn** 16 33 03.0 +0.6
baz=193,SNR=17
237A Washetta, Mont 14.28 20 P **Pn** 16 33 03.4 +0.4
baz=202,SNR=5.1
135A Vickery Place, 14.36 14 P **Pn** 16 33 04.7 +0.6
baz=195
TGUH Tegucigalpa,Un 14.37 106 *e*Pn **Pn** 16 33 05.7 +1.4
543A St. Martinvill 14.39 36 P **Pn** 16 33 05.1 +0.6
baz=219
NATX Nacogdoches 14.46 24 P **Pn** 16 33 06.0 +0.6
baz=206
NATX Nacogdoches 14.46 24 *e*Pn **Pn** 16 33 05.2 -0.2
340A Bronson 14.48 27 P **Pn** 16 33 05.0 -0.5
baz=210,SNR=10.0
136A Ennis 14.50 17 P **Pn** 16 33 06.4 +0.5
baz=198
238A Jacksonville 14.51 22 P **Pn** 16 33 06.6 +0.6
baz=204,SNR=8.7
319A Douglas 14.53 332 *e*Pn **P** 16 33 08.9 -2.4
442A Mamou 14.57 33 P **Pn** 16 33 07.0 +0.2
baz=216
645A Chauvin 14.66 41 P **Pn** 16 33 08.0 0.0
baz=225
341A Kurthwood 14.73 29 P **Pn** 16 33 08.4 -0.5
baz=212,SNR=7.0
239A Gary 14.77 24 P **Pn** 16 33 09.1 -0.2
baz=206,SNR=5.5
544A White Castle 14.80 37 P **Pn** 16 33 09.9 +0.1
baz=221
Z33A Whitaker Ranch 14.81 9 P **Pn** 16 33 10.4 +0.4
baz=190,SNR=10
137A Heron Place, G 14.85 19 P **Pn** 16 33 10.8 +0.5
baz=201,SNR=7.1
443A Delano Plantat 14.96 34 P **Pn** 16 33 11.7 -0.1
baz=218
121A Cookes Peak, D 14.97 339 P **P** 16 33 14.5 -1.8
baz=156,SNR=52
Z34A Collier Ranch, 15.04 12 P **Pn** 16 33 13.3 +0.5
baz=193
240A Hunter Catters 15.07 26 P **Pn** 16 33 13.4 +0.2
baz=209
138A Matatall Enter 15.12 21 P **Pn** 16 33 14.4 +0.5
baz=203
Z35A Perchaven, San 15.14 14 P **Pn** 16 33 14.3 +0.1
baz=195
545A Edgard 15.15 39 P **Pn** 16 33 14.5 +0.3
baz=223
342A Flagon Creek P 15.16 31 P **Pn** 16 33 14.5 +0.1
baz=215,SNR=7.9
Z36A Blue Ridge 15.28 16 P **Pn** 16 33 16.3 +0.4
baz=198
MSTX Muleshoe 15.34 356 P **Pn** 16 33 17.4 +0.6
baz=175,SNR=30
MSTX Muleshoe 15.34 356 *e*Pn **Pn** 16 33 17.1 +0.3
638nm,1.8s
241A Mo Tay, Goldon 15.42 28 P **Pn** 16 33 17.3 -0.5
baz=212
Z37A Pogue Cattle C 15.44 19 P **Pn** 16 33 18.0 -0.1
baz=201
343A Vidalia 15.45 33 P **Pn** 16 33 18.3 +0.2
baz=217
444A Pine Grove 15.49 37 P **Pn** 16 33 18.3 -0.3
baz=221
Y33A Hilltop Ranch, 15.54 9 P **Pn** 16 33 19.5 +0.2
baz=190,SNR=9.1
Y34A Reagan Ranch, 15.64 12 P **Pn** 16 33 20.5 -0.1
baz=193
140A Cam and Jess, 15.67 25 P **Pn** 16 33 20.7 -0.2
baz=208
Z38A Mt. Pleasant 15.70 21 P **Pn** 16 33 21.5 +0.3
baz=203,SNR=5.6
445A Amite 15.74 38 P **Pn** 16 33 22.1 +0.4
baz=222,SNR=5.9
Y35A Marietta 15.74 14 P **Pn** 16 33 22.1 +0.3
baz=195,SNR=9.6
546A Slidell 15.75 41 P **Pn** 16 33 21.1 -0.9
baz=225
242A Grayson 15.81 30 P **Pn** 16 33 22.0 -0.7
baz=214
X32A Elmer 15.86 7 P **Pn** 16 33 23.9 +0.5
baz=187,SNR=15
Y36A Durant 15.91 16 P **Pn** 16 33 24.0 0.0
baz=198
141A Papa Simpson, 15.92 27 P **Pn** 16 33 23.7 -0.5
baz=210
Z39A Irene McRaven, 15.97 23 P **Pn** 16 33 24.6 0.0
baz=206
243A Waterproof 15.99 32 P **Pn** 16 33 24.5 -0.5
baz=216
TUC Tucson 16.00 330 P **P** 16 33 27.6 0.0
baz=146
TUC Tucson 16.00 330 *e*P **P** 16 33 26.7 -0.9
TUC pmax pmax
comp=Z,54nm,1.3s
TUC Tucson 16.00 330 *e*Pn **P** 16 33 26.6 -0.9
comp=Z,54nm,1.3s
344A Westbrook Farm 16.06 35 P **Pn** 16 33 26.0 +0.2
baz=219
X33A Lawton 16.08 9 P **Pn** 16 33 25.8 -0.3
baz=190
BNM Barren Site 16.14 344 *e*Pn **P** 16 33 29.7 +0.4
Y22D IRIS PASSCAL I 16.14 344 P **P** 16 33 30.7 +1.5
baz=161
Y22D IRIS PASSCAL I 16.14 344 *e*Pn **P** 16 33 30.3 +1.0
comp=Z,415nm,1.5s
Y37A Hugo 16.17 18 P **Pn** 16 33 26.8 -0.5
baz=200,SNR=8.7
AMTX Amarillo 16.20 359 P **Pn** 16 33 28.9 +1.1
baz=179
AMTX Amarillo 16.20 359 *e*Pn **Pn** 16 33 28.7 +0.9
comp=Z,395nm,1.4s
X35A Drake 16.23 13 P **Pn** 16 33 27.9 -0.1
baz=195,SNR=16
WMOK Wichita Mounta 16.24 8 P **Pn** 16 33 27.8 -0.3
baz=189
WMOK Wichita Mounta 16.24 8 *e*P **Pn** 16 33 27.5 -0.6
WMOK pmax pmax
comp=Z,81nm,1.0s
WMOK Wichita Mounta 16.24 8 *e*Pn **Pn** 16 33 27.5 -0.6
comp=Z,81nm,1.0s
X34A Smith Ranch, M 16.25 11 P **Pn** 16 33 28.8 +0.6
baz=192,SNR=19
Z40A Long Farm, Mag 16.28 25 P **Pn** 16 33 28.5 -0.1
baz=208
LPM Los Pinos Moun 16.29 345 *e*Pn **P** 16 33 31.0 +0.1
142A Monroe 16.31 30 P **Pn** 16 33 28.6 -0.4
baz=214
345A Thompson Farm, 16.34 37 P **Pn** 16 33 29.2 -0.2
baz=222
446A Poplarville 16.36 40 P **Pn** 16 33 29.5 -0.1
baz=225,SNR=6.2
Y38A Idabel 16.40 20 P **Pn** 16 33 28.5 -1.6
baz=203
LAZ Ladron 16.51 343 *e*Pn **P** 16 33 34.7 +1.4
Z41A Richland Creek 16.53 26 P **Pn** 16 33 31.6 -0.1
baz=210,SNR=6.5
X36A Centrahoma 16.54 15 P **Pn** 16 33 31.5 -0.3
baz=197,SNR=8.0
244A Avery, Jackson 16.54 34 P **Pn** 16 33 31.7 -0.2
baz=218,SNR=7.5
W32A Sentinel 16.56 6 P **Pn** 16 33 32.6 +0.5
baz=187,SNR=20
Y39A Lockesburg 16.63 22 P **Pn** 16 33 32.3 -0.7
baz=205
W33A Caddo, Fort Co 16.69 9 P **Pn** 16 33 34.0 +0.3
baz=190,SNR=7.1
143A Socs Landing, 16.70 31 P **Pn** 16 33 33.8 0.0
baz=215,SNR=8.8
346A Big Creek Wild 16.73 38 P **Pn** 16 33 33.9 -0.3
baz=223
214A Organ Pipe Nat 16.76 325 P **P** 16 33 37.4 +1.5
baz=159,SNR=9.7
VBMS Vicksburg 16.76 34 P **Pn** 16 33 34.8 +0.2
baz=218
VBMS Vicksburg 16.76 34 *e*Pn **Pn** 16 33 34.5 -0.1
comp=Z,122nm,0.8s
WLAR White Oak Lake 16.77 25 *e*Pn **Pn** 16 33 34.1 -0.6
comp=Z,307nm,1.3s
447A Lucedale 16.80 41 P **Pn** 16 33 35.4 +0.3
baz=226
X37A Clayton 16.82 18 P **Pn** 16 33 35.5 +0.3
baz=200,SNR=14
ANMO Albuquerque 16.86 346 P **P** 16 33 39.1 +2.0
comp=Z,0.4nm,0.3s,baz=160,slow=14,SNR=26
ANMO Albuquerque 16.86 346 *ce*P **P** 16 33 38.9 +1.7
baz=163
ANMO Albuquerque 16.86 346 *ce*P **P** 16 33 39.5 +2.3
ANMO pmax pmax
comp=Z,35nm,1.2s
ANMO Albuquerque 16.86 346 *e*Pn **P** 16 33 38.7 +1.5
comp=Z,190nm,1.6s
W34A Bridge Creek, 16.88 11 P **Pn** 16 33 36.3 +0.2
baz=192
W34A Bridge Creek, 16.88 11 *e*Pn **Pn** 16 33 36.0 -0.1
comp=Z,405nm,1.5s
Z42A Norrel Spur, H 16.91 28 P **Pn** 16 33 36.5 0.0
baz=212,SNR=5.4
245A Little AP, Sta 16.96 36 P **Pn** 16 33 36.9 -0.2
baz=220
W35A Tecumseh 16.97 13 P **Pn** 16 33 36.9 -0.4
baz=205,SNR=17
Y40A Okolona 16.99 24 P **Pn** 16 33 36.6 -0.9
baz=207
X38A Whitesboro 17.05 19 P **Pn** 16 33 38.3 +0.1
baz=202,SNR=33
W36A Wetumka 17.11 15 P **Pn** 16 33 38.6 -0.3
baz=197,SNR=7.6
144A Alexander Plac 17.14 33 P **Pn** 16 33 38.9 -0.3
baz=218
X39A Fountain Ranch 17.14 21 P **P** 16 33 40.2 +0.1
baz=204,SNR=25
Y41A Eaglette Beard 17.14 26 P **Pn** 16 33 39.0 -0.4
baz=209
V32A Arapaho 17.18 7 P **P** 16 33 40.5 0.0
baz=187,SNR=8.8
Z43A Armstrong Fami 17.19 30 P **Pn** 16 33 39.7 -0.2
baz=214
347A Saraland 17.29 40 P **Pn** 16 33 40.5 -0.7
baz=225
W37B Quinton 17.31 17 P **Pn** 16 33 41.1 -0.3
baz=199,SNR=8.6
MIAR Mount Ida 17.36 22 P **Pn** 16 33 41.6 -0.4
baz=205,SNR=20
MIAR Mount Ida 17.36 22 *e*P **Pn** 16 33 41.0 -1.0
MIAR pmax pmax
comp=Z,217nm,1.5s
MIAR Mount Ida 17.36 22 *e*Pn **Pn** 16 33 41.0 -1.0
comp=Z,217nm,1.5s
V33A Lossen Ranch, 17.37 9 P **Pn** 16 33 41.7 -0.4
baz=190,SNR=7.8
145A Houston Renfro 17.38 34 P **Pn** 16 33 42.1 -0.1
baz=219
246A Jackson Lee, B 17.38 37 P **Pn** 16 33 42.0 -0.2
baz=222
448A Bay Minette 17.40 43 P **Pn** 16 33 42.2 -0.3
baz=228
Y42A Garnett, Star 17.46 28 P **Pn** 16 33 43.0 -0.2
baz=212
V34A Guthrie 17.51 11 P **Pn** 16 33 43.7 -0.1
baz=192,SNR=9.6
V34A Guthrie 17.51 11 *e*Pn **Pn** 16 33 43.7 -0.1
comp=Z,154nm,0.9s
W38A Poteau 17.52 19 P **Pn** 16 33 44.1 +0.2
baz=202,SNR=11
CCAR Cane Creek 17.54 28 *e*Pn **Pn** 16 33 42.4 -1.8
comp=Z,188nm,1.4s
X18A Snowflake 17.55 336 *e*Pn **P** 16 33 47.2 +2.4
comp=Z,211nm,1.5s
V35A Meyer Ranch, C 17.57 13 P **Pn** 16 33 44.0 -0.6
baz=194,SNR=10
X40A Basin Creek Fa 17.59 24 P **Pn** 16 33 44.0 -0.8
baz=208
Z44A Pea Ridge, Bel 17.64 32 P **Pn** 16 33 45.4 -0.1
baz=216
348A Jackson 17.69 41 P **Pn** 16 33 45.8 -0.3
baz=227
247A Quitman 17.71 38 P **Pn** 16 33 45.7 -0.6
baz=224
X41A Kaden, Bauxite 17.72 25 P **Pn** 16 33 45.7 -0.7
baz=209
V36A Jenks 17.79 15 P **P** 16 33 47.0 -0.3
baz=197,SNR=15
U32A Winter Ranch, 17.83 7 P **Pn** 16 33 47.9 +0.1
baz=187
W39A Magazine 17.87 21 P **P** 16 33 48.1 0.0
baz=204,SNR=48
146A Union 17.88 36 P **P** 16 33 47.9 -0.3
baz=221
113A Mohawk Valley, 17.90 324 *e*P **Pn** 16 33 50.7 +2.1
comp=Z,92nm,1.5s
Y43A Makayla and Ka 17.91 30 P **Pn** 16 33 49.2 +0.4
baz=214
TUL1 Leonard 17.95 15 P **P** 16 33 48.4 -0.6
baz=197,SNR=9.2
TUL1 Leonard 17.95 15 *e*P **P** 16 33 47.9 -1.1
comp=Z,129nm,1.0s
U33A Lingo Farm, Me 18.00 9 P **P** 16 33 49.1 -0.4
baz=190
W18A Petrified Fore 18.00 338 P **Pn** 16 33 52.0 +2.0
baz=153,SNR=8.7
W18A Petrified Fore 18.00 338 *e*P **Pn** 16 33 52.0 +2.0
comp=Z,77nm,1.3s
UALR University of 18.03 25 *e*P **P** 16 33 49.0 -0.9
comp=Z,117nm,1.4s
X16A Lo Mia Camp, P 18.07 333 *e*P **Pn** 16 33 52.5 +1.7
comp=Z,39nm,0.9s
U34A Anderson Ranch 18.09 10 P **P** 16 33 50.4 -0.2
baz=192,SNR=12
U34A Anderson Ranch 18.09 10 *e*P **P** 16 33 50.0 -0.6
comp=Z,127nm,0.8s
V37A Hulbert 18.09 17 P **P** 16 33 49.9 -0.6
baz=199,SNR=9.6
Z45A Winona 18.09 33 P **Pn** 16 33 50.9 -0.1
baz=218,SNR=6.0
W40A Ferguson Farm, 18.12 23 P **P** 16 33 51.1 +0.2
baz=206,SNR=7.4
U35A Pawnee 18.18 12 P **P** 16 33 51.3 -0.2
baz=194,SNR=9.2
248A Dixon Mills 18.26 40 P **P** 16 33 52.0 -0.5
baz=226,SNR=5.0
V38A Canehill 18.28 19 P **P** 16 33 52.2 -0.6
baz=201,SNR=30
Y44A Strider, Charl 18.30 31 P **P** 16 33 52.9 0.0
baz=216
147A Livingston 18.36 38 P **P** 16 33 53.8 +0.3
baz=223
Z46A Louisville 18.36 35 P **Pn** 16 33 54.0 -0.2
baz=220
Y14A Wickenburg 18.40 328 *e*P **Pn** 16 33 56.1 +1.3
comp=Z,162nm,1.1s
X301 Greenbrier Sit 18.41 24 *e*P **P** 16 33 53.9 -0.2
comp=Z,58nm,0.8s
W41B Gary Mavity, V 18.42 25 P **P** 16 33 53.5 -0.6
baz=208,SNR=24
U36A Oologah 18.42 15 P **P** 16 33 53.3 -0.8
baz=197
X43A Marvell 18.44 29 P **Pn** 16 33 55.3 +0.2
baz=213
X201 Greenbrier Sit 18.48 24 *e*P **P** 16 33 54.4 -0.4
comp=Z,78nm,0.9s
WHAR Wooly Hollow 18.50 24 *e*P **P** 16 33 55.0 -0.1
comp=Z,83nm,1.0s
V39A Pettigrew 18.50 20 P **P** 16 33 55.2 0.0
baz=204,SNR=72
Y45A Yeager Farm, C 18.56 33 P **Pn** 16 33 56.3 -0.2
baz=218,SNR=14
U37A Salina 18.59 16 P **P** 16 33 55.3 -0.8
baz=199,SNR=22
T33A Patterson Ranc 18.62 8 P **P** 16 33 56.4 +0.1
baz=189,SNR=18
T32A Huddler Ranch, 18.63 6 P **Pn** 16 33 57.5 0.0
baz=187,SNR=24
T25A Trinidad 18.63 353 P **Pn** 16 33 58.0 +0.3
baz=171,SNR=16
T25A Trinidad 18.63 353 *e*P **Pn** 16 33 58.6 +0.9
comp=Z,104nm,1.4s
GLA Glamis 18.70 323 P **Pn** 16 33 59.7 +1.3
baz=197
GLA Glamis 18.70 323 *e*P **Pn** 16 34 00.0 +1.6
GLA pmax pmax
comp=Z,39nm,1.1s
GLA Glamis 18.70 323 *e*P **Pn** 16 34 00.0 +1.6
comp=Z,39nm,1.1s
T34A McClaskey Farm 18.72 11 P **P** 16 33 56.6 -0.9
baz=192,SNR=15
T35A Sooner Cattle 18.75 12 P **P** 16 33 57.4 -0.4
baz=194,SNR=16
X44A Crenshaw 18.77 30 P **P** 16 33 57.9 0.0
baz=215,SNR=6.7
HHAR Hobbs 18.82 19 *e*P **P** 16 33 57.9 -0.6
comp=Z,121nm,1.4s
U38A Gravette 18.83 18 P **P** 16 33 57.7 -0.9
baz=201,SNR=15
Z47A Carrollton 18.85 37 P **P** 16 33 58.2 -0.7
baz=222
Y46A Houston 18.93 34 P **P** 16 33 59.8 0.0
baz=219,SNR=20
WUAZ Wupatki 18.98 334 P **Pn** 16 34 03.3 +1.5
baz=150,SNR=23
WUAZ Wupatki 18.98 334 *e*P **Pn** 16 34 02.7 +0.9
comp=Z,62nm,1.0s
V41A Mountainview 18.99 24 P **P** 16 34 00.4 -0.1
baz=208,SNR=97
T36A Boggs Farm, Ca 19.02 14 P **P** 16 33 59.8 -1.0
baz=196
Y12C Blythe 19.05 325 P **Pn** 16 34 03.4 +0.9
baz=139,SNR=8.1
Y12C Blythe 19.05 325 *e*P **Pn** 16 34 03.2 +0.7
comp=Z,103nm,1.6s
U39A Green Forest 19.05 20 P **P** 16 34 00.8 -0.3
baz=203,SNR=37
X45A UM Field Stati 19.07 32 P **P** 16 34 01.3 0.0
baz=217,SNR=5.8
OXF Oxford 19.14 32 *e*P **P** 16 34 01.1 -0.9
OXF pmax pmax
comp=Z,293nm,1.4s
OXF Oxford 19.14 32 *e*P **P** 16 34 01.1 -0.9
comp=Z,293nm,1.4s
S32A Newby Ranch, P 19.14 6 P **P** 16 34 01.6 -0.5
baz=187
S33A Kaszmaul Farm, 19.15 8 P **P** 16 34 01.3 -0.9
baz=190
IKP In-Ko-Pah, Jac 19.18 320 P **Pn** 16 34 06.0 +1.8
baz=133
SWSC Sam W. Stewart 19.20 321 P **Pn** 16 34 05.2 +1.0
baz=134
U40A Yellville 19.24 22 P **P** 16 34 03.0 -0.2
baz=205,SNR=57

PDMCI **Parker Dam,Lak** 19.27 327 P Pn 16 34 05.7 +0.6
baz=141,SNR=13
Z48A **Northport** 19.28 38 P P 16 34 02.7 -0.9
baz=223,SNR=7.7
V42A **Cord** 19.31 26 P P 16 34 03.7 -0.3
baz=210,SNR=52
T37A **Cheneyville 18** 19.32 16 P P 16 34 03.0 -1.0
baz=199,SNR=11
LRAL **Lakeview Retre** 19.36 39 eP P 16 34 03.8 -0.7
comp=Z,87nm,1.4s
MET **Memphis--Engin** 19.38 30 eP P 16 34 04.0 -0.6
comp=Z,958nm,1.6s
SDCO **Great Sand Dun** 19.38 350 P Pn 16 34 06.5 -0.2
baz=168,SNR=33
SDCO **Great Sand Dun** 19.38 350 eP Pn 16 34 06.1 -0.6
comp=Z,294nm,1.8s
S34A **Willow Spring** 19.40 10 P P 16 34 03.8 -1.1
baz=192,SNR=7.1
HBAR **Harrisburg** 19.41 27 eP P 16 34 03.7 -1.2
T38A **Diamond** 19.41 18 P P 16 34 04.2 -0.8
baz=200,SNR=21
W44A **Shelby Farms P** 19.45 30 P P 16 34 04.3 -1.1
baz=215
Y47A **UCPARC, Winfie** 19.49 36 P P 16 34 05.4 -0.6
baz=222,SNR=11
BC3 **Big Chuckawall** 19.50 323 P Pn 16 34 08.7 +0.7
baz=136,SNR=14
MVCO **Mesa Verde** 19.52 343 P Pn 16 34 08.3 0.0
baz=159,SNR=24
MVCO **Mesa Verde** 19.52 343 eP Pn 16 34 07.9 -0.4
comp=Z,462nm,1.9s
S35A **Otter Creek Ra** 19.53 12 P P 16 34 05.0 -1.3
baz=194,SNR=8.8
MONP2 **Monument Peak** 19.54 320 P Pn 16 34 08.9 +0.3
baz=133
BAR **Barrett** 19.55 319 eP Pn 16 34 10.9 +2.4
comp=Z,70nm,1.6s
S22A **4UR Ranch, Cre** 19.63 347 P Pn 16 34 09.5 -0.1
baz=164,SNR=8.3
S22A **4UR Ranch, Cre** 19.63 347 eP Pn 16 34 09.9 +0.3
comp=Z,90nm,1.3s
T39A **Clever** 19.67 20 P P 16 34 07.7 -0.2
baz=203,SNR=39
IRM **Iron Mountain** 19.70 324 P Pn 16 34 10.6 +0.4
baz=138
S36A **Lake Cedric, C** 19.72 14 P P 16 34 07.4 -1.0
baz=196,SNR=8.9
W45A **Hickory Valley** 19.76 31 P P 16 34 08.3 -0.5
baz=216
W13A **Hualapai Mount** 19.77 329 eP Pn 16 34 11.2 0.0
comp=Z,98nm,1.8s
R33A **Olander Ranch,** 19.86 8 P P 16 34 08.7 -1.2
baz=189,SNR=7.1
NEE2 **Needles Airpor** 19.88 327 P Pn 16 34 12.3 0.0
baz=140
R32A **Long Quarter,** 19.88 6 P P 16 34 09.7 -0.5
baz=187
S37A **Fort Scott** 19.94 16 P P 16 34 09.7 -1.1
baz=198,SNR=14
R34A **Isabella, Hill** 19.96 10 P P 16 34 10.2 -0.8
baz=191,SNR=21
109C **Camp Elliot, M** 19.96 318 P Pn 16 34 13.3 0.0
baz=131
V44A **Blytheville** 19.97 29 P P 16 34 10.8 -0.4
baz=214
GNAR **Gosnell** 20.03 28 eP P 16 34 12.5 +0.7
TPFO **Pinon Flats** 20.05 321 P Pn 16 34 14.2 -0.3
baz=134,SNR=6.3
PFO **Pinyon Flats O** 20.06 321 P Pn 16 34 13.5 -1.1
comp=Z,12nm,1.0s,baz=137,slow=11,SNR=8.1
PFO **Pinyon Flats O** 20.06 321 P Pn 16 34 14.3 -0.3
baz=134
PFO **Pinyon Flats O** 20.06 321 eP Pn 16 34 13.8 -0.7
PFO pmax pmax
comp=Z,149nm,1.5s
PFO **Pinyon Flats O** 20.06 321 eP Pn 16 34 13.8 -0.8
comp=Z,149nm,1.5s
BELC **Belle Mtn. Jos** 20.07 323 P Pn 16 34 14.0 -0.6
baz=136,SNR=16
S38A **Stockton** 20.07 18 P P 16 34 11.6 -0.6
baz=201,SNR=25
U15A **North Rim** 20.14 334 eP Pn 16 34 15.2 -0.4
comp=Z,318nm,1.9s
R35A **Emporia Munici** 20.17 12 P P 16 34 12.2 -1.1
baz=194
CBKS **Cedar Bluff** 20.18 4 P P 16 34 13.1 -0.3
baz=184
CBKS **Cedar Bluff** 20.18 4 eP P 16 34 12.8 -0.6
CBKS pmax pmax
comp=Z,168nm,1.1s
CBKS **Cedar Bluff** 20.18 4 eP P 16 34 12.8 -0.6
comp=Z,168nm,1.1s
PLAL **Pickwick Lake** 20.19 33 eP P 16 34 12.1 -1.4
comp=Z,83nm,0.8s
T41A **Mountain View** 20.25 23 P P 16 34 13.6 -0.5
baz=207,SNR=29
HALT **Halls** 20.30 29 eP P 16 34 14.9 +0.3
S39A **Bolivar** 20.30 19 P P 16 34 13.7 -1.0
baz=202,SNR=52
R36A **Gordon, Harris** 20.32 14 P P 16 34 13.9 -0.9
baz=196,SNR=9.0
KSCO **Kaye Shedlock'** 20.35 357 P P 16 34 16.3 +1.0
baz=176,SNR=24
KSCO **Kaye Shedlock'** 20.35 357 eP P 16 34 16.0 +0.7
comp=Z,289nm,1.3s
LDFC **Landfair** 20.38 326 eP Pn 16 34 18.4 +0.2
comp=Z,164nm,1.4s
PV01 **Paradox Valley** 20.41 344 eP P 16 34 16.4 +0.3
GMRC **Granite Mounta** 20.45 325 P Pn 16 34 17.9 -1.2
baz=138
Q32A **Meitler Ranch,** 20.46 7 P P 16 34 15.7 -0.7
baz=188,SNR=6.0
R37A **Teagarden Farm** 20.47 15 P P 16 34 15.4 -1.1
baz=198,SNR=12
S40A **Lebanon** 20.48 21 P P 16 34 15.9 -0.7
baz=205,SNR=31
MURC **Murrieta** 20.50 320 P Pn 16 34 18.7 -0.9
baz=132,SNR=5.9
PV05 **Paradox Valley** 20.50 343 eP Pn 16 34 18.7 -1.1
Q24A **Divide** 20.52 352 P P 16 34 18.2 +0.7
baz=170,SNR=7.8
Q24A **Divide** 20.52 352 eP P 16 34 17.9 +0.4
comp=Z,55nm,1.3s
PBMO **Poplar Bluff** 20.54 26 eP P 16 34 16.3 -1.0
comp=Z,338nm,1.9s
Q33A **Connelly Farm,** 20.56 8 P P 16 34 16.6 -0.9
baz=189,SNR=9.9
R38A **Fenwick Farm,** 20.59 17 P P 16 34 16.5 -1.3
baz=200,SNR=16
TIGA **Tifton** 20.60 48 P P 16 34 16.7 -1.3
baz=236
TIGA **Tifton** 20.60 48 eP P 16 34 16.3 -1.6
comp=Z,92nm,1.1s
GLAT **Glass** 20.61 29 eP P 16 34 16.9 -1.2
Q34A **Chapman** 20.61 10 P P 16 34 17.2 -0.9
baz=192
Q35A **Mercer Eighty,** 20.72 12 P P 16 34 17.9 -1.3
baz=194
PARMO **Parma** 20.73 28 eP P 16 34 18.1 -1.2
PV10 **Paradox Valley** 20.76 343 eP P 16 34 21.3 +1.4
BBRC **Big Bear Solar** 20.79 322 P Pn 16 34 21.9 -1.3
baz=134
KSU1 **Kansas State U** 20.85 11 P P 16 34 19.3 -1.3
baz=193
KSU1 **Kansas State U** 20.85 11 eP P 16 34 19.8 -0.8
comp=Z,73nm,0.9s
HEC **Hector,Ludlow** 20.86 324 P Pn 16 34 22.7 -1.2
baz=137,SNR=7.1
KNB **Kanab** 20.86 334 eP P 16 34 21.8 +0.8
KNB pmax pmax
comp=Z,235nm,1.6s
KNB **Kanab** 20.86 334 eP P 16 34 21.8 +0.8
comp=Z,235nm,1.6s
UTMT **University of** 20.87 30 eP P 16 34 20.8 -0.1
comp=Z,240nm,0.3s
PV09 **Paradox Valley** 20.90 343 eP P 16 34 22.2 +0.7
Q36A **Arnold C. Orve** 20.94 13 P P 16 34 20.1 -1.5
baz=196
SCI2 **San Clemente I** 20.95 316 P Pn 16 34 24.4 -0.5
baz=129
P33A **Williams Farm,** 21.01 8 P P 16 34 21.3 -1.0
baz=190
PKCU **Pink Cliffs** 21.02 335 eP P 16 34 24.4 +1.5
comp=Z,326nm,1.7s
SMCO **Snowmass** 21.04 348 eP P 16 34 24.2 +1.1
comp=Z,84nm,1.2s
LCMT **Little Creek M** 21.04 333 eP P 16 34 24.0 +1.2
TUQ **Turquoise Moun** 21.08 326 P P 16 34 25.1 +1.9
baz=138,SNR=29
P32A **Huiting Farm,** 21.08 6 P P 16 34 22.1 -1.0
baz=187,SNR=13
Q37A **Longview Farm,** 21.09 15 P P 16 34 21.7 -1.6
baz=198
R40A **Maddies Statio** 21.19 20 P P 16 34 23.4 -0.9
baz=204,SNR=28
BFSC **Mount Baldy Ra** 21.21 320 P P 16 34 26.1 +1.5
baz=133
P34A **Walnut Farm, R** 21.25 10 P P 16 34 23.9 -0.9
baz=192
RRX **Edison Barstow** 21.27 323 P P 16 34 27.4 +2.3
baz=135
S43A **Fulton Ridge,** 21.36 26 P P 16 34 24.5 -1.6
baz=211
P35A **Duane Minner,** 21.37 12 P P 16 34 24.7 -1.5
baz=194
Q38A **Cooks Store, C** 21.39 17 P P 16 34 25.4 -1.0
baz=200,SNR=10
ISCO **Idaho Springs** 21.41 351 P P 16 34 27.7 +0.8
baz=169,SNR=29
ISCO **Idaho Springs** 21.41 351 eP P 16 34 27.5 +0.6
ISCO pmax pmax
comp=Z,93nm,1.4s
ISCO **Idaho Springs** 21.41 351 eP P 16 34 27.5 +0.6
comp=Z,93nm,1.4s
MWC **Mount Wilson** 21.45 320 eP P 16 34 28.7 +1.5
MWC pmax pmax
comp=Z,70nm,1.5s
MWC **Mount Wilson** 21.45 320 eP P 16 34 28.7 +1.5
comp=Z,70nm,1.5s
GSC **Goldstone, Bar** 21.46 324 P P 16 34 28.9 +1.6
baz=136,SNR=14
GSC **Goldstone, Bar** 21.46 324 eP P 16 34 28.5 +1.2
GSC pmax pmax
comp=Z,57nm,1.4s
GSC **Goldstone, Bar** 21.46 324 eP P 16 34 28.5 +1.2
comp=Z,57nm,1.4s
PASC **Pasadena Art C** 21.49 319 eP P 16 34 28.5 +1.0
comp=Z,46nm,1.4s
MTPU **Mount Pierson** 21.49 336 eP P 16 34 29.6 +1.7
comp=Z,52nm,1.0s
SHPR **Sheep Range** 21.51 329 eP P 16 34 29.5 +1.6
comp=Z,92nm,1.7s
SWET **Sewanee** 21.53 37 eP P 16 34 25.6 -2.3
comp=Z,6.6nm,0.7s
CCUT **Cedar City** 21.54 334 eP P 16 34 30.4 +2.1
comp=Z,63nm,1.8s
O31A **Woolen Ranch,** 21.54 5 P P 16 34 27.3 -0.7
baz=185
SHOC **Shoshone, Teco** 21.62 326 P P 16 34 30.0 +1.2
baz=139
P36A **Good Intent, A** 21.62 13 P P 16 34 27.3 -1.6
baz=196
DECC **Green Verdugo** 21.64 319 P P 16 34 30.6 +1.5
baz=132
O33A **Hebron** 21.65 8 P P 16 34 28.0 -1.1
baz=190,SNR=7.7
Q39A **Willow Grove F** 21.66 18 P P 16 34 27.7 -1.5
baz=202,SNR=15
O32A **Brockman Farm,** 21.75 7 P P 16 34 29.5 -0.7
baz=188
SNCC **San Nicolas Is** 21.76 316 P P 16 34 32.2 +1.8
baz=127
SNCC **San Nicolas Is** 21.76 316 eP P 16 34 31.7 +1.3
comp=Z,64nm,0.7s
P37A **Lathrop** 21.79 15 P P 16 34 29.2 -1.4
baz=198
S44A **Carbondale** 21.81 27 P P 16 34 29.3 -1.6
baz=212,SNR=6.0
GOGA **Godfrey** 21.84 44 eP P 16 34 28.3 -3.0
GOGA pmax pmax
comp=Z,121nm,1.6s
GOGA **Godfrey** 21.84 44 eP P 16 34 28.3 -3.0
comp=Z,121nm,1.6s
SIUC **Southern Illin** 21.85 27 eP P 16 34 30.3 -1.0
comp=Z,152nm,1.1s
EDW2 **Edwards Air Fo** 21.85 321 P P 16 34 32.3 +0.8
baz=133,SNR=8.7
SRU **San Rafael Swe** 21.88 341 eP P 16 34 32.5 +0.7
SRU pmax pmax
comp=Z,153nm,1.9s
SRU **San Rafael Swe** 21.88 341 eP P 16 34 32.5 +0.7
comp=Z,153nm,1.9s
O34A **Beatrice** 21.89 10 P P 16 34 30.3 -1.4
baz=192,SNR=7.3
Q40A **Laux Farm, Aux** 21.89 20 P P 16 34 30.2 -1.5
baz=204,SNR=20
MSU **Marysvale** 21.90 337 eP P 16 34 33.1 +1.0
MSU **Marysvale** 21.90 337 eP P 16 34 33.1 +1.0
Q16A **Castle Valley** 21.91 339 eP P 16 34 33.2 +1.0
comp=Z,206nm,1.8s
BLG **Laguna Peak, P** 22.00 318 P P 16 34 34.6 +1.7
baz=130
P38A **Dawn** 22.04 17 P P 16 34 30.9 -2.4
baz=200,SNR=6.9
LRMC **Laurel Mtn Rad** 22.09 323 P P 16 34 35.6 +1.5
baz=135,SNR=5.3
S45A **Carrier Mills** 22.09 28 P P 16 34 32.9 -1.0
baz=214,SNR=16
O35A **Humboldt** 22.11 11 P P 16 34 32.7 -1.4
baz=194
OSI **Osito Audit: C** 22.11 320 P P 16 34 35.8 +1.5
baz=131
OSI **Osito Audit: C** 22.11 320 eP P 16 34 34.5 +0.2
comp=Z,53nm,1.4s
P39B **Salisbury** 22.13 18 P P 16 34 32.9 -1.4
baz=202,SNR=9.1
O36A **Bolckow** 22.17 13 P P 16 34 32.4 -2.3
baz=196
SLM **Saint Louis** 22.22 24 eP P 16 34 33.5 -1.8
SLM pmax pmax
comp=Z,366nm,2.0s
SLM **Saint Louis** 22.22 24 eP P 16 34 33.5 -1.8
comp=Z,366nm,2.0s
O20A **White River Ci** 22.22 346 P P 16 34 36.6 +1.0
baz=162,SNR=6.4
O20A **White River Ci** 22.22 346 eP P 16 34 36.6 +1.0
comp=Z,226nm,1.9s
N31A **Bailey Ranch,** 22.24 5 P P 16 34 34.7 -0.9
baz=186
N32A **Stubble Farm,** 22.24 6 P P 16 34 34.0 -1.5
baz=188
OGNE **Ogallala** 22.26 359 P P 16 34 35.1 -0.7
baz=178,SNR=6.4
OGNE **Ogallala** 22.26 359 eP P 16 34 34.5 -1.3
comp=Z,378nm,1.6s
TMUT **Trail Mountain** 22.27 340 eP P 16 34 37.0 +0.8
comp=Z,74nm,1.4s
P18A **Preston Nutter** 22.27 342 eP P 16 34 37.2 +1.0
comp=Z,110nm,1.4s
P17A **Butcher Ranch,** 22.28 341 eP P 16 34 36.6 +0.5
comp=Z,40nm,1.1s
SCZ2 **Santa Cruz Isl** 22.29 317 P P 16 34 37.9 +1.8
baz=128
N33A **J Bar K, Exete** 22.32 8 P P 16 34 35.9 -0.5
baz=190
Q42A **Golden Eagle** 22.35 23 P P 16 34 35.1 -1.6
baz=208,SNR=6.8
R44A **Waltonville** 22.35 26 P P 16 34 34.4 -2.3
baz=212,SNR=14
FURC **Furnace Creek,** 22.36 326 P P 16 34 37.9 +1.2
baz=138
P40A **Paris** 22.39 19 P P 16 34 35.1 -2.0
baz=204,SNR=13
O37A **Wolven Farm, M** 22.39 15 P P 16 34 35.1 -2.0
baz=198
MPMC **Manual Prospec** 22.39 324 P P 16 34 38.6 +1.1
baz=136,SNR=28
TPNV **Topopah Spring** 22.40 328 P P 16 34 38.6 +1.1
baz=140,SNR=35
TPNV **Topopah Spring** 22.40 328 eP P 16 34 38.9 +1.4
TPNV pmax pmax
comp=Z,57nm,1.2s
TPNV **Topopah Spring** 22.40 328 eP P 16 34 38.9 +1.4
comp=Z,57nm,1.2s
CPCT **Cooper Cave** 22.51 38 eP P 16 34 36.0 -2.4
comp=Z,82nm,2.0s
O38A **Galt** 22.52 16 P P 16 34 36.4 -2.1
baz=200
ARVC **Arvin** 22.52 320 P P 16 34 39.2 +0.6
baz=132
N23A **Red Feather La** 22.53 351 P P 16 34 39.1 +0.2
baz=168,SNR=17
N23A **Red Feather La** 22.53 351 eP P 16 34 39.1 +0.2
comp=Z,76nm,1.1s
N34A **Lincoln** 22.56 10 P P 16 34 37.5 -1.4
baz=192
PSUT **Pine Spring** 22.58 334 eP P 16 34 39.8 +0.4
comp=Z,23nm,0.8s
DAC **Darwin (Calif)** 22.61 324 eP P 16 34 40.5 +0.8
DAC pmax pmax
comp=Z,41nm,1.4s
DAC **Darwin (Calif)** 22.61 324 eP P 16 34 40.5 +0.8
comp=Z,41nm,1.4s
ISA **Isabella, Lake** 22.68 322 P P 16 34 42.0 +1.6
baz=134,SNR=6.4
ISA **Isabella, Lake** 22.68 322 eP P 16 34 41.9 +1.6
ISA pmax pmax
comp=Z,41nm,1.1s
ISA **Isabella, Lake** 22.68 322 eP P 16 34 41.9 +1.6
comp=Z,41nm,1.1s
Q43A **New Douglas** 22.69 24 P P 16 34 38.3 -2.0
baz=210,SNR=7.4
MTDJ **Mount Denham** 22.72 87 eP P 16 34 41.6 +0.6
comp=Z,382nm,2.0s
N35A **Tabor** 22.73 12 P P 16 34 39.5 -1.2
baz=194
USIN **University of** 22.75 29 eP P 16 34 39.7 -1.2
comp=Z,69nm,0.9s
M31A **Lambtecht Ranc** 22.75 5 P P 16 34 40.1 -0.9
baz=186
N36A **Muff Farm, Cla** 22.82 13 P P 16 34 39.8 -1.9
baz=196
PHWY **Pilot Hill** 22.87 352 eP P 16 34 41.8 -0.6
comp=Z,146nm,1.6s
PHWY eSn Sn 16 39 15.0 +7.9
BGNE **Belgrade** 22.90 6 P P 16 34 41.8 -0.7
baz=188
BGNE **Belgrade** 22.90 6 eP P 16 34 42.2 -0.3
comp=Z,235nm,1.1s
O39A **Kirksville** 22.90 18 P P 16 34 40.4 -2.1
baz=202,SNR=7.9
N37A **Lee Faris, Mou** 22.94 14 P P 16 34 41.1 -1.8
baz=198
PKM **Mcpherson Peak** 22.97 319 P P 16 34 44.8 +1.3
baz=130
O40A **La Belle** 22.98 19 P P 16 34 41.0 -2.3
baz=204
BCIP **Isla Barro Col** 22.99 111 eP P 16 34 45.2 +1.6
comp=Z,73nm,1.3s
GRAC **Grapevine Rang** 23.02 326 P P 16 34 45.1 +1.3
baz=138
MPU **Maple Canyon** 23.06 340 eP P 16 34 43.7 -0.5
comp=Z,34nm,1.1s
TKL **Tuckaleechee C** 23.10 39 P P 16 34 42.1 -2.4
comp=Z,12nm,0.6s,baz=200,slow=10,SNR=24
TKL **Tuckaleechee C** 23.10 39 eP P 16 34 41.8 -2.7
TKL pmax pmax
comp=Z,26nm,1.0s
TKL **Tuckaleechee C** 23.10 39 eP P 16 34 41.8 -2.7
comp=Z,26nm,1.0s
NLU **North Lily Min** 23.15 339 eP P 16 34 46.1 +0.9
comp=Z,42nm,1.6s
VES **Vestal, Richar** 23.16 321 P P 16 34 46.3 +1.2
baz=133,SNR=8.9
M33A **Taylor Creek F** 23.17 8 P P 16 34 43.9 -1.3
baz=190
OLIL **Olney** 23.18 27 eP P 16 34 43.4 -1.9
comp=Z,141nm,1.4s
R11A **Troy Canyon, C** 23.19 331 P P 16 34 46.3 +0.8
baz=144
R11A **Troy Canyon, C** 23.19 331 eP P 16 34 46.4 +0.8
comp=Z,40nm,1.5s
M34A **Aspy Farms, Fr** 23.19 9 P P 16 34 43.9 -1.4
baz=192
N38A **Joes South For** 23.21 16 P P 16 34 44.0 -1.5
baz=200
M35A **Neola** 23.31 11 P P 16 34 44.8 -1.6
baz=194
SMMC **Simmler** 23.36 319 P P 16 34 48.3 +1.2
baz=130
M36A **Felix, Anita** 23.47 13 P P 16 34 46.2 -1.7
baz=196
N39A **Derby Farms, D** 23.49 17 P P 16 34 46.4 -1.7
baz=201,SNR=35
L32A **Elgin** 23.50 7 P P 16 34 47.2 -1.1
baz=188
TIN **Tinemaha, Big** 23.53 325 P P 16 34 49.9 +1.3
baz=136
JLU **Jordanelle** 23.53 341 eP P 16 34 48.7 -0.1
comp=Z,33nm,1.4s
M37A **Trindle Farm,** 23.59 14 P P 16 34 47.7 -1.3
baz=197,SNR=6.3
L31A **Butterfield Fa** 23.59 5 P P 16 34 48.3 -0.8
baz=186
WCI **Wyandotte Cave** 23.61 31 eP P 16 34 47.2 -2.1
WCI *e* 16 38 32.7
WCI pmax pmax
comp=Z,64nm,1.1s
WCI **Wyandotte Cave** 23.61 31 eP P 16 34 47.2 -2.1
comp=Z,64nm,1.1s
WCI ePcP PcP 16 38 32.6 +0.1
DUG **Dugway, Tooele** 23.62 338 P P 16 34 50.0 +0.5
baz=152,SNR=5.6
DUG **Dugway, Tooele** 23.62 338 eP P 16 34 49.8 +0.3
DUG pmax pmax
comp=Z,46nm,1.6s
DUG **Dugway, Tooele** 23.62 338 eP P 16 34 49.8 +0.3
comp=Z,46nm,1.6s
L34A **Svendsen Farm,** 23.68 10 P P 16 34 48.4 -1.5
baz=192
L33A **Hoskins** 23.75 8 P P 16 34 49.4 -1.1
baz=190
M38A **Pleasantville** 23.81 16 P P 16 34 49.3 -1.7
baz=199,SNR=18
JSC **Jenkinsville** 23.83 45 eP P 16 34 48.4 -2.9
JSC pmax pmax
comp=Z,79nm,1.8s
JSC **Jenkinsville** 23.83 45 eP P 16 34 48.4 -2.9
comp=Z,79nm,1.8s
TZTN **Tazewell** 23.84 38 eP P 16 34 50.2 -1.2
comp=Z,143nm,1.7s
NHSC **New Hope** 23.93 49 eP P 16 34 49.3 -2.9
comp=Z,97nm,1.1s
L35A **Bielow Farm, R** 23.96 11 P P 16 34 50.9 -1.5
baz=194
TCUT **Toone Canyon** 23.99 341 eP P 16 34 51.4 -1.6
comp=Z,41nm,0.8s
K30A **Basset** 24.04 3 P P 16 34 52.6 -0.5
baz=184,SNR=7.3
K31A **O'Neill** 24.04 5 P P 16 34 52.4 -0.7
baz=186
L36A **Harm Buss Farm** 24.12 12 P P 16 34 52.4 -1.4
baz=196
K32A **Verdigre** 24.15 6 P P 16 34 53.0 -1.1
baz=188
K33A **Hardington** 24.21 8 P P 16 34 54.0 -0.7
baz=190
BLO **Bloomington** 24.25 29 eP P 16 34 54.4 -0.6
BLO pmax pmax
comp=Z,47nm,0.6s
BLO **Bloomington** 24.25 29 eP P 16 34 54.4 -0.6
comp=Z,47nm,0.6s
HDIL **Hopedale** 24.25 23 P P 16 34 52.7 -2.3
baz=209,SNR=21
HDIL **Hopedale** 24.25 23 eP P 16 34 53.3 -1.7
comp=Z,270nm,1.3s
SCIA **State Center** 24.26 15 eP P 16 34 54.2 -0.9
comp=Z,77nm,1.1s
MLAC **Mammoth, Mammo** 24.28 325 P P 16 34 56.5 +0.9
baz=136
KMSC **Kings Mountain** 24.30 43 P P 16 34 53.5 -2.0
baz=232
KMSC **Kings Mountain** 24.30 43 eP P 16 34 53.2 -2.3
comp=Z,31nm,0.9s
K22A **Casper** 24.34 351 P P 16 34 56.2 +0.2
baz=168,SNR=35
K22A **Casper** 24.34 351 eP P 16 34 56.4 +0.3
comp=Z,170nm,1.0s
L37A **Phoenix Point,** 24.34 14 P P 16 34 54.3 -1.5
baz=198,SNR=6.7
BGU **Big Grassy Mou** 24.34 338 eP P 16 34 56.5 +0.4
comp=Z,40nm,1.3s
K34A **Le Mars** 24.43 10 P P 16 34 55.4 -1.2
baz=192
HWUT **Hardware Ranch** 24.48 342 eP P 16 34 57.8 +0.4
comp=Z,40nm,0.9s
NV11 **Mina Array Sit** 24.51 327 eP P 16 34 58.7 +1.1
comp=Z,58nm,1.2s
L38A **Oak Wood Farm,** 24.55 15 P P 16 34 56.0 -1.7
baz=199,SNR=5.7
NV01 **Mina Array Sit** 24.58 327 eP P 16 34 59.2 +0.9
NV01 ePcP PcP 16 38 36.0 +1.0
NVAR **Mina Array Bea** 24.58 327 P P 16 35 00.0 +1.7
comp=Z,15nm,0.6s,baz=148,slow=8.9,SNR=86

NVAR PcP **PcP** **16 38 36.5 +1.6**
comp=Z,1.2nm,0.7s,baz=104,slow=1.4,SNR=4.1
NVAR pPcP 16 38 54.0
comp=Z,1.1nm,0.9s,baz=126,slow=2.3,SNR=4.3
NVAR LR LR 16 45 47.5
comp=Z,400nm,18.6s,baz=150,slow=39
K35A Storm Lake 24.61 11 P **P** **16 34 57.0 -1.2**
baz=194
K36A Gilmore City 24.68 12 P **P** **16 34 57.3 -1.6**
baz=196,SNR=9.1
J30A Dallas 24.69 3 P **P** **16 34 58.0 -1.0**
baz=184
J31A Geddes 24.71 5 P **P** **16 34 58.0 -1.2**
baz=186
J32A Parkston 24.87 6 P **P** **16 34 58.8 -1.8**
baz=188
J33A Davis 24.92 8 P **P** **16 35 01.0 -0.2**
baz=190,SNR=8.7
GTBY Guantanamo Bay 24.92 83 *e*P **P** **16 35 02.2 +0.9**
comp=Z,63nm,0.7s
SFIN Lafayette 24.98 27 P **P** **16 35 00.9 -0.8**
baz=214,SNR=19
SFIN Lafayette 24.98 27 *e*P **P** **16 35 00.5 -1.1**
comp=Z,280nm,1.6s
K37A Belmond 24.98 14 P **P** **16 34 59.2 -2.4**
baz=198
HVU Hansel Valley 25.02 340 *e*P **P** **16 35 02.7 +0.5**
HVU pmax pmax
comp=Z,15nm,1.1s
HVU Hansel Valley 25.02 340 *e*P **P** **16 35 02.7 +0.5**
comp=Z,15nm,1.1s
ELK Elko 25.02 335 *e*P **P** **16 35 02.7 +0.4**
ELK pmax pmax
comp=Z,13nm,1.4s
ELK Elko 25.02 335 *e*P **P** **16 35 02.7 +0.4**
comp=Z,13nm,1.4s
BW06 Boulder Array 25.03 346 P **P** **16 35 02.1 -0.3**
baz=161,SNR=16
BW06 Boulder Array 25.03 346 *e*PcP **PcP** **16 38 35.2 -0.7**
PD31 Pinedale Array 25.03 346 *e*P **P** **16 35 02.5 +0.1**
PD31 *e*PcP **PcP** **16 38 35.9 +0.1**
PDAR Pinedale Array 25.03 346 P **P** **16 35 02.2 -0.1**
comp=Z,58nm,1.0s,baz=144,slow=8.5,SNR=112
PDAR PcP **PcP** **16 38 35.9 +0.1**
comp=Z,1.6nm,0.7s,baz=128,slow=4.4,SNR=3.7
PDAR LR LR 16 46 01.4
comp=Z,1μm,19.3s,baz=192,slow=39
J34A George 25.03 10 P **P** **16 35 00.8 -1.3**
baz=192,SNR=8.0
K38A Parkersburg 25.07 15 P **P** **16 35 00.5 -2.0**
baz=199
SAO San Andreas Ge 25.20 320 *e*P **P** **16 35 04.9 +1.2**
SAO pmax pmax
comp=Z,22nm,1.3s
SAO San Andreas Ge 25.20 320 *e*P **P** **16 35 04.9 +1.2**
comp=Z,22nm,1.3s
J35A Milford 25.24 11 P **P** **16 35 02.9 -1.1**
baz=194
WAKR Walker 25.24 325 *e*P **P** **16 35 05.9 +1.6**
I30A Oacoma 25.28 3 P **P** **16 35 02.9 -1.5**
baz=184
I29A Vivian Onida 25.35 2 P **P** **16 35 04.4 -0.6**
baz=182
J36A Seneca 1, Swea 25.37 12 P **P** **16 35 03.3 -1.9**
baz=196
ECSD EROS Data Cent 25.38 8 P **P** **16 35 03.8 -1.4**
baz=190,SNR=24
ECSD EROS Data Cent 25.38 8 *e*P **P** **16 35 03.8 -1.4**
comp=Z,29nm,0.6s
AHID Auburn Hatcher 25.42 343 *e*P **P** **16 35 05.9 +0.1**
comp=Z,34nm,1.3s
CMB Columbia Colle 25.43 323 *e*P **P** **16 35 06.3 +0.4**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 25.43 323 *e*P **P** **16 35 06.2 +0.4**
comp=Z,6.5nm,1.0s
I31A Royce, Wessing 25.46 5 P **P** **16 35 05.0 -1.0**
baz=186
J37A Redenius Farm, 25.51 14 P **P** **16 35 04.9 -1.6**
baz=197
RSSD Black Hills 25.52 356 P **P** **16 35 06.2 -0.6**
baz=174
RSSD Black Hills 25.52 356 *e*P **P** **16 35 06.5 -0.3**
RSSD pmax pmax
comp=Z,23nm,1.1s
RSSD Black Hills 25.52 356 *e*P **P** **16 35 06.5 -0.3**
comp=Z,23nm,1.1s
I32A Karley and Nic 25.56 7 P **P** **16 35 05.3 -1.6**
baz=188
BMN Battle Mountai 25.61 331 *e*P **P** **16 35 08.4 +0.7**
BMN pmax pmax
comp=Z,21nm,1.1s
BMN Battle Mountai 25.61 331 *e*P **P** **16 35 08.3 +0.7**
comp=Z,20nm,1.1s
I33A Coleman 25.66 8 P **P** **16 35 07.3 -0.5**
baz=190
I35A Creekview Farm 25.75 11 P **P** **16 35 07.8 -0.9**
baz=194
J38A Wedel Dairy, R 25.78 15 P **P** **16 35 07.1 -1.7**
baz=200
SUSD Miller 25.84 4 P **P** **16 35 08.5 -0.9**
baz=185
REDW Red Top Meadow 25.91 344 *e*P **P** **16 35 10.7 +0.4**
comp=Z,87nm,1.4s
H31A Wolsey 25.91 5 P **P** **16 35 08.5 -1.6**
baz=186
H29A Onida 25.96 2 P **P** **16 35 09.5 -1.0**
baz=182
SNOW Snow King Moun 25.98 344 *e*P **P** **16 35 10.9 -0.1**
comp=Z,45nm,0.8s
H25A Fruitdale 25.99 357 P **P** **16 35 10.7 -0.2**
baz=175,SNR=20
JFWS Jewell Farm 26.02 19 *e*P **P** **16 35 09.1 -2.0**
JFWS pmax pmax
comp=Z,21nm,0.8s
JFWS Jewell Farm 26.02 19 *e*P **P** **16 35 09.1 -2.0**
comp=Z,21nm,0.8s
H32A Carlson Farm, 26.03 7 P **P** **16 35 10.1 -1.1**
baz=188
TPAW Teton Pass 26.05 344 *e*P **P** **16 35 12.0 +0.3**
comp=Z,113nm,1.4s
LOHW Long Hollow 26.08 345 *e*P **P** **16 35 12.1 +0.2**
comp=Z,30nm,0.8s
I36A Fitzsimmons Fa 26.09 12 P **P** **16 35 10.1 -1.6**
baz=196
PAHR Pah Rah Range 26.10 327 *e*P **P** **16 35 12.9 +1.0**
comp=Z,36nm,1.9s
BLA Blacksburg 26.16 41 *e*P **P** **16 35 10.7 -1.8**
BLA pmax pmax
comp=Z,47nm,1.1s
BLA Blacksburg 26.16 41 *e*P **P** **16 35 10.7 -1.8**
comp=Z,47nm,1.1s
I37A Lemond, Waseca 26.22 13 P **P** **16 35 11.1 -1.8**
baz=197
MOOW Moose Ponds 26.24 345 *e*P **P** **16 35 13.2 -0.1**
comp=Z,39nm,1.4s
MOOW *e*PcP **PcP** **16 38 40.0 +1.4**
AFDM Forest Hills D 26.39 324 *e*P **P** **16 35 15.5 +0.9**
comp=Z,14nm,1.4s
H34A Spellman Lake, 26.41 9 P **P** **16 35 13.0 -1.6**
baz=192
IMW Indian Meadow 26.43 345 *e*P **P** **16 35 15.3 +0.2**
comp=Z,42nm,1.4s
IMW *e*PcP **PcP** **16 38 40.7 +1.6**
I38A Scanlan Farm, 26.49 15 P **P** **16 35 13.0 -2.3**
baz=199
G30A Faulkton 26.51 4 P **P** **16 35 13.6 -1.9**
baz=185
FLWY Flagg Ranch 26.55 345 *e*P **P** **16 35 16.6 +0.5**
comp=Z,49nm,1.4s
G25A Newell 26.55 357 P **P** **16 35 15.2 -0.8**
baz=176
H35A Sunnyside Ranc 26.59 11 P **P** **16 35 14.6 -1.6**
baz=194
H36A Jessenland, He 26.65 12 P **P** **16 35 15.1 -1.6**
baz=196
G31A Conde 26.67 5 P **P** **16 35 15.0 -1.9**
baz=187
G32A Webster 26.77 6 P **P** **16 35 15.2 -2.6**
baz=188
ACSO Alum Creek Sta 26.80 33 *e*P **P** **16 35 17.6 -0.5**
comp=Z,30nm,1.0s
H17A Grant Village 26.81 345 P **P** **16 35 18.6 +0.1**
baz=160
H17A Grant Village 26.81 345 *e*P **P** **16 35 20.9 +2.5**
comp=Z,34nm,1.6s
G33A Ortonville 26.83 8 P **P** **16 35 16.2 -2.1**
baz=190
H37A Dierke Farm, C 26.86 14 P **P** **16 35 16.5 -2.2**
baz=198
SJCC San Jacinto, C 26.90 105 *e*P **P** **16 35 19.5 +0.2**
YFT Old Faithful 26.93 345 *e*P **P** **16 35 20.6 +1.0**
comp=Z,26nm,1.4s
G34A Benson 26.99 9 P **P** **16 35 18.1 -1.7**
baz=192
ORV Oroville 27.11 324 *e*P **P** **16 35 22.0 +1.0**
ORV pmax pmax
comp=Z,14nm,1.3s
ORV Oroville 27.11 324 *e*P **P** **16 35 22.0 +1.0**
comp=Z,14nm,1.3s
HLID Hailey 27.16 339 P **P** **16 35 21.8 +0.3**
baz=152,SNR=8.2
HLID Hailey 27.16 339 *e*P **P** **16 35 21.6 +0.1**
comp=Z,16nm,1.4s
G35A Watkins 27.16 11 P **P** **16 35 19.3 -2.0**
baz=194
YMR Madison River 27.16 345 *e*P **P** **16 35 20.7 -0.9**
comp=Z,50nm,1.6s
F26A Lodgepole 27.18 358 P **P** **16 35 21.5 0.0**
baz=177
RLMT Red Lodge 27.22 348 P **P** **16 35 21.8 -0.3**
baz=163
RLMT Red Lodge 27.22 348 *e*P **P** **16 35 20.0 -2.1**
comp=Z,81nm,1.8s
F25A Bowman 27.28 357 P **P** **16 35 22.1 -0.4**
baz=176
G36A St. Michael 27.31 12 P **P** **16 35 21.3 -1.4**
baz=196
SPMN Marine on St. 27.50 13 P **P** **16 35 22.8 -1.6**
baz=198
SPMN Marine on St. 27.50 13 *e*P **P** **16 35 22.1 -2.3**
comp=Z,75nm,1.8s
MFID Camas Ranch 27.53 337 *e*P **P** **16 35 24.7 -0.1**
comp=Z,11nm,1.1s
F34A Alexandria 27.59 9 P **P** **16 35 23.5 -1.7**
baz=192
E27A Carson 27.74 360 P **P** **16 35 25.7 -0.8**
baz=180
F35A Swanville 27.76 10 P **P** **16 35 24.9 -1.9**
baz=194
E26A Carlson Angus 27.79 359 P **P** **16 35 26.4 -0.7**
baz=178
O03D Paynes Creek 27.80 325 P **P** **16 35 27.1 -0.1**
baz=135
WVOR Wild Horse Val 27.86 332 *e*P **P** **16 35 28.5 +0.8**
WVOR Wild Horse Val 27.86 332 *e*P **P** **16 35 28.5 +0.8**
E28A Huff 27.89 1 P **P** **16 35 27.2 -0.7**
baz=181
E30A Jud 27.89 4 P **P** **16 35 26.3 -1.5**
baz=185
E29A Napoleon 27.92 3 P **P** **16 35 26.8 -1.3**
baz=183
F36A Milaca 27.96 12 P **P** **16 35 26.3 -2.1**
baz=196
AAM Ann Arbor 28.05 29 *e*P **P** **16 35 28.0 -1.3**
AAM pmax pmax
comp=Z,44nm,0.6s
AAM Ann Arbor 28.05 29 *e*P **P** **16 35 28.0 -1.3**
comp=Z,44nm,0.6s
HELC Santa Helena 28.14 113 *e*P **P** **16 35 30.1 -0.8**
MOD Modoc Plateau 28.21 329 *e*P **P** **16 35 31.7 +0.7**
comp=Z,23nm,1.2s
DLMT Dillon 28.23 343 *e*P **P** **16 35 31.8 +0.7**
comp=Z,45nm,1.3s
BOZ Bozeman (W) 28.24 345 P **P** **16 35 30.9 -0.2**
baz=159,SNR=5.0
BOZ Bozeman (W) 28.24 345 *e*P **P** **16 35 31.4 +0.2**
BOZ pmax pmax
comp=Z,28nm,1.5s
BOZ Bozeman (W) 28.24 345 *e*P **P** **16 35 31.4 +0.2**
comp=Z,28nm,1.5s
LAO LASA Array 28.27 353 P **P** **16 35 30.1 -1.2**
baz=170
LAO LASA Array 28.27 353 *e*P **P** **16 35 30.5 -0.8**
E34A Wadena 28.31 9 P **P** **16 35 30.0 -1.6**
baz=192
D26A Manning 28.35 359 P **P** **16 35 30.4 -1.6**
baz=178
KCPM Cahto Peak 28.38 322 *e*P **P** **16 35 34.5 +2.1**
comp=Z,16μm,0.6s
D27A Center 28.42 360 P **P** **16 35 32.4 -0.2**
baz=180
E35A Pequot Lakes 28.47 10 P **P** **16 35 31.3 -1.7**
baz=194
D25A Fairfield 28.50 357 P **P** **16 35 32.8 -0.5**
baz=176
D30A Buchanan 28.50 4 P **P** **16 35 31.6 -1.7**
baz=185
D28A Regan 28.51 1 P **P** **16 35 32.2 -1.2**
baz=182
D31A Mcclaflin, Tow 28.52 5 P **P** **16 35 31.7 -1.8**
baz=187
E36A Mcgor 28.64 12 P **P** **16 35 32.3 -2.3**
baz=196
GUYC Guyana, Colomb 28.73 114 *e*P **P** **16 35 38.9 +2.7**
D33A AnnSam, Waubun 28.82 8 P **P** **16 35 35.4 -0.8**
baz=191
M04C Macdoel 28.89 327 P **P** **16 35 37.8 +0.8**
baz=137,SNR=6.2
N54A Moraine State 28.90 35 P **P** **16 35 35.7 -1.2**
baz=226
NORC Norcasia 29.02 113 *e*P **P** **16 35 40.1 +1.9**
C27A Sayler Ranch, 29.02 360 P **P** **16 35 37.4 -0.5**
baz=180
OTAV Otavalo 29.07 126‖ *e*P **P** **16 35 40.1 +1.0**
OTAV Otavalo 29.07 126 *e*P **P** **16 35 41.5 +2.3**
comp=Z,30nm,1.4s
C30A Mose, Pekin 29.11 4 P **P** **16 35 37.7 -1.0**
baz=186
K05A Summer Lake 29.12 330 *e*P **P** **16 35 39.4 +0.3**
comp=Z,46nm,1.7s
M02C Callahan 29.14 326 P **P** **16 35 38.7 -0.3**
baz=134
MDND Maddock 29.20 3 *e*P **P** **16 35 38.5 -0.9**
comp=Z,36nm,0.6s
COWI Conover 29.25 18 *e*P **P** **16 35 38.7 -1.2**
C31A Landman Farms, 29.26 5 P **P** **16 35 39.0 -1.0**
baz=187
D36A Goodland 29.29 12 P **P** **16 35 38.0 -2.3**
baz=196
BMO Blue Mountains 29.31 337 *e*P **P** **16 35 40.4 -0.1**
comp=Z,12nm,1.0s
CRUC La Cruz 29.42 122 *e*P **P** **16 35 45.3 +3.1**
D37A Cotton 29.42 13 P **P** **16 35 39.6 -1.9**
baz=197,SNR=7.5
M54A Oil Creek Stat 29.46 35 P **P** **16 35 40.2 -1.6**
baz=226
K04D Chiloquin, OR 29.46 329 P **P** **16 35 42.3 +0.2**
baz=138
BANI BANI 29.50 85 *e*P **P** **16 35 44.7 +2.1**
B25A Knox Farm, Ray 29.61 358 P **P** **16 35 42.7 -0.5**
baz=176
B26A Jensen Ranch, 29.69 359 P **P** **16 35 43.3 -0.5**
baz=178
J05D Fort Rock, OR 29.71 330 P **P** **16 35 44.4 +0.2**
baz=140
B27A Peters Farms, 29.71 0 P **P** **16 35 43.9 -0.1**
baz=180
B28A Dugan Ranch, T 29.77 2 P **P** **16 35 44.0 -0.6**
baz=182
B29A Wagenman Farm, 29.82 3 P **P** **16 35 44.4 -0.6**
baz=184
ROSC El Rosal 29.85 114 LR LR 16 48 02.8
comp=Z,126nm,22.0s,baz=272,slow=37
ROSC El Rosal 29.85 114 *e*P **P** **16 35 48.0 +2.1**
comp=Z,62nm,1.9s
DGMT Dagmar 29.86 356 P **P** **16 35 44.3 -1.0**
baz=174
B30A Myrvik Farm, E 29.87 4 P **P** **16 35 44.1 -1.3**
baz=186
B31A Grenbush Farm 29.90 5 P **P** **16 35 44.3 -1.3**
baz=187
GRMC Gramalote, San 29.90 107 *e*P **P** **16 35 45.9 -0.3**
CBRI Barrientos, No 29.91 107 *e*P **P** **16 35 46.2 -0.1**
C36A Pine Crest Far 29.91 12 P **P** **16 35 43.8 -2.0**
baz=196,SNR=13
PRAC Prado 29.93 116 *e*P **P** **16 35 48.5 +2.1**
comp=Z,14nm,1.1s
MSO Missoula 29.95 343 P **P** **16 35 45.6 -0.6**
baz=156,SNR=7.7
MSO Missoula 29.95 343 *e*P **P** **16 35 46.5 +0.3**
MSO *e*PcP **PcP** **16 38 49.2 +1.8**
B33A Robert and Kas 29.97 8 P **P** **16 35 44.5 -1.8**
baz=191
B32A Ashes, Strandq 29.98 7 P **P** **16 35 44.6 -1.7**
baz=189
C37A Embarrass 30.02 13 P **P** **16 35 44.8 -1.9**
baz=198
BARC Barichara 30.04 110 *e*P **P** **16 35 49.2 +1.7**
EGMT Eagleton 30.10 349 P **P** **16 35 47.4 -0.1**
baz=164
EGMT Eagleton 30.10 349 *e*P **P** **16 35 47.6 +0.1**
comp=Z,16nm,0.7s
C38A Sawbill Land. 30.20 14 P **P** **16 35 46.1 -2.2**
baz=199
A26A Wade Farm, Ken 30.21 359 P **P** **16 35 47.6 -0.8**
baz=179
A28A Rude Farm, Bot 30.23 2 P **P** **16 35 47.9 -0.7**
baz=182
F10A Beach Ranch, E 30.24 338 *e*P **P** **16 35 48.7 -0.1**
comp=Z,37nm,1.2s
A27A Ledoux Ranch, 30.26 0 P **P** **16 35 48.0 -0.9**
baz=180
B34A Aery, Baudette 30.31 9 P **P** **16 35 47.5 -1.8**
baz=193,SNR=7.0
G08A Pilot Rock 30.32 335 *e*P **P** **16 35 47.8 -1.7**
comp=Z,25nm,1.3s
B35A Bob, Littlefor 30.33 10 P **P** **16 35 47.4 -2.1**
baz=194
A30A Hoffart Farm, 30.36 4 P **P** **16 35 48.5 -1.2**
baz=186
EYMN Ely 30.37 13 P **P** **16 35 48.8 -1.0**
baz=199
EYMN Ely 30.37 13 *e*P **P** **16 35 47.5 -2.3**
comp=Z,18nm,1.1s
RUSC La Rusia 30.43 111 *e*P **P** **16 35 51.1 -0.2**
CHIC Chingaza 30.46 114 *e*P **P** **16 35 49.2 -2.3**
A32A Rocking H Ranc 30.50 6 P **P** **16 35 49.8 -1.1**
baz=189
C39A Grand Marais 30.57 15 P **P** **16 35 49.4 -2.1**
baz=201
I05D Terrebonne, OR 30.57 331 P **P** **16 35 52.3 +0.6**
baz=140
A33A Warroad 30.65 8 P **P** **16 35 50.4 -1.8**
baz=191,SNR=8.1
SJAC San Juan de Ar 30.95 116 *e*P **P** **16 35 55.0 -0.5**
I03D Drain, OR 31.04 328 P **P** **16 35 56.4 +0.6**
baz=136
H04A Detroit Lake 31.22 331 *e*P **P** **16 35 57.3 -0.1**
comp=Z,20nm,1.0s
ULM Lac du Bonnet 31.88 7 P **P** **16 36 01.2 -1.9**
comp=Z,14nm,0.6s,baz=188,slow=8.3,SNR=13
ULM pP **pP** **16 36 17.6 -1.1**
comp=Z,14nm,0.8s,baz=187,slow=9.9,SNR=4.4
ULM sP **sP** **16 36 25.4 -0.9**
comp=Z,15nm,0.8s,baz=192,slow=10,SNR=4.3
ULM LR LR 16 50 03.4
comp=Z,1μm,19.1s,baz=228,slow=38
ULM Lac du Bonnet 31.88 7 *e*P **P** **16 36 00.7 -2.3**
ULM pmax pmax
comp=Z,27nm,0.8s
ULM Lac du Bonnet 31.88 7 *e*P **P** **16 36 00.7 -2.3**
comp=Z,27nm,0.8s
WALA Waterton Lakes 31.99 344 *e*P **P** **16 36 03.8 -0.4**
comp=Z,14nm,1.0s
SADO Sadowa 32.06 31 P **P** **16 36 04.1 -0.6**
comp=Z,10nm,0.5s,baz=248,slow=9.8,SNR=13
SADO Sadowa 32.06 31 *e*P **P** **16 36 02.8 -2.0**
comp=Z,13nm,0.6s
C09A Chrisman Ranch 32.17 339 *e*P **P** **16 36 05.3 -0.4**
comp=Z,12nm,1.1s
NEW Newport 32.19 340 P **P** **16 36 06.0 +0.1**
comp=Z,7.6nm,0.9s,baz=140,slow=8.0,SNR=3.6
NEW Newport 32.19 340 P **P** **16 36 05.7 -0.2**
baz=151
NEW Newport 32.19 340 *e*P **P** **16 36 06.0 +0.1**
NEW pmax pmax
comp=Z,13nm,1.3s
NEW Newport 32.19 340 *e*P **P** **16 36 06.0 +0.1**
comp=Z,13nm,1.3s
LTY Liberty 32.61 335 *e*P **P** **16 36 09.9 +0.3**
comp=Z,19nm,1.3s
LON Longmire 32.66 334 *e*P **P** **16 36 10.4 +0.3**
LON pmax pmax
comp=Z,5.0nm,0.9s
LON Longmire 32.66 334 *e*P **P** **16 36 10.3 +0.3**
comp=Z,5.0nm,0.9s
F04D Rainier, OR 32.66 332 P **P** **16 36 10.8 +0.8**
baz=140
B08A Colville Reser 33.02 338 *e*P **P** **16 36 13.4 +0.3**
comp=Z,38nm,1.4s
CELP Cerrillos 33.10 85 *e*P **P** **16 36 13.1 -1.1**
C06D Leavenworth 33.24 336 P **P** **16 36 15.5 +0.5**
baz=145
E03A Lebam 33.27 332 *e*P **P** **16 36 13.4 -1.8**
comp=Z,44nm,1.1s
SJG San Juan 33.51 85 P **P** **16 36 17.9 +0.2**
comp=Z,7.4nm,0.3s,baz=261,slow=4.4,SNR=8.8
SJG San Juan 33.51 85 *e*P **P** **16 36 17.8 +0.2**
SJG pmax pmax
comp=Z,27nm,1.0s
SJG San Juan 33.51 85 *e*P **P** **16 36 17.8 +0.2**
comp=Z,27nm,1.0s
CBYP Canovanas 33.77 85 *e*P **P** **16 36 19.4 -0.6**
comp=Z,20nm,0.9s
HUMP Col San Antoni 33.79 85 *e*P **P** **16 36 19.6 -0.5**
comp=Z,16nm,0.9s
B06A Marblemount 33.95 336 *e*P **P** **16 36 21.1 -0.1**
comp=Z,22nm,1.0s
B05A Bryant 33.99 335 P **P** **16 36 20.9 -0.6**
baz=143
MTP Monte Pirata 34.07 85 *e*P **P** **16 36 23.2 +0.6**
comp=Z,50nm,1.1s
ATAH Atahualpa 34.26 136 LR LR 16 47 42.1
comp=Z,449nm,21.1s,baz=308,slow=32
A04D Lummi Island 34.60 335 P **P** **16 36 26.7 0.0**
baz=143
FFC Flin Flon 36.05 360 *e*P **P** **16 36 37.5 -1.6**
FFC pmax pmax
comp=Z,16nm,1.0s
FFC Flin Flon 36.05 360 *e*P **P** **16 36 37.5 -1.6**
comp=Z,16nm,1.0s
NNA Nana 38.93 140 LR LR 16 50 01.7
comp=Z,313nm,19.0s,baz=304,slow=31
BBB Bella Bella 39.47 334 LR LR 16 56 24.5
comp=Z,132nm,19.8s,baz=145,slow=41
CRAG Craig 43.90 334 *e*P **P** **16 37 45.4 +1.2**
comp=Z,48nm,1.3s
SCHQ Schefferville 44.75 28 P **P** **16 37 48.7 -2.3**
comp=Z,3.7nm,0.6s,baz=233,slow=10,SNR=3.3
SCHQ LR LR 16 58 03.8
comp=Z,197nm,19.4s,baz=278,slow=38
SCHQ Schefferville 44.75 28 *e*P **P** **16 37 50.0 -1.1**
comp=Z,61nm,1.8s
YKA Yellowknife Ar 44.78 351 P **P** **16 37 49.4 -1.6**
comp=Z,3.0nm,0.8s,baz=160,slow=7.6,SNR=12
YKA PcP **PcP** **16 39 32.4 +0.3**
comp=Z,0.8nm,0.5s,baz=154,slow=3.2,SNR=7.2
YKA ScP **ScP** **16 43 21.0 +2.1**
comp=Z,1.6nm,1.1s,baz=154,slow=3.9,SNR=4.5
YKA LR LR 16 58 03.6
comp=Z,116nm,18.1s,baz=180,slow=38
YKB5 Yellowknife Ar 44.78 351 *e*P **P** **16 37 49.5 -1.6**
YKB5 *e*ScP **ScP** **16 43 21.1 +2.1**
DLBC Dease Lake 44.92 339 P **P** **16 37 53.8 +1.4**
comp=Z,9.6nm,0.9s,baz=156,slow=6.3,SNR=16
DLBC PcP **PcP** **16 39 34.2 +1.4**
comp=Z,2.2nm,0.6s,baz=105,slow=2.1,SNR=3.1
DLBC LR LR 16 58 46.4
comp=Z,994nm,18.1s,baz=148,slow=39
DLBC Dease Lake 44.92 339 *e*P **P** **16 37 53.6 +1.2**
comp=Z,32nm,1.4s
DLBC *e*PcP **PcP** **16 39 33.0 +0.2**
PTGA Pitinga 45.09 111 *e*P **P** **16 37 53.8 -0.4**
comp=Z,13nm,0.8s
SAML Samuel 46.67 123 *e*P **P** **16 38 05.1 -1.5**
comp=Z,15nm,0.9s
SAML *e*PcP **PcP** **16 39 39.9 +0.3**
TAOE Nuku Hiva Isla 46.90 238 *e*LR LR 16 51 23.3
comp=Z,680nm,25.4s
TAOE Nuku Hiva Isla 46.90 238 *e*T T 17 27 21.6
comp=Z,34nm,0.2s
LPAZ La Paz 47.76 134 P **P** **16 38 15.6 -0.1**
comp=Z,5.4nm,0.8s,baz=337,slow=6.6,SNR=11
LPAZ LR LR 16 56 45.3
comp=Z,270nm,21.2s,baz=312,slow=34
LPAZ La Paz 47.76 134 *e*P **P** **16 38 15.5 -0.2**
LPAZ pmax pmax
comp=Z,58nm,1.9s
LPAZ La Paz 47.76 134 *e*P **P** **16 38 15.5 -0.2**
comp=Z,58nm,1.9s
PB11 IPOC Station P 49.29 139 *e*P **P** **16 38 27.0 +0.1**
comp=Z,31nm,0.9s

PB11 ePcP PcP 16 39 49.7 +0.7
PB01 IPOC Station P 50.36 140 eP P 16 38 35.4 +0.5
comp=Z,86nm,1.8s
PB04 IPOC Station P 50.94 142 eP P 16 38 40.6 +1.1
comp=Z,87nm,1.7s
BALM Baldy 51.22 336 eP P 16 38 43.2 +2.2
BALM pmax pmax
comp=Z,16nm,1.2s
BALM Baldy 51.22 336 eP P 16 38 43.2 +2.2
comp=Z,16nm,1.2s
CRQM Cirque 51.37 335 eP P 16 38 43.5 +1.3
LVC Limon Verde 51.89 141 P P 16 38 48.1 +1.4
comp=Z,24nm,0.7s,baz=301,slow=5.8
LVC Limon Verde 51.89 141 eP P 16 38 47.9 +1.1
comp=Z,80nm,1.8s
BMRM Bremner River 52.07 335 eP P 16 38 48.6 +1.3
comp=Z,28nm,1.3s
DAWY Dawson 52.12 340 eP P 16 38 47.0 -0.6
comp=Z,10nm,1.1s
EYAK Cordova Ski Ar 52.30 334 eP P 16 38 49.9 +1.0
comp=Z,26nm,1.4s
DIV Divide 52.64 335 eP P 16 38 52.6 +1.1
comp=Z,20nm,1.3s
RKT Rikitea 52.83 220 eLR LR 16 54 18.1
comp=Z,713nm,27.8s,baz=36
RKT Rikitea 52.83 220 eT T 17 34 35.1
comp=Z,6.3nm,0.2s
KLU Klutina 52.90 335 eP P 16 38 54.5 +1.1
comp=Z,18nm,1.2s
EGAK Eagle 53.17 340 eP P 16 38 54.7 -0.5
comp=Z,24nm,1.3s
DOT Dot Lake 53.45 338 eP P 16 38 57.8 +0.5
comp=Z,52nm,1.2s
PAX Paxson 53.56 337 eP P 16 38 58.1 -0.1
PAX pmax pmax
comp=Z,24nm,1.3s
PAX Paxson 53.56 337 eP P 16 38 58.1 -0.1
comp=Z,24nm,1.3s
INK Inuvik 53.60 346 P P 16 38 58.0 -0.3
comp=Z,15nm,0.7s,baz=132,slow=7.8,SNR=32
INK LR LR 17 02 27.5
comp=Z,418nm,21.9s,baz=140,slow=37
SEW Seward 53.65 332 eP P 16 38 59.6 +0.8
comp=Z,18nm,1.0s
SML Sawmill 54.04 335 eP P 16 39 02.0 +0.3
SML pmax pmax
comp=Z,29nm,1.2s
SML Sawmill 54.04 335 eP P 16 39 02.0 +0.3
comp=Z,29nm,1.2s
BRLK Bradley Lake 54.13 332 eP P 16 39 02.7 +0.4
comp=Z,40nm,1.3s
OHAK Old Harbor 54.18 328 eP P 16 39 03.6 +0.9
comp=Z,95nm,1.4s
PMR Palmer 54.26 334 eP P 16 39 03.7 +0.5
PMR pmax pmax
comp=Z,27nm,1.4s
PMR Palmer 54.26 334 eP P 16 39 03.7 +0.5
comp=Z,27nm,1.4s
SUA Susitna One 54.86 334 eP P 16 39 08.3 +0.6
RND Reindeer 55.08 336 eP P 16 39 09.5 +0.2
RND pmax pmax
comp=Z,31nm,1.2s
RND Reindeer 55.08 336 eP P 16 39 09.4 +0.2
comp=Z,31nm,1.2s
ILAR Eielson Array 55.11 338 P P 16 39 09.3 0.0
comp=Z,13nm,1.1s,baz=146,slow=5.8,SNR=70
ILAR LR LR 17 05 02.4
comp=Z,404nm,19.9s,baz=132,slow=38
RSO Redoubt South 55.28 332 eP P 16 39 11.1 +0.2
SPU Mount Spurr 55.29 333 eP P 16 39 10.9 +0.2
COLA College 55.51 338‖ iP P 16 39 12.1 -0.1
FYU Fort Yukon 55.61 340 eP P 16 39 12.6 -0.3
comp=Z,37nm,1.2s
KTH Kantishna Hill 55.96 336 eP P 16 39 15.2 -0.3
comp=Z,16nm,1.2s
PPLA Purkeypile 56.14 335 eP P 16 39 17.2 +0.3
comp=Z,50nm,1.4s
TT01 Tatalina 57.72 334 eP P 16 39 27.6 -0.3
TTA Tatalina 57.73 334 eP P 16 39 27.4 -0.7
TTA Tatalina 57.73 334 eP P 16 39 27.4 -0.7
PPT Papeete 59.40 236 LR LR 17 00 20.2
comp=Z,60nm,19.0s,baz=115,slow=31
PPT2 Papeete2 59.41 236 eLR LR 16 57 13.2
comp=Z,649nm,26.2s
CPUP Villa Florida 61.92 135 P P 16 39 57.0 -0.3
comp=Z,7.9nm,0.7s,baz=325,slow=6.8,SNR=36
CPUP LR LR 17 06 45.7
comp=Z,115nm,18.9s,baz=337,slow=36
CPUP Villa Florida 61.92 135 eP P 16 39 56.7 -0.6
CPUP Villa Florida 61.92 135 eP P 16 39 56.6 -0.6
BDFB Brasilia 62.69 119 P P 16 40 03.3 +0.6
comp=Z,6.2nm,0.6s,baz=291,slow=10,SNR=12
BDFB LR LR 17 07 42.3
comp=Z,131nm,21.7s,baz=260,slow=36
BDFB Brasilia 62.69 119 eP P 16 40 02.8 +0.1
BDFB pmax pmax
comp=Z,20nm,0.8s
BDFB Brasilia 62.69 119 eP P 16 40 02.8 +0.1
comp=Z,20nm,0.8s
TBI Tubuai 62.72 230 eLR LR 16 58 40.9
comp=Z,577nm,29.0s,baz=43
TNA Tin City 63.50 335 eP P 16 40 07.8 +0.6
comp=Z,13nm,1.0s
SUMG Summit 64.40 17 eP P 16 40 12.7 -0.8
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 64.40 17 eP P 16 40 12.7 -0.8
comp=Z,9.2nm,0.9s
PLCA Paso Flores 65.67 155 P P 16 40 22.7 +0.9
comp=Z,8.5nm,0.9s,baz=346,slow=7.8,SNR=10.0
PLCA LR LR 17 04 43.3
comp=Z,424nm,18.5s,baz=311,slow=32
PLCA Paso Flores 65.67 155 eP P 16 40 22.2 +0.4
PLCA pmax pmax
comp=Z,69nm,1.6s
PLCA Paso Flores 65.67 155 eP P 16 40 22.2 +0.4
comp=Z,69nm,1.6s
SPB Sao Paulo 67.39 126 eP P 16 40 32.6 -0.3
comp=Z,19nm,1.0s
TRQA Tornquist 67.49 147 eP P 16 40 33.6 +0.2
comp=Z,83nm,1.9s
DAG Danmarks Havn 70.36 14 iP P 16 40 49.4 -1.2
DAG Danmarks Havn 70.36 14 iP P 16 40 49.4 -1.2
BILL Bilibino 73.74 337 iP P 16 41 10.7 -0.2
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL Bilibino 73.74 337 eP P 16 41 10.9 -0.1
comp=Z,16nm,1.4s
POLO Lamas de Olo 80.62 50 eP P 16 41 50.2 +0.1
SEY Seymchan 80.70 334 P P 16 41 50.8 +0.8
comp=Z,2.8nm,0.5s,baz=87,slow=5.2,SNR=18
SEY Seymchan 80.70 334‖ iP P 16 41 51.5 +1.5
PVIS Viseu 80.73 50 eP P 16 41 52.8 +2.1
PMTG Montargil 80.95 52 eP P 16 41 51.4 -0.4
comp=Z,20nm,1.0s
PNCL Nicolau / Gran 81.00 53 eP P 16 41 52.3 +0.2
comp=Z,33nm,2.2s
PFVI Vila Bisbo 81.05 54 eP P 16 41 53.0 +0.6
MTE Manteigas 81.08 50 eP P 16 41 52.7 +0.1
comp=Z,29nm,1.5s
PET Petropavlovsk 81.10 323‖ eP P 16 41 53.7 +1.4
PET pmax pmax
comp=Z,40nm,1.4s
MVO Moncorvo 81.23 50 eP P 16 41 53.6 +0.2
comp=Z,24nm,1.2s
PCBR Castelo Branco 81.29 51 eP P 16 41 53.9 +0.3
comp=Z,26nm,1.6s
MESJ Messejana 81.31 53 eP P 16 41 54.2 +0.5
comp=Z,32nm,2.0s
PMRV Marv??o 81.47 51 eP P 16 41 54.3 -0.3
comp=Z,23nm,1.5s
PEA1 Petropavlovsk- 81.61 323 eP P 16 41 56.4 +1.4
PEA0 Petropavlovsk- 81.61 323 eP P 16 41 55.9 +0.8
PETK Petropavlovsk- 81.61 323 P P 16 41 56.4 +1.4
comp=Z,7.0nm,0.6s,baz=82,slow=10,SNR=33
PBDV Barranco-do-Ve 81.70 54 eP P 16 41 57.0 +1.1
comp=Z,55nm,1.7s
PBAR Barrancos 82.10 52 eP P 16 41 58.3 +0.4
comp=Z,45nm,1.7s
PAB San Pablo 83.68 51 eP P 16 42 05.9 -0.3
PAB pmax pmax
comp=Z,33nm,1.8s
PAB San Pablo 83.68 51 eP P 16 42 05.9 -0.3
comp=Z,33nm,1.8s
TIXI Tiksi 83.73 346 P P 16 42 05.1 -0.5
comp=Z,5.4nm,0.7s,baz=38,slow=5.9,SNR=19
TIXI PP PP 16 45 18.2 -0.5
comp=Z,0.7nm,0.5s,baz=42,slow=8.1,SNR=3.1
TIXI Tiksi 83.73 346 *c* iP P 16 42 05.3 -0.3
TIXI pmax pmax
comp=Z,21nm,1.2s
TIXI Tiksi 83.73 346 eP P 16 42 04.8 -0.9
comp=Z,29nm,1.4s
ESDC Sonseca Array 83.92 50 P P 16 42 06.9 -0.5
comp=Z,2.9nm,0.6s,baz=304,slow=5.2,SNR=22
ES19 SONSECA Array 83.95 50 eP P 16 42 07.1 -0.5
NBO00 NORSAR Array S 84.13 27 eP P 16 42 08.3 +0.4
NB2 NORSAR Subarra 84.31 27 P P 16 42 09.3 +0.4
comp=Z,2.3nm,0.6s,baz=297,slow=4.8
NB200 NORSAR Array S 84.31 27 eP P 16 42 09.7 +0.7
NOA NORSAR Array B 84.31 27 P P 16 42 09.7 +0.7
comp=Z,2.6nm,0.6s,baz=304,slow=5.4,SNR=12
NOA LR LR 17 21 01.5
comp=Z,110nm,19.0s,baz=295,slow=37
ARA0 ARCESS Array S 84.47 16 eP P 16 42 08.6 -0.9
ARCES ARCESS Array B 84.47 16 P P 16 42 09.3 -0.2
comp=Z,4.2nm,0.6s,baz=314,slow=4.8,SNR=30
HFS Hagfors 85.83 27 LR LR 17 20 50.2
comp=Z,140nm,21.9s,slow=36
MSVF Nonsavu 86.92 250 eP P 16 42 25.7 +3.0
MSVF pmax pmax
comp=Z,39nm,1.1s
MSVF Nonsavu 86.92 250 eP P 16 42 25.6 +3.0
comp=Z,40nm,1.1s
FIA0 FINESS Array S 89.97 22 eP P 16 42 36.1 -0.1
FIA0 FINESS Array S 89.97 22 eP P 16 42 36.1 -0.1
FINES FINESS Array B 89.97 22 P P 16 42 36.1 -0.1
comp=Z,2.3nm,0.7s,baz=298,slow=4.1,SNR=8.6
CLL Collm 89.98 35 ePS PS 16 54 33.0 -5.1
YAK Yakutsk 90.03 338 P P 16 42 37.2 +0.7
comp=Z,0.6nm,0.4s,baz=257,slow=20,SNR=4.1
YAK Yakutsk 90.03 338 eP P 16 42 36.3 -0.1
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK Yakutsk 90.03 338 eP P 16 42 37.1 +0.7
comp=E,21nm,0.9s
FUORN Ofenpass-Fuorn 90.70 40 eP P 16 42 39.9 -0.4
comp=E,8.6nm,1.3s
BRG Berggiesshubel 90.72 35 e(P) P 16 42 39.5 -0.4
comp=E,3.9nm,1.1s
BRG Berggiesshubel 90.72 35 eP P 16 42 39.5 -0.4
BRG pmax pmax
comp=Z,4.0nm,1.1s
GEC2 GERESS Array S 91.63 37 eP P 16 42 44.4 +0.1
GEC2 pmax pmax
comp=Z,2.0nm,0.7s
GEC2 GERESS Array S 91.63 37 eP P 16 42 44.4 +0.1
comp=Z,1.8nm,0.7s
GERES GERESS Array B 91.63 37 P P 16 42 44.0 -0.3
comp=Z,1.0nm,0.6s,baz=322,slow=3.7,SNR=10
GERES LR LR 17 23 41.8
comp=Z,93nm,21.8s,baz=278,slow=35
GEA0 GERESS Array S 91.63 37 eP P 16 42 43.7 -0.6
NRIK Noril'sk 92.05 357 P P 16 42 46.0 +0.4
comp=Z,1.2nm,0.3s,baz=91,slow=2.6,SNR=6.2
VRAC Vranov 92.99 35 LR LR 17 25 10.5
comp=Z,89nm,21.4s,baz=303,slow=36
DBIC Dimbokro 94.14 82 LR LR 17 20 10.5
comp=Z,59nm,21.1s,baz=284,slow=32
VYHS Vyhne 94.68 35 eP P 16 42 58.2 -0.1
VYHS pmax pmax
comp=Z,5.0nm,1.5s
VYHS Vyhne 94.68 35 eP P 16 42 58.2 -0.1
KLMR Klimovskoe 94.83 18 eP P 16 42 56.3 -2.3
KLMR pmax pmax
comp=Z,5.0nm,1.1s
TORD Torodi Ar. Bea 97.98 73 LR LR 17 25 24.3
comp=Z,39nm,21.7s,baz=230,slow=34
OBN Obninsk 98.37 23 eP P 16 43 14.5 -0.2
OBN pmax pmax
comp=Z,6.0nm,0.7s
DZM Mont Dzumac 98.65 250 eLR LR 17 16 08.8
comp=Z,520nm,28.4s
SONA0 Songino Array 109.29 341 ePKKPbc PKKPbc 16 59 13.0 -1.4
SONM Songino Array 109.29 341 PKKPbc PKKPbc 16 59 13.0 -1.4
comp=Z,2.2nm,0.4s,baz=224,slow=6.2,SNR=3.7
MK32 Makanchi Array 114.81 357 ePKKPbc PKKPbc 16 58 53.9 -2.2
MKAR Makanchi Array 114.81 357 PKKPbc PKKPbc 16 58 53.9 -2.2
comp=Z,0.6nm,0.7s,baz=141,slow=6.2,SNR=4.2
WMQ Urumqi 117.30 353 PKP **PKPdf** 16 48 20.7 -1.8
WMQ LN
comp=Z,130nm,16.8s
WMQ LE
comp=Z,95nm,21.4s
WMQ LZ
comp=Z,150nm,26.0s
LZH Lanzhou 120.55 336 ePKP **PKPdf** 16 48 28.0 -1.1
LZH sPKP 16 48 59.5
LZH LN
comp=Z,150nm,18.1s
LZH LE
comp=Z,170nm,18.0s
LZH LZ
comp=Z,220nm,20.0s
GEYT Alibeck 120.57 19 PKP **PKPdf** 16 48 29.0 0.0
comp=Z,3.4nm,0.6s,baz=276,slow=4.3,SNR=10
GEYT pPKP **pPKPdf** 16 48 47.0 -0.6
comp=Z,2.8nm,0.9s,baz=298,slow=3.2,SNR=3.4
KSH Kashi 122.12 2 PKP **PKPdf** 16 48 30.2 -1.8
KSH sPKP 16 49 10.0
KSH PKS **PKSdf** 16 52 06.1 -2.7
KSH SKKS 16 56 52.1
KSH PPMZ
comp=Z,110nm,4.9s
KSH LN
comp=Z,340nm,9.7s
KSH LE
comp=Z,220nm,9.1s
KSH LZ
comp=Z,650nm,14.0s
STKA Stephens Creek 122.14 244 PKP **PKPdf** 16 48 32.1 +0.2
comp=Z,5.3nm,0.7s,baz=36,slow=4.3,SNR=12
STKA Stephens Creek 122.14 244 ePKIKP **PKPdf** 16 48 31.4 -0.6
STKA Stephens Creek 122.14 244 ePKPdf **PKPdf** 16 48 31.4 -0.6
ENH Enshi 122.98 328 ePKPdf **PKPdf** 16 48 33.5 -0.2
SYO Syowa Base 124.18 164‖ ePdiff **Pdif** 16 45 06.2 -2.9
SYO Syowa Base 124.18 164‖ eP **Sdif** 16 58 10.4 -1.9
CD2 Chengdu 125.11 335 PKP **PKPdf** 16 48 37.1 -0.7
WB2 Warramunga Arr 127.49 259 ePKPdf **PKPdf** 16 48 42.1 -0.4
WR1 Warramunga Arr 127.50 259 ePKPdf **PKPdf** 16 48 42.9 +0.3
WR1 epPKPdf **pPKPdf** 16 49 00.4 -0.9
WRA Warramunga Arr 127.50 259 PKP **PKPdf** 16 48 42.9 +0.3
comp=Z,4.5nm,0.7s,baz=79,slow=2.4,SNR=59
WRA pPKP **pPKPdf** 16 49 00.4 -0.9
comp=Z,1.5nm,0.7s,baz=83,slow=2.3,SNR=3.3
AS01 Alice Springs 128.31 254 ePKPdf **PKPdf** 16 48 43.4 -0.6
AS31 Alice Springs 128.35 254 ePKPpre PKPpre 16 48 28.1
AS31 ePKPdf **PKPdf** 16 48 43.9 -0.2
ASAR Alice Springs 128.36 254 PKhKP PKPpre 16 48 28.1
comp=Z,0.4nm,0.6s,baz=95,slow=4.3,SNR=13
ASAR PKP **PKPdf** 16 48 44.3 +0.2
comp=Z,3.1nm,0.8s,baz=99,slow=1.8,SNR=27
ASAR pPKP pPKPdf 16 49 01.5 -1.3
comp=Z,1.0nm,0.7s,baz=94,slow=1.3,SNR=3.8
LSA Lhasa 130.44 346 ePKIKP **PKPdf** 16 48 49.3 +0.7
LSA Lhasa 130.44 346 ePKPdf **PKPdf** 16 48 49.2 +0.7
LSA eSKPbc **SKPbc** 16 52 07.3 +0.7
BOSA Boshof 130.53 112 PKP **PKPdf** 16 48 48.7 +0.4
comp=Z,3.8nm,0.7s,baz=279,slow=4.3,SNR=9.6
CHTO Chiang Mai 137.74 331 ePKIKP **PKPdf** 16 48 59.6 -2.3
CHTO Chiang Mai 137.74 331 ePKPdf **PKPdf** 16 48 59.6 -2.3
CM31 Chiang Mai Arr 138.05 330 ePKPdf **PKPdf** 16 49 01.9 -0.6
CM31 eSKPbc **SKPbc** 16 52 29.5 -1.7
CMAR Chiang Mai Arr 138.05 330 PKP **PKPdf** 16 49 02.9 +0.4
comp=Z,2.2nm,0.7s,baz=327,slow=1.9,SNR=18
CMAR pPKP **pPKPdf** 16 49 21.4 +0.2
comp=Z,1.4nm,0.7s,baz=324,slow=1.7,SNR=4.6
CMAR SKPbc **SKiKP** 16 52 33.4 -1.8
comp=Z,1.6nm,1.2s,baz=20,slow=2.9,SNR=4.2
CMAR Chiang Mai Arr 138.05 330 *c* iPKIKP **PKPdf** 16 49 02.5 0.0
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CM01 Chiang Mai Arr 138.07 330 ePKPdf **PKPdf** 16 49 02.6 +0.1
CM01 eSKPbc **SKiKP** 16 52 33.9 -1.4
KULM Kulim 147.75 315 ePKPbc **PKPbc** 16 49 22.9 +0.3
MYKOM Kota Tinggi 147.87 306 ePKPbc **PKPbc** 16 49 23.2 +0.3
IPM Ipoh 148.08 314 ePKPbc **PKPbc** 16 49 23.3 -0.1
CISI Cisompet, Garu 149.47 287 ePKPdf **PKPdf** 16 49 24.2 +1.7
PSI Prapat 150.73 315 ePKIKP **PKPdf** 16 49 24.7 +0.1
PSI Prapat 150.73 315 ePKPdf **PKPdf** 16 49 24.7 +0.1
PSI ePKPbc **PKPbc** 16 49 30.2 0.0

*NEIC **02** 16:29:53.8±0.9, 32.82S×179.66W, h251km±10km, mb4.6/16, Error ellipse: s-maj=19.4km s-min=8.9km az=108.0*
*ISCJB **02** 16:29:57.1±0.6, 32.78S±0.03×179.51E±0.10, h250km, mb4.6/16, Error ellipse: s-maj=11.2km s-min=4.1km az=176.0*
*IDC **02** 16:30:00.1±6.9, 33.17S×179.96E, h286km±76km, mb4.0/4, mb1 4.2/6, mb1mx3.6/41, mbtmp4.6/6, Error ellipse: s-maj=87.4km s-min=25.5km az=180.0*

ISC 02 16:29:54.7±0.7, 32.82S±0.05×180.0W±0.1, h250km, n151, σ2.9 s34/155, mb4.7/16, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.96**	**27**	*e*Pn	**Pn**	**16 30 55.2**	**-2.8**
MXZ	**Matakaoa Point**	**4.94**	**196**	*e*Pn	**Pn**	**16 31 12.0**	**+2.4**
MXZ				*e*S	**S**	**16 32 04.9**	**-4.6**
MXZ	**Matakaoa Point**	**4.94**	**196**	PN	**Pn**	**16 31 12.3**	**+2.6**
MXZ				SN	**S**	**16 32 10.7**	**+1.3**
WMGZ	**Waiomatatini S**	**5.17**	**195**	PN	**Pn**	**16 31 16.1**	**+3.8**
WMGZ				SN	**S**	**16 32 16.5**	**+2.2**
HAZ	**Te Kaha**	**5.26**	**200**	PN	**Pn**	**16 31 17.9**	**+4.4**
HAZ				SN	**S**	**16 32 11.9**	**-4.6**
PKGZ	**Pakihiroa**	**5.31**	**197**	PN	**Pn**	**16 31 16.9**	**+2.7**
PUZ	**Puketiti**	**5.44**	**195**	PN	**Pn**	**16 31 17.3**	**+1.5**
TWGZ	**Tauwhareparae**	**5.61**	**197**	PN	**Pn**	**16 31 21.2**	**+3.3**
TWGZ				SN	**S**	**16 32 22.4**	**-2.0**
OPRZ	**Ohinepanea**	**5.77**	**209**	PN	Pn	16 31 25.6	+5.8
MARZ	**Manawahe**	**5.84**	**207**	PN	Pn	16 31 26.4	+5.6
CNGZ	**Carnagh Statio**	**5.85**	**194**	PN	**Pn**	**16 31 23.1**	**+2.3**
MWZ	**Matawai**	**5.87**	**200**	PN	**Pn**	**16 31 22.9**	**+1.7**
TKGZ	**Te Karaka**	**5.89**	**197**	PN	**Pn**	**16 31 22.3**	**+1.0**
URZ	**Urewera**	**5.93**	**203**	P	**Pn**	**16 31 23.5**	**+1.7**
	11nm,0.3s,baz=274,slow=5.2,SNR=128						
URZ				S	**S**	**16 32 32.0**	**+0.4**
	30nm,0.3s,baz=99,slow=21,SNR=13						
URZ	**Urewera**	**5.93**	**203**	*e*Pn	**Pn**	**16 31 23.5**	**+1.7**
URZ				*e*S	S	16 32 21.9	-10
URZ	**Urewera**	**5.93**	**203**	PN	**Pn**	**16 31 24.4**	**+2.5**
URZ				SN	**S**	**16 32 24.3**	**-7.3**
RAGZ	**Rawiri**	**6.06**	**200**	PN	**Pn**	**16 31 26.6**	**+3.1**
TARZ	**Mount Tarawera**	**6.13**	**207**	PN	Pn	16 31 30.3	+5.9
TOZ	**Tahuroa Road**	**6.15**	**216**	PN	Pn	16 31 30.4	+5.9
RIGZ	**Rimuhau**	**6.16**	**197**	PN	**Pn**	**16 31 26.5**	**+1.7**
RRRZ	**Republican Roa**	**6.21**	**207**	PN	Pn	16 31 30.3	+4.9
RRRZ				SN	**S**	**16 32 38.8**	**+0.8**
MUGZ	**Murupara**	**6.24**	**204**	PN	**Pn**	**16 31 28.1**	**+2.3**
RTZ	**Ruatahuna**	**6.30**	**202**	PN	**Pn**	**16 31 28.2**	**+1.7**
RTZ				SN	S	16 32 31.8	-8.3
PRRZ	**Paritu Road**	**6.34**	**195**	PN	**Pn**	**16 31 31.0**	**+4.0**
SNGZ	**Shannon Statio**	**6.34**	**200**	PN	**Pn**	**16 31 29.4**	**+2.4**
PRRZ	**Plateau Road**	**6.40**	**207**	PN	**Pn**	**16 31 32.0**	**+4.3**
ALRZ	**Allen Road**	**6.47**	**207**	PN	**Pn**	**16 31 33.0**	**+4.3**
KNZ	**Kokohu**	**6.48**	**197**	PN	**Pn**	**16 31 32.7**	**+4.0**
RAHZ	**Arahi**	**6.54**	**201**	PN	**Pn**	**16 31 32.5**	**+3.0**
MHGZ	**Mahia Peninsul**	**6.55**	**195**	PN	**Pn**	**16 31 31.8**	**+2.1**
KUTZ	**Kaahu Road**	**6.62**	**210**	PN	Pn	16 31 36.0	+5.5
WHHZ	**Waihua**	**6.65**	**199**	PN	**Pn**	**16 31 33.2**	**+2.4**
MRHZ	**Matea Rd**	**6.69**	**205**	PN	**Pn**	**16 31 34.4**	**+3.1**
NMHZ	**Naumai**	**6.79**	**202**	PN	**Pn**	**16 31 35.1**	**+2.4**
ARHZ	**Aropaoanui**	**6.89**	**200**	PN	**Pn**	**16 31 35.4**	**+1.6**
BKZ	**Black Stump Fm**	**6.96**	**203**	*e*Pn	**Pn**	**16 31 37.7**	**+2.9**
BKZ				*e*S	**S**	**16 32 55.2**	**+0.1**
BKZ	**Black Stump Fm**	**6.96**	**203**	PN	**Pn**	**16 31 36.2**	**+1.5**
HIZ	**Hauiti**	**7.08**	**215**	*e*Pn	Pn	16 31 42.6	+6.4
HIZ	**Hauiti**	**7.08**	**215**	PN	Pn	16 31 42.6	+6.4
MCHZ	**McNeill Hill**	**7.14**	**201**	PN	**Pn**	**16 31 39.9**	**+2.9**
KRVZ	**Karewarewa**	**7.21**	**208**	PN	**Pn**	**16 31 42.3**	**+4.0**
KWHZ	**Kaweka Forest**	**7.21**	**203**	PN	**Pn**	**16 31 39.3**	**+1.3**
CKHZ	**Cape Kidnapper**	**7.23**	**199**	PN	**Pn**	**16 31 41.3**	**+3.1**
WTVZ	**West Tongariro**	**7.25**	**209**	PN	**Pn**	**16 31 42.5**	**+4.1**
OTVZ	**Oturere**	**7.26**	**208**	PN	**Pn**	**16 31 41.5**	**+2.9**
TUVZ	**Tukino**	**7.35**	**208**	PN	**Pn**	**16 31 43.2**	**+3.4**
FWVZ	**Far West T-bar**	**7.38**	**208**	PN	**Pn**	**16 31 42.7**	**+2.5**
WHVZ	**Whangaehu Hut**	**7.39**	**208**	PN	**Pn**	**16 31 43.4**	**+3.0**
BHHZ	**Black Hill Sta**	**7.39**	**205**	PN	**Pn**	**16 31 42.4**	**+2.1**
KAHZ	**Kahuranaki**	**7.42**	**199**	PN	**Pn**	**16 31 41.7**	**+1.2**
WNVZ	**Wahianoa**	**7.42**	**208**	PN	**Pn**	**16 31 43.9**	**+3.1**
KRHZ	**Kereru**	**7.43**	**203**	PN	**Pn**	**16 31 42.0**	**+1.3**
KRHZ				SN	**S**	**16 33 01.5**	**-4.4**
MOVZ	**Moawhango**	**7.43**	**207**	PN	**Pn**	**16 31 43.4**	**+2.6**
PKVZ	**Pokaka**	**7.49**	**209**	PN	**Pn**	**16 31 45.2**	**+3.6**
MTVZ	**Mangateitei**	**7.53**	**208**	PN	**Pn**	**16 31 44.6**	**+2.7**
VRZ	**Vera Road**	**7.61**	**213**	PN	Pn	16 31 48.0	+5.1
PXZ	**Pawanui**	**7.64**	**199**	PN	**Pn**	**16 31 43.1**	**+0.6**
PNHZ	**Pukenui**	**7.73**	**203**	PN	**Pn**	**16 31 46.5**	**+2.0**
WPHZ	**Waipukurau**	**7.79**	**201**	PN	**Pn**	**16 31 47.8**	**+2.6**
PRHZ	**Porangahau**	**7.92**	**199**	PN	**Pn**	**16 31 49.1**	**+2.3**
TSZ	**Takapari Road**	**7.94**	**203**	PN	**Pn**	**16 31 49.0**	**+1.9**
WAZ	**Wanganui**	**8.04**	**209**	PN	**Pn**	**16 31 50.9**	**+2.6**
NEZ	**North Egmont**	**8.04**	**215**	PN	Pn	16 31 54.3	+5.9
LREZ	**Lake Rotokare**	**8.05**	**213**	PN	**Pn**	**16 31 52.8**	**+4.4**
DVHZ	**Dannevirke**	**8.09**	**202**	PN	**Pn**	**16 31 50.5**	**+1.5**
ANWZ	**Angora Road**	**8.15**	**200**	PN	**Pn**	**16 31 51.7**	**+2.0**
OHWZ	**Ohakea**	**8.30**	**206**	PN	**Pn**	**16 31 54.0**	**+2.4**
POWZ	**Post Office Ro**	**8.30**	**203**	PN	**Pn**	**16 31 53.2**	**+1.5**
PRWZ	**Pori Road**	**8.38**	**202**	PN	**Pn**	**16 31 54.9**	**+2.1**
BFZ	**Birch Farm**	**8.42**	**200**	*e*Pn	**Pn**	**16 31 54.6**	**+1.5**
BFZ				*e*S	**S**	**16 33 23.2**	**-5.5**
BFZ	**Birch Farm**	**8.42**	**200**	PN	**Pn**	**16 31 54.5**	**+1.4**
MRZ	**Mangatainoka R**	**8.61**	**203**	PN	**Pn**	**16 31 54.6**	**-1.0**
TIWZ	**Tintock**	**8.61**	**202**	PN	**Pn**	**16 31 54.5**	**-1.1**
CPWZ	**Castlepoint**	**8.64**	**200**	PN	**Pn**	**16 31 58.7**	**+2.8**
HOWZ	**Holdsworth Sta**	**8.84**	**203**	PN	**Pn**	**16 31 58.3**	**-0.2**
OGWZ	**Otaki Gorge**	**8.89**	**205**	PN	**Pn**	**16 31 58.1**	**-1.0**
TMWZ	**Te Maipa**	**8.91**	**201**	PN	**Pn**	**16 32 00.5**	**+1.0**
KIW	**Kapiti Island**	**9.02**	**206**	PN	**Pn**	**16 32 01.3**	**+0.5**
MTW	**Mount Morrison**	**9.08**	**202**	PN	**Pn**	**16 32 02.1**	**+0.6**
CAW	**Cannon Point**	**9.18**	**204**	PN	**Pn**	**16 32 02.6**	**-0.2**
TRWZ	**Traveller**	**9.24**	**201**	PN	**Pn**	**16 32 04.7**	**+1.1**
PAWZ	**Paruwai Farm**	**9.31**	**202**	PN	**Pn**	**16 32 04.8**	**+0.4**
DUWZ	**D'Urville Isla**	**9.36**	**210**	PN	**Pn**	**16 32 05.4**	**+0.4**
MSWZ	**Moikau Station**	**9.39**	**203**	PN	**Pn**	**16 32 05.8**	**+0.3**
WEL	**Wellington**	**9.44**	**205**	PN	**Pn**	**16 32 05.6**	**-0.4**
SNZO	**South Karori**	**9.49**	**205**	*e*Pn	**Pn**	**16 32 05.9**	**-0.8**
SNZO				*e*S	**S**	**16 33 48.4**	**-5.1**
BHW	**Baring Head**	**9.52**	**204**	PN	**Pn**	**16 32 06.6**	**-0.4**
PLWZ	**Palliser**	**9.53**	**202**	PN	**Pn**	**16 32 06.8**	**-0.4**
TCW	**Tory Channel**	**9.56**	**207**	PN	**Pn**	**16 32 07.4**	**-0.2**
TUWZ	**Tuamarina**	**9.88**	**208**	PN	**Pn**	**16 32 11.1**	**-0.4**
NNZ	**Nelson**	**9.93**	**211**	PN	**Pn**	**16 32 11.7**	**-0.5**
QRZ	**Quartz Range**	**10.00**	**215**	PN	**Pn**	**16 32 13.3**	**+0.2**
BSWZ	**Blackbirch Sta**	**10.15**	**207**	PN	**Pn**	**16 32 15.0**	**0.0**
THZ	**Tophouse**	**10.58**	**210**	*e*Pn	**Pn**	**16 32 21.3**	**+0.9**
THZ				*e*S	**S**	**16 34 14.6**	**-4.5**
THZ	**Tophouse**	**10.58**	**210**	PN	**Pn**	**16 32 20.4**	**0.0**
KHZ	**Kahutara**	**10.88**	**206**	*e*Pn	**Pn**	**16 32 24.3**	**+0.2**
KHZ				*e*S	S	16 34 13.9	-12
KHZ	**Kahutara**	**10.88**	**206**	PN	**Pn**	**16 32 23.8**	**-0.3**
DSZ	**Denniston Nort**	**11.06**	**214**	PN	**Pn**	**16 32 25.5**	**-1.0**
CTZ	**Chatham Island**	**11.21**	**167**	PN	P	16 32 44.7	+12
CTZ				SN	**S**	**16 34 38.3**	**+4.8**
LTZ	**Lake Taylor**	**11.69**	**209**	*e*Pn	**Pn**	**16 32 34.0**	**-0.3**
LTZ				*e*S	**S**	**16 34 40.8**	**-3.9**
LTZ	**Lake Taylor**	**11.69**	**209**	PN	**Pn**	**16 32 33.4**	**-0.9**
CRLZ	**Canterbury Las**	**12.22**	**206**	*e*Pn	**Pn**	**16 32 41.0**	**+0.2**
CRLZ	**Canterbury Las**	**12.22**	**206**	PN	**Pn**	**16 32 40.7**	**-0.1**
OXZ	**Oxford**	**12.23**	**209**	*e*Pn	**Pn**	**16 32 41.1**	**-0.8**
OXZ	**Oxford**	**12.23**	**209**	PN	**Pn**	**16 32 40.2**	**-1.0**
MQZ	**McQ

MSZ	**Milford Sound**	**15.13 215**	PN	**P**	**16 33 13.6**	**-2.1**
TUZ	**Tuapeka**	**15.37 208**	PN	**Pn**	**16 33 21.3**	**+2.1**
MLZ	**Mavora Lakes**	**15.56 213**	*eP*	**P**	**16 33 21.6**	**+1.1**
	56nm,1.7s					
WHZ	**Wether Hill Ro**	**16.04 212**	*eP*	**Pn**	**16 33 27.1**	**0.0**
	20nm,1.3s					
WHZ	**Wether Hill Ro**	**16.04 212**	PN	**Pn**	**16 33 27.5**	**+0.4**
SYZ	**Scrubby Hill**	**16.05 208**	PN	**Pn**	**16 33 30.3**	**+3.2**
DCZ	**Deep Cove**	**16.08 215**	*eP*	**Pn**	**16 33 28.1**	**+0.6**
	87nm,1.8s					
DZM	**Mont Dzumac**	**16.12 308**	*eP*	**P**	**16 33 27.5**	**+0.5**
	22nm,0.8s					
STKA	**Stephens Creek**	**32.38 261**	P	**P**	**16 36 03.7**	**+2.6**
	3.5nm,0.8s,baz=83,slow=12,SNR=5.3					
STKA	**Stephens Creek**	**32.38 261**	*eP*	**P**	**16 36 03.4**	**+2.2**
	4.1nm,1.8s					
CTAO	**Charters Tower**	**32.66 284**	*eP*	**P**	**16 36 03.2**	**-0.4**
	9.8nm,1.3s					
AS01	**Alice Springs**	**41.35 271**	*eP*	**P**	**16 37 17.9**	**+1.3**
AS31	**Alice Springs**	**41.39 271**	*eP*	**P**	**16 37 18.3**	**+1.4**
	3.3nm,0.6s					
ASAR	**Alice Springs**	**41.39 271**	P	**P**	**16 37 18.5**	**+1.6**
	7.5nm,0.5s,baz=108,slow=7.5,SNR=341					
WB2	**Warramunga Arr**	**42.59 276**	*eP*	**P**	**16 37 27.7**	**+1.1**
	16nm,0.5s					
WRAB	**Tennant Creek**	**42.60 276**	*eP*	**P**	**16 37 27.8**	**+1.2**
	12nm,0.7s					
WR1	**Warramunga Arr**	**42.60 276**	*eP*	**P**	**16 37 27.9**	**+1.2**
	24nm,0.3s					
WRA	**Warramunga Arr**	**42.60 276**	P	**P**	**16 37 27.9**	**+1.2**
	13nm,0.3s,baz=114,slow=8.1,SNR=385					
MTN	**Manton Dam**	**48.79 282**	*eP*	**P**	**16 38 15.9**	**+1.0**
	44nm,1.4s					
FITZ	**Fitzroy Crossi**	**50.75 273**	*eP*	**P**	**16 38 31.3**	**+1.6**
	35nm,1.8s					
FAKI	**Fak Fak**	**53.69 293**	*eP*	**P**	**16 38 51.0**	**-0.2**
	171nm,2.0s					
NVAR	**Mina Array Bea**	**91.14 44**	P	P	16 42 35.4	+4.1
	0.9nm,0.8s,baz=243,slow=6.5,SNR=4.2					
BMO	**Blue Mountains**	**95.97 39**	*eP*	**P**	**16 42 49.1**	**-4.0**
	9.9nm,0.6s					
HHC	**Hu-ho-hao-te**	**96.73 315**	*eP*	**P**	**16 42 58.2**	**+1.5**
HHC			pmax	pmax		
	comp=Z,19nm,0.9s					
HHC			pmax	pmax		
	comp=Z,68nm,5.1s					
SUA	**Susitna One**	**96.91 14**	*eP*	**P**	**16 42 53.3**	**-3.7**
	comp=Z,8.4nm,0.4s					
LZH	**Lanzhou**	**98.84 307**	*eP*	**Pdif**	**16 43 08.0**	**+1.7**
LZH			pP	pP	16 44 11.6	+4.4
LZH			sP	sP	16 44 39.0	+5.8
LZH			PP	**PP**	**16 47 17.2**	**+5.4**
LZH			pmax	pmax		
	comp=Z,16nm,1.5s					
LZH			pmax	pmax		
	comp=Z,52nm,9.3s					
FIA0	**FINESS Array S**	**146.78 337**	*e*PKPdf	**PKPab**	**16 49 07.3**	**-1.1**
FINES	**FINESS Array B**	**146.78 337**	PKPbc	**PKPab**	**16 49 07.3**	**-1.1**
	comp=Z,2.4nm,0.5s,baz=42,slow=3.6,SNR=27					
NB2	**NORSAR Subarra**	**150.84 349**	PKP	**PKPbc**	**16 49 18.1**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=19,slow=2.6					
NB200	**NORSAR Array S**	**150.84 349**	*e*PKPbc	**PKPbc**	**16 49 18.2**	**+1.4**
NOA	**NORSAR Array B**	**150.84 349**	PKPbc	**PKPbc**	**16 49 18.2**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=15,slow=4.2,SNR=4.6					

MEX 02 16:31:41.8±0.3, 15°63N×93°46W, h22km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.24**	**71**	*eP*	Pb	16 31 46.7	-1.1
PCIG				*eS*	Sb	16 31 49.6	-2.4

*IDC **02** 16:33:31.6±1.6, 55°.94N×162°.22E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.4/50, mbtmp3.7/5, ML2.4/1, Error ellipse: s-maj=37.3km s-min=28.9km az=163.0*
*KRSC **02** 16:33:34.1±0.6, 55°.74N×162°.28E, h56km±16km, ML3.9*
*MOS **02** 16:33:35.4±0.7, 55°.79N×162°.29E, h46km, mb4.2/2, Error ellipse: s-maj=10.2km s-min=6.1km az=75.2*

ISC 02 16:33:35.5±1.1, 55°.77N±0°.02×162°.21E±0°.03, h32km±9km, n67,σ1°56/115, mb3.7/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.56**	**29**	PN	**Pb**	**16 33 47.3**	**+0.3**
KBG				S	**Sn**	**16 33 56.8**	**+1.5**
KBG	**Krutoberegovo**	**0.56**	**29**	*i* P	**Pb**	**16 33 47.3**	**+0.3**
KBG				*i* S	**Sn**	**16 33 56.8**	**+1.5**
ZLN	**Zelenaya**	**0.83**	**288**	PN	**Pn**	**16 33 51.5**	**+0.5**
ZLN				S	**Sn**	**16 34 03.7**	**+1.5**
ZLN	**Zelenaya**	**0.83**	**288**	*i* P	**Pn**	**16 33 51.5**	**+0.5**
ZLN				*i* S	**Sn**	**16 34 03.7**	**+1.5**
CIRR	**Tsirk**	**0.89**	**293**	PN	**Pn**	**16 33 52.4**	**+0.5**
CIRR				S	**Sn**	**16 34 05.1**	**+1.3**
CIRR	**Tsirk**	**0.89**	**293**	*i* P	**Pn**	**16 33 52.4**	**+0.5**
CIRR				*i* S	**Sn**	**16 34 05.1**	**+1.3**
LGNR	**Loginova**	**0.91**	**291**	PN	**Pn**	**16 33 52.9**	**+0.6**
LGNR				S	**Sn**	**16 34 05.8**	**+1.3**
LGNR	**Loginova**	**0.91**	**291**	*i* P	**Pn**	**16 33 52.9**	**+0.6**
LGNR				*i* S	**Sn**	**16 34 05.8**	**+1.3**
SMKR	**Semkarok**	**0.92**	**333**	PN	**Pn**	**16 33 52.8**	**+0.6**
SMKR				S	**Sn**	**16 34 06.0**	**+1.8**
SMKR	**Semkarok**	**0.92**	**333**	*i* P	**Pn**	**16 33 52.8**	**+0.6**
SMKR				*i* S	**Sn**	**16 34 06.0**	**+1.8**
BDR	**Baidarnaya**	**0.98**	**325**	PN	**Pb**	**16 33 53.8**	**-0.2**
BDR				S	**Sn**	**16 34 08.0**	**+2.2**
BDR	**Baidarnaya**	**0.98**	**325**	*i* P	**Pb**	**16 33 53.8**	**-0.2**
BDR				*e*S	**Sn**	**16 34 08.0**	**+2.2**
BZMR	**Bezymyannaya**	**0.99**	**280**	PN	**Pn**	**16 33 53.7**	**+0.5**
BZMR				S	**Sn**	**16 34 06.8**	**+0.7**
BZMR	**Bezymyannaya**	**0.99**	**280**	*e*P	**Pn**	**16 33 53.7**	**+0.5**
BZMR				*e*S	**Sn**	**16 34 06.8**	**+0.7**
KRSR	**Krestovskiy**	**1.03**	**297**	PN	**Pn**	**16 33 53.7**	**0.0**
KRSR				S	**Sn**	**16 34 06.8**	**-0.3**
KRSR	**Krestovskiy**	**1.03**	**297**	*i* P	**Pn**	**16 33 53.7**	**0.0**
KRSR				*i* S	**Sn**	**16 34 06.8**	**-0.3**
KLY	**Klyuchi**	**1.03**	**303**	PN	**Pn**	**16 33 52.6**	**-1.1**
KLY				S	**Sb**	**16 34 05.4**	**-2.6**
KLY	**Klyuchi**	**1.03**	**303**	*i* P	**Pn**	**16 33 52.6**	**-1.1**
KLY				*i* S	**Sb**	**16 34 05.4**	**-2.6**
SRKR	**Sorokina**	**1.06**	**327**	PN	**Pb**	**16 33 54.9**	**-0.5**
SRKR				S	**Sn**	**16 34 10.3**	**+2.4**
SRKR	**Sorokina**	**1.06**	**327**	*i* P	**Pb**	**16 33 54.9**	**-0.5**
SRKR				*e*S	**Sn**	**16 34 10.3**	**+2.4**
KMNR	**Kamenistaya**	**1.12**	**270**	PN	**Pn**	**16 33 56.0**	**+1.1**
KMNR				S	**Sb**	**16 34 11.1**	**+0.5**
KMNR	**Kamenistaya**	**1.12**	**270**	*i* P	**Pn**	**16 33 56.0**	**+1.1**
KMNR				*e*S	**Sb**	**16 34 11.1**	**+0.5**
KPT	**Kopyto**	**1.14**	**281**	PN	**Pb**	**16 33 56.3**	**-0.4**
KPT				S	**Sb**	**16 34 11.4**	**+0.2**
KPT	**Kopyto**	**1.14**	**281**	*e*P	**Pb**	**16 33 56.3**	**-0.4**
KPT				*e*S	**Sb**	**16 34 11.4**	**+0.2**
MKZ	**Mys Kozlova**	**1.25**	**193**	PN	**Pn**	**16 33 56.3**	**-0.3**
MKZ				S	**Sn**	**16 34 12.1**	**-0.1**
MKZ	**Mys Kozlova**	**1.25**	**193**	*i* P	**Pn**	**16 33 56.3**	**-0.3**
MKZ				*e*S	**Sn**	**16 34 12.1**	**-0.1**
TUMR	**Tumrok**	**1.27**	**248**	PN	**Pn**	**16 33 58.2**	**+1.1**
TUMR				S	**Sb**	**16 34 15.7**	**+0.7**
TUMR	**Tumrok**	**1.27**	**248**	*e*P	**Pn**	**16 33 58.2**	**+1.1**
TUMR				*e*S	**Sb**	**16 34 15.7**	**+0.7**
KOZ	**Kozyrevsk**	**1.35**	**283**	PN	**Pb**	**16 33 59.7**	**-0.5**
KOZ				S	**Sb**	**16 34 18.2**	**+1.1**
KOZ	**Kozyrevsk**	**1.35**	**283**	*e*P	**Pb**	**16 33 59.7**	**-0.5**
KOZ				*e*S	**Sb**	**16 34 18.2**	**+1.1**
ESO	**Esso**	**1.99**	**276**	PN	**Pn**	**16 34 09.0**	**+2.2**
ESO				S	**Sb**	**16 34 33.5**	**-1.8**
ESO	**Esso**	**1.99**	**276**	*e*P	**Pn**	**16 34 09.0**	**+2.2**
ESO				*e*S	**Sb**	**16 34 33.5**	**-1.8**
BKI	**Bering**	**2.21**	**103**	PN	**Pn**	**16 34 10.5**	**+0.6**
BKI				S	**Sn**	**16 34 36.9**	**+0.8**
BKI	**Bering**	**2.21**	**103**	*e*P	**Pn**	**16 34 10.5**	**+0.6**
BKI				*e*S	**Sn**	**16 34 36.9**	**+0.8**
NLC	**Nalytchevo**	**3.10**	**214**	PN	**Pn**	**16 34 24.4**	**+2.4**
NLC				S	**Sn**	**16 34 59.2**	**+1.4**
NLC	**Nalytchevo**	**3.10**	**214**	P	**Pn**	**16 34 24.4**	**+2.4**
NLC				*e*S	**Sn**	**16 34 59.2**	**+1.4**
SDLR	**Sedlovina**	**3.16**	**219**	PN	**Pn**	**16 34 24.3**	**+1.2**
SDLR				S	**Sn**	**16 35 01.8**	**+2.1**
SDLR	**Sedlovina**	**3.16**	**219**	*e*P	**Pn**	**16 34 24.3**	**+1.2**
SDLR				*e*S	**Sn**	**16 35 01.8**	**+2.1**
KRX	**Arik**	**3.18**	**222**	PN	**Pn**	**16 34 26.1**	**+2.7**
KRX	**Arik**	**3.18**	**222**	P	**Pn**	**16 34 26.1**	**+2.7**
KRER	**Koryakskii**	**3.19**	**221**	PN	**Pn**	**16 34 25.2**	**+1.7**
KRER				S	**Sn**	**16 35 04.1**	**+3.6**
KRER	**Koryakskii**	**3.19**	**221**	P	**Pn**	**16 34 25.2**	**+1.7**
KRER				S	**Sn**	**16 35 04.1**	**+3.6**
SMAR	**Somma**	**3.20**	**220**	PN	**Pn**	**16 34 25.0**	**+1.3**
SMAR	**Somma**	**3.20**	**220**	*e*P	**Pn**	**16 34 25.0**	**+1.3**
AVH	**Avacha**	**3.22**	**220**	PN	**Pn**	**16 34 25.8**	**+1.9**
AVH				S	**Sn**	**16 35 03.9**	**+2.7**
AVH	**Avacha**	**3.22**	**220**	*e*P	**Pn**	**16 34 25.8**	**+1.9**
AVH				S	**Sn**	**16 35 03.9**	**+2.7**
GNL	**Ganaly**	**3.23**	**232**	PN	**Pn**	**16 34 25.4**	**+1.4**
GNL	**Ganaly**	**3.23**	**232**	*e*P	**Pn**	**16 34 25.4**	**+1.4**
UGLR	**Uglovaya**	**3.24**	**219**	PN	**Pn**	**16 34 25.7**	**+1.6**
UGLR				S	**Sn**	**16 35 02.4**	**+0.8**
UGLR	**Uglovaya**	**3.24**	**219**	*e*P	**Pn**	**16 34 25.7**	**+1.6**
UGLR				S	**Sn**	**16 35 02.4**	**+0.8**
DALK	**Dalny**	**3.41**	**218**	*e*S	**Sn**	**16 35 06.6**	**+1.1**
PET	**Petropavlovsk**	**3.45**	**219**	*e*PN	**Pn**	**16 34 28.5**	**+1.6**
PET				*e*S	**Sn**	**16 35 09.9**	**+3.4**
PET				pmax	pmax		
	comp=Z,20nm,0.5s						
PET				smax	smax		
	comp=N,90nm,0.5s						
PET				smax	smax		
	comp=E,71nm,0.7s						
PET	**Petropavlovsk**	**3.45**	**219**	P	**Pn**	**16 34 27.7**	**+0.8**
PET				*e*S	**Sn**	**16 35 06.9**	**+0.4**
OSSR	**Ossora**	**3.52**	**7**	PN	**Pn**	**16 34 29.7**	**+1.9**
OSSR	**Ossora**	**3.52**	**7**	P	**Pn**	**16 34 29.7**	**+1.9**
PETK	**Petropavlovsk-**	**3.75**	**227**	Pn	**Pn**	**16 34 32.6**	**+1.6**
	comp=E,1.3nm,0.3s,baz=60,slow=18,SNR=37						
PETK				Sn	**Sb**	**16 35 22.2**	**-3.6**
	comp=E,0.7nm,0.3s,baz=70,slow=27,SNR=2.7						
KRMR	**Karymshinskiy**	**3.79**	**221**	S	**Sn**	**16 35 17.6**	**+2.5**
RUS	**Russkaya**	**3.99**	**215**	PN	**Pn**	**16 34 35.6**	**+1.3**
RUS	**Russkaya**	**3.99**	**215**	*e*P	**Pn**	**16 34 35.6**	**+1.3**
RUS				S	**Sn**	**16 35 20.0**	**+0.1**
ASAK	**Asacha**	**4.24**	**219**	PN	**Pn**	**16 34 39.7**	**+1.9**
ASAK	**Asacha**	**4.24**	**219**	P	**Pn**	**16 34 39.7**	**+1.9**
TIXI	**Tiksi**	**21.24**	**331**	P	**P**	**16 38 18.4**	**+0.1**
	comp=E,1.1nm,0.7s,baz=125,slow=10,SNR=6.0						
ILAR	**Eielson Array**	**26.08**	**49**	P	**P**	**16 39 05.6**	**-0.2**
	comp=E,0.9nm,0.4s,baz=263,slow=7.2,SNR=9.8						
KMI	**Kunming**	**52.52**	**260**	P	**P**	**16 42 42.6**	**-3.0**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FINES	**FINESS Array B**	**58.15**	**337**	P	**P**	**16 43 24.4**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=31,slow=8.5,SNR=6.5						
FINES	**FINESS Array B**	**58.15**	**337**	P	**P**	**16 43 24.4**	**-1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**68.49**	**69**	P	**P**	**16 44 35.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=302,slow=5.2,SNR=3.2						

*IDC **02** 16:40:13.8±2.1, 41°.25N×143°.74E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/48, mbtmp3.4/4, ML2.4/2, Error ellipse: s-maj=79.5km s-min=30.3km az=88.0*
*JMA **02** 16:40:19.4±0.1, 41°.40N×142°.95E, h40km±3km, M3.1*

ISC 02 16:40:18.3±1.6, 41°.40N±0°.05×143°.04E±0°.06, h18km±5km, n24,σ1°33/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.63**	**8**	P	**Pn**	**16 40 31.6**	**-0.7**
JEM				S	**Sb**	**16 40 40.3**	**+1.2**
JNBK	**Urakawa-nobuka**	**0.91**	**346**	P	**Pg**	**16 40 35.7**	**-0.4**
JNBK				*e*S	**Sg**	**16 40 48.3**	**+0.2**
JCH	**Churui**	**1.24**	**11**	P	**Pn**	**16 40 40.6**	**-0.2**
JCH				*e*S	**Sb**	**16 40 56.8**	**-0.1**
JBT2	**Biratori 2**	**1.47**	**340**	P	**Pn**	**16 40 43.9**	**0.0**
JBT2				*e*S	**Sn**	**16 41 02.9**	**+0.2**
JOT	**Ohata**	**1.50**	**270**	P	**Pn**	**16 40 43.4**	**-0.9**
JKB	**Kayabe**	**1.58**	**289**	P	**Pn**	**16 40 44.8**	**-0.6**
JKB				S	**Sn**	**16 41 03.5**	**-1.9**
JTM	**Tenmabayashi**	**1.61**	**249**	P	**Pn**	**16 40 45.7**	**-0.1**
JTM				S	**Sn**	**16 41 03.9**	**-0.8**
JOB	**Onbets**	**1.62**	**21**	P	**Pn**	**16 40 46.1**	**+0.2**
JOB				S	**Sn**	**16 41 05.1**	**-1.2**
JNB	**Noboribetsu**	**1.84**	**306**	P	**Pn**	**16 40 48.6**	**-0.4**
JNB				S	**Sn**	**16 41 10.4**	**-1.4**
JAR	**Ashorobuto**	**1.98**	**16**	P	**Pn**	**16 40 50.1**	**-0.8**
JAR				S	**Sn**	**16 41 14.1**	**-1.0**
JSR	**Shiriuchi**	**1.98**	**275**	P	**Pn**	**16 40 50.8**	**0.0**
JSR				*e*S	**Sn**	**16 41 14.1**	**-1.0**
JAK	**Akkeshi**	**2.02**	**37**	P	**Pn**	**16 40 51.0**	**-0.4**
JYM2	**Yakumo 2**	**2.13**	**291**	P	**Pn**	**16 40 52.5**	**-0.4**
ASAJ	**Asahikawa**	**2.74**	**353**	Pn	**Pn**	**16 41 02.5**	**+1.1**
	0.3nm,0.3s,baz=205,slow=14,SNR=9.7						
MJAR	**Matsushiro Arr**	**6.14**	**219**	Pn	**Pn**	**16 41 49.4**	**+1.4**
	0.2nm,0.3s,baz=31,slow=13,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**29.63**	**130**	T	T	17 17 44.2	
	baz=328,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**29.64**	**130**	T	T	17 17 45.5	
	baz=328,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**29.64**	**130**	T	T	17 17 45.1	
	baz=328,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**30.48**	**131**	T	T	17 18 46.6	
	baz=324,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**30.49**	**131**	T	T	17 18 54.5	
	baz=324,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**30.50**	**131**	T	T	17 18 49.0	
	baz=324,slow=76,SNR=13						
WMQ	**Urumqi**	**40.17**	**293**	P	**P**	**16 47 57.3**	**+4.0**
WMQ				LR	LR		
	comp=N,150nm,17.2s						
WMQ				LR	LR		
	comp=E,81nm,11.4s						
WMQ				LR	LR		
	comp=Z,150nm,23.0s						
WRA	**Warramunga Arr**	**61.56**	**189**	P	**P**	**16 50 32.1**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=5.4,slow=6.9,SNR=4.6						
ASAR	**Alice Springs**	**65.28**	**189**	P	**P**	**16 50 57.0**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=7.2,slow=8.0,SNR=5.6						

*IDC **02** 16:42:04.9±7.1, 33°.54S×68°.00W, h167km±56km, mb3.5/5, mb1 3.7/8, mb1mx3.5/29, mbtmp4.0/8, Error ellipse: s-maj=50.2km s-min=24.7km az=28.0*
*ISCJB **02** 16:42:06.8±0.6, 33°.34S±0°.07×67°.94W±0°.06, h187km±4km, mb3.5/5, Error ellipse: s-maj=12.2km s-min=6.4km az=150.9*
*GUC **02** 16:42:06.7±0.3, 32°.60S×67°.81W, h148km±83km, ML4.1*
*SJA **02** 16:42:06.7±1.0, 33°.33S×67°.96W, h196km±13km, ML3.8, MW3.8*

ISC 02 16:42:07.1±0.8, 33°.37S±0°.08×67°.91W±0°.06, h185km±6km, n31,σ1°11/39, mb3.4/5,7D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAGR	**Agrelo**	**0.82**	**290**	*e*P	**Pn**	**16 42 35.4**	**+1.2**
AAGR				*e*S	**Sn**	**16 42 54.5**	**-0.7**
ARCO	**CERRO ARCO**	**1.01**	**301**	*e*P	**Pn**	**16 42 36.4**	**+0.8**
ARCO				IAML		16 42 37.0	
	comp=Z,373nm,0.3s						
ASAL	**Salagasta**	**1.10**	**315**	*e*P	**Pn**	**16 42 37.3**	**+1.1**
ACAN	**Cantantal**	**1.25**	**29**	*e*P	**Pn**	**16 42 38.3**	**+1.0**
ACAN				*e*S	**Sn**	**16 42 59.4**	**-1.3**
RTCV	**Cerro Valdivia**	**1.60**	**340**	*e*P	**Pn**	**16 42 40.9**	**+0.4**
RTCV				*e*S	**Sn**	**16 43 05.9**	**-0.5**
RTLS	**Leoncito**	**1.96**	**323**	*e*P	**Pn**	**16 42 45.3**	**+0.9**
MRA	**San Martin**	**2.07**	**63**	*e*P	**Pn**	**16 42 45.8**	**+0.5**
MRA				IAML		16 42 46.7	
	comp=Z,162nm,0.7s						
RTLL	**Cerro Villicun**	**2.09**	**347**	*e*S	**Sn**	**16 43 15.0**	**-0.5**
CLCH	**Cerro Calan**	**2.20**	**269**	*i* P	**Pn**	**16 42 47.4**	**+0.6**
CLCH				*i* S	**Sn**	**16 43 18.2**	**+0.6**
CLCH				IAML		16 43 20.7	
	comp=E,682nm,0.5s						
ANTU	**Antumapu**	**2.29**	**264**	IAML		16 43 21.1	
	comp=N,584nm,0.5s						
PEL	**Peldehue**	**2.34**	**275**	*i* P	**Pn**	**16 42 48.0**	**-0.3**
PEL				*i* S	**Sn**	**16 43 19.3**	**-1.0**
PEL				IAML		16 43 22.6	
	comp=N,926nm,0.3s						
RCDM	**Rinconada Maip**	**2.43**	**266**	*i* S	**Sn**	**16 43 19.6**	**-2.4**
RCDM				IAML		16 43 22.2	
	comp=E,623nm,0.1s						
AMOG	**MOGNA**	**2.48**	**348**	*e*P	**Pn**	**16 42 50.7**	**+0.7**
AMOG				*e*S	**Sn**	**16 43 22.1**	**-1.2**
ROCH	**El Roble**	**2.63**	**278**	*i* P	**Pn**	**16 42 51.5**	**-0.4**
ROCH				*i* S	**Sn**	**16 43 25.7**	**-0.9**
ROC1	**El Roble**	**2.64**	**278**	*e*P	**Pn**	**16 42 51.8**	**-0.1**
ROC1				*e*S	**Sn**	**16 43 25.6**	**-1.2**
TCA	**Tanti**	**3.46**	**55**	*e*P	**Pn**	**16 43 01.3**	**-0.4**
TCA				IAML		16 43 01.5	
	comp=Z,103nm,0.4s						
AGUA	**GUANDACOL**	**3.91**	**352**	*e*P	**Pn**	**16 43 07.9**	**+0.6**
VCA	**Vinchina**	**4.63**	**357**	*e*P	**Pn**	**16 43 17.2**	**+0.6**
VCA				IAML		16 44 17.6	
	comp=Z,143nm,0.4s						
CYA	**Choya**	**5.24**	**21**	*e*P	**Pn**	**16 43 22.5**	**-1.8**
CYA				IAML		16 43 32.9	
	comp=Z,98nm,0.2s						
LVC	**Limon Verde**	**10.76**	**355**	P	**Pn**	**16 44 36.4**	**-0.5**
	comp=Z,46nm,0.3s,baz=184,slow=8.2,SNR=9.4						
CPUP	**Villa Florida**	**11.55**	**55**	P	**Pn**	**16 44 42.8**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=222,slow=11,SNR=3.3						
LPAZ	**La Paz**	**17.01**	**359**	P	**Pn**	**16 45 55.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=148,slow=12,SNR=3.4						
SIV	**San Ignacio**	**18.38**	**21**	P	**P**	**16 46 09.3**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=224,slow=8.4,SNR=7.9						
TXAR	**Lajitas Array**	**70.97**	**327**	P	**P**	**16 53 04.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=124,slow=7.7,SNR=3.0						
BOSA	**Boshof**	**77.28**	**116**	P	**P**	**16 53 41.6**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=272,slow=5.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**80.77**	**68**	P	**P**	**16 54 00.6**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=261,slow=5.9,SNR=32						
TORD				pP	**pP**	**16 54 46.2**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=253,slow=4.7,SNR=4.2						
PDAR	**Pinedale Array**	**84.84**	**331**	P	**P**	**16 54 21.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=164,slow=3.7,SNR=2.7						
NVAR	**Mina Array Bea**	**85.41**	**323**	P	**P**	**16 54 24.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=161,slow=3.3,SNR=4.0						
WRA	**Warramunga Arr**	**122.89**	**205**	PKP	**PKPdf**	**17 00 41.1**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=161,slow=1.7,SNR=18						
ZALV	**Zalesovo Beam**	**151.79**	**35**	PKPbc	**PKPbc**	**17 01 39.6**	**+0.5**
	comp=Z,2.6nm,0.4s,baz=308,slow=4.2,SNR=13						
MKAR	**Makanchi Array**	**153.73**	**50**	PKPbc	**PKPbc**	**17 01 43.8**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=294,slow=1.2,SNR=3.8						

*CSEM **02** 16:48:31.8±0.2, 38°.14N×23°.96E, h12km, ML1.9, Error ellipse: s-maj=3.8km s-min=3.0km az=97.0*
*ATH **02** 16:48:32.5, 38°.15N×23°.91E, h1±1km±2km, ML1.7/10, Error ellipse: s-maj=2.2km s-min=0.9km az=223.0*

THE 02 16:48:33.1, 38°.14N×23°.89E, h8km±1km, ML1.9/8, Error ellipse: s-maj=1.8km s-min=0.3km az=124.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTL	**Penteli**	**0.10**	**193**	P	Pg	16 48 35.6	+0.1
PTL				S	Sg	16 48 37.4	+0.2
PTL	**Penteli**	**0.10**	**193**	P	Pg	16 48 35.7	+0.2
PTL				S	Sg	16 48 37.4	+0.2
PTL	**Penteli**	**0.10**	**193**	P	Pg	16 48 35.7	+0.2
PTL				S	Sg	16 48 37.1	-0.1
PTL				AML	AML	16 48 37.5	
	comp=E,2110μm,0.2s						
PTL				AML	AML	16 48 37.5	
	comp=N,2230μm,0.2s						
ATH	**Athens Observa**	**0.22**	**219**	P	Pg	16 48 37.8	+0.3
ATH				S	Sg	16 48 41.1	+0.6
ATH	**Athens Observa**	**0.22**	**219**	P	Pg	16 48 37.8	+0.3
ATH				S	Sg	16 48 41.1	+0.6
EREA	**Eretria**	**0.28**	**7**	P	Pg	16 48 38.8	+0.1
EREA				S	Sg	16 48 42.6	+0.2
EREA	**Eretria**	**0.28**	**7**	P	Pg	16 48 38.8	+0.1
EREA				S	Sg	16 48 42.6	+0.2
VLY	**Voula,Athens**	**0.30**	**195**	P	Pg	16 48 39.1	0.0
VLY				S	Sg	16 48 43.5	+0.4
VLY	**Voula,Athens**	**0.30**	**195**	P	Pg	16 48 39.1	0.0
VLY				S	Sg	16 48 43.5	+0.4
VLY	**Voula,Athens**	**0.30**	**195**	P	Pg	16 48 39.2	+0.1
VLY				S	Sg	16 48 42.6	-0.5
VLY				A

JAM				*e*S	Sb	17 07 40.6	+0.2
JZK	**Kikaishima**	**0.44**	**139**	P	Pg	17 07 40.1	-0.4
JZK				*e*S	Sb	17 07 47.5	+0.5
JAMN	**Amaminishikomi**	**0.58**	**225**	P	Pb	17 07 42.6	-0.2
JAMN				*e*S	Sg	17 07 51.1	+0.4
JTAJ	**Takarajima**	**0.63**	**323**	P	Pb	17 07 43.8	+0.1
JTAJ				*e*S	Sg	17 07 53.1	+0.7
JTK	**Tokunoshima**	**1.05**	**215**	P	Pb	17 07 49.7	-1.3
JTK				*e*S	Sb	17 08 04.3	-0.2
JNN	**Nakanoshima**	**1.21**	**10**	P	Pn	17 07 51.6	-1.7
JOKE	**Okinoerabujima**	**1.59**	**217**	P	Pn	17 07 58.9	+0.3
JYAK	**Yakushimahirau**	**1.75**	**25**	P	Pn	17 08 01.0	+0.2
JKC	**Kuchinoerabu**	**1.87**	**15**	P	Pn	17 08 00.9	-1.5
JOW	**Kunigami**	**2.18**	**214**	P	Pn	17 08 07.7	+1.1
JIH	**Iheya**	**2.19**	**223**	P	Pn	17 08 08.3	+1.6

NIED ***02*** *17:07:00,21.°90N×121.°20E,h32km,Mw4.9 Best double couple: M◎2.89000×10^16 NP1:φs160.00000°,δ50.00000°, λ23.00000°. NP2:φs55.00000°,δ73.00000°,λ138.00000°.*
JMA ***02*** *17:07:46.6±0.6,21.°94N×121.°21E,h43km,M5.1*
ISCJB ***02*** *17:07:52.3±0.2,22.°22N±0.°01×121.°47E±0.°02,h41km±1km, mb4.9/174,MS4.4/42,Error ellipse: s-maj=2.4km s-min=2.0km az=16.9*
TAP ***02*** *17:07:52.3,22.°26N×121.°34E,h22km,ML5.2,B*
NEIC ***02*** *17:07:54.0±0.6,22.°24N×121.°41E,h43km±5km,mb5.0/80, Error ellipse: s-maj=5.8km s-min=4.7km az=105.0*
NEIC Recorded [4 TAP] in Taitung, [3 TAP] in Pingtung, [2 TAP] in Chiayi and [1 TAP] in Hualien and Yunlin.
BJI ***02*** *17:07:53.2,22.°30N×121.°25E,h30km,mb4.5/73,mB4.8/53, ML4.7/7,Ms4.7/87,Ms7 4.6/80*
MOS ***02*** *17:07:53.5±1.0,22.°26N×121.°44E,h51km,mb5.3/73, MS4.6/18,Error ellipse: s-maj=7.2km s-min=4.0km az=114.2*
IDC ***02*** *17:07:54.2±1.3,22.°21N×121.°59E,h48km±11km,mb4.5/38, mb1 4.6/40,mb1mx4.5/52,mbtmp4.7/40,ML3.8/2,MS4.2/23, Ms1 4.2/23,ms1mx4.1/39,Error ellipse: s-maj=12.9km s-min=9.2km az=72.0*
GCMT ***02*** *17:07:54.0±0.2,22.°20N×121.°41E,h29km,MW5.0/79, Moment Tensor Solution. s36,c44; s79,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.23±.22; Mθθ0.57±.12; Mφφ-3.80±.14; Mrθ1.21±.18; Mφφ-2.28±.07; Mφr~0.61±.18; Best double couple: M◎4.37800×10^16 NP1:φs177.00000°,δ52.00000°,λ52.00000°. NP2: φs49.00000°,δ51.00000°,λ129.00000°. Principal axes: T 3.9820, Plg61.0000°, Azm24.0000°; N 0.7950, Plg29.0000°, Azm203.0000°; P -4.7730, Plg1.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 02 17:07:54.2±0.5, 22.°26N±0.°03×121.°45E±0.°02, h43km±4km, n666, σ1s71/745, mb5.0/181, MS4.4/43, 72C-24D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.24**	**158**	⇑	*i*	P	**Pn**	**17 07 58.7**	**-3.5**
	baz=130								
TAW	**Tawu**	**0.53**	**281**	⇑	*i*	P	**Pn**	**17 08 01.0**	**-4.4**
	baz=282								
TAW					*i*	S	**Sn**	**17 08 07.3**	**-6.1**
	baz=282								
TTN	**Taitung**	**0.57**	**330**	⇑	*i*	P	**Pn**	**17 08 03.7**	**-2.3**
	baz=325								
TTN					*e*	S	**Sn**	**17 08 13.0**	**-1.3**
	baz=325								
ECL	**Taimali**	**0.57**	**306**	⇑	*i*	P	**Pn**	**17 08 01.8**	**-4.2**
	baz=313								
EAST	**Anshuo**	**0.57**	**282**	⇑	*i*	P	**Pn**	**17 08 01.7**	**-4.4**
	baz=284								
TSEB	**Hengchuen, Pin**	**0.63**	**235**	⇑	*i*	P	**Pn**	**17 08 03.6**	**-3.1**
	baz=241								
TWG	**Pinlang**	**0.66**	**328**	⇑	*i*	P	**Pn**	**17 08 03.7**	**-3.5**
	baz=323								
TWG					*e*	S	**Sn**	**17 08 09.8**	**-6.7**
	baz=323								
TWG	**Pinlang**	**0.66**	**328**		*e*	Pn	**Pn**	**17 08 03.2**	**-4.0**
TWK1	**Hengchun**	**0.68**	**242**	⇑	*i*	P	**Pn**	**17 08 03.7**	**-3.8**
	baz=236								
HEN	**Hengchun**	**0.71**	**249**	⇑	*i*	P	**Pn**	**17 08 04.2**	**-3.7**
	baz=245								
SCZT	**Fangliau**	**0.78**	**278**	⇑	*i*	P	**Pn**	**17 08 05.1**	**-3.7**
	baz=286								
CHKT	**Chengkung**	**0.84**	**354**	⇓		P	**Pn**	**17 08 06.9**	**-2.7**
	baz=9.0								
SSD	**Sandimen**	**0.90**	**303**	⇑	*i*	P	**Pn**	**17 08 07.1**	**-3.3**
	baz=312								
SGLT	**Jiouru**	**1.00**	**298**	⇑	*i*	P	**Pn**	**17 08 09.9**	**-1.9**
	baz=310								
ELDTW	**Lidau**	**1.01**	**337**	⇑	*e*	P	**Pn**	**17 08 08.8**	**-3.3**
	baz=342								
TWP	**Hsiaoliuchiu**	**1.01**	**275**	⇑	*e*	P	**Pn**	**17 08 11.8**	**-0.2**
	baz=274								
TWF1	**Yuli**	**1.10**	**352**	⇑	*e*	P	**Pn**	**17 08 10.2**	**-3.0**
	baz=346								
KAU	**Kaohsiung**	**1.10**	**286**	⇑	*i*	P	**Pn**	**17 08 12.6**	**-0.6**
	baz=287								
STYT	**Tauyuan**	**1.10**	**325**	⇑		P	**Pn**	**17 08 10.8**	**-2.5**
	baz=338								
TWM1	**Shoushan**	**1.10**	**301**	⇑	*i*	P	**Pn**	**17 08 12.3**	**-1.0**
	baz=303								
YULB	**Yu-li**	**1.14**	**353**		*e*	Pn	**Pn**	**17 08 10.3**	**-3.4**
SGST	**Jiashian**	**1.15**	**316**	⇑	*i*	P	**Pn**	**17 08 12.8**	**-1.1**
	baz=322								
SGST					*e*	S	**Sn**	**17 08 27.4**	**-1.0**
	baz=322								
EHY	**Hungye**	**1.25**	**354**		*e*	P	**Pn**	**17 08 12.3**	**-2.9**
	baz=349								
WTP	**Ta-pu**	**1.25**	**322**	⇑	*i*	P	**Pn**	**17 08 14.2**	**-1.1**
	baz=335								
CHN1	**Nanshi**	**1.26**	**317**	⇑	*i*	P	**Pn**	**17 08 14.7**	**-0.6**
	baz=320								
TPUB	**Ta-pu**	**1.28**	**324**		*e*	Pn	**Pn**	**17 08 14.4**	**-1.3**
CHN3	**Shinhua**	**1.29**	**309**	⇑		P	**Pn**	**17 08 15.8**	**0.0**
	baz=311								
CHN3					*e*	S	**Sn**	**17 08 35.1**	**+3.2**
	baz=311								
YUS	**Yu-Shan**	**1.31**	**339**	⇑	*e*	P	**Pn**	**17 08 14.2**	**-2.2**
	baz=344								
TWK	**Hsinying**	**1.34**	**319**	⇑	*i*	P	**Pn**	**17 08 15.9**	**-0.7**
	baz=321								
TWK						S	**Sn**	**17 08 33.5**	**+0.3**
	baz=321								
CHN4	**Tsaushan**	**1.34**	**324**	⇑	*i*	P	**Pn**	**17 08 15.8**	**-0.8**
	baz=338								
CHN4						S	**Sn**	**17 08 34.0**	**+0.8**
	baz=338								
TAI1	**Yung-k'ang**	**1.37**	**305**	⇑		P	**Pn**	**17 08 16.0**	**-0.8**
	baz=306								
ALS	**Alishan**	**1.38**	**334**	⇑		P	**Pn**	**17 08 15.8**	**-1.5**
	baz=338								
TEGC	**Jichi Village**	**1.45**	**3**		*e*	P	**Pn**	**17 08 17.8**	**-0.1**
	baz=19								
SCLT	**Jiali**	**1.48**	**308**		*e*	P	**Pn**	**17 08 17.1**	**-1.3**
	baz=310								
CHN5	**Tsauling**	**1.51**	**332**	⇑	*i*	P	**Pn**	**17 08 18.3**	**-0.6**
	baz=335								
ESL	**Shilin**	**1.55**	**359**		*e*	P	**Pn**	**17 08 16.4**	**-2.9**
	baz=353								
CHN2	**Minshiung**	**1.55**	**325**		*e*	P	**Pn**	**17 08 19.2**	**-0.2**
	baz=327								
CHN2					*e*	S	**Sn**	**17 08 40.0**	**+1.6**
	baz=327								
CHY	**Chiayi**	**1.56**	**323**	⇑	*i*	P	**Pn**	**17 08 18.6**	**-0.9**
	baz=325								
CHY						S	**Sn**	**17 08 38.7**	**+0.3**
	baz=325								
CHN8	**Yiju**	**1.57**	**314**	⇑		P	**Pn**	**17 08 18.5**	**-1.1**
	baz=315								
SSLB	**Suanglung**	**1.59**	**343**		*e*	Pn	**Pn**	**17 08 18.4**	**-1.6**
ESF	**Shoufeng Towns**	**1.60**	**2**		*e*	P	**Pn**	**17 08 19.9**	**-0.2**
	baz=354								
WGK	**Gukeng**	**1.64**	**330**		*e*	P	**Pn**	**17 08 20.4**	**-0.1**
	baz=333								
SMLT	**Sun Moon Lake**	**1.69**	**343**		*e*	P	**Pn**	**17 08 21.2**	**-0.3**
	baz=356								
HWA	**Hwalien**	**1.71**	**5**		*e*	P	**Pn**	**17 08 20.9**	**-0.7**
	baz=20								
TYC	**Yuchr**	**1.73**	**342**	⇑		P	**Pn**	**17 08 22.0**	**+0.3**
	baz=345								
TYC					*e*	S	**Sn**	**17 08 45.1**	**+2.5**
	baz=345								
WNT	**Mingjian**	**1.76**	**336**	⇑	*i*	P	**Pn**	**17 08 22.6**	**+0.4**
	baz=339								
WNT					*e*	S	**Sn**	**17 08 43.5**	**+0.1**
	baz=339								
WSF	**Szhu**	**1.78**	**321**	⇓	*i*	P	**Pn**	**17 08 21.6**	**-0.9**
	baz=322								
WSF					*e*	S	**Sn**	**17 08 43.6**	**-0.3**
	baz=322								
TWD	**Chiawan**	**1.82**	**4**		*e*	P	**Pn**	**17 08 21.5**	**-1.5**
	baz=357								
TWD					*e*	S	**Sn**	**17 08 46.1**	**+1.3**
	baz=357								
NACB	**Ninganchiao**	**1.91**	**4**		*e*	Pn	**Pn**	**17 08 22.3**	**-2.0**
WTCT	**Ta-ch'eng**	**1.93**	**326**		*e*	P	**Pn**	**17 08 23.4**	**-1.1**
	baz=328								
WDGT	**Dungji**	**1.93**	**301**	⇑		P	**Pn**	**17 08 22.3**	**-2.3**
	baz=301								
WDGT					*e*	S	**Sn**	**17 08 43.7**	**-4.0**
	baz=301								
TWT	**Tachien**	**2.00**	**353**		*e*	P	**Pn**	**17 08 25.5**	**-0.2**
	baz=6.0								
TCU	**Taichung**	**2.01**	**339**	⇑	*i*	P	**Pn**	**17 08 26.2**	**+0.6**
	baz=342								
TCU						S	**Sn**	**17 08 51.0**	**+1.4**
	baz=342								
TWQ1	**Liyutan**	**2.17**	**343**		*e*	P	**Pn**	**17 08 28.4**	**+0.5**
	baz=346								
TWQ1					*e*	S	**Sn**	**17 08 55.5**	**+1.9**
	baz=346								
NNS	**Nan Shan**	**2.17**	**358**		*e*	P	**Pn**	**17 08 28.0**	**0.0**
	baz=12								
ENA	**Nanau**	**2.17**	**7**		*e*	P	**Pn**	**17 08 26.7**	**-1.2**
	baz=359								
PNG	**Penghu**	**2.18**	**307**		*e*	P	**Pn**	**17 08 25.5**	**-2.5**
	baz=307								
NSY	**Sanyi**	**2.24**	**344**		*e*	P	**Pn**	**17 08 29.1**	**+0.3**
	baz=346								
TWC	**Suao**	**2.37**	**9**		*e*	P	**Pn**	**17 08 29.9**	**-0.7**
	baz=360								
TWC					*e*	S	**Sn**	**17 09 00.9**	**+2.5**
	baz=360								
ENTT	**Nioudou**	**2.37**	**2**		*e*	P	**Pn**	**17 08 29.9**	**-0.7**
	baz=6.0								
NSTT	**Nanjuang**	**2.40**	**350**		*e*	P	**Pn**	**17 08 31.2**	**+0.2**
	baz=337								
YHNB	**Yeheng**	**2.40**	**358**		*e*	Pn	**Pn**	**17 08 30.6**	**-0.5**
NSK	**Sanguang**	**2.41**	**358**		*e*	P	**Pn**	**17 08 31.1**	**0.0**
	baz=13								
NSK					*e*	S	**Sn**	**17 09 01.0**	**+1.5**
	baz=13								
TWE	**Neicheng**	**2.46**	**5**		*e*	P	**Pn**	**17 08 31.1**	**-0.7**
	baz=360								
ILA	**Ilan**	**2.51**	**6**		*e*	P	**Pn**	**17 08 32.7**	**+0.2**
	baz=360								
HSN	**Hsinchu**	**2.57**	**350**		*e*	P	**Pn**	**17 08 37.1**	**+3.7**
	baz=353								
JYNG	**Yonagunijimaku**	**2.58**	**32**			P	**Pn**	**17 08 33.3**	**-0.1**
JYNG					*e*	S	**Sn**	**17 09 04.9**	**+1.4**
YOJ	**Yonaguni jima**	**2.62**	**33**			P	**Pn**	**17 08 33.9**	**-0.1**
YOJ					*e*	S	**Sn**	**17 09 07.4**	**+2.9**
YOJ	**Yonaguni jima**	**2.62**	**33**		*e*	P	**Pn**	**17 08 34.1**	**+0.1**
	baz=36								
YOJ	**Yonaguni jima**	**2.62**	**33**		*e*	P	**Pn**	**17 08 33.5**	**-0.5**
YOJ	**Yonaguni jima**	**2.62**	**33**		*e*	Pn	**Pn**	**17 08 33.5**	**-0.5**
TATO	**Taipei**	**2.70**	**1**		*e*	Pn	**Pn**	**17 08 35.3**	**+0.2**
NCU	**National Centr**	**2.71**	**355**		*e*	P	**Pn**	**17 08 37.7**	**+2.4**
	baz=340								
TWA	**Mucha**	**2.71**	**3**		*e*	P	**Pn**	**17 08 36.3**	**+1.0**
	baz=6.0								
TAP	**Taipei**	**2.77**	**1**		*e*	P	**Pn**	**17 08 38.2**	**+2.1**
	baz=14								
TAP1	**Taipei**	**2.77**	**1**		*e*	P	**Pn**	**17 08 36.4**	**+0.3**
	baz=4.0								
TAP1					*e*	S	**Sn**	**17 09 10.0**	**+1.8**
	baz=4.0								
TWB1	**Santiao Chiao**	**2.78**	**10**		*e*	P	**Pn**	**17 08 37.3**	**+1.1**
	baz=2.0								
HATJ	**Hateruma jima**	**2.81**	**50**			P	**Pn**	**17 08 36.2**	**-0.4**
HATJ					*e*	S	**Sn**	**17 09 09.5**	**+0.3**
NWF	**Wu-fen Shan**	**2.81**	**6**		*e*	P	**Pn**	**17 08 37.1**	**+0.3**
	baz=9.0								
TWS1	**Kuangyinshan**	**2.83**	**359**		*e*	P	**Pn**	**17 08 38.0**	**+1.1**
	baz=15								
IRIF	**Iriomote-Funau**	**2.94**	**45**			P	**Pn**	**17 08 38.2**	**-0.2**
IRIF					*e*	S	**Sn**	**17 09 13.2**	**+0.7**
TWY	**Chenhua**	**3.00**	**3**		*e*	P	**Pn**	**17 08 39.9**	**+0.5**
	baz=5.0								
JKRS	**Kuro-shima**	**3.07**	**50**			P	**Pn**	**17 08 40.0**	**-0.2**
JKRS					*e*	S	**Sn**	**17 09 15.3**	**-0.3**
JIJ	**Ishigaki jima**	**3.24**	**49**			P	**Pn**	**17 08 41.8**	**-0.8**
JIJ					*e*	S	**Sn**	**17 09 19.4**	**-0.5**
PCYT	**Pengchaiyu**	**3.40**	**9**		*e*	P	**Pn**	**17 08 45.6**	**+0.8**
	baz=24								
PCYT					*e*	S	**Sn**	**17 09 27.9**	**+4.0**
	baz=24								
JISG	**Ishigakijimahi**	**3.50**	**48**			P	**Pn**	**17 08 45.2**	**-0.9**
JISG					*e*	S	**Sn**	**17 09 25.6**	**-0.7**
KNM	**Kinmen**	**3.51**	**308**	⇑	*e*	P	**Pn**	**17 08 45.4**	**-0.8**
	baz=305								
QZH	**Quanzhou**	**3.74**	**316**	⇑	*i*	Pn	Pn	17 08 41.0	-8.5
QZH						Sn	Sn	17 09 21.6	-11
QZH						smax	smax		
	comp=N,2μm,0.9s								
QZH						smax	smax		
	comp=E,2μm,0.9s								
QZH						LR	LR		
	comp=N,15μm,15.0s								
QZH						LR	LR		
	comp=E,8μm,10.3s								
QZH						LR	LR		
	comp=Z,8μm,15.9s								
JTJ	**Tarama**	**3.81**	**51**			P	**Pn**	**17 08 50.1**	**-0.3**
JTJ						S	**Sn**	**17 09 33.6**	**-0.3**
PIP	**Pasuquin**	**3.99**	**191**	⇓	*i*	P	**Pn**	**17 08 51.1**	**-1.8**
PIP					*e*	S	**Sn**	**17 09 35.1**	**-3.4**
SGCP	**Mt. Cagua**	**4.04**	**172**		*e*	P	**Pn**	**17 08 53.5**	**0.0**
SGCP					*e*	S	**Sn**	**17 09 41.1**	**+1.6**
JIRB	**Irabujima**	**4.26**	**52**			P	**Pn**	**17 08 56.2**	**-0.4**
JIRB						S	**Sn**	**17 09 44.0**	**-1.1**
JMJ	**Miyako jima 2**	**4.35**	**53**			P	**Pn**	**17 08 57.5**	**-0.2**
JMJ						S	**Sn**	**17 09 47.0**	**-0.1**
JMJ	**Miyako jima 2**	**4.35**	**53**		*e*	P	**Pn**	**17 08 56.5**	**-1.2**
	baz=57								
JIKM	**Ikemajima**	**4.38**	**52**			P	**Pn**	**17 08 57.8**	**-0.3**
JIKM					*e*	S	**Sn**	**17 09 47.3**	**-0.6**
APYP	**Conner**	**4.38**	**183**		*e*	P	**Pn**	**17 08 57.0**	**-1.3**
APYP					*e*	S	**Sn**	**17 09 46.7**	**-1.4**
JOGS	**Gusukube**	**4.40**	**55**			P	**Pn**	**17 08 58.4**	**-0.1**
JOGS						S	**Sn**	**17 09 49.0**	**+0.5**
CVP	**Callao Caves**	**4.55**	**176**	⇓	*e*	P	**Pn**	**17 09 00.6**	**0.0**
CVP					*i*	S	**Sn**	**17 09 55.7**	**+3.6**
ABRA	**Dolores**	**4.64**	**189**		*e*	P	**Pn**	**17 09 01.3**	**-0.5**
CAUP	**Cauayan**	**5.30**	**176**		*e*	P	**Pn**	**17 09 11.8**	**+0.9**
BOLP	**Bolinao**	**6.03**	**194**		*e*	P	**Pn**	**17 09 21.1**	**+0.2**
JKE	**Kume jima 2**	**6.33**	**49**			P	**Pn**	**17 09 23.1**	**-1.9**
JKE					*e*	S	**Sn**	**17 10 32.7**	**-3.3**
BALP	**Baler**	**6.49**	**179**		*e*	P	**Pn**	**17 09 27.3**	**+0.2**
SCZP	**Santa Cruz**	**6.61**	**193**		*e*	P	**Pn**	**17 09 28.9**	**0.0**
JAGN	**Aguni-jima**	**6.81**	**50**			P	**Pn**	**17 09 31.0**	**-0.6**
JAGN					*e*	S	**Sn**	**17 10 47.0**	**-0.9**
MCO	**Taipa Grande**	**7.32**	**270**			P	**Pn**	**17 09 37.0**	**-1.6**
JNTH	**Nagotoyohara**	**7.34**	**53**			P	**Pn**	**17 09 38.8**	**0.0**
GZH	**Guangzhou**	**7.53**	**278**			P	Pn	17 09 36.5	-5.0
JIH	**Iheya**	**7.60**	**50**			P	**Pn**	**17 09 41.4**	**-0.9**
JOW	**Kunigami**	**7.70**	**52**			P	**Pn**	**17 09 43.6**	**-0.2**
JOW	**Kunigami**	**7.70**	**52**		*e*	P	**Pn**	**17 09 43.0**	**-0.7**
	baz=58								
TGY	**Tagaytay City**	**8.13**	**184**			P	**Pn**	**17 09 51.5**	**+1.7**
	comp=Z,41nm,0.3s,baz=0.7,slow=4.7,SNR=3.9								
TGY						LR	LR	17 13 27.1	
	comp=Z,567nm,19.5s,baz=350,slow=41								
JOKE	**Okinoerabujima**	**8.22**	**50**			P	**Pn**	**17 09 47.9**	**-3.0**
LUBP	**Lubang**	**8.56**	**188**		*e*	P	**Pn**	**17 09 57.1**	**+1.5**
JTK	**Tokunoshima**	**8.74**	**50**			P	**Pn**	**17 09 55.2**	**-2.9**
SSE	**Sheshan**	**8.80**	**359**			P	**Pn**	**17 09 59.8**	**+0.9**
SSE						S	**Sn**	**17 11 38.5**	**+1.7**
SSE						PMZ			
	comp=Z,29nm,1.7s								
SSE						LN			
	comp=Z,2μm,14.2s								
SSE						LE			
	comp=Z,1μm,14.9s								
SSE						LZ			
	comp=Z,3μm,16.5s								
AUQP	**San Andres**	**8.96**	**172**		*e*	P	**Pn**	**17 10 04.0**	**+2.8**
PVCP	**Virac**	**8.99**	**163**		*e*	P	**Pn**	**17 10 02.2**	**+0.7**
JAMN	**Amaminishikomi**	**9.18**	**48**			P	**Pn**	**17 10 00.6**	**-3.5**
SJMP	**San Jose**	**9.75**	**182**		*e*	P	**Pn**	**17 10 13.4**	**+1.5**
OTRP	**Odiongan**	**9.86**	**177**		*e*	P	**Pn**	**17 10 17.3**	**+3.8**
NJ2	**Nanjing**	**10.02**	**347**		*e*	P	**Pn**	**17 10 14.8**	**-0.8**
NJ2						S	**Sn**	**17 12 09.2**	**+2.5**
NJ2						PMZ			
	comp=Z,23nm,0.6s								
NJ2						SMN			
	comp=Z,180nm,1.1s								
NJ2						SME			
	comp=Z,190nm,1.0s								
NJ2						LZ			
	comp=Z,4μm,14.1s								
BUSP	**Coron**	**10.27**	**187**		*e*	P	**Pn**	**17 10 14.6**	**-4.5**
WHN	**Wuhan**	**10.42**	**324**	⇑		P	**Pn**	**17 10 19.5**	**-1.5**
WHN						S	**Sn**	**17 12 14.9**	**-1.5**
WHN						LN			
	comp=Z,5μm,7.0s								
WHN						LE			
	comp=Z,4μm,6.5s								
ENPP	**El Nido**	**11.16**	**190**		*e*	P	**Pn**	**17 10 29.3**	**-2.0**
QIZ	**Qiongzhong**	**11.33**	**256**			P	Pn	17 10 39.1	+5.5
QIZ						S	**Sn**	**17 12 47.3**	**+8.3**
QIZ						PMZ			
	comp=Z,36nm,1.0s								
QIZ						LN			
	comp=Z,3μm,18.5s								
QIZ						LE			
	comp=Z,2μm,18.9s								
QIZ						LZ			
	comp=Z,2μm,14.5s								
QIZ	**Qiongzhong**	**11.33**	**256**		*e*	Pn	**Pn**	**17 10 33.1**	**-0.5**
OCLP	**Ormoc**	**11.55**	**164**		*e*	P	**Pn**	**17 10 39.5**	**+3.0**
GUIM	**Jordan**	**11.62**	**174**		*e*	P	**Pn**	**17 10 39.9**	**+2.4**
ENH	**Enshi**	**13.37**	**309**		*e*	Pn	Pn	17 10 55.3	-6.1
JNU	**Nakatsue**	**13.66**	**36**			P	**Pn**	**17 11 05.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=152,slow=4.3,SNR=5.4								
JNU	**Nakatsue**	**13.66**	**36**		*e*	Pn	**Pn**	**17 11 04.4**	**-0.9**
BATP	**Bataraza**	**13.84**	**195**		*e*	P	**Pn**	**17 11 07.3**	**-0.6**
GYA	**Guiyang**	**14.11**	**290**	⇑	*i*	P	**Pn**	**17 11 10.2**	**-1.4**
GYA						pP	P	17 11 20.0	+1.7
GYA						S	**Sn**	**17 13 38.9**	**-8.0**
GYA						SS	**S**	**17 14 05.6**	**-0.8**
GYA						PMZ			
	comp=Z,40nm,0.7s								
GYA						PMZ			
	comp=Z,90nm,6.3s								
GYA						LN			
	comp=Z,1μm,12.4s								
GYA						LE			
	comp=Z,3μm,13.9s								
GYA						LZ			
	comp=Z,3μm,13.9s								
TIA	**Tai'an**	**14.40**	**346**		*e*	P	**Pn**	**17 11 17.6**	**+2.2**
TIA						S	**S**	**17 14 04.4**	**-7.7**
TIA						PMZ			
	comp=Z,30nm,1.7s								
TIA						LN			
	comp=Z,2μm,21.1s								
TIA						LE			
	comp=Z,1μm,13.5s								
TIA						LZ			
	comp=Z,3μm,16.9s								
IPIL	**Ipil**	**14.43**	**176**		*e*	P	**Pn**	**17 11 17.5**	**+1.6**
TJN	**Taejon**	**14.98**	**19**		*e*	P	**Pn**	**17 11 24.5**	**+1.5**
CTBH	**Catabato--PC H**	**15.19**	**169**	⇑	*i*	P	**P**	**17 11 30.4**	**+0.1**
DAV	**Davao City (W)**	**15.62**	**165**			LR	LR	17 17 39.4	
	comp=Z,834nm,18.6s,baz=340,slow=38								
INCN	**Inchon**	**15.82**	**15**		*e*	Pn	**P**	**17 11 36.1**	**-1.0**
	comp=Z,207nm,1.6s								
XAN	**Xi'an**	**16.10**	**319**			P	**Pn**	**17 11 38.2**	**+0.6**
XAN						pP	pP	17 11 45.8	-4.9
XAN						sP	sP	17 11 50.5	-5.7
XAN						S	**Sn**	**17 14 35.9**	**+0.8**
XAN						sS	S	17 14 48.5	+1.5
XAN						PMZ			
	comp=Z,16nm,1.2s								
XAN						PMZ			
	comp=Z,46nm,6.3s								
XAN						LN			
	comp=Z,1μm,15.2s								
XAN						LE			
	comp=Z,2μm,15.2s								
XAN						LZ			
	comp=Z,3μm,14.8s								
KS15	**Wonju Array Si**	**16.12**	**19**		*e*	Pn	**P**	**17 11 39.2**	**-1.2**
KSAR	**Wonju Array Be**	**16.12**	**19**			P	**P**	**17 11 39.5**	**-0.9**
KSAR	**Wonju Array Be**	**16.12**	**19**			P	**P**	**17 11 39.5**	**-0.9**
KSRS	**Korea Array**	**16.14**	**19**			P	**P**	**17 11 39.5**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=200,slow=13,SNR=322								
KSRS						LR	LR	17 18 33.4	
	comp=Z,632nm,18.3s,baz=200,slow=40								
KS01	**Wonju Array Si**	**16.15**	**19**		*e*	Pn	**Pn**	**17 11 38.6**	**+0.4**
DL2	**Dalian**	**16.59**	**0**			P	**Pn**	**17 11 44.3**	**+0.6**
DL2						S	**Sn**	**17 14 44.6**	**-2.3**
DL2						PMZ			
	comp=Z,60nm,1.2s								
DL2						PMZ			
	comp=Z,230nm,6.6s								

BJI LE
comp=Z,2μm,14.7s
BJI LZ
comp=Z,1μm,20.0s
INU Inuyama 18.84 43 *e*P **Pn 17 12 13.8 +2.5**
comp=Z,62nm,0.8s
CBIJ Chichi jima 19.44 71 P **Pn 17 12 19.1 +0.5**
JCJ Chichijima 19.44 71 P **Pn 17 12 19.1 +0.5**
comp=Z,7.9nm,0.3s,baz=262,slow=22,SNR=5.5
CHAI Chaiyaphum 19.45 254 P **Pn 17 12 21.6 +2.9**
comp=Z,5.9nm,0.8s,comp=Z,3μm
LOEI Loei 19.56 260 P **P 17 12 17.5 -1.0**
comp=Z,12nm,1.6s,comp=Z,2μm
SNY Shenyang 19.59 5 ⇓P **Pn 17 12 21.6 +1.4**
SNY PMZ
comp=Z,7.0nm,0.8s
SNY PMZ
comp=Z,240nm,6.5s
SNY LN
comp=Z,1μm,14.3s
SNY LE
comp=Z,1μm,11.6s
SNY LZ
comp=Z,2μm,14.7s
JTT Ttatey 19.85 40 P **Pn 17 12 25.1 +1.7**
JYN Shimob 19.91 45 P **Pn 17 12 26.0 +1.8**
PBKT Sadao Pong 20.12 257 P Pn 17 12 27.9 +1.2
comp=Z,14nm,1.2s
JOD2 Odawara 2 20.13 46 P Pn 17 12 28.5 +1.8
SRAK Srakaew 20.17 249 P Pn 17 12 29.0 +1.7
comp=Z,73nm,1.0s,comp=Z,688nm
HHC Hu-ho-hao-te 20.33 338 *e*P Pn 17 12 28.3 -0.8
HHC pP pP 17 12 35.8 -1.6
HHC sP sP 17 12 40.5 -2.4
HHC PP **PnPn 17 12 48.6 +3.7**
HHC S **S 17 16 09.2 -3.2**
HHC SS **SnSn 17 16 43.3 +11**
HHC PMZ
comp=Z,55nm,1.0s
HHC PMZ
comp=Z,270nm,4.3s
HHC LN
comp=Z,2μm,15.5s
HHC LE
comp=Z,510nm,12.2s
HHC LZ
comp=Z,2μm,15.7s
MAJO Matsushiro 20.34 42 *e*P Pn 17 12 29.8 +0.6
MAJO pmax pmax
comp=Z,317nm,1.2s
MAJO Matsushiro 20.34 42 *e*P Pn 17 12 29.8 +0.5
comp=Z,317nm,1.2s
MAT Matsushiro 20.34 42 P Pn 17 12 28.3 -0.9
MAT S Sn 17 16 15.2 -2.3
MJB9 Matsu-Tunnel 20.34 42 *e*P Pn 17 12 29.8 +0.6
comp=Z,81nm,1.2s
MJAR Matsushiro Arr 20.34 42 P Pn 17 12 29.9 +0.7
comp=Z,188nm,1.0s,baz=231,slow=9.9,SNR=257
LZH Lanzhou 20.60 316 *e*P Pn 17 12 31.5 -0.9
LZH pP pP 17 12 41.0 +0.6
LZH sP sP 17 12 45.3 -0.6
LZH PP **PnPn 17 12 53.0 +4.3**
LZH *e*S **S 17 16 15.3 -2.6**
LZH sS sS 17 16 30.2 -4.7
LZH SS **SnSn 17 16 47.0 +7.9**
LZH PMZ
comp=Z,150nm,1.3s
LZH PMZ
comp=Z,310nm,4.0s
LZH LN
comp=Z,880nm,12.2s
LZH LE
comp=Z,2μm,12.6s
LZH LZ
comp=Z,2μm,15.0s
BTO Baotou 20.69 335 *e*P Pn 17 12 32.1 -1.3
LAMP Lampang 20.79 264 P Pn 17 12 36.5 +1.9
comp=Z,5.4nm,1.1s
SUKH Sukhothai 21.06 261 P **P 17 12 39.9 +5.1**
comp=Z,4.7nm,0.9s
CMMT Chiang Mai 21.35 265 P **P 17 12 39.6 +1.7**
comp=Z,26nm,1.2s
CHTO Chiang Mai 21.35 265 P **P 17 12 39.7 +1.8**
comp=Z,85nm,1.0s
CHTO Chiang Mai 21.35 265 *e*P **P 17 12 39.1 +1.2**
CHTO pmax pmax
comp=Z,36nm,1.3s
CHTO Chiang Mai 21.35 265 *e*P **P 17 12 39.1 +1.2**
comp=Z,36nm,1.3s
CM01 Chiang Mai Arr 21.43 264 *e*P **P 17 12 40.1 +1.3**
CM01 *e*S Sn 17 16 41.0 -2.8
CM01 *e*ScP **ScP 17 20 13.1 -1.6**
CM31 Chiang Mai Arr 21.43 264 *e*P **P 17 12 41.2 +2.4**
CMAR Chiang Mai Arr 21.43 264 P **P 17 12 40.8 +1.9**
comp=Z,10nm,0.9s,baz=70,slow=9.1,SNR=39
CMAR PcP **PcP 17 16 41.6 +0.5**
comp=Z,1.4nm,0.6s,baz=39,slow=0.8,SNR=15
CMAR ScP **ScP 17 20 15.2 +0.4**
comp=Z,1.1nm,0.9s,baz=71,slow=1.8,SNR=6.9
CMAR LR LR 17 21 46.7
comp=Z,992nm,19.1s,baz=80,slow=39
SBUM Sibu 21.64 206 *e*P **P 17 12 41.1 +0.2**
comp=Z,29nm,1.1s
MRSI Marisa 21.66 179 P **P 17 12 44.9 +3.8**
comp=Z,75nm,0.9s
CN2 Changchun 21.74 8 *e*P **P 17 12 44.0 +2.2**
CN2 *e*S **S 17 16 38.1 -1.8**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 LN
comp=Z,1μm,14.0s
CN2 LE
comp=Z,900nm,14.0s
CN2 LZ
comp=Z,1μm,16.0s
MHMT Maesarieng 22.44 264 P **P 17 12 53.6 +4.0**
comp=Z,11nm,1.2s
VLA Vladivostok 22.54 20*d i*P **P 17 12 51.5 +1.1**
VLA pmax pmax
comp=Z,60nm,1.1s
PHET Kaeng Krachan 22.76 250 P **P 17 12 58.9 +5.9**
comp=Z,7.6nm,1.0s
PCI Palu 23.08 184 P **P 17 12 59.6 +3.4**
comp=Z,93nm,1.4s,comp=Z,955nm
PCI Palu 23.08 184 P **P 17 13 01.3 +5.1**
PCI pmax pmax
comp=Z,93nm,1.4s
MDJ Mudanjiang 23.28 15 P **P 17 12 57.1 -0.9**
MDJ pP pP 17 13 05.7 -3.3
MDJ sP sP 17 13 09.5 -4.8
MDJ PcP **PcP 17 16 45.9 +1.5**
MDJ S **S 17 17 09.8 +2.6**
MDJ PMZ
comp=Z,20nm,1.1s
MDJ PMZ
comp=Z,260nm,6.0s
MDJ LN
comp=Z,560nm,18.4s
MDJ LE
comp=Z,730nm,15.6s
MDJ LZ
comp=Z,730nm,13.8s
MDJ Mudanjiang 23.28 15 *e*P **P 17 12 59.0 +1.0**
comp=Z,23nm,1.0s
KSM Kuching 23.33 209 *e*P **P 17 12 58.0 -0.8**
comp=Z,50nm,1.1s
USRK Ussuriysk Ar. 23.55 19 P **P 17 13 01.6 +1.0**
comp=Z,17nm,0.9s,baz=205,slow=8.4,SNR=40
USRK LR LR 17 23 05.9
comp=Z,407nm,19.0s,baz=184,slow=39
MTKI Muara Teweh, K 23.93 196 P **P 17 13 06.1 +1.7**
comp=Z,64nm,0.9s
STKI Sintang 24.11 205 P **P 17 13 07.3 +1.3**
comp=Z,22nm,1.1s
GTA Gaotai 25.14 318 ⇑P **P 17 13 15.6 +0.2**
GTA pP pP 17 13 21.0 -6.0
GTA sP sP 17 13 24.5 -7.7
GTA PcP **PcP 17 16 48.1 -0.6**
GTA S **S 17 17 38.4 +0.9**
GTA sS sS 17 17 47.0 -10
GTA SS **SnSn 17 18 38.3 +8.0**
GTA ScP **ScP 17 20 25.9 +1.5**
GTA PMZ
comp=Z,8.0nm,1.1s
GTA PMZ
comp=Z,160nm,6.7s
GTA LN
comp=Z,1μm,16.2s
GTA LE
comp=Z,1μm,16.2s
GTA LZ
comp=Z,1μm,16.6s
NLAI Namlea 25.94 167 P **P 17 13 23.4 +0.8**
comp=Z,136nm,0.7s,comp=Z,1μm
MYKOM Kota Tinggi 26.59 222 *e*P **P 17 13 29.2 +0.7**
comp=Z,25nm,1.1s
ERM Erimo 26.81 38*ce*P **P 17 13 34.3 +4.1**
ERM pmax pmax
comp=Z,45nm,1.0s
ERM Erimo 26.81 38 *e*P **P 17 13 33.2 +3.0**
comp=Z,39nm,0.9s
KAPI Kappang 27.16 184 P **P 17 13 36.4 +2.8**
comp=Z,14nm,0.8s,baz=3.0,slow=15,SNR=5.3
KAPI LR LR 17 25 26.9
comp=Z,350nm,19.7s,baz=14,slow=39
KAPI Kappang 27.16 184 *e*P **P 17 13 39.5 +5.9**
comp=Z,27nm,1.0s
SHL Shillong 27.20 283 *e*P **P 17 13 34.0 -0.3**
ASAJ Asahikawa 27.92 34 P **P 17 13 40.4 +0.1**
comp=Z,24nm,1.1s,baz=236,slow=7.4,SNR=17
ASAJ Asahikawa 27.92 34 *e*P **P 17 13 40.0 -0.2**
comp=Z,55nm,1.3s
ULN Ulaanbaatar 28.04 339*ce*P **P 17 13 41.2 -0.2**
ULN pmax pmax
comp=Z,64nm,1.7s
ULN Ulaanbaatar 28.04 339 *e*P **P 17 13 41.0 -0.4**
comp=Z,26nm,0.8s
ULN *e*PcP **PcP 17 16 55.5 +0.2**
ULN *e*ScP **ScP 17 20 32.7 -0.2**
KLR Kul'dur 28.13 14 P **P 17 13 42.0 0.0**
comp=Z,6.3nm,0.5s,baz=186,slow=8.2,SNR=30
KLR PcP **PcP 17 16 55.0 -0.3**
comp=Z,6.4nm,0.9s,baz=252,slow=2.6,SNR=8.4
KLR ScP **ScP 17 20 31.4 -1.5**
comp=Z,1.2nm,0.7s,baz=168,slow=6.5,SNR=3.7
LSA Lhasa 28.17 292 P **P 17 13 44.9 +1.8**
LSA LN
comp=Z,370nm,15.3s
LSA LE
comp=Z,520nm,12.9s
LSA LZ
comp=Z,1μm,15.3s
LSA Lhasa 28.17 292 *e*P **P 17 13 45.0 +1.8**
LSA pmax pmax
comp=Z,14nm,1.0s
LSA Lhasa 28.17 292 *e*P **P 17 13 45.0 +1.8**
comp=Z,14nm,1.0s
SONM Songino Array 28.23 338 P **P 17 13 43.1 -0.1**
comp=Z,18nm,0.8s,baz=151,slow=9.5,SNR=120
SONM PcP **PcP 17 16 55.7 -0.1**
comp=Z,2.5nm,0.7s,baz=174,slow=4.3,SNR=6.6
SONM ScP **ScP 17 20 32.4 -1.0**
comp=Z,1.3nm,0.9s,baz=164,slow=3.1,SNR=5.3
SONA1 Songino Array 28.24 338 *e*P **P 17 13 42.1 -1.1**
SONA1 *e*PcP **PcP 17 16 55.6 -0.2**
SONA1 *e*ScP **ScP 17 20 33.0 -0.5**
HABR Khabarovsk 28.32 19*ce*P **P 17 13 42.7 -1.0**
HABR *e**SP **pP 17 13 56.4 +1.1**
HABR *e*PPP PPP 17 14 40.7
HABR *e* 17 16 54.8
HABR *e*S **S 17 18 27.8 +0.7**
HABR *e*SS **SnSn 17 19 47.8 +0.5**
HABR *e* 17 24 26.1
HABR pmax pmax
comp=N,10.0nm,1.7s
HABR pmax pmax
comp=E,18nm,1.7s
HABR pmax pmax
comp=Z,22nm,1.7s
HABR MLR MLR
comp=Z,311nm,17.0s
PSI Prapat 29.20 232 P **P 17 13 52.7 +0.7**
comp=Z,2.5nm,0.4s,baz=243,slow=11,SNR=4.9
PSI PcP **PcP 17 16 57.6 -1.1**
comp=Z,20nm,1.2s,baz=328,slow=4.3,SNR=3.9
PSI Prapat 29.20 232 *e*P **P 17 13 53.2 +1.2**
PSI 17 16 57.6
PSI pmax pmax
comp=Z,11nm,1.1s
PSI Prapat 29.20 232 *e*P **P 17 13 53.2 +1.2**
comp=Z,11nm,1.1s
PSI PcP **PcP 17 16 57.6 -1.1**
YUK Yuzh-Kuril'sk 29.62 37 *i*P **P 17 13 57.6 +2.3**
YSS Yuzh-Sakhalins 30.05 30⇑*e*P **P 17 13 59.6 +0.5**
YSS pmax pmax
comp=Z,40nm,1.2s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS Yuzh-Sakhalins 30.05 30 *e*P **P 17 14 00.2 +1.1**
comp=Z,68nm,1.2s
JAY Jayapura 30.98 140 LR LR 17 24 11.2
comp=Z,18nm,21.9s,baz=185,slow=32
ZAK Zakamensk 31.48 338 *e*P **P 17 14 08.2 -3.6**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
LEM Lembang 31.93 207 LR LR 17 28 12.4
comp=Z,216nm,18.2s,baz=32,slow=38
TLY Talaya 32.45 339 P **P 17 14 20.2 0.0**
comp=Z,5.5nm,0.6s,baz=172,slow=6.5,SNR=18
TLY LR LR 17 29 08.7
comp=Z,2μm,19.4s,baz=138,slow=39
TLY Talaya 32.45 339 *e*P **P 17 14 19.8 -0.4**
TLY pmax pmax
comp=Z,11nm,0.9s
TLY Talaya 32.45 339 *e*P **P 17 14 19.8 -0.4**
comp=Z,12nm,0.9s
IRK Irkutsk 32.73 340 *e*P **P 17 14 21.4 -1.3**
IRK pmax pmax
comp=Z,50nm,1.7s
TYV Tymovskoe 33.00 25 *e*P **P 17 14 27.0 +2.0**
TYV pmax pmax
comp=Z,22nm,1.0s
TYV MLR MLR
comp=Z,500nm,16.0s
MOY Mondy 33.36 337 *e*P **P 17 14 27.8 -0.5**
MOY pmax pmax
comp=Z,33nm,2.2s
MANU Manus Island 34.98 130 *e*P **P 17 14 44.7 +2.2**
comp=Z,9.3nm,0.8s
WMQ Urumqi 35.18 316 P **P 17 14 46.0 +1.9**
WMQ pP pP 17 14 56.0 +0.1
WMQ sP sP 17 14 59.7 -1.4
WMQ S **S 17 20 16.3 +1.9**
WMQ sS sS 17 20 32.3 -1.8
WMQ ScS **ScS 17 25 01.4 +0.5**
WMQ PMZ
comp=Z,8.0nm,1.2s
WMQ PMZ
comp=Z,56nm,5.6s
WMQ LN
comp=Z,370nm,12.8s
WMQ LE
comp=Z,290nm,19.2s
WMQ LZ
comp=Z,200nm,19.2s
JOSI Joshimath 38.25 291 *e*P **P 17 15 10.4 -0.1**
JOSI IAmb IAmb 17 15 13.7
comp=Z,55nm,1.0s
MK01 Makanchi Array 39.88 317 *e*P **P 17 15 24.2 +0.4**
MK31 Makanchi Array 39.90 317 P **P 17 15 23.8 -0.1**
MK31 pmax pmax
comp=Z,15nm,0.7s
MK31 Makanchi Array 39.90 317 *e*P **P 17 15 24.6 +0.7**
MKAR Makanchi Array 39.90 317 P **P 17 15 24.5 +0.6**
comp=Z,22nm,0.8s,baz=113,slow=9.9,SNR=190
MKAR PcP **PcP 17 17 28.5 -0.4**
comp=Z,3.6nm,0.6s,baz=93,slow=4.9,SNR=5.5
MKAR ScP **ScP 17 21 13.5 -1.0**
comp=Z,0.6nm,0.6s,baz=106,slow=5.9,SNR=4.1
MAKZ Makanchi 40.10 317 P **P 17 15 25.3 -0.3**
MAKZ pmax pmax
comp=Z,27nm,0.8s
MAKZ Makanchi 40.10 317 *e*P **P 17 15 26.2 +0.6**
comp=Z,27nm,0.8s
YAK Yakutsk 40.15 6 *e*P **P 17 15 24.8 -0.8**
YAK *e* 17 17 28.1
YAK pmax pmax
comp=Z,9.0nm,0.8s
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK MLR MLR
comp=N,515nm,18.0s
YAK MLR MLR
comp=Z,507nm,17.0s
YAK MLR MLR
comp=E,185nm,18.0s
YAK Yakutsk 40.15 6 *e*P **P 17 15 24.9 -0.8**
comp=E,31nm,0.6s
YAK *e*PcP **PcP 17 17 28.4 -0.9**
FITZ Fitzroy Crossi 40.32 174 P **P 17 15 25.4 -2.1**
comp=E,6.1nm,1.1s,baz=348,slow=10,SNR=7.3
BHGR Bahadurgarh 40.52 289 *e*P **P 17 15 27.8 -1.4**
KKR Kurukshetra 40.60 290 *e*P **P 17 15 29.6 -0.4**
KUDL Kundal 40.93 288 *e*P **P 17 15 31.8 -0.8**
KUDL IAmb IAmb 17 15 48.6
comp=Z,9.4nm,0.8s
RTK Rohtak 40.97 289 *e*P **P 17 15 32.1 -0.8**
RTK IAmb IAmb 17 15 33.3
comp=Z,66nm,0.6s
PETK Petropavlovsk- 41.33 33 P **P 17 15 35.5 -0.1**
comp=Z,2.9nm,0.7s,baz=208,slow=4.4,SNR=5.7
PETK LR LR 17 33 56.9
comp=Z,219nm,19.0s,baz=225,slow=38
KHET Khetri 41.53 288 *e*P **P 17 15 36.4 -1.2**
KHET IAmb IAmb 17 15 42.7
comp=Z,3.6nm,0.8s
ZAA0 Zalesovo Array 41.99 328 *e*P **P 17 15 40.1 -0.9**
ZAA0 *e*ScP **ScP 17 21 21.5 -1.1**
ZALV Zalesovo Beam 41.99 328 P **P 17 15 40.7 -0.3**
comp=Z,20nm,0.6s,baz=115,slow=7.7,SNR=109
ZALV PcP **PcP 17 17 33.8 -1.7**
comp=Z,2.3nm,0.6s,baz=108,slow=4.3,SNR=3.4
ZALV ScP **ScP 17 21 21.1 -1.4**
comp=Z,0.4nm,0.4s,baz=106,slow=3.7,SNR=5.1
KSH Kashi 42.17 305 P **P 17 15 47.4 +4.5**
KSH pP sP 17 15 57.5 -2.5
KSH PP **PcP 17 17 29.7 -6.9**
KSH PcP PP 17 17 38.4 +17
KSH S **S 17 22 06.6 +6.6**
KSH SS **SS 17 25 09.2 +0.3**
KSH ScS **ScS 17 25 39.0 -2.7**
KSH PMZ
comp=Z,6.0nm,0.8s
KSH LN
comp=Z,340nm,9.8s
KSH LE
comp=Z,220nm,9.5s
KSH LZ
comp=Z,580nm,13.0s
H11N1 WAKE ISLAND Hy 42.38 85 T T 18 01 13.7
baz=282,slow=75,SNR=211
H11N2 WAKE ISLAND Hy 42.38 85 T T 18 01 14.6
baz=282,slow=75,SNR=322
H11N3 WAKE ISLAND Hy 42.40 85 T T 18 01 15.0
baz=282,slow=75,SNR=334
H11S3 WAKE ISLAND Hy 42.45 87 T T 18 01 04.9
baz=283,slow=75,SNR=423
H11S1 WAKE ISLAND Hy 42.46 87 T T 18 01 05.5
baz=283,slow=75,SNR=279
H11S2 WAKE ISLAND Hy 42.47 87 T T 18 01 10.0
baz=283,slow=75,SNR=254
MA2 Magadan 42.67 22 LR LR 17 35 31.2
comp=Z,363nm,18.3s,baz=232,slow=39
MA2 Magadan 42.67 22⇑*i*P **P 17 15 46.7 +0.3**
TKM2 Tokmak 2 43.16 310 *e*P **P 17 15 52.0 +1.1**
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 43.16 310 *e*P **P 17 15 52.0 +1.1**
comp=Z,13nm,0.8s
NVS Novosibirsk 43.26 329⇑*i*P **P 17 15 51.0 -0.3**
NVS *e* 17 17 37.2
NVS pmax pmax
comp=Z,14nm,0.6s
NVS pmax pmax
comp=N,2.0nm,0.2s
NVS pmax pmax
comp=E,3.0nm,0.2s
KURK Kurchatov 43.73 321 P **P 17 15 55.0 -0.1**
KURK pmax pmax
comp=Z,68nm,0.9s
KURK Kurchatov 43.73 321 *e*P **P 17 15 55.5 +0.3**
comp=Z,36nm,0.9s
KURK PcP **PcP 17 17 41.0 -0.3**
KURBB Kurchatov Arra 43.74 321 P **P 17 15 55.5 +0.3**
comp=Z,30nm,0.8s,baz=119,slow=7.4,SNR=185
KURBB PcP **PcP 17 17 41.1 -0.4**
comp=Z,1.3nm,0.6s,baz=119,slow=3.3,SNR=3.5
WRAB Tennant Creek 43.79 162*ce*P **P 17 15 57.7 +1.8**
WRAB pmax pmax
comp=Z,22nm,0.9s
WRAB Tennant Creek 43.79 162 *e*P **P 17 15 54.1 -1.7**
comp=Z,12nm,1.0s
WRA Warramunga Arr 43.79 162 P **P 17 15 53.6 -2.3**
comp=Z,4.0nm,0.6s,baz=345,slow=8.9,SNR=26
WB2 Warramunga Arr 43.80 162 *e*P **P 17 15 54.0 -2.0**
comp=Z,15nm,1.1s
FRU Bishkek 43.84 309 *e*P **P 17 15 54.0 -2.2**
AAK Ala-Archa 43.88 309 P **P 17 15 57.3 +0.6**
comp=Z,4.6nm,0.7s,baz=120,slow=7.4,SNR=13
AAK PcP **PcP 17 17 42.3 -0.1**
comp=Z,2.3nm,0.7s,baz=96,slow=3.4,SNR=3.4
AAK Ala-Archa 43.88 309⇓*i*P **P 17 15 57.0 +0.3**
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 43.88 309 *e*P **P 17 15 57.7 +1.0**
comp=Z,4.3nm,0.7s
AAK PcP **PcP 17 17 42.3 -0.1**
EKS2 Erkin-Say 44.41 309 *e*P **P 17 16 01.7 +0.9**
EKS2 *e* 17 17 45.3
EKS2 pmax pmax
comp=Z,6.0nm,0.7s
EKS2 Erkin-Say 44.41 309 *e*P **P 17 16 01.7 +0.9**
comp=Z,5.5nm,0.7s
EKS2 *e*PcP **PP 17 17 45.3 +0.4**
SEY Seymchan 45.70 19⇑*e*P **P 17 16 10.3 -0.3**
KK31 Karatay Array 46.85 309 *i*P **P 17 16 20.3 +0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 46.85 309 *e*P **P 17 16 21.2 +1.2**
KKAR Karatay Array 46.85 309 *e*P **P 17 16 21.2 +1.2**
AS31 Alice Springs 47.23 164 *e*P **P 17 16 21.9 -1.2**
comp=Z,1.9nm,0.6s
ASAR Alice Springs 47.23 164 P **P 17 16 21.8 -1.3**
comp=Z,2.1nm,0.4s,baz=348,slow=9.2,SNR=125
ASAR PcP **PcP 17 17 53.0 -1.0**
comp=Z,3.6nm,0.8s,baz=350,slow=4.0,SNR=6.7
ASAR ScP **ScP 17 21 42.0 -2.5**
comp=Z,0.6nm,0.9s,baz=342,slow=3.8,SNR=4.6
ASAR LR LR 17 37 28.5
comp=Z,107nm,19.5s,baz=18,slow=38
KBL Kabul 47.23 297 *e*P **P 17 16 25.2 +1.9**
KBL pmax pmax
comp=Z,23nm,1.0s
KBL Kabul 47.23 297 *e*P **P 17 16 25.2 +1.9**
comp=Z,23nm,1.0s
AS01 Alice Springs 47.24 164 *e*P **P 17 16 21.3 -1.8**
CTA Charters Tower 48.56 148 P **P 17 16 32.8 -0.6**
comp=Z,1.8nm,0.5s,baz=330,slow=7.5,SNR=7.2
BVAR Borovoye Array 49.32 322 P **P 17 16 39.4 +0.4**
comp=Z,8.1nm,0.7s,baz=106,slow=8.7,SNR=51
BVAR ScP **ScP 17 21 52.9 -0.1**
comp=Z,2.4nm,0.8s,baz=123,slow=5.3,SNR=10
BVAR LR LR 17 38 22.3
comp=Z,284nm,20.7s,baz=68,slow=37
BRVK Borovoye 49.39 322 *e*P **P 17 16 40.0 +0.6**
BRVK pmax pmax
comp=Z,52nm,0.8s
BRVK Borovoye 49.39 322 *e*P **P 17 16 40.0 +0.6**
comp=Z,52nm,0.8s
CHKZ Chkalovo 49.40 323 P **P 17 16 38.4 -1.1**
CHKZ pmax pmax
comp=Z,25nm,0.8s
TIXI Tiksi 49.59 3 PcP **PcP 17 18 00.5 -1.2**
baz=196,slow=2.6
TIXI Tiksi 49.59 3*c i*P **P 17 16 39.2 -1.4**
TIXI pmax pmax
comp=Z,19nm,1.2s
TIXI Tiksi 49.59 3 *e*P **P 17 16 39.3 -1.4**
comp=Z,13nm,1.0s
TIXI PcP **PcP 17 18 00.5 -1.2**
ZRNK Zerenda 50.10 321 *e*P **P 17 16 45.2 +0.4**
ZRNK pmax pmax
comp=Z,20nm,0.9s
ZRNK Zerenda 50.10 321 *e*P **P 17 16 45.2 +0.4**
comp=Z,20nm,0.9s
ZRNK *e*ScP **ScP 17 21 56.0 -0.3**
NRIK Noril'sk 51.32 345 P **P 17 16 53.1 -0.7**
comp=Z,42nm,0.8s,baz=129,slow=7.6,SNR=55

NRIK PcP **PcP** **17 18 07.9 -0.2**
comp=Z,7.8nm,0.6s,baz=135,slow=2.4,SNR=2.8
NRIK LR LR 17 40 57.5
comp=Z,440nm,19.3s,baz=143,slow=39
BILL **Bilibino** **53.41 19** *i* P **P** **17 17 07.3 -1.9**
BILL *i* 17 17 24.0
BILL *i* 17 19 12.6
BILL pmax pmax
comp=Z,9.0nm,1.1s
BILL MLR MLR
comp=Z,361nm,18.0s
BILL **Bilibino** **53.41 19** *eP* **P** **17 17 08.2 -1.0**
comp=Z,11nm,1.2s
AB31 **Akbulak array** **54.97 315** *i* P **P** **17 17 21.1 +0.2**
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR **Akbulak array** **54.97 315** *eP* **P** **17 17 21.3 +0.4**
SVE **Sverdlovsk** **55.74 324**⇓ *eP* **P** **17 17 26.8 +0.5**
SVE pmax pmax
comp=Z,40nm,0.9s
GEYT **Alibeck** **55.99 302** P **P** **17 17 29.7 +1.1**
comp=Z,4.3nm,0.7s,baz=70,slow=4.9,SNR=12
GEYT PcP **PcP** **17 18 26.9 +0.3**
comp=Z,6.7nm,0.9s,baz=97,slow=3.5,SNR=4.6
AKTO **Aktyubinsk** **56.33 317** P **P** **17 17 30.3 -0.4**
AKTO pmax pmax
comp=Z,10.0nm,1.0s
ARU **Arti** **56.79 324***c* *i* P **P** **17 17 33.6 -0.2**
ARU 17 18 31.1
ARU 17 19 39.9
ARU S **S** **17 25 25.6 +1.8**
ARU SS **SS** **17 29 10.1 -1.8**
ARU pmax pmax
comp=Z,40nm,1.2s
ARU MLR MLR
comp=Z,351nm,18.0s
ARU **Arti** **56.79 324** *eP* **P** **17 17 33.7 -0.1**
comp=Z,21nm,0.7s
STKA **Stephens Creek** **57.18 160** P **P** **17 17 35.8 -1.1**
comp=Z,3.1nm,0.6s,baz=346,slow=8.5,SNR=14
SOKR **Solikamsk** **58.27 327***c* *i* P **P** **17 17 41.7 -2.4**
SOKR pmax pmax
comp=Z,26nm,1.1s
SOKR MLR MLR
comp=Z,473nm,17.0s
ZEI **Tsey** **66.30 308** *eP* **P** **17 18 38.2 -0.3**
ZEI pmax pmax
comp=Z,25nm,0.8s
KBZ **Khabaz** **66.88 309** P **P** **17 18 42.5 +0.6**
comp=Z,8.4nm,0.8s,baz=105,slow=4.0,SNR=21
KBZ LR LR 17 52 39.7
comp=Z,318nm,18.4s,baz=62,slow=40
KLMR **Klimovskoe** **66.92 328***c* *i* P **P** **17 18 40.9 -0.9**
KLMR pmax pmax
comp=Z,34nm,1.0s
KVAR **Kislovodsk Arr** **66.99 310** P **P** **17 18 43.6 +0.8**
comp=Z,12nm,0.8s,baz=244,slow=1.5,SNR=15
KIV **Kislovodsk** **66.99 310** *eP* **P** **17 18 43.4 +0.6**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,183nm,17.0s
KIV **Kislovodsk** **66.99 310** *eP* **P** **17 18 43.6 +0.8**
comp=Z,21nm,0.8s
TTA **Tatalina** **67.05 30** *eP* **P** **17 18 44.7 +2.0**
TTA pmax pmax
comp=Z,29nm,2.0s
TTA **Tatalina** **67.05 30** *eP* **P** **17 18 44.7 +2.0**
comp=Z,29nm,2.0s
NEY **Neytrino** **67.08 309** ⇓P **P** **17 18 45.4 +1.9**
NEY pmax pmax
comp=Z,2.0nm,0.7s
LPSR **Galich'ya Gora** **68.16 319** *eP* **P** **17 18 49.2 -0.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
VSR **Storozhevoye** **68.22 318** *eP* **P** **17 18 49.5 -0.7**
VSR pmax pmax
comp=Z,20nm,1.4s
LVZ **Lovozero** **68.40 336** *eP* **P** **17 18 50.8 -0.3**
LVZ pmax pmax
comp=Z,13nm,0.8s
LVZ **Lovozero** **68.40 336** *eP* **P** **17 18 50.8 -0.3**
comp=Z,13nm,0.8s
CAST **Castle Rocks** **68.77 29** *eP* **P** **17 18 53.9 +0.3**
comp=Z,4.9nm,0.8s
APA **Apatity** **68.91 336**⇓ *i* P **P** **17 18 53.5 -0.7**
APA pmax pmax
comp=Z,26nm,0.8s
APA MLR MLR
comp=Z,500nm,13.0s
COLD **Coldfoot** **69.06 25** *eP* **P** **17 18 55.9 +0.7**
comp=Z,21nm,1.9s
MLY **Manley** **69.14 27** *eP* **P** **17 18 56.2 +0.4**
comp=Z,22nm,1.7s
OBN **Obninsk** **69.16 322** P **P** **17 18 55.3 -0.7**
comp=Z,11nm,0.5s,baz=89,slow=7.3,SNR=5.3
OBN **Obninsk** **69.16 322** *i* P **P** **17 18 52.8 -3.2**
OBN *i* 17 19 10.0
OBN *i* 17 19 24.3
OBN *i* 17 21 25.8
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,243nm,18.0s
BPAW **Bear Paw Mtn.** **69.17 28** *eP* **P** **17 18 56.8 +0.9**
comp=Z,10nm,1.3s
SOC **Sochi** **69.18 310** *eP* **P** **17 18 54.7 -1.6**
SOC *eS* **S** **17 27 58.5 -0.6**
SOC pmax pmax
comp=Z,13nm,0.9s
SOC MLR MLR
comp=Z,164nm,13.0s
KDAK **Kodiak Island** **69.33 35***ce* P **P** **17 18 59.2 +2.2**
SUA **Susitna One** **69.67 31** *eP* **P** **17 18 59.0 -0.2**
comp=Z,12nm,1.1s
MDM **Murphy Dome** **70.21 27** *eP* **P** **17 19 02.4 +0.1**
comp=Z,21nm,1.5s
RND **Reindeer** **70.21 29** *eP* **P** **17 19 01.7 -0.8**
RND pmax pmax
comp=Z,9.0nm,0.8s
RND **Reindeer** **70.21 29** *eP* **P** **17 19 01.7 -0.8**
comp=Z,9.3nm,0.8s
WRH **Wood River Hil** **70.35 27** *eP* **P** **17 19 04.6 +1.4**
comp=Z,19nm,1.7s
COLA **College** **70.38 27**⇑ *eP* **P** **17 19 03.7 +0.4**
COLA pmax pmax
comp=Z,4.0nm,0.9s
ANN **Anapa** **70.54 311** *eP* **P** **17 19 04.4 -0.3**
ANN *e* 17 21 44.0
ANN *eS* **S** **17 28 15.3 +0.3**
ANN pmax pmax
comp=Z,50nm,1.6s
ANN MLR MLR
comp=Z,187nm,16.0s
ILAR **Eielson Array** **70.81 27** P **P** **17 19 05.7 -0.3**
comp=Z,0.8nm,0.6s,baz=282,slow=5.9,SNR=11
ILAR LR LR 17 53 30.8
comp=Z,92nm,18.2s,baz=248,slow=39
KEV **Kevo** **70.85 338** *eP* **P** **17 19 06.2 +0.1**
KEV pmax pmax
comp=Z,30nm,0.6s
KEV **Kevo** **70.85 338** *eP* **P** **17 19 06.2 +0.1**
comp=Z,30nm,0.6s
HDA **Harding Lake** **70.85 27** *eP* **P** **17 19 06.6 +0.4**
comp=Z,8.7nm,1.4s
SPA0 **Spitsbergen Ar** **71.41 348** *eP* **P** **17 19 09.5 0.0**
SPITS **Spitsbergen Ar** **71.41 348** P **P** **17 19 09.4 0.0**
comp=Z,22nm,0.7s,baz=96,slow=7.6,SNR=40
ARA0 **ARCESS Array S** **71.41 338** *eP* **P** **17 19 09.2 -0.3**
ARCES **ARCESS Array B** **71.41 338** P **P** **17 19 09.5 0.0**
comp=Z,14nm,0.6s,baz=71,slow=7.4,SNR=69
ARCES LR LR 17 53 13.2
comp=Z,153nm,18.9s,baz=58,slow=38
ARE0 **ARCESS Array S** **71.41 338** *eP* **P** **17 19 09.7 +0.2**
comp=Z,16nm,0.7s
SGF **Sodankyl** **71.53 336** P **P** **17 19 12.4 +2.1**
SGF pmax pmax
comp=Z,154nm,0.8s
DOT **Dot Lake** **72.26 28** *eP* **P** **17 19 15.4 +0.6**
comp=Z,43nm,1.6s
OUL **Oulu** **72.35 334** P **P** **17 19 15.5 +0.3**
OUL pmax pmax
comp=Z,43nm,1.0s
SIM **Simferopol'** **72.80 312***c* *i* P **P** **17 19 17.8 -0.5**
SIM pmax pmax
comp=Z,14nm,0.9s
SIM MLR MLR
comp=E,110nm,16.4s
EGAK **Eagle** **73.19 26** *eP* **P** **17 19 19.8 -0.4**
comp=E,3.6nm,0.9s
FIA1 **FINESS Array S** **73.22 330** *eP* **P** **17 19 20.1 -0.3**
FINES **FINESS Array B** **73.23 330** P **P** **17 19 20.1 -0.3**
comp=E,18nm,0.8s,baz=74,slow=6.9,SNR=46
FINES LR LR 17 56 01.6
comp=E,377nm,18.1s,baz=74,slow=39
VSU **Vasula** **73.72 327***ce* P **P** **17 19 23.6 +0.2**
VSU pmax pmax
comp=Z,101nm,1.2s
ASF **Jabal al Asfar** **74.09 299** P **P** **17 19 28.4 +2.1**
comp=Z,2.7nm,0.7s,baz=341,slow=3.1,SNR=7.0
DAWY **Dawson** **74.13 27** *eP* **P** **17 19 22.4 -3.5**
AKASG **Malin Array Be** **74.47 319** P **P** **17 19 27.1 -0.9**
comp=Z,4.0nm,0.7s,baz=61,slow=6.3,SNR=26
AKASG LR LR 17 55 47.1
comp=Z,175nm,18.9s,baz=45,slow=38
KIEV **Kiev** **74.48 319** *eP* **P** **17 19 27.1 -0.9**
KIEV pmax pmax
comp=Z,16nm,1.2s
KIEV **Kiev** **74.48 319** *eP* **P** **17 19 27.1 -0.9**
comp=Z,16nm,1.2s
AK11 **Malin Array Si** **74.51 319** *eP* **P** **17 19 27.6 -0.5**
BR131 **Keskin Array S** **74.51 307** *eP* **P** **17 19 29.1 +0.5**
BRTR **Keskin Array B** **74.51 307** P **P** **17 19 29.1 +0.5**
comp=Z,4.8nm,0.8s,baz=111,slow=5.3,SNR=32
BRTR LR LR 17 55 11.2
comp=Z,71nm,21.2s,baz=61,slow=38
MMAI **Mount Meron Ar** **75.06 300** P **P** **17 19 31.3 -0.6**
comp=Z,1.7nm,0.7s,baz=84,slow=15,SNR=4.2
ANTO **Ankara** **75.10 307** *eP* **P** **17 19 32.7 +0.8**
ANTO pmax pmax
comp=Z,15nm,0.8s
ANTO **Ankara** **75.10 307** *eP* **P** **17 19 32.7 +0.8**
comp=Z,15nm,0.8s
BR231 **Keskin MP Arra** **75.12 307** *eP* **P** **17 19 29.2 -2.9**
SORM **Soroca** **75.75 316**⇑ *iP* **P** **17 19 35.2 -0.2**
CFR **Carcaliu** **76.80 314**⇑ *iP* **P** **17 19 41.6 +0.2**
TIRR **Tirgusor** **76.84 313**⇓ *iP* **P** **17 19 41.5 -0.1**
TIRR **Tirgusor** **76.84 313** *eP* **P** **17 19 42.0 +0.4**
TIRR pmax pmax
comp=Z,14nm,1.1s
TIRR **Tirgusor** **76.84 313** *eP* **P** **17 19 42.0 +0.4**
comp=Z,14nm,1.1s
PSN **Preselentsi** **77.24 312** *eP* **P** **17 19 44.4 +0.5**
MSAB **Monastry St. A** **77.35 313**⇑ *iP* **P** **17 19 45.0 +0.5**
PRAR **RASCA** **77.36 316**⇑ *iP* **P** **17 19 44.8 +0.2**
VRI **Vrincioaia** **77.52 315**⇓ *iP* **P** **17 19 46.3 +0.8**
VRI **Vrincioaia** **77.52 315** P **P** **17 19 46.3 +0.8**
VRI pmax pmax
comp=Z,176nm,1.4s
SKAG **Skagway** **77.55 31** *eP* **P** **17 19 46.1 +0.8**
comp=Z,10nm,1.0s
PLOR **Plostina** **77.58 315**⇓ *iP* **P** **17 19 46.7 +0.9**
LVV **L'vov** **77.91 319** *eP* **P** **17 19 45.7 -1.9**
BURAR **Bucovina Array** **77.92 317**⇓ *iP* **P** **17 19 47.9 +0.1**
BUR08 **Bucovina Ar. S** **77.92 317** *eP* **P** **17 19 48.3 +0.5**
PRD **Provadia** **77.94 312** *eP* **P** **17 19 48.2 +0.4**
MLR **Muntele Rosu** **78.16 314** P **P** **17 19 49.0 -0.2**
comp=Z,2.3nm,0.7s,baz=157,slow=2.1,SNR=20
MLR **Muntele Rosu** **78.16 314**⇓ *iP* **P** **17 19 50.0 +0.8**
MLR **Muntele Rosu** **78.16 314** *eP* **P** **17 19 49.4 +0.2**
MLR pmax pmax
comp=Z,18nm,1.0s
MLR **Muntele Rosu** **78.16 314** *eP* **P** **17 19 49.4 +0.2**
comp=Z,18nm,1.0s
DAG **Danmarks Havn** **78.30 351** *i* P **P** **17 19 47.2 -2.0**
DAG pmax pmax
comp=Z,39nm,1.1s
DAG **Danmarks Havn** **78.30 351** *i* P **P** **17 19 47.2 -2.0**
comp=Z,31nm,1.1s
DOPR **Dopca** **78.37 315**⇓ *iP* **P** **17 19 50.9 +0.7**
ARCR **ARCALIA** **78.65 316**⇑ *iP* **P** **17 19 52.8 +1.1**
VOIR **78.77 314**⇑ *iP* **P** **17 19 52.9 +0.4**
KWP **Kalwaria Pacla** **78.78 319** *eP* **P** **17 19 52.9 +0.5**
KWP **Kalwaria Pacla** **78.78 319** *eP* **P** **17 19 52.9 +0.5**
EDRB **Edirne** **78.84 311** P **P** **17 19 52.6 -0.3**
EDRB **Edirne** **78.84 311** P **P** **17 19 52.6 -0.3**
BMR **Baia Mare** **78.99 317**⇓ *iP* **P** **17 19 53.7 +0.1**
HUMR **Humele** **79.13 314**⇑ *iP* **P** **17 19 54.6 +0.2**
CJR **Cluj-Napoca** **79.27 316**⇓ *iP* **P** **17 19 55.0 -0.2**
KOLS **Kolonicke sedl** **79.30 319** *eP* **P** **17 19 55.3 +0.1**
KOLS *e* 17 20 12.4
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS **Kolonicke sedl** **79.30 319** *eP* **P** **17 19 55.3 +0.1**
KOLS *e* 17 20 12.4
HFS **Hagfors** **79.36 331** P **P** **17 19 54.9 -0.4**
comp=Z,14nm,0.8s,baz=77,slow=6.5,SNR=20
UZH **Uzhgorod** **79.40 318** *eP* **P** **17 19 54.0 -1.7**
UZH *i* 17 20 01.4
UZH *i* 17 20 16.2
ALN **Alexandroupoli** **79.66 310** P **P** **17 19 56.0 -1.3**
ALN **Alexandroupoli** **79.66 310** P **P** **17 19 56.0 -1.3**
ALN **Alexandroupoli** **79.66 310** P **P** **17 19 56.0 -1.3**
STHS **Stebnicka Huta** **79.75 319** *eP* **P** **17 19 58.3 +0.6**
STHS pmax pmax
comp=Z,9.0nm,1.2s
STHS **Stebnicka Huta** **79.75 319** *eP* **P** **17 19 58.3 +0.6**
NC405 **NORSAR Array S** **79.78 332** *eP* **P** **17 19 57.1 -0.5**
CRVS **Cervenica-Dubn** **79.81 319** *eP* **P** **17 19 59.6 +1.6**
CRVS **Cervenica-Dubn** **79.81 319** *eP* **P** **17 19 59.6 +1.6**
DRGR **79.81 316**⇓ *iP* **P** **17 19 58.8 +0.7**
KDZ **Kurdzhali** **79.84 311** *eP* **P** **17 19 58.3 0.0**
NC303 **NORSAR Array S** **79.88 333** *eP* **P** **17 19 57.7 -0.4**
NB201 **NORSAR Array S** **80.00 332** *eP* **P** **17 19 58.3 -0.5**
DEV **Deva** **80.02 315**⇓ *iP* **P** **17 20 00.5 +1.3**
NB2 **NORSAR Subarra** **80.03 332** P **P** **17 19 58.1 -1.0**
comp=Z,40nm,1.2s,baz=57,slow=5.9
NB2 **NORSAR Subarra** **80.03 332** P **P** **17 19 58.1 -1.0**
baz=57,slow=5.9
NB2 **NORSAR Subarra** **80.03 332** P **P** **17 19 58.0 -1.0**
NB2 pmax pmax
comp=Z,34nm,1.3s
NOA **NORSAR Array B** **80.03 332** P **P** **17 19 58.1 -1.0**
comp=Z,11nm,0.7s,baz=60,slow=5.4,SNR=24
NOA LR LR 17 58 59.9
comp=Z,834nm,18.3s,baz=70,slow=38
NC602 **NORSAR Array S** **80.04 332** *eP* **P** **17 19 57.8 -1.2**
NC204 **NORSAR Array S** **80.12 333** *eP* **P** **17 19 59.3 -0.2**
NBO02 **NORSAR Array S** **80.18 332** *eP* **P** **17 19 59.0 -0.9**
OJC **Ojcow** **80.30 320** *eP* **P** **17 20 00.8 +0.2**
OJC **Ojcow** **80.30 320** *eP* **P** **17 20 00.5 -0.2**
OJC pmax pmax
comp=Z,88nm,1.4s
OJC **Ojcow** **80.30 320** *eP* **P** **17 20 00.5 -0.2**
comp=Z,88nm,1.4s
NIE **Niedzica** **80.32 319** *eP* **P** **17 20 01.6 +0.7**
NIE **Niedzica** **80.32 319** *eP* **P** **17 20 01.5 +0.7**
RZN **Rozhen** **80.32 311** *eP* **P** **17 19 59.9 -1.2**
MPEP **Malo Peshtene** **80.39 313** *eP* **P** **17 20 01.7 +0.5**
DLBC **Dease Lake** **80.47 30** *eP* **P** **17 20 02.9 +1.4**
comp=Z,16nm,1.5s
KECS **Kecovo** **80.57 319** *eP* **P** **17 20 02.2 +0.1**
KECS pmax pmax
comp=Z,11nm,1.1s
KECS **Kecovo** **80.57 319** *eP* **P** **17 20 02.2 +0.1**
SIRR **Siria** **80.68 316**⇑ *iP* **P** **17 20 02.0 -0.8**
LANS **Liptovska Anna** **80.92 319** *eP* **P** **17 20 04.9 +0.9**
LANS **Liptovska Anna** **80.92 319** *eP* **P** **17 20 04.9 +0.9**
BZS **Buzias** **80.95 316**⇓ *iP* **P** **17 20 03.9 -0.3**
NVR **Nevrokopi** **81.04 311** P **P** **17 20 03.9 -0.9**
NVR **Nevrokopi** **81.04 311** P **P** **17 20 03.9 -0.9**
MMB **Musomiste** **81.05 311** *eP* **P** **17 20 04.2 -0.6**
PSZ **Piszkesteto** **81.15 318**⇑ *iP* **P** **17 20 06.1 +0.8**
PSZ **Piszkesteto** **81.15 318** *eP* **P** **17 20 04.9 -0.4**
PSZ pmax pmax
comp=Z,38nm,1.4s
PSZ **Piszkesteto** **81.15 318** *eP* **P** **17 20 04.9 -0.4**
comp=Z,38nm,1.4s
MDVR **Moldovita** **81.21 315**⇑ *iP* **P** **17 20 06.2 +0.5**
SRS **Serrai** **81.31 311** P **P** **17 20 04.9 -1.3**
SRS **Serrai** **81.31 311** P **P** **17 20 04.9 -1.3**
SRS **Serrai** **81.31 311** P **P** **17 20 04.9 -1.3**
OUR **Ouranopolis** **81.33 310** P **P** **17 20 05.5 -0.8**
OUR **Ouranopolis** **81.33 310** P **P** **17 20 05.5 -0.8**
OUR **Ouranopolis** **81.33 310** P **P** **17 20 05.5 -0.8**
KKB **Krupnik** **81.39 312** *eP* **P** **17 20 06.1 -0.5**
OKC **Ostrava-Krasne** **81.43 320** *eP* **P** **17 20 06.8 +0.1**
OKC AMS AMS 18 01 50.0
comp=Z,200nm,16.5s
OKC **Ostrava-Krasne** **81.43 320** *eP* **P** **17 20 06.8 +0.1**
OKC MLR MLR
comp=Z,200nm,16.5s
VYHS **Vyhne** **81.57 319** *eP* **P** **17 20 08.0 +0.6**
VYHS pmax pmax
comp=Z,21nm,1.1s
VYHS **Vyhne** **81.57 319** *eP* **P** **17 20 08.0 +0.6**
SOH **Sokhos** **81.59 311** P **P** **17 20 07.7 -0.1**
PLG **Polygyros** **81.69 310** P **P** **17 20 07.6 -0.7**
PLG **Polygyros** **81.69 310** P **P** **17 20 07.6 -0.7**
PLG **Polygyros** **81.69 310** P **P** **17 20 07.6 -0.7**
PAIG **Paliouri** **81.70 310** P **P** **17 20 07.1 -1.1**
PAIG **Paliouri** **81.70 310** P **P** **17 20 07.1 -1.1**
PAIG **Paliouri** **81.70 310** P **P** **17 20 07.1 -1.1**
SANT **Santorini** **81.70 306** *eP* **P** **17 20 07.7 -0.7**
comp=Z,56nm,1.0s
THT1 **Athinios (Pele** **81.72 306** P **P** **17 20 06.8 -1.6**
MORC **Moravsky Berou** **81.81 321**⇑ *iP* **P** **17 20 09.4 +0.6**
MORC **Moravsky Berou** **81.81 321** *eP* **P** **17 20 09.2 +0.5**
MORC pmax pmax
comp=Z,172nm,1.8s
MORC **Moravsky Berou** **81.81 321** *eP* **P** **17 20 09.2 +0.5**
comp=Z,172nm,1.8s
AOS **Alonnisos** **81.83 309** P **P** **17 20 06.7 -2.3**
AOS **Alonnisos** **81.83 309** P **P** **17 20 06.7 -2.3**
VAY **Valandovo** **81.95 311** P **P** **17 20 09.2 -0.4**
VAY **Valandovo** **81.95 311** *i* P **P** **17 20 09.1 -0.4**
VAY **Valandovo** **81.95 311** P **P** **17 20 09.2 -0.4**
VAY **Valandovo** **81.95 311** P **P** **17 20 09.2 -0.4**
NPS **Neapolis** **81.99 305** P **P** **17 20 09.4 -0.5**
NPS **Neapolis** **81.99 305** P **P** **17 20 09.4 -0.5**
NPS **Neapolis** **81.99 305** P **P** **17 20 09.4 -0.5**
KSP **Ksiaz** **82.09 322** *eP* **P** **17 20 10.5 +0.4**
KSP **Ksiaz** **82.09 322** *eP* **P** **17 20 10.5 +0.4**
LAST **Lasithi** **82.13 305** P **P** **17 20 10.6 -0.1**
LAST **Lasithi** **82.13 305** *eP* **P** **17 20 11.0 +0.3**
comp=Z,28nm,0.8s
GRG **Griva** **82.21 311** P **P** **17 20 09.4 -1.6**
GRG **Griva** **82.21 311** P **P** **17 20 09.4 -1.6**
GRG **Griva** **82.21 311** P **P** **17 20 09.4 -1.6**
XOR **Xorichti** **82.26 309** P **P** **17 20 09.0 -2.3**
XOR **Xorichti** **82.26 309** P **P** **17 20 09.0 -2.3**
DPC **Dobruska-Polom** **82.28 321** *eP* **P** **17 20 11.7 +0.5**
DPC **Dobruska-Polom** **82.28 321** *eP* **P** **17 20 11.7 +0.5**
UPC **Upice** **82.39 322** *eP* **P** **17 20 12.1 +0.4**
UPC AMS AMS 18 02 50.0
comp=Z,300nm,17.0s
UPC **Upice** **82.39 322** *eP* **P** **17 20 12.1 +0.4**
UPC MLR MLR
comp=Z,300nm,17.0s
LIT **Litokhoron** **82.48 310** P **P** **17 20 11.2 -1.2**
LIT **Litokhoron** **82.48 310** P **P** **17 20 11.2 -1.2**
LIT **Litokhoron** **82.48 310** P **P** **17 20 11.2 -1.2**
SKO **Skopje** **82.48 312** *i* P **P** **17 20 12.6 +0.2**
IDI **Anoyia** **82.53 305** P **P** **17 20 12.1 -0.7**
IDI **Anoyia** **82.53 305** *eP* **P** **17 20 12.0 -0.9**
VRAC **Vranov** **82.57 320** P **P** **17 20 13.6 +0.9**
comp=Z,9.5nm,0.6s,baz=68,slow=4.8,SNR=27
VRAC **Vranov** **82.57 320**⇓ *iP* **P** **17 20 13.8 +1.1**
DIVS **Divibare** **82.61 315** P **P** **17 20 12.7 -0.4**
KZN **Kozani** **82.90 311** P **P** **17 20 13.2 -1.5**
KZN **Kozani** **82.90 311** P **P** **17 20 13.2 -1.5**
KZN **Kozani** **82.90 311** P **P** **17 20 13.2 -1.5**
FNA **Florina** **82.99 311** P **P** **17 20 13.7 -1.4**
FNA **Florina** **82.99 311** P **P** **17 20 13.7 -1.4**
FNA **Florina** **82.99 311** P **P** **17 20 13.7 -1.4**
AGG **Agios Georgios** **83.01 309** P **P** **17 20 12.3 -2.9**
AGG **Agios Georgios** **83.01 309** *eP* **P** **17 20 13.9 -1.3**
AGG pmax pmax
comp=Z,58nm,0.9s
AGG **Agios Georgios** **83.01 309** *eP* **P** **17 20 13.9 -1.3**
comp=Z,58nm,0.9s
VAM **Vamos** **83.01 305** P **P** **17 20 14.7 -0.5**
VAM **Vamos** **83.01 305** P **P** **17 20 14.7 -0.5**
VAM **Vamos** **83.01 305** P **P** **17 20 14.7 -0.5**
PVCC **Panska Ves** **83.21 322** *eP* **P** **17 20 16.4 +0.5**
PVCC AMS AMS 18 02 30.0
comp=Z,400nm,18.0s
PVCC **Panska Ves** **83.21 322** *eP* **P** **17 20 16.4 +0.5**
PVCC MLR MLR
comp=Z,400nm,18.0s
TREC **Trest** **83.23 321** *eP* **P** **17 20 16.5 +0.4**
TREC AMS AMS 18 02 20.0
comp=Z,300nm,15.5s
TREC **Trest** **83.23 321** *eP* **P** **17 20 16.5 +0.4**
TREC MLR MLR
comp=Z,300nm,15.5s
OHR **Ohrid** **83.26 312** *i* P **P** **17 20 15.4 -1.1**
SOP **Sopron** **83.30 319** P **P** **17 20 17.8 +1.4**
SOP pmax pmax
comp=Z,23nm,1.3s
KPRO **Kipourio** **83.33 310** P **P** **17 20 15.1 -1.8**
GOPC **GO Pecny, Ondr** **83.36 321** *eP* **P** **17 20 17.1 +0.3**
GOPC AMS AMS 18 00 40.0
comp=Z,300nm,17.3s
GOPC **GO Pecny, Ondr** **83.36 321** *eP* **P** **17 20 17.1 +0.3**
GOPC MLR MLR
comp=Z,300nm,17.3s
NEST **Nestorio** **83.37 311** P **P** **17 20 14.0 -3.1**
PENT **Pentalofos** **83.39 311** P **P** **17 20 14.9 -2.3**
BRG **Berggiesshubel** **83.41 323**⇓ *iP* **P** **17 20 17.0 0.0**
comp=Z,47nm,1.5s
comp=N,184nm,15.7s
comp=E,261nm,16.1s
comp=Z,469nm,14.8s
BRG **Berggiesshubel** **83.41 323**⇓ *iP* **P** **17 20 17.0 0.0**
BRG pmax pmax
comp=Z,47nm,1.5s
BRG MLR MLR
comp=N,184nm,15.7s
BRG MLR MLR
comp=E,261nm,16.1s
BRG MLR MLR
comp=Z,469nm,14.8s
VLI **Veliai** **83.45 307** P **P** **17 20 14.7 -2.8**
VLI **Veliai** **83.45 307** P **P** **17 20 14.7 -2.8**
ANX **Ano Chora** **83.47 309** P **P** **17 20 15.8 -1.8**
PRU **Pruhonice** **83.47 322** *eP* **P** **17 20 17.6 +0.3**
PRU AMS AMS 18 00 40.0
comp=Z,300nm,15.8s
PRU **Pruhonice** **83.47 322** *eP* **P** **17 20 17.6 +0.3**
PRU MLR MLR
comp=Z,300nm,15.8s
KLV **Kalavryta, Ach** **83.52 308** P **P** **17 20 15.7 -2.2**
KLV **Kalavryta, Ach** **83.52 308** P **P** **17 20 15.7 -2.2**
KYTH **Kithira** **83.55 306** P **P** **17 20 15.3 -2.7**
KYTH **Kithira** **83.55 306** P **P** **17 20 15.3 -2.7**
CONA **Conrad Observa** **83.61 319** *i* P **P** **17 20 18.7 +0.5**
comp=Z,43nm,1.3s,SNR=27
CLL **Collm** **83.73 323**⇑ *iP* **P** **17 20 18.4 -0.2**
comp=Z,41nm,1.2s
CLL *e* 17 20 33.0
CLL Lm MLR 18 02 00.0
comp=N,400nm,19.8s
CLL Lm MLR 18 02 00.0
comp=E,300nm,19.1s
CLL Lm MLR 18 02 00.0
comp=Z,500nm,18.4s
CLL **Collm** **83.73 323**⇑ *iP* **P** **17 20 18.4 -0.2**
CLL *e* 17 20 33.0
CLL pmax pmax
comp=Z,41nm,1.2s
CLL MLR MLR
comp=Z,500nm,18.4s
CLL **Collm** **83.73 323** *eP* **P** **17 20 18.4 -0.2**
comp=Z,32nm,1.0s
DSL **Palaion Diasel** **83.84 310** P **P** **17 20 18.5 -1.0**
DSL **Palaion Diasel** **83.84 310** P **P** **17 20 18.5 -1.0**
SCO **Scoresbysund** **83.99 348** *i* P **P** **17 20 19.3 -0.2**
SCO pmax pmax
comp=Z,18nm,1.1s
SCO **Scoresbysund** **83.99 348** *i* P **P** **17 20 19.3 -0.2**
comp=Z,18nm,1.1s
ITM **Ithomi** **84.02 308** P **P** **17 20 18.9 -1.5**
ITM **Ithomi** **84.02 308** P **P** **17 20 18.9 -1.5**
ARSA **Arzberg** **84.12 319** *i* P **P** **17 20 21.0 +0.3**
comp=Z,19nm,1.2s,SNR=15
IGT **Igoumenitsa** **84.23 310** P **P** **17 20 19.6 -1.8**
IGT **Igoumenitsa** **84.23 310** P **P** **17 20 19.6 -1.8**
IGT **Igoumenitsa** **84.23 310** P **P** **17 20 19.6 -1.8**
KHC **Kasperske Hory** **84.42 321** *eP* **P** **17 20 22.0 -0.2**
KHC **Kasperske Hory** **84.42 321** *eP* **P** **17 20 22.0 -0.2**
SUMG **Summit** **84.43 354** *i* P **P** **17 20 20.9 -1.4**

SUMG pmax pmax
comp=Z,33nm,1.0s
SUMG Summit 84.43 354 *i* P **P 17 20 20.9 -1.4**
comp=Z,33nm,1.0s
SUMG Summit 84.43 354 *e*P **P 17 20 21.3 -0.9**
comp=Z,34nm,1.0s
GEC2 GERESS Array S 84.48 321 *e*P **P 17 20 22.8 +0.2**
GEC2 pmax pmax
comp=Z,31nm,1.0s
GEC2 GERESS Array S 84.48 321 *e*P **P 17 20 22.8 +0.2**
comp=Z,31nm,1.0s
GERES GERESS Array B 84.48 321 P **P 17 20 22.7 +0.1**
comp=Z,17nm,0.8s,baz=57,slow=4.9,SNR=80
GERES LR LR 18 02 12.2
comp=Z,254nm,19.2s,baz=66,slow=38
GEA0 GERESS Array S 84.48 321 *e*P **P 17 20 22.6 0.0**
KEK Kerkira 84.53 311 P **P 17 20 21.7 -1.2**
KEK Kerkira 84.53 311 P **P 17 20 21.7 -1.2**
NKC Novy Kostel 84.55 322 *e*P **P 17 20 23.0 +0.2**
NKC AMS AMS 18 03 10.0
comp=Z,300nm,13.0s
NKC Novy Kostel 84.55 322 *e*P **P 17 20 23.0 +0.2**
NKC MLR MLR
comp=Z,300nm,13.0s
VLS Valsamata 84.59 309 P **P 17 20 21.4 -1.9**
VLS Valsamata 84.59 309 P **P 17 20 21.4 -1.9**
VLS Valsamata 84.59 309 P **P 17 20 21.4 -1.9**
MOA Molln 84.61 320 *i* PcP **P 17 20 23.8 +0.7**
comp=Z,17nm,0.6s,SNR=16
YKA Yellowknife Ar 84.64 23 P **P 17 20 21.8 -1.1**
comp=Z,1.8nm,0.6s,baz=308,slow=5.2,SNR=11
YKB5 Yellowknife Ar 84.64 23 *e*P **P 17 20 21.3 -1.7**
PERS Pernice 84.64 318 *i* P **P 17 20 23.3 -0.1**
PERS Pernice 84.64 318 *i* P **P 17 20 23.3 -0.1**
SOKA Soboth 84.67 318 *i* P **P 17 20 23.7 +0.1**
comp=Z,26nm,0.7s,SNR=25
MOX Moxa 84.82 323 P **P 17 20 24.2 0.0**
MOX pmax pmax
comp=Z,23nm,1.4s
WET Wettzell 84.82 321 P **P 17 20 24.6 +0.4**
WET pmax pmax
comp=Z,14nm,1.7s
OBKA Obir 85.05 318 *i* P **P 17 20 25.6 +0.1**
comp=Z,27nm,0.8s,SNR=10
KMBO Kilima Mbogo 85.05 267 P **P 17 20 28.1 +1.8**
comp=Z,4.9nm,0.8s,baz=32,slow=8.9,SNR=12
KMBO Kilima Mbogo 85.05 267 *e*P **P 17 20 28.1 +1.8**
KMBO pmax pmax
comp=Z,20nm,1.5s
KMBO Kilima Mbogo 85.05 267 *e*P **P 17 20 28.1 +1.8**
comp=Z,20nm,1.5s
BOJS Bojanci 85.07 317 *i* P **P 17 20 26.0 +0.5**
BOJS Bojanci 85.07 317 *i* P **P 17 20 26.0 +0.5**
VISS Visnje 85.19 318 *i* P **P 17 20 26.3 +0.2**
VISS Visnje 85.19 318 *i* P **P 17 20 26.3 +0.2**
KBA Koelnbreinsper 85.52 319 *i* P **P 17 20 27.6 -0.3**
comp=Z,24nm,1.2s,SNR=10
KBA Koelnbreinsper 85.52 319 P **P 17 20 27.7 -0.3**
KBA pmax pmax
comp=Z,20nm,1.2s
MYKA Terra Mystica 85.55 319 *i* P **P 17 20 27.5 -0.5**
comp=Z,14nm,1.4s
JAVS Javornik 85.63 318 *i* P **P 17 20 28.0 -0.4**
JAVS Javornik 85.63 318 *i* P **P 17 20 28.0 -0.4**
TRI Trieste 85.90 318 *e*P **P 17 20 29.4 -0.2**
TRI pmax pmax
comp=Z,19nm,0.9s
TRI Trieste 85.90 318 *e*P **P 17 20 29.4 -0.2**
comp=Z,19nm,0.9s
ABTA Abfaltersbach 86.18 319 *i* P **P 17 20 30.0 -1.1**
comp=Z,0.9nm,0.4s,SNR=14
WTTA Wettenberg 86.45 320 *i* PcP **P 17 20 32.2 -0.4**
comp=Z,11nm,0.7s,SNR=7.7
WATA Walderalm 86.45 320 *i* P **P 17 20 32.0 -0.5**
comp=Z,15nm,1.2s
MOTA Moosalm 86.73 320 *i* P **P 17 20 33.3 -0.6**
comp=Z,12nm,1.1s,SNR=7.6
BUG Bochum--Univer 86.78 325 P **P 17 20 34.5 +0.7**
BUG pmax pmax
comp=Z,20nm,1.3s
TIP Timpagrande 86.89 311 P **P 17 20 34.0 -0.7**
TIP Timpagrande 86.89 311 *e*P **P 17 20 34.8 0.0**
comp=Z,35nm,1.4s
FETA Feichten 87.11 320 *i* PcP **P 17 20 35.5 -0.2**
comp=Z,12nm,1.0s,SNR=6.1
FUORN Ofenpass-Fuorn 87.59 320 *e*P **P 17 20 38.2 +0.1**
comp=Z,16nm,0.6s
AQU L'Aquila 87.70 315 *e*P **P 17 20 39.4 +0.8**
AQU pmax pmax
comp=Z,85nm,1.5s
AQU L'Aquila 87.70 315 *e*P **P 17 20 39.4 +0.8**
comp=Z,85nm,1.5s
BFO Black Forest 87.84 322 *ce*P **P 17 20 39.2 +0.1**
BFO Black Forest 87.84 322 *e*P **P 17 20 38.0 -1.0**
comp=Z,7.3nm,1.1s
MEM Membach 87.90 325 P **P 17 20 38.9 -0.3**
CEL Celeste 87.90 311 *e*P **P 17 20 40.4 +0.8**
comp=Z,79nm,1.4s
BEBN Eben Emael 87.97 325 P **P 17 20 39.5 0.0**
TUE Stuetta 88.21 320 *e*P **P 17 20 40.3 -0.8**
comp=Z,10nm,0.8s
WLF Walferdange 88.34 324 P **P 17 20 42.0 +0.7**
comp=Z,27nm,1.4s
WLF Walferdange 88.34 324 *e*P **P 17 20 41.6 +0.3**
WLF pmax pmax
comp=Z,35nm,1.0s
WLF Walferdange 88.34 324 *e*P **P 17 20 41.6 +0.3**
comp=Z,35nm,1.0s
BCLA Clavier 88.38 325 P **P 17 20 40.6 -0.9**
comp=Z,12nm,1.8s
CDF Champ du Feu 88.39 323 *e*P **P 17 20 40.9 -0.9**
CDF pmax pmax
comp=Z,28nm,1.3s
CASY Casey 88.65 184 *e*P **P 17 20 42.2 0.0**
comp=Z,8.4nm,0.9s
GIVF Givet 88.81 325 *e*P **P 17 20 42.8 -0.8**
GIVF pmax pmax
comp=Z,10.0nm,0.8s
DOU Dourbes 88.94 325 P **P 17 20 43.9 -0.2**
comp=Z,8.1nm,0.9s
HINF Hinteralfeld 88.95 322 *e*P **P 17 20 43.1 -1.2**
HINF pmax pmax
comp=Z,5.0nm,0.8s
BAIF Baives 89.16 325 *e*P **P 17 20 44.4 -0.8**
BAIF pmax pmax
comp=Z,17nm,1.2s
SENIN Lac Senin/Sane 89.47 321 *e*P **P 17 20 46.6 -0.4**
comp=Z,14nm,1.0s
ESK Eskdalemuir 89.55 332 *ce*P **P 17 20 48.2 +1.3**
ESK Eskdalemuir 89.55 332 *e*P **P 17 20 47.0 +0.1**
comp=Z,94nm,1.9s
CABF La Chapelle 90.04 321 *e*P **P 17 20 49.4 -0.1**
CABF pmax pmax
comp=Z,49nm,1.9s
LPG La Plagne 90.26 320 *e*P **P 17 20 50.4 -0.4**
LPG pmax pmax
comp=Z,10.0nm,0.5s
LPL La Plagne 90.26 320 *e*P **P 17 20 50.3 -0.5**
LPL pmax pmax
comp=Z,12nm,0.6s
ORIF Oris-en-Rattie 91.09 320 *e*P **P 17 20 54.1 -0.4**
ORIF pmax pmax
comp=Z,29nm,1.4s
AVF Avril sur Loir 91.50 323 *e*P **P 17 20 55.3 -0.9**
AVF pmax pmax
comp=Z,32nm,1.0s
VSL Villasalto 91.77 314 *e*P **P 17 20 57.1 -0.5**
comp=Z,35nm,1.0s
VIVF Saint-Julien-l 91.84 321 *e*P **P 17 20 57.1 -0.8**
VIVF pmax pmax
comp=Z,15nm,1.0s
GRR Gorron 92.83 326 *e*P **P 17 21 00.7 -1.6**
CAF Calviac 93.32 322 *e*P **P 17 21 04.7 0.0**
CAF pmax pmax
comp=Z,24nm,1.3s
NVAR Mina Array Bea 97.66 43 LR LR 18 03 29.2
comp=Z,55nm,18.6s,baz=267,slow=34
MAW Mawson 99.37 199 LR LR 18 04 27.8
comp=Z,46nm,18.2s,baz=76,slow=34
S22A 4UR Ranch, Cre 105.02 38 *e*PKKPbc PKKPbc 17 37 34.5 -5.4
SDCO Great Sand Dun 105.76 37 *e*Pdif **Pdif 17 21 58.9 -2.1**
TORD Torodi Ar. Bea 111.27 295 PKKPbc PKKPbc 17 37 19.2 -0.1
comp=Z,0.6nm,0.7s,baz=248,slow=2.5,SNR=3.9
TZTN Tazewell 116.92 22 *e*PKKPbc PKKPbc 17 36 57.7 -3.2
BLA Blacksburg 117.36 20 *e*PKKPbc PKKPbc 17 36 57.3 -2.1
SJCC San Jacinto, C 144.12 29 *e*P **PKPab 17 27 23.4 -0.4**
CAPC Capurgana 144.19 33 *e*P **PKPab 17 27 22.6 -1.3**
MOTC Monteria, Cord 144.88 30 *e*P **PKPab 17 27 24.8 -1.7**
OCAC Ocana 146.41 27 *e*P **PKPab 17 27 32.3 -0.1**
SDV Santo Domingo 146.86 22 PKPbc **PKPdf 17 27 31.8 +0.7**
comp=Z,68nm,0.7s,baz=3.3,slow=1.9,SNR=28
SDV Santo Domingo 146.86 22 *e*P **PKPbc 17 27 32.3 -0.6**
SDV Santo Domingo 146.86 22 *e*PKPdf **PKPbc 17 27 32.3 -0.6**
GRMC Gramalote, San 147.09 27 *e*P **PKPdf 17 27 32.5 +1.1**
CBRI Barrientos, No 147.10 27 *e*P **PKPbc 17 27 33.0 -0.5**
HELC Santa Helena 147.20 32 *e*PKPdf **PKPbc 17 27 33.3 -0.8**
PCRV Puerto La Cruz 147.22 11 PKPbc **PKPdf 17 27 31.7 +0.2**
comp=Z,10nm,0.6s,baz=297,slow=3.3,SNR=4.2
PAMC Pamplona, Colo 147.48 27 *e*P **PKPdf 17 27 31.8 -0.7**
BARC Barichara 147.94 28 *e*P **PKPbc 17 27 35.0 -0.9**
NORC Norcasia 148.06 32 *e*P **PKPbc 17 27 34.7 -1.4**
MALC Bahia Malaga 148.07 37 *e*P **PKPdf 17 27 33.0 +0.2**
GUYC Guyana, Colomb 148.09 33 *e*P **PKPbc 17 27 35.4 -1.3**
TOLC Tolima 148.68 34 *e*P **PKPab 17 27 41.1 -0.5**
ROSC El Rosal 148.96 32 PKPbc **PKPbc 17 27 37.2 -1.6**
comp=Z,9.5nm,0.6s,baz=32,slow=1.2,SNR=9.4
CHIC Chingaza 149.42 31 *e*P **PKPdf 17 27 34.3 -1.3**
PRAC Prado 149.64 34 *e*P **PKPdf 17 27 30.5 -4.9**
PRAC Prado 149.64 34 *e*PKPbc **PKPbc 17 27 39.1 -1.0**
VILC Villavicencio, 149.89 31 *e*P **PKPbc 17 27 40.0 -0.8**
CRUC La Cruz 150.28 40 *e*P **PKPbc 17 27 41.5 -0.6**
OTAV Otavalo 150.40 44 *e*P **PKPdf 17 27 37.2 0.0**
OTAV Otavalo 150.40 44 *e*PKPbc **PKPbc 17 27 42.6 +0.1**
SJAC San Juan de Ar 150.49 33 *e*P **PKPbc 17 27 40.7 -1.5**
PTGA Pitinga 158.56 4 PKPab **PKPab 17 28 21.1 -1.6**
comp=Z,4.9nm,1.0s,baz=32,slow=4.7,SNR=4.8
PTGA Pitinga 158.56 4 *e*PKPab **PKPab 17 28 21.8 -1.0**
BDFB Brasilia 168.06 302 PKPab **PKPab 17 29 04.4 -0.3**
comp=Z,2.6nm,0.4s,baz=115,slow=9.9,SNR=4.8
LPAZ La Paz 169.18 58 PKP **PKPdf 17 27 57.1 -1.2**
comp=Z,0.5nm,0.5s,baz=0.0,slow=0.0,SNR=4.6
LPAZ PKPab **PKPab 17 29 08.9 -1.4**
comp=Z,0.8nm,0.8s,baz=280,slow=6.1,SNR=2.5
LPAZ La Paz 169.18 58 *e*PKIKP **PKPdf 17 27 59.1 +0.8**
LPAZ 17 29 08.9
LPAZ La Paz 169.18 58 *e*PKPdf **PKPdf 17 27 59.1 +0.8**
LPAZ PKPab **PKPab 17 29 08.9 -1.4**
CPUP Villa Florida 175.80 195 PKPab **PKPab 17 29 36.8 -1.6**
comp=Z,2.6nm,1.0s,baz=202,slow=6.5,SNR=3.6

ISK ***02*** *17:13:42.5, 39.10N×29.07E, h5km, MD2.8*
DDA ***02*** *17:13:43.0, 39.13N×29.08E, h7km, Md2.7*
CSEM ***02*** *17:13:43.3±0.1, 39.11N×29.08E, h5km, MD2.7, Error ellipse: s-maj=1.7km s-min=1.6km az=132.0*
ISC 02 17:13:43.5±0.9, 39.11N±0.02×29.07E±0.02, h10km±9km, n42, σ0.944/60, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**258**	P		P	**Pg**	**17 13 49.5**	**+0.2**
DEMI				S			**Sg**	**17 13 53.2**	**+0.1**
DEMI	**Demirci**	**0.28**	**258**	*i* P		**Pg**	**17 13 49.5**	**+0.2**
DEMI				*i* S			**Sg**	**17 13 53.2**	**+0.1**
GDZ	**Gediz**	**0.32**	**93**	P		**Pg**	**17 13 49.8**	**-0.1**
GDZ				S			**Sg**	**17 13 54.3**	**+0.1**
GDZ	**Gediz**	**0.32**	**93**	*i* P		**Pg**	**17 13 49.8**	**-0.1**
GDZ				*i* S			**Sg**	**17 13 54.3**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**41**	*e*PG		**Pg**	**17 13 52.3**	**-0.2**
TVSB				*e*SG		**Sg**	**17 13 57.9**	**-0.6**
TVSB	**Tavsanli**	**0.46**	**41**	*e*Pg		**Pg**	**17 13 52.3**	**-0.2**
TVSB				*e*Sg		**Sg**	**17 13 57.9**	**-0.6**
DST	**Dursunbey**	**0.61**	**325**	*e*PG		**Pg**	**17 13 54.7**	**-0.6**
DST				*e*SG		**Sg**	**17 14 03.7**	**+0.3**
DST	**Dursunbey**	**0.61**	**325**	*e*Pg		**Pg**	**17 13 54.7**	**-0.6**
DST				*e*Sg		**Sg**	**17 14 03.7**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*PG		**Pg**	**17 13 56.1**	**-0.4**
KULA				*e*SG		**Sg**	**17 14 04.9**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*Pg		**Pg**	**17 13 56.1**	**-0.4**
KULA				*e*Sg		**Sg**	**17 14 04.9**	**-0.4**
KHAL	**Karahalli**	**0.80**	**156**	P		**Pg**	**17 13 58.6**	**-0.3**
KHAL				S		**Sg**	**17 14 09.0**	**-0.5**
KHAL	**Karahalli**	**0.80**	**156**	*i* P		**Pg**	**17 13 58.6**	**-0.3**
KHAL				*i* S		**Sg**	**17 14 09.0**	**-0.5**
KHL	**Karahalli**	**0.86**	**156**	*e*PG		**Pb**	**17 14 00.0**	**-0.4**
KHL	**Karahalli**	**0.86**	**156**	*e*Pg		**Pb**	**17 14 00.0**	**-0.4**
ORLT	**Orhaneli**	**0.95**	**352**	*e*PG		**Pg**	**17 14 01.5**	**-0.3**
ORLT	**Orhaneli**	**0.95**	**352**	*e*Pg		**Pg**	**17 14 01.5**	**-0.3**
AKHS	**Akhisar**	**1.01**	**257**	P		**Pn**	**17 14 03.8**	**+0.2**
AKHS				S		**Sb**	**17 14 17.1**	**+0.8**
AKHS	**Akhisar**	**1.01**	**257**	*i* P		**Pn**	**17 14 03.8**	**+0.2**
AKHS				*i* S		**Sb**	**17 14 17.1**	**+0.8**
AKS	**Akhisar**	**1.01**	**257**	*e*PG		**Pg**	**17 14 02.5**	**-0.4**
AKS	**Akhisar**	**1.01**	**257**	*e*Pg		**Pg**	**17 14 02.5**	**-0.4**
BALB	**Balikesir**	**1.07**	**300**	*e*PG		**Pb**	**17 14 04.1**	**+0.1**
BALB	**Balikesir**	**1.07**	**300**	*e*Pg		**Pb**	**17 14 04.1**	**+0.1**
IGD	**Bursa**	**1.16**	**5**	*i* P		**Pg**	**17 14 04.7**	**-1.1**
IGD				*i* S		**Sb**	**17 14 20.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*PN		**Pg**	**17 14 07.3**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn		**Pg**	**17 14 07.3**	**-0.6**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN		**Pb**	**17 14 07.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn		**Pb**	**17 14 07.8**	**0.0**
BALY	**Balya**	**1.29**	**300**	P		**Pb**	**17 14 08.0**	**+0.1**
BALY	**Balya**	**1.29**	**300**	*i* P		**Pb**	**17 14 08.0**	**+0.1**
BORA	**Eskisehir**	**1.32**	**54**	P		**Pb**	**17 14 08.8**	**+0.4**
BORA				S		**Sb**	**17 14 25.7**	**+0.4**
BORA	**Eskisehir**	**1.32**	**54**	*i* P		**Pb**	**17 14 08.8**	**+0.4**
BORA				*i* S		**Sb**	**17 14 25.7**	**+0.4**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*PN		**Pn**	**17 14 09.6**	**+0.3**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*Pn		**Pn**	**17 14 09.6**	**+0.3**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*PN		**Pb**	**17 14 09.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*Pn		**Pb**	**17 14 09.9**	**-0.2**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN		**Pn**	**17 14 10.4**	**+0.4**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn		**Pn**	**17 14 10.4**	**+0.4**
EDC	**Edincik**	**1.55**	**323**	*e*PN		**Pn**	**17 14 11.5**	**+0.4**
EDC	**Edincik**	**1.55**	**323**	*e*Pn		**Pn**	**17 14 11.5**	**+0.4**
GULT	**Gulveren**	**1.73**	**39**	*e*PN		**Pn**	**17 14 14.1**	**+0.4**
GULT	**Gulveren**	**1.73**	**39**	*e*Pn		**Pn**	**17 14 14.1**	**+0.4**
SART	**Tekirdag**	**2.15**	**318**	*i* P		**Pg**	**17 14 23.7**	**-1.0**
SART				*i* S		**Sg**	**17 14 51.9**	**-0.7**

LJU ***02*** *17:28:26.3, 45.72N×14.35E, h1km, ML0.7*
CSEM 02 17:28:26.3, 45.72N×14.35E, h0km, ML0.7, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEY	**Cerknica**	**0.06**	**71**	*i*Pg		P	Pg	17 28 27.1	-0.2
CEY				*i* Sg			Sg	17 28 28.0	-0.1
comp=Z,35nm,0.0s									
CEY	**Cerknica**	**0.06**	**71**	*i*Pg		P	Pg	17 28 27.1	-0.3
CEY				*i* Sg			Sg	17 28 28.0	-0.1
comp=Z,35nm,0.0s									
KNDS	**Knezji Dol**	**0.19**	**174**	*i* Sg			Sg	17 28 32.9	+0.5
KNDS	**Knezji Dol**	**0.19**	**174**	*i* Sg			Sg	17 28 32.9	+0.4
JAVS	**Javornik**	**0.27**	**311**	*i* Pg			Pg	17 28 31.1	-0.3
JAVS				*i* Sg			Sg	17 28 35.9	+1.1
comp=Z,5.0nm,0.1s									
JAVS	**Javornik**	**0.27**	**311**	*i* Pg			Pg	17 28 31.1	-0.3
JAVS				*i* Sg			Sg	17 28 35.9	+1.1
comp=Z,4.0nm,0.1s									
SKDS	**Skadanscina**	**0.29**	**234**	*i* Pg			Pg	17 28 31.5	-0.4
SKDS				*i* Sg			Sg	17 28 36.5	+0.8
comp=Z,2.0nm,0.1s									
SKDS	**Skadanscina**	**0.29**	**234**	*i* Pg			Pg	17 28 31.5	-0.4
SKDS				*i* Sg			Sg	17 28 36.5	+0.8
comp=Z,2.0nm,0.1s									
VISS	**Visnje**	**0.35**	**76**	*i* Pg			Pg	17 28 33.7	+0.7
VISS				*i* Sg			Sg	17 28 38.3	+0.7
VISS	**Visnje**	**0.35**	**76**	*i* Pg			Pg	17 28 33.7	+0.7
VISS				*i* Sg			Sg	17 28 38.3	+0.7

MAN 02 17:39:35, 14.01N×120.46E, h109km, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**217**	*e*P		P	Pn	17 39 53.7	+2.8
LUBP				*e*S			Sn	17 40 06.4	+3.7
PGP	**Puerto Galera**	**0.70**	**137**	*e*P		P	Pn	17 39 55.4	+2.1
PGP				*e*S			Sn	17 40 04.8	-2.2
POLP	**Polilio Island**	**1.60**	**63**	*e*P		P	Pn	17 40 04.0	+1.1
POLP				*e*S			Sn	17 40 26.5	+2.3
SJMP	**San Jose**	**1.67**	**157**	*e*P		P	Pn	17 40 05.5	+1.7
SJMP				*e*S			Sn	17 40 27.4	+1.6
SCZP	**Santa Cruz**	**1.83**	**343**	*e*P		P	Pn	17 40 07.5	+1.7
SCZP				*e*S			Sn	17 40 30.5	+1.1
BUSP	**Coron**	**2.02**	**187**	*e*P		P	Pn	17 40 09.6	+1.4
BUSP				*e*S			Sn	17 40 34.6	+1.2
BOLP	**Bolinao**	**2.41**	**347**	*e*P		P	Pn	17 40 15.4	+2.1
BOLP				*e*S			Sn	17 40 44.1	+1.5

ISCJB ***02*** *18:01:22.0±0.6, 5.17S±0.05×129.50E±0.06, h250km, mb3.0/1, Error ellipse: s-maj=8.7km s-min=6.3km az=172.9*
DJA ***02*** *18:01:22.8±0.3, 5.3S×13.0E±, h228km±8km, M4.5/6, mB5.0/2, mb4.2/6, MLv4.7/6, Mw(mB)4.3/2*
IDC ***02*** *18:01:23.8±4.1, 5.33S×129.56E, h236km±38km, mb2.9/1, mb1 3.9/4, mb1mx3.1/49, mbtmp4.4/4, Error ellipse: s-maj=82.2km s-min=14.7km az=72.0*
ISC 02 18:01:21.8±0.8, 5.28S±0.06×129.48E±0.08, h250km, n12, σ2.966/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**3.12**	**310**	P		P	**Pn**	**18 02 17.5**	**+1.9**
FAKI	**Fak Fak**	**3.63**	**50**	S		S	**S**	**18 03 06.3**	**-2.3**
SANI	**Sanana**	**4.73**	**313**	P		P	**Pn**	**18 02 33.6**	**-0.8**
SANI				S		S		18 03 25.0	-7.3
SWI	**Sorong**	**4.74**	**22**	P		P	**Pn**	**18 02 34.5**	**0.0**
LBMI	**Labuha**	**5.02**	**337**	P		P	**Pn**	**18 02 37.7**	**-0.2**
95nm,0.9s,2μm0.5nm									
LBMI				S		S		**18 03 34.2**	**-4.3**
95nm,0.9s,2μm0.5nm									
RKPI	**Ransiki, Papua**	**6.00**	**52**	S		S	**S**	**18 03 58.1**	**-2.6**
MRSI	**Marisa**	**9.45**	**307**	P		P	**Pn**	**18 03 34.2**	**+0.6**
39nm,1.1s									
GENI	**Genyem**	**11.00**	**76**	P		P	**P**	**18 03 57.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**13.28**	**196**	P		P	**Pn**	**18 04 22.0**	**+0.7**
1.1nm,0.3s,baz=34,slow=11,SNR=25									
FITZ				S		S		**18 06 42.9**	**-5.9**
0.3nm,0.3s,baz=103,slow=19,SNR=2.7									
WRA	**Warramunga Arr**	**15.32**	**162**	P		P	**Pn**	**18 04 46.9**	**+0.9**
2.5nm,0.3s,baz=347,slow=12,SNR=166									
WRA				S		S		**18 07 33.1**	**-1.4**
0.6nm,0.3s,baz=340,slow=21,SNR=5.3									
ASAR	**Alice Springs**	**18.77**	**167**	P		P	**Pn**	**18 05 26.9**	**+0.3**
2.6nm,0.3s,baz=350,slow=12,SNR=410									
ASAR				S		S		**18 08 45.4**	**+2.3**
0.6nm,0.3s,baz=349,slow=21,SNR=22									
MKAR	**Makanchi Array**	**66.51**	**327**	P		P	**P**	**18 11 48.6**	**+3.7**
0.2nm,0.5s,baz=117,slow=6.1,SNR=5.2									

TAP ***02*** *18:02:42.4, 24.82N×121.93E, h14km, ML3.1, C*
JMA ***02*** *18:02:42.7±0.1, 24.82N×121.86E, h38km, M2.3*
ISC 02 18:02:42.5±0.9, 24.82N±0.03×121.95E±0.02, h13km±7km, n43, σ0.964/65, 3C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.19**	**254**	*e*P		P	**Pg**	**18 02 46.7**	**-0.1**
baz=242									
ILA				*e*S		S	**Sb**	**18 02 51.3**	**-0.1**
baz=242									
TWC	**Suao**	**0.23**	**204**	⇓*i*P		P	**Pg**	**18 02 47.4**	**-0.1**
baz=190									
TWC				*i* S		S	**Sg**	**18 02 50.4**	**-0.4**
baz=190									
TWE	**Neicheng**	**0.28**	**249**	⇑*i*P		P	**Pg**	**18 02 48.3**	**+0.1**
baz=238									
TWE				*e*S		S	**Sg**	**18 02 52.2**	**0.0**
baz=238									
NWF	**Wu-fen Shan**	**0.29**	**329**	⇓*i*P		P	**Pg**	**18 02 49.1**	**+0.4**
baz=322									
NWF				*i* S		S	**Sb**	**18 02 53.8**	**-0.7**
baz=322									
TWA	**Mucha**	**0.37**	**296**	P		P	**Pg**	**18 02 50.2**	**+0.3**
baz=288									
TWA				S		S	**Sb**	**18 02 55.5**	**-1.1**
baz=288									
ENTT	**Nioudou**	**0.39**	**243**	⇑*i*P		P	**Pg**	**18 02 50.3**	**-0.1**
baz=239									
ENTT				*e*S		S	**Sb**	**18 02 56.4**	**-0.9**
baz=239									
ENA	**Nanau**	**0.43**	**206**	*e*P		P	**Pg**	**18 02 51.0**	**-0.1**
baz=205									
ENA				*e*S		S	**Sg**	**18 02 57.3**	**+0.3**
baz=205									
TAP1	**Taipei**	**0.44**	**299**	P		P	**Pb**	**18 02 52.0**	**-0.2**
baz=292									
TAP1				*i* S		S	**Sb**	**18 02 58.4**	**-0.4**
baz=292									
TAP	**Taipei**	**0.46**	**299**	*e*P		P	**Pb**	**18 02 52.4**	**0.0**
baz=292									
TAP				*e*S		S	**Sb**	**18 02 58.4**	**-0.8**
baz=292									
TWY	**Chenhua**	**0.55**	**325**	⇓P		P	**Pb**	**18 02 54.1**	**0.0**
baz=318									
TWY				*e*S		S	**Sb**	**18 03 01.1**	**-0.9**
baz=318									
NSK	**Sanguang**	**0.56**	**255**	⇑*i*P		P	**Pg**	**18 02 53.3**	**-0.2**
baz=260									
NSK				S		S	**Sg**	**18 03 00.5**	**-0.4**
baz=260									
TWS1	**Kuangyinshan**	**0.56**	**300**	P		P	**Pb**	**18 02 54.6**	**+0.5**
baz=292									
TWS1				*e*S		S	**Sb**	**18 03 02.1**	**+0.1**
baz=292									
NNS	**Nan Shan**	**0.65**	**234**	*e*P		P	**Pg**	**18 02 54.8**	**-0.4**
baz=226									
NCU	**National Centr**	**0.71**	**282**	*e*P		P	**Pn**	**18 02 57.9**	**-0.4**
baz=281									
NCU				*e*S		S	**Sn**	**18 03 07.7**	**-1.3**
baz=281									
TWD	**Chiawan**	**0.80**	**204**	P		P	**Pb**	**18 02 58.0**	**-0.3**
baz=201									
TWD				*e*S		S	**Sb**	**18 03 08.5**	**-0.6**
baz=201									
NSTT	**Nanjuang**	**0.88**	**258**	*e*P		P	**Pg**	**18 02 59.9**	**+0.3**
baz=250									
NSTT				*e*S		S	**Sn**	**18 03 13.6**	**+0.3**
baz=250									
TWT	**Tachien**	**0.90**	**231**	P		P	**Pg**	**18 03 00.3**	**+0.3**
baz=236									
TWT				*e*S		S	**Sn**	**18 03 13.3**	**-0.8**
baz=236									
WHF	**Hehuan Shan**	**0.92**	**223**	*e*P		P	**Pb**	**18 02 59.8**	**-0.7**
baz=211									
JYNG	**Yonagunijimaku**	**0.98**	**112**	P		P	**Pb**	**18 03 01.1**	**-0.2**
JYNG				S		S	**Sb**	**18 03 14.0**	**-0.1**
YOJ	**Yonaguni jima**	**1.03**	**110**	P		P	**Pb**	**18 03 01.7**	**-0.5**
YOJ				*e*S		S	**Sb**	**18 03 15.4**	**-0.2**
ESL	**Shilin**	**1.11**	**205**	*e*P		P	**Pg**	**18 03 04.5**	**+0.6**
baz=202									
NSY	**Sanyi**	**1.15**	**250**	*e*P		P	**Pg**	**18

JIJ				*e*S		**Sn**	**18 03 42.3**	**+0.2**
CHN1	**Nanshi** baz=227	**2.08**	**219**	*e*P		**Pb**	**18 03 19.8**	**-0.4**
SGST	**Jiashian** baz=202	**2.13**	**216**	*e*P		**Pn**	**18 03 18.6**	**+0.7**
JISG	**Ishigakijimahi**	**2.16**	**96**	P		**Pn**	**18 03 19.0**	**+0.8**
JISG				*e*S		**Sn**	**18 03 45.9**	**+1.1**
ECL	**Taimali** baz=190	**2.39**	**203**	*e*P		**Pn**	**18 03 22.5**	**+1.1**

TAP ***02*** *18:03:08.4,24.82N×121.94E,h13km,ML3.2,C*
JMA ***02*** *18:03:08.9±0.1,24.82N×121.88E,h34km,M2.4*
ISC 02 18:03:07.8±1.1,24.83N±0.03×122.01E±0.04,h12km±8km, n37,σ0.42/54,2C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ILA	**Ilan** baz=250	**0.24**	**255**	P			**Pg**	**18 03 12.8**	**-0.2**
ILA	baz=250				*e*S		**Sg**	**18 03 16.9**	**+0.5**
TWC	**Suao** baz=192	**0.26**	**213**	⇑*i*P			**Pg**	**18 03 13.3**	**+0.1**
TWC	baz=192			*i* S			**Sg**	**18 03 16.4**	**-0.5**
NWF	**Wu-fen Shan** baz=325	**0.32**	**320**	⇓*i*P			**Pb**	**18 03 15.1**	**-0.4**
NWF	baz=325			*i* S			**Sb**	**18 03 19.7**	**-0.8**
TWE	**Neicheng** baz=240	**0.33**	**251**	⇑*i*P			**Pg**	**18 03 14.3**	**-0.1**
TWE	baz=240			*e*S			**Sg**	**18 03 18.4**	**-0.5**
TWA	**Mucha** baz=288	**0.41**	**292**	P			**Pg**	**18 03 16.2**	**+0.2**
TWA	baz=288			*i* S			**Sg**	**18 03 21.7**	**+0.1**
ENTT	**Nioudou** baz=239	**0.44**	**245**	P			**Pg**	**18 03 16.4**	**-0.2**
ENTT	baz=239			*e*S			**Sb**	**18 03 23.9**	**-0.2**
ENA	**Nanau** baz=206	**0.47**	**211**	P			**Pb**	**18 03 17.6**	**-0.3**
ENA	baz=206			*e*S			**Sb**	**18 03 24.0**	**-0.7**
TAP1	**Taipei** baz=291	**0.49**	**296**	P			**Pb**	**18 03 18.1**	**-0.2**
TAP1	baz=291			*i* S			**Sg**	**18 03 24.5**	**+0.7**
TAP	**Taipei** baz=292	**0.50**	**295**	*e*P			**Pb**	**18 03 18.4**	**-0.1**
TAP	baz=292			*i* S			**Sg**	**18 03 24.6**	**+0.3**
TWY	**Chenhua** baz=327	**0.58**	**321**	P			**Pb**	**18 03 19.8**	**-0.1**
TWS1	**Kuangyinshan** baz=291	**0.60**	**297**	⇓*i*P			**Pb**	**18 03 20.7**	**+0.5**
TWS1	baz=291			S			**Sb**	**18 03 28.2**	**-0.4**
NSK	**Sanguang** baz=260	**0.61**	**256**	*i* P			**Pg**	**18 03 19.2**	**-0.5**
NSK	baz=260			*e*S			**Sg**	**18 03 27.8**	**+0.1**
NNS	**Nan Shan** baz=231	**0.69**	**236**	*e*P			**Pg**	**18 03 21.2**	**-0.1**
NNS	baz=231			*e*S			**Sb**	**18 03 32.2**	**+0.8**
NCU	**National Centr** baz=281	**0.76**	**281**	*e*P			**Pb**	**18 03 23.6**	**+0.7**
NCU	baz=281			*e*S			**Sb**	**18 03 33.8**	**+0.6**
PCYT	**Pengchaiyu** baz=11	**0.80**	**4**	*e*P			**Pn**	**18 03 24.4**	**-0.5**
TWD	**Chiawan** baz=201	**0.83**	**207**	*e*P			**Pb**	**18 03 24.0**	**-0.1**
TWD	baz=201			*e*S			**Sg**	**18 03 34.6**	**-0.2**
JYNG	**Yonagunijimaku**	**0.93**	**113**	P			**Pn**	**18 03 27.1**	**+0.4**
JYNG				S			**Sn**	**18 03 40.0**	**0.0**
NSTT	**Nanjuang** baz=250	**0.93**	**258**	*e*P			**Pb**	**18 03 26.0**	**+0.1**
NSTT	baz=250			*e*S			**Sb**	**18 03 38.6**	**+0.3**
HSN	**Hsinchu** baz=283	**0.94**	**269**	*e*P			**Pb**	**18 03 26.1**	**+0.1**
TWT	**Tachien** baz=222	**0.95**	**233**	*e*P			**Pn**	**18 03 26.8**	**-0.2**
WHF	**Hehuan Shan** baz=211	**0.96**	**225**	*e*P			**Pn**	**18 03 27.0**	**-0.5**
YOJ	**Yonaguni jima**	**0.98**	**111**	P			**Pn**	**18 03 27.9**	**+0.5**
YOJ				S			**Sn**	**18 03 41.4**	**+0.2**
ESL	**Shilin** baz=201	**1.14**	**207**	*e*P			**Pn**	**18 03 29.4**	**-0.1**
NSY	**Sanyi** baz=266	**1.20**	**250**	*e*P			**Pg**	**18 03 31.3**	**+0.3**
TWQ1	**Liyutan** baz=260	**1.22**	**247**	*e*P			**Pg**	**18 03 31.4**	**+0.1**
SMLT	**Sun Moon Lake** baz=212	**1.38**	**227**	*e*P			**Pb**	**18 03 33.8**	**+0.2**
TYC	**Yuchr** baz=214	**1.39**	**229**	*e*P			**Pg**	**18 03 34.1**	**-0.5**
EHY	**Hungye** baz=201	**1.46**	**206**	*e*P			**Pn**	**18 03 34.2**	**+0.3**
TWF1	**Yuli** baz=207	**1.60**	**204**	*e*P			**Pb**	**18 03 37.4**	**0.0**
ALS	**Alishan** baz=207	**1.71**	**220**	*e*P			**Pb**	**18 03 39.3**	**0.0**
CHN5	**Tsauling** baz=221	**1.72**	**225**	*e*P			**Pg**	**18 03 40.9**	**0.0**
CHKT	**Chengkung** baz=177	**1.82**	**199**	*e*P			**Pb**	**18 03 41.2**	**+0.2**
CHN4	**Tsaushan** baz=220	**1.96**	**222**	*e*P			**Pb**	**18 03 44.2**	**+0.8**
STYT	**Tauyuan** baz=198	**2.01**	**215**	*e*P			**Pg**	**18 03 45.7**	**-0.8**
WTP	**Ta-pu** baz=217	**2.02**	**219**	*e*P			**Pb**	**18 03 45.4**	**+0.8**
CHN1	**Nanshi** baz=218	**2.12**	**220**	*e*P			**Pb**	**18 03 46.1**	**-0.1**
SGST	**Jiashian** baz=200	**2.17**	**217**	*e*P			**Pb**	**18 03 47.5**	**+0.5**

IDC 02 18:06:04.0±1.2,10.92N×123.35E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.5/54,mbtmp3.8/6,MS3.0/2,Ms1 3.0/2, ms1mx2.5/36,Error ellipse: s-maj=63.0km s-min=18.9km az=63.0,Cebu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City** comp=Z,272nm,19.4s,baz=272,slow=39	**3.94**	**324**	LR			LR	18 08 37.5	
CMAR	**Chiang Mai Arr** 3.3nm,0.9s,baz=96,slow=7.5,SNR=20	**24.72**	**290**	P			P	18 11 27.3	-0.2
MJAR	**Matsushiro Arr** comp=Z,22nm,21.5s,baz=40,slow=33	**28.83**	**25**	LR			LR	18 21 48.3	
WRA	**Warramunga Arr** 1.3nm,0.7s,baz=339,slow=9.3,SNR=6.4	**32.52**	**161**	P			P	18 12 37.5	+0.7
ASAR	**Alice Springs** 0.5nm,0.5s,baz=335,slow=6.7,SNR=12	**35.89**	**163**	P			P	18 13 05.3	-0.7
SONM	**Songino Array** 0.5nm,0.6s,baz=168,slow=1.1,SNR=4.3	**39.46**	**342**	P			P	18 13 34.7	-1.5
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=125,slow=9.7,SNR=8.1	**49.79**	**324**	P			P	18 14 58.2	-0.3
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=126,slow=9.7,SNR=4.3	**52.70**	**332**	P			P	18 15 21.9	+1.7

IDC 02 18:07:25.7±1.6,11.71N×121.47E,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.3/54,mbtmp4.0/3,MS2.9/1,Ms1 2.9/1, ms1mx2.4/36,Error ellipse: s-maj=256.8km s-min=25.2km az=66.0,Panay

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam** comp=Z,34nm,21.6s,baz=206,slow=31	**22.90**	**83**	LR			LR	18 19 23.3	
WRA	**Warramunga Arr** 3.6nm,0.8s,baz=338,slow=9.3,SNR=13	**33.91**	**158**	P			P	18 14 10.8	+0.2
ASAR	**Alice Springs** 1.7nm,0.9s,baz=337,slow=7.4,SNR=9.7	**37.20**	**161**	P			P	18 14 38.6	-0.3
ZALV	**Zalesovo Beam** 0.7nm,0.6s,baz=115,slow=6.8,SNR=2.7	**51.16**	**333**	P			P	18 16 30.3	-0.1

NIED ***02*** *18:08:00,23.60N×120.70E,h17km,Mw3.7 Best double couple: Mo3.96000×10¹⁴ NP1:φ=356.00000°,δ57.00000°, λ=-6.00000°. NP2:φ=89.00000°,δ85.00000°,λ=-147.00000°.*
BJI ***02*** *18:08:51.4,23.63N×120.67E,h6km,ML3.6/6,Ms7 3.3/2*
JMA ***02*** *18:08:52.3±0.1,23.62N×120.68E,h0km,M3.6*
IASPEI ***02*** *18:08:54.0±0.8,23.61N±0.02×120.69E±0.02,h17km±6km, Error ellipse: s-maj=3.1km s-min=2.1km az=117.7,GT5 selection from ISC bulletin GT5 identified by Bond˜jr and McLaughlin (2009) selection criteria Bond˜jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
TAP ***02*** *18:08:53.7,23.59N×120.71E,h16km,ML4.1,B*
ISCJB ***02*** *18:08:54.7±0.2,23.59N±0.01×120.70E±0.02,h19km±2km, Error ellipse: s-maj=2.5km s-min=1.8km az=22.8*
ISC 02 18:08:53.9±0.8,23.61N±0.01×120.66E±0.02,h17km±6km, n80,σ1.906/129,15C-25D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHN5	**Tsauling** baz=281	**0.02**	**134**	⇓*i*P			**Pg**	**18 08 56.9**	**-0.1**
WGK	**Gukeng** baz=307	**0.12**	**309**	⇑*i*P			**Pb**	**18 08 58.6**	**+0.9**
WGK	baz=307			S			**Sb**	**18 09 02.2**	**+2.0**
ALS	**Alishan** baz=130	**0.17**	**127**	⇑*i*P			**Pg**	**18 08 58.3**	**-0.2**
CHN2	**Minshiung** baz=255	**0.19**	**245**	⇓*i*P			**Pb**	**18 08 59.6**	**+0.7**
CHN2	baz=255			*e*S			**Sb**	**18 09 03.8**	**+1.6**
CHY	**Chiayi** baz=249	**0.25**	**242**	⇓*i*P			**Pb**	**18 09 00.5**	**+0.6**
CHY	baz=249			*i* S			**Sb**	**18 09 05.2**	**+1.3**
WNT	**Mingjian** baz=358	**0.27**	**4**	⇑*i*P			**Pb**	**18 09 00.8**	**+0.5**
WNT	baz=358			*i* S			**Sb**	**18 09 05.5**	**+1.0**
CHN4	**Tsaushan** baz=203	**0.27**	**194**	⇓*i*P			**Pg**	**18 09 00.1**	**+0.4**
YUS	**Yu-Shan** baz=114	**0.29**	**115**	⇑*i*P			**Pg**	**18 09 00.5**	**0.0**
YUS	baz=114			S			**Sg**	**18 09 05.0**	**-0.1**
TYC	**Yuchr** baz=26	**0.34**	**32**	⇓*i*P			**Pb**	**18 09 01.6**	**+0.1**
TYC	baz=26			*i* S			**Sb**	**18 09 07.3**	**+0.6**
SMLT	**Sun Moon Lake** baz=33	**0.35**	**39**	⇓*i*P			**Pg**	**18 09 01.6**	**+0.4**
SMLT	baz=33			S			**Sb**	**18 09 07.1**	**+0.1**
WTP	**Ta-pu** baz=193	**0.37**	**187**	⇓*i*P			**Pg**	**18 09 01.6**	**+0.1**
WTP	baz=193			*e*S			**Sg**	**18 09 07.0**	**+0.2**
TWK	**Hsinying** baz=210	**0.38**	**205**	⇓*i*P			**Pg**	**18 09 02.2**	**+0.4**
TWK	baz=210			S			**Sb**	**18 09 08.3**	**+0.5**
WSF	**Szhu** baz=276	**0.40**	**274**	⇓*i*P			**Pb**	**18 09 03.1**	**+0.5**
WSF	baz=276			*i* S			**Sb**	**18 09 10.2**	**+1.8**
WTCT	**Ta-ch'eng** baz=305	**0.43**	**306**	⇑*i*P			**Pb**	**18 09 03.5**	**+0.5**
WTCT	baz=305			*i* S			**Sb**	**18 09 10.9**	**+1.7**
CHN1	**Nanshi** baz=202	**0.44**	**196**	⇓*i*P			**Pg**	**18 09 03.1**	**+0.2**
CHN1	baz=202			S			**Sb**	**18 09 10.0**	**+0.4**
STYT	**Tauyuan** baz=166	**0.46**	**169**	⇑*i*P			**Pg**	**18 09 03.1**	**0.0**
STYT	baz=166			S			**Sg**	**18 09 09.4**	**+0.1**
CHN8	**Yiju** baz=241	**0.49**	**237**	⇓*i*P			**Pb**	**18 09 04.4**	**+0.3**
CHN8	baz=241			*e*S			**Sb**	**18 09 12.5**	**+1.5**
SGST	**Jiashian** baz=192	**0.53**	**188**	⇓*i*P			**Pg**	**18 09 04.8**	**+0.3**
SGST	baz=192			S			**Sb**	**18 09 12.7**	**+0.5**
ELDTW	**Lidau** baz=144	**0.53**	**142**	⇑*i*P			**Pg**	**18 09 04.2**	**-0.4**
ELDTW	baz=144			S			**Sg**	**18 09 11.1**	**-0.7**
TCU	**Taichung** baz=358	**0.53**	**1**	⇑*i*P			**Pb**	**18 09 05.4**	**+0.6**
TCU	baz=358			*e*S			**Sb**	**18 09 13.3**	**+1.1**
CHN3	**Shinhua** baz=223	**0.60**	**207**	⇓*i*P			**Pb**	**18 09 07.0**	**+1.1**
CHN3	baz=223			*e*S			**Sn**	**18 09 17.6**	**+0.6**
SCLT	**Jiali** baz=228	**0.61**	**225**	⇓*i*P			**Pb**	**18 09 06.7**	**+0.6**
SCLT	baz=228			*e*S			**Sn**	**18 09 17.2**	**0.0**
EHY	**Hungye** baz=99	**0.61**	**100**	⇑*i*P			**Pg**	**18 09 05.9**	**-0.2**
EHY	baz=99			*i* S			**Sg**	**18 09 14.0**	**-0.2**
TWF1	**Yuli** baz=121	**0.64**	**114**	⇑*i*P			**Pg**	**18 09 06.2**	**-0.3**
TWF1	baz=121			*i* S			**Sg**	**18 09 14.6**	**-0.4**
TAI1	**Yung-k'ang** baz=218	**0.69**	**215**	⇓*i*P			**Pb**	**18 09 08.4**	**+0.8**
TAI1	baz=218			*e*S			**Sn**	**18 09 18.9**	**-0.3**
ESL	**Shilin** baz=84	**0.73**	**74**	⇓*i*P			**Pg**	**18 09 07.9**	**-0.3**
ESL	baz=84			S			**Sg**	**18 09 17.2**	**-0.9**
TWQ1	**Liyutan** baz=5.0	**0.74**	**8**	⇑*i*P			**Pb**	**18 09 09.0**	**+0.7**
TWQ1	baz=5.0			*i* S			**Sb**	**18 09 19.9**	**+1.7**
WHF	**Hehuan Shan** baz=43	**0.77**	**46**	⇓*i*P			**Pg**	**18 09 08.8**	**-0.1**
TWT	**Tachien** baz=40	**0.79**	**36**	⇓*i*P			**Pg**	**18 09 08.7**	**-0.7**
TWT	baz=40			S			**Sg**	**18 09 19.3**	**-0.7**
NSY	**Sanyi** baz=4.0	**0.81**	**6**	⇑*i*P			**Pb**	**18 09 10.4**	**+0.9**
NSY	baz=4.0			*e*S			**Sb**	**18 09 21.5**	**+1.4**
TWM1	**Shoushan** baz=186	**0.81**	**196**	⇓P			**Pn**	**18 09 10.9**	**+0.2**
ESF	**Shoufeng Towns** baz=69	**0.82**	**71**	*e*P			**Pg**	**18 09 09.9**	**+0.1**
CHKT	**Chengkung** baz=135	**0.82**	**128**	⇑*i*P			**Pb**	**18 09 10.2**	**+0.5**
CHKT	baz=135			*e*S			**Sg**	**18 09 20.8**	**-0.1**
SSD	**Sandimen** baz=184	**0.86**	**182**	⇓*i*P			**Pb**	**18 09 10.4**	**0.0**
SSD	baz=184			*e*S			**Sb**	**18 09 22.2**	**+0.5**
TWG	**Pinlang** baz=156	**0.87**	**154**	⇑*i*P			**Pb**	**18 09 10.4**	**-0.2**
TWG	baz=156			S			**Sb**	**18 09 22.0**	**0.0**
SGLT	**Jiouru** baz=193	**0.90**	**190**	*e*P			**Pn**	**18 09 12.1**	**+0.4**
HWA	**Hwalien** baz=73	**0.94**	**67**	P			**Pb**	**18 09 11.7**	**0.0**
HWA	baz=73			*e*S			**Sb**	**18 09 24.3**	**+0.4**
TTN	**Taitung** baz=154	**0.96**	**152**	*e*P			**Pb**	**18 09 12.3**	**+0.2**
TWD	**Chiawan** baz=59	**0.97**	**61**	P			**Pb**	**18 09 12.0**	**-0.4**
TWD	baz=59			*e*S			**Sb**	**18 09 24.1**	**-0.8**
WDGT	**Dungji** baz=251	**0.98**	**249**	⇓*i*P			**Pb**	**18 09 11.9**	**-0.5**
PNG	**Penghu** baz=269	**1.02**	**268**	⇓*i*P			**Pb**	**18 09 12.6**	**-0.4**
PNG	baz=269			S			**Sb**	**18 09 26.2**	**+0.1**
ECL	**Taimali** baz=158	**1.05**	**165**	⇓P			**Pb**	**18 09 13.4**	**-0.2**
ECL	baz=158			S			**Sb**	**18 09 27.3**	**+0.3**
NNS	**Nan Shan** baz=44	**1.05**	**38**	⇓*i*P			**Pb**	**18 09 13.2**	**-0.5**
NNS	baz=44			*e*S			**Sb**	**18 09 26.5**	**-0.8**
NSTT	**Nanjuang** baz=15	**1.06**	**17**	⇑*i*P			**Pb**	**18 09 14.0**	**+0.2**
NSTT	baz=15			S			**Sg**	**18 09 28.5**	**+0.1**
KAU	**Kaohsiung** baz=213	**1.09**	**197**	*e*P			**Pb**	**18 09 13.8**	**-0.5**
HSN	**Hsinchu** baz=13	**1.22**	**13**	*e*P			**Pg**	**18 09 17.8**	**+0.4**
EAST	**Anshuo** baz=174	**1.23**	**172**	*e*P			**Pn**	**18 09 16.4**	**0.0**
EAST	baz=174			S			**Sb**	**18 09 33.0**	**+0.5**
SCZT	**Fangliau** baz=184	**1.23**	**182**	*e*P			**Pn**	**18 09 16.6**	**+0.2**
NSK	**Sanguang** baz=21	**1.24**	**31**	*e*P			**Pn**	**18 09 16.6**	**+0.1**
NSK	baz=21			*e*S			**Sb**	**18 09 31.5**	**-1.0**
TAW	**Tawu** baz=172	**1.27**	**170**	*e*P			**Pn**	**18 09 16.8**	**0.0**
TAW	baz=172			*e*S			**Sb**	**18 09 33.7**	**+0.4**
ENA	**Nanau** baz=49	**1.28**	**50**	⇓*i*P			**Pn**	**18 09 17.0**	**0.0**
TWP	**Hsiaoliuchiu** baz=195	**1.29**	**192**	*e*P			**Pn**	**18 09 16.5**	**-0.7**
ENTT	**Nioudou** baz=30	**1.32**	**39**	P			**Pn**	**18 09 17.9**	**+0.4**
ENTT	baz=30			*e*S			**Sn**	**18 09 35.4**	**+0.7**
NCU	**National Centr** baz=3.0	**1.44**	**19**	*e*P			**Pg**	**18 09 21.6**	**+0.1**
TWE	**Neicheng** baz=39	**1.44**	**40**	*e*P			**Pb**	**18 09 20.4**	**+0.2**
TWE	baz=39			*e*S			**Sg**	**18 09 40.4**	**0.0**
TWC	**Suao** baz=46	**1.47**	**47**	P			**Pn**	**18 09 20.3**	**+0.7**
TWC	baz=46			S			**Sn**	**18 09 39.0**	**+0.5**
ILA	**Ilan** baz=23	**1.52**	**41**	*e*P			**Pb**	**18 09 21.4**	**-0.1**
HEN	**Hengchun** baz=179	**1.60**	**177**	*e*P			**Pn**	**18 09 21.7**	**+0.3**
TWA	**Mucha** baz=13	**1.60**	**32**	*e*P			**Pb**	**18 09 22.7**	**-0.3**
TAP	**Taipei** baz=27	**1.62**	**28**	*e*P			**Pn**	**18 09 22.7**	**+1.1**
TAP1	**Taipei** baz=27	**1.62**	**29**	*e*P			**Pb**	**18 09 24.5**	**+1.1**
TWS1	**Kuangyinshan** baz=5.0	**1.64**	**25**	*e*P			**Pb**	**18 09 23.7**	**+0.1**
TWK1	**Hengchun** baz=186	**1.67**	**175**	*e*P			**Pn**	**18 09 22.6**	**+0.3**
TSEB	**Hengchuen, Pin** baz=191	**1.72**	**173**	*e*P			**Pn**	**18 09 21.4**	**-1.6**
LAY	**Lan-yu** baz=153	**1.77**	**152**	*e*P			**Pn**	**18 09 23.2**	**-0.6**
NWF	**Wu-fen Shan** baz=34	**1.78**	**35**	*e*P			**Pb**	**18 09 26.5**	**+0.5**
NWF	baz=34			*e*S			**Sb**	**18 09 49.8**	**+1.7**
TWY	**Chenhua** baz=10.0	**1.86**	**27**	*e*P			**Pb**	**18 09 27.5**	**0.0**
KNM	**Kinmen** baz=290	**2.19**	**292**	*e*P			**Pn**	**18 09 30.1**	**+0.6**
JYNG	**Yonagunijimaku**	**2.25**	**68**	P			**Pn**	**18 09 31.0**	**+0.7**
JYNG				S			**Sn**	**18 09 58.7**	**+1.0**
QZH	**Quanzhou**	**2.31**	**305**	Pn			Pn	18 09 24.0	-7.1
QZH				Pg			**Pb**	**18 09 31.1**	**-3.9**
QZH				Sn			**Sn**	**18 09 51.5**	**-7.6**
QZH	comp=N,620nm,0.8s			smax			smax		
QZH	comp=E,750nm,0.9s			smax			smax		
YOJ	**Yonaguni jima**	**2.31**	**68**	P			**Pn**	**18 09 31.6**	**+0.5**
YOJ				*e*S			**Sb**	**18 10 02.1**	**-1.2**
YOJ	**Yonaguni jima** baz=67	**2.31**	**68**	*e*P			**Pn**	**18 09 32.4**	**+1.3**
PCYT	**Pengchaiyu** baz=31	**2.38**	**32**	*e*P			**Pn**	**18 09 32.5**	**+0.3**
IRIF	**Iriomote-Funau**	**2.90**	**75**	P			**Pn**	**18 09 40.4**	**+1.2**
IRIF				*e*S			**Sn**	**18 10 15.1**	**+1.4**
HATJ	**Hateruma jima**	**2.91**	**81**	P			**Pn**	**18 09 40.7**	**+1.2**
HATJ				*e*S			**Sn**	**18 10 14.9**	**+0.8**
JKRS	**Kuro-shima**	**3.13**	**78**	P			**Pn**	**18 09 43.8**	**+1.4**
JIJ	**Ishigaki jima**	**3.27**	**76**	P			**Pn**	**18 09 44.5**	**+0.1**
JIJ				*e*S			**Sn**	**18 10 22.2**	**-0.7**
JISG	**Ishigakijimahi**	**3.47**	**73**	P			**Pn**	**18 09 47.4**	**+0.2**
JISG				S			**Sn**	**18 10 28.1**	**+0.2**
JTJ	**Tarama**	**3.83**	**74**	P			**Pn**	**18 09 53.0**	**+0.9**
WHN	**Wuhan**	**8.90**	**322**	P			**Pn**	**18 11 01.0**	**-0.8**

NNC ***02*** *18:21:50.9±1.1,44.28N×80.52E,h0km,mb3.0,mpv2.8, Error ellipse: s-maj=37.7km s-min=3.9km az=122.0*
SOME ***02*** *18:21:50.8,44.33N×80.53E,h15km*
ISC 02 18:21:47.1±1.3,44.38N±0.03×80.69E±0.04,h0km±12km, n24,σ0.68/47,8C-5D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DJR	**Jarkent** 39nm,0.1s	**0.65**	**266**	*e*P			**Pb**	**18 22 00.9**	**-0.5**
DJR	77nm,0.3s			*e*S			**Sg**	**18 22 08.1**	**+0.1**
KTMS	**Ketmen** 57nm,0.1s	**0.97**	**195**	*e*P			**Pn**	**18 22 08.1**	**+0.1**
KTMS	106nm,0.2s			*e*S			**Sb**	**18 22 20.2**	**0.0**
KAPS	**Kapalarasan** 4.6nm,0.1s	**1.31**	**314**	*e*P			**Pn**	**18 22 13.8**	**+1.0**
KAPS	16nm,0.2s			*e*S			**Sn**	**18 22 30.2**	**-0.8**
SHLS	**Shalkode** 23nm,0.1s	**1.36**	**206**	*e*P			**Pb**	**18 22 14.1**	**+0.6**
SHLS	77nm,0.3s			*e*S			**Sg**	**18 22 30.7**	**0.0**
PDGK	**Podgornoye** 4.9nm,0.2s	**1.37**	**220**	⇑P			**Pb**	**18 22 13.9**	**+0.4**
PDGK	16nm,0.3s			⇓S			**Sg**	**18 22 30.5**	**-0.6**
MNBS	**Baschi** 14nm,0.2s	**1.68**	**260**	*e*P			**Pb**	**18 22 18.8**	**-0.1**
MNBS	61nm,0.4s			*e*S			**Sn**	**18 22 38.6**	**-1.4**
KPKS	**Kokpek** 51nm,0.2s	**1.72**	**239**	*e*P			**Pb**	**18 22 19.6**	**+0.1**
KPKS	146nm,0.5s			*e*S			**Sn**	**18 22 40.9**	**-0.1**
UZB	**Uzynbulak** 9.1nm,0.1s	**1.73**	**225**	⇓*i*P			**Pb**	**18 22 20.1**	**+0.3**
UZB	72nm,0.3s			⇑*i*S			**Sn**	**18 22 41.5**	**+0.1**
TDK	**Taldyqorghan** 17nm,0.2s	**1.75**	**292**	*e*P			**Pg**	**18 22 21.0**	**+0.4**
TDK	70nm,0.4s			*e*S			**Sg**	**18 22 43.3**	**+0.1**
KURS	**Kuram** 4.8nm,0.4s	**2.03**	**245**	*e*P			**Pb**	**18 22 25.2**	**+0.3**
KURS	18nm,0.3s			*e*S			**Sb**	**18 22 50.3**	**-0.4**
ZHN	**Zhinishke** 8.7nm,0.2s	**2.04**	**234**	⇑*i*P			**Pb**	**18 22 25.1**	**+0.1**
ZHN	181nm,0.3s			⇑*i*S			**Sb**	**18 22 50.6**	**-0.4**
ARXS	**Arharly** 18nm,0.4s	**2.06**	**266**	*e*P			**Pg**	**18 22 26.6**	**-0.1**
ARXS	51nm,0.3s			*e*S			**Sb**	**18 22 52.5**	**+0.8**
SATY	**Saty** 36nm,0.4s	**2.12**	**232**	⇓*i*P			**Pb**	**18 22 26.6**	**+0.2**
SATY	121nm,0.3s			⇑*i*S			**Sb**	**18 22 52.9**	**-0.5**
MAKZ	**Makanchi** 1.0nm,0.5s	**2.59**	**20**	⇓Pn			**Pg**	**18 22 37.3**	**+0.6**
MAKZ	2.8nm,0.3s			⇑Sn			**Sg**	**18 23 10.0**	**-0.3**
MK31	**Makanchi Array** 1.1nm,0.3s,baz=202,slow=13,SNR=58	**2.66**	**24**	Pn			**Pg**	**18 22 37.8**	**-0.3**

MK31				⇑Sn		Sg	18 23 11.3 -1.3
	12nm,0.5s,baz=207,slow=25,SNR=27						
CHKK	**Chushkaly**	**2.71**	**260**	*eP*		**Pb**	18 22 36.5 0.0
	7.0nm,0.4s						
CHKK				*eS*		**Sb**	18 23 10.0 -0.2
	59nm,0.3s						
KOTS	**Kotyrbulak**	**2.83**	**247**	*eP*		**Pb**	18 22 38.8 +0.1
KOTS				*eS*		**Sb**	18 23 13.4 -0.6
MDOK	**Medeo**	**2.91**	**247**	*eP*		**Pb**	18 22 40.8 +0.8
	3.1nm,0.4s						
MDOK				*eS*		**Sb**	18 23 16.3 +0.3
	16nm,0.6s						
TNSS	**Tian-Shan**	**3.03**	**245**	*eP*		**Pb**	18 22 43.0 +0.9
	2.2nm,0.4s						
TNSS				*eS*		**Sb**	18 23 20.9 +1.1
	12nm,0.4s						
KUU	**Kurty**	**3.17**	**263**	*eP*		**Pb**	18 22 44.1 -0.2
	4.7nm,0.3s						
KUU				*eS*		**Sb**	18 23 22.9 -0.7
	20nm,0.3s						
MTBS	**Maitube**	**3.33**	**249**	*eP*		**Pb**	18 22 47.5 +0.4
	6.1nm,0.4s						
MTBS				*eS*		**Sb**	18 23 28.1 -0.1
	23nm,0.2s						
KST	**Kastek**	**3.68**	**250**	*eP*		**Pb**	18 22 53.0 -0.1
	0.7nm,0.3s						
KST				*eS*		**Sb**	18 23 37.7 -0.6
	8.3nm,0.5s						
DGS	**Degeres**	**3.74**	**254**	*eP*		**Pb**	18 22 55.6 +1.5
	3.5nm,0.3s						
DGS				*eS*		**Sb**	18 23 42.0 +2.0
	12nm,0.7s						
TKM2	**Tokmak 2**	**3.98**	**250**	⇓Pg		**Pg**	18 23 02.4 -0.9
	2.1nm,0.6s						
TKM2				⇑Lg		Lg	18 23 51.7
	4.8nm,0.4s						

TAP 02 18:29:00.7, 22.99N×120.93E, h11km±1km, ML1.6, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.21**	**141**	P	Pg	18 29 05.9	+0.7
	baz=140						
TWG				S	Sg	18 29 09.4	+1.0
	baz=140						
ELDTW	**Lidau**	**0.22**	**23**	⇓*i* P	Pg	18 29 05.8	+0.4
	baz=31						
ELDTW				*eS*	Sg	18 29 09.1	+0.5
	baz=31						
STYT	**Tauyuan**	**0.23**	**319**	*i* P	Pg	18 29 06.1	+0.5
	baz=320						
STYT				*i* S	Sg	18 29 09.6	+0.6
	baz=320						
SSD	**Sandimen**	**0.36**	**228**	P	Pg	18 29 07.9	-0.1
	baz=222						
WTP	**Ta-pu**	**0.39**	**312**	⇑P	Pb	18 29 09.6	0.0
	baz=317						
ECL	**Taimali**	**0.39**	**176**	P	Pg	18 29 08.6	+0.2
	baz=167						
ECL				*eS*	Sg	18 29 14.6	+1.0
	baz=167						
CHN1	**Nanshi**	**0.41**	**298**	*eP*	Pb	18 29 10.8	+0.7
	baz=306						
CHN4	**Tsaushan**	**0.47**	**320**	*eP*	Pb	18 29 11.0	-0.1
	baz=330						
CHN4				*eS*	Sb	18 29 19.5	+1.4
	baz=330						
TWF1	**Yuli**	**0.50**	**43**	*eP*	Pg	18 29 10.9	+0.4
	baz=50						
TWF1				*eS*	Sb	18 29 18.0	-0.8
	baz=50						
CHN5	**Tsauling**	**0.65**	**340**	*eP*	Pg	18 29 12.2	-1.1
	baz=340						

TAP 02 18:29:05.9, 22.97N×120.93E, h3km±2km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.20**	**139**	*eP*	Pg	18 29 10.9	+1.2
	baz=139						
TWG				*eS*	Sg	18 29 14.4	+2.0
	baz=139						
ELDTW	**Lidau**	**0.23**	**21**	*eP*	Pg	18 29 10.9	+0.5
	baz=21						
ELDTW				*eS*	Sg	18 29 14.3	+0.9
	baz=21						
STYT	**Tauyuan**	**0.25**	**320**	*eP*	Pg	18 29 11.3	+0.6
	baz=321						
SSD	**Sandimen**	**0.35**	**231**	*i* P	Pg	18 29 13.2	+0.4
	baz=231						
SSD				S	Sg	18 29 17.5	+0.2
	baz=231						
SSD	**Sandimen**	**0.35**	**231**	*eS*	Pg	18 29 13.2	+0.5
	baz=222						
ECL	**Taimali**	**0.37**	**176**	*eP*	Pg	18 29 14.0	+0.9
	baz=177						
ECL				*eS*	Sb	18 29 20.0	-1.3
	baz=177						
WTP	**Ta-pu**	**0.40**	**313**	*eP*	Pb	18 29 14.9	-0.7
	baz=321						
WTP	**Ta-pu**	**0.40**	**313**	*eS*	Pb	18 29 14.9	-0.7
	baz=317						
CHKT	**Chengkung**	**0.42**	**72**	*eP*	Pb	18 29 16.2	+0.3
	baz=62						
CHKT				*eS*	Sb	18 29 22.9	+0.2
	baz=62						
CHN4	**Tsaushan**	**0.49**	**321**	*eP*	Pb	18 29 16.6	-0.5
	baz=333						
TWF1	**Yuli**	**0.51**	**42**	*eP*	Pg	18 29 16.5	+0.8
	baz=41						
TWF1				*eS*	Sg	18 29 22.8	+0.5
	baz=41						

*ISCJB **02** 18:33:37.3±0.9, 24.84N±0.06×122.63E±0.03, h1km±5km, Error ellipse: s-maj=9.9km s-min=4.0km az=14.3*
*TAP **02** 18:33:38.5, 24.87N×122.58E, h15km±1km, ML3.0, C*
*JMA **02** 18:33:38.1±0.1, 24.80N×122.65E, h22km±3km, M1.8*

ISC 02 18:33:37.5±1.4, 24.84N±0.07×122.65E±0.04, h15km±10km, n21, σ0°59/37, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.47**	**145**	P	**Pg**	**18 33 47.0**	**+0.1**
JYNG				S	**Sg**	**18 33 53.4**	**+0.2**
YOJ	**Yonaguni jima**	**0.50**	**139**	P	**Pg**	**18 33 47.5**	**+0.1**
YOJ				*eS*	**Sg**	**18 33 53.9**	**-0.2**
TWC	**Suao**	**0.76**	**253**	P	**Pb**	**18 33 52.0**	**-0.4**
	baz=248						
TWC				S	**Sb**	**18 34 02.1**	**-0.5**
	baz=248						
NWF	**Wu-fen Shan**	**0.82**	**287**	*eP*	**Pb**	**18 33 53.5**	**0.0**
	baz=286						
TWE	**Neicheng**	**0.90**	**263**	P	**Pb**	**18 33 54.7**	**-0.1**
	baz=259						
TWE				*eS*	**Sg**	**18 34 06.4**	**-0.3**
	baz=259						
ENA	**Nanau**	**0.92**	**244**	*eP*	**Pb**	**18 33 55.3**	**+0.2**
	baz=253						
ENA				*eS*	**Sb**	**18 34 07.0**	**-0.1**
	baz=253						
ENTT	**Nioudou**	**1.00**	**259**	P	**Pn**	**18 33 56.9**	**-0.1**
	baz=241						
ENTT				*eS*	**Sg**	**18 34 10.1**	**+0.1**
	baz=241						
NSK	**Sanguang**	**1.18**	**262**	*eP*	**Pb**	**18 33 60.0**	**+0.3**
	baz=275						
NSK				*eS*	**Sg**	**18 34 15.3**	**-0.4**
	baz=275						
TWD	**Chiawan**	**1.22**	**232**	*eP*	**Pb**	**18 34 00.7**	**+0.5**
	baz=235						
TWD				*eS*	**Sg**	**18 34 16.6**	**-0.3**
	baz=235						
NNS	**Nan Shan**	**1.23**	**251**	*eP*	**Pb**	**18 34 00.9**	**+0.5**
	baz=247						
NNS				*eS*	**Sg**	**18 34 17.0**	**-0.1**
	baz=247						
JKRS	**Kuro-shima**	**1.38**	**115**	P	**Pn**	**18 34 02.0**	**-0.1**
WHF	**Hehuan Shan**	**1.44**	**242**	*eP*	**Pb**	**18 34 04.4**	**+0.2**
	baz=248						
WHF				*eS*	**Sn**	**18 34 21.8**	**-0.4**
	baz=248						
TWT	**Tachien**	**1.46**	**247**	*eP*	**Pb**	**18 34 05.1**	**+0.6**
	baz=243						
TWT				*eS*	**Sg**	**18 34 24.4**	**-0.3**
	baz=243						
ESL	**Shilin**	**1.51**	**228**	*eP*	**Pb**	**18 34 05.9**	**+0.8**
	baz=222						
ESL				*eS*	**Sg**	**18 34 25.4**	**-0.6**
	baz=222						
NSTT	**Nanjuang**	**1.51**	**262**	*eP*	**Pb**	**18 34 05.4**	**+0.1**
	baz=259						
NSTT				*eS*	**Sb**	**18 34 24.5**	**+0.3**
	baz=259						
TWQ1	**Liyutan**	**1.77**	**254**	*eP*	**Pb**	**18 34 09.6**	**-0.1**
	baz=250						
TWQ1				*eS*	**Sb**	**18 34 32.1**	**+0.3**
	baz=250						
SMLT	**Sun Moon Lake**	**1.86**	**240**	*eP*	**Pb**	**18 34 10.7**	**-0.5**
	baz=246						
SMLT				*eS*	**Sb**	**18 34 34.0**	**-0.2**
	baz=246						
TYC	**Yuchr**	**1.88**	**241**	*eP*	**Pb**	**18 34 10.9**	**-0.6**
	baz=219						
ALS	**Alishan**	**2.14**	**232**	*eP*	**Pb**	**18 34 16.0**	**-0.1**
	baz=212						
CHN5	**Tsauling**	**2.18**	**236**	*eP*	**Pb**	**18 34 15.8**	**-0.9**
	baz=215						
CHN4	**Tsaushan**	**2.39**	**232**	*eP*	**Pn**	**18 34 18.1**	**+2.0**
	baz=211						
CHN4				*eS*	**Sb**	**18 34 47.9**	**-1.7**
	baz=211						

*DDA **02** 18:35:18.4, 36.96N×35.65E, h7km, Md2.9*
*ISCJB **02** 18:35:19.6±0.4, 37.02N±0.03×35.63E±0.03, h25km±4km, Error ellipse: s-maj=5.2km s-min=4.1km az=22.6*
*CSEM **02** 18:35:19.4±0.1, 37.02N×35.62E, h22km±1km, MD2.9, Error ellipse: s-maj=4.2km s-min=3.2km az=29.0*
*ISK **02** 18:35:19.1, 37.06N×35.55E, h18km, MD2.7*

ISC 02 18:35:18.9±0.9, 37.05N±0.03×35.64E±0.02, h27km±5km, n28, σ0°56/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.10**	**115**	*ePG*	**Pb**	**18 35 23.9**	**+0.1**
CEYT				*eSG*	**Sb**	**18 35 27.4**	**+0.2**
CEYT	**Ceyhan**	**0.10**	**115**	*ePg*	**Pb**	**18 35 23.9**	**+0.1**
CEYT				*eSg*	**Sb**	**18 35 27.4**	**+0.2**
YURE	**YUREGIR**	**0.23**	**181**	P	**Pb**	**18 35 25.2**	**+0.1**
YURE				S	**Sb**	**18 35 29.5**	**+0.1**
YURE	**YUREGIR**	**0.23**	**181**	*i* P	**Pb**	**18 35 25.2**	**+0.1**
YURE				*i* S	**Sb**	**18 35 29.5**	**+0.1**
AKO	**Adana**	**0.44**	**340**	*i* P	**Pn**	**18 35 29.0**	**-0.5**
AKO				*i* S	**Sn**	**18 35 36.3**	**-0.2**
KOZT	**Kozan**	**0.46**	**20**	*ePG*	**Pb**	**18 35 28.7**	**+0.2**
KOZT				*eSG*	**Sn**	**18 35 36.3**	**-0.7**
KOZT	**Kozan**	**0.46**	**20**	*ePg*	**Pb**	**18 35 28.7**	**+0.2**
KOZT				*eSg*	**Sn**	**18 35 36.3**	**-0.7**
KRTS	**Karatas**	**0.52**	**204**	*ePG*	**Pn**	**18 35 29.7**	**-0.8**
KRTS	**Karatas**	**0.52**	**204**	*ePg*	**Pn**	**18 35 29.7**	**-0.8**
DED	**Mersin**	**0.68**	**263**	*i* P	**Pb**	**18 35 32.2**	**+0.1**
DED				*i* S	**Sb**	**18 35 41.1**	**-0.1**
GULE	**Gulek**	**0.72**	**289**	P	**Pn**	**18 35 33.7**	**+0.2**
GULE				S	**Sn**	**18 35 44.1**	**+0.2**
GULE	**Gulek**	**0.72**	**289**	*i* P	**Pn**	**18 35 33.7**	**+0.2**
GULE				*i* S	**Sn**	**18 35 44.1**	**+0.3**
TAHT	**Tahtakopru-Hat**	**0.81**	**147**	*ePG*	**Pb**	**18 35 35.3**	**+1.0**
TAHT	**Tahtakopru-Hat**	**0.81**	**147**	*ePg*	**Pb**	**18 35 35.3**	**+1.0**
KAMA	**Osmaniye**	**0.84**	**80**	*i* P	**Pn**	**18 35 34.0**	**-0.9**
KAMA				*i* S	**Sn**	**18 35 47.6**	**+1.2**
MERS	**Mersin**	**0.91**	**259**	*ePG*	**Pb**	**18 35 35.9**	**-0.2**
MERS	**Mersin**	**0.91**	**259**	*ePg*	**Pb**	**18 35 35.9**	**-0.2**
YAYL	**Yayladag**	**1.08**	**159**	P	**Pn**	**18 35 37.9**	**-0.5**
YAYL				S	**Sb**	**18 35 52.7**	**-0.2**
YAYL	**Yayladag**	**1.08**	**159**	*i* P	**Pn**	**18 35 37.9**	**-0.5**
YAYL				*i* S	**Sb**	**18 35 52.7**	**-0.2**
KUZU	**Kuzuini**	**1.19**	**103**	P	**Pb**	**18 35 40.8**	**0.0**
KUZU				S	**Sb**	**18 35 56.0**	**+0.2**
KUZU	**Kuzuini**	**1.19**	**103**	*i* P	**Pb**	**18 35 40.8**	**0.0**
KUZU				*i* S	**Sb**	**18 35 56.0**	**+0.2**
KERG	**Konya-Eregli**	**1.26**	**287**	P	**Pb**	**18 35 41.9**	**-0.2**
KERG				S	**Sb**	**18 35 59.4**	**+1.4**
KERG	**Konya-Eregli**	**1.26**	**287**	*i* P	**Pb**	**18 35 41.9**	**-0.2**
KERG				*i* S	**Sb**	**18 35 59.4**	**+1.4**
GAZ	**Gaziantep**	**1.27**	**84**	*ePN*	**Pb**	**18 35 42.7**	**+0.5**
GAZ	**Gaziantep**	**1.27**	**84**	*ePn*	**Pb**	**18 35 42.7**	**+0.5**
NIG	**Nigde**	**1.33**	**323**	*ePN*	**Pb**	**18 35 43.1**	**-0.3**
NIG	**Nigde**	**1.33**	**323**	*ePn*	**Pb**	**18 35 43.2**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.49**	**24**	*ePN*	**Pb**	**18 35 46.1**	**0.0**

IDC 02 18:50:43.6±1.9, 17.56N×121.30E, h0km, mb3.1/4, mb1 3.4/4, mb1mx3.2/51, mbtmp3.2/4, Error ellipse: s-maj=76.1km s-min=23.0km az=53.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.28**	**276**	P	P	18 55 32.2	+0.3
	0.7nm,0.9s,baz=107,slow=7.3,SNR=4.3						
WRA	**Warramunga Arr**	**39.40**	**160**	P	P	18 58 15.4	0.0
	0.4nm,0.6s,baz=340,slow=8.7,SNR=3.9						
ASAR	**Alice Springs**	**42.78**	**163**	P	P	18 58 43.0	-0.2
	0.2nm,0.4s,baz=336,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**43.35**	**321**	P	P	18 58 47.3	-0.3
	0.1nm,0.3s,baz=128,slow=8.1,SNR=2.6						

JMA 02 18:52:25.1, 36.64N×140.67E, h42km±1km, M2.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.09**	**250**	P	Pn	18 52 31.9	0.0
JHO				S	Sn	18 52 36.4	-0.3
ONAJ	**Iwakimizuishiy**	**0.47**	**13**	P	Pn	18 52 35.1	-0.5
ONAJ				S	Sn	18 52 42.3	-0.8
JYT	**Yasato**	**0.56**	**223**	P	Pn	18 52 36.6	-0.1
JYT				S	Sn	18 52 44.5	-0.5
JFK	**Kawauchi**	**0.74**	**13**	P	Pn	18 52 38.9	-0.3
JFK				S	Sn	18 52 48.5	-0.9
JFT	**Otama**	**0.92**	**343**	P	Pn	18 52 42.1	+0.5
JFT				S	Sn	18 52 54.3	+0.7
JAG	**Ashikaga**	**1.00**	**258**	P	Pn	18 52 42.8	+0.1
JAG				S	Sn	18 52 55.4	-0.3
JFY	**Yanaizu**	**1.09**	**315**	P	Pn	18 52 44.4	+0.5
JKT	**Katashina**	**1.15**	**277**	S	Sn	18 53 00.2	+0.8
JMM	**Marumori**	**1.23**	**5**	P	Pn	18 52 46.4	+0.6
JMM				S	Sn	18 53 01.3	+0.1

*IDC **02** 19:00:39.8±1.3, 29.28N×65.92E, h0km, mb3.3/6, mb1 3.6/7, mb1mx3.3/43, mbtmp3.4/7, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/37, Error ellipse: s-maj=38.5km s-min=23.9km az=92.0*
*ISCJB **02** 19:00:42.5±0.8, 29.2N±0.1×65.6E±0.2, h33km, mb3.3/6, MS2.7/1, Error ellipse: s-maj=25.6km s-min=9.3km az=39.8*

ISC 02 19:00:44.7±1.0, 29.3N±0.2×65.7E±0.2, h35km, n8, σ1°06/8, mb3.4/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.77**	**228**	Pn	**Pn**	**19 02 50.4**	**+1.4**
	0.5nm,0.3s,baz=72,slow=13,SNR=4.8						
WSAR				Sn	**Sn**	**19 04 24.9**	**-1.7**
	0.3nm,0.3s,baz=289,slow=18,SNR=4.1						
MKAR	**Makanchi Array**	**21.73**	**32**	P	**P**	**19 05 32.8**	**-0.1**
	0.5nm,0.8s,baz=210,slow=10,SNR=4.9						
AKTO	**Aktyubinsk**	**21.93**	**347**	LR	LR	19 15 21.5	
	comp=Z,29nm,18.9s,baz=156,slow=40						
KURBB	**Kurchatov Arra**	**23.40**	**21**	P	**P**	**19 05 50.0**	**-0.3**
	0.3nm,0.8s,baz=208,slow=9.9,SNR=2.9						
BVAR	**Borovoye Array**	**23.97**	**7**	P	**P**	**19 05 55.1**	**-0.6**
	0.4nm,0.5s,baz=179,slow=8.1,SNR=3.2						
ARCES	**ARCESS Array B**	**46.37**	**342**	P	**P**	**19 09 07.4**	**+0.3**
	0.8nm,0.7s,baz=134,slow=8.7,SNR=4.7						
WRA	**Warramunga Arr**	**82.24**	**118**	P	**P**	**19 13 02.2**	**-0.4**
	0.4nm,0.8s,baz=321,slow=4.2,SNR=3.4						
ASAR	**Alice Springs**	**84.04**	**121**	P	**P**	**19 13 12.1**	**+0.1**
	0.5nm,0.7s,baz=307,slow=5.1,SNR=5.2						

*ISK **02** 19:06:49.5, 39.06N×29.12E, h5km, MD2.8*
*ISCJB **02** 19:06:50.7±0.6, 39.09N±0.03×29.13E±0.03, h1km±7km, Error ellipse: s-maj=5.2km s-min=3.9km az=159.8*

*DDA **02** 19:06:50.3, 39.11N×29.11E, h7km, Md2.9*
*CSEM **02** 19:06:51.0±0.1, 39.08N×29.14E, h5km, MD2.9, Error ellipse: s-maj=2.9km s-min=2.6km az=101.0*

ISC 02 19:06:50.7±0.9, 39.08N±0.02×29.12E±0.02, h11km±9km, n39, σ0°76/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.28**	**87**	P	**Pb**	**19 06 56.8**	**-1.1**
GDZ				S	**Sg**	**19 07 00.9**	**+0.5**
GDZ	**Gediz**	**0.28**	**87**	*i* P	**Pb**	**19 06 56.8**	**-1.1**
GDZ				*i* S	**Sg**	**19 07 00.9**	**+0.5**
DEMI	**Demirci**	**0.32**	**264**	P	**Pb**	**19 06 57.6**	**-0.8**
DEMI				S	**Sg**	**19 07 01.9**	**+0.5**
DEMI	**Demirci**	**0.32**	**264**	*i* P	**Pb**	**19 06 57.6**	**-0.8**
DEMI				*i* S	**Sg**	**19 07 01.9**	**+0.5**
TVSB	**Tavsanli**	**0.46**	**35**	*ePG*	**Pg**	**19 06 59.5**	**-0.2**
TVSB	**Tavsanli**	**0.46**	**35**	*ePg*	**Pg**	**19 06 59.6**	**-0.2**
DST	**Dursunbey**	**0.66**	**324**	*ePG*	**Pb**	**19 07 03.8**	**-0.4**
DST	**Dursunbey**	**0.66**	**324**	*ePg*	**Pb**	**19 07 03.8**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**213**	*ePG*	**Pg**	**19 07 03.2**	**-0.4**
KULA				*eSG*	**Sb**	**19 07 13.1**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**213**	*ePg*	**Pg**	**19 07 03.2**	**-0.4**
KULA				*eSg*	**Sb**	**19 07 13.1**	**-0.5**
KHAL	**Karahalli**	**0.76**	**157**	P	**Pb**	**19 07 06.1**	**0.0**
KHAL				S	**Sb**	**19 07 16.5**	**0.0**
KHAL	**Karahalli**	**0.76**	**157**	*i* P	**Pb**	**19 07 06.1**	**0.0**
KHAL				*i* S	**Sb**	**19 07 16.4**	**0.0**
KHL	**Karahalli**	**0.81**	**157**	*ePG*	**Pg**	**19 07 06.4**	**0.0**
KHL				*eSG*	**Sb**	**19 07 18.1**	**+0.1**
KHL	**Karahalli**	**0.81**	**157**	*ePg*	**Pg**	**19 07 06.4**	**0.0**
KHL				*eSg*	**Sb**	**19 07 18.1**	**+0.1**
AKHS	**Akhisar**	**1.04**	**259**	P	**Pn**	**19 07 11.7**	**+0.5**
AKHS				S	**Sn**	**19 07 25.7**	**0.0**
AKHS	**Akhisar**	**1.04**	**259**	*i* P	**Pn**	**19 07 11.7**	**+0.5**
AKHS				*i* S	**Sn**	**19 07 25.7**	**0.0**
BALB	**Balikesir**	**1.11**	**301**	*ePN*	**Pn**	**19 07 12.3**	**+0.1**
BALB	**Balikesir**	**1.11**	**301**	*ePn*	**Pn**	**19 07 12.3**	**+0.1**
IGD	**Bursa**	**1.19**	**3**	*i* P	**Pg**	**19 07 12.3**	**-1.2**
IGD				*i* S	**Sg**	**19 07 27.0**	**-2.0**
IZI	**Iznik**	**1.29**	**12**	*ePN*	**Pb**	**19 07 16.4**	**+1.4**
IZI	**Iznik**	**1.29**	**12**	*ePn*	**Pb**	**19 07 16.4**	**+1.4**
BORA	**Eskisehir**	**1.31**	**52**	P	**Pn**	**19 07 14.8**	**-0.2**
BORA				S	**Sb**	**19 07 32.7**	**+0.5**
BORA	**Eskisehir**	**1.31**	**52**	*i* P	**Pn**	**19 07 14.8**	**-0.2**
BORA				*i* S	**Sb**	**19 07 32.7**	**+0.5**
KCTX	**Karacabey (Bur**	**1.33**	**334**	*ePN*	**Pn**	**19 07 15.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.33**	**334**	*ePn*	**Pn**	**19 07 15.5**	**+0.3**
GONE	**Gonen-Balikesi**	**1.47**	**312**	*ePN*	**Pg**	**19 07 18.5**	**-0.5**
GONE				*eSN*	**Sg**	**19 07 39.6**	**+1.5**
GONE	**Gonen-Balikesi**	**1.47**	**312**	*ePn*	**Pg**	**19 07 18.5**	**-0.5**
GONE				*eSn*	**Sg**	**19 07 39.6**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**221**	*ePN*	**Pg**	**19 07 18.8**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**221**	*ePn*	**Pg**	**19 07 18.8**	**-0.4**
ARMT	**Armutlu**	**1.50**	**352**	*ePN*	**Pb**	**19 07 18.4**	**-0.2**
ARMT	**Armutlu**	**1.50**	**352**	*ePn*	**Pb**	**19 07 18.4**	**-0.2**
EDC	**Edincik**	**1.60**	**323**	*ePN*	**Pb**	**19 07 20.3**	**+0.1**
KNL	**Bal¯kesir**	**1.71**	**315**	*i* P	**Pb**	**19 07 21.6**	**-0.5**
KNL				*i* S	**Sg**	**19 07 45.1**	**-0.7**
GULT	**Gulveren**	**1.73**	**38**	*ePN*	**Pb**	**19 07 22.1**	**-0.4**
GULT	**Gulveren**	**1.73**	**38**	*ePn*	**Pb**	**19 07 22.2**	**-0.4**
MRMT	**Marmara Adasi**	**1.92**	**323**	*ePN*	**Pb**	**19 07 25.0**	**-0.8**
MRMT	**Marmara Adasi**	**1.92**	**323**	*ePn*	**Pb**	**19 07 25.0**	**-0.8**
RKY	**Sarkoy-Tekirda**	**2.20**	**318**	*ePN*	**Pn**	**19 07 28.9**	**+1.7**
RKY	**Sarkoy-Tekirda**	**2.20**	**318**	*ePn*	**Pn**	**19 07 28.9**	**+1.7**

IDC 02 19:21:00.8±3.1, 5.35S×153.39E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/29, mbtmp3.4/4, ML2.0/1, Error ellipse: s-maj=105.4km s-min=30.9km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.38**	**237**	Pn	Pn	19 22 49.4	-0.5
	1.3nm,0.3s,baz=109,slow=18,SNR=4.4						
PMG				Sn	Sn	19 24 12.0	-2.4
	2.0nm,0.3s,baz=128,slow=19,SNR=4.2						
WRA	**Warramunga Arr**	**23.54**	**230**	P	P	19 26 11.9	-1.0
	0.2nm,0.4s,baz=55,slow=10.0,SNR=6.5						
ASAR	**Alice Springs**	**26.15**	**224**	P	P	19 26 38.5	+1.4
	0.4nm,0.9s,baz=67,slow=9.2,SNR=6.2						
MKAR	**Makanchi Array**	**81.13**	**319**	P	P	19 33 18.9	+0.7
	0.2nm,0.5s,baz=116,slow=6.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**151.04**	**287**	PKPbc	PKPbc	19 40 56.5	-0.4
	0.7nm,0.7s,baz=62,slow=1.9,SNR=4.9						
TORD				PKPab	PKPab	19 41 02.7	-1.7
	0.3nm,0.4s,baz=71,slow=2.3,SNR=7.9						

JMA 02 19:23:58.2, 37.05N×138.71E, h8km±2km, M1.4, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.32**	**51**	P	Pg	19 24 04.3	-0.1
JHK				S	Sg	19 24 09.0	+0.4
JJN	**Nakama**	**0.44**	**277**	P	Pg	19 24 06.5	-0.3
JJN				S	Sg	19 24 13.2	+0.6
JIZZ	**Izumozaki**	**0.48**	**360**	P	Pg	19 24 08.2	+0.7
JIZZ				S	Sb	19 24 16.4	+0.2
MAT	**Matsushiro**	**0.65**	**219**	P	Pg	19 24 09.9	-0.8
MAT				S	Sg	19 24 18.5	-0.6
MAT	**Matsushiro**	**0.65**	**219**	P	Pg	19 24 10.1	-0.6
MAT				S	Sg	19 24 18.5	-0.6
JFY	**Yanaizu**	**0.87**	**66**	P	Pg	19 24 14.5	-0.4
JFY				S	Sg	19 24 26.2	-0.1
JNS	**Sasagawa**	**0.91**	**32**	P	Pg	19 24 14.8	-0.8

*ISCJB **02** 19:26:00.9±0.5, 39.09N±0.03×29.07E±0.03, h3km±5km, Error ellipse: s-maj=5.0km s-min=3.2km az=156.7*
*DDA **02** 19:26:00.5, 39.11N×29.06E, h7km, Md2.9*
*ISK **02** 19:26:00.4, 39.06N×29.12E, h5km, MD2.8*
*CSEM **02** 19:26:01.0±0.1, 39.09N×29.08E, h2km, MD2.9, Error ellipse: s-maj=2.5km s-min=1.9km az=149.0*

ISC 02 19:26:00.7±1.1, 39.07N±0.02×29.11E±0.02, h5km±9km, n41, σ0°61/72, Turkey

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h

BORA	**Eskisehir**	**1.32 52**	P		**Pn**	**19 26 25.8**	**-0.1**
BORA			S		**Sn**	**19 26 44.0**	**0.0**
BORA	**Eskisehir**	**1.32 52**	*i* P		**Pn**	**19 26 25.8**	**-0.1**
BORA			*i* S		**Sn**	**19 26 44.0**	**0.0**
KCTX	**Karacabey (Bur**	**1.33 334**	*e*PN		**Pg**	**19 26 26.4**	**+0.2**
KCTX			*e*SN		**Sn**	**19 26 44.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.33 334**	*e*Pn		**Pg**	**19 26 26.4**	**+0.2**
KCTX			*e*Sn		**Sn**	**19 26 44.4**	**+0.3**
BALY	**Balya**	**1.34 301**	P		**Pn**	**19 26 25.6**	**-0.5**
BALY			S		**Sg**	**19 26 42.7**	**-0.9**
BALY	**Balya**	**1.34 301**	*i* P		**Pn**	**19 26 25.6**	**-0.5**
BALY			*i* S		**Sg**	**19 26 42.7**	**-0.9**
ESKT	**Eskisehir**	**1.43 71**	*i* P		**Pn**	**19 26 26.8**	**-0.6**
ESKT			*i* S		**Sg**	**19 26 47.7**	**+1.2**
SEYT	**Eskypehyr**	**1.43 71**	P		**Pn**	**19 26 26.8**	**-0.6**
SEYT			S		**Sg**	**19 26 47.7**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.47 221**	*e*PN		**Pb**	**19 26 28.4**	**-0.2**
AYDB			*e*SN		**Sn**	**19 26 47.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.47 221**	*e*Pn		**Pb**	**19 26 28.4**	**-0.2**
AYDB			*e*Sn		**Sn**	**19 26 47.6**	**-0.1**
ARMT	**Armutlu**	**1.51 353**	*e*PN		**Pg**	**19 26 29.6**	**0.0**
ARMT			*e*SN		**Sg**	**19 26 49.5**	**+0.3**
ARMT	**Armutlu**	**1.51 353**	*e*Pn		**Pg**	**19 26 29.6**	**0.0**
ARMT			*e*Sn		**Sg**	**19 26 49.5**	**+0.3**
EDC	**Edincik**	**1.60 324**	*e*PN		**Pn**	**19 26 29.9**	**+0.2**
EDC	**Edincik**	**1.60 324**	*e*Pn		**Pn**	**19 26 29.9**	**+0.2**
GULT	**Gulveren**	**1.74 38**	*e*PN		**Pn**	**19 26 32.0**	**+0.3**
GULT			*e*SN		**Sb**	**19 26 55.8**	**+0.3**
GULT	**Gulveren**	**1.74 38**	*e*Pn		**Pn**	**19 26 32.0**	**+0.3**
GULT			*e*Sn		**Sb**	**19 26 55.8**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.20 318**	*e*PN		**Pn**	**19 26 38.7**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.20 318**	*e*Pn		**Pn**	**19 26 38.7**	**+0.8**

ISCJB ***02*** *19:34:31.5±0.5, 22°.21S±0°.04×68°.86W±0°.05, h126km±5km, mb3.9/3, Error ellipse: s-maj=8.1km s-min=5.9km az=144.5*
SJA ***02*** *19:34:31.6±12.0, 22°.72S×68°.98W, h120km±102km, ML2.5, MW2.8*
IDC ***02*** *19:34:31.8±0.6, 22°.44S×68°.70W, h114km±8km, mb3.7/4, mb1 3.7/7, mb1mx3.4/38, mbtmp3.9/7, Error ellipse: s-maj=25.5km s-min=22.3km az=37.0*
GUC ***02*** *19:34:32.3±0.9, 22°.19S×68°.87W, h118km±7km, ML4.0*

ISC 02 19:34:32.1±0.8, 22°24S±0°.05×68°82W±0°.05, h117km±6km, n26, σ1°24/34, mb4.1/3, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.38 193**		*e*P		**Pn**	**19 34 49.6**		**+0.1**
LVC				*e*S		**Sn**	**19 35 01.7**		**-1.1**
LVC	**Limon Verde**	**0.38 193**		P		**Pn**	**19 34 49.4**		**-0.2**
	11μm,0.3s,baz=355,slow=7.0,SNR=3740								
LVC				S		**Sn**	**19 35 02.0**		**-0.7**
	79μm,0.3s,baz=248,slow=19,SNR=217								
PB09	**IPOC Station P**	**0.59 318**		*i*P		**Pn**	**19 34 51.0**		**+0.4**
PB09				*i* S		**Sn**	**19 35 04.7**		**+0.2**
PB09					IAML		19 35 06.0		
	comp=N,23μm,0.3s								
PB06	**IPOC Station P**	**0.84 236**		*i*P		**Pn**	**19 34 53.1**		**+0.6**
PB06				*i* S		**Sn**	**19 35 08.6**		**+0.6**
PB06					IAML		19 35 09.2		
	comp=N,7μm,0.2s								
PB07	**IPOC Station P**	**1.11 297**		*i*P		**Pn**	**19 34 55.8**		**+0.6**
PB07				*i* S		**Sn**	**19 35 13.1**		**+0.3**
PB07					IAML		19 35 14.7		
	comp=E,4μm,0.2s								
PB04	**IPOC Station P**	**1.23 265**		*i*P		**Pn**	**19 34 57.2**		**+0.6**
PB04				*i* S		**Sn**	**19 35 15.2**		**+0.2**
PB04					IAML		19 35 17.0		
	comp=N,3μm,0.2s								
PB01	**IPOC Station P**	**1.34 332**		*i*P		**Pn**	**19 34 57.6**		**0.0**
PB01				*i* S		**Sn**	**19 35 16.4**		**-0.6**
PB01					IAML		19 35 17.4		
	comp=E,3μm,0.3s								
PB10	**IPOC Station P**	**2.04 231**		*e*P		**Pn**	**19 35 06.1**		**+0.1**
PB10					IAML		19 35 40.3		
	comp=E,2μm,0.4s								
PB08	**IPOC Station P**	**2.11 351**		*i*P		**Pn**	**19 35 07.6**		**+0.4**
PB08				*i* S		**Sn**	**19 35 33.4**		**-0.6**
PB08					IAML		19 35 38.9		
	comp=E,486nm,0.4s								
PB11	**IPOC Station P**	**2.58 342**		*i* P		**Pn**	**19 35 12.3**		**-0.8**
PB11				*i* S		**Sn**	**19 35 42.8**		**-1.7**
PSGC	**Pisagua**	**2.90 335**		IAML			19 35 50.2		
	comp=E,292nm,0.6s								
YJA	**Yavi**	**3.06 89**		*e*P		**Pn**	**19 35 20.9**		**+1.3**
YJA					IAML		19 35 23.9		
	comp=Z,16nm,0.6s								
YJA				*e*S		**Sn**	**19 35 58.5**		**+2.4**
HJA	**Humahuaca**	**3.29 108**		*e*P		**Pn**	**19 35 23.9**		**+1.4**
SLA	**San Lorenzo**	**3.92 130**		*e*P		**Pn**	**19 35 32.6**		**+1.9**
AZAP	**Zapla**	**3.98 121**		*e*P		**Pn**	**19 35 32.0**		**+0.5**
ASTB	**Santa Barbara**	**4.37 114**		*e*P		**Pn**	**19 35 37.0**		**+0.3**
FSA	**Cafayete**	**4.65 147**		*e*P		**Pn**	**19 35 41.5**		**+1.0**
FSA				*e*S		Sn	19 36 14.8		-19
FSA					IAML		19 36 15.2		
	comp=Z,2.8nm,0.5s								
LPAZ	**La Paz**	**5.95 6**		P		**Pn**	**19 36 00.3**		**+1.8**
	comp=Z,0.4nm,0.3s,baz=183,slow=2.6,SNR=15								
SIV	**San Ignacio**	**9.60 51**		P		Pn	19 36 42.6		-4.8
	comp=Z,1.2nm,0.3s,baz=250,slow=12,SNR=10								
SIV				S		Sn	19 38 23.1		-10
	comp=Z,0.5nm,0.3s,baz=131,slow=23,SNR=7.6								
CPUP	**Villa Florida**	**11.24 114**		P		**Pn**	**19 37 06.3**		**-3.0**
	comp=Z,0.1nm,0.3s,baz=284,slow=8.3,SNR=3.1								
PLCA	**Paso Flores**	**18.50 184**		P		**P**	**19 38 36.5**		**-2.6**
	comp=Z,0.7nm,0.3s,baz=23,slow=13,SNR=27								
BDFB	**Brasilia**	**20.73 75**		P		**P**	**19 39 02.7**		**-0.9**
	comp=Z,5.5nm,0.4s,baz=241,slow=11,SNR=8.3								
TXAR	**Lajitas Array**	**61.28 325**		P		**P**	**19 44 36.4**		**+1.2**
	comp=Z,0.2nm,0.5s,baz=152,slow=8.2,SNR=2.9								
DBIC	**Dimbokro**	**68.87 73**		P		**P**	**19 45 24.3**		**-0.2**
	comp=Z,3.7nm,0.8s,baz=224,slow=9.2,SNR=3.3								
TORD	**Torodi Ar. Bea**	**77.53 70**		P		**P**	**19 46 15.2**		**-0.3**
	comp=Z,1.5nm,0.5s,baz=255,slow=5.4,SNR=19								
MKAR	**Makanchi Array**	**146.18 37**		PKPbc		**PKPdf**	**19 53 59.1**		**+1.6**
	comp=Z,0.3nm,0.8s,baz=304,slow=3.3,SNR=3.4								

NIED ***02*** *19:39:00, 37°.90N×143°.90E, h5km, Mw3.6 Best double couple: M0 2.64000×10^14 NP1:φs=235.00000°, δ36.00000°, λ-59.00000°. NP2:φs 18.00000°, δ60.00000°, λ-111.00000°.*
IDC ***02*** *19:39:28.8±1.0, 37°.80N×144°.21E, h0km, mb3.8/10, mb1 3.9/16, mb1mx3.7/60, mbtmp3.8/16, ML3.8/5, Error ellipse: s-maj=26.5km s-min=17.2km az=82.0*
ISCJB ***02*** *19:39:32.3±0.6, 37°.87N±0°.05×143°.97E±0°.05, h33km, mb3.8/11, Error ellipse: s-maj=6.8km s-min=5.5km az=16.9*
JMA ***02*** *19:39:33.1±0.2, 37°.90N×143°.85E, h37km, M4.1*
NEIC ***02*** *19:39:34.2±0.7, 37°.87N×144°.07E, h35km, mb4.3/1, Error ellipse: s-maj=12.9km s-min=9.9km az=101.0*

ISC 02 19:39:34.3±0.9, 37°86N±0°.06×143°98E±0°.08, h35km, n33, σ1°37/41, mb3.7/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.16 287**		P		**Pn**	**19 40 06.3**		**-1.5**
JIO				*e*S		**Sn**	**19 40 31.1**		**-2.3**
OFUJ	**Ofunato**	**2.19 305**		P		**Pn**	**19 40 06.7**		**-1.5**
OFUJ				*e*S		**Sn**	**19 40 32.0**		**-2.1**
JMK	**Ichinoseki**	**2.43 298**		*e*S		**Sn**	**19 40 38.0**		**-2.0**
JOM	**Ohasama**	**2.65 308**		P		**Pn**	**19 40 13.6**		**-1.0**
JOM				S		**Sn**	**19 40 43.9**		**-1.7**
JOU	**Okura**	**2.67 282**		P		**Pn**	**19 40 14.3**		**-0.5**
JOU				*e*S		**Sn**	**19 40 44.9**		**-1.0**
JFT	**Otama**	**2.91 264**		P		**Pn**	**19 40 17.3**		**-0.9**
JFT				S		**Sn**	**19 40 50.9**		**-1.1**
JYK	**Kaneyama**	**3.04 292**		P		**Pn**	**19 40 19.2**		**-0.7**
JYK				S		**Sn**	**19 40 54.1**		**-1.0**
JRG	**Rokugo**	**3.04 301**		P		**Pn**	**19 40 19.8**		**-0.1**
JRG				*e*S		**Sn**	**19 40 53.6**		**-1.5**
MJAR	**Matsushiro Arr**	**4.79 256**		Pn		**Pn**	**19 40 44.2**		**+0.1**
	6.0nm,0.3s,baz=84,slow=15,SNR=35								
MJAR				Sn		**Sn**	**19 41 39.1**		**+0.8**
	1.3nm,0.3s,baz=87,slow=16,SNR=4.3								
MAJO	**Matsushiro**	**4.79 256**		*e*Pn		**Pn**	**19 40 44.1**		**+0.1**
MAT	**Matsushiro**	**4.79 256**		P		**Pn**	**19 40 44.5**		**+0.4**
MAT				S		**Sn**	**19 41 39.8**		**+1.4**
JHJ	**Hachijo jima 2**	**5.84 217**		Pn		**Pn**	**19 40 56.9**		**-1.5**
	10nm,0.3s,baz=55,slow=16,SNR=4.7								
JHJ				Sn		**Sn**	**19 41 59.7**		**-4.3**
	18nm,0.3s,baz=125,slow=23,SNR=5.9								
ASAJ	**Asahikawa**	**6.34 351**		Pn		**Pn**	**19 41 04.8**		**-0.5**
	4.6nm,0.3s,baz=190,slow=12,SNR=34								
ASAJ	**Asahikawa**	**6.34 351**		*e*Pn		**Pn**	**19 41 04.1**		**-1.2**
	3.6nm,0.3s								
USRK	**Ussuriysk Ar.**	**11.05 309**		Pn		**Pn**	**19 42 10.8**		**+1.1**
	0.2nm,0.3s,baz=121,slow=11,SNR=5.5								
KSRS	**Korea Array**	**12.74 273**		Pn		**Pn**	**19 42 34.1**		**+1.2**
	0.3nm,0.3s,baz=78,slow=14,SNR=4.5								
KSAR	**Wonju Array Be**	**12.77 273**		Pn		**Pn**	**19 42 34.1**		**+0.8**
KLR	**Kul'dur**	**14.40 326**		Pn		**Pn**	**19 42 53.9**		**-1.6**
	0.1nm,0.3s,baz=155,slow=13,SNR=3.0								
H11N2	**WAKE ISLAND Hy**	**26.89 126**		T		T	20 13 14.5		
	baz=317,slow=76,SNR=7.0								
H11N1	**WAKE ISLAND Hy**	**26.90 126**		T		T	20 13 19.4		
	baz=317,slow=76,SNR=6.2								
H11N3	**WAKE ISLAND Hy**	**26.91 126**		T		T	20 13 19.9		
	baz=317,slow=76,SNR=7.0								
SONM	**Songino Array**	**29.05 302**		P		**P**	**19 45 32.6**		**+1.4**
	0.4nm,0.5s,baz=100,slow=8.7,SNR=5.0								
ZALV	**Zalesovo Beam**	**42.88 312**		P		**P**	**19 47 30.4**		**+1.4**
	0.2nm,0.3s,baz=134,slow=6.2,SNR=2.8								
ZALV				PcP		**PcP**	**19 49 20.5**		**+1.1**
	0.6nm,0.4s,baz=106,slow=4.7,SNR=3.4								
MKAR	**Makanchi Array**	**45.42 302**		P		**P**	**19 47 50.5**		**+1.0**
	0.6nm,0.7s,baz=84,slow=9.4,SNR=7.6								
KURK	**Kurchatov**	**47.04 308**		P		**P**	**19 48 03.2**		**+1.1**
KURBB	**Kurchatov Arra**	**47.11 308**		P		**P**	**19 48 03.2**		**+0.5**
	1.0nm,0.5s,baz=82,slow=8.4,SNR=14								
ILAR	**Eielson Array**	**47.70 33**		P		**P**	**19 48 06.1**		**-1.0**
	0.9nm,1.0s,baz=237,slow=7.7,SNR=4.4								
BVAR	**Borovoye Array**	**51.53 312**		P		**P**	**19 48 37.2**		**+0.7**
	0.4nm,0.4s,baz=71,slow=7.9,SNR=3.4								
ARU	**Arti**	**57.10 319**		P		**P**	**19 49 17.7**		**+0.9**
	2.0nm,0.5s,baz=66,slow=6.7,SNR=5.5								
WRAB	**Tennant Creek**	**58.19 191**		P		**P**	**19 49 24.9**		**0.0**
	2.3nm,0.9s								
WRA	**Warramunga Arr**	**58.20 191**		P		**P**	**19 49 24.1**		**-0.9**
	1.1nm,0.7s,baz=12,slow=7.3,SNR=11								
ASAR	**Alice Springs**	**61.92 190**		P		**P**	**19 49 50.5**		**0.0**
	0.4nm,0.7s,baz=18,slow=11,SNR=5.9								
FINES	**FINESS Array B**	**69.03 333**		P		**P**	**19 50 36.6**		**+0.6**
	1.2nm,0.8s,baz=40,slow=11,SNR=2.9								

NIED ***02*** *19:43:00, 37°.30N×141°.90E, h32km, Mw3.6 Best double couple: M0 2.41000×10^14 NP1:φs=255.00000°, δ27.00000°, λ-114.00000°. NP2:φs=102.00000°, δ66.00000°, λ-78.00000°.*
JMA ***02*** *19:43:56.6±0.2, 37°.27N×141°.86E, h27km±3km, M3.7*
IDC ***02*** *19:43:58.8±2.3, 37°.21N×141°.86E, h42km±24km, mb3.4/7, mb1 3.6/10, mb1mx3.3/48, mbtmp3.7/10, ML3.6/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/38, Error ellipse: s-maj=26.7km s-min=14.6km az=100.0*

ISC 02 19:43:55.0±3.7, 37°27N±0°.04×141°93E±0°.07, h15km±23km, n28, σ1°27/30, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.84 277**		P		**Pb**	**19 44 11.8**		**+0.4**
JFK				S		**Sb**	**19 44 21.8**		**-0.8**
ONAJ	**Iwakimizuishiy**	**0.92 260**		P		**Pb**	**19 44 12.6**		**-0.1**
ONAJ				S		**Sb**	**19 44 23.6**		**-1.1**
JMM	**Marumori**	**1.08 304**		P		**Pb**	**19 44 15.3**		**-0.1**
JMM				S		**Sb**	**19 44 28.1**		**-1.2**
JIO	**Ouri**	**1.27 339**		P		**Pn**	**19 44 18.0**		**-0.2**
JIO				S		**Sb**	**19 44 32.5**		**-2.2**
JHO	**Hitachi**	**1.27 239**		P		**Pn**	**19 44 17.7**		**-0.6**
JFT	**Otama**	**1.29 281**		P		**Pn**	**19 44 19.1**		**+0.5**
JFT				S		**Sb**	**19 44 34.4**		**-1.0**
JOU	**Okura**	**1.48 318**		P		**Pn**	**19 44 21.8**		**+0.6**
JOU				S		**Sn**	**19 44 40.2**		**-0.1**
JYS	**Shirataka**	**1.75 303**		P		**Pb**	**19 44 26.3**		**-0.6**
JYS				S		**Sn**	**19 44 48.2**		**+1.2**
JMK	**Ichinoseki**	**1.77 342**		P		**Pn**	**19 44 25.7**		**+0.6**
JFY	**Yanaizu**	**1.77 275**		P		**Pn**	**19 44 25.9**		**+0.7**
MJAR	**Matsushiro Arr**	**3.07 257**		P		**Pn**	**19 44 44.6**		**+1.6**
	2.8nm,0.3s,baz=90,slow=15,SNR=12								
MJAR				LR		LR	19 46 15.4		
	comp=Z,104nm,19.3s,baz=95,slow=46								
MAT	**Matsushiro**	**3.07 257**		P		**Pn**	**19 44 46.2**		**+3.2**
MAT				*e*S		**Sb**	**19 45 24.3**		**-2.3**
JHJ	**Hachijo jima 2**	**4.50 204**		P		**Pn**	**19 45 04.5**		**+1.9**
	28nm,0.3s,baz=74,slow=23,SNR=6.9								
JHJ				S		**Sn**	**19 45 53.1**		**-1.7**
	31nm,0.3s,baz=151,slow=22,SNR=5.7								
ASAJ	**Asahikawa**	**6.86 4**		P		**Pn**	**19 45 36.1**		**+1.1**
	1.1nm,0.3s,baz=207,slow=12,SNR=9.0								
JNU	**Nakatsue**	**9.94 249**		LR		LR	19 50 38.0		
	comp=Z,30nm,18.6s,baz=122,slow=40								
SEY	**Seymchan**	**26.48 11**		P		**P**	**19 49 32.7**		**+1.3**
	0.2nm,0.3s,baz=210,slow=11,SNR=5.2								
H11N2	**WAKE ISLAND Hy**	**27.92 122**		T		T	20 19 09.7		
	baz=314,slow=75,SNR=13								
H11N1	**WAKE ISLAND Hy**	**27.93 122**		T		T	20 19 20.1		
	baz=314,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hy**	**27.94 122**		T		T	20 19 18.2		
	baz=314,slow=75,SNR=8.7								
SONM	**Songino Array**	**27.99 303**		P		**P**	**19 49 45.9**		**+0.5**
	0.5nm,0.6s,baz=96,slow=7.8,SNR=5.0								
H11S1	**WAKE ISLAND Hy**	**28.65 124**		T		T	20 20 05.9		
	baz=316,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**28.65 124**		T		T	20 20 16.6		
	baz=316,slow=76,SNR=14								
H11S2	**WAKE ISLAND Hy**	**28.66 124**		T		T	20 20 08.8		
	baz=316,slow=76,SNR=13								
ZALV	**Zalesovo Beam**	**42.06 312**		P		**P**	**19 51 45.2**		**-0.7**
	0.3nm,0.2s,baz=57,slow=5.5,SNR=3.7								
MKAR	**Makanchi Array**	**44.34 302**		P		**P**	**19 52 04.2**		**-0.3**
	0.7nm,0.7s,baz=89,slow=9.6,SNR=9.1								
KURBB	**Kurchatov Arra**	**46.18 308**		P		**P**	**19 52 18.7**		**-0.3**
	1.0nm,0.4s,baz=82,slow=7.8,SNR=18								
ILAR	**Eielson Array**	**49.07 32**		P		**P**	**19 52 42.0**		**+0.6**
	0.5nm,0.6s,baz=265,slow=6.1,SNR=6.0								
WRA	**Warramunga Arr**	**57.35 188**		P		**P**	**19 53 42.2**		**-0.5**
	0.3nm,0.8s,baz=6.6,slow=7.3,SNR=3.3								

GUC 02 19:44:36.3±0.5, 24°36S×69°94W, h35km±8km, ML3.7, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.50 238**		*i* P		Pb		19 44 47.2	-0.1
PB14				*i* S		Sn		19 44 55.0	+0.1
PB14					IAML			19 44 56.8	
	comp=N,7μm,0.3s								
ANCH	**Antofagasta**	**0.80 327**		*i* P		Pn		19 44 50.9	-0.2
ANCH				*i* S		Sn		19 45 02.1	+0.3
ANCH					IAML			19 45 05.7	
	comp=E,5μm,0.1s								
PB10	**IPOC Station P**	**1.02 326**		*i* P		Pn		19 44 54.2	0.0
PB10				*i* S		Sn		19 45 07.7	+0.5
PB10					IAML			19 45 10.4	
	comp=E,9μm,0.2s								
PB06	**IPOC Station P**	**1.68 12**		*i*P		Pb		19 45 05.5	-1.3
PB06				*i* S		Sb		19 45 27.6	-0.1
PB06					IAML			19 45 39.7	
	comp=N,746nm,0.3s								
LVC	**Limon Verde**	**1.98 29**		*i* P		Pn		19 45 09.5	+1.8
PB04	**IPOC Station P**	**2.03 354**		*e*P		Pn		19 45 08.9	+0.7
PB04				*e*S		Sn		19 45 27.0	-5.4
PB04					IAML			19 45 54.7	
	comp=N,725nm,0.4s								

IDC 02 19:48:48.9±8.1, 56°05N×52°87E, h0km, Error ellipse: s-maj=131.0km s-min=55.5km az=167.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARU	**Arti**	**3.20 81**		Pg		Pb		19 49 47.4	+0.8
	0.0nm,0.3s,baz=266,slow=18,SNR=3.8								
ARU				Lg		Lg		19 50 29.9	
	0.0nm,0.3s,baz=104,slow=24,SNR=2.6								
I31KZ	**AKTYUBINSK INF**	**6.44 149**		*i*				20 27 40.0	
	baz=331,slow=320,SNR=1.4								
I43RU	**DUBNA INFRASON**	**8.71 281**		*i*				20 36 20.0	
	baz=86,slow=320,SNR=8.0								
I26DE	**FREYUNG INFRAS**	**24.65 270**		*i*				22 17 30.0	
	baz=59,slow=313,SNR=1.1								

NEIC ***02*** *20:19:17.5, 19°.74N×65°.84W, h157km, MD3.6(RSPR), After RSPR.*

RSPR 02 20:19:17.5, 19°74N×65°84W, h157km±4km, MD3.6/3, 12C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.46 181**		*e*P		Pn		20 19 46.6	-0.6
CBYP	**Canovanas**	**1.46 181**		*e*P		Pn		20 19 46.6	-0.6
CBYP	**Canovanas**	**1.46 181**		*e*P		Pn		20 19 46.6	-0.6
HUMP	**Col San Antoni**	**1.59 180**		*e*P		Pn		20 19 48.3	-0.2
HUMP	**Col San Antoni**	**1.59 180**		*e*S		Sn		20 20 12.6	+0.3
HUMP	**Col San Antoni**	**1.59 180**		*e*P		Pn		20 19 48.3	-0.2
HUMP				*e*S		Sn		20 20 12.6	+0.3
HUMP	**Col San Antoni**	**1.59 180**		*e*P		Pn		20 19 48.3	-0.2
HUMP				*e*S		Sn		20 20 12.6	+0.3
AOPR	**Arecibo Observ**	**1.63 212**		*e*P		Pn		20 19 48.9	-0.1
AOPR	**Arecibo Observ**	**1.63 212**		*e*S		Sn		20 20 13.4	+0.2
AOPR	**Arecibo Observ**	**1.63 212**		*e*P		Pn		20 19 48.9	-0.1
AOPR				*e*S		Sn		20 20 13.4	+0.2
AOPR	**Arecibo Observ**	**1.63 212**		*e*P		Pn		20 19 48.9	-0.1
AOPR				*e*S		Sn		20 20 13.4	+0.2
MTP	**Monte Pirata**	**1.65 170**		*e*P		Pn		20 19 49.3	+0.1
MTP	**Monte Pirata**	**1.65 170**		*e*S		Sn		20 20 13.7	+0.1
MTP	**Monte Pirata**	**1.65 170**		*e*P		Pn		20 19 49.3	+0.1
MTP				*e*S		Sn		20 20 13.7	+0.1
MTP	**Monte Pirata**	**1.65 170**		*e*P		Pn		20 19 49.3	+0.1
MTP				*e*S		Sn		20 20 13.7	+0.1
OBIP	**Obispado Ponce**	**1.83 203**		*e*P		Pn		20 19 51.2	+0.1
OBIP	**Obispado Ponce**	**1.83 203**		*e*P		Pn		20 19 51.2	+0.1
OBIP	**Obispado Ponce**	**1.83 203**		*e*P		Pn		20 19 51.2	+0.1
CRPR	**Cabo Rojo, PR**	**2.10 215**		*e*P		Pn		20 19 54.1	0.0
CRPR	**Cabo Rojo, PR**	**2.10 215**		*e*S		Sn		20 20 22.9	+0.4
CRPR	**Cabo Rojo, PR**	**2.10 215**		*e*P		Pn		20 19 54.1	0.0
CRPR				*e*S		Sn		20 20 22.9	+0.4
CRPR	**Cabo Rojo, PR**	**2.10 215**		*e*P		Pn		20 19 54.1	0.0
CRPR				*e*S		Sn		20 20 22.9	+0.4

CSEM ***02*** *20:21:04.7, 39°.08N×28°.99E, h7km, MD2.8*

DDA 02 20:21:04.7, 39°08N×28°99E, h7km, Md2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.21 261**		P		Pg		20 21 09.6	+0.6
DEMI				S		Sg		20 21 12.7	+0.8
DEMI	**Demirci**	**0.21 261**		*i* P		Pg		20 21 09.6	+0.6
DEMI				*i* S		Sg		20 21 12.7	+0.8
GDZ	**Gediz**	**0.38 88**		P		Pg		20 21 12.5	+0.3
GDZ				S		Sg		20 21 18.1	+0.9
GDZ	**Gediz**	**0.38 88**		*i* P		Pg		20 21 12.5	+0.3
GDZ				*i* S		Sg		20 21 18.1	+0.9
KHAL	**Karahalli**	**0.81 151**		P		Pb		20 21 21.4	+0.3
KHAL				S		Sb		20 21 32.1	-0.1
KHAL	**Karahalli**	**0.81 151**		*i* P		Pb		20 21 21.4	+0.3
KHAL				*i* S		Sb		20 21 32.1	-0.1
BORA	**Eskisehir**	**1.39 54**		P		Pb		20 21 31.1	+0.1
BORA				S		Sg		20 21 49.6	+0.3
BORA	**Eskisehir**	**1.39 54**		*i* P		Pb		20 21 31.1	+0.1
BORA				*i* S		Sg		20 21 49.6	+0.3

JMA 02 20:24:53.9±0.1, 36°70N×141°02E, h42km±1km, M1.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.37 256**		P		Pn		20 25 03.0	-0.1
JHO				S		Sn		20 25 09.3	-0.3
JFK	**Kawauchi**	**0.68 350**		P		Pn		20 25 06.7	-0.4

PETK	**Petropavlovsky-** comp=Z,58nm,19.2s,baz=151,slow=38	**18.69**	**30**	LR	LR	20 37 22.9	
MA2	**Magadan** comp=Z,45nm,19.4s,baz=78,slow=35	**22.47**	**11**	LR	LR	20 38 42.8	
YAK	**Yakutsk** 1.0nm,0.3s,baz=189,slow=9.9,SNR=5.8	**25.48**	**346**	P	**P**	**20 30 57.2**	**-0.1**
YAK	**Yakutsk** 21nm,0.8s	**25.48**	**346**	*eP*	**P**	**20 30 57.5**	**+0.2**
SEY	**Seymchan** 3.6nm,0.5s,baz=196,slow=8.5,SNR=13	**25.91**	**11**	P	**P**	**20 31 02.1**	**+0.8**
ULN	**Ulaanbaatar** 4.4nm,0.8s	**27.50**	**303**	*eP*	**P**	**20 31 16.6**	**+0.7**
SONM	**Songino Array** 5.0nm,0.7s,baz=105,slow=8.8,SNR=49	**27.93**	**303**	P	**P**	**20 31 20.4**	**+0.7**
H11N2	**WAKE ISLAND Hy** baz=316,slow=75,SNR=1265	**27.98**	**123**	T	T	21 00 32.2	
H11N1	**WAKE ISLAND Hy** baz=316,slow=75,SNR=970	**27.99**	**123**	T	T	21 00 39.2	
H11N3	**WAKE ISLAND Hy** baz=316,slow=75,SNR=846	**28.00**	**123**	T	T	21 00 41.4	
H11S1	**WAKE ISLAND Hy** baz=317,slow=76,SNR=453	**28.73**	**125**	T	T	21 01 34.3	
H11S3	**WAKE ISLAND Hy** baz=317,slow=76,SNR=585	**28.73**	**125**	T	T	21 01 34.4	
H11S2	**WAKE ISLAND Hy** baz=317,slow=76,SNR=328	**28.74**	**125**	T	T	21 01 35.5	
TLY	**Talaya** 2.1nm,0.6s,baz=165,slow=2.1,SNR=5.8	**30.35**	**310**	P	**P**	**20 31 41.4**	**+0.3**
TLY	comp=Z,64nm,18.4s,baz=126,slow=37			LR	LR	20 44 29.8	
TLY	**Talaya** 2.8nm,0.8s	**30.35**	**310**	*eP*	**P**	**20 31 41.6**	**+0.5**
GTA	**Gaotai**	**32.99**	**286**	*eP*	**P**	**20 32 04.3**	**-0.3**
GTA				pP	sP	20 32 08.9	+1.1
GTA				sP	pP	20 32 11.4	+4.5
GTA	3.0nm,1.1s			PMZ			
TIXI	**Tiksi** comp=Z,56nm,19.5s,baz=152,slow=39	**34.62**	**353**	LR	LR	20 48 17.3	
ZALV	**Zalesovo Beam** 6.6nm,0.6s,baz=88,slow=7.4,SNR=32	**41.90**	**312**	P	**P**	**20 33 20.1**	**+0.4**
ZALV	0.9nm,0.6s,baz=95,slow=5.1,SNR=3.7			PcP	**PcP**	**20 35 15.0**	**-0.1**
ZALV	comp=Z,41nm,18.4s,baz=70,slow=37			LR	LR	20 51 25.6	
CMAR	**Chiang Mai Arr** 0.3nm,0.6s,baz=51,slow=7.1,SNR=4.1	**42.34**	**255**	P	**P**	**20 33 25.1**	**+1.4**
CMAR	comp=Z,20nm,20.2s,baz=30,slow=38			LR	LR	20 52 07.7	
NRIK	**Noril'sk** comp=Z,93nm,18.1s,baz=112,slow=37	**42.86**	**335**	LR	LR	20 52 09.0	
MKAR	**Makanchi Array** 1.8nm,0.6s,baz=84,slow=9.4,SNR=23	**44.29**	**302**	P	**P**	**20 33 39.4**	**+0.2**
KURK	**Kurchatov** 30nm,0.9s	**46.00**	**308**	*eP*	**P**	**20 33 52.0**	**-0.6**
KURBB	**Kurchatov Arra** 10nm,0.7s,baz=82,slow=8.0,SNR=107	**46.07**	**308**	P	**P**	**20 33 53.1**	**-0.1**
GUN	**Gumba**	**47.75**	**275**	*eP*	**P**	**20 34 08.0**	**+0.9**
KKN	**Kakani** 5.2nm,0.5s	**48.28**	**276**	*eP*	**P**	**20 34 11.4**	**+0.4**
ILAR	**Eielson Array** 0.6nm,0.6s,baz=264,slow=6.4,SNR=9.1	**48.49**	**33**	P	**P**	**20 34 12.5**	**+0.7**
DMN	**Daman**	**48.50**	**275**	*eP*	**P**	**20 34 13.0**	**+0.2**
GKN	**Gorkha**	**48.69**	**276**	*eP*	**P**	**20 34 14.5**	**+0.4**
KOLN	**Koldanda**	**49.61**	**276**	*eP*	**P**	**20 34 21.8**	**+0.6**
TKM2	**Tokmak 2** 4.1nm,0.6s	**49.86**	**298**	*eP*	**P**	**20 34 23.7**	**+0.8**
BVAR	**Borovoye Array** 1.6nm,0.6s,baz=75,slow=7.4,SNR=11	**50.56**	**312**	P	**P**	**20 34 27.9**	**0.0**
AAK	**Ala-Archa** 1.1nm,0.3s,baz=104,slow=2.1,SNR=4.0	**50.72**	**298**	P	**P**	**20 34 29.6**	**+0.2**
KKAR	**Karatay Array** 1.1nm,0.5s	**53.33**	**300**	*eP*	**P**	**20 34 48.8**	**+0.2**
INK	**Inuvik** 0.6nm,0.5s,baz=280,slow=6.1,SNR=2.2	**53.40**	**27**	P	**P**	**20 34 49.8**	**+1.1**
ARU	**Arti** 1.8nm,0.4s,baz=38,slow=2.3,SNR=8.9	**56.24**	**318**	P	**P**	**20 35 09.7**	**+0.3**
ARU	**Arti** 3.6nm,0.8s	**56.24**	**318**	*eP*	**P**	**20 35 08.7**	**-0.7**
WRA	**Warramunga Arr** 4.5nm,0.5s,baz=6.3,slow=7.2,SNR=97	**57.91**	**189**	P	**P**	**20 35 21.9**	**+0.2**
ABKAR	**Akbulak array** 2.2nm,0.6s	**57.96**	**310**	*eP*	**P**	**20 35 21.3**	**-0.5**
AKTO	**Aktyubinsk** 1.4nm,0.5s,baz=70,slow=12,SNR=9.6	**58.67**	**312**	P	**P**	**20 35 26.8**	**+0.1**
ASAR	**Alice Springs** 1.4nm,0.7s,baz=5.3,slow=4.9,SNR=15	**61.64**	**189**	P	**P**	**20 35 48.0**	**+0.7**
ASAR	comp=Z,37nm,18.4s,baz=114,slow=36			LR	LR	21 02 49.0	
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=266,slow=4.9,SNR=2.8	**62.81**	**31**	P	**P**	**20 35 55.7**	**+1.0**
ARCES	**ARCESS Array B** 1.1nm,0.7s,baz=34,slow=8.8,SNR=5.7	**63.52**	**339**	P	**P**	**20 35 58.9**	**-0.4**
GEYT	**Allbeck** 0.7nm,0.4s,baz=308,slow=7.3,SNR=4.2	**64.06**	**299**	P	**P**	**20 36 02.0**	**-1.5**
FINES	**FINESS Array B** 3.2nm,0.7s,baz=35,slow=7.0,SNR=11	**68.45**	**332**	P	**P**	**20 36 30.0**	**-1.1**
STKA	**Stephens Creek** 3.4nm,1.0s,baz=84,slow=2.7,SNR=3.1	**69.32**	**181**	P	**P**	**20 36 37.7**	**+1.0**
KBZ	**Khabaz** 1.4nm,0.7s,baz=61,slow=2.8,SNR=4.1	**70.92**	**311**	P	**P**	**20 36 47.3**	**+0.7**
HFS	**Hagfors** 1.5nm,0.7s,baz=54,slow=7.5,SNR=7.2	**73.67**	**336**	P	**P**	**20 37 03.5**	**+0.7**
NB2	**NORSAR Subarra** comp=Z,1.9nm,0.8s,baz=40,slow=6.2	**73.74**	**338**	P	**P**	**20 37 03.3**	**0.0**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.8s,baz=51,slow=7.2,SNR=3.9	**73.74**	**338**	P	**P**	**20 37 03.4**	**+0.1**
NOA	comp=Z,32nm,21.2s,baz=55,slow=38			LR	LR	21 11 59.4	
AKASG	**Malin Array Be** comp=Z,1.9nm,0.6s,baz=46,slow=6.0,SNR=11	**74.10**	**323**	P	**P**	**20 37 05.2**	**-0.3**
KWP	**Kalwaria Pacla**	**77.90**	**325**	*iP*	**P**	**20 37 27.8**	**+0.6**
BURAR	**Bucovina Array**	**78.13**	**322**	*iP*	**P**	**20 37 29.4**	**+0.7**
KOLS	**Kolonicke sedl**	**78.60**	**324**	*eP*	**P**	**20 37 31.2**	**+0.1**
PLOR	**Plostina**	**78.63**	**320**	*iP*	**P**	**20 37 32.2**	**+0.8**
TIRR	**Tirgusor**	**78.66**	**318**	*iP*	**P**	**20 37 32.7**	**+1.2**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.5s,baz=58,slow=3.6,SNR=3.7	**78.85**	**312**	P	**P**	**20 37 33.2**	**+0.3**
DOPR	**Dopca**	**79.19**	**321**	*iP*	**P**	**20 37 35.2**	**+0.8**
MSAB	**Monastry St. A**	**79.22**	**318**	*iP*	**P**	**20 37 35.6**	**+1.0**
MORC	**Moravsky Berou**	**80.08**	**327**	*iP*	**P**	**20 37 38.7**	**-0.6**
VYHS	**Vyhne**	**80.48**	**326**	*eP*	**P**	**20 37 42.3**	**+0.9**
CLL	**Collm**	**80.77**	**331**	*i* P	**P**	**20 37 42.4**	**-0.4**
CLL				*i*		20 38 01.3	
VRAC	**Vranov**	**80.84**	**327**	*iP*	**P**	**20 37 43.0**	**-0.3**
GZR	**Gura Zlata**	**80.89**	**322**	*iP*	**P**	**20 37 43.9**	**+0.2**
BZS	**Buzias**	**81.30**	**322**	*iP*	**P**	**20 37 45.7**	**0.0**
MDVR	**Moldovita**	**81.85**	**322**	*iP*	**P**	**20 37 48.8**	**0.0**
GERES	**GERESS Array B** comp=Z,0.6nm,0.5s,baz=54,slow=6.8,SNR=7.2	**82.42**	**329**	P	**P**	**20 37 51.4**	**-0.3**
EKA	**Eskdalemuir Ar** comp=Z,0.8nm,0.7s,baz=19,slow=5.3,SNR=4.8	**82.64**	**341**	P	**P**	**20 37 53.1**	**+0.5**
IDI	**Anoyia** comp=Z,2.0nm,0.7s,baz=42,slow=7.4,SNR=6.5	**86.96**	**313**	P	**P**	**20 38 13.9**	**-1.0**
LPAZ	**La Paz** comp=Z,1.3nm,0.7s,baz=284,slow=2.0,SNR=6.4	**145.73**	**60**	PKPbc	**PKPab**	**20 45 10.4**	**+0.3**

*ISCJB **02** 20:35:58.4±0.8, 56°.56N±0°.09×53°.1E±0°.1, h10km, mb3.1/1, Error ellipse: s-maj=15.5km s-min=8.1km az=34.8*
*IDC **02** 20:36:01.6±1.0, 56°.65N×53°.10E, h0km, mb3.1/3, mb1 3.2/8, mb1mx3.1/51, mbtmp3.2/8, ML2.8/4, Error ellipse: s-maj=16.0km s-min=9.8km az=24.0*
ISC 02 20:36:01.1±0.9, 56°.6N±0°.1×53°.01E±0°.08, h10km, n11, σ2s25/10, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARU	**Arti**	**3.08**	**91**	Pn		**Pn**		**20 36 49.7**	**0.0**
ARU	0.0nm,0.3s,baz=278,slow=19,SNR=3.5			Pg		**Pb**		**20 36 57.4**	**+1.5**
ARU	0.0nm,0.3s,baz=273,slow=19,SNR=15			Lg		Lg		20 37 40.6	
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=359,slow=17,SNR=2.6	**6.86**	**152**	Pn		**Pn**		**20 37 43.5**	**+1.9**
AKTO	0.3nm,0.3s,baz=312,slow=19,SNR=2.1			Sn		**Sn**		**20 38 58.0**	**-1.7**
AKTO	0.1nm,0.3s,baz=236,slow=9.5,SNR=3.9			Lg		Lg		20 39 39.1	
I31KZ	**AKTYUBINSK INF** baz=332,slow=319,SNR=1.1	**6.89**	**152**	*i*				21 14 50.0	
I43RU	**DUBNA INFRASON** baz=85,slow=322,SNR=2.8	**8.70**	**277**	*i*				21 09 20.0	
FINES	**FINESS Array B** 0.1nm,0.3s,baz=100,slow=16,SNR=3.5	**14.63**	**300**	Pn		**Pn**		**20 39 25.5**	**-2.3**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=285,slow=9.4,SNR=3.0	**16.23**	**101**	Pn		**Pn**		**20 39 45.2**	**-3.6**
ARCES	**ARCESS Array B** 0.1nm,0.3s,baz=112,slow=12,SNR=3.8	**17.74**	**328**	P		**P**		**20 40 11.3**	**+2.7**
MKAR	**Makanchi Array** 0.1nm,0.2s,baz=291,slow=9.1,SNR=2.4	**20.48**	**106**	P		**P**		**20 40 39.5**	**+0.7**
HFS	**Hagfors** 2.4nm,0.9s,baz=78,slow=9.7,SNR=6.0	**20.70**	**296**	P		**P**		**20 40 41.7**	**+0.7**
NOA	**NORSAR Array B** 0.8nm,0.9s,baz=80,slow=9.9,SNR=3.3	**21.80**	**299**	P		**P**		**20 40 53.2**	**+0.3**
I26DE	**FREYUNG INFRAS** baz=59,slow=311,SNR=3.0	**24.76**	**269**	*i*				23 00 30.0	

*NIED **02** 20:42:00, 34°.80N×142°.80E, h5km, Mw3.6 Best double couple: M◎2.84000×10^14 NP1:φs35.00000°, δ37.00000°, λ-70.00000°. NP2:φs190.00000°, δ56.00000°, λ-105.00000°.*
*IDC **02** 20:42:30.9±0.8, 34°.82N×142°.87E, h0km, mb3.8/12, mb1 3.9/16, mb1mx3.7/57, mbtmp3.8/16, ML3.9/4, MS3.1/3, Ms1 3.1/3, ms1mx2.6/46, Error ellipse: s-maj=22.1km s-min=16.3km az=93.0*
*NEIC **02** 20:42:32.2±0.6, 34°.76N×142°.80E, h10km, mb4.6/1, Error ellipse: s-maj=16.8km s-min=11.8km az=68.0*
*ISCJB **02** 20:42:33.4±0.6, 34°.67N±0°.05×142°.80E±0°.05, h33km, mb3.8/13, MS4.1/1, Error ellipse: s-maj=7.4km s-min=6.3km az=21.3*
*JMA **02** 20:42:33.4±0.4, 34°.83N×142°.81E, h36km, MJ3.7*
ISC 02 20:42:35.2±0.7, 34°.65N±0°.06×142°.80E±0°.08, h35km, n37, σ1s80/36, mb3.8/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.50**	**270**	P		**Pn**		**20 42 58.8**	**-0.3**
BSO1				S		**Sn**		**20 43 17.3**	**+0.1**
BSO3	**Boso 3**	**1.89**	**275**	P		**Pn**		**20 43 04.8**	**+0.1**
CHOJ	**Chosi**	**1.90**	**304**	P		**Pn**		**20 43 03.8**	**-1.3**
CHOJ				S		**Sn**		**20 43 25.8**	**-2.1**
BSO4	**Boso 4**	**2.05**	**280**	P		**Pn**		**20 43 08.0**	**+0.9**
BSO4				S		**Sn**		**20 43 32.4**	**+1.0**
JHJ	**Hachijo jima 2** 20nm,0.3s,baz=86,slow=18,SNR=4.8	**2.94**	**239**	Pn		**Pn**		**20 43 19.8**	**+0.4**
JHJ	42nm,0.3s,baz=258,slow=24,SNR=6.8			Sn		**Sn**		**20 43 52.4**	**-1.0**
JOD2	**Odawara 2**	**3.11**	**282**	P		**Pn**		**20 43 20.4**	**-1.3**
JAG	**Ashikaga**	**3.25**	**304**	P		**Pn**		**20 43 22.3**	**-1.4**
JYN	**Shimob**	**3.59**	**285**	P		**Pn**		**20 43 27.8**	**-0.6**
MJAR	**Matsushiro Arr** 1.9nm,0.3s,baz=100,slow=9.4,SNR=18	**4.19**	**298**	Pn		**Pn**		**20 43 35.6**	**-0.9**
MAJO	**Matsushiro**	**4.19**	**298**	*e*Pn		**Pn**		**20 43 35.7**	**-0.9**
MAT	**Matsushiro**	**4.19**	**298**	P		**Pn**		**20 43 35.7**	**-0.9**
MAT				*e*S		**Sn**		**20 44 18.5**	**-5.8**
JNS	**Sasagawa**	**4.23**	**319**	P		**Pn**		**20 43 35.7**	**-1.4**
CBIJ	**Chichi jima**	**7.55**	**184**	Pn		**Pn**		**20 44 22.8**	**0.0**
CBIJ				Sn		**Sn**		**20 45 43.5**	**-3.7**
JCJ	**Chichijima** 3.9nm,0.3s,baz=287,slow=19,SNR=3.2	**7.55**	**184**	Pn		**Pn**		**20 44 22.8**	**0.0**
JCJ	6.5nm,0.3s,baz=270,slow=20,SNR=4.2			Sn		**Sn**		**20 45 43.5**	**-3.7**
ASAJ	**Asahikawa** 1.8nm,0.3s,baz=223,slow=10,SNR=20	**9.45**	**359**	Pn		Pn		20 44 44.2	-4.6
ASAJ	**Asahikawa** 2.1nm,0.6s	**9.45**	**359**	*e*P		Pn		20 44 43.6	-5.2
JNU	**Nakatsue** comp=Z,38nm,19.5s,baz=287,slow=41	**10.03**	**265**	LR		LR		20 49 22.7	
KSRS	**Korea Array** comp=Z,30nm,18.6s,baz=114,slow=37	**12.36**	**287**	LR		LR		20 50 09.5	
H11S1	**WAKE ISLAND Hy** baz=312,slow=74	**26.65**	**121**	T		T		21 16 09.0	
H11S3	**WAKE ISLAND Hy** baz=312,slow=74	**26.65**	**121**	T		T		21 16 11.6	
H11S2	**WAKE ISLAND Hy** baz=312	**26.66**	**121**	T		T		21 16 15.2	
SEY	**Seymchan** 1.3nm,0.7s,baz=167,slow=10.0,SNR=4.3	**28.93**	**9**	P		**P**		**20 48 30.9**	**+0.2**
SONM	**Songino Array** 0.3nm,0.5s,baz=106,slow=9.6,SNR=3.7	**30.08**	**307**	P		**P**		**20 48 42.6**	**+1.4**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=102,slow=11,SNR=4.4	**44.36**	**314**	P		**P**		**20 50 42.4**	**+0.5**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=91,slow=7.3,SNR=5.4	**46.36**	**304**	P		**P**		**20 50 57.5**	**-0.3**
KURK	**Kurchatov** 4.1nm,0.6s	**48.30**	**310**	*eP*		**P**		**20 51 10.2**	**-2.6**
KURBB	**Kurchatov Arra** 0.8nm,0.5s,baz=83,slow=7.6,SNR=16	**48.37**	**310**	P		**P**		**20 51 13.8**	**+0.5**
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=8.7,slow=7.5,SNR=6.9	**54.89**	**190**	P		**P**		**20 52 04.6**	**+2.3**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=13,slow=6.1,SNR=4.9	**58.61**	**190**	P		**P**		**20 52 31.2**	**+2.5**
YKA	**Yellowknife Ar** 0.6nm,0.7s,baz=308,slow=6.0,SNR=3.0	**65.30**	**30**	P		**P**		**20 53 11.5**	**-1.7**
NVAR	**Mina Array Bea** 0.4nm,0.5s,baz=288,slow=3.7,SNR=2.7	**75.51**	**53**	P		**P**		**20 54 17.9**	**+1.6**
HFS	**Hagfors** 1.5nm,0.6s,baz=48,slow=2.2,SNR=5.4	**76.72**	**336**	P		**P**		**20 54 23.3**	**+0.8**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,baz=39,slow=5.9	**76.81**	**338**	P		**P**		**20 54 23.3**	**+0.3**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.6s,baz=39,slow=5.7,SNR=4.3	**76.81**	**338**	P		**P**		**20 54 23.6**	**+0.6**
AKASG	**Malin Array Be** comp=Z,98nm,19.9s,baz=105,slow=37	**76.87**	**323**	LR		LR		21 30 14.8	
GERES	**GERESS Array B** comp=Z,0.4nm,0.6s,baz=27,slow=6.6,SNR=2.8	**85.33**	**329**	P		**P**		**20 55 09.0**	**+0.4**
GERES	**GERESS Array B**	**85.33**	**329**	P		**P**		**20 55 09.0**	**+0.4**

*ISCJB **02** 20:51:54.0±1.6, 8°.75S±0°.3×75°.3W±0°.4, h120km, mb3.6/4, Error ellipse: s-maj=67.4km s-min=18.3km az=139.7*
*IDC **02** 20:51:54.2±5.0, 8°.62S×75°.25W, h104km±52km, mb3.5/4, mb1 3.6/5, mb1mx3.3/31, mbtmp3.8/5, Error ellipse: s-maj=74.5km s-min=24.5km az=32.0*
ISC 02 20:51:55.6±1.2, 8°.8S±0°.3×75°.3W±0°.3, h120km, n7, σ1s20/7, mb3.6/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.2nm,0.3s,baz=353,slow=8.1,SNR=3.5	**10.22**	**138**	P		**Pn**		**20 54 19.2**	**-0.4**
TXAR	**Lajitas Array** 0.1nm,0.4s,baz=138,slow=8.2,SNR=2.6	**46.73**	**325**	P		**P**		**21 00 13.7**	**+0.8**
DBIC	**Dimbokro** 5.2nm,1.0s,baz=247,slow=4.1,SNR=6.3	**71.84**	**80**	P		**P**		**21 03 06.4**	**+0.4**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=142,slow=7.1,SNR=3.7	**77.24**	**342**	P		**P**		**21 03 34.2**	**-1.9**
TORD	**Torodi Ar. Bea** 0.6nm,0.3s,baz=262,slow=5.2,SNR=30	**79.46**	**75**	P		**P**		**21 03 50.0**	**+0.5**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=104,slow=2.3,SNR=2.9	**136.96**	**221**	PKP		**PKPdf**		**21 11 05.9**	**+0.7**
WRA	**Warramunga Arr** 0.9nm,1.0s,baz=122,slow=2.1,SNR=8.5	**139.22**	**225**	PKP		**PKPdf**		**21 11 09.8**	**+0.5**

*ATH **02** 20:53:17.5, 38°.38N×28°.04E, h16km±2km, ML2.9/6, Error ellipse: s-maj=2.7km s-min=1.1km az=242.0*
*IDC **02** 20:53:17.0±1.6, 38°.38N×28°.19E, h0km, mb3.6/2, mb1 3.4/7, mb1mx3.2/44, mbtmp3.3/7, ML2.8/4, Error ellipse: s-maj=25.8km s-min=19.5km az=21.0*
*ISK **02** 20:53:17.3, 38°.36N×28°.06E, h5km, ML3.3*
*DDA **02** 20:53:18.1, 38°.39N×28°.12E, h13km, Md3.2*
*ISCJB **02** 20:53:18.1±0.4, 38°.39N±0°.01×28°.09E±0°.02, h6km±3km, mb3.5/2, Error ellipse: s-maj=2.5km s-min=2.2km az=170.6*
*THE **02** 20:53:18.1, 38°.35N×28°.14E, h7km±2km, ML3.2/4, Error ellipse: s-maj=2.9km s-min=0.6km az=61.0*
*CSEM **02** 20:53:18.3±0.1, 38°.37N×28°.08E, h2km, ML3.3, Error ellipse: s-maj=2.7km s-min=2.4km az=77.0*
ISC 02 20:53:18.3±1.0, 38°.37N±0°.01×28°.10E±0°.01, h8km±8km, n156, σ1s19/216, 3C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AYDB	**Zeytinkoy-Aydi**	**0.45**	**202**	PG		**Pg**		**20 53 27.0**	**-0.1**
AYDB				*e*SG		**Sg**		**20 53 33.6**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.45**	**202**	*i* Pg		**Pg**		**20 53 27.0**	**-0.1**
AYDB				*e*Sg		**Sg**		**20 53 33.6**	**+0.5**
KULA	**Kula-Manisa**	**0.46**	**71**	*e*PG		**Pg**		**20 53 27.4**	**+0.1**
KULA	**Kula-Manisa**	**0.46**	**71**	P		**Pg**		**20 53 27.1**	**-0.2**
KULA				S		**Sg**		**20 53 33.2**	**-0.2**
KULA	**Kula-Manisa**	**0.46**	**71**	P		**Pg**		**20 53 27.1**	**-0.2**
KULA	**Kula-Manisa**	**0.46**	**71**	*e*Pg		**Pg**		**20 53 27.4**	**+0.1**
KULA				S		**Sg**		**20 53 33.2**	**-0.2**
AKHS	**Akhisar**	**0.56**	**336**	P		**Pg**		**20 53 28.9**	**-0.2**
AKHS				S		**Sg**		**20 53 36.9**	**+0.5**
AKS	**Akhisar**	**0.56**	**336**	*e*PG		**Pg**		**20 53 29.2**	**+0.1**
AKS	**Akhisar**	**0.56**	**336**	*e*Pg		**Pg**		**20 53 29.2**	**+0.1**
IZM	**Izmir**	**0.66**	**273**	*e*PG		**Pg**		**20 53 31.0**	**0.0**
IZM	**Izmir**	**0.66**	**273**	*e*Pg		**Pg**		**20 53 31.0**	**0.0**
AYDN	**Tasoluk**	**0.73**	**194**	P		**Pg**		**20 53 32.1**	**-0.2**
AYDN				S		**Sg**		**20 53 44.0**	**+0.7**
AYDN	**Tasoluk**	**0.73**	**194**	*i* P		**Pg**		**20 53 32.1**	**-0.2**
AYDN				*i* S		**Sg**		**20 53 44.0**	**+0.7**
DEMI	**Demirci**	**0.83**	**35**	P		**Pg**		**20 53 33.8**	**-0.4**
DEMI				S		**Sg**		**20 53 45.4**	**+0.4**
DEMI	**Demirci**	**0.83**	**35**	*i* P		**Pg**		**20 53 33.8**	**-0.4**
DEMI				*i* S		**Sg**		**20 53 45.4**	**+0.4**
GCAM	**G?zelcaml?**	**0.96**	**226**	P		**Pg**		**20 53 36.8**	**+0.2**
GCAM				S		**Sn**		**20 53 50.9**	**-0.8**
GCAM	**G?zelcaml?**	**0.96**	**226**	*i* P		**Pg**		**20 53 36.8**	**+0.2**
GCAM				*i* S		**Sn**		**20 53 50.9**	**-0.8**
DENT	**Denizli**	**0.96**	**130**	*e*PG		**Pn**		**20 53 37.5**	**-0.5**
DENT	**Denizli**	**0.96**	**130**	*e*Pg		**Pn**		**20 53 37.5**	**-0.5**
DNZL	**Cakiroluk**	**1.01**	**132**	P		**Pg**		**20 53 37.4**	**-0.3**
DNZL				S		**Sb**		**20 53 51.8**	**+0.3**
DNZL	**Cakiroluk**	**1.01**	**132**	*i* P		**Pg**		**20 53 37.4**	**-0.3**
DNZL				*i* S		**Sb**		**20 53 51.8**	**+0.3**
DGB	**˜zmir**	**1.01**	**252**	*i* P		**Pg**		**20 53 37.8**	**+0.1**
DGB				*i* S		**Sb**		**20 53 51.7**	**+0.3**
KHAL	**Karahalli**	**1.09**	**89**	P		**Pb**		**20 53 39.3**	**-0.2**
KHAL				S		**Sg**		**20 53 52.8**	**-0.7**
KHAL	**Karahalli**	**1.09**	**89**	*i* P		**Pb**		**20 53 39.4**	**-0.2**
KHAL				*i* S		**Sg**		**20 53 52.8**	**-0.7**
KHL	**Karahalli**	**1.12**	**92**	*e*PN		**Pn**		**20 53 40.3**	**0.0**
KHL	**Karahalli**	**1.12**	**92**	*e*Pn		**Pn**		**20 53 40.3**	**0.0**
DKL	**Dikili**	**1.17**	**307**	*e*PN		**Pb**		**20 53 40.0**	**-0.7**
DKL	**Dikili**	**1.17**	**307**	*e*Pn		**Pb**		**20 53 40.0**	**-0.7**
URLA	**Izmir**	**1.18**	**270**	P		**Pb**		**20 53 40.7**	**-0.3**
URLA				S		**Sn**		**20 53 58.6**	**+1.2**
URLA	**Izmir**	**1.18**	**270**	*i* P		**Pb**		**20 53 40.7**	**-0.3**
URLA				*i* S		**Sn**		**20 53 58.6**	**+1.2**
SMG	**Samos**	**1.20**	**237**	P		**Pb**		**20 53 39.7**	**-1.5**
SMG				S		**Sg**		**20 53 56.5**	**-0.3**
SMG	**Samos**	**1.20**	**237**	P		**Pb**		**20 53 39.9**	**-1.3**
SMG				S		**Sg**		**20 53 56.5**	**-0.3**
SMG	**Samos**	**1.20**	**237**	P		**Pb**		**20 53 39.9**	**-1.3**
SMG				S		**Sg**		**20 53 55.5**	**-1.3**
SMG	comp=N,911μm,0.4s			AML		AML		20 54 01.4	
SMG	comp=E,840μm,0.4s			AML		AML		20 54 03.4	
YER	**Yerkesik**	**1.24**	**173**	*e*PN		**Pn**		**20 53 41.5**	**-0.4**
YER	**Yerkesik**	**1.24**	**173**	P		**Pn**		**20 53 40.5**	**-1.4**
YER				S		**Sb**		**20 53 57.5**	**-0.6**
YER	**Yerkesik**	**1.24**	**173**	P		**Pn**		**20 53 40.5**	**-1.4**
YER	**Yerkesik**	**1.24**	**173**	*e*Pn		**Pn**		**20 53 41.5**	**-0.4**
YER				S		**Sb**		**20 53 57.5**	**-0.6**
ZEY	**˜zmir**	**1.26**	**265**	*i* P		**Pn**		**20 53 41.5**	**-0.6**
ZEY				*i* S		**Sg**		**20 53 59.2**	**+0.2**
BALB	**Balikesir**	**1.28**	**352**	*e*PN		**Pg**		**20 53 43.0**	**+0.1**
BALB	**Balikesir**	**1.28**	**352**	*e*Pn		**Pg**		**20 53 43.0**	**+0.1**
GDZ	**Gediz**	**1.30**	**56**	P		**Pn**		**20 53 41.8**	**-1.0**
GDZ				S		**Sb**		**20 53 59.3**	**-0.6**
GDZ	**Gediz**	**1.30**	**56**	*i* P		**Pn**		**20 53 41.8**	**-1.0**
GDZ				*i* S		**Sb**		**20 53 59.3**	**-0.6**
DST	**Dursunbey**	**1.30**	**18**	*e*PN		**Pg**		**20 53 43.8**	**+0.6**
DST	**Dursunbey**	**1.30**	**18**	*e*Pn		**Pg**		**20 53 43.8**	**+0.6**
BDRM	**Kayabasi**	**1.40**	**202**	P		**Pn**		**20 53 42.0**	**-2.1**
BDRM				S		**Sg**		**20 54 04.3**	**+1.0**
BDRM	**Kayabasi**	**1.40**	**202**	*i* P		**Pn**		**20 53 42.0**	**-2.1**
BDRM				*i* S		**Sg**		**20 54 04.3**	**+1.0**
BALY	**Balya**	**1.42**	**345**	P		**Pn**		**20 53 43.8**	**-0.6**
BALY				S		**Sg**		**20 54 04.2**	**+0.2**
BALY	**Balya**	**1.42**	**345**	*i* P		**Pn**		**20 53 43.9**	**-0.6**
BALY				*i* S		**Sg**		**20 54 04.2**	**+0.2**
AYVA	**Ayvalik**	**1.45**	**311**	P		**Pn**		**

ANTB	**Antalya**	**2.50**	**125**	*e*PN	**Pb**	**20 54 01.4**	**-2.0**
ANTB	**Antalya**	**2.50**	**125**	*e*Pn	**Pb**	**20 54 01.4**	**-2.0**
KSL	**Kastellorizon**	**2.51**	**151**	P	**Pb**	**20 54 01.8**	**-1.8**
KSL				S	**Sn**	**20 54 31.8**	**+1.7**
KSL				AML	AML	20 54 46.4	
	comp=E,502μm,0.8s						
KSL				AML	AML	20 54 47.4	
	comp=N,264μm,0.7s						
BUY	**Buyukada**	**2.60**	**17**	*i* P	**Pg**	**20 54 07.8**	**-0.4**
BUY				*i* S	**Sg**	**20 54 42.1**	**+0.2**
LIA	**Limnos Island**	**2.74**	**305**	P	**Pn**	**20 54 02.7**	**+0.3**
LIA				S	**Sn**	**20 54 35.9**	**+0.2**
SMTH	**Samothraki Isl**	**2.89**	**317**	P	**Pn**	**20 54 03.9**	**-0.7**
SMTH	**Samothraki Isl**	**2.89**	**317**	P	**Pn**	**20 54 04.2**	**-0.5**
SMTH				S	**Sn**	**20 54 40.2**	**+0.6**
SMTH	**Samothraki Isl**	**2.89**	**317**	P	**Pn**	**20 54 04.2**	**-0.5**
SMTH				S	**Sn**	**20 54 40.2**	**+0.6**
SMTH				AML	AML	20 54 52.6	
	comp=E,102μm,0.4s						
SMTH				AML	AML	20 54 52.8	
	comp=N,145μm,0.3s						
KARP	**Karpathos**	**2.92**	**195**	*e*PN	**Pn**	**20 54 06.9**	**+2.0**
KARP	**Karpathos**	**2.92**	**195**	P	**Pn**	**20 54 04.3**	**-0.7**
KARP	**Karpathos**	**2.92**	**195**	*e*Pn	**Pn**	**20 54 06.9**	**+2.0**
KARP				S	**Sn**	**20 54 40.9**	**+0.8**
KARP	**Karpathos**	**2.92**	**195**	P	**Pn**	**20 54 04.3**	**-0.7**
KARP				S	**Sn**	**20 54 40.9**	**+0.8**
KARP				AML	AML	20 54 44.7	
	comp=N,338μm,0.6s						
KARP				AML	AML	20 54 47.1	
	comp=E,276μm,0.6s						
THR5	**Thira Island,**	**2.93**	**229**	*e*PN	**Pn**	**20 54 07.3**	**+2.1**
THR5	**Thira Island,**	**2.93**	**229**	*e*Pn	**Pn**	**20 54 07.3**	**+2.1**
ALN	**Alexandroupoli**	**2.98**	**328**	P	**Pn**	**20 54 05.0**	**-0.8**
ALN	**Alexandroupoli**	**2.98**	**328**	P	**Pn**	**20 54 05.0**	**-0.8**
KAND	**Kocaeli-Kandir**	**3.16**	**30**	*i* P	**Pg**	**20 54 18.2**	**-0.7**
KAND				*i* S	**Sg**	**20 55 00.8**	**+0.9**
SAHE	**Sakarya_HENDEK**	**3.27**	**40**	*i* P	**Pg**	**20 54 20.3**	**-0.5**
SAHE				*i* S	**Sg**	**20 55 06.5**	**+3.3**
ZKR	**Zakros**	**3.58**	**206**	P	**Pn**	**20 54 15.6**	**+1.5**
ZKR	**Zakros**	**3.58**	**206**	P	**Pn**	**20 54 15.6**	**+1.5**
LAST	**Lasithi**	**3.83**	**214**	P	**Pn**	**20 54 18.5**	**+0.9**
LAST	**Lasithi**	**3.83**	**214**	P	**Pn**	**20 54 18.5**	**+0.9**
KDZ	**Kurdzhali**	**3.87**	**329**	*e*P	**Pn**	**20 54 18.0**	**-0.1**
IDI	**Anoyia**	**4.01**	**221**	Pn	**Pn**	**20 54 20.7**	**+0.7**
	comp=E,0.2nm,0.3s,baz=58,slow=18,SNR=4.6						
IDI				Lg	Lg	20 55 29.3	
	comp=E,0.3nm,0.3s,baz=14,slow=19,SNR=3.7						
IDI	**Anoyia**	**4.01**	**221**	P	**Pn**	**20 54 22.0**	**+1.9**
IDI	**Anoyia**	**4.01**	**221**	P	**Pn**	**20 54 22.0**	**+1.9**
DIM	**Dimitrovgrad**	**4.17**	**333**	*e*P	**Pg**	**20 54 38.6**	**+0.4**
RZN	**Rozhen**	**4.21**	**323**	*e*P	**Pn**	**20 54 23.0**	**+0.1**
JMB	**Yambol**	**4.25**	**345**	*e*P	**Pg**	**20 54 39.7**	**-0.1**
NVR	**Nevrokopi**	**4.42**	**314**	P	**Pn**	**20 54 25.6**	**0.0**
BRTR	**Keskin Array B**	**4.52**	**71**	Pn	**Pn**	**20 54 28.2**	**+1.1**
	comp=E,0.3nm,0.3s,baz=248,slow=15,SNR=11						
BRTR				Sn	**Sn**	**20 55 20.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=268,slow=20,SNR=3.0						
PLD	**Plovdiv**	**4.55**	**326**	*e*P	**Pn**	**20 54 27.5**	**+0.1**
MMB	**Musomiste**	**4.65**	**315**	*e*P	**Pn**	**20 54 28.1**	**-0.7**
PRD	**Provadia**	**4.86**	**354**	*e*P	**Pg**	**20 54 51.4**	**+0.1**
KKB	**Krupnik**	**5.20**	**314**	*e*P	**Pn**	**20 54 32.2**	**-4.1**
MSAB	**Monastry St. A**	**5.72**	**358**	⇓*i* P	**Pb**	**20 54 54.4**	**-3.9**
MPEP	**Malo Peshtene**	**5.98**	**328**	*e*P	Pn	20 54 54.3	+7.3
TIRR	**Tirgusor**	**6.09**	**2**	⇓*i* P	**Pb**	**20 55 02.8**	**-1.7**
CFR	**Carcaliu**	**6.80**	**0**	⇑*i* P	Pb	20 55 08.0	-8.7
MLR	**Muntele Rosu**	**7.30**	**348**	Pn	**Pn**	**20 55 04.6**	**-0.6**
	comp=E,0.0nm,0.3s,baz=163,slow=8.6,SNR=5.0						
MLR	**Muntele Rosu**	**7.30**	**348**	⇓*i* P	**Pn**	**20 55 03.5**	**-1.7**
PLOR	**Plostina**	**7.55**	**352**	⇑*i* P	**Pn**	**20 55 10.0**	**+1.3**
VRI	**Vrincioaia**	**7.56**	**353**	⇑*i* P	**Pn**	**20 55 09.4**	**+0.6**
MMAI	**Mount Meron Ar**	**7.99**	**130**	Pn	**Pn**	**20 55 12.0**	**-2.7**
	comp=E,1.1nm,0.3s,baz=313,slow=11,SNR=8.8						
MMAI				Sn	**Sn**	**20 56 38.5**	**-6.7**
	comp=E,1.1nm,0.3s,baz=321,slow=23,SNR=4.1						
TESR	**Tescani**	**8.21**	**353**	⇓*i* P	**Pn**	**20 55 18.1**	**+0.5**
GERES	**GERESS Array B**	**14.75**	**320**	Pn	**Pn**	**20 56 49.9**	**+2.6**
	baz=106,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**40.08**	**60**	P	**P**	**21 00 54.1**	**+0.1**
	comp=E,0.8nm,0.8s,baz=280,slow=8.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**41.10**	**49**	P	**P**	**21 01 01.7**	**-0.6**
	comp=E,0.6nm,0.6s,baz=263,slow=10.0,SNR=2.2						

IDC ***02*** *21:06:40.0±0.7, 42.38N×78.45E, h0km, mb3.8/15, mb1 4.0/20, mb1mx3.8/60, mbtmp3.9/20, ML3.9/5, MS3.3/21, Ms1 3.3/21, ms1mx3.1/55, Error ellipse: s-maj=11.2km s-min=9.0km az=140.0*

ISCJB ***02*** *21:06:40.3±0.5, 42.37N±0.02×78.54E±0.02, h5km±3km, mb3.8/17, MS3.3/15, Error ellipse: s-maj=3.1km s-min=2.3km az=167.2*

BJI ***02*** *21:06:40.3, 42.46N×78.43E, h5km, mb4.2/19, mB4.4/15, ML4.4/10, Ms3.9/11, Ms7 3.6/10*

KRNET ***02*** *21:06:41.5±0.1, 42.37N×78.41E, h25km, mb5.0*

SOME ***02*** *21:06:41.9, 42.33N×78.38E, h25km, MS3.4*

MOS ***02*** *21:06:42.5±1.4, 42.59N×78.52E, h21km, mb4.5/5, Error ellipse: s-maj=9.0km s-min=6.0km az=117.4*

MOS Felt (II-III) at Almaty.

NNC ***02*** *21:06:42.8±0.9, 42.53N×78.43E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=8.6km s-min=2.4km az=167.0*

NEIC ***02*** *21:06:46.5±0.7, 42.54N×78.43E, h44km±7km, mb4.1/4, Error ellipse: s-maj=8.2km s-min=5.9km az=185.0*

NEIC Felt [III] at Almaty, Kazakhstan.

ISC 02 21:06:42.0±0.8, 42.45N±0.02×78.39E±0.02, h12km±4km, n143, σ1§84/194, mb3.9/17, MS3.2/15, 41C-25D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.03**	**8**	⇑*i* P	**Pg**	**21 06 44.3**	**-0.2**
	baz=355							
PRZ				⇑*i* S	**Sg**	**21 06 46.5**	**+0.2**
	baz=355							
SATY	**Saty**	**0.61**	**1**	⇓*i* P	**Pg**	**21 06 53.8**	**-0.2**
	3μm,0.5s							
SATY				⇓*i* S	**Sg**	**21 07 02.5**	**+0.4**
	11μm,0.6s							
ZHN	**Zhinishke**	**0.72**	**2**	⇓*i* P	**Pg**	**21 06 55.7**	**-0.3**
	2μm,0.1s							
ZHN				*e*S	**Sg**	**21 07 05.9**	**+0.4**
	9μm,0.2s							
UZB	**Uzynbulak**	**0.84**	**33**	*e*P	**Pg**	**21 06 57.4**	**-0.9**
	482nm,0.3s							
UZB				*e*S	**Sg**	**21 07 08.8**	**-0.5**
	11μm,0.6s							
KDJ	**Kajisay**	**0.96**	**251**	⇑*i* P	**Pg**	**21 06 59.7**	**-0.8**
	baz=256							
KDJ				⇑*i* S	**Sg**	**21 07 12.7**	**-0.3**
	baz=256							
KPKS	**Kokpek**	**1.04**	**12**	*e*P	**Pb**	**21 07 01.4**	**-0.6**
	3μm,0.3s							
KPKS				*e*S	**Sg**	**21 07 15.6**	**0.0**
	7μm,0.3s							
KURS	**Kuram**	**1.05**	**351**	*e*P	**Pb**	**21 07 02.0**	**-0.2**
	534nm,1.2s							
KURS				*e*S	**Sg**	**21 07 16.3**	**+0.3**
	599nm,0.8s							
PDGK	**Podgornoye**	**1.19**	**42**	⇑P	**Pn**	**21 07 03.4**	**-1.0**
	165nm,0.4s							
PDGK				⇓S	**Sb**	**21 07 19.4**	**-0.4**
	1μm,0.4s							
PDGK	**Podgornoye**	**1.19**	**42**	PG	**Pn**	**21 07 03.4**	**-1.0**
PDGK				S	**Sb**	**21 07 19.4**	**-0.4**
PDGK				pmax	pmax			
	comp=Z,165nm,0.4s							
PDGK				smax	smax			
	comp=N,1μm,0.4s							
MDOK	**Medeo**	**1.22**	**306**	*e*P	**Pn**	**21 07 04.9**	**-0.1**
	comp=N,1μm,0.4s							
MDOK				*e*S	**Sg**	**21 07 21.3**	**-0.2**
	comp=N,12μm,0.5s							
TNSS	**Tian-Shan**	**1.22**	**299**	*e*P	**Pb**	**21 07 05.2**	**-0.1**
	comp=N,384nm,0.3s							
TNSS				*e*S	**Sn**	**21 07 22.1**	**+0.1**
	comp=N,2μm,0.3s							
KOTS	**Kotyrbulak**	**1.23**	**310**	*e*P	**Pg**	**21 07 05.5**	**-0.1**
KOTS				*e*S	**Sn**	**21 07 22.7**	**+1.0**
KNDC	**Almaty**	**1.30**	**307**	⇓P	**Pb**	**21 07 06.6**	**+0.1**
	comp=N,653nm,0.6s							
KNDC				⇑S	**Sg**	**21 07 24.5**	**+0.6**
	comp=N,9μm,0.7s							
SHLS	**Shalkode**	**1.30**	**57**	*e*P	**Pn**	**21 07 06.2**	**-0.1**
	comp=N,3μm,0.3s							
SHLS				*e*S	**Sb**	**21 07 23.5**	**+0.1**
	comp=N,8μm,0.3s							
AAA	**Alma-Ata**	**1.34**	**308**	⇓*i* P	**Pb**	**21 07 07.4**	**+0.1**
	comp=N,3μm,0.2s							
AAA				⇓*i* S	**Sg**	**21 07 25.7**	**+0.3**
	comp=N,24μm,0.6s							
AAA	**Alma-Ata**	**1.34**	**308**	*i* PG	**Pb**	**21 07 07.3**	**+0.1**
AAA				*i* S	**Sg**	**21 07 25.7**	**+0.3**
AAA				pmax	pmax			
	comp=Z,3μm,0.2s							
AAA				smax	smax			
	comp=E,24μm,0.5s							
MTBS	**Maitube**	**1.60**	**296**	⇓*i* P	**Pb**	**21 07 11.6**	**+0.1**
	comp=E,785nm,0.6s							
MTBS				⇓*i* S	**Sg**	**21 07 33.0**	**-0.5**
	comp=E,5μm,0.3s							
ULHL	**Ulahol**	**1.61**	**263**	⇑*i* P	**Pb**	**21 07 11.2**	**-0.6**
	baz=266							
ULHL				⇑*i* S	**Sg**	**21 07 33.1**	**-0.7**
	baz=266							
MNBS	**Baschi**	**1.63**	**0**	*e*P	**Pn**	**21 07 11.1**	**+0.4**
	comp=E,448nm,0.2s							
MNBS				*e*S	**Sn**	**21 07 31.9**	**+0.3**
	comp=E,3μm,0.5s							
CHKK	**Chushkaly**	**1.75**	**325**	*e*P	**Pb**	**21 07 14.3**	**+0.2**
	comp=E,35μm,1.0s							
CHKK				*e*S	**Sg**	**21 07 37.6**	**-0.7**
	comp=E,166μm,0.4s							
KTMS	**Ketmen**	**1.75**	**55**	*e*P	**Pb**	**21 07 13.6**	**-0.6**
	comp=E,499nm,0.3s							
KTMS				*e*S	**Sb**	**21 07 36.1**	**0.0**
	comp=E,2μm,0.4s							
KTBS	**Karatobe**	**1.78**	**316**	*e*P	**Pb**	**21 07 15.3**	**+0.7**
KTBS				*e*S	**Sg**	**21 07 39.1**	**-0.2**
ARXS	**Arharly**	**1.81**	**347**	*e*P	**Pb**	**21 07 15.8**	**+0.6**
	comp=E,1μm,0.5s							
ARXS				*e*S	**Sg**	**21 07 40.4**	**+0.1**
	comp=E,3μm,0.5s							
BOOM	**Boomskoye usch**	**1.82**	**272**	⇑*i* P	**Pb**	**21 07 14.6**	**-0.7**
	baz=275							
BOOM				⇑*i* S	**Sb**	**21 07 38.5**	**+0.4**
	baz=275							
KST	**Kastek**	**1.89**	**289**	⇑*i* P	**Pb**	**21 07 16.5**	**0.0**
	comp=E,564nm,0.5s							
KST				⇑*i* S	**Sg**	**21 07 42.2**	**-0.5**
	comp=E,8μm,0.5s							
NRN	**Naryn**	**2.05**	**241**	⇓*i* P	**Pb**	**21 07 18.1**	**-1.4**
	baz=243							
NRN				⇓*i* S	**Sb**	**21 07 44.2**	**-0.9**
	baz=243							
KUU	**Kurty**	**2.08**	**315**	⇓*i* P	**Pb**	**21 07 19.8**	**0.0**
	comp=E,2μm,0.7s							
KUU				*e*S	**Sg**	**21 07 48.0**	**-1.0**
	comp=E,9μm,0.7s							
DGS	**Degeres**	**2.08**	**293**	*e*P	**Pb**	**21 07 20.4**	**+0.5**
	comp=E,858nm,0.6s							
DGS				*e*S	**Sg**	**21 07 47.8**	**-1.3**
	comp=E,3μm,0.6s							
TKM2	**Tokmak 2**	**2.12**	**284**	⇑*i* P	**Pb**	**21 07 20.1**	**-0.4**
	baz=286							
TKM2				⇑*i* S	**Sg**	**21 07 48.7**	**-1.4**
	baz=286							
TKM2	**Tokmak 2**	**2.12**	**284**	⇑Pn	**Pb**	**21 07 20.2**	**-0.2**
	comp=E,541nm,0.5s							
TKM2				⇑Sn	**Sg**	**21 07 48.7**	**-1.4**
	comp=E,9μm,0.6s							
TKM2	**Tokmak 2**	**2.12**	**284**	*e*PN	**Pb**	**21 07 20.1**	**-0.4**
TKM2				*e*		21 07 45.7		
TKM2	**Tokmak 2**	**2.12**	**284**	*e*Pn	**Pb**	**21 07 20.1**	**-0.4**
TKM2				*e*Sn	**Sb**	**21 07 45.7**	**-1.0**
DJR	**Jarkent**	**2.14**	**28**	*e*P	**Pb**	**21 07 20.1**	**-0.7**
	comp=E,2μm,0.4s							
DJR				*e*S	**Sb**	**21 07 48.9**	**+1.5**
	comp=E,10μm,0.4s							
KZA	**Kyzart**	**2.36**	**262**	⇑*i* P	**Pb**	**21 07 24.1**	**-0.7**
	baz=264							
KZA				⇑*i* S	**Sg**	**21 07 56.0**	**-2.0**
	baz=264							
KBK	**Karagaybulak**	**2.55**	**276**	⇑*i* P	**Pb**	**21 07 26.6**	**-1.3**
	baz=278							
KBK				⇑*i* S	**Sb**	**21 07 59.7**	**+0.4**
	baz=278							
TDK	**Taldyqorghan**	**2.56**	**0**	*e*P	**Pb**	**21 07 25.6**	**-2.2**
	comp=E,584nm,0.7s							
TDK				*e*S	**Sb**	**21 07 57.3**	**-1.9**
	comp=E,4μm,0.9s							
CHMS	**Chumysh**	**2.74**	**283**	⇑*i* P	**Pb**	**21 07 28.7**	**-2.3**
	baz=284							
CHMS				⇑*i* S	**Sb**	**21 08 03.1**	**-1.4**
	baz=284							
FRU	**Bishkek**	**2.81**	**279**	*e*PN	**Pn**	**21 07 29.5**	**+2.6**
FRU				*i* S	**Sb**	**21 08 05.0**	**-1.6**
FRU				pmax	pmax			
	comp=Z,960nm,1.8s							
FRU				smax	smax			
	comp=E,6μm,2.0s							
FRU				smax	smax			
	comp=N,2μm,1.8s							
UCH	**Uchtor**	**2.88**	**267**	⇑*i* P	**Pb**	**21 07 31.5**	**-2.2**
	baz=269							
UCH				⇑*i* S	**Sb**	**21 08 06.8**	**-2.3**
	baz=269							
AAK	**Ala-Archa**	**2.89**	**275**	Pn	**Pb**	**21 07 31.4**	**-2.2**
	comp=N,35nm,0.3s,baz=95,slow=8.4,SNR=150							
AAK				LR	LR	21 08 10.6		
	comp=N,106nm,21.9s,baz=78,slow=31							
AAK				Lg	Lg	21 08 13.0		
	comp=N,159nm,0.3s,baz=250,slow=17,SNR=21							
AAK	**Ala-Archa**	**2.89**	**275**	⇑*i* P	**Pb**	**21 07 31.6**	**-2.0**
	baz=277							
AAK				⇑*i* S	**Sb**	**21 08 07.4**	**-1.5**
	baz=277							
AAK	**Ala-Archa**	**2.89**	**275**	⇑Pn	**Pn**	**21 07 30.7**	**+2.7**
	comp=N,386nm,0.7s							
AAK				⇓Lg	Lg	21 08 12.6		
	comp=N,3μm,1.1s							
AAK	**Ala-Archa**	**2.89**	**275**	*e*Pn	**Pb**	**21 07 30.8**	**-2.8**
AAK				*e*Sn	**Sb**	**21 08 07.2**	**-1.7**
KAPS	**Kapalarasan**	**2.92**	**13**	*e*P	**Pb**	**21 07 32.4**	**-1.7**
	comp=N,224nm,0.3s							
KAPS				⇓*i* S	**Sb**	**21 08 08.7**	**-1.0**
	comp=N,1μm,0.7s							
USP	**Ospenovka**	**2.98**	**287**	⇑*i* P	**Pb**	**21 07 32.1**	**-2.9**
	baz=289							
ARLS	**Aral**	**3.08**	**260**	⇓*i* P	**Pn**	**21 07 33.2**	**+2.5**
	baz=262							
ARLS				⇓*i* S	**Sn**	**21 08 09.4**	**+1.9**
	baz=262							
EKS2	**Erkin-Say**	**3.42**	**275**	*e*PN	**Pn**	**21 07 37.9**	**+2.6**
EKS2				*e*		21 08 17.2		
EKS2	**Erkin-Say**	**3.42**	**275**	*e*Pn	**Pn**	**21 07 37.9**	**+2.6**
EKS2				*e*Sn	**Sn**	**21 08 17.2**	**+1.5**
KSH	**Kashi**	**3.46**	**213**	Pn	**Pb**	**21 07 45.7**	**+2.5**
KSH				Sn	**Sb**	**21 08 26.2**	**+1.0**
KSH				SMN				
	comp=N,910nm,1.0s							
KSH				SME				
	comp=N,830nm,0.8s							
MRKS	**Merke**	**3.83**	**276**	*e*P	**Pb**	**21 07 49.7**	**+0.2**
	comp=N,145nm,0.2s							
MRKS				*e*S	**Sb**	**21 08 38.8**	**+3.0**
	comp=N,857nm,0.5s							
TOKL	**Toktogul**	**4.13**	**265**	*i* P	**Pn**	**21 07 48.4**	**+3.3**
	baz=266							
MNAS	**Manas**	**4.36**	**272**	*i* P	**Pn**	**21 07 51.8**	**+3.6**
	baz=274							
MNAS	**Manas**	**4.36**	**272**	⇑Pg	**Pb**	**21 08 00.7**	**+2.1**
	comp=N,91nm,0.6s							
MNAS				⇑Lg	Lg	21 08 58.0		
	comp=N,528nm,0.8s							
MNAS	**Manas**	**4.36**	**272**	PN	**Pb**	**21 08 00.7**	**+2.1**
MNAS				pmax	pmax			
	comp=Z,91nm,0.6s							
MAKZ	**Makanchi**	**5.05**	**29**	⇓Pn	**Pn**	**21 08 00.5**	**+2.9**
	comp=Z,13nm,0.3s							
MAKZ				⇑Sn	**Sn**	**21 08 59.7**	**+3.8**
	comp=Z,87nm,0.8s							
MAKZ				⇓Lg	Lg	21 09 16.7		
	comp=Z,261nm,1.2s							
MAKZ	**Makanchi**	**5.05**	**29**	PN	**Pn**	**21 08 00.5**	**+2.9**
MAKZ				S	**Sn**	**21 08 59.7**	**+3.8**
MAKZ				pmax	pmax			
	comp=Z,13nm,0.4s							
MAKZ				smax	smax			
	comp=N,87nm,0.8s							
MK31	**Makanchi Array**	**5.16**	**31**	Pn	**Pn**	**21 08 01.9**	**+2.8**
	comp=N,14nm,0.2s,baz=215,slow=13,SNR=196							
MK31				⇑Sn	**Sn**	**21 09 02.3**	**+3.8**
	comp=N,24nm,0.3s,baz=214,slow=26,SNR=8.7							
MK31				Lg	Lg	21 09 22.2		
	comp=N,435nm,0.8s,baz=213,slow=29,SNR=11							
MKAR	**Makanchi Array**	**5.16**	**31**	Pn	**Pn**	**21 08 01.2**	**+2.1**
	comp=N,10nm,0.3s,baz=218,slow=13,SNR=222							
MKAR				Sn	**Sn**	**21 09 00.9**	**+2.4**
	comp=N,40nm,0.3s,baz=215,slow=23,SNR=9.0							
MKAR				Lg	Lg	21 09 23.2		
	comp=N,40nm,0.3s,baz=211,slow=28,SNR=20							
DZA	**Taraz**	**5.23**	**277**	*e*P	**Pg**	**21 08 19.7**	**-2.4**
	comp=N,226nm,1.0s							
DZA				⇓*i* S	**Sg**	**21 09 29.4**	**-0.4**
	comp=N,689nm,0.7s							
KK31	**Karatay Array**	**5.84**	**279**	⇑Pg	**Pg**	**21 08 29.8**	**-4.0**
	comp=N,36nm,0.5s							
KK31				⇑Lg	Lg	21 09 43.6		
	comp=N,121nm,0.5s							
WMQ	**Urumqi**	**6.94**	**75**	Pn	**Pn**	**21 08 24.9**	**+1.3**
WMQ				Sn	**Sn**	**21 09 42.2**	**-0.3**
WMQ				SMN				
	comp=N,180nm,1.0s							
WMQ				SME				
	comp=N,220nm,0.9s							
OTUK	**Ortayu**	**7.19**	**326**	⇓Pn	**Pn**	**21 08 28.2**	**+1.2**
	comp=N,43nm,0.7s							
OTUK				⇓Sn	**Sn**	**21 09 48.3**	**-0.3**
	comp=N,39nm,0.7s							
OTUK				⇑Lg	Lg	21 10 22.5		
	comp=N,217nm,0.6s							
OTUK	**Ortayu**	**7.19**	**326**	PN	**Pn**	**21 08 28.2**	**+1.2**
OTUK				pmax	pmax			
	comp=Z,43nm,0.7s							
KURBB	**Kurchatov Arra**	**8.18**	**1**	Pn	**Pn**	**21 08 40.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=186,slow=12,SNR=58							
KURBB				Sn	**Sn**	**21 10 13.5**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=187,slow=27,SNR=4.4							
KURBB				Lg	Lg	21 10 57.9		
	comp=Z,1.9nm,0.3s,baz=179,slow=30,SNR=5.8							
KURBB	**Kurchatov Arra**	**8.18**	**1**	⇑Pn	**Pn**	**21 08 42.4**	**+2.0**
	comp=Z,5.6nm,0.3s							
KURBB				⇑Lg	Lg	21 10 55.2		
	comp=Z,588nm,1.1s							
KURK	**Kurchatov**	**8.27**	**1**	⇑Pn	**Pn**	**21 08 41.9**	**+0.2**
	comp=Z,18nm,0.7s							
KURK				⇓Lg	Lg	21 10 56.9		
	comp=Z,279nm,0.7s							
KURK	**Kurchatov**	**8.27**	**1**	*e*P	**Pn**	**21 08 41.7**	**0.0**
KURK						21 10 13.5		
KURK	**Kurchatov**	**8.27**	**1**	*e*Pn	**Pn**	**21 08 41.6**	**0.0**
KURK				Sn	**Sn**	**21 10 13.5**	**-1.5**
THN	**Thein Dam**	**10.22**	**193**	*e*P	**Pn**	**21 09 07.0**	**-1.5**
THN				*e*S	**Sn**	**21 11 08.2**	**+5.2**
BVA0	**Borovoye Array**	**11.86**	**336**	⇓Pn	**Pn**	**21 09 30.3**	**-0.6**
	comp=Z,17nm,0.9s,baz=148,slow=17,SNR=48							
BVA0				⇓Lg	Lg	21 12 59.8		
	comp=Z,105nm,1.0s							
BVA0	**Borovoye Array**	**11.86**	**336**	P	**Pn**	**21 09 30.3**	**-0.6**
BVA0				pmax	pmax			
	comp=Z,17nm,1.0s							
BVAR	**Borovoye Array**	**11.86**	**336**	Pn	**Pn**	**21 09 30.8**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=146,slow=14,SNR=41							
BVAR				Lg	Lg	21 13 01.3		
	comp=Z,2.7nm,0.3s,baz=148,slow=31,SNR=7.4							
BVAR				LR	LR	21 14 28.4		
	comp=Z,275nm,21.3s,baz=248,slow=39							
BRVK	**Borovoye**	**11.93**	**336**	*e*P	**Pn**	**21 09 31.8**	**+0.1**
BRVK				*e*		21 11 42.1		
BRVK				pmax	pmax			
	comp=Z,39nm,0.6s							
BRVK	**Borovoye**	**11.93**	**336**	*e*Pn	**Pn**	**21 09 31.8**	**+0.1**
	comp=Z,39nm,0.6s							
BRVK				*e*Sn	**Sn**	**21 11 42.1**	**-2.5**
ZALV	**Zalesovo Beam**	**12.27**	**18**	Pn	**Pn**	**21 09 37.2**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=205,slow=13,SNR=71							
ZALV				Sn	**Sn**	**21 11 49.8**	**-3.3**
	comp=Z,0.7nm,0.3s,baz=210,slow=20,SNR=6.0							
ZALV				LR	LR	21 14 45.2		
	comp=Z,86nm,18.8s,baz=248,slow=39							
CHKZ	**Chkalovo**	**12.37**	**338**	⇓Pn	**Pn**	**21 09 36.8**	**-1.0**
	comp=Z,8.8nm,0.8s							
CHKZ				⇑Lg	Lg	21 13 10.6		
	comp=Z,63nm,0.9s							
CHKZ	**Chkalovo**	**12.37**	**338**	P	**Pn**	**21 09 36.8**	**-1.0**
CHKZ				pmax	pmax			
	comp=Z,9.0nm,0.8s							
NVS	**Novosibirsk**	**12.80**	**13**	*e*P	**Pn**	**21 09 40.6**	**-3.1**
NVS				*e*S	**Sn**	**21 12 02.7**	**-3.3**
AB31	**Akbulak array**	**14.53**	**304**	⇑P	**Pn**	**21 10 06.7**	**-0.6**
	comp=Z,5.6nm,0.8s							
AB31	**Akbulak array**	**14.53**	**304**	P	**Pn**	**21 10 06.7**	**-0.6**
AB31				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ABKAR	**Akbulak array**	**14.53**	**304**	*e*Pn	**Pn**	**21 10 07.6**	**+0.3**
	comp=Z,3.4nm,0.5s							
ABKAR				*e*		21 13

ULN	**Ulaanbaatar**	**20.86**	**65**	*e*P		**P**	**21 11 24.2**	**+0.4**
	comp=Z,15nm,1.4s								
CD2	**Chengdu**	**23.29**	**111**	*e*P		**P**	**21 11 50.0**	**+0.4**
HHC	**Hu-ho-hao-te**	**24.75**	**82**	*e*P		**P**	**21 12 05.1**	**+1.6**
HHC				S		**S**	**21 16 27.5**	**+2.1**
HHC				PMZ					
	comp=Z,25nm,1.0s								
HHC				PMZ					
	comp=Z,57nm,4.3s								
HHC				LN					
	comp=Z,140nm,8.8s								
HHC				LE					
	comp=Z,150nm,12.0s								
HHC				LZ					
	comp=Z,82nm,11.0s								
WSAR	**Wadi Sarin**	**25.24**	**227**	LR		LR	21 23 37.9		
	comp=Z,79nm,20.1s,baz=91,slow=40								
GNI	**Garni**	**25.29**	**276**	LR		LR	21 23 12.7		
	comp=Z,38nm,21.4s,baz=71,slow=39								
KVAR	**Kislovodsk Arr**	**25.95**	**286**	LR		LR	21 22 31.7		
	comp=Z,27nm,20.9s,baz=134,slow=37								
CMAR	**Chiang Mai Arr**	**29.61**	**138**	P		**P**	**21 12 46.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=320,slow=9.1,SNR=8.6								
CMAR				LR		LR	21 26 22.4		
	comp=Z,48nm,18.6s,baz=355,slow=40								
OBN	**Obninsk**	**29.86**	**310**	LR		LR	21 25 19.3		
	comp=Z,80nm,18.4s,baz=88,slow=37								
BRTR	**Keskin Array B**	**33.55**	**281**	P		**P**	**21 13 23.4**	**+1.6**
	comp=Z,1.8nm,0.9s,baz=91,slow=7.8,SNR=11								
YAK	**Yakutsk**	**35.78**	**39**	LR		LR	21 29 20.5		
	comp=Z,39nm,20.3s,baz=254,slow=38								
FINES	**FINESS Array B**	**36.18**	**320**	P		**P**	**21 13 44.5**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=108,slow=12,SNR=6.0								
FINES				LR		LR	21 29 14.0		
	comp=Z,93nm,18.5s,baz=247,slow=37								
EIL	**Elat**	**36.98**	**264**	LR		LR	21 32 30.8		
	comp=Z,44nm,18.4s,baz=40,slow=42								
KLR	**Kul'dur**	**37.12**	**61**	LR		LR	21 29 49.9		
	comp=Z,62nm,19.3s,baz=258,slow=38								
KSRS	**Korea Array**	**37.86**	**81**	LR		LR	21 30 24.1		
	comp=Z,24nm,20.3s,baz=331,slow=38								
TIXI	**Tiksi**	**38.09**	**23**	*e*P		**P**	**21 14 00.6**	**+0.5**
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.8s								
TIXI	**Tiksi**	**38.09**	**23**	*e*P		**P**	**21 14 00.6**	**+0.5**
	comp=Z,2.4nm,0.8s								
ARCES	**ARCESS Array B**	**38.13**	**333**	P		**P**	**21 14 00.5**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=97,slow=10,SNR=8.2								
ARCES				LR		LR	21 30 43.6		
	comp=Z,36nm,21.2s,baz=92,slow=38								
JNU	**Nakatsue**	**41.93**	**85**	LR		LR	21 33 12.1		
	comp=Z,28nm,21.5s,baz=306,slow=38								
HFS	**Hagfors**	**42.23**	**318**	P		**P**	**21 14 35.3**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=98,slow=11,SNR=7.4								
DPC	**Dobruska-Polom**	**42.40**	**303**	*e*P		**P**	**21 14 38.1**	**+1.9**
DPC				*ex*		x	21 14 42.8		
DPC	**Dobruska-Polom**	**42.40**	**303**	*e*P		**P**	**21 14 38.1**	**+1.9**
DPC				*e*			21 14 42.8		
TREC	**Trest**	**43.20**	**302**	*e*P		**P**	**21 14 45.4**	**+2.8**
TREC	**Trest**	**43.20**	**302**	*e*P		**P**	**21 14 45.4**	**+2.8**
NB2	**NORSAR Subarra**	**43.35**	**319**	P		**P**	**21 14 43.7**	**0.0**
	comp=Z,1.0nm,0.6s,baz=85,slow=8.6								
NOA	**NORSAR Array B**	**43.35**	**319**	P		**P**	**21 14 43.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=84,slow=8.0,SNR=4.2								
PVCC	**Panska Ves**	**43.44**	**304**	*e*P		**P**	**21 14 45.9**	**+1.3**
PVCC	**Panska Ves**	**43.44**	**304**	*e*P		**P**	**21 14 45.9**	**+1.3**
PRU	**Pruhonice**	**43.60**	**303**	*e*P		**P**	**21 14 47.5**	**+1.6**
PRU	**Pruhonice**	**43.60**	**303**	*e*P		**P**	**21 14 47.5**	**+1.6**
CLL	**Collm**	**44.20**	**305**	*i* P		**P**	**21 14 51.3**	**+0.7**
	comp=Z,7.0nm,0.9s								
CLL				*i*			21 15 01.5		
CLL	**Collm**	**44.20**	**305**	*i* P		**P**	**21 14 51.3**	**+0.7**
CLL				*i*			21 15 01.5		
CLL				pmax		pmax			
	comp=Z,7.0nm,0.9s								
GERES	**GERESS Array B**	**44.45**	**301**	P		**P**	**21 14 52.9**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=60,slow=8.0,SNR=5.6								
MAJO	**Matsushiro**	**45.70**	**77**	*e*P		**P**	**21 15 01.0**	**-1.8**
MAJO				pmax		pmax			
	comp=Z,4.0nm,0.4s								
MAJO	**Matsushiro**	**45.70**	**77**	*e*P		**P**	**21 15 01.0**	**-1.8**
	comp=Z,4.2nm,0.4s								
MA2	**Magadan**	**46.14**	**42**	LR		LR	21 33 50.6		
	comp=Z,169nm,20.5s,baz=130,slow=35								
TGY	**Tagaytay City**	**46.22**	**115**	LR		LR	21 35 46.3		
	comp=Z,41nm,18.6s,baz=172,slow=38								
DAVOX	**Davos/Dischmat**	**47.56**	**300**	P		**P**	**21 15 16.2**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=125,slow=12,SNR=3.6								
EKA	**Eskdalemuir Ar**	**52.12**	**314**	P		**P**	**21 15 52.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=75,slow=8.2,SNR=4.4								
ESDC	**Sonseca Array**	**59.76**	**298**	P		**P**	**21 16 47.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=54,slow=7.4,SNR=3.7								
ILAR	**Eielson Array**	**67.39**	**19**	P		**P**	**21 17 36.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=335,slow=6.3,SNR=5.8								
ILAR				LR		LR	21 53 35.7		
	comp=Z,22nm,19.5s,baz=244,slow=42								
TORD	**Torodi Ar. Bea**	**71.47**	**271**	P		**P**	**21 18 02.3**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=28,slow=5.0,SNR=6.6								
WRA	**Warramunga Arr**	**80.62**	**128**	P		**P**	**21 18 54.4**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=332,slow=5.4,SNR=3.8								
ASAR	**Alice Springs**	**83.35**	**130**	P		**P**	**21 19 08.3**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=325,slow=5.6,SNR=3.7								

IDC 02 21:09:52.5±3.4, 55.85N×52.97E, h0km, mb1 3.1/2, mb1mx2.9/49, mbtmp3.2/2, ML2.0/2, Error ellipse: s-maj=80.3km s-min=14.2km az=5.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARU	**Arti**	**3.18**	**77**	Pn	Pn	21 10 43.7	0.0
	0.0nm,0.3s,baz=278,slow=19,SNR=3.9						
ARU				Pg	Pb	21 10 50.7	+0.8
	0.0nm,0.3s,baz=261,slow=12,SNR=13						
ARU				Lg	Lg	21 11 32.5	
	0.0nm,0.3s,baz=271,slow=21,SNR=3.8						
I31KZ	**AKTYUBINSK INF**	**6.24**	**149**	*i*		21 49 30.0	
	baz=331,slow=9,SNR=5.7						
I43RU	**DUBNA INFRASON**	**8.81**	**282**	*i*		21 59 05.0	
	baz=85,slow=320,SNR=11						
FINES	**FINESS Array B**	**15.01**	**303**	Pn	Pn	21 13 20.0	-5.6
	0.1nm,0.3s,baz=100,slow=16,SNR=3.9						
I46RU	**ZALESOVO INFRA**	**18.33**	**83**	*i*		23 24 40.0	
	baz=292,slow=303,SNR=4.6						
I26DE	**FREYUNG INFRAS**	**24.71**	**270**	*i*		23 37 00.0	
	baz=58,slow=310,SNR=2.2						

IDC 02 21:13:54.5±2.1, 56.53N×53.15E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.1/51, mbtmp3.5/4, ML2.3/3, Error ellipse: s-maj=60.9km s-min=11.2km az=14.0

ISC 02 21:13:55.0±1.8, 57.1N±0.4×53.2E±0.2, h10km, n8, σ0.51/5, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARU	**Arti**	**3.04**	**101**	Pn	**Pn**	**21 14 43.1**	**0.0**
	0.0nm,0.3s,baz=259,slow=16,SNR=5.5						
ARU				Pg	**Pb**	**21 14 49.6**	**+0.4**
	0.0nm,0.3s,baz=268,slow=18,SNR=21						
ARU				Lg	Lg	21 15 32.7	
	0.0nm,0.3s,baz=284,slow=22,SNR=6.6						
I31KZ	**AKTYUBINSK INF**	**7.30**	**155**	*i*		21 59 30.0	
	baz=332,slow=317,SNR=0.8						
I43RU	**DUBNA INFRASON**	**8.74**	**274**	*i*		22 11 27.1	
	baz=86,slow=242,SNR=6.6						
FINES	**FINESS Array B**	**14.46**	**299**	Pn	**Pn**	**21 17 19.6**	**+0.2**
	0.1nm,0.3s,baz=94,slow=13,SNR=2.6						
ARCES	**ARCESS Array B**	**17.37**	**327**	Pn	**Pn**	**21 17 57.0**	**-0.1**
	0.1nm,0.3s,baz=122,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**20.54**	**108**	P	**P**	**21 18 32.8**	**-0.6**
	0.5nm,0.6s,baz=309,slow=9.2,SNR=2.3						
HFS	**Hagfors**	**20.56**	**295**	P	Pn	21 18 37.6	+1.8
	2.3nm,0.9s,baz=97,slow=12,SNR=5.3						
I26DE	**FREYUNG INFRAS**	**24.84**	**268**	*i*		23 51 50.0	
	baz=58,slow=310,SNR=1.2						

MEX 02 21:20:03.1±0.5, 14.32N×92.49W, h20km±57km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.54**	**333**	*e*P	Pn	21 20 26.2	-3.2
PCIG				*i* S	Sn	21 20 46.0	-3.0

TEH 02 21:24:24.3, 27.22N×52.29E, h18km, ML3.3
ISCJB 02 21:24:27.6±0.6, 27.42N±0.04×52.43E±0.06, h14km, mb3.7/12, Error ellipse: s-maj=8.9km s-min=4.2km az=141.8
CSEM 02 21:24:30.2±0.5, 27.46N×52.50E, h15km, ML3.8, Error ellipse: s-maj=14.5km s-min=5.1km az=62.0
IDC 02 21:24:32.8±3.2, 27.42N×52.51E, h44km±36km, mb3.5/11, mb1 3.6/14, mb1mx3.4/54, mbtmp3.7/14, ML3.4/3, Error ellipse: s-maj=29.9km s-min=19.9km az=175.0
OMAN 02 21:24:33.3±0.0, 27.53N×52.76E, h18km, Error ellipse: s-maj=11.4km s-min=5.0km az=43.0
DSN 02 21:24:33.3±1.3, 27.49N×52.82E, h15km, ML3.8, Error ellipse: s-maj=21.2km s-min=7.7km az=5.0

ISC 02 21:24:29.2±0.8, 27.43N±0.07×52.50E±0.07, h14km, n60, σ1.33/66, mb3.6/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**3.27**	**90**	*e*Pn	**Pn**	**21 25 20.5**	**+0.3**
IBND	**Bandar-abas**	**3.59**	**89**	*e*Pn	Pn	21 25 14.9	-10
BANOM	**Banah**	**3.72**	**113**	*i* P	**Pn**	**21 25 27.2**	**+0.9**
	SNR=23						
BANOM				S	**Sn**	**21 26 08.8**	**-1.2**
BANOM	**Banah**	**3.72**	**113**	P	**Pn**	**21 25 27.3**	**+1.0**
	SNR=23						
BANOM				S	**Sn**	**21 26 10.4**	**+0.4**
BANOM	**Banah**	**3.72**	**113**	P	**Pn**	**21 25 27.3**	**+1.0**
	SNR=23						
BANOM				S	**Sn**	**21 26 08.8**	**-1.2**
NAZ	**Nazwa, Dubai**	**3.74**	**130**	*i* P	**Pn**	**21 25 28.2**	**+1.6**
	SNR=16						
NAZ	**Nazwa, Dubai**	**3.74**	**130**	P	**Pn**	**21 25 28.8**	**+2.2**
	SNR=16						
NAZ				S	**Sn**	**21 26 12.0**	**+1.5**
	SNR=6.9						
NAZ	**Nazwa, Dubai**	**3.74**	**130**	P	**Pn**	**21 25 28.2**	**+1.6**
	SNR=16						
NAZ				S	**Sn**	**21 26 12.0**	**+1.5**
	SNR=6.9						
NIAN	**Nian**	**3.85**	**87**	*e*Pn	**Pn**	**21 25 28.5**	**+0.3**
NIAN	**Nian**	**3.85**	**87**	*e*Pn	**Pn**	**21 25 28.5**	**+0.3**
FAQ	**Al Faqa, Dubai**	**3.86**	**133**	*i* P	**Pn**	**21 25 31.0**	**+2.7**
	SNR=16						
FAQ	**Al Faqa, Dubai**	**3.86**	**133**	P	**Pn**	**21 25 31.0**	**+2.7**
	SNR=16						
UOSS	**Minazif**	**4.15**	**126**	P	**Pn**	**21 25 32.9**	**+0.7**
ASHO	**Ashiyiah**	**4.21**	**130**	*i* P	**Pn**	**21 25 34.3**	**+1.2**
	SNR=22						
ASHO	**Ashiyiah**	**4.21**	**130**	P	**Pn**	**21 25 34.4**	**+1.2**
	SNR=22						
ASHO				S	**Sn**	**21 26 20.9**	**-1.3**
	SNR=6.1						
ASHO	**Ashiyiah**	**4.21**	**130**	P	**Pn**	**21 25 34.3**	**+1.2**
	SNR=22						
ASHO				S	**Sn**	**21 26 20.9**	**-1.3**
	SNR=6.1						
NGRK	**Negar Kerman**	**4.33**	**58**	*e*Pn	Pn	21 25 25.3	-10
IMEH	**Mehriz**	**4.35**	**25**	*e*Pn	**Pn**	**21 25 37.0**	**+1.8**
IMEH				*e*AMB	AMB	21 25 39.1	
	comp=Z,680nm,0.1s						
IMEH	**Mehriz**	**4.35**	**25**	*e*Pn	**Pn**	**21 25 37.0**	**+1.8**
IRAM	**Ramesheh**	**4.36**	**359**	*e*Pn	**Pn**	**21 25 35.5**	**+0.2**
IRAM				*e*AMB	AMB	21 26 05.1	
	comp=Z,162nm,0.3s						
IRAM	**Ramesheh**	**4.36**	**359**	*e*Pn	**Pn**	**21 25 35.5**	**+0.2**
KRBR	**Kerman**	**4.53**	**55**	*e*Pn	**Pn**	**21 25 38.4**	**+0.8**
TVBK	**TV Kerman**	**4.53**	**55**	*e*Pn	**Pn**	**21 25 39.2**	**+1.5**
TVBK	**TV Kerman**	**4.53**	**55**	*e*Pn	**Pn**	**21 25 39.2**	**+1.5**
KHGB	**Koh Gabri**	**4.56**	**49**	*e*Pn	**Pn**	**21 25 38.9**	**+0.9**
KHGB	**Koh Gabri**	**4.56**	**49**	*e*Pn	**Pn**	**21 25 38.9**	**+0.9**
ISAD	**Sadrabad**	**4.58**	**13**	*e*Pn	**Pn**	**21 25 40.0**	**+1.6**
ISAD				*e*AMB	AMB	21 25 42.7	
	comp=Z,273nm,0.1s						
ISAD	**Sadrabad**	**4.58**	**13**	*e*Pn	**Pn**	**21 25 40.0**	**+1.6**
IBAF	**Bafgh**	**4.93**	**32**	*e*Pn	**Pn**	**21 25 44.3**	**+1.2**
IBAF				*e*AMB	AMB	21 25 44.7	
	comp=Z,2μm,0.1s						
IBAF	**Bafgh**	**4.93**	**32**	*e*Pn	**Pn**	**21 25 44.3**	**+1.2**
IGAR	**Gharneh**	**4.97**	**356**	*e*Pn	**Pn**	**21 25 44.7**	**+1.0**
IGAR				*e*AMB	AMB	21 26 14.9	
	comp=Z,146nm,0.1s						
CHMN	**Cheshme madani**	**5.05**	**60**	*e*Pn	**Pn**	**21 25 46.4**	**+1.5**
CHMN	**Cheshme madani**	**5.05**	**60**	*e*Pn	**Pn**	**21 25 46.4**	**+1.5**
ICHK	**Chekchek**	**5.07**	**19**	*e*Pn	**Pn**	**21 25 46.7**	**+1.6**
ICHK	**Chekchek**	**5.07**	**19**	*e*Pn	**Pn**	**21 25 46.7**	**+1.6**
NASN	**Na'in**	**5.36**	**3**	*e*Pn	**Pn**	**21 25 49.0**	**-0.1**
IPIR	**Pirpir**	**5.42**	**346**	*e*Pn	**Pn**	**21 25 50.0**	**+0.1**
IPIR				*e*AMB	AMB	21 26 54.9	
	comp=Z,214nm,0.3s						
IPIR	**Pirpir**	**5.42**	**346**	*e*Pn	**Pn**	**21 25 50.0**	**+0.1**
IZEF	**Zefreh**	**5.45**	**359**	*e*Pn	**Pn**	**21 25 50.1**	**-0.2**
IZEF				*e*AMB	AMB	21 26 23.7	
	comp=Z,94nm,0.1s						
IZEF	**Zefreh**	**5.45**	**359**	*e*Pn	**Pn**	**21 25 50.1**	**-0.2**
IKLH	**Kolahrood**	**5.92**	**353**	*e*Pn	**Pn**	**21 25 56.4**	**-0.4**
IKLH				*e*AMB	AMB	21 26 09.1	
	comp=Z,130nm,0.1s						
IKLH	**Kolahrood**	**5.92**	**353**	*e*Pn	**Pn**	**21 25 56.4**	**-0.4**
WSAR	**Wadi Sarin**	**6.94**	**126**	P	**Pn**	**21 26 11.4**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=312,slow=8.2,SNR=12						
WSAR				S	**Sn**	**21 27 24.7**	**-4.8**
	comp=Z,1.8nm,0.3s,baz=358,slow=23,SNR=3.9						
TABS	**Tabas**	**7.37**	**32**	*e*Pn	**Pn**	**21 26 16.7**	**+0.2**
ITEG	**Tejag**	**7.68**	**43**	*e*Pn	**Pn**	**21 26 20.0**	**-0.8**
ITEG	**Tejag**	**7.68**	**43**	*e*Pn	**Pn**	**21 26 20.0**	**-0.8**
GEYT	**Alibeck**	**11.48**	**23**	P	**Pn**	**21 27 14.2**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=194,slow=15,SNR=3.7						
BRTR	**Keskin Array B**	**19.88**	**313**	P	**Pn**	**21 29 01.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=131,slow=14,SNR=7.4						
AAK	**Ala-Archa**	**23.45**	**44**	P	**P**	**21 29 41.0**	**+2.6**
	comp=Z,0.5nm,0.2s,baz=239,slow=12,SNR=2.5						
BVAR	**Borovoye Array**	**28.82**	**23**	P	**P**	**21 30 25.9**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=214,slow=7.2,SNR=6.3						
AKASG	**Malin Array Be**	**29.20**	**329**	P	**P**	**21 30 30.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=122,slow=6.9,SNR=4.7						
MKAR	**Makanchi Array**	**30.35**	**42**	P	**P**	**21 30 40.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=230,slow=9.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**30.46**	**33**	P	**P**	**21 30 41.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=233,slow=9.0,SNR=6.5						
ZALV	**Zalesovo Beam**	**35.55**	**33**	P	**P**	**21 31 25.1**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=238,slow=9.6,SNR=7.2						
FINES	**FINESS Array B**	**38.34**	**340**	P	**P**	**21 31 48.7**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=144,slow=8.2,SNR=4.6						
HFS	**Hagfors**	**41.98**	**332**	P	**P**	**21 32 19.5**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=115,slow=10.0,SNR=6.2						
NOA	**NORSAR Array B**	**43.50**	**332**	P	**P**	**21 32 31.2**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=121,slow=8.3,SNR=2.8						
ARCES	**ARCESS Array B**	**44.97**	**347**	P	**P**	**21 32 43.6**	**0.0**
	comp=Z,1.5nm,0.8s,baz=128,slow=9.9,SNR=5.5						
SONM	**Songino Array**	**46.25**	**49**	P	**P**	**21 32 54.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=260,slow=7.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**49.40**	**264**	P	**P**	**21 33 18.4**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=58,slow=7.4,SNR=5.2						

MEX 02 21:29:03.0±0.5, 16.49N×93.79W, h88km±75km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.96**	**145**	*e*P	Pn	21 29 20.8	-1.3
PCIG				*i* S	Sn	21 29 34.6	-1.7

DDA 02 21:37:40.3, 39.14N×28.98E, h14km, Md3.2
ISK 02 21:37:40.8, 39.14N×28.98E, h6km, MD2.9
CSEM 02 21:37:41.5±0.1, 39.13N×29.00E, h10km, MD3.2, Error ellipse: s-maj=3.1km s-min=2.9km az=166.0

ISC 02 21:37:40.8±0.9, 39.14N±0.02×28.98E±0.02, h11km±7km, n75, σ0.54/104, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**244**	P	**Pg**	**21 37 45.7**	**+0.1**
DEMI				S	**Sg**	**21 37 49.0**	**+0.1**
DEMI	**Demirci**	**0.23**	**244**	*i* P	**Pg**	**21 37 45.7**	**+0.1**
DEMI				*i* S	**Sg**	**21 37 49.0**	**+0.1**
GDZ	**Gediz**	**0.40**	**98**	P	**Pg**	**21 37 48.4**	**-0.3**
GDZ				S	**Sg**	**21 37 52.7**	**-0.3**
GDZ	**Gediz**	**0.40**	**98**	*i* P	**Pg**	**21 37 48.4**	**-0.3**
GDZ				*i* S	**Sg**	**21 37 53.7**	**-0.3**
TVSB	**Tavsanli**	**0.48**	**51**	*e*PG	**Pg**	**21 37 50.2**	**-0.2**
TVSB				*e*SG	**Sg**	**21 37 57.5**	**+0.6**
TVSB	**Tavsanli**	**0.48**	**51**	*e*Pg	**Pg**	**21 37 50.2**	**-0.2**
TVSB				*e*Sg	**Sg**	**21 37 57.5**	**+0.6**
DST	**Dursunbey**	**0.54**	**329**	*e*PG	**Pg**	**21 37 51.6**	**+0.2**
DST	**Dursunbey**	**0.54**	**329**	*e*Pg	**Pg**	**21 37 51.6**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**202**	*e*PG	**Pg**	**21 37 53.7**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**202**	*e*Pg	**Pg**	**21 37 53.7**	**-0.2**
KHAL	**Karahalli**	**0.87**	**152**	P	**Pg**	**21 37 57.1**	**-0.5**
KHAL				S	**Sg**	**21 38 08.4**	**-0.6**
KHAL	**Karahalli**	**0.87**	**152**	*i* P	**Pg**	**21 37 57.1**	**-0.5**
KHAL				*i* S	**Sg**	**21 38 08.4**	**-0.6**
ORLT	**Orhaneli**	**0.90**	**356**	*e*PG	**Pb**	**21 37 58.5**	**-0.1**
ORLT	**Orhaneli**	**0.90**	**356**	*e*Pg	**Pb**	**21 37 58.5**	**-0.1**
KHL	**Karahalli**	**0.92**	**152**	*e*PG	**Pg**	**21 37 58.7**	**0.0**
KHL	**Karahalli**	**0.92**	**152**	*e*Pg	**Pg**	**21 37 58.7**	**0.0**
AKHS	**Akhisar**	**0.94**	**254**	P	**Pb**	**21 37 59.3**	**+0.1**
AKHS				S	**Sb**	**21 38 12.3**	**+0.6**
AKHS	**Akhisar**	**0.94**	**254**	*i* P	**Pb**	**21 37 59.4**	**+0.1**
AKHS				*i* S	**Sb**	**21 38 12.3**	**+0.6**
AKS	**Akhisar**	**0.94**	**254**	*e*PG	**Pn**	**21 37 59.9**	**-0.1**
AKS				*e*SG	**Sb**	**21 38 12.8**	**+1.1**
AKS	**Akhisar**	**0.94**	**254**	*e*Pg	**Pn**	**21 37 59.9**	**-0.1**
AKS				*e*Sg	**Sb**	**21 38 12.8**	**+1.1**
BALB	**Balikesir**	**0.98**	**301**	*e*PG	**Pn**	**21 38 00.8**	**+0.2**
BALB				*e*SG	**Sn**	**21 38 14.0**	**-0.4**
BALB	**Balikesir**	**0.98**	**301**	*e*Pg	**Pn**	**21 38 00.8**	**+0.2**
BALB				*e*Sg	**Sn**	**21 38 14.0**	**-0.4**
IGD	**Bursa**	**1.13**	**9**	*i* P	**Pb**	**21 38 01.1**	**-1.3**
IGD				*i* S	**Sb**	**21 38 17.3**	**+0.1**
BALY	**Balya**	**1.21**	**300**	P	**Pg**	**21 38 04.3**	**+0.2**
BALY	**Balya**	**1.21**	**300**	*i* P	**Pg**	**21 38 04.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.22**	**337**	*e*PN	**Pg**	**21 38 04.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.22**	**337**	*e*Pn	**Pg**	**21 38 04.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.23**	**357**	*e*PN	**Pg**	**21 38 04.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.23**	**357**	*e*Pn	**Pg**	**21 38 04.3**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**32**	*e*PN	**Pg**	**21 38 05.4**	**+0.5**
CAVI	**Cavuskoy**	**1.25**	**32**	*e*Pn	**Pg**	**21 38 05.4**	**+0.5**
IZI	**Iznik**	**1.25**	**18**	*e*PN	**Pg**	**21 38 05.7**	**+0.7**
IZI	**Iznik**	**1.25**	**18**	*e*Pn	**Pg**	**21 38 05.7**	**+0.7**
GEMT	**Gemlik**	**1.30**	**7**	*e*PN	**Pg**	**21 38 06.7**	**+0.8**
GEMT	**Gemlik**	**1.30**	**7**	*e*Pn	**Pg**	**21 38 06.7**	**+0.8**
BORA	**Eskisehir**	**1.36**	**57**	P	**Pb**	**21 38 06.3**	**0.0**
BORA				S	**Sg**	**21 38 25.1**	**+0.5**
BORA	**Eskisehir**	**1.36**	**57**	*i* P	**Pb**	**21 38 06.3**	**0.0**
BORA				*i* S	**Sg**	**21 38 25.1**	**+0.5**
ADVT	**Abdulvahap**	**1.42**	**24**	*e*PN	**Pg**	**21 38 08.2**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**24**	*e*Pn	**Pg**	**21 38 08.2**	**+0.2**
ARMT	**Armutlu**	**1.42**	**356**	*e*PN	**Pb**	**21 38 07.5**	**+0.1**
ARMT	**Armutlu**	**1.42**	**356**	*e*Pn	**Pb**	**21 38 07.5**	**+0.1**
DNZL	**Cakiroluk**	**1.45**	**178**	P	**Pb**	**21 38 07.7**	**-0.2**
DNZL				S	**Sg**	**21 38 27.7**	**+0.1**
DNZL	**Cakiroluk**	**1.45**	**178**	*i* P	**Pb**	**21 38 07.8**	**-0.2**
DNZL				*i* S	**Sg**	**21 38 27.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**216**	*e*PN	**Pg**	**21 38 09.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**216**	*e*Pn	**Pg**	**21 38 09.4**	**+0.4**
EDC	**Edincik**	**1.48**	**325**	*e*PN	**Pb**	**21 38 08.8**	**+0.5**
EDC	**Edincik**	**1.48**	**325**	*e*Pn	**Pb**	**21 38 08.8**	**+0.5**
ESKT	**Eskisehir**	**1.50**	**75**	*e*PN	**Pb**	**21 38 09.0**	**+0.2**
ESKT	**Eskisehir**	**1.50**	**75**	*e*Pn	**Pb**	**21 38

PCIG		**1.12**	**154**	*e*P	Pn	21 55 54.1	-2.3
PCIG				*e*S	Sn	21 56 10.3	-0.8

IDC 02 22:00:45.8±428.0, 55°96N×53°06E, h0km, Error ellipse: s-maj=150.8km s-min=123.3km az=141.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.32**	**150**	*i*		22 40 00.0	
	baz=334,slow=315,SNR=0.2						
I43RU	**DUBNA INFRASON**	**8.84**	**281**	*i*		22 50 20.0	
	baz=85,slow=322,SNR=7.5						
I42PT	**GRACIOSA ISLAN**	**54.07**	**288**	*i*		03 38 00.0	
	baz=46,slow=374,SNR=0.4						

ISCJB ***02*** *22:04:58.7±0.7, 50°25N±0°05×19°20E±0°04, h0km, Error ellipse: s-maj=6.9km s-min=3.1km az=10.2*
CSEM ***02*** *22:04:59.7±0.4, 50°24N×19°26E, h1km, ML2.5/4, Error ellipse: s-maj=8.9km s-min=4.1km az=7.0*
PRU ***02*** *22:05:00.6, 50°23N×19°25E, h0km*

ISC 02 22:04:59.9±1.0, 50°18N±0°06×19°23E±0°02, h0km, n24, σ0s85/35, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.37**	**83**	*e*Pg	**Pg**	**22 05 06.4**	**-0.5**
OJC				*e*Sg	**Sg**	**22 05 11.0**	**-0.7**
OJC	**Ojcow**	**0.37**	**83**	*e*Pg	**Pg**	22 05 06.4	-0.5
OJC				*e*Sg	**Sg**	22 05 11.0	-0.7
OKC	**Ostrava-Krasne**	**0.78**	**244**	*e*PG	**Pn**	22 05 17.2	-0.9
OKC				*e*SG	**Sb**	22 05 27.8	+0.4
	5.4nm,0.3s						
OKC	**Ostrava-Krasne**	**0.78**	**244**	Pg	**Pn**	22 05 17.2	-0.9
OKC				Sg	**Sb**	22 05 27.8	+0.4
	5.4nm,0.3s						
LANS	**Liptovska Anna**	**1.04**	**171**	*e*Pg	**Pb**	**22 05 20.8**	**0.0**
LANS				*e*Sg	**Sb**	**22 05 36.0**	**+1.1**
LANS	**Liptovska Anna**	**1.04**	**171**	*e*PG	**Pb**	22 05 20.8	0.0
LANS				*e*SG	**Sb**	22 05 36.0	+1.1
MORC	**Moravsky Berou**	**1.16**	**250**	*e*Pg	**Pn**	22 05 23.3	-0.1
MORC				*e*Sg	**Sn**	22 05 39.6	-0.4
STHS	**Stebnicka Huta**	**1.51**	**120**	*e*Sn	**Sn**	**22 05 49.9**	**+1.3**
STHS	**Stebnicka Huta**	**1.51**	**120**	*e*SN	**Sn**	22 05 49.9	+1.3
VYHS	**Vyhne**	**1.71**	**189**	*e*Pn	**Pn**	**22 05 30.8**	**-0.1**
VYHS				*e*Sn	**Sn**	22 05 52.8	-0.6
VYHS	**Vyhne**	**1.71**	**189**	*e*PN	**Pn**	22 05 30.8	-0.1
VYHS				*e*SN	**Sn**	22 05 52.8	-0.6
VYHS				eLg	Lg	22 05 56.3	
DPC	**Dobruska-Polom**	**1.88**	**276**	*e*PG	**Pg**	**22 05 35.1**	**-0.7**
DPC				*e*SG	**Sg**	**22 06 00.4**	**+0.3**
	4.4nm,0.4s						
DPC	**Dobruska-Polom**	**1.88**	**276**	Pg	**Pg**	22 05 35.1	-0.7
DPC				Sg	**Sg**	22 06 00.4	+0.3
	4.4nm,0.4s						
VRAC	**Vranov**	**1.92**	**244**	*e*Sg	**Sg**	**22 06 02.1**	**+0.6**
UPC	**Upice**	**2.09**	**280**	*e*SG	**Sg**	**22 06 08.7**	**+1.8**
UPC	**Upice**	**2.09**	**280**	Sg	**Sg**	**22 06 08.7**	**+1.8**
TREC	**Trest**	**2.58**	**251**	*e*SG	**Sg**	**22 06 22.5**	**-0.4**
TREC	**Trest**	**2.58**	**251**	Sg	**Sg**	**22 06 22.5**	**-0.4**
GOPC	**GO Pecny, Ondr**	**2.88**	**266**	*e*SG	**Sg**	**22 06 31.7**	**-0.5**
GOPC	**GO Pecny, Ondr**	**2.88**	**266**	Sg	**Sg**	**22 06 31.7**	**-0.5**
PVCC	**Panska Ves**	**3.01**	**278**	*e*SG	**Sg**	**22 06 37.8**	**+1.4**
	4.3nm,0.3s						
PVCC	**Panska Ves**	**3.01**	**278**	Sg	**Sg**	**22 06 37.8**	**+1.4**
	4.3nm,0.3s						
PRU	**Pruhonice**	**3.03**	**268**	*e*SG	**Sg**	**22 06 36.5**	**-0.5**
	1.6nm,0.4s						
PRU	**Pruhonice**	**3.03**	**268**	Sg	**Sg**	**22 06 36.5**	**-0.5**
	1.6nm,0.4s						

ISCJB ***02*** *22:08:40.8±0.3, 27°28S±0°05×177°45W±0°06, h100km, mb5.0/31, Error ellipse: s-maj=8.8km s-min=5.7km az=27.5*
IDC ***02*** *22:08:41.6±2.9, 27°13S×177°30W, h102km±24km, mb4.0/8, mb1 4.3/9, mb1mx3.9/33, mbtmp4.4/9, MS3.3/3, Ms1 3.4/3, ms1mx3.0/29, Error ellipse: s-maj=26.5km s-min=18.9km az=19.0*
BJI ***02*** *22:08:43.7, 27°72S×178°39W, h105km, mb5.2/10, mB5.2/9*
NEIC ***02*** *22:08:44.1±0.7, 27°29S×177°46W, h122km±6km, mb4.9/24, Error ellipse: s-maj=7.2km s-min=4.9km az=120.0*

ISC 02 22:08:42.1±0.4, 27°24S±0°05×177°36W±0°08, h100km, n72, σ1s59/82, mb4.9/31, 1C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.06**	**194**	P	**Pn**	**22 09 16.1**	**+0.6**
	310nm,0.3s,baz=81,slow=7.2,SNR=10						
RAO				S	**Sn**	**22 09 43.8**	**+2.9**
	1µm,0.3s,baz=6.3,slow=23,SNR=28						
MSVF	**Nonsavu**	**10.37**	**335**	*e*Pn	**Pn**	**22 11 09.7**	**+1.7**
URZ	**Urewera**	**11.93**	**202**	*e*Pn	**Pn**	**22 11 28.4**	**-0.3**
BKZ	**Black Stump Fm**	**12.95**	**202**	*e*Pn	**Pn**	**22 11 42.9**	**+0.5**
AFI	**Afiamalu**	**14.25**	**23**	*e*Pn	**P**	**22 12 02.5**	**-1.2**
BFZ	**Birch Farm**	**14.41**	**200**	*e*Pn	**Pn**	**22 12 01.1**	**-0.1**
DZM	**Mont Dzumac**	**15.60**	**286**	LR	LR	22 17 21.3	
	comp=Z,30nm,18.8s,baz=206,slow=33						
RAR	**Rarotonga**	**17.12**	**73**	LR	LR	22 18 28.0	
	comp=Z,86nm,19.4s,baz=122,slow=34						
RAR	**Rarotonga**	**17.12**	**73**	*e*P	**P**	**22 12 36.8**	**+1.5**
	224nm,2.0s						
CRLZ	**Canterbury Las**	**18.20**	**204**	*e*P	**P**	**22 12 46.7**	**-0.4**
	127nm,1.5s						
FOZ	**Fox Glacier**	**19.29**	**209**	*e*P	**P**	**22 12 59.3**	**+0.4**
	112nm,1.8s						
LBZ	**Lake Benmore**	**19.83**	**207**	*e*P	**P**	**22 13 04.2**	**-0.6**
	39nm,1.4s						
DCZ	**Deep Cove**	**21.98**	**210**	*e*P	**P**	**22 13 27.5**	**-0.4**
	86nm,1.9s						
PYZ	**Puysegur Point**	**22.74**	**210**	*e*P	**P**	**22 13 36.1**	**+0.5**
	96nm,1.2s						
CTA	**Charters Tower**	**33.99**	**274**	P	**P**	**22 15 17.6**	**+1.1**
	8.0nm,0.7s,baz=99,slow=11,SNR=12						
CTAO	**Charters Tower**	**33.99**	**274**	*e*P	**P**	**22 15 15.8**	**-0.7**
	8.9nm,0.6s						
XMAS	**Kiritimati**	**34.87**	**37**	*e*P	**P**	**22 15 25.3**	**+1.3**
	98nm,1.1s						
STKA	**Stephens Creek**	**35.85**	**253**	P	**P**	**22 15 32.3**	**0.0**
	3.3nm,0.8s,baz=101,slow=13,SNR=5.3						
KWAJ	**Kwajalein Atol**	**38.68**	**336**	*e*P	**P**	**22 15 56.2**	**0.0**
	197nm,1.1s						
AS01	**Alice Springs**	**43.90**	**263**	*e*P	**P**	**22 16 37.7**	**-1.3**
AS31	**Alice Springs**	**43.94**	**263**	*e*P	**P**	**22 16 38.5**	**-0.9**
	1.1nm,0.6s						
ASAR	**Alice Springs**	**43.94**	**263**	P	**P**	**22 16 38.5**	**-0.9**
	4.7nm,0.9s,baz=92,slow=7.0,SNR=34						
WB2	**Warramunga Arr**	**44.63**	**269**	*e*P	**P**	**22 16 44.0**	**-0.9**
	8.5nm,0.7s						
WRAB	**Tennant Creek**	**44.64**	**269**	*e*P	**P**	**22 16 44.0**	**-1.0**
	8.0nm,0.7s						
WRA	**Warramunga Arr**	**44.64**	**269**	P	**P**	**22 16 44.0**	**-1.0**
	6.8nm,0.6s,baz=108,slow=7.6,SNR=61						
UWE	**Uwekahuna**	**51.08**	**27**	*e*P	**P**	**22 17 35.7**	**+1.0**
	239nm,1.3s						
SBA	**Scott Base**	**51.22**	**184**	*e*P	**P**	**22 17 35.8**	**+0.9**
	18nm,1.2s						
VNDA	**Vanda**	**51.28**	**186**	P	**P**	**22 17 36.1**	**+0.7**
	2.4nm,0.7s,baz=6.4,slow=6.6,SNR=19						
VNDA	**Vanda**	**51.28**	**186**	*e*P	**P**	**22 17 36.4**	**+1.1**
	17nm,1.6s						
OPA	**Opana**	**52.12**	**23**	*e*P	**P**	**22 17 43.3**	**+1.0**
	514nm,1.9s						
SAUI	**Saumlaki**	**52.15**	**282**	*e*P	**P**	**22 17 41.4**	**-1.3**
	291nm,0.9s						
MIDW	**Midway**	**55.14**	**360**	*e*P	**P**	**22 18 04.8**	**+0.6**
	238nm,1.7s						
SOEI	**Soe**	**57.53**	**276**	*e*P	**P**	**22 18 20.7**	**-1.0**
	22nm,1.0s						
CASY	**Casey**	**58.19**	**207**	*e*P	**P**	**22 18 24.1**	**-1.2**
	10nm,0.8s						
RPN	**Rapa Nui**	**59.77**	**107**	*e*P	**P**	**22 18 37.2**	**+0.3**
	1µm,1.4s						
QSPA	**South Pole Qui**	**62.85**	**180**	*e*P	**P**	**22 18 57.2**	**0.0**
	75nm,0.8s						
SYO	**Syowa Base**	**80.31**	**193**	↑*e*P	**P**	**22 20 39.4**	**-2.2**
SYO	**Syowa Base**	**80.31**	**193**	↓*e*X	**P**	**22 20 43.6**	**+2.0**
SNAA	**Sanae**	**81.28**	**178**	P	**P**	**22 20 46.0**	**-1.0**
SNAA	**Sanae**	**81.28**	**178**	*e*P	**P**	**22 20 45.8**	**-1.1**
	11nm,0.8s						

VNA1	**Neumayer--Stat**	**82.07**	**176**	P	**P**	**22 20 50.3**	**-0.7**
BKNI	**Bangkinang**	**82.68**	**274**	*e*P	**P**	**22 20 54.3**	**-0.8**
BKNI				*es*P	**sP**	**22 21 37.9**	**+6.0**
PLCA	**Paso Flores**	**84.24**	**133**	P	**P**	**22 21 02.0**	**-0.8**
	1.8nm,0.7s,baz=264,slow=2.6,SNR=3.7						
NV01	**Mina Array Sit**	**85.54**	**43**	*e*P	**P**	**22 21 08.2**	**-1.1**
NVAR	**Mina Array Bea**	**85.54**	**43**	P	**P**	**22 21 08.5**	**-0.8**
	1.8nm,0.9s,baz=216,slow=7.6,SNR=6.1						
NVAR				LR	LR	22 54 18.8	
	comp=Z,66nm,18.1s,baz=260,slow=32						
WHN	**Wuhan**	**86.92**	**307**	↓P	**P**	**22 21 18.5**	**+2.5**
LCMT	**Little Creek M**	**87.81**	**46**	*e*P	**P**	**22 21 20.8**	**+0.4**
	9.3nm,0.8s						
CCUT	**Cedar City**	**88.06**	**46**	*e*P	**P**	**22 21 22.9**	**+1.3**
	5.2nm,0.8s						
MTPU	**Mount Pierson**	**89.10**	**46**	*e*P	**P**	**22 21 24.9**	**-1.7**
	6.1nm,0.8s						
MTPU				*e*PP	**PP**	**22 24 59.1**	**+0.7**
MNTX	**Cornudas Mount**	**90.19**	**54**	*e*P	**P**	**22 21 32.1**	**+0.6**
	8.6nm,0.8s						
Q16A	**Castle Valley**	**90.25**	**46**	*e*P	**P**	**22 21 32.8**	**+1.0**
	8.9nm,1.0s						
NLU	**North Lily Min**	**90.29**	**44**	*e*P	**P**	**22 21 32.0**	**0.0**
	231nm,1.4s						
GYA	**Guiyang**	**90.48**	**300**	*e*P	**P**	**22 21 33.0**	**-0.1**
GYA				pP	pP	22 22 04.6	+5.2
GYA				PP	**PP**	**22 25 12.4**	**+3.0**
GYA				SKS	**SKSac**	**22 31 52.8**	**-2.9**
GYA				S	**S**	**22 32 16.0**	**-4.2**
GYA				PMZ			
	10.0nm,1.0s						
KMI	**Kunming**	**92.91**	**297**	P	**P**	**22 21 43.5**	**-1.0**
KMI				PMZ			
	2.0nm,0.5s						
REDW	**Red Top Meadow**	**93.02**	**42**	*e*P	**P**	**22 21 45.4**	**+0.8**
REDW				*e*PP	**PP**	**22 25 26.1**	**-3.1**
PDAR	**Pinedale Array**	**93.46**	**43**	P	**P**	**22 21 45.6**	**-1.0**
	0.5nm,0.7s,baz=191,slow=3.0,SNR=4.0						
HHC	**Hu-ho-hao-te**	**94.46**	**314**	*e*P	**P**	**22 21 53.0**	**+1.9**
HHC				PP	**PP**	**22 25 42.2**	**+1.9**
HHC				S	**S**	**22 32 53.8**	**-1.2**
HHC				PMZ			
	18nm,0.9s						
HHC				PMZ			
	81nm,4.2s						
CD2	**Chengdu**	**94.89**	**302**	*e*P	**P**	**22 21 53.5**	**+0.3**
CD2				pP	pP	22 22 24.0	+4.4
CD2				sP	sP	22 22 36.6	+6.4
CD2				SKS	**SKSac**	**22 32 17.6**	**-2.2**
CD2				S	**S**	**22 32 57.6**	**-1.5**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
LZH	**Lanzhou**	**97.29**	**307**	*e*P	**P**	**22 22 04.5**	**+0.3**
LZH				pP	pP	22 22 35.3	+4.7
LZH				sP	sP	22 22 49.0	+7.8
LZH				PP	**PP**	**22 26 05.6**	**+3.2**
LZH				PMZ			
	18nm,1.5s						
LZH				PMZ			
	76nm,9.6s						
MKAR	**Makanchi Array**	**116.16**	**311**	PKP	**PKPdf**	**22 27 10.8**	**-2.7**
	0.2nm,0.3s,baz=66,slow=2.9,SNR=6.1						
ARU	**Arti**	**130.98**	**322**	PKP	**PKPdf**	**22 27 39.6**	**-1.9**
	1.5nm,0.5s,baz=117,slow=6.8,SNR=4.0						
GEYT	**Ailbeck**	**132.67**	**298**	PKP	**PKPdf**	**22 27 45.1**	**-0.3**
	1.7nm,0.7s,baz=114,slow=3.6,SNR=4.7						
ARCES	**ARCESS Array B**	**135.63**	**349**	PKP	**PKPdf**	**22 27 49.8**	**-0.1**
	2.0nm,0.8s,baz=29,slow=2.8,SNR=5.1						
FINES	**FINESS Array B**	**142.36**	**342**	PKhKP	PKPpre	22 27 56.6	
	0.7nm,0.5s,baz=45,slow=3.0,SNR=8.6						
NB2	**NORSAR Subarra**	**145.72**	**353**	PKP	**PKPdf**	**22 28 07.4**	**-0.9**
	comp=Z,5.4nm,1.2s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**145.72**	**353**	PKPbc	**PKPdf**	**22 28 07.3**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=15,slow=4.6,SNR=5.9						
AKASG	**Malin Array Be**	**149.06**	**326**	PKPbc	**PKPdf**	**22 28 16.3**	**+2.2**
	comp=Z,3.3nm,0.6s,baz=43,slow=3.5,SNR=14						
SUW	**Suwalki**	**149.28**	**336**	*e*PKP	**PKPbc**	**22 28 17.7**	**-1.0**
BR131	**Keskin Array S**	**151.46**	**304**	*e*PKPbc	**PKPbc**	**22 28 23.2**	**-1.4**
BRTR	**Keskin Array B**	**151.46**	**304**	PKPbc	**PKPbc**	**22 28 22.9**	**-1.7**
	comp=Z,1.6nm,0.8s,baz=141,slow=3.9,SNR=8.5						
KWP	**Kalwaria Pacla**	**152.84**	**331**	*e*PKP	**PKPbc**	**22 28 26.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**165.95**	**176**	PKP	**PKPdf**	**22 28 34.5**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=23,slow=0.1,SNR=6.2						
TORD				PKPab	**PKPab**	**22 29 35.1**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=189,slow=3.5,SNR=8.6						

NIED ***02*** *22:15:00, 39°10N×142°40E, h38km, Mw4.0 Best double couple: Mo1.11000×10^15 NP1:φs329.00000°, δ26.00000°, λ-128.00000°. NP2:φs191.00000°, δ70.00000°, λ-73.00000°.*
JMA ***02*** *22:15:55.9±0.1, 39°13N×142°41E, h34km±1km, M4.3*
JMA Felt I J1.
IDC ***02*** *22:16:00.7±2.5, 39°02N×142°33E, h70km±21km, mb3.5/12, mb1 3.7/16, mb1mx3.5/44, mbtmp3.8/16, MS3.0/5, Ms1 3.0/5, ms1mx2.7/38, Error ellipse: s-maj=21.7km s-min=15.5km az=95.0*

ISC 02 22:15:54.2±2.8, 39°10N±0°04×142°44E±0°08, h18km±16km, n35, σ1s56/36, mb4.0/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.60**	**269**	P	**Pn**	**22 16 07.5**	**-0.3**
OFUJ				S	**Sb**	**22 16 15.5**	**+1.3**
MIYJ	**Miyakonagasawa**	**0.68**	**315**	P	**Pn**	**22 16 08.2**	**-0.7**
MIYJ				S	**Sb**	**22 16 16.8**	**+0.3**
JTH	**Tanohata**	**0.95**	**332**	P	**Pb**	**22 16 12.2**	**+0.1**
JMK	**Ichinoseki**	**0.96**	**262**	P	**Pn**	**22 16 12.9**	**+0.1**
JMK				S	**Sb**	**22 16 25.2**	**+0.6**
JOM	**Ohasama**	**0.96**	**293**	P	**Pn**	**22 16 12.9**	**0.0**
JOM				S	**Sg**	**22 16 25.3**	**-0.3**
JIO	**Ouri**	**1.06**	**233**	P	**Pn**	**22 16 14.1**	**-0.1**
JIO				S	**Sb**	**22 16 27.0**	**-0.7**
JKZ	**Kuzumaki**	**1.23**	**316**	P	**Pb**	**22 16 17.0**	**0.0**
JKZ				S	**Sb**	**22 16 32.3**	**-0.3**
JRG	**Rokugo**	**1.43**	**283**	P	**Pb**	**22 16 20.0**	**-0.3**
JRG				S	**Sb**	**22 16 39.4**	**+1.2**
JANG	**Nango**	**1.46**	**331**	P	**Pn**	**22 16 20.1**	**+0.4**
JANG				*e*S	**Sn**	**22 16 37.9**	**-0.5**
JOU	**Okura**	**1.57**	**243**	P	**Pb**	**22 16 22.1**	**-0.5**
JOU				S	**Sb**	**22 16 42.4**	**+0.3**
MJAR	**Matsushiro Arr**	**4.21**	**234**	P	**Pn**	**22 17 00.4**	**+2.9**
	2.1nm,0.3s,baz=40,slow=11,SNR=96						
MJAR				LR	LR	22 18 50.1	
	comp=Z,177nm,18.8s,baz=65,slow=42						
MAT	**Matsushiro**	**4.21**	**234**	P	**Pn**	**22 17 01.7**	**+4.2**
MAT				S	**Sn**	**22 17 45.3**	**-0.9**
ASAJ	**Asahikawa**	**5.02**	**1**	P	Pn	22 17 14.0	+5.5
	1.7nm,0.3s,baz=226,slow=12,SNR=9.1						
USRK	**Ussuriysk Ar.**	**9.33**	**306**	P	**Pn**	**22 18 11.8**	**+4.1**
	0.2nm,0.3s,baz=116,slow=16,SNR=9.1						
USRK				LR	LR	22 21 38.7	
	comp=Z,126nm,19.2s,baz=172,slow=36						
JNU	**Nakatsue**	**11.08**	**241**	LR	LR	22 23 09.4	
	comp=Z,92nm,19.6s,baz=317,slow=39						
KSRS	**Korea Array**	**11.53**	**266**	P	Pn	22 18 49.0	+11
	0.2nm,0.3s,baz=78,slow=14,SNR=8.4						
KSRS				LR	LR	22 22 34.1	
	comp=Z,63nm,21.5s,baz=106,slow=34						
KLR	**Kul'dur**	**12.69**	**326**	P	**P**	**22 19 00.3**	**-4.6**
	0.1nm,0.3s,baz=153,slow=9.8,SNR=2.3						
KLR				LR	LR	22 23 48.5	
	comp=Z,64nm,19.6s,baz=121,slow=37						
SONM	**Songino Array**	**27.37**	**300**	P	**P**	**22 21 38.4**	**-0.1**
	0.9nm,0.6s,baz=101,slow=9.2,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**28.60**	**125**	T	T	22 52 13.4	
	baz=318,slow=76,SNR=452						
H11N1	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	22 52 15.1	
	baz=318,slow=76,SNR=362						
H11N3	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	22 52 16.4	
	baz=318,slow=76,SNR=410						
H11S1	**WAKE ISLAND Hy**	**29.39**	**127**	T	T	22 53 13.1	
	baz=319,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy**	**29.39**	**127**	T	T	22 53 14.3	
	baz=319,slow=76,SNR=47						
H11S2	**WAKE ISLAND Hy**	**29.40**	**127**	T	T	22 53 15.1	
	baz=319,slow=76,SNR=48						
ZALV	**Zalesovo Beam**	**41.15**	**311**	P	**P**	**22 23 37.6**	**+0.5**
	1.8nm,0.5s,baz=92,slow=8.1,SNR=11						
CMAR	**Chiang Mai Arr**	**42.82**	**254**	P	**P**	**22 23 50.5**	**-0.8**
	0.7nm,0.6s,baz=37,slow=8.2,SNR=5.5						

MKAR	**Makanchi Array**	**43.74**	**300**	P	**P**	**22 23 58.6**	**+0.2**
	2.3nm,0.7s,baz=83,slow=9.9,SNR=20						
ILAR	**Eielson Array**	**47.33**	**33**	P	**P**	**22 24 27.9**	**+1.4**
	0.9nm,0.6s,baz=263,slow=6.3,SNR=11						
AKTO	**Aktyubinsk**	**57.91**	**311**	P	**P**	**22 25 46.7**	**+1.7**
	0.8nm,0.6s,baz=85,slow=9.6,SNR=3.9						
WRA	**Warramunga Arr**	**59.22**	**189**	P	**P**	**22 25 53.8**	**-0.6**
	1.3nm,0.5s,baz=6.2,slow=7.0,SNR=31						
ASAR	**Alice Springs**	**62.94**	**189**	P	**P**	**22 26 19.8**	**+0.2**
	0.3nm,0.6s,baz=14,slow=8.5,SNR=4.6						
FINES	**FINESS Array B**	**67.37**	**332**	P	**P**	**22 26 48.6**	**+0.7**
	1.1nm,0.7s,baz=52,slow=7.4,SNR=3.5						
NOA	**NORSAR Array B**	**72.60**	**337**	P	**P**	**22 27 18.9**	**-1.2**
	0.7nm,0.7s,baz=29,slow=8.2,SNR=3.3						
AKASG	**Malin Array Be**	**73.16**	**322**	P	**P**	**22 27 23.6**	**+0.1**
	0.9nm,0.4s,baz=46,slow=5.9,SNR=6.0						
TXAR	**Lajitas Array**	**88.23**	**53**	P	**P**	**22 28 44.7**	**0.0**
	0.1nm,0.5s,baz=341,slow=1.9,SNR=2.7						

IDC 02 22:23:46.7±7.5, 56°25N×52°98E, h0km, Error ellipse: s-maj=129.5km s-min=50.9km az=172.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARU	**Arti**	**3.12**	**84**	Pg	Pb	22 24 43.8	+0.9
	0.0nm,0.3s,baz=270,slow=17,SNR=4.2						
ARU				Lg	Lg	22 25 25.2	
	0.0nm,0.3s,baz=141,slow=15,SNR=6.3						
I31KZ	**AKTYUBINSK INF**	**6.59**	**151**	*i*		23 02 40.0	
	baz=333,slow=317,SNR=1.7						
I43RU	**DUBNA INFRASON**	**8.73**	**280**	*i*		23 12 00.0	
	baz=85,slow=320,SNR=8.9						
I26DE	**FREYUNG INFRAS**	**24.71**	**269**	*i*		00 53 50.0	
	baz=57,slow=317,SNR=0.8						
I48TN	**KESRA INFRASON**	**35.75**	**254**	*i*		02 06 00.0	
	baz=39,slow=306,SNR=0.5						
I42PT	**GRACIOSA ISLAN**	**53.94**	**288**	*i*		03 53 40.0	
	baz=48,slow=310,SNR=1.9						

IDC 02 22:48:06.0±401.0, 56°09N×53°23E, h0km, Error ellipse: s-maj=152.4km s-min=131.2km az=159.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.38**	**151**	*i*		23 26 40.0	
	baz=333,slow=310,SNR=4.8						
I43RU	**DUBNA INFRASON**	**8.90**	**281**	*i*		23 41 30.0	
	baz=85,slow=326,SNR=5.9						
I26DE	**FREYUNG INFRAS**	**24.85**	**270**	*i*		01 22 10.0	
	baz=59,slow=311,SNR=0.8						

IDC 02 23:03:30.9±1.9, 0°65N×126°12E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/29, mbtmp3.8/3, Error ellipse: s-maj=162.4km s-min=24.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.99**	**159**	P	P	23 08 25.6	-1.2
	5.3nm,0.9s,baz=337,slow=11,SNR=20						
ASAR	**Alice Springs**	**25.32**	**163**	P	P	23 09 00.6	+0.9
	0.7nm,0.3s,baz=350,slow=15,SNR=12						
MKAR	**Makanchi Array**	**59.75**	**327**	P	P	23 13 37.6	-0.1
	0.4nm,0.5s,baz=122,slow=7.7,SNR=8.0						

RSPR 02 23:08:57.2, 19°77N×68°40W, h137km±8km, MD3.5/3, 2C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.78**	**137**	↓*e*P	Pn	23 09 29.0	0.0
AGPR	**Aguadilla, PR**	**1.78**	**137**	*e*S	Sn	23 09 53.5	+0.2
AOPR	**Arecibo Observ**	**2.11**	**132**	↑*e*P	Pn	23 09 32.6	-0.3
AOPR	**Arecibo Observ**	**2.11**	**132**	*e*S	Sn	23 10 00.5	+0.2
MTP	**Monte Pirata**	**3.17**	**121**	*e*S	Sn	23 10 25.2	+1.0
MTP	**Monte Pirata**	**3.17**	**121**	↓*e*P	Pn	23 09 46.3	0.0
STVI	**Saint Thomas**	**3.55**	**113**	*e*S	Sn	23 10 33.9	+0.8
STVI	**Saint Thomas**	**3.55**	**113**	↑*e*P	Pn	23 09 51.9	+0.6

ISCJB ***02*** *23:09:07.9±1.6, 39°38N±0°09×71°94E±0°06, h2km±15km, Error ellipse: s-maj=15.6km s-min=7.3km az=177.3*
KRNET ***02*** *23:09:07.1±0.1, 39°44N×71°93E, mb2.7*
NNC ***02*** *23:09:09.1±3.1, 39°40N×71°88E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=32.2km s-min=12.6km az=127.0*

ISC 02 23:09:07.6±1.9, 39°51N±0°07×71°85E±0°05, h2km±13km, n13, σ2s28/25, 18C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.96**	**305**	↑*e*P	**Pg**	**23 09 27.2**	**+1.1**
BTK	baz=306			⇑*e*S	**Sn**	**23 09

ISK ***02*** *23:12:52.4, 37.58N×35.60E, h3km, ML3.4*
DDA ***02*** *23:12:52.5, 37.59N×35.62E, h18km, Ml3.6*
CSEM ***02*** *23:12:53.2±0.1, 37.57N×35.63E, h2km, ML3.4, Error ellipse: s-maj=3.6km s-min=3.5km az=37.0*

ISC 02 23:12:53.5±0.8, 37.51N±0.02×35.61E±0.02, h12km±6km, n87, σ1§14/113, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKO	**Adana**	**0.14**	**249**	*i* P	**Pg**	**23 12 56.9**	**0.0**
KOZT	**Kozan**	**0.18**	**99**	*e*PG	**Pg**	**23 12 57.1**	**-0.4**
KOZT				*e*SG	**Sg**	**23 13 00.9**	**+0.6**
KOZT	**Kozan**	**0.18**	**99**	*e*Pg	**Pg**	**23 12 57.2**	**-0.4**
KOZT				*e*Sg	**Sg**	**23 13 00.9**	**+0.6**
KARA	**Karaisali**	**0.50**	**241**	*e*PG	**Pg**	**23 13 03.6**	**+0.2**
KARA				*e*SG	**Sb**	**23 13 11.7**	**0.0**
KARA	**Karaisali**	**0.50**	**241**	*e*Pg	**Pg**	**23 13 03.6**	**+0.2**
KARA				*e*Sg	**Sb**	**23 13 11.7**	**0.0**
CEYT	**Ceyhan**	**0.51**	**167**	*e*PG	**Pb**	**23 13 04.5**	**0.0**
CEYT				*e*SG	**Sn**	**23 13 13.6**	**-1.8**
CEYT	**Ceyhan**	**0.51**	**167**	*e*Pg	**Pb**	**23 13 04.5**	**0.0**
CEYT				*e*Sg	**Sn**	**23 13 13.6**	**-1.8**
YURE	**YUREGIR**	**0.68**	**178**	P	**Pb**	**23 13 07.6**	**+0.2**
YURE	**YUREGIR**	**0.68**	**178**	*i* P	**Pb**	**23 13 07.6**	**+0.2**
YURE				*i* S	**Sn**	**23 13 23.9**	**+4.2**
GULE	**Gulek**	**0.70**	**251**	P	**Pg**	**23 13 06.8**	**-0.3**
GULE				S	**Sb**	**23 13 17.9**	**+0.5**
GULE	**Gulek**	**0.70**	**251**	*i* P	**Pg**	**23 13 06.8**	**-0.3**
GULE				*i* S	**Sb**	**23 13 17.9**	**+0.5**
DED	**Mersin**	**0.84**	**230**	*i* P	**Pg**	**23 13 09.6**	**-0.2**
DED				*i* S	**Sn**	**23 13 24.2**	**+0.6**
KAMA	**Osmaniye**	**0.91**	**111**	*i* P	**Pg**	**23 13 11.0**	**-0.1**
KRTS	**Karatas**	**0.95**	**191**	*e*PG	**Pn**	**23 13 12.9**	**+0.1**
KRTS	**Karatas**	**0.95**	**191**	*e*Pg	**Pn**	**23 13 12.9**	**+0.1**
NIG	**Nigde**	**0.99**	**308**	*e*PG	**Pb**	**23 13 11.3**	**-1.5**
NIG	**Nigde**	**0.99**	**308**	*e*Pg	**Pb**	**23 13 11.3**	**-1.5**
SARI	**SarD1z-Kayseri**	**1.10**	**35**	*e*PG	**Pb**	**23 13 13.2**	**-1.5**
KERG	**Konya-Eregli**	**1.18**	**266**	P	**Pn**	**23 13 14.3**	**-1.8**
KERG	**Konya-Eregli**	**1.18**	**266**	*i* P	**Pn**	**23 13 14.3**	**-1.8**
TAHT	**Tahtakopru-Hat**	**1.22**	**158**	*e*PN	**Pg**	**23 13 16.9**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.22**	**158**	*e*Pn	**Pg**	**23 13 16.9**	**-0.1**
BSTP	**Nigde**	**1.27**	**291**	*i* P	**Pn**	**23 13 16.4**	**-0.8**
BSTP				*i* S	**Sg**	**23 13 35.7**	**+1.4**
GAZ	**Gaziantep**	**1.32**	**104**	*e*PN	**Pg**	**23 13 19.0**	**0.0**
GAZ	**Gaziantep**	**1.32**	**104**	*e*Pn	**Pg**	**23 13 19.0**	**0.0**
BNN	**Bunyan**	**1.35**	**8**	*e*PN	**Pn**	**23 13 17.6**	**-0.9**
BNN				*e*SN	**Sn**	**23 13 36.0**	**-0.4**
BNN	**Bunyan**	**1.35**	**8**	*e*Pn	**Pn**	**23 13 17.6**	**-0.9**
BNN				*e*Sn	**Sn**	**23 13 36.0**	**-0.4**
KUZU	**Kuzuini**	**1.39**	**122**	P	**Pn**	**23 13 18.3**	**-0.5**
KUZU	**Kuzuini**	**1.39**	**122**	*i* P	**Pn**	**23 13 18.3**	**-0.5**
AVNS	**Nevsehir-Avano**	**1.43**	**335**	P	**Pn**	**23 13 18.4**	**-1.0**
AVNS				S	**Sn**	**23 13 36.8**	**-1.4**
AVNS	**Nevsehir-Avano**	**1.43**	**335**	*i* P	**Pn**	**23 13 18.4**	**-1.0**
AVNS				*i* S	**Sn**	**23 13 36.8**	**-1.4**
YESY	**Yesilyurt**	**1.50**	**281**	*e*PN	**Pb**	**23 13 20.9**	**-0.6**
YESY	**Yesilyurt**	**1.50**	**281**	*e*Pn	**Pb**	**23 13 20.9**	**-0.6**
YAYL	**Yayladag**	**1.53**	**165**	P	**Pn**	**23 13 19.8**	**-1.0**
YAYL	**Yayladag**	**1.53**	**165**	*i* P	**Pn**	**23 13 19.8**	**-1.0**
KIZK	**Mersin**	**1.56**	**229**	P	**Pb**	**23 13 22.0**	**-0.3**
KIZK				S	**Sg**	**23 13 44.9**	**+1.2**
KIZK	**Mersin**	**1.56**	**229**	*i* P	**Pb**	**23 13 22.0**	**-0.3**
KIZK				*i* S	**Sg**	**23 13 44.9**	**+1.2**
GZT	**Gaziantep**	**1.57**	**95**	*i* P	**Pn**	**23 13 21.3**	**0.0**
CUGUR	**Gurin_S¨VAS**	**1.79**	**47**	P	**Pn**	**23 13 24.4**	**0.0**
CUGUR	**Gurin_S¨VAS**	**1.79**	**47**	*i* P	**Pn**	**23 13 24.4**	**0.0**
SULT	**Sultanhani-AKS**	**1.79**	**293**	*e*PN	**Pn**	**23 13 25.1**	**+0.7**
SULT	**Sultanhani-AKS**	**1.79**	**293**	*e*Pn	**Pn**	**23 13 25.1**	**+0.7**
DARE	**Darende-Malaty**	**1.82**	**54**	*e*PN	**Pn**	**23 13 25.1**	**+0.2**
DARE	**Darende-Malaty**	**1.82**	**54**	*e*Pn	**Pn**	**23 13 25.1**	**+0.2**
AKSY	**AKSARAY - Alti**	**1.85**	**309**	P	**Pn**	**23 13 25.7**	**+0.5**
AKSY				S	**Sb**	**23 13 51.3**	**+0.8**
AKSY	**AKSARAY - Alti**	**1.85**	**309**	*i* P	**Pn**	**23 13 25.7**	**+0.5**
AKSY				*i* S	**Sb**	**23 13 51.3**	**+0.8**
CUSAR	**Sarkisla-SIVAS**	**1.97**	**15**	P	**Pn**	**23 13 27.9**	**+0.9**
CUSAR				S	**Sn**	**23 13 52.9**	**+1.2**
CUSAR	**Sarkisla-SIVAS**	**1.97**	**15**	*i* P	**Pn**	**23 13 27.9**	**+0.9**
CUSAR				*i* S	**Sn**	**23 13 52.9**	**+1.2**
CUALT	**Altinyayla-SIV**	**1.98**	**27**	P	**Pn**	**23 13 26.8**	**-0.3**
CUALT	**Altinyayla-SIV**	**1.98**	**27**	*i* P	**Pn**	**23 13 26.8**	**-0.3**
AKCD	**Akcadag**	**1.99**	**66**	P	**Pn**	**23 13 27.3**	**+0.1**
AKCD	**Akcadag**	**1.99**	**66**	*i* P	**Pn**	**23 13 27.3**	**+0.1**
SERE	**Sereflikochisa**	**2.15**	**312**	*e*PN	**Pn**	**23 13 30.2**	**+0.8**
SERE	**Sereflikochisa**	**2.15**	**312**	*e*Pn	**Pn**	**23 13 30.3**	**+0.8**
ERMK	**Ermenek**	**2.32**	**249**	P	**Pb**	**23 13 35.0**	**-0.5**
ERMK				S	**Sg**	**23 14 07.5**	**-0.7**
ERMK	**Ermenek**	**2.32**	**249**	*i* P	**Pb**	**23 13 35.0**	**-0.5**
ERMK				*i* S	**Sg**	**23 14 07.5**	**-0.7**
CDAG	**Cicekdag**	**2.32**	**336**	P	**Pn**	**23 13 31.9**	**+0.1**
CDAG				S	**Sb**	**23 14 04.5**	**+0.4**
CDAG	**Cicekdag**	**2.32**	**336**	*i* P	**Pn**	**23 13 31.9**	**+0.1**
CDAG				*i* S	**Sb**	**23 14 04.5**	**+0.4**
KAMT	**Kaman**	**2.38**	**322**	*e*PN	**Pn**	**23 13 33.1**	**+0.6**
KAMT	**Kaman**	**2.38**	**322**	*e*Pn	**Pn**	**23 13 33.1**	**+0.6**
SURC	**SANLIURFA_SURC**	**2.48**	**104**	P	**Pn**	**23 13 33.0**	**-0.9**
SURC	**SANLIURFA_SURC**	**2.48**	**104**	*i* P	**Pn**	**23 13 33.0**	**-0.9**
KONT	**Konya--Tatoy**	**2.61**	**281**	*e*PN	**Pn**	**23 13 36.7**	**+1.1**
KONT	**Konya--Tatoy**	**2.61**	**281**	*e*Pn	**Pn**	**23 13 36.7**	**+1.1**
LADK	**Ladik-KONYA**	**2.66**	**286**	*e*PN	**Pn**	**23 13 37.0**	**+0.7**
LADK	**Ladik-KONYA**	**2.66**	**286**	*e*Pn	**Pn**	**23 13 37.0**	**+0.7**
KKUL	**Konya-Kulu**	**2.69**	**309**	P	**Pn**	**23 13 38.3**	**+1.5**
KKUL	**Konya-Kulu**	**2.69**	**309**	*i* P	**Pn**	**23 13 38.3**	**+1.5**
KKUL				*i* S	**Sg**	**23 14 20.0**	**+0.1**
AFSR	**Af¨ar-Bala (A**	**2.77**	**315**	*e*PN	**Pn**	**23 13 38.6**	**+0.6**
AFSR	**Af¨ar-Bala (A**	**2.77**	**315**	*e*Pn	**Pn**	**23 13 38.6**	**+0.6**
COAL	**Corum-Alaca**	**2.78**	**350**	P	**Pn**	**23 13 38.6**	**+0.5**
COAL	**Corum-Alaca**	**2.78**	**350**	*i* P	**Pn**	**23 13 38.6**	**+0.5**
LFK	**Lefkose**	**2.78**	**218**	*e*PN	**Pb**	**23 13 40.6**	**-2.7**
LFK	**Lefkose**	**2.78**	**218**	*e*Pn	**Pb**	**23 13 40.6**	**-2.7**
BBAL	**Bala**	**2.81**	**317**	P	**Pn**	**23 13 39.0**	**+0.5**
BBAL	**Bala**	**2.81**	**317**	*i* P	**Pn**	**23 13 39.0**	**+0.5**
GAZI	**Gazipasa**	**2.93**	**245**	P	**Pn**	**23 13 42.6**	**+2.6**
GAZI	**Gazipasa**	**2.93**	**245**	*i* P	**Pn**	**23 13 42.6**	**+2.6**
KDHN	**Kadinhani**	**2.94**	**291**	P	**Pn**	**23 13 41.5**	**+1.3**
KDHN	**Kadinhani**	**2.94**	**291**	*i* P	**Pn**	**23 13 41.5**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.05**	**72**	*e*PN	**Pn**	**23 13 43.1**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.05**	**72**	*e*Pn	**Pn**	**23 13 43.1**	**+1.3**
LEF	**Lefka**	**3.24**	**223**	*e*PN	**Pb**	**23 13 47.5**	**-3.5**
LEF	**Lefka**	**3.24**	**223**	*e*Pn	**Pb**	**23 13 47.5**	**-3.5**
PTK	**Pertek**	**3.29**	**64**	*e*PN	**Pn**	**23 13 46.2**	**+1.1**
PTK	**Pertek**	**3.29**	**64**	*e*Pn	**Pn**	**23 13 46.2**	**+1.1**
ERBA	**Erbaa**	**3.29**	**15**	*i* P	**Pb**	**23 13 52.1**	**+0.2**

DHMR ***02*** *23:21:11.8±1.3, 12.06N×43.97E, h9km±14km, ML4.4*
ISCJB ***02*** *23:21:13.0±0.6, 12.00N±0.04×44.00E±0.05, h4km, mb4.1/12, MS3.2/3, Error ellipse: s-maj=8.3km s-min=5.8km az=28.9*
IDC ***02*** *23:21:13.8±1.4, 11.94N×43.98E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/46, mbtmp3.8/7, MS3.2/3, Ms1 3.2/3, ms1mx2.8/46, Error ellipse: s-maj=40.8km s-min=11.1km az=154.0*
CSEM ***02*** *23:21:14.7±0.5, 12.11N×43.98E, h2km, mb4.2, Error ellipse: s-maj=16.4km s-min=10.7km az=130.0*
NEIC ***02*** *23:21:15.9±0.7, 12.03N×43.89E, h10km, mb4.2/4, Error ellipse: s-maj=20.9km s-min=11.9km az=146.0*

ISC 02 23:21:14.9±0.7, 12.04N±0.06×43.98E±0.06, h4km, n31, σ1§70/39, mb4.0/12, MS3.3/3, 4C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.22**	**53**	⇑*i* P	Pg	23 21 34.6	-3.7
ADEN				*i* S	**Sg**	**23 21 51.6**	**-2.6**
ADEN				AML	AML	23 21 58.4	
	comp=E,8μm,0.3s						
ADEN	**Aden**	**1.22**	**53**	⇑*i* P	Pg	23 21 34.6	-3.7
ADEN				*i* S	**Sg**	**23 21 51.6**	**-2.6**
	comp=E,4μm,0.3s						
ATD	**Arta Tunnel**	**1.22**	**246**	Pg	**Pg**	**23 21 36.1**	**-2.2**
	comp=E,53nm,0.3s,baz=50,slow=19,SNR=25						
ATD				Lg	Lg	23 21 52.1	
	comp=E,100nm,0.3s,baz=76,slow=23,SNR=25						
UDYN	**Al 'Udayn**	**1.92**	**360**	⇑*i* P	**Pn**	**23 21 46.0**	**-2.5**
UDYN				*i* S	**Sn**	**23 22 11.2**	**-1.9**
UDYN	**Al 'Udayn**	**1.92**	**360**	⇑*i* P	**Pn**	**23 21 46.0**	**-2.5**
UDYN				*i* S	**Sn**	**23 22 11.2**	**-1.9**
BDHA	**Al Bayda'**	**2.47**	**39**	*i* P	**Pn**	**23 21 53.8**	**-2.3**
BDHA				*i* S	**Sn**	**23 22 27.8**	**+0.9**
BDHA				AML	AML	23 22 35.8	
	comp=E,3μm,0.5s						
BDHA	**Al Bayda'**	**2.47**	**39**	*i* P	**Pn**	**23 21 53.8**	**-2.3**
BDHA				*i* S	**Sn**	**23 22 27.8**	**+0.9**
	comp=E,2μm,0.5s						
DHBB	**Dhamar BB**	**2.55**	**9**	*i* P	**Pn**	**23 21 55.8**	**-1.5**
DHBB				*i* S	**Sn**	**23 22 30.0**	**+1.1**
DAMY	**Dhamar**	**2.55**	**9**	*e*Pn	**Pn**	**23 21 57.2**	**-0.1**
DAMY				*e*Sg	**Sb**	**23 22 34.9**	**+1.6**
DAMY	**Dhamar**	**2.55**	**9**	*e*Pn	**Pn**	**23 21 57.2**	**-0.1**
DAMY				*e*Sg	**Sb**	**23 22 34.9**	**+1.6**
SANA	**San'a**	**3.33**	**4**	*i* S	**Sn**	**23 22 50.5**	**+2.1**
HAJJ	**Hajjah**	**3.66**	**354**	*i* P	**Pn**	**23 22 10.5**	**-1.9**
HAJJ				*i* S	**Sn**	**23 22 56.8**	**+0.6**
HAJJ				AML	AML	23 23 15.3	
	comp=Z,2μm,0.6s						
HAJJ	**Hajjah**	**3.66**	**354**	*i* P	**Pn**	**23 22 10.5**	**-1.9**
HAJJ				*i* S	**Sn**	**23 22 56.8**	**+0.6**
	comp=Z,938nm,0.6s						
GEYT	**Alibeck**	**28.71**	**24**	LR	LR	23 40 27.8	
	comp=Z,72nm,18.5s,baz=345,slow=40						
BRTR	**Keskin Array B**	**29.06**	**343**	P	**P**	**23 27 18.1**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=160,slow=11,SNR=9.8						
BRTR				LR	LR	23 39 05.1	
	comp=Z,28nm,20.0s,baz=155,slow=37						
EKS2	**Erkin-Say**	**39.99**	**35**	*e*P	**P**	**23 28 51.0**	**+0.1**
	comp=Z,0.6nm,0.6s						
EKS2	**Erkin-Say**	**39.99**	**35**	*e*P	**P**	**23 28 51.0**	**+0.1**
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**41.25**	**276**	P	**P**	**23 29 02.3**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=108,slow=6.2,SNR=3.7						
GERES	**GERESS Array B**	**44.47**	**332**	P	**P**	**23 29 26.6**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=116,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**47.31**	**35**	P	**P**	**23 29 48.6**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=227,slow=8.0,SNR=10						
ZALV	**Zalesovo Beam**	**52.80**	**29**	P	**P**	**23 30 30.7**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=226,slow=8.1,SNR=6.6						
ZALV				LR	LR	23 55 50.5	
	comp=Z,28nm,18.4s,baz=250,slow=39						
CHTO	**Chiang Mai**	**53.24**	**75**	*e*P	**P**	**23 30 37.1**	**+2.0**
	comp=Z,1.0nm,0.6s						
CHTO	**Chiang Mai**	**53.24**	**75**	*e*P	**P**	**23 30 37.1**	**+2.0**
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**53.25**	**76**	P	**P**	**23 30 35.5**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=276,slow=8.1,SNR=5.4						
SONM	**Songino Array**	**62.72**	**42**	P	**P**	**23 31 41.8**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=251,slow=6.3,SNR=7.8						
ULN	**Ulaanbaatar**	**63.16**	**42**	*e*P	**P**	**23 31 45.8**	**+1.6**
	comp=Z,1.5nm,0.6s						
ULN	**Ulaanbaatar**	**63.16**	**42**	*e*P	**P**	**23 31 45.8**	**+1.6**
	comp=Z,1.6nm,0.6s						
SNAA	**Sanae**	**89.13**	**193**	*e*P	**P**	**23 34 13.2**	**+2.0**
	comp=Z,58nm,0.6s						
SNAA	**Sanae**	**89.13**	**193**	*e*P	**P**	**23 34 13.2**	**+2.0**
	comp=Z,58nm,0.6s						
WRAB	**Tennant Creek**	**94.37**	**109**	*e*P	**P**	**23 34 34.9**	**-1.7**
	comp=Z,1.6nm,0.3s						
WRAB	**Tennant Creek**	**94.37**	**109**	*e*P	**P**	**23 34 34.9**	**-1.7**
	comp=Z,1.6nm,0.3s						

IDC 02 23:29:26.4±7.5, 8.44S×129.58E, h83km±83km, mb3.4/1, mb1 4.0/4, mb1mx3.4/40, mbtmp4.0/4, ML4.1/3, MS3.2/2, Ms1 3.3/2, ms1mx2.7/29, Error ellipse: s-maj=52.5km s-min=42.1km az=26.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.34**	**201**	P	Pn	23 31 53.3	+1.4
	2.3nm,0.3s,baz=26,slow=11,SNR=83						
FITZ				S	Sn	23 33 46.4	+0.3
	3.4nm,0.3s,baz=241,slow=16,SNR=10						
WRA	**Warramunga Arr**	**12.33**	**159**	P	Pn	23 32 17.8	-1.1
	0.9nm,0.3s,baz=336,slow=13,SNR=28						
WRA				S	Sn	23 34 33.8	-0.8
	0.8nm,0.3s,baz=336,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**15.70**	**165**	P	P	23 33 04.8	-0.5
	0.4nm,0.3s,baz=336,slow=8.6,SNR=14						
ASAR				S	Sn	23 35 55.4	-0.9
	0.3nm,0.3s,baz=345,slow=24,SNR=6.0						
NWAO	**Narrogin (SRO)**	**26.92**	**203**	LR	LR	23 47 44.6	
	comp=Z,91nm,20.9s,baz=172,slow=41						
CMAR	**Chiang Mai Arr**	**40.35**	**312**	LR	LR	23 55 56.3	
	comp=Z,20nm,18.5s,baz=125,slow=39						
MKAR	**Makanchi Array**	**69.19**	**327**	P	P	23 40 24.0	-0.2
	0.4nm,0.5s,baz=118,slow=6.0,SNR=6.7						

NIED ***02*** *23:33:00, 40.40N×142.30E, h56km, Mw3.6 Best double couple: M0 2.39000×10^14 NP1:φs 240.00000°, δ24.00000°, λ154.00000°. NP2:φs 355.00000°, δ80.00000°, λ69.00000°.*
ISCJB ***02*** *23:33:48.8±1.1, 40.39N±0.06×142.2E±0.1, h52km±9km, mb3.5/3, Error ellipse: s-maj=15.4km s-min=10.0km az=11.0*
JMA ***02*** *23:33:48.9±0.1, 40.38N×142.27E, h40km±1km, M3.9*
JMA Felt I J1.
IDC ***02*** *23:33:51.2±1.7, 40.87N×141.01E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/50, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=47.2km s-min=24.9km az=88.0*

ISC 02 23:33:49.3±1.8, 40.41N±0.05×142.2E±0.1, h33km±5km, n12, σ1§21/16, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.52**	**266**	P	**Pb**	**23 34 00.8**	**+0.5**
JANG				*e*S	**Sn**	**23 34 08.9**	**+0.7**
JTH	**Tanohata**	**0.54**	**209**	P	**Pn**	**23 34 00.0**	**-0.6**
JTH				*e*S	**Sb**	**23 34 08.0**	**-0.1**
JKZ	**Kuzumaki**	**0.79**	**238**	P	**Pn**	**23 34 04.3**	**+0.2**
JKZ				*e*S	**Sn**	**23 34 15.0**	**+0.2**
JTM	**Tenmabayashi**	**0.94**	**294**	P	**Pn**	**23 34 06.3**	**+0.2**
JOM	**Ohasama**	**1.17**	**217**	P	**Pn**	**23 34 09.3**	**0.0**
JOM				*e*S	**Sn**	**23 34 23.8**	**-0.2**
JAH	**Hinai**	**1.22**	**260**	P	**Pn**	**23 34 10.4**	**+0.5**
JAH				*e*S	**Sn**	**23 34 25.5**	**+0.3**
JOT	**Ohata**	**1.31**	**318**	P	**Pn**	**23 34 11.3**	**+0.1**
ASAJ	**Asahikawa**	**3.72**	**4**	Pn	**Pn**	**23 34 45.8**	**+1.5**
	2.0nm,0.3s,baz=220,slow=10,SNR=9.1						
MJAR	**Matsushiro Arr**	**4.97**	**220**	Pn	**Pn**	**23 35 04.5**	**+2.8**
	0.6nm,0.3s,baz=30,slow=15,SNR=6.8						
ZALV	**Zalesovo Beam**	**40.17**	**309**	P	**P**	**23 41 20.0**	**-2.0**
	0.6nm,0.4s,baz=101,slow=9.3,SNR=3.7						
MKAR	**Makanchi Array**	**42.93**	**299**	P	**P**	**23 41 43.6**	**-1.2**
	0.4nm,0.5s,baz=90,slow=8.5,SNR=4.2						
WRA	**Warramunga Arr**	**60.48**	**189**	P	P	23 44 05.4	+9.5
	0.2nm,0.5s,baz=4.2,slow=7.0,SNR=3.7						

ISK ***02*** *23:34:49.8, 39.08N×29.09E, h6km, MD2.8*
ISCJB ***02*** *23:34:50.6±0.4, 39.09N±0.03×29.07E±0.04, h9km, Error ellipse: s-maj=4.9km s-min=3.5km az=14.8*
CSEM ***02*** *23:34:50.7±0.1, 39.09N×29.07E, h8km, ML2.8, Error ellipse: s-maj=3.0km s-min=2.5km az=105.0*
DDA ***02*** *23:34:50.6, 39.10N×29.05E, h7km, Ml2.8*

ISC 02 23:34:50.6±0.8, 39.09N±0.02×29.07E±0.02, h9km, n41, σ0§32/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**260**	P	**Pg**	**23 34 56.4**	**+0.1**
DEMI	**Demirci**	**0.28**	**260**	*i* P	**Pg**	**23 34 56.4**	**+0.1**
DEMI				*i* S	Sb	23 35 59.7	+57
GDZ	**Gediz**	**0.32**	**90**	P	**Pg**	**23 34 57.7**	**+0.7**
GDZ	**Gediz**	**0.32**	**90**	*i* P	**Pg**	**23 34 57.7**	**+0.7**
TVSB	**Tavsanli**	**0.47**	**40**	*e*PG	**Pg**	**23 34 59.5**	**-0.3**
TVSB				*e*SG	**Sg**	**23 35 05.6**	**-0.4**
TVSB	**Tavsanli**	**0.47**	**40**	*e*Pg	**Pg**	**23 34 59.5**	**-0.3**
TVSB				*e*Sg	**Sg**	**23 35 05.6**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**209**	*e*PG	**Pg**	**23 35 03.4**	**0.0**
KULA				*e*SG	**Sg**	**23 35 11.9**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**209**	*e*Pg	**Pg**	**23 35 03.4**	**0.0**
KULA				*e*Sg	**Sg**	**23 35 11.9**	**-0.1**
KHAL	**Karahalli**	**0.79**	**155**	P	**Pb**	**23 35 06.6**	**0.0**
KHAL				S	**Sb**	**23 35 17.3**	**-0.2**
KHAL	**Karahalli**	**0.79**	**155**	*i* P	**Pb**	**23 35 06.6**	**0.0**
KHAL				*i* S	**Sb**	**23 35 17.3**	**-0.2**
KHL	**Karahalli**	**0.84**	**155**	*e*PG	**Pg**	**23 35 06.6**	**-0.3**
KHL	**Karahalli**	**0.84**	**155**	*e*Pg	**Pg**	**23 35 06.6**	**-0.3**
ORLT	**Orhaneli**	**0.96**	**352**	*e*PG	**Pg**	**23 35 08.8**	**-0.3**
ORLT				*e*SG	**Sb**	**23 35 22.8**	**+0.4**
ORLT	**Orhaneli**	**0.96**	**352**	*e*Pg	**Pg**	**23 35 08.8**	**-0.3**
ORLT				*e*Sg	**Sb**	**23 35 22.8**	**+0.4**
AKHS	**Akhisar**	**1.00**	**258**	P	**Pb**	**23 35 10.6**	**+0.4**
AKHS	**Akhisar**	**1.00**	**258**	*i* P	**Pb**	**23 35 10.6**	**+0.4**
AKS	**Akhisar**	**1.00**	**258**	*e*PG	**Pg**	**23 35 09.8**	**-0.2**
AKS	**Akhisar**	**1.00**	**258**	*e*Pg	**Pg**	**23 35 09.8**	**-0.2**
BALB	**Balikesir**	**1.07**	**301**	*e*PN	**Pg**	**23 35 11.2**	**-0.1**
BALB	**Balikesir**	**1.07**	**301**	*e*Pn	**Pg**	**23 35 11.2**	**-0.1**
IGD	**Bursa**	**1.18**	**5**	*i* P	**Pb**	**23 35 12.1**	**-1.0**
IZI	**Iznik**	**1.28**	**14**	*e*PN	**Pn**	**23 35 14.6**	**-0.2**
IZI	**Iznik**	**1.28**	**14**	*e*Pn	**Pn**	**23 35 14.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*PN	**Pg**	**23 35 15.7**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*Pn	**Pg**	**23 35 15.7**	**+0.4**
KCTX	**Karacabey (Bur**	**1.30**	**335**	*e*PN	**Pg**	**23 35 15.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**335**	*e*Pn	**Pg**	**23 35 15.7**	**+0.2**
BALY	**Balya**	**1.30**	**300**	P	**Pb**	**23 35 15.6**	**+0.4**
BALY	**Balya**	**1.30**	**300**	*i* P	**Pb**	**23 35 15.6**	**+0.4**
BORA	**Eskisehir**	**1.33**	**53**	P	**Pn**	**23 35 15.8**	**+0.4**
BORA	**Eskisehir**	**1.33**	**53**	*i* P	**Pn**	**23 35 15.8**	**+0.4**
GONE	**Gonen-Balikesi**	**1.44**	**312**	*e*PN	**Pn**	**23 35 16.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.44**	**312**	*e*Pn	**Pn**	**23 35 16.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**219**	*e*PN	**Pn**	**23 35 17.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**219**	*e*Pn	**Pn**	**23 35 17.4**	**0.0**
ARMT	**Armutlu**	**1.48**	**354**	*e*PN	**Pb**	**23 35 18.6**	**+0.2**
ARMT	**Armutlu**	**1.48**	**354**	*e*Pn	**Pb**	**23 35 18.6**	**+0.2**
EDC	**Edincik**	**1.56**	**324**	*e*PN	**Pn**	**23 35 18.4**	**-0.1**
EDC	**Edincik**	**1.56**	**324**	*e*Pn	**Pn**	**23 35 18.5**	**-0.1**
GULT	**Gulveren**	**1.74**	**39**	*e*PN	**Pn**	**23 35 21.1**	**0.0**
GULT	**Gulveren**	**1.74**	**39**	*e*Pn	**Pn**	**23 35 21.1**	**0.0**

DHMR ***02*** *23:34:55.6±1.2, 11.85N×44.01E, h17km±13km, ML4.1*
IDC ***02*** *23:34:57.3±10.0, 11.49N×44.00E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/40, mbtmp3.6/5, MS3.0/2, Ms1 3.0/2, ms1mx2.6/31, Error ellipse: s-maj=221.6km s-min=42.8km az=17.0*

ISC 02 23:35:01.1±1.4, 12.0N±0.1×44.16E±0.08, h4km, n11, σ1§70/15, mb3.6/5, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.09**	**48**	*i* P	**Pg**	**23 35 19.1**	**-2.9**
ADEN				*i* S	**Sg**	**23 35 38.1**	**+2.0**
ADEN				AML	AML	23 35 44.5	
	comp=N,2μm,0.4s						
UDYN	**Al 'Udayn**	**1.92**	**355**	*i* P	**Pn**	**23 35 32.1**	**-2.7**

baz=318,slow=75,SNR=6.2
H11S1 WAKE ISLAND Hy 29.38 127 T T 00 15 26.2
baz=319,slow=76,SNR=7.2
H11S3 WAKE ISLAND Hy 29.39 127 T T 00 15 23.3
baz=319,slow=76,SNR=9.9
H11S2 WAKE ISLAND Hy 29.40 127 T T 00 15 24.4
baz=319,slow=76,SNR=8.9
ZALV Zalesovo Beam 41.16 311 P **P** **23 45 48.7 0.0**
0.5nm,0.3s,baz=93,slow=8.7,SNR=2.9
MKAR Makanchi Array 43.73 300 P **P** **23 46 09.6 -0.2**
0.7nm,0.8s,baz=80,slow=9.4,SNR=7.0
ILAR Eielson Array 47.37 33 P **P** **23 46 38.9 +0.7**
0.6nm,0.8s,baz=260,slow=6.5,SNR=6.6
WRA Warramunga Arr 59.18 189 P **P** **23 48 04.2 -1.4**
0.3nm,0.6s,baz=6.1,slow=7.5,SNR=4.6

*CSEM **02** 23:39:57.7, 12°.08N×44°.08E, h5km, ML3.8*
DHMR 02 23:39:57.7±1.6, 12°.08N×44°.08E, h5km±19km, ML3.8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.12**	**52**	*i* P	Pg	23 40 17.7	-1.5
ADEN				*i* S	Sn	23 40 35.2	-0.6
ADEN				AML	AML	23 40 41.4	
	comp=N,2μm,0.7s						
ADEN	**Aden**	**1.12**	**52**	*i* P	Pg	23 40 17.7	-1.5
ADEN				*i* S	Sn	23 40 35.2	-0.6
	comp=N,822nm,0.7s						
UDYN	**Al 'Udayn**	**1.88**	**357**	*i* P	Pb	23 40 31.9	-0.7
UDYN				*i* S	Sg	23 40 57.7	-0.4
UDYN	**Al 'Udayn**	**1.88**	**357**	*i* P	Pb	23 40 31.9	-0.7
UDYN				*i* S	Sg	23 40 57.7	-0.4
BDHA	**Al Bayda'**	**2.38**	**37**	*i* P	Pb	23 40 40.2	-0.9
BDHA				*i* S	Sb	23 41 11.4	+0.6
BDHA				AML	AML	23 41 20.1	
	comp=E,873nm,0.5s						
BDHA	**Al Bayda'**	**2.38**	**37**	*i* P	Pb	23 40 40.2	-0.9
BDHA				*i* S	Sb	23 41 11.4	+0.5
	comp=E,437nm,0.5s						
DHBB	**Dhamar BB**	**2.49**	**7**	*i* P	Pn	23 40 40.9	+1.7
DHBB				*i* S	Sb	23 41 15.1	+0.8
HAJJ	**Hajjah**	**3.63**	**353**	*i* P	Pn	23 40 56.9	+2.1
HAJJ				*i* S	Sb	23 41 43.9	-2.9
HAJJ				AML	AML	23 41 57.5	
	comp=Z,496nm,0.6s						
HAJJ	**Hajjah**	**3.63**	**353**	*i* P	Pn	23 40 56.9	+2.2
HAJJ				*i* S	Sb	23 41 43.9	-3.0
	comp=Z,248nm,0.6s						

*CSEM **02** 23:43:04.6, 12°.05N×44°.01E, h9km, ML3.9*
DHMR 02 23:43:04.6±1.8, 12°.05N×44°.01E, h10km±22km, ML3.9, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.20**	**53**	*i* P	Pb	23 43 27.2	-0.2
ADEN				*i* S	Sn	23 43 43.9	0.0
ADEN				AML	AML	23 43 44.2	
	comp=E,2μm,0.3s						
ADEN	**Aden**	**1.20**	**53**	*i* P	Pb	23 43 27.2	-0.3
ADEN				*i* S	Sn	23 43 43.9	0.0
	comp=E,1μm,0.3s						
UDYN	**Al 'Udayn**	**1.91**	**359**	*i* P	Pn	23 43 37.5	+0.1
UDYN				*i* S	Sg	23 44 05.8	-0.3
UDYN				AML	AML	23 44 09.2	
	comp=E,1μm,0.5s						
UDYN	**Al 'Udayn**	**1.91**	**359**	*i* P	Pn	23 43 37.5	+0.1
UDYN				*i* S	Sg	23 44 05.8	-0.2
	comp=E,611nm,0.5s						
BDHA	**Al Bayda'**	**2.45**	**38**	*i* P	Pb	23 43 47.1	-1.8
BDHA				*i* S	Sb	23 44 19.9	+0.6
BDHA				AML	AML	23 44 28.1	
	comp=E,1μm,0.5s						
BDHA	**Al Bayda'**	**2.45**	**38**	*i* P	Pb	23 43 47.1	-1.8
BDHA				*i* S	Sb	23 44 19.9	+0.6
	comp=E,532nm,0.5s						
DHBB	**Dhamar BB**	**2.54**	**8**	*i* P	Pb	23 43 48.9	-1.6
DHBB				*i* S	Sb	23 44 22.0	+0.1
DHBB	**Dhamar BB**	**2.54**	**8**	*i* P	Pb	23 43 48.9	-1.6
DHBB				*i* S	Sb	23 44 22.0	+0.1
HAJJ	**Hajjah**	**3.65**	**354**	*i* P	Pn	23 44 03.7	+2.3
HAJJ				*i* S	Sb	23 44 50.7	-3.2
HAJJ	**Hajjah**	**3.65**	**354**	*i* P	Pn	23 44 03.7	+2.3
HAJJ				*i* S	Sb	23 44 50.7	-3.2

*CSEM **02** 23:47:16.9, 12°.05N×44°.10E, h10km, ML3.6*
DHMR 02 23:47:16.9±1.5, 12°.05N×44°.10E, h11km±19km, ML3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.12**	**50**	*i* P	Pb	23 47 36.5	-2.0
ADEN				*i* S	Sn	23 47 54.0	-0.2
ADEN				AML	AML	23 48 01.7	
	comp=E,1μm,0.5s						
ADEN	**Aden**	**1.12**	**50**	*i* P	Pb	23 47 36.5	-1.9
ADEN				*i* S	Sn	23 47 54.0	-0.2
	comp=E,586nm,0.5s						
UDYN	**Al 'Udayn**	**1.91**	**356**	*i* P	Pb	23 47 51.3	-0.6
UDYN				*i* S	Sb	23 48 16.3	+0.5
UDYN	**Al 'Udayn**	**1.91**	**356**	*i* P	Pb	23 47 51.3	-0.6
UDYN				*i* S	Sb	23 48 16.3	+0.5
BDHA	**Al Bayda'**	**2.39**	**37**	*i* P	Pb	23 47 58.5	-1.6
BDHA				*i* S	Sb	23 48 30.9	+1.1
BDHA				AML	AML	23 48 38.3	
	comp=E,619nm,0.5s						
BDHA	**Al Bayda'**	**2.39**	**37**	*i* P	Pb	23 47 58.5	-1.6
BDHA				*i* S	Sb	23 48 30.9	+1.2
	comp=E,309nm,0.5s						
DHBB	**Dhamar BB**	**2.52**	**6**	*i* P	Pb	23 48 00.8	-1.6
DHBB				*i* S	Sb	23 48 34.8	+1.2
DHBB	**Dhamar BB**	**2.52**	**6**	*i* P	Pb	23 48 00.9	-1.5
DHBB				*i* S	Sb	23 48 34.8	+1.2
HAJJ	**Hajjah**	**3.66**	**352**	*i* S	Sb	23 49 02.3	-4.0
HAJJ	**Hajjah**	**3.66**	**352**	*i* S	Sb	23 49 02.3	-4.0

*IDC **02** 23:50:02.6±7.7, 11°.49N×44°.16E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/44, mbtmp3.7/5, Error ellipse: s-maj=166.4km s-min=43.8km az=34.0*
*CSEM **02** 23:50:03.5, 12°.01N×44°.11E, h8km, ML4.1*
*DHMR **02** 23:50:03.5±0.9, 12°.01N×44°.11E, h8km±11km, ML4.1*
ISC 02 23:50:04.9±1.6, 11°.9N±0°.1×44°.1E±0°.1, h4km, n12, σ1§38/19, mb3.5/5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**2.05**	**357**	*i* P	**Pn**	**23 50 38.7**	**-1.6**
UDYN				*i* S	**Sn**	**23 51 04.8**	**-1.6**
UDYN				AML	AML	23 51 08.2	
	comp=E,3μm,0.5s						
UDYN	**Al 'Udayn**	**2.05**	**357**	*i* P	**Pn**	**23 50 38.7**	**-1.6**
UDYN				*i* S	**Sn**	**23 51 04.8**	**-1.6**
	comp=E,1μm,0.5s						
BDHA	**Al Bayda'**	**2.50**	**35**	*i* P	**Pn**	**23 50 45.5**	**-1.2**
BDHA				*i* S	**Sn**	**23 51 18.5**	**+0.7**
BDHA				AML	AML	23 51 26.6	
	comp=E,1μm,0.5s						
BDHA	**Al Bayda'**	**2.50**	**35**	*i* P	**Pn**	**23 50 45.5**	**-1.2**
BDHA				*i* S	**Sn**	**23 51 18.5**	**+0.7**
	comp=E,728nm,0.5s						
DHBB	**Dhamar BB**	**2.66**	**6**	*i* P	**Pn**	**23 50 47.8**	**-1.1**
DHBB				*i* S	**Sn**	**23 51 22.9**	**+1.2**
HAJJ	**Hajjah**	**3.80**	**353**	*i* P	**Pn**	**23 51 03.4**	**-1.0**
HAJJ				*i* S	**Sn**	**23 51 50.8**	**+1.1**
HAJJ				AML	AML	23 52 03.8	
	comp=Z,952nm,0.7s						
HAJJ	**Hajjah**	**3.80**	**353**	*i* P	**Pn**	**23 51 03.4**	**-1.0**
HAJJ				*i* S	**Sn**	**23 51 50.8**	**+1.1**
	comp=Z,476nm,0.7s						
BRTR	**Keskin Array B**	**29.21**	**343**	P	**P**	**23 56 09.7**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=144,slow=9.1,SNR=5.4						
MKAR	**Makanchi Array**	**47.35**	**35**	P	**P**	**23 58 40.5**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=224,slow=6.8,SNR=6.6						
KURBB	**Kurchatov Arra**	**47.76**	**29**	P	**P**	**23 58 43.3**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=230,slow=7.9,SNR=4.5						
CMAR	**Chiang Mai Arr**	**53.17**	**76**	P	**P**	**23 59 22.6**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=270,slow=8.0,SNR=4.7						
SONM	**Songino Array**	**62.74**	**42**	P	**P**	**00 00 32.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=260,slow=7.8,SNR=4.1						

IDC 02 23:51:09.1±6.9, 12°.00N×44°.40E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/49, mbtmp3.8/7, Error ellipse: s-maj=143.2km s-min=41.9km az=35.0, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**29.21**	**343**	P	P	23 57 12.6	-0.1
	0.7nm,0.7s,baz=144,slow=9.2,SNR=5.5						
BVAR	**Borovoye Array**	**45.90**	**22**	P	P	23 59 33.6	+0.3
	0.7nm,0.8s,baz=222,slow=7.0,SNR=4.0						
MKAR	**Makanchi Array**	**47.11**	**35**	P	P	23 59 43.0	0.0
	1.1nm,0.9s,baz=241,slow=6.8,SNR=7.2						
KURBB	**Kurchatov Arra**	**47.53**	**29**	P	P	23 59 45.8	-0.3
	1.3nm,1.0s,baz=231,slow=7.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**52.63**	**29**	P	P	00 00 23.8	-1.0
	0.4nm,0.3s,baz=248,slow=7.8,SNR=5.3						
CMAR	**Chiang Mai Arr**	**52.86**	**76**	P	P	00 00 26.6	-0.5
	0.9nm,0.3s,baz=279,slow=8.8,SNR=5.6						
SONM	**Songino Array**	**62.47**	**42**	P	P	00 01 35.2	+0.8
	1.1nm,0.9s,baz=251,slow=6.9,SNR=6.3						

*DHMR **02** 23:58:40.6±1.4, 11°.85N×44°.04E, h7km±15km, ML4.4*
*ISCJB **02** 23:58:44.3±0.6, 11°.88N±0°.05×44°.08E±0°.06, h4km, mb3.9/16, MS4.6/1, Error ellipse: s-maj=9.0km s-min=6.2km az=31.9*
*IDC **02** 23:58:45.4±1.4, 11°.79N×44°.05E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.7/56, mbtmp3.9/12, MS3.8/3, Ms1 3.8/3, ms1mx3.4/41, Error ellipse: s-maj=33.7km s-min=11.0km az=160.0*
*NEIC **02** 23:58:46.2±0.8, 11°.67N×44°.04E, h10km, mb4.0/4, Error ellipse: s-maj=19.7km s-min=9.2km az=167.0*
*CSEM **02** 23:58:46.2±0.4, 11°.96N×43°.97E, h2km, mb4.0/4, Error ellipse: s-maj=17.2km s-min=11.2km az=139.0*
ISC 02 23:58:46.5±0.9, 11°.94N±0°.08×44°.11E±0°.07, h4km, n39, σ1§66/41, mb4.0/16, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.19**	**46**	*i* P	Pg	23 59 04.7	-4.6
ADEN				*i* S	**Sg**	**23 59 22.9**	**-1.7**
ADEN				AML	AML	23 59 30.4	
	comp=E,6μm,0.6s						
ADEN	**Aden**	**1.19**	**46**	*i* P	Pg	23 59 04.7	-4.6
ADEN				*i* S	**Sg**	**23 59 23.0**	**-1.7**
	comp=E,3μm,0.6s						
ATD	**Arta Tunnel**	**1.31**	**252**	Pg	Pg	23 59 08.1	-3.5
	comp=E,83nm,0.3s,baz=26,slow=21,SNR=17						
ATD				Lg	Lg	23 59 24.9	
	comp=E,117nm,0.3s,baz=310,slow=20,SNR=7.0						
UDYN	**Al 'Udayn**	**2.02**	**356**	*i* P	Pn	23 59 17.8	-3.7
UDYN				*i* S	**Sn**	**23 59 46.3**	**-1.0**
UDYN	**Al 'Udayn**	**2.02**	**356**	*i* P	Pn	23 59 17.8	-3.7
UDYN				*i* S	**Sn**	**23 59 46.3**	**-1.0**
BDHA	**Al Bayda'**	**2.47**	**35**	*i* P	**Pn**	**23 59 25.1**	**-2.7**
BDHA				*i* S	**Sn**	**00 00 00.8**	**+2.3**
BDHA				AML	AML	00 00 07.7	
	comp=E,3μm,0.6s						
BDHA	**Al Bayda'**	**2.47**	**35**	*i* P	**Pn**	**23 59 25.0**	**-2.7**
BDHA				*i* S	**Sn**	**00 00 00.8**	**+2.3**
DHBB	**Dhamar BB**	**2.63**	**6**	*i* P	**Pn**	**23 59 28.6**	**-1.4**
DHBB				*i* S	**Sn**	**00 00 05.6**	**+3.1**
DHBB	**Dhamar BB**	**2.63**	**6**	*i* P	**Pn**	**23 59 28.6**	**-1.4**
DHBB				*i* S	**Sn**	**00 00 05.6**	**+3.1**
SANA	**San'a**	**3.42**	**1**	*i* S	**Sn**	**00 00 23.1**	**+0.9**
HAJJ	**Hajjah**	**3.77**	**352**	*i* P	**Pn**	**23 59 42.6**	**-3.0**
HAJJ				*i* S	**Sn**	**00 00 31.6**	**+1.1**
HAJJ				AML	AML	00 00 47.3	
	comp=Z,3μm,0.6s						
HAJJ	**Hajjah**	**3.77**	**352**	*i* P	**Pn**	**23 59 42.6**	**-3.0**
HAJJ				*i* S	**Sn**	**00 00 31.6**	**+1.1**
KMBO	**Kilima Mbogo**	**14.66**	**208**	LR	LR	00 07 45.5	
	comp=Z,230nm,19.8s,baz=9.0,slow=37						
WSAR	**Wadi Sarin**	**17.80**	**49**	LR	LR	00 10 01.5	
	comp=Z,106nm,21.2s,baz=251,slow=38						
MMAI	**Mount Meron Ar**	**22.44**	**341**	P	**P**	**00 03 49.4**	**+2.7**
	comp=Z,1.6nm,0.8s,baz=218,slow=9.4,SNR=4.5						
GNI	**Garni**	**28.10**	**1**	*eP*	**P**	**00 04 41.0**	**+1.4**
	comp=Z,7.4nm,0.5s						
GNI	**Garni**	**28.10**	**1**	*eP*	**P**	**00 04 41.0**	**+1.4**
	comp=Z,7.4nm,0.5s						
BRTR	**Keskin Array B**	**29.18**	**343**	P	**P**	**00 04 51.1**	**+1.8**
	comp=Z,1.6nm,0.9s,baz=144,slow=11,SNR=12						
EKS2	**Erkin-Say**	**39.99**	**35**	*eP*	**P**	**00 06 23.4**	**+0.8**
	comp=Z,0.5nm,0.5s						
EKS2	**Erkin-Say**	**39.99**	**35**	*eP*	**P**	**00 06 23.4**	**+0.8**
	comp=Z,0.5nm,0.5s						
TSUM	**Tsumeb**	**40.52**	**221**	LR	LR	00 22 44.5	
	comp=Z,905nm,20.3s,baz=323,slow=36						
AKASG	**Malin Array Be**	**40.53**	**345**	P	**P**	**00 06 26.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=164,slow=7.7,SNR=5.3						
TKM2	**Tokmak 2**	**41.19**	**36**	*eP*	**P**	**00 06 33.7**	**+1.2**
	comp=Z,0.4nm,0.3s						
TKM2	**Tokmak 2**	**41.19**	**36**	*eP*	**P**	**00 06 33.7**	**+1.2**
	comp=Z,0.4nm,0.3s						
TORD	**Tovdi Ar. Bea**	**41.39**	**276**	P	**P**	**00 06 33.8**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=78,slow=6.7,SNR=5.5						
GERES	**GERESS Array B**	**44.61**	**332**	P	**P**	**00 06 59.8**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=122,slow=5.0,SNR=7.1						
BVAR	**Borovoye Array**	**46.06**	**22**	P	**P**	**00 07 12.4**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=226,slow=5.2,SNR=7.4						
MKAR	**Makanchi Array**	**47.31**	**35**	P	**P**	**00 07 21.8**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=224,slow=6.8,SNR=14						
KURBB	**Kurchatov Arra**	**47.72**	**29**	P	**P**	**00 07 24.4**	**0.0**
	comp=Z,2.7nm,0.2s,baz=230,slow=7.9,SNR=9.3						
KURK	**Kurchatov**	**47.83**	**29**	P	**P**	**00 07 24.4**	**-0.8**
KURK	**Kurchatov**	**47.83**	**29**	P	**P**	**00 07 24.4**	**-0.8**
FINES	**FINESS Array B**	**51.14**	**349**	P	**P**	**00 07 50.1**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=157,slow=7.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**52.82**	**29**	P	**P**	**00 08 02.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=232,slow=7.3,SNR=7.0						
CMAR	**Chiang Mai Arr**	**53.15**	**76**	P	**P**	**00 08 07.2**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=278,slow=10.0,SNR=5.9						
SONM	**Songino Array**	**62.70**	**42**	P	**P**	**00 09 13.5**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=252,slow=7.5,SNR=11						
DAV	**Davao City (W)**	**80.25**	**85**	*eP*	**P**	**00 10 58.0**	**-1.2**
DAV	**Davao City (W)**	**80.25**	**85**	*eP*	**P**	**00 10 58.0**	**-1.2**
SFJD	**Kangerlussuaq**	**80.95**	**337**	*eP*	**P**	**00 11 01.9**	**0.0**
	comp=Z,1.6nm,0.6s						
SFJD	**Kangerlussuaq**	**80.95**	**337**	*eP*	**P**	**00 11 01.9**	**0.0**
	comp=Z,1.6nm,0.6s						

MAN 02 23:59:43, 18°.02N×120°.86E, h66km, mb4.0, ML2.7, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.39**	**200**	*eP*	Pn	23 59 55.5	+1.1
ABRA				*eS*	Sn	00 00 06.9	+4.1
APYP	**Conner**	**0.40**	**113**	*eP*	Pn	23 59 56.3	+1.8
APYP				*eS*	Sn	00 00 06.0	+3.1
CVP	**Callao Caves**	**0.97**	**109**	*eP*	Pn	00 00 01.9	+1.0
CVP				*i* S	Sn	00 00 16.8	+2.5

MAN 03 00:03:19, 10°.06N×125°.89E, h17km, mb4.5, ML3.4, MS3.3, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.41**	**321**	*eP*	Pn	00 03 42.4	-1.6
PLP				*i* S	Sb	00 04 03.6	+0.9
BESP	**Borongan**	**1.59**	**344**	*eP*	Pb	00 03 47.4	-0.6
BESP				*eS*	Sb	00 04 07.4	-0.4
BUKP	**Musuan**	**2.32**	**201**	*eP*	Pn	00 03 57.3	+0.8
BUKP				*eS*	Sb	00 04 29.4	+0.7
GUIM	**Jordan**	**3.29**	**280**	*eP*	Pn	00 04 11.6	+1.8

*IDC **03** 00:04:58.1±0.3, 37°.20N×144°.06E, h0km, mb5.8/37, mb1 5.9/44, mb1mx5.9/45, mbtmp5.8/44, ML5.3/5, MS5.9/51, Ms1 5.9/51, ms1mx5.8/59, Error ellipse: s-maj=10.8km s-min=8.7km az=91.0*
*ISCJB **03** 00:04:59.5±0.4, 37°.31N±0°.01×143°.93E±0°.01, h14km±2km, mb6.3/579, MS5.9/266, Error ellipse: s-maj=2.4km s-min=1.4km az=168.2*
*NEIC **03** 00:05:00.8±0.1, 37°.29N×143°.91E, h14km, mb6.4/297, ME6.2, MS5.9/153, MW6.1, MW6.2, MW6.0, Error ellipse: s-maj=2.5km s-min=1.8km az=154.0, Moment Tensor Solution. s39 Moment tensor: Scale 10¹⁸Nm; Mrr=1.24; Mθθ=0.36; Mφφ=0.88; Mrθ=0.45; Mrφ=0.70; Mθφ=0.01; Best double couple: M₀=1.40000×10¹⁸ NP1:φs19.00000°, δ42.00000°, λ-115.00000°. NP2:φs230.00000°, δ53.00000°, λ-70.00000°. Principal axes: T 1.3900, Plg6.0000°, Azm306.0000°; N -0.0200, Plg16.0000°, Azm38.0000°; P -1.3700, Plg73.0000°, Azm197.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [III] at Tokyo. Also felt at Ichinoseki, Musashino and Sakado. Recorded [3 JMA] in Fukushima.
*GCMT **03** 00:05:00.8±0.1, 37°.35N×143°.96E, h20km, MW6.1/137, Moment Tensor Solution. s125,c276; s137,c504; Duration: 29s7 Moment tensor: Scale 1018Nm; Mrr-1.41±.01; Mθθ0.85±.01; Mφφ0.55±.01; Mrθ-0.37±.02; Mθφ0.99±.01; Mφr0.41±.02; Best double couple: M0 1.67400×1018 NP1:φs70.00000°, δ49.00000°, λ-60.00000°. NP2:φs208.00000°, δ49.00000°, λ-120.00000°. Principal axes: T 1.7100, Plg0.0000°, Azm139.0000°; N -0.0720, Plg22.0000°, Azm229.0000°; P -1.6380, Plg68.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **03** 00:05:00.8, 37°.35N×144°.00E, h30km, mb5.9/62, mB6.1/71, Ms6.2/93, Ms7 5.9/91*
*NIED **03** 00:05:00, 37°.30N×143°.70E, h11km, Mw5.9 Best double couple: M0 8.76000×1017 NP1:φs199.00000°, δ39.00000°, λ-136.00000°. NP2:φs72.00000°, δ64.00000°, λ-60.00000°.*
*MOS **03** 00:05:01.1±1.2, 37°.36N×143°.98E, h28km, mb6.6/159, MS6.0/86, Error ellipse: s-maj=6.6km s-min=4.6km az=100.7*
*JMA **03** 00:05:02.7±0.3, 37°.30N×143°.83E, h57km, M6.1*
JMA Felt III J1.
*NEIC **03** 00:05:03.0±0.0, 37°.29N×143°.91E, h25km, Moment Tensor Solution. s28 Moment tensor: Scale 1018Nm; Mrr-1.06; Mθθ0.57; Mφφ0.49; Mrθ-0.71; Mθφ0.55; Mθr-0.68; Best double couple: M0 1.50000×1018 NP1:φs47.00000°, δ66.00000°, λ-90.00000°. NP2:φs228.00000°, δ24.00000°, λ-88.00000°. Principal axes: T 1.4700, Plg21.0000°, Azm137.0000°; N -0.0200, Plg0.0000°, Azm46.0000°; P -1.4400, Plg68.0000°, Azm315.0000°;*
*NEIC **03** 00:05:10.5±0.0, 37°.45N×144°.60E, h23km, Moment Tensor Solution. s46 Moment tensor: Scale 1018Nm; Mrr-1.57; Mθθ0.94; Mφφ0.63; Mrθ-1.42; Mθφ1.04; Mθr-1.72; Best double couple: M0 2.80000×1018 NP1:φs240.00000°, δ19.00000°, λ-72.00000°. NP2:φs41.00000°, δ71.00000°, λ-96.00000°. Principal axes: T 2.9300, Plg26.0000°, Azm136.0000°; N -0.2300, Plg6.0000°, Azm43.0000°; P -2.7000, Plg63.0000°, Azm302.0000°;*
ISC 03 00:05:01.7±0.3, 37°.30N±0°.02×143°.97E±0°.02, h20km±1km, h19km: pP-P, n2401, σ1§39/2625, mb6.4/614, MS6.0/270, 103C-257D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.37**	**300**	⇑P	**Pn**	**00 05 39.2**	**-0.3**
JIO				S	**Sn**	**00 06 05.7**	**-2.2**
JFK	**Kawauchi**	**2.46**	**272**	⇑P	**Pn**	**00 05 40.1**	**-0.7**
JFK				S	**Sn**	**00 06 07.3**	**-3.0**
OFUJ	**Ofunato**	**2.53**	**315**	⇑P	**Pn**	**00 05 41.2**	**-0.5**
OFUJ				S	**Sn**	**00 06 09.6**	**-2.4**
ONAJ	**Iwakimizuishiy**	**2.54**	**266**	⇑P	**Pn**	**00 05 40.9**	**-1.0**
ONAJ				S	**Sn**	**00 06 09.1**	**-3.1**
JMM	**Marumori**	**2.58**	**283**	⇑P	**Pn**	**00 05 41.7**	**-0.7**
JMK	**Ichinoseki**	**2.72**	**308**	⇑P	**Pn**	**00 05 44.0**	**-0.3**
JMK				*eS*	**Sn**	**00 06 14.7**	**-1.9**
JHO	**Hitachi**	**2.81**	**257**	P	**Pn**	**00 05 44.5**	**-1.0**
JOU	**Okura**	**2.82**	**293**	⇑P	**Pn**	**00 05 45.9**	**+0.2**
MIYJ	**Miyakonagasawa**	**2.83**	**324**	⇑P	**Pn**	**00 05 44.7**	**-1.1**
JFT	**Otama**	**2.90**	**275**	⇑P	**Pn**	**00 05 47.3**	**+0.5**
JFT				S	**Sn**	**00 06 19.0**	**-2.0**
JOM	**Ohasama**	**3.02**	**317**	⇑P	**Pn**	**00 05 48.4**	**0.0**
JOM				S	**Sn**	**00 06 22.5**	**-1.5**
JTH	**Tanohata**	**3.10**	**329**	⇑P	**Pn**	**00 05 48.8**	**-0.8**
JYS	**Shirataka**	**3.22**	**288**	⇑P	**Pn**	**00 05 51.4**	**+0.2**
JSB	**Shiboa**	**3.25**	**265**	⇑P	**Pn**	**00 05 52.0**	**+0.4**
JYK	**Kaneyama**	**3.27**	**301**	⇑P	**Pn**	**00 05 52.2**	**+0.3**
JYK				*eS*	**Sn**	**00 06 28.8**	**-1.4**
JKZ	**Kuzumaki**	**3.38**	**323**	⇑P	**Pn**	**00 05 53.3**	**-0.1**
JFY	**Yanaizu**	**3.40**	**273**	⇑P	**Pn**	**00 05 53.9**	**+0.3**
I30JP	**ISUMI INFRASON**	**3.56**	**237**	Pn	**Pn**	**00 05 55.9**	**0.0**
	baz=51,slow=14,SNR=0.5						
I30JP				Sn	**Sn**	**00 06 37.1**	**-0.2**
	baz=358,slow=19						
BSO1	**Boso 1**	**3.59**	**223**	P	**Pn**	**00 05 54.9**	**-0.8**
JYA	**Atsumi**	**3.60**	**292**	⇑P	**Pn**	**00 05 56.7**	**+0.3**
JANG	**Nango**	**3.61**	**329**	⇑P	**Pn**	**00 05 55.7**	**-0.9**
JANG				S	**Sn**	**00 06 35.5**	**-3.2**
JAG	**Ashikaga**	**3.72**	**258**	⇑P	**Pn**	**00 05 57.6**	**-0.5**
JAG				*eS*	**Sn**	**00 06 38.6**	**-2.8**
JNS	**Sasagawa**	**3.73**	**279**	⇑P	**Pn**	**00 05 58.7**	**+0.5**
BSO4	**Boso 4**	**3.73**	**233**	P	**Pn**	**00 05 57.5**	**-0.7**
BSO3	**Boso 3**	**3.75**	**229**	P	**Pn**	**00 05 57.4**	**-0.9**
JKT	**Katashina**	**3.81**	**263**	⇑P	**Pn**	**00 05 59.9**	**+0.5**
JAH	**Hinai**	**3.88**	**319**	⇑P	**Pn**	**00 06 00.5**	**+0.2**
JAW	**Awa shima**	**3.91**	**289**	⇑P	**Pn**	**00 06 01.1**	**+0.5**
JHK	**Hiroka**	**3.95**	**271**	⇑P	**Pn**	**00 06 01.6**	**+0.4**
JTB	**Tobi-shima**	**3.95**	**300**	⇑P	**Pn**	**00 06 01.4**	**+0.2**
JTM	**Tenmabayashi**	**4.14**	**328**	P	**Pn**	**00 06 03.2**	**-0.7**
JOG2	**Oga 2**	**4.18**	**310**	P	**Pn**	**

JHG	Hegura jima	5.62	278	P		Pn	00 06 24.5	+0.3	
JJH	Hakui	5.75	268	P		Pn	00 06 26.8	+0.8	
JAO	Obara	5.79	251	P		Pn	00 06 27.0	+0.5	
JOSM	Okushiri--Mats	5.89	325	P		Pn	00 06 27.4	-0.5	
JOSM				S		Sn	00 07 31.7	-3.2	
INU	Inuyama	5.94	253	*e*Pn		Pn	00 06 29.0	+0.4	
INU				*e*Sn		Sn	00 07 32.1	-3.9	
NEM2	Nemuro 2	6.20	12	P		Pn	00 06 28.9	-3.3	
NEM2				*e*S		Sn	00 07 34.8	-7.7	
JKG	Kaga	6.21	263	⇑P		Pn	00 06 33.9	+1.6	
JIE	Ise	6.57	246	P		Pn	00 06 37.1	-0.2	
JHR	Hokuryu	6.65	346	P		Pn	00 06 38.2	-0.1	
JHR				S		Sn	00 07 49.0	-4.6	
JTKR	Abashiri--Toko	6.66	360	⇑P		Pn	00 06 37.0	-1.4	
JTKR				S		Sn	00 07 47.5	-6.2	
YUK	Yuzh-Kuril'sk	6.88	11	⇑*i*P		Pn	00 06 39.9	-1.5	
ASAJ	Asahikawa	6.88	352	Pn		Pn	00 06 40.9	-0.6	
	baz=220,slow=12								
ASAJ	Asahikawa	6.88	352	*e*Pn		Pn	00 06 41.0	-0.5	
ASAJ				*e*Sn		Sn	00 07 55.5	-3.7	
TTO1	TONANKAI O.B.S	6.92	240	P		Pn	00 06 42.2	+0.5	
JWT	Wachi	7.20	256	⇑P		Pn	00 06 46.3	+0.4	
JKY	Yasaka	7.33	259	⇑P		Pn	00 06 48.7	+1.0	
JWZ	Kozaga	7.71	243	P		Pn	00 06 52.5	-0.5	
JAJ2	Tsuna	7.91	251	P		Pn	00 06 55.6	-0.1	
KUR	Kuril'sk	8.45	19	*e*P		Pn	00 07 00.7	-2.2	
KUR				*i* S		Sn	00 08 30.5	-7.1	
KUR				pmax	pmax				
	comp=Z,3μm,3.3s								
KUR				pmax	pmax				
	comp=N,275nm,0.4s								
KUR				pmax	pmax				
	comp=E,251nm,0.4s								
KUR				pmax	pmax				
	comp=Z,663nm,0.4s								
KUR				MLR	MLR				
	comp=N,26μm,10.0s								
KUR				MLR	MLR				
	comp=E,38μm,10.0s								
KUR				MLR	MLR				
	comp=Z,49μm,10.0s								
JAI	Aioi	8.51	249	P		Pn	00 07 04.0	+0.2	
JMN	Monobe	8.96	250	P		Pn	00 07 10.2	+0.1	
YSS	Yuzh-Sakhalins	9.68	355	*j* *e*P		Pn	00 07 19.0	-0.9	
YSS				*e*S		Sn	00 09 02.5	-5.5	
YSS				pmax	pmax				
	comp=Z,310nm,1.4s								
YSS				pmax	pmax				
	comp=Z,5μm,3.0s								
YSS				MLR	MLR				
	comp=N,78μm,16.0s								
YSS				MLR	MLR				
	comp=Z,75μm,16.0s								
YSS	Yuzh-Sakhalins	9.68	355	*e*Pn		Pn	00 07 19.2	-0.7	
YSS				*e*Sn		Sn	00 09 04.8	-3.2	
CBIJ	Chichi jima	10.29	189	*e*Pn		Pn	00 07 22.9	-5.4	
CBIJ				Sn		Sn	00 09 08.4	-15	
JCJ	Chichijima	10.29	189	Pn		Pn	00 07 23.0	-5.3	
	baz=0.0,slow=8.2								
JCJ				Sn		Sn	00 09 08.4	-15	
	comp=Z,903nm,0.3s,baz=273,slow=22,SNR=13								
JCJ				LR		LR	00 12 06.5		
	comp=Z,34μm,19.9s,baz=1.0,slow=42								
VLA	Vladivostok	10.91	306	*c* *i*P		Pn	00 07 38.5	+1.9	
USRK	Ussuriysk Ar.	11.39	311	Pn		Pn	00 07 44.4	+1.1	
	comp=Z,50nm,0.3s,baz=119,slow=12,SNR=577								
USRK				LR		LR	00 12 06.2		
	comp=Z,120μm,18.2s,baz=116,slow=37								
JNU	Nakatsue	11.49	253	Pn		Pn	00 07 43.9	-0.8	
	comp=Z,11nm,0.3s,baz=56,slow=10,SNR=203								
JNU				LR		LR	00 13 39.3		
	comp=Z,48μm,18.4s,baz=76,slow=45								
JNU	Nakatsue	11.49	253	*e*Pn		Pn	00 07 44.4	-0.3	
UGL	Uglegorsk	11.85	354	⇑*i*P		Pn	00 07 48.0	-1.5	
UGL				*e*S		Sn	00 09 57.0	-4.0	
UGL				pmax	pmax				
	comp=Z,9μm,1.8s								
UGL				pmax	pmax				
	comp=Z,6μm,2.5s								
UGL				smax	smax				
	comp=N,6μm,2.0s								
UGL				smax	smax				
	comp=E,4μm,2.0s								
UGL				smax	smax				
	comp=N,10μm,4.0s								
UGL				smax	smax				
	comp=E,11μm,4.0s								
UGL				MLR	MLR				
	comp=Z,49μm,17.0s								
UGL				MLR	MLR				
	comp=N,62μm,18.0s								
UGL				MLR	MLR				
	comp=E,59μm,22.0s								
KSRS	Korea Array	12.77	276	Pn		Pn	00 08 03.9	+1.8	
	comp=E,11nm,0.3s,baz=85,slow=13,SNR=186								
KSRS				LR		LR	00 13 15.4		
	comp=E,49μm,18.1s,baz=78,slow=39								
KSRS				PcP		PcP	00 13 38.4	+0.6	
	comp=E,0.1nm,0.3s,baz=130,slow=1.1,SNR=5.0								
KS01	Wonju Array Si	12.79	276	*e*Pn		Pn	00 08 02.1	-0.3	
KS15	Wonju Array Si	12.80	275	*e*Pn		Pn	00 08 04.2	+1.7	
KSAR	Wonju Array Be	12.80	275	P		Pn	00 08 03.9	+1.4	
KSAR	Wonju Array Be	12.80	275	Pn		Pn	00 08 03.9	+1.4	
KSAR				PcP		PcP	00 13 38.4	+0.6	
HABR	Khabarovsk	12.92	333	*c* *i*P		Pn	00 08 01.9	-2.3	
HABR				*e*S		Sn	00 10 24.8	-2.5	
HABR				pmax	pmax				
	comp=Z,1μm,1.7s								
HABR				pmax	pmax				
	comp=N,613nm,1.7s								
HABR				pmax	pmax				
	comp=E,542nm,1.7s								
HABR				MLR	MLR				
	comp=N,12μm,11.0s								
HABR				MLR	MLR				
	comp=E,38μm,11.0s								
HABR				MLR	MLR				
	comp=Z,19μm,11.0s								
MDJ	Mudanjiang	13.08	308	P		Pn	00 08 06.9	+0.6	
MDJ				S		Sn	00 10 31.7	+0.5	
MDJ				PcP		PcP	00 13 37.8	-0.2	
MDJ				ScP		ScP	00 17 11.8	+1.7	
MDJ				ScS		ScS	00 20 43.2	-3.3	
MDJ				PMZ					
	comp=Z,770nm,1.3s								
MDJ				PMZ					
	comp=Z,2μm,3.5s								
MDJ				LN					
	comp=Z,66μm,17.1s								
MDJ				LE					
	comp=Z,60μm,16.0s								
MDJ				LZ					
	comp=Z,86μm,18.3s								
MDJ	Mudanjiang	13.08	308	*e*Pn		Pn	00 08 06.4	+0.1	
	comp=Z,1μm,1.3s								
TJN	Taejon	13.33	271	*c* *i*P		Pn	00 08 10.6	+0.8	
TYV	Tymovskoe	13.59	356	*e*P		Pn	00 08 11.0	-2.2	
TYV				*e*S		Sn	00 10 41.0	-2.5	
TYV				pmax	pmax				
	comp=Z,4μm,1.6s								
TYV				pmax	pmax				
	comp=N,14μm,5.0s								
TYV				pmax	pmax				
	comp=Z,10μm,6.0s								
TYV				smax	smax				
	comp=N,8μm,6.0s								
TYV				smax	smax				
	comp=N,1μm,2.0s								
INCN	Inchon	13.79	276	P		Pn	00 08 17.2	+1.2	
	SNR=51								
INCN	Inchon	13.79	276	*e*Pn		Pn	00 08 17.4	+1.3	
	comp=N,517nm,1.3s								
KLR	Kul'dur	14.85	327	Pn		Pn	00 08 27.8	-2.7	
	comp=N,7.3nm,0.3s,baz=134,slow=12,SNR=129								
KLR				LR		LR	00 14 37.1		
	comp=N,77μm,18.6s,baz=144,slow=39								
CN2	Changchun	15.48	301	*e*P		Pn	00 08 37.0	-1.9	
CN2				*e*sP		sP	00 08 49.2	-2.1	
CN2				*e*S		Sn	00 11 27.0	-2.8	
CN2				LN					
	comp=N,36μm,16.0s								
CN2				LE					
	comp=N,48μm,16.0s								
CN2				LZ					
	comp=N,52μm,17.0s								

SKR	Severo-Kuril's	15.95	29	*e*P		Pn	00 08 44.0	-0.8	
SKR				pmax	pmax				
	comp=Z,1μm,1.2s								
SKR				MLR	MLR				
	comp=Z,28μm,18.0s								
NKL	Nikolayevsk	16.01	353	*i* P		Pn	00 08 43.0	-2.6	
NKL				*e*S		Sn	00 11 38.0	-4.4	
NKL				pmax	pmax				
	comp=N,8μm,4.0s								
NKL				pmax	pmax				
	comp=E,2μm,4.0s								
NKL				pmax	pmax				
	comp=Z,8μm,4.0s								
NKL				pmax	pmax				
	comp=Z,2μm,1.5s								
NKL				smax	smax				
	comp=E,3μm,2.0s								
NKL				MLR	MLR				
	comp=N,34μm,16.0s								
NKL				MLR	MLR				
	comp=E,55μm,16.0s								
NKL				MLR	MLR				
	comp=Z,31μm,14.0s								
OKH	Okha	16.26	358	*e*P		Pn	00 08 45.8	-3.0	
OKH				*e*S		Sn	00 11 44.0	-4.5	
OKH				pmax	pmax				
	comp=Z,7μm,6.0s								
OKH				smax	smax				
	comp=N,27μm,8.0s								
OKH				smax	smax				
	comp=Z,61μm,19.0s								
SNY	Shenyang	16.35	292	⇑P		Pn	00 08 48.5	-1.5	
SNY				S		Sn	00 11 44.4	-6.4	
SNY				PMZ					
	comp=Z,7μm,8.8s								
SNY				LN					
	comp=Z,68μm,12.8s								
SNY				LE					
	comp=Z,78μm,17.1s								
SNY				LZ					
	comp=Z,141μm,15.2s								
JOW	Kunigami	16.89	236	*e*Pn		P	00 09 00.3	+1.5	
	comp=Z,268nm,1.4s								
DL2	Dalian	17.65	282	⇑*i*P		Pn	00 09 05.8	-0.6	
DL2				S		Sn	00 12 21.6	-0.8	
DL2				PMZ					
	comp=Z,970nm,1.0s								
DL2				PMZ					
	comp=Z,8μm,6.4s								
DL2				LN					
	comp=Z,42μm,16.2s								
DL2				LE					
	comp=Z,34μm,17.3s								
DL2				LZ					
	comp=Z,44μm,16.1s								
PEA0	Petropavlovsk-	18.48	27	*e*P		P	00 09 14.2	-2.1	
PEA0B	Petropavlovsk-	18.48	27	*e*P		P	00 09 15.5	-0.8	
	comp=Z,3μm,1.8s								
PETK	Petropavlovsk-	18.48	27	P		P	00 09 15.7	-0.6	
	comp=Z,0.9nm,0.3s,baz=186,slow=4.5,SNR=60								
PETK				LR		LR	00 18 12.2		
	comp=Z,23μm,18.7s,baz=219,slow=43								
PET	Petropavlovsk	18.76	28	*d* *i*P		P	00 09 18.7	-0.7	
PET				*i* S		Sn	00 12 42.4	-6.7	
PET				pmax	pmax				
	comp=Z,23μm,11.0s								
PET				pmax	pmax				
	comp=Z,500nm,1.4s								
PET				pmax	pmax				
	comp=Z,11μm,11.8s								
PET				smax	smax				
	comp=E,21μm,18.1s								
PET				smax	smax				
	comp=E,17μm,16.0s								
PET				MLR	MLR				
	comp=Z,24μm,20.0s								
PET	Petropavlovsk	18.76	28	*e*P		P	00 09 17.2	-2.2	
	comp=Z,720nm,1.3s								
SSE	Sheshan	19.81	259	P		P	00 09 30.4	-0.6	
SSE				pP		sP	00 09 39.6	+0.5	
SSE				S		S	00 13 07.3	-6.1	
SSE				PMZ					
	comp=Z,510nm,3.6s								
SSE				LN					
	comp=Z,62μm,23.0s								
SSE				LE					
	comp=Z,30μm,22.9s								
SSE				LZ					
	comp=Z,32μm,16.5s								
HIA	Hailar	21.20	312	*e*P		P	00 09 44.9	-1.1	
HIA				pmax	pmax				
	comp=Z,939nm,1.4s								
HIA				MLR	MLR				
	comp=Z,79nm,19.0s								
HIA	Hailar	21.20	312	*e*P		P	00 09 44.9	-1.1	
	comp=Z,939nm,1.4s								
HIA				LR		LR			
	comp=Z,79nm,19.0s								
NJ2	Nanjing	21.28	263	*e*P		P	00 09 45.8	-1.1	
NJ2				S		S	00 13 38.6	-3.9	
NJ2				sS		Sn	00 13 48.9	-1.1	
NJ2				PMZ					
	comp=Z,620nm,3.7s								
NJ2				LN					
	comp=Z,58nm,23.9s								
NJ2				LE					
	comp=Z,23μm,28.7s								
NJ2				LZ					
	comp=Z,28μm,13.6s								
TIA	Tai'an	21.51	275	⇑P		P	00 09 46.3	-3.1	
TIA				S		S	00 13 46.3	-0.8	
TIA				PMZ					
	comp=Z,660nm,1.4s								
TIA				PMZ					
	comp=Z,4μm,3.5s								
TIA				LN					
	comp=Z,24μm,14.0s								
TIA				LE					
	comp=Z,40μm,17.0s								
TIA				LZ					
	comp=Z,53μm,17.0s								
BJI	Beijing	21.84	286	P		P	00 09 52.3	-0.5	
BJI				S		S	00 13 47.5	-5.8	
BJI				PMZ					
	comp=Z,580nm,1.6s								
BJI				PMZ					
	comp=Z,3μm,3.5s								
BJI				LN					
	comp=Z,35μm,17.6s								
BJI				LE					
	comp=Z,20μm,16.0s								
BJI				LZ					
	comp=Z,17μm,18.8s								
BJT	Baijiatuau	21.84	286	*e*P		P	00 09 52.4	-0.5	
BJT				pmax	pmax				
	comp=Z,1μm,1.4s								
BJT				MLR	MLR				
	comp=Z,23μm,19.0s								
BJT	Baijiatuau	21.84	286	*e*P		P	00 09 52.4	-0.5	
	comp=Z,1μm,1.4s								
BJT				LR	LR				
	comp=Z,23μm,19.0s								
YOJ	Yonaguni jima	22.02	240	*e*P		P	00 09 54.2	-0.7	
YOJ				pmax	pmax				
	comp=Z,1μm,1.6s								
YOJ				MLR	MLR				
	comp=Z,32μm,20.0s								
YOJ	Yonaguni jima	22.02	240	*e*P		P	00 09 54.2	-0.7	
	comp=Z,1μm,1.6s								
YOJ				LR	LR				
	comp=Z,32μm,20.0s								
TATO	Taipei	22.77	244	P		P	00 10 04.1	+1.2	
	SNR=13								
TATO	Taipei	22.77	244	*e*P		P	00 10 00.3	-2.5	
	comp=Z,2μm,2.0s								
TATO				LR	LR				
	comp=Z,25μm,18.0s								
YHNB	Yeheng	23.03	243	*e*P		P	00 10 04.5	-1.3	
	comp=Z,226nm,1.0s								
YHNB				LR	LR				
	comp=Z,25μm,19.0s								
NACB	Ninganchiao	23.19	242	*e*P		P	00 10 05.0	-2.2	
	comp=Z,799nm,1.7s								
NACB				LR	LR				
	comp=Z,27μm,20.0s								
CLNS	Chul'man	23.32	333	*e*P		P	00 10 08.4	+0.1	
CLNS				*e**PP		sP	00 10 19.0	+2.4	

CLNS				*e*			00 13 53.2		
CLNS				*e*SS		Sn	00 14 54.6	+16	
CLNS				pmax	pmax				
	comp=Z,1μm,1.1s								
CLNS				MLR	MLR				
	comp=Z,26μm,16.0s								
GUMO	Guam	23.63	178	P		P	00 10 09.4	-2.3	
	comp=Z,115nm,0.8s,baz=239,slow=2.9,SNR=7.6								
GUMO				LR		LR	00 18 58.9		
	comp=Z,11μm,19.0s,baz=11,slow=36								
GUMO	Guam	23.63	178	*e*P		P	00 10 11.2	-0.5	
	comp=Z,3μm,1.3s								
SSLB	Suanglung	23.89	242	*e*P		P	00 10 13.0	-1.2	
	comp=Z,231nm,0.9s								
SSLB				LR	LR				
	comp=Z,34μm,19.0s								
YULB	Yu-li	23.90	241	*e*P		P	00 10 12.1	-2.2	
	comp=Z,755nm,1.3s								
YULB				LR	LR				
	comp=Z,17μm,21.0s								
TPUB	Ta-pu	24.43	242	*e*P		P	00 10 18.2	-0.9	
	comp=Z,760nm,1.0s								
TPUB				LR	LR				
	comp=Z,34μm,19.0s								
TWG	Pinlang	24.43	240	*e*P		P	00 10 19.8	+0.6	
	comp=Z,3μm,1.3s								
TWG				LR	LR				
	comp=Z,65μm,19.0s								
QZH	Quanzhou	24.89	248	⇓*i*P		P	00 10 16.8	-6.5	
QZH				S		S	00 14 27.0	-18	
TIY	Taiyuan	24.96	281	*e*P		P	00 10 25.4	+1.5	
TIY				pP		sP	00 10 31.9	-0.5	
TIY				sP		pP	00 10 38.3	+8.4	
TIY				S		S	00 14 46.8	+0.2	
TIY				SS		SnSn	00 15 40.8	+5.6	
TIY				LN					
	comp=Z,6μm,12.0s								
TIY				LE					
	comp=Z,15μm,13.1s								
TIY				LZ					
	comp=Z,37μm,13.8s								
HHC	Hu-ho-hao-te	25.32	288	*e*P		P	00 10 27.7	+0.5	
HHC				pP		sP	00 10 34.5	-1.1	
HHC				S		S	00 14 50.8	-1.6	
HHC				sS		sS	00 15 00.2	-2.1	
HHC				PMZ					
	comp=Z,8μm,8.3s								
HHC				LN					
	comp=Z,35μm,13.1s								
HHC				LE					
	comp=Z,31μm,15.8s								
HHC				LZ					
	comp=Z,37μm,15.5s								
WHN	Wuhan	25.42	263	⇓P		P	00 10 28.3	+0.3	
WHN				S		S	00 14 53.4	-0.4	
CIT	Chita	25.92	314	*e*P		P	00 10 33.6	+1.1	
CIT				*e*			00 10 44.3		
CIT				*e*			00 11 14.6		
CIT				*e*S		S	00 15 06.1	+4.5	
CIT				pmax	pmax				
	comp=Z,8μm,2.3s								
SMY	Shemya	26.05	44	*e*P		P	00 10 35.3	+1.8	
SMY				pmax	pmax				
	comp=Z,5μm,1.6s								
SMY	Shemya	26.05	44	*e*P		P	00 10 35.3	+1.8	
	comp=Z,5μm,1.6s								
SEY	Seymchan	26.17	9	P		P	00 10 36.0	+1.5	
	comp=Z,921nm,1.0s,baz=190,slow=6.3,SNR=624								
YAK	Yakutsk	26.30	345	P		P	00 10 35.0	-0.6	
	comp=Z,42nm,0.6s,baz=337,slow=23,SNR=86								
YAK				LR		LR	00 21 35.9		
	comp=Z,48μm,20.1s,baz=154,slow=38								
YAK	Yakutsk	26.30	345	*d* *i*P		P	00 10 35.5	-0.2	
YAK				*e**PP		pP	00 10 40.3	-1.3	
YAK				*e*PPP		PPP	00 11 20.3		
YAK				*e*			00 14 01.3		
YAK				*e*S		S	00 15 06.7	-0.4	
YAK				*e**SS		sS	00 15 16.1	-0.9	
YAK				*e*SSS		SSS	00 16 15.2		
YAK				*e*			00 21 34.4		
YAK				pmax	pmax				
	comp=E,335nm,1.4s								
YAK				pmax	pmax				
	comp=N,675nm,1.2s								
YAK				pmax	pmax				
	comp=Z,1μm,1.1s								
YAK				smax	smax				
	comp=E,3μm,3.2s								
YAK				smax	smax				
	comp=N,2μm,2.6s								
YAK				MLR	MLR				
	comp=N,30μm,18.0s								
YAK				MLR	MLR				
	comp=Z,45μm,19.0s								
YAK				MLR	MLR				
	comp=E,40μm,17.0s								
YAK	Yakutsk	26.30	345	*e*P		P	00 10 35.7	0.0	
	comp=E,2μm,1.2s								
BTO	Baotou	26.51	288	*e*P		P	00 10 34.7	-3.3	
BTO				S		S	00 15 14.5	+3.4	
H11N2	WAKE ISLAND Hy	26.58	125	T		T	00 37 30.9		
	baz=317,slow=74,SNR=208								
H11N1	WAKE ISLAND Hy	26.59	125	T		T	00 37 46.5		
	baz=317,slow=74,SNR=91								
H11N3	WAKE ISLAND Hy	26.60	125	T		T	00 37 44.2		
	baz=317,slow=74,SNR=119								
H11S1	WAKE ISLAND Hy	27.34	127	T		T	00 38 27.5		
	baz=319,slow=76,SNR=22								
H11S3	WAKE ISLAND Hy	27.34	127	T		T	00 38 40.8		
	baz=319,slow=76,SNR=26								
H11S2	WAKE ISLAND Hy	27.36	127	T		T	00 38 30.2		
	baz=319,slow=76,SNR=27								
CVP	Callao Caves	27.57	231	⇑*i*P		P	00 10 59.0	+11	
APYP	Conner	27.82	232	*e*P		P	00 10 49.4	-0.3	
CAUP	Cauayan	28.15	230	*e*P		P	00 10 56.8	+4.1	
ABRA	Dolores	28.31	233	*e*P		P	00 10 56.2	+2.1	
XAN	Xi'an	28.56	274	P		P	00 10 56.1	-0.2	
XAN				pP		sP	00 11 05.6	+0.8	
XAN				sP		pP	00 11 09.6	+7.3	
XAN				PP		PnPn	00 11 51.1	+4.9	
XAN				S		S	00 15 44.7	+1.2	
XAN				sS		sS	00 16 00.9	+7.6	
XAN				PMZ					
	comp=E,220nm,0.9s								
XAN				PMZ					
	comp=E,4μm,7.3s								
XAN				LN					
	comp=E,32μm,16.7s								
XAN				LE					
	comp=E,15μm,16.0s								
XAN				LZ					
	comp=E,20μm,14.0s								
ULN	Ulaanbaatar	28.90	303	*d* *i*P		P	00 11 01.1	+1.7	
ULN				*i* *PP		sP	00 11 07.2	-0.6	
ULN				pmax	pmax				
	comp=Z,395nm,1.3s								
ULN				MLR	MLR				
	comp=Z,27μm,14.0s								
ULN	Ulaanbaatar	28.90	303	P		P	00 11 00.9	+1.6	
	SNR=431								
ULN	Ulaanbaatar	28.90	303	*e*P		P	00 11 00.0	+0.6	
	comp=Z,863nm,1.4s								
ULN				LR	LR				
	comp=Z,22μm,22.0s								
BALP	Baler	29.23	229	*e*P		P	00 11 03.9	+1.6	
SONA1	Songino Array	29.33	303	*e*P		P	00 11 03.6	+0.5	
SONM	Songino Array	29.34	303	P		P	00 11 04.6	+1.4	
	comp=Z,107nm,0.9s,baz=106,slow=5.8,SNR=179								
SONM				P3KPbc			00 43 09.3		
	comp=Z,3.8nm,1.2s,baz=230,slow=4.5,SNR=13								
ENH	Enshi	29.39	266	*e*P		P	00 11 03.8	+0.1	
	comp=Z,319nm,0.9s								
ENH				LR	LR				
	comp=Z,58nm,20.0s								
PVCP	Virac	29.50	222	*e*P		P	00 11 07.8	+3.1	
HKC	Hong Kong Obse	29.71	248	⇑P		P	00 11 12.0	+5.5	
BOLP	Bolinao	29.76	232	*e*P		P	00 11 06.8	-0.3	
GZH	Guangzhou	29.87	250	P		P	00 11 04.3	-3.6	
GZH				S		S	00 15 53.9	-10	
GZH				PMZ					
	comp=Z,3μm,5.8s								
SCZP	Santa Cruz	30.22	231	*e*P		P	00 11 12.1	+1.0	
MCO	Taipa Grande	30.27	249	P		P	00 11 17.0	+5.4	
PLP	Palo	31.13	218	⇑*e*P		P	00 11 18.1	-1.0	
IRK	Irkutsk	31.44	311	*e*P		P	00 11 21.8	+0.2	

IRK eS **S** **00 16 27.4 -0.9**
IRK *e* 00 18 41.1
IRK pmax pmax
comp=Z,332nm,1.9s
LUBP Lubang 31.59 228 *eP* **P** **00 11 24.1 +0.8**
OTRP Odiongan 31.67 224 *eP* **P** **00 11 26.7 +2.8**
TLY Talaya 31.71 310 P **P** **00 11 24.0 0.0**
comp=Z,32nm,0.9s,baz=110,slow=5.5,SNR=19
TLY LR LR 00 25 10.1
comp=Z,56µm,18.2s,baz=78,slow=38
TLY Talaya 31.71 310*d* *iP* **P** **00 11 24.9 +0.9**
TLY *e* 00 12 40.0
TLY eS **S** **00 16 31.2 -1.3**
TLY pmax pmax
comp=Z,540nm,1.5s
TLY MLR MLR
comp=Z,50µm,18.0s
TLY Talaya 31.71 310 *eP* **P** **00 11 24.1 +0.2**
comp=Z,622nm,1.4s
ZAK Zakamensk 31.71 307 *eP* **P** **00 11 24.4 +0.3**
ZAK pmax pmax
comp=Z,219nm,1.9s
RCP Roxas 31.94 222⇑ *eP* **P** **00 11 29.1 +2.8**
LZH Lanzhou 32.03 280 ⇓P **P** **00 11 27.6 +0.5**
LZH pP sP 00 11 36.8 +1.2
LZH sP pP 00 11 40.7 +7.5
LZH PP **PnPn** **00 12 35.0 +2.5**
LZH PcP **PcP** **00 14 17.9 +1.3**
LZH S **S** **00 16 35.0 -3.1**
LZH sS sS 00 16 52.0 +4.0
LZH SS **SnSn** **00 18 29.1 +1.4**
LZH PMZ
comp=Z,900nm,1.5s
LZH PMZ
comp=Z,4µm,8.3s
LZH LZ
comp=Z,53µm,17.0s
GUIM Jordan 32.80 221 *eP* **P** **00 11 35.5 +1.7**
BUSP Coron 33.00 226 *eP* **P** **00 11 35.4 -0.1**
PATS Pohnpei 33.02 153 *eP* **P** **00 11 35.7 -0.1**
comp=Z,2µm,1.6s
JAP San Jose, Anti 33.05 223⇑ *eP* P 00 11 42.5 +6.5
BILL Bilibino 33.21 15*d* *iP* **P** **00 11 37.6 +0.7**
BILL *e* 00 12 50.5
BILL *i* 00 14 19.6
BILL *i* S **S** **00 16 54.3 -1.2**
BILL pmax pmax
comp=Z,1µm,1.2s
BILL MLR MLR
comp=Z,19µm,19.0s
BILL Bilibino 33.21 15 *eP* **P** **00 11 35.4 -1.5**
comp=Z,2µm,1.3s
BILL LR LR
comp=Z,21µm,21.0s
GYA Guiyang 33.28 262⇓ *iP* **P** **00 11 37.7 -0.4**
GYA pP sP 00 11 48.0 +1.4
GYA PP **PnPn** **00 12 51.2 +2.7**
GYA PcP **PcP** **00 14 22.0 +1.9**
GYA S **S** **00 16 53.4 -4.2**
GYA sS sS 00 17 11.0 +3.5
GYA ScP **ScP** **00 18 02.8 -0.6**
GYA SS **SnSn** **00 18 58.4 +0.2**
GYA ScS **ScS** **00 22 02.0 -2.3**
GYA PMZ
comp=Z,90nm,1.2s
GYA PMZ
comp=Z,1µm,9.4s
GYA LN
comp=Z,40µm,19.6s
GYA LE
comp=Z,19µm,20.2s
GYA LZ
comp=Z,16µm,20.0s
MOY Mondy 33.33 309 *eP* **P** **00 11 39.0 +0.7**
MOY pmax pmax
comp=Z,420nm,3.3s
MIDW Midway 33.56 94 *eP* **P** **00 11 41.1 +0.7**
comp=Z,1µm,1.7s
MIDW LR LR
comp=Z,16µm,20.0s
CD2 Chengdu 33.71 271 ⇓P **P** **00 11 41.6 -0.1**
CD2 pP sP 00 11 50.6 +0.4
CD2 sP pP 00 11 54.6 +6.8
CD2 S **S** **00 17 01.1 -3.0**
CD2 sS sS 00 17 18.3 +4.3
CD2 PMZ
comp=Z,220nm,0.7s
CD2 PMZ
comp=Z,3µm,5.0s
CD2 LN
comp=Z,37µm,17.7s
CD2 LE
comp=Z,38µm,17.3s
CD2 LZ
comp=Z,41µm,17.3s
BUKP Musuan 33.95 215 *eP* **P** **00 11 44.4 +0.5**
GTA Gaotai 34.43 287 ⇓P **P** **00 11 49.2 +1.2**
GTA pP sP 00 11 59.1 +2.6
GTA sP pP 00 12 02.8 +8.7
GTA PcP **PcP** **00 14 24.4 +1.2**
GTA S **S** **00 17 17.8 +2.6**
GTA sS sS 00 17 33.4 +8.2
GTA PcS **PcS** **00 18 10.1 +0.4**
GTA ScS **ScS** **00 22 07.4 -2.6**
GTA PMZ
comp=Z,110nm,1.4s
GTA PMZ
comp=Z,5µm,9.3s
GTA LN
comp=Z,35µm,20.0s
GTA LE
comp=Z,30µm,17.1s
GTA LZ
comp=Z,37µm,17.1s
DAV Davao City (W) 34.43 214 LR LR 00 24 56.9
comp=Z,15µm,20.6s,baz=54,slow=35
PAGZ Pagadian 34.77 218 *eP* **P** **00 11 50.0 -1.0**
CTBH Cotabato--PC H 34.91 216⇓ *iP* **P** **00 11 53.0 +0.9**
QIZ Qiongzhong 34.91 248 P **P** **00 11 53.6 +1.4**
QIZ sP **sP** **00 12 06.9 +6.2**
QIZ S **S** **00 17 23.9 +1.2**
QIZ PMZ
comp=Z,1µm,6.7s
QIZ LN
comp=Z,12µm,15.4s
QIZ LE
comp=Z,22µm,18.0s
QIZ LZ
comp=Z,17µm,15.4s
QIZ Qiongzhong 34.91 248 *eP* **P** **00 11 51.9 -0.2**
comp=Z,211nm,1.4s
QIZ LR LR
comp=Z,15µm,19.0s
TIXI Tiksi 35.29 352 P **P** **00 11 54.5 -0.4**
comp=Z,66nm,0.9s,baz=146,slow=8.8,SNR=170
TIXI PcP **PcP** **00 14 25.0 +0.1**
comp=Z,79nm,1.2s,baz=189,slow=3.8,SNR=4.5
TIXI Tiksi 35.29 352*d* *iP* **P** **00 11 54.6 -0.2**
TIXI pmax pmax
comp=Z,137nm,1.2s
TIXI MLR MLR
comp=Z,19µm,16.0s
TIXI Tiksi 35.29 352 *eP* **P** **00 11 54.5 -0.4**
comp=Z,216nm,1.2s
TIXI PcP **PcP** **00 14 25.0 +0.1**
TIXI LR LR
comp=Z,20µm,21.0s
BATP Bataraza 36.96 226 *eP* **P** **00 12 10.5 +0.8**
KMI Kunming 37.02 263 P **P** **00 12 10.8 +0.3**
KMI pP sP 00 12 20.2 +1.2
KMI sP pP 00 12 23.8 +7.3
KMI PP **PnPn** **00 13 35.3 +0.2**
KMI S **S** **00 17 53.7 -1.6**
KMI sS sS 00 18 09.3 +4.0
KMI SS **SnSn** **00 20 23.8 -5.2**
KMI PMZ
comp=Z,160nm,1.4s
KMI PMZ
comp=Z,2µm,5.1s
KMI LN
comp=Z,32µm,15.7s
KMI LE
comp=Z,18µm,16.3s
KMI LZ
comp=Z,14µm,19.0s
GAMB Gambell 37.44 31 *eP* **P** **00 12 14.8 +1.6**
comp=Z,654nm,1.7s
MYLDM Lahad Datu 39.54 222⇑P **P** **00 12 34.7 +3.2**
MYLDM Lahad Datu 39.54 222 *eP* **P** **00 12 33.2 +1.7**
comp=Z,529nm,1.2s
TNA Tin City 39.62 29 *eP* **P** **00 12 33.1 +1.5**
comp=Z,1µm,1.5s
JAY Jayapura 39.73 185 P **P** **00 12 32.6 -0.4**
comp=Z,30nm,0.8s,baz=276,slow=20,SNR=68
JAY LR LR 00 28 10.3
comp=Z,246nm,19.0s,baz=359,slow=35
JAY Jayapura 39.73 185 P **P** **00 12 32.7 -0.4**
comp=Z,406nm,0.9s,comp=Z,4µm
GENI Genyem 39.85 186 P **P** **00 12 34.1 +0.1**
comp=Z,1µm,1.1s,comp=Z,13µm
SDKM Sandakan 39.88 224⇓P **P** **00 12 36.4 +2.1**
PANO Nakornpanom 39.97 251 P **P** **00 12 36.3 +1.2**
comp=Z,178nm,1.7s,comp=Z,4µm
KKM Kota Kinabalu 40.10 226⇓P **P** **00 12 38.7 +2.5**
KKM Kota Kinabalu 40.10 226 *eP* **P** **00 12 39.1 +2.9**
comp=Z,193nm,1.1s
KKM LR LR
comp=Z,7µm,19.0s
UBPT Khong Chiam 40.51 248 P **P** **00 12 40.5 +1.0**
comp=Z,195nm,1.2s
SKNT Sakolnakorn 40.55 251 P **P** **00 12 40.6 +0.7**
comp=Z,222nm,1.0s,comp=Z,5µm
LBMI Labuha 40.72 206 P **P** **00 12 41.5 +0.3**
comp=Z,1µm,2.1s,comp=Z,22µm
CRAI Chiangrai 41.43 258 P **P** **00 12 48.0 +0.9**
comp=Z,939nm,1.6s,comp=Z,32µm
FAKI Fak Fak 41.48 198 P **P** **00 12 47.0 -0.5**
comp=Z,256nm,1.8s,comp=Z,8µm
FAKI Fak Fak 41.48 198 *eP* **P** **00 12 46.9 -0.5**
comp=Z,586nm,1.5s
KHON Khomkaen 41.82 251 P **P** **00 12 51.3 +1.0**
comp=Z,45nm,0.8s
MRSI Marisa 41.91 214 P **P** **00 12 51.5 +0.5**
comp=Z,1µm,1.4s,comp=Z,14µm
LOEI Loei 42.30 254 P **P** **00 12 51.8 -2.5**
comp=Z,136nm,1.1s,comp=Z,2µm
CHGN Chignik 42.35 44 *eP* **P** **00 12 53.5 -0.6**
WMQ Urumqi 42.53 297 P **P** **00 12 56.8 +0.8**
WMQ pP sP 00 13 05.7 +1.2
WMQ sP pP 00 13 11.6 +9.5
WMQ PcP **PcP** **00 14 49.8 +1.5**
WMQ S **S** **00 19 16.4 -0.9**
WMQ ScS **ScS** **00 22 53.8 -2.7**
WMQ PMZ
comp=Z,120nm,0.8s
WMQ PMZ
comp=Z,3µm,8.6s
WMQ LN
comp=Z,17µm,15.8s
WMQ LE
comp=Z,4µm,17.4s
WMQ LZ
comp=Z,2µm,16.4s
SANI Sanana 42.56 207 P **P** **00 12 55.4 -0.9**
comp=Z,1µm,0.8s,comp=Z,11µm
UTTA Uttaradit 42.71 255 P **P** **00 12 58.1 +0.6**
comp=Z,23nm,1.1s,comp=Z,274nm
MSAI Masohi 42.80 202 P **P** **00 12 59.8 +1.6**
comp=Z,236nm,1.4s,comp=Z,5µmcomp=Z,12µm
LUWI Luwuk 42.91 212 P **P** **00 12 57.8 -1.3**
comp=Z,802nm,1.3s,comp=Z,9µm
LUWI Luwuk 42.91 212 *eP* **P** **00 12 57.5 -1.6**
comp=Z,647nm,0.9s
LAMP Lampang 42.97 257 P **P** **00 13 00.7 +1.0**
comp=Z,57nm,0.8s,comp=Z,523nm
PBKT Sadao Pong 43.09 253 P **P** **00 13 01.1 +0.5**
comp=Z,192nm,1.5s,comp=Z,3µm
ZAA0 Zalesovo Array 43.24 312 *eP* **P** **00 13 01.4 -0.1**
ZALV Zalesovo Beam 43.24 312 P **P** **00 13 01.7 +0.2**
comp=Z,109nm,1.0s,baz=87,slow=6.4,SNR=281
ZALV PcP **PcP** **00 14 50.2 -0.1**
comp=Z,79nm,0.7s,baz=95,slow=3.2,SNR=7.3
ZALV LR LR 00 31 47.3
comp=Z,34µm,18.5s,baz=90,slow=37
ZALV PKPPKP P'P'df 00 44 40.4 -22
NLAI Namlea 43.28 205 P **P** **00 13 02.7 +0.6**
comp=Z,319nm,1.5s,comp=Z,6µm
CMMT Chiang Mai 43.34 258 P **P** **00 13 03.1 +0.4**
comp=Z,173nm,1.4s,comp=Z,3µm
CHTO Chiang Mai 43.34 258 P **P** **00 13 03.2 +0.5**
comp=Z,781nm,1.4s,comp=Z,14µm
CHTO Chiang Mai 43.34 258 *eP* **P** **00 13 03.6 +0.9**
CHTO pmax pmax
comp=Z,338nm,1.5s
CHTO MLR MLR
comp=Z,16µm,19.0s
CHTO Chiang Mai 43.34 258 P **P** **00 13 03.7 +0.9**
SNR=89
CHTO Chiang Mai 43.34 258 *eP* **P** **00 13 03.6 +0.9**
comp=Z,338nm,1.5s
CHTO LR LR
comp=Z,16µm,19.0s
CM31 Chiang Mai Arr 43.54 257 *eP* **P** **00 13 05.7 +1.4**
CMAR Chiang Mai Arr 43.54 257 P **P** **00 13 05.3 +1.0**
comp=Z,29nm,0.6s,baz=45,slow=7.4,SNR=179
CMAR PcP **PcP** **00 14 52.7 +0.7**
comp=Z,19nm,1.0s,baz=6.5,slow=1.8,SNR=5.0
CMAR LR LR 00 35 25.6
comp=Z,15µm,18.3s,baz=54,slow=42
CM01 Chiang Mai Arr 43.55 257 *eP* **P** **00 13 04.4 0.0**
SUKH Sukhothai 43.57 255 P **P** **00 13 05.5 +1.0**
comp=Z,28nm,1.2s,comp=Z,299nm
SRAK Srakaew 43.86 249 P **P** **00 13 04.2 -2.7**
comp=Z,366nm,1.3s,comp=Z,4µm
NRIK Noril'sk 43.88 335 P **P** **00 13 06.7 +0.3**
comp=Z,142nm,1.1s,baz=110,slow=8.5,SNR=201
NRIK PcP **PcP** **00 14 53.2 +1.0**
comp=Z,139nm,0.9s,baz=115,slow=5.8,SNR=5.8
NRIK LR LR 00 33 31.4
comp=Z,25µm,18.6s,baz=103,slow=39
TT01 Tatalina 44.03 35 *eP* **P** **00 13 08.9 +1.2**
TTA Tatalina 44.04 35 *eP* **P** **00 13 09.1 +1.2**
TTA pmax pmax
comp=Z,554nm,1.4s
TTA Tatalina 44.04 35 *eP* **P** **00 13 09.1 +1.2**
comp=Z,554nm,1.4s
SVW2 Sparrevohn 44.07 37 *eP* **P** **00 13 09.8 +1.7**
comp=Z,1µm,1.4s
PCI Palu 44.10 216 P **P** **00 13 08.7 -0.1**
comp=Z,921nm,1.5s,comp=Z,13µm
NVS Novosibirsk 44.13 314⇓ *iP* **P** **00 13 09.2 +0.6**
NVS *i* 00 14 53.0
NVS *i* S **S** **00 19 41.4 +1.2**
NVS pmax pmax
comp=Z,210nm,0.9s
NVS pmax pmax
comp=N,22nm,0.6s
NVS pmax pmax
comp=E,173nm,1.2s
NVS smax smax
comp=N,27nm,0.7s
NVS smax smax
comp=E,66nm,0.5s
ZSN Zaisan 44.16 303 *i* P **P** **00 13 06.5 -2.6**
comp=E,2µm,1.3s
ZSN *i* S **S** **00 19 38.5 -2.5**
ZSN LR LR 00 31 50.8
comp=E,6µm,12.1s
LSA Lhasa 44.21 276 P **P** **00 13 11.2 +1.1**
LSA PMZ
comp=E,38nm,1.8s
LSA PMZ
comp=E,2µm,10.9s
LSA LN
comp=E,4µm,14.0s
LSA LE
comp=E,8µm,15.3s
LSA LZ
comp=E,15µm,17.8s
LSA Lhasa 44.21 276 *eP* **P** **00 13 11.3 +1.1**
LSA pmax pmax
comp=Z,196nm,1.1s
LSA MLR MLR
comp=Z,14µm,20.0s
LSA Lhasa 44.21 276 *eP* **P** **00 13 11.3 +1.1**
comp=Z,196nm,1.1s
LSA LR LR
comp=Z,14µm,20.0s
BTM Bintulu 44.21 227⇓P **P** **00 13 10.1 +0.4**
CHBT CHBT 44.45 248 P **P** **00 13 12.7 +1.1**
comp=Z,285nm,1.4s,comp=Z,5µm
TARA Tarawa 44.63 136 *eP* **P** **00 13 13.6 +0.6**
comp=Z,1µm,1.9s
TARA LR LR
comp=Z,1µm,20.0s
OHAK Old Harbor 45.17 43 *eP* **P** **00 13 16.6 -0.3**
comp=Z,2µm,1.9s
SBUM Sibu 45.32 228⇓P **P** **00 13 18.7 +0.1**
SBUM Sibu 45.32 228 *eP* **P** **00 13 19.0 +0.5**
comp=Z,790nm,1.7s
RSO Redoubt South 45.43 38 *eP* **P** **00 13 19.8 +0.6**
PATY Pattaya 45.43 249 P **P** **00 13 20.6 +1.2**
comp=Z,52nm,1.4s,comp=Z,2µm
SHL Shillong 45.45 271⇓ *iP* **P** **00 13 20.0 +0.3**
SHL IAmb IAmb 00 13 28.5
comp=Z,1µm,2.4s
KDAK Kodiak Island 45.53 42 *eP* **P** **00 13 19.7 0.0**
KDAK pmax pmax
comp=Z,1µm,1.4s
KDAK MLR MLR
comp=Z,19µm,20.0s
KDAK Kodiak Island 45.53 42 *eP* **P** **00 13 19.6 0.0**
comp=Z,1µm,1.4s
KDAK LR LR
comp=Z,19µm,20.0s
JOHN Johnston Islan 45.69 104 *eP* **P** **00 13 21.8 +0.4**
comp=Z,601nm,1.1s
JOHN LR LR
comp=Z,1µm,20.0s
MK01 Makanchi Array 45.70 302 *eP* **P** **00 13 20.8 -0.5**
MK31 Makanchi Array 45.70 302 *iP* **P** **00 13 21.7 +0.5**
MK31 pmax pmax
comp=Z,310nm,1.1s
MK31 Makanchi Array 45.70 302 *eP* **P** **00 13 21.8 +0.5**
MKAR Makanchi Array 45.70 302 P **P** **00 13 21.8 +0.5**
comp=Z,83nm,0.8s,baz=83,slow=9.9,SNR=457
MKAR LR LR 00 34 22.0
comp=Z,13µm,18.1s,baz=78,slow=38
MKAR PKPPKP P'P'df 00 44 44.0 -14
comp=Z,3.4nm,1.1s,baz=269,slow=4.9,SNR=3.7
MKAR P4KPbc 00 51 10.5
comp=Z,1.1nm,0.9s,baz=111,slow=3.2,SNR=6.0
PPLA Purkeypile 45.78 35 *eP* **P** **00 13 23.6 +1.8**
comp=Z,2µm,1.5s
SPU Mount Spurr 45.78 37 *eP* **P** **00 13 22.7 +1.0**
SRDT SRDT 45.85 252 P **P** **00 13 23.8 +1.1**
comp=Z,428nm,2.1s
CAST Castle Rocks 45.85 34 *eP* **P** **00 13 23.8 +1.6**
comp=Z,2µm,1.6s
MAKZ Makanchi 45.91 302 *eP* **P** **00 13 23.5 +0.6**
MAKZ pmax pmax
comp=Z,379nm,1.1s
MAKZ Makanchi 45.91 302 *eP* **P** **00 13 23.5 +0.6**
comp=Z,379nm,1.1s
KHLT Khaolaem Dam 45.98 253 P **P** **00 13 25.2 +1.5**
comp=Z,70nm,1.2s,comp=Z,1µm
HOM Homer 45.98 40 *eP* **P** **00 13 24.3 +1.1**
comp=Z,2µm,1.4s
CNPM China Poot 46.19 40 *eP* **P** **00 13 25.0 +0.1**
comp=Z,473nm,1.4s
BRLK Bradley Lake 46.36 39 *eP* **P** **00 13 26.1 -0.2**
comp=Z,498nm,1.5s
PHET Kaeng Krachan 46.36 250 P **P** **00 13 28.2 +1.4**
comp=Z,118nm,0.8s,comp=Z,896nm
BPAW Bear Paw Mtn. 46.38 33 *eP* **P** **00 13 27.4 +1.1**
comp=Z,771nm,1.5s
KTH Kantishna Hill 46.38 34 *eP* **P** **00 13 27.6 +1.1**
comp=Z,2µm,1.4s
SEM Semipalatinsk 46.39 308 *iP* **P** **00 13 24.2 -2.5**
comp=Z,1µm,1.2s
SEM *i* PP **PP** **00 15 13.3 -2.2**
SEM *i* S **S** **00 20 10.5 -2.6**
SEM *i* SS **SS** **00 23 37.4 -1.1**
SEM LR LR 00 32 56.4
comp=Z,19µm,16.2s
SUA Susitna One 46.42 37 *eP* **P** **00 13 26.7 -0.1**
comp=Z,353nm,1.2s
MLY Manley 46.54 32 *eP* **P** **00 13 29.1 +1.5**
comp=Z,878nm,1.2s
PMG Port Moresby 46.56 176 P **P** **00 13 27.6 -0.6**
comp=Z,223nm,1.1s,baz=21,slow=4.6,SNR=28
PMG LR LR 00 30 26.2
comp=Z,6µm,21.6s,baz=352,slow=33
PMG Port Moresby 46.56 176*c* *iP* **P** **00 13 27.3 -0.9**
PMG pmax pmax
comp=Z,872nm,1.1s
PMG MLR MLR
comp=Z,17µm,18.0s
PMG Port Moresby 46.56 176 *eP* **P** **00 13 28.0 -0.2**
comp=Z,341nm,1.2s
TRF Thorofare Moun 46.66 34 *eP* **P** **00 13 29.3 +0.6**
comp=Z,424nm,1.2s
RC01 Rabbit Creek A 46.91 38 *eP* **P** **00 13 30.5 0.0**
comp=Z,1µm,1.4s
COLD Coldfoot 46.92 29 *eP* **P** **00 13 31.7 +1.1**
comp=Z,436nm,1.5s
BWN Browne 47.05 33 *eP* **P** **00 13 33.5 +1.9**
comp=Z,4µm,1.4s
SEW Seward 47.08 39 *eP* **P** **00 13 31.7 -0.1**
comp=Z,1µm,1.4s
PMR Palmer 47.19 37 *eP* **P** **00 13 32.4 -0.3**
PMR pmax pmax
comp=Z,1µm,1.4s
PMR Palmer 47.19 37 *eP* **P** **00 13 32.4 -0.3**
comp=Z,1µm,1.4s
KSM Kuching 47.24 229⇑P **P** **00 13 35.3 +1.6**
KSM Kuching 47.24 229 *eP* **P** **00 13 34.1 +0.5**
comp=Z,2µm,1.9s
KSM LR LR
comp=Z,3µm,20.0s
MCK McKinley 47.27 34 *eP* **P** **00 13 33.8 +0.5**
MCK pmax pmax
comp=Z,1µm,1.4s
MCK McKinley 47.27 34 *eP* **P** **00 13 33.8 +0.5**
comp=Z,1µm,1.4s
RND Reindeer 47.31 34 *eP* **P** **00 13 33.9 +0.2**
RND pmax pmax
comp=Z,1µm,1.3s
RND Reindeer 47.31 34 *eP* **P** **00 13 33.9 +0.2**
comp=Z,1µm,1.3s
KURK Kurchatov 47.37 308*d* *iP* **P** **00 13 34.2 0.0**
KURK *i* *PP **sP** **00 13 43.5 +0.7**
KURK pmax pmax
comp=Z,287nm,1.0s
KURK MLR MLR
comp=Z,30µm,15.0s
KURK Kurchatov 47.37 308 *eP* **P** **00 13 33.9 -0.3**
comp=Z,548nm,1.0s
KURK LR LR
comp=Z,44µm,20.0s
SML Sawmill 47.56 37 *eP* **P** **00 13 36.2 +0.5**
SML pmax pmax
comp=Z,2µm,1.6s
SML Sawmill 47.56 37 *eP* **P** **00 13 36.2 +0.5**
comp=Z,2µm,1.6s
MDM Murphy Dome 47.60 32 *eP* **P** **00 13 36.9 +1.0**
comp=Z,1µm,1.2s
WRH Wood River Hil 47.65 33 *eP* **P** **00 13 36.7 +0.4**
comp=Z,349nm,1.1s
KAPI Kappang 47.77 213 LR LR 00 32 04.0
comp=Z,2µm,20.4s,baz=35,slow=34
KAPI Kappang 47.77 213 *eP* **P** **00 13 37.4 -0.3**
comp=Z,375nm,1.1s
CCB Clear Creek Bu 47.78 33 *eP* **P** **00 13 37.4 +0.2**
comp=Z,311nm,1.4s
DHY Denali Highway 47.98 35 *eP* **P** **00 13 39.2 +0.2**
comp=Z,1µm,1.8s
SCM Sheep Creek Mo 48.04 36 *eP* **P** **00 13 40.2 +0.8**
SCM pmax pmax
comp=Z,1µm,1.3s
SCM Sheep Creek Mo 48.04 36 *eP* **P** **00 13 40.2 +0.8**
comp=Z,1µm,1.3s
HDA Harding Lake 48.15 33 *eP* **P** **00 13 39.9 -0.2**
comp=Z,612nm,1.2s
IL1 Eielson Array 48.17 33 *eP* **P** **00 13 38.3 -2.0**
ILAR Eielson Array 48.17 33 P **P** **00 13 40.2 0.0**
comp=Z,240nm,1.0s,baz=264,slow=5.8,SNR=557
ILAR LR LR 00 34 55.8
comp=Z,5µm,20.1s,baz=288,slow=37
ILAR PKPPKP P'P'df 00 44 31.9 -25
comp=Z,3.2nm,1.2s,baz=147,slow=2.1,SNR=6.6
ILB Eielson Array 48.17 33 *eP* **P** **00 13 40.2 0.0**
SHLS Shalkode 48.22 298 *iP* **P** **00 13 39.3 -1.9**
comp=Z,595nm,1.3s
SHLS *i* S **S** **00 20 37.4 -2.3**
SHLS LR LR 00 33 56.7
comp=Z,6µm,14.7s
MID Middleton Isla 48.69 40 *eP* **P** **00 13 45.4 +1.1**

MID pmax pmax
comp=Z,2µm,1.7s
MID Middleton Isla 48.69 40 *e*P **P 00 13 45.4 +1.1**
comp=Z,2µm,1.7s
KLU Klutina 48.73 37 *e*P **P 00 13 45.6 +0.9**
comp=Z,1µm,1.3s
UZB Uzynbulak 48.82 298 *i* P **P 00 13 43.4 -2.4**
comp=Z,694nm,1.4s
UZB *i* S **S 00 20 45.3 -2.9**
UZB *i* SS **SS 00 24 19.1 +0.6**
UZB LR LR 00 34 29.5
comp=Z,8µm,15.3s
DIV Divide 48.83 37 *e*P **P 00 13 46.5 +1.0**
comp=Z,2µm,1.3s
HNR Honiara 48.85 159 P **P 00 13 43.9 -2.0**
comp=Z,51nm,0.3s,baz=209,slow=5.1,SNR=8.9
HNR LR LR 00 31 11.8
comp=Z,13µm,21.8s,baz=327,slow=32
HNR Honiara 48.85 159 *e*P **P 00 13 45.9 -0.1**
HNR pmax pmax
comp=Z,395nm,1.1s
HNR Honiara 48.85 159 *e*P **P 00 13 45.9 -0.1**
comp=Z,395nm,1.1s
PAX Paxson 48.85 35 *e*P **P 00 13 45.6 -0.1**
PAX pmax pmax
comp=Z,511nm,1.4s
PAX Paxson 48.85 35 *e*P **P 00 13 45.6 -0.1**
comp=Z,511nm,1.4s
FYU Fort Yukon 48.85 30 *e*P **P 00 13 47.4 +1.9**
comp=Z,3µm,1.4s
EYAK Cordova Ski Ar 48.89 38 *e*P **P 00 13 46.5 +0.7**
comp=Z,962nm,1.3s
KPKS Kokpek 48.97 299 *i* P **P 00 13 44.7 -2.2**
comp=Z,2µm,1.3s
KPKS *i* PP **PP 00 15 38.2 -1.9**
KPKS *i* S **S 00 20 48.0 -2.1**
KPKS *i* SS **SS 00 24 20.1 -0.6**
KPKS LR LR 00 34 35.0
comp=Z,11µm,16.1s
GUN Gumba 49.15 277 *e*P **P 00 13 49.5 +0.7**
comp=Z,478nm,0.6s
ZHN Zhinishke 49.23 298 *i* P **P 00 13 46.6 -2.3**
comp=Z,604nm,2.2s
ZHN *i* S **S 00 20 50.7 -3.1**
ZHN LR LR 00 34 51.9
comp=Z,9µm,16.0s
SATY Saty 49.28 298 *i* P **P 00 13 46.6 -2.7**
comp=Z,1µm,2.2s
SATY *i* S **S 00 20 51.3 -3.2**
SATY LR LR 00 34 40.4
comp=Z,15µm,14.9s
BMRM Bremner River 49.41 38 *e*P **P 00 13 50.9 +1.0**
comp=Z,1µm,1.4s
RAGM Ragged Mountai 49.43 38 *e*P **P 00 13 50.8 +0.7**
comp=Z,1µm,1.3s
SKLT Songkhla 49.44 244 P **P 00 13 51.9 +1.3**
comp=Z,505nm,1.2s,comp=Z,6µm
DOT Dot Lake 49.45 34 *e*P **P 00 13 50.2 +0.1**
comp=Z,2µm,1.7s
SURT Suratani 49.55 247 P **P 00 13 52.8 +1.3**
comp=Z,146nm,1.6s,comp=Z,3µm
MENT Mentasta 49.65 35 *e*P **P 00 13 53.1 +1.4**
comp=Z,718nm,1.4s
KKN Kakani 49.68 277 *e*P **P 00 13 53.2 +0.6**
comp=Z,403nm,0.9s
PKIN Phulchoki 49.68 277 *e*P **P 00 13 53.1 +0.4**
KRAB Krabi 49.75 246 P **P 00 13 54.1 +1.1**
comp=Z,312nm,0.9s,comp=Z,3µm
DMN Daman 49.90 277 *e*P **P 00 13 54.9 +0.5**
MMRI Maumere 50.03 209 *e*P **P 00 13 55.0 0.0**
comp=Z,1µm,1.6s
GKN Gorkha 50.09 278 *e*P **P 00 13 56.3 +0.6**
comp=Z,719nm,1.0s
CRQM Cirque 50.14 38 *e*P **P 00 13 56.9 +1.3**
comp=Z,2µm,1.2s
MDOK Medeo 50.20 299⇑ *i*P **P 00 13 54.1 -2.2**
comp=Z,530nm,1.7s
MDOK *i* PP **PP 00 15 49.5 -2.0**
MDOK *i* S **S 00 21 04.9 -2.5**
MDOK *i* SS **SS 00 24 40.4 -0.2**
MDOK LR LR 00 35 33.5
comp=Z,8µm,18.0s
AAA Alma-Ata 50.24 299 *e*P **P 00 13 58.2 +1.7**
AAA pmax pmax
comp=Z,6µm,7.4s
AAA MLR MLR
comp=Z,21µm,16.0s
AAA Alma-Ata 50.24 299 *i* P **P 00 13 55.7 -0.8**
comp=Z,2µm,1.8s
AAA *i* PP **PP 00 15 51.9 +0.2**
AAA *e*S **S 00 21 07.5 -0.3**
AAA LR LR 00 35 24.4
comp=Z,8µm,16.5s
SOEI Soe 50.33 206 *e*P **P 00 13 53.0 -4.4**
comp=Z,2µm,1.6s
KUU Kurty 50.48 300 *i* P **P 00 13 54.8 -3.4**
comp=Z,3µm,1.6s
KUU *i* S **S 00 21 07.5 -3.5**
KUU LR LR 00 35 23.0
comp=Z,12µm,15.5s
BALM Baldy 50.49 37 *e*P **P 00 13 59.1 +0.9**
BALM pmax pmax
comp=Z,699nm,1.2s
BALM Baldy 50.49 37 *e*P **P 00 13 59.1 +0.9**
comp=Z,699nm,1.2s
PKDT Phuket 50.60 246 P **P 00 14 00.8 +1.4**
comp=Z,484nm,1.3s,comp=Z,8µm
EGAK Eagle 50.62 32 *e*P **P 00 13 59.0 +0.1**
comp=Z,1µm,1.8s
EGAK LR LR
comp=Z,7µm,20.0s
KULM Kulim 50.73 242⇑P **P 00 14 01.4 +1.0**
KULM Kulim 50.73 242 *e*P **P 00 14 00.4 0.0**
comp=Z,845nm,1.7s
KULM LR LR
comp=Z,7µm,20.0s
COEN Coen 50.99 181 *e*P **P 00 14 01.7 -0.6**
comp=Z,752nm,1.5s
KOLN Koldanda 51.02 278 *e*P **P 00 14 03.4 +0.7**
IPM Ipoh 51.04 241⇓P **P 00 14 03.4 +0.6**
IPM Ipoh 51.04 241 *e*P **P 00 14 03.0 +0.3**
comp=Z,1µm,1.8s
BOK Bokaro 51.08 272 *e*P **P 00 14 03.4 +0.4**
BOK IAmb IAmb 00 14 05.5
comp=Z,1µm,2.6s
MYKOM Kota Tinggi 51.08 236⇑P **P 00 14 04.0 +0.9**
MYKOM Kota Tinggi 51.08 236 *e*P **P 00 14 04.0 +0.9**
comp=Z,760nm,1.8s
BRZS Berezniki 51.24 308 *i* P **P 00 14 02.4 -1.5**
comp=Z,256nm,1.8s
BRZS *i* PP **PP 00 15 59.7 -0.8**
BRZS *i* S **S 00 21 19.9 -1.5**
BRZS LR LR 00 36 05.8
comp=Z,349nm,13.3s
TKM2 Tokmak 2 51.29 299 *e*P **P 00 14 05.8 +1.2**
TKM2 pmax pmax
comp=Z,844nm,1.5s
TKM2 MLR MLR
comp=Z,16µm,19.0s
TKM2 Tokmak 2 51.29 299 *e*P **P 00 14 05.8 +1.2**
comp=Z,844nm,1.5s
TKM2 LR LR
comp=Z,16µm,19.0s
DGPR DIGLIPUR 51.31 256 *e*P **P 00 14 04.8 0.0**
MTN Manton Dam 51.32 196 *e*P **P 00 14 03.7 -1.0**
comp=Z,476nm,0.8s
PYUN Piuthan 51.35 278 *e*P **P 00 14 05.9 +0.6**
comp=Z,502nm,1.0s
FRIM Kepong 51.52 239⇑P **P 00 14 07.1 +0.8**
CHKZ Chkalovo 51.61 313 P **P 00 14 05.7 -0.8**
CHKZ pmax pmax
comp=Z,376nm,1.3s
BVA0 Borovoye Array 51.89 313 *i* P **P 00 14 07.9 -0.8**
BVA0 pmax pmax
comp=Z,248nm,1.3s
BVAR Borovoye Array 51.89 313 P **P 00 14 09.1 +0.4**
comp=Z,48nm,0.8s,baz=77,slow=7.8,SNR=293
BVAR S S 00 21 40.9 +11
comp=Z,4.9nm,0.9s,baz=68,slow=16,SNR=4.4
BVAR LR LR 00 37 15.3
comp=Z,23µm,18.1s,baz=87,slow=37
BVAR P4KPbc 00 51 38.0
comp=Z,1.2nm,0.8s,baz=67,slow=5.0,SNR=4.4
BRVK Borovoye 51.95 313 *e*P **P 00 14 09.6 +0.5**
BRVK pmax pmax
comp=Z,474nm,1.0s
BRVK MLR MLR
comp=Z,12µm,19.0s
BRVK Borovoye 51.95 313 *e*P **P 00 14 09.6 +0.5**
comp=Z,474nm,1.0s
BRVK LR LR
comp=Z,12µm,19.0s
FRU Bishkek 52.00 299⇓ *i*P **P 00 14 10.0 +0.3**
FRU *i* 00 14 21.5
FRU *i* 00 15 21.0
FRU *e* 00 16 08.0
FRU *i* S **S 00 21 34.0 +1.9**
FRU pmax pmax
comp=Z,960nm,2.0s
FRU smax smax
comp=E,6µm,11.0s
FRU smax smax
comp=E,600nm,2.0s
OPA Opana 52.09 90 *e*P **P 00 14 12.0 +1.4**
OPA pmax pmax
comp=Z,826nm,1.3s
OPA Opana 52.09 90 *e*P **P 00 14 12.0 +1.4**
comp=Z,826nm,1.3s
AAK Ala-Archa 52.15 299*d i*P **P 00 14 10.9 -0.1**
AAK pmax pmax
comp=Z,204nm,1.0s
AAK MLR MLR
comp=Z,48µm,17.0s
AAK Ala-Archa 52.15 299 *e*P **P 00 14 11.7 +0.7**
comp=Z,241nm,1.4s
AAK LR LR
comp=Z,17µm,19.0s
KSH Kashi 52.15 295 P **P 00 14 15.6 +4.6**
KSH pP sP 00 14 25.0 +5.4
KSH PcP **PcP 00 15 26.0 +3.4**
KSH PP **PP 00 16 16.2 +7.0**
KSH S **S 00 21 37.9 +3.5**
KSH ScS **ScS 00 23 57.3 -2.8**
KSH SS **SS 00 25 16.4 +4.9**
KSH PMZ
comp=Z,130nm,1.1s
KSH PMZ
comp=Z,2µm,3.8s
KSH LN
comp=Z,17µm,15.1s
KSH LE
comp=Z,21µm,15.3s
KSH LZ
comp=Z,25µm,14.3s
KIP Kipapa 52.22 91*d i*P **P 00 14 11.7 +0.2**
KIP pmax pmax
comp=Z,2µm,1.7s
KIP MLR MLR
comp=Z,17µm,8.0s
KIP Kipapa 52.22 91 *e*P **P 00 14 12.7 +1.1**
comp=Z,481nm,1.3s
KIP LR LR
comp=Z,10µm,19.0s
PBA Port Blair 52.38 255 *e*P P 00 14 14.2 +1.4
PBA IAmb IAmb 00 14 37.9
comp=Z,13µm,5.1s
EKS2 Erkin-Say 52.64 299 *e*P **P 00 14 15.3 +0.7**
EKS2 pmax pmax
comp=Z,482nm,1.8s
EKS2 MLR MLR
comp=Z,6µm,19.0s
EKS2 Erkin-Say 52.64 299 *e*P **P 00 14 15.3 +0.7**
comp=Z,482nm,1.8s
EKS2 LR LR
comp=Z,6µm,19.0s
ZRNK Zerenda 52.72 313 *e*P **P 00 14 15.4 +0.6**
ZRNK pmax pmax
comp=Z,478nm,1.3s
ZRNK Zerenda 52.72 313 *e*P **P 00 14 15.4 +0.6**
comp=Z,478nm,1.3s
DHAK Deception Hill 52.87 39 *e*P **P 00 14 17.3 +1.5**
comp=Z,1µm,1.6s
PTH Pithoragarh 52.88 281 *ex* P 00 14 21.9 +5.3
BWNR Bhubaneshwar 52.92 268 *e*P **P 00 14 17.9 +1.3**
BWNR IAmb IAmb 00 14 18.9
comp=Z,855nm,1.9s
INK Inuvik 53.21 27 P **P 00 14 18.6 +0.5**
comp=Z,994nm,1.4s,baz=280,slow=7.0,SNR=214
JAGI Jajag, Banyuwa 53.41 218 *e*P **P 00 14 22.6 +2.3**
comp=Z,467nm,1.5s
LHMI Lhok Sumawe 53.41 245 *e*P **P 00 14 21.1 +0.7**
comp=Z,1µm,1.6s
PSI Prapat 53.70 241 *e*P **P 00 14 22.6 0.0**
PSI pmax pmax
comp=Z,517nm,1.9s
PSI Prapat 53.70 241 *e*P **P 00 14 22.6 0.0**
comp=Z,517nm,1.9s
HLK Haleakala 53.97 90 *e*P **P 00 14 26.2 +1.4**
comp=Z,786nm,1.3s
BKNI Bangkinang 54.04 237 *e*P **P 00 14 26.1 +1.1**
comp=Z,2µm,1.6s
SKAG Skagway 54.22 38 *e*P **P 00 14 27.4 +1.7**
comp=Z,703nm,1.4s
DDI Dehra Dun 54.23 283 *e*P **P 00 14 26.9 +0.6**
DDI IAmb IAmb 00 14 28.2
comp=Z,234nm,1.1s
CMBY CAMPBELL BAY 54.44 249 *e*P **P 00 14 28.1 +0.1**
CMBY IAmb IAmb 00 14 33.8
comp=Z,317nm,0.5s
SDNR Sundarnagar 54.55 285 *e*P **P 00 14 29.0 +0.4**
SDNR *ex* x 00 15 28.0
SMLA Simla 54.56 285 *e*P **P 00 14 28.7 +0.1**
DHRM DHARAMSHALA 54.74 286 *e*P **P 00 14 29.7 -0.5**
DHRM IAmb IAmb 00 14 31.2
comp=Z,450nm,1.5s
KK31 Karatay Array 54.75 301 *i* P **P 00 14 29.1 -0.7**
KK31 pmax pmax
comp=Z,383nm,1.4s
KKAR Karatay Array 54.75 301 *e*P **P 00 14 30.1 +0.3**
KKAR Karatay Array 54.75 301 *e*P **P 00 14 30.1 +0.3**
UGM Wanagama 54.79 222 *e*P **P 00 14 29.8 -0.6**
comp=Z,2µm,1.3s
BHK Bhakra 55.01 285 *e*P **P 00 14 30.2 -1.8**
POHA Pohakuloa 55.07 91 *e*P **P 00 14 33.8 +1.1**
comp=Z,753nm,1.1s
POHA LR LR
comp=Z,5µm,20.0s
MLOA Mauna Loa Obse 55.15 91 *e*P **P 00 14 34.8 +1.2**
CHLP Challavanipeta 55.27 268 *e*P **P 00 14 34.6 +0.8**
CHLP IAmb IAmb 00 14 35.8
comp=Z,253nm,1.2s
CHLP *e*S **S 00 22 15.8 -1.0**
CHLP IVMs_BB IVMs_BB 00 38 38.7
comp=Z,2µm,20.4s
IUG Iuzhnay 55.42 300 *i* P **P 00 14 33.0 -1.8**
comp=Z,5µm,1.4s
IUG *i* PP **PP 00 16 37.7 -0.8**
IUG *i* S **S 00 22 16.8 -1.8**
IUG LR LR 00 38 25.8
comp=Z,6µm,14.6s
UWE Uwekahuna 55.44 91 *e*P **P 00 14 36.6 +1.3**
comp=Z,814nm,1.5s
GSI Gununguitoli 55.70 241 *e*P **P 00 14 37.1 +0.1**
comp=Z,2µm,1.4s
CISI Cisompet, Garu 55.98 225 *e*P **P 00 14 35.9 -3.1**
comp=Z,800nm,1.7s
FUNA Funafuti 56.27 137 *e*P **P 00 14 43.9 +3.0**
comp=Z,302nm,1.3s
FUNA LR LR
comp=Z,14µm,19.0s
VIS Vishakhapatnam 56.27 267 *e*P **P 00 14 42.5 +1.4**
SVE Sverdlovsk 56.29 319*c i*P **P 00 14 41.7 +1.0**
SVE *e* 00 16 54.4
SVE *e*PPP PPP 00 18 00.0
SVE *e*S **S 00 22 30.4 +1.0**
SVE pmax pmax
comp=Z,699nm,1.8s
SVE pmax pmax
comp=Z,3µm,11.1s
SVE MLR MLR
comp=Z,53µm,16.0s
SVE MLR MLR
comp=E,37µm,16.0s
CRAG Craig 56.49 43 *e*P **P 00 14 43.4 +1.3**
comp=E,728nm,1.4s
WRAK Wrangell Islan 56.60 41 *e*P **P 00 14 44.4 +1.5**
comp=E,522nm,1.3s
WRAK LR LR
comp=Z,9µm,21.0s
CTAO Charters Tower 57.12 177 *e*P **P 00 14 46.0 -0.9**
CTAO pmax pmax
comp=Z,88nm,1.1s
CTAO MLR MLR
comp=Z,9µm,19.0s
CTAO Charters Tower 57.12 177 *e*P **P 00 14 46.0 -0.9**
comp=Z,88nm,1.1s
CTAO LR LR
comp=Z,9µm,19.0s
DLBC Dease Lake 57.15 39 P **P 00 14 47.9 +1.0**
comp=Z,246nm,1.2s,baz=293,slow=6.9,SNR=196
DLBC Dease Lake 57.15 39 *e*P **P 00 14 48.5 +1.6**
comp=Z,1µm,1.6s
KNTN Kanton 57.26 124 *e*P **P 00 14 48.6 +0.6**
comp=Z,251nm,1.0s
SOKR Solikamsk 57.35 323*d i*P **P 00 14 46.7 -1.4**
SOKR S **S 00 22 41.7 -1.5**
SOKR SS **SS 00 26 38.6 +6.5**
SOKR pmax pmax
comp=Z,407nm,1.4s
SOKR MLR MLR
comp=Z,17µm,17.0s
ARU Arti 57.50 319*d i*P **P 00 14 49.7 +0.4**
ARU 00 15 43.0
ARU 00 16 59.6
ARU S **S 00 22 46.1 +0.6**
ARU 00 24 32.5
ARU SSS SSS 00 28 53.1
ARU pmax pmax
comp=Z,946nm,1.7s
ARU pmax pmax
comp=Z,1µm,5.6s
ARU MLR MLR
comp=Z,55µm,20.0s
ARU Arti 57.50 319 *e*P **P 00 14 49.5 +0.2**
comp=Z,725nm,1.2s
ARU LR LR
comp=Z,54µm,19.0s
DZET Dzherino 57.56 297 P **P 00 14 50.0 -0.1**
DZET pmax pmax
comp=Z,335nm,1.0s
WRAB Tennant Creek 57.65 191*c i*P **P 00 14 49.4 -1.2**
WRAB pmax pmax
comp=Z,570nm,0.8s
WRAB Tennant Creek 57.65 191 *e*P **P 00 14 49.0 -1.6**
comp=Z,347nm,0.8s
WRAB LR LR
comp=Z,9µm,22.0s
WB2 Warramunga Arr 57.66 191 *e*P **P 00 14 49.2 -1.5**
comp=Z,361nm,0.8s
WRA Warramunga Arr 57.66 191 P **P 00 14 48.6 -2.1**
comp=Z,243nm,0.7s,baz=11,slow=7.4,SNR=581
WRA S **S 00 22 43.1 -5.1**
comp=Z,6.0nm,1.2s,baz=13,slow=14,SNR=6.2
WRA LR LR 00 38 39.1
comp=Z,6µm,21.9s,baz=5.0,slow=35
WRA PKPPKP **P'P'df 00 44 31.5 +2.8**
comp=Z,18nm,1.4s,baz=176,slow=1.4,SNR=6.3
WRA PKP2bc 00 44 47.2
comp=Z,14nm,1.1s,baz=218,slow=2.5,SNR=9.5
WRA P4KPbc 00 52 13.1
comp=Z,0.9nm,0.8s,baz=13,slow=3.6,SNR=5.4
FITZ Fitzroy Crossi 57.75 201 *e*P **P 00 14 51.1 -0.3**
comp=Z,451nm,1.4s
NGP Nagpur 57.86 273 *e*P **P 00 14 52.0 -0.3**
NGP IAmb IAmb 00 14 53.1
comp=Z,1µm,2.0s
NGP *e*S **S 00 22 53.9 +2.8**
PVM Polavaram 57.89 268 *e*P **P 00 14 52.5 0.0**
PVM IAmb IAmb 00 14 54.0
comp=Z,227nm,1.1s
PVM *e*S **S 00 22 52.4 +0.9**
PVM IVMs_BB IVMs_BB 00 43 27.5
comp=Z,2µm,18.6s
BHPL Bhopal 58.08 276 *e*P **P 00 14 53.5 -0.3**
BHPL IAmb IAmb 00 14 54.4
comp=Z,1µm,2.4s
RPR Rampur 58.87 271 *e*P **P 00 14 59.0 -0.5**
RPR IAmb IAmb 00 15 01.1
comp=Z,1µm,1.6s
RPR *e*S **S 00 23 05.5 +1.1**
RPR IVMs_BB IVMs_BB 00 44 19.1
comp=Z,3µm,19.7s
KBL Kabul 59.21 292 *e*P **P 00 15 01.6 -0.3**
KBL pmax pmax
comp=Z,233nm,1.3s
KBL Kabul 59.21 292 *e*P **P 00 15 01.6 -0.3**
comp=Z,232nm,1.3s
ABKAR Akbulak array 59.32 311 *e*P **P 00 15 01.4 -0.6**
XMIS Christmas Isla 59.58 225 *e*P **P 00 15 07.2 +2.9**
comp=Z,967nm,1.8s
SRSP Sriramsagar 59.59 271 *e*P **P 00 15 03.7 -0.7**
SRSP IAmb IAmb 00 15 05.9
comp=Z,1µm,1.4s
SRSP *e*S **S 00 23 14.3 +0.6**
SRSP IVMs_BB IVMs_BB 00 46 15.1
comp=Z,3µm,18.4s
ADKI Addanki 59.99 267 *e*P **P 00 15 07.2 +0.1**
ADKI IAmb IAmb 00 15 08.7
comp=Z,194nm,1.1s
ADKI *e*S **S 00 23 18.4 -0.3**
ADKI IVMs_BB IVMs_BB 00 41 22.4
comp=Z,3µm,18.4s
AKTO Aktyubinsk 60.00 313 P **P 00 15 04.8 -2.0**
AKTO pmax pmax
comp=Z,212nm,1.1s
NJS Nagarjunasagar 60.12 269 *e*P **P 00 15 07.0 -1.1**
NJS IAmb IAmb 00 15 09.0
comp=Z,219nm,1.1s
NJS *e*S **S 00 23 20.7 +0.2**
NJS IVMs_BB IVMs_BB 00 40 32.0
comp=Z,2µm,19.8s
HYB Hyderabad 60.24 270⇓ *i*P **P 00 15 07.0 -1.9**
HYB *e*sP **sP 00 15 17.0 -0.6**
HYB *e*PcP **PcP 00 15 57.0 +2.7**
HYB *e*PP **PP 00 17 24.0 +2.2**
HYB *e*S **S 00 23 24.0 +1.8**
HYB Hyderabad 60.24 270 *e*P **P 00 15 09.2 +0.3**
HYB IAmb IAmb 00 15 09.6
HYBB Hyderabad (bro 60.24 270 *e*P **P 00 15 08.8 -0.2**
HYBB IAmb IAmb 00 15 09.8
comp=Z,306nm,1.0s
HYBB *e*S **S 00 23 22.4 +0.2**
HYBB IVMs_BB IVMs_BB 00 41 35.3
comp=Z,2µm,16.1s
HOPEN Hopen 60.27 346⇓ *i*P **P 00 15 08.9 +0.8**
HOPEN IVMs_BB IVMs_BB 00 44 18.1
comp=Z,8µm,17.6s
SPA0 Spitsbergen Ar 60.65 349⇓ *i*P **P 00 15 10.7 -0.1**
SPA0 IVmB_BB 00 15 12.2
comp=Z,6µm,1.9s
SPA0 Spitsbergen Ar 60.65 349 *e*P **P 00 15 11.4 +0.7**
SRLM Srisailam 60.70 268 *e*P **P 00 15 11.2 -0.9**
SRLM IAmb IAmb 00 15 12.8
comp=Z,252nm,1.2s
SRLM *e*S **S 00 23 27.9 -0.2**
SRLM IVMs_BB IVMs_BB 00 39 40.5
comp=Z,2µm,20.4s
KBS Kingsbay 60.73 351⇓ *i*P **P 00 15 11.7 +0.4**
KBS IVmB_BB 00 15 12.8
comp=Z,6µm,1.9s
KBS *e* 00 18 52.9
KBS *e*S **S 00 23 27.8 +1.0**
KBS IVMs_BB IVMs_BB 00 43 10.2
comp=Z,3µm,22.0s
KBS Kingsbay 60.73 351 *e*P **P 00 15 12.3 +0.9**
KBS pmax pmax
comp=Z,541nm,1.3s
KBS MLR MLR
comp=Z,10µm,21.0s
KBS Kingsbay 60.73 351 *e*P **P 00 15 12.3 +0.9**
comp=Z,540nm,1.3s
KBS LR LR
comp=Z,10µm,21.0s
RCLA Racherla 61.01 268 *e*P **P 00 15 13.7 -0.4**
RCLA IAmb IAmb 00 15 15.2
comp=Z,256nm,1.0s
RCLA *e*S **S 00 23 32.7 +0.7**
RCLA IVMs_BB IVMs_BB 00 47 12.0
comp=Z,2µm,12.7s
MDRS Chennai 61.34 265 *e*P **P 00 15 16.2 -0.2**
MDRS IAmb IAmb 00 15 18.7
comp=Z,520nm,1.4s
AS01 Alice Springs 61.37 190 *e*P **P 00 15 13.8 -2.5**
AS31 Alice Springs 61.38 191 *e*P **P 00 15 15.2 -1.2**
comp=Z,80nm,0.6s
SKHT Srikalahasti 61.38 266 *e*P **P 00 15 16.2 -0.4**
SKHT IAmb IAmb 00 15 18.8
comp=Z,1µm,1.8s
SKHT *e*S **S 00 23 38.6 +2.0**

SKHT IVMs_BB IVMs_BB 00 44 25.5
comp=Z,2µm,12.8s
ASAR Alice Springs 61.38 191 P **P** **00 15 15.2 -1.2**
comp=Z,138nm,0.8s,baz=11,slow=6.3,SNR=689
ASAR S **S** **00 23 33.6 -2.6**
comp=Z,0.5nm,0.4s,baz=14,slow=16,SNR=4.5
ASAR LR LR 00 40 43.5
comp=Z,8µm,21.6s,baz=0.5,slow=35
ASAR PKPPKP **P'P'df** **00 44 22.6 -0.4**
comp=Z,7.4nm,1.4s,baz=150,slow=3.6,SNR=7.6
ASAR PKP2bc 00 44 38.6
comp=Z,32nm,1.1s,baz=177,slow=2.1,SNR=20
KLRI Killari 61.45 272 *e*P **P** **00 15 16.0 -1.2**
KLRI IAmb IAmb 00 15 18.2
comp=Z,1µm,1.4s
KLRI *e*S **S** **00 23 35.4 -2.2**
KLRI IVMs_BB IVMs_BB 00 45 04.8
comp=Z,3µm,16.4s
HSPB Hornsund (broa 61.60 348⇓*i*P **P** **00 15 17.5 +0.3**
HSPB IVmB_BB 00 15 18.6
comp=Z,9µm,1.8s
HSPB IVMs_BB IVMs_BB 00 43 19.0
comp=Z,4µm,20.5s
HSPB Hornsund (broa 61.60 348 *e*P **P** **00 15 17.4 +0.2**
HSPB *e*S **S** **00 23 37.5 -0.3**
RES Resolute Bay 61.82 15 P **P** **00 15 18.9 +0.1**
comp=Z,405nm,1.1s,baz=305,slow=7.4,SNR=65
RES Resolute Bay 61.82 15 *e*P **P** **00 15 18.9 +0.2**
MBWA Marble Bar 62.48 206 P **P** **00 15 23.5 -0.2**
SNR=32
MBWA Marble Bar 62.48 206 *e*P **P** **00 15 23.2 -0.5**
comp=Z,2µm,1.4s
MBWA LR LR
comp=Z,3µm,20.0s
YKW3 Yellowknife Ar 62.50 31 *e*P **P** **00 15 23.3 -0.2**
comp=Z,677nm,1.6s
YKA Yellowknife Ar 62.54 31 P **P** **00 15 23.6 -0.1**
comp=Z,120nm,1.2s,baz=295,slow=6.3,SNR=152
YKA PP **PP** **00 17 42.4 +1.5**
comp=Z,18nm,1.1s,baz=303,slow=8.8,SNR=4.5
YKA LR LR 00 41 47.6
comp=Z,373nm,21.7s,baz=0.0,slow=35
YKA PKPPKP P'P'df 00 44 26.2 -8.5
comp=Z,4.5nm,1.1s,baz=112,slow=1.9,SNR=9.2
YKB5 Yellowknife Ar 62.54 31 *e*P **P** **00 15 22.2 -1.5**
BJO Bjornoya 62.68 346 *e*P **P** **00 15 23.9 -0.5**
BJO IVmB_BB 00 15 25.3
comp=Z,4µm,3.5s
BJO IVMs_BB IVMs_BB 00 47 51.0
comp=Z,6µm,16.3s
LVZ Lovozero 62.69 336 *e*P **P** **00 15 24.4 -0.3**
LVZ pmax pmax
comp=Z,728nm,1.8s
LVZ MLR MLR
comp=Z,10µm,19.0s
LVZ Lovozero 62.69 336 *e*P **P** **00 15 24.4 -0.3**
comp=Z,728nm,1.8s
LVZ LR LR
comp=Z,10µm,19.0s
EIDS Eidsvold 62.70 173 *e*P **P** **00 15 25.1 0.0**
comp=Z,237nm,1.7s
DZM Mont Dzumac 62.74 156 *e*P **P** **00 15 25.2 -0.4**
comp=Z,572nm,1.2s
DZM *e*S **S** **00 23 50.3 -3.2**
comp=Z,24µm,29.3s
DZM Mont Dzumac 62.74 156 *e*LR LR 00 34 01.7
comp=Z,22µm,22.6s
DZM Mont Dzumac 62.74 156 LR LR 00 42 59.8
comp=Z,12µm,18.6s,baz=320,slow=36
DZM Mont Dzumac 62.74 156 *e*P **P** **00 15 24.3 -1.3**
comp=Z,923nm,1.8s
APA Apatity 63.27 336⇑*i*P **P** **00 15 27.2 -1.3**
APA *i* 00 17 50.0
APA *i* PPP PPP 00 19 25.0
APA *i* S S 00 23 50.0 -9.0
APA *i* SSS SSS 00 30 49.0
APA pmax pmax
comp=Z,90nm,1.2s
APA MLR MLR
comp=Z,2µm,23.0s
POO Poona 63.39 274 *e*P **P** **00 15 30.2 +0.1**
POO IAmb IAmb 00 15 31.9
comp=Z,879nm,1.6s
MSVF Nonsavu 63.47 143⇑*i*P **P** **00 15 32.7 +2.2**
MSVF pmax pmax
comp=Z,82nm,1.3s
MSVF MLR MLR
comp=Z,8µm,15.0s
MSVF Nonsavu 63.47 143 *e*P **P** **00 15 31.8 +1.3**
comp=Z,254nm,1.6s
MSVF LR LR
comp=Z,9µm,20.0s
KEV Kevo 63.90 340 *e*P **P** **00 15 33.0 +0.3**
KEV pmax pmax
comp=Z,349nm,1.4s
KEV MLR MLR
comp=Z,12µm,19.0s
KEV Kevo 63.90 340 *e*P **P** **00 15 33.0 +0.3**
comp=Z,349nm,1.4s
KEV LR LR
comp=Z,12µm,19.0s
XMAS Kiritimati 64.11 109 *e*P **P** **00 15 35.7 +0.9**
comp=Z,315nm,1.1s
XMAS LR LR
comp=Z,2.0nm,21.0s
BHJ Bhuj 64.20 280 *e*P **P** **00 15 35.0 -0.3**
BHJ IAmb IAmb 00 15 36.6
comp=Z,249nm,1.0s
HAMF Hammerfest 64.22 341⇓*i*P **P** **00 15 34.7 0.0**
HAMF IVmB_BB 00 15 35.4
comp=Z,4µm,2.4s
HAMF *e*S **S** **00 24 11.3 +0.5**
HAMF IVMs_BB IVMs_BB 00 48 38.6
comp=Z,4µm,19.2s
PALK Pallekele 64.42 259 *e*P **P** **00 15 37.5 +0.6**
PALK pmax pmax
comp=Z,565nm,2.0s
PALK Pallekele 64.42 259 *e*P **P** **00 15 37.5 +0.6**
comp=Z,566nm,2.0s
ARA0 ARCESS Array S 64.45 340 *e*P **P** **00 15 35.9 -0.4**
ARCES ARCESS Array B 64.45 340 P **P** **00 15 36.5 +0.2**
comp=Z,82nm,1.1s,baz=60,slow=7.2,SNR=70
ARCES PP PP 00 18 10.8 +13
comp=Z,22nm,0.8s,baz=40,slow=9.6,SNR=4.4
ARCES PKP2bc 00 44 28.2
comp=Z,3.8nm,0.9s,baz=232,slow=6.0,SNR=7.4
ARCES LR LR 00 49 41.1
comp=Z,16µm,18.1s,baz=40,slow=42
ARE0 ARCESS Array S 64.45 340⇓*i*P **P** **00 15 35.9 -0.4**
ARE0 IVmB_BB 00 15 37.8
comp=Z,4µm,2.3s
ARE0 IVMs_BB IVMs_BB 00 49 45.8
comp=Z,7µm,16.9s
ARE0 ARCESS Array S 64.45 340 *e*P **P** **00 15 36.7 +0.4**
comp=Z,492nm,1.6s
KLMR Klimovskoe 64.61 328 *i*P **P** **00 15 37.4 0.0**
KLMR *i* 00 17 59.0
KLMR *i* S **S** **00 24 16.1 +0.3**
KLMR pmax pmax
comp=Z,730nm,1.5s
PGC Sidney 64.67 47 *e*P **P** **00 15 38.7 +0.7**
comp=Z,720nm,1.5s
OSR Olympics--Salm 64.91 48 P **P** **00 15 41.4 +1.7**
MCW Mount Constitu 65.02 47 P **P** **00 15 41.2 +0.9**
MCW Mount Constitu 65.02 47 P **P** **00 15 41.2 +0.9**
NLWA Neilton Lookou 65.02 49 *e*P **P** **00 15 42.0 +1.6**
comp=Z,1µm,1.3s
NLWA LR LR
comp=Z,4µm,19.0s
A04D Lummi Island 65.07 47 P **P** **00 15 41.7 +1.1**
baz=299,SNR=11
GOA Goa 65.08 271 *e*P **P** **00 15 40.8 -0.4**
GOA IAmb IAmb 00 15 42.2
comp=Z,1µm,1.4s
ON2 Olympics--Nort 65.32 49 P **P** **00 15 43.9 +1.6**
KTK1 Kautokeino 65.41 340⇓*i*P **P** **00 15 42.7 +0.2**
KTK1 IVmB_BB 00 15 43.5
comp=Z,4µm,1.7s
KTK1 IVMs_BB IVMs_BB 00 48 46.1
comp=Z,4µm,15.4s
GEYT Alibeck 65.48 300 P **P** **00 15 43.9 +0.4**
comp=Z,115nm,1.1s,baz=29,slow=3.4,SNR=199
GEYT PKP2bc 00 44 23.1
comp=Z,7.1nm,1.2s,baz=285,slow=5.8,SNR=8.3
GEYT LR LR 00 48 12.5
comp=Z,10µm,18.3s,baz=50,slow=40
MBW Mount Baker 65.51 46 P **P** **00 15 44.2 +0.5**

E03A Lebam 65.61 49 *e*P **P** **00 15 45.5 +1.3**
comp=Z,669nm,1.2s
B05A Bryant 65.64 47 P **P** **00 15 45.3 +1.0**
baz=299,SNR=95
DAG Danmarks Havn 65.67 356⇓*i*P **P** **00 15 44.0 -0.1**
DAG pmax pmax
comp=Z,2µm,1.4s
DAG Danmarks Havn 65.67 356⇓*i*P **P** **00 15 44.0 -0.1**
comp=Z,783nm,1.4s
AFI Afiamalu 65.77 132 LR LR 00 38 47.6
comp=Z,5µm,21.9s,baz=326,slow=31
JCW Jim Creek 65.78 47 P **P** **00 15 46.1 +0.8**
B06A Marblemount 65.88 47 *e*P **P** **00 15 46.5 +0.7**
comp=Z,902nm,1.6s
SP2 Seward Park 2 65.90 48 P **P** **00 15 48.0 +2.0**
F03A Seaside 65.91 50 *e*P **P** **00 15 47.6 +1.5**
comp=Z,1µm,1.4s
TRO Tromso 66.11 342⇓*i*P **P** **00 15 46.4 -0.6**
TRO IVmB_BB 00 15 47.8
comp=Z,4µm,1.9s
TRO *e*S **S** **00 24 33.3 -0.6**
TRO IVMs_BB IVMs_BB 00 51 01.1
comp=Z,5µm,16.2s
F04D Rainier, OR 66.17 49 P **P** **00 15 49.0 +1.2**
baz=300,SNR=8.0
COCO West Island 66.18 232 *e*P **P** **00 15 48.8 +0.6**
COCO pmax pmax
comp=Z,4µm,1.6s
COCO MLR MLR
comp=Z,3µm,20.0s
COCO West Island 66.18 232 *e*P **P** **00 15 48.8 +0.6**
comp=Z,4µm,1.6s
COCO LR LR
comp=Z,3µm,20.0s
D05A Enumclaw 66.24 48 *e*P **P** **00 15 49.8 +1.6**
comp=Z,2µm,1.6s
G03D McMinnville, O 66.44 50 P **P** **00 15 51.0 +1.4**
baz=300,SNR=18
OBSR Observation Ro 66.48 48 *e*P **P** **00 15 51.4 +1.2**
C06D Leavenworth 66.51 47 P **P** **00 15 50.9 +0.8**
baz=300,SNR=7.3
TDL Tradedollar La 66.52 49 P **P** **00 15 51.4 +1.2**
LON Longmire 66.56 48 *e*P **P** **00 15 50.9 +0.5**
LON pmax pmax
comp=Z,240nm,1.4s
LON Longmire 66.56 48 P **P** **00 15 51.1 +0.7**
RCM Mount Rainier- 66.56 48 P **P** **00 15 51.9 +1.1**
F04A Amboy 66.60 49 *e*P **P** **00 15 51.5 +0.9**
comp=Z,808nm,1.3s
TRD Trivandrum 66.62 263 *e*P **P** **00 15 51.4 +0.3**
MTMW Mount Mitchell 66.68 49 P **P** **00 15 52.4 +1.1**
COR Corvallis 66.73 51 *e*P **P** **00 15 53.2 +1.8**
COR pmax pmax
comp=Z,1µm,1.3s
COR Corvallis 66.73 51 *e*P **P** **00 15 53.2 +1.8**
comp=Z,1µm,1.3s
GLK Glacier Lake 66.77 48 P **P** **00 15 52.6 +0.8**
G04A Mulino 66.93 50 *e*P **P** **00 15 53.9 +1.2**
LTY Liberty 66.98 47 P **P** **00 15 53.5 +0.4**
I03D Drain, OR 67.15 52 P **P** **00 15 55.7 +1.6**
baz=300,SNR=56
B08A Colville Reser 67.20 46 *e*P **P** **00 15 54.8 +0.4**
comp=Z,1µm,1.8s
H04A Detroit Lake 67.37 50 *e*P **P** **00 15 56.5 +0.9**
comp=Z,699nm,1.2s
VFP Flag Point 67.49 50 P **P** **00 15 57.5 +1.1**
KULLO Kullorsuaq 67.51 6⇓*i*P **P** **00 15 55.5 -0.3**
KULLO pmax pmax
comp=Z,840nm,1.4s
KULLO Kullorsuaq 67.51 6⇓*i*P **P** **00 15 55.5 -0.3**
comp=Z,836nm,1.4s
G05D Wamic, OR 67.62 50 P **P** **00 15 58.4 +1.3**
baz=301,SNR=25
I04A Tendick Farm, 67.69 51 P **P** **00 15 58.6 +1.0**
baz=301,SNR=75
ARMA Armidale 67.75 173 *e*P **P** **00 15 58.4 +0.5**
comp=Z,351nm,1.5s
L02D Cave Junction, 67.77 53 P **P** **00 15 59.4 +1.3**
baz=301,SNR=45
E07A Sunnyside 67.82 48 *e*P **P** **00 15 59.5 +1.1**
comp=Z,940nm,1.5s
HUMO Hull Mountain 67.95 53 *e*P **P** **00 16 00.4 +1.2**
comp=Z,524nm,1.7s
CROR Criterion Ridg 67.95 50 P **P** **00 16 00.1 +0.9**
G06A Carlson Farm, 68.04 49 *e*P **P** **00 16 00.5 +0.8**
comp=Z,1µm,1.6s
I05D Terrebonne, OR 68.07 50 P **P** **00 16 00.9 +0.9**
baz=301,SNR=55
C09A Chrisman Ranch 68.09 46 *e*P **P** **00 16 00.4 +0.4**
comp=Z,1µm,1.8s
HAWA Hanford 68.09 48 *e*P **P** **00 16 00.7 +0.7**
comp=Z,614nm,1.5s
HAWA LR LR
comp=Z,3µm,19.0s
D08A Wollman Farm, 68.11 47 *e*P **P** **00 16 00.6 +0.5**
comp=Z,856nm,1.8s
VTHM Trough 68.11 49 P **P** **00 16 01.2 +1.0**
MOS Moscow 68.23 324⇖*i*P **P** **00 16 00.7 0.0**
MOS *e* 00 16 30.5
MOS *e* 00 18 33.5
MOS *e*PPP PPP 00 20 11.4
MOS *i* S **S** **00 25 00.1 +0.2**
MOS *e* 00 25 37.4
MOS *e* 00 25 59.3
MOS *i* SS **SS** **00 29 25.1 +3.0**
MOS *e*SSS SSS 00 32 21.7
MOS pmax pmax
comp=Z,4µm,2.4s
MOS pmax pmax
comp=N,1µm,2.7s
MOS pmax pmax
comp=E,1µm,2.7s
MOS pmax pmax
comp=E,273nm,1.7s
MOS pmax pmax
comp=Z,1µm,1.7s
MOS pmax pmax
comp=N,290nm,1.3s
MOS smax smax
comp=N,2µm,3.9s
MOS smax smax
comp=E,4µm,5.4s
MOS MLR MLR
comp=N,12µm,15.0s
MOS MLR MLR
comp=E,15µm,15.0s
MOS MLR MLR
comp=Z,22µm,15.0s
STEI Steigen 68.27 341 *e*P **P** **00 16 00.7 0.0**
KHMM Horse Mountain 68.34 55 *e*P **P** **00 16 03.5 +1.7**
comp=Z,546nm,1.1s
NEW Newport 68.50 45 P **P** **00 16 02.8 +0.2**
baz=305,slow=6.2
NEW Newport 68.50 45 P **P** **00 16 03.0 +0.3**
baz=302,SNR=52
NEW Newport 68.50 45 *e*P **P** **00 16 02.9 +0.3**
NEW pmax pmax
comp=Z,663nm,1.6s
NEW MLR MLR
comp=Z,3µm,20.0s
NEW Newport 68.50 45 *e*P **P** **00 16 02.9 +0.3**
comp=Z,663nm,1.6s
NEW LR LR
comp=Z,3µm,20.0s
LOF Lofoten 68.54 342⇓*i*P **P** **00 16 01.4 -1.0**
LOF IVmB_BB 00 16 02.8
comp=Z,4µm,3.3s
LOF *e*PP **PP** **00 18 33.7 +0.6**
LOF *e*S **S** **00 25 03.1 -0.1**
LOF IVMs_BB IVMs_BB 00 52 30.6
comp=Z,4µm,14.3s
M02C Callahan 68.64 54 P **P** **00 16 05.3 +1.6**
baz=301,SNR=74
J05D Fort Rock, OR 68.68 51 P **P** **00 16 05.3 +1.4**
baz=302,SNR=156
KMRM Mail Ridge 68.69 55 *e*P **P** **00 16 05.5 +1.6**
comp=Z,707nm,1.6s
K04D Chiloquin, OR 68.70 52 P **P** **00 16 05.1 +1.1**
baz=302,SNR=13
E09A Wood Farm, Sta 68.85 47 *e*P **P** **00 16 05.5 +0.7**
comp=Z,858nm,1.5s
STKA Stephens Creek 68.86 182 P **P** **00 16 04.4 -0.3**
comp=Z,29nm,0.8s,baz=341,slow=8.1,SNR=32
STKA PKP2bc 00 44 14.4
comp=Z,20nm,1.2s,baz=139,slow=6.1,SNR=8.1
STKA LR LR 00 45 50.3
comp=Z,6µm,20.7s,baz=358,slow=36
STKA Stephens Creek 68.86 182 *e*P **P** **00 16 04.5 -0.3**
comp=Z,37nm,1.4s
STKA ⇑*e* 00 44 14.4
N02D Trinity Center 68.95 54 P **P** **00 16 07.0 +1.4**
baz=302,SNR=34
PUL Pulkovo 68.98 330*c* *i*P **P** **00 16 06.0 +0.7**
PUL pmax pmax
comp=Z,595nm,1.2s
PUL MLR MLR
comp=Z,15µm,17.0s
M04C Macdoel 69.09 53 P **P** **00 16 07.7 +1.2**
baz=302,SNR=97
OBN Obninsk 69.09 324*d* *i*P **P** **00 16 06.3 +0.3**
OBN *e* 00 18 39.8
OBN *i* S **S** **00 25 09.9 -0.1**
OBN *i* SS **SS** **00 29 32.5 -2.7**
OBN pmax pmax
comp=Z,322nm,1.2s
OBN MLR MLR
comp=Z,20µm,16.0s
OBN Obninsk 69.09 324 *e*P **P** **00 16 06.3 +0.3**
comp=Z,819nm,1.4s
OBN LR LR
comp=Z,13µm,19.0s
K05A Summer Lake 69.19 52 *e*P **P** **00 16 08.4 +1.3**
comp=Z,1µm,1.3s
WDC Whiskeytown Da 69.27 54 *e*P **P** **00 16 08.3 +0.9**
WDC pmax pmax
comp=Z,405nm,1.3s
WDC Whiskeytown Da 69.27 54 *e*P **P** **00 16 08.3 +0.9**
comp=Z,405nm,1.3s
LPSR Galich'ya Gora 69.39 321 *e*P **P** **00 16 08.1 +0.2**
LPSR *e**SP **PcP** **00 16 24.9 -6.4**
LPSR *e* 00 18 40.4
LPSR *e*S S 00 25 04.8 -8.9
LPSR pmax pmax
comp=Z,440nm,1.4s
LPSR smax smax
comp=N,1µm,4.9s
LPSR MLR MLR
comp=Z,19µm,17.0s
FIA1 FINESS Array S 69.51 333 *e*P **P** **00 16 08.8 +0.2**
FINES FINESS Array B 69.51 333 P **P** **00 16 08.7 +0.2**
comp=Z,186nm,1.0s,baz=56,slow=7.1,SNR=209
FINES ScS SKiKP 00 26 07.7 +12
comp=Z,4.9nm,1.0s,baz=44,slow=8.8,SNR=4.2
FINES LR LR 00 50 26.9
comp=Z,21µm,18.1s,baz=40,slow=39
FINES FINESS Array B 69.51 333 *i*P **P** **00 16 08.6 +0.1**
FINES pmax pmax
comp=Z,186nm,1.0s
F10A Beach Ranch, E 69.67 47 *e*P **P** **00 16 10.3 +0.3**
comp=Z,552nm,1.9s
HOPS Hopland Field 69.75 56 *e*P **P** **00 16 11.3 +0.8**
comp=Z,463nm,1.4s
VORR Voronezh 69.78 320⇓*i*P **P** **00 16 09.0 -1.3**
VORR pmax pmax
comp=Z,750nm,1.4s
WALA Waterton Lakes 69.86 43 *e*P **P** **00 16 11.4 +0.3**
comp=Z,314nm,1.4s
O03D Paynes Creek 69.89 54 P **P** **00 16 11.6 +0.2**
baz=302,SNR=216
KONS Konsvik 69.90 341 *e*P **P** **00 16 10.2 -0.7**
LHI Lord Howe Isla 69.91 166 *e*P **P** **00 16 12.4 +1.2**
comp=Z,340nm,1.2s
MOD Modoc Plateau 70.00 52 *e*P **P** **00 16 12.7 +0.6**
comp=Z,401nm,1.3s
BSMT Bassoo Peak 70.04 45 *e*P **P** **00 16 12.8 +0.4**
VSR Storozhevoye 70.06 320 *e*P **P** **00 16 11.9 -0.2**
VSR *e**SP **PcP** **00 16 29.1 -5.1**
VSR *e* 00 18 43.3
VSR *e*S **S** **00 25 16.2 -5.4**
VSR *e*SS **SS** **00 29 44.5 -5.9**
VSR pmax pmax
comp=Z,690nm,1.8s
VSR smax smax
comp=E,1µm,4.5s
VSR MLR MLR
comp=Z,26µm,16.0s
BBOO Buckleboo 70.14 187 *e*P **P** **00 16 12.4 -0.3**
comp=Z,347nm,1.4s
BLMT Blacktail Moun 70.19 44 *e*P **P** **00 16 14.1 +0.8**
BMO Blue Mountains 70.24 48 *e*P **P** **00 16 14.0 +0.5**
comp=Z,534nm,1.5s
BMO LR LR
comp=Z,3µm,21.0s
NMTM Middletown 70.27 56 *e*P **P** **00 16 14.6 +1.0**
NSHM Saint Helena R 70.31 56 *e*P **P** **00 16 14.7 +0.7**
MCCM Marconi Confer 70.33 57 *e*P **P** **00 16 14.3 +0.3**
comp=Z,488nm,1.3s
JTMT Jette 70.38 45 *e*P **P** **00 16 15.0 +0.6**
SUMG Summit 70.40 1 *e*P **P** **00 16 14.6 +0.3**
SUMG pmax pmax
comp=Z,2µm,1.8s
SUMG Summit 70.40 1⇓*i*P **P** **00 16 15.3 +0.9**
comp=Z,1µm,1.5s
SUMG *i* S **S** **00 25 25.8 -0.1**
SUMG Summit 70.40 1 *e*P **P** **00 16 14.6 +0.3**
comp=Z,2µm,1.8s
ORV Oroville 70.49 55 *e*P **P** **00 16 15.1 +0.1**
ORV pmax pmax
comp=Z,491nm,1.4s
ORV Oroville 70.49 55 *e*P **P** **00 16 15.1 +0.1**
comp=Z,491nm,1.4s
SWMT Swartz Lake 70.68 45 *e*P **P** **00 16 16.5 +0.4**
WVOR Wild Horse Val 70.75 51 *e*P **P** **00 16 17.3 +0.6**
WVOR pmax pmax
comp=Z,685nm,1.5s
WVOR MLR MLR
comp=Z,4µm,19.0s
WVOR Wild Horse Val 70.75 51 *e*P **P** **00 16 17.3 +0.6**
comp=Z,685nm,1.5s
WVOR LR LR
comp=Z,4µm,19.0s
MSO Missoula 71.09 45 P **P** **00 16 18.8 +0.1**
baz=305,SNR=73
MSO Missoula 71.09 45 *e*P **P** **00 16 18.6 -0.1**
comp=Z,283nm,1.4s
AFDM Forest Hills D 71.16 55 *e*P **P** **00 16 19.4 +0.3**
comp=Z,568nm,1.6s
VSU Vasula 71.24 330*d* *i*P **P** **00 16 19.7 +0.6**
VSU pmax pmax
comp=Z,1µm,1.2s
VSU MLR MLR
comp=Z,34µm,17.0s
GOF Gofitskoye 71.42 313⇓*i*P **P** **00 16 21.3 +0.8**
GOF *i* *PP **PcP** **00 16 38.1 -2.0**
GOF *i* S **S** **00 25 38.3 +0.6**
GOF pmax pmax
comp=Z,696nm,1.2s
GOF smax smax
comp=E,166nm,1.5s
CHMT Chamberlain Mo 71.43 45 *e*P **P** **00 16 20.5 -0.4**
NSS Namsos 71.73 340 *e*P **P** **00 16 22.0 0.0**
NSS IVMs_BB IVMs_BB 00 54 02.5
comp=Z,6µm,15.2s
PAHR Pah Rah Range 71.77 54 *e*P **P** **00 16 23.5 +0.5**
comp=Z,425nm,1.3s
MFID Camas Ranch 71.92 49 *e*P **P** **00 16 24.3 +0.6**
comp=Z,771nm,1.6s
NCK Nalchik 71.97 311*d* *i*P **P** **00 16 24.5 +0.6**
NCK pmax pmax
comp=Z,220nm,1.2s
NCK MLR MLR
comp=Z,9µm,15.0s
GUDG Gudauri 72.02 310 P **P** **00 16 25.8 +1.4**
SCO Scoresbysund 72.03 355⇓*i*P **P** **00 16 24.6 +0.9**
SCO *i* S **S** **00 25 45.7 +1.8**
SCO pmax pmax
comp=Z,770nm,1.5s
SCO MLR MLR
comp=Z,5µm,17.0s
SCO Scoresbysund 72.03 355⇓*i*P **P** **00 16 24.6 +0.9**
comp=Z,768nm,1.5s
SCO *i* S **S** **00 25 45.7 +1.8**
DGRG David-gareji 72.04 309 P **P** **00 16 24.8 +0.4**
DGRG David-gareji 72.04 309 P **P** **00 16 24.7 +0.4**
SAO San Andreas Ge 72.04 57 *e*P **P** **00 16 24.9 +0.5**
SAO pmax pmax
comp=Z,380nm,1.5s
SAO San Andreas Ge 72.04 57 *e*P **P** **00 16 24.9 +0.5**
comp=Z,380nm,1.5s
CMB Columbia Colle 72.04 56 *e*P **P** **00 16 24.9 +0.5**
CMB pmax pmax
comp=Z,647nm,1.4s

CMB	Columbia Colle	72.04	56	*e*P		P	00 16 24.9	+0.5
	comp=Z,646nm,1.4s							
DUS	Dusheti	72.09	309	P		P	00 16 26.3	+1.5
DUS	Dusheti	72.09	309	P		P	00 16 26.2	+1.5
ZEI	Tsey	72.19	310	*e*P		P	00 16 22.1	-3.4
ZEI				*e*			00 16 41.6	
ZEI				*e*S		S	00 25 43.8	-3.3
ZEI					pmax	pmax		
	comp=Z,387nm,1.0s							
ZEI					pmax	pmax		
	comp=E,358nm,0.9s							
ZEI					pmax	pmax		
	comp=N,273nm,1.1s							
ZEI					MLR	MLR		
	comp=Z,24µm,15.0s							
ZEI					MLR	MLR		
	comp=E,22µm,15.0s							
ZEI					MLR	MLR		
	comp=N,8µm,13.0s							
KVAR	Kislovodsk Arr	72.25	312	LR		LR	00 53 23.5	
	comp=N,14µm,18.4s,baz=40,slow=40							
KIV	Kislovodsk	72.26	312	*i* P		P	00 16 26.7	+1.1
	SNR=260							
KIV	Kislovodsk	72.26	312	*d* *i*P		P	00 16 26.9	+1.2
KIV				*i*			00 16 43.3	
KIV				*e*			00 19 12.4	
KIV				*i* S		S	00 25 46.8	-0.8
KIV				*i* SS		SS	00 30 26.1	+1.4
KIV					pmax	pmax		
	comp=Z,633nm,1.1s							
KIV					MLR	MLR		
	comp=Z,13µm,17.0s							
KIV	Kislovodsk	72.26	312	*e*P		P	00 16 26.4	+0.7
	comp=Z,1µm,1.1s							
KIV					LR	LR		
	comp=Z,14µm,19.0s							
KBZ	Khabaz	72.26	312	P		P	00 16 26.6	+1.0
	comp=Z,208nm,1.0s,baz=61,slow=5.6,SNR=301							
KBZ					PKP2bc		00 44 03.7	
	comp=Z,0.6nm,0.4s,baz=265,slow=3.4,SNR=6.1							
KBZ					LR	LR	00 50 59.1	
	comp=Z,11µm,18.0s,baz=38,slow=38							
HRY	Holter Researc	72.35	44	*e*P		P	00 16 26.6	+0.4
FFC	Flin Flon	72.36	34	*e*P		P	00 16 26.0	0.0
FFC					pmax	pmax		
	comp=Z,398nm,1.1s							
FFC					MLR	MLR		
	comp=Z,5µm,20.0s							
FFC	Flin Flon	72.36	34	*e*P		P	00 16 26.0	0.0
	comp=Z,398nm,1.1s							
FFC					LR	LR		
	comp=Z,5µm,20.0s							
WAKR	Walker	72.41	55	*e*P		P	00 16 27.6	+0.8
CAN	Canberra	72.41	176	*e*P		P	00 16 27.0	+0.6
CAN					pmax	pmax		
	comp=Z,446nm,1.8s							
CAN					MLR	MLR		
	comp=Z,5µm,19.0s							
CAN	Canberra	72.41	176	*e*P		P	00 16 26.9	+0.6
	comp=Z,446nm,1.8s							
CAN					LR	LR		
	comp=Z,5µm,19.0s							
LRM	Limekiln Ridge	72.52	45	*e*P		P	00 16 27.6	+0.2
ONI	Oni	72.57	310	P		P	00 16 28.8	+1.2
ONI	Oni	72.57	310	P		P	00 16 28.7	+1.2
NEY	Neytrino	72.64	311	*c* *i*P		P	00 16 29.3	+1.2
NEY					pmax	pmax		
	comp=Z,33nm,1.4s							
HLID	Hailey	72.68	48	P		P	00 16 29.0	+0.7
	baz=305,SNR=74							
HLID	Hailey	72.68	48	*e*P		P	00 16 28.9	+0.5
	comp=Z,333nm,1.5s							
HLID					LR	LR		
	comp=Z,3µm,20.0s							
DLMT	Dillon	72.70	46	*e*P		P	00 16 28.5	+0.1
	comp=Z,391nm,1.3s							
EGMT	Eagleton	72.71	42	P		P	00 16 28.5	+0.2
	baz=307,SNR=11							
EGMT	Eagleton	72.71	42	*e*P		P	00 16 28.5	+0.2
	comp=Z,590nm,1.6s							
EGMT					LR	LR		
	comp=Z,6µm,21.0s							
BMN	Battle Mountai	72.75	52	*e*P		P	00 16 29.6	+0.8
BMN					pmax	pmax		
	comp=Z,548nm,1.4s							
BMN	Battle Mountai	72.75	52	*e*P		P	00 16 29.6	+0.8
	comp=Z,548nm,1.4s							
WSAR	Wadi Sarin	72.76	286	LR		LR	00 52 22.3	
	comp=Z,4µm,18.5s,baz=108,slow=39							
FCC	Fort Churchill	72.83	28	*e*P		P	00 16 28.1	-0.6
FCC					pmax	pmax		
	comp=Z,1µm,1.5s							
FCC	Fort Churchill	72.83	28	*e*P		P	00 16 28.1	-0.6
	comp=Z,1µm,1.5s							
MCMT	McKenzie Canyo	72.87	46	*e*P		P	00 16 29.4	-0.2
BIDO	Bidbid	72.99	287	P		P	00 16 31.0	+0.8
	SNR=43							
BANOM	Banah	73.04	290	*i* P		P	00 16 31.1	+0.5
	SNR=40							
BANOM	Banah	73.04	290	P		P	00 16 30.9	+0.3
	SNR=40							
BOZ	Bozeman (W)	73.08	45	P		P	00 16 31.2	+0.5
	baz=306,SNR=70							
BOZ	Bozeman (W)	73.08	45	*e*P		P	00 16 31.2	+0.5
BOZ					pmax	pmax		
	comp=Z,229nm,1.1s							
BOZ					MLR	MLR		
	comp=Z,4µm,19.0s							
BOZ	Bozeman (W)	73.08	45	*e*P		P	00 16 31.2	+0.5
	comp=Z,229nm,1.1s							
BOZ					LR	LR		
	comp=Z,4µm,19.0s							
GNI	Garni	73.17	308	LR		LR	00 52 08.1	
	comp=Z,10µm,18.2s,baz=61,slow=39							
GNI	Garni	73.17	308	*i* P		P	00 16 32.7	+1.5
	SNR=28							
GNI	Garni	73.17	308	*d* *i*P		P	00 16 32.7	+1.5
GNI					pmax	pmax		
	comp=Z,642nm,1.2s							
GNI					MLR	MLR		
	comp=Z,46µm,16.0s							
GNI	Garni	73.17	308	P		P	00 16 32.8	+1.5
	SNR=32							
GNI	Garni	73.17	308	*e*P		P	00 16 32.6	+1.5
	comp=Z,797nm,1.5s							
NV01	Mina Array Sit	73.18	54	*e*P		P	00 16 30.3	-1.2
NVAR	Mina Array Bea	73.18	54	P		P	00 16 32.1	+0.7
	comp=Z,130nm,1.0s,baz=289,slow=6.2,SNR=306							
NVAR					LR	LR	00 43 06.8	
	comp=Z,4µm,20.6s,baz=296,slow=31							
NVAR					PKP2bc		00 44 04.3	
	comp=Z,0.4nm,0.7s,baz=145,slow=3.6,SNR=3.6							
TBLU	Trondheim	73.21	340	⇓ *i*P		P	00 16 30.0	-0.9
TBLU					IVmB_BB		00 16 31.1	
	comp=Z,5µm,1.9s							
TBLU				*e*S		S	00 25 54.1	-3.5
TBLU					IVMs_BB	IVMs_BB	00 54 31.9	
	comp=Z,5µm,19.2s							
ILULI	Ilulissat	73.21	6	⇓ *i*P		P	00 16 31.0	+0.2
ILULI					pmax	pmax		
	comp=Z,920nm,1.4s							
ILULI	Ilulissat	73.21	6	⇓ *i*P		P	00 16 31.0	+0.2
	comp=Z,921nm,1.4s							
AKH	Akhalkalaki	73.22	309	P		P	00 16 32.2	+0.6
AKH	Akhalkalaki	73.22	309	P		P	00 16 32.2	+0.6
BGD	Bogdanovka	73.24	309	P		P	00 16 33.1	+1.4
IZAR	Zarasai	73.26	328	*e*P		P	00 16 32.1	+0.9
IZAR					IAmb	IAmb	00 16 33.4	
	comp=Z,177nm,1.1s							
NV11	Mina Array Sit	73.28	54	*e*P		P	00 16 32.4	+0.5
	comp=Z,485nm,1.4s							
MLAC	Mammoth, Mammo	73.29	55	P		P	00 16 33.3	+1.2
	baz=304,SNR=14							
SMDO	Samad	73.30	286	P		P	00 16 32.4	+0.2
	SNR=37							
CHVG	Ch'k'valeri	73.33	311	P		P	00 16 33.2	+1.3
IDID	Didziasalis	73.34	328	*e*P		P	00 16 32.6	+0.8
IDID					IAmb	IAmb	00 16 33.9	
	comp=Z,282nm,1.2s							
MICGM	Minsk	73.40	327	⇓ *i*P		P	00 16 33.0	+0.9
MICGM					PM		00 16 35.0	
	comp=Z,1.8nm,1.0s							
MICGM					PM		00 16 35.0	
	comp=N,1.1nm,1.2s							
MICGM					PM		00 16 35.0	
	comp=E,1.1nm,1.5s							
MICGM				*e*PP		PP	00 19 17.0	+1.8
MICGM				*e*PPP		PPP	00 21 03.0	
MICGM				*e*S		S	00 25 59.0	-1.0
MICGM				SM			00 26 04.0	
	comp=E,6.8nm,16.0s							
MICGM				*e*PS		PnS	00 26 26.0	-6.8
MICGM				*e*SS		SS	00 30 38.0	-3.3
MICGM				*e*SSS		SSS	00 34 10.0	
MICGM				*e*LQ		LQ	00 42 27.0	
MICGM				LQM			00 44 36.0	
	comp=E,8.6nm,22.0s							
MICGM				*e*LR		LR	00 45 10.0	
MICGM				LRM		MLR	00 52 38.0	
	comp=E,22nm,15.0s							
MICGM				LRM		MLR	00 52 40.0	
	comp=Z,34nm,16.0s							
MICGM				LRM		MLR	00 52 50.0	
	comp=N,13nm,18.0s							
MNK	Minsk	73.40	327	⇓ *i*P		P	00 16 33.0	+0.9
MNK				*e*			00 19 17.0	
MNK				*e*PPP		PPP	00 21 03.0	
MNK				*e*S		S	00 25 59.0	-1.0
MNK				*e*PS		PnS	00 26 26.0	-6.8
MNK				*e*SS		SS	00 30 38.0	-3.3
MNK					pmax	pmax		
	comp=E,1µm,1.5s							
MNK					pmax	pmax		
	comp=N,1µm,1.2s							
MNK					pmax	pmax		
	comp=Z,2µm,1.0s							
MNK					smax	smax		
	comp=E,7µm,16.0s							
MNK					MLR	MLR		
	comp=E,22µm,15.0s							
MNK					MLR	MLR		
	comp=Z,33µm,16.0s							
MNK					MLR	MLR		
	comp=N,13µm,18.0s							
ISAL	Salakas	73.43	328	*e*P		P	00 16 33.2	+0.9
ISAL				IAmb		IAmb	00 16 34.5	
	comp=Z,431nm,1.2s							
EAK	Akyaka	73.57	309	*i* P		P	00 16 33.5	-0.1
NACGM	Naroch	73.60	328	*e*P		P	00 16 33.0	-0.3
NACGM				*e*P		pP	00 16 34.0	-5.8
NACGM				*e*PP		PP	00 19 10.0	-6.9
NACGM				*e*PPP		PPP	00 21 06.0	
NACGM				*e*S		SKiKP	00 26 01.0	-1.1
NACGM				*e*SS		SS	00 30 38.0	-6.4
NACGM				*e*SSS		SSS	00 33 44.0	
NACGM				*e*LQ		LQ	00 42 44.0	
NACGM				*e*LR		LR	00 45 32.0	
NACGM				LRM		MLR	00 51 40.0	
	comp=Z,44nm,18.0s							
EPOS	Posof	73.64	310	*i* P		P	00 16 30.3	-3.7
UOSS	Minazif	73.66	289	*e*P		P	00 16 34.6	+0.4
	comp=Z,21nm,1.3s							
QLMT	Earthquake Lak	73.68	46	*e*P		P	00 16 34.9	+0.6
HATD	Hatta, Dubai	73.78	289	*i* P		P	00 16 35.0	+0.1
	SNR=40							
HATD	Hatta, Dubai	73.78	289	P		P	00 16 35.2	+0.3
	SNR=31							
ELK	Elko	73.81	51	*e*P		P	00 16 35.9	+0.8
ELK					pmax	pmax		
	comp=Z,498nm,1.8s							
ELK	Elko	73.81	51	*e*P		P	00 16 35.9	+0.8
	comp=Z,498nm,1.8s							
SMMC	Simmler	73.82	58	P		P	00 16 36.1	+1.1
	baz=304,SNR=13							
DIGO	Kars	73.87	309	*i* P		P	00 16 35.4	-0.1
ASHO	Ashiyiah	73.91	289	*i* P		P	00 16 35.9	+0.2
	SNR=55							
ASHO	Ashiyiah	73.91	289	P		P	00 16 35.8	0.0
	SNR=48							
ASHO					Sn	S	00 26 06.9	0.0
TIN	Tinemaha, Big	74.01	56	P		P	00 16 37.3	+1.1
	baz=305,SNR=11							
YHH	Holmes Hill	74.04	46	*e*P		P	00 16 36.7	+0.2
NAZ	Nazwa, Dubai	74.04	289	*i* P		P	00 16 36.5	+0.1
	SNR=68							
NAZ	Nazwa, Dubai	74.04	289	P		P	00 16 36.4	-0.1
	SNR=45							
GCMT	Greycliff	74.10	44	*e*P		P	00 16 37.9	+1.3
VES	Vestal, Richgr	74.13	57	P		P	00 16 36.7	-0.1
	baz=305,SNR=72							
DYDN	Diyadin	74.18	308	*i* P		P	00 16 38.5	+1.3
PKM	Mcpherson Peak	74.18	58	P		P	00 16 38.5	+1.1
	baz=305,SNR=56							
NWAO	Narrogin (SRO)	74.19	203	*e*P		P	00 16 36.8	-0.1
NWAO					pmax	pmax		
	comp=Z,753nm,1.9s							
NWAO					MLR	MLR		
	comp=Z,3µm,20.0s							
NWAO	Narrogin (SRO)	74.19	203	P		P	00 16 37.3	+0.4
	SNR=7.1							
NWAO	Narrogin (SRO)	74.19	203	*e*P		P	00 16 36.8	-0.1
	comp=Z,753nm,1.9s							
NWAO					LR	LR		
	comp=Z,3µm,20.0s							
SOC	Sochi	74.22	313	*d* *i*P		P	00 16 37.4	+0.3
SOC				*e**PP		pP	00 16 42.0	-1.6
SOC				*e*			00 19 24.2	
SOC				*e*PPP		PPP	00 21 09.7	
SOC				*i* S		S	00 26 09.0	-0.6
SOC				*e*			00 26 41.0	
SOC				*e*SS		SS	00 30 54.1	-0.3
SOC					pmax	pmax		
	comp=Z,2µm,2.1s							
SOC					pmax	pmax		
	comp=Z,403nm,1.5s							
SOC					MLR	MLR		
	comp=Z,16µm,16.0s							
FAQ	Al Faqa, Dubai	74.23	289	*i* P		P	00 16 37.3	-0.2
	SNR=30							
FAQ	Al Faqa, Dubai	74.23	289	P		P	00 16 37.3	-0.2
	SNR=39							
YFT	Old Faithful	74.25	46	*e*P		P	00 16 39.9	+2.2
	comp=Z,615nm,1.6s							
ARTV	Artvin	74.31	310	*i* P		P	00 16 38.6	+0.5
DBOC	Borcka	74.38	310	*i* P		P	00 16 39.3	+1.1
DAGI	Agillar	74.39	310	*i* P		P	00 16 38.6	+0.3
LKWY	Lake	74.43	46	*e*P		P	00 16 38.9	+0.2
LKWY					pmax	pmax		
	comp=Z,180nm,1.2s							
LKWY					MLR	MLR		
	comp=Z,6µm,20.0s							
LKWY	Lake	74.43	46	*e*P		P	00 16 38.9	+0.2
	comp=Z,180nm,1.2s							
LKWY					LR	LR		
	comp=Z,6µm,20.0s							
H17A	Grant Village	74.43	46	P		P	00 16 41.0	+2.3
	baz=307,SNR=152							
H17A	Grant Village	74.43	46	*e*P		P	00 16 41.0	+2.3
	comp=Z,504nm,1.1s							
CWC	Cottonwood Cre	74.46	56	P		P	00 16 39.2	+0.3
	baz=305							
MOL	Molde	74.49	341	⇓ *i*P		P	00 16 38.8	+0.4
MOL					IVmB_BB		00 16 39.8	
	comp=Z,5µm,2.6s							
MOL				*e*PP		PP	00 19 24.9	+0.7
MOL					IVMs_BB	IVMs_BB	00 52 52.0	
	comp=Z,6µm,21.3s							
NC405	NORSAR Array S	74.50	338	*e*P		P	00 16 38.9	+0.4
SBC	Santa Barbara	74.50	58	P		P	00 16 40.1	+1.2
	baz=305,SNR=8.7							
NC303	NORSAR Array S	74.51	338	*e*P		P	00 16 39.0	+0.4
IMW	Indian Meadow	74.52	46	*e*P		P	00 16 40.5	+1.2
	comp=Z,336nm,1.1s							
FLWY	Flagg Ranch	74.55	46	*e*P		P	00 16 40.8	+1.4
	comp=Z,902nm,1.5s							
DBAD	Bademkaya	74.56	310	*i* P		P	00 16 39.7	+0.4
VMUR	Van-Muradiye	74.57	307	*i* P		P	00 16 40.3	+0.8
DDEM	Demirkent	74.59	310	*i* P		P	00 16 40.4	+0.8
YTP	The Promontory	74.60	46	*e*P		P	00 16 41.3	+1.6
GRAC	Grapevine Rang	74.61	55	P		P	00 16 40.6	+0.9
	baz=305,SNR=41							
FXWY	Fox Creek	74.63	47	*e*P		P	00 16 40.8	+0.9
	comp=Z,405nm,1.4s							
ISA	Isabella, Lake	74.64	57	P		P	00 16 39.6	-0.2
	baz=305,SNR=28							
ISA	Isabella, Lake	74.64	57	*e*P		P	00 16 39.0	-0.8
ISA					pmax	pmax		
	comp=Z,312nm,1.4s							
ISA	Isabella, Lake	74.64	57	*e*P		P	00 16 39.0	-0.8
	comp=Z,312nm,1.4s							
NC204	NORSAR Array S	74.65	339	*e*P		P	00 16 40.2	+0.7
NB201	NORSAR Array S	74.68	338	*e*P		P	00 16 39.8	+0.3
HVU	Hansel Valley	74.70	49	*e*P		P	00 16 40.2	-0.1
HVU					pmax	pmax		
	comp=Z,597nm,1.8s							
HVU	Hansel Valley	74.70	49	*e*P		P	00 16 40.1	-0.1
	comp=Z,597nm,1.8s							
NB2	NORSAR Subarra	74.71	338	P		P	00 16 39.8	+0.1
	comp=Z,791nm,1.4s,baz=37,slow=5.9							
NB2	NORSAR Subarra	74.71	338	P		P	00 16 39.8	+0.1
	baz=37,slow=5.9							
NOA	NORSAR Array B	74.71	338	P		P	00 16 39.9	+0.2
	comp=Z,170nm,1.0s,baz=38,slow=5.8,SNR=183							
NOA					LR	LR	00 54 17.4	
	comp=Z,15µm,20.5s,baz=40,slow=40							
ARVC	Arvin	74.71	57	P		P	00 16 40.4	+0.3
	baz=305,SNR=39							
MOOW	Moose Ponds	74.72	46	*e*P		P	00 16 41.4	+1.0
	comp=Z,469nm,1.4s							
RLMT	Red Lodge	74.73	45	P		P	00 16 41.1	+0.6
	baz=308,SNR=44							
RLMT	Red Lodge	74.73	45	*e*P		P	00 16 41.0	+0.6
	comp=Z,391nm,1.4s							
RLMT					LR	LR		
	comp=Z,4µm,21.0s							
EATA	Eleskirt	74.74	309	*i* P		P	00 16 41.4	+0.7
TPAW	Teton Pass	74.76	47	*e*P		P	00 16 41.6	+1.0
	comp=Z,890nm,1.8s							
ANN	Anapa	74.80	315	*d* *i*P		P	00 16 40.3	-0.1
ANN				*i* *PP		pP	00 16 45.6	-1.3
ANN				*i*			00 16 56.0	
ANN				*i*			00 19 28.5	
ANN				*i* PPP		PPP	00 21 14.5	
ANN				*e*S		S	00 26 14.3	-1.7
ANN				*e*SS		SS	00 31 07.2	+4.1
ANN					pmax	pmax		
	comp=N,106nm,1.7s							
ANN					pmax	pmax		
	comp=Z,650nm,1.7s							
ANN					pmax	pmax		
	comp=E,130nm,1.7s							
ANN					pmax	pmax		
	comp=Z,1µm,4.9s							
ANN					pmax	pmax		
	comp=E,303nm,4.9s							
ANN					pmax	pmax		
	comp=N,398nm,4.9s							
ANN					smax	smax		
	comp=E,3µm,9.0s							
ANN					smax	smax		
	comp=N,1µm,9.0s							
ANN					MLR	MLR		
	comp=Z,15µm,24.0s							
ANN					MLR	MLR		
	comp=E,14µm,24.0s							
ANN					MLR	MLR		
	comp=N,16µm,24.0s							
NBO02	NORSAR Array S	74.81	338	*e*P		P	00 16 39.9	-0.4
TUTA	Tutak	74.81	308	*i* P		P	00 16 42.3	+1.3
SCZ2	Santa Cruz Isl	74.81	59	P		P	00 16 41.3	+0.5
	baz=305,SNR=5.2							
NBO00	NORSAR Array S	74.84	338	*e*P		P	00 16 40.7	+0.2
NC602	NORSAR Array S	74.85	338	⇓ *i*P		P	00 16 38.9	-1.6
NC602					IVmB_BB		00 16 41.1	
	comp=Z,5µm,2.7s							
NC602					IVMs_BB	IVMs_BB	00 52 28.0	
	comp=Z,6µm,19.8s							
NC602	NORSAR Array S	74.85	338	*e*P		P	00 16 40.5	0.0
DAC	Darwin (Calif)	74.88	56	*e*P		P	00 16 41.6	+0.2
DAC					pmax	pmax		
	comp=Z,361nm,1.4s							
DAC	Darwin (Calif)	74.88	56	*e*P		P	00 16 41.5	+0.2
	comp=Z,361nm,1.4s							
LOHW	Long Hollow	74.89	46	*e*P		P	00 16 42.2	+0.9
	comp=Z,648nm,2.0s							
SNOW	Snow King Moun	74.89	47	*e*P		P	00 16 42.5	+1.1
	comp=Z,170nm,1.1s							
REDW	Red Top Meadow	74.90	47	*e*P		P	00 16 42.2	+0.8
	comp=Z,399nm,1.4s							
MTUT	Morton Thiokol	74.94	49	*e*P		P	00 16 41.6	0.0
TVAN	Van	74.94	307	*i* P		P	00 16 42.0	+0.3
NA001	NORSAR Array S	74.96	338	*e*P		P	00 16 41.3	+0.1
AKN	Aaknes	74.96	341	*e*P		P	00 16 41.5	+0.3
AKN					IVmB_BB		00 16 42.9	
	comp=Z,4µm,1.9s							
AKN				*e*PP		PP	00 19 28.2	0.0
AKN					IAMs_20	IAMs_20	00 52 60.0	
	comp=Z,21µm,20.8s							
R11A	Troy Canyon, C	74.98	53	P		P	00 16 42.6	+0.7
	baz=306,SNR=294							
R11A	Troy Canyon, C	74.98	53	*e*P		P	00 16 42.2	+0.3
	comp=Z,655nm,1.5s							
HOMI	Horasan	75.00	309	*i* P		P	00 16 42.9	+0.8
BGU	Big Grassy Mou	75.06	50	*e*P		P	00 16 42.9	+0.6
	comp=Z,567nm,1.8s							
MPMC	Manual Prospec	75.07	56	P		P	00 16 42.9	+0.4
	baz=305,SNR=99							
OSI	Osito Audit: C	75.08	58	P		P	00 16 43.1	+0.7
	baz=305,SNR=15							
OSI	Osito Audit: C	75.08	58	*e*P		P	00 16 43.1	+0.7
	comp=Z,394nm,1.3s							
AHID	Auburn Hatcher	75.11	47	*e*P		P	00 16 43.1	+0.5
	comp=Z,642nm,1.8s							
AHID					LR	LR		
	comp=Z,4µm,22.0s							
BLG	Laguna Peak, P	75.13	58	P		P	00 16 42.9	+0.2
	baz=305,SNR=11							
SPUT	South Promonto	75.18	49	*e*P		P	00 16 44.0	+1.0
	comp=Z,870nm,1.8s							
RAO	Raoul Island	75.24	146	LR		LR	00 43 00.6	
	comp=Z,3µm,21.4s,baz=2.5,slow=30							
FURC	Furnace Creek,	75.25	55	P		P	00 16 44.1	+0.9
	baz=306,SNR=88							
LRMC	Laurel Mtn Rad	75.28	57	P		P	00 16 43.9	+0.3
	baz=306,SNR=28							
GEVA	Gevas	75.29	307	*i* P		P	00 16 42.6	-1.1
HDU	Hyde Park	75.30	49	*e*P		P	00 16 44.4	+0.7
SNCC	San Nicolas Is	75.31	59	P		P	00 16 44.2	+0.5
	baz=305,SNR=6.2							
SNCC	San Nicolas Is	75.31	59	*e*P		P	00 16 44.9	+1.3
	comp=Z,1µm,1.6s							
AKASG	Malin Array Be	75.31	323	P		P	00 16 43.5	+0.1
	comp=Z,134nm,1.0s,baz=44,slow=6.2,SNR=489							
AKASG					PP	PP	00 19 33.5	+2.1
	comp=Z,14nm,0.9s,baz=44,slow=8.2,SNR=4.3							
AKASG					LR	LR	00 52 51.1	
	comp=Z,20µm,18.4s,baz=45,slow=38							
AKBB	Malin Array Si	75.31	323	*e*P		P	00 16 43.6	+0.3
AKBB					pmax	pmax		
	comp=Z,525nm,1.3s							
AKBB	Malin Array Si	75.31	323	*e*P		P	00 16 43.6	+0.3
	comp=Z,525nm,1.3s							
HAKT	HAKKARI	75.32	306	*i* P		P	00 16 42.2	-1.8
KIEV	Kiev	75.33	323	*d* *i*P		P	00 16 43.4	0.0
KIEV					pmax	pmax		
	comp=Z,298nm,1.1s							
KIEV					MLR	MLR		
	comp=Z,21µm,17.0s							
KIEV	Kiev	75.33	323	*e*P		P	00 16 43.6	+0.2
	comp=Z,575nm,1.3s							
KIEV					LR	LR		
	comp=Z,22µm,19.0s							
DGMT	Dagmar	75.34	40	P		P	00 16 43.5	-0.1
	baz=310,SNR=13							
DGMT	Dagmar	75.34	40	*e*P		P	00 16 43.5	-0.1
	comp=Z,563nm,1.3s							
DGMT					LR	LR		
	comp=Z,6µm,20.0s							
AK11	Malin Array Si	75.36	323	*e*P		P	00 16 43.5	-0.1
EKAR	Karacoban	75.36	308	*i* P		P	00 16 43.0	-1.2
TPNV	Topopah Spring	75.37	55	P		P	00 16 44.7	+0.5
	baz=306,

SFJD	**Kangerlussuaq**	**75.43**	**6**	*e*P	**P**	**00 16 43.9**	**+0.2**
SFJD				pmax	pmax		
	comp=Z,813nm,1.4s						
SFJD				MLR	MLR		
	comp=Z,6µm,20.0s						
SFJD	**Kangerlussuaq**	**75.43**	**6**	⇓*i*P	**P**	**00 16 43.9**	**+0.2**
	comp=Z,636nm,1.4s						
SFJD	**Kangerlussuaq**	**75.43**	**6**	*e*P	**P**	**00 16 43.9**	**+0.2**
SFJD	comp=Z,813nm,1.4s			LR	LR		
	comp=Z,6µm,20.0s						
HWUT	**Hardware Ranch**	**75.53**	**49**	*e*P	**P**	**00 16 45.7**	**+0.6**
HWUT	comp=Z,990nm,1.6s			LR	LR		
	comp=Z,3µm,20.0s						
DECC	**Green Verdugo**	**75.55**	**58**	P	**P**	**00 16 45.4**	**+0.4**
	baz=305,SNR=11						
FSU	**Fish Springs**	**75.55**	**51**	*e*P	**P**	**00 16 45.8**	**+0.7**
RSUT	**Red Spur Mount**	**75.61**	**48**	*e*P	**P**	**00 16 46.4**	**+0.8**
DUG	**Dugway, Tooele**	**75.63**	**50**	P	**P**	**00 16 46.2**	**+0.7**
	baz=307,SNR=190						
DUG	**Dugway, Tooele**	**75.63**	**50**	*e*P	**P**	**00 16 46.3**	**+0.7**
DUG				pmax	pmax		
	comp=Z,750nm,1.6s						
DUG				MLR	MLR		
	comp=Z,4µm,20.0s						
DUG	**Dugway, Tooele**	**75.63**	**50**	*e*P	**P**	**00 16 46.3**	**+0.7**
	comp=Z,750nm,1.6s						
DUG				LR	LR		
	comp=Z,4µm,20.0s						
MCU	**Monte Cristo P**	**75.66**	**49**	*e*P	**P**	**00 16 46.5**	**+0.6**
PASC	**Pasadena Art C**	**75.69**	**58**	*e*P	**P**	**00 16 46.6**	**+0.7**
	comp=Z,604nm,1.5s						
OSL	**Oslo**	**75.74**	**338**	*e*P	**P**	**00 16 46.1**	**+0.6**
OSL				IVmB_BB		00 16 47.2	
	comp=Z,7µm,1.2s						
OSL				IVMs_BB	IVMs_BB	00 54 04.4	
	comp=Z,5µm,20.9s						
SUW	**Suwalki**	**75.74**	**328**	*i*P	**P**	**00 16 46.1**	**+0.4**
SUW				*e*S	**S**	**00 26 25.1**	**-1.1**
SUW				LMZ	LR	00 52 37.3	
	comp=Z,13µm,18.6s						
SUW	**Suwalki**	**75.74**	**328**	⇓*i*P	**P**	**00 16 46.1**	**+0.4**
SUW				*e*S	**S**	**00 26 25.1**	**-1.1**
SUW				MLR	MLR		
	comp=Z,13µm,18.6s						
MWC	**Mount Wilson**	**75.75**	**58**	*e*P	**P**	**00 16 46.6**	**+0.2**
MWC				pmax	pmax		
	comp=Z,736nm,1.5s						
MWC	**Mount Wilson**	**75.75**	**58**	*e*P	**P**	**00 16 46.6**	**+0.2**
	comp=Z,736nm,1.5s						
MACK	**Trabzon**	**75.77**	**311**	*i*P	**P**	**00 16 47.0**	**+0.8**
ECAT	**Cat-ERZURUM**	**75.84**	**309**	*i*P	**P**	**00 16 46.7**	**-0.1**
KOPT	**Kop Dagi**	**75.88**	**310**	*i*P	**P**	**00 16 46.5**	**-0.7**
FMP	**Fort Macarthur**	**75.89**	**58**	P	**P**	**00 16 47.5**	**+0.6**
	baz=306,SNR=6.0						
FOO	**Floro**	**75.96**	**341**	*e*P	**P**	**00 16 46.8**	**0.0**
FOO				IVmB_BB		00 16 48.1	
	comp=Z,4µm,2.4s						
FOO				*e*S	**S**	**00 26 23.6**	**-4.7**
FOO				*e*SS	**SS**	**00 31 23.6**	**+3.9**
FOO				IVMs_BB	IVMs_BB	00 54 05.8	
	comp=Z,4µm,15.7s						
GSC	**Goldstone, Bar**	**75.96**	**56**	P	**P**	**00 16 47.8**	**+0.3**
	baz=306,SNR=68						
GSC	**Goldstone, Bar**	**75.96**	**56**	*e*P	**P**	**00 16 47.5**	**0.0**
GSC				pmax	pmax		
	comp=Z,438nm,1.4s						
GSC	**Goldstone, Bar**	**75.96**	**56**	*e*P	**P**	**00 16 47.5**	**0.0**
	comp=Z,438nm,1.4s						
SHOC	**Shoshone, Teco**	**75.96**	**56**	P	**P**	**00 16 47.7**	**+0.3**
	baz=306,SNR=49						
PSUT	**Pine Spring**	**75.97**	**52**	*e*P	**P**	**00 16 48.5**	**+0.8**
	comp=Z,514nm,1.5s						
B25A	**Knox Farm, Ray**	**76.00**	**39**	P	**P**	**00 16 47.6**	**+0.2**
	baz=311						
BFSC	**Mount Baldy Ra**	**76.01**	**58**	P	**P**	**00 16 47.9**	**+0.1**
	baz=306,SNR=69						
BW06	**Boulder Array**	**76.01**	**47**	P	**P**	**00 16 47.7**	**-0.1**
	baz=308,SNR=61						
BW06	**Boulder Array**	**76.01**	**47**	*e*P	**P**	**00 16 45.9**	**-1.9**
BW06				LR	LR		
	comp=Z,4µm,22.0s						
PD31	**Pinedale Array**	**76.01**	**47**	*e*P	**P**	**00 16 47.6**	**-0.2**
PDAR	**Pinedale Array**	**76.01**	**47**	P	**P**	**00 16 47.6**	**-0.2**
	comp=Z,29nm,0.8s,baz=270,slow=3.0,SNR=166						
PDAR				PKP2ab		00 43 53.4	
	comp=Z,0.6nm,0.9s,baz=143,slow=0.7,SNR=3.7						
HYA	**Hoyanger**	**76.02**	**340**	*e*P	**P**	**00 16 47.1**	**-0.1**
HYA				IVMs_BB	IVMs_BB	00 53 46.5	
	comp=Z,4µm,22.8s						
RRX	**Edison Barstow**	**76.08**	**57**	P	**P**	**00 16 48.9**	**+0.8**
	baz=306,SNR=11						
BNGL	**BINGOL**	**76.12**	**308**	*i*P	**P**	**00 16 49.8**	**+1.3**
SCI2	**San Clemente I**	**76.14**	**59**	P	**P**	**00 16 48.6**	**+0.2**
	baz=306						
A26A	**Wade Farm, Ken**	**76.15**	**38**	P	**P**	**00 16 48.3**	**+0.1**
	baz=312,SNR=16						
SIRN	**S¨–rnak**	**76.19**	**307**	*i*P	**P**	**00 16 47.7**	**-1.0**
JLU	**Jordanelle**	**76.21**	**49**	*e*P	**P**	**00 16 49.6**	**+0.6**
	comp=Z,789nm,1.8s						
NLU	**North Lily Min**	**76.22**	**50**	*e*P	**P**	**00 16 49.7**	**+0.7**
	comp=Z,469nm,1.9s						
KONO	**Kongsberg**	**76.31**	**338**	⇓*i*P	**P**	**00 16 49.2**	**+0.3**
KONO				IVmB_BB		00 16 50.0	
	comp=Z,5µm,2.3s						
KONO				*e*PP	**PP**	**00 19 40.5**	**+0.9**
KONO				*e*S	**S**	**00 26 31.4**	**-0.8**
KONO				*e*SS	**SS**	**00 31 27.4**	**+2.3**
KONO				IVMs_BB	IVMs_BB	00 54 52.0	
	comp=Z,7µm,17.9s						
KONO	**Kongsberg**	**76.31**	**338**	*d i*P	**P**	**00 16 49.3**	**+0.5**
KONO				pmax	pmax		
	comp=Z,959nm,1.1s						
KONO				MLR	MLR		
	comp=Z,112µm,21.0s						
KONO	**Kongsberg**	**76.31**	**338**	*e*P	**P**	**00 16 49.4**	**+0.5**
	comp=Z,352nm,1.3s						
KONO				LR	LR		
	comp=Z,18µm,20.0s						
C25A	**Freed Ranch, W**	**76.31**	**40**	P	**P**	**00 16 49.5**	**+0.3**
	baz=311,SNR=12						
SHPR	**Sheep Range**	**76.33**	**55**	*e*P	**P**	**00 16 50.3**	**+0.6**
	comp=Z,636nm,1.5s						
BGOL	**Bingol**	**76.39**	**309**	*i*P	**P**	**00 16 49.8**	**-0.1**
B26A	**Jensen Ranch,**	**76.39**	**39**	P	**P**	**00 16 50.1**	**+0.4**
	baz=312,SNR=20						
TUQ	**Turquoise Moun**	**76.47**	**56**	P	**P**	**00 16 50.9**	**+0.5**
	baz=306,SNR=114						
SUE	**Sulen**	**76.49**	**341**	*e*P	**P**	**00 16 49.1**	**-0.7**
SUE				IVmB_BB		00 16 51.3	
	comp=Z,5µm,2.6s						
SUE				*e*S	**S**	**00 26 32.8**	**-1.3**
SUE				IVMs_BB	IVMs_BB	00 54 18.9	
	comp=Z,5µm,11.5s						
BBRC	**Big Bear Solar**	**76.49**	**57**	P	**P**	**00 16 50.6**	**-0.1**
	baz=306						
A27A	**Ledoux Ranch,**	**76.50**	**38**	P	**P**	**00 16 50.3**	**+0.1**
	baz=312						
KLNR	**Kaliningrad**	**76.52**	**330**	*i*P	**P**	**00 16 50.3**	**+0.2**
KLNR				pmax	pmax		
	comp=Z,864nm,1.1s						
SIM	**Simferopol'**	**76.55**	**317**	*d i*P	**P**	**00 16 50.3**	**-0.2**
SIM				*e*		00 19 41.0	
SIM				*e*PPP	PPP	00 21 39.0	
SIM				*e*S	**S**	**00 26 34.9**	**-0.5**
SIM				*e*SS	**SS**	**00 31 28.0**	**-1.6**
SIM				pmax	pmax		
	comp=Z,1µm,9.7s						
HEC	**Hector,Ludlow**	**76.55**	**56**	P	**P**	**00 16 51.3**	**+0.5**
	baz=306,SNR=106						
EUZM	**Uzumlu**	**76.56**	**310**	*i*P	**P**	**00 16 52.5**	**+1.6**
KELT	**Kelkit**	**76.56**	**310**	*i*P	**P**	**00 16 50.5**	**-0.4**
D25A	**Fairfield**	**76.65**	**40**	P	**P**	**00 16 51.3**	**+0.2**
	baz=311,SNR=31						
LEVU	**Levan**	**76.65**	**50**	*e*P	**P**	**00 16 52.3**	**+0.8**
BTMN	**Batman**	**76.68**	**308**	*i*P	**P**	**00 16 52.2**	**+0.7**
MURC	**Murrieta**	**76.69**	**58**	P	**P**	**00 16 51.8**	**+0.2**
	baz=306,SNR=31						
WCU	**Willow Creek**	**76.81**	**51**	*e*P	**P**	**00 16 53.4**	**+0.9**
C26A	**Wahner Farm, P**	**76.83**	**39**	P	**P**	**00 16 52.4**	**+0.3**
	baz=312,SNR=9.1						
ASK	**Askoy**	**76.86**	**340**	*e*P	**P**	**00 16 52.5**	**+0.5**
B27A	**Peters Farms,**	**76.86**	**38**	P	**P**	**00 16 52.5**	**+0.3**
	baz=312,SNR=11						
CCUT	**Cedar City**	**76.87**	**53**	*e*P	**P**	**00 16 53.5**	**+0.7**
	comp=Z,581nm,1.5s						
ORDU	**Ordu-Boztepe**	**76.89**	**312**	*i*P	**P**	**00 16 52.0**	**-0.6**
BER	**Bergen**	**76.91**	**340**	*e*P	**P**	**00 16 52.9**	**+0.7**
	comp=Z,612nm,1.5s						
BER				IVmB_BB		00 16 53.8	
	comp=Z,6µm,2.5s						
BER				IVMs_BB	IVMs_BB	00 54 02.4	
	comp=Z,5µm,19.8s						
SNO	**Snow College**	**76.94**	**50**	*e*P	**P**	**00 16 54.3**	**+1.1**
ODD1	**Odda**	**76.95**	**339**	*e*P	**P**	**00 16 53.0**	**+0.4**
ODD1				IVmB_BB		00 16 54.3	
	comp=Z,6µm,2.2s						
ODD1				*e*PP	**PP**	**00 19 47.4**	**+2.4**
ODD1				IVMs_BB	IVMs_BB	00 54 24.1	
	comp=Z,6µm,20.3s						
A28A	**Rude Farm, Bot**	**77.01**	**38**	P	**P**	**00 16 53.3**	**+0.2**
	baz=313,SNR=22						
TNCL	**Tunceli-Merkez**	**77.02**	**309**	*i*P	**P**	**00 16 54.5**	**+1.1**
GMRC	**Granite Mounta**	**77.03**	**56**	P	**P**	**00 16 54.0**	**+0.5**
	baz=306,SNR=80						
MSU	**Marysvale**	**77.03**	**51**	*e*P	**P**	**00 16 54.7**	**+1.0**
MSU	**Marysvale**	**77.03**	**51**	*e*P	**P**	**00 16 54.7**	**+1.0**
E25A	**Miller Ranch,**	**77.03**	**41**	P	**P**	**00 16 53.5**	**+0.1**
	baz=311,SNR=64						
TMUT	**Trail Mountain**	**77.15**	**50**	*e*P	**P**	**00 16 54.9**	**+0.5**
	comp=Z,441nm,1.6s						
SUSE	**Susehri**	**77.16**	**311**	*i*P	**P**	**00 16 54.0**	**-0.3**
109C	**Camp Elliot, M**	**77.17**	**58**	P	**P**	**00 16 54.6**	**+0.4**
	baz=306,SNR=14						
D26A	**Manning**	**77.18**	**40**	P	**P**	**00 16 54.0**	**-0.1**
	baz=312,SNR=31						
PFO	**Pinyon Flats O**	**77.18**	**58**	LR	LR	00 46 36.5	
	comp=Z,10µm,19.0s,baz=284,slow=32						
PFO	**Pinyon Flats O**	**77.18**	**58**	*e*P	**P**	**00 16 54.6**	**+0.1**
PFO				pmax	pmax		
	comp=Z,520nm,1.4s						
PFO	**Pinyon Flats O**	**77.18**	**58**	*e*P	**P**	**00 16 54.6**	**+0.1**
	comp=Z,520nm,1.4s						
TPFO	**Pinon Flats**	**77.19**	**58**	P	**P**	**00 16 54.6**	**+0.1**
	baz=306,SNR=59						
C27A	**Sayler Ranch,**	**77.20**	**39**	P	**P**	**00 16 54.1**	**-0.1**
	baz=312						
LDFC	**Landfair**	**77.21**	**56**	*e*P	**P**	**00 16 54.9**	**+0.3**
	comp=Z,843nm,1.4s						
BELC	**Belle Mtn. Jos**	**77.26**	**57**	P	**P**	**00 16 54.8**	**-0.1**
	baz=306,SNR=49						
LCMT	**Little Creek M**	**77.27**	**53**	*e*P	**P**	**00 16 55.6**	**+0.7**
	comp=Z,664nm,1.5s						
B28A	**Dugan Ranch, T**	**77.27**	**38**	P	**P**	**00 16 54.5**	**-0.1**
	baz=313,SNR=19						
MTPU	**Mount Pierson**	**77.31**	**52**	*e*P	**P**	**00 16 56.5**	**+1.0**
	comp=Z,790nm,1.7s						
REFA	**Refahiye_ERZ¨**	**77.32**	**310**	*i*P	**P**	**00 16 53.5**	**-1.7**
P17A	**Butcher Ranch,**	**77.33**	**50**	*e*P	**P**	**00 16 56.0**	**+0.7**
MARD	**Mardin**	**77.34**	**307**	*i*P	**P**	**00 16 54.8**	**-0.4**
F25A	**Bowman**	**77.38**	**41**	P	**P**	**00 16 55.4**	**+0.1**
	baz=311,SNR=30						
DIYA	**Diyarbakir**	**77.38**	**308**	*i*P	**P**	**00 16 56.1**	**+0.6**
BLS5	**Blasjo**	**77.41**	**339**	*e*P	**P**	**00 16 55.7**	**+0.6**
BLS5				IVmB_BB		00 16 57.0	
	comp=Z,5µm,0.9s						
BLS5				IVMs_BB	IVMs_BB	00 54 19.9	
	comp=Z,6µm,20.0s						
Q16A	**Castle Valley**	**77.41**	**51**	*e*P	**P**	**00 16 56.5**	**+0.8**
	comp=Z,922nm,1.6s						
A29A	**Manning Farm,**	**77.50**	**37**	P	**P**	**00 16 55.9**	**+0.1**
	baz=313,SNR=116						
KNB	**Kanab**	**77.53**	**53**	*e*P	**P**	**00 16 55.2**	**-1.2**
KNB				pmax	pmax		
	comp=Z,1µm,1.5s						
KNB	**Kanab**	**77.53**	**53**	*e*P	**P**	**00 16 55.2**	**-1.2**
	comp=Z,1µm,1.5s						
P18A	**Preston Nutter**	**77.54**	**50**	*e*P	**P**	**00 16 57.2**	**+0.6**
	comp=Z,868nm,1.8s						
E26A	**Carlson Angus**	**77.54**	**40**	P	**P**	**00 16 56.0**	**-0.2**
	baz=312,SNR=14						
KEMA	**Kemaliye**	**77.57**	**310**	*i*P	**P**	**00 16 55.8**	**-0.7**
BAR	**Barrett**	**77.59**	**58**	*e*P	**P**	**00 16 56.1**	**-0.5**
	comp=Z,486nm,1.5s						
D27A	**Center**	**77.60**	**40**	P	**P**	**00 16 56.5**	**+0.1**
	baz=312,SNR=11						
PKCU	**Pink Cliffs**	**77.60**	**52**	*e*P	**P**	**00 16 58.9**	**+1.9**
	comp=Z,484nm,1.9s						
CUZAR	**Zara_SIVAS**	**77.62**	**311**	*i*P	**P**	**00 16 56.2**	**-0.6**
BORG	**Borgarnes**	**77.63**	**354**	*e*P	**P**	**00 16 58.1**	**+1.9**
BORG				pmax	pmax		
	comp=Z,813nm,1.2s						
BORG				MLR	MLR		
	comp=Z,4µm,20.0s						
BORG	**Borgarnes**	**77.63**	**354**	*e*P	**P**	**00 16 58.1**	**+1.9**
	comp=Z,813nm,1.2s						
BORG				LR	LR		
	comp=Z,4µm,20.0s						
MONP2	**Monument Peak**	**77.63**	**58**	P	**P**	**00 16 57.2**	**+0.1**
	baz=306,SNR=41						
SAMS	**Samsun-Alacam**	**77.64**	**313**	*i*P	**P**	**00 16 57.0**	**+0.3**
KBSD	**Kabsdagh**	**77.67**	**307**	*e*P	**P**	**00 16 57.9**	**+0.8**
KBSD	**Kabsdagh**	**77.67**	**307**	*e*P	**P**	**00 16 57.8**	**+0.8**
SRU	**San Rafael Swe**	**77.69**	**50**	*e*P	**P**	**00 16 57.7**	**+0.4**
SRU				pmax	pmax		
	comp=Z,657nm,1.6s						
SRU	**San Rafael Swe**	**77.69**	**50**	*e*P	**P**	**00 16 57.7**	**+0.4**
	comp=Z,657nm,1.6s						
NEE2	**Needles Airpor**	**77.72**	**56**	P	**P**	**00 16 57.4**	**+0.1**
	baz=307,SNR=5.6						
ERBA	**Erbaa**	**77.74**	**312**	*i*P	**P**	**00 16 56.3**	**-1.1**
ELZG	**Elazig**	**77.74**	**309**	*i*P	**P**	**00 16 59.1**	**+1.6**
IRM	**Iron Mountain**	**77.74**	**56**	P	**P**	**00 16 57.9**	**+0.4**
	baz=307,SNR=121						
B29A	**Wagenman Farm,**	**77.75**	**37**	P	**P**	**00 16 57.4**	**+0.1**
	baz=313,SNR=33						
C28A	**Hausauer Farms**	**77.76**	**39**	P	**P**	**00 16 57.5**	**+0.2**
	baz=313,SNR=5.5						
HOMB	**Homborsund**	**77.76**	**338**	⇓*i*P	**P**	**00 16 57.1**	**+0.1**
HOMB				IVmB_BB		00 16 58.5	
	comp=Z,5µm,2.3s						
HOMB				IVMs_BB	IVMs_BB	00 54 53.7	
	comp=Z,7µm,21.6s						
MMU	**Miners Mountai**	**77.77**	**51**	*e*P	**P**	**00 16 58.7**	**+0.9**
K22A	**Casper**	**77.82**	**45**	P	**P**	**00 16 58.0**	**0.0**
	baz=310,SNR=63						
K22A	**Casper**	**77.82**	**45**	*e*P	**P**	**00 16 58.0**	**0.0**
	comp=Z,640nm,1.4s						
BC3	**Big Chuckawall**	**77.83**	**57**	P	**P**	**00 16 58.2**	**+0.2**
	baz=307,SNR=91						
F26A	**Lodgepole**	**77.84**	**41**	P	**P**	**00 16 57.8**	**0.0**
	baz=312,SNR=51						
G25A	**Newell**	**77.88**	**42**	P	**P**	**00 16 57.8**	**-0.3**
	baz=311,SNR=20						
KMY	**Karmoy**	**77.92**	**340**	*e*P	**P**	**00 16 58.8**	**+0.9**
KMY				IVmB_BB		00 16 59.4	
	comp=Z,4µm,2.2s						
KMY				*e*S	**S**	**00 26 50.3**	**+0.6**
A30A	**Hoffart Farm,**	**77.93**	**37**	P	**P**	**00 16 58.2**	**0.0**
	baz=314,SNR=16						
IKP	**In-Ko-Pah, Jac**	**77.99**	**58**	P	**P**	**00 16 59.4**	**+0.5**
	baz=307,SNR=55						
KIS	**Kishinev**	**77.99**	**321**	⇓*i*P	**P**	**00 16 58.0**	**-0.6**
	comp=Z,600nm,2.0s						
KIS	**Kishinev**	**77.99**	**321**	*i* PcP	**PcP**	**00 17 15.0**	**+6.7**
KIS	**Kishinev**	**77.99**	**321**	*i* PP	PP	00 19 56.0	+1.9
	comp=Z,2µm,8.0s						
KIS	**Kishinev**	**77.99**	**321**	*i* PsP		00 22 40.0	
KIS				*i* S	**S**	**00 26 48.0**	**-3.0**
	comp=Z,2µm,6.0s						
KIS	**Kishinev**	**77.99**	**321**	*i* PS		00 27 32.0	
KIS				*i* SS	SS	00 31 50.0	-1.2
KIS				*i* SSS	SSS	00 35 34.0	
KIS				*e*LQ	LQ	00 42 12.0	
KIS				LRM	MLR	00 53 54.0	
	comp=Z,5µm,16.0s						
KIS	**Kishinev**	**77.99**	**321**	⇑*i*P	**P**	**00 16 58.7**	**+0.1**
KIS	**Kishinev**	**77.99**	**321**	K *i*P	**P**	**00 16 58.0**	**-0.6**
KIS				*i*		00 17 15.0	
KIS				*i*		00 19 56.0	
KIS				*i* PPP	PPP	00 21 40.0	
KIS				*i* S	**S**	**00 26 48.0**	**-3.0**
KIS				*i*		00 27 12.0	
KIS				*i* PS	**PnS**	**00 27 32.0**	**-0.3**
KIS				*i* SS	**SS**	**00 31 50.0**	**-1.2**
KIS				pmax	pmax		
	comp=Z,600nm,2.0s						
KIS				pmax	pmax		
	comp=Z,3µm,9.0s						
KIS				pmax	pmax		
	comp=N,1µm,8.0s						
KIS				pmax	pmax		
	comp=E,1µm,10.0s						
KIS				pmax	pmax		
	comp=Z,2µm,8.0s						
KIS				pmax	pmax		
	comp=Z,3µm,12.0s						
KIS				smax	smax		
	comp=N,2µm,6.0s						
KIS				smax	smax		
	comp=E,3µm,10.0s						
KIS				MLR	MLR		
	comp=N,16µm,18.0s						
KIS				MLR	MLR		
	comp=Z,20µm,18.0s						
KIS				MLR	MLR		
	comp=E,5µm,16.0s						
KIS				MLR	MLR		
	comp=Z,21µm,20.0s						
D28A	**Regan**	**78.02**	**39**	P	**P**	**00 16 58.9**	**+0.1**
	baz=313,SNR=10						
SWSC	**Sam W. Stewart**	**78.02**	**58**	P	**P**	**00 16 59.1**	**+0.1**
	baz=307,SNR=41						
SCER	**sogukcermik**	**78.03**	**311**	*i*P	**P**	**00 17 00.3**	**+1.3**
STAV	**Stavanger**	**78.03**	**339**	*e*P	**P**	**00 16 59.3**	**+0.8**
STAV				IVmB_BB		00 17 00.0	
	comp=Z,7µm,2.5s						
STAV				IVMs_BB	IVMs_BB	00 54 47.5	
	comp=Z,5µm,17.9s						
E27A	**Carson**	**78.03**	**40**	P	**P**	**00 16 58.9**	**0.0**
	baz=312,SNR=19						
MDND	**Maddock**	**78.06**	**38**	P	**P**	**00 16 58.9**	**-0.1**
	baz=313,SNR=19						
MDND	**Maddock**	**78.06**	**38**	*e*P	**P**	**00 16 59.1**	**+0.2**
	comp=Z,1µm,1.4s						
SNART	**Snartemo**	**78.09**	**338**	⇓*i*P	**P**	**00 16 59.7**	**+0.8**
SNART				IVmB_BB		00 17 00.1	
	comp=Z,4µm,2.9s						
SNART				*e*PP	**PP**	**00 19 55.8**	**+1.3**
SNART				*e*S	**S**	**00 26 51.9**	**+0.2**
SNART				IVMs_BB	IVMs_BB	00 53 52.9	
	comp=Z,3µm,22.2s						
HAVZ	**Havza**	**78.10**	**313**	*i*P	**P**	**00 16 59.5**	**+0.1**
TOKA	**Tokat**	**78.12**	**312**	*i*P	**P**	**00 17 00.3**	**+0.8**
ULM	**Lac du Bonnet**	**78.14**	**35**	P	**P**	**00 16 58.6**	**-0.7**
	comp=Z,106nm,1.1s,baz=316,slow=6.3,SNR=73						
ULM				PP	**PP**	**00 19 59.6**	**+4.4**
	comp=Z,18nm,1.0s,baz=314,slow=12,SNR=4.1						
ULM				LR	LR	00 52 23.3	
	comp=Z,2µm,20.9s,baz=326,slow=36						
ULM	**Lac du Bonnet**	**78.14**	**35**	*e*P	**P**	**00 16 58.6**	**-0.7**
ULM						00 19 59.7	
ULM				pmax	pmax		
	comp=Z,511nm,1.4s						
ULM	**Lac du Bonnet**	**78.14**	**35**	*e*P	**P**	**00 16 58.6**	**-0.7**
	comp=Z,511nm,1.4s						
ULM				PP	**PP**	**00 19 59.6**	**+4.4**
BSD	**Bornholm Skovb**	**78.15**	**333**	⇓*i*P	**P**	**00 16 59.6**	**+0.3**
BSD				*i* S	**S**	**00 26 47.6**	**-4.8**
BSD				pmax	pmax		
	comp=Z,2µm,1.4s						
BSD	**Bornholm Skovb**	**78.15**	**333**	⇓*i*P	**P**	**00 16 59.6**	**+0.3**
	comp=Z,1µm,1.4s						
BSD				*i* S	**S**	**00 26 47.6**	**-4.8**
CUKAN	**kangal_SIVAS**	**78.16**	**311**	*i*P	**P**	**00 17 00.4**	**+0.5**
H25A	**Fruitdale**	**78.16**	**42**	P	**P**	**00 16 59.5**	**-0.2**
	baz=311,SNR=39						
SOFL	**Sornfelli, Far**	**78.22**	**346**	⇓*e*P	**P**	**00 17 00.8**	**+1.2**
SOFL				AMB	AMB	00 17 01.6	
	comp=Z,758nm,1.6s						
SOFL				AMS	AMS	00 52 02.1	
	comp=Z,8µm,20.2s						
U15A	**North Rim**	**78.23**	**53**	*e*P	**P**	**00 17 00.9**	**+0.4**
	comp=Z,918nm,1.7s						
RSSD	**Black Hills**	**78.25**	**43**	P	**P**	**00 17 00.1**	**-0.3**
	baz=311						
RSSD	**Black Hills**	**78.25**	**43**	*e*P	**P**	**00 16 59.9**	**-0.5**
RSSD				pmax	pmax		
	comp=Z,268nm,1.3s						
RSSD	**Black Hills**	**78.25**	**43**	*e*P	**P**	**00 16 59.9**	**-0.5**
	comp=Z,268nm,1.3s						
B30A	**Myrvik Farm, E**	**78.26**	**37**	P	**P**	**00 17 00.1**	**+0.1**
	baz=314,SNR=32						
SFNV	**Sufian**	**78.31**	**307**	*e*P	**P**	**00 17 01.5**	**+0.9**
SFNV	**Sufian**	**78.31**	**307**	*e*P	**P**	**00 17 01.6**	**+1.1**
BEL	**Belsk**	**78.32**	**328**	*i*P	**P**	**00 17 01.6**	**+1.3**
BEL				*e*S	**S**	**00 26 56.9**	**+2.6**
BEL				LMZ	LR	00 54 27.9	
	comp=Z,18µm,18.1s						
BEL	**Belsk**	**78.32**	**328**	⇓*i*P	**P**	**00 17 01.5**	**+1.3**
BEL				*e*S	**S**	**00 26 56.9**	**+2.6**
BEL				MLR	MLR		
	comp=Z,18µm,18.1s						
PDMCI	**Parker Dam,Lak**	**78.32**	**56**	P	**P**	**00 17 01.0**	**+0.4**
	baz=307,SNR=91						
MZRK	**Al-Mazaregh**	**78.32**	**306**	*e*P	**P**	**00 17 02.5**	**+1.8**
MZRK	**Al-Mazaregh**	**78.32**	**306**	*e*P	**P**	**00 17 02.6**	**+2.0**
LVV	**L'vov**	**78.34**	**325**	*e*P	**P**	**00 17 00.5**	**0.0**
LVV				*e*		00 20 00.2	
LVV				*e*PPP	PPP	00 21 50.7	
LVV				*e*S	**S**	**00 26 52.3**	**-2.4**
LVV				*e*PS	**PnS**	**00 27 35.2**	**-1.4**
LVV				*e*SS	**SS**	**00 31 58.6**	**+2.2**
LVV				*e*SSS	SSS	00 35 24.3	
BOYT	**Boyabat**	**78.35**	**313**	*i*P	**P**	**00 17 01.1**	**+0.3**
YEL1	**Yell**	**78.36**	**343**	⇓*e*P	**P**	**00 17 01.1**	**+0.8**
E28A	**Huff**	**78.38**	**40**	P	**P**	**00 17 00.7**	**-0.1**
	baz=313,SNR=12						
Y12C	**Blythe**	**78.40**	**56**	P	**P**	**00 17 01.6**	**+0.6**
	baz=307,SNR=70						
Y12C	**Blythe**	**78.40**	**56

PRAR RASCA 79.03 322 ⇓ *i* P P 00 17 05.0 +0.7
MUD Monsted U'grnd 79.05 336 ⇓ *i* P P 00 17 05.0 +0.9
MUD pmax pmax
comp=Z,2µm,1.9s
MUD Monsted U'grnd 79.05 336 ⇓ *i* P P 00 17 05.0 +0.9
comp=Z,2µm,1.9s
COAL Corum-Alaca 79.05 313 *i* P P 00 17 03.6 -1.1
KWP Kalwaria Pacla 79.08 326 *i* P P 00 17 05.9 +1.4
KWP *e*PP PP 00 20 03.3 +0.2
KWP *e*S S 00 27 02.9 +0.3
KWP LMZ LR 00 56 26.1
comp=Z,23µm,17.8s
KWP Kalwaria Pacla 79.08 326 ⇓ *i* P P 00 17 05.9 +1.4
KWP Kalwaria Pacla 79.08 326 ⇓ *i* P P 00 17 05.9 +1.4
KWP *e* 00 20 03.3
KWP *e*S S 00 27 02.9 +0.3
KWP MLR MLR
comp=Z,23µm,17.8s
PV04 Paradox Valley 79.12 50 *e*P P 00 17 05.5 +0.3
MNKR ALMNKUR 79.13 307 *e*P P 00 17 00.3 -4.7
MNKR ALMNKUR 79.13 307 *e*P P 00 17 00.6 -4.5
B32A Ashes, Strandq 79.15 36 P P 00 17 04.3 -0.6
baz=315,SNR=46
RGN Rugen 79.17 333 *e*P P 00 17 05.9 +1.1
comp=Z,1µm,1.2s
PV05 Paradox Valley 79.20 50 *e*P P 00 17 06.4 +0.6
TLCR 79.22 319 ⇑ *i* P P 00 17 06.1 +0.8
ILGA Ilgaz 79.28 314 *i* P P 00 17 06.0 0.0
N23A Red Feather La 79.28 46 P P 00 17 07.0 +0.8
baz=310,SNR=95
N23A Red Feather La 79.28 46 *e*P P 00 17 06.8 +0.6
comp=Z,465nm,1.3s
A33A Warroad 79.30 35 P P 00 17 05.1 -0.6
baz=316,SNR=66
PHWY Pilot Hill 79.30 46 *e*P P 00 17 06.5 +0.2
comp=Z,546nm,1.8s
F29A Eureka 79.32 40 P P 00 17 05.7 -0.3
baz=313,SNR=28
E30A Jud 79.33 39 P P 00 17 05.6 -0.3
baz=314,SNR=11
GZT Gaziantep 79.33 309 *i* P P 00 17 05.3 -1.0
BUR08 Bucovina Ar. S 79.33 323 *e*P P 00 17 06.9 +0.8
BURAR Bucovina Array 79.34 323 ⇓ *i* P P 00 17 06.9 +0.8
BURAR Bucovina Array 79.34 323 P P 00 17 06.8 +0.7
KSRV Kasrt alli 79.35 307 *e*P P 00 17 07.3 +1.1
KSRV Kasrt alli 79.35 307 *e*P P 00 17 07.4 +1.1
WUAZ Wupatki 79.37 53 P P 00 17 07.4 +0.7
baz=308,SNR=98
WUAZ Wupatki 79.37 53 *e*P P 00 17 07.1 +0.5
comp=Z,607nm,1.4s
WUAZ LR LR
comp=Z,4µm,19.0s
TESR Tescani 79.41 321 ⇓ *i* P P 00 17 07.0 +0.6
TESR Tescani 79.41 321 ⇑ *i* P PKKPbc 00 35 54.1 -0.7
PV01 Paradox Valley 79.49 50 *e*P P 00 17 06.9 -0.4
D31A Mcclaflin, Tow 79.53 38 P P 00 17 06.6 -0.5
baz=315,SNR=19
C32A Crookston 79.56 37 P P 00 17 06.4 -0.8
baz=315
CFR Carcaliu 79.58 320 ⇓ *i* P P 00 17 07.7 +0.4
CFR Carcaliu 79.58 320 ⇓ *i* P PKKPbc 00 35 53.9 -0.4
B33A Robert and Kas 79.68 36 P P 00 17 07.1 -0.8
baz=316,SNR=20
G29A Hoven 79.71 40 P P 00 17 07.7 -0.4
baz=313,SNR=6.6
F30A Leola 79.73 39 P P 00 17 07.6 -0.6
baz=314,SNR=11
ODBI Odobesti 79.73 321 ⇓ *i* P P 00 17 09.9 +1.8
ODBI Odobesti 79.73 321 ⇑ *i* P PKKPbc 00 36 05.0 +11
BTIN Bart¯–n 79.73 315 *i* P P 00 17 08.0 -0.2
KOLS Kolonicke sedl 79.78 325 *e*P P 00 17 09.2 +0.8
KOLS pmax pmax
comp=Z,412nm,1.3s
KOLS Kolonicke sedl 79.78 325 *e*P P 00 17 09.2 +0.8
KOLS *e*PP PP 00 20 03.4 -5.6
KOLS *e*S S 00 27 10.4 +0.3
KOLS *e*SS SS 00 32 19.5 +1.5
KOLS *e*L L 00 57 58.7
SMCO Snowmass 79.79 48 *e*P P 00 17 09.3 +0.2
comp=Z,651nm,1.9s
E31A Nome 79.79 38 P P 00 17 08.1 -0.4
baz=314,SNR=15
ELDT Eldivan 79.81 313 *i* P P 00 17 07.8 -1.1
D32A Dogwood Acres, 79.81 37 P P 00 17 07.7 -0.9
baz=315
CDAG Cicekdag 79.82 312 *i* P P 00 17 08.7 -0.2
VRI Vrincioaia 79.82 321 ⇑ *i* P P 00 17 09.8 +1.1
VRI Vrincioaia 79.82 321 ⇑ *i* P PKKPbc 00 35 53.9 0.0
VRI Vrincioaia 79.82 321 P P 00 17 09.4 +0.7
VRI pmax pmax
comp=Z,2µm,2.0s
PLOR Plostina 79.87 321 ⇓ *i* P P 00 17 09.8 +0.8
PLOR Plostina 79.87 321 ⇓ *i* P PKKPbc 00 35 52.8 -1.0
STHS Stebnicka Huta 79.89 326 *e*P P 00 17 10.2 +1.2
STHS pmax pmax
comp=Z,345nm,1.3s
STHS Stebnicka Huta 79.89 326 *e*P P 00 17 10.2 +1.2
TAU Tasmania Unive 79.90 177 PFAKE 00 17 20.0 +11
TAU LR LR
comp=Z,6µm,20.0s
TIRR Tirgusor 79.93 319 ⇑ *i* P P 00 17 09.3 +0.1
TIRR Tirgusor 79.93 319 *e*P P 00 17 09.6 +0.4
TIRR pmax pmax
comp=Z,385nm,1.5s
TIRR Tirgusor 79.93 319 *e*P P 00 17 09.6 +0.4
comp=Z,385nm,1.5s
OJC Ojcow 79.93 327 *i* P P 00 17 10.2 +1.1
OJC *e*PP PP 00 20 10.6 +0.4
OJC *e*S S 00 27 11.4 -0.2
OJC LMZ LR 00 55 29.8
comp=Z,23µm,18.9s
OJC Ojcow 79.93 327 ⇓ *i* P P 00 17 10.2 +1.1
OJC *e* 00 20 10.6
OJC *e*S S 00 27 11.4 -0.2
OJC MLR MLR
comp=Z,23µm,18.9s
OJC Ojcow 79.93 327 *e*P P 00 17 09.7 +0.5
comp=Z,2µm,1.3s
H29A Onida 79.95 41 P P 00 17 09.1 -0.3
baz=313,SNR=35
B34A Aery, Baudette 79.96 35 P P 00 17 08.4 -1.0
baz=316,SNR=26
C33A Trail 79.96 36 P P 00 17 08.7 -0.7
baz=316,SNR=21
KAMA Osmaniye 79.99 309 *i* P P 00 17 10.9 +1.0
UZH Uzhgorod 79.99 325 *e*P P 00 17 07.5 -2.0
UZH *e* 00 17 18.1
UZH *i* 00 20 06.5
UZH *i*S S 00 27 06.9 -5.4
UZH *i* 00 27 16.7
KUZU Kuzuini 80.00 309 *i* P P 00 17 10.1 +0.2
X16A Lo Mia Camp, P 80.01 54 *e*P P 00 17 10.8 +0.7
comp=Z,481nm,1.5s
DGAR Diego Garcia 80.01 253 *d i* P P 00 17 09.3 -0.8
DGAR Diego Garcia 80.01 253 PFAKE 00 17 20.0 +10
DGAR LR LR
comp=Z,3µm,19.0s
HARR Harsova 80.02 319 ⇑ *i* P P 00 17 10.9 +1.2
HARR Harsova 80.02 319 ⇓ *i* P PKKPdf 00 35 34.2 -6.9
AVNS Nevsehir-Avano 80.06 311 *i* P P 00 17 09.9 -0.3
F31A Hecla 80.10 39 P P 00 17 09.7 -0.5
baz=314,SNR=24
MVCO Mesa Verde 80.12 51 P P 00 17 11.1 +0.4
baz=310,SNR=86
MVCO Mesa Verde 80.12 51 *e*P P 00 17 11.1 +0.4
comp=Z,750nm,1.6s
MVCO LR LR
comp=Z,3µm,19.0s
BMR Baia Mare 80.12 324 ⇑ *i* P P 00 17 11.4 +1.2
ARCR ARCALIA 80.13 323 ⇓ *i* P P 00 17 12.0 +1.7
G30A Faulkton 80.16 40 P P 00 17 10.0 -0.5
baz=314,SNR=40
E32A Braaten, Kindr 80.17 38 P P 00 17 10.0 -0.5
baz=315,SNR=6.3
CRVS Cervenica-Dubn 80.17 326 *e*P P 00 17 11.5 +1.0
CRVS *e* 00 20 13.1
CRVS *e*S S 00 27 15.0 +0.8
CRVS Cervenica-Dubn 80.17 326 *e*P P 00 17 11.5 +1.0
CRVS *e*PP PP 00 20 13.1 +0.9
CRVS *e*S S 00 27 15.0 +0.8
CRVS *e*SS SS 00 32 17.1 -6.7
BR131 Keskin Array S 80.18 313 *e*P P 00 17 11.3 +0.4
BRTR Keskin Array B 80.18 313 P P 00 17 11.2 +0.4
comp=Z,129nm,1.2s,baz=97,slow=2.9,SNR=215

BRTR PP PP 00 20 18.9 +6.1
comp=Z,22nm,1.1s,baz=88,slow=4.2,SNR=3.9
BRTR PKKPbc PKKPbc 00 35 52.9 -0.2
comp=Z,1.0nm,0.9s,baz=160,slow=3.9,SNR=5.6
BRTR PKPPKP P'P'df 00 43 51.7 -12
comp=Z,1.2nm,0.9s,baz=207,slow=0.3,SNR=5.4
BRTR LR LR 00 58 23.9
comp=Z,5µm,18.3s,baz=50,slow=40
BRTR Keskin Array B 80.18 313 *i* P P 00 17 11.3 +0.4
BRTR pmax pmax
comp=Z,132nm,1.2s
ISCO Idaho Springs 80.19 47 P P 00 17 11.7 +0.5
baz=311,SNR=71
ISCO Idaho Springs 80.19 47 *e*P P 00 17 11.4 +0.3
ISCO pmax pmax
comp=Z,355nm,1.8s
ISCO MLR MLR
comp=Z,3µm,19.0s
ISCO Idaho Springs 80.19 47 *e*P P 00 17 11.4 +0.3
comp=Z,355nm,1.8s
ISCO LR LR
comp=Z,3µm,19.0s
CVDA Cernavoda 80.21 319 ⇑ *i* P P 00 17 11.1 +0.4
TRPA Tarpa 80.24 325 *e*P P 00 17 12.1 +1.3
MANR Mangalia 80.27 318 ⇑ *i* P P 00 17 12.4 +1.3
I29A Vivian Onida 80.32 41 P P 00 17 11.2 -0.2
baz=313,SNR=54
DRWC Darouich 80.35 309 *e*P P 00 17 11.3 -0.4
DRWC Darouich 80.35 309 *e*P P 00 17 11.6 -0.2
PGOR Pogoanele 80.36 320 ⇓ *i* P P 00 17 13.1 +1.6
D33A AnnSam, Waubun 80.37 37 P P 00 17 10.7 -0.9
baz=316
BCAM Yenicaga 80.38 314 *i* P P 00 17 12.4 +0.5
AMRR Amara 80.38 320 ⇑ *i* P P 00 17 13.4 +1.8
DOPR Dopca 80.42 322 ⇑ *i* P P 00 17 13.4 +1.5
DOPR Dopca 80.42 322 ⇓ *i* P PKKPbc 00 35 53.0 +0.4
ISR Istrita 80.44 320 ⇓ *i* P P 00 17 13.5 +1.5
C34A RKJ Ranch, Bem 80.45 36 P P 00 17 11.0 -1.0
baz=316
MLR Muntele Rosu 80.48 321 ⇓ *i* P P 00 17 13.1 +0.7
MLR Muntele Rosu 80.48 321 ⇑ *i* P PKKPbc 00 35 52.8 +0.2
MLR Muntele Rosu 80.48 321 *e*P P 00 17 12.9 +0.6
MLR pmax pmax
comp=Z,570nm,1.4s
MLR Muntele Rosu 80.48 321 *e*P P 00 17 12.9 +0.6
comp=Z,570nm,1.4s
B35A Bob, Littlefor 80.48 35 P P 00 17 11.5 -0.6
baz=317,SNR=40
MSAB Monastry St. A 80.48 319 ⇓ *i* P P 00 17 13.3 +1.1
AKO Adana 80.56 310 *i* P P 00 17 11.9 -0.9
G31A Conde 80.56 39 P P 00 17 12.3 -0.4
baz=314,SNR=12
PSN Preselentsi 80.58 319 *i* P P 00 17 13.9 +1.2
PSN Preselentsi 80.58 319 *i* P P 00 17 13.9 +1.2
ANTO Ankara 80.58 313 *e*P P 00 17 13.8 +0.8
ANTO pmax pmax
comp=Z,583nm,1.4s
ANTO Ankara 80.58 313 *e*P P 00 17 13.8 +0.8
comp=Z,583nm,1.4s
ANTO LR LR
comp=Z,10.0nm,20.0s
BBAL Bala 80.60 313 *i* P P 00 17 12.7 -0.5
BR231 Keskin MP Arra 80.61 313 *e*P P 00 17 14.1 +0.9
214A Organ Pipe Nat 80.63 57 P P 00 17 13.7 +0.4
baz=308,SNR=116
214A Organ Pipe Nat 80.63 57 *e*P P 00 17 13.5 +0.2
comp=Z,2µm,1.5s
HIZ Hauiti 80.64 156 *e*P P 00 17 14.8 +1.9
comp=Z,188nm,1.2s
F32A Veblen 80.65 38 P P 00 17 12.5 -0.7
baz=315
W18A Petrified Fore 80.67 53 P P 00 17 14.3 +0.6
baz=309,SNR=12
W18A Petrified Fore 80.67 53 *e*P P 00 17 14.1 +0.5
comp=Z,405nm,1.7s
RAC Raciborz 80.72 328 *e*P P 00 17 14.6 +1.2
RAC *e* 00 17 21.3
RAC *e*S S 00 27 20.7 +0.9
RAC MLR MLR
comp=Z,17µm,18.0s
D34A Park Rapids 80.72 36 P P 00 17 12.9 -0.6
baz=316,SNR=15
SUSD Miller 80.73 40 P P 00 17 13.2 -0.4
baz=314,SNR=15
SECR 80.73 321 ⇓ *i* P P 00 17 14.5 +0.9
E33A Westby DABS, E 80.75 37 P P 00 17 13.3 -0.4
baz=316,SNR=18
CJR Cluj-Napoca 80.76 323 ⇓ *i* P P 00 17 15.1 +1.3
S22A 4UR Ranch, Cre 80.80 49 P P 00 17 15.3 +0.9
baz=310,SNR=73
S22A 4UR Ranch, Cre 80.80 49 *e*P P 00 17 15.3 +0.9
comp=Z,692nm,1.7s
AKSY AKSARAY - Alti 80.81 312 *i* P P 00 17 11.9 -2.3
C35A Jirik Farms, M 80.84 35 P P 00 17 13.2 -0.9
baz=317,SNR=22
BTCH Batrach 80.85 308 *e*P P 00 17 14.5 +0.1
I30A Oacoma 80.85 41 P P 00 17 13.9 -0.4
baz=314,SNR=20
BIGH Upper Bighouse 80.86 344 ⇓ *e*P P 00 17 14.8 +0.9
BIGH AMB AMB 00 17 15.8
comp=Z,1µm,1.5s
BIGH AMS AMS 00 54 34.1
comp=Z,10µm,19.1s
YURE YUREGIR 80.86 310 *i* P P 00 17 14.0 -0.4
LANS Liptovska Anna 80.87 327 *e*P P 00 17 16.0 +1.7
LANS *e* 00 20 16.0
LANS Liptovska Anna 80.87 327 *e*P P 00 17 16.0 +1.7
LANS *e*PP PP 00 20 16.0 -2.0
SULR 80.89 320 ⇓ *i* P P 00 17 15.3 +0.9
MLA1 Latheron 80.90 343 ⇓ *e*P P 00 17 15.0 +0.8
G32A Webster 80.90 39 P P 00 17 14.1 -0.4
baz=315,SNR=7.5
X18A Snowflake 80.90 53 *e*P P 00 17 15.3 +0.4
comp=Z,470nm,1.6s
KECS Kecovo 80.92 326 *e*P P 00 17 15.1 +0.6
KECS pmax pmax
comp=Z,148nm,1.3s
KECS Kecovo 80.92 326 *e*P P 00 17 15.1 +0.6
OKC Ostrava-Krasne 80.92 328 ⇓ *i* P P 00 17 15.3 +0.8
OKC *e* 00 20 19.0
OKC *e*S S 00 27 22.5 +0.5
OKC MLR MLR
comp=Z,16µm,17.0s
KSP Ksiaz 80.92 329 *i* P P 00 17 15.6 +1.1
KSP *e*PP PP 00 20 19.0 +0.7
KSP *e*S S 00 27 22.9 +0.9
KSP LMZ LR 00 56 02.8
comp=Z,12µm,17.9s
KSP Ksiaz 80.92 329 ⇓ *i* P P 00 17 15.6 +1.1
KSP *e* 00 20 19.0
KSP *e*S S 00 27 22.9 +0.9
KSP MLR MLR
comp=Z,12µm,17.9s
H31A Wolsey 80.95 40 P P 00 17 14.1 -0.7
baz=314,SNR=9.4
VOIR 80.96 321 ⇑ *i* P P 00 17 15.7 +0.8
VOIR 80.96 321 ⇓ *i* P PKKPbc 00 35 51.6 +0.2
KKUL Konya-Kulu 80.97 313 *i* P P 00 17 14.3 -0.7
Q24A Divide 81.01 48 P P 00 17 15.8 +0.3
baz=311,SNR=25
SAHE Sakarya_HENDEK 81.04 315 *i* P P 00 17 13.5 -1.8
YAYL Yayladag 81.07 309 *i* P P 00 17 14.4 -1.2
F33A 5 Mile Ranch, 81.08 38 P P 00 17 15.1 -0.3
baz=316,SNR=41
MTUR Matau 81.11 321 ⇓ *i* P P 00 17 17.3 +1.6
DRGR 81.13 324 ⇑ *i* P P 00 17 16.3 +0.6
DRGR 81.13 324 ⇑ *i* P PKKPbc 00 35 50.8 -0.3
BTMR Bucharest-Geot 81.13 320 ⇓ *i* P P 00 17 17.3 +1.6
BVCR Bucharest-Old 81.14 320 ⇑ *i* P P 00 17 16.2 +0.5
BTAS Taskesti 81.14 315 *i* P P 00 17 14.7 -1.2
E34A Wadena 81.14 37 P P 00 17 15.2 -0.6
baz=316
URZ Urewera 81.17 154 LR LR 00 48 07.1
comp=Z,1µm,20.8s,baz=350,slow=32
URZ Urewera 81.17 154 *e*P P 00 17 14.4 -1.3
comp=Z,134nm,1.6s
ARR Arges 81.22 322 ⇑ *i* P P 00 17 17.9 +1.7
ARR Arges 81.22 322 ⇓ *i* P PKKPbc 00 35 50.4 -0.5
J30A Dallas 81.22 41 P P 00 17 15.8 -0.4
baz=314,SNR=24
MORC Moravsky Berou 81.22 328 ⇓ *i* P P 00 17 17.2 +1.0
MORC Moravsky Berou 81.22 328 ⇓ *i* P PKKPbc 00 35 50.6 -0.3
MORC Moravsky Berou 81.22 328 *e*P P 00 17 17.1 +0.9
MORC pmax pmax
comp=Z,3µm,1.2s
MORC Moravsky Berou 81.22 328 *e*P P 00 17 17.1 +0.9
comp=Z,3µm,1.2s
I31A Royce, Wessing 81.23 40 P P 00 17 15.8 -0.5
baz=314
KAND Kocaeli-Kandir 81.25 316 *i* P P 00 17 14.8 -1.5
D35A Remer 81.26 36 P P 00 17 15.3 -1.1
baz=317,SNR=22
ARNB Al Arnab 81.26 309 *e*P P 00 17 17.0 +0.3
ARNB Al Arnab 81.26 309 *e*P P 00 17 16.2 -0.4
RSC Scourie 81.27 344 ⇓ *e*P P 00 17 16.5 +0.4
DED Mersin 81.28 310 *i* P P 00 17 14.9 -1.8
DPC Dobruska-Polom 81.29 329 ⇓ *i* P P 00 17 17.7 +1.2
DPC *e*PP PP 00 20 20.5 -1.0
DPC *e*S S 00 27 26.8 +0.8
DPC *e*PKKP PKKPbc 00 35 50.7 -0.1
DPC AMS AMS 00 57 50.0
comp=Z,10µm,16.1s
DPC Dobruska-Polom 81.29 329 ⇓ *i* P P 00 17 17.7 +1.2
DPC *e* 00 20 20.5
DPC *e*S S 00 27 26.8 +0.8
DPC MLR MLR
comp=Z,10µm,16.1s
UPC Upice 81.30 329 ⇓ *i* P P 00 17 17.4 +0.9
UPC *e*PP PP 00 20 22.0 +0.6
UPC *e*S S 00 27 26.6 +0.7
UPC *e*PKKP PKKPbc 00 35 51.2 +0.5
UPC AMS AMS 00 56 20.0
comp=Z,12µm,17.8s
UPC Upice 81.30 329 ⇓ *i* P P 00 17 17.4 +0.9
UPC *e* 00 20 22.5
UPC *e*S S 00 27 26.6 +0.7
UPC MLR MLR
comp=Z,12µm,17.8s
PRD Provadia 81.32 319 *i* P P 00 17 17.7 +1.0
PRD Provadia 81.32 319 *i* P P 00 17 17.7 +1.0
C36A Pine Crest Far 81.33 35 P P 00 17 15.9 -0.8
baz=318,SNR=34
RABH Abou Rabah 81.39 307 *e*P P 00 17 16.9 -0.5
RABH Abou Rabah 81.39 307 *e*P P 00 17 16.7 -0.6
KERG Konya-Eregli 81.39 311 *i* P P 00 17 15.6 -1.8
H32A Carlson Farm, 81.46 39 P P 00 17 16.7 -0.8
baz=315,SNR=6.4
G33A Ortonville 81.47 38 P P 00 17 17.3 -0.2
baz=316,SNR=28
OGNE Ogallala 81.47 44 P P 00 17 17.5 -0.2
baz=313,SNR=28
OGNE Ogallala 81.47 44 *e*P P 00 17 17.5 -0.2
comp=Z,888nm,1.4s
OGNE LR LR
comp=Z,4µm,19.0s
E35A Pequot Lakes 81.48 36 P P 00 17 16.8 -0.8
baz=317,SNR=20
ROOS tl_alroos 81.51 307 *e*P P 00 17 18.7 +0.7
ROOS tl_alroos 81.51 307 *e*P P 00 17 18.6 +0.7
MCD Coleburn Disti 81.53 343 ⇓ *i* P P 00 17 18.2 +0.6
NRS Narsarsuaq 81.58 5 ⇓ *i* P P 00 17 17.4 -0.3
NRS pmax pmax
comp=Z,370nm,1.6s
NRS Narsarsuaq 81.58 5 ⇓ *i* P P 00 17 17.4 -0.3
comp=Z,369nm,1.6s
LOT Lotru 81.59 322 ⇓ *i* P P 00 17 18.9 +0.6
SDCO Great Sand Dun 81.60 49 P P 00 17 19.2 +0.5
baz=311,SNR=43
SDCO Great Sand Dun 81.60 49 *e*P P 00 17 17.2 -1.5
comp=Z,298nm,1.5s
SDCO LR LR
comp=Z,5µm,20.0s
PSZ Piszkesteto 81.60 326 ⇓ *i* P P 00 17 19.2 +1.0
PSZ Piszkesteto 81.60 326 *e*P P 00 17 19.3 +1.0
PSZ Piszkesteto 81.60 326 *e*P P 00 17 19.2 +1.0
PSZ pmax pmax
comp=Z,1µm,1.3s
PSZ MLR MLR
comp=Z,10µm,20.0s
PSZ Piszkesteto 81.60 326 *e*P P 00 17 19.2 +1.0
comp=Z,1µm,1.3s
PSZ LR LR
comp=Z,10µm,20.0s
D36A Goodland 81.60 35 P P 00 17 17.1 -1.1
baz=318,SNR=17
K30A Basset 81.61 42 P P 00 17 18.1 -0.3
baz=314,SNR=45
F34A Alexandria 81.62 37 P P 00 17 17.8 -0.4
baz=316,SNR=11
VYHS Vyhne 81.64 327 *e*P P 00 17 19.5 +1.2
VYHS pmax pmax
comp=Z,438nm,1.5s
VYHS Vyhne 81.64 327 *e*P P 00 17 19.5 +1.2
VYHS *e*PP PP 00 20 14.3 -10
VYHS *e*S S 00 27 30.2 +0.6
VYHS *e*SS SS 00 32 38.2 -7.5
VYHS *e*L L 00 56 39.3
HUMR Humele 81.64 321 ⇑ *i* P P 00 17 19.2 +0.8
C37A Embarrass 81.64 35 P P 00 17 17.6 -0.8
baz=318,SNR=42
J31A Geddes 81.64 41 P P 00 17 17.8 -0.6
baz=314,SNR=13
H33A Prehn Over Nor 81.69 39 P P 00 17 18.4 -0.3
baz=316,SNR=38
DEV Deva 81.69 323 ⇑ *i* P P 00 17 19.6 +1.0
MME1 Meikle Cairn 81.70 343 ⇓ *i* P P 00 17 18.8 +0.3
TUC Tucson 81.75 56 P P 00 17 19.7 +0.3
baz=309
TUC Tucson 81.75 56 *e*P P 00 17 19.5 +0.2
TUC pmax pmax
comp=Z,484nm,1.7s
TUC MLR MLR
comp=Z,7µm,20.0s
TUC Tucson 81.75 56 *e*P P 00 17 19.5 +0.2
comp=Z,484nm,1.7s
TUC LR LR
comp=Z,7µm,20.0s
I32A Karley and Nic 81.78 40 P P 00 17 18.5 -0.7
baz=315,SNR=7.1
EYMN Ely 81.79 34 P P 00 17 18.6 -0.6
baz=318,SNR=61
EYMN Ely 81.79 34 *e*P P 00 17 18.4 -0.8
comp=Z,431nm,1.3s
EYMN LR LR
comp=Z,5µm,22.0s
G34A Benson 81.83 38 P P 00 17 19.2 -0.2
baz=316,SNR=12
BRG Berggiesshubel 81.84 331 ⇓ *i* P P 00 17 19.4 +0.1
comp=Z,566nm,1.3s
BRG *i* PP PP 00 20 23.6 -2.2
comp=Z,259nm,2.1s
BRG S S 00 27 32.0 +0.5
BRG SS SS 00 32 51.0 +2.6
BRG *e*PKKP PKKPbc 00 35 47.9 -1.6
comp=Z,16nm,1.6s
BRG *e*PKPPKP P'P'df 00 43 42.1 -19
comp=Z,27nm,2.1s
BRG Berggiesshubel 81.84 331 ⇓ *i* P P 00 17 19.4 +0.1
BRG *i* 00 20 23.6
BRG S S 00 27 32.0 +0.5
BRG SS SS 00 32 51.0 +2.6
BRG pmax pmax
comp=Z,566nm,1.3s
BRG MLR MLR
comp=N,17µm,16.3s
BRG MLR MLR
comp=E,11µm,17.5s
BRG MLR MLR
comp=Z,24µm,16.5s
RRR Rubha Reidh 81.85 344 ⇓ *i* P P 00 17 19.8 +0.6
CLL Collm 81.86 331 ⇓ *i* P P 00 17 19.8 +0.4
comp=Z,988nm,1.3s
CLL *e*Pmax 00 17 22.0
CLL *i* 00 17 36.3
CLL *e*PP PP 00 20 27.0 +1.0
CLL *e*PPP PPP 00 22 24.0
CLL *e*S S 00 27 29.0 -2.6
CLL *e*PS PnS 00 28 19.0 -1.5
CLL *e* 00 28 54.0
CLL *e*SS SS 00 32 54.0 +5.4
CLL *e* 00 33 24.0
CLL *e*SSS SSS 00 36 12.0
CLL *e* 00 37 24.0
CLL *e*SSSS 00 38 54.0

CLL ePKPPKPd P'P'df 00 43 58.0 -2.6
CLL eSKPPKPbc 00 47 19.0
CLL LmH 00 51 00.0
comp=N,9µm,18.3s
CLL LmH 00 51 00.0
comp=E,16µm,20.5s
CLL Lmax 00 57 00.0
CLL Collm 81.86 331 ⇓ *i* P **P 00 17 19.8 +0.4**
CLL eS **S 00 27 29.0 -2.6**
CLL pmax pmax
comp=Z,988nm,1.3s
CLL Collm 81.86 331 *e* P **P 00 17 19.6 +0.2**
comp=Z,907nm,1.2s
PVCC Panska Ves 81.86 330 ⇓ *i* P **P 00 17 20.5 +1.1**
PVCC ePP **PP 00 20 32.3 +6.2**
PVCC eS **S 00 27 31.2 -0.5**
PVCC AMS AMS 00 56 50.0
comp=Z,19µm,17.3s
PVCC Panska Ves 81.86 330 ⇓ *i* P **P 00 17 20.5 +1.1**
PVCC *e* 00 20 32.3
PVCC eS **S 00 27 31.2 -0.5**
PVCC MLR MLR
comp=Z,19µm,17.3s
KDHN Kadinhani 81.86 313 *i* P **P 00 17 18.6 -1.2**
ISK Istanbul-Kandi 81.89 316 P **P 00 17 20.0 +0.2**
ISK Istanbul-Kandi 81.89 316 P **P 00 17 20.0 +0.2**
ISK Istanbul-Kandi 81.89 316 P **P 00 17 20.0 +0.2**
F35A Swanville 81.91 37 P **P 00 17 19.2 -0.6**
baz=317,SNR=16
MDO Dochfour 81.91 343 ⇓ *i* P **P 00 17 19.7 +0.1**
BORA Eskisehir 81.92 315 *i* P **P 00 17 21.3 +1.3**
ESKT Eskisehir 81.93 314 *i* P **P 00 17 19.7 -0.5**
DRUM Mains of Drumt 81.95 342 ⇓ *e* P **P 00 17 20.2 +0.4**
DRUM AMB AMB 00 17 21.3
comp=Z,414nm,1.7s
DRUM AMS AMS 00 54 59.6
comp=Z,4µm,19.2s
D37A Cotton 81.96 35 P **P 00 17 19.0 -1.0**
baz=318,SNR=16
VRAC Vranov 81.98 328 ⇓ *i* P **P 00 17 21.2 +1.1**
VRAC Vranov 81.98 328 ⇑ *i* P **PKKPbc 00 35 48.6 -0.6**
RRH Rhenigidale 81.99 345 ⇓ *i* P **P 00 17 20.7 +0.8**
KIZK Mersin 81.99 310 *i* P **P 00 17 18.8 -1.6**
BUY Buyukada 82.01 316 *i* P **P 00 17 20.5 +0.2**
SIRR Siria 82.01 324 ⇓ *i* P **P 00 17 21.1 +0.8**
SZH Strazhica 82.04 319 *i* P **P 00 17 21.0 +0.4**
SZH Strazhica 82.04 319 *i* P **P 00 17 21.0 +0.4**
E36A McGregor 82.05 36 P **P 00 17 19.7 -0.8**
baz=318,SNR=51
J32A Parkston 82.05 40 P **P 00 17 19.7 -0.9**
baz=315,SNR=7.8
C38A Sawbill Land. 82.06 34 P **P 00 17 19.7 -0.9**
baz=319,SNR=74
ZIMR 82.06 320 ⇑ *i* P **P 00 17 21.3 +0.7**
KAC Achnashellach 82.07 344 ⇓ *i* P **P 00 17 21.3 +0.9**
K31A O'Neill 82.10 41 P **P 00 17 20.5 -0.4**
baz=314,SNR=43
I33A Coleman 82.11 39 P **P 00 17 20.5 -0.4**
baz=316,SNR=22
GZR Gura Zlata 82.11 323 ⇑ *i* P **PKKPbc 00 35 49.5 +0.6**
MARH Ras Al Marh 82.12 307 *e* P **P 00 17 21.0 -0.5**
H34A Spellman Lake, 82.18 38 P **P 00 17 20.9 -0.4**
baz=316,SNR=6.5
SMOL Smolenice 82.24 327 *e* P **P 00 17 23.0 +1.5**
SMOL Smolenice 82.24 327 *e* P **P 00 17 23.0 +1.5**
GOPC GO Pecny, Ondr 82.25 330 ⇓ *i* P **P 00 17 22.4 +0.8**
GOPC *ex* x 00 17 37.2
GOPC ePP **PP 00 20 31.1 +1.8**
GOPC eS **S 00 27 36.8 +0.9**
GOPC ePKKP **PKKPbc 00 35 49.0 +0.4**
GOPC AMS AMS 00 57 00.0
comp=Z,14µm,17.6s
GOPC GO Pecny, Ondr 82.25 330 ⇓ *i* P **P 00 17 22.4 +0.8**
GOPC *e* 00 17 37.2
GOPC *e* 00 20 31.1
GOPC eS **S 00 27 36.8 +0.9**
GOPC MLR MLR
comp=Z,14µm,17.6s
JMB Yambol 82.27 318 *i* P **P 00 17 22.5 +0.8**
JMB Yambol 82.27 318 *i* P **P 00 17 22.5 +0.8**
ZALF Zalf 82.27 306 *e* P **P 00 17 20.6 -1.4**
ZALF Zalf 82.27 306 *e* P **P 00 17 21.6 -0.4**
HWQ Hawqa 82.30 307 *e* P **P 00 17 22.5 +0.3**
PRU Pruhonice 82.30 330 ⇓ *i* P **P 00 17 22.5 +0.8**
PRU *ex* x 00 17 40.5
PRU ePP **PP 00 20 29.9 +0.3**
PRU eS **S 00 27 36.5 +0.3**
PRU ePKKP **PKKPbc 00 35 48.0 -0.5**
PRU AMS AMS 00 57 00.0
comp=Z,15µm,17.7s
PRU Pruhonice 82.30 330 ⇓ *i* P **P 00 17 22.5 +0.8**
PRU *e* 00 20 29.9
PRU eS **S 00 27 36.5 +0.3**
PRU MLR MLR
comp=Z,15µm,17.7s
KPL Plockton 82.30 344 ⇓ *e* P **P 00 17 22.8 +1.3**
KPL AMB AMB 00 17 24.4
comp=Z,2µm,1.5s
KPL AMS AMS 00 55 26.9
comp=Z,5µm,17.3s
BUD Budapest 82.32 326 *e* P **P 00 17 22.8 +0.9**
BUD Budapest 82.32 326 P **P 00 17 22.5 +0.6**
BUD pmax pmax
comp=Z,364nm,1.8s
IGD Bursa 82.36 315 *i* P **P 00 17 19.2 -3.1**
KSB Sheil Bridge 82.36 344 ⇓ *i* P **P 00 17 22.7 +0.8**
L31A Butterfield Fa 82.37 42 P **P 00 17 21.9 -0.4**
baz=314,SNR=69
CRAR CRAIOVA 82.38 321 ⇑ *i* P **P 00 17 23.9 +1.7**
PVL Pavlikeni 82.39 320 *i* P **P 00 17 23.5 +1.2**
PVL Pavlikeni 82.39 320 *i* P **P 00 17 23.5 +1.2**
F36A Milaca 82.40 36 P **P 00 17 21.4 -1.0**
baz=317,SNR=42
EDU Dundee 82.40 342 ⇓ *e* P **P 00 17 22.9 +0.7**
E37A Wrenshall 82.41 35 P **P 00 17 21.3 -1.1**
baz=318
BOLV Bolvadin 82.41 313 *i* P **P 00 17 22.9 +0.2**
G35A Watkins 82.41 37 P **P 00 17 22.4 -0.1**
baz=317,SNR=23
ECSD EROS Data Cent 82.43 40 P **P 00 17 21.9 -0.6**
baz=316,SNR=127
ECSD EROS Data Cent 82.43 40 *e* P **P 00 17 22.0 -0.6**
comp=Z,404nm,1.3s
ECSD LR LR
comp=Z,6µm,20.0s
SRE Strehaia 82.43 322 ⇑ *i* P **P 00 17 23.5 +0.9**
KSCO Kaye Shedlock' 82.44 46 P **P 00 17 22.7 -0.1**
baz=313,SNR=28
KSCO Kaye Shedlock' 82.44 46 *e* P **P 00 17 22.8 -0.1**
comp=Z,634nm,1.4s
TREC Trest 82.45 329 ⇓ *i* P **P 00 17 23.3 +0.7**
TREC eS **S 00 27 38.1 +0.2**
TREC ePKKP **PKKPbc 00 35 47.5 -0.6**
TREC AMS AMS 00 58 40.0
comp=Z,14µm,16.9s
TREC Trest 82.45 329 ⇓ *i* P **P 00 17 23.3 +0.7**
TREC eS **S 00 27 38.1 +0.2**
TREC MLR MLR
comp=Z,14µm,16.9s
K32A Verdigre 82.49 41 P **P 00 17 22.0 -0.9**
baz=315,SNR=12
C39A Grand Marais 82.49 33 P **P 00 17 21.8 -1.0**
baz=320,SNR=38
BZS Buzias 82.51 323 ⇓ *i* P **P 00 17 23.1 +0.2**
BZS Buzias 82.51 323 ⇑ *i* P **PKKPbc 00 35 47.8 -0.1**
J33A Davis 82.54 40 P **P 00 17 22.4 -0.7**
baz=316
QASN Qassioun 82.56 307 *e* P P 00 17 14.9 -8.6
QASN Qassioun 82.56 307 *e* P P 00 17 14.8 -8.8
TOTH TOTAH 82.58 306 *e* P **P 00 17 20.9 -2.7**
TOTH TOTAH 82.58 306 *e* P **P 00 17 21.1 -2.5**
TIM Timisoara 82.61 324 ⇑ *i* P **P 00 17 24.9 +1.5**
EDRB Edirne 82.61 318 P **P 00 17 24.4 +0.9**
EDRB Edirne 82.61 318 P **P 00 17 24.4 +0.9**
H35A Sunnyside Ranc 82.62 38 P **P 00 17 23.6 0.0**
baz=317,SNR=15
ERMK Ermenek 82.63 311 *i* P **P 00 17 23.1 -1.0**
T25A Trinidad 82.65 49 P **P 00 17 24.6 +0.5**
baz=312,SNR=116
T25A Trinidad 82.65 49 *e* P **P 00 17 24.4 +0.3**
comp=Z,408nm,1.3s
BHL Bhannes 82.72 307 *e* P **P 00 17 24.7 +0.4**
G36A St. Michael 82.75 37 P **P 00 17 23.9 -0.4**
baz=317,SNR=18

LAZ Ladron 82.77 52 *e* P **P 00 17 25.3 +0.5**
SALA Sala 82.80 306 *e* P **P 00 17 23.3 -1.6**
SALA Sala 82.80 306 *e* P **P 00 17 23.2 -1.6**
ANMO Albuquerque 82.84 51 P **P 00 17 25.8 +0.6**
baz=311
ANMO Albuquerque 82.84 51 *d i* P **P 00 17 26.0 +0.9**
ANMO pmax pmax
comp=Z,192nm,1.3s
ANMO MLR MLR
comp=Z,4µm,18.0s
ANMO Albuquerque 82.84 51 *e* P **P 00 17 25.4 +0.3**
comp=Z,525nm,1.5s
ANMO LR LR
comp=Z,4µm,20.0s
BEYL Beirut 82.84 307 *e* P **P 00 17 25.2 +0.3**
RCY Rachaya 82.87 307 *e* P **P 00 17 25.9 +0.7**
ESY Stoneypath 82.87 342 ⇓ *e* P **P 00 17 25.2 +0.6**
M31A Lambtecht Ranc 82.88 43 P **P 00 17 24.3 -0.7**
baz=314,SNR=10
DQRL Deir Qamar 82.90 307 *e* P **P 00 17 26.0 +0.7**
BANR Banloc 82.91 323 ⇑ *i* P **P 00 17 25.8 +0.8**
MOX Moxa 82.91 332 P **P 00 17 25.1 +0.1**
MOX pmax pmax
comp=Z,345nm,1.8s
NKC Novy Kostel 82.93 331 ⇓ *i* P **P 00 17 25.6 +0.6**
NKC ePP **PP 00 20 36.0 +1.2**
NKC eS **S 00 27 42.8 +0.1**
NKC AMS AMS 00 58 30.0
comp=Z,18µm,16.0s
NKC Novy Kostel 82.93 331 ⇓ *i* P **P 00 17 25.6 +0.6**
NKC *e* 00 20 36.0
NKC eS **S 00 27 42.8 +0.1**
NKC MLR MLR
comp=Z,18µm,16.0s
L32A Elgin 82.93 42 P **P 00 17 24.8 -0.5**
baz=315,SNR=5.9
PPT Papeete 82.95 118 P **P 00 17 25.3 -0.2**
comp=Z,49nm,0.7s,baz=48,slow=5.4,SNR=6.0
PPT LR LR 00 48 23.7
comp=Z,4µm,19.8s,baz=313,slow=32
PPT Papeete 82.95 118 *e* P **P 00 17 26.9 +1.4**
PPT2 Papeete2 82.96 118 *e* P **P 00 17 26.8 +1.1**
comp=Z,90nm,1.3s
PPT2 Papeete2 82.96 118 *e* S **S 00 27 38.1 -5.8**
comp=Z,10µm,32.2s
PPT2 Papeete2 82.96 118 *e* LQ LQ 00 39 18.0
comp=Z,9µm,31.8s
PPT2 *e* LR LR 00 43 18.0
comp=Z,7µm,21.8s,baz=299
GDZ Gediz 83.00 314 *i* P **P 00 17 26.2 +0.4**
EDI Edinburgh 83.01 342 ⇓ *e* P **P 00 17 25.5 +0.2**
EDI AMB AMB 00 17 26.9
comp=Z,492nm,2.0s
EDI AMS AMS 00 59 44.0
comp=Z,4µm,18.3s
PAE Paea 83.01 118 *e* P **P 00 17 26.8 +1.0**
comp=Z,27nm,1.3s
THZ Tophouse 83.01 159 *e* P **P 00 17 25.1 -0.2**
comp=Z,135nm,1.0s
PHNC Paralimni 83.03 309 P **P 00 17 25.7 -0.1**
K33A Hardington 83.03 41 P **P 00 17 25.2 -0.5**
baz=316,SNR=8.9
ASF Jabal al Asfar 83.03 305 LR LR 00 56 15.5
comp=Z,76nm,20.7s,slow=37
EAB Aberfoyle 83.05 343 ⇓ *e* P **P 00 17 26.3 +0.8**
MDVR Moldovita 83.07 323 ⇓ *i* P **P 00 17 26.4 +0.5**
MDVR Moldovita 83.07 323 ⇑ *i* P **PKKPbc 00 35 46.3 -0.3**
J34A George 83.08 40 P **P 00 17 25.1 -0.8**
baz=316
TIAR Tiarei 83.10 118 *e* P **P 00 17 27.3 +1.0**
comp=Z,57nm,1.3s
TIAR Tiarei 83.10 118 *e* T T 01 48 03.0
comp=Z,2.5nm,0.3s
MPEP Malo Peshtene 83.11 321 *i* P **P 00 17 27.0 +0.9**
MPEP Malo Peshtene 83.11 321 *i* P **P 00 17 27.0 +0.9**
DIM Dimitrovgrad 83.11 319 *i* P **P 00 17 27.2 +1.1**
DIM Dimitrovgrad 83.11 319 *i* P **P 00 17 27.2 +1.1**
Y22D IRIS PASSCAL I 83.12 52 P **P 00 17 27.1 +0.6**
baz=311
SNZO South Karori 83.14 157 PFAKE 00 17 40.0 +14
SNZO LR LR
comp=Z,11µm,21.0s
LPM Los Pinos Moun 83.14 52 *e* P **P 00 17 27.0 +0.3**
H36A Jessenland, He 83.15 38 P **P 00 17 26.6 +0.3**
baz=317,SNR=25
I35A Creekview Farm 83.16 39 P **P 00 17 25.7 -0.7**
baz=317,SNR=5.4
SART Tekirdag 83.19 317 *i* P **P 00 17 25.4 -1.2**
L33A Hoskins 83.20 41 P **P 00 17 25.9 -0.8**
baz=315,SNR=9.3
SPMN Marine on St. 83.22 37 P **P 00 17 25.9 -0.7**
baz=318,SNR=30
SPMN Marine on St. 83.22 37 *e* P **P 00 17 26.0 -0.7**
comp=Z,458nm,1.4s
SOP Sopron 83.25 327 *e* P **P 00 17 27.9 +1.2**
SOP Sopron 83.25 327 P **P 00 17 27.5 +0.8**
SOP pmax pmax
comp=Z,699nm,1.5s
N31A Bailey Ranch, 83.25 43 P **P 00 17 26.2 -0.8**
baz=314,SNR=12
BNM Barren Site 83.25 52 *e* P **P 00 17 27.6 +0.2**
BNM ePP **PP 00 20 38.7 +0.4**
GAZI Gazipasa 83.26 311 *i* P **P 00 17 25.7 -1.3**
ISP Isparta 83.26 313 PFAKE 00 17 40.0 +13
ISP LR LR
comp=Z,5µm,20.0s
BGNE Belgrade 83.27 42 P **P 00 17 26.4 -0.6**
baz=315,SNR=16
BGNE Belgrade 83.27 42 *e* P **P 00 17 26.4 -0.6**
comp=Z,1µm,1.4s
KNL Bal˙–kesir 83.29 316 *i* P **P 00 17 23.9 -3.2**
TCHB Talchebab 83.31 306 *e* P **P 00 17 26.9 -0.5**
TCHB Talchebab 83.31 306 *e* P **P 00 17 26.9 -0.5**
TVO Taravao 83.32 118 *e* P **P 00 17 28.7 +1.2**
comp=Z,49nm,1.3s
319A Douglas 83.33 56 *e* P **P 00 17 28.0 +0.4**
comp=Z,596nm,1.4s
CONA Conrad Observa 83.36 328 *i* PcP **P 00 17 28.5 +1.1**
comp=Z,649nm,1.5s,SNR=383
KHC Kasperske Hory 83.36 330 ⇓ P **P 00 17 28.0 +0.7**
KHC *ex* x 00 17 45.5
KHC *ex* x 00 20 21.5
KHC ePP **PP 00 20 33.5 -4.9**
KHC ePKPPKP P'P'df 00 43 46.0 -12
KHC Kasperske Hory 83.36 330 ⇓ P **P 00 17 28.0 +0.7**
KHC *e* 00 20 33.5
KESN Edirne-Kesan 83.36 317 *i* P **P 00 17 26.8 -1.1**
J35A Milford 83.40 39 P **P 00 17 27.0 -0.6**
baz=317,SNR=6.3
MAMC Mammari 83.42 310 P **P 00 17 27.8 0.0**
PGBU Glenifferbraes 83.42 343 ⇓ *e* P **P 00 17 28.4 +0.9**
PGBU AMB AMB 00 17 30.2
comp=Z,2µm,1.6s
PGBU AMS AMS 01 02 04.6
comp=Z,4µm,15.4s
K34A Le Mars 83.44 40 P **P 00 17 27.1 -0.8**
baz=316,SNR=19
MMAI Mount Meron Ar 83.45 307 LR LR 00 56 43.4
comp=Z,1µm,21.6s,baz=60,slow=37
KDZ Kurdzhali 83.46 318 *i* P **P 00 17 29.3 +1.4**
KDZ Kurdzhali 83.46 318 *i* P **P 00 17 29.3 +1.4**
DEMI Demirci 83.47 315 *i* P **P 00 17 27.4 -0.7**
CSS Mathiatis 83.49 309 P **P 00 17 28.5 +0.3**
CSS Mathiatis 83.49 309 P **P 00 17 28.5 +0.3**
CSS Mathiatis 83.49 309 *e* P **P 00 17 28.3 +0.1**
comp=Z,78nm,1.1s
CSS LR LR
comp=Z,2µm,19.0s
KHAL Karahalli 83.49 314 *i* P **P 00 17 26.1 -2.2**
PLD Plovdiv 83.51 319 *i* P **P 00 17 28.8 +0.6**
PLD Plovdiv 83.51 319 *i* P **P 00 17 28.8 +0.6**
O31A Woolen Ranch, 83.52 44 P **P 00 17 27.3 -1.0**
baz=314,SNR=18
I36A Fitzsimmons Fa 83.52 38 P **P 00 17 27.7 -0.5**
baz=317
GEC2 GERESS Array S 83.53 330 *e* P **P 00 17 28.5 +0.2**
GEC2 pmax pmax
comp=Z,347nm,1.2s
GEC2 GERESS Array S 83.53 330 *e* P **P 00 17 28.5 +0.2**
comp=Z,347nm,1.2s
GERES GERESS Array B 83.53 330 P **P 00 17 28.6 +0.2**
comp=Z,82nm,0.9s,baz=43,slow=4.5,SNR=316
GERES PP **PP 00 20 42.5 +2.5**
comp=Z,8.6nm,1.1s,baz=28,slow=6.0,SNR=3.7
GERES PKKPbc **PKKPbc 00 35 45.0 -0.8**

comp=Z,1.7nm,0.7s,baz=197,slow=1.4,SNR=12
GERES PKPPKP P'P'df 00 43 44.1 -14
comp=Z,1.0nm,0.9s,baz=248,slow=5.2,SNR=5.0
GERES LR LR 00 59 31.8
comp=Z,10µm,18.2s,baz=18,slow=39
GEA0 GERESS Array S 83.54 330 *e* P **P 00 17 27.5 -0.8**
WTSB Winterswijk 83.55 335 *i* P **P 00 17 28.3 +0.2**
comp=Z,950nm,1.6s
ESK Eskdalemuir 83.56 342 ⇓ *i* P **P 00 17 28.8 +0.7**
ESK AMB AMB 00 17 29.9
comp=Z,728nm,1.6s
ESK AMS AMS 00 59 12.2
comp=Z,5µm,18.1s
ESK Eskdalemuir 83.56 342 *e* P **P 00 17 28.9 +0.7**
ESK pmax pmax
comp=Z,1µm,1.4s
ESK MLR MLR
comp=Z,6µm,20.0s
ESK Eskdalemuir 83.56 342 *e* P **P 00 17 28.9 +0.7**
comp=Z,1µm,1.4s
ESK LR LR
comp=Z,6µm,20.0s
121A Cookes Peak, D 83.57 54 P **P 00 17 29.5 +0.6**
baz=310,SNR=137
121A Cookes Peak, D 83.57 54 *e* P **P 00 17 29.4 +0.5**
comp=Z,772nm,1.5s
BALY Balya 83.60 316 *i* P **P 00 17 28.8 0.0**
WET Wettzell 83.63 330 P **P 00 17 29.0 +0.3**
WET pmax pmax
comp=Z,97nm,0.9s
H37A Dierke Farm, C 83.64 37 P **P 00 17 28.7 -0.1**
baz=318,SNR=36
LCP Cassop 83.64 341 ⇓ *e* P **P 00 17 28.8 +0.2**
N32A Stulken Farm, 83.65 43 P **P 00 17 27.9 -1.1**
baz=315,SNR=6.6
ALN Alexandroupoli 83.65 318 P **P 00 17 29.2 +0.3**
ALN Alexandroupoli 83.65 318 P **P 00 17 29.2 +0.3**
ALN Alexandroupoli 83.65 318 P **P 00 17 29.2 +0.3**
ECK Cauldkaine Hil 83.66 342 ⇓ *e* P **P 00 17 29.3 +0.6**
M33A Taylor Creek F 83.67 41 P **P 00 17 28.3 -0.8**
baz=316,SNR=8.1
ENEZ Enez 83.71 317 P **P 00 17 29.6 +0.4**
HSIG 83.71 58 *e* P **P 00 17 28.9 -0.6**
comp=Z,404nm,1.4s
BHH Howats Hill 83.77 342 ⇓ *i* P **P 00 17 30.1 +0.9**
LTZ Lake Taylor 83.77 159 *e* P **P 00 17 29.6 +0.4**
comp=Z,266nm,1.8s
LTZ ePP **PP 00 20 45.7 +2.8**
RZN Rozhen 83.80 319 *i* P **P 00 17 30.9 +1.0**
RZN Rozhen 83.80 319 *i* P **P 00 17 30.9 +1.0**
BWH Wardlaw 83.80 342 ⇓ *i* P **P 00 17 30.2 +0.8**
KHZ Kahutara 83.80 158 *e* P **P 00 17 28.9 -0.4**
comp=Z,230nm,1.7s
ALFC Alefka 83.81 310 P **P 00 17 29.5 -0.4**
L34A Svendsen Farm, 83.81 41 P **P 00 17 29.0 -0.8**
baz=316,SNR=12
FOZ Fox Glacier 83.82 161 *e* P **P 00 17 30.2 +0.9**
comp=Z,373nm,1.7s
I37A Lemond, Waseca 83.82 38 P **P 00 17 29.9 +0.2**
baz=318,SNR=61
BUG Bochum--Univer 83.83 334 P **P 00 17 29.6 0.0**
BUG pmax pmax
comp=Z,315nm,1.5s
GRF Grafenberg Arr 83.83 331 P **P 00 17 30.3 +0.6**
GRF pmax pmax
comp=Z,810nm,1.6s
K35A Storm Lake 83.86 40 P **P 00 17 29.1 -0.8**
baz=317,SNR=8.8
J36A Seneca 1, Swea 83.86 39 P **P 00 17 29.5 -0.5**
baz=317,SNR=10
SRIG Santa Rosalia 83.89 60 *e* P **P 00 17 30.9 +0.5**
comp=Z,684nm,1.6s
SZAC Souni 83.90 309 P **P 00 17 30.4 0.0**
KORT Korkueli 83.92 312 *i* P **P 00 17 26.6 -4.0**
O32A Brockman Farm, 84.01 43 P **P 00 17 29.6 -1.3**
baz=315
ARSA Arzberg 84.03 328 *i* PcP **P 00 17 31.4 +0.6**
comp=Z,352nm,1.6s,SNR=131
M34A Aspy Farms, Fr 84.04 41 P **P 00 17 30.3 -0.6**
baz=316,SNR=5.3
AKMC Akamas 84.06 310 P **P 00 17 30.6 -0.6**
BEHE Becsehely 84.09 326 *e* PKPPKPdf **P 00 17 31.5 +0.4**
MOA Molln 84.09 329 *i* PcP **P 00 17 31.7 +0.6**
comp=Z,447nm,1.4s,SNR=212
AKHS Akhisar 84.09 315 *i* P **P 00 17 29.1 -2.2**
GMK Mull of Kintyr 84.11 343 ⇓ *e* P **P 00 17 31.6 +0.6**
N33A J Bar K, Exete 84.12 42 P **P 00 17 30.2 -1.2**
baz=315,SNR=7.5
L35A Bielow Farm, R 84.14 40 P **P 00 17 30.6 -0.8**
baz=316,SNR=11
PPCY Paphos 84.14 310 P **P 00 17 31.3 -0.2**
KESW Keswick, Cumbr 84.19 341 ⇓ *e* P **P 00 17 32.3 +0.9**
KESW AMB AMB 00 17 34.2
comp=Z,2µm,1.6s
OXZ Oxford 84.21 160 *e* P **P 00 17 31.8 +0.4**
comp=Z,102nm,0.8s
MEH Mehetia 84.22 117 *e* P **P 00 17 33.0 +1.0**
comp=Z,82nm,1.5s
CBKS Cedar Bluff 84.22 45 P **P 00 17 31.0 -0.9**
baz=314,SNR=17
CBKS Cedar Bluff 84.22 45 *e* P **P 00 17 31.1 -0.9**
CBKS pmax pmax
comp=Z,483nm,1.4s
CBKS Cedar Bluff 84.22 45 *e* P **P 00 17 31.1 -0.9**
comp=Z,483nm,1.4s
GOLH Golhisar 84.22 313 *i* P **P 00 17 29.4 -2.6**
GADA Gvkgeada 84.23 317 P **P 00 17 31.9 0.0**
GADA Gvkgeada 84.23 317 P **P 00 17 31.9 0.0**
SMTH Samothraki Isl 84.23 318 P **P 00 17 31.6 -0.3**
SMTH Samothraki Isl 84.23 318 P **P 00 17 31.6 -0.3**
COWI Conover 84.24 34 *e* P **P 00 17 31.1 -0.8**
comp=Z,311nm,1.5s
COWI LR LR
comp=Z,4µm,19.0s
EZN Ezine 84.26 317 P **P 00 17 32.4 +0.4**
EZN Ezine 84.26 317 P **P 00 17 32.4 +0.4**
EZN Ezine 84.26 317 P **P 00 17 32.4 +0.4**
J37A Redenius Farm, 84.27 38 P **P 00 17 31.5 -0.6**
baz=318,SNR=28
TAOE Nuku Hiva Isla 84.27 106 *e* S **S 00 27 51.2 -6.1**
comp=Z,6µm,29.7s
TAOE Nuku Hiva Isla 84.27 106 *e* LR LR 00 43 44.6
comp=Z,8µm,20.8s,baz=317
P32A Huiting Farm, 84.28 44 P **P 00 17 31.1 -1.2**
baz=315,SNR=44
RPZ Rata Peaks 84.31 161 LR LR 00 49 53.4
comp=Z,2µm,20.7s,baz=332,slow=32
RPZ Rata Peaks 84.31 161 *e* P **P 00 17 33.0 +1.1**
comp=Z,61nm,1.0s
K36A Gilmore City 84.31 39 P **P 00 17 31.9 -0.4**
baz=317,SNR=31
I38A Scanlan Farm, 84.32 37 P **P 00 17 31.8 -0.5**
baz=318,SNR=58
KOGS Kog 84.34 327 *e* P **P 00 17 32.0 -0.3**
KOGS *e* 00 17 49.9
KOGS *e* 00 18 04.0
KOGS ePP **PP 00 20 53.7 +7.3**
KOGS eS **S 00 27 55.4 -1.5**
KOGS *e* 00 28 48.0
GAL1 Galloway 84.34 342 ⇓ *e* P **P 00 17 32.7 +0.5**
GAL1 AMB AMB 00 17 33.7
comp=Z,485nm,1.4s
HPK Haverah Park 84.37 340 ⇓ *e* P **P 00 17 33.4 +1.0**
HPK AMB AMB 00 17 35.1
comp=Z,1µm,1.6s
HPK AMS AMS 00 57 39.1
comp=Z,10µm,21.0s
MMB Musomiste 84.39 319 *i* P **P 00 17 33.5 +0.8**
MMB Musomiste 84.39 319 *i* P **P 00 17 33.5 +0.8**
BOZC Bozcaada 84.39 317 *i* P **P 00 17 31.0 -1.7**
KAVA Kavala 84.40 319 P **P 00 17 33.2 +0.5**
KAVA Kavala 84.40 319 P **P 00 17 33.2 +0.5**
DIVS Divibare 84.41 323 P **P 00 17 32.9 +0.1**
AYVA Ayvalik 84.42 316 *i* P **P 00 17 32.8 0.0**
LMK Market Rasen 84.46 339 ⇓ *e* P **P 00 17 33.5 +0.7**
LMK AMB AMB 00 17 35.4
comp=Z,1µm,1.8s
NVR Nevrokopi 84.49 319 P **P 00 17 33.8 +0.6**
NVR Nevrokopi 84.49 319 P **P 00 17 33.8 +0.6**
SCHQ Schefferville 84.49 17 P **P 00 17 32.7 -0.3**
comp=Z,80nm,1.1s,baz=353,slow=5.4,SNR=34
SCHQ PKKPbc **PKKPbc 00 35 42.5 -1.1**
comp=Z,7.1nm,0.8s,baz=334,slow=4.6,SNR=3.8
SCHQ LR LR 00 56 03.2
comp=Z,5µm,21.7s,baz=345,slow=36

SCHQ	Schefferville	84.49	17	*e*P		P		00 17 32.6	-0.3	
	comp=Z,502nm,1.6s									
SCHQ					PKKPbc	PKKPbc		00 35 42.5	-1.1	
KKB	Krupnik	84.52	320	*i* P		P		00 17 34.3	+1.0	
KKB	Krupnik	84.52	320	*i* P		P		00 17 34.3	+1.0	
O33A	Hebron	84.52	43	P		P		00 17 32.1	-1.3	
	baz=315,SNR=24									
M35A	Neola	84.53	41	P		P		00 17 33.0	-0.4	
	baz=316,SNR=16									
N34A	Lincoln	84.56	42	P		P		00 17 32.3	-1.2	
	baz=316,SNR=26									
L36A	Harm Buss Farm	84.59	40	P		P		00 17 33.2	-0.5	
	baz=317,SNR=7.6									
K37A	Belmond	84.62	39	P		P		00 17 33.3	-0.6	
	baz=318,SNR=34									
PERS	Pernice	84.68	327	*i* P		P		00 17 34.3	+0.1	
PERS				*e*PP		PP		00 20 57.1	+7.8	
PERS				*e*S		S		00 27 59.5	-1.1	
SOKA	Soboth	84.69	327	*i* PcP		P		00 17 34.4	+0.3	
	comp=Z,651nm,1.3s,SNR=377									
PRK	Paraskevi	84.69	316	P		P		00 17 34.3	+0.1	
PRK	Paraskevi	84.69	316	P		P		00 17 34.3	+0.1	
PRK	Paraskevi	84.69	316	P		P		00 17 34.3	+0.1	
LBZ	Lake Benmore	84.71	161	*e*P		P		00 17 34.0	+0.1	
	comp=Z,801nm,1.9s									
Q32A	Meitler Ranch,	84.75	44	P		P		00 17 33.6	-1.0	
	baz=315,SNR=30									
J38A	Wedel Dairy, R	84.79	38	P		P		00 17 34.0	-0.7	
	baz=318,SNR=45									
IDGL	Inch Island, C	84.79	344	⥥*e*P		P		00 17 34.4	0.0	
SRS	Serrai	84.80	319	P		P		00 17 34.9	+0.1	
SRS	Serrai	84.80	319	P		P		00 17 34.9	+0.1	
SRS	Serrai	84.80	319	P		P		00 17 34.9	+0.1	
LHO	Holmfirth	84.80	340	⥥*e*P		P		00 17 35.2	+0.7	
LIA	Limnos Island	84.83	317	P		P		00 17 34.8	-0.1	
LIA	Limnos Island	84.83	317	P		P		00 17 34.8	-0.1	
WKZ	Wanaka	84.83	162	*e*P		P		00 17 35.6	+1.1	
	comp=Z,252nm,1.7s									
HGN	Heimansgroeve	84.86	335	*i* P		P		00 17 35.0	+0.1	
	comp=Z,1μm,1.5s									
HGN				*e*PP		PP		00 20 47.6	-2.9	
HGN				*e*S		S		00 28 04.2	+2.2	
HGN				*e*SS		SS		00 33 59.2	+26	
AKAS	Kas	84.88	312	*i* P		P		00 17 36.5	+1.1	
AYDN	Tasoluk	84.90	314	*i* P		P		00 17 34.7	-0.7	
FETY	Fethiye	84.91	313	P		P		00 17 35.6	+0.1	
FETY	Fethiye	84.91	313	P		P		00 17 35.6	+0.1	
P33A	Williams Farm,	84.91	43	P		P		00 17 34.4	-1.0	
	baz=315,SNR=7.6									
BEBN	Eben Emael	84.92	335	P		P		00 17 35.4	+0.3	
	comp=Z,234nm,1.6s									
O34A	Beatrice	84.92	42	P		P		00 17 34.1	-1.3	
	baz=316,SNR=20									
SIGR	SIGRI	84.95	317	P		P		00 17 35.6	+0.1	
SIGR	SIGRI	84.95	317	P		P		00 17 35.6	+0.1	
KSL	Kastellorizon	84.95	312	P		P		00 17 35.2	-0.4	
KSL	Kastellorizon	84.95	312	P		P		00 17 35.2	-0.4	
MEM	Membach	84.96	335	P		P		00 17 35.7	+0.3	
	comp=Z,356nm,1.6s									
WIM	Isle of Man	84.98	342	*i* P		P		00 17 35.8	+0.4	
N35A	Tabor	84.99	41	P		P		00 17 35.4	-0.3	
	baz=316,SNR=17									
M36A	Felix, Anita	85.00	40	P		P		00 17 35.4	-0.4	
	baz=317,SNR=5.9									
DCZ	Deep Cove	85.00	164	*e*P		P		00 17 35.4	+0.1	
	comp=Z,68nm,1.2s									
OBKA	Obir	85.03	328	*i* P		P		00 17 35.8	-0.1	
	comp=Z,102nm,1.1s,SNR=44									
TURN	Turunc	85.03	313	*i* P		P		00 17 37.0	+1.1	
YER	Yerkesik	85.03	314	P		P		00 17 37.0	+0.9	
YER	Yerkesik	85.03	314	P		P		00 17 37.0	+0.9	
YER	Yerkesik	85.03	314	P		P		00 17 37.0	+0.9	
SISC	Sisak	85.04	326	P		P		00 17 36.1	+0.3	
L37A	Phoenix Point,	85.04	39	P		P		00 17 35.4	-0.6	
	baz=318,SNR=48									
R32A	Long Quarter,	85.07	44	P		P		00 17 35.1	-1.1	
	baz=315,SNR=15									
KBA	Koelnbreinsper	85.08	329	*i* PcP		P		00 17 36.4	+0.1	
	comp=Z,339nm,1.4s,SNR=109									
KBA	Koelnbreinsper	85.08	329	P		P		00 17 36.4	+0.1	
KBA				pmax		pmax				
	comp=Z,234nm,1.4s									
MLZ	Mavora Lakes	85.13	163	*e*P		P		00 17 36.3	+0.3	
	comp=Z,272nm,1.9s									
SOH	Sokhos	85.13	319	P		P		00 17 36.3	-0.2	
SOH	Sokhos	85.13	319	P		P		00 17 36.3	-0.2	
SOH	Sokhos	85.13	319	P		P		00 17 36.3	-0.2	
URLA	Izmir	85.14	316	*i* P		P		00 17 36.3	-0.3	
K38A	Parkersburg	85.14	38	P		P		00 17 35.9	-0.5	
	baz=318,SNR=17									
Q33A	Connelly Farm,	85.15	44	P		P		00 17 35.7	-0.9	
	baz=315,SNR=54									
OUR	Ouranopolis	85.16	318	P		P		00 17 36.7	+0.2	
OUR	Ouranopolis	85.16	318	P		P		00 17 36.7	+0.2	
OUR	Ouranopolis	85.16	318	P		P		00 17 36.7	+0.2	
VAY	Valandovo	85.18	320	P		P		00 17 37.2	+0.6	
VAY	Valandovo	85.18	320	*i* P		P		00 17 37.3	+0.7	
VAY	Valandovo	85.18	320	P		P		00 17 37.2	+0.6	
VAY	Valandovo	85.18	320	P		P		00 17 37.2	+0.6	
DGB	ˇzmir	85.19	315	*i* P		P		00 17 33.3	-3.5	
GMM	Mts of Mourne	85.21	343	⥥*e*P		P		00 17 36.6	+0.1	
GCAM	G?zelcaml?	85.24	315	*i* P		P		00 17 37.4	+0.4	
PLE	Pljevlja	85.27	323	⥥*i* P		P		00 17 37.0	-0.3	
ZEY	ˇzmir	85.27	315	*i* P		P		00 17 35.7	-1.5	
SKO	Skopje	85.28	321	P		P		00 17 38.2	+1.1	
SKO	Skopje	85.28	321	P		P		00 17 38.4	+1.2	
SKO	Skopje	85.28	321	P		P		00 17 38.2	+1.1	
SKO	Skopje	85.28	321	P		P		00 17 38.2	+1.1	
O35A	Humboldt	85.28	42	P		P		00 17 36.2	-1.0	
	baz=316,SNR=12									
P34A	Walnut Farm, R	85.31	43	P		P		00 17 36.2	-1.2	
	baz=316,SNR=21									
STNC	Stoke	85.31	340	⥥*e*P		P		00 17 38.0	+1.0	
STNC					AMB	AMB		00 17 39.0		
	comp=Z,1μm,1.7s									
STNC					AMS	AMS		00 58 17.3		
	comp=Z,10μm,21.3s									
MYKA	Terra Mystica	85.31	328	*i* P		P		00 17 36.8	-0.5	
	comp=Z,267nm,1.3s,SNR=90									
UCC	Uccle	85.35	336	P		P		00 17 37.5	+0.2	
BCLA	Clavier	85.36	335	P		P		00 17 37.6	+0.3	
	comp=Z,407nm,1.7s									
IVA	Berane	85.37	322	⥥*i* P		P		00 17 38.2	+0.5	
CWF	Charnwood Fore	85.38	340	⥥*e*P		P		00 17 37.7	+0.3	
CWF					AMB	AMB		00 17 38.9		
	comp=Z,951nm,1.5s									
CWF					AMS	AMS		01 02 12.3		
	comp=Z,6μm,16.7s									
CWF	Charnwood Fore	85.38	340	*e*P		P		00 17 37.9	+0.5	
	comp=Z,1μm,1.3s									
N36A	Muff Farm, Cla	85.38	41	P		P		00 17 37.6	-0.1	
	baz=317,SNR=30									
LJU	Ljubljana	85.40	327	*i* P		P		00 17 37.3	-0.4	
LJU				*i* PP		PP		00 20 58.2	+3.1	
LJU				*i* S		S		00 27 57.1	-11	
PLG	Polygyros	85.41	319	P		P		00 17 37.9	0.0	
PLG	Polygyros	85.41	319	P		P		00 17 37.9	0.0	
PLG	Polygyros	85.41	319	P		P		00 17 37.9	0.0	
M37A	Trindle Farm,	85.42	40	P		P		00 17 37.8	0.0	
	baz=317,SNR=26									
CHOS	Chios island	85.42	316	P		P		00 17 38.1	+0.1	
CHOS	Chios island	85.42	316	P		P		00 17 38.1	+0.1	
L38A	Oak Wood Farm,	85.42	39	P		P		00 17 37.5	-0.4	
	baz=318,SNR=31									
HORT	Hortiatis	85.43	319	P		P		00 17 37.7	-0.3	
HORT	Hortiatis	85.43	319	P		P		00 17 37.7	-0.3	
ODZ	Otahua Downs	85.44	161	*e*P		P		00 17 39.2	+1.7	
	comp=Z,306nm,1.6s									
S32A	Newby Ranch, P	85.45	45	P		P		00 17 37.5	-0.6	
	baz=315,SNR=34									
SMG	Samos	85.46	315	P		P		00 17 37.9	-0.2	
SMG	Samos	85.46	315	P		P		00 17 37.9	-0.2	
SCIA	State Center	85.47	39	*e*P		P		00 17 38.3	+0.1	
	comp=Z,1μm,1.5s									
SCIA					LR	LR				
	comp=Z,5μm,20.0s									
THE	Thessaloniki	85.47	319	P		P		00 17 37.7	-0.4	
THE	Thessaloniki	85.47	319	P		P		00 17 37.7	-0.4	
THE	Thessaloniki	85.47	319	P		P		00 17 37.7	-0.4	
GRG	Griva	85.53	320	P		P		00 17 38.4	-0.1	
GRG	Griva	85.53	320	P		P		00 17 38.4	-0.1	
GRG	Griva	85.53	320	P		P		00 17 38.4	-0.1	
PVY	Plav	85.55	322	⥥*i* P		P		00 17 38.6	-0.1	
R33A	Olander Ranch,	85.55	44	P		P		00 17 37.8	-0.8	
	baz=315,SNR=27									
BDRM	Kayabasi	85.56	314	*i* P		P		00 17 38.7	0.0	
PYZ	Puysegur Point	85.57	164	*e*P		P		00 17 39.0	+0.9	
	comp=Z,89nm,1.1s									
WATA	Walderalm	85.60	330	*i* PcP		P		00 17 39.1	+0.2	
	comp=Z,431nm,1.7s,SNR=40									
WPM1	Penmaenmawr	85.60	341	⥥*i* P		P		00 17 39.0	+0.5	
UPM	Unac-Piva	85.60	323	⥥*i* P		P		00 17 38.7	-0.3	
PAIG	Paliouri	85.61	318	P		P		00 17 38.6	-0.2	
PAIG	Paliouri	85.61	318	P		P		00 17 38.6	-0.2	
PAIG	Paliouri	85.61	318	P		P		00 17 38.6	-0.2	
WPS	Cemaes, Angles	85.62	342	⥥*e*P		P		00 17 38.2	-0.4	
WPS					AMB	AMB		00 17 39.9		
	comp=Z,513nm,1.9s									
WPS					AMS	AMS		01 00 06.8		
	comp=Z,6μm,18.0s									
SNF	Seneffe	85.63	336	P		P		00 17 39.1	+0.4	
WTTA	Wattenberg	85.63	330	*i* PcP		P		00 17 39.3	+0.3	
	comp=Z,283nm,2.0s,SNR=74									
MNTX	Cornudas Mount	85.65	53	P		P		00 17 39.1	-0.2	
	baz=312,SNR=94									
MNTX	Cornudas Mount	85.65	53	*e*P		P		00 17 39.1	-0.2	
	comp=Z,370nm,1.4s									
MNTX					LR	LR				
	comp=Z,3μm,19.0s									
ABTA	Abfaltersbach	85.69	329	*i* P		P		00 17 38.4	-0.8	
	comp=Z,221nm,1.3s,SNR=97									
Q34A	Chapman	85.69	43	P		P		00 17 38.6	-0.6	
	baz=316,SNR=11									
LANF	Langenberg	85.69	333	⥥*e*P		P		00 17 39.7	+0.6	
LANF	Langenberg	85.69	333	*e*P		P		00 17 39.8	+0.6	
WLF1	Llynfaes	85.70	342	⥥*e*P		P		00 17 39.3	+0.4	
WLF1					AMB	AMB		00 17 41.3		
	comp=Z,2μm,1.7s									
WLF1					AMS	AMS		00 59 59.7		
	comp=Z,13μm,17.9s									
WLF	Walferdange	85.71	334	P		P		00 17 39.8	+0.7	
	comp=Z,615nm,1.8s									
WLF	Walferdange	85.71	334	*e*P		P		00 17 39.9	+0.7	
WLF					pmax	pmax				
	comp=Z,1μm,1.5s									
WLF					MLR	MLR				
	comp=Z,11μm,20.0s									
WLF	Walferdange	85.71	334	*e*P		P		00 17 39.9	+0.7	
	comp=Z,1μm,1.5s									
WLF					LR	LR				
	comp=Z,11μm,20.0s									
KSU1	Kansas State U	85.74	43	P		P		00 17 38.6	-0.9	
	baz=316,SNR=9.0									
KSU1	Kansas State U	85.74	43	*e*P		P		00 17 39.2	-0.3	
	comp=Z,205nm,1.0s									
KSU1					LR	LR				
	comp=Z,6μm,20.0s									
FOEL	Foel Wylfa	85.75	341	⥥*e*P		P		00 17 40.1	+0.8	
FOEL					AMB	AMB		00 17 41.9		
	comp=Z,1μm,1.5s									
FOEL					AMS	AMS		00 59 49.6		
	comp=Z,7μm,19.3s									
P35A	Duane Minner,	85.75	42	P		P		00 17 38.7	-0.8	
	baz=316,SNR=29									
ARG	Arkhangelos	85.76	313	P		P		00 17 39.9	+0.3	
ARG	Arkhangelos	85.76	313	P		P		00 17 39.9	+0.3	
ARG	Arkhangelos	85.76	313	P		P		00 17 39.9	+0.3	
MSTX	Muleshoe	85.76	50	P		P		00 17 39.4	-0.4	
	baz=313,SNR=33									
MSTX	Muleshoe	85.76	50	*e*P		P		00 17 39.3	-0.6	
	comp=Z,323nm,1.5s									
YLL	Llanberis	85.77	341	⥥*e*P		P		00 17 39.8	+0.4	
YRC	Rhoscolyn	85.78	342	⥥*e*P		P		00 17 39.3	0.0	
MOTA	Moosalm	85.78	330	*i* PcP		P		00 17 39.8	+0.1	
	comp=Z,284nm,1.1s,SNR=222									
AMTX	Amarillo	85.80	49	P		P		00 17 40.4	+0.4	
	baz=313									
AMTX	Amarillo	85.80	49	*e*P		P		00 17 40.4	+0.4	
	comp=Z,518nm,1.2s									
RETA	Reutte	85.80	330	*i* PcP		P		00 17 40.2	+0.5	
	comp=Z,584nm,1.2s,SNR=255									
N37A	Lee Faris, Mou	85.81	40	P		P		00 17 39.7	-0.1	
	baz=317,SNR=42									
T32A	Huddler Ranch,	85.82	45	P		P		00 17 39.8	-0.1	
	baz=315,SNR=78									
M38A	Pleasantville	85.84	39	P		P		00 17 39.6	-0.3	
	baz=318,SNR=91									
NKY	Niksic	85.85	323	⥥*i* P		P		00 17 40.0	-0.1	
O36A	Bolckow	85.88	41	P		P		00 17 39.8	-0.3	
	baz=317,SNR=19									
DOU	Dourbes	85.88	335	P		P		00 17 40.0	+0.1	
	comp=Z,262nm,2.0s									
NKME	Niksic	85.91	323	⥥*i* P		P		00 17 40.1	-0.2	
EIL	Elat	85.92	304	LR		LR		01 00 35.3		
	comp=Z,10μm,18.7s,baz=58,slow=39									
R34A	Isabella, Hill	85.97	44	P		P		00 17 40.0	-0.6	
	baz=316,SNR=26									
YRE	Yr Eifl	85.98	341	⥥*i* P		P		00 17 40.6	+0.2	
TRI	Trieste	85.99	328	*e*P		P		00 17 39.6	-1.0	
TRI				*e*				00 21 03.4		
TRI					pmax	pmax				
	comp=Z,410nm,1.3s									
TRI	Trieste	85.99	328	*e*P		P		00 17 39.6	-1.0	
	comp=Z,410nm,1.3s									
TRI				*e*PP		PP		00 21 03.4	+3.6	
HLM1	Long Mynd	86.00	340	⥥*e*P		P		00 17 41.1	+0.6	
HLM1					AMB	AMB		00 17 42.0		
	comp=Z,519nm,1.7s									
HLM1					AMS	AMS		00 58 24.6		
	comp=Z,7μm,24.6s									
BRY	Bratogost	86.00	323	⥥*i* P		P		00 17 40.3	-0.6	
PDG	Podgorica	86.01	322	P		P		00 17 40.9	+0.1	
TTG	Podgorica	86.01	322	⥥*i* P		P		00 17 40.8	0.0	
TTG	Podgorica	86.01	322	P		P		00 17 40.9	+0.1	
TTG	Podgorica	86.01	322	P		P		00 17 40.9	+0.1	
BAIF	Baives	86.04	335	*e*P		P		00 17 39.9	-0.8	
BAIF					pmax	pmax				
	comp=Z,526nm,1.5s									
BFO	Black Forest	86.04	332	*ce*P		P		00 17 41.0	+0.1	
BFO	Black Forest	86.04	332	*e*P		P		00 17 41.0	+0.1	
	comp=Z,1μm,1.3s									
BFO					LR	LR				
	comp=Z,10μm,19.0s									
UDBI	Udbina	86.04	326	P		P		00 17 40.1	-0.9	
S33A	Kaszmaul Farm,	86.05	45	P		P		00 17 40.9	-0.2	
	baz=315,SNR=20									
AOS	Alonnisos	86.05	318	P		P		00 17 40.3	-0.7	
AOS	Alonnisos	86.05	318	P		P		00 17 40.3	-0.7	
ELSH	Elham, Standar	86.07	338	⥥*e*P		P		00 17 41.5	+0.6	
ELSH					AMB	AMB		00 17 42.3		
	comp=Z,1μm,1.4s									
CEME	Cevo	86.09	323	⥥*i* P		P		00 17 40.8	-0.5	
LIT	Litokhoron	86.11	319	P		P		00 17 40.9	-0.5	
LIT	Litokhoron	86.11	319	P		P		00 17 40.9	-0.5	
LIT	Litokhoron	86.11	319	P		P		00 17 40.9	-0.5	
P36A	Good Intent, A	86.12	42	P		P		00 17 40.7	-0.7	
	baz=317,SNR=75									
JFWS	Jewell Farm	86.17	37	*e*P		P		00 17 40.6	-0.9	
JFWS				*e*				00 21 03.2		
JFWS					pmax	pmax				
	comp=Z,319nm,1.4s									
JFWS					MLR	MLR				
	comp=Z,8μm,22.0s									
JFWS	Jewell Farm	86.17	37	*e*P		P		00 17 40.6	-0.9	
	comp=Z,318nm,1.4s									
JFWS				*e*PP		PP		00 21 03.2	+1.8	
JFWS					LR	LR				
	comp=Z,8μm,22.0s									
FNA	Florina	86.18	320	P		P		00 17 41.2	-0.6	
FNA	Florina	86.18	320	P		P		00 17 41.2	-0.6	
FNA	Florina	86.18	320	P		P		00 17 41.2	-0.6	
FETA	Feichten	86.19	330	*i* PcP		P		00 17 42.1	+0.3	
	comp=Z,258nm,1.2s,SNR=99									
DSB	Dublin	86.22	343	*e*P		P		00 17 41.7	+0.2	
	comp=Z,211nm,1.1s									
Q35A	Mercer Eighty,	86.23	43	P		P		00 17 41.4	-0.6	
	baz=316,SNR=86									
DRME	Dracevica, Mon	86.23	322	⥥*i* P		P		00 17 42.0	+0.1	
OHR	Ohrid	86.23	321	*i* P		P		00 17 42.1	+0.1	
T33A	Patterson Ranc	86.27	45	P		P		00 17 42.0	-0.2	
	baz=315,SNR=18									
SKIA	Skiathos	86.27	318	P		P		00 17 41.4	-0.8	
XOR	Xorichti	86.28	318	P		P		00 17 41.3	-0.9	
XOR	Xorichti	86.28	318	P		P		00 17 41.3	-0.9	
O37A	Wolven Farm, M	86.28	41	P		P		00 17 41.9	-0.3	
	baz=317,SNR=28									
N38A	Joes South For	86.28	40	P		P		00 17 42.0	-0.2	
	baz=318,SNR=45									
BUM	Brajici-Budva	86.29	323	⥥*i* P		P		00 17 42.0	-0.2	
NEO	Neokhori	86.30	318	P		P		00 17 41.3	-1.0	
NEO	Neokhori	86.30	318	P		P		00 17 41.3	-1.0	
DAVA	Damuels	86.31	331	*i* PcP		P		00 17 42.7	+0.3	
	comp=Z,499nm,1.2s,SNR=174									
KZN	Kozani	86.33	320	P		P		00 17 41.7	-0.8	
KZN	Kozani	86.33	320	P		P		00 17 41.7	-0.8	
KZN	Kozani	86.33	320	P		P		00 17 41.7	-0.8	
U32A	Winter Ranch,	86.34	46	P		P		00 17 42.5	-0.1	
	baz=315,SNR=16									
CDF	Champ du Feu	86.36	333	*e*P		P		00 17 41.6	-0.9	
CDF				pmax	pmax					
	comp=Z,827nm,1.4s									
HCY	Herceg Novi	86.37	323	⥥*i* P		P		00 17 41.9	-0.7	
ULC	Ulcinj	86.37	322	⥥*i* P		P		00 17 42.2	-0.4	
FYTO	Fytoko, Volos	86.38	318	P		P		00 17 42.0	-0.6	
FYTO	Fytoko, Volos	86.38	318	P		P		00 17 42.0	-0.6	
Q36A	Arnold C. Orve	86.46	42	P		P		00 17 42.2	-0.8	
	baz=317,SNR=16									
S34A	Willow Spring	86.47	44	P		P		00 17 42.6	-0.6	
	baz=316,SNR=31									
STRD	Stroud	86.47	340	⥥*e*P		P		00 17 43.4	+0.6	
STRD					AMB	AMB		00 17 45.1		
	comp=Z,2μm,1.6s									
STRD					AMS	AMS		01 03 23.6		
	comp=Z,8μm,18.2s									
MCH1	Michaelchurch	86.50	340	⥥*e*P		P		00 17 43.4	+0.4	
MCH1					AMB	AMB		00 17 45.3		
	comp=Z,850nm,2.0s									
MCH1					AMS	AMS		00 58 52.6		
	comp=Z,8μm,22.4s									
R35A	Emporia Munici	86.52	43	P		P		00 17 43.2	-0.2	
	baz=316,SNR=45									
TIR	Tirane	86.53	321	*e*P		P		00 17 43.3	0.0	
TIR				pmax	pmax					
	comp=Z,1μm,1.7s									
TIR				MLR	MLR					
	comp=Z,28μm,19.0s									
TIR	Tirane	86.53	321	*e*P		P		00 17 43.3	0.0	
	comp=Z,1μm,1.7s									
TIR				LR	LR					
	comp=Z,28μm,19.0s									
HMNX	Herstmonceux	86.56	338	⥥*e*P		P		00 17 44.5	+1.2	
HMNX					AMB	AMB		00 17 45.3		
	comp=Z,2μm,1.4s									
HMNX					AMS	AMS		01 01 09.0		
	comp=Z,11μm,18.2s									
EREA	Eretria	86.56	317	P		P		00 17 42.6	-1.0	
ECH	Echery	86.57	333	⥥*e*P		P		00 17 43.6	+0.1	
MONM	Monmouth	86.59	340	⥥*e*P		P		00 17 43.6	+0.2	
MONM					AMB	AMB		00 17 44.9		
	comp=Z,871nm,1.6s									
MONM					AMS	AMS		00 59 06.8		
	comp=Z,8μm,22.3s									
N39A	Derby Farms, D	86.59	39	P		P		00 17 43.3	-0.3	
	baz=318,SNR=88									
P37A	Lathrop	86.59	41	P		P		00 17 43.3	-0.5	
	baz=317,SNR=79									
SWN1	Swindon	86.61	339	⥥*e*P		P		00 17 44.0	+0.4	
SWN1					AMB	AMB		00 17 46.0		
	comp=Z,2μm,1.6s									
SWN1					AMS	AMS		01 05 09.4		
	comp=Z,7μm,15.5s									
SMIA	Simia	86.62	318	P		P		00 17 43.1	-0.8	
WOL	Wolverton	86.62	339	⥥*e*P		P		00 17 43.6	0.0	
WOL					AMB	AMB		00 17 44.8		
	comp=Z,1μm,1.5s									
WOL					AMS	AMS		00 59 45.6		
	comp=Z,8μm,21.4s									
NEST	Nestorio	86.62	320	P		P		00 17 43.8	-0.2	
APE	Apeiranthos	86.65	315	P		P		00 17 42.5	-1.6	
APE	Apeiranthos	86.65	315	*d* P		P		00 17 42.5	-1.6	
APE				pmax	pmax					
	comp=Z,53nm,1.1s									
APE	Apeiranthos	86.65	315	P		P		00 17 42.5	-1.6	
O38A	Galt	86.66	40	P		P		00 17 43.8	-0.3	
	baz=318,SNR=31									
LPW	Lampeter	86.68	341	⥥*e*P		P		00 17 43.9	+0.1	
LPW					AMB	AMB		00 17 46.2		
	comp=Z,579nm,1.4s									
LPW					AMS	AMS		00 59 33.5		
	comp=Z,8μm,21.5s									
OLDB	Oldbury-Upon-S	86.68	340	⥥*e*P		P		00 17 43.9

baz=317,SNR=54
S36A Lake Cedric, C 87.29 43 P P 00 17 46.7 -0.4
baz=317,SNR=47
JAN Janina 87.29 320 P P 00 17 47.2 +0.1
JAN Janina 87.29 320 P P 00 17 47.2 +0.1
JAN Janina 87.29 320 P P 00 17 47.2 +0.1
DSF Desfina 87.33 318 P P 00 17 45.3 -2.1
DSF Desfina 87.33 318 P P 00 17 45.3 -2.1
EVR Evrytania 87.34 319 P P 00 17 46.4 -1.1
EVR Evrytania 87.34 319 P P 00 17 46.4 -1.1
T35A Sooner Cattle 87.36 44 P P 00 17 47.3 -0.2
baz=316,SNR=64
LTK Loutraki 87.37 317 P P 00 17 45.2 -2.4
LTK Loutraki 87.37 317 P P 00 17 45.2 -2.4
LOMF Lomont 87.42 332 ||eP P 00 17 47.8 +0.1
Q38A Cooks Store, C 87.44 41 P P 00 17 47.1 -0.8
baz=318,SNR=39
O40A La Belle 87.48 39 P P 00 17 47.6 -0.3
baz=319,SNR=89
P39B Salisbury 87.50 40 P P 00 17 47.7 -0.4
baz=318,SNR=42
W33A Caddo, Fort Co 87.51 47 P P 00 17 48.7 +0.5
baz=315,SNR=42
ANX Ano Chora 87.52 318 P P 00 17 47.5 -0.8
X32A Elmer 87.54 48 P P 00 17 48.1 -0.3
baz=315,SNR=61
KALE Kalithea 87.55 318 P P 00 17 46.9 -1.5
KALE Kalithea 87.55 318 P P 00 17 46.9 -1.5
DSL Palaion Diasel 87.55 319 P P 00 17 48.0 -0.4
DSL Palaion Diasel 87.55 319 P P 00 17 48.0 -0.4
V34A Guthrie 87.57 46 P P 00 17 48.5 0.0
baz=316,SNR=44
V34A Guthrie 87.57 46 eP P 00 17 48.5 0.0
comp=Z,711nm,1.3s
SERG Sergoula 87.58 318 P P 00 17 47.1 -1.4
DID Didima 87.60 317 P P 00 17 45.8 -2.9
DID Didima 87.60 317 P P 00 17 45.8 -2.9
T36A Boggs Farm, Ca 87.61 44 P P 00 17 48.4 -0.3
baz=316,SNR=66
WMOK Wichita Mounta 87.62 47 P P 00 17 48.5 -0.3
baz=315,SNR=114
WMOK Wichita Mounta 87.62 47 eP P 00 17 48.3 -0.5
WMOK pmax pmax
comp=Z,396nm,1.4s
WMOK MLR MLR
comp=Z,5µm,19.0s
WMOK Wichita Mounta 87.62 47 eP P 00 17 48.2 -0.5
comp=Z,396nm,1.4s
WMOK LR LR
comp=Z,5µm,19.0s
U35A Pawnee 87.63 45 P P 00 17 48.7 -0.1
baz=316,SNR=104
ZKR Zakros 87.64 313 P P 00 17 48.6 -0.3
ZKR Zakros 87.64 313 P P 00 17 48.6 -0.3
SGD Sagiada 87.64 320 P P 00 17 48.5 -0.3
EFP Efpalio 87.64 318 P P 00 17 48.0 -0.8
IGT Igoumenitsa 87.65 320 P P 00 17 48.2 -0.6
IGT Igoumenitsa 87.65 320 P P 00 17 48.2 -0.6
IGT Igoumenitsa 87.65 320 P P 00 17 48.2 -0.6
S37A Fort Scott 87.68 43 P P 00 17 48.5 -0.4
baz=317,SNR=71
PVO Paravola 87.71 319 P P 00 17 48.6 -0.5
Q39A Willow Grove F 87.71 41 P P 00 17 48.7 -0.4
baz=318,SNR=42
KRND KRANIDI 87.74 317 P P 00 17 46.6 -2.7
LAKA Lakka 87.74 318 P P 00 17 48.4 -1.0
LAKA Lakka 87.74 318 P P 00 17 48.4 -1.0
KEK Kerkira 87.79 320 P P 00 17 48.8 -0.7
KEK Kerkira 87.79 320 P P 00 17 48.8 -0.7
SLBS Sierra La Lagu 87.80 62 eP P 00 17 50.4 +0.5
comp=Z,533nm,1.6s
KLV Kalavryta, Ach 87.80 318 P P 00 17 48.2 -1.4
KLV Kalavryta, Ach 87.80 318 P P 00 17 48.2 -1.4
HTL Hartland 87.81 341 ||eP P 00 17 48.5 -0.9
HTL AMS AMS 01 00 06.0
comp=Z,3µm,22.2s
P40A Paris 87.83 40 P P 00 17 49.5 -0.2
baz=319,SNR=165
W34A Bridge Creek, 87.85 46 P P 00 17 49.9 0.0
baz=316,SNR=34
W34A Bridge Creek, 87.85 46 eP P 00 17 50.0 0.0
comp=Z,679nm,1.4s
R38A Fenwick Farm, 87.86 42 P P 00 17 48.6 -1.2
baz=318,SNR=55
NPS Neapolis 87.88 314 P P 00 17 48.9 -1.1
NPS Neapolis 87.88 314 P P 00 17 48.9 -1.1
NPS Neapolis 87.88 314 P P 00 17 48.9 -1.1
PDO Prodromos 87.90 319 P P 00 17 49.4 -0.6
X33A Lawton 87.92 47 P P 00 17 49.8 -0.4
baz=315,SNR=15
V35A Meyer Ranch, C 88.01 45 P P 00 17 50.3 -0.3
baz=316,SNR=29
LAST Lasithi 88.03 314 P P 00 17 50.4 -0.4
LAST Lasithi 88.03 314 eP P 00 17 50.2 -0.7
comp=Z,417nm,1.5s
LKD2 Lefkada island 88.03 319 P P 00 17 50.2 -0.5
LKD2 Lefkada island 88.03 319 P P 00 17 50.2 -0.5
SENIN Lac Senin/Sane 88.07 332 eP P 00 17 50.7 -0.3
comp=Z,529nm,1.6s
T37A Cheneyville 18 88.09 43 P P 00 17 50.5 -0.5
baz=317,SNR=77
DRO Drossia 88.10 318 P P 00 17 50.5 -0.5
RLS Riolos of Patr 88.15 318 P P 00 17 50.9 -0.3
RLS Riolos of Patr 88.15 318 P P 00 17 50.9 -0.3
DYA Yadsworthy 88.17 340 ||eP P 00 17 50.4 -0.7
DYA AMB AMB 00 17 51.9
comp=Z,324nm,1.8s
DYA AMS AMS 01 02 33.3
comp=Z,7µm,17.0s
DYA Yadsworthy 88.17 340 eP P 00 17 51.2 +0.2
comp=Z,325nm,1.4s
VLX Vlachokerasia 88.17 317 P P 00 17 49.9 -1.6
VLX Vlachokerasia 88.17 317 P P 00 17 49.9 -1.6
U36A Oologah 88.17 44 P P 00 17 51.1 -0.3
baz=317,SNR=26
Q40A Laux Farm, Aux 88.22 40 P P 00 17 51.1 -0.4
baz=319,SNR=95
Y33A Hilltop Ranch, 88.22 48 P P 00 17 51.1 -0.6
baz=315,SNR=30
R39A Chumby, Stover 88.22 41 P P 00 17 50.8 -0.8
baz=318
X34A Smith Ranch, M 88.27 47 P P 00 17 51.9 +0.1
baz=316,SNR=47
S38A Stockton 88.27 42 P P 00 17 50.6 -1.2
baz=318,SNR=46
IDI Anoyia 88.28 314 P P 00 17 50.5 -1.5
IDI Anoyia 88.28 314 eP P 00 17 50.5 -1.5
comp=Z,79nm,0.9s
VAL Valentia 88.31 344 ||iP P 00 17 51.4 -0.3
VAL Valentia 88.31 344 ||iS S 00 28 35.3 -0.1
TX31 Lajitas Ar. Si 88.33 54 eP P 00 17 52.1 -0.2
TXAR Lajitas Array 88.33 54 P P 00 17 52.0 -0.4
comp=Z,74nm,1.1s,baz=298,slow=2.7,SNR=231
TXAR PP PP 00 21 19.6 +0.2
comp=Z,29nm,1.2s,baz=299,slow=2.6,SNR=6.0
TXAR PKKPbc PKKPbc 00 35 37.6 +3.6
comp=Z,0.5nm,0.8s,baz=150,slow=5.2,SNR=3.6
TXAR PKPPKP P'P'df 00 43 37.8 -10
comp=Z,1.9nm,1.1s,baz=150,slow=2.0,SNR=6.2
TXAR LR LR 00 53 54.9
comp=Z,6µm,19.3s,baz=0.0,slow=33
OG01 Vacheresse 88.33 332 ||eP P 00 17 52.5 +0.4
VLI Veliai 88.34 316 P P 00 17 49.6 -2.6
VLI Veliai 88.34 316 P P 00 17 49.6 -2.6
AMT Artemida-Makis 88.41 318 P P 00 17 51.5 -1.0
W35A Tecumseh 88.42 46 P P 00 17 52.4 -0.2
baz=316,SNR=53
HDIL Hopedale 88.43 38 P P 00 17 52.1 -0.4
baz=320,SNR=83
HDIL Hopedale 88.43 38 eP P 00 17 52.1 -0.4
comp=Z,802nm,1.2s
HDIL LR LR
comp=Z,5µm,22.0s
KFL Anninata 88.47 319 P P 00 17 52.0 -0.8
TUL1 Leonard 88.49 45 P P 00 17 52.6 -0.3
baz=317,SNR=52
TUL1 Leonard 88.49 45 eP P 00 17 52.5 -0.3
comp=Z,395nm,1.3s
V36A Jenks 88.50 45 P P 00 17 52.7 -0.3
baz=316,SNR=56
T38A Diamond 88.50 43 P P 00 17 52.4 -0.5
baz=317,SNR=148
U37A Salina 88.50 44 P P 00 17 52.6 -0.4
baz=317,SNR=116
SIVA Sivas 88.52 314 P P 00 17 52.6 -0.4
SIVA Sivas 88.52 314 P P 00 17 52.6 -0.4
VLS Valsamata 88.53 319 P P 00 17 52.2 -0.8
VLS Valsamata 88.53 319 P P 00 17 52.2 -0.8
VLS Valsamata 88.53 319 P P 00 17 52.2 -0.8
S39A Bolivar 88.53 42 P P 00 17 52.0 -1.1
baz=318,SNR=93
ITM Ithomi 88.55 317 P P 00 17 52.1 -1.1
ITM Ithomi 88.55 317 P P 00 17 52.1 -1.1
ABTX Abilene, Hawle 88.58 49 P P 00 17 53.3 -0.1
baz=315,SNR=35
ABTX Abilene, Hawle 88.58 49 eP P 00 17 53.3 -0.1
comp=Z,406nm,1.4s
VAM Vamos 88.58 315 P P 00 17 52.0 -1.4
VAM Vamos 88.58 315 P P 00 17 52.0 -1.4
VAM Vamos 88.58 315 P P 00 17 52.0 -1.4
KYTH Kithira 88.61 316 P P 00 17 52.0 -1.5
KYTH Kithira 88.61 316 P P 00 17 52.0 -1.5
R40A Maddies Statio 88.64 41 P P 00 17 53.0 -0.6
baz=319,SNR=106
Z33A Whitaker Ranch 88.65 48 P P 00 17 53.3 -0.4
baz=315,SNR=32
VLC Villacollemand 88.66 329 eP P 00 17 54.9 +1.3
comp=Z,73nm,1.3s
VLC LR LR
comp=Z,7µm,19.0s
IMMV Iera Moni Meta 88.67 315 P P 00 17 52.5 -1.2
FLN La Foliniere 88.67 337 eP P 00 17 52.5 -1.0
FLN pmax pmax
comp=Z,684nm,1.5s
DAMY Dhamar 88.71 287 eP P 00 17 55.3 +0.6
comp=Z,290nm,1.5s
CCA1 Carnmenellis 88.74 341 ||eP P 00 17 53.7 -0.1
CCA1 AMB AMB 00 17 54.7
comp=Z,328nm,1.4s
CCA1 AMS AMS 01 00 44.5
comp=Z,5µm,21.2s
JQE Queens East 88.75 338 ||iP P 00 17 53.8 0.0
JQE ||eP P 00 17 53.9 0.0
ANKY Antikythira Is 88.76 316 P P 00 17 52.9 -1.2
ANKY Antikythira Is 88.76 316 P P 00 17 52.9 -1.2
Y34A Reagan Ranch, 88.77 47 P P 00 17 53.7 -0.5
baz=316,SNR=38
JRS Jersey 88.77 339 ||eP P 00 17 53.8 -0.1
ZKS Zakynthos 88.78 318 P P 00 17 52.9 -1.3
JSA Saint Aubin 88.80 339 ||eP P 00 17 54.1 0.0
JSA AMB AMB 00 17 55.2
comp=Z,434nm,1.6s
W36A Wetumka 88.80 45 P P 00 17 54.0 -0.4
baz=316,SNR=72
AQU L'Aquila 88.81 326 eP P 00 17 54.4 0.0
AQU pmax pmax
comp=Z,587nm,1.4s
AQU MLR MLR
comp=Z,20µm,20.0s
AQU L'Aquila 88.81 326 eP P 00 17 54.4 0.0
comp=Z,587nm,1.4s
AQU LR LR
comp=Z,20µm,20.0s
PYL PYLOS 88.86 317 P P 00 17 53.1 -1.5
PYL PYLOS 88.86 317 P P 00 17 53.1 -1.5
V37A Hulbert 88.87 44 P P 00 17 54.4 -0.3
baz=317,SNR=96
U38A Gravette 88.88 43 P P 00 17 54.2 -0.6
baz=317,SNR=93
RSL Roselend 88.89 332 ||eP P 00 17 54.8 0.0
X35A Drake 88.91 46 P P 00 17 54.3 -0.6
baz=316,SNR=69
LPL La Plagne 88.99 331 eP P 00 17 54.6 -0.8
LPL pmax pmax
comp=Z,346nm,1.5s
T39A Clever 89.00 42 P P 00 17 54.4 -0.9
baz=318,SNR=93
LPG La Plagne 89.00 331 eP P 00 17 54.7 -0.8
LPG pmax pmax
comp=Z,483nm,1.5s
133A Hamilton Ranch 89.03 49 P P 00 17 55.2 -0.4
baz=315,SNR=24
S40A Lebanon 89.04 41 P P 00 17 54.6 -0.9
baz=318,SNR=123
GVD Gavdhos 89.06 314 P P 00 17 54.7 -0.9
GVD Gavdhos 89.06 314 P P 00 17 54.7 -0.9
Q42A Golden Eagle 89.07 39 P P 00 17 55.3 -0.2
baz=320,SNR=56
Z34A Collier Ranch, 89.09 48 P P 00 17 55.2 -0.6
baz=315,SNR=31
X36A Centrahoma 89.14 46 P P 00 17 55.7 -0.2
baz=316,SNR=71
AVF Avril sur Loir 89.14 334 eP P 00 17 54.9 -0.8
AVF pmax pmax
comp=Z,1µm,1.6s
Y35A Marietta 89.22 47 P P 00 17 55.9 -0.5
baz=316,SNR=8.3
HHAR Hobbs 89.24 43 eP P 00 17 55.6 -0.9
comp=Z,279nm,1.4s
W37B Quinton 89.25 45 P P 00 17 56.5 0.0
baz=317,SNR=85
V38A Canehill 89.29 44 P P 00 17 56.1 -0.6
baz=317,SNR=190
T40A Mansfield 89.36 42 P P 00 17 56.2 -0.8
baz=318
U39A Green Forest 89.42 43 P P 00 17 56.6 -0.7
baz=318,SNR=134
SLM Saint Louis 89.43 39 eP P 00 17 56.9 -0.3
SLM pmax pmax
comp=Z,828nm,1.3s
SLM Saint Louis 89.43 39 eP P 00 17 56.9 -0.3
comp=Z,828nm,1.3s
233A Rising Star 89.46 49 P P 00 17 57.4 -0.2
baz=315,SNR=44
Q43A New Douglas 89.47 39 P P 00 17 57.0 -0.4
baz=320,SNR=27
SADO Sadowa 89.49 29 eP P 00 17 56.6 -0.8
comp=Z,373nm,1.6s
Z35A Perchaven, San 89.51 47 P P 00 17 57.2 -0.6
baz=316,SNR=28
CUC Castrocucco 89.55 323 eP P 00 17 56.3 -1.5
comp=Z,99nm,1.3s
CUC LR LR
comp=Z,9µm,19.0s
134A White-Moore Ra 89.56 48 P P 00 17 57.9 0.0
baz=315,SNR=43
SFIN Lafayette 89.62 36 P P 00 17 57.9 -0.2
baz=322,SNR=68
SFIN Lafayette 89.62 36 eP P 00 17 57.8 -0.3
comp=Z,540nm,1.3s
AAM Ann Arbor 89.66 33 eP P 00 17 58.3 0.0
AAM pmax pmax
comp=Z,315nm,1.3s
AAM MLR MLR
comp=Z,4µm,22.0s
AAM Ann Arbor 89.66 33 eP P 00 17 58.3 0.0
comp=Z,314nm,1.3s
AAM LR LR
comp=Z,4µm,22.0s
Y36A Durant 89.66 46 P P 00 17 57.9 -0.5
baz=316,SNR=29
X37A Clayton 89.68 45 P P 00 17 58.3 -0.3
baz=317,SNR=60
TIP Timpagrande 89.72 322 P P 00 17 58.5 -0.1
TIP Timpagrande 89.72 322 eP P 00 17 58.6 -0.1
comp=Z,455nm,1.4s
TIP LR LR
comp=Z,16µm,20.0s
V39A Pettigrew 89.73 43 P P 00 17 57.9 -0.9
baz=318,SNR=104
PLDF La Plantade 89.75 334 ||eP P 00 18 00.5 +1.8
U40A Yellville 89.78 43 P P 00 17 58.3 -0.7
baz=318,SNR=248
W38A Poteau 89.81 44 P P 00 17 59.0 -0.1
baz=317,SNR=76
T41A Mountain View 89.84 41 P P 00 17 58.5 -0.8
baz=319,SNR=123
AGO Saint Agoulin 89.86 334 ||eP P 00 18 00.9 +1.8
333A Richland Sprin 89.89 50 P P 00 17 59.3 -0.3
baz=315,SNR=87
234A Clairette 89.92 49 P P 00 17 59.6 -0.1
baz=315,SNR=26
X38A Whitesboro 89.93 45 P P 00 17 59.5 -0.1
baz=317,SNR=155
TRQ Mont Tremblant 89.93 26 eP P 00 17 58.9 -0.7
135A Vickery Place, 89.97 48 P P 00 17 59.8 -0.1
baz=316,SNR=21
JCT Junction City 89.98 51 P P 00 17 59.4 -0.7
baz=314,SNR=31
JCT Junction City 89.98 51 eP P 00 17 59.4 -0.7
JCT e 00 21 32.6
JCT pmax pmax
comp=Z,190nm,1.4s
JCT MLR MLR
comp=Z,4µm,20.0s
JCT Junction City 89.98 51 eP P 00 17 59.4 -0.7
comp=Z,190nm,1.4s
JCT eP P 00 21 32.6 +0.1
JCT LR LR
comp=Z,4µm,20.0s
Y37A Hugo 89.98 46 P P 00 17 59.6 -0.4
baz=317,SNR=15
SSB Saint Sauveur 90.01 333 ||eP P 00 18 00.3 +0.4
SSB Saint Sauveur 90.01 333 eP P 00 18 00.0 +0.1
SSB pmax pmax
comp=Z,123nm,1.3s
SSB MLR MLR
comp=Z,6µm,20.0s
SSB Saint Sauveur 90.01 333 eP P 00 17 60.0 +0.1
comp=Z,123nm,1.3s
SSB LR LR
comp=Z,6µm,20.0s
Z36A Blue Ridge 90.03 47 P P 00 17 59.5 -0.6
baz=316,SNR=34
LUCF Luceram 90.12 330 eP P 00 17 59.8 -0.7
W39A Magazine 90.13 44 P P 00 18 00.0 -0.5
baz=318,SNR=69
LMQ La Malbaie 90.14 22 eP P 00 18 00.2 -0.2
comp=Z,556nm,1.4s
PYM Petit Puy Mans 90.16 334 ||eP P 00 18 02.5 +1.9
MVIF Mont Vial 90.19 330 ||eP P 00 18 00.3 -0.6
433A Art 90.23 50 P P 00 18 00.3 -0.8
baz=315,SNR=49
REVF Revere 90.24 330 ||eP P 00 18 00.3 -0.7
R44A Waltonville 90.31 39 P P 00 18 01.0 -0.3
baz=321,SNR=35
S43A Fulton Ridge, 90.32 40 P P 00 18 00.7 -0.7
baz=320,SNR=42
VIVF Saint-Julien-l 90.33 332 eP P 00 18 00.5 -0.9
VIVF pmax pmax
comp=Z,501nm,1.8s
334A Lometa 90.34 49 P P 00 18 01.2 -0.4
baz=315,SNR=38
WHTX Lake Whitney, 90.34 48 P P 00 18 01.5 -0.1
baz=316
WHTX Lake Whitney, 90.34 48 eP P 00 18 01.6 0.0
comp=Z,757nm,1.5s
CALN Calern 90.42 330 ||eP P 00 18 01.4 -0.6
OLIL Olney 90.42 38 eP P 00 18 01.8 -0.1
comp=Z,813nm,1.3s
X39A Fountain Ranch 90.45 45 P P 00 18 02.1 0.0
baz=318,SNR=177
LBL Lubilhac 90.52 333 ||eP P 00 18 04.2 +1.9
W40A Ferguson Farm, 90.52 43 P P 00 18 02.0 -0.4
baz=318,SNR=45
Y38A Idabel 90.53 45 P P 00 18 01.8 -0.7
baz=317,SNR=21
136A Ennis 90.54 47 P P 00 18 02.1 -0.4
baz=316,SNR=21
Z37A Pogue Cattle C 90.55 46 P P 00 18 02.4 -0.2
baz=317,SNR=37
V41A Mountainview 90.58 42 P P 00 18 01.9 -0.8
baz=319,SNR=148
FRNF Fournols 90.63 334 ||eP P 00 18 03.8 +1.0
S44A Carbondale 90.65 39 P P 00 18 02.8 -0.2
baz=320,SNR=70
SIUC Southern Illin 90.65 39 eP P 00 18 02.7 -0.3
comp=Z,561nm,1.3s
434A Burnet 90.69 50 P P 00 18 02.5 -0.8
baz=315,SNR=38
MIAR Mount Ida 90.72 44 P P 00 18 03.2 -0.2
baz=318,SNR=162
MIAR Mount Ida 90.72 44 eP P 00 18 03.2 -0.2
MIAR pmax pmax
comp=Z,631nm,1.3s
MIAR MLR MLR
comp=Z,4µm,20.0s
MIAR Mount Ida 90.72 44 eP P 00 18 03.2 -0.2
comp=Z,631nm,1.3s
MIAR LR LR
comp=Z,4µm,20.0s
533A Kerrville 90.74 51 P P 00 18 03.0 -0.6
baz=315,SNR=15
PBMO Poplar Bluff 90.74 41 eP P 00 18 03.0 -0.4
comp=Z,630nm,1.3s
X201 Greenbrier Sit 90.83 43 eP P 00 18 03.1 -0.7
comp=Z,799nm,1.5s
BLO Bloomington 90.84 37 eP P 00 18 03.6 -0.2
BLO pmax pmax
comp=Z,535nm,1.5s
BLO Bloomington 90.84 37 eP P 00 18 03.6 -0.2
comp=Z,535nm,1.5s
X301 Greenbrier Sit 90.85 43 eP P 00 18 03.2 -0.7
comp=Z,659nm,1.5s
CEL Celeste 90.86 322 eP P 00 18 03.3 -0.7
comp=Z,345nm,1.3s
CEL LR LR
comp=Z,8µm,20.0s
335A Moody 90.86 49 P P 00 18 03.7 -0.4
baz=316,SNR=15
WHAR Wooly Hollow 90.88 43 eP P 00 18 03.3 -0.7
comp=Z,727nm,1.3s
Z38A Mt. Pleasant 90.88 46 P P 00 18 03.9 -0.2
baz=317,SNR=14
Y39A Lockesburg 90.88 45 P P 00 18 03.9 -0.2
baz=318,SNR=68
236A Katherine and 90.88 48 P P 00 18 03.8 -0.3
baz=316,SNR=19
137A Heron Place, G 90.91 47 P P 00 18 03.9 -0.3
baz=317
V42A Cord 90.97 42 P P 00 18 03.7 -0.8
baz=319,SNR=78
W41B Gary Mavity, V 90.98 43 P P 00 18 04.0 -0.6
baz=319,SNR=98
S45A Carrier Mills 91.00 39 P P 00 18 04.3 -0.3
baz=318,SNR=56
633A Saathoff Ranch 91.08 51 P P 00 18 04.9 -0.2
baz=315,SNR=50
534A Blanco 91.11 50 P P 00 18 04.7 -0.6
baz=315,SNR=87
435B Jarrell 91.12 49 P P 00 18 04.8 -0.5
baz=316,SNR=14
336A Riesel 91.14 48 P P 00 18 05.0 -0.4
baz=316,SNR=30
X40A Basin Creek Fa 91.17 44 P P 00 18 05.0 -0.5
baz=318,SNR=64
PARMO Parma 91.18 40 eP P 00 18 06.0 +0.6
CAF Calviac 91.20 334 eP P 00 18 05.2 -0.3
CAF pmax pmax
comp=Z,575nm,1.5s
UALR University of 91.23 43 eP P 00 18 05.4 -0.3
comp=Z,512nm,1.6s
USIN University of 91.23 38 eP P 00 18 05.6 0.0
comp=Z,590nm,1.6s
138A Matatall Enter 91.25 46 P P 00 18 06.0 +0.1
baz=317,SNR=19
Y40A Okolona 91.28 44 P P 00 18 05.6 -0.3
baz=318,SNR=15
237A Washetta, Mont 91.31 47 P P 00 18 05.9 -0.2
baz=317,SNR=14
LONY Lake Ozonia 91.31 26 eP P 00 18 05.2 -0.8
comp=Z,213nm,1.5s
LONY LR LR
comp=Z,4µm,20.0s
Z39A Irene McRaven, 91.34 45 P P 00 18 06.3 +0.1
baz=318,SNR=9.3
X41A Kaden, Bauxite 91.35 44 P P 00 18 06.0 -0.3
baz=318,SNR=40
ERPA Erie 91.37 31 eP P 00 18 06.2 0.0
comp=Z,616nm,1.5s
832A Faith Ranch, C 91.40 52 P P 00 18 06.4 -0.2
baz=314,SNR=25
FRNY Flat Rock 91.47 26 eP P 00 18 06.1 -0.5
comp=Z,180nm,1.6s
733A Divot King Ran 91.53 52 P P 00 18 07.1 -0.1
baz=315,SNR=12
HBAR Harrisburg 91.55 42 eP P 00 18 07.9 +0.7
GNAR Gosnell 91.58 41 eP P 00 18 08.2 +0.9
436A Wall Ranch, Ga 91.61 49 P P 00 18 07.7 +0.2
baz=316,SNR=32
WLAR White Oak Lake 91.61 44 eP P 00 18 07.7 +0.1
comp=Z,618nm,1.2s
ACSO Alum Creek Sta 91.63 34 eP P 00 18 07.2 -0.3
comp=Z,274nm,1.2s
ACSO LR LR
comp=Z,5µm,21.0s
634A China Grove, S 91.65 51 P P 00 18 07.5 -0.3
baz=315

535A	**Dale**	91.67	50	P		P	00 18 07.5	-0.4	
	baz=316,SNR=7.6								
MMNY	**Mt. Morris Dam**	91.69	29	*e*P		P	00 18 07.4	-0.3	
ALLY	**Alegheny Colle**	91.69	31	*e*P		P	00 18 08.0	+0.2	
	comp=Z,587nm,1.7s								
WCI	**Wyandotte Cave**	91.70	37	*e*P		P	00 18 07.4	-0.5	
WCI				pmax		pmax			
	comp=Z,501nm,1.4s								
WCI	**Wyandotte Cave**	91.70	37	*e*P		P	00 18 07.4	-0.5	
	comp=Z,501nm,1.4s								
238A	**Jacksonville**	91.71	47	P		P	00 18 08.3	+0.4	
	baz=317,SNR=14								
GLAT	**Glass**	91.72	40	*e*P		P	00 18 08.6	+0.7	
DRLN	**Deer Lake**	91.74	14	*e*P		P	00 18 08.0	+0.3	
	comp=Z,434nm,1.6s								
833A	**Chaparral WMA,**	91.74	52	P		P	00 18 08.3	+0.1	
	baz=315,SNR=30								
V44A	**Blytheville**	91.75	41	P		P	00 18 08.0	-0.1	
	baz=320								
Y41A	**Eaglette Beard**	91.75	44	P		P	00 18 08.0	-0.2	
	baz=318,SNR=70								
337A	**Centerville**	91.76	48	P		P	00 18 08.7	+0.5	
	baz=316,SNR=8.2								
Z40A	**Long Farm, Mag**	91.77	45	P		P	00 18 08.3	0.0	
	baz=318,SNR=52								
UTMT	**University of**	91.89	40	*e*P		P	00 18 09.3	+0.6	
	comp=Z,560nm,1.1s								
734A	**La Parita Cree**	91.90	51	P		P	00 18 09.0	+0.1	
	baz=315,SNR=6.3								
536A	**Bastrop**	91.94	49	P		P	00 18 09.0	0.0	
	baz=316,SNR=17								
437A	**Phantom Ranch,**	91.96	48	P		P	00 18 09.6	+0.5	
	baz=316,SNR=11								
635A	**Leesville**	92.00	50	P		P	00 18 09.3	0.0	
	baz=316,SNR=12								
NCB	**Newcomb**	92.00	27	*e*P		P	00 18 08.7	-0.4	
	comp=Z,1.8nm,1.5s								
M54A	**Oil Creek Stat**	92.01	31	P		P	00 18 08.8	-0.4	
	baz=327,SNR=19								
338A	**Crockett**	92.06	47	P		P	00 18 10.0	+0.3	
	baz=317,SNR=20								
239A	**Gary**	92.07	46	P		P	00 18 09.7	+0.1	
	baz=317,SNR=12								
Z41A	**Richland Creek**	92.11	45	P		P	00 18 09.6	-0.2	
	baz=318,SNR=20								
140A	**Cam and Jess,**	92.13	45	P		P	00 18 09.9	+0.1	
	baz=318,SNR=9.4								
NATX	**Nacogdoches**	92.15	47	P		P	00 18 10.0	0.0	
	baz=317,SNR=8.1								
NATX	**Nacogdoches**	92.15	47	*e*P		P	00 18 10.6	+0.6	
	comp=Z,410nm,1.4s								
NATX				LR		LR			
	comp=Z,5µm,19.0s								
CCAR	**Cane Creek**	92.19	43	*e*P		P	00 18 10.6	+0.5	
	comp=Z,1µm,1.4s								
X43A	**Marvell**	92.22	43	P		P	00 18 10.2	0.0	
	baz=319,SNR=9.7								
Y42A	**Garnett, Star**	92.24	44	P		P	00 18 10.5	+0.2	
	baz=319,SNR=28								
MET	**Memphis--Engin**	92.26	42	*e*P		P	00 18 11.6	+1.1	
	comp=Z,1µm,1.4s								
933A	**Laredo**	92.31	52	P		P	00 18 11.5	+0.7	
	baz=315,SNR=55								
W44A	**Shelby Farms P**	92.31	41	P		P	00 18 10.4	-0.3	
	baz=320								
N54A	**Moraine State**	92.33	32	P		P	00 18 10.4	-0.3	
	baz=326,SNR=25								
MDV	**Middlebury**	92.35	26	*e*P		P	00 18 10.3	-0.4	
735A	**Kenedy**	92.35	51	P		P	00 18 11.6	+0.6	
	baz=316,SNR=5.3								
636A	**Smothers Creek**	92.37	50	P		P	00 18 11.9	+0.8	
	baz=316,SNR=29								
537A	**Green Hill Far**	92.39	49	P		P	00 18 11.6	+0.5	
	baz=316,SNR=12								
438A	**Sam Houston St**	92.41	48	P		P	00 18 11.8	+0.6	
	baz=317,SNR=46								
834A	**Tilden**	92.41	52	P		P	00 18 12.0	+0.7	
	baz=315,SNR=9.0								
240A	**Hunter Patters**	92.46	46	P		P	00 18 11.4	0.0	
	baz=318,SNR=9.3								
PKME	**Peaks-Kenny Pk**	92.50	23	*e*P		P	00 18 11.7	+0.3	
	comp=Z,430nm,1.5s								
PKME				LR		LR			
	comp=Z,4µm,22.0s								
339A	**Huntington**	92.52	47	P		P	00 18 11.4	-0.4	
	baz=317								
141A	**Papa Simpson,**	92.53	45	P		P	00 18 11.7	0.0	
	baz=318,SNR=15								
Z42A	**Norrel Spur, H**	92.57	44	P		P	00 18 12.1	+0.2	
	baz=319,SNR=20								
X44A	**Crenshaw**	92.62	42	P		P	00 18 12.0	-0.2	
	baz=320,SNR=17								
W45A	**Hickory Valley**	92.63	41	P		P	00 18 12.0	-0.2	
	baz=320,SNR=17								
Y43A	**Makayla and Ka**	92.65	43	P		P	00 18 12.2	0.0	
	baz=319								
ACCN	**Adirondack Com**	92.71	26	*e*P		P	00 18 12.1	-0.3	
	comp=Z,406nm,1.7s								
736A	**Circle Diamond**	92.74	50	P		P	00 18 14.0	+1.2	
	baz=316,SNR=31								
835A	**Beeville**	92.74	51	P		P	00 18 13.6	+0.8	
	baz=315,SNR=14								
LRDF	**Laroque-de-Fa**	92.76	333	ǁ*e*P		P	00 18 13.4	+0.7	
538A	**Harpers Horsep**	92.78	48	P		P	00 18 13.9	+1.0	
	baz=317,SNR=6.3								
439A	**Center Grove,**	92.79	47	P		P	00 18 13.3	+0.3	
	baz=317,SNR=5.8								
934A	**Benavides**	92.80	52	P		P	00 18 14.0	+0.9	
	baz=315,SNR=18								
637A	**Eagle Lake**	92.84	49	P		P	00 18 14.2	+1.0	
	baz=316,SNR=20								
340A	**Bronson**	92.85	46	P		P	00 18 12.7	-0.5	
	baz=318,SNR=7.4								
BINY	**Binghamton**	92.89	29	*e*P		P	00 18 12.9	-0.4	
	comp=Z,194nm,1.5s								
BINY				LR		LR			
	comp=Z,6µm,19.0s								
HNH	**Hanover**	92.91	25	*e*P		P	00 18 13.9	+0.6	
	comp=Z,509nm,1.8s								
VSL	**Villasalto**	92.91	327	*e*P		P	00 18 13.2	-0.2	
	comp=Z,138nm,1.5s								
VSL				LR		LR			
	comp=Z,13µm,19.0s								
241A	**Mo Tay, Goldon**	92.96	45	P		P	00 18 14.0	+0.2	
	baz=318,SNR=9.9								
Y44A	**Strider, Charl**	93.00	42	P		P	00 18 13.9	0.0	
	baz=320,SNR=43								
Z43A	**Armstrong Fami**	93.01	44	P		P	00 18 13.9	0.0	
	baz=319,SNR=9.4								
OXF	**Oxford**	93.01	42	*e*P		P	00 18 13.4	-0.5	
OXF				pmax		pmax			
	comp=Z,574nm,1.1s								
OXF	**Oxford**	93.01	42	*e*P		P	00 18 13.4	-0.5	
	comp=Z,574nm,1.1s								
WVL	**Waterville**	93.02	23	*e*P		P	00 18 14.2	+0.5	
	comp=Z,793nm,1.7s								
SJAF	**Saint Jean de**	93.03	332	ǁ*e*P		P	00 18 13.7	-0.2	
034A	**Hebbronville**	93.07	52	P		P	00 18 15.5	+1.1	
	baz=315,SNR=70								
FILF	**Fillols**	93.08	333	ǁ*e*P		P	00 18 14.7	+0.5	
X45A	**UM Field Stati**	93.08	42	P		P	00 18 13.8	-0.5	
	baz=320,SNR=32								
CARF	**Carcanieres**	93.11	333	ǁ*e*P		P	00 18 14.7	+0.3	
142A	**Monroe**	93.11	44	P		P	00 18 14.6	+0.2	
	baz=319								
737A	**Port Lavaca**	93.26	50	P		P	00 18 16.6	+1.4	
	baz=316,SNR=6.2								
LMN	**Caledonia Moun**	93.26	20	*e*P		P	00 18 14.8	-0.2	
	comp=Z,367nm,1.5s								
TRY	**Troy**	93.28	27	*e*P		P	00 18 15.3	+0.2	
	comp=Z,223nm,1.4s								
143A	**Socs Landing,**	93.30	44	P		P	00 18 15.3	0.0	
	baz=319,SNR=8.9								
440A	**Kirbyville**	93.30	47	P		P	00 18 15.2	-0.1	
	baz=318								
539A	**Cross D Ranch,**	93.32	48	P		P	00 18 16.0	+0.6	
	baz=317,SNR=5.6								
341A	**Kurthwood**	93.33	46	P		P	00 18 15.4	0.0	
	baz=318								
PLAL	**Pickwick Lake**	93.34	40	*e*P		P	00 18 14.5	-1.0	
	comp=Z,144nm,1.3s								
242A	**Grayson**	93.36	45	P		P	00 18 15.6	0.0	
	baz=319,SNR=5.8								
638A	**Rosharon**	93.39	49	P		P	00 18 17.0	+1.3	
	baz=317,SNR=9.6								
Z44A	**Pea Ridge, Bel**	93.40	43	P		P	00 18 15.7	0.0	
	baz=320,SNR=16								
SALF	**Salau**	93.40	333	*e*P		P	00 18 15.6	-0.1	
VALF	**Valcebollere**	93.42	333	ǁ*e*P		P	00 18 16.4	+0.5	
Y45A	**Yeager Farm, C**	93.43	42	P		P	00 18 15.9	0.0	
	baz=320,SNR=70								
MELF	**Melles**	93.46	334	ǁ*e*P		P	00 18 16.1	+0.1	
SSPA	**Standing Stone**	93.47	31	*e*P		P	00 18 15.4	-0.5	
	comp=Z,164nm,1.4s								
ZAIG	**Zacatecas**	93.49	58	*e*P		P	00 18 14.3	-2.4	
	comp=Z,233nm,1.4s								
O56A	**Blue Knob Stat**	93.50	31	P		P	00 18 15.7	-0.5	
	baz=327,SNR=25								
KSPA	**Keystone Colle**	93.52	29	*e*P		P	00 18 16.2	0.0	
	comp=Z,142nm,1.6s								
035A	**Encino**	93.53	52	P		P	00 18 17.5	+1.1	
	baz=315,SNR=18								
LABF	**Labassere**	93.54	334	ǁ*e*P		P	00 18 16.4	+0.1	
540A	**Vidor**	93.68	47	P		P	00 18 17.8	+0.8	
	baz=318								
936A	**North Padre Is**	93.68	51	P		P	00 18 18.0	+0.9	
	baz=316								
REYF	**Montagne du Re**	93.68	335	*e*P		P	00 18 17.8	+0.8	
738A	**Farr-Stevens R**	93.68	49	P		P	00 18 17.9	+0.8	
	baz=317								
VIEF	**Viey**	93.70	334	ǁ*e*P		P	00 18 18.1	+1.0	
Z45A	**Winona**	93.73	42	P		P	00 18 17.3	0.0	
	baz=320,SNR=16								
ORDF	**Ordiarp**	93.74	335	ǁ*e*P		P	00 18 17.0	-0.1	
441A	**DeRidder**	93.74	46	P		P	00 18 17.8	+0.4	
	baz=318								
ATE	**Arette**	93.77	335	ǁ*e*P		P	00 18 17.3	0.0	
342A	**Flagon Creek P**	93.78	45	P		P	00 18 17.8	+0.3	
	baz=318,SNR=7.9								
Y46A	**Houston**	93.78	42	P		P	00 18 17.1	-0.4	
	baz=321,SNR=65								
OSSF	**Osses**	93.81	335	ǁ*e*P		P	00 18 17.3	-0.2	
243A	**Waterproof**	93.87	45	P		P	00 18 18.1	+0.1	
	baz=319								
035Z	**Hargill**	93.88	53	P		P	00 18 19.1	+1.0	
	baz=315,SNR=11								
144A	**Alexander Plac**	93.89	43	P		P	00 18 18.0	-0.1	
	baz=320,SNR=6.9								
LARF	**Larrau**	93.91	335	ǁ*e*P		P	00 18 18.7	+0.7	
N59A	**State Game Lan**	94.07	29	P		P	00 18 18.4	-0.3	
	baz=329,SNR=13								
VBMS	**Vicksburg**	94.16	44	P		P	00 18 19.4	+0.1	
	baz=320,SNR=6.3								
145A	**Houston Renfro**	94.19	43	P		P	00 18 19.5	+0.2	
	baz=320,SNR=12								
244A	**Avery, Jackson**	94.19	44	P		P	00 18 19.4	0.0	
	baz=319,SNR=15								
442A	**Mamou**	94.21	46	P		P	00 18 19.8	+0.3	
	baz=318								
343A	**Vidalia**	94.25	45	P		P	00 18 19.6	-0.1	
	baz=319								
SWET	**Sewanee**	94.25	39	*e*P		P	00 18 18.7	-1.0	
	comp=Z,65nm,1.1s								
541A	**Lake Charles**	94.25	47	P		P	00 18 20.4	+0.7	
	baz=318								
Z46A	**Louisville**	94.27	42	P		P	00 18 19.9	+0.1	
	baz=320,SNR=35								
Y47A	**UCPARC, Winfie**	94.30	41	P		P	00 18 18.9	-1.0	
	baz=321,SNR=28								
TZTN	**Tazewell**	94.36	37	*e*P		P	00 18 19.6	-0.6	
	comp=Z,191nm,1.3s								
ODNJ	**Ogdensburg**	94.37	28	*e*P		P	00 18 19.8	-0.3	
	comp=Z,62nm,1.5s								
LUPA	**Lehigh Univers**	94.50	29	*e*P		P	00 18 20.7	0.0	
	comp=Z,94nm,1.4s								
443A	**Delano Plantat**	94.54	46	P		P	00 18 21.6	+0.6	
	baz=319								
344A	**Westbrook Farm**	94.61	44	P		P	00 18 21.6	+0.2	
	baz=319,SNR=8.3								
MVL	**Millersville**	94.63	30	*e*P		P	00 18 21.0	-0.2	
	comp=Z,68nm,1.4s								
146A	**Union**	94.63	43	P		P	00 18 21.6	+0.1	
	baz=320,SNR=10.0								
245A	**Little AP, Sta**	94.64	43	P		P	00 18 21.4	-0.1	
	baz=320,SNR=12								
PAL	**Palisades**	94.70	28	*e*P		P	00 18 21.6	0.0	
PAL				pmax		pmax			
	comp=Z,203nm,1.8s								
PAL	**Palisades**	94.70	28	*e*P		P	00 18 21.6	0.0	
	comp=Z,203nm,1.8s								
Z47A	**Carrollton**	94.73	42	P		P	00 18 21.2	-0.6	
	baz=321,SNR=6.6								
BRNJ	**Basking Ridge**	94.73	28	*e*P		P	00 18 21.4	-0.3	
	comp=Z,92nm,1.8s								
CPCT	**Cooper Cave**	94.76	38	*e*P		P	00 18 21.2	-0.8	
	comp=Z,100nm,1.2s								
Z48A	**Northport**	94.86	41	P		P	00 18 21.4	-1.1	
	baz=321,SNR=16								
SDMD	**Soldier's Deli**	94.93	31	*e*P		P	00 18 22.4	-0.3	
TKL	**Tuckaleechee C**	94.96	37	*e*P		P	00 18 22.2	-0.7	
TKL				pmax		pmax			
	comp=Z,177nm,1.3s								
TKL	**Tuckaleechee C**	94.96	37	*e*P		P	00 18 22.2	-0.7	
	comp=Z,177nm,1.3s								
543A	**St. Martinvill**	95.01	46	P		P	00 18 24.3	+1.1	
	baz=319								
147A	**Livingston**	95.03	42	P		P	00 18 23.0	-0.3	
	baz=321								
246A	**Jackson Lee, B**	95.07	43	P		P	00 18 24.0	+0.5	
	baz=320								
345A	**Thompson Farm,**	95.11	44	P		P	00 18 23.7	+0.1	
	baz=320,SNR=5.8								
444A	**Pine Grove**	95.16	45	P		P	00 18 24.3	+0.4	
	baz=319								
BLA	**Blacksburg**	95.25	34	*e*P		P	00 18 23.6	-0.7	
BLA				pmax		pmax			
	comp=Z,166nm,1.3s								
BLA				MLR		MLR			
	comp=Z,6µm,19.0s								
BLA	**Blacksburg**	95.25	34	*e*P		P	00 18 23.6	-0.7	
	comp=Z,166nm,1.3s								
BLA				LR		LR			
	comp=Z,6µm,19.0s								
247A	**Quitman**	95.32	43	P		P	00 18 24.7	+0.1	
	baz=321,SNR=16								
346A	**Big Creek Wild**	95.37	44	P		P	00 18 24.6	-0.2	
	baz=320,SNR=6.1								
445A	**Amite**	95.38	45	P		P	00 18 25.2	+0.3	
	baz=320								
544A	**White Castle**	95.38	46	P		P	00 18 25.9	+1.0	
	baz=319								
LRAL	**Lakeview Retre**	95.42	41	*e*P		P	00 18 23.8	-1.2	
	comp=Z,92nm,1.5s								
VWCC	**Virginia Weste**	95.42	34	*e*P		P	00 18 24.6	-0.4	
CBN	**Corbin Frederi**	95.74	32	*e*P		P	00 18 26.3	-0.1	
	comp=Z,229nm,1.6s								
CBN				LR		LR			
	comp=Z,3µm,19.0s								
248A	**Dixon Mills**	95.76	42	P		P	00 18 26.6	0.0	
	baz=321								
545A	**Edgard**	95.81	45	P		P	00 18 27.7	+0.9	
	baz=320								
347A	**Saraland**	95.86	43	P		P	00 18 27.1	+0.1	
	baz=321,SNR=5.7								
446A	**Poplarville**	95.88	44	P		P	00 18 27.2	+0.1	
	baz=320								
KEST	**Kesra**	96.02	324	P		P	00 18 27.7	-0.2	
	comp=Z,64nm,1.2s,baz=316,slow=0.4,SNR=19								
KEST				LR		LR	01 06 57.8		
	comp=Z,20µm,18.0s,baz=320,slow=39								
KEST	**Kesra**	96.02	324	*e*P		P	00 18 27.6	-0.2	
	comp=Z,176nm,1.4s								
546A	**Slidell**	96.11	45	P		P	00 18 28.8	+0.6	
	baz=320								
CMAH	**Djebel Manchou**	96.15	326	P		P	00 18 27.3	-1.1	
645A	**Chauvin**	96.20	46	P		P	00 18 29.8	+1.2	
	baz=319								
348A	**Jackson**	96.20	43	P		P	00 18 28.6	0.0	
	baz=321,SNR=8.8								
447A	**Lucedale**	96.27	43	P		P	00 18 28.7	-0.2	
	baz=321								
CAEH	**'Ain El Ouahch**	96.28	327	P		P	00 18 27.7	-1.2	
ABSA	**Djebel Ababsia**	96.42	326	P		P	00 18 28.7	-1.0	
MOIG	**Morelia**	96.53	59	*e*P		P	00 18 31.6	+1.0	
	comp=Z,296nm,1.5s								
KMSC	**Kings Mountain**	96.54	36	P		P	00 18 29.2	-0.9	
	baz=325,SNR=25								
KMSC	**Kings Mountain**	96.54	36	*e*P		P	00 18 29.2	-0.9	
	comp=Z,127nm,1.3s								
646A	**Port Sulphur**	96.54	45	P		P	00 18 30.9	+0.8	
	baz=320								
448A	**Bay Minette**	96.59	43	P		P	00 18 30.2	-0.2	
	baz=321								
FURI	**Furi**	96.61	286	*e*P		P	00 18 32.0	+0.9	
	comp=Z,286nm,1.5s								
CKFL	**Kef-Lekhel**	96.65	327	P		P	00 18 29.7	-1.0	
PBRG	**Braganca**	96.84	338	ǁ*i*P		P	00 18 30.9	-0.5	
	comp=Z,122nm,1.3s								
PBRG	**Braganca**	96.84	338	*e*PP		PP	00 22 28.0	+2.5	
BRAL	**Brewton**	96.84	42	*e*P		P	00 18 32.1	+0.6	
	comp=Z,255nm,1.4s								
BRAL				LR		LR			
	comp=Z,3µm,20.0s								
CASM	**Ain Smara**	96.87	327	P		P	00 18 30.3	-1.3	
DFRA	**Djebel Bou Aff**	96.90	327	P		P	00 18 31.4	-0.4	
GOGA	**Godfrey**	96.92	38	*e*P		P	00 18 31.0	-0.8	
GOGA				pmax		pmax			
	comp=Z,170nm,1.5s								
GOGA				MLR		MLR			
	comp=Z,6µm,20.0s								
GOGA	**Godfrey**	96.92	38	*e*P		P	00 18 31.0	-0.8	
	comp=Z,170nm,1.5s								
GOGA				LR		LR			
	comp=Z,6µm,20.0s								
RKT	**Rikitea**	96.98	114	*e*SKSac		SKSac	00 29 05.4	-2.8	
	comp=Z,700nm,25.6s								
RKT				*e*SP		SP	00 31 14.9	-0.2	
	comp=Z,2µm,31.2s								
RKT				*e*SS		SS	00 36 29.0	-1.9	
	comp=Z,2µm,29.2s								
RKT	**Rikitea**	96.98	114	*e*LR		LR	00 49 46.2		
	comp=Z,7µm,22.2s,baz=310								
GUD	**Guadarrama**	97.11	336	P		P	00 18 32.1	-0.6	
PGAV	**Gavieira, Arco**	97.13	340	*e*P		P	00 18 32.4	-0.4	
	comp=Z,143nm,1.3s								
PGAV	**Gavieira, Arco**	97.13	340	*e*PP		PP	00 22 28.4	+0.6	
PGAV				*e*SKS		SKSac	00 29 17.7	+8.6	
PGAV				*e*SS		SS	00 36 42.0	+12	
PGAV	**Gavieira, Arco**	97.13	340	*e*LQ		LQ	00 48 29.5		
PGAV				*e*LR		LR	00 52 39.8		
	comp=Z,5µm,18.0s								
PCAB	**Cabril**	97.30	339	*e*P		P	00 18 33.1	-0.4	
	comp=Z,148nm,1.7s								
PCAB	**Cabril**	97.30	339	*e*PP		PP	00 22 32.1	+3.1	
SET	**Setif**	97.39	327	P		Pdif	00 18 35.0	+0.9	
CKHR	**Kef el Ahmar**	97.50	327	P		P	00 18 34.4	-0.2	
MVO	**Moncorvo**	97.52	338	ǁ*i*P		P	00 18 34.2	-0.3	
	comp=Z,130nm,1.3s								
MVO	**Moncorvo**	97.52	338	*e*PP		PP	00 22 33.3	+2.5	
MVO				*e*SKS		SKSac	00 29 24.4	+13	
MVO				*e*SS		SS	00 36 46.4	+11	
MVO	**Moncorvo**	97.52	338	*e*LQ		LQ	00 48 08.2		
MVO				*e*LR		LR	00 53 01.4		
	comp=Z,10µm,20.0s								
POLO	**Lamas de Olo**	97.55	339	ǁ*i*P		P	00 18 34.4	-0.3	
	comp=Z,82nm,1.2s								
POLO	**Lamas de Olo**	97.55	339	*e*PP		PP	00 22 34.0	+3.0	
PVRL	**Vila Real**	97.61	339	*e*P		P	00 18 35.0	+0.1	
	comp=Z,134nm,1.7s								
PVRL	**Vila Real**	97.61	339	*e*PP		PP	00 22 34.0	+2.5	
ES19	**SONSECA Array**	97.87	336	*e*P		P	00 18 35.8	-0.3	
ESDC	**Sonseca Array**	97.92	336	P		P	00 18 36.0	-0.3	
	comp=Z,13nm,1.0s,baz=25,slow=3.2,SNR=50								
ESDC				PP		PP	00 22 38.5	+4.7	
	comp=Z,6.4nm,1.0s,baz=18,slow=6.5,SNR=4.9								
ESDC				PKKPbc		PKKPbc	00 35 10.2	+0.5	
	comp=Z,1.7nm,1.0s,baz=225,slow=2.9,SNR=7.4								
ESDC				LR		LR	01 08 21.5		
	comp=Z,11µm,19.8s,baz=10.0,slow=39								
ESLA	**Sonseca Array**	97.92	336	*e*P		P	00 18 36.2	-0.1	
	comp=Z,54nm,1.4s								
CNNC	**Cliffs of the**	98.02	33	PFAKE			00 18 50.0	+13	
CNNC				LR		LR			
	comp=Z,5µm,19.0s								
PAB	**San Pablo**	98.16	336	*e*P		P	00 18 37.7	+0.3	
PAB				pmax		pmax			
	comp=Z,44nm,1.3s								
PAB				MLR		MLR			
	comp=Z,11µm,19.0s								
PAB	**San Pablo**	98.16	336	*e*P		P	00 18 37.7	+0.3	
	comp=Z,44nm,1.3s								
PAB				LR		LR			
	comp=Z,11µm,19.0s								
PVIS	**Viseu**	98.18	339	*e*P		P	00 18 37.1	-0.4	
	comp=Z,94nm,1.7s								
PVIS	**Viseu**	98.18	339	*e*PP		PP	00 22 36.1	+0.3	
MTE	**Manteigas**	98.37	338	*e*P		P	00 18 37.8	-0.6	
	comp=Z,112nm,1.2s								
MTE	**Manteigas**	98.37	338	*e*PP		PP	00 22 38.4	+1.1	
MTE				*e*SKS		SKSac	00 29 26.0	+11	
MTE				*e*SS		SS	00 37 00.7	+13	
MTE	**Manteigas**	98.37	338	*e*LQ		LQ	00 49 44.4		
MTE				*e*LR		LR	00 52 38.4		
	comp=Z,12µm,18.0s								
MTE	**Manteigas**	98.37	338	*e*P		P	00 18 38.1	-0.2	
	comp=Z,71nm,1.1s								
MTE				LR		LR			
	comp=Z,12µm,19.0s								
TIGA	**Tifton**	98.44	40	P		P	00 18 38.5	-0.2	
	baz=324,SNR=7.5								
TIGA	**Tifton**	98.44	40	*e*P		P	00 18 38.9	+0.2	
	comp=Z,266nm,1.6s								
NHSC	**New Hope**	98.75	36	*e*P		P	00 18 40.3	+0.2	
	comp=Z,199nm,1.5s								
NHSC				LR		LR			
	comp=Z,6µm,21.0s								
PCBR	**Castelo Branco**	98.87	338	*e*P		P	00 18 40.1	-0.4	
PCBR	**Castelo Branco**	98.87	338	*e*PP		PP	00 22 40.5	-0

PFVI	**Vila Bisbo**	**101.77**	**338**	*e*PP	PP		00 23 06.0	+3.0
PGRA	**Graciosa**	**103.68**	**354**	*e*PP	PP		00 23 16.6	-0.6
KMBO	**Kilima Mbogo**	**103.95**	**279**	Pdiff	**Pdif**		**00 19 03.2**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=33,slow=5.4,SNR=8.0							
KMBO	**Kilima Mbogo**	**103.95**	**279**	*e*Pdif	**Pdif**		**00 19 03.3**	**-0.5**
KMBO				LR	LR			
	comp=Z,4μm,19.0s							
ROSA	**Rosais**	**104.01**	**354**	*e*PP	PP		00 23 19.6	0.0
RTC	**Rabat Centre**	**104.04**	**335**	PFAKE			00 19 10.0	+6.4
RTC				LR	LR			
	comp=Z,21μm,19.0s							
TEIG	**Tepich**	**104.54**	**50**	PFAKE			00 19 20.0	+14
TEIG				LR	LR			
	comp=Z,1μm,21.0s							
PSET	**Sete Cidades**	**104.64**	**352**	*e*PP	PP		00 23 26.8	+2.4
CMLA	**Cha da Macela**	**104.67**	**351**	*e*PP	PP		00 23 25.3	+0.7
CMLA	**Cha da Macela**	**104.67**	**351**	PFAKE			00 19 20.0	+14
CMLA				LR	LR			
	comp=Z,3μm,21.0s							
PSMN	**Pico do Norte,**	**105.37**	**351**	*e*PP	PP		00 23 25.6	-4.2
BBSR	**BB Station**	**105.69**	**25**	PFAKE			00 23 40.0	
BBSR				LR	LR			
	comp=Z,2μm,21.0s							
CASY	**Casey**	**106.42**	**193**	PFAKE			00 23 40.0	
CASY				LR	LR			
	comp=Z,333nm,20.0s							
PMPS	**Porto Santo**	**107.63**	**343**	*e*PP	PP		00 23 50.3	+3.8
PMOZ	**Porto Moniz, M**	**108.05**	**343**	*e*PP	PP		00 23 51.3	+1.6
PMOZ				*e*SKS	SKSac		00 30 16.8	+16
PMOZ				*e*SS	**SS**		**00 39 09.3**	**+8.3**
PMOZ	**Porto Moniz, M**	**108.05**	**343**	*e*LQ	LQ		00 52 21.0	
PMOZ				*e*LR	LR		00 57 32.6	
	comp=Z,4μm,22.0s							
PMAR	**Madeira**	**108.08**	**343**	*e*PP	PP		00 23 53.5	+3.5
PAF	**Port-aux-Franc**	**108.10**	**221**	PFAKE			00 23 40.0	
PAF				LR	LR			
	comp=Z,1μm,19.0s							
GTBY	**Guantanamo Bay**	**112.21**	**40**	PFAKE			00 23 50.0	
GTBY				LR	LR			
	comp=Z,3μm,19.0s							
MTDJ	**Mount Denham**	**112.33**	**43**	PFAKE			00 23 50.0	
MTDJ				LR	LR			
	comp=Z,3μm,20.0s							
GRTK	**Grand Turk**	**112.80**	**36**	PFAKE			00 23 50.0	
GRTK				LR	LR			
	comp=Z,3μm,21.0s							
SDDR	**Presa de Saban**	**114.90**	**37**	PFAKE			00 23 50.0	+8.3
SDDR				LR	LR			
	comp=Z,4μm,20.0s							
VNDA	**Vanda**	**115.08**	**176**	PKP	**PKPdf**		**00 23 38.7**	**-1.4**
	comp=Z,4.4nm,1.0s,baz=315,slow=5.1,SNR=12							
VNDA				PKKPbc	**PKKPbc**		**00 34 16.4**	**-1.2**
	comp=Z,7.2nm,1.1s,baz=220,slow=4.0,SNR=10							
VNDA				SKKPbc	SKKPbc		00 38 10.5	+5.0
	comp=Z,7.1nm,1.3s,baz=134,slow=3.9,SNR=4.2							
VNDA				PKPPKP	**P'P'df**		**00 42 49.1**	**+2.7**
	comp=Z,1.5nm,1.1s,baz=276,slow=3.0,SNR=3.9							
SBA	**Scott Base**	**115.73**	**175**	*e*PKIKP	**PKPdf**		**00 23 40.9**	**-0.4**
SBA				MLR	MLR			
	comp=Z,2μm,19.0s							
SBA	**Scott Base**	**115.73**	**175**	*e*PKPdf	**PKPdf**		**00 23 40.9**	**-0.4**
SBA				LR	LR			
	comp=Z,2μm,19.0s							
SJG	**San Juan**	**118.00**	**33**	PFAKE			00 24 00.0	+12
SJG				LR	LR			
	comp=Z,3μm,22.0s							
BCIP	**Isla Barro Col**	**118.21**	**51**	PFAKE			00 24 00.0	+12
BCIP				LR	LR			
	comp=Z,2μm,22.0s							
PAYG	**Puerto Ayora**	**118.22**	**67**	PFAKE			00 24 00.0	+12
PAYG				LR	LR			
	comp=Z,5μm,20.0s							
RPN	**Rapa Nui**	**118.55**	**104**	PFAKE			00 24 00.0	+12
RPN				LR	LR			
	comp=Z,1μm,19.0s							
TORD	**Torodi Ar. Bea**	**118.55**	**317**	Pdiff	**Pdif**		**00 20 13.0**	**+4.5**
	comp=Z,0.5nm,1.1s,baz=8.1,slow=2.1,SNR=3.6							
TORD				PKP	**PKPdf**		**00 23 47.4**	**-1.3**
	comp=Z,18nm,1.1s,baz=14,slow=2.1,SNR=41							
TORD				PP	**PP**		**00 25 01.0**	**-4.0**
	comp=Z,25nm,1.2s,baz=32,slow=5.0,SNR=9.5							
TORD				PKKPbc	**PKKPbc**		**00 34 04.2**	**+0.1**
	comp=Z,6.6nm,0.9s,baz=222,slow=2.0,SNR=25							
LSZ	**Lusaka**	**119.52**	**273**	PKP	**PKPdf**		**00 23 50.6**	**0.0**
	comp=Z,13nm,1.1s,baz=24,slow=2.0,SNR=15							
LSZ				PP	**PP**		**00 25 10.9**	**-1.9**
	comp=Z,6.3nm,1.1s,baz=53,slow=6.8,SNR=6.0							
LSZ				PKKPbc	**PKKPab**		**00 34 02.5**	**-1.1**
	comp=Z,7.2nm,1.2s,baz=266,slow=5.8,SNR=4.6							
LSZ	**Lusaka**	**119.52**	**273**	*e*PKPdf	**PKPdf**		**00 23 50.3**	**-0.3**
LSZ				PP	**PP**		**00 25 10.9**	**-1.9**
LSZ				PKKPbc	**PKKPab**		**00 34 02.5**	**-1.1**
LSZ				LR	LR			
	comp=Z,3μm,19.0s							
ANWB	**Willy Bob**	**120.18**	**29**	PFAKE			00 24 00.0	+8.3
ANWB				LR	LR			
	comp=Z,3μm,21.0s							
SJCC	**San Jacinto, C**	**120.42**	**46**	*e*P	**PKPdf**		**00 23 49.2**	**-3.2**
MAW	**Mawson**	**120.67**	**206**	PKP	**PKPdf**		**00 23 49.9**	**-1.2**
	comp=Z,6.3nm,0.5s,baz=290,slow=0.7,SNR=13							
URIC	**Uribia, Colomb**	**120.70**	**42**	*e*P	**PKPdf**		**00 23 50.8**	**-2.0**
MOTC	**Monteria, Cord**	**121.03**	**47**	*e*P	**PKPdf**		**00 23 52.3**	**-1.2**
MATP	**Matopo**	**122.07**	**268**	PKP	**PKPdf**		**00 23 54.5**	**-0.8**
	comp=Z,24nm,1.1s,baz=76,slow=1.4,SNR=24							
MATP				PP	**PP**		**00 25 29.8**	**-0.5**
	comp=Z,18nm,1.1s,baz=56,slow=7.1,SNR=8.4							
MATP				PKKPbc	**PKKPbc**		**00 33 50.8**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=250,slow=3.4,SNR=7.3							
OCAC	**Ocana**	**122.82**	**46**	*e*P	**PKPdf**		**00 23 56.5**	**-0.7**
CXM	**Morne La Croix**	**123.02**	**29**	*e*P	**PKPdf**		**00 23 56.5**	**-0.9**
BAMF	**Morne Balai**	**123.02**	**29**	*e*P	**PKPdf**		**00 23 55.5**	**-1.9**
FDF	**Fort de France**	**123.10**	**29**	*e*P	**PKPdf**		**00 23 55.9**	**-1.6**
FDF	**Fort de France**	**123.10**	**29**	PFAKE			00 24 10.0	+13
FDF				LR	LR			
	comp=Z,2μm,20.0s							
HELC	**Santa Helena**	**123.17**	**49**	*e*P	**PKPdf**		**00 23 56.9**	**-1.2**
BRRC	**Barranca, Sant**	**123.51**	**47**	*e*P	**PKPdf**		**00 23 57.6**	**-0.7**
GRMC	**Gramalote, San**	**123.54**	**45**	*e*P	**PKPdf**		**00 23 57.5**	**-1.0**
SDV	**Santo Domingo**	**123.78**	**42**	*e*P	**PKPdf**		**00 23 57.0**	**-2.0**
SDV	**Santo Domingo**	**123.78**	**42**	*e*PKPdf	**PKPdf**		**00 23 58.3**	**-0.7**
SDV				LR	LR			
	comp=Z,3μm,21.0s							
GRGC	**Isla de Gorgon**	**124.00**	**54**	*e*P	**PKPdf**		**00 23 58.7**	**-0.5**
GUYC	**Guyana, Colomb**	**124.02**	**50**	*e*P	**PKPdf**		**00 23 58.7**	**-1.1**
NORC	**Norcasia**	**124.06**	**49**	*e*P	**PKPdf**		**00 23 58.5**	**-0.9**
BARC	**Barichara**	**124.24**	**47**	*e*P	**PKPdf**		**00 23 58.7**	**-1.2**
TOLC	**Tolima**	**124.56**	**50**	*e*P	**PKPdf**		**00 24 01.0**	**+0.3**
RUSC	**La Rusia**	**124.86**	**47**	*e*P	**PKPdf**		**00 23 59.9**	**-1.6**
ROSC	**El Rosal**	**124.97**	**49**	PKP	**PKPdf**		**00 24 01.3**	**-0.2**
	comp=Z,53nm,1.1s,baz=346,slow=1.8,SNR=42							
BBGH	**Gun Hill**	**125.16**	**28**	PFAKE			00 24 10.0	+8.6
BBGH				LR	LR			
	comp=Z,4μm,22.0s							
GRGR	**Grenville**	**125.25**	**31**	PFAKE			00 24 10.0	+8.4
GRGR				LR	LR			
	comp=Z,2μm,22.0s							
CHIC	**Chingaza**	**125.49**	**48**	*e*P	**PKPdf**		**00 24 01.6**	**-1.0**
PRAC	**Prado**	**125.51**	**50**	*e*P	**PKPdf**		**00 24 01.6**	**-0.6**
OTAV	**Otavalo**	**125.89**	**56**	*e*P	**PKPdf**		**00 24 02.1**	**-1.3**
OTAV	**Otavalo**	**125.89**	**56**	*e*PKPdf	**PKPdf**		**00 24 03.1**	**-0.3**
OTAV				LR	LR			
	comp=Z,2μm,19.0s							
VILC	**Villavicencio,**	**125.92**	**49**	*e*P	**PKPdf**		**00 24 02.1**	**-0.9**
SJAC	**San Juan de Ar**	**126.43**	**50**	*e*P	**PKPdf**		**00 24 02.1**	**-1.9**
LBTB	**Lobatse**	**126.69**	**265**	PKP	**PKPdf**		**00 24 03.6**	**-0.5**
	comp=Z,50nm,1.0s,baz=122,slow=2.1,SNR=38							
LBTB				PP	**PP**		**00 26 00.7**	**-0.6**
	comp=Z,12nm,1.1s,baz=74,slow=7.6,SNR=6.9							
QSPA	**South Pole Qui**	**127.05**	**180**	*e*PKPdf	**PKPdf**		**00 24 02.0**	**-1.4**
QSPA				LR	LR			
	comp=Z,4μm,20.0s							
DBIC	**Dimbokro**	**127.45**	**320**	PKP	**PKPdf**		**00 24 04.5**	**-1.3**
	comp=Z,63nm,1.2s,baz=26,slow=2.1,SNR=16							
DBIC				PP	**PP**		**00 26 03.6**	**-1.4**
	comp=Z,53nm,1.1s,baz=15,slow=8.7,SNR=8.9							
TIC	**Toumodi**	**127.55**	**320**	*e*P	**PKPdf**		**00 24 04.6**	**-1.4**
TIC	**Toumodi**	**127.55**	**320**	*e*P	**PP**		**00 26 03.6**	**-2.2**
KIC	**Kosan Boka**	**127.65**	**319**	*e*P	**PKPdf**		**00 24 03.3**	**-2.9**
	comp=Z,464nm,1.7s							
KIC	**Kosan Boka**	**127.65**	**319**	*e*P	**PP**		**00 26 04.6**	**-1.8**
	comp=Z,493nm,1.7s							
LIC	**Lamto**	**127.91**	**320**	*e*P	**PKPdf**		**00 24 05.2**	**-1.5**
LIC	**Lamto**	**127.91**	**320**	*e*P	**PP**		**00 26 05.6**	**-2.6**
BOSA	**Boshof**	**128.63**	**261**	PKP	**PKPdf**		**00 24 06.9**	**-0.8**
	comp=Z,24nm,1.1s,baz=57,slow=2.5,SNR=5.3							
BOSA				PP	**PP**		**00 26 15.3**	**+1.3**
	comp=Z,8.9nm,1.0s,baz=55,slow=7.4,SNR=4.0							
SYO	**Syowa Base**	**129.37**	**207**	*e*X	**Pdif**		**00 20 50.0**	**-5.1**
SYO	**Syowa Base**	**129.37**	**207**	*i*X	**PKiKP**		**00 24 05.4**	**-3.0**
TSUM	**Tsumeb**	**130.11**	**276**	PKP	**PKPdf**		**00 24 09.7**	**-1.1**
	comp=Z,18nm,1.1s,baz=59,slow=2.6,SNR=20							
TSUM				PP	**PP**		**00 26 21.5**	**-2.3**
	comp=Z,12nm,1.2s,baz=55,slow=6.8,SNR=4.8							
TSUM	**Tsumeb**	**130.11**	**276**	*e*PKPdf	**PKPdf**		**00 24 10.8**	**-0.1**
TSUM				PP	**PP**		**00 26 21.5**	**-2.3**
TSUM				LR	LR			
	comp=Z,3μm,20.0s							
ATAH	**Atahualpa**	**131.24**	**63**	PKP	**PKPdf**		**00 24 13.3**	**-0.2**
	comp=Z,93nm,1.1s,baz=334,slow=2.3,SNR=61							
SUR	**Sutherland**	**133.68**	**258**	PKP	**PKPdf**		**00 24 15.7**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=276,slow=9.2,SNR=4.5							
SUR	**Sutherland**	**133.68**	**258**	PKP	**PKPdf**		**00 24 15.7**	**-1.6**
SUR				LR	LR			
	comp=Z,4μm,19.0s							
NNA	**Nana**	**135.65**	**66**	PKP	**PKPdf**		**00 24 20.8**	**-0.5**
	comp=Z,17nm,0.7s,baz=288,slow=3.4,SNR=8.2							
PTGA	**Pitinga**	**137.43**	**37**	PKP	**PKPdf**		**00 24 24.3**	**-0.4**
	comp=Z,54nm,1.1s,baz=334,slow=2.4							
PTGA	**Pitinga**	**137.43**	**37**	PKP	**PKPdf**		**00 24 24.3**	**-0.4**
PTGA				LR	LR			
	comp=Z,41μm,19.0s							
NVL	**N'lazarevskaya**	**138.30**	**202**	*e*PKIKP	**PKPdf**		**00 24 24.7**	**+0.3**
NVL				*e*			00 27 17.3	
NVL				*e*SS	SS		00 45 20.1	-5.2
NVL				MLR	MLR			
	comp=Z,4μm,26.0s							
SNAA	**Sanae**	**141.59**	**196**	PKP	**PKPdf**		**00 24 24.1**	**-6.4**
SAML	**Samuel**	**142.59**	**48**	PFAKE			00 24 50.0	+16
SAML				LR	LR			
	comp=Z,2μm,21.0s							
VNA1	**Neumayer--Stat**	**143.53**	**195**	PKP	PKPab		00 24 30.6	+0.4
H10N2	**ASCENSION HYDR**	**144.74**	**321**	PKP	**PKPdf**		**00 24 37.2**	**-0.1**
	baz=36,slow=5.5,SNR=5.1							
H10N1	**ASCENSION HYDR**	**144.75**	**321**	PKP	PKPbc		00 24 36.7	+0.4
	baz=36,slow=5.5,SNR=4.1							
H10N3	**ASCENSION HYDR**	**144.75**	**321**	PKP	**PKPdf**		**00 24 37.3**	**-0.1**
	baz=36,slow=5.5,SNR=4.1							
ASCN	**Ascension**	**144.76**	**321**	*e*PKPdf	PKPbc		00 24 37.5	+0.8
ASCN				LR	LR			
	comp=Z,3μm,20.0s							
LPAZ	**La Paz**	**144.78**	**62**	PKP	**PKPab**		**00 24 36.5**	**-0.8**
	comp=Z,128nm,1.2s,baz=344,slow=4.5,SNR=64							
SHEL	**Horse Pasture**	**145.81**	**300**	*e*PKP2	**PKPdf**		**00 24 40.0**	**+0.5**
SHEL				MLR	MLR			
	comp=Z,2μm,20.0s							
SHEL	**Horse Pasture**	**145.81**	**300**	*e*PKPab	**PKPdf**		**00 24 40.0**	**+0.5**
SHEL				LR	LR			
	comp=Z,2μm,20.0s							
PMSA	**Palmer Station**	**147.88**	**158**	*e*PKPbc	**PKPbc**		**00 24 44.4**	**0.0**
PMSA				LR	LR			
	comp=Z,3μm,19.0s							
LVC	**Limon Verde**	**148.16**	**72**	PKPbc	**PKPdf**		**00 24 44.4**	**+0.7**
	comp=Z,1μm,1.4s,baz=278,slow=1.8,SNR=73							
LVC	**Limon Verde**	**148.16**	**72**	*e*PKPdf	**PKPdf**		**00 24 44.4**	**+0.7**
LVC				LR	LR			
	comp=Z,3μm,19.0s							
RCBR	**Riachuelo**	**148.67**	**360**	*e*PKPdf	**PKPdf**		**00 24 44.4**	**0.0**
RCBR				*e*PKPbc	**PKPbc**		**00 24 48.4**	**+0.3**
RCBR				LR	LR			
	comp=Z,2μm,20.0s							
SIV	**San Ignacio**	**149.32**	**53**	PKP	**PKPdf**		**00 24 45.3**	**0.0**
	comp=Z,217nm,1.1s,baz=316,slow=1.2,SNR=67							
SIV				PKPbc	**PKPbc**		**00 24 49.3**	**-0.4**
	comp=Z,224nm,1.1s,baz=291,slow=2.6,SNR=75							
LCO	**Las Campanas**	**149.95**	**84**	*e*P	**PKPbc**		**00 24 50.5**	**-0.7**
LCO	**Las Campanas**	**149.95**	**84**	*e*PKPdf	**PKPdf**		**00 24 46.6**	**+0.3**
LCO				*ep*PKPdf	**PKPbc**		**00 24 51.2**	**0.0**
LCO				LR	LR			
	comp=Z,3μm,20.0s							
YJA	**Yavi**	**150.44**	**68**	*e*P	**PKPdf**		**00 24 49.0**	**+1.5**
HJA	**Humahuaca**	**151.13**	**69**	*e*P	**PKPdf**		**00 24 49.7**	**+1.3**
ROC1	**El Roble**	**151.17**	**92**	*e*P	**PKPdf**		**00 24 47.5**	**-0.5**
VCA	**Vinchina**	**151.81**	**82**	*e*P	**PKPbc**		**00 24 55.5**	**+0.1**
AGUA	**GUANDACOL**	**151.90**	**83**	*e*P	**PKPbc**		**00 24 55.6**	**+0.1**
AZAP	**Zapla**	**151.97**	**71**	*e*P	**PKPbc**		**00 24 56.0**	**0.0**
RTLS	**Leoncito**	**152.15**	**89**	*e*P	**PKPdf**		**00 24 50.1**	**+0.5**
AUSP	**Uspallata**	**152.22**	**89**	*e*P	**PKPdf**		**00 24 49.8**	**+0.1**
ASTB	**Santa Barbara**	**152.28**	**69**	*e*P	**PKPdf**		**00 24 49.9**	**0.0**
FSA	**Cafayete**	**152.30**	**75**	*e*P	**PKPdf**		**00 24 50.7**	**+0.9**
CANA	**Caviahue**	**152.34**	**102**	*e*P	**PKPdf**		**00 24 49.0**	**-0.5**
AMOG	**MOGNA**	**152.48**	**86**	*e*P	**PKPdf**		**00 24 49.9**	**0.0**
ALOL	**LOMAS DE OLMEC**	**152.55**	**69**	*e*P	**PKPbc**		**00 24 57.1**	**+0.1**
RTCV	**Cerro Valdivia**	**152.78**	**88**	*e*P	**PKPdf**		**00 24 49.9**	**-0.4**
ASAL	**Salagasta**	**152.79**	**90**	*e*P	**PKPdf**		**00 24 50.0**	**-0.3**
PLCA	**Paso Flores**	**153.07**	**108**	PKP	**PKPdf**		**00 24 48.8**	**-1.6**
	comp=Z,42nm,1.3s,baz=325,slow=3.5,SNR=3.8							
AHML	**Horco Molle**	**153.14**	**76**	*e*P	**PKPdf**		**00 24 51.0**	**+0.1**
ACAN	**Cantantal**	**153.99**	**88**	*e*P	**PKPdf**		**00 24 51.4**	**-0.6**
TCA	**Tanti**	**155.72**	**84**	*e*P	**PKPdf**		**00 24 54.0**	**-0.5**
BDFB	**Brasilia**	**155.95**	**29**	PKP	**PKPdf**		**00 24 54.3**	**-0.8**
	comp=Z,19nm,1.1s,baz=15,slow=1.1,SNR=18							
CPUP	**Villa Florida**	**158.90**	**65**	PKP	**PKPdf**		**00 24 57.6**	**-0.8**
	comp=Z,67nm,1.4s,baz=337,slow=1.2,SNR=40							
CPUP				PKPab	**PKPab**		**00 25 33.0**	**-1.6**
	comp=Z,56nm,1.2s,baz=309,slow=5.5,SNR=11							
CPUP				PP	**PP**		**00 29 17.5**	**+2.1**
	comp=Z,16nm,1.3s,baz=280,slow=5.8,SNR=4.1							
TRQA	**Tornquist**	**159.47**	**100**	*e*PKPdf	**PKPdf**		**00 24 56.9**	**-1.8**
TRQA				LR	LR			
	comp=Z,3μm,20.0s							
LPA	**La Plata**	**162.15**	**89**	*de*PKIKP	**PKPdf**		**00 25 02.0**	**+0.3**
LPA	**La Plata**	**162.15**	**89**	PKP	**PKPab**		**00 25 49.0**	**+0.4**
LPA				SKIKP			00 28 32.0	
LPA				PP	**PP**		**00 29 33.0**	**-0.2**
HOPE	**Hope Point**	**163.01**	**179**	PFAKE			00 25 10.0	+8.1
HOPE				LR	LR			
	comp=Z,4μm,20.0s							
SPB	**Sao Paulo**	**163.19**	**39**	PFAKE			00 25 10.0	+6.9
SPB				LR	LR			
	comp=Z,3μm,20.0s							

*IDC **03** 00:05:27.8±1.2,56.06S×26.68W,h0km,mb4.1/5, mb1 4.2/5,mb1mx3.8/23,mbtmp4.1/5,Error ellipse: s-maj=36.2km s-min=28.7km az=62.0*
*NEIC **03** 00:05:33.4±0.5,56.14S×26.79W,h35km, mb4.1/4,Error ellipse: s-maj=26.4km s-min=11.9km az=54.0*
*ISCJB **03** 00:05:34.1±0.8,56.2S±0.2×26.8W±0.4,h63km,mb4.2/8, Error ellipse: s-maj=33.9km s-min=14.7km az=145.1*

ISC 03 00:05:35.8±0.9,56.2S±0.2×26.8W±0.2,h63km,n12, σ0.86/11,mb3.8/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.55**	**156**	*e*P	**P**		**00 09 45.5**	**-1.5**
	15nm,0.6s							
CPUP	**Villa Florida**	**37.05**	**311**	P	**P**		**00 12 38.5**	**-0.9**
	0.3nm,0.3s,baz=132,slow=12,SNR=3.4							
LVC	**Limon Verde**	**45.54**	**300**	P	**P**		**00 13 49.7**	**+0.2**
	6.9nm,0.5s,baz=135,slow=5.7,SNR=4.0							
LVC	**Limon Verde**	**45.54**	**300**	*e*P	**P**		**00 13 49.5**	**0.0**
	1.9nm,0.7s							
VNDA	**Vanda**	**46.47**	**183**	P	**P**		**00 13 56.7**	**+1.0**
	0.8nm,0.7s,baz=181,slow=5.5,SNR=6.8							
LPAZ	**La Paz**	**50.62**	**305**	P	**P**		**00 14 29.4**	**+0.4**
	1.9nm,0.5s,baz=144,slow=3.6,SNR=12							
SAML	**Samuel**	**55.03**	**314**	*e*P	**P**		**00 15 00.5**	**-0.3**
	0.6nm,0.6s							
OTAV	**Otavalo**	**69.90**	**303**	*e*P	**P**		**00 16 40.7**	**+0.2**
	0.9nm,0.5s							
TORD	**Torodi Ar. Bea**	**73.05**	**29**	P	**P**		**00 16 58.9**	**+0.1**
	0.3nm,0.3s,baz=200,slow=6.4,SNR=15							
COCO	**West Island**	**97.42**	**125**	*e*P	Pdif		00 19 03.1	+0.6
	112nm,0.5s							
GNI	**Garni**	**113.37**	**52**	*e*PKP	**PKiKP**		**00 24 07.0**	**+1.2**
ILAR	**Eielson Array**	**150.35**	**311**	PKPbc	**PKPbc**		**00 25 18.1**	**-0.2**
	0.7nm,0.7s,baz=129,slow=1.3,SNR=6.8							

*ATH **03** 00:05:57.5,38.19N×22.78E,h11km±3km, ML1.4/13,Error ellipse: s-maj=3.1km s-min=0.7km az=110.0*
*CSEM **03** 00:05:57.5±0.1,38.18N×22.78E,h5km, ML1.4,Error ellipse: s-maj=2.7km s-min=2.4km az=165.0*

THE 03 00:05:57.9,38.20N×22.78E,h7km±2km,ML1.7/8,Error ellipse: s-maj=2.8km s-min=0.3km az=200.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PROD	**Prodromos**	**0.12**	**57**	P	P	Pg	00 06 00.0	-0.5
PROD				S		Sg	00 06 02.7	+0.4
PROD	**Prodromos**	**0.12**	**57**	P		Pg	00 06 00.0	-0.5
PROD				S		Sg	00 06 02.7	+0.4
PROD				AML		AML	00 06 03.9	
	comp=N,984μm,0.2s							
PROD				AML		AML	00 06 04.2	
	comp=E,1278μm,0.2s							
THAL	**Thalero**	**0.18**	**209**	P		Pg	00 06 01.6	+0.1
THAL				S		Sg	00 06 04.4	+0.4
THAL	**Thalero**	**0.18**	**209**	P		Pg	00 06 01.6	+0.1
THAL				S		Sg	00 06 04.6	+0.6
THAL	**Thalero**	**0.18**	**209**	P		Pg	00 06 01.4	-0.1
THAL				S		Sg	00 06 04.6	+0.6
THAL				AML		AML	00 06 04.8	
	comp=N,1688μm,0.4s							
THAL				AML		AML	00 06 05.0	
	comp=E,2796μm,0.3s							
LTK	**Loutraki**	**0.23**	**138**	P		Pg	00 06 02.1	-0.4
LTK				S		Sg	00 06 05.7	+0.2
LTK	**Loutraki**	**0.23**	**138**	P		Pg	00 06 02.1	-0.4
LTK				S		Sg	00 06 05.9	+0.4
LTK	**Loutraki**	**0.23**	**138**	P		Pg	00 06 02.0	-0.4
LTK				S		Sg	00 06 05.9	+0.3
LTK				AML		AML	00 06 07.1	
	comp=N,225μm,0.2s							
LTK				AML		AML	00 06 07.6	
	comp=E,178μm,0.4s							
DSF	**Desfina**	**0.29**	**318**	P		Pg	00 06 03.5	-0.2
DSF				S		Sg	00 06 07.6	0.0
DSF	**Desfina**	**0.29**	**318**	P		Pg	00 06 03.5	-0.2
DSF				S		Sg	00 06 07.6	0.0
DSF	**Desfina**	**0.29**	**318**	P		Pg	00 06 03.5	-0.2
DSF				S		Sg	00 06 08.9	+1.4
DSF				AML		AML	00 06 11.3	
	comp=E,249μm,0.2s							
DSF				AML		AML	00 06 13.7	
	comp=N,212μm,0.2s							
VIL2	**Platees**	**0.39**	**87**	P		Pg	00 06 06.2	+0.7
VIL2				S		Sb	00 06 12.7	-0.7
VIL2				AML		AML	00 06 16.1	
	comp=E,135μm,0.4s							
VIL2				AML		AML	00 06 17.7	
	comp=N,166μm,0.6s							
VILL	**Villia**	**0.42**	**94**	P		Pg	00 06 06.1	-0.1
VILL				S		Sg	00 06 12.3	+0.6
VILL	**Villia**	**0.42**	**94**	P		Pg	00 06 06.1	-0.1
VILL				S		Sg	00 06 12.3	+0.6
LKR	**Lokris**	**0.49**	**21**	P		Pg	00 06 06.8	-0.6
LKR				S		Sg	00 06 14.2	+0.5
LKR	**Lokris**	**0.49**	**21**	P		Pg	00 06 06.8	-0.6
LKR				S		Sg	00 06 14.1	+0.3
LKR	**Lokris**	**0.49**	**21**	P		Pg	00 06 06.3	-1.1
LKR				S		Sg	00 06 14.1	+0.4
LKR				AML		AML	00 06 17.8	
	comp=N,175μm,0.2s							
LKR				AML		AML	00 06 18.3	
	comp=E,239μm,0.2s							
KLV	**Kalavryta, Ach**	**0.52**	**253**	P		Pg	00 06 07.0	-0.9
KLV				S		Sg	00 06 15.1	+0.5
KLV	**Kalavryta, Ach**	**0.52**	**253**	P		Pg	00 06 07.0	-0.9
KLV				S		Sg	00 06 14.9	+0.3
KLV	**Kalavryta, Ach**	**0.52**	**253**	P		Pg	00 06 06.5	-1.3
KLV				S		Sg	00 06 14.9	+0.3
KLV				AML		AML	00 06 19

DHBB				*i* S	Sb	00 09 48.4	+1.0		
DHBB	**Dhamar BB**	**2.57**	**10**	*i* P	Pb	00 09 14.2	-1.6		
DHBB				*i* S	Sb	00 09 48.4	+1.0		
SANA	**San'a**	**3.35**	**5**	*i* S	Sb	00 10 07.6	-2.4		
HAJJ	**Hajjah**	**3.66**	**355**	*i* P	Pn	00 09 28.7	+2.4		
HAJJ				*i* S	Sb	00 10 15.0	-3.8		
HAJJ				AML	AML	00 10 34.9			
	comp=Z,1μm,0.6s								
HAJJ	**Hajjah**	**3.66**	**355**	*i* P	Pn	00 09 28.7	+2.5		
HAJJ				*i* S	Sb	00 10 15.0	-3.9		
	comp=Z,569nm,0.6s								

CASC 03 00:19:13.3±2.4, 12°.08N×83°.77W, h20km±7km, MD4.1, ML3.2,1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAB	**BOACO BROADBAN**	**.89**	**281**	*eP*	Pb	00 19 46.1	-1.0
BOAB				*eS*	Sb	00 20 10.4	0.0
CGA2	**Cerro Gallo 2**	**2.16**	**199**	*eP*	Pn	00 19 47.4	-0.9
CGA2				*eS*	Sn	00 20 14.7	+0.1
URSC	**Urasca**	**2.23**	**180**	*eP*	Pn	00 19 50.0	+0.7
URSC				*eS*	Sn	00 20 17.1	+0.7
BUS	**Buena Vista**	**2.51**	**180**	*eS*	Sn	00 20 25.1	+1.5
JCR	**Jicaral**	**2.58**	**211⇑**	*eP*	Pn	00 19 53.8	-0.2
JCR				*eS*	Sn	00 20 27.5	+2.7
QCR	**Quepos**	**2.67**	**188**	*eP*	Pn	00 19 53.3	-1.9
QCR				*eS*	Sn	00 20 29.4	+2.5
COPN	**Copaltepe**	**2.76**	**272**	*eP*	Pn	00 19 57.1	+0.6

*CSEM **03** 00:21:31.9, 12°.08N×43°.94E, h12km, ML4.1*

DHMR 03 00:21:31.9±1.3, 12°.08N×43°.94E, h12km±13km, ML4.1, 2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**1.24**	**56**	*i* P	Pn	00 21 54.3	-0.7
ADEN				*i* S	Sg	00 22 12.1	+0.3
ADEN				AML	AML	00 22 22.6	
	comp=E,4μm,0.5s						
ADEN	**Aden**	**1.24**	**56**	*i* P	Pn	00 21 54.3	-0.7
ADEN				*i* S	Sg	00 22 12.1	+0.3
	comp=E,2μm,0.5s						
UDYN	**Al 'Udayn**	**1.88**	**1**	*i* P	Pb	00 22 05.3	-0.9
UDYN				*i* S	Sb	00 22 30.3	+0.5
UDYN	**Al 'Udayn**	**1.88**	**1**	*i* P	Pb	00 22 05.3	-0.9
UDYN				*i* S	Sb	00 22 30.3	+0.6
BDHA	**Al Bayda'**	**2.47**	**40**	⇓*i* P	Pn	00 22 13.8	+1.7
BDHA				*i* S	Sb	00 22 48.1	+1.3
BDHA				AML	AML	00 22 56.5	
	comp=E,2μm,0.5s						
BDHA	**Al Bayda'**	**2.47**	**40**	⇓*i* P	Pn	00 22 13.8	+1.7
BDHA				*i* S	Sb	00 22 48.1	+1.4
	comp=E,768nm,0.5s						
DHBB	**Dhamar BB**	**2.52**	**10**	*i* P	Pb	00 22 16.1	-1.1
DHBB				*i* S	Sb	00 22 49.5	+1.2
DHBB	**Dhamar BB**	**2.52**	**10**	*i* P	Pb	00 22 16.1	-1.1
DHBB				*i* S	Sb	00 22 49.5	+1.2
HAJJ	**Hajjah**	**3.62**	**355**	*i* S	Sb	00 23 15.9	-3.8
HAJJ				AML	AML	00 23 35.7	
	comp=Z,646nm,0.6s						
HAJJ	**Hajjah**	**3.62**	**355**	*i* S	Sb	00 23 15.9	-3.9
	comp=Z,323nm,0.6s						

*NEIC **03** 00:33:46.4, 17°.55N×65°.93W, h2km, MD3.0(RSPR), After RSPR.*

RSPR 03 00:33:46.4, 17°.55N×65°.93W, h2km±1km, MD3.0/9, 24C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**0.59**	**7⇓**	*eP*	Pg	00 33 58.3	+0.5
HUMP	**Col San Antoni**	**0.59**	**7**	*eS*	Sb	00 34 07.4	-1.0
HUMP	**Col San Antoni**	**0.59**	**7⇓**	*eP*	Pg	00 33 58.3	+0.5
HUMP				*eS*	Sb	00 34 07.4	-1.0
HUMP	**Col San Antoni**	**0.59**	**7⇓**	*eP*	Pg	00 33 58.3	+0.5
HUMP				*eS*	Sb	00 34 07.4	-1.0
SJG	**San Juan**	**0.60**	**339⇓**	*eP*	Pg	00 33 58.1	+0.2
SJG				*eS*	Sg	00 34 07.1	+1.4
SJG	**San Juan**	**0.60**	**339⇓**	*eP*	Pg	00 33 58.1	+0.2
SJG				*eS*	Sg	00 34 07.1	+1.4
SJG	**San Juan**	**0.60**	**339⇓**	*eP*	Pg	00 33 58.1	+0.2
MTP	**Monte Pirata**	**0.65**	**33⇑**	*eP*	Pg	00 33 59.2	+0.3
MTP	**Monte Pirata**	**0.65**	**33**	*eS*	Sg	00 34 08.7	+1.3
MTP	**Monte Pirata**	**0.65**	**33⇑**	*eP*	Pg	00 33 59.2	+0.3
MTP				*eS*	Sg	00 34 08.7	+1.3
MTP	**Monte Pirata**	**0.65**	**33⇑**	*eP*	Pg	00 33 59.2	+0.3
MTP				*eS*	Sg	00 34 08.7	+1.3
CBYP	**Canovanas**	**0.72**	**5⇑**	*eP*	Pg	00 34 00.5	+0.3
CBYP	**Canovanas**	**0.72**	**5**	*eS*	Sb	00 34 11.3	-0.8
CBYP	**Canovanas**	**0.72**	**5⇑**	*eP*	Pg	00 34 00.5	+0.3
CBYP				*eS*	Sb	00 34 11.3	-0.8
CBYP	**Canovanas**	**0.72**	**5⇑**	*eP*	Pg	00 34 00.5	+0.3
CBYP				*eS*	Sb	00 34 11.3	-0.8
OBIP	**Obispado Ponce**	**0.81**	**307⇑**	*eP*	Pg	00 34 01.2	-0.8
OBIP	**Obispado Ponce**	**0.81**	**307**	*eS*	Sg	00 34 13.4	+0.9
OBIP	**Obispado Ponce**	**0.81**	**307⇑**	*eP*	Pg	00 34 01.2	-0.8
OBIP				*eS*	Sg	00 34 13.4	+0.9
OBIP	**Obispado Ponce**	**0.81**	**307⇑**	*eP*	Pg	00 34 01.2	-0.8
OBIP				*eS*	Sg	00 34 13.4	+0.9
GBPR	**Guanica, Bosqu**	**1.00**	**295⇑**	*eP*	Pg	00 34 04.1	-1.5
GBPR	**Guanica, Bosqu**	**1.00**	**295⇑**	*eP*	Pg	00 34 04.1	-1.5
GBPR	**Guanica, Bosqu**	**1.00**	**295⇑**	*eP*	Pg	00 34 04.1	-1.5
AOPR	**Arecibo Observ**	**1.12**	**315**	*eS*	Sg	00 34 21.6	-0.7
AOPR	**Arecibo Observ**	**1.12**	**315⇑**	*eP*	Pg	00 34 05.9	-1.9
AOPR	**Arecibo Observ**	**1.12**	**315⇑**	*eP*	Pg	00 34 05.9	-1.9
AOPR				*eS*	Sg	00 34 21.6	-0.7
AOPR	**Arecibo Observ**	**1.12**	**315⇑**	*eP*	Pg	00 34 05.9	-1.9
AOPR				*eS*	Sg	00 34 21.6	-0.7
CRPR	**Cabo Rojo, PR**	**1.21**	**292⇑**	*eP*	Pg	00 34 07.2	-2.5
CRPR	**Cabo Rojo, PR**	**1.21**	**292⇑**	*eP*	Pg	00 34 07.2	-2.5
CRPR	**Cabo Rojo, PR**	**1.21**	**292⇑**	*eP*	Pg	00 34 07.2	-2.5
STVI	**Saint Thomas**	**1.22**	**49**	*eS*	Sg	00 34 23.8	-2.0
STVI	**Saint Thomas**	**1.22**	**49⇑**	*eP*	Pg	00 34 07.5	-2.3
STVI	**Saint Thomas**	**1.22**	**49⇑**	*eP*	Pg	00 34 07.5	-2.3
STVI				*eS*	Sg	00 34 23.8	-2.0
STVI	**Saint Thomas**	**1.22**	**49⇑**	*eP*	Pg	00 34 07.5	-2.3
STVI				*eS*	Sg	00 34 23.8	-2.0
LSP	**Las Mesas**	**1.27**	**300⇑**	*eP*	Pg	00 34 08.5	-2.2
LSP	**Las Mesas**	**1.27**	**300⇑**	*eP*	Pg	00 34 08.5	-2.2
LSP	**Las Mesas**	**1.27**	**300⇑**	*eP*	Pg	00 34 08.5	-2.2

*SOME **03** 00:38:27.1, 42°.35N×78°.43E, h20km*
*KRNET **03** 00:38:27.9±0.1, 42°.38N×78°.39E, h25km, mb2.5*

ISC 03 00:38:27.5±1.0, 42°.41N±0°.04×78°.43E±0°.03, h12km±6km, n30, σ1°.09/60, 18C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.07**	**341⇑**	*eP*	**Pg**	**00 38 30.3**	**+0.1**
	baz=8.0						
PRZ				⇑*i* S	**Sg**	**00 38 32.6**	**+0.4**
	baz=8.0						
SATY	**Saty**	**0.65**	**358**	*eP*	**Pg**	**00 38 39.5**	**-0.6**
	7.2nm,0.1s						
SATY				*eS*	**Sg**	**00 38 48.4**	**-0.3**
	151nm,0.1s						
ZHN	**Zhinishke**	**0.75**	**0**	*eP*	**Pg**	**00 38 41.4**	**-0.8**
	7.4nm,0.1s						
ZHN				*eS*	**Sg**	**00 38 51.7**	**-0.3**
	158nm,0.2s						
UZB	**Uzynbulak**	**0.85**	**30**	*eP*	**Pg**	**00 38 43.4**	**-0.6**
	8.9nm,0.1s						
UZB				*eS*	**Sg**	**00 38 55.0**	**-0.2**
	34nm,0.1s						
KDJ	**Kajisay**	**0.97**	**253⇑**	*eP*	**Pg**	**00 38 45.8**	**-0.5**
	baz=255						
KDJ				⇑*eS*	**Sg**	**00 38 58.4**	**-0.6**
	baz=255						
KPKS	**Kokpek**	**1.07**	**10**	*eP*	**Pb**	**00 38 47.3**	**-0.7**
	22nm,0.1s						
KPKS				*eS*	**Sb**	**00 39 01.6**	**-0.4**
	75nm,0.3s						
KURS	**Kuram**	**1.09**	**350**	*eP*	**Pb**	**00 38 47.6**	**-0.7**
	1.6nm,0.2s						
KURS				*eS*	**Sb**	**00 39 02.8**	**+0.2**
	5.9nm,0.1s						
TNSS	**Tian-Shan**	**1.26**	**300**	*eP*	**Pn**	**00 38 50.2**	**-1.2**
	16nm,0.1s						
TNSS				*eS*	**Sb**	**00 39 07.1**	**-0.8**
	20nm,0.1s						
MDOK	**Medeo**	**1.27**	**307**	*eP*	**Pn**	**00 38 50.8**	**-0.4**
	15nm,0.2s						
MDOK				*eS*	**Sb**	**00 39 07.8**	**0.0**
	14nm,0.2s						
KOTS	**Kotyrbulak**	**1.27**	**311**	*eP*	**Pn**	**00 38 50.4**	**-0.9**
	71nm,0.2s						
KOTS				*eS*	**Sb**	**00 39 07.3**	**-0.6**
	16nm,0.2s						
SHLS	**Shalkode**	**1.30**	**55**	*eP*	**Pb**	**00 38 52.1**	**+0.1**
	33nm,0.2s						
SHLS				*eS*	**Sg**	**00 39 10.0**	**+0.6**
	30nm,0.1s						
ULHL	**Ulahol**	**1.63**	**265⇑**	*iP*	**Pb**	**00 38 57.4**	**-0.3**
	baz=265						
ULHL				⇑*iS*	**Sb**	**00 39 18.9**	**+0.5**
	baz=265						
MTBS	**Maitube**	**1.64**	**297**	*eP*	**Pb**	**00 38 57.4**	**-0.3**
	9.6nm,0.2s						
MTBS				*eS*	**Sb**	**00 39 19.2**	**+0.8**
	19nm,0.2s						
MNBS	**Baschi**	**1.66**	**359**	*eP*	**Pn**	**00 38 56.1**	**-0.6**
	0.7nm,0.2s						
MNBS				*eS*	**Sn**	**00 39 17.1**	**-0.9**
	182nm,0.3s						
KTMS	**Ketmen**	**1.75**	**53**	*eP*	**Pb**	**00 38 58.8**	**-0.8**
	14nm,0.2s						
KTMS				*eS*	**Sb**	**00 39 21.7**	**+0.1**
	21nm,0.3s						
CHKK	**Chushkaly**	**1.79**	**325**	*eP*	**Pn**	**00 38 59.5**	**+1.2**
	54nm,0.1s						
CHKK				*eS*	**Sb**	**00 39 22.9**	**+0.1**
	72nm,0.3s						
KTBS	**Karatobe**	**1.82**	**316**	*eP*	**Pb**	**00 39 00.6**	**-0.3**
	13nm,0.2s						
KTBS				*eS*	**Sb**	**00 39 24.9**	**+1.2**
	3.4nm,0.2s						
BOOM	**Boomskoye usch**	**1.85**	**273⇑**	*eP*	**Pb**	**00 39 00.3**	**-1.0**
	baz=274						
BOOM				⇑*eS*	**Sb**	**00 39 24.0**	**-0.5**
	baz=274						
ARXS	**Arharly**	**1.85**	**346**	*eP*	**Pb**	**00 39 00.6**	**-0.7**
	7.0nm,0.2s						
ARXS				*eS*	**Sb**	**00 39 25.1**	**+0.5**
	65nm,0.2s						
KST	**Kastek**	**1.93**	**290**	*eP*	**Pb**	**00 39 02.5**	**-0.2**
	4.7nm,0.1s						
KST				*eS*	**Sb**	**00 39 27.7**	**+1.0**
	9.5nm,0.2s						
NRN	**Naryn**	**2.06**	**242⇑**	*eP*	**Pb**	**00 39 04.0**	**-1.1**
	baz=243						
NRN				⇑*eS*	**Sb**	**00 39 30.3**	**-0.5**
	baz=243						
DGS	**Degeres**	**2.12**	**294**	*eP*	**Pb**	**00 39 05.3**	**-0.7**
	8.4nm,0.2s						
DGS				*eS*	**Sb**	**00 39 33.0**	**+0.5**
	16nm,0.2s						
TKM2	**Tokmak 2**	**2.15**	**285⇑**	*iP*	**Pb**	**00 39 06.4**	**-0.2**
	baz=286						
TKM2				⇑*iS*	**Sb**	**00 39 34.5**	**+1.2**
	baz=286						
DJR	**Jarkent**	**2.16**	**27**	*eP*	**Pb**	**00 39 06.0**	**-0.6**
	29nm,0.1s						
DJR				*eS*	**Sb**	**00 39 34.0**	**+0.7**
	43nm,0.2s						
KZA	**Kyzart**	**2.39**	**263⇑**	*iP*	**Pb**	**00 39 08.9**	**-1.8**
	baz=264						
KZA				⇑*iS*	**Sb**	**00 39 41.0**	**+0.7**
	baz=264						
TDK	**Taldyqorghan**	**2.59**	**360**	*eP*	**Pb**	**00 39 14.4**	**+0.5**
	8.7nm,0.2s						
TDK				*eS*	**Sb**	**00 39 48.3**	**+2.6**
	27nm,0.2s						
CHMS	**Chumysh**	**2.78**	**283⇑**	*iP*	**Pb**	**00 39 14.9**	**-2.2**
	baz=284						
CHMS				⇑*iS*	**Sb**	**00 39 50.3**	**-0.8**
	baz=284						
KAPS	**Kapalarasan**	**2.95**	**13**	*eP*	**Pb**	**00 39 19.8**	**-0.2**
	1.3nm,0.2s						
KAPS				*eS*	**Sb**	**00 39 58.1**	**+2.1**
	6.6nm,0.3s						
ARLS	**Aral**	**3.11**	**261⇑**	*eP*	**Pn**	**00 39 18.0**	**+1.5**
	baz=262						
ARLS				⇑*eS*	**Sn**	**00 39 55.4**	**+1.8**
	baz=262						
MRKS	**Merke**	**3.86**	**277**	*eP*	**Pb**	**00 39 36.8**	**+1.2**
	12nm,0.7s						
MRKS				*eS*	**Sb**	**00 40 26.7**	**+4.4**
	6.3nm,0.3s						

*IDC **03** 00:46:36.1±1.2, 40°.18N×51°.26E, h0km, mb3.7/6, mb1 3.8/13, mb1mx3.6/50, mbtmp3.8/13, ML4.0/4, Error ellipse: s-maj=23.8km s-min=11.8km az=168.0*
*CSEM **03** 00:46:41.9±0.3, 40°.24N×51°.48E, h60km, mb4.3, Error ellipse: s-maj=10.0km s-min=4.2km az=163.0*
*ISCJB **03** 00:46:42.0±0.4, 40°.14N±0°.04×51°.34E±0°.04, h96km±7km, mb3.7/8, Error ellipse: s-maj=6.6km s-min=4.5km az=177.3*
*MOS **03** 00:46:41.7±1.1, 40°.62N×51°.34E, h37km, mb4.4/1, Error ellipse: s-maj=12.5km s-min=8.6km az=45.5*
*AZER **03** 00:46:42.3±1.2, 40°.18N×51°.30E, h60km, Error ellipse: s-maj=2.5km s-min=0.9km az=287.0*
*NEIC **03** 00:46:42.3±1.3, 40°.41N×51°.38E, h46km±13km, mb4.3/1, Error ellipse: s-maj=18.0km s-min=6.6km az=168.0*
*NNC **03** 00:46:47.6±2.0, 40°.97N×52°.07E, h0km, mb3.9, Error ellipse: s-maj=21.7km s-min=14.1km az=85.0*

ISC 03 00:46:41.9±0.7, 40°.20N±0°.04×51°.48E±0°.04, h75km±10km, n105, σ2s34/164, mb3.7/8, 24C-35D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.03**	**282**	⇓Pg	**Pn**	**00 47 03.8**	**+2.8**
GALA				⇑Sg	**Sn**	**00 47 18.4**	**+3.1**
GALA	**Gala**	**1.03**	**282**	Pg	**Pn**	**00 47 03.8**	**+2.8**
GALA				Sg	**Sn**	**00 47 18.4**	**+3.1**
NDR	**Nardaran**	**1.20**	**289**	⇓Pg	**Pn**	**00 47 04.7**	**+1.6**
NDR				⇓Sg	**Sn**	**00 47 21.9**	**+2.8**
NDR	**Nardaran**	**1.20**	**289**	Pg	**Pn**	**00 47 04.7**	**+1.6**
NDR				Sg	**Sn**	**00 47 21.9**	**+2.8**
GOBA	**Gobu**	**1.35**	**279**	⇓Pg	**Pn**	**00 47 07.2**	**+2.1**
GOBA	**Gobu**	**1.35**	**279**	Pg	**Pn**	**00 47 07.2**	**+2.1**
ALIB	**Äli-Bayra**	**1.91**	**263**	⇓P	**Pn**	**00 47 11.7**	**-0.7**
ALIB				⇓S	**Sn**	**00 47 35.9**	**+0.2**
ALIB	**Äli-Bayra**	**1.91**	**263**	P	**Pn**	**00 47 11.7**	**-0.7**
ALIB				S	**Sn**	**00 47 35.9**	**+0.2**
GBS	**Qobustan**	**1.97**	**281**	⇓P	**Pn**	**00 47 14.8**	**+1.5**
GBS	**Qobustan**	**1.97**	**281**	P	**Pn**	**00 47 14.8**	**+1.5**
ATGJ	**Altiaghaj**	**2.05**	**290**	⇑P	**Pn**	**00 47 14.8**	**+0.5**
ATGJ	SNR=15						
				⇑S	**Sn**	**00 47 40.3**	**+1.2**
ATGJ	**Altiaghaj**	**2.05**	**290**	P	**Pn**	**00 47 14.8**	**+0.5**
ATGJ	SNR=15						
				S	**Sn**	**00 47 40.3**	**+1.2**
SIZA	**Siyzn**	**2.15**	**295**	⇓Pn	**Pn**	**00 47 16.9**	**+1.2**
	SNR=7.9						
SIZA	**Siyzn**	**2.15**	**295**	Pn	**Pn**	**00 47 16.9**	**+1.2**
	SNR=7.9						
PQL	**Pirkuli**	**2.28**	**286**	Pn	**Pn**	**00 47 18.2**	**+0.7**
	SNR=4.7						
PQL				⇑Sn	**Sn**	**00 47 45.0**	**+0.3**
PQL	**Pirkuli**	**2.28**	**286**	Pn	**Pn**	**00 47 18.2**	**+0.7**
	SNR=4.7						
PQL				Sn	**Sn**	**00 47 45.0**	**+0.3**
KDMR	**Kurdemir**	**2.53**	**275**	⇓Pn	**Pn**	**00 47 20.0**	**-0.7**
KDMR				⇑Sn	**Sn**	**00 47 48.9**	**-1.6**
KDMR	**Kurdemir**	**2.53**	**275**	Pn	**Pn**	**00 47 20.0**	**-0.7**
KDMR				Sn	**Sn**	**00 47 48.9**	**-1.6**
QUBA	**Quba, Azerbaij**	**2.54**	**298**	⇓Pn	**Pn**	**00 47 21.5**	**+0.5**
	SNR=11						
QUBA				⇑Sn	**Sn**	**00 47 52.5**	**+1.5**
QUBA	**Quba, Azerbaij**	**2.54**	**298**	Pn	**Pn**	**00 47 21.5**	**+0.5**
	SNR=11						
QUBA				Sn	**Sn**	**00 47 52.5**	**+1.5**
GLBA	**Clilabad**	**2.57**	**249**	Pn	**Pn**	**00 47 21.1**	**-0.2**
	SNR=7.3						
GLBA				⇓Sn	**Sn**	**00 47 50.5**	**-1.0**
GLBA	**Clilabad**	**2.57**	**249**	Pn	**Pn**	**00 47 21.1**	**-0.2**
	SNR=7.3						
GLBA				Sn	**Sn**	**00 47 50.5**	**-1.0**
LKRN	**Lenkeran, Azer**	**2.57**	**235**	⇑Pn	**Pn**	**00 47 21.1**	**-0.2**
	SNR=7.2						
LKRN				⇓Sn	**Sn**	**00 47 50.5**	**-1.0**
LKRN	**Lenkeran, Azer**	**2.57**	**235**	Pn	**Pn**	**00 47 21.1**	**-0.2**
	SNR=7.2						
LKRN				Sn	**Sn**	**00 47 50.5**	**-1.0**
IML	**Ismayilli**	**2.58**	**284**	⇓Pn	**Pn**	**00 47 21.5**	**0.0**
	SNR=11						
IML				⇑Sn	**Sn**	**00 47 51.6**	**-0.4**
IML	**Ismayilli**	**2.58**	**284**	Pn	**Pn**	**00 47 21.5**	**0.0**
	SNR=11						
IML				Sn	**Sn**	**00 47 51.6**	**-0.4**
ASTR	**Astara**	**2.65**	**233**	⇑Pn	**Pn**	**00 47 21.9**	**-0.5**
	SNR=13						
ASTR				⇓Sn	**Sn**	**00 47 52.3**	**-1.3**
ASTR	**Astara**	**2.65**	**233**	Pn	**Pn**	**00 47 21.9**	**-0.5**
	SNR=13						
ASTR				Sn	**Sn**	**00 47 52.3**	**-1.3**
XNQ	**Khinaliq**	**2.72**	**292**	⇑Pn	**Pn**	**00 47 23.6**	**+0.1**
	SNR=22						
XNQ	**Khinaliq**	**2.72**	**292**	Pn	**Pn**	**00 47 23.6**	**+0.1**
	SNR=22						
QSAR	**Qusar**	**2.77**	**299**	⇑Pn	**Pn**	**00 47 24.8**	**+0.7**
QSAR				⇓Sn	**Sn**	**00 47 58.4**	**+1.9**
QBL	**Gabala**	**2.87**	**286**	⇑Pn	**Pn**	**00 47 24.9**	**-0.5**
QBL				⇓Sn	**Sn**	**00 47 57.2**	**-1.8**
QBL	**Gabala**	**2.87**	**286**	Pn	**Pn**	**00 47 24.9**	**-0.5**
QBL				Sn	**Sn**	**00 47 57.2**	**-1.8**
LRK	**Lerik**	**2.89**	**238**	Pn	**Pn**	**00 47 25.0**	**-0.8**
	SNR=41						
LRK				⇓Sn	**Sn**	**00 47 58.0**	**-1.5**
LRK	**Lerik**	**2.89**	**238**	Pn	**Pn**	**00 47 25.0**	**-0.8**
	SNR=41						
LRK				Sn	**Sn**	**00 47 58.0**	**-1.5**
ZRD	**Zardab**	**2.91**	**273**	⇓Pn	**Pn**	**00 47 25.5**	**-0.3**
	SNR=11						
ZRD				⇓Sn	**Sn**	**00 47 58.8**	**-0.9**
ZRD	**Zardab**	**2.91**	**273**	Pn	**Pn**	**00 47 25.5**	**-0.3**
	SNR=11						
ZRD				Sn	**Sn**	**00 47 58.8**	**-0.9**
BRDA	**Brd**	**3.29**	**272**	⇓Pn	**Pn**	**00 47 30.4**	**-0.7**
	SNR=3.5						
BRDA				⇓Sn	**Sn**	**00 48 04.8**	**-4.3**
BRDA	**Brd**	**3.29**	**272**	Pn	**Pn**	**00 47 30.4**	**-0.7**
	SNR=3.5						
BRDA				Sn	**Sn**	**00 48 04.8**	**-4.3**
MNGR	**Mingechevir, A**	**3.40**	**281**	⇓Pn	**Pn**	**00 47 32.7**	**+0.1**
	SNR=3.9						
MNGR				⇓Sn	**Sn**	**00 48 10.1**	**-1.6**
MNGR	**Mingechevir, A**	**3.40**	**281**	Pn	**Pn**	**00 47 32.7**	**+0.1**
	SNR=3.9						
MNGR				Sn	**Sn**	**00 48 10.1**	**-1.6**
SEKA	**Sheki**	**3.41**	**289**	⇑Pn	**Pn**	**00 47 32.6**	**-0.1**
SEKA				⇑Sn	**Sn**	**00 48 10.1**	**-1.9**
SEKA	**Sheki**	**3.41**	**289**	Pn	**Pn**	**00 47 32.6**	**-0.1**
SEKA				Sn	**Sn**	**00 48 10.1**	**-1.9**
ZKTA	**Zakatala**	**3.95**	**293**	⇑Pn	**Pn**	**00 47 40.0**	**0.0**
ZKTA				⇓Sn	**Sn**	**00 48 25.4**	**+0.2**
GANJ	**Ganja**	**3.96**	**278**	⇓Pn	**Pn**	**00 47 39.1**	**-1.2**
GANJ				⇓Sn	**Sn**	**00 48 22.9**	**-2.6**
GANJ	**Ganja**	**3.96**	**278**	Pn	**Pn**	**00 47 39.1**	**-1.2**
GANJ				Sn	**Sn**	**00 48 22.9**	**-2.6**
GDB	**GEDABAY**	**4.40**	**279**	⇑Pn	**Pn**	**00 47 44.9**	**-1.5**
GDB				⇓Sn	**Sn**	**00 48 33.8**	**-2.6**
GDB	**GEDABAY**	**4.40**	**279**	Pn	**Pn**	**00 47 44.9**	**-1.5**
GDB				Sn	**Sn**	**00 48 33.8**	**-2.6**
QZX	**Qazax, Azerbai**	**4.73**	**282**	⇓Pn	**Pn**	**00 47 49.7**	**-1.0**
QZX				⇓Sn	**Sn**	**00 48 42.0**	**-2.2**
QZX	**Qazax, Azerbai**	**4.73**	**282**	Pn	**Pn**	**00 47 49.7**	**-1.0**
QZX				Sn	**Sn**	**00 48 42.0**	**-2.2**
NAX	**Nakhchivan**	**4.73**	**259**	⇓Pn	**Pn**	**00 47 48.8**	**-2.0**
NAX				⇑Sn	**Sn**	**00 48 43.7**	**-0.7**
NAX	**Nakhchivan**	**4.73**	**259**	Pn	**Pn**	**00 47 48.8**	**-2.0**
NAX				Sn	**Sn**	**00 48 43.7**	**-0.7**
DGRG	**David-gareji**	**4.80**	**287**	P	**Pn**	**00 47 51.8**	**+0.1**
DGRG				S	**Sn**	**00 48 44.3**	**-1.6**
DGRG	**David-gareji**	**4.80**	**287**	P	**Pn**	**00 47 51.7**	**+0.1**
DGRG				S	**Sn**	**00 48 44.3**	**-1.6**
DUS	**Dusheti**	**5.45**	**292**	P	**Sn**	**00 49 00.9**	**-1.2**
GEYT	**Alibeck**	**5.64**	**112**	Pn	**Pn**	**00 48 04.7**	**+1.5**
	1.5nm,0.3s,baz=287,slow=15,SNR=25						
GEYT				Sn	**Sn**	**00 49 05.3**	**-1.3**
	1.4nm,0.3s,baz=319,slow=17,SNR=4.0						
GUDG	**Gudauri**	**5.74**	**295**	P	**Sn**	**00 49 09.4**	**+0.3**
KBZ	**Khabaz**	**7.30**	**302**	Pn	**Pn**	**00 48 24.4**	**-1.3**
	0.2nm,0.3s,baz=120,slow=20,SNR=4.1						
AB31	**Akbulak array**	**10.86**	**31**	P	**Pn**	**00 49 12.5**	**-1.8**
	0.3nm,0.2s,baz=211,slow=13,SNR=36						
AB31				⇑S	**Sn**	**00 51 07.4**	**-6.6**
	2.3nm,0.4s						
AB31	**Akbulak array**	**10.86**	**31**	P	**Pn**	**00 49 12.5**	**-1.8**
AB31				S	**Sn**	**00 51 07.4**	**-6.6**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AB31				smax	smax		
	comp=N,2.0nm,0.4s						
AB31	**Akbulak array**	**10.86**	**31**	P	**Pn**	**00 49 12.5**	**-1.8**
	comp=N,0.3nm,0.2s,SNR=36						
AB31				S	**Sn**

comp=Z,3.0nm,0.8s
BVA0 Borovoye Array 18.18 39 P **Pn 00 50 50.6 +1.6**
comp=Z,2.9nm,0.8s,SNR=20
BVAR Borovoye Array 18.18 39 P **Pn 00 50 50.5 +1.6**
comp=Z,1.0nm,0.3s,baz=229,slow=11,SNR=18
VOSK Vostochnaya 18.29 40 ⇓P **Pn 00 50 52.5 +2.2**
comp=Z,1.4nm,0.7s
VOSK Vostochnaya 18.29 40 P **Pn 00 50 52.5 +2.2**
VOSK pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 18.74 311 P **P 00 50 55.0 +0.5**
comp=Z,3.3nm,0.3s,baz=91,slow=8.6,SNR=5.0
AKASG Malin Array Be 18.74 311 P **P 00 50 55.0 +0.5**
AKASG Malin Array Be 18.74 311 P **P 00 50 55.0 +0.5**
KURBB Kurchatov Arra 21.54 52 P **P 00 51 27.9 +3.2**
comp=Z,1.5nm,0.9s,baz=256,slow=11,SNR=8.8
KURBB Kurchatov Arra 21.54 52 ⇑P **P 00 51 30.0 +5.2**
comp=Z,4.4nm,1.0s
IDI Anoyia 21.55 265 P **P 00 51 27.0 +1.9**
comp=Z,2.0nm,0.3s,baz=8.5,slow=3.5,SNR=13
KURK Kurchatov 21.63 52 P **P 00 51 28.0 +2.3**
KURK Kurchatov 21.63 52 *e*P **P 00 51 27.0 +1.3**
comp=Z,20nm,1.4s
KURK Kurchatov 21.63 52 *e*P **P 00 51 27.0 +1.3**
comp=Z,20nm,1.4s
KOLS Kolonicke sedl 22.45 303 *e*P **P 00 51 34.0 -0.6**
KOLS pmax pmax
comp=Z,21nm,2.3s
KOLS Kolonicke sedl 22.45 303 *e*P **P 00 51 34.0 -0.6**
MKAR Makanchi Array 23.20 63 P **P 00 51 45.2 +3.0**
comp=Z,2.0nm,0.7s,baz=265,slow=8.5,SNR=9.6
ZALV Zalesovo Beam 26.25 47 P **P 00 52 12.9 +3.1**
comp=Z,1.6nm,0.6s,baz=266,slow=9.4,SNR=8.1
FINES FINESS Array B 26.32 332 P **P 00 52 11.9 +1.7**
comp=Z,0.9nm,0.6s,baz=142,slow=11,SNR=7.9
FINES FINESS Array B 26.32 332 P **P 00 52 12.0 +1.7**
TORD Torodi Ar. Bea 51.17 253 P **P 00 55 39.7 +2.2**
comp=Z,0.1nm,0.3s,baz=59,slow=7.9,SNR=5.8

NDI ***03*** *00:53:23.3±2.8, 27°.54N×87°.92E, h10km±13km, ML5.0, mb5.0(NEIC)*
ISCJB ***03*** *00:53:24.5±0.5, 27°.46N±0°.02×87°.99E±0°.02, h37km±4km, mb4.8/132, MS4.3/2, Error ellipse: s-maj=3.9km s-min=2.5km az=27.6*
MOS ***03*** *00:53:24.8±1.0, 27°.54N×88°.06E, h38km, mb4.9/43, Error ellipse: s-maj=7.7km s-min=4.1km az=118.2*
BKK ***03*** *00:53:25.7±0.4, 28°.N±6°×8°.8E±°, h10km, M4.6/34, mB5.1/6, mb4.8/34, Mw(mB)4.4/6*
BJI ***03*** *00:53:25.2, 27°.53N×87°.92E, h33km, mb4.8/43, mB5.3/15, Ms4.7/21, Ms7 4.5/19*
IDC ***03*** *00:53:26.9±0.6, 27°.55N×88°.03E, h44km±4km, mb4.2/36, mb1 4.4/39, mb1mx4.3/50, mbtmp4.5/39, ML4.4/3, MS4.4/4, Ms1 4.4/4, ms1mx4.0/45, Error ellipse: s-maj=11.3km s-min=9.5km az=21.0*
DMN ***03*** *00:53:27.1±0.0, 27°.60N×88°.03E, h66km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
NEIC ***03*** *00:53:27.3±0.2, 27°.53N×88°.02E, mb5.0/48, Error ellipse: s-maj=5.3km s-min=3.3km az=46.0*
NEIC Felt at Baghdogra, Darjiliing, Gangtok, Kalimpang, Shiliguri and Singtam. Also felt at Ilam, Nepal and [III] at Thimphu, Bhutan.
ISC 03 00:53:25.3±0.3, 27°.46N±0°.03×87°.84E±0°.03, h30km±2km, h30km:pP-P, n364, σ2≥11/420, mb4.8/132, 26C-13D, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUN	**Gumba**	**1.80**	**285**	*e*Pn	**Pb**	**00 53 58.9**	**+1.1**
GUN				*e*Sg	**Sb**	**00 54 21.4**	**+1.4**
PKIN	**Phulchoki**	**2.17**	**274**	*e*Pn	**Pb**	**00 54 03.6**	**-0.5**
PKIN				*e*Sn	**Sb**	**00 54 31.9**	**+1.1**
KKN	**Kakani**	**2.30**	**279**	*e*Pn	**Pb**	**00 54 05.5**	**-0.7**
KKN				*e*Sn	**Sb**	**00 54 32.9**	**-1.3**
DMN	**Daman**	**2.43**	**274**	*e*Pn	**Pb**	**00 54 07.2**	**-1.3**
DMN				*e*Sn	**Sb**	**00 54 37.1**	**-1.1**
GKN	**Gorkha**	**2.89**	**282**	*e*Pn	**Pb**	**00 54 13.4**	**-2.9**
GKN				*e*Sn	**Sn**	**00 54 47.2**	**+3.9**
	3μm,0.4s						
LSA	**Lhasa**	**3.67**	**52**	*e*P	**Pn**	**00 54 22.3**	**+1.9**
LSA	**Lhasa**	**3.67**	**52**	*e*Pn	**Pn**	**00 54 22.3**	**+1.9**
KOLN	**Koldanda**	**3.78**	**276**	*e*Pn	**Pn**	**00 54 25.0**	**+3.4**
KOLN				*e*Sn	**Sn**	**00 55 07.9**	**+2.7**
	775nm,0.2s						
BOK	**Bokaro**	**4.05**	**206**	*e*P	**Pn**	**00 54 28.4**	**+3.2**
BOK				*e*S	**Sn**	**00 55 14.1**	**+2.5**
SHL	**Shillong**	**4.08**	**117**	*i* PN	**Pn**	**00 54 25.0**	**-0.8**
SHL				*e*S	**Sn**	**00 55 10.5**	**-2.2**
SHL				IAML		00 55 33.5	
	comp=E,3μm,0.1s						
SHL				IAML		00 55 39.4	
	comp=N,4μm,0.9s						
PYUN	**Piuthan**	**4.35**	**280**	*e*Pn	**Pn**	**00 54 32.2**	**+2.7**
LGTI	**Lohaghat**	**6.98**	**288**	*e*P	Pn	00 55 13.8	+8.4
LGTI				*e*S	**Sn**	**00 56 29.7**	**+6.0**
PTH	**Pithoragarh**	**7.03**	**289**	*e*PN	**Pn**	**00 55 08.2**	**+1.9**
PTH				*ex*	x	00 56 24.9	
JOSI	**Joshimath**	**7.88**	**295**	*e*P	**Pn**	**00 55 19.0**	**+1.0**
JOSI				*e*S	**Sn**	**00 56 40.9**	**-5.4**
JOSI				IAML		00 56 56.0	
	comp=N,3μm,0.4s						
JOSI				IAML		00 56 57.2	
	comp=E,2μm,0.6s						
DDI	**Dehra Dun**	**9.04**	**291**	*e*P	**Pn**	**00 55 33.5**	**-0.3**
DDI				*e*S	**Sn**	**00 57 09.5**	**-5.1**
CHLP	**Challavanipeta**	**9.56**	**202**	*e*P	**Pn**	**00 55 44.2**	**+3.2**
CHLP				IAmb	IAmb	00 55 58.0	
	comp=Z,73nm,0.7s						
CHLP				*e*S	**Sn**	**00 57 25.7**	**-1.7**
CHLP				IVMs_BB	IVMs_BB	00 58 25.8	
	comp=Z,1μm,3.8s						
SMLA	**Simla**	**10.01**	**294**	*e*P	**Pn**	**00 55 47.8**	**+0.8**
SMLA				*ex*	x	00 57 36.0	
KUDL	**Kundal**	**10.08**	**277**	*e*P	**Pn**	**00 55 47.4**	**-0.6**
KUDL				*e*S	**Sn**	**00 57 32.8**	**-7.1**
NGP	**Nagpur**	**10.18**	**234**	*e*P	**Pn**	**00 55 49.9**	**+0.5**
NGP				*e*S	**Sn**	**00 57 38.2**	**-4.3**
NGP				IAML		00 59 04.9	
	comp=E,611nm,0.9s						
NGP				IAML		00 59 05.9	
	comp=N,998nm,1.1s						
SDNR	**Sundarnagar**	**10.29**	**296**	*ex*	Pn	00 55 40.0	-11
SDNR				*ex*	**Sn**	**00 57 42.0**	**-3.4**
BHPL	**Bhopal**	**10.31**	**248**	*e*P	**Pn**	**00 55 51.1**	**-0.1**
BHPL				*e*S	**Sn**	**00 57 38.8**	**-7.1**
BHPL				IAML		00 59 02.4	
	comp=E,346nm,1.7s						
BHPL				IAML		00 59 03.2	
	comp=N,860nm,0.9s						
VIS	**Vishakhapatnam**	**10.54**	**204**	*e*P	**Pn**	**00 55 55.9**	**+1.5**
VIS				IAmb	IAmb	00 55 57.9	
	comp=Z,792nm,2.1s						
KHET	**Khetri**	**10.68**	**276**	*e*P	**Pn**	**00 55 55.8**	**-0.5**
KHET				*e*S	**Sn**	**00 57 49.9**	**-4.9**
KHET				IAML		00 57 54.8	
	comp=N,232nm,0.8s						
KHET				IAML		00 57 55.9	
	comp=E,142nm,0.1s						
BHK	**Bhakra**	**10.71**	**294**	*e*P	**Pn**	**00 55 54.6**	**-2.1**
BHK				*ex*	x	00 57 52.0	
DHRM	**DHARAMSHALA**	**11.10**	**298**	*e*P	**Pn**	**00 56 02.4**	**+0.2**
DHRM				*ex*	x	00 58 00.8	
RPR	**Rampur**	**11.62**	**224**	*e*Pn	**Pn**	**00 56 10.1**	**+1.1**
RPR				IAmb	IAmb	00 56 22.1	
	comp=Z,52nm,0.7s						
RPR				Sn	**Sn**	**00 58 12.1**	**-5.7**
RPR				IVMs_BB	IVMs_BB	00 59 34.6	
	comp=Z,2μm,4.0s						
THN	**Thein Dam**	**11.62**	**298**	*ex*	**Pn**	**00 56 05.0**	**-4.1**
THN				*e*S	**Sn**	**00 58 09.9**	**-8.0**
PVM	**Polavaram**	**11.67**	**211**	*e*Pn	**Pn**	**00 56 11.0**	**+1.2**
PVM				*e*P	**Pn**	**00 56 11.1**	**+1.4**
PVM				IAmb	IAmb	00 56 26.5	
	comp=Z,40nm,0.8s						
PVM				*e*S	**Sn**	**00 58 14.1**	**-5.0**
PVM				IVMs_BB	IVMs_BB	00 59 34.4	
	comp=Z,2μm,3.2s						
SRSP	**Sriramsagar**	**12.17**	**228**	*e*Pn	**Pn**	**00 56 17.9**	**+1.2**
SRSP				IAmb	IAmb	00 56 29.2	
	comp=Z,78nm,0.9s						
SRSP				Sn	**Sn**	**00 58 25.4**	**-6.0**
SRSP				IVMs_BB	IVMs_BB	00 59 58.9	
	comp=Z,2μm,3.5s						
HYBB	**Hyderabad (bro**	**13.16**	**223**	*e*Pn	**Pn**	**00 56 31.2**	**+0.9**
HYBB				IAmb	IAmb	00 56 42.9	
	comp=Z,42nm,0.7s						
HYBB				*e*S	Sn	00 58 45.7	-10
HYBB				IVMs_BB	IVMs_BB	01 00 40.0	
	comp=Z,2μm,3.3s						
HYB	**Hyderabad**	**13.17**	**223**	*i* P	**Pn**	**00 56 33.0**	**+2.7**
HYB				*e*S	**Sn**	**00 58 47.0**	**-8.8**
HYB	**Hyderabad**	**13.17**	**223**	*e*P	**Pn**	**00 56 30.0**	**-0.3**
CHTO	**Chiang Mai**	**13.34**	**128**	P	**Pn**	**00 56 31.7**	**-1.0**
	comp=Z,77nm,1.1s						
CHTO	**Chiang Mai**	**13.34**	**128**	*e*P	**Pn**	**00 56 31.5**	**-1.2**
CHTO	**Chiang Mai**	**13.34**	**128**	*e*Pn	**Pn**	**00 56 31.5**	**-1.2**
CMMT	**Chiang Mai**	**13.35**	**128**	P	**Pn**	**00 56 31.7**	**-1.1**
	comp=Z,22nm,2.1s						
NJS	**Nagarjunasagar**	**13.42**	**218**	*e*Pn	**Pn**	**00 56 33.4**	**-0.4**
	comp=Z,2μm,3.3s						
NJS				IAmb	IAmb	00 56 46.9	
	comp=Z,49nm,0.9s						
NJS				Sn	**Sn**	**00 58 56.0**	**-6.0**
NJS				IVMs_BB	IVMs_BB	01 00 35.9	
	comp=Z,2μm,3.3s						
CRAI	**Chiangrai**	**13.53**	**119**	P	**Pn**	**00 56 34.2**	**-1.0**
	comp=Z,159nm,1.1s						
KMI	**Kunming**	**13.57**	**96**	P	**Pn**	**00 56 35.4**	**-0.5**
KMI				PMZ			
	comp=Z,29nm,0.7s						
KMI				PMZ			
	comp=Z,2μm,13.8s						
CM31	**Chiang Mai Arr**	**13.58**	**129**	*e*Pn	**Pn**	**00 56 37.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**13.58**	**129**	P	**Pn**	**00 56 34.1**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=303,slow=12,SNR=17						
CMAR				LR	LR	01 03 43.2	
	comp=Z,1μm,18.7s,baz=1.0,slow=46						
CMAR	**Chiang Mai Arr**	**13.58**	**129**	*i* P	**Pn**	**00 56 34.4**	**-1.6**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CM01	**Chiang Mai Arr**	**13.62**	**129**	*e*Pn	**Pn**	**00 56 37.8**	**+1.3**
CM01				*e*Sn	**Sn**	**00 59 13.0**	**+6.2**
ADKI	**Addanki**	**13.67**	**214**	*e*Pn	**Pn**	**00 56 38.8**	**+1.7**
ADKI				IAmb	IAmb	00 56 49.4	
	comp=Z,33nm,0.7s						
ADKI				Sn	**Sn**	**00 59 04.1**	**-3.9**
ADKI				IVMs_BB	IVMs_BB	01 00 47.4	
	comp=Z,2μm,3.9s						
SARP	**Sargodha**	**13.91**	**292**	P	**Pn**	**00 56 38.1**	**-2.3**
KLRI	**Killari**	**13.95**	**230**	*e*Pn	**Pn**	**00 56 40.2**	**-0.8**
KLRI				IAmb	IAmb	00 56 54.8	
	comp=Z,80nm,0.6s						
KLRI				Sn	Sn	00 59 04.6	-10
KLRI				IVMs_BB	IVMs_BB	01 01 04.3	
	comp=Z,2μm,3.4s						
CHCP	**Chirah Chowk**	**13.99**	**300**	P	**Pn**	**00 56 39.9**	**-1.6**
SRLM	**Srisailam**	**14.02**	**218**	*e*Pn	**Pn**	**00 56 41.2**	**-0.7**
SRLM				IAmb	IAmb	00 56 54.4	
	comp=Z,89nm,0.8s						
SRLM				Sn	**Sn**	**00 59 08.9**	**-7.6**
SRLM				IVMs_BB	IVMs_BB	01 00 57.2	
	comp=Z,2μm,3.3s						
LAMP	**Lampang**	**14.02**	**127**	P	**P**	**00 56 53.1**	**+3.6**
CD2	**Chengdu**	**14.32**	**72**	*e*P	**Pn**	**00 56 48.5**	**+2.4**
CD2	**Chengdu**	**14.32**	**72**	*e*P	**Pn**	**00 56 43.8**	**-2.3**
CD2				S	**Sn**	**00 59 18.8**	**-5.1**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,4.6s						
CD2				LN			
	comp=Z,2μm,12.1s						
CD2				LZ			
	comp=Z,3μm,12.9s						
RCLA	**Racherla**	**14.52**	**216**	*e*Pn	**Pn**	**00 56 49.0**	**+0.3**
RCLA				IAmb	IAmb	00 56 51.3	
	comp=Z,35nm,0.8s						
RCLA				Sn	**Sn**	**00 59 20.6**	**-8.0**
RCLA				IVMs_BB	IVMs_BB	01 01 20.9	
	comp=Z,2μm,3.4s						
SUKH	**Sukhothai**	**14.73**	**130**	P	**Pn**	**00 56 49.1**	**-2.4**
	comp=Z,11nm,1.1s,comp=Z,112nm						
THW	**Thamme Wali**	**14.91**	**295**	P	**Pn**	**00 56 50.6**	**-3.4**
DGPR	**DIGLIPUR**	**14.98**	**160**	*e*P	**Pn**	**00 56 54.9**	**0.0**
DGPR				IAmb	IAmb	00 56 56.4	
DGPR				*ex*	x	00 59 33.2	
CEP	**Cherat**	**15.11**	**299**	P	**Pn**	**00 56 53.4**	**-3.3**
UTTA	**Uttaradit**	**15.19**	**127**	P	**Pn**	**00 56 56.5**	**-1.2**
	comp=Z,4.5nm,0.9s						
GTA	**Gaotai**	**15.54**	**37**	*e*P	**Pn**	**00 57 02.0**	**-0.3**
GTA				pP	P	00 57 05.0	-1.4
KSH	**Kashi**	**15.56**	**324**	P	**Pn**	**00 56 58.7**	**-3.9**
KSH				pP	P	00 57 07.4	+0.8
KSH				PP	**pP**	**00 57 13.1**	**-1.5**
KSH				SS	**S**	**01 00 07.4**	**-1.5**
KSH				PMZ			
	comp=Z,31nm,0.7s						
KSH				LN			
	comp=Z,2μm,13.7s						
KSH				LE			
	comp=Z,1μm,14.3s						
KSH				LZ			
	comp=Z,2μm,16.2s						
SKHT	**Srikalahasti**	**15.62**	**211**	*e*Pn	**Pn**	**00 57 05.0**	**+1.8**
SKHT				IAML		00 57 11.6	
	comp=Z,27nm,0.9s						
SKHT				Sn	**Sn**	**00 59 49.2**	**-6.2**
SKHT				IVMs_BB	IVMs_BB	01 01 32.9	
	comp=Z,1μm,3.9s						
POO	**Poona**	**15.64**	**238**	*e*P	**Pn**	**00 57 04.9**	**+1.3**
LOEI	**Loei**	**15.86**	**126**	P	**P**	**00 57 09.3**	**-0.6**
	comp=Z,16nm,1.4s						
LZH	**Lanzhou**	**16.09**	**54**	*e*P	**P**	**00 57 12.0**	**-0.5**
LZH				PP	**sP**	**00 57 27.0**	**+2.6**
LZH				*e*S	**Sn**	**01 00 06.1**	**-0.8**
LZH				sS	S	01 00 20.0	+0.2
LZH				SS	**SnSn**	**01 00 25.3**	**+5.3**
LZH				PMZ			
	comp=Z,41nm,1.0s						
LZH				PMZ			
	comp=Z,150nm,4.1s						
LZH				LN			
	comp=Z,2μm,12.0s						
LZH				LE			
	comp=Z,1μm,11.5s						
LZH				LZ			
	comp=Z,2μm,15.0s						
BOM	**Bombay**	**16.22**	**242**	*ex*	**Sn**	**01 00 11.7**	**+1.6**
BOM				*ex*	x	01 01 29.2	
PBKT	**Sadao Pong**	**16.28**	**129**	P	**Pn**	**00 57 10.7**	**-1.1**
	comp=Z,45nm,1.1s						
WMQ	**Urumqi**	**16.33**	**360**	P	**Pn**	**00 57 12.9**	**+0.5**
WMQ				pP	pP	00 57 21.4	-1.6
WMQ				sP	sP	00 57 27.9	+1.0
WMQ				PMZ			
	comp=Z,15nm,1.0s						
SRDT	**SRDT**	**16.75**	**139**	P	**P**	**00 57 20.3**	**+0.6**
	comp=Z,72nm,1.4s						
GYA	**Guiyang**	**16.81**	**89**	⇑*i* P	**Pn**	**00 57 15.6**	**-3.0**
GYA				pP	pP	00 57 27.5	-1.1
GYA				S	**Sn**	**01 00 19.8**	**-4.8**
GYA				sS	S	01 00 33.4	-1.3
GYA				SS	**SnSn**	**01 00 40.2**	**+2.4**
GYA				PcP	**PcP**	**01 02 07.9**	**+2.1**
GYA				PMZ			
	comp=Z,70nm,0.9s						
GYA				PMZ			
	comp=Z,130nm,4.9s						
GYA				LN			
	comp=Z,510nm,13.9s						
GYA				LE			
	comp=Z,500nm,14.2s						
GYA				LZ			
	comp=Z,530nm,14.6s						
PDGK	**Podgornoye**	**17.22**	**339**	P	**P**	**00 57 25.2**	**+0.4**
PDGK				pmax	pmax		
	comp=Z,43nm,0.9s						
KBL	**Kabul**	**17.58**	**298**	*e*P	**Pn**	**00 57 27.9**	**-0.4**
KBL				pmax	pmax		
	comp=Z,145nm,0.9s						
KBL	**Kabul**	**17.58**	**298**	*e*Pn	**Pn**	**00 57 27.9**	**-0.4**
	comp=Z,145nm,0.9s						
KHON	**Khomkaen**	**17.75**	**125**	P	**P**	**00 57 31.5**	**+0.7**
	comp=Z,15nm,1.0s,comp=Z,2μm						
PHET	**Kaeng Krachan**	**18.20**	**140**	P	**P**	**00 57 38.7**	**+3.0**
	comp=Z,8.4nm,1.1s,comp=Z,147nm						
SKNT	**Sakolnakorn**	**18.20**	**122**	P	**Pn**	**00 57 34.9**	**-0.9**
	comp=Z,48nm,1.2s						
TKM2	**Tokmak 2**	**18.36**	**330**	*e*P	**Pn**	**00 57 38.2**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,25nm,0.9s						
TKM2	**Tokmak 2**	**18.36**	**330**	*e*P	**Pn**	**00 57 38.2**	**+0.5**
	comp=Z,25nm,0.9s						
PANO	**Nakornpanom**	**18.58**	**120**	P	**P**	**00 57 39.4**	**-0.6**
	comp=Z,87nm,0.8s						
AAK	**Ala-Archa**	**18.64**	**328**	P	**P**	**00 57 40.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=105,slow=7.1,SNR=18						
AAK	**Ala-Archa**	**18.64**	**328**	⇓*i* P	**Pn**	**00 57 42.9**	**+1.8**
AAK				pmax	pmax		
	comp=Z,27nm,1.0s						
AAK	**Ala-Archa**	**18.64**	**328**	*e*P	**Pn**	**00 57 43.1**	**+2.0**
	comp=Z,37nm,1.1s						
FRU	**Bishkek**	**18.73**	**328**	*e*P	**Pn**	**00 57 42.0**	**-0.1**
SRAK	**Srakaew**	**18.82**	**132**	P	**Pn**	**00 57 48.7**	**+5.4**
	comp=Z,82nm,1.0s,comp=Z,678nm						
PATY	**Pattaya**	**18.91**	**137**	P	**Pn**	**00 57 45.6**	**+1.3**
	comp=Z,14nm,1.0s						
EKS2	**Erkin-Say**	**19.00**	**327**	*e*P	**Pn**	**00 57 47.1**	**+1.6**
EKS2				pmax	pmax		
	comp=Z,20nm,0.8s						
EKS2	**Erkin-Say**	**19.00**	**327**	*e*P	**Pn**	**00 57 47.1**	**+1.6**
	comp=Z,20nm,0.8s						
ENH	**Enshi**	**19.16**	**76**	*e*P	**P**	**00 57 45.0**	**-1.3**
	comp=Z,28nm,0.7s						
XAN	**Xi'an**	**19.25**	**65**	P	**P**	**00 57 47.4**	**+0.1**
XAN				PMZ			
	comp=Z,8.0nm,0.7s						
DZET	**Dzherino**	**19.50**	**310**	P	**P**	**00 57 49.2**	**-0.8**
DZET				pmax	pmax		
	comp=Z,67nm,0.8s						
MNAS	**Manas**	**19.52**	**324**	*i* P	**Pn**	**00 57 51.7**	**0.0**
MNAS				pmax	pmax		
	comp=Z,25nm,1.0s						
MK01	**Makanchi Array**	**19.77**	**349**	*e*P	**Pn**	**00 57 54.5**	**0.0**
MK31	**Makanchi Array**	**19.80**	**349**	*i* P	**P**	**00 57 53.0**	**-0.1**
MK31				pmax	pmax		
	comp=Z,15nm,0.7s						
MK31	**Makanchi Array**	**19.80**	**349**	*e*P	**P**	**00 57 53.9**	**+0.8**
MKAR	**Makanchi Array**	**19.80**	**349**	P	**P**	**00 57 53.4**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=174,slow=11,SNR=12						
MKAR				LR	LR	01 07 33.6	
	comp=Z,1μm,18.1s,baz=9.5,slow=43						
MKAR	**Makanchi Array**	**19.80**	**349**	*e*P	**P**	**00 57 53.9**	**+0.8**
MAKZ	**Makanchi**	**19.86**	**348**	*i* P	**P**	**00 57 53.9**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,26nm,0.9s						
MAKZ	**Makanchi**	**19.86**	**348**	*e*P	**Pn**	**00 57 55.4**	**-0.2**
	comp=Z,24nm,0.9s						
CHBT	**CHBT**	**19.95**	**134**	P	**Pn**	**00 58 01.4**	**+4.7**
	comp=Z,38nm,1.4s						
KK31	**Karatay Array**	**21.00**	**323**	*i* P	**P**	**00 58 06.9**	**+0.6**
KK31				pmax	pmax		
	comp=Z,13nm,0.7s						
KKAR	**Karatay Array**	**21.00**	**323**	*e*P	**P**	**00 58 07.3**	**+1.0**
KKAR	**Karatay Array**	**21.00**	**323**	*e*P	**P**	**00 58 07.2**	**+1.0**
PALK	**Pallekele**	**21.18**	**200**	P	**P**	**00 58 10.2**	**+1.9**
	comp=Z,27nm,0.9s,baz=116,slow=11,SNR=1.9						
PALK	**Pallekele**	**21.18**	**200**	*e*P	**P**	**00 58 12.6**	**+4.2**
PALK				pmax	pmax		
	comp=Z,54nm,1.1s						
PALK	**Pallekele**	**21.18**	**200**	*e*P	**P**	**00 58 12.6**	**+4.2**
	comp=Z,54nm,1.1s						
PKDT	**Phuket**	**21.85**	**151**	P	**P**	**00 58 19.1**	**+3.6**
	comp=Z,115nm,1.0s						
QIZ	**Qiongzhong**	**21.86**	**108**	P	**P**	**00 58 15.3**	**-0.3**
QIZ				pP	**sP**	**00 58 25.7**	**-1.9**
QIZ				PMZ			
	comp=Z,43nm,1.0s						
QIZ	**Qiongzhong**	**21.86**	**108**	*e*P	**P**	**00 58 15.4**	**-0.2**
	comp=Z,82nm,1.2s						
KRAB	**Krabi**	**21.94**	**149**	P	**P**	**00 58 22.6**	**+6.1**
	comp=Z,37nm,1.2s						
WHN	**Wuhan**	**23.37**	**76**	⇑P	**P**	**00 58 31.1**	**-0.2**
LHMI	**Lhok Sumawe**	**23.74**	**157**	P	**P**	**00 58 39.1**	**+4.1**
LHMI	**Lhok Sumawe**	**23.74**	**157**	*e*P	**P**	**00 58 37.9**	**+2.9**
	comp=Z,254nm,0.9s						
KURBB	**Kurchatov Arra**	**24.20**	**345**	P	**P**	**00 58 38.9**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=162,slow=9.2,SNR=59						
KURK	**Kurchatov**	**24.27**	**346**	⇑*i* P	**P**	**00 58 40.1**	**+0.5**
KURK				pmax	pmax		
	comp=Z,43nm,1.7s						
KURK	**Kurchatov**	**24.27**	**346**	*e*P	**P**	**00 58 40.0**	**+0.3**
	comp=Z,48nm,1.0s						
SONM	**Songino Array**	**24.98**	**31**	P	**P**	**00 58 46.3**	**0.0**
	comp=Z,28nm,0.9s,baz=217,slow=9.2,SNR=42						
SONM				pP	**sP**	**00 58 57.9**	**-0.8**
	comp=Z,110nm,1.1s,baz=218,slow=8.9,SNR=21						
SONA1	**Songino Array**	**24.99**	**31**	*e*P	**P**	**00 58 46.1**	**-0.2**
KULM	**Kulim**	**25.19**	**149**	*e*P	**P**	**00 58 49.1**	**+0.8**
	comp=Z,49nm,1.2s						
ULN	**Ulaanbaatar**	**25.30**	**31**	⇑*i* P	**P**	**00 58 48.7**	**-0.5**
ULN				pmax	pmax		
	comp=Z,39nm,0.8s						
ULN	**Ulaanbaatar**	**25.30**	**31**	*e*P	**P**	**00 58 48.8**	**-0.4**
	comp=Z,84nm,0.9s						
KCSI	**Kotacane, Aceh**	**25.62**	**157**	P	**P**	**00 58 50.2**	**-2.0**
	comp=Z,20nm,1.0s						
TPTI		**25.66**	**158**	P	**P**	**00 58 54.5**	**+2.0**
ZAK	**Zakamensk**	**25.75**	**23**	*e*P	**P**	**00 58 53.0**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,16nm,1.1s						
IPM	**Ipoh**	**26.08**	**149**	*e*P	**P**	**00 58 56.5**	**+0.2**
	comp=Z,20nm,0.8s						
MOY	**Mondy**	**26.14**	**19**	*e*P	**P**	**00 58 57.2**	**+0.5**
MOY				pmax	pmax		
	comp=Z,26nm,1.7s						
TIA	**Tai'an**	**26.29**	**63**	*e*P	**P**	**00 58 58.3**	**+0.2**
TIA				PMZ			
	comp=Z,10.0nm,1.1s						
ZAA0	**Zalesovo Array**	**26.56**	**356**	*e*P	**P**	**00 59 00.4**	**0.0**
ZALV	**Zalesovo Beam**	**26.56**	**356**	P	**P**	**00 58 59.9**	**-0.5**
	comp=Z,16nm,0.8s,baz=180,slow=8.9,SNR=48						
PSI	**Prapat**	**26.71**	**155**	*e*P	**P**	**00 59 02.1**	**-0.1**
PSI				pmax	pmax		
	comp=Z,11nm,0.9s						
PSI	**Prapat**	**26.71**	**155**	*e*P	**P**	**00 59 02.1**	**-0.1**
	comp=Z,11nm,0.9s						
TLY	**Talaya**	**26.97**	**22**	P	**P**	**00 59 03.7**	**-0.4**

AKTO pmax pmax
comp=Z,4.0nm,0.6s
KSM Kuching 33.63 136 *e*P **P 01 00 02.8 -0.5**
comp=Z,17nm,1.2s
SBUM Sibu 34.09 133 *e*P **P 01 00 07.1 -0.2**
comp=Z,53nm,1.8s
PPBI Pangkal Pinang 34.31 146 P **P 01 00 10.3 +1.1**
comp=Z,31nm,1.2s,comp=Z,12µm
KKM Kota Kinabalu 34.35 123 *e*P **P 01 00 08.5 -1.2**
comp=Z,28nm,1.1s
KSAR Wonju Array Be 35.00 63 P **P 01 00 13.3 -1.8**
KSAR Wonju Array Be 35.00 63 P **P 01 00 13.2 -1.8**
KSAR ScP **ScP 01 06 28.0 -2.3**
KS01 Wonju Array Si 35.01 63 *e*P **P 01 00 12.8 -2.4**
KSRS Korea Array 35.03 63 P **P 01 00 13.2 -2.0**
comp=Z,2.2nm,0.6s,baz=262,slow=8.0,SNR=9.2
KSRS ScP **ScP 01 06 28.0 -2.3**
comp=Z,1.1nm,0.6s,baz=284,slow=5.0,SNR=4.2
KSRS LR LR 01 15 09.5
comp=Z,853nm,18.8s,baz=180,slow=37
SVE Sverdlovsk 35.16 334 *e*P **P 01 00 17.2 +1.1**
SVE pmax pmax
comp=Z,27nm,1.4s
ARU Arti 35.72 332 *d i*P **P 01 00 23.1 +2.2**
ARU 01 01 46.0
ARU S **S 01 05 56.6 +1.0**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 35.72 332 *e*P **P 01 00 21.2 +0.3**
comp=Z,6.6nm,0.6s
MYLDM Lahad Datu 36.63 122 *e*P **P 01 00 28.8 -0.4**
comp=Z,34nm,1.0s
JNU Nakatsue 37.39 71 *e*P **P 01 00 33.2 -2.4**
comp=Z,9.7nm,0.9s
GNI Garni 37.64 301 *e*P **P 01 00 39.8 +2.0**
GNI pmax pmax
comp=Z,30nm,1.2s
GNI Garni 37.64 301 *e*P **P 01 00 39.8 +2.0**
comp=Z,30nm,1.2s
DGAR Diego Garcia 37.73 205 *e*P **P 01 00 41.5 +3.1**
DGAR Diego Garcia 37.73 205 *e*P **P 01 00 41.5 +3.1**
comp=Z,297nm,1.1s
SOKR Solikamsk 38.55 335⇑ *i*P **P 01 00 43.5 -1.3**
SOKR pmax pmax
comp=Z,17nm,1.0s
ZEI Tsey 38.61 305 *e*P **P 01 00 48.4 +2.5**
ZEI pmax pmax
comp=Z,18nm,0.4s
VLA Vladivostok 38.73 54⇑ *i*P **P 01 00 47.0 +0.3**
VLA pmax pmax
comp=Z,19nm,0.8s
NCK Nalchik 38.94 306⇑ *i*P **P 01 00 50.9 +2.4**
NCK pmax pmax
comp=Z,4.0nm,0.8s
USRK Ussuriysk Ar. 38.99 53 P **P 01 00 46.7 -2.1**
comp=Z,3.8nm,0.6s,baz=260,slow=11,SNR=8.7
KBZ Khabaz 39.48 306 P **P 01 00 54.3 +1.4**
comp=Z,2.0nm,0.8s,baz=141,slow=8.9,SNR=4.4
NEY Neytrino 39.53 306 *e*P **P 01 00 58.0 +4.4**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KIV Kislovodsk 39.66 307 *i* P **P 01 00 57.1 +2.5**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV Kislovodsk 39.66 307 *e*P **P 01 00 56.0 +1.4**
comp=Z,8.5nm,0.9s
CISI Cisompet, Garu 39.81 148 *e*P **P 01 00 56.8 +0.8**
comp=Z,94nm,1.3s
KLR Kul'dur 40.00 45 P **P 01 00 55.8 -1.5**
comp=Z,9.9nm,1.0s,baz=267,slow=9.6,SNR=18
KLR Kul'dur 40.00 45 *i*P **P 01 00 57.0 -0.2**
KPJI Karang Pucung 40.16 146 P **P 01 00 58.3 -0.5**
comp=Z,34nm,1.1s
COCO West Island 40.36 166 *e*P **P 01 01 01.7 +1.3**
COCO West Island 40.36 166 *e*P **P 01 01 01.7 +1.3**
comp=Z,531nm,1.8s
NRIK Noril'sk 41.91 360 P **P 01 01 12.3 -0.4**
comp=Z,3.1nm,0.6s,baz=177,slow=5.5,SNR=5.5
NRIK pP **sP 01 01 24.6 -0.7**
comp=Z,8.8nm,1.0s,baz=169,slow=6.0,SNR=5.7
MRSI Marisa 42.30 124 P **P 01 01 17.3 +0.8**
comp=Z,42nm,0.8s,comp=Z,2µm
INU Inuyama 42.35 67 *e*P **P 01 01 14.8 -1.9**
comp=Z,25nm,1.4s
TTSI Tana Toraja 43.24 129 P **P 01 01 24.8 +0.8**
comp=Z,53nm,1.1s
MJB9 Matsu-Tunnel 43.25 65 *e*P **P 01 01 22.4 -1.6**
comp=Z,2.1nm,0.7s
MJB9 *e*pP **sP 01 01 36.5 -0.2**
MAJO Matsushiro 43.25 65⇑ *e*P **P 01 01 22.8 -1.2**
MAJO pmax pmax
comp=Z,46nm,0.9s
MAJO Matsushiro 43.25 65 *e*P **P 01 01 22.0 -2.0**
comp=Z,8.2nm,0.7s
MJAR Matsushiro Arr 43.25 65 P **P 01 01 22.8 -1.2**
comp=Z,3.0nm,0.8s,baz=279,slow=11,SNR=9.9
MJAR pP **sP 01 01 36.1 -0.6**
comp=Z,4.0nm,0.8s,baz=275,slow=10,SNR=5.6
VSR Storozhevoye 43.48 317 *e*P **P 01 01 28.5 +2.9**
VSR pmax pmax
comp=Z,4.0nm,0.7s
SPSI Sidrap Palu 43.87 130 P **P 01 01 30.5 +1.4**
comp=Z,21nm,1.2s
LPSR Galich'ya Gora 43.98 319 *e*P **P 01 01 31.3 +1.7**
LPSR pmax pmax
comp=Z,7.0nm,0.8s
KAPI Kappang 44.63 131 LR LR 01 22 15.0
comp=Z,203nm,19.0s,baz=340,slow=39
KAPI Kappang 44.63 131 *e*P **P 01 01 34.6 -0.6**
comp=Z,17nm,1.1s
JHJ2 Mitsune 44.87 70 *e*P **P 01 01 34.9 -2.0**
comp=Z,1µm,1.6s
SIM Simferopol' 45.87 307 *e*P P 01 01 56.4 +12
SIM pmax pmax
comp=Z,17nm,1.4s
OBN Obninsk 45.99 321⇑ *e*P **P 01 01 45.0 -0.5**
OBN *e* 01 01 55.1
OBN pmax pmax
comp=Z,15nm,1.7s
BR131 Keskin Array S 46.15 300 *e*P **P 01 01 48.7 +1.5**
BRTR Keskin Array B 46.15 300 P **P 01 01 47.6 +0.4**
comp=Z,1.6nm,0.7s,baz=119,slow=6.5,SNR=13
BRTR Keskin Array B 46.15 300 *i*P **P 01 01 48.9 +1.7**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
KLMR Klimovskoe 46.44 330 *e*P **P 01 01 48.1 -0.9**
KLMR pmax pmax
comp=Z,12nm,1.0s
ASAJ Asahikawa 46.57 54 P **P 01 01 47.7 -2.6**
comp=Z,2.8nm,0.4s,baz=275,slow=11,SNR=3.2
ASAJ Asahikawa 46.57 54 *e*P **P 01 01 51.3 +1.1**
ASAJ *e*pP **sP 01 02 04.1 +1.2**
BR231 Keskin MP Arra 46.81 300 *e*P **P 01 01 48.9 -3.4**
YSS Yuzh-Sakhalins 46.84 50 *e*P **P 01 01 52.0 -0.4**
YSS pmax pmax
comp=Z,22nm,0.4s
YSS Yuzh-Sakhalins 46.84 50 *e*P **P 01 01 52.0 -0.4**
comp=Z,22nm,0.4s
AKASG Malin Array Be 49.59 315 P **P 01 02 12.8 -0.7**
comp=Z,0.7nm,0.4s,baz=76,slow=7.2,SNR=7.1
AKASG Malin Array Be 49.59 315 *i*P **P 01 02 14.6 +1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 49.60 315 ⇑P **P 01 02 16.6 +3.0**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
TLCR 49.63 307⇑ *i*P **P 01 02 15.4 +1.5**
TIXI Tiksi 49.66 16 P **P 01 02 11.5 -2.2**
comp=Z,6.3nm,0.6s,baz=218,slow=3.5,SNR=18
TIXI Tiksi 49.66 16⇑ *i*P **P 01 02 12.9 -0.8**
TIXI pmax pmax
comp=Z,4.0nm,0.5s
TIXI Tiksi 49.66 16 *e*P **P 01 02 12.3 -1.4**
comp=Z,7.4nm,0.6s
CFR Carcaliu 50.11 307⇑ *i*P **P 01 02 19.2 +1.6**
MSAB Monastry St. A 50.36 306⇓ *i*P **P 01 02 21.5 +2.1**
PUL Pulkovo 50.43 326 ⇑P **P 01 02 21.9 +2.2**
PUL *i* *PP **sP 01 02 30.8 -1.7**
PUL pmax pmax
comp=Z,36nm,0.7s
VRI Vrincioaia 51.09 308⇑ *i*P **P 01 02 26.8 +1.8**
TESR Tescani 51.14 309⇑ *i*P **P 01 02 26.9 +1.5**
PLOR Plostina 51.15 308⇓ *i*P **P 01 02 28.1 +2.6**
PRAR RASCA 51.42 310⇓ *i*P **P 01 02 29.2 +1.7**
NACGM Naroch 51.48 320 *e* **P 01 02 29.0 +1.3**
MLR Muntele Rosu 51.65 308⇑ *i*P **P 01 02 31.5 +2.1**
MLR Muntele Rosu 51.65 308 *e*P **P 01 02 31.4 +2.1**
MLR pmax pmax
comp=Z,23nm,0.9s
MLR Muntele Rosu 51.65 308 *e*P **P 01 02 31.4 +2.1**
comp=Z,23nm,0.9s
DOPR Dopca 52.03 308⇑ *i*P **P 01 02 34.3 +2.3**
BURAR Bucovina Array 52.11 310⇓ *i*P **P 01 02 34.7 +2.0**
BURAR Bucovina Array 52.11 310 P **P 01 02 34.6 +1.9**
BUR08 Bucovina Ar. S 52.12 310 *e*P **P 01 02 34.4 +1.6**
VOIR 52.28 308⇑ *i*P **P 01 02 35.5 +1.5**
ARR Arges 52.58 308⇓ *i*P **P 01 02 37.9 +1.7**
ARCR ARCALIA 52.71 310⇑ *i*P **P 01 02 39.4 +2.4**
FIA1 FINESS Array S 52.83 328 *e*P **P 01 02 37.4 -0.2**
FINES FINESS Array B 52.83 328 P **P 01 02 36.8 -0.9**
comp=Z,5.9nm,0.5s,baz=112,slow=7.8,SNR=40
FINES pP **sP 01 02 50.2 -0.2**
comp=Z,4.1nm,0.5s,baz=97,slow=7.9,SNR=5.2
FINES FINESS Array B 52.83 328 *i*P **P 01 02 37.7 +0.1**
FINES pmax pmax
comp=Z,6.0nm,0.5s
LVV L'vov 52.88 313 *e*P **P 01 02 39.4 +1.1**
LAST Lasithi 53.08 295 *e*P **P 01 02 41.0 +1.0**
comp=Z,20nm,0.7s
LOT Lotru 53.18 308⇓ *i*P **P 01 02 42.1 +1.4**
KWP Kalwaria Pacla 53.74 313⇓ *i*P **P 01 02 47.0 +2.3**
KWP Kalwaria Pacla 53.74 313 P **P 01 02 46.9 +2.3**
PAIG Paliouri 53.77 301 P **P 01 02 46.9 +2.0**
DRGR 53.84 309⇑ *i*P **P 01 02 47.4 +1.9**
UZH Uzhgorod 54.04 312 *i*P **P 01 02 48.0 +1.2**
KOLS Kolonicke sedl 54.05 312 *e*P **P 01 02 48.9 +2.1**
KOLS Kolonicke sedl 54.05 312 *e*P **P 01 02 48.9 +2.1**
SEY Seymchan 54.37 31 P **P 01 02 46.7 -2.2**
comp=Z,1.9nm,0.5s,baz=202,slow=12,SNR=7.0
SEY Seymchan 54.37 31⇓ *i*P **P 01 02 48.5 -0.4**
SEY *i* *PP **pP 01 02 57.2 -0.9**
SIRR Siria 54.60 309⇑ *i*P **P 01 02 52.9 +2.0**
GRG Griva 54.61 302 P **P 01 02 52.1 +1.0**
BZS Buzias 54.68 308⇑ *i*P **P 01 02 53.2 +1.7**
MDVR Moldovita 54.69 307⇑ *i*P **P 01 02 53.7 +2.1**
STHS Stebnicka Huta 54.70 313 *e*P **P 01 02 51.5 -0.1**
STHS pmax pmax
comp=Z,20nm,2.1s
STHS Stebnicka Huta 54.70 313 *e*P **P 01 02 51.5 -0.1**
AGG Agios Georgios 54.94 300 *e*P **P 01 02 53.4 -0.1**
AGG pmax pmax
comp=Z,41nm,1.0s
AGG Agios Georgios 54.94 300 *e*P **P 01 02 53.4 -0.1**
comp=Z,41nm,1.0s
ARCES ARCESS Array B 54.94 338 P **P 01 02 53.1 +0.2**
comp=Z,0.8nm,0.3s,baz=102,slow=7.2,SNR=25
ARCES pP **sP 01 03 04.4 -1.4**
comp=Z,5.7nm,0.8s,baz=111,slow=7.4,SNR=7.0
FNA Florina 55.40 302 P **P 01 02 58.4 +1.6**
KMBO Kilima Mbogo 56.28 248 P **P 01 03 05.0 +1.3**
comp=Z,2.5nm,0.7s,baz=42,slow=12,SNR=6.6
KMBO Kilima Mbogo 56.28 248 P **P 01 03 05.0 +1.3**
VYHS Vyhne 56.34 312 *e*P **P 01 03 05.0 +1.6**
VYHS *e* 01 03 17.8
VYHS Vyhne 56.34 312 *e*P **P 01 03 05.0 +1.6**
VYHS *e* 01 03 17.8
PETK Petropavlovsk-Kamchatskiy 56.61 43 P **P 01 03 04.0 -1.2**
comp=Z,2.1nm,0.5s,baz=249,slow=13,SNR=3.8
OKC Ostrava-Krasne 56.69 313 *e*P **P 01 03 07.7 +1.9**
OKC *ex* x 01 03 14.7
OKC *e*pP **sP 01 03 21.9 +3.2**
OKC Ostrava-Krasne 56.69 313 *e*P **P 01 03 07.7 +1.9**
OKC *e* 01 03 14.7
OKC *e* 01 03 21.9
MORC Moravsky Berou 57.09 313⇑ *i*P **P 01 03 11.0 +2.3**
MORC Moravsky Berou 57.09 313 *e*P **P 01 03 11.0 +2.3**
MORC pmax pmax
comp=Z,26nm,1.0s
MORC Moravsky Berou 57.09 313 *e*P **P 01 03 11.0 +2.3**
comp=Z,26nm,1.0s
MBWA Marble Bar 57.34 144 *e*P **P 01 03 10.7 0.0**
comp=Z,104nm,1.1s
VRAC Vranov 57.74 313⇓ *i*P **P 01 03 15.3 +2.0**
DPC Dobruska-Polom 57.82 314 *e*P **P 01 03 16.0 +2.1**
DPC *ex* x 01 03 23.0
DPC *e*pP **sP 01 03 30.2 +3.5**
DPC Dobruska-Polom 57.82 314 *e*P **P 01 03 16.0 +2.1**
DPC *e* 01 03 23.0
DPC *e* 01 03 30.2
CONA Conrad Observa 58.38 311 *i*P **P 01 03 18.8 +0.9**
comp=Z,13nm,1.1s,SNR=8.4
TREC Trest 58.47 313 *e*P **P 01 03 19.5 +1.1**
TREC *e*pP **sP 01 03 32.7 +1.5**
TREC Trest 58.47 313 *e*P **P 01 03 19.5 +1.1**
TREC *e* 01 03 32.7
ARSA Arzberg 58.70 311 *i*P **P 01 03 21.4 +1.4**
comp=Z,5.7nm,1.1s
GROS Grobnik 58.82 310 *i*P **P 01 03 22.2 +1.3**
GROS Grobnik 58.82 310 P **P 01 03 22.2 +1.3**
PRU Pruhonice 58.99 314 *e*P **P 01 03 24.5 +2.5**
PRU *e*pP **sP 01 03 38.0 +3.1**
PRU Pruhonice 58.99 314 *e*P **P 01 03 24.5 +2.5**
PRU *e* 01 03 38.0
SOKA Soboth 59.11 310 *i*P **P 01 03 24.0 +1.1**
comp=Z,4.9nm,0.6s,SNR=8.2
TIP Timpagrande 59.17 301 *e*P **P 01 03 24.1 +0.6**
comp=Z,15nm,1.0s
BRG Berggiesshubel 59.27 315 *e*P **P 01 03 25.9 +2.0**
comp=Z,4.8nm,1.1s
BRG *i* 01 03 38.5
comp=Z,11nm,1.2s
BRG *i* 01 03 52.2
comp=Z,7.8nm,0.9s
BRG Berggiesshubel 59.27 315 *e*P **P 01 03 25.9 +2.0**
BRG *i* 01 03 38.5
BRG pmax pmax
comp=Z,5.0nm,1.1s
MOA Molln 59.45 311 *i*P **P 01 03 25.8 +0.5**
comp=Z,5.9nm,0.8s
OBKA Obir 59.46 310 *i*P **P 01 03 27.8 +2.4**
comp=Z,7.5nm,0.9s
LJU Ljubljana 59.55 309 *i*P **P 01 03 27.9 +2.0**
LJU Ljubljana 59.55 309 *i*P **P 01 03 27.9 +2.0**
GEC2 GERESS Array S 59.69 313 *e*P **P 01 03 27.8 +0.8**
GEC2 GERESS Array S 59.69 313 *e*P **P 01 03 27.8 +0.8**
GERES GERESS Array B 59.69 313 P **P 01 03 27.7 +0.8**
comp=Z,4.6nm,0.9s,baz=78,slow=6.2,SNR=20
GEA0 GERESS Array S 59.69 313 *e*P **P 01 03 27.3 +0.3**
CUC Castrocucco 59.72 302 *e*P **P 01 03 27.4 +0.2**
comp=Z,8.4nm,0.9s
KHC Kasperske Hory 59.73 313 *e*P **P 01 03 28.0 +0.9**
KHC *e*pP **sP 01 03 42.5 +2.5**
KHC Kasperske Hory 59.73 313 *e*P **P 01 03 28.0 +0.9**
KHC *e* 01 03 42.5
CLL Collm 59.81 315 *e*P **P 01 03 28.0 +0.4**
CLL *i* 01 03 43.2
CLL *e*PP **PP 01 05 43.0 +3.5**
CLL *e*PPPP 01 07 37.0
CLL Collm 59.81 315 *e*P **P 01 03 28.0 +0.4**
CLL *i* 01 03 43.2
NB2 NORSAR Subarra 59.96 327 P **P 01 03 27.8 -0.7**
comp=Z,6.6nm,0.8s,baz=86,slow=6.9
NB2 NORSAR Subarra 59.96 327 P **P 01 03 27.6 -0.9**
NB2 pmax pmax
comp=Z,7.0nm,1.1s
NOA NORSAR Array B 59.96 327 P **P 01 03 27.9 -0.7**
comp=Z,2.9nm,0.7s,baz=90,slow=6.7,SNR=9.8
NOA pP **sP 01 03 40.4 -1.0**
comp=Z,4.1nm,0.7s,baz=87,slow=6.8,SNR=7.1
CEL Celeste 60.03 300 *e*P **P 01 03 30.5 +1.1**
comp=Z,57nm,1.2s
CADS Cadrg 60.06 310 *i*P **P 01 03 29.9 +0.4**
CADS Cadrg 60.06 310 *i*P **P 01 03 29.9 +0.4**
WET Wettzell 60.18 313 P **P 01 03 32.1 +1.9**
WET pmax pmax
comp=Z,14nm,3.1s
BILL Bilibino 60.53 25 *d i*P **P 01 03 31.0 -1.3**
BILL *i* 01 03 43.4
BILL pmax pmax
comp=Z,10.0nm,1.7s
ABTA Abfaltersbach 60.81 310 *i*P **P 01 03 35.6 +0.9**
comp=Z,4.6nm,0.8s
WTTA Wattenberg 61.31 311 *i*P **P 01 03 38.0 -0.2**
comp=Z,11nm,1.1s
MOTA Moosalm 61.65 311 *i*P **P 01 03 40.1 -0.3**
comp=Z,11nm,0.9s
RETA Reutte 61.85 311 *i*P **P 01 03 41.6 -0.1**
comp=Z,5.7nm,0.9s,SNR=7.1
FETA Feichten 61.96 311 *i*P **P 01 03 41.7 -0.8**
comp=Z,6.3nm,0.8s,SNR=4.6
FUORN Ofenpass-Fuorn 62.35 311 *e*P **P 01 03 45.3 0.0**
DAVA Damuels 62.48 311 *i*P **P 01 03 46.0 0.0**
comp=Z,14nm,1.0s
TUE Stuetta 63.00 311 *e*P **P 01 03 50.4 +0.9**
HINF Hinteralfeld 64.37 312 *e*P **P 01 03 58.3 0.0**
HINF pmax pmax
comp=Z,14nm,1.4s
SENIN Lac Senin/Sane 64.41 311 *e*P **P 01 03 59.3 +0.5**
LPG La Plagne 64.99 310 *e*P **P 01 04 03.1 +0.4**
LPG pmax pmax
comp=Z,8.0nm,0.7s
LPL La Plagne 65.00 310 *e*P **P 01 04 03.1 +0.4**
LPL pmax pmax
comp=Z,9.0nm,0.8s
WRA Warramunga Arr 65.17 131 P **P 01 04 03.6 -0.1**
comp=Z,11nm,0.5s,baz=325,slow=6.6,SNR=395
WRA Warramunga Arr 65.17 131 *i*P **P 01 04 03.7 -0.1**
WRA pmax pmax
comp=Z,14nm,0.4s
WRAB Tennant Creek 65.17 131⇓ *i*P **P 01 04 04.0 +0.2**
WRAB pmax pmax
comp=Z,31nm,0.8s
WRAB Tennant Creek 65.17 131 *e*P **P 01 04 03.6 -0.2**
comp=Z,7.6nm,0.4s
WRAB *e*pP **sP 01 04 15.4 -1.3**
WB2 Warramunga Arr 65.17 131 *e*P **P 01 04 03.9 0.0**
ORIF Oris-en-Rattie 65.73 309 *e*P **P 01 04 07.2 -0.1**
ORIF pmax pmax
comp=Z,13nm,1.2s
KEST Kesra 65.74 299 P **P 01 04 08.8 +1.2**
comp=Z,18nm,0.9s,baz=334,slow=2.7,SNR=15
VIVF Saint-Julien-l 66.58 310 *e*P **P 01 04 12.7 +0.1**
VIVF pmax pmax
comp=Z,9.0nm,1.1s
AVF Avril sur Loir 66.93 312 *e*P **P 01 04 14.6 -0.2**
AVF pmax pmax
comp=Z,26nm,1.4s
AS31 Alice Springs 67.52 134 *e*P **P 01 04 18.9 0.0**
ASAR Alice Springs 67.52 134 P **P 01 04 18.9 +0.1**
comp=Z,18nm,0.6s,baz=314,slow=6.2,SNR=160
ASAR PcP **PcP 01 04 45.5 -0.4**
comp=Z,3.9nm,0.8s,baz=308,slow=5.5,SNR=4.5
AS01 Alice Springs 67.55 134 *e*P **P 01 04 18.0 -1.0**
CAF Calviac 68.33 310 *e*P **P 01 04 24.1 +0.4**
CAF pmax pmax
comp=Z,8.0nm,1.0s
CTAO Charters Tower 73.69 123 *e*P **P 01 04 56.6 +0.1**
CTAO Charters Tower 73.69 123 *e*P **P 01 04 56.6 +0.1**
SUMG Summit 73.81 345 *e*P **P 01 04 56.4 -0.5**
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 73.81 345 *i* P **P 01 04 56.3 -0.6**
comp=Z,10nm,1.1s
SUMG Summit 73.81 345 *e*P **P 01 04 56.4 -0.5**
comp=Z,9.1nm,1.0s
ES19 SONSECA Array 74.28 307 *e*P **P 01 05 00.3 +0.5**
ESDC Sonseca Array 74.33 307 P **P 01 05 00.7 +0.5**
comp=Z,3.7nm,0.8s,baz=53,slow=6.2,SNR=19
BBOO Buckleboo 75.44 140 *e*P **P 01 05 06.2 -0.2**
COLD Coldfoot 76.15 20 *e*P **P 01 05 10.4 +0.4**
PCBR Castelo Branco 76.75 308 *e*P **P 01 05 14.7 +0.8**
comp=Z,15nm,2.0s
PBAR Barrancos 77.13 306 *e*P **P 01 05 16.6 +0.5**
comp=Z,34nm,2.1s
BPAW Bear Paw Mtn. 77.88 23 *e*P **P 01 05 19.9 +0.1**
CAST Castle Rocks 77.92 23 *e*P **P 01 05 20.6 +0.5**
PVAQ Vaqueiros 77.95 306 *e*P **P 01 05 21.4 +0.8**
comp=Z,45nm,2.0s
STKA Stephens Creek 78.11 135 P **P 01 05 21.0 -0.5**
comp=Z,13nm,1.0s,baz=310,slow=6.3,SNR=8.7
PBDV Barranco-do-Ve 78.17 306 *e*P **P 01 05 22.8 +0.9**
comp=Z,76nm,1.6s
PPLA Purkeypile 78.21 24 *e*P **P 01 05 21.6 -0.2**
comp=Z,51nm,1.6s
WRH Wood River Hil 78.60 21 *e*P **P 01 05 23.5 -0.2**
MORF Marmelete 78.66 306 *e*P **P 01 05 21.8 -2.9**
comp=Z,47nm,1.8s
ILAR Eielson Array 78.79 21 P **P 01 05 23.6 -1.2**
comp=Z,3.3nm,0.9s,baz=299,slow=4.8,SNR=25
INK Inuvik 79.76 14 P **P 01 05 28.9 -1.0**
comp=Z,10.0nm,1.0s,baz=348,slow=8.0,SNR=12
EGAK Eagle 80.53 19 *e*P **P 01 05 34.2 0.0**
TORD Torodi Ar. Bea 80.69 280 P **P 01 05 35.8 -0.2**
comp=Z,3.0nm,0.8s,baz=60,slow=4.1,SNR=19
KDAK Kodiak Island 81.24 28 *i*P **P 01 05 37.9 -0.2**
BOSA Boshof 81.88 232 P **P 01 05 42.7 +0.7**
comp=Z,5.1nm,0.9s,baz=83,slow=6.6,SNR=6.0
YKA Yellowknife Ar 88.58 10 P **P 01 06 13.3 -1.5**
comp=Z,3.5nm,0.8s,baz=338,slow=4.7,SNR=14
YKA pP **sP 01 06 26.4 -1.6**
comp=Z,2.5nm,0.8s,baz=340,slow=5.0,SNR=8.5
YKA Yellowknife Ar 88.58 10 *i*P **P 01 06 14.1 -0.8**
YKA pmax pmax
comp=Z,4.0nm,0.7s
DLBC Dease Lake 88.79 19 P **P 01 06 14.8 -1.3**
comp=Z,2.0nm,0.7s,baz=320,slow=12,SNR=3.1
TXAR Lajitas Array 122.47 12 PKP **PKPdf 01 12 17.7 -0.5**
comp=Z,1.7nm,0.8s,baz=12,slow=0.7,SNR=16
SAML Samuel 147.03 298 *e*PKPdf **PKPdf 01 13 03.6 -0.1**
CPUP Villa Florida 148.97 264 PKP **PKPdf 01 13 06.0 -0.6**
comp=Z,14nm,0.8s,baz=73,slow=2.9,SNR=28
CPUP PKPbc **PKPbc 01 13 10.8 +0.1**
comp=Z,5.4nm,1.0s,baz=174,slow=2.5,SNR=4.5
LPAZ La Paz 155.13 292 PKP **PKPdf 01 13 17.0 +0.1**
comp=Z,0.6nm,0.6s,baz=38,slow=10,SNR=3.8
LPAZ La Paz 155.13 292 PKIKP **PKPdf 01 13 17.0 +0.1**

---

*ISCJB **03** 00:55:43.4±0.7, 33°.41N±0°.04×141°.04E±0°.06, h48km±8km, mb4.1/8, Error ellipse: s-maj=9.0km s-min=6.0km az=169.0*
*JMA **03** 00:55:43.8±0.1, 33°.48N×141°.02E, h62km±4km, M3.8*
*NEIC **03** 00:55:45.3±0.8, 33°.31N×140°.97E, h51km±9km, mb4.3/2, Error ellipse: s-maj=12.3km s-min=8.3km az=84.0*
*IDC **03** 00:55:45.9±2.3, 33°.37N×140°.96E, h56km±21km, mb3.8/6, mb1 4.0/9, mb1mx3.6/41, mbtmp4.0/9, ML3.9/3, Error ellipse: s-maj=24.9km s-min=12.1km az=85.0*
ISC 03 00:55:45.1±1.4, 33°.41N±0°.06×141°.00E±0°.08, h46km±14km, n33, σ1s10/40, mb4.1/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.03**	**254**	P		P	**n 00 56 03.3**	**+0.1**
JHJ2				S		Sn	**00 56 17.2**	**+0.7**
JHJ2	**Mitsune**	**1.03**	**254**	*e*Pn		Pn	**00 56 02.8**	**-0.4**
JHJ2				*e*Sn		Sn	**00 56 15.8**	**-0.7**
JHJ	**Hachijo jima 2**	**1.06**	**255**	P		Pn	**00 56 03.4**	**-0.1**
	1µm,0.3s,baz=51,slow=22,SNR=77							
JHJ				S		Sn	**00 56 17.4**	**+0.3**
	764nm,0.3s,baz=68,slow=23,SNR=24							
JHCJ	**Hachijojimakas**	**1.06**	**252**	P		Pn	**00 56 03.4**	**-0.1**
BSO1	**Boso 1**	**1.24**	**359**	P		Pn	**00 56 04.3**	**-1.3**
BSO3	**Boso 3**	**1.45**	**344**	P		Pn	**00 56 07.5**	**-1.1**
BSO4	**Boso 4**	**1.67**	**341**	P		Pn	**00 56 11.2**	**-0.6**
JKO	**Kozu shima**	**1.74**	**297**	P		Pn	**00 56 12.3**	**-0.5**
JKO				*e*S		Sn	**00 56 33.2**	**-0.5**
JIM2	**Oshima 3**	**1.85**	**316**	P		Pn	**00 56 12.9**	**-1.4**
JIM2				*e*S		Sn	**00 56 34.6**	**-1.9**
JIZS	**Izushimoda**	**2.19**	**307**	P		Pn	**00 56 18.7**	**-0.4**
JIZS				S		Sn	**00 56 44.3**	**-0.7**
KTJJ	**Kamata 2**	**2.21**	**314**	P		Pn	**00 56 18.2**	**-1.0**
KTJJ				*e*S		Sn	**00 56 44.0**	**-1.3**
JOD2	**Odawara 2**	**2.44**	**320**	P		Pn	**00 56 21.2**	**-1.2**
MJAR	**Matsushiro Arr**	**3.88**	**325**	P		Pn	**00 56 42.5**	**+0.4**
	9.1nm,0.3s,baz=155,slow=12,SNR=34							
MJAR				S		Sn	**00 57 26.7**	**+0.2**
	3.7nm,0.3s,baz=104,slow=14,SNR=4.6							
MAJO	**Matsushiro**	**3.88**	**325**	*e*Pn		Pn	**00 56 42.7**	**+0.4**
MAJO				Sn		Sn	**00 57 27.2**	**+0.7**
MAT	**Matsushiro**	**3.88**	**325**	P		Pn	**00 56 42.8**	**+0.6**
MAT				S		Sn	**00 57 25.7**	**-0.8**
CBIJ	**Chichi jima**	**6.37**	**170**	P		Pn	**00 57 15.1**	**-1.4**
JCJ	**Chichijima**	**6.37**	**170**	P		Pn	**00 57 15.1**	**-1.4**
	6.3nm,0.3s,baz=306,slow=19,SNR=4.9							
ERM	**Erimo**	**8.76**	**11**	*e*Pn		Pn	**00 57 50.6**	**+1.5**
KSRS	**Korea Array**	**11.40**	**294**	P		Pn	**00 58 28.1**	**+2.9**
	0.3nm,0.3s,baz=112,slow=14,SNR=2.4							
KSAR	**Wonju Array Be**	**11.43**	**294**	P		Pn	**00 58 28.1**	**+2.5**
H11N2	**WAKE ISLAND Hy**	**26.78**	**114**	T		T	01 30 21.9	
	baz=306,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**26.79**	**114**	T		T	01 30 10.1	
	baz=306,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**26.80**	**114**	T		T	01 30 17.2	
	baz=306,slow=75,SNR=15							

MKAR	**Makanchi Array**	**45.84**	**305**	P		**P**		**01 04 02.0**	**-0.6**
	0.5nm,0.5s,baz=94,slow=8.4,SNR=2.9								
CHGN	**Chignik**	**46.85**	**42**	*e*P		**P**		**01 04 10.8**	**+0.5**
KURK	**Kurchatov**	**47.97**	**311**	*e*P		**P**		**01 04 18.7**	**-0.4**
	1.9nm,0.7s								
WRA	**Warramunga Arr**	**53.43**	**188**	P		**P**		**01 04 59.4**	**-1.1**
	6.3nm,0.4s,baz=6.2,slow=7.6,SNR=20								
ASAR	**Alice Springs**	**57.16**	**188**	P		**P**		**01 05 26.5**	**-0.8**
	1.7nm,0.5s,baz=1.4,slow=7.2,SNR=9.9								
SKAG	**Skagway**	**58.79**	**36**	*e*P		**P**		**01 05 39.5**	**+1.2**
	1.0nm,0.4s								
NOA	**NORSAR Array B**	**77.40**	**337**	P		**P**		**01 07 33.9**	**-1.1**
	1.2nm,0.8s,baz=39,slow=5.6,SNR=3.6								
NVAR	**Mina Array Bea**	**77.45**	**52**	P		**P**		**01 07 36.9**	**+0.9**
	0.5nm,0.6s,baz=309,slow=5.7,SNR=2.8								
TXAR	**Lajitas Array**	**92.60**	**52**	P		**P**		**01 08 52.3**	**+0.1**
	0.2nm,0.5s,baz=320,slow=2.8,SNR=4.1								
LPAZ	**La Paz**	**148.70**	**64**	PKPbc		**PKPbc**		**01 15 28.4**	**-0.3**
	1.7nm,0.7s,baz=27,slow=4.8,SNR=4.7								

*CSEM **03** 01:11:50.2,45.74N×15.69E,h0km,ML0.4*
LJU 03 01:11:50.2,45.74N×15.69E,h7km,ML0.4,2C-2D,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
GCIS	**Gornji Cirnik**	**0.14**	**341**	⇓*i*	Pg		01	11 53.2	+0.1
GCIS				*i*	Sg	Sg	01	11 55.4	+0.2
	comp=Z,4.0nm,0.1s								
GCIS	**Gornji Cirnik**	**0.14**	**341**	⇓*i*	Pg		01	11 53.2	+0.1
GCIS				*i*	Sg	Sg	01	11 55.4	+0.3
	comp=Z,4.0nm,0.1s								
CRES	**Cresnjev**	**0.19**	**298**	⇑*i*	Pg		01	11 54.1	+0.1
CRES				*i*	Sg	Sg	01	11 56.9	+0.3
	comp=Z,3.0nm,0.1s								
CRES	**Cresnjev**	**0.19**	**298**	⇑*i*	Pg		01	11 54.1	+0.1
CRES				*i*	Sg	Sg	01	11 56.9	+0.3
	comp=Z,3.0nm,0.1s								
LEGS	**Legarje**	**0.34**	**309**	*i*	Sg	Sg	01	12 01.9	+0.7
LEGS	**Legarje**	**0.34**	**309**	*i*	Sg	Sg	01	12 01.9	+0.7
BOJS	**Bojanci**	**0.39**	**233**	*i*	Pg	Pg	01	11 58.0	+0.2
BOJS				*i*	Sg	Sg	01	12 03.5	+0.7
	comp=Z,1.0nm,0.1s								
BOJS	**Bojanci**	**0.39**	**233**	*i*	Pg	Pg	01	11 58.0	+0.3
BOJS				*i*	Sg	Sg	01	12 03.5	+0.7
	comp=Z,1.0nm,0.1s								
VISS	**Visnje**	**0.60**	**277**	*i*	Pg	Pg	01	12 01.9	+0.1
VISS				*i*	Sg	Sg	01	12 09.5	-0.1
	comp=Z,1.0nm,0.1s								
VISS	**Visnje**	**0.60**	**277**	*i*	Pg	Pg	01	12 01.9	+0.1
VISS				*i*	Sg	Sg	01	12 09.5	-0.1

*NIED **03** 01:33:00,36.00N×140.20E,h62km,Mw4.7 Best double couple: M₀1.09000×10¹⁸ NP1:φs155.00000°,δ26.00000°, λ73.00000°. NP2:φs354.00000°,δ65.00000°,λ98.00000°.*
*BJI **03** 01:33:22.3,35.73N×140.51E,h54km,mb4.8/53,mB5.2/26, Ms4.7/17,Ms7 4.5/17*
*MOS **03** 01:33:24.9±1.0,35.96N×140.20E,h57km,mb5.0/50,Error ellipse: s-maj=7.0km s-min=4.6km az=113.4*
*NEIC **03** 01:33:26.5±0.5,35.91N×140.16E,h56km±4km,mb4.8/57, Error ellipse: s-maj=4.6km s-min=3.5km az=112.0*
NEIC Felt [II] at Tokyo. Also felt at Chiba, Fujisawa, Mitaka and Sagamihara. Recorded [3 JMA] in Ibaraki.
*ISCJB **03** 01:33:26.2±0.3,35.90N±0.02×140.17E±0.03,h70km±2km, mb4.7/116,Error ellipse: s-maj=4.5km s-min=3.7km az=176.2*
*JMA **03** 01:33:27.7±0.1,35.98N×140.16E,h62km±1km,M4.5 Broadband fault plane solution: P waves. NP1: φs166.00000°,δ87.00000°,λ-91.00000°. NP2:φs12.00000°, δ3.00000°,λ-64.00000°. Principal axes: T Plg42.0000°, Azm257.0000°; N Plg1.0000°, Azm166.0000°; P Plg48.0000°, Azm74.0000°;*
JMA Felt III J1.
*IDC **03** 01:33:28.4±1.4,35.89N×140.08E,h77km±11km,mb4.2/28, mb1 4.3/33,mb1mx4.2/44,mbtmp4.5/33,MS4.3/2, Ms1 4.3/2,ms1mx3.4/41 Error ellipse: s-maj=12.7km s-min=10.3km az=72.0*
ISC 03 01:33:26.8±0.5,35.92N±0.04×140.24E±0.04,h62km±4km, h61km;pP-P,n308,σ1s29/335,mb4.8/116,28C-24D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
JYT	**Yasato**	**0.31**	**353**	⇑P		**Pn**	**01**	**33 37.8**	**+0.7**
JYT				S		**Sn**	**01**	**33 45.6**	**+0.9**
JAG	**Ashikaga**	**0.81**	**309**	⇓P		**Pn**	**01**	**33 42.6**	**+0.1**
JAG				S		**Sn**	**01**	**33 53.6**	**-0.5**
JRY	**Ryogami san**	**1.09**	**276**	⇓P		**Pn**	**01**	**33 46.5**	**+0.4**
JRY				S		**Sn**	**01**	**34 00.5**	**+0.1**
BSO3	**Boso 3**	**1.13**	**169**	⇓P		**Pn**	**01**	**33 48.1**	**+1.7**
BSO3				S		**Sn**	**01**	**34 02.9**	**+1.9**
JOD2	**Odawara 2**	**1.14**	**236**	⇓P		**Pn**	**01**	**33 47.4**	**+0.7**
JOD2				S		**Sn**	**01**	**34 01.6**	**0.0**
JKT	**Katashina**	**1.17**	**317**	⇓P		**Pn**	**01**	**33 47.1**	**0.0**
JKT				S		**Sn**	**01**	**34 02.1**	**-0.2**
MJAR	**Matsushiro Arr**	**1.76**	**291**	P		**Pn**	**01**	**33 53.9**	**-1.1**
	303nm,0.3s,baz=94,slow=11,SNR=2104								
MJAR				S		**Sn**	**01**	**34 15.6**	**-0.7**
	137nm,0.3s,baz=110,slow=14,SNR=11								
MJAR				LR		LR	01	34 45.5	
	comp=Z,1μm,20.6s,baz=120,slow=48								
MAJO	**Matsushiro**	**1.76**	**291**	*d*	iP	**Pn**	**01**	**33 55.8**	**+0.8**
MAJO	**Matsushiro**	**1.76**	**291**	*e*	Pn	**Pn**	**01**	**33 55.4**	**+0.4**
MAJO				*e*	Sn	**Sn**	**01**	**34 12.4**	**-3.9**
MAT	**Matsushiro**	**1.76**	**291**	P		**Pn**	**01**	**33 54.4**	**-0.6**
MAT				S		**Sn**	**01**	**34 15.8**	**-0.6**
MJB9	**Matsu-Tunnel**	**1.76**	**291**	*e*	Pn	**Pn**	**01**	**33 55.8**	**+0.8**
INU	**Inuyama**	**2.69**	**259**	*e*	Pn	**Pn**	**01**	**34 08.8**	**+1.2**
JHJ	**Hachijo jima 2**	**2.82**	**188**	P		**Pn**	**01**	**34 09.6**	**+0.2**
	191nm,0.3s,baz=215,slow=8.8,SNR=11								
JHJ				S		**Sn**	**01**	**34 42.3**	**+0.1**
	258nm,0.3s,baz=188,slow=23,SNR=8.2								
JHJ2	**Mitsune**	**2.82**	**187**	*e*	Pn	**Pn**	**01**	**34 08.7**	**-0.7**
ERM	**Erimo**	**6.50**	**20**	⇑*i*	P	**Pn**	**01**	**34 58.6**	**-1.1**
ERM					pmax	pmax			
	comp=Z,76nm,0.7s								
ERM	**Erimo**	**6.50**	**20**	*e*	Pn	**Pn**	**01**	**34 58.5**	**-1.1**
ERM				*e*	Sn	**Sn**	**01**	**36 08.9**	**-3.5**
JNU	**Nakatsue**	**8.21**	**253**	P		**Pn**	**01**	**35 23.2**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=63,slow=8.4,SNR=22								
JNU	**Nakatsue**	**8.21**	**253**	*e*	Pn	**Pn**	**01**	**35 24.9**	**+1.7**
ASAJ	**Asahikawa**	**8.39**	**12**	P		**Pn**	**01**	**35 24.0**	**-1.6**
	comp=Z,8.3nm,0.3s,baz=213,slow=7.8,SNR=14								
ASAJ				S		**Sn**	**01**	**36 54.2**	**-4.5**
	comp=Z,2.6nm,0.3s,baz=71,slow=30,SNR=4.3								
ASAJ	**Asahikawa**	**8.39**	**12**	*e*	Pn	**Pn**	**01**	**35 23.3**	**-2.3**
ASAJ				*e*	Sn	**Sn**	**01**	**36 53.2**	**-5.4**
CBIJ	**Chichi jima**	**8.95**	**169**	*e*	Pn	**Pn**	**01**	**35 31.6**	**-1.7**
CBIJ				*e*	Sn	**Sn**	**01**	**37 05.7**	**-7.0**
JCJ	**Chichijima**	**8.95**	**169**	P		**Pn**	**01**	**35 31.6**	**-1.8**
	comp=Z,31nm,0.3s,baz=62,slow=5.3,SNR=11								
JCJ				S		**Sn**	**01**	**37 06.0**	**-6.6**
	comp=Z,35nm,0.3s,baz=282,slow=23,SNR=8.4								
KSRS	**Korea Array**	**10.01**	**282**	P		**Pn**	**01**	**35 49.5**	**+1.7**
	comp=Z,2.5nm,0.3s,baz=97,slow=14,SNR=39								
KSRS				LR		LR	01	39 34.2	
	comp=Z,617nm,19.3s,baz=4.0,slow=37								
KS01	**Wonju Array Si**	**10.04**	**283**	*e*	Pn	**Pn**	**01**	**35 48.7**	**+0.6**
KSAR	**Wonju Array Be**	**10.04**	**282**	P		**Pn**	**01**	**35 49.5**	**+1.3**
KSAR	**Wonju Array Be**	**10.04**	**282**	P		**Pn**	**01**	**35 49.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.41**	**325**	P		**Pn**	**01**	**35 55.0**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=143,slow=12,SNR=22								
TJN	**Taejon**	**10.42**	**276**	⇑*e*	P	**Pn**	**01**	**35 55.8**	**+2.4**
KUR	**Kuril'sk**	**10.96**	**30**	⇑*i*	P	**Pn**	**01**	**35 59.5**	**-1.2**
YSS	**Yuzh-Sakhalins**	**11.19**	**9**	*e*	P	**Pn**	**01**	**36 03.1**	**-0.7**
YSS					pmax	pmax			
	comp=Z,23nm,0.6s								
YSS	**Yuzh-Sakhalins**	**11.19**	**9**	*e*	Pn	**Pn**	**01**	**36 03.1**	**-0.7**
	comp=Z,23nm,0.6s								
MDJ	**Mudanjiang**	**11.89**	**320**	P		**Pn**	**01**	**36 15.4**	**+2.0**
MDJ				PMZ					
	comp=Z,7.0nm,0.8s								
MDJ				PMZ					
	comp=Z,290nm,10.7s								
CN2	**Changchun**	**13.81**	**309**	*e*	P	**Pn**	**01**	**36 41.1**	**+1.6**
CN2				PMZ					
	comp=Z,10.0nm,1.3s								
KLR	**Kul'dur**	**14.69**	**338**	P		**Pn**	**01**	**36 50.3**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=141,slow=9.4,SNR=11								
KLR	**Kul'dur**	**14.69**	**338**	⇑*e*	P	**Pn**	**01**	**36 49.7**	**-1.2**
TYV	**Tymovskoe**	**15.04**	**6**	*e*	P	**Pn**	**01**	**36 54.0**	**-1.5**
TYV					pmax	pmax			
	comp=Z,22nm,0.8s								
NJ2	**Nanjing**	**18.14**	**264**	*e*	P	**P**	**01**	**37 33.3**	**-0.7**
NJ2				PMZ					
	comp=Z,23nm,0.6s								
TIA	**Tai'an**	**18.69**	**278**	*e*	P	**P**	**01**	**37 38.6**	**-1.4**
TIA				PMZ					
	comp=Z,20nm,1.4s								
YOJ	**Yonaguni jima**	**18.73**	**237**	*e*	P	**P**	**01**	**37 39.9**	**-0.6**
YOJ					pmax	pmax			
	comp=Z,17nm,0.8s								
YOJ	**Yonaguni jima**	**18.73**	**237**	*e*	P	**P**	**01**	**37 39.9**	**-0.6**
	comp=Z,17nm,0.8s								
BJI	**Beijing**	**19.39**	**289**	P		**P**	**01**	**37 46.9**	**-0.7**
BJI				PMZ					
	comp=Z,29nm,1.0s								
YHNB	**Yeheng**	**19.74**	**241**	*e*	P	**P**	**01**	**37 50.4**	**-1.2**
	comp=Z,9.1nm,0.4s								
SSLB	**Sunglung**	**20.59**	**239**	*e*	P	**P**	**01**	**38 00.0**	**-0.8**
	comp=Z,9.2nm,0.5s								
YULB	**Yu-li**	**20.61**	**238**	*e*	P	**P**	**01**	**38 00.3**	**-0.7**
	comp=Z,8.5nm,0.4s								
PETK	**Petropavlovsk-**	**21.13**	**30**	P		**P**	**01**	**38 07.0**	**+0.7**
	comp=Z,7.0nm,0.9s,baz=214,slow=10,SNR=5.7								
TPUB	**Ta-pu**	**21.13**	**239**	*e*	P	**P**	**01**	**38 06.0**	**-0.7**
	comp=Z,26nm,0.5s								
WHN	**Wuhan**	**22.28**	**264**	⇓*i*	P	**P**	**01**	**38 18.7**	**-0.1**
WHN				PMZ					
	comp=Z,110nm,0.7s								
GUMO	**Guam**	**22.62**	**168**	*e*	P	**P**	**01**	**38 20.7**	**-1.8**
GUMO					pmax	pmax			
	comp=Z,132nm,1.0s								
GUMO	**Guam**	**22.62**	**168**	*e*	P	**P**	**01**	**38 20.7**	**-1.8**
	comp=Z,132nm,1.0s								
HHC	**Hu-ho-hao-te**	**22.96**	**291**	*e*	P	**P**	**01**	**38 25.8**	**-0.2**
HHC				PMZ					
	comp=Z,24nm,1.0s								
HHC				PMZ					
	comp=Z,340nm,7.1s								
XAN	**Xi'an**	**25.68**	**275**	P		**P**	**01**	**38 49.1**	**-1.9**
XAN				PMZ					
	comp=Z,12nm,0.6s								
ENH	**Enshi**	**26.31**	**267**	*e*	P	**P**	**01**	**38 55.3**	**-1.4**
	comp=Z,59nm,0.6s								
ULN	**Ulaanbaatar**	**27.23**	**306**	⇑*i*	P	**P**	**01**	**39 03.4**	**-1.6**
ULN					pmax	pmax			
	comp=Z,18nm,1.7s								
ULN	**Ulaanbaatar**	**27.23**	**306**	*e*	P	**P**	**01**	**39 04.1**	**-0.9**
	comp=Z,22nm,1.5s								
SONA1	**Songino Array**	**27.65**	**306**	*e*	P	**P**	**01**	**39 07.2**	**-1.5**
SONM	**Songino Array**	**27.65**	**306**	P		**P**	**01**	**39 07.7**	**-1.0**
	comp=Z,6.5nm,0.7s,baz=104,slow=8.8,SNR=26								
SEY	**Seymchan**	**28.07**	**12**	P		**P**	**01**	**39 13.2**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=236,slow=18,SNR=2.2								
SEY	**Seymchan**	**28.07**	**12**	P		**P**	**01**	**39 13.3**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**28.43**	**117**	T		T	02	09 25.0	
	baz=308,slow=75,SNR=73								
H11N1	**WAKE ISLAND Hy**	**28.44**	**117**	T		T	02	09 25.5	
	baz=308,slow=75,SNR=81								
H11N3	**WAKE ISLAND Hy**	**28.45**	**117**	T		T	02	09 16.7	
	baz=308,slow=75,SNR=70								
H11S3	**WAKE ISLAND Hy**	**29.09**	**120**	T		T	02	10 30.7	
	baz=259,slow=74,SNR=43								
H11S1	**WAKE ISLAND Hy**	**29.09**	**120**	T		T	02	09 33.2	
	SNR=53								
H11S2	**WAKE ISLAND Hy**	**29.11**	**120**	T		T	02	10 27.8	
	baz=310,slow=74,SNR=31								
LZH	**Lanzhou**	**29.34**	**281**	*e*	P	**P**	**01**	**39 21.5**	**-2.4**
LZH				PP		**PnPn**	**01**	**40 16.5**	**-3.4**
LZH				PMZ					
	comp=Z,25nm,1.3s								
LZH				PMZ					
	comp=Z,97nm,5.2s								
LZH				LN					
	comp=Z,430nm,13.0s								
LZH				LE					
	comp=Z,390nm,12.9s								
LZH				LZ					
	comp=Z,520nm,16.5s								
GYA	**Guiyang**	**30.11**	**261**	P		**P**	**01**	**39 31.7**	**+1.0**
GYA				pP		pP	01	39 41.8	-4.0
GYA				PP		**PnPn**	**01**	**40 29.6**	**-0.5**
GYA				PcP		**PcP**	**01**	**42 33.2**	**+2.1**
GYA				S		**S**	**01**	**44 26.5**	**+1.3**
GYA				SS		**SnSn**	**01**	**46 03.8**	**+0.6**
GYA				PMZ					
	comp=Z,20nm,0.8s								
GYA				PMZ					
	comp=Z,120nm,4.8s								
GYA				LN					
	comp=Z,550nm,16.9s								
GYA				LE					
	comp=Z,520nm,17.2s								
GYA				LZ					
	comp=Z,530nm,17.6s								
ZAK	**Zakamensk**	**30.24**	**310**	*e*	P	**P**	**01**	**39 30.0**	**-1.7**
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.1s								
TLY	**Talaya**	**30.37**	**313**	P		**P**	**01**	**39 31.9**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=133,slow=2.4,SNR=6.1								
CD2	**Chengdu**	**30.74**	**271**	*e*	P	**P**	**01**	**39 35.0**	**-1.2**
CD2				S		**S**	**01**	**44 35.4**	**+0.5**
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.0s								
GTA	**Gaotai**	**32.00**	**289**	*e*	P	**P**	**01**	**39 46.5**	**-0.8**
GTA				PcP		**PcP**	**01**	**42 36.7**	**+0.8**
GTA				PMZ					
	comp=Z,4.0nm,1.0s								
KMI	**Kunming**	**33.86**	**262**	P		**P**	**01**	**40 04.6**	**+0.8**
KMI				PMZ					
	comp=Z,12nm,0.6s								
KMI				PMZ					
	comp=Z,220nm,5.7s								
BILL	**Bilibino**	**35.37**	**17**	⇓*e*	P	**P**	**01**	**40 16.6**	**+0.6**
BILL					pmax	pmax			
	comp=Z,4.0nm,0.9s								
TIXI	**Tiksi**	**36.29**	**354**	⇑*i*	P	**P**	**01**	**40 24.2**	**+0.4**
TIXI					pmax	pmax			
	comp=Z,2.0nm,0.6s								
TIXI	**Tiksi**	**36.29**	**354**	*e*	P	**P**	**01**	**40 22.9**	**-1.0**
	comp=Z,3.8nm,0.8s								
PANO	**Nakornpanom**	**36.68**	**249**	P		**P**	**01**	**40 27.8**	**0.0**
	comp=Z,41nm,0.9s,comp=Z,3μm								
UBPT	**Khong Chiam**	**37.20**	**246**	P		**P**	**01**	**40 31.7**	**-0.5**
	comp=Z,33nm,0.8s								
SKNT	**Sakolnakorn**	**37.26**	**249**	P		**P**	**01**	**40 32.3**	**-0.5**
	comp=Z,25nm,1.0s,comp=Z,4μm								
CRAI	**Chiangrai**	**38.20**	**257**	P		**P**	**01**	**40 40.6**	**-0.1**
	comp=Z,101nm,1.1s								
LOEI	**Loei**	**39.03**	**252**	P		**P**	**01**	**40 44.1**	**-3.5**
	comp=Z,16nm,0.9s								
FAKI	**Fak Fak**	**39.35**	**193**	P		**P**	**01**	**40 50.4**	**+0.2**
	comp=Z,36nm,1.5s								
UTTA	**Uttaradit**	**39.44**	**253**	P		**P**	**01**	**40 53.3**	**+2.3**
	comp=Z,3.4nm,0.5s								
PBKT	**Sadao Pong**	**39.81**	**251**	P		**P**	**01**	**40 54.4**	**+0.3**
	comp=Z,14nm,1.1s,comp=Z,1μm								
SANI	**Sanana**	**40.05**	**202**	P		**P**	**01**	**40 53.7**	**-2.3**
	comp=Z,30nm,0.8s								
CHTO	**Chiang Mai**	**40.10**	**256**	*e*	P	**P**	**01**	**40 55.8**	**-0.7**
CHTO					pmax	pmax			
	comp=Z,4.0nm,0.9s								
CHTO	**Chiang Mai**	**40.10**	**256**	*e*	P	**P**	**01**	**40 55.8**	**-0.7**
	comp=Z,4.5nm,0.9s								
CMAR	**Chiang Mai Arr**	**40.30**	**256**	P		**P**	**01**	**40 56.9**	**-1.3**
	comp=Z,3.5nm,0.6s,baz=49,slow=7.4,SNR=12								
CMAR	**Chiang Mai Arr**	**40.30**	**256**	*i*	P	**P**	**01**	**40 59.4**	**+1.2**
CMAR					pmax	pmax			
	comp=Z,4.0nm,0.6s								
CM01	**Chiang Mai Arr**	**40.31**	**256**	*e*	P	**P**	**01**	**40 57.6**	**-0.7**
WMQ	**Urumqi**	**40.51**	**298**	P		**P**	**01**	**41 00.5**	**+0.8**
WMQ				pP		pP	01	41 09.6	-5.7
WMQ				PMZ					
	comp=Z,7.0nm,1.2s								
WMQ				PMZ					
	comp=Z,240nm,11.6s								
SRAK	**Srakaew**	**40.56**	**247**	P		**P**	**01**	**40 56.6**	**-3.7**
	comp=Z,80nm,0.9s,comp=Z,749nm								
CHBT	**CHBT**	**41.15**	**246**	P		**P**	**01**	**41 05.3**	**+0.1**
	comp=Z,50nm,0.9s,comp=Z,3μm								
LSA	**Lhasa**	**41.37**	**276**	*e*	P	**P**	**01**	**41 08.5**	**+1.1**
LSA					pmax	pmax			
	comp=Z,29nm,1.1s								
LSA	**Lhasa**	**41.37**	**276**	*e*	P	**P**	**01**	**41 08.5**	**+1.1**
	comp=Z,29nm,1.1s								
ZAA0	**Zalesovo Array**	**41.98**	**313**	*e*	P	**P**	**01**	**41 10.9**	**-0.6**
ZALV	**Zalesovo Beam**	**41.98**	**313**	P		**P**	**01**	**41 11.3**	**-0.2**
	comp=Z,22nm,0.9s,baz=96,slow=6.4,SNR=51								
ZALV				PcP		**PcP**	**01**	**43 05.5**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=95,slow=2.1,SNR=3.8								
NVS	**Novosibirsk**	**42.94**	**315**	*i*	P	**P**	**01**	**41 19.0**	**-0.3**
NRIK	**Noril'sk**	**43.89**	**336**	P		**P**	**01**	**41 26.7**	**0.0**
	comp=Z,4.0nm,0.6s,baz=116,slow=12,SNR=5.2								
MK01	**Makanchi Array**	**43.92**	**303**	*e*	P	**P**	**01**	**41 27.0**	**-0.3**
MK31	**Makanchi Array**	**43.92**	**303**	*i*	P	**P**	**01**	**41 26.6**	**-0.8**
MK31					pmax	pmax			
	comp=Z,15nm,0.8s								
MK31	**Makanchi Array**	**43.92**	**303**	*e*	P	**P**	**01**	**41 27.2**	**-0.1**
MKAR	**Makanchi Array**	**43.92**	**303**	P		**P**	**01**	**41 27.2**	**-0.1**
	comp=Z,14nm,0.9s,baz=88,slow=9.8,SNR=72								
MAKZ	**Makanchi**	**44.13**	**303**	*i*	P	**P**	**01**	**41 28.3**	**-0.8**
MAKZ					pmax	pmax			
	comp=Z,21nm,1.0s								
MAKZ	**Makanchi**	**44.13**	**303**	*e*	P	**P**	**01**	**41 29.0**	**0.0**
	comp=Z,23nm,1.1s								
MMPI	**Merauke**	**44.15**	**180**	P		pP	01	41 40.3	-4.7
KURK	**Kurchatov**	**45.88**	**309**	*ce*	P	**P**	**01**	**41 42.2**	**-0.6**
KURK					pmax	pmax			
	comp=Z,66nm,1.0s								
KURK	**Kurchatov**	**45.88**	**309**	*e*	P	**P**	**01**	**41 41.6**	**-1.2**
	comp=Z,49nm,0.8s								
KURBB	**Kurchatov Arra**	**45.95**	**309**	P		**P**	**01**	**41 42.9**	**-0.5**
	comp=Z,37nm,1.0s,baz=85,slow=8.3,SNR=205								
GUN	**Gumba**	**46.33**	**276**	*e*	P	**P**	**01**	**41 46.8**	**-0.3**
	comp=Z,17nm,0.4s								
KRAB	**Krabi**	**46.45**	**244**	P		**P**	**01**	**41 48.3**	**+0.6**
	comp=Z,46nm,0.7s,comp=Z,767nm								
PDGK	**Podgornoye**	**46.47**	**299**	P		**P**	**01**	**41 47.3**	**-0.2**
PDGK					pmax	pmax			
	comp=Z,30nm,1.0s								
KKN	**Kakani**	**46.86**	**276**	*e*	P	**P**	**01**	**41 50.4**	**-0.7**
	comp=Z,25nm,0.7s								
DMN	**Daman**	**47.08**	**276**	*e*	P	**P**	**01**	**41 53.0**	**+0.2**
GKN	**Gorkha**	**47.29**	**277**	*e*	P	**P**	**01**	**41 54.1**	**-0.3**
	comp=Z,77nm,0.9s								
IPM	**Ipoh**	**47.75**	**238**	*e*	P	**P**	**01**	**41 56.0**	**-1.9**
	comp=Z,16nm,0.8s								
SOEI	**Soe**	**47.86**	**201**	P		pP	01	42 17.4	+2.8
KOLN	**Koldanda**	**48.22**	**277**	*e*	P	**P**	**01**	**42 01.5**	**-0.2**
	comp=Z,19nm,0.7s								
KDAK	**Kodiak Island**	**48.56**	**41**	*i*	P	**P**	**01**	**42 04.5**	**+1.0**
PYUN	**Piuthan**	**48.58**	**278**	*e*	P	**P**	**01**	**42 04.2**	**-0.2**
	comp=Z,122nm,0.9s								
MTN	**Manton Dam**	**49.25**	**192**	*e*	P	**P**	**01**	**42 10.1**	**+0.9**
	comp=Z,96nm,1.8s								
TKM2	**Tokmak 2**	**49.33**	**299**	*e*	P	**P**	**01**	**42 10.7**	**+0.7**
TKM2					pmax	pmax			
	comp=Z,13nm,0.8s								
TKM2	**Tokmak 2**	**49.33**	**299**	*e*	P	**P**	**01**	**42 10.7**	**+0.7**
	comp=Z,13nm,0.8s								
COLD	**Coldfoot**	**49.59**	**29**	*e*	P	**P**	**01**	**42 12.1**	**+0.8**
	comp=Z,1.7nm,0.8s								
COEN	**Coen**	**49.68**	**176**	*e*	P	**P**	**01**	**42 13.1**	**+0.6**
	comp=Z,10nm,0.7s								
KSH	**Kashi**	**50.00**	**295**	P		**P**	**01**	**42 18.7**	**+3.7**
KSH				pP		pP	01	42 28.4	-2.6
KSH				PcP		**PcP**	**01**	**43 35.1**	**+0.9**
KSH				PP		**PP**	**01**	**44 15.1**	**+4.8**
KSH				ScS		ScS	01	52 02.6	+1.8
KSH				SS		**SS**	**01**	**52 54.6**	**-0.1**
KSH				PMZ					
	comp=Z,3.0nm,0.2s								
KSH				PMZ					
	comp=Z,290nm,6.8s								
KSH				LN					
	comp=Z,270nm,12.7s								
KSH				LE					
	comp=Z,230nm,14.0s								
KSH				LZ					
	comp=Z,370nm,12.2s								
FRU	**Bishkek**	**50.05**	**299**	*e*	P	**P**	**01**	**42 15.5**	**+0.3**
PMR	**Pal

INK	**Inuvik**	**55.81**	**27**	P	**P**	**01 42 58.0**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=276,slow=7.2,SNR=5.8						
INK	**Inuvik**	**55.81**	**27**	P	**P**	**01 42 58.0**	**+0.8**
WRAB	**Tennant Creek**	**55.82**	**187**	⇓*i*P	**P**	**01 42 58.0**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,58nm,1.7s						
WRAB	**Tennant Creek**	**55.82**	**187**	*e*P	**P**	**01 42 57.7**	**0.0**
	comp=Z,17nm,0.6s						
WB2	**Warramunga Arr**	**55.83**	**187**	*e*P	**P**	**01 42 57.8**	**-0.1**
	comp=Z,41nm,1.6s						
WRA	**Warramunga Arr**	**55.83**	**187**	P	**P**	**01 42 57.4**	**-0.5**
	comp=Z,8.8nm,0.4s,baz=1.5,slow=7.5,SNR=84						
CTAO	**Charters Tower**	**55.99**	**173**	*e*P	**P**	**01 42 59.4**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,14nm,0.5s						
CTAO	**Charters Tower**	**55.99**	**173**	*e*P	**P**	**01 42 59.4**	**+0.4**
	comp=Z,14nm,0.5s						
ARU	**Arti**	**56.57**	**319**	*c i*P	**P**	**01 43 02.3**	**-0.5**
ARU				*PP	**pP**	**01 43 17.9**	**-1.1**
ARU						01 43 54.1	
ARU						01 45 06.0	
ARU				S	**S**	**01 50 50.5**	**+0.8**
ARU				SS	**SS**	**01 54 31.5**	**-5.9**
ARU				pmax	pmax		
	comp=Z,11nm,0.6s						
ARU	**Arti**	**56.57**	**319**	*e*P	**P**	**01 43 02.4**	**-0.3**
	comp=Z,17nm,0.5s						
KBL	**Kabul**	**56.93**	**291**	*e*P	**P**	**01 43 05.4**	**-0.5**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBL	**Kabul**	**56.93**	**291**	*e*P	**P**	**01 43 05.4**	**-0.5**
	comp=Z,5.0nm,0.8s						
AB31	**Akbulak array**	**57.94**	**310**	*i* P	**P**	**01 43 12.0**	**-0.5**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ABKAR	**Akbulak array**	**57.94**	**310**	*e*P	**P**	**01 43 12.5**	**0.0**
	comp=Z,4.6nm,0.4s						
AKTO	**Aktyubinsk**	**58.72**	**312**	*i* P	**P**	**01 43 16.9**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AS01	**Alice Springs**	**59.55**	**187**	*e*P	**P**	**01 43 23.7**	**-0.3**
AS31	**Alice Springs**	**59.56**	**187**	*e*P	**P**	**01 43 24.5**	**+0.5**
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**59.56**	**187**	P	**P**	**01 43 24.1**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=16,slow=12,SNR=16						
EIDS	**Eidsvold**	**61.81**	**169**	*e*P	**P**	**01 43 40.0**	**+0.8**
	comp=Z,5.7nm,0.6s						
GEYT	**Alibeck**	**63.55**	**299**	P	**P**	**01 43 50.8**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=46,slow=4.3,SNR=13						
KLMR	**Klimovskoe**	**64.19**	**328**	*e*P	**P**	**01 43 52.7**	**-2.0**
KLMR				pmax	pmax		
	comp=Z,12nm,0.8s						
ARCES	**ARCESS Array B**	**64.71**	**339**	P	**P**	**01 43 57.9**	**0.0**
	comp=Z,5.8nm,0.9s,baz=57,slow=7.6,SNR=17						
YKA	**Yellowknife Ar**	**65.25**	**30**	P	**P**	**01 44 02.6**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=299,slow=6.7,SNR=4.2						
YKA	**Yellowknife Ar**	**65.25**	**30**	*i* P	**P**	**01 44 02.5**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DAG	**Danmarks Havn**	**66.80**	**355**	*e*P	**P**	**01 44 11.4**	**+0.1**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DAG	**Danmarks Havn**	**66.80**	**355**	*i* P	**P**	**01 44 11.4**	**+0.1**
	comp=Z,6.4nm,0.8s						
STKA	**Stephens Creek**	**67.45**	**179**	P	**P**	**01 44 16.1**	**+0.3**
	comp=Z,8.0nm,0.7s,baz=329,slow=7.7,SNR=12						
STKA	**Stephens Creek**	**67.45**	**179**	*e*P	**P**	**01 44 16.6**	**+0.7**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**67.45**	**179**	*e*P	**P**	**01 44 16.6**	**+0.7**
	comp=Z,1.6nm,0.8s						
OBN	**Obninsk**	**68.42**	**323**	*d i*P	**P**	**01 44 21.8**	**0.0**
OBN				pmax	pmax		
	comp=Z,25nm,2.5s						
BBOO	**Buckleboo**	**68.48**	**184**	*e*P	**P**	**01 44 22.6**	**+0.4**
	comp=Z,28nm,1.3s						
LPSR	**Galich'ya Gora**	**68.55**	**320**	*e*P	**P**	**01 44 21.7**	**-0.9**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**69.14**	**319**	*e*P	**P**	**01 44 25.2**	**-1.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FIA1	**FINESS Array S**	**69.36**	**332**	*e*P	**P**	**01 44 27.5**	**0.0**
	comp=Z,15nm,0.8s						
FINES	**FINESS Array B**	**69.36**	**332**	P	**P**	**01 44 27.1**	**-0.4**
	comp=Z,7.6nm,0.7s,baz=76,slow=8.0,SNR=24						
ZEI	**Tsey**	**70.77**	**309**	*e*P	**P**	**01 44 35.6**	**-1.2**
ZEI				*e*		01 44 48.3	
ZEI				pmax	pmax		
	comp=Z,19nm,1.0s						
KBZ	**Khabaz**	**70.91**	**310**	P	**P**	**01 44 37.0**	**-0.3**
	comp=Z,10.0nm,0.8s,baz=48,slow=4.4,SNR=19						
KBZ				pP	**pP**	**01 44 54.5**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=130,slow=3.7,SNR=5.8						
KIV	**Kislovodsk**	**70.92**	**311**	*d i*P	**P**	**01 44 37.8**	**+0.3**
KIV				*e*		01 47 12.4	
KIV				pmax	pmax		
	comp=Z,28nm,1.0s						
KIV	**Kislovodsk**	**70.92**	**311**	*e*P	**P**	**01 44 37.5**	**0.0**
	comp=Z,20nm,0.8s						
VSU	**Vasula**	**70.93**	**329**	⇓*i*P	**P**	**01 44 37.5**	**+0.3**
VSU				pmax	pmax		
	comp=Z,47nm,1.2s						
NEY	**Neytrino**	**71.27**	**310**	⇑*e*P	**P**	**01 44 40.5**	**+0.7**
NEY				pmax	pmax		
	comp=Z,1.0nm,1.1s						
GNI	**Garni**	**71.61**	**306**	*e*P	**P**	**01 44 43.0**	**+1.2**
GNI				pmax	pmax		
	comp=Z,43nm,0.9s						
GNI	**Garni**	**71.61**	**306**	*e*P	**P**	**01 44 43.0**	**+1.2**
	comp=Z,43nm,0.9s						
SUMG	**Summit**	**71.80**	**360**	*e*P	**P**	**01 44 43.8**	**+1.1**
SUMG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SUMG	**Summit**	**71.80**	**360**	*i* P	**P**	**01 44 43.7**	**+1.1**
	comp=Z,8.9nm,0.8s						
SUMG	**Summit**	**71.80**	**360**	*e*P	**P**	**01 44 43.8**	**+1.1**
	comp=Z,9.1nm,0.8s						
AKASG	**Malin Array Be**	**74.60**	**322**	P	**P**	**01 44 58.4**	**-0.7**
	comp=Z,7.5nm,0.6s,baz=48,slow=6.1,SNR=38						
AKASG	**Malin Array Be**	**74.60**	**322**	*i* P	**P**	**01 44 58.5**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KIEV	**Kiev**	**74.61**	**322**	⇑*i*P	**P**	**01 44 58.8**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KIEV	**Kiev**	**74.61**	**322**	*e*P	**P**	**01 44 58.5**	**-0.6**
	comp=Z,13nm,0.7s						
NC405	**NORSAR Array S**	**74.63**	**337**	*e*P	**P**	**01 44 59.4**	**+0.3**
AK11	**Malin Array Si**	**74.64**	**322**	*e*P	**P**	**01 44 58.9**	**-0.4**
NC204	**NORSAR Array S**	**74.81**	**337**	*e*P	**P**	**01 45 00.6**	**+0.4**
NB2	**NORSAR Subarra**	**74.84**	**337**	P	**P**	**01 44 59.9**	**-0.5**
	comp=Z,15nm,1.0s,baz=42,slow=5.9						
NB2	**NORSAR Subarra**	**74.84**	**337**	P	**P**	**01 45 00.1**	**-0.3**
NB2				pmax	pmax		
	comp=Z,13nm,1.1s						
NOA	**NORSAR Array B**	**74.84**	**337**	P	**P**	**01 44 59.8**	**-0.6**
	comp=Z,6.8nm,0.8s,baz=40,slow=5.7,SNR=20						
NBO02	**NORSAR Array S**	**74.95**	**337**	*e*P	**P**	**01 45 00.8**	**-0.1**
FFC	**Flin Flon**	**75.15**	**32**	*e*P	**P**	**01 45 03.0**	**+0.8**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FFC	**Flin Flon**	**75.15**	**32**	*e*P	**P**	**01 45 03.0**	**+0.8**
	comp=Z,3.0nm,0.8s						
SIM	**Simferopol'**	**75.45**	**315**	*ce*P	**P**	**01 45 03.3**	**-0.8**
SIM				*e**PP	**PcP**	**01 45 17.0**	**0.0**
SIM				pmax	pmax		
	comp=Z,16nm,0.8s						
NVAR	**Mina Array Bea**	**76.42**	**52**	P	**P**	**01 45 10.9**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=304,slow=6.5,SNR=5.0						
SORM	**Soroca**	**76.65**	**320**	⇑*i*P	**P**	**01 45 10.4**	**-0.4**
PRAR	**RASCA**	**78.24**	**321**	⇑*i*P	**P**	**01 45 19.7**	**-0.1**
TLCR		**78.27**	**318**	⇓*i*P	**P**	**01 45 20.1**	**+0.2**
KWP	**Kalwaria Pacla**	**78.48**	**324**	*e*P	**P**	**01 45 21.9**	**+0.9**
KWP	**Kalwaria Pacla**	**78.48**	**324**	⇑*i*P	**P**	**01 45 21.8**	**+0.8**
KWP	**Kalwaria Pacla**	**78.48**	**324**	*e*P	**P**	**01 45 22.0**	**+0.9**
TESR	**Tescani**	**78.58**	**320**	⇑*i*P	**P**	**01 45 21.7**	**+0.1**
BUR08	**Bucovina Ar. S**	**78.58**	**321**	*e*P	**P**	**01 45 21.8**	**0.0**
BURAR	**Bucovina Array**	**78.59**	**321**	⇑*i*P	**P**	**01 45 22.1**	**+0.2**
BURAR	**Bucovina Array**	**78.59**	**321**	P	**P**	**01 45 22.0**	**+0.2**
CFR	**Carcaliu**	**78.65**	**318**	⇓*i*P	**P**	**01 45 21.6**	**-0.4**
BRTR	**Keskin Array B**	**78.88**	**311**	P	**P**	**01 45 21.1**	**-2.4**
	comp=Z,4.1nm,0.4s,baz=112,slow=5.9,SNR=80						
BRTR				PP	**PP**	**01 48 22.6**	**+0.3**
	comp=Z,2.2nm,1.1s,baz=54,slow=6.4,SNR=4.5						
VRI	**Vrincioaia**	**78.96**	**319**	⇑*i*P	**P**	**01 45 24.0**	**+0.2**
VRI	**Vrincioaia**	**78.96**	**319**	P	**P**	**01 45 24.0**	**+0.2**
TIRR	**Tirgusor**	**78.96**	**317**	⇓*i*P	**P**	**01 45 24.0**	**+0.3**
PLOR	**Plostina**	**79.01**	**319**	⇑*i*P	**P**	**01 45 24.4**	**+0.3**
PLOR	**Plostina**	**79.01**	**319**	P	**P**	**01 45 24.3**	**+0.2**
PDAR	**Pinedale Array**	**79.12**	**45**	P	**P**	**01 45 24.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=261,slow=3.6,SNR=3.6						
KOLS	**Kolonicke sedl**	**79.16**	**324**	*e*P	**P**	**01 45 24.9**	**+0.1**
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KOLS	**Kolonicke sedl**	**79.16**	**324**	*e*P	**P**	**01 45 24.9**	**+0.1**
ANTO	**Ankara**	**79.30**	**312**	*e*P	**P**	**01 45 26.5**	**+0.7**
ANTO				pmax	pmax		
	comp=Z,12nm,0.6s						
ANTO	**Ankara**	**79.30**	**312**	*e*P	**P**	**01 45 26.5**	**+0.7**
	comp=Z,12nm,0.6s						
STHS	**Stebnicka Huta**	**79.32**	**324**	*e*P	**P**	**01 45 26.7**	**+1.0**
STHS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STHS	**Stebnicka Huta**	**79.32**	**324**	*e*P	**P**	**01 45 26.7**	**+1.0**
BR231	**Keskin MP Arra**	**79.33**	**312**	*e*P	**P**	**01 45 26.7**	**+0.6**
ARCR	**ARCALIA**	**79.39**	**321**	⇑*i*P	**P**	**01 45 26.6**	**+0.6**
OJC	**Ojcow**	**79.43**	**326**	*e*P	**P**	**01 45 26.8**	**+0.5**
OJC	**Ojcow**	**79.43**	**326**	*e*P	**P**	**01 45 26.8**	**+0.5**
OJC	**Ojcow**	**79.43**	**326**	*e*P	**P**	**01 45 26.8**	**+0.5**
	comp=Z,12nm,1.0s						
MSAB	**Monastry St. A**	**79.52**	**317**	⇑*i*P	**P**	**01 45 26.8**	**0.0**
CRVS	**Cervenica-Dubn**	**79.57**	**324**	*e*P	**P**	**01 45 27.1**	**+0.1**
CRVS	**Cervenica-Dubn**	**79.57**	**324**	*e*P	**P**	**01 45 27.1**	**+0.1**
DOPR	**Dopca**	**79.60**	**320**	⇓*i*P	**P**	**01 45 27.6**	**+0.4**
MLR	**Muntele Rosu**	**79.62**	**319**	⇑*i*P	**P**	**01 45 27.3**	**-0.2**
VOIR		**80.13**	**320**	⇓*i*P	**P**	**01 45 30.5**	**+0.3**
VOIR		**80.13**	**320**	P	**P**	**01 45 30.5**	**+0.3**
LANS	**Liptovska Anna**	**80.34**	**325**	*e*P	**P**	**01 45 32.2**	**+1.0**
LANS	**Liptovska Anna**	**80.34**	**325**	*e*P	**P**	**01 45 32.2**	**+1.0**
ARR	**Arges**	**80.39**	**320**	⇑*i*P	**P**	**01 45 31.9**	**+0.3**
DRGR		**80.41**	**322**	⇓*i*P	**P**	**01 45 31.8**	**+0.1**
MTPU	**Mount Pierson**	**80.51**	**50**	*e*P	**P**	**01 45 35.8**	**+3.1**
	comp=Z,2.9nm,0.9s						
MORC	**Moravsky Berou**	**80.77**	**326**	⇑*i*P	**P**	**01 45 34.4**	**+0.9**
MORC	**Moravsky Berou**	**80.77**	**326**	*e*P	**P**	**01 45 34.0**	**+0.5**
MORC				pmax	pmax		
	comp=Z,13nm,0.8s						
MORC	**Moravsky Berou**	**80.77**	**326**	*e*P	**P**	**01 45 34.0**	**+0.5**
	comp=Z,13nm,0.8s						
LOT	**Lotru**	**80.79**	**320**	⇑*i*P	**P**	**01 45 34.4**	**+0.6**
DPC	**Dobruska-Polom**	**80.89**	**327**	*e*P	**P**	**01 45 34.5**	**+0.3**
DPC				*e*pP	**pP**	**01 45 52.9**	**+1.7**
DPC	**Dobruska-Polom**	**80.89**	**327**	*e*P	**P**	**01 45 34.5**	**+0.3**
DPC				*e*		01 45 52.9	
PSZ	**Piszkesteto**	**81.01**	**324**	⇓*i*P	**P**	**01 45 35.7**	**+0.8**
PSZ	**Piszkesteto**	**81.01**	**324**	*e*P	**P**	**01 45 35.5**	**+0.6**
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PSZ	**Piszkesteto**	**81.01**	**324**	*e*P	**P**	**01 45 35.5**	**+0.6**
	comp=Z,6.0nm,0.9s						
VYHS	**Vyhne**	**81.10**	**325**	*e*P	**P**	**01 45 35.4**	**+0.2**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.3s						
VYHS	**Vyhne**	**81.10**	**325**	*e*P	**P**	**01 45 35.4**	**+0.2**
GZR	**Gura Zlata**	**81.34**	**321**	⇓*i*P	**P**	**01 45 36.8**	**+0.2**
BRG	**Berggiesshubel**	**81.52**	**329**	*e*P	**P**	**01 45 37.4**	**0.0**
	comp=Z,4.3nm,1.0s						
BRG				*e*		01 45 55.4	
	comp=Z,6.2nm,1.2s						
BRG	**Berggiesshubel**	**81.52**	**329**	*e*P	**P**	**01 45 37.4**	**0.0**
BRG				*e*		01 45 55.4	
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VRAC	**Vranov**	**81.54**	**327**	⇓*i*P	**P**	**01 45 38.5**	**+1.0**
CLL	**Collm**	**81.59**	**330**	⇑*i*P	**P**	**01 45 37.6**	**-0.1**
	comp=Z,7.0nm,0.9s						
CLL				*i*		01 45 39.6	
CLL				*e*		01 45 56.0	
CLL				Lm	MLR	02 30 00.0	
	comp=N,300nm,19.1s						
CLL				Lm	MLR	02 30 00.0	
	comp=E,200nm,21.6s						
CLL				Lm	MLR	02 30 00.0	
	comp=Z,400nm,20.3s						
CLL	**Collm**	**81.59**	**330**	⇑*i*P	**P**	**01 45 37.6**	**-0.1**
CLL				*e*		01 45 56.0	
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL				MLR	MLR		
	comp=Z,400nm,20.3s						
BZS	**Buzias**	**81.77**	**322**	⇓*i*P	**P**	**01 45 38.7**	**-0.1**
PRU	**Pruhonice**	**81.93**	**328**	*e*P	**P**	**01 45 39.8**	**+0.2**
PRU				*e*pP	**pP**	**01 45 58.6**	**+1.9**
PRU	**Pruhonice**	**81.93**	**328**	*e*P	**P**	**01 45 39.8**	**+0.2**
PRU				*e*		01 45 58.6	
MDVR	**Moldovita**	**82.30**	**321**	⇓*i*P	**P**	**01 45 41.8**	**+0.1**
KHC	**Kasperske Hory**	**82.99**	**328**	*e*P	**P**	**01 45 44.5**	**-0.7**
KHC	**Kasperske Hory**	**82.99**	**328**	*e*P	**P**	**01 45 44.5**	**-0.7**
GERES	**GERESS Array B**	**83.15**	**328**	P	**P**	**01 45 46.0**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=36,slow=5.0,SNR=8.6						
GERES				pP	**pP**	**01 46 03.4**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=44,slow=4.1,SNR=5.1						
GERES				LR	LR	02 26 49.0	
	comp=Z,400nm,20.4s,baz=256,slow=38						
GEA0	**GERESS Array S**	**83.16**	**328**	*e*P	**P**	**01 45 45.5**	**-0.6**
BFO	**Black Forest**	**85.81**	**330**	*e*P	**P**	**01 45 58.7**	**-0.7**
BFO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BFO	**Black Forest**	**85.81**	**330**	*e*P	**P**	**01 45 58.7**	**-0.7**
	comp=Z,5.2nm,0.9s						
ANMO	**Albuquerque**	**86.03**	**49**	⇑P	**P**	**01 46 02.3**	**+1.3**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**86.35**	**328**	*e*P	**P**	**01 46 02.6**	**+0.2**
	comp=Z,8.7nm,1.2s						
SCHQ	**Schefferville**	**86.67**	**15**	P	**P**	**01 46 03.9**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=284,slow=11,SNR=4.1						
TX31	**Lajitas Ar. Si**	**91.55**	**52**	*e*P	**P**	**01 46 28.6**	**+1.5**
TXAR	**Lajitas Array**	**91.55**	**52**	P	**P**	**01 46 28.8**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=303,slow=2.9,SNR=7.7						
LSZ	**Lusaka**	**116.55**	**270**	*e*PKIKP	**PKPdf**	**01 52 04.7**	**+0.3**
LSZ	**Lusaka**	**116.55**	**270**	*e*PKPdf	**PKPdf**	**01 52 04.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**117.43**	**313**	PKP	**PKPdf**	**01 52 05.4**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=48,slow=1.1,SNR=32						
BOSA	**Boshof**	**125.43**	**258**	PKP	**PKPdf**	**01 52 20.2**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=53,slow=2.7,SNR=6.2						
DBIC	**Dimbokro**	**126.43**	**315**	PKP	**PKPdf**	**01 52 22.9**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=12,slow=3.4,SNR=5.3						
SNAA	**Sanae**	**139.41**	**197**	PKP	**PKPdf**	**01 52 48.1**	**+2.1**
SAML	**Samuel**	**145.71**	**44**	*e*PKPbc	**PKPdf**	**01 52 58.9**	**+0.1**
LPAZ	**La Paz**	**148.07**	**60**	PKPbc	**PKPbc**	**01 53 05.4**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=3.6,slow=6.1,SNR=9.8						
LVC	**Limon Verde**	**151.44**	**70**	*e*PKPbc	**PKPbc**	**01 53 15.6**	**+1.1**
LCO	**Las Campanas**	**153.08**	**84**	*e*PKPdf	**PKPdf**	**01 53 11.0**	**+0.5**
LCO				*e*PKPbc	**PKiKP**	**01 53 18.7**	**+0.6**

MAN 03 01:36:33, 18°.30N×120°.84E, h13km, mb4.7, ML3.6, MS3.5, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.21**	**276**	⇓*i*P	Pb	01 36 38.8	+0.1
PIP				*e*S	Sb	01 36 43.0	+0.5
APYP	**Conner**	**0.58**	**139**	*e*P	Pb	01 36 44.9	-0.2
APYP				*e*S	Sb	01 36 53.8	+0.5
ABRA	**Dolores**	**0.66**	**190**	*e*P	Pg	01 36 45.7	-0.2
ABRA				*e*S	Sg	01 36 53.9	-0.7
CVP	**Callao Caves**	**1.11**	**122**	⇓*i*P	Pb	01 36 53.5	-0.6
CVP				*i* S	Sn	01 37 09.2	-0.2
SGCP	**Mt. Cagua**	**1.15**	**93**	*e*P	Pb	01 36 54.4	-0.3
SGCP				*e*S	Sg	01 37 10.2	+0.1
CAUP	**Cauayan**	**1.65**	**145**	*e*P	Pb	01 37 02.5	-0.7
BOLP	**Bolinao**	**2.11**	**205**	*e*P	Pn	01 37 08.8	+0.8
BOLP				*e*S	Sn	01 37 34.8	+0.7
BALP	**Baler**	**2.65**	**164**	*e*P	Pb	01 37 18.3	-1.9

*ISCJB **03** 01:56:27.2±0.5, 50°.08N±0°.03×19°.01E±0°.03, h0km, Error ellipse: s-maj=4.1km s-min=2.9km az=10.2*
*WAR **03** 01:56:28.3, 50°.06N×19°.16E, h1km, Mw2.2*
*PRU **03** 01:56:28.5, 50°.10N×19°.04E, h0km*
*CSEM **03** 01:56:28.0±0.3, 50°.08N×19°.04E, h2km, ML2.6/5, Error ellipse: s-maj=6.0km s-min=4.1km az=8.0*
ISC 03 01:56:27.5±0.8, 50°.04N±0°.03×19°.06E±0°.02, h0km, n29, σ0°81/48, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.25**	**351**	*e*Pg	**Pg**	**01 56 33.3**	**+1.0**
CHZP				*e*Sg	**Sg**	**01 56 35.6**	**0.0**
CHZP	**Chorzow**	**0.25**	**351**	*e*Pg	**Pg**	**01 56 33.3**	**+1.0**
CHZP				*e*Sg	**Sg**	**01 56 35.6**	**0.0**
OJC	**Ojcow**	**0.51**	**69**	*e*Pg	**Pg**	**01 56 36.6**	**-0.7**
OJC				*e*Sg	**Sg**	**01 56 43.0**	**-0.9**
OJC	**Ojcow**	**0.51**	**69**	*e*Pg	**Pg**	**01 56 36.6**	**-0.7**
OJC				*e*Sg	**Sg**	**01 56 43.0**	**-0.9**
OJC	**Ojcow**	**0.51**	**69**	*e*Pg	**Pg**	**01 56 36.6**	**-0.7**
OJC				*e*Sg	**Sg**	**01 56 43.0**	**-0.8**
OKC	**Ostrava-Krasne**	**0.62**	**251**	*e*PG	**Pb**	**01 56 41.1**	**-0.2**
OKC				*e*SG	**Sg**	**01 56 48.6**	**+1.1**
	17nm,0.3s						
OKC	**Ostrava-Krasne**	**0.62**	**251**	Pg	**Pb**	**01 56 41.1**	**-0.2**
OKC				Sg	**Sg**	**01 56 48.6**	**+1.1**
	17nm,0.3s						
LANS	**Liptovska Anna**	**0.93**	**163**	*e*Pg	**Pb**	**01 56 46.4**	**-0.2**
LANS				*e*Sg	**Sb**	**01 56 59.9**	**+0.4**
LANS	**Liptovska Anna**	**0.93**	**163**	*e*PG	**Pb**	**01 56 46.4**	**-0.2**
LANS				*e*SG	**Sb**	**01 56 59.9**	**+0.4**
MORC	**Moravsky Berou**	**1.01**	**255**	*e*Pg	**Pb**	**01 56 48.1**	**+0.1**
MORC				*e*Sg	**Sb**	**01 57 02.4**	**+0.5**
STHS	**Stebnicka Huta**	**1.55**	**113**	*e*Pn	**Pb**	**01 56 57.2**	**+0.1**
STHS				*e*Sn	**Sg**	**01 57 19.6**	**+2.3**
STHS	**Stebnicka Huta**	**1.55**	**113**	*e*PN	**Pb**	**01 56 57.2**	**+0.1**
STHS				*e*SN	**Sg**	**01 57 19.6**	**+2.3**
VYHS	**Vyhne**	**1.56**	**185**	*e*Pn	**Pn**	**01 56 56.5**	**0.0**
VYHS				*e*Sn	**Sn**	**01 57 17.0**	**-0.4**
VYHS	**Vyhne**	**1.56**	**185**	*e*PN	**Pn**	**01 56 56.5**	**0.0**
VYHS				*e*SN	**Sn**	**01 57 17.0**	**-0.4**
VRAC	**Vranov**	**1.76**	**246**	*e*Pn	**Pg**	**01 57 01.1**	**-0.1**
VRAC				*e*Sg	**Sg**	**01 57 24.8**	**+0.8**
DPC	**Dobruska-Polom**	**1.78**	**281**	*e*PG	**Pn**	**01 57 00.1**	**+0.5**
DPC				*e*SG	**Sg**	**01 57 24.5**	**-0.3**
	8.2nm,0.3s						
DPC	**Dobruska-Polom**	**1.78**	**281**	Pg	**Pn**	**01 57 00.1**	**+0.5**
DPC				Sg	**Sg**	**01 57 24.5**	**-0.3**
	8.2nm,0.3s						
KECS	**Kecovo**	**1.82**	**149**	*e*Pn	**Pb**	**01 57 01.1**	**-0.6**
KECS				*e*Sn	**Sn**	**01 57 23.5**	**-0.3**
KECS	**Kecovo**	**1.82**	**149**	*e*PN	**Pb**	**01 57 01.1**	**-0.6**
KECS				*e*SN	**Sn**	**01 57 23.5**	**-0.3**
CRVS	**Cervenica-Dubn**	**1.94**	**125**	*e*Pn	**Pb**	**01 57 03.8**	**+0.1**
CRVS	**Cervenica-Dubn**	**1.94**	**125**	*e*PN	**Pb**	**01 57 03.8**	**+0.1**
UPC	**Upice**	**2.01**	**285**	*e*SG	**Sg**	**01 57 31.7**	**-0.3**
	4.3nm,0.4s						
UPC	**Upice**	**2.01**	**285**	Sg	**Sg**	**01 57 31.7**	**-0.3**
	4.3nm,0.4s						
PRU	**Pruhonice**	**2.91**	**271**	*e*SG	**Sg**	**01 57 59.1**	**-1.9**
	3.2nm,0.7s						
PRU	**Pruhonice**	**2.91**	**271**	Sg	**Sg**	**01 57 59.1**	**-1.9**
	3.2nm,0.7s						
PVCC	**Panska Ves**	**2.92**	**281**	*e*SG	**Sg**	**01 58 01.1**	**-0.1**
	5.1nm,0.2s						
PVCC	**Panska Ves**	**2.92**	**281**	Sg	**Sg**	**01 58 01.1**	**-0.1**
	5.1nm,0.2s						
KHC	**Kasperske Hory**	**3.68**	**258**	*e*PG	**Pg**	**01 57 37.5**	**-0.5**
KHC	**Kasperske Hory**	**3.68**	**258**	Pg	**Pg**	**01 57 37.5**	**-0.5**

*NIED **03** 02:02:00, 37°.20N×143°.90E, h5km, Mw4.4 Best double couple: M0=4.83000×10^15 NP1:φs=14.00000°, δ22.00000°, λ-85.00000°. NP2:φs=188.00000°, δ68.00000°, λ-92.00000°.*
*IDC **03** 02:02:09.3±0.6, 37°.13N×144°.

	2.3nm,0.6s							
SONM	**Songino Array**	**29.40**	**303**	P	**P**	02 08 16.7	**+1.7**
	1.4nm,0.5s,baz=96,slow=8.2,SNR=16							
BILL	**Bilibino**	**33.28**	**15**	*eP*	**P**	02 08 48.6	**0.0**
	3.3nm,0.3s							
GTA	**Gaotai**	**34.48**	**287**	*eP*	**P**	02 09 01.3	**+1.7**
GTA				PMZ				
	5.0nm,1.1s							
ZALV	**Zalesovo Beam**	**43.31**	**312**	P	**P**	02 10 14.6	**+1.4**
	0.4nm,0.4s,baz=90,slow=3.1,SNR=3.8							
ZALV				PcP	**PcP**	02 12 02.5	**+1.0**
	1.4nm,0.4s,baz=106,slow=3.0,SNR=4.4							
CMAR	**Chiang Mai Arr**	**43.55**	**257**	P	**P**	02 10 16.8	**+1.3**
	1.9nm,0.3s,baz=48,slow=7.2,SNR=4.7							
MKAR	**Makanchi Array**	**45.76**	**302**	P	**P**	02 10 34.2	**+1.4**
	1.3nm,0.8s,baz=88,slow=9.1,SNR=9.0							
KURK	**Kurchatov**	**47.44**	**308**	*eP*	**P**	02 10 46.6	**+0.7**
	20nm,0.9s							
KURBB	**Kurchatov Arra**	**47.51**	**308**	P	**P**	02 10 47.3	**+0.9**
	0.8nm,0.4s,baz=83,slow=8.1,SNR=6.4							
ILAR	**Eielson Array**	**48.22**	**32**	P	**P**	02 10 50.9	**-0.9**
	2.9nm,0.8s,baz=265,slow=6.2,SNR=24							
TKM2	**Tokmak 2**	**51.35**	**299**	*eP*	**P**	02 11 15.5	**-0.6**
	2.5nm,0.9s							
BVAR	**Borovoye Array**	**51.97**	**313**	P	**P**	02 11 21.5	**+1.2**
	0.4nm,0.5s,baz=46,slow=6.4,SNR=3.9							
BRVK	**Borovoye**	**52.02**	**313**	*eP*	**P**	02 11 21.3	**+0.6**
	7.5nm,0.9s							
AAK	**Ala-Archa**	**52.21**	**299**	*eP*	**P**	02 11 22.6	**0.0**
	1.5nm,0.6s							
EKS2	**Erkin-Say**	**52.70**	**299**	*eP*	**P**	02 11 26.2	**+0.1**
	1.4nm,0.3s							
INK	**Inuvik**	**53.27**	**27**	P	**P**	02 11 30.2	**+0.5**
	3.0nm,0.5s,baz=289,slow=4.7,SNR=15							
KKAR	**Karatay Array**	**54.81**	**301**	*eP*	**P**	02 11 41.8	**+0.4**
	1.2nm,0.8s							
ARU	**Arti**	**57.58**	**319**	P	**P**	02 12 01.6	**+0.7**
	1.2nm,0.4s,baz=45,slow=5.7,SNR=3.4							
ARU	**Arti**	**57.58**	**319**	*eP*	**P**	02 12 01.5	**+0.7**
	2.8nm,0.6s							
WRAB	**Tennant Creek**	**57.58**	**191**	*eP*	**P**	02 12 00.2	**-1.0**
	8.4nm,0.7s							
WRA	**Warramunga Arr**	**57.59**	**191**	P	**P**	02 12 00.3	**-1.0**
	9.0nm,0.7s,baz=12,slow=7.4,SNR=86							
WRA				PcP	**PcP**	02 12 54.7	**+0.3**
	1.4nm,0.7s,baz=1.4,slow=4.7,SNR=4.8							
AKTO	**Aktyubinsk**	**60.07**	**313**	P	**P**	02 12 18.9	**+0.5**
	0.9nm,0.5s,baz=104,slow=12,SNR=4.1							
ASAR	**Alice Springs**	**61.31**	**191**	P	**P**	02 12 25.7	**-1.3**
	3.4nm,0.7s,baz=13,slow=6.0,SNR=33							
FINES	**FINESS Array B**	**69.59**	**333**	P	**P**	02 13 20.4	**+0.4**
	1.9nm,0.9s,baz=108,slow=8.9,SNR=4.4							
SUMG	**Summit**	**70.48**	**1**	*eP*	**P**	02 13 25.8	**-0.1**
	3.0nm,0.8s							
KBZ	**Khabaz**	**72.33**	**312**	P	**P**	02 13 37.6	**+0.6**
	1.6nm,0.8s,baz=248,slow=4.9,SNR=3.9							
FFC	**Flin Flon**	**72.41**	**34**	*eP*	**P**	02 13 37.0	**-0.3**
	6.2nm,1.2s							
NVAR	**Mina Array Bea**	**73.20**	**54**	P	**P**	02 13 42.8	**+0.2**
	2.0nm,0.7s,baz=293,slow=7.9,SNR=12							
NOA	**NORSAR Array B**	**74.79**	**338**	P	**P**	02 13 51.4	**+0.2**
	1.2nm,0.8s,baz=39,slow=6.0,SNR=4.1							
R11A	**Troy Canyon, C**	**75.00**	**53**	*eP*	**P**	02 13 53.4	**+0.3**
	2.5nm,1.2s							
AKASG	**Malin Array Be**	**75.39**	**323**	P	**P**	02 13 54.5	**-0.3**
	0.2nm,0.3s,baz=46,slow=6.1,SNR=4.5							
PDAR	**Pinedale Array**	**76.04**	**47**	P	**P**	02 13 58.6	**-0.4**
	1.4nm,1.0s,baz=215,slow=1.8,SNR=5.1							
BRG	**Berggiesshubel**	**81.92**	**331**	*eP*	**P**	02 14 32.2	**+1.5**
	6.1nm,1.2s							
	comp=N,409nm,16.2s							
	comp=E,456nm,16.2s							
	comp=Z,463nm,14.1s							
KHC	**Kasperske Hory**	**83.44**	**330**	*eP*	**P**	02 14 37.5	**-1.2**
GERES	**GERESS Array B**	**83.61**	**330**	P	**P**	02 14 39.5	**-0.2**
	comp=Z,0.5nm,0.6s,baz=33,slow=3.2,SNR=4.8							
EKA	**Eskdalemuir Ar**	**83.61**	**342**	P	**P**	02 14 39.3	**-0.1**
	comp=Z,1.2nm,0.7s,baz=21,slow=6.3,SNR=4.9							
TXAR	**Lajitas Array**	**88.35**	**54**	P	**P**	02 15 03.5	**+0.1**
	comp=Z,0.7nm,0.6s,baz=308,slow=2.8,SNR=13							
LPAZ	**La Paz**	**144.79**	**62**	PKP	**PKPab**	02 21 46.4	**-1.9**
	comp=Z,0.8nm,0.6s,baz=200,slow=0.3,SNR=4.6							

*CRAAG **03** 02:02:31.2,36.50N×3.26E, Ml3.3*
*ISCJB **03** 02:02:32.2±0.6,36.58N±0.04×3.25E±0.06,h18km, Error ellipse: s-maj=7.4km s-min=5.3km az=142.3*
*MDD **03** 02:02:32.1±0.7,36.53N×3.27E,h26km±8km,mb3.6/3, Error ellipse: s-maj=9.7km s-min=7.1km az=86.0,PRXIMO*
*CSEM **03** 02:02:32.6±0.3,36.53N×3.29E,h10km,mb3.6, Error ellipse: s-maj=10.1km s-min=6.7km az=61.0*

ISC 03 02:02:32.7±1.0,36.55N±0.05×3.30E±0.03,h18km,n31, σ1ş29/39,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ABMS	**Boumerdes**	**0.25**	**35**	P			**Pb**	**02 02 38.9**	**+0.3**
ABMS	**Boumerdes**	**0.25**	**35**	P			**Pb**	**02 02 38.9**	**+0.3**
ABMS	**Boumerdes**	**0.25**	**35**	P			**Pb**	**02 02 38.9**	**+0.3**
ABA	**Alger-Bouzarea**	**0.33**	**320**	P			**Pb**	**02 02 39.6**	**-0.6**
ABA	**Alger-Bouzarea**	**0.33**	**320**	P			**Pb**	**02 02 39.6**	**-0.6**
ABA	**Alger-Bouzarea**	**0.33**	**320**	P			**Pb**	**02 02 39.6**	**-0.6**
ADJB	**Djebel Djouab**	**0.40**	**164**	P			**Pg**	**02 02 40.0**	**-1.1**
ADJB	**Djebel Djouab**	**0.40**	**164**	P			**Pg**	**02 02 40.0**	**-1.1**
ADJB	**Djebel Djouab**	**0.40**	**164**	P			**Pg**	**02 02 40.0**	**-1.1**
EMHD	**Djebel Mahouad**	**0.45**	**219**	P			**Pg**	**02 02 40.2**	**-1.7**
EMHD	**Djebel Mahouad**	**0.45**	**219**	P			**Pg**	**02 02 40.2**	**-1.7**
EMHD	**Djebel Mahouad**	**0.45**	**219**	P			**Pg**	**02 02 40.2**	**-1.7**
AKET	**Djebel Ketaf**	**0.68**	**137**	P			**Pg**	**02 02 45.8**	**-0.4**
AKET	**Djebel Ketaf**	**0.68**	**137**	P			**Pg**	**02 02 45.8**	**-0.4**
AKET	**Djebel Ketaf**	**0.68**	**137**	P			**Pg**	**02 02 45.8**	**-0.4**
EBNR	**Beni Rached**	**1.45**	**260**	P			**Pg**	**02 03 01.0**	**+0.3**
EBNR	**Beni Rached**	**1.45**	**260**	P			**Pg**	**02 03 01.0**	**+0.3**
EIBI	**Ibiza**	**2.92**	**328**	P			**Pn**	**02 03 19.3**	**+1.0**
	1.2nm,0.1s,SNR=7.9								
EIBI				S			**Sn**	**02 03 51.9**	**-1.0**
	2.5nm,0.1s,SNR=7.9								
EIBI	**Ibiza**	**2.92**	**328**	P			**Pn**	**02 03 19.3**	**+1.0**
	1.2nm,0.1s,SNR=7.9								
EIBI				S			**Sn**	**02 03 51.9**	**-1.0**
	2.5nm,0.1s,SNR=7.9								
ETOS	**Mallorca**	**3.24**	**353**	P			**Pn**	**02 03 23.7**	**+1.1**
	1.4nm,0.2s,SNR=7.9								
ETOS				S			**Sn**	**02 03 59.0**	**-1.8**
	1.5nm,0.3s,SNR=4.0								
ETOS	**Mallorca**	**3.24**	**353**	P			**Pn**	**02 03 23.7**	**+1.1**
	1.4nm,0.2s,SNR=7.9								
EMUR	**La Murta**	**3.85**	**291**	S			**Sn**	**02 04 16.7**	**+0.8**
	0.5nm,0.2s,SNR=7.9								
EMUR	**La Murta**	**3.85**	**291**	S			**Sn**	**02 04 16.7**	**+0.8**
	0.5nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**4.38**	**300**	P			**Pn**	**02 03 40.4**	**+1.9**
	1.1nm,0.3s,SNR=9.6								
ETOB				S			**Sn**	**02 04 28.0**	**-1.1**
	0.7nm,0.5s,SNR=7.9								
ETOB	**Tobarra**	**4.38**	**300**	P			**Pn**	**02 03 40.4**	**+1.9**
	1.1nm,0.3s,SNR=9.6								
ETOB				S			**Sn**	**02 04 28.0**	**-1.1**
	0.7nm,0.5s,SNR=7.9								
EMOS	**Mosqueruela**	**4.83**	**323**	P			**Pn**	**02 03 45.8**	**+1.2**
	0.3nm,0.3s,SNR=7.9								
EMOS				S			**Sn**	**02 04 38.7**	**-1.5**
	0.1nm,0.4s,SNR=7.9								
EMOS	**Mosqueruela**	**4.83**	**323**	P			**Pn**	**02 03 45.8**	**+1.2**
	0.3nm,0.3s,SNR=7.9								
EMOS				S			**Sn**	**02 04 38.7**	**-1.5**
	0.1nm,0.4s,SNR=7.9								
ERTA	**Horta de San J**	**4.98**	**333**	S			**Sn**	**02 04 41.0**	**-2.6**
	0.9nm,0.4s,SNR=7.9								
EQES	**Quesada**	**5.24**	**286**	P			**Pn**	**02 03 52.9**	**+2.6**
	0.2nm,0.2s,SNR=7.9								
EQES				S			**Sn**	**02 04 51.4**	**+1.1**
	1.0nm,0.3s,SNR=7.9								
CFON	**Fontmartina**	**5.25**	**353**	P			**Pn**	**02 03 51.6**	**+1.2**
	0.4nm,0.1s,SNR=7.9								
CFON	**Fontmartina**	**5.25**	**353**	P			**Pn**	**02 03 51.6**	**+1.2**
	0.4nm,0.1s,SNR=7.9								

JMA 03 02:05:40.6,37.08N×140.81E,h8km±1km,M2.7,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.02**	**337**	P			Pg	02 05 42.1	-0.1
ONAJ				S			Sg	02 05 43.3	0.0
JFK	**Kawauchi**	**0.29**	**10**	P			Pg	02 05 46.4	0.0
JFK				S			Sg	02 05 50.7	+0.4
JFT	**Otama**	**0.58**	**319**	P			Pg	02 05 52.0	+0.2
JFT				S			Sg	02 06 00.0	+0.6
JMM	**Marumori**	**0.79**	**359**	P			Pg	02 05 55.4	-0.3
JMM				S			Sg	02 06 06.2	+0.3
JFY	**Yanaizu**	**0.94**	**291**	P			Pg	02 05 58.6	-0.1
JFY				S			Sg	02 06 10.9	0.0
MAT	**Matsushiro**	**2.16**	**256**	P			Pn	02 06 10.0	-6.9
MAT				S			Sn	02 06 42.7	-1.1

*ISCJB **03** 02:06:58.6±1.2,37.33N±0.06×143.78E±0.07,*
h35km±10km,mb3.9/17, Error ellipse: s-maj=10.8km s-min=8.5km az=40.3
*JMA **03** 02:06:59.2±0.3,37.42N×143.72E,h32km,M4.0*
*IDC **03** 02:07:00.1±0.6,37.26N×143.86E,h34km±4km,mb3.7/16, mb1 3.9/20,mb1mx3.8/41,mbtmp3.9/20,ML3.4/4, Error ellipse: s-maj=15.4km s-min=13.6km az=101.0*

ISC 03 02:07:00.1±0.7,37.38N±0.07×143.82E±0.07,h32km±4km, n35,σ1ş12/49,mb3.9/17,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JIO	**Ouri**	**2.23**	**299**	P			**Pn**	**02 07 34.2**	**-0.5**
JIO				S			**Sn**	**02 08 00.0**	**-1.2**
JFK	**Kawauchi**	**2.34**	**271**	P			**Pn**	**02 07 35.5**	**-0.9**
JFK				*eS*			**Sn**	**02 08 02.6**	**-1.5**
ONAJ	**Iwakimizuishiy**	**2.42**	**264**	P			**Pn**	**02 07 37.4**	**-0.1**
ONAJ				S			**Sn**	**02 08 04.2**	**-2.0**
JMK	**Ichinoseki**	**2.58**	**308**	P			**Pn**	**02 07 39.3**	**-0.3**
JFT	**Otama**	**2.77**	**274**	P			**Pn**	**02 07 42.4**	**+0.1**
JFT				S			**Sn**	**02 08 14.1**	**-0.6**
JOM	**Ohasama**	**2.88**	**317**	P			**Pn**	**02 07 43.4**	**-0.3**
JOM				S			**Sn**	**02 08 16.3**	**-1.0**
JYK	**Kaneyama**	**3.13**	**300**	P			**Pn**	**02 07 47.3**	**+0.1**
JAG	**Ashikaga**	**3.63**	**256**	P			**Pn**	**02 07 53.9**	**-0.1**
JOD2	**Odawara 2**	**4.37**	**242**	P			**Pn**	**02 08 04.6**	**+0.4**
MJAR	**Matsushiro Arr**	**4.57**	**261**	Pn			**Pn**	**02 08 06.6**	**-0.4**
	2.7nm,0.3s,baz=87,slow=15,SNR=9.5								
MJAR				Sn			**Sn**	**02 08 59.4**	**+0.4**
	4.9nm,0.3s,baz=95,slow=29,SNR=6.6								
MAT	**Matsushiro**	**4.57**	**261**	P			Pn	02 08 03.5	-3.5
MAT				*eS*			**Sn**	**02 08 56.7**	**-2.3**
ASAJ	**Asahikawa**	**6.79**	**353**	Pn			**Pn**	**02 08 35.7**	**-1.8**
	5.8nm,0.3s,baz=193,slow=9.1,SNR=15								
ASAJ				Sn			**Sn**	**02 09 51.5**	**-2.2**
	1.2nm,0.3s,baz=60,slow=20,SNR=2.3								
JCJ	**Chichijima**	**10.35**	**188**	Pn			Pn	02 09 19.6	-6.7
	baz=288,slow=20								
JCJ				Sn			Sn	02 11 06.2	-15
	5.9nm,0.3s,baz=255,slow=20,SNR=3.5								
USRK	**Ussuriysk Ar.**	**11.25**	**311**	Pn			**Pn**	**02 09 39.0**	**+0.4**
	0.8nm,0.3s,baz=124,slow=14,SNR=9.1								
JNU	**Nakatsue**	**11.40**	**252**	Pn			**Pn**	**02 09 38.9**	**-1.8**
	0.3nm,0.3s,baz=48,slow=7.9,SNR=4.9								
KSRS	**Korea Array**	**12.64**	**275**	Pn			**Pn**	**02 09 58.0**	**+0.4**
	0.3nm,0.3s,baz=88,slow=14,SNR=11								
KLR	**Kul'dur**	**14.72**	**327**	Pn			**Pn**	**02 10 24.6**	**-1.3**
	0.3nm,0.3s,baz=142,slow=11,SNR=4.9								
SEY	**Seymchan**	**26.11**	**9**	P			**P**	**02 12 31.7**	**+0.9**
	5.8nm,1.0s,baz=187,slow=8.0,SNR=8.5								
SONM	**Songino Array**	**29.20**	**303**	P			**P**	**02 12 59.9**	**+1.2**
	1.4nm,0.8s,baz=110,slow=11,SNR=6.7								
ZALV	**Zalesovo Beam**	**43.10**	**312**	P			**P**	**02 14 57.5**	**+0.5**
	0.4nm,0.3s,baz=145,slow=16,SNR=3.0								
ZALV				PcP			**PcP**	**02 16 46.3**	**-0.1**
	1.3nm,0.7s,baz=103,slow=3.2,SNR=3.6								
ZALV				pPcP				02 16 57.7	
	0.8nm,0.5s,baz=82,slow=3.6,SNR=4.4								
MKAR	**Makanchi Array**	**45.56**	**302**	P			**P**	**02 15 15.8**	**-1.0**
	0.6nm,0.7s,baz=74,slow=11,SNR=3.8								
KURBB	**Kurchatov Arra**	**47.30**	**308**	P			**P**	**02 15 29.7**	**-0.7**
	0.6nm,0.4s,baz=82,slow=8.1,SNR=6.3								
ILAR	**Eielson Array**	**48.17**	**33**	P			**P**	**02 15 36.5**	**-0.5**
	1.4nm,0.8s,baz=263,slow=6.7,SNR=14								
ILAR				pP			**sP**	**02 15 48.0**	**-2.3**
	1.2nm,0.8s,baz=261,slow=6.2,SNR=7.0								
BVAR	**Borovoye Array**	**51.76**	**313**	P			**P**	**02 16 04.5**	**+0.1**
	0.4nm,0.5s,baz=74,slow=6.6,SNR=2.9								
INK	**Inuvik**	**53.20**	**27**	P			**P**	**02 16 14.8**	**+0.1**
	0.9nm,0.6s,baz=251,slow=5.8,SNR=3.8								
WRA	**Warramunga Arr**	**57.71**	**191**	P			**P**	**02 16 46.3**	**-1.4**
	8.1nm,0.6s,baz=11,slow=7.3,SNR=83								
WRA				pP			**pP**	**02 16 56.8**	**-0.6**
	3.5nm,0.8s,baz=10,slow=7.3,SNR=6.7								
WRA				PcP			**PcP**	**02 17 40.5**	**+0.1**
	1.3nm,0.7s,baz=1.6,slow=4.6,SNR=5.1								
ASAR	**Alice Springs**	**61.44**	**190**	P			**P**	**02 17 12.4**	**-1.0**
	3.2nm,0.7s,baz=15,slow=8.0,SNR=27								
FINES	**FINESS Array B**	**69.39**	**333**	P			**P**	**02 18 05.6**	**+1.2**
	1.7nm,0.8s,baz=29,slow=9.5,SNR=3.2								
KBZ	**Khabaz**	**72.12**	**312**	P			**P**	**02 18 23.0**	**+1.7**
	2.0nm,0.8s,baz=100,slow=1.8,SNR=3.8								
NVAR	**Mina Array Bea**	**73.23**	**54**	P			**P**	**02 18 28.4**	**0.0**
	0.6nm,0.8s,baz=282,slow=7.1,SNR=3.7								
NOA	**NORSAR Array B**	**74.59**	**338**	P			**P**	**02 18 36.0**	**+0.3**
	1.3nm,1.0s,baz=3.8,slow=8.0,SNR=2.9								
NOA				pP			**pP**	**02 18 47.2**	**+1.6**
	0.8nm,0.7s,baz=28,slow=8.5,SNR=3.1								
AKASG	**Malin Array Be**	**75.18**	**323**	P			**P**	**02 18 40.7**	**+1.6**
	0.5nm,0.4s,baz=45,slow=6.0,SNR=5.1								
AKASG				pP			**pP**	**02 18 50.2**	**+1.1**
	0.4nm,0.4s,baz=45,slow=6.0,SNR=2.9								
GERES	**GERESS Array B**	**83.41**	**329**	P			**P**	**02 19 24.4**	**+0.1**
	0.2nm,0.5s,baz=37,slow=8.9,SNR=3.2								
GERES				pP			**pP**	**02 19 35.5**	**+1.3**
	0.5nm,0.6s,baz=12,slow=3.3,SNR=3.0								
TXAR	**Lajitas Array**	**88.38**	**54**	P			**P**	**02 19 48.1**	**-1.1**
	0.2nm,0.6s,baz=332,slow=4.3,SNR=3.7								
TXAR				pP			**pP**	**02 19 59.5**	**+0.2**
	0.3nm,0.6s,baz=270,slow=2.5,SNR=3.2								
LPAZ	**La Paz**	**144.85**	**62**	PKP			**PKPab**	**02 26 34.3**	**+0.3**
	0.8nm,0.7s,baz=47,slow=4.6,SNR=4.6								

*NDI **03** 02:28:21.8±2.6,34.87N×72.23E,h15km±363km,ML4.0, mb4.2(NEIC)*
*IDC **03** 02:28:26.4±0.6,34.71N×72.95E,h0km,mb4.1/18, mb1 4.2/24,mb1mx4.0/45,mbtmp4.1/24,ML4.1/5,Error ellipse: s-maj=15.1km s-min=13.8km az=39.0*
*ISCJB **03** 02:28:28.5±0.3,34.76N±0.03×73.02E±0.05,h24km, mb4.0/22, Error ellipse: s-maj=6.6km s-min=3.3km az=154.6*
*MOS **03** 02:28:30.9±1.0,34.74N×72.93E,h43km,mb4.4/4, Error ellipse: s-maj=12.1km s-min=5.6km az=93.5*
*NEIC **03** 02:28:33.4±1.3,34.76N×72.90E,h50km±11km,mb4.2/7, Error ellipse: s-maj=10.7km s-min=6.9km az=207.0*
*NNC **03** 02:28:36.0±2.0,34.90N×73.06E,h85km±21km,mb4.0, mpv4.3,Error ellipse: s-maj=15.5km s-min=11.9km az=169.0*

ISC 03 02:28:30.2±0.4,34.77N±0.05×72.96E±0.06,h24km,n86, σ2ş31/107,mb4.1/22,10C-7D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
THN	**Thein Dam**	**3.28**	**135**	*eP*			**Pn**	**02 29 18.0**	**-2.0**
THN				*ex*			**Sb**	**02 30 06.8**	**-0.2**
DHRM	**DHARAMSHALA**	**3.76**	**131**	*eP*			**Pn**	**02 29 27.3**	**+0.5**
DHRM				*eS*			**Sn**	**02 30 13.6**	**+3.2**
DHRM				IAML				02 30 26.9	
	comp=E,551nm,0.7s								
DHRM				IAML				02 30 29.9	
	comp=N,479nm,0.4s								
BHK	**Bhakra**	**4.43**	**138**	*ex*			**Pb**	**02 29 43.0**	**-4.3**
BHK				*ex*			**Sb**	**02 30 48.2**	**+8.0**
SDNR	**Sundarnagar**	**4.69**	**133**	*eP*			**Pn**	**02 29 39.0**	**-0.5**
SDNR				*ex*			**Sn**	**02 30 30.0**	**-3.1**
SMLA	**Simla**	**5.07**	**135**	*eP*			**Pn**	**02 29 46.1**	**+1.5**
SMLA				*eS*			**Sn**	**02 30 44.4**	**+1.9**
SMLA				IAML				02 31 13.6	
	comp=E,230nm,0.7s								
SMLA				IAML				02 31 15.9	
	comp=N,182nm,0.6s								
DZET	**Dzherino**	**5.22**	**322**	⇑P			**Pn**	**02 29 50.2**	**+3.4**
	comp=N,22nm,0.5s								
DZET				⇑S			**Sn**	**02 30 50.8**	**+4.5**
	comp=N,101nm,0.5s								
DZET	**Dzherino**	**5.22**	**322**	P			**Pn**	**02 29 50.2**	**+3.4**
DZET				S			**Sn**	**02 30 50.8**	**+4.5**
DZET				pmax	pmax				
	comp=Z,22nm,0.5s								
DZET				smax	smax				
	comp=N,101nm,0.5s								

NDI	**New Delhi**	**7.07**	**148**	*eP*		**Pn**	**02 30 09.0**	**-3.2**
NDI				*eS*		**Sn**	**02 31 29.0**	**-2.8**
MNAS	**Manas**	**7.71**	**358**	⇓P		**Pn**	**02 30 24.0**	**+2.9**
	comp=N,10nm,0.4s							
MNAS				⇑S		**Sn**	**02 31 48.0**	**+0.2**
	comp=N,36nm,0.6s							
MNAS	**Manas**	**7.71**	**358**	P		**Pn**	**02 30 24.0**	**+2.9**
MNAS				S		**Sn**	**02 31 48.0**	**+0.2**
MNAS				pmax	pmax			
	comp=Z,10.0nm,0.4s							
MNAS				smax	smax			
	comp=N,36nm,0.6s							
EKS2	**Erkin-Say**	**7.91**	**4**	*eP*		**Pn**	**02 30 26.6**	**+2.8**
EKS2				*e*			02 31 53.4	
EKS2				pmax	pmax			
	comp=Z,20nm,0.6s							
EKS2	**Erkin-Say**	**7.91**	**4**	*ePn*		**Pn**	**02 30 26.6**	**+2.8**
	comp=Z,20nm,0.6s							
EKS2				*eSn*		**Sn**	**02 31 53.4**	**+0.9**
AAK	**Ala-Archa**	**7.95**	**8**	Pn		**Pn**	**02 30 26.6**	**+2.3**
	comp=Z,2.6nm,0.3s,baz=152,slow=6.3,SNR=19							
AAK				Sn		**Sn**	**02 31 55.3**	**+1.8**
	comp=Z,1.5nm,0.3s,baz=292,slow=19,SNR=4.9							
AAK	**Ala-Archa**	**7.95**	**8**	⇑P		Pn	02 30 29.3	+5.0
	comp=Z,5.9nm,0.6s							
AAK				⇓S		**Sn**	**02 31 55.5**	**+2.0**
	comp=Z,50nm,1.4s							
AAK	**Ala-Archa**	**7.95**	**8**	*eP*		**Pn**	**02 30 27.5**	**+3.2**
AAK				*e*			02 31 54.9	
AAK				pmax	pmax			
	comp=Z,8.0nm,0.4s							
AAK	**Ala-Archa**	**7.95**	**8**	*ePn*		**Pn**	**02 30 27.4**	**+3.2**
	comp=Z,8.0nm,0.4s							
AAK				*eSn*		**Sn**	**02 31 54.9**	**+1.4**
TKM2	**Tokmak 2**	**8.40**	**13**	⇓P		**Pn**	**02 30 33.2**	**+2.7**
	comp=Z,11nm,1.1s							
TKM2				⇓S		**Sn**	**02 32 05.2**	**+0.6**
	comp=Z,21nm,0.6s							
TKM2	**Tokmak 2**	**8.40**	**13**	*eP*		**Pn**	**02 30 33.6**	**+3.1**
TKM2				*e*			02 32 05.3	
TKM2				pmax	pmax			
	comp=Z,8.0nm,0.6s							
TKM2	**Tokmak 2**	**8.40**	**13**	*ePn*		**Pn**	**02 30 33.6**	**+3.1**
	comp=Z,7.7nm,0.6s							
TKM2				*eSn*		**Sn**	**02 32 05.2**	**+0.6**
KK31	**Karatay Array**	**8.54**	**348**	⇓P		**Pn**	**02 30 34.9**	**+2.6**
	comp=Z,23nm,0.5s,baz=162,slow=11,SNR=408							
KK31				⇑S		**Sn**	**02 32 08.8**	**+1.0**
	comp=Z,31nm,0.6s,baz=150,slow=22,SNR=13							
KKAR	**Karatay Array**	**8.54**	**348**	*eP*		**Pn**	**02 30 34.5**	**+2.2**
KKAR				*e*			02 32 08.2	
KKAR				pmax	pmax			
	comp=Z,42nm,0.4s							
KKAR	**Karatay Array**	**8.54**	**348**	*ePn*		**Pn**	**02 30 34.5**	**+2.2**
	comp=Z,42nm,0.4s							
KKAR				*eSn*		**Sn**	**02 32 08.2**	**+0.4**
PDGK	**Podgornoye**	**9.94**	**29**	⇑P		**Pn**	**02 30 53.0**	**+1.6**
	comp=Z,8.5nm,0.6s							
PDGK	**Podgornoye**	**9.94**	**29**	P		**Pn**	**02 30 53.0**	**+1.6**
PDGK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
PYUN	**Piuhan**	**10.84**	**125**	*eP*		**Pn**	**02 31 03.0**	**-1.1**
	comp=Z,27nm,0.4s							
KOLN	**Koldanda**	**11.47**	**125**	*eP*		**Pn**	**02 31 10.7**	**-1.9**
	comp=Z,13nm,0.3s				

NOA	**NORSAR Array B**	**46.72**	**324**	P	**P**	**02 36 57.0**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=96,slow=7.6,SNR=7.6						
MJAR	**Matsushiro Arr**	**52.12**	**68**	P	**P**	**02 37 38.4**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=296,slow=9.8,SNR=5.6						
SUMG	**Summit**	**63.21**	**342**	*i* P	**P**	**02 38 57.4**	**+1.0**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SUMG	**Summit**	**63.21**	**342**	*i* P	**P**	**02 38 57.4**	**+1.0**
	comp=Z,5.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.30**	**271**	P	**P**	**02 39 23.6**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=48,slow=5.8,SNR=88						
INK	**Inuvik**	**75.34**	**10**	P	**P**	**02 40 11.5**	**+0.4**
	comp=Z,3.2nm,0.6s,baz=341,slow=8.1,SNR=10						
ILAR	**Eielson Array**	**76.00**	**16**	P	**P**	**02 40 14.3**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=301,slow=4.9,SNR=5.1						
DBIC	**Dimbokro**	**76.22**	**269**	P	**P**	**02 40 16.7**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=342,slow=7.9,SNR=4.2						
BOSA	**Boshof**	**77.49**	**222**	P	**P**	**02 40 24.0**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=36,slow=3.1,SNR=4.8						
BOSA	**Boshof**	**77.49**	**222**	P	**P**	**02 40 24.0**	**+0.1**
WRA	**Warramunga Arr**	**79.72**	**123**	P	**P**	**02 40 35.7**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=323,slow=5.0,SNR=12						
ASAR	**Alice Springs**	**81.95**	**126**	P	**P**	**02 40 48.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=310,slow=5.3,SNR=5.8						
YKA	**Yellowknife Ar**	**82.89**	**4**	P	**P**	**02 40 52.8**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=346,slow=5.5,SNR=9.3						

*ISCJB **03** 02:48:24.8±0.5,2°.33N±0°.07×126°.7E±0°.2,h53km, mb4.3/22, Error ellipse: s-maj=25.9km s-min=7.9km az=165.7*
*IDC **03** 02:48:27.1±5.2,2°.33N×126°.74E,h56km±49km, mb4.0/16, mb1 4.1/16, mb1mx3.9/41, mbtmp4.3/16, MS3.0/1, Ms1 3.0/1, ms1mx2.6/29, Error ellipse: s-maj=39.8km s-min=12.3km az=72.0*
*NEIC **03** 02:48:29.0±3.1,2°.32N×126°.81E,h77km±29km, mb4.4/8, Error ellipse: s-maj=20.9km s-min=6.8km az=71.0*
ISC 03 02:48:26.4±0.7,2°.3N±0°.1×126°.7E±0°.3,h53km,n29, σ0s68/28,mb4.3/22,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.90**	**347**	LR	LR	02 51 57.4	
	comp=Z,150nm,20.1s,baz=166,slow=43						
FITZ	**Fitzroy Crossi**	**20.27**	**183**	P	Pn	02 53 00.3	+0.2
	2.3nm,0.6s,baz=39,slow=6.5,SNR=3.6						
WRAB	**Tennant Creek**	**23.31**	**162**	*e*P	**P**	**02 53 30.1**	**+0.2**
	5.1nm,0.4s						
WRA	**Warramunga Arr**	**23.31**	**162**	P	**P**	**02 53 30.3**	**+0.3**
	3.2nm,0.3s,baz=343,slow=11,SNR=49						
MBWA	**Marble Bar**	**24.27**	**196**	*e*P	**P**	**02 53 39.0**	**+0.3**
	15nm,0.5s						
ASAR	**Alice Springs**	**26.72**	**165**	P	**P**	**02 54 01.8**	**+0.8**
	1.1nm,0.5s,baz=350,slow=7.3,SNR=12						
ASAR				PcP	**PcP**	**02 57 25.1**	**+1.6**
	0.5nm,0.7s,baz=358,slow=2.1,SNR=3.0						
CMAR	**Chiang Mai Arr**	**31.60**	**302**	P	**P**	**02 54 44.8**	**+0.3**
	4.3nm,0.3s,baz=120,slow=7.2,SNR=6.6						
KSAR	**Wonju Array Be**	**35.02**	**2**	P	**P**	**02 55 14.0**	**+0.1**
KSRS	**Korea Array**	**35.03**	**2**	P	**P**	**02 55 14.0**	**0.0**
	1.3nm,0.5s,baz=170,slow=8.4,SNR=3.8						
STKA	**Stephens Creek**	**36.79**	**159**	P	**P**	**02 55 29.1**	**-0.1**
	7.1nm,0.8s,baz=324,slow=7.2,SNR=10						
USRK	**Ussuriysk Ar.**	**42.02**	**6**	P	**P**	**02 56 12.6**	**0.0**
	4.1nm,0.9s,baz=163,slow=6.2,SNR=6.7						
ULN	**Ulaanbaatar**	**48.49**	**342**	*e*P	**P**	**02 57 03.3**	**-0.7**
	1.5nm,0.4s						
SONM	**Songino Array**	**48.66**	**342**	P	**P**	**02 57 05.9**	**+0.6**
	1.3nm,0.7s,baz=157,slow=8.6,SNR=7.6						
MKAR	**Makanchi Array**	**58.73**	**326**	P	**P**	**02 58 19.3**	**+0.4**
	1.9nm,0.5s,baz=121,slow=8.5,SNR=32						
TKM2	**Tokmak 2**	**60.82**	**319**	*e*P	**P**	**02 58 33.5**	**0.0**
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**61.87**	**333**	P	**P**	**02 58 39.9**	**-0.2**
	0.7nm,0.3s,baz=119,slow=5.1,SNR=4.5						
EKS2	**Erkin-Say**	**61.91**	**318**	*e*P	**P**	**02 58 41.2**	**+0.5**
	1.2nm,0.3s						
KURBB	**Kurchatov Arra**	**62.95**	**328**	P	**P**	**02 58 47.8**	**+0.4**
	2.8nm,0.5s,baz=130,slow=6.3,SNR=55						
KURK	**Kurchatov**	**62.95**	**328**	P	**P**	**02 58 47.8**	**+0.4**
BVAR	**Borovoye Array**	**68.52**	**327**	P	**P**	**02 59 23.2**	**-0.1**
	1.4nm,0.6s,baz=134,slow=11,SNR=8.1						
BRVK	**Borovoye**	**68.59**	**327**	*e*P	**P**	**02 59 23.9**	**+0.2**
	6.4nm,0.7s						
ABKAR	**Akbulak array**	**73.26**	**321**	*e*P	**P**	**02 59 52.6**	**+0.5**
	1.3nm,0.6s						
ARU	**Arti**	**76.15**	**328**	P	**P**	**03 00 07.3**	**-1.3**
	2.1nm,0.2s,baz=87,slow=3.6,SNR=6.7						
ARU	**Arti**	**76.15**	**328**	*e*P	**P**	**03 00 08.7**	**+0.1**
	5.4nm,0.8s						
VNDA	**Vanda**	**81.99**	**173**	P	**P**	**03 00 40.0**	**-0.2**
	1.3nm,0.8s,baz=308,slow=6.6,SNR=7.4						
SYO	**Syowa Base**	**91.06**	**201‖**	*e*P	**P**	**03 01 23.0**	**-1.7**
ARCES	**ARCESS Array B**	**91.80**	**340**	P	**P**	**03 01 27.7**	**-0.5**
	1.1nm,0.8s,baz=87,slow=5.0,SNR=6.9						
FINES	**FINESS Array B**	**93.10**	**332**	P	**P**	**03 01 33.8**	**-0.5**
	2.7nm,1.1s,baz=35,slow=5.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.33**	**287**	PKP	**PKPdf**	**03 07 19.5**	**+0.9**
	0.5nm,0.8s,baz=116,slow=2.9,SNR=3.4						

*ISCJB **03** 02:58:59.6±0.9,38°.37N±0°.04×28°.1E±0°.1,h10km, Error ellipse: s-maj=11.4km s-min=5.1km az=3.4*
*DDA **03** 02:58:59.7,38°.37N×28°.15E,h7km,Md2.6*
*CSEM **03** 02:58:59.4±0.1,38°.35N×28°.12E,h15km,MD2.6, Error ellipse: s-maj=3.7km s-min=2.2km az=101.0*
ISC 03 02:58:59.7±1.3,38°.37N±0°.03×28°.10E±0°.05,h10km,n8, σ0s38/13,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYDB	**Zeytinkoy-Aydi**	**0.45**	**201**	*e*PG	**Pg**	**02 59 08.4**	**-0.2**
AYDB				*e*SG	**Sg**	**02 59 14.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.45**	**201**	*e*Pg	**Pg**	**02 59 08.4**	**-0.2**
AYDB				*e*Sg	**Sg**	**02 59 14.7**	**+0.1**
KULA	**Kula-Manisa**	**0.46**	**72**	*e*PG	**Pg**	**02 59 08.7**	**-0.1**
KULA	**Kula-Manisa**	**0.46**	**72**	*e*Pg	**Pg**	**02 59 08.7**	**-0.1**
AKHS	**Akhisar**	**0.56**	**336**	P	**Pg**	**02 59 10.7**	**+0.2**
AKHS				S	**Sb**	**02 59 19.2**	**-0.4**
AKHS	**Akhisar**	**0.56**	**336**	*i* P	**Pg**	**02 59 10.7**	**+0.2**
AKHS				*i* S	**Sb**	**02 59 19.2**	**-0.4**
AYDN	**Tasoluk**	**0.73**	**194**	P	**Pg**	**02 59 13.5**	**-0.3**
AYDN	**Tasoluk**	**0.73**	**194**	*i* P	**Pg**	**02 59 13.5**	**-0.3**
AYDN				*i* S	**Sb**	**02 59 25.5**	**+0.9**

*IDC **03** 03:28:54.3±0.9,37°.19N×144°.39E,h0km,mb3.6/5, mb1 3.8/7, mb1mx3.6/38, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=26.5km s-min=21.1km az=121.0*
*ISCJB **03** 03:28:58.2±0.9,37°.43N±0°.05×144°.33E±0°.06,h33km, mb3.6/5, Error ellipse: s-maj=7.9km s-min=7.1km az=155.8*
*JMA **03** 03:28:59.9±0.2,37°.50N×144°.12E,h15km,M3.7*
ISC 03 03:28:59.7±1.0,37°.40N±0°.07×144°.37E±0°.08,h35km,n17, σ1s09/21,mb3.7/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.71**	**309**	P	**Pn**	**03 29 41.0**	**+0.2**
OFUJ				*e*S	**Sn**	**03 30 10.6**	**-1.7**
JMK	**Ichinoseki**	**2.93**	**303**	P	**Pn**	**03 29 44.8**	**+1.0**
JMK				*e*S	**Sn**	**03 30 17.6**	**-0.1**
JOM	**Ohasama**	**3.18**	**311**	P	**Pn**	**03 29 47.6**	**+0.3**
JOM				S	**Sn**	**03 30 23.8**	**-0.2**
JFT	**Otama**	**3.21**	**273**	P	**Pn**	**03 29 48.7**	**+1.0**
JFT				*e*S	**Sn**	**03 30 24.4**	**-0.4**
JYK	**Kaneyama**	**3.51**	**297**	P	**Pn**	**03 29 52.6**	**+0.9**
JANG	**Nango**	**3.71**	**324**	*e*S	**Sn**	**03 30 35.4**	**-1.6**
MJAR	**Matsushiro Arr**	**5.01**	**262**	Pn	**Pn**	**03 30 11.9**	**-0.6**
	2.1nm,0.3s,baz=88,slow=15,SNR=19						
MJAR				Sn	**Sn**	**03 31 08.1**	**-1.1**
	0.6nm,0.3s,baz=98,slow=26,SNR=6.2						
MAT	**Matsushiro**	**5.01**	**262**	P	**Pn**	**03 30 13.6**	**+1.1**
MAT				*e*S	**Sn**	**03 31 09.3**	**+0.1**
ASAJ	**Asahikawa**	**6.84**	**349**	Pn	**Pn**	**03 30 37.3**	**-0.2**
	0.5nm,0.3s,baz=228,slow=12,SNR=3.4						
ASAJ				Sn	**Sn**	**03 31 53.4**	**-0.7**
	0.5nm,0.3s,baz=40,slow=18,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**26.37**	**126**	T	T	04 01 45.1	
	baz=317,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**26.38**	**126**	T	T	04 01 48.6	
	baz=317,slow=75,SNR=9.2						
H11N3	**WAKE ISLAND Hy**	**26.39**	**126**	T	T	04 01 48.9	
	baz=317,slow=75,SNR=29						

MKAR	**Makanchi Array**	**45.92**	**302**	P	**P**	**03 37 19.7**	**+0.8**
	0.2nm,0.6s,baz=98,slow=6.0,SNR=2.9						
ILAR	**Eielson Array**	**47.91**	**33**	P	**P**	**03 37 35.0**	**+0.8**
	0.5nm,0.9s,baz=276,slow=5.9,SNR=4.9						
WRA	**Warramunga Arr**	**57.82**	**191**	P	**P**	**03 38 46.0**	**-1.7**
	1.0nm,0.5s,baz=10,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**61.54**	**191**	P	**P**	**03 39 11.4**	**-1.9**
	0.5nm,0.8s,baz=13,slow=12,SNR=4.8						
NVAR	**Mina Array Bea**	**72.86**	**55**	P	**P**	**03 40 26.5**	**+1.1**
	0.6nm,0.7s,baz=295,slow=6.9,SNR=3.4						

*ISCJB **03** 03:32:05.8±1.0,37°.62N±0°.09×42°.59E±0°.03,h6km±9km, Error ellipse: s-maj=15.9km s-min=4.5km az=178.2*
*DDA **03** 03:32:05.5,37°.38N×42°.58E,h6km,Md3.0*
*CSEM **03** 03:32:05.8±0.2,37°.57N×42°.59E,h8km,MD2.9, Error ellipse: s-maj=10.9km s-min=3.9km az=5.0*
*ISK **03** 03:32:05.0,37°.63N×42°.59E,h8km,MD2.9*
ISC 03 03:32:06.3±1.0,37°.53N±0°.10×42°.59E±0°.03,h10km±7km, n15,σ0s56/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.12**	**259**	*e*PG	**Pg**	**03 32 09.1**	**-0.3**
SIRT				*e*SG	**Sg**	**03 32 12.1**	**+0.6**
SIRT	**Sirnak**	**0.12**	**259**	*e*Pg	**Pg**	**03 32 09.1**	**-0.3**
SIRT				*e*Sg	**Sg**	**03 32 12.1**	**+0.6**
SIRN	**S¨¨rnak**	**0.15**	**258**	P	**Pg**	**03 32 09.3**	**-0.4**
SIRN				S	**Sg**	**03 32 12.2**	**+0.1**
SIRN	**S¨¨rnak**	**0.15**	**258**	*i* P	**Pg**	**03 32 09.3**	**-0.4**
SIRN				*i* S	**Sg**	**03 32 12.2**	**+0.1**
CUKT	**Cukurca**	**0.85**	**109**	*e*PG	**Pg**	**03 32 22.2**	**-0.6**
CUKT				*e*SG	**Sb**	**03 32 35.7**	**+0.8**
CUKT	**Cukurca**	**0.85**	**109**	*e*Pg	**Pg**	**03 32 22.2**	**-0.6**
CUKT				*e*Sg	**Sb**	**03 32 35.7**	**+0.8**
HAKT	**HAKKARI**	**0.89**	**88**	P	**Pg**	**03 32 23.3**	**-0.2**
HAKT				S	**Sb**	**03 32 36.3**	**+0.4**
HAKT	**HAKKARI**	**0.89**	**88**	*i* P	**Pg**	**03 32 23.3**	**-0.2**
HAKT				*i* S	**Sb**	**03 32 36.3**	**+0.4**
BTMN	**Batman**	**1.11**	**290**	P	**Pn**	**03 32 27.8**	**-0.2**
BTMN				S	**Sn**	**03 32 44.3**	**+0.9**
BTMN	**Batman**	**1.11**	**290**	*i* P	**Pn**	**03 32 27.8**	**-0.2**
BTMN				*i* S	**Sn**	**03 32 44.4**	**+0.9**
MARD	**Mardin**	**1.46**	**262**	*i* P	**Pn**	**03 32 32.4**	**-0.5**
MARD				*i* S	**Sn**	**03 32 52.0**	**-0.1**
MAZI	**Mazidag**	**1.71**	**268**	*e*PN	**Pn**	**03 32 35.8**	**-0.5**
MAZI				*e*SN	**Sn**	**03 32 58.2**	**0.0**
MAZI	**Mazidag**	**1.71**	**268**	*e*Pn	**Pn**	**03 32 35.8**	**-0.5**
MAZI				*e*Sn	**Sn**	**03 32 58.2**	**0.0**
BNGB	**Bing¨¶l**	**2.10**	**315**	*e*PN	**Pn**	**03 32 41.0**	**-0.6**
BINT	**Bingol**	**2.14**	**310**	*e*Pn	**Pn**	**03 32 41.1**	**-1.1**

KRSC 03 03:34:41.8±1.0,52°.21N×154°.70E,h481km±13km,ML3.8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**1.98**	**84**	P	P	03 35 46.1	+1.1
KRMR	**Karymshinskiy**	**2.19**	**72**	P	P	03 35 47.1	+1.1
RUS	**Russkaya**	**2.35**	**83**	*i* P	P	03 35 47.7	+0.8
RUS				*e*S	S	03 36 39.7	-0.4
GNL	**Ganaly**	**2.46**	**52**	*e*P	P	03 35 48.4	+0.7
AVH	**Avacha**	**2.67**	**65**	*e*P	P	03 35 51.2	+2.2
KRER	**Koryakskii**	**2.69**	**64**	*e*P	P	03 35 50.7	+1.4
UGLR	**Uglovaya**	**2.70**	**67**	*e*P	P	03 35 51.2	+2.0
SMAR	**Somma**	**2.71**	**66**	*e*P	P	03 35 51.3	+1.9
SDLR	**Sedlovina**	**2.76**	**66**	*e*P	P	03 35 51.0	+1.4
MKZ	**Mys Kozlova**	**4.82**	**58**	*e*P	P	03 36 07.3	+1.4
MKZ				S	S	03 37 14.1	-0.6

*IDC **03** 03:34:54.2±3.1,39°.32N×142°.37E,h0km,mb3.5/2, mb1 3.6/3, mb1mx3.3/46, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=71.7km s-min=38.8km az=66.0*
*ISCJB **03** 03:35:02.4±1.4,38°.77N±0°.06×142°.0E±0°.1,h44km±14km, mb3.4/2, Error ellipse: s-maj=19.7km s-min=9.4km az=13.2*
*JMA **03** 03:35:02.0±0.1,38°.77N×142°.02E,h46km±1km,M3.3*
ISC 03 03:35:02.9±1.8,38°.81N±0°.06×142°.0E±0°.1,h44km±12km, n12,σ1s38/17,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.35**	**320**	P	**Pn**	**03 35 12.1**	**+0.1**
OFUJ				S	**Sn**	**03 35 18.9**	**+0.4**
JMK	**Ichinoseki**	**0.59**	**284**	P	**Pn**	**03 35 15.1**	**+0.1**
JMK				S	**Sn**	**03 35 24.3**	**+0.7**
JIO	**Ouri**	**0.60**	**233**	P	**Pn**	**03 35 14.3**	**-0.7**
JIO				S	**Sn**	**03 35 22.7**	**-1.0**
JOM	**Ohasama**	**0.84**	**322**	P	**Pn**	**03 35 18.5**	**+0.2**
JOM				S	**Sn**	**03 35 30.4**	**+0.9**
JOU	**Okura**	**1.11**	**247**	P	**Pn**	**03 35 21.7**	**-0.3**
JOU				S	**Sn**	**03 35 36.2**	**+0.1**
JRG	**Rokugo**	**1.19**	**300**	P	**Pn**	**03 35 23.2**	**+0.2**
JYK	**Kaneyama**	**1.25**	**275**	P	**Pn**	**03 35 24.0**	**+0.1**
JMM	**Marumori**	**1.32**	**225**	P	**Pn**	**03 35 23.8**	**-1.0**
MJAR	**Matsushiro Arr**	**3.74**	**234**	Pn	**Pn**	**03 36 00.7**	**+2.7**
	1.4nm,0.3s,baz=45,slow=11,SNR=16						
MAT	**Matsushiro**	**3.74**	**234**	P	**Pn**	**03 36 00.4**	**+2.3**
MKAR	**Makanchi Array**	**43.56**	**301**	P	**P**	**03 42 59.8**	**-2.5**
	0.2nm,0.3s,baz=78,slow=7.6,SNR=3.8						
WRA	**Warramunga Arr**	**58.88**	**188**	P	**P**	**03 44 58.6**	**+1.4**
	0.4nm,0.8s,baz=6.7,slow=7.0,SNR=3.9						

*TRN **03** 03:57:47.8, 17°.02N×60°.26W,h26km,MD4.5,M3.9(FDF)*
ISC 03 03:57:50.0±2.3,16°.97N±0°.08×60°.4W±0°.1,h22km±8km,n39, σ0s48/53,4C-6D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEG	**La Desirade**	**0.95**	**226**	*e*P	**Pn**	**03 58 07.5**	**-0.6**
SFG	**Saint Francois**	**1.08**	**229**	*e*P	**Pn**	**03 58 09.4**	**-0.5**
SEG	**Port Louis**	**1.25**	**243**	*e*P	**Pn**	**03 58 12.3**	**+0.2**
MGG	**Marie-Galante**	**1.40**	**222**	*e*P	**Pn**	**03 58 14.2**	**-0.1**
ANWB	**Willy Bob**	**1.54**	**297‖**	*e*P	**Pn**	**03 58 15.6**	**-0.6**
ANWB				*e*S	**Sn**	**03 58 35.8**	**+0.3**
PHG	**Guadaloupe-2**	**1.57**	**233‖**	*i*P	**Pn**	**03 58 17.1**	**+0.5**
LZG	**Guadaloupe-1**	**1.60**	**239‖**	*e*P	**Pn**	**03 58 17.5**	**+0.5**
TBG	**Guadaloupe-3**	**1.67**	**228**	*e*P	**Pn**	**03 58 18.6**	**+0.6**
TBG				*e*S	**Sb**	**03 58 40.6**	**-0.1**
DWS	**Wesley**	**1.67**	**214**	*e*P	**Pn**	**03 58 17.9**	**-0.2**
DWS				*e*S	**Sb**	**03 58 40.9**	**+0.1**
MLYT	**Lee's Yard**	**1.79**	**262**	*e*P	**Pn**	**03 58 20.2**	**+0.6**
MLYT				*e*S	**Sb**	**03 58 44.0**	**0.0**
BBL	**Barber's Block**	**1.80**	**217**	*e*P	**Pn**	**03 58 19.7**	**0.0**
DLPL	**La Plaine**	**1.84**	**208**	*e*P	**Pn**	**03 58 19.8**	**-0.6**
DLPL				*e*S	**Sb**	**03 58 45.4**	**-0.3**
SVN	**Savane Anatole**	**2.26**	**201**	*e*P	**Pn**	**03 58 26.0**	**-0.1**
BAMF	**Morne Balai**	**2.28**	**200**	*e*P	**Pn**	**03 58 26.6**	**+0.2**
CXM	**Morne La Croix**	**2.29**	**200‖**	*e*P	**Pn**	**03 58 26.7**	**+0.1**
CXM				*e*S	**Sn**	**03 58 55.3**	**+1.1**
PCM	**Pelee Case Pet**	**2.30**	**201‖**	*e*P	**Pn**	**03 58 26.5**	**-0.1**
PCM	**Pelee Case Pet**	**2.30**	**201‖**	*e*P	**Pn**	**03 58 26.6**	**-0.1**
GBMF	**Grand Be**	**2.30**	**200‖**	*e*P	**Pn**	**03 58 26.7**	**0.0**
PML	**Morne Lenard**	**2.32**	**200‖**	*e*P	**Pn**	**03 58 27.0**	**0.0**
FDF	**Fort de France**	**2.35**	**199**	*e*P	**Pn**	**03 58 27.5**	**+0.1**
FDF				*e*S	**Sn**	**03 58 55.5**	**-0.3**
LPMF	**Morne Lapointe**	**2.46**	**194**	*e*P	**Pn**	**03 58 28.8**	**0.0**
ZAM	**Aeronautique**	**2.47**	**196‖**	*e*P	**Pn**	**03 58 28.9**	**-0.1**
TRMF	**Trois Ilets**	**2.51**	**196‖**	*e*P	**Pn**	**03 58 29.7**	**+0.1**
BIM	**Bigot**	**2.54**	**196**	*e*P	**Pn**	**03 58 30.6**	**+0.7**
BIM				*e*S	**Sn**	**03 59 00.5**	**+0.3**
SEUS	**St. Eustatius**	**2.57**	**282**	*e*P	**Pn**	**03 58 30.9**	**+0.5**
SEUS				*e*S	**Sn**	**03 59 01.1**	**+0.1**
SMRT	**St. Maarten**	**2.82**	**293**	*e*P	**Pn**	**03 58 34.9**	**+1.2**
SMRT				*e*S	**Sn**	**03 59 06.2**	**-0.9**
SABA	**Saba**	**2.84**	**284**	*e*P	**Pn**	**03 58 34.0**	**-0.1**
SABA				*e*S	**Sn**	**03 59 07.9**	**+0.2**
MCLT	**Moule a Chique**	**3.29**	**190**	*e*P	**Pn**	**03 58 40.5**	**+0.2**
MCLT				*e*S	**Sn**	**03 59 18.8**	**0.0**
SVB	**Belmont**	**3.78**	**194**	*e*P	**Pn**	**03 58 47.4**	**+0.4**
SVB				*e*S	**Sn**	**03 59 31.2**	**+0.4**
FCV	**Fort Charlotte**	**3.89**	**193**	*e*P	**Pn**	**03 58 49.4**	**+0.9**
FCV				*e*S	**Sn**	**03 59 33.0**	**-0.6**
GRMC	**Gramalote, San**	**15.24**	**234**	*e*P	**Pn**	**04 01 24.5**	**+0.3**
BRRC	**Barranca, Sant**	**16.33**	**235**	*e*P	**Pn**	**04 01 38.7**	**+0.6**
RUSC	**La Rusia**	**16.63**	**230**	*e*P	**P**	**04 01 44.3**	**-0.4**
MOTC	**Monteria, Cord**	**17.00**	**243**	*e*P	**Pn**	**04 01 45.5**	**-1.1**
CHIC	**Chingaza**	**17.96**	**228**	*e*P	**Pn**	**04 01 59.0**	**+0.1**
HELC	**Santa Helena**	**18.31**	**236**	*e*P	**P**	**04 02 02.5**	**-0.8**
GUYC	**Guyana, Colomb**	**18.80**	**233**	*e*P	**P**	**04 02 08.1**	**-0.6**
SJAC	**San Juan de Ar**	**19.07**	**226**	*e*P	**P**	**04 02 11.5**	**+0.2**
PRAC	**Prado**	**19.42**	**229**	*e*P	**P**	**04 02 15.5**	**+0.4**

*ISCJB **03** 03:59:19.5±0.5,39°.10N±0°.03×29°.03E±0°.03,h1km±7km, Error ellipse: s-maj=4.8km s-min=3.9km az=164.2*
*DDA **03** 03:59:19.8,39°.07N×29°.03E,h7km,Md2.8*
*CSEM **03** 03:59:19.8±0.1,39°.10N×29°.03E,h5km,MD2.8, Error ellipse: s-maj=1.9km s-min=1.8km az=142.0*
*ISK **03** 03:59:19.1,39°.09N×29°.01E,h6km,MD2.7*
ISC 03 03:59:20.1±1.0,39°.10N±0°.02×29°.02E±0°.02,h8km±9km, n34,σ0s35/50,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**257**	P	**Pg**	**03 59 25.1**	**+0.1**
DEMI				S	**Sg**	**03 59 28.7**	**+0.4**
DEMI	**Demirci**	**0.24**	**257**	*i* P	**Pg**	**03 59 25.1**	**+0.1**
DEMI				*i* S	**Sg**	**03 59 28.7**	**+0.4**
GDZ	**Gediz**	**0.36**	**91**	P	**Pg**	**03 59 26.9**	**-0.3**
GDZ				S	**Sg**	**03 59 32.1**	**+0.2**
GDZ	**Gediz**	**0.36**	**91**	*i* P	**Pg**	**03 59 26.9**	**-0.3**
GDZ				*i* S	**Sg**	**03 59 32.1**	**+0.2**
TVSB	**Tavsanli**	**0.49**	**44**	*e*PG	**Pg**	**03 59 29.3**	**-0.4**
TVSB				*e*SG	**Sg**	**03 59 36.5**	**+0.4**
TVSB	**Tavsanli**	**0.49**	**44**	*e*Pg	**Pg**	**03 59 29.3**	**-0.4**
TVSB				*e*Sg	**Sg**	**03 59 36.5**	**+0.4**
DST	**Dursunbey**	**0.59**	**328**	*e*PG	**Pg**	**03 59 30.5**	**-1.1**
DST				*e*SG	**Sg**	**03 59 39.5**	**+0.1**
DST	**Dursunbey**	**0.59**	**328**	*e*Pg	**Pg**	**03 59 30.5**	**-1.1**
DST				*e*Sg	**Sg**	**03 59 39.5**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG	**Pg**	**03 59 32.1**	**-0.5**
KULA				*e*SG	**Sg**	**03 59 40.7**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg	**Pg**	**03 59 32.1**	**-0.5**
KULA				*e*Sg	**Sg**	**03 59 40.7**	**-0.4**
KHAL	**Karahalli**	**0.81**	**153**	P	**Pg**	**03 59 35.7**	**-0.1**
KHAL				S	**Sg**	**03 59 46.2**	**-0.2**
KHAL	**Karahalli**	**0.81**	**153**	*i* P	**Pg**	**03 59 35.6**	**-0.1**
KHAL				*i* S	**Sg**	**03 59 46.2**	**-0.2**
ORLT	**Orhaneli**	**0.95**	**354**	*e*PG	**Pg**	**03 59 38.1**	**-0.3**
ORLT	**Orhaneli**	**0.95**	**354**	*e*Pg	**Pg**	**03 59 38.1**	**-0.3**
AKHS	**Akhisar**	**0.97**	**257**	P	**Pb**	**03 59 39.0**	**-0.1**
AKHS				S	**Sb**	**03 59 52.3**	**+0.2**
AKHS	**Akhisar**	**0.97**	**257**	*i* P	**Pb**	**03 59 39.0**	**-0.1**
AKHS				*i* S	**Sb**	**03 59 52.3**	**+0.2**
AKS	**Akhisar**	**0.97**	**257**	*e*PG	**Pg**	**03 59 38.4**	**-0.3**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg	**Pg**	**03 59 38.4**	**-0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pg**	**03 59 39.7**	**-0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pg**	**03 59 39.7**	**-0.3**
BALY	**Balya**	**1.26**	**301**	P	**Pb**	**03 59 44.6**	**+0.4**
BALY				S	**Sn**	**04 00 01.3**	**0.0**
BALY	**Balya**	**1.26**	**301**	*i* P	**Pb**	**03 59 44.6**	**+0.4**
BALY				*i* S	**Sn**	**04 00 01.3**	**0.0**
CAVI

MSVF **Nonsavu** 9.49 76 ⇑*i*P Pn 04 09 22.3 +2.1
MSVF **Nonsavu** 9.49 76 *e*Pn Pn 04 09 21.4 +1.2
HNR **Honiara** 13.52 322 LR LR 04 15 24.0
comp=Z,750nm,18.6s,baz=163,slow=37
HNR **Honiara** 13.52 322 P P 04 10 30.0 +5.9
EIDS **Eidsvold** 16.73 249 *e*Pn P 04 11 00.4 +0.6
37nm,1.3s
ARMA **Armidale** 18.18 233 P P 04 11 19.0 +3.2
baz=18,SNR=6.8
RMQ **Roma** 19.04 247 P Pn 04 11 28.4 +2.3
baz=19,SNR=7.1
URZ **Urewera** 19.44 159 *e*P Pn 04 11 30.4 -0.4
117nm,1.2s
BKZ **Black Stump Fm** 20.07 161 *e*P Pn 04 11 39.0 +0.6
57nm,1.0s
CTA **Charters Tower** 20.77 267 P P 04 11 44.2 0.0
18nm,1.0s,baz=84,slow=14,SNR=9.5
CTA **Charters Tower** 20.77 267 P P 04 11 44.2 +0.1
CTAO **Charters Tower** 20.77 267 *e*P P 04 11 44.3 +0.1
CTAO pmax pmax
comp=Z,109nm,1.4s
CTAO **Charters Tower** 20.77 267 *e*P P 04 11 44.3 +0.1
comp=Z,110nm,1.4s
CNB **Canberra Magne** 22.46 224 P P 04 12 06.1 +3.8
baz=23,SNR=6.4
YNG **Young** 22.53 228 P P 04 12 06.8 +3.8
baz=23,SNR=6.9
LTZ **Lake Taylor** 22.67 173 *e*P P 04 12 08.4 +4.1
comp=Z,114nm,1.4s
CAN **Canberra** 22.71 225 *e*P P 04 12 07.2 +2.3
CAN pmax pmax
comp=Z,52nm,1.1s
CAN **Canberra** 22.71 225 *e*P P 04 12 07.2 +2.3
comp=Z,52nm,1.1s
PMG **Port Moresby** 23.16 295 P P 04 12 11.3 +1.7
comp=Z,11nm,0.5s,baz=139,slow=10,SNR=3.6
PMG **Port Moresby** 23.16 295⇑*e*P P 04 12 11.1 +1.5
PMG *e**PP sP 04 12 23.1 +1.1
PMG pmax pmax
comp=Z,190nm,1.5s
PMG **Port Moresby** 23.16 295 *e*P P 04 12 06.9 -2.7
comp=Z,49nm,1.0s
CMSA **Cobar Meteorol** 23.24 237 P P 04 12 11.8 +1.6
baz=23,SNR=9.2
MILA **Mila** 23.67 221 P P 04 12 16.5 +2.0
baz=24,SNR=6.3
COEN **Coen** 24.88 281 P P 04 12 28.2 +2.5
baz=25,SNR=7.5
COEN **Coen** 24.88 281 *e*P P 04 12 26.1 +0.3
comp=Z,37nm,1.0s
DCZ **Deep Cove** 25.13 182 *e*P P 04 12 30.3 +2.6
comp=Z,44nm,1.1s
STKA **Stephens Creek** 26.61 239 P P 04 12 41.8 +0.5
comp=Z,6.5nm,0.7s,baz=58,slow=11,SNR=9.8
STKA **Stephens Creek** 26.61 239 P P 04 12 42.8 +1.5
baz=27,SNR=6.5
STKA **Stephens Creek** 26.61 239 *e*P P 04 12 42.7 +1.3
STKA pmax pmax
comp=Z,9.0nm,1.0s
STKA **Stephens Creek** 26.61 239 *e*P P 04 12 42.7 +1.3
comp=Z,9.3nm,1.0s
HTT **Hallett** 29.25 237 P P 04 13 06.8 +1.8
baz=29,SNR=3.4
BBOO **Buckleboo** 31.36 240 P P 04 13 25.7 +2.2
baz=31,SNR=5.8
BBOO **Buckleboo** 31.36 240 *e*P P 04 13 24.8 +1.2
comp=Z,19nm,0.9s
WB2 **Warramunga Arr** 31.93 265 *e*P P 04 13 28.3 -0.4
comp=Z,12nm,0.9s
WRAB **Tennant Creek** 31.93 265⇑*e*P P 04 13 29.1 +0.4
WRAB *i* *PP pP 04 13 39.4 +1.6
WRAB pmax pmax
comp=Z,19nm,1.3s
WRAB **Tennant Creek** 31.93 265 *e*P P 04 13 25.4 -3.3
comp=Z,14nm,1.1s
WRA **Warramunga Arr** 31.94 265 P P 04 13 27.4 -1.4
comp=Z,1.0nm,0.4s,baz=90,slow=8.5,SNR=9.8
WRA **Warramunga Arr** 31.94 265 P P 04 13 27.4 -1.4
AS01 **Alice Springs** 32.06 258 *e*P P 04 13 29.1 -0.7
AS01 *e*PcP PcP 04 16 19.4 +0.4
AS31 **Alice Springs** 32.10 258 *e*P P 04 13 29.8 -0.5
comp=Z,12nm,0.8s
ASAR **Alice Springs** 32.11 258 P P 04 13 29.4 -0.8
comp=Z,5.7nm,0.6s,baz=85,slow=9.0,SNR=37
ASAR PcP PcP 04 16 18.8 -0.5
comp=Z,2.0nm,1.0s,baz=71,slow=3.1,SNR=4.8
ASAR **Alice Springs** 32.11 258 P P 04 13 29.4 -0.8
ASAR PcP PcP 04 16 18.8 -0.5
JAY **Jayapura** 32.27 300 P P 04 13 31.2 -0.5
comp=Z,0.7nm,0.7s,baz=274,slow=23,SNR=3.6
JAY **Jayapura** 32.27 300 P P 04 13 31.2 -0.5
WRKA **Warakurna** 37.20 255 P P 04 14 14.8 +0.5
baz=37,SNR=6.3
TBI **Tubuai** 39.16 102 *e*S S 04 20 31.7 +2.8
comp=Z,233nm,30.2s
TBI *e*LR LR 04 25 14.8
comp=Z,524nm,32.5s
PPT2 **Papeete2** 39.78 93 *e*LR LR 04 25 37.8
comp=Z,929nm,28.2s
FITZ **Fitzroy Crossi** 40.35 266 P P 04 14 39.4 -1.3
comp=Z,18nm,1.0s,baz=111,slow=7.7,SNR=13
FITZ **Fitzroy Crossi** 40.35 266 P P 04 14 40.1 -0.6
baz=40,SNR=11
FITZ **Fitzroy Crossi** 40.35 266 *e*P P 04 14 41.9 +1.2
comp=Z,38nm,1.0s
MBWA **Marble Bar** 45.37 260 *e*P P 04 15 20.8 -0.6
comp=Z,125nm,0.9s
KAPI **Kappang** 49.61 281 *e*P P 04 15 53.1 -1.3
comp=Z,38nm,1.3s
TAOE **Nuku Hiva Isla** 50.90 85 *e*S S 04 23 23.9 +4.6
comp=Z,209nm,23.8s
TAOE *e*LR LR 04 30 48.7
comp=Z,385nm,28.5s
VNDA **Vanda** 57.37 182 P P 04 16 46.1 -4.3
comp=Z,1.3nm,0.9s,baz=343,slow=5.1,SNR=4.2
VNDA **Vanda** 57.37 182 *e*P P 04 16 51.5 +1.1
VNDA pmax pmax
comp=Z,16nm,1.4s
VNDA **Vanda** 57.37 182 *e*P P 04 16 51.5 +1.1
comp=Z,16nm,1.4s
KKM **Kota Kinabalu** 57.55 291 *e*P P 04 16 50.3 -2.5
comp=Z,110nm,1.6s
SBA **Scott Base** 57.62 180 P P 04 16 52.8 +0.7
SBA pmax pmax
comp=Z,37nm,1.2s
SBA **Scott Base** 57.62 180 *e*P P 04 16 49.1 -3.0
comp=Z,37nm,1.3s
CASY **Casey** 58.85 204 *e*P P 04 17 01.4 +0.4
comp=Z,26nm,1.5s
SBUM **Sibu** 59.50 286 *e*P P 04 17 08.4 +2.2
comp=Z,18nm,1.3s
KSM **Kuching** 60.83 284 *e*P P 04 17 15.3 -0.1
comp=Z,23nm,1.0s
MJAR **Matsushiro Arr** 63.30 333 P P 04 17 30.1 -1.5
comp=Z,4.9nm,0.9s,baz=156,slow=7.4,SNR=2.4
MJAR **Matsushiro Arr** 63.30 333 P P 04 17 30.1 -1.5
JNU **Nakatsue** 64.06 325 P P 04 17 35.9 -0.7
comp=Z,14nm,0.9s,baz=110,slow=9.1,SNR=8.1
JNU **Nakatsue** 64.06 325 *e*P P 04 17 36.1 -0.4
comp=Z,22nm,1.0s
JNU *e*pP sP 04 17 49.0 -0.9
ASAJ **Asahikawa** 68.30 340 *e*P P 04 18 01.6 -1.9
comp=Z,33nm,1.2s
KSRS **Korea Array** 68.92 326 P P 04 18 07.5 +0.1
comp=Z,3.3nm,0.9s,baz=144,slow=8.0,SNR=8.7
KSAR **Wonju Array Be** 68.93 326 P P 04 18 07.6 0.0
KSAR **Wonju Array Be** 68.93 326 P P 04 18 07.5 0.0
KS01 **Wonju Array Si** 68.95 326 *e*P P 04 18 07.6 -0.1
QIZ **Qiongzhong** 69.41 300 P P 04 18 15.1 +4.2
QIZ S S 04 27 18.7 +2.4
NJ2 **Nanjing** 70.41 317 *e*P P 04 18 17.2 +0.4
NJ2 PMZ
comp=Z,9.0nm,0.7s
IPM **Ipoh** 70.52 283 *e*P P 04 18 17.6 -0.3
YSS **Yuzh-Sakhalins** 70.81 342 *e*P P 04 18 14.0 -4.9
YSS MLR MLR
comp=Z,300nm,18.0s
KULM **Kulim** 71.18 283 *e*P P 04 18 18.9 -3.0
comp=Z,13nm,1.1s
USRK **Ussuriysk Ar.** 72.30 333 P P 04 18 28.2 +0.2
comp=Z,7.9nm,0.9s,baz=111,slow=2.5,SNR=11
SKNT **Sakolnakorn** 73.25 296 P P 04 18 35.1 +0.8
comp=Z,24nm,1.1s,comp=Z,1µm
MDJ **Mudanjiang** 73.66 332 P P 04 18 36.2 +0.2
MDJ PMZ
comp=Z,11nm,1.0s
MDJ PMZ
comp=Z,94nm,5.2s
MDJ **Mudanjiang** 73.66 332 *e*P P 04 18 35.8 -0.3
comp=Z,52nm,1.4s
PETK **Petropavlovsk-** 73.67 353 P P 04 18 36.0 +0.1
comp=Z,6.3nm,0.8s,baz=123,slow=5.3,SNR=6.8
PETK **Petropavlovsk-** 73.67 353 P P 04 18 36.0 +0.1
CN2 **Changchun** 74.94 329 *e*P P 04 18 42.5 -1.0
CN2 PMZ
comp=Z,10.0nm,1.0s
GYA **Guiyang** 75.76 305 P P 04 18 51.2 +2.4
GYA PP PP 04 21 43.3 +4.1
GYA S S 04 28 29.0 0.0
GYA SKS SKSac 04 28 52.2 -5.1
GYA SS SS 04 33 24.0 +2.4
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,6.2s
GYA LN
comp=Z,550nm,19.0s
GYA LE
comp=Z,520nm,19.2s
GYA LZ
comp=Z,530nm,19.6s
LOEI **Loei** 75.81 295 P P 04 18 51.4 +2.3
comp=Z,8.6nm,1.0s
KLR **Kul'dur** 76.49 336 P P 04 18 52.5 +0.2
comp=Z,2.7nm,1.0s,baz=130,slow=6.9,SNR=7.4
KLR **Kul'dur** 76.49 336⇑*i*P P 04 18 52.1 -0.2
KLR *i* *PP sP 04 19 05.8 +0.1
KLR **Kul'dur** 76.49 336 P P 04 18 52.5 +0.2
UTTA **Uttaradit** 76.52 295 P P 04 18 55.4 +2.3
comp=Z,1.8nm,1.0s
LAMP **Lampang** 77.64 295 P P 04 19 02.8 +3.4
comp=Z,4.6nm,0.8s
KMI **Kunming** 78.15 302 P P 04 19 04.9 +2.5
KMI PMZ
comp=Z,10.0nm,0.6s
KMI PMZ
comp=Z,79nm,4.5s
CM01 **Chiang Mai Ar** 78.17 295 *e*P P 04 19 03.1 +0.8
CMAR **Chiang Mai Arr** 78.20 295 P P 04 19 02.2 -0.3
comp=Z,1.9nm,0.4s,baz=70,slow=4.6,SNR=5.9
CMAR **Chiang Mai Arr** 78.20 295 P P 04 19 02.2 -0.3
XAN **Xi'an** 78.23 313 P P 04 19 06.6 +4.2
CMMT **Chiang Mai** 78.36 295 P P 04 19 05.5 +2.1
comp=Z,13nm,0.5s,comp=Z,749nm
CHTO **Chiang Mai** 78.36 295 P P 04 19 05.1 +1.7
comp=Z,42nm,1.0s
CHTO **Chiang Mai** 78.36 295 *e*P P 04 19 03.6 +0.2
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO **Chiang Mai** 78.36 295 *e*P P 04 19 03.6 +0.2
comp=Z,7.7nm,0.9s
CD2 **Chengdu** 80.24 308 *e*P P 04 19 14.3 +0.8
CD2 S S 04 29 16.6 -0.3
CD2 SKS SKSac 04 29 26.6 -2.6
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,140nm,5.4s
HHC **Hu-ho-hao-te** 80.49 320 *e*P P 04 19 17.4 +2.7
HHC PMZ
comp=Z,25nm,1.2s
HHC PMZ
comp=Z,110nm,8.6s
LZH **Lanzhou** 82.83 313 *e*P P 04 19 29.6 +2.4
LZH *e*PP PP 04 22 43.0 +5.0
LZH *e*S S 04 29 44.4 +0.6
LZH *e*SS SS 04 35 12.3 +4.8
LZH PMZ
comp=Z,29nm,1.5s
LZH PMZ
comp=Z,120nm,7.2s
LZH LN
comp=Z,150nm,15.4s
LZH LE
comp=Z,220nm,17.1s
LZH LZ
comp=Z,280nm,19.5s
OHAK **Old Harbor** 83.61 20 *e*P P 04 19 29.8 -0.6
comp=Z,35nm,1.0s
SYO **Syowa Base** 83.71 196⇓*i*P P 04 19 30.0 -1.0
SYO **Syowa Base** 83.71 196⇑*e*PcP PcP 04 19 34.6 -0.5
SEY **Seymchan** 83.90 353 P P 04 19 30.8 -1.0
comp=Z,0.9nm,0.3s,baz=149,slow=7.9,SNR=5.4
SEY **Seymchan** 83.90 353 P P 04 19 32.6 +0.8
SEY **Seymchan** 83.90 353 P P 04 19 30.8 -1.0
KDAK **Kodiak Island** 84.28 20 *ce*P P 04 19 35.4 +1.5
KDAK **Kodiak Island** 84.28 20 *e*P P 04 19 29.9 -4.0
comp=Z,24nm,0.9s
CNPM **China Poot** 86.10 19 *e*P P 04 19 43.1 0.0
comp=Z,19nm,1.0s
RSO **Redoubt South** 86.40 18 *e*P P 04 19 46.3 +1.6
BRLK **Bradley Lake** 86.40 19 *e*P P 04 19 45.9 +1.4
comp=Z,18nm,1.1s
KMRM **Mail Ridge** 87.21 45 *e*P P 04 19 49.3 +0.3
comp=Z,21nm,1.0s
ULN **Ulaanbaatar** 87.22 324⇓*e*P P 04 19 48.6 -0.4
ULN *i* *PP sP 04 20 01.9 -0.6
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN **Ulaanbaatar** 87.22 324 *e*P P 04 19 48.6 -0.4
comp=Z,32nm,1.4s
GTA **Gaotai** 87.26 314 *e*P P 04 19 49.9 +0.6
GTA PMZ
comp=Z,4.0nm,1.1s
SONM **Songino Array** 87.57 323 P P 04 19 50.6 -0.1
comp=Z,4.4nm,1.0s,baz=133,slow=4.2,SNR=15
SONM **Songino Array** 87.57 323 P P 04 19 50.6 -0.1
SONA1 **Songino Array** 87.58 323 *e*P P 04 19 50.2 -0.4
BILL **Bilibino** 88.08 359⇑*i*P P 04 19 51.6 -0.8
BILL *i* 04 20 03.8
BILL pmax pmax
comp=Z,26nm,2.5s
BILL **Bilibino** 88.08 359 *e*P P 04 19 51.3 -1.1
comp=Z,23nm,1.3s
SNAA **Sanae** 88.09 183 P P 04 19 52.5 -0.3
SNAA **Sanae** 88.09 183⇑*i*P P 04 19 53.2 +0.4
SNAA **Sanae** 88.09 183 *e*P P 04 19 51.6 -1.1
comp=Z,689nm,1.0s
WDC **Whiskeytown Da** 88.16 45 *e*P P 04 19 53.5 +0.1
WDC pmax pmax
comp=Z,26nm,1.4s
WDC **Whiskeytown Da** 88.16 45 *e*P P 04 19 53.5 +0.1
comp=Z,26nm,1.4s
N02D **Trinity Center** 88.24 45 P P 04 19 54.0 +0.1
baz=241,SNR=6.3
ARVC **Arvin** 88.26 52 P P 04 19 53.7 -0.4
baz=244
M02C **Callahan** 88.35 45 P P 04 19 54.5 0.0
baz=241,SNR=8.8
ORV **Oroville** 88.38 47 *e*P P 04 19 54.3 -0.2
ORV pmax pmax
comp=Z,15nm,1.2s
ORV **Oroville** 88.38 47 *e*P P 04 19 54.3 -0.2
comp=Z,15nm,1.2s
VES **Vestal, Richgr** 88.39 51 P P 04 19 53.9 -0.8
baz=244
CMB **Columbia Colle** 88.45 48 *e*P P 04 19 53.4 -1.5
CMB pmax pmax
comp=Z,76nm,1.2s
CMB **Columbia Colle** 88.45 48 *e*P P 04 19 53.4 -1.5
comp=Z,76nm,1.2s
AFDM **Forest Hills D** 88.46 47 *e*P P 04 19 54.2 -0.7
comp=Z,18nm,1.2s
O03D **Paynes Creek** 88.52 46 P P 04 19 54.6 -0.6
baz=242,SNR=8.3
BFSC **Mount Baldy Ra** 88.74 53 P P 04 19 55.7 -0.8
baz=244
ISA **Isabella, Lake** 88.76 51 P P 04 19 55.9 -0.6
baz=244
ISA **Isabella, Lake** 88.76 51 *e*P P 04 19 56.5 0.0
ISA pmax pmax
comp=Z,12nm,1.0s
ISA **Isabella, Lake** 88.76 51 *e*P P 04 19 56.5 0.0
comp=Z,12nm,1.0s
EDW2 **Edwards Air Fo** 88.77 52 P P 04 19 56.1 -0.5
baz=244
MURC **Murrieta** 88.82 54 P P 04 19 56.4 -0.4
baz=245
HUMO **Hull Mountain** 88.87 43 *e*P P 04 19 56.3 -0.5
comp=Z,16nm,1.0s
CAST **Castle Rocks** 88.97 17 *e*P P 04 19 54.4 -2.3
comp=Z,6.5nm,1.0s
MONP2 **Monument Peak** 89.11 54 P P 04 19 57.9 -0.5
baz=245
I03D **Drain, OR** 89.15 42 P P 04 19 57.7 -0.2
baz=241
M04C **Macdoel** 89.20 45 P P 04 19 58.2 -0.3
baz=242
IKP **In-Ko-Pah, Jac** 89.25 55 P P 04 19 58.5 -0.3
baz=245
LRMC **Laurel Mtn Rad** 89.26 52 P P 04 19 58.9 -0.1
baz=244
VNA1 **Neumayer--Stat** 89.28 181 P P 04 19 58.9 +0.6
WAKR **Walker** 89.33 48 *e*P P 04 19 59.5 +0.2
PFO **Pinyon Flats O** 89.38 54 P P 04 19 59.1 -0.4
baz=245
PFO **Pinyon Flats O** 89.38 54 *e*P P 04 19 59.7 +0.1
PFO pmax pmax
comp=Z,16nm,1.3s
PFO **Pinyon Flats O** 89.38 54 *e*P P 04 19 59.7 +0.1
comp=Z,16nm,1.3s
TPFO **Pinon Flats** 89.38 54 P P 04 19 59.2 -0.4
baz=245
CWC **Cottonwood Cre** 89.39 51 P P 04 19 59.2 -0.3
baz=244
SWSC **Sam W. Stewart** 89.61 55 P P 04 20 00.0 -0.4
baz=246
MPMC **Manual Prospec** 89.65 51 P P 04 20 00.2 -0.6
baz=245,SNR=8.1
DAC **Darwin (Calif)** 89.67 51 *e*P P 04 20 00.0 -0.9
DAC pmax pmax
comp=Z,12nm,1.1s
DAC **Darwin (Calif)** 89.67 51 *e*P P 04 20 00.0 -0.9
comp=Z,12nm,1.1s
I04A **Tendick Farm,** 89.79 43 P P 04 20 00.9 -0.2
baz=241
GSC **Goldstone, Bar** 89.83 52 P P 04 20 01.3 -0.3
baz=245
GSC **Goldstone, Bar** 89.83 52 *e*P P 04 20 02.0 +0.5
GSC pmax pmax
comp=Z,34nm,1.9s
GSC **Goldstone, Bar** 89.83 52 *e*P P 04 20 02.0 +0.5
comp=Z,34nm,1.9s
BELC **Belle Mtn. Jos** 89.89 54 P P 04 20 01.5 -0.4
baz=245,SNR=7.0
PAHR **Pah Rah Range** 89.90 47 *e*P P 04 20 01.8 -0.1
comp=Z,22nm,1.3s
G03D **McMinnville, O** 89.94 41 P P 04 20 01.4 -0.2
baz=241
NVAR **Mina Array Bea** 90.09 49 P P 04 20 02.8 -0.1
comp=Z,6.4nm,0.9s,baz=230,slow=7.4,SNR=33
NVAR **Mina Array Bea** 90.09 49 P P 04 20 02.8 -0.1
BC3 **Big Chuckawall** 90.16 54 P P 04 20 02.8 -0.4
baz=246
K05A **Summer Lake** 90.26 44 *e*P P 04 20 03.7 +0.1
comp=Z,15nm,0.9s
MOD **Modoc Plateau** 90.27 45 *e*P P 04 20 02.9 -0.6
comp=Z,13nm,1.0s
FURC **Furnace Creek,** 90.28 51 P P 04 20 03.3 -0.2
baz=245,SNR=8.1
J05D **Fort Rock, OR** 90.30 43 P P 04 20 03.3 -0.3
baz=242
GLA **Glamis** 90.39 55 P P 04 20 04.0 -0.1
baz=246
GLA **Glamis** 90.39 55 *e*P P 04 20 04.9 +0.7
GLA pmax pmax
comp=Z,22nm,1.0s
GLA **Glamis** 90.39 55 *e*P P 04 20 04.9 +0.7
comp=Z,22nm,1.0s
E03A **Lebam** 90.41 40 *e*P P 04 20 04.5 +0.7
comp=Z,66nm,1.2s
GMRC **Granite Mounta** 90.47 53 P P 04 20 04.1 -0.5
baz=246
SHOC **Shoshone, Teco** 90.47 52 P P 04 20 03.8 -0.7
baz=245,SNR=5.7
F04D **Rainier, OR** 90.52 40 P P 04 20 04.4 0.0
baz=241
TUQ **Turquoise Moun** 90.54 52 P P 04 20 04.5 -0.5
baz=246,SNR=7.2
IRM **Iron Mountain** 90.60 54 P P 04 20 04.8 -0.3
baz=246,SNR=7.9
NLWA **Neilton Lookou** 90.65 39 *e*P P 04 20 03.8 -1.2
comp=Z,17nm,1.0s
OSR **Olympics--Salm** 90.65 39 P P 04 20 05.3 +0.3
ZAK **Zakamensk** 90.67 324 *e*P P 04 20 04.3 -0.8
ZAK pmax pmax
comp=Z,9.0nm,1.3s
I05D **Terrebonne, OR** 90.73 42 P P 04 20 05.2 -0.3
baz=242
F04A **Amboy** 90.81 41 *e*P P 04 20 06.1 +0.4
comp=Z,70nm,1.6s
Y12C **Blythe** 90.91 54 P P 04 20 06.2 -0.3
baz=246,SNR=7.2
Y12C **Blythe** 90.91 54 *e*P P 04 20 06.6 +0.2
TPNV **Topopah Spring** 90.93 51 P P 04 20 06.0 -0.7
baz=245,SNR=10
TPNV **Topopah Spring** 90.93 51 *e*P P 04 20 06.4 -0.4
TPNV **Topopah Spring** 90.93 51 *e*P P 04 20 06.4 -0.4
LDFC **Landfair** 91.00 53 *e*P P 04 20 07.1 +0.1
comp=Z,33nm,1.1s
113A **Mohawk Valley,** 91.10 55 *e*P P 04 20 07.7 +0.3
TDL **Tradedollar La** 91.13 40 P P 04 20 07.4 0.0
WRAK **Wrangell Islan** 91.14 29 *e*P P 04 20 05.0 -1.9
comp=Z,11nm,0.9s
TLY **Talaya** 91.16 326⇑*e*P P 04 20 08.4 +1.1
G05D **Wamic, OR** 91.16 42 P P 04 20 07.1 -0.3
baz=242
PDMCI **Parker Dam,Lak** 91.42 54 P P 04 20 08.4 -0.5
baz=246
IL1 **Eielson Array** 91.46 18 *e*P P 04 20 05.9 -2.4
ILAR **Eielson Array** 91.46 18 P P 04 20 06.2 -2.1
comp=Z,2.8nm,0.9s,baz=237,slow=5.2,SNR=9.5
ILAR **Eielson Array** 91.46 18 P P 04 20 06.2 -2.1
ILB **Eielson Array** 91.46 18 *e*P P 04 20 07.0 -1.3
DOT **Dot Lake** 91.47 19 *e*P P 04 20 08.1 -0.3
comp=Z,10nm,0.9s
214A **Organ Pipe Nat** 91.52 57 P P 04 20 09.2 -0.2
baz=247,SNR=6.1
SHPR **Sheep Range** 91.55 52 *e*P P 04 20 09.9 +0.3
comp=Z,13nm,1.3s
WVOR **Wild Horse Val** 91.62 45 *e*P P 04 20 09.9 +0.1
WVOR pmax pmax
comp=Z,12nm,1.0s
WVOR **Wild Horse Val** 91.62 45 *e*P P 04 20 09.9 +0.1
comp=Z,12nm,1.0s
D05A **Enumclaw** 91.67 40 *e*P P 04 20 10.1 +0.4
comp=Z,38nm,1.2s
BMN **Battle Mountai** 91.71 47 *e*P P 04 20 09.7 -0.6
BMN pmax pmax
comp=Z,8.0nm,0.9s
BMN **Battle Mountai** 91.71 47 *e*P P 04 20 09.7 -0.6
comp=Z,8.3nm,0.9s
SKAG **Skagway** 91.73 25 *e*P P 04 20 08.3 -1.3
comp=Z,12nm,1.0s
FMW **Mount Fremont** 91.74 40 P P 04 20 09.9 -0.4
MCW **Mount Constitu** 91.89 38 P P 04 20 10.8 +0.1
MCW **Mount Constitu** 91.89 38 P P 04 20 10.8 +0.1
W13A **Hualapai Mount** 91.93 53 *e*P P 04 20 11.6 +0.1
A04D **Lummi Island** 91.98 38 P P 04 20 10.9 -0.2
baz=241
R11A **Troy Canyon, C** 91.99 50 P P 04 20 11.0 -0.6
baz=246
R11A **Troy Canyon, C** 91.99 50 *e*P P 04 20 11.0 -0.6
B05A **Bryant** 92.12 39 P P 04 20 11.4 -0.3
baz=242
Y14A **Wickenburg** 92.14 55 *e*P P 04 20 12.2 -0.1
COLD **Coldfoot** 92.49 15 *e*P P 04 20 13.0 0.0
EGAK **Eagle** 93.17 19 *e*P P 04 20 15.2 -1.0
comp=Z,3.1nm,0.7s
ELK **Elko** 93.21 48 *e*P P 04 20 16.5 -0.8
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK **Elko** 93.21 48 *e*P P 04 20 16.5 -0.8
comp=Z,2.8nm,0.9s
TUC **Tucson** 93.25 57 P P 04 20 17.0 -0.4
baz=248
TUC **Tucson** 93.25 57 *e*P P 04 20 17.3 -0.2
TUC pmax pmax
comp=Z,9.0nm,1.1s
TUC **Tucson** 93.25 57 *e*P P 04 20 17.3 -0.2
comp=Z,9.4nm,1.1s
DAWY **Dawson** 93.25 20 *e*P P 04 20 16.4 -0.3
CCUT **Cedar City** 93.28 51 *e*P P 04 20 18.0 +0.3
comp=Z,7.2nm,1.2s
DLBC **Dease Lake** 93.33 28 P P 04 20 15.3 -1.9
comp=Z,6.1nm,1.1s,baz=213,slow=1.3,SNR=5.2
DLBC **Dease Lake** 93.33 28 *e*P P 04 20 16.6 -0.7
comp=Z,7.9nm,1.1s
KNB **Kanab** 93.47 52 *e*P P 04 20 18.8 +0.3
KNB **Kanab** 93.47 52 *e*P P 04 20 18.8 +0.3

WUAZ	**Wupatki**	**93.99**	**54**	P		**P**	04 20 20.2	-0.7
	baz=248							
WUAZ	**Wupatki**	**93.99**	**54**	*e*P		**P**	04 20 21.0	+0.1
	comp=Z,6.0nm,1.0s							
MTPU	**Mount Pierson**	**94.33**	**51**	*e*P		**P**	04 20 23.1	+0.5
	comp=Z,18nm,1.9s							
DUG	**Dugway, Tooele**	**94.70**	**49**	P		**P**	04 20 23.3	-0.7
	baz=248							
HLID	**Hailey**	**94.90**	**45**	P		**P**	04 20 24.4	-0.6
	baz=247							
HLID	**Hailey**	**94.90**	**45**	*e*P		**P**	04 20 25.1	+0.2
	comp=Z,3.0nm,1.0s							
MSO	**Missoula**	**96.49**	**42**	P		**P**	04 20 31.5	-0.5
	baz=247							
MNTX	**Cornudas Mount**	**97.33**	**59**	P		**P**	04 20 35.1	-0.9
	baz=251							
WMQ	**Urumqi**	**97.35**	**314**	*e*P		Pdif	04 20 36.7	+0.7
WMQ				PMZ				
	comp=Z,4.0nm,0.6s							
WMQ				PMZ				
	comp=Z,43nm,4.8s							
WMQ				LN				
	comp=Z,30nm,19.2s							
BOZ	**Bozeman (W)**	**97.53**	**44**	P		**P**	04 20 36.2	-0.6
	baz=249							
ANMO	**Albuquerque**	**97.55**	**56**	P		**P**	04 20 36.3	-0.9
	baz=251							
ANMO	**Albuquerque**	**97.55**	**56**	*i*P		**P**	04 20 36.1	-1.1
ANMO				pmax	pmax			
	comp=Z,3.0nm,1.7s							
BW06	**Boulder Array**	**97.91**	**47**	P		**P**	04 20 37.9	-0.8
	baz=250							
PDAR	**Pinedale Array**	**97.91**	**47**	P		**P**	04 20 37.2	-1.5
	comp=Z,0.3nm,0.4s,baz=197,slow=2.8,SNR=2.8							
PDAR	**Pinedale Array**	**97.91**	**47**	P		**P**	04 20 37.2	-1.5
TX31	**Lajitas Ar. Si**	**97.97**	**62**	*e*P		**P**	04 20 38.1	-1.0
TXAR	**Lajitas Array**	**97.97**	**62**	P		**P**	04 20 37.7	-1.4
	comp=Z,1.4nm,1.1s,baz=207,slow=4.2,SNR=6.2							
TXAR	**Lajitas Array**	**97.97**	**62**	P		**P**	04 20 37.7	-1.4
KSCO	**Kaye Shedlock'**	**101.72**	**53**	Pdiff		**Pdif**	04 20 54.8	-0.9
	baz=254							
KSCO	**Kaye Shedlock'**	**101.72**	**53**	*e*Pdif		**Pdif**	04 20 55.1	-0.6
YKA	**Yellowknife Ar**	**101.96**	**28**	P		**Pdif**	04 20 54.6	-1.3
	comp=Z,0.5nm,0.6s,baz=262,slow=4.5,SNR=4.2							
YKA	**Yellowknife Ar**	**101.96**	**28**	P		**Pdif**	04 20 54.6	-1.3
333A	**Richland Sprin**	**102.42**	**61**	Pdiff		**Pdif**	04 20 58.2	-0.6
	baz=254							
OGNE	**Ogallala**	**102.70**	**51**	Pdiff		**Pdif**	04 20 59.6	-0.3
	baz=254							
134A	**White-Moore Ra**	**103.50**	**60**	Pdiff		**Pdif**	04 21 03.2	-0.4
	baz=254							
C26A	**Wahner Farm, P**	**104.44**	**44**	Pdiff		**Pdif**	04 21 07.2	-0.1
	baz=256							
W38A	**Poteau**	**106.99**	**58**	PKiKP		**PKiKP**	04 25 28.2	-0.4
	baz=257							
Y45A	**Yeager Farm, C**	**110.76**	**60**	PKiKP		**PKiKP**	04 25 35.6	-0.1
	baz=259							
Z47A	**Carrollton**	**111.85**	**61**	PKiKP		**PKiKP**	04 25 38.0	+0.2
	baz=260							
ARU	**Arti**	**117.61**	**324**	PKIKP		**PKPdf**	04 25 47.6	-0.5
ARCES	**ARCESS Array B**	**125.86**	**345**	PKP		**PKPdf**	04 26 02.6	-1.1
	comp=Z,3.3nm,0.7s,baz=79,slow=1.5,SNR=25							
ARCES	**ARCESS Array B**	**125.86**	**345**	PKP		**PKPdf**	04 26 02.6	-1.1
KLMR	**Klimovskoe**	**126.08**	**332**	*e*PKIKP		**PKPdf**	04 26 02.3	-1.9
KLMR				pmax	pmax			
	comp=Z,12nm,1.0s							
LSZ	**Lusaka**	**127.28**	**231**	*e*PKIKP		**PKPdf**	04 26 07.8	-0.3
LSZ	**Lusaka**	**127.28**	**231**	*e*PKPdf		**PKPdf**	04 26 07.8	-0.3
BDFB	**Brasilia**	**129.47**	**132**	PKP		**PKPdf**	04 26 11.0	-1.3
	comp=Z,1.4nm,0.6s,baz=74,slow=7.4,SNR=3.7							
BDFB	**Brasilia**	**129.47**	**132**	PKIKP		**PKPdf**	04 26 11.0	-1.3
BDFB	**Brasilia**	**129.47**	**132**	PKP		**PKPdf**	04 26 11.0	-1.3
LPSR	**Galich'ya Gora**	**129.57**	**322**	*e*PKIKP		**PKPdf**	04 26 10.3	-0.8
LPSR				pmax	pmax			
	comp=Z,7.0nm,0.7s							
VSR	**Storozhevoye**	**129.88**	**321**	*e*PKIKP		**PKPdf**	04 26 10.1	-1.7
VSR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
FINES	**FINESS Array B**	**131.24**	**337**	PKP		**PKPdf**	04 26 13.8	-0.2
	comp=Z,2.6nm,0.8s,baz=48,slow=2.8,SNR=9.8							
FINES	**FINESS Array B**	**131.24**	**337**	PKP		**PKPdf**	04 26 13.8	-0.2
AKASG	**Malin Array Be**	**135.86**	**323**	PKP		**PKPdf**	04 26 22.7	-0.3
	comp=Z,1.5nm,0.7s,baz=55,slow=2.5,SNR=4.6							
AKASG	**Malin Array Be**	**135.86**	**323**	PKP		**PKPdf**	04 26 22.7	-0.3
KIEV	**Kiev**	**135.87**	**323**	*e*PKIKP		**PKPdf**	04 26 22.9	-0.2
KIEV	**Kiev**	**135.87**	**323**	*e*PKPdf		**PKPdf**	04 26 22.9	-0.2
BRTR	**Keskin Array B**	**136.81**	**307**	PKP		**PKPdf**	04 26 24.3	-1.1
	comp=Z,1.2nm,1.0s,baz=197,slow=2.6,SNR=4.5							
BRTR	**Keskin Array B**	**136.81**	**307**	PKP		**PKPdf**	04 26 24.3	-1.1
STHS	**Stebnicka Huta**	**140.89**	**326**	*e*PKIKP		**PKPdf**	04 26 34.0	+1.6
STHS				*e*			04 26 45.1	
STHS	**Stebnicka Huta**	**140.89**	**326**	*e*PKP		**PKPdf**	04 26 33.9	+1.6
STHS				*e*			04 26 45.1	
CRVS	**Cervenica-Dubn**	**141.08**	**325**	*e*PKIKP		**PKPdf**	04 26 35.1	+2.4
CRVS				*e*			04 26 43.9	
CRVS	**Cervenica-Dubn**	**141.08**	**325**	*e*PKP		**PKPdf**	04 26 35.1	+2.4
CRVS				*e*			04 26 43.9	
LANS	**Liptovska Anna**	**141.98**	**327**	*e*PKIKP		**PKPdf**	04 26 35.3	+0.9
LANS	**Liptovska Anna**	**141.98**	**327**	*e*PKP		**PKPdf**	04 26 35.3	+0.9
PSZ	**Piszkesteto**	**142.50**	**325**	*e*PKIKP		**PKPdf**	04 26 33.0	-2.4
PSZ	**Piszkesteto**	**142.50**	**325**	*e*PKPdf		**PKPdf**	04 26 33.0	-2.4
VYHS	**Vyhne**	**142.72**	**326**	*e*PKIKP		**PKPdf**	04 26 35.3	-0.4
VYHS				*e*			04 26 46.1	
VYHS	**Vyhne**	**142.72**	**326**	*e*PKP		**PKPdf**	04 26 35.3	-0.4
VYHS				*e*			04 26 46.1	
DPC	**Dobruska-Polom**	**142.74**	**330**	*e*PKP		**PKPdf**	04 26 33.2	-2.5
DPC				*ep*PKP		**pPKPdf**	04 26 48.6	+2.6
DPC	**Dobruska-Polom**	**142.74**	**330**	*e*PKIKP		**PKPdf**	04 26 33.2	-2.5
BRG	**Berggiesshubel**	**143.44**	**333**	*e*P		**Pdif**	04 23 49.6	-11
	comp=Z,5.0nm,1.1s							
BRG	**Berggiesshubel**	**143.44**	**333**	*e*PKP		**PKPdf**	04 26 35.6	-1.2
	comp=Z,7.9nm,1.4s							
BRG				*e*			04 26 49.6	
	comp=Z,17nm,1.5s							
BRG				*e*			04 33 39.6	
BRG	**Berggiesshubel**	**143.44**	**333**	*e*PKIKP		**PKPdf**	04 26 35.6	-1.2
BRG				*e*			04 26 49.6	
BRG				*e*			04 33 39.6	
BRG				pmax	pmax			
	comp=Z,8.0nm,1.4s							
CLL	**Collm**	**143.51**	**334**	*e*PKPdf		PKPbc	04 26 35.0	+0.7
CLL				*i*			04 26 46.7	
CLL				*i*			04 26 52.1	
	comp=Z,13nm,1.3s							
CLL				LmV			05 31 00.0	
	comp=Z,100nm,19.5s							
CLL	**Collm**	**143.51**	**334**	*e*PKIKP		PKPbc	04 26 35.0	+0.7
CLL				*i*			04 26 46.7	
PRU	**Pruhonice**	**143.81**	**331**	*e*PKP		**PKPdf**	04 26 39.8	+2.3
PRU				*ep*PKP		**pPKPdf**	04 26 49.3	+1.5
PRU	**Pruhonice**	**143.81**	**331**	*e*PKIKP		**PKPdf**	04 26 39.8	+2.3
PRU				*e*			04 26 49.3	
TREC	**Trest**	**143.86**	**330**	*e*PKP		**PKPdf**	04 26 37.0	-0.7
TREC				*ep*PKP		**pPKPdf**	04 26 49.6	+1.6
TREC	**Trest**	**143.86**	**330**	*e*PKIKP		**PKPdf**	04 26 37.0	-0.7
TREC				*e*			04 26 49.6	
NKC	**Novy Kostel**	**144.55**	**333**	*e*PKP		PKPbc	04 26 37.5	0.0
NKC				*ex*		x	04 26 50.3	
NKC	**Novy Kostel**	**144.55**	**333**	*e*PKIKP		PKPbc	04 26 37.5	0.0
NKC				*e*			04 26 50.3	
CONA	**Conrad Observa**	**144.60**	**328**	*i* PKPdf		**PKPdf**	04 26 38.6	-0.5
	comp=Z,13nm,1.3s,SNR=7.4							
CONA				*i* pPKiKP		**pPKiKP**	04 26 51.3	-1.8
	comp=Z,33nm,1.2s							
IDI	**Anoyia**	**144.64**	**303**	*e*PKPdf		PKPbc	04 26 38.7	+0.4
KHC	**Kasperske Hory**	**144.87**	**331**	*e*PKP		**PKPab**	04 26 33.5	-5.0
KHC				*ex*		x	04 26 37.5	
KHC				*ex*		x	04 26 54.0	
KHC	**Kasperske Hory**	**144.87**	**331**	*e*PKHKP		PKPpre	04 26 33.5	
KHC				*e*			04 26 37.5	
GERES	**GERESS Array B**	**145.01**	**330**	PKPbc		**PKPbc**	04 26 38.8	-0.4
	comp=Z,3.7nm,1.0s,baz=59,slow=5.1,SNR=6.9							
GERES	**GERESS Array B**	**145.01**	**330**	PKPbc		**PKPbc**	04 26 38.8	-0.4
ARSA	**Arzberg**	**145.22**	**327**	*i* PKPdf		**PKPdf**	04 26 40.5	+0.3
	comp=Z,14nm,1.3s,SNR=6.1							
DID	**Didima**	**145.24**	**307**	P		**PKPbc**	04 26 38.7	-1.5
DID	**Didima**	**145.24**	**307**	P		**PKPbc**	04 26 38.7	-1.5
MOA	**Molln**	**145.45**	**329**	*i* PKPdf		**PKPab**	04 26 40.9	+0.2
	comp=Z,24nm,1.1s,SNR=8.2							
GRF	**Grafenberg Arr**	**145.48**	**334**	PKIKP		**PKPab**	04 26 41.4	+0.7
ANKY	**Antikythira Is**	**145.72**	**304**	P		**PKPdf**	04 26 41.3	0.0
ANKY	**Antikythira Is**	**145.72**	**304**	P		**PKPdf**	04 26 41.3	0.0
VLI	**Veliai**	**145.73**	**306**	P		**PKPdf**	04 26 40.4	-0.9
VLI	**Veliai**	**145.73**	**306**	P		**PKPdf**	04 26 40.4	-0.9

ANX	**Ano Chora**	**145.82**	**310**	P		**PKPbc**	04 26 42.0	-0.1
SOKA	**Soboth**	**145.86**	**327**	*i* PKPab		**PKPbc**	04 26 41.9	+0.1
	comp=Z,18nm,1.3s,SNR=5.6							
KLV	**Kalavryta, Ach**	**145.86**	**309**	P		**PKPdf**	04 26 36.5	-5.0
KLV	**Kalavryta, Ach**	**145.86**	**309**	P		**PKPdf**	04 26 36.5	-5.0
LAKA	**Lakka**	**145.91**	**309**	P		**PKPdf**	04 26 37.4	-4.2
LAKA	**Lakka**	**145.91**	**309**	P		**PKPdf**	04 26 37.4	-4.2
VLX	**Vlachokerasia**	**145.93**	**307**	P		**PKPdf**	04 26 36.6	-5.1
VLX	**Vlachokerasia**	**145.93**	**307**	P		**PKPdf**	04 26 36.6	-5.1
DSL	**Palaion Diasel**	**146.19**	**311**	P		**PKPbc**	04 26 42.7	-0.4
DSL	**Palaion Diasel**	**146.19**	**311**	P		**PKPbc**	04 26 42.7	-0.4
OBKA	**Obir**	**146.22**	**327**	*i* PKiKP		**PKPab**	04 26 44.0	+0.3
	comp=Z,11nm,1.2s							
ITM	**Ithomi**	**146.34**	**307**	P		**PKPdf**	04 26 42.6	+0.3
ITM	**Ithomi**	**146.34**	**307**	P		**PKPdf**	04 26 42.6	+0.3
PDO	**Prodromos**	**146.35**	**310**	P		**PKPdf**	04 26 38.4	-3.9
KBA	**Koelnbreinsper**	**146.43**	**329**	*i* PKPab		**PKPbc**	04 26 43.4	-0.3
	comp=Z,8.3nm,1.2s							
BOJS	**Bojanci**	**146.50**	**325**	*e*PKPbc		**PKPab**	04 26 44.4	-0.4
BOJS				*ep*PKPbc		pPKPbc	04 26 56.5	+2.6
LJU	**Ljubljana**	**146.54**	**326**	*e*PKPbc		**PKPdf**	04 26 42.3	0.0
LJU				*ep*PKPbc		pPKPbc	04 26 55.8	+1.8
PYL	**PYLOS**	**146.57**	**307**	P		**PKPdf**	04 26 42.0	-0.7
PYL	**PYLOS**	**146.57**	**307**	P		**PKPdf**	04 26 42.0	-0.7
SGD	**Sagiada**	**146.60**	**312**	P		**PKPbc**	04 26 44.5	+0.3
BEBN	**Eben Emael**	**146.63**	**340**	PKPab		**PKPab**	04 26 44.5	-0.5
MEM	**Membach**	**146.69**	**339**	PKPab		**PKPab**	04 26 44.2	+0.1
DSB	**Dublin**	**146.85**	**354**	*e*PKPbc		**PKPdf**	04 26 43.5	+0.8
ABTA	**Abfaltersbach**	**147.07**	**329**	*i* PKPbc		**PKPdf**	04 26 43.5	+0.1
	comp=Z,6.6nm,1.0s							
BCLA	**Clavier**	**147.08**	**340**	PKP		**PKPdf**	04 26 42.5	-0.6
WTTA	**Wattenberg**	**147.12**	**330**	*i* PKPab		**PKPbc**	04 26 46.0	+0.3
	comp=Z,13nm,1.2s							
MOTA	**Moosalm**	**147.30**	**331**	*i* PKPdf		**PKPdf**	04 26 43.0	-0.8
	comp=Z,13nm,1.0s,SNR=5.4							
RETA	**Reutte**	**147.35**	**331**	*i* PKPab		**PKPbc**	04 26 46.2	0.0
	comp=Z,6.6nm,0.8s							
LANF	**Langenberg**	**147.41**	**336**	PKP		**PKPbc**	04 26 46.7	+0.5
LANF	**Langenberg**	**147.41**	**336**	PKP2		**PKPbc**	04 26 47.0	+0.8
WLF	**Walferdange**	**147.44**	**338**	PKPab		**PKPab**	04 26 47.6	-0.6
WLF				E			04 26 59.5	
WLF	**Walferdange**	**147.44**	**338**	*e*PKP2		**PKPbc**	04 26 46.3	0.0
WLF	**Walferdange**	**147.44**	**338**	*e*PKPbc		**PKPbc**	04 26 46.3	0.0
DOU	**Dourbes**	**147.59**	**340**	PKPbc		**PKPbc**	04 26 46.8	+0.1
FETA	**Feichten**	**147.71**	**331**	*i* PKPdf		**PKPdf**	04 26 42.3	-2.2
	comp=Z,21nm,1.1s							
BFO	**Black Forest**	**147.73**	**335***c*	*i* PKP2		**PKPbc**	04 26 47.2	+0.1
BFO	**Black Forest**	**147.73**	**335**	*e*PKPbc		**PKPbc**	04 26 46.8	-0.4
DAVA	**Damuels**	**147.89**	**332**	*i* PKPab		**PKPbc**	04 26 48.0	+0.2
	comp=Z,15nm,1.1s							
DAVA				*i* sPKiKP		**sPKiKP**	04 27 00.9	-2.6
	comp=Z,35nm,1.4s							
SLE	**Schleitheim**	**148.11**	**334**	PKP2		**PKPbc**	04 26 48.1	-0.1
ECH	**Echery**	**148.28**	**336**	PKP		**PKPbc**	04 26 48.6	0.0
MOF	**Molkenrain**	**148.59**	**335**	PKP		**PKPbc**	04 26 49.5	0.0
TUE	**Stuetta**	**148.75**	**332**	*e*PKPdf		**PKPdf**	04 26 45.1	-1.2
TUE				*e*PKPbc		**PKPbc**	04 26 49.8	-0.3
LOMF	**Lomont**	**149.12**	**335**	PKP		**PKPbc**	04 26 50.8	-0.1
TIP	**Timpagrande**	**149.19**	**314**	*e*PKPdf		**PKPdf**	04 26 46.4	-0.6
TIP				*e*PKPbc		**PKPbc**	04 26 51.1	-0.1
SFI	**Santa Sofia**	**149.38**	**326**	PKIKP		**PKPdf**	04 26 47.5	+0.3
CEL	**Celeste**	**150.22**	**313**	*e*PKPbc		**PKPbc**	04 26 53.0	-0.8
CEL				*e*PKPab		**PKPab**	04 26 59.1	-0.9
PLDF	**La Plantade**	**151.48**	**337**	PKP		**PKPbc**	04 26 57.1	+0.5
AGO	**Saint Agoulin**	**151.59**	**338**	PKP		**PKPbc**	04 26 57.8	+1.1
SSB	**Saint Sauveur**	**151.72**	**335**	*e*PKIKP		**PKPdf**	04 26 49.9	-0.9
SSB				*e*			04 26 56.8	
SSB	**Saint Sauveur**	**151.72**	**335**	*e*PKPdf		**PKPdf**	04 26 49.9	-0.9
SSB				*e*PKPbc		**PKPbc**	04 26 56.8	-0.3
ASCN	**Ascension**	**151.83**	**174**	*e*PKPdf		**PKPdf**	04 26 51.7	-0.1
PYM	**Petit Puy Mans**	**151.89**	**338**	PKP		**PKPbc**	04 26 57.6	+0.1
LBL	**Lubilhac**	**152.25**	**337**	PKP		**PKPbc**	04 26 58.8	+0.5
TORD	**Torodi Ar. Bea**	**165.41**	**243**	PKP		**PKPdf**	04 27 07.2	-0.6
	comp=Z,2.2nm,1.1s,baz=135,slow=1.0,SNR=6.9							
TORD				PKPab		**PKPab**	04 28 04.2	-1.7
	comp=Z,1.9nm,1.0s,baz=113,slow=2.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**165.41**	**243**	PKP		**PKPdf**	04 27 07.2	-0.6
TORD				PKPab		**PKPab**	04 28 04.2	-1.7

NIED ***03*** *04:10:00, 37.˚60N×143.˚90E, h5km, Mw4.3 Best double couple: M₀2.72000×10¹⁵ NP1:φ₅23.00000°, δ20.00000°, λ-103.00000°. NP2:φ₅217.00000°, δ71.00000°, λ-85.00000°.*

NEIC ***03*** *04:10:50.2±2.9, 37.˚57N×144.˚13E, h5km±18km, mb4.5/11, Error ellipse: s-maj=8.9km s-min=6.5km az=110.0*

ISCJB ***03*** *04:10:52.6±0.4, 37.˚58N±0.˚04×143.˚92E±0.˚04, h33km, mb4.2/29, MS3.6/4, Error ellipse: s-maj=5.7km s-min=4.7km az=170.0*

JMA ***03*** *04:10:52.4±0.2, 37.˚64N×143.˚93E, h50km, M4.2*

IDC ***03*** *04:10:54.2±0.8, 37.˚48N×144.˚07E, h32km±4km, mb3.9/16, mb1 4.1/21, mb1mx3.9/54, mbtmp4.1/21, ML3.7/5, MS3.3/9, Ms1 3.4/9, ms1mx3.0/51, Error ellipse: s-maj=16.6km s-min=14.9km az=111.0*

ISC 03 04:10:54.4±0.6, 37.˚60N±0.˚05×144.˚01E±0.˚06, h35km, n62, σ1s72/69, mb4.4/29, MS3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.27**	**293**	P		Pn	Pn	04 11 27.6	-1.8
JIO				S		Sn	Sn	04 11 53.6	-2.5
OFUJ	**Ofunato**	**2.36**	**309**	P		Pn	Pn	04 11 28.6	-2.1
OFUJ				*e*S		Sn	Sn	04 11 55.9	-2.5
JMK	**Ichinoseki**	**2.58**	**302**	P		Pn	Pn	04 11 32.1	-1.5
JMK				S		Sn	Sn	04 12 01.1	-2.6
JOM	**Ohasama**	**2.83**	**312**	P		Pn	Pn	04 11 35.6	-1.6
JFT	**Otama**	**2.92**	**269**	P		Pn	Pn	04 11 37.1	-1.3
JFT				*e*S		Sn	Sn	04 12 10.5	-1.8
JYK	**Kaneyama**	**3.16**	**296**	P		Pn	Pn	04 11 40.7	-1.0
JANG	**Nango**	**3.38**	**326**	P		Pn	Pn	04 11 43.1	-1.6
BSO1	**Boso 1**	**3.83**	**221**	P		Pn	Pn	04 11 48.8	-1.6
JRY	**Ryogami san**	**4.39**	**250**	P		Pn	Pn	04 11 57.3	-1.4
JOT	**Ohata**	**4.42**	**330**	P		Pn	Pn	04 11 57.8	-1.1
ERM	**Erimo**	**4.46**	**352**	*e*Pn		Pn	Pn	04 11 57.0	-2.5
ERM				*e*Sn		Sn	Sn	04 12 44.4	-5.7
MJAR	**Matsushiro Arr**	**4.76**	**259**	Pn		Pn	Pn	04 12 03.9	+0.3
	10nm,0.3s,baz=83,slow=15,SNR=52								
MJAR				Sn		Sn	Sn	04 12 57.9	+0.3
	3.2nm,0.3s,baz=103,slow=25,SNR=5.8								
MJAR				LR		LR	LR	04 14 03.0	
	comp=Z,175nm,20.0s,baz=100,slow=40								
MAJO	**Matsushiro**	**4.76**	**259**	*e*Pn		Pn	Pn	04 12 04.0	+0.4
MAT	**Matsushiro**	**4.76**	**259**	P		Pn	Pn	04 12 04.0	+0.3
MAT				S		Sn	Sn	04 12 56.6	-1.0
JKB	**Kayabe**	**4.86**	**333**	P		Pn	Pn	04 12 03.8	-1.2
JCH	**Churui**	**5.03**	**355**	P		Pn	Pn	04 12 04.8	-2.6
JHJ	**Hachijo jima 2**	**5.65**	**219**	Pn		Pn	Pn	04 12 13.0	-2.9
	51nm,0.3s,baz=73,slow=18,SNR=12								
JHJ				Sn		Sn	Sn	04 13 12.8	-6.7
	68nm,0.3s,baz=233,slow=22,SNR=7.7								
ASAJ	**Asahikawa**	**6.60**	**351**	Pn		Pn	Pn	04 12 27.1	-1.7
	10nm,0.3s,baz=230,slow=17,SNR=19								
ASAJ	**Asahikawa**	**6.60**	**351**	*e*Pn		Pn	Pn	04 12 26.9	-2.0
	9.0nm,0.3s								
CBIJ	**Chichi jima**	**10.59**	**189**	*e*Pn		Pn	Pn	04 13 23.5	-0.1
JCJ	**Chichijima**	**10.59**	**189**	Pn		Pn	Pn	04 13 17.9	-5.7
	5.8nm,0.3s,baz=93,slow=21,SNR=6.7								
JCJ				Sn		Sn	Sn	04 15 08.5	-12
	5.8nm,0.3s,baz=294,slow=19,SNR=3.0								
USRK	**Ussuriysk Ar.**	**11.23**	**310**	Pn		Pn	Pn	04 13 32.9	+0.5
	0.6nm,0.3s,baz=120,slow=13,SNR=13								
USRK				LR		LR	LR	04 17 37.8	
	comp=Z,164nm,19.5s,baz=118,slow=36								
JNU	**Nakatsue**	**11.61**	**251**	LR		LR	LR	04 18 52.0	
	comp=Z,72nm,18.9s,baz=105,slow=41								
JNU	**Nakatsue**	**11.61**	**251**	*e*Pn		Pn	Pn	04 13 38.1	+0.4
KSRS	**Korea Array**	**12.78**	**274**	Pn		Pn	Pn	04 13 53.5	+0.1
	0.2nm,0.3s,baz=87,slow=14,SNR=12								
KSRS				LR		LR	LR	04 18 14.1	
	comp=Z,95nm,21.9s,baz=75,slow=34								
KSAR	**Wonju Array Be**	**12.81**	**274**	Pn		Pn	Pn	04 13 53.5	-0.4
KLR	**Kul'dur**	**14.62**	**327**	Pn		**P**	04 14 21.3	-3.2
	0.3nm,0.3s,baz=133,slow=12,SNR=8.3								
KLR				LR		LR	LR	04 20 09.2	
	comp=Z,103nm,18.5s,baz=116,slow=38								
SEY	**Seymchan**	**25.88**	**9**	P		**P**	04 16 23.6	+1.1
	2.6nm,0.6s,baz=165,slow=8.3,SNR=11								
H11N2	**WAKE ISLAND Hy**	**26.72**	**125**	T		T	04 44 12.6		
	baz=318,slow=75,SNR=60								
H11N1	**WAKE ISLAND Hy**	**26.73**	**125**	T		T	04 44 16.3		
	baz=318,slow=75,SNR=27								
H11N3	**WAKE ISLAND Hy**	**26.74**	**125**	T		T	04 44 14.5		

	baz=318,slow=75,SNR=27							
ULN	**Ulaanbaatar**	**28.77**	**303**	*e*P		**P**	04 16 50.0	+1.1
	2.4nm,0.7s							
SONM	**Songino Array**	**29.21**	**303**	P		**P**	04 16 53.8	+1.1
	1.5nm,1.1s,baz=93,slow=7.4,SNR=8.2							
ENH	**Enshi**	**29.44**	**266**	*e*P		**P**	04 16 55.0	+0.1
	6.2nm,0.5s							
ZALV	**Zalesovo Beam**	**43.07**	**312**	P		**P**	04 18 51.6	+1.0
	1.2nm,0.4s,baz=93,slow=5.8,SNR=2.3							
ZALV				LR		LR	04 37 28.2	
	comp=Z,54nm,19.0s,baz=70,slow=37							
NRIK	**Noril'sk**	**43.63**	**335**	LR		LR	04 38 00.9	
	comp=Z,79nm,19.2s,baz=102,slow=37							
MKAR	**Makanchi Array**	**45.57**	**302**	P		**P**	04 19 11.2	+0.3
	0.9nm,0.4s,baz=89,slow=9.3,SNR=11							
MKAR				pP		**pP**	04 19 21.6	+0.4
	3.6nm,0.8s,baz=85,slow=8.9,SNR=11							
KURK	**Kurchatov**	**47.21**	**308**	*e*P		**P**	04 19 23.7	+0.1
	14nm,0.7s							
KURBB	**Kurchatov Arra**	**47.29**	**308**	P		**P**	04 19 24.7	+0.5
	2.7nm,0.5s,baz=81,slow=8.0,SNR=23							
ILAR	**Eielson Array**	**47.90**	**33**	P		**P**	04 19 29.4	+0.6
	3.2nm,0.9s,baz=263,slow=6.1,SNR=30							
DIV	**Divide**	**48.57**	**38**	*e*P		**P**	04 19 34.3	+0.3
	6.8nm,0.9s							
DOT	**Dot Lake**	**49.18**	**34**	*e*P		**P**	04 19 38.5	-0.2
	4.1nm,0.9s							
TKM2	**Tokmak 2**	**51.18**	**299**	*e*P		**P**	04 19 55.1	+0.7
	7.7nm,1.0s							
AAK	**Ala-Archa**	**52.04**	**299**	*e*P		**P**	04 20 02.0	+1.3
	2.4nm,0.8s							
EKS2	**Erkin-Say**	**52.53**	**299**

ELL	**Elmali**	**1.29 42**	*e*Pn	**Pn**	**04 14 42.9**	**-0.6**
KARP	**Karpathos**	**1.39 261**	*e*PN	**Pn**	**04 14 44.0**	**-0.7**
KARP	**Karpathos**	**1.39 261**	*e*Pn	**Pn**	**04 14 44.0**	**-0.7**
KARP	**Karpathos**	**1.39 261**	P	**Pb**	**04 14 44.7**	**-0.4**
KARP	**Karpathos**	**1.39 261**	P	**Pb**	**04 14 44.7**	**-0.4**
YER	**Yerkesik**	**1.42 342**	*e*PN	**Pn**	**04 14 45.0**	**-0.2**
YER	**Yerkesik**	**1.42 342**	*e*Pn	**Pn**	**04 14 45.0**	**-0.2**
GLHS	**Gihisar (BURDU**	**1.47 21**	*e*PN	**Pn**	**04 14 45.7**	**-0.2**
GLHS	**Gihisar (BURDU**	**1.47 21**	*e*Pn	**Pn**	**04 14 45.7**	**-0.2**
GOLH	**Golhisar**	**1.56 22**	P	**Pn**	**04 14 47.2**	**0.0**
GOLH	**Golhisar**	**1.56 22**	*i* P	**Pn**	**04 14 47.2**	**0.0**
NIS1	**Nisyros Isl.**	**1.57 302**	*e*PN	**Pn**	**04 14 47.1**	**0.0**
NIS1	**Nisyros Isl.**	**1.57 302**	*e*Pn	**Pn**	**04 14 47.2**	**0.0**
NIS1	**Nisyros Isl.**	**1.57 302**	P	**Pb**	**04 14 47.6**	**-0.7**
NIS1	**Nisyros Isl.**	**1.57 302**	P	**Pb**	**04 14 47.6**	**-0.7**
BDRM	**Kayabasi**	**1.70 319**	P	**Pb**	**04 14 50.2**	**-0.3**
BDRM			S	**Sg**	**04 15 15.6**	**+2.0**
BDRM	**Kayabasi**	**1.70 319**	*i* P	**Pb**	**04 14 50.2**	**-0.3**
BDRM			*i* S	**Sg**	**04 15 15.6**	**+2.0**
KORT	**Korkueli**	**1.72 45**	P	**Pn**	**04 14 48.8**	**-0.6**
KORT	**Korkueli**	**1.72 45**	*i* P	**Pn**	**04 14 48.8**	**-0.6**
DNZL	**Cakiroluk**	**1.91 5**	P	**Pb**	**04 14 52.9**	**-1.2**
DNZL	**Cakiroluk**	**1.91 5**	*i* P	**Pb**	**04 14 52.9**	**-1.2**
AYDN	**Tasoluk**	**2.02 338**	P	**Pn**	**04 14 53.0**	**-0.5**
AYDN	**Tasoluk**	**2.02 338**	*i* P	**Pn**	**04 14 53.0**	**-0.5**
ZKR	**Zakros**	**2.24 253**	P	**Pn**	**04 14 56.1**	**-0.3**
ZKR	**Zakros**	**2.24 253**	P	**Pn**	**04 14 56.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.29 341**	*e*PN	**Pn**	**04 14 57.7**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.29 341**	*e*Pn	**Pn**	**04 14 57.7**	**+0.5**
GCAM	**G?zelcaml?**	**2.30 326**	P	**Pb**	**04 14 59.7**	**-1.1**
GCAM	**G?zelcaml?**	**2.30 326**	*i* P	**Pb**	**04 14 59.7**	**-1.1**
SUTC	**Sutluce-Ispart**	**2.42 45**	*e*PN	**Pn**	**04 14 58.9**	**-0.2**
SUTC	**Sutluce-Ispart**	**2.42 45**	*e*Pn	**Pn**	**04 14 58.9**	**-0.2**
SMG	**Samos**	**2.50 321**	P	**Pn**	**04 14 59.8**	**-0.2**
SMG	**Samos**	**2.50 321**	P	**Pn**	**04 14 59.8**	**-0.2**
KHAL	**Karahalli**	**2.63 11**	P	**Pb**	**04 15 05.2**	**-1.2**
KHAL	**Karahalli**	**2.63 11**	*i* P	**Pb**	**04 15 05.2**	**-1.2**
KULA	**Kula-Manisa**	**2.73 357**	*e*PN	**Pn**	**04 15 03.9**	**+0.7**
KULA	**Kula-Manisa**	**2.73 357**	*e*Pn	**Pn**	**04 15 03.9**	**+0.7**
LAST	**Lasithi**	**2.81 258**	P	**Pn**	**04 15 05.7**	**+1.3**
LAST	**Lasithi**	**2.81 258**	P	**Pn**	**04 15 05.7**	**+1.3**
IDI	**Anoyia**	**3.26 262**	P	**Pn**	**04 15 09.3**	**-1.2**
IDI	**Anoyia**	**3.26 262**	P	**Pn**	**04 15 09.3**	**-1.2**

*ISCJB **03** 04:15:22.9±0.8, 36°.36N±0°.04×141°.05E±0°.07, h42km±8km, mb3.2/3, Error ellipse: s-maj=9.0km s-min=6.2km az=10.1*
*JMA **03** 04:15:23.5±0.1, 36°.36N×141°.00E, h43km±1km, M3.4*
*IDC **03** 04:15:27.7±7.3, 36°.20N×140°.80E, h63km±55km, mb3.1/3, mb1 3.2/4, mb1mx3.0/50, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=66.8km s-min=28.7km az=60.0*
ISC 03 04:15:22.6±1.3, 36°.39N±0°.04×141°.04E±0°.07, h26km±11km, n16, σ0°72/23, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.44**	**300**	P	**Pn**	**04 15 33.0**	**-0.3**
JHO				S	**Sn**	**04 15 40.2**	**-0.3**
CHOJ	**Chosi**	**0.70**	**192**	P	**Pb**	**04 15 36.4**	**+0.2**
CHOJ				S	**Sb**	**04 15 45.2**	**-0.3**
JYT	**Yasato**	**0.71**	**257**	P	**Pn**	**04 15 36.6**	**-0.3**
JYT				S	**Sb**	**04 15 45.3**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.74**	**345**	P	**Pn**	**04 15 37.5**	**+0.1**
ONAJ				S	**Sb**	**04 15 46.8**	**+0.2**
JFK	**Kawauchi**	**0.98**	**352**	P	**Pb**	**04 15 40.8**	**-0.2**
JFK				S	**Sb**	**04 15 52.8**	**-0.8**
JFT	**Otama**	**1.26**	**333**	P	**Pb**	**04 15 46.1**	**+0.4**
JFT				S	**Sb**	**04 16 01.8**	**+0.3**
JAG	**Ashikaga**	**1.28**	**272**	P	**Pn**	**04 15 44.9**	**0.0**
JAG				S	**Sn**	**04 16 00.3**	**-1.0**
JKT	**Katashina**	**1.49**	**285**	P	**Pb**	**04 15 49.1**	**-0.6**
JKT				S	**Sn**	**04 16 06.9**	**+0.3**
MJAR	**Matsushiro Arr**	**2.29**	**275**	P	**Pn**	**04 16 00.2**	**+1.5**
	3.1nm,0.3s,baz=115,slow=8.3,SNR=11						
MJAR				S	**Sn**	**04 16 25.9**	**-0.3**
	4.1nm,0.3s,baz=148,slow=27,SNR=5.3						
MAT	**Matsushiro**	**2.29**	**275**	P	**Pn**	**04 16 00.4**	**+1.6**
MAT				S	**Sn**	**04 16 26.2**	**0.0**
H11S1	**WAKE ISLAND Hy**	**28.77**	**121**	T	T	04 51 25.4	
	baz=314,slow=76,SNR=7.0						
H11S3	**WAKE ISLAND Hy**	**28.77**	**121**	T	T	04 51 28.5	
	baz=314,slow=76,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**28.79**	**121**	T	T	04 51 29.9	
	baz=314,slow=76,SNR=9.4						
MKAR	**Makanchi Array**	**44.21**	**303**	P	**P**	**04 23 30.7**	**+1.2**
	0.1nm,0.4s,baz=97,slow=8.0,SNR=2.4						
KURBB	**Kurchatov Arra**	**46.17**	**308**	P	**P**	**04 23 44.3**	**-0.6**
	0.3nm,0.5s,baz=83,slow=7.6,SNR=6.1						
WRA	**Warramunga Arr**	**56.38**	**188**	P	**P**	**04 25 01.2**	**-0.6**
	0.1nm,0.3s,baz=5.7,slow=7.3,SNR=5.6						

*ISCJB **03** 04:22:40.7±1.4, 8°.8S±0°.2×158°.9E±0°.3, h500km, mb3.5/7, Error ellipse: s-maj=36.4km s-min=17.8km az=26.8*
*IDC **03** 04:22:44.6±8.8, 8°.79S×158°.79E, h532km±101km, mb3.1/7, mb1 3.2/9, mb1mx3.0/34, mbtmp4.0/9, Error ellipse: s-maj=53.8km s-min=30.5km az=78.0*
ISC 03 04:22:41.7±1.7, 8°.7S±0°.2×158°.9E±0°.3, h500km, n9, σ0°69/9, mb3.6/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.64**	**226**	P	**P**	**04 26 09.4**	**+0.3**
	0.9nm,0.3s,baz=58,slow=10,SNR=14						
JAY	**Jayapura**	**19.13**	**288**	P	**P**	**04 26 32.9**	**+0.3**
	0.1nm,0.3s,baz=91,slow=24,SNR=4.5						
WRA	**Warramunga Arr**	**26.23**	**242**	P	**P**	**04 27 36.2**	**-0.1**
	2.8nm,0.4s,baz=68,slow=9.0,SNR=88						
STKA	**Stephens Creek**	**28.09**	**213**	P	**P**	**04 27 53.0**	**+0.6**
	2.5nm,0.5s,baz=50,slow=14,SNR=6.4						
ASAR	**Alice Springs**	**28.15**	**235**	P	**P**	**04 27 52.9**	**-0.3**
	1.1nm,0.5s,baz=60,slow=9.6,SNR=14						
FITZ	**Fitzroy Crossi**	**33.62**	**250**	P	**P**	**04 28 39.7**	**-0.5**
	0.6nm,0.3s,baz=78,slow=10,SNR=5.1						
SONM	**Songino Array**	**72.91**	**326**	P	**P**	**04 33 20.8**	**+1.1**
	0.7nm,0.4s,baz=134,slow=6.2,SNR=5.2						
ILAR	**Eielson Array**	**83.60**	**20**	P	**P**	**04 34 16.4**	**-0.2**
	0.4nm,0.9s,baz=234,slow=5.1,SNR=3.2						
MKAR	**Makanchi Array**	**87.27**	**318**	P	**P**	**04 34 33.9**	**-0.9**
	0.4nm,0.7s,baz=116,slow=3.4,SNR=3.6						

RSPR 03 04:26:38.0, 19.70N×68.75W, h122km±15km, MD3.8/3, 2C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSP	**Las Mesas**	**2.19**	**134**	⇓*e*P	Pn	04 27 13.5	-0.4
LSP	**Las Mesas**	**2.19**	**134**	*e*S	Sn	04 27 41.5	0.0
AOPR	**Arecibo Observ**	**2.32**	**125**	⇓*e*P	Pn	04 27 15.9	+0.3
AOPR	**Arecibo Observ**	**2.32**	**125**	*e*S	Sn	04 27 44.6	+0.1
CBYP	**Canovanas**	**3.09**	**117**	⇓*e*P	Pn	04 27 25.6	+0.1
CBYP	**Canovanas**	**3.09**	**117**	*e*S	Sn	04 28 02.3	+0.1
HUMP	**Col San Antoni**	**3.15**	**119**	⇑*e*P	Pn	04 27 26.1	-0.2
HUMP	**Col San Antoni**	**3.15**	**119**	*e*S	Sn	04 28 04.6	+0.9
MTP	**Monte Pirata**	**3.42**	**117**	⇑*e*P	Pn	04 27 30.0	+0.1
MTP	**Monte Pirata**	**3.42**	**117**	*e*S	Sn	04 28 11.0	+0.9

IDC 03 04:33:42.5±2.9, 20°.15S×168°.49E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/24, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=92.9km s-min=40.8km az=139.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.70**	**225**	Pn	Pn	04 34 27.3	0.0
	6.6nm,0.3s,baz=114,slow=19,SNR=18						
DZM				Sn	Sn	04 34 57.8	-3.0
	25nm,0.3s,baz=209,slow=14,SNR=12						
WRA	**Warramunga Arr**	**32.05**	**264**	P	P	04 40 11.1	-0.2
	0.2nm,0.5s,baz=96,slow=8.5,SNR=3.8						
ASAR	**Alice Springs**	**32.23**	**257**	P	P	04 40 12.9	+0.1
	1.1nm,0.6s,baz=86,slow=8.9,SNR=9.1						
ARCES	**ARCESS Array B**	**125.76**	**345**	PKP	PKPdf	04 52 45.2	-0.3
	0.9nm,0.6s,baz=64,slow=6.1,SNR=5.7						

*CSEM **03** 04:34:45.8, 11°.99N×43°.90E, h11km, ML3.9*
DHMR 03 04:34:45.8±1.8, 11°.99N×43°.90E, h11km±22km, ML3.9, 2C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.31**	**54**	⇑*i*P	Pb	04 35 10.7	+0.2
ADEN				*i* S	Sg	04 35 28.5	+0.4
ADEN				AML	AML	04 35 28.9	
	comp=E,2μm,0.5s						
ADEN	**Aden**	**1.31**	**54**	⇑*i*P	Pb	04 35 10.7	+0.2
ADEN				*i* S	Sg	04 35 28.5	+0.4
	comp=E,1μm,0.5s						
UDYN	**Al 'Udayn**	**1.96**	**2**	*i* P	Pn	04 35 20.4	+1.2
UDYN				*i* S	Sb	04 35 47.2	+0.9
UDYN				AML	AML	04 35 53.4	
	comp=Z,862nm,0.7s						
UDYN	**Al 'Udayn**	**1.96**	**2**	*i* P	Pn	04 35 20.4	+1.2
UDYN				*i* S	Sb	04 35 47.2	+1.0
	comp=Z,431nm,0.7s						
BDHA	**Al Bayda'**	**2.55**	**39**	*i* P	Pn	04 35 28.7	+1.3
BDHA				*i* S	Sb	04 36 04.2	+0.9
BDHA				AML	AML	04 36 10.3	
	comp=N,882nm,0.6s						
BDHA	**Al Bayda'**	**2.55**	**39**	*i* P	Pn	04 35 28.7	+1.3
BDHA				*i* S	Sb	04 36 04.2	+0.9
	comp=N,441nm,0.6s						
DHBB	**Dhamar BB**	**2.61**	**10**	*i* P	Pb	04 35 31.2	-1.6
DHBB				*i* S	Sb	04 36 05.6	+0.7
DHBB	**Dhamar BB**	**2.61**	**10**	*i* P	Pb	04 35 31.2	-1.5
DHBB				*i* S	Sb	04 36 05.6	+0.7
HAJJ	**Hajjah**	**3.70**	**355**	*i* P	Pn	04 35 45.2	+2.1
HAJJ				*i* S	Sb	04 36 32.9	-3.3
HAJJ				AML	AML	04 36 43.0	
	comp=N,622nm,0.6s						
HAJJ	**Hajjah**	**3.70**	**355**	*i* P	Pn	04 35 45.2	+2.1
HAJJ				*i* S	Sb	04 36 32.9	-3.3
	comp=N,311nm,0.6s						

*JMA **03** 04:43:40.5±0.1, 24°.38N×122°.09E, h64km±2km, M2.3*
*ISCJB **03** 04:43:41.2±0.4, 24°.40N±0°.03×122°.14E±0°.02, h53km±7km, Error ellipse: s-maj=5.2km s-min=2.8km az=162.9*
*TAP **03** 04:43:41.0, 24°.45N×122°.06E, h60km, ML3.2, C*
ISC 03 04:43:41.6±1.3, 24°.41N±0°.04×122°.13E±0°.02, h51km±10km, n38, σ0°74/67, 4C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.33**	**308**	⇓*i*P	**Pn**	**04 43 51.3**	**+0.1**
	baz=312						
TWC				*i* S	**Sn**	**04 43 58.5**	**+0.5**
	baz=312						
ENA	**Nanau**	**0.36**	**274**	*i* P	**Pn**	**04 43 51.5**	**+0.1**
	baz=266						
ENA				S	**Sn**	**04 43 58.8**	**+0.3**
	baz=266						
TWE	**Neicheng**	**0.53**	**307**	⇑*i*P	**Pn**	**04 43 53.3**	**0.0**
	baz=309						
TWE				S	**Sn**	**04 44 01.8**	**+0.1**
	baz=309						
ENTT	**Nioudou**	**0.56**	**295**	⇑*i*P	**Pn**	**04 43 53.6**	**-0.2**
	baz=288						
ENTT				*i* S	**Sn**	**04 44 02.6**	**+0.1**
	baz=288						
TWD	**Chiawan**	**0.59**	**237**	P	**Pn**	**04 43 53.7**	**-0.3**
	baz=223						
TWD				S	**Sn**	**04 44 03.2**	**+0.3**
	baz=223						
HWA	**Hwalien**	**0.64**	**229**	*e*P	**Pn**	**04 43 54.5**	**-0.3**
	baz=212						
NNS	**Nan Shan**	**0.69**	**273**	P	**Pn**	**04 43 54.9**	**-0.6**
	baz=263						
NNS				S	**Sn**	**04 44 05.1**	**-0.4**
	baz=263						
NWF	**Wu-fen Shan**	**0.74**	**334**	*e*P	**Pn**	**04 43 55.2**	**-0.8**
	baz=348						
NWF				S	**Sn**	**04 44 05.0**	**-1.4**
	baz=348						
JYNG	**Yonagunijimaku**	**0.74**	**86**	P	**Pn**	**04 43 56.2**	**+0.2**
JYNG				S	**Sn**	**04 44 07.3**	**+0.9**
NSK	**Sanguang**	**0.75**	**291**	⇑*i*P	**Pn**	**04 43 55.8**	**-0.4**
	baz=282						
NSK				S	**Sn**	**04 44 06.3**	**-0.6**
	baz=282						
TWA	**Mucha**	**0.76**	**319**	*e*P	**Pn**	**04 43 56.3**	**0.0**
	baz=330						
TWA				S	**Sn**	**04 44 07.5**	**+0.6**
	baz=330						
YOJ	**Yonaguni jima**	**0.80**	**86**	P	**Pn**	**04 43 57.0**	**+0.2**
YOJ				*e*S	**Sn**	**04 44 08.4**	**+0.6**
WHF	**Hehuan Shan**	**0.83**	**252**	S	**Sn**	**04 44 08.4**	**-0.8**
	baz=247						
ESL	**Shilin**	**0.87**	**227**	P	**Pn**	**04 43 56.9**	**-0.8**
	baz=232						
ESL				S	**Sn**	**04 44 08.7**	**-0.7**
	baz=232						
TWT	**Tachien**	**0.88**	**260**	*e*P	**Pn**	**04 43 58.2**	**+0.1**
	baz=253						
TWT				S	**Sn**	**04 44 10.0**	**0.0**
	baz=253						
TWS1	**Kuangyinshan**	**0.95**	**317**	*e*P	**Pn**	**04 43 58.4**	**-0.3**
	baz=327						
TWS1				*e*S	**Sn**	**04 44 11.3**	**0.0**
	baz=327						
TWY	**Chenhua**	**0.99**	**331**	*e*P	**Pn**	**04 43 59.8**	**+0.5**
	baz=345						
NSTT	**Nanjuang**	**1.05**	**283**	P	**Pn**	**04 43 59.9**	**-0.2**
	baz=281						
NSTT				S	**Sn**	**04 44 14.1**	**+0.3**
	baz=281						
WDT	**Danda**	**1.12**	**235**	⇑*i*P	**Pn**	**04 44 01.1**	**-0.2**
	baz=223						
WDT				*e*S	**Sn**	**04 44 14.8**	**-1.0**
	baz=223						
EHY	**Hungye**	**1.16**	**220**	*e*P	**Pn**	**04 44 01.4**	**-0.2**
	baz=224						
EHY				*e*S	**Sn**	**04 44 15.1**	**-1.3**
	baz=224						
SMLT	**Sun Moon Lake**	**1.24**	**245**	*e*P	**Pn**	**04 44 03.0**	**+0.3**
	baz=233						
TWQ1	**Liyutan**	**1.24**	**268**	*e*P	**Pn**	**04 44 02.2**	**-0.5**
	baz=265						
TYC	**Yuchr**	**1.27**	**247**	*e*P	**Pn**	**04 44 03.2**	**+0.2**
	baz=237						
TYC				*e*S	**Sn**	**04 44 20.8**	**+1.9**
	baz=237						
TWF1	**Yuli**	**1.30**	**216**	*e*P	**Pn**	**04 44 02.3**	**-1.1**
	baz=221						
YUS	**Yu-Shan**	**1.41**	**230**	*e*P	**Pn**	**04 44 05.4**	**-0.1**
	baz=220						
YUS				*e*S	**Sn**	**04 44 22.4**	**-0.8**
	baz=220						
IRIF	**Iriomote-Funau**	**1.46**	**92**	P	**Pn**	**04 44 05.0**	**-0.6**
IRIF				S	**Sn**	**04 44 23.6**	**0.0**
CHKT	**Chengkung**	**1.48**	**209**	*e*P	**Pn**	**04 44 05.8**	**-0.1**
	baz=195						
CHKT				*e*S	**Sn**	**04 44 21.9**	**-2.1**
	baz=195						
ALS	**Alishan**	**1.50**	**234**	*e*P	**Pn**	**04 44 06.8**	**+0.3**
	baz=223						
ALS				*e*S	**Sn**	**04 44 25.1**	**-0.1**
	baz=223						
CHN5	**Tsauling**	**1.55**	**239**	*e*P	**Pn**	**04 44 07.7**	**+0.7**
	baz=227						
CHN5				*e*S	**Sn**	**04 44 27.7**	**+1.6**
	baz=227						
HATJ	**Hateruma jima**	**1.57**	**102**	P	**Pn**	**04 44 07.5**	**+0.4**
JKRS	**Kuro-shima**	**1.72**	**95**	P	**Pn**	**04 44 09.6**	**+0.4**
JKRS				S	**Sn**	**04 44 31.1**	**+1.1**
CHN4	**Tsaushan**	**1.76**	**234**	*e*P	**Pn**	**04 44 10.6**	**+0.9**
	baz=222						
CHN4				*e*S	**Sn**	**04 44 32.1**	**+1.2**
	baz=222						
STYT	**Tauyuan**	**1.76**	**226**	*e*P	**Pn**	**04 44 10.7**	**+0.9**
	baz=221						
WTP	**Ta-pu**	**1.81**	**231**	*e*P	**Pn**	**04 44 11.2**	**+0.8**
	baz=226						
JIJ	**Ishigaki jima**	**1.83**	**91**	P	**Pn**	**04 44 10.6**	**-0.1**
JIJ				S	**Sn**	**04 44 31.8**	**-1.0**
CHN1	**Nanshi**	**1.91**	**231**	*e*P	**Pn**	**04 44 12.2**	**+0.4**
	baz=228						
CHN1				*e*S	**Sn**	**04 44 36.1**	**+1.5**
	baz=228						
JISG	**Ishigakijimahi**	**1.99**	**84**	P	**Pn**	**04 44 12.6**	**-0.3**
JISG				S	**Sn**	**04 44 36.3**	**-0.4**
JTJ	**Tarama**	**2.35**	**84**	P	**Pn**	**04 44 17.6**	**-0.2**
JTJ				S	**Sn**	**04 44 44.9**	**-0.6**

WEL 03 04:48:51.0±0.4, 40°.48S×173°.41E, h161km±3km, ML3.5/8, 2C, Error ellipse: s-maj=3.1km s-min=2.1km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.51**	**130**	⇑PN	Pn	04 49 14.0	+0.3
DUWZ				SN	Sn	04 49 31.3	+0.2
NNZ	**Nelson**	**0.74**	**182**	PN	Pn	04 49 15.1	+0.2
NNZ				SN	Sn	04 49 33.1	-0.3
QRZ	**Quartz Range**	**0.76**	**242**	PN	Pn	04 49 14.2	-0.9
QRZ				SN	Sn	04 49 32.6	-0.9
TCW	**Tory Channel**	**0.98**	**138**	PN	Pn	04 49 17.2	+0.5
TCW				SN	Sn	04 49 35.9	-0.6
TCW				SN		04 49 36.0	
TCW				AML	AML	04 49 37.9	
TUWZ	**Tuamarina**	**1.03**	**157**	PN	Pn	04 49 17.3	+0.2
TUWZ				AML	AML	04 49 37.4	
TUWZ				AML	AML	04 49 38.3	
KIW	**Kapiti Island**	**1.20**	**109**	PN	Pn	04 49 18.6	0.0
KIW				SN	Sn	04 49 38.5	-1.3
KIW				AML	AML	04 49 40.6	
BSWZ	**Blackbirch Sta**	**1.29**	**164**	PN	Pn	04 49 19.7	+0.4
BSWZ				SN	Sn	04 49 40.0	-1.3
BSWZ				AML	AML	04 49 43.4	
THZ	**Tophouse**	**1.34**	**196**	⇑PN	Pn	04 49 19.7	-0.2
THZ				SN	Sn	04 49 41.0	-1.2
OGWZ	**Otaki Gorge**	**1.38**	**105**	PN	Pn	04 49 20.4	+0.1
OGWZ				SN	Sn	04 49 41.5	-1.2
CAW	**Cannon Point**	**1.41**	**117**	PN	Pn	04 49 20.6	+0.1
CAW				AML	AML	04 49 44.7	
CAW				AML	AML	04 49 47.6	
WAZ	**Wanganui**	**1.41**	**60**	PN	Pn	04 49 20.7	+0.2
HOWZ	**Holdsworth Sta**	**1.66**	**105**	PN	Pn	04 49 22.8	-0.3
MRZ	**Mangatainoka R**	**1.66**	**97**	PN	Pn	04 49 22.8	-0.3
MRZ				SN	Sn	04 49 46.1	-1.7
MSWZ	**Moikau Station**	**1.68**	**125**	PN	Pn	04 49 23.0	-0.3
MSWZ				SN	Sn	04 49 46.3	-2.0
MSWZ				AML	AML	04 49 47.3	
PLWZ	**Palliser**	**1.77**	**129**	PN	Pn	04 49 23.8	-0.5
PLWZ				SN	Sn	04 49 48.0	-2.1
PAWZ	**Paruwai Farm**	**1.78**	**121**	PN	Pn	04 49 23.9	-0.4
PAWZ				AML	AML	04 49 50.1	
PAWZ				AML	AML	04 49 50.3	
TIWZ	**Tintock**	**1.91**	**100**	PN	Pn	04 49 25.5	-0.3
TIWZ				SN	Sn	04 49 50.8	-1.8
TIWZ				AML	AML	04 49 52.1	
KHZ	**Kahutara**	**1.94**	**177**	PN	Pn	04 49 25.5	-0.6
TRWZ	**Traveller**	**1.96**	**119**	SN	Sn	04 49 52.0	-1.6
TMWZ	**Te Maipa**	**1.99**	**109**	PN	Pn	04 49 26.3	-0.4
BFZ	**Birch Farm**	**2.17**	**96**	PN	Pn	04 49 28.4	-0.3
BFZ				SN	Sn	04 49 55.4	-2.5
LTZ	**Lake Taylor**	**2.46**	**200**	PN	Pn	04 49 30.2	-1.9
INZ	**Inchbonnie**	**2.69**	**213**	PN	Pn	04 49 33.6	-1.4
INZ				SN	Sn	04 50 04.9	-4.1
MQZ	**McQueen's Vall**	**3.28**	**190**	PN	Pn	04 49 39.4	-2.8
MQZ				SN	Sn	04 50 16.3	-5.8

*NNC **03** 04:52:03.8±2.0, 40°.50N×71°.94E, h0km, mb2.5, mpv2.1, Error ellipse: s-maj=19.4km s-min=9.1km az=133.0*
*KRNET **03** 04:52:04.1±0.1, 40°.43N×71°.97E, h23km, mb2.2*
ISC 03 04:52:04.9±1.6, 40°.47N±0°.07×71°.91E±0°.06, h22km±6km, n10, σ0°85/14, 12C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.93**	**244**	⇑*e*P	**Pn**	**04 52 22.3**	**-0.4**
	baz=248						
BTK				⇑*e*S	**Sb**	**04 52 34.5**	**+0.2**
	baz=248						
ARSB	**Arslanbob**	**1.18**	**43**	⇑*e*P	**Pb**	**04 52 26.1**	**-0.5**
	baz=40						
ARSB				⇑*e*S	**Sn**	**04 52 40.8**	**-0.9**
	baz=40						
ARK	**Arkit**	**1.33**	**2**	⇓*e*P	**Pn**	**04 52 28.2**	**0.0**
	baz=0.0						
ARK				⇓*e*S	**Sb**	**04 52 46.4**	**+0.6**
	baz=0.0						
MNAS	**Manas**	**2.06**	**12**	⇑*e*P	**Pb**	**04 52 40.4**	**-1.3**
	baz=11						
MNAS				⇑*e*S	**Sb**	**04 53 06.2**	**-0.8**
	baz=11						
MNAS	**Manas**	**2.06**	**12**	⇑Pg	**Pb**	**04 52 41.2**	**-0.5**
	0.9nm,0.3s						
MNAS				⇓Lg	Lg	04 53 08.2	
	8.4nm,0.9s						
ARLS	**Aral**	**2.29**	**52**	⇑*e*P	**Pn**	**04 52 42.2**	**+0.7**
	baz=50						
ARLS				⇑*e*S	**Sn**	**04 53 09.9**	**+0.7**
	baz=50						
UCH	**Uchtor**	**2.63**	**47**	⇑*i*P	**Pb**	**04 52 52.1**	**+0.5**
	baz=46						
UCH				⇑*i*S	**Sb**	**04 53 24.0**	**+0.4**
	baz=46						
KK31	**Karatay Array**	**2.83**	**339**	⇓Pg	**Pb**	**04 52 55.9**	**+1.2**
	0.1nm,0.2s,baz=158,slow=18,SNR=5.0						
KK31				⇓Lg	Lg	04 53 32.3	
	0.4nm,0.2s,baz=137,slow=30,SNR=6.2						
DZET	**Dzherino**	**2.90**	**236**	⇓Lg	Lg	04 53 36.1	
	3.0nm,0.4s						
AAK	**Ala-Archa**	**2.91**	**41**	⇑Lg	Lg	04 53 34.6	
	2.1nm,0.6s						

*IDC **

	SNR=22								
ASHO					P		Pn	04 58 20.3	-1.8
BSY	**Bisya**	**10.57**	**237**		P		**Pn**	**04 58 23.2**	**-0.6**
	SNR=40								
NAZ	**Nazwa, Dubai**	**10.64**	**251**	*i*	P		**Pn**	**04 58 25.6**	**+0.9**
	SNR=12								
FAQ	**Al Faqa, Dubai**	**10.80**	**250**	*i*	P		**Pn**	**04 58 27.0**	**+0.1**
	SNR=12								
JOSI	**Joshimath**	**11.24**	**78**		*e*P		**Pn**	**04 58 34.4**	**+1.3**
JOSI					*ex*		x	05 00 40.9	
JOSI					IAML			05 01 40.8	
	comp=E,264nm,0.8s								
JOSI					IAML			05 01 42.7	
	comp=N,411nm,0.6s								
GEYT	**Alibeck**	**11.53**	**324**		Pn		**Pn**	**04 58 36.6**	**-0.2**
	comp=N,0.3nm,0.3s,baz=116,slow=10,SNR=2.4								
NGP	**Nagpur**	**13.55**	**122**		*e*P		**Pn**	**04 59 06.6**	**+2.2**
NGP					IAmb		IAmb	04 59 08.1	
	comp=Z,3.4nm,0.6s								
NGP					*e*S		**Sn**	**05 01 39.9**	**+6.1**
PYUN	**Piuthan**	**14.29**	**89**		*e*P		**Pn**	**04 59 12.9**	**-1.9**
	comp=Z,29nm,0.6s								
PYUN					*e*S		**Sn**	**05 01 47.2**	**-5.0**
KKAR	**Karatay Array**	**14.48**	**11**		*e*P		**Pn**	**04 59 16.4**	**-0.7**
KKAR					pmax		pmax		
	comp=Z,4.0nm,0.6s								
KKAR	**Karatay Array**	**14.48**	**11**		*e*Pn		**Pn**	**04 59 16.4**	**-0.7**
	comp=Z,4.1nm,0.6s								
EKS2	**Erkin-Say**	**14.85**	**21**		*e*P		**Pn**	**04 59 21.7**	**-0.4**
EKS2					pmax		pmax		
	comp=Z,4.0nm,0.6s								
EKS2	**Erkin-Say**	**14.85**	**21**		*e*Pn		**Pn**	**04 59 21.7**	**-0.4**
	comp=Z,4.1nm,0.6s								
KOLN	**Koldanda**	**14.87**	**90**		*e*P		**Pn**	**04 59 20.1**	**-2.5**
	comp=Z,18nm,0.5s								
KOLN					*e*S		**Sn**	**05 02 00.1**	**-6.2**
AAK	**Ala-Archa**	**15.05**	**22**		Pn		**Pn**	**04 59 24.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=192,slow=13,SNR=8.4								
AAK	**Ala-Archa**	**15.05**	**22**		*e*P		**Pn**	**04 59 24.6**	**-0.3**
AAK					pmax		pmax		
	comp=Z,5.0nm,0.6s								
AAK	**Ala-Archa**	**15.05**	**22**		*e*Pn		**Pn**	**04 59 24.6**	**-0.3**
	comp=Z,4.8nm,0.6s								
FRU	**Bishkek**	**15.27**	**22**		*e*P		**Pn**	**04 59 28.0**	**+0.4**
FRU					*e*			05 02 16.0	
TKM2	**Tokmak 2**	**15.69**	**25**		*e*P		**Pn**	**04 59 32.0**	**-1.3**
TKM2					pmax		pmax		
	comp=Z,7.0nm,0.7s								
TKM2	**Tokmak 2**	**15.69**	**25**		*e*Pn		**Pn**	**04 59 32.0**	**-1.3**
	comp=Z,6.9nm,0.7s								
GKN	**Gorkha**	**15.75**	**89**		*e*P		**Pn**	**04 59 31.9**	**-2.2**
	comp=Z,15nm,0.4s								
DMN	**Daman**	**16.22**	**90**		*e*P		**Pn**	**04 59 37.5**	**-2.6**
	comp=Z,8.5nm,0.4s								
KKN	**Kakani**	**16.34**	**89**		*e*P		**Pn**	**04 59 39.7**	**-2.0**
	comp=Z,27nm,0.6s								
PKIN	**Phulchoki**	**16.48**	**90**		*e*P		**Pn**	**04 59 40.8**	**-2.7**
	comp=Z,14nm,0.5s								
PKIN					*e*S		**Sn**	**05 02 37.8**	**-7.6**
GUN	**Gumba**	**16.85**	**89**		*e*P		**Pn**	**04 59 46.4**	**-1.9**
	comp=Z,36nm,0.5s								
ABKAR	**Akbulak array**	**20.98**	**347**		*e*P		Pn	05 00 35.5	-2.0
	comp=Z,5.4nm,0.8s								
MKAR	**Makanchi Array**	**21.59**	**30**		P		**P**	**05 00 42.9**	**+1.5**
	comp=Z,1.5nm,0.4s,baz=209,slow=9.5,SNR=18								
MKAR					LR		LR	05 10 40.1	
	comp=Z,180nm,21.3s,baz=220,slow=41								
AKTO	**Aktyubinsk**	**22.50**	**345**		P		**P**	**05 00 49.8**	**-1.2**
	comp=Z,2.6nm,0.9s,baz=146,slow=11,SNR=2.4								
AKTO					LR		LR	05 11 14.1	
	comp=Z,108nm,18.6s,baz=149,slow=41								
ZEI	**Tsey**	**23.04**	**313**		*e*P		**P**	**05 00 58.4**	**+1.4**
ZEI					pmax		pmax		
	comp=Z,12nm,0.4s								
KURBB	**Kurchatov Arra**	**23.44**	**19**		P		**P**	**05 01 00.6**	**0.0**
	comp=Z,2.2nm,0.6s,baz=212,slow=9.1,SNR=9.7								
KURK	**Kurchatov**	**23.55**	**19**		*e*P		**P**	**05 01 02.1**	**+0.4**
KURK					pmax		pmax		
	comp=Z,20nm,1.0s								
KURK	**Kurchatov**	**23.55**	**19**		*e*P		**P**	**05 01 02.1**	**+0.4**
	comp=Z,20nm,1.0s								
KBZ	**Khabaz**	**24.14**	**314**		P		**P**	**05 01 07.1**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=120,slow=5.5,SNR=6.2								
KBZ					LR		LR	05 13 15.2	
	comp=Z,63nm,19.9s,baz=122,slow=43								
BVAR	**Borovoye Array**	**24.24**	**5**		P		**P**	**05 01 10.0**	**+1.8**
	comp=Z,4.6nm,0.6s,baz=169,slow=9.1,SNR=32								
BVAR	**Borovoye Array**	**24.24**	**5**		P		**P**	**05 01 10.0**	**+1.8**
BRVK	**Borovoye**	**24.27**	**5**		*e*P		**P**	**05 01 09.0**	**+0.6**
BRVK					pmax		pmax		
	comp=Z,15nm,0.8s								
BRVK	**Borovoye**	**24.27**	**5**		*e*P		**P**	**05 01 09.0**	**+0.6**
	comp=Z,15nm,0.8s								
ZALV	**Zalesovo Beam**	**28.28**	**23**		P		**P**	**05 01 46.6**	**+2.1**
	comp=Z,1.7nm,0.5s,baz=215,slow=11,SNR=2.9								
ZALV					LR		LR	05 14 14.0	
	comp=Z,107nm,21.3s,baz=252,slow=39								
BRTR	**Keskin Array B**	**29.26**	**300**		P		**P**	**05 01 52.5**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=130,slow=7,SNR=4.1								
CMAR	**Chiang Mai Arr**	**31.16**	**102**		LR		LR	05 17 21.2	
	comp=Z,69nm,18.6s,baz=216,slow=41								
AKASG	**Malin Array Be**	**35.58**	**318**		P		**P**	**05 02 48.9**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=106,slow=7.6,SNR=5.5								
PSZ	**Piszkesteto**	**40.62**	**311**		*e*P		**P**	**05 03 30.6**	**-0.6**
PSZ					pmax		pmax		
	comp=Z,3.0nm,0.5s								
PSZ	**Piszkesteto**	**40.62**	**311**		*e*P		**P**	**05 03 30.6**	**-0.6**
	comp=Z,2.6nm,0.5s								
KMBO	**Kilima Mbogo**	**41.11**	**229**		P		**P**	**05 03 35.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=252,slow=19,SNR=1.9								
FINES	**FINESS Array B**	**42.16**	**332**		P		**P**	**05 03 43.7**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=114,slow=8.5,SNR=8.9								
NRIK	**Noril'sk**	**42.22**	**11**		P		**P**	**05 03 45.6**	**+1.7**
	comp=Z,2.4nm,0.4s,baz=127,slow=5.1,SNR=3.7								
GERES	**GERESS Array B**	**44.84**	**312**		P		**P**	**05 04 05.0**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=81,slow=8.2,SNR=7.2								
ARCES	**ARCESS Array B**	**47.00**	**342**		P		**P**	**05 04 22.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=133,slow=8.4,SNR=7.0								
ARCES					LR		LR	05 26 12.4	
	comp=Z,101nm,19.0s,baz=103,slow=39								
KEST	**Kesra**	**48.41**	**294**		P		**P**	**05 04 34.2**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=79,slow=5.2,SNR=4.1								
NOA	**NORSAR Array B**	**48.58**	**328**		P		**P**	**05 04 34.5**	**0.0**
	comp=Z,0.9nm,0.8s,baz=109,slow=7.4,SNR=3.3								
NOA					LR		LR	05 27 07.6	
	comp=Z,36nm,19.6s,baz=50,slow=39								
WLF	**Walferdange**	**49.82**	**312**		*e*P		**P**	**05 04 42.2**	**-1.9**
WLF					pmax		pmax		
	comp=Z,4.0nm,0.5s								
WLF	**Walferdange**	**49.82**	**312**		*e*P		**P**	**05 04 42.2**	**-1.9**
	comp=Z,4.0nm,0.5s								
KSAR	**Wonju Array Be**	**51.09**	**64**		P		**P**	**05 04 55.8**	**+2.0**
KSAR	**Wonju Array Be**	**51.09**	**64**		P		**P**	**05 04 55.8**	**+2.0**
KSRS	**Korea Array**	**51.11**	**64**		P		**P**	**05 04 55.8**	**+1.8**
	comp=Z,0.9nm,0.5s,baz=279,slow=6.9,SNR=3.2								
KKM	**Kota Kinabalu**	**51.89**	**106**		*e*P		**P**	**05 05 01.0**	**+0.8**
	comp=Z,4.1nm,0.5s								
YAK	**Yakutsk**	**52.24**	**32**		P		**P**	**05 05 01.4**	**-0.6**
	comp=Z,3.5nm,0.4s,baz=245,slow=19,SNR=2.5								
KLR	**Kul'dur**	**52.69**	**48**		P		**P**	**05 05 06.2**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=274,slow=7.3,SNR=8.9								
MDT	**Midelt**	**60.32**	**293**		P		**P**	**05 05 59.5**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=86,slow=9.0,SNR=4.3								
TORD	**Torodi Ar. Bea**	**62.05**	**270**		P		**P**	**05 06 11.2**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=55,slow=6.1,SNR=19								
DBIC	**Dimbokro**	**70.72**	**267**		LR		LR	05 41 32.6	
	comp=Z,75nm,18.7s,baz=63,slow=39								
WRA	**Warramunga Arr**	**81.28**	**118**		P		**P**	**05 08 08.9**	**+1.3**
	comp=Z,0.7nm,1.0s,baz=318,slow=4.7,SNR=3.3								
ILAR	**Eielson Array**	**83.01**	**14**		P		**P**	**05 08 15.4**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=211,slow=1.1,SNR=4.2								
ASAR	**Alice Springs**	**83.09**	**122**		P		**P**	**05 08 18.8**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=312,slow=4.9,SNR=3.1								
YKA	**Yellowknife Ar**	**88.91**	**1**		P		**P**	**05 08 46.3**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=353,slow=4.5,SNR=3.6								

NIED ***03*** *04:57:00,34°.90N×142°.80E,h5km,Mw3.9 Best double couple: M₀8.97000×10¹⁴ NP1:φ=6.00000°, δ23.00000°, λ-90.00000°. NP2:φ=186.00000°, δ67.00000°, λ-90.00000°.*

IDC ***03*** *04:57:07.7±0.6,34°.89N×142°.79E,h0km,mb4.1/16, mb1 4.3/19,mb1mx4.0/60,mbtmp4.1/19,ML4.2/3,MS2.9/3, Ms1 2.9/3,ms1mx2.6/50,Error ellipse: s-maj=19.0km s-min=15.3km az=100.0*

ISCJB ***03*** *04:57:10.4±0.4,34°.81N±0°.04×142°.79E±0°.03,h33km, mb4.3/27,Error ellipse: s-maj=5.5km s-min=4.1km az=9.5*

JMA ***03*** *04:57:10.8±0.3,34°.89N×142°.83E,h50km,M4.1*

NEIC ***03*** *04:57:12.6±0.3,34°.87N×142°.79E,h35km,mb4.6/11,Error ellipse: s-maj=7.8km s-min=7.1km az=105.0*

ISC 03 04:57:11.8±0.5,34°.84N±0°.05×142°.94E±0°.06,h35km,n61,
σ2ᵖ33/69,mb4.2/27,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**1.62**	**264**	P		P	**Pn**	**04 57 36.2**	**-1.2**
BSO1				X				04 57 56.3	
CHOJ	**Chosi**	**1.91**	**297**	P		P	**Pn**	**04 57 40.5**	**-1.3**
CHOJ				*e*S		**Sn**		**04 58 02.9**	**-1.6**
BSO3	**Boso 3**	**2.00**	**270**	P		P	**Pn**	**04 57 41.9**	**-0.9**
BSO3				X				04 58 07.7	
BSO4	**Boso 4**	**2.14**	**275**	P		P	**Pn**	**04 57 44.3**	**-0.6**
BSO4				*e*X				04 58 10.6	
KTR	**Katsuura**	**2.18**	**279**	S		**Sn**		**04 58 07.7**	**-3.4**
JCN	**Nagara**	**2.32**	**285**	P		P	**Pn**	**04 57 46.6**	**-0.8**
JHJ2	**Mitsune**	**3.11**	**237**	P		P	**Pn**	**04 57 57.6**	**-0.8**
JHJ2				*e*S		**Sn**		**04 58 30.4**	**-3.9**
JHJ	**Hachijo jima 2**	**3.13**	**238**	Pn		P	**Pn**	**04 57 56.5**	**-2.1**
	160nm,0.3s,baz=70,slow=21,SNR=23								
JHJ						**Sn**		**04 58 31.4**	**-3.5**
	169nm,0.3s,baz=221,slow=23,SNR=13								
JOD2	**Odawara 2**	**3.19**	**279**	P		P	**Pn**	**04 57 57.6**	**-1.8**
JOD2				*e*S		**Sn**		**04 58 33.1**	**-3.1**
JAG	**Ashikaga**	**3.25**	**300**	P		P	**Pn**	**04 57 58.7**	**-1.5**
JAG				*e*S		**Sn**		**04 58 35.4**	**-2.3**
JFT	**Otama**	**3.40**	**323**	P		P	**Pn**	**04 58 00.6**	**-1.7**
JFT				*e*S		**Sn**		**04 58 36.9**	**-4.6**
JRY	**Ryogami san**	**3.50**	**291**	P		P	**Pn**	**04 58 02.7**	**-1.0**
JRY				S		**Sn**		**04 58 43.5**	**-0.4**
JYN	**Shimob**	**3.66**	**282**	P		P	**Pn**	**04 58 04.6**	**-1.3**
JYN				*e*S		**Sn**		**04 58 45.6**	**-2.3**
JNS	**Sasagawa**	**4.17**	**317**	P		P	**Pn**	**04 58 11.6**	**-1.3**
JNS				*e*S		**Sn**		**04 58 57.2**	**-3.2**
MJAR	**Matsushiro Arr**	**4.21**	**295**	Pn		P	**Pn**	**04 58 11.4**	**-2.0**
	6.6nm,0.3s,baz=296,slow=17,SNR=34								
MJAR						**Sn**		**04 58 59.7**	**-1.7**
	5.6nm,0.3s,baz=201,slow=33,SNR=5.2								
MJAR						LR	LR	05 00 07.9	
	comp=Z,122nm,19.4s,baz=125,slow=45								
MAJO	**Matsushiro**	**4.21**	**295**	*e*Pn		P	**Pn**	**04 58 12.4**	**-1.0**
MAT	**Matsushiro**	**4.21**	**295**	P		P	**Pn**	**04 58 12.5**	**-0.9**
MAT				S		**Sn**		**04 59 00.0**	**-1.3**
MAT	**Matsushiro**	**4.21**	**295**	P		P	**Pn**	**04 58 13.4**	**0.0**
MAT				*e*S		**Sn**		**04 59 00.1**	**-1.3**
ERM	**Erimo**	**7.17**	**1**	*e*Pn		P	**Pn**	**04 58 52.5**	**-1.5**
ERM				*e*Sn		**Sn**		**05 00 06.4**	**-7.8**
CBIJ	**Chichi jima**	**7.75**	**185**	Pn		P	**Pn**	**04 59 00.6**	**-1.5**
CBIJ				Sn		**Sn**		**05 00 22.1**	**-6.4**
JCJ	**Chichijima**	**7.75**	**185**	Pn		P	**Pn**	**04 59 00.6**	**-1.5**
	4.0nm,0.3s,baz=260,slow=19,SNR=4.2								
JCJ						**Sn**		**05 00 22.1**	**-6.5**
	baz=348,slow=20								
ASAJ	**Asahikawa**	**9.27**	**358**	Pn		P	**Pn**	**04 59 19.4**	**-3.5**
	1.6nm,0.3s,baz=167,slow=23,SNR=4.1								
ASAJ						**Sn**		**05 00 59.8**	**-6.0**
	0.5nm,0.3s,baz=346,slow=25,SNR=4.1								
JNU	**Nakatsue**	**10.16**	**264**	LR		LR		05 04 00.7	
	comp=Z,76nm,18.4s,baz=113,slow=41								
JNU	**Nakatsue**	**10.16**	**264**	*e*Pn		P	**Pn**	**04 59 35.0**	**-0.2**
KSRS	**Korea Array**	**12.42**	**286**	LR		LR		05 05 14.6	
	comp=Z,39nm,18.5s,baz=112,slow=40								
H11N2	**WAKE ISLAND Hy**	**25.98**	**119**	T		T		05 29 54.9	
	baz=311,slow=75,SNR=7.8								
H11N1	**WAKE ISLAND Hy**	**25.99**	**119**	T		T		05 29 49.9	
	baz=311,slow=75,SNR=6.1								
H11N3	**WAKE ISLAND Hy**	**26.00**	**119**	T		T		05 29 58.5	
	baz=311,slow=75,SNR=6.6								
H11S1	**WAKE ISLAND Hy**	**26.64**	**122**	T		T		05 30 42.4	
	baz=313,slow=76,SNR=6.9								
H11S3	**WAKE ISLAND Hy**	**26.64**	**122**	T		T		05 30 47.0	
	baz=313,slow=76,SNR=6.0								
H11S2	**WAKE ISLAND Hy**	**26.66**	**122**	T		T		05 30 44.3	
	baz=313,slow=76,SNR=6.9								
SEY	**Seymchan**	**28.73**	**9**	P		P		**05 03 06.7**	**+1.2**
	2.7nm,0.5s,baz=207,slow=5.0,SNR=11								
ZALV	**Zalesovo Beam**	**44.32**	**314**	P		P		**05 05 18.3**	**+0.2**
	1.5nm,0.4s,baz=90,slow=3.3,SNR=2.2								
MKAR	**Makanchi Array**	**46.35**	**304**	P		P		**05 05 35.4**	**+1.1**
	0.2nm,0.3s,baz=96,slow=7.8,SNR=3.6								
KURK	**Kurchatov**	**48.27**	**310**	*e*P		P		**05 05 49.0**	**-0.2**
	8.2nm,0.8s								
KURBB	**Kurchatov Arra**	**48.34**	**310**	P		P		**05 05 49.4**	**-0.3**
	2.1nm,0.8s,baz=85,slow=8.0,SNR=6.6								
SEW	**Seward**	**49.52**	**38**	*e*P		P		**05 05 59.6**	**+1.0**
	6.3nm,0.8s								
ILAR	**Eielson Array**	**50.70**	**31**	P		P		**05 06 08.6**	**+1.1**
	0.8nm,0.7s,baz=258,slow=6.0,SNR=9.7								
TKM2	**Tokmak 2**	**51.78**	**300**	*e*P		P		**05 06 16.5**	**+0.2**
	7.2nm,0.8s								
AAK	**Ala-Archa**	**52.64**	**300**	*e*P		P		**05 06 21.9**	**-0.7**
	5.2nm,0.7s								
EKS2	**Erkin-Say**	**53.14**	**301**	*e*P		P		**05 06 26.3**	**+0.1**
	5.2nm,0.6s								
WRAB	**Tennant Creek**	**55.08**	**190**	*e*P		P		**05 06 41.2**	**+1.0**
	5.6nm,0.8s								
WRA	**Warrnunga Arr**	**55.09**	**190**	P		P		**05 06 41.7**	**+1.4**
	5.6nm,0.8s,baz=8.8,slow=7.5,SNR=47								
INK	**Inuvik**	**55.78**	**27**	P		P		**05 06 45.6**	**+0.8**
	3.9nm,1.0s,baz=286,slow=2.9,SNR=6.0								
ASAR	**Alice Springs**	**58.81**	**190**	P		P		**05 07 08.5**	**+1.8**
	1.4nm,0.6s,baz=14,slow=8.9,SNR=18								
ARU	**Arti**	**58.83**	**320**	P		P		**05 07 07.4**	**+1.0**
	2.9nm,0.2s,baz=72,slow=7.8,SNR=3.7								
MBWA	**Marble Bar**	**59.90**	**205**	*e*P		P		**05 07 15.1**	**+0.9**
	17.8s								
FINES	**FINESS Array B**	**71.33**	**333**	P		P		**05 08 27.6**	**+0.1**
	2.5nm,0.8s,baz=6.6,slow=8.3,SNR=5.2								
SUMG	**Summit**	**72.87**	**0**	*e*P		P		**05 08 37.4**	**+0.4**
	2.3nm,0.6s								
FFC	**Flin Flon**	**74.87**	**33**	*e*P		P		**05 08 49.9**	**+1.3**
	2.1nm,0.8s								
NVAR	**Mina Array Bea**	**75.31**	**53**	P		P		**05 08 54.2**	**+2.5**
	2.7nm,0.7s,baz=292,slow=6.7,SNR=20								
FCC	**Fort Churchill**	**75.40**	**27**	*e*P		P		**05 08 52.0**	**+0.5**
	2.3nm,0.8s								
NB2	**NORSAR Subarra**	**76.68**	**338**	P		P		**05 08 59.8**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=37,slow=5.6								
NOA	**NORSAR Array B**	**76.68**	**338**	P		P		**05 09 00.2**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=39,slow=5.7,SNR=4.7								
AKASG	**Malin Array Be**	**76.79**	**323**	P		P		**05 08 58.9**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=46,slow=6.3,SNR=5.8								
R11A	**Troy Canyon, C**	**77.13**	**52**	*e*P		P		**05 09 03.8**	**+1.7**
	comp=Z,1.6nm,0.8s								
PDAR	**Pinedale Array**	**78.31**	**46**	P		P		**05 09 09.3**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=287,slow=2.5,SNR=3.9								
BRTR	**Keskin Array B**	**81.24**	**313**	P		P		**05 09 25.6**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=134,slow=3.6,SNR=3.8								
GERES	**GERESS Array B**	**85.23**	**329**	P		P		**05 09 45.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=26,slow=3.4,SNR=4.0								
SAML	**Samuel**	**144.84**	**49**	*e*PKPdf		**PKPdf**		**05 16 46.1**	**+0.5**
LPAZ	**La Paz**	**146.63**	**64**	PKPbc		**PKPab**		**05 16 52.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=310,slow=2.1,SNR=9.5								

IDC ***03*** *05:02:58.1±0.8,28°.79N×66°.66E,h0km,mb3.7/14, mb1 4.0/16,mb1mx3.8/50,mbtmp3.8/16,ML4.1/2,MS3.1/2, Ms1 3.1/2,ms1mx2.7/52,Error ellipse: s-maj=19.5km s-min=17.2km az=139.0*

ISCJB ***03*** *05:02:59.2±0.3,28°.58N±0°.06×66°.79E±0°.03,h33km, mb3.7/14,MS3.8/2,Error ellipse: s-maj=8.5km s-min=3.7km az=167.7*

ISC 03 05:03:02.0±0.6,28°.65N±0°.08×66°.76E±0°.05,h35km,n45,
σ1ᵖ92/47,mb3.8/14,1C,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
THW	**Thamme Wali**	**5.95**	**45**	↑P		P	**Pn**	**05 04 26.9**	**-0.8**
SARP	**Sargodha**	**6.06**	**56**	P		P	**Pn**	**05 04 28.1**	**-1.1**
CEP	**Cherat**	**6.78**	**39**	P		P	**Pn**	**05 04 37.9**	**-1.3**
KHET	**Khetri**	**7.99**	**92**	*e*P		P	**Pn**	**05 04 55.3**	**-0.4**
KHET				*e*S		**Sn**		**05 06 24.6**	**-0.3**
KHET				IAML				05 07 40.5	
	comp=E,16nm,1.3s								
KHET				IAML				05 07 42.3	
	comp=N,46nm,1.1s								
KUDL	**Kundal**	**8.58**	**91**	*e*P		P	**Pn**	**05 05 05.0**	**+1.2**
KUDL				*e*S		**Sn**		**05 06 38.2**	**-1.2**
KUDL				IAML				05 08 04.1	
	comp=N,31nm,1.1s								
KUDL				IAML				05 08 05.5	
	comp=E,20nm,0.6s								
BHK	**Bhakra**	**8.81**	**69**	*ex*			Pn	05 05 11.0	+4.0
WSAR	**Wadi Sarin**	**9.09**	**235**	Pn		P	**Pn**	**05 05 09.8**	**-0.9**
	comp=E,3.1nm,0.3s,baz=78,slow=9.4,SNR=18								
WSAR						Sn	**Sn**	**05 06 45.2**	**-6.6**
	comp=E,4.4nm,0.3s,baz=275,slow=18,SNR=4.3								
SONA	**Sohna**	**9.10**	**90**	*e*S			**Sn**	**05 06 48.3**	**-3.6**
SONA				IAML				05 08 25.3	
	comp=N,28nm,0.8s								
SONA				IAML				05 08 26.8	
	comp=E,21nm,0.2s								
NDI	**New Delhi**	**9.19**	**87**	*ex*			Pn	05 05 05.0	-7.1
NDI				*ex*			Sn	05 06 40.0	-14
WBK	**Wadi Bani Khal**	**9.25**	**231**	P		P	**Pn**	**05 05 11.9**	**-1.2**
	SNR=8.9								
WBK				S			Sn	05 06 48.2	-7.8
SDNR	**Sundarnagar**	**9.29**	**70**	*e*P		P	**Pn**	**05 05 13.0**	**-0.5**
SDNR				*e*S			**Sn**	**05 06 53.0**	**-3.8**
SMDO	**Samad**	**9.62**	**237**	P		P	**Pn**	**05 05 18.1**	**0.0**
	SNR=15								
BANOM	**Banah**	**9.70**	**256**	*i* P			**Pn**	**05 05 19.3**	**+0.1**
	SNR=7.9								
BANOM	**Banah**	**9.70**	**256**	P		P	**Pn**	**05 05 18.6**	**-0.5**
	SNR=7.9								
JMDO	**Jabal Madar**	**10.01**	**233**	P		P	**Pn**	**05 05 23.7**	**+0.3**
	SNR=29								
HATD	**Hatta, Dubai**	**10.24**	**251**	P		P	**Pn**	**05 05 25.2**	**-1.3**
ASHO	**Ashiyiah**	**10.36**	**250**	*i* P			**Pn**	**05 05 27.2**	**-0.9**
	SNR=13								
ASHO	**Ashiyiah**	**10.36**	**250**	P		P	**Pn**	**05 05 27.2**	**-0.9**
	SNR=13								
BSY	**Bisya**	**10.44**	**238**	P		P	**Pn**	**05 05 30.2**	**+1.0**
	SNR=34								
FAQ	**Al Faqa, Dubai**	**10.72**	**251**	*i* P			**Pn**	**05 05 33.3**	**+0.3**
	SNR=10								
JOSI	**Joshimath**	**11.30**	**77**	*e*P			**Pn**	**05 05 43.2**	**+2.0**
JOSI				*e*S			**Sn**	**05 07 43.1**	**-3.2**
JOSI				IAML				05 07 59.5	
	comp=N,332nm,1.0s								
JOSI				IAML				05 08 02.0	
	comp=E,376nm,1.4s								
GEYT	**Alibeck**	**11.74**	**324**	LR		LR		05 11 04.5	
	comp=E,101nm,18.9s,baz=140,slow=42								
PYUN	**Piuthan**	**14.30**	**88**	*e*P			**Pn**	**05 06 22.0**	**-0.2**
	comp=E,24nm,0.4s								
PYUN				*e*S			**Sn**	**05 08 56.3**	**-3.4**
KOLN	**Koldanda**	**14.87**	**89**	*e*P			**Pn**	**05 06 29.8**	**-0.2**
	comp=E,12nm,0.4s								
KOLN				*e*S			**Sn**	**05 09 10.8**	**-2.9**
AAK	**Ala-Archa**	**15.29**	**22**	Pn			**Pn**	**05 06 33.2**	**-2.2**
	comp=E,0.6nm,0.3s,baz=178,slow=13,SNR=7.3								
GKN	**Gorkha**	**15.76**	**88**	*e*P			**Pn**

CAW	**Cannon Point**	**9.42 201**	*e*PN	**Pn**	**05 08 45.0**	**-2.4**
TRWZ	**Traveller**	**9.52 197**	*e*PN	**Pn**	**05 08 48.8**	**+0.1**
PAWZ	**Paruwai Farm**	**9.57 198**	*e*PN	**Pn**	**05 08 48.5**	**-0.9**
MSWZ	**Moikau Station**	**9.65 199**	*e*PN	**Pn**	**05 08 47.7**	**-2.6**
BHW	**Baring Head**	**9.76 201**	*e*PN	**Pn**	**05 08 49.1**	**-2.5**
TCW	**Tory Channel**	**9.77 203**	*e*PN	**Pn**	**05 08 49.4**	**-2.3**
PLWZ	**Palliser**	**9.80 199**	*e*PN	**Pn**	**05 08 52.1**	**0.0**
TUWZ	**Tuamarina**	**10.08 204**	*e*PN	**Pn**	**05 08 54.0**	**-1.4**
NNZ	**Nelson**	**10.10 207**	*e*PN	**Pn**	**05 08 53.6**	**-2.1**
NNZ			SN	**S**	**05 10 43.3**	**-6.0**
QRZ	**Quartz Range**	**10.12 211**	*e*PN	**Pn**	**05 08 54.9**	**-1.1**
BSWZ	**Blackbirch Sta**	**10.35 204**	*e*PN	**Pn**	**05 08 57.7**	**-1.2**
THZ	**Tophouse**	**10.75 207**	*e*PN	**Pn**	**05 09 02.0**	**-1.7**
THZ			SN	**S**	**05 11 00.0**	**-4.2**
KHZ	**Kahutara**	**11.09 203**	*e*PN	**Pn**	**05 09 06.0**	**-1.8**
DSZ	**Denniston Nort**	**11.18 211**	*e*PN	**Pn**	**05 09 08.6**	**-0.4**
CTZ	**Chatham Island**	**11.80 166**	*e*PN	**P**	**05 09 21.3**	**+3.3**
CTZ			SN	**S**	**05 11 30.4**	**+2.6**
LTZ	**Lake Taylor**	**11.86 206**	PN	**Pn**	**05 09 15.0**	**-2.3**
LTZ			SN	S	05 11 22.0	-7.4
INZ	**Inchbonnie**	**12.14 209**	*e*PN	**Pn**	**05 09 18.0**	**-2.6**
OXZ	**Oxford**	**12.42 206**	*e*PN	**Pn**	**05 09 20.6**	**-3.4**
OXZ			SN	S	05 11 34.0	-7.7
MQZ	**McQueen's Vall**	**12.53 203**	*e*PN	**Pn**	**05 09 22.6**	**-2.8**
MQZ			SN	S	05 11 35.3	-9.1
WVZ	**Waitaha Valley**	**12.72 210**	*e*PN	**Pn**	**05 09 26.7**	**-1.0**
RPZ	**Rata Peaks**	**13.12 208**	P	**Pn**	**05 09 32.5**	**0.0**
	10.0nm,0.3s,baz=16,slow=2.4,SNR=20					
RPZ			S	S	05 11 49.5	-8.1
	4.2nm,0.3s,baz=119,slow=21,SNR=9.1					
RPZ	**Rata Peaks**	**13.12 208**	*e*PN	**Pn**	**05 09 30.8**	**-1.7**
RPZ			SN	S	05 11 49.1	-8.5
FOZ	**Fox Glacier**	**13.49 211**	*e*PN	**P**	**05 09 35.6**	**-1.2**
LBZ	**Lake Benmore**	**14.03 208**	*e*PN	**P**	**05 09 43.0**	**+0.2**
JCZ	**Jackson Bay**	**14.38 212**	*e*PN	**P**	**05 09 46.2**	**-0.5**
WKZ	**Wanaka**	**14.87 210**	*e*PN	**P**	**05 09 51.9**	**-0.1**
DZM	**Mont Dzumac**	**15.41 308**	P	**Pn**	**05 10 01.6**	**+1.7**
	0.4nm,0.3s,baz=133,slow=11,SNR=6.5					
ASAR	**Alice Springs**	**40.86 270**	P	**P**	**05 13 52.0**	**+2.0**
	1.1nm,0.4s,baz=104,slow=7.5,SNR=16					
WRA	**Warramunga Arr**	**42.03 276**	P	**P**	**05 14 01.8**	**+2.4**
	2.4nm,0.3s,baz=112,slow=8.1,SNR=145					
VNDA	**Vanda**	**45.96 185**	P	**P**	**05 14 31.0**	**+1.3**
	0.7nm,0.6s,baz=14,slow=5.2,SNR=8.2					
NVAR	**Mina Array Bea**	**91.16 44**	P	**P**	**05 19 07.4**	**-0.4**
	0.6nm,0.7s,baz=220,slow=6.7,SNR=4.5					
FINES	**FINESS Array B**	**146.14 337**	PKPbc	**PKPdf**	**05 25 39.5**	**+0.2**
	1.5nm,0.4s,baz=44,slow=5.0,SNR=16					
NB2	**NORSAR Subarra**	**150.27 348**	PKP	**PKPbc**	**05 25 50.9**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=19,slow=2.6					
NOA	**NORSAR Array B**	**150.22 349**	PKPbc	**PKPbc**	**05 25 49.9**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=16,slow=4.2,SNR=3.9					

*NEIC **03** 05:20:50.1±0.7, 25.66N×125.26E, h10km, mb4.2/4, Error ellipse: s-maj=14.2km s-min=11.0km az=138.0*
*IDC **03** 05:20:51.1±3.3, 25.17N×124.21E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.6/51, mbtmp4.0/6, Error ellipse: s-maj=227.5km s-min=18.8km az=63.0*
*ISCJB **03** 05:21:01.1±0.3, 25.26N±0.05×124.49E±0.04, h107km±4km, mb4.0/10, Error ellipse: s-maj=9.7km s-min=3.4km az=153.5*
*JMA **03** 05:21:02.8±0.1, 25.20N×124.46E, h99km±3km, M3.3*

ISC 03 05:21:02.4±0.8, 25°28N±0.07×124°50E±0.04, h99km±8km, n39, σ1s79/61, mb4.2/10, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.66**	**164**	P	**Pn**	**05 21 19.4**	**0.0**
JTJ				S	**Sn**	**05 21 32.0**	**-0.1**
JISG	**Ishigakijimahi**	**0.71**	**194**	P	**Pn**	**05 21 19.6**	**-0.2**
JISG				*e*S	**Sn**	**05 21 31.8**	**-1.0**
JIRB	**Irabujima**	**0.76**	**126**	P	**Pn**	**05 21 20.4**	**+0.1**
JIRB				*e*S	**Sn**	**05 21 33.7**	**+0.1**
JIKM	**Ikemajima**	**0.77**	**117**	P	**Pn**	**05 21 20.8**	**+0.5**
JIKM				*e*S	**Sn**	**05 21 34.6**	**+0.8**
JMJ	**Miyako jima 2**	**0.86**	**123**	P	**Pn**	**05 21 21.7**	**+0.5**
JMJ				S	**Sn**	**05 21 35.9**	**+0.5**
JIJ	**Ishigaki jima**	**0.97**	**200**	P	**Pn**	**05 21 21.6**	**-0.8**
JIJ				S	**Sn**	**05 21 35.7**	**-1.7**
JOGS	**Gusukube**	**0.97**	**122**	P	**Pn**	**05 21 23.1**	**+0.7**
JOGS				S	**Sn**	**05 21 38.6**	**+1.1**
JKRS	**Kuro-shima**	**1.13**	**203**	P	**Pn**	**05 21 23.7**	**-0.5**
JKRS				S	**Sn**	**05 21 39.6**	**-1.0**
IRIF	**Iriomote-Funau**	**1.17**	**217**	P	**Pn**	**05 21 24.0**	**-0.7**
IRIF				S	**Sn**	**05 21 40.6**	**-0.9**
HATJ	**Hateruma jima**	**1.37**	**208**	P	**Pn**	**05 21 26.7**	**-0.3**
HATJ				S	**Sn**	**05 21 45.1**	**-0.6**
YOJ	**Yonaguni jima**	**1.58**	**239**	P	**Pn**	**05 21 29.6**	**0.0**
YOJ				*e*S	**Sn**	**05 21 49.8**	**-0.4**
YOJ	**Yonaguni jima**	**1.58**	**239**	*e*Pn	**Pn**	**05 21 29.5**	**0.0**
YOJ				*e*Sn	**Sn**	**05 21 51.7**	**+1.6**
JYNG	**Yonagunijimaku**	**1.63**	**240**	P	**Pn**	**05 21 30.5**	**+0.2**
JYNG				S	**Sn**	**05 21 51.1**	**-0.3**
JKE	**Kume jima 2**	**2.31**	**63**	P	**Pn**	**05 21 39.7**	**+0.7**
JKE				*e*S	**Sn**	**05 22 08.3**	**+1.3**
TATO	**Taipei**	**2.75**	**264**	*e*Pn	**Pn**	**05 21 46.0**	**+1.3**
JAGN	**Aguni-jima**	**2.79**	**62**	P	**Pn**	**05 21 46.0**	**+0.6**
JAGN				S	**Sn**	**05 22 19.2**	**+0.8**
NACB	**Ninganchiao**	**2.86**	**248**	*e*Pn	**Pn**	**05 21 45.6**	**-0.6**
NACB				*e*Sn	**Sn**	**05 22 16.0**	**-4.1**
YHNB	**Yeheng**	**2.90**	**259**	*e*Pn	**Pn**	**05 21 48.0**	**+1.1**
JNTH	**Nagotoyohara**	**3.41**	**68**	P	**Pn**	**05 21 53.5**	**0.0**
JNTH				S	**Sn**	**05 22 32.1**	**-1.0**
YULB	**Yu-li**	**3.47**	**238**	*e*Pn	**Pn**	**05 21 52.5**	**-2.0**
YULB				*e*Sn	**Sn**	**05 22 30.4**	**-4.3**
SSLB	**Suanglung**	**3.55**	**246**	*e*Pn	**Pn**	**05 21 55.0**	**-0.6**
SSLB				*e*Sn	**Sn**	**05 22 34.7**	**-2.0**
JIH	**Iheya**	**3.57**	**60**	P	**Pn**	**05 21 55.5**	**-0.3**
JIH				*e*S	**Sn**	**05 22 36.1**	**-1.0**
JOW	**Kunigami**	**3.73**	**65**	P	**Pn**	**05 21 57.8**	**-0.2**
TPUB	**Ta-pu**	**4.04**	**242**	*e*Pn	**Pn**	**05 22 02.3**	**+0.1**
TPUB				*e*Sn	**Sn**	**05 22 48.5**	**-0.1**
JTK	**Tokunoshima**	**4.70**	**57**	P	**Pn**	**05 22 10.2**	**-0.9**
JTK				S	**Sn**	**05 23 00.7**	**-3.8**
JAMN	**Amaminishikomi**	**5.12**	**54**	P	**Pn**	**05 22 16.6**	**-0.1**
JAM	**Amami Oshima**	**5.53**	**55**	P	**Pn**	**05 22 21.6**	**-0.6**
JMZ	**Minamidaito 2**	**6.10**	**84**	P	**Pn**	**05 22 27.1**	**-2.9**
JMZ				S	**Sn**	**05 23 29.5**	**-8.8**
ASAJ	**Asahikawa**	**23.88**	**34**	*e*P	P	05 25 54.9	-12
	4.7nm,0.8s						
MKAR	**Makanchi Array**	**39.71**	**314**	P	**P**	**05 28 23.7**	**-1.3**
	0.3nm,0.3s,baz=101,slow=7.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**41.02**	**325**	P	**P**	**05 28 34.2**	**-1.5**
	1.5nm,0.4s,baz=115,slow=8.6,SNR=3.9						
KURK	**Kurchatov**	**43.24**	**318**	P	**P**	**05 28 53.1**	**-0.6**
KURBB	**Kurchatov Arra**	**43.26**	**318**	P	**P**	**05 28 53.1**	**-0.8**
	0.4nm,0.4s,baz=107,slow=8.4,SNR=6.8						
TKM2	**Tokmak 2**	**43.50**	**306**	*e*P	**P**	**05 28 56.6**	**+0.3**
	2.5nm,0.7s						
WRAB	**Tennant Creek**	**45.95**	**167**	*e*P	**P**	**05 29 15.2**	**-0.4**
	4.8nm,0.9s						
WRA	**Warramunga Arr**	**45.96**	**167**	P	**P**	**05 29 15.1**	**-0.6**
	2.9nm,0.6s,baz=348,slow=8.9,SNR=39						
ASAR	**Alice Springs**	**49.50**	**169**	P	**P**	**05 29 43.5**	**+0.4**
	2.1nm,0.5s,baz=353,slow=7.4,SNR=26						
AKTO	**Aktyubinsk**	**56.11**	**315**	P	**P**	**05 30 33.2**	**+1.8**
	1.0nm,0.5s,baz=106,slow=13,SNR=3.9						
CASY	**Casey**	**91.89**	**186**	*e*P	**P**	**05 34 01.5**	**+2.6**
	1.4nm,1.0s						

IDC 03 05:22:14.0±2.5, 54.02N×86.51E, h0km, mb1 3.3/2, mb1mx3.1/52, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=20.9km s-min=12.4km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**267**	*i*		05 28 52.8	
	baz=84,slow=316,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.00**	**267**	Pg	Pg	05 22 31.9	-1.3
	1.1nm,0.3s,baz=83,slow=18,SNR=4.3						
ZALV				Lg	Lg	05 22 46.9	
	3.5nm,0.3s,baz=90,slow=30,SNR=7.3						
ZALV				Rg	Rg	05 22 52.2	
	7.4nm,0.3s,baz=90,slow=29,SNR=8.8						
KURBB	**Kurchatov Arra**	**5.96**	**238**	Pn	Pn	05 23 44.1	+0.8
	0.2nm,0.3s,baz=56,slow=14,SNR=14						
KURBB				Lg	Lg	05 25 24.4	
	0.0nm,0.3s,baz=57,slow=33,SNR=5.2						
MKAR	**Makanchi Array**	**7.72**	**202**	Pn	Pn	05 24 08.8	+1.3
	0.5nm,0.3s,baz=24,slow=14,SNR=8.1						
MKAR				Sn	Sn	05 25 34.9	-0.7
	0.1nm,0.3s,baz=25,slow=27,SNR=6.6						
MKAR				Lg	Lg	05 26 20.8	
	0.1nm,0.3s,baz=22,slow=30,SNR=5.0						

*NIED **03** 05:24:00, 39.10N×143.10E, h20km, Mw3.9 Best double couple: M0 7.56000×10^14 NP1:φs=163.00000°, δ15.00000°, λ44.00000°. NP2:φs=30.00000°, δ80.00000°, λ101.00000°.*
*JMA **03** 05:24:28.5±0.1, 39.09N×143.05E, h14km±2km, M3.7*
*ISCJB **03** 05:24:30.7±1.2, 39.14N±0.05×143.05E±0.09, h35km±10km, mb3.7/9, Error ellipse: s-maj=12.2km s-min=7.6km az=18.5*
*IDC **03** 05:24:35.3±2.6, 39.39N×142.86E, h49km±24km, mb3.5/9, mb1 3.6/12, mb1mx3.4/48, mbtmp3.7/12, ML2.9/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/36, Error ellipse: s-maj=25.6km s-min=16.6km az=92.0*

ISC 03 05:24:31.5±2.8, 39°23N±0.07×142°94E±0.09, h23km±18km, n29, σ1s24/31, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.93**	**292**	P	**Pn**	**05 24 48.2**	**-1.0**
MIYJ				*e*S	**Sb**	**05 25 02.6**	**+1.7**
OFUJ	**Ofunato**	**1.00**	**262**	P	**Pn**	**05 24 48.5**	**-1.5**
OFUJ				*e*S	**Sn**	**05 25 02.2**	**-1.2**
JTH	**Tanohata**	**1.09**	**311**	P	**Pn**	**05 24 51.3**	**-0.1**
JOM	**Ohasama**	**1.30**	**281**	P	**Pn**	**05 24 53.8**	**-0.4**
JOM				S	**Sb**	**05 25 12.9**	**+1.5**
JMK	**Ichinoseki**	**1.36**	**259**	P	**Pn**	**05 24 54.4**	**-0.7**
JIO	**Ouri**	**1.46**	**239**	P	**Pn**	**05 24 54.6**	**-1.8**
JANG	**Nango**	**1.58**	**317**	P	**Pn**	**05 24 58.5**	**+0.4**
JANG				*e*S	**Sb**	**05 25 20.7**	**+1.0**
JRG	**Rokugo**	**1.79**	**276**	P	**Pn**	**05 25 01.7**	**+0.7**
JOU	**Okura**	**1.97**	**245**	P	**Pn**	**05 25 03.5**	**0.0**
JOU				S	**Sn**	**05 25 28.6**	**+1.1**
JYK	**Kaneyama**	**2.03**	**262**	P	**Pn**	**05 25 04.6**	**+0.3**
JTM	**Tenmabayashi**	**2.12**	**318**	P	**Pb**	**05 25 07.4**	**-1.7**
JMM	**Marumori**	**2.16**	**232**	P	**Pn**	**05 25 04.5**	**-1.6**
MJAR	**Matsushiro Arr**	**4.60**	**236**	P	**Pn**	**05 25 40.8**	**+1.1**
	2.6nm,0.3s,baz=42,slow=12,SNR=30						
MAT	**Matsushiro**	**4.60**	**236**	P	**Pn**	**05 25 40.2**	**+0.5**
MAT				S	**Sn**	**05 26 32.3**	**-0.1**
ASAJ	**Asahikawa**	**4.89**	**357**	P	**Pn**	**05 25 44.2**	**+0.6**
	baz=172,slow=15						
USRK	**Ussuriysk Ar.**	**9.57**	**305**	P	**Pn**	**05 26 50.3**	**+2.5**
	0.2nm,0.3s,baz=103,slow=14,SNR=4.9						
KLR	**Kul'dur**	**12.80**	**325**	LR	LR	05 32 41.8	
	comp=Z,76nm,21.4s,baz=284,slow=38						
SEY	**Seymchan**	**24.41**	**10**	P	**P**	**05 29 48.2**	**+0.2**
	1.1nm,0.5s,baz=172,slow=11,SNR=5.1						
SONM	**Songino Array**	**27.64**	**300**	P	**P**	**05 30 17.5**	**+0.1**
	0.5nm,0.5s,baz=96,slow=7.8,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**28.36**	**126**	T	T	05 59 55.8	
	baz=319,slow=74,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.37**	**126**	T	T	05 59 52.3	
	baz=319,slow=74,SNR=24						
H11N3	**WAKE ISLAND Hy**	**28.38**	**126**	T	T	05 59 54.2	
	baz=319,slow=74,SNR=28						
ZALV	**Zalesovo Beam**	**41.36**	**311**	P	**P**	**05 32 14.8**	**-0.7**
	1.1nm,0.4s,baz=101,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**44.01**	**300**	P	**P**	**05 32 36.9**	**-0.2**
	1.3nm,0.7s,baz=82,slow=9.9,SNR=9.8						
KURBB	**Kurchatov Arra**	**45.63**	**307**	P	**P**	**05 32 49.2**	**-0.7**
	2.6nm,0.6s,baz=82,slow=8.2,SNR=27						
ILAR	**Eielson Array**	**47.00**	**33**	P	**P**	**05 33 00.1**	**-0.4**
	0.4nm,0.8s,baz=248,slow=7.2,SNR=5.6						
WRA	**Warramunga Arr**	**59.41**	**189**	P	**P**	**05 34 33.4**	**+1.3**
	0.5nm,0.5s,baz=7.1,slow=6.9,SNR=10						
ASAR	**Alice Springs**	**63.13**	**189**	P	**P**	**05 34 59.8**	**+2.4**
	0.3nm,0.5s,baz=17,slow=6.8,SNR=3.6						
NOA	**NORSAR Array B**	**72.62**	**338**	P	**P**	**05 35 55.1**	**-1.6**
	0.8nm,0.8s,baz=25,slow=9.9,SNR=2.7						

*ISCJB **03** 05:29:03.4±1.3, 72.66N±0.06×6.2E±0.4, h10km, mb3.4/1, Error ellipse: s-maj=18.8km s-min=9.0km az=1.0*
*IDC **03** 05:29:06.1±3.9, 72.41N×6.53E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.2/45, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=60.7km s-min=23.2km az=171.0*
*BER **03** 05:29:10.3±1.6, 72.78N×7.24E, h0km±429km*

ISC 03 05:29:06.0±1.4, 72°69N±0.09×6°7E±0.1, h10km, n12, σ1s53/13, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**3.98**	**57**	*e*P	**Pn**	**05 30 07.0**	**+0.1**
HSPB	**Hornsund (broa**	**4.91**	**24**	*e*P	**Pn**	**05 30 20.2**	**+0.5**
TRO	**Tromso**	**5.01**	**122**	*e*P	**Pn**	**05 30 22.3**	**+1.2**
LOF	**Lofoten**	**5.12**	**150**	*e*P	**Pn**	**05 30 24.5**	**+1.8**
HAMF	**Hammerfest**	**5.73**	**103**	*e*P	**Pn**	**05 30 32.5**	**+1.5**
SPA0	**Spitsbergen Ar**	**6.02**	**19**	*e*P	**Pn**	**05 30 37.0**	**+2.0**
HOPEN	**Hopen**	**6.18**	**43**	*e*P	**Pn**	**05 30 38.1**	**+1.0**
KTK1	**Kautokeino**	**6.56**	**116**	*e*P	**Pn**	**05 30 44.6**	**+2.2**
ARCES	**ARCESS Array B**	**6.86**	**108**	Pn	**Pn**	**05 30 47.5**	**+1.0**
	0.2nm,0.3s,baz=310,slow=13,SNR=7.3						
ARCES				Sn	**Sn**	**05 32 02.5**	**-2.0**
	0.2nm,0.3s,baz=306,slow=22,SNR=3.2						
NOA	**NORSAR Array B**	**11.83**	**169**	Pn	**Pn**	**05 31 53.6**	**-1.0**
	0.1nm,0.3s,baz=343,slow=15,SNR=2.8						
FINES	**FINESS Array B**	**13.48**	**137**	Pn	**Pn**	**05 32 17.1**	**+0.1**
	0.3nm,0.3s,baz=339,slow=13,SNR=11						
TORD	**Torodi Ar. Bea**	**59.59**	**186**	P	**P**	**05 39 09.0**	**-0.6**
	0.3nm,0.8s,baz=3.4,slow=7.2,SNR=2.7						

*NIED **03** 05:31:00, 35.60N×141.10E, h47km, Mw4.2 Best double couple: M0 2.02000×10^15 NP1:φs=205.00000°, δ24.00000°, λ96.00000°. NP2:φs=18.00000°, δ66.00000°, λ87.00000°.*
*ISCJB **03** 05:31:14.0±0.7, 35.55N±0.03×141.17E±0.07, h39km±5km, mb4.0/18, MS3.2/2, Error ellipse: s-maj=9.3km s-min=5.2km az=11.0*
*JMA **03** 05:31:15.1±0.1, 35.56N×141.06E, h36km±1km, M3.5*
JMA Felt I J1.
*IDC **03** 05:31:16.4±2.2, 35.49N×141.09E, h43km±19km, mb3.8/14, mb1 3.9/18, mb1mx3.7/52, mbtmp4.0/18, ML3.7/3, MS3.0/4, Ms1 3.1/4, ms1mx2.8/37, Error ellipse: s-maj=25.9km s-min=13.4km az=88.0*
*NEIC **03** 05:31:16.0±0.7, 35.49N×141.12E, h40km±6km, mb4.3/5, Error ellipse: s-maj=9.4km s-min=5.8km az=98.0*

ISC 03 05:31:15.3±1.2, 35°55N±0.05×141°10E±0.07, h31km±7km, n46, σ0s94/44, mb4.1/18, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.24**	**308**	↑P	**Pb**	**05 31 22.1**	**0.0**
CHOJ				*e*S	**Sb**	**05 31 26.7**	**-0.1**
JCN	**Nagara**	**0.74**	**260**	*e*S	**Sb**	**05 31 38.9**	**-0.7**
BSO4	**Boso 4**	**0.84**	**228**	↓P	**Pn**	**05 31 30.3**	**-0.6**
BSO3	**Boso 3**	**0.89**	**213**	P	**Pn**	**05 31 30.8**	**-0.7**
BSO1	**Boso 1**	**0.90**	**186**	P	**Pn**	**05 31 30.7**	**-0.7**
JYT	**Yasato**	**0.99**	**313**	↓P	**Pn**	**05 31 32.2**	**-0.9**
JHO	**Hitachi**	**1.14**	**338**	P	**Pn**	**05 31 34.3**	**-0.8**
JAG	**Ashikaga**	**1.59**	**304**	P	**Pn**	**05 31 41.7**	**+0.3**
JIM2	**Oshima 3**	**1.60**	**239**	P	**Pn**	**05 31 39.7**	**-1.8**
JIM2				*e*S	**Sn**	**05 32 01.2**	**+0.1**
JOD2	**Odawara 2**	**1.67**	**261**	P	**Pn**	**05 31 42.4**	**0.0**
MJAR	**Matsushiro Arr**	**2.54**	**294**	P	**Pn**	**05 31 55.3**	**+0.8**
	7.7nm,0.3s,baz=87,slow=8.6,SNR=32						
MAJO	**Matsushiro**	**2.54**	**294**	*e*Pn	**Pn**	**05 31 55.4**	**+1.0**
MAT	**Matsushiro**	**2.54**	**294**	P	**Pn**	**05 31 55.6**	**+1.2**
MAT				S	**Sn**	**05 32 24.2**	**-0.1**
JHJ2	**Mitsune**	**2.66**	**204**	*e*Pn	**Pn**	**05 31 56.0**	**0.0**
JHJ2				*e*Sn	**Sn**	**05 32 30.6**	**+3.5**
JHJ	**Hachijo jima 2**	**2.66**	**204**	P	**Pn**	**05 31 56.1**	**+0.1**
	21nm,0.3s,baz=315,slow=20,SNR=4.0						
JHJ				S	**Sn**	**05 32 27.3**	**+0.1**
	66nm,0.3s,baz=73,slow=23,SNR=8.3						
JHJ				LR	LR	05 32 30.3	
	comp=Z,63nm,19.7s,baz=342,slow=28						
ERM	**Erimo**	**6.65**	**13**	*e*Pn	**Pn**	**05 32 51.8**	**+0.9**
ERM				*e*Sn	**Sn**	**05 34 05.8**	**+0.3**
ASAJ	**Asahikawa**	**8.63**	**7**	P	**Pn**	**05 33 19.0**	**+1.0**
	1.6nm,0.3s,baz=218,slow=17,SNR=4.5						
JNU	**Nakatsue**	**8.79**	**257**	LR	LR	05 37 05.0	
	comp=Z,177nm,21.2s,baz=115,slow=40						
USRK	**Ussuriysk Ar.**	**11.11**	**324**	P	**Pn**	**05 33 53.2**	**+1.3**
	0.2nm,0.3s,baz=123,slow=12,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**27.65**	**118**	T	T	06 06 06.6	
	baz=310,slow=75,SNR=62						
H11N1	**WAKE ISLAND Hy**	**27.65**	**118**	T	T	06 06 11.3	
	baz=310,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**27.66**	**118**	T	T	06 05 59.1	
	baz=310,slow=75,SNR=50						
SEY	**Seymchan**	**28.29**	**11**	P	**P**	**05 37 06.4**	**+0.7**
	0.9nm,0.2s,baz=1.9,slow=23,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	06 06 52.5	
	baz=312,slow=75,SNR=211						
H11S3	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	06 06 51.3	
	baz=312,slow=75,SNR=192						
H11S2	**WAKE ISLAND Hy**	**28.32**	**120**	T	T	06 06 52.4	
	baz=312,slow=75,SNR=132						
SONM	**Songino Array**	**28.43**	**306**	P	**P**	**05 37 06.8**	**-0.5**
	0.7nm,0.4s,baz=97,slow=12,SNR=4.1						
TLY	**Talaya**	**31.13**	**313**	LR	LR	05 49 40.9	
	comp=Z,36nm,20.1s,baz=110,slow=35						
TIXI	**Tiksi**	**36.73**	**354**	P	**P**	**05 38 19.1**	**-0.1**
	1.3nm,0.4s,baz=154,slow=8.7,SNR=4.0						
TIXI	**Tiksi**	**36.73**	**354**	*e*P	**P**	**05 38 19.4**	**+0.2**
	1.9nm,0.4s						
ZALV	**Zalesovo Beam**	**42.73**	**314**	P	**P**	**05 39 09.2**	**-0.3**
	1.9nm,0.5s,baz=86,slow=6.8,SNR=7.5						
MKAR	**Makanchi Array**	**44.70**	**303**	P	**P**	**05 39 25.2**	**-0.2**
	0.7nm,0.4s,baz=87,slow=10,SNR=9.2						
KURK	**Kurchatov**	**46.66**	**309**	*e*P	**P**	**05 39 40.5**	**-0.2**
	11nm,0.9s						
TKM2	**Tokmak 2**	**50.12**	**299**	*e*P	**P**	**05 40 09.3**	**+1.5**
	1.5nm,0.8s						
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**05 40 12.8**	**-0.2**
	0.6nm,0.7s,baz=265,slow=5.6,SNR=7.3						
FITZ	**Fitzroy Crossi**	**55.34**	**198**	P	**P**	**05 40 44.5**	**-1.7**
	5.8nm,1.2s,baz=12,slow=7.1,SNR=5.1						
WRAB	**Tennant Creek**	**55.55**	**188**	*e*P	**P**	**05 40 46.8**	**-1.0**
	5.0nm,1.1s						
WRA	**Warramunga Arr**	**55.56**	**188**	P	**P**	**05 40 46.9**	**-0.9**
	1.3nm,0.7s,baz=6.3,slow=7.9,SNR=19						
ABKAR	**Akbulak array**	**58.70**	**311**	*e*P	**P**	**05 41 09.3**	**-0.5**
	0.9nm,0.6s						
ASAR	**Alice Springs**	**59.29**	**188**	P	**P**	**05 41 13.4**	**-0.7**
	0.2nm,0.3s,baz=16,slow=14,SNR=3.7						
FINES	**FINESS Array B**	**70.00**	**332**	P	**P**	**05 42 23.5**	**-0.1**
	2.5nm,0.8s,baz=85,slow=6.3,SNR=5.0						
KBZ	**Khabaz**	**71.67**	**311**	P	**P**	**05 42 33.9**	**-0.1**
	1.4nm,0.5s,baz=189,slow=6.8,SNR=3.7						
AKASG	**Malin Array Be**	**75.31**	**322**	P	**P**	**05 42 54.7**	**-0.6**
	0.8nm,0.5s,baz=47,slow=6.0,SNR=4.5						
NB2	**NORSAR Subarra**	**75.45**	**337**	P	**P**	**05 42 55.9**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.45**	**337**	P	**P**	**05 42 56.3**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=39,slow=5.6,SNR=3.4						
NOA				LR	LR	06 19 14.1	
	comp=Z,20nm,19.6s,baz=50,slow=38						
BRTR	**Keskin Array B**	**79.64**	**312**	P	**P**	**05 43 20.8**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=104,slow=4.6,SNR=3.1						

*NEIC **03** 05:36:18.8, 19.81N×63.59W, h67km±7km, MD3.4(RSPR), After RSPR.*

RSPR 03 05:36:18.8, 19°81N×63°59W, h67km±7km, MD3.4/4, 15C-11D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**1.28**	**

KUR	**Kuril'sk**	**2.41**	**188**	*i* PN	**Pn**	**05 47 22.6**	**+0.5**
KUR				*e*S	**S**	**05 48 08.2**	**+0.4**
KUR				pmax	pmax		
	comp=Z,74nm,0.5s						
KUR				pmax	pmax		
	comp=N,18nm,0.4s						
KUR	**Kuril'sk**	**2.41**	**188**	*i* P	**Pn**	**05 47 22.6**	**+0.5**
KUR				AMB	AMB	05 47 23.6	
	comp=N,74nm,0.4s						
KUR				*e*S	**S**	**05 48 08.2**	**+0.4**
KUR				A	A	05 48 11.7	
	comp=N,99nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.85**	**262**	*i* PN	**Pn**	**05 47 36.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**3.85**	**262**	*e*P	**Pn**	**05 47 35.9**	**+1.4**
YSS				AMB	AMB	05 47 36.6	
	comp=N,21nm,0.1s						
SHO	**Shikotan**	**3.89**	**196**	*e*P	**Pn**	**05 47 33.5**	**-1.5**
SHO				AMB	AMB	05 47 35.1	
	comp=N,140nm,0.4s						
SHO				*e*S	**S**	**05 48 27.1**	**-4.2**
SHO				A	A	05 48 30.6	
	comp=N,120nm,0.5s						
SHO				A	A	05 48 30.6	
	comp=N,75nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.98**	**207**	*e*PN	**Pn**	**05 47 36.8**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**3.98**	**207**	*e*S	**S**	**05 48 34.1**	**+1.3**
UGL	**Uglegorsk**	**4.42**	**292**	*e*P	**Pn**	**05 47 40.9**	**+0.8**
UGL				AMB	AMB	05 47 43.9	
	comp=N,54nm,0.3s						
JNK	**Nakash**	**4.76**	**213**	P	**Pn**	**05 47 43.5**	**-0.3**
JSE	**Soyaes**	**4.79**	**238**	P	**Pn**	**05 47 46.3**	**+2.3**
TYV	**Tymovskoe**	**4.93**	**313**	*e*P	**Pn**	**05 47 46.0**	**+0.6**
JAK	**Akkeshi**	**5.28**	**210**	P	**Pn**	**05 47 47.8**	**-1.5**
JAK				*e*S	**S**	**05 48 53.6**	**-3.8**
JKA	**Kamikawa-asahi**	**5.31**	**231**	*e*P	**Pn**	**05 47 52.1**	**+2.4**
ASAJ	**Asahikawa**	**5.32**	**231**	P	**Pn**	**05 47 52.1**	**+2.4**
	comp=N,7.8nm,0.3s,baz=70,slow=9.2,SNR=24						
ASAJ	**Asahikawa**	**5.32**	**231**	P	**Pn**	**05 47 51.9**	**+2.2**
JAR	**Ashorobuto**	**5.38**	**218**	P	**Pn**	**05 47 50.8**	**+0.4**
JFR	**Furan**	**6.01**	**224**	P	**Pn**	**05 47 58.6**	**+1.3**
JBT2	**Biratori 2**	**6.41**	**223**	P	**Pn**	**05 48 02.2**	**+0.4**
MYR	**Moyori**	**6.41**	**216**	*e*P	**Pn**	**05 48 00.1**	**-1.7**
JNBK	**Urakawa-nobuka**	**6.64**	**219**	P	**Pn**	**05 48 02.9**	**-1.5**
ERM	**Erimo**	**6.70**	**215**	*de*PN	**Pn**	**05 48 05.1**	**+0.1**
ERM	**Erimo**	**6.70**	**215**	*e*P	**Pn**	**05 48 05.1**	**+0.1**
JNB	**Noboribetsu**	**7.29**	**228**	P	**Pn**	**05 48 12.2**	**+0.5**
JKB	**Kayabe**	**7.73**	**225**	P	**Pn**	**05 48 15.6**	**-1.2**
GRNR	**Gornyy**	**8.41**	**296**	*e*P	**P**	**05 48 25.5**	**-0.4**
GRNR				AMB	AMB	05 48 26.0	
	comp=N,10.0nm,0.5s						
PET	**Petropavlovsk**	**8.54**	**47**	*e*PN	**Pn**	**05 48 24.6**	**-1.4**
HABR	**Khabarovsk**	**8.94**	**280**	*e*PN	**Pn**	**05 48 29.1**	**-1.6**
HABR				*e*S	**S**	**05 50 11.9**	**-1.7**
HABR				pmax	pmax		
	comp=E,21nm,0.6s						
HABR				pmax	pmax		
	comp=Z,13nm,0.6s						
HABR				pmax	pmax		
	comp=N,5.0nm,0.6s						
HABR				MLR	MLR		
	comp=Z,32nm,16.0s						
HABR	**Khabarovsk**	**8.94**	**280**	*e*P	**Pn**	**05 48 29.1**	**-1.6**
KLR	**Kul'dur**	**11.13**	**284**	P	**Pn**	**05 48 57.5**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=84,slow=12,SNR=25						
EKMR	**Ekimchan**	**11.23**	**305**	*e*P	**Pn**	**05 48 58.2**	**+0.6**
EKMR				AMB	AMB	05 49 02.4	
	comp=Z,3.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**11.88**	**259**	P	**Pn**	**05 49 07.2**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=60,slow=12,SNR=9.7						
BMKR	**Bomnak**	**14.11**	**307**	*e*P	**P**	**05 49 28.5**	**-0.3**
BMKR				AMB	AMB	05 49 32.3	
	comp=Z,3.0nm,0.5s						
KROS	**Kirovskiy**	**15.03**	**305**	*e*P	**P**	**05 49 38.0**	**-0.9**
SEY	**Seymchan**	**15.52**	**7**	P	**P**	**05 49 43.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=178,slow=11,SNR=5.4						
SEY	**Seymchan**	**15.52**	**7**	*e*P	**P**	**05 49 43.5**	**-0.5**
SEY	**Seymchan**	**15.52**	**7**	*e*P	**P**	**05 49 43.5**	**-0.5**
KSRS	**Korea Array**	**18.09**	**243**	P	**P**	**05 50 15.0**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=48,slow=9.7,SNR=7.5						
BILL	**Bilibino**	**22.42**	**18**	*e*P	**P**	**05 50 51.8**	**-1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL	**Bilibino**	**22.42**	**18**	*e*P	**P**	**05 50 51.8**	**-1.2**
TIK	**Tiksi**	**25.76**	**346**	*e*P	**P**	**05 51 23.9**	**+1.1**
TIXI	**Tiksi**	**25.77**	**346**	*e*P	**P**	**05 51 23.9**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ULN	**Ulaanbaatar**	**27.52**	**286**	*e*P	**P**	**05 51 38.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.3s						
ULN	**Ulaanbaatar**	**27.52**	**286**	*e*P	**P**	**05 51 38.8**	**-0.2**
SONM	**Songino Array**	**27.96**	**286**	P	**P**	**05 51 42.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=77,slow=11,SNR=2.6						
COLA	**College**	**37.50**	**39**	*i* P	**P**	**05 53 04.2**	**0.0**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
COLA	**College**	**37.50**	**39**	*e*P	**P**	**05 53 04.2**	**0.0**
ILAR	**Eielson Array**	**37.92**	**39**	P	**P**	**05 53 07.2**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=273,slow=8.4,SNR=44						
ILAR	**Eielson Array**	**37.92**	**39**	*e*P	**P**	**05 53 07.1**	**-0.6**
INK	**Inuvik**	**42.67**	**32**	P	**P**	**05 53 45.4**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=301,slow=9.7,SNR=28						
MKAR	**Makanchi Array**	**43.62**	**294**	P	**P**	**05 53 52.9**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=72,slow=8.1,SNR=5.6						
MKAR	**Makanchi Array**	**43.62**	**294**	*e*P	**P**	**05 53 54.3**	**+0.3**
MKAR	**Makanchi Array**	**43.62**	**294**	*e*P	**P**	**05 53 54.3**	**+0.3**
KURK	**Kurchatov**	**44.14**	**301**	*e*P	**P**	**05 53 56.4**	**-1.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**44.14**	**301**	*e*P	**P**	**05 53 56.4**	**-1.5**
KURBB	**Kurchatov Arra**	**44.23**	**301**	P	**P**	**05 53 57.4**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=75,slow=8.7,SNR=3.1						
YKA	**Yellowknife Ar**	**52.15**	**36**	P	**P**	**05 54 57.7**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=302,slow=6.9,SNR=7.4						
NVAR	**Mina Array Bea**	**64.88**	**60**	P	**P**	**05 56 26.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=309,slow=6.9,SNR=4.7						
PDAR	**Pinedale Array**	**66.82**	**52**	P	**P**	**05 56 38.5**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=266,slow=0.9,SNR=12						
WRA	**Warramunga Arr**	**68.41**	**194**	P	**P**	**05 56 49.4**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=9.0,slow=6.6,SNR=10						
TXAR	**Lajitas Array**	**79.85**	**58**	P	**P**	**05 57 54.2**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=294,slow=4.4,SNR=13						
TXAR	**Lajitas Array**	**79.85**	**58**	*e*P	**P**	**05 57 54.5**	**+1.3**

NIED ***03*** *05:48:00, 37.70N× 143.80E, h5km, Mw3.6 Best double couple: M0 2.50000×10^14 NP1:ϕ=16.00000°, δ=27.00000°, λ=-84.00000°. NP2:ϕ=190.00000°, δ=63.00000°, λ=-93.00000°.*

IDC ***03*** *05:48:08.4±1.4, 37.23N× 144.28E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/44, mbtmp3.5/5, ML3.8/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/26, Error ellipse: s-maj=34.0km s-min=30.4km az=127.0*

ISCJB ***03*** *05:48:13.9±1.1, 37.62N±0.06× 143.89E±0.08, h33km, mb3.5/4, Error ellipse: s-maj=9.3km s-min=8.7km az=137.7*

JMA ***03*** *05:48:14.0±0.2, 37.69N× 143.75E, h17km, M3.5*

ISC 03 05:48:14.1±1.3,**37.54N**±0.07×**143.98E**±0.09,**h35**km,**n17, σ1.50/23, mb3.5/4,1D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.38**	**311**	P	**Pn**	**05 48 49.9**	**-0.7**
OFUJ				*e*S	**Sn**	**05 49 16.7**	**-1.8**
JOU	**Okura**	**2.75**	**288**	P	**Pn**	**05 48 55.9**	**+0.2**
JOU				*e*S	**Sn**	**05 49 26.8**	**-0.9**
JOM	**Ohasama**	**2.86**	**313**	*e*S	**Sn**	**05 49 28.3**	**-2.0**
JFT	**Otama**	**2.90**	**271**	P	**Pn**	**05 48 58.1**	**+0.4**
JFT				*e*S	**Sn**	**05 49 31.3**	**-0.1**
JYK	**Kaneyama**	**3.17**	**297**	P	**Pn**	**05 49 01.5**	**+0.1**
JYK				*e*S	**Sn**	**05 49 37.6**	**-0.3**
JRG	**Rokugo**	**3.21**	**306**	P	**Pn**	**05 49 02.7**	**+0.6**
JRG				*e*S	**Sn**	**05 49 37.9**	**-1.2**
JRY	**Ryogami san**	**4.35**	**251**	P	**Pn**	**05 49 17.3**	**-0.5**
JRY				*e*S	**Sn**	**05 50 04.3**	**-3.0**
MJAR	**Matsushiro Arr**	**4.73**	**260**	Pn	**Pn**	**05 49 23.9**	**+1.0**
	4.0nm,0.3s,baz=85,slow=16,SNR=16						
MJAR	**Matsushiro Arr**	**4.73**	**260**	PN	**Pn**	**05 49 23.9**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**4.73**	**260**	*e*P	**Pn**	**05 49 23.9**	**+1.0**
MAJO	**Matsushiro**	**4.73**	**260**	*d i*PN	**Pn**	**05 49 24.5**	**+1.6**
MAT	**Matsushiro**	**4.73**	**260**	P	**Pn**	**05 49 24.2**	**+1.3**
MAT				*e*S	**Sn**	**05 50 16.8**	**+0.3**
KSRS	**Korea Array**	**12.76**	**274**	LR	LR	05 55 44.7	
	comp=Z,26nm,18.4s,baz=5.0,slow=35						
MKAR	**Makanchi Array**	**45.58**	**302**	P	**P**	**05 56 33.8**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=81,slow=8.9,SNR=2.4						
KURBB	**Kurchatov Arra**	**47.30**	**308**	P	**P**	**05 56 45.0**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=81,slow=7.4,SNR=5.8						
ILAR	**Eielson Array**	**47.96**	**33**	P	**P**	**05 56 49.5**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=268,slow=7.4,SNR=7.0						
WRA	**Warramunga Arr**	**57.90**	**191**	P	**P**	**05 58 00.2**	**-2.4**
	comp=Z,0.4nm,0.8s,baz=11,slow=7.7,SNR=4.7						

ISCJB ***03*** *05:49:09.0±0.8, 40.19N±0.04× 25.18E±0.06, h10km±6km, Error ellipse: s-maj=7.2km s-min=6.0km az=166.3*

ATH ***03*** *05:49:08.3, 40.16N× 25.20E, h26km±3km, ML1.9/2, Error ellipse: s-maj=4.1km s-min=1.5km az=126.0*

DDA ***03*** *05:49:09.4, 40.32N× 25.32E, h7km, Md2.8*

CSEM ***03*** *05:49:09.0±0.2, 40.18N× 25.18E, h12km, ML1.9, Error ellipse: s-maj=5.2km s-min=4.8km az=122.0*

ISC 03 05:49:08.8±1.1,**40.18N**±0.04×**25.18E**±0.05,**h13**km±10km, **n11, σ0.35/20, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.28**	**179**	P	**Pb**	**05 49 15.6**	**-0.2**
LIA				*e*S	**Sg**	**05 49 18.7**	**0.0**
SMTH	**Samothraki Isl**	**0.40**	**43**	P	**Pg**	**05 49 17.0**	**+0.2**
SMTH				*e*S	**Sg**	**05 49 22.0**	**-0.1**
SMTH	**Samothraki Isl**	**0.40**	**43**	P	**Pg**	**05 49 17.0**	**+0.2**
SMTH				*e*S	**Sg**	**05 49 22.0**	**-0.1**
SMTH				AML	AML	05 49 22.8	
	comp=E,208μm,0.2s						
SMTH				AML	AML	05 49 26.5	
	comp=N,207μm,0.2s						
BOZC	**Bozcaada**	**0.76**	**117**	*i* P	**Pb**	**05 49 23.8**	**0.0**
BOZC				*i* S	**Sb**	**05 49 34.4**	**+0.4**
KAVA	**Kavala**	**0.96**	**328**	P	**Pn**	**05 49 28.3**	**+0.4**
KAVA				S	**Sg**	**05 49 39.3**	**-0.5**
KAVA	**Kavala**	**0.96**	**328**	P	**Pn**	**05 49 28.3**	**+0.4**
ALN	**Alexandroupoli**	**0.97**	**43**	P	**Pg**	**05 49 27.6**	**0.0**
ALN				S	**Sb**	**05 49 40.8**	**+0.5**
ALN	**Alexandroupoli**	**0.97**	**43**	P	**Pg**	**05 49 27.6**	**0.0**
ALN				S	**Sb**	**05 49 40.8**	**+0.5**
ALN				AML	AML	05 49 42.5	
	comp=E,96μm,0.5s						
ALN				AML	AML	05 49 43.1	
	comp=N,134μm,0.4s						
NVR	**Nevrokopi**	**1.54**	**320**	P	**Pn**	**05 49 35.7**	**-0.2**
SART	**Tekirdag**	**1.61**	**71**	P	**Pn**	**05 49 37.0**	**0.0**
SART				S	**Sb**	**05 49 58.2**	**-0.5**
SART	**Tekirdag**	**1.61**	**71**	*i* P	**Pn**	**05 49 37.0**	**0.0**
SART				*i* S	**Sb**	**05 49 58.2**	**-0.5**

ISCJB ***03*** *06:04:58.5±0.4, 57.90N±0.04× 156.50W±0.08, h147km±3km, mb3.1/4, Error ellipse: s-maj=8.8km s-min=5.3km az=136.8*

IDC ***03*** *06:04:59.9±9.6, 58.24N× 156.64W, h133km±86km, mb3.0/4, mb1 3.3/6, mb1mx3.1/35, mbtmp3.5/6, Error ellipse: s-maj=71.9km s-min=22.0km az=23.0*

NEIC ***03*** *06:05:00.5, 57.87N× 156.49W, h140km, MG3.2(AEIC), After AEIC.*

ISC 03 06:04:59.7±0.9,**57.92N**±0.06×**156.54W**±0.06, **h142**km±6km,**n63,** σ1.913/72,**mb3.2**/4,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK1	**Peulik 1**	**0.13**	**197**	P	**Pn**	**06 05 18.8**	**0.0**
PLK2	**Peulik 2**	**0.20**	**144**	P	**Pn**	**06 05 19.0**	**0.0**
PLK3	**Peulik 3**	**0.28**	**148**	P	**Pn**	**06 05 19.2**	**0.0**
PLK3				S	**Sn**	**06 05 34.4**	**+0.4**
PLK4	**Peulik 4**	**0.31**	**162**	P	**Pn**	**06 05 19.1**	**-0.2**
PLK4				S	**Sn**	**06 05 34.4**	**+0.1**
CNTC	**Contact Creek**	**0.49**	**45**	P	**Pn**	**06 05 20.1**	**-0.1**
KELA	**Mount Kelaz**	**0.67**	**39**	P	**Pn**	**06 05 21.1**	**-0.1**
KELA				S	**Sn**	**06 05 37.2**	**-0.4**
KABU	**Katmai Buttres**	**0.75**	**62**	P	**Pn**	**06 05 22.0**	**+0.2**
KABU				S	**Sn**	**06 05 39.5**	**+1.0**
KVTA	**Katmai Vly 10**	**0.80**	**55**	P	**Pn**	**06 05 22.1**	**+0.1**
KABR	**Katmai Barrier**	**0.86**	**75**	P	**Pn**	**06 05 22.3**	**-0.3**
KAKN	**Katmai Knife C**	**0.87**	**64**	P	**Pn**	**06 05 22.6**	**0.0**
KAKN				S	**Sn**	**06 05 40.1**	**0.0**
KAWH	**Katmai**	**1.03**	**63**	P	**Pn**	**06 05 24.0**	**0.0**
KAHC	**Katmai Hardscr**	**1.09**	**47**	P	**Pn**	**06 05 24.6**	**0.0**
ANNW	**Aniakchak Nort**	**1.32**	**224**	P	**Pn**	**06 05 26.8**	**0.0**
KAPH	**Katmai Pasha**	**1.34**	**59**	P	**Pn**	**06 05 27.3**	**+0.3**
MCNL	**McNeil River**	**1.71**	**41**	P	**Pn**	**06 05 31.2**	**+0.3**
FOPK	**Fourpeaked Vol**	**1.82**	**61**	P	**Pn**	**06 05 32.0**	**-0.2**
CDD	**Cape Douglas**	**1.83**	**55**	P	**Pn**	**06 05 32.5**	**+0.3**
OHAK	**Old Harbor**	**1.89**	**111**	P	**Pn**	**06 05 32.1**	**-0.8**
OHAK				S	**Sn**	**06 05 56.2**	**-2.2**
CHGN	**Chignik**	**1.92**	**213**	P	**Pn**	**06 05 32.4**	**-0.9**
KDAK	**Kodiak Island**	**2.12**	**92**	P	**Pn**	**06 05 35.2**	**-0.4**
KDAK				S	**Sn**	**06 06 01.9**	**-1.3**
AUI	**Augustine Isla**	**2.16**	**48**	P	**Pn**	**06 05 36.6**	**+0.1**
VNSG	**Veniaminof 6**	**2.28**	**219**	P	**Pn**	**06 05 37.5**	**-0.2**
VNSG				S	**Sn**	**06 06 05.5**	**-1.4**
OPT	**Oil Point**	**2.44**	**43**	P	**Pn**	**06 05 40.3**	**+0.7**
CNPM	**China Poot**	**3.20**	**58**	P	**Pn**	**06 05 49.5**	**+0.3**
RDWB	**Redoubt West**	**3.20**	**35**	P	**Pn**	**06 05 49.8**	**+0.5**
SVW2	**Sparrevohn**	**3.22**	**8**	P	**Pn**	**06 05 49.9**	**+0.5**
SDPT	**Sand Point**	**3.38**	**222**	P	**Pn**	**06 05 51.5**	**0.0**
SLKM	**Skilak Lake**	**4.15**	**49**	P	**Pn**	**06 06 02.4**	**+0.8**
SEW	**Seward**	**4.27**	**56**	P	**Pn**	**06 06 03.4**	**+0.4**
SUA	**Susitna One**	**4.61**	**37**	P	**Pn**	**06 06 08.1**	**+0.5**
RC01	**Rabbit Creek A**	**4.70**	**45**	P	**Pn**	**06 06 09.0**	**+0.2**
SKT	**Skwentna**	**4.78**	**30**	P	**Pn**	**06 06 10.5**	**+0.6**
PPLA	**Purkeypile**	**5.43**	**22**	*e*Pn	**Pn**	**06 06 20.8**	**+2.1**
	12nm,0.6s						
SCM	**Sheep Creek Mo**	**6.07**	**46**	P	**Pn**	**06 06 27.5**	**+0.4**
EYAK	**Cordova Ski Ar**	**6.13**	**60**	P	**Pn**	**06 06 27.1**	**-0.7**
KTH	**Kantishna Hill**	**6.28**	**24**	*e*Pn	**Pn**	**06 06 29.9**	**-0.1**
TRF	**Thorofare Moun**	**6.34**	**26**	*e*Pn	**Pn**	**06 06 30.3**	**-0.4**
KLU	**Klutina**	**6.45**	**52**	P	**Pn**	**06 06 32.1**	**-0.1**
RND	**Reindeer**	**6.67**	**31**	P	**Pn**	**06 06 35.5**	**+0.4**
BPAW	**Bear Paw Mtn.**	**6.76**	**21**	P	**Pn**	**06 06 35.6**	**-0.6**
BMRM	**Bremner River**	**6.81**	**58**	P	**Pn**	**06 06 36.4**	**-0.5**
DHY	**Denali Highway**	**6.87**	**37**	P	**Pn**	**06 06 36.4**	**-1.5**
NICHA	**Nichawak Mount**	**6.88**	**65**	P	**Pn**	**06 06 37.6**	**-0.3**
BERG	**Berg Lake**	**7.05**	**64**	P	**Pn**	**06 06 39.7**	**-0.4**
KHIT	**Khitrov Hills**	**7.28**	**64**	P	**Pn**	**06 06 42.8**	**-0.5**
CRQM	**Cirque**	**7.42**	**62**	P	**Pn**	**06 06 45.2**	**0.0**
VRDI	**Verde Repeater**	**7.42**	**58**	P	**Pn**	**06 06 44.9**	**-0.4**
KULT	**Kultieth River**	**7.49**	**66**	P	**Pn**	**06 06 46.1**	**0.0**
ISLE	**Juniper Island**	**7.75**	**64**	P	**Pn**	**06 06 49.7**	**0.0**
KIAG	**Kiagna River**	**7.83**	**61**	P	**Pn**	**06 06 50.7**	**-0.1**
BAGL	**Bagley Icefiel**	**7.85**	**65**	P	**Pn**	**06 06 50.4**	**-0.4**
CCB	**Clear Creek Bu**	**7.94**	**28**	P	**Pn**	**06 06 50.5**	**-1.5**
RKAV	**Rock Avalanche**	**8.17**	**67**	P	**Pn**	**06 06 54.3**	**-1.1**
BARN	**Barnard Glacie**	**8.19**	**61**	P	**Pn**	**06 06 55.1**	**-0.5**
IM3	**Indian Mountai**	**8.19**	**8**	P	**Pn**	**06 06 55.6**	**+0.2**
IL1	**Eielson Array**	**8.28**	**30**	P	**Pn**	**06 06 55.1**	**-1.5**
ILAR	**Eielson Array**	**8.28**	**30**	P	**Pn**	**06 06 53.5**	**-3.1**
	1.0nm,0.3s,baz=215,slow=13,SNR=71						
ILAR				S	**Sn**	**06 08 23.1**	**-5.3**
	1.0nm,0.3s,baz=220,slow=22,SNR=23						
ILB	**Eielson Array**	**8.28**	**30**	P	**Pn**	**06 06 55.0**	**-1.5**
INK	**Inuvik**	**14.60**	**35**	P	**Pn**	**06 08 16.1**	**-2.9**
	0.1nm,0.3s,baz=222,slow=9.6,SNR=5.2						
YKA	**Yellowknife Ar**	**21.04**	**60**	P	**P**	**06 09 31.8**	**0.0**
	0.6nm,0.7s,baz=268,slow=9.2,SNR=4.8						
PDAR	**Pinedale Array**	**32.83**	**97**	P	**P**	**06 11 22.0**	**+2.4**
	0.2nm,0.4s,baz=327,slow=2.7,SNR=2.5						
TXAR	**Lajitas Array**	**46.10**	**105**	P	**P**	**06 13 11.1**	**+1.7**
	0.1nm,0.6s,baz=335,slow=4.0,SNR=3.7						
SONM	**Songino Array**	**54.50**	**305**	P	**P**	**06 14 11.7**	**-0.6**
	1.0nm,0.7s,baz=38,slow=7.2,SNR=6.7						

DDA ***03*** *06:33:38.7, 37.28N× 28.38E, h7km, Md2.6, Suspected Mining explosion.*

ISK ***03*** *06:33:38.7, 37.22N× 28.18E, h18km, MD2.6*

ISCJB ***03*** *06:33:39.3±0.7, 37.32N±0.04× 28.39E±0.06, h0km, Error ellipse: s-maj=8.0km s-min=4.5km az=153.8*

CSEM ***03*** *06:33:39.7±0.3, 37.20N× 28.14E, h1km, MD2.6, Error ellipse: s-maj=9.5km s-min=4.7km az=49.0, Suspected Mining explosion.*

ISC 03 06:33:38.7±1.0,**37.33N**±0.03×**28.26E**±0.04,**h0**km,**n15, σ0.85/21, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.19**	**175**	*e*PG	**Pg**	**06 33 42.8**	**+0.4**
YER				*e*SG	**Sg**	**06 33 45.9**	**+1.1**
YER	**Yerkesik**	**0.19**	**175**	*e*Pg	**Pg**	**06 33 42.8**	**+0.4**
YER				*e*Sg	**Sg**	**06 33 45.9**	**+1.1**
AYDN	**Tasoluk**	**0.45**	**318**	P	**Pb**	**06 33 49.9**	**+0.3**
AYDN				S	**Sb**	**06 33 57.4**	**+0.5**
AYDN	**Tasoluk**	**0.45**	**318**	*i* P	**Pb**	**06 33 49.9**	**+0.3**
AYDN				*i* S	**Sb**	**06 33 57.4**	**+0.5**
TURN	**Turunc**	**0.53**	**149**	*i* P	**Pg**	**06 33 48.8**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.60**	**148**	*e*PG	**Pg**	**06 33 50.2**	**+0.1**
DALY				*e*SG	**Sg**	**06 33 58.3**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.60**	**148**	*e*Pg	**Pg**	**06 33 50.2**	**+0.1**
DALY				*e*Sg	**Sg**	**06 33 58.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**335**	*e*PG	**Pb**	**06 33 54.0**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**335**	*e*Pg	**Pb**	**06 33 54.0**	**+0.3**
DNZL	**Cakiroluk**	**0.72**	**60**	P	**Pg**	**06 33 51.7**	**-0.8**
DNZL	**Cakiroluk**	**0.72**	**60**	*i* P	**Pg**	**06 33 51.7**	**-0.8**
FETY	**Fethiye**	**0.95**	**136**	*e*PG	**Pb**	**06 33 57.1**	**-1.0**
FETY	**Fethiye**	**0.95**	**136**	*e*Pg	**Pb**	**06 33 57.1**	**-1.0**
NIS1	**Nisyros Isl.**	**1.13**	**231**	*e*PG	**Pg**	**06 33 58.6**	**-1.7**
NIS1	**Nisyros Isl.**	**1.13**	**231**	*e*Pg	**Pg**	**06 33 58.6**	**-1.7**

IDC ***03*** *06:52:09.5±3.0, 37.54N× 141.82E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.2/28, mbtmp3.1/3, ML3.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/17, Error ellipse: s-maj=66.8km s-min=36.9km az=56.0*

ISCJB ***03*** *06:52:12.5±1.2, 37.41N±0.04× 141.61E±0.07, h19km±6km, mb3.2/2, MS2.7/1, Error ellipse: s-maj=9.9km s-min=6.2km az=22.0*

JMA ***03*** *06:52:14.3±0.1, 37.41N× 141.49E, h30km±2km, M3.4*

ISC 03 06:52:11.9±2.0,**37.45N**±0.05×**141.62E**±0.08,**h12**km±10km, **n20, σ0.94/23, Near coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.59**	**263**	P	**Pb**	**06 52 24.6**	**+0.3**
JFK				S	**Sg**	**06 52 31.3**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.74**	**242**	P	**Pg**	**06 52 26.1**	**-0.1**
ONAJ				S	**Sg**	**06 52 35.0**	**-0.8**
JMM	**Marumori**	**0.78**	**303**	P	**Pb**	**06 52 27.7**	**+0.4**
JMM				S	**Sg**	**06 52 37.1**	**0.0**
JFT	**Otama**	**1.02**	**274**	P	**Pb**	**06 52 31.8**	**+0.3**
JFT				S	**Sb**	**06 52 43.6**	**-1.3**
JIO	**Ouri**	**1.03**	**348**	P	**Pn**	**06 52 32.8**	**+0.6**
JIO				S	**Sn**	**06 52 45.3**	**-1.2**
JHO	**Hitachi**	**1.18**	**225**	P	**Pn**	**06 52 33.0**	**-1.3**
JOU	**Okura**	**1.19**	**321**	P	**Pg**	**06 52 35.1**	**+0.4**
JOU				S	**Sn**	**06 52 49.8**	**-0.7**
JYS	**Shirataka**	**1.45**	**303**	P	**Pb**	**06 52 38.8**	**-0.1**
JYS				S	**Sn**	**06 52 56.4**	**-0.6**
JFY	**Yanaizu**	**1.52**	**269**	P	**Pn**	**06 52 39.2**	**+0.2**
JFY				S	**Sn**	**06 52 57.5**	**-1.2**
MJAR	**Matsushiro Arr**	**2.87**	**253**	Pn	**Pn**	**06 52 58.9**	**+1.4**
	2.0nm,0.3s,baz=74,slow=15,SNR=12						
MJAR				Sn	**Sn**	**06 53 34.0**	**+1.9**
	2.0nm,0.3s,baz=119,slow=31,SNR=4.9						
MAT	**Matsushiro**	**2.87**	**253**	P	**Pn**	**06 52 58.7**	**+1.1**

ORLT	Orhaneli	0.97	353	*e*PG	Pb	07 05 27.1	-0.1
ORLT	Orhaneli	0.97	353	*e*Pg	Pb	07 05 27.1	-0.1
AKHS	Akhisar	0.99	259	P	Pn	07 05 27.9	-0.3
AKHS				S	Sg	07 05 40.1	+0.1
AKHS	Akhisar	0.99	259	*i* P	Pn	07 05 27.9	-0.3
AKHS				*i* S	Sg	07 05 40.1	+0.1
AKS	Akhisar	0.99	259	*e*PG	Pb	07 05 27.6	+0.1
AKS	Akhisar	0.99	259	*e*Pg	Pb	07 05 27.6	+0.1
BALB	Balikesir	1.07	302	*e*PN	Pn	07 05 29.3	0.0
BALB	Balikesir	1.07	302	*e*Pn	Pn	07 05 29.3	0.0
IGD	Bursa	1.18	5	*i* P	Pg	07 05 29.7	-1.2
IGD				*i* S	Sb	07 05 46.3	0.0
IZI	Iznik	1.29	14	*e*PN	Pb	07 05 32.9	+0.2
IZI	Iznik	1.29	14	*e*Pn	Pb	07 05 32.9	+0.2
KCTX	Karacabey (Bur	1.30	336	*e*PN	Pb	07 05 33.1	+0.4
KCTX	Karacabey (Bur	1.30	336	*e*Pn	Pb	07 05 33.1	+0.4
BORA	Eskisehir	1.34	53	P	Pg	07 05 33.8	0.0
BORA				S	Sn	07 05 51.8	+0.6
BORA	Eskisehir	1.34	53	*i* P	Pg	07 05 33.8	0.0
BORA				*i* S	Sn	07 05 51.8	+0.6
ADVT	Abdulvahap	1.45	21	*e*PN	Pg	07 05 36.0	+0.1
ADVT	Abdulvahap	1.45	21	*e*Pn	Pg	07 05 36.0	+0.1
AYDB	Zeytinkoy-Aydi	1.46	219	*e*PN	Pb	07 05 35.4	-0.1
AYDB	Zeytinkoy-Aydi	1.46	219	*e*Pn	Pb	07 05 35.4	-0.1
ARMT	Armutlu	1.49	354	*e*PN	Pb	07 05 36.1	+0.1
ARMT	Armutlu	1.49	354	*e*Pn	Pb	07 05 36.1	+0.1
EDC	Edincik	1.56	324	*e*PN	Pb	07 05 37.2	0.0
EDC	Edincik	1.56	324	*e*Pn	Pb	07 05 37.2	0.0
GULT	Gulveren	1.75	39	*e*PN	Pn	07 05 39.7	+0.9
GULT	Gulveren	1.75	39	*e*Pn	Pn	07 05 39.7	+0.9
MRMT	Marmara Adasi	1.89	324	*e*PN	Pb	07 05 42.1	-0.7
MRMT	Marmara Adasi	1.89	324	*e*Pn	Pb	07 05 42.1	-0.7
RKY	Sarkoy-Tekirda	2.16	319	*e*PN	Pb	07 05 46.1	-1.3
RKY	Sarkoy-Tekirda	2.16	319	*e*Pn	Pb	07 05 46.1	-1.3

NIED ***03*** *07:07:00.36˚.90N×.141˚.20E,h14km,Mw3.5 Best double couple: M₀2.23000×10¹⁴ NP1:φs217.00000°,δ40.00000°, λ-111.00000°. NP2:φs64.00000°,δ53.00000°, λ-73.00000°.*

IDC ***03*** *07:07:14.9±1.2,36˚.93N×141˚.28E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.4/43,mbtmp3.4/5,ML3.0/1,MS3.0/1, Ms1 3.0/1,ms1mx2.3/43,Error ellipse: s-maj=32.5km s-min=26.9km az=103.0*

ISCJB ***03*** *07:07:16.4±1.1,36˚.99N±0˚.05×141˚.32E±0˚.07,h22km±6km, mb3.5/4,Error ellipse: s-maj=9.6km s-min=7.3km az=29.4*

JMA ***03*** *07:07:18.2±0.1,37˚.00N×141˚.18E,h30km±1km,M3.6*

JMA Felt II J1.

ISC 03 07:07:16.4±1.9, 37˚.03N±0˚.06×141˚.26E±0˚.07, h10km±11km, n20,σ0§65/22, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.38	281	P		Pb	07 07 25.7	+0.5
ONAJ				S		Sb	07 07 30.9	-0.2
JFK	Kawauchi	0.46	318	P		Pb	07 07 27.3	+0.7
JFK				S		Sb	07 07 33.6	+0.1
JHO	Hitachi	0.69	233	P		Pg	07 07 29.9	+0.1
JHO				S		Sg	07 07 38.5	-0.3
JFT	Otama	0.88	304	P		Pn	07 07 34.4	-0.5
JFT				S		Sb	07 07 45.5	-0.2
JMM	Marumori	0.91	336	P		Pb	07 07 34.4	0.0
JMM				S		Sb	07 07 46.3	-0.3
JSB	Shiboa	1.07	267	P		Pn	07 07 37.5	-0.1
JSB				S		Sg	07 07 50.8	-0.2
JFY	Yanaizu	1.30	287	P		Pb	07 07 40.7	-0.2
JFY				S		Sb	07 07 56.9	-0.7
MJAR	Matsushiro Arr	2.50	260	Pn		Pn	07 07 57.9	+0.7
	3.2nm,0.3s,baz=86,slow=15,SNR=9.8							
MJAR				Sn		Sn	07 08 28.3	+0.6
	2.6nm,0.3s,baz=93,slow=16,SNR=5.4							
MAT	Matsushiro	2.50	260	P		Pn	07 07 58.0	+0.9
MAT				S		Sn	07 08 28.1	+0.4
PETK	Petropavlovsk-	19.75	30	LR		LR	07 18 51.3	
	comp=Z,43nm,21.3s,baz=87,slow=35							
H11N2	WAKE ISLAND Hy	28.25	121	T		T	07 42 41.8	
	baz=314,slow=76,SNR=50							
H11N1	WAKE ISLAND Hy	28.26	121	T		T	07 42 38.7	
	baz=314,slow=76,SNR=43							
H11N3	WAKE ISLAND Hy	28.27	121	T		T	07 42 44.3	
	baz=314,slow=76,SNR=36							
H11S1	WAKE ISLAND Hy	28.96	123	T		T	07 43 37.4	
	baz=315,slow=76,SNR=20							
H11S3	WAKE ISLAND Hy	28.96	123	T		T	07 43 33.1	
	baz=315,slow=76,SNR=17							
H11S2	WAKE ISLAND Hy	28.98	123	T		T	07 43 36.0	
	baz=315,slow=76,SNR=13							
MKAR	Makanchi Array	44.02	302	P		P	07 15 23.6	-0.4
	0.4nm,0.6s,baz=96,slow=9.9,SNR=5.7							
ILAR	Eielson Array	49.56	32	P		P	07 16 08.2	+0.9
	0.4nm,0.7s,baz=263,slow=6.6,SNR=6.5							
WRA	Warramunga Arr	57.04	188	P		P	07 17 01.0	-1.6
	0.6nm,0.8s,baz=6.2,slow=7.3,SNR=5.6							
ASAR	Alice Springs	60.77	189	P		P	07 17 28.5	0.0
	0.2nm,0.5s,baz=14,slow=8.7,SNR=2.9							

IDC ***03*** *07:08:12.5±1.0,20˚.23S×168˚.44E,h0km,mb4.1/10, mb1 4.3/11,mb1mx4.1/27,mbtmp4.1/11,ML3.6/1,MS3.4/6, Ms1 3.4/6,ms1mx3.1/38,Error ellipse: s-maj=32.9km s-min=19.3km az=131.0*

NEIC ***03*** *07:08:14.0±0.6,20˚.28S×168˚.52E,h10km,mb4.6/6,Error ellipse: s-maj=21.2km s-min=12.2km az=147.0*

ISCJB ***03*** *07:08:15.0±0.6,20˚.32S±0˚.10×168˚.4E±0˚.1,h26km, mb4.2/15,MS3.4/4,Error ellipse: s-maj=18.3km s-min=8.6km az=44.0*

ISC 03 07:08:16.5±0.7, 20˚.3S±0˚.1×168˚.5E±0˚.1, h26km, n28, σ1§67/27, mb4.2/15, MS3.3/4, 1D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.57	228	Pn		Pn	07 08 55.3	-1.2
	13nm,0.3s,baz=109,slow=18,SNR=198							
DZM				Sn		Sn	07 09 25.1	-1.9
	32nm,0.3s,baz=79,slow=22,SNR=11							
DZM				LR		LR	07 09 56.1	
	comp=Z,563nm,18.2s,baz=334,slow=40							
DZM	Mont Dzumac	2.57	228	*e*Pn		Pn	07 08 54.2	-2.3
DZM				Sn		Sn	07 09 25.1	-1.9
ARMA	Armidale	18.22	233	*e*P		Pn	07 12 32.5	+4.8
AFI	Afiamalu	19.91	74	LR		LR	07 18 48.8	
	comp=Z,75nm,19.7s,baz=203,slow=32							
CTA	Charters Tower	20.87	267	P		P	07 12 58.5	+1.8
	6.0nm,1.0s,baz=88,slow=11,SNR=5.1							
CTAO	Charters Tower	20.87	267	*e*P		P	07 12 59.5	+2.8
	35nm,0.9s							
PMG	Port Moresby	23.27	295	LR		LR	07 20 51.6	
	comp=Z,86nm,18.2s,baz=177,slow=33							
RPZ	Rata Peaks	23.40	175	LR		LR	07 21 51.6	
	comp=Z,105nm,18.3s,baz=46,slow=35							
STKA	Stephens Creek	26.67	239	P		P	07 13 54.6	+1.2
	1.0nm,0.5s,baz=74,slow=13,SNR=4.2							
STKA				LR		LR	07 22 55.6	
	comp=Z,81nm,21.2s,baz=30,slow=33							
WRAB	Tennant Creek	32.02	265	*e*P		P	07 14 40.2	-0.9
	6.2nm,1.2s							
WRA	Warramunga Ar	32.03	265	P		P	07 14 40.0	-1.2
	0.6nm,0.6s,baz=90,slow=8.5,SNR=14							
ASAR	Alice Springs	32.19	258	P		P	07 14 41.6	-1.0
	3.1nm,0.8s,baz=81,slow=9.0,SNR=24							
ASAR				LR		LR	07 28 31.7	
	comp=Z,133nm,18.1s,baz=94,slow=38							
FITZ	Fitzroy Cossi	40.44	266	*e*P		P	07 15 53.4	+0.3
	14nm,1.1s							
VNDA	Vanda	57.31	182	P		P	07 18 03.2	+1.5
	0.8nm,0.8s,baz=354,slow=7.4,SNR=4.4							
QSPA	South Pole Qui	69.72	180	*e*P		P	07 19 25.4	+1.5
	16nm,1.0s							
USRK	Ussuriysk Ar.	72.39	333	P		P	07 19 40.3	+0.1
	1.5nm,0.8s,baz=158,slow=4.2,SNR=4.1							
PETK	Petropavlovsk-	73.74	353	P		P	07 19 48.6	+0.6
	1.5nm,0.5s,baz=152,slow=9.5,SNR=3.4							
CMAR	Chiang Mai Arr	78.31	295	P		P	07 20 15.2	+0.3
	1.1nm,0.7s,baz=121,slow=3.9,SNR=5.4							
SYO	Syowa Base	83.68	196	‖*e*P		P	07 20 40.6	-2.0
SONM	Songino Array	87.68	323	P		P	07 21 01.9	-0.9
	0.3nm,0.3s,baz=136,slow=4.6,SNR=5.5							
NVAR	Mina Array Bea	90.06	49	P		P	07 21 14.0	-0.4
	1.6nm,0.9s,baz=233,slow=7.6,SNR=10							
ILAR	Eielson Array	91.49	18	P		P	07 21 18.9	-1.3
	0.8nm,0.8s,baz=236,slow=5.6,SNR=10.0							
WVOR	Wild Horse Val	91.59	45	*e*P		P	07 21 21.4	0.0
	2.1nm,0.8s							
TUC	Tucson	93.20	57	*e*P		P	07 21 29.6	+0.7
	1.6nm,0.8s							
ARCES	ARCESS Array B	125.95	345	PKP		PKPdf	07 27 14.8	-0.7
	1.2nm,0.6s,baz=29,slow=2.8,SNR=5.1							
GERES	GERESS Array B	145.11	331	PKP		PKPbc	07 27 51.1	0.0
	0.4nm,0.5s,baz=27,slow=7.5,SNR=4.9							
BFO	Black Forest	147.82	335	*e*PKPbc		PKPbc	07 27 58.5	-0.7
TUE	Stuetta	148.85	332	*e*PKPbc		PKPbc	07 28 00.7	-1.4

IDC 03 07:17:18.2±1.7, 17˚.09S×178˚.10W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/38, mbtmp4.0/4, Error ellipse: s-maj=159.0km s-min=28.8km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.28	240	P		P	07 24 49.9	+1.0
	1.0nm,0.5s,baz=97,slow=10,SNR=6.0							
WRA	Warramunga Arr	45.07	259	P		P	07 25 35.6	-0.8
	0.7nm,0.5s,baz=97,slow=8.2,SNR=25							
ASAR	Alice Springs	45.30	253	P		P	07 25 37.8	-0.4
	5.9nm,0.6s,baz=88,slow=8.3,SNR=70							
TXAR	Lajitas Array	85.31	58	P		P	07 29 57.6	0.0
	0.2nm,0.6s,baz=216,slow=4.5,SNR=3.4							

ISK ***03*** *07:22:29.5,36˚.88N×.29˚.65E,h11km,MD2.4*

ISCJB ***03*** *07:22:30.5±0.5,36˚.86N±0˚.03×29˚.63E±0˚.04,h6km±6km, Error ellipse: s-maj=5.3km s-min=4.9km az=27.1*

DDA ***03*** *07:22:30.6,36˚.89N×.29˚.57E,h7km,Md2.9*

CSEM ***03*** *07:22:30.4±0.2,36˚.88N×.29˚.65E,h8km,MD2.4, Error ellipse: s-maj=5.1km s-min=4.4km az=45.0*

ISC 03 07:22:30.3±0.9, 36˚.90N±0˚.03×29˚.66E±0˚.02, h11km±8km, n24,σ0§49/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELL	Elmali	0.25	127	*e*PG		Pg	07 22 34.8	-0.7
ELL				*e*SG		Sg	07 22 39.3	+0.3
ELL	Elmali	0.25	127	*e*Pg		Pg	07 22 34.8	-0.7
ELL				*e*Sg		Sg	07 22 39.3	+0.3
GLHS	Glhisar (BURDU	0.29	333	*e*PG		Pg	07 22 35.8	-0.4
GLHS				*e*SG		Sg	07 22 40.9	+0.8
GLHS	Glhisar (BURDU	0.29	333	*e*Pg		Pg	07 22 35.8	-0.4
GLHS				*e*Sg		Sg	07 22 40.9	+0.8
GOLH	Golhisar	0.35	347	P		Pg	07 22 36.8	-0.5
GOLH				S		Sb	07 22 44.0	-0.2
GOLH	Golhisar	0.35	347	*i* P		Pg	07 22 36.8	-0.5
GOLH				*i* S		Sb	07 22 44.0	-0.2
FETY	Fethiye	0.53	240	*e*PG		Pg	07 22 40.2	-0.5
FETY				*e*SG		Sg	07 22 47.8	+0.1
FETY	Fethiye	0.53	240	*e*Pg		Pg	07 22 40.2	-0.5
FETY				*e*Sg		Sg	07 22 47.8	+0.1
KORT	Korkueli	0.56	79	P		Pb	07 22 43.0	+0.7
KORT				S		Sn	07 22 53.0	-0.9
KORT	Korkueli	0.56	79	*i* P		Pb	07 22 43.0	+0.7
KORT				*i* S		Sn	07 22 53.0	-0.9
AKAS	Kas	0.67	184	P		Pg	07 22 43.4	+0.1
AKAS	Kas	0.67	184	*i* P		Pg	07 22 43.4	+0.1
AKAS				*i* S		Sn	07 22 56.5	+0.1
DALY	Dalyan (Mu¨la	0.81	264	*e*PG		Pg	07 22 45.5	-0.5
DALY	Dalyan (Mu¨la	0.81	264	*e*Pg		Pg	07 22 45.5	-0.5
DNZL	Cakiroluk	0.93	328	P		Pn	07 22 49.5	0.0
DNZL				S		Sb	07 23 01.7	+0.7
DNZL	Cakiroluk	0.93	328	*i* P		Pn	07 22 49.5	0.0
DNZL				*i* S		Sb	07 23 01.7	+0.7
YER	Yerkesik	1.13	282	*e*PN		Pb	07 22 51.5	-0.4
YER	Yerkesik	1.13	282	*e*Pn		Pb	07 22 51.5	-0.4
SUTC	Sutluce-Ispart	1.22	61	*e*PN		Pb	07 22 53.3	-0.2
SUTC	Sutluce-Ispart	1.22	61	*e*Pn		Pb	07 22 53.3	-0.2
KHAL	Karahalli	1.47	355	P		Pn	07 22 57.4	+0.4
KHAL				S		Sg	07 23 18.0	+0.2
KHAL	Karahalli	1.47	355	*i* P		Pn	07 22 57.4	+0.4
KHAL				*i* S		Sg	07 23 18.0	+0.2
AYDN	Tasoluk	1.61	299	P		Pb	07 23 00.2	+0.1
AYDN				S		Sg	07 23 22.5	+0.4
AYDN	Tasoluk	1.61	299	*i* P		Pb	07 23 00.2	+0.1
AYDN				*i* S		Sg	07 23 22.5	+0.4

IDC 03 07:22:38.8±1.8, 29˚.36N×95˚.81E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.1/59, mbtmp3.2/3, Error ellipse: s-maj=114.1km s-min=26.5km az=63.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.22	165	Pg		Pn	07 26 05.1	+45
	0.6nm,0.3s,baz=346,slow=14,SNR=7.0							
CMAR				Sn		Sn	07 27 25.8	-1.0
	0.5nm,0.3s,baz=344,slow=29,SNR=3.1							
MKAR	Makanchi Array	20.36	332	P		P	07 27 16.6	-0.2
	0.1nm,0.4s,baz=157,slow=12,SNR=2.3							
WRA	Warramunga Arr	61.50	138	P		P	07 32 59.0	+1.3
	0.4nm,0.6s,baz=325,slow=7.8,SNR=5.1							
ASAR	Alice Springs	64.20	141	P		P	07 33 14.6	-1.0
	0.2nm,0.6s,baz=330,slow=6.2,SNR=3.8							

IDC 03 07:24:17.5±3.4, 53˚.60N×87˚.96E, h0km, mb1 2.8/2, mb1mx2.8/51, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=34.9km s-min=18.7km az=86.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.90	282	*i*			07 36 13.7	
	baz=97,slow=319,SNR=35							
ZALV	Zalesovo Beam	1.90	282	Pn		Pn	07 24 50.9	-0.2
	2.3nm,0.3s,baz=98,slow=13,SNR=5.6							
ZALV				Sn		Sb	07 25 16.9	-0.2
	3.1nm,0.3s,baz=97,slow=24,SNR=7.2							
KURBB	Kurchatov Arra	6.53	247	Pn		Pn	07 25 55.3	+0.6
	0.1nm,0.3s,baz=63,slow=14,SNR=6.0							
KURBB				Lg		Lg	07 27 43.3	
	0.1nm,0.3s,baz=64,slow=30,SNR=8.0							
MKAR	Makanchi Array	7.72	210	Pn		Pn	07 26 12.5	+1.4
	0.1nm,0.3s,baz=28,slow=13,SNR=3.7							
MKAR				Sn		Sn	07 27 38.8	-0.5
	0.2nm,0.3s,baz=28,slow=28,SNR=5.4							
MKAR				Lg		Lg	07 28 21.4	
	0.1nm,0.3s,baz=28,slow=32,SNR=7.3							

BJI ***03*** *07:27:08.2,9˚.42N×92˚.51E,h43km,mb5.3/87,mB5.2/57, Ms5.0/92,Ms7 4.8/86*

ISCJB ***03*** *07:27:09.9±0.3,9˚.63N±0˚.02×92˚.50E±0˚.01,h45km±2km, mb5.9/319,MS4.9/197,Error ellipse: s-maj=2.9km s-min=2.2km az=30.6*

MOS ***03*** *07:27:09.5±0.9,9˚.63N×92˚.51E,h44km,mb6.1/82, MS5.0/50,Error ellipse: s-maj=6.1km s-min=3.3km az=121.2*

KLM ***03*** *07:27:10.3,9˚.50N×92˚.21E,h49km,mb5.6,MS6.5*

NEIC ***03*** *07:27:10.0±0.0,9˚.66N×92˚.53E,h35km,Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁷Nm; Mrr-0.80; Mθθ-0.60; Mφφ 1.50; Mrθ-0.40; Mθφ-0.40; Mφr-1.60; Best double couple: M₀2.00000×10¹⁷ NP1:φs342.00000°, δ72.00000°,λ-98.00000°. NP2:φs187.00000°,δ19.00000°, λ-66.00000°. Principal axes: T 2.3000, Plg26.0000°, Azm79.0000°; N -0.7000, Plg7.0000°, Azm345.0000°; P -1.7000, Plg61.0000°, Azm240.0000°;*

GCMT ***03*** *07:27:11.8±0.1,9˚.69N×92˚.63E,h48km±1km,MW5.5/107, Moment Tensor Solution. s101,c169; s107,c219; Duration: 1s3 Moment tensor: Scale 10¹⁷Nm; Mrr-0.82±.03; Mθθ-0.65±.02; Mφφ 1.47±.03; Mrθ-0.48±.02; Mθφ-0.04±.02; Mφr-1.58±.04; Best double couple: M₀2.04400×10¹⁷ NP1:φs18.00000°,δ74.00000°, λ-72.00000°. NP2:φs148.00000°,δ23.00000°, λ-138.00000°. Principal axes: T 2.2870, Plg27.0000°, Azm94.0000°; N -0.4870, Plg17.0000°, Azm193.0000°; P -1.8010, Plg57.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***03*** *07:27:11.8±0.1,9˚.64N×92˚.46E,h45km,mb5.9/148,ME5.9, MS5.0/140,MW5.5,MW5.5 Error ellipse: s-maj=3.8km s-min=2.5km az=215.0,Moment Tensor Solution. s27 Moment tensor: Scale 10¹⁷Nm; Mrr-1.02; Mθθ-0.44; Mφφ 1.46; Mrθ-0.38; Mθφ-0.20; Mφr-1.92; Best double couple: M₀2.40000×10¹⁷ NP1:φs10.00000°,δ75.00000°, λ-77.00000°. NP2:φs150.00000°,δ20.00000°, λ-129.00000°. Principal axes: T 2.5000, Plg29.0000°, Azm90.0000°; N -0.3300, Plg12.0000°, Azm187.0000°; P -2.1700, Plg58.0000°, Azm298.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

DJA ***03*** *07:27:12.5±0.3, 10˚.N±3˚.×.9˚.2E±˚, h44km±4km, M5.6/42, mb5.8/42, mB6.0/42, mB5.7/15, MLv5.7/5, Mw(mB)5.6/42, Mw(mB)5.3/15, Mwp5.7/4, Mwp5.6/6*

IDC ***03*** *07:27:13.2±0.6, 9˚.68N×92˚.61E, h56km±4km, mb5.3/45, mb1 5.4/46, mb1mx5.4/49, mbtmp5.6/46, MS4.6/39, Ms1 4.6/39, ms1mx4.6/45, Error ellipse: s-maj=8.9km s-min=7.7km az=52.0*

ISC 03 07:27:12.7±0.3, 9˚.69N±0˚.02×92˚.58E±0˚.03, h54km±2km, h54km:pP-P, n1679, σ1§45/1906, mb5.9/328, MS4.9/199, 64C-193D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PBA	Port Blair	1.96	5	*e*P		Pn	07 27 43.2	-0.3
PBA				*e*S		Sn	07 28 06.1	-0.9
CMBY	CAMPBELL BAY	2.98	153	*e*P		Pn	07 27 57.6	+0.1
CMBY				IAmb		IAmb	07 28 23.1	
	comp=Z,4µm,0.9s							
DGPR	DIGLIPUR	3.48	6	*e*P		Pn	07 28 03.8	-0.6
DGPR				*ex*		x	07 28 25.1	
PKDT	Phuket	5.96	107	P		Pn	07 28 40.3	+1.9
	comp=Z,3µm,1.2s							
SURT	Suratani	6.17	96	P		Pn	07 28 44.3	+2.9
	comp=Z,1µm,1.4s							
LHMI	Lhok Sumawe	6.20	135	P		Pn	07 28 42.5	+0.8
	comp=Z,2µm,0.9s,comp=Z,18µmcomp=Z,6.0nm							
LHMI	Lhok Sumawe	6.20	135	*e*Pn		Pn	07 28 42.2	+0.6
MLSI	Meulaboh, Aceh	6.59	145	P		Pn	07 28 45.1	-2.0
	comp=Z,1µm,0.9s,comp=Z,17µmcomp=Z,5.3nm							
SURA	Surathani	6.97	94	P		Pn	07 28 54.0	+1.7
	comp=Z,414nm,1.6s,comp=Z,2.2nm							
TRTT	Trang	7.26	104	P		Pn	07 28 58.4	+2.1
KHLT	Khaolaem Dam	7.76	49	P		Pn	07 29 06.2	+3.1
	comp=Z,153nm,1.1s							
TPTI		7.85	144	P		Pn	07 29 00.8	-3.6
	comp=Z,424nm,1.2s,comp=Z,6µmcomp=Z,1.4nm							
SRDT	SRDT	7.90	53	P		Pn	07 29 07.8	+2.8
	comp=Z,1µm,1.3s							
KCSI	Kotacane, Aceh	8.01	140	P		Pn	07 29 04.9	-1.6
	comp=Z,310nm,1.1s,comp=Z,4µmcomp=Z,1.7nm							
TSI	Tuntungan	8.55	136	P		Pn	07 29 13.2	-0.7
	comp=Z,335nm,1.1s,comp=Z,5µm							
PATY	Pattaya	8.74	68	P		Pn	07 29 18.5	+2.0
	comp=Z,206nm,0.6s,comp=Z,4µm							
UMPA	Umpang Tak	8.91	43	P		Pn	07 29 19.8	+0.9
KULM	Kulim	9.12	118	‖P		Pn	07 29 22.8	+1.1
KULM	Kulim	9.12	118	*e*Pn		Pn	07 29 21.9	+0.2
KULM				*e*Sn		Sn	07 31 04.5	+1.5
PSI	Prapat	9.30	137	*e*P		Pn	07 29 23.0	-1.4
PSI	Prapat	9.30	137	*e*Pn		Pn	07 29 23.0	-1.4
GSI	Gunungsitoli	9.70	149	*e*Pn		Pn	07 29 28.7	-1.0
GSI				*e*Sn		Sn	07 31 10.1	-7.2
IPM	Ipoh	9.85	121	‖P		Pn	07 29 32.2	+0.5
IPM	Ipoh	9.85	121	*e*Pn		Pn	07 29 31.2	-0.5
IPM				*e*Sn		Sn	07 31 19.9	-1.0
MHMT	Maesarieng	9.90	31	P		Pn	07 29 34.9	+2.4
CHBT	CHBT	10.04	71	P		Pn	07 29 36.6	+2.3
SUKH	Sukhothai	10.34	41	P		Pn	07 29 40.5	+2.1
	comp=Z,26nm,0.9s,comp=Z,269nm							
PBKT	Sadao Pong	10.65	49	P		Pn	07 29 44.7	+2.0
CM01	Chiang Mai Arr	10.65	35	*e*Pn		Pn	07 29 44.5	+1.7
CM31	Chiang Mai Arr	10.68	35	*e*Pn		Pn	07 29 45.0	+1.9
CMAR	Chiang Mai Arr	10.68	35	P		Pn	07 29 44.5	+1.5
	comp=Z,2.9nm,0.3s,baz=234,slow=14,SNR=58							
CMAR				S		Sn	07 31 42.5	+1.3
	baz=232,slow=30,SNR=2.4							
CMAR				LR		LR	07 34 14.9	
	comp=Z,3µm,21.7s,baz=217,slow=40							
CMAR				ScP		ScP	07 39 11.1	+0.6
	comp=Z,0.4nm,0.3s,baz=253,slow=3.5,SNR=6.8							
CMAR	Chiang Mai Arr	10.68	35	*i* P		Pn	07 29 45.2	+2.2
CMAR				pmax		pmax		
	comp=Z,18nm,0.6s							
CMAR	Chiang Mai Arr	10.68	35	P		Pn	07 29 44.5	+1.5
CMAR				S		Sn	07 31 42.5	+1.3
CMAR				ScP		ScP	07 39 11.1	+0.6
CHTO	Chiang Mai	10.96	33	P		Pn	07 29 49.5	+2.5
	comp=Z,499nm,1.4s,comp=Z,9µm							
CHTO	Chiang Mai	10.96	33	*e*P		Pn	07 29 49.2	+2.2
CHTO	Chiang Mai	10.96	33	*e*Pn		Pn	07 29 49.2	+2.2
CMMT	Chiang Mai	10.96	34	P		Pn	07 29 49.2	+2.2
FRIM	Kepong	11.04	125	‖P		Pn	07 29 49.0	+1.1
LAMP	Lampang	11.12	37	P		Pn	07 29 51.1	+1.9
	comp=Z,37nm,0.8s,comp=Z,315nm							
UTTA	Uttaradit	11.13	43	P		Pn	07 29 51.8	+2.5
	comp=Z,14nm,1.2s,comp=Z,168nm							

HYB Hyderabad 15.64 301 *i* P **Pn 07 30 48.0 -1.9**
comp=Z,250nm,1.0s
HYB *e*S **Sn 07 33 39.0 -3.3**
HYB Hyderabad 15.64 301 *e*P **Pn 07 30 49.0 -0.9**
HYB IAmb IAmb 07 30 55.4
comp=Z,998nm,1.0s
HYBB Hyderabad (bro 15.65 301 *e*Pn **Pn 07 30 47.8 -2.1**
HYBB IAmb IAmb 07 30 55.4
comp=Z,926nm,0.9s
HYBB Sn Sn 07 33 24.9 -17
HYBB IVMs_BB IVMs_BB 07 35 41.3
comp=Z,2μm,22.2s
RPR Rampur 15.77 307 *e*Pn **Pn 07 30 50.2 -1.2**
RPR IAmb IAmb 07 30 56.7
comp=Z,839nm,1.2s
RPR Sn Sn 07 33 28.2 -17
RPR IVMs_BB IVMs_BB 07 35 46.5
comp=Z,2μm,26.3s
SHL Shillong 15.80 358 *e*P **Pn 07 30 49.8 -2.2**
SHL IAmb IAmb 07 30 55.1
comp=Z,358nm,1.2s
SRSP Sriramsagar 16.56 305 *e*Pn **Pn 07 30 59.7 -1.7**
SRSP IAmb IAmb 07 31 05.5
comp=Z,410nm,0.8s
SRSP Sn Sn 07 33 46.9 -18
SRSP IVMs_BB IVMs_BB 07 36 08.3
comp=Z,2μm,27.1s
LHSI Lahat 17.30 140 P **Pn 07 31 09.1 -1.5**
comp=Z,323nm,1.4s,comp=Z,4μm
NGP Nagpur 17.30 313 *e*P **P 07 31 11.5 0.0**
NGP *ex* x 07 34 05.8
MNAI Manna 17.37 143 *e*Pn **Pn 07 31 11.3 -0.2**
comp=Z,761nm,0.8s
MNAI *e*Sn **Sn 07 34 23.8 -0.4**
KLRI Killari 17.60 300 *e*Pn **Pn 07 31 12.7 -1.7**
KLRI IAmb IAmb 07 31 16.1
comp=Z,719nm,1.1s
KLRI Sn Sn 07 34 09.0 -21
KLRI IVMs_BB IVMs_BB 07 36 32.7
comp=Z,3μm,27.9s
KMI Kunming 18.14 31 P **Pn 07 31 22.4 +1.4**
KMI pP pP 07 31 31.6 -1.2
KMI sP sP 07 31 36.5 -3.2
KMI PP **PnPn 07 31 38.9 +5.3**
KMI S **Sn 07 34 42.7 -0.1**
KMI sS sS 07 34 57.9 -7.4
KMI SS **SnSn 07 35 07.5 +10**
KMI PMZ
comp=Z,79nm,1.2s
KMI PMZ
comp=Z,790nm,4.3s
KMI LN
comp=Z,2μm,22.7s
KMI LE
comp=Z,2μm,17.1s
KMI LZ
comp=Z,4μm,23.3s
PKIN Phulchoki 19.04 340 *e*P **Pn 07 31 32.4 +0.4**
comp=Z,202nm,0.5s
QIZ Qiongzhong 19.11 59 P **Pn 07 31 32.8 +0.2**
QIZ sP **pP 07 31 45.8 +2.4**
QIZ S **Sn 07 35 05.8 -0.3**
QIZ sS **sS 07 35 21.1 -3.7**
QIZ PMZ
comp=Z,130nm,1.5s
QIZ PMZ
comp=Z,1μm,10.0s
QIZ LN
comp=Z,1μm,17.4s
QIZ LE
comp=Z,2μm,22.0s
QIZ LZ
comp=Z,3μm,23.0s
QIZ Qiongzhong 19.11 59 *e*P **Pn 07 31 32.6 0.0**
comp=Z,438nm,1.7s
DMN Daman 19.17 339 *e*P **Pn 07 31 33.6 +0.1**
comp=Z,2μm,1.1s
GOA Goa 19.19 289 *e*P **Pn 07 31 33.7 +0.2**
GOA IAmb IAmb 07 31 40.5
comp=Z,333nm,0.6s
GUN Gumba 19.19 342 *e*P **Pn 07 31 34.1 +0.2**
comp=Z,1μm,1.2s
KKN Kakani 19.27 340 *e*P **Pn 07 31 34.5 -0.2**
comp=Z,650nm,1.0s
KSM Kuching 19.43 114 ⇑P **P 07 31 35.5 +0.7**
KSM Kuching 19.43 114 *e*P **P 07 31 34.6 -0.2**
comp=Z,530nm,1.1s
GKN Gorkha 19.69 339 *e*P **Pn 07 31 39.2 -0.4**
comp=Z,805nm,0.9s
BHPL Bhopal 19.79 315 *e*P **Pn 07 31 40.2 -0.5**
KOLN Koldanda 19.88 336 *e*P **Pn 07 31 41.4 -0.4**
comp=Z,397nm,0.7s
KOLN *e*S **S 07 35 12.9 -8.0**
LSA Lhasa 19.95 356 P **Pn 07 31 42.0 -1.0**
LSA pP **sP 07 31 56.6 -3.3**
LSA S **Sn 07 35 25.2 -1.7**
LSA PMZ
comp=Z,170nm,0.9s
LSA LN
comp=Z,1μm,23.6s
LSA LE
comp=Z,1μm,24.4s
LSA LZ
comp=Z,3μm,25.2s
LSA Lhasa 19.95 356 *e*P **Pn 07 31 41.9 -1.0**
LSA pmax pmax
comp=Z,337nm,1.0s
LSA MLR MLR
comp=Z,2μm,20.0s
LSA Lhasa 19.95 356 *e*P **Pn 07 31 41.9 -1.0**
comp=Z,337nm,1.0s
LSA LR LR
comp=Z,2μm,20.0s
POO Poona 20.16 298 *e*P **P 07 31 43.7 +0.8**
POO IAmb IAmb 07 31 46.7
comp=Z,631nm,1.2s
PYUN Piuthan 20.42 335 *e*P Pn 07 31 47.2 -1.0
comp=Z,2μm,1.1s
PYUN *e*S **S 07 35 24.9 -6.7**
SBUM Sibu 20.80 109 *e*P **P 07 31 50.0 +0.3**
comp=Z,447nm,1.2s
GYA Guiyang 21.35 37⇑ *i*P **P 07 31 56.4 +0.7**
GYA PP **PnPn 07 32 22.5 +5.0**
GYA S **S 07 35 47.3 -2.7**
GYA PcP **PcP 07 36 01.0 +2.7**
GYA SS **SnSn 07 36 24.5 +8.4**
GYA ScP **ScP 07 39 33.2 +2.3**
GYA PMZ
comp=Z,130nm,1.1s
GYA PMZ
comp=Z,450nm,8.7s
GYA LN
comp=Z,3μm,14.3s
GYA LE
comp=Z,2μm,14.6s
GYA LZ
comp=Z,3μm,15.6s
BTM Bintulu 21.36 106 ⇓P **P 07 31 56.7 +1.0**
COCO West Island 22.14 169 *e*P **P 07 32 02.2 -1.9**
COCO pmax pmax
comp=Z,510nm,1.0s
COCO West Island 22.14 169 *e*P **P 07 32 02.2 -1.9**
comp=Z,511nm,1.0s
COCO LR LR
comp=Z,3μm,20.0s
LEM Lembang 22.22 137 P **P 07 32 05.3 +0.2**
comp=Z,157nm,1.2s,baz=82,slow=3.6,SNR=10
LEM Lembang 22.22 137 P **P 07 32 05.3 +0.2**
PBKI Pangkalan Bun 22.65 122 P **P 07 32 09.6 0.0**
comp=Z,1μm,1.1s,comp=Z,10μmcomp=Z,26μm
LGTI Lohaghat 22.80 331 *ex* **P 07 32 16.5 +5.5**
CISI Cisompet, Garu 22.89 138 *e*P **P 07 32 10.3 -1.8**
comp=Z,79nm,0.7s
PTH Pithoragarh 22.90 331 *e*P **P 07 32 12.9 +0.7**
PTH *e*S **S 07 36 25.9 +7.6**
SONA Sohna 23.52 324 *e*P **P 07 32 19.2 +1.1**
CD2 Chengdu 23.54 25 P **P 07 32 18.2 -0.1**
CD2 PcP **PcP 07 36 01.7 -0.8**
CD2 S **S 07 36 27.5 -0.9**
CD2 PMZ
comp=Z,170nm,0.8s
CD2 PMZ
comp=Z,440nm,4.8s
CD2 LN
comp=Z,2μm,16.4s
CD2 LE
comp=Z,2μm,13.9s
CD2 LZ
comp=Z,2μm,15.9s
BISR Bishrakh 23.56 325 *e*P **P 07 32 16.5 -1.9**
MCO Taipa Grande 23.62 56 P **P 07 32 20.0 +0.9**
KKM Kota Kinabalu 23.68 97 *e*P **P 07 32 20.2 +0.3**
comp=Z,544nm,1.2s
KKM LR LR
comp=Z,2μm,20.0s
NDI New Delhi 23.77 325 *ex* **P 07 32 15.0 -5.4**
NDI *e*S **S 07 36 37.0 +4.8**
KUDL Kundal 23.80 323 *e*P **P 07 32 21.5 +0.9**
XMIS Christmas Isla 23.89 147 *e*P **P 07 32 21.7 +0.1**
comp=Z,1μm,1.1s
GZH Guangzhou 23.92 54 P **P 07 32 27.2 +5.4**
GZH S S 07 36 45.6 +11
GZH pmax pmax
comp=Z,1μm,4.4s
JOSI Joshimath 24.05 332 *e*P **P 07 32 24.4 +1.3**
KHET Khetri 24.16 321 *e*P **P 07 32 25.4 +1.4**
HKC Hong Kong Obse 24.21 56⇑P **P 07 32 25.0 +0.6**
SMRI Semarang 24.35 132 *e*P **P 07 32 24.6 -1.3**
comp=Z,1μm,0.9s
DDI Dehra Dun 24.60 329 *e*P **P 07 32 29.8 +1.8**
UGM Wanagama 25.00 134 *e*P **P 07 32 32.0 +0.2**
comp=Z,153nm,0.8s
SMLA Simla 25.70 328 *e*P **P 07 32 39.2 +1.3**
SMLA IAmb IAmb 07 32 42.6
comp=Z,769nm,1.2s
BHJ Bhuj 25.74 304 *e*P **P 07 32 41.2 +2.8**
BHJ IAmb IAmb 07 32 42.0
comp=Z,253nm,0.9s
ENH Enshi 25.85 35 *e*P **P 07 32 39.1 -0.2**
comp=Z,133nm,0.9s
MYLDM Lahad Datu 26.08 98 *e*P **P 07 32 42.1 +0.5**
comp=Z,982nm,1.3s
SDNR Sundarnagar 26.10 328 *e*P **P 07 32 43.5 +1.9**
SDNR *ex* x 07 36 36.5
DGAR Diego Garcia 26.28 230 PFAKE 07 32 50.0 +6.7
DGAR LR LR
comp=Z,4μm,22.0s
BHK Bhakra 26.32 328 *e*P **P 07 32 44.4 +0.8**
BHK *ex* x 07 33 02.4
H08S3 Diego Garcia H 26.40 230 T T 07 59 56.2
baz=49,slow=76,SNR=2539
H08S2 Diego Garcia H 26.40 230 T T 08 00 01.0
baz=49,slow=76,SNR=1933
H08S1 Diego Carcia H 26.41 230 T T 07 59 35.1
baz=49,slow=76,SNR=1200
DHRM DHARAMSHALA 27.04 328 *e*P **P 07 32 51.1 +0.8**
JAGI Jajag, Banyuwa 28.05 129 *e*P **P 07 32 57.8 -1.4**
comp=Z,66nm,1.0s
TGY Tagaytay City 28.08 78 P **P 07 33 00.8 +1.2**
comp=Z,277nm,0.5s,baz=266,slow=4.0,SNR=15
TGY LR LR 07 43 30.8
comp=Z,3μm,21.5s,baz=246,slow=35
TGY Tagaytay City 28.08 78 P **P 07 33 00.8 +1.2**
LZH Lanzhou 28.20 20⇑P **P 07 33 01.5 +0.9**
LZH PP **PnPn 07 33 54.0 +3.0**
LZH PcP **PcP 07 36 13.0 -0.3**
LZH S **S 07 37 42.1 -0.5**
LZH SS **SnSn 07 39 10.0 +6.6**
LZH ScP **ScP 07 39 50.2 +0.3**
LZH ScS **ScS 07 43 42.8 0.0**
LZH PMZ
comp=Z,88nm,1.1s
LZH PMZ
comp=Z,510nm,5.2s
LZH LN
comp=Z,2μm,12.5s
LZH LE
comp=Z,2μm,13.0s
LZH LZ
comp=Z,5μm,17.0s
XAN Xi'an 28.50 29 P **P 07 33 01.9 -1.2**
XAN pP pP 07 33 11.3 -5.5
XAN sP sP 07 33 15.3 -7.9
XAN PMZ
comp=Z,16nm,0.6s
XAN PMZ
comp=Z,87nm,5.7s
XAN LN
comp=Z,2μm,19.5s
XAN LE
comp=Z,2μm,18.2s
XAN LZ
comp=Z,2μm,20.3s
QZH Quanzhou 29.01 55⇑ *i*P P 07 33 02.5 -5.2
QZH sP pP 07 33 15.3 -6.1
QZH S **S 07 37 49.3 -6.0**
QZH pmax pmax
comp=Z,330nm,1.2s
QZH pmax pmax
comp=Z,910nm,2.9s
QZH LR LR
comp=N,860nm,10.2s
QZH LR LR
comp=E,3μm,14.8s
QZH LR LR
comp=Z,3μm,14.4s
WHN Wuhan 29.02 41⇑P **P 07 33 08.1 +0.5**
WHN sP **pP 07 33 21.1 -0.2**
WHN S **S 07 37 54.9 -0.3**
WHN PMZ
comp=Z,440nm,1.8s
WHN LN
comp=Z,2μm,12.6s
WHN LE
comp=Z,3μm,13.2s
WHN LZ
comp=Z,5μm,14.5s
PCI Palu 29.11 110 P **P 07 33 09.2 +0.5**
comp=Z,232nm,1.1s,comp=Z,3μm
PCI Palu 29.11 110 P **P 07 33 09.2 +0.5**
PCI pmax pmax
comp=Z,232nm,1.1s
RCP Roxas 29.70 84⇑ *i*P **P 07 33 15.0 +1.1**
TTSI Tana Toraja 29.94 114 P **P 07 33 17.2 +1.2**
comp=Z,381nm,1.3s,comp=Z,5μm
TPUB Ta-pu 30.03 60 *e*P **P 07 33 18.1 +1.3**
comp=Z,68nm,1.1s
TWG Pinlang 30.23 61 *e*P **P 07 33 20.8 +2.2**
comp=Z,1μm,1.4s
GTA Gaotai 30.29 11 *e*P **P 07 33 19.9 +0.9**
GTA PcP **PcP 07 36 20.1 +1.6**
GTA S **S 07 38 14.8 -0.5**
GTA ScP **ScP 07 39 57.3 +0.8**
GTA PcS **PcS 07 40 02.8 +0.6**
GTA ScS **ScS 07 43 51.4 -1.0**
GTA PMZ
comp=Z,65nm,1.3s
GTA PMZ
comp=Z,370nm,6.9s
GTA LN
comp=Z,640nm,21.9s
GTA LE
comp=Z,630nm,20.9s
GTA LZ
comp=Z,970nm,25.7s
SPSI Sidrap Palu 30.30 115 P **P 07 33 19.0 -0.2**
comp=Z,98nm,1.2s
SSLB Suanglung 30.49 59 *e*P **P 07 33 22.6 +1.8**
comp=Z,122nm,1.1s
MRSI Marisa 30.61 106 P **P 07 33 22.5 +0.5**
comp=Z,360nm,1.2s,comp=Z,4μm
YULB Yu-li 30.63 60 *e*P **P 07 33 24.4 +2.4**
comp=Z,299nm,1.2s
KAPI Kappang 30.76 117 P **P 07 33 22.9 -0.4**
comp=Z,139nm,0.6s,baz=293,slow=10,SNR=57
KAPI ScP **ScP 07 39 57.8 -0.5**
comp=Z,8.4nm,0.5s,baz=223,slow=2.3,SNR=4.6
KAPI LR LR 07 45 55.5
comp=Z,1μm,21.4s,baz=294,slow=36
KAPI Kappang 30.76 117 *e*P **P 07 33 23.4 +0.1**
comp=Z,697nm,1.4s
KAPI ScP **ScP 07 39 57.8 -0.5**
NACB Ninganchiao 31.18 59 *e*P **P 07 33 29.3 +2.4**
comp=Z,68nm,1.0s
YHNB Yeheng 31.19 58 *e*P **P 07 33 28.3 +1.3**
comp=Z,205nm,1.1s
YHNB LR LR
comp=Z,2μm,20.0s
TATO Taipei 31.40 57 *e*P **P 07 33 31.3 +2.5**
comp=Z,265nm,1.1s
TATO LR LR
comp=Z,1μm,21.0s
LUWI Luwuk 31.89 108 P **P 07 33 34.1 +0.8**
comp=Z,1μm,1.0s,comp=Z,11μm
LUWI Luwuk 31.89 108 *e*P **P 07 33 34.0 +0.8**
comp=Z,1μm,1.0s
BSSI Bau Bau, Buton 31.95 118 P **P 07 33 32.6 -1.1**
comp=Z,389nm,1.1s,comp=Z,5μm
YOJ Yonaguni jima 32.48 59 *e*P **P 07 33 39.3 +1.0**
YOJ pmax pmax
comp=Z,140nm,1.1s
YOJ Yonaguni jima 32.48 59 *e*P **P 07 33 39.3 +1.0**
comp=Z,140nm,1.1s
DAV Davao City (W) 32.74 92 P **P 07 33 41.9 +1.2**
comp=Z,254nm,0.4s,baz=210,slow=4.0,SNR=4.6
DAV LR LR 07 49 24.4
comp=Z,713nm,19.6s,baz=293,slow=41
DAV Davao City (W) 32.74 92 P **P 07 33 42.0 +1.2**
KBL Kabul 32.80 323 *e*P **P 07 33 42.0 +0.7**
KBL pmax pmax
comp=Z,190nm,1.0s
KBL Kabul 32.80 323 *e*P **P 07 33 42.0 +0.7**
comp=Z,190nm,1.0s
KDI Kendari 32.86 113 P **P 07 33 42.1 +0.4**
NJ2 Nanjing 32.96 44 *e*P **P 07 33 43.3 +0.9**
NJ2 sP **pP 07 33 58.3 +2.1**
NJ2 S **S 07 38 59.3 +2.4**
NJ2 sS **sS 07 39 20.1 -0.1**
NJ2 PMZ
comp=Z,93nm,0.7s
NJ2 PMZ
comp=Z,220nm,5.7s
NJ2 LN
comp=Z,1μm,27.9s
NJ2 LE
comp=Z,1μm,30.9s
NJ2 LZ
comp=Z,2μm,29.8s
KSH Kashi 33.20 336 P **P 07 33 44.0 -0.5**
KSH pP pP 07 33 52.9 -5.4
KSH PP **PnPn 07 34 53.3 -2.8**
KSH PcP **PcP 07 36 25.2 -1.1**
KSH S **S 07 38 57.6 -3.0**
KSH SS **SnSn 07 41 01.7 -2.9**
KSH ScS **ScS 07 44 02.6 -4.4**
KSH PMZ
comp=Z,90nm,0.9s
KSH LN
comp=Z,760nm,14.9s
KSH LE
comp=Z,330nm,8.7s
KSH LZ
comp=Z,2μm,19.3s
SSE Sheshan 34.06 47 P **P 07 33 52.9 +0.9**
SSE S **S 07 39 16.2 +2.3**
SSE PMZ
comp=Z,61nm,0.7s
SSE PMZ
comp=Z,170nm,4.6s
SSE LN
comp=Z,540nm,14.0s
SSE LE
comp=Z,640nm,14.0s
SSE LZ
comp=Z,1μm,16.0s
WMQ Urumqi 34.27 354 P **P 07 33 55.2 +1.5**
WMQ S **S 07 39 17.0 0.0**
WMQ sS sS 07 39 35.3 -5.1
WMQ SS **SnSn 07 41 29.9 -0.4**
WMQ ScS **ScS 07 44 13.4 +1.1**
WMQ PMZ
comp=Z,35nm,0.8s
WMQ PMZ
comp=Z,230nm,3.7s
WMQ LN
comp=Z,550nm,18.2s
WMQ LE
comp=Z,720nm,25.6s
WMQ LZ
comp=Z,790nm,24.6s
BTO Baotou 34.46 24 *e*P **P 07 33 55.7 +0.3**
TIA Tai'an 34.55 36⇑P **P 07 33 56.6 +0.4**
TIA S **S 07 39 21.7 +0.3**
TIA ScS **ScS 07 44 10.5 -3.4**
TIA PMZ
comp=Z,40nm,3.6s
TIA LN
comp=Z,1μm,20.0s
TIA LE
comp=Z,1μm,23.0s
TIA LZ
comp=Z,2μm,22.6s
WBK Wadi Bani Khal 34.65 296 P **P 07 33 59.8 +2.6**
SNR=21
MMRI Maumere 34.69 121 *e*P **P 07 33 55.2 -2.4**
comp=Z,677nm,1.3s
WSAR Wadi Sarin 35.13 297 P **P 07 34 03.6 +2.3**
comp=Z,84nm,0.9s,baz=127,slow=9.6,SNR=35
WSAR Wadi Sarin 35.13 297 P **P 07 34 03.6 +2.3**
SHLS Shalkode 35.13 344 *i* P **P 07 33 59.1 -2.3**
comp=Z,3μm,1.0s
SHLS *i* S **S 07 39 31.4 +0.7**
SHLS LR LR 07 48 48.2
comp=Z,85nm,10.6s
HHC Hu-ho-hao-te 35.29 25 *e*P **P 07 34 03.8 +1.1**
HHC S **S 07 39 32.5 -0.5**
HHC ScS **ScS 07 44 14.8 -3.2**
HHC PMZ
comp=Z,36nm,1.0s
HHC PMZ
comp=Z,160nm,6.2s
HHC LN
comp=Z,770nm,13.7s
HHC LE
comp=Z,1μm,15.9s
HHC LZ
comp=Z,690nm,16.1s
JMDO Jabal Madar 35.35 295 P **P 07 34 05.5 +2.2**
SNR=15
UZB Uzynbulak 35.37 343 *i* P **P 07 34 00.8 -2.5**
comp=Z,2μm,1.4s
UZB *i* S **S 07 39 34.5 +0.3**
PDGK Podgornoye 35.40 343 *i* P **P 07 34 04.9 +1.5**
PDGK pmax pmax
comp=Z,291nm,1.4s
SATY Saty 35.47 342 *i* P **P 07 34 01.9 -2.3**
comp=Z,7μm,1.0s
SATY *i* S **S 07 39 36.4 +0.7**
SATY LR LR 07 48 48.8
comp=Z,238nm,15.3s
ZHN Zhinishke 35.56 342 *i* P **P 07 34 02.6 -2.4**
comp=Z,2μm,1.0s
ZHN *e*S **S 07 39 37.8 +0.7**
SMDO Samad 35.59 296 P **P 07 34 07.8 +2.3**
SNR=22
BIDO Bidbid 35.65 297 P **P 07 34 08.3 +2.5**
SNR=18
BIDO P P 07 34 08.3 +2.5**
SNR=18
KPKS Kokpek 35.76 343 *i* P **P 07 34 04.7 -2.0**
comp=Z,6μm,1.0s
KPKS *i* S **S 07 39 41.1 +1.1**
MDOK Medeo 36.00 341 *i* P **P 07 34 06.4 -2.3**
comp=Z,7μm,1.0s
MDOK *i* S **S 07 39 44.8 +1.0**
MDOK LR LR 07 49 13.0
comp=Z,373nm,18.3s
TKM2 Tokmak 2 36.28 339 *i* P **P 07 34 12.5 +1.3**
TKM2 pmax pmax
comp=Z,181nm,1.1s
TKM2 Tokmak 2 36.28 339 *e*P **P 07 34 12.3 +1.1**
comp=Z,644nm,2.0s
TKM2 LR LR
comp=Z,2μm,20.0s
AAK Ala-Archa 36.44 337 P **P 07 34 14.1 +1.5**
comp=Z,187nm,1.0s,baz=141,slow=5.6,SNR=286
AAK PcP **PcP 07 36 36.9 +1.1**
comp=Z,23nm,0.8s,baz=181,slow=4.5,SNR=4.6
AAK ScP **ScP 07 40 17.5 -0.4**
comp=Z,10nm,1.1s,baz=222,slow=7.1,SNR=3.5
AAK Ala-Archa 36.44 337*d i*P **P 07 34 14.3 +1.8**
AAK pmax pmax
comp=Z,932nm,1.2s
AAK Ala-Archa 36.44 337 *e*P **P 07 34 14.4 +1.9**
comp=Z,368nm,1.1s
AAK PcP **PcP 07 36 36.9 +1.1**
AAK ScP **ScP 07 40 17.5 -0.4**

AAK LR LR
comp=Z,3μm,21.0s
FRU Bishkek 36.56 338 ⇓*i* P **P 07 34 14.0 +0.6**
FRU *e* 07 35 39.0
FRU *i* S **S 07 39 53.0 +0.7**
FRU pmax pmax
comp=Z,700nm,2.0s
FRU smax smax
comp=E,200nm,2.5s
EKS2 Erkin-Say 36.74 337 *e*P **P 07 34 16.9 +1.8**
EKS2 pmax pmax
comp=Z,230nm,0.9s
EKS2 Erkin-Say 36.74 337 *e*P **P 07 34 16.9 +1.8**
comp=Z,232nm,0.9s
EKS2 LR LR
comp=Z,867nm,20.0s
BJT Baijiatuau 36.77 31 *e*P **P 07 34 16.3 +1.1**
BJT pmax pmax
comp=Z,116nm,1.2s
BJT MLR MLR
comp=Z,2μm,22.0s
BJT Baijiatuau 36.77 31 *e*P **P 07 34 16.3 +1.1**
comp=Z,116nm,1.2s
BJT LR LR
comp=Z,2μm,22.0s
BJI Beijing 36.79 31 P **P 07 34 16.2 +0.9**
BJI S **S 07 39 53.9 -1.8**
BJI PMZ
comp=Z,58nm,1.2s
BJI PMZ
comp=Z,300nm,4.1s
BJI LN
comp=Z,1μm,25.0s
BJI LE
comp=Z,2μm,23.3s
BJI LZ
comp=Z,3μm,25.0s
KUU Kurty 36.88 340 *i* P **P 07 34 13.8 -2.3**
comp=Z,3μm,1.1s
KUU *i* S **S 07 39 57.6 +0.6**
KUU LR LR 07 49 21.8
comp=Z,337nm,17.2s
SOEI Soe 36.98 121 *e*P **P 07 34 13.8 -3.6**
comp=Z,436nm,1.0s
MNAS Manas 37.11 335 *i* P **P 07 34 20.0 +1.8**
MNAS pmax pmax
comp=Z,241nm,0.8s
UOSS Minazif 37.75 298 *e*P **P 07 34 25.3 +1.6**
comp=Z,12nm,1.1s
HATD Hatta, Dubai 37.77 298 *i* P **P 07 34 26.5 +2.6**
SNR=24
ASHO Ashiyiah 37.80 298 *i* P **P 07 34 26.7 +2.5**
SNR=27
ASHO Ashiyiah 37.80 298 P **P 07 34 26.4 +2.2**
SNR=12
IUG Iuzhnay 37.91 332 *i* P **P 07 34 23.2 -1.7**
comp=Z,5μm,1.1s
IUG *e*S **S 07 40 13.8 +0.9**
IUG LR LR 07 50 00.5
comp=Z,528nm,17.4s
BANOM Banah 37.96 300 *i* P **P 07 34 28.7 +3.2**
SNR=9.1
MK01 Makanchi Array 37.98 348 *e*P **P 07 34 25.8 +0.5**
MK31 Makanchi Array 38.00 348 *i* P **P 07 34 25.7 +0.2**
MK31 pmax pmax
comp=Z,91nm,0.8s
MK31 Makanchi Array 38.00 348 *e*P **P 07 34 25.8 +0.3**
MKAR Makanchi Array 38.00 348 P **P 07 34 25.8 +0.3**
comp=Z,91nm,0.8s,baz=165,slow=8.3,SNR=520
MKAR pP **pP 07 34 40.4 +0.9**
comp=Z,81nm,1.0s,baz=166,slow=8.2,SNR=31
MKAR PcP **PcP 07 36 40.8 +0.5**
comp=Z,17nm,0.7s,baz=180,slow=3.6,SNR=3.6
MKAR ScP **ScP 07 40 23.1 -0.4**
comp=Z,5.0nm,1.1s,baz=129,slow=3.4,SNR=4.0
MKAR LR LR 07 52 34.1
comp=Z,921nm,21.8s,baz=167,slow=40
MKAR Makanchi Array 38.00 348 *i* P **P 07 34 25.7 +0.2**
MKAR pmax pmax
comp=Z,91nm,0.9s
MKAR Makanchi Array 38.00 348 *e*P **P 07 34 25.8 +0.3**
MKAR pP **pP 07 34 40.4 +0.9**
MKAR PcP **PcP 07 36 40.8 +0.5**
MKAR ScP **ScP 07 40 23.1 -0.4**
MAKZ Makanchi 38.08 348 *i* P **P 07 34 25.8 -0.3**
MAKZ pmax pmax
comp=Z,85nm,0.9s
FAQ Al Faqa, Dubai 38.22 298 *i* P **P 07 34 29.5 +1.8**
SNR=7.1
NAZ Nazwa, Dubai 38.23 298 *i* P **P 07 34 29.7 +1.9**
SNR=21
ZSN Zaisan 38.27 351 *i* P **P 07 34 24.6 -3.2**
comp=Z,702nm,1.1s
ZSN *e*S **S 07 40 17.0 -0.9**
ZSN LR LR 07 50 17.0
comp=Z,145nm,14.1s
KK31 Karatay Array 38.46 334 *i* P **P 07 34 30.2 +0.8**
KK31 pmax pmax
comp=Z,206nm,0.7s
KKAR Karatay Array 38.46 334 *e*P **P 07 34 30.5 +1.0**
KKAR Karatay Array 38.46 334 *e*P **P 07 34 30.5 +1.0**
GIRL Giralia 38.51 147 P **P 07 34 29.7 -0.3**
baz=38
BRLS Boroldaу 38.58 333 *i* P **P 07 34 28.5 -1.9**
comp=Z,387nm,1.1s
BRLS *i* S **S 07 40 22.6 -0.2**
ABTO Aybut 38.89 286 P **P 07 34 35.0 +1.5**
SNR=5.7
DL2 Dalian 39.00 37 P **P 07 34 35.5 +1.5**
DL2 S **S 07 40 29.7 +0.5**
DL2 PMZ
comp=Z,110nm,1.4s
DL2 PMZ
comp=Z,230nm,4.4s
DL2 LN
comp=Z,1μm,16.5s
DL2 LE
comp=Z,1μm,13.0s
DL2 LZ
comp=Z,1μm,23.0s
SONM Songino Array 39.77 15 P **P 07 34 41.1 +0.7**
comp=Z,40nm,0.9s,baz=197,slow=8.4,SNR=136
SONM PcP **PcP 07 36 46.8 +0.9**
comp=Z,22nm,0.8s,baz=201,slow=3.3,SNR=6.9
SONM pPcP 07 37 02.1
comp=Z,23nm,0.9s,baz=196,slow=3.9,SNR=5.8
SONM ScP **ScP 07 40 30.8 +0.4**
comp=Z,5.6nm,1.1s,baz=180,slow=2.5,SNR=6.3
SONM Songino Array 39.77 15 P **P 07 34 41.1 +0.7**
SONM PcP **PcP 07 36 46.8 +0.9**
SONM pPcP 07 37 02.1
SONM ScP **ScP 07 40 30.8 +0.4**
SONA1 Songino Array 39.78 15 *e*P **P 07 34 41.4 +0.8**
ULN Ulaanbaatar 39.96 15*d* *i*P **P 07 34 42.2 +0.1**
ULN pmax pmax
comp=Z,34nm,1.0s
ULN Ulaanbaatar 39.96 15 *e*P **P 07 34 42.4 +0.3**
comp=Z,40nm,1.0s
ULN LR LR
comp=Z,1μm,22.0s
MBWA Marble Bar 40.64 139 *e*P **P 07 34 45.8 -2.0**
comp=Z,1μm,1.4s
MBWA LR LR
comp=Z,1μm,22.0s
TJN Taejon 41.21 44*c* *i*P **P 07 34 52.5 +0.1**
INCN Inchon 41.31 42 *e*P **P 07 34 53.7 +0.5**
comp=Z,264nm,1.7s
INCN *e*pP **pP 07 35 10.1 +2.8**
INCN LR LR
comp=Z,1μm,19.0s
FAKI Fak Fak 41.45 106 *e*P **P 07 34 54.3 -0.3**
comp=Z,558nm,1.4s
ZAK Zakamensk 41.52 10 *e*P **P 07 34 54.2 -0.6**
ZAK *e* 07 36 45.2
ZAK pmax pmax
comp=Z,38nm,1.9s
GEYT Alibeck 41.83 318 P **P 07 34 59.4 +1.9**
comp=Z,419nm,0.8s,baz=144,slow=8.5,SNR=433
GEYT pP **pP 07 35 13.2 +1.6**
comp=Z,342nm,0.8s,baz=133,slow=8.0,SNR=17
GEYT ScP **ScP 07 40 38.4 -0.2**
comp=Z,9.7nm,0.9s,baz=153,slow=4.1,SNR=4.8
GEYT LR LR 07 53 33.1
comp=Z,2μm,21.8s,baz=125,slow=38
SEM Semipalatinsk 41.86 348 *e*P **P 07 34 55.5 -1.9**
comp=Z,674nm,1.4s
SEM LR LR 07 52 30.7
comp=Z,522nm,20.0s
SNY Shenyang 42.03 35 ⇑P **P 07 34 59.2 +0.2**
SNY S **S 07 41 13.1 -1.2**
SNY PMZ
comp=Z,49nm,1.0s
SNY PMZ
comp=Z,170nm,5.3s
SNY LN
comp=Z,1μm,19.9s
SNY LE
comp=Z,740nm,18.5s
SNY LZ
comp=Z,2μm,22.1s
OTUK Ortayu 42.04 340 P **P 07 35 00.1 +1.1**
OTUK pmax pmax
comp=Z,691nm,1.2s
KS15 Wonju Array Si 42.13 43 *e*P **P 07 35 00.1 +0.3**
KSAR Wonju Array Be 42.13 43 P **P 07 34 59.9 +0.1**
KSAR S **S 07 41 17.2 +1.4**
KSAR Wonju Array Be 42.13 43 P **P 07 34 59.9 +0.1**
KSAR ScP **ScP 07 40 40.0 +0.2**
KSAR S **S 07 41 17.1 +1.4**
KS01 Wonju Array Si 42.15 43 *e*P **P 07 34 59.4 -0.6**
KSRS Korea Array 42.16 43 P **P 07 34 59.9 -0.2**
comp=Z,8.3nm,0.5s,baz=252,slow=9.2,SNR=36
KSRS ScP **ScP 07 40 40.0 +0.1**
comp=Z,4.7nm,1.0s,baz=254,slow=3.7,SNR=9.5
KSRS S **S 07 41 17.1 +1.0**
comp=Z,18nm,1.2s,baz=250,slow=15,SNR=14
KSRS LR LR 07 52 52.3
comp=Z,444nm,21.5s,baz=240,slow=36
KSRS Korea Array 42.16 43 P **P 07 34 59.9 -0.2**
KSRS S **S 07 41 17.2 +1.0**
KSRS pmax pmax
comp=Z,9.0nm,0.6s
KSRS smax smax
comp=N,18nm,1.2s
KSRS MLR MLR
comp=Z,444nm,21.5s
JNU Nakatsue 42.24 51 P **P 07 35 01.6 +0.7**
comp=Z,86nm,1.0s,baz=219,slow=3.7,SNR=47
JNU LR LR 07 53 37.7
comp=Z,373nm,21.6s,baz=246,slow=38
JNU Nakatsue 42.24 51 *e*P **P 07 35 01.5 +0.6**
comp=Z,196nm,1.2s
KURBB Kurchatov Arra 42.43 347 P **P 07 35 02.5 +0.5**
comp=Z,118nm,0.9s,baz=164,slow=7.4,SNR=561
KURBB PcP **PcP 07 36 55.0 +0.7**
comp=Z,18nm,0.7s,baz=162,slow=2.9,SNR=7.8
KURBB pPcP 07 37 09.9
comp=Z,9.5nm,0.6s,baz=157,slow=2.6,SNR=6.3
KURBB ScP **ScP 07 40 41.0 +0.3**
comp=Z,6.1nm,0.9s,baz=169,slow=3.7,SNR=7.6
KURBB PKPPKP **P'P'df 08 07 07.3 +3.0**
comp=Z,0.4nm,0.5s,baz=347,slow=3.9,SNR=4.2
KURK Kurchatov 42.49 347 *e*P **P 07 35 03.2 +0.6**
KURK 07 36 55.0
KURK pmax pmax
comp=Z,242nm,1.1s
KURK MLR MLR
comp=Z,4μm,22.0s
KURK Kurchatov 42.49 347 *e*P **P 07 35 03.2 +0.6**
comp=Z,242nm,1.1s
KURK PcP **PcP 07 36 55.0 +0.5**
KURK pPcP 07 37 09.9
KURK ScP **ScP 07 40 41.0 0.0**
KURK P'P' 08 07 07.3
KURK LR LR
comp=Z,4μm,22.0s
FITZ Fitzroy Crossi 42.75 130 P **P 07 35 02.8 -2.4**
comp=Z,87nm,1.0s,baz=312,slow=5.5,SNR=40
FITZ PcP **PcP 07 36 56.3 +0.3**
comp=Z,11nm,0.5s,baz=334,slow=4.6,SNR=6.4
FITZ ScP **ScP 07 40 42.0 -0.6**
comp=Z,23nm,1.0s,baz=350,slow=6.7,SNR=7.8
FITZ Fitzroy Crossi 42.75 130 *e*P **P 07 35 03.5 -1.6**
comp=Z,108nm,1.0s
FITZ PcP **PcP 07 36 56.3 +0.3**
FITZ ScP **ScP 07 40 42.0 -0.6**
TLY Talaya 42.84 10 P **P 07 35 06.6 +1.2**
comp=Z,16nm,0.8s,baz=203,slow=6.6,SNR=35
TLY PcP **PcP 07 36 56.6 +0.9**
comp=Z,6.0nm,0.7s,baz=176,slow=4.8,SNR=2.6
TLY pPcP 07 37 12.3
comp=Z,7.4nm,0.9s,baz=232,slow=8.6,SNR=3.1
TLY Talaya 42.84 10*d* *i*P **P 07 35 07.0 +1.6**
TLY *e* 07 35 22.0
TLY *e* 07 36 50.9
TLY *e* 07 37 02.5
TLY *e*S **S 07 41 24.4 -1.5**
TLY *e*SS **SnSn 07 44 55.5 -1.1**
TLY *e*SSS SSS 07 45 21.5
TLY pmax pmax
comp=Z,52nm,1.1s
TLY MLR MLR
comp=Z,327nm,17.0s
TLY Talaya 42.84 10 *e*P **P 07 35 06.8 +1.4**
comp=Z,173nm,1.8s
TLY PcP **PcP 07 36 56.6 +0.9**
TLY pPcP 07 37 12.3
TLY LR LR
comp=Z,568nm,22.0s
IRK Irkutsk 43.49 10 *e*P **P 07 35 11.2 +0.6**
IRK *e*S **S 07 41 37.6 +2.2**
IRK pmax pmax
comp=Z,162nm,1.7s
KNRA Kununurra 43.81 125 P **P 07 35 11.3 -2.4**
baz=44
MTN Manton Dam 44.35 120 P **P 07 35 16.1 -1.9**
baz=44
MTN Manton Dam 44.35 120 *e*P **P 07 35 16.6 -1.5**
comp=Z,89nm,0.5s
CN2 Changchun 44.36 34 *e*P **P 07 35 18.2 +0.5**
CN2 *e*sP pP 07 35 32.0 0.0
CN2 *e*S **S 07 41 50.1 +1.8**
CN2 SS **SS 07 45 00.8 -8.0**
CN2 PMZ
comp=Z,70nm,0.6s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,400nm,21.0s
CN2 LE
comp=Z,700nm,21.0s
CN2 LZ
comp=Z,800nm,21.0s
ZAA0 Zalesovo Array 44.58 353 *e*P **P 07 35 19.4 +0.1**
ZALV Zalesovo Beam 44.58 353 P **P 07 35 19.3 0.0**
comp=Z,46nm,0.9s,baz=175,slow=8.9,SNR=47
ZALV pP **pP 07 35 34.3 +0.8**
comp=Z,68nm,0.9s,baz=176,slow=8.9,SNR=12
ZALV LR LR 07 57 41.6
comp=Z,724nm,20.7s,baz=234,slow=41
ZALV Zalesovo Beam 44.58 353 P **P 07 35 19.3 0.0**
ZALV pP **pP 07 35 34.3 +0.8**
MORW Morawa 44.69 150 P **P 07 35 19.0 -1.5**
baz=45
KDU Kakadu 45.43 119 P **P 07 35 24.9 -1.7**
baz=46
HIA Hailar 45.49 25 *e*P **P 07 35 27.7 +1.0**
HIA pmax pmax
comp=Z,44nm,0.8s
HIA MLR MLR
comp=Z,776nm,21.0s
HIA Hailar 45.49 25 *e*P **P 07 35 27.7 +1.0**
comp=Z,44nm,0.8s
HIA LR LR
comp=Z,776nm,21.0s
CIT Chita 45.54 18 *e*P **P 07 35 27.5 +0.4**
CIT *e* 07 35 40.8
CIT *e* 07 35 45.8
CIT pmax pmax
comp=Z,61nm,1.1s
MRIV Mauritius Mete 45.60 229 *e*P **P 07 35 27.0 -1.0**
NVS Novosibirsk 45.64 352 ⇓*i*P **P 07 35 27.0 -0.7**
NVS *i* 07 35 42.8
NVS *i* 07 37 04.9
NVS *i* 07 42 04.0
NVS *i* 07 45 12.8
NVS pmax pmax
comp=Z,43nm,0.8s
NVS pmax pmax
comp=N,25nm,0.6s
NVS pmax pmax
comp=E,13nm,0.6s
BVA0 Borovoye Array 46.79 342 P **P 07 35 36.8 0.0**
BVA0 pmax pmax
comp=Z,133nm,1.2s
BVAR Borovoye Array 46.79 342 P **P 07 35 37.0 +0.2**
comp=Z,58nm,0.8s,baz=142,slow=7.4,SNR=266
BVAR ScP **ScP 07 40 57.9 -0.6**
comp=Z,4.8nm,0.9s,baz=164,slow=5.9,SNR=3.6
BVAR LR LR 07 57 00.7
comp=Z,706nm,21.5s,baz=138,slow=38
BVAR Borovoye Array 46.79 342 P **P 07 35 37.0 +0.2**
BVAR Borovoye Array 46.79 342 P **P 07 35 37.0 +0.2**
BVAR ScP **ScP 07 40 57.9 -0.6**
ZRNK Zerenda 47.16 341 *i* P **P 07 35 39.7 0.0**
ZRNK pmax pmax
comp=Z,106nm,0.9s
ZRNK Zerenda 47.16 341 *e*P **P 07 35 40.0 +0.3**
comp=Z,102nm,1.0s
MDJ Mudanjiang 47.21 36 P **P 07 35 41.5 +1.3**
MDJ PP **PP 07 37 30.0 -1.6**
MDJ S **S 07 42 28.7 -0.6**
MDJ ScS **ScS 07 45 25.9 -3.7**
MDJ SS **SS 07 45 57.7 +0.6**
MDJ PMZ
comp=Z,26nm,1.2s
MDJ PMZ
comp=Z,160nm,5.2s
MDJ LN
comp=Z,640nm,20.5s
MDJ LE
comp=Z,840nm,22.6s
MDJ LZ
comp=Z,1μm,23.5s
MDJ Mudanjiang 47.21 36 *e*P **P 07 35 42.1 +1.9**
comp=Z,76nm,1.4s
MDJ LR LR
comp=Z,868nm,22.0s
CHKZ Chkalovo 47.28 342 *i* P **P 07 35 41.2 +0.6**
CHKZ pmax pmax
comp=Z,337nm,1.2s
DAMY Dhamar 47.30 281 *e*P **P 07 35 44.0 +2.3**
comp=Z,253nm,1.1s
RER Riviere de l'E 47.43 229 *e*P **P 07 35 43.9 +1.6**
comp=Z,376nm,1.1s
KLBR Kellerberrin 47.60 151 P **P 07 35 42.6 -0.8**
baz=48
INU Inuyama 47.79 51 *e*P **P 07 35 45.4 +0.5**
comp=Z,97nm,1.3s
INU *e*pP **pP 07 36 00.6 +1.4**
AB31 Akbulak array 47.91 332 *i* P **P 07 35 46.6 +1.1**
AB31 pmax pmax
comp=Z,335nm,1.0s
ABKAR Akbulak array 47.91 332 *e*P **P 07 35 46.7 +1.2**
USRK Ussuriysk Ar. 48.39 38 P **P 07 35 49.5 +0.2**
comp=Z,7.6nm,0.8s,baz=247,slow=6.2,SNR=16
USRK PP **PP 07 37 42.5 +0.2**
comp=Z,8.7nm,1.0s,baz=232,slow=7.1,SNR=4.9
USRK LR LR 07 59 07.1
comp=Z,511nm,18.6s,baz=232,slow=40
NWAO Narrogin (SRO) 48.46 152 P **P 07 35 49.1 -0.9**
comp=Z,75nm,0.7s,baz=42,slow=14,SNR=48
NWAO LR LR 07 55 13.8
comp=Z,917nm,21.9s,baz=196,slow=35
NWAO Narrogin (SRO) 48.46 152 P **P 07 35 47.7 -2.3**
baz=48
NWAO Narrogin (SRO) 48.46 152 *e*P **P 07 35 49.5 -0.5**
comp=Z,105nm,0.9s
H01W3 Cape Leeuwin H 48.80 156 T T 08 28 55.3
baz=330,slow=76,SNR=4.8
H01W2 Cape Leeuwin H 48.82 156 T T 08 28 55.3
baz=330,slow=76,SNR=5.5
H01W1 Cape Leeuwin H 48.82 156 T T 08 28 55.3
baz=330,slow=76,SNR=4.9
WRKA Warakurna 49.02 135 P **P 07 35 52.3 -2.2**
baz=49
MJB9 Matsu-Tunnel 49.12 50 *e*P **P 07 35 56.1 +1.0**
comp=Z,34nm,1.6s
MAJO Matsushiro 49.12 50*c* *i*P **P 07 35 55.4 +0.2**
MAJO pmax pmax
comp=Z,203nm,1.4s
MAJO Matsushiro 49.12 50 *e*P **P 07 35 55.6 +0.5**
comp=Z,140nm,1.6s
MAJO LR LR
comp=Z,816nm,20.0s
MAT Matsushiro 49.12 50 P **P 07 35 55.1 -0.1**
MAT S **S 07 42 57.6 +0.9**
MJAR Matsushiro Arr 49.13 50 P **P 07 35 55.5 +0.4**
comp=Z,12nm,1.0s,baz=245,slow=7.1,SNR=27
MJAR PcP **PcP 07 37 18.8 +0.8**
comp=Z,16nm,1.0s,baz=257,slow=4.5,SNR=6.4
MJAR pPcP 07 37 33.0
comp=Z,21nm,1.0s,baz=248,slow=3.7,SNR=7.3
MJAR ScP **ScP 07 41 08.5 -0.4**
comp=Z,5.0nm,0.9s,baz=249,slow=4.2,SNR=5.1
MJAR LR LR 07 59 01.6
comp=Z,502nm,19.2s,baz=240,slow=39
MJAR Matsushiro Arr 49.13 50 P **P 07 35 55.5 +0.4**
MJAR PcP **PcP 07 37 18.8 +0.8**
MJAR pPcP 07 37 33.0
MJAR ScP **ScP 07 41 08.5 -0.4**
KMBL Kambalda 49.55 147 P **P 07 35 56.5 -1.9**
baz=50
AKTO Aktyubinsk 49.63 332 P **P 07 35 59.0 +0.3**
comp=Z,117nm,0.9s,baz=128,slow=7.8,SNR=206
AKTO PcP **PcP 07 37 19.8 +0.2**
comp=Z,41nm,0.9s,baz=77,slow=7.9,SNR=3.9
AKTO S **S 07 43 02.3 -0.9**
comp=Z,2.5nm,0.7s,baz=243,slow=21,SNR=3.7
AKTO Aktyubinsk 49.63 332 P **P 07 35 59.0 +0.3**
AKTO PcP **PcP 07 37 19.8 +0.2**
AKTO S **S 07 43 02.3 -0.9**
CBIJ Chichi jima 49.80 63 *e*P **P 07 35 58.6 -1.8**
comp=Z,199nm,1.1s
WB0 Warramunga Arr 50.52 126 P **P 07 36 03.7 -2.2**
baz=51
WRA Warramunga Arr 50.56 126 P **P 07 36 05.3 -1.0**
comp=Z,237nm,0.8s,baz=305,slow=8.6,SNR=682
WRA ScP **ScP 07 41 14.1 -1.2**
comp=Z,8.2nm,1.0s,baz=327,slow=3.9,SNR=9.4
WRA S **S 07 43 12.2 -4.9**
comp=Z,7.5nm,1.0s,baz=292,slow=12,SNR=7.9
WRA ScS **ScS 07 45 48.8 -4.2**
comp=Z,2.6nm,1.1s,baz=300,slow=7.0,SNR=5.5
WRA LR LR 08 01 04.8
comp=Z,293nm,18.5s,baz=290,slow=40
WRA Warramunga Arr 50.56 126 P **P 07 36 05.3 -1.0**
WRA ScP **ScP 07 41 14.1 -1.2**
WRA S **S 07 43 12.2 -4.9**
WRA ScS **ScS 07 45 48.8 -4.2**
WRAB Tennant Creek 50.57 126*c* *i*P **P 07 36 05.4 -0.9**
WRAB pmax pmax
comp=Z,807nm,0.8s
WRAB Tennant Creek 50.57 126 *e*P **P 07 36 05.5 -0.9**
comp=Z,320nm,0.9s
WRAB LR LR
comp=Z,813nm,20.0s
WB2 Warramunga Arr 50.58 126 *e*P **P 07 36 05.5 -0.9**
comp=Z,317nm,0.9s
KLR Kul'dur 51.14 32 P **P 07 36 10.1 -0.1**
comp=Z,8.1nm,0.7s,baz=220,slow=13,SNR=14
KLR S **S 07 43 23.3 -1.0**
comp=Z,1.3nm,0.9s,baz=348,slow=16,SNR=3.6
KLR Kul'dur 51.14 32*c* *i*P **P 07 36 10.6 +0.4**
KLR Kul'dur 51.14 32 P **P 07 36 10.1 -0.1**
KLR S **S 07 43 23.3 -1.0**
GUMO Guam 51.28 80 PFAKE 07 36 20.0 +8.2
GUMO LR LR
comp=Z,1μm,19.0s
GNI Garni 52.08 314 P **P 07 36 18.2 +0.6**
comp=Z,195nm,1.0s,baz=60,slow=14,SNR=76
GNI Garni 52.08 314 *i* P **P 07 36 18.7 +1.2**
SNR=14
GNI Garni 52.08 314*d* *i*P **P 07 36 18.4 +0.9**
GNI pmax pmax
comp=Z,934nm,1.0s
GNI Garni 52.08 314 *e*P **P 07 36 18.7 +1.2**
comp=Z,370nm,1.1s
GNI LR LR
comp=Z,875nm,19.0s
AS31 Alice Springs 52.26 130 *e*P **P 07 36 17.0 -1.9**
comp=Z,30nm,0.6s
ASAR Alice Springs 52.26 130 P **P 07 36 17.5 -1.4**
comp=Z,123nm,0.8s,baz=310,slow=7.4,SNR=583
ASAR PcP **PcP 07 37 30.2 +0.4**
comp=Z,16nm,0.9s,baz=300,slow=4.3,SNR=5.5
ASAR ScP **ScP 07 41 20.7 -1.8**
comp=Z,6.3nm,0.9s,baz=301,slow=4.0,SNR=7.3

ASAR S **S** **07 43 34.6 -5.8**
comp=Z,4.1nm,1.0s,baz=300,slow=13,SNR=8.9
ASAR ScS **ScS** **07 46 02.1 -2.5**
comp=Z,6.4nm,1.1s,baz=315,slow=8.0,SNR=11
ASAR LR LR 08 01 02.7
comp=Z,343nm,20.2s,baz=302,slow=39
ASAR PKPPKP **P'P'df** **08 06 51.0 +0.2**
comp=Z,1.5nm,1.0s,baz=113,slow=2.9,SNR=4.3
ASAR P4KPbc 08 13 46.1
comp=Z,0.4nm,0.7s,baz=299,slow=5.3,SNR=4.5
ASAR Alice Springs 52.26 130 P **P** **07 36 17.5 -1.4**
ASAR PcP **PcP** **07 37 30.2 +0.4**
ASAR ScP **ScP** **07 41 20.7 -1.8**
ASAR S **S** **07 43 34.6 -5.8**
ASAR ScS **ScS** **07 46 02.1 -2.5**
ASAR P'P' 08 06 51.0
ASAR *e* 08 13 46.1
AS01 Alice Springs 52.29 130 *eP* **P** **07 36 16.5 -2.7**
HABR Khabarovsk 52.50 34 *eP* **P** **07 36 17.0 -3.3**
HABR *e**PP **pP** **07 36 30.7 -4.1**
HABR *e* 07 37 26.1
HABR *e*PPP PPP 07 39 21.0
HABR *eS* **S** **07 43 41.2 -1.7**
HABR *e**SS **sS** **07 44 04.9 -2.4**
HABR *e* 07 46 02.1
HABR *eSS* **SS** **07 47 21.6 +0.1**
HABR *eSSS* SSS 07 49 10.2
HABR pmax pmax
comp=Z,41nm,1.1s
HABR pmax pmax
comp=Z,139nm,1.4s
HABR MLR MLR
comp=Z,822nm,20.0s
FURI Furi 53.16 274 *eP* **P** **07 36 30.0 +3.9**
comp=Z,290nm,1.1s
GUDG Gudauri 53.16 317 P **P** **07 36 27.6 +2.1**
SVE Sverdlovsk 53.16 339*c iP* **P** **07 36 25.8 +0.8**
SVE *eS* **S** **07 43 51.6 0.0**
SVE pmax pmax
comp=Z,489nm,1.3s
SVE MLR MLR
comp=Z,3μm,23.0s
BGD Bogdanovka 53.30 315 P **P** **07 36 27.9 +1.3**
CLNS Chul'man 53.30 21 *eP* **P** **07 36 26.2 +0.1**
CLNS pmax pmax
comp=Z,23nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS MLR MLR
comp=Z,649nm,9.0s
CLNS MLR MLR
comp=N,710nm,12.0s
CLNS MLR MLR
comp=E,481nm,13.0s
AKH Akhalkalaki 53.43 315 P **P** **07 36 28.7 +1.2**
AKH Akhalkalaki 53.43 315 P **P** **07 36 28.7 +1.2**
ARU Arti 53.63 337 P **P** **07 36 28.5 0.0**
comp=E,179nm,1.0s,baz=124,slow=4.7,SNR=205
ARU LR LR 08 01 00.6
comp=E,2μm,20.7s,baz=150,slow=38
ARU Arti 53.63 337*d iP* **P** **07 36 28.7 +0.3**
ARU *PP **pP** **07 36 40.4 -2.6**
ARU 07 37 33.7
ARU 07 38 29.2
ARU PPP PPP 07 39 33.4
ARU S **S** **07 44 00.5 +2.5**
ARU *SS **sS** **07 44 20.8 -1.7**
ARU SS **SKiKP** **07 47 37.3 -1.3**
ARU pmax pmax
comp=Z,373nm,1.2s
ARU MLR MLR
comp=Z,2μm,24.0s
ARU Arti 53.63 337 *eP* **P** **07 36 28.8 +0.3**
comp=Z,268nm,1.0s
ZEI Tsey 53.67 317 *eP* **P** **07 36 27.3 -2.0**
ZEI *e* 07 38 28.8
ZEI *eS* **S** **07 43 59.3 -0.2**
ZEI pmax pmax
comp=Z,246nm,0.8s
ZEI pmax pmax
comp=E,237nm,0.7s
ZEI pmax pmax
comp=N,232nm,0.9s
MZRK Al-Mazaregh 53.74 307 *eP* **P** **07 36 30.1 +0.4**
ONI Oni 53.90 316 P **P** **07 36 31.9 +1.0**
ONI Oni 53.90 316 P **P** **07 36 31.8 +1.0**
NCK Nalchik 54.16 317‖ *eP* **P** **07 36 32.9 +0.3**
NCK pmax pmax
comp=Z,112nm,1.1s
SFNV Sufian 54.32 308 *eP* **P** **07 36 34.2 +0.2**
NEY Neytrino 54.65 317*d iP* **P** **07 36 37.4 +1.0**
NEY pmax pmax
comp=Z,15nm,0.9s
ERM Erimo 54.68 45 PFAKE 07 36 50.0 +14
ERM LR LR
comp=Z,773nm,19.0s
KBZ Khabaz 54.72 317 P **P** **07 36 36.7 +0.1**
comp=Z,133nm,1.0s,baz=109,slow=5.9,SNR=122
KBZ PcP **PcP** **07 37 39.0 +0.3**
comp=Z,45nm,0.8s,baz=92,slow=3.4,SNR=3.7
KBZ LR LR 08 04 11.2
comp=Z,186nm,20.2s,baz=127,slow=40
KBZ Khabaz 54.72 317 P **P** **07 36 36.7 +0.1**
KBZ PcP **PcP** **07 37 39.0 +0.3**
MNKR ALMNKUR 54.85 307 *eP* **P** **07 36 38.0 +0.2**
CHVG Ch'k'valeri 54.88 316 P **P** **07 36 38.3 +0.4**
KIV Kislovodsk 54.95 318 *i P* **P** **07 36 39.0 +0.6**
SNR=38
KIV Kislovodsk 54.95 318*d iP* **P** **07 36 38.7 +0.3**
KIV *i* 07 36 53.9
KIV *i* 07 38 42.5
KIV *i S* **S** **07 44 15.1 -1.3**
KIV *eSS* **SS** **07 48 06.2 +5.6**
KIV pmax pmax
comp=Z,463nm,1.0s
KIV MLR MLR
comp=Z,793nm,25.0s
KIV Kislovodsk 54.95 318 *eP* **P** **07 36 39.0 +0.6**
comp=Z,370nm,0.9s
KIV LR LR
comp=Z,311nm,19.0s
KSRV Kasrt alli 55.04 307 *eP* **P** **07 36 39.3 +0.2**
ASAJ Asahikawa 55.09 42 *eP* **P** **07 36 39.4 +0.1**
comp=Z,157nm,1.3s
GOF Gofitskoye 55.15 319‖ *iP* **P** **07 36 40.1 +0.4**
GOF *eS* **S** **07 44 20.0 +1.1**
GOF pmax pmax
comp=Z,237nm,0.9s
GOF smax smax
comp=E,45nm,0.9s
QIS Mount Isa 55.15 123 P **P** **07 36 38.5 -1.7**
baz=55
COEN Coen 55.42 114 P **P** **07 36 40.3 -1.8**
baz=56
COEN Coen 55.42 114 *eP* **P** **07 36 41.5 -0.7**
comp=E,44nm,0.8s
JHLN Al Jahlan 55.44 307 *eP* **P** **07 36 41.8 -0.2**
ZALF Zalf 55.73 303 *eP* **P** **07 36 44.5 +0.3**
MANU Manus Island 55.79 99 *eP* **P** **07 36 45.8 +1.0**
comp=E,189nm,1.1s
ROOS tl_alroos 56.02 305 *eP* **P** **07 36 47.2 +0.9**
KMBO Kilima Mbogo 56.12 262 P **P** **07 36 48.8 +1.3**
comp=E,33nm,0.9s,baz=57,slow=9.7,SNR=58
KMBO PcP **PcP** **07 37 46.5 +1.4**
comp=E,11nm,1.0s,baz=30,slow=6.6,SNR=3.7
KMBO LR LR 07 57 09.8
comp=E,2μm,21.4s,baz=73,slow=32
KMBO Kilima Mbogo 56.12 262 *eP* **P** **07 36 49.2 +1.7**
comp=E,60nm,1.1s
KMBO PcP **PcP** **07 37 46.5 +1.4**
RABH Abou Rabah 56.14 305 *eP* **P** **07 36 47.8 +0.6**
YSS Yuzh-Sakhalins 56.33 39‖ *eP* **P** **07 36 48.8 +0.7**
YSS *e**SP **pP** **07 37 04.0 +1.2**
YSS *e* 07 38 53.0
YSS *eS* **S** **07 44 34.0 -0.5**
YSS *eSS* **SS** **07 48 21.0 -1.0**
YSS pmax pmax
comp=Z,50nm,0.6s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS Yuzh-Sakhalins 56.33 39 *eP* **P** **07 36 49.2 +1.1**
comp=Z,310nm,1.8s
YSS LR LR
comp=Z,187nm,19.0s
TOTH TOTAH 56.56 304 *eP* **P** **07 36 50.4 +0.3**
SOKR Solikamsk 56.58 339*d iP* **P** **07 36 47.8 -1.8**
SOKR S **S** **07 44 35.0 -2.3**
SOKR SS **SS** **07 48 20.9 -4.5**
SOKR pmax pmax
comp=Z,384nm,1.4s
SOKR MLR MLR
comp=Z,3μm,24.0s
TCHB Talchebab 56.81 303 *eP* **P** **07 36 52.5 +0.6**
SOC Sochi 56.81 316 *eP* **P** **07 36 49.3 -2.3**
SOC *e**PP **pP** **07 36 59.8 -6.5**
SOC *e* 07 37 49.0
SOC *e* 07 38 55.9
SOC *eS* **S** **07 44 42.8 +1.8**
SOC *e* 07 46 30.2
SOC pmax pmax
comp=Z,125nm,1.1s
SOC MLR MLR
comp=Z,789nm,21.0s
BRBR Barbar 56.96 304 *eP* **P** **07 36 53.5 +0.3**
DRWC Darouich 57.05 307 *eP* **P** **07 36 54.3 +0.7**
BTCH Batrach 57.09 307 *eP* **P** **07 36 54.6 +0.8**
ARNB Al Arnab 57.43 306 *eP* **P** **07 36 56.4 +0.1**
PMG Port Moresby 57.54 108*c iP* **P** **07 36 57.3 +0.1**
PMG pmax pmax
comp=Z,821nm,1.0s
PMG Port Moresby 57.54 108 *eP* **P** **07 36 57.6 +0.3**
comp=Z,193nm,1.0s
PMG LR LR
comp=Z,496nm,22.0s
TYV Tymovskoe 57.97 35 *eP* **P** **07 36 59.0 -0.6**
TYV *eS* **S** **07 44 58.0 +2.0**
TYV pmax pmax
comp=Z,120nm,1.6s
TYV smax smax
comp=N,700nm,10.0s
TYV MLR MLR
comp=E,1μm,21.0s
TYV MLR MLR
comp=Z,1μm,21.0s
NKL Nikolayevsk 57.99 32 *eP* **P** **07 37 00.5 +0.8**
NKL *e* 07 37 14.0
NKL *e* 07 46 44.0
NKL pmax pmax
comp=Z,70nm,1.2s
NKL MLR MLR
comp=N,500nm,14.0s
NKL MLR MLR
comp=E,600nm,14.0s
NKL MLR MLR
comp=Z,1μm,14.0s
ANN Anapa 58.77 317 *eP* **P** **07 37 02.8 -2.5**
ANN *e**PP **pP** **07 37 14.3 -5.7**
ANN *e* 07 37 51.9
ANN *e* 07 39 11.7
ANN *eS* **S** **07 45 04.9 -1.6**
ANN *eSS* **SS** **07 48 58.6 -1.8**
ANN pmax pmax
comp=Z,102nm,1.5s
ANN MLR MLR
comp=N,809nm,22.0s
ANN MLR MLR
comp=Z,530nm,22.0s
ANN MLR MLR
comp=E,594nm,22.0s
YAK Yakutsk 58.79 19 P **P** **07 37 04.7 -0.4**
comp=E,3.1nm,0.3s,baz=216,slow=19,SNR=10
YAK S **S** **07 45 04.0 -2.2**
comp=E,2.4nm,0.3s,baz=216,slow=24,SNR=41
YAK LR LR 08 05 59.6
comp=E,1μm,18.5s,baz=230,slow=40
YAK Yakutsk 58.79 19 *eP* **P** **07 37 05.1 0.0**
YAK *e* 07 37 51.2
YAK *e* 07 39 16.2
YAK *e*PPP PPP 07 40 38.8
YAK *eS* **S** **07 45 03.5 -2.7**
YAK *e* 07 46 43.8
YAK *eSS* **SS** **07 49 00.0 -0.1**
YAK pmax pmax
comp=Z,96nm,1.3s
YAK pmax pmax
comp=E,42nm,1.3s
YAK pmax pmax
comp=N,32nm,1.3s
YAK pmax pmax
comp=N,34nm,2.5s
YAK pmax pmax
comp=E,23nm,1.5s
YAK pmax pmax
comp=Z,100nm,3.3s
YAK smax smax
comp=E,633nm,1.5s
YAK smax smax
comp=N,567nm,1.5s
YAK Yakutsk 58.79 19 *eP* **P** **07 37 05.4 +0.3**
YAK *e*pP **pP** **07 37 20.5 +0.7**
YAK S **S** **07 45 04.0 -2.2**
KUR Kuril'sk 59.00 43 P **P** **07 37 10.2 +3.3**
KUR *i S* **S** **07 45 10.2 +0.7**
KUR MLR MLR
comp=Z,315nm,17.0s
BBOO Buckleboo 59.18 138 P **P** **07 37 05.9 -2.5**
baz=59
BBOO Buckleboo 59.18 138 *eP* **P** **07 37 07.3 -1.1**
comp=Z,42nm,1.0s
CSS Mathiatis 59.38 305 *eP* **P** **07 37 09.5 -0.3**
comp=Z,28nm,1.0s
CSS LR LR
comp=Z,330nm,21.0s
NRIK Noril'sk 59.67 358 P **P** **07 37 10.8 -0.4**
comp=Z,29nm,1.0s,baz=162,slow=6.1,SNR=41
NRIK LR LR 08 07 11.5
comp=Z,724nm,19.8s,baz=170,slow=40
VSR Storozhevoye 60.03 324 *eP* **P** **07 37 12.9 -1.0**
VSR pmax pmax
comp=Z,290nm,1.2s
VSR MLR MLR
comp=Z,1μm,24.0s
BR131 Keskin Array S 60.08 310 *eP* **P** **07 37 13.5 -1.3**
BRTR Keskin Array B 60.08 310 P **P** **07 37 13.4 -1.3**
comp=Z,87nm,0.8s,baz=120,slow=7.3,SNR=406
BRTR LR LR 08 05 40.5
comp=Z,238nm,21.9s,baz=94,slow=38
BRTR Keskin Array B 60.08 310 P **P** **07 37 13.4 -1.3**
VORR Voronezh 60.19 325 *eP* **P** **07 37 15.0 0.0**
VORR pmax pmax
comp=Z,550nm,1.0s
CTA Charters Tower 60.54 120 S **S** **07 45 27.2 -2.9**
comp=Z,1.2nm,0.3s,baz=54,slow=22,SNR=7.5
CTA Charters Tower 60.54 120 P **P** **07 37 18.0 +0.1**
baz=61
CTA Charters Tower 60.54 120 S **S** **07 45 27.2 -2.9**
CTAO Charters Tower 60.54 120 *eP* **P** **07 37 18.4 +0.5**
CTAO pmax pmax
comp=Z,330nm,1.1s
CTAO Charters Tower 60.54 120 *eP* **P** **07 37 18.4 +0.5**
comp=Z,334nm,1.1s
CTAO LR LR
comp=Z,2μm,22.0s
LPSR Galich'ya Gora 60.73 326 *eP* **P** **07 37 18.5 -0.2**
LPSR *eS* **S** **07 45 30.1 -1.4**
LPSR pmax pmax
comp=Z,280nm,0.8s
ANTO Ankara 60.75 310 *eP* **P** **07 37 18.3 -0.9**
ANTO pmax pmax
comp=Z,150nm,1.0s
ANTO Ankara 60.75 310 *eP* **P** **07 37 18.3 -0.9**
comp=Z,150nm,1.0s
BR231 Keskin MP Arra 60.76 310 *eP* **P** **07 37 18.8 -0.5**
RABL Rabaul 60.94 100 *eP* **P** **07 37 22.3 +1.5**
comp=Z,295nm,0.6s
SIM Simferopol' 61.06 316*d iP* **P** **07 37 20.1 -1.0**
SIM S **S** **07 45 36.8 +0.7**
SIM pmax pmax
comp=Z,149nm,0.8s
SIM MLR MLR
comp=N,620nm,23.9s
HTT Hallett 61.48 136 P **P** **07 37 21.6 -2.5**
baz=62
ISP Isparta 62.10 308 PFAKE 07 37 40.0 +12
ISP LR LR
comp=Z,357nm,21.0s
STKA Stephens Creek 62.47 134 P **P** **07 37 30.5 -0.1**
comp=Z,102nm,0.9s,baz=305,slow=7.3,SNR=120
STKA LR LR 08 06 21.5
comp=Z,793nm,21.8s,baz=298,slow=38
STKA Stephens Creek 62.47 134 P **P** **07 37 30.3 -0.5**
baz=62
STKA Stephens Creek 62.47 134 *eP* **P** **07 37 30.6 -0.1**
comp=Z,31nm,1.0s
KSL Kastellorizon 62.58 306 P **P** **07 37 29.9 -1.6**
KSL Kastellorizon 62.58 306 P **P** **07 37 29.9 -1.6**
MOS Moscow 62.74 329K *iP* **P** **07 37 32.1 0.0**
MOS *e* 07 37 49.0
MOS *e* 07 39 47.2
MOS *eS* **S** **07 45 54.3 -2.5**
MOS *e* 07 46 20.9
MOS pmax pmax
comp=Z,1μm,1.6s
MOS pmax pmax
comp=Z,739nm,1.3s
MOS smax smax
comp=E,500nm,3.2s
MOS smax smax
comp=N,600nm,3.3s
MOS MLR MLR
comp=Z,1μm,19.0s
MOS MLR MLR
comp=N,2μm,20.0s
MOS MLR MLR
comp=E,1μm,19.0s
OBN Obninsk 63.03 328 LR LR 08 08 19.1
comp=E,656nm,21.1s,baz=117,slow=39
OBN Obninsk 63.03 328*d iP* **P** **07 37 33.8 -0.2**
OBN *i* 07 41 31.7
OBN *i S* **S** **07 45 57.6 -2.9**
OBN *eSS* **SS** **07 50 13.1 +6.3**
OBN pmax pmax
comp=Z,780nm,1.7s
OBN MLR MLR
comp=Z,448nm,18.0s
OBN Obninsk 63.03 328 *eP* **P** **07 37 33.8 -0.2**
comp=Z,564nm,1.2s
FETY Fethiye 63.05 306 P **P** **07 37 33.4 -1.2**
FETY Fethiye 63.05 306 P **P** **07 37 33.4 -1.2**
KULA Kula-Manisa 63.66 308 P **P** **07 37 37.8 -0.9**
KULA Kula-Manisa 63.66 308 P **P** **07 37 37.8 -0.9**
YER Yerkesik 63.75 307 P **P** **07 37 38.4 -0.9**
YER Yerkesik 63.75 307 P **P** **07 37 38.4 -0.9**
YER Yerkesik 63.75 307 P **P** **07 37 38.4 -0.9**
ISK Istanbul-Kandi 63.78 311 P **P** **07 37 38.3 -1.0**
ISK Istanbul-Kandi 63.78 311 P **P** **07 37 38.3 -1.0**
ISK Istanbul-Kandi 63.78 311 P **P** **07 37 38.3 -1.0**
KLMR Klimovskoe 64.16 334*d iP* **P** **07 37 41.3 -0.1**
KLMR *e**SP **pP** **07 37 54.7 -1.6**
KLMR *i S* **S** **07 46 13.6 -0.8**
KLMR pmax pmax
comp=Z,359nm,1.3s
KARP Karpathos 64.45 305 P **P** **07 37 43.8 -0.1**
KARP Karpathos 64.45 305 *eP* **P** **07 37 43.7 -0.2**
comp=Z,202nm,0.9s
TLCR 64.76 315⇑ *iP* **P** **07 37 45.3 -0.3**
TLCR 64.76 315⇑ *P* **P** **07 37 45.3 -0.3**
TIRR Tirgusor 64.89 315⇑ *iP* **P** **07 37 45.7 -0.8**
TIRR Tirgusor 64.89 315 *eP* **P** **07 37 45.9 -0.6**
TIRR pmax pmax
comp=Z,140nm,0.9s
TIRR Tirgusor 64.89 315 *eP* **P** **07 37 45.9 -0.6**
comp=Z,140nm,0.9s
PSN Preselentsi 64.90 314 *i P* **P** **07 37 46.4 -0.2**
PATS Pohnpei 65.03 87 *eP* **P** **07 37 49.7 +1.7**
comp=Z,439nm,1.2s
KIS Kishinev 65.15 317‖ *iP* **P** **07 37 47.0 -1.1**
comp=Z,500nm,1.5s
KIS Kishinev 65.15 317 *e*PP PP 07 40 10.0 -1.9
KIS *eS* **S** **07 46 24.0 -3.1**
KIS Kishinev 65.15 317 *e*PS 07 46 50.0
KIS LRM MLR 08 10 04.0
comp=Z,700nm,20.0s
KIS Kishinev 65.15 317K *iP* **P** **07 37 47.0 -1.1**
KIS *e* 07 40 10.0
KIS *eS* **S** **07 46 24.0 -3.1**
KIS *e*PS **PnS** **07 46 50.0 -2.4**
KIS pmax pmax
comp=Z,500nm,1.5s
KIS pmax pmax
comp=Z,500nm,3.0s
KIS MLR MLR
comp=Z,600nm,17.0s
KIS MLR MLR
comp=Z,700nm,20.0s
ZKR Zakros 65.18 304 P **P** **07 37 48.3 -0.3**
ZKR Zakros 65.18 304 P **P** **07 37 48.3 -0.3**
CFR Carcaliu 65.23 315‖ *iP* **P** **07 37 48.0 -0.6**
CFR Carcaliu 65.23 315‖ *P* **P** **07 37 48.1 -0.6**
MSAB Monastry St. A 65.23 314⇑ *iP* **P** **07 37 48.2 -0.5**
CMSA Cobar Meteorol 65.27 131 P **P** **07 37 49.8 +0.6**
baz=65
HARR Harsova 65.27 315‖ *iP* **P** **07 37 48.8 -0.2**
HARR Harsova 65.27 315‖ *P* **P** **07 37 48.8 -0.2**
ARPS Mount Arapiles 65.35 138 P **P** **07 37 49.8 +0.2**
baz=65
PRD Provadia 65.37 313 *i P* **P** **07 37 49.4 -0.3**
LEOM Leova 65.42 317‖ *iP* **P** **07 37 49.9 0.0**
LEOM Leova 65.42 317‖ *P* **P** **07 37 49.9 0.0**
PRK Paraskevi 65.61 309 P **P** **07 37 50.9 -0.4**
PRK Paraskevi 65.61 309 P **P** **07 37 50.9 -0.4**
PRK Paraskevi 65.61 309 P **P** **07 37 50.9 -0.4**
EDRB Edirne 65.63 312 P **P** **07 37 50.7 -0.6**
EDRB Edirne 65.63 312 P **P** **07 37 50.7 -0.6**
CHOS Chios island 65.67 308 P **P** **07 37 51.8 0.0**
CHOS Chios island 65.67 308 P **P** **07 37 51.8 0.0**
AMRR Amara 65.67 315⇑ *iP* **P** **07 37 51.7 +0.1**
AMRR Amara 65.67 315⇑ *P* **P** **07 37 51.7 +0.1**
NPS Neapolis 65.68 304 P **P** **07 37 51.7 -0.2**
NPS Neapolis 65.68 304 P **P** **07 37 51.7 -0.2**
NPS Neapolis 65.68 304 P **P** **07 37 51.7 -0.2**
SORM Soroca 65.71 319⇑ *iP* **P** **07 37 50.2 -1.6**
SORM Soroca 65.71 319⇑ *P* **P** **07 37 50.2 -1.6**
TIXI Tiksi 65.77 12 P **P** **07 37 51.3 -0.4**
comp=Z,107nm,0.7s,baz=211,slow=4.2,SNR=217
TIXI S **S** **07 46 30.8 -3.1**
comp=Z,8.4nm,1.0s,baz=3.7,slow=20,SNR=32
TIXI PKPPKP **P'P'df** **08 06 29.7 -0.7**
comp=Z,1.0nm,0.3s,baz=57,slow=1.4,SNR=5.4
TIXI Tiksi 65.77 12 *eP* **P** **07 37 51.3 -0.4**
TIXI pmax pmax
comp=Z,270nm,1.1s
TIXI Tiksi 65.77 12 *eP* **P** **07 37 51.3 -0.4**
comp=Z,266nm,1.1s
TIXI S **S** **07 46 30.8 -3.1**
TIXI P'P' 08 06 29.7
TIXI LR LR
comp=Z,514nm,21.0s
AKASG Malin Array Be 65.78 321 P **P** **07 37 50.9 -1.2**
comp=Z,67nm,0.7s,baz=87,slow=5.2,SNR=190
AKASG PP **PP** **07 40 11.4 -5.9**
comp=Z,13nm,0.8s,baz=80,slow=8.4,SNR=4.2
AKASG LR LR 08 10 43.7
comp=Z,576nm,21.1s,baz=100,slow=40
AKASG Malin Array Be 65.78 321 P **P** **07 37 50.9 -1.2**
AKASG PP **PP** **07 40 11.4 -5.9**
AKBB Malin Array Si 65.78 321 *eP* **P** **07 37 51.0 -1.2**
AKBB pmax pmax
comp=Z,99nm,1.0s
AKBB Malin Array Si 65.78 321 *eP* **P** **07 37 51.0 -1.2**
comp=Z,99nm,0.9s
LAST Lasithi 65.78 304 P **P** **07 37 52.3 -0.3**
LAST Lasithi 65.78 304 *eP* **P** **07 37 52.4 -0.3**
comp=Z,144nm,0.9s
KIEV Kiev 65.79 321*d iP* **P** **07 37 50.6 -1.6**
KIEV pmax pmax
comp=Z,96nm,1.0s
KIEV Kiev 65.79 321 *eP* **P** **07 37 50.9 -1.3**
comp=Z,92nm,0.9s
KIEV LR LR
comp=Z,772nm,22.0s
AK11 Malin Array Si 65.81 321 *eP* **P** **07 37 50.6 -1.7**
JMB Yambol 65.84 312 *i P* **P** **07 37 52.4 -0.3**
MA2 Magadan 65.89 28 P **P** **07 37 53.9 +1.2**
comp=Z,16nm,0.8s,baz=255,slow=5.4,SNR=10
MA2 PKPPKP **P'P'df** **08 06 29.5 -1.3**
comp=Z,5.6nm,0.9s,baz=20,slow=17,SNR=3.6
MA2 Magadan 65.89 28 *eP* **P** **07 37 53.9 +1.2**
MA2 pmax pmax
comp=Z,208nm,0.9s
MA2 MLR MLR
comp=Z,488nm,21.0s

MA2	**Magadan**	**65.89**	**28**	*e*P		**P**	**07 37 53.9**	**+1.2**
	comp=Z,208nm,0.9s								
MA2				P'P'			08 06 29.5		
MA2				LR		LR			
	comp=Z,488nm,21.0s								
ENEZ	**Enez**	**65.90**	**310**	P		**P**	**07 37 52.6**	**-0.5**	
SANT	**Santorini**	**65.92**	**305**	*e*P		**P**	**07 37 52.2**	**-1.2**	
	comp=Z,189nm,1.1s								
SANT				LR		LR			
	comp=Z,305nm,21.0s								
SIGR	**SIGRI**	**65.92**	**309**	P		**P**	**07 37 52.9**	**-0.4**	
SIGR	**SIGRI**	**65.92**	**309**	P		**P**	**07 37 52.9**	**-0.4**	
APE	**Apeiranthos**	**65.93**	**306**	*d* iP		**P**	**07 37 51.9**	**-1.6**	
APE				pmax		pmax			
	comp=Z,43nm,1.0s								
ALN	**Alexandroupoli**	**66.00**	**310**	P		**P**	**07 37 53.1**	**-0.7**	
ALN	**Alexandroupoli**	**66.00**	**310**	P		**P**	**07 37 53.1**	**-0.7**	
ALN	**Alexandroupoli**	**66.00**	**310**	P		**P**	**07 37 53.1**	**-0.7**	
GADA	**Gvkgeada**	**66.02**	**310**	P		**P**	**07 37 53.3**	**-0.6**	
GADA	**Gvkgeada**	**66.02**	**310**	P		**P**	**07 37 53.3**	**-0.6**	
ODBI	**Odobesti**	**66.09**	**316**	*i* P		**P**	**07 37 55.5**	**+1.3**	
IDI	**Anoyia**	**66.28**	**304**	P		**P**	**07 37 54.8**	**-0.9**	
IDI	**Anoyia**	**66.28**	**304**	*e*P		**P**	**07 37 54.4**	**-1.4**	
	comp=Z,130nm,0.8s								
SIVA	**Sivas**	**66.32**	**304**	P		**P**	**07 37 55.6**	**-0.3**	
SIVA	**Sivas**	**66.32**	**304**	P		**P**	**07 37 55.6**	**-0.3**	
ISR	**Istrita**	**66.32**	**315**	⇑*i* P		**P**	**07 37 57.0**	**+1.2**	
ISR	**Istrita**	**66.32**	**315**	⇑P		**P**	**07 37 57.1**	**+1.2**	
VRI	**Vrincioaia**	**66.33**	**316**	⇓*i* P		**P**	**07 37 56.3**	**+0.5**	
VRI	**Vrincioaia**	**66.33**	**316**	⇓P		**P**	**07 37 56.3**	**+0.5**	
SMTH	**Samothraki Isl**	**66.33**	**310**	P		**P**	**07 37 55.1**	**-0.8**	
SMTH	**Samothraki Isl**	**66.33**	**310**	P		**P**	**07 37 55.1**	**-0.8**	
PLOR	**Plostina**	**66.38**	**316**	⇓*i* P		**P**	**07 37 56.8**	**+0.6**	
PLOR	**Plostina**	**66.38**	**316**	⇓P		**P**	**07 37 56.8**	**+0.6**	
TESR	**Tescani**	**66.51**	**317**	⇑*i* P		**P**	**07 37 56.7**	**-0.2**	
LIA	**Limnos Island**	**66.53**	**309**	P		**P**	**07 37 56.3**	**-0.8**	
LIA	**Limnos Island**	**66.53**	**309**	P		**P**	**07 37 56.3**	**-0.8**	
KDZ	**Kurdzhali**	**66.58**	**311**	*i* P		**P**	**07 37 57.5**	**0.0**	
SECR		**66.64**	**315**	⇑P		**P**	**07 37 58.3**	**+0.5**	
CRZF	**Crozet Islands**	**66.67**	**209**	*e*P		**P**	**07 37 59.4**	**+1.6**	
	comp=Z,108nm,0.7s								
EIDS	**Eidsvold**	**66.75**	**123**	P		**P**	**07 37 59.0**	**+0.2**	
	baz=67								
EIDS	**Eidsvold**	**66.75**	**123**	*e*P		**P**	**07 37 59.4**	**+0.7**	
	comp=Z,110nm,1.3s								
MHLO	**Agia Marina, M**	**66.79**	**306**	P		**P**	**07 37 57.6**	**-1.3**	
MLR	**Muntele Rosu**	**66.80**	**315**	⇓*i* P		**P**	**07 37 59.2**	**+0.2**	
MLR	**Muntele Rosu**	**66.80**	**315**	⇓P		**P**	**07 37 59.2**	**+0.2**	
MLR	**Muntele Rosu**	**66.80**	**315**	*e*P		**P**	**07 37 58.2**	**-0.8**	
	comp=Z,380nm,1.0s								
VAM	**Vamos**	**66.85**	**304**	P		**P**	**07 37 59.4**	**+0.1**	
VAM	**Vamos**	**66.85**	**304**	P		**P**	**07 37 59.4**	**+0.1**	
VAM	**Vamos**	**66.85**	**304**	P		**P**	**07 37 59.4**	**+0.1**	
GVD	**Gavdhos**	**66.90**	**304**	P		**P**	**07 37 59.0**	**-0.6**	
GVD	**Gavdhos**	**66.90**	**304**	P		**P**	**07 37 59.0**	**-0.6**	
ZIMR		**66.91**	**313**	⇑*i* P		**P**	**07 37 59.8**	**+0.3**	
ZIMR		**66.91**	**313**	⇑P		**P**	**07 37 59.8**	**+0.3**	
PRAR	**RASCA**	**66.95**	**317**	⇑*i* P		**P**	**07 37 59.5**	**-0.3**	
IMMV	**Iera Moni Meta**	**67.03**	**304**	P		**P**	**07 38 00.4**	**-0.1**	
RZN	**Rozhen**	**67.11**	**311**	*i* P		**P**	**07 38 00.5**	**-0.6**	
KAVA	**Kavala**	**67.17**	**310**	P		**P**	**07 38 00.5**	**-0.7**	
KAVA	**Kavala**	**67.17**	**310**	P		**P**	**07 38 00.5**	**-0.7**	
DOPR	**Dopca**	**67.27**	**316**	⇓*i* P		**P**	**07 38 01.5**	**-0.3**	
HUMR	**Humele**	**67.32**	**314**	⇑*i* P		**P**	**07 38 02.0**	**-0.1**	
PTL	**Penteli**	**67.35**	**307**	P		**P**	**07 38 01.2**	**-1.3**	
PTL	**Penteli**	**67.35**	**307**	P		**P**	**07 38 01.2**	**-1.3**	
MTUR	**Matau**	**67.37**	**315**	⇑*i* P		**P**	**07 38 02.2**	**-0.4**	
MTUR	**Matau**	**67.37**	**315**	⇑P		**P**	**07 38 02.2**	**-0.4**	
VLY	**Voula,Athens**	**67.38**	**307**	P		**P**	**07 38 01.0**	**-1.7**	
VLY	**Voula,Athens**	**67.38**	**307**	P		**P**	**07 38 01.0**	**-1.7**	
ATHU	**Athens Univers**	**67.40**	**307**	P		**P**	**07 38 00.3**	**-2.5**	
ATHU	**Athens Univers**	**67.40**	**307**	P		**P**	**07 38 00.3**	**-2.5**	
VOIR		**67.42**	**315**	⇓*i* P		**P**	**07 38 02.0**	**-0.8**	
VOIR		**67.42**	**315**	⇓P		**P**	**07 38 02.0**	**-0.8**	
AOS	**Alonnisos**	**67.44**	**308**	P		**P**	**07 38 01.9**	**-1.1**	
AOS	**Alonnisos**	**67.44**	**308**	P		**P**	**07 38 01.9**	**-1.1**	
PETK	**Petropavlovsk-**	**67.45**	**36**	P		**P**	**07 38 02.0**	**-0.8**	
	comp=Z,1.1nm,0.5s,baz=251,slow=4.9,SNR=3.7								
PETK				LR		LR	08 08 52.6		
	comp=Z,373nm,21.9s,baz=256,slow=37								
PETK	**Petropavlovsk-**	**67.45**	**36**	P		**P**	**07 38 02.0**	**-0.8**	
PETK	**Petropavlovsk-**	**67.45**	**36**	P		**P**	**07 38 02.0**	**-0.8**	
MICGM	**Minsk**	**67.57**	**325**	⇓*e*P		**P**	**07 38 03.0**	**-0.5**	
MICGM				PM			07 38 04.0		
	comp=Z,1.1nm,0.8s								
MICGM				PM			07 38 04.0		
	comp=E,0.5nm,1.2s								
MICGM				*e*PcP		**pP**	**07 38 20.0**	**+1.5**	
MICGM				*e*PP		**PP**	**07 40 26.0**	**-6.8**	
MICGM				*e*PPP		PPP	07 42 10.0		
MICGM				*e*S		**S**	**07 46 56.0**	**-0.1**	
MICGM				*e*PS		**PnS**	**07 47 14.0**	**-11**	
MICGM				*e*SS		**SS**	**07 51 14.0**	**-3.4**	
MICGM				*e*SSS		SSS	07 54 16.0		
MICGM				*e*LQ		LQ	08 00 26.0		
MICGM				*e*LR		LR	08 10 02.0		
MNK	**Minsk**	**67.57**	**325**	⇓*e*P		**P**	**07 38 03.0**	**-0.5**	
MNK				*e*			07 38 20.0		
MNK				*e*PPP		PPP	07 42 10.0		
MNK				*e*S		**S**	**07 46 56.0**	**-0.1**	
MNK				*e*PS		**PnS**	**07 47 14.0**	**-11**	
MNK				*e*SS		**SS**	**07 51 14.0**	**-3.4**	
MNK				*e*SSS		SSS	07 54 16.0		
MNK				pmax		pmax			
	comp=E,470nm,1.2s								
MNK				pmax		pmax			
	comp=Z,1μm,0.8s								
ANKY	**Antikythira Is**	**67.61**	**305**	P		**P**	**07 38 04.0**	**-0.1**	
ANKY	**Antikythira Is**	**67.61**	**305**	P		**P**	**07 38 04.0**	**-0.1**	
BURAR	**Bucovina Array**	**67.67**	**318**	⇑*i* P		**P**	**07 38 04.4**	**0.0**	
BURAR	**Bucovina Array**	**67.67**	**318**	⇑P		**P**	**07 38 04.4**	**0.0**	
PAIG	**Paliouri**	**67.68**	**309**	P		**P**	**07 38 03.8**	**-0.7**	
PAIG	**Paliouri**	**67.68**	**309**	P		**P**	**07 38 03.8**	**-0.7**	
PAIG	**Paliouri**	**67.68**	**309**	P		**P**	**07 38 03.8**	**-0.7**	
BUR08	**Bucovina Ar. S**	**67.69**	**318**	*e*P		**P**	**07 38 04.5**	**0.0**	
ARR	**Arges**	**67.69**	**315**	⇑*i* P		**P**	**07 38 03.8**	**-0.8**	
NVR	**Nevrokopi**	**67.70**	**311**	P		**P**	**07 38 03.7**	**-0.9**	
NVR	**Nevrokopi**	**67.70**	**311**	P		**P**	**07 38 03.7**	**-0.9**	
VILL	**Villia**	**67.79**	**307**	P		**P**	**07 38 03.3**	**-2.0**	
DID	**Didima**	**67.79**	**307**	P		**P**	**07 38 03.0**	**-2.3**	
DID	**Didima**	**67.79**	**307**	P		**P**	**07 38 03.0**	**-2.3**	
MMB	**Musomiste**	**67.83**	**311**	*i* P		**P**	**07 38 04.4**	**-1.0**	
KYTH	**Kithira**	**67.85**	**305**	P		**P**	**07 38 04.4**	**-1.2**	
KYTH	**Kithira**	**67.85**	**305**	P		**P**	**07 38 04.4**	**-1.2**	
KRND	**KRANIDI**	**67.85**	**306**	P		**P**	**07 38 03.7**	**-1.9**	
SRS	**Serrai**	**67.88**	**310**	P		**P**	**07 38 04.5**	**-1.2**	
SRS	**Serrai**	**67.88**	**310**	P		**P**	**07 38 04.5**	**-1.2**	
SRS	**Serrai**	**67.88**	**310**	P		**P**	**07 38 04.5**	**-1.2**	
PUL	**Pulkovo**	**67.89**	**331**	*de*P		**P**	**07 38 05.3**	**0.0**	
PUL				pmax		pmax			
	comp=Z,649nm,1.2s								
SEY	**Seymchan**	**67.94**	**25**	P		**P**	**07 38 05.9**	**+0.2**	
	comp=Z,4.5nm,0.9s,baz=269,slow=8.5,SNR=7.9								
SEY				PKP2bc			08 06 27.6		
	comp=Z,5.5nm,1.1s,baz=67,slow=6.2,SNR=11								
SEY	**Seymchan**	**67.94**	**25**	*ce*P		**P**	**07 38 06.8**	**+1.2**	
SEY	**Seymchan**	**67.94**	**25**	P		**P**	**07 38 05.9**	**+0.2**	
SEY				⇑*e*			08 06 27.6		
VLI	**Veliai**	**67.97**	**306**	P		**P**	**07 38 04.0**	**-2.4**	
VLI	**Veliai**	**67.97**	**306**	P		**P**	**07 38 04.0**	**-2.4**	
PET	**Petropavlovsk**	**67.99**	**37**	*e*P		**P**	**07 38 05.1**	**-1.0**	
PET				*e*S		**S**	**07 47 00.9**	**-0.2**	
PET				*e*SS		**SS**	**07 51 23.5**	**-0.4**	
PET				MLR		MLR			
	comp=Z,400nm,19.0s								
PET	**Petropavlovsk**	**67.99**	**37**	PFAKE			07 38 20.0	+14	
PET				LR		LR			
	comp=Z,853nm,22.0s								
XOR	**Xorichti**	**68.00**	**309**	P		**P**	**07 38 04.8**	**-1.7**	
XOR	**Xorichti**	**68.00**	**309**	P		**P**	**07 38 04.8**	**-1.7**	
MPEP	**Malo Peshtene**	**68.04**	**313**	*i* P		**P**	**07 38 06.8**	**+0.1**	
LTK	**Loutraki**	**68.05**	**307**	P		**P**	**07 38 04.4**	**-2.5**	
LTK	**Loutraki**	**68.05**	**307**	P		**P**	**07 38 04.4**	**-2.5**	
ATAL	**Atalanti**	**68.06**	**308**	P		**P**	**07 38 04.8**	**-2.1**	
ATAL	**Atalanti**	**68.06**	**308**	P		**P**	**07 38 04.8**	**-2.1**	
ARCR	**ARCALIA**	**68.16**	**317**	⇑*i* P		**P**	**07 38 07.4**	**0.0**	
HORT	**Hortiatis**	**68.19**	**310**	P		**P**	**07 38 06.4**	**-1.4**	
HORT	**Hortiatis**	**68.19**	**310**	P		**P**	**07 38 06.4**	**-1.4**	
NACGM	**Naroch**	**68.29**	**325**	*e*P		**P**	**07 38 07.0**	**-1.0**	
NACGM				PM			07 38 08.0		
	comp=Z,1.2nm,0.8s								
LOT	**Lotru**	**68.31**	**315**	⇑*i* P		**P**	**07 38 05.9**	**-2.6**	
KKB	**Krupnik**	**68.34**	**311**	*i* P		**P**	**07 38 08.2**	**-0.4**	
IDID	**Didziasalis**	**68.42**	**326**	*e*P		**P**	**07 38 08.8**	**+0.1**	
IDID				IAmb		IAmb	07 38 09.9		
	comp=Z,163nm,0.9s								
DSF	**Desfina**	**68.43**	**307**	P		**P**	**07 38 06.5**	**-2.8**	
DSF	**Desfina**	**68.43**	**307**	P		**P**	**07 38 06.5**	**-2.8**	
LSZ	**Lusaka**	**68.44**	**249**	*e*P		**P**	**07 38 10.7**	**+0.9**	
LSZ				pmax		pmax			
	comp=Z,124nm,1.3s								
LSZ				MLR		MLR			
	comp=Z,742nm,20.0s								
LSZ	**Lusaka**	**68.44**	**249**	*e*P		**P**	**07 38 10.7**	**+0.9**	
	comp=Z,124nm,1.3s								
LSZ				LR		LR			
	comp=Z,742nm,20.0s								
VLX	**Vlachokerasia**	**68.46**	**306**	P		**P**	**07 38 08.0**	**-1.6**	
VLX	**Vlachokerasia**	**68.46**	**306**	P		**P**	**07 38 08.0**	**-1.6**	
LIT	**Litokhoron**	**68.60**	**309**	P		**P**	**07 38 08.8**	**-1.5**	
LIT	**Litokhoron**	**68.60**	**309**	P		**P**	**07 38 08.8**	**-1.5**	
LIT	**Litokhoron**	**68.60**	**309**	P		**P**	**07 38 08.8**	**-1.5**	
YNG	**Young**	**68.61**	**133**	P		**P**	**07 38 10.7**	**+0.3**	
	baz=69								
CJR	**Cluj-Napoca**	**68.61**	**316**	⇑*i* P		**P**	**07 38 10.4**	**+0.1**	
CJR	**Cluj-Napoca**	**68.61**	**316**	⇑P		**P**	**07 38 10.4**	**+0.1**	
AGG	**Agios Georgios**	**68.63**	**308**	P		**P**	**07 38 08.3**	**-2.3**	
AGG	**Agios Georgios**	**68.63**	**308**	*e*P		**P**	**07 38 08.2**	**-2.3**	
AGG				pmax		pmax			
	comp=Z,170nm,0.9s								
AGG	**Agios Georgios**	**68.63**	**308**	*e*P		**P**	**07 38 08.2**	**-2.3**	
	comp=Z,174nm,0.9s								
VAY	**Valandovo**	**68.66**	**311**	P		**P**	**07 38 09.3**	**-1.3**	
VAY	**Valandovo**	**68.66**	**311**	⇓*i* P		**P**	**07 38 09.3**	**-1.3**	
VAY	**Valandovo**	**68.66**	**311**	P		**P**	**07 38 09.3**	**-1.3**	
VAY	**Valandovo**	**68.66**	**311**	P		**P**	**07 38 09.3**	**-1.3**	
KLV	**Kalavryta, Ach**	**68.69**	**307**	P		**P**	**07 38 09.0**	**-2.0**	
KLV	**Kalavryta, Ach**	**68.69**	**307**	P		**P**	**07 38 09.0**	**-2.0**	
KALE	**Kalithea**	**68.73**	**307**	P		**P**	**07 38 09.0**	**-2.2**	
KALE	**Kalithea**	**68.73**	**307**	P		**P**	**07 38 09.0**	**-2.2**	
GRG	**Griva**	**68.75**	**310**	P		**P**	**07 38 09.9**	**-1.3**	
GRG	**Griva**	**68.75**	**310**	P		**P**	**07 38 09.9**	**-1.3**	
GRG	**Griva**	**68.75**	**310**	P		**P**	**07 38 09.9**	**-1.3**	
SERG	**Sergoula**	**68.80**	**307**	P		**P**	**07 38 09.4**	**-2.1**	
IZAR	**Zarasai**	**68.80**	**326**	*e*P		**P**	**07 38 11.1**	**0.0**	
IZAR				IAmb		IAmb	07 38 12.2		
	comp=Z,145nm,1.1s								
ITM	**Ithomi**	**68.81**	**306**	P		**P**	**07 38 10.3**	**-1.3**	
ITM	**Ithomi**	**68.81**	**306**	P		**P**	**07 38 10.3**	**-1.3**	
ISAL	**Salakas**	**68.82**	**326**	*e*P		**P**	**07 38 11.3**	**0.0**	
ISAL				IAmb		IAmb	07 38 12.3		
	comp=Z,124nm,1.0s								
BMR	**Baia Mare**	**68.83**	**317**	⇑*i* P		**P**	**07 38 11.7**	**+0.2**	
BMR	**Baia Mare**	**68.83**	**317**	⇑P		**P**	**07 38 11.7**	**+0.2**	
LVV	**L'vov**	**68.84**	**320**	⇑*i* P		**P**	**07 38 10.8**	**-0.8**	
LAKA	**Lakka**	**68.84**	**307**	P		**P**	**07 38 10.2**	**-1.6**	
LAKA	**Lakka**	**68.84**	**307**	P		**P**	**07 38 10.2**	**-1.6**	
THL	**Klokotos Trika**	**68.92**	**309**	P		**P**	**07 38 09.8**	**-2.4**	
PYL	**PYLOS**	**68.94**	**306**	P		**P**	**07 38 10.7**	**-1.7**	
PYL	**PYLOS**	**68.94**	**306**	P		**P**	**07 38 10.7**	**-1.7**	
DEV	**Deva**	**68.97**	**315**	⇑*i* P		**P**	**07 38 12.5**	**+0.1**	
DEV	**Deva**	**68.97**	**315**	⇑P		**P**	**07 38 12.5**	**+0.1**	
AMT	**Artemida-Makis**	**69.01**	**306**	P		**P**	**07 38 11.6**	**-1.3**	
EVR	**Evrytania**	**69.03**	**308**	P		**P**	**07 38 11.3**	**-1.8**	
EVR	**Evrytania**	**69.03**	**308**	P		**P**	**07 38 11.3**	**-1.8**	
DRO	**Drossia**	**69.03**	**307**	P		**P**	**07 38 12.2**	**-0.8**	
DRGR		**69.23**	**316**	⇓*i* P		**P**	**07 38 14.0**	**-0.1**	
DRGR		**69.23**	**316**	⇓P		**P**	**07 38 14.0**	**-0.1**	
VSU	**Vasula**	**69.25**	**329**	*d* iP		**P**	**07 38 13.4**	**-0.5**	
VSU				pmax		pmax			
	comp=Z,1μm,1.2s								
ARMA	**Armidale**	**69.28**	**128**	*e*P		**P**	**07 38 16.5**	**+1.8**	
	comp=Z,186nm,1.0s								
AXS	**Araxos**	**69.31**	**307**	P		**P**	**07 38 13.7**	**-1.0**	
LVZ	**Lovozero**	**69.33**	**340**	*d* iP		**P**	**07 38 13.6**	**-0.7**	
LVZ				pmax		pmax			
	comp=Z,148nm,1.7s								
LVZ	**Lovozero**	**69.33**	**340**	*e*P		**P**	**07 38 13.8**	**-0.5**	
	comp=Z,61nm,0.8s								
LVZ				LR		LR			
	comp=Z,2μm,20.0s								
KPRO	**Kipourio**	**69.45**	**309**	P		**P**	**07 38 13.4**	**-2.2**	
PDO	**Prodromos**	**69.49**	**308**	P		**P**	**07 38 14.7**	**-1.1**	
FNA	**Florina**	**69.51**	**310**	P		**P**	**07 38 14.2**	**-1.8**	
FNA	**Florina**	**69.51**	**310**	P		**P**	**07 38 14.2**	**-1.8**	
FNA	**Florina**	**69.51**	**310**	P		**P**	**07 38 14.2**	**-1.8**	
CAN	**Canberra**	**69.53**	**133**	P		**P**	**07 38 16.5**	**+0.4**	
	baz=70								
CAN	**Canberra**	**69.53**	**133**	*e*P		**P**	**07 38 16.7**	**+0.6**	
CAN	**Canberra**	**69.53**	**133**	*e*P		**P**	**07 38 16.6**	**+0.6**	
	comp=Z,140nm,0.9s								
CAN				LR		LR			
	comp=Z,1μm,22.0s								
TRPA	**Tarpa**	**69.54**	**318**	⇓*e*P		**P**	**07 38 15.7**	**-0.2**	
SKO	**Skopje**	**69.57**	**311**	*i* P		**P**	**07 38 14.7**	**-1.5**	
DSL	**Palaion Diasel**	**69.60**	**308**	P		**P**	**07 38 15.0**	**-1.5**	
DSL	**Palaion Diasel**	**69.60**	**308**	P		**P**	**07 38 15.0**	**-1.5**	
APA	**Apatity**	**69.62**	**339**	⇑*i* P		**P**	**07 38 14.9**	**-1.1**	
APA				*i*			07 38 31.0		
APA				*i* S		**S**	**07 47 18.0**	**-2.0**	
APA				pmax		pmax			
	comp=Z,77nm,0.9s								
APA				MLR		MLR			
	comp=Z,2μm,24.0s								
PENT	**Pentalofos**	**69.64**	**309**	P		**P**	**07 38 14.6**	**-2.3**	
KWP	**Kalwaria Pacla**	**69.66**	**319**	*i* P		**P**	**07 38 16.5**	**-0.1**	
KWP	**Kalwaria Pacla**	**69.66**	**319**	⇓*i* P		**P**	**07 38 16.5**	**-0.1**	
KWP	**Kalwaria Pacla**	**69.66**	**319**	⇓P		**P**	**07 38 16.5**	**-0.1**	
MDVR	**Moldovita**	**69.67**	**314**	⇓*i* P		**P**	**07 38 16.5**	**-0.3**	
HNR	**Honiara**	**69.69**	**104**	*e*P		**P**	**07 38 17.0**	**-0.4**	
HNR	**Honiara**	**69.69**	**104**	*e*P		**P**	**07 38 18.0**	**+0.6**	
HNR				pmax		pmax			
	comp=Z,370nm,1.0s								
HNR	**Honiara**	**69.69**	**104**	*e*P		**P**	**07 38 18.0**	**+0.6**	
	comp=Z,370nm,0.9s								
HNR				LR		LR			
	comp=Z,539nm,21.0s								
ZKS	**Zakynthos**	**69.75**	**307**	P		**P**	**07 38 15.7**	**-1.7**	
KFL	**Anninata**	**69.77**	**307**	P		**P**	**07 38 16.3**	**-1.2**	
UZH	**Uzhgorod**	**69.77**	**318**	*e*P		**P**	**07 38 15.0**	**-2.3**	
UZH				*e*			07 38 26.2		
UZH				*e*			07 38 39.2		
UZH				*e*			07 40 47.6		
CNB	**Canberra Magne**	**69.79**	**133**	P		**P**	**07 38 17.3**	**-0.4**	
	baz=70								
JAN	**Janina**	**69.82**	**309**	P		**P**	**07 38 16.7**	**-1.2**	
JAN	**Janina**	**69.82**	**309**	P		**P**	**07 38 16.7**	**-1.2**	
JAN	**Janina**	**69.82**	**309**	P		**P**	**07 38 16.7**	**-1.2**	
BZS	**Buzias**	**69.83**	**315**	⇓*i* P		**P**	**07 38 17.1**	**-0.6**	
BZS	**Buzias**	**69.83**	**315**	⇓P		**P**	**07 38 17.1**	**-0.6**	
KOLS	**Kolonicke sedl**	**69.83**	**319**	*e*P		**P**	**07 38 17.8**	**+0.1**	
KOLS				pmax		pmax			
	comp=Z,83nm,1.2s								
KOLS	**Kolonicke sedl**	**69.83**	**319**	*e*P		**P**	**07 38 17.8**	**+0.1**	
SIRR	**Siria**	**69.88**	**316**	⇑*i* P		**P**	**07 38 17.7**	**-0.4**	
LKD2	**Lefkada island**	**69.92**	**308**	P		**P**	**07 38 17.1**	**-1.4**	
LKD2	**Lefkada island**	**69.92**	**308**	P		**P**	**07 38 17.1**	**-1.4**	
VLS	**Valsamata**	**69.93**	**307**	P		**P**	**07 38 17.1**	**-1.4**	
VLS	**Valsamata**	**69.93**	**307**	P		**P**	**07 38 17.1**	**-1.4**	
VLS	**Valsamata**	**69.93**	**307**	P		**P**	**07 38 17.1**	**-1.4**	
OHR	**Ohrid**	**69.97**	**310**	⇓*i* P		**P**	**07 38 16.7**	**-2.1**	
BANR	**Banloc**	**70.14**	**315**	⇑*i* P		**P**	**07 38 20.2**	**+0.6**	
SUW	**Suwalki**	**70.14**	**324**	*e*P		**P**	**07 38 18.7**	**-0.7**	
SUW	**Suwalki**	**70.14**	**324**	*e*P		**P**	**07 38 18.7**	**-0.7**	
SGD	**Sagiada**	**70.30**	**309**	P		**P**	**07 38 19.2**	**-1.5**	
CRVS	**Cervenica-Dubn**	**70.36**	**318**	*e*P		**P**	**07 38 21.2**	**+0.3**	
CRVS	**Cervenica-Dubn**	**70.36**	**318**	*e*P		**P**	**07 38 21.1**	**+0.2**	
FIA1	**FINESS Array S**	**70.39**	**332**	*e*P		**P**	**07 38 20.7**	**-0.2**	
	comp=Z,222nm,1.0s								
FINES	**FINESS Array B**	**70.39**	**332**	P		**P**	**07 38 20.4**	**-0.4**	
	comp=Z,135nm,0.8s,baz=104,slow=8.0,SNR=260								
FINES				LR		LR	08 11 18.7		
	comp=Z,880nm,21.8s,baz=127,slow=38								
FINES	**FINESS Array B**	**70.39**	**332**	P		**P**	**07 38 20.4**	**-0.4**	
STHS	**Stebnicka Huta**	**70.57**	**319**	*e*P		**P**	**07 38 22.2**	**0.0**	
STHS				*e*			07 38 34.9		
STHS				pmax		pmax			
	comp=Z,55nm,1.0s								
STHS	**Stebnicka Huta**	**70.57**	**319**	*e*P		**P**	**07 38 22.2**	**0.0**	
STHS				*e*			07 38 34.9		
KEK	**Kerkira**	**70.64**	**309**	P		**P**	**07 38 21.1**	**-1.7**	
KEK	**Kerkira**	**70.64**	**309**	P		**P**	**07 38 21.1**	**-1.7**	
TIR	**Tirane**	**70.69**	**310**	PFAKE			07 38 30.0	+6.9	
TIR				LR		LR			
	comp=Z,207nm,20.0s								
PVY	**Plav**	**70.72**	**312**	⇓*i* P		**P**	**07 38 21.7**	**-1.7**	
IVA	**Berane**	**70.79**	**312**	⇓*i* P		**P**	**07 38 22.6**	**-1.2**	
DIVS	**Divibare**	**70.82**	**313**	P		**P**	**07 38 23.2**	**-0.8**	
KECS	**Kecovo**	**70.94**	**318**	*e*P		**P**	**07 38 24.0**	**-0.5**	
KECS				*e*			07 38 39.1		
KECS				pmax		pmax			
	comp=Z,42nm,0.8s								
KECS	**Kecovo**	**70.94**	**318**	*e*P		**P**	**07 38 24.0**	**-0.5**	
KECS				*e*			07 38 39.1		
PLE	**Pljevlja**	**71.19**	**312**	⇓*i* P		**P**	**07 38 26.4**	**+0.1**	
BEL	**Belsk**	**71.20**	**321**	*e*P		**P**	**07 38 26.0**	**+0.1**	
BEL	**Belsk**	**71.20**	**321**	⇓*e*P		**P**	**07 38 26.0**	**+0.1**	
ULC	**Ulcinj**	**71.20**	**311**	⇓*i* P		**P**	**07 38 24.2**	**-2.0**	
TTG	**Podgorica**	**71.22**	**311**	⇓*i* P		**P**	**07 38 24.5**	**-1.8**	
DRME	**Dracevica, Mon**	**71.26**	**311**	⇓*i* P		**P**	**07 38 25.0**	**-1.5**	
PSZ	**Piszkesteto**	**71.27**	**317**	⇑*i* P		**P**	**07 38 26.0**	**-0.6**	
PSZ	**Piszkesteto**	**71.27**	**317**	⇓*e*P		**P**	**07 38 26.2**	**-0.4**	
PSZ	**Piszkesteto**	**71.27**	**317**	*e*P		**P**	**07 38 26.2**	**-0.4**	
	comp=Z,91nm,0.9s								
PSZ				LR		LR			
	comp=Z,420nm,21.0s								
NKY	**Niksic**	**71.44**	**312**	⇓*i* P		**P**	**07 38 27.0**	**-0.8**	
NKME	**Niksic**	**71.47**	**312**	⇓*i* P		**P**	**07 38 26.8**	**-1.1**	
CEME	**Cevo**	**71.48**	**312**	⇓*i* P		**P**	**07 38 26.5**	**-1.5**	
BUM	**Brajici-Budva**	**71.48**	**311**	⇓*i* P		**P**	**07 38 26.6**	**-1.4**	
UPM	**Unac-Piva**	**71.54**	**312**	⇓*i* P		**P**	**07 38 27.3**	**-1.1**	
OJC	**Ojcow**	**71.60**	**320**	*i* P		**P**	**07 38 28.3**	**-0.1**	
OJC	**Ojcow**	**71.60**	**320**	⇓*i* P		**P**	**07 38 28.3**	**-0.1**	
OJC	**Ojcow

comp=Z,300nnm,22.7s
PRU Pruhonice 74.95 319 ⇓ *iP* **P 07 38 48.5 +0.3**
PRU *e* 07 39 03.6
PRU *e* 07 41 37.0
PRU *eS* **SKSac 07 48 46.0 -6.6**
PRU MLR MLR
comp=Z,300nnm,22.7s
PVCC Panska Ves 74.96 320 ⇓ *iP* **P 07 38 48.7 +0.5**
PVCC *epP* **pP 07 39 03.4 -0.1**
PVCC AMS AMS 08 17 10.0
comp=Z,300nnm,17.5s
PVCC Panska Ves 74.96 320 ⇓ *iP* **P 07 38 48.7 +0.5**
PVCC *e* 07 39 03.4
PVCC MLR MLR
comp=Z,300nnm,17.5s
BILL Bilibino 74.98 22 *deP* **P 07 38 48.5 +0.5**
BILL *i* 07 39 02.6
BILL *i S* **S 07 48 15.9 -5.5**
BILL pmax pmax
comp=Z,21nm,1.7s
BILL MLR MLR
comp=Z,909nm,21.0s
BILL Bilibino 74.98 22 *eP* **P 07 38 48.3 +0.3**
comp=Z,37nm,1.2s
BILL LR LR
comp=Z,797nm,20.0s
MOA Molln 75.04 317 *i P* **P 07 38 48.2 -0.6**
comp=Z,53nm,1.0s,SNR=49
BSD Bornholm Skovb 75.06 324 ⇓ *iP* **P 07 38 47.8 -0.8**
BSD pmax pmax
comp=Z,180nm,0.9s
BSD Bornholm Skovb 75.06 324 ⇓ *iP* **P 07 38 47.8 -0.8**
comp=Z,177nm,0.9s
BOSA Boshof 75.26 237 P **P 07 38 51.0 +0.6**
comp=Z,117nm,0.8s,baz=75,slow=5.4,SNR=136
BOSA LR LR 08 07 10.9
comp=Z,942nm,20.6s,baz=66,slow=32
BOSA Boshof 75.26 237 *eP* **P 07 38 51.5 +1.0**
BOSA Boshof 75.26 237 *eP* **P 07 38 51.5 +1.0**
comp=Z,166nm,0.9s
TRO Tromso 75.30 340 *eP* **P 07 38 48.8 -0.9**
TRO IAmb IAmb 07 38 50.0
comp=Z,103nm,1.0s
TRO IAMs_20 IAMs_20 08 13 37.6
comp=Z,2μm,20.4s
TRI Trieste 75.33 315 *eP* **P 07 38 49.2 -1.2**
TRI Trieste 75.33 315 *eP* **P 07 38 49.2 -1.2**
comp=Z,51nm,0.9s
CADS Cadrg 75.36 315 ⇓ *iP* **P 07 38 50.0 -0.7**
BRG Berggiesshubel 75.38 320 *i P* **P 07 38 50.9 +0.3**
comp=Z,262nm,1.3s
BRG *i* pP **pP 07 39 06.7 +0.8**
comp=Z,67nm,1.0s
BRG PP **PP 07 41 39.0 -0.9**
BRG S **S 07 48 25.0 -1.4**
comp=N,519nm,22.6s
comp=E,130nm,17.7s
comp=Z,333nm,19.8s
BRG Berggiesshubel 75.38 320 *i P* **P 07 38 50.9 +0.3**
BRG *i* *PP **pP 07 39 06.7 +0.8**
BRG 07 41 39.0
BRG S **S 07 48 25.0 -1.4**
BRG pmax pmax
comp=Z,262nm,1.3s
BRG MLR MLR
comp=N,519nm,22.6s
BRG MLR MLR
comp=E,130nm,17.7s
BRG MLR MLR
comp=Z,333nm,19.8s
MYKA Terra Mystica 75.43 316 *i P* **P 07 38 50.5 -0.7**
comp=Z,42nm,0.8s,SNR=23
GEA0 GERESS Array S 75.45 318 *eP* **P 07 38 51.0 -0.2**
GEC2 GERESS Array S 75.45 318 *eP* **P 07 38 51.4 +0.1**
GEC2 GERESS Array S 75.45 318 *eP* **P 07 38 51.4 +0.1**
comp=Z,182nm,1.0s
GERES GERESS Array B 75.45 318 P **P 07 38 51.2 0.0**
comp=Z,94nm,0.8s,baz=87,slow=5.5,SNR=586
GERES pP **pP 07 39 06.6 +0.1**
comp=Z,49nm,0.8s,baz=90,slow=5.3,SNR=13
GERES LR LR 08 19 13.1
comp=Z,127nm,18.2s,baz=120,slow=41
GERES GERESS Array B 75.45 318 P **P 07 38 51.2 0.0**
GERES pP **pP 07 39 06.6 +0.1**
HOPEN Hopen 75.47 347 *eP* **P 07 38 51.1 +0.4**
HOPEN *eS* **S 07 48 28.2 +1.7**
KHC Kasperske Hory 75.54 318 ⇓ P **P 07 38 51.5 -0.2**
KHC *ex* x 07 38 59.5
KHC *epP* **PcP 07 39 05.5 +1.1**
KHC Kasperske Hory 75.54 318 ⇓ P **P 07 38 51.5 -0.2**
KHC *e* 07 38 59.5
KHC *e* 07 39 05.5
AQU L'Aquila 75.56 311 *eP* **P 07 38 50.8 -1.1**
AQU L'Aquila 75.56 311 *eP* **P 07 38 50.8 -1.1**
comp=Z,79nm,1.1s
AQU LR LR
comp=Z,456nm,22.0s
KBA Koelnbreinsper 75.65 316 *i P* **P 07 38 51.6 -0.9**
comp=Z,39nm,0.8s,SNR=41
KBA Koelnbreinsper 75.65 316 P **P 07 38 51.6 -0.9**
CLTB Caltabellotta 75.75 306 *eP* **P 07 38 52.7 -0.4**
comp=Z,79nm,0.9s
CLTB LR LR
comp=Z,161nm,21.0s
RGN Rugen 75.94 324 *eP* **P 07 38 54.5 +0.8**
comp=Z,314nm,1.3s
CLL Collm 75.99 320 ⇓ *iP* **P 07 38 53.9 -0.2**
comp=Z,179nm,1.2s
CLL *i* PcP **PcP 07 39 05.6 -0.6**
CLL *epP* **pP 07 39 09.0 -0.3**
CLL *esP* **sP 07 39 17.0 +1.6**
CLL *e*PPk 07 41 35.0
CLL *e*PP **PP 07 41 47.0 +2.0**
CLL *e*PPP PPP 07 43 33.0
CLL *eS* **S 07 48 32.0 -1.1**
CLL *e*PS **PnS 07 49 12.0 -4.1**
CLL *e*(SS) 07 53 54.0
CLL *e*SSS SSS 07 57 00.0
CLL Collm 75.99 320 ⇓ *iP* **P 07 38 53.9 -0.2**
CLL *e*PP **pP 07 39 09.0 -0.3**
CLL *eS* **S 07 48 32.0 -1.1**
CLL pmax pmax
comp=Z,179nm,1.2s
CLL Collm 75.99 320 *eP* **P 07 38 53.9 -0.2**
comp=Z,174nm,1.2s
WET Wettzell 76.00 318 P **P 07 38 54.4 +0.1**
MIR Mirnyy 76.04 180 *i P* **P 07 38 55.0 +1.1**
ABTA Abfaltersbach 76.21 316 *i P* **P 07 38 54.3 -1.3**
comp=Z,48nm,0.8s,SNR=28
BJO Bjornoya 76.30 345 *eP* **P 07 38 55.4 0.0**
NKC Novy Kostel 76.31 319 ⇓ *iP* **P 07 38 56.1 +0.1**
NKC *epP* **pP 07 39 11.6 +0.3**
NKC AMS AMS 08 18 10.0
comp=Z,300nnm,18.1s
NKC Novy Kostel 76.31 319 ⇓ *iP* **P 07 38 56.1 +0.1**
NKC *e* 07 39 11.6
STEI Steigen 76.32 338 *eP* **P 07 38 55.0 -0.6**
STEI IAmb IAmb 07 38 56.1
comp=Z,98nm,0.9s
COP Copenhagen 76.50 325 ⇓ *iP* **P 07 38 57.2 +0.3**
COP pmax pmax
comp=Z,99nm,1.1s
COP Copenhagen 76.50 325 ⇓ *iP* **P 07 38 57.2 +0.3**
comp=Z,99nm,1.1s
WTTA Wattenberg 76.81 316 *i P* **P 07 38 58.1 -1.0**
comp=Z,94nm,0.8s,SNR=41
MOX Moxa 76.85 320 P **P 07 38 58.7 -0.3**
MOX pmax pmax
comp=Z,127nm,1.3s
WATA Walderalm 76.85 316 *i P* **P 07 38 58.1 -1.2**
comp=Z,44nm,0.7s,SNR=29
CASY Casey 76.91 173 *eP* **P 07 38 59.6 +0.7**
comp=Z,60nm,1.1s
CASY LR LR
comp=Z,198nm,22.0s
KONS Konsvik 76.97 336 *eP* **P 07 38 58.7 -0.6**
NC405 NORSAR Array S 77.16 331 *eP* **P 07 39 00.2 -0.3**
MOTA Moosalm 77.17 316 *i P* **P 07 39 00.1 -1.0**
comp=Z,112nm,0.9s,SNR=81
NC602 NORSAR Array S 77.23 330 *eP* **P 07 39 00.5 -0.4**
NSS Namsos 77.27 334 *eP* **P 07 39 00.9 -0.1**
NC303 NORSAR Array S 77.34 331 *eP* **P 07 39 01.1 -0.4**
NB201 NORSAR Array S 77.36 330 *eP* **P 07 39 01.1 -0.6**
NB2 NORSAR Subarra 77.40 330 P **P 07 39 01.2 -0.7**
comp=Z,187nm,1.0s,baz=91,slow=5.9
NB2 NORSAR Subarra 77.40 330 P **P 07 39 01.2 -0.7**
baz=91,slow=5.9
NB2 NORSAR Subarra 77.40 330 P **P 07 39 01.0 -0.9**
NB2 pmax pmax
comp=Z,160nm,1.0s
NOA NORSAR Array B 77.40 330 P **P 07 39 01.2 -0.7**
comp=Z,96nm,0.8s,baz=93,slow=5.6,SNR=220
NOA PP **PP 07 41 52.6 -4.1**
comp=Z,4.6nm,0.8s,baz=112,slow=9.0,SNR=3.4
NOA LR LR 08 16 40.3
comp=Z,476nm,21.9s,baz=105,slow=38
NOA NORSAR Array B 77.40 330 P **P 07 39 01.2 -0.7**
NOA PP **PP 07 41 52.6 -4.1**
RETA Reutte 77.41 317 *i P* **P 07 39 01.5 -0.8**
comp=Z,143nm,0.9s,SNR=88
FETA Feichten 77.43 316 *i P* **P 07 39 01.7 -0.8**
comp=Z,102nm,0.9s,SNR=92
NAO01 NORSAR Array S 77.55 330 *eP* **P 07 39 02.2 -0.6**
NB002 NORSAR Array S 77.58 330 *eP* **P 07 39 02.4 -0.5**
OSL Oslo 77.60 329 *eP* **P 07 39 03.1 +0.2**
NBO00 NORSAR Array S 77.61 330 *eP* **P 07 39 02.6 -0.5**
NC204 NORSAR Array S 77.63 331 *eP* **P 07 39 03.1 -0.1**
HSPB Hornsund (broa 77.71 347 *eP* **P 07 39 02.2 -1.1**
HSPB *eS* **S 07 48 51.8 +0.9**
VLC Villacollemand 77.73 313 *eP* **P 07 39 03.5 -0.6**
comp=Z,36nm,0.9s
VLC LR LR
comp=Z,188nm,21.0s
SPA0 Spitsbergen Ar 77.75 348 *eP* **P 07 39 04.1 +0.5**
SPITS Spitsbergen Ar 77.75 348 P **P 07 39 03.4 -0.2**
comp=Z,36nm,0.7s,baz=127,slow=13,SNR=28
SPITS Spitsbergen Ar 77.75 348 P **P 07 39 03.4 -0.2**
FUORN Ofenpass-Fuorn 77.76 316 *eP* **P 07 39 04.3 -0.2**
comp=Z,63nm,0.9s
DAVA Damuels 78.01 316 *i P* **P 07 39 05.5 -0.3**
comp=Z,198nm,0.8s,SNR=112
KONO Kongsberg 78.16 329 *eP* **P 07 39 05.5 -0.5**
KONO *eS* **S 07 48 57.3 +0.9**
KONO IAMs_20 IAMs_20 08 17 19.3
comp=Z,1μm,22.0s
KONO Kongsberg 78.16 329 *d iP* **P 07 39 05.6 -0.5**
KONO pmax pmax
comp=Z,1μm,1.2s
KONO Kongsberg 78.16 329 *eP* **P 07 39 05.8 -0.2**
comp=Z,278nm,1.3s
KONO LR LR
comp=Z,1μm,22.0s
MUD Monsted U'grnd 78.35 326 ⇓ *iP* **P 07 39 07.8 +0.6**
MUD pmax pmax
comp=Z,340nm,1.1s
MUD Monsted U'grnd 78.35 326 ⇓ *iP* **P 07 39 07.8 +0.6**
comp=Z,341nm,1.1s
TUE Stuetta 78.40 316 *eP* **P 07 39 07.3 -0.7**
comp=Z,124nm,0.9s
TUE LR LR
comp=Z,399nm,20.0s
VSL Villasalto 78.68 308 *eP* **P 07 39 08.5 -1.0**
comp=Z,120nm,1.1s
VSL LR LR
comp=Z,214nm,20.0s
HOMB Homborsund 78.71 328 *eP* **P 07 39 09.0 -0.2**
KBS Kingsbay 78.75 349 PFAKE 07 39 20.0 +11
KBS LR LR
comp=Z,640nm,20.0s
DZM Mont Dzumac 78.95 115 *eP* **P 07 39 11.4 +0.1**
comp=Z,183nm,1.4s
DZM *eS* **S 07 49 07.1 +0.8**
comp=Z,332nm,28.5s
DZM *eSS* **SS 07 54 12.7 -0.1**
comp=Z,660nm,34.6s
DZM *eLR* LR 08 03 51.8
comp=Z,1μm,27.2s
DZM Mont Dzumac 78.95 115 *eP* **P 07 39 10.6 -0.7**
comp=Z,113nm,1.3s
KEST Kesra 78.95 305 P **P 07 39 11.1 0.0**
comp=Z,193nm,0.9s,baz=33,slow=0.9,SNR=162
KEST LR LR 08 17 38.7
comp=Z,115nm,20.5s,baz=22,slow=38
KEST Kesra 78.95 305 *eP* **P 07 39 11.3 +0.3**
comp=Z,226nm,0.9s
BFO Black Forest 79.02 317 *i P* **P 07 39 10.5 -0.6**
BFO Black Forest 79.02 317 *eP* **P 07 39 10.3 -0.9**
comp=Z,118nm,1.0s
BFO LR LR
comp=Z,237nm,19.0s
MOL Molde 79.18 332 *eP* **P 07 39 11.8 +0.2**
TSUM Tsumeb 79.25 248 *eP* **P 07 39 14.6 +1.6**
comp=Z,38nm,0.9s
TSUM LR LR
comp=Z,862nm,21.0s
LANF Langenberg 79.34 318 ⇓ *eP* **P 07 39 13.1 +0.2**
SNART Snartemo 79.39 328 *eP* **P 07 39 12.6 -0.3**
AKN Aaknes 79.44 332 *eP* **P 07 39 13.2 +0.1**
ODD1 Odda 79.66 329 *eP* **P 07 39 14.8 +0.4**
BLS5 Blasjo 79.76 329 *eP* **P 07 39 15.2 +0.3**
BLS5 IAmb IAmb 07 39 16.0
comp=Z,200nm,0.9s
ECH Echery 79.81 317 ⇓ *eP* **P 07 39 14.8 -0.6**
SENIN Lac Senin/Sane 79.82 315 *eP* **P 07 39 15.8 +0.1**
comp=Z,292nm,1.3s
HYA Hoyanger 79.84 331 *eP* **P 07 39 15.3 +0.1**
MOF Molkenrain 79.84 317 ⇓ *eP* **P 07 39 15.2 -0.5**
MOF Molkenrain 79.84 317 *eP* **P 07 39 15.4 -0.3**
WTSB Winterswijk 79.85 321 *i P* **P 07 39 15.6 +0.2**
comp=Z,233nm,1.1s
REVF Revere 79.93 313 ⇓ *eP* **P 07 39 15.9 -0.3**
LUCF Luceram 79.94 313 *eP* **P 07 39 16.1 -0.2**
MAW Mawson 80.00 191 P **P 07 39 16.7 +0.9**
comp=Z,23nm,0.8s,baz=16,slow=7.6,SNR=20
MAW LR LR 08 09 16.2
comp=Z,228nm,20.5s,baz=38,slow=32
MAW Mawson 80.00 191 *eP* **P 07 39 17.6 +1.8**
MAW Mawson 80.00 191 *eP* **P 07 39 17.6 +1.8**
comp=Z,15nm,1.3s
HINF Hinteralfeld 80.03 317 *eP* **P 07 39 15.1 -1.6**
HINF pmax pmax
comp=Z,69nm,1.3s
MVIF Mont Vial 80.08 313 ⇓ *eP* **P 07 39 16.9 -0.2**
LOMF Lomont 80.08 316 ⇓ *eP* **P 07 39 16.7 -0.3**
SUR Sutherland 80.11 235 *eP* **P 07 39 19.5 +2.0**
comp=Z,112nm,0.8s
SUR LR LR
comp=Z,860nm,19.0s
STAV Stavanger 80.16 328 *eP* **P 07 39 17.0 0.0**
OG01 Vacheresse 80.25 315 ⇓ *eP* **P 07 39 18.1 +0.2**
LPG La Plagne 80.25 315 *eP* **P 07 39 17.3 -0.9**
LPG pmax pmax
comp=Z,253nm,0.8s
TARA Tarawa 80.25 90 PFAKE 07 39 30.0 +12
TARA LR LR
comp=Z,61nm,19.0s
LPL La Plagne 80.27 315 *eP* **P 07 39 17.3 -0.9**
LPL pmax pmax
comp=Z,338nm,0.8s
CALN Calern 80.28 313 ⇓ *eP* **P 07 39 18.2 0.0**
RSL Roselend 80.33 315 ⇓ *eP* **P 07 39 18.3 -0.2**
BNI Bardonecchia 80.33 314 PFAKE 07 39 30.0 +12
BNI LR LR
comp=Z,300nm,22.0s
WLF Walferdange 80.39 319 P **P 07 39 19.1 +0.7**
comp=Z,110nm,1.8s
WLF E 07 39 35.0
WLF Walferdange 80.39 319 *eP* **P 07 39 18.6 +0.2**
WLF Walferdange 80.39 319 *eP* **P 07 39 18.6 +0.2**
comp=Z,343nm,1.7s
WLF LR LR
comp=Z,366nm,21.0s
KMY Karmoy 80.39 329 *eP* **P 07 39 18.4 +0.2**
ABSA Djebel Ababsia 80.42 305 P **P 07 39 20.8 +1.8**
MEM Membach 80.42 320 P **P 07 39 18.4 -0.2**
comp=Z,48nm,1.5s
MEM E 07 39 34.1
CMAH Djebel Manchou 80.43 306 P **P 07 39 20.6 +1.5**
HGN Heimansgroeve 80.46 320 *i P* **P 07 39 18.3 -0.5**
comp=Z,129nm,1.6s
BEBN Eben Emael 80.62 320 P **P 07 39 19.7 0.0**
CABF La Chapelle 80.64 316 *eP* **P 07 39 19.2 -0.8**
CABF pmax pmax
comp=Z,183nm,1.1s
GDM Grand'Maison 80.72 314 ⇓ *eP* **P 07 39 20.4 -0.2**
CAEH 'Ain El Ouahch 80.87 306 P **P 07 39 22.3 +0.9**
BCLA Clavier 80.88 320 P **P 07 39 20.8 -0.3**
comp=Z,58nm,1.5s
BCLA E 07 39 37.2
GRN Grenoble 80.98 314 ⇓ *eP* **P 07 39 22.2 +0.3**
CKFL Kef-Lekhel 81.01 305 P **P 07 39 24.0 +1.7**
CASM Ain Smara 81.21 305 P **P 07 39 24.9 +1.7**
CTEI Djebel Teioual 81.30 305 P **P 07 39 26.0 +2.2**
DOU Dourbes 81.36 319 P **P 07 39 23.5 -0.1**
comp=Z,46nm,1.5s
SNF Seneffe 81.52 320 P **P 07 39 24.4 -0.1**
SNF E 07 39 40.8
BAIF Baives 81.61 319 *eP* **P 07 39 24.2 -0.8**
BAIF pmax pmax
comp=Z,179nm,1.3s
DFRA Djebel Bou Aff 81.67 306 P **P 07 39 27.9 +2.1**
SSB Saint Sauveur 81.82 315 ⇓ *eP* **P 07 39 26.2 -0.1**
SSB Saint Sauveur 81.82 315 *eP* **P 07 39 26.1 -0.2**
SSB Saint Sauveur 81.82 315 *eP* **P 07 39 26.1 -0.2**
comp=Z,106nm,0.9s
SSB LR LR
comp=Z,267nm,20.0s
CKHR Kef el Ahmar 82.02 305 P **P 07 39 29.2 +1.6**
SET Setif 82.09 305 P **P 07 39 29.0 +1.1**
PLDF La Plantade 82.40 315 ⇓ *eP* **P 07 39 29.4 +0.1**
AVF Avril sur Loir 82.49 316 *eP* **P 07 39 28.4 -1.3**
AVF pmax pmax
comp=Z,99nm,1.0s
AGO Saint Agoulin 82.73 315 ⇓ *eP* **P 07 39 31.0 +0.1**
LBL Lubilhac 82.74 315 ⇓ *eP* **P 07 39 31.4 +0.3**
PYM Petit Puy Mans 82.85 315 ⇓ *eP* **P 07 39 31.8 +0.2**
ATAF Djebel Tarf 83.03 305 P **P 07 39 33.2 +0.3**
FRNF Fournols 83.20 315 ⇓ *eP* **P 07 39 33.9 +0.5**
SJAF Saint Jean de 83.32 312 ⇓ *eP* **P 07 39 33.5 -0.6**
AKET Djebel Ketaf 83.33 305 P **P 07 39 35.5 +1.0**
YEL1 Yell 83.44 330 *eP* **P 07 39 34.9 +0.6**
ELSH Elham, Standar 83.44 321 ⇓ *eP* **P 07 39 34.3 -0.1**
ELSH AMB AMB 07 39 35.0
comp=Z,393nm,0.9s
LRW Lerwick 83.54 330 *eP* **P 07 39 35.0 +0.2**
LRW AMB AMB 07 39 35.7
comp=Z,148nm,1.0s
FILF Fillols 83.55 312 ⇓ *eP* **P 07 39 35.7 +0.4**
CAF Calviac 83.61 314 *eP* **P 07 39 34.8 -0.7**
CAF pmax pmax
comp=Z,73nm,1.0s
TAM Tamanrasset 83.62 292 PFAKE 07 39 50.0 +14
TAM LR LR
comp=Z,1μm,22.0s
ADJB Djebel Djouab 83.67 305 P **P 07 39 37.0 +0.8**
CARF Carcanieres 83.86 312 ⇓ *eP* **P 07 39 36.8 -0.2**
ABA Alger-Bouzarea 83.92 306 P **P 07 39 37.5 +0.3**
VALF Valcebollere 83.96 312 ⇓ *eP* **P 07 39 38.1 +0.5**
LMK Market Rasen 84.02 323 ⇓ *eP* **P 07 39 37.6 +0.2**
LMK AMB AMB 07 39 39.0
comp=Z,545nm,1.2s
EMHD Djebel Mahouad 84.06 306 P **P 07 39 38.8 +0.7**
JMIC Jan Mayen 84.50 341 LR LR 08 19 10.9
comp=Z,290nm,18.8s,baz=78,slow=37
LCP Cassop 84.50 324 ⇓ *eP* **P 07 39 40.1 +0.3**
SALF Salau 84.52 312 ⇓ *eP* **P 07 39 39.4 -0.9**
HPK Haverah Park 84.71 324 ⇓ *eP* **P 07 39 41.0 +0.1**
HPK AMB AMB 07 39 41.8
comp=Z,304nm,1.0s
CWF Charnwood Fore 84.72 322 ⇓ *eP* **P 07 39 40.4 -0.5**
CWF AMB AMB 07 39 41.4
comp=Z,116nm,1.1s
CWF Charnwood Fore 84.72 322 *eP* **P 07 39 40.8 -0.1**
comp=Z,114nm,1.0s
FLN La Foliniere 84.81 318 *eP* **P 07 39 40.3 -1.2**
FLN pmax pmax
comp=Z,117nm,1.0s
MELF Melles 84.82 312 *eP* **P 07 39 41.2 -0.6**
WOL Wolverton 84.89 321 ⇓ *eP* **P 07 39 41.4 -0.4**
WOL AMB AMB 07 39 43.2
comp=Z,424nm,1.2s
MME1 Meikle Cairn 84.91 327 ⇓ *eP* **P 07 39 41.6 -0.2**
LHO Holmfirth 84.91 323 ⇓ *iP* **P 07 39 42.0 +0.1**
MLA1 Latheron 84.94 328 ⇓ *iP* **P 07 39 42.0 +0.1**
ESY Stoneypath 84.95 326 ⇓ *iP* **P 07 39 42.0 -0.1**
MCD Coleburn Disti 85.01 327 ⇓ *eP* **P 07 39 42.6 +0.2**
EDU Dundee 85.07 326 ⇓ *eP* **P 07 39 42.2 -0.4**
RESF Ens 85.13 312 ⇓ *eP* **P 07 39 43.7 +0.3**
EBNR Beni Rached 85.19 306 P **P 07 39 42.0 -1.7**
BIGH Upper Bighouse 85.19 328 ⇓ *eP* **P 07 39 43.7 +0.6**
BIGH AMB AMB 07 39 45.2
comp=Z,470nm,1.0s
STNC Stoke 85.19 323 ⇓ *eP* **P 07 39 43.6 +0.2**
STNC AMB AMB 07 39 45.1
comp=Z,219nm,1.3s
SWN1 Swindon 85.21 321 ⇓ *eP* **P 07 39 43.4 0.0**
SWN1 AMB AMB 07 39 44.3
comp=Z,346nm,1.0s
EDI Edinburgh 85.27 326 ⇓ *eP* **P 07 39 43.7 +0.1**
EDI AMB AMB 07 39 44.5
comp=Z,189nm,1.0s
LABF Labassere 85.29 313 *eP* **P 07 39 44.3 +0.2**
ECHA Ech Chlef 85.34 306 P **P 07 39 44.0 -0.4**
VIEF Viey 85.35 313 *eP* **P 07 39 44.7 +0.2**
ECK Cauldkaine Hil 85.37 325 ⇓ *eP* **P 07 39 44.2 +0.1**
DAG Danmarks Havn 85.38 348 ⇓ *iP* **P 07 39 42.9 -0.9**
DAG pmax pmax
comp=Z,34nm,1.0s
DAG Danmarks Havn 85.38 348 ⇓ *iP* **P 07 39 42.9 -0.9**
comp=Z,34nm,1.0s
ESK Eskdalemuir 85.39 325 ⇓ *iP* **P 07 39 44.4 +0.2**
ESK AMB AMB 07 39 45.1
comp=Z,164nm,1.0s
ESK Eskdalemuir 85.39 325 *eP* **P 07 39 44.4 +0.2**
ESK Eskdalemuir 85.39 325 *eP* **P 07 39 44.4 +0.2**
comp=Z,167nm,0.9s
ESK LR LR
comp=Z,655nm,21.0s
STRD Stroud 85.39 322 ⇓ *iP* **P 07 39 44.1 -0.2**
STRD AMB AMB 07 39 45.3
comp=Z,216nm,1.9s
BHH Howats Hill 85.44 325 ⇓ *iP* **P 07 39 44.7 +0.3**
KESW Keswick, Cumbr 85.46 324 ⇓ *eP* **P 07 39 44.8 +0.2**
KESW AMB AMB 07 39 45.5
comp=Z,136nm,1.1s
BBO1 Bothel 85.52 325 ⇓ *iP* **P 07 39 45.1 +0.3**
EANR 'Ain N'Sour 85.58 306 P **P 07 39 45.4 -0.3**
REYF Montagne du Re 85.62 313 ⇓ *eP* **P 07 39 46.4 +0.6**
MDO Dochfour 85.63 327 ⇓ *iP* **P 07 39 45.5 +0.1**
OLDB Oldbury-Upon-S 85.65 322 ⇓ *eP* **P 07 39 45.5 -0.1**
OLDB AMB AMB 07 39 46.1
comp=Z,329nm,0.9s
BWH Wardlaw 85.67 325 ⇓ *iP* **P 07 39 45.1 -0.5**
HLM1 Long Mynd 85.70 322 ⇓ *eP* **P 07 39 45.9 +0.1**
HLM1 AMB AMB 07 39 46.7
comp=Z,148nm,1.2s
MONM Monmouth 85.77 322 *eP* **P 07 39 45.8 -0.4**
FOEL Foel Wylfa 85.82 323 ⇓ *eP* **P 07 39 46.7 +0.3**
FOEL AMB AMB 07 39 47.5
comp=Z,165nm,1.0s
ATE Arette 85.84 313 ⇓ *eP* **P 07 39 47.3 +0.5**
EAB Aberfoyle 85.86 326 ⇓ *iP* **P 07 39 46.8 +0.3**
MCH1 Michaelchurch 85.86 322 ⇓ *eP* **P 07 39 46.3 -0.4**
MCH1 AMB AMB 07 39 47.2
comp=Z,124nm,1.0s
PGBU Glenifferbraes 86.01 326 ⇓ *eP* **P 07 39 47.6 +0.3**
PGBU AMB AMB 07 39 49.1
comp=Z,160nm,1.2s
LARF Larrau 86.06 313 ⇓ *eP* **P 07 39 48.5 +0.6**
KAC Achnashellach 86.11 328 ⇓ *iP* **P 07 39 47.7 -0.1**
WPM1 Penmaenmawr 86.17 323 ⇓ *eP* **P 07 39 48.5 +0.3**
DCZ Deep Cove 86.23 137 *eP* **P 07 39 49.3 +0.8**
comp=Z,48nm,0.9s
KSB Sheil Bridge 86.24 327 ⇓ *iP* **P 07 39 48.5 +0.1**
RRR Rubha Reidh 86.31 328 ⇓ *eP* **P 07 39 49.2 +0.5**
GAL1 Galloway 86.32 325 ⇓ *eP* **P 07 39 49.2 +0.3**
GAL1 AMB AMB 07 39 49.9
comp=Z,84nm,1.0s
YLL Llanberis 86.35 323 ⇓ *iP* **P 07 39 49.3 +0.3**
WIM Isle of Man 86.45 324 ⇓ *eP* **P 07 39 50.0 +0.5**
WLF1 Llynfaes 86.45 323 ⇓ *eP* **P 07 39 49.8 +0.2**
WLF1 AMB AMB 07 39 50.7
comp=Z,417nm,1.0s
LPW Lampeter 86.49 322 ⇓ *eP* **P 07 39 49.8 +0.1**
LPW AMB AMB 07 39 50.7
comp=Z,151nm,1.0s
WPS Cemaes, Angles 86.49 323 ⇓ *eP* **P 07 39 49.9 +0.2**
WPS AMB AMB 07 39 50.8
comp=Z,132nm,1.1s
YRE Yr Eifl 86.53 323 ⇓ *iP* **P 07 39 50.3 +0.4**
YRC Rhoscolyn 86.57 323 ⇓ *iP* **P 07 39 50.5 +0.4**
SYO Syowa Base 86.68 197 ⇑ *iP* **P 07 39 50.2 0.0**
SYO Syowa Base 86.68 197 ⇓ *iPcP* **PcP 07 39 52.2 -0.3**

GMK Mull of Kintyr 86.72 326 ⇓ iP P 07 39 51.1 +0.4
DYA Yadsworthy 86.73 320 ⇓ eP P 07 39 50.9 -0.1
DYA AMB AMB 07 39 51.7
comp=Z,178nm,1.1s
DYA Yadsworthy 86.73 320 eP P 07 39 51.1 +0.1
comp=Z,203nm,1.0s
RRH Rhenigidale 86.75 328 ⇓ eP P 07 39 51.4 +0.5
WHZ Wether Hill Ro 86.89 137 eP P 07 39 52.1 +0.4
comp=Z,38nm,0.8s
HTL Hartland 86.96 321 ⇓ eP P 07 39 52.1 +0.1
HTL AMB AMB 07 39 53.7
comp=Z,90nm,1.1s
GMM Mts of Mourne 87.16 324 ⇓ iP P 07 39 53.1 +0.1
DSB Dublin 87.63 324 eP P 07 39 55.7 +0.5
comp=Z,65nm,0.9s
IDGL Inch Island, C 87.85 325 ⇓ eP P 07 39 57.0 +0.7
LBZ Lake Benmore 87.98 136 eP P 07 39 58.0 +0.9
comp=Z,37nm,1.1s
IWEX Carrickbyrne, 88.06 323 ⇓ eP P 07 39 58.0 +0.7
RPZ Rata Peaks 88.41 135 eP P 07 40 00.1 +0.9
comp=Z,93nm,1.0s
MSVF Nonsavu 88.65 108 ceP P 07 40 02.4 +1.6
MSVF pmax pmax
comp=Z,66nm,1.0s
MSVF Nonsavu 88.65 108 eP P 07 40 03.1 +2.2
comp=Z,70nm,1.2s
TOA0 Torodi Ar. Sit 88.69 283 eP P 07 40 01.5 +0.4
TORD Torodi Ar. Bea 88.69 283 P P 07 40 01.6 +0.5
comp=Z,35nm,0.8s,baz=87,slow=4.7,SNR=180
TORD PP PP 07 43 31.3 +0.9
comp=Z,3.4nm,0.8s,baz=75,slow=7.9,SNR=4.4
TORD PKKPbc PKKPbc 07 57 41.5 +0.3
comp=Z,0.5nm,0.6s,baz=302,slow=3.3,SNR=5.7
TORD LR LR 08 17 02.9
comp=Z,472nm,22.0s,baz=95,slow=34
TORD Torodi Ar. Bea 88.69 283 P P 07 40 01.6 +0.5
TORD PP PP 07 43 31.3 +0.9
TORD PKKPbc PKKPbc 07 57 41.5 +0.3
ESDC Sonseca Array 88.88 310 P P 07 40 01.7 +0.1
comp=Z,28nm,0.7s,baz=56,slow=4.5,SNR=93
ESDC PP PP 07 43 33.4 +2.1
comp=Z,0.3nm,0.2s,baz=77,slow=7.0,SNR=4.3
ESDC LR LR 08 25 46.8
comp=Z,107nm,18.0s,baz=310,slow=40
ESDC Sonseca Array 88.88 310 P P 07 40 01.7 +0.1
ESDC PP PP 07 43 33.4 +2.1
OXZ Oxford 89.01 134 eP P 07 40 02.7 +0.7
comp=Z,53nm,0.8s
LTZ Lake Taylor 89.04 134 eP P 07 40 03.1 +0.9
comp=Z,45nm,1.1s
PAB San Pablo 89.19 310 eP P 07 40 03.2 +0.1
PAB San Pablo 89.19 310 eP P 07 40 03.2 +0.1
comp=Z,52nm,0.9s
PAB LR LR
comp=Z,254nm,20.0s
PBRG Braganca 90.48 312 eP P 07 40 09.2 +0.2
comp=Z,59nm,1.2s
MVO Moncorvo 90.84 312 eP P 07 40 11.3 +0.6
comp=Z,118nm,1.1s
MVO Moncorvo 90.84 312 eS S 07 51 28.3 +25
MVO Moncorvo 90.84 312 eLR LR 08 11 59.0
comp=Z,181nm,18.0s
COLD Coldfoot 91.23 20 eP P 07 40 13.2 +1.3
comp=Z,20nm,1.3s
PVRL Vila Real 91.31 312 eP P 07 40 13.6 +0.7
comp=Z,64nm,1.3s
POLO Lamas de Olo 91.35 312 eP P 07 40 13.6 +0.5
comp=Z,38nm,1.6s
MTE Manteigas 91.40 311 eP P 07 40 14.1 +0.8
comp=Z,151nm,1.2s
MTE Manteigas 91.40 311 eS S 07 51 11.0 +2.3
MTE Manteigas 91.40 311 eLR LR 08 12 18.8
comp=Z,224nm,20.0s
MTE Manteigas 91.40 311 eP P 07 40 14.2 +0.8
comp=Z,109nm,0.9s
MTE LR LR
comp=Z,416nm,22.0s
PCAB Cabril 91.44 313 eP P 07 40 14.1 +0.7
comp=Z,148nm,1.1s
PCBR Castelo Branco 91.48 311 eP P 07 40 14.2 +0.6
comp=Z,133nm,1.3s
PMRV Marv??o 91.52 310 eP P 07 40 14.2 +0.4
comp=Z,86nm,1.1s
PMRV Marv??o 91.52 310 eS S 07 51 09.8 +0.1
PMRV Marv??o 91.52 310 eLR LR 08 12 28.2
comp=Z,116nm,20.0s
PBAR Barrancos 91.54 309 eP P 07 40 14.6 +0.7
comp=Z,415nm,1.2s
PGAV Gavieira, Arco 91.55 313 eP P 07 40 14.4 +0.4
comp=Z,78nm,2.4s
PGAV Gavieira, Arco 91.55 313 eLR LR 08 12 42.4
comp=Z,188nm,22.0s
PVIS Viseu 91.58 312 eP P 07 40 14.8 +0.7
comp=Z,100nm,1.3s
PESTR Estremoz 91.80 310 eP P 07 40 15.4 +0.3
comp=Z,62nm,1.4s
PTO Porto 92.00 312 eP P 07 40 17.2 +1.3
comp=Z,156nm,1.1s
SUMG Summit 92.04 347 ⇓ iP P 07 40 16.6 +0.6
SUMG pmax pmax
comp=Z,67nm,1.1s
SUMG Summit 92.04 347 ⇓ iP P 07 40 16.6 +0.6
comp=Z,67nm,1.1s
SUMG Summit 92.04 347 eP P 07 40 16.2 +0.2
comp=Z,70nm,1.1s
EVO Evora 92.20 310 eP P 07 40 17.4 +0.4
comp=Z,63nm,1.0s
PBEJ Beja 92.21 309 eP P 07 40 17.8 +0.8
comp=Z,72nm,1.1s
PMTG Montargil 92.23 310 eP P 07 40 17.4 +0.3
comp=Z,62nm,1.4s
PTOM Tomar 92.23 311 eP P 07 40 17.7 +0.6
comp=Z,227nm,1.1s
PVAQ Vaqueiros 92.25 308 eP P 07 40 17.7 +0.5
comp=Z,133nm,1.5s
PVAQ Vaqueiros 92.25 308 eS S 07 51 19.3 +3.0
PVAQ Vaqueiros 92.25 308 eLR LR 08 12 54.4
comp=Z,157nm,22.0s
RTC Rabat Centre 92.37 305 PFAKE 07 40 30.0 +12
RTC LR LR
comp=Z,1μm,19.0s
BPAW Bear Paw Mtn. 92.44 23 eP P 07 40 18.7 +1.2
comp=Z,49nm,1.1s
PCVE Castro Verde 92.44 309 eP P 07 40 18.6 +0.5
comp=Z,48nm,2.1s
PBDV Barranco-do-Ve 92.45 308 eP P 07 40 19.1 +0.9
comp=Z,123nm,1.3s
MESJ Messejana 92.53 309 eP P 07 40 17.2 -1.3
MESJ AMb AMB 07 40 21.1
comp=Z,104nm,1.2s
MESJ Messejana 92.53 309 eP P 07 40 18.9 +0.4
comp=Z,105nm,1.2s
MESJ Messejana 92.53 309 eP P 07 40 17.2 -1.3
PNCL Nicolau / Gran 92.70 309 eP P 07 40 19.9 +0.6
comp=Z,70nm,1.2s
PTEO Sao Teotonio 92.99 309 eP P 07 40 21.6 +1.0
comp=Z,46nm,1.7s
MORF Marmelete 92.99 308 eP P 07 40 19.2 -1.6
MORF AMb AMB 07 40 22.9
comp=Z,91nm,1.5s
MORF Marmelete 92.99 308 eP P 07 40 21.9 +1.2
comp=Z,91nm,1.4s
MORF Marmelete 92.99 308 eP P 07 40 19.1 -1.6
PFVI Vila Bisbo 93.17 308 eP P 07 40 22.9 +1.4
comp=Z,93nm,1.2s
COLA College 93.24 22 PFAKE 07 40 30.0 +8.9
COLA LR LR
comp=Z,255nm,20.0s
FYU Fort Yukon 93.25 20 eP P 07 40 23.2 +2.0
comp=Z,114nm,1.7s
SPU Mount Spurr 93.34 26 eP P 07 40 22.4 +0.5
IL1 Eielson Array 93.64 22 eP P 07 40 22.6 -0.4
ILAR Eielson Array 93.64 22 P P 07 40 22.2 -0.8
comp=Z,4.2nm,0.8s,baz=308,slow=4.2,SNR=8.1
ILAR PP PP 07 44 08.7 +0.7
comp=Z,2.2nm,0.9s,baz=308,slow=7.6,SNR=6.2
ILAR PKKP PKKPdf 07 57 27.9 -0.3
comp=Z,2.5nm,0.8s,baz=141,slow=1.9,SNR=21
ILAR LR LR 08 26 00.3
comp=Z,178nm,20.7s,baz=306,slow=38
ILAR Eielson Array 93.64 22 P P 07 40 22.2 -0.8
ILAR PP PP 07 44 08.7 +0.7
ILAR PKKP PKKPdf 07 57 27.9 -0.3
SUA Susitna One 93.78 25 eP P 07 40 25.3 +1.4
comp=Z,40nm,1.1s
KULLO Kullorsuaq 93.83 352 ⇓ iP P 07 40 24.0 +0.3
KULLO pmax pmax
comp=Z,100nm,0.9s
KULLO Kullorsuaq 93.83 352 ⇓ iP P 07 40 24.0 +0.3
comp=Z,100nm,0.9s
KOWA Kowa 93.91 285 eP P 07 40 25.9 +0.7
comp=Z,35nm,1.8s
BRLK Bradley Lake 94.51 27 eP P 07 40 27.7 +0.5
comp=Z,66nm,1.0s
KDAK Kodiak Island 94.62 29 PFAKE 07 40 40.0 +12
KDAK LR LR
comp=Z,473nm,19.0s
VNDA Vanda 95.01 168 P P 07 40 29.2 +0.2
comp=Z,2.0nm,0.6s,baz=301,slow=4.9,SNR=21
VNDA PKKP PKKPdf 07 57 24.2 -2.9
comp=Z,2.7nm,0.9s,baz=180,slow=0.7,SNR=12
VNDA LR LR 08 20 22.3
comp=Z,256nm,18.1s,baz=306,slow=34
VNDA Vanda 95.01 168 eP P 07 40 29.5 +0.5
VNDA pmax pmax
comp=Z,12nm,1.0s
VNDA Vanda 95.01 168 eP P 07 40 29.5 +0.5
comp=Z,12nm,1.0s
VNDA PKKP PKKPdf 07 57 24.2 -2.9
RES Resolute Bay 95.66 2 eP P 07 40 33.2 +1.2
RES pmax pmax
comp=Z,58nm,0.8s
RES Resolute Bay 95.66 2 eP P 07 40 33.2 +1.2
comp=Z,58nm,0.8s
EGAK Eagle 95.67 20 eP P 07 40 33.5 +1.2
comp=Z,8.6nm,1.0s
EGAK LR LR
comp=Z,563nm,21.0s
INK Inuvik 95.68 16 P P 07 40 32.1 -0.1
comp=Z,18nm,0.9s,baz=341,slow=4.8,SNR=50
INK Inuvik 95.68 16 P P 07 40 32.1 -0.1
NVL N'lazarevskaya 96.04 199 eP P 07 40 37.2 +3.4
SBA Scott Base 96.11 168 eP P 07 40 35.5 +1.5
SBA Scott Base 96.11 168 eP P 07 40 35.5 +1.5
comp=Z,25nm,1.2s
SBA LR LR
comp=Z,609nm,19.0s
DBIC Dimbokro 96.17 278 P P 07 40 36.1 +0.5
comp=Z,12nm,0.7s,baz=51,slow=4.1,SNR=12
DBIC LR LR 08 23 38.2
comp=Z,288nm,19.8s,baz=60,slow=35
DBIC Dimbokro 96.17 278 eP P 07 40 36.5 +0.8
DBIC pmax pmax
comp=Z,63nm,1.4s
DBIC Dimbokro 96.17 278 eP P 07 40 36.5 +0.8
comp=Z,63nm,1.4s
DAWY Dawson 96.71 20 eP P 07 40 38.0 +0.9
comp=Z,10nm,0.9s
SFJD Kangerlussuaq 99.00 346 PFAKE 07 41 00.0 +13
SFJD LR LR
comp=Z,593nm,21.0s
QSPA South Pole Qui 99.58 180 eP Pdif 07 40 51.1 +1.2
comp=Z,8.2nm,1.1s
QSPA LR LR
comp=Z,721nm,21.0s
SNAA Sanae 100.84 199 ⇑ eP Pdif 07 40 56.1 +0.7
PMOZ Porto Moniz, M 100.99 306 eLR LR 08 16 34.8
comp=Z,378nm,20.0s
DLBC Dease Lake 103.85 22 PP PP 07 45 27.6 +1.7
comp=Z,3.7nm,1.0s,baz=296,slow=7.6,SNR=4.5
DLBC Dease Lake 103.85 22 PP PP 07 45 27.6 +1.7
WRAK Wrangell Islan 104.41 24 PFAKE 07 41 20.0 +8.4
WRAK LR LR
comp=Z,420nm,20.0s
YKA Yellowknife Ar 105.01 13 Pdiff Pdif 07 41 14.5 +0.4
comp=Z,1.0nm,0.8s,baz=331,slow=4.7,SNR=4.0
YKA PP PP 07 45 32.3 -1.9
comp=Z,8.2nm,1.0s,baz=335,slow=7.7,SNR=15
YKA PKKPbc PKKPbc 07 56 54.5 -3.7
comp=Z,1.6nm,0.6s,baz=154,slow=3.6,SNR=10.0
YKA Yellowknife Ar 105.01 13 Pdif Pdif 07 41 14.5 +0.4
YKA PP PP 07 45 32.4 -1.9
YKA PKKPbc PKKPbc 07 56 54.5 -3.7
ASCN Ascension 107.91 265 PFAKE 07 45 50.0
ASCN LR LR
comp=Z,1μm,21.0s
SCHQ Schefferville 113.43 347 PKiKP PKiKP 07 45 44.0 -0.7
comp=Z,4.2nm,0.8s,baz=88,slow=4.0,SNR=4.0
SCHQ PP PP 07 46 39.1 +3.8
comp=Z,8.9nm,0.8s,baz=22,slow=10,SNR=5.3
SCHQ PKKP PKKPdf 07 56 52.0 +0.3
comp=Z,4.9nm,0.9s,baz=215,slow=4.7,SNR=3.6
SCHQ Schefferville 113.43 347 PKiKP PKiKP 07 45 44.0 -0.7
SCHQ PP PP 07 46 39.1 +3.8
SCHQ PKKP PKKPdf 07 56 52.0 +0.3
NLWA Neilton Lookou 114.59 26 PFAKE 07 46 00.0 +13
NLWA LR LR
comp=Z,346nm,19.0s
FFC Flin Flon 114.67 9 ePKiKP PKPdf 07 45 46.8 -0.2
FFC MLR MLR
comp=Z,405nm,21.0s
FFC Flin Flon 114.67 9 ePKPdf PKPdf 07 45 46.8 -0.2
FFC LR LR
comp=Z,405nm,21.0s
NEW Newport 116.60 22 PKP PKPdf 07 45 53.1 +2.1
comp=Z,4.9nm,0.9s,baz=255,slow=3.7,SNR=3.8
NEW Newport 116.60 22 PKiKP PKPdf 07 45 53.1 +2.1
NEW MLR MLR
comp=Z,278nm,20.0s
NEW Newport 116.60 22 PKP PKPdf 07 45 53.1 +2.1
NEW LR LR
comp=Z,278nm,20.0s
HAWA Hanford 117.21 24 PFAKE 07 46 00.0 +7.8
HAWA LR LR
comp=Z,273nm,20.0s
I05D Terrebonne, OR 118.07 27 P PKPdf 07 45 54.9 +1.0
baz=322
SWMT Swartz Lake 118.35 20 ePKPdf PKPdf 07 45 54.7 +0.3
F10A Beach Ranch, E 118.47 23 ePKPdf PKPdf 07 45 55.8 +1.0
HUMO Hull Mountain 118.65 29 ePKPdf PKPdf 07 45 56.5 +1.4
J05D Fort Rock, OR 118.94 28 P PKPdf 07 45 56.4 +0.6
baz=321
MSO Missoula 118.95 21 P PKPdf 07 45 55.6 -0.1
baz=330
MSO Missoula 118.95 21 ePKPdf PKPdf 07 45 55.6 -0.1
EGMT Eagleton 119.22 17 P PKPdf 07 45 56.6 +0.5
baz=335
EGMT Eagleton 119.22 17 PFAKE 07 46 10.0 +14
EGMT LR LR
comp=Z,404nm,21.0s
PPT2 Papeete2 119.30 105 eLR LR 08 22 37.9
comp=Z,798nm,29.5s
BMO Blue Mountains 119.37 24 PFAKE 07 46 10.0 +13
BMO LR LR
comp=Z,305nm,19.0s
TBI Tubuai 119.39 111 eLR LR 08 22 41.9
comp=Z,428nm,36.5s
K05A Summer Lake 119.53 28 ePKPdf PKPdf 07 45 58.5 +1.5
M02C Callahan 119.62 30 P PKPdf 07 45 58.1 +1.0
baz=319
M04C Macdoel 119.82 29 P PKPdf 07 45 58.1 +0.6
baz=320
ULM Lac du Bonnet 119.86 6 PKP PKPdf 07 45 56.6 -0.5
comp=Z,10.0nm,0.7s,baz=83,slow=2.0,SNR=7.1
ULM PKKPbc PKKPbc 07 56 05.4 -3.0
comp=Z,8.0nm,0.8s,baz=179,slow=4.9,SNR=5.2
ULM Lac du Bonnet 119.86 6 ePKIKP PKPdf 07 45 57.0 -0.1
ULM Lac du Bonnet 119.86 6 ePKPdf PKPdf 07 45 57.0 -0.1
ULM PKKPbc PKKPbc 07 56 05.4 -3.0
DGMT Dagmar 120.22 13 P PKPdf 07 45 58.9 +1.0
baz=341
DGMT Dagmar 120.22 13 PFAKE 07 46 10.0 +12
DGMT LR LR
comp=Z,361nm,21.0s
MOD Modoc Plateau 120.45 28 ePKPdf PKPdf 07 45 59.7 +0.9
DLMT Dillon 120.69 20 ePKPdf PKPdf 07 45 59.8 +0.7
A29A Manning Farm, 120.72 9 P PKPdf 07 45 58.4 -0.5
baz=347
BOZ Bozeman (W) 120.77 20 P PKPdf 07 45 59.5 +0.3
baz=332
BOZ Bozeman (W) 120.77 20 ePKIKP PKPdf 07 46 00.2 +1.0
BOZ MLR MLR
comp=Z,319nm,20.0s
BOZ Bozeman (W) 120.77 20 ePKPdf PKPdf 07 46 00.2 +1.0
BOZ LR LR
comp=Z,319nm,20.0s
WVOR Wild Horse Val 120.78 27 ePKIKP PKPdf 07 46 00.7 +1.3
WVOR MLR MLR
comp=Z,248nm,20.0s
WVOR Wild Horse Val 120.78 27 ePKPdf PKPdf 07 46 00.7 +1.3
WVOR LR LR
comp=Z,248nm,20.0s
A30A Hoffart Farm, 120.84 8 P PKPdf 07 45 58.9 -0.2
baz=348
O03D Paynes Creek 120.97 30 P PKPdf 07 46 00.0 +0.3
baz=320
B28A Dugan Ranch, T 120.99 10 P PKPdf 07 45 59.6 +0.2
baz=345
MCMT McKenzie Canyo 121.07 21 ePKPdf PKPdf 07 46 00.3 +0.3
A32A Rocking H Ranc 121.10 7 P PKPdf 07 45 59.1 -0.5
baz=350
B29A Wagenman Farm, 121.14 9 P PKPdf 07 45 59.9 +0.2
baz=346
C25A Freed Ranch, W 121.14 12 P PKPdf 07 46 00.7 +0.9
baz=342
MFID Camas Ranch 121.16 24 ePKPdf PKPdf 07 46 00.7 +0.7
LAO LASA Array 121.41 15 P PKPdf 07 46 01.1 +0.8
baz=338
LAO LASA Array 121.41 15 ePKPdf PKPdf 07 46 01.6 +1.2
LAO LR LR
comp=Z,376nm,21.0s
B31A Greenbush Farm 121.44 8 P PKPdf 07 46 00.2 0.0
baz=348
HLID Hailey 121.58 23 P PKPdf 07 46 01.9 +1.0
baz=328
HLID Hailey 121.58 23 ePKPdf PKPdf 07 46 02.0 +1.1
HLID LR LR
comp=Z,345nm,22.0s
B32A Ashes, Strandq 121.61 7 P PKPdf 07 46 00.4 -0.1
baz=350
D25A Fairfield 121.66 13 P PKPdf 07 46 01.7 +0.9
baz=342
MDND Maddock 121.70 10 ePKPdf PKPdf 07 46 01.1 +0.3
B34A Aery, Baudette 121.72 6 P PKPdf 07 46 00.7 -0.1
baz=352
B33A Robert and Kas 121.84 6 P PKPdf 07 46 00.9 -0.1
baz=351
D26A Manning 121.97 12 P PKPdf 07 46 01.8 +0.4
baz=343
RLMT Red Lodge 121.99 18 P PKPdf 07 46 02.4 +0.7
baz=335
RLMT Red Lodge 121.99 18 ePKPdf PKPdf 07 46 02.9 +1.2
RLMT LR LR
comp=Z,404nm,19.0s
C31A Landman Farms, 122.04 8 P PKPdf 07 46 01.1 -0.3
baz=348
LKWY Lake 122.13 19 ePKIKP PKPdf 07 46 04.3 +2.2
LKWY MLR MLR
comp=Z,639nm,22.0s
LKWY Lake 122.13 19 ePKPdf PKPdf 07 46 04.3 +2.2
LKWY LR LR
comp=Z,639nm,22.0s
D28A Regan 122.17 11 P PKPdf 07 46 02.4 +0.6
baz=345
H17A Grant Village 122.22 19 P PKPdf 07 46 03.9 +1.6
baz=333
H17A Grant Village 122.22 19 ePKPdf PKPdf 07 46 03.6 +1.3
E25A Miller Ranch, 122.26 13 P PKPdf 07 46 02.8 +0.9
baz=341
C33A Trail 122.33 7 P PKPdf 07 46 01.7 -0.2
baz=350
AFDM Forest Hills D 122.41 31 ePKPdf PKPdf 07 46 03.5 +1.1
D29A Pettibone, Tap 122.47 10 P PKPdf 07 46 02.1 -0.2
baz=346
E26A Carlson Angus 122.49 12 P PKPdf 07 46 03.0 +0.6
baz=342
EYMN Ely 122.50 3 P PKPdf 07 46 02.1 -0.3
baz=355
EYMN Ely 122.50 3 ePKPdf PKPdf 07 46 02.6 +0.2
EYMN LR LR
comp=Z,623nm,22.0s
C35A Jirik Farms, M 122.57 5 P PKPdf 07 46 02.0 -0.5
baz=352
PAHR Pah Rah Range 122.60 29 ePKPdf PKPdf 07 46 04.0 +1.1
C36A Pine Crest Far 122.60 4 P PKPdf 07 46 02.5 0.0
baz=354
C37A Embarrass 122.68 4 P PKPdf 07 46 02.5 -0.1
baz=355
E27A Carson 122.72 12 P PKPdf 07 46 03.2 +0.4
baz=344
MOOW Moose Ponds 122.74 20 ePKPdf PKPdf 07 46 03.8 +0.6
E28A Huff 122.74 11 P PKPdf 07 46 02.8 0.0
baz=345
F25A Bowman 122.79 13 P PKPdf 07 46 03.6 +0.6
baz=341
TPAW Teton Pass 122.90 20 ePKPdf PKPdf 07 46 04.8 +1.2
LOHW Long Hollow 122.91 20 ePKPdf PKPdf 07 46 04.4 +0.9
PKME Peaks-Kenny Pk 122.91 345 PFAKE 07 46 10.0 +6.9
PKME LR LR
comp=Z,521nm,21.0s
SNOW Snow King Moun 122.99 20 ePKPdf PKPdf 07 46 04.8 +1.1
BMN Battle Mountai 123.02 27 ePKIKP PKPdf 07 46 05.3 +1.5
BMN Battle Mountai 123.02 27 ePKPdf PKPdf 07 46 05.3 +1.5
F26A Lodgepole 123.04 13 P PKPdf 07 46 04.0 +0.5
baz=342
REDW Red Top Meadow 123.05 20 ePKPdf PKPdf 07 46 04.8 +0.9
D36A Goodland 123.16 5 P PKPdf 07 46 03.5 -0.1
baz=353
TRQ Mont Tremblant 123.16 349 ePKPdf PKPdf 07 46 03.7 0.0
D35A Remer 123.17 5 P PKPdf 07 46 03.4 -0.2
baz=352
D37A Cotton 123.23 4 P PKPdf 07 46 03.8 +0.1
baz=354
CMB Columbia Colle 123.40 31 ePKIKP PKPdf 07 46 05.2 +0.8
CMB Columbia Colle 123.40 31 ePKPdf PKPdf 07 46 05.2 +0.8
AHID Auburn Hatcher 123.49 21 PFAKE 07 46 20.0 +15
AHID LR LR
comp=Z,387nm,22.0s
G25A Newell 123.50 14 P PKPdf 07 46 04.6 +0.2
baz=341
WAKR Walker 123.52 30 ePKPdf PKPdf 07 46 06.0 +1.2
F29A Eureka 123.62 10 P PKPdf 07 46 04.7 +0.2
baz=345
E34A Wadena 123.62 6 P PKPdf 07 46 04.6 0.0
baz=351
ELK Elko 123.63 25 ePKIKP PKPdf 07 46 06.5 +1.5
ELK Elko 123.63 25 ePKPdf PKPdf 07 46 06.5 +1.5
WVL Waterville 123.66 345 ePKPdf PKPdf 07 46 04.6 0.0
E35A Pequot Lakes 123.66 6 P PKPdf 07 46 04.6 0.0
baz=352
HVU Hansel Valley 123.73 23 ePKIKP PKPdf 07 46 05.9 +0.8
HVU Hansel Valley 123.73 23 ePKPdf PKPdf 07 46 05.9 +0.8
F30A Leola 123.75 10 P PKPdf 07 46 05.1 +0.3
baz=346
E36A McGregor 123.80 5 P PKPdf 07 46 04.9 0.0
baz=353
F31A Hecla 123.85 9 P PKPdf 07 46 04.8 -0.2
baz=347
BW06 Boulder Array 124.01 20 P PKPdf 07 46 05.9 +0.2
baz=334
BW06 Boulder Array 124.01 20 ePKPdf PKPdf 07 46 06.0 +0.4
BW06 LR LR
comp=Z,365nm,20.0s
PD31 Pinedale Array 124.01 20 ePKPdf PKPdf 07 46 06.0 +0.4
PDAR Pinedale Array 124.01 20 PKP PKPdf 07 46 05.8 +0.1
comp=Z,6.0nm,0.7s,baz=32,slow=0.8,SNR=50
PDAR SKP 07 49 35.6
comp=Z,1.6nm,0.7s,baz=297,slow=1.2,SNR=5.3
PDAR PKKPbc PKKPab 07 55 50.2 -2.4
comp=Z,1.1nm,0.6s,baz=147,slow=5.4,SNR=10.0
PDAR SKKPbc SKKPbc 07 59 44.8 +7.1
comp=Z,0.8nm,0.7s,baz=178,slow=5.5,SNR=3.8
PDAR Pinedale Array 124.01 20 PKP PKPdf 07 46 05.8 +0.1
PDAR SKP 07 49 35.6
PDAR PKKPbc PKKPab 07 55 50.2 -2.4
PDAR SKKPbc SKKPbc 07 59 44.8 +7.1
NV01 Mina Array Sit 124.13 29 ePKPdf PKPdf 07 46 07.0 +1.0
NVAR Mina Array Bea 124.13 29 PKP PKPdf 07 46 07.5 +1.5
comp=Z,9.2nm,0.8s,baz=314,slow=2.4,SNR=62
NVAR PKKPbc PKKPbc 07 55 51.4 -0.7
comp=Z,2.7nm,0.9s,baz=133,slow=3.3,SNR=11
NVAR SKKPbc SKKPbc 07 59 42.8 +5.7
comp=Z,1.0nm,1.0s,baz=114,slow=2.9,SNR=3.5
NVAR Mina Array Bea 124.13 29 PKP PKPdf 07 46 07.5 +1.5
NVAR PKKPbc PKKPbc 07 55 51.4 -0.7
NVAR SKKPbc SKKPbc 07 59 42.8 +5.7
F33A 5 Mile Ranch, 124.15 7 P PKPdf 07 46 05.5 0.0
baz=350
NV11 Mina Array Sit 124.19 29 ePKPdf PKPdf 07 46 07.4 +1.4
FRNY Flat Rock 124.31 348 ePKPdf PKPdf 07 46 05.7 -0.2
F35A Swanville 124.33 6 P PKPdf 07 46 05.8 -0.1
baz=352
HWUT Hardware Ranch 124.33 22 ePKPdf PKPdf 07 46 06.5 +0.2
HWUT LR LR
comp=Z,380nm,22.0s
RSSD Black Hills 124.36 14 P PKPdf 07 46 06.5 +0.2
baz=340
RSSD Black Hills 124.36 14 ePKIKP PKPdf 07 46 06.7 +0.4
RSSD Black Hills 124.36 14 ePKPdf PKPdf 07 46 06.7 +0.4

BGU Big Grassy Mou 124.37 23 ePKPdf PKPdf 07 46 07.5 +1.2
G30A Faulkton 124.42 10 P PKPdf 07 46 06.1 0.0
baz=346
F36A Milaca 124.43 5 P PKPdf 07 46 06.3 +0.2
baz=353
COWI Conover 124.44 1 ePKPdf PKPdf 07 46 06.2 +0.1
COWI LR LR
comp=Z,557nm,22.0s
LONY Lake Ozonia 124.71 349 PFAKE 07 46 20.0 +13
LONY LR LR
comp=Z,541nm,20.0s
G33A Ortonville 124.77 8 P PKPdf 07 46 06.6 -0.1
baz=349
G34A Benson 124.82 7 P PKPdf 07 46 06.9 +0.1
baz=350
G35A Watkins 124.97 6 P PKPdf 07 46 07.8 +0.6
baz=352
MDV Middlebury 125.02 347 ePKPdf PKPdf 07 46 07.5 +0.3
G36A St. Michael 125.03 5 P PKPdf 07 46 07.7 +0.5
baz=352
K22A Casper 125.06 17 P PKPdf 07 46 07.4 -0.2
baz=337
K22A Casper 125.06 17 ePKPdf PKPdf 07 46 07.8 +0.2
DUG Dugway, Tooele 125.08 24 P PKPdf 07 46 08.3 +0.6
baz=329
DUG Dugway, Tooele 125.08 24 ePKIKP PKPdf 07 46 08.7 +1.0
DUG MLR MLR
comp=Z,295nm,22.0s
DUG Dugway, Tooele 125.08 24 ePKPdf PKPdf 07 46 08.7 +1.0
DUG LR LR
comp=Z,295nm,22.0s
SUSD Miller 125.12 10 P PKPdf 07 46 07.6 +0.2
baz=346
SPMN Marine on St. 125.12 5 P PKPdf 07 46 07.6 +0.2
baz=354
SPMN Marine on St. 125.12 5 ePKPdf PKPdf 07 46 07.8 +0.3
H31A Wolsey 125.16 10 P PKPdf 07 46 07.5 0.0
baz=347
H33A Prehn Over Nor 125.23 8 P PKPdf 07 46 07.7 0.0
baz=349
NCB Newcomb 125.26 348 ePKPdf PKPdf 07 46 08.1 +0.4
I29A Vivian Onida 125.28 11 P PKPdf 07 46 08.6 +0.9
baz=345
SADO Sadowa 125.28 353 ePKPdf PKPdf 07 46 07.7 -0.1
H35A Sunnyside Ranc 125.45 6 P PKPdf 07 46 08.7 +0.6
baz=351
R11A Troy Canyon, C 125.45 27 P PKPdf 07 46 09.5 +1.0
baz=325
R11A Troy Canyon, C 125.45 27 ePKPdf PKPdf 07 46 09.7 +1.2
I30A Oacoma 125.55 11 P PKPdf 07 46 08.9 +0.6
baz=346
I31A Royce, Wessing 125.59 10 P PKPdf 07 46 09.0 +0.6
baz=347
H36A Jessenland, He 125.67 6 P PKPdf 07 46 09.1 +0.6
baz=352
H37A Dierke Farm, C 125.75 5 P PKPdf 07 46 08.9 +0.2
baz=354
VES Vestal, Richgr 125.75 32 P PKPdf 07 46 09.1 +0.2
baz=321
I33A Coleman 125.84 8 P PKPdf 07 46 09.1 +0.3
baz=349
J30A Dallas 126.10 11 P PKPdf 07 46 10.0 +0.6
baz=345
DAC Darwin (Calif) 126.17 30 ePKIKP PKPdf 07 46 11.4 +1.4
DAC Darwin (Calif) 126.17 30 ePKPdf PKPdf 07 46 11.4 +1.4
ECSD EROS Data Cent 126.18 8 P PKPdf 07 46 09.6 +0.1
baz=349
ECSD EROS Data Cent 126.18 8 ePKPdf PKPdf 07 46 09.8 +0.3
ECSD LR LR
comp=Z,449nm,22.0s
J31A Geddes 126.27 10 P PKPdf 07 46 10.0 +0.3
baz=346
I37A Lemond, Waseca 126.27 5 P PKPdf 07 46 09.7 +0.1
baz=353
TPNV Topopah Spring 126.29 29 P PKPdf 07 46 10.6 +0.4
baz=324
TPNV Topopah Spring 126.29 29 ePKIKP PKPdf 07 46 11.3 +1.2
TPNV Topopah Spring 126.29 29 ePKPdf PKPdf 07 46 11.3 +1.2
I38A Scanlan Farm, 126.34 4 P PKPdf 07 46 09.5 -0.3
baz=354
TRY Troy 126.34 347 ePKPdf PKPdf 07 46 10.4 +0.7
J32A Parkston 126.34 9 P PKPdf 07 46 09.7 -0.1
baz=347
FURC Furnace Creek, 126.38 29 P PKPdf 07 46 11.3 +1.3
baz=323
MPMC Manual Prospec 126.39 30 P PKPdf 07 46 11.4 +1.0
baz=322
TMUT Trail Mountain 126.48 23 ePKPdf PKPdf 07 46 11.9 +1.3
P17A Butcher Ranch, 126.50 22 ePKPdf PKPdf 07 46 11.6 +1.1
J33A Davis 126.53 9 P PKPdf 07 46 10.5 +0.3
baz=348
J34A George 126.71 8 P PKPdf 07 46 10.5 0.0
baz=350
K30A Basset 126.71 11 P PKPdf 07 46 11.4 +0.8
baz=345
LRMC Laurel Mtn Rad 126.75 31 P PKPdf 07 46 12.4 +1.4
baz=322
O20A White River Ci 126.81 20 P PKPdf 07 46 11.9 +0.8
baz=334
O20A White River Ci 126.81 20 ePKPdf PKPdf 07 46 11.9 +0.8
N23A Red Feather La 126.84 18 P PKPdf 07 46 11.5 +0.3
baz=337
N23A Red Feather La 126.84 18 ePKPdf PKPdf 07 46 11.9 +0.7
J36A Seneca 1, Swea 126.86 6 P PKPdf 07 46 10.8 0.0
baz=352
SRU San Rafael Swe 126.90 22 ePKIKP PKPdf 07 46 11.7 +0.5
SRU San Rafael Swe 126.90 22 ePKPdf PKPdf 07 46 11.7 +0.5
K31A O'Neill 126.92 10 P PKPdf 07 46 10.8 -0.1
baz=346
J37A Redenius Farm, 126.96 6 P PKPdf 07 46 11.0 0.0
baz=353
K32A Verdigre 127.02 10 P PKPdf 07 46 11.4 +0.2
baz=347
J38A Wedel Dairy, R 127.04 5 P PKPdf 07 46 10.8 -0.3
baz=354
CCUT Cedar City 127.09 26 ePKPdf PKPdf 07 46 13.7 +2.0
MMNY Mt. Morris Dam 127.11 351 ePKPdf PKPdf 07 46 11.6 +0.3
SHOC Shoshone, Teco 127.12 29 P PKPdf 07 46 13.0 +1.4
baz=324
SHPR Sheep Range 127.16 28 ePKPdf PKPdf 07 46 13.7 +1.9
MTPU Mount Pierson 127.17 25 ePKPdf PKPdf 07 46 14.1 +2.1
K34A Le Mars 127.28 8 P PKPdf 07 46 11.5 -0.1
baz=349
BINY Binghamton 127.31 349 ePKPdf PKPdf 07 46 12.0 +0.2
BINY LR LR
comp=Z,502nm,20.0s
GSC Goldstone, Bar 127.33 30 P PKPdf 07 46 13.3 +1.3
baz=323
GSC Goldstone, Bar 127.33 30 ePKIKP PKPdf 07 46 14.0 +1.9
GSC Goldstone, Bar 127.33 30 ePKPdf PKPdf 07 46 14.0 +1.9
L31A Butterfield Fa 127.33 11 P PKPdf 07 46 11.9 +0.1
baz=346
K37A Belmond 127.49 6 P PKPdf 07 46 12.0 0.0
baz=352
K36A Gilmore City 127.53 7 P PKPdf 07 46 12.0 -0.1
baz=351
JFWS Jewell Farm 127.59 3 ePKIKP PKPdf 07 46 11.8 -0.4
JFWS MLR MLR
comp=Z,380nm,19.0s
JFWS Jewell Farm 127.59 3 ePKPdf PKPdf 07 46 11.8 -0.4
JFWS LR LR
comp=Z,380nm,19.0s
L33A Hoskins 127.61 9 P PKPdf 07 46 13.1 +0.8
baz=348
PKCU Pink Cliffs 127.63 25 ePKPdf PKPdf 07 46 15.5 +2.7
TUQ Turquoise Moun 127.66 29 P PKPdf 07 46 14.1 +1.3
baz=324
K38A Parkersburg 127.69 5 P PKPdf 07 46 12.7 +0.3
baz=354
KNB Kanab 127.78 26 ePKIKP PKPdf 07 46 15.5 +2.5
KNB Kanab 127.78 26 ePKPdf PKPdf 07 46 15.5 +2.5
OGNE Ogallala 127.84 14 PFAKE 07 46 20.0 +7.1
OGNE LR LR
comp=Z,479nm,22.0s
L35A Bielow Farm, R 127.92 8 P PKPdf 07 46 13.5 +0.6
baz=350
L34A Svendsen Farm, 127.94 8 P PKPdf 07 46 13.3 +0.3
baz=349
ISCO Idaho Springs 127.95 18 ePKIKP PKPdf 07 46 14.0 +0.6
ISCO MLR MLR
comp=Z,401nm,22.0s
ISCO Idaho Springs 127.95 18 ePKPdf PKPdf 07 46 14.0 +0.6
ISCO LR LR
comp=Z,401nm,22.0s
TAOE Nuku Hiva Isla 128.00 94 eLR LR 08 26 35.8
comp=Z,526nm,25.4s

ERPA Erie 128.00 353 ePKPdf PKPdf 07 46 13.3 +0.3
L36A Harm Buss Farm 128.03 7 P PKPdf 07 46 13.4 +0.3
baz=351
SMCO Snowmass 128.09 19 ePKPdf PKPdf 07 46 14.8 +0.9
L37A Phoenix Point, 128.11 6 P PKPdf 07 46 12.9 -0.3
baz=352
ODNJ Ogdensburg 128.12 348 ePKPdf PKPdf 07 46 13.8 +0.6
AAM Ann Arbor 128.15 356 PFAKE 07 46 30.0 +17
AAM LR LR
comp=Z,531nm,20.0s
L38A Oak Wood Farm, 128.17 5 P PKPdf 07 46 12.9 -0.4
baz=353
BGNE Belgrade 128.20 10 P PKPdf 07 46 14.1 +0.7
baz=347
BGNE Belgrade 128.20 10 ePKPdf PKPdf 07 46 14.4 +1.0
M33A Taylor Creek F 128.20 9 P PKPdf 07 46 13.6 +0.1
baz=348
CPNY Central Park 128.26 347 ePKPdf PKPdf 07 46 13.8 +0.3
GMRC Granite Mounta 128.31 30 P PKPdf 07 46 15.1 +1.1
baz=324
SCIA State Center 128.38 6 ePKPdf PKPdf 07 46 14.1 +0.4
SCIA LR LR
comp=Z,946nm,22.0s
MURC Murrieta 128.47 32 P PKPdf 07 46 16.3 +2.1
baz=322
PV01 Paradox Valley 128.48 21 ePKPdf PKPdf 07 46 14.8 +0.5
U15A North Rim 128.50 26 ePKPdf PKPdf 07 46 16.4 +1.9
N59A State Game Lan 128.51 349 P PKPdf 07 46 14.6 +0.6
baz=15
M54A Oil Creek Stat 128.56 353 P PKPdf 07 46 14.3 +0.2
baz=9.9
M36A Felix, Anita 128.66 7 P PKPdf 07 46 14.6 +0.3
baz=351
LUPA Lehigh Univers 128.74 348 ePKPdf PKPdf 07 46 15.4 +1.0
BELC Belle Mtn. Jos 128.77 31 P PKPdf 07 46 16.7 +1.8
baz=323
M37A Trindle Farm, 128.79 6 P PKPdf 07 46 14.9 +0.4
baz=352
PFO Pinyon Flats O 128.84 31 PFAKE 07 46 30.0 +15
PFO LR LR
comp=Z,289nm,21.0s
RCBR Riachuelo 128.85 270 PKP PKPdf 07 46 15.5 +0.1
comp=Z,28nm,0.9s,baz=142,slow=2.7,SNR=5.3
RCBR Riachuelo 128.85 270 ePKPdf PKPdf 07 46 15.6 +0.2
RCBR LR LR
comp=Z,311nm,19.0s
M38A Pleasantville 128.87 6 P PKPdf 07 46 14.8 +0.1
baz=353
W13A Hualapai Mount 128.90 28 ePKPdf PKPdf 07 46 17.0 +1.8
N34A Lincoln 129.03 9 P PKPdf 07 46 14.9 -0.1
baz=349
N54A Moraine State 129.14 353 P PKPdf 07 46 14.8 -0.4
baz=9.6
SSPA Standing Stone 129.16 351 ePKPdf PKPdf 07 46 15.6 +0.4
O31A Woolen Ranch, 129.20 12 P PKPdf 07 46 15.9 +0.5
baz=345
N36A Muff Farm, Cla 129.27 7 P PKPdf 07 46 15.7 +0.2
baz=351
BC3 Big Chuckawall 129.32 30 P PKPdf 07 46 16.7 +0.8
baz=323
MVCO Mesa Verde 129.33 22 P PKPdf 07 46 16.8 +0.8
baz=333
MVCO Mesa Verde 129.33 22 PFAKE 07 46 30.0 +14
MVCO LR LR
comp=Z,390nm,20.0s
N37A Lee Faris, Mou 129.41 7 P PKPdf 07 46 16.3 +0.6
baz=352
PDMCI Parker Dam,Lak 129.43 29 P PKPdf 07 46 17.5 +1.6
baz=325
N39A Derby Farms, D 129.47 5 P PKPdf 07 46 15.9 +0.1
baz=354
N38A Joes South For 129.48 6 P PKPdf 07 46 16.0 +0.1
baz=353
MVL Millersville 129.51 349 ePKPdf PKPdf 07 46 16.6 +0.7
KSCO Kaye Shedlock' 129.52 15 P PKPdf 07 46 16.8 +0.6
baz=341
KSCO Kaye Shedlock' 129.52 15 ePKPdf PKPdf 07 46 17.5 +1.3
O33A Hebron 129.60 10 P PKPdf 07 46 16.5 +0.3
baz=347
O56A Blue Knob Stat 129.62 351 P PKPdf 07 46 16.5 +0.3
baz=12
O34A Beatrice 129.64 9 P PKPdf 07 46 16.6 +0.3
baz=348
WUAZ Wupatki 129.66 25 P PKPdf 07 46 18.8 +2.2
baz=329
WUAZ Wupatki 129.66 25 PFAKE 07 46 30.0 +13
WUAZ LR LR
comp=Z,243nm,20.0s
P32A Huiting Farm, 129.85 11 P PKPdf 07 46 16.9 +0.2
baz=346
SDCO Great Sand Dun 129.87 19 P PKPdf 07 46 17.3 +0.2
baz=337
SDCO Great Sand Dun 129.87 19 PFAKE 07 46 30.0 +13
SDCO LR LR
comp=Z,359nm,21.0s
O36A Bolckow 129.94 8 P PKPdf 07 46 17.0 +0.3
baz=350
HDIL Hopedale 129.98 2 P PKPdf 07 46 16.5 -0.3
baz=358
HDIL Hopedale 129.98 2 ePKPdf PKPdf 07 46 17.6 +0.8
HDIL LR LR
comp=Z,447nm,19.0s
O37A Wolven Farm, M 130.00 7 P PKPdf 07 46 17.9 +1.0
baz=352
O39A Kirksville 130.08 5 P PKPdf 07 46 17.1 +0.1
baz=354
O38A Galt 130.12 6 P PKPdf 07 46 16.8 -0.3
baz=352
ACSO Alum Creek Sta 130.16 356 ePKPdf PKPdf 07 46 17.3 +0.1
ACSO LR LR
comp=Z,445nm,22.0s
SFIN Lafayette 130.18 360 P PKPdf 07 46 17.3 +0.1
baz=0.6
SFIN Lafayette 130.18 360 ePKPdf PKPdf 07 46 17.4 +0.2
P34A Walnut Farm, R 130.24 10 P PKPdf 07 46 18.2 +0.8
baz=348
Y14A Wickenburg 130.27 28 ePKPdf PKPdf 07 46 19.4 +1.7
O40A La Belle 130.27 4 P PKPdf 07 46 17.6 +0.3
baz=354
P35A Duane Minner, 130.38 9 P PKPdf 07 46 17.4 -0.3
baz=349
CBKS Cedar Bluff 130.40 13 P PKPdf 07 46 18.1 +0.4
baz=344
CBKS Cedar Bluff 130.40 13 PFAKE 07 46 30.0 +12
CBKS LR LR
comp=Z,814nm,22.0s
P36A Good Intent, A 130.41 8 P PKPdf 07 46 17.7 0.0
baz=350
P37A Lathrop 130.55 7 P PKPdf 07 46 17.5 -0.5
baz=351
X16A Lo Mia Camp, P 130.57 26 ePKPdf PKPdf 07 46 19.9 +1.5
Q33A Connelly Farm, 130.60 11 P PKPdf 07 46 18.2 +0.1
baz=347
P38A Dawn 130.61 6 P PKPdf 07 46 18.0 0.0
baz=352
W18A Petrified Fore 130.69 24 P PKPdf 07 46 20.0 +1.4
baz=331
W18A Petrified Fore 130.69 24 ePKPdf PKPdf 07 46 20.3 +1.7
KSU1 Kansas State U 130.71 9 PFAKE 07 46 30.0 +12
KSU1 LR LR
comp=Z,388nm,20.0s
P39B Salisbury 130.82 5 P PKPdf 07 46 18.2 -0.2
baz=353
P40A Paris 130.84 5 P PKPdf 07 46 18.6 +0.1
baz=354
R32A Long Quarter, 130.99 12 P PKPdf 07 46 18.5 -0.3
baz=345
Q36A Arnold C. Orve 131.02 8 P PKPdf 07 46 19.3 +0.4
baz=350
Q35A Mercer Eighty, 131.04 9 P PKPdf 07 46 18.8 -0.1
baz=349
X18A Snowflake 131.11 25 ePKPdf PKPdf 07 46 22.0 +2.6
Q39A Willow Grove F 131.24 6 P PKPdf 07 46 19.4 +0.2
baz=353
R33A Olander Ranch, 131.24 11 P PKPdf 07 46 18.6 -0.7
baz=346
Q38A Cooks Store, C 131.26 6 P PKPdf 07 46 18.8 -0.5
baz=352
Q40A Laux Farm, Aux 131.37 5 P PKPdf 07 46 18.9 -0.6
baz=354
BLO Bloomington 131.38 359 ePKIKP PKPdf 07 46 20.7 +1.2
BLO Bloomington 131.38 359 ePKPdf PKPdf 07 46 20.7 +1.2
R34A Isabella, Hill 131.38 10 P PKPdf 07 46 19.6 0.0
baz=347
CBN Corbin Frederi 131.44 349 PFAKE 07 46 30.0 +10
CBN LR LR
comp=Z,387nm,22.0s

Q42A Golden Eagle 131.56 3 P PKPdf 07 46 20.6 +0.7
baz=356
Q43A New Douglas 131.57 2 P PKPdf 07 46 20.4 +0.6
baz=357
R36A Gordon, Harris 131.64 9 P PKPdf 07 46 19.7 -0.4
baz=350
R37A Teagarden Farm 131.75 8 P PKPdf 07 46 19.5 -0.7
baz=350
OLIL Olney 131.82 1 ePKPdf PKPdf 07 46 21.0 +0.7
R39A Chumby, Stover 131.96 6 P PKPdf 07 46 20.8 +0.1
baz=353
R38A Fenwick Farm, 131.99 7 P PKPdf 07 46 20.7 0.0
baz=352
214A Organ Pipe Nat 131.99 29 P PKPdf 07 46 22.5 +1.6
baz=326
R40A Maddies Statio 132.05 5 P PKPdf 07 46 20.9 +0.1
baz=354
ANMO Albuquerque 132.09 21 PKhKP PKPpre 07 46 14.8
comp=Z,0.9nm,0.8s,baz=302,slow=5.9,SNR=4.8
ANMO PKP PKPdf 07 46 21.6 +0.4
comp=Z,5.3nm,0.8s,baz=357,slow=2.2,SNR=22
ANMO Albuquerque 132.09 21 P PKPdf 07 46 22.2 +0.9
baz=334
ANMO Albuquerque 132.09 21 ePKPpre PKPpre 07 46 15.5
ANMO ePKPdf PKiKP 07 46 22.7 +0.4
ANMO LR LR
comp=Z,441nm,22.0s
T32A Huddler Ranch, 132.14 12 P PKPdf 07 46 21.5 +0.4
baz=345
S35A Otter Creek Ra 132.14 10 P PKPdf 07 46 21.3 +0.3
baz=348
S36A Lake Cedric, C 132.22 9 P PKPdf 07 46 21.5 +0.3
baz=349
R44A Waltonville 132.29 2 P PKPdf 07 46 21.6 +0.4
baz=358
S37A Fort Scott 132.29 8 P PKPdf 07 46 22.0 +0.7
baz=350
WCI Wyandotte Cave 132.32 359 ePKIKP PKPdf 07 46 21.5 +0.2
WCI Wyandotte Cave 132.32 359 ePKPdf PKPdf 07 46 21.5 +0.2
LAZ Ladron 132.32 22 ePKPdf PKPdf 07 46 23.3 +1.6
USHA Ushuaia 132.52 195 PKP PKPdf 07 46 22.7 +1.6
comp=Z,67nm,1.0s,baz=222,slow=3.4,SNR=3.8
USHA Ushuaia 132.52 195 PKP PKPdf 07 46 22.7 +1.6
S38A Stockton 132.54 7 P PKPdf 07 46 21.7 -0.1
baz=352
S39A Bolivar 132.54 6 P PKPdf 07 46 21.7 -0.1
baz=352
T34A McClaskey Farm 132.64 11 P PKPdf 07 46 22.0 0.0
baz=347
TUC Tucson 132.64 27 P PKPdf 07 46 23.4 +1.2
baz=328
TUC Tucson 132.64 27 ePKIKP PKPdf 07 46 23.7 +1.5
TUC MLR MLR
comp=Z,214nm,21.0s
TUC Tucson 132.64 27 ePKPdf PKPdf 07 46 23.7 +1.5
TUC LR LR
comp=Z,214nm,21.0s
RKT Rikitea 132.68 112 eLR LR 08 28 44.2
comp=Z,564nm,38.2s
Y22D IRIS PASSCAL I 132.70 22 P PKPdf 07 46 24.2 +1.9
baz=334
S40A Lebanon 132.72 5 P PKPdf 07 46 22.3 +0.1
baz=353
BNM Barren Site 132.74 22 ePKPdf PKPdf 07 46 23.7 +1.1
T36A Boggs Farm, Ca 132.82 9 P PKPdf 07 46 22.5 +0.2
baz=349
T35A Sooner Cattle 132.86 10 P PKPdf 07 46 22.8 +0.3
baz=348
BBSR BB Station 132.88 334 ePKPdf PKPdf 07 46 23.0 +0.5
BBSR LR LR
comp=Z,244nm,21.0s
BLA Blacksburg 132.89 352 PFAKE 07 46 30.0 +7.5
BLA LR LR
comp=Z,618nm,22.0s
U32A Winter Ranch, 132.90 13 P PKPdf 07 46 22.9 +0.4
baz=344
T37A Cheneyville 18 132.91 8 P PKPdf 07 46 22.8 +0.3
baz=350
U33A Lingo Farm, Me 133.03 12 P PKPdf 07 46 22.7 0.0
baz=346
T38A Diamond 133.07 8 P PKPdf 07 46 22.6 -0.2
baz=351
U34A Anderson Ranch 133.14 11 P PKPdf 07 46 22.9 0.0
baz=346
U34A Anderson Ranch 133.14 11 ePKPdf PKPdf 07 46 23.1 +0.2
T40A Mansfield 133.16 6 P PKPdf 07 46 22.7 -0.2
baz=353
T39A Clever 133.20 7 P PKPdf 07 46 22.9 -0.2
baz=352
T41A Mountain View 133.34 5 P PKPdf 07 46 23.5 +0.2
baz=354
U35A Pawnee 133.35 10 P PKPdf 07 46 23.7 +0.3
baz=348
U37A Salina 133.58 9 P PKPdf 07 46 23.7 0.0
baz=350
V33A Lossen Ranch, 133.59 12 P PKPdf 07 46 23.9 +0.1
baz=345
U38A Gravette 133.65 8 P PKPdf 07 46 23.5 -0.4
baz=351
PBMO Poplar Bluff 133.69 3 ePKPdf PKPdf 07 46 23.9 0.0
V34A Guthrie 133.73 11 ePKPdf PKPdf 07 46 25.0 +0.9
121A Cookes Peak, D 133.73 24 P PKPdf 07 46 24.8 +0.4
baz=332
121A Cookes Peak, D 133.73 24 ePKPdf PKPdf 07 46 24.8 +0.4
U39A Green Forest 133.82 7 P PKPdf 07 46 24.1 -0.1
baz=352
HHAR Hobbs 133.86 7 ePKPdf PKPdf 07 46 23.9 -0.4
TZTN Tazewell 133.87 356 ePKPdf PKPdf 07 46 24.4 +0.1
U40A Yellville 133.91 6 P PKPdf 07 46 24.4 0.0
baz=353
V35A Meyer Ranch, C 133.93 11 P PKPdf 07 46 24.6 +0.2
baz=347
TUL1 Leonard 133.96 9 P PKPdf 07 46 24.2 -0.3
baz=349
TUL1 Leonard 133.96 9 ePKPdf PKPdf 07 46 24.5 0.0
W32A Sentinel 134.05 14 P PKPdf 07 46 25.3 +0.6
baz=344
V36A Jenks 134.06 10 P PKPdf 07 46 24.8 +0.2
baz=348
V37A Hulbert 134.09 9 P PKPdf 07 46 25.0 +0.3
baz=350
319A Douglas 134.10 26 ePKPdf PKPdf 07 46 27.5 +2.5
MSTX Muleshoe 134.19 18 P PKPdf 07 46 25.2 +0.1
baz=339
MSTX Muleshoe 134.19 18 ePKPdf PKPdf 07 46 26.3 +1.2
V38A Canehill 134.22 8 P PKPdf 07 46 25.0 0.0
baz=351
W34A Bridge Creek, 134.26 12 P PKPdf 07 46 25.6 +0.5
baz=346
W34A Bridge Creek, 134.26 12 ePKPdf PKPdf 07 46 26.0 +1.0
V39A Pettigrew 134.34 7 P PKPdf 07 46 25.6 +0.3
baz=352
CNNC Cliffs of the 134.41 349 PFAKE 07 46 40.0 +15
CNNC LR LR
comp=Z,329nm,21.0s
V40A Witts Springs 134.46 6 P PKPdf 07 46 25.4 -0.1
baz=353
W35A Tecumseh 134.51 11 P PKPdf 07 46 26.0 +0.4
baz=347
WMOK Wichita Mounta 134.52 13 P PKPdf 07 46 26.0 +0.4
baz=344
WMOK Wichita Mounta 134.52 13 ePKIKP PKPdf 07 46 26.3 +0.7
WMOK MLR MLR
comp=Z,356nm,22.0s
WMOK Wichita Mounta 134.52 13 ePKPdf PKPdf 07 46 26.3 +0.7
WMOK LR LR
comp=Z,356nm,22.0s
V41A Mountainview 134.55 5 P PKPdf 07 46 25.7 0.0
baz=354
V42A Cord 134.59 5 P PKPdf 07 46 25.7 0.0
baz=355
W36A Wetumka 134.64 10 P PKPdf 07 46 26.4 +0.6
baz=348
TKL Tuckaleechee C 134.77 356 ePKIKP PKPdf 07 46 26.5 +0.5
TKL Tuckaleechee C 134.77 356 ePKPdf PKPdf 07 46 26.4 +0.5
X33A Lawton 134.77 13 P PKPdf 07 46 26.2 +0.1
baz=345
W37B Quinton 134.77 9 P PKPdf 07 46 26.3 +0.3
baz=349
X34A Smith Ranch, M 134.86 12 P PKPdf 07 46 26.4 +0.2
baz=346
W39A Magazine 134.95 7 P PKPdf 07 46 26.4 +0.1
baz=351
W38A Poteau 134.98 8 P PKPdf 07 46 26.7 +0.3
baz=350
X201 Greenbrier Sit 135.02 6 ePKPdf PKPdf 07 46 26.7 +0.2
CPCT Cooper Cave 135.02 357 ePKPdf PKPdf 07 46 27.1 +0.6

WHAR	Wooly Hollow	135.03	6	ePKPdf	PKPdf	07 46 27.0	+0.5	
KMSC	Kings Mountain	135.04	353	P	PKPdf	07 46 27.0	+0.4	
	baz=8.7							
KMSC	Kings Mountain	135.04	353	ePKPdf	PKPdf	07 46 26.9	+0.4	
W40A	Ferguson Farm,	135.04	7	P	PKPdf	07 46 26.9	+0.4	
	baz=352							
X301	Greenbrier Sit	135.07	6	ePKPdf	PKPdf	07 46 27.1	+0.5	
W41B	Gary Mavity, V	135.15	6	P	PKPdf	07 46 27.0	+0.3	
	baz=353							
X36A	Centrahoma	135.17	10	P	PKPdf	07 46 27.2	+0.4	
	baz=348							
X35A	Drake	135.22	11	P	PKPdf	07 46 27.1	+0.2	
	baz=347							
Y33A	Hilltop Ranch,	135.26	13	P	PKPdf	07 46 27.3	+0.3	
	baz=344							
SWET	Sewanee	135.31	358	ePKPdf	PKPdf	07 46 27.5	+0.4	
X37A	Clayton	135.32	9	P	PKPdf	07 46 27.5	+0.5	
	baz=349							
X38A	Whitesboro	135.33	9	P	PKPdf	07 46 27.4	+0.3	
	baz=350							
W45A	Hickory Valley	135.37	2	P	PKPdf	07 46 27.6	+0.5	
	baz=358							
MNTX	Cornudas Mount	135.40	22	P	PKPdf	07 46 28.1	+0.8	
	baz=335							
MNTX	Cornudas Mount	135.40	22	ePKPdf	PKPdf	07 46 26.2	-1.1	
MNTX				LR	LR			
	comp=Z,356nm,22.0s							
Y34A	Reagan Ranch,	135.50	12	P	PKPdf	07 46 28.1	+0.7	
	baz=346							
UALR	University of	135.53	6	ePKPdf	PKPdf	07 46 28.2	+0.7	
PLAL	Pickwick Lake	135.57	1	ePKPdf	PKPdf	07 46 26.5	-1.0	
X39A	Fountain Ranch	135.59	8	P	PKPdf	07 46 28.2	+0.6	
	baz=351							
MIAR	Mount Ida	135.62	7	P	PKPdf	07 46 28.2	+0.6	
	baz=352							
MIAR	Mount Ida	135.62	7	ePKIKP	PKPdf	07 46 28.0	+0.4	
MIAR				MLR	MLR			
	comp=Z,728nm,21.0s							
MIAR	Mount Ida	135.62	7	ePKPdf	PKPdf	07 46 28.0	+0.4	
MIAR				LR	LR			
	comp=Z,728nm,21.0s							
X40A	Basin Creek Fa	135.76	6	P	PKPdf	07 46 28.5	+0.6	
	baz=352							
X41A	Kaden, Bauxite	135.79	6	P	PKPdf	07 46 28.3	+0.4	
	baz=353							
Y36A	Durant	135.84	11	P	PKPdf	07 46 28.8	+0.7	
	baz=348							
Y37A	Hugo	135.88	10	P	PKPdf	07 46 28.6	+0.5	
	baz=349							
JSC	Jenkinsville	135.88	353	ePKIKP	PKPdf	07 46 28.7	+0.6	
JSC	Jenkinsville	135.88	353	ePKPdf	PKPdf	07 46 28.7	+0.6	
X43A	Marvell	135.91	4	P	PKPdf	07 46 28.8	+0.7	
	baz=355							
OXF	Oxford	136.00	2	ePKIKP	PKPdf	07 46 29.1	+0.8	
OXF	Oxford	136.00	2	ePKPdf	PKPdf	07 46 29.1	+0.8	
X45A	UM Field Stati	136.09	2	P	PKPdf	07 46 28.9	+0.4	
	baz=357							
Y39A	Lockesburg	136.15	8	P	PKPdf	07 46 28.9	+0.3	
	baz=351							
Y40A	Okolona	136.18	7	P	PKPdf	07 46 29.1	+0.4	
	baz=352							
Z35A	Perchaven, San	136.21	12	P	PKPdf	07 46 29.6	+0.9	
	baz=346							
ABTX	Abilene, Hawle	136.33	15	P	PKPdf	07 46 29.8	+0.8	
	baz=343							
Y41A	Eaglette Beard	136.39	6	P	PKPdf	07 46 29.6	+0.6	
	baz=353							
Z36A	Blue Ridge	136.42	11	P	PKPdf	07 46 29.5	+0.4	
	baz=347							
CCAR	Cane Creek	136.44	5	ePKPdf	PKPdf	07 46 30.4	+1.3	
Y44A	Strider, Charl	136.51	3	P	PKPdf	07 46 29.9	+0.7	
	baz=356							
Y43A	Makayla and Ka	136.51	4	P	PKPdf	07 46 29.9	+0.7	
	baz=355							
WLAR	White Oak Lake	136.52	7	ePKPdf	PKPdf	07 46 30.5	+1.2	
133A	Hamilton Ranch	136.53	14	P	PKPdf	07 46 30.0	+0.6	
	baz=344							
Y45A	Yeager Farm, C	136.64	3	P	PKPdf	07 46 29.9	+0.4	
	baz=357							
Y46A	Houston	136.65	2	P	PKPdf	07 46 29.6	+0.1	
	baz=358							
Y47A	UCPARC, Winfie	136.65	1	P	PKPdf	07 46 29.4	-0.2	
	baz=360							
134A	White-Moore Ra	136.76	13	P	PKPdf	07 46 30.7	+0.9	
	baz=345							
NHSC	New Hope	136.89	351	PFAKE		07 46 40.0	+10	
NHSC				LR	LR			
	comp=Z,434nm,22.0s							
Z40A	Long Farm, Mag	136.91	7	P	PKPdf	07 46 30.6	+0.6	
	baz=352							
135A	Vickery Place,	136.92	12	P	PKPdf	07 46 30.9	+0.8	
	baz=346							
GOGA	Godfrey	136.97	355	ePKIKP	PKPdf	07 46 30.6	+0.5	
GOGA				MLR	MLR			
	comp=Z,661nm,21.0s							
GOGA	Godfrey	136.97	355	ePKPdf	PKPdf	07 46 30.6	+0.5	
GOGA				LR	LR			
	comp=Z,661nm,21.0s							
Z41A	Richland Creek	136.98	7	P	PKPdf	07 46 30.9	+0.8	
	baz=352							
Z42A	Norrel Spur, H	137.06	6	P	PKPdf	07 46 30.9	+0.6	
	baz=354							
233A	Rising Star	137.10	14	P	PKPdf	07 46 31.0	+0.5	
	baz=344							
Z48A	Northport	137.17	0	P	PKPdf	07 46 29.9	-0.6	
	baz=360							
Z44A	Pea Ridge, Bel	137.18	4	P	PKPdf	07 46 31.9	+1.3	
	baz=356							
136A	Ennis	137.18	11	P	PKPdf	07 46 31.6	+1.1	
	baz=347							
234A	Clairette	137.29	13	P	PKPdf	07 46 31.5	+0.7	
	baz=344							
Z46A	Louisville	137.33	2	P	PKPdf	07 46 31.4	+0.5	
	baz=358							
LRAL	Lakeview Retre	137.51	359	ePKPdf	PKPdf	07 46 31.0	-0.2	
143A	Socs Landing,	137.67	5	P	PKPdf	07 46 32.3	+0.8	
	baz=354							
333A	Richland Sprin	137.74	15	P	PKPdf	07 46 32.5	+0.8	
	baz=343							
237A	Washetta, Mont	137.77	11	P	PKPdf	07 46 32.9	+1.2	
	baz=348							
144A	Alexander Plac	137.82	4	P	PKPdf	07 46 32.8	+1.1	
	baz=356							
147A	Livingston	137.87	1	P	PKPdf	07 46 32.4	+0.6	
	baz=359							
146A	Union	137.88	2	P	PKPdf	07 46 32.3	+0.4	
	baz=358							
TX31	Lajitas Ar. Si	138.16	21	ePKPdf	PKPdf	07 46 32.6	0.0	
TXAR	Lajitas Array	138.16	21	PKhKP	PKPpre	07 46 22.8		
	comp=Z,1.5nm,0.9s,baz=240,slow=1.4,SNR=6.6							
TXAR				PKP	PKPdf	07 46 32.8	+0.1	
	comp=Z,2.5nm,0.6s,baz=333,slow=0.6,SNR=16							
TXAR				PP	PP	07 49 20.2	0.0	
	comp=Z,1.1nm,0.8s,baz=23,slow=4.2,SNR=4.2							
TXAR				SKP		07 50 02.4		
	comp=Z,17nm,1.1s,baz=280,slow=0.8,SNR=14							
TXAR	Lajitas Array	138.16	21	PKPpre	PKPpre	07 46 22.8		
TXAR				PKP	PKPdf	07 46 32.8	+0.1	
TXAR				PP	PP	07 49 20.2	0.0	
TXAR				SKP		07 50 02.4		
336A	Riesel	138.17	12	P	PKPdf	07 46 33.2	+0.8	
	baz=346							
241A	Mo Tay, Goldon	138.19	7	P	PKPdf	07 46 33.4	+0.9	
	baz=352							
NATX	Nacogdoches	138.21	9	ePKPdf	PKPdf	07 46 32.5	0.0	
NATX				LR	LR			
	comp=Z,419nm,19.0s							
JCT	Junction City	138.32	16	P	PKPdf	07 46 33.8	+1.0	
	baz=342							
JCT	Junction City	138.32	16	ePKHKP	PKPpre	07 46 23.8		
JCT				e		07 46 33.6		
JCT				MLR	MLR			
	comp=Z,412nm,22.0s							
JCT	Junction City	138.32	16	ePKPpre	PKPpre	07 46 23.8		
JCT				ePKPdf	PKPdf	07 46 33.6	+0.8	
JCT				LR	LR			
	comp=Z,412nm,22.0s							
244A	Avery, Jackson	138.39	4	P	PKPdf	07 46 33.4	+0.7	
	baz=355							
434A	Burnet	138.40	14	P	PKPdf	07 46 33.3	+0.4	
	baz=344							
337A	Centerville	138.43	11	P	PKPdf	07 46 33.8	+0.9	
	baz=348							
245A	Little AP, Sta	138.45	3	P	PKPdf	07 46 33.7	+0.8	
	baz=356							
248A	Dixon Mills	138.45	0	P	PKPdf	07 46 33.9	+1.0	
	baz=360							
247A	Quitman	138.48	2	P	PKPdf	07 46 34.0	+1.1	
	baz=358							
435B	Jarrell	138.59	13	P	PKPdf	07 46 34.0	+0.8	
	baz=345							
341A	Kurthwood	138.84	7	P	PKPdf	07 46 35.0	+1.3	
	baz=352							
342A	Flagon Creek P	138.90	6	P	PKPdf	07 46 35.2	+1.5	
	baz=353							
533A	Kerrville	138.92	15	P	PKPdf	07 46 34.6	+0.7	
	baz=343							
TIGA	Tifton	138.94	355	P	PKPdf	07 46 34.8	+0.9	
	baz=5.9							
TIGA	Tifton	138.94	355	ePKPdf	PKPdf	07 46 34.5	+0.7	
344A	Westbrook Farm	138.97	4	P	PKPdf	07 46 35.2	+1.3	
	baz=355							
347A	Saraland	139.13	1	P	PKPdf	07 46 35.6	+1.5	
	baz=358							
BRAL	Brewton	139.37	360	PFAKE		07 46 50.0	+15	
BRAL				LR	LR			
	comp=Z,653nm,21.0s							
SPB	Sao Paulo	139.43	245	ePKPdf	PKPdf	07 46 36.1	+1.3	
SPB				LR	LR			
	comp=Z,631nm,22.0s							
633A	Saathoff Ranch	139.46	16	P	PKPdf	07 46 35.7	+0.9	
	baz=342							
HPIG		139.51	26	ePKPdf	PKPdf	07 46 36.0	+0.8	
635A	Leesville	139.89	14	P	PKPdf	07 46 36.7	+1.1	
	baz=344							
636A	Smothers Creek	139.96	13	P	PKPdf	07 46 37.2	+1.4	
	baz=345							
733A	Divot King Ran	140.13	16	P	PKPdf	07 46 37.2	+1.1	
	baz=342							
832A	Faith Ranch, C	140.34	17	P	PKPdf	07 46 37.3	+0.8	
	baz=341							
736A	Circle Diamond	140.47	13	P	PKPdf	07 46 38.6	+1.9	
	baz=345							
833A	Chaparral WMA,	140.47	17	P	PKPdf	07 46 38.5	+1.8	
	baz=342							
834A	Tilden	140.89	16	P	PKPdf	07 46 39.1	+1.6	
	baz=343							
BDFB	Brasilia	141.15	257	PKhKP	PKPpre	07 46 31.4		
	comp=Z,5.3nm,0.8s,baz=134,slow=5.2,SNR=11							
BDFB	Brasilia	141.15	257	PKPpre	PKPpre	07 46 31.4		
034A	Hebbronville	141.86	16	P	PKPdf	07 46 40.0	+0.7	
	baz=342							
ANWB	Willy Bob	142.85	317	PFAKE		07 46 50.0	+8.8	
ANWB				LR	LR			
	comp=Z,330nm,22.0s							
TRQA	Tornquist	143.66	215	ePKPdf	PKPbc	07 46 39.2	-0.4	
TRQA				LR	LR			
	comp=Z,366nm,20.0s							
BBGH	Gun Hill	144.22	309	PFAKE		07 47 00.0	+16	
BBGH				LR	LR			
	comp=Z,893nm,22.0s							
BAMF	Morne Balai	144.35	313	eP	PKPbc	07 46 42.4	+0.1	
CXM	Morne La Croix	144.37	313	eP	PKPbc	07 46 42.5	-0.1	
STVI	Saint Thomas	144.39	321	ePKPdf	PKPab	07 46 41.9	-0.1	
PCM	Pelee Case Pet	144.39	313	eP	PKPbc	07 46 42.6	+0.1	
FDF	Fort de France	144.40	313	eP	PKPab	07 46 42.4	+0.1	
FDF	Fort de France	144.40	313	ePKIKP	PKPbc	07 46 42.5	0.0	
FDF				MLR	MLR			
	comp=Z,224nm,22.0s							
FDF	Fort de France	144.40	313	ePKPdf	PKPbc	07 46 42.5	0.0	
FDF				LR	LR			
	comp=Z,224nm,22.0s							
BIM	Bigot	144.49	312	eP	PKPbc	07 46 42.7	-0.1	
ZAIG	Zacatecas	144.49	25	ePKPdf	PKPdf	07 46 44.5	+0.1	
CDVI	St. Croix	144.73	321	ePKPdf	PKPbc	07 46 43.4	0.0	
MCLT	Moule a Chique	144.91	311	eP	PKPab	07 46 43.6	-0.5	
MTP	Monte Pirata	144.95	322	ePKPbc	PKPab	07 46 44.1	0.0	
CBYP	Canovanas	145.00	322	ePKPbc	PKPab	07 46 43.9	-0.4	
HUMP	Col San Antoni	145.09	322	ePKPbc	PKPbc	07 46 44.6	0.0	
GRTK	Grand Turk	145.11	333	ePKPbc	PKPbc	07 46 44.5	0.0	
GRTK				LR	LR			
	comp=Z,488nm,22.0s							
SJG	San Juan	145.30	323	PKPbc	PKPbc	07 46 44.4	-0.8	
	comp=Z,90nm,0.8s,baz=45,slow=5.3,SNR=44							
SJG	San Juan	145.30	323	ePKPdf	PKPbc	07 46 44.7	-0.5	
SJG				LR	LR			
	comp=Z,323nm,22.0s							
SVB	Belmont	145.43	311	eP	PKPbc	07 46 45.3	-0.5	
SVB	Belmont	145.43	311	ePKPdf	PKPbc	07 46 45.3	-0.5	
CELP	Cerrillos	145.58	323	ePKPdf	PKPbc	07 46 46.1	0.0	
AGP	Aguadilla	145.65	324	ePKPdf	PKPdf	07 46 45.9	-0.2	
PLCA	Paso Flores	145.66	203	PKPbc	PKPbc	07 46 46.0	+0.2	
	comp=Z,202nm,0.8s,baz=172,slow=3.1,SNR=265							
PLCA	Paso Flores	145.66	203	ePKPdf	PKPab	07 46 46.5	+0.3	
GRGR	Grenville	146.45	310	PFAKE		07 47 00.0	+10	
GRGR				LR	LR			
	comp=Z,242nm,20.0s							
CPUP	Villa Florida	147.07	236	PKPbc	PKPdf	07 46 48.2	0.0	
	comp=Z,70nm,0.8s,baz=105,slow=2.8,SNR=97							
CPUP	Villa Florida	147.07	236	ePKPdf	PKPdf	07 46 48.6	+0.3	
SDDR	Presa de Saban	147.37	331	ePKPbc	PKPbc	07 46 51.5	0.0	
SDDR				LR	LR			
	comp=Z,473nm,22.0s							
BANI	BANI	147.41	329	ePKPdf	PKPbc	07 46 52.0	+0.3	
MOIG	Morelia	147.82	25	ePKPbc	PKPbc	07 46 53.3	+0.4	
GTBY	Guantanamo Bay	148.17	338	ePKPbc	PKPbc	07 46 53.8	+0.2	
GTBY				LR	LR			
	comp=Z,223nm,19.0s							
PAPH	Port-au-Prince	148.24	332	ePKPbc	PKPbc	07 46 54.8	+1.1	
CANA	Caviahue	148.30	205	eP	PKPdf	07 46 50.0	-0.2	
MRA	San Martin	149.77	218	eP	PKPdf	07 46 53.6	+1.0	
PCRV	Puerto La Cruz	149.94	310	PKPbc	PKPbc	07 46 56.3	-1.9	
	comp=Z,118nm,0.8s,baz=356,slow=2.9,SNR=56							
PCRV	Puerto La Cruz	149.94	310	PKPbc	PKPbc	07 46 56.3	-1.9	
TEIG	Tepich	150.26	2	ePKPbc	PKPbc	07 46 59.5	+0.8	
TEIG				LR	LR			
	comp=Z,197nm,22.0s							
BBJ	Bamboo Saint A	150.36	340	i/P	PKPbc	07 46 59.9	+0.8	
HOJ	Hope	150.53	339	i/P	PKPbc	07 47 00.4	+0.9	
MBJ	Montego Bay	150.53	341	i P	PKPbc	07 47 00.7	+1.2	
MTDJ	Mount Denham	150.59	341	PFAKE		07 47 10.0	+3.6	
MTDJ				LR	LR			
	comp=Z,359nm,21.0s							
ACAN	Cantantal	150.75	217	eP	PKPbc	07 47 00.3	+0.6	
TLIG	Tlapa	150.76	22	ePKPdf	PKPdf	07 46 56.7	+2.1	
TLIG				ePKPbc	PKiKP	07 47 02.3	+1.5	
MCJ	Malvern	150.93	341	i/P	PKPbc	07 47 01.1	+0.6	
AAGR	Agrelo	151.09	214	eP	PKPbc	07 47 01.6	+1.1	
PTGA	Pitinga	151.28	286	PKP	PKPdf	07 46 55.2	-0.2	
	comp=Z,18nm,1.0s,baz=73,slow=1.6,SNR=19							
PTGA				PKPbc	PKPbc	07 47 01.1	-0.3	
	comp=Z,139nm,1.1s,baz=71,slow=3.4,SNR=63							
PTGA				PKPab	PKPab	07 47 09.8	+0.3	
	comp=Z,76nm,0.8s,baz=348,slow=2.0,SNR=21							
PTGA	Pitinga	151.28	286	ePKPdf	PKPdf	07 46 55.7	+0.3	
PTGA				ePKPbc	PKiKP	07 47 01.8	-0.1	
PTGA				ePKPab	PKPab	07 47 10.1	+0.6	
ARCO	CERRO ARCO	151.33	214	eP	PKPbc	07 47 01.7	+0.5	
ASAL	Salagasta	151.47	214	eP	PKPbc	07 47 02.2	+0.8	
RTCV	Cerro Valdivia	151.84	216	eP	PKPbc	07 47 02.6	+0.4	
AUSP	Uspallata	152.05	214	eP	PKPbc	07 47 03.4	+0.4	
RTLL	Cerro Villicun	152.19	217	eP	PKPbc	07 47 03.4	+0.4	
RTLS	Leoncito	152.32	215	eP	PKPbc	07 47 04.5	+0.9	
ROC1	El Roble	152.32	211	eP	PKPdf	07 46 56.8	+0.1	
ROC1	El Roble	152.32	211	ePKPdf	PKPdf	07 46 57.2	+0.4	
ROC1				ePKPbc	PKPbc	07 47 03.5	0.0	
CMIG	Matias Romero	152.38	16	PKP	PKPdf	07 46 56.8	-0.1	
	comp=Z,6.5nm,0.8s							
CMIG				PKPbc	PKPbc	07 47 03.8	+0.1	
CMIG	Matias Romero	152.38	16	PKP	PKPdf	07 46 56.8	-0.1	
CMIG				PKPbc	PKPbc	07 47 03.8	+0.1	
CYA	Choya	152.43	224	eP	PKPdf	07 46 57.5	+0.8	
AMOG	MOGNA	152.49	217	eP	PKPbc	07 47 04.4	+0.7	
AHML	Horco Molle	153.08	228	eP	PKPdf	07 46 58.5	+0.7	
AGUA	GUANDACOL	153.51	219	eP	PKPdf	07 46 59.7	+1.3	
SIV	San Ignacio	153.58	254	PKP	PKPdf	07 46 58.5	-0.2	
	comp=Z,6.0nm,0.9s,baz=144,slow=3.0,SNR=9.0							
SIV				PKPbc	PKPbc	07 47 05.1	-1.4	
	comp=Z,12nm,0.8s,baz=116,slow=4.5,SNR=16							
SIV				PKPab	PKPab	07 47 19.5	+0.4	
	comp=Z,22nm,0.8s,baz=99,slow=5.4,SNR=18							
SIV				PP	PP	07 50 56.7	+3.2	
	comp=Z,3.3nm,0.9s,baz=121,slow=5.2,SNR=4.6							
SIV	San Ignacio	153.58	254	PKP	PKPdf	07 46 58.5	-0.2	
SIV				PKPbc	PKPbc	07 47 05.1	-1.4	
SIV				PKPab	PKPab	07 47 19.5	+0.4	
SIV				PP	PP	07 50 56.7	+3.2	
VCA	Vinchina	153.84	221	eP	PKPbc	07 47 07.8	+0.9	
FSA	Cafayete	153.94	228	eP	PKPdf	07 46 59.9	+0.7	
AZAP	Zapla	154.25	233	eP	PKPdf	07 46 59.8	0.0	
HJA	Humahuaca	155.03	235	eP	PKPdf	07 47 02.7	+1.7	
SDV	Santo Domingo	155.10	317	PKP	PKPdf	07 47 00.9	-0.2	
	comp=Z,6.7nm,0.3s,baz=336,slow=2.8,SNR=5.1							
SDV				PKPab	PKPab	07 47 25.1	-0.6	
	comp=Z,82nm,0.8s,baz=40,slow=3.1,SNR=16							
SDV	Santo Domingo	155.10	317	ePKPdf	PKPdf	07 47 01.1	0.0	
SDV				ePKPbc	PKPbc	07 47 09.2		
SDV				ePKPab	PKPab	07 47 25.7	0.0	
SDV				LR	LR			
	comp=Z,307nm,22.0s							
LCO	Las Campanas	155.20	217	ePKPdf	PKPdf	07 47 02.2	+1.3	
LCO				ePKPbc	PKPbc	07 47 10.4		
LCO				LR	LR			
	comp=Z,372nm,19.0s							
YJA	Yavi	155.59	237	eP	PKPdf	07 47 03.2	+1.3	
SAML	Samuel	156.07	270	ePKPab	PKPab	07 47 30.3	+0.5	
SAML				LR	LR			
	comp=Z,503nm,22.0s							
TGUH	Tegucigalpa,Un	156.41	360	ePKPdf	PKPdf	07 47 03.1	+0.6	
TGUH				ePKPab	PKPab	07 47 31.9	+1.2	
LVC	Limon Verde	158.10	232	PKP	PKPdf	07 47 05.6	+0.7	
	comp=Z,43nm,1.0s,baz=287,slow=2.6,SNR=7.5							
LVC				PKPab	PKPab	07 47 39.0	+0.3	
	comp=Z,181nm,0.8s,baz=197,slow=2.0,SNR=3.8							
LVC				PP	PP	07 51 19.1	+0.8	
	comp=Z,20nm,0.9s,baz=94,slow=9.1,SNR=3.0							
LVC	Limon Verde	158.10	232	ePKPdf	PKPdf	07 47 06.2	+1.2	
LVC				ePKPab	PKPab	07 47 39.6	+0.9	
LVC				PP	PP	07 51 19.1	+0.8	
LVC				LR	LR			
	comp=Z,347nm,20.0s							
PB01	IPOC Station P	159.38	235	ePKPdf	PKPdf	07 47 06.7	+0.6	
PB01				ePKPab	PKPab	07 47 44.7	+0.8	
BCIP	Isla Barro Col	159.80	338	ePKPdf	PKPdf	07 47 07.0	+0.3	
BCIP				LR	LR			
	comp=Z,323nm,20.0s							
LPAZ	La Paz	160.10	249	PKP	PKPdf	07 47 08.0	+0.2	
	comp=Z,12nm,0.9s,baz=56,slow=1.4,SNR=44							
LPAZ				PKPab	PKPab	07 47 47.8	-0.1	
	comp=Z,32nm,0.8s,baz=124,slow=3.9,SNR=27							
LPAZ	La Paz	160.10	249	ePKPdf	PKPdf	07 47 08.0	+0.2	
LPAZ				ePKPab	PKPab	07 47 48.1	+0.2	
HELC	Santa Helena	160.27	323	ePKPdf	PKPdf	07 47 07.0	-0.8	
HELC				ePKPab	PKPab	07 47 48.4	+0.2	
ROSC	El Rosal	160.54	317	PKP	PKPdf	07 47 08.4	+0.3	
	comp=Z,19nm,0.8s,baz=120,slow=4.3,SNR=15							
ROSC				PKPab	PKPab	07 47 49.7	+0.2	
	comp=Z,23nm,0.7s,baz=159,slow=18,SNR=8.8							
ROSC	El Rosal	160.54	317	ePKPdf	PKPdf	07 47 08.6	+0.5	
ROSC				ePKPab	PKPab	07 47 50.0	+0.6	
PRAC	Prado	161.75	316	ePKPdf	PKPdf	07 47 08.6	-0.4	
PRAC				ePKPab	PKPab	07 47 53.9	-0.4	
OTAV	Otavalo	166.70	317	ePKPdf	PKPdf	07 47 14.5	+0.5	
OTAV				ePKPab	PKPab	07 48 17.5	+0.9	
OTAV				LR	LR			
	comp=Z,355nm,21.0s							
NNA	Nana	169.36	257	PKP	PKPdf	07 47 15.0	-0.1	
	comp=Z,14nm,1.0s,baz=237,slow=4.3,SNR=5.9							
NNA				PKPab	PKPab	07 48 28.3	+0.3	
	comp=Z,21nm,0.8s,baz=194,slow=3.6,SNR=8.6							
NNA	Nana	169.36	257	PKIKP	PKPdf	07 47 15.0	-0.1	
NNA						07 48 28.3		
NNA				MLR	MLR			
	comp=Z,317nm,22.0s							
NNA	Nana	169.36	257	PKP	PKPdf	07 47 15.0	-0.1	
NNA				PKPab	PKPab	07 48 28.3	+0.3	
NNA				LR	LR			
	comp=Z,317nm,22.0s							
ATAH	Atahualpa	170.72	285	PKP	PKPdf	07 47 16.7	+0.3	
	comp=Z,6.1nm,0.6s,baz=343,slow=2.0,SNR=8.0							
ATAH	Atahualpa	170.72	285	PKP	PKPdf	07 47 16.7	+0.3	

ISCJB ***03*** *07:33:39.7±0.7,39°.09N±0°.04×29°.08E±0°.04,h2km±10km, Error ellipse: s-maj=6.5km s-min=5.0km az=10.1*
DDA ***03*** *07:33:39.5,39°.13N×29°.09E,h7km,Md2.7*
ISK ***03*** *07:33:39.4,39°.07N×29°.04E,h6km,MD2.8*
CSEM ***03*** *07:33:40.0±0.1,39°.10N×29°.08E,h2km,MD2.7,Error ellipse: s-maj=2.7km s-min=2.0km az=92.0*

ISC 03 07:33:39.9±0.9,39.09N±0°.02×29.09E±0°.03,h12km±10km, n29,σ0942/42,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.30	261	P	Pg	07 33 46.1	+0.1
DEMI				S	Sg	07 33 50.3	+0.2
DEMI	Demirci	0.30	261	*i* P	Pg	07 33 46.1	+0.1
DEMI				*i* S	Sg	07 33 50.4	+0.2
GDZ	Gediz	0.30	90	P	Pg	07 33 46.0	-0.1
GDZ				S	Sg	07 33 50.3	-0.1
GDZ	Gediz	0.30	90	*i* P	Pg	07 33 46.0	-0.1
GDZ				*i* S	Sg	07 33 50.3	-0.1
KULA	Kula-Manisa	0.67	210	ePG	Pg	07 33 52.6	-0.3
KULA				eSG	Sg	07 34 01.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**168**	*e*Pg	**Pb**	**07 46 18.0**	**-0.8**
KSP				*e*Sg	**Sb**	**07 46 27.7**	**0.0**
KSP	**Ksiaz**	**0.59**	**168**	*e*Pg	**Pb**	**07 46 18.0**	**-0.8**
KSP				*e*Sg	**Sb**	**07 46 27.7**	**0.0**
UPC	**Upice**	**0.92**	**184**	*e*PG	**Pb**	**07 46 24.0**	**-0.4**
UPC				*e*SG	**Sb**	**07 46 36.3**	**-0.8**
	16nm,0.3s						
UPC	**Upice**	**0.92**	**184**	Pg	**Pb**	**07 46 24.0**	**-0.4**
UPC				Sg	**Sb**	**07 46 36.3**	**-0.8**
	16nm,0.3s						
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*PG	**Pg**	**07 46 26.7**	**+0.4**
DPC				*e*SG	**Sb**	**07 46 42.2**	**+0.4**
	4.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.08**	**172**	Pg	**Pg**	**07 46 26.7**	**+0.4**
DPC				Sg	**Sb**	**07 46 42.2**	**+0.4**
	4.9nm,0.3s						
PVCC	**Panska Ves**	**1.32**	**228**	*e*PG	**Pb**	**07 46 31.0**	**-0.2**
PVCC				*e*SG	**Sb**	**07 46 48.7**	**+0.1**
	23nm,0.2s						
PVCC	**Panska Ves**	**1.32**	**228**	Pg	**Pb**	**07 46 31.0**	**-0.2**
PVCC				Sg	**Sb**	**07 46 48.7**	**+0.1**
	23nm,0.2s						
BRG	**Berggiesshubel**	**1.47**	**249**	PG	**Pn**	**07 46 32.8**	**-0.5**
BRG				SG	**Sb**	**07 46 52.8**	**-0.1**
	14nm,0.4s						
PRU	**Pruhonice**	**1.74**	**215**	*e*SG	**Sg**	**07 47 02.3**	**+0.7**
	4.8nm,0.2s						
PRU	**Pruhonice**	**1.74**	**215**	Sg	**Sg**	**07 47 02.3**	**+0.7**
	4.8nm,0.2s						
MORC	**Moravsky Berou**	**1.88**	**150**	*e*Pn	**Pn**	**07 46 38.5**	**-0.6**
MORC				*e*Sg	**Sg**	**07 47 05.9**	**-0.2**
CLL	**Collm**	**1.95**	**268**	*e*Pg	**Pn**	**07 46 40.0**	**+0.1**
CLL				*i*		07 46 43.1	
CLL				*e*Sg	**Sb**	**07 47 06.0**	**-0.7**
	comp=Z,5.0nm,0.6s						
NKC	**Novy Kostel**	**2.60**	**244**	*e*SG	**Sg**	**07 47 29.8**	**+0.6**
	comp=Z,11nm,0.3s						
NKC	**Novy Kostel**	**2.60**	**244**	Sg	**Sg**	**07 47 29.8**	**+0.6**
	comp=Z,11nm,0.3s						
STHS	**Stebnicka Huta**	**3.85**	**119**	*e*Sg	**Sg**	**07 48 10.4**	**+1.1**
STHS	**Stebnicka Huta**	**3.85**	**119**	*e*SG	**Sg**	**07 48 10.4**	**+1.1**

WEL 03 07:47:00.5±0.1, 38°.35S×177°.20E, h40km±1km, ML3.7/9, 8C-22D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.11**	**321**	⇑PN	Pn	07 47 06.8	-1.4
URZ				SN	Sn	07 47 12.2	-1.8
URZ				AML	AML	07 47 12.3	
RAGZ	**Rawiri**	**0.22**	**131**	⇑PN	Pn	07 47 07.6	-0.7
RAGZ				SN	Sn	07 47 13.4	-0.8
MWZ	**Matawai**	**0.26**	**87**	⇑PN	Pn	07 47 07.7	-0.8
MWZ				SN	Sn	07 47 12.7	-1.6
MWZ				AML	AML	07 47 14.0	
MWZ				AML	AML	07 47 16.2	
MWZ				AML	AML	07 47 16.2	
RTZ	**Ruatahuna**	**0.32**	**213**	⇓PN	Pn	07 47 08.4	-0.6
MUGZ	**Murupara**	**0.36**	**249**	⇓PN	Pn	07 47 09.2	-0.3
MUGZ				SN	Sn	07 47 16.2	+0.3
EDRZ	**Edgecumbe**	**0.44**	**303**	⇓PN	Pn	07 47 10.3	-0.1
SNGZ	**Shannon Statio**	**0.45**	**166**	⇑PN	Pn	07 47 10.5	-0.1
SNGZ				SN	Sn	07 47 19.0	+1.3
TKGZ	**Te Karaka**	**0.52**	**100**	PN	Pn	07 47 11.8	+0.3
RRRZ	**Republican Roa**	**0.54**	**271**	PN	Pn	07 47 11.3	-0.5
MARZ	**Manawahe**	**0.55**	**311**	PN	Pn	07 47 11.6	-0.4
TARZ	**Mount Tarawera**	**0.56**	**281**	⇓PN	Pn	07 47 12.2	0.0
RIGZ	**Rimuhau**	**0.57**	**129**	⇓PN	Pn	07 47 12.3	0.0
RAHZ	**Arahi**	**0.57**	**189**	⇓PN	Pn	07 47 12.2	-0.2
TWGZ	**Tauwhareparae**	**0.64**	**75**	⇓PN	Pn	07 47 13.5	+0.3
PRRZ	**Plateau Road**	**0.65**	**256**	⇓PN	Pn	07 47 12.8	-0.5
HLRZ	**Highlands Stat**	**0.67**	**278**	PN	Pn	07 47 13.5	-0.2
ALRZ	**Allen Road**	**0.71**	**252**	⇓PN	Pn	07 47 13.6	-0.4
OPRZ	**Ohinepanea**	**0.72**	**314**	PN	Pn	07 47 13.3	-0.8
HRRZ	**Handcock Road**	**0.72**	**266**	⇓PN	Pn	07 47 13.8	-0.5
WHHZ	**Waihua**	**0.73**	**178**	⇓PN	Pn	07 47 14.8	+0.4
HAZ	**Te Kaha**	**0.75**	**38**	PN	Pn	07 47 13.0	-1.6
HSRZ	**Hossack Road**	**0.75**	**272**	PN	Pn	07 47 14.5	-0.2
KNZ	**Kokohu**	**0.77**	**151**	⇓PN	Pn	07 47 14.2	-0.7
KNZ				AML	AML	07 47 38.0	
KNZ				AML	AML	07 47 52.6	
MRHZ	**Matea Rd**	**0.78**	**231**	⇓PN	Pn	07 47 14.5	-0.7
PRGZ	**Paritu Road**	**0.78**	**137**	PN	Pn	07 47 14.6	-0.6
CNGZ	**Carnagh Statio**	**0.80**	**100**	PN	Pn	07 47 15.4	0.0
NMHZ	**Naumai**	**0.81**	**202**	⇓PN	Pn	07 47 15.6	0.0
PKGZ	**Pakihiroa**	**0.83**	**57**	PN	Pn	07 47 15.6	-0.2
WPPZ	**Whakapapataran**	**0.83**	**258**	PN	Pn	07 47 14.3	-1.5
GRRZ	**Galatos Road**	**0.86**	**270**	⇓PN	Pn	07 47 16.0	-0.2
PUZ	**Puketiti**	**0.88**	**72**	PN	Pn	07 47 16.0	-0.4
PUZ				AML	AML	07 47 33.0	
PUZ				AML	AML	07 47 35.8	
ARHZ	**Aropaoanui**	**0.93**	**190**	⇓PN	Pn	07 47 17.5	+0.4
MHGZ	**Mahia Peninsul**	**0.97**	**146**	PN	Pn	07 47 17.0	-0.8
BKZ	**Black Stump Fm**	**0.99**	**214**	⇓PN	Pn	07 47 17.2	-0.8
BKZ				AML	AML	07 47 37.9	
BKZ				AML	AML	07 47 38.6	
KUTZ	**Kaahu Road**	**1.09**	**262**	⇓PN	Pn	07 47 18.9	-0.4
WMGZ	**Waiomatatini S**	**1.09**	**62**	PN	Pn	07 47 19.3	0.0
MCHZ	**McNeill Hill**	**1.16**	**200**	⇓PN	Pn	07 47 20.6	+0.3
MXZ	**Matakaoa Point**	**1.18**	**48**	PN	Pn	07 47 20.7	+0.2
MXZ				AML	AML	07 47 42.7	
MXZ				AML	AML	07 47 47.0	
RITZ	**Rihia Road**	**1.22**	**239**	⇓PN	Pn	07 47 20.9	-0.3
KWHZ	**Kaweka Forest**	**1.23**	**199**	PN	Pn	07 47 21.5	+0.1
BHHZ	**Black Hill Sta**	**1.44**	**218**	PN	Pn	07 47 23.3	-0.8
KRHZ	**Kereru**	**1.45**	**206**	PN	Pn	07 47 23.7	-0.6
OTVZ	**Oturere**	**1.45**	**235**	PN	Pn	07 47 23.9	-0.5
KAHZ	**Kahuranaki**	**1.47**	**190**	⇑PN	Pn	07 47 23.8	-0.7
TOZ	**Tahuroa Road**	**1.48**	**294**	⇓PN	Pn	07 47 23.8	-0.8
NGZ	**Ngauruhoe**	**1.50**	**236**	PN	Pn	07 47 24.6	-0.4
MOVZ	**Moawhango**	**1.55**	**226**	PN	Pn	07 47 24.8	-0.9
WHVZ	**Whangaehu Hut**	**1.57**	**233**	⇓PN	Pn	07 47 25.4	-0.7
FWVZ	**Far West T-bar**	**1.57**	**234**	PN	Pn	07 47 25.4	-0.8
WNVZ	**Wahianoa**	**1.59**	**232**	⇑PN	Pn	07 47 25.7	-0.6
PXZ	**Pawanui**	**1.70**	**189**	⇑PN	Pn	07 47 25.9	-1.8
PXZ				AML	AML	07 48 16.4	
PXZ				AML	AML	07 48 16.4	
PXZ				AML	AML	07 48 18.0	
PXZ				AML	AML	07 48 18.0	
MTVZ	**Mangateitei**	**1.70**	**232**	⇑PN	Pn	07 47 27.2	-0.6
WPHZ	**Waipukurau**	**1.81**	**199**	*e*PN	Pn	07 47 27.1	-2.2
HIZ	**Hauiti**	**1.85**	**264**	PN	Pn	07 47 29.9	+0.1
PRHZ	**Porangahau**	**1.96**	**193**	PN	Pn	07 47 29.5	-1.9
VRZ	**Vera Road**	**2.06**	**247**	PN	Pn	07 47 32.7	+0.1
DVHZ	**Dannevirke**	**2.11**	**202**	*e*PN	Pn	07 47 30.8	-2.5
ANWZ	**Angora Road**	**2.18**	**195**	PN	Pn	07 47 32.1	-2.2
WAZ	**Wanganui**	**2.22**	**230**	PN	Pn	07 47 35.1	+0.2
OHWZ	**Ohakea**	**2.36**	**218**	PN	Pn	07 47 37.0	+0.2
PRWZ	**Pori Road**	**2.40**	**203**	PN	Pn	07 47 35.7	-1.7
BFZ	**Birch Farm**	**2.44**	**197**	PN	Pn	07 47 35.2	-2.8
BFZ				SN	Sn	07 48 04.2	-2.4
LREZ	**Lake Rotokare**	**2.45**	**242**	*e*PN	Pn	07 47 38.7	+0.7
NEZ	**North Egmont**	**2.59**	**248**	PN	Pn	07 47 41.9	+1.8
MRZ	**Mangatainoka R**	**2.63**	**208**	*e*PN	Pn	07 47 36.5	-4.0
MRZ				SN	Sn	07 48 08.3	-2.8
TIWZ	**Tintock**	**2.63**	**202**	*e*PN	Pn	07 47 37.7	-2.8
TIWZ				AML	AML	07 48 10.0	
TIWZ				AML	AML	07 48 11.9	
HOWZ	**Holdsworth Sta**	**2.86**	**207**	SN	Sn	07 48 13.4	-3.4
KIW	**Kapiti Island**	**3.07**	**214**	AML	AML	07 48 33.0	
KIW				AML	AML	07 48 37.4	
QRZ	**Quartz Range**	**4.38**	**234**	PN	Pn	07 48 06.4	+2.0
THZ	**Tophouse**	**4.74**	**223**	*e*PN	Pn	07 48 07.2	-2.4
MQZ	**McQueen's Vall**	**6.36**	**211**	*e*PN	Pn	07 48 27.0	-4.6
MQZ				SN	Sn	07 49 32.1	-11
CTZ	**Chatham Island**	**7.13**	**141**	PN	Pn	07 48 39.8	-2.4
CTZ				SN	Sn	07 49 49.6	-12

*ISK **03** 08:17:45.4, 40°.83N×31°.78E, h5km, MD2.6*
*CSEM **03** 08:17:46.5±0.2, 40°.82N×31°.73E, h5km, MD2.6, Error ellipse: s-maj=3.9km s-min=3.0km az=154.0*
*DDA **03** 08:17:46.2, 40°.84N×31°.70E, h7km, Md2.6*
ISC 03 08:17:46.2±0.9, 40°.85N±0°.03×31°.71E±0°.02, h17km±6km, n41, σ0§72/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.28**	**97**	P	**Pg**	**08 17 52.5**	**+0.1**
BCAM				S	**Sg**	**08 17 55.8**	**-0.8**
BCAM	**Yenicaga**	**0.28**	**97**	*i* P	**Pg**	**08 17 52.5**	**+0.1**
BCAM				*i* S	**Sg**	**08 17 55.8**	**-0.8**
KDZE	**Karadeniz Ereo**	**0.50**	**337**	*e*PG	**Pg**	**08 17 56.6**	**+0.2**
KDZE				*e*SG	**Sb**	**08 18 04.5**	**+0.8**
KDZE	**Karadeniz Ereo**	**0.50**	**337**	*e*Pg	**Pg**	**08 17 56.6**	**+0.2**
KDZE				*e*Sg	**Sb**	**08 18 04.5**	**+0.8**
MDUB	**Mudurnu**	**0.54**	**226**	*e*PG	**Pg**	**08 17 56.9**	**-0.2**
MDUB				*e*SG	**Sb**	**08 18 05.3**	**+0.5**
MDUB	**Mudurnu**	**0.54**	**226**	*e*Pg	**Pg**	**08 17 56.9**	**-0.2**
MDUB				*e*Sg	**Sb**	**08 18 05.3**	**+0.5**
BTAS	**Taskesti**	**0.60**	**243**	P	**Pg**	**08 17 57.8**	**-0.5**
BTAS				S	**Sg**	**08 18 05.6**	**-0.7**
BTAS	**Taskesti**	**0.60**	**243**	*i* P	**Pg**	**08 17 57.8**	**-0.5**
BTAS				*i* S	**Sg**	**08 18 05.6**	**-0.7**
SAHE	**Sakarya_HENDEK**	**0.65**	**270**	P	**Pb**	**08 17 59.3**	**+0.2**
SAHE				S	**Sb**	**08 18 08.1**	**+0.4**
SAHE	**Sakarya_HENDEK**	**0.65**	**270**	*i* P	**Pb**	**08 17 59.3**	**+0.2**
SAHE				*i* S	**Sb**	**08 18 08.1**	**+0.4**
BTIN	**Bart¯–n**	**0.89**	**27**	P	**Pn**	**08 18 04.2**	**+0.3**
BTIN				S	**Sn**	**08 18 16.1**	**-0.3**
BTIN	**Bart¯–n**	**0.89**	**27**	*i* P	**Pn**	**08 18 04.2**	**+0.3**
BTIN				*i* S	**Sn**	**08 18 16.1**	**-0.3**
GULT	**Gulveren**	**1.00**	**246**	*e*PG	**Pb**	**08 18 05.2**	**+0.1**
GULT	**Gulveren**	**1.00**	**246**	*e*Pg	**Pb**	**08 18 05.2**	**+0.1**
SPNC	**Sapanca-Adapaz**	**1.07**	**262**	*e*PN	**Pg**	**08 18 07.3**	**+0.3**
SPNC	**Sapanca-Adapaz**	**1.07**	**262**	*e*Pn	**Pg**	**08 18 07.3**	**+0.3**
KAND	**Kocaeli-Kandir**	**1.17**	**283**	P	**Pg**	**08 18 08.9**	**0.0**
KAND				S	**Sg**	**08 18 24.6**	**+0.4**
KAND	**Kocaeli-Kandir**	**1.17**	**283**	*i* P	**Pg**	**08 18 08.9**	**0.0**
KAND				*i* S	**Sg**	**08 18 24.6**	**+0.4**
ELDT	**Eldivan**	**1.36**	**105**	P	**Pn**	**08 18 10.1**	**-0.4**
ELDT				S	**Sg**	**08 18 31.1**	**+0.9**
ELDT	**Eldivan**	**1.36**	**105**	*i* P	**Pn**	**08 18 10.1**	**-0.4**
ELDT				*i* S	**Sg**	**08 18 31.1**	**+0.9**
BORA	**Eskisehir**	**1.36**	**225**	P	**Pb**	**08 18 11.7**	**+0.4**
BORA				S	**Sg**	**08 18 30.6**	**+0.3**
BORA	**Eskisehir**	**1.36**	**225**	*i* P	**Pb**	**08 18 11.7**	**+0.4**
BORA				*i* S	**Sg**	**08 18 30.6**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.41**	**186**	*e*PN	**Pn**	**08 18 11.7**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.41**	**186**	*e*Pn	**Pn**	**08 18 11.7**	**+0.5**
ESKT	**Eskisehir**	**1.48**	**207**	*e*PN	**Pb**	**08 18 13.4**	**+0.1**
ESKT	**Eskisehir**	**1.48**	**207**	*e*Pn	**Pb**	**08 18 13.5**	**+0.1**
ESKT	**Eskisehir**	**1.48**	**207**	*i* P	**Pg**	**08 18 14.7**	**-0.1**
ESKT				*i* S	**Sb**	**08 18 33.1**	**+1.2**
SEYT	**Eskypehyr**	**1.48**	**207**	P	**Pg**	**08 18 14.7**	**-0.1**
SEYT				S	**Sb**	**08 18 33.1**	**+1.2**
HRT	**Hereke**	**1.55**	**270**	*e*PN	**Pb**	**08 18 15.1**	**+0.7**
HRT	**Hereke**	**1.55**	**270**	*e*Pn	**Pb**	**08 18 15.1**	**+0.7**
ADVT	**Abdulvahap**	**1.55**	**255**	*e*PN	**Pb**	**08 18 15.2**	**+0.7**
ADVT	**Abdulvahap**	**1.55**	**255**	*e*Pn	**Pb**	**08 18 15.2**	**+0.7**
CAVI	**Cavuskoy**	**1.56**	**246**	*e*PN	**Pb**	**08 18 15.2**	**+0.6**
CAVI	**Cavuskoy**	**1.56**	**246**	*e*Pn	**Pb**	**08 18 15.2**	**+0.6**
SILT	**Sile**	**1.59**	**282**	*e*PN	**Pb**	**08 18 15.8**	**+0.7**
SILT	**Sile**	**1.59**	**282**	*e*Pn	**Pb**	**08 18 15.8**	**+0.7**
IZI	**Iznik**	**1.77**	**254**	*e*PN	**Pb**	**08 18 18.8**	**+0.4**
IZI	**Iznik**	**1.77**	**254**	*e*Pn	**Pb**	**08 18 18.8**	**+0.4**
ARMT	**Armutlu**	**2.18**	**263**	*e*PN	**Pb**	**08 18 24.1**	**-1.1**
ARMT	**Armutlu**	**2.18**	**263**	*e*Pn	**Pb**	**08 18 24.1**	**-1.1**
BRG	**Berggiesshubel**	**15.88**	**315**	SG	**S**	**08 24 35.1**	**-3.4**
	3.1nm,0.5s						

JMA 03 08:21:00.7, 35°.00N×135°.59E, h10km±1km, M3.1, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.32**	**331**	P	Pg	08 21 07.1	0.0
JWT				S	Sg	08 21 11.3	-0.2
JHE	**Heguri**	**0.35**	**167**	P	Pg	08 21 07.7	0.0
JKS	**Kasai**	**0.61**	**269**	P	Pg	08 21 12.3	-0.3
JKS				S	Sg	08 21 20.3	-0.3
TSUJ	**Tsu 2**	**0.74**	**113**	P	Pg	08 21 14.6	-0.4
TSUJ				S	Sg	08 21 24.2	-0.5
JKY	**Yasaka**	**0.74**	**328**	P	Pg	08 21 14.7	-0.4
JWY	**Kouya**	**0.78**	**180**	P	Pg	08 21 15.4	-0.4
JWY				S	Sg	08 21 25.5	-0.4
JAJ2	**Tsuna**	**0.82**	**225**	P	Pg	08 21 15.9	-0.6
JKN2	**Miekihoku**	**0.95**	**143**	P	Pg	08 21 18.2	-0.7
JKN2				S	Sg	08 21 30.6	-0.6
JKSM	**Kasumi**	**0.96**	**308**	P	Pg	08 21 18.5	-0.6
JKSM				S	Sg	08 21 31.0	-0.6
MAT	**Matsushiro**	**2.63**	**53**	P	Pn	08 21 44.1	+0.9
MAT				S	Sn	08 22 15.9	+0.8

KRSC 03 08:24:12.7±1.4, 54°.77N×165°.62E, h20km±10km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.48**	**25**	*i* P	Pb	08 24 22.3	-0.1
BKI				*i* S	Sb	08 24 28.0	-1.0
KBG	**Krutoberegovo**	**2.23**	**313**	S	Sb	08 25 19.5	+0.2
MKZ	**Mys Kozlova**	**2.27**	**266**	*e*P	Pb	08 24 52.5	-0.4
MKZ				*e*S	Sb	08 25 19.3	-1.2
KMNR	**Kamenistaya**	**3.23**	**290**	P	Pb	08 25 05.2	-3.2
NLC	**Nalytchevo**	**4.04**	**249**	*e*S	Sn	08 26 02.7	+2.9
SDLR	**Sedlovina**	**4.24**	**252**	*e*P	Pn	08 25 21.0	+4.8
SDLR				*e*S	Sn	08 26 09.0	+3.8
SMAR	**Somma**	**4.30**	**252**	*e*P	Pn	08 25 21.7	+4.7
UGLR	**Uglovaya**	**4.30**	**251**	*e*P	Pn	08 25 21.7	+4.7
KRER	**Koryakskii**	**4.31**	**253**	*e*P	Pn	08 25 22.1	+4.9
AVH	**Avacha**	**4.33**	**252**	*e*P	Pn	08 25 22.2	+4.8
AVH				*e*S	Sn	08 26 10.6	+3.4
KRX	**Arik**	**4.34**	**254**	*e*P	Pn	08 25 22.3	+4.7
GNL	**Ganaly**	**4.63**	**260**	*e*P	Pn	08 25 26.1	+4.6
RUS	**Russkaya**	**4.84**	**244**	*e*P	Pn	08 25 28.4	+4.2
KRMR	**Karymshinskiy**	**4.85**	**249**	*e*S	Sn	08 26 24.0	+4.2
ASAK	**Asacha**	**5.18**	**246**	*e*P	Pn	08 25 34.5	+5.4

*IDC **03** 08:30:25.1±3.1, 22°.77S×170°.42E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/32, mbtmpb3.7/5, ML3.7/1, MS3.6/2, Ms1 3.7/2, ms1mx3.0/30, Error ellipse: s-maj=118.2km s-min=32.1km az=158.0*
ISC 03 08:30:30.5±1.7, 22°.7S±0°.5×170°.3E±0°.1, h28km, n8, σ1§13/8, mb3.9/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.62**	**279**	Pn	**Pn**	**08 31 24.8**	**-0.1**
	6.2nm,0.3s,baz=121,slow=17,SNR=14						
DZM				Sn	**Sn**	**08 32 07.4**	**+0.6**
	4.4nm,0.3s,baz=79,slow=14,SNR=4.6						
DZM				LR	LR	08 32 56.0	
	comp=Z,306nm,18.4s,baz=28,slow=40						
ASAR	**Alice Springs**	**33.42**	**261**	P	**P**	**08 37 07.0**	**-0.1**
	0.4nm,0.8s,baz=79,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**33.56**	**268**	P	**P**	**08 37 07.7**	**-0.7**
	0.7nm,0.9s,baz=101,slow=8.4,SNR=2.9						
CMAR	**Chiang Mai Arr**	**80.82**	**294**	P	**P**	**08 42 43.2**	**+1.0**
	0.5nm,0.3s,baz=140,slow=4.5,SNR=4.2						
NVAR	**Mina Array Bea**	**90.35**	**48**	LR	LR	09 18 41.3	
	comp=Z,66nm,19.3s,baz=102,slow=32						
SONM	**Songino Array**	**90.56**	**323**	P	**P**	**08 43 28.2**	**-1.9**
	0.4nm,0.4s,baz=155,slow=4.8,SNR=1.7						
ILAR	**Eielson Array**	**93.22**	**17**	P	**P**	**08 43 42.6**	**+0.8**
	0.4nm,0.8s,baz=232,slow=4.4,SNR=4.0						
GERES	**GERESS Array B**	**147.98**	**330**	PKPbc	**PKPdf**	**08 50 10.9**	**+0.8**
	1.0nm,0.8s,baz=30,slow=3.5,SNR=6.5						

*NIED **03** 08:36:00, 37°.70N×143°.80E, h5km, Mw3.8 Best double couple: M0 6.36000×10^14 NP1:φs 26.00000°, δ 18.00000°, λ -101.00000°. NP2:φs 217.00000°, δ 72.00000°, λ -86.00000°.*
*IDC **03** 08:36:34.4±1.0, 37°.54N×144°.05E, h0km, mb3.9/4, mb1 4.0/9, mb1mx3.7/46, mbtmpb3.9/9, ML3.7/4, Error ellipse: s-maj=29.0km s-min=18.9km az=90.0*
*ISCJB **03** 08:36:36.9±0.8, 37°.61N±0°.05×143°.92E±0°.06, h33km, mb4.0/4, Error ellipse: s-maj=6.9km s-min=6.5km az=155.3*
*JMA **03** 08:36:38.8±0.1, 37°.74N×143°.85E, h34km, MJ3.7*
ISC 03 08:36:39.5±1.1, 37°.63N±0°.06×143°.86E±0°.09, h35km, n20, σ1§85/30, mb4.0/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.14**	**293**	S	**Sn**	**08 37 38.1**	**+0.1**
OFUJ	**Ofunato**	**2.25**	**311**	P	**Pn**	**08 37 13.8**	**-0.3**
OFUJ				*e*S	**Sn**	**08 37 39.9**	**-0.7**
JMK	**Ichinoseki**	**2.46**	**303**	P	**Pn**	**08 37 17.3**	**+0.3**
JMK				*e*S	**Sn**	**08 37 46.0**	**+0.2**
JOU	**Okura**	**2.63**	**287**	P	**Pn**	**08 37 20.4**	**+1.0**
JOM	**Ohasama**	**2.72**	**313**	P	**Pn**	**08 37 21.1**	**+0.4**
JOM				*e*S	**Sn**	**08 37 52.2**	**-0.2**
JFT	**Otama**	**2.80**	**269**	S	**Sn**	**08 37 55.3**	**+1.1**
JYK	**Kaneyama**	**3.04**	**296**	P	**Pn**	**08 37 26.0**	**+1.0**
JYK				*e*S	**Sn**	**08 38 01.0**	**+0.9**
JRG	**Rokugo**	**3.08**	**306**	P	**Pn**	**08 37 26.3**	**+0.7**
JANG	**Nango**	**3.29**	**327**	*e*S	**Sn**	**08 38 05.2**	**-1.2**
JRY	**Ryogami san**	**4.29**	**249**	P	**Pn**	**08 37 42.6**	**+0.4**
JRY				S	**Sn**	**08 38 30.1**	**-0.9**
MJAR	**Matsushiro Arr**	**4.64**	**258**	Pn	**Pn**	**08 37 48.0**	**+0.9**
	3.2nm,0.3s,baz=85,slow=15,SNR=23						
MJAR				Sn	**Sn**	**08 38 40.8**	**+1.0**
	0.9nm,0.3s,baz=80,slow=22,SNR=7.0						
JCH	**Churui**	**4.99**	**356**	P	**Pn**	**08 37 50.3**	**-1.5**
JCH				*e*S	**Sn**	**08 38 43.6**	**-4.7**
JHJ	**Hachijo jima 2**	**5.60**	**218**	Pn	**Pn**	**08 37 57.8**	**-2.4**
	8.8nm,0.3s,baz=72,slow=20,SNR=2.6						
JHJ				Sn	**Sn**	**08 38 57.3**	**-5.9**
	12nm,0.3s,baz=70,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**6.55**	**352**	Pn	**Pn**	**08 38 12.5**	**-0.7**
	2.5nm,0.3s,baz=213,slow=12,SNR=13						
ASAJ				Sn	**Sn**	**08 39 23.6**	**-3.0**
	0.7nm,0.3s,baz=210,slow=20,SNR=3.5						
USRK	**Ussuriysk Ar.**	**11.12**	**310**	Pn	**Pn**	**08 39 17.9**	**+2.1**
	0.2nm,0.3s,baz=112,slow=14,SNR=3.7						
KLR	**Kul'dur**	**14.53**	**327**	Pn	**Pn**	**08 40 01.8**	**-0.6**
	0.1nm,0.3s,baz=126,slow=14,SNR=2.3						
MKAR	**Makanchi Array**	**45.45**	**302**	P	**P**	**08 44 56.6**	**+1.7**
	0.3nm,0.4s,baz=73,slow=9.7,SNR=3.7						
ILAR	**Eielson Array**	**47.95**	**33**	P	**P**	**08 45 14.2**	**+0.1**
	0.9nm,0.9s,baz=259,slow=6.9,SNR=8.6						
WRA	**Warramunga Arr**	**57.96**	**191**	P	**P**	**08 46 27.9**	**-0.5**
	3.1nm,0.6s,baz=10,slow=7.1,SNR=41						
WRA				PcP	**PcP**	**08 47 20.8**	**+0.5**
	0.3nm,0.7s,baz=6.2,slow=4.4,SNR=4.5						
ASAR	**Alice Springs**	**61.69**	**190**	P	**P**	**08 46 54.0**	**0.0**
	1.3nm,0.7s,baz=9.3,slow=7.8,SNR=16						

*ISCJB **03** 08:43:50.9±0.9, 38°.70N±0°.04×29°.29E±0°.07, h4km±6km, Error ellipse: s-maj=9.0km s-min=7.0km az=23.5*
*DDA **03** 08:43:50.7, 38°.73N×29°.30E, h7km, Md2.6*
*ISK **03** 08:43:51.2, 38°.73N×29°.25E, h7km, MD2.7*
*CSEM **03** 08:43:51.1±0.1, 38°.70N×29°.30E, h5km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.6km az=107.0*
ISC 03 08:43:51.0±1.2, 38°.71N±0°.04×29°.30E±0°.04, h13km±13km, n16, σ0§39/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHAL	**Karahalli**	**0.37**	**156**	P	**Pg**	**08 43 58.4**	**-0.1**
KHAL	**Karahalli**	**0.37**	**156**	*i* P	**Pg**	**08 43 58.4**	**-0.1**
GDZ	**Gediz**	**0.40**	**20**	P	**Pg**	**08 43 58.7**	**-0.4**
GDZ				S	**Sg**	**08 44 05.0**	**+0.4**
GDZ	**Gediz**	**0.40**	**20

	baz=27					
FIA0	**FINESS Array S**	**3.91 212**	Pn	**Pn**	**09 05 43.0**	**+0.4**
	SNR=50					
FIA0			Sn	**Sn**	**09 06 29.6**	**+0.5**
	SNR=50					
FIA0			Lg	Lg	09 06 41.0	
	SNR=1.8					
FINES	**FINESS Array B**	**3.91 212**	Pn	**Pn**	**09 05 43.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=34,slow=13,SNR=9.5					
FINES			Pg	**Pb**	**09 05 51.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=33,slow=14,SNR=16					
FINES			Sn	**Sn**	**09 06 29.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=38,slow=23,SNR=7.1					
FINES			Lg	Lg	09 06 40.7	
	comp=Z,1.0nm,0.3s,baz=33,slow=28,SNR=7.1					
UMAU	**Umeaa**	**4.31 262**	SN	**Sn**	**09 06 40.4**	**+1.5**
UMAU	**Umeaa**	**4.31 262**	Sn	**Sn**	**09 06 40.4**	**+1.5**
HEF	**Hetta**	**4.47 326**	PN	**Pn**	**09 05 52.4**	**+2.0**
HEF			SG	**Sg**	**09 07 01.8**	**-3.2**
HEF	**Hetta**	**4.47 326**	Pn	**Pn**	**09 05 52.4**	**+2.0**
VJF	**Virojoki**	**4.49 198**	SG	**Sb**	**09 06 59.1**	**+3.5**
LANU	**Lannavaara**	**4.66 318**	PN	**Pn**	**09 05 54.3**	**+1.3**
LANU			SG	**Sg**	**09 07 07.3**	**-3.6**
LANU	**Lannavaara**	**4.66 318**	P	**Pn**	**09 05 53.5**	**+0.6**
LANU	**Lannavaara**	**4.66 318**	Pn	**Pn**	**09 05 54.2**	**+1.3**
PVF	**Pernaja**	**4.77 208**	SG	**Sb**	**09 07 07.6**	**+4.0**
ARA0	**ARCESS Array S**	**5.09 340**	Pn	**Pn**	**09 05 58.7**	**-0.1**
	baz=155,slow=14					
ARA0			Sn	**Sn**	**09 06 55.9**	**-2.4**
	baz=156,slow=28					
ARA0			Lg	Lg	09 07 17.1	
	baz=153,slow=37					
ARA0	**ARCESS Array S**	**5.09 340**	Pn	**Pn**	**09 05 58.7**	**-0.1**
	baz=155,slow=14					
ARA0			Sn	**Sn**	**09 06 55.9**	**-2.4**
	baz=156,slow=28					
ARA0			Lg	Lg	09 07 17.1	
	baz=153,slow=37					
ARA0	**ARCESS Array S**	**5.09 340**	Pn	**Pn**	**09 05 58.7**	**-0.1**
	SNR=50					
ARA0			Sn	**Sn**	**09 06 55.8**	**-2.4**
	SNR=50					
ARA0			Lg	Lg	09 07 17.1	
	SNR=2.2					
ARCES	**ARCESS Array B**	**5.09 340**	Pn	**Pn**	**09 05 58.8**	**0.0**
	comp=Z,1.1nm,0.3s,baz=148,slow=12,SNR=41					
ARCES			Sn	**Sn**	**09 06 57.0**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=154,slow=25,SNR=7.7					
ARCES			Lg	Lg	09 07 17.0	
	comp=Z,1.7nm,0.3s,baz=155,slow=30,SNR=16					
BREU	**Bredtraesk**	**5.20 265**	P	**Pn**	**09 06 00.4**	**+0.1**
SALU	**Saltoluokta**	**5.45 303**	P	**Pn**	**09 06 04.9**	**+1.1**
NIKU	**Nikkaluokta**	**5.48 309**	P	**Pn**	**09 06 05.6**	**+1.4**
KIF	**Kilpisjarvi**	**5.63 322**	Pn	**Pn**	**09 06 07.2**	**+1.0**
KIF			Sn	**Sn**	**09 07 12.2**	**+0.9**
KIF			Lg	Lg	09 07 32.9	
KIF	**Kilpisjarvi**	**5.63 322**	Pn	**Pn**	**09 06 07.2**	**+1.0**
KIF			Sn	**Sn**	**09 07 12.2**	**+0.9**
KIF			Lg	Lg	09 07 32.9	
KIF	**Kilpisjarvi**	**5.63 322**	Pn	**Pn**	**09 06 07.2**	**+1.0**
	SNR=50					
KIF			Sn	**Sn**	**09 07 12.2**	**+0.9**
	SNR=50					
HFS	**Hagfors**	**9.02 246**	Lg	Lg	09 09 23.0	
	baz=66,slow=28					
HFS	**Hagfors**	**9.02 246**	Pn	**Pn**	**09 06 54.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=57,slow=15,SNR=3.3					
HFS			Sn	**Sn**	**09 08 31.5**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=53,slow=20,SNR=2.9					
HFS			Lg	Lg	09 09 22.9	
	comp=Z,0.4nm,0.3s,baz=62,slow=28,SNR=3.5					
HFS	**Hagfors**	**9.02 246**	Lg	Lg	09 09 23.0	
	baz=66,slow=28					
NB2	**NORSAR Subarra**	**9.50 255**	Pn	**Pn**	**09 07 00.3**	**+1.0**
NB2	**NORSAR Subarra**	**9.50 255**	Pn	**Pn**	**09 07 00.3**	**+1.0**
NB2	**NORSAR Subarra**	**9.50 255**	Pn	**Pn**	**09 07 00.3**	**+1.0**
	SNR=50					
NOA	**NORSAR Array B**	**9.50 255**	Pn	**Pn**	**09 07 00.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=58,slow=12,SNR=3.3					
NOA			Sn	**Sn**	**09 08 43.9**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=68,slow=19,SNR=3.0					
NOA			Lg	Lg	09 09 36.5	
	comp=Z,0.3nm,0.3s,baz=99,slow=17,SNR=3.6					

DDA 03 09:13:24.9, 37.12N×27.62E, h7km, Md2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AYDN	**Tasoluk**	**0.58**	**21**	*i* P		Pb	09 13 37.5	0.0
AYDN				*i* S		Sb	09 13 44.9	-1.1
TURN	**Turunc**	**0.82**	**107**	*i* P		Pg	09 13 36.5	-4.3
TURN				*i* S		Sg	09 13 46.0	-5.5

*CSEM **03** 09:13:25.4, 36.41N×25.40E, h4km, ML0.7/1*

THE 03 09:13:25.4, 36.41N×25.40E, h4km±2km, ML0.7/1, Error ellipse: s-maj=2.7km s-min=0.6km az=26.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
THR3	**Thira Island,**	**0.00**	**167**	P		Pg	09 13 26.3	+0.2
THR3	**Thira Island,**	**0.00**	**167**	P		Pg	09 13 26.3	+0.2
THR5	**Thira Island,**	**0.04**	**276**	P		Pg	09 13 26.5	0.0
THR5	**Thira Island,**	**0.04**	**276**	P		Pg	09 13 26.5	0.0
THR6	**Thira Island,**	**0.06**	**182**	P		Pg	09 13 26.9	+0.2
THR6	**Thira Island,**	**0.06**	**182**	P		Pg	09 13 26.9	+0.2
SANT	**Santorini**	**0.06**	**131**	P		Pg	09 13 27.1	+0.3
SANT				S		Sg	09 13 28.1	+0.3
SANT	**Santorini**	**0.06**	**131**	P		Pg	09 13 27.1	+0.3
SANT				S		Sg	09 13 28.1	+0.3

MAN 03 09:16:21, 17.60N×121.47E, h38km, mb3.9, ML2.7, MS2.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
APYP	**Conner**	**0.34**	**321**	*e*P		Pn	09 16 31.5	+2.1
APYP				*e*S		Sn	09 16 38.8	+2.7
CVP	**Callao Caves**	**0.35**	**73**	*e*P		Pn	09 16 30.6	+1.0
CVP				*i* S		Sn	09 16 37.7	+1.4
ABRA	**Dolores**	**0.72**	**274**	*e*P		Pn	09 16 36.4	+1.7
ABRA				*e*S		Sn	09 16 46.6	+2.1
CAUP	**Cauayan**	**0.73**	**152**	*e*P		Pn	09 16 36.5	+1.7
CAUP				*e*S		Sn	09 16 48.5	+3.7
BALP	**Baler**	**1.85**	**177**	*e*P		Pn	09 16 51.8	+1.6
BALP				*e*S		Sn	09 17 13.2	+0.9

*IDC **03** 09:18:18.3±1.5, 19.89S×168.14E, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/33, mbtmp3.6/6, ML2.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/24, Error ellipse: s-maj=66.1km s-min=23.1km az=141.0*

*ISCJB **03** 09:18:20.8±1.2, 20.1S±0.2×168.1E±0.3, h27km, mb3.6/5, MS3.1/1, Error ellipse: s-maj=41.9km s-min=11.6km az=35.8*

ISC 03 09:18:22.0±1.4, 20.2S±0.3×168.2E±0.3, h27km, n6, σ1s57/7, mb3.7/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**2.50**	**221**	Pn		**Pn**	**09 19 01.0**	**0.0**
	2.2nm,0.3s,baz=72,slow=19,SNR=86							
DZM				Sn		**Sn**	**09 19 29.4**	**-1.3**
	13nm,0.3s,baz=171,slow=3.6,SNR=8.8							
DZM				LR		LR	09 20 03.5	
	comp=Z,249nm,20.1s,baz=12,slow=39							
STKA	**Stephens Creek**	**26.52**	**239**	P		**P**	**09 24 00.1**	**+2.6**
	1.5nm,0.9s,baz=50,slow=7.9,SNR=2.6							
WRA	**Warramunga Arr**	**31.78**	**264**	P		**P**	**09 24 43.6**	**-0.7**
	0.2nm,0.6s,baz=92,slow=8.3,SNR=4.9							
ASAR	**Alice Springs**	**31.96**	**257**	P		**P**	**09 24 46.1**	**+0.1**
	0.9nm,0.8s,baz=88,slow=8.6,SNR=9.3							
ASAR				LR		LR	09 36 41.6	
	comp=Z,40nm,19.7s,baz=101,slow=34							
NVAR	**Mina Array Bea**	**90.15**	**49**	P		**P**	**09 31 20.4**	**+0.2**
	0.6nm,0.9s,baz=217,slow=5.5,SNR=3.0							
ILAR	**Eielson Array**	**91.42**	**18**	P		**P**	**09 31 24.2**	**-1.0**
	0.2nm,0.6s,baz=233,slow=5.5,SNR=2.7							

*MOS **03** 09:43:46.9±2.1, 46.69N×152.98E, h38km, mb4.2/3, Error ellipse: s-maj=20.0km s-min=11.2km az=56.5*

*IDC **03** 09:43:48.3±3.4, 46.87N×153.13E, h58km±29km, mb3.4/6, mb1 3.5/8, mb1mx3.2/45, mbtmp3.7/8, ML3.1/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/27, Error ellipse: s-maj=30.9km s-min=23.6km az=120.0*

ISC 03 09:43:43.8±1.1, 46.5N±0.1×153.3E±0.1, h24km, n23, σ2s64/17, mb3.8/6, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KUR	**Kuril'sk**	**4.01**	**254**	↓*i* PN		**Pn**	**09 44 44.9**	**+1.3**
KUR				*e*S		**Sn**	**09 45 30.4**	**+0.6**
KUR				pmax	pmax			
	comp=Z,60nm,0.3s							
KUR				smax	smax			
	comp=N,90nm,0.4s							
KUR				smax	smax			
	comp=E,55nm,0.4s							
SKR	**Severo-Kuril's**	**4.61**	**23**	*e*PN		**Pn**	**09 44 55.6**	**+3.7**
SHO	**Shikotan**	**5.27**	**243**	↓*i* PN		**Pn**	**09 45 01.2**	**+0.2**
SHO				*e*S		**Sn**	**09 45 59.1**	**-1.9**
SHO				pmax	pmax			
	comp=E,23nm,0.4s							
SHO				pmax	pmax			
	comp=Z,21nm,0.4s							
SHO				smax	smax			
	comp=N,22nm,0.5s							
SHO				smax	smax			
	comp=E,74nm,0.6s							
PAU	**Pauzhetka**	**5.51**	**23**	*e*PN		**Pn**	**09 45 09.0**	**+4.7**
PAU				pmax	pmax			
	comp=Z,90nm,1.1s							
YUK	**Yuzh-Kuril'sk**	**5.80**	**248**	*e*PN		**Pn**	**09 45 09.7**	**+1.4**
YUK				pmax	pmax			
	comp=Z,5.0nm,0.5s							
PETK	**Petropavlovsk-**	**7.23**	**21**	P		**Pn**	**09 45 26.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=177,slow=13,SNR=3.4							
YSS	**Yuzh-Sakhalins**	**7.29**	**278**	*e*PN		**Pn**	**09 45 31.9**	**+3.3**
ASAJ	**Asahikawa**	**7.92**	**257**	P		**Pn**	**09 45 40.2**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=96,slow=15,SNR=7.0							
MA2	**Magadan**	**13.23**	**354**	LR		LR	09 51 33.6	
	comp=Z,51nm,20.1s,baz=94,slow=36							
JCJ	**Chichijima**	**21.25**	**208**	LR		LR	09 57 57.1	
	comp=Z,94nm,18.8s,baz=100,slow=39							
H11N2	**WAKE ISLAND Hy**	**28.89**	**153**	T		T	10 21 06.5	
	baz=340,slow=76,SNR=46							
H11N1	**WAKE ISLAND Hy**	**28.91**	**153**	T		T	10 21 16.0	
	baz=340,slow=76,SNR=34							
H11N3	**WAKE ISLAND Hy**	**28.91**	**153**	T		T	10 21 10.0	
	baz=340,slow=76,SNR=21							
H11S1	**WAKE ISLAND Hy**	**29.98**	**154**	T		T	10 22 25.5	
	baz=341,slow=76,SNR=40							
H11S3	**WAKE ISLAND Hy**	**29.99**	**154**	T		T	10 22 24.3	
	baz=341,slow=76,SNR=38							
H11S2	**WAKE ISLAND Hy**	**30.00**	**154**	T		T	10 22 27.1	
	baz=341,slow=76,SNR=35							
MKAR	**Makanchi Array**	**47.21**	**298**	P		**P**	**09 52 14.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=69,slow=7.9,SNR=2.2							
FINES	**FINESS Array B**	**64.37**	**335**	P		**P**	**09 54 14.3**	**-2.8**
	comp=Z,0.9nm,0.7s,baz=31,slow=8.3,SNR=5.6							
NB2	**NORSAR Subarra**	**68.55**	**341**	P		**P**	**09 54 41.8**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**68.55**	**341**	P		**P**	**09 54 41.3**	**-2.6**
	comp=Z,1.0nm,0.7s,baz=27,slow=6.0,SNR=4.1							
AKASG	**Malin Array Be**	**71.87**	**326**	P		**P**	**09 55 01.3**	**-3.0**
	comp=Z,0.8nm,0.4s,baz=33,slow=6.6,SNR=3.3							
ASAR	**Alice Springs**	**71.98**	**199**	P		**P**	**09 55 07.3**	**+2.1**
	comp=Z,0.3nm,0.8s,baz=14,slow=6.0,SNR=3.3							
TXAR	**Lajitas Array**	**77.51**	**61**	P		**P**	**09 55 38.4**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=302,slow=4.2,SNR=4.5							

JMA 03 09:44:06.3±0.2, 38.68N×144.44E, h42km, M3.4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OFUJ	**Ofunato**	**2.20**	**281**	P		Pn	09 44 41.6	+1.3
MIYJ	**Miyakonagasawa**	**2.23**	**295**	P		Pn	09 44 41.8	+1.1
MIYJ				S		Sn	09 45 08.1	+1.1
JMK	**Ichinoseki**	**2.53**	**277**	P		Pn	09 44 46.4	+1.6
JMK				*e*S		Sn	09 45 16.0	+1.6
JOM	**Ohasama**	**2.58**	**289**	P		Pn	09 44 47.2	+1.7
JOM				S		Sn	09 45 17.5	+2.0
JANG	**Nango**	**2.82**	**308**	P		Pn	09 44 49.9	+1.0
JOU	**Okura**	**2.98**	**265**	P		Pn	09 44 52.6	+1.6
JOU				*e*S		Sn	09 45 27.1	+1.6
JRG	**Rokugo**	**3.05**	**285**	P		Pn	09 44 54.2	+2.2
JRG				S		Sn	09 45 30.2	+3.0
JYK	**Kaneyama**	**3.20**	**276**	P		Pn	09 44 56.2	+2.2
JYK				*e*S		Sn	09 45 32.8	+1.9
JTM	**Tenmabayashi**	**3.34**	**310**	S		Sn	09 45 36.0	+1.5
JFT	**Otama**	**3.44**	**252**	P		Pn	09 44 59.3	+1.9
JFT				S		Sn	09 45 37.6	+0.7
JCH	**Churui**	**4.01**	**349**	P		Pn	09 45 06.2	+1.0
JCH				S		Sn	09 45 51.2	+0.2
NEM2	**Nemuro 2**	**4.78**	**11**	P		Pn	09 45 14.0	-1.8
NEM2				*e*S		Sn	09 46 06.5	-3.4
JRY	**Ryogami san**	**5.15**	**241**	P		Pn	09 45 22.2	+1.3
JRY				S		Sn	09 46 17.0	-2.1
JTKR	**Abashiri--Toko**	**5.30**	**356**	P		Pn	09 45 24.1	+1.2
JTKR				*e*S		Sn	09 46 20.5	-2.1

*ISCJB **03** 09:44:33.8±0.7, 40.50N±0.05×37.28E±0.04, h9km±6km, Error ellipse: s-maj=7.7km s-min=5.7km az=10.4*

*DDA **03** 09:44:33.3, 40.52N×37.26E, h26km, Ml2.8*

*CSEM **03** 09:44:33.8±0.1, 40.49N×37.28E, h10km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.9km az=156.0*

*ISK **03** 09:44:33.3, 40.50N×37.29E, h7km, MD2.6*

ISC 03 09:44:33.2±0.9, 40.51N±0.04×37.28E±0.03, h10km±7km, n26, σ0s36/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RSDY	**Resadiye-TOKAT**	**0.12**	**164**	*e*PG		**Pg**	**09 44 36.1**	**+0.1**
RSDY				*e*SG		**Sg**	**09 44 38.3**	**+0.2**
RSDY	**Resadiye-TOKAT**	**0.12**	**164**	*e*Pg		**Pg**	**09 44 36.2**	**+0.1**
RSDY				*e*Sg		**Sg**	**09 44 38.3**	**+0.2**
ERBA	**Erbaa**	**0.44**	**293**	P		**Pb**	**09 44 42.6**	**-0.5**
ERBA	**Erbaa**	**0.44**	**293**	*i* P		**Pb**	**09 44 42.6**	**-0.5**
TOKT	**Tokat**	**0.59**	**252**	*e*PG		**Pb**	**09 44 45.5**	**-0.3**
TOKT				*e*SG		**Sb**	**09 44 54.3**	**+0.1**
TOKT	**Tokat**	**0.59**	**252**	*e*Pg		**Pb**	**09 44 45.5**	**-0.3**
TOKT				*e*Sg		**Sb**	**09 44 54.3**	**+0.1**
SVSK	**Karacayir**	**0.63**	**200**	*e*PG		**Pb**	**09 44 45.9**	**-0.4**
SVSK				*e*SG		**Sb**	**09 44 55.1**	**-0.1**
SVSK	**Karacayir**	**0.63**	**200**	*e*Pg		**Pb**	**09 44 45.9**	**-0.4**
SVSK				*e*Sg		**Sb**	**09 44 55.1**	**-0.1**
ORDU	**Ordu-Boztepe**	**0.65**	**42**	P		**Pn**	**09 44 47.8**	**-0.7**
ORDU	**Ordu-Boztepe**	**0.65**	**42**	*i* P		**Pn**	**09 44 47.8**	**-0.7**
SCER	**sogukcermik**	**0.66**	**191**	P		**Pg**	**09 44 46.1**	**+0.1**
SCER	**sogukcermik**	**0.66**	**191**	*i* P		**Pg**	**09 44 46.1**	**+0.1**
CUZAR	**Zara_SIVAS**	**0.72**	**149**	P		**Pb**	**09 44 47.9**	**-0.1**
CUZAR	**Zara_SIVAS**	**0.72**	**149**	*i* P		**Pb**	**09 44 47.9**	**-0.1**
SUSE	**Susehri**	**0.76**	**113**	P		**Pb**	**09 44 48.7**	**0.0**
SUSE	**Susehri**	**0.76**	**113**	*i* P		**Pb**	**09 44 48.7**	**0.0**
GRSN	**GIRESUNGRSN**	**0.85**	**61**	P		**Pg**	**09 44 50.0**	**+0.3**
GRSN	**GIRESUNGRSN**	**0.85**	**61**	*i* P		**Pg**	**09 44 50.0**	**+0.3**
KVT	**Kavak**	**1.10**	**302**	*e*PN		**Pn**	**09 44 54.8**	**+0.1**
KVT				*e*SN		**Sn**	**09 45 10.6**	**+0.6**
KVT	**Kavak**	**1.10**	**302**	*e*Pn		**Pn**	**09 44 54.8**	**+0.1**
KVT				*e*Sn		**Sn**	**09 45 10.6**	**+0.6**
ESPY	**Espiye-Giresun**	**1.17**	**69**	*e*PN		**Pg**	**09 44 56.1**	**+0.4**
ESPY	**Espiye-Giresun**	**1.17**	**69**	*e*Pn		**Pg**	**09 44 56.1**	**+0.4**
CUKAN	**kangal_SIVAS**	**1.20**	**173**	P		**Pg**	**09 44 56.5**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.20**	**173**	*i* P		**Pg**	**09 44 56.5**	**+0.2**
GUMT	**Gumushane**	**1.68**	**91**	*e*PN		**Pb**	**09 45 03.8**	**-0.4**
GUMT	**Gumushane**	**1.68**	**91**	*e*Pn		**Pb**	**09 45 03.8**	**-0.4**

*ISK **03** 09:46:02.8, 38.70N×39.50E, h25km, MD2.4*

*ISCJB **03** 09:46:04.9±0.8, 38.71N±0.04×39.33E±0.09, h13km±8km, Error ellipse: s-maj=11.9km s-min=4.8km az=21.7*

*DDA **03** 09:46:04.6, 38.73N×39.33E, h7km, Md2.6*

*CSEM **03** 09:46:04.7±0.3, 38.72N×39.29E, h10km, MD2.6, Error ellipse: s-maj=8.9km s-min=5.2km az=101.0*

ISC 03 09:46:04.9±1.0, 38.72N±0.03×39.30E±0.05, h14km±9km, n14, σ0s79/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PTK	**Pertek**	**0.18**	**22**	*e*PG		**Pg**	**09 46 08.8**	**-0.6**
PTK				*e*SG		**Sb**	**09 46 13.6**	**-0.2**
PTK	**Pertek**	**0.18**	**22**	*e*Pg		**Pg**	**09 46 08.8**	**-0.6**
PTK				*e*Sg		**Sb**	**09 46 13.6**	**-0.2**
ELZG	**Elazig**	**0.34**	**228**	P		**Pg**	**09 46 11.6**	**-0.2**
ELZG				S		**Sb**	**09 46 18.1**	**0.0**
ELZG	**Elazig**	**0.34**	**228**	*i* P		**Pg**	**09 46 11.6**	**-0.2**
ELZG				*i* S		**Sb**	**09 46 18.1**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.34**	**180**	*e*PG		**Pg**	**09 46 11.5**	**-0.5**
SVRC				*e*SG		**Sg**	**09 46 17.3**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.34**	**180**	*e*Pg		**Pg**	**09 46 11.5**	**-0.5**
SVRC				*e*Sg		**Sg**	**09 46 17.3**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.43**	**25**	P		**Pg**	**09 46 13.0**	**-0.6**
TNCL				S		**Sg**	**09 46 20.1**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.43**	**25**	*i* P		**Pg**	**09 46 13.0**	**-0.6**
TNCL				*i* S		**Sg**	**09 46 20.1**	**+0.6**
KEMA	**Kemaliye**	**0.83**	**311**	P		**Pg**	**09 46 20.0**	**-1.1**
KEMA				S		**Sb**	**09 46 33.1**	**+0.6**
KEMA	**Kemaliye**	**0.83**	**311**	*i* P		**Pg**	**09 46 20.0**	**-1.1**
KEMA				*i* S		**Sb**	**09 46 33.1**	**+0.6**
ILIC	**ilic-Erzincan**	**0.93**	**322**	*e*PG		**Pb**	**09 46 22.2**	**-0.7**
ILIC	**ilic-Erzincan**	**0.93**	**322**	*e*Pg		**Pb**	**09 46 22.2**	**-0.7**
KELT	**Kelkit**	**1.43**	**359**	P		**Pn**	**09 46 31.1**	**+0.5**
KELT				S		**Sg**	**09 46 52.6**	**+1.7**
KELT	**Kelkit**	**1.43**	**359**	*i* P		**Pn**	**09 46 31.1**	**+0.5**
KELT				*i* S		**Sg**	**09 46 52.6**	**+1.7**

*IDC **03** 09:49:59.3±2.9, 18.38S×174.75W, h104km±26km, mb4.0/12, mb1 4.2/13, mb1mx4.1/26, mbtmp4.4/13, Error ellipse: s-maj=23.3km s-min=12.9km az=124.0*

*NEIC **03** 09:49:59.5±1.0, 18.27S×174.86W, h104km±9km, mb4.8/14, Error ellipse: s-maj=11.4km s-min=5.6km az=124.0*

NEIC Felt at Neiafu.

*ISCJB **03** 09:50:01.1±0.3, 18.39S±0.07×174.89W±0.08, h130km, mb4.5/31, Error ellipse: s-maj=12.6km s-min=7.8km az=41.5*

ISC 03 09:50:02.0±0.5, 18.22S±0.10×174.7W±0.1, h130km, n54, σ1s90/58, mb4.7/32, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AFI	**Afiamalu**	**5.15**	**34**	P		**Pn**	**09 51 15.9**	**-1.4**
	51nm,0.3s,baz=222,slow=4.2,SNR=58							
AFI				S		**Sn**	**09 52 10.3**	**-5.6**
	80nm,0.3s,baz=190,slow=18,SNR=19							
AFI	**Afiamalu**	**5.15**	**34**	*e*Pn		**Pn**	**09 51 15.7**	**-1.6**
AFI				*e*Sn		**Sn**	**09 52 10.8**	**-5.1**
DZM	**Mont Dzumac**	**18.07**	**255**	P		**Pn**	**09 54 07.8**	**+2.8**
	0.5nm,0.3s,baz=86,slow=18,SNR=8.5							
URZ	**Urewera**	**21.19**	**198**	P		**P**	**09 54 34.7**	**-2.5**
	35nm,0.6s,baz=18,slow=3.5,SNR=27							
URZ	**Urewera**	**21.19**	**198**	*e*P		**P**	**09 54 35.5**	**-1.6**
BKZ	**Black Stump Fm**	**22.21**	**198**	*e*P		**P**	**09 54 46.3**	**-1.6**
	113nm,1.8s							
LTZ	**Lake Taylor**	**26.85**	**201**	*e*P		**P**	**09 55 31.2**	**+0.8**
	35nm,0.9s							
RPZ	**Rata Peaks**	**28.09**	**202**	P		**P**	**09 55 40.1**	**-1.3**
	11nm,0.6s,baz=316,slow=0.6,SNR=8.8							
CTAO	**Charters Tower**	**36.83**	**261**	*e*P		**P**	**09 56 57.6**	**-0.3**
	11nm,0.8s							
STKA	**Stephens Creek**	**41.55**	**242**	P		**P**	**09 57 35.7**	**-1.3**
	2.6nm,0.8s,baz=86,slow=12,SNR=6.9							
STKA	**Stephens Creek**	**41.55**	**242**	*e*P		**P**	**09 57 35.7**	**-1.3**
	0.8nm,0.9s							
WB2	**Warramunga Arr**	**47.99**	**259**	*e*P		**P**	**09 58 27.4**	**-0.8**
	10nm,0.6s							
WR1	**Warramunga Arr**	**48.00**	**259**	*e*P		**P**	**09 58 27.3**	**-1.0**
	12nm,0.6s							
WRA	**Warramunga Arr**	**48.00**	**259**	P		**P**	**09 58 27.3**	**-1.0**
	5.9nm,0.5s,baz=98,slow=6.0,SNR=158							
AS01	**Alice Springs**	**48.02**	**254**	*e*P		**P**	**09 58 27.4**	**-0.9**
AS31	**Alice Springs**	**48.06**	**254**	*e*P		**P**	**09 58 28.2**	**-0.4**
	4.8nm,1.0s							
AS31				*e*S		**S**	**10 05 12.8**	**-4.7**
ASAR	**Alice Springs**	**48.06**	**254**	P		**P**	**09 58 28.2**	**-0.5**
	12nm,0.7s,baz=92,slow=8.2,SNR=179							
ASAR				S		**S**	**10 05 12.8**	**-4.7**
	0.8nm,1.0s,baz=90,slow=16,SNR=5.8							
SBA	**Scott Base**	**60.35**	**184**	*e*P		**P**	**09 59 56.5**	**-0.2**
	32nm,2.0s							
VNDA	**Vanda**	**60.45**	**186**	P		**P**	**09 59 57.0**	**-0.5**
	2.2nm,0.8s,baz=356,slow=7.0,SNR=11							
MJAR	**Matsushiro Arr**	**70.29**	**321**	P		**P**	**10 01 02.8**	**+1.4**
	0.8nm,0.6s,baz=159,slow=5.5,SNR=3.5							
PETK	**Petropavlovsk-**	**74.93**	**343**	P		**P**	**10 01 30.4**	**+1.9**
	2.5nm,0.6s,baz=115,slow=8.9,SNR=2.8							
PEA1	**Petropavlovsk-**	**74.93**	**343

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**250**	P	**Pg**	**10 08 54.8**	**+0.3**
DEMI				S	**Sg**	**10 08 57.8**	**0.0**
DEMI	**Demirci**	**0.22**	**250**	*i* P	**Pg**	**10 08 54.8**	**+0.3**
DEMI				*i* S	**Sg**	**10 08 57.8**	**0.0**
GDZ	**Gediz**	**0.39**	**94**	P	**Pg**	**10 08 57.3**	**-0.2**
GDZ				S	**Sg**	**10 09 02.8**	**+0.1**
GDZ	**Gediz**	**0.39**	**94**	*i* P	**Pg**	**10 08 57.3**	**-0.2**
GDZ				*i* S	**Sg**	**10 09 02.8**	**+0.1**
TVSB	**Tavsanli**	**0.50**	**48**	*e*PG	**Pg**	**10 08 59.3**	**-0.2**
TVSB				*e*SG	**Sg**	**10 09 06.0**	**-0.2**
TVSB	**Tavsanli**	**0.50**	**48**	*e*Pg	**Pg**	**10 08 59.3**	**-0.2**
TVSB				*e*Sg	**Sg**	**10 09 06.0**	**-0.2**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*PG	**Pb**	**10 09 02.4**	**-0.6**
KULA				*e*SG	**Sb**	**10 09 11.4**	**-0.6**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*Pg	**Pb**	**10 09 02.4**	**-0.6**
KULA				*e*Sg	**Sb**	**10 09 11.4**	**-0.6**
KHAL	**Karahalli**	**0.84**	**152**	P	**Pg**	**10 09 05.8**	**-0.2**
KHAL				S	**Sb**	**10 09 17.3**	**-0.3**
KHAL	**Karahalli**	**0.84**	**152**	*i* P	**Pg**	**10 09 05.8**	**-0.2**
KHAL				*i* S	**Sb**	**10 09 17.3**	**-0.3**
ORLT	**Orhaneli**	**0.93**	**356**	*e*PG	**Pb**	**10 09 07.2**	**-0.5**
ORLT				*e*SG	**Sb**	**10 09 20.2**	**+0.2**
ORLT	**Orhaneli**	**0.93**	**356**	*e*Pg	**Pb**	**10 09 07.2**	**-0.5**
ORLT				*e*Sg	**Sb**	**10 09 20.2**	**+0.2**
BALB	**Balikesir**	**1.00**	**302**	*e*PG	**Pb**	**10 09 08.8**	**-0.1**
BALB	**Balikesir**	**1.00**	**302**	*e*Pg	**Pb**	**10 09 08.8**	**-0.1**
IGD	**Bursa**	**1.16**	**8**	*i* P	**Pg**	**10 09 10.3**	**-1.6**
IGD				*i* S	**Sn**	**10 09 27.1**	**-0.2**
BALY	**Balya**	**1.23**	**301**	P	**Pn**	**10 09 13.2**	**+0.6**
BALY				S	**Sn**	**10 09 29.2**	**+0.1**
BALY	**Balya**	**1.23**	**301**	*i* P	**Pn**	**10 09 13.2**	**+0.6**
BALY				*i* S	**Sn**	**10 09 29.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*PN	**Pg**	**10 09 13.2**	**-0.5**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*Pn	**Pg**	**10 09 13.2**	**-0.5**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*PN	**Pg**	**10 09 13.5**	**-0.6**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*Pn	**Pg**	**10 09 13.5**	**-0.6**
IZI	**Iznik**	**1.27**	**17**	*e*PN	**Pg**	**10 09 14.0**	**-0.2**
IZI	**Iznik**	**1.27**	**17**	*e*Pn	**Pg**	**10 09 14.0**	**-0.2**
BORA	**Eskisehir**	**1.37**	**56**	P	**Pb**	**10 09 14.9**	**-0.3**
BORA				S	**Sn**	**10 09 33.6**	**+1.0**
BORA	**Eskisehir**	**1.37**	**56**	*i* P	**Pb**	**10 09 14.9**	**-0.3**
BORA				*i* S	**Sn**	**10 09 33.6**	**+1.0**
ARMT	**Armutlu**	**1.45**	**356**	*e*PN	**Pb**	**10 09 16.5**	**0.0**
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn	**Pb**	**10 09 16.5**	**0.0**
GULT	**Gulveren**	**1.77**	**41**	*e*PN	**Pn**	**10 09 20.8**	**+0.8**
GULT	**Gulveren**	**1.77**	**41**	*e*Pn	**Pn**	**10 09 20.8**	**+0.8**

*ISCJB **03** 10:11:50.7±1.2, 37°.31N±0°.05×143°.82E±0°.08, h33km, mb3.5/3, Error ellipse: s-maj=9.6km s-min=7.5km az=160.9*

*IDC **03** 10:11:50.2±2.7, 36°.84N×143°.98E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/39, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=75.6km s-min=29.6km az=60.0*

*JMA **03** 10:11:52.7±0.1, 37°.39N×143°.74E, h56km, M3.0*

ISC 03 10:11:52.4±1.8, 37°.36N±0°.07×143°.8E±0°.1, h35km, n12, σ0§90/16, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.26**	**300**	P	**Pn**	**10 12 27.4**	**+0.2**
JIO				S	**Sn**	**10 12 53.2**	**-0.6**
JFK	**Kawauchi**	**2.37**	**271**	*e*S	**Sn**	**10 12 55.9**	**-0.7**
OFUJ	**Ofunato**	**2.43**	**316**	S	**Sn**	**10 12 57.4**	**-0.7**
JMK	**Ichinoseki**	**2.61**	**308**	*e*S	**Sn**	**10 13 02.2**	**-0.3**
JFT	**Otama**	**2.80**	**274**	S	**Sn**	**10 13 07.7**	**+0.5**
JOM	**Ohasama**	**2.91**	**317**	P	**Pn**	**10 12 36.7**	**+0.5**
JOM				S	**Sn**	**10 13 09.9**	**-0.1**
JAG	**Ashikaga**	**3.64**	**257**	P	**Pn**	**10 12 47.2**	**+0.7**
JAG				S	**Sn**	**10 13 27.7**	**-0.3**
JRY	**Ryogami san**	**4.19**	**253**	P	**Pn**	**10 12 54.2**	**+0.3**
JRY				*e*S	**Sn**	**10 13 39.5**	**-2.1**
MJAR	**Matsushiro Arr**	**4.59**	**261**	Pn	**Pn**	**10 13 01.0**	**+1.7**
	1.0nm,0.3s,baz=85,slow=16,SNR=6.2						
MJAR				Sn	**Sn**	**10 13 51.2**	**-0.1**
	0.2nm,0.3s,baz=92,slow=24,SNR=3.3						
KURBB	**Kurchatov Arra**	**47.33**	**308**	P	P	10 20 28.6	+6.0
	0.2nm,0.3s,baz=75,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**57.69**	**191**	P	**P**	**10 21 39.5**	**0.0**
	0.5nm,0.6s,baz=9.7,slow=7.3,SNR=8.8						
ASAR	**Alice Springs**	**61.41**	**190**	P	**P**	**10 22 04.6**	**-0.5**
	0.2nm,0.7s,baz=12,slow=9.5,SNR=3.7						

DDA 03 10:16:32.8, 37°.98N×35°.54E, h7km, Md2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKO	**Adana**	**0.52**	**189**	*i* P	Pg	10 16 42.3	-0.5
AKO				*i* S	Sb	10 16 51.0	-0.9
GULE	**Gulek**	**0.92**	**222**	*i* P	Pg	10 16 49.3	-1.2
GULE				*i* S	Sn	10 17 05.8	-0.1
KAMA	**Osmaniye**	**1.19**	**131**	*i* P	Pg	10 16 55.6	0.0
KERG	**Konya-Eregli**	**1.26**	**244**	*i* P	Pb	10 16 56.7	-0.2
KERG				*i* S	Sn	10 17 17.2	+3.1
KIZK	**Mersin**	**1.86**	**217**	*i* P	Pg	10 17 08.6	+0.1
KIZK				*i* S	Sg	10 17 37.9	+5.2

*ISCJB **03** 10:18:20.8±0.5, 38°.40N±0°.02×28°.07E±0°.02, h2km±4km, Error ellipse: s-maj=3.2km s-min=3.1km az=153.3*

*DDA **03** 10:18:20.2, 38°.38N×28°.12E, h10km, Md3.1*

*ISK **03** 10:18:20.6, 38°.45N×28°.07E, h2km, ML3.1*

*CSEM **03** 10:18:21.2±0.1, 38°.41N×28°.07E, h2km, ML3.1, Error ellipse: s-maj=3.4km s-min=3.1km az=42.0*

*THE **03** 10:18:21.9, 38°.31N×28°.12E, h0km±1km, ML3.1/4, Error ellipse: s-maj=2.3km s-min=1.1km az=76.0*

*ATH **03** 10:18:28.1, 38°.44N×27°.11E, h24km±3km, ML2.7/1, Error ellipse: s-maj=8.5km s-min=2.0km az=255.0*

ISC 03 10:18:20.8±1.1, 38°.36N±0°.02×28°.09E±0°.02, h5km±9km, n102, σ1§06/131, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.47**	**71**	P	**Pg**	**10 18 31.6**	**+1.7**
KULA	**Kula-Manisa**	**0.47**	**71**	P	**Pg**	**10 18 31.6**	**+1.7**
AKS	**Akhisar**	**0.56**	**337**	*e*PG	**Pg**	**10 18 30.4**	**-1.2**
AKS				*e*SG	**Sg**	**10 18 38.8**	**-0.1**
AKS	**Akhisar**	**0.56**	**337**	*e*Pg	**Pg**	**10 18 30.4**	**-1.2**
AKS				*e*Sg	**Sg**	**10 18 38.8**	**-0.1**
IZM	**Izmir**	**0.65**	**274**	*e*PG	**Pg**	**10 18 33.6**	**+0.4**
IZM				*e*SG	**Sg**	**10 18 43.1**	**+1.3**
IZM	**Izmir**	**0.65**	**274**	*e*Pg	**Pg**	**10 18 33.7**	**+0.4**
IZM				*e*Sg	**Sg**	**10 18 43.1**	**+1.3**
AYDN	**Tasoluk**	**0.72**	**194**	P	**Pg**	**10 18 34.5**	**0.0**
AYDN	**Tasoluk**	**0.72**	**194**	*i* P	**Pg**	**10 18 34.5**	**0.0**
DEMI	**Demirci**	**0.84**	**35**	P	**Pg**	**10 18 36.1**	**-0.8**
DEMI				S	**Sg**	**10 18 46.4**	**-1.4**
DEMI	**Demirci**	**0.84**	**35**	*i* P	**Pg**	**10 18 36.1**	**-0.8**
DEMI				*i* S	**Sg**	**10 18 46.4**	**-1.4**
GCAM	**G?zelcaml?**	**0.94**	**226**	P	**Pg**	**10 18 38.4**	**-0.5**
GCAM				S	**Sb**	**10 18 52.1**	**-0.3**
GCAM	**G?zelcaml?**	**0.94**	**226**	*i* P	**Pg**	**10 18 38.4**	**-0.5**
GCAM				*i* S	**Sb**	**10 18 52.1**	**-0.3**
DENT	**Denizli**	**0.96**	**129**	*e*PG	**Pn**	**10 18 41.1**	**+0.2**
DENT				*e*SG	**Sn**	**10 18 55.9**	**+0.9**
DENT	**Denizli**	**0.96**	**129**	*e*Pg	**Pn**	**10 18 41.2**	**+0.2**
DENT				*e*Sg	**Sn**	**10 18 55.9**	**+0.9**
DGB	**¨zmir**	**1.00**	**253**	*i* P	**Pg**	**10 18 40.2**	**+0.3**
DGB				*i* S	**Sg**	**10 18 51.8**	**-1.1**
DNZL	**Cakiroluk**	**1.01**	**131**	*i* P	Pg	10 18 32.5	-7.6
KHAL	**Karahalli**	**1.10**	**89**	P	**Pn**	**10 18 43.1**	**+0.1**
KHAL	**Karahalli**	**1.10**	**89**	*i* P	**Pn**	**10 18 43.1**	**+0.1**
KHL	**Karahalli**	**1.13**	**91**	*e*PN	**Pg**	**10 18 42.9**	**+0.5**
KHL	**Karahalli**	**1.13**	**91**	*e*Pn	**Pg**	**10 18 42.9**	**+0.5**
DKL	**Dikili**	**1.17**	**308**	*e*PN	**Pn**	**10 18 42.9**	**-0.9**
DKL				*e*SN	**Sb**	**10 18 58.3**	**-0.6**
DKL	**Dikili**	**1.17**	**308**	*e*Pn	**Pn**	**10 18 42.9**	**-0.9**
DKL				*e*Sn	**Sb**	**10 18 58.3**	**-0.6**
URLA	**Izmir**	**1.18**	**271**	P	**Pb**	**10 18 43.4**	**-0.2**
URLA				S	**Sb**	**10 18 58.6**	**-0.6**
URLA	**Izmir**	**1.18**	**271**	*i* P	**Pb**	**10 18 43.4**	**-0.2**
URLA				*i* S	**Sb**	**10 18 58.6**	**-0.6**
SMG	**Samos**	**1.18**	**237**	P	**Pb**	**10 18 43.6**	**-0.1**
SMG				S	**Sn**	**10 19 00.8**	**+0.2**
SMG	**Samos**	**1.18**	**237**	P	**Pb**	**10 18 43.6**	**-0.1**
SMG	**Samos**	**1.18**	**237**	P	**Pb**	**10 18 43.1**	**-0.7**
SMG				S	**Sb**	**10 18 54.3**	**-5.1**
SMG				AML	AML	10 19 02.4	
	comp=E,1241μm,0.3s						
SMG				AML	AML	10 19 02.5	
	comp=N,1059μm,0.4s						
YER	**Yerkesik**	**1.23**	**173**	P	**Pb**	**10 18 43.6**	**-1.0**
YER				S	**Sn**	**10 19 01.3**	**-0.5**
YER	**Yerkesik**	**1.23**	**173**	P	**Pb**	**10 18 43.6**	**-1.0**
YER				S	**Sn**	**10 19 01.3**	**-0.5**
ZEY	**¨zmir**	**1.25**	**265**	*i* P	**Pn**	**10 18 45.1**	**+0.2**
ZEY				*i* S	**Sb**	**10 19 00.8**	**-0.6**
BALB	**Balikesir**	**1.29**	**353**	*e*PN	**Pn**	**10 18 44.6**	**-0.9**
BALB	**Balikesir**	**1.29**	**353**	*e*Pn	**Pn**	**10 18 44.6**	**-0.9**
GDZ	**Gediz**	**1.31**	**56**	P	**Pn**	**10 18 44.7**	**-1.2**
GDZ	**Gediz**	**1.31**	**56**	*i* P	**Pn**	**10 18 44.7**	**-1.2**
BALY	**Balya**	**1.43**	**345**	P	**Pn**	**10 18 47.9**	**+0.4**
BALY				S	**Sn**	**10 19 04.5**	**-2.1**
BALY	**Balya**	**1.43**	**345**	*i* P	**Pn**	**10 18 47.9**	**+0.4**
BALY				*i* S	**Sn**	**10 19 04.5**	**-2.1**
AYVA	**Ayvalik**	**1.45**	**311**	P	**Pn**	**10 18 47.6**	**-0.1**
AYVA				S	**Sn**	**10 19 07.1**	**0.0**
AYVA	**Ayvalik**	**1.45**	**311**	*i* P	**Pn**	**10 18 47.6**	**-0.1**
AYVA				*i* S	**Sn**	**10 19 07.1**	**0.0**
TVSB	**Tavsanli**	**1.53**	**44**	*e*PN	**Pn**	**10 18 48.9**	**+0.1**
TVSB	**Tavsanli**	**1.53**	**44**	*e*Pn	**Pn**	**10 18 48.9**	**+0.1**
TURN	**Turunc**	**1.54**	**165**	*i* P	**Pn**	**10 18 48.5**	**-0.4**
CHOS	**Chios island**	**1.60**	**272**	*e*PN	**Pn**	**10 18 50.6**	**+0.7**
CHOS	**Chios island**	**1.60**	**272**	P	**Pn**	**10 18 50.9**	**+1.1**
CHOS				S	**Sn**	**10 19 12.0**	**+1.0**
CHOS	**Chios island**	**1.60**	**272**	*e*Pn	**Pn**	**10 18 50.6**	**+0.7**
CHOS	**Chios island**	**1.60**	**272**	P	**Pn**	**10 18 50.9**	**+1.1**
CHOS				S	**Sn**	**10 19 12.0**	**+1.0**
CHOS	**Chios island**	**1.60**	**272**	P	Pn	10 18 43.8	-6.0
DALY	**Dalyan (Mu¨la**	**1.60**	**164**	*e*PN	**Pg**	**10 18 52.0**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.60**	**164**	*e*Pn	**Pg**	**10 18 52.0**	**+0.5**
GOLH	**Golhisar**	**1.62**	**133**	P	**Pn**	**10 18 49.9**	**-0.2**
GOLH	**Golhisar**	**1.62**	**133**	*i* P	**Pn**	**10 18 49.9**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.64**	**137**	*e*PN	**Pg**	**10 18 52.9**	**+0.7**
GLHS	**Glhisar (BURDU**	**1.64**	**137**	*e*Pn	**Pg**	**10 18 52.9**	**+0.7**
PRK	**Paraskevi**	**1.68**	**303**	P	**Pn**	**10 18 51.6**	**+0.8**
PRK				S	**Sb**	**10 19 15.1**	**+1.6**
PRK	**Paraskevi**	**1.68**	**303**	P	**Pn**	**10 18 51.6**	**+0.8**
PRK	**Paraskevi**	**1.68**	**303**	P	**Pn**	**10 18 48.4**	**-2.4**
GONE	**Gonen-Balikesi**	**1.71**	**350**	*e*PN	**Pn**	**10 18 51.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.71**	**350**	*e*Pn	**Pn**	**10 18 51.4**	**0.0**
ORLT	**Orhaneli**	**1.80**	**20**	*e*PN	**Pn**	**10 18 52.7**	**+0.2**
ORLT	**Orhaneli**	**1.80**	**20**	*e*Pn	**Pn**	**10 18 52.7**	**+0.2**
FETY	**Fethiye**	**1.89**	**155**	*e*PN	**Pg**	**10 18 56.8**	**-0.2**
FETY	**Fethiye**	**1.89**	**155**	*e*Pn	**Pg**	**10 18 56.8**	**-0.2**
NIS1	**Nisyros Isl.**	**1.90**	**203**	*e*PN	**Pb**	**10 18 55.9**	**0.0**
NIS1	**Nisyros Isl.**	**1.90**	**203**	*e*Pn	**Pb**	**10 18 55.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.92**	**6**	*e*PN	**Pn**	**10 18 54.0**	**-0.1**
KCTX	**Karacabey (Bur**	**1.92**	**6**	*e*Pn	**Pn**	**10 18 54.1**	**-0.1**
SIGR	**SIGRI**	**1.94**	**297**	*e*PN	**Pn**	**10 18 54.8**	**+0.3**
SIGR	**SIGRI**	**1.94**	**297**	P	**Pn**	**10 18 56.5**	**+2.0**
SIGR				S	**Sb**	**10 19 22.3**	**+1.1**
SIGR	**SIGRI**	**1.94**	**297**	*e*Pn	**Pn**	**10 18 54.8**	**+0.3**
SIGR	**SIGRI**	**1.94**	**297**	P	**Pn**	**10 18 56.5**	**+2.0**
SIGR	**SIGRI**	**1.94**	**297**	P	**Pn**	**10 18 52.2**	**-2.2**
KNL	**Bal¨¨kesir**	**1.96**	**347**	*i* P	**Pn**	**10 18 55.5**	**+0.8**
KNL				*i* S	**Sn**	**10 19 19.7**	**0.0**
EDC	**Edincik**	**1.99**	**355**	*e*PN	**Pn**	**10 18 55.0**	**-0.2**
EDC	**Edincik**	**1.99**	**355**	*e*Pn	**Pn**	**10 18 55.0**	**-0.2**
EZN	**Ezine**	**2.01**	**317**	*e*PN	**Pn**	**10 18 55.2**	**-0.2**
EZN	**Ezine**	**2.01**	**317**	P	**Pn**	**10 18 55.7**	**+0.3**
EZN				S	**Sn**	**10 19 23.3**	**+2.4**
EZN	**Ezine**	**2.01**	**317**	*e*Pn	**Pn**	**10 18 55.2**	**-0.2**
EZN	**Ezine**	**2.01**	**317**	P	**Pn**	**10 18 55.7**	**+0.3**
EZN				S	**Sn**	**10 19 23.3**	**+2.4**
IGD	**Bursa**	**2.09**	**24**	*i* P	**Pn**	**10 18 57.5**	**+1.0**
MDNY	**Mudanya-Bursa**	**2.10**	**17**	*e*PN	**Pn**	**10 18 57.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.10**	**17**	*e*Pn	**Pn**	**10 18 57.0**	**+0.4**
ELL	**Elmali**	**2.16**	**138**	*e*PN	**Pb**	**10 19 00.1**	**-0.4**
ELL	**Elmali**	**2.16**	**138**	*e*Pn	**Pb**	**10 19 00.1**	**-0.4**
BOZC	**Bozcaada**	**2.17**	**314**	*i* P	**Pb**	**10 19 01.5**	**+0.9**
IZI	**Iznik**	**2.25**	**28**	*e*PN	**Pn**	**10 18 59.3**	**+0.6**
IZI	**Iznik**	**2.25**	**28**	*e*Pn	**Pn**	**10 18 59.3**	**+0.6**
LPK	**Lapseki**	**2.26**	**333**	*e*PN	**Pn**	**10 18 58.4**	**-0.4**
LPK	**Lapseki**	**2.26**	**333**	*e*Pn	**Pn**	**10 18 58.4**	**-0.4**
MRMT	**Marmara Adasi**	**2.27**	**350**	*e*PN	**Pn**	**10 18 59.1**	**0.0**
MRMT	**Marmara Adasi**	**2.27**	**350**	*e*Pn	**Pn**	**10 18 59.1**	**0.0**
BORA	**Eskisehir**	**2.38**	**50**	P	**Pb**	**10 19 04.8**	**+0.5**
BORA	**Eskisehir**	**2.38**	**50**	*i* P	**Pb**	**10 19 04.8**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.39**	**329**	*e*PN	**Pn**	**10 19 00.2**	**-0.4**
GELI	**Tayfur-Gelibol**	**2.39**	**329**	*e*Pn	**Pn**	**10 19 00.2**	**-0.4**
APE	**Apeiranthos**	**2.40**	**238**	*e*PN	**Pn**	**10 19 02.8**	**+1.9**
APE	**Apeiranthos**	**2.40**	**238**	*e*Pn	**Pn**	**10 19 02.8**	**+1.9**
SART	**Tekirdag**	**2.43**	**343**	*i* P	**Pb**	**10 19 07.3**	**+2.2**
ESKT	**Eskisehir**	**2.44**	**61**	*i* P	**Pn**	**10 19 03.2**	**+1.7**
SEYT	**Eskypehyr**	**2.44**	**61**	P	**Pn**	**10 19 03.2**	**+1.7**
LIA	**Limnos Island**	**2.73**	**305**	P	**Pn**	**10 19 05.5**	**+0.2**
SMTH	**Samothraki Isl**	**2.90**	**318**	P	**Pn**	**10 19 05.8**	**-1.8**
SMTH	**Samothraki Isl**	**2.90**	**318**	P	**Pn**	**10 19 05.8**	**-1.8**
SAHE	**Sakarya_HENDEK**	**3.28**	**40**	*i* P	**Pb**	**10 19 18.8**	**-0.7**

RSPR 03 10:26:50.5, 18°.79N×68°.75W, h156km±2km, MD3.5/5, 4C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.69**	**111**	*e*P	Pn	10 27 22.1	-0.4
LSP	**Las Mesas**	**1.69**	**111**	*e*S	Sn	10 27 47.5	+0.3
CRPR	**Cabo Rojo, PR**	**1.74**	**116**	*e*P	Pn	10 27 22.9	-0.1
CRPR	**Cabo Rojo, PR**	**1.74**	**116**	*e*S	Sn	10 27 48.4	+0.4
AOPR	**Arecibo Observ**	**1.94**	**103**	*e*P	Pn	10 27 25.3	-0.1
AOPR	**Arecibo Observ**	**1.94**	**103**	*e*S	Sn	10 27 52.6	+0.5
CBYP	**Canovanas**	**2.79**	**100**	*e*P	Pn	10 27 35.8	+0.2
CBYP	**Canovanas**	**2.79**	**100**	*e*S	Sn	10 28 10.9	+0.6
MTP	**Monte Pirata**	**3.11**	**102**	*e*P	Pn	10 27 40.0	+0.5

CASC 03 10:40:08.2±2.3, 8°.31N×82°.87W, h15km±11km, MD3.9, 2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.46**	**319**	*e*P	Pg	10 40 16.4	-0.9
ACR				*e*S	Sg	10 40 23.3	-0.2
BRU2	**Volcan**	**0.52**	**20**	*i*P	Pg	10 40 18.4	-0.1
BRU2				*e*S	Sb	10 40 26.7	+0.3
TBS2		**0.53**	**23**	*e*P	Pb	10 40 19.4	+0.1
TBS2				*e*S	Sb	10 40 27.5	+0.7
BUS	**Buena Vista**	**1.52**	**325**	*e*P	Pb	10 40 36.3	-0.1
BUS				*e*S	Sn	10 40 54.6	-0.5
QCR	**Quepos**	**1.70**	**311**	*e*P	Pn	10 40 37.2	-0.1
QCR				*e*S	Sn	10 40 59.0	+0.2
URSC	**Urasca**	**1.77**	**329**	*e*P	Pn	10 40 38.1	-0.4
URSC				*e*S	Sb	10 41 03.3	+0.8
CGA2	**Cerro Gallo 2**	**2.32**	**317**	*e*P	Pn	10 40 47.4	+1.4
CGA2				*e*S	Sb	10 41 16.7	-1.7
PNME	**Penonome**	**2.52**	**86**	*e*P	Pn	10 40 48.5	-0.2
AZU	**Azuero**	**2.62**	**101**	*i* P	Pn	10 40 50.3	+0.3
AZU				*e*S	Sn	10 41 21.3	-0.3
JCR	**Jicaral**	**2.70**	**305**	*e*P	Pn	10 40 51.7	+0.6
BCIP	**Isla Barro Col**	**3.12**	**74**	*e*P	Pn	10 40 56.2	-0.7
BCIP				*e*S	Sn	10 41 32.6	-1.2

*ISCJB **03** 10:41:42.9±0.4, 38°.42S±0°.03×177°.24E±0°.04, h73km±4km, mb4.0/3, Error ellipse: s-maj=4.8km s-min=4.2km az=164.6*

*IDC **03** 10:41:43.7±1.2, 38°.35S×177°.13E, h41km±10km, mb3.7/3, mb1 4.0/4, mb1mx3.6/38, mbtmp4.0/4, ML3.7/1, Error ellipse: s-maj=27.1km s-min=24.9km az=35.0*

*WEL **03** 10:41:44.9±0.1, 38°.34S×177°.19E, h46km±2km, ML4.4/21, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*

WEL Felt from Bay of Plenty to Hawke''s Bay, maximum reported intensity MM 4.

*NEIC **03** 10:41:44.3, 38°.31S×177°.24E, h51km, ML4.4(WEL), After WEL.*

NEIC Felt in the Bay of Plenty-Gisborne-Hawke's Bay area.

ISC 03 10:41:43.5±0.8, 38°.41S±0°.03×177°.19E±0°.03, h48km±5km, n226, σ1§56/228, mb4.0/3, 8C-41D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.16**	**337**	P	**Pn**	**10 41 51.2**	**-0.2**
	1μm,0.3s,baz=169,slow=3.6						
URZ				S	**Sn**	**10 41 56.7**	**-0.1**
	2μm,0.3s,baz=288,slow=20,SNR=244						
URZ	**Urewera**	**0.16**	**337**	⇓*e*PN	**Pn**	**10 41 51.5**	**+0.1**
URZ				SN	**Sn**	**10 41 56.7**	**-0.1**
URZ				AML	AML	10 41 57.3	
URZ	**Urewera**	**0.16**	**337**	*e*Pn	**Pn**	**10 41 50.5**	**-0.8**
URZ				Sn	**Sn**	**10 41 56.7**	**-0.1**
RAGZ	**Rawiri**	**0.20**	**117**	⇑PN	**Pn**	**10 41 52.3**	**+0.6**
RAGZ	**Rawiri**	**0.20**	**117**	Pn	**Pn**	**10 41 52.3**	**+0.6**
RTZ	**Ruatahuna**	**0.27**	**218**	⇓PN	**Pn**	**10 41 53.1**	**+0.8**
MWZ	**Matawai**	**0.28**	**75**	⇑PN	**Pn**	**10 41 52.4**	**+0.1**
MWZ				AML	AML	10 42 01.3	
MWZ				AML	AML	10 42 01.5	
MWZ				AML	AML	10 42 01.7	
MWZ				AML	AML	10 42 01.7	
MWZ	**Matawai**	**0.28**	**75**	Pn	**Pn**	**10 41 51.7**	**-0.6**
MUGZ	**Murupara**	**0.34**	**257**	⇓PN	**Pn**	**10 41 53.8**	**+1.0**
SNGZ	**Shannon Statio**	**0.40**	**163**	PN	**Pn**	**10 41 55.1**	**+1.6**
SNGZ	**Shannon Statio**	**0.40**	**163**	Pn	**Pn**	**10 41 55.1**	**+1.6**
EDRZ	**Edgecumbe**	**0.46**	**310**	PN	**Pn**	**10 41 55.0**	**+0.7**
EDRZ	**Edgecumbe**	**0.46**	**310**	Pn	**Pn**	**10 41 55.0**	**+0.7**
RAHZ	**Arahi**	**0.52**	**189**	⇓PN	**Pn**	**10 41 56.8**	**+1.9**
RAHZ	**Arahi**	**0.52**	**189**	Pn	**Pn**	**10 41 56.8**	**+1.9**
TKGZ	**Te Karaka**	**0.52**	**94**	PN	**Pn**	**10 41 56.5**	**+1.7**
TKGZ	**Te Karaka**	**0.52**	**94**	Pn	**Pn**	**10 41 56.5**	**+1.7**
RRRZ	**Republican Roa**	**0.53**	**277**	⇓PN	**Pn**	**10 41 56.2**	**+1.1**
RRRZ	**Republican Roa**	**0.53**	**277**	Pn	**Pn**	**10 41 56.2**	**+1.1**
RIGZ	**Rimuhau**	**0.54**	**124**	⇓PN	**Pn**	**10 41 57.0**	**+1.8**
TARZ	**Mount Tarawera**	**0.56**	**287**	⇓PN	**Pn**	**10 41 56.8**	**+1.3**
TARZ	**Mount Tarawera**	**0.56**	**287**	Pn	**Pn**	**10 41 56.8**	**+1.3**
MARZ	**Manawahe**	**0.58**	**316**	⇑PN	**Pn**	**10 41 56.3**	**+0.6**
MARZ	**Manawahe**	**0.58**	**316**	Pn	**Pn**	**10 41 56.3**	**+0.6**
PRRZ	**Plateau Road**	**0.63**	**261**	⇓PN	**Pn**	**10 41 57.5**	**+1.2**
PRRZ	**Plateau Road**	**0.63**	**261**	Pn	**Pn**	**10 41 57.5**	**+1.2**
TWGZ	**Tauwhareparae**	**0.66**	**70**	⇓PN	**Pn**	**10 41 58.2**	**+1.5**
TWGZ	**Tauwhareparae**	**0.66**	**70**	Pn	**Pn**	**10 41 58.2**	**+1.5**
WHHZ	**Waihua**	**0.67**	**177**	⇓PN	**Pn**	**10 41 59.5**	**+2.6**
HLRZ	**Highlands Stat**	**0.68**	**283**	PN	**Pn**	**10 41 58.3**	**+1.3**
ALRZ	**Allen Road**	**0.68**	**256**	⇓PN	**Pn**	**10 41 58.3**	**+1.3**
ALRZ	**Allen Road**	**0.68**	**256**	Pn	**Pn**	**10 41 58.3**	**+1.3**
OMRZ	**Omania**	**0.71**	**295**	⇓PN	**Pn**	**10 41 58.1**	**+0.8**
OMRZ	**Omania**	**0.71**	**295**	Pn	**Pn**	**10 41 58.1**	**+0.8**
HRRZ

POWZ	**Post Office Ro**	**2.27 209**	PN	**Pn**	**10 42 19.8**	**+1.3**
POWZ	**Post Office Ro**	**2.27 209**	Pn	**Pn**	**10 42 19.8**	**+1.3**
ETAZ	**East Tamaki Re**	**2.31 308**	PN	**Pn**	**10 42 20.0**	**+1.0**
ETAZ	**East Tamaki Re**	**2.31 308**	Pn	**Pn**	**10 42 20.0**	**+1.0**
OHWZ	**Ohakea**	**2.31 218**	PN	**Pn**	**10 42 21.5**	**+2.4**
MHEZ	**Mangahewa**	**2.34 252**	PN	**Pn**	**10 42 23.4**	**+3.9**
MHEZ	**Mangahewa**	**2.34 252**	Pn	**Pn**	**10 42 23.4**	**+3.9**
PRWZ	**Pori Road**	**2.34 203**	PN	**Pn**	**10 42 19.8**	**+0.2**
PRWZ	**Pori Road**	**2.34 203**	Pn	**Pn**	**10 42 19.8**	**+0.2**
BFZ	**Birch Farm**	**2.39 197**	PN	**Pn**	**10 42 19.7**	**-0.4**
BFZ			AML	AML	10 42 50.9	
BFZ			AML	AML	10 42 50.9	
BFZ			AML	AML	10 43 15.2	
BFZ			AML	AML	10 43 15.2	
BFZ	**Birch Farm**	**2.39 197**	Pn	**Pn**	**10 42 19.7**	**-0.4**
LREZ	**Lake Rotokare**	**2.42 243**	PN	**Pn**	**10 42 23.4**	**+2.9**
AWAZ	**Awhitu Peninsu**	**2.42 303**	PN	**Pn**	**10 42 21.8**	**+1.2**
DREZ	**Durham Road**	**2.46 251**	PN	**Pn**	**10 42 25.0**	**+3.8**
DREZ	**Durham Road**	**2.46 251**	Pn	**Pn**	**10 42 25.0**	**+3.8**
NEZ	**North Egmont**	**2.56 249**	PN	**Pn**	**10 42 26.4**	**+3.7**
NEZ	**North Egmont**	**2.56 249**	Pn	**Pn**	**10 42 26.4**	**+3.7**
MRZ	**Mangatainoka R**	**2.57 208**	PN	**Pn**	**10 42 22.5**	**-0.2**
MRZ	**Mangatainoka R**	**2.57 208**	Pn	**Pn**	**10 42 22.5**	**-0.2**
TIWZ	**Tintock**	**2.57 203**	PN	**Pn**	**10 42 22.5**	**-0.3**
TIWZ			AML	AML	10 42 54.2	
TIWZ			AML	AML	10 42 55.8	
TIWZ	**Tintock**	**2.57 203**	Pn	**Pn**	**10 42 22.5**	**-0.3**
CPWZ	**Castlepoint**	**2.62 197**	PN	**Pn**	**10 42 23.1**	**-0.2**
CPWZ	**Castlepoint**	**2.62 197**	Pn	**Pn**	**10 42 23.1**	**-0.2**
RVAZ	**Riverhead Bore**	**2.64 307**	PN	**Pn**	**10 42 24.7**	**+1.1**
RVAZ	**Riverhead Bore**	**2.64 307**	Pn	**Pn**	**10 42 24.7**	**+1.1**
NMEZ	**Namu Road**	**2.77 246**	Pn	**Pn**	**10 42 28.5**	**+3.8**
HOWZ	**Holdsworth Sta**	**2.81 207**	PN	**Pn**	**10 42 25.1**	**-0.8**
HOWZ	**Holdsworth Sta**	**2.81 207**	Pn	**Pn**	**10 42 25.1**	**-0.8**
OGWZ	**Otaki Gorge**	**2.87 212**	PN	**Pn**	**10 42 26.7**	**-0.1**
OGWZ	**Otaki Gorge**	**2.87 212**	Pn	**Pn**	**10 42 26.7**	**-0.1**
TMWZ	**Te Maipa**	**2.88 200**	PN	**Pn**	**10 42 25.9**	**-1.0**
TMWZ	**Te Maipa**	**2.88 200**	Pn	**Pn**	**10 42 25.9**	**-1.0**
KIW	**Kapiti Island**	**3.02 215**	PN	**Pn**	**10 42 28.7**	**-0.1**
KIW			AML	AML	10 43 20.1	
KIW			AML	AML	10 43 21.4	
KIW	**Kapiti Island**	**3.02 215**	Pn	**Pn**	**10 42 28.7**	**-0.1**
MTW	**Mount Morrison**	**3.04 205**	PN	**Pn**	**10 42 28.0**	**-1.1**
MTW			AML	AML	10 43 04.3	
MTW			AML	AML	10 43 08.0	
MTW	**Mount Morrison**	**3.04 205**	Pn	**Pn**	**10 42 28.1**	**-1.1**
CAW	**Cannon Point**	**3.16 211**	PN	**Pn**	**10 42 29.8**	**-0.9**
CAW			AML	AML	10 43 28.1	
CAW			AML	AML	10 43 28.4	
CAW	**Cannon Point**	**3.16 211**	Pn	**Pn**	**10 42 29.8**	**-0.9**
TRWZ	**Traveller**	**3.21 201**	PN	**Pn**	**10 42 29.9**	**-1.5**
TRWZ			AML	AML	10 43 08.2	
TRWZ			AML	AML	10 43 13.5	
TRWZ	**Traveller**	**3.21 201**	Pn	**Pn**	**10 42 29.9**	**-1.5**
PAWZ	**Paruwai Farm**	**3.27 204**	PN	**Pn**	**10 42 30.8**	**-1.5**
PAWZ			AML	AML	10 43 13.3	
PAWZ			AML	AML	10 43 15.1	
PAWZ	**Paruwai Farm**	**3.27 204**	Pn	**Pn**	**10 42 30.8**	**-1.5**
MSWZ	**Moikau Station**	**3.36 206**	AML	AML	10 43 36.8	
MSWZ			AML	AML	10 43 39.5	
MSWZ	**Moikau Station**	**3.36 206**	Pn	**Pn**	**10 42 31.9**	**-1.6**
WEL	**Wellington**	**3.43 212**	AML	AML	10 43 31.7	
WEL			AML	AML	10 43 36.1	
WEL	**Wellington**	**3.43 212**	Pn	**Pn**	**10 42 35.3**	**+0.9**
DUWZ	**D'Urville Isla**	**3.48 225**	Pn	**Pn**	**10 42 35.7**	**+0.5**
BHW	**Baring Head**	**3.49 210**	AML	AML	10 43 45.3	
BHW			AML	AML	10 43 45.4	
BHW	**Baring Head**	**3.49 210**	Pn	**Pn**	**10 42 34.8**	**-0.4**
PLWZ	**Palliser**	**3.49 205**	PN	**Pn**	**10 42 33.8**	**-1.5**
PLWZ	**Palliser**	**3.49 205**	Pn	**Pn**	**10 42 33.8**	**-1.5**
TCW	**Tory Channel**	**3.59 218**	PN	**Pn**	**10 42 36.3**	**-0.3**
TCW			AML	AML	10 43 35.9	
TCW			AML	AML	10 43 36.6	
TCW	**Tory Channel**	**3.59 218**	Pn	**Pn**	**10 42 36.4**	**-0.3**
TUWZ	**Tuamarina**	**3.92 219**	*e*PN	**Pn**	**10 42 40.1**	**-1.0**
TUWZ			AML	AML	10 43 41.9	
TUWZ			AML	AML	10 43 42.2	
TUWZ	**Tuamarina**	**3.92 219**	Pn	**Pn**	**10 42 40.5**	**-0.6**
NNZ	**Nelson**	**4.06 225**	*e*PN	**Pn**	**10 42 42.9**	**-0.2**
BSWZ	**Blackbirch Sta**	**4.17 217**	*e*PN	**Pn**	**10 42 42.8**	**-1.9**
BSWZ			AML	AML	10 43 51.4	
BSWZ			AML	AML	10 43 56.6	
BSWZ	**Blackbirch Sta**	**4.17 217**	Pn	**Pn**	**10 42 45.2**	**+0.6**
QRZ	**Quartz Range**	**4.33 235**	*e*PN	**Pn**	**10 42 46.4**	**-0.5**
QRZ	**Quartz Range**	**4.33 235**	Pn	**Pn**	**10 42 46.4**	**-0.5**
THZ	**Tophouse**	**4.69 223**	*e*PN	**Pn**	**10 42 50.4**	**-1.5**
THZ	**Tophouse**	**4.69 223**	Pn	**Pn**	**10 42 50.8**	**-1.1**
KHZ	**Kahutara**	**4.88 214**	Pn	**Pn**	**10 42 54.1**	**-0.2**
DSZ	**Denniston Nort**	**5.31 229**	Pn	**Pn**	**10 43 04.8**	**+4.6**
LTZ	**Lake Taylor**	**5.75 219**	Pn	**Pn**	**10 43 06.2**	**-0.2**
OXZ	**Oxford**	**6.28 217**	Pn	**Pn**	**10 43 11.5**	**-2.0**
MQZ	**McQueen's Vall**	**6.31 211**	*e*PN	**Pn**	**10 43 10.5**	**-3.4**
MQZ	**McQueen's Vall**	**6.31 211**	Pn	**Pn**	**10 43 10.9**	**-3.0**
WVZ	**Waitaha Valley**	**6.76 224**	*e*PN	**Pn**	**10 43 21.6**	**+1.4**
WVZ	**Waitaha Valley**	**6.76 224**	Pn	**Pn**	**10 43 22.3**	**+2.1**
RPZ	**Rata Peaks**	**7.04 219**	P	**Pn**	**10 43 23.0**	**-1.1**
	1.4nm,0.3s,baz=61,slow=13,SNR=8.5					
RPZ			S	**Sn**	**10 44 35.8**	**-7.0**
	3.9nm,0.3s,baz=306,slow=21,SNR=12					
RPZ	**Rata Peaks**	**7.04 219**	Pn	**Pn**	**10 43 23.4**	**-0.6**
CTZ	**Chatham Island**	**7.09 141**	*e*PN	**Pn**	**10 43 23.7**	**-0.9**
CTZ	**Chatham Island**	**7.09 141**	Pn	**Pn**	**10 43 24.4**	**-0.2**
FOZ	**Fox Glacier**	**7.57 225**	*e*PN	**Pn**	**10 43 32.1**	**+0.8**
FOZ	**Fox Glacier**	**7.57 225**	Pn	**Pn**	**10 43 33.3**	**+2.0**
LBZ	**Lake Benmore**	**7.96 219**	*e*PN	**Pn**	**10 43 35.5**	**-1.1**
LBZ	**Lake Benmore**	**7.96 219**	Pn	**Pn**	**10 43 35.6**	**-1.0**
ODZ	**Otahua Downs**	**8.24 214**	*e*PN	**Pn**	**10 43 37.9**	**-2.5**
ODZ	**Otahua Downs**	**8.24 214**	Pn	**Pn**	**10 43 38.5**	**-1.9**
TUZ	**Tuapeka**	**9.40 214**	Pn	**Pn**	**10 43 55.8**	**-0.4**
ASAR	**Alice Springs**	**39.53 279**	P	**P**	**10 49 10.4**	**+0.6**
	2.5nm,0.9s,baz=129,slow=8.8,SNR=38					
WRA	**Warramunga Arr**	**41.27 284**	P	**P**	**10 49 24.2**	**0.0**
	1.0nm,0.7s,baz=125,slow=7.3,SNR=18					
FITZ	**Fitzroy Crossi**	**49.02 279**	P	**P**	**10 50 26.1**	**+0.4**
	1.3nm,0.5s,baz=144,slow=8.7,SNR=4.6					
ARCES	**ARCESS Array B**	**145.32 343**	PKPbc	**PKPbc**	**11 01 13.7**	**-1.0**
	0.7nm,0.6s,baz=46,slow=5.2,SNR=6.4					
BRTR	**Keskin Array B**	**151.79 284**	PKPbc	**PKPbc**	**11 01 34.9**	**+2.0**
	0.3nm,0.4s,baz=48,slow=2.4,SNR=2.3					
BRTR			PKPab	**PKPab**	**11 01 40.5**	**-1.6**
	0.5nm,0.5s,baz=73,slow=4.8,SNR=2.9					
TORD	**Torodi Ar. Bea**	**154.53 190**	PKPbc	**PKPbc**	**11 01 40.5**	**+1.1**
	0.2nm,0.7s,baz=153,slow=1.8,SNR=2.4					
TORD			PKPab	**PKPab**	**11 01 55.0**	**+1.2**
	0.5nm,0.7s,baz=163,slow=3.5,SNR=4.6					

***IDC* 03 10:42:03.9±2.9,53°51N×87°63E,*h*0km,mb1 3.2/2, mb1mx3.0/54,mbtmp3.2/2,ML2.6/2,4C-2D,Error ellipse: s-maj=25.8km s-min=14.3km az=63.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**286**	*i*		10 53 15.6	
	baz=100,slow=317,SNR=36						
ZALV	**Zalesovo Beam**	**1.73**	**286**	Pg	Pn	10 42 35.0	-0.1
	2.2nm,0.3s,baz=101,slow=14,SNR=9.3						
ZALV				Lg	Lg	10 42 58.2	
	2.9nm,0.3s,baz=100,slow=26,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.31**	**246**	Pn	Pn	10 43 39.0	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=9.9						
KURBB				Lg	Lg	10 45 22.6	
	0.0nm,0.3s,baz=62,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.31**	**246**	⇓Pn	Pn	10 43 37.1	-0.9
	2.3nm,0.7s,baz=63,slow=14						
KURBB				⇑Sn	Sn	10 44 51.2	+0.5
	2.4nm,0.6s						
KURBB				⇑Lg	Lg	10 45 25.8	
	9.6nm,0.8s						
MK31	**Makanchi Array**	**7.54**	**209**	⇑Pn	Pn	10 43 55.6	+0.6
	0.4nm,0.5s,baz=32,slow=9.0,SNR=3.8						
MK31				⇓Sn	Sn	10 45 19.0	-2.1
	0.8nm,0.7s,baz=28,slow=21						
MK31				⇑Lg	Lg	10 45 59.9	
	2.5nm,0.8s,baz=31,slow=22,SNR=4.4						
MKAR	**Makanchi Array**	**7.54**	**209**	Pn	Pn	10 43 56.4	+1.4
	0.1nm,0.3s,baz=30,slow=12,SNR=9.0						
MKAR				Sn	Sn	10 45 19.8	-1.3
	0.2nm,0.3s,baz=31,slow=25,SNR=5.1						
MKAR				Lg	Lg	10 46 01.8	
	0.1nm,0.3s,baz=27,slow=34,SNR=6.8						

2011 JUN

IDC **03** *10:45:33.2±1.3,5°31S×153°09E,h0km,mb4.1/15, mb1 4.2/16,mb1mx4.0/48,mbtmp4.1/16,ML3.8/1,MS3.6/16, Ms1 3.6/16,ms1mx3.4/36,Error ellipse: s-maj=42.9km s-min=15.0km az=110.0*

ISCJB **03** *10:45:36.5±0.6,5°36S±0°.08×153°.2E±0°.1,h37km, mb4.1/18,MS3.6/15,Error ellipse: s-maj=18.7km s-min=8.7km az=28.7*

NEIC **03** *10:45:38.1±0.5,5°.40S×153°.18E,h35km,mb4.2/5,Error ellipse: s-maj=15.2km s-min=6.9km az=118.0*

ISC 03 10:45:38.5±0.8,5°.4S±0°.1×153°.1E±0°.1,h37km,n33, σ1s04/25,mb4.0/18,MS3.6/15,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.13**	**236**	Pn	**Pn**	**10 47 22.2**	**+1.9**
	1.2nm,0.3s,baz=62,slow=11,SNR=6.0						
PMG				Sn	**Sn**	**10 48 37.6**	**-2.5**
	3.0nm,0.3s,baz=6.3,slow=18,SNR=3.4						
HNR	**Honiara**	**7.88**	**121**	LR	LR	10 50 27.7	
	comp=Z,279nm,21.7s,baz=250,slow=37						
CTA	**Charters Tower**	**16.07**	**204**	Pn	**Pn**	**10 49 21.3**	**-0.5**
	0.2nm,0.3s,baz=28,slow=13,SNR=2.3						
CTAO	**Charters Tower**	**16.07**	**204**	*e*Pn	**Pn**	**10 49 20.3**	**-1.4**
GUMO	**Guam**	**20.55**	**337**	LR	LR	10 58 50.6	
	comp=Z,93nm,18.2s,baz=162,slow=39						
TARA	**Tarawa**	**20.89**	**72**	*e*P	**P**	**10 50 16.3**	**-1.5**
	2.0nm,0.4s						
WRAB	**Tennant Creek**	**23.28**	**230**	*e*P	**P**	**10 50 43.5**	**+0.3**
	12nm,0.9s						
WRA	**Warramunga Arr**	**23.30**	**230**	P	**P**	**10 50 43.1**	**-0.2**
	7.3nm,0.9s,baz=54,slow=9.9,SNR=30						
ASAR	**Alice Springs**	**25.93**	**224**	P	**P**	**10 51 08.2**	**+0.6**
	3.5nm,0.9s,baz=58,slow=8.2,SNR=19						
ASAR				LR	LR	11 01 08.7	
	comp=Z,98nm,19.5s,baz=47,slow=36						
STKA	**Stephens Creek**	**28.48**	**201**	P	**P**	**10 51 31.4**	**+1.1**
	2.1nm,0.8s,baz=27,slow=13,SNR=4.5						
STKA				LR	LR	11 02 46.1	
	comp=Z,172nm,18.4s,baz=27,slow=36						
FITZ	**Fitzroy Crossi**	**29.66**	**242**	P	**P**	**10 51 40.5**	**-0.4**
	2.1nm,0.8s,baz=73,slow=8.6,SNR=4.4						
FITZ				LR	LR	11 05 01.0	
	comp=Z,125nm,18.1s,baz=57,slow=39						
FITZ	**Fitzroy Crossi**	**29.66**	**242**	*e*P	**P**	**10 51 40.4**	**-0.5**
	2.2nm,0.7s						
RPZ	**Rata Peaks**	**41.32**	**160**	LR	LR	11 10 17.7	
	comp=Z,196nm,19.1s,baz=322,slow=36						
NWAO	**Narrogin (SRO)**	**43.20**	**226**	LR	LR	11 12 27.6	
	comp=Z,97nm,18.5s,baz=277,slow=37						
JNU	**Nakatsue**	**43.72**	**333**	P	**P**	**10 53 39.2**	**-1.1**
	12nm,0.8s,baz=156,slow=3.5,SNR=8.7						
MJAR	**Matsushiro Arr**	**43.98**	**343**	P	**P**	**10 53 40.8**	**-1.4**
	0.5nm,0.5s,baz=176,slow=8.0,SNR=3.0						
MJAR				LR	LR	11 10 00.3	
	comp=Z,56nm,21.2s,baz=120,slow=33						
KSRS	**Korea Array**	**48.66**	**333**	LR	LR	11 14 14.8	
	comp=Z,17nm,19.1s,baz=154,slow=35						
USRK	**Ussuriysk Ar.**	**52.90**	**341**	P	**P**	**10 54 50.8**	**0.0**
	1.6nm,0.7s,baz=181,slow=10,SNR=4.5						
KLR	**Kul'dur**	**57.49**	**344**	P	**P**	**10 55 24.0**	**+0.1**
	1.6nm,1.1s,baz=67,slow=5.2,SNR=4.2						
PETK	**Petropavlovsk-**	**58.40**	**3**	P	**P**	**10 55 30.4**	**+0.2**
	5.4nm,0.9s,baz=141,slow=5.0,SNR=5.0						
PETK				LR	LR	11 16 46.2	
	comp=Z,42nm,21.9s,baz=171,slow=32						
CMAR	**Chiang Mai Arr**	**58.40**	**295**	P	**P**	**10 55 31.1**	**+0.2**
	0.9nm,0.7s,baz=112,slow=4.3,SNR=5.3						
CMAR				LR	LR	11 20 44.9	
	comp=Z,17nm,18.9s,baz=115,slow=36						
SONM	**Songino Array**	**66.98**	**328**	P	**P**	**10 56 27.9**	**+0.2**
	0.3nm,0.5s,baz=131,slow=5.9,SNR=3.6						
SEY	**Seymchan**	**68.13**	**360**	P	**P**	**10 56 34.4**	**0.0**
	1.2nm,0.7s,baz=183,slow=10,SNR=4.4						
BILL	**Bilibino**	**73.84**	**5**	*e*P	**P**	**10 57 10.7**	**+1.7**
	12nm,0.8s						
MKAR	**Makanchi Array**	**80.97**	**319**	P	**P**	**10 57 50.0**	**+0.7**
	0.5nm,0.5s,baz=102,slow=6.1,SNR=7.1						
MKAR				LR	LR	11 33 59.6	
	comp=Z,18nm,19.4s,baz=41,slow=36						
ZALV	**Zalesovo Beam**	**81.81**	**326**	P	**P**	**10 57 53.5**	**-0.1**
	2.6nm,0.4s,baz=116,slow=6.6,SNR=3.8						
COLA	**College**	**82.28**	**22**	*e*P	**P**	**10 57 56.4**	**+0.6**
	2.6nm,0.9s						
ILAR	**Eielson Array**	**82.58**	**22**	P	**P**	**10 57 57.2**	**-0.2**
	0.7nm,0.8s,baz=246,slow=5.1,SNR=6.8						
NRIK	**Noril'sk**	**86.61**	**341**	LR	LR	11 38 46.7	
	comp=Z,29nm,18.2s,baz=110,slow=37						
NVAR	**Mina Array Bea**	**92.20**	**52**	LR	LR	11 34 43.2	
	comp=Z,60nm,19.2s,baz=258,slow=32						
AKTO	**Aktyubinsk**	**97.36**	**320**	LR	LR	11 45 03.2	
	comp=Z,33nm,18.6s,baz=77,slow=37						
PDAR	**Pinedale Array**	**99.01**	**48**	LR	LR	11 42 10.2	
	comp=Z,52nm,18.2s,baz=264,slow=34						
TORD	**Torodi Ar. Bea**	**150.78**	**287**	PKPbc	**PKPbc**	**11 05 27.6**	**-0.5**
	2.1nm,0.7s,baz=94,slow=1.8,SNR=10						

NIED **03** *10:47:00,39°.00N×142°.40E,h17km,Mw3.3 Best double couple: M0 1.15000×10^14 NP1:φs278.00000°,δ12.00000°, λ-172.00000°. NP2:φs180.00000°,δ88.00000°, λ-78.00000°.*

ISCJB **03** *10:47:19.2±1.2,38°.96N±0°.04×142°.46E±0°.07,h22km±6km, mb3.5/3,Error ellipse: s-maj=9.6km s-min=5.4km az=17.7*

JMA **03** *10:47:20.5±0.1,39°.01N×142°.41E,h30km±2km,M3.5*

IDC **03** *10:47:25.1±4.9,38°.89N×142°.38E,h63km±46km,mb3.1/3, mb1 3.4/4,mb1mx3.0/68,mbtmp3.4/4,ML3.1/1,Error ellipse: s-maj=40.1km s-min=26.6km az=112.0*

ISC 03 10:47:18.8±1.9,38°.99N±0°.04×142°.39E±0°.07,h9km±10km, n21,σ0s86/27,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.57**	**280**	P	**Pn**	**10 47 32.1**	**-1.0**
OFUJ				S	**Sb**	**10 47 39.9**	**+0.8**
MIYJ	**Miyakonagasawa**	**0.74**	**323**	P	**Pb**	**10 47 34.1**	**+0.3**
MIYJ				S	**Sg**	**10 47 43.4**	**+0.8**
JMK	**Ichinoseki**	**0.91**	**268**	P	**Pn**	**10 47 37.4**	**-0.4**
JMK				S	**Sb**	**10 47 49.2**	**+0.2**
JIO	**Ouri**	**0.97**	**237**	P	**Pb**	**10 47 37.6**	**-0.2**
JIO				S	**Sg**	**10 47 49.6**	**-0.5**
JOM	**Ohasama**	**0.98**	**300**	P	**Pn**	**10 47 38.5**	**-0.3**
JOM				S	**Sb**	**10 47 51.5**	**+0.5**
JTH	**Tanohata**	**1.03**	**337**	P	**Pg**	**10 47 38.5**	**-0.2**
JTH				S	**Sb**	**10 47 53.2**	**+0.6**
JKZ	**Kuzumaki**	**1.29**	**321**	P	**Pn**	**10 47 43.3**	**+0.2**
JKZ				S	**Sb**	**10 47 59.5**	**-0.5**
JRG	**Rokugo**	**1.42**	**287**	P	**Pg**	**10 47 45.8**	**-0.3**
JRG				S	**Sn**	**10 48 04.3**	**+0.6**
JOU	**Okura**	**1.48**	**246**	P	**Pb**	**10 47 46.3**	**-0.3**
JOU				S	**Sn**	**10 48 04.9**	**-0.3**
JANG	**Nango**	**1.54**	**334**	P	**Pn**	**10 47 46.8**	**+0.3**
JANG				S	**Sn**	**10 48 06.9**	**+0.3**
MAT	**Matsushiro**	**4.11**	**235**	P	**Pn**	**10 48 23.9**	**+2.0**
MAT				*e*S	**Sn**	**10 49 09.7**	**-0.4**
MJAR	**Matsushiro Arr**	**4.11**	**235**	P	**Pn**	**10 48 23.9**	**+2.1**
	1.3nm,0.3s,baz=37,slow=12,SNR=18						
MJAR				S	**Sn**	**10 49 11.5**	**+1.4**
	baz=66,slow=21,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.56**	**125**	T	T	11 23 28.5	
	baz=317,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.57**	**125**	T	T	11 23 52.4	
	baz=317,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.58**	**125**	T	T	11 23 38.4	
	baz=317						
H11S1	**WAKE ISLAND Hy**	**29.35**	**127**	T	T	11 24 38.4	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.35**	**127**	T	T	11 24 39.6	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	11 24 37.1	
	baz=318						
MKAR	**Makanchi Array**	**43.76**	**301**	P	**P**	**10 55 24.3**	**-0.2**
	0.6nm,0.6s,baz=84,slow=9.2,SNR=4.6						
ILAR	**Eielson Array**	**47.44**	**33**	P	**P**	**10 55 53.6**	**+0.3**
	0.3nm,0.6s,baz=272,slow=6.5,SNR=5.5						
WRA	**Warramunga Arr**	**59.10**	**189**	P	**P**	**10 57 18.2**	**-1.3**
	0.3nm,0.7s,baz=5.5,slow=7.3,SNR=6.6						

ISCJB **03** *10:54:37.0±0.3,20°.97S±0°.06×178°.55W±0°.07,h579km, mb4.3/39,Error ellipse: s-maj=9.1km s-min=7.4km az=143.2*

NEIC **03** *10:54:36.3±0.7,20°.88S×178°.42W,h558km±8km,mb4.5/22, Error ellipse: s-maj=13.8km s-min=9.0km az=154.0*

IDC **03** *10:54:38.8±2.8,20°.77S×178°.51W,h586km±31km, mb3.6/18,mb1 3.8/19,mb1mx3.6/33,mbtmp4.5/19,Error ellipse: s-maj=16.9km s-min=14.6km az=95.0*

ISC 03 10:54:37.8±0.4,20°.96S±0°.07×178°.51W±0°.08,h579km, n84,σ1s26/91,mb4.4/39,2C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.56**	**314**	*e*P	**P**	**10 56 05.7**	**-0.4**
RAO	**Raoul Island**	**8.28**	**176**	*e*P	**P**	**10 56 36.1**	**-2.9**
RAO				*e*S	**S**	**10 58 19.9**	**+1.5**
AFI	**Afiamalu**	**9.51**	**44**	P	P	10 56 45.6	-5.9
	4.3nm,0.3s,baz=32,slow=3.4,SNR=6.9						
AFI				S	S	10 58 28.4	-13
	15nm,0.3s,baz=219,slow=21,SNR=17						
AFI	**Afiamalu**	**9.51**	**44**	*e*P	P	10 56 46.2	-5.3
AFI				*e*S	S	10 58 30.0	-11
DZM	**Mont Dzumac**	**14.04**	**263**	P	**P**	**10 57 37.4**	**-0.1**
	0.8nm,0.3s,baz=85,slow=17,SNR=4.4						
URZ	**Urewera**	**17.65**	**191**	P	**P**	**10 58 10.2**	**-0.8**
	2.1nm,0.3s,baz=336,slow=1.4,SNR=11						
URZ				S	**S**	**11 01 00.4**	**-4.0**
	0.4nm,0.3s,baz=287,slow=19,SNR=2.9						
CTA	**Charters Tower**	**32.97**	**265**	P	**P**	**11 00 27.1**	**+0.9**
	9.9nm,0.4s,baz=90,slow=11,SNR=25						
CTAO	**Charters Tower**	**32.97**	**265**	*e*P	**P**	**11 00 27.1**	**+0.9**
	12nm,0.5s						
PMG	**Port Moresby**	**34.98**	**284**	P	**P**	**11 00 42.8**	**-0.2**
	27nm,0.8s,baz=98,slow=4.0,SNR=6.6						
PMG	**Port Moresby**	**34.98**	**284**	*e*P	**P**	**11 00 43.7**	**+0.7**
	43nm,1.0s						
COEN	**Coen**	**37.13**	**274**	*e*P	**P**	**11 01 01.5**	**+0.8**
	11nm,0.8s						
STKA	**Stephens Creek**	**37.16**	**245**	P	**P**	**11 01 01.9**	**+1.1**
	5.4nm,0.5s,baz=88,slow=12,SNR=27						
STKA				PcP	**PcP**	**11 03 05.9**	**+0.8**
	1.4nm,0.5s,baz=120,slow=2.6,SNR=3.7						
STKA	**Stephens Creek**	**37.16**	**245**	*e*P	**P**	**11 01 02.2**	**+1.5**
	2.6nm,1.0s						
JAY	**Jayapura**	**43.73**	**289**	P	**P**	**11 01 53.8**	**+0.6**
	3.8nm,0.6s,baz=98,slow=24,SNR=25						
AS01	**Alice Springs**	**43.90**	**257**	*e*P	**P**	**11 01 54.8**	**+0.4**
AS31	**Alice Springs**	**43.95**	**257**	*e*P	**P**	**11 01 55.4**	**+0.6**
	6.3nm,0.6s						
ASAR	**Alice Springs**	**43.95**	**257**	P	**P**	**11 01 55.4**	**+0.6**
	23nm,0.7s,baz=98,slow=7.6,SNR=428						
ASAR				PcP	**PcP**	**11 03 28.0**	**+0.3**
	2.7nm,0.6s,baz=101,slow=4.0,SNR=7.6						
ASAR				S	**S**	**11 07 44.6**	**-0.7**
	2.1nm,0.8s,baz=90,slow=15,SNR=16						
WB2	**Warramunga Arr**	**44.05**	**263**	*e*P	**P**	**11 01 55.6**	**+0.1**
	21nm,1.0s						
WRAB	**Tennant Creek**	**44.05**	**263**	*e*P	**P**	**11 01 55.6**	**-0.1**
	20nm,1.0s						
WRA	**Warramunga Arr**	**44.06**	**263**	P	**P**	**11 01 55.3**	**-0.4**
	7.2nm,0.3s,baz=97,slow=7.7,SNR=420						
WRA				PcP	**PcP**	**11 03 28.5**	**+0.4**
	1.3nm,0.7s,baz=110,slow=3.1,SNR=3.5						
WRA				S	**S**	**11 07 44.6**	**-2.4**
	1.4nm,0.8s,baz=98,slow=13,SNR=6.6						
MTN	**Manton Dam**	**48.69**	**271**	*e*P	**P**	**11 02 30.5**	**-0.1**
	18nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.49**	**263**	P	**P**	**11 02 58.5**	**+0.3**
	6.6nm,0.5s,baz=81,slow=3.7,SNR=64						
FITZ	**Fitzro

AK11	**Malin Array Si**	**143.22 330**	*e*PKPpre	**PKPpre**	11 13 03.5			
ASF	**Jabal al Asfar**	**146.56 297**	PKPbc	**PKPbc**	**11 13 15.5**	**-0.1**		
	comp=Z,3.4nm,0.7s,baz=93,slow=5.0,SNR=8.2							
BR131	**Keskin Array S**	**146.78 311**	*e*PKPbc	**PKPbc**	**11 13 15.6**	**-0.4**		
BRTR	**Keskin Array B**	**146.78 311**	PKPbc	**PKPbc**	**11 13 15.2**	**-0.8**		
	comp=Z,2.9nm,0.6s,baz=136,slow=4.0,SNR=12							
BUR08	**Bucovina Ar. S**	**147.20 330**	*e*PKPdf	**PKPdf**	**11 13 13.9**	**+0.4**		
BUR08			*e*PKPbc	**PKPbc**	**11 13 17.2**	**+0.4**		
BUR08			*e*PKPab	**PKPab**	**11 13 20.6**	**+0.1**		
MMAI	**Mount Meron Ar**	**147.62 299**	PKPbc	**PKPbc**	**11 13 18.7**	**+0.4**		
	comp=Z,4.5nm,0.5s,baz=72,slow=5.4,SNR=11							
CRVS	**Cervenica-Dubn**	**147.87 335**	*e*PKP	**PKPab**	**11 13 22.7**	**-0.3**		
MLR	**Muntele Rosu**	**148.34 326**	PKPbc	**PKPbc**	**11 13 19.1**	**-0.7**		
	comp=Z,0.7nm,0.5s,baz=29,slow=19,SNR=4.8							
CLL	**Collm**	**148.39 346**	*i* PKPbc	**PKPbc**	**11 13 19.2**	**-0.3**		
	comp=Z,5.0nm,0.9s							
CLL			*i* PKPab	**PKPab**	**11 13 24.4**	**-0.7**		
	comp=Z,3.0nm,0.8s							
KHC	**Kasperske Hory**	**150.27 344**	*e*PKP	**PKPbc**	**11 13 24.0**	**-0.2**		
GERES	**GERESS Array B**	**150.50 344**	PKPbc	**PKPbc**	**11 13 23.9**	**-0.8**		
	comp=Z,1.8nm,0.8s,baz=64,slow=3.1,SNR=8.8							
GEA0	**GERESS Array S**	**150.51 344**	*e*PKPbc	**PKPbc**	**11 13 24.2**	**-0.5**		
DAVOX	**Davos/Dischmat**	**153.35 347**	PKPbc	**PKPbc**	**11 13 30.5**	**-0.8**		
	comp=Z,2.5nm,0.5s,baz=329,slow=12,SNR=4.4							
TORD	**Torodi Ar. Bea**	**172.23 182**	PKP	**PKPdf**	**11 13 40.4**	**-1.3**		
	comp=Z,0.9nm,0.9s,baz=344,slow=2.2,SNR=4.4							
TORD			PKPab	**PKPab**	**11 15 09.6**	**+0.1**		
	comp=Z,1.2nm,0.8s,baz=177,slow=3.9,SNR=8.2							

DDA ***03*** *10:56:34.0,39.°12N×28.°99E,h7km,Md3.3*
ISK ***03*** *10:56:33.1,39.°13N×29.°03E,h5km,MD2.9*
ISCJB ***03*** *10:56:34.0±0.5,39.°12N±0.°03×29.°01E±0.°03,h1km±5km, Error ellipse: s-maj=4.3km s-min=4.0km az=149.0*
CSEM ***03*** *10:56:34.5±0.1,39.°12N×29.°02E,h2km,MD3.3,Error ellipse: s-maj=2.7km s-min=2.4km az=58.0*

ISC 03 10:56:34.4±1.0,39.°14N±0.°02×29.°01E±0.°02,h8km±10km, n57,σ0s68/66,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
DEMI	**Demirci**	**0.24**	**248**	P	**Pg**	**10 56 39.2**		**-0.1**
DEMI				S	**Sg**	**10 56 42.5**		**-0.2**
DEMI	**Demirci**	**0.24**	**248**	*i* P	**Pg**	**10 56 39.2**		**-0.1**
DEMI				*i* S	**Sg**	**10 56 42.5**		**-0.2**
GDZ	**Gediz**	**0.37**	**97**	P	**Pg**	**10 56 41.8**		**+0.1**
GDZ				S	**Sg**	**10 56 47.3**		**+0.7**
GDZ	**Gediz**	**0.37**	**97**	*i* P	**Pg**	**10 56 41.8**		**+0.1**
GDZ				*i* S	**Sg**	**10 56 47.3**		**+0.7**
TVSB	**Tavsanli**	**0.47**	**48**	*e*PG	**Pg**	**10 56 43.5**		**-0.1**
TVSB				*e*SG	**Sg**	**10 56 50.3**		**+0.5**
TVSB	**Tavsanli**	**0.47**	**48**	*e*Pg	**Pg**	**10 56 43.5**		**-0.1**
TVSB				*e*Sg	**Sg**	**10 56 50.3**		**+0.5**
DST	**Dursunbey**	**0.56**	**327**	*e*PG	**Pg**	**10 56 45.0**		**-0.2**
DST	**Dursunbey**	**0.56**	**327**	*e*Pg	**Pg**	**10 56 45.0**		**-0.2**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*PG	**Pg**	**10 56 46.9**		**-0.6**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*Pg	**Pg**	**10 56 46.9**		**-0.6**
KHAL	**Karahalli**	**0.85**	**154**	P	**Pg**	**10 56 50.5**		**-0.3**
KHAL				S	**Sg**	**10 57 01.4**		**-0.5**
KHAL	**Karahalli**	**0.85**	**154**	*i* P	**Pg**	**10 56 50.5**		**-0.3**
KHAL				*i* S	**Sg**	**10 57 01.4**		**-0.5**
KHL	**Karahalli**	**0.91**	**153**	*e*PG	**Pg**	**10 56 51.4**		**-0.5**
KHL	**Karahalli**	**0.91**	**153**	*e*Pg	**Pg**	**10 56 51.4**		**-0.5**
ORLT	**Orhaneli**	**0.91**	**355**	*e*PG	**Pg**	**10 56 51.9**		**0.0**
ORLT				*e*SG	**Sn**	**10 57 06.1**		**-0.8**
AKS	**Akhisar**	**0.97**	**255**	*e*PG	**Pg**	**10 56 53.0**		**0.0**
BALB	**Balikesir**	**1.01**	**300**	*e*PG	**Pg**	**10 56 54.0**		**+0.3**
KCTX	**Karacabey (Bur**	**1.23**	**330**	*e*PN	**Pn**	**10 56 57.8**		**-0.2**
MDNY	**Mudanya-Bursa**	**1.23**	**356**	*e*PN	**Pn**	**10 56 57.5**		**-0.4**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*PN	**Pn**	**10 56 58.0**		**-0.1**
IZI	**Iznik**	**1.25**	**17**	*e*PN	**Pn**	**10 56 58.0**		**-0.2**
GEMT	**Gemlik**	**1.30**	**6**	*e*PN	**Pb**	**10 56 59.2**		**+0.1**
GONE	**Gonen-Balikesi**	**1.37**	**312**	*e*PN	**Pg**	**10 57 00.6**		**0.0**
GONE	**Gonen-Balikesi**	**1.37**	**312**	*e*PN	**Pg**	**10 57 00.6**		**0.0**
DENT	**Denizli**	**1.38**	**179**	*e*PN	**Pg**	**10 57 00.5**		**-0.4**
DENT	**Denizli**	**1.38**	**179**	*e*PN	**Pg**	**10 57 00.5**		**-0.4**
ADVT	**Abdulvahap**	**1.41**	**23**	*e*PN	**Pb**	**10 57 01.0**		**0.0**
ADVT	**Abdulvahap**	**1.41**	**23**	*e*Pn	**Pb**	**10 57 01.0**		**0.0**
ARMT	**Armutlu**	**1.43**	**356**	*e*PN	**Pn**	**10 57 00.5**		**-0.1**
ARMT	**Armutlu**	**1.43**	**356**	*e*Pn	**Pn**	**10 57 00.5**		**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**217**	*e*PN	**Pn**	**10 57 01.4**		**+0.1**
EDC	**Edincik**	**1.50**	**324**	*e*PN	**Pb**	**10 57 02.3**		**-0.1**
EDC	**Edincik**	**1.50**	**324**	*e*Pn	**Pb**	**10 57 02.3**		**-0.1**
IZM	**Izmir**	**1.55**	**242**	*e*PN	**Pb**	**10 57 03.3**		**-0.1**
IZM	**Izmir**	**1.55**	**242**	*e*Pn	**Pb**	**10 57 03.3**		**-0.1**
DKL	**Dikili**	**1.64**	**268**	*e*PN	**Pb**	**10 57 04.8**		**0.0**
DKL	**Dikili**	**1.64**	**268**	*e*Pn	**Pb**	**10 57 04.8**		**0.0**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pb**	**10 57 06.3**		**-0.3**
HRT	**Hereke**	**1.76**	**17**	*e*PN	**Pb**	**10 57 06.4**		**-0.5**
HRT	**Hereke**	**1.76**	**17**	*e*Pn	**Pb**	**10 57 06.4**		**-0.5**
MRMT	**Marmara Adasi**	**1.82**	**324**	*e*PN	**Pb**	**10 57 07.6**		**-0.4**
MRMT	**Marmara Adasi**	**1.82**	**324**	*e*Pn	**Pb**	**10 57 07.6**		**-0.4**
SPNC	**Sapanca-Adapaz**	**1.84**	**32**	*e*PN	**Pb**	**10 57 07.5**		**-0.8**
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*PN	**Pb**	**10 57 08.8**		**-0.9**
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*Pn	**Pb**	**10 57 08.8**		**-0.9**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*PN	**Pn**	**10 57 09.1**		**+0.9**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*Pn	**Pn**	**10 57 09.1**		**+0.9**
RKY	**Sarkoy-Tekirda**	**2.09**	**318**	*e*PN	**Pb**	**10 57 11.5**		**-1.1**
RKY	**Sarkoy-Tekirda**	**2.09**	**318**	*e*Pn	**Pb**	**10 57 11.5**		**-1.1**
LPK	**Lapseki**	**2.13**	**306**	*e*PN	**Pb**	**10 57 12.0**		**-1.1**
LPK	**Lapseki**	**2.13**	**306**	*e*Pn	**Pb**	**10 57 12.0**		**-1.1**
KIZT	**Kizilcal**	**2.25**	**96**	*e*PN	**Pn**	**10 57 13.0**		**+1.0**
KIZT	**Kizilcal**	**2.25**	**96**	*e*Pn	**Pn**	**10 57 13.0**		**+1.0**
GELI	**Tayfur-Gelibol**	**2.32**	**304**	*e*PN	**Pn**	**10 57 14.6**		**+1.7**
GELI	**Tayfur-Gelibol**	**2.32**	**304**	*e*Pn	**Pn**	**10 57 14.6**		**+1.7**
SIGR	**SIGRI**	**2.45**	**273**	*e*PN	**Pn**	**10 57 16.4**		**+1.8**
SIGR	**SIGRI**	**2.45**	**273**	*e*Pn	**Pn**	**10 57 16.4**		**+1.8**

DJA 03 11:08:07.2±0.4,0°S±3°×12°3E±°,h52km±8km,M4.4/10, mB4.8/2,mb4.5/3,MLv4.4/10,Mw(mB)4.1/2,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
LUWI	**Luwuk**	**0.94**	**199**	P	Pn	11 08 24.6		+0.5
LUWI				S	Sn	11 08 39.3		+2.7
MRSI	**Marisa**	**1.29**	**299**	P	Pn	11 08 28.1		-0.8
MRSI				S	Sn	11 08 43.5		-1.6
PCI	**Palu**	**3.32**	**257**	P	Pn	11 09 02.2		+5.5
SANI	**Sanana**	**3.47**	**123**	P	Pn	11 08 56.8		-2.0
SANI				S	Sn	11 09 35.0		-3.7
KDI	**Kendari**	**3.81**	**187**	P	Pn	11 09 03.0		-0.4
TTSI	**Tana Toraja**	**4.34**	**228**	P	Pn	11 09 10.9		+0.2
TTSI				S	Sn	11 10 00.5		+0.5
LBMI	**Labuha**	**4.46**	**96**	P	Pn	11 09 13.8		+1.5
LBMI				S	Sn	11 10 03.4		+0.5
SPSI	**Sidrap Palu**	**5.02**	**221**	P	Pn	11 09 21.1		+1.0
	28nm,0.7s,787nm0.2nm							
NLAI	**Namlea**	**5.06**	**127**	P	Pn	11 09 20.7		+0.1
	47nm,0.7s,1μm0.4nm							
BSSI	**Bau Bau, Buton**	**6.49**	**203**	P	Pn	11 09 39.9		-0.2

IDC 03 11:15:54.9±2.2,17.°68S×178.°04W,h605km±27km, mb3.3/4,mb1 3.4/5,mb1mx3.0/28,mbtmp4.3/5,Error ellipse: s-maj=106.2km s-min=25.0km az=157.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AFI	**Afiamalu**	**7.10**	**59**	P	P	11 17 46.0		-0.3
	2.3nm,0.3s,baz=266,slow=19,SNR=4.1							
CTA	**Charters Tower**	**33.83**	**260**	P	P	11 21 49.3		+0.3
	1.8nm,0.6s,baz=93,slow=11,SNR=3.7							
STKA	**Stephens Creek**	**39.05**	**241**	P	P	11 22 31.9		+0.4
	0.9nm,0.3s,baz=98,slow=14,SNR=4.4							
WRA	**Warramunga Arr**	**45.02**	**259**	P	P	11 23 18.0		-0.5
	1.9nm,0.4s,baz=94,slow=7.1,SNR=117							
WRA				PcP	PcP	11 24 45.4		-0.8
	0.2nm,0.3s,baz=95,slow=3.4,SNR=4.1							
ASAR	**Alice Springs**	**45.19**	**254**	P	P	11 23 19.6		-0.1
	4.7nm,0.5s,baz=92,slow=8.0,SNR=175							
ASAR				PcP	PcP	11 24 45.8		-1.0
	0.4nm,0.4s,baz=100,slow=4.0,SNR=5.8							
BRTR	**Keskin Array B**	**144.87**	**315**	PKP	PKPbc	11 34 25.5		+0.2
	0.8nm,0.8s,baz=48,slow=2.1,SNR=3.3							

MAN 03 11:44:34,13.°58N×121.°07E,h3km,mb3.8,ML2.5,MS2.1, Mindoro

ISCJB ***03*** *11:50:38.9±0.5,41.°00N±0.°03×31.°19E±0.°04,h14km±4km, Error ellipse: s-maj=6.5km s-min=4.1km az=146.1*
CSEM ***03*** *11:50:38.8±0.1,41.°00N×31.°20E,h15km,MD2.6,Error ellipse: s-maj=2.7km s-min=1.8km az=149.0*
ISK ***03*** *11:50:38.3,41.°00N×31.°16E,h10km,MD2.6*

ISC 03 11:50:38.6±1.3,41.°00N±0.°03×31.°18E±0.°02,h15km±12km, n26,σ0s34/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SAHE	**Sakarya_HENDEK**	**0.29**	**239**	P	**Pb**	**11 50 45.2**		**-0.3**
SAHE				S	**Sb**	**11 50 51.1**		**+0.9**
SAHE	**Sakarya_HENDEK**	**0.29**	**239**	*i* P	**Pb**	**11 50 45.2**		**-0.3**
SAHE				*i* S	**Sb**	**11 50 51.1**		**+0.9**
KDZE	**Karadeniz Ereo**	**0.37**	**32**	*e*PG	**Pg**	**11 50 46.3**		**+0.2**
KDZE				*e*SG	**Sb**	**11 50 52.2**		**-0.1**
KDZE	**Karadeniz Ereo**	**0.37**	**32**	*e*Pg	**Pg**	**11 50 46.3**		**+0.2**
KDZE				*e*Sg	**Sb**	**11 50 52.2**		**-0.1**
MDUB	**Mudurnu**	**0.53**	**179**	*e*PG	**Pg**	**11 50 49.1**		**-0.1**
MDUB				*e*SG	**Sb**	**11 50 56.8**		**-0.3**
MDUB	**Mudurnu**	**0.53**	**179**	*e*Pg	**Pg**	**11 50 49.1**		**-0.1**
MDUB				*e*Sg	**Sb**	**11 50 56.8**		**-0.3**
BCAM	**Yenicaga**	**0.69**	**105**	P	**Pg**	**11 50 51.9**		**-0.3**
BCAM				S	**Sb**	**11 51 02.2**		**+0.4**
BCAM	**Yenicaga**	**0.69**	**105**	*i* P	**Pg**	**11 50 51.9**		**-0.3**
BCAM				*i* S	**Sb**	**11 51 02.2**		**+0.4**
KAND	**Kocaeli-Kandir**	**0.76**	**277**	P	**Pg**	**11 50 53.2**		**-0.1**
KAND				S	**Sb**	**11 51 03.4**		**-0.1**
KAND	**Kocaeli-Kandir**	**0.76**	**277**	*i* P	**Pg**	**11 50 53.1**		**-0.1**
KAND				*i* S	**Sb**	**11 51 03.4**		**-0.1**
GULT	**Gulveren**	**0.76**	**222**	*e*PG	**Pb**	**11 50 53.8**		**+0.2**
GULT				*e*SG	**Sb**	**11 51 03.9**		**+0.1**
GULT	**Gulveren**	**0.76**	**222**	*e*Pg	**Pb**	**11 50 53.8**		**+0.2**
GULT				*e*Sg	**Sb**	**11 51 03.9**		**+0.1**
BTIN	**Bart¨–n**	**1.02**	**51**	P	**Pb**	**11 50 57.9**		**-0.1**
BTIN				S	**Sb**	**11 51 11.0**		**-0.2**
BTIN	**Bart¨–n**	**1.02**	**51**	*i* P	**Pb**	**11 50 57.9**		**-0.1**
BTIN				*i* S	**Sb**	**11 51 11.0**		**-0.2**
HRT	**Hereke**	**1.16**	**262**	*e*PN	**Pn**	**11 51 00.6**		**+0.3**
HRT	**Hereke**	**1.16**	**262**	*e*Pn	**Pn**	**11 51 00.6**		**+0.3**
SILT	**Sile**	**1.17**	**278**	*e*PN	**Pg**	**11 51 00.9**		**-0.4**
SILT	**Sile**	**1.17**	**278**	*e*Pn	**Pg**	**11 51 00.9**		**-0.4**
ADVT	**Abdulvahap**	**1.24**	**243**	*e*PN	**Pg**	**11 51 02.0**		**-0.5**
ADVT	**Abdulvahap**	**1.24**	**243**	*e*Pn	**Pg**	**11 51 02.0**		**-0.5**
BORA	**Eskisehir**	**1.25**	**207**	P	**Pn**	**11 51 01.7**		**+0.1**
BORA	**Eskisehir**	**1.25**	**207**	*i* P	**Pn**	**11 51 01.7**		**+0.1**
CAVI	**Cavuskoy**	**1.30**	**232**	*e*PN	**Pb**	**11 51 02.9**		**+0.2**
CAVI	**Cavuskoy**	**1.30**	**232**	*e*Pn	**Pb**	**11 51 02.9**		**+0.2**
IZI	**Iznik**	**1.46**	**243**	*e*PN	**Pb**	**11 51 05.2**		**-0.3**
IZI	**Iznik**	**1.46**	**243**	*e*Pn	**Pb**	**11 51 05.2**		**-0.3**

ISCJB ***03*** *11:51:06.2±1.1,24.°91N±0.°06×122.°72E±0.°03,h11km±7km, Error ellipse: s-maj=10.3km s-min=4.7km az=6.9*
JMA ***03*** *11:51:07.8±0.1,24.°78N×122.°70E,h33km±2km,M2.0*
TAP ***03*** *11:51:08.0,24.°86N×122.°58E,h13km,ML3.2,C*

ISC 03 11:51:04.3±1.7,24.°96N±0.°09×122.°70E±0.°03,h3km±12km, n21,σ0s66/37,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JYNG	**Yonagunijimaku**	**0.56**	**157**	P	**Pb**	**11 51 16.6**		**-0.1**
JYNG				S	**Sg**	**11 51 22.9**		**+0.7**
YOJ	**Yonaguni jima**	**0.57**	**151**	P	**Pb**	**11 51 17.1**		**+0.1**
YOJ				S	**Sg**	**11 51 23.6**		**+0.8**
TWC	**Suao**	**0.85**	**246**	*i* P	**Pb**	**11 51 21.9**		**+0.1**
	baz=249							
TWC				*i* S	**Sg**	**11 51 31.9**		**+0.1**
	baz=249							
TWE	**Neicheng**	**0.97**	**256**	P	**Pb**	**11 51 24.1**		**+0.3**
	baz=259							
TWE				S	**Sb**	**11 51 36.4**		**-0.7**
	baz=259							
ENA	**Nanau**	**1.03**	**239**	P	**Pb**	**11 51 24.5**		**-0.3**
	baz=256							
ENA				S	**Sg**	**11 51 36.8**		**-0.6**
	baz=256							
ENTT	**Nioudou**	**1.08**	**253**	P	**Pn**	**11 51 26.5**		**+0.1**
	baz=256							
ENTT				*e*S	**Sb**	**11 51 40.1**		**-0.2**
	baz=256							
IRIF	**Iriomote-Funau**	**1.12**	**124**	P	**Pb**	**11 51 26.3**		**-0.1**
IRIF				*e*S	**Sg**	**11 51 40.1**		**-0.4**
NSK	**Sanguang**	**1.26**	**257**	P	**Pn**	**11 51 29.4**		**+0.5**
	baz=275							
NSK				*e*S	**Sg**	**11 51 44.5**		**-0.3**
	baz=275							
NNS	**Nan Shan**	**1.32**	**247**	*e*P	**Pb**	**11 51 30.7**		**+0.9**
	baz=248							
NNS				*e*S	**Sb**	**11 51 47.1**		**0.0**
	baz=248							
TWD	**Chiawan**	**1.34**	**229**	*e*P	**Pb**	**11 51 30.2**		**+0.2**
	baz=236							
TWD				*e*S	**Sg**	**11 51 47.1**		**-0.3**
	baz=236							
JKRS	**Kuro-shima**	**1.39**	**121**	P	**Pn**	**11 51 30.5**		**-0.1**
JIJ	**Ishigaki jima**	**1.44**	**114**	P	**Pn**	**11 51 31.0**		**-0.3**
TWT	**Tachien**	**1.56**	**243**	*e*P	**Pg**	**11 51 34.1**		**-0.2**
	baz=244							
TWT				*e*S	**Sg**	**11 51 54.4**		**-0.1**
	baz=244							
NSTT	**Nanjuang**	**1.58**	**258**	*e*P	**Pg**	**11 51 35.3**		**+0.6**
	baz=259							
NSTT				*e*S	**Sb**	**11 51 54.6**		**-0.1**
	baz=259							
ESL	**Shilin**	**1.63**	**226**	*e*P	**Pn**	**11 51 34.3**		**+0.3**
	baz=205							
TWQ1	**Liyutan**	**1.86**	**251**	*e*P	**Pg**	**11 51 40.0**		**0.0**
	baz=270							
WDT	**Danda**	**1.87**	**230**	*e*P	**Pb**	**11 51 38.5**		**-0.9**
	baz=211							
WDT				*e*S	**Sn**	**11 52 00.7**		**-1.1**
	baz=211							
SMLT	**Sun Moon Lake**	**1.96**	**237**	*e*P	**Pb**	**11 51 39.9**		**-1.0**
	baz=244							
SMLT				*e*S	**Sb**	**11 52 05.3**		**-0.5**
	baz=244							
TYC	**Yuchr**	**1.99**	**238**	*e*P	**Pb**	**11 51 40.8**		**-0.4**
	baz=244							
TYC				*e*S	**Sb**	**11 52 05.7**		**-0.6**
	baz=244							
YUS	**Yu-Shan**	**2.17**	**228**	P	**Pn**	**11 51 43.1**		**+1.3**
	baz=209							
CHN5	**Tsauling**	**2.30**	**234**	*e*P	**Pb**	**11 51 45.2**		**-1.3**
	baz=214							
CHN5				*e*S	**Sn**	**11 52 13.8**		**+1.7**
	baz=214							

ISCJB ***03*** *12:03:11.0±1.2,37.°15N±0.°05×28.°05E±0.°07,h0km, Error ellipse: s-maj=10.4km s-min=3.9km az=142.4*
DDA ***03*** *12:03:11.9,37.°20N×28.°05E,h7km,Md2.8,Suspected Mining explosion.*
CSEM ***03*** *12:03:11.8±0.6,37.°18N×28.°08E,h1km,MD2.4,Error ellipse: s-maj=13.3km s-min=4.8km az=50.0,Suspected Mining explosion.*
ISK ***03*** *12:03:11.3,37.°25N×28.°19E,h5km,MD2.4*

ISC 03 12:03:09.6±1.6,37.°15N±0.°06×27.°98E±0.°08,h0km,n11, σ0s34/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
YER	**Yerkesik**	**0.24**	**92**	*e*PG	**Pg**	**12 03 14.5**		**+0.3**
YER				*e*SG	**Sg**	**12 03 17.0**		**-0.3**
YER	**Yerkesik**	**0.24**	**92**	*e*Pg	**Pg**	**12 03 14.5**		**+0.3**
YER				*e*Sg	**Sg**	**12 03 17.0**		**-0.3**
AYDN	**Tasoluk**	**0.52**	**351**	P	**Pb**	**12 03 21.8**		**+0.1**
AYDN				S	**Sb**	**12 03 29.2**		**-0.7**
AYDN	**Tasoluk**	**0.52**	**351**	*i* P	**Pb**	**12 03 21.8**		**+0.1**
AYDN				*i* S	**Sb**	**12 03 29.2**		**-0.7**
TURN	**Turunc**	**0.56**	**119**	*i* P	**Pg**	**12 03 20.6**		**+0.2**
TURN				*i* S	**Sg**	**12 03 27.9**		**+0.2**
DALY	**Dalyan (Mu¨la**	**0.63**	**121**	*e*PG	**Pb**	**12 03 23.5**		**+0.1**
DALY				*e*SG	**Sb**	**12 03 32.2**		**-0.5**
DALY	**Dalyan (Mu¨la**	**0.63**	**121**	*e*Pg	**Pb**	**12 03 23.5**		**+0.1**
DALY				*e*Sg	**Sb**	**12 03 32.3**		**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**355**	*e*PG	**Pb**	**12 03 26.6**		**0.0**
AYDB				*e*SG	**Sb**	**12 03 38.0**		**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**355**	*e*Pg	**Pb**	**12 03 26.6**		**0.0**
AYDB				*e*Sg	**Sb**	**12 03 38.0**		**0.0**
DNZL	**Cakiroluk**	**1.00**	**57**	P	**Pg**	**12 03 29.2**		**+0.3**
DNZL				S	**Sb**	**12 03 43.6**		**-0.3**
DNZL	**Cakiroluk**	**1.00**	**57**	*i* P	**Pg**	**12 03 29.2**		**+0.3**
DNZL				*i* S	**Sb**	**12 03 43.6**		**-0.3**

DDA ***03*** *12:04:53.0,40.°16N×27.°70E,h16km,Md2.4,Suspected Mining explosion.*
ISCJB ***03*** *12:04:53.1±0.4,40.°18N±0.°03×27.°70E±0.°04,h0km,Error ellipse: s-maj=4.8km s-min=3.1km az=138.2*
CSEM ***03*** *12:04:53.3±0.1,40.°18N×27.°70E,h1km,MD2.4,Error ellipse: s-maj=3.8km s-min=2.7km az=38.0,Suspected Mining explosion.*
ISK ***03*** *12:04:53.0,40.°19N×27.°69E,h8km,MD2.6*

ISC 03 12:04:52.3±0.8,40.°12N±0.°03×27.°72E±0.°02,h0km,n31, σ0s52/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KNL	**Bal¨–kesir**	**0.21**	**315**	*i* P	**Pg**	**12 04 56.0**		**-0.3**
KNL				*i* S	**Sg**	**12 04 59.5**		**+0.5**
BALY	**Balya**	**0.39**	**191**	P	**Pb**	**12 05 01.6**		**-0.5**
BALY				S	**Sb**	**12 05 08.0**		**-0.7**
BALY	**Balya**	**0.39**	**191**	*i* P	**Pb**	**12 05 01.6**		**-0.5**
BALY				*i* S	**Sb**	**12 05 08.0**		**-0.7**
BALB	**Balikesir**	**0.50**	**165**	*e*PG	**Pb**	**12 05 04.0**		**+0.1**
BALB				*e*SG	**Sb**	**12 05 12.5**		**+0.8**
BALB	**Balikesir**	**0.50**	**165**	*e*Pg	**Pb**	**12 05 04.0**		**+0.1**
BALB				*e*Sg	**Sb**	**12 05 12.5**		**+0.8**
KCTX	**Karacabey (Bur**	**0.51**	**74**	*e*PG	**Pg**	**12 05 02.3**		**+0.2**
KCTX				*e*SG	**Sb**	**12 05 10.7**		**-1.4**
KCTX	**Karacabey (Bur**	**0.51**	**74**	*e*Pg	**Pg**	**12 05 02.3**		**+0.2**
KCTX				*e*Sg	**Sb**	**12 05 10.7**		**-1.4**
RKY	**Sarkoy-Tekirda**	**0.70**	**324**	*e*PG	**Pg**	**12 05 05.9**		**+0.2**
RKY				*e*SG	**Sg**	**12 05 14.8**		**+0.1**
RKY	**Sarkoy-Tekirda**	**0.70**	**324**	*e*Pg	**Pg**	**12 05 05.9**		**+0.2**
RKY				*e*Sg	**Sg**	**12 05 14.8**		**+0.1**
SART	**Tekirdag**	**0.70**	**324**	P	**Pg**	**12 05 06.0**		**+0.3**
SART				S	**Sg**	**12 05 15.4**		**+0.6**
SART	**Tekirdag**	**0.70**	**324**	*i* P	**Pg**	**12 05 06.0**		**+0.3**
SART				*i* S	**Sg**	**12 05 15.4**		**+0.6**
LPK	**Lapseki**	**0.77**	**289**	*e*PG	**Pg**	**12 05 07.6**		**+0.5**
LPK	**Lapseki**	**0.77**	**289**	*e*Pg	**Pg**	**12 05 07.6**		**+0.5**
DST	**Dursunbey**	**0.87**	**126**	*e*PG	**Pn**	**12 05 11.8**		**0.0**
DST	**Dursunbey**	**0.87**	**126**	*e*Pg	**Pn**	**12 05 11.8**		**0.0**
ARMT	**Armutlu**	**0.98**	**63**	*e*PG	**Pb**	**12 05 12.8**		**+0.6**
ARMT	**Armutlu**	**0.98**	**63**	*e*Pg	**Pb**	**12 05 12.8**		**+0.6**
GELI	**Tayfur-Gelibol**	**0.99**	**286**	*e*PG	**Pg**	**12 05 11.7**		**+0.4**
GELI	**Tayfur-Gelibol**	**0.99**	**286**	*e*Pg	**Pg**	**12 05 11.7**		**+0.4**
KESN	**Edirne-Kesan**	**1.06**	**312**	P	**Pb**	**12 05 13.9**		**+0.2**
KESN				S	**Sn**	**12 05 29.9**		**-0.5**
KESN	**Edirne-Kesan**	**1.06**	**312**	*i* P	**Pb**	**12 05 13.9**		**+0.2**
KESN				*i* S	**Sn**	**12 05 29.9**		**-0.5**
ERIK	**Erikli-Kesan**	**1.07**	**301**	*e*PG	**Pg**	**12 05 13.0**		**+0.2**
ERIK

PALK eSn Sn 12 12 57.9 -11
MDRS Chennai 12.61 296 *e*P **Pn 12 11 27.8 -0.4**
CMAR Chiang Mai Arr 12.81 32 Pn **Pn 12 11 31.1 0.0**
0.8nm,0.3s,baz=232,slow=14,SNR=27
CMAR LR LR 12 16 46.1
comp=Z,113nm,20.2s,baz=210,slow=39
VIS Vishakhapatnam 13.02 321 *e*P **Pn 12 11 33.0 -0.7**
CHTO Chiang Mai 13.11 31 *e*Pn **Pn 12 11 35.6 +0.6**
CHLP Challavanipeta 13.20 326 *e*Pn Pn 12 11 31.2 -5.1
CHLP IAmb IAmb 12 11 37.8
comp=Z,26nm,0.8s
CHLP Sn Sn 12 13 49.2 -13
SKHT Srikalahasti 13.37 298 *e*Pn **Pn 12 11 38.7 +0.2**
SKHT IAmb IAmb 12 11 44.7
comp=Z,15nm,0.9s
SKHT Sn Sn 12 13 52.0 -14
PVM Polavaram 13.81 315 *e*Pn **Pn 12 11 42.5 -2.1**
PVM IAmb IAmb 12 11 45.7
comp=Z,5.9nm,0.8s
PVM Sn Sn 12 14 04.2 -13
RCLA Racherla 14.81 303 *e*Pn **Pn 12 11 56.8 -1.5**
RCLA Sn Sn 12 14 26.4 -15
NJS Nagarjunasagar 15.12 307 *e*Pn **Pn 12 12 03.2 +0.9**
NJS IAmb IAmb 12 12 12.0
comp=Z,12nm,1.0s
NJS Sn Sn 12 14 34.7 -14
SRLM Srisailam 15.20 305 *e*Pn **Pn 12 12 03.0 -0.5**
SRLM IAmb IAmb 12 12 10.3
comp=Z,13nm,0.9s
SRLM Sn Sn 12 14 33.9 -17
HYBB Hyderabad (bro 16.20 308 *e*Pn **Pn 12 12 17.1 +0.7**
HYBB IAmb IAmb 12 12 20.8
comp=Z,9.2nm,0.9s
HYBB Sn **Sn 12 15 13.8 -1.6**
LHSI Lahat 16.29 134 P **Pn 12 12 16.3 -1.3**
RPR Rampur 16.53 314 *e*Pn **Pn 12 12 19.6 -0.9**
RPR IAmb IAmb 12 12 24.8
comp=Z,18nm,1.2s
RPR Sn **Sn 12 15 27.0 +3.7**
BOK Bokaro 17.07 341 *e*P **Pn 12 12 27.4 0.0**
BOK IAmb IAmb 12 12 31.1
comp=Z,45nm,1.1s
SHL Shillong 17.86 0 *e*P **Pn 12 12 36.9 -0.3**
SHL IAmb IAmb 12 12 40.9
comp=Z,24nm,0.5s
KLRI Killari 18.10 306 *e*Pn **P 12 12 41.9 +1.5**
KLRI IAmb IAmb 12 12 47.2
comp=Z,510nm,3.4s
KLRI Sn Sn 12 15 47.6 -14
KMI Kunming 20.30 30 P Pn 12 13 07.7 +1.0
KMI PMZ
comp=Z,35nm,0.5s
KMI PMZ
comp=Z,100nm,4.2s
POO Poona 20.57 304 *e*P **S 12 16 50.0 -6.3**
PKIN Phulchoki 20.77 344 *e*P **P 12 13 10.5 +0.8**
comp=Z,45nm,1.0s
QIZ Qiongzhong 20.86 55 P **P 12 13 10.5 0.0**
QIZ S **S 12 17 01.5 -0.4**
QIZ PMZ
comp=Z,16nm,1.6s
QIZ LN
comp=Z,210nm,11.6s
QIZ LE
comp=Z,120nm,16.1s
DMN Daman 20.88 343 *e*P **P 12 13 11.9 +1.0**
comp=Z,44nm,0.9s
SBUM Sibu 20.95 103 *e*P **P 12 13 11.4 -0.1**
comp=Z,5.5nm,0.8s
GUN Gumba 20.96 345 *e*P **P 12 13 12.7 +0.9**
comp=Z,109nm,0.8s
KKN Kakani 21.00 344 *e*P **P 12 13 13.2 +1.0**
LEM Lembang 21.31 132 LR LR 12 22 17.7
comp=Z,132nm,19.5s,baz=224,slow=39
GKN Gorkha 21.39 342 *e*P **P 12 13 17.1 +0.8**
comp=Z,108nm,0.9s
KOLN Koldanda 21.51 340 *e*P **P 12 13 18.5 +0.9**
comp=Z,109nm,0.8s
LSA Lhasa 21.98 358 *e*P **P 12 13 24.0 +1.0**
comp=Z,39nm,0.7s
PYUN Piuthan 22.02 339 *e*P **P 12 13 23.9 +0.8**
comp=Z,103nm,1.0s
GYA Guiyang 23.46 35 P **P 12 13 38.9 +0.8**
GYA pP pP 12 13 46.8 +0.7
GYA PP **PnPn 12 14 11.0 +5.9**
GYA PcP **PcP 12 17 25.6 +1.8**
GYA S **S 12 17 47.2 -2.8**
GYA sS sS 12 18 02.0 -1.7
GYA SS **SnSn 12 18 36.4 +9.3**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,110nm,4.9s
GYA LN
comp=Z,520nm,16.3s
GYA LE
comp=Z,530nm,17.0s
GYA LZ
comp=Z,480nm,17.6s
H08S3 Diego Garcia H 24.52 232 T T 12 40 15.0
baz=52,slow=75,SNR=14
H08S2 Diego Garcia H 24.52 232 T T 12 40 14.8
baz=52,slow=75,SNR=12
H08S1 Diego Garcia H 24.53 232 T T 12 39 59.7
baz=52,slow=75,SNR=14
CD2 Chengdu 25.73 24 *e*P **P 12 13 59.0 +0.2**
CD2 pP pP 12 14 07.8 +0.7
CD2 sP sP 12 14 11.8 +1.2
CD2 PcP **PcP 12 17 27.5 -1.1**
CD2 S **S 12 18 27.5 +1.4**
CD2 sS sS 12 18 42.6 +2.8
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,4.6s
CD2 LE
comp=Z,150nm,14.4s
CD2 LZ
comp=Z,130nm,15.4s
LZH Lanzhou 30.40 19 *e*P **P 12 14 41.0 +0.4**
LZH pP pP 12 14 50.0 +1.0
LZH sP sP 12 14 53.2 +0.7
LZH PP **PnPn 12 15 40.7 +1.1**
LZH PMZ
comp=Z,18nm,1.3s
LZH PMZ
comp=Z,72nm,5.1s
LZH LN
comp=Z,380nm,13.0s
LZH LE
comp=Z,360nm,12.8s
LZH LZ
comp=Z,420nm,15.6s
GTA Gaotai 32.46 12 ⇑P **P 12 14 59.7 +1.0**
GTA pP sP 12 15 08.9 -1.7
GTA sP pP 12 15 12.9 +5.8
GTA S **S 12 20 12.9 +1.0**
GTA PMZ
comp=Z,28nm,0.9s
GTA PMZ
comp=Z,46nm,6.9s
GTA LN
comp=Z,93nm,18.5s
GTA LE
comp=Z,84nm,15.7s
GTA LZ
comp=Z,110nm,19.0s
KSH Kashi 34.81 338 P **P 12 15 17.8 -1.3**
KSH pP pP 12 15 25.5 -2.0
KSH PP **PnPn 12 16 34.0 -1.9**
KSH PcP **PcP 12 17 51.0 -1.1**
KSH S **S 12 20 44.8 -3.4**
KSH SS **SnSn 12 22 57.7 -5.6**
KSH PMZ
comp=Z,9.0nm,0.8s
KSH PMZ
comp=Z,94nm,4.8s
KSH LN
comp=Z,100nm,8.7s
KSH LE
comp=Z,110nm,6.9s
KSH LZ
comp=Z,130nm,5.8s
WMQ Urumqi 36.25 355 P **P 12 15 32.3 +0.9**
WMQ pP pP 12 15 40.4 +0.6
WMQ sP sP 12 15 46.3 +3.0
WMQ PMZ
comp=Z,4.0nm,0.8s
WMQ PMZ
comp=Z,33nm,4.8s
PDGK Podgornoye 37.19 345 P **P 12 15 40.3 +1.1**
PDGK pmax pmax
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 37.48 25 *e*P **P 12 15 43.2 +1.2**
HHC PMZ
comp=Z,40nm,0.9s
HHC PMZ
comp=Z,97nm,7.4s
TKM2 Tokmak 2 37.96 341 *e*P **P 12 15 47.4 +1.4**
comp=Z,11nm,0.8s
AAK Ala-Archa 38.08 339 P **P 12 15 48.9 +1.9**
comp=Z,19nm,1.0s,baz=152,slow=6.0,SNR=29
AAK Ala-Archa 38.08 339 *d*eP **P 12 15 47.8 +0.7**
AAK pmax pmax
comp=Z,52nm,1.1s
AAK Ala-Archa 38.08 339 *e*P **P 12 15 49.0 +1.9**
comp=Z,21nm,1.0s
FRU Bishkek 38.21 339 *e*P **P 12 15 48.0 0.0**
EKS2 Erkin-Say 38.36 338 *e*P **P 12 15 51.4 +2.1**
comp=Z,17nm,0.8s
MNAS Manas 38.69 337 P **P 12 15 53.3 +1.1**
MNAS pmax pmax
comp=Z,13nm,0.8s
MK01 Makanchi Array 39.86 350 *e*P **P 12 16 01.9 +0.2**
MK32 Makanchi Array 39.89 350 *e*P **P 12 16 02.5 +0.5**
MK32 *e*PcP **PcP 12 18 07.5 +0.2**
MKAR Makanchi Array 39.89 350 P **P 12 16 02.5 +0.5**
comp=Z,8.9nm,0.7s,baz=167,slow=8.4,SNR=32
MKAR PcP **PcP 12 18 07.5 +0.2**
comp=Z,0.7nm,0.6s,baz=201,slow=3.6,SNR=3.9
MAKZ Makanchi 39.96 349 *e*P **P 12 16 03.0 +0.5**
comp=Z,7.8nm,0.8s
KKAR Karatay Array 40.00 336 *e*P **P 12 16 03.9 +0.9**
SONA0 Songino Array 41.96 15 *e*P **P 12 16 19.6 +0.5**
comp=Z,8.6nm,0.7s
SONA0 *e*PcP **PcP 12 18 14.4 +0.2**
SONM Songino Array 41.96 15 P **P 12 16 19.6 +0.5**
comp=Z,7.1nm,0.7s,baz=195,slow=8.8,SNR=13
SONM PcP **PcP 12 18 14.4 +0.2**
comp=Z,0.4nm,0.5s,baz=197,slow=3.9,SNR=2.3
SONA1 Songino Array 41.97 15 *e*P **P 12 16 19.4 +0.2**
FITZ Fitzroy Crossi 42.04 128 P **P 12 16 20.0 0.0**
comp=Z,2.9nm,0.7s,baz=315,slow=13,SNR=5.1
FITZ PcP **PcP 12 18 14.9 +0.1**
comp=Z,1.3nm,0.6s,baz=272,slow=3.2,SNR=5.5
FITZ Fitzroy Crossi 42.04 128 *e*P **P 12 16 20.4 +0.4**
comp=Z,11nm,1.1s
ULN Ulaanbaatar 42.15 15 *de*P **P 12 16 20.3 -0.5**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 42.15 15 *e*P **P 12 16 21.0 +0.2**
comp=Z,3.9nm,0.8s
GEYT Alibeck 42.89 320 P **P 12 16 28.5 +1.7**
comp=Z,12nm,0.8s,baz=146,slow=8.6,SNR=12
GEYT LR LR 12 35 22.9
comp=Z,49nm,18.8s,baz=115,slow=38
ZAK Zakamensk 43.69 11 *e*P **P 12 16 32.3 -0.8**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
OTUK Ortayu 43.73 341 P **P 12 16 34.2 +0.8**
OTUK pmax pmax
comp=Z,27nm,0.9s
JNU Nakatsue 44.15 49 LR LR 12 35 37.0
comp=Z,56nm,19.1s,baz=299,slow=37
KSRS Korea Array 44.19 42 LR LR 12 35 41.1
comp=Z,42nm,18.5s,baz=204,slow=37
KURBB Kurchatov Arra 44.28 348 P **P 12 16 38.2 +0.5**
KURBB PcP **PcP 12 18 22.1 +0.4**
comp=Z,19nm,0.8s,baz=171,slow=7.1,SNR=70
KURK Kurchatov 44.35 348 *d*iP **P 12 16 38.4 +0.2**
KURK pmax pmax
comp=Z,2.2nm,0.8s,baz=162,slow=2.8,SNR=8.0
KURK Kurchatov 44.35 348 *e*P **P 12 16 38.6 +0.4**
comp=Z,43nm,1.7s
KURK *e*PcP **PcP 12 18 22.1 +0.2**
TLY Talaya 45.00 10 P **P 12 16 45.0 +1.5**
comp=Z,1.4nm,0.4s,baz=210,slow=8.9,SNR=5.8
ZAA0 Zalesovo Array 46.55 354 *e*P **P 12 16 55.9 +0.3**
ZALV Zalesovo Beam 46.55 354 P **P 12 16 55.8 +0.2**
comp=Z,5.9nm,0.6s,baz=169,slow=8.5,SNR=12
ZALV LR LR 12 40 06.0
comp=Z,46nm,20.3s,baz=250,slow=41
ZAA1 Zalesovo Array 46.55 354 *e*P **P 12 16 55.8 +0.1**
NVS Novosibirsk 47.60 353 *e*P **P 12 17 03.3 -0.5**
BVAR Borovoye Array 48.53 343 P **P 12 17 11.2 +0.2**
comp=Z,9.4nm,0.8s,baz=146,slow=8.2,SNR=42
BVAR PcP **PcP 12 18 37.0 +0.3**
comp=Z,1.0nm,0.7s,baz=137,slow=5.3,SNR=3.2
ZRNK Zerenda 48.88 342 *e*P **P 12 17 13.7 0.0**
comp=Z,12nm,0.7s
MDJ Mudanjiang 49.33 35 P **P 12 17 16.6 +0.3**
MDJ PMZ
comp=Z,5.0nm,0.6s
MDJ PMZ
comp=Z,73nm,5.9s
ABKAR Akbulak array 49.39 333 *e*P **P 12 17 18.3 +0.7**
WRA Warramunga Arr 50.00 124 P **P 12 17 22.5 -0.3**
comp=Z,1.1nm,0.6s,baz=307,slow=8.4,SNR=15
WRA PcP **PcP 12 18 43.1 +0.5**
comp=Z,0.3nm,0.8s,baz=308,slow=2.9,SNR=5.8
WR1 Warramunga Arr 50.00 124 *e*P **P 12 17 22.5 -0.3**
comp=Z,8.7nm,1.3s
WR1 *e*PcP **PcP 12 18 43.1 +0.5**
MJAR Matsushiro Arr 51.05 49 P **P 12 17 30.8 +0.3**
comp=Z,0.3nm,0.3s,baz=240,slow=7.8,SNR=3.1
MJAR PcP **PcP 12 18 46.7 +0.4**
comp=Z,0.8nm,0.8s,baz=246,slow=4.1,SNR=9.3
AKTO Aktyubinsk 51.10 333 P **P 12 17 31.1 +0.5**
comp=Z,4.4nm,1.0s,baz=123,slow=8.8,SNR=8.5
AKTO PcP **PcP 12 18 46.4 +0.3**
comp=Z,2.1nm,0.6s,baz=154,slow=2.5,SNR=3.8
ASAR Alice Springs 51.53 128 P **P 12 17 34.8 +0.4**
comp=Z,0.7nm,0.9s,baz=301,slow=7.0,SNR=11
ASAR PcP **PcP 12 18 47.8 -0.5**
comp=Z,1.0nm,0.7s,baz=306,slow=3.8,SNR=9.5
GNI Garni 52.99 315 LR LR 12 43 31.0
comp=Z,32nm,19.7s,baz=106,slow=40
KLR Kul'dur 53.29 32 P **P 12 17 46.0 -1.0**
comp=Z,0.4nm,0.4s,baz=285,slow=12,SNR=3.2
KLR Kul'dur 53.29 32 P **P 12 17 46.0 -1.0**
SVE Sverdlovsk 54.82 340 *e*P **P 12 17 58.6 +0.7**
SVE pmax pmax
comp=Z,45nm,0.9s
ARU Arti 55.25 338 P **P 12 18 01.0 0.0**
comp=Z,3.2nm,0.6s,baz=143,slow=4.5,SNR=14
ARU Arti 55.25 338 *c iP* **P 12 18 00.9 -0.2**
ARU 12 19 59.4
ARU S **S 12 25 45.4 +2.5**
ARU SS **SS 12 29 30.4 +3.0**
ARU pmax pmax
comp=Z,27nm,1.7s
ARU Arti 55.25 338 *e*P **P 12 18 01.4 +0.3**
comp=Z,14nm,1.0s
KBZ Khabaz 55.75 319 P **P 12 18 05.3 +0.4**
comp=Z,3.6nm,1.0s,baz=216,slow=5.5,SNR=4.7
KVAR Kislovodsk Arr 55.98 319 LR LR 12 44 05.5
comp=Z,27nm,18.2s,slow=38
KIV Kislovodsk 55.98 319 *ce*P **P 12 18 07.1 +0.4**
KIV *e* 12 18 13.0
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,24nm,16.0s
ANN Anapa 59.78 318 *e*P **P 12 18 30.9 -2.3**
ANN *e**PP **pP 12 18 40.6 -1.4**
ANN *e*S **S 12 26 39.4 -3.2**
ANN pmax pmax
comp=Z,20nm,1.2s
BR101 Keskin Array S 60.87 311 *e*P **P 12 18 39.8 -1.2**
BRTR Keskin Array B 60.87 311 P **P 12 18 39.8 -1.2**
comp=Z,1.6nm,0.8s,baz=104,slow=4.6,SNR=4.1
BRTR Keskin Array B 60.87 311 *ce*P **P 12 18 41.5 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
YAK Yakutsk 60.98 19 *e*P **P 12 18 40.8 -0.3**
YAK pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 61.61 132 P **P 12 18 46.3 +0.4**
comp=Z,1.4nm,0.8s,baz=215,slow=5.9,SNR=4.5
STKA Stephens Creek 61.61 132 *e*P **P 12 18 45.0 -0.8**
comp=Z,2.2nm,1.4s
NRIK Noril'sk 61.71 358 P **P 12 18 46.0 +0.1**
comp=Z,3.4nm,0.6s,baz=123,slow=4.3,SNR=3.7
OBN Obninsk 64.38 328 ⇑*e*P **P 12 19 03.4 -0.5**
OBN pmax pmax
comp=Z,5.0nm,0.7s
KLMR Klimovskoe 65.70 335 *e*P **P 12 19 10.8 -1.5**
KLMR pmax pmax
comp=Z,8.0nm,1.0s
IDI Anoyia 66.83 305 *e*P **P 12 19 21.2 +1.0**
comp=Z,5.8nm,0.8s
AKASG Malin Array Be 66.94 322 P **P 12 19 19.0 -1.5**
comp=Z,0.2nm,0.2s,baz=86,slow=5.4,SNR=3.2
AKASG Malin Array Be 66.94 322 P **P 12 19 19.0 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIEV Kiev 66.95 322 ⇓*e*P **P 12 19 19.6 -0.9**
KIEV pmax pmax
comp=Z,2.0nm,1.1s
VRI Vrincioaia 67.30 317 ⇑*i*P **P 12 19 23.0 0.0**
VRI Vrincioaia 67.30 317 ⇑P **P 12 19 23.0 0.0**
PLOR Plostina 67.35 317 ⇑*i*P **P 12 19 24.2 +0.9**
PLOR Plostina 67.35 317 ⇑P **P 12 19 24.2 +0.9**
TESR Tescani 67.50 317 ⇓*i*P **P 12 19 22.5 -1.7**
MLR Muntele Rosu 67.76 316 *e*P **P 12 19 25.9 -0.1**
comp=Z,8.8nm,1.0s
TIXI Tiksi 67.95 12 P **P 12 19 26.1 -0.4**
comp=Z,24nm,0.7s,baz=210,slow=3.6,SNR=65
TIXI Tiksi 67.95 12 *d iP* **P 12 19 25.9 -0.6**
TIXI pmax pmax
comp=Z,38nm,1.0s
VOIR 68.36 316 ⇑*i*P **P 12 19 29.9 +0.2**
VOIR 68.36 316 ⇑P **P 12 19 29.9 +0.2**
BURAR Bucovina Array 68.70 318 ⇑*i*P **P 12 19 32.0 +0.2**
BURAR Bucovina Array 68.70 318 ⇑P **P 12 19 32.0 +0.2**
GZR Gura Zlata 69.93 316 ⇓*i*P **P 12 19 38.2 -1.2**
SEY Seymchan 70.13 25 ⇑*e*P **P 12 19 39.8 -0.4**
DRGR 70.22 317 ⇓*i*P **P 12 19 41.5 +0.3**
DRGR 70.22 317 ⇓P **P 12 19 41.5 +0.3**
LVZ Lovozero 71.02 340 ⇓*e*P **P 12 19 45.2 -0.4**
LVZ pmax pmax
comp=Z,7.0nm,0.9s
FIA0 FINESS Array S 71.88 333 *e*P **P 12 19 50.4 -0.4**
FINES FINESS Array B 71.88 333 P **P 12 19 50.4 -0.4**
comp=Z,4.4nm,0.7s,baz=96,slow=7.9,SNR=13
FINES LR LR 12 54 39.0
comp=Z,44nm,18.6s,baz=77,slow=39
KLNR Kaliningrad 73.20 325 ⇓*e*P **P 12 19 58.6 -0.2**
KLNR pmax pmax
comp=Z,52nm,0.9s
BOSA Boshof 73.51 237 P **P 12 20 02.0 +0.7**
comp=Z,1.7nm,0.8s,baz=160,slow=4.9,SNR=3.4
BOSA Boshof 73.51 237 P **P 12 20 02.0 +0.7**
BOSA pmax pmax
comp=Z,2.0nm,0.8s
SGF Sodankyl 73.66 339 P **P 12 20 03.8 +2.5**
ARA0 ARCESS Array S 74.74 340 *e*P **P 12 20 07.7 +0.1**
ARCES ARCESS Array B 74.74 340 P **P 12 20 07.7 +0.1**
comp=Z,3.6nm,0.7s,baz=87,slow=6.6,SNR=13
DPC Dobruska-Polom 74.93 320 *e*P **P 12 20 09.5 +0.4**
DPC Dobruska-Polom 74.93 320 *e*P **P 12 20 09.5 +0.4**
BRG Berggiesshubel 76.48 320 *e*P **P 12 20 18.4 +0.5**
comp=Z,6.3nm,1.0s
BRG Berggiesshubel 76.48 320 *e*P **P 12 20 18.4 +0.5**
BRG pmax pmax
comp=Z,6.0nm,1.0s
GEA0 GERESS Array S 76.49 318 *e*P **P 12 20 18.2 +0.1**
GEC2 GERESS Array S 76.49 318 *e*P **P 12 20 18.4 +0.3**
comp=Z,4.7nm,0.8s
GERES GERESS Array B 76.49 318 P **P 12 20 18.6 +0.5**
comp=Z,2.4nm,0.8s,baz=87,slow=5.9,SNR=14
GERES GERESS Array B 76.49 318 P **P 12 20 18.6 +0.5**
GERES pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 77.11 321 ⇑*i*P **P 12 20 21.4 0.0**
comp=Z,9.0nm,1.2s
CLL Collm 77.11 321 ⇑*i*P **P 12 20 21.4 0.0**
CLL pmax pmax
comp=Z,9.0nm,1.2s
MOX Moxa 77.94 320 P **P 12 20 27.9 +1.7**
MOX pmax pmax
comp=Z,5.0nm,1.1s
NB2 NORSAR Subarra 78.83 331 P **P 12 20 30.0 -0.8**
comp=Z,2.9nm,0.8s,baz=94,slow=5.9
NB200 NORSAR Array S 78.83 331 *e*P **P 12 20 30.1 -0.8**
NOA NORSAR Array B 78.83 331 P **P 12 20 30.1 -0.8**
comp=Z,1.7nm,0.7s,baz=94,slow=5.6,SNR=5.3
BFO Black Forest 80.04 318 *i* P **P 12 20 38.2 +0.5**
SENIN Lac Senin/Sane 80.77 316 *e*P **P 12 20 42.6 +0.7**
comp=Z,7.4nm,0.9s
TAM Tamanrasset 83.70 292 *e*P **P 12 21 00.0 +2.4**
comp=Z,13nm,1.7s
SYO Syowa Base 84.49 197 ⇑*e*pP pP 12 21 13.9 +4.4
TORD Torodi Ar. Bea 88.42 283 P **P 12 21 20.8 0.0**
comp=Z,0.9nm,1.0s,baz=211,slow=2.6,SNR=4.1
TOA1 Torodi Ar. Sit 88.42 283 *e*P **P 12 21 20.8 -0.1**
comp=Z,15nm,1.7s
ESDC Sonseca Array 89.62 310 P **P 12 21 26.9 +0.7**
comp=Z,0.7nm,0.6s,baz=98,slow=3.0,SNR=4.9
DBIC Dimbokro 95.70 277 LR LR 13 03 36.3
comp=Z,30nm,19.1s,baz=105,slow=35
ILAR Eielson Array 95.84 22 P **P 12 21 53.3 -0.9**
comp=Z,0.3nm,0.6s,baz=303,slow=4.8,SNR=6.2
ILAR PP **PP 12 25 41.3 -4.6**
comp=Z,0.4nm,0.9s,baz=290,slow=5.4,SNR=3.2
ILB Eielson Array 95.84 22 *e*P **P 12 21 53.7 -0.5**
PD31 Pinedale Array 126.21 19 *e*PKPdf **PKPdf 12 27 31.1 0.0**
PDAR Pinedale Array 126.21 19 PKP **PKPdf 12 27 31.0 -0.1**
comp=Z,0.4nm,0.5s,baz=79,slow=3.2,SNR=4.3
NV01 Mina Array Sit 126.30 29 *e*PKPdf **PKPdf 12 27 32.5 +1.1**
NVAR Mina Array Bea 126.30 29 PKP **PKPdf 12 27 32.9 +1.5**
comp=Z,0.8nm,0.6s,baz=304,slow=1.8,SNR=7.3
LTX Lajitas 140.35 21 *e*PKPdf **PKPdf 12 27 58.3 +0.4**
TXAR Lajitas Array 140.35 21 PKP **PKPdf 12 27 58.3 +0.4**
comp=Z,0.2nm,0.6s,baz=229,slow=0.9,SNR=4.2
CPUP Villa Florida 145.27 234 PKPbc **PKPdf 12 28 06.9 +0.5**
comp=Z,3.8nm,0.8s,baz=122,slow=3.3,SNR=7.6
CPUP Villa Florida 145.27 234 *e*PKPbc **PKPdf 12 28 06.5 0.0**
LPAZ La Paz 158.59 244 PKPab **PKPab 12 29 02.3 -0.2**
comp=Z,0.6nm,0.5s,baz=113,slow=4.5,SNR=4.4

ISK ***03*** *12:09:15.0,37.°03N×37.°31E,h10km,MD2.6*
ISCJB ***03*** *12:09:16.7±0.9,37.°06N±0.°05×37.°14E±0.°06,h6km±5km, Error ellipse: s-maj=10.4km s-min=5.7km az=136.7*
CSEM ***03*** *12:09:17.5±0.3,37.°29N×36.°71E,h10km,MD2.8, Error ellipse: s-maj=11.9km s-min=6.1km az=111.0*
DDA ***03*** *12:09:17.3,37.°14N×37.°10E,h7km,Md2.8*
ISC 03 12:09:17.2±1.4,37.°14N±0.°04×37.°06E±0.°04,h2km±11km, n12,σ1°18/21,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.12**	**74**	PG	**Pg**		**12 09 19.1**	**-0.6**
GAZ				SG	**Sg**		**12 09 22.1**	**+0.8**
KAMA	**Osmaniye**	**0.32**	**279**	*i* P	**Pg**		**12 09 24.0**	**+0.7**
KAMA				*i* S	**Sb**		**12 09 30.7**	**-0.7**
GZT	**Gaziantep**	**0.46**	**61**	*i* P	**Pg**		**12 09 25.6**	**-0.4**
GZT				*i* S	**Sb**		**12 09 38.2**	**+2.8**
TAHT	**Tahtakopru-Hat**	**1.04**	**223**	*e*PN	**Pg**		**12 09 36.8**	**-0.3**
TAHT				*e*SN	**Sn**		**12 09 52.7**	**-1.2**
TAHT	**Tahtakopru-Hat**	**1.04**	**223**	*e*Pn	**Pg**		**12 09 36.8**	**-0.3**
TAHT				*e*Sn	**Sn**		**12 09 52.7**	**-1.2**
AKCD	**Akcadag**	**1.34**	**30**	P	**Pn**		**12 09 42.3**	**-0.9**
AKCD				S	**Sn**		**12 10 01.7**	**0.0**
AKCD	**Akcadag**	**1.34**	**30**	*i* P	**Pn**		**12 09 42.3**	**-0.9**
AKCD				*i* S	**Sn**		**12 10 01.7**	**0.0**
YAYL	**Yayladag**	**1.34**	**215**	P	**Pn**		**12 09 42.9**	**-0.2**
YAYL	**Yayladag**	**1.34**	**215**	*i* P	**Pn**		**12 09 42.9**	**-0.2**
YAYL				*i* S	**Sn**		**12 10 03.5**	**+1.9**
SARI	**SarD1z-Kayseri**	**1.37**	**338**	*e*PN	**Pn**		**12 09 43.3**	**-0.3**
SARI				*e*SN	**Sn**		**12 10 03.4**	**+1.1**
DARE	**Darende-Malaty**	**1.47**	**13**	*e*PN	**Pn**		**12 09 43.4**	**-1.5**
DARE	**Darende-Malaty**	**1.47**	**13**	*e*Pn	**Pn**		**12 09 43.4**	**-1.5**

IDC 03 12:11:26.9±3.4,53.°74N×88.°36E,h0km,mb1.3.2/3, mb1mx3.1/46,mbtmp3.2/3,ML2.7/3,2C-4D,Error ellipse: s-maj=32.2km s-min=19.6km az=84.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.11**	**277**	*i*			12 24 00.3	
baz=94,slow=321,SNR=31								

ZALV Zalesovo Beam 2.11 277 Pn Pn 12 12 03.0 -0.4
3.4nm,0.3s,baz=94,slow=13,SNR=20
ZALV Sn Sb 12 12 32.2 -0.5
7.3nm,0.3s,baz=92,slow=25,SNR=14
KURBB Kurchatov Arra 6.80 247 ⇑Pn Pn 12 13 08.2 +0.3
0.2nm,0.3s,baz=62,slow=14,SNR=15
KURBB Sn Sn 12 14 25.2 -0.8
0.0nm,0.3s,baz=48,slow=35,SNR=3.7
KURBB Lg Lg 12 14 58.9
0.0nm,0.3s,baz=67,slow=37,SNR=6.3
KURBB Kurchatov Arra 6.80 247 ⇑Pn Pn 12 13 07.9 0.0
1.9nm,0.3s
KURBB ⇓Sn Sn 12 14 22.6 -3.4
4.8nm,0.6s
KURBB ⇓Lg Lg 12 14 56.8
6.6nm,0.7s
MK31 Makanchi Array 7.97 212 ⇑Pn Pn 12 13 24.4 +0.4
0.1nm,0.3s
MK31 ⇓Sn Sn 12 14 54.0 -0.7
1.2nm,0.7s,baz=31,slow=23,SNR=4.1
MK31 ⇓Lg Lg 12 15 35.1
3.7nm,0.9s
MKAR Makanchi Array 7.97 212 Pn Pn 12 13 25.4 +1.5
0.2nm,0.3s,baz=30,slow=17,SNR=5.0
MKAR Sn Sn 12 14 54.3 -0.4
0.3nm,0.3s,baz=32,slow=26,SNR=6.9
MKAR Lg Lg 12 15 37.4
0.1nm,0.3s,baz=32,slow=29,SNR=3.8

MEX 03 12:28:29.0±0.9, 17°.19N×101°.17W, h16km±15km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.50**	**326**	*eP*	Pg	12 28 37.1	-1.9
ZIIG				*eS*	Sg	12 28 43.6	-2.2
CAIG	**El Cayaco**	**0.87**	**99**	*eP*	Pb	12 28 42.8	-3.0
CAIG				*i* S	Sb	12 28 52.9	-4.3
ACX	**Acapulco**	**1.29**	**104**	*i* P	Pn	12 28 51.1	-1.3
ACX				*eS*	Sb	12 29 05.9	-3.5
PLIG	**Platanillo**	**1.99**	**53**	*eP*	Pn	12 28 59.6	-2.5
PLIG				*i* S	Sn	12 29 21.1	-5.6
SFJM	**Santa Fe**	**3.73**	**332**	*eP*	Pn	12 29 23.2	-2.9
SFJM				*eS*	Sb	12 30 15.2	-4.4

IDC 03 12:35:54.3±1.5, 1°.45N×125°.68E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/54, mbtmp3.7/5, Error ellipse: s-maj=173.7km s-min=19.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.89**	**159**	P	P	12 40 58.9	-1.0
WRA	1.0nm,0.5s,baz=337,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.22**	**163**	P	P	12 41 32.0	+0.9
ASAR	0.2nm,0.3s,baz=347,slow=13,SNR=13						
STKA	**Stephens Creek**	**36.42**	**157**	P	P	12 43 00.4	-0.4
STKA	1.4nm,0.8s,baz=306,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**58.84**	**327**	P	P	12 45 55.0	+0.2
MKAR	0.4nm,0.4s,baz=115,slow=8.4,SNR=5.6						
KURBB	**Kurchatov Arra**	**63.10**	**328**	P	P	12 46 23.4	-0.2
KURBB	0.5nm,0.4s,baz=131,slow=6.3,SNR=5.8						

IDC 03 12:38:43.7±1.2, 1°.90N×126°.68E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/52, mbtmp3.8/6, ML3.5/1, MS3.8/3, Ms1 3.8/3, ms1mx2.8/35, Error ellipse: s-maj=101.6km s-min=17.5km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.90**	**183**	P	P	12 43 17.3	+0.3
FITZ	0.1nm,0.3s,baz=355,slow=12,SNR=3.5						
				LR	LR	12 50 54.9	
	comp=Z,55nm,18.5s,baz=224,slow=37						
WRA	**Warramunga Arr**	**22.97**	**161**	P	P	12 43 49.3	-0.7
	2.2nm,0.5s,baz=340,slow=11,SNR=25						
ASAR	**Alice Springs**	**26.37**	**165**	P	P	12 44 22.1	+0.3
	0.4nm,0.4s,baz=347,slow=13,SNR=16						
ASAR				PcP	PcP	12 47 48.0	0.0
	0.2nm,0.6s,baz=336,slow=3.2,SNR=4.3						
ASAR				LR	LR	12 54 29.2	
	comp=Z,88nm,18.3s,baz=220,slow=36						
STKA	**Stephens Creek**	**36.45**	**158**	P	P	12 45 50.2	-0.2
	1.3nm,0.6s,baz=343,slow=9.7,SNR=4.7						
ASAJ	**Asahikawa**	**44.35**	**16**	LR	LR	13 05 34.7	
	comp=Z,807nm,18.8s,baz=1.0,slow=36						
MKAR	**Makanchi Array**	**59.03**	**326**	P	P	12 48 45.4	-0.1
	0.7nm,0.4s,baz=118,slow=7.2,SNR=11						
KURBB	**Kurchatov Arra**	**63.25**	**328**	P	P	12 49 13.9	-0.1
	0.9nm,0.6s,baz=129,slow=6.3,SNR=9.4						

*NIED **03** 12:44:00, 37°.30N×141°.50E, h14km, Mw3.9 Best double couple: M₀8.52000×10¹⁴ NP1:φs236.00000°, δ21.00000°, λ-85.00000°. NP2:φs50.00000°, δ69.00000°, λ-92.00000°.*
*JMA **03** 12:44:38.7±0.1, 37°.28N×141°.47E, h36km±2km, M4.2*
JMA Felt II J1.
*IDC **03** 12:44:39.5±0.5, 37°.24N×141°.40E, h30km±3km, mb3.9/23, mb1 4.0/30, mb1mx3.9/50, mbtmp4.1/30, ML3.0/4, MS3.0/7, Ms1 3.0/7, ms1mx2.8/39, Error ellipse: s-maj=13.7km s-min=10.4km az=96.0*
*NEIC **03** 12:44:39.9±1.7, 37°.24N×141°.51E, h35km±12km, mb4.3/13, Error ellipse: s-maj=7.6km s-min=5.6km az=106.0*
NEIC Recorded [2 JMA] in Fukushima and Miyagi.

ISC 03 12:44:39.2±0.6, 37°.25N±0°.04×141°.48E±0°.05, h30km±3km, n69, σ1°16/83, mb4.2/36, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.50**	**284**	P	Pb	12 44 48.9	-0.7
JFK				S	Sb	12 44 55.7	-1.1
ONAJ	**Iwakimizuishiy**	**0.57**	**255**	P	Pn	12 44 50.0	-1.2
ONAJ				S	Sn	12 44 57.9	-1.7
JMM	**Marumori**	**0.82**	**318**	P	Pn	12 44 53.4	-1.3
JMM				S	Sn	12 45 03.8	-2.1
JFT	**Otama**	**0.95**	**287**	P	Pn	12 44 56.3	-0.2
JFT				S	Sn	12 45 08.5	-0.6
JHO	**Hitachi**	**0.97**	**229**	P	Pn	12 44 55.9	-0.9
JHO				S	Sn	12 45 08.2	-1.3
JIO	**Ouri**	**1.21**	**355**	P	Pn	12 44 58.5	-1.5
JIO				*i* S	Sn	12 45 13.0	-2.4
MJAR	**Matsushiro Arr**	**2.72**	**256**	Pn	Pn	12 45 21.8	+1.0
MJAR	13nm,0.3s,baz=84,slow=16,SNR=89						
				LR	LR	12 46 32.6	
	comp=Z,152nm,18.2s,baz=95,slow=43						
MAJO	**Matsushiro**	**2.72**	**256**	*e*Pn	Pn	12 45 22.5	+1.7
MAJO				*e*Sn	Sn	12 45 50.4	-2.3
JHJ2	**Mitsune**	**4.35**	**199**	*e*Pn	Pn	12 45 43.6	+0.5
JHJ2				*e*Sn	Sn	12 46 31.3	-1.5
JHJ	**Hachijo jima 2**	**4.35**	**199**	Pn	Pn	12 45 43.4	+0.2
	57nm,0.3s,baz=95,slow=6.4,SNR=18						
JHJ				Sn	Sn	12 46 32.8	-0.1
	32nm,0.3s,baz=74,slow=23,SNR=8.1						
JHJ				LR	LR	12 47 28.9	
	comp=Z,107nm,18.6s,baz=300,slow=39						
ERM	**Erimo**	**4.93**	**15**	*e*Pn	Pn	12 45 50.6	-0.6
ERM				*e*Sn	Sn	12 46 50.1	+2.9
ASAJ	**Asahikawa**	**6.91**	**7**	Pn	Pn	12 46 17.5	-0.8
	baz=90,slow=20						
ASAJ				Sn	Sn	12 47 34.1	-1.8
	baz=120,slow=20,SNR=2.6						
ASAJ	**Asahikawa**	**6.91**	**7**	*e*Pn	Pn	12 46 17.5	-0.8
ASAJ				*e*Sn	Sn	12 47 36.4	+0.4
JNU	**Nakatsue**	**9.61**	**248**	LR	LR	12 51 10.0	
	comp=Z,54nm,18.6s,baz=110,slow=41						
USRK	**Ussuriysk Ar.**	**10.00**	**317**	Pn	Pn	12 47 02.3	+1.6
	0.3nm,0.3s,baz=120,slow=14,SNR=6.7						
USRK				LR	LR	12 50 37.3	
	comp=Z,82nm,19.0s,baz=206,slow=36						
CBIJ	**Chichi jima**	**10.14**	**176**	Pn	Pn	12 47 01.1	-1.7
JCJ	**Chichijima**	**10.14**	**176**	Pn	Pn	12 47 01.1	-1.7
	12nm,0.3s,baz=89,slow=20,SNR=7.3						
KSRS	**Korea Array**	**10.80**	**275**	Pn	Pn	12 47 14.9	+3.2
	0.2nm,0.3s,baz=83,slow=13,SNR=4.2						
KSRS				LR	LR	12 51 13.4	
	comp=Z,54nm,18.4s,baz=136,slow=37						
KSAR	**Wonju Array Be**	**10.83**	**275**	Pn	Pn	12 47 14.9	+2.8
MDJ	**Mudanjiang**	**11.61**	**313**	*e*Pn	Pn	12 47 23.5	+0.7
KLR	**Kul'dur**	**13.90**	**333**	Pn	Pn	12 47 55.1	+1.1
	0.2nm,0.3s,baz=133,slow=18,SNR=2.5						

PETK	**Petropavlovsk-**	**19.47**	**30**	P	Pn	12 49 04.4	-0.3
	0.1nm,0.3s,baz=216,slow=14,SNR=3.1						
MA2	**Magadan**	**23.13**	**12**	P	P	12 49 42.6	0.0
	4.1nm,0.6s,baz=37,slow=20,SNR=3.8						
YAK	**Yakutsk**	**25.87**	**347**	*e*P	P	12 50 07.2	-0.7
	14nm,0.8s						
SEY	**Seymchan**	**26.57**	**11**	P	P	12 50 15.0	+0.8
	1.3nm,0.5s,baz=180,slow=9.2,SNR=7.9						
SONM	**Songino Array**	**27.71**	**304**	P	P	12 50 25.3	+0.5
	2.4nm,0.8s,baz=96,slow=8.7,SNR=10						
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	13 20 02.4	
	baz=314,slow=75,SNR=793						
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	13 19 52.2	
	baz=314,slow=75,SNR=844						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	13 19 53.7	
	baz=314,slow=75,SNR=755						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	13 20 53.8	
	baz=316,slow=76,SNR=339						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	13 20 53.9	
	baz=316,slow=76,SNR=299						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	13 20 55.9	
	baz=316,slow=76,SNR=302						
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	P	12 52 25.9	0.0
	5.8nm,0.8s,baz=88,slow=6.8,SNR=20						
NRIK	**Noril'sk**	**43.09**	**335**	LR	LR	13 12 36.0	
	comp=Z,35nm,18.1s,baz=152,slow=39						
MKAR	**Makanchi Array**	**44.05**	**302**	P	P	12 52 44.7	+0.5
	3.5nm,0.7s,baz=88,slow=9.8,SNR=33						
KURK	**Kurchatov**	**45.84**	**308**	*e*P	P	12 52 58.2	-0.1
	16nm,0.8s						
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	P	12 52 58.6	-0.2
	4.8nm,0.6s,baz=83,slow=8.3,SNR=31						
ILAR	**Eielson Array**	**49.28**	**32**	P	P	12 53 25.4	+0.6
	1.1nm,0.8s,baz=270,slow=6.6,SNR=18						
TKM2	**Tokmak 2**	**49.58**	**298**	*e*P	P	12 53 27.3	-0.4
	1.0nm,0.3s						
BVAR	**Borovoye Array**	**50.47**	**312**	P	P	12 53 33.2	-0.8
	1.1nm,0.5s,baz=77,slow=7.9,SNR=6.9						
INK	**Inuvik**	**54.17**	**27**	P	P	12 54 02.0	+0.8
	1.1nm,0.5s,baz=308,slow=6.9,SNR=4.6						
ARU	**Arti**	**56.24**	**318**	*e*P	P	12 54 16.3	+0.1
	9.9nm,1.0s						
WRAB	**Tennant Creek**	**57.27**	**188**	*e*P	P	12 54 24.3	+0.3
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**57.28**	**188**	P	P	12 54 24.4	+0.3
	1.3nm,0.5s,baz=6.4,slow=7.4,SNR=38						
WRA				pP	pP	12 54 33.3	0.0
	0.9nm,0.4s,baz=4.3,slow=7.3,SNR=7.0						
ABKAR	**Akbulak array**	**57.84**	**310**	*e*P	P	12 54 27.5	-0.2
	3.5nm,0.6s						
DLBC	**Dease Lake**	**58.42**	**38**	*e*P	P	12 54 32.3	+0.5
	0.8nm,0.5s						
AKTO	**Aktyubinsk**	**58.57**	**312**	P	P	12 54 32.6	-0.2
	2.3nm,0.5s,baz=82,slow=13,SNR=7.6						
ASAR	**Alice Springs**	**61.01**	**188**	P	P	12 54 50.4	+0.5
	0.4nm,0.6s,baz=15,slow=7.7,SNR=12						
ASAR				pP	pP	12 54 59.3	+0.2
	0.9nm,0.7s,baz=357,slow=4.4,SNR=6.5						
YKA	**Yellowknife Ar**	**63.59**	**30**	P	P	12 55 07.1	+0.4
	0.8nm,0.7s,baz=289,slow=6.7,SNR=3.8						
GEYT	**Alibeck**	**63.78**	**299**	P	P	12 55 08.9	+0.5
	1.9nm,0.4s,baz=64,slow=3.4,SNR=3.8						
ARCES	**ARCES Array B**	**63.81**	**329**	P	P	12 55 07.7	-0.4
	1.8nm,0.8s,baz=48,slow=7.2,SNR=8.9						
FINES	**FINESS Array B**	**68.65**	**332**	P	P	12 55 39.1	-0.1
	1.2nm,0.5s,baz=45,slow=8.8,SNR=8.3						
FINES				pP	pP	12 55 47.9	-0.7
	2.8nm,0.7s,baz=46,slow=8.0,SNR=4.0						
STKA	**Stephens Creek**	**68.77**	**180**	P	P	12 55 38.9	-1.3
	2.7nm,1.0s,baz=315,slow=13,SNR=3.2						
SUMG	**Summit**	**70.47**	**360**	*e*P	P	12 55 51.5	+0.8
	1.5nm,0.3s						
FFC	**Flin Flon**	**73.49**	**33**	*e*P	P	12 56 07.5	-1.1
	1.3nm,0.5s						
FCC	**Fort Churchill**	**73.78**	**27**	*e*P	P	12 56 10.7	+0.5
	1.6nm,0.6s						
NB2	**NORSAR Subarra**	**74.01**	**337**	P	P	12 56 11.6	0.0
	comp=Z,0.9nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.01**	**337**	P	P	12 56 11.7	+0.1
	comp=Z,1.4nm,0.7s,baz=39,slow=5.9,SNR=4.9						
NOA				pP	pP	12 56 21.1	+0.1
	comp=Z,0.8nm,0.6s,baz=39,slow=5.9,SNR=2.9						
NOA				LR	LR	13 32 02.1	
	comp=Z,15nm,19.3s,baz=30,slow=38						
AKASG	**Malin Array Be**	**74.16**	**322**	P	P	12 56 12.4	-0.2
	comp=Z,1.0nm,0.3s,baz=45,slow=6.5,SNR=7.0						
AKASG				pP	pP	12 56 21.4	-0.6
	comp=Z,1.8nm,0.5s,baz=46,slow=6.2,SNR=4.3						
HLID	**Hailey**	**74.18**	**47**	*e*P	P	12 56 11.7	-1.5
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**74.81**	**53**	P	P	12 56 18.6	+1.7
	comp=Z,0.7nm,0.8s,baz=280,slow=5.8,SNR=5.0						
NVAR				pP	pP	12 56 28.1	+1.7
	comp=Z,1.0nm,0.8s,baz=300,slow=6.5,SNR=6.2						
DUG	**Dugway, Tooele**	**77.17**	**49**	*e*P	P	12 56 31.4	+1.2
	comp=Z,1.3nm,0.8s						
PDAR	**Pinedale Array**	**77.48**	**46**	P	P	12 56 32.7	+0.7
	comp=Z,0.3nm,0.6s,baz=336,slow=3.3,SNR=3.9						
PDAR				pP	pP	12 56 42.6	+1.1
	comp=Z,0.8nm,0.6s,baz=256,slow=1.9,SNR=6.3						
WUAZ	**Wupatki**	**80.98**	**52**	*e*P	P	12 56 53.5	+2.2
	comp=Z,0.5nm,0.2s						
GERES	**GERESS Array B**	**82.56**	**328**	P	P	12 56 59.1	0.0
	comp=Z,0.6nm,0.5s,baz=81,slow=8.2,SNR=4.2						
TXAR	**Lajitas Array**	**89.94**	**52**	P	P	12 57 36.8	+0.9
	comp=Z,0.4nm,0.5s,baz=296,slow=3.2,SNR=5.8						
TXAR				pP	pP	12 57 46.1	+0.6
	comp=Z,0.6nm,0.6s,baz=311,slow=3.5,SNR=6.8						
TORD	**Torodi Ar. Bea**	**117.22**	**315**	PKP	**PKPdf**	13 03 20.8	-1.2
	comp=Z,0.1nm,0.5s,baz=29,slow=3.3,SNR=2.6						
LPAZ	**La Paz**	**146.53**	**59**	PKPbc	**PKPbc**	13 04 18.7	0.0
	comp=Z,1.3nm,0.5s,baz=349,slow=2.8,SNR=6.0						
LCO	**Las Campanas**	**151.93**	**82**	*e*PKPdf	**PKPdf**	13 04 25.5	+0.3
LCO				*e*PKPbc	**PKPbc**	13 04 30.7	-0.9
LCO				*e*PKPab	**PKPab**	13 04 41.4	+0.4

*NIED **03** 12:56:00, 38°.90N×142°.50E, h23km, Mw3.5 Best double couple: M₀1.70000×10¹⁴ NP1:φs324.00000°, δ40.00000°, λ-103.00000°. NP2:φs160.00000°, δ51.00000°, λ-79.00000°.*
*ISCJB **03** 12:56:17.2±1.1, 38°.90N±0°.04×142°.54E±0°.06, h17km±7km, mb3.5/4, Error ellipse: s-maj=8.8km s-min=6.1km az=24.4*
*JMA **03** 12:56:18.6±0.1, 38°.93N×142°.46E, h27km±2km, M3.7*
*IDC **03** 12:56:22.2±3.0, 38°.87N×142°.45E, h47km±31km, mb3.1/4, mb1 3.4/6, mb1mx3.1/34, mbtmp3.3/6, ML3.2/1, Error ellipse: s-maj=38.7km s-min=20.9km az=105.0*

ISC 03 12:56:18.7±1.9, 38°.94N±0°.04×142°.44E±0°.07, h15km±10km, n17, σ1°31/28, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.62**	**283**	P	Pg	12 56 31.0	+0.2
OFUJ				S	Sg	12 56 39.6	+0.6
MIYJ	**Miyakonagasawa**	**0.80**	**323**	P	Pb	12 56 33.5	-0.7
MIYJ				S	Sb	12 56 43.7	-1.1
JMK	**Ichinoseki**	**0.95**	**271**	P	Pb	12 56 36.3	-0.5
JMK				S	Sb	12 56 48.8	-0.4
JIO	**Ouri**	**0.98**	**241**	P	Pb	12 56 36.0	-1.3
JIO				S	Sb	12 56 49.1	-1.0
JOM	**Ohasama**	**1.04**	**301**	P	Pb	12 56 37.8	-0.5
JOM				S	Sb	12 56 51.4	-0.3
JTH	**Tanohata**	**1.09**	**336**	P	Pb	12 56 38.4	-0.9
JTH				*e*S	Sb	12 56 53.6	+0.3
JRG	**Rokugo**	**1.48**	**289**	P	Pn	12 56 45.0	+0.3
JRG				S	Sn	12 57 04.2	+0.5
JOU	**Okura**	**1.50**	**248**	P	Pn	12 56 44.6	-0.5
JOU				S	Sn	12 57 03.9	-0.5
JANG	**Nango**	**1.60**	**334**	P	Pn	12 56 46.6	+0.2
JANG				S	Sn	12 57 07.1	+0.3
JYK	**Kaneyama**	**1.62**	**270**	P	Pn	12 56 46.6	-0.1
JYK				*e*S	Sn	12 57 08.4	+1.1
MAT	**Matsushiro**	**4.12**	**236**	P	Pn	12 57 22.6	+1.5
MAT				*e*S	Sn	12 58 13.6	+4.6
MJAR	**Matsushiro Arr**	**4.12**	**236**	P	Pn	12 57 22.6	+1.6
	1.5nm,0.3s,baz=35,slow=13,SNR=16						
ASAJ	**Asahikawa**	**5.17**	**1**	P	Pn	12 57 37.2	+1.7
	baz=224,slow=9.0						
MKAR	**Makanchi Array**	**43.82**	**301**	P	P	13 04 23.8	-0.1
	0.3nm,0.6s,baz=75,slow=7.6,SNR=3.4						
ILAR	**Eielson Array**	**47.46**	**33**	P	P	13 04 52.6	+0.2
	0.3nm,0.7s,baz=263,slow=6.9,SNR=4.4						
WRA	**Warramunga Arr**	**59.06**	**189**	P	P	13 06 16.6	-1.6
	0.3nm,0.4s,baz=7.8,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**62.79**	**189**	P	P	13 06 42.5	-1.0
	0.2nm,0.5s,baz=354,slow=4.9,SNR=7.0						

TRN 03 12:56:57.7, 14°.29N×59°.89W, h23km, MD3.8, M3.3 (FDF), 4C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPMF	**Morne Lapointe**	**1.08**	**285⇑**	*e*P	Pb	12 57 18.4	+0.6
ZAM	**Aeronautique**	**1.14**	**284⇑**	*e*P	Pb	12 57 19.2	+0.5
TRMF	**Trois Ilets**	**1.16**	**282⇑**	*e*P	Pb	12 57 19.6	+0.6
BIM	**Bigot**	**1.17**	**281**	*e*P	Pb	12 57 19.8	+0.5
BIM				*e*S	Sb	12 57 34.5	+0.5
MCLT	**Moule a Chique**	**1.18**	**241**	*e*P	Pb	12 57 22.1	+2.7
MCLT				*e*S	Sb	12 57 35.8	+1.6
FDF	**Fort de France**	**1.30**	**290**	*e*P	Pb	12 57 21.4	-0.2
FDF				*e*S	Sb	12 57 37.7	-0.2
BAMF	**Morne Balai**	**1.33**	**293**	*e*P	Pb	12 57 22.0	0.0
GBMF	**Grand Be**	**1.34**	**292**	*e*P	Pb	12 57 22.2	+0.1
CXM	**Morne La Croix**	**1.34**	**293**	*e*P	Pb	12 57 22.3	-0.1
CXM				*e*S	Sb	12 57 40.1	+0.9
PML	**Morne Lenard**	**1.35**	**291**	*e*P	Pb	12 57 22.6	+0.3
PCM	**Pelee Case Pet**	**1.38**	**292**	*e*P	Pn	12 57 21.8	+0.1
PCM	**Pelee Case Pet**	**1.38**	**292**	*e*P	Pb	12 57 22.8	-0.2
SVB	**Belmont**	**1.67**	**233**	*e*P	Pn	12 57 26.7	+1.1
SVB				*e*S	Sb	12 57 48.5	+0.1
DLPL	**La Plaine**	**1.67**	**308**	*e*P	Pb	12 57 27.0	-0.8
DLPL				*e*S	Sn	12 57 47.2	+0.9
DWS	**Wesley**	**1.87**	**313**	*e*P	Pn	12 57 29.4	+1.1
DWS				*e*S	Sb	12 57 53.0	-1.3
BBL	**Barber's Block**	**1.96**	**309**	*i* P	Pn	12 57 31.2	+1.6
BBL				*e*S	Sn	12 57 54.4	+0.9
PHG	**Guadaloupe-2**	**2.41**	**316⇑**	*i* P	Pb	12 57 39.4	-1.1
GRW	**Mount Saint Ca**	**2.73**	**219**	*e*P	Pn	12 57 41.9	+1.6

*ISK **03** 13:02:04.9, 37°.40N×31°.86E, h5km, MD2.7*
*CSEM **03** 13:02:04.4±0.3, 37°.27N×31°.94E, h2km, MD2.7, Error ellipse: s-maj=6.9km s-min=5.0km az=77.0*
*DDA **03** 13:02:28.6, 37°.25N×31°.91E, h15km, Md3.0*

ISC 03 13:02:04.1±1.3, 37°.32N±0°.04×31°.89E±0°.04, h0km±13km, n16, σ1°60/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUTC	**Sutluce-Ispart**	**0.73**	**283**	*e*PG	Pb	13 02 19.5	-0.2
SUTC				*e*SG	Sb	13 02 30.0	-0.3
SUTC	**Sutluce-Ispart**	**0.73**	**283**	*e*Pg	Pb	13 02 19.5	-0.2
SUTC				*e*Sg	Sb	13 02 30.0	-0.3
KONT	**Konya--Tatoy**	**0.73**	**30**	*e*PG	Pb	13 02 19.1	-0.6
KONT				*e*SG	Sb	13 02 29.7	-0.6
KONT	**Konya--Tatoy**	**0.73**	**30**	*e*Pg	Pb	13 02 19.1	-0.6
KONT				*e*Sg	Sb	13 02 29.7	-0.6
LADK	**Ladik-KONYA**	**0.96**	**23**	*e*PG	Pb	13 02 23.3	-0.4
LADK				*e*SG	Sn	13 02 36.4	-2.9
LADK	**Ladik-KONYA**	**0.96**	**23**	*e*Pg	Pb	13 02 23.3	-0.4
LADK				*e*Sg	Sn	13 02 36.4	-2.9
ERMK	**Ermenek**	**1.06**	**129**	P	Pg	13 02 22.6	-1.8
ERMK				S	Sg	13 02 40.4	+2.3
ERMK	**Ermenek**	**1.06**	**129**	*i* P	Pg	13 02 22.6	-1.8
ERMK				*i* S	Sg	13 02 40.4	+2.3
GAZI	**Gazipasa**	**1.13**	**162**	P	Pg	13 02 25.2	-0.6
GAZI				S	Sg	13 02 40.7	+0.3
GAZI	**Gazipasa**	**1.13**	**162**	*i* P	Pg	13 02 25.2	-0.6
GAZI				*i* S	Sg	13 02 40.7	+0.3
KDHN	**Kadinhani**	**1.22**	**8**	P	Pn	13 02 28.1	-0.3
KDHN				S	Sn	13 02 49.0	+3.3
KDHN	**Kadinhani**	**1.22**	**8**	*i* P	Pn	13 02 28.1	-0.3
KDHN				*i* S	Sn	13 02 49.0	+3.3
KIZT	**Kizilcal**	**1.56**	**360**	*e*PN	Pg	13 02 33.7	-0.4
KIZT	**Kizilcal**	**1.56**	**360**	*e*Pn	Pg	13 02 33.7	-0.4
KERG	**Konya-Eregli**	**1.78**	**86**	P	Pg	13 02 37.3	+1.1
KERG				S	Sg	13 03 02.9	+1.5
KERG	**Konya-Eregli**	**1.78**	**86**	*i* P	Pn	13 02 37.3	+1.1
KERG				*i* S	Sg	13 03 02.9	+1.5

*ISCJB **03** 13:04:23.6±0.6, 38°.36N±0°.03×28°.12E±0°.04, h4km±6km, Error ellipse: s-maj=5.0km s-min=4.7km az=150.3*
*DDA **03** 13:04:23.5, 38°.39N×28°.12E, h7km, Md2.7*
*CSEM **03** 13:04:23.9±0.2, 38°.36N×28°.14E, h8km, MD2.7, Error ellipse: s-maj=4.3km s-min=3.9km az=101.0*
*ISK **03** 13:04:23.1, 38°.37N×28°.16E, h7km, MD2.7*

ISC 03 13:04:23.6±1.0, 38°.35N±0°.02×28°.15E±0°.03, h8km±10km, n23, σ0°71/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.43**	**68**	*e*PG	Pg	13 04 31.8	-0.3
KULA				*e*SG	Sg	13 04 38.4	+0.6
KULA	**Kula-Manisa**	**0.43**	**68**	*e*Pg	Pg	13 04 31.8	-0.3
KULA				*e*Sg	Sg	13 04 38.4	+0.6
AYDB	**Zeytinkoy-Aydi**	**

DALY				*e*Sg		**Sg**	**13 19 20.5**	**+0.6**
DNZL	**Cakiroluk**	**0.87**	**70**	P		**Pb**	**13 19 12.9**	**-0.5**
DNZL				S		**Sg**	**13 19 24.2**	**+1.0**
DNZL	**Cakiroluk**	**0.87**	**70**	*i* P		**Pb**	**13 19 12.9**	**-0.5**
DNZL				*i* S		**Sg**	**13 19 24.2**	**+1.0**
NIS1	**Nisyros Isl.**	**1.04**	**221**	*e*PG		**Pn**	**13 19 17.1**	**-0.1**
NIS1	**Nisyros Isl.**	**1.04**	**221**	*e*Pg		**Pn**	**13 19 17.1**	**-0.1**
FETY	**Fethiye**	**1.14**	**131**	*e*PG		**Pg**	**13 19 16.6**	**-0.5**
FETY	**Fethiye**	**1.14**	**131**	*e*Pg		**Pg**	**13 19 16.7**	**-0.5**
IZM	**Izmir**	**1.17**	**329**	*e*PN		**Pn**	**13 19 19.0**	**0.0**
IZM	**Izmir**	**1.17**	**329**	*e*Pn		**Pn**	**13 19 19.0**	**0.0**
KULA	**Kula-Manisa**	**1.23**	**24**	*e*PN		**Pg**	**13 19 18.9**	**0.0**
KULA	**Kula-Manisa**	**1.23**	**24**	*e*Pn		**Pg**	**13 19 18.9**	**0.0**

ISK ***03*** *13:28:58.3, 39°.12N×29°.02E, h2km, MD2.8*
DDA ***03*** *13:28:58.7, 39°.10N×29°.01E, h7km, Md2.9*
ISCJB ***03*** *13:28:59.0±0.5, 39°.11N±0°.03×29°.03E±0°.03, h4km±6km, Error ellipse: s-maj=5.3km s-min=4.2km az=3.4*
CSEM ***03*** *13:28:59.3±0.1, 39°.12N×29°.02E, h5km, MD2.9, Error ellipse: s-maj=1.9km s-min=1.7km az=48.0*

ISC 03 13:28:59.3±1.0, 39°.13N±0°.03×29°.01E±0°.02, h6km±12km, n39, σ0$36/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**250**	P	**Pg**	**13 29 04.3**	**+0.1**
DEMI				S	**Sg**	**13 29 07.9**	**+0.4**
DEMI	**Demirci**	**0.25**	**250**	*i* P	**Pg**	**13 29 04.3**	**+0.1**
DEMI				*i* S	**Sg**	**13 29 07.9**	**+0.4**
GDZ	**Gediz**	**0.37**	**96**	P	**Pg**	**13 29 06.5**	**0.0**
GDZ				S	**Sg**	**13 29 11.6**	**+0.3**
GDZ	**Gediz**	**0.37**	**96**	*i* P	**Pg**	**13 29 06.5**	**0.0**
GDZ				*i* S	**Sg**	**13 29 11.6**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**47**	*e*PG	**Pg**	**13 29 08.5**	**0.0**
TVSB				*e*SG	**Sg**	**13 29 14.6**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**47**	*e*Pg	**Pg**	**13 29 08.5**	**0.0**
TVSB				*e*Sg	**Sg**	**13 29 14.6**	**-0.1**
DST	**Dursunbey**	**0.56**	**327**	*e*PG	**Pg**	**13 29 09.8**	**-0.5**
DST				*e*SG	**Sb**	**13 29 19.4**	**-0.6**
DST	**Dursunbey**	**0.56**	**327**	*e*Pg	**Pg**	**13 29 09.8**	**-0.5**
DST				*e*Sg	**Sb**	**13 29 19.4**	**-0.6**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*PG	**Pg**	**13 29 11.8**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*Pg	**Pg**	**13 29 11.8**	**-0.5**
KHAL	**Karahalli**	**0.84**	**154**	P	**Pg**	**13 29 15.7**	**+0.1**
KHAL				S	**Sg**	**13 29 26.2**	**-0.3**
KHAL	**Karahalli**	**0.84**	**154**	*i* P	**Pg**	**13 29 15.7**	**+0.1**
KHAL				*i* S	**Sg**	**13 29 26.2**	**-0.3**
KHL	**Karahalli**	**0.90**	**153**	*e*PG	**Pg**	**13 29 16.7**	**+0.1**
KHL	**Karahalli**	**0.90**	**153**	*e*Pg	**Pg**	**13 29 16.7**	**+0.1**
AKS	**Akhisar**	**0.97**	**255**	*e*PG	**Pg**	**13 29 17.7**	**-0.2**
AKS	**Akhisar**	**0.97**	**255**	*e*Pg	**Pg**	**13 29 17.7**	**-0.2**
BALB	**Balikesir**	**1.02**	**301**	*e*PG	**Pb**	**13 29 19.2**	**-0.1**
BALB	**Balikesir**	**1.02**	**301**	*e*Pg	**Pb**	**13 29 19.2**	**-0.1**
IGD	**Bursa**	**1.14**	**7**	*i* P	**Pb**	**13 29 20.0**	**-1.5**
IGD				*i* S	**Sb**	**13 29 36.6**	**+0.1**
BALY	**Balya**	**1.24**	**300**	P	**Pg**	**13 29 23.4**	**+0.3**
BALY				S	**Sg**	**13 29 39.3**	**+0.1**
BALY	**Balya**	**1.24**	**300**	*i* P	**Pg**	**13 29 23.4**	**+0.3**
BALY				*i* S	**Sg**	**13 29 39.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	**Pg**	**13 29 23.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*Pn	**Pg**	**13 29 23.4**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*PN	**Pg**	**13 29 23.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*Pn	**Pg**	**13 29 23.2**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*PN	**Pb**	**13 29 23.1**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pb**	**13 29 23.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*PN	**Pg**	**13 29 25.6**	**-0.1**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pg**	**13 29 25.6**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pb**	**13 29 26.0**	**-0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pb**	**13 29 26.0**	**-0.2**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pb**	**13 29 26.4**	**-0.2**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pb**	**13 29 26.4**	**-0.2**
EDC	**Edincik**	**1.50**	**324**	*e*PN	**Pb**	**13 29 27.5**	**-0.2**
EDC	**Edincik**	**1.50**	**324**	*e*Pn	**Pb**	**13 29 27.5**	**-0.2**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pn**	**13 29 30.5**	**+0.4**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	**13 29 30.5**	**+0.4**
SILT	**Sile**	**2.08**	**13**	*e*PN	**Pn**	**13 29 35.4**	**+0.7**
SILT	**Sile**	**2.08**	**13**	*e*Pn	**Pn**	**13 29 35.4**	**+0.7**

ISK ***03*** *13:32:21.5, 39°.17N×29°.07E, h6km, MD2.6*
ISCJB ***03*** *13:32:22.2±0.5, 39°.14N±0°.03×29°.13E±0°.04, h11km±5km, Error ellipse: s-maj=6.1km s-min=4.7km az=40.3*
CSEM ***03*** *13:32:22.2±0.1, 39°.15N×29°.13E, h10km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.5km az=108.0*
DDA ***03*** *13:32:22.5, 39°.11N×29°.14E, h7km, Md2.7*

ISC 03 13:32:22.4±0.9, 39°.14N±0°.03×29°.14E±0°.03, h14km±8km, n17, σ0$25/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.27**	**100**	P	**Pg**	**13 32 28.1**	**-0.1**
GDZ				S	**Sg**	**13 32 32.0**	**-0.2**
GDZ	**Gediz**	**0.27**	**100**	*i* P	**Pg**	**13 32 28.1**	**-0.1**
GDZ				*i* S	**Sg**	**13 32 32.0**	**-0.2**
DEMI	**Demirci**	**0.34**	**254**	P	**Pg**	**13 32 29.5**	**+0.1**
DEMI				S	**Sg**	**13 32 34.2**	**0.0**
DEMI	**Demirci**	**0.34**	**254**	*i* P	**Pg**	**13 32 29.6**	**+0.1**
DEMI				*i* S	**Sg**	**13 32 34.2**	**0.0**
TVSB	**Tavsanli**	**0.40**	**39**	*e*PG	**Pg**	**13 32 30.2**	**-0.3**
TVSB				*e*SG	**Sg**	**13 32 36.3**	**+0.3**
TVSB	**Tavsanli**	**0.40**	**39**	*e*Pg	**Pg**	**13 32 30.2**	**-0.3**
TVSB				*e*Sg	**Sg**	**13 32 36.3**	**+0.3**
KULA	**Kula-Manisa**	**0.73**	**211**	*e*PG	**Pg**	**13 32 36.1**	**-0.4**
KULA				*e*SG	**Sg**	**13 32 46.3**	**+0.2**
KULA	**Kula-Manisa**	**0.73**	**211**	*e*Pg	**Pg**	**13 32 36.1**	**-0.4**
KULA				*e*Sg	**Sg**	**13 32 46.3**	**+0.2**
KHAL	**Karahalli**	**0.81**	**160**	P	**Pb**	**13 32 38.8**	**+0.4**
KHAL				S	**Sg**	**13 32 48.8**	**-0.1**
KHAL	**Karahalli**	**0.81**	**160**	*i* P	**Pb**	**13 32 38.8**	**+0.4**
KHAL				*i* S	**Sg**	**13 32 48.8**	**-0.1**
CAVI	**Cavuskoy**	**1.19**	**27**	*e*PN	**Pn**	**13 32 44.8**	**+0.1**
CAVI				*e*SN	**Sg**	**13 33 01.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**332**	*e*PN	**Pn**	**13 32 45.4**	**-0.4**
KCTX				*e*SN	**Sn**	**13 33 02.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**332**	*e*Pn	**Pn**	**13 32 45.4**	**-0.4**
KCTX				*e*Sn	**Sn**	**13 33 02.9**	**+0.1**
GEMT	**Gemlik**	**1.30**	**2**	*e*PN	**Pn**	**13 32 46.1**	**0.0**
GEMT	**Gemlik**	**1.30**	**2**	*e*Pn	**Pn**	**13 32 46.1**	**0.0**
ARMT	**Armutlu**	**1.44**	**352**	*e*PN	**Pb**	**13 32 49.1**	**+0.1**
ARMT	**Armutlu**	**1.44**	**352**	*e*Pn	**Pb**	**13 32 49.1**	**+0.1**

IDC ***03*** *13:45:28.6±0.6, 19°.92N×120°.41E, h0km, mb4.0/19, mb1 4.2/21, mb1mx4.1/44, mbtmp4.1/21, ML3.8/2, MS3.4/18, Ms1 3.4/18, ms1mx3.2/42, Error ellipse: s-maj=19.5km s-min=13.7km az=76.0*
NEIC ***03*** *13:45:29.9±0.3, 19°.89N×120°.35E, h10km, mb4.5/4, Error ellipse: s-maj=8.4km s-min=7.0km az=102.0*
BJI ***03*** *13:45:31.4, 20°.14N×120°.13E, h15km, mb4.4/11, mB4.5/6, ML3.7/2, Ms3.6/2, Ms7 3.5/2*
MAN ***03*** *13:45:33, 19°.70N×120°.34E, h20km, mb4.8, ML3.7, MS3.7*

ISC 03 13:45:29.3±2.5, 19°.85N±0°.05×120°.38E±0°.07, h6km±16km, n48, σ1$62/47, mb4.0/21, MS3.4/16, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.54**	**172**	⇓ *i*P	**Pn**	**13 45 57.3**	**+0.1**
PIP				*e*S	**Sn**	**13 46 16.6**	**-1.0**
APYP	**Conner**	**2.14**	**157**	*e*P	**Pn**	**13 46 07.1**	**+1.6**
APYP				*e*S	**Sb**	**13 46 34.9**	**-0.5**
ABRA	**Dolores**	**2.21**	**172**	*e*P	**Pn**	**13 46 07.1**	**+0.6**
ABRA				*e*S	**Sn**	**13 46 32.7**	**-1.6**
SGCP	**Mt. Cagua**	**2.25**	**135**	*e*P	**Pn**	**13 46 08.6**	**+1.5**
SGCP				*e*S	**Sn**	**13 46 36.4**	**+1.3**
CVP	**Callao Caves**	**2.54**	**147**	⇓ *i*P	**Pb**	**13 46 13.4**	**-1.8**
CVP				*i* S	**Sb**	**13 46 45.9**	**-0.8**
CAUP	**Cauayan**	**3.20**	**154**	*e*P	**Pb**	**13 46 24.3**	**-2.3**
CAUP				*e*S	**Sb**	**13 47 06.1**	**+0.3**
BOLP	**Bolinao**	**3.48**	**187**	*e*P	**Pn**	**13 46 26.1**	**+2.1**
SCZP	**Santa Cruz**	**4.08**	**186**	*e*P	**Pn**	**13 46 33.5**	**+1.2**
BALP	**Baler**	**4.24**	**164**	*e*P	**Pn**	**13 46 39.1**	**+4.6**
BALP				*e*S	**Sn**	**13 47 29.2**	**+4.8**
TGY	**Tagaytay City** comp=Z,278nm,19.8s,baz=62,slow=42	**5.74**	**175**	LR	LR	13 49 31.2	
QIZ	**Qiongzhong**	**9.98**	**267**	P	**Pn**	**13 47 51.8**	**-1.4**
DAV	**Davao City (W)** comp=Z,262nm,19.2s,baz=334,slow=41	**13.67**	**158**	LR	LR	13 54 54.0	
JNU	**Nakatsue** 0.4nm,0.3s,baz=212,slow=6.4,SNR=8.6	**16.20**	**33**	Pn	**Pn**	**13 49 18.3**	**+0.6**
KSAR	**Wonju Array Be**	**18.71**	**19**	Pn	**P**	**13 49 48.0**	**-0.5**
KSRS	**Korea Array** 0.2nm,0.3s,baz=202,slow=13.3,SNR=17	**18.73**	**19**	Pn	**P**	**13 49 48.0**	**-0.8**
CMAR	**Chiang Mai Arr** 1.2nm,0.6s,baz=82,slow=9.6,SNR=7.8	**20.30**	**270**	P	**P**	**13 50 06.7**	**+0.6**
CMAR				PcP	**PcP**	**13 54 20.7**	**+0.9**
	0.2nm,0.3s,baz=207,slow=0.2,SNR=6.5						
CMAR				LR	LR	13 57 15.5	
	comp=Z,114nm,19.3s,baz=114,slow=35						
BJT	**Baijiatuan** 24nm,1.0s	**20.42**	**351**	*e*P	**P**	**13 50 07.5**	**+0.3**
LZH	**Lanzhou**	**21.74**	**322**	*e*P	**P**	**13 50 26.1**	**+4.4**
LZH				pP	sP	13 50 31.3	+7.2
LZH				sP	pP	13 50 33.8	+10
LZH	21nm,1.3s			PMZ			
JHJ	**Hachijo jima 2** comp=Z,35nm,20.1s,baz=237,slow=31	**21.77**	**49**	LR	LR	13 56 46.9	
MJAR	**Matsushiro Arr** 1.2nm,0.8s,baz=242,slow=10,SNR=10	**22.81**	**39**	P	**P**	**13 50 32.0**	**-0.9**
GUMO	**Guam** comp=Z,77nm,21.2s,baz=312,slow=31	**24.25**	**101**	LR	LR	13 58 06.8	
KAPI	**Kappang** comp=Z,59nm,18.1s,baz=33,slow=38	**24.72**	**181**	LR	LR	14 01 07.8	
USRK	**Ussuriysk Ar.** 1.9nm,0.6s,baz=210,slow=7.0,SNR=6.5	**26.14**	**19**	P	**P**	**13 51 05.1**	**+0.9**
SONM	**Songino Array** 1.1nm,0.6s,baz=158,slow=8.2,SNR=8.3	**30.14**	**341**	P	**P**	**13 51 39.6**	**-0.5**
SONM				LR	LR	14 03 13.5	
	comp=Z,65nm,20.2s,baz=108,slow=35						
KLR	**Kul'dur** 1.1nm,0.6s,baz=227,slow=13,SNR=6.3	**30.70**	**15**	P	**P**	**13 51 44.8**	**0.0**
KLR				LR	LR	14 05 15.2	
	comp=Z,38nm,18.6s,baz=212,slow=39						
TLY	**Talaya** comp=Z,55nm,18.2s,baz=152,slow=38	**34.37**	**341**	LR	LR	14 07 01.7	
MKAR	**Makanchi Array** 1.8nm,0.8s,baz=118,slow=8.7,SNR=16	**41.04**	**320**	P	**P**	**13 53 13.5**	**+0.1**
MKAR				LR	LR	14 12 21.3	
	comp=Z,45nm,18.0s,baz=90,slow=39						
WRAB	**Tennant Creek** 9.4nm,0.9s	**41.84**	**160**	*e*P	**P**	**13 53 20.5**	**+0.2**
WRA	**Warramunga Arr** 4.5nm,0.9s,baz=342,slow=9.1,SNR=36	**41.85**	**160**	P	**P**	**13 53 20.6**	**+0.3**
WRA				PcP	**PcP**	**13 55 16.8**	**+0.4**
	1.2nm,0.8s,baz=340,slow=3.4,SNR=5.3						
WRA				S	**S**	**13 59 36.2**	**-2.5**
	0.9nm,0.9s,baz=346,slow=16,SNR=5.0						
ZALV	**Zalesovo Beam** 1.6nm,0.6s,baz=120,slow=6.7,SNR=6.5	**43.54**	**330**	P	**P**	**13 53 33.0**	**-0.6**
ZALV				LR	LR	14 12 49.1	
	comp=Z,43nm,19.6s,baz=70,slow=38						
AAK	**Ala-Archa** comp=Z,35nm,21.8s,baz=77,slow=38	**44.66**	**311**	LR	LR	14 13 28.1	
KURK	**Kurchatov** 0.6nm,1.0s	**45.01**	**323**	P	**P**	**13 53 45.5**	**0.0**
KURBB	**Kurchatov Arra** 6.1nm,0.8s,baz=122,slow=7.6,SNR=12	**45.02**	**323**	P	**P**	**13 53 45.5**	**-0.1**
ASAR	**Alice Springs** 2.8nm,0.9s,baz=335,slow=6.1,SNR=27	**45.22**	**162**	P	**P**	**13 53 48.0**	**+0.6**
SEY	**Seymchan** 3.2nm,1.0s,baz=259,slow=6.3,SNR=8.1	**48.29**	**19**	P	**P**	**13 54 11.6**	**+0.5**
TIXI	**Tiksi** 1.3nm,0.6s	**52.04**	**3**	*e*P	**P**	**13 54 37.7**	**-1.6**
NRIK	**Noril'sk** comp=Z,32nm,18.2s,baz=108,slow=41	**53.39**	**346**	LR	LR	14 22 13.6	
STKA	**Stephens Creek** 1.3nm,0.8s,baz=326,slow=7.7,SNR=4.4	**55.31**	**158**	P	**P**	**13 55 04.6**	**+0.8**
GEYT	**Alibeck** 0.7nm,0.3s,baz=100,slow=7.7,SNR=3.7	**56.42**	**303**	P	**P**	**13 55 13.1**	**+1.2**
GEYT				LR	LR	14 21 16.0	
	comp=Z,58nm,19.9s,baz=20,slow=38						
AKTO	**Aktyubinsk** comp=Z,40nm,19.3s,baz=113,slow=38	**57.40**	**318**	LR	LR	14 21 33.2	
ARU	**Arti** comp=Z,42nm,21.5s,baz=106,slow=38	**58.15**	**325**	LR	LR	14 22 05.0	
KBZ	**Khabaz** 2.0nm,0.7s,baz=130,slow=4.9,SNR=5.9	**64.64**	**310**	P	**P**	**13 56 27.7**	**+0.5**
ILAR	**Eielson Array** 0.5nm,1.1s,baz=280,slow=5.7,SNR=8.5	**73.40**	**27**	P	**P**	**13 57 00.7**	**-1.3**
BRTR	**Keskin Array B** comp=Z,22nm,18.2s,baz=45,slow=40	**75.16**	**307**	LR	LR	14 35 15.1	
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=63,slow=6.2,SNR=5.1	**75.61**	**319**	P	**P**	**13 57 14.0**	**-1.1**
NOA	**NORSAR Array B** 1.1nm,0.7s,baz=63,slow=5.2,SNR=3.6	**81.69**	**332**	P	**P**	**13 57 47.6**	**-0.8**
NOA				LR	LR	14 36 53.2	
	comp=Z,46nm,18.0s,baz=85,slow=38						
GERES	**GERESS Array B** 1.6nm,0.7s,baz=35,slow=4.9,SNR=11	**85.70**	**321**	P	**P**	**13 58 09.2**	**-0.1**
YKA	**Yellowknife Ar** 1.2nm,0.7s,baz=318,slow=4.8,SNR=9.1	**87.24**	**22**	P	**P**	**13 58 16.2**	**-0.3**

ISCJB ***03*** *14:03:19.7±2.0, 37°.08N±0°.09×28°.0E±0°.1, h14km±7km, Error ellipse: s-maj=22.8km s-min=5.5km az=142.7*
DDA ***03*** *14:03:21.3, 37°.19N×28°.05E, h6km, Ml2.6*
CSEM ***03*** *14:03:21.2±0.8, 37°.18N×28°.10E, h10km, MD2.5, Error ellipse: s-maj=33.1km s-min=4.6km az=52.0*
ISK ***03*** *14:03:21.2, 37°.27N×28°.37E, h5km, MD2.5*

ISC 03 14:03:21.4±2.5, 37°.2N±0°.2×28°.1E±0°.3, h13km±9km, n9, σ0$73/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**117**	*e*PG	**Pg**	**14 03 24.1**	**-0.7**
YER				*e*SG	**Sg**	**14 03 28.1**	**+0.9**
YER	**Yerkesik**	**0.13**	**117**	*e*Pg	**Pg**	**14 03 24.1**	**-0.7**
YER				*e*Sg	**Sg**	**14 03 28.1**	**+0.9**
TURN	**Turunc**	**0.49**	**131**	*i* P	**Pg**	**14 03 29.6**	**-1.4**
TURN				*i* S	**Sg**	**14 03 37.4**	**-0.1**
AYDN	**Tasoluk**	**0.51**	**336**	P	**Pg**	**14 03 31.3**	**-0.2**
AYDN				S	**Sb**	**14 03 39.1**	**-0.5**
AYDN	**Tasoluk**	**0.51**	**336**	*i* P	**Pg**	**14 03 31.3**	**-0.2**
AYDN				*i* S	**Sb**	**14 03 39.1**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.56**	**132**	*e*PG	**Pg**	**14 03 32.6**	**+0.3**
DALY				*e*SG	**Sg**	**14 03 40.4**	**+0.7**
DALY	**Dalyan (Mu¨la**	**0.56**	**132**	*e*Pg	**Pg**	**14 03 32.6**	**+0.3**
DALY				*e*Sg	**Sg**	**14 03 40.4**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**345**	*e*PG	**Pg**	**14 03 36.2**	**-0.3**
AYDB				*e*SG	**Sn**	**14 03 50.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**345**	*e*Pg	**Pg**	**14 03 36.2**	**-0.3**

IDC ***03*** *14:04:07.9±0.8, 62°.14N×26°.52W, h0km, mb3.8/16, mb1 4.0/18, mb1mx3.8/57, mbtmp3.9/18, ML4.0/2, MS3.2/14, Ms1 3.2/14, ms1mx2.9/56, Error ellipse: s-maj=21.2km s-min=14.4km az=36.0*
ISCJB ***03*** *14:04:08.7±0.6, 62°.23N±0°.07×26°.4W±0°.2, h15km, mb3.8/17, MS3.1/12, Error ellipse: s-maj=10.4km s-min=10.1km az=26.1*

ISC 03 14:04:10.6±0.7, 62°.25N±0°.09×26°.47W±0°.09, h15km, n27, σ1$06/21, mb3.8/17, MS3.1/12, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes** 49nm,0.3s,baz=221,slow=6.6,SNR=58	**3.41**	**40**	Pn	**Pn**	**14 05 01.4**	**-1.6**
BORG				Sn	**Sn**	**14 05 42.1**	**-1.0**
	baz=80,slow=18,SNR=2.8						
EKA	**Eskdalemuir Ar** baz=312,slow=12,SNR=8.5	**13.87**	**109**	Pn	**Pn**	**14 07 26.9**	**+0.6**
NOA	**NORSAR Array B** comp=Z,29nm,20.4s,baz=295,slow=32	**17.78**	**77**	LR	LR	14 13 39.6	
FRB	**Frobisher Bay** comp=Z,132nm,19.1s,baz=57,slow=35	**18.92**	**293**	LR	LR	14 15 08.2	
ARCES	**ARCESS Array B** 2.1nm,0.9s,baz=267,slow=7.3,SNR=4.0	**21.78**	**48**	P	**P**	**14 09 00.7**	**-0.7**
ARCES				LR	LR	14 15 48.6	
	comp=Z,68nm,20.6s,baz=274,slow=32						
FINES	**FINESS Array B** 2.0nm,0.8s,baz=282,slow=9.2,SNR=4.4	**24.25**	**68**	P	**P**	**14 09 26.8**	**+0.3**
FINES				LR	LR	14 17 55.0	
	comp=Z,38nm,18.4s,baz=34,slow=34						
DAVOX	**Davos/Dischmat** 1.6nm,0.5s,baz=321,slow=15,SNR=3.5	**25.70**	**110**	P	**P**	**14 09 39.5**	**-0.5**
DAVOX				LR	LR	14 20 20.8	
	comp=Z,24nm,18.3s,baz=90,slow=38						
GERES	**GERESS Array B** comp=Z,56nm,19.0s,baz=284,slow=36	**25.88**	**103**	LR	LR	14 19 33.6	
RES	**Resolute Bay** comp=Z,76nm,19.4s,baz=90,slow=36	**26.15**	**326**	LR	LR	14 19 46.2	
ESDC	**Sonseca Array** 0.9nm,0.6s,baz=341,slow=8.5,SNR=6.7	**26.40**	**138**	P	**P**	**14 09 45.0**	**-1.2**
ESDC				LR	LR	14 18 47.5	
	comp=Z,74nm,19.7s,baz=285,slow=33						
VRAC	**Vranov** comp=Z,38nm,20.7s,baz=28,slow=36	**26.88**	**99**	LR	LR	14 20 12.8	
KEST	**Kesra** 4.6nm,0.9s,baz=0.0,slow=8.1,SNR=3.5	**34.65**	**123**	P	**P**	**14 10 58.1**	**-1.0**
YKA	**Yellowknife Ar** 1.2nm,0.8s,baz=51,slow=8.9,SNR=6.0	**37.84**	**311**	P	**P**	**14 11 25.6**	**-0.4**
YKA				LR	LR	14 26 25.5	
	comp=Z,6.7nm,19.4s,baz=0.0,slow=35						
ULM	**Lac du Bonnet** comp=Z,33nm,19.5s,baz=86,slow=36	**38.44**	**285**	LR	LR	14 27 10.9	
INK	**Inuvik** 1.2nm,1.0s,baz=37,slow=13,SNR=3.5	**39.71**	**326**	P	**P**	**14 11 40.5**	**-1.1**
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=334,slow=8.0,SNR=2.7	**42.06**	**94**	P	**P**	**14 12 04.0**	**+2.5**
TIXI	**Tiksi** 1.0nm,0.3s,baz=333,slow=8.8,SNR=4.1	**45.30**	**11**	P	**P**	**14 12 27.7**	**+0.7**
ILAR	**Eielson Array** 0.6nm,0.9s,baz=17,slow=7.7,SNR=5.9	**45.83**	**329**	P	**P**	**14 12 32.1**	**+0.9**
ILAR				PcP	**PcP**	**14 14 08.5**	**+0.2**
	0.8nm,0.8s,baz=359,slow=3.4,SNR=10						
ILAR				LR	LR	14 32 12.2	
	comp=Z,71nm,18.5s,baz=118,slow=37						
BVAR	**Borovoye Array** 0.6nm,0.7s,baz=316,slow=6.0,SNR=3.5	**47.90**	**54**	P	**P**	**14 12 48.4**	**+0.8**
PDAR	**Pinedale Array** 0.9nm,0.7s,baz=50,slow=7.9,SNR=7.5	**50.26**	**288**	P	**P**	**14 13 06.1**	**0.0**
ZALV	**Zalesovo Beam** comp=Z,28nm,19.1s,baz=68,slow=37	**52.24**	**44**	LR	LR	14 36 25.8	
KURBB	**Kurchatov Arra** 0.9nm,0.8s,baz=323,slow=7.4,SNR=8.3	**52.84**	**51**	P	**P**	**14 13 25.6**	**+0.6**
TORD	**Torodi Ar. Bea** 1.4nm,0.6s,baz=339,slow=8.0,SNR=9.0	**53.01**	**145**	P	**P**	**14 13 25.2**	**-1.3**
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=324,slow=6.0,SNR=7.3	**57.41**	**51**	P	**P**	**14 13 58.8**	**+0.7**
DBIC	**Dimbokro** comp=Z,38nm,18.3s,baz=42,slow=34	**57.71**	**154**	LR	LR	14 37 09.8	
SONM	**Songino Array** 0.2nm,0.4s,baz=333,slow=4.8,SNR=4.1	**63.99**	**33**	P	**P**	**14 14 43.6**	**+0.7**
CMAR	**Chiang Mai Arr** 0.6nm,0.6s,baz=329,slow=5.0,SNR=5.4	**88.82**	**51**	P	**P**	**14 17 03.6**	**-0.1**

NSSC ***03*** *14:07:11.8±1.3, 35°.90N×37°.76E, h0km±13km, ML1.5*
ISCJB ***03*** *14:07:15.9±2.1, 35°.81N±0°.04×36°.6E±0°.3, h23km±33km, Error ellipse: s-maj=45.9km s-min=6.2km az=175.6*
DDA ***03*** *14:07:18.1, 35°.99N×36°.56E, h6km, Ml2.7*

ISC 03 14:07:15.4±1.7, 35°.81N±0°.05×36°.61E±0°.10, h17km±14km, n5, σ0$47/10, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YAYL	**Yayladag**	**0.46**	**299**	*i* P	**Pg**	**14 07 24.7**	**-0.1**
YAYL				*i* S	**Sb**	**14 07 32.4**	**+0.6**
KUZU	**Kuzuini**	**1.03**	**21**	*i* P	**Pb**	**14 07 35.2**	**+0.4**
KUZU				*i* S	**Sn**	**14 07 49.2**	**0.0**
KAMA	**Osmaniye**	**1.37**	**2**	*i* P	**Pb**	**14 07 40.6**	**0.0**
KAMA				*i* S	**Sn**	**14 07 57.1**	**-0.6**
RABH	**Abou Rabah**	**1.46**	**160**	*e*P	**Pn**	**14 07 40.5**	**-0.4**
RABH				*e*S	**Sb**	**14 08 00.8**	**+0.5**
RABH				AML	AML	14 08 12.2	
	comp=N,9.9nm,0.7s						
RABH				AML	AML	14 08 13.0	
	comp=E,11nm,0.6s						
ROOS	**tl_alroos**	**1.73**	**161**	*e*P	**Pn**	**14 07 44.8**	**0.0**
ROOS				*e*S	**Sn**	**14 08 06.2**	**-0.2**
ROOS				AML	AML	14 08 20.5	
	comp=N,12nm,0.3s						
ROOS				AML	AML	14 08 22.5	
	comp=E,14nm,0.3s						

ISK ***03*** *14:07:34.7, 41°.44N×35°.97E, h10km, MD2.5*
DDA ***03*** *14:07:35.0, 41°.40N×35°.87E, h24km, Ml2.8*
CSEM ***03*** *14:07:36.0±0.2, 41°.39

baz=230
WDT Danda 0.49 268⇑*i*P Pb 14 11 08.2 -0.7
baz=260
WDT S Sb 14 11 15.4 -0.9
baz=260
TWF1 Yuli 0.54 219 *e*P Pn 14 11 08.4 -1.0
baz=224
TWF1 *e*S Sb 14 11 15.9 -1.3
baz=224
ENA Nanau 0.66 6 *e*P Pn 14 11 10.3 -0.7
baz=360
TWT Tachien 0.66 317 P Pn 14 11 10.9 -0.3
baz=314
TWT S Sn 14 11 19.6 -0.9
baz=314
SMLT Sun Moon Lake 0.71 279⇑*i*P Pn 14 11 11.5 -0.4
baz=280
SMLT *e*S Sn 14 11 21.0 -0.8
baz=280
YUS Yu-Shan 0.71 247⇑*i*P Pn 14 11 12.1 -0.2
baz=244
YUS *i* S Sn 14 11 21.2 -1.2
baz=244
NNS Nan Shan 0.72 338 *e*P Pn 14 11 12.6 +0.5
baz=346
NNS *e*S Sn 14 11 22.1 +0.1
baz=346
CHKT Chengkung 0.73 202 *e*P Pn 14 11 11.9 -0.2
baz=189
CHKT S Sb 14 11 22.8 +0.7
baz=189
TYC Yuchr 0.75 280 *i* P Pn 14 11 11.7 -0.7
baz=283
TYC *e*S Sn 14 11 21.2 -1.4
baz=283
ALS Alishan 0.83 252 P Pn 14 11 13.8 0.0
baz=250
ALS *e*S Sn 14 11 24.5 -0.5
baz=250
ELDTW Lidau 0.83 226 *e*P Pn 14 11 12.6 -1.1
baz=220
ELDTW *e*S Sn 14 11 23.1 -1.7
baz=220
TWC Suao 0.85 11 P Pn 14 11 13.4 -0.3
baz=19
TWC S Sb 14 11 25.7 +0.1
baz=19
ENTT Nioudou 0.87 354 *e*P Pn 14 11 13.8 -0.2
baz=355
ENTT *e*S Sn 14 11 24.5 -1.0
baz=355
WNT Mingjian 0.91 277 *e*P Pn 14 11 14.8 +0.3
baz=276
CHN5 Tsauling 0.92 259 P Pn 14 11 15.1 +0.3
baz=258
CHN5 S Sn 14 11 27.5 +0.5
baz=258
NSK Sanguang 0.94 343 P Pn 14 11 14.9 -0.2
baz=351
NSK *e*S Sn 14 11 26.3 -1.1
baz=351
TWE Neicheng 0.94 0 *e*P Pn 14 11 14.7 -0.3
baz=354
TWE S Sn 14 11 27.4 +0.1
baz=354
TCU Taichung 0.98 293 *e*P Pn 14 11 16.1 +0.6
baz=292
TCU *e*S Sb 14 11 29.6 +0.3
baz=292
TWQ1 Liyutan 1.00 305 P Pn 14 11 16.1 +0.3
baz=305
TWQ1 *e*S Sn 14 11 29.3 +0.6
baz=305
WGK Gukeng 1.02 265 *e*P Pn 14 11 16.2 +0.2
baz=264
WGK *e*S Sb 14 11 30.2 -0.2
baz=264
STYT Tauyuan 1.03 234 *e*P Pn 14 11 16.7 +0.3
baz=229
STYT *e*S Sn 14 11 30.3 +0.7
baz=229
NSY Sanyi 1.05 308 *e*P Pn 14 11 17.1 +0.6
baz=308
NSY *e*S Sb 14 11 31.2 0.0
baz=308
NSTT Nanjuang 1.05 325 *e*P Pn 14 11 17.1 +0.6
baz=311
NSTT *e*S Sn 14 11 30.1 +0.2
baz=311
CHN4 Tsaushan 1.07 247 *e*P Pn 14 11 17.6 +0.8
baz=246
CHN4 *e*S Sb 14 11 32.1 +0.2
baz=246
TWG Pinlang 1.09 210 *e*P Pn 14 11 16.2 -0.9
baz=199
TWG *e*S Sn 14 11 28.7 -2.4
baz=199
WTP Ta-pu 1.10 242 *e*P Pn 14 11 18.1 +0.8
baz=241
WTP *e*S Sn 14 11 32.3 +1.0
baz=241
CHN2 Minshiung 1.12 258 *e*P Pn 14 11 17.9 +0.5
baz=257
CHY Chiayi 1.17 257 *e*P Pn 14 11 17.9 -0.2
baz=256
CHY *e*S Sb 14 11 34.4 -0.4
baz=256
TWK Hsinying 1.19 245 *e*P Pn 14 11 18.8 +0.2
baz=245
TWK *e*S Sb 14 11 35.0 -0.5
baz=245
CHN1 Nanshi 1.20 241 *e*P Pn 14 11 19.0 +0.4
baz=241
CHN1 *e*S Sn 14 11 35.0 +1.3
baz=241
SGST Jiashian 1.21 236 *e*P Pn 14 11 19.3 +0.6
baz=235
SGST *e*S Sb 14 11 36.2 +0.2
baz=235
WTCT Ta-ch'eng 1.27 274 *e*P Pn 14 11 19.7 +0.1
baz=273
WTCT *e*S Sb 14 11 37.5 -0.1
baz=273
NWF Wu-fen Shan 1.30 5 *e*P Pn 14 11 21.0 +1.0
baz=351
NWF *e*S Sb 14 11 38.3 -0.1
baz=351
WSF Szhu 1.33 264 *e*P Pn 14 11 20.4 0.0
baz=264
WSF *e*S Sn 14 11 38.1 +1.2
baz=264
TWS1 Kuangyinshan 1.34 350 *e*P Pn 14 11 19.1 -1.5
baz=350
ECL Taimali 1.34 209 *e*P Pn 14 11 18.9 -1.6
baz=200
JYNG Yonagunijimaku 1.35 60 P Pn 14 11 20.3 -0.3
JYNG S Sn 14 11 37.1 -0.3
SSD Sandimen 1.40 223 *e*P Pn 14 11 21.4 +0.1
baz=224
SSD *e*S Sn 14 11 39.3 +0.7
baz=224
CHN8 Yiju 1.40 253 *e*P Pn 14 11 20.6 -0.7
baz=252
CHN8 *e*S Sn 14 11 39.6 +1.0
baz=252
YOJ Yonaguni jima 1.41 61 P Pn 14 11 21.5 +0.1
YOJ S Sn 14 11 38.8 0.0
SCLT Jiali 1.48 247 *e*P Pn 14 11 22.6 +0.2
baz=246
TWM1 Shoushan 1.48 231 *e*P Pn 14 11 22.9 +0.4
baz=231
EAST Anshuo 1.58 209 *e*P Pn 14 11 24.4 +0.7
baz=202
SCZT Fangliau 1.70 215 *e*P Pn 14 11 26.4 +1.0
baz=217
SCZT *e*S Sn 14 11 47.6 +1.7
baz=217
LAY Lan-yu 1.73 184 *e*P Pn 14 11 25.4 -0.5
baz=173
LAY *e*S Sn 14 11 47.4 +0.6
baz=173
WDGT Dungji 1.91 255 *e*P Pn 14 11 27.7 -0.7
baz=255
WDGT *e*S Sn 14 11 50.8 -0.4
baz=255
PNG Penghu 1.95 264 *e*P Pn 14 11 28.8 0.0
baz=264
PNG *e*S Sn 14 11 52.1 0.0
baz=264
IRIF Iriomote-Funau 1.97 73 P Pn 14 11 29.5 +0.4
IRIF S Sn 14 11 52.5 -0.1
HATJ Hateruma jima 1.98 81 *e*S Sn 14 11 52.7 -0.2
TWK1 Hengchun 1.99 204 *e*P Pn 14 11 28.9 -0.5
baz=191
TWK1 *e*S Sn 14 11 53.9 +0.7
baz=191
TSEB Hengchuen, Pin 1.99 201 *e*P Pn 14 11 30.7 +1.2
baz=205
TSEB *e*S Sn 14 11 54.7 +1.4
baz=205
JKRS Kuro-shima 2.19 77 P Pn 14 11 32.8 +0.6
JKRS *e*S Sn 14 11 58.8 +0.6
JIJ Ishigaki jima 2.34 75 P Pn 14 11 34.1 -0.1
JIJ S Sn 14 12 00.8 -1.0
JISG Ishigakijimahi 2.55 71 P Pn 14 11 36.9 -0.2
JISG S Sn 14 12 06.1 -0.8
JTJ Tarama 2.90 72 P Pn 14 11 42.9 +0.9
JTJ *e*S Sn 14 12 15.5 -0.2

*ISCJB **03** 14:21:23.0±0.3, 17°.87N±0°.02×95°.06W±0°.02, h137km±2km, mb4.5/114, Error ellipse: s-maj=3.8km s-min=3.2km az=30.3*
*IDC **03** 14:21:23.6±0.4, 17°.95N×94°.97W, h120km±4km, mb4.3/27, mb1 4.4/31, mb1mx4.3/45, mbtmp4.6/31, MS3.2/4, Ms1 3.2/4, ms1mx2.8/38, Error ellipse: s-maj=15.4km s-min=7.3km az=64.0*
*NEIC **03** 14:21:25.0, 17°.69N×95°.31W, h135km, mb4.6/106, MD4.9(MEX), After MEX.*
NEIC Felt [III] at Oaxaca. Also felt at Coxcatlan, Esperanza, Tehuacan and Zinacatepec.
*MEX **03** 14:21:25.0±1.4, 17°.78N×95°.21W, h123km±13km, MD4.9*
ISC 03 14:21:23.6±0.5, 17°.87N±0°.04×95°.18W±0°.04, h125km±4km, n509, σ1°22/534, mb4.6/114, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.74**	**77**	*i* P			**Pn**	**14 21 44.3**	**+0.6**
TUIG				*e*S			**Sn**	**14 21 59.4**	**+0.4**
CMIG	**Matias Romero**	**0.82**	**160**	P			**Pn**	**14 21 44.5**	**0.0**
CMIG				S			**Sn**	**14 21 60.0**	**-0.3**
VHO	**Vista Hermosa**	**1.68**	**242**	*e*P			**Pn**	**14 21 53.1**	**-0.6**
VHO				*e*S			**Sn**	**14 22 15.8**	**-0.8**
LVIG	**Laguna Verde**	**2.19**	**328**	*i* P			**Pn**	**14 21 57.6**	**-2.0**
LVIG				*i* S			**Sn**	**14 22 23.4**	**-3.9**
HUIG	**Huatulco**	**2.27**	**203**	*e*P			**Pn**	**14 21 58.7**	**-2.0**
HUIG				*e*S			**Sn**	**14 22 26.0**	**-3.2**
PCIG		**2.85**	**139**	*e*P			**Pn**	**14 22 08.6**	**+0.4**
PCIG				*i* S			**Sn**	**14 22 37.0**	**-5.5**
PCIG				*i* S			**Sn**	**14 22 41.1**	**-1.4**
PNIG	**Pinotepa**	**3.18**	**243**	*i* P			**Pn**	**14 22 09.1**	**-3.3**
PNIG				*e*S			Sn	14 22 38.6	-12
TLIG	**Tlapa**	**3.24**	**265**	*e*P			**Pn**	**14 22 12.1**	**-1.3**
TLIG				*i* S			**Sn**	**14 22 48.4**	**-3.4**
TLIG	**Tlapa**	**3.24**	**265**	*e*Pn			**Pn**	**14 22 12.1**	**-1.3**
CCIG	**Comitan**	**3.31**	**118**	*i* P			**Pn**	**14 22 14.5**	**+0.3**
CCIG				*i* S			**Sn**	**14 22 52.9**	**-0.5**
CCIG	**Comitan**	**3.31**	**118**	*e*Pn			**Pn**	**14 22 14.7**	**+0.4**
PPM	**Popocatepetl**	**3.48**	**291**	*e*P			**Pn**	**14 22 17.9**	**+1.0**
PPM				*e*P			**Pn**	**14 22 18.6**	**+1.7**
PPM				*i* S			**Sn**	**14 23 00.2**	**+2.2**
PPM				*e*S			**Sn**	**14 23 00.3**	**+2.3**
VTVM	**Tizayuca**	**3.90**	**300**	*e*P			**Pn**	**14 22 22.9**	**+0.8**
SCIG	**Sabancuy**	**3.94**	**73**	*e*P			**Pn**	**14 22 22.5**	**0.0**
SCIG				*i* S			**Sn**	**14 23 08.1**	**-0.1**
MZVM		**4.06**	**290**	*i* P			**Pn**	**14 22 25.1**	**+1.1**
UNM	**Universidad Na**	**4.06**	**292**	*e*Pn			**Pn**	**14 22 25.3**	**+1.0**
PTVM	**Pico Tres Padr**	**4.11**	**295**	*i* P			**Pn**	**14 22 25.5**	**+0.6**
ZUVM	**ZUMPANGO**	**4.18**	**298**	*i* P			**Pn**	**14 22 26.8**	**+1.0**
MAVM	**Malinalco, Edo**	**4.24**	**285**	*i* P			**Pn**	**14 22 27.0**	**+0.3**
AZVM	**Cuida Lopez Ma**	**4.25**	**294**	*e*P			**Pn**	**14 22 27.4**	**+0.6**
TOVM	**TOLUCA**	**4.49**	**289**	*e*P			**Pn**	**14 22 30.6**	**+0.5**
ACX	**Acapulco**	**4.58**	**258**	*i* P			**Pn**	**14 22 28.7**	**-2.3**
ACX				*e*S			Sn	14 23 46.2	+23
CAIG	**El Cayaco**	**4.93**	**261**	*e*P			**Pn**	**14 22 32.6**	**-3.0**
CAIG				*e*S			Sn	14 23 08.7	-23
MOIG	**Morelia**	**5.97**	**288**	*e*Pn			**Pn**	**14 22 51.0**	**+1.1**
TEIG	**Tepich**	**6.94**	**69**	P			**Pn**	**14 23 01.1**	**-1.6**
	19nm,0.3s,baz=269,slow=24,SNR=145								
TEIG				S			**Sn**	**14 24 18.0**	**-2.2**
	6.8nm,0.3s,baz=0.0,slow=20,SNR=2.2								
TEIG				LR			LR	14 26 32.3	
	comp=Z,184nm,19.4s,baz=116,slow=46								
TEIG	**Tepich**	**6.94**	**69**	*e*Pn			**Pn**	**14 23 01.0**	**-1.6**
TEIG				*e*Sn			**Sn**	**14 24 18.6**	**-1.6**
ZAIG	**Zacatecas**	**8.47**	**306**	*e*Pn			**Pn**	**14 23 24.8**	**+1.1**
035Z	**Hargill**	**8.96**	**343**	S			**Sn**	**14 25 06.9**	**-2.3**
baz=163									
ANIG	**Ahuacatlan**	**9.37**	**291**	*i* P			**Pn**	**14 23 37.4**	**+1.8**
035A	**Encino**	**9.42**	**344**	S			**Sn**	**14 25 16.9**	**-3.5**
baz=164									
034A	**Hebbronville**	**9.71**	**341**	P			**Pn**	**14 23 41.5**	**+1.4**
baz=161									
034A				S			**Sn**	**14 25 24.6**	**-2.7**
baz=161									
934A	**Benavides**	**10.17**	**343**	P			**Pn**	**14 23 48.8**	**+2.6**
baz=163									
933A	**Laredo**	**10.41**	**339**	P			**Pn**	**14 23 51.7**	**+2.2**
baz=159									
835A	**Beeville**	**10.65**	**347**	P			**Pn**	**14 23 54.5**	**+1.8**
baz=167									
834A	**Tilden**	**10.67**	**344**	P			**Pn**	**14 23 54.5**	**+1.5**
baz=163									
833A	**Chaparral WMA,**	**11.11**	**340**	P			**Pn**	**14 23 59.4**	**+0.6**
baz=160,SNR=8.2									
832A	**Faith Ranch, C**	**11.27**	**338**	P			**Pn**	**14 24 02.6**	**+1.7**
baz=157									
733A	**Divot King Ran**	**11.44**	**341**	P			**Pn**	**14 24 05.2**	**+1.9**
baz=161									
636A	**Smothers Creek**	**11.69**	**352**	P			**Pn**	**14 24 06.8**	**+0.4**
baz=172									
633A	**Saathoff Ranch**	**12.11**	**343**	P			**Pn**	**14 24 12.3**	**+0.3**
baz=162,SNR=8.6									
539A	**Cross D Ranch,**	**12.19**	**2**	P			**Pn**	**14 24 13.9**	**+0.8**
baz=183									
537A	**Green Hill Far**	**12.20**	**355**	P			**Pn**	**14 24 13.4**	**+0.1**
baz=176									
536A	**Bastrop**	**12.28**	**352**	P			**Pn**	**14 24 15.5**	**+1.4**
baz=172									
540A	**Vidor**	**12.34**	**5**	P			**Pn**	**14 24 15.0**	**+0.1**
baz=186									
534A	**Blanco**	**12.47**	**347**	P			**Pn**	**14 24 18.4**	**+1.6**
baz=166,SNR=24									
533A	**Kerrville**	**12.65**	**345**	P			**Pn**	**14 24 20.6**	**+1.5**
baz=164									
438A	**Sam Houston St**	**12.83**	**359**	P			**Pn**	**14 24 22.7**	**+1.3**
baz=179									
440A	**Kirbyville**	**12.87**	**5**	P			**Pn**	**14 24 23.0**	**+1.1**
baz=186									
435B	**Jarrell**	**13.04**	**351**	P			**Pn**	**14 24 26.2**	**+2.0**
baz=170,SNR=9.4									
434A	**Burnet**	**13.19**	**348**	P			**Pn**	**14 24 27.5**	**+1.4**
baz=168									
JCT	**Junction City**	**13.24**	**342**	P			**Pn**	**14 24 28.4**	**+1.6**
baz=161									
JCT	**Junction City**	**13.24**	**342**	*e*Pn			**Pn**	**14 24 28.1**	**+1.3**
27nm,0.6s									
433A	**Art**	**13.31**	**345**	P			**Pn**	**14 24 28.8**	**+1.1**
baz=164,SNR=18									
337A	**Centerville**	**13.40**	**357**	P			**Pn**	**14 24 30.2**	**+1.4**
baz=178									
339A	**Huntington**	**13.42**	**2**	P			**Pn**	**14 24 29.7**	**+0.7**
baz=183									
338A	**Crockett**	**13.43**	**360**	P			**Pn**	**14 24 30.1**	**+0.9**
baz=180									
335A	**Moody**	**13.51**	**352**	P			**Pn**	**14 24 31.0**	**+0.8**
baz=172,SNR=8.3									
341A	**Kurthwood**	**13.53**	**7**	P			**Pn**	**14 24 30.7**	**+0.3**
baz=189									
340A	**Bronson**	**13.54**	**5**	P			**Pn**	**14 24 31.6**	**+1.0**
baz=186									
445A	**Amite**	**13.54**	**18**	P			**Pn**	**14 24 30.8**	**+0.2**
baz=200									
336A	**Riesel**	**13.54**	**354**	P			**Pn**	**14 24 31.2**	**+0.6**
baz=174									
334A	**Lometa**	**13.69**	**349**	P			**Pn**	**14 24 32.7**	**+0.1**
baz=168,SNR=27									
342A	**Flagon Creek P**	**13.70**	**10**	P			**Pn**	**14 24 32.2**	**-0.3**
baz=192									
TXAR	**Lajitas Array**	**13.81**	**327**	P			**Pn**	**14 24 35.8**	**+1.7**
0.1nm,0.3s,baz=152,slow=14,SNR=7.9									
TX31	**Lajitas Ar. Si**	**13.81**	**327**	*e*Pn			**Pn**	**14 24 34.1**	**0.0**
NATX	**Nacogdoches**	**13.84**	**2**	P			**Pn**	**14 24 35.1**	**+0.7**
baz=182									
NATX	**Nacogdoches**	**13.84**	**2**	*e*Pn			**Pn**	**14 24 32.4**	**-2.1**
238A	**Jacksonville**	**14.08**	**0**	P			**Pn**	**14 24 37.7**	**+0.3**
baz=181									
237A	**Washetta, Mont**	**14.09**	**358**	P			**Pn**	**14 24 38.4**	**+0.8**
baz=178									
239A	**Gary**	**14.10**	**2**	P			**Pn**	**14 24 37.9**	**+0.1**
baz=183									
344A	**Westbrook Farm**	**14.11**	**16**	P			**Pn**	**14 24 38.2**	**+0.3**
baz=198									
236A	**Katherine and**	**14.12**	**355**	P			**Pn**	**14 24 38.9**	**+0.8**
baz=175									
345A	**Thompson Farm,**	**14.17**	**18**	P			**Pn**	**14 24 37.9**	**-0.8**
baz=201,SNR=9.1									
WHTX	**Lake Whitney,**	**14.21**	**352**	Pn			**Pn**	**14 24 39.0**	**-0.2**
34nm,0.6s									
WHTX				*e*Sn			**Sn**	**14 27 16.4**	**+0.2**
234A	**Clairette**	**14.33**	**350**	P			**Pn**	**14 24 41.8**	**+1.1**
baz=169									
243A	**Waterproof**	**14.35**	**13**	P			**Pn**	**14 24 40.7**	**-0.2**
baz=195									
242A	**Grayson**	**14.40**	**10**	P			**Pn**	**14 24 42.3**	**+0.8**
baz=192									
346A	**Big Creek Wild**	**14.42**	**20**	P			**Pn**	**14 24 41.6**	**-0.2**
baz=202,SNR=7.0									
233A	**Rising Star**	**14.49**	**347**	P			**Pn**	**14 24 43.8**	**+1.1**
baz=166									
136A	**Ennis**	**14.60**	**355**	P			**Pn**	**14 24 45.0**	**+0.9**
baz=175									
448A	**Bay Minette**	**14.61**	**26**	P			**Pn**	**14 24 44.1**	**-0.1**
baz=209									
137A	**Heron Place, G**	**14.68**	**358**	P			**P**	**14 24 47.6**	**-0.3**
baz=178									
244A	**Avery, Jackson**	**14.69**	**15**	P			**Pn**	**14 24 45.9**	**+0.7**
baz=197									
138A	**Matatall Enter**	**14.73**	**0**	P			**P**	**14 24 47.4**	**-1.1**
baz=181									
347A	**Saraland**	**14.76**	**23**	P			**Pn**	**14 24 46.9**	**+0.8**
baz=206									
135A	**Vickery Place,**	**14.77**	**353**	P			**P**	**14 24 48.8**	**-0.1**
baz=172									
140A	**Cam and Jess,**	**14.78**	**5**	P			**P**	**14 24 48.7**	**-0.3**
baz=186									
141A	**Papa Simpson,**	**14.82**	**8**	P			**P**	**14 24 48.8**	**-0.6**
baz=189									
134A	**White-Moore Ra**	**14.88**	**350**	P			**P**	**14 24 50.5**	**+0.4**
baz=170									
VBMS	**Vicksburg**	**14.90**	**16**	P			**P**	**14 24 49.5**	**-0.8**
baz=198									
348A	**Jackson**	**15.01**	**25**	P			**Pn**	**14 24 50.1**	**+0.9**
baz=208									
133A	**Hamilton Ranch**	**15.06**	**348**	P			**P**	**14 24 52.7**	**+0.5**
baz=167									
ABTX	**Abilene, Hawle**	**15.23**	**346**	P			**Pn**	**14 24 52.8**	**+0.7**
baz=164,SNR=8.3									
ABTX	**Abilene, Hawle**	**15.23**	**346**	*e*P			**Pn**	**14 24 50.2**	**-1.9**
20nm,0.6s									
Z38A	**Mt. Pleasant**	**15.32**	**1**	P			**P**	**14 24 55.1**	**+0.1**
baz=181									
247A	**Quitman**	**15.32**	**22**	P			**Pn**	**14 24 54.0**	**+0.9**
baz=204									
Z36A	**Blue Ridge**	**15.38**	**356**	P			**P**	**14 24 55.3**	**-0.4**
baz=176									
Z40A	**Long Farm, Mag**	**15.41**	**6**	P			**P**	**14 24 55.2**	**-0.8**
baz=187									
145A	**Houston Renfro**	**15.42**	**17**	P			**Pn**	**14 24 55.1**	**+0.8**
baz=199									
LPIG	**La Paz**	**15.43**	**296**	P			**P**	**14 24 57.7**	**+1.4**
baz=146,slow=0.9,SNR=6.4									
Z41A	**Richland Creek**	**15.47**	**7**	P			**P**	**14 24 56.9**	**+0.2**
baz=189									
Z35A	**Perchaven, San**	**15.51**	**353**	P			**P**	**14 24 57.7**	**+0.6**
baz=173									
Z42A	**Norrel Spur, H**	**15.62**	**10**	P			**P**	**14 24 58.0**	**-0.2**
baz=192									
Z34A	**Collier Ranch,**	**15.63**	**351**	P			**P**	**14 24 58.7**	**+0.2**
baz=171									
248A	**Dixon Mills**	**15.68**	**24**	P			**Pn**	**14 24 58.0**	**+0.4**
baz=207									
Z43A	**Armstrong Fami**	**15.68**	**12**	P			**P**	**14 24 58.8**	**-0.2**
baz=194									
Z33A	**Whitaker Ranch**	**15.69**	**349**	P			**P**	**14 24 59.3**	**+0.2**
baz=168									
146A	**Union**	**15.71**	**19**	P			**P**	**14 24 59.2**	**-0.1**
baz=202									
147A	**Livingston**	**16.00**	**22**	P			**Pn**	**14 25 01.8**	**+0.2**
baz=205,SNR=7.2									
Y39A	**Lockesburg**	**16.03**	**3**	P			**Pn**	**14 25 01.6**	**-0.3**
baz=184									
Y37A	**Hugo**	**16.05**	**359**	P			**Pn**	**14 25 02.2**	**+0.1**
baz=179									
Y35A	**Marietta**	**16.06**	**354**	P			**Pn**	**14 25 02.7**	**+0.4**
baz=174,SNR=13									
Y41A	**Eaglette Beard**	**16.11**	**8**	P			**P**	**14 25 03.5**	**-0.2**
baz=189									
Y40A	**Okolona**	**16.17**	**6**	P			**P**	**14 25 04.8**	**+0.4**
baz=187									
Y34A	**Reagan Ranch,**	**16.19**	**352**	P			**Pn**	**14 25 03.8**	**-0.1**
baz=172									
Y42A	**Garnett, Star**	**16.19**	**10**	P			**Pn**	**14 25 03.7**	**-0.2**
baz=192									
DWPF	**Disney Wildern**	**16.24**	**49**	Pn			**Pn**	**14 25 02.9**	**-1.6**
296nm,1.0s									
Y33A	**Hilltop Ranch,**	**16.37**	**350**	P			**P**	**14 25 06.9**	**+0.3**
baz=169									
X35A	**Drake**	**16.54**	**355**	P			**P**	**14 25 09.2**	**+0.6**
baz=174									
Z47A	**Carrollton**	**16.55**	**21**	P			**P**	**14 25 09.5**	**+0.9**
baz=204									
MNTX	**Cornudas Mount**	**16.58**	**328**	P			**P**	**14 25 09.8**	**+0.7**
baz=145,SNR=5.9									
MNTX	**Cornudas Mount**	**16.58**	**328**	*e*Pn			**Pn**	**14 25 07.9**	**-0.8**
14nm,1.2s									
X39A	**Fountain Ranch**	**16.60**	**3**	P			**P**	**14 25 09.7**	**+0.5**
baz=184,SNR=12									
X37A	**Clayton**	**16.66**	**359**	P			**P**	**14 25 10.2**	**+0.5**
baz=180									
X36A	**Centroma**	**16.67**	**357**	P			**P**	**14 25 10.0**	**+0.1**
baz=177									
MIAR	**Mount Ida**	**16.67**	**5**	P			**Pn**	**14 25 09.5**	**-0.2**
baz=186									
MIAR	**Mount Ida**	**16.67**	**5**	*e*Pn			**Pn**	**14 25 06.1**	**-3.7**
32nm,0.8s									
X40A	**Basin Creek Fa**	**16.68**	**7**	P			**P**	**14 25 10.7**	**+0.6**
baz=188									
Y45A	**Yeager Farm, C**	**16.71**	**17**	P			**Pn**	**14 25 09.5**	**-0.8**
baz=199									
X41A	**Kaden, Bauxite**	**16.73**	**8**	P			**P**	**14 25 10.6**	**0.0**
baz=189									
X38A	**Whitesboro**	**16.74**	**1**	P			**Pn**	**14 25 10.4**	**-0.2**
baz=182,SNR=10									
LRAL	**Lakeview Retre**	**16.80**	**24**	*e*Pn			**Pn**	**14 25 10.1**	**-1.2**
15nm,0.6s									
X34A	**Smith Ranch, M**	**16.83**	**352**	P			**P**	**14 25 13.1**	**+1.3**
baz=172,SNR=9.6									
X33A	**Lawton**	**16.87**	**351**	P			**Pn**	**14 25 12.7**	**+0.5**
baz=170									
X32A	**Elmer**	**16.89**	**348**	P			**Pn**	**14 25 13.2**	**+0.7**
baz=167									
Z48A	**Northport**	**16.89**	**22**	P			**P**	**14 25 11.5**	**-0.9**
baz=206,SNR=6.7									
Y46A	**Houston**	**16.93**	**18**	P			**Pn**	**14 25 13.0**	**+0.2**
baz=201,SNR=9.9									
X43A	**Marvell**	**17.02**	**12**	P			**Pn**	**14 25 14.5**	**+0.5**
baz=194									
UALR	**University of**	**17.03**	**8**	*e*P			**P**	**14 25 12.8**	**-1.1**
21nm,0.7s									
WMOK	**Wichita Mounta**	**17.11**	**350**	P			**Pn**	**14 25 15.5**	**+0.5**
baz=169									
WMOK	**Wichita Mounta**	**17.11**	**350**	*e*P			**P**	**14 25 13.0**	**-1.8**
16nm,0.8s									
WMOK				*e*S			**Sn**	**14 28 25.3**	**-0.6**
W38A	**Poteau**	**17.14**	**2**	P			**Pn**	**14 25 15.7**	**+0.2**
baz=182,SNR=17									
X44A	**Crenshaw**	**17.16**	**14**	P			**Pn**	**14 25 16.2**	**+0.4**
baz=197									
W37B	**Quinton**	**17.20**	**359**	P			**P**	**14 25 15.8**	**0.0**
baz=180,SNR=11									
W36A	**Wetumka**	**17.23**	**357**	P			**Pn**	**14 25 16.3**	**-0.2**
baz=177									
W35A	**Tecumseh**	**17.28**	**355**	P			**P**	**14 25 16.4**	**-0.3**
baz=175,SNR=11									
W39A	**Magazine**	**17.30**	**4**	P			**Pn**	**14 25 17.3**	**-0.1**
baz=185,SNR=11									
OXF	**Oxford**	**17.36**	**16**	P			**P**	**14 25 13.1**	**-4.4**
53nm,1.0s									

MSTX	Muleshoe baz=156	17.42	338	P		Pn	14 25 18.8	-0.2
MSTX	Muleshoe 13nm,0.7s	17.42	338	eP		P	14 25 14.9	-3.5
W41B	Gary Mavity, V baz=190,SNR=5.9	17.43	8	P		P	14 25 18.4	+0.1
W33A	Caddo, Fort Co baz=170	17.46	351	P		P	14 25 18.9	+0.2
X301	Greenbrier Sit 23nm,1.0s	17.48	8	eP		Pn	14 25 19.2	-0.3
X201	Greenbrier Sit 24nm,0.7s	17.54	8	eP		Pn	14 25 19.9	-0.4
WHAR	Wooly Hollow 20nm,0.7s	17.54	8	eP		Pn	14 25 20.0	-0.3
V36A	Jenks baz=178	17.86	358	P		P	14 25 22.7	-0.3
V35A	Meyer Ranch, C baz=175,SNR=13	17.89	356	P		P	14 25 22.7	-0.6
V38A	Canehill baz=183,SNR=20	17.94	2	P		P	14 25 23.3	-0.6
V37A	Hulbert baz=180,SNR=12	17.95	0	P		P	14 25 23.3	-0.7
V39A	Pettigrew baz=185,SNR=24	17.95	4	P		P	14 25 23.9	-0.2
TUL1	Leonard baz=178	17.98	358	P		P	14 25 24.2	-0.2
TUL1	Leonard 61nm,0.8s	17.98	358	eP		P	14 25 23.6	-0.8
V34A	Guthrie baz=173	18.02	354	P		P	14 25 24.6	-0.2
V34A	Guthrie 26nm,0.6s	18.02	354	P		P	14 25 23.1	-1.7
V41A	Mountainview baz=190,SNR=12	18.05	8	P		P	14 25 24.8	-0.4
V33A	Lossen Ranch, baz=171,SNR=17	18.09	352	P		P	14 25 25.9	+0.3
V42A	Cord baz=192,SNR=20	18.18	10	P		P	14 25 26.2	-0.3
HHAR	Hobbs 15nm,0.6s	18.38	3	eP		P	14 25 29.1	+0.4
U36A	Oologah baz=179	18.46	359	P		P	14 25 29.4	-0.2
U37A	Salina baz=181	18.47	0	P		P	14 25 28.9	-0.7
121A	Cookes Peak, D 13nm,0.8s	18.50	324	eP		P	14 25 31.1	+0.8
U39A	Green Forest baz=185	18.50	4	P		P	14 25 30.1	0.0
U38A	Gravette baz=183	18.51	2	P		P	14 25 30.4	+0.2
U40A	Yellville baz=187,SNR=33	18.53	6	P		P	14 25 30.0	-0.4
319A	Douglas 26nm,0.9s	18.55	319	eP		Pn	14 25 32.7	+0.1
U34A	Anderson Ranch baz=173	18.61	354	P		P	14 25 31.2	-0.1
U33A	Lingo Farm, Me baz=172,SNR=5.8	18.68	353	P		P	14 25 31.5	-0.5
U32A	Winter Ranch, baz=169	18.75	350	P		P	14 25 32.9	+0.1
T35A	Sooner Cattle baz=176,SNR=14	19.01	357	P		P	14 25 34.8	-0.8
T38A	Diamond baz=183,SNR=32	19.11	2	P		P	14 25 36.1	-0.6
T36A	Boggs Farm, Ca baz=178,SNR=12	19.13	358	P		P	14 25 35.7	-1.2
SWET	Sewanee 18nm,1.4s	19.14	24	eP		P	14 25 35.9	-1.1
T39A	Clever baz=186	19.15	4	P		P	14 25 36.5	-0.6
T34A	McClaskey Farm baz=175,SNR=11	19.16	355	P		P	14 25 36.2	-1.1
BNM	Barren Site	19.18	330	eP		Pn	14 25 39.0	-0.9
T37A	Cheneyville 18 baz=181,SNR=11	19.18	1	P		P	14 25 36.4	-1.0
LPM	Los Pinos Moun	19.31	330	eP		P	14 25 39.4	+0.3
T41A	Mountain View baz=190,SNR=27	19.34	8	P		P	14 25 39.0	-0.2
T32A	Huddler Ranch, baz=170,SNR=13	19.52	351	P		P	14 25 41.2	+0.1
LAZ	Ladron	19.63	329	eP		P	14 25 43.7	+1.1
S38A	Stockton baz=184	19.72	3	P		P	14 25 43.0	-0.3
ANMO	Albuquerque 0.9nm,0.3s,baz=146,slow=12,SNR=19	19.76	332	P		Pn	14 25 45.2	-1.4
ANMO	Albuquerque baz=147	19.76	332	P		P	14 25 44.8	+0.9
S35A	Otter Creek Ra baz=177,SNR=20	19.77	357	P		P	14 25 42.9	-0.9
S36A	Lake Cedric, C baz=179	19.79	359	P		P	14 25 43.6	-0.4
S40A	Lebanon baz=188,SNR=16	19.80	6	P		P	14 25 43.4	-0.8
S39A	Bolivar baz=186,SNR=11	19.82	4	P		P	14 25 43.6	-0.7
S37A	Fort Scott baz=181,SNR=9.5	19.82	1	P		P	14 25 43.3	-1.1
S34A	Willow Spring baz=175	19.83	355	P		P	14 25 43.7	-0.8
CPCT	Cooper Cave 30nm,1.5s	19.91	26	eP		P	14 25 43.7	-1.6
TUC	Tucson baz=133	20.13	319	P		P	14 25 48.8	+1.0
TUC	Tucson 16nm,0.8s	20.13	319	eP		P	14 25 48.1	+0.3
S43A	Fulton Ridge, baz=194	20.14	12	P		P	14 25 46.8	-1.0
R38A	Fenwick Farm, baz=184,SNR=10	20.27	3	P		P	14 25 47.9	-1.3
R37A	Teagarden Farm baz=181	20.37	1	P		P	14 25 48.8	-1.5
R36A	Gordon, Harris baz=180,SNR=6.6	20.38	359	P		P	14 25 48.9	-1.5
R35A	Emporia Munici baz=178	20.40	358	P		P	14 25 49.1	-1.5
TKL	Tuckaleechee C 14nm,0.6s,baz=179,slow=10,SNR=12	20.41	28	P		P	14 25 51.9	+1.1
S44A	Carbondale baz=196	20.43	14	P		P	14 25 49.9	-1.0
R34A	Isabella, Hill baz=175,SNR=10	20.44	355	P		P	14 25 49.1	-1.9
R39A	Chumby, Stover baz=186	20.46	5	P		P	14 25 49.5	-1.7
R40A	Maddies Statio baz=188,SNR=19	20.51	7	P		P	14 25 50.5	-1.2
R33A	Olander Ranch, baz=173	20.51	354	P		P	14 25 50.7	-1.2
JSC	Jenkinsville 109nm,1.4s	20.54	35	eP		P	14 25 50.9	-1.3
S45A	Carrier Mills baz=198,SNR=5.8	20.57	15	P		P	14 25 50.5	-1.9
R32A	Long Quarter, baz=171	20.71	352	P		P	14 25 52.7	-1.2
T25A	Trinidad baz=155,SNR=21	20.85	339	P		P	14 25 56.3	+0.6
T25A	Trinidad 23nm,0.8s	20.85	339	eP		P	14 25 57.4	+1.7
Q35A	Mercer Eighty, baz=178	20.93	358	P		P	14 25 55.4	-0.9
Q37A	Longview Farm, baz=182	20.94	2	P		P	14 25 55.3	-1.1
SJCC	San Jacinto, C	20.95	110	eP		P	14 25 58.5	+1.7
R44A	Waltonville baz=197,SNR=8.0	20.99	13	P		P	14 25 56.0	-0.9
MOTC	Monteria, Cord	21.01	113	eP		P	14 25 52.9	-4.5
Q38A	Cooks Store, C baz=184	21.06	3	P		P	14 25 56.4	-1.3
Q39A	Willow Grove F baz=186	21.19	5	P		P	14 25 56.7	-2.3
Q40A	Laux Farm, Aux baz=188	21.22	7	P		P	14 25 57.4	-2.0
214A	Organ Pipe Nat baz=128	21.23	315	P		P	14 25 59.1	-0.5
CBKS	Cedar Bluff baz=168	21.25	350	P		P	14 25 58.2	-1.5
CBKS	Cedar Bluff 33nm,1.0s	21.25	350	eP		P	14 26 01.0	+1.3
TZTN	Tazewell 22nm,0.8s	21.25	27	eP		P	14 25 56.9	-2.8
Q43A	New Douglas baz=194	21.53	12	P		P	14 26 00.8	-2.0
P35A	Duane Minner, baz=178	21.60	358	P		P	14 26 02.2	-1.2
P39B	Salisbury baz=186,SNR=10	21.65	5	P		P	14 26 02.3	-1.7
P34A	Walnut Farm, R baz=176	21.65	357	P		P	14 26 02.4	-1.6
P37A	Lathrop	21.66	2	P		P	14 26 02.2	-1.9
	baz=182,SNR=5.2							
P36A	Good Intent, A baz=180	21.68	360	P		P	14 26 02.4	-1.8
WCI	Wyandotte Cave 47nm,0.8s	21.73	19	eP		P	14 26 01.9	-2.9
P38A	Dawn baz=184	21.73	3	P		P	14 26 03.0	-1.8
P40A	Paris baz=188,SNR=13	21.76	7	P		P	14 26 03.2	-1.9
SDCO	Great Sand Dun baz=153,SNR=15	21.78	337	P		P	14 26 05.9	+0.2
SDCO	Great Sand Dun 10nm,0.7s	21.78	337	eP		P	14 26 06.9	+1.2
P32A	Huiting Farm, baz=172	21.88	353	P		P	14 26 06.5	+0.1
X16A	Lo Mia Camp, P 15nm,0.9s	21.97	322	eP		P	14 26 09.1	+1.5
KSCO	Kaye Shedlock' baz=161	22.04	344	P		P	14 26 08.1	-0.2
O36A	Bolckow baz=181	22.19	0	P		P	14 26 06.7	-2.9
O38A	Galt baz=185	22.23	3	P		P	14 26 07.8	-2.1
O33A	Hebron baz=174	22.23	355	P		P	14 26 09.7	-0.3
O37A	Wolven Farm, M baz=183	22.24	2	P		P	14 26 07.9	-2.2
O34A	Beatrice baz=177	22.28	357	P		P	14 26 10.1	-0.4
S22A	4UR Ranch, Cre baz=150	22.29	335	P		P	14 26 11.2	+0.3
O40A	La Belle baz=188,SNR=8.7	22.36	7	P		P	14 26 08.5	-2.8
O39A	Kirksville baz=187	22.43	5	P		P	14 26 10.8	-1.2
O32A	Brockman Farm, baz=173	22.48	354	P		P	14 26 11.6	-0.9
O31A	Woolen Ranch, baz=170	22.50	352	P		P	14 26 12.0	-0.7
BLO	Bloomington 44nm,0.6s	22.52	18	eP		P	14 26 12.8	-0.1
MVCO	Mesa Verde baz=146,SNR=5.8	22.55	331	P		P	14 26 13.7	+0.2
WUAZ	Wupatki baz=137,SNR=6.5	22.71	324	P		P	14 26 15.8	+0.8
WUAZ	Wupatki 33nm,0.9s	22.71	324	eP		P	14 26 16.9	+1.9
Q24A	Divide baz=155	22.75	340	P		P	14 26 15.1	-0.3
Q24A	Divide 13nm,0.9s	22.75	340	eP		P	14 26 16.9	+1.4
N37A	Lee Faris, Mou baz=183	22.83	2	P		P	14 26 15.0	-0.8
N36A	Muff Farm, Cla baz=181	22.87	0	P		P	14 26 15.1	-1.2
N38A	Joes South For baz=185,SNR=8.4	22.91	4	P		P	14 26 15.2	-1.4
N35A	Tabor baz=179	22.92	359	P		P	14 26 15.4	-1.3
N39A	Derby Farms, D baz=187,SNR=6.1	23.05	5	P		P	14 26 15.3	-2.7
HDIL	Hopedale baz=194	23.17	11	P		P	14 26 16.9	-2.2
HDIL	Hopedale 17nm,0.8s	23.17	11	eP		P	14 26 18.7	-0.4
GLA	Glamis baz=126	23.25	314	P		P	14 26 17.9	-2.1
GLA	Glamis 16nm,0.9s	23.25	314	eP		P	14 26 22.5	+2.5
PV01	Paradox Valley	23.35	333	eP		P	14 26 22.9	+1.9
SFIN	Lafayette baz=200,SNR=8.0	23.50	16	P		P	14 26 20.1	-1.9
SFIN	Lafyette 21nm,0.6s	23.50	16	eP		P	14 26 20.7	-1.3
M36A	Felix, Anita baz=181	23.51	1	P		P	14 26 21.4	-0.8
M35A	Neola baz=179	23.52	359	P		P	14 26 22.2	-0.1
M38A	Pleasantville baz=185,SNR=8.8	23.53	4	P		P	14 26 21.6	-0.7
PV05	Paradox Valley	23.54	332	eP		P	14 26 24.2	+1.5
PDMCI	Parker Dam,Lak baz=130	23.55	318	P		P	14 26 24.0	+1.3
SMCO	Snowmass 29nm,1.0s	23.58	337	eP		P	14 26 24.0	+0.7
M34A	Aspy Farms, Fr baz=177	23.59	357	P		P	14 26 23.2	+0.3
BGNE	Belgrade baz=173	23.60	354	P		P	14 26 23.0	0.0
M31A	Lambtecht Ranc baz=171	23.62	353	P		P	14 26 23.9	+0.6
ISCO	Idaho Springs baz=155,SNR=17	23.65	340	P		P	14 26 24.3	+0.5
ISCO	Idaho Springs 15nm,0.8s	23.65	340	eP		P	14 26 24.8	+0.9
OGNE	Ogallala baz=164	23.74	347	P		P	14 26 24.0	-0.4
U15A	North Rim 17nm,1.0s	23.88	324	eP		P	14 26 27.8	+1.8
PV09	Paradox Valley	23.90	332	eP		P	14 26 27.6	+1.5
W13A	Hualapai Mount 17nm,0.9s	23.91	320	eP		P	14 26 27.9	+1.8
BC3	Big Chuckawall baz=126,SNR=9.5	24.03	315	P		P	14 26 28.0	+1.0
OTAV	Otavalo	24.03	135	eP		P	14 26 30.6	+3.0
L34A	Svendsen Farm, baz=178	24.04	358	P		P	14 26 27.1	+0.1
IRM	Iron Mountain baz=128,SNR=9.6	24.12	316	P		P	14 26 29.3	+1.4
CRUC	La Cruz	24.14	130	eP		P	14 26 31.1	+2.5
L36A	Harm Buss Farm baz=182	24.16	1	P		P	14 26 27.9	-0.1
L32A	Elgin baz=174	24.18	355	P		P	14 26 28.8	+0.5
L37A	Phoenix Point, baz=184	24.21	3	P		P	14 26 28.7	+0.2
L38A	Oak Wood Farm, baz=185,SNR=7.3	24.27	4	P		P	14 26 29.1	+0.1
PAMC	Pamplona, Colo	24.27	113	eP		P	14 26 28.5	-1.4
L33A	Hoskins baz=176	24.29	356	P		P	14 26 29.8	+0.6
L31A	Butterfield Fa baz=172	24.43	353	P		P	14 26 31.1	+0.5
BELC	Belle Mtn. Jos baz=126	24.59	315	P		P	14 26 33.6	+1.3
KNB	Kanab 22nm,1.1s	24.60	324	eP		P	14 26 34.2	+1.9
RUSC	La Rusia	24.64	116	eP		P	14 26 33.0	-0.3
PFO	Pinyon Flats O 5.3nm,0.9s,baz=142,slow=13,SNR=4.9	24.69	314	P		P	14 26 35.0	+1.9
PFO					LR	LR	14 38 17.2	
	comp=Z,84nm,19.4s,baz=154,slow=41							
K33A	Hardington baz=176	24.71	357	P		P	14 26 33.5	+0.5
N23A	Red Feather La baz=155,SNR=6.8	24.75	340	P		P	14 26 34.4	+0.6
N23A	Red Feather La 24nm,1.4s	24.75	340	eP		P	14 26 34.8	+1.1
K34A	Le Mars baz=178	24.75	358	P		P	14 26 33.6	+0.2
K38A	Parkersburg baz=186	24.79	4	P		P	14 26 33.0	-0.7
K32A	Verdigre baz=174	24.83	355	P		P	14 26 33.5	-0.6
GMRC	Granite Mounta baz=128	24.84	317	P		P	14 26 35.4	+0.9
K37A	Belmond baz=184	24.85	3	P		P	14 26 33.8	-0.5
K31A	O'Neill baz=172	24.86	354	P		P	14 26 34.4	-0.1
O20A	White River Ci baz=150,SNR=5.3	24.90	336	P		P	14 26 36.2	+1.2
PHWY	Pilot Hill 29nm,1.6s	24.97	341	eP		P	14 26 35.6	-0.2
K30A	Basset baz=170	25.01	352	P		P	14 26 36.2	+0.3
SRU	San Rafael Swe 8.9nm,0.9s	25.03	331	eP		P	14 26 37.5	+1.3
CCUT	Cedar City 6.4nm,1.0s	25.29	324	eP		P	14 26 41.3	+2.7
JFWS	Jewell Farm 32nm,0.5s	25.32	8	eP		P	14 26 36.8	-1.7
P18A	Preston Nutter 9.2nm,1.0s	25.32	332	eP		P	14 26 40.5	+1.5
J36A	Seneca 1, Swea baz=182	25.39	1	P		P	14 26 38.5	-0.7
J37A	Redenius Farm, baz=184	25.40	3	P		P	14 26 38.0	-1.3
J33A	Davis baz=176	25.42	357	P		P	14 26 39.3	-0.1
P17A	Butcher Ranch, 12nm,0.8s	25.42	331	eP		P	14 26 41.1	+1.4
TMUT	Trail Mountain 7.3nm,0.8s	25.50	330	eP		P	14 26 42.1	+1.5
J31A	Geddes baz=172	25.52	354	P		P	14 26 40.2	-0.2
J32A	Parkston baz=174	25.52	355	P		P	14 26 40.0	-0.5
SHPR	Sheep Range 12nm,1.0s	25.61	320	eP		P	14 26 43.3	+1.8
J30A	Dallas baz=171	25.64	353	P		P	14 26 40.8	-0.7
ECSD	EROS Data Cent baz=177	25.82	358	P		P	14 26 42.0	-1.0
ECSD	EROS Data Cent 11nm,0.9s	25.82	358	eP		P	14 26 43.0	0.0
I38A	Scanlan Farm, baz=186	26.20	5	P		P	14 26 45.2	-1.3
I30A	Oacoma baz=171	26.21	353	P		P	14 26 46.4	-0.3
EDW2	Edwards Air Fo baz=125	26.45	314	P		P	14 26 49.7	+0.8
N54A	Moraine State baz=214	26.47	26	P		P	14 26 46.8	-2.1
K22A	Casper baz=156	26.52	341	P		P	14 26 50.1	+0.5
K22A	Casper 19nm,1.0s	26.52	341	eP		P	14 26 50.7	+1.1
TPNV	Topopah Spring baz=131	26.56	320	P		P	14 26 51.6	+1.6
TPNV	Topopah Spring 14nm,1.1s	26.56	320	eP		P	14 26 52.9	+2.9
LRMC	Laurel Mtn Rad baz=126	26.58	316	P		P	14 26 51.5	+1.3
H32A	Carlson Farm, baz=176	26.62	356	P		P	14 26 50.3	0.0
SNCC	San Nicolas Is baz=120	26.68	310	P		P	14 26 51.6	+0.6
H33A	Prehn Over Nor baz=177	26.77	358	P		P	14 26 51.2	-0.4
MPMC	Manual Prospec baz=127	26.79	317	P		P	14 26 52.5	+0.3
DUG	Dugway, Tooele 8.6nm,1.3s	26.97	329	eP		P	14 26 55.4	+1.7
DAC	Darwin (Calif) 4.7nm,0.8s	26.99	317	eP		P	14 26 56.8	+2.8
TCUT	Toone Canyon 36nm,0.9s	27.05	332	eP		P	14 26 56.3	+1.8
M54A	Oil Creek Stat baz=214	27.05	26	P		P	14 26 52.7	-1.5
R11A	Troy Canyon, C baz=134,SNR=5.2	27.10	323	P		P	14 26 55.9	+1.1
R11A	Troy Canyon, C 3.6nm,0.9s	27.10	323	eP		P	14 26 56.8	+1.9
G33A	Ortonville baz=178	27.27	358	P		P	14 26 55.4	-0.6
SPMN	Marine on St. baz=185	27.35	4	P		P	14 26 56.1	-0.6
G32A	Webster baz=176	27.38	356	P		P	14 26 56.2	-0.9
G31A	Conde baz=174	27.39	355	P		P	14 26 56.4	-0.8
HWUT	Hardware Ranch 7.9nm,1.0s	27.51	333	eP		P	14 26 59.6	+1.1
H25A	Fruitdale baz=163	27.59	347	P		P	14 26 59.3	+0.3
BW06	Boulder Array baz=150	27.67	337	P		P	14 27 00.3	+0.3
BW06	Boulder Array	27.67	337	eP		P	14 26 59.8	-0.1
PD31	Pinedale Array	27.67	337	eP		P	14 27 00.3	+0.4
PDAR	Pinedale Array 1.7nm,0.6s,baz=134,slow=8.5,SNR=13	27.67	337	P		P	14 27 00.3	+0.4
F33A	5 Mile Ranch, baz=178	27.91	358	P		P	14 27 00.6	-1.1
F36A	Milaca baz=184	27.95	2	P		P	14 27 00.1	-2.0
HVU	Hansel Valley 16nm,0.7s	28.19	331	eP		P	14 27 06.2	+1.7
AHID	Auburn Hatcher 11nm,0.9s	28.27	335	eP		P	14 27 06.2	+0.9
E34A	Wadena baz=180	28.57	0	P		P	14 27 07.1	-0.5
F26A	Lodgepole baz=165	28.59	349	P		P	14 27 08.1	+0.2
ELK	Elko 5.7nm,0.8s	28.60	327	eP		P	14 27 10.2	+1.9
E36A	McGregor baz=184	28.61	3	P		P	14 27 07.0	-1.0
E35A	Pequot Lakes baz=182	28.62	1	P		P	14 27 07.8	-0.2
REDW	Red Top Meadow 17nm,0.6s	28.67	336	eP		P	14 27 09.9	+1.0
NV11	Mina Array Sit 9.4nm,0.9s	28.67	320	eP		P	14 27 11.2	+2.3
SNOW	Snow King Moun 34nm,0.6s	28.72	336	eP		P	14 27 10.0	+0.7
NV01	Mina Array Sit	28.76	320	eP		P	14 27 11.6	+1.9
NVAR	Mina Array Bea 10nm,0.9s,baz=134,slow=8.7,SNR=51	28.76	320	P		P	14 27 11.9	+2.2
NVAR					pP	pP	14 27 38.5	+1.7
	11nm,0.8s,baz=132,slow=8.9,SNR=13							
NVAR					PcP	PcP	14 30 18.1	+1.3
	2.1nm,0.8s,baz=135,slow=1.9,SNR=6.4							
LOHW	Long Hollow 7.4nm,0.8s	28.79	336	eP		P	14 27 10.8	+0.9
MMNY	Mt. Morris Dam	28.81	27	eP		P	14 27 08.4	-1.4
TPAW	Teton Pass 16nm,1.0s	28.82	336	eP		P	14 27 11.2	+1.0
E28A	Huff baz=169	28.99	352	P		P	14 27 11.5	+0.1
D34A	Park Rapids baz=180	29.14	360	P		P	14 27 12.1	-0.5
D35A	Remer baz=182	29.15	2	P		P	14 27 11.9	-0.8
E26A	Carlson Angus baz=166	29.16	350	P		P	14 27 13.4	+0.5
FLWY	Flagg Ranch 5.7nm,0.6s	29.22	337	eP		P	14 27 15.0	+1.3
D36A	Goodland baz=184	29.28	3	P		P	14 27 13.4	-0.5
D37A	Cotton baz=186,SNR=6.8	29.30	4	P		P	14 27 13.0	-1.1
YPP	Pitchstone Pla	29.42	337	eP		P	14 27 20.4	+4.9
H17A	Grant Village baz=150	29.44	337	P		P	14 27 16.4	+0.7
BMN	Battle Mountai 7.7nm,0.8s	29.45	324	eP		P	14 27 17.6	+2.0
D26A	Manning baz=166	29.69	350	P		P	14 27 17.5	-0.1
C35A	Jirik Farms, M baz=182	29.77	2	P		P	14 27 16.9	-1.3
ATAH	Atahualpa 10nm,0.8s,baz=344,slow=8.2,SNR=6.6	29.86	145	P		P	14 27 22.8	+2.9
C36A	Pine Crest Far baz=185	29.87	3	P		P	14 27 18.6	-0.5
C30A	Mose, Pekin baz=174	29.88	356	P		P	14 27 18.5	-0.7
C37A	Embarrass baz=186	29.88	4	P		P	14 27 18.6	-0.7
C31A	Landman Farms, baz=175,SNR=7.9	29.92	357	P		P	14 27 18.7	-0.8
C38A	Sawbill Land. baz=188	29.94	5	P		P	14 27 18.5	-1.3
D25A	Fairfield baz=165	29.96	349	P		P	14 27 20.5	+0.5
SADO	Sadowa 2.7nm,0.3s,baz=232,slow=8.4,SNR=5.9	30.00	23	P		P	14 27 17.7	-2.6
SADO					LR	LR	14 40 52.4	
	comp=Z,30nm,18.3s,baz=284,slow=39							
EYMN	Ely baz=187	30.15	5	P		P	14 27 20.7	-0.9
C39A	Grand Marais baz=190	30.16	7	P		P	14 27 21.3	-0.3
PAHR	Pah Rah Range 5.0nm,0.9s	30.22	321	eP		P	14 27 24.6	+2.1
HLID	Hailey baz=142,SNR=16	30.34	332	P		P	14 27 23.7	+0.2
HLID	Hailey 10nm,0.8s	30.34	332	eP		P	14 27 24.5	+1.0
C26A	Wahner Farm, P baz=167	30.41	351	P		P	14 27 23.9	0.0
B35A	Bob, Littlefor baz=183	30.44	2	P		P	14 27 23.6	-0.5
B32A	Ashes, Strandq baz=178	30.47	358	P		P	14 27 23.9	-0.5
B34A	Aery, Baudette	30.54	1	P		P	14 27 25.0	-0.1

baz=181
B31A Greenbush Farm 30.54 357 P P 14 27 24.5 -0.6
baz=176
B30A Myrvik Farm, E 30.61 356 P P 14 27 24.8 -0.9
baz=174,SNR=5.8
B29A Wagenman Farm, 30.71 355 P P 14 27 26.4 -0.1
baz=172
B28A Dugan Ranch, T 30.79 353 P P 14 27 27.5 +0.2
baz=171
B27A Peters Farms, 30.86 352 P P 14 27 27.8 0.0
baz=169
MFID Camas Ranch 30.88 330 *e*P P 14 27 29.8 +1.6
7.1nm,1.0s
BOZ Bozeman (W) 30.90 337 P P 14 27 29.5 +1.0
baz=149
BOZ Bozeman (W) 30.90 337 *e*P P 14 27 30.3 +1.8
4.0nm,0.8s
A33A Warroad 30.99 360 P P 14 27 28.7 -0.3
baz=180
B25A Knox Farm, Ray 31.02 350 P P 14 27 29.1 -0.1
baz=166
A30A Hoffart Farm, 31.10 356 P P 14 27 29.8 -0.1
baz=174
A29A Manning Farm, 31.15 355 P P 14 27 29.7 -0.7
baz=173,SNR=8.5
A28A Rude Farm, Bot 31.24 354 P P 14 27 30.7 -0.5
baz=171
DGMT Dagmar 31.40 348 P P 14 27 32.6 0.0
baz=164
WVOR Wild Horse Val 31.59 326 *e*P P 14 27 35.6 +1.1
16nm,0.9s
O03D Paynes Creek 32.04 320 P P 14 27 39.3 +0.8
baz=127
ULM Lac du Bonnet 32.31 359 P P 14 27 39.0 -1.5
4.6nm,0.7s,baz=180,slow=12,SNR=4.6
BMO Blue Mountains 32.66 330 *e*P P 14 27 44.8 +1.0
8.3nm,1.1s
MSO Missoula 32.77 336 P P 14 27 44.9 +0.2
baz=146
MSO Missoula 32.77 336 *e*P P 14 27 45.5 +0.8
5.2nm,1.0s
M04C Macdoel 32.97 322 P P 14 27 47.4 +0.9
baz=129,SNR=5.2
I05D Terrebonne, OR 34.33 326 P P 14 27 58.8 +0.5
baz=132
H04A Detroit Lake 35.02 326 *e*P P 14 28 04.8 +0.7
14nm,0.9s
I03D Drain, OR 35.03 323 P P 14 28 04.8 +0.6
baz=129
NEW Newport 35.20 334 P P 14 28 06.0 +0.3
baz=142
G03D McMinnville, O 35.94 325 P P 14 28 12.7 +0.8
baz=131
FFC Flin Flon 37.16 353 *e*P P 14 28 21.9 -0.2
13nm,0.7s
PTGA Pitinga 39.27 114 P P 14 28 39.4 -1.0
2.0nm,0.6s,baz=318,slow=12,SNR=4.9
PTGA PcP **PcP** 14 30 47.3 +0.4
2.8nm,0.7s,baz=225,slow=4.3,SNR=3.7
FCC Fort Churchill 40.84 1 *e*P P 14 28 52.2 -0.5
13nm,0.9s
SAML Samuel 41.33 128 *e*P P 14 28 56.0 -1.3
20nm,1.6s
SCHQ Schefferville 42.80 24 P P 14 29 07.1 -1.7
7.5nm,0.7s,baz=228,slow=7.0,SNR=6.3
SCHQ PcP **PcP** 14 30 57.4 -0.4
5.6nm,0.6s,baz=206,slow=3.0,SNR=4.0
SCHQ LR LR 14 48 43.6
comp=Z,38nm,18.6s,baz=271,slow=38
LPAZ La Paz 43.15 140 P P 14 29 13.4 +0.7
6.3nm,0.8s,baz=326,slow=7.8,SNR=24
LPAZ La Paz 43.15 140 *e*P P 14 29 13.3 +0.6
6.3nm,0.8s
PB11 IPOC Station P 45.01 145 *e*P P 14 29 28.4 +1.4
26nm,1.0s
YKA Yellowknife Ar 46.60 348 P P 14 29 38.1 -0.6
8.4nm,0.7s,baz=153,slow=7.2,SNR=42
YKA PcP **PcP** 14 31 10.3 -0.3
1.9nm,0.8s,baz=149,slow=4.4,SNR=5.0
YKB5 Yellowknife Ar 46.60 348 *e*P P 14 29 37.4 -1.3
YKW3 Yellowknife Ar 46.66 348 *e*P P 14 29 38.7 -0.5
11nm,0.8s
SIV San Ignacio 47.55 133 P P 14 29 46.9 +0.2
7.9nm,0.7s,baz=310,slow=9.1,SNR=23
LVC Limon Verde 47.73 146 P P 14 29 49.7 +1.2
19nm,0.7s,baz=299,slow=5.1,SNR=7.4
DLBC Dease Lake 47.90 336 *e*P P 14 29 50.9 +1.9
12nm,0.8s
DAWY Dawson 54.97 338 *e*P P 14 30 41.9 +0.4
7.3nm,0.8s
BMRM Bremner River 55.36 333 *e*P P 14 30 46.3 +2.0
7.5nm,0.7s
INK Inuvik 55.89 344 P P 14 30 48.0 +0.1
20nm,0.6s,baz=129,slow=6.6,SNR=70
EGAK Eagle 56.01 338 *e*P P 14 30 48.3 -0.5
11nm,0.8s
DOT Dot Lake 56.47 336 *e*P P 14 30 53.1 +1.0
52nm,1.2s
PAX Paxson 56.68 335 *e*P P 14 30 54.6 +0.8
14nm,0.8s
SFJD Kangerlussuaq 56.83 19 P P 14 30 53.9 -0.7
9.0nm,0.7s,baz=247,slow=3.1,SNR=6.6
SCM Sheep Creek Mo 56.93 333 *e*P P 14 30 56.7 +1.2
17nm,1.0s
BDFB Brasilia 57.17 123 P P 14 30 57.7 -0.2
9.4nm,0.9s,baz=287,slow=6.5,SNR=8.7
CPUP Villa Florida 57.29 139 P P 14 30 58.0 -0.4
6.3nm,0.7s,baz=328,slow=7.9,SNR=16
CPUP Villa Florida 57.29 139 *e*P P 14 30 57.8 -0.6
PMR Palmer 57.60 333 *e*P P 14 31 00.8 +0.7
8.2nm,0.9s
IL1 Eielson Array 58.10 337 *e*P P 14 31 03.5 -0.1
ILAR Eielson Array 58.10 337 P P 14 31 03.7 +0.2
5.6nm,0.8s,baz=114,slow=7.1,SNR=62
ILAR PcP **PcP** 14 31 53.9 0.0
1.5nm,0.6s,baz=133,slow=2.9,SNR=8.2
ILB Eielson Array 58.10 337 *e*P P 14 31 03.8 +0.2
RND Reindeer 58.25 335 *e*P P 14 31 05.6 +0.9
23nm,0.8s
CCB Clear Creek Bu 58.39 336 *e*P P 14 31 05.6 0.0
10.0nm,1.2s
WRH Wood River Hil 58.42 336 *e*P P 14 31 06.3 +0.5
14nm,1.1s
MCK McKinley 58.42 335 *e*P P 14 31 06.4 +0.6
11nm,0.8s
MDM Murphy Dome 58.70 337 *e*P P 14 31 07.5 -0.2
6.6nm,0.6s
SPU Mount Spurr 58.74 332 *e*P P 14 31 09.1 +1.0
RSO Redoubt South 58.81 331 *e*P P 14 31 09.8 +1.0
BWN Browne 58.83 335 *e*P P 14 31 09.2 +0.6
60nm,0.8s
TRF Thorofare Moun 58.85 334 *e*P P 14 31 09.5 +0.5
36nm,0.7s
KTH Kantishna Hill 59.16 334 *e*P P 14 31 11.2 +0.2
19nm,1.0s
BPAW Bear Paw Mtn. 59.40 335 *e*P P 14 31 12.7 +0.1
11nm,0.8s
CAST Castle Rocks 59.58 334 *e*P P 14 31 13.2 -0.7
14nm,0.9s
COLD Coldfoot 60.43 338 *e*P P 14 31 20.6 +1.1
13nm,1.1s
TTA Tatalina 61.09 333 *e*P P 14 31 24.4 +0.3
46nm,1.9s
PLCA Paso Flores 62.63 159 P P 14 31 36.2 +1.5
22nm,0.9s,baz=360,slow=8.3,SNR=21
PLCA Paso Flores 62.63 159 *e*P P 14 31 36.0 +1.3
31nm,0.9s
SUMG Summit 63.37 16 *e*P P 14 31 40.1 +0.5
6.3nm,1.0s
POLO Lamas de Olo 76.50 51 *e*P P 14 32 59.6 -0.5
15nm,1.6s
PMTG Montargil 76.65 53 *e*P P 14 33 00.5 -0.4
21nm,1.6s
BILL Bilibino 76.75 338 *e*P P 14 33 01.3 +0.5
9.8nm,0.8s
MTE Manteigas 76.89 52 *e*P P 14 33 01.9 -0.3
24nm,1.4s
PMRV Marv??o 77.21 53 *e*P P 14 33 03.8 -0.2
22nm,1.7s
PBAR Barrancos 77.76 54 *e*P P 14 33 06.7 -0.3
36nm,1.7s
PAB San Pablo 79.47 52 *e*P P 14 33 16.7 +0.2
11nm,1.3s
ESDC Sonseca Array 79.73 52 P P 14 33 17.4 -0.5
2.1nm,0.7s,baz=292,slow=5.4,SNR=10.0
ESDC pP **pP** 14 33 49.0 -0.5
1.6nm,0.8s,baz=290,slow=4.9,SNR=2.3
ES19 SONSECA Array 79.77 52 *e*P P 14 33 17.5 -0.6
ES19 *e*pP **pP** 14 33 50.5 +0.8
NB2 NORSAR Subarra 82.21 28 P P 14 33 31.1 +0.5
comp=Z,1.4nm,0.6s,baz=293,slow=5.3
NOA NORSAR Array B 82.21 28 P P 14 33 31.4 +0.9
comp=Z,1.7nm,0.7s,baz=294,slow=5.3,SNR=9.7
ARA0 ARCESS Array S 83.42 18 *e*P P 14 33 37.0 +0.3
ARCES ARCESS Array B 83.42 18 P P 14 33 37.3 +0.7
comp=Z,16nm,0.8s,baz=293,slow=5.1,SNR=53
ARE0 ARCESS Array S 83.42 18 *e*P P 14 33 37.5 +0.9
comp=Z,53nm,1.4s
SEY Seymchan 83.98 335 P P 14 33 40.2 +0.6
comp=Z,3.7nm,0.5s,baz=77,slow=5.0,SNR=22
SENIN Lac Senin/Sane 85.56 43 *e*P P 14 33 48.5 +0.4
comp=Z,4.6nm,0.9s
PEA0 Petropavlovsk- 85.74 325 *e*P P 14 33 49.2 +0.6
PETK Petropavlovsk- 85.74 325 P P 14 33 49.7 +1.1
comp=Z,6.1nm,0.7s,baz=74,slow=8.8,SNR=9.5
TIXI Tiksi 85.85 347 P P 14 33 48.3 -0.4
comp=Z,4.9nm,0.9s,baz=16,slow=4.8,SNR=8.2
TIXI pP **pP** 14 34 21.6 +0.8
comp=Z,3.2nm,0.6s,baz=26,slow=3.5,SNR=4.7
FINES FINESS Array B 88.28 24 P P 14 34 00.6 -0.1
comp=Z,3.7nm,0.9s,baz=330,slow=2.6,SNR=5.4
DBIC Dimbokro 88.29 84 P P 14 34 01.6 0.0
comp=Z,3.4nm,0.6s,baz=217,slow=3.5,SNR=5.6
GERES GERESS Array B 88.55 39 P P 14 34 02.8 +0.4
comp=Z,0.4nm,0.5s,baz=294,slow=7.4,SNR=2.9
TORD Torodi Ar. Bea 92.41 75 P P 14 34 20.0 -0.9
comp=Z,1.3nm,0.8s,baz=294,slow=4.4,SNR=7.2
MKAR Makanchi Array 115.60 2 PKP **PKPdf** 14 39 50.3 -0.8
comp=Z,0.7nm,0.7s,baz=333,slow=1.4,SNR=4.3
LZH Lanzhou 123.40 342 *e*PKP **PKPdf** 14 40 05.0 -1.6
LZH pPKP pPKPdf 14 40 41.0 +0.7
LZH sPKP 14 40 56.2
BOSA Boshof 124.71 113 PKP **PKPdf** 14 40 09.1 -0.1
comp=Z,5.4nm,0.8s,baz=256,slow=1.1,SNR=7.7
STKA Stephens Creek 127.17 243 PKP **PKPdf** 14 40 14.0 +0.4
comp=Z,7.9nm,0.8s,baz=324,slow=1.2,SNR=14
MAW Mawson 128.33 169 PKP **PKPdf** 14 40 15.4 +0.7
comp=Z,3.7nm,0.6s,baz=234,slow=5.0,SNR=4.1
WRA Warramunga Arr 133.24 259 PKhKP PKPpre 14 40 17.6
comp=Z,0.3nm,0.6s,baz=108,slow=2.7,SNR=8.5
WRA PKP **PKPdf** 14 40 25.7 +0.2
comp=Z,4.4nm,0.6s,baz=79,slow=2.3,SNR=67
ASAR Alice Springs 133.92 254 PKhKP PKPpre 14 40 14.6
comp=Z,0.4nm,0.6s,baz=89,slow=3.2,SNR=4.7
ASAR PKP **PKPdf** 14 40 26.9 +0.2
comp=Z,3.4nm,0.7s,baz=86,slow=1.8,SNR=25
CMAR Chiang Mai Arr 141.32 338 PKhKP PKPpre 14 40 34.5
comp=Z,1.3nm,0.8s,baz=0.1,slow=3.4,SNR=8.2
KSM Kuching 148.39 305 *e*PKPbc **PKPbc** 14 40 56.9 +0.6

*ISCJB **03** 14:36:49.0±0.3, 55.63°S±0.06°×25.63°W±0.09, h10km, mb4.7/25, MS4.1/11, Error ellipse: s-maj=9.4km s-min=6.3km az=25.2*
*IDC **03** 14:36:49.4±0.5, 55.67°S×25.59°W, h0km, mb4.8/13, mb1 4.8/13, mb1mx4.7/22, mbtmp4.7/13, MS4.0/11, Ms1 4.0/11, ms1mx3.8/22, Error ellipse: s-maj=16.8km s-min=15.9km az=147.0*
*GCMT **03** 14:36:50.6±0.4, 55.81°S×25.40°W, h29km±1km, MW5.1/67, Moment Tensor Solution. s26,c29; s67,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.47±.46; $M_{\theta\theta}$=1.83±.27; $M_{\phi\phi}$=3.64±.26; $M_{r\theta}$=1.53±.38; $M_{\theta\phi}$=-1.64±.12; $M_{r\phi}$=1.55±.30; Best double couple: M_o=5.48500×10^{16} NP1:ϕ_S=145.00000°, δ57.00000°, λ=-95.00000°. NP2: ϕ_S=333.00000°, δ34.00000°, λ=-83.00000°. Principal axes: T 5.0360, Plg11.0000°, Azm238.0000°; N 0.8990, Plg4.0000°, Azm147.0000°; P -5.9350, Plg78.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 14:36:50.6±0.2, 55.66S×25.56W, h10km, mb5.0/15 Error ellipse: s-maj=6.9km s-min=5.6km az=206.0*
*MOS **03** 14:36:53.3±1.0, 55.67S×25.41W, h33km, mb5.2/5, Error ellipse: s-maj=30.4km s-min=12.4km az=99.3*
*BJI **03** 14:36:55.4, 55.60S×25.40W, h44km, mB5.2/6, Ms5.1/5, Ms7 4.9/4*

ISC 03 14:36:50.6±0.3, 55.72S±0.07°×25.59W±0.06°, h10km, n119, σt123/115, mb4.9/24, MS4.1/11, 1C-9D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.44**	**278**	*e*Pn		**Pn**		**14 38 24.6**	**-0.7**
HOPE				*e*Sn		**Sn**		**14 39 38.4**	**-0.4**
VNA1	**Neumayer--Stat**	**16.78**	**160**	P		**P**		**14 40 46.8**	**-0.6**
SNAA	**Sanae**	**18.69**	**158**	P		**Pn**		**14 41 09.7**	**+0.7**
SNAA	**Sanae**	**18.69**	**158**	‖ *e*P		**Pn**		**14 41 09.3**	**+0.3**
SNAA					pmax	pmax			
	comp=Z,315nm,0.5s								
SNAA	**Sanae**	**18.69**	**158**	*e*P		**Pn**		**14 41 09.2**	**+0.3**
	comp=Z,34nm,0.7s								
PMSA	**Palmer Station**	**20.80**	**229**	P		**P**		**14 41 31.8**	**+0.3**
	comp=Z,42nm,0.8s,baz=80,slow=7.9,SNR=8.3								
PMSA					LR		LR	14 49 04.8	
	comp=Z,705nm,18.1s,baz=78,slow=35								
PMSA	**Palmer Station**	**20.80**	**229**	*e*P		**P**		**14 41 31.6**	**+0.1**
NVL	**N'lazarevskaya**	**22.05**	**148**	‖ *i*P		**P**		**14 41 47.9**	**+2.9**
NVL				*e**PP		sP		14 41 59.5	+10
NVL				*e*S		**S**		**14 45 40.8**	**-6.9**
USHA	**Ushuaia**	**24.14**	**254**	P		**P**		**14 42 06.2**	**-0.1**
	comp=Z,40nm,0.9s,baz=32,slow=13,SNR=4.1								
SYO	**Syowa Base**	**31.27**	**141**	‖ *e*pP		**P**		**14 43 09.0**	**-1.0**
PLCA	**Paso Flores**	**32.84**	**278**	LR		LR		14 58 16.4	
	comp=Z,254nm,18.2s,baz=147,slow=39								
QSPA	**South Pole Qui**	**34.53**	**180**	*e*P		**P**		**14 43 39.3**	**+0.5**
CPUP	**Villa Florida**	**37.29**	**309**	P		**P**		**14 44 02.9**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=142,slow=8.3,SNR=11								
CPUP					LR		LR	14 58 42.9	
	comp=Z,305nm,20.0s,baz=160,slow=35								
CPUP	**Villa Florida**	**37.29**	**309**	*e*P		**P**		**14 44 02.6**	**0.0**
CPUP	**Villa Florida**	**37.29**	**309**	*e*P		**P**		**14 44 02.6**	**0.0**
ROC1	**El Roble**	**38.70**	**287**	*e*P		**P**		**14 44 15.8**	**+1.1**
	comp=Z,20nm,0.7s								
SUR	**Sutherland**	**39.68**	**74**	P		**P**		**14 44 23.7**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=229,slow=11,SNR=3.3								
MAW	**Mawson**	**39.87**	**143**	P		**P**		**14 44 25.2**	**+1.4**
	comp=Z,16nm,0.9s,baz=236,slow=7.4,SNR=9.4								
MAW					PcP	**PcP**		**14 46 29.9**	**+0.7**
	comp=Z,9.3nm,1.1s,baz=233,slow=5.1,SNR=3.5								
MAW					LR		LR	14 58 24.3	
	comp=Z,220nm,21.9s,baz=239,slow=32								
LCO	**Las Campanas**	**41.62**	**291**	P		**P**		**14 44 38.0**	**-1.0**
	comp=Z,21nm,0.9s								
BOSA	**Boshof**	**45.01**	**75**	P		**P**		**14 45 06.1**	**-0.1**
	comp=Z,10nm,1.0s,baz=216,slow=5.9,SNR=6.3								
BOSA					LR		LR	15 00 44.5	
	comp=Z,349nm,18.6s,baz=192,slow=32								
BOSA	**Boshof**	**45.01**	**75**	*e*P		**P**		**14 45 05.3**	**-1.0**
BOSA					pmax	pmax			
	comp=Z,50nm,1.8s								
BOSA	**Boshof**	**45.01**	**75**	*e*P		**P**		**14 45 05.2**	**-1.0**
	comp=Z,50nm,1.8s								
LVC	**Limon Verde**	**45.93**	**298**	*e*P		**P**		**14 45 14.4**	**+0.6**
	comp=Z,17nm,0.8s								
SBA	**Scott Base**	**46.47**	**184**	*e*P		**P**		**14 45 18.5**	**+1.5**
SBA					pmax	pmax			
	comp=Z,40nm,1.9s								
SBA	**Scott Base**	**46.47**	**184**	*e*P		**P**		**14 45 18.5**	**+1.5**
	comp=Z,40nm,1.9s								
VNDA	**Vanda**	**46.94**	**182**	P		**P**		**14 45 21.9**	**+1.2**
	comp=Z,8.1nm,0.7s,baz=190,slow=5.8,SNR=29								
VNDA	**Vanda**	**46.94**	**182**	*e*P		**P**		**14 45 21.7**	**+1.0**
VNDA					pmax	pmax			
	comp=Z,12nm,0.8s								
VNDA	**Vanda**	**46.94**	**182**	*e*P		**P**		**14 45 21.7**	**+1.0**
	comp=Z,12nm,0.8s								
H10S2	**ASCENSION HYDR**	**47.44**	**15**	T		T		15 36 30.6	
	baz=187,SNR=3.7								
H10S3	**ASCENSION HYDR**	**47.44**	**15**	T		T		15 36 28.5	
	baz=187								
H10S1	**ASCENSION HYDR**	**47.45**	**15**	T		T		15 36 30.4	
	baz=187								
PB01	**IPOC Station P**	**47.53**	**299**	*e*P		**P**		**14 45 26.1**	**0.0**
	comp=Z,20nm,1.0s								
LBTB	**Lobatse**	**48.05**	**72**	*e*P		**P**		**14 45 29.2**	**-0.9**
LBTB					pmax	pmax			
	comp=Z,12nm,0.8s								
LBTB	**Lobatse**	**48.05**	**72**	*e*P		**P**		**14 45 29.2**	**-0.9**
	comp=Z,12nm,0.8s								
H10N1	**ASCENSION HYDR**	**48.56**	**15**	T		T		15 37 51.8	
	baz=189								
H10N3	**ASCENSION HYDR**	**48.56**	**15**	T		T		15 37 55.6	
	baz=189,slow=74,SNR=3.4								
H10N2	**ASCENSION HYDR**	**48.57**	**15**	T		T		15 38 00.5	
	baz=189,slow=74,SNR=3.8								
PB11	**IPOC Station P**	**48.70**	**299**	*e*P		**P**		**14 45 35.8**	**+0.5**
	comp=Z,31nm,1.2s								
TSUM	**Tsumeb**	**48.73**	**59**	P		**P**		**14 45 35.0**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=191,slow=9.7,SNR=4.9								
TSUM	**Tsumeb**	**48.73**	**59**	*e*P		**P**		**14 45 34.0**	**-1.4**
	comp=Z,29nm,1.8s								
MIR	**Mirnyy**	**49.66**	**153**	*i* P		**P**		**14 45 42.5**	**+0.7**
MIR					pmax	pmax			
	comp=Z,4.0nm,1.5s								
LPAZ	**La Paz**	**50.94**	**303**	P		**P**		**14 45 53.8**	**+1.0**
	comp=Z,16nm,0.7s,baz=138,slow=5.0,SNR=67								
LPAZ					LR		LR	15 07 57.2	
	comp=Z,118nm,21.2s,baz=194,slow=37								
LPAZ	**La Paz**	**50.94**	**303**	*e*P		**P**		**14 45 53.1**	**+0.4**
	comp=Z,20nm,0.8s								
CASY	**Casey**	**53.91**	**160**	*e*P		**P**		**14 46 13.5**	**+0.1**
	comp=Z,18nm,0.9s								
SAML	**Samuel**	**55.23**	**313**	*e*P		**P**		**14 46 21.7**	**-2.0**
	comp=Z,14nm,1.3s								
DBIC	**Dimbokro**	**64.50**	**23**	P		**P**		**14 47 26.4**	**-0.9**
	comp=Z,5.4nm,0.9s,baz=158,slow=11,SNR=3.7								
TORD	**Torodi Ar. Bea**	**72.33**	**28**	P		**P**		**14 48 16.8**	**+0.5**
	comp=Z,9.3nm,0.7s,baz=196,slow=6.4,SNR=48								
TORD					LR		LR	15 14 28.1	
	comp=Z,44nm,18.9s,baz=135,slow=31								
ROSC	**El Rosal**	**72.38**	**308**	LR		LR		15 21 09.4	
	comp=Z,110nm,20.5s,baz=182,slow=37								
KMBO	**Kilima Mbogo**	**74.08**	**68**	P		**P**		**14 48 31.3**	**+4.2**
	comp=Z,1.6nm,0.7s,baz=319,slow=1.7,SNR=3.4								
KMBO					LR		LR	15 19 14.9	
	comp=Z,119nm,18.6s,baz=88,slow=34								
RPZ	**Rata Peaks**	**79.94**	**192**	P		**P**		**14 49 00.3**	**+0.9**
	comp=Z,26nm,0.9s,baz=200,slow=0.6,SNR=4.2								
TAM	**Tamanrasset**	**82.56**	**29**	*e*P		**P**		**14 49 13.8**	**+0.2**
TAM					pmax	pmax			
	comp=Z,3.0nm,1.0s								
TAM	**Tamanrasset**	**82.56**	**29**	*e*P		**P**		**14 49 13.8**	**+0.2**
	comp=Z,2.6nm,1.0s								
DGAR	**Diego Garcia**	**88.44**	**101**	⇑ *e*P		**P**		**14 49 41.3**	**-1.7**
DGAR				*i* *PP		sP		14 49 57.8	+10
STKA	**Stephens Creek**	**92.06**	**169**	P		**P**		**14 49 59.4**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=172,slow=9.9,SNR=3.2								
ESDC	**Sonseca Array**	**96.80**	**17**	LR		LR		15 30 16.2	
	comp=Z,50nm,19.3s,baz=155,slow=33								
ASAR	**Alice Springs**	**99.02**	**161**	P		**Pdif**		**14 50 30.9**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=194,slow=6.1,SNR=6.6								
ASAR					PKKP	**PKKPdf**		**15 06 56.5**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=0.5,slow=2.4,SNR=8.0								
ASAR					LR		LR	15 34 31.3	
	comp=Z,89nm,18.9s,baz=180,slow=35								
APE	**Apeiranthos**	**102.17**	**40**	‖ *e*P		**Pdif**		**14 50 44.7**	**-0.3**
WRA	**Warramunga Arr**	**102.73**	**161**	P		**Pdif**		**14 50 47.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=191,slow=4.1,SNR=2.8								
WRA	**Warramunga Arr**	**102.73**	**161**	P		**Pdif**		**14 50 48.0**	**-0.1**
KIV	**Kislovodsk**	**114.78**	**48**	*d i* PKIKP		PKPdf		14 55 30.7	+0.2
KIV					pmax	pmax			
	comp=Z,5.0nm,0.6s								
PDAR	**Pinedale Array**	**120.94**	**301**	PKP		**PKPdf**		**14 55 41.8**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.5,SNR=3.5								
NVAR	**Mina Array Bea**	**122.11**	**292**	PKP		**PKPdf**		**14 55 45.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=101,slow=3.0,SNR=3.9								
PYUN	**Piuthan**	**123.06**	**88**	*e*P		**PKPdf**		**14 55 46.4**	**-0.7**
FINES	**FINESS Array B**	**123.68**	**27**	PKP		**PKPdf**		**14 55 46.1**	**-0.8**
	comp=Z,1.9nm,0.6s,baz=153,slow=0.4,SNR=6.5								
CMAR	**Chiang Mai Arr**	**124.32**	**109**	PKP		**PKPdf**		**14 55 49.5**	**0.0**
	comp=Z,4.5nm,0.9s,baz=231,slow=3.6,SNR=25								
AKTO	**Aktyubinsk**	**126.41**	**52**	PKP		**PKPdf**		**14 55 52.6**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=121,slow=2.0,SNR=5.8								
ABKAR	**Akbulak array**	**126.44**	**54**	*e*PKPdf		**PKPdf**		**14 55 50.9**	**-1.7**
KSH	**Kashi**	**127.61**	**73**	PKP		**PKPdf**		**14 55 55.1**	**-0.2**
EKS2	**Erkin-Say**	**128.66**	**69**	*e*PKIKP		**PKPdf**		**14 55 57.5**	**+0.3**
EKS2	**Erkin-Say**	**128.66**	**69**	*e*PKPdf		**PKPdf**		**14 55 57.5**	**+0.3**
AAK	**Ala-Archa**	**129.01**	**69**	*d i* PKIKP		**PKPdf**		**14 55 58.0**	**0.0**
AAK	**Ala-Archa**	**129.01**	**69**	*e*PKPdf		**PKPdf**		**14 55 57.8**	**-0.2**
FRU	**Bishkek**	**129.22**	**69**	*e*PKIKP		**PKPdf**		**14 55 58.0**	**-0.2**
ARCES	**ARCESS Array B**	**130.31**	**21**	PKP		**PKPdf**		**14 55 58.9**	**-0.5**
	comp=Z,8.3nm,0.9s,baz=241,slow=1.2,SNR=15								
ARU	**Arti**	**130.81**	**47**	*i* PKIKP		**PKPdf**		**14 56 01.0**	**+0.3**
ARU								14 58 16.0	
KMI	**Kunming**	**131.77**	**108**	PKP		**PKPdf**		**14 56 02.3**	**-1.5**
BVAR	**Borovoye Array**	**133.84**	**56**	PKP		**PKPdf**		**14 56 07.1**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=249,slow=1.3,SNR=25								
BVAR					PKKP	**PKKPdf**		**15 05 54.1**	**0.0**
	comp=Z,1.4nm,1.1s,baz=147,slow=3.4,SNR=3.6								
GYA	**Guiyang**	**134.94**	**110**	*e*Pdif		**Pdif**		**14 53 10.0**	**-1.2**
GYA					PKP	**PKPdf**		**14 56 09.4**	**-0.2**
GYA					sPKP			14 56 31.0	
GYA					PP	**PP**		**14 58 47.8**	**+3.4**
GYA					PPMZ				
	comp=Z,120nm,7.8s								
MKAR	**Makanchi Array**	**135.93**	**70**	PKhKP		PKPpre		14 56 00.5	
	comp=Z,0.2nm,0.4s,baz=208,slow=2.3,SNR=4.4								
MKAR					PKP	**PKPdf**		**14 56 09.2**	**-1.5**
	comp=Z,1.5nm,0.9s,baz=255,slow=3.6,SNR=8.3								
KURK	**Kurchatov**	**136.45**	**63**	*de*PKIKP		**PKPdf**		**14 56 10.5**	**-0.9**
YKA	**Yellowknife Ar**	**136.53**	**318**	PKP		**PKPdf**		**14 56 09.8**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=128,slow=1.9,SNR=4.5								
CD2	**Chengdu**	**136.87**	**104**	P		**PKPdf**		**14 56 12.5**	**-0.5**
WMQ	**Urumqi**	**136.95**	**77**	*e*PKP		**PKPdf**		**14 56 12.8**	**+0.1**
LZH	**Lanzhou**	**140.77**	**98**	*e*PKP		**PKPdf**		**14 56 18.0**	**-2.1**
LZH					sPKP			14 56 40.3	
LZH					LN				
	comp=Z,190nm,18.1s								
LZH					LE				
	comp=Z,200nm,18.5s								
LZH					LZ				
	comp=Z,250nm,20.0s								
GTA	**Gaotai**	**140.83**	**91**	*e*PKP		**PKPdf**		**14 56 18.7**	**-1.4**
NVS	**Novosibirsk**	**141.09**	**61**	*e*PKIKP		**PKPdf**		**14 56 21.7**	**+1.9**
ZALV	**Zalesovo Beam**	**141.41**	**63**	PKhKP		PKPpre		14 56 14.0	
	comp=Z,0.7nm,0.4s,baz=219,slow=4.1,SNR=3.8								
ZALV					PKP	**PKPdf**		**14 56 18.4**	**-2.1**
	comp=Z,1.3nm,0.5s,baz=158,slow=4.8,SNR=8.6								
XAN	**Xi'an**	**142.07**	**106**	PKP		**PKPdf**		**14 56 18.6**	**-3.8**
DAWY	**Dawson**	**147.24**	**312**	*e*PKPbc		**PKPbc**		**14 56 32.6**	**-0.1**
BTO	**Baotou**	**147.39**	**99**	*e*PKPbc		**PKPbc**		**14 56 33.5**	**-0.4**
TIA	**Tai'an**	**148.10**	**112**	‖ *e*PKPbc		**PKPbc**		**14 56 35.9**	**+0.1**
EGAK	**Eagle**	**148.18**	**313**	*e*PKPbc		**PKPbc

East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.10**	**313**	*e*P	Pn	14 44 40.8	-0.4
SKR				*e*S	Sb	14 44 55.2	0.0
PAU	**Pauzhetka**	**1.57**	**347**	*e*P	Pb	14 44 49.6	+0.3
PAU				*e*S	Sb	14 45 09.0	+0.3
ASAK	**Asacha**	**2.47**	**7**	*e*P	Pb	14 45 03.0	-1.6
RUS	**Russkaya**	**2.60**	**15**	*e*P	Pn	14 45 04.0	+2.3
RUS				*e*S	Sb	14 45 35.9	-2.2
PET	**Petropavlovsk**	**3.19**	**14**	*e*S	Sn	14 45 50.6	+3.4
UGLR	**Uglovaya**	**3.40**	**15**	*e*P	Pn	14 45 16.1	+3.3
AVH	**Avacha**	**3.44**	**14**	*e*P	Pb	14 45 17.3	-3.8
SMAR	**Somma**	**3.44**	**14**	*e*P	Pb	14 45 17.6	-3.7
SDLR	**Sedlovina**	**3.47**	**15**	*e*P	Pn	14 45 16.6	+2.7
KRER	**Koryakskii**	**3.48**	**14**	*e*P	Pn	14 45 17.3	+3.3
KRX	**Arik**	**3.52**	**12**	*e*P	Pn	14 45 17.1	+2.6
GNL	**Ganaly**	**3.78**	**5**	*e*P	Pn	14 45 21.9	+3.9

ISCJB ***03*** *14:45:40.1±1.0, 39.˚19N±0.˚06×29.˚02E±0.˚06, h9km, Error ellipse: s-maj=9.0km s-min=6.3km az=0.2*
DDA ***03*** *14:45:41.0, 39.˚09N×29.˚03E, h7km, Ml2.6*
ISK ***03*** *14:45:49.4, 40.˚30N×29.˚92E, h5km, MD2.3*
ISC 03 14:45:40.1±1.2**, 39.˚17N**±0.˚05×**29.˚08E**±0.˚05**, h9km, n4, σ0^{s}30/7, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.31**	**247**	*i* P	**Pg**	**14 45 46.5**	**+0.3**
DEMI				*i* S	**Sg**	**14 45 50.2**	**-0.2**
GDZ	**Gediz**	**0.32**	**104**	*i* P	**Pb**	**14 45 48.2**	**+0.1**
GDZ				*i* S	**Sb**	**14 45 53.5**	**+0.1**
KHAL	**Karahalli**	**0.86**	**158**	*i* P	**Pg**	**14 45 56.6**	**0.0**
KHAL				*i* S	**Sb**	**14 46 08.4**	**-0.4**
ARMT	**Armutlu**	**1.41**	**353**	*e*PG	**Pg**	**14 46 07.1**	**-0.1**

GCMT ***03*** *14:47:09.4±0.4, 20.˚09S×168.˚16E, h22km±1km, MW4.9/56, Moment Tensor Solution. s22,c25; s56,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr=2.73±.22; Mθθ=0.49±.12; Mφφ=2.24±.13; Mrθ=-0.40±.27; Mrφ=0.10±.08; Mθφ=-0.00±.18; Best double couple: Mo=2.51200×10^{16} NP1:φs=10.00000°, δ46.00000°, λ=-80.00000°. NP2: φs=177.00000°, δ45.00000°, λ=-100.00000°. Principal axes: T 2.2460, Plg0.0000°, Azm93.0000°; N 0.5310, Plg7.0000°, Azm183.0000°; P -2.7780, Plg83.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***03*** *14:47:09.4±0.2, 20.˚16S×168.˚21E, h10km, mb5.1/34 Error ellipse: s-maj=9.1km s-min=5.7km az=155.0*
ISCJB ***03*** *14:47:12.6±0.2, 20.˚34S±0.˚06×168.˚27E±0.˚04, h42km, mb4.8/48, MS3.8/7, Error ellipse: s-maj=9.3km s-min=5.2km az=156.7*
IDC ***03*** *14:47:14.0±0.6, 20.˚19S×168.˚23E, h40km±3km, mb4.2/15, mb1 4.4/16, mb1mx4.2/30, mbtmp4.4/16, ML3.7/1, MS3.9/10, Ms1 3.9/10, ms1mx3.6/33, Error ellipse: s-maj=19.4km s-min=12.1km az=139.0*
BJI ***03*** *14:47:15.2, 19.˚71S×168.˚37E, h47km, mb4.8/27, mB5.0/20, Ms5.2/7, Ms7 4.9/6*
ISC 03 14:47:12.9±0.4**, 20.˚28S**±0.˚07×**168.˚22E**±0.˚07**, h28**km±2km**, h28**km:pP-P, n148, σ1^{s}69/162, mb5.0**/48, **MS3.9**/7, **Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.44**	**223**	*e*Pn	**Pn**	**14 47 48.7**	**-2.1**
DZM	156nm,0.3s			*e*Sn	**Sn**	**14 48 16.5**	**-3.2**
DZM	160nm,0.2s **Mont Dzumac**	**2.44**	**223**	Pn	**Pn**	**14 47 50.1**	**-0.7**
DZM	15nm,0.3s,baz=76,slow=10,SNR=252			Sn	**Sn**	**14 48 21.4**	**+1.6**
DZM	67nm,0.3s,baz=110,slow=24,SNR=9.1			LR	LR	14 48 51.0	
MSVF	comp=Z,3μm,18.9s,baz=14,slow=39 **Nonsavu**	**9.63**	**76**	*e*Pn	**Pn**	**14 49 30.1**	**+0.3**
HNR	284nm,1.6s **Honiara**	**13.42**	**322**	LR	LR	14 55 30.8	
URZ	comp=Z,304nm,18.2s,baz=185,slow=37 **Urewera**	**19.50**	**159**	P	**Pn**	**14 51 42.9**	**+3.8**
URZ	0.2nm,0.3s,baz=17,slow=9.5,SNR=2.6			LR	LR	14 58 30.1	
URZ	comp=Z,226nm,18.5s,baz=346,slow=34 **Urewera**	**19.50**	**159**	*e*P	**P**	**14 51 38.0**	**+0.3**
CTA	169nm,1.6s **Charters Tower**	**20.62**	**267**	P	Pn	14 51 51.5	-1.0
CTA	16nm,1.1s,baz=79,slow=13,SNR=8.5			pP	sP	14 52 02.6	+1.1
CTAO	27nm,1.1s,baz=81,slow=12,SNR=9.3 **Charters Tower**	**20.62**	**267**	P	**P**	**14 51 49.5**	**-0.7**
CAN	181nm,1.8s **Canberra**	**22.60**	**224**	*e*P	**P**	**14 52 09.4**	**-1.9**
RPZ	136nm,1.9s **Rata Peaks**	**23.48**	**175**	LR	LR	15 01 13.0	
STKA	comp=Z,441nm,18.9s,baz=358,slow=36 **Stephens Creek**	**26.49**	**239**	P	**P**	**14 52 49.1**	**+1.3**
STKA	10.0nm,0.9s,baz=71,slow=10.0,SNR=16			pP	**sP**	**14 53 00.7**	**+1.0**
STKA	11nm,0.9s,baz=70,slow=7.4,SNR=8.1			LR	LR	15 02 54.2	
STKA	comp=Z,315nm,18.6s,baz=53,slow=35 **Stephens Creek**	**26.49**	**239**	*e*P	**P**	**14 52 49.1**	**+1.3**
RAR	22nm,1.8s **Rarotonga**	**29.92**	**97**	LR	LR	15 04 00.6	
WRA	comp=Z,98nm,18.5s,baz=283,slow=34 **Warramunga Arr**	**31.79**	**265**	P	**P**	**14 53 33.8**	**-1.4**
WRA	2.0nm,0.9s,baz=88,slow=8.5,SNR=19			pP	**sP**	**14 53 45.5**	**-1.4**
WRA	1.2nm,0.5s,baz=91,slow=8.4,SNR=8.1			LR	LR	15 06 11.4	
AS01	comp=Z,187nm,18.7s,baz=115,slow=36 **Alice Springs**	**31.92**	**258**	*e*P	**P**	**14 53 35.5**	**-0.7**
ASAR	**Alice Springs**	**31.96**	**258**	P	**P**	**14 53 35.8**	**-0.8**
ASAR	6.8nm,0.8s,baz=82,slow=9.1,SNR=49			pP	**sP**	**14 53 48.0**	**-0.4**
ASAR	7.2nm,0.7s,baz=84,slow=9.0,SNR=15			LR	LR	15 06 35.9	
JAY	comp=Z,372nm,18.5s,baz=94,slow=36 **Jayapura**	**32.14**	**300**	P	**P**	**14 53 36.0**	**-2.2**
GENI	0.3nm,0.7s,baz=272,slow=23,SNR=3.7 **Genyem**	**32.53**	**299**	P	**P**	**14 53 42.7**	**+1.1**
TBI	**Tubuai**	**39.30**	**102**	*e*LR	LR	15 05 34.7	
PPT2	298nm,29.2s **Papeete2**	**39.93**	**93**	*e*LR	LR	15 05 40.8	
FITZ	551nm,28.8s **Fitzroy Crossi**	**40.20**	**266**	P	**P**	**14 54 47.2**	**+0.1**
FITZ	16nm,1.0s,baz=117,slow=7.8,SNR=12 **Fitzroy Crossi**	**40.20**	**266**	*e*P	**P**	**14 54 47.0**	**-0.1**
SWI	33nm,1.1s **Sorong**	**40.96**	**293**	P	**P**	**14 54 56.9**	**+3.5**
NLAI	**Namlea**	**43.50**	**287**	P	**P**	**14 55 16.5**	**+2.4**
SANI	**Sanana**	**45.02**	**288**	P	**P**	**14 55 27.5**	**+1.2**
PCI	**Palu**	**51.04**	**286**	P	**P**	**14 56 14.4**	**+1.5**
TAOE	42nm,1.2s,655nm **Nuku Hiva Isla**	**51.05**	**85**	*e*LR	LR	15 10 46.4	
RKT	172nm,27.1s **Rikitea**	**52.57**	**104**	*e*LR	LR	15 11 39.7	
VNDA	249nm,31.0s **Vanda**	**57.36**	**182**	P	**P**	**14 56 58.1**	**+0.1**
VNDA	1.4nm,0.8s,baz=342,slow=9.4,SNR=7.8 **Vanda**	**57.36**	**182**	*e*P	**P**	**14 56 58.5**	**+0.4**
KKM	6.5nm,1.3s **Kota Kinabalu**	**57.41**	**292**	*e*P	**P**	**14 56 57.4**	**-2.1**
SBA	25nm,1.2s **Scott Base**	**57.62**	**180**	*e*P	**P**	**14 57 01.1**	**+1.2**
STKI	24nm,1.4s **Sintang**	**59.05**	**283**	P	**P**	**14 57 12.4**	**+1.6**
KSM	**Kuching**	**60.68**	**284**	*e*P	**P**	**14 57 21.9**	**-0.2**
MJAR	16nm,1.2s **Matsushiro Arr**	**63.23**	**333**	P	**P**	**14 57 35.8**	**-3.0**
KSRS	2.9nm,0.9s,baz=170,slow=4.9,SNR=6.0 **Korea Array**	**68.83**	**326**	P	**P**	**14 58 13.6**	**-1.0**
KSAR	1.9nm,0.9s,baz=155,slow=8.7,SNR=5.4 **Wonju Array Be**	**68.84**	**326**	P	**P**	**14 58 13.6**	**-1.1**
QIZ	**Qiongzhong**	**69.27**	**301**	P	**P**	**14 58 18.7**	**+0.9**
QIZ				S	**S**	**15 07 27.3**	**+4.6**
QIZ	13nm,1.4s			PMZ			
QSPA	**South Pole Qui**	**69.78**	**180**	*e*P	**P**	**14 58 19.7**	**-0.7**
USRK	60nm,1.2s **Ussuriysk Ar.**	**72.23**	**333**	P	**P**	**14 58 35.3**	**+0.1**
USRK	6.5nm,0.9s,baz=154,slow=4.6,SNR=13			pP	**sP**	**14 58 47.0**	**-0.5**
SKNT	6.5nm,0.9s,baz=143,slow=3.5,SNR=7.8 **Sakolnakorn**	**73.12**	**296**	P	**P**	**14 58 42.3**	**+1.2**
MDJ	17nm,1.2s **Mudanjiang**	**73.59**	**332**	P	**P**	**14 58 43.3**	**0.0**
MDJ	11nm,1.1s			PMZ			
MDJ	21nm,3.7s			PMZ			
PETK	**Petropavlovsk-**	**73.65**	**353**	P	**P**	**14 58 43.2**	**-0.3**
PETK	2.1nm,0.8s,baz=122,slow=7.1,SNR=4.2			pP	**sP**	**14 58 54.6**	**-1.2**
GYA	7.9nm,0.8s,baz=151,slow=7.4,SNR=7.5 **Guiyang**	**75.64**	**306**	*e*P	**P**	**14 58 57.0**	**+1.2**
GYA				pP	PcP	14 59 11.2	+2.7
GYA				PP	**PP**	**15 01 50.0**	**+4.2**
GYA				S	**S**	**15 08 34.5**	**-1.0**
GYA				sS	sS	15 08 56.8	+6.4
GYA	20nm,1.0s			PMZ			
GYA	120nm,5.8s			PMZ			
GYA	520nm,18.3s			LN			
GYA	530nm,19.0s			LE			
GYA	480nm,18.6s			LZ			
CRAI	**Chiangrai**	**77.65**	**297**	P	**P**	**14 59 08.6**	**+1.5**
KMI	71nm,1.2s **Kunming**	**78.02**	**303**	P	**P**	**14 59 11.4**	**+2.0**
KMI	11nm,0.7s			PMZ			
KMI	69nm,4.9s			PMZ			
CM01	**Chiang Mai Arr**	**78.04**	**295**	*e*P	**P**	**14 59 09.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**78.07**	**295**	P	**P**	**14 59 09.9**	**+0.5**
CMAR	4.3nm,1.0s,baz=133,slow=4.4,SNR=18			pP	**sP**	**14 59 21.8**	**-0.1**
CMAR	2.2nm,0.6s,baz=136,slow=4.7,SNR=6.2			LR	LR	15 35 58.9	
CMMT	comp=Z,32nm,18.1s,baz=148,slow=38 **Chiang Mai**	**78.22**	**295**	P	**P**	**14 59 11.2**	**+0.9**
CHTO	6.7nm,1.3s **Chiang Mai**	**78.22**	**295**	P	**P**	**14 59 11.6**	**+1.3**
CHTO	29nm,1.6s **Chiang Mai**	**78.22**	**295**	*e*P	**P**	**14 59 07.6**	**-2.7**
CD2	8.4nm,1.1s **Chengdu**	**80.12**	**308**	*e*P	**P**	**14 59 20.5**	**0.0**
CD2				pP	sP	14 59 33.9	+1.0
CD2				sP	pP	14 59 39.3	+10
CD2				S	**S**	**15 09 22.9**	**-0.7**
CD2				SKS	**SKSac**	**15 09 33.2**	**-3.1**
CD2				sS	ScS	15 09 45.9	+1.9
CD2	20nm,0.5s			PMZ			
CD2	160nm,5.2s			PMZ			
HHC	**Hu-ho-hao-te**	**80.39**	**320**	*e*P	**P**	**14 59 23.4**	**+1.5**
HHC	17nm,0.9s			PMZ			
HHC	58nm,8.6s			PMZ			
LZH	**Lanzhou**	**82.72**	**313**	*e*P	**P**	**14 59 34.5**	**+0.2**
LZH				pP	sP	14 59 48.0	+1.2
LZH				sP	pP	14 59 53.2	+10
LZH				PP	**PP**	**15 02 47.6**	**+2.8**
LZH	18nm,1.5s			PMZ			
LZH	93nm,9.3s			PMZ			
LZH	380nm,16.7s			LN			
LZH	370nm,17.0s			LE			
LZH	510nm,19.6s			LZ			
ULN	**Ulaanbaatar**	**87.13**	**324**	*e*P	**P**	**14 59 55.1**	**-1.1**
SONM	**Songino Array**	**87.48**	**324**	P	**P**	**14 59 57.3**	**-0.6**
SONM	2.2nm,0.9s,baz=130,slow=4.6,SNR=8.1			pP	**sP**	**15 00 08.5**	**-1.8**
SONA1	2.7nm,0.9s,baz=156,slow=5.0,SNR=5.9 **Songino Array**	**87.48**	**324**	*e*P	**P**	**14 59 56.9**	**-1.1**
BILL	**Bilibino**	**88.07**	**359**	*e*P	**P**	**14 59 57.0**	**-3.1**
SNAA	10.0nm,1.1s **Sanae**	**88.08**	**183**	*e*P	**P**	**14 59 59.7**	**-0.7**
N02D	18nm,1.4s **Trinity Center**	**88.35**	**45**	P	**P**	**15 00 01.8**	**-0.4**
M02C	baz=241 **Callahan**	**88.45**	**45**	P	**P**	**15 00 01.9**	**-0.8**
ORV	baz=241 **Oroville**	**88.49**	**47**	*e*P	**P**	**15 00 02.2**	**-0.5**
CMB	26nm,1.6s **Columbia Colle**	**88.56**	**48**	*e*P	**P**	**15 00 02.5**	**-0.7**
AFDM	5.7nm,0.9s **Forest Hills D**	**88.57**	**47**	*e*P	**P**	**15 00 02.7**	**-0.4**
O03D	17nm,1.3s **Paynes Creek**	**88.63**	**46**	P	**P**	**15 00 02.9**	**-0.6**
ISA	baz=242 **Isabella, Lake**	**88.88**	**51**	P	**P**	**15 00 04.2**	**-0.5**
EDW2	baz=244 **Edwards Air Fo**	**88.89**	**52**	P	**P**	**15 00 03.8**	**-1.1**
HUMO	baz=244 **Hull Mountain**	**88.97**	**44**	P	**P**	**15 00 01.7**	**-3.3**
CAST	15nm,1.0s **Castle Rocks**	**89.02**	**17**	*e*P	**P**	**15 00 06.3**	**+1.6**
MONP2	7.0nm,1.1s **Monument Peak**	**89.23**	**54**	P	**P**	**15 00 05.6**	**-1.0**
M04C	baz=245 **Macdoel**	**89.31**	**45**	P	**P**	**15 00 06.0**	**-0.7**
LRMC	baz=242 **Laurel Mtn Rad**	**89.38**	**52**	P	**P**	**15 00 06.3**	**-0.8**
WAKR	baz=244 **Walker**	**89.44**	**48**	*e*P	**P**	**15 00 06.5**	**-1.0**
MPMC	**Manual Prospec**	**89.77**	**51**	P	**P**	**15 00 08.0**	**-1.1**
DAC	baz=245 **Darwin (Calif)**	**89.78**	**51**	*e*P	**P**	**15 00 08.0**	**-1.1**
I04A	14nm,1.3s **Tendick Farm,**	**89.89**	**43**	P	**P**	**15 00 07.8**	**-1.5**
GSC	baz=242 **Goldstone, Bar**	**89.95**	**52**	P	**P**	**15 00 08.6**	**-1.2**
BELC	baz=245 **Belle Mtn. Jos**	**90.01**	**54**	P	**P**	**15 00 09.7**	**-0.5**
PAHR	baz=246 **Pah Rah Range**	**90.01**	**47**	*e*P	**P**	**15 00 08.1**	**-2.0**
HEC	18nm,1.2s **Hector,Ludlow**	**90.10**	**53**	P	**P**	**15 00 09.7**	**-0.8**
NV01	baz=245 **Mina Array Sit**	**90.20**	**49**	*e*P	**P**	**15 00 09.3**	**-1.8**
NVAR	**Mina Array Bea**	**90.20**	**49**	P	**P**	**15 00 09.7**	**-1.4**
NVAR	3.6nm,0.8s,baz=242,slow=8.6,SNR=18			pP	**sP**	**15 00 21.5**	**-2.0**
NVAR	6.3nm,1.0s,baz=233,slow=7.6,SNR=9.7			LR	LR	15 33 10.3	
GRAC	comp=Z,48nm,20.4s,baz=262,slow=30 **Grapevine Rang**	**90.26**	**50**	P	**P**	**15 00 10.6**	**-0.6**
BC3	baz=245 **Big Chuckawall**	**90.28**	**54**	P	**P**	**15 00 11.2**	**-0.3**
NV11	baz=246 **Mina Array Sit**	**90.31**	**49**	*e*P	**P**	**15 00 10.2**	**-1.3**
J05D	14nm,1.1s **Fort Rock, OR**	**90.40**	**44**	P	**P**	**15 00 10.6**	**-1.2**
GLA	baz=242 **Glamis**	**90.52**	**55**	P	**P**	**15 00 12.5**	**+0.1**
GLA	baz=246 **Glamis**	**90.52**	**55**	*e*P	**P**	**15 00 12.2**	**-0.3**
GMRC	21nm,1.1s **Granite Mounta**	**90.59**	**53**	P	**P**	**15 00 12.1**	**-0.8**
SHOC	baz=246 **Shoshone, Teco**	**90.59**	**52**	P	**P**	**15 00 12.3**	**-0.4**
TUQ	baz=245 **Turquoise Moun**	**90.66**	**52**	P	**P**	**15 00 12.4**	**-0.8**
IRM	baz=246 **Iron Mountain**	**90.72**	**54**	P	**P**	**15 00 12.8**	**-0.6**
LVP	baz=246 **Lakeview Peak**	**90.98**	**41**	P	**P**	**15 00 13.2**	**-1.1**
Y12C	**Blythe**	**91.03**	**54**	P	**P**	**15 00 15.0**	**+0.3**
TPNV	baz=246 **Topopah Spring**	**91.05**	**51**	P	**P**	**15 00 13.7**	**-1.3**
TPNV	baz=245 **Topopah Spring**	**91.05**	**51**	*e*P	**P**	**15 00 13.2**	**-1.8**
ILAR	13nm,1.1s **Eielson Array**	**91.51**	**18**	P	**P**	**15 00 16.4**	**+0.2**
ILAR	1.1nm,0.7s,baz=240,slow=5.2,SNR=8.2			pP	**sP**	**15 00 28.9**	**+0.1**
	2.6nm,0.7s,baz=232,slow=5.8,SNR=10						
PDMCI	**Parker Dam,Lak**	**91.54**	**54**	P	**P**	**15 00 17.3**	**+0.2**
BLN	baz=246 **Blyn Mountain**	**91.57**	**39**	P	**P**	**15 00 15.9**	**-1.0**
214A	**Organ Pipe Nat**	**91.65**	**57**	P	**P**	**15 00 17.4**	**-0.4**
SHPR	baz=247 **Sheep Range**	**91.66**	**52**	*e*P	**P**	**15 00 16.7**	**-1.1**
WVOR	8.5nm,1.2s **Wild Horse Val**	**91.72**	**45**	*e*P	**P**	**15 00 16.8**	**-1.2**
MCW	11nm,1.0s **Mount Constitu**	**91.98**	**38**	P	**P**	**15 00 18.1**	**-0.7**
W13A	**Hualapai Mount**	**92.05**	**53**	*e*P	**P**	**15 00 19.4**	**-0.4**
A04D	8.1nm,1.1s **Lummi Island**	**92.07**	**38**	P	**P**	**15 00 19.2**	**+0.1**
R11A	baz=241 **Troy Canyon, C**	**92.11**	**50**	P	**P**	**15 00 18.0**	**-1.9**
R11A	baz=246 **Troy Canyon, C**	**92.11**	**50**	*e*P	**P**	**15 00 18.5**	**-1.4**
B05A	2.5nm,0.9s **Bryant**	**92.21**	**39**	P	**P**	**15 00 19.0**	**-0.8**
LCMT	baz=242 **Little Creek M**	**93.28**	**52**	*e*P	**P**	**15 00 24.4**	**-0.9**
TUC	6.5nm,1.1s **Tucson**	**93.37**	**57**	P	**P**	**15 00 25.4**	**-0.4**
TUC	baz=248 **Tucson**	**93.37**	**57**	*e*P	**P**	**15 00 25.6**	**-0.2**
CCUT	7.6nm,1.1s **Cedar City**	**93.40**	**51**	*e*P	**P**	**15 00 26.3**	**+0.4**
X16A	4.3nm,1.1s **Lo Mia Camp, P**	**93.65**	**55**	*e*P	**P**	**15 00 26.0**	**-1.1**
U15A	9.4nm,1.1s **North Rim**	**93.76**	**53**	*e*P	**P**	**15 00 26.3**	**-1.4**
WUAZ	6.0nm,1.0s **Wupatki**	**94.11**	**54**	P	**P**	**15 00 28.0**	**-1.1**
319A	baz=248 **Douglas**	**94.22**	**58**	*e*P	**P**	**15 00 29.1**	**-0.6**
W18A	9.7nm,1.0s **Petrified Fore**	**95.21**	**55**	*e*P	**P**	**15 00 32.7**	**-1.5**
ROA	14nm,0.8s **Roan Cliffs**	**96.36**	**50**	*e*P	**P**	**15 00 39.6**	**0.0**
WMQ	**Urumqi**	**97.24**	**314**	P	**P**	**15 00 42.3**	**-0.8**
WMQ				pP	sP	15 00 57.2	+1.6
WMQ				sP	pP	15 01 01.1	+8.8
WMQ	3.0nm,0.6s			PMZ			
WMQ	38nm,4.2s			PMZ			
TXAR	**Lajitas Array**	**98.10**	**62**	P	**P**	**15 00 46.9**	**-0.5**
TXAR	0.2nm,0.6s,baz=238,slow=5.2,SNR=3.0			pP	**sP**	**15 00 58.4**	**-1.5**
YKA	0.8nm,0.8s,baz=218,slow=5.9,SNR=5.2 **Yellowknife Ar**	**102.03**	**28**	pP	**Pdif**	**15 01 13.4**	**+10**
LPAZ	0.8nm,0.8s,baz=246,slow=4.9,SNR=3.9 **La Paz**	**113.79**	**119**	PKiKP	**PKiKP**	**15 05 51.5**	**+1.0**
ARCES	1.2nm,0.7s,baz=282,slow=5.9,SNR=3.8 **ARCESS Array B**	**125.82**	**345**	PKP	**PKPdf**	**15 06 09.4**	**-1.9**
ARCES	1.9nm,0.6s,baz=76,slow=1.5,SNR=12			pPKP	**pPKPdf**	**15 06 21.8**	**+1.1**
FINES	3.2nm,0.6s,baz=15,slow=1.4,SNR=5.6 **FINESS Array B**	**131.18**	**337**	pPKP	pPKPdf	15 06 32.9	+1.8
AKASG	1.3nm,0.8s,baz=48,slow=2.8,SNR=1.4 **Malin Array Be**	**135.76**	**323**	pPKP	pPKPdf	15 06 43.0	+2.9
NOA	0.2nm,0.3s,baz=61,slow=1.9,SNR=2.4 **NORSAR Array B**	**136.19**	**344**	PKP	**PKPdf**	**15 06 30.4**	**-0.8**
NOA	1.3nm,0.9s,baz=320,slow=2.7,SNR=2.4			pPKP	**pPKPdf**	**15 06 43.8**	**+3.2**
CONA	1.3nm,0.8s,baz=32,slow=1.9,SNR=3.5 **Conrad Observa**	**144.52**	**327**	*i* PKPdf	PKPbc	15 06 45.4	+0.1
KHC	11nm,1.3s,SNR=7.4 **Kasperske Hory**	**144.79**	**331**	*e*PKP	**PKPab**	**15 06 42.0**	**-4.0**
KHC				*ex*	x	15 06 57.0	
GEC2	**GERESS Array S**	**144.94**	**330**	*e*PKPbc	**PKPdf**	**15 06 48.4**	**+1.0**
GERES	**GERESS Array B**	**144.94**	**330**	PKP	**PKPab**	**15 06 46.0**	**-0.6**
GERES	1.5nm,0.8s,baz=298,slow=2.9,SNR=5.8			pPKP	**pPKPdf**	**15 06 58.6**	**+1.8**
GEA0	2.1nm,0.8s,baz=72,slow=4.3,SNR=5.3 **GERESS Array S**	**144.94**	**330**	*e*PKPbc	**PKPab**	**15 06 46.1**	**-0.5**
ARSA	**Arzberg**	**145.14**	**327**	epPKPbc	**PKPdf**	**15 06 47.6**	**-0.1**
MOA	11nm,1.2s **Molln**	**145.37**	**329**	*e*PKPdf	**PKPbc**	**15 06 47.3**	**-0.6**
SOKA	21nm,1.2s,SNR=8.9 **Soboth**	**145.77**	**226**	*i* PKPab	**PKPdf**	**15 06 48.7**	**-0.1**
OBKA	15nm,1.4s,SNR=6.5 **Obir**	**146.13**	**327**	*e*PKPab	**PKPdf**	**15 06 49.2**	**-0.3**
KBA	9.2nm,1.2s **Koelnbreinsper**	**146.35**	**328**	*e*PKPab	**PKPdf**	**15 06 50.0**	**+0.1**
ABTA	5.6nm,1.1s **Abfaltersbach**	**146.99**	**329**	*e*PKPbc	**PKPdf**	**15 06 50.5**	**-0.4**
MOTA	5.0nm,0.9s **Moosalm**	**147.23**	**331**	*i* PKPbc	**PKPdf**	**15 06 52.2**	**+0.8**
RETA	24nm,1.2s **Reutte**	**147.28**	**331**	*e*PKPbc	**PKPdf**	**15 06 51.7**	**+0.3**
WLF	4.0nm,0.8s **Walferdange**	**147.38**	**338**	PKPbc	**PKPbc**	**15 06 54.3**	**+0.5**
WLF				APKP	**pPKPdf**	**15 07 05.8**	**+4.9**
WLF	**Walferdange**	**147.38**	**338**	*e*PKPbc	**PKPbc**	**15 06 54.0**	**+0.2**
DOU	**Dourbes**	**147.53**	**340**	PKPbc	**PKPbc**	**15 06 53.9**	**-0.3**
DU				APKP	**pPKPdf**	**15 07 05.7**	**+4.6**
BFO	**Black Forest**	**147.66**	**335**	*e*PKPbc	**PKPbc**	**15 06 53.8**	**-0.9**
FUORN	**Ofenpass-Fuorn**	**148.15**	**331**	*e*PKPbc	**PKPbc**	**15 06 55.9**	**-0.5**
TUE	**Stuetta**	**148.68**	**331**	*e*PKPbc	**PKPbc**	**15 06 57.3**	**-0.3**
SENIN	**Lac Senin/Sane**	**149.65**	**333**	*e*PKPbc	**PKPbc**	**15 06 59.7**	**-0.4**
SSB	**Saint Sauveur**	**151.66**	**335**	*e*PKPbc	**PKPbc**	**15 07 03.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**165.28**	**243**	PKP	**PKPdf**	**15 07 15.0**	**-0.5**
TORD	1.1nm,1.0s,baz=156,slow=1.5,SNR=4.3			pPKP	**pPKPdf**	**15 07 27.0**	**+2.1**
TORD	1.5nm,1.0s,baz=200,slow=1.6,SNR=5.3			PKPab	**PKPab**	**15 08 12.5**	**-0.5**
	1.9nm,1.1s,baz=124,slow=5.3,SNR=5.2						

NEIC ***03*** *14:51:35.0, 15.˚93S×73.˚98W, h70km, MG4.0(ARE), After ARE.*
NEIC Felt [III] at Chala.
IDC ***03*** *14:51:37.2±2.5, 15.˚86S×73.˚88W, h76km±23km, mb3.6/2, mb1 4.0/5, mb1mx3.6/30, mbtmp4.3/5, Error ellipse: s-maj=39.6km s-min=25.9km az=47.0*
ISC 03 14:51:34.0±0.9**, 16.˚02S**±0.˚08×**74.˚04W**±0.˚09**, h54**km**, n12, σ2^{s}58/16, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.85**	**325**	P	**Pn**	**14 52 47.2**	**+2.7**
NNA	13nm,0.3s,baz=128,slow=10,SNR=15			S	Sn	14 53 47.1	+7.7
NNA	21nm,0.3s,baz=231,slow=17,SNR=2.9 **Nana**	**4.85**	**325**	*e*Pn	**Pn**	**14 52 46.3**	**+1.8**
NNA				*e*Sn	**Sn**	**14 53 38.5**	**-0.9**
LPAZ	**La Paz**	**5.68**	**93**	P	**Pn**	**14 52 59.5**	**+3.1**
LPAZ	2.7nm,0.3s,baz=275,slow=8.7,SNR=37 baz=204,slow=20,SNR=4.9			S	**Sn**	**14 54 04.8**	**+4.0**
LVC	**Limon Verde**	**8.15**	**144**	P	**Pn**	**14 53 32.2**	**+2.2**
LVC	128nm,0.3s,baz=318,slow=9.2,SNR=19 125nm,0.3s,baz=118,slow=21,SNR=7.8			S	**Sn**	**14 54 58.4**	**-2.5**
LVC	**Limon Verde** 18nm,0.6s	**8.15**	**144**	*e*Pn	**Pn**	**14 53 31.2**	**+1.2**
LVC				*e*Sn	**Sn**	**14 54 58.6**	**-2.2**
SIV	**San Ignacio**	**12.47**	**92**	P	**Pn**	**14 54 26.9**	**-1.9**
SAML	0.3nm,0.3s,baz=283,slow=11,SN

	baz=345									
KZA				⇓*i*S		**Sg**	**14 53 33.0**	**-0.8**		
	baz=345									
ULHL	**Ulahol**	**2.31**	**7**	⇓*i*P		**Pn**	**14 53 03.2**	**+1.3**		
	baz=3.0									
KDJ	**Kajisay**	**2.39**	**24**	⇓*e*P		**Pn**	**14 53 04.2**	**+1.2**		
	baz=20									
KDJ				⇓*e*S		**Sb**	**14 53 35.9**	**-0.5**		
	baz=20									
UCH	**Uchtor**	**2.49**	**336**	⇓*i*P		**Pn**	**14 53 05.6**	**+0.9**		
	baz=335									
BOOM	**Boomskoye usch**	**2.54**	**1**	⇓*e*P		**Pn**	**14 53 05.8**	**+0.8**		
	baz=359									
BOOM				⇓*e*S		**Sb**	**14 53 38.3**	**-2.4**		
	baz=359									
AAK	**Ala-Archa**	**2.87**	**339**	⇑*i*P		**Pn**	**14 53 10.7**	**+1.0**		
	baz=338									
AAK				⇑*i*S		**Sb**	**14 53 49.4**	**-0.9**		
	baz=338									
AAK	**Ala-Archa**	**2.87**	**339**	⇑Pg		**Pn**	**14 53 11.7**	**+2.0**		
	5.2nm,0.3s									
AAK				⇓Lg		Lg	14 53 53.2			
	22nm,0.7s									
TKM2	**Tokmak 2**	**2.97**	**356**	⇑*i*P		**Pn**	**14 53 12.6**	**+1.5**		
	baz=354									
TKM2	**Tokmak 2**	**2.97**	**356**	⇑Pg		**Pn**	**14 53 13.1**	**+2.1**		
	4.8nm,0.5s									
TKM2				⇓Lg		Lg	14 53 58.4			
	36nm,0.8s									
KST	**Kastek**	**3.09**	**1**	*e*S		**Sg**	**14 54 02.8**	**-0.3**		
	16nm,0.4s									
KST	**Kastek**	**3.09**	**1**	*e*P		**Pb**	**14 53 18.3**	**-0.6**		
	2.7nm,0.3s									
TNSS	**Tian-Shan**	**3.19**	**14**	*e*P		**Pb**	**14 53 21.1**	**+0.3**		
	8.2nm,0.3s									
TNSS				*e*S		**Sg**	**14 54 07.2**	**+0.8**		
	23nm,0.6s									
MTBS	**Maitube**	**3.20**	**7**	*e*P		**Pg**	**14 53 25.9**	**+0.6**		
	4.1nm,0.3s									
MTBS				*e*S		Sg	14 54 16.0	+9.3		
	21nm,0.5s									
DGS	**Degeres**	**3.29**	**359**	*e*P		**Pb**	**14 53 21.9**	**-0.3**		
	6.0nm,0.4s									
DGS				*e*S		**Sg**	**14 54 10.1**	**+0.6**		
	18nm,0.6s									
MDOK	**Medeo**	**3.33**	**15**	*e*P		**Pb**	**14 53 22.6**	**-0.3**		
	4.6nm,0.4s									
MDOK				*e*S		**Sg**	**14 54 10.2**	**-0.6**		
	15nm,0.6s									
KOTS	**Kotyrbulak**	**3.41**	**15**	*e*P		**Pb**	**14 53 24.4**	**+0.2**		
KOTS				*e*S		**Sg**	**14 54 13.8**	**+0.5**		
MRKS	**Merke**	**3.43**	**325**	*e*P		**Pn**	**14 53 21.3**	**+4.0**		
	6.7nm,0.3s									
MRKS				*e*S		**Sb**	**14 54 07.8**	**+1.5**		
	9.1nm,0.7s									
MNAS	**Manas**	**3.59**	**316**	⇑*e*P		**Pn**	**14 53 19.5**	**0.0**		
	baz=316									
MNAS				⇑*e*S		**Sn**	**14 54 02.5**	**+0.7**		
	baz=316									
MNAS	**Manas**	**3.59**	**316**	⇑Pn		**Pn**	**14 53 19.1**	**-0.4**		
	0.4nm,0.5s									
MNAS				⇓Pg		**Pb**	**14 53 26.5**	**-0.8**		
	2.4nm,0.6s									
MNAS				⇑Lg		Lg	14 54 15.9			
	6.9nm,0.9s									
UZB	**Uzynbulak**	**3.97**	**35**	*e*P		**Pb**	**14 53 34.4**	**+0.5**		
	0.4nm,0.0s									
UZB				*e*S		**Sg**	**14 54 30.5**	**-0.9**		
	6.8nm,0.8s									
CHKK	**Chushkaly**	**4.00**	**12**	*e*P		**Pb**	**14 53 34.5**	**+0.2**		
	4.7nm,0.2s									
CHKK				*e*S		**Sg**	**14 54 30.2**	**-2.1**		
	11nm,0.5s									
KPKS	**Kokpek**	**4.09**	**30**	*e*P		**Pb**	**14 53 36.3**	**+0.3**		
	7.4nm,0.3s									
KPKS				*e*S		**Sg**	**14 54 33.4**	**-1.8**		
	18nm,0.6s									
SHLS	**Shalkode**	**4.39**	**42**	*e*P		**Pb**	**14 53 42.8**	**+1.7**		
	2.2nm,0.3s									
SHLS				*e*S		**Sg**	**14 54 45.5**	**+0.6**		
	12nm,0.7s									
KK31	**Karatay Array**	**5.11**	**310**	⇓Lg		Lg	14 55 03.1			
	2.2nm,0.6s,baz=125,slow=30,SNR=3.8									
KOLN	**Koldanda**	**13.73**	**150**	*e*P		**P**	**14 55 46.5**	**-0.8**		
	22nm,0.7s									
GKN	**Gorkha**	**13.95**	**146**	*e*P		Pn	14 55 48.0	+6.4		
	21nm,0.8s									
KKN	**Kakani**	**14.42**	**144**	*e*P		**Pn**	**14 55 48.6**	**+0.6**		
	17nm,0.8s									
DMN	**Daman**	**14.50**	**145**	*e*P		**Pn**	**14 55 48.3**	**-0.8**		
GUN	**Gumba**	**14.59**	**142**	*e*P		**Pn**	**14 55 49.7**	**-0.8**		
	26nm,0.9s									

MEX 03 14:59:35.1±0.9, 16°64N×98°17W, h4km±14km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.24**	**171**	*i* P	Pg	14 59 39.2	-0.7
PNIG				*i* S	Sg	14 59 43.3	+0.2
TLIG	**Tlapa**	**1.00**	**338**	*e*P	Pg	14 59 52.2	-2.1
TLIG				*e*S	Sg	15 00 04.7	-2.5
VHO	**Vista Hermosa**	**1.44**	**72**	*e*P	Pn	14 59 58.5	-3.7
VHO				*e*S	Sb	15 00 15.9	-5.5
ACX	**Acapulco**	**1.64**	**278**	*i* P	Pn	15 00 04.1	-0.6
ACX				*i* S	Sn	15 00 09.9	-16
CAIG	**El Cayaco**	**2.05**	**282**	*e*P	Pn	15 00 00.7	-10
CAIG				*i* S	Sb	15 00 38.0	-0.8
HUIG	**Huatulco**	**2.16**	**113**	*e*P	Pn	15 00 09.5	-2.3
HUIG				*e*S	Sn	15 00 35.2	-3.9

*ISCJB **03** 15:00:38.6±0.6,39°.13N±0°.03×29°.08E±0°.05,h9km±6km, Error ellipse: s-maj=6.4km s-min=5.3km az=40.9*
*CSEM **03** 15:00:38.6±0.1,39°.13N×29°.07E,h8km, ML2.6, Error ellipse: s-maj=2.7km s-min=2.0km az=116.0*
*ISK **03** 15:00:38.0,39°.09N×29°.15E,h11km, MD2.4*
*DDA **03** 15:00:38.8,39°.11N×29°.08E,h7km, Ml2.6*
ISC 03 15:00:38.7±0.9, 39°13N±0°.03×29°08E±0°.03, h14km±9km, n15, σ0°53/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**253**	P	**Pg**	**15 00 44.9**	**0.0**
DEMI				S	**Sg**	**15 00 49.0**	**-0.1**
DEMI	**Demirci**	**0.29**	**253**	*i* P	**Pg**	**15 00 44.9**	**0.0**
DEMI				*i* S	**Sg**	**15 00 49.0**	**-0.1**
GDZ	**Gediz**	**0.32**	**97**	P	**Pg**	**15 00 45.2**	**-0.1**
GDZ				S	**Sg**	**15 00 50.0**	**+0.2**
GDZ	**Gediz**	**0.32**	**97**	*i* P	**Pg**	**15 00 45.2**	**-0.1**
GDZ				*i* S	**Sg**	**15 00 50.0**	**+0.2**
TVSB	**Tavsanli**	**0.44**	**43**	*e*PG	**Pg**	**15 00 47.2**	**-0.2**
TVSB				*e*SG	**Sg**	**15 00 53.2**	**-0.2**
TVSB	**Tavsanli**	**0.44**	**43**	*e*Pg	**Pg**	**15 00 47.2**	**-0.2**
TVSB				*e*Sg	**Sg**	**15 00 53.2**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**208**	*e*PG	**Pg**	**15 00 51.6**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**208**	*e*Pg	**Pg**	**15 00 51.6**	**-0.7**
KHAL	**Karahalli**	**0.83**	**157**	P	**Pb**	**15 00 54.7**	**-0.1**
KHAL				S	**Sb**	**15 01 05.5**	**-0.3**
KHAL	**Karahalli**	**0.83**	**157**	*i* P	**Pb**	**15 00 54.7**	**-0.1**
KHAL				*i* S	**Sb**	**15 01 05.5**	**-0.3**
IGD	**Bursa**	**1.14**	**5**	*i* P	**Pg**	**15 00 59.5**	**-1.1**
IGD				*i* S	**Sg**	**15 01 15.2**	**-0.2**
IZI	**Iznik**	**1.24**	**14**	*e*PN	**Pn**	**15 01 02.1**	**+0.4**
IZI	**Iznik**	**1.24**	**14**	*e*Pn	**Pn**	**15 01 02.1**	**+0.4**
ARMT	**Armutlu**	**1.44**	**353**	*e*PN	**Pn**	**15 01 05.5**	**+1.1**
ARMT	**Armutlu**	**1.44**	**353**	*e*Pn	**Pn**	**15 01 05.5**	**+1.1**

IDC 03 15:06:51.5±4.0, 23°.86S×179°.01W, h610km±124km, mb3.3/4, mb1 3.5/6, mb1mx3.0/30, mbtmp4.5/6, Error ellipse: s-maj=70.4km s-min=32.2km az=104.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.03**	**36**	P	P	15 09 32.1	+1.4
	2.0nm,0.3s,baz=256,slow=4.2,SNR=3.9						
AFI				S	S	15 11 39.5	-1.9
	0.9nm,0.3s,baz=18,slow=20,SNR=2.5						
URZ	**Urewera**	**14.73**	**192**	P	P	15 09 56.0	-0.6
	3.1nm,0.3s,baz=63,slow=16,SNR=18						
URZ				S	S	15 12 25.8	-1.8
	1.0nm,0.3s,baz=8.6,slow=19,SNR=5.1						
CTA	**Charters Tower**	**32.38**	**270**	P	P	15 12 33.0	-0.1
	8.6nm,0.5s,baz=87,slow=12,SNR=33						
STKA	**Stephens Creek**	**35.58**	**248**	P	P	15 12 59.4	-0.1
	0.6nm,0.4s,baz=80,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**42.94**	**260**	P	P	15 13 58.9	+0.3
	3.4nm,0.8s,baz=95,slow=7.7,SNR=70						
WRA	**Warramunga Arr**	**43.32**	**266**	P	P	15 14 01.3	-0.3
	6.0nm,0.5s,baz=96,slow=8.4,SNR=342						

*KRNET **03** 15:10:07.6±0.1,41°.08N×71°.70E,h11km,mb2.2*
*SOME **03** 15:10:07.6,41°.07N×71°.72E,h10km*
*NNC **03** 15:10:08.2±2.0,41°.06N×71°.73E,h0km,mb2.9,mpv2.6, Error ellipse: s-maj=14.1km s-min=8.4km az=172.0*
ISC 03 15:10:07.1±2.0, 41°.05N±0°.04×71°.70E±0°.03, h3km±16km, n15, σ1s18/27, 12C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.98**	**122**	⇑*e*P	**Pb**	**15 10 27.0**	**+0.3**
	baz=123						
OHH				⇑*e*S	**Sn**	**15 10 40.8**	**-1.4**
	baz=123						
ARSB	**Arslanbob**	**1.00**	**74**	⇑*e*P	**Pb**	**15 10 27.1**	**-0.1**
	baz=75						
ARSB				⇑*e*S	**Sb**	**15 10 40.6**	**-0.3**
	baz=75						
BTK	**Batken**	**1.20**	**214**	⇑*e*P	**Pn**	**15 10 30.4**	**-0.4**
	baz=214						
BTK				⇑*e*S	**Sn**	**15 10 48.5**	**+0.8**
	baz=214						
TOKL	**Toktogul**	**1.25**	**44**	⇑*e*P	**Pn**	**15 10 30.8**	**-0.7**
	baz=45						
TOKL				⇑*e*S	**Sn**	**15 10 49.4**	**+0.5**
	baz=45						
MNAS	**Manas**	**1.55**	**22**	⇓*e*P	**Pb**	**15 10 36.6**	**0.0**
	baz=23						
MNAS				⇓*e*S	**Sg**	**15 10 58.0**	**+1.0**
	baz=23						
MNAS	**Manas**	**1.55**	**22**	⇓P	**Pb**	**15 10 36.3**	**-0.2**
	1.5nm,0.3s						
MNAS				⇑S	**Sg**	**15 10 57.8**	**+0.8**
	11nm,0.4s						
IUG	**Iuzhnay**	**1.66**	**312**	*e*P	**Pb**	**15 10 38.5**	**+0.1**
	106nm,0.2s						
IUG				*e*S	**Sg**	**15 11 01.2**	**+0.7**
	103nm,0.3s						
MRKS	**Merke**	**2.04**	**33**	*e*P	**Pb**	**15 10 45.1**	**+0.3**
	3.0nm,0.2s						
MRKS				*e*S	**Sg**	**15 11 11.7**	**-0.8**
	48nm,0.4s						
KK31	**Karatay Array**	**2.23**	**337**	⇓Pn	**Pb**	**15 10 47.2**	**-0.8**
	3.0nm,0.3s,baz=139,slow=13,SNR=38						
KK31				⇑Sn	**Sb**	**15 11 15.4**	**-0.7**
	2.8nm,0.3s,baz=164,slow=29,SNR=6.8						
EKS2	**Erkin-Say**	**2.23**	**43**	⇑*i*P	**Pb**	**15 10 46.3**	**-1.8**
	baz=44						
EKS2				⇑*i*S	**Sb**	**15 11 15.9**	**-0.3**
	baz=44						
UCH	**Uchtor**	**2.41**	**60**	*i* P	**Pn**	**15 10 48.8**	**+1.0**
	baz=61						
UCH				*i* S	**Sb**	**15 11 20.3**	**-1.4**
	baz=61						
AAK	**Ala-Archa**	**2.62**	**52**	Lg	Lg	15 11 30.4	
	7.2nm,0.8s						
TKM2	**Tokmak 2**	**3.45**	**56**	⇓Pg	**Pb**	**15 11 10.1**	**+1.1**
	0.5nm,0.3s						
TKM2				⇓Lg	Lg	15 11 57.2	
	3.6nm,0.7s						
DGS	**Degeres**	**3.73**	**53**	*e*P	**Pb**	**15 11 14.9**	**+1.2**
	1.1nm,0.5s						
DGS				*e*S	**Sb**	**15 12 01.7**	**+2.3**
	5.6nm,0.5s						
KST	**Kastek**	**3.75**	**57**	*e*P	**Pb**	**15 11 15.9**	**+2.0**
	1.4nm,0.2s						
KST				*e*S	**Sg**	**15 12 05.0**	**-2.4**
	3.3nm,0.5s						

DHMR 03 15:11:47.6±1.0, 11°97N×43°69E, h3km±12km, ML3.5, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.32**	**19**	⇓*i*P	Pg	15 12 12.8	-0.1
TRBA				*i* S	Sn	15 12 31.2	-0.2
TRBA				AML	AML	15 12 34.5	
	comp=E,876nm,0.4s						
DHBB	**Dhamar BB**	**2.67**	**15**	*i* P	Pb	15 12 34.2	-2.1
DHBB				*i* S	Sb	15 13 10.9	+1.3
BDHA	**Al Bayda'**	**2.71**	**42**	*i* P	Pn	15 12 34.4	+2.2
BDHA				*i* S	Sb	15 13 11.8	+1.3
BDHA				AML	AML	15 13 23.4	
	comp=N,327nm,0.5s						

*CSEM **03** 15:15:22.4±0.6,67°.68N×33°.65E,h1km,ML2.8, Error ellipse: s-maj=14.1km s-min=4.9km az=89.0, Suspected Mining explosion.*
NAO 03 15:15:22.3±1.4, 67°.66N×33°.74E, ML4.5, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APZ9	**Apatity**	**0.15**	**236**	Pg	Pg	15 15 25.1	-0.1
APZ9				Lg	Lg	15 15 27.7	
APZ9	**Apatity**	**0.15**	**236**	Pg	Pg	15 15 25.1	-0.1
APZ9				Lg	Lg	15 15 27.7	
APZ9	**Apatity**	**0.15**	**236**	Pg	Pg	15 15 25.1	-0.1
	SNR=91						
APZ9				Lg	Lg	15 15 27.7	
	SNR=90						
APA0	**Apatity Array**	**0.29**	**260**	Pg	Pg	15 15 27.7	-0.1
	baz=80,slow=16						
APA0				Lg	Lg	15 15 31.9	
	baz=82,slow=37						
APA0				Rg	Rg	15 15 33.3	
	baz=86,slow=37						
APA0	**Apatity Array**	**0.29**	**260**	Pg	Pg	15 15 27.7	-0.1
	baz=80,slow=16						
APA0				Lg	Lg	15 15 31.9	
	baz=82,slow=37						
APA0				Rg	Rg	15 15 33.3	
	baz=86,slow=37						
APA0	**Apatity Array**	**0.29**	**260**	Pg	Pg	15 15 27.7	-0.1
	SNR=90						
APA0				Lg	Lg	15 15 31.9	
	SNR=90						
ARA0	**ARCESS Array S**	**3.56**	**306**	Pn	Pn	15 16 18.4	-0.3
	baz=121,slow=16						
ARA0				Pg	Pb	15 16 26.5	+0.5
	baz=122,slow=16						
ARA0				Sn	Sn	15 16 59.9	-1.5
	baz=120,slow=28						
ARA0				Lg	Lg	15 17 12.4	
	baz=127,slow=28						
ARA0	**ARCESS Array S**	**3.56**	**306**	Pn	Pn	15 16 18.4	-0.3
	baz=121,slow=16						
ARA0				Pg	Pb	15 16 26.5	+0.5
	baz=122,slow=16						
ARA0				Sn	Sn	15 16 59.9	-1.5
	baz=120,slow=28						
ARA0				Lg	Lg	15 17 12.4	
	baz=127,slow=28						
ARA0	**ARCESS Array S**	**3.56**	**306**	Pn	Pn	15 16 18.4	-0.3
	SNR=50						
ARA0	**ARCESS Array S**	**3.56**	**306**	Pg	Pb	15 16 26.5	+0.5
	SNR=90						
ARA0				Sn	Sn	15 16 59.9	-1.5
	SNR=50						
ARA0				Lg	Lg	15 17 12.4	
	SNR=19						
FIA0	**FINESS Array S**	**7.05**	**211**	Lg	Lg	15 18 59.7	
	baz=28,slow=37						
FIA0	**FINESS Array S**	**7.05**	**211**	Lg	Lg	15 18 59.7	
	baz=28,slow=37						

MEX 03 15:25:46.4±0.6, 15°79N×93°38W, h92km±6km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.18**	**119**	*e*P	Pn	15 25 57.3	-2.3
PCIG				*e*S	Sn	15 26 07.8	-1.6
CCIG	**Comitan**	**1.29**	**68**	*e*P	Pn	15 26 08.8	-1.0
CCIG				*i* S	Sn	15 26 25.3	-2.3

*NIED **03** 15:26:00,38°.70N×144°.60E,h5km,Mw3.8 Best double couple: M₀5.85000×10¹⁴ NP1:φ₁s17.00000°,δ38.00000°, λ-71.00000°. NP2:φ₂s174.00000°,δ55.00000°, λ-104.00000°.*
*IDC **03** 15:26:21.2±0.9,38°.57N×144°.96E,h0km,mb3.8/7, mb1 4.0/12,mb1mx3.7/43,mbtmp3.9/12,ML3.5/5,MS2.7/2, Ms1 2.7/2,ms1mx2.3/49, Error ellipse: s-maj=27.1km s-min=16.5km az=93.0*
*NEIC **03** 15:26:22.8±0.8,38°.61N×144°.86E,h10km,mb4.0/1, Error ellipse: s-maj=14.9km s-min=9.6km az=107.0*
*ISCJB **03** 15:26:24.5±0.6,38°.68N±0°.04×144°.73E±0°.05,h35km, mb3.8/8,MS4.4/1, Error ellipse: s-maj=6.0km s-min=4.4km az=41.9*
*JMA **03** 15:26:25.2±0.2,38°.71N×144°.63E,h31km,M4.2*
ISC 03 15:26:26.8±0.9, 38°68N±0°.05×144°71E±0°.08, h35km, n41, σ1s74/54, mb3.8/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.41**	**281**	P	**Pn**	**15 27 02.9**	**-0.8**
OFUJ				S	**Sn**	**15 27 31.1**	**-0.8**
MIYJ	**Miyakonagasawa**	**2.42**	**293**	P	**Pn**	**15 27 02.9**	**-1.0**
MIYJ				*e*S	**Sn**	**15 27 30.6**	**-1.7**
JTH	**Tanohata**	**2.54**	**301**	P	**Pn**	**15 27 04.7**	**-0.8**
JTH				S	**Sn**	**15 27 34.5**	**-0.8**
JMK	**Ichinoseki**	**2.74**	**277**	P	**Pn**	**15 27 08.1**	**-0.1**
JMK				S	**Sn**	**15 27 39.6**	**-0.5**
JOM	**Ohasama**	**2.77**	**288**	P	**Pn**	**15 27 08.5**	**-0.3**
JANG	**Nango**	**2.99**	**305**	P	**Pn**	**15 27 10.4**	**-1.4**
JOU	**Okura**	**3.19**	**266**	P	**Pn**	**15 27 14.4**	**-0.1**
JOU				S	**Sn**	**15 27 50.7**	**-0.5**
JRG	**Rokugo**	**3.25**	**284**	P	**Pn**	**15 27 15.5**	**+0.2**
JRG				S	**Sn**	**15 27 53.9**	**+1.1**
JYK	**Kaneyama**	**3.41**	**275**	P	**Pn**	**15 27 17.5**	**+0.1**
JAH	**Hinai**	**3.50**	**297**	P	**Pn**	**15 27 18.4**	**-0.3**
JAH				*e*S	**Sn**	**15 27 58.5**	**-0.3**
JTM	**Tenmabayashi**	**3.51**	**308**	P	**Pn**	**15 27 18.3**	**-0.5**
JTM				S	**Sn**	**15 27 56.9**	**-2.2**
ERM	**Erimo**	**3.54**	**341**	*e*Pn	**Pn**	**15 27 18.8**	**-0.5**
ERM				*e*Sn	**Sn**	**15 28 00.6**	**+0.8**
JFT	**Otama**	**3.64**	**253**	P	**Pn**	**15 27 20.6**	**0.0**
JFT				S	**Sn**	**15 28 01.5**	**-0.8**
JOT	**Ohata**	**3.90**	**315**	P	**Pn**	**15 27 24.9**	**+0.7**
JCH	**Churui**	**4.06**	**346**	P	**Pn**	**15 27 24.3**	**-2.2**
JCH				S	**Sn**	**15 28 09.9**	**-2.9**
JKB	**Kayabe**	**4.26**	**320**	P	**Pn**	**15 27 29.7**	**+0.5**
NEM2	**Nemuro 2**	**4.75**	**9**	P	**Pn**	**15 27 31.9**	**-4.0**
JOSM	**Okushiri--Mats**	**5.25**	**312**	P	**Pn**	**15 27 43.3**	**+0.6**
JTKR	**Abashiri--Toko**	**5.32**	**354**	P	**Pn**	**15 27 41.9**	**-1.8**
JRY	**Ryogami san**	**5.33**	**242**	P	**Pn**	**15 27 42.8**	**-1.2**
MJAR	**Matsushiro Arr**	**5.58**	**250**	Pn	**Pn**	**15 27 47.5**	**+0.1**
	3.2nm,0.3s,baz=51,slow=9.8,SNR=30						
MJAR				Sn	**Sn**	**15 28 51.0**	**+0.7**
	1.9nm,0.3s,baz=79,slow=18,SNR=5.1						
MJAR				LR	LR	15 30 12.2	
	comp=Z,51nm,19.8s,baz=75,slow=40						
MAJO	**Matsushiro**	**5.58**	**250**	*e*Pn	**Pn**	**15 27 46.5**	**-0.9**
	19nm,0.4s						
MAJO				*e*Sn	**Sn**	**15 28 53.0**	**+2.7**
MAT	**Matsushiro**	**5.58**	**250**	P	**Pn**	**15 27 47.9**	**+0.5**
MAT				S	**Sn**	**15 28 51.2**	**+0.9**
ASAJ	**Asahikawa**	**5.66**	**344**	Pn	**Pn**	**15 27 47.1**	**-1.3**
	1.4nm,0.3s,baz=184,slow=13,SNR=29						
ASAJ				Sn	**Sn**	**15 28 48.7**	**-3.5**
	1.1nm,0.3s,baz=345,slow=20,SNR=3.1						
ASAJ	**Asahikawa**	**5.66**	**344**	*e*Pn	**Pn**	**15 27 46.7**	**-1.7**
	3.6nm,0.7s						
ASAJ				*e*Sn	**Sn**	**15 28 53.0**	**+0.8**
JHJ	**Hachijo jima 2**	**6.83**	**217**	Pn	**Pn**	**15 28 01.8**	**-2.8**
	20nm,0.3s,baz=75,slow=21,SNR=9.9						
JHJ				Sn	**Sn**	**15 29 13.7**	**-7.4**
	16nm,0.3s,baz=32,slow=8.6,SNR=4.5						
USRK	**Ussuriysk Ar.**	**11.02**	**304**	Pn	**Pn**	**15 29 03.5**	**+1.5**
	0.6nm,0.3s,baz=107,slow=15,SNR=12						
JNU	**Nakatsue**	**12.50**	**248**	LR	LR	15 34 03.5	
	comp=Z,56nm,19.5s,baz=121,slow=37						
KLR	**Kul'dur**	**14.06**	**323**	Pn	**Pn**	**15 29 44.2**	**+0.8**
	0.1nm,0.3s,baz=142,slow=7.4,SNR=3.7						
SEY	**Seymchan**	**24.73**	**8**	P	**P**	**15 31 46.0**	**+1.5**
	1.7nm,0.9s,baz=162,slow=14,SNR=4.3						
H11N2	**WAKE ISLAND Hy 26.93**	**128**		T	T	15 59 57.9	
	baz=320,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy 26.94**	**128**		T	T	15 59 57.0	
	baz=320,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy 26.94**	**128**		T	T	16 00 00.8	
	baz=320,slow=75,SNR=13						
ZALV	**Zalesovo Beam**	**42.77**	**311**	P	**P**	**15 34 22.1**	**+1.4**
	0.8nm,0.4s,baz=94,slow=9.4,SNR=3.6						
ZALV				PcP	**PcP**	**15 36 12.3**	**+0.7**
	0.5nm,0.4s,baz=116,slow=3.4,SNR=2.9						
MKAR	**Makanchi Array**	**45.48**	**301**	P	**P**	**15 34 43.7**	**+1.2**
	0.4nm,0.3s,baz=82,slow=9.9,SNR=5.9						
ILAR	**Eielson Array**	**46.70**	**33**	P	**P**	**15 34 50.4**	**-1.4**
	0.3nm,0.8s,baz=264,slow=8.1,SNR=3.3						
ABKAR	**Akbulak array**	**58.87**	**310**	*e*P	**P**	**15 36 21.9**	**0.0**
	1.2nm,0.9s						
WRA	**Warramunga Arr**	**59.12**	**191**	P	**P**	**15 36 22.9**	**-1.0**
	2.1nm,0.7s,baz=9.5,slow=6.9,SNR=25						
ASAR	**Alice Springs**	**62.84**	**191**	P	**P**	**15 36 48.6**	**-0.5**
	0.6nm,0.8s,baz=10,slow=7.2,SNR=16						
FINES	**FINESS Array B**	**68.56**	**333**	P	**P**	**15 37 26.3**	**+0.8**
	3.3nm,0.8s,baz=72,slow=6.6,SNR=8.4						
RPZ	**Rata Peaks**	**85.41**	**161**	LR	LR	16 16 36.7	
	comp=Z,131nm,18.2s,baz=240,slow=35						

SKO 03 15:40:17.4, 41°.65N×22°.43E, h8km, M0.7, ML1.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.34**	**162**	*e*Pg	Pg	15 40 24.0	-0.2
VAY				*i* Sg	Sg	15 40 29.9	+1.2
VAY				*e*Lg	Lg	15 40 30.0	
	comp=N,32nm,0.6s						
VAY				*e*Lg	Lg	15 40 31.0	
	comp=

FITZ				S	**S**	**15 48 31.7**	**-2.8**
	1.5nm,0.3s,baz=90,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**14.51**	**161**	P	**P**	**15 46 46.0**	**+0.5**
	3.7nm,0.3s,baz=337,slow=13,SNR=161						
WRA				S	**S**	**15 49 23.5**	**-1.8**
	1.1nm,0.3s,baz=335,slow=22,SNR=5.2						
BLJI	**Banyuglugur**	**15.65**	**263**	P	**Pn**	**15 47 03.3**	**+5.0**
	119nm,0.6s						
ASAR	**Alice Springs**	**17.92**	**166**	P	**Pn**	**15 47 25.2**	**+0.1**
	4.6nm,0.3s,baz=346,slow=11,SNR=509						
ASAR				S	**S**	**15 50 35.7**	**-2.2**
	0.6nm,0.3s,baz=347,slow=20,SNR=23						
ASAR				ScP	**ScP**	**15 54 56.6**	**-7.7**
	0.1nm,0.3s,baz=341,slow=1.5,SNR=4.3						
PMG	**Port Moresby**	**17.99**	**101**	P	**Pn**	**15 47 24.9**	**-1.2**
	0.4nm,0.3s,baz=229,slow=19,SNR=2.3						
CTA	**Charters Tower**	**21.49**	**132**	P	**P**	**15 48 02.4**	**+1.3**
	3.8nm,0.7s,baz=298,slow=12,SNR=9.3						
CBJI	**Citeko**	**22.30**	**268**	P	**P**	**15 48 10.2**	**+1.3**
	170nm,0.9s						
STKA	**Stephens Creek**	**28.01**	**157**	P	**P**	**15 49 00.8**	**+0.7**
	0.9nm,0.6s,baz=16,slow=10,SNR=5.0						
NWAO	**Narrogin (SRO)**	**28.86**	**201**	P	**P**	**15 49 07.6**	**0.0**
	8.5nm,0.9s,baz=279,slow=8.1,SNR=8.5						
PPI	**Padang Panjang**	**29.39**	**280**	P	**P**	**15 49 13.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**38.68**	**310**	P	**P**	**15 50 31.7**	**-0.7**
	0.8nm,0.6s,baz=136,slow=6.8,SNR=8.7						
MJAR	**Matsushiro Arr**	**43.34**	**10**	P	**P**	**15 51 08.0**	**-2.0**
	3.8nm,0.9s,baz=189,slow=9.3,SNR=15						
KSRS	**Korea Array**	**43.45**	**358**	P	**P**	**15 51 10.8**	**-0.1**
	1.5nm,0.6s,baz=176,slow=9.1,SNR=7.1						
USRK	**Ussuriysk Ar.**	**50.23**	**3**	P	**P**	**15 52 02.5**	**-0.7**
	2.4nm,0.6s,baz=168,slow=4.3,SNR=7.4						
ASAJ	**Asahikawa**	**51.51**	**12**	P	**P**	**15 52 12.0**	**-0.8**
	3.0nm,0.7s,baz=252,slow=19						
SONM	**Songino Array**	**57.47**	**342**	P	**P**	**15 52 55.2**	**-0.6**
	0.6nm,0.4s,baz=162,slow=6.6,SNR=5.0						
PETK	**Petropavlovsk-**	**63.80**	**19**	P	**P**	**15 53 37.6**	**-0.6**
	5.1nm,0.7s,baz=180,slow=4.7,SNR=5.0						
MKAR	**Makanchi Array**	**67.18**	**327**	P	**P**	**15 53 59.4**	**-0.6**
	0.4nm,0.3s,baz=107,slow=8.4,SNR=5.2						
ZALV	**Zalesovo Beam**	**70.56**	**334**	P	**P**	**15 54 18.7**	**-2.0**
	1.0nm,0.5s,baz=112,slow=4.5,SNR=5.5						
VNDA	**Vanda**	**73.31**	**173**	P	**P**	**15 54 36.0**	**-0.7**
	0.7nm,0.9s,baz=304,slow=5.9,SNR=3.1						
NRIK	**Noril'sk**	**80.62**	**346**	P	**P**	**15 55 16.4**	**-1.1**
	1.0nm,0.4s,baz=84,slow=2.0,SNR=4.2						
ILAR	**Eielson Array**	**92.94**	**25**	P	**P**	**15 56 14.4**	**-3.1**
	0.4nm,0.7s,baz=310,slow=4.2,SNR=3.6						

IDC 03 15:49:11.5±27.0, 19.89S×174.05W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/41, mbtmp3.8/4, Error ellipse: s-maj=501.5km s-min=147.7km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.25**	**263**	P	P	15 56 26.4	+1.2
	2.4nm,0.8s,baz=90,slow=14,SNR=4.0						
STKA	**Stephens Creek**	**41.39**	**244**	P	P	15 56 58.8	-0.9
	0.5nm,0.5s,baz=101,slow=5.2,SNR=2.9						
ASAR	**Alice Springs**	**48.27**	**256**	P	P	15 57 54.6	-0.1
	1.2nm,0.8s,baz=89,slow=8.4,SNR=7.5						
WRA	**Warramunga Arr**	**48.36**	**261**	P	P	15 57 54.9	-0.6
	0.9nm,0.8s,baz=96,slow=7.9,SNR=10.0						

JMA 03 15:59:43.6, 34.90N×137.97E, h17km, M-0.2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMMJ	**Hamamatsu 2**	**0.21**	**258**	P	Pg	15 59 48.7	+0.1
HMMJ				S	Sg	15 59 52.0	+0.1
JYZW	**Yoshizawa**	**0.22**	**296**	P	Pg	15 59 48.8	+0.1
JYZW				S	Sg	15 59 52.2	+0.1

*NIED **03** 16:00:00, 37.00N×141.20E, h11km, Mw5.4 Best double couple: M₀1.31000×10¹⁷ NP1:φs248.00000°, δ34.00000°, λ-73.00000°. NP2:φs47.00000°, δ57.00000°, λ-101.00000°.*

*BJI **03** 16:00:10.3, 36.89N×141.40E, h25km, mb5.4/78, mB5.2/64, Ms5.5/94, Ms7 5.3/88*

*GCMT **03** 16:00:13.9±0.1, 37.03N×141.18E, h18km, MW5.4/120, Moment Tensor Solution. s97,c184; s120,c271; Duration: 1ꜛ2 Moment tensor: Scale 10¹⁷Nm; Mrr-1.46±.03; Mθθ 1.03±.02; Mφφ 0.43±.02; Mrθ-0.53±.04; Mθφ0.85±.01; Mφr0.08±.04; Best double couple: M₀1.64400×10¹⁷ NP1:φs69.00000°, δ54.00000°, λ-72.00000°. NP2:φs220.00000°, δ40.00000°, λ-113.00000°. Principal axes: T 1.6840, Plg7.0000°, Azm146.0000°; N -0.0780, Plg14.0000°, Azm238.0000°; P -1.6030, Plg74.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **03** 16:00:14.0±0.9, 37.11N×141.07E, h24km, mb5.8/81, MS5.4/40 Error ellipse: s-maj=6.3km s-min=4.0km az=99.7*

*JMA **03** 16:00:14.1±0.1, 36.99N×141.21E, h30km±1km, M5.5*

*NEIC **03** 16:00:15.0±0.1, 37.07N×140.91E, h17km, mb5.7/110, ME5.1, MS4.9/133, MW5.5, MW5.4, Error ellipse: s-maj=3.3km s-min=2.2km az=143.0, Moment Tensor Solution. s36 Moment tensor: Scale 10¹⁷Nm; Mrr-1.29; Mθθ 1.00; Mφφ 0.29; Mrθ-0.64; Mθφ 1.06; Mφr-0.54; Best double couple: M₀1.80000×10¹⁷ NP1:φs51.00000°, δ59.00000°, λ-94.00000°. NP2:φs239.00000°, δ31.00000°, λ-83.00000°. Principal axes: T 1.9700, Plg14.0000°, Azm144.0000°; N -0.4700, Plg3.0000°, Azm53.0000°; P -1.5100, Plg75.0000°, Azm310.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [II] at Tokyo. Felt widely in eastern Honshu. Recorded [5L JMA] in Fukushima.

*ISCJB **03** 16:00:15.5±0.4, 37.03N±0.01×141.06E±0.02, h31km±2km, mb5.6/258, MS5.0/206 Error ellipse: s-maj=2.6km s-min=1.8km az=147.5*

*NEIC **03** 16:00:16.0±0.0, 36.87N×141.15E, h24km, Moment Tensor Solution. s17 Moment tensor: Scale 10¹⁷Nm; Mrr-1.20; Mθθ 0.60; Mφφ 0.60; Mrθ-1.00; Mθφ 0.50; Mφr-0.30; Best double couple: M₀2.00000×10¹⁷ NP1:φs63.00000°, δ66.00000°, λ-76.00000°. NP2:φs212.00000°, δ27.00000°, λ-118.00000°. Principal axes: T 1.4000, Plg20.0000°, Azm143.0000°; N 0.2000, Plg12.0000°, Azm238.0000°; P -1.7000, Plg65.0000°, Azm357.0000°;*

*IDC **03** 16:00:17.2±2.0, 37.01N×141.01E, h33km±14km, mb5.3/32, mb1 5.4/37, mb1mx5.3/44, mbtmp5.4/37, ML4.7/5, MS4.8/38, Ms1 4.8/38, ms1mx4.7/49 Error ellipse: s-maj=11.9km s-min=8.6km az=96.0*

ISC 03 16:00:15.3±0.3, 37.04N±0.02×141.08E±0.03, h22km±2km, h21km:pP-P, n1583, σ1ꜛ44/1640, mb5.7/298, MS5.0/210, 41C-96D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.23**	**285**	⇑P	**Pb**	**16 00 22.0**	**+0.7**
JFK	**Kawauchi**	**0.36**	**334**	⇑P	**Pb**	**16 00 23.6**	**+0.6**
JFK				S	**Sb**	**16 00 30.1**	**+1.9**
JHO	**Hitachi**	**0.59**	**223**	⇓P	**Pb**	**16 00 26.3**	**-0.7**
JHO				S	**Sb**	**16 00 35.6**	**+0.6**
JFT	**Otama**	**0.76**	**309**	⇑P	**Pn**	**16 00 30.7**	**0.0**
JFT				*e*S	**Sn**	**16 00 42.2**	**+0.7**
JMM	**Marumori**	**0.85**	**345**	⇑P	**Pb**	**16 00 30.7**	**-0.7**
JMM				S	**Sb**	**16 00 43.0**	**+0.6**
JSB	**Shiboa**	**0.93**	**266**	⇓P	**Pn**	**16 00 33.6**	**+0.6**
JSB				S	**Sn**	**16 00 47.5**	**+1.8**
JFY	**Yanaizu**	**1.15**	**289**	⇓P	**Pb**	**16 00 37.1**	**+0.6**
JFY				S	**Sn**	**16 00 53.7**	**+2.4**
JAG	**Ashikaga**	**1.44**	**245**	⇓P	**Pn**	**16 00 39.8**	**-0.3**
JKT	**Katashina**	**1.49**	**260**	⇓P	**Pb**	**16 00 41.8**	**-0.5**
JHK	**Hiroka**	**1.66**	**278**	P	**Pb**	**16 00 44.5**	**-0.6**
I30JP	**ISUMI INFRASON**	**1.84**	**200**	Pn	**Pn**	**16 00 45.8**	**+0.3**
	baz=35,slow=15,SNR=1.8						
I30JP				Sn	**Sn**	**16 01 08.9**	**+0.8**
	baz=6.3,slow=365						
I30JP				*i*		16 10 30.0	
	baz=14,slow=323,SNR=1.2						
JIZZ	**Izumozaki**	**1.95**	**285**	⇓P	**Pb**	**16 00 49.5**	**-0.5**
JGK	**Kuni**	**2.01**	**257**	⇓P	**Pn**	**16 00 49.6**	**+1.6**
JRY	**Ryogami san**	**2.03**	**240**	⇓P	**Pn**	**16 00 47.9**	**-0.3**
OFUJ	**Ofunato**	**2.09**	**13**	⇓P	**Pn**	**16 00 47.9**	**-1.1**
JJN	**Nakama**	**2.33**	**272**	P	**Pn**	**16 00 54.3**	**+2.0**
MJAR	**Matsushiro Arr**	**2.35**	**259**	Pn	**Pn**	**16 00 54.0**	**+1.4**
	263nm,0.3s,baz=87,slow=15,SNR=1437						
MJAR				Sn	**Sb**	**16 01 26.8**	**+1.2**
	470nm,0.3s,baz=324,slow=36,SNR=7.6						
MAJO	**Matsushiro**	**2.36**	**259**	*d*P	**Pn**	**16 00 54.4**	**+1.7**
MAJO	**Matsushiro**	**2.36**	**259**	*e*Pn	**Pn**	**16 00 54.5**	**+1.9**
MAJO				*e*Sn	**Sn**	**16 01 20.5**	**-0.5**
MAT	**Matsushiro**	**2.36**	**259**	P	**Pn**	**16 00 54.5**	**+1.8**
MAT				S	**Sb**	**16 01 27.2**	**+1.6**
MAT	**Matsushiro**	**2.36**	**259**	P	**Pn**	**16 00 54.5**	**+1.8**
MJB9	**Matsu-Tunnel**	**2.36**	**259**	*e*Pn	**Pn**	**16 00 54.5**	**+1.8**
JSD	**Sado**	**2.45**	**295**	P	**Pn**	**16 00 54.5**	**+0.6**
JNG	**Nsakai**	**2.47**	**256**	P	**Pn**	**16 00 56.0**	**+1.6**
JYN	**Shimob**	**2.56**	**234**	P	**Pn**	**16 00 55.8**	**+0.3**
JNT	**Takato**	**2.64**	**245**	P	**Pn**	**16 00 58.0**	**+1.3**
JSZ	**Suzu**	**2.99**	**279**	P	**Pn**	**16 01 02.6**	**+1.3**
SHZ3	**Shizuoka 3**	**3.05**	**231**	P	**Pn**	**16 01 03.2**	**+1.0**
JNY	**Yasuok**	**3.10**	**238**	P	**Pn**	**16 01 04.6**	**+1.7**
JGN	**Niukaw**	**3.13**	**256**	P	**Pn**	**16 01 05.6**	**+2.2**
JYZW	**Yoshizawa**	**3.39**	**234**	P	**Pn**	**16 01 08.1**	**+1.2**
JHG	**Hegura jima**	**3.40**	**285**	P	**Pn**	**16 01 08.5**	**+1.5**
JJH	**Hakui**	**3.44**	**269**	P	**Pn**	**16 01 10.1**	**+2.6**
HMMJ	**Hamamatsu 2**	**3.49**	**232**	P	**Pn**	**16 01 09.2**	**+1.0**
JAO	**Obara**	**3.56**	**241**	P	**Pn**	**16 01 11.0**	**+1.7**
INU	**Inuyama**	**3.69**	**244**	*e*Pn	**Pn**	**16 01 12.6**	**+1.6**
JHJ	**Hachijo jima 2**	**4.05**	**196**	Pn	**Pn**	**16 01 15.7**	**-0.4**
	378nm,0.3s,baz=332,slow=20,SNR=110						
JHJ				Sn	**Sn**	**16 02 00.1**	**-2.7**
	321nm,0.3s,baz=186,slow=10,SNR=3.7						
JHJ				LR	LR	16 03 04.8	
	comp=Z,9μm,20.5s,baz=46,slow=42						
JHJ2	**Mitsune**	**4.05**	**195**	*e*Pn	**Pn**	**16 01 15.8**	**-0.3**
JHJ2				*e*Sn	**Sn**	**16 02 02.3**	**-0.6**
JFM	**Mihama**	**4.38**	**251**	P	**Pn**	**16 01 23.1**	**+2.6**
JKN2	**Miekihoku**	**4.81**	**236**	P	**Pn**	**16 01 27.2**	**+0.8**
JHG	**Heguri**	**4.99**	**243**	P	**Pn**	**16 01 30.7**	**+1.9**
ERM	**Erimo**	**5.22**	**17**	*c i*P	**Pn**	**16 01 31.2**	**-0.8**
ERM				pmax	pmax		
	comp=Z,386nm,0.8s						
ERM	**Erimo**	**5.22**	**17**	*e*Pn	**Pn**	**16 01 29.8**	**-2.2**
ERM				*e*Sn	**Sn**	**16 02 31.9**	**+0.4**
JKSM	**Kasumi**	**5.38**	**256**	P	**Pn**	**16 01 36.7**	**+2.5**
JNM	**Ikuma**	**6.68**	**259**	P	**Pn**	**16 01 56.1**	**+4.0**
JHS	**Saijyo**	**6.76**	**255**	P	**Pn**	**16 01 56.3**	**+3.0**
ASAJ	**Asahikawa**	**7.16**	**9**	Pn	**Pn**	**16 01 58.2**	**-0.4**
	comp=Z,30nm,0.3s,baz=217,slow=8.9,SNR=114						
ASAJ				Sn	**Sn**	**16 03 20.8**	**+1.5**
	comp=Z,15nm,0.3s,baz=209,slow=19,SNR=2.9						
ASAJ	**Asahikawa**	**7.16**	**9**	*e*Pn	**Pn**	**16 01 57.9**	**-0.7**
ASAJ				*e*Sn	**Sn**	**16 03 19.1**	**-0.1**
ASAJ				Sn	**Sn**	**16 03 20.8**	**+1.5**
JHIK	**Hikimi**	**7.84**	**254**	P	**Pn**	**16 02 11.2**	**+3.1**
YUK	**Yuzh-Kuril'sk**	**7.88**	**26**	*i* P	**Pn**	**16 02 05.5**	**-2.9**
JNU	**Nakatsue**	**9.23**	**248**	Pn	**Pn**	**16 02 30.1**	**+3.1**
	comp=Z,2.7nm,0.3s,baz=88,slow=2.2,SNR=35						
JNU	**Nakatsue**	**9.23**	**248**	*e*Pn	**Pn**	**16 02 24.0**	**-3.0**
JNU				*e*Sn	**Sn**	**16 04 08.5**	**-1.7**
KUR	**Kuril'sk**	**9.65**	**30**	*d i*P	**Pn**	**16 02 31.1**	**-1.6**
KUR				*i* S	**Sn**	**16 04 14.1**	**-6.3**
KUR				pmax	pmax		
	comp=N,76nm,0.8s						
KUR				pmax	pmax		
	comp=E,46nm,0.8s						
KUR				pmax	pmax		
	comp=Z,155nm,0.8s						
KUR				pmax	pmax		
	comp=Z,278nm,2.5s						
KUR				smax	smax		
	comp=N,200nm,0.7s						
KUR				smax	smax		
	comp=E,228nm,0.7s						
USRK	**Ussuriysk Ar.**	**9.94**	**319**	Pn	**Pn**	**16 02 40.8**	**+4.1**
	comp=E,12nm,0.3s,baz=130,slow=14,SNR=276						
USRK				LR	LR	16 06 14.6	
	comp=E,7μm,19.1s,baz=141,slow=36						
CBIJ	**Chichi jima**	**9.96**	**174**	*e*Pn	Pn	16 02 32.3	-4.8
CBIJ				Sn	Sn	16 04 16.4	-12
CBIJ				*e*Sn	Sn	16 04 29.2	+0.9
JCJ	**Chichijima**	**9.96**	**174**	Pn	**Pn**	**16 02 33.4**	**-3.7**
	comp=E,436nm,0.3s,baz=345,slow=7.0,SNR=113						
JCJ				Sn	Sn	16 04 16.4	-12
	comp=E,105nm,0.3s,baz=277,slow=21,SNR=6.5						
YSS	**Yuzh-Sakhalins**	**9.98**	**7**	⇑P	**Pn**	**16 02 36.7**	**-0.6**
YSS				*e*S	**Sn**	**16 04 28.6**	**0.0**
YSS				pmax	pmax		
	comp=Z,160nm,0.8s						
YSS				MLR	MLR		
	comp=Z,7μm,12.0s						
YSS				MLR	MLR		
	comp=N,4μm,17.0s						
YSS				MLR	MLR		
	comp=E,8μm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.98**	**7**	*e*Pn	**Pn**	**16 02 36.5**	**-0.8**
YSS				*e*Sn	**Sn**	**16 04 23.2**	**-5.4**
KSRS	**Korea Array**	**10.49**	**276**	Pn	Pn	16 02 49.3	+4.9
	comp=E,7.2nm,0.3s,baz=91,slow=14,SNR=173						
KSRS				LR	LR	16 06 27.2	
	comp=E,5μm,19.1s,baz=88,slow=35						
KSRS				PcP	**PcP**	**16 08 49.2**	**+0.8**
	comp=E,0.3nm,0.3s,baz=116,slow=1.0,SNR=5.4						
KS01	**Wonju Array Si**	**10.52**	**276**	*e*Pn	**Pn**	**16 02 47.9**	**+3.2**
KS15	**Wonju Array Si**	**10.53**	**276**	*e*Pn	**Pn**	**16 02 49.4**	**+4.6**
KSAR	**Wonju Array Be**	**10.53**	**276**	P	**Pn**	**16 02 49.3**	**+4.5**
KSAR	**Wonju Array Be**	**10.53**	**276**	Pn	**Pn**	**16 02 49.3**	**+4.5**
KSAR				PcP	**PcP**	**16 08 49.2**	**+0.7**
TJN	**Taejon**	**11.03**	**271**	*de*P	**Pn**	**16 02 55.2**	**+3.5**
INCN	**Inchon**	**11.52**	**277**	*e*Pn	**Pn**	**16 02 57.1**	**-1.4**
MDJ	**Mudanjiang**	**11.52**	**315**	P	**Pn**	**16 03 02.8**	**+4.4**
MDJ				S	**Sn**	**16 05 13.1**	**+6.8**
MDJ				PcP	**PcP**	**16 08 51.2**	**+1.8**
MDJ				PMZ			
	comp=E,210nm,0.9s						
MDJ				PMZ			
	comp=E,2μm,6.6s						
MDJ				LN			
	comp=E,5μm,12.4s						
MDJ				LE			
	comp=E,5μm,12.1s						
MDJ				LZ			
	comp=E,8μm,18.1s						
UGL	**Uglegorsk**	**12.05**	**3**	*e*P	**Pn**	**16 03 04.0**	**-1.6**
UGL				*e*		16 05 18.0	
UGL				pmax	pmax		
	comp=Z,110nm,0.8s						
UGL				pmax	pmax		
	comp=Z,600nm,6.0s						
UGL				MLR	MLR		
	comp=Z,11μm,14.0s						
UGL				MLR	MLR		
	comp=N,9μm,16.0s						
UGL				MLR	MLR		
	comp=E,6μm,16.0s						
HABR	**Khabarovsk**	**12.25**	**341**	*de*P	**Pn**	**16 03 05.8**	**-2.5**
HABR				*e*S	**Sn**	**16 05 20.8**	**-3.2**
HABR				pmax	pmax		
	comp=Z,28nm,1.0s						
HABR				MLR	MLR		
	comp=Z,5μm,13.0s						
CN2	**Changchun**	**13.68**	**304**	*e*P	**Pn**	**16 03 29.8**	**+2.0**
CN2				*e*sP	P	16 03 39.5	+3.1
CN2				*e*S	**Sn**	**16 06 01.2**	**+2.2**
CN2				PMZ			
	comp=Z,20nm,1.3s						
CN2				PMZ			
	comp=Z,200nm,8.0s						
CN2				LN			
	comp=Z,12μm,14.0s						
CN2				LE			
	comp=Z,10μm,14.0s						
CN2				LZ			
	comp=Z,10μm,15.0s						
TYV	**Tymovskoe**	**13.86**	**4**	*e*P	**Pn**	**16 03 31.0**	**+0.7**
TYV				*e*S	**Sn**	**16 06 04.0**	**+0.5**
TYV				pmax	pmax		
	comp=N,1μm,4.0s						
TYV				pmax	pmax		
	comp=Z,1μm,5.0s						
TYV				pmax	pmax		
	comp=Z,231nm,0.8s						
TYV				smax	smax		
	comp=N,1μm,5.0s						
TYV				smax	smax		
	comp=E,1μm,9.0s						
TYV				MLR	MLR		
	comp=N,10μm,13.0s						
TYV				MLR	MLR		
	comp=Z,15μm,14.0s						
KLR	**Kul'dur**	**13.94**	**334**	Pn	**Pn**	**16 03 31.8**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=136,slow=12,SNR=32						
KLR				LR	LR	16 08 42.5	
	comp=Z,3μm,19.2s,baz=146,slow=36						
KLR				PcP	**PcP**	**16 08 53.5**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=216,slow=2.9,SNR=4.1						
KLR	**Kul'dur**	**13.94**	**334**	*d i*P	**Pn**	**16 03 32.7**	**+1.3**
SNY	**Shenyang**	**14.34**	**295**	⇓P	**Pn**	**16 03 39.2**	**+2.3**
SNY				PMZ			
	comp=Z,39nm,1.3s						
SNY				PMZ			
	comp=Z,730nm,5.3s						
SNY				LN			
	comp=Z,13μm,14.2s						
SNY				LE			
	comp=Z,9μm,16.4s						
SNY				LZ			
	comp=Z,22μm,12.8s						
DL2	**Dalian**	**15.45**	**283**	⇓*i*P	**P**	**16 03 54.8**	**-1.4**
DL2				S	**S**	**16 06 52.9**	**-5.0**
DL2				PMZ			
	comp=Z,130nm,0.9s						
DL2				PMZ			
	comp=Z,2μm,11.9s						
DL2				LN			
	comp=Z,6μm,11.2s						
DL2				LE			
	comp=Z,8μm,13.4s						
DL2				LZ			
	comp=Z,10μm,13.4s						
NKL	**Nikolayevsk**	**16.11**	**359**	*e*P	**Pn**	**16 03 56.0**	**-4.2**
NKL				*e*		16 06 55.0	
NKL				pmax	pmax		
	comp=Z,22nm,1.0s						
NKL				MLR	MLR		
	comp=N,10μm,13.0s						
NKL				MLR	MLR		
	comp=E,6μm,13.0s						
NKL				MLR	MLR		
	comp=Z,18μm,13.0s						
SKR	**Severo-Kuril's**	**17.38**	**34**	*e*P	**Pn**	**16 04 13.9**	**-2.3**
SKR				pmax	pmax		
	comp=Z,208nm,1.0s						
SKR				MLR	MLR		
	comp=Z,2μm,18.0s						
SSE	**Sheshan**	**17.50**	**256**	P	**Pn**	**16 04 17.9**	**0.0**
SSE				sP	**sP**	**16 04 27.7**	**-0.1**
SSE				S	**Sn**	**16 07 30.6**	**-1.6**
SSE				PMZ			
	comp=Z,42nm,0.7s						
SSE				PMZ			
	comp=Z,600nm,6.5s						
SSE				LN			
	comp=Z,8μm,21.4s						
SSE				LE			
	comp=Z,4μm,21.3s						
SSE				LZ			
	comp=Z,9μm,14.3s						
NJ2	**Nanjing**	**18.96**	**261**	*e*P	**P**	**16 04 34.7**	**-0.3**
NJ2				pP	**pP**	**16 04 42.2**	**+1.2**
NJ2				S	**S**	**16 08 11.4**	**+2.3**
NJ2				PMZ			
	comp=Z,77nm,0.9s						
NJ2				PMZ			
	comp=Z,350nm,5.6s						
NJ2				LN			
	comp=Z,7μm,13.0s						
NJ2				LE			
	comp=Z,9μm,13.0s						
NJ2				LZ			
	comp=Z,9μm,15.7s						
BJI	**Beijing**	**19.69**	**286**	P	**P**	**16 04 42.0**	**-0.9**
BJI				S	**S**	**16 08 21.5**	**-2.3**
BJI				PMZ			
	comp=Z,83nm,1.4s						
BJI				PMZ			
	comp=Z,2μm,11.5s						
BJI				LN			
	comp=Z,3μm,15.2s						
BJI				LE			
	comp=Z,4μm,16.1s						
BJI				LZ			
	comp=Z,3μm,15.8s						
BJT	**Baijiatuau**	**19.70**	**286**	*e*P	**P**	**16 04 37.5**	**-5.5**
BJT				pmax	pmax		
	comp=Z,56nm,0.6s						
BJT	**Baijiatuau**	**19.70**	**286**	*e*P	**P**	**16 04 37.5**	**-5.5**
	comp=Z,56nm,0.6s						
HIA	**Hailar**	**19.71**	**315**	*e*P	**P**	**16 04 40.6**	**-2.5**
HIA				pmax	pmax		
	comp=Z,54nm,0.9s						
HIA	**Hailar**	**19.71**	**315**	*e*P	**P**	**16 04 40.6**	**-2.5**
	comp=Z,54nm,0.9s						
PEA0	**Petropavlovsk-**	**19.82**	**31**	*e*P	**P**	**16 04 44.5**	**+0.3**
PEA0B	**Petropavlovsk-**	**19.82**	**31**	*e*P	**P**	**16 04 45.0**	**+0.7**
	comp=Z,80nm,0.8s						
PETK	**Petropavlovsk-**	**19.82**	**31**	P	**P**	**16 04 44.5**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=193,slow=9.2,SNR=58						
PETK				PcP	**PcP**	**16 09 02.3**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=165,slow=2.2,SNR=4.4						
PETK				LR	LR	16 11 52.8	
	comp=Z,2μm,21.4s,baz=217,slow=35						
YOJ	**Yonaguni jima**	**19.91**	**236**	*e*P	**P**	**16 04 43.3**	**-2.2**
YOJ				pmax	pmax		
	comp=Z,51nm,0.7s						
YOJ	**Yonaguni jima**	**19.91**	**236**	*e*P	**P**	**16 04 43.3**	**-2.2**
	comp=Z,51nm,0.7s						
PET	**Petropavlovsk**	**20.15**	**32**	*de*P	**P**	**16 04 48.2**	**+0.4**
PET				*e*S	**S**	**16 08 27.9**	**-5.1**
PET				pmax	pmax		
	comp=Z,1μm,14.2s						
PET				pmax	pmax		
	comp=Z,174nm,1.0s						
PET				MLR	MLR		
	comp=Z,3μm,15.0s						
PET				MLR	MLR		
	comp=Z,3μm,15.0s						
PET	**Petropavlovsk**	**20.15**	**32**	*e*P	**P**	**16 04 48.3**	**+0.5**
	comp=Z,233nm,1.2s						
PET				LR	LR		
	comp=Z,3μm,22.0s						
TATO	**Taipei**	**20.61**	**240**	P	**P**	**16 04 52.0**	**-1.0**
TATO	**Taipei**	**20.61**	**240**	PFAKE		16 05 00.0	+4.7
TATO				LR	LR		
	comp=Z,2μm,19.0s						
YHNB	**Yeheng**	**20.88**	**239**	*e*P	**P**	**16 04 52.2**	**-3.9**
	comp=Z,55nm,0.9s						
YHNB				LR	LR		
	comp=Z,2μm,20.0s						
SSLB	**Suanglung**	**21.75**	**238**	*e*P	**P**	**16 05 00.2**	**-5.2**
	comp=Z,26nm,0.7s						
TPUB	**Ta-pu**	**22.30**	**238**	*e*P	**P**	**16 05 06.9**	**-4.3**
	comp=Z,74nm

TIY sS **sS** **16 09 29.0 -4.9**
TIY PMZ
comp=E,520nm,7.4s
TIY LN
comp=E,2μm,14.9s
TIY LE
comp=E,6μm,12.7s
TIY LZ
comp=E,8μm,13.8s
WHN Wuhan 23.09 262⇑ *i*P **P** **16 05 18.3 -1.2**
WHN S **S** **16 09 24.5 -5.0**
WHN PMZ
comp=E,130nm,0.9s
WHN LN
comp=E,7μm,11.0s
WHN LE
comp=E,20μm,12.2s
WHN LZ
comp=E,24μm,12.5s
HHC Hu-ho-hao-te 23.21 289 *e*P **P** **16 05 20.0 -0.8**
HHC sP sP 16 05 32.9 +3.1
HHC PP **PnPn** **16 05 56.5 +10**
HHC S **S** **16 09 28.4 -3.2**
HHC sS sS 16 09 38.1 -4.2
HHC PMZ
comp=E,33nm,1.0s
HHC PMZ
comp=E,400nm,7.1s
HHC LN
comp=E,4μm,12.6s
HHC LE
comp=E,3μm,14.6s
HHC LZ
comp=E,2μm,14.0s
MA2 Magadan 23.40 12 P **P** **16 05 22.6 +0.2**
comp=E,161nm,0.7s,baz=224,slow=9.6,SNR=131
MA2 PcP **PcP** **16 09 09.3 +1.0**
comp=E,8.3nm,0.9s,baz=174,slow=7.9,SNR=3.3
GUMO Guam 23.60 171 P **P** **16 05 24.3 -0.4**
comp=E,166nm,0.9s,baz=180,slow=19,SNR=3.5
GUMO Guam 23.60 171 P **P** **16 05 25.5 +0.9**
GUMO pmax pmax
comp=Z,955nm,1.4s
GUMO MLR MLR
comp=Z,3μm,19.0s
GUMO Guam 23.60 171 P **P** **16 05 25.5 +0.9**
comp=Z,955nm,1.4s
GUMO LR LR
comp=Z,3μm,19.0s
BTO Baotou 24.39 288 *e*P **P** **16 05 30.5 -1.6**
CIT Chita 24.48 316 *e*P **P** **16 05 29.9 -2.8**
CIT *e* 16 05 41.9
CIT *e* 16 06 14.6
CIT *e*S **S** **16 09 53.4 +1.6**
CIT pmax pmax
comp=Z,246nm,1.5s
APYP Conner 25.88 228 *e*P **P** **16 05 42.6 -3.0**
APYP *e*S **S** **16 10 04.7 -10**
YAK Yakutsk 26.00 348 P **P** **16 05 46.4 +0.1**
comp=Z,17nm,0.5s,baz=335,slow=18,SNR=66
YAK LR LR 16 16 19.3
comp=Z,5μm,18.5s,baz=258,slow=37
YAK Yakutsk 26.00 348 *d i*P **P** **16 05 45.9 -0.4**
YAK *e**PP **pP** **16 05 51.2 -1.6**
YAK *e*PPP PPP 16 06 28.6
YAK *e* 16 09 14.4
YAK *e*S **S** **16 10 13.8 -1.8**
YAK *e**SS **sS** **16 10 23.3 -3.0**
YAK *e*SSS SSS 16 11 17.2
YAK *e* 16 16 39.3
YAK pmax pmax
comp=Z,380nm,1.1s
YAK pmax pmax
comp=N,166nm,1.1s
YAK pmax pmax
comp=E,73nm,1.1s
YAK smax smax
comp=E,1μm,5.5s
YAK smax smax
comp=N,769nm,3.0s
YAK MLR MLR
comp=N,4μm,14.0s
YAK MLR MLR
comp=Z,6μm,19.0s
YAK MLR MLR
comp=E,2μm,15.0s
YAK Yakutsk 26.00 348 *e*P **P** **16 05 45.5 -0.8**
comp=E,453nm,0.9s
CAUP Cauayan 26.27 225 *e*P **P** **16 05 51.4 +2.3**
XAN Xi'an 26.27 273 P **P** **16 05 48.1 -1.0**
XAN pP pP 16 05 55.1 -0.5
XAN sP sP 16 05 58.6 +0.3
XAN PP **PnPn** **16 06 27.9 -0.4**
XAN S **S** **16 10 12.4 -8.1**
XAN SS **SnSn** **16 11 30.7 +10**
XAN PMZ
comp=E,20nm,0.8s
XAN PMZ
comp=E,320nm,7.5s
XAN LN
comp=E,4μm,15.5s
XAN LE
comp=E,4μm,14.9s
XAN LZ
comp=E,4μm,13.7s
ABRA Dolores 26.36 228 *e*P **P** **16 05 49.2 -0.7**
SEY Seymchan 26.84 11 P **P** **16 05 55.2 +1.4**
comp=E,66nm,0.9s,baz=200,slow=7.3,SNR=141
SEY Seymchan 26.84 11 *de*P **P** **16 05 55.0 +1.2**
ENH Enshi 27.06 265 *e*P **P** **16 05 54.7 -1.5**
comp=E,79nm,0.5s
ENH *e*PcP **PcP** **16 09 17.8 +0.8**
ENH LR LR
comp=Z,21nm,19.0s
ULN Ulaanbaatar 27.13 304 *de*P **P** **16 05 56.2 -0.6**
ULN pmax pmax
comp=Z,45nm,1.0s
ULN Ulaanbaatar 27.13 304 P **P** **16 05 55.9 -0.9**
SNR=29
ULN Ulaanbaatar 27.13 304 P **P** **16 05 55.9 -0.9**
SNR=29
ULN Ulaanbaatar 27.13 304 *e*P **P** **16 05 55.3 -1.5**
comp=Z,42nm,0.7s
ULN *e*PcP **PcP** **16 09 18.5 +1.4**
ULN LR LR
comp=Z,821nm,19.0s
BALP Baler 27.37 224 *e*P **P** **16 05 58.8 -0.3**
SONA1 Songino Array 27.55 304 *e*P **P** **16 06 00.1 -0.5**
SONM Songino Array 27.56 304 P **P** **16 06 00.2 -0.5**
comp=Z,52nm,0.6s,baz=105,slow=9.0,SNR=121
SONM PcP **PcP** **16 09 18.9 +0.9**
comp=Z,13nm,0.5s,baz=120,slow=2.1,SNR=19
GZH Guangzhou 27.62 248 P **P** **16 05 57.4 -3.8**
GZH S **S** **16 10 32.9 -8.9**
GZH PMZ
comp=Z,810nm,10.4s
PVCP Virac 27.82 217 *e*P **P** **16 06 02.8 -0.2**
BOLP Bolinao 27.82 228 *e*P **P** **16 06 01.8 -1.3**
H11N2 WAKE ISLAND Hy 28.39 120 T T 16 35 39.9
baz=314,slow=75,SNR=2477
H11N1 WAKE ISLAND Hy 28.39 120 T T 16 35 38.8
baz=314,slow=75,SNR=3385
H11N3 WAKE ISLAND Hy 28.40 120 T T 16 35 41.0
baz=314,slow=75,SNR=3577
AUQP San Andres 28.79 220 *e*P **P** **16 06 12.8 +1.1**
H11S1 WAKE ISLAND Hy 29.09 122 T T 16 36 57.7
baz=315,slow=76,SNR=2062
H11S3 WAKE ISLAND Hy 29.09 122 T T 16 36 32.0
baz=315,slow=76,SNR=2086
H11S2 WAKE ISLAND Hy 29.11 122 T T 16 37 00.6
baz=315,slow=76,SNR=1525
LUBP Lubang 29.75 224 *e*P **P** **16 06 19.4 -0.7**
LZH Lanzhou 29.80 280 ⇑P **P** **16 06 20.5 -0.2**
LZH pP pP 16 06 28.0 +0.7
LZH sP sP 16 06 31.2 +1.2
LZH PP **PnPn** **16 07 17.0 +0.4**
LZH *e*S **S** **16 11 12.5 -3.8**
LZH sS sS 16 11 25.0 -2.1
LZH PMZ
comp=Z,130nm,1.2s
LZH PMZ
comp=Z,530nm,5.3s
LZH LN
comp=Z,7μm,14.0s
LZH LE
comp=Z,9μm,15.0s
LZH LZ
comp=Z,10μm,16.3s
OCLP Ormoc 29.83 214 *e*P **P** **16 06 21.1 +0.2**
IRK Irkutsk 29.89 312 *e*P **P** **16 06 20.4 -0.8**
IRK *e* 16 09 23.5
IRK pmax pmax
comp=Z,52nm,0.7s
ZAK Zakamensk 30.05 308 *e*P **P** **16 06 22.1 -0.7**
ZAK pmax pmax
comp=Z,17nm,1.0s
TLY Talaya 30.12 311 *c i*P **P** **16 06 24.1 +0.8**
TLY *e* 16 07 26.5
TLY *e*PPP PPP 16 07 39.4
TLY *e*S **S** **16 11 26.4 +5.7**
TLY *e*SS **SnSn** **16 12 50.6 -3.4**
TLY *e*SSS SSS 16 13 14.3
TLY pmax pmax
comp=Z,40nm,0.7s
TLY MLR MLR
comp=Z,4μm,14.0s
TLY Talaya 30.12 311 *e*P **P** **16 06 23.3 0.0**
TLY LR LR
comp=Z,4μm,19.0s
SJMP San Jose 30.32 221 *e*P **P** **16 06 27.4 +2.1**
GYA Guiyang 30.96 260⇑ *i*P **P** **16 06 30.3 -0.7**
GYA pP sP 16 06 39.4 -0.8
GYA PcP **PcP** **16 09 28.9 +1.9**
GYA S **S** **16 11 30.1 -4.4**
GYA ScP **ScP** **16 13 07.8 -0.7**
GYA SS **SnSn** **16 13 16.0 +1.0**
GYA ScS **ScS** **16 17 03.6 -2.0**
GYA PMZ
comp=Z,60nm,0.8s
GYA PMZ
comp=Z,190nm,7.8s
GYA LN
comp=Z,3μm,15.6s
GYA LE
comp=Z,4μm,16.0s
GYA LZ
comp=Z,5μm,16.8s
BUSP Coron 31.20 222 *e*P **P** **16 06 31.7 -1.3**
CD2 Chengdu 31.40 270 P **P** **16 06 34.4 -0.4**
CD2 pP pP 16 06 41.7 +0.3
CD2 sP sP 16 06 44.9 +0.9
CD2 S **S** **16 11 40.2 -1.1**
CD2 sS sS 16 11 52.7 +0.6
CD2 PMZ
comp=Z,70nm,0.4s
CD2 PMZ
comp=Z,360nm,6.6s
CD2 LN
comp=Z,5μm,12.7s
CD2 LE
comp=Z,5μm,14.3s
CD2 LZ
comp=Z,7μm,14.5s
MOY Mondy 31.73 310 *e*P **P** **16 06 38.0 +0.5**
MOY pmax pmax
comp=Z,24nm,1.3s
ENPP El Nido 32.27 223 *e*P **P** **16 06 42.2 -0.3**
GTA Gaotai 32.30 287 *e*P **P** **16 06 42.2 -0.5**
GTA pP pP 16 06 50.1 +0.8
GTA sP sP 16 06 53.1 +1.1
GTA PcP **PcP** **16 09 31.2 +0.7**
GTA S **S** **16 11 53.1 -2.2**
GTA ScP **ScP** **16 13 12.3 -0.6**
GTA PcS **PcS** **16 13 16.1 +0.6**
GTA SS **SnSn** **16 13 47.8 +0.3**
GTA PMZ
comp=Z,280nm,7.4s
GTA LN
comp=Z,2μm,13.8s
GTA LE
comp=Z,2μm,14.3s
GTA LZ
comp=Z,2μm,14.3s
QIZ Qiongzhong 32.69 245 P **P** **16 06 46.2 +0.1**
QIZ S **S** **16 12 02.2 +0.9**
QIZ PMZ
comp=Z,16nm,0.6s
QIZ PMZ
comp=Z,170nm,11.0s
QIZ LN
comp=Z,3μm,15.6s
QIZ LE
comp=Z,2μm,17.2s
QIZ LZ
comp=Z,4μm,11.7s
QIZ Qiongzhong 32.69 245 PFAKE 16 07 00.0 +14
QIZ LR LR
comp=Z,1μm,21.0s
DAV Davao City (W) 33.01 209 LR LR 16 19 39.3
comp=Z,1μm,19.8s,baz=30,slow=35
CTBH Cotabato--PC H 33.41 211⇓ *i*P **P** **16 06 52.4 0.0**
IPIL Ipil 33.63 215 *e*P **P** **16 06 51.9 -2.4**
BILL Bilibino 34.09 17⇓ *e*P **P** **16 06 57.9 0.0**
BILL *e*SS SS 16 14 36.6 -13
BILL pmax pmax
comp=Z,49nm,1.2s
BILL MLR MLR
comp=Z,2μm,16.0s
BILL Bilibino 34.09 17 *e*P **P** **16 06 57.4 -0.5**
comp=Z,59nm,1.3s
BILL *e*PcP **PcP** **16 09 35.8 +1.0**
BILL LR LR
comp=Z,2μm,22.0s
KMI Kunming 34.70 261 P **P** **16 07 03.5 -0.3**
KMI pP pP 16 07 11.6 +1.2
KMI sP sP 16 07 14.6 +1.5
KMI PP **PP** **16 08 21.7 -0.8**
KMI S **S** **16 12 30.0 -2.8**
KMI sS sS 16 12 41.6 -2.1
KMI SS **SnSn** **16 14 43.9 -2.1**
KMI PMZ
comp=Z,56nm,1.2s
KMI PMZ
comp=Z,240nm,4.0s
KMI LN
comp=Z,3μm,17.5s
KMI LE
comp=Z,4μm,16.1s
KMI LZ
comp=Z,4μm,16.7s
BATP Bataraza 35.15 223 *e*P **P** **16 07 08.9 +1.4**
TIXI Tiksi 35.25 353 *d i*P **P** **16 07 07.4 -0.4**
TIXI pmax pmax
comp=Z,40nm,1.0s
TIXI MLR MLR
comp=Z,4μm,14.0s
TIXI Tiksi 35.25 353 *e*P **P** **16 07 07.2 -0.6**
comp=Z,30nm,0.8s
TIXI LR LR
comp=Z,2μm,19.0s
KDM Kudat 37.24 222 ⇑P **P** **16 07 27.2 +1.8**
PANO Nakornpanom 37.72 248 P **P** **16 07 30.4 +0.9**
comp=Z,44nm,1.3s
MYLDM Lahad Datu 37.85 219⇓ P **P** **16 07 33.1 +2.6**
MYLDM Lahad Datu 37.85 219 *e*P **P** **16 07 31.9 +1.4**
comp=Z,69nm,0.8s
SDKM Sandakan 38.12 221⇓ P **P** **16 07 35.3 +2.4**
UBPT Khong Chiam 38.29 245 P **P** **16 07 35.1 +0.9**
comp=Z,91nm,2.0s,comp=Z,2μm
SKNT Sakolnakorn 38.30 249 P **P** **16 07 34.8 +0.5**
comp=Z,84nm,1.1s,comp=Z,1μm
KKM Kota Kinabalu 38.30 222 ⇑P **P** **16 07 36.5 +2.0**
KKM Kota Kinabalu 38.30 222 *e*P **P** **16 07 34.6 +0.1**
comp=Z,47nm,0.6s
KKM LR LR
comp=Z,1μm,19.0s
SWI Sorong 38.80 196 P **P** **16 07 38.9 +0.4**
comp=Z,139nm,1.1s,comp=Z,2μm
SWI Sorong 38.80 196 P **P** **16 07 39.4 +0.9**
SWI pmax pmax
comp=Z,138nm,1.0s
TSM Tawau 38.92 219 ⇑P **P** **16 07 41.1 +1.5**
CRAI Chiangrai 39.12 256 P **P** **16 07 41.3 0.0**
comp=Z,432nm,0.8s
MANU Manus Island 39.32 170 *e*P **P** **16 07 42.5 -0.4**
comp=Z,27nm,0.8s
JAY Jayapura 39.36 181 LR LR 16 21 19.9
comp=Z,54nm,21.2s,baz=358,slow=32
JAY Jayapura 39.36 181 P **P** **16 07 44.1 +0.9**
comp=Z,54nm,1.1s,comp=Z,606nm
GENI Genyem 39.44 181 P **P** **16 07 45.3 +1.4**
comp=Z,300nm,1.0s,comp=Z,3μm
LBMI Labuha 39.55 202 P **P** **16 07 45.4 +0.6**
KHON Khomkaen 39.56 249 P **P** **16 07 45.2 +0.3**
comp=Z,50nm,0.8s,comp=Z,660nm
LOEI Loei 40.02 252 P **P** **16 07 45.9 -2.8**
comp=Z,82nm,0.7s,comp=Z,5μm
UTTA Uttaradit 40.42 253 P **P** **16 07 52.0 0.0**
comp=Z,13nm,0.8s,comp=Z,122nm
CHAI Chaiyaphum 40.46 249 P **P** **16 07 52.3 -0.1**
comp=Z,50nm,0.9s,comp=Z,396nm
MRSI Marisa 40.46 210 P **P** **16 07 53.2 +0.9**
comp=Z,149nm,1.3s,comp=Z,2μm
WMQ Urumqi 40.59 297 P **P** **16 07 54.5 +1.2**
WMQ pP pP 16 08 00.4 +0.4
WMQ sP sP 16 08 03.7 +1.0
WMQ PP **PnPn** **16 09 31.9 +1.0**
WMQ S **S** **16 14 00.7 -1.0**
WMQ sS sS 16 14 14.0 +1.4
WMQ ScS **ScS** **16 17 56.5 -1.2**
WMQ PMZ
comp=Z,130nm,0.6s
WMQ PMZ
comp=Z,380nm,4.0s
WMQ LN
comp=Z,2μm,18.8s
WMQ LE
comp=Z,2μm,15.4s
WMQ LZ
comp=Z,660nm,17.0s
FAKI Fak Fak 40.60 194 P **P** **16 07 54.1 +0.6**
comp=Z,89nm,0.8s,comp=Z,2μm
FAKI Fak Fak 40.60 194 *e*P **P** **16 07 53.6 +0.2**
comp=Z,55nm,0.7s
LAMP Lampang 40.67 255 P **P** **16 07 54.6 +0.5**
comp=Z,14nm,0.7s,comp=Z,158nm
PBKT Sadao Pong 40.81 251 P **P** **16 07 55.5 +0.3**
comp=Z,64nm,1.3s,comp=Z,1μm
TNA Tin City 40.98 30 *e*P **P** **16 07 54.6 -1.5**
comp=Z,87nm,1.0s
CMMT Chiang Mai 41.03 255 P **P** **16 07 57.1 0.0**
comp=Z,31nm,0.8s,comp=Z,530nm
CHTO Chiang Mai 41.03 255 P **P** **16 07 57.2 +0.1**
comp=Z,134nm,0.8s,comp=Z,2μm
CHTO Chiang Mai 41.03 255 *e*P **P** **16 07 55.6 -1.5**
CHTO *e* 16 09 57.3
CHTO pmax pmax
comp=Z,18nm,0.7s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 41.03 255 P **P** **16 07 57.1 0.0**
SNR=7.2
CHTO Chiang Mai 41.03 255 P **P** **16 07 57.1 0.0**
SNR=7.2
CHTO Chiang Mai 41.03 255 *e*P **P** **16 07 55.6 -1.5**
comp=Z,18nm,0.7s
CHTO *e*PcP **PcP** **16 09 57.3 +0.4**
CHTO LR LR
comp=Z,2μm,20.0s
CMAR Chiang Mai Arr 41.24 255 P **P** **16 07 58.2 -0.6**
comp=Z,11nm,0.6s,baz=44,slow=8.4,SNR=94
CMAR PcP **PcP** **16 09 58.9 +1.4**
comp=Z,3.3nm,0.6s,baz=28,slow=2.1,SNR=8.2
CMAR Chiang Mai Arr 41.24 255 *i* P **P** **16 07 58.7 -0.1**
CMAR pmax pmax
comp=Z,11nm,0.6s
CM31 Chiang Mai Arr 41.24 255 *e*P **P** **16 07 58.8 -0.1**
CM01 Chiang Mai Arr 41.25 255 *e*P **P** **16 07 58.9 +0.1**
SANI Sanana 41.34 203 P **P** **16 07 59.1 -0.5**
comp=Z,313nm,0.7s,comp=Z,2μm
LUWI Luwuk 41.52 208 P **P** **16 07 59.9 -1.2**
comp=Z,190nm,0.9s,comp=Z,2μm
LUWI Luwuk 41.52 208 *e*P **P** **16 07 59.5 -1.6**
comp=Z,136nm,0.8s
SRAK Srakaew 41.62 247 P **P** **16 07 58.9 -3.0**
comp=Z,410nm,0.8s,comp=Z,3μm
ZAA0 Zalesovo Array 41.71 312 *e*P **P** **16 08 01.7 -0.6**
ZALV Zalesovo Beam 41.71 312 P **P** **16 08 02.2 0.0**
comp=Z,133nm,0.7s,baz=94,slow=6.5,SNR=443
ZALV PcP **PcP** **16 09 59.2 +0.7**
comp=Z,37nm,0.6s,baz=105,slow=2.8,SNR=8.4
ZALV ScP **ScP** **16 13 47.7 +0.3**
comp=Z,1.6nm,0.7s,baz=64,slow=3.4,SNR=3.5
ZALV LR LR 16 25 44.9
comp=Z,1μm,18.9s,baz=72,slow=37
MSAI Masohi 41.74 198 P **P** 16 08 10.5 +7.6
LSA Lhasa 41.94 275 P **P** **16 08 06.4 +1.4**
LSA PMZ
comp=Z,81nm,1.0s
LSA PMZ
comp=Z,320nm,5.5s
LSA LN
comp=Z,870nm,15.7s
LSA LE
comp=Z,2μm,15.3s
LSA LZ
comp=Z,3μm,15.3s
LSA Lhasa 41.94 275 P **P** **16 08 05.6 +0.6**
LSA pmax pmax
comp=Z,79nm,0.9s
LSA MLR MLR
comp=Z,920nm,21.0s
LSA Lhasa 41.94 275 P **P** **16 08 05.6 +0.6**
comp=Z,78nm,0.9s
LSA LR LR
comp=Z,920nm,21.0s
NLAI Namlea 42.14 201 P **P** **16 08 08.8 +2.7**
comp=Z,134nm,0.9s,comp=Z,1μm
CHBT CHBT 42.23 245 P **P** **16 08 07.6 +0.7**
comp=Z,152nm,0.8s,comp=Z,1μm
BTM Bintulu 42.38 224 ⇑P **P** **16 08 09.2 +1.1**
PCI Palu 42.59 212 P **P** **16 08 10.4 +0.6**
comp=Z,228nm,1.0s,comp=Z,2μm
PCI Palu 42.59 212 P **P** **16 08 10.4 +0.6**
PCI pmax pmax
comp=Z,228nm,1.0s
NVS Novosibirsk 42.64 314⇑ *i*P **P** **16 08 09.8 0.0**
NVS *e* 16 10 00.1
NVS *e*S **S** **16 14 29.5 -2.0**
NVS *e* 16 18 08.7
NVS pmax pmax
comp=Z,146nm,1.1s
NVS pmax pmax
comp=N,20nm,1.2s
NVS pmax pmax
comp=E,115nm,1.1s
NVS smax smax
comp=E,110nm,3.2s
NRIK Noril'sk 43.15 335 P **P** **16 08 13.7 -0.1**
comp=E,15nm,0.4s,baz=110,slow=7.8,SNR=47
NRIK PcP **PcP** **16 10 04.0 +1.0**
comp=E,32nm,0.6s,baz=99,slow=2.1,SNR=5.2
NRIK LR LR 16 27 49.4
comp=E,3μm,19.3s,baz=102,slow=38
PATY Pattaya 43.19 247 P **P** **16 08 16.1 +1.4**
comp=E,24nm,0.8s,comp=E,2μm
SBUM Sibu 43.48 224 *e*P **P** **16 08 17.2 +0.2**
comp=E,71nm,1.0s
SRDT SRDT 43.58 250 P **P** **16 08 18.8 +0.9**
comp=E,178nm,0.9s
KHLT Khaolaem Dam 43.70 251 P **P** **16 08 20.2 +1.3**
comp=E,28nm,1.0s
MK01 Makanchi Array 43.88 302 *e*P **P** **16 08 20.2 +0.1**
MK31 Makanchi Array 43.88 302 *i* P **P** **16 08 20.1 0.0**
MK31 pmax pmax
comp=Z,109nm,0.7s
MK31 Makanchi Array 43.88 302 *e*P **P** **16 08 19.9 -0.1**
MKAR Makanchi Array 43.88 302 P **P** **16 08 20.3 +0.2**
comp=Z,97nm,0.7s,baz=88,slow=9.8,SNR=474
MKAR PcP **PcP** **16 10 06.6 +0.6**
comp=Z,11nm,0.7s,baz=88,slow=4.5,SNR=2.7
MKAR LR LR 16 27 28.9
comp=Z,1μm,18.5s,baz=92,slow=37
MKAR Makanchi Array 43.88 302 P **P** **16 08 20.3 +0.2**
MKAR 16 10 06.6
MKAR pmax pmax
comp=Z,97nm,0.7s
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR MLR MLR
comp=Z,1μm,18.5s
MAKZ Makanchi 44.09 302 *i* P **P** **16 08 21.4 -0.3**
MAKZ pmax pmax
comp=Z,112nm,0.8s
MAKZ Makanchi 44.09 302 *e*P **P** **16 08 21.8 +0.1**
comp=Z,113nm,0.8s
PHET Kaeng Krachan 44.11 248 P **P** **16 08 23.2 +1.0**
comp=Z,63nm,0.8s,comp=Z,587nm

KDI Kendari 44.27 207 P **P** **16 08 24.8 +1.5**
comp=Z,121nm,0.9s,comp=Z,1µm
TTSI Tana Toraja 44.52 211 P **P** **16 08 25.1 -0.3**
comp=Z,44nm,0.7s,comp=Z,566nm
MTKI Muara Teweh, K 44.91 219 P **P** **16 08 30.0 +1.5**
comp=Z,465nm,0.7s,comp=Z,10µm
KSM Kuching 45.36 226 *eP* **P** **16 08 32.4 +0.2**
comp=Z,128nm,0.7s
KSM LR LR
comp=Z,409nm,19.0s
SPSI Sidrap Palu 45.37 211 P P 16 08 41.9 +10
TT01 Tatalina 45.56 35 *eP* **P** **16 08 32.4 -0.7**
TTA Tatalina 45.57 35 *eP* **P** **16 08 32.5 -0.8**
TTA pmax pmax
comp=Z,25nm,0.9s
TTA Tatalina 45.57 35 *eP* **P** **16 08 32.5 -0.8**
comp=Z,25nm,0.9s
SVW2 Sparrevohn 45.68 37 *eP* **P** **16 08 32.4 -1.8**
comp=Z,87nm,0.7s
KURK Kurchatov 45.71 308 *eP* **P** **16 08 34.0 -0.5**
KURK pmax pmax
comp=Z,538nm,1.0s
KURK MLR MLR
comp=Z,5µm,21.0s
KURK Kurchatov 45.71 308 *eP* **P** **16 08 34.0 -0.5**
comp=Z,538nm,1.0s
KURK LR LR
comp=Z,5µm,21.0s
STKI Sintang 45.86 223 P **P** **16 08 37.6 +1.6**
comp=Z,198nm,1.0s
TARA Tarawa 46.09 133 PFAKE 16 08 50.0 +12
TARA LR LR
comp=Z,116nm,21.0s
KAPI Kappang 46.33 210 LR LR 16 27 49.2
comp=Z,453nm,19.9s,baz=37,slow=36
KAPI Kappang 46.33 210 *eP* **P** **16 08 40.5 +0.8**
comp=Z,188nm,0.7s
PDGK Podgornoye 46.53 298 *i* P **P** **16 08 40.8 -0.3**
PDGK pmax pmax
comp=Z,204nm,0.9s
PMG Port Moresby 46.55 172 LR LR 16 27 06.9
comp=Z,387nm,18.6s,baz=14,slow=35
PMG Port Moresby 46.55 172 *eP* **P** **16 08 40.9 -0.5**
PMG pmax pmax
comp=Z,30nm,0.5s
SURA Surathani 46.60 244 P **P** **16 08 43.2 +1.3**
comp=Z,74nm,1.2s,comp=Z,8µm
KTGM Kuala Trenggan 46.87 237 ⇓P **P** **16 08 45.7 +1.7**
GUN Gumba 46.88 275 *eP* **P** **16 08 44.6 +0.1**
comp=Z,264nm,0.6s
OHAK Old Harbor 46.93 43 *eP* **P** **16 08 44.1 +0.1**
comp=Z,68nm,0.8s
RSO Redoubt South 47.06 38 *eP* **P** **16 08 45.6 +0.4**
BSSI Bau Bau, Buton 47.08 209 P **P** **16 08 45.8 +0.3**
comp=Z,107nm,1.1s
KDAK Kodiak Island 47.27 42 *eP* **P** **16 08 45.7 -0.9**
KDAK pmax pmax
comp=Z,149nm,0.7s
KDAK MLR MLR
comp=Z,1µm,20.0s
KDAK Kodiak Island 47.27 42 *eP* **P** **16 08 45.6 -0.9**
comp=Z,149nm,0.7s
KDAK LR LR
comp=Z,1µm,20.0s
PPLA Purkeypile 47.32 35 P **P** **16 08 45.9 -1.2**
comp=Z,62nm,0.7s
SURT Suratani 47.34 245 P **P** **16 08 48.8 +1.1**
comp=Z,53nm,1.0s
CAST Castle Rocks 47.37 34 *eP* **P** **16 08 48.6 +1.2**
comp=Z,77nm,0.7s
SPU Mount Spurr 47.39 37 *eP* **P** **16 08 48.7 +1.1**
KKN Kakani 47.41 276 *eP* **P** **16 08 48.5 +0.1**
comp=Z,220nm,0.7s
PKIN Phulchoki 47.42 275 *eP* **P** **16 08 49.1 +0.6**
comp=Z,86nm,0.7s
TRTT Trang 47.47 243 P **P** **16 08 49.7 +1.1**
comp=Z,90nm,0.8s
KRAB Krabi 47.55 244 P **P** **16 08 50.0 +0.7**
comp=Z,523nm,0.6s,comp=Z,4µm
DMN Daman 47.63 276 *eP* **P** **16 08 50.2 0.0**
comp=Z,106nm,0.7s
GKN Gorkha 47.83 276 *eP* **P** **16 08 51.6 0.0**
comp=Z,736nm,1.0s
CNPM China Poot 47.86 39 *eP* **P** **16 08 51.0 -0.3**
comp=Z,44nm,0.8s
BPAW Bear Paw Mtn. 47.87 33 *eP* **P** **16 08 52.2 +1.0**
comp=Z,32nm,0.7s
BPAW *ePcP* **PcP** **16 10 20.4 +0.8**
KTH Kantishna Hill 47.89 34 *eP* **P** **16 08 52.7 +1.2**
comp=Z,88nm,0.8s
MLY Manley 47.99 32 *eP* **P** **16 08 53.0 +0.9**
comp=Z,73nm,0.7s
SUA Susitna One 48.01 37 *eP* **P** **16 08 52.6 +0.1**
comp=Z,66nm,0.7s
BRLK Bradley Lake 48.03 39 *eP* **P** **16 08 52.9 +0.4**
comp=Z,90nm,0.7s
PBKI Pangkalan Bun 48.08 221 P **P** **16 08 54.6 +1.3**
comp=Z,132nm,1.1s,comp=Z,2µm
TRF Thorofare Moun 48.18 34 *eP* **P** **16 08 53.1 -0.7**
comp=Z,76nm,0.8s
COLD Coldfoot 48.28 29 *eP* **P** **16 08 55.3 +1.0**
comp=Z,24nm,0.9s
AAA Alma-Ata 48.34 298 *eP* **P** **16 08 50.7 -4.5**
AAA pmax pmax
comp=Z,600nm,7.1s
AAA MLR MLR
comp=Z,7µm,15.0s
PKDT Phuket 48.40 244 P **P** **16 08 57.4 +1.5**
comp=Z,301nm,0.8s,comp=Z,3µm
RC01 Rabbit Creek A 48.52 37 *eP* **P** **16 08 55.3 -1.0**
comp=Z,68nm,0.7s
BWN Browne 48.53 33 *eP* **P** **16 08 58.7 +2.4**
comp=Z,158nm,0.8s
KULM Kulim 48.59 239 *eP* **P** **16 08 57.7 +0.4**
comp=Z,103nm,1.5s
KULM LR LR
comp=Z,658nm,20.0s
SEW Seward 48.73 39 *eP* **P** **16 08 57.9 0.0**
comp=Z,59nm,0.7s
MMRI Maumere 48.75 205 P **P** **16 08 59.2 +0.7**
comp=Z,248nm,1.2s,comp=Z,3µm
MMRI Maumere 48.75 205 *eP* **P** **16 08 58.7 +0.2**
comp=Z,159nm,0.8s
KOLN Koldanda 48.76 276 *eP* **P** **16 08 58.8 0.0**
comp=Z,200nm,0.9s
MCK McKinley 48.78 34 *eP* **P** **16 08 58.7 +0.5**
MCK pmax pmax
comp=Z,58nm,0.8s
MCK McKinley 48.78 34 *eP* **P** **16 08 58.7 +0.5**
comp=Z,58nm,0.8s
PMR Palmer 48.78 37 *eP* **P** **16 08 58.3 +0.1**
PMR pmax pmax
comp=Z,69nm,0.8s
PMR Palmer 48.78 37 *eP* **P** **16 08 58.2 +0.1**
comp=Z,69nm,0.8s
RND Reindeer 48.82 34 *eP* **P** **16 08 58.7 0.0**
RND pmax pmax
comp=Z,76nm,0.8s
RND Reindeer 48.82 34 *eP* **P** **16 08 58.7 0.0**
comp=Z,76nm,0.8s
IPM Ipoh 48.91 238 *eP* **P** **16 08 59.0 -0.9**
comp=Z,57nm,0.6s
MYKOM Kota Tinggi 49.05 233 *eP* **P** **16 09 01.6 +0.8**
comp=Z,142nm,1.8s
MDM Murphy Dome 49.05 32 *eP* **P** **16 09 01.1 +0.8**
comp=Z,109nm,0.8s
PYUN Piuthan 49.10 277 *eP* **P** **16 09 01.6 +0.1**
comp=Z,945nm,1.0s
WRH Wood River Hil 49.12 33 *eP* **P** **16 09 01.0 +0.2**
comp=Z,50nm,0.7s
SML Sawmill 49.15 36 *eP* **P** **16 09 01.7 +0.6**
SML pmax pmax
comp=Z,140nm,0.7s
SML Sawmill 49.15 36 *eP* **P** **16 09 01.7 +0.6**
comp=Z,138nm,0.7s
SOEI Soe 49.15 202 P **P** **16 09 01.9 +0.2**
comp=Z,180nm,0.9s,comp=Z,4µm
SOEI Soe 49.15 202 *eP* **P** **16 09 00.9 -0.8**
comp=Z,434nm,0.9s
COLA College 49.22 32 *eP* **P** **16 09 01.7 +0.2**
COLA pmax pmax
comp=Z,81nm,0.7s
COLA College 49.22 32 *eP* **P** **16 09 01.7 +0.2**
comp=Z,81nm,0.7s
COLA LR LR
comp=Z,662nm,19.0s
CCB Clear Creek Bu 49.24 33 *eP* **P** **16 09 02.4 +0.6**
comp=Z,22nm,0.6s
TPRI Tanjung Pinang 49.29 232 P **P** **16 09 03.9 +1.2**
comp=Z,79nm,1.0s,comp=Z,10µm
TKM2 Tokmak 2 49.39 298 *i* P **P** **16 09 04.3 +0.8**
TKM2 pmax pmax
comp=Z,123nm,1.1s
TKM2 Tokmak 2 49.39 298 *eP* **P** **16 09 04.0 +0.5**
comp=Z,81nm,0.6s
TKM2 LR LR
comp=Z,912nm,19.0s
HNR Honiara 49.51 155 LR LR 16 30 40.8
comp=Z,1µm,18.7s,baz=328,slow=37
DHY Denali Highway 49.51 35 *eP* **P** **16 09 04.7 +0.7**
comp=Z,29nm,0.7s
SCM Sheep Creek Mo 49.62 36 *eP* **P** **16 09 05.5 +0.7**
SCM pmax pmax
comp=Z,84nm,0.7s
SCM Sheep Creek Mo 49.62 36 *eP* **P** **16 09 05.5 +0.7**
comp=Z,84nm,0.7s
HDA Harding Lake 49.62 33 *eP* **P** **16 09 04.2 -0.5**
comp=Z,119nm,1.1s
IL1 Eielson Array 49.63 32 *eP* **P** **16 09 04.3 -0.4**
ILAR Eielson Array 49.63 32 P **P** **16 09 04.8 +0.1**
comp=Z,87nm,0.7s,baz=267,slow=5.8,SNR=600
ILAR LR LR 16 31 51.7
comp=Z,602nm,19.7s,baz=298,slow=38
ILB Eielson Array 49.63 32 *eP* **P** **16 09 04.6 -0.1**
VOSK Vostochnaya 50.07 312 P **P** **16 09 08.1 -0.2**
VOSK pmax pmax
comp=Z,107nm,1.2s
FRU Bishkek 50.10 298 *i* P **P** **16 09 09.0 +0.3**
FRU *e* 16 11 08.0
FRU *eP* PPP PPP 16 12 08.0
FRU *i* S **S** **16 16 20.0 +1.1**
FRU pmax pmax
comp=Z,135nm,1.8s
FRU smax smax
comp=N,60nm,2.2s
CHKZ Chkalovo 50.11 313 *i* P **P** **16 09 07.8 -0.7**
CHKZ pmax pmax
comp=Z,85nm,1.3s
KSH Kashi 50.16 294 P **P** **16 09 12.2 +3.0**
KSH pP sP 16 09 19.6 +0.9
KSH PcP **PcP** **16 10 31.3 +2.9**
KSH PP **PP** **16 11 08.4 +4.1**
KSH S **S** **16 16 22.5 +2.6**
KSH ScS **ScS** **16 18 58.0 -1.4**
KSH SS **SS** **16 19 51.5 -1.5**
KSH PMZ
comp=Z,39nm,0.9s
KSH PMZ
comp=Z,390nm,4.2s
KSH LN
comp=Z,2µm,13.7s
KSH LE
comp=Z,3µm,13.4s
KSH LZ
comp=Z,5µm,14.1s
OTUK Ortayu 50.20 306 P **P** **16 09 08.9 -0.5**
OTUK pmax pmax
comp=Z,82nm,0.9s
FYU Fort Yukon 50.24 30 *eP* **P** **16 09 11.4 +2.1**
comp=Z,68nm,1.0s
AAK Ala-Archa 50.25 298 *i* P **P** **16 09 10.4 +0.5**
AAK pmax pmax
comp=Z,23nm,0.9s
AAK Ala-Archa 50.25 298 *eP* **P** **16 09 10.0 0.0**
comp=Z,30nm,0.9s
AAK LR LR
comp=Z,4µm,19.0s
KLU Klutina 50.32 37 *eP* **P** **16 09 10.6 +0.5**
comp=Z,57nm,0.7s
MID Middleton Isla 50.36 39 *eP* **P** **16 09 11.2 +0.9**
MID pmax pmax
comp=Z,120nm,0.7s
MID Middleton Isla 50.36 39 *eP* **P** **16 09 11.2 +0.9**
comp=Z,118nm,0.7s
BVA0 Borovoye Array 50.37 312 P **P** **16 09 10.2 -0.3**
BVA0 pmax pmax
comp=Z,67nm,1.2s
BRVK Borovoye 50.42 312 *eP* **P** **16 09 10.7 -0.2**
BRVK pmax pmax
comp=Z,130nm,0.6s
BRVK Borovoye 50.42 312 *eP* **P** **16 09 10.7 -0.2**
comp=Z,130nm,0.6s
BRVK LR LR
comp=Z,1µm,20.0s
DIV Divide 50.43 37 *eP* **P** **16 09 11.8 +0.8**
comp=Z,79nm,0.8s
MTN Manton Dam 50.49 193 *eP* **P** **16 09 11.2 -0.5**
comp=Z,328nm,1.4s
EYAK Cova Ski Ar 50.51 38 *eP* **P** **16 09 12.8 +1.4**
comp=Z,75nm,0.8s
PLAI Plampang 50.59 210 P **P** **16 09 11.7 -0.8**
comp=Z,376nm,0.7s,comp=Z,3µm
BWNR Bhubaneshwar 50.60 267 *ex* **P** **16 09 12.8 +0.2**
PPBI Pangkal Pinang 50.73 228 P **P** **16 09 14.1 +0.5**
comp=Z,53nm,1.2s,comp=Z,889nm
EKS2 Erkin-Say 50.74 299 *eP* **P** **16 09 14.5 +0.8**
EKS2 pmax pmax
comp=Z,37nm,0.8s
EKS2 Erkin-Say 50.74 299 *eP* **P** **16 09 14.5 +0.8**
comp=Z,37nm,0.8s
EKS2 LR LR
comp=Z,2µm,20.0s
COEN Coen 50.76 177 *eP* **P** **16 09 14.7 +0.9**
comp=Z,93nm,0.9s
TWSI Taliwang, Sumb 50.88 211 P **P** **16 09 14.1 -0.6**
comp=Z,276nm,0.7s,comp=Z,2µm
DOT Dot Lake 50.95 34 *eP* **P** **16 09 14.9 +0.2**
comp=Z,152nm,0.7s
BMRM Bremner River 51.02 37 *eP* **P** **16 09 16.3 +1.0**
comp=Z,78nm,0.9s
RAGM Ragged Mountai 51.06 38 *eP* **P** **16 09 17.6 +1.9**
comp=Z,66nm,0.8s
MENT Mentasta 51.18 35 *eP* **P** **16 09 17.5 +1.0**
comp=Z,55nm,0.7s
ABJI Asem Bagus 51.20 215 P P 16 09 26.1 +9.0
ZRNK Zerenda 51.20 312 *i* P **P** **16 09 16.2 -0.6**
ZRNK pmax pmax
comp=Z,56nm,0.7s
ZRNK Zerenda 51.20 312 *eP* **P** **16 09 16.6 -0.2**
comp=Z,48nm,0.8s
PSI Prapat 51.57 239 *eP* **P** **16 09 19.3 -0.8**
PSI pmax pmax
comp=Z,37nm,0.8s
PSI Prapat 51.57 239 *eP* **P** **16 09 19.3 -0.8**
comp=Z,37nm,0.8s
MNAS Manas 51.69 299 *i* P **P** **16 09 20.8 0.0**
MNAS pmax pmax
comp=Z,54nm,0.7s
CRQM Cirque 51.76 37 *eP* **P** **16 09 22.3 +1.2**
comp=Z,77nm,0.9s
JAGI Jajag, Banyuwa 51.83 215 P **P** **16 09 21.1 -0.8**
comp=Z,109nm,0.8s
JAGI Jajag, Banyuwa 51.83 215 *eP* **P** **16 09 20.3 -1.6**
comp=Z,80nm,0.8s
BKNI Bangkinang 51.98 235 P **P** **16 09 25.3 +2.3**
comp=Z,251nm,1.1s,comp=Z,3µm
BKNI Bangkinang 51.98 235 *eP* **P** **16 09 23.9 +0.9**
comp=Z,360nm,1.2s
GMJI Gumukmas 51.99 216 P **P** **16 09 24.7 +1.7**
EGAK Eagle 52.08 32 PFAKE 16 09 30.0 +6.9
EGAK LR LR
comp=Z,668nm,20.0s
NGJI Ngawi 52.16 218 P **P** **16 09 25.2 +1.0**
comp=Z,128nm,1.0s
MLSI Meulaboh, Aceh 52.28 242 P **P** **16 09 25.1 -0.2**
comp=Z,142nm,1.1s
MNSI Mandailing Nat 52.59 237 P **P** **16 09 27.8 +0.3**
comp=Z,56nm,0.6s,comp=Z,1µm
SDSI Sungai Dareh 52.68 233 P **P** **16 09 29.6 +1.4**
comp=Z,237nm,1.2s,comp=Z,35µm
KK31 Karatay Array 52.89 300 *i* P **P** **16 09 29.3 -0.2**
KK31 pmax pmax
comp=Z,85nm,1.2s
KKAR Karatay Array 52.89 300 *eP* **P** **16 09 30.0 +0.5**
KKAR Karatay Array 52.89 300 *eP* **P** **16 09 30.0 +0.5**
DAWY Dawson 52.94 33 *eP* **P** **16 09 30.6 +0.9**
comp=Z,27nm,0.6s
CHLP Challavanipeta 52.95 266 *eP* **P** **16 09 30.4 +0.2**
CHLP IAmb IAmb 16 09 32.4
comp=Z,103nm,0.7s
CHLP *eS* **S** **16 16 59.4 +0.9**
CHLP IVMs_BB IVMs_BB 16 36 16.4
comp=Z,582nm,18.1s
UGM Wanagama 53.09 219 P **P** **16 09 30.7 -0.5**
comp=Z,357nm,0.7s
UGM Wanagama 53.09 219 *eP* **P** **16 09 29.2 -2.0**
comp=Z,233nm,0.6s
KPJI Karang Pucung 53.42 221 P **P** **16 09 33.4 -0.2**
comp=Z,322nm,0.8s
GSI Gunungsitoli 53.57 239 P **P** **16 09 35.8 +1.0**
comp=Z,284nm,1.1s,comp=Z,4µm
GSI Gunungsitoli 53.57 239 *eP* **P** **16 09 35.3 +0.5**
comp=Z,411nm,1.2s
LHSI Lahat 53.62 229 P **P** **16 09 36.3 +1.2**
comp=Z,151nm,1.1s,comp=Z,3µm
LEM Lembang 53.70 223 LR LR 16 33 28.6
comp=Z,553nm,19.8s,baz=17,slow=37
LEM Lembang 53.70 223 P P 16 09 41.7 +5.8
BLSI Bandar Lampung 53.83 226 P **P** **16 09 38.1 +1.4**
comp=Z,224nm,0.8s
CISI Cisompet, Garu 54.20 222 *eP* **P** **16 09 37.7 -1.7**
comp=Z,70nm,0.7s
LWLI Liwa 54.24 228 P **P** **16 09 40.8 +1.0**
comp=Z,207nm,0.6s
KASI Kota Agung 54.39 227 P **P** **16 09 40.5 -0.2**
comp=Z,69nm,1.1s
DHAK Deception Hill 54.52 39 *eP* **P** **16 09 43.7 +2.4**
comp=Z,50nm,0.7s
KIP Kipapa 54.53 89 PFAKE 16 09 50.0 +8.2
KIP LR LR
comp=Z,2µm,19.0s
SVE Sverdlovsk 54.96 319 *c* P **P** **16 09 45.3 +0.9**
SVE *eS* **S** **16 17 25.6 +0.8**
SVE pmax pmax
comp=Z,229nm,1.0s
SVE MLR MLR
comp=Z,4µm,15.0s
SVE MLR MLR
comp=E,3µm,15.0s
NGP Nagpur 55.56 272 *ex* **P** **16 09 48.6 -0.6**
PVM Polavaram 55.57 266 *eP* **P** **16 09 49.1 -0.2**
PVM IAmb IAmb 16 09 51.1
comp=Z,65nm,0.7s
PVM *eS* **S** **16 17 34.3 +0.4**
PVM IVMs_BB IVMs_BB 16 37 06.0
comp=Z,272nm,4.1s
DZET Dzherino 55.60 296 P **P** **16 09 49.5 +0.1**
DZET pmax pmax
comp=Z,123nm,0.6s
SKAG Skagway 55.85 38 *eP* **P** **16 09 52.8 +2.0**
comp=Z,37nm,0.8s
SOKR Solikamsk 56.15 322 *d* P **P** **16 09 51.6 -1.3**
SOKR pmax pmax
comp=Z,96nm,1.2s
SOKR MLR MLR
comp=Z,1µm,16.0s
ARU Arti 56.17 318 *d* P **P** **16 09 52.7 -0.4**
ARU 16 10 50.1
ARU 16 11 57.7
ARU S **S** **16 17 41.2 +0.2**
ARU 16 19 40.0
ARU SS **SS** **16 21 28.3 +1.3**
ARU pmax pmax
comp=Z,208nm,0.7s
ARU MLR MLR
comp=Z,2µm,16.0s
ARU Arti 56.17 318 *eP* **P** **16 09 52.8 -0.3**
comp=Z,214nm,0.8s
ARU LR LR
comp=Z,1µm,21.0s
RPR Rampur 56.57 269 *eP* **P** **16 09 56.4 -0.1**
RPR IAmb IAmb 16 09 57.9
comp=Z,114nm,0.6s
RPR *eS* **S** **16 17 48.6 +1.5**
RPR IVMs_BB IVMs_BB 16 33 19.4
comp=Z,536nm,3.7s
FITZ Fitzroy Crossi 56.75 198 *eP* **P** **16 09 57.8 +0.2**
comp=Z,81nm,1.1s
WRAB Tennant Creek 57.02 188 *d* P **P** **16 09 59.0 -0.5**
WRAB pmax pmax
comp=Z,219nm,0.6s
WRAB Tennant Creek 57.02 188 *eP* **P** **16 09 58.6 -0.9**
comp=Z,121nm,0.8s
WRAB LR LR
comp=Z,1µm,22.0s
CTA Charters Tower 57.03 174 P **P** **16 09 59.2 -0.3**
comp=Z,12nm,0.5s,baz=359,slow=7.5,SNR=34
CTAO Charters Tower 57.03 174 *eP* **P** **16 09 59.6 0.0**
CTAO pmax pmax
comp=Z,19nm,0.8s
CTAO Charters Tower 57.03 174 *eP* **P** **16 09 59.6 0.0**
comp=Z,19nm,0.8s
CTAO LR LR
comp=Z,645nm,20.0s
WB2 Warramunga Arr 57.03 188 *eP* **P** **16 09 58.7 -0.9**
comp=Z,125nm,0.6s
WRA Warramunga Arr 57.03 188 P **P** **16 09 59.5 -0.1**
comp=Z,122nm,0.6s,baz=5.0,slow=7.4,SNR=1182
WRA PcP **PcP** **16 10 55.3 +0.8**
comp=Z,23nm,0.6s,baz=1.3,slow=4.5,SNR=8.2
WRA S **S** **16 17 50.5 -2.5**
comp=Z,5.6nm,1.1s,baz=5.3,slow=13,SNR=9.8
WRA LR LR 16 33 26.6
comp=Z,343nm,20.7s,baz=345,slow=35
WRA PKP2bc 16 39 57.5
comp=Z,1.9nm,0.9s,baz=185,slow=1.8,SNR=9.1
WRA Warramunga Arr 57.03 188 *i* P **P** **16 09 58.2 -1.4**
WRA pmax pmax
comp=Z,122nm,0.6s
KBL Kabul 57.16 291 *eP* **P** **16 10 00.3 -0.4**
KBL pmax pmax
comp=Z,54nm,0.9s
KBL Kabul 57.16 291 *eP* **P** **16 10 00.3 -0.4**
comp=Z,54nm,0.8s
SRSP Sriramsagar 57.29 270 *eP* **P** **16 10 00.7 -0.9**
SRSP IAmb IAmb 16 10 02.9
comp=Z,126nm,0.8s
SRSP *eS* **S** **16 17 57.6 +0.9**
SRSP IVMs_BB IVMs_BB 16 36 55.6
comp=Z,454nm,3.9s
ADKI Addanki 57.67 266 *eP* **P** **16 10 04.4 +0.1**
ADKI IAmb IAmb 16 10 05.8
comp=Z,33nm,0.7s
ADKI *eS* **S** **16 18 04.9 +3.2**
ADKI IVMs_BB IVMs_BB 16 40 18.4
comp=Z,723nm,4.1s
FUNA Funafuti 57.71 134 PFAKE 16 10 20.0 +16
FUNA LR LR
comp=Z,8µm,20.0s
AB31 Akbulak array 57.73 310 *i* P **P** **16 10 03.8 -0.4**
AB31 pmax pmax
comp=Z,39nm,0.5s
ABKAR Akbulak array 57.73 310 *eP* **P** **16 10 03.6 -0.6**
NJS Nagarjunasagar 57.80 267 *eP* **P** **16 10 05.5 +0.3**
NJS IAmb IAmb 16 10 06.2
comp=Z,32nm,0.7s
NJS *eS* **S** **16 18 04.9 +1.4**
NJS IVMs_BB IVMs_BB 16 36 47.1
comp=Z,508nm,3.8s
HYB Hyderabad 57.93 268 *i* P **P** **16 10 07.0 +0.8**
HYB *eS* **S** **16 18 04.0 -1.3**
HYBB Hyderabad (bro 57.93 268 *eP* **P** **16 10 05.8 -0.3**
HYBB IAmb IAmb 16 10 07.3
comp=Z,97nm,0.6s
HYBB *eS* **S** **16 18 05.6 +0.3**
HYBB IVMs_BB IVMs_BB 16 37 21.8
comp=Z,408nm,4.0s
CRAG Craig 58.23 42 *eP* **P** **16 10 09.6 +2.0**
comp=Z,30nm,0.8s
WRAK Wrangell Islan 58.32 41 *eP* **P** **16 10 09.9 +1.7**
WRAK LR LR
comp=Z,471nm,20.0s
SRLM Srisailam 58.38 267 *eP* **P** **16 10 09.1 -0.3**
SRLM IAmb IAmb 16 10 10.4
comp=Z,44nm,1.0s
SRLM *eS* **S** **16 18 11.8 +0.6**
SRLM IVMs_BB IVMs_BB 16 34 20.4
comp=Z,670nm,3.9s
AKTO Aktyubinsk 58.47 312 *i* P **P** **16 10 09.1 -0.3**
AKTO pmax pmax
comp=Z,43nm,0.7s
RCLA Racherla 58.69 266 *eP* **P** **16 10 10.9 -0.6**
RCLA IAmb IAmb 16 10 12.9
comp=Z,51nm,0.8s
RCLA *eS* **S** **16 18 13.9 -1.2**
RCLA IVMs_BB IVMs_BB 16 41 09.0
comp=Z,696nm,4.3s
DLBC Dease Lake 58.78 38 *eP* **P** **16 10 13.6 +2.0**
comp=Z,50nm,0.8s

SKHT Srikalahasti 59.06 264 *e*P P **16 10 14.3 +0.4**
SKHT IAmb IAmb 16 10 16.1
comp=Z,129nm,0.7s
SKHT *e*S S **16 18 19.9 0.0**
SKHT IVMs_BB IVMs_BB 16 37 06.0
comp=Z,714nm,4.4s
KLRI Killari 59.15 270 *e*P P **16 10 13.9 -0.7**
KLRI IAmb IAmb 16 10 15.5
comp=Z,387nm,0.6s
KLRI *e*S S **16 18 22.2 +1.1**
KLRI IVMs_BB IVMs_BB 16 39 11.7
comp=Z,792nm,5.8s
HOPEN Hopen 59.97 346 *e*P P **16 10 19.9 +0.6**
HOPEN IAmb IAmb 16 10 21.3
comp=Z,110nm,0.8s
SPA0 Spitsbergen Ar 60.46 349 *e*P P **16 10 23.1 +0.3**
SPA0 *e*S S **16 18 37.9 +1.5**
SPA0 IAMs_20 IAMs_20 16 40 17.2
comp=Z,1μm,18.5s
SPA0 Spitsbergen Ar 60.46 349 *e*P P **16 10 23.9 +1.1**
KBS Kingsbay 60.60 350 *e*P P **16 10 24.4 +0.7**
KBS *e*S S **16 18 40.4 +2.3**
KBS Kingsbay 60.60 350 *e*P P **16 10 24.9 +1.2**
KBS pmax pmax
comp=Z,68nm,1.0s
KBS Kingsbay 60.60 350 *e*P P **16 10 24.9 +1.2**
KBS LR LR
comp=Z,637nm,19.0s
AS01 Alice Springs 60.75 187 *e*P P **16 10 24.7 -0.6**
AS31 Alice Springs 60.76 188 *e*P P **16 10 25.6 +0.2**
comp=Z,22nm,0.7s
ASAR Alice Springs 60.76 188 P P **16 10 25.6 +0.2**
comp=Z,32nm,0.7s,baz=2.9,slow=5.6,SNR=56
ASAR S S **16 18 39.9 -1.5**
comp=Z,1.5nm,1.0s,baz=16,slow=18,SNR=6.4
ASAR LR LR 16 37 47.9
comp=Z,332nm,18.2s,baz=9.0,slow=37
ASAR PKPPKP **P'P'df 16 39 38.6 +1.4**
comp=Z,0.5nm,0.8s,baz=149,slow=2.1,SNR=5.6
MBWA Marble Bar 61.29 203 PFAKE 16 10 40.0 +11
MBWA LR LR
comp=Z,525nm,21.0s
HSPB Hornsund (broa 61.38 348 *e*P P **16 10 29.1 +0.1**
HSPB IAMs_20 IAMs_20 16 39 33.2
comp=Z,1μm,18.8s
HSPB Hornsund (broa 61.38 348 *e*P P **16 10 30.2 +1.2**
LVZ Lovozero 61.99 336*d i*P P **16 10 33.2 -0.1**
LVZ pmax pmax
comp=Z,37nm,0.6s
LVZ Lovozero 61.99 336 *e*P P **16 10 33.4 0.0**
comp=Z,44nm,0.6s
LVZ LR LR
comp=Z,2μm,21.0s
PALK Pallekele 62.11 257 *e*P P **16 10 35.9 +1.1**
PALK pmax pmax
comp=Z,47nm,0.9s
PALK Pallekele 62.11 257 *e*P P **16 10 35.9 +1.1**
comp=Z,47nm,0.9s
BJO Bjornoya 62.35 345 *e*P P **16 10 36.2 +0.7**
APA Apatity 62.57 336⇓ *i*P P **16 10 36.5 -0.6**
APA *i* 16 11 17.0
APA *i* S S **16 18 58.0 -5.3**
APA pmax pmax
comp=Z,72nm,0.7s
APA MLR MLR
comp=Z,3μm,16.0s
RES Resolute Bay 62.66 14 *e*P P **16 10 38.1 +0.5**
RES Resolute Bay 62.66 14 *e*P P **16 10 38.1 +0.5**
EIDS Eidsvold 62.79 170 *e*P P **16 10 39.5 +0.5**
comp=Z,51nm,1.3s
KEV Kevo 63.34 339 *e*P P **16 10 42.8 +0.6**
KEV pmax pmax
comp=Z,59nm,0.7s
KEV Kevo 63.34 339 *e*P P **16 10 42.8 +0.6**
comp=Z,59nm,0.7s
KEV LR LR
comp=Z,808nm,20.0s
DZM Mont Dzumac 63.48 154 *e*P P **16 10 44.8 +1.0**
comp=Z,146nm,1.3s
DZM *e*S S **16 19 14.7 -1.1**
comp=Z,3μm,29.9s
DZM Mont Dzumac 63.48 154 *e*LR LR 16 29 41.7
comp=Z,2μm,21.1s
GEYT Alibeck 63.59 299 P P **16 10 45.5 +1.0**
comp=Z,78nm,0.6s,baz=30,slow=3.6,SNR=186
GEYT LR LR 16 39 45.1
comp=Z,422nm,19.2s,baz=50,slow=37
KLMR Klimovskoe 63.60 328 *e*P P **16 10 41.9 -2.2**
KLMR *e**PP **sP** **16 10 52.5 -1.1**
KLMR *e* 16 13 01.4
KLMR pmax pmax
comp=Z,105nm,0.6s
HAMF Hammerfest 63.72 341 *e*P P **16 10 45.1 +0.4**
HAMF IAmb IAmb 16 10 45.8
comp=Z,51nm,0.7s
ARA0 ARCESS Array S 63.89 339 *e*P P **16 10 46.1 +0.3**
ARCES ARCESS Array B 63.89 339 P P **16 10 46.5 +0.7**
comp=Z,36nm,0.6s,baz=51,slow=6.1,SNR=132
ARCES LR LR 16 44 04.0
comp=Z,1μm,18.7s,baz=33,slow=41
ARE0 ARCESS Array S 63.89 339 *e*P P **16 10 46.6 +0.7**
ARE0 ARCESS Array S 63.89 339 *e*P P **16 10 46.6 +0.7**
YKA Yellowknife Ar 63.94 30 P P **16 10 46.7 +0.5**
comp=Z,24nm,0.6s,baz=305,slow=6.8,SNR=138
YKA PKPPKP **P'P'df 16 39 37.8 -7.7**
comp=Z,0.5nm,0.8s,baz=120,slow=2.2,SNR=2.9
YKA LR LR 16 40 45.0
comp=Z,43nm,20.6s,baz=0.0,slow=38
YKA Yellowknife Ar 63.94 30 *i* P P **16 10 46.7 +0.5**
YKA pmax pmax
comp=Z,25nm,0.6s
MSVF Nonsavu 64.68 141⇑ *e*P P **16 10 52.5 +0.8**
MSVF pmax pmax
comp=Z,29nm,1.3s
MSVF Nonsavu 64.68 141 *e*P P **16 10 53.6 +1.9**
comp=Z,76nm,1.4s
MSVF LR LR
comp=Z,1μm,20.0s
KTK1 Kautokeino 64.85 339 *e*P P **16 10 52.7 +0.6**
KTK1 IAmb IAmb 16 10 53.6
comp=Z,61nm,0.8s
TRO Tromso 65.62 341 *e*P P **16 10 56.5 -0.6**
TRO IAmb IAmb 16 10 58.3
comp=Z,42nm,0.8s
TRO *e*SS SS 16 23 57.6 +3.5
DAG Danmarks Havn 65.74 355⇓ *i*P P **16 10 58.1 +0.3**
DAG pmax pmax
comp=Z,44nm,0.7s
DAG Danmarks Havn 65.74 355⇓ *i*P P **16 10 58.1 +0.3**
comp=Z,64nm,0.7s
PGC Sidney 66.53 46 *e*P P **16 11 04.1 +0.9**
NLWA Neilton Lookou 66.91 47 *e*P P **16 11 06.9 +1.1**
comp=Z,39nm,0.8s
NLWA LR LR
comp=Z,339nm,20.0s
A04D Lummi Island 66.92 46 P P **16 11 07.0 +1.3**
baz=300
MOS Moscow 67.08 323 *e*P P **16 11 05.4 -1.3**
MOS *e* 16 11 14.7
MOS *e* 16 11 34.0
MOS *e* 16 13 39.7
MOS *e*S S **16 19 58.7 -0.5**
MOS pmax pmax
comp=Z,300nm,1.7s
MOS pmax pmax
comp=Z,167nm,1.2s
MOS MLR MLR
comp=Z,2μm,16.0s
MOS MLR MLR
comp=N,500nm,13.0s
MOS MLR MLR
comp=E,1μm,14.0s
AFI Afiamalu 67.35 130 PFAKE 16 11 20.0 +11
AFI LR LR
comp=Z,698nm,19.0s
B05A Bryant 67.50 46 P P **16 11 10.7 +1.3**
baz=301
STEI Steigen 67.77 341 *e*P P **16 11 11.2 +0.4**
F03A Seaside 67.83 49 *e*P P **16 11 13.4 +1.8**
comp=Z,114nm,1.4s
ARMA Armidale 67.83 170 *e*P P **16 11 14.4 +2.7**
comp=Z,40nm,1.1s
OBN Obninsk 67.93 323 LR LR 16 43 41.5
comp=Z,1μm,19.1s,baz=42,slow=38
OBN Obninsk 67.93 323*d i*P P **16 11 12.3 +0.3**
OBN *i* 16 11 20.4
OBN pmax pmax
comp=Z,111nm,0.6s
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 67.93 323 *e*P P **16 11 12.3 +0.3**
PUL Pulkovo 68.05 329*de*P P **16 11 13.3 +0.6**
PUL pmax pmax
comp=Z,141nm,0.7s
LOF Lofoten 68.07 341 *e*P P **16 11 12.9 +0.3**
LOF IAmb IAmb 16 11 24.6
comp=Z,62nm,1.0s
F04D Rainier, OR 68.08 48 P P **16 11 14.7 +1.5**
baz=301
D05A Enumclaw 68.11 47 *e*P P **16 11 15.6 +2.2**
comp=Z,33nm,0.8s
LPSR Galich'ya Gora 68.12 320 *e*P P **16 11 13.5 +0.2**
LPSR pmax pmax
comp=Z,150nm,0.8s
LPSR MLR MLR
comp=Z,4μm,22.0s
G03D McMinnville, O 68.38 49 P P **16 11 16.6 +1.5**
baz=301
TDL Tradedollar La 68.41 48 P P **16 11 16.7 +1.3**
LON Longmire 68.45 47 *e*P P **16 11 15.9 +0.3**
LON pmax pmax
comp=Z,68nm,2.0s
LON Longmire 68.45 47 *e*P P **16 11 15.9 +0.3**
comp=Z,68nm,2.0s
F04A Amy 68.51 48 *e*P P **16 11 17.5 +1.6**
STKA Stephens Creek 68.56 180 P P **16 11 16.4 +0.2**
comp=Z,19nm,0.6s,baz=342,slow=7.1,SNR=72
STKA LR LR 16 40 26.7
comp=Z,683nm,21.4s,baz=359,slow=35
GLK Glacier Lake 68.66 47 P P **16 11 18.2 +1.3**
COR Corvallis 68.68 50 *e*P P **16 11 19.6 +2.7**
COR pmax pmax
comp=Z,71nm,0.8s
COR Corvallis 68.68 50 *e*P P **16 11 19.6 +2.7**
comp=Z,71nm,0.8s
FIA1 FINESS Array S 68.68 332 *e*P P **16 11 16.6 0.0**
FINES FINESS Array B 68.68 332 P P **16 11 16.9 +0.3**
comp=Z,119nm,0.7s,baz=59,slow=7.4,SNR=310
FINES LR LR 16 43 36.9
comp=Z,2μm,18.1s,baz=11,slow=38
VSR Storozhevoye 68.75 319 *e*P P **16 11 17.3 +0.1**
VSR pmax pmax
comp=Z,200nm,0.8s
VSR MLR MLR
comp=Z,4μm,20.0s
RNO Roman Nose 68.76 51 P P **16 11 20.1 +2.5**
B08A Colville Reser 69.02 45 *e*P P **16 11 20.2 +1.1**
comp=Z,43nm,1.4s
I03D Drain, OR 69.11 51 P P **16 11 21.2 +1.6**
baz=302,SNR=12
H04A Detroit Lake 69.31 49 P P **16 11 22.4 +1.4**
G05D Wamic, OR 69.53 48 P P **16 11 23.7 +1.5**
baz=302,SNR=6.5
I04A Tendick Farm, 69.64 50 P P **16 11 24.2 +1.2**
baz=302,SNR=14
BBOO Buckleboo 69.65 185 *e*P P **16 11 23.5 +0.6**
L02D Cave Junction, 69.76 52 P P **16 11 25.3 +1.5**
baz=302,SNR=5.3
GOF Gofitskoye 69.89 312⇓ *i*P P **16 11 25.1 +0.7**
GOF *e*S S **16 20 31.5 -1.4**
GOF pmax pmax
comp=Z,134nm,0.6s
C09A Chrisman Ranch 69.92 45 *e*P P **16 11 25.8 +1.2**
HUMO Hull Mountain 69.93 51 *e*P P **16 11 26.6 +1.8**
G06A Carlson Farm, 69.94 48 *e*P P **16 11 26.4 +1.5**
D08A Wollman Farm, 69.96 46 *e*P P **16 11 25.9 +1.1**
comp=Z,30nm,0.8s
I05D Terebonne, OR 70.00 49 P P **16 11 26.3 +1.1**
baz=303,SNR=14
VTHM Trough 70.02 48 P P **16 11 26.8 +1.5**
VSU Vasula 70.31 329*d i*P P **16 11 27.1 +0.4**
VSU pmax pmax
comp=Z,299nm,0.6s
NEW Newport 70.31 44 P P **16 11 27.8 +0.7**
baz=304,SNR=12
NEW Newport 70.31 44 *e*P P **16 11 27.5 +0.5**
NEW Newport 70.31 44 *e*P P **16 11 27.5 +0.5**
NEW LR LR
comp=Z,476nm,19.0s
KHMM Horse Mountain 70.36 53 *e*P P **16 11 30.0 +2.4**
NCK Nalchik 70.39 310⇑ *e*P P **16 11 28.3 +0.7**
NCK pmax pmax
comp=Z,44nm,1.0s
GUDG Gudauri 70.40 309 P P **16 11 30.1 +2.2**
DUS Dusheti 70.46 308 P P **16 11 30.7 +2.5**
DUS Dusheti 70.46 308 P P **16 11 30.6 +2.5**
ZEI Tsey 70.58 309 *e*P P **16 11 27.8 -1.2**
ZEI pmax pmax
comp=Z,67nm,0.6s
ZEI MLR MLR
comp=Z,2μm,14.0s
WSAR Wadi Sarin 70.60 285 LR LR 16 46 33.6
comp=Z,474nm,19.2s,slow=39
TBLG Delisi 70.63 308 P P **16 11 29.8 +0.7**
TBLG Delisi 70.63 308 P P **16 11 29.8 +0.7**
J05D Fort Rock, OR 70.63 50 P P **16 11 30.7 +1.4**
baz=303,SNR=20
M02C Callahan 70.64 52 P P **16 11 31.0 +1.8**
baz=303,SNR=5.5
K04D Chiloquin, OR 70.67 51 P P **16 11 30.8 +1.4**
baz=303
SUMG Summit 70.68 360 *e*P P **16 11 30.0 +0.7**
SUMG Summit 70.68 360⇓ *i*P P **16 11 30.6 +1.3**
SUMG *i* 16 11 38.8
SUMG Summit 70.68 360 *e*P P **16 11 30.0 +0.7**
KBZ Khabaz 70.69 311 P P **16 11 30.1 +0.7**
comp=Z,74nm,0.9s,baz=69,slow=3.3,SNR=130
KBZ LR LR 16 43 53.8
comp=Z,863nm,21.0s,baz=50,slow=37
KIV Kislovodsk 70.70 311 *i* P P **16 11 30.4 +0.9**
SNR=38
KIV Kislovodsk 70.70 311 *e*P P **16 11 29.9 +0.4**
KIV Kislovodsk 70.70 311 *e*P P **16 11 29.9 +0.4**
KIV LR LR
comp=Z,955nm,21.0s
KMRM Mail Ridge 70.72 54 *e*P P **16 11 31.9 +2.1**
BIDO Bidbid 70.84 285 P P **16 11 29.2 -1.4**
SNR=6.2
BIDO Bidbid 70.84 285 P P **16 11 29.2 -1.4**
SNR=6.2
G08A Pilot Rock 70.91 47 *e*P P **16 11 32.2 +1.4**
BANOM Banah 70.95 288 *i* P P **16 11 32.3 +1.1**
SNR=15
N02D Trinity Center 70.96 53 P P **16 11 32.4 +1.2**
baz=303
ONI Oni 70.97 309 P P **16 11 32.6 +1.4**
ONI Oni 70.97 309 P P **16 11 32.6 +1.4**
NEY Neytrino 71.06 310*de*P P **16 11 32.8 +0.9**
NEY pmax pmax
comp=Z,7.0nm,0.8s
M04C Macdoel 71.07 52 P P **16 11 33.3 +1.3**
baz=303,SNR=17
K05A Summer Lake 71.15 50 *e*P P **16 11 34.0 +1.5**
SMDO Samad 71.15 285 P P **16 11 33.7 +1.1**
SNR=13
SMDO Samad 71.15 285 P P **16 11 33.7 +1.1**
SNR=13
NSS Namsos 71.18 339 *e*P P **16 11 32.1 +0.2**
WDC Whiskeytown Da 71.28 53 *e*P P **16 11 34.6 +1.6**
WDC Whiskeytown Da 71.28 53 *e*P P **16 11 34.6 +1.6**
GNI Garni 71.48 307 *i* P P **16 11 35.8 +1.3**
SNR=8.0
GNI Garni 71.48 307*de*P P **16 11 35.2 +0.7**
GNI pmax pmax
comp=Z,179nm,1.2s
GNI Garni 71.48 307 P P **16 11 35.0 +0.6**
SNR=16
GNI Garni 71.48 307 P P **16 11 35.0 +0.6**
SNR=16
GNI Garni 71.48 307 *e*P P **16 11 36.0 +1.5**
GNI LR LR
comp=Z,1μm,19.0s
F10A Beach Ranch, E 71.53 46 *e*P P **16 11 35.2 +0.7**
UOSS Minazif 71.55 288 *e*P P **16 11 35.8 +1.0**
BGD Bogdanovka 71.60 308 P P **16 11 37.0 +1.8**
WALA Waterton Lakes 71.61 42 *e*P P **16 11 36.2 +1.2**
HATD Hatta, Dubai 71.67 288 *i* P P **16 11 36.7 +1.0**
SNR=22
CHVG Ch'k'valeri 71.74 310 P P **16 11 36.8 +1.0**
ASHO Ashiyiah 71.80 287 *i* P P **16 11 37.3 +0.8**
SNR=17
ASHO Ashiyiah 71.80 287 P P **16 11 37.1 +0.7**
SNR=8.0
ASHO Ashiyiah 71.80 287 P P **16 11 37.1 +0.7**
SNR=8.0
HOPS Hopland Field 71.80 55 *e*P P **16 11 37.8 +1.7**
BSMT Bassoo Peak 71.84 43 *e*P P **16 11 38.2 +1.7**
O03D Paynes Creek 71.91 53 P P **16 11 37.4 +0.4**
baz=304,SNR=9.6
NAZ Nazwa, Dubai 71.94 288 *i* P P **16 11 38.2 +1.0**
SNR=8.3
BLMT Blacktail Moun 71.98 43 *e*P P **16 11 39.2 +1.9**
SCO Scoresbysund 72.08 354 *i* P P **16 11 37.6 +0.4**
SCO Scoresbysund 72.08 354 *i* P P **16 11 37.6 +0.4**
BMO Blue Mountains 72.12 47 *e*P P **16 11 39.0 +0.8**
FAQ Al Faqa, Dubai 72.12 288 *i* P P **16 11 38.7 +0.4**
SNR=24
JTMT Jette 72.17 43 *e*P P **16 11 39.9 +1.4**
YBMT Yellow Bay 72.25 43 *e*P P **16 11 40.6 +1.7**
IZAR Zarasai 72.25 327 *e*P P **16 11 39.4 +0.9**
IZAR IAmb IAmb 16 11 40.3
comp=Z,76nm,0.6s
IDID Didziasalis 72.32 327 *e*P P **16 11 39.9 +0.9**
IDID IAmb IAmb 16 11 40.8
comp=Z,62nm,0.7s
MICGM Minsk 72.33 326⇓ *e*P P **16 11 39.0 -0.1**
MICGM PM 16 11 40.0
comp=Z,0.3nm,0.9s
MICGM *e*PP **PP** **16 14 21.0 +1.6**
MICGM *e*S S **16 20 58.0 -3.0**
MICGM *e*PS PnS **16 21 18.0 -14**
MICGM *e*SS SS 16 25 18.0 -20
MICGM *e*LQ LQ 16 36 20.0
MICGM LQM 16 43 10.0
comp=E,2.0nm,14.0s
MICGM *e*LR LR 16 44 24.0
MICGM LRM MLR 16 46 18.0
comp=Z,3.1nm,14.0s
MNK Minsk 72.33 326⇓ *e*P P **16 11 39.0 -0.1**
MNK *e* 16 14 21.0
MNK *e*S S **16 20 58.0 -3.0**
MNK pmax pmax
comp=Z,320nm,0.9s
MNK MLR MLR
comp=Z,3μm,14.0s
CAN Canberra 72.37 173 *e*P P **16 11 40.4 +1.0**
CAN Canberra 72.37 173 *e*P P **16 11 40.4 +1.0**
CAN LR LR
comp=Z,782nm,19.0s
MCCM Marconi Confer 72.39 55 *e*P P **16 11 41.1 +1.4**
ISAL Salakas 72.42 327 *e*P P **16 11 40.5 +0.9**
ISAL IAmb IAmb 16 11 41.5
comp=Z,93nm,0.6s
SWMT Swartz Lake 72.47 43 *e*P P **16 11 41.4 +1.2**
ORV Oroville 72.51 53 *e*P P **16 11 40.9 +0.5**
ORV Oroville 72.51 53 *e*P P **16 11 40.9 +0.5**
NACGM Naroch 72.57 327 *e*P P **16 11 40.0 -0.4**
NACGM *e*LQ LQ 16 40 40.0
NACGM *e*LR LR 16 44 28.0
TBLU Trondheim 72.65 339 *e*P P **16 11 40.1 -0.6**
TBLU IAmb IAmb 16 11 40.8
comp=Z,51nm,0.7s
SOC Sochi 72.69 312 *e*P P **16 11 40.3 -1.1**
SOC *e**PP **sP** **16 11 50.6 -0.4**
SOC *e* 16 14 19.9
SOC *e*S S **16 21 04.3 -1.1**
SOC *e*SS SS **16 25 44.8 +0.6**
SOC *e*SSS SSS 16 28 57.2
SOC pmax pmax
comp=Z,49nm,0.6s
SOC MLR MLR
comp=Z,1μm,15.0s
WVOR Wild Horse Val 72.69 50 *e*P P **16 11 42.7 +1.1**
WVOR Wild Horse Val 72.69 50 *e*P P **16 11 42.7 +1.1**
WVOR LR LR
comp=Z,293nm,20.0s
MSO Missoula 72.90 44 P P **16 11 43.4 +0.6**
baz=306,SNR=12
MSO Missoula 72.90 44 *e*P P **16 11 43.1 +0.4**
NWAO Narrogin (SRO) 73.08 201 *e*P P **16 11 44.1 +0.5**
NWAO Narrogin (SRO) 73.08 201 *e*P P **16 11 44.1 +0.5**
AFDM Forest Hills D 73.19 54 *e*P P **16 11 46.0 +1.5**
CHMT Chamberlain Mo 73.23 44 *e*P P **16 11 45.8 +0.9**
ANN Anapa 73.33 314 *e*P P **16 11 45.1 0.0**
ANN *e**PP **pP** **16 11 52.6 +0.4**
ANN *e* 16 11 58.1
ANN *e*S S **16 21 11.7 -0.9**
ANN pmax pmax
comp=Z,166nm,1.4s
PAHR Pah Rah Range 73.78 52 *e*P P **16 11 48.9 +0.8**
MFID Camas Ranch 73.82 48 *e*P P **16 11 49.1 +0.9**
FFC Flin Flon 73.84 33 *e*P P **16 11 47.8 -0.2**
FFC Flin Flon 73.84 33 *e*P P **16 11 47.8 -0.2**
FFC LR LR
comp=Z,437nm,21.0s
MOL Molde 73.95 340 *e*P P **16 11 49.1 +0.7**
MOL IAmb IAmb 16 11 50.2
comp=Z,38nm,0.7s
HFS Hagfors 73.97 336 LR LR 16 46 57.1
comp=Z,2μm,19.0s,slow=38
NB2 NORSAR Subarra 74.07 337 P P **16 11 49.5 +0.2**
comp=Z,72nm,0.8s,baz=39,slow=6.2
NB2 NORSAR Subarra 74.07 337 P P **16 11 49.5 +0.2**
baz=39,slow=6.2
NB2 NORSAR Subarra 74.07 337 P P **16 11 49.5 +0.2**
NB2 pmax pmax
comp=Z,61nm,0.8s
NOA NORSAR Array B 74.07 337 P P **16 11 49.0 -0.3**
comp=Z,45nm,0.8s,baz=43,slow=5.5,SNR=244
NOA LR LR 16 47 33.5
comp=Z,2μm,19.7s,baz=30,slow=38
NOA NORSAR Array B 74.07 337 P P **16 11 49.0 -0.3**
CMB Columbia Colle 74.08 54 *e*P P **16 11 50.8 +1.0**
CMB Columbia Colle 74.08 54 *e*P P **16 11 50.8 +1.0**
SAO San Andreas Ge 74.11 56 *e*P P **16 11 51.3 +1.4**
SAO San Andreas Ge 74.11 56 *e*P P **16 11 51.3 +1.4**
FCC Fort Churchill 74.11 26 *e*P P **16 11 49.2 -0.3**
FCC Fort Churchill 74.11 26 *e*P P **16 11 49.2 -0.3**
AKASG Malin Array Be 74.12 322 P P **16 11 49.1 -0.7**
comp=Z,64nm,0.5s,baz=46,slow=6.0,SNR=339
AKASG LR LR 16 46 32.9
comp=Z,1μm,18.9s,baz=40,slow=37
AKASG Malin Array Be 74.12 322 *i* P P **16 11 49.0 -0.7**
AKASG pmax pmax
comp=Z,66nm,0.5s
AKBB Malin Array Si 74.12 322 *e*P P **16 11 48.8 -0.9**
AKBB Malin Array Si 74.12 322 *e*P P **16 11 48.8 -0.9**
HRY Holter Researc 74.13 43 *e*P P **16 11 51.7 +1.6**
KIEV Kiev 74.14 322*de*P P **16 11 49.5 -0.3**
KIEV pmax pmax
comp=Z,84nm,0.9s
KIEV Kiev 74.14 322 *e*P P **16 11 48.9 -0.8**
KIEV LR LR
comp=Z,1μm,20.0s
AK11 Malin Array Si 74.17 322 *e*P P **16 11 49.1 -0.9**
NC602 NORSAR Array S 74.21 337 *e*P P **16 11 50.1 +0.1**
NC602 IAMs_20 IAMs_20 16 47 10.4
comp=Z,4μm,20.3s
LRM Limekiln Ridge 74.33 44 *e*P P **16 11 51.9 +0.6**
AKN Aaknes 74.42 340 *e*P P **16 11 52.2 +0.9**
AKN IAmb IAmb 16 11 55.5
comp=Z,44nm,1.1s
WAKR Walker 74.43 53 *e*P P **16 11 53.3 +1.3**
EGMT Eagleton 74.44 41 P P **16 11 52.0 +0.3**
baz=308
EGMT Eagleton 74.44 41 PFAKE 16 12 00.0 +8.3
EGMT LR LR
comp=Z,541nm,20.0s
DLMT Dillon 74.53 45 *e*P P **16 11 53.2 +0.9**
HLID Hailey 74.56 47 P P **16 11 53.4 +0.7**
baz=307,SNR=8.0
HLID Hailey 74.56 47 *e*P P **16 11 53.3 +0.7**
HLID LR LR
comp=Z,288nm,19.0s
LCCM Lewis and Clar 74.64 44 *e*P P **16 11 54.3 +1.3**
MCMT McKenzie Canyo 74.71 45 *e*P P **16 11 54.4 +0.9**
BMN Battle Mountai 74.72 51 *e*P P **16 11 54.9 +1.3**
BMN Battle Mountai 74.72 51 *e*P P **16 11 54.9 +1.3**
SUW Suwalki 74.73 327 *e*P P **16 11 53.4 +0.2**
SUW Suwalki 74.73 327 *e*P P **16 11 53.4 +0.2**
BOZ Bozeman (W) 74.89 44 P P **16 11 55.6 +1.0**
baz=308,SNR=50
BOZ Bozeman (W) 74.89 44 *e*P P **16 11 55.5 +1.0**
BOZ Bozeman (W) 74.89 44 *e*P P **16 11 55.5 +1.0**

BOZ LR LR
comp=Z,457nm,19.0s
OSL Oslo 75.08 337 *e*P **P 16 11 55.7 +0.6**
OSL IAmb IAmb 16 11 56.5
comp=Z,59nm,0.7s
SIM Simferopol' 75.13 315 *de*P **P 16 11 55.6 -0.1**
SIM *e*S **S 16 21 31.8 -1.1**
SIM pmax pmax
comp=Z,61nm,0.6s
SIM MLR MLR
comp=Z,500nm,14.0s
NVAR Mina Array Bea 75.20 53 P **P 16 11 57.5 +1.1**
comp=Z,20nm,0.7s,baz=292,slow=6.5,SNR=84
NVAR LR LR 16 42 39.7
comp=Z,166nm,18.1s,baz=284,slow=34
MLAC Mammoth, Mammo 75.32 54 P **P 16 11 58.6 +1.4**
baz=306
FOO Floro 75.44 340 *e*P **P 16 11 57.5 +0.5**
FOO *e*P **pP 16 11 57.9 -6.2**
HYA Hoyanger 75.47 339 *e*P **P 16 11 58.1 +0.8**
QLMT Earthquake Lak 75.50 45 *e*P **P 16 11 59.7 +1.6**
KONO Kongsberg 75.66 337 *e*P **P 16 11 58.8 +0.4**
KONO Kongsberg 75.66 337 *d*/P **P 16 11 59.0 +0.6**
KONO pmax pmax
comp=Z,147nm,0.6s
KONO Kongsberg 75.66 337 *e*P **P 16 11 59.2 +0.7**
KONO LR LR
comp=Z,2µm,19.0s
YHB Horse Butte 75.69 44 *e*P **P 16 12 00.2 +1.0**
ELK Elko 75.75 50 *e*P **P 16 12 01.3 +1.7**
ELK Elko 75.75 50 *e*P **P 16 12 01.2 +1.7**
SMMC Simmler 75.90 56 P **P 16 12 01.6 +1.3**
baz=306,SNR=6.8
SFJD Kangerlussuaq 75.90 5 */* P **P 16 11 59.5 -0.1**
SFJD pmax pmax
comp=Z,21nm,0.9s
SFJD Kangerlussuaq 75.90 5 */* P **P 16 11 59.5 -0.1**
comp=Z,21nm,0.9s
SFJD Kangerlussuaq 75.90 5 *e*P **P 16 12 00.7 +1.0**
SFJD LR LR
comp=Z,786nm,19.0s
SUE Sulen 75.96 340 *e*P **P 16 12 00.7 +0.7**
SUE IAmb IAmb 16 12 01.8
comp=Z,45nm,0.8s
MCID Moose Creek 76.04 45 *e*P **P 16 12 02.9 +1.7**
TIN Tinemaha, Big 76.05 54 P **P 16 12 02.5 +1.3**
baz=306
YFT Old Faithful 76.07 45 *e*P **P 16 12 04.5 +3.1**
VES Vestal, Richgr 76.20 56 P **P 16 12 02.0 +0.1**
baz=306,SNR=6.4
SORM Soroca 76.21 320⇑ *i*P **P 16 12 01.8 0.0**
LKWY Lake 76.25 44 PFAKE 16 12 10.0 +7.6
LKWY LR LR
comp=Z,766nm,20.0s
H17A Grant Village 76.25 44 P **P 16 12 04.0 +1.5**
baz=309,SNR=33
H17A Grant Village 76.25 44 *e*P **P 16 12 05.3 +2.8**
PKM Mcpherson Peak 76.27 57 P **P 16 12 02.3 -0.3**
baz=306
ASK Askoy 76.31 339 *e*P **P 16 12 03.2 +1.2**
ASK IAmb IAmb 16 12 03.8
comp=Z,50nm,0.7s
BER Bergen 76.35 339 *e*P **P 16 12 03.4 +1.1**
IMW Indian Meadow 76.36 45 *e*P **P 16 12 04.7 +1.6**
ODD1 Odda 76.36 338 *e*P **P 16 12 03.5 +1.1**
ODD1 IAmb IAmb 16 12 04.2
comp=Z,50nm,0.8s
FLWY Flagg Ranch 76.38 45 *e*P **P 16 12 05.5 +2.4**
FXWY Fox Creek 76.47 45 *e*P **P 16 12 05.2 +1.5**
RLMT Red Lodge 76.52 43 P **P 16 12 03.6 -0.3**
baz=309,SNR=15
RLMT Red Lodge 76.52 43 *e*P **P 16 12 05.5 +1.6**
RLMT LR LR
comp=Z,414nm,19.0s
MOOW Moose Ponds 76.56 45 *e*P **P 16 12 05.7 +1.5**
SBC Santa Barbara 76.59 57 P **P 16 12 03.7 -0.5**
baz=306
HVU Hansel Valley 76.60 48 *e*P **P 16 12 06.0 +1.7**
HVU Hansel Valley 76.60 48 *e*P **P 16 12 06.0 +1.7**
TPAW Teton Pass 76.61 45 *e*P **P 16 12 05.6 +1.1**
GRAC Grapevine Rang 76.64 54 P **P 16 12 05.7 +1.2**
baz=306,SNR=6.4
ISA Isabella, Lake 76.70 55 P **P 16 12 04.9 0.0**
baz=306
ISA Isabella, Lake 76.70 55 *e*P **P 16 12 05.3 +0.4**
ISA Isabella, Lake 76.70 55 *e*P **P 16 12 05.3 +0.4**
KIS Kishinev 76.71 319⇓ *i*P **P 16 12 04.0 -0.6**
comp=Z,200nm,1.5s
KIS *e*S S 16 22 40.0 +50
KIS Kishinev 76.71 319ĸ *i*P **P 16 12 04.0 -0.6**
KIS *i* 16 12 14.0
KIS *e* 16 15 05.0
KIS *e*S S 16 22 40.0 +50
KIS pmax pmax
comp=Z,200nm,1.5s
KIS pmax pmax
comp=Z,300nm,4.0s
KIS MLR MLR
comp=Z,4µm,16.0s
KIS MLR MLR
comp=N,2µm,15.0s
KIS MLR MLR
comp=E,2µm,15.0s
KIS MLR MLR
comp=Z,4µm,16.0s
LOHW Long Hollow 76.73 45 *e*P **P 16 12 06.5 +1.4**
SNOW Snow King Moun 76.73 45 *e*P **P 16 12 07.6 +2.4**
REDW Red Top Meadow 76.74 45 *e*P **P 16 12 07.0 +1.8**
ARVC Arvin 76.78 56 P **P 16 12 05.6 +0.3**
baz=306
BLS5 Blasjo 76.81 338 *e*P **P 16 12 05.2 +0.2**
SCZ2 Santa Cruz Isl 76.91 57 P **P 16 12 06.6 +0.6**
baz=306
DAC Darwin (Calif) 76.92 54 *e*P **P 16 12 07.2 +0.9**
DAC Darwin (Calif) 76.92 54 *e*P **P 16 12 07.2 +0.9**
R11A Troy Canyon, C 76.97 52 P **P 16 12 07.4 +0.9**
baz=307,SNR=48
R11A Troy Canyon, C 76.97 52 *e*P **P 16 12 06.9 +0.4**
AHID Auburn Hatcher 76.97 46 *e*P **P 16 12 07.8 +1.3**
AHID LR LR
comp=Z,342nm,21.0s
BGU Big Grassy Mou 76.97 48 *e*P **P 16 12 08.1 +1.6**
DGMT Dagmar 77.00 38 P **P 16 12 06.4 +0.1**
baz=312
DGMT Dagmar 77.00 38 PFAKE 16 12 20.0 +14
DGMT LR LR
comp=Z,740nm,19.0s
HOMB Homborsund 77.11 336 *e*P **P 16 12 07.0 +0.4**
HOMB IAmb IAmb 16 12 07.8
comp=Z,30nm,0.9s
HOMB *e*S **S 16 21 54.8 +0.8**
MPMC Manual Prospec 77.12 55 P **P 16 12 08.1 +0.7**
baz=307,SNR=11
LAO LASA Array 77.14 41 P **P 16 12 07.8 +0.6**
baz=311
LAO LASA Array 77.14 41 PFAKE 16 12 20.0 +13
LAO LR LR
comp=Z,432nm,20.0s
OSI Osito Audit: C 77.16 56 P **P 16 12 08.2 +0.8**
baz=306
OSI Osito Audit: C 77.16 56 *e*P **P 16 12 09.2 +1.8**
LVV L'vov 77.21 324⇑ *i*P **P 16 12 07.8 +0.4**
LVV *e* 16 14 56.8
LVV *e*S **S 16 21 53.4 -2.2**
LVV *e*PS **PnS 16 22 41.2 +5.6**
LVV *e*SSS SSS 16 30 17.9
LVV MLR MLR
comp=N,1µm,16.0s
LVV MLR MLR
comp=E,1µm,16.0s
LVV MLR MLR
comp=Z,3µm,16.0s
IAS Iasi 77.23 320⇑ *i*P **P 16 12 08.0 +0.4**
FURC Furnace Creek, 77.28 54 P **P 16 12 08.9 +1.0**
baz=307
BEL Belsk 77.29 327 *e*P **P 16 12 09.2 +1.3**
BEL Belsk 77.29 327 *e*P **P 16 12 09.1 +1.3**
BSD Bornholm Skovb 77.31 332⇓ *i*P **P 16 12 08.1 +0.3**
BSD pmax pmax
comp=Z,92nm,0.8s
BSD Bornholm Skovb 77.31 332⇓ *i*P **P 16 12 08.1 +0.3**
comp=Z,92nm,0.8s
LRMC Laurel Mtn Rad 77.33 55 P **P 16 12 09.2 +0.6**
baz=307
KMY Karmoy 77.34 338 *e*P **P 16 12 09.0 +1.1**
KMY IAmb IAmb 16 12 09.8
comp=Z,34nm,0.7s
LEOM Leova 77.35 319⇓ *i*P **P 16 12 09.0 +0.8**
TPNV Topopah Spring 77.39 53 P **P 16 12 09.8 +0.9**
baz=307,SNR=33
TPNV Topopah Spring 77.39 53 *e*P **P 16 12 09.6 +0.8**
TPNV Topopah Spring 77.39 53 *e*P **P 16 12 09.6 +0.8**
BMUT Black Mountain 77.40 47 *e*P **P 16 12 09.9 +1.0**
HWUT Hardware Ranch 77.42 47 *e*P **P 16 12 10.3 +1.3**
HWUT LR LR
comp=Z,302nm,19.0s
STAV Stavanger 77.43 338 *e*P **P 16 12 08.9 +0.5**
STAV IAmb IAmb 16 12 09.6
comp=Z,37nm,0.8s
SNART Snartemo 77.46 337 *e*P **P 16 12 08.9 +0.3**
SNART IAmb IAmb 16 12 10.2
comp=Z,49nm,0.9s
EDW2 Edwards Air Fo 77.48 56 P **P 16 12 10.0 +0.7**
baz=307,SNR=8.5
RSUT Red Spur Mount 77.49 47 *e*P **P 16 12 10.9 +1.4**
DUG Dugway, Tooele 77.55 49 P **P 16 12 10.8 +1.1**
baz=308,SNR=28
DUG Dugway, Tooele 77.55 49 *e*P **P 16 12 10.8 +1.1**
DUG Dugway, Tooele 77.55 49 *e*P **P 16 12 10.8 +1.1**
DUG LR LR
comp=Z,273nm,22.0s
DECC Green Verdugo 77.63 56 P **P 16 12 11.0 +0.9**
baz=307
B25A Knox Farm, Ray 77.64 38 P **P 16 12 10.3 +0.4**
baz=313
DGAR Diego Garcia 77.74 251 PFAKE 16 12 20.0 +9.2
DGAR LR LR
comp=Z,665nm,19.0s
A26A Wade Farm, Ken 77.77 37 P **P 16 12 11.3 +0.8**
baz=313
COP Copenhagen 77.80 333⇓ *i*P **P 16 12 11.2 +0.7**
COP pmax pmax
comp=Z,57nm,0.8s
COP Copenhagen 77.80 333⇓ *i*P **P 16 12 11.2 +0.7**
comp=Z,57nm,0.8s
PRAR RASCA 77.80 321⇓ *i*P **P 16 12 11.3 +0.5**
TCUT Toone Canyon 77.82 47 *e*P **P 16 12 12.6 +1.2**
MWC Mount Wilson 77.83 56 *e*P **P 16 12 12.7 +1.3**
MWC Mount Wilson 77.83 56 *e*P **P 16 12 12.7 +1.3**
BW06 Boulder Array 77.85 45 P **P 16 12 12.0 +0.6**
baz=310,SNR=32
BW06 Boulder Array 77.85 45 *e*P **P 16 12 11.8 +0.3**
BW06 LR LR
comp=Z,337nm,19.0s
PD31 Pinedale Array 77.85 45 *e*P **P 16 12 11.6 +0.2**
PDAR Pinedale Array 77.85 45 P **P 16 12 12.2 +0.8**
comp=Z,14nm,0.6s,baz=268,slow=1.9,SNR=99
TLCR 77.89 318⇓ *i*P **P 16 12 11.6 +0.3**
YEL1 Yell 77.92 342 *e*P **P 16 12 12.4 +1.2**
KWP Kalwaria Pacla 77.97 324 *e*P **P 16 12 12.9 +1.3**
KWP Kalwaria Pacla 77.97 324⇑ *i*P **P 16 12 12.5 +0.9**
KWP Kalwaria Pacla 77.97 324 *e*P **P 16 12 12.9 +1.3**
FMP Fort Macarthur 77.97 57 P **P 16 12 12.8 +0.9**
baz=307
C25A Freed Ranch, W 77.98 38 P **P 16 12 12.4 +0.6**
baz=313
SHOC Shoshone, Teco 78.00 54 P **P 16 12 13.0 +0.9**
baz=307
GSC Goldstone, Bar 78.01 55 P **P 16 12 13.1 +0.8**
baz=307,SNR=5.7
GSC Goldstone, Bar 78.01 55 *e*P **P 16 12 13.4 +1.1**
GSC Goldstone, Bar 78.01 55 *e*P **P 16 12 13.4 +1.1**
B26A Jensen Ranch, 78.03 38 P **P 16 12 12.8 +0.7**
baz=313
BFSC Mount Baldy Ra 78.09 56 P **P 16 12 13.5 +0.8**
baz=307
BUR08 Bucovina Ar. S 78.12 322 *e*P **P 16 12 12.8 +0.1**
BURAR Bucovina Array 78.14 322⇓ *i*P **P 16 12 13.4 +0.7**
RRX Edison Barstow 78.14 55 P **P 16 12 13.7 +0.8**
baz=307
TESR Tescani 78.15 320⇓ *i*P **P 16 12 13.1 +0.4**
CFR Carcaliu 78.26 318⇑ *i*P **P 16 12 13.8 +0.5**
D25A Fairfield 78.32 39 P **P 16 12 14.3 +0.6**
baz=313
MUD Monsted U'grnd 78.33 335⇓ *i*P **P 16 12 13.9 +0.4**
MUD pmax pmax
comp=Z,49nm,0.9s
MUD Monsted U'grnd 78.33 335⇓ *i*P **P 16 12 13.9 +0.4**
comp=Z,49nm,0.9s
RGN Rugen 78.34 332 *e*P **P 16 12 14.5 +0.9**
SHPR Sheep Range 78.35 53 *e*P **P 16 12 15.5 +1.3**
ODBI Odobesti 78.44 319⇑ *i*P **P 16 12 15.2 +0.9**
C26A Wahner Farm, P 78.47 38 P **P 16 12 14.9 +0.4**
baz=313
B27A Peters Farms, 78.48 37 P **P 16 12 14.9 +0.4**
baz=314
TUQ Turquoise Moun 78.51 54 P **P 16 12 15.8 +0.7**
baz=308,SNR=16
VRI Vrincioaia 78.55 319⇓ *i*P **P 16 12 16.0 +1.1**
BBRC Big Bear Solar 78.56 56 P **P 16 12 16.0 +0.5**
baz=307
TIRR Tirgusor 78.59 318⇓ *i*P **P 16 12 15.3 +0.2**
TIRR Tirgusor 78.59 318 *e*P **P 16 12 14.9 -0.2**
TIRR Tirgusor 78.59 318 *e*P **P 16 12 14.9 -0.2**
PLOR Plostina 78.59 320⇓ *i*P **P 16 12 16.4 +1.2**
A28A Rude Farm, Bot 78.60 36 P **P 16 12 15.9 +0.7**
baz=314,SNR=5.1
HEC Hector,Ludlow 78.61 55 P **P 16 12 16.6 +1.1**
baz=307,SNR=6.7
BR131 Keskin Array S 78.64 311 *e*P **P 16 12 15.9 +0.2**
BRTR Keskin Array B 78.64 311 P **P 16 12 16.1 +0.3**
comp=Z,19nm,0.8s,baz=83,slow=4.0,SNR=68
BRTR LR LR 16 53 10.4
comp=Z,338nm,18.4s,baz=42,slow=40
KOLS Kolonicke sedl 78.66 324 *e*P **P 16 12 16.1 +0.6**
KOLS pmax pmax
comp=Z,32nm,1.0s
KOLS Kolonicke sedl 78.66 324 *e*P **P 16 12 16.1 +0.6**
KOLS *e*L L 16 50 12.8
HARR Harsova 78.69 318⇓ *i*P **P 16 12 16.0 +0.3**
EFOR EFORIE 78.72 317⇓ *i*P P 16 12 21.9 +6.1
E25A Miller Ranch, 78.72 39 P **P 16 12 16.6 +0.6**
baz=313
GRER 78.74 319⇑ *i*P **P 16 12 16.2 +0.2**
MURC Murrieta 78.78 56 P **P 16 12 16.6 +0.1**
baz=307
STHS Stebnicka Huta 78.80 325 *e*P **P 16 12 17.7 +1.5**
STHS pmax pmax
comp=Z,42nm,0.8s
STHS Stebnicka Huta 78.80 325 *e*P **P 16 12 17.7 +1.5**
C27A Sayler Ranch, 78.84 38 P **P 16 12 16.8 +0.2**
baz=314
CCUT Cedar City 78.85 51 *e*P **P 16 12 18.7 +1.7**
D26A Manning 78.85 39 P **P 16 12 16.4 -0.3**
baz=313
UZH Uzhgorod 78.86 324 *e*P **P 16 12 16.9 +0.4**
UZH *e* 16 12 23.6
UZH *e* 16 15 18.6
UZH *e*S **S 16 22 09.4 -3.9**
UZH MLR MLR
comp=N,1µm,13.0s
UZH MLR MLR
comp=E,2µm,13.0s
UZH MLR MLR
comp=Z,800nm,13.0s
B28A Dugan Ranch, T 78.88 37 P **P 16 12 16.9 +0.1**
baz=314
OJC Ojcow 78.88 326 *e*P **P 16 12 16.9 +0.2**
OJC Ojcow 78.88 326⇓ *e*P **P 16 12 16.9 +0.2**
OJC Ojcow 78.88 326 *e*P **P 16 12 16.9 +0.2**
MANR Mangalia 78.91 317⇓ *i*P **P 16 12 18.1 +1.2**
ARCR ARCALIA 78.93 322⇓ *i*P **P 16 12 18.6 +1.6**
BMR Baia Mare 78.94 322⇓ *i*P **P 16 12 18.6 +1.5**
PGOR Pogoanele 79.05 319⇑ *i*P **P 16 12 19.3 +1.6**
ANTO Ankara 79.06 312 *e*P **P 16 12 18.9 +1.0**
ANTO Ankara 79.06 312 *e*P **P 16 12 18.9 +1.0**
ANTO LR LR
comp=Z,10.0nm,19.0s
CRVS Cervenica-Dubn 79.06 324 *e*P **P 16 12 18.8 +1.1**
CRVS Cervenica-Dubn 79.06 324 *e*P **P 16 12 18.8 +1.1**
GMRC Granite Mounta 79.07 55 P **P 16 12 18.9 +0.7**
baz=308,SNR=20
A29A Manning Farm, 79.08 36 P **P 16 12 18.3 +0.5**
baz=315,SNR=14
TMUT Trail Mountain 79.08 49 *e*P **P 16 12 19.9 +1.5**
F25A Bowman 79.08 40 P **P 16 12 18.3 +0.3**
baz=313
BR231 Keskin MP Arra 79.09 312 *e*P **P 16 12 18.7 +0.6**
TRPA Tarpa 79.09 323⇓ *e*P **P 16 12 19.1 +1.3**
ISR Istrita 79.14 319⇓ *i*P **P 16 12 19.7 +1.4**
MSAB Monastry St. A 79.14 318⇑ *i*P **P 16 12 18.8 +0.6**
DOPR Dopca 79.17 320⇓ *i*P **P 16 12 20.0 +1.6**
MLR Muntele Rosu 79.20 320⇑ *i*P **P 16 12 19.0 +0.3**
MLR Muntele Rosu 79.20 320 *e*P **P 16 12 19.4 +0.7**
MLR Muntele Rosu 79.20 320 *e*P **P 16 12 19.4 +0.7**
E26A Carlson Angus 79.22 39 P **P 16 12 19.1 +0.5**
baz=313
NIE Niedzica 79.23 325 *e*P **P 16 12 20.0 +1.4**
NIE Niedzica 79.23 325⇓ *e*P **P 16 12 20.0 +1.4**
D27A Center 79.25 38 P **P 16 12 18.9 +0.1**
baz=314
P17A Butcher Ranch, 79.25 48 *e*P **P 16 12 20.7 +1.6**
LDFC Landfair 79.25 54 *e*P **P 16 12 20.3 +1.1**
LCMT Little Creek M 79.25 52 *e*P **P 16 12 20.4 +1.3**
PFO Pinyon Flats O 79.26 56 P **P 16 12 20.4 +1.2**
comp=Z,4.3nm,0.5s,baz=315,slow=7.2,SNR=6.3
PFO Pinyon Flats O 79.26 56 *e*P **P 16 12 20.5 +1.3**
PFO LR LR
comp=Z,653nm,20.0s
109C Camp Elliot, M 79.26 57 P **P 16 12 19.3 +0.2**
baz=307
TPFO Pinon Flats 79.27 56 P **P 16 12 19.1 -0.1**
baz=308
MTPU Mount Pierson 79.27 50 *e*P **P 16 12 21.1 +1.6**
BELC Belle Mtn. Jos 79.33 55 P **P 16 12 20.1 +0.5**
baz=308,SNR=6.9
Q16A Castle Valley 79.34 49 *e*P **P 16 12 21.1 +1.5**
B29A Wagenman Farm, 79.35 36 P **P 16 12 19.4 +0.1**
baz=315
C28A Hausauer Farms 79.38 37 P **P 16 12 20.0 +0.5**
baz=315
P18A Preston Nutter 79.45 48 *e*P **P 16 12 21.9 +1.6**
SECR 79.45 319⇓ *i*P **P 16 12 20.6 +0.7**
A30A Hoffart Farm, 79.50 35 P **P 16 12 20.2 +0.1**
baz=316
KNB Kanab 79.52 51 *e*P **P 16 12 22.2 +1.6**
KNB Kanab 79.52 51 *e*P **P 16 12 22.2 +1.6**
F26A Lodgepole 79.54 40 P **P 16 12 20.4 0.0**
baz=313
CJR Cluj-Napoca 79.56 322⇓ *i*P **P 16 12 21.7 +1.2**
SULR 79.59 319⇑ *i*P **P 16 12 22.0 +1.4**
G25A Newell 79.60 40 P **P 16 12 20.9 +0.1**
baz=313
SRU San Rafael Swe 79.61 49 *e*P **P 16 12 21.9 +0.8**
SRU San Rafael Swe 79.61 49 *e*P **P 16 12 21.9 +0.8**
K22A Casper 79.63 44 P **P 16 12 21.0 -0.1**
baz=311,SNR=8.6
K22A Casper 79.63 44 *e*P **P 16 12 21.9 +0.8**
ULM Lac du Bonnet 79.64 33 P **P 16 12 21.1 +0.3**
comp=Z,19nm,0.6s,baz=312,slow=6.5,SNR=22
ULM LR LR 16 50 36.0
comp=Z,313nm,18.3s,baz=325,slow=38
D28A Regan 79.66 38 P **P 16 12 21.0 0.0**
baz=314
MDND Maddock 79.66 37 P **P 16 12 21.3 +0.2**
baz=315
BAR Barrett 79.68 57 *e*P **P 16 12 22.8 +1.4**
E27A Carson 79.70 39 P **P 16 12 21.7 +0.5**
baz=314
VOIR 79.70 320⇑ *i*P **P 16 12 21.9 +0.5**
NEE2 Needles Airpor 79.76 54 P **P 16 12 22.7 +0.9**
baz=308
IRM Iron Mountain 79.79 55 P **P 16 12 22.9 +0.9**
baz=308,SNR=13
KECS Kecovo 79.81 324 *e*P **P 16 12 22.0 +0.2**
KECS pmax pmax
comp=Z,13nm,0.9s
KECS Kecovo 79.81 324 *e*P **P 16 12 22.0 +0.2**
B30A Myrvik Farm, E 79.84 36 P **P 16 12 22.4 +0.5**
baz=316,SNR=12
MTUR Matau 79.84 320⇑ *i*P **P 16 12 22.6 +0.5**
OKC Ostrava-Krasne 79.89 326 *e*P **P 16 12 23.1 +0.9**
OKC *e*pP **pP 16 12 28.2 -1.1**
OKC AMS AMS 16 52 10.0
comp=Z,2µm,13.6s
OKC Ostrava-Krasne 79.89 326 *e*P **P 16 12 23.1 +0.9**
OKC *e* 16 12 28.2
OKC MLR MLR
comp=Z,2µm,13.6s
H25A Fruitdale 79.89 41 P **P 16 12 22.6 +0.2**
baz=313
BC3 Big Chuckawall 79.90 55 P **P 16 12 23.1 +0.4**
baz=308,SNR=14
DRGR 79.94 322⇓ *i*P **P 16 12 23.4 +0.8**
KSP Ksiaz 79.95 328 *e*P **P 16 12 23.6 +1.1**
KSP Ksiaz 79.95 328⇓ *e*P **P 16 12 23.6 +1.1**
ARR Arges 79.96 320⇓ *i*P **P 16 12 23.8 +1.0**
PRD Provadia 79.97 317 P **P 16 12 22.8 +0.1**
RSSD Black Hills 80.00 42 P **P 16 12 23.1 -0.1**
baz=313
RSSD Black Hills 80.00 42 *e*P **P 16 12 23.8 +0.6**
RSSD Black Hills 80.00 42 *e*P **P 16 12 23.8 +0.6**
E28A Huff 80.03 38 P **P 16 12 23.5 +0.5**
baz=314
W13A Hualapai Mount 80.03 54 *e*P **P 16 12 24.4 +0.9**
IKP In-Ko-Pah, Jac 80.08 57 P **P 16 12 24.4 +0.8**
baz=308,SNR=5.2
B31A Greenbush Farm 80.17 35 P **P 16 12 23.6 -0.1**
baz=316
MORC Moravsky Berou 80.20 327⇑ *i*P **P 16 12 24.5 +0.5**
MORC Moravsky Berou 80.20 327 *e*P **P 16 12 24.4 +0.5**
MORC Moravsky Berou 80.20 327 *e*P **P 16 12 24.4 +0.5**
U15A North Rim 80.22 52 *e*P **P 16 12 25.8 +1.2**
D29A Pettibone, Tap 80.22 37 P **P 16 12 24.3 +0.2**
baz=315
O20A White River Ci 80.30 47 P **P 16 12 25.1 +0.2**
baz=311,SNR=10
O20A White River Ci 80.30 47 *e*P **P 16 12 25.6 +0.7**
C30A Mose, Pekin 80.30 36 P **P 16 12 24.8 +0.4**
baz=316
DPC Dobruska-Polom 80.31 328 *e*P **P 16 12 24.9 +0.4**
DPC AMS AMS 16 54 00.0
comp=Z,2µm,14.3s
DPC Dobruska-Polom 80.31 328 *e*P **P 16 12 24.9 +0.4**
DPC MLR MLR
comp=Z,2µm,14.3s
UPC Upice 80.32 328 *e*P **P 16 12 25.7 +1.2**
UPC AMS AMS 16 52 10.0
comp=Z,2µm,14.2s
UPC Upice 80.32 328 *e*P **P 16 12 25.7 +1.2**
UPC MLR MLR
comp=Z,2µm,14.2s
A32A Rocking H Ranc 80.34 34 P **P 16 12 24.5 -0.1**
baz=317,SNR=16
PDMCI Parker Dam,Lak 80.36 54 P **P 16 12 25.6 +0.7**
baz=308,SNR=24
HUMR Humele 80.36 319⇓ *i*P **P 16 12 24.7 -0.1**
BIGH Upper Bighouse 80.43 342 *e*P **P 16 12 25.7 +0.9**
Y12C Blythe 80.45 55 P **P 16 12 26.4 +0.9**
baz=308,SNR=7.7
Y12C Blythe 80.45 55 *e*P **P 16 12 26.4 +0.9**
MLA1 Latheron 80.46 342 *e*P **P 16 12 26.1 +1.0**
DEV Deva 80.48 321⇓ *i*P **P 16 12 26.9 +1.5**
PSZ Piszkesteto 80.49 324⇓ *i*P **P 16 12 26.5 +0.9**
PSZ Piszkesteto 80.49 324⇓ *e*P **P 16 12 26.8 +1.2**
PSZ Piszkesteto 80.49 324 *e*P **P 16 12 26.2 +0.6**
PSZ Piszkesteto 80.49 324 *e*P **P 16 12 26.2 +0.6**
PSZ LR LR
comp=Z,765nm,19.0s
E29A Napoleon 80.55 38 P **P 16 12 25.7 -0.2**
baz=315
VYHS Vyhne 80.56 325 *e*P **P 16 12 26.7 +0.8**
VYHS pmax pmax
comp=Z,24nm,1.1s
VYHS Vyhne 80.56 325 *e*P **P 16 12 26.7 +0.8**
VYHS *e*PP **PP 16 15 23.8 -4.9**
VYHS *e*L L 16 51 49.0
C31A Landman Farms, 80.59 36 P **P 16 12 26.1 +0.1**
baz=316,SNR=6.0
D30A Buchanan 80.59 37 P **P 16 12 25.8 -0.3**
baz=316
GLA Glamis 80.68 56 P **P 16 12 27.8 +1.0**
baz=308,SNR=6.9
GLA Glamis 80.68 56 *e*P **P 16 12 28.1 +1.3**
GLA Glamis 80.68 56 *e*P **P 16 12 28.1 +1.3**
B32A Ashes, Strandq 80.70 35 P **P 16 12 26.4 -0.1**
baz=317,SNR=16
SZH Strazhica 80.72 318 P **P 16 12 26.9 +0.1**
A33A Warroad 80.82 34 P **P 16 12 27.2 0.0**
baz=318,SNR=27
SIRR Siria 80.83 322⇑ *i*P **P 16 12 27.1 -0.2**
GZR Gura Zlata 80.89 321⇑ *i*P **P 16 12 27.8 +0.1**
BRG Berggiesshubel 80.91 329 *e*P **P 16 12 27.9 +0.3**
comp=Z,52nm,1.0s
BRG PP **PP 16 15 33.0 +1.5**

BRG S **S** **16 22 36.0 +1.1**
BRG SS **SS** **16 27 50.0 +2.3**
BRG Berggiesshubel 80.91 329 *e*P **P** **16 12 27.9 +0.3**
BRG 16 15 33.0
BRG S **S** **16 22 36.0 +1.1**
BRG SS **SS** **16 27 50.0 +2.3**
BRG pmax pmax
comp=Z,52nm,1.0s
BRG MLR MLR
comp=N,2µm,14.5s
BRG MLR MLR
comp=E,1µm,15.0s
BRG MLR MLR
comp=Z,3µm,14.3s
PVCC Panska Ves 80.91 329 *e*P **P** **16 12 28.9 +1.3**
PVCC AMS AMS 16 53 00.0
comp=Z,2µm,15.6s
PVCC Panska Ves 80.91 329 *e*P **P** **16 12 28.9 +1.3**
PVCC MLR MLR
comp=Z,2µm,15.6s
E30A Jud 80.95 37 P **P** **16 12 27.8 -0.2**
baz=316
CLL Collm 80.95 330 *i* P **P** **16 12 27.8 0.0**
comp=Z,87nm,1.0s
CLL *e*PcP **PcP** **16 12 33.0 -1.3**
CLL *i* 16 12 35.6
CLL *e* 16 12 43.0
CLL *e*PP **PP** **16 15 36.0 +4.2**
CLL *e*(S) S 16 22 48.0 +13
CLL *e*SS **SS** **16 27 54.0 +5.7**
CLL *e* 16 28 54.0
CLL *e*SSS SSS 16 31 18.0
CLL *e* 16 32 18.0
CLL Collm 80.95 330 *i* P **P** **16 12 27.8 0.0**
CLL *i* 16 12 35.6
CLL pmax pmax
comp=Z,87nm,1.0s
CLL Collm 80.95 330 *e*P **P** **16 12 27.4 -0.4**
VRAC Vranov 80.97 327 LR LR 16 51 23.6
comp=Z,1µm,18.6s,baz=24,slow=38
VRAC Vranov 80.97 327 ǁ *i*P **P** **16 12 28.7 +0.7**
F29A Eureka 80.98 38 P **P** **16 12 27.7 -0.4**
baz=315
MCD Coleburn Disti 81.07 341 *e*P **P** **16 12 29.2 +0.9**
N23A Red Feather La 81.12 45 P **P** **16 12 30.3 +1.0**
baz=312,SNR=19
N23A Red Feather La 81.12 45 *e*P **P** **16 12 30.5 +1.2**
PHWY Pilot Hill 81.12 44 *e*P **P** **16 12 29.9 +0.5**
C32A Crookston 81.12 35 P **P** **16 12 28.6 -0.3**
baz=317
PV05 Paradox Valley 81.13 49 *e*P **P** **16 12 30.2 +0.8**
D31A Mcclaflin, Tow 81.13 36 P **P** **16 12 28.8 -0.1**
baz=316
SRE Strehaia 81.18 320 ǁ *i*P **P** **16 12 30.7 +1.5**
SMOL Smolenice 81.19 326 *e*P **P** **16 12 30.9 +1.7**
SMOL Smolenice 81.19 326 *e*P **P** **16 12 30.9 +1.7**
BUD Budapest 81.21 324 ǁ *e*P **P** **16 12 30.4 +1.1**
B33A Robert and Kas 81.22 34 P **P** **16 12 29.2 -0.2**
baz=318
MME1 Meikle Cairn 81.23 341 *e*P **P** **16 12 29.5 +0.3**
EDRB Edirne 81.24 316 P **P** **16 12 29.7 +0.2**
EDRB Edirne 81.24 316 P **P** **16 12 29.7 +0.2**
GOPC GO Pecny, Ondr 81.29 328 *e*P **P** **16 12 30.8 +1.1**
GOPC *e*pP **PcP** **16 12 34.5 -1.4**
GOPC *e*PP **PP** **16 15 36.5 +1.8**
GOPC *e*S **S** **16 22 38.9 0.0**
GOPC AMS AMS 16 52 50.0
comp=Z,2µm,14.9s
GOPC GO Pecny, Ondr 81.29 328 *e*P **P** **16 12 30.8 +1.1**
GOPC *e* 16 12 34.5
GOPC *e* 16 15 36.5
GOPC *e*S **S** **16 22 38.9 0.0**
GOPC MLR MLR
comp=Z,2µm,14.9s
BZS Buzias 81.31 322 ǁ *i*P **P** **16 12 29.1 -0.8**
PRU Pruhonice 81.33 328 *e*P **P** **16 12 30.9 +1.0**
PRU *e*pP **PcP** **16 12 35.9 -0.1**
PRU *e*PP **PP** **16 15 31.9 -3.1**
PRU *e*S **S** **16 22 39.8 +0.5**
PRU *ex* x 16 22 54.1
PRU AMS AMS 16 53 00.0
comp=Z,2µm,13.9s
PRU Pruhonice 81.33 328 *e*P **P** **16 12 30.9 +1.0**
PRU *e* 16 12 35.9
PRU *e* 16 15 31.9
PRU *e*S **S** **16 22 39.8 +0.5**
PRU MLR MLR
comp=Z,2µm,13.9s
WUAZ Wupatki 81.37 52 P **P** **16 12 31.6 +1.0**
baz=310,SNR=14
WUAZ Wupatki 81.37 52 *e*P **P** **16 12 31.7 +1.1**
WUAZ LR LR
comp=Z,317nm,19.0s
F30A Leola 81.37 38 P **P** **16 12 30.3 +0.1**
baz=316
G29A Hoven 81.38 39 P **P** **16 12 30.4 +0.1**
baz=315
D32A Dogwood Acres, 81.40 36 P **P** **16 12 30.1 -0.3**
baz=317
E31A Nome 81.40 37 P **P** **16 12 30.5 +0.1**
baz=316,SNR=6.9
PV01 Paradox Valley 81.41 48 *e*P **P** **16 12 31.9 +1.0**
TREC Trest 81.46 327 *e*P **P** **16 12 31.8 +1.2**
TREC *e*pP **PcP** **16 12 36.2 -0.4**
TREC AMS AMS 16 55 50.0
comp=Z,2µm,14.2s
TREC Trest 81.46 327 *e*P **P** **16 12 31.8 +1.2**
TREC *e* 16 12 36.2
TREC MLR MLR
comp=Z,2µm,14.2s
DRUM Mains of Drumt 81.46 341 *e*P **P** **16 12 31.0 +0.6**
B34A Aery, Baudette 81.49 34 P **P** **16 12 30.5 -0.3**
baz=318,SNR=12
C33A Trail 81.52 35 P **P** **16 12 30.9 0.0**
baz=318,SNR=5.4
H29A Onida 81.64 39 P **P** **16 12 31.9 +0.2**
baz=315
KAC Achnashellach 81.65 342 *e*P **P** **16 12 32.2 +0.8**
SMCO Snowmass 81.67 47 *e*P **P** **16 12 33.8 +1.4**
BANR Banloc 81.71 322 ǁ *i*P **P** **16 12 33.6 +1.6**
F31A Hecla 81.73 37 P **P** **16 12 32.0 -0.1**
baz=316
ISP Isparta 81.73 311 PFAKE 16 12 40.0 +7.6
ISP LR LR
comp=Z,688nm,19.0s
E32A Braaten, Kindr 81.77 36 P **P** **16 12 32.4 +0.1**
baz=317
G30A Faulkton 81.81 38 P **P** **16 12 32.8 +0.2**
baz=316,SNR=12
MPEP Malo Peshtene 81.82 319 P **P** **16 12 33.5 +0.9**
CSS Mathiatis 81.84 308 P **P** **16 12 33.5 +0.6**
CSS Mathiatis 81.84 308 P **P** **16 12 32.6 -0.3**
CSS Mathiatis 81.84 308 *e*P **P** **16 12 33.0 +0.1**
CSS LR LR
comp=Z,161nm,19.0s
MDVR Moldovita 81.86 321 ǁ *i*P **P** **16 12 33.3 +0.5**
KPL Plockton 81.88 343 *e*P **P** **16 12 33.3 +0.7**
KPL AMB AMB 16 12 34.4
comp=Z,81nm,0.9s
EDU Dundee 81.92 341 *e*P **P** **16 12 33.4 +0.5**
KSB Sheil Bridge 81.94 342 *e*P **P** **16 12 33.5 +0.6**
D33A AnnSam, Waubun 81.94 35 P **P** **16 12 33.0 -0.2**
baz=318
B35A Bob, Littlefor 81.99 33 P **P** **16 12 33.2 -0.2**
baz=319,SNR=13
C34A RKJ Ranch, Bem 81.99 34 P **P** **16 12 33.1 -0.3**
baz=318
NKC Novy Kostel 82.01 330 *e*P **P** **16 12 34.4 +0.9**
NKC AMS AMS 16 52 20.0
comp=Z,3µm,14.6s
NKC Novy Kostel 82.01 330 *e*P **P** **16 12 34.4 +0.9**
NKC MLR MLR
comp=Z,3µm,14.6s
I29A Vivian Onida 82.02 40 P **P** **16 12 33.4 -0.3**
baz=315
ISCO Idaho Springs 82.04 46 P **P** **16 12 35.2 +0.9**
baz=312,SNR=14
ISCO Idaho Springs 82.04 46 *e*P **P** **16 12 35.7 +1.4**
ISCO Idaho Springs 82.04 46 *e*P **P** **16 12 35.7 +1.4**
ISCO LR LR
comp=Z,322nm,19.0s
MVCO Mesa Verde 82.05 49 P **P** **16 12 35.2 +1.0**
baz=311,SNR=9.3
MVCO Mesa Verde 82.05 49 *e*P **P** **16 12 35.3 +1.0**

MVCO LR LR
comp=Z,327nm,19.0s
KDZ Kurdzhali 82.10 317 P **P** **16 12 34.4 +0.3**
PGB Panagyurishte 82.15 318 P **P** **16 12 34.9 +0.5**
PLD Plovdiv 82.17 318 P **P** **16 12 35.4 +0.9**
ALFC Alefka 82.18 308 P **P** **16 12 35.5 +0.8**
SOP Sopron 82.19 326 ǁ *e*P **P** **16 12 35.9 +1.4**
G31A Conde 82.21 38 P **P** **16 12 34.6 0.0**
baz=316
SZAC Souni 82.26 308 P **P** **16 12 35.8 +0.7**
ALN Alexandroupoli 82.27 316 P **P** **16 12 33.6 -1.4**
ALN Alexandroupoli 82.27 316 P **P** **16 12 33.6 -1.4**
ALN Alexandroupoli 82.27 316 P **P** **16 12 33.6 -1.4**
D34A Park Rapids 82.28 35 P **P** **16 12 35.0 +0.1**
baz=318,SNR=6.6
E33A Westby DABS, E 82.33 36 P **P** **16 12 35.3 +0.1**
baz=316,SNR=5.2
ESY Stoneypath 82.37 340 *e*P **P** **16 12 36.0 +0.7**
C35A Jirik Farms, M 82.37 34 P **P** **16 12 35.3 -0.2**
baz=319
KHC Kasperske Hory 82.39 328 *e*P **P** **16 12 35.5 -0.1**
KHC *ex* x 16 12 43.5
KHC Kasperske Hory 82.39 328 *e*P **P** **16 12 35.5 -0.1**
KHC *e* 16 12 43.5
SUSD Miller 82.40 39 P **P** **16 12 35.5 -0.2**
baz=316
AKMC Akamas 82.43 308 P **P** **16 12 36.2 +0.2**
RZN Rozhen 82.45 317 P **P** **16 12 36.6 +0.4**
PPCY Paphos 82.51 308 P **P** **16 12 36.8 +0.4**
G32A Webster 82.53 37 P **P** **16 12 36.2 -0.2**
baz=317
I30A Oacoma 82.54 39 P **P** **16 12 36.6 +0.2**
baz=316,SNR=6.5
GERES GERESS Array B 82.56 328 P **P** **16 12 36.2 -0.3**
comp=Z,17nm,0.6s,baz=36,slow=5.0,SNR=88
GERES LR LR 16 53 11.7
comp=Z,866nm,19.2s,baz=22,slow=38
EAB Aberfoyle 82.58 341 *e*P **P** **16 12 37.0 +0.7**
H31A Wolsey 82.61 38 P **P** **16 12 36.4 -0.4**
baz=316
W18A Petrified Fore 82.65 51 P **P** **16 12 37.7 +0.3**
baz=311
F33A 5 Mile Ranch, 82.69 36 P **P** **16 12 37.2 +0.1**
baz=317,SNR=15
214A Organ Pipe Nat 82.69 55 P **P** **16 12 38.0 +0.6**
baz=309,SNR=7.2
S22A 4UR Ranch, Cre 82.70 48 P **P** **16 12 37.7 0.0**
baz=312
E34A Wadena 82.72 35 P **P** **16 12 37.1 -0.2**
baz=318
D35A Remer 82.80 34 P **P** **16 12 37.3 -0.4**
baz=319
C36A Pine Crest Far 82.83 33 P **P** **16 12 37.8 -0.1**
baz=320
Q24A Divide 82.87 46 P **P** **16 12 39.0 +0.4**
baz=313,SNR=5.5
I31A Royce, Wessing 82.91 39 P **P** **16 12 38.0 -0.3**
baz=316
J30A Dallas 82.92 40 P **P** **16 12 38.5 +0.1**
baz=316,SNR=5.3
PGBU Glenifferbraes 82.96 341 *e*P **P** **16 12 39.1 +0.8**
ARSA Arzberg 82.98 326 *i* pP **P** **16 12 39.2 +0.5**
comp=Z,22nm,0.9s,SNR=14
EKA Eskdalemuir Ar 83.03 340 LR LR 16 52 48.0
comp=Z,605nm,19.8s,baz=15,slow=38
E35A Pequot Lakes 83.04 35 P **P** **16 12 38.6 -0.3**
baz=319
MMB Musomiste 83.05 318 P **P** **16 12 38.9 -0.2**
ESK Eskdalemuir 83.06 340 AMS AMS 16 54 07.8
comp=Z,1µm,15.8s
ESK Eskdalemuir 83.06 340 *e*P **P** **16 12 39.7 +0.9**
ESK Eskdalemuir 83.06 340 *e*P **P** **16 12 39.7 +0.9**
ESK LR LR
comp=Z,700nm,21.0s
MOA Molln 83.08 327 *i* pP **P** **16 12 39.6 +0.5**
comp=Z,39nm,1.2s,SNR=19
G33A Ortonville 83.09 37 P **P** **16 12 39.2 0.0**
baz=317,SNR=8.0
H32A Carlson Farm, 83.11 38 P **P** **16 12 38.6 -0.8**
baz=317
D36A Goodland 83.13 34 P **P** **16 12 38.0 -1.4**
baz=319
C37A Embarrass 83.14 33 P **P** **16 12 39.5 0.0**
baz=320,SNR=12
NVR Nevrokopi 83.15 318 P **P** **16 12 39.0 -0.6**
NVR Nevrokopi 83.15 318 P **P** **16 12 39.0 -0.6**
ECK Cauldkaine Hil 83.16 340 *e*P **P** **16 12 39.9 +0.6**
DIVS Divibare 83.20 322 P **P** **16 12 39.3 -0.6**
KKB Krupnik 83.20 318 P **P** **16 12 40.8 +0.9**
F34A Alexandria 83.21 36 P **P** **16 12 39.9 +0.1**
baz=318
OGNE Ogallala 83.26 43 P **P** **16 12 39.9 -0.3**
baz=314
OGNE Ogallala 83.26 43 *e*P **P** **16 12 41.3 +1.0**
OGNE LR LR
comp=Z,312nm,19.0s
BHH Howats Hill 83.26 340 *e*P **P** **16 12 40.6 +0.7**
EYMN Ely 83.28 33 P **P** **16 12 40.0 -0.1**
baz=320,SNR=12
EYMN Ely 83.28 33 *e*P **P** **16 12 40.5 +0.3**
EYMN LR LR
comp=Z,409nm,19.0s
H33A Prehn Over Nor 83.32 37 P **P** **16 12 40.8 +0.3**
baz=317,SNR=12
K30A Basset 83.33 40 P **P** **16 12 40.7 +0.2**
baz=316,SNR=6.1
J31A Geddes 83.33 39 P **P** **16 12 40.3 -0.3**
baz=316
G34A Benson 83.44 36 P **P** **16 12 40.8 -0.2**
baz=318
I32A Karley and Nic 83.44 38 P **P** **16 12 40.7 -0.4**
baz=317
SRS Serrai 83.46 318 P **P** **16 12 40.5 -0.7**
SRS Serrai 83.46 318 P **P** **16 12 40.5 -0.7**
SRS Serrai 83.46 318 P **P** **16 12 40.5 -0.7**
F35A Swanville 83.48 36 P **P** **16 12 40.8 -0.4**
baz=318
SDCO Great Sand Dun 83.48 47 P **P** **16 12 42.6 +0.8**
baz=313,SNR=8.2
SDCO Great Sand Dun 83.48 47 *e*P **P** **16 12 43.0 +1.2**
SDCO LR LR
comp=Z,358nm,19.0s
YER Yerkesik 83.52 312 P **P** **16 12 40.5 -1.2**
YER Yerkesik 83.52 312 P **P** **16 12 40.5 -1.2**
YER Yerkesik 83.52 312 P **P** **16 12 40.5 -1.2**
C38A Sawbill Land. 83.55 33 P **P** **16 12 41.3 -0.2**
baz=321,SNR=13
BBO1 Bothel 83.58 340 *e*P **P** **16 12 42.1 +0.6**
E36A McGregor 83.59 34 P **P** **16 12 41.7 -0.1**
baz=319,SNR=8.7
PERS Pernice 83.63 326 *i* P **P** **16 12 42.6 +0.6**
SOKA Soboth 83.64 326 *i* pP **P** **16 12 42.7 +0.6**
comp=Z,83nm,1.0s,SNR=60
GMK Mull of Kintyr 83.66 342 *e*P **P** **16 12 42.7 +0.8**
KESW Keswick, Cumbr 83.68 340 *e*P **P** **16 12 43.1 +1.1**
KESW AMB AMB 16 12 43.6
comp=Z,63nm,0.9s
J32A Parkston 83.73 39 P **P** **16 12 42.0 -0.5**
baz=317
I33A Coleman 83.76 38 P **P** **16 12 42.1 -0.6**
baz=317
OUR Ouranopolis 83.79 317 P **P** **16 12 42.1 -0.8**
OUR Ouranopolis 83.79 317 P **P** **16 12 42.1 -0.8**
OUR Ouranopolis 83.79 317 P **P** **16 12 42.1 -0.8**
TUC Tucson 83.79 54 P **P** **16 12 43.5 +0.4**
baz=310
TUC Tucson 83.79 54 *e*P **P** **16 12 44.0 +0.8**
TUC Tucson 83.79 54 *e*P **P** **16 12 44.0 +0.8**
TUC LR LR
comp=Z,378nm,20.0s
H34A Spellman Lake, 83.80 37 P **P** **16 12 42.6 -0.3**
baz=318
K31A O'Neill 83.81 40 P **P** **16 12 42.8 -0.2**
baz=316
HPK Haverah Park 83.81 339 *e*P **P** **16 12 43.3 +0.5**
HPK AMB AMB 16 12 45.3
comp=Z,71nm,0.7s
GAL1 Galloway 83.86 341 *e*P **P** **16 12 43.0 0.0**
GAL1 AMB AMB 16 12 44.2
comp=Z,27nm,0.8s
VAY Valandovo 83.86 318 *i* P **P** **16 12 44.3 +1.0**
SISC Sisak 83.94 324 P **P** **16 12 44.5 +1.0**
E37A Wrenshall 83.94 34 P **P** **16 12 43.3 -0.2**
baz=320
C39A Grand Marais 83.96 32 P **P** **16 12 43.1 -0.5**
baz=321

F36A Milaca 83.96 35 P **P** **16 12 42.5 -1.2**
baz=319
OBKA Obir 83.98 326 *i* P **P** **16 12 43.9 +0.1**
comp=Z,14nm,0.8s,SNR=6.2
SKO Skopje 84.00 319 *i* P **P** **16 12 45.4 +1.5**
G35A Watkins 84.00 36 P **P** **16 12 43.8 -0.1**
baz=319
PLG Polygyros 84.06 317 P **P** **16 12 44.7 +0.4**
PLG Polygyros 84.06 317 P **P** **16 12 44.7 +0.4**
PLG Polygyros 84.06 317 P **P** **16 12 44.7 +0.4**
PLE Pljevlja 84.06 321 ǁ *i*P **P** **16 12 44.4 0.0**
KBA Koelnbreinsper 84.08 327 *i* pP **P** **16 12 44.5 +0.1**
comp=Z,32nm,0.9s,SNR=21
ECSD EROS Data Cent 84.08 38 P **P** **16 12 44.1 -0.2**
baz=317,SNR=22
ECSD EROS Data Cent 84.08 38 *e*P **P** **16 12 44.8 +0.4**
ECSD LR LR
comp=Z,441nm,20.0s
L31A Butterfield Fa 84.08 40 P **P** **16 12 44.9 +0.4**
baz=316,SNR=12
IVA Berane 84.14 321 *e*P **P** **16 12 45.0 +0.2**
BEBN Eben Emael 84.14 333 P **P** **16 12 44.7 +0.2**
K32A Verdigre 84.18 39 P **P** **16 12 44.7 -0.2**
baz=317
MEM Membach 84.18 333 P **P** **16 12 45.0 +0.3**
comp=Z,18nm,1.0s
J33A Davis 84.21 38 P **P** **16 12 44.8 -0.2**
baz=317
H35A Sunnyside Ranc 84.23 36 P **P** **16 12 45.6 +0.6**
baz=318,SNR=18
PAIG Paliouri 84.24 317 P **P** **16 12 44.4 -0.8**
PAIG Paliouri 84.24 317 P **P** **16 12 44.4 -0.8**
PAIG Paliouri 84.24 317 P **P** **16 12 44.4 -0.8**
LHO Holmfirth 84.24 339 *e*P **P** **16 12 45.0 0.0**
KSCO Kaye Shedlock' 84.27 45 P **P** **16 12 45.7 +0.1**
baz=314
KSCO Kaye Shedlock' 84.27 45 *e*P **P** **16 12 46.3 +0.7**
MYKA Terra Mystica 84.29 327 *i* P **P** **16 12 45.3 -0.1**
comp=Z,17nm,0.6s,SNR=11
PVY Plav 84.31 321 *e*P **P** **16 12 45.6 -0.1**
G36A St. Michael 84.33 35 P **P** **16 12 45.5 -0.1**
baz=319
LJU Ljubljana 84.35 326 *e*P **P** **16 12 45.9 +0.2**
UPM Unac-Piva 84.40 322 ǁ *i*P **P** **16 12 46.2 0.0**
BOJS Bojanci 84.43 325 *i* P **P** **16 12 46.4 +0.4**
BOJS *e*S **S** **16 23 09.9 -1.1**
T25A Trinidad 84.53 47 P **P** **16 12 47.8 +0.8**
baz=313,SNR=8.7
T25A Trinidad 84.53 47 *e*P **P** **16 12 48.4 +1.3**
BCLA Clavier 84.59 333 P **P** **16 12 47.0 +0.2**
comp=Z,20nm,1.6s
M31A Lambtecht Ranc 84.61 41 P **P** **16 12 46.9 -0.2**
baz=316
WATA Walderalm 84.63 328 *i* pP **P** **16 12 47.5 +0.3**
comp=Z,8.5nm,0.6s,SNR=5.6
L32A Elgin 84.63 40 P **P** **16 12 47.2 -0.1**
baz=317
AOS Alonnisos 84.66 316 P **P** **16 12 46.3 -1.0**
AOS Alonnisos 84.66 316 P **P** **16 12 46.3 -1.0**
WTTA Wattenberg 84.66 328 *i* pP **P** **16 12 47.9 +0.4**
comp=Z,8.5nm,0.7s,SNR=5.2
ABTA Abfaltersbach 84.69 327 *i* P **P** **16 12 46.9 -0.6**
comp=Z,37nm,1.3s,SNR=12
NKME Niksic 84.69 321 ǁ *i*P **P** **16 12 47.5 0.0**
K33A Hardington 84.71 39 P **P** **16 12 47.3 -0.3**
baz=317
J34A George 84.73 38 P **P** **16 12 47.3 -0.3**
baz=318
LAZ Ladron 84.73 50 *e*P **P** **16 12 49.7 +1.6**
H36A Jessenland, He 84.74 36 P **P** **16 12 48.1 +0.4**
baz=319
GMM Mts of Mourne 84.74 341 *e*P **P** **16 12 47.9 +0.5**
LIT Litokhoron 84.77 317 P **P** **16 12 47.0 -0.9**
LIT Litokhoron 84.77 317 P **P** **16 12 47.0 -0.9**
LIT Litokhoron 84.77 317 P **P** **16 12 47.0 -0.9**
SPMN Marine on St. 84.78 35 P **P** **16 12 48.0 +0.2**
baz=320
SPMN Marine on St. 84.78 35 *e*P **P** **16 12 48.2 +0.4**
I35A Creekview Farm 84.78 37 P **P** **16 12 47.7 -0.2**
baz=318
TTG Podgorica 84.79 321 *e*P **P** **16 12 48.1 +0.2**
ANMO Albuquerque 84.79 50 P **P** **16 12 48.7 +0.4**
baz=312
ANMO Albuquerque 84.79 50 *d i*P **P** **16 12 49.1 +0.8**
ANMO pmax pmax
comp=Z,15nm,1.0s
ANMO Albuquerque 84.79 50 *e*P **P** **16 12 49.9 +1.5**
ANMO LR LR
comp=Z,438nm,19.0s
CWF Charnwood Fore 84.79 338 *e*P **P** **16 12 48.3 +0.6**
CWF AMB AMB 16 12 50.1
comp=Z,40nm,0.8s
CWF AMS AMS 16 51 44.8
comp=Z,884nm,18.2s
CWF Charnwood Fore 84.79 338 *e*P **P** **16 12 48.6 +0.9**
BRY Bratogost 84.80 322 ǁ *i*P **P** **16 12 47.7 -0.5**
OXZ Oxford 84.80 158 *e*P **P** **16 12 52.1 +4.5**
MOTA Moosalm 84.82 328 *i* pP **P** **16 12 48.5 +0.3**
comp=Z,20nm,0.9s,SNR=12
LANF Langenberg 84.84 331 ǁ *e*P **P** **16 12 48.6 +0.5**
RETA Reutte 84.85 329 *i* pP **P** **16 12 48.9 +0.6**
comp=Z,45nm,0.7s,SNR=31
RPZ Rata Peaks 84.86 159 P **P** **16 12 48.5 +0.6**
comp=Z,21nm,1.1s,baz=288,slow=3.2,SNR=2.3
CEME Cevo 84.87 321 ǁ *i*P **P** **16 12 48.6 +0.2**
FNA Florina 84.88 319 P **P** **16 12 46.4 -2.1**
FNA Florina 84.88 319 P **P** **16 12 46.4 -2.1**
FNA Florina 84.88 319 P **P** **16 12 46.4 -2.1**
SNF Seneffe 84.88 334 P **P** **16 12 48.9 +0.7**
PPT Papeete 84.88 116 LR LR 16 45 14.5
comp=Z,342nm,19.2s,baz=312,slow=32
L33A Hoskins 84.89 39 P **P** **16 12 47.6 -0.9**
baz=317
PPT2 Papeete2 84.89 116 *e*LR LR 16 39 06.3
comp=Z,640nm,21.5s,baz=308
PPT2 Papeete2 84.89 116 *e*T T 17 46 07.6
comp=Z,9.1nm,0.3s
XOR Xorichti 84.90 317 P **P** **16 12 46.5 -2.1**
XOR Xorichti 84.90 317 P **P** **16 12 46.5 -2.1**
WLF Walferdange 84.91 332 P **P** **16 12 49.5 +1.2**
comp=Z,40nm,1.9s
WLF Walferdange 84.91 332 *e*P **P** **16 12 49.2 +0.8**
WLF Walferdange 84.91 332 *e*P **P** **16 12 49.2 +0.8**
WLF LR LR
comp=Z,2µm,22.0s
UDBI Udbina 84.93 324 P **P** **16 12 48.5 -0.2**
TRI Trieste 84.94 326 *e*P **P** **16 12 47.8 -0.8**
TRI Trieste 84.94 326 *e*P **P** **16 12 47.8 -0.8**
OHR Ohrid 84.95 319 *i* P **P** **16 12 49.1 +0.3**
BGNE Belgrade 84.99 40 P **P** **16 12 48.5 -0.6**
baz=317
N31A Bailey Ranch, 84.99 41 P **P** **16 12 48.5 -0.6**
baz=316
DRME Dracevica, Mon 85.00 321 ǁ *i*P **P** **16 12 49.2 +0.2**
FYTO Fytoko, Volos 85.01 317 P **P** **16 12 48.4 -0.7**
FYTO Fytoko, Volos 85.01 317 P **P** **16 12 48.4 -0.7**
J35A Milford 85.04 38 P **P** **16 12 48.7 -0.4**
baz=318
TIAR Tiarei 85.04 116 *e*T T 17 46 17.7
comp=Z,5.8nm,0.3s
BUM Brajici-Budva 85.06 321 ǁ *i*P **P** **16 12 49.6 +0.2**
WPM1 Penmaenmawr 85.08 340 *e*P **P** **16 12 50.1 +0.9**
Y22D IRIS PASSCAL I 85.08 51 P **P** **16 12 50.1 +0.3**
baz=312
K34A Le Mars 85.10 38 P **P** **16 12 48.7 -0.8**
baz=318
LPM Los Pinos Moun 85.10 50 *e*P **P** **16 12 51.3 +1.4**
DOU Dourbes 85.11 334 P **P** **16 12 49.7 +0.3**
comp=Z,18nm,1.8s
I36A Fitzsimmons Fa 85.12 36 P **P** **16 12 49.0 -0.6**
baz=319
ULC Ulcinj 85.13 321 ǁ *i*P **P** **16 12 48.7 -1.0**
HCY Herceg Novi 85.16 321 ǁ *i*P **P** **16 12 49.6 -0.2**
BFO Black Forest 85.16 331 *i* P **P** **16 12 50.0 +0.3**
BFO Black Forest 85.16 331 PFAKE 16 13 00.0 +10
BFO LR LR
comp=Z,979nm,21.0s
APE Apeiranthos 85.18 314 *d i*P **P** **16 12 48.8 -1.3**
APE pmax pmax
comp=Z,36nm,0.6s
WLF1 Llynfaes 85.18 340 *e*P **P** **16 12 50.4 +0.7**
WLF1 AMB AMB 16 12 51.0
comp=Z,101nm,1.1s
WLF1 AMS AMS 16 58 26.2
comp=Z,2µm,14.6s

FOEL Foel Wylfa 85.21 339 eP P 16 12 50.6 +0.8
FOEL AMB AMB 16 12 52.0
comp=Z,97nm,0.8s
FOEL AMS AMS 16 55 49.1
comp=Z,1µm,16.0s
H37A Dierke Farm, C 85.21 35 P P 16 12 50.4 +0.4
baz=320,SNR=7.6
BNM Barren Site 85.22 50 eP P 16 12 51.9 +1.3
FETA Feichten 85.24 328 i PcP P 16 12 50.5 +0.2
comp=Z,24nm,0.8s,SNR=16
YLL Llanberis 85.25 340 eP P 16 12 50.4 +0.3
KARP Karpathos 85.26 312 eP P 16 12 50.0 -0.5
TIR Tirane 85.26 320 eP P 16 12 51.0 +0.7
TIR Tirane 85.26 320 eP P 16 12 51.0 +0.7
TIR LR LR
comp=Z,2µm,20.0s
O31A Woolen Ranch, 85.28 42 P P 16 12 49.9 -0.5
baz=316
NEST Nestorio 85.32 318 P P 16 12 49.7 -1.0
NVLJ Novalja 85.32 325 P P 16 12 50.0 -0.5
M33A Taylor Creek F 85.37 40 P P 16 12 50.6 -0.3
baz=317
DAVA Damuels 85.38 329 i PcP P 16 12 51.4 +0.4
comp=Z,71nm,0.9s,SNR=24
N32A Stulken Farm, 85.38 41 P P 16 12 50.7 -0.3
baz=316
SCHQ Schefferville 85.40 16 P P 16 12 51.7 +0.9
comp=Z,36nm,0.7s,baz=347,slow=5.5,SNR=36
SCHQ LR LR 16 51 16.0
comp=Z,598nm,22.0s,baz=332,slow=36
THL Klokotos Trika 85.41 317 P P 16 12 49.4 -1.6
I37A Lemond, Waseca 85.42 36 P P 16 12 51.5 +0.4
baz=319,SNR=6.2
PENT Pentalofos 85.43 318 P P 16 12 50.1 -1.2
HLM1 Long Mynd 85.44 339 eP P 16 12 51.7 +0.6
HLM1 AMS AMS 16 55 48.3
comp=Z,1µm,16.1s
YRE Yr Eifl 85.47 340 eP P 16 12 51.3 +0.2
ATAL Atalanti 85.47 316 P P 16 12 49.6 -1.8
ATAL Atalanti 85.47 316 P P 16 12 49.6 -1.8
J36A Seneca 1, Swea 85.49 37 P P 16 12 50.9 -0.6
baz=319
L34A Svendsen Farm, 85.49 39 P P 16 12 51.1 -0.4
baz=318
K35A Storm Lake 85.50 38 P P 16 12 51.1 -0.4
baz=318
AGG Agios Georgios 85.62 317 P P 16 12 49.6 -2.6
AGG Agios Georgios 85.62 317 eP P 16 12 51.4 -0.8
AGG Agios Georgios 85.62 317 eP P 16 12 51.4 -0.8
VLY Voula,Athens 85.63 315 P P 16 12 50.8 -1.4
VLY Voula,Athens 85.63 315 P P 16 12 50.8 -1.4
SANT Santorini 85.70 313 eP P 16 12 51.7 -1.0
SANT LR LR
comp=Z,413nm,20.0s
ECH Echery 85.71 331 eP P 16 12 52.8 +0.3
COWI Conover 85.73 32 eP P 16 12 52.9 +0.3
COWI LR LR
comp=Z,663nm,19.0s
M34A Aspy Farms, Fr 85.73 40 P P 16 12 51.9 -0.8
baz=318
FUORN Ofenpass-Fuorn 85.75 328 eP P 16 12 53.2 +0.2
DSB Dublin 85.75 341 eP P 16 12 52.0 -0.5
L35A Bielow Farm, R 85.80 39 P P 16 12 52.1 -0.9
baz=318
N33A J Bar K, Exete 85.84 41 P P 16 12 52.5 -0.8
baz=317
J37A Redenius Farm, 85.88 37 P P 16 12 53.4 0.0
baz=319,SNR=6.8
STRD Stroud 85.89 338 eP P 16 12 53.9 +0.7
STRD AMB AMB 16 12 54.6
comp=Z,162nm,0.9s
I38A Scanlan Farm, 85.90 35 P P 16 12 53.6 +0.2
baz=320,SNR=5.8
HMNX Herstmonceux 85.90 336 eP P 16 12 54.5 +1.2
HMNX AMB AMB 16 12 55.4
comp=Z,221nm,0.7s
HMNX AMS AMS 16 55 47.5
comp=Z,2µm,13.7s
MCH1 Michaelchurch 85.94 339 eP P 16 12 54.1 +0.6
MCH1 AMB AMB 16 12 54.8
comp=Z,82nm,0.9s
MCH1 AMS AMS 16 56 03.5
comp=Z,1µm,17.3s
WOL Wolverton 86.01 337 eP P 16 12 54.2 +0.4
WOL AMB AMB 16 12 55.2
comp=Z,85nm,0.9s
WOL AMS AMS 16 55 04.4
comp=Z,1µm,24.5s
CBKS Cedar Bluff 86.01 43 P P 16 12 53.5 -0.7
baz=316
MOF Molkenrain 86.02 331 eP P 16 12 54.2 +0.1
MONM Monmouth 86.02 338 eP P 16 12 54.4 +0.6
MONM AMB AMB 16 12 55.1
comp=Z,94nm,0.9s
MONM AMS AMS 16 56 05.7
comp=Z,1µm,17.4s
P32A Huiting Farm, 86.04 42 P P 16 12 53.8 -0.5
baz=316,SNR=15
ZKR Zakros 86.12 312 P P 16 12 54.1 -0.6
ZKR Zakros 86.12 312 P P 16 12 54.1 -0.6
LPW Lampeter 86.14 339 eP P 16 12 54.6 +0.1
LPW AMB AMB 16 12 55.8
comp=Z,77nm,0.9s
LPW AMS AMS 16 56 17.5
comp=Z,1µm,15.9s
ANX Ano Chora 86.15 317 P P 16 12 53.7 -1.2
SERG Sergoula 86.20 316 P P 16 12 53.7 -1.4
M35A Neola 86.21 39 P P 16 12 55.3 +0.3
baz=318,SNR=9.0
DSL Palaion Diasel 86.21 318 P P 16 12 54.2 -0.9
DSL Palaion Diasel 86.21 318 P P 16 12 54.2 -0.9
L36A Harm Buss Farm 86.25 38 P P 16 12 54.4 -0.8
baz=319
K37A Belmond 86.25 37 P P 16 12 54.9 -0.3
baz=319
TUE Stuetta 86.25 329 eP P 16 12 55.2 -0.2
TUE LR LR
comp=Z,1µm,21.0s
O33A Hebron 86.25 41 P P 16 12 54.1 -1.2
baz=317
N34A Lincoln 86.26 40 P P 16 12 54.8 -0.5
baz=318,SNR=5.5
IGT Igoumenitsa 86.33 318 P P 16 12 54.2 -1.5
IGT Igoumenitsa 86.33 318 P P 16 12 54.2 -1.5
IGT Igoumenitsa 86.33 318 P P 16 12 54.2 -1.5
LAKA Lakka 86.37 316 P P 16 12 55.1 -0.8
LAKA Lakka 86.37 316 P P 16 12 55.1 -0.8
J38A Wedel Dairy, R 86.38 36 P P 16 12 55.5 -0.3
baz=320
KLV Kalavryta, Ach 86.41 316 P P 16 12 53.5 -2.7
KLV Kalavryta, Ach 86.41 316 P P 16 12 53.5 -2.7
TAOE Nuku Hiva Isla 86.44 104 eLR LR 16 40 10.3
comp=Z,1µm,22.5s,baz=318
Q32A Meitler Ranch, 86.52 42 P P 16 12 56.6 0.0
baz=316,SNR=5.5
LAST Lasithi 86.52 312 P P 16 12 56.0 -0.8
LAST Lasithi 86.52 312 eP P 16 12 56.4 -0.4
PDO Prodromos 86.55 317 P P 16 12 55.7 -1.0
LOMF Lomont 86.55 331 eP P 16 12 56.3 -0.4
DAMY Dhamar 86.57 286 eP P 16 12 59.2 +1.6
O34A Beatrice 86.64 40 P P 16 12 56.9 -0.3
baz=318
P33A Williams Farm, 86.66 42 P P 16 12 56.7 -0.7
baz=317
M36A Felix, Anita 86.66 39 P P 16 12 57.6 +0.3
baz=319,SNR=8.0
L37A Phoenix Point, 86.68 38 P P 16 12 56.7 -0.6
baz=319
N35A Tabor 86.68 39 P P 16 12 58.2 +0.8
baz=318
LKD2 Lefkada island 86.70 318 P P 16 12 56.0 -1.5
LKD2 Lefkada island 86.70 318 P P 16 12 56.0 -1.5
DRO Drossia 86.72 316 P P 16 12 56.2 -1.4
K38A Parkersburg 86.75 37 P P 16 12 57.9 +0.2
baz=320
IDI Anoyia 86.78 313 P P 16 12 55.7 -2.3
IDI Anoyia 86.78 313 eP P 16 12 57.1 -0.9
R32A Long Quarter, 86.85 43 P P 16 12 57.9 -0.4
baz=316
Q33A Connelly Farm, 86.91 42 P P 16 12 58.4 -0.2
baz=317,SNR=7.0
O35A Humboldt 86.98 40 P P 16 12 58.4 -0.4
baz=318
P34A Walnut Farm, R 87.04 41 P P 16 12 58.9 -0.3
baz=318,SNR=11

L38A Oak Wood Farm, 87.05 37 P P 16 12 59.4 +0.3
baz=320
N36A Muff Farm, Cla 87.06 39 P P 16 12 59.7 +0.4
baz=319,SNR=16
M37A Trindle Farm, 87.07 38 P P 16 12 59.2 -0.1
baz=319
SCIA State Center 87.10 37 PFAKE 16 13 10.0 +11
SCIA LR LR
comp=Z,501nm,20.0s
ITM Ithomi 87.15 316 P P 16 12 58.1 -1.7
ITM Ithomi 87.15 316 P P 16 12 58.1 -1.7
SENIN Lac Senin/Sane 87.17 330 eP P 16 13 00.2 +0.3
IMMV Iera Moni Meta 87.19 313 P P 16 12 58.0 -2.0
S32A Newby Ranch, P 87.25 43 P P 16 13 00.2 0.0
baz=316
HTL Hartland 87.26 339 eP P 16 13 00.5 +0.6
HTL AMS AMS 16 57 02.7
comp=Z,778nm,15.2s
ANKY Antikythira Is 87.30 314 P P 16 13 00.2 -0.3
ANKY Antikythira Is 87.30 314 P P 16 13 00.2 -0.3
R33A Olander Ranch, 87.33 42 P P 16 13 00.0 -0.5
baz=317
Q34A Chapman 87.44 41 P P 16 13 00.7 -0.4
baz=317
P35A Duane Minner, 87.47 41 P P 16 13 00.8 -0.4
baz=318
KSU1 Kansas State U 87.48 41 P P 16 13 01.3 0.0
baz=318
KSU1 Kansas State U 87.48 41 PFAKE 16 13 10.0 +8.7
KSU1 LR LR
comp=Z,398nm,19.0s
N37A Lee Faris, Mou 87.48 39 P P 16 13 01.6 +0.3
baz=319
M38A Pleasantville 87.48 38 P P 16 13 00.8 -0.4
baz=320
O36A Bolckow 87.57 40 P P 16 13 02.0 +0.3
baz=319,SNR=8.6
DYA Yadsworthy 87.59 338 eP P 16 13 01.4 -0.2
DYA AMS AMS 17 01 43.1
comp=Z,1µm,13.2s
DYA Yadsworthy 87.59 338 eP P 16 13 02.0 +0.5
T32A Huddler Ranch, 87.63 44 P P 16 13 01.9 -0.2
baz=316
MNTX Cornudas Mount 87.64 51 P P 16 13 02.6 +0.4
baz=313
MNTX Cornudas Mount 87.64 51 eP P 16 13 03.0 +0.8
MNTX LR LR
comp=Z,279nm,19.0s
VLC Villacollemand 87.65 327 PFAKE 16 13 10.0 +8.0
VLC LR LR
comp=Z,753nm,19.0s
MSTX Muleshoe 87.68 48 P P 16 13 02.3 -0.2
baz=314
MSTX Muleshoe 87.68 48 eP P 16 13 04.1 +1.6
AMTX Amarillo 87.69 47 P P 16 13 02.4 -0.1
baz=315
AQU L'Aquila 87.70 324 eP P 16 13 03.4 +1.1
AQU L'Aquila 87.70 324 eP P 16 13 03.4 +1.1
AQU LR LR
comp=Z,1µm,19.0s
R34A Isabella, Hill 87.73 42 P P 16 13 02.6 +0.1
baz=317
JFWS Jewell Farm 87.73 35 eP P 16 13 02.6 +0.2
JFWS Jewell Farm 87.73 35 eP P 16 13 02.6 +0.2
JFWS LR LR
comp=Z,461nm,19.0s
P36A Good Intent, A 87.83 40 P P 16 13 02.9 0.0
baz=318,SNR=7.3
S33A Kaszmaul Farm, 87.83 43 P P 16 13 03.5 +0.5
baz=317
N38A Joes South For 87.94 38 P P 16 13 03.7 +0.3
baz=320
O37A Wolven Farm, M 87.96 39 P P 16 13 03.7 +0.2
baz=319
Q35A Mercer Eighty, 87.96 41 P P 16 13 03.9 +0.3
baz=318,SNR=14
T33A Patterson Ranc 88.07 43 P P 16 13 04.1 0.0
baz=317
JRS Jersey 88.13 337 eP P 16 13 04.7 +0.5
U32A Winter Ranch, 88.16 44 P P 16 13 04.8 +0.2
baz=316
JSA Saint Aubin 88.16 337 eP P 16 13 05.0 +0.7
JSA AMB AMB 16 13 07.1
comp=Z,81nm,1.0s
Q36A Arnold C. Orve 88.19 41 P P 16 13 04.2 -0.4
baz=318
N39A Derby Farms, D 88.23 38 P P 16 13 05.1 +0.3
baz=320,SNR=8.3
S34A Willow Spring 88.24 42 P P 16 13 04.7 -0.3
baz=317
R35A Emporia Munici 88.27 41 P P 16 13 05.6 +0.6
baz=318,SNR=6.4
P37A Lathrop 88.29 40 P P 16 13 04.9 -0.2
baz=319
O38A Galt 88.33 39 P P 16 13 05.4 +0.1
baz=320
CUC Castrocucco 88.33 321 PFAKE 16 13 20.0 +15
CUC LR LR
comp=Z,658nm,21.0s
TIP Timpagrande 88.47 320 P P 16 13 06.2 +0.1
TIP Timpagrande 88.47 320 eP P 16 13 06.5 +0.4
TIP LR LR
comp=Z,1µm,19.0s
BNI Bardonecchia 88.49 330 PFAKE 16 13 20.0 +14
BNI LR LR
comp=Z,1µm,20.0s
U33A Lingo Farm, Me 88.61 44 P P 16 13 07.1 +0.4
baz=317
R36A Gordon, Harris 88.64 41 P P 16 13 07.0 +0.2
baz=318,SNR=7.5
P38A Dawn 88.68 39 P P 16 13 07.2 +0.3
baz=320,SNR=14
S35A Otter Creek Ra 88.68 42 P P 16 13 07.5 +0.5
baz=318,SNR=9.6
O39A Kirksville 88.69 38 P P 16 13 07.4 +0.4
baz=320
T34A McClaskey Farm 88.69 43 P P 16 13 07.6 +0.5
baz=317
TBI Tubuai 88.76 121 eLR LR 16 40 34.8
comp=Z,1µm,22.5s,baz=305
TBI Tubuai 88.76 121 eT T 17 50 55.9
comp=Z,117nm,0.3s
Q37A Longview Farm, 88.77 40 P P 16 13 07.2 -0.2
baz=319
W32A Sentinel 88.92 45 P P 16 13 08.5 +0.2
baz=316
PLDF La Plantade 88.93 332 eP P 16 13 09.8 +1.7
U34A Anderson Ranch 88.93 44 P P 16 13 08.2 0.0
baz=317
V33A Lossen Ranch, 88.96 44 P P 16 13 08.1 -0.3
baz=317
R37A Teagarden Farm 89.00 41 P P 16 13 08.2 -0.3
baz=319,SNR=5.8
S36A Lake Cedric, C 89.03 41 P P 16 13 09.0 +0.3
baz=318
AGO Saint Agoulin 89.04 332 eP P 16 13 10.5 +1.9
O40A La Belle 89.12 38 P P 16 13 09.4 +0.4
baz=320,SNR=6.4
Q38A Cooks Store, C 89.13 40 P P 16 13 08.9 -0.2
baz=320,SNR=9.3
T35A Sooner Cattle 89.14 43 P P 16 13 09.5 +0.3
baz=318
SSB Saint Sauveur 89.15 331 eP P 16 13 07.7 -1.4
SSB Saint Sauveur 89.15 331 eP P 16 13 07.7 -1.4
SSB LR LR
comp=Z,550nm,20.0s
P39B Salisbury 89.17 39 P P 16 13 09.4 +0.2
baz=320,SNR=6.3
W33A Caddo, Fort Co 89.34 45 P P 16 13 11.2 +1.0
baz=317
T36A Boggs Farm, Ca 89.37 42 P P 16 13 10.9 +0.6
baz=318,SNR=9.9
V34A Guthrie 89.38 44 P P 16 13 10.3 0.0
baz=317
V34A Guthrie 89.38 44 eP P 16 13 11.4 +1.0
Q39A Willow Grove F 89.40 39 P P 16 13 10.6 +0.3
baz=320,SNR=11
X32A Elmer 89.40 46 P P 16 13 10.6 +0.1
baz=316
S37A Fort Scott 89.41 41 P P 16 13 10.4 0.0
baz=319,SNR=8.1
U35A Pawnee 89.42 43 P P 16 13 10.7 +0.2
baz=318
WMOK Wichita Mounta 89.47 45 P P 16 13 11.5 +0.7
baz=316
WMOK Wichita Mounta 89.47 45 PFAKE 16 13 20.0 +9.2
WMOK LR LR

comp=Z,418nm,19.0s
P40A Paris 89.49 38 P P 16 13 11.4 +0.7
baz=320,SNR=14
R38A Fenwick Farm, 89.57 40 P P 16 13 11.1 -0.1
baz=319
CEL Celeste 89.60 320 eP P 16 13 10.8 -0.5
CEL LR LR
comp=Z,1µm,20.0s
ATD Arta Tunnel 89.61 284 LR LR 16 57 11.7
comp=Z,189nm,19.8s,slow=38
W34A Bridge Creek, 89.67 44 P P 16 13 12.1 +0.3
baz=317
LBL Lubilhac 89.69 332 eP P 16 13 13.7 +2.0
X33A Lawton 89.77 45 P P 16 13 12.7 +0.5
baz=317
V35A Meyer Ranch, C 89.81 44 P P 16 13 12.3 0.0
baz=318
T37A Cheneyville 18 89.84 41 P P 16 13 12.4 -0.1
baz=319
Q40A Laux Farm, Aux 89.89 39 P P 16 13 12.7 0.0
baz=320
R39A Chumby, Stover 89.92 40 P P 16 13 12.6 -0.2
baz=320,SNR=13
U36A Oologah 89.95 42 P P 16 13 13.3 +0.3
baz=318
S38A Stockton 89.99 41 P P 16 13 13.0 -0.2
baz=319
HDIL Hopedale 90.02 36 P P 16 13 13.8 +0.7
baz=322
HDIL Hopedale 90.02 36 eP P 16 13 13.9 +0.7
HDIL LR LR
comp=Z,428nm,19.0s
Y33A Hilltop Ranch, 90.08 46 P P 16 13 13.9 +0.2
baz=317,SNR=7.4
X34A Smith Ranch, M 90.10 45 P P 16 13 14.5 +0.7
baz=317
T38A Diamond 90.24 41 P P 16 13 14.4 0.0
baz=319,SNR=12
W35A Tecumseh 90.24 44 P P 16 13 14.9 +0.6
baz=318
S39A Bolivar 90.25 40 P P 16 13 13.8 -0.6
baz=320,SNR=8.3
U37A Salina 90.27 42 P P 16 13 14.8 +0.3
baz=319
TUL1 Leonard 90.27 43 P P 16 13 14.8 +0.3
baz=318
TUL1 Leonard 90.27 43 eP P 16 13 15.3 +0.8
V36A Jenks 90.28 43 P P 16 13 14.9 +0.3
baz=318
R40A Maddies Statio 90.33 39 P P 16 13 14.5 -0.2
baz=320
TX31 Lajitas Ar. Si 90.33 52 eP P 16 13 16.1 +1.1
TXAR Lajitas Array 90.33 52 P P 16 13 15.9 +0.9
comp=Z,17nm,0.6s,baz=303,slow=3.0,SNR=53
TXAR PP PP 16 16 47.1 -1.5
comp=Z,0.7nm,0.8s,baz=302,slow=7.3,SNR=2.9
TXAR PKKPbc PKKPbc 16 30 44.5 +2.1
comp=Z,0.3nm,0.6s,baz=141,slow=5.8,SNR=4.0
ABTX Abilene, Hawle 90.48 47 P P 16 13 15.8 +0.2
baz=316
ABTX Abilene, Hawle 90.48 47 eP P 16 13 16.9 +1.3
Z33A Whitaker Ranch 90.52 46 P P 16 13 15.5 -0.3
baz=316
W36A Wetumka 90.61 44 P P 16 13 16.2 +0.1
baz=318
Y34A Reagan Ranch, 90.61 45 P P 16 13 15.9 -0.3
baz=317
U38A Gravette 90.64 42 P P 16 13 16.1 -0.1
baz=319
V37A Hulbert 90.65 42 P P 16 13 15.9 -0.3
baz=319
HPIG 90.68 55 eP P 16 13 17.8 +1.0
T39A Clever 90.72 41 P P 16 13 16.5 -0.1
baz=320
X35A Drake 90.73 45 P P 16 13 16.8 +0.1
baz=318
S40A Lebanon 90.74 40 P P 16 13 16.2 -0.5
baz=320
133A Hamilton Ranch 90.92 47 P P 16 13 17.6 0.0
baz=316
Z34A Collier Ranch, 90.95 46 P P 16 13 17.6 -0.1
baz=317
X36A Centrahoma 90.95 44 P P 16 13 17.3 -0.4
baz=318
HHAR Hobbs 90.99 41 eP P 16 13 18.1 +0.2
W37B Quinton 91.04 43 P P 16 13 18.2 +0.1
baz=318
V38A Canehill 91.06 42 P P 16 13 18.2 0.0
baz=319
Y35A Marietta 91.06 45 P P 16 13 18.0 -0.1
baz=317
Q43A New Douglas 91.09 37 P P 16 13 18.0 -0.2
baz=322
AAM Ann Arbor 91.12 31 PFAKE 16 13 30.0 +12
AAM LR LR
comp=Z,441nm,21.0s
U39A Green Forest 91.16 41 P P 16 13 18.8 +0.1
baz=320
SFIN Lafayette 91.18 35 P P 16 13 18.7 +0.1
baz=324
Z35A Perchaven, San 91.36 45 P P 16 13 19.6 0.0
baz=317
134A White-Moore Ra 91.43 46 P P 16 13 19.7 -0.3
baz=317
V39A Pettigrew 91.48 42 P P 16 13 19.7 -0.5
baz=319
CLTB Caltabellotta 91.48 321 PFAKE 16 13 30.0 +10
CLTB LR LR
comp=Z,549nm,21.0s
Y36A Durant 91.49 44 P P 16 13 19.6 -0.5
baz=318
U40A Yellville 91.50 41 P P 16 13 19.9 -0.4
baz=320
T41A Mountain View 91.54 40 P P 16 13 20.0 -0.4
baz=321
W38A Poteau 91.59 43 P P 16 13 20.6 0.0
baz=319
X38A Whitesboro 91.72 43 P P 16 13 21.4 +0.2
baz=319
Y37A Hugo 91.80 44 P P 16 13 21.2 -0.4
baz=318
234A Clairette 91.81 47 P P 16 13 21.6 -0.1
baz=317
VSL Villasalto 91.83 325 PFAKE 16 13 30.0 +8.3
VSL LR LR
comp=Z,547nm,19.0s
135A Vickery Place, 91.83 46 P P 16 13 21.5 -0.3
baz=317
Z36A Blue Ridge 91.87 45 P P 16 13 21.8 -0.1
baz=318
W39A Magazine 91.89 42 P P 16 13 22.1 +0.1
baz=319
JCT Junction City 91.92 49 P P 16 13 21.8 -0.5
baz=316
JCT Junction City 91.92 49 eP P 16 13 22.9 +0.6
JCT Junction City 91.92 49 eP P 16 13 22.9 +0.6
JCT LR LR
comp=Z,359nm,20.0s
R44A Waltonville 91.94 37 P P 16 13 21.5 -0.6
baz=322
S43A Fulton Ridge, 91.98 38 P P 16 13 21.9 -0.5
baz=322
433A Art 92.15 48 P P 16 13 22.9 -0.4
baz=316
X39A Fountain Ranch 92.23 43 P P 16 13 23.0 -0.6
baz=319
334A Lometa 92.24 47 P P 16 13 23.8 +0.1
baz=317
W40A Ferguson Farm, 92.28 42 P P 16 13 23.7 -0.1
baz=320
S44A Carbondale 92.29 38 P P 16 13 23.5 -0.3
baz=322
SIUC Southern Illin 92.29 38 eP P 16 13 26.7 +2.9
V41A Mountainview 92.31 41 P P 16 13 23.7 -0.3
baz=320
Y38A Idabel 92.33 43 P P 16 13 23.8 -0.3
baz=319
Z37A Pogue Cattle C 92.38 45 P P 16 13 24.0 -0.3
baz=318
136A Ennis 92.40 46 P P 16 13 24.0 -0.4
baz=318
BLO Bloomington 92.41 35 eP P 16 13 26.8 +2.4
BLO Bloomington 92.41 35 eP P 16 13 26.8 +2.4
PBMO Poplar Bluff 92.42 39 eP P 16 13 25.2 +0.8
MIAR Mount Ida 92.49 42 P P 16 13 24.7 -0.1
baz=320
MIAR Mount Ida 92.49 42 eP P 16 13 25.1 +0.3

MIAR	**Mount Ida**	**92.49**	**42**	*eP*		**P**	**16 13 25.1**	**+0.3**	
MIAR				LR		LR			
	comp=Z,308nm,19.0s								
LONY	**Lake Ozonia**	**92.54**	**25**	PFAKE			16 13 40.0	+15	
LONY				LR		LR			
	comp=Z,505nm,21.0s								
X201	**Greenbrier Sit**	**92.57**	**41**	*eP*		**P**	**16 13 25.5**	**+0.4**	
434A	**Burnet**	**92.59**	**48**	P		**P**	**16 13 25.1**	**-0.3**	
	baz=317								
X301	**Greenbrier Sit**	**92.59**	**41**	*eP*		**P**	**16 13 25.8**	**+0.5**	
WHAR	**Wooly Hollow**	**92.61**	**41**	*eP*		**P**	**16 13 26.0**	**+0.6**	
S45A	**Carrier Mills**	**92.63**	**37**	P		**P**	**16 13 25.0**	**-0.4**	
	baz=323								
533A	**Kerrville**	**92.67**	**49**	P		**P**	**16 13 25.7**	**0.0**	
	baz=316								
Y39A	**Lockesburg**	**92.67**	**43**	P		**P**	**16 13 25.5**	**-0.2**	
	baz=319								
V42A	**Cord**	**92.69**	**40**	P		**P**	**16 13 25.2**	**-0.5**	
	baz=321								
Z38A	**Mt. Pleasant**	**92.69**	**44**	P		**P**	**16 13 25.6**	**-0.2**	
	baz=319								
W41B	**Gary Mavity, V**	**92.72**	**41**	P		**P**	**16 13 25.6**	**-0.2**	
	baz=320								
236A	**Katherine and**	**92.74**	**46**	P		**P**	**16 13 26.0**	**0.0**	
	baz=318								
137A	**Heron Place, G**	**92.75**	**45**	P		**P**	**16 13 26.0**	**0.0**	
	baz=318								
335A	**Moody**	**92.75**	**47**	P		**P**	**16 13 26.3**	**+0.2**	
	baz=317								
X40A	**Basin Creek Fa**	**92.94**	**42**	P		**P**	**16 13 26.5**	**-0.3**	
	baz=320								
336A	**Riesel**	**93.01**	**47**	P		**P**	**16 13 27.2**	**0.0**	
	baz=318								
435B	**Jarrell**	**93.02**	**47**	P		**P**	**16 13 27.1**	**-0.3**	
	baz=317								
MMNY	**Mt. Morris Dam**	**93.02**	**28**	*eP*		**P**	**16 13 29.2**	**+2.1**	
633A	**Saathoff Ranch**	**93.02**	**49**	P		**P**	**16 13 27.3**	**-0.1**	
	baz=316								
534A	**Blanco**	**93.04**	**48**	P		**P**	**16 13 26.8**	**-0.7**	
	baz=317								
Y40A	**Okolona**	**93.06**	**43**	P		**P**	**16 13 27.1**	**-0.3**	
	baz=320								
138A	**Matatall Enter**	**93.08**	**45**	P		**P**	**16 13 27.0**	**-0.5**	
	baz=318								
X41A	**Kaden, Bauxite**	**93.10**	**42**	P		**P**	**16 13 27.0**	**-0.6**	
	baz=320								
ACSO	**Alum Creek Sta**	**93.11**	**32**	*eP*		**P**	**16 13 28.4**	**+0.9**	
ACSO				LR		LR			
	comp=Z,494nm,21.0s								
Z39A	**Irene McRaven,**	**93.14**	**44**	P		**P**	**16 13 28.0**	**+0.2**	
	baz=319								
237A	**Washetta, Mont**	**93.16**	**45**	P		**P**	**16 13 28.1**	**+0.2**	
	baz=318								
WCI	**Wyandotte Cave**	**93.28**	**35**	*eP*		**P**	**16 13 31.1**	**+2.7**	
WCI	**Wyandotte Cave**	**93.28**	**35**	*eP*		**P**	**16 13 31.1**	**+2.7**	
832A	**Faith Ranch, C**	**93.37**	**51**	P		**P**	**16 13 28.4**	**-0.6**	
	baz=316								
M54A	**Oil Creek Stat**	**93.40**	**29**	P		**P**	**16 13 28.4**	**-0.4**	
	baz=329								
V44A	**Blytheville**	**93.43**	**39**	P		**P**	**16 13 29.2**	**+0.1**	
	baz=322								
733A	**Divot King Ran**	**93.48**	**50**	P		**P**	**16 13 29.1**	**-0.3**	
	baz=316								
436A	**Wall Ranch, Ga**	**93.49**	**47**	P		**P**	**16 13 30.1**	**+0.6**	
	baz=318								
Y41A	**Eaglette Beard**	**93.52**	**42**	P		**P**	**16 13 29.9**	**+0.4**	
	baz=320								
238A	**Jacksonville**	**93.55**	**45**	P		**P**	**16 13 29.8**	**+0.1**	
	baz=318								
Z40A	**Long Farm, Mag**	**93.56**	**43**	P		**P**	**16 13 29.6**	**-0.2**	
	baz=320								
535A	**Dale**	**93.58**	**48**	P		**P**	**16 13 30.0**	**+0.1**	
	baz=317								
634A	**China Grove, S**	**93.58**	**49**	P		**P**	**16 13 29.9**	**0.0**	
	baz=317								
PKME	**Peaks-Kenny Pk**	**93.60**	**21**	*eP*		**P**	**16 13 31.2**	**+1.5**	
PKME				LR		LR			
	comp=Z,697nm,19.0s								
337A	**Centerville**	**93.62**	**46**	P		**P**	**16 13 30.0**	**0.0**	
	baz=318								
833A	**Chaparral WMA,**	**93.70**	**50**	P		**P**	**16 13 30.7**	**+0.2**	
	baz=316								
N54A	**Moraine State**	**93.74**	**30**	P		**P**	**16 13 29.9**	**-0.6**	
	baz=328								
437A	**Phantom Ranch,**	**93.83**	**46**	P		**P**	**16 13 31.3**	**+0.2**	
	baz=318								
734A	**La Parita Cree**	**93.84**	**49**	P		**P**	**16 13 31.4**	**+0.3**	
	baz=316								
536A	**Bastrop**	**93.84**	**48**	P		**P**	**16 13 31.1**	**0.0**	
	baz=317								
Z41A	**Richland Creek**	**93.89**	**43**	P		**P**	**16 13 30.3**	**-0.9**	
	baz=320								
338A	**Crockett**	**93.92**	**46**	P		**P**	**16 13 32.1**	**+0.7**	
	baz=318								
635A	**Leesville**	**93.92**	**48**	P		**P**	**16 13 30.9**	**-0.6**	
	baz=317								
140A	**Cam and Jess,**	**93.93**	**44**	P		**P**	**16 13 32.1**	**+0.7**	
	baz=319								
X43A	**Marvell**	**93.94**	**41**	P		**P**	**16 13 31.4**	**-0.1**	
	baz=321								
NATX	**Nacogdoches**	**93.99**	**45**	P		**P**	**16 13 31.9**	**+0.2**	
	baz=319								
NATX	**Nacogdoches**	**93.99**	**45**	PFAKE			16 13 40.0	+8.3	
NATX				LR		LR			
	comp=Z,530nm,19.0s								
BINY	**Binghamton**	**94.19**	**27**	PFAKE			16 13 40.0	+7.5	
BINY				LR		LR			
	comp=Z,858nm,20.0s								
537A	**Green Hill Far**	**94.28**	**47**	P		**P**	**16 13 33.7**	**+0.6**	
	baz=318								
636A	**Smothers Creek**	**94.28**	**48**	P		**P**	**16 13 34.0**	**+0.9**	
	baz=317								
240A	**Hunter Patters**	**94.28**	**44**	P		**P**	**16 13 33.1**	**0.0**	
	baz=319								
933A	**Laredo**	**94.28**	**51**	P		**P**	**16 13 33.8**	**+0.6**	
	baz=316								
Z42A	**Norrel Spur, H**	**94.34**	**42**	P		**P**	**16 13 33.0**	**-0.3**	
	baz=320								
X44A	**Crenshaw**	**94.34**	**40**	P		**P**	**16 13 32.5**	**-0.8**	
	baz=322								
Y43A	**Makayla and Ka**	**94.39**	**41**	P		**P**	**16 13 33.2**	**-0.4**	
	baz=321								
FURI	**Furi**	**94.45**	**285**	*eP*		**P**	**16 13 37.1**	**+2.6**	
736A	**Circle Diamond**	**94.66**	**48**	P		**P**	**16 13 34.6**	**-0.2**	
	baz=317								
835A	**Beeville**	**94.68**	**49**	P		**P**	**16 13 34.1**	**-0.9**	
	baz=317								
Z43A	**Armstrong Fami**	**94.76**	**42**	P		**P**	**16 13 35.3**	**0.0**	
	baz=321								
KEST	**Kesra**	**94.85**	**322**	P		**P**	**16 13 35.5**	**-0.3**	
	comp=Z,7.0nm,0.8s,baz=322,slow=5.0,SNR=5.7								
KEST				LR		LR	17 01 14.6		
	comp=Z,724nm,18.3s,baz=349,slow=39								
KEST	**Kesra**	**94.85**	**322**	*eP*		**P**	**16 13 36.3**	**+0.5**	
034A	**Hebbronville**	**95.04**	**51**	P		**P**	**16 13 37.3**	**+0.6**	
	baz=316								
539A	**Cross D Ranch,**	**95.18**	**46**	P		**P**	**16 13 35.9**	**-1.3**	
	baz=319								
N59A	**State Game Lan**	**95.39**	**27**	P		**P**	**16 13 37.9**	**-0.2**	
	baz=331								
Y46A	**Houston**	**95.49**	**40**	P		**P**	**16 13 38.5**	**-0.1**	
	baz=322								
ZAIG	**Zacatecas**	**95.57**	**56**	*eP*		**P**	**16 13 40.7**	**+1.2**	
738A	**Farr-Stevens R**	**95.58**	**47**	P		**P**	**16 13 40.4**	**+1.3**	
	baz=318								
243A	**Waterproof**	**95.66**	**43**	P		**P**	**16 13 39.6**	**+0.3**	
	baz=321								
145A	**Houston Renfro**	**95.93**	**41**	P		**P**	**16 13 40.7**	**+0.1**	
	baz=322								
244A	**Avery, Jackson**	**95.96**	**42**	P		**P**	**16 13 40.1**	**-0.6**	
	baz=321								
PBRG	**Braganca**	**96.20**	**336**	*eP*		**P**	**16 13 41.7**	**0.0**	
	comp=Z,17nm,1.6s								
PGAV	**Gavieira, Arco**	**96.53**	**337**	*e*LR		LR	16 47 47.9		
	comp=Z,677nm,18.0s								
TKL	**Tuckaleechee C**	**96.54**	**35**	*eP*		**P**	**16 13 43.2**	**-0.1**	
TKL	**Tuckaleechee C**	**96.54**	**35**	*eP*		**P**	**16 13 43.2**	**-0.1**	
BLA	**Blacksburg**	**96.73**	**32**	PFAKE			16 13 50.0	+5.8	
BLA				LR		LR			
	comp=Z,507nm,22.0s								
MVO	**Moncorvo**	**96.87**	**336**	*eP*		**P**	**16 13 44.8**	**0.0**	
	comp=Z,20nm,1.8s								
MVO	**Moncorvo**	**96.87**	**336**	*e*LR		LR	16 53 13.5		
	comp=Z,1µm,18.0s								
CBN	**Corbin Frederi**	**97.14**	**30**	PFAKE			16 14 00.0	+14	
CBN				LR		LR			
	comp=Z,443nm,20.0s								

ESDC	**Sonseca Array**	**97.16**	**334**	P		**P**	**16 13 46.1**	**0.0**	
	comp=Z,2.7nm,0.6s,baz=17,slow=4.5,SNR=19								
ESDC				LR		LR	17 01 38.3		
	comp=Z,891nm,21.6s,baz=45,slow=38								
PAB	**San Pablo**	**97.41**	**334**	PFAKE			16 14 00.0	+13	
PAB				LR		LR			
	comp=Z,1µm,22.0s								
MTE	**Manteigas**	**97.73**	**336**	*eP*		**P**	**16 13 48.6**	**-0.1**	
	comp=Z,25nm,1.5s								
MTE	**Manteigas**	**97.73**	**336**	*e*SKS		S	16 25 33.5	+20	
MTE	**Manteigas**	**97.73**	**336**	*e*LR		LR	16 48 23.1		
	comp=Z,947nm,18.0s								
MTE	**Manteigas**	**97.73**	**336**	PFAKE			16 14 00.0	+11	
MTE				LR		LR			
	comp=Z,722nm,20.0s								
GOGA	**Godfrey**	**98.53**	**36**	PFAKE			16 14 00.0	+7.7	
GOGA				LR		LR			
	comp=Z,476nm,20.0s								
PMRV	**Marv??o**	**98.56**	**336**	*e*LR		LR	16 49 21.3		
	comp=Z,692nm,18.0s								
BRAL	**Brewton**	**98.56**	**40**	PFAKE			16 14 00.0	+7.5	
BRAL				LR		LR			
	comp=Z,465nm,20.0s								
RKT	**Rikitea**	**99.01**	**112**	*e*LR		LR	16 45 59.4		
	comp=Z,772nm,26.0s,baz=309								
CNNC	**Cliffs of the**	**99.48**	**31**	PFAKE			16 14 10.0	+13	
CNNC				LR		LR			
	comp=Z,586nm,19.0s								
NHSC	**New Hope**	**100.30**	**34**	PFAKE			16 14 10.0	+10	
NHSC				LR		LR			
	comp=Z,415nm,20.0s								
PVAQ	**Vaqueiros**	**100.50**	**335**	*e*LR		LR	16 53 44.0		
	comp=Z,1µm,20.0s								
KMBO	**Kilima Mbogo**	**101.70**	**277**	P		**Pdif**	**16 14 06.7**	**-0.4**	
	comp=Z,0.9nm,0.6s,baz=74,slow=20,SNR=4.1								
KMBO	**Kilima Mbogo**	**101.70**	**277**	P		**Pdif**	**16 14 06.7**	**-0.4**	
KMBO				MLR		MLR			
	comp=Z,308nm,20.0s								
KMBO	**Kilima Mbogo**	**101.70**	**277**	P		**Pdif**	**16 14 06.7**	**-0.4**	
KMBO				LR		LR			
	comp=Z,308nm,20.0s								
RTC	**Rabat Centre**	**103.27**	**333**	PFAKE			16 14 20.0	+6.6	
RTC				LR		LR			
	comp=Z,2µm,19.0s								
CASY	**Casey**	**105.65**	**192**	PFAKE			16 18 50.0		
CASY				LR		LR			
	comp=Z,72nm,21.0s								
TEIG	**Tepich**	**106.46**	**48**	PFAKE			16 18 50.0		
TEIG				LR		LR			
	comp=Z,171nm,19.0s								
BBSR	**BB Station**	**106.86**	**23**	PFAKE			16 18 50.0		
BBSR				LR		LR			
	comp=Z,269nm,22.0s								
TAM	**Tamanrasset**	**107.22**	**317**	PFAKE			16 18 50.0		
TAM				LR		LR			
	comp=Z,316nm,21.0s								
PMOZ	**Porto Moniz, M**	**107.59**	**341**	*e*LR		LR	16 52 58.8		
	comp=Z,477nm,18.0s								
GTBY	**Guantanamo Bay**	**113.85**	**37**	PFAKE			16 19 00.0		
GTBY				LR		LR			
	comp=Z,376nm,19.0s								
MTDJ	**Mount Denham**	**114.06**	**41**	PFAKE			16 19 00.0	+6.6	
MTDJ				LR		LR			
	comp=Z,435nm,20.0s								
GRTK	**Grand Turk**	**114.31**	**33**	PFAKE			16 19 00.0	+6.4	
GRTK				LR		LR			
	comp=Z,525nm,20.0s								
VNDA	**Vanda**	**115.01**	**175**	PKP		**PKPdf**	**16 18 53.4**	**+0.2**	
	comp=Z,1.6nm,0.7s,baz=319,slow=4.8,SNR=15								
VNDA				PKKPbc		**PKKPbc**	**16 29 31.0**	**-0.1**	
	comp=Z,0.7nm,0.6s,baz=234,slow=2.3,SNR=9.1								
SDDR	**Presa de Saban**	**116.46**	**34**	PFAKE			16 19 10.0	+12	
SDDR				LR		LR			
	comp=Z,556nm,19.0s								
TORD	**Torodi Ar. Bea**	**117.13**	**315**	PKP		**PKPdf**	**16 18 58.6**	**-0.6**	
	comp=Z,6.9nm,0.5s,baz=30,slow=1.5,SNR=103								
TORD				PP		PP	16 19 60.0	-8.5	
	comp=Z,3.0nm,1.0s,baz=20,slow=4.7,SNR=5.5								
TORD				PKKPbc		**PKKPbc**	**16 29 24.4**	**+1.9**	
	comp=Z,0.6nm,0.7s,baz=209,slow=2.9,SNR=4.1								
LSZ	**Lusaka**	**117.22**	**271**	PFAKE			16 19 10.0	+11	
LSZ				LR		LR			
	comp=Z,402nm,20.0s								
SJG	**San Juan**	**119.43**	**30**	PFAKE			16 19 10.0	+6.5	
SJG				LR		LR			
	comp=Z,315nm,20.0s								
BCIP	**Isla Barro Col**	**120.14**	**48**	PFAKE			16 19 20.0	+15	
BCIP				LR		LR			
	comp=Z,264nm,19.0s								
RPN	**Rapa Nui**	**120.74**	**102**	PFAKE			16 19 20.0	+14	
RPN				LR		LR			
	comp=Z,432nm,20.0s								
ANWB	**Willy Bob**	**121.47**	**26**	PFAKE			16 19 20.0	+13	
ANWB				LR		LR			
	comp=Z,264nm,19.0s								
MOTC	**Monteria, Cord**	**122.88**	**45**	*eP*		**PKPdf**	**16 19 11.9**	**+1.6**	
FDF	**Fort de France**	**124.41**	**26**	PFAKE			16 19 20.0	+6.8	
FDF				LR		LR			
	comp=Z,317nm,21.0s								
SDV	**Santo Domingo**	**125.49**	**40**	PFAKE			16 19 30.0	+14	
SDV				LR		LR			
	comp=Z,300nm,19.0s								
GUYC	**Guyana, Colomb**	**125.92**	**47**	*eP*		**PKPdf**	**16 19 16.7**	**0.0**	
NORC	**Norcasia**	**125.94**	**46**	*eP*		**PKPdf**	**16 19 14.3**	**-2.0**	
DBIC	**Dimbokro**	**126.10**	**316**	PKP		**PKPdf**	**16 19 16.4**	**-0.1**	
	comp=Z,26nm,0.6s,baz=19,slow=2.2,SNR=59								
DBIC				PP		**PP**	**16 21 05.1**	**-4.3**	
	comp=Z,7.8nm,0.7s,baz=26,slow=8.5,SNR=3.1								
TIC	**Toumodi**	**126.21**	**317**	*e*PKIKP		**PKPdf**	**16 19 16.7**	**0.0**	
KIC	**Kosan Boka**	**126.29**	**316**	*e*PKIKP		**PKPdf**	**16 19 17.0**	**+0.2**	
	comp=Z,48nm,0.7s								
BOSA	**Boshof**	**126.31**	**259**	PKP		**PKPdf**	**16 19 17.1**	**+0.5**	
	comp=Z,9.0nm,0.8s,baz=47,slow=1.7,SNR=18								
LIC	**Lamto**	**126.56**	**316**	*e*PKIKP		**PKPdf**	**16 19 17.3**	**0.0**	
	comp=Z,40nm,0.6s								
GRGR	**Grenville**	**126.62**	**28**	PFAKE			16 19 30.0	+13	
GRGR				LR		LR			
	comp=Z,360nm,21.0s								
RUSC	**La Rusia**	**126.69**	**44**	*eP*		**PKPdf**	**16 19 15.7**	**-2.5**	
QSPA	**South Pole Qui**	**126.78**	**180**	PFAKE			16 19 30.0	+14	
QSPA				LR		LR			
	comp=Z,632nm,19.0s								
VILC	**Villavicencio,**	**127.80**	**46**	*eP*		**PKPdf**	**16 19 20.6**	**+0.7**	
TSUM	**Tsumeb**	**127.83**	**274**	PFAKE			16 19 30.0	+10	
TSUM				LR		LR			
	comp=Z,401nm,21.0s								
OTAV	**Otavalo**	**127.93**	**54**	PFAKE			16 19 30.0	+9.5	
OTAV				LR		LR			
	comp=Z,215nm,19.0s								
SYO	**Syowa Base**	**128.09**	**207**	*e*P		**PKPdf**	**16 19 20.4**	**+1.9**	
NNA	**Nana**	**137.85**	**64**	PFAKE			16 19 50.0	+11	
NNA				LR		LR			
	comp=Z,156nm,20.0s								
ASCN	**Ascension**	**143.43**	**316**	PFAKE			16 20 00.0	+11	
ASCN				LR		LR			
	comp=Z,2µm,21.0s								
SAML	**Samuel**	**144.43**	**44**	PFAKE			16 20 00.0	+10	
SAML				LR		LR			
	comp=Z,203nm,21.0s								
LPAZ	**La Paz**	**146.92**	**59**	PKPbc		**PKPbc**	**16 19 57.8**	**+0.6**	
	comp=Z,52nm,0.5s,baz=324,slow=2.3,SNR=232								
RCBR	**Riachuelo**	**148.81**	**354**	PFAKE			16 20 10.0	+4.6	
RCBR				LR		LR			
	comp=Z,282nm,19.0s								
LVC	**Limon Verde**	**150.42**	**69**	PFAKE			16 20 10.0	-2.3	
LVC				LR		LR			
	comp=Z,264nm,20.0s								
YJA	**Yavi**	**152.66**	**65**	*eP*		**PKPdf**	**16 20 05.4**	**+1.4**	
HJA	**Humahuaca**	**153.37**	**66**	*eP*		**PKPdf**	**16 20 06.9**	**+1.9**	
ROC1	**El Roble**	**153.47**	**91**	*eP*		**PKPdf**	**16 20 07.1**	**+2.4**	
VCA	**Vinchina**	**154.13**	**80**	*eP*		**PKPdf**	**16 20 06.6**	**+1.0**	
AZAP	**Zapla**	**154.23**	**68**	*eP*		**PKPdf**	**16 20 05.9**	**-0.1**	
AGUA	**GUANDACOL**	**154.23**	**82**	*eP*		**PKPdf**	**16 20 06.1**	**+0.4**	
RTLS	**Leoncito**	**154.47**	**87**	*eP*		**PKPbc**	**16 20 11.6**	**-3.0**	
AUSP	**Uspallata**	**154.54**	**88**	*eP*		**PKPdf**	**16 20 04.7**	**-1.5**	
FSA	**Cafayete**	**154.59**	**72**	*eP*		**PKPdf**	**16 20 07.1**	**+0.7**	
ALOL	**LOMAS DE OLMED**	**154.78**	**66**	*eP*		**PKPbc**	**16 20 16.0**	**+0.9**	
AMOG	**MOGNA**	**154.80**	**85**	*eP*		**PKPdf**	**16 20 08.7**	**+2.3**	
RTLL	**Cerro Villicun**	**154.96**	**86**	*eP*		**PKPdf**	**16 20 05.9**	**-0.7**	
RTCV	**Cerro Valdivia**	**155.09**	**87**	*eP*		PKPdf	16 20 15.2	+8.5	
ASAL	**Salagasta**	**155.10**	**89**	*eP*		PKPdf	16 20 15.9	+9.2	
PLCA	**Paso Flores**	**155.18**	**108**	PKPab		**PKPab**	**16 20 31.6**	**0.0**	
	comp=Z,6.6nm,0.7s,baz=271,slow=5.1,SNR=12								
CYA	**Choya**	**155.88**	**77**	*eP*		**PKPdf**	**16 20 07.6**	**-0.3**	
BDFB	**Brasília**	**157.21**	**23**	PKP		**PKPdf**	**16 20 10.1**	**+0.1**	

	comp=Z,1.9nm,0.4s,baz=354,slow=4.4,SNR=4.2								
BDFB				PKPab		**PKPab**	**16 20 40.6**	**-0.1**	
	comp=Z,7.5nm,0.7s,baz=287,slow=5.7,SNR=8.7								
SUCO	**SUCO**	**158.49**	**88**	*eP*		**PKPdf**	**16 20 10.4**	**-0.7**	
CPUP	**Villa Florida**	**161.08**	**61**	PKP		**PKPdf**	**16 20 14.0**	**-0.1**	
	comp=Z,2.7nm,0.9s,baz=40,slow=1.7,SNR=3.2								
CPUP				PKPab		**PKPab**	**16 20 57.5**	**+0.2**	
	comp=Z,2.0nm,0.6s,baz=308,slow=4.7,SNR=6.5								
TRQA	**Tornquist**	**161.69**	**100**	PFAKE			16 20 30.0	+16	
TRQA				LR		LR			
	comp=Z,359nm,20.0s								
SPB	**Sao Paulo**	**164.72**	**31**	PFAKE			16 20 30.0	+12	
SPB				LR		LR			
	comp=Z,347nm,20.0s								

JMA 03 16:00:21.9, 38.32N×140.69E, h11km±1km, M1.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOU	**Okura**	**0.05**	**336**	P	Pg	16 00 24.0	-0.1
JOU				S	Sg	16 00 25.6	-0.1
JYS	**Shirataka**	**0.50**	**259**	*e*S	Sg	16 00 38.3	0.0
JYK	**Kaneyama**	**0.65**	**337**	P	Pg	16 00 34.3	-0.2
JYK				*e*S	Sg	16 00 42.8	-0.3

DJA 03 16:05:00.9±1.5, 10°S±6°×11°3E±°, h24km±18km, M3.7/8, MLv3.7/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.58**	**32**	P	Pn	16 05 27.4	-0.1
GMJI				S	Sn	16 05 47.8	+0.6
JAGI	**Jajag, Banyuwa**	**1.92**	**53**	P	Pn	16 05 32.2	+0.1
ABJI	**Asem Bagus**	**2.44**	**42**	P	Pn	16 05 39.3	+0.1
NGJI	**Ngawi**	**2.51**	**333**	P	Pn	16 05 40.5	+0.2
UGM	**Wanagama**	**2.67**	**310**	P	Pn	16 05 42.9	+0.4

*IDC **03** 16:05:45.4±2.9, 37.67N×142.27E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.5/49, mbtmp4.1/4, ML3.8/2, Error ellipse: s-maj=60.6km s-min=32.8km az=70.0*
*JMA **03** 16:05:53.7±0.2, 37.41N×141.70E, h38km±3km, M3.7*
ISC 03 16:05:51.4±1.8, 37.41N±0.05×141.81E±0.08, h25km±13km, n14, σ1.9/14/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.75**	**267**	P	**Pn**	**16 06 06.7**	**+0.3**
JFK				S	**Sb**	**16 06 15.7**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.86**	**250**	P	**Pn**	**16 06 08.4**	**+0.4**
ONAJ				S	**Sb**	**16 06 18.8**	**-0.2**
JMM	**Marumori**	**0.93**	**300**	P	**Pn**	**16 06 09.4**	**+0.6**
JMM				S	**Sb**	**16 06 20.1**	**-0.7**
JIO	**Ouri**	**1.11**	**341**	P	**Pb**	**16 06 12.3**	**+0.4**
JIO				S	**Sb**	**16 06 25.1**	**-0.8**
JFT	**Otama**	**1.18**	**276**	P	**Pb**	**16 06 13.6**	**+0.5**
JFT				S	**Sn**	**16 06 27.5**	**0.0**
JHO	**Hitachi**	**1.27**	**232**	P	**Pn**	**16 06 13.8**	**+0.2**
JHO				S	**Sn**	**16 06 28.6**	**-1.2**
JOU	**Okura**	**1.32**	**317**	P	**Pb**	**16 06 15.9**	**+0.4**
JOU				S	**Sn**	**16 06 31.5**	**+0.5**
JYS	**Shirataka**	**1.60**	**301**	P	**Pb**	**16 06 20.3**	**-0.1**
JMK	**Ichinoseki**	**1.61**	**343**	P	**Pb**	**16 06 20.1**	**-0.4**
JFY	**Yanaizu**	**1.68**	**271**	P	**Pn**	**16 06 20.6**	**+1.4**
JFY				*e*S	**Sn**	**16 06 40.3**	**+0.4**
MJAR	**Matsushiro Arr**	**3.01**	**254**	Pn	**Pn**	**16 06 40.5**	**+3.0**
	3.9nm,0.3s,baz=69,slow=9.7,SNR=13						
MJAR				Sn	**Sb**	**16 07 18.2**	**-2.5**
	4.6nm,0.3s,baz=36,slow=16,SNR=4.2						
JHJ	**Hachijo jima 2**	**4.59**	**202**	Pn	**Pn**	**16 07 00.4**	**+1.2**
	23nm,0.3s,baz=332,slow=15,SNR=16						
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**16 13 57.0**	**-1.2**
	2.0nm,0.8s,baz=76,slow=6.1,SNR=3.7						
WRA	**Warramunga Arr**	**57.48**	**188**	P	**P**	**16 15 38.5**	**+0.2**
	1.0nm,0.5s,baz=6.1,slow=7.4,SNR=5.3						

*DDA **03** 16:28:22.7, 39.10N×29.08E, h8km, Ml3.3*
*CSEM **03** 16:28:23.2±0.1, 39.11N×29.08E, h0km±1km, ML3.3, Error ellipse: s-maj=2.1km s-min=1.9km az=171.0*
*ISK **03** 16:28:23.0, 39.12N×29.08E, h5km, MD2.9*
ISC 03 16:28:23.2±1.0, 39.12N±0.02×29.08E±0.02, h3km±9km, n61, σ0.957/85, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**256**	P	**Pg**	**16 28 28.7**	**-0.2**
DEMI				S	**Sg**	**16 28 32.8**	**+0.1**
DEMI	**Demirci**	**0.29**	**256**	*i* P	**Pg**	**16 28 28.7

MRMT	**Marmara Adasi**	**1.88**	**323**	*e*Pn	**Pn**	**16 28 56.7**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.92**	**79**	*e*PN	**Pn**	**16 28 57.4**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.92**	**79**	*e*Pn	**Pn**	**16 28 57.4**	**+0.5**
MDUB	**Mudurnu**	**2.12**	**50**	*e*PN	**Pn**	**16 29 00.2**	**+0.7**
MDUB	**Mudurnu**	**2.12**	**50**	*e*Pn	**Pn**	**16 29 00.3**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*PN	**Pn**	**16 29 00.5**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*Pn	**Pn**	**16 29 00.5**	**+0.5**
KAND	**Kocaeli-Kandir**	**2.15**	**23**	P	**Pb**	**16 29 02.5**	**-0.3**
KAND	**Kocaeli-Kandir**	**2.15**	**23**	*i* P	**Pb**	**16 29 02.5**	**-0.3**
KAND				*i* S	**Sb**	**16 29 30.8**	**+0.9**
KIZT	**Kizilcal**	**2.19**	**95**	*e*PN	**Pn**	**16 29 01.4**	**+0.8**
KIZT	**Kizilcal**	**2.19**	**95**	*e*Pn	**Pn**	**16 29 01.4**	**+0.8**

MAN 03 16:33:18, 13°.21N×121°.21E, h26km, mb3.6, ML2.4, MS1.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.38**	**318**	*e*P	Pn	16 33 27.4	-0.5
PGP				*i* S	Sb	16 33 32.8	+0.6
SJMP	**San Jose**	**0.75**	**187**	*e*P	Pn	16 33 33.6	+0.6
SJMP				*e*S	Sn	16 33 44.6	+1.0
LUBP	**Lubang**	**1.07**	**299**	*e*P	Pb	16 33 38.7	+0.8
LUBP				*e*S	Sb	16 33 52.1	+0.5

*ATH **03** 16:38:13.2, 39°.32N×29°.25E, h10km±31km, ML3.4/4, Error ellipse: s-maj=31.6km s-min=2.3km az=0.0*
*DDA **03** 16:38:15.3, 39°.12N×29°.13E, h7km, Ml3.9*
*ISK **03** 16:38:15.5, 39°.14N×29°.13E, h5km, ML3.7*
*CSEM **03** 16:38:16.7±0.1, 39°.15N×29°.15E, h2km, ML3.9, Error ellipse: s-maj=3.4km s-min=3.0km az=105.0*
*SOF **03** 16:38:21.9, 39°.68N×28°.83E, h2km, MD3.1*

ISC 03 16:38:15.9±0.9, 39°.15N±0°.02×29°.12E±0°.02, h9km±8km, n140, σ1s02/183, 4C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.29**	**103**	P	**Pg**	**16 38 21.9**	**+0.1**
GDZ				S	**Sg**	**16 38 26.0**	**+0.4**
GDZ	**Gediz**	**0.29**	**103**	*i* P	**Pg**	**16 38 21.9**	**+0.1**
GDZ				*i* S	**Sg**	**16 38 26.0**	**+0.4**
DEMI	**Demirci**	**0.33**	**251**	P	**Pg**	**16 38 22.6**	**0.0**
DEMI				S	**Sg**	**16 38 27.3**	**+0.2**
DEMI	**Demirci**	**0.33**	**251**	*i* P	**Pg**	**16 38 22.6**	**0.0**
DEMI				*i* S	**Sg**	**16 38 27.3**	**+0.2**
TVSB	**Tavsanli**	**0.40**	**42**	*e*PG	**Pg**	**16 38 23.8**	**0.0**
TVSB	**Tavsanli**	**0.40**	**42**	*e*Pg	**Pg**	**16 38 23.8**	**0.0**
DST	**Dursunbey**	**0.59**	**319**	*e*PG	**Pb**	**16 38 28.0**	**-0.6**
DST	**Dursunbey**	**0.59**	**319**	*e*Pg	**Pb**	**16 38 28.0**	**-0.6**
KULA	**Kula-Manisa**	**0.73**	**210**	*e*PG	**Pb**	**16 38 30.9**	**0.0**
KULA				*e*SG	**Sb**	**16 38 41.8**	**+0.7**
KULA	**Kula-Manisa**	**0.73**	**210**	*e*Pg	**Pb**	**16 38 30.9**	**0.0**
KULA				*e*Sg	**Sb**	**16 38 41.8**	**+0.7**
KHAL	**Karahalli**	**0.83**	**160**	S	**Sg**	**16 38 42.4**	**-0.5**
KHAL	**Karahalli**	**0.83**	**160**	*i* P	**Pg**	**16 38 30.7**	**-1.3**
KHAL				*i* S	**Sg**	**16 38 42.4**	**-0.5**
KHL	**Karahalli**	**0.89**	**159**	*e*PG	**Pg**	**16 38 33.0**	**0.0**
KHL				*e*SG	**Sb**	**16 38 46.0**	**+0.5**
KHL	**Karahalli**	**0.89**	**159**	*e*Pg	**Pg**	**16 38 33.0**	**0.0**
KHL				*e*Sg	**Sb**	**16 38 46.0**	**+0.5**
ORLT	**Orhaneli**	**0.91**	**349**	*e*PG	**Pb**	**16 38 33.8**	**-0.1**
ORLT	**Orhaneli**	**0.91**	**349**	*e*Pg	**Pb**	**16 38 33.8**	**-0.1**
AKHS	**Akhisar**	**1.05**	**255**	P	**Pg**	**16 38 36.1**	**-0.1**
AKHS				S	**Sn**	**16 38 51.2**	**-0.5**
AKHS	**Akhisar**	**1.05**	**255**	*i* P	**Pg**	**16 38 36.1**	**-0.1**
AKHS				*i* S	**Sn**	**16 38 51.2**	**-0.5**
AKS	**Akhisar**	**1.06**	**255**	*e*PG	**Pb**	**16 38 36.6**	**+0.2**
AKS	**Akhisar**	**1.06**	**255**	*e*Pg	**Pb**	**16 38 36.6**	**+0.2**
BALB	**Balikesir**	**1.08**	**297**	*e*PN	**Pn**	**16 38 38.0**	**+0.8**
BALB	**Balikesir**	**1.08**	**297**	*e*Pn	**Pn**	**16 38 38.0**	**+0.8**
IGD	**Bursa**	**1.11**	**3**	*i* P	**Pg**	**16 38 36.3**	**-1.0**
IGD				*i* S	**Sn**	**16 38 52.9**	**-0.2**
CAVI	**Cavuskoy**	**1.19**	**28**	*e*PN	**Pn**	**16 38 39.7**	**+0.9**
CAVI	**Cavuskoy**	**1.19**	**28**	*e*Pn	**Pn**	**16 38 39.7**	**+0.9**
IZI	**Iznik**	**1.21**	**13**	*e*PN	**Pg**	**16 38 40.2**	**+1.0**
MDNY	**Mudanya-Bursa**	**1.23**	**351**	*e*PN	**Pg**	**16 38 40.5**	**+1.0**
KCTX	**Karacabey (Bur**	**1.26**	**332**	*e*PN	**Pg**	**16 38 40.3**	**+0.2**
BORA	**Eskisehir**	**1.26**	**54**	P	**Pb**	**16 38 39.4**	**-0.4**
BORA				S	**Sn**	**16 38 57.6**	**+0.7**
BORA	**Eskisehir**	**1.26**	**54**	*i* P	**Pb**	**16 38 39.4**	**-0.4**
BORA				*i* S	**Sn**	**16 38 57.6**	**+0.7**
GEMT	**Gemlik**	**1.28**	**2**	*e*PN	**Pg**	**16 38 41.5**	**+1.0**
ADVT	**Abdulvahap**	**1.36**	**20**	*e*PN	**Pg**	**16 38 42.9**	**+0.8**
ESKT	**Eskisehir**	**1.39**	**74**	*e*PN	**Pg**	**16 38 43.0**	**+0.4**
ESKT	**Eskisehir**	**1.39**	**74**	*e*Pn	**Pg**	**16 38 43.0**	**+0.4**
DENT	**Denizli**	**1.40**	**183**	*e*PN	**Pg**	**16 38 43.1**	**+0.3**
DENT	**Denizli**	**1.40**	**183**	*e*Pn	**Pg**	**16 38 43.1**	**+0.3**
GONE	**Gonen-Balikesi**	**1.42**	**309**	*e*PN	**Pg**	**16 38 43.7**	**+0.4**
ARMT	**Armutlu**	**1.43**	**352**	*e*PN	**Pg**	**16 38 43.8**	**+0.5**
ARMT	**Armutlu**	**1.43**	**352**	*e*Pn	**Pg**	**16 38 43.8**	**+0.5**
GPA	**Golpazari**	**1.46**	**39**	*e*PN	**Pg**	**16 38 44.7**	**+0.8**
DNZL	**Cakiroluk**	**1.46**	**182**	P	**Pn**	**16 38 42.3**	**-0.4**
DNZL				S	**Sg**	**16 39 04.1**	**+1.1**
DNZL	**Cakiroluk**	**1.46**	**182**	*i* P	**Pn**	**16 38 42.3**	**-0.4**
DNZL				*i* S	**Sg**	**16 39 04.1**	**+1.1**
EDC	**Edincik**	**1.54**	**321**	*e*PN	**Pg**	**16 38 45.5**	**0.0**
EDC				*e*SN	**Sg**	**16 39 07.2**	**+1.8**
EDC	**Edincik**	**1.54**	**321**	*e*Pn	**Pg**	**16 38 45.5**	**0.0**
EDC				*e*Sn	**Sg**	**16 39 07.2**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**219**	*e*PN	**Pb**	**16 38 44.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**219**	*e*Pn	**Pb**	**16 38 44.8**	**0.0**
IZM	**Izmir**	**1.64**	**243**	*e*PN	**Pb**	**16 38 46.8**	**+0.5**
IZM	**Izmir**	**1.64**	**243**	*e*Pn	**Pb**	**16 38 46.8**	**+0.5**
GULT	**Gulveren**	**1.67**	**40**	*e*PN	**Pb**	**16 38 47.0**	**+0.1**
GULT	**Gulveren**	**1.67**	**40**	*e*Pn	**Pb**	**16 38 47.0**	**+0.1**
HRT	**Hereke**	**1.72**	**14**	*e*PN	**Pb**	**16 38 48.1**	**+0.4**
HRT	**Hereke**	**1.72**	**14**	*e*Pn	**Pb**	**16 38 48.1**	**+0.4**
DKL	**Dikili**	**1.73**	**268**	*e*PN	**Pb**	**16 38 48.1**	**+0.3**
DKL	**Dikili**	**1.73**	**268**	*e*Pn	**Pb**	**16 38 48.1**	**+0.3**
SPNC	**Sapanca-Adapaz**	**1.78**	**30**	*e*PN	**Pb**	**16 38 48.8**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.78**	**30**	*e*Pn	**Pb**	**16 38 48.8**	**0.0**
MRMT	**Marmara Adasi**	**1.86**	**321**	*e*PN	**Pb**	**16 38 50.5**	**+0.3**
MRMT	**Marmara Adasi**	**1.86**	**321**	*e*Pn	**Pb**	**16 38 50.5**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.89**	**80**	*e*PN	**Pb**	**16 38 50.5**	**-0.1**
ISK	**Istanbul-Kandi**	**1.91**	**359**	*e*PN	**Pb**	**16 38 50.9**	**-0.1**
ISK	**Istanbul-Kandi**	**1.91**	**359**	P	**Pn**	**16 38 47.5**	**-1.2**
ISK				S	**Sn**	**16 39 09.5**	**-3.3**
ISK	**Istanbul-Kandi**	**1.91**	**359**	P	**Pn**	**16 38 47.5**	**-1.2**
ISK	**Istanbul-Kandi**	**1.91**	**359**	*e*Pn	**Pb**	**16 38 50.9**	**-0.1**
GLHS	**Glhisar (BURDU**	**2.02**	**171**	*e*PN	**Pb**	**16 38 52.1**	**-0.7**
GLHS	**Glhisar (BURDU**	**2.02**	**171**	*e*Pn	**Pb**	**16 38 52.1**	**-0.7**
SILT	**Sile**	**2.04**	**11**	*e*PN	**Pb**	**16 38 52.5**	**-0.6**
SILT	**Sile**	**2.04**	**11**	*e*Pn	**Pb**	**16 38 52.5**	**-0.6**
BGKT	**Bogazkoy**	**2.04**	**353**	*e*PN	**Pb**	**16 38 52.7**	**-0.5**
BGKT	**Bogazkoy**	**2.04**	**353**	*e*Pn	**Pb**	**16 38 52.7**	**-0.5**
MDUB	**Mudurnu**	**2.07**	**50**	*e*PN	**Pb**	**16 38 52.9**	**-0.9**
MDUB	**Mudurnu**	**2.07**	**50**	*e*Pn	**Pb**	**16 38 52.9**	**-0.9**
KLYT	**Kilyos**	**2.10**	**358**	*e*PN	**Pb**	**16 38 53.6**	**-0.6**
KLYT	**Kilyos**	**2.10**	**358**	*e*Pn	**Pb**	**16 38 53.6**	**-0.6**
YER	**Yerkesik**	**2.12**	**198**	*e*PN	**Pb**	**16 38 53.9**	**-0.7**
YER	**Yerkesik**	**2.12**	**198**	P	**Pb**	**16 38 54.0**	**-0.6**
YER				S	**Sb**	**16 39 22.1**	**+1.1**
YER	**Yerkesik**	**2.12**	**198**	*e*Pn	**Pb**	**16 38 53.9**	**-0.7**
YER				S	**Sb**	**16 39 22.1**	**+1.1**
CTKS	**Kestanelik-??a**	**2.13**	**347**	*e*PN	**Pb**	**16 38 53.9**	**-0.9**
CTKS	**Kestanelik-??a**	**2.13**	**347**	*e*Pn	**Pb**	**16 38 53.9**	**-0.9**
RKY	**Sarkoy-Tekirda**	**2.14**	**316**	*e*PN	**Pb**	**16 38 54.4**	**-0.5**
RKY	**Sarkoy-Tekirda**	**2.14**	**316**	*e*Pn	**Pb**	**16 38 54.4**	**-0.5**
KIZT	**Kizilcal**	**2.17**	**96**	*e*PN	**Pb**	**16 38 54.2**	**-1.2**
KIZT	**Kizilcal**	**2.17**	**96**	*e*Pn	**Pb**	**16 38 54.2**	**-1.2**
LPK	**Lapseki**	**2.19**	**305**	*e*PN	**Pb**	**16 38 55.1**	**-0.6**
LPK	**Lapseki**	**2.19**	**305**	*e*Pn	**Pb**	**16 38 55.1**	**-0.6**
TKR	**Tekirdag**	**2.20**	**327**	*e*PN	**Pb**	**16 38 55.0**	**-0.9**
TKR	**Tekirdag**	**2.20**	**327**	*e*Pn	**Pb**	**16 38 55.0**	**-0.9**
PRK	**Paraskevi**	**2.22**	**273**	P	**Pn**	**16 38 52.6**	**-0.3**
PRK				S	**Sg**	**16 39 29.1**	**+1.9**
PRK	**Paraskevi**	**2.22**	**273**	P	**Pn**	**16 38 52.8**	**0.0**
PRK	**Paraskevi**	**2.22**	**273**	P	**Pn**	**16 38 52.8**	**0.0**
PRK				AML	AML	16 39 34.3	
	comp=N,1046μm,0.8s						
PRK				AML	AML	16 39 37.3	
	comp=E,906μm,0.7s						
SUTC	**Sutluce-Ispart**	**2.23**	**138**	*e*PN	**Pb**	**16 38 55.4**	**-1.1**
SUTC	**Sutluce-Ispart**	**2.23**	**138**	*e*Pn	**Pb**	**16 38 55.4**	**-1.1**
EZN	**Ezine**	**2.27**	**288**	*e*PN	**Pb**	**16 38 56.0**	**-1.0**
EZN	**Ezine**	**2.27**	**288**	P	**Pb**	**16 38 57.1**	**+0.1**
EZN				S	**Sg**	**16 39 28.9**	**+0.2**
EZN	**Ezine**	**2.27**	**288**	*e*Pn	**Pb**	**16 38 56.0**	**-1.0**
EZN	**Ezine**	**2.27**	**288**	P	**Pb**	**16 38 57.1**	**+0.1**
EZN				S	**Sg**	**16 39 28.9**	**+0.2**
SMG	**Samos**	**2.30**	**232**	P	**Pb**	**16 38 57.7**	**+0.1**
SMG				S	**Sg**	**16 39 28.7**	**-1.2**
SMG	**Samos**	**2.30**	**232**	P	**Pb**	**16 38 57.7**	**+0.1**
SMG				S	**Sg**	**16 39 28.7**	**-1.2**
SMG	**Samos**	**2.30**	**232**	P	**Pg**	**16 38 59.6**	**-0.5**
GELI	**Tayfur-Gelibol**	**2.39**	**302**	*e*PN	**Pb**	**16 38 57.9**	**-1.2**
GELI	**Tayfur-Gelibol**	**2.39**	**302**	*e*Pn	**Pb**	**16 38 57.9**	**-1.2**
CTYL	**Yalikoy Yolu**	**2.41**	**345**	*e*PN	**Pn**	**16 38 57.1**	**+1.6**
CTYL	**Yalikoy Yolu**	**2.41**	**345**	*e*Pn	**Pn**	**16 38 57.1**	**+1.6**
ERIK	**Erikli-Kesan**	**2.51**	**308**	*e*PN	**Pb**	**16 38 59.8**	**-1.5**
ERIK	**Erikli-Kesan**	**2.51**	**308**	*e*Pn	**Pb**	**16 38 59.8**	**-1.5**
FETY	**Fethiye**	**2.51**	**181**	P	**Pn**	**16 38 57.8**	**+0.8**
FETY				S	**Sb**	**16 39 30.8**	**-1.5**
FETY	**Fethiye**	**2.51**	**181**	P	**Pn**	**16 38 57.8**	**+0.8**
FETY				S	**Sb**	**16 39 30.8**	**-1.5**
CHOS	**Chios island**	**2.52**	**253**	P	**Pb**	**16 39 00.3**	**-1.0**
CHOS				S	**Sb**	**16 39 34.2**	**+1.8**
CHOS	**Chios island**	**2.52**	**253**	P	**Pb**	**16 39 00.3**	**-1.0**
CHOS				S	**Sb**	**16 39 32.3**	**-0.1**
CHOS	**Chios island**	**2.52**	**253**	P	**Pb**	**16 38 59.5**	**-1.9**
CHOS				S	**Sb**	**16 39 32.3**	**-0.1**
CHOS				AML	AML	16 39 40.8	
	comp=N,364μm,0.7s						
CHOS				AML	AML	16 39 42.1	
	comp=E,504μm,0.4s						
SIGR	**SIGRI**	**2.54**	**272**	P	**Pg**	**16 39 03.6**	**-1.0**
SIGR				S	**Sg**	**16 39 37.7**	**+0.2**
SIGR	**SIGRI**	**2.54**	**272**	P	**Pn**	**16 38 57.4**	**+0.1**
SIGR	**SIGRI**	**2.54**	**272**	P	**Pn**	**16 38 57.4**	**+0.1**
GADA	**Gvkgeada**	**2.69**	**294**	P	**Pg**	**16 39 06.8**	**-0.8**
GADA				S	**Sg**	**16 39 42.3**	**-0.2**
PHSR	**Pinarhisar**	**2.76**	**334**	*e*PN	**Pb**	**16 39 03.1**	**-2.2**
PHSR	**Pinarhisar**	**2.76**	**334**	*e*Pn	**Pb**	**16 39 03.2**	**-2.2**
ENEZ	**Enez**	**2.78**	**306**	P	**Pn**	**16 39 01.8**	**+1.2**
ENEZ				S	**Sb**	**16 39 40.0**	**+0.2**
ENEZ	**Enez**	**2.78**	**306**	P	**Pn**	**16 39 01.8**	**+1.2**
ENEZ				S	**Sb**	**16 39 40.0**	**+0.2**
KDZE	**Karadeniz Ereo**	**2.79**	**39**	*e*PN	**Pn**	**16 39 03.1**	**+2.3**
KDZE	**Karadeniz Ereo**	**2.79**	**39**	*e*Pn	**Pn**	**16 39 03.1**	**+2.3**
ALN	**Alexandroupoli**	**2.94**	**307**	P	**Pn**	**16 39 03.5**	**+0.8**
ALN				S	**Sb**	**16 39 42.5**	**-1.9**
ALN	**Alexandroupoli**	**2.94**	**307**	P	**Pn**	**16 39 03.3**	**+0.6**
ALN				S	**Sb**	**16 39 42.5**	**-1.9**
ALN	**Alexandroupoli**	**2.94**	**307**	P	**Pn**	**16 39 03.3**	**+0.6**
ALN				S	**Sn**	**16 39 57.7**	**-1.0**
ALN				AML	AML	16 39 53.2	
	comp=E,479μm,0.5s						
ALN				AML	AML	16 39 53.5	
	comp=N,469μm,0.4s						
SMTH	**Samothraki Isl**	**3.06**	**297**	P	**Pn**	**16 39 05.0**	**+0.5**
SMTH				S	**Sg**	**16 39 52.7**	**-1.6**
SMTH	**Samothraki Isl**	**3.06**	**297**	P	**Pn**	**16 39 06.2**	**+1.7**
SMTH				S	**Sn**	**16 39 43.8**	**+2.5**
SMTH	**Samothraki Isl**	**3.06**	**297**	P	**Pn**	**16 39 06.2**	**+1.7**
SMTH				S	**Sn**	**16 39 43.8**	**+2.5**
SMTH				AML	AML	16 39 55.0	
	comp=N,595μm,0.6s						
SMTH				AML	AML	16 39 55.5	
	comp=E,556μm,0.4s						
LIA	**Limnos Island**	**3.13**	**285**	P	**Pn**	**16 39 08.5**	**+3.0**
LIA	**Limnos Island**	**3.13**	**285**	P	**Pn**	**16 39 08.5**	**+3.0**
EDRB	**Edirne**	**3.24**	**327**	P	**Pn**	**16 39 07.5**	**+0.5**
EDRB				S	**Sn**	**16 39 46.0**	**+0.3**
EDRB	**Edirne**	**3.24**	**327**	P	**Pn**	**16 39 07.5**	**+0.5**
EDRB				S	**Sn**	**16 39 46.0**	**+0.3**
KDZ	**Kurdzhali**	**3.77**	**313**	P	**Pn**	**16 39 15.7**	**+1.4**
PRD	**Provadia**	**4.25**	**343**	Pg	**Pg**	**16 39 34.2**	**-3.1**
SZH	**Strazhica**	**4.76**	**331**	P	**Pn**	**16 39 28.6**	**+0.8**
TIRR	**Tirgusor**	**5.33**	**355**	⇑*i* P	**Pn**	**16 39 34.8**	**-0.8**
TLCR		**6.03**	**358**	⇑*i* P	**Pn**	**16 39 46.8**	**+1.5**
MLR	**Muntele Rosu**	**6.76**	**341**	⇓*i* P	**Pn**	**16 39 56.2**	**+0.8**
PLOR	**Plostina**	**6.94**	**346**	⇓*i* P	**Pn**	**16 39 58.1**	**+0.3**
VRI	**Vrincioaia**	**6.94**	**346**	⇑*i* P	**Pn**	**16 39 57.3**	**-0.5**
VOIR		**6.97**	**336**	⇓*i* P	**Pn**	**16 39 59.4**	**+1.2**
DOPR	**Dopca**	**7.34**	**339**	⇑*i* P	**Pn**	**16 40 04.1**	**+0.8**
TESR	**Tescani**	**7.58**	**347**	⇓*i* P	**Pn**	**16 40 05.4**	**-1.1**

*ISCJB **03** 16:46:12.8±0.5, 39°.10N±0°.03×29°.12E±0°.04, h6km±5km, Error ellipse: s-maj=5.2km s-min=4.0km az=35.0*
*DDA **03** 16:46:12.5, 39°.11N×29°.12E, h7km, Ml2.9*
*ISK **03** 16:46:12.1, 39°.08N×29°.18E, h6km, MD2.6*
*CSEM **03** 16:46:13.0±0.1, 39°.09N×29°.13E, h8km, ML2.9, Error ellipse: s-maj=3.2km s-min=2.2km az=117.0*

ISC 03 16:46:12.9±0.9, 39°.10N±0°.02×29°.13E±0°.02, h13km±8km, n31, σ0s33/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.28**	**92**	P	**Pg**	**16 46 18.8**	**+0.1**
GDZ				S	**Sg**	**16 46 23.1**	**+0.5**
GDZ	**Gediz**	**0.28**	**92**	*i* P	**Pg**	**16 46 18.8**	**+0.1**
GDZ				*i* S	**Sg**	**16 46 23.1**	**+0.5**
DEMI	**Demirci**	**0.33**	**260**	P	**Pg**	**16 46 19.2**	**-0.4**
DEMI				S	**Sg**	**16 46 24.1**	**0.0**
DEMI	**Demirci**	**0.33**	**260**	*i* P	**Pg**	**16 46 19.2**	**-0.4**
DEMI				*i* S	**Sg**	**16 46 24.1**	**0.0**
TVSB	**Tavsanli**	**0.43**	**36**	*e*PG	**Pg**	**16 46 21.5**	**-0.1**
TVSB				*e*SG	**Sg**	**16 46 26.8**	**-0.6**
TVSB	**Tavsanli**	**0.43**	**36**	*e*Pg	**Pg**	**16 46 21.5**	**-0.1**
TVSB				*e*Sg	**Sg**	**16 46 26.8**	**-0.6**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*PG	**Pg**	**16 46 26.0**	**-0.3**
KULA				*e*SG	**Sg**	**16 46 35.5**	**+0.1**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg	**Pg**	**16 46 26.0**	**-0.3**
KULA				*e*Sg	**Sg**	**16 46 35.5**	**+0.1**
KHAL	**Karahalli**	**0.78**	**159**	P	**Pb**	**16 46 28.4**	**0.0**
KHAL				S	**Sb**	**16 46 38.8**	**-0.1**
KHAL	**Karahalli**	**0.78**	**159**	*i* P	**Pb**	**16 46 28.4**	**0.0**
KHAL				*i* S	**Sb**	**16 46 38.9**	**-0.1**
ORLT	**Orhaneli**	**0.96**	**349**	*e*PG	**Pb**	**16 46 31.6**	**+0.2**
ORLT				*e*SG	**Sn**	**16 46 45.7**	**0.0**
ORLT	**Orhaneli**	**0.96**	**349**	*e*Pg	**Pb**	**16 46 31.6**	**+0.2**
ORLT				*e*Sg	**Sn**	**16 46 45.7**	**0.0**
AKS	**Akhisar**	**1.05**	**258**	*e*PN	**Pn**	**16 46 33.4**	**+0.2**
AKS	**Akhisar**	**1.05**	**258**	*e*Pn	**Pn**	**16 46 33.4**	**+0.2**
IGD	**Bursa**	**1.16**	**3**	*i* P	**Pb**	**16 46 33.9**	**-0.9**
IGD				*i* S	**Sb**	**16 46 49.5**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*PN	**Pb**	**16 46 36.1**	**+0.2**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*Pn	**Pb**	**16 46 36.2**	**+0.2**
IZI	**Iznik**	**1.26**	**12**	*e*PN	**Pg**	**16 46 37.1**	**-0.1**
IZI	**Iznik**	**1.26**	**12**	*e*Pn	**Pg**	**16 46 37.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*PN	**Pg**	**16 46 37.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*Pn	**Pg**	**16 46 37.6**	**+0.1**
BORA	**Eskisehir**	**1.29**	**52**	P	**Pn**	**16 46 36.8**	**+0.2**
BORA				S	**Sg**	**16 46 54.3**	**-0.1**
BORA	**Eskisehir**	**1.29**	**52**	*i* P	**Pn**	**16 46 36.8**	**+0.2**
BORA				*i* S	**Sg**	**16 46 54.3**	**-0.1**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*PN	**Pg**	**16 46 38.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*Pn	**Pg**	**16 46 38.3**	**+0.3**
ARMT	**Armutlu**	**1.48**	**352**	*e*PN	**Pb**	**16 46 40.8**	**+0.6**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pb**	**16 46 40.8**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	*e*PN	**Pb**	**16 46 40.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	*e*Pn	**Pb**	**16 46 40.7**	**0.0**
GULT	**Gulveren**	**1.71**	**38**	*e*PN	**Pb**	**16 46 43.5**	**-0.6**
GULT	**Gulveren**	**1.71**	**38**	*e*Pn	**Pb**	**16 46 43.5**	**-0.6**

*ISK **03** 16:51:33.9, 39°.13N×29°.00E, h8km, MD2.5*
*ISCJB **03** 16:51:35.0±0.6, 39°.11N±0°.03×29°.02E±0°.04, h8km±6km, Error ellipse: s-maj=6.1km s-min=4.5km az=42.5*
*CSEM **03** 16:51:34.8±0.1, 39°.12N×29°.00E, h10km, ML2.6, Error ellipse: s-maj=3.6km s-min=2.6km az=120.0*
*DDA **03** 16:51:35.0, 39°.12N×29°.03E, h7km, Ml2.6*

ISC 03 16:51:35.0±0.9, 39°.12N±0°.03×29°.03E±0°.03, h15km±8km, n19, σ0s31/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**253**	P	**Pg**	**16 51 40.8**	**+0.2**
DEMI				S	**Sg**	**16 51 44.3**	**-0.1**
DEMI	**Demirci**	**0.26**	**253**	*i* P	**Pg**	**16 51 40.8**	**+0.2**
DEMI				*i* S	**Sg**	**16 51 44.3**	**-0.1**
GDZ	**Gediz**	**0.35**	**95**	P	**Pg**	**16 51 42.3**	**0.0**
GDZ				S	**Sg**	**16 51 47.5**	**+0.3**
GDZ	**Gediz**	**0.35**	**95**	*i* P	**Pg**	**16 51 42.4**	**0.0**
GDZ				*i* S	**Sg**	**16 51 47.5**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**45**	*e*PG	**Pg**	**16 51 44.0**	**-0.4**
TVSB				*e*SG	**Sg**	**16 51 50.4**	**-0.4**
TVSB	**Tavsanli**	**0.47**	**45**	*e*Pg	**Pg**	**16 51 44.1**	**-0.4**
TVSB				*e*Sg	**Sg**	**16 51 50.4**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG	**Pg**	**16 51 47.6**	**-0.5**
KULA				*e*SG	**Sg**	**16 51 56.9**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*Pg	**Pg**	**16 51 47.6**	**-0.5**
KULA				*e*Sg	**Sg**	**16 51 56.9**	**0.0**
KHAL	**Karahalli**	**0.83**	**154**	P	**Pg**	**16 51 51.0**	**-0.1**
KHAL				S	**Sg**	**16 52 02.0**	**0.0**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pg**	**16 51 51.0**	**-0.1**
KHAL				*i* S	**Sg**	**16 52 02.0**	**0.0**
IGD	**Bursa**	**1.15**	**7**	*i* P	**Pb**	**16 51 56.8**	**+0.2**
IGD				*i* S	**Sn**	**16 52 13.1**	**+0.9**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*PN	**Pg**	**16 51 59.0**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*Pn	**Pg**	**16 51 59.0**	**-0.1**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pn**	**16 51 57.8**	**-0.4**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pn**	**16 51 57.8**	**-0.4**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pg**	**16 52 00.6**	**-0.2**
BORA				S	**Sg**	**16 52 18.3**	**0.0**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pg**	**16 52 00.6**	**-0.2**
BORA				*i* S	**Sg**	**16 52 18.3**	**0.0**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pn**	**16 52 00.7**	**-0.1**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pn**	**16 52 00.7**	**-0.1**

*ISCJB **03** 16:52:52.3±0.7, 6°.82N±0°.05×73°.05W±0°.06, h154km±6km, Error ellipse: s-maj=12.0km s-min=5

JWT Wachi 2.25 84 ⇓P **Pn 16 58 08.3 -0.5**
JNU Nakatsue 2.44 218 Pn **Pn 16 58 12.1 +0.6**
74nm,0.3s,baz=114,slow=3.3,SNR=428
JNU Lg Lg 16 58 45.4
baz=148,slow=19
JNU LR LR 16 59 24.4
comp=Z,6μm,21.9s,baz=64,slow=47
JNU Nakatsue 2.44 218 ⇑P **Pn 16 58 12.1 +0.6**
JNU Nakatsue 2.44 218 *e*Pn **Pn 16 58 12.2 +0.6**
JNU *e*Sn **Sn 16 58 34.3 -6.6**
JHE Heguri 2.52 99 ⇓P **Pn 16 58 12.5 0.0**
JWM Minabe 2.54 118 ⇓P **Pn 16 58 12.1 -0.6**
JWY Kouya 2.56 109 ⇓P **Pn 16 58 13.5 +0.3**
JFM Mihama 2.75 80 P **Pn 16 58 15.5 -0.2**
JWZ Kozaga 2.96 120 P **Pn 16 58 17.9 -0.6**
JKN2 Miekihoku 3.09 105 P **Pn 16 58 20.0 -0.3**
JHD Hondo 3.34 220 ⇑P **Pn 16 58 24.9 +1.1**
JZO Okuchi 3.39 211 ⇑P **Pn 16 58 25.7 +1.1**
JIE Ise 3.40 100 ⇓P **Pn 16 58 24.4 -0.2**
INU Inuyama 3.58 84 *e*Pn **Pn 16 58 27.6 +0.6**
JGN Niukaw 3.96 72 ⇓P **Pn 16 58 32.6 +0.2**
JFU Fukue jima 2 4.05 235 ⇑P **Pn 16 58 34.4 +0.9**
TJN Taejon 4.50 288⇑ *e*P **Pn 16 58 38.3 -1.4**
KSRS Korea Array 4.51 303 Pn **Pn 16 58 38.9 -0.9**
8.5nm,0.3s,baz=120,slow=14,SNR=52
KSRS Sn **Sn 16 59 31.3 -0.3**
26nm,0.3s,baz=118,slow=24,SNR=13
KSRS LR LR 17 00 32.8
comp=Z,3μm,19.1s,baz=161,slow=40
KS15 Wonju Array Si 4.53 303 *e*Pn **Pn 16 58 39.1 -1.0**
KSAR Wonju Array Be 4.53 303 P **Pn 16 58 38.9 -1.2**
KSAR 16 59 31.3
KSAR Wonju Array Be 4.53 303 Pn **Pn 16 58 38.9 -1.2**
KSAR Sn **Sn 16 59 31.3 -0.9**
KS01 Wonju Array Si 4.54 303 *e*Pn **Pn 16 58 38.4 -1.8**
MJB9 Matsu-Tunnel 4.74 70 *e*Pn **Pn 16 58 44.0 +0.9**
MAJO Matsushiro 4.74 70⇓ *e*P **Pn 16 58 43.9 +0.9**
MAJO Matsushiro 4.74 70 *e*Pn **Pn 16 58 44.0 +0.9**
MAT Matsushiro 4.74 70 P **Pn 16 58 44.0 +1.0**
MAT *e*S **Sn 16 59 39.8 +2.3**
MJAR Matsushiro Arr 4.74 70 Pn **Pn 16 58 44.5 +1.4**
8.8nm,0.3s,baz=252,slow=13,SNR=108
MJAR Lg Lg 17 00 01.6
33nm,0.3s,baz=232,slow=31,SNR=14
MJAR LR LR 17 01 08.9
comp=Z,2μm,18.5s,baz=260,slow=44
JJN Nakama 4.89 64 ⇓P **Pn 16 58 45.9 +0.8**
INCN Inchon 5.43 298 *e*Pn **Pn 16 58 49.6 -2.9**
INCN *e*Sn **Sn 16 59 50.4 -4.2**
JHJ Hachijo jima 2 6.22 106 Pn **Pn 16 59 03.8 +0.5**
11nm,0.3s,baz=238,slow=6.2,SNR=4.8
JHJ2 Mitsune 6.25 106 *e*Pn **Pn 16 59 02.4 -1.4**
USRK Ussuriysk Ar. 9.13 357 Pn **Pn 16 59 43.7 +0.4**
2.1nm,0.3s,baz=184,slow=16,SNR=26
USRK Sn **Sn 17 01 24.5 -0.9**
0.7nm,0.3s,baz=171,slow=20,SNR=3.5
USRK LR LR 17 02 46.8
comp=Z,998nm,21.1s,baz=173,slow=34
SNY Shenyang 9.81 316 ⇓P **Pn 16 59 56.4 +3.9**
SNY S **Sn 17 01 44.9 +2.9**
SNY PMZ
17nm,1.3s
SNY PMZ
99nm,7.3s
SNY LN
6μm,11.4s
SNY LE
5μm,11.2s
SNY LZ
5μm,9.2s
MDJ Mudanjiang 9.82 347 P **Pn 16 59 54.5 +1.8**
MDJ PMZ
7.0nm,0.4s
MDJ PMZ
240nm,6.5s
MDJ Mudanjiang 9.82 347 *e*Pn **Pn 16 59 53.5 +0.8**
CN2 Changchun 10.35 330 *e*P **Pn 17 00 01.0 +1.1**
CN2 *es*P 17 00 15.6
CN2 *e*S **Sn 17 01 53.0 -2.3**
CN2 PMZ
10.0nm,1.1s
CN2 PMZ
200nm,4.0s
CN2 LN
4μm,15.0s
CN2 LE
6μm,15.0s
ERM Erimo 10.75 47⇓ *e*P **Pn 17 00 09.6 +4.2**
ERM pmax pmax
comp=Z,15nm,0.7s
ERM Erimo 10.75 47 *e*Pn **Pn 17 00 08.1 +2.8**
comp=Z,55nm,0.9s
JCJ Chichijima 11.39 132 LR LR 17 03 34.0
comp=Z,405nm,20.8s,baz=94,slow=31
ASAJ Asahikawa 11.84 37 Pn Pn 17 00 24.9 +4.7
baz=270,slow=14
ASAJ Asahikawa 11.84 37 P Pn 17 00 25.0 +4.7
NJ2 Nanjing 11.90 259 *e*P **Pn 17 00 24.2 +2.9**
NJ2 S **Sn 17 02 40.4 +6.8**
NJ2 PMZ
comp=Z,26nm,0.8s
NJ2 LN
comp=Z,5μm,16.8s
NJ2 LE
comp=Z,3μm,17.4s
NJ2 LZ
comp=Z,3μm,16.8s
TIA Tai'an 12.69 280 *e*P **Pn 17 00 35.4 +3.3**
TIA S Sn 17 03 06.0 +13
TIA PMZ
comp=Z,20nm,1.8s
TIA LN
comp=Z,6μm,11.0s
TIA LE
comp=Z,5μm,13.7s
TIA LZ
comp=Z,6μm,15.5s
HABR Khabarovsk 13.51 7*ce*P **Pn 17 00 43.0 -0.1**
HABR *e*S **Sn 17 03 13.8 +1.2**
HABR pmax pmax
comp=E,49nm,1.5s
HABR pmax pmax
comp=N,81nm,1.5s
HABR pmax pmax
comp=Z,137nm,1.5s
HABR MLR MLR
comp=Z,493nm,12.0s
YUK Yuzh-Kuril'sk 13.54 45 *e*P **Pn 17 00 48.1 +4.5**
TATO Taipei 13.95 227 *e*Pn Pn 17 00 44.2 -5.1
comp=Z,87nm,1.2s
BJT Baijiatuau 13.98 296 P **Pn 17 00 50.6 +1.0**
BJT pmax pmax
comp=Z,81nm,1.1s
BJT Baijiatuau 13.98 296 Pn **Pn 17 00 50.6 +1.0**
comp=Z,81nm,1.1s
YSS Yuzh-Sakhalins 14.09 30⇑ *e*P **Pn 17 00 52.3 +1.3**
YSS *e*S **Sn 17 03 27.4 +0.6**
YSS MLR MLR
comp=Z,1μm,11.0s
YSS MLR MLR
comp=N,1μm,14.0s
YSS MLR MLR
comp=E,900nm,10.0s
YSS Yuzh-Sakhalins 14.09 30 *e*Pn **Pn 17 00 51.8 +0.7**
comp=E,60nm,1.2s
KLR Kul'dur 14.16 358 Pn **Pn 17 00 54.9 +2.9**
comp=E,0.8nm,0.3s,baz=187,slow=12,SNR=32
KLR LR LR 17 05 46.4
comp=E,621nm,19.2s,baz=171,slow=35
KLR Kul'dur 14.16 358*ce*P **Pn 17 00 54.2 +2.1**
SSLB Suanglung 15.17 225 *e*Pn **Pn 17 01 02.2 -3.6**
comp=E,49nm,1.4s
KUR Kuril'sk 15.41 44 *e*P **Pn 17 01 09.5 +0.7**
KUR S **Sn 17 03 54.0 -4.9**
KUR pmax pmax
comp=Z,239nm,3.5s
KUR pmax pmax
comp=Z,12nm,0.9s
KUR pmax pmax
comp=E,268nm,5.4s
KUR MLR MLR
comp=N,853nm,17.0s
KUR MLR MLR
comp=E,410nm,17.0s
KUR MLR MLR
comp=Z,793nm,17.0s
UGL Uglegorsk 15.62 24 *e*P **P 17 01 20.0 +4.4**
UGL pmax pmax
comp=Z,160nm,1.0s
UGL MLR MLR
comp=Z,1μm,15.0s
UGL MLR MLR
comp=N,450nm,16.0s
UGL MLR MLR
comp=E,700nm,16.0s
TPUB Ta-pu 15.73 225 *e*Pn **Pn 17 01 08.0 -5.2**
comp=E,34nm,1.2s
QZH Quanzhou 15.81 234⇓ *i*P **Pn 17 01 12.0 -2.1**
QZH S **Sn 17 04 07.0 -1.8**
QZH PMZ
comp=E,110nm,1.1s
QZH LN
comp=E,4μm,13.0s
QZH LE
comp=E,5μm,14.5s
QZH LZ
comp=E,3μm,10.0s
WHN Wuhan 16.04 259 ⇓P **P 17 01 19.4 -1.0**
WHN pP **pP 17 01 25.9 +0.1**
WHN S **Sn 17 04 17.7 +3.2**
WHN LN
comp=E,4μm,10.2s
WHN LE
comp=E,6μm,10.8s
WHN LZ
comp=E,9μm,10.7s
TYV Tymovskoe 17.37 22 *e*P **P 17 01 36.0 +1.0**
TYV pmax pmax
comp=N,26nm,1.0s
TYV pmax pmax
comp=Z,66nm,1.0s
HHC Hu-ho-hao-te 17.59 295 *e*P **Pn 17 01 37.0 +0.3**
HHC pP pP 17 01 42.9 -0.2
HHC sP sP 17 01 51.7 +6.1
HHC S **Sn 17 04 51.1 -1.1**
HHC sS S 17 05 02.9 +3.2
HHC PMZ
comp=Z,34nm,1.1s
HHC PMZ
comp=Z,360nm,4.2s
HHC LN
comp=Z,2μm,12.3s
HHC LE
comp=Z,2μm,9.5s
HHC LZ
comp=Z,2μm,9.0s
BTO Baotou 18.70 294 *e*P **Pn 17 01 52.6 +2.3**
NKL Nikolayevsk 18.95 15 *e*P **P 17 01 51.0 -1.3**
NKL pmax pmax
comp=Z,500nm,4.0s
NKL pmax pmax
comp=N,130nm,1.8s
NKL pmax pmax
comp=Z,220nm,1.8s
NKL MLR MLR
comp=N,600nm,13.0s
NKL MLR MLR
comp=E,600nm,13.0s
NKL MLR MLR
comp=Z,2μm,13.0s
XAN Xi'an 19.58 274 P **Pn 17 02 00.8 0.0**
XAN pP sP 17 02 10.8 +3.4
XAN sP pP 17 02 16.8 +12
XAN S **Sn 17 05 44.5 +4.4**
XAN PMZ
comp=Z,11nm,1.0s
XAN PMZ
comp=Z,190nm,4.1s
XAN LN
comp=Z,2μm,13.0s
XAN LE
comp=Z,2μm,13.0s
XAN LZ
comp=Z,3μm,15.3s
CIT Chita 21.77 327 *e*P **P 17 02 19.4 -3.7**
CIT *e* 17 02 33.0
CIT *e* 17 02 44.0
CIT *e* 17 02 57.6
CIT pmax pmax
comp=Z,81nm,1.5s
CLNS Chul'man 22.40 349 *e*P **P 17 02 28.1 -1.7**
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,22nm,1.5s
CLNS pmax pmax
comp=N,29nm,1.5s
ULN Ulaanbaatar 22.93 312*d i*P **P 17 02 36.0 +0.4**
ULN pmax pmax
comp=Z,40nm,1.0s
ULN Ulaanbaatar 22.93 312 P **P 17 02 32.8 -2.8**
comp=Z,40nm,1.0s
SONA1 Songino Array 23.32 311 *e*P **P 17 02 38.5 -1.1**
SONM Songino Array 23.32 311 P **P 17 02 39.4 -0.2**
comp=Z,24nm,0.9s,baz=114,slow=10,SNR=48
SONM LR LR 17 11 24.2
comp=Z,748nm,20.1s,baz=110,slow=36
TGY Tagaytay City 23.41 210 LR LR 17 13 02.4
comp=Z,175nm,19.0s,baz=345,slow=40
LZH Lanzhou 23.43 281 ⇑P **P 17 02 41.5 +0.7**
LZH pP sP 17 02 52.0 +3.1
LZH sP pP 17 02 57.1 +11
LZH PP **PnPn 17 03 12.5 +5.3**
LZH *e*S **S 17 06 47.0 -6.2**
LZH sS sS 17 07 04.0 +1.1
LZH SS **SnSn 17 07 35.1 +6.2**
LZH PMZ
comp=Z,52nm,1.0s
LZH PMZ
comp=Z,320nm,5.3s
LZH LN
comp=Z,3μm,11.0s
LZH LE
comp=Z,2μm,10.6s
LZH LZ
comp=Z,3μm,12.5s
GYA Guiyang 23.88 256⇑ *i*P **P 17 02 45.2 0.0**
GYA pP sP 17 02 54.7 +1.3
GYA PP **PnPn 17 03 18.6 +5.2**
GYA PcP **PcP 17 06 30.0 +2.2**
GYA S **S 17 06 52.4 -8.1**
GYA sS sS 17 07 11.9 +1.8
GYA SS **SnSn 17 07 44.4 +4.3**
GYA ScP **ScP 17 10 03.6 -1.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,630nm,15.0s
GYA LE
comp=Z,540nm,15.8s
GYA LZ
comp=Z,570nm,16.0s
CD2 Chengdu 24.56 268 P **P 17 02 51.3 0.0**
CD2 pP sP 17 03 02.1 +2.6
CD2 sP pP 17 03 07.1 +10
CD2 S **S 17 07 08.4 -2.8**
CD2 sS sS 17 07 26.9 +6.1
CD2 PMZ
comp=Z,50nm,0.5s
CD2 PMZ
comp=Z,270nm,5.8s
CD2 LN
comp=Z,4μm,14.9s
CD2 LE
comp=Z,2μm,11.9s
CD2 LZ
comp=Z,3μm,11.4s
PEA0 Petropavlovsk- 25.25 37 *e*P **P 17 02 58.8 +1.5**
PETK Petropavlovsk- 25.25 37 P **P 17 02 59.9 +2.5**
comp=Z,9.0nm,0.9s,baz=242,slow=6.2,SNR=8.0
PETK LR LR 17 11 59.6
comp=Z,661nm,21.7s,baz=206,slow=34
PET Petropavlovsk 25.68 38 *e*P **P 17 03 01.7 +0.6**
PET *e*S **S 17 07 24.6 -4.0**
PET pmax pmax
comp=Z,25nm,1.1s
PET MLR MLR
comp=Z,800nm,15.0s
PET MLR MLR
comp=Z,600nm,14.0s
QIZ Qiongzhong 25.76 238 P **P 17 03 05.0 +2.8**
QIZ S **S 17 07 31.5 +1.1**
QIZ PMZ
comp=Z,120nm,8.9s
QIZ LN
comp=Z,2μm,12.5s
QIZ LE
comp=Z,1μm,13.5s
QIZ LZ
comp=Z,990nm,13.5s
ZAK Zakamensk 26.23 315 *e*P **P 17 03 07.3 +1.0**
ZAK pmax pmax
comp=Z,12nm,1.5s
GTA Gaotai 26.42 289 *e*P **P 17 03 08.0 -0.2**
GTA pP sP 17 03 18.8 +2.3
GTA sP pP 17 03 22.7 +8.7
GTA S **S 17 07 37.8 -3.1**
GTA sS sS 17 07 52.8 +2.2
GTA PMZ
comp=Z,66nm,4.3s
GTA LN
comp=Z,2μm,14.3s
GTA LE
comp=Z,2μm,13.3s
GTA LZ
comp=Z,2μm,14.3s
IRK Irkutsk 26.52 319 *e*P **P 17 03 08.0 -0.8**
IRK pmax pmax
comp=Z,53nm,2.4s
TLY Talaya 26.59 318 P **P 17 03 10.7 +1.2**
comp=Z,6.6nm,0.8s,baz=158,slow=5.6,SNR=17
TLY LR LR 17 13 03.1
comp=Z,262nm,19.9s,baz=119,slow=35
TLY Talaya 26.59 318 *e*P **P 17 03 10.8 +1.3**
TLY pmax pmax
comp=Z,20nm,1.0s
TLY MLR MLR
comp=Z,423nm,11.0s
TLY Talaya 26.59 318 *e*P **P 17 03 08.1 -1.4**
comp=Z,17nm,1.0s
YAK Yakutsk 27.05 357 P **P 17 03 12.7 -0.6**
comp=Z,1.1nm,0.4s,baz=356,slow=23,SNR=11
YAK LR LR 17 12 38.7
comp=Z,433nm,20.5s,baz=186,slow=33
YAK Yakutsk 27.05 357 *e*P **P 17 03 11.5 -1.9**
YAK pmax pmax
comp=Z,27nm,1.4s
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK Yakutsk 27.05 357 *e*P **P 17 03 11.4 -2.0**
comp=E,62nm,1.5s
MA2 Magadan 27.23 20 P **P 17 03 16.0 +0.9**
comp=E,9.5nm,0.9s,baz=230,slow=6.9,SNR=5.9
MA2 LR LR 17 14 57.3
comp=E,409nm,18.4s,baz=224,slow=38
MA2 Magadan 27.23 20 P **P 17 03 16.0 +0.9**
KMI Kunming 27.63 257 P **P 17 03 22.7 +3.4**
KMI pP sP 17 03 32.1 +4.5
KMI sP pP 17 03 36.1 +11
KMI PP **PnPn 17 04 08.6 +3.8**
KMI S **S 17 08 00.6 +0.2**
KMI sS sS 17 08 20.2 +10
KMI SS **SnSn 17 09 23.1 +11**
KMI PMZ
comp=E,40nm,1.2s
KMI PMZ
comp=E,310nm,8.2s
KMI LN
comp=E,1μm,11.1s
KMI LE
comp=E,2μm,13.5s
KMI LZ
comp=E,3μm,14.4s
DAV Davao City (W) 28.62 195 LR LR 17 16 03.6
comp=E,372nm,18.1s,baz=4.5,slow=39
SEY Seymchan 30.47 18*ce*P **P 17 03 45.4 +1.6**
MYLDM Lahad Datu 32.50 207 *e*P **P 17 04 04.4 +2.3**
comp=E,29nm,1.2s
CHTO Chiang Mai 33.94 250 *e*P **P 17 04 11.7 -3.0**
CHTO pmax pmax
comp=Z,6.0nm,1.2s
CHTO Chiang Mai 33.94 250 *e*P **P 17 04 11.7 -3.0**
comp=Z,5.8nm,1.2s
CMAR Chiang Mai Arr 34.15 250 P **P 17 04 15.8 -0.8**
comp=Z,1.5nm,0.9s,baz=54,slow=5.2,SNR=9.9
CMAR LR LR 17 18 38.6
comp=Z,495nm,18.8s,baz=48,slow=37
WMQ Urumqi 35.44 298 P **P 17 04 30.5 +2.9**
WMQ pP sP 17 04 39.7 +3.8
WMQ sP pP 17 04 44.0 +11
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,74nm,4.4s
WMQ LN
comp=Z,670nm,12.8s
WMQ LE
comp=Z,450nm,12.8s
WMQ LZ
comp=Z,300nm,20.6s
SWI Sorong 35.77 182 P **P 17 04 33.8 +3.3**
SWI pmax pmax
comp=Z,20nm,0.9s
TIXI Tiksi 36.70 358⇑ *e*P **P 17 04 37.4 -0.5**
TIXI pmax pmax
comp=Z,11nm,1.0s
TIXI Tiksi 36.70 358 *e*P **P 17 04 36.1 -1.7**
comp=Z,16nm,1.3s
PCI Palu 37.75 201 P **P 17 04 48.9 +1.5**
PCI pmax pmax
comp=Z,23nm,1.3s
BILL Bilibino 38.10 20*d i*P **P 17 04 50.7 +0.9**
BILL pmax pmax
comp=Z,63nm,1.7s
BILL MLR MLR
comp=Z,310nm,15.0s
BILL Bilibino 38.10 20 *e*P **P 17 04 48.0 -1.8**
comp=Z,51nm,1.3s
ZAA0 Zalesovo Array 38.11 315 *e*P **P 17 04 49.0 -1.0**
ZALV Zalesovo Beam 38.11 315 P **P 17 04 49.5 -0.6**
comp=Z,6.6nm,0.8s,baz=102,slow=6.8,SNR=23
ZALV PcP **PcP 17 07 04.0 -0.8**
comp=Z,3.9nm,0.7s,baz=81,slow=2.8,SNR=8.9
NVS Novosibirsk 39.18 316 *e*P **P 17 04 57.7 -1.3**
MK01 Makanchi Array 39.18 303 *e*P **P 17 04 58.5 -0.7**
MK31 Makanchi Array 39.19 303*ce*P **P 17 04 57.8 -1.5**
MK31 pmax pmax
comp=E,8.0nm,1.1s
MK31 Makanchi Array 39.19 303 *e*P **P 17 04 59.0 -0.3**
MKAR Makanchi Array 39.19 303 P **P 17 04 58.9 -0.4**
comp=Z,3.4nm,0.8s,baz=92,slow=9.0,SNR=29
MKAR PcP **PcP 17 07 07.4 -0.9**
comp=Z,1.8nm,1.0s,baz=98,slow=6.0,SNR=3.5
MAKZ Makanchi 39.40 303 *e*P **P 17 05 00.9 -0.2**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 39.40 303 *e*P **P 17 05 00.9 -0.2**
comp=Z,5.8nm,0.8s
MANU Manus Island 39.41 156 *e*P **P 17 05 02.1 +0.8**
comp=Z,14nm,0.8s
GUN Gumba 40.23 273 *e*P **P 17 05 08.5 -0.1**
comp=Z,21nm,0.7s
KKN Kakani 40.77 273 *e*P **P 17 05 11.9 -1.0**
GKN Gorkha 41.22 274 *e*P **P 17 05 15.8 -0.7**
comp=Z,36nm,1.2s
PDGK Podgornoye 41.42 298 *i* P **P 17 05 16.1 -1.6**
PDGK pmax pmax
comp=Z,12nm,1.1s
KURK Kurchatov 41.60 309 P **P 17 05 16.7 -2.4**
KURK pmax pmax
comp=Z,23nm,1.0s
KURK Kurchatov 41.60 309 P **P 17 05 16.7 -2.4**
comp=Z,23nm,1.0s
KOLN Koldanda 42.15 274 *e*P **P 17 05 23.9 -0.3**
comp=Z,12nm,0.9s
NRIK Noril'sk 42.25 338 P **P 17 05 22.2 -1.9**
comp=Z,3.1nm,0.9s,baz=108,slow=8.5,SNR=4.5
NRIK Noril'sk 42.25 338 P **P 17 05 22.3 -1.9**
NRIK pmax pmax
comp=Z,2.0nm,0.5s
PYUN Piuthan 42.53 275 *e*P **P 17 05 27.1 -0.1**
comp=Z,58nm,0.8s
TKM2 Tokmak 2 44.30 298 *i* P **P 17 05 41.4 0.0**

TKM2 pmax pmax
comp=Z,14nm,1.0s
TKM2 Tokmak 2 44.30 298 *e*P **P 17 05 40.8 -0.5**
comp=Z,14nm,0.9s
KSH Kashi 44.69 293 P **P 17 05 47.7 +3.3**
KSH pP sP 17 05 59.6 +6.8
KSH PcP **PP 17 07 28.4 -0.3**
KSH PP **PcP 17 07 32.8 +6.1**
KSH S **S 17 12 17.3 -2.8**
KSH ScS **SS 17 15 38.6 -1.8**
KSH PMZ
comp=Z,5.0nm,0.3s
KSH PMZ
comp=Z,62nm,3.0s
KSH LN
comp=Z,1μm,15.7s
KSH LE
comp=Z,1μm,15.4s
KSH LZ
comp=Z,1μm,15.5s
FRU Bishkek 45.02 298 *e*P **P 17 05 45.0 -1.9**
FRU *e* 17 07 32.0
AAK Ala-Archa 45.15 298 LR LR 17 24 23.8
comp=Z,769nm,18.5s,baz=24,slow=36
AAK Ala-Archa 45.15 298*de*P **P 17 05 46.9 -1.2**
AAK pmax pmax
comp=Z,9.0nm,0.6s
AAK Ala-Archa 45.15 298 *e*P **P 17 05 47.5 -0.6**
comp=Z,6.3nm,1.0s
SOEI Soe 45.28 192 *e*P P 17 05 44.8 -4.5
comp=Z,60nm,0.9s
EKS2 Erkin-Say 45.66 298 *e*P **P 17 05 49.6 -2.5**
EKS2 pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 45.66 298 *e*P **P 17 05 49.6 -2.5**
comp=Z,4.4nm,0.9s
OTUK Ortayu 45.82 306 P **P 17 05 53.1 -0.1**
OTUK pmax pmax
comp=Z,14nm,0.9s
VOSK Vostochnaya 46.31 312 P **P 17 05 54.3 -2.7**
VOSK pmax pmax
comp=Z,11nm,1.2s
MNAS Manas 46.62 298 P **P 17 06 00.0 +0.3**
MNAS pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 46.72 313 *e*P **P 17 05 57.8 -2.3**
BRVK pmax pmax
comp=Z,23nm,0.9s
BRVK Borovoye 46.72 313 *e*P **P 17 05 57.8 -2.3**
comp=Z,23nm,0.9s
ZRNK Zerenda 47.49 313 *i*P **P 17 06 04.9 -1.3**
ZRNK pmax pmax
comp=Z,18nm,1.0s
ZRNK Zerenda 47.49 313 *e*P **P 17 06 05.3 -0.9**
comp=Z,19nm,1.0s
MTN Manton Dam 47.67 182 *e*P **P 17 06 07.4 -0.4**
comp=Z,29nm,0.7s
KK31 Karatay Array 47.92 299*ce*P **P 17 06 09.2 -0.5**
KK31 pmax pmax
comp=Z,19nm,0.9s
KKAR Karatay Array 47.92 299 *e*P **P 17 06 08.8 -0.9**
KKAR Karatay Array 47.92 299 *e*P **P 17 06 08.8 -0.9**
TT01 Tatalina 51.03 34 *e*P **P 17 06 35.5 +2.4**
TTA Tatalina 51.04 34 *e*P **P 17 06 35.7 +2.5**
TTA pmax pmax
comp=Z,30nm,1.5s
TTA Tatalina 51.04 34 *e*P **P 17 06 35.7 +2.5**
comp=Z,30nm,1.5s
SVE Sverdlovsk 51.90 318⇑ *i*P **P 17 06 38.9 -0.8**
SVE pmax pmax
comp=Z,32nm,1.0s
CAST Castle Rocks 52.79 33 *e*P **P 17 06 48.6 +2.5**
comp=Z,15nm,0.9s
PPLA Purkeypile 52.79 34 *e*P **P 17 06 47.3 +0.9**
comp=Z,77nm,1.4s
SPU Mount Spurr 53.03 36 *e*P **P 17 06 48.1 +0.1**
ARU Arti 53.10 318*c i*P **P 17 06 47.1 -1.4**
ARU 17 07 55.2
ARU S **S 17 14 16.6 -1.0**
ARU SS **SS 17 17 49.3 -7.2**
ARU pmax pmax
comp=Z,31nm,1.0s
ARU Arti 53.10 318 *e*P **P 17 06 44.9 -3.6**
comp=Z,27nm,0.9s
BPAW Bear Paw Mtn. 53.21 32 *e*P **P 17 06 51.1 +1.8**
comp=Z,9.2nm,1.4s
COLD Coldfoot 53.27 28 *e*P **P 17 06 49.0 -0.7**
comp=Z,7.8nm,0.9s
KTH Kantishna Hill 53.29 33 *e*P **P 17 06 49.8 -0.1**
comp=Z,86nm,1.3s
FITZ Fitzroy Crossi 53.30 188 *e*P P 17 06 43.8 -6.5
comp=Z,7.7nm,0.8s
SOKR Solikamsk 53.53 322⇑ *i*P **P 17 06 48.7 -2.9**
SOKR pmax pmax
comp=Z,25nm,0.9s
SOKR MLR MLR
comp=Z,213nm,13.0s
ABKAR Akbulak array 53.72 309 *e*P **P 17 06 51.9 -1.3**
comp=Z,2.5nm,0.6s
BWN Browne 53.86 32 *e*P **P 17 06 57.3 +3.3**
comp=Z,107nm,1.0s
MCK McKinley 54.15 33 *e*P **P 17 06 57.3 +1.1**
MCK pmax pmax
comp=Z,33nm,1.1s
MCK McKinley 54.15 33 *e*P **P 17 06 57.3 +1.1**
comp=Z,33nm,1.1s
RC01 Rabbit Creek A 54.16 36 *e*P **P 17 06 54.5 -1.8**
comp=Z,80nm,1.5s
RND Reindeer 54.23 33 *e*P **P 17 06 58.5 +1.7**
RND pmax pmax
comp=Z,53nm,1.1s
RND Reindeer 54.23 33 *e*P **P 17 06 58.5 +1.7**
comp=Z,52nm,1.1s
MDM Murphy Dome 54.30 31 *e*P **P 17 06 59.5 +2.3**
comp=Z,47nm,1.0s
SEW Seward 54.46 37 *e*P **P 17 06 58.0 -0.4**
comp=Z,38nm,1.0s
WRAB Tennant Creek 54.73 178⇓ *e*P **P 17 06 59.5 -1.2**
WRAB pmax pmax
comp=Z,40nm,1.7s
WRAB Tennant Creek 54.73 178 *e*P **P 17 07 00.2 -0.5**
comp=Z,7.2nm,0.8s
WRA Warramunga Arr 54.73 178 P **P 17 06 60.0 -0.8**
comp=Z,4.0nm,0.5s,baz=354,slow=7.7,SNR=46
WRA Warramunga Arr 54.73 178 P **P 17 07 00.0 -0.8**
WB2 Warramunga Arr 54.73 178 *e*P **P 17 07 00.4 -0.4**
comp=Z,8.6nm,0.8s
IL1 Eielson Array 54.89 31 *e*P **P 17 07 02.3 +0.8**
ILAR Eielson Array 54.89 31 P **P 17 07 02.8 +1.2**
comp=Z,8.2nm,0.9s,baz=269,slow=3.5,SNR=37
ILAR LR LR 17 31 11.7
comp=Z,231nm,19.6s,baz=287,slow=37
ILB Eielson Array 54.89 31 *e*P **P 17 07 02.7 +1.2**
DHY Denali Highway 54.94 33 *e*P **P 17 07 04.0 +1.9**
comp=Z,26nm,1.0s
SCM Sheep Creek Mo 55.18 35 *e*P **P 17 07 06.1 +2.4**
SCM pmax pmax
comp=Z,93nm,1.4s
SCM Sheep Creek Mo 55.18 35 *e*P **P 17 07 06.1 +2.4**
comp=Z,93nm,1.4s
FYU Fort Yukon 55.30 29 *e*P **P 17 07 08.9 +4.6**
comp=Z,86nm,1.5s
KLU Klutina 55.90 35 *e*P **P 17 07 11.3 +2.4**
comp=Z,21nm,1.2s
DOT Dot Lake 56.31 32 *e*P **P 17 07 13.3 +1.5**
comp=Z,86nm,1.3s
RAGM Ragged Mountai 56.73 36 *e*P **P 17 07 17.7 +2.9**
comp=Z,79nm,1.4s
EGAK Eagle 57.30 31 *e*P **P 17 07 19.1 +0.4**
comp=Z,59nm,1.8s
CRQM Cirque 57.38 35 *e*P **P 17 07 22.2 +2.6**
comp=Z,81nm,1.6s
AS31 Alice Springs 58.43 179 *e*P **P 17 07 29.9 +2.8**
comp=Z,1.2nm,0.8s
AS01 Alice Springs 58.43 179 *e*P **P 17 07 26.1 -0.9**
ASAR Alice Springs 58.43 179 P **P 17 07 26.8 -0.3**
comp=Z,3.4nm,0.9s,baz=6.8,slow=6.3,SNR=15
ASAR LR LR 17 31 09.8
comp=Z,90nm,20.3s,baz=18,slow=34
GEYT Alibeck 58.47 297 P **P 17 07 27.4 0.0**
comp=Z,9.1nm,0.8s,baz=62,slow=3.5,SNR=17
GEYT LR LR 17 33 12.5
comp=Z,536nm,19.0s,baz=330,slow=37
KLMR Klimovskoe 61.52 326 *e*P **P 17 07 45.1 -2.8**
KLMR *e* 17 08 26.3
KLMR *e* 17 10 00.4

KLMR pmax pmax
comp=Z,29nm,1.5s
ARCES ARCESS Array B 63.23 338 P **P 17 07 58.8 -0.5**
comp=Z,4.0nm,0.8s,baz=64,slow=8.2,SNR=7.9
ARCES LR LR 17 38 50.0
comp=Z,131nm,18.8s,baz=64,slow=39
MOS Moscow 64.47 321 *e*P **P 17 08 05.3 -2.2**
MOS *e* 17 08 44.7
MOS pmax pmax
comp=Z,47nm,0.9s
LPSR Galich'ya Gora 65.12 318 *e*P **P 17 08 10.5 -1.4**
LPSR pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 65.28 321*d i*P **P 17 08 11.3 -1.5**
OBN *i* 17 08 17.7
OBN pmax pmax
comp=Z,53nm,1.7s
OBN MLR MLR
comp=Z,295nm,14.0s
VSR Storozhevoye 65.59 316 *e*P **P 17 08 13.5 -1.4**
VSR pmax pmax
comp=Z,60nm,1.1s
GOF Gofitskoye 65.96 309⇑ *e*P **P 17 08 16.0 -1.4**
GUDG Gudauri 66.17 306 P **P 17 08 19.3 +0.1**
NCK Nalchik 66.29 307⇓ *e*P **P 17 08 19.1 -0.6**
NCK pmax pmax
comp=Z,10.0nm,1.0s
ZEI Tsey 66.41 307 *e*P **P 17 08 18.6 -2.0**
ZEI pmax pmax
comp=Z,39nm,0.8s
KBZ Khabaz 66.64 308 P **P 17 08 21.6 -0.2**
comp=Z,22nm,0.9s,baz=84,slow=2.5,SNR=34
KBZ LR LR 17 37 49.8
comp=Z,370nm,19.9s,baz=70,slow=36
KIV Kislovodsk 66.68 308*c i*P **P 17 08 21.4 -0.8**
KIV *i* 17 08 29.2
KIV pmax pmax
comp=Z,47nm,1.0s
KIV MLR MLR
comp=Z,444nm,18.0s
KIV Kislovodsk 66.68 308 *e*P **P 17 08 21.6 -0.6**
comp=Z,46nm,1.0s
ONI Oni 66.79 307 P **P 17 08 22.7 -0.3**
ONI Oni 66.79 307 P **P 17 08 22.6 -0.3**
NEY Neytrino 66.97 307*d i*P **P 17 08 24.3 +0.1**
NEY pmax pmax
comp=Z,4.0nm,1.0s
GNI Garni 67.03 304*c i*P **P 17 08 24.6 0.0**
GNI pmax pmax
comp=Z,17nm,0.8s
FIA1 FINESS Array S 67.10 330 *e*P **P 17 08 22.9 -1.5**
FINES FINESS Array B 67.10 330 P **P 17 08 23.2 -1.2**
comp=Z,3.5nm,0.6s,baz=72,slow=6.2,SNR=22
FINES LR LR 17 40 45.2
comp=Z,157nm,18.5s,baz=65,slow=39
STKA Stephens Creek 67.12 172 P **P 17 08 22.8 -2.0**
comp=Z,4.7nm,0.7s,baz=2.6,slow=8.7,SNR=3.4
STKA LR LR 17 40 25.3
comp=Z,49nm,18.1s,baz=15,slow=38
STKA Stephens Creek 67.12 172 P **P 17 08 22.8 -2.0**
STKA pmax pmax
comp=Z,7.0nm,0.7s
STKA MLR MLR
comp=Z,49nm,18.1s
STKA Stephens Creek 67.12 172 *e*P **P 17 08 26.6 +1.8**
comp=Z,1.7nm,0.6s
VSU Vasula 68.39 327⇑ *i*P **P 17 08 31.6 -1.0**
VSU pmax pmax
comp=Z,79nm,1.1s
YKW3 Yellowknife Ar 68.89 27 *e*P **P 17 08 37.4 +1.8**
comp=Z,36nm,1.6s
YKA Yellowknife Ar 68.93 27 P **P 17 08 36.8 +0.9**
comp=Z,3.2nm,0.7s,baz=303,slow=6.6,SNR=22
YKA LR LR 17 42 45.3
comp=Z,12nm,18.2s,baz=0.0,slow=39
YKB5 Yellowknife Ar 68.93 27 *e*P **P 17 08 36.6 +0.7**
ANN Anapa 69.61 311 *e*P **P 17 08 39.9 -0.5**
ANN *e**PP **sP 17 08 49.6 +0.6**
ANN *e* 17 09 01.1
ANN *e*S **S 17 17 46.7 -0.9**
ANN pmax pmax
comp=Z,37nm,1.1s
ANN MLR MLR
comp=N,422nm,19.0s
ANN MLR MLR
comp=E,220nm,19.0s
ANN MLR MLR
comp=Z,391nm,19.0s
NACGM Naroch 70.28 324 *e* P **17 08 42.0 -2.4**
NACGM *e*LQ LQ 17 34 42.0
NACGM *e*LR LR 17 39 05.0
AKASG Malin Array Be 71.32 319 P **P 17 08 49.0 -1.8**
comp=Z,6.3nm,0.6s,baz=51,slow=6.6,SNR=34
AKASG LR LR 17 44 56.9
comp=Z,142nm,18.8s,baz=35,slow=40
AKASG Malin Array Be 71.32 319*ce*P **P 17 08 49.0 -1.8**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKBB Malin Array Si 71.32 319 *e*P **P 17 08 49.3 -1.5**
AKBB pmax pmax
comp=Z,25nm,1.1s
AKBB Malin Array Si 71.32 319 *e*P **P 17 08 49.3 -1.5**
comp=Z,24nm,1.1s
KIEV Kiev 71.33 319*d i*P **P 17 08 49.1 -1.7**
KIEV pmax pmax
comp=Z,16nm,1.0s
KIEV Kiev 71.33 319 *e*P **P 17 08 48.4 -2.4**
comp=Z,26nm,1.2s
AK11 Malin Array Si 71.36 319 *e*P **P 17 08 49.4 -1.7**
SIM Simferopol' 71.57 312 *e*P **P 17 08 51.2 -1.2**
SIM pmax pmax
comp=Z,15nm,0.9s
SIM MLR MLR
comp=Z,250nm,17.0s
SUMG Summit 72.47 357 *e*P **P 17 08 58.9 +1.1**
SUMG pmax pmax
comp=Z,23nm,1.3s
SUMG Summit 72.47 357 *e*P **P 17 08 58.9 +1.1**
comp=Z,22nm,1.3s
SUW Suwalki 72.52 324 *e*P **P 17 08 58.6 +0.7**
SUW Suwalki 72.52 324 *e*P **P 17 08 58.6 +0.7**
NC405 NORSAR Array S 72.83 334 *e*P **P 17 08 59.8 +0.1**
NB2 NORSAR Subarra 73.06 334 P **P 17 08 58.9 -2.2**
comp=Z,2.7nm,0.8s,baz=45,slow=6.2
NOA NORSAR Array B 73.06 334 P **P 17 08 59.5 -1.6**
comp=Z,2.3nm,0.8s,baz=46,slow=6.2,SNR=8.1
NOA LR LR 17 43 36.5
comp=Z,61nm,19.3s,baz=95,slow=38
A04D Lummi Island 73.06 42 P **P 17 09 04.4 +3.2**
baz=304
NLWA Neilton Lookou 73.15 44 *e*P **P 17 09 05.0 +3.2**
comp=Z,25nm,1.2s
B05A Bryant 73.65 42 P **P 17 09 07.6 +2.9**
baz=305
B06A Marblemount 73.84 42 *e*P **P 17 09 08.1 +2.3**
comp=Z,15nm,0.9s
LVV L'vov 74.57 320 *e*P **P 17 09 07.6 -2.5**
BR131 Keskin Array S 74.64 308 *e*P **P 17 09 10.1 -0.8**
BRTR Keskin Array B 74.64 308 P **P 17 09 09.9 -0.8**
comp=Z,10nm,1.0s,baz=93,slow=4.9,SNR=30
BRTR LR LR 17 45 00.5
comp=Z,184nm,19.0s,baz=46,slow=38
BRTR Keskin Array B 74.64 308*ce*P **P 17 09 10.0 -0.8**
BRTR pmax pmax
comp=Z,10.0nm,1.0s
B08A Colville Reser 75.10 41 *e*P **P 17 09 15.4 +2.2**
comp=Z,20nm,1.1s
BR231 Keskin MP Arra 75.13 308 *e*P **P 17 09 10.2 -3.5**
BUR08 Bucovina Ar. S 75.23 318 *e*P **P 17 09 13.4 -0.7**
BURAR Bucovina Array 75.23 318⇑ *i*P **P 17 09 13.1 -1.0**
BURAR Bucovina Array 75.23 318 P **P 17 09 13.1 -1.0**
KWP Kalwaria Pacla 75.37 321 *e*P **P 17 09 14.4 -0.3**
KWP Kalwaria Pacla 75.37 321⇓ *i*P **P 17 09 14.3 -0.4**
KWP Kalwaria Pacla 75.37 321 *e*P **P 17 09 14.4 -0.3**
VRI Vrincioaia 75.41 316 P **P 17 09 15.3 +0.3**
VRI pmax pmax
comp=Z,91nm,1.2s
UMPQ Umpqua Communi 75.77 47 *e*P **P 17 09 18.6 +1.5**
C09A Chrisman Ranch 76.00 41 *e*P **P 17 09 21.5 +3.1**
comp=Z,43nm,1.5s
KOLS Kolonicke sedl 76.02 320 *e*P **P 17 09 17.0 -1.5**
KOLS pmax pmax
comp=Z,8.0nm,1.3s
KOLS Kolonicke sedl 76.02 320 *e*P **P 17 09 17.0 -1.5**
ARCR ARCALIA 76.02 318⇓ *i*P **P 17 09 18.9 +0.4**

I04A Tendick Farm, 76.03 46 P **P 17 09 21.1 +2.5**
baz=306
MLR Muntele Rosu 76.08 316 *e*P **P 17 09 18.9 -0.1**
MLR pmax pmax
comp=Z,11nm,1.0s
MLR Muntele Rosu 76.08 316 *e*P **P 17 09 18.9 -0.1**
comp=Z,11nm,1.0s
UZH Uzhgorod 76.19 320 *e*P **P 17 09 19.6 +0.2**
UZH *e* 17 09 26.4
UZH *e* 17 09 37.2
STHS Stebnicka Huta 76.26 321 *e*P **P 17 09 19.8 0.0**
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 76.26 321 *e*P **P 17 09 19.8 0.0**
NEW Newport 76.34 40 P **P 17 09 22.3 +2.0**
baz=308
NEW Newport 76.34 40 *e*P **P 17 09 23.3 +3.0**
NEW pmax pmax
comp=Z,18nm,1.4s
NEW Newport 76.34 40 *e*P **P 17 09 23.2 +3.0**
comp=Z,18nm,1.4s
CRVS Cervenica-Dubn 76.46 321 *e*P **P 17 09 20.7 -0.3**
CRVS Cervenica-Dubn 76.46 321 *e*P **P 17 09 20.7 -0.3**
OJC Ojcow 76.49 322 *e*P **P 17 09 19.7 -1.4**
OJC Ojcow 76.49 322 *e*P **P 17 09 19.7 -1.4**
OJC Ojcow 76.49 322 *e*P **P 17 09 19.7 -1.4**
comp=Z,19nm,0.9s
CJR Cluj-Napoca 76.66 318⇓ *i*P **P 17 09 22.4 +0.2**
NIE Niedzica 76.74 322 *e*P **P 17 09 21.7 -0.9**
NIE Niedzica 76.74 322 *e*P **P 17 09 21.7 -0.9**
ARR Arges 76.89 317⇓ *i*P **P 17 09 23.8 +0.3**
J05D Fort Rock, OR 77.02 46 P **P 17 09 27.1 +2.7**
baz=306
DRGR 77.10 319⇑ *i*P **P 17 09 23.9 -0.8**
KECS Kecovo 77.23 321 *e*P **P 17 09 24.5 -0.8**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 77.23 321 *e*P **P 17 09 24.5 -0.8**
WALA Waterton Lakes 77.51 38 *e*P **P 17 09 29.9 +3.0**
comp=Z,45nm,1.8s
M04C Macdoel 77.54 48 P **P 17 09 30.2 +2.9**
baz=306
OKC Ostrava-Krasne 77.55 323 AMS AMS 17 46 30.0
comp=Z,500nm,14.9s
BSMT Bassoo Peak 77.82 40 *e*P **P 17 09 31.8 +2.9**
MORC Moravsky Berou 77.89 323⇑ *i*P **P 17 09 26.9 -2.1**
MORC Moravsky Berou 77.89 323 *e*P **P 17 09 28.5 -0.5**
MORC pmax pmax
comp=Z,30nm,0.9s
MORC Moravsky Berou 77.89 323 *e*P **P 17 09 28.5 -0.5**
comp=Z,30nm,0.9s
VYHS Vyhne 78.07 322 *e*P **P 17 09 29.0 -1.0**
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 78.07 322 *e*P **P 17 09 29.0 -1.0**
DPC Dobruska-Polom 78.11 324 *e*P **P 17 09 29.8 -0.4**
DPC *ex* x 17 09 38.0
DPC AMS AMS 17 48 00.0
comp=Z,400nm,13.0s
DPC Dobruska-Polom 78.11 324 *e*P **P 17 09 29.8 -0.4**
DPC *e* 17 09 38.0
DPC MLR MLR
comp=Z,400nm,13.0s
UPC Upice 78.15 324 *e*P **P 17 09 29.7 -0.7**
UPC AMS AMS 17 48 00.0
comp=Z,500nm,13.6s
UPC Upice 78.15 324 *e*P **P 17 09 29.7 -0.7**
UPC MLR MLR
comp=Z,500nm,13.6s
BMO Blue Mountains 78.33 43 *e*P **P 17 09 34.7 +3.0**
comp=Z,25nm,1.7s
O03D Paynes Creek 78.44 49 P **P 17 09 33.7 +1.4**
baz=306
SWMT Swartz Lake 78.45 39 *e*P **P 17 09 34.6 +2.4**
FCC Fort Churchill 78.74 23 *e*P **P 17 09 34.2 +0.8**
FCC pmax pmax
comp=Z,31nm,1.4s
FCC Fort Churchill 78.74 23 *e*P **P 17 09 34.2 +0.8**
comp=Z,31nm,1.4s
PVCC Panska Ves 78.82 325 AMS AMS 17 45 30.0
comp=Z,400nm,18.2s
BRG Berggiesshubel 78.88 326 *e*P **P 17 09 33.0 -1.4**
comp=Z,8.9nm,1.3s
BRG Berggiesshubel 78.88 326 *e*P **P 17 09 33.0 -1.4**
BRG pmax pmax
comp=Z,9.0nm,1.3s
MSO Missoula 78.92 40 P **P 17 09 36.5 +1.7**
baz=310
MSO Missoula 78.92 40 *e*P **P 17 09 37.3 +2.5**
comp=Z,14nm,1.3s
FFC Flin Flon 79.01 29 *e*P **P 17 09 35.8 +0.7**
FFC pmax pmax
comp=Z,75nm,1.9s
FFC Flin Flon 79.01 29 *e*P **P 17 09 35.8 +0.7**
comp=Z,75nm,1.9s
CLL Collm 79.02 326⇓ *i*P **P 17 09 33.9 -1.2**
comp=Z,14nm,0.9s
CLL *i* 17 09 42.0
CLL *i* 17 09 44.5
CLL LmH 17 41 00.0
comp=N,500nm,19.6s
CLL LmH 17 41 00.0
comp=E,500nm,18.1s
CLL Collm 79.02 326⇓ *i*P **P 17 09 33.9 -1.2**
CLL *i* 17 09 42.0
CLL *i* 17 09 44.5
CLL pmax pmax
comp=Z,14nm,0.9s
CLL Collm 79.02 326 *e*P **P 17 09 34.0 -1.2**
comp=Z,12nm,0.9s
WVOR Wild Horse Val 79.06 46 *e*P **P 17 09 38.9 +3.2**
WVOR pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 79.06 46 *e*P **P 17 09 38.9 +3.2**
comp=Z,3.7nm,0.9s
GOPC GO Pecny, Ondr 79.14 324 *e*P **P 17 09 35.2 -0.6**
GOPC AMS AMS 17 48 40.0
comp=Z,400nm,12.6s
GOPC GO Pecny, Ondr 79.14 324 *e*P **P 17 09 35.2 -0.6**
GOPC MLR MLR
comp=Z,400nm,12.6s
PRU Pruhonice 79.20 325 *e*P **P 17 09 35.4 -0.8**
PRU *ep*P **pP 17 09 42.8 +0.3**
PRU AMS AMS 17 48 40.0
comp=Z,300nm,14.6s
PRU Pruhonice 79.20 325 *e*P **P 17 09 35.4 -0.8**
PRU *e* 17 09 42.8
PRU MLR MLR
comp=Z,300nm,14.6s
TREC Trest 79.21 324 *e*P **P 17 09 35.6 -0.7**
TREC AMS AMS 17 48 00.0
comp=Z,400nm,16.0s
TREC Trest 79.21 324 *e*P **P 17 09 35.6 -0.7**
TREC MLR MLR
comp=Z,400nm,16.0s
CHMT Chamberlain Mo 79.22 40 *e*P **P 17 09 39.1 +2.5**
MFID Camas Ranch 80.06 43 *e*P **P 17 09 43.2 +2.0**
comp=Z,38nm,1.8s
KHC Kasperske Hory 80.25 324 *e*P **P 17 09 41.0 -0.9**
KHC Kasperske Hory 80.25 324 *e*P **P 17 09 41.0 -0.9**
PAHR Pah Rah Range 80.27 48 *e*P **P 17 09 45.5 +3.1**
comp=Z,4.5nm,0.9s
LRM Limekiln Ridge 80.36 40 *e*P **P 17 09 45.3 +2.4**
GEC2 GERESS Array S 80.38 324 *e*P **P 17 09 42.1 -0.6**
GEC2 pmax pmax
comp=Z,3.0nm,0.9s
GEC2 GERESS Array S 80.38 324 *e*P **P 17 09 42.1 -0.6**
comp=Z,3.0nm,0.9s
GERES GERESS Array B 80.38 324 P **P 17 09 41.7 -1.0**
comp=Z,1.8nm,0.8s,baz=26,slow=6.4,SNR=8.1
GEA0 GERESS Array S 80.39 324 *e*P **P 17 09 41.6 -1.2**
DLMT Dillon 80.58 40 *e*P **P 17 09 46.0 +2.1**
comp=Z,69nm,1.6s
HLID Hailey 80.76 43 P **P 17 09 47.6 +2.6**
baz=310
HLID Hailey 80.76 43 *e*P **P 17 09 47.8 +2.8**
comp=Z,7.6nm,1.1s
MCMT McKenzie Canyo 80.80 41 *e*P **P 17 09 48.1 +2.8**
BOZ Bozeman (W) 80.90 40 P **P 17 09 47.6 +1.9**
baz=312
BOZ Bozeman (W) 80.90 40 *e*P **P 17 09 48.2 +2.5**
BOZ pmax pmax
comp=Z,50nm,1.7s
BOZ Bozeman (W) 80.90 40 *e*P **P 17 09 48.2 +2.5**
comp=Z,50nm,1.7s

BMN	**Battle Mountai**	**81.13**	**47**	*e*P		**P**		**17 09 50.4**	**+3.4**
BMN					pmax	pmax			
	comp=Z,20nm,1.7s								
BMN	**Battle Mountai**	**81.13**	**47**	*e*P		**P**		**17 09 50.4**	**+3.4**
	comp=Z,20nm,1.7s								
NV01	**Mina Array Sit**	**81.72**	**49**	*e*P		**P**		**17 09 52.9**	**+2.7**
NVAR	**Mina Array Bea**	**81.72**	**49**	P		**P**		**17 09 52.6**	**+2.3**
	comp=Z,1.8nm,0.7s,baz=313,slow=5.9,SNR=11								
YFT	**Old Faithful**	**82.12**	**40**	*e*P		P		17 09 57.1	+4.8
	comp=Z,42nm,1.6s								
H17A	**Grant Village**	**82.30**	**40**	P		**P**		**17 09 56.5**	**+3.3**
	baz=313								
H17A	**Grant Village**	**82.30**	**40**	*e*P		**P**		**17 09 56.8**	**+3.7**
	comp=Z,53nm,1.6s								
IMW	**Indian Meadow**	**82.44**	**41**	*e*P		**P**		**17 09 56.5**	**+2.6**
	comp=Z,12nm,1.3s								
RLMT	**Red Lodge**	**82.49**	**39**	*e*P		**P**		**17 09 57.2**	**+3.1**
	comp=Z,21nm,0.8s								
FXWY	**Fox Creek**	**82.56**	**41**	*e*P		**P**		**17 09 58.1**	**+3.5**
	comp=Z,6.3nm,1.1s								
MOOW	**Moose Ponds**	**82.64**	**41**	*e*P		**P**		**17 09 57.4**	**+2.4**
	comp=Z,15nm,1.4s								
HVU	**Hansel Valley**	**82.84**	**43**	*e*P		**P**		**17 09 58.7**	**+2.8**
HVU					pmax	pmax			
	comp=Z,18nm,1.7s								
HVU	**Hansel Valley**	**82.84**	**43**	*e*P		**P**		**17 09 58.7**	**+2.8**
	comp=Z,18nm,1.7s								
REDW	**Red Top Meadow**	**82.84**	**41**	*e*P		**P**		**17 09 59.4**	**+3.4**
	comp=Z,5.4nm,0.8s								
IDI	**Anoyia**	**82.87**	**308**	*e*P		**P**		**17 09 54.0**	**-2.1**
	comp=Z,7.8nm,1.0s								
BFO	**Black Forest**	**83.26**	**326**	*e*P		**P**		**17 09 56.6**	**-1.2**
BFO					pmax	pmax			
	comp=Z,19nm,1.6s								
BFO	**Black Forest**	**83.26**	**326**	*e*P		**P**		**17 09 56.6**	**-1.2**
	comp=Z,19nm,1.6s								
R11A	**Troy Canyon, C**	**83.43**	**47**	P		**P**		**17 10 01.1**	**+2.0**
	baz=310								
R11A	**Troy Canyon, C**	**83.43**	**47**	*e*P		**P**		**17 10 01.4**	**+2.4**
	comp=Z,18nm,1.8s								
DAC	**Darwin (Calif)**	**83.51**	**50**	*e*P		**P**		**17 10 00.0**	**+0.5**
DAC					pmax	pmax			
	comp=Z,15nm,1.8s								
DAC	**Darwin (Calif)**	**83.51**	**50**	*e*P		**P**		**17 10 00.0**	**+0.5**
	comp=Z,15nm,1.8s								
FUORN	**Ofenpass-Fuorn**	**83.60**	**324**	*e*P		**P**		**17 09 59.1**	**-0.8**
	comp=Z,8.9nm,1.0s								
HWUT	**Hardware Ranch**	**83.63**	**43**	*e*P		**P**		**17 10 02.8**	**+2.7**
	comp=Z,26nm,1.5s								
MPMC	**Manual Prospec**	**83.71**	**50**	P		**P**		**17 10 03.3**	**+2.7**
	baz=309								
DUG	**Dugway, Tooele**	**83.86**	**44**	P		**P**		**17 10 03.9**	**+2.6**
	baz=312								
DUG	**Dugway, Tooele**	**83.86**	**44**	*e*P		**P**		**17 10 04.4**	**+3.2**
DUG					pmax	pmax			
	comp=Z,23nm,1.8s								
DUG	**Dugway, Tooele**	**83.86**	**44**	*e*P		**P**		**17 10 04.4**	**+3.2**
	comp=Z,23nm,1.8s								
TPNV	**Topopah Spring**	**83.92**	**49**	P		**P**		**17 10 03.8**	**+2.2**
	baz=310								
TPNV	**Topopah Spring**	**83.92**	**49**	*e*P		**P**		**17 10 04.4**	**+2.8**
TPNV					pmax	pmax			
	comp=Z,40nm,1.8s								
TPNV	**Topopah Spring**	**83.92**	**49**	*e*P		**P**		**17 10 04.4**	**+2.8**
	comp=Z,40nm,1.8s								
BW06	**Boulder Array**	**83.94**	**41**	P		**P**		**17 10 03.5**	**+1.7**
	baz=313								
BW06	**Boulder Array**	**83.94**	**41**	*e*P		**P**		**17 10 03.4**	**+1.7**
	comp=Z,8.1nm,0.6s								
PD31	**Pinedale Array**	**83.94**	**41**	*e*P		**P**		**17 10 04.0**	**+2.3**
PDAR	**Pinedale Array**	**83.94**	**41**	P		**P**		**17 10 02.1**	**+0.4**
	comp=Z,2.7nm,0.9s,baz=294,slow=1.5,SNR=15								
PDAR					LR	LR		17 49 07.5	
	comp=Z,73nm,19.4s,baz=346,slow=37								
ULM	**Lac du Bonnet**	**84.84**	**29**	P		**P**		**17 10 05.8**	**0.0**
	comp=Z,14nm,0.9s,baz=316,slow=5.0,SNR=8.9								
ULM					LR	LR		17 52 26.5	
	comp=Z,86nm,18.5s,baz=317,slow=39								
ULM	**Lac du Bonnet**	**84.84**	**29**	*e*P		**P**		**17 10 06.0**	**+0.2**
	comp=Z,28nm,1.1s								
SHPR	**Sheep Range**	**84.87**	**49**	*e*P		**P**		**17 10 09.8**	**+3.3**
	comp=Z,4.1nm,1.0s								
TUQ	**Turquoise Moun**	**85.09**	**50**	P		**P**		**17 10 09.6**	**+2.1**
	baz=310								
P17A	**Butcher Ranch,**	**85.53**	**44**	*e*P		**P**		**17 10 13.7**	**+4.0**
	comp=Z,27nm,1.7s								
LCMT	**Little Creek M**	**85.71**	**47**	*e*P		**P**		**17 10 14.8**	**+4.2**
	comp=Z,7.4nm,1.4s								
KNB	**Kanab**	**85.96**	**47**	*e*P		**P**		**17 10 15.4**	**+3.6**
KNB					pmax	pmax			
	comp=Z,16nm,1.4s								
KNB	**Kanab**	**85.96**	**47**	*e*P		**P**		**17 10 15.4**	**+3.6**
	comp=Z,16nm,1.4s								
U15A	**North Rim**	**86.67**	**47**	*e*P		**P**		**17 10 18.2**	**+2.7**
	comp=Z,13nm,1.4s								
B34A	**Aery, Baudette**	**86.73**	**29**	P		**P**		**17 10 16.1**	**+1.0**
	baz=323								
B35A	**Bob, Littlefor**	**87.20**	**29**	P		**P**		**17 10 18.2**	**+0.8**
	baz=324								
C35A	**Jirik Farms, M**	**87.63**	**29**	P		**P**		**17 10 20.5**	**+0.9**
	baz=324								
C36A	**Pine Crest Far**	**88.04**	**29**	P		**P**		**17 10 21.9**	**+0.4**
	baz=324								
F33A	**5 Mile Ranch,**	**88.14**	**32**	P		**P**		**17 10 23.7**	**+1.6**
	baz=322								
C37A	**Embarrass**	**88.32**	**28**	P		**P**		**17 10 23.9**	**+1.0**
	baz=325								
EYMN	**Ely**	**88.41**	**28**	P		**P**		**17 10 24.0**	**+0.7**
	baz=325								
SCHQ	**Schefferville**	**88.90**	**11**	LR		LR		17 53 18.9	
	comp=Z,121nm,19.1s,baz=296,slow=38								
S22A	**4UR Ranch, Cre**	**88.93**	**43**	*e*P		**P**		**17 10 27.8**	**+1.4**
	comp=Z,16nm,1.1s								
F36A	**Milaca**	**89.29**	**30**	P		**P**		**17 10 28.2**	**+0.7**
	baz=324								
ECSD	**EROS Data Cent**	**89.65**	**33**	P		**P**		**17 10 30.3**	**+1.1**
	baz=322								
ECSD	**EROS Data Cent**	**89.65**	**33**	*e*P		**P**		**17 10 31.1**	**+1.9**
	comp=Z,11nm,1.2s								
H35A	**Sunnyside Ranc**	**89.67**	**32**	P		**P**		**17 10 31.0**	**+1.8**
	baz=323								
PPT	**Papeete**	**90.33**	**111**	LR		LR		17 49 40.6	
	comp=Z,75nm,19.5s,baz=334,slow=35								
TXAR	**Lajitas Array**	**96.79**	**47**	P		**P**		**17 11 05.9**	**+3.4**
	comp=Z,0.5nm,0.8s,baz=309,slow=0.8,SNR=3.4								
TXAR					LR	LR		17 54 15.5	
	comp=Z,34nm,19.4s,baz=0.0,slow=35								
SYO	**Syowa Base**	**123.33**	**206**	*e*pPdiff		pPdif		17 13 05.0	-0.7
LPAZ	**La Paz**	**153.62**	**50**	PKPbc		**PKPbc**		**17 17 31.5**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=8.8,slow=6.1,SNR=6.6								
LPAZ	**La Paz**	**153.62**	**50**	*e*PKPbc		**PKPbc**		**17 17 33.9**	**+2.5**

*ISCJB **03** 17:01:39.8±0.9, 67°.03N±0°.04×21°.0E±0°.2, h0km, Error ellipse: s-maj=10.2km s-min=5.5km az=1.7*
*HEL **03** 17:01:41.5±0.5, 67°.07N×20°.90E, h0km, ML2.3, Explosion*
*IDC **03** 17:01:41.7±1.0, 67°.05N×21°.12E, h0km, mb1 2.9/3, mb1mx2.8/42, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=17.7km s-min=8.6km az=114.0*

ISC 03 17:01:39.9±1.1, 67°.08N±0°.05×20°.73E±0°.08, h0km, n8, σ1s55/13, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**1.09**	**26**	*e*P	**Pg**	**17 02 00.2**	**-0.6**
HEF	**Hetta**	**1.74**	**39**	*e*P	**Pn**	**17 02 11.3**	**0.0**
HEF				*e*S	**Sn**	**17 02 33.9**	**-0.3**
TOF	**Tornio**	**1.75**	**123**	*e*P	**Pn**	**17 02 11.3**	**-0.1**
TOF				*e*S	**Sn**	**17 02 33.2**	**-1.2**
KIF	**Kilpisjarvi**	**1.94**	**1**	*e*P	**Pg**	**17 02 16.7**	**-0.3**
KIF				MSG		17 02 50.0	
	comp=Z,18nm,0.2s						
SGF	**Sodankyl**	**2.28**	**78**	*e*PG	**Pb**	**17 02 21.8**	**0.0**
ARCES	**ARCESS Array B**	**3.04**	**34**	Pn	**Pn**	**17 02 29.8**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=214,slow=14,SNR=44						
ARCES				Sn	**Sn**	**17 03 07.8**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=218,slow=22,SNR=4.6						
FINES	**FINESS Array B**	**6.12**	**155**	Pn	**Pn**	**17 03 12.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=349,slow=14,SNR=9.2						
FINES				Sn	**Sn**	**17 04 21.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=348,slow=22,SNR=6.4						
NOA	**NORSAR Array B**	**7.35**	**219**	Pn	**Pn**	**17 03 31.4**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=50,slow=24,SNR=2.5						
NOA				Sn	**Sn**	**17 04 49.5**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=54,slow=19,SNR=2.5						

JMA 03 17:03:22.6, 35°.10N×132°.67E, h10km±1km, M3.7, 4C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGT2	**ShimaneMisato**	**0.14**	**255**	⇓P	Pg	17 03 25.9	+0.1
JGT2				S	Sg	17 03 28.0	0.0
JHS	**Saijyo**	**0.38**	**105**	⇓P	Pg	17 03 30.2	+0.1
JHS				S	Sg	17 03 35.6	+0.4
JHT	**Toyohira**	**0.48**	**205**	⇑P	Pg	17 03 32.0	0.0
JHT				S	Sg	17 03 38.5	+0.1
JNM	**Ikuma**	**0.49**	**37**	⇑P	Pg	17 03 32.4	+0.2
JNM				S	Sg	17 03 39.6	+0.9
JJG	**Jouge**	**0.61**	**139**	⇓P	Pg	17 03 34.5	+0.1
JHIK	**Hikimi**	**0.83**	**227**	⇑P	Pg	17 03 38.2	-0.5
JHIK				S	Sg	17 03 49.3	-0.2
JHM	**Kurahashi**	**0.96**	**187**	⇑P	Pg	17 03 40.5	-0.7

*CSEM **03** 17:07:10.3, 43°.89N×11°.98E, h9km, ML0.9/2*

ROM 03 17:07:10.3±0.1, 43°.89N×11°.98E, h9km±1km, MlI0.9/2, Error ellipse: s-maj=0.9km s-min=0.7km az=1.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.10**	**280**	Pg	Pg	17 07 13.1	+0.3
SFI				Sg	Sg	17 07 15.2	+0.6
	25nm,0.2s						
SFI	**Santa Sofia**	**0.10**	**280**	Pg	Pg	17 07 13.1	+0.3
SFI				Sg	Sg	17 07 15.2	+0.6
	25nm,0.2s						
T0502	**Localit˙ San**	**0.11**	**83**	Pg	Pg	17 07 13.3	+0.4
T0502				Sg	Sg	17 07 15.7	+0.9
ASQU	**Asqua**	**0.17**	**237**	Pg	Pg	17 07 14.4	+0.5
ASQU				Sg	Sg	17 07 17.6	+1.3
ASQU	**Asqua**	**0.17**	**237**	Pg	Pg	17 07 14.4	+0.5
ASQU				Sg	Sg	17 07 17.6	+1.3
CRE	**Caprese Michel**	**0.27**	**185**	Pg	Pg	17 07 16.3	+0.6
CRE				Sg	Sb	17 07 21.2	-0.9
	23nm,0.2s						
CRE	**Caprese Michel**	**0.27**	**185**	Pg	Pg	17 07 16.3	+0.6
CRE				Sg	Sb	17 07 21.2	-0.9
	23nm,0.2s						
VMG	**Vicchio**	**0.33**	**283**	Pg	Pb	17 07 18.0	-0.3
VMG				Sg	Sb	17 07 22.9	-0.8
	10.0nm,0.1s						
VMG	**Vicchio**	**0.33**	**283**	Pg	Pb	17 07 18.0	-0.3
VMG				Sg	Sb	17 07 22.9	-0.8
	10.0nm,0.1s						

NNC 03 17:07:12.4±3.3, 38°.42N×71°.07E, h5km±39km, mb4.1, mpv3.8, 7C-2D, Error ellipse: s-maj=46.6km s-min=8.2km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**1.80**	**283**	⇑P	Pn	17 07 43.9	-0.3
	78nm,0.4s						
DZET				⇑S	Sb	17 08 08.3	-0.5
	621nm,0.4s						
MNAS	**Manas**	**4.21**	**15**	⇑P	Pn	17 08 18.0	+0.6
	21nm,1.2s						
MNAS				⇓S	Sn	17 09 06.6	-0.3
	29nm,0.7s						
KK31	**Karatay Array**	**4.70**	**355**	P	Pn	17 08 23.3	-0.7
	3.7nm,0.3s,baz=178,slow=12,SNR=61						
KK31				S	Sn	17 09 21.9	+3.0
AAK	**Ala-Archa**	**4.95**	**31**	⇑P	Pn	17 08 28.8	+1.2
	5.6nm,0.6s						
AAK				⇑S	Sn	17 09 26.4	+1.1
	18nm,0.8s						
TKM2	**Tokmak 2**	**5.66**	**36**	⇓P	Pn	17 08 38.2	+0.8
	4.2nm,0.5s						
TKM2				⇑S	Sn	17 09 43.1	+0.2
	14nm,1.2s						
AB31	**Akbulak array**	**13.47**	**327**	⇑P	Pn	17 10 20.0	-4.0
	0.5nm,0.4s,baz=140,slow=12,SNR=12						

IDC 03 17:08:42.3±1.7, 39°.11N×110°.58E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.2/43, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=49.4km s-min=21.8km az=70.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.24**	**342**	Pn	Pn	17 10 57.2	+0.3
	0.1nm,0.3s,baz=158,slow=13,SNR=7.8						
SONM				Lg	Lg	17 13 34.7	
	0.2nm,0.3s,baz=147,slow=28,SNR=6.1						
MKAR	**Makanchi Array**	**22.00**	**300**	P	P	17 13 38.2	+0.2
	0.8nm,1.0s,baz=97,slow=12,SNR=4.7						
CMAR	**Chiang Mai Arr**	**22.92**	**209**	P	P	17 13 47.6	-0.3
	2.2nm,0.7s,baz=14,slow=9.4,SNR=22						
ASAR	**Alice Springs**	**66.15**	**157**	P	P	17 19 31.6	+0.1
	0.2nm,0.6s,baz=347,slow=6.0,SNR=2.9						

MEX 03 17:16:10.0±0.3, 14°.73N×92°.57W, h63km±16km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.15**	**327**	*e*P	Pn	17 16 28.9	-1.2
PCIG				*i* S	Sn	17 16 43.3	-1.9
CCIG	**Comitan**	**1.60**	**15**	*i* P	Pn	17 16 34.4	-1.9
CCIG				*i* S	Sn	17 16 54.2	-1.8

MAN 03 17:30:14, 13°.25N×120°.45E, h27km, mb4.0, ML2.7, MS2.4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.52**	**338**	*e*P	Pn	17 30 26.1	+0.4
LUBP				*e*S	Sn	17 30 34.5	+0.8
PGP	**Puerto Galera**	**0.55**	**63**	⇓*e*P	Pb	17 30 24.2	-1.0
PGP				*i* S	Sb	17 30 31.3	-1.4
SJMP	**San Jose**	**1.02**	**140**	*e*P	Pn	17 30 32.0	-0.6
SJMP				*e*S	Sb	17 30 46.3	+0.2
BUSP	**Coron**	**1.27**	**191**	*e*P	Pn	17 30 36.2	+0.3
BUSP				*e*S	Sn	17 30 52.1	+0.1
BOAC	**Boac**	**1.37**	**81**	*e*P	Pb	17 30 38.7	-0.4
BOAC				*e*S	Sn	17 30 55.3	+0.6
ENPP	**El Nido**	**2.27**	**206**	*e*P	Pn	17 30 50.2	+0.5
ENPP				*e*S	Sn	17 31 16.0	-0.8

*ISCJB **03** 17:44:44.8±1.0, 19°.09N±0°.09×145°.4E±0°.4, h214km, mb3.6/5, Error ellipse: s-maj=50.1km s-min=11.8km az=4.8*
*IDC **03** 17:44:46.2±2.4, 19°.03N×145°.47E, h214km±22km, mb3.5/5, mb1 3.7/6, mb1mx3.1/55, mbtmp4.1/6, Error ellipse: s-maj=50.3km s-min=16.8km az=97.0*

ISC 03 17:44:46.1±1.1, 19°.0N±0°.1×145°.6E±0°.4, h214km, n6, σ0s37/7, mb3.7/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.45**	**187**	P	**Pn**	**17 46 07.1**	**+0.5**
	7.9nm,0.3s,baz=30,slow=6.1,SNR=10						
GUMO				S	**S**	**17 47 10.1**	**0.0**
	13nm,0.3s,baz=180,slow=20,SNR=3.5						
KLR	**Kul'dur**	**32.12**	**343**	P	**P**	**17 50 53.5**	**+0.2**
	1.0nm,0.3s,baz=148,slow=12,SNR=7.1						
WRA	**Warramunga Arr**	**40.26**	**196**	P	**P**	**17 52 02.5**	**+0.1**
	1.8nm,0.6s,baz=0.1,slow=9.3,SNR=34						
FITZ	**Fitzroy Crossi**	**41.77**	**209**	P	**P**	**17 52 14.7**	**-0.1**
	0.7nm,0.3s,baz=34,slow=13,SNR=15						
ASAR	**Alice Springs**	**43.93**	**196**	P	**P**	**17 52 31.6**	**-0.5**
	0.7nm,0.5s,baz=14,slow=7.7,SNR=16						
NVAR	**Mina Array Bea**	**83.03**	**52**	P	**P**	**17 56 48.0**	**-0.1**
	0.7nm,0.6s,baz=286,slow=3.7,SNR=4.7						

*ISCJB **03** 17:49:35.8±0.6, 50°.39N±0°.04×18°.82E±0°.03, h0km, Error ellipse: s-maj=5.6km s-min=2.5km az=19.0*
*WAR **03** 17:49:37.8, 50°.35N×18°.92E, h1km, Mw2.5*
*CSEM **03** 17:49:37.0±0.3, 50°.37N×18°.85E, h2km, ML2.5, Error ellipse: s-maj=7.4km s-min=3.2km az=12.0*

*PRU **03** 17:49:38.1, 50°.35N×18°.82E, h0km*

ISC 03 17:49:37.5±0.8, 50°.27N±0°.04×18°.83E±0°.02, h0km, n30, σ0s48/56, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.10**	**80**	*e*Pg	**Pg**	**17 49 39.5**	**0.0**
CHZP				*e*Sg	**Sg**	**17 49 41.7**	**+0.9**
CHZP	**Chorzow**	**0.10**	**80**	*e*Pg	**Pg**	**17 49 39.5**	**0.0**
CHZP				*e*Sg	**Sg**	**17 49 41.7**	**+0.9**
OKC	**Ostrava-Krasne**	**0.62**	**226**	*e*PG	**Pb**	**17 49 51.1**	**-0.1**
OKC				*e*SG	**Sb**	**17 49 59.9**	**-0.5**
	15nm,0.4s						
OKC	**Ostrava-Krasne**	**0.62**	**226**	Pg	**Pb**	**17 49 51.1**	**-0.1**
OKC				Sg	**Sb**	**17 49 59.9**	**-0.5**
	15nm,0.4s						
OJC	**Ojcow**	**0.62**	**95**	*e*Pg	**Pg**	**17 49 48.8**	**-0.6**
OJC				*e*Sg	**Sg**	**17 49 57.4**	**0.0**
OJC	**Ojcow**	**0.62**	**95**	*e*Pg	**Pg**	**17 49 48.8**	**-0.6**
OJC				*e*Sg	**Sg**	**17 49 57.4**	**0.0**
OJC	**Ojcow**	**0.62**	**95**	*e*Pg	**Pg**	**17 49 48.8**	**-0.6**
OJC				*e*Sg	**Sg**	**17 49 57.4**	**-0.1**
MORC	**Moravsky Berou**	**0.97**	**240**	*e*Pg	**Pb**	**17 49 57.1**	**0.0**
MORC				*e*Sg	**Sb**	**17 50 11.5**	**+1.0**
LANS	**Liptovska Anna**	**1.20**	**160**	*e*Pg	**Pn**	**17 50 01.7**	**+0.2**
LANS				*e*Sg	**Sn**	**17 50 18.6**	**+0.1**
LANS	**Liptovska Anna**	**1.20**	**160**	*e*PG	**Pn**	**17 50 01.7**	**+0.2**
LANS				*e*SG	**Sn**	**17 50 18.6**	**+0.1**
NIE	**Niedzica**	**1.28**	**131**	*e*Pg	**Pb**	**17 50 02.5**	**0.0**
NIE				*e*Sg	**Sn**	**17 50 21.1**	**+0.6**
NIE	**Niedzica**	**1.28**	**131**	*e*Pg	**Pn**	**17 50 02.5**	**-0.1**
NIE				*e*Sg	**Sn**	**17 50 21.1**	**+0.6**
DPC	**Dobruska-Polom**	**1.61**	**274**	*e*PG	**Pn**	**17 50 06.9**	**-0.3**
DPC				*e*SG	**Sg**	**17 50 29.3**	**+0.1**
	7.7nm,0.2s						
DPC	**Dobruska-Polom**	**1.61**	**274**	Pg	**Pn**	**17 50 06.9**	**-0.3**
DPC				Sg	**Sg**	**17 50 29.3**	**+0.1**
	7.7nm,0.2s						
KSP	**Ksiaz**	**1.72**	**290**	*e*Pg	**Pb**	**17 50 09.5**	**-0.4**
KSP				*e*Sg	**Sg**	**17 50 33.4**	**+0.8**
KSP	**Ksiaz**	**1.72**	**290**	*e*Pg	**Pb**	**17 50 09.5**	**-0.4**
KSP				*e*Sg	**Sg**	**17 50 33.4**	**+0.8**
KSP	**Ksiaz**	**1.72**	**290**	*e*Pg	**Pb**	**17 50 09.5**	**-0.4**
KSP				*e*Sg	**Sg**	**17 50 33.4**	**+0.8**
VRAC	**Vranov**	**1.74**	**237**	*e*Sg	**Sg**	**17 50 34.8**	**+1.4**
STHS	**Stebnicka Huta**	**1.78**	**118**	*e*Pn	**Pg**	**17 50 11.4**	**-0.2**
STHS				*e*Sn	**Sg**	**17 50 35.0**	**+0.4**
STHS	**Stebnicka Huta**	**1.78**	**118**	*e*PN	**Pg**	**17 50 11.3**	**-0.3**
STHS				*e*SN	**Sg**	**17 50 35.0**	**+0.4**
STHS				*e*LG	Lg	17 50 43.1	
VYHS	**Vyhne**	**1.78**	**180**	*e*Pn	**Pn**	**17 50 10.0**	**+0.5**
VYHS				*e*Sn	**Sb**	**17 50 33.6**	**-0.2**
VYHS	**Vyhne**	**1.78**	**180**	*e*PN	**Pn**	**17 50 10.0**	**+0.5**
VYHS				*e*SN	**Sb**	**17 50 33.6**	**-0.2**
VYHS				*e*LG	Lg	17 50 41.3	
KECS	**Kecovo**	**2.09**	**148**	*e*Pn	**Pn**	**17 50 13.3**	**-0.5**
KECS	**Kecovo**	**2.09**	**148**	*e*PN	**Pn**	**17 50 13.3**	**-0.5**
KECS				*e*LG	Lg	17 50 47.2	
CRVS	**Cervenica-Dubn**	**2.19**	**128**	*e*Pg	**Pg**	**17 50 18.9**	**-0.6**
CRVS	**Cervenica-Dubn**	**2.19**	**128**	*e*PG	**Pg**	**17 50 18.9**	**-0.6**
BRG	**Berggiesshubel**	**3.17**	**283**	PG	**Pg**	**17 50 37.8**	**-0.4**
BRG				SG	**Sg**	**17 51 19.5**	**+0.2**
	2.3nm,0.5s						
KHC	**Kasperske Hory**	**3.60**	**253**	*e*PN	**Pn**	**17 50 34.5**	**0.0**
KHC				*e*SG	**Sg**	**17 51 32.5**	**-0.4**
KHC	**Kasperske Hory**	**3.60**	**253**	Pn	**Pn**	**17 50 34.5**	**0.0**
KHC				Sg	**Sg**	**17 51 32.5**	**-0.4**
CLL	**Collm**	**3.84**	**288**	*e*Pn	**Pb**	**17 50 46.0**	**-0.1**
CLL				*e*Pg	**Pg**	**17 50 51.0**	**0.0**
CLL				*e*Sg	**Sg**	**17 51 41.0**	**+0.2**
	comp=Z,4.0nm,0.9s						

*ISK **03** 17:57:40.6, 39°.02N×35°.86E, h7km, MD2.8*
*ISCJB **03** 17:57:41.3±0.5, 38°.99N±0°.03×35°.82E±0°.03, h5km±6km, Error ellipse: s-maj=5.3km s-min=4.4km az=15.3*
*DDA **03** 17:57:41.0, 39°.01N×35°.82E, h7km, Ml2.6*
*CSEM **03** 17:57:41.1±0.2, 39°.01N×35°.84E, h5km, MD2.8, Error ellipse: s-maj=5.1km s-min=4.1km az=23.0*

ISC 03 17:57:41.3±0.9, 39°.00N±0°.03×35°.84E±0°.03, h10km±7km, n24, σ0s69/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.15**	**179**	*e*PG	**Pg**	**17 57 44.6**	**-0.1**
BNN				*e*SG	**Sg**	**17 57 47.4**	**+0.2**
BNN	**Bunyan**	**0.15**	**179**	*e*Pg	**Pg**	**17 57 44.6**	**-0.1**
BNN				*e*Sg	**Sg**	**17 57 47.4**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**0.52**	**37**	P	**Pg**	**17 57 51.2**	**-0.2**
CUSAR				S	**Sb**	**17 57 59.8**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**0.52**	**37**	*i* P	**Pg**	**17 57 51.2**	**-0.2**
CUSAR				*i* S	**Sb**	**17 57 59.8**	**-0.4**
SARI	**SarD1z-Kayseri**	**0.75**	**143**	*e*PG	**Pg**	**17 57 55.4**	**-0.3**
SARI				*e*SG	**Sb**	**17 58 06.6**	**-0.1**
SARI	**SarD1z-Kayseri**	**0.75**	**143**	*e*Pg	**Pg**	**17 57 55.4**	**-0.3**
SARI				*e*Sg	**Sb**

KUR smax smax
comp=E,9µm,0.6s
KUR smax smax
comp=N,6µm,0.5s
KUR Kuril'sk 1.44 270 *i* P **Pn 18 00 11.2 +1.1**
KUR AMB AMB 18 00 15.8
comp=N,430nm,0.6s
KUR AMB AMB 18 00 15.8
comp=N,2µm,0.6s
KUR *i* S **Sn 18 00 30.5 +1.4**
KUR A A 18 00 31.2
comp=N,6µm,0.6s
KUR A A 18 00 31.2
comp=N,9µm,0.6s
SHO Shikotan 2.60 239 *c i* PN **Pn 18 00 24.4 -0.8**
SHO *i* S **Sn 18 00 53.5 -2.5**
SHO pmax pmax
comp=N,141nm,0.4s
SHO pmax pmax
comp=E,181nm,0.4s
SHO pmax pmax
comp=Z,368nm,0.4s
SHO smax smax
comp=N,1µm,0.3s
SHO smax smax
comp=E,3µm,0.6s
SHO Shikotan 2.60 239 *i* P **Pn 18 00 24.4 -0.8**
SHO AMB AMB 18 00 32.0
comp=E,400nm,0.4s
SHO *i* S **Sn 18 00 53.5 -2.5**
SHO A A 18 00 58.1
comp=E,2µm,0.5s
SHO A A 18 00 58.1
comp=E,3µm,0.5s
YUK Yuzh-Kuril'sk 3.13 249 *c i* PN **Pn 18 00 33.4 +1.1**
YUK *i* S **Sn 18 01 08.8 0.0**
YUK pmax pmax
comp=E,369nm,0.3s
YUK pmax pmax
comp=Z,732nm,0.3s
YUK pmax pmax
comp=N,326nm,0.6s
YUK smax smax
comp=N,1.0nm,0.4s
YUK smax smax
comp=E,2µm,0.4s
YUK Yuzh-Kuril'sk 3.13 249 *e* P **Pn 18 00 33.4 +1.1**
YUK AMB AMB 18 00 43.2
comp=E,330nm,0.5s
YUK AMB AMB 18 00 43.2
comp=E,370nm,0.5s
YUK AMB AMB 18 00 43.2
comp=E,732nm,0.5s
YUK *i* S **Sn 18 01 08.8 0.0**
YUK A A 18 01 14.8
comp=E,1µm,0.4s
YUK A A 18 01 14.8
comp=E,2µm,0.4s
NEM2 Nemuro 2 3.54 239 P **Pn 18 00 36.9 -0.8**
NEM2 *e* S **Sn 18 01 15.5 -3.0**
JRA Rausu 3.66 251 P **Pn 18 00 41.0 +1.5**
JNK Nakash 4.08 248 P **Pn 18 00 45.7 +0.6**
JAK Akkeshi 4.38 241 P **Pn 18 00 48.3 -0.9**
JAK *e* S **Sn 18 01 35.5 -3.5**
JTKR Abashiri--Toko 4.47 256 P **Pn 18 00 51.8 +1.4**
JAR Ashorobuto 4.82 248 P **Pn 18 00 56.2 +1.0**
JMP Maruseppu 4.84 257 P **Pn 18 00 57.0 +1.5**
JOB Onbets 4.97 244 P **Pn 18 00 57.2 +0.1**
JOB *e* S **Sn 18 01 51.8 -1.5**
HRK Horoka 5.18 252 *e* P **Pn 18 01 01.6 +1.5**
JSE Soyaes 5.20 269 P **Pn 18 01 02.4 +2.2**
YSS Yuzh-Sakhalins 5.26 291 ⇑ *i* PN **Pn 18 01 03.6 +2.5**
YSS *e* S **Sn 18 02 01.8 +1.4**
YSS smax smax
comp=N,140nm,0.6s
YSS MLR MLR
comp=Z,300nm,17.0s
YSS Yuzh-Sakhalins 5.26 291 *i* P **Pn 18 01 03.6 +2.5**
YSS AMB AMB 18 01 04.1
comp=Z,280nm,0.9s
YSS *e* S **Sn 18 02 01.8 +1.4**
YSS A A 18 02 05.7
comp=Z,140nm,0.6s
YSS Yuzh-Sakhalins 5.26 291 *e* Pn **Pn 18 01 02.9 +1.7**
JKK2 Kamakawa 2 5.30 257 P **Pn 18 01 03.6 +1.9**
ASAJ Asahikawa 5.34 260 P **Pn 18 01 04.2 +2.0**
baz=88,slow=16
ASAJ Asahikawa 5.34 260 P **Pn 18 01 04.2 +2.0**
JCH Churui 5.41 243 P **Pn 18 01 02.5 -0.7**
JCH *e* S **Sn 18 02 01.0 -3.2**
MYR Moyori 5.64 241 *e* P **Pn 18 01 05.9 -0.4**
JWK2 Keihoku 5.66 274 P **Pn 18 01 10.3 +3.8**
JFR Furan 5.66 251 P **Pn 18 01 07.8 +1.2**
JAB Ashibetsu 5.78 255 P **Pn 18 01 10.7 +2.5**
JEM Erimo 5.87 239 *e* S **Sn 18 02 12.5 -2.8**
ERM Erimo 5.87 239 *d i* PN **Pn 18 01 10.7 +1.3**
ERM Erimo 5.87 239 *e* P **Pn 18 01 10.7 +1.3**
ERM Erimo 5.87 239 *e* Pn **Pn 18 01 10.7 +1.3**
JNBK Urakawa-nobuka 5.97 243 P **Pn 18 01 09.9 -0.9**
JNBK *e* S **Sn 18 02 15.3 -2.5**
JBT2 Biratori 2 5.98 248 P **Pn 18 01 10.8 -0.1**
UGL Uglegorsk 6.58 308 *e* PN **Pn 18 01 21.6 +2.6**
UGL S **Sn 18 02 35.0 +2.6**
UGL pmax pmax
comp=Z,700nm,1.5s
UGL pmax pmax
comp=Z,400nm,1.0s
UGL pmax pmax
comp=N,500nm,3.0s
UGL pmax pmax
comp=E,800nm,3.0s
UGL pmax pmax
comp=N,130nm,0.8s
UGL pmax pmax
comp=E,160nm,0.8s
UGL Uglegorsk 6.58 308 *e* P **Pn 18 01 21.6 +2.6**
UGL AMB AMB 18 01 23.0
comp=E,700nm,2.0s
UGL AMB AMB 18 01 23.0
comp=E,400nm,1.0s
UGL *e* S **Sn 18 02 33.9 +1.5**
UGL A A 18 02 40.0
comp=E,500nm,3.0s
UGL A A 18 02 40.0
comp=E,800nm,3.0s
UGL A A 18 02 43.0
comp=E,130nm,0.8s
UGL A A 18 02 43.0
comp=E,160nm,0.8s
SKR Severo-Kuril's 6.85 35 *e* PN Pn 18 01 18.6 -4.1
SKR *e* S **Sn 18 02 36.4 -2.6**
SKR pmax pmax
comp=Z,24nm,0.7s
SKR smax smax
comp=E,117nm,1.0s
SKR Severo-Kuril's 6.85 35 *i* P **Pn 18 01 23.2 +0.5**
SKR AMB AMB 18 01 26.7
comp=E,60nm,0.6s
SKR *i* S **Sn 18 02 37.0 -2.0**
SKR A A 18 02 41.1
comp=E,50nm,0.3s
SKR A A 18 02 41.1
comp=E,30nm,0.3s
JNB Noboribetsu 6.99 250 P **Pn 18 01 24.8 +0.1**
JNB *e* S **Sn 18 02 40.1 -2.5**
JKB Kayabe 7.27 246 P **Pn 18 01 27.6 -0.9**
JKB *e* S **Sn 18 02 43.0 -6.4**
TYV Tymovskoe 7.42 322 *e* PN **Pn 18 01 33.0 +2.4**
TYV pmax pmax
comp=E,53nm,1.0s
TYV pmax pmax
comp=Z,123nm,1.0s
TYV Tymovskoe 7.42 322 *i* P **Pn 18 01 32.8 +2.2**
TYV AMB AMB 18 01 45.0
comp=Z,53nm,0.8s
TYV AMB AMB 18 01 45.0
comp=Z,123nm,0.8s
TYV *i* S **Sn 18 02 53.6 +0.5**
TYV A A 18 02 59.6
comp=Z,68nm,0.8s
TYV A A 18 02 59.6
comp=Z,52nm,0.8s
PAU Pauzhetka 7.73 34 *i* P **Pn 18 01 36.0 +1.3**
PAU AMB AMB 18 01 41.5
comp=Z,173nm,0.7s
PAU *i* S **Sn 18 02 58.8 -1.8**
PAU A A 18 03 01.2
comp=Z,269nm,0.8s
PAU A A 18 03 01.2
comp=Z,205nm,0.8s
JSR Shiriuchi 7.85 245 P **Pn 18 01 35.9 -0.5**
JSR *e* S **Sn 18 02 57.8 -5.8**
JANG Nango 7.86 235 *e* S Sn 18 02 54.7 -9.2
JTM Tenmabayashi 7.86 239 *e* S **Sn 18 02 56.6 -7.3**
JTH Tanohata 7.96 231 *e* S Sn 18 02 56.6 -10
JOSM Okushiri--Mats 8.20 251 P **Pn 18 01 41.3 +0.1**
OFUJ Ofunato 8.68 228 *e* S Sn 18 03 14.4 -10
JRG Rokugo 9.02 233 *e* S **Sn 18 03 25.4 -6.7**
JIO Ouri 9.32 226 *e* S Sn 18 03 30.0 -9.4
PEA0 Petropavlovsk- 9.37 30 *e* Pn **Pn 18 01 56.7 -0.3**
PEA0B Petropavlovsk- 9.37 30 *e* Pn **Pn 18 01 57.1 +0.1**
PETK Petropavlovsk- 9.37 30 P **Pn 18 01 57.3 +0.3**
comp=Z,1.6nm,0.3s,baz=215,slow=12,SNR=44
PEA1 Petropavlovsk- 9.37 30 *e* Pn **Pn 18 01 57.3 +0.3**
TEY Ternei 9.41 273 *e* P **Pn 18 01 58.6 +1.0**
OKH Okha 9.47 334 *e* rx rx 18 01 56.0
PET Petropavlovsk 9.65 33 *e* PN **Pn 18 02 00.9 0.0**
PET Petropavlovsk 9.65 33 *i* P **Pn 18 02 01.1 +0.2**
PET AMB AMB 18 02 06.5
comp=Z,250nm,4.0s
PET *i* S **Sn 18 03 43.7 -3.7**
PET A A 18 03 55.1
comp=Z,282nm,2.0s
PET Petropavlovsk 9.65 33 *e* Pn **Pn 18 02 00.9 0.0**
NKL Nikolayevsk 9.94 326 *e* PN **Pn 18 02 06.0 +1.2**
NKL *e* 18 03 59.0
NKL pmax pmax
comp=N,34nm,1.0s
NKL pmax pmax
comp=Z,56nm,1.0s
NKL Nikolayevsk 9.94 326 *e* P **Pn 18 02 06.0 +1.2**
NKL AMB AMB 18 02 08.0
comp=Z,34nm,1.0s
NKL AMB AMB 18 02 08.0
comp=Z,56nm,1.0s
GRNR Gornyy 10.59 306 *e* P **Pn 18 02 15.0 +1.4**
GRNR AMB AMB 18 02 17.5
comp=Z,52nm,1.0s
HABR Khabarovsk 10.68 293 *e* PN **Pn 18 02 13.4 -1.4**
HABR *e* S **Sn 18 04 10.9 -1.4**
HABR pmax pmax
comp=N,4.0nm,0.9s
HABR pmax pmax
comp=E,9.0nm,0.9s
HABR pmax pmax
comp=Z,27nm,0.9s
HABR MLR MLR
comp=Z,79nm,13.0s
MJAR Matsushiro Arr 12.40 230 P **Pn 18 02 36.0 -2.2**
comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=6.8
MJAR LR LR 18 07 24.2
comp=Z,44nm,18.8s,baz=60,slow=37
MJAR Matsushiro Arr 12.40 230 PN **Pn 18 02 36.0 -2.2**
MJB9 Matsu-Tunnel 12.40 230 *e* Pn **Pn 18 02 35.4 -2.8**
MAJO Matsushiro 12.40 230 ‖ *e* PN **Pn 18 02 36.1 -2.1**
MAJO Matsushiro 12.40 230 *e* Pn **Pn 18 02 35.7 -2.5**
USRK Ussuriysk Ar. 12.79 272 P **Pn 18 02 43.4 0.0**
comp=Z,0.8nm,0.3s,baz=89,slow=12,SNR=17
KLR Kul'dur 12.96 294 P **Pn 18 02 47.1 +1.5**
comp=Z,0.3nm,0.3s,baz=88,slow=11,SNR=15
KLR Kul'dur 12.96 294 ⇑ *e* PN **Pn 18 02 46.1 +0.5**
KLR Kul'dur 12.96 294 *e* P **Pn 18 02 46.1 +0.5**
EKMR Ekimchan 13.56 311 *e* P **Pn 18 02 53.8 +0.5**
EKMR AMB AMB 18 03 07.0
comp=Z,7.0nm,0.7s
INU Inuyama 13.93 229 *e* Pn **Pn 18 02 57.6 -0.8**
MA2 Magadan 14.36 2 P **P 18 03 06.9 -1.1**
comp=Z,0.4nm,0.3s,baz=182,slow=15,SNR=4.0
MA2 LR LR 18 07 59.2
comp=Z,76nm,18.5s,baz=219,slow=35
MA2 Magadan 14.36 2 *e* P **Pn 18 03 02.4 -1.3**
MDJ Mudanjiang 14.41 275 P **Pn 18 03 03.7 -0.7**
MDJ PMZ
comp=Z,4.0nm,0.6s
MDJ PMZ
comp=Z,29nm,3.3s
MDJ Mudanjiang 14.41 275 *e* P **Pn 18 03 03.3 -1.1**
MDJ Mudanjiang 14.41 275 *e* Pn **Pn 18 03 03.3 -1.1**
JHJ Hachijo jima 2 14.42 216 S Sn 18 05 31.6 -12
comp=Z,18nm,0.3s,baz=53,slow=20,SNR=5.0
BMKR Bomnak 16.47 313 *e* P **P 18 03 30.7 -0.7**
BMKR AMB AMB 18 03 33.9
comp=Z,14nm,0.5s
ZEA Zeya 16.94 308 *e* P **P 18 03 35.8 -0.8**
ZEA AMB AMB 18 03 37.1
comp=Z,22nm,1.0s
ZEA AMB AMB 18 03 37.1
comp=Z,36nm,1.0s
KROS Kirovskiy 17.35 310 *e* P **P 18 03 40.3 -0.8**
KROS AMB AMB 18 03 43.5
comp=Z,22nm,1.0s
KROS AMB AMB 18 03 43.5
comp=Z,33nm,1.0s
CN2 Changchun 17.49 274 *e* P **P 18 03 41.9 -0.9**
CN2 PMZ
comp=Z,10.0nm,0.7s
SEY Seymchan 17.78 4 P **P 18 03 45.1 -0.7**
comp=Z,1.1nm,0.3s,baz=177,slow=8.6,SNR=54
SEY Seymchan 17.78 4 ⇑ *e* P **P 18 03 45.3 -0.4**
SEY Seymchan 17.78 4 *e* P **P 18 03 45.3 -0.4**
KSRS Korea Array 18.22 252 P **Pn 18 03 52.9 +1.2**
comp=Z,0.3nm,0.3s,baz=58,slow=10,SNR=9.6
KSRS LR LR 18 11 17.1
comp=Z,17nm,19.2s,baz=50,slow=38
KS15 Wonju Array Si 18.25 252 *e* P **P 18 03 49.6 -1.5**
KSAR Wonju Array Be 18.25 252 P **Pn 18 03 52.9 +0.8**
KSAR Wonju Array Be 18.25 252 *e* P **Pn 18 03 52.9 +0.8**
KSAR Wonju Array Be 18.25 252 P **Pn 18 03 52.9 +0.8**
JNU Nakatsue 19.03 237 P **P 18 04 00.1 +0.3**
comp=Z,0.6nm,0.3s,baz=253,slow=5.5,SNR=7.4
JNU Nakatsue 19.03 237 *e* P **P 18 03 59.6 -0.2**
comp=Z,12nm,1.0s
CLNS Chul'man 19.41 316 *e* P **P 18 04 03.3 -0.5**
CLNS *e* S S 18 07 24.7 -14
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,23nm,0.8s
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS smax smax
comp=E,304nm,16.8s
CLNS smax smax
comp=N,24nm,11.1s
YAK Yakutsk 20.50 332 P **P 18 04 14.5 -0.8**
YAK Yakutsk 20.50 332 *e* P **P 18 04 12.7 -2.6**
YAK *e* *PP **pP 18 04 37.4 +4.3**
YAK *e* S **S 18 07 55.2 -4.1**
YAK *e* 18 08 26.0
YAK *e* *SS **sS 18 08 29.3 +0.6**
YAK *e* 18 15 31.5
YAK pmax pmax
comp=Z,43nm,0.8s
YAK pmax pmax
comp=E,35nm,1.3s
YAK pmax pmax
comp=N,35nm,1.4s
YAK smax smax
comp=E,70nm,2.0s
YAK smax smax
comp=N,52nm,2.2s
YAK Yakutsk 20.50 332 *e* P **P 18 04 12.7 -2.6**
comp=N,50nm,0.8s
HIA Hailar 20.79 292 *e* P **P 18 04 15.7 -3.0**
HIA pmax pmax
comp=Z,15nm,0.5s
HIA Hailar 20.79 292 *e* P **P 18 04 15.7 -3.0**
comp=Z,15nm,0.5s
BILL Bilibino 24.39 15 ‖ *e* P **P 18 04 52.4 -1.9**
BILL *e* S **S 18 09 05.6 -1.5**
BILL pmax pmax
comp=Z,12nm,2.2s
BILL Bilibino 24.39 15 *e* P **P 18 04 54.1 -0.2**
BILL Bilibino 24.39 15 *e* P **P 18 04 53.3 -1.0**
comp=Z,6.1nm,0.8s
BJT Baijiatuan 25.25 270 *e* P **P 18 05 03.1 +0.7**
BJT pmax pmax
comp=Z,23nm,0.4s
BJT Baijiatuan 25.25 270 *e* P **P 18 05 03.1 +0.7**
BJT Baijiatuan 25.25 270 *e* P **P 18 05 03.1 +0.7**
comp=Z,23nm,0.4s
TIA Tai'an 26.29 261 ⇑ P **P 18 05 15.7 +3.8**
TIA PMZ
comp=Z,30nm,0.7s
NJ2 Nanjing 27.42 252 *e* P **P 18 05 22.5 +0.5**
NJ2 PMZ
comp=Z,11nm,0.6s
HHC Hu-ho-hao-te 28.18 275 *e* P **P 18 05 30.0 +1.1**
HHC PMZ
comp=Z,27nm,1.0s
HHC PMZ
comp=Z,83nm,4.8s
TIXI Tiksi 28.33 346 P **P 18 05 27.7 -2.1**
comp=Z,15nm,0.6s,baz=142,slow=7.4,SNR=17
TIXI Tiksi 28.33 346 *d i* P **P 18 05 27.2 -2.5**
TIXI pmax pmax
comp=Z,11nm,0.6s
TIXI Tiksi 28.33 346 *e* P **P 18 05 26.8 -2.9**
comp=Z,14nm,0.6s
H11N2 WAKE ISLAND Hy 29.08 146 T T 18 36 36.6
baz=335,slow=76,SNR=433
H11N1 WAKE ISLAND Hy 29.09 146 T T 18 36 39.3
baz=335,slow=76,SNR=661
H11N3 WAKE ISLAND Hy 29.10 146 T T 18 36 37.9
baz=335,slow=76,SNR=785
ULN Ulaanbaatar 29.31 291 *d i* P **P 18 05 39.4 +0.5**
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 29.31 291 *e* P **P 18 05 39.4 +0.5**
ULN Ulaanbaatar 29.31 291 *e* P **P 18 05 38.3 -0.6**
comp=Z,11nm,1.1s
SONA1 Songino Array 29.74 291 *e* P **P 18 05 43.0 +0.3**
SONA0 Songino Array 29.75 291 *e* P **P 18 05 43.4 +0.6**
comp=Z,4.9nm,0.8s
SONM Songino Array 29.75 291 P **P 18 05 43.4 +0.6**
comp=Z,4.1nm,0.8s,baz=72,slow=8.9,SNR=29
SONM LR LR 18 17 15.4
comp=Z,70nm,19.1s,baz=59,slow=35
H11S1 WAKE ISLAND Hy 30.11 147 T T 18 37 51.0
baz=336,slow=76,SNR=942
H11S3 WAKE ISLAND Hy 30.12 147 T T 18 37 45.5
baz=336,slow=76,SNR=89
H11S2 WAKE ISLAND Hy 30.13 147 T T 18 37 52.5
baz=336,slow=76,SNR=877
TLY Talaya 30.91 299 P **P 18 05 53.4 +0.6**
comp=Z,1.8nm,0.6s,baz=122,slow=2.8,SNR=5.3
TLY Talaya 30.91 299 *e* P **P 18 05 54.8 +1.9**
TLY pmax pmax
comp=Z,2.0nm,0.6s
TLY Talaya 30.91 299 *e* P **P 18 05 53.7 +0.8**
ZAK Zakamensk 31.32 296 *e* P **P 18 05 56.0 -0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
WHN Wuhan 31.39 254 ⇑ P **P 18 05 57.6 +0.5**
WHN pP **pP 18 06 19.7 +1.8**
TPUB Ta-pu 32.34 237 *e* P **P 18 06 05.8 +0.2**
comp=Z,15nm,0.9s
XAN Xi'an 33.16 265 P **P 18 06 15.0 +2.3**
XAN PMZ
comp=Z,7.0nm,0.7s
XAN PMZ
comp=Z,58nm,4.5s
ENH Enshi 34.89 259 *e* P **P 18 06 27.0 -0.7**
comp=Z,4.4nm,0.5s
TT01 Tatalina 35.01 40 *e* P **P 18 06 29.3 +1.0**
TTA Tatalina 35.02 40 *e* P **P 18 06 29.5 +1.0**
TTA pmax pmax
comp=Z,18nm,1.3s
TTA Tatalina 35.02 40 *e* P **P 18 06 29.5 +1.0**
comp=Z,18nm,1.3s
LZH Lanzhou 35.70 272 *e* P **P 18 06 35.8 +1.0**
LZH pP pP 18 06 56.9 +1.1
LZH sP sP 18 07 07.6 +1.3
LZH PP **PP 18 07 58.0 +0.6**
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,73nm,4.9s
LZH LN
comp=Z,310nm,12.9s
LZH LE
comp=Z,330nm,13.0s
LZH LZ
comp=Z,400nm,16.3s
RSO Redoubt South 36.51 45 *e* P **P 18 06 39.8 -1.7**
PPLA Purkeypile 36.76 40 *e* P **P 18 06 42.6 -0.8**
comp=Z,41nm,1.6s
KDAK Kodiak Island 36.78 49 *i* P **P 18 06 44.0 +0.6**
KDAK Kodiak Island 36.78 49 *e* P **P 18 06 44.0 +0.6**
CAST Castle Rocks 36.82 40 *e* P **P 18 06 45.3 +1.5**
comp=Z,8.4nm,0.9s
SPU Mount Spurr 36.83 43 *e* P **P 18 06 44.9 +0.9**
GTA Gaotai 37.00 279 *e* P **P 18 06 46.8 +1.0**
GTA PMZ
comp=Z,26nm,0.9s
BPAW Bear Paw Mtn. 37.33 38 *e* P **P 18 06 50.6 +2.5**
comp=Z,5.2nm,0.9s
KTH Kantishna Hill 37.34 39 *e* P **P 18 06 49.7 +1.4**
comp=Z,19nm,1.1s
SUA Susitna One 37.46 43 *e* P **P 18 06 52.5 +3.2**
comp=Z,61nm,1.9s
MLY Manley 37.46 37 *e* P **P 18 06 50.0 +0.7**
comp=Z,36nm,1.8s
COLD Coldfoot 37.82 33 *e* P **P 18 06 53.2 +1.0**
comp=Z,7.8nm,0.8s
PMR Palmer 38.22 43 *e* P **P 18 06 56.9 +1.3**
PMR pmax pmax
comp=Z,15nm,1.3s
PMR Palmer 38.22 43 *e* P **P 18 06 56.9 +1.3**
PMR Palmer 38.22 43 *e* P **P 18 06 56.9 +1.3**
comp=Z,15nm,1.3s
MCK McKinley 38.23 39 *e* P **P 18 06 56.1 +0.4**
MCK pmax pmax
comp=Z,55nm,2.0s
MCK McKinley 38.23 39 *e* P **P 18 06 56.8 +1.1**
MCK McKinley 38.23 39 *e* P **P 18 06 56.1 +0.4**
comp=Z,55nm,2.0s
RND Reindeer 38.27 40 *e* P **P 18 06 56.6 +0.5**
RND pmax pmax
comp=Z,46nm,1.9s
RND Reindeer 38.27 40 *e* P **P 18 06 56.6 +0.5**
comp=Z,46nm,1.9s
CD2 Chengdu 38.52 264 *e* P **P 18 06 57.2 -1.3**
CD2 PMZ
comp=Z,10.0nm,0.5s
MDM Murphy Dome 38.53 37 *e* P **P 18 06 59.2 +1.0**
comp=Z,7.9nm,0.9s
SML Sawmill 38.59 42 *e* P **P 18 06 59.4 +0.7**
SML pmax pmax
comp=Z,25nm,0.7s
SML Sawmill 38.59 42 *e* P **P 18 06 59.4 +0.7**
SML Sawmill 38.59 42 *e* P **P 18 06 59.4 +0.7**
comp=Z,24nm,0.7s
COLA College 38.69 37 *e* P **P 18 07 00.4 +1.0**
CCB Clear Creek Bu 38.71 38 *e* P **P 18 07 01.4 +1.8**
comp=Z,36nm,2.0s
NRIK Noril'sk 38.92 330 P **P 18 06 59.0 -2.3**
comp=Z,3.3nm,0.4s,baz=100,slow=8.3,SNR=6.7
NRIK PcP **PcP 18 09 08.2 -1.8**
comp=Z,3.1nm,0.3s,baz=99,slow=3.1,SNR=4.6
NRIK LR LR 18 23 32.2
comp=Z,33nm,18.7s,baz=54,slow=37
DHY Denali Highway 38.96 40 *e* P **P 18 07 02.4 +0.5**
comp=Z,32nm,1.8s
SCM Sheep Creek Mo 39.06 42 *e* P **P 18 07 03.8 +1.1**
SCM pmax pmax
comp=Z,24nm,0.9s
SCM Sheep Creek Mo 39.06 42 *e* P **P 18 07 03.8 +1.1**
comp=Z,24nm,0.9s
HDA Harding Lake 39.09 38 *e* P **P 18 07 03.0 +0.2**
comp=Z,34nm,1.3s
IL1 Eielson Array 39.10 37 *e* P **P 18 07 03.0 0.0**
ILAR Eielson Array 39.10 37 P **P 18 07 03.5 +0.6**
comp=Z,5.6nm,1.0s,baz=259,slow=8.2,SNR=30
ILB Eielson Array 39.10 37 *e* P **P 18 07 02.9 0.0**
GYA Guiyang 39.20 256 *e* P **P 18 07 03.5 -0.8**
GYA PMZ
comp=Z,10.0nm,0.8s
FYU Fort Yukon 39.76 34 *e* P **P 18 07 11.0 +2.7**
comp=Z,26nm,0.6s
KLU Klutina 39.76 42 *e* P **P 18 07 09.6 +1.0**
comp=Z,70nm,2.0s
DIV Divide 39.88 43 *e* P **P 18 07 09.4 -0.1**
comp=Z,14nm,0.7s
DOT Dot Lake 40.40 39 *e* P **P 18 07 14.5 +0.8**
comp=Z,26nm,0.8s

BMRM Bremner River 40.46 43 *e*P **P 18 07 15.1 +0.8**
comp=Z,20nm,1.2s
RAGM Ragged Mountai 40.51 44 *e*P **P 18 07 15.1 +0.4**
comp=Z,41nm,1.4s
CRQM Cirque 41.20 43 *e*P **P 18 07 22.5 +2.0**
comp=Z,28nm,0.9s
BALM Baldy 41.54 43 *e*P **P 18 07 23.9 +0.7**
BALM pmax pmax
comp=Z,11nm,1.0s
BALM Baldy 41.54 43 *e*P **P 18 07 23.9 +0.7**
comp=Z,11nm,1.0s
EGAK Eagle 41.55 37 *e*P **P 18 07 23.4 +0.3**
comp=Z,36nm,1.6s
ZAA1 Zalesovo Array 41.69 306 *e*P **P 18 07 22.4 -1.9**
ZAA1 *e*PcP **PcP 18 09 19.8 +0.5**
ZAA0 Zalesovo Array 41.69 306 *e*P **P 18 07 22.2 -2.2**
ZALV Zalesovo Beam 41.69 306 P **P 18 07 22.4 -1.9**
comp=Z,2.0nm,0.5s,baz=65,slow=7.3,SNR=12
ZALV PcP **PcP 18 09 19.8 +0.5**
comp=Z,1.9nm,0.8s,baz=109,slow=4.4,SNR=3.6
ZALV LR LR 18 25 13.2
comp=Z,44nm,18.9s,baz=70,slow=37
DAWY Dawson 42.41 38 *e*P **P 18 07 30.9 +0.8**
KMI Kunming 42.76 258 P **P 18 07 34.5 +0.8**
KMI PMZ
comp=Z,11nm,0.6s
KMI PMZ
comp=Z,120nm,4.8s
WMQ Urumqi 43.39 291 P **P 18 07 37.9 -0.5**
WMQ pP pP 18 07 59.9 0.0
WMQ sP sP 18 08 11.9 +1.6
WMQ PMZ
comp=Z,10.0nm,1.0s
WMQ PMZ
comp=Z,96nm,5.2s
WMQ LN
comp=Z,23nm,16.2s
WMQ LE
comp=Z,28nm,17.6s
INK Inuvik 44.10 31 P **P 18 07 43.4 -0.2**
comp=Z,6.5nm,0.5s,baz=281,slow=6.5,SNR=19
SKAG Skagway 45.30 44 *e*P **P 18 07 55.9 +2.7**
comp=Z,11nm,1.0s
MK31 Makanchi Array 45.65 297*ce*P **P 18 07 55.2 -1.0**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 45.65 297 *e*P **P 18 07 55.2 -1.0**
MK32 Makanchi Array 45.65 297 *e*P **P 18 07 55.1 -1.1**
MK32 *e*PcP **PcP 18 09 33.3 +0.4**
MKAR Makanchi Array 45.65 297 P **P 18 07 55.1 -1.1**
comp=Z,7.2nm,0.7s,baz=77,slow=7.9,SNR=68
MKAR PcP **PcP 18 09 33.3 +0.4**
comp=Z,1.6nm,0.6s,baz=78,slow=4.1,SNR=4.0
MKAR LR LR 18 28 22.7
comp=Z,46nm,20.2s,baz=48,slow=38
MKAR Makanchi Array 45.65 297*ce*P **P 18 07 55.0 -1.2**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MK01 Makanchi Array 45.65 297 *e*P **P 18 07 55.1 -1.2**
MAKZ Makanchi 45.84 297 *i* P **P 18 07 57.4 -0.3**
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
MAKZ Makanchi 45.84 297 *e*P **P 18 07 57.2 -0.5**
comp=Z,7.4nm,0.7s
KURK Kurchatov 46.34 304 *e*P **P 18 07 59.6 -1.9**
KURK pmax pmax
comp=Z,11nm,0.9s
KURK Kurchatov 46.34 304 *e*P **P 18 07 59.6 -1.9**
comp=Z,11nm,0.9s
MANU Manus Island 47.14 183 *e*P **P 18 08 08.7 +0.5**
comp=Z,8.6nm,0.8s
LSA Lhasa 48.11 272 *e*P **P 18 08 16.8 +0.6**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 48.11 272 *e*P **P 18 08 16.8 +0.6**
comp=Z,3.0nm,0.6s
DLBC Dease Lake 48.23 44 P **P 18 08 18.1 +1.8**
comp=Z,3.0nm,0.5s,baz=277,slow=11,SNR=7.2
DLBC Dease Lake 48.23 44 *e*P **P 18 08 17.7 +1.5**
comp=Z,7.1nm,1.2s
JAY Jayapura 48.26 192 P **P 18 08 18.3 +1.5**
comp=Z,0.8nm,0.8s,baz=270,slow=20,SNR=5.1
GENI Genyem 48.42 193 P **P 18 08 19.8 +1.8**
comp=Z,45nm,0.8s
PDGK Podgornoye 48.95 294 *i* P **P 18 08 22.4 +0.5**
PDGK pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 49.59 255 *e*P **P 18 08 26.7 -0.3**
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 49.59 255 *e*P **P 18 08 26.7 -0.3**
comp=Z,3.0nm,0.6s
CM31 Chiang Mai Arr 49.84 255 *e*P **P 18 08 28.2 -0.7**
CMAR Chiang Mai Arr 49.84 255 P **P 18 08 29.8 +0.9**
comp=Z,1.1nm,0.7s,baz=36,slow=7.9,SNR=12
CMAR PcP **PcP 18 09 49.7 +1.4**
comp=Z,0.8nm,0.8s,baz=4.8,slow=2.7,SNR=5.6
CM01 Chiang Mai Arr 49.85 255 *e*P **P 18 08 29.2 +0.2**
CM01 *e*PcP **PcP 18 09 48.5 +0.2**
VOSK Vostochnaya 49.88 309 *e*P **P 18 08 27.2 -1.7**
VOSK pmax pmax
comp=Z,9.0nm,0.6s
VOSK Vostochnaya 49.88 309 *e*P **P 18 08 27.2 -1.7**
comp=Z,8.5nm,0.6s
BRVK Borovoye 50.13 309 *e*P **P 18 08 29.2 -1.4**
BRVK pmax pmax
comp=Z,13nm,0.7s
BRVK Borovoye 50.13 309 *e*P **P 18 08 29.2 -1.4**
comp=Z,12nm,0.7s
GTOI Gorontalo 50.38 216 P **P 18 08 31.0 -1.9**
ZRNK Zerenda 50.87 310 *i* P **P 18 08 34.6 -1.7**
ZRNK pmax pmax
comp=Z,4.0nm,0.5s
ZRNK Zerenda 50.87 310 *e*P **P 18 08 35.1 -1.2**
comp=Z,5.4nm,0.6s
OTUK Ortayu 51.09 303 P **P 18 08 37.5 -0.5**
OTUK pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 51.64 296 *i* P **P 18 08 43.1 +0.7**
TKM2 pmax pmax
comp=Z,16nm,1.3s
TKM2 Tokmak 2 51.64 296 *e*P **P 18 08 43.3 +0.9**
comp=Z,26nm,1.4s
FRU Bishkek 52.31 296 *e*P **P 18 08 48.0 +0.8**
FRU Bishkek 52.31 296 *e*P **P 18 08 48.0 +0.8**
AAK Ala-Archa 52.49 296*ce*P **P 18 08 49.0 +0.4**
AAK pmax pmax
comp=Z,28nm,0.8s
AAK Ala-Archa 52.49 296 *e*P **P 18 08 49.5 +0.8**
AAK Ala-Archa 52.49 296 *e*P **P 18 08 49.0 +0.4**
comp=Z,11nm,0.8s
GUN Gumba 52.89 274 *e*P **P 18 08 53.7 +1.7**
comp=Z,34nm,0.5s
EKS2 Erkin-Say 52.93 296 *e*P **P 18 08 52.5 +0.6**
EKS2 pmax pmax
comp=Z,13nm,0.8s
EKS2 Erkin-Say 52.93 296 *e*P **P 18 08 52.5 +0.6**
comp=Z,13nm,0.8s
RES Resolute Bay 52.95 18 P **P 18 08 52.1 +0.8**
comp=Z,30nm,0.8s,baz=321,slow=8.0,SNR=12
KSH Kashi 53.15 292 P P 18 08 58.2 +4.7
KSH pP pP 18 09 21.4 +5.6
KSH PcP **PcP 18 10 05.1 +4.6**
KSH PP **PP 18 10 59.5 +5.5**
KSH S **S 18 16 17.9 +0.7**
KSH ScS **ScS 18 18 33.2 -1.0**
KSH SS **SKiKP 18 19 58.4 -3.2**
KSH PMZ
comp=Z,34nm,1.7s
KSH LN
comp=Z,73nm,5.1s
KSH LE
comp=Z,54nm,6.0s
KSH LZ
comp=Z,140nm,5.7s
KKN Kakani 53.39 274 *e*P **P 18 08 56.4 +0.9**
comp=Z,20nm,0.7s
SVE Sverdlovsk 53.40 317⇑ *i*P **P 18 08 54.2 -0.7**
SVE pmax pmax
comp=Z,30nm,0.7s
YKW3 Yellowknife Ar 53.41 35 *e*P **P 18 08 55.8 +0.9**
comp=Z,5.0nm,0.6s
YKW3 *e*pP **pP 18 09 17.6 +0.4**
YKA Yellowknife Ar 53.45 35 P **P 18 08 55.9 +0.8**
comp=Z,5.1nm,0.6s,baz=302,slow=7.0,SNR=20
YKA pP **pP 18 09 17.8 +0.4**
comp=Z,5.0nm,0.8s,baz=296,slow=6.8,SNR=9.0
YKB5 Yellowknife Ar 53.45 35 *e*P **P 18 08 55.0 -0.2**
YKB5 *e*pP **pP 18 09 17.5 0.0**
DMN Daman 53.62 274 *e*P **P 18 08 58.5 +1.2**
comp=Z,15nm,0.5s
SPITS Spitsbergen Ar 53.68 349 P **P 18 08 55.0 -1.7**
comp=Z,2.4nm,0.6s,baz=46,slow=4.2,SNR=4.9
SPITS Spitsbergen Ar 53.68 349 P **P 18 08 55.0 -1.7**
GKN Gorkha 53.71 275 *e*P **P 18 08 58.7 +0.9**
comp=Z,26nm,0.4s
MNAS Manas 53.83 297 *i* P **P 18 08 59.2 +0.7**
MNAS pmax pmax
comp=Z,16nm,0.9s
SBUM Sibu 53.95 229 *e*P **P 18 08 59.8 +0.4**
comp=Z,3.9nm,1.0s
KOLN Koldanda 54.58 275 *e*P **P 18 09 05.1 +0.9**
comp=Z,38nm,0.8s
ARU Arti 54.60 317*c i*P **P 18 09 02.1 -1.6**
ARU 18 10 03.1
ARU 18 11 06.8
ARU S **S 18 16 34.1 -1.9**
ARU 18 18 40.2
ARU SS **SS 18 20 16.7 -2.4**
ARU pmax pmax
comp=Z,24nm,0.6s
ARU Arti 54.60 317 *e*P **P 18 09 02.0 -1.6**
comp=Z,28nm,0.6s
KK31 Karatay Array 54.75 298*ce*P **P 18 09 05.0 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 54.75 298 *e*P **P 18 09 04.9 -0.1**
KKAR Karatay Array 54.75 298 *e*P **P 18 09 04.9 -0.1**
PYUN Piuthan 54.81 276 *e*P **P 18 09 08.0 +2.1**
comp=Z,76nm,0.9s
KSM Kuching 55.79 230 *e*P **P 18 09 13.8 +1.1**
comp=Z,8.5nm,0.8s
AB31 Akbulak array 57.66 309*ce*P **P 18 09 24.6 -0.9**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 57.66 309 *e*P **P 18 09 24.8 -0.7**
AKTO Aktyubinsk 58.05 311 *i* P **P 18 09 27.1 -1.1**
AKTO pmax pmax
comp=Z,3.0nm,0.6s
DZET Dzherino 58.18 295 P **P 18 09 29.8 +0.3**
DZET pmax pmax
comp=Z,39nm,1.2s
KULM Kulim 58.41 242 *e*P **P 18 09 32.1 +0.9**
comp=Z,44nm,1.8s
ARA0 ARCESS Array S 58.52 340 *e*P **P 18 09 30.0 -1.2**
ARA0 *e*PcP **PcP 18 10 23.1 +2.5**
ARCES ARCESS Array B 58.52 340 P **P 18 09 30.0 -1.2**
comp=Z,2.1nm,0.4s,baz=38,slow=9.1,SNR=36
ARCES PcP **PcP 18 10 23.1 +2.4**
comp=Z,1.9nm,0.8s,baz=54,slow=4.8,SNR=3.8
ARCES LR LR 18 38 50.8
comp=Z,19nm,18.5s,baz=240,slow=40
MYKOM Kota Tinggi 59.21 237 *e*P **P 18 09 38.3 +1.6**
comp=Z,11nm,1.0s
KLMR Klimovskoe 60.22 328 *e*P **P 18 09 40.3 -2.7**
KLMR pmax pmax
comp=Z,18nm,0.9s
MSF Maaselka 60.22 336 P **P 18 09 42.4 -0.6**
MSF pmax pmax
comp=Z,22nm,1.5s
KBL Kabul 60.52 291 *e*P **P 18 09 45.7 -0.1**
KBL pmax pmax
comp=Z,30nm,1.0s
KBL Kabul 60.52 291 *e*P **P 18 09 45.7 -0.1**
comp=Z,30nm,1.0s
K05A Summer Lake 60.93 57 *e*P **P 18 09 50.5 +2.1**
comp=Z,9.9nm,0.8s
PPBI Pangkal Pinang 61.11 232 P **P 18 09 51.3 +1.7**
comp=Z,23nm,0.8s
WALA Waterton Lakes 61.11 48 *e*P **P 18 09 52.0 +2.5**
comp=Z,6.8nm,1.0s
PSI Prapat 61.41 242 *e*P **P 18 09 52.0 +0.1**
PSI pmax pmax
comp=Z,4.0nm,0.9s
PSI Prapat 61.41 242 *e*P **P 18 09 52.0 +0.1**
comp=Z,4.4nm,0.9s
JOF Joensuu 61.67 333 P **P 18 09 51.3 -1.5**
JOF pmax pmax
comp=Z,24nm,0.9s
MOD Modoc Plateau 61.77 58 *e*P **P 18 09 54.7 +0.6**
comp=Z,4.4nm,0.8s
SWMT Swartz Lake 62.00 50 *e*P **P 18 09 55.9 +0.5**
SUMG Summit 62.33 3 *e*P **P 18 09 57.1 -0.5**
SUMG pmax pmax
comp=Z,20nm,0.9s
SUMG Summit 62.33 3 *e*P **P 18 09 57.1 -0.5**
comp=Z,20nm,0.9s
MSO Missoula 62.44 50 *e*pP pP 18 10 22.6 +1.3
WVOR Wild Horse Val 62.45 57 *e*P **P 18 09 59.2 +0.7**
WVOR *e*PP **pP 18 10 22.7 +1.3**
WVOR Wild Horse Val 62.45 57 *e*P **P 18 09 59.2 +0.7**
WVOR *e*pP **pP 18 10 22.6 +1.3**
ORV Oroville 62.46 61 *e*P **P 18 09 59.2 +0.7**
ORV *e**PP **pP 18 10 21.7 +0.3**
ORV Oroville 62.46 61 *e*P **P 18 09 59.2 +0.7**
ORV *e*pP **pP 18 10 21.7 +0.3**
CHMT Chamberlain Mo 62.76 50 *e*P **P 18 10 00.4 -0.3**
AFDM Forest Hills D 63.15 61 *e*P **P 18 10 03.7 +0.5**
comp=Z,3.8nm,1.1s
AFDM *e*pP **pP 18 10 27.3 +1.2**
FFC Flin Flon 63.31 38 *e*P **P 18 10 04.8 +0.9**
FFC *e**PP **pP 18 10 26.8 0.0**
FFC Flin Flon 63.31 38 *e*P **P 18 10 04.7 +0.9**
FFC Flin Flon 63.31 38 *e*P **P 18 10 04.8 +0.9**
FFC *e*pP **pP 18 10 26.8 0.0**
PAHR Pah Rah Range 63.66 59 *e*P **P 18 10 07.9 +1.3**
PAHR *e*pP **pP 18 10 31.1 +1.5**
FCC Fort Churchill 63.72 31 *e*P **P 18 10 09.3 +2.8**
FCC pmax pmax
comp=Z,9.0nm,0.4s
FCC Fort Churchill 63.72 31 *e*P **P 18 10 09.3 +2.8**
comp=Z,8.9nm,0.4s
LRM Limekiln Ridge 63.88 51 *e*P **P 18 10 08.8 +0.7**
LRM *e*pP **pP 18 10 32.1 +1.1**
CMB Columbia Colle 64.08 61 *e*P **P 18 10 09.2 -0.1**
CMB *e**PP **pP 18 10 33.3 +1.1**
CMB Columbia Colle 64.08 61 *e*P **P 18 10 09.2 -0.1**
CMB *e*pP **pP 18 10 33.3 +1.1**
DLMT Dillon 64.08 51 *e*P **P 18 10 10.3 +1.0**
comp=Z,3.4nm,0.9s
SAO San Andreas Ge 64.20 63 *e*P **P 18 10 11.4 +1.4**
SAO pmax pmax
comp=Z,9.0nm,1.0s
SAO San Andreas Ge 64.20 63 *e*P **P 18 10 11.4 +1.4**
comp=Z,8.6nm,1.0s
MCMT McKenzie Canyo 64.28 52 *e*P **P 18 10 11.5 +0.7**
MCMT *e*pP **pP 18 10 34.3 +0.5**
WAKR Walker 64.37 60 *e*P **P 18 10 12.5 +1.1**
WAKR *e*pP **pP 18 10 34.9 +0.5**
FIA1 FINESS Array S 64.42 334 *e*P **P 18 10 09.2 -1.8**
comp=Z,15nm,0.6s
FIA1 *e*pP **pP 18 10 30.0 -4.0**
FIA0 FINESS Array S 64.42 334 *e*P **P 18 10 09.5 -1.5**
FIA0 FINESS Array S 64.42 334 *e*P **P 18 10 09.5 -1.5**
FINES FINESS Array B 64.42 334 P **P 18 10 09.5 -1.5**
comp=Z,10nm,0.5s,baz=30,slow=8.1,SNR=98
BOZ Bozeman (W) 64.43 50 *e*P **P 18 10 10.7 -0.9**
BOZ pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 64.43 50 *e*P **P 18 10 10.7 -0.9**
comp=Z,4.8nm,0.9s
BMN Battle Mountai 64.51 58 *e*P **P 18 10 13.0 +0.7**
BMN *e**PP **pP 18 10 36.2 +0.9**
BMN pmax pmax
comp=Z,4.0nm,0.6s
BMN Battle Mountai 64.51 58 *e*P **P 18 10 13.0 +0.7**
comp=Z,3.7nm,0.6s
BMN *e*pP **pP 18 10 36.2 +0.9**
NV01 Mina Array Sit 65.11 60 *e*P **P 18 10 17.3 +1.1**
NV01 *e*pP **pP 18 10 40.1 +0.8**
NVAR Mina Array Bea 65.11 60 P **P 18 10 17.6 +1.4**
comp=Z,3.2nm,0.6s,baz=302,slow=7.4,SNR=18
NVAR pP **pP 18 10 40.7 +1.4**
comp=Z,4.5nm,0.8s,baz=292,slow=7.9,SNR=8.6
NV11 Mina Array Sit 65.20 60 *e*P **P 18 10 17.6 +0.9**
NV11 *e*pP **pP 18 10 40.8 +1.0**
OBN Obninsk 65.26 324*ce*P **P 18 10 15.2 -1.3**
OBN pmax pmax
comp=Z,16nm,0.6s
OBN Obninsk 65.26 324 *e*P **P 18 10 15.4 -1.1**
comp=Z,18nm,0.6s
GCMT Greycliff 65.40 49 *e*P **P 18 10 19.4 +1.5**
GEYT Alibeck 65.43 300 P **P 18 10 19.1 +1.0**
comp=Z,18nm,0.8s,baz=27,slow=3.6,SNR=48
GEYT LR LR 18 40 37.8
comp=Z,48nm,18.7s,baz=55,slow=38
ELK Elko 65.49 56 *e*P **P 18 10 19.5 +0.9**
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 65.49 56 *e*P **P 18 10 19.5 +0.9**
comp=Z,2.7nm,1.0s
YFT Old Faithful 65.63 51 *e*P **P 18 10 21.4 +1.9**
comp=Z,4.4nm,0.9s
H17A Grant Village 65.81 51 *e*P **P 18 10 23.2 +2.6**
comp=Z,3.6nm,0.8s
IMW Indian Meadow 65.93 51 *e*P **P 18 10 23.1 +1.6**
comp=Z,6.6nm,1.3s
LPSR Galich'ya Gora 66.01 321 *e*P **P 18 10 20.0 -1.4**
LPSR pmax pmax
comp=Z,30nm,1.0s
FXWY Fox Creek 66.05 52 *e*P **P 18 10 23.4 +1.3**
comp=Z,8.1nm,1.5s
MOOW Moose Ponds 66.13 51 *e*P **P 18 10 24.5 +1.8**
comp=Z,3.5nm,1.0s
MOOW *e*pP **pP 18 10 47.3 +1.5**
TPAW Teton Pass 66.19 52 *e*P **P 18 10 24.5 +1.4**
comp=Z,6.7nm,0.9s
HVU Hansel Valley 66.26 54 *e*P **P 18 10 23.6 +0.1**
HVU pmax pmax
comp=Z,3.0nm,0.8s
HVU Hansel Valley 66.26 54 *e*P **P 18 10 23.6 +0.1**
comp=Z,2.6nm,0.8s
LOHW Long Hollow 66.30 51 *e*P **P 18 10 24.9 +1.1**
comp=Z,10nm,1.6s
REDW Red Top Meadow 66.32 52 *e*P **P 18 10 23.9 -0.1**
comp=Z,5.9nm,0.9s
WRAB Tennant Creek 66.40 196*d i*P **P 18 10 23.8 -0.4**
WRAB *i* *PP **PcP 18 10 53.3 0.0**
WRAB pmax pmax
comp=Z,16nm,0.8s
WRAB Tennant Creek 66.40 196 *e*P **P 18 10 24.3 +0.1**
comp=Z,6.1nm,0.8s
WB2 Warramunga Arr 66.41 196 *e*P **P 18 10 23.9 -0.3**
comp=Z,6.6nm,0.8s
WR1 Warramunga Arr 66.41 196 *e*P **P 18 10 24.2 -0.1**
comp=Z,6.3nm,0.8s
WR1 *e*pP **pP 18 10 49.4 +2.0**
WRA Warramunga Arr 66.41 196 P **P 18 10 24.2 -0.1**
comp=Z,6.9nm,0.7s,baz=15,slow=6.7,SNR=41
WRA pP **pP 18 10 49.4 +1.9**
comp=Z,1.9nm,0.7s,baz=14,slow=6.6,SNR=3.7
R11A Troy Canyon, C 66.81 59 *e*P **P 18 10 27.6 +0.5**
comp=Z,4.0nm,1.0s
VSR Storozhevoye 66.86 320 *e*P **P 18 10 25.7 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.6s
DAC Darwin (Calif) 66.91 61 *e*P **P 18 10 28.2 +0.4**
DAC pmax pmax
comp=Z,5.0nm,1.3s
DAC Darwin (Calif) 66.91 61 *e*P **P 18 10 28.1 +0.4**
comp=Z,5.0nm,1.3s
HWUT Hardware Ranch 67.06 54 *e*P **P 18 10 29.4 +0.8**
comp=Z,2.2nm,0.8s
DUG Dugway, Tooele 67.26 55 *e*P **P 18 10 30.7 +0.9**
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 67.26 55 *e*P **P 18 10 30.7 +0.9**
DUG Dugway, Tooele 67.26 55 *e*P **P 18 10 30.7 +0.9**
comp=Z,3.7nm,0.9s
TPNV Topopah Spring 67.31 60 *e*P **P 18 10 31.1 +0.9**
TPNV pmax pmax
comp=Z,5.0nm,0.8s
TPNV Topopah Spring 67.31 60 *e*P **P 18 10 31.1 +0.9**
comp=Z,4.9nm,0.8s
BW06 Boulder Array 67.43 52 *e*P **P 18 10 31.3 +0.3**
comp=Z,2.9nm,0.8s
PD31 Pinedale Array 67.43 52 *e*P **P 18 10 31.8 +0.8**
PDAR Pinedale Array 67.43 52 P **P 18 10 31.6 +0.6**
comp=Z,1.8nm,0.8s,baz=318,slow=2.0,SNR=12
PDAR pP **pP 18 10 54.6 +0.5**
comp=Z,2.9nm,0.8s,baz=276,slow=2.5,SNR=8.3
SHPR Sheep Range 68.26 60 *e*P **P 18 10 37.7 +1.5**
comp=Z,4.0nm,0.9s
NC303 NORSAR Array S 68.70 340 *e*P **P 18 10 37.3 -1.0**
NC405 NORSAR Array S 68.71 340 *e*P **P 18 10 37.1 -1.3**
NC204 NORSAR Array S 68.80 340 *e*P **P 18 10 38.2 -0.8**
NB201 NORSAR Array S 68.87 340 *e*P **P 18 10 38.1 -1.3**
NB2 NORSAR Subarra 68.90 340 P **P 18 10 38.5 -1.1**
comp=Z,7.1nm,0.6s,baz=28,slow=6.5
NB2 NORSAR Subarra 68.90 340 P **P 18 10 38.4 -1.1**
NB2 pmax pmax
comp=Z,6.0nm,0.6s
NB200 NORSAR Array S 68.90 340 *e*P **P 18 10 38.6 -0.9**
NOA NORSAR Array B 68.90 340 P **P 18 10 38.6 -0.9**
comp=Z,6.6nm,0.6s,baz=29,slow=6.6,SNR=52
NOA LR LR 18 43 17.1
comp=Z,11nm,21.7s,baz=55,slow=38
NBO02 NORSAR Array S 68.97 340 *e*P **P 18 10 39.0 -1.0**
NBO00 NORSAR Array S 69.01 340 *e*P **P 18 10 39.4 -0.8**
MTPU Mount Pierson 69.04 57 *e*P **P 18 10 42.5 +1.2**
comp=Z,13nm,1.8s
LCMT Little Creek M 69.09 58 *e*P **P 18 10 42.6 +1.2**
NAO01 NORSAR Array S 69.15 340 *e*P **P 18 10 40.0 -1.1**
K22A Casper 69.17 50 *e*P **P 18 10 42.7 +0.9**
comp=Z,33nm,1.8s
LDFC Landfair 69.23 61 *e*P **P 18 10 42.9 +0.8**
GOF Gofitskoye 69.27 314⇑ *e*P **P 18 10 42.9 +0.8**
GOF pmax pmax
comp=Z,37nm,0.8s
SRU San Rafael Swe 69.31 55 *e*P **P 18 10 42.9 +0.2**
SRU San Rafael Swe 69.31 55 *e*P **P 18 10 42.9 +0.2**
KNB Kanab 69.34 58 *e*pP pP 18 11 07.6 +1.4
PFO Pinyon Flats O 69.35 63 *e*P **P 18 10 45.3 +2.4**
PFO pmax pmax
comp=Z,9.0nm,1.1s
PFO Pinyon Flats O 69.35 63 *e*P **P 18 10 45.3 +2.4**
comp=Z,9.0nm,1.1s
W13A Hualapai Mount 69.97 60 *e*P **P 18 10 46.8 -0.1**
comp=Z,3.4nm,1.0s
U15A North Rim 70.05 58 *e*pP pP 18 11 11.9 +1.2
NCK Nalchik 70.06 312‖ *e*P **P 18 10 47.9 +0.9**
NCK pmax pmax
comp=Z,23nm,0.9s
AS01 Alice Springs 70.11 196 *e*P **P 18 10 48.5 +1.1**
AS31 Alice Springs 70.12 196 *e*P **P 18 10 48.2 +0.8**
comp=Z,2.6nm,1.0s
ASAR Alice Springs 70.12 196 P **P 18 10 48.5 +1.0**
comp=Z,5.6nm,0.8s,baz=9.9,slow=6.1,SNR=60
KIV Kislovodsk 70.21 313*d i*P **P 18 10 49.2 +1.2**
KIV *i* *PP **pP 18 11 14.3 +2.9**
KIV *eS* **S 18 19 56.1 +3.8**
KIV pmax pmax
comp=Z,38nm,1.3s
KIV Kislovodsk 70.21 313 *e*P **P 18 10 49.2 +1.2**
KIV Kislovodsk 70.21 313 *e*P **P 18 10 49.0 +1.0**
comp=Z,24nm,0.9s
KBZ Khabaz 70.26 313 P **P 18 10 48.7 +0.6**
comp=Z,20nm,1.0s,baz=116,slow=1.3,SNR=36
ZEI Tsey 70.39 311 *e*P **P 18 10 48.8 -0.5**
ZEI pmax pmax
comp=Z,21nm,0.6s
ZEI Tsey 70.39 311 *e*P **P 18 10 48.8 -0.5**
NEY Neytrino 70.69 312‖ *e*P **P 18 10 52.2 +1.2**
NEY pmax pmax
comp=Z,3.0nm,0.9s
GLA Glamis 70.74 62 *e*P **P 18 10 52.5 +1.1**
GLA pmax pmax
comp=Z,7.0nm,0.9s
GLA Glamis 70.74 62 *e*P **P 18 10 52.5 +1.1**
comp=Z,6.8nm,0.9s
Y14A Wickenburg 71.28 61 *e*P **P 18 10 55.4 +0.8**
AKASG Malin Array Be 71.52 325 P **P 18 10 54.8 -0.9**
comp=Z,6.5nm,0.4s,baz=37,slow=6.3,SNR=42
AKBB Malin Array Si 71.52 325 *e*P **P 18 10 54.8 -0.9**
AKBB pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 71.52 325 *e*P **P 18 10 54.8 -0.9**
comp=Z,8.1nm,0.6s
KIEV Kiev 71.53 325*c i*P **P 18 10 54.6 -1.1**
KIEV *i* *PP **pP 18 11 19.3 +0.2**
KIEV pmax pmax
comp=Z,18nm,1.5s
KIEV Kiev 71.53 325 *e*P **P 18 10 54.9 -0.8**
comp=Z,6.1nm,0.6s
AK11 Malin Array Si 71.56 325 *e*P **P 18 10 55.1 -0.8**
GNI Garni 71.77 309*ce*P **P 18 10 59.6 +2.0**
GNI *i* *PP **sP 18 11 27.7 -3.2**

GNI pmax pmax
comp=Z,94nm,1.3s
GNI Garni 71.77 309 *e*P **P** 18 10 59.4 +1.8
comp=Z,19nm,0.8s
MVCO Mesa Verde 71.77 55 *e*P **P** 18 10 57.6 -0.1
comp=Z,18nm,1.3s
X16A Lo Mia Camp, P 71.91 59 *e*P **P** 18 10 59.6 +1.0
comp=Z,4.4nm,0.8s
ANN Anapa 72.25 316 *e*P P 18 10 54.9 -5.3
ANN *e**PP pP 18 11 24.1 +0.5
ANN *e* 18 13 39.1
ANN *e*PPP PPP 18 15 23.5
ANN *e*S **S** **18 20 06.7 -8.9**
ANN *e*SS **SS** **18 24 52.0 -2.0**
ANN *e*SSS SSS 18 28 12.2
ANN pmax pmax
comp=Z,26nm,1.2s
S22A 4UR Ranch, Cre 72.36 54 *e*P **P** **18 11 03.0 +1.7**
comp=Z,26nm,1.8s
X18A Snowflake 72.74 58 *e*P **P** **18 11 04.4 +0.9**
comp=Z,3.5nm,0.9s
BSD Bornholm Skovb 73.00 335 *i*P **P** **18 11 03.7 -0.7**
BSD pmax pmax
comp=Z,4.0nm,0.4s
BSD Bornholm Skovb 73.00 335 *i*P **P** **18 11 03.7 -0.7**
comp=Z,4.0nm,0.4s
TUC Tucson 73.75 61 *e*P **P** **18 11 09.9 +0.6**
TUC pmax pmax
comp=Z,4.0nm,1.1s
TUC Tucson 73.75 61 *e*P **P** **18 11 09.9 +0.6**
comp=Z,4.4nm,1.1s
T25A Trinidad 74.16 53 *e*P **P** **18 11 11.4 -0.4**
comp=Z,10.0nm,1.3s
ANMO Albuquerque 74.52 56⇓*e*P **P** **18 11 15.1 +1.2**
ANMO *i**PP **pP** **18 11 38.7 +1.2**
ANMO pmax pmax
comp=Z,5.0nm,1.8s
ANMO Albuquerque 74.52 56 *e*P **P** **18 11 14.2 +0.3**
KWP Kalwaria Pacla 74.93 328 *e*P **P** **18 11 16.4 +0.6**
KWP Kalwaria Pacla 74.93 328⇑*i*P **P** **18 11 16.4 +0.6**
KWP Kalwaria Pacla 74.93 328 *e*P **P** **18 11 16.4 +0.6**
319A Douglas 75.32 60 *e*P **P** **18 11 19.5 +1.1**
comp=Z,15nm,0.8s
OJC Ojcow 75.52 330 *e*P **P** **18 11 19.5 +0.4**
OJC Ojcow 75.52 330 *e*P **P** **18 11 19.1 0.0**
OJC pmax pmax
comp=Z,13nm,1.1s
OJC Ojcow 75.52 330 *e*P **P** **18 11 19.1 0.0**
OJC Ojcow 75.52 330 *e*P **P** **18 11 19.1 0.0**
comp=Z,13nm,1.1s
BUR08 Bucovina Ar. S 75.56 325 *e*P **P** **18 11 19.8 +0.3**
BURAR Bucovina Array 75.57 325⇓*i*P **P** **18 11 19.5 -0.1**
BURAR Bucovina Array 75.57 325 P **P** **18 11 19.5 -0.1**
STHS Stebnicka Huta 75.65 328 *e*P **P** **18 11 21.0 +1.0**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 75.65 328 *e*P **P** **18 11 21.0 +1.0**
KOLS Kolonicke sedl 75.66 327 *e*P **P** **18 11 20.2 +0.2**
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS Kolonicke sedl 75.66 327 *e*P **P** **18 11 20.2 +0.2**
CRVS Cervenica-Dubn 76.00 328 *e*P **P** **18 11 22.2 +0.3**
CRVS Cervenica-Dubn 76.00 328 *e*P **P** **18 11 22.2 +0.3**
NIE Niedzica 76.00 329 *e*P **P** **18 11 23.1 +1.1**
NIE Niedzica 76.00 329 *e*P **P** **18 11 23.1 +1.1**
CFR Carcaliu 76.27 322⇑*i*P **P** **18 11 23.8 +0.3**
ODBI Odobesti 76.28 323⇓*i*P **P** **18 11 24.4 +0.9**
ARCR ARCALIA 76.35 325⇑*i*P **P** **18 11 25.2 +1.3**
OKC Ostrava-Krasne 76.42 330 *e*P **P** **18 11 24.7 +0.4**
OKC Ostrava-Krasne 76.42 330 *e*P **P** **18 11 24.7 +0.4**
LANS Liptovska Anna 76.53 329 *e*P **P** **18 11 26.2 +1.3**
LANS Liptovska Anna 76.53 329 *e*P **P** **18 11 26.2 +1.3**
UPC Upice 76.59 332 *e*P **P** **18 11 25.6 +0.4**
UPC Upice 76.59 332 *e*P **P** **18 11 25.6 +0.4**
DPC Dobruska-Polom 76.62 332 *e*P **P** **18 11 25.9 +0.5**
DPC Dobruska-Polom 76.62 332 *e*P **P** **18 11 25.9 +0.5**
MORC Moravsky Berou 76.69 331⇑*i*P **P** **18 11 25.2 -0.6**
MORC Moravsky Berou 76.69 331 *e*P **P** **18 11 25.6 -0.2**
MORC pmax pmax
comp=Z,91nm,1.5s
MORC Moravsky Berou 76.69 331 *e*P **P** **18 11 25.6 -0.2**
comp=Z,91nm,1.5s
DOPR Dopca 76.82 324⇑*i*P **P** **18 11 27.8 +1.2**
CLL Collm 76.87 334⇑*i*P **P** **18 11 26.4 -0.3**
comp=Z,16nm,0.5s
CLL *e* 18 11 35.0
CLL Collm 76.87 334 *e*P **P** **18 11 26.0 -0.8**
CLL pmax pmax
comp=Z,15nm,0.6s
CLL Collm 76.87 334 *e*P **P** **18 11 25.9 -0.8**
CLL Collm 76.87 334 *e*P **P** **18 11 26.0 -0.8**
comp=Z,15nm,0.6s
BRG Berggiesshubel 76.95 333 *e*P **P** **18 11 26.9 -0.3**
comp=Z,3.6nm,0.8s
BRG Berggiesshubel 76.95 333 *e*P **P** **18 11 26.9 -0.3**
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 76.95 333 *e*P **P** **18 11 26.9 -0.3**
MLR Muntele Rosu 76.97 323⇓*i*P **P** **18 11 28.2 +0.6**
MLR Muntele Rosu 76.97 323 *e*P **P** **18 11 28.7 +1.1**
MLR pmax pmax
comp=Z,10.0nm,1.1s
MLR Muntele Rosu 76.97 323 *e*P **P** **18 11 28.6 +1.1**
comp=Z,9.5nm,1.1s
ISR Istrita 77.01 323⇑*i*P **P** **18 11 28.6 +0.9**
PVCC Panska Ves 77.04 333 *e*P **P** **18 11 28.0 +0.2**
PVCC Panska Ves 77.04 333 *e*P **P** **18 11 28.0 +0.2**
STKA Stephens Creek 77.13 187 P **P** **18 11 29.8 +1.6**
comp=Z,1.5nm,0.6s,baz=350,slow=5.8,SNR=6.1
STKA Stephens Creek 77.13 187 *e*P **P** **18 11 29.8 +1.6**
STKA pmax pmax
comp=Z,4.0nm,1.5s
STKA Stephens Creek 77.13 187 *e*P **P** **18 11 29.8 +1.6**
comp=Z,3.6nm,1.5s
DRGR 77.24 326⇑*i*P **P** **18 11 29.4 +0.4**
MSAB Monastry St. A 77.27 321⇓*i*P **P** **18 11 29.6 +0.5**
VYHS Vyhne 77.31 329 *e*P **P** **18 11 29.9 +0.6**
VYHS pmax pmax
comp=Z,3.0nm,0.6s
VYHS Vyhne 77.31 329 *e*P **P** **18 11 29.9 +0.6**
MNTX Cornudas Mount 77.45 58 *e*P **P** **18 11 30.9 +0.5**
comp=Z,5.5nm,1.1s
GOPC GO Pecny, Ondr 77.50 332 *e*P **P** **18 11 30.6 +0.2**
GOPC GO Pecny, Ondr 77.50 332 *e*P **P** **18 11 30.6 +0.2**
PRU Pruhonice 77.52 332 *e*P **P** **18 11 30.6 +0.2**
PRU Pruhonice 77.52 332 *e*P **P** **18 11 30.6 +0.2**
PRU Pruhonice 77.52 332 *e*P **P** **18 11 30.6 +0.2**
ARR Arges 77.62 324⇓*i*P **P** **18 11 32.5 +1.3**
TREC Trest 77.80 331 *e*P **P** **18 11 32.4 +0.4**
TREC Trest 77.80 331 *e*P **P** **18 11 32.4 +0.4**
BR101 Keskin Array S 77.91 315 *e*P **P** **18 11 34.0 +1.0**
BR131 Keskin Array S 77.91 315 *e*P **P** **18 11 33.9 +1.0**
BRTR Keskin Array B 77.91 315 P **P** **18 11 34.0 +1.0**
comp=Z,5.1nm,0.8s,baz=86,slow=4.5,SNR=28
NKC Novy Kostel 77.98 334 *e*P **P** **18 11 32.9 -0.1**
NKC Novy Kostel 77.98 334 *e*P **P** **18 11 32.9 -0.1**
BUD Budapest 78.08 328 P **P** **18 11 32.6 -1.0**
ANTO Ankara 78.22 316 *e*P **P** **18 11 35.9 +1.3**
ANTO pmax pmax
comp=Z,13nm,0.8s
ANTO Ankara 78.22 316 *e*P **P** **18 11 35.9 +1.3**
comp=Z,13nm,0.8s
BR231 Keskin MP Arra 78.25 316 *e*P **P** **18 11 34.5 -0.4**
KHC Kasperske Hory 78.58 332 *e*P **P** **18 11 36.0 -0.3**
KHC Kasperske Hory 78.58 332 *e*P **P** **18 11 36.0 -0.3**
KHC Kasperske Hory 78.58 332 *e*P **P** **18 11 36.0 -0.3**
BZS Buzias 78.64 326⇑*i*P **P** **18 11 36.8 +0.1**
GEC2 GERESS Array S 78.78 332 *e*P **P** **18 11 37.8 +0.2**
GEC2 pmax pmax
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 78.78 332 *e*P **P** **18 11 37.8 +0.2**
comp=Z,4.9nm,0.7s
GERES GERESS Array B 78.78 332 P **P** **18 11 37.8 +0.2**
comp=Z,4.0nm,0.6s,baz=35,slow=5.5,SNR=36
GEA0 GERESS Array S 78.79 332 *e*P **P** **18 11 37.3 -0.3**
MOA Molln 79.46 331 *i*P **P** **18 11 41.7 +0.6**
comp=Z,3.7nm,0.7s
MEM Membach 79.52 338 P **P** **18 11 42.1 +0.7**
ARSA Arzberg 79.54 330 *i*P **P** **18 11 42.5 +0.8**
comp=Z,2.6nm,0.6s
BCLA Clavier 79.88 338 P **P** **18 11 44.1 +0.8**
TX31 Lajitas Ar. Si 80.18 58 *e*P **P** **18 11 46.1 +0.6**
LTX Lajitas 80.18 58 *e*P **P** **18 11 46.2 +0.7**
LTX Lajitas 80.18 58 *e*P **P** **18 11 46.1 +0.7**

TXAR Lajitas Array 80.18 58 P **P** **18 11 46.1 +0.7**
comp=Z,4.9nm,0.5s,baz=300,slow=4.0,SNR=51
TXAR pP **pP** **18 12 10.3 +1.0**
comp=Z,3.0nm,0.5s,baz=300,slow=3.8,SNR=9.3
SOKA Soboth 80.20 330 *i*P **P** **18 11 45.7 +0.4**
comp=Z,4.8nm,0.8s
GROS Grobnik 80.23 330 *i*P **P** **18 11 45.7 +0.3**
KBA Koelnbreinsper 80.44 332 *i*P **P** **18 11 47.6 +0.9**
comp=Z,11nm,0.7s,SNR=11
KBA Koelnbreinsper 80.44 332 P **P** **18 11 47.9 +1.2**
BAIF Baives 80.50 338 *e*P **P** **18 11 45.9 -0.8**
OBKA Obir 80.52 331 *i*P **P** **18 11 47.3 +0.3**
comp=Z,5.7nm,0.6s
GCIS Gornji Cirnik 80.69 330 *i*P **P** **18 11 48.1 +0.3**
LEGS Legarje 80.73 330 *i*P **P** **18 11 48.3 +0.2**
WATA Walderalm 80.80 333 *i*P **P** **18 11 49.2 +0.7**
comp=Z,6.4nm,0.5s,SNR=7.2
WTTA Wattenberg 80.84 333 *i*P **P** **18 11 49.7 +0.9**
comp=Z,7.6nm,0.5s
BFO Black Forest 80.92 335 *i*P **P** **18 11 50.4 +1.4**
BFO Black Forest 80.92 335 *e*P **P** **18 11 49.4 +0.3**
comp=Z,5.5nm,0.9s
MOTA Moosalm 80.94 333 *i*P **P** **18 11 49.9 +0.6**
comp=Z,12nm,0.8s,SNR=9.3
ABTA Abfaltersbach 81.00 332 *i*P **P** **18 11 50.3 +0.8**
comp=Z,2.7nm,0.9s
CDF Champ du Feu 81.15 336 *e*P **P** **18 11 50.4 +0.1**
CDF pmax pmax
comp=Z,6.0nm,0.8s
DAVA Damuels 81.38 334 *i*P **P** **18 11 52.0 +0.4**
comp=Z,6.8nm,0.8s
CSS Mathiatis 81.71 312 *e*P **P** **18 11 53.9 +0.5**
comp=Z,3.2nm,0.7s
HINF Hinteralfeld 81.81 336 *e*P **P** **18 11 53.5 -0.3**
HINF pmax pmax
comp=Z,4.0nm,0.8s
FUORN Ofenpass-Fuorn 81.85 333 *e*P **P** **18 11 55.0 +0.7**
comp=Z,15nm,1.4s
MIAR Mount Ida 82.00 48 *e*P **P** **18 11 54.9 0.0**
MIAR pmax pmax
comp=Z,7.0nm,0.7s
MIAR Mount Ida 82.00 48 *e*P **P** **18 11 54.9 0.0**
comp=Z,6.5nm,0.7s
TUE Stuetta 82.27 334 *e*P **P** **18 11 56.8 +0.4**
comp=Z,7.3nm,0.7s
FNA Florina 82.74 323 *e*P **P** **18 11 59.3 +0.6**
FLN La Foliniere 82.86 341 *e*P **P** **18 11 59.5 +0.4**
FLN pmax pmax
comp=Z,9.0nm,0.7s
SENIN Lac Senin/Sane 83.00 335 *e*P **P** **18 12 00.3 +0.1**
comp=Z,3.2nm,0.8s
CABF La Chapelle 83.13 336 *e*P **P** **18 12 01.0 +0.3**
CABF pmax pmax
comp=Z,19nm,1.4s
GRR Gorron 83.30 341 *e*P **P** **18 12 02.0 +0.6**
GRR pmax pmax
comp=Z,12nm,0.8s
AVF Avril sur Loir 83.73 338 *e*P **P** **18 12 04.1 +0.5**
AVF pmax pmax
comp=Z,7.0nm,0.8s
LPL La Plagne 83.93 335 *e*P **P** **18 12 05.9 +0.9**
LPL pmax pmax
comp=Z,5.0nm,0.8s
LPG La Plagne 83.94 335 *e*P **P** **18 12 06.1 +1.0**
LPG pmax pmax
comp=Z,8.0nm,0.9s
QUIF Quistinic 84.26 342 *e*P **P** **18 12 07.0 +0.7**
QUIF pmax pmax
comp=Z,43nm,1.6s
ORIF Oris-en-Rattie 84.73 335 *e*P **P** **18 12 09.8 +1.0**
ORIF pmax pmax
comp=Z,11nm,0.6s
VIVF Saint-Julien-l 85.14 336 *e*P **P** **18 12 11.9 +1.1**
VIVF pmax pmax
comp=Z,3.0nm,0.7s
SWET Sewanee 85.32 43 *e*P **P** **18 12 11.3 -0.6**
LAST Lasithi 85.50 317 *e*P **P** **18 12 13.8 +1.0**
comp=Z,72nm,0.9s
IDI Anoyia 85.67 318 *e*P **P** **18 12 13.7 0.0**
comp=Z,13nm,0.8s
CAF Calviac 85.80 338 *e*P **P** **18 12 15.0 +0.9**
CAF pmax pmax
comp=Z,6.0nm,0.7s
CPCT Cooper Cave 85.80 42 *e*P **P** **18 12 14.5 +0.2**
TIP Timpagrande 86.00 325 *e*P **P** **18 12 16.2 +1.0**
comp=Z,17nm,1.1s
BLA Blacksburg 86.20 38 *e*PP PP 18 15 40.9 +3.7
ES19 SONSECA Array 92.22 340 *e*P **P** **18 12 44.7 +0.1**
ESDC Sonseca Array 92.26 340 P **P** **18 12 44.8 +0.1**
comp=Z,0.6nm,0.6s,baz=29,slow=3.8,SNR=4.9
VNDA Vanda 122.72 177 PKP **PKPdf** **18 18 29.1 +0.5**
comp=Z,1.6nm,0.7s,baz=329,slow=4.9,SNR=14
LPAZ La Paz 137.02 60 PKP **PKPdf** **18 18 58.6 +0.4**
comp=Z,1.1nm,0.7s,baz=274,slow=1.4,SNR=5.2
BDFB Brasilia 146.84 33 PKPbc **PKPbc** **18 19 17.2 +0.2**
comp=Z,7.5nm,0.6s,baz=173,slow=1.0,SNR=9.1
NVL N'lazarevskaya 147.35 204 *e*PKP2 **PKPab** **18 19 18.7 -0.1**
PLCA Paso Flores 150.29 96 PKPbc **PKPbc** **18 19 26.1 +0.9**
comp=Z,13nm,0.8s,baz=290,slow=3.1,SNR=20
PLCA Paso Flores 150.29 96 *e*PKPbc **PKPbc** **18 19 25.8 +0.6**
SNAA Sanae 150.47 197 PKP **PKPbc** **18 19 24.1 -0.5**
CPUP Villa Florida 151.15 58 PKPbc **PKPbc** **18 19 28.0 +0.4**
comp=Z,1.2nm,0.8s,baz=315,slow=1.2,SNR=7.2
CPUP PKPab **PKPab** **18 19 35.5 -0.1**
comp=Z,1.9nm,0.5s,baz=312,slow=3.3,SNR=4.3
CPUP Villa Florida 151.15 58 *e*PKPbc **PKPbc** **18 19 27.7 +0.1**
CPUP *e*PKPab **PKPab** **18 19 35.5 -0.1**

*ISK **03** 18:26:18.8,39˚.12N×29˚.03E,h5km,MD2.8*
*ISCJB **03** 18:26:19.3±0.5,39˚.11N±0˚.02×29˚.03E±0˚.03,h2km±5km, Error ellipse: s-maj=4.0km s-min=3.5km az=171.5*
*CSEM **03** 18:26:19.6±0.1,39˚.11N×29˚.04E,h5km,ML3.4,Error ellipse: s-maj=1.7km s-min=1.4km az=164.0*
*DDA **03** 18:26:19.1,39˚.11N×29˚.02E,h7km,Ml3.4*

ISC 03 18:26:19.5±1.0,39˚.12N±0˚.02×29˚.04E±0˚.02,h5km±9km, n32,σ0s69/53,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**253**	P	**Pg**	**18 26 24.7**	**+0.1**
DEMI				S	**Sg**	**18 26 28.1**	**0.0**
DEMI	**Demirci**	**0.26**	**253**	*i*P	**Pg**	**18 26 24.7**	**+0.1**
DEMI				*i*S	**Sg**	**18 26 28.1**	**0.0**
GDZ	**Gediz**	**0.35**	**95**	P	**Pg**	**18 26 26.6**	**+0.3**
GDZ				S	**Sg**	**18 26 31.9**	**+1.0**
GDZ	**Gediz**	**0.35**	**95**	*i*P	**Pg**	**18 26 26.6**	**+0.3**
GDZ				*i*S	**Sg**	**18 26 31.9**	**+1.0**
TVSB	**Tavsanli**	**0.47**	**45**	*e*PG	**Pg**	**18 26 28.5**	**0.0**
TVSB				*e*SG	**Sg**	**18 26 35.0**	**+0.4**
TVSB	**Tavsanli**	**0.47**	**45**	*e*Pg	**Pg**	**18 26 28.5**	**0.0**
TVSB				*e*Sg	**Sg**	**18 26 35.0**	**+0.4**
DST	**Dursunbey**	**0.58**	**326**	*e*PG	**Pg**	**18 26 30.7**	**0.0**
DST				*e*SG	**Sg**	**18 26 38.9**	**+0.6**
DST	**Dursunbey**	**0.58**	**326**	*e*Pg	**Pg**	**18 26 30.7**	**0.0**
DST				*e*Sg	**Sg**	**18 26 38.9**	**+0.6**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG	**Pg**	**18 26 32.2**	**-0.2**
KULA				*e*SG	**Sg**	**18 26 41.1**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*Pg	**Pg**	**18 26 32.2**	**-0.2**
KULA				*e*Sg	**Sg**	**18 26 41.1**	**0.0**
KHAL	**Karahalli**	**0.83**	**154**	P	**Pb**	**18 26 35.7**	**-0.7**
KHAL				S	**Sb**	**18 26 46.8**	**-1.1**
KHAL	**Karahalli**	**0.83**	**154**	*i*P	**Pb**	**18 26 35.7**	**-0.7**
KHAL				*i*S	**Sb**	**18 26 46.8**	**-1.1**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pg**	**18 26 36.3**	**-0.1**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pg**	**18 26 36.3**	**-0.1**
AKHS	**Akhisar**	**0.98**	**256**	P	**Pb**	**18 26 38.4**	**-0.6**
AKHS				S	**Sb**	**18 26 51.9**	**-0.3**
AKHS	**Akhisar**	**0.98**	**256**	*i*P	**Pb**	**18 26 38.4**	**-0.6**
AKHS				*i*S	**Sb**	**18 26 51.9**	**-0.3**
AKS	**Akhisar**	**0.98**	**256**	*e*PG	**Pb**	**18 26 38.7**	**-0.3**
AKS	**Akhisar**	**0.98**	**256**	*e*Pg	**Pb**	**18 26 38.7**	**-0.3**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pb**	**18 26 39.9**	**0.0**
BALB				*e*SG	**Sb**	**18 26 54.0**	**+0.2**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pb**	**18 26 39.9**	**0.0**
BALB				*e*Sg	**Sb**	**18 26 54.0**	**+0.2**
IGD	**Bursa**	**1.15**	**6**	*i*P	**Pg**	**18 26 38.7**	**-1.9**
IGD				*i*S	**Sb**	**18 26 57.2**	**+0.1**
BORA	**Eskisehir**	**1.33**	**55**	P	**Pn**	**18 26 44.4**	**-0.5**
BORA				S	**Sn**	**18 27 03.3**	**+0.3**
BORA	**Eskisehir**	**1.33**	**55**	*i*P	**Pn**	**18 26 44.4**	**-0.5**
BORA				*i*S	**Sn**	**18 27 03.3**	**+0.3**
DNZL	**Cakiroluk**	**1.43**	**180**	P	**Pn**	**18 26 45.9**	**-0.3**
DNZL				*i*P	**Pn**	**18 26 45.9**	**-0.3**
DNZL				*i*S	**Sn**	**18 27 08.6**	**+3.1**
ESKT	**Eskisehir**	**1.46**	**74**	*e*PN	**Pg**	**18 26 47.2**	**-0.3**
ESKT	**Eskisehir**	**1.46**	**74**	*e*Pn	**Pg**	**18 26 47.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**218**	*e*PN	**Pb**	**18 26 46.9**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**218**	*e*Pn	**Pb**	**18 26 46.9**	**-0.6**
KNL	**Bal˙–kesir**	**1.64**	**315**	*i*P	**Pn**	**18 26 48.7**	**-0.2**
KNL				*i*S	**Sb**	**18 27 11.1**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*PN	**Pn**	**18 26 53.6**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*Pn	**Pn**	**18 26 53.6**	**+0.2**

IDC 03 18:36:48.0±3.2,22˚.55N×11˚.84W,h0km,mb1 3.6/2, mb1mx3.2/30,mbtmp3.6/2,ML3.3/2,Error ellipse: s-maj=152.4km s-min=55.3km az=64.0,Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.91**	**124**	Pn	Pn	18 40 33.4	-0.1
	0.1nm,0.3s,baz=315,slow=12,SNR=3.8						
TORD				Sn	Sn	18 43 23.4	-7.3
	0.1nm,0.3s,baz=310,slow=20,SNR=2.8						
DBIC	**Dimbokro**	**17.17**	**156**	P	Pn	18 40 49.5	0.0
	0.3nm,0.3s,baz=323,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**148.41**	**92**	PKPbc	PKPbc	18 56 36.5	-0.8
	0.2nm,0.7s,baz=307,slow=1.7,SNR=3.4						
ASAR	**Alice Springs**	**148.52**	**99**	PKPbc	PKPbc	18 56 37.0	-0.5
	0.3nm,0.8s,baz=293,slow=1.8,SNR=4.2						

IDC 03 18:53:31.6±6.2,30˚.63S×178˚.35W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.4/34,mbtmp3.6/2,Error ellipse: s-maj=240.8km s-min=59.2km az=155.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.80**	**267**	P	P	19 01 31.0	-0.3
	0.5nm,0.6s,baz=108,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**43.81**	**273**	P	P	19 01 39.6	+0.1
	0.5nm,0.5s,baz=113,slow=7.8,SNR=13						
FINES	**FINESS Array B**	**145.26**	**340**	PKPbc	PKPbc	19 13 09.3	-0.9
	1.9nm,0.9s,baz=64,slow=4.4,SNR=4.2						

*IDC **03** 18:59:31.4±1.6,0˚.47S×122˚.08E,h0km,mb3.2/3, mb1 3.5/4,mb1mx3.3/57,mbtmp3.4/4,ML3.9/1,Error ellipse: s-maj=59.2km s-min=25.3km az=66.0*
*ISCJB **03** 18:59:35.6±0.4,0˚.50S±0˚.05×122˚.01E±0˚.06,h49km, mb4.2/16,Error ellipse: s-maj=8.5km s-min=6.0km az=151.1*
*DJA **03** 18:59:36.3±0.3,0˚.S±2˚×12˚.2E±˚,h10km,M4.0/6,mb4.2/1, MLv3.8/6*
*NEIC **03** 18:59:37.1±0.8,0˚.68S×121˚.92E,h48km±8km,mb4.5/11, Error ellipse: s-maj=12.0km s-min=7.7km az=48.0*

ISC 03 18:59:37.0±0.5,0˚.48S±0˚.04×121˚.96E±0˚.04,h49km,n33, σ2s39/40,mb4.3/16,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.95**	**359**	P	**Pn**	**18 59 50.7**	**-3.3**
MRSI				S	**Sn**	**19 00 06.0**	**-0.5**
LUWI	**Luwuk**	**0.99**	**125**	P	**Pn**	**18 59 56.1**	**+1.5**
LUWI				S	**Sn**	**19 00 12.5**	**+5.0**
LUWI	**Luwuk**	**0.99**	**125**	*e*Pn	**Pn**	**18 59 53.9**	**-0.7**
LUWI				*e*Sn	**Sn**	**19 00 08.7**	**+1.2**
PCI	**Palu**	**2.16**	**259**	P	**Pn**	**19 00 10.6**	**0.0**
PCI				S	**Sn**	**19 00 40.6**	**+4.4**
TTSI	**Tana Toraja**	**3.33**	**220**	P	**Pn**	**19 00 27.5**	**+0.9**
TTSI				S	**Sn**	**19 01 10.1**	**+5.2**
KAPI	**Kappang**	**5.02**	**206**	Pn	**Pn**	**19 00 48.1**	**-1.7**
	4.7nm,0.3s,baz=352,slow=5.8,SNR=5.5						
KAPI				Sn	**Sn**	**19 01 43.3**	**-3.2**
	0.7nm,0.3s,baz=252,slow=20,SNR=3.2						
KAPI	**Kappang**	**5.02**	**206**	*e*Pn	**Pn**	**19 00 46.3**	**-3.5**
KAPI				Sn	**Sn**	**19 01 43.3**	**-3.2**
MYLDM	**Lahad Datu**	**6.59**	**328**	*e*Pn	**Pn**	**19 01 13.7**	**+2.3**
MYLDM				*e*Sn	**Sn**	**19 02 23.1**	**-2.2**
KKM	**Kota Kinabalu**	**8.65**	**319**	*e*Pn	**Pn**	**19 01 42.3**	**+2.6**
SBUM	**Sibu**	**10.16**	**287**	*e*Pn	**Pn**	**19 02 03.2**	**+3.0**
FAKI	**Fak Fak**	**10.57**	**103**	*e*Pn	**Pn**	**19 02 07.1**	**+1.1**
JAGI	**Jajag, Banyuwa**	**11.11**	**224**	*e*Pn	**Pn**	**19 02 09.6**	**-3.8**
WR1	**Warramunga Arr**	**22.83**	**149**	*e*P	**P**	**19 04 36.2**	**+0.1**
	27nm,1.8s						
WRA	**Warramunga Arr**	**22.83**	**149**	P	**P**	**19 04 36.2**	**+0.1**
	0.5nm,0.7s,baz=329,slow=10.0,SNR=5.9						
AS31	**Alice Springs**	**25.80**	**154**	*e*P	**P**	**19 05 01.8**	**-2.0**
	2.2nm,1.5s						
ASAR	**Alice Springs**	**25.80**	**154**	P	**P**	**19 05 03.5**	**-0.2**
	0.3nm,0.9s,baz=341,slow=14,SNR=3.1						
CHTO	**Chiang Mai**	**29.64**	**312**	*e*P	**P**	**19 05 37.8**	**-0.3**
	8.8nm,1.8s						
INU	**Inuyama**	**38.31**	**20**	*e*P	**P**	**19 06 56.0**	**+3.0**
	29nm,1.9s						
HNR	**Honiara**	**38.84**	**104**	*e*P	**P**	**19 06 55.6**	**-2.2**
	21nm,0.8s						
MAJO	**Matsushiro**	**39.80**	**21**	*e*P	**P**	**19 07 06.8**	**+1.2**
	18nm,1.8s						
MJB9	**Matsu-Tunnel**	**39.81**	**21**	*e*P	**P**	**19 07 06.9**	**+1.4**
	4.7nm,1.8s						
SONA1	**Songino Array**	**50.00**	**346**	*e*P	**P**	**19 08 28.1**	**+1.6**
MSVF	**Nonsavu**	**57.72**	**111**	*e*P	**P**	**19 09 21.8**	**-1.5**
	12nm,1.2s						
MK01	**Makanchi Array**	**58.45**	**329**	*e*P	**P**	**19 09 29.4**	**+1.5**
MK31	**Makanchi Array**	**58.47**	**329**	*e*P	**P**	**19 09 29.9**	**+1.8**
MKAR	**Makanchi Array**	**58.47**	**329**	P	**P**	**19 09 29.9**	**+1.8**
	0.4nm,0.6s,baz=130,slow=7.7,SNR=5.5						
TKM2	**Tokmak 2**	**59.91**	**322**	*e*P	**P**	**19 09 37.6**	**-0.7**
	1.9nm,1.1s						
AAK	**Ala-Archa**	**60.44**	**321**	*e*P	**P**	**19 09 43.3**	**+1.3**
	8.5nm,1.9s						
KBL	**Kabul**	**60.45**	**311**	*e*P	**P**	**19 09 43.0**	**+0.8**
	4.2nm,0.6s						
ZAA0	**Zalesovo Array**	**62.32**	**336**	*e*P	**P**	**19 09 56.2**	**+2.0**
JOHN	**Johnston Islan**	**69.60**	**72**	*e*P	**P**	**19 10 39.1**	**-2.6**
	247nm,1.0s						
TIXI	**Tiksi**	**72.14**	**2**	*e*P	**P**	**19 10 55.7**	**-0.3**
	5.7nm,1.7s						
SYO	**Syowa Base**	**86.81**	**201**⇑*e*pP		pP	19 12 30.0	-0.2

*ECX **03** 19:04:32.9±0.4,31˚.35N×115˚.40W,h7km,MD2.3,ML2.5*
*MEX **03** 19:04:34.5±0.3,31˚.02N×115˚.64W,h28km±15km,MD3.8*

ISC 03 19:04:32.5±1.1,31˚.30N±0˚.04×115˚.45W±0˚.04, h11km±10km,n7,σ1s82/14,3C-1D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.26**	**183**	*i*P	**Pb**	**19 04 39.3**	**-0.2**
SPIG				*i*S	**Sg**	**19 04 42.9**	**+1.3**
SPIG	**San Pedro Mart**	**0.26**	**183**	*e*P	**Pg**	**19 04 38.8**	**+0.8**
SPIG				*e*S	**Sb**	**19 04 43.6**	**-0.4**
ECBX	**El Chinero**	**0.38**	**64**⇑*e*P		**Pg**	**19 04 38.7**	**-1.4**
ECBX				*e*S	**Sg**	**19 04 43.3**	**-1.7**
ZAX	**El Zacaton**	**0.74**	**287**⇑*e*P		**Pg**	**19 04 46.2**	**-0.5**
ZAX				*e*S	**Sg**	**19 04 56.5**	**

FITZ	**Fitzroy Crossi**	**51.57**	**262**	P		P		19 14 39.6	-0.4
	1.9nm,1.1s,baz=83,slow=8.1,SNR=4.8								

*IDC **03** 19:07:10.0±0.6, 14°.12N×120°.74E, h136km±5km, mb3.5/9, mb1 3.6/9, mb1mx3.2/53, mbtmp3.9/9, Error ellipse: s-maj=29.7km s-min=13.2km az=68.0*
*MAN **03** 19:07:10, 14°.15N×120°.40E, h114km, mb4.9, ML3.8, MS3.8*

ISC 03 19:07:09.9±0.8, **14°.14N**±0°.03×**120°.43E**±0°.07, **h129**km±6km, **n26**,σ1§**07**/38, **mb3.9**/9, **3C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.49**	**94**	P		**Pn**	**19 07 29.1**	**+0.1**
	214nm,0.3s,baz=234,slow=3.3,SNR=13							
TGY				S		**Sn**	**19 07 43.9**	**+0.6**
	647nm,0.3s,baz=180,slow=20,SNR=53							
TGY	**Tagaytay City**	**0.49**	**94**	⇑*eP*		**Pn**	**19 07 29.4**	**+0.4**
TGY				*eS*		**Sn**	**19 07 43.1**	**-0.2**
PGP	**Puerto Galera**	**0.81**	**141**	⇑*eP*		**Pn**	**19 07 30.8**	**-0.3**
PGP				*i* S		**Sn**	**19 07 46.6**	**-0.6**
BOAC	**Boac**	**1.53**	**116**	*eP*		**Pn**	**19 07 39.0**	**+0.8**
BOAC				*eS*		**Sn**	**19 08 00.8**	**+0.9**
PCPH	**Palayan**	**1.56**	**24**	⇑*eP*		**Pn**	**19 07 37.6**	**-1.0**
POLP	**Polillo Island**	**1.57**	**68**	*eP*		**Pn**	**19 07 39.6**	**+0.8**
SCZP	**Santa Cruz**	**1.71**	**343**	*eP*		**Pn**	**19 07 39.9**	**-0.5**
SCZP				*eS*		**Sn**	**19 08 02.7**	**-0.9**
SJMP	**San Jose**	**1.79**	**158**	*eP*		**Pn**	**19 07 41.9**	**+0.5**
SJMP				*eS*		**Sn**	**19 08 05.0**	**-0.4**
BALP	**Baler**	**1.94**	**35**	*eP*		**Pn**	**19 07 43.2**	**0.0**
GQP	**Guinayangan**	**1.97**	**96**	⇓*eP*		**Pn**	**19 07 44.0**	**+0.5**
BOLP	**Bolinao**	**2.29**	**347**	*eP*		**Pn**	**19 07 47.3**	**-0.2**
BOLP				*eS*		**Sn**	**19 08 15.8**	**-0.4**
OTRP	**Odiongan**	**2.34**	**139**	*eP*		**Pn**	**19 07 49.3**	**+1.1**
OTRP				*eS*		**Sn**	**19 08 17.1**	**-0.4**
ENPP	**El Nido**	**3.07**	**199**	*eP*		**Pn**	**19 07 58.7**	**+1.2**
ENPP				*eS*		**Sn**	**19 08 34.8**	**+0.6**
CAUP	**Cauayan**	**3.10**	**25**	*eP*		**Pn**	**19 07 58.1**	**+0.3**
CUYO	**Cuyo Island**	**3.31**	**170**	*eP*		**Pn**	**19 08 00.8**	**+0.2**
CUYO				*eS*		**Sn**	**19 08 39.2**	**-0.8**
ABRA	**Dolores**	**3.50**	**4**	*eP*		**Pn**	**19 08 02.2**	**-0.9**
ABRA				*eS*		**Sn**	**19 08 45.6**	**+1.3**
APYP	**Conner**	**3.79**	**12**	*eP*		**Pn**	**19 08 07.2**	**+0.4**
APYP				*eS*		**Sn**	**19 08 53.7**	**+2.8**
CMAR	**Chiang Mai Arr**	**21.07**	**285**	P		**P**	**19 11 47.0**	**+3.0**
	1.0nm,0.8s,baz=99,slow=8.4,SNR=8.2							
SONM	**Songino Array**	**35.57**	**344**	P		**P**	**19 13 55.4**	**+0.6**
	1.9nm,0.6s,baz=164,slow=9.8,SNR=18							
KLR	**Kul'dur**	**36.21**	**13**	P		**P**	**19 13 59.2**	**-0.9**
	1.6nm,0.6s,baz=248,slow=6.1,SNR=8.1							
WRA	**Warramunga Arr**	**36.52**	**158**	P		**P**	**19 14 01.1**	**-2.1**
	0.6nm,0.3s,baz=328,slow=10,SNR=18							
ASAR	**Alice Springs**	**39.81**	**161**	P		**P**	**19 14 29.4**	**-1.2**
	1.7nm,0.4s,baz=336,slow=6.7,SNR=42							
MKAR	**Makanchi Array**	**45.53**	**324**	P		**P**	**19 15 17.8**	**+1.2**
	0.3nm,0.4s,baz=111,slow=8.4,SNR=10							
ZALV	**Zalesovo Beam**	**48.55**	**333**	P		**P**	**19 15 39.9**	**0.0**
	0.9nm,0.4s,baz=131,slow=6.2,SNR=5.3							
FINES	**FINESS Array B**	**79.78**	**331**	P		**P**	**19 19 02.7**	**-0.8**
	0.6nm,0.5s,baz=69,slow=6.3,SNR=4.4							
YKA	**Yellowknife Ar**	**92.47**	**22**	P		**P**	**19 20 05.6**	**-0.4**
	0.3nm,0.5s,baz=306,slow=4.4,SNR=4.4							

TAP 03 19:11:54.6, 22°.43N×121°.40E, h20km±1km**, ML2.6, 1C, C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.40**	**325**	*eP*		Pb	19 12 03.0	+0.1
	baz=333							
TTN				*eS*		Sb	19 12 09.3	+0.7
	baz=333							
LAY	**Lan-yu**	**0.41**	**159**	P		Pb	19 12 02.6	-0.6
	baz=158							
LAY				S		Sb	19 12 08.7	-0.3
	baz=158							
ECL	**Taimali**	**0.44**	**293**	*i* P		Pb	19 12 03.4	-0.3
	baz=293							
ECL				*i* S		Sb	19 12 10.1	+0.3
	baz=293							
TAW	**Tawu**	**0.47**	**262**	*eP*		Pb	19 12 03.8	-0.3
	baz=261							
TWG	**Pinlang**	**0.49**	**323**	*eP*		Pb	19 12 04.3	-0.3
	baz=311							
TWG				*eS*		Sb	19 12 12.0	+0.6
	baz=311							
TWG	**Pinlang**	**0.49**	**323**	*e*ScP		Pb	19 12 04.0	-0.7
EAST	**Anshuo**	**0.51**	**265**	⇑*iP*		Pb	19 12 04.7	-0.3
	baz=265							
EAST				*i* S		Sb	19 12 11.8	-0.1
	baz=265							
CHKT	**Chengkung**	**0.67**	**358**	*eP*		Pb	19 12 06.6	-1.1
	baz=7.0							
CHKT				*eS*		Sb	19 12 15.3	-1.2
	baz=7.0							
TSEB	**Hengchuen, Pin**	**0.70**	**221**	*eP*		Pn	19 12 09.2	-0.2
	baz=223							
TSEB				*eS*		Sn	19 12 18.6	-0.9
	baz=223							
SCZT	**Fangliau**	**0.72**	**266**	*eP*		Pb	19 12 08.5	0.0
	baz=265							
SCZT				*eS*		Sb	19 12 18.2	+0.3
	baz=265							
TWK1	**Hengchun**	**0.73**	**229**	*eP*		Pb	19 12 08.0	-0.7
	baz=227							
TWK1				S		Sb	19 12 18.6	+0.5
	baz=227							
HEN	**Hengchun**	**0.74**	**236**	*eP*		Pb	19 12 09.3	+0.5
	baz=235							
SSD	**Sandimen**	**0.77**	**294**	*eP*		Pb	19 12 08.6	-0.8
	baz=302							
ELDTW	**Lidau**	**0.83**	**335**	*eP*		Pb	19 12 09.5	-1.1
	baz=336							
ELDTW				*eS*		Sb	19 12 21.1	-0.3
	baz=336							
TWF1	**Yuli**	**0.93**	**354**	*eP*		Pb	19 12 10.9	-1.1
	baz=340							
TWF1				*eS*		Sb	19 12 24.0	+0.1
	baz=340							
STYT	**Tauyuan**	**0.94**	**321**	*eP*		Pb	19 12 11.3	-1.0
	baz=333							
STYT				*eS*		Sb	19 12 24.6	+0.2
	baz=333							
TWM1	**Shoushan**	**0.98**	**294**	*eP*		Pn	19 12 13.4	+0.2
	baz=294							
WTP	**Ta-pu**	**1.09**	**319**	*eP*		Pn	19 12 14.7	-0.1
	baz=329							
WTP				*eS*		Sn	19 12 30.4	+1.1
	baz=329							
CHN1	**Nanshi**	**1.10**	**313**	*eP*		Pb	19 12 15.4	+0.4
	baz=314							
CHN1				*eS*		Sn	19 12 31.1	+1.6
	baz=314							
CHN4	**Tsaushan**	**1.18**	**321**	*eP*		Pb	19 12 16.4	0.0
	baz=322							
CHN4				*eS*		Sn	19 12 32.9	+1.4
	baz=322							
ALS	**Alishan**	**1.21**	**333**	*eP*		Pb	19 12 17.5	+0.5
	baz=334							
ALS				*eS*		Sn	19 12 33.9	+1.3
	baz=334							
CHN5	**Tsauling**	**1.34**	**331**	*eP*		Pb	19 12 18.8	-0.3
	baz=331							
CHN5				*eS*		Sb	19 12 38.1	+2.2
	baz=331							
TYC	**Yuchr**	**1.55**	**341**	*eP*		Pn	19 12 21.2	+0.1
	baz=353							
TYC				*eS*		Sb	19 12 41.7	-0.2
	baz=353							

*IDC **03** 19:19:14.9±1.0, 39°.28N×73°.07E, h0km, mb3.6/8, mb1 3.7/16, mb1mx3.5/64, mbtmp3.6/16, ML3.2/7, MS3.0/3, Ms1 3.0/3, ms1mx2.5/37, Error ellipse: s-maj=18.3km s-min=15.1km az=156.0*
*KRNET **03** 19:19:16.1±0.1, 39°.35N×72°.94E, h25km, mb4.0*
*SOME **03** 19:19:19.1, 39°.52N×73°.10E, h5km*
*NNC **03** 19:19:19.6±1.4, 39°.52N×72°.95E, h1km±9km, mb4.1, mpv3.9, Error ellipse: s-maj=11.8km s-min=6.8km az=141.0*

ISC 03 19:19:17.0±1.4, **39°.35N**±0°.04×**72°.81E**±0°.03, **h10**km±9km, **n56**,σ§**20**/82, **mb3.6**/9, **27C-30D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.17**	**359**	⇓*eP*		**Pb**	**19 19 39.7**	**+0.3**
	baz=354							
OHH				⇓*eS*		**Sg**	**19 19 56.0**	**+1.3**
	baz=354							
BTK	**Batken**	**1.69**	**295**	⇓*eP*		**Pg**	**19 19 49.1**	**-0.4**
	baz=294							
BTK				⇓*eS*		**Sg**	**19 20 14.3**	**+2.9**
	baz=294							
ARSB	**Arslanbob**	**1.97**	**4**	⇑*eP*		**Pn**	**19 19 51.8**	**+1.1**
	baz=1.0							
ARSB				⇑*eS*		**Sb**	**19 20 18.9**	**+1.1**
	baz=1.0							
KSH	**Kashi**	**2.45**	**85**	Pn		**Pn**	**19 19 53.6**	**-3.6**
KSH				Sn		**Sn**	**19 20 22.7**	**-4.7**
KSH				smax		smax		
	comp=N,450nm,0.7s							
KSH				smax		smax		
	comp=E,480nm,0.5s							
ARK	**Arkit**	**2.52**	**345**	⇓*eP*		**Pb**	**19 20 01.3**	**-1.2**
	baz=344							
ARK				⇓*eS*		**Sb**	**19 20 33.7**	**0.0**
	baz=344							
TOKL	**Toktogul**	**2.58**	**1**	⇑*eP*		**Pn**	**19 20 01.3**	**+2.3**
	baz=359							
TOKL				⇑*eS*		**Sb**	**19 20 35.4**	**0.0**
	baz=359							
AML	**Almayashu**	**2.85**	**13**	⇑*iP*		**Pn**	**19 20 04.7**	**+1.7**
	baz=11							
AML				⇑*iS*		**Sb**	**19 20 41.5**	**-1.9**
	baz=11							
MNAS	**Manas**	**3.14**	**356**	⇓*eP*		**Pn**	**19 20 09.0**	**+2.3**
	baz=354							
MNAS				⇓*eS*		**Sb**	**19 20 48.7**	**-2.7**
	baz=354							
MNAS	**Manas**	**3.14**	**356**	⇓Pn		**Pn**	**19 20 09.0**	**+2.3**
	comp=E,24nm,0.4s							
MNAS				⇓Lg		Lg	19 20 54.1	
	comp=E,78nm,0.6s							
UCH	**Uchtor**	**3.15**	**24**	⇓*iP*		**Pn**	**19 20 08.2**	**+1.1**
	baz=22							
UCH				⇓*iS*		**Sn**	**19 20 47.5**	**+2.6**
	baz=22							
DZET	**Dzherino**	**3.15**	**261**	⇓Pn		**Pb**	**19 20 11.6**	**-1.6**
	comp=E,11nm,0.4s							
DZET				⇑Pg		**Pg**	**19 20 19.4**	**+2.0**
	comp=E,44nm,0.6s							
DZET				⇑Lg		Lg	19 21 05.8	
	comp=E,148nm,0.5s							
NRN	**Naryn**	**3.20**	**49**	⇑*eP*		**Pn**	**19 20 08.5**	**+0.8**
	baz=47							
NRN				⇑*eS*		**Sn**	**19 20 47.4**	**+1.3**
	baz=47							
KZA	**Kyzart**	**3.29**	**33**	⇑*iP*		**Pn**	**19 20 10.4**	**+1.4**
	baz=32							
KZA				⇑*iS*		**Sn**	**19 20 50.4**	**+2.0**
	baz=32							
EKS2	**Erkin-Say**	**3.38**	**12**	⇑*iP*		**Pn**	**19 20 12.0**	**+2.0**
	baz=11							
EKS2				⇑*iS*		**Sn**	**19 20 53.9**	**+3.6**
	baz=11							
MRKS	**Merke**	**3.40**	**5**	*eP*		**Pb**	**19 20 16.9**	**-0.6**
	comp=E,72nm,0.5s							
MRKS				*eS*		**Sb**	**19 20 58.3**	**-0.6**
	comp=E,121nm,0.4s							
IUG	**Iuzhnay**	**3.50**	**324**	*eP*		**Pg**	**19 20 22.6**	**-1.5**
	comp=E,45nm,0.5s							
IUG				*eS*		**Sg**	**19 21 08.4**	**-1.0**
	comp=E,149nm,0.4s							
AAK	**Ala-Archa**	**3.52**	**21**	Pn		**Pn**	**19 20 13.8**	**+2.0**
	comp=E,14nm,0.3s,baz=175,slow=10,SNR=218							
AAK				Lg		Lg	19 20 56.5	
	comp=E,6.8nm,0.3s,baz=324,slow=21,SNR=5.6							
AAK				LR		LR	19 21 48.7	
	comp=E,67nm,19.7s,baz=208,slow=44							
AAK	**Ala-Archa**	**3.52**	**21**	⇓*iP*		**Pn**	**19 20 13.7**	**+1.8**
	baz=19							
AAK				⇓*iS*		**Sn**	**19 20 56.2**	**+2.6**
	baz=19							
AAK	**Ala-Archa**	**3.52**	**21**	⇑Pn		**Pn**	**19 20 13.7**	**+1.8**
	comp=E,43nm,0.5s							
AAK				⇑Lg		Lg	19 21 02.9	
	comp=E,54nm,0.5s							
FRU1	**Bishkek**	**3.72**	**21**	⇑*eP*		**Pn**	**19 20 16.5**	**+2.0**
	baz=20							
FRU1				⇑*eS*		**Sn**	**19 21 00.5**	**+2.1**
	baz=20							
BOOM	**Boomskoye usch**	**3.93**	**36**	⇑*eP*		**Pn**	**19 20 19.1**	**+1.5**
	baz=35							
BOOM				⇑*eS*		**Sn**	**19 21 04.9**	**+1.1**
	baz=35							
KK31	**Karatay Array**	**4.13**	**336**	⇑Pn		**Pn**	**19 20 22.6**	**+2.5**
	comp=E,3.2nm,0.3s,baz=137,slow=12,SNR=60							
KK31				⇓Pg		**Pg**	**19 20 34.0**	**-2.0**
	comp=E,11nm,0.5s,baz=139,slow=13,SNR=9.0							
KK31				⇓Sn		**Sn**	**19 21 11.3**	**+2.9**
	comp=E,7.4nm,0.3s,baz=139,slow=18,SNR=3.6							
KK31				⇓Lg		Lg	19 21 24.2	
	comp=E,18nm,0.3s,baz=93,slow=19,SNR=4.9							
TKM2	**Tokmak 2**	**4.14**	**30**	⇑Pn		**Pn**	**19 20 21.6**	**+1.1**
	comp=E,20nm,0.7s							
TKM2				⇑Pg		**Pg**	**19 20 33.2**	**+3.1**
	comp=E,20nm,0.7s							
TKM2				⇓Lg		Lg	19 21 24.6	
	comp=E,20nm,0.5s							
BRLS	**Boroldoy**	**4.17**	**326**	*eP*		**Pg**	**19 20 34.4**	**-2.4**
	comp=E,18nm,0.3s							
BRLS				*eS*		**Sg**	**19 21 28.8**	**-1.9**
	comp=E,50nm,0.4s							
KDJ	**Kajisay**	**4.32**	**49**	⇓*eP*		**Pn**	**19 20 24.5**	**+1.5**
	baz=48							
KDJ				⇓*eS*		**Sn**	**19 21 14.0**	**+0.4**
	baz=48							
KST	**Kastek**	**4.38**	**32**	*eP*		**Pb**	**19 20 37.9**	**+3.7**
	comp=E,5.3nm,0.7s							
KST				*eS*		**Sg**	**19 21 35.0**	**-2.8**
	comp=E,45nm,0.8s							
DGS	**Degeres**	**4.48**	**29**	*eP*		**Pb**	**19 20 36.1**	**+0.3**
	comp=E,33nm,0.8s							
DGS				*eS*		**Sb**	**19 21 33.2**	**+3.3**
	comp=E,62nm,0.7s							
TNSS	**Tian-Shan**	**4.83**	**39**	*eP*		**Pb**	**19 20 42.4**	**+0.5**
	comp=E,11nm,0.4s							
TNSS				*eS*		**Sb**	**19 21 43.1**	**+2.9**
	comp=E,34nm,0.8s							
KNDC	**Almaty**	**4.97**	**38**	Pg		**Pb**	**19 20 46.6**	**+2.5**
KNDC				⇓Lg		Lg	19 21 50.6	
	comp=E,165nm,0.9s							
CHKK	**Chushkaly**	**5.50**	**33**	*eP*		**Pb**	**19 20 53.6**	**+0.5**
	comp=E,12nm,0.6s							
CHKK				*eS*		**Sb**	**19 22 02.9**	**+3.9**
	comp=E,23nm,0.6s							
PDGK	**Podgornoye**	**6.40**	**50**	⇓Pn		**Pn**	**19 20 50.1**	**-1.2**
	comp=E,5.0nm,0.7s							
PDGK				⇑Lg		Lg	19 22 37.3	
	comp=E,21nm,0.8s							
THN	**Thein Dam**	**7.30**	**160**	*eP*		**Pn**	**19 21 03.0**	**-0.7**
THN				*eS*		**Sn**	**19 22 28.4**	**+1.9**
OTUK	**Ortayu**	**8.89**	**358**	⇓Pn		**Pn**	**19 21 25.6**	**+0.1**
	comp=E,1.7nm,0.6s							
OTUK				⇑Lg		Lg	19 23 55.6	
	comp=E,21nm,0.8s							
MK31	**Makanchi Array**	**10.16**	**40**	⇑Lg		Lg	19 24 38.3	
	comp=E,2.4nm,0.8s,baz=201,slow=27,SNR=2.5							
MKAR	**Makanchi Array**	**10.16**	**40**	Pn		**Pn**	**19 21 43.9**	**+1.0**
	comp=E,0.0nm,0.3s,baz=225,slow=18,SNR=3.6							
MKAR				Lg		Lg	19 24 25.8	
	comp=E,0.1nm,0.3s,baz=230,slow=22,SNR=3.1							
GEYT	**Alibeck**	**11.58**	**268**	Pn		**Pn**	**19 22 05.5**	**+3.0**
	baz=95,slow=15,SNR=2.8							
KURBB	**Kurchatov Arra**	**11.97**	**18**	Pn		**Pn**	**19 22 05.2**	**-2.3**
	comp=E,0.1nm,0.3s,baz=212,slow=13,SNR=2.7							
KURBB				Lg		Lg	19 25 31.5	
	comp=E,0.1nm,0.3s,baz=209,slow=30,SNR=5.8							
KURBB	**Kurchatov Arra**	**11.97**	**18**	⇓Pn		**Pn**	**19 22 07.9**	**+0.4**
	comp=E,1.2nm,0.7s							
KURBB				⇓Lg		Lg	19 25 32.2	
	comp=E,9.4nm,0.7s							
AB31	**Akbulak array**	**13.50**	**321**	⇓P		**Pn**	**19 22 27.7**	**-0.9**
	comp=E,0.9nm,0.3s,baz=128,slow=14,SNR=48							
AB31				⇓S		**Sn**	**19 24 50.6**	**-8.0**
	comp=E,0.7nm,0.5s,baz=130,slow=23,SNR=5.2							
BVA0	**Borovoye Array**	**13.78**	**354**	⇑Lg		Lg	19 26 33.3	
	comp=E,8.8nm,1.4s							
BVAR	**Borovoye Array**	**13.78**	**354**	Pn		**Pn**	**19 22 30.8**	**-1.5**
	comp=E,0.2nm,0.3s,baz=156,slow=11,SNR=11							
ZRNK	**Zerenda**	**13.85**	**350**	⇓Pn		**Pn**	**19 22 31.1**	**-2.2**
	comp=E,1.9nm,1.0s							
ZRNK				⇓Lg		Lg	19 26 30.9	
	comp=E,10nm,1.9s							
AKTO	**Aktyubinsk**	**15.22**	**322**	Pn		**Pn**	**19 22 51.3**	**-0.6**
	comp=E,0.3nm,0.3s,baz=111,slow=14,SNR=3.8							
AKTO				LR		LR	19 29 10.4	
	comp=E,36nm,19.0s,baz=86,slow=39							
ZALV	**Zalesovo Beam**	**16.73**	**25**	Pn		**Pn**	**19 23 10.2**	**-1.1**
	comp=E,0.4nm,0.3s,baz=206,slow=9.9,SNR=5.2							
ARU	**Arti**	**19.50**	**336**	P		**P**	**19 23 44.4**	**+0.3**
	comp=E,0.0nm,0.3s,baz=151,slow=9.0,SNR=5.1							
GTA	**Gaotai**	**20.85**	**81**	*eP*		**P**	**19 23 58.4**	**-0.7**
GTA				pP		sP	19 24 05.2	+2.0
GTA				sP		pP	19 24 08.3	+6.4
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SONM	**Songino Array**	**25.59**	**60**	P		**P**	**19 24 44.8**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=263,slow=10,SNR=4.5							
FINES	**FINESS Array B**	**35.98**	**323**	P		**P**	**19 26 18.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=112,slow=9.4,SNR=8.9							
ARCES	**ARCESS Array B**	**39.09**	**336**	P		**P**	**19 26 44.2**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=98,slow=8.7,SNR=6.1							
KLR	**Kul'dur**	**42.34**	**56**	P		**P**	**19 27 09.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=302,slow=9.5,SNR=3.6							
GERES	**GERESS Array B**	**42.52**	**303**	P		**P**	**19 27 14.4**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=65,slow=9.4,SNR=4.9							
NOA	**NORSAR Array B**	**43.01**	**321**	P		**P**	**19 27 15.8**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=93,slow=8.5,SNR=2.5							
TORD	**Torodi Ar. Bea**	**67.22**	**269**	P		**P**	**19 30 13.1**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=52,slow=5.7,SNR=2.7							
FRB	**Frobisher Bay**	**72.76**	**343**	P		**P**	**19 30 48.5**	**+3.5**
	comp=Z,6.2nm,0.3s,baz=8.3,slow=12,SNR=4.7							
DBIC	**Dimbokro**	**76.27**	**267**	LR		LR	20 12 44.3	
	comp=Z,37nm,19.1s,baz=272,slow=42							
WRA	**Warramunga Arr**	**82.32**	**123**	P		**P**	**19 31 36.8**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=324,slow=4.9,SNR=11							

IDC 03 19:19:26.8±1.2, **2°.80S**×**129°.66E, h0**km**, mb3.6**/3, **mb1 3.8**/6, **mb1mx3.4**/46, **mbtmp3.7**/6, **ML3.6**/3, **Error ellipse: s-maj=42.2km s-min=21.6km az=83.0, Seram**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.50**	**40**	Pn		Pn	19 20 09.1	+0.3
	24nm,0.3s,baz=90,slow=23,SNR=25							
FITZ	**Fitzroy Crossi**	**15.71**	**194**	Pn		Pn	19 23 10.4	+0.7
	0.1nm,0.3s,baz=37,slow=15,SNR=3.2							
WRA	**Warramunga Arr**	**17.64**	**165**	P		Pn	19 23 32.5	-1.7
	0.3nm,0.3s,baz=348,slow=12,SNR=16							
ASAR	**Alice Springs**	**21.15**	**169**	P		P	19 24 14.1	+0.4
	3.1nm,0.8s,baz=347,slow=10,SNR=23							
MKAR	**Makanchi Array**	**64.56**	**326**	P		P	19 30 05.5	-0.4
	0.3nm,0.8s,baz=138,slow=6.7,SNR=2.8							
KURBB	**Kurchatov Arra**	**68.78**	**328**	P		P	19 30 33.1	+0.4
	0.5nm,0.5s,baz=127,slow=5.8,SNR=4.6							

*IDC **03** 19:20:11.3±0.8, 14°.51N×91°.12W, h54km±5km, mb4.0/19, mb1 4.2/20, mb1mx4.0/44, mbtmp4.2/20, MS3.5/20, Ms1 3.5/20, ms1mx3.4/32, Error ellipse: s-maj=25.9km s-min=11.0km az=49.0*
*MEX **03** 19:20:13.3±0.8, 14°.06N×91°.97W, h20km±118km, MD4.6*
*CASC **03** 19:20:13.3±2.2, 14°.29N×91°.55W, h75km, MD4.1, ML4.2, mb4.6(NEIC)*
*NEIC **03** 19:20:13.2±0.8, 14°.22N×91°.59W, h79km±7km, mb4.6/71, MD4.6(MEX), Error ellipse: s-maj=9.2km s-min=5.2km az=214.0*
NEIC Felt at Quetzaltenango and San Marcos La Laguna.

ISC 03 19:20:10.7±0.5, **14°.25N**±0°.05×**91°.75W**±0°.04, **h55**km±3km, **h55**km**:pP-P, n343**,σ1§**78**/376, **mb4.5**/66, **MS3.6**/19, **2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CUS1	**Cusmapa**	**1.78**	**101**	*eP*		**Pn**	**19 20 39.3**	**+0.2**
CUS1				*eS*		**Sn**	**19 20 59.4**	**-1.3**
RBDL	**Robledal**	**2.00**	**94**	*eP*		**Pn**	**19 20 43.6**	**+1.3**
PCIG		**2.03**	**316**	*i* P		**Pn**	**19 20 44.1**	**+1.5**
PCIG				*i* S		**Sn**	**19 21 07.3**	**+0.5**
PCIG		**2.03**	**316**	*e*Pn		**Pn**	**19 20 44.1**	**+1.5**
PCIG				*e*Sn		**Sn**	**19 21 07.3**	**+0.5**
CCIG	**Comitan**	**2.06**	**349**	*eP*		**Pn**	**19 20 47.4**	**+4.3**
CCIG				*eS*		**Sn**	**19 21 12.2**	**+4.5**
CCIG	**Comitan**	**2.06**	**349**	*e*Pn		**Pn**	**19 20 47.3**	**+4.3**
RTR	**El Retiro**	**2.07**	**99**	*eP*		**Pn**	**19 20 44.3**	**+1.2**
MONT	**Ecomontaæa**	**2.07**	**100**	*eP*		**Pn**	**19 20 44.1**	**+0.8**
SBLS	**San Blas**	**2.10**	**101**	*eP*		**Pn**	**19 20 44.5**	**+0.9**
SNJE	**San Jose**	**2.11**	**100**	*eP*		**Pn**	**19 20 44.6**	**+0.8**
SNJE				*eS*		**Sn**	**19 21 08.8**	**-0.1**
MRL	**Marmol**	**2.15**	**67**	*eP*		**Pn**	**19 20 46.5**	**+2.3**
COLS	**Colinas**	**2.44**	**103**	*eP*		**Pn**	**19 20 49.5**	**+1.3**
COLS				*eS*		**Sn**	**19 21 16.0**	**-1.1**
BOQS	**Boqueron**	**2.45**	**102**	⇓*eP*		**Pn**	**19 20 49.6**	**+1.3**
BOQS				*eS*		**Sn**	**19 21 16.2**	**-1.1**
SNET	**Serv Nac Est T**	**2.50**	**103**	*eP*		**Pn**	**19 20 50.1**	**+1.0**
SNET				*eS*		**Sn**	**19 21 17.3**	**-1.2**
SNET				AML		AML	19 21 28.2

441A **DeRidder** 16.48 356 P P 19 24 01.0 +1.0
baz=175
536A **Bastrop** 16.50 344 P P 19 24 01.6 +1.3
baz=161
440A **Kirbyville** 16.55 353 P P 19 24 02.2 +1.4
baz=172
535A **Dale** 16.60 342 P P 19 24 01.7 +0.3
baz=160
446A **Poplarville** 16.61 7 P Pn 19 24 00.3 +0.5
baz=188
633A **Saathoff Ranch** 16.63 337 P P 19 24 03.3 +1.6
baz=154
MOTC **Monteria, Cord** 16.66 107 *e*P Pn 19 23 56.6 -4.0
439A **Center Grove,** 16.70 351 P P 19 24 03.0 +0.5
baz=169
447A **Lucedale** 16.72 9 P P 19 24 02.9 +0.2
baz=190
DWPF **Disney Wildern** 16.80 33 *e*Pn P 19 24 03.2 -0.4
comp=Z,66nm,0.8s
GTBY **Guantanamo Bay** 16.87 68 *e*Pn Pn 19 24 03.4 +0.2
comp=Z,98nm,1.3s
534A **Blanco** 16.89 340 P P 19 24 06.0 +1.3
baz=157,SNR=6.0
437A **Phantom Ranch,** 16.99 347 P P 19 24 05.6 -0.1
baz=165
345A **Thompson Farm,** 17.06 5 P P 19 24 06.2 -0.2
baz=185
342A **Flagon Creek P** 17.06 358 P P 19 24 06.2 -0.2
baz=178
341A **Kurthwood** 17.06 356 P P 19 24 06.3 -0.2
baz=175
436A **Wall Ranch, Ga** 17.09 345 P P 19 24 07.2 +0.4
baz=163
533A **Kerrville** 17.13 338 P P 19 24 08.6 +1.3
baz=155
344A **Westbrook Farm** 17.15 3 P P 19 24 08.1 +0.6
baz=183
339A **Huntington** 17.20 352 P P 19 24 08.5 +0.5
baz=170
340A **Bronson** 17.20 354 P P 19 24 08.4 +0.3
baz=172
435B **Jarrell** 17.31 343 P P 19 24 10.7 +1.4
baz=160
347A **Saraland** 17.33 9 P P 19 24 10.1 +0.7
baz=190
338A **Crockett** 17.34 350 P P 19 24 10.6 +1.0
baz=168
BRAL **Brewton** 17.39 14 *e*Pn P 19 24 10.1 0.0
comp=Z,87nm,0.8s
434A **Burnet** 17.55 341 P P 19 24 13.3 +1.4
baz=158
NATX **Nacogdoches** 17.64 352 P P 19 24 13.4 +0.6
baz=170
NATX **Nacogdoches** 17.64 352 *e*Pn P 19 24 14.1 +1.3
comp=Z,30nm,0.6s
335A **Moody** 17.74 344 P P 19 24 15.4 +1.4
baz=161
244A **Avery, Jackson** 17.74 3 P P 19 24 14.5 +0.5
baz=183
433A **Art** 17.77 339 P P 19 24 16.0 +1.7
baz=156,SNR=8.4
JCT **Junction City** 17.78 337 P P 19 24 16.2 +1.8
baz=153
JCT **Junction City** 17.78 337 *e*P P 19 24 18.6 +4.2
comp=Z,11nm,0.8s
HELC **Santa Helena** 17.84 115 *e*Pn Pn 19 24 15.3 -0.3
comp=Z,15nm,0.8s
239A **Gary** 17.87 352 P Pn 19 24 15.8 +0.5
baz=171
VBMS **Vicksburg** 17.93 3 *e*P Pn 19 24 17.4 +1.3
comp=Z,52nm,0.4s
247A **Quitman** 17.96 9 P P 19 24 16.4 +0.1
baz=189
334A **Lometa** 18.02 342 P Pn 19 24 18.5 +1.3
baz=159,SNR=11
HPIG **** 18.12 316 *e*P Pn 19 24 20.7 +2.0
comp=Z,6.6nm,0.8s
248A **Dixon Mills** 18.14 11 P Pn 19 24 18.8 +0.1
baz=192
236A **Katherine and** 18.21 347 P Pn 19 24 20.4 +0.9
baz=165
333A **Richland Sprin** 18.25 340 P Pn 19 24 21.7 +1.6
baz=157,SNR=7.0
138A **Matatall Enter** 18.58 351 P Pn 19 24 24.2 +0.2
baz=169
147A **Livingston** 18.62 9 P Pn 19 24 25.3 +0.9
baz=190
234A **Clairette** 18.62 343 P Pn 19 24 25.7 +1.2
baz=160
LTX **Lajitas** 18.63 326 *e*P Pn 19 24 26.4 +1.7
LTX *e*PcP PcP 19 28 52.0 +1.1
LTX *e*ScP ScP 19 32 23.6 +1.6
TXAR **Lajitas Array** 18.63 326 P Pn 19 24 26.4 +1.7
comp=Z,0.6nm,0.3s,baz=153,slow=12,SNR=44
TXAR PcP PcP 19 28 52.0 +1.1
comp=Z,0.1nm,0.3s,baz=170,slow=3.1,SNR=5.2
TXAR LR LR 19 31 54.6
comp=Z,46nm,19.1s,baz=0.0,slow=38
TXAR ScP ScP 19 32 23.6 +1.6
comp=Z,0.0nm,0.3s,baz=145,slow=4.6,SNR=13
TX31 **Lajitas Ar. Si** 18.63 326 *e*P Pn 19 24 27.0 +2.2
TX31 *e*ScP ScP 19 32 25.3 +3.3
TIGA **Tifton** 18.68 22 P Pn 19 24 25.3 +0.1
baz=205
TIGA **Tifton** 18.68 22 *e*P Pn 19 24 26.1 +0.9
comp=Z,107nm,1.3s
233A **Rising Star** 18.86 341 P Pn 19 24 27.6 +0.2
baz=158,SNR=10
Z42A **Norrel Spur, H** 18.95 359 P Pn 19 24 27.9 -0.4
baz=179
135A **Vickery Place,** 18.95 345 P Pn 19 24 28.5 +0.1
baz=162
Z44A **Pea Ridge, Bel** 18.98 3 P Pn 19 24 28.6 -0.2
baz=183
Z40A **Long Farm, Mag** 18.99 356 P Pn 19 24 28.6 -0.2
baz=175
Z46A **Louisville** 19.04 7 P P 19 24 28.1 -0.1
baz=188
134A **White-Moore Ra** 19.14 343 P Pn 19 24 30.2 -0.4
baz=161,SNR=8.0
Z47A **Carrollton** 19.16 9 P P 19 24 29.5 -0.1
baz=190
Z37A **Pogue Cattle C** 19.20 350 P P 19 24 30.7 +0.7
baz=168
LRAL **Lakeview Retre** 19.20 12 *e*P Pn 19 24 31.4 0.0
comp=Z,27nm,0.8s
WLAR **White Oak Lake** 19.40 357 *e*P Pn 19 24 33.2 -0.5
comp=Z,72nm,1.2s
Z36A **Blue Ridge** 19.41 348 P Pn 19 24 33.9 0.0
baz=166
133A **Hamilton Ranch** 19.41 342 P Pn 19 24 34.4 +0.4
baz=158,SNR=11
PRAC **Prado** 19.65 121 *e*P P 19 24 35.9 +0.8
comp=Z,33nm,1.0s
Z35A **Perchaven, San** 19.65 346 P Pn 19 24 36.0 -0.7
baz=164
ABTX **Abilene, Hawle** 19.66 340 P Pn 19 24 36.3 -0.6
baz=156
Y39A **Lockesburg** 19.72 354 P P 19 24 36.4 +0.8
baz=173
Y46A **Houston** 19.73 7 P P 19 24 36.4 +0.7
baz=188
Y40A **Okolona** 19.73 356 P P 19 24 35.9 +0.1
baz=175
Y38A **Idabel** 19.78 353 P P 19 24 36.7 +0.4
baz=171,SNR=7.4
Z34A **Collier Ranch,** 19.85 345 P P 19 24 37.7 +0.6
baz=162
Y47A **UCPARC, Winfie** 19.89 10 P P 19 24 37.8 +0.3
baz=191
Y37A **Hugo** 19.96 351 P P 19 24 39.2 +1.0
baz=169
Y36A **Durant** 20.00 349 P P 19 24 39.0 +0.4
baz=167
Z33A **Whitaker Ranch** 20.00 343 P P 19 24 39.6 +0.9
baz=159
Y35A **Marietta** 20.15 347 P P 19 24 41.5 +1.1
baz=165,SNR=13
CHIC **Chingaza** 20.16 117 *e*P P 19 24 39.1 -1.9
X41A **Kaden, Bauxite** 20.17 358 P P 19 24 41.2 +0.6
baz=177
X43A **Marvell** 20.20 2 P P 19 24 41.2 +0.4
baz=182
MIAR **Mount Ida** 20.28 356 P P 19 24 42.5 +0.7
baz=174
MIAR **Mount Ida** 20.28 356 *e*P Pn 19 24 43.6 -0.6
comp=Z,22nm,0.9s
OXF **Oxford** 20.29 6 *e*P Pn 19 24 47.0 +2.8

X39A **Fountain Ranch** 20.29 354 P P 19 24 42.4 +0.5
baz=173
Y34A **Reagan Ranch,** 20.37 346 P P 19 24 43.3 +0.6
baz=163,SNR=5.4
UALR **University of** 20.45 359 *e*P P 19 24 43.9 +0.3
comp=Z,20nm,0.7s
GOGA **Godfrey** 20.51 20 *e*P P 19 24 45.1 +0.8
comp=Z,20nm,0.8s
X37A **Clayton** 20.52 351 P P 19 24 45.0 +0.6
baz=170
X38A **Whitesboro** 20.52 353 P P 19 24 44.9 +0.5
baz=171,SNR=11
X35A **Drake** 20.62 348 P P 19 24 46.5 +1.1
baz=165
Y33A **Hilltop Ranch,** 20.64 344 P P 19 24 46.6 +0.9
baz=160
X36A **Centrahoma** 20.66 349 P P 19 24 46.1 +0.3
baz=167
SJAC **San Juan de Ar** 20.67 120 *e*P P 19 24 44.4 -1.8
W41B **Gary Mavity, V** 20.84 359 P P 19 24 47.8 0.0
baz=178
W38A **Poteau** 20.89 354 P P 19 24 48.8 +0.6
baz=172
PLAL **Pickwick Lake** 20.91 8 *e*P P 19 24 49.5 +0.9
comp=Z,16nm,1.1s
PLAL *e*ScP ScP 19 32 27.7 +0.7
X301 **Greenbrier Sit** 20.91 358 *e*P Pn 19 24 50.2 -1.4
comp=Z,12nm,1.0s
W39A **Magazine** 20.94 355 P P 19 24 49.4 +0.6
baz=174
W45A **Hickory Valley** 20.95 6 P P 19 24 49.0 0.0
baz=186
WHAR **Wooly Hollow** 20.96 359 *e*P P 19 24 50.5 +1.4
comp=Z,13nm,0.9s
X201 **Greenbrier Sit** 20.96 359 *e*P P 19 24 50.5 +1.4
comp=Z,18nm,1.2s
X34A **Smith Ranch, M** 21.00 346 P P 19 24 50.2 +0.6
baz=163
W37B **Quinton** 21.07 352 P P 19 24 50.8 +0.5
baz=170
X33A **Lawton** 21.11 344 P P 19 24 51.5 +0.8
baz=161
W36A **Wetumka** 21.19 350 P P 19 24 50.6 -1.0
baz=168
X32A **Elmer** 21.21 343 P P 19 24 52.0 +0.1
baz=159
W35A **Tecumseh** 21.32 348 P P 19 24 52.4 -0.6
baz=166
SDV **Santo Domingo** 21.35 102 P P 19 24 48.8 -4.9
comp=Z,4.0nm,0.3s,baz=330,slow=14,SNR=2.0
SDV LR LR 19 34 36.7
comp=Z,51nm,19.4s,baz=176,slow=42
SDV **Santo Domingo** 21.35 102 *e*P P 19 24 53.1 -0.5
comp=Z,14nm,0.6s
WMOK **Wichita Mounta** 21.37 344 *e*P P 19 24 47.9 -5.6
comp=Z,11nm,1.0s
MNTX **Cornudas Mount** 21.40 327 P P 19 24 54.2 +0.4
baz=141,SNR=33
MNTX **Cornudas Mount** 21.40 327 *e*P P 19 24 53.5 -0.3
comp=Z,14nm,0.6s
MNTX *e*ScP ScP 19 32 31.9 +3.6
V41A **Mountainview** 21.45 359 P P 19 24 54.2 -0.2
baz=178,SNR=7.0
V42A **Cord** 21.47 1 P P 19 24 53.9 -0.7
baz=180,SNR=16
SWET **Sewanee** 21.53 13 *e*P P 19 24 52.8 -2.4
comp=Z,4.1nm,0.8s
V39A **Pettigrew** 21.57 356 P P 19 24 55.2 -0.5
baz=175
W34A **Bridge Creek,** 21.59 346 P P 19 24 55.3 -0.6
baz=164
W34A **Bridge Creek,** 21.59 346 *e*P P 19 24 55.7 -0.2
comp=Z,25nm,0.8s
V38A **Canehill** 21.66 354 P P 19 24 56.1 -0.4
baz=173
W33A **Caddo, Fort Co** 21.68 345 P P 19 24 56.2 -0.7
baz=162
V37A **Hulbert** 21.76 353 P P 19 24 57.2 -0.4
baz=171
V36A **Jenks** 21.78 351 P P 19 24 56.7 -1.2
baz=169
W32A **Sentinel** 21.86 343 P P 19 24 58.8 +0.1
baz=160
TUL1 **Leonard** 21.88 351 *e*P P 19 24 59.5 +0.6
comp=Z,15nm,0.9s
V35A **Meyer Ranch, C** 21.91 349 P P 19 24 58.8 -0.5
baz=166
MSTX **Muleshoe** 22.04 335 P P 19 25 00.1 -0.6
baz=150
MSTX **Muleshoe** 22.04 335 *e*P P 19 25 00.8 +0.1
comp=Z,13nm,0.5s
U40A **Yellville** 22.04 358 P P 19 25 00.2 -0.5
baz=177
WVT **Waverly** 22.07 8 *e*P P 19 24 56.1 -4.9
comp=Z,11nm,0.8s
JSC **Jenkinsville** 22.09 24 *e*pP pP 19 25 10.1 -3.6
U39A **Green Forest** 22.10 356 P P 19 25 00.5 -0.8
baz=175
V34A **Guthrie** 22.11 347 P P 19 25 00.4 -1.0
baz=165
V34A **Guthrie** 22.11 347 *e*P P 19 25 00.8 -0.6
comp=Z,22nm,0.8s
U38A **Gravette** 22.23 354 P P 19 25 01.7 -1.0
baz=173
U37A **Salina** 22.27 353 P P 19 25 01.6 -1.6
baz=171
V32A **Arapaho** 22.37 344 P P 19 25 03.5 -0.8
baz=161
AMTX **Amarillo** 22.42 338 P P 19 25 04.1 -0.8
baz=154
U35A **Pawnee** 22.48 349 P P 19 25 04.8 -0.7
baz=167
TKL **Tuckaleechee C** 22.49 17 P P 19 25 05.9 +0.3
comp=Z,8.5nm,0.8s,baz=195,slow=11,SNR=8.3
TKL LR LR 19 34 54.5
comp=Z,209nm,21.2s,baz=187,slow=40
TKL **Tuckaleechee C** 22.49 17 *e*P P 19 25 06.0 +0.5
comp=Z,30nm,1.1s
T41A **Mountain View** 22.70 360 P P 19 25 07.1 -0.7
baz=180,SNR=13
T39A **Clever** 22.73 357 P P 19 25 06.5 -1.6
baz=176,SNR=6.5
T38A **Diamond** 22.81 355 P P 19 25 07.8 -1.1
baz=173
T40A **Mansfield** 22.82 358 P P 19 25 08.1 -0.9
baz=178
T37A **Cheneyville 18** 22.96 353 P P 19 25 08.3 -2.1
baz=172
T36A **Boggs Farm, Ca** 23.02 352 P P 19 25 09.6 -1.4
baz=169
SRIG **Santa Rosalia** 23.11 307 *e*P P 19 25 12.5 +0.5
comp=Z,22nm,0.8s
T34A **McClaskey Farm** 23.20 349 P P 19 25 11.0 -1.8
baz=166
S40A **Lebanon** 23.27 358 P P 19 25 12.2 -1.2
baz=178,SNR=8.0
S43A **Fulton Ridge,** 23.28 3 P P 19 25 11.4 -2.1
baz=184
121A **Cookes Peak, D** 23.36 324 P P 19 25 17.0 +2.5
baz=137,SNR=13
S38A **Stockton** 23.37 356 P P 19 25 12.8 -1.6
baz=174
TZTN **Tazewell** 23.39 17 *e*P P 19 25 14.4 -0.1
comp=Z,18nm,0.9s
S39A **Bolivar** 23.39 357 P P 19 25 13.7 -1.0
baz=176,SNR=9.7
S44A **Carbondale** 23.46 5 P P 19 25 14.2 -1.0
baz=186,SNR=6.3
S45A **Carrier Mills** 23.51 6 P P 19 25 14.0 -1.6
baz=187
S37A **Fort Scott** 23.58 354 P P 19 25 14.7 -1.7
baz=172
S36A **Lake Cedric, C** 23.63 352 P P 19 25 16.4 -0.5
baz=170
S35A **Otter Creek Ra** 23.69 351 P P 19 25 17.0 -0.4
baz=169
R38A **Fenwick Farm,** 23.92 356 P P 19 25 18.3 -1.2
baz=174
R40A **Maddies Statio** 23.95 359 P P 19 25 18.7 -1.1
baz=178,SNR=7.0
R39A **Chumby, Stover** 24.00 357 P P 19 25 19.5 -0.7
baz=177,SNR=11
R44A **Waltonville** 24.02 5 P P 19 25 18.4 -2.0
baz=186
R37A **Teagarden Farm** 24.13 354 P P 19 25 20.3 -1.1
baz=172
SLM **Saint Louis** 24.33 3 *e*P P 19 25 22.9 -0.3
comp=Z,46nm,0.6s

WCI **Wyandotte Cave** 24.37 10 *e*P P 19 25 22.6 -1.0
comp=Z,39nm,0.9s
ANMO **Albuquerque** 24.51 330 P P 19 25 27.5 +2.4
comp=Z,2.6nm,0.5s,baz=143,slow=13,SNR=13
ANMO **Albuquerque** 24.51 330 P P 19 25 24.6 -0.5
baz=143
ANMO **Albuquerque** 24.51 330 *e*P P 19 25 27.0 +1.9
comp=Z,3.0nm,0.5s
Q42A **Golden Eagle** 24.59 2 P P 19 25 24.2 -1.3
baz=182
OLIL **Olney** 24.60 7 *e*P P 19 25 25.3 -0.3
comp=Z,63nm,0.9s
Q43A **New Douglas** 24.66 4 P P 19 25 24.4 -1.8
baz=184
Q38A **Cooks Store, C** 24.67 356 P P 19 25 25.0 -1.4
baz=175,SNR=6.0
Q39A **Willow Grove F** 24.73 358 P P 19 25 25.0 -1.8
baz=177
SJG **San Juan** 24.87 78 LR LR 19 34 29.5
comp=Z,91nm,20.8s,baz=248,slow=35
TUC **Tucson** 25.01 319 P P 19 25 30.7 +1.2
baz=132
ATAH **Atahualpa** 25.03 147 P P 19 25 30.7 +0.4
comp=Z,4.6nm,0.6s,baz=328,slow=11,SNR=3.7
P39B **Salisbury** 25.16 358 P P 19 25 28.6 -2.2
baz=177
P40A **Paris** 25.19 359 P P 19 25 29.3 -1.7
baz=179
O40A **La Belle** 25.78 360 P P 19 25 35.5 -0.9
baz=179
214A **Organ Pipe Nat** 26.11 316 P P 19 25 39.8 +0.3
baz=128
SFIN **Lafayette** 26.35 8 *e*P P 19 25 41.0 -0.5
comp=Z,22nm,0.9s
W18A **Petrified Fore** 26.36 325 *e*P P 19 25 44.6 +2.7
comp=Z,7.8nm,0.9s
SDCO **Great Sand Dun** 26.41 335 P P 19 25 41.4 -1.0
baz=149
PCRV **Puerto La Cruz** 26.79 96 LR LR 19 38 40.9
comp=Z,59nm,18.5s,baz=204,slow=42
Y14A **Wickenburg** 27.48 319 *e*P P 19 25 55.0 +3.1
comp=Z,32nm,1.2s
PDMCI **Parker Dam,Lak** 28.44 319 P P 19 26 02.6 +2.3
baz=129
U15A **North Rim** 28.74 324 *e*P P 19 26 06.2 +3.0
comp=Z,6.6nm,1.1s
BC3 **Big Chuckawall** 28.91 316 P P 19 26 06.8 +2.1
baz=126
SSPA **Standing Stone** 28.95 22 *e*P P 19 26 03.7 -1.1
comp=Z,11nm,0.8s
LCMT **Little Creek M** 29.69 324 *e*P P 19 26 14.4 +2.9
comp=Z,3.1nm,0.8s
MSU **Marysvale** 30.18 327 *e*P P 19 26 18.7 +2.8
BRNJ **Basking Ridge** 30.31 26 *e*P P 19 26 16.6 -0.1
comp=Z,52nm,1.3s
K22A **Casper** 31.04 339 P P 19 26 25.9 +2.4
baz=151
TPNV **Topopah Spring** 31.44 320 *e*P P 19 26 29.3 +2.2
comp=Z,5.5nm,1.0s
TPNV *e*PP PP 19 27 39.5 +0.6
TPNV *e*PcP PcP 19 29 20.7 +1.3
FURC **Furnace Creek,** 31.52 319 P P 19 26 29.7 +2.2
baz=128
MPMC **Manual Prospec** 31.68 318 P P 19 26 31.6 +2.4
baz=127,SNR=6.9
TCUT **Toone Canyon** 31.78 331 *e*P P 19 26 30.8 +0.8
comp=Z,17nm,0.6s
DAC **Darwin (Calif)** 31.88 318 *e*P P 19 26 32.4 +1.5
comp=Z,7.3nm,1.0s
R11A **Troy Canyon, C** 31.96 323 P P 19 26 33.6 +2.0
baz=132
R11A **Troy Canyon, C** 31.96 323 *e*P P 19 26 34.8 +3.2
comp=Z,3.9nm,1.0s
ISA **Isabella, Lake** 32.10 316 *e*P P 19 26 36.0 +3.3
comp=Z,12nm,1.1s
GRAC **Grapevine Rang** 32.17 319 P P 19 26 35.8 +2.5
baz=128
HWUT **Hardware Ranch** 32.24 332 *e*P P 19 26 36.7 +2.7
comp=Z,3.2nm,1.0s
HWUT *e*PcP PcP 19 29 22.3 +0.8
HWUT *e*ScP ScP 19 33 02.4 +1.8
SADO **Sadowa** 32.26 17 P P 19 26 31.7 -2.2
comp=Z,2.6nm,0.5s,baz=180,slow=11,SNR=3.8
SADO LR LR 19 40 14.9
comp=Z,156nm,21.6s,baz=215,slow=38
SADO **Sadowa** 32.26 17 *e*P P 19 26 31.3 -2.5
comp=Z,6.0nm,0.8s
PDAR **Pinedale Array** 32.30 335 P P 19 26 35.3 +0.7
comp=Z,0.4nm,0.4s,baz=116,slow=8.2,SNR=3.8
PDAR PcP PcP 19 29 22.3 +0.6
comp=Z,0.6nm,0.6s,baz=128,slow=5.8,SNR=3.5
PDAR pPcP 19 29 39.5
comp=Z,0.6nm,0.5s,baz=108,slow=3.6,SNR=5.1
PDAR ScP ScP 19 33 01.9 +1.1
comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=5.4
PDAR LR LR 19 41 06.6
comp=Z,63nm,20.9s,baz=127,slow=39
REDW **Red Top Meadow** 33.33 334 *e*P P 19 26 43.3 -0.3
comp=Z,15nm,1.4s
SNOW **Snow King Moun** 33.37 334 *e*P P 19 26 45.3 +1.3
comp=Z,9.6nm,0.6s
ELK **Elko** 33.42 327 *e*P P 19 26 45.6 +1.1
comp=Z,2.3nm,0.8s
LOHW **Long Hollow** 33.43 335 *e*P P 19 26 45.4 +1.0
comp=Z,2.5nm,0.8s
NV11 **Mina Array Sit** 33.55 321 *e*P P 19 26 48.3 +2.9
comp=Z,22nm,1.1s
NV01 **Mina Array Sit** 33.64 321 *e*P P 19 26 49.0 +2.7
NV01 *e*PcP PcP 19 29 26.1 +0.6
NV01 *e*ScP ScP 19 33 08.0 +2.4
NVAR **Mina Array Bea** 33.64 321 P P 19 26 49.5 +3.2
comp=Z,8.9nm,0.7s,baz=132,slow=7.2,SNR=43
NVAR pP sP 19 27 04.8 -2.1
comp=Z,16nm,0.8s,baz=134,slow=8.6,SNR=16
NVAR PcP PcP 19 29 27.1 +1.6
comp=Z,3.1nm,0.8s,baz=141,slow=2.6,SNR=6.1
NVAR pPcP 19 29 44.7
comp=Z,2.8nm,0.8s,baz=136,slow=2.9,SNR=5.2
NVAR ScP ScP 19 33 08.3 +2.8
comp=Z,1.6nm,0.9s,baz=140,slow=4.1,SNR=5.2
BMN **Battle Mountai** 34.30 324 *e*P P 19 26 54.6 +2.7
comp=Z,8.1nm,0.9s
WAKR **Walker** 34.39 320 *e*P P 19 26 56.4 +3.6
PTGA **Pitinga** 34.80 113 P P 19 26 54.1 -2.3
comp=Z,14nm,0.8s,baz=308,slow=9.0,SNR=24
PTGA pP pP 19 27 10.9 +0.4
comp=Z,5.1nm,0.6s,baz=297,slow=12,SNR=3.6
PTGA **Pitinga** 34.80 113 *e*P P 19 26 54.8 -1.6
comp=Z,14nm,0.8s
HLID **Hailey** 35.08 331 P P 19 27 00.8 +2.1
baz=139
HLID **Hailey** 35.08 331 *e*P P 19 27 01.0 +2.3
comp=Z,4.1nm,0.9s
PAHR **Pah Rah Range** 35.09 321 *e*P P 19 27 03.2 +4.4
MCMT **McKenzie Canyo** 35.36 334 *e*P P 19 27 03.5 +2.3
A27A **Ledoux Ranch,** 35.48 349 P P 19 27 03.3 +1.4
baz=164
MFID **Camas Ranch** 35.66 329 *e*P P 19 27 06.2 +2.6
comp=Z,5.3nm,0.9s
ORV **Oroville** 36.30 320 *e*P P 19 27 11.1 +2.1
comp=Z,8.6nm,1.2s
WVOR **Wild Horse Val** 36.43 326 *e*P P 19 27 12.2 +2.0
comp=Z,5.5nm,0.9s
NSHM **Saint Helena R** 36.43 317 *e*PcP PcP 19 29 31.0 -2.4
SAML **Samuel** 36.52 127 *e*P P 19 27 09.4 -1.7
comp=Z,7.5nm,1.0s
F10A **Beach Ranch, E** 38.22 331 *e*P P 19 27 26.1 +0.8
comp=Z,12nm,0.8s
LPAZ **La Paz** 38.27 142 P P 19 27 25.2 -1.4
comp=Z,1.0nm,0.7s,baz=330,slow=7.9,SNR=4.4
LPAZ LR LR 19 41 59.5
comp=Z,51nm,20.5s,baz=267,slow=34
H04A **Detroit Lake** 39.85 326 *e*P P 19 27 39.2 +0.4
comp=Z,13nm,0.6s
NEW **Newport** 39.89 333 LR LR 19 46 53.2
comp=Z,85nm,18.2s,baz=148,slow=40
C09A **Chrisman Ranch** 40.05 332 *e*P P 19 27 42.2 +1.8
comp=Z,6.8nm,0.5s
LTY **Liberty** 40.79 330 *e*P P 19 27 47.9 +1.2
comp=Z,13nm,0.6s
LON **Longmire** 41.01 328 *e*P P 19 27 49.6 +1.2
comp=Z,6.0nm,0.8s
B06A **Marblemount** 42.06 331 *e*P P 19 27 57.6 +0.7
comp=Z,12nm,1.0s
SIV **San Ignacio** 42.68 134 P P 19 28 01.4 -1.0
comp=Z,4.0nm,0.9s,baz=329,slow=5.2,SNR=6.3
SIV pP pP 19 28 18.1 +1.4
comp=Z,4.2nm,0.6s,baz=325,slow=9.6,SNR=5.3

SIV				ScP	**ScP**	**19 33 39.4**	**-0.5**		
	comp=Z,0.6nm,0.3s,baz=0.0,slow=4.0,SNR=2.4								
A04D	**Lummi Island**	**42.79**	**330**	P	**P**	**19 28 02.2**	**-0.6**		
	baz=133								
SCHQ	**Schefferville**	**44.91**	**20**	P	**P**	**19 28 18.1**	**-1.6**		
	comp=Z,8.1nm,0.9s,baz=189,slow=13,SNR=3.6								
SCHQ				LR	LR	19 48 01.5			
	comp=Z,186nm,21.5s,baz=273,slow=38								
SCHQ	**Schefferville**	**44.91**	**20**	*e*P	**P**	**19 28 18.0**	**-1.8**		
	comp=Z,98nm,1.9s								
YKA	**Yellowknife Ar**	**50.85**	**347**	P	**P**	**19 29 05.0**	**-0.5**		
	comp=Z,1.9nm,0.6s,baz=147,slow=7.6,SNR=14								
YKA				PcP	**PcP**	**19 30 20.0**	**-1.4**		
	comp=Z,0.7nm,0.5s,baz=155,slow=3.4,SNR=4.1								
YKA				LR	LR	19 52 54.1			
	comp=Z,6.6nm,22.0s,baz=180,slow=39								
YKB5	**Yellowknife Ar**	**50.85**	**347**	*e*P	**P**	**19 29 04.5**	**-1.0**		
DLBC	**Dease Lake**	**52.53**	**336**	P	**P**	**19 29 20.6**	**+2.4**		
	comp=Z,5.4nm,0.9s,baz=102,slow=9.1,SNR=5.6								
TAOE	**Nuku Hiva Isla**	**53.22**	**247**	*e*LR	LR	19 44 22.6			
	comp=Z,136nm,24.6s								
RKT	**Rikitea**	**56.29**	**229**	*e*LR	LR	19 45 43.0			
	comp=Z,225nm,28.8s								
RKT	**Rikitea**	**56.29**	**229**	*e*T	T	20 29 58.5			
	comp=Z,2.4nm,0.3s								
INK	**Inuvik**	**60.27**	**343**	P	**P**	**19 30 12.6**	**-0.5**		
	comp=Z,1.9nm,0.6s,baz=126,slow=8.9,SNR=6.1								
ILAR	**Eielson Array**	**62.71**	**337**	P	**P**	**19 30 29.9**	**+0.3**		
	comp=Z,2.2nm,0.8s,baz=134,slow=4.7,SNR=19								
ILAR				pP	**pP**	**19 30 44.4**	**-0.4**		
	comp=Z,3.8nm,1.0s,baz=128,slow=5.0,SNR=10								
ILAR				LR	LR	20 00 15.9			
	comp=Z,72nm,19.7s,baz=152,slow=38								
ILB	**Eielson Array**	**62.71**	**337**	*e*P	**P**	**19 30 30.2**	**+0.6**		
RSO	**Redoubt South**	**63.56**	**331**	*e*P	**P**	**19 30 36.2**	**+0.7**		
PPT	**Papeete**	**65.22**	**243**	LR	LR	19 52 08.7			
	comp=Z,105nm,19.3s,baz=357,slow=29								
PPT2	**Papeete2**	**65.23**	**243**	*e*LR	LR	19 49 53.6			
	comp=Z,184nm,28.2s								
TBI	**Tubuai**	**67.69**	**237**	*e*LR	LR	19 51 01.3			
	comp=Z,147nm,28.0s								
ESDC	**Sonseca Array**	**79.37**	**52**	P	**P**	**19 32 07.8**	**-3.2**		
	comp=Z,0.4nm,0.5s,baz=285,slow=5.3,SNR=4.4								
BILL	**Bilibino**	**81.32**	**338**	*e*P	**P**	**19 32 21.7**	**+0.9**		
	comp=Z,7.4nm,0.9s								
NB2	**NORSAR Subarra**	**83.81**	**28**	P	**P**	**19 32 33.4**	**-0.6**		
	comp=Z,2.1nm,0.9s,baz=290,slow=5.3								
NB200	**NORSAR Array S**	**83.81**	**28**	*e*P	**P**	**19 32 32.3**	**-1.7**		
NOA	**NORSAR Array B**	**83.81**	**28**	P	**P**	**19 32 32.3**	**-1.7**		
	comp=Z,1.7nm,0.9s,baz=290,slow=5.2,SNR=3.8								
NOA				pP	**pP**	**19 32 48.2**	**-1.5**		
	comp=Z,0.9nm,0.8s,baz=290,slow=5.3,SNR=3.2								
NOA				LR	LR	20 08 29.3			
	comp=Z,20nm,21.5s,baz=280,slow=35								
DBIC	**Dimbokro**	**85.38**	**84**	LR	LR	20 04 20.5			
	comp=Z,33nm,21.3s,baz=263,slow=31								
ARA0	**ARCESS Array S**	**85.83**	**18**	*e*P	**P**	**19 32 41.6**	**-2.3**		
ARCES	**ARCESS Array B**	**85.83**	**18**	P	**P**	**19 32 41.6**	**-2.3**		
	comp=Z,3.2nm,1.0s,baz=308,slow=4.4,SNR=4.0								
ARCES				LR	LR	20 12 13.5			
	comp=Z,22nm,18.5s,baz=265,slow=37								
GERES	**GERESS Array B**	**89.26**	**40**	LR	LR	20 09 07.8			
	comp=Z,24nm,20.8s,baz=282,slow=33								
TIXI	**Tiksi**	**90.07**	**348**	*e*P	**P**	**19 33 02.9**	**-1.2**		
	comp=Z,2.7nm,1.1s								
TOA1	**Torodi Ar. Sit**	**90.08**	**76**	*e*P	**P**	**19 33 01.2**	**-4.1**		
	comp=Z,24nm,1.9s								
TORD	**Torodi Ar. Bea**	**90.08**	**76**	P	**P**	**19 33 01.2**	**-4.1**		
	comp=Z,0.4nm,0.7s,baz=295,slow=5.3,SNR=4.3								
FIA0	**FINESS Array S**	**90.17**	**25**	*e*P	**P**	**19 33 01.9**	**-2.9**		
FINES	**FINESS Array B**	**90.17**	**25**	P	**P**	**19 33 01.9**	**-2.9**		
	comp=Z,2.1nm,1.0s,baz=347,slow=5.7,SNR=3.2								
FINES				LR	LR	20 13 49.7			
	comp=Z,21nm,18.3s,baz=292,slow=36								
NRIK	**Noril'sk**	**96.63**	**0**	LR	LR	20 20 53.7			
	comp=Z,43nm,19.2s,baz=12,slow=38								
AKASG	**Malin Array Be**	**97.39**	**33**	LR	LR	20 20 34.3			
	comp=Z,12nm,18.2s,baz=195,slow=37								
MK32	**Makanchi Array**	**119.01**	**5**	*e*PKPdf	**PKPdf**	**19 38 51.9**	**-1.5**		
MK32				*e*pPKPdf	**pPKPdf**	**19 39 10.2**	**+0.3**		
MKAR	**Makanchi Array**	**119.01**	**5**	PKP	**PKPdf**	**19 38 51.9**	**-1.5**		
	comp=Z,0.7nm,0.6s,baz=342,slow=3.3,SNR=5.5								
MKAR				pPKP	**pPKPdf**	**19 39 10.2**	**+0.3**		
	comp=Z,0.7nm,0.7s,baz=29,slow=2.8,SNR=3.1								
BOSA	**Boshof**	**120.23**	**115**	PKP	**PKPdf**	**19 38 56.1**	**-0.2**		
	comp=Z,2.9nm,0.9s,baz=76,slow=2.0,SNR=4.4								
BOSA				pPKP	**pPKPdf**	**19 39 13.5**	**+0.7**		
	comp=Z,6.4nm,0.8s,baz=7.1,slow=1.8,SNR=5.6								
GEYT	**Alibeck**	**120.89**	**28**	PKP	**PKPdf**	**19 38 57.1**	**-0.2**		
	comp=Z,2.1nm,0.8s,baz=267,slow=5.9,SNR=5.1								
WR1	**Warramunga Arr**	**135.69**	**256**	*e*PKPpre	PKPpre	19 39 19.8			
WR1				*e*PKPdf	**PKPdf**	**19 39 25.8**	**0.0**		
WR1				*e*SKPab	**SKiKP**	**19 43 02.9**	**+3.9**		
WRA	**Warramunga Arr**	**135.69**	**256**	PKhKP	PKPpre	19 39 19.8			
	comp=Z,0.9nm,1.1s,baz=99,slow=3.0,SNR=3.9								
WRA				PKP	**PKPdf**	**19 39 25.8**	**0.0**		
	comp=Z,0.7nm,0.8s,baz=87,slow=2.7,SNR=7.9								
WRA				SKPab	**SKiKP**	**19 43 02.9**	**+3.9**		
	comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=5.1								
ASAR	**Alice Springs**	**135.98**	**251**	PKhKP	PKPpre	19 39 17.9			
	comp=Z,0.3nm,0.9s,baz=109,slow=4.1,SNR=6.6								
ASAR				PKP	**PKiKP**	**19 39 28.2**	**+0.3**		
	comp=Z,0.6nm,0.6s,baz=102,slow=2.3,SNR=9.0								
ASAR				SKPab	**SKiKP**	**19 43 00.0**	**+0.5**		
	comp=Z,0.5nm,0.7s,baz=110,slow=2.7,SNR=7.2								
SKNT	**Sakolnakorn**	**145.31**	**333**	P	**PKPbc**	**19 39 43.0**	**0.0**		
	comp=Z,37nm,0.8s,comp=Z,2μm								
CMMT	**Chiang Mai**	**145.50**	**342**	P	**PKPab**	**19 39 43.7**	**-0.1**		
	comp=Z,7.1nm,1.1s								
CHTO	**Chiang Mai**	**145.50**	**342**	P	**PKPab**	**19 39 43.7**	**-0.1**		
	comp=Z,32nm,1.1s								
CHTO	**Chiang Mai**	**145.50**	**342**	*e*PKPdf	**PKPdf**	**19 39 42.9**	**-0.6**		
LAMP	**Lampang**	**145.56**	**341**	P	**PKPab**	**19 39 45.8**	**+1.8**		
	comp=Z,3.8nm,0.8s								
CM31	**Chiang Mai Arr**	**145.84**	**342**	*e*PKPdf	**PKPbc**	**19 39 44.7**	**0.0**		
CMAR	**Chiang Mai Arr**	**145.84**	**342**	PKPbc	**PKPbc**	**19 39 44.6**	**-0.1**		
	comp=Z,11nm,0.8s,baz=334,slow=3.6,SNR=73								
CM01	**Chiang Mai Arr**	**145.87**	**342**	*e*PKPdf	**PKPdf**	**19 39 44.3**	**+0.2**		
LOEI	**Loei**	**145.94**	**337**	P	**PKPdf**	**19 39 44.5**	**+0.2**		
	comp=Z,64nm,0.7s								
UTTA	**Uttaradit**	**145.98**	**339**	P	**PKPab**	**19 39 45.4**	**-0.2**		
	comp=Z,6.5nm,0.9s,comp=Z,46nm								
UBPT	**Khong Chiam**	**146.08**	**329**	P	**PKPab**	**19 39 46.4**	**+0.4**		
	comp=Z,15nm,1.8s								
KHON	**Khonkaen**	**146.38**	**334**	P	**PKPab**	**19 39 47.3**	**+0.2**		
	comp=Z,11nm,0.9s								
SUKH	**Sukhothai**	**146.53**	**340**	P	**PKPab**	**19 39 47.6**	**-0.1**		
	comp=Z,7.4nm,0.9s,comp=Z,56nm								
PBKT	**Sadao Pong**	**146.91**	**337**	P	**PKPbc**	**19 39 48.4**	**+0.6**		
	comp=Z,14nm,1.2s								
SBUM	**Sibu**	**151.03**	**303**	*e*PKPbc	**PKPbc**	**19 39 58.7**	**+0.2**		

*ISCJB **03** 19:27:53.3±0.2, 74.01N±0.03×73.1W±0.1, h10km, mb4.3/55, MS3.4/7, Error ellipse: s-maj=5.1km s-min=3.2km az=137.4*

*IDC **03** 19:27:55.1±0.5, 74.22N×72.56W, h0km, mb3.9/19, mb1 4.1/26, mb1mx4.0/55, mbtmp4.0/26, ML4.0/7, MS3.2/8, Ms1 3.2/8, ms1mx2.9/40, Error ellipse: s-maj=16.2km s-min=11.6km az=150.0*

*OTT **03** 19:27:55.3±0.4, 74.23N×72.96W, h10km, mb4.1/1, ML4.9/20, Mw4.3/1, Baffin Bay Seismic Zone. 235km northeast from Pond Inlet, Nu*

*NEIC **03** 19:27:56.2, 74.23N×72.86W, h18km, mb4.4/38, ML4.9(OTT), After OTT.*

ISC 03 19:27:55.7±0.3, 74.05N±0.04×72.99W±0.04, h10km, n136, s298/156, mb4.3/55, MS3.4/7, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLRN	**Clyde River**	**3.84**	**157**	PN	**Pn**	**19 28 56.0**	**+1.3**
CLRN				SN	**Sn**	**19 29 37.6**	**-2.2**
CLRN				Trac		19 29 40.7	
	comp=Z,127nm,0.1s						
GIFN	**Gifford Fjord,**	**4.88**	**218**	PN	**Pn**	**19 29 11.5**	**+2.6**
GIFN				SN	**Sn**	**19 30 04.5**	**-0.7**
GIFN				Trac		19 30 11.2	
	comp=Z,287nm,0.3s						
ILON	**Igloolik, Nuna**	**5.46**	**215**	PN	**Pn**	**19 29 19.4**	**+2.5**
ILON				SN	**Sn**	**19 30 18.6**	**-1.0**
ILON				Trac		19 30 20.9	
	comp=Z,294nm,0.2s						
RES	**Resolute Bay**	**5.94**	**287**	Pn	**Pn**	**19 29 23.1**	**-0.3**
	6.4nm,0.3s,baz=73,slow=10,SNR=86						
RES				Sn	**Sn**	**19 30 24.8**	**-6.7**
	25nm,0.3s,baz=206,slow=22,SNR=10.0						
RES				LR	LR	19 31 50.8	
	comp=Z,162nm,19.8s,baz=46,slow=39						
RES	**Resolute Bay**	**5.94**	**287**	PN	**Pn**	**19 29 23.0**	**-0.5**
RES				SN	**Sn**	**19 30 25.4**	**-6.1**
RES				Trac		19 30 50.3	
	comp=Z,239nm,0.8s						
RES	**Resolute Bay**	**5.94**	**287**	*e*Pn	**Pn**	**19 29 23.2**	**-0.3**
RES				*e*Sn	**Sn**	**19 30 23.5**	**-7.9**
LAIN	**Lailor River,**	**5.98**	**219**	PN	**Pn**	**19 29 25.6**	**+1.5**
LAIN				SN	**Sn**	**19 30 31.1**	**-1.4**
LAIN				Trac		19 30 35.2	
	comp=Z,120nm,0.3s						
EUNU	**Eureka**	**6.71**	**340**	PN	**Pn**	**19 29 30.7**	**-3.4**
EUNU				SN	Sn	19 30 38.7	-12
EUNU				Trac		19 30 47.2	
	comp=Z,39nm,0.3s						
KUGN	**Kugaaruk Camp,**	**8.13**	**231**	PN	**Pn**	**19 29 53.6**	**+0.1**
KUGN				mb		19 30 02.9	
	comp=Z,10nm,0.1s						
KUGN				SN	**Sn**	**19 31 19.1**	**-6.2**
KUGN				Trac		19 32 26.3	
	comp=Z,212nm,0.8s						
SMLN	**Simpson Lake,**	**8.14**	**237**	PN	**Pn**	**19 29 54.3**	**+0.6**
SMLN				Trac		19 32 25.6	
	comp=Z,234nm,0.9s						
ILULI	**Ilulissat**	**8.40**	**114**	PN	**Pn**	**19 29 57.5**	**+0.3**
ILULI				SN	**Sn**	**19 31 25.8**	**-6.0**
ILULI	**Ilulissat**	**8.40**	**114**	*i* P	**Pn**	**19 29 57.8**	**+0.6**
SUMG	**Summit**	**9.94**	**82**	*i* P	**Pn**	**19 30 14.5**	**-4.2**
SUMG	**Summit**	**9.94**	**82**	*e*Pn	**Pn**	**19 30 14.4**	**-4.3**
SUMG				*e*Sn	Sn	19 31 51.7	-19
BULN	**Bullion Camp,**	**10.20**	**231**	PN	**Pn**	**19 30 21.6**	**-0.3**
BULN				SN	**Sn**	**19 32 10.4**	**-5.7**
BULN				Trac		19 33 19.1	
	comp=Z,32nm,0.3s						
SFJD	**Kangerlussuaq**	**10.21**	**122**	Pn	**Pn**	**19 30 21.7**	**-0.2**
	0.7nm,0.3s,baz=243,slow=4.5,SNR=4.1						
SFJD				LR	LR	19 34 28.8	
	comp=Z,76nm,18.6s,baz=322,slow=39						
SFJD	**Kangerlussuaq**	**10.21**	**122**	*e*Pn	**Pn**	**19 30 21.5**	**-0.5**
FRB	**Frobisher Bay**	**10.47**	**169**	Pn	**Pn**	**19 30 25.1**	**-0.5**
	3.5nm,0.3s,baz=355,slow=11,SNR=19						
FRB				Sn	**Sn**	**19 32 15.2**	**-7.6**
	6.8nm,0.3s,baz=94,slow=12,SNR=5.7						
FRB	**Frobisher Bay**	**10.47**	**169**	PN	**Pn**	**19 30 25.9**	**+0.3**
FRB				mb		19 30 28.2	
	comp=Z,7.8nm,0.2s						
FRB				SN	**Sn**	**19 32 18.3**	**-4.5**
FRB				Trac		19 32 35.5	
	comp=Z,30nm,0.3s						
CB31	**Cambridge Bay**	**11.16**	**260**	PN	**Pn**	**19 30 33.5**	**-1.4**
CB31				mb		19 30 35.5	
	comp=Z,73nm,0.2s						
CB31				Trac		19 32 35.9	
	comp=Z,54nm,0.2s						
YBKN	**Baker Lake, Hu**	**12.61**	**231**	PN	**Pn**	**19 30 54.2**	**-0.6**
YBKN				SN	**Sn**	**19 33 07.5**	**-7.6**
YBKN				Trac		19 33 24.6	
	comp=Z,18nm,0.3s						
SEDN	**First Sedna Si**	**12.62**	**220**	PN	**Pn**	**19 30 54.6**	**-0.3**
SEDN				SN	**Sn**	**19 33 07.6**	**-7.7**
SEDN				Trac		19 34 39.4	
	comp=Z,199nm,1.6s						
MCMN	**McManaman Lake**	**12.77**	**222**	PN	**Pn**	**19 30 56.3**	**-0.7**
MCMN				SN	Sn	19 33 08.8	-10
MCMN				Trac		19 34 52.0	
	comp=Z,97nm,0.9s						
DAG	**Danmarks Havn**	**13.51**	**53**	*i* P	Pn	19 31 00.8	-6.2
KUKN	**Kugluktuk,NWT**	**14.77**	**267**	PN	**Pn**	**19 31 22.4**	**-1.9**
KUKN				SN	Sn	19 33 55.9	-12
KUKN				Trac		19 34 32.1	
	comp=Z,17nm,0.6s						
ARVN	**Arviat, NU**	**15.14**	**222**	PN	**Pn**	**19 31 28.9**	**-0.3**
ARVN				SN	**Sn**	**19 34 09.1**	**-7.6**
ARVN				Trac		19 34 32.5	
	comp=Z,10nm,0.3s						
SCO	**Scoresbysund**	**15.52**	**78**	*i* P	**Pn**	**19 31 27.1**	**-7.0**
SCO				*e*S	Sn	19 34 06.5	-19
COKN	**Cook Lake**	**16.55**	**248**	PN	**Pn**	**19 31 43.9**	**-3.6**
COKN				SN	Sn	19 34 37.5	-13
COKN				Trac		19 36 24.8	
	comp=Z,25nm,0.6s						
SNLN	**Sandy Lake, NW**	**16.62**	**246**	PN	**Pn**	**19 31 45.9**	**-2.4**
SNLN				SN	**Sn**	**19 34 42.5**	**-10**
SNLN				Trac		19 35 04.5	
	comp=Z,11nm,0.3s						
FCC	**Fort Churchill**	**17.33**	**219**	*e*Pn	**Pn**	**19 31 55.9**	**-1.4**
	7.7nm,0.6s						
FCC				*e*Sn	Sn	19 34 55.8	-14
SMPN	**Simpson Lake**	**17.69**	**278**	PN	**Pn**	**19 32 00.6**	**-1.1**
SMPN				SN	Sn	19 35 02.5	-16
SMPN				Trac		19 35 31.8	
	comp=Z,11nm,0.3s						
CLVN	**Colville Lake**	**18.36**	**275**	PN	**Pn**	**19 32 08.7**	**-1.2**
KBS	**Kingsbay**	**18.63**	**37**	*e*P	**P**	**19 32 07.3**	**-5.5**
	48nm,1.3s						
YKW3	**Yellowknife Ar**	**18.66**	**254**	PN	**P**	**19 32 09.1**	**-4.3**
YKW3				PN	**Pn**	**19 32 11.0**	**-2.6**
YKW3				mb		19 32 23.0	
	comp=Z,4.6nm,0.3s						
YKW3				SN	Sn	19 35 26.1	-16
YKW3				SN	S	19 35 26.3	-19
YKW3				Trac		19 37 29.7	
	comp=Z,21nm,1.0s						
YKW3	**Yellowknife Ar**	**18.66**	**254**	*e*P	**P**	**19 32 10.8**	**-2.5**
	6.6nm,0.8s						
YKA	**Yellowknife Ar**	**18.71**	**254**	Pn	**P**	**19 32 11.0**	**-2.8**
	1.1nm,0.3s,baz=26,slow=11,SNR=16						
YKA				Sn	Sn	19 35 29.6	-14
	0.8nm,0.3s,baz=38,slow=22,SNR=5.4						
YKB5	**Yellowknife Ar**	**18.71**	**254**	*e*P	**P**	**19 32 11.4**	**-2.5**
JMIC	**Jan Mayen**	**18.74**	**67**	LR	LR	19 38 54.9	
	comp=Z,70nm,21.3s,baz=258,slow=36						
SCHQ	**Schefferville**	**19.46**	**169**	Pn	**P**	**19 32 22.1**	**-0.1**
	0.8nm,0.3s,baz=316,slow=6.3,SNR=3.6						
SCHQ				Sn	Sn	19 35 46.2	-15
	1.5nm,0.3s,baz=13,slow=14,SNR=4.2						
SCHQ	**Schefferville**	**19.46**	**169**	*e*P	**P**	**19 32 22.4**	**+0.2**
	47nm,1.6s						
INK	**Inuvik**	**19.49**	**284**	Pn	**Pn**	**19 32 24.4**	**+0.9**
	0.5nm,0.3s,baz=39,slow=15,SNR=9.4						
INK				Sn	Sn	19 35 45.5	-16
	0.6nm,0.3s,baz=131,slow=20,SNR=4.6						
INK	**Inuvik**	**19.49**	**284**	PN	**Pn**	**19 32 24.9**	**+1.4**
INK				SN	Sn	19 35 48.1	-14
SPA0	**Spitsbergen Ar**	**19.78**	**38**	*e*P	**P**	**19 32 25.6**	**+0.1**
SPITS	**Spitsbergen Ar**	**19.78**	**38**	Pn	**P**	**19 32 24.5**	**-0.9**
	baz=266,slow=9.9,SNR=16						
FFC	**Flin Flon**	**22.62**	**227**	*e*P	**P**	**19 33 00.1**	**+4.0**
	20nm,1.1s						
FYU	**Fort Yukon**	**23.86**	**290**	*e*P	**P**	**19 33 11.4**	**+2.8**
	70nm,1.5s						
DAWY	**Dawson**	**24.25**	**281**	*e*P	**P**	**19 33 16.3**	**+4.0**
	36nm,1.7s						
COLD	**Coldfoot**	**24.63**	**294**	*e*P	**P**	**19 33 18.2**	**+2.5**
	7.9nm,1.0s						
IL1	**Eielson Array**	**25.69**	**288**	*e*P	**P**	**19 33 28.6**	**+3.2**
ILAR	**Eielson Array**	**25.69**	**288**	P	**P**	**19 33 27.9**	**+2.5**
	1.0nm,0.9s,baz=36,slow=8.2,SNR=7.8						
ULM	**Lac du Bonnet**	**25.80**	**215**	*e*P	**P**	**19 33 30.5**	**+4.1**
	16nm,1.4s						
DOT	**Dot Lake**	**25.84**	**284**	*e*P	**P**	**19 33 26.9**	**+0.2**
	40nm,1.3s						
MDM	**Murphy Dome**	**25.89**	**290**	*e*P	**P**	**19 33 29.9**	**+2.7**
	7.3nm,1.0s						
BWN	**Browne**	**26.84**	**289**	*e*P	**P**	**19 33 35.0**	**-0.7**
	163nm,1.3s						
ARA0	**ARCESS Array S**	**27.72**	**48**	*e*P	**P**	**19 33 41.5**	**-2.0**
ARCES	**ARCESS Array B**	**27.72**	**48**	P	**P**	**19 33 41.8**	**-1.7**
	1.4nm,0.5s,baz=321,slow=9.4,SNR=7.3						
NC303	**NORSAR Array S**	**31.33**	**68**	*e*P	**P**	**19 34 14.4**	**-1.2**
NB2	**NORSAR Subarra**	**31.45**	**68**	P	**P**	**19 34 16.1**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=321,slow=8.6						
NB200	**NORSAR Array S**	**31.45**	**68**	*e*P	**P**	**19 34 16.7**	**0.0**
NOA	**NORSAR Array B**	**31.45**	**68**	P	**P**	**19 34 16.7**	**0.0**
	comp=Z,3.4nm,0.9s,baz=322,slow=8.2,SNR=5.7						
NOA				LR	LR	19 45 11.2	
	comp=Z,20nm,20.2s,baz=320,slow=33						
NB201	**NORSAR Array S**	**31.46**	**68**	*e*P	**P**	**19 34 16.4**	**-0.4**
NC405	**NORSAR Array S**	**31.51**	**68**	*e*P	**P**	**19 34 16.7**	**-0.5**
JFWS	**Jewell Farm**	**32.23**	**204**	*e*P	**P**	**19 34 27.7**	**+4.1**
	comp=Z,7.0nm,0.7s						
ECSD	**EROS Data Cent**	**32.26**	**213**	*e*P	**P**	**19 34 28.1**	**+4.1**
	comp=Z,6.0nm,1.3s						
RSSD	**Black Hills**	**33.14**	**223**	*e*P	**P**	**19 34 35.9**	**+3.9**
	comp=Z,3.6nm,0.6s						
TIXI	**Tiksi**	**33.87**	**348**	*e*P	**P**	**19 34 38.3**	**+0.6**
	comp=Z,2.7nm,1.1s						
FIA0	**FINESS Array S**	**34.73**	**56**	*e*P	**P**	**19 34 42.8**	**-2.4**
FIA0				*e*PcP	**PcP**	**19 37 18.6**	**+0.2**
FINES	**FINESS Array B**	**34.73**	**56**	P	**P**	**19 34 42.8**	**-2.4**
	comp=Z,1.9nm,0.9s,baz=335,slow=6.2,SNR=4.0						
FINES				PcP	**PcP**	**19 37 18.6**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=316,slow=5.3,SNR=3.5						
FINES				LR	LR	19 47 17.3	
	comp=Z,32nm,18.7s,baz=330,slow=34						
F04A	**Amboy**	**35.53**	**246**	*e*P	**P**	**19 34 55.9**	**+3.6**
	comp=Z,36nm,1.6s						
BW06	**Boulder Array**	**35.54**	**229**	*e*P	**P**	**19 34 56.0**	**+3.3**
	comp=Z,16nm,2.0s						
PD31	**Pinedale Array**	**35.54**	**229**	*e*P	**P**	**19 34 56.4**	**+3.7**
PDAR	**Pinedale Array**	**35.54**	**229**	P	**P**	**19 34 54.7**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=26,slow=7.2,SNR=6.6						
PDAR				ScP	**ScP**	**19 41 08.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=75,slow=6.8,SNR=2.9						
N23A	**Red Feather La**	**36.62**	**224**	*e*P	**P**	**19 35 06.0**	**+4.0**
	comp=Z,14nm,1.4s						
TCUT	**Toone Canyon**	**37.51**	**230**	*e*P	**P**	**19 35 11.3**	**+1.7**
	comp=Z,27nm,1.6s						
ISCO	**Idaho Springs**	**37.62**	**223**	*e*P	**P**	**19 35 14.3**	**+3.8**
O20A	**White River Ci**	**37.80**	**226**	*e*P	**P**	**19 35 16.0**	**+4.0**
	comp=Z,6.7nm,0.8s						
BGU	**Big Grassy Mou**	**38.05**	**232**	*e*P	**P**	**19 35 17.9**	**+3.9**
	comp=Z,10nm,1.9s						
PBMO	**Poplar Bluff**	**38.31**	**203**	*e*P	**P**	**19 35 17.2**	**+1.2**
	comp=Z,8.5nm,1.4s						
PBMO				*e*PcP	**PcP**	**19 37 33.6**	**+4.0**
DUG	**Dugway, Tooele**	**38.70**	**232**	*e*P	**P**	**19 35 24.1**	**+4.6**
P18A	**Preston Nutter**	**38.70**	**228**	*e*P	**P**	**19 35 24.1**	**+4.4**
	comp=Z,2.3nm,0.7s						
P17A	**Butcher Ranch,**	**38.95**	**229**	*e*P	**P**	**19 35 25.0**	**+3.4**
	comp=Z,4.2nm,0.8s						
HALT	**Halls**	**39.06**	**201**	*e*P	**P**	**19 35 20.8**	**-1.4**
SRU	**San Rafael Swe**	**39.26**	**229**	*e*P	**P**	**19 35 28.4**	**+4.3**
	comp=Z,4.1nm,0.9s						
Q16A	**Castle Valley**	**39.58**	**229**	*e*P	P	19 35 31.8	+4.9
	comp=Z,3.2nm,0.8s						
PV10	**Paradox Valley**	**39.66**	**226**	*e*P	P	19 35 33.1	+5.4
MSU	**Marysvale**	**40.18**	**230**	*e*P	P	19 35 37.2	+5.3
MVCO	**Mesa Verde**	**40.68**	**225**	*e*P	P	19 35 41.0	+4.9
R11A	**Troy Canyon, C**	**41.08**	**234**	*e*P	**P**	**19 35 43.3**	**+4.0**
	comp=Z,2.5nm,1.1s						
WMOK	**Wichita Mounta**	**41.40**	**213**	*e*P	**P**	**19 35 44.8**	**+3.1**
	comp=Z,6.3nm,1.0s						
NV01	**Mina Array Sit**	**41.62**	**237**	*e*P	**P**	**19 35 46.6**	**+2.8**
NVAR	**Mina Array Bea**	**41.62**	**237**	P	**P**	**19 35 45.9**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=8.0,slow=9.1,SNR=2.9						
GERES	**GERESS Array B**	**42.94**	**75**	P	**P**	**19 35 54.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=344,slow=8.3,SNR=4.0						
GEA0	**GERESS Array S**	**42.95**	**75**	*e*P	**P**	**19 35 54.4**	**0.0**
DAC	**Darwin (Calif)**	**43.52**	**235**	*e*P	**P**	**19 35 59.7**	**+0.6**
	comp=Z,17nm,1.9s						
FUORN	**Ofenpass-Fuorn**	**44.06**	**80**

JMM				S	Sn	19 42 09.3	-0.3	
ONAJ	**Iwakimizuishiy**	**0.84**	**232**	P	Pn	19 42 01.7	0.0	
ONAJ				S	Sn	19 42 12.6	-0.3	
JIO	**Ouri**	**0.86**	**345**	P	Pn	19 42 01.9	0.0	
JIO				S	Sn	19 42 12.8	-0.6	
JFT	**Otama**	**1.03**	**265**	P	Pn	19 42 05.2	+0.9	
JFT				S	Sn	19 42 18.6	+1.0	
JOU	**Okura**	**1.07**	**315**	P	Pn	19 42 05.2	+0.5	
JHO	**Hitachi**	**1.32**	**220**	P	Pn	19 42 08.0	-0.1	
JHO				S	Sn	19 42 24.0	-0.5	
JMK	**Ichinoseki**	**1.37**	**346**	P	Pn	19 42 09.4	+0.6	
JMK				S	Sn	19 42 25.9	+0.1	
JFY	**Yanaizu**	**1.55**	**263**	P	Pn	19 42 12.1	+0.8	
JFY				S	Sn	19 42 31.0	+0.8	

*IDC **03** 19:41:46.5±0.9, 37°.28N×144°.06E, h0km, mb3.8/12, mb1 4.0/19, mb1mx3.9/45, mbtmp3.9/19, ML3.2/6, MS2.8/3, Ms1 2.8/3, ms1mx2.4/35, Error ellipse: s-maj=22.4km s-min=15.5km az=97.0*

*NEIC **03** 19:41:47.8±0.4, 37°.34N×144°.11E, h10km, mb4.3/8, Error ellipse: s-maj=7.4km s-min=5.4km az=124.0*

*ISCJB **03** 19:41:49.6±0.5, 37°.26N±0°.06×143°.94E±0°.06, h33km, mb4.2/22, Error ellipse: s-maj=8.6km s-min=5.7km az=149.7*

ISC 03 19:41:50.9±0.8, 37°.33N±0°.06×144°.09E±0°.08, h35km, n49, σ2s36/59, mb4.0/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**4.73**	**352**	*e*Pn	**Pn**	**19 42 58.0**	**-1.7**
ERM				*e*Sn	**Sn**	**19 43 47.8**	**-5.5**
MJAR	**Matsushiro Arr**	**4.78**	**262**	Pn	**Pn**	**19 42 59.5**	**-0.9**
	5.2nm,0.3s,baz=92,slow=16,SNR=67						
MJAR				Sn	**Sn**	**19 43 51.6**	**-2.9**
	2.6nm,0.3s,baz=93,slow=26,SNR=7.5						
MJAR				LR	LR	19 45 06.6	
	comp=Z,125nm,18.8s,baz=95,slow=42						
MAJO	**Matsushiro**	**4.78**	**262**	*e*Pn	**Pn**	**19 43 00.0**	**-0.4**
MAT	**Matsushiro**	**4.78**	**262**	P	**Pn**	**19 42 59.6**	**-0.8**
MAT				S	**Sn**	**19 43 50.9**	**-3.6**
MJB9	**Matsu-Tunnel**	**4.78**	**262**	*e*Pn	**Pn**	**19 43 00.0**	**-0.4**
MJB9				*e*Sn	**Sn**	**19 43 54.2**	**-0.4**
JHJ2	**Mitsune**	**5.47**	**221**	*e*Pn	**Pn**	**19 43 08.7**	**-1.3**
JHJ2				*e*Sn	**Sn**	**19 44 04.4**	**-7.2**
JHJ	**Hachijo jima 2**	**5.48**	**221**	Pn	**Pn**	**19 43 07.5**	**-2.6**
	9.1nm,0.3s,baz=210,slow=20,SNR=5.7						
JHJ				Sn	**Sn**	**19 44 04.3**	**-7.6**
	24nm,0.3s,baz=69,slow=23,SNR=7.6						
INU	**Inuyama**	**6.04**	**253**	*e*Pn	**Pn**	**19 43 17.3**	**-0.4**
ASAJ	**Asahikawa**	**6.87**	**351**	Pn	**Pn**	**19 43 27.9**	**-1.2**
	baz=228,slow=15						
ASAJ				Sn	**Sn**	**19 44 40.0**	**-6.0**
	0.4nm,0.3s,baz=252,slow=20,SNR=2.0						
ASAJ	**Asahikawa**	**6.87**	**351**	*e*Pn	**Pn**	**19 43 27.8**	**-1.3**
ASAJ				*e*Sn	**Sn**	**19 44 39.9**	**-6.2**
USRK	**Ussuriysk Ar.**	**11.45**	**311**	Pn	**Pn**	**19 44 32.3**	**+0.5**
	0.3nm,0.3s,baz=117,slow=15,SNR=3.9						
JNU	**Nakatsue**	**11.59**	**253**	Pn	**Pn**	**19 44 33.1**	**-0.7**
	0.1nm,0.3s,baz=60,slow=14,SNR=3.3						
JNU				LR	LR	19 49 06.5	
	comp=Z,21nm,21.1s,baz=130,slow=38						
JNU	**Nakatsue**	**11.59**	**253**	*e*Pn	**Pn**	**19 44 33.6**	**-0.2**
KSRS	**Korea Array**	**12.86**	**275**	Pn	**Pn**	**19 44 52.1**	**+1.0**
	0.0nm,0.3s,baz=91,slow=13,SNR=8.4						
KSRS				LR	LR	19 49 18.1	
	comp=Z,68nm,18.2s,baz=106,slow=35						
KS15	**Wonju Array Si**	**12.89**	**275**	*e*Pn	**Pn**	**19 44 51.8**	**+0.2**
KSAR	**Wonju Array Be**	**12.89**	**275**	Pn	**Pn**	**19 44 52.1**	**+0.5**
MDJ	**Mudanjiang**	**13.14**	**308**	*e*Pn	**Pn**	**19 44 52.9**	**-2.1**
KLR	**Kul'dur**	**14.88**	**327**	Pn	**Pn**	**19 45 19.2**	**+0.6**
	0.1nm,0.3s,baz=131,slow=15,SNR=2.9						
SEY	**Seymchan**	**26.13**	**9**	P	**P**	**19 47 23.9**	**+2.5**
	0.6nm,0.5s,baz=23,slow=22,SNR=4.5						
YAK	**Yakutsk**	**26.30**	**345**	*e*P	**P**	**19 47 23.4**	**+0.5**
	13nm,0.4s						
ULN	**Ulaanbaatar**	**28.97**	**303**	*e*P	**P**	**19 47 51.5**	**+4.3**
	4.8nm,1.5s						
SONA1	**Songino Array**	**29.40**	**303**	*e*P	**P**	**19 47 51.6**	**+0.7**
SONA0	**Songino Array**	**29.40**	**303**	*e*P	**P**	**19 47 51.8**	**+0.8**
	1.9nm,1.1s						
SONM	**Songino Array**	**29.40**	**303**	P	**P**	**19 47 51.8**	**+0.8**
	0.5nm,0.5s,baz=110,slow=12,SNR=4.9						
ENH	**Enshi**	**29.48**	**266**	*e*P	**P**	**19 47 52.8**	**+1.0**
	4.9nm,1.1s						
ZAA0	**Zalesovo Array**	**43.29**	**312**	*e*P	**P**	**19 49 49.5**	**+0.5**
ZAA1	**Zalesovo Array**	**43.29**	**312**	*e*P	**P**	**19 49 49.8**	**+0.8**
ZAA1				*e*PP	**PcP**	**19 51 37.7**	**+0.3**
ZALV	**Zalesovo Beam**	**43.29**	**312**	P	**P**	**19 49 49.8**	**+0.8**
	0.5nm,0.4s,baz=73,slow=5.0,SNR=3.2						
ZALV				PcP	**PcP**	**19 51 37.7**	**+0.3**
	1.1nm,0.5s,baz=85,slow=3.6,SNR=4.9						
CM31	**Chiang Mai Arr**	**43.64**	**257**	*e*P	**P**	**19 49 53.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**43.64**	**257**	P	**P**	**19 49 53.4**	**+1.1**
	0.9nm,0.7s,baz=46,slow=7.2,SNR=11						
MK01	**Makanchi Array**	**45.77**	**302**	*e*P	**P**	**19 50 09.1**	**+0.2**
MK31	**Makanchi Array**	**45.77**	**302**	*e*P	**P**	**19 50 09.1**	**+0.2**
MK32	**Makanchi Array**	**45.77**	**302**	*e*P	**P**	**19 50 09.8**	**+1.0**
MKAR	**Makanchi Array**	**45.77**	**302**	P	**P**	**19 50 09.8**	**+1.0**
	0.7nm,0.7s,baz=86,slow=9.0,SNR=8.1						
MKAR	**Makanchi Array**	**45.77**	**302**	*e*P	**P**	**19 50 09.1**	**+0.2**
HOM	**Homer**	**45.90**	**40**	*e*P	**P**	**19 50 08.2**	**-1.4**
	283nm,1.1s						
MAKZ	**Makanchi**	**45.98**	**302**	*e*P	**P**	**19 50 09.2**	**-1.4**
	2.2nm,0.6s						
ILAR	**Eielson Array**	**48.10**	**33**	P	**P**	**19 50 28.8**	**+2.0**
	0.6nm,0.8s,baz=267,slow=6.5,SNR=6.2						
MID	**Middleton Isla**	**48.61**	**40**	*e*P	**P**	**19 50 32.6**	**+1.8**
	150nm,1.0s						
WR1	**Warramunga Arr**	**57.70**	**191**	*e*P	**P**	**19 51 38.2**	**+0.2**
	8.7nm,1.3s						
WRA	**Warramunga Arr**	**57.70**	**191**	P	**P**	**19 51 38.2**	**+0.2**
	2.3nm,0.6s,baz=11,slow=7.4,SNR=38						
AS31	**Alice Springs**	**61.42**	**191**	*e*P	**P**	**19 52 04.4**	**+0.7**
	1.4nm,1.2s						
ASAR	**Alice Springs**	**61.43**	**191**	P	**P**	**19 52 04.4**	**+0.7**
	0.7nm,0.6s,baz=6.4,slow=7.2,SNR=22						
FIA0	**FINESS Array S**	**69.53**	**333**	*e*P	**P**	**19 52 56.2**	**+0.6**
FINES	**FINESS Array B**	**69.53**	**333**	P	**P**	**19 52 56.2**	**+0.6**
	1.1nm,0.8s,baz=63,slow=9.5,SNR=2.6						
KBZ	**Khabaz**	**72.31**	**312**	P	**P**	**19 53 13.9**	**+1.0**
	1.4nm,0.6s,baz=57,slow=2.4,SNR=5.1						
AKASG	**Malin Array Be**	**75.35**	**323**	P	**P**	**19 53 30.4**	**-0.1**
	0.7nm,0.5s,baz=44,slow=5.5,SNR=7.0						
AKBB	**Malin Array Si**	**75.35**	**323**	*e*P	**P**	**19 53 30.4**	**-0.1**
	8.1nm,0.9s						
GERES	**GERESS Array B**	**83.56**	**330**	P	**P**	**19 54 17.0**	**+1.6**
	0.3nm,0.4s,baz=46,slow=7.0,SNR=4.5						

MEX 03 20:40:16.2±1.0, 17°.27N×101°.64W, h5km, MD4.0, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.38**	**26**	*e*P	Pg	20 40 23.1	-0.4
ZIIG				*e*S	Sg	20 40 29.1	+0.7
CAIG	**El Cayaco**	**1.32**	**99**	*e*P	Pn	20 40 37.9	-3.5
CAIG				*e*S	Sg	20 40 54.5	-4.3
ARIG	**Puente Sto Nin**	**1.59**	**50**	*e*P	Pn	20 40 42.0	-3.1
ARIG				*e*S	Sn	20 41 01.5	-4.5
MEIG	**Mezcala**	**2.03**	**71**	*i*P	eS	20 41 12.7	-4.3
PLIG	**Platanillo**	**2.32**	**61**	*e*P	Pn	20 40 53.3	-1.8
PLIG				*e*S	Sn	20 41 20.4	-3.8
EZ5V		**2.89**	**320**	*e*P	Pn	20 41 02.0	-1.1
EZ5V				*i*S	Sn	20 41 35.0	-3.4
EZ5V				*i*S	Sb	20 41 35.1	-9.1
R15V		**2.93**	**311**	*e*P	Pn	20 41 02.6	-0.9
TLIG	**Tlapa**	**2.94**	**84**	*e*P	Pn	20 41 01.3	-2.5
TLIG				*i*S	Sn	20 41 35.8	-3.8

IDC 03 20:43:50.9±1.8, 17°.17S×177°.88W, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.9/41, mbtmp4.2/4, Error ellipse: s-maj=157.1km s-min=31.4km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.42**	**241**	P	P	20 51 23.6	+0.8
	2.4nm,0.6s,baz=116,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**45.26**	**259**	P	P	20 52 10.2	-0.4
	1.7nm,0.5s,baz=96,slow=7.2,SNR=81						
ASAR	**Alice Springs**	**45.48**	**254**	P	P	20 52 11.8	-0.6
	8.8nm,0.6s,baz=87,slow=8.7,SNR=223						
TXAR	**Lajitas Array**	**85.18**	**57**	P	P	20 56 29.7	0.0
	0.7nm,0.9s,baz=215,slow=6.2,SNR=4.4						

*ISCJB **03** 20:51:31.5±1.9, 36°.38N±0°.04×141°.80E±0°.09, h10km±13km, mb3.3/3, Error ellipse: s-maj=12.1km s-min=6.5km az=164.8*

*JMA **03** 20:51:31.2±0.2, 36°.39N×141°.85E, h17km±3km, M3.0*

*IDC **03** 20:51:32.9±2.2, 36°.58N×141°.73E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/39, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=50.2km s-min=30.2km az=50.0*

ISC 03 20:51:32.9±2.2, 36°.39N±0°.04×141°.67E±0°.09, h5km±12km, n18, σ1s03/19, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.91**	**285**	P	**Pg**	**20 51 50.6**	**+0.2**
JHO				*e*S	**Sb**	**20 52 04.4**	**+0.7**
CHOJ	**Chosi**	**0.94**	**224**	P	**Pg**	**20 51 50.7**	**-0.4**
CHOJ				S	**Sg**	**20 52 04.4**	**+1.1**
ONAJ	**Iwakimizuishiy**	**1.00**	**316**	P	**Pg**	**20 51 51.4**	**-0.7**
ONAJ				S	**Sb**	**20 52 06.1**	**-0.1**
JFT	**Otama**	**1.55**	**317**	P	**Pn**	**20 52 00.5**	**-0.8**
JFT				*e*S	**Sn**	**20 52 20.7**	**-1.1**
BSO1	**Boso 1**	**1.82**	**198**	P	**Pn**	**20 52 03.1**	**-1.3**
BSO1				*e*S	**Sn**	**20 52 26.6**	**-1.0**
BSO3	**Boso 3**	**1.84**	**211**	P	**Pn**	**20 52 04.1**	**-0.9**
JFY	**Yanaizu**	**1.87**	**304**	P	**Pn**	**20 52 05.7**	**0.0**
MJAR	**Matsushiro Arr**	**2.79**	**274**	Pn	**Pn**	**20 52 18.5**	**+0.2**
	2.4nm,0.3s,baz=112,slow=8.7,SNR=28						
MJAR				Sn	**Sb**	**20 52 55.8**	**-2.0**
	1.3nm,0.3s,baz=271,slow=9.9,SNR=5.0						
MAT	**Matsushiro**	**2.79**	**274**	P	**Pn**	**20 52 18.2**	**-0.1**
MAT				S	**Sn**	**20 52 52.2**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**27.65**	**120**	T	T	21 26 03.5	
	baz=313,slow=75,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**27.65**	**120**	T	T	21 26 04.6	
	baz=313,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**27.66**	**120**	T	T	21 26 06.0	
	baz=313,slow=75,SNR=5.3						
SONM	**Songino Array**	**28.32**	**305**	P	**P**	**20 57 28.0**	**+0.4**
	0.3nm,0.7s,baz=94,slow=9.1,SNR=2.8						
H11S1	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	21 26 58.0	
	baz=316,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	21 26 55.3	
	baz=316,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.36**	**122**	T	T	21 26 55.7	
	baz=316						
KURBB	**Kurchatov Arra**	**46.56**	**309**	P	**P**	**21 00 01.1**	**-0.4**
	0.3nm,0.5s,baz=84,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**56.45**	**188**	P	**P**	**21 01 17.8**	**+2.0**
	0.3nm,0.6s,baz=2.0,slow=7.4,SNR=4.9						

*NIED **03** 21:15:00, 41°.70N×142°.20E, h35km, Mw3.8 Best double couple: M₀6.07000×10¹⁴ NP1:φ₁262.00000°, δ16.00000°, λ152.00000°. NP2:φ₂19.00000°, δ83.00000°, λ76.00000°.*

*JMA **03** 21:15:46.9±0.1, 41°.68N×142°.22E, h38km, M3.7 Broadband fault plane solution: P waves. NP1: φ₁39.00000°, δ66.00000°, λ-73.00000°. NP2:φ₂182.00000°, δ30.00000°, λ-124.00000°. Principal axes: T Plg19.0000°, Azm116.0000°; N Plg16.0000°, Azm212.0000°; P Plg65.0000°, Azm339.0000°;*

JMA Felt I J1.

*IDC **03** 21:15:50.0±2.1, 41°.77N×142°.17E, h53km±18km, mb3.4/9, mb1 3.6/12, mb1mx3.4/39, mbtmp3.6/12, ML3.5/2, MS2.7/4, Ms1 2.7/4, ms1mx2.5/32 Error ellipse: s-maj=25.6km s-min=13.5km az=110.0*

ISC 03 21:15:43.7±1.3, 41°.69N±0°.04×142°.22E±0°.03, h6km±9km, n42, σ0s91/40, mb3.7/9, 5C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.71**	**33**	⇓P	**Pn**	**21 15 59.9**	**-0.5**
JEM	**Erimo**	**0.77**	**64**	P	**Pn**	**21 16 01.3**	**+0.1**
JEM				*e*S	**Sb**	**21 16 11.8**	**+1.5**
JKB	**Kayabe**	**0.91**	**283**	⇑P	**Pn**	**21 16 02.9**	**-0.2**
JKB				*e*S	**Sb**	**21 16 14.4**	**+0.1**
JOT	**Ohata**	**0.93**	**251**	⇑P	**Pn**	**21 16 03.8**	**+0.4**
JOT				*e*S	**Sb**	**21 16 16.0**	**+1.1**
JBT2	**Biratori 2**	**1.10**	**5**	⇓P	**Pn**	**21 16 06.4**	**+0.7**
JNB	**Noboribetsu**	**1.18**	**312**	P	**Pb**	**21 16 06.5**	**0.0**
JNB				*e*S	**Sg**	**21 16 21.1**	**-0.5**
JTM	**Tenmabayashi**	**1.25**	**224**	⇑P	**Pn**	**21 16 09.1**	**+1.4**
JCH	**Churui**	**1.26**	**42**	⇓P	**Pn**	**21 16 08.9**	**+1.0**
JCH				*e*S	**Sn**	**21 16 25.2**	**+0.1**
JEW	**Eniwo**	**1.29**	**334**	P	**Pb**	**21 16 09.0**	**+0.6**
JEW				*e*S	**Sg**	**21 16 25.4**	**+0.3**
JSR	**Shiriuchi**	**1.36**	**264**	P	**Pg**	**21 16 09.9**	**+0.1**
JANG	**Nango**	**1.42**	**202**	⇑P	**Pg**	**21 16 10.6**	**-0.2**
JANG				*e*S	**Sg**	**21 16 28.1**	**-1.1**
JYM2	**Yakumo 2**	**1.45**	**288**	⇑P	**Pb**	**21 16 11.1**	**0.0**
JFR	**Furan**	**1.50**	**10**	P	**Pb**	**21 16 11.9**	**-0.1**
JOB	**Onbets**	**1.71**	**44**	P	**Pg**	**21 16 13.3**	**-0.1**
JOB				*e*S	**Sg**	**21 16 38.0**	**-0.5**
ASAJ	**Asahikawa**	**2.44**	**6**	P	**Pn**	**21 16 26.0**	**+1.8**
	11nm,0.3s,baz=209,slow=12,SNR=86						
ASAJ				S	**Sn**	**21 16 54.9**	**+0.5**
	baz=168,slow=20						
MAT	**Matsushiro**	**6.01**	**213**	P	**Pn**	**21 17 16.1**	**+2.9**
MJAR	**Matsushiro Arr**	**6.01**	**213**	P	Pn	21 17 18.2	+5.0
	0.7nm,0.3s,baz=21,slow=14,SNR=7.3						
USRK	**Ussuriysk Ar.**	**7.92**	**292**	P	**Pn**	**21 17 40.4**	**+1.0**
	0.1nm,0.3s,baz=106,slow=15,SNR=5.0						
KLR	**Kul'dur**	**10.53**	**319**	LR	LR	21 22 30.7	
	comp=Z,46nm,18.9s,baz=172,slow=38						
KSRS	**Korea Array**	**11.81**	**254**	P	Pn	21 18 39.5	+6.8
	1.0nm,0.3s,baz=63,slow=14,SNR=9.9						
KSRS				LR	LR	21 23 17.8	
	comp=Z,24nm,18.6s,baz=94,slow=38						
JNU	**Nakatsue**	**12.42**	**230**	LR	LR	21 23 49.2	
	comp=Z,37nm,18.1s,baz=296,slow=38						
PETK	**Petropavlovsk-**	**15.46**	**37**	LR	LR	21 26 42.7	
	comp=Z,32nm,18.7s,baz=274,slow=42						
SONM	**Songino Array**	**26.00**	**296**	P	**P**	**21 21 17.5**	**+0.1**
	0.2nm,0.5s,baz=79,slow=7.5,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**30.29**	**129**	T	T	21 54 34.6	
	baz=322,slow=75						
H11N1	**WAKE ISLAND Hy**	**30.30**	**129**	T	T	21 54 27.4	
	baz=322,slow=75						
H11N3	**WAKE ISLAND Hy**	**30.30**	**129**	T	T	21 54 27.4	
	baz=322,slow=75						
H11S1	**WAKE ISLAND Hy**	**31.14**	**131**	T	T	21 55 26.3	
	baz=323,slow=74						
H11S3	**WAKE ISLAND Hy**	**31.14**	**131**	T	T	21 55 27.1	
	baz=323						
H11S2	**WAKE ISLAND Hy**	**31.16**	**131**	T	T	21 55 30.4	
	baz=323,slow=74						
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**21 23 13.1**	**-0.8**
	0.6nm,0.3s,baz=74,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**42.33**	**298**	P	**P**	**21 23 37.7**	**-0.6**
	1.0nm,0.6s,baz=83,slow=9.5,SNR=10						
CMAR	**Chiang Mai Arr**	**43.44**	**251**	P	**P**	**21 23 48.1**	**+0.5**
	0.2nm,0.4s,baz=26,slow=7.0,SNR=3.3						
ILAR	**Eielson Array**	**45.27**	**35**	P	**P**	**21 24 01.8**	**+0.1**
	0.3nm,0.8s,baz=270,slow=6.1,SNR=3.3						
GUN	**Gumba**	**47.48**	**272**	*e*P	**P**	**21 24 20.2**	**+0.3**
	8.1nm,0.4s						
KKN	**Kakani**	**47.99**	**272**	*e*P	**P**	**21 24 23.7**	**-0.1**
	5.5nm,0.6s						
GKN	**Gorkha**	**48.36**	**273**	*e*P	**P**	**21 24 26.7**	**+0.2**
KOLN	**Koldanda**	**49.26**	**273**	*e*P	**P**	**21 24 32.9**	**-0.6**
	4.0nm,0.5s						
PYUN	**Puthan**	**49.54**	**274**	*e*P	**P**	**21 24 36.8**	**+1.1**
ARCES	**ARCESS Array B**	**59.88**	**339**	P	**P**	**21 25 47.8**	**-2.0**
	1.4nm,0.7s,baz=64,slow=9.2,SNR=3.4						
WRA	**Warramunga Arr**	**61.75**	**188**	P	**P**	**21 26 02.8**	**-0.2**
	0.5nm,0.7s,baz=6.5,slow=6.9,SNR=9.1						
FINES	**FINESS Array B**	**65.01**	**332**	P	**P**	**21 26 23.4**	**-0.8**
	2.0nm,0.4s,baz=55,slow=7.3,SNR=42						
BRTR	**Keskin Array B**	**76.25**	**311**	P	**P**	**21 27 33.1**	**-0.2**
	0.3nm,0.7s,baz=77,slow=6.4,SNR=2.5						

*NIED **03** 21:16:00, 36°.60N×141°.10E, h44km, Mw3.6 Best double couple: M₀2.53000×10¹⁴ NP1:φ₁138.00000°, δ37.00000°, λ-6.00000°. NP2:φ₂233.00000°, δ87.00000°, λ-127.00000°.*

*IDC **03** 21:16:43.6±2.7, 36°.77N×141°.64E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/39, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=60.6km s-min=27.8km az=65.0*

*ISCJB **03** 21:16:50.3±1.0, 36°.58N±0°.04×141°.17E±0°.10, h44km±10km, mb3.4/3, Error ellipse: s-maj=13.0km s-min=7.1km az=4.7*

*JMA **03** 21:16:51.2±0.1, 36°.59N×141°.09E, h45km±1km, M3.5*

ISC 03 21:16:49.9±2.0, 36°.62N±0°.04×141°.19E±0°.10, h28km±12km, n18, σ0s89/18, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.50**	**269**	P	**Pn**	**21 17 01.1**	**-0.1**
JHO				S	**Sb**	**21 17 08.0**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.57**	**327**	P	**Pn**	**21 17 02.6**	**+0.3**
ONAJ				*e*S	**Sn**	**21 17 10.1**	**-0.7**
JFK	**Kawauchi**	**0.79**	**341**	P	**Pn**	**21 17 05.5**	**+0.3**
JYT	**Yasato**	**0.89**	**244**	P	**Pb**	**21 17 06.2**	**-0.5**
JYT				S	**Sb**	**21 17 16.9**	**-1.4**
JSB	**Shiboa**	**1.08**	**289**	P	**Pb**	**21 17 09.9**	**0.0**
JSB				S	**Sb**	**21 17 22.5**	**-1.0**
JFT	**Otama**	**1.13**	**323**	P	**Pb**	**21 17 11.2**	**+0.5**
JFT				S	**Sn**	**21 17 25.2**	**+0.8**
MJAR	**Matsushiro Arr**	**2.40**	**269**	Pn	**Pn**	**21 17 28.5**	**+1.2**
	6.2nm,0.3s,baz=90,slow=11,SNR=43						
MJAR				Sn	**Sn**	**21 17 57.0**	**+1.2**
	7.9nm,0.3s,baz=110,slow=13,SNR=9.8						
JHJ	**Hachijo jima 2**	**3.68**	**199**	Pn	**Pn**	**21 17 46.2**	**+1.2**
	9.2nm,0.3s,baz=124,slow=23,SNR=6.6						
JHJ				Sn	**Sn**	**21 18 27.8**	**+0.4**
	10nm,0.3s,baz=73,slow=19,SNR=4.5						
USRK	**Ussuriysk Ar.**	**10.31**	**320**	Pn	Pn	21 19 21.1	+5.2
	0.1nm,0.3s,baz=140,slow=14,SNR=5.2						
SONM	**Songino Array**	**27.87**	**305**	P	**P**	**21 22 37.0**	**-0.2**
	0.7nm,0.7s,baz=104,slow=7.6,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	21 52 14.7	
	baz=317						
H11N1	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	21 52 15.1	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	21 52 15.4	
	baz=317						
H11S1	**WAKE ISLAND Hy**	**28.79**	**122**	T	T	21 53 13.1	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.79**	**122**	T	T	21 53 13.3	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	21 53 14.4	
	baz=314						
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**21 24 56.2**	**0.0**
	0.1nm,0.3s,baz=67,slow=7.2,SNR=2.3						
WRA	**Warramunga Arr**	**56.63**	**188**	P	**P**	**21 26 29.6**	**-0.9**
	0.7nm,0.8s,baz=5.5,slow=7.4,SNR=3.1						

*ATH **03** 21:21:30.9, 35°.25N×27°.77E, h17km±2km, ML2.3/2, Error ellipse: s-maj=6.4km s-min=1.9km az=325.0*

*CSEM **03** 21:21:30.9, 35°.25N×27°.77E, h17km, ML2.3/2*

*DDA **03** 21:21:45.7, 36°.24N×28°.75E, h7km, Ml2.7*

ISC 03 21:21:29.7±1.6, 35°.24N±0°.07×27°.87E±0°.05, h10km±12km, n27, σ1s19/35, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.66**	**298**	P	**Pg**	**21 21 42.3**	**-0.2**
KARP				S	**Sb**	**21 21 51.7**	**-0.9**
KARP	**Karpathos**	**0.66**	**298**	P	**Pg**	**21 21 42.3**	**-0.2**
KARP				S	**Sb**	**21 21 51.7**	**-0.9**
KARP				AML	AML	21 22 00.5	
	comp=N,996μm,0.7s						
KARP				AML	AML	21 22 17.5	
	comp=E,623μm,0.6s						
ARG	**Arkhangelos**	**0.99**	**12**	P	**Pn**	**21 21 50.4**	**+0.6**
ZKR	**Zakros**	**1.36**	**265**	P	**Pn**	**21 21 54.7**	**-0.1**
ZKR				S	**Sb**	**21 22 12.3**	**-0.5**
ZKR	**Zakros**	**1.36**	**265**	P	**Pn**	**21 21 54.7**	**-0.1**
ZKR				S	**Sb**	**21 22 12.3**	**-0.5**
ZKR				AML	AML	21 22 24.1	
	comp=E,207μm,0.4s						
ZKR				AML	AML	21 22 27.1	
	comp=N,258μm,0.7s						
AKAS	**Kas**	**1.72**	**54**	P	**Pn**	**21 21 59.0**	**-0.9**
AKAS				S	**Sg**	**21 22 26.1**	**+1.0**
AKAS	**Kas**	**1.72**	**54**	*i*P	**Pn**	**21 21 59.0**	**-0.9**
AKAS				*i*S	**Sg**	**21 22 26.1**	**+1.0**
TURN	**Turunc**	**1.73**	**20**	*i*P	**Pn**	**

*IDC **03** 21:38:17.9±0.6, 39°.87N×142°.89E, h0km, mb4.0/20, mb1 4.1/22, mb1mx4.0/38, mbtmp3.9/22, ML3.6/2, MS3.3/10, Ms1 3.3/10, ms1mx3.0/45, Error ellipse: s-maj=18.9km s-min=14.6km az=98.0*

*ISCJB **03** 21:38:18.3±0.5, 39°.93N±0°.05×143°.10E±0°.06, h12km, mb4.1/27, MS3.4/5, Error ellipse: s-maj=8.1km s-min=6.4km az=151.6*

*JMA **03** 21:38:22.8±0.2, 40°.03N×142°.84E, h26km±2km, M4.1*

*NEIC **03** 21:38:23.1±0.4, 39°.86N×142°.86E, h35km, mb4.3/6, Error ellipse: s-maj=11.4km s-min=7.5km az=119.0*

ISC 03 21:38:19.9±0.6, 39°.94N±0°.05×142°.95E±0°.06, h12km, n59, σ1§41/50, mb4.1/27, MS3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.83**	**270**	P	**Pn**	**21 38 37.2**	**-0.3**
MIYJ	**Miyakonagasawa**	**0.94**	**248**	P	**Pn**	**21 38 39.4**	**+0.4**
JANG	**Nango**	**1.18**	**292**	P	**Pb**	**21 38 41.8**	**-0.5**
JKZ	**Kuzumaki**	**1.25**	**273**	P	**Pg**	**21 38 43.6**	**-0.3**
OFUJ	**Ofunato**	**1.31**	**230**	P	**Pg**	**21 38 45.4**	**+0.3**
JOM	**Ohasama**	**1.36**	**251**	P	**Pg**	**21 38 45.9**	**-0.2**
JMK	**Ichinoseki**	**1.66**	**234**	P	**Pg**	**21 38 51.0**	**-0.8**
JTM	**Tenmabayashi**	**1.67**	**301**	P	**Pn**	**21 38 49.8**	**+0.8**
JTM				*eS*	**Sn**	**21 39 09.4**	**-0.9**
JAH	**Hinai**	**1.79**	**279**	P	**Pb**	**21 38 52.2**	**-0.5**
JRG	**Rokugo**	**1.87**	**254**	P	**Pb**	**21 38 54.3**	**+0.3**
ERM	**Erimo**	**2.08**	**4**	*e*Pn	**Pn**	**21 38 55.3**	**+0.7**
ASAJ	**Asahikawa** 2.4nm,0.3s,baz=220,slow=8.8,SNR=15	**4.18**	**357**	Pn	**Pn**	**21 39 24.9**	**+1.3**
ASAJ				Sn	**Sb**	**21 40 19.3**	**-4.6**
	4.6nm,0.3s,baz=225,slow=31,SNR=4.1						
MJAR	**Matsushiro Arr** 2.7nm,0.3s,baz=216,slow=18,SNR=26	**5.04**	**229**	Pn	**Pn**	**21 39 31.4**	**-3.9**
MJAR				LR	LR	21 41 47.6	
	comp=Z,252nm,18.2s,baz=55,slow=42						
MAJO	**Matsushiro**	**5.04**	**229**	*e*Pn	**Pn**	**21 39 32.5**	**-2.9**
MAT	**Matsushiro**	**5.04**	**229**	P	**Pn**	**21 39 31.9**	**-3.5**
MAT				*e*S	**Sb**	**21 40 48.0**	**-0.7**
USRK	**Ussuriysk Ar.** 0.5nm,0.3s,baz=92,slow=15,SNR=22	**9.19**	**301**	Pn	**Pn**	**21 40 36.5**	**+4.2**
JNU	**Nakatsue** 0.2nm,0.3s,baz=237,slow=17,SNR=3.0	**11.85**	**239**	Pn	**Pn**	**21 41 10.5**	**+1.7**
JNU				LR	LR	21 45 59.4	
	comp=Z,111nm,20.5s,baz=128,slow=39						
KSRS	**Korea Array** 0.4nm,0.3s,baz=67,slow=13,SNR=3.1	**12.00**	**263**	Pn	Pn	21 41 18.3	+7.6
KSRS				LR	LR	21 45 39.7	
	comp=Z,123nm,19.3s,baz=65,slow=37						
KSAR	**Wonju Array Be**	**12.03**	**263**	Pn	P	21 41 18.3	-5.9
KLR	**Kul'dur**	**12.23**	**323**	LR	LR	21 46 12.8	
	comp=Z,122nm,18.2s,baz=131,slow=39						
PETK	**Petropavlovsk-** comp=Z,38nm,19.1s,baz=203,slow=40	**16.58**	**33**	LR	LR	21 49 21.4	
SEY	**Seymchan** 1.8nm,0.3s,baz=187,slow=8.7,SNR=13	**23.71**	**11**	P	**P**	**21 43 31.7**	**+0.2**
ULN	**Ulaanbaatar** 1.6nm,0.7s	**26.86**	**299**	*e*P	**P**	**21 44 01.2**	**+0.7**
SONM	**Songino Array** 0.5nm,0.3s,baz=88,slow=9.0,SNR=8.1	**27.30**	**299**	P	**P**	**21 44 04.8**	**+0.4**
H11N2	**WAKE ISLAND Hy** baz=319,slow=74,SNR=152	**28.78**	**127**	T	T	22 14 33.7	
H11N1	**WAKE ISLAND Hy** baz=319,slow=76,SNR=51	**28.79**	**127**	T	T	22 15 04.7	
H11N3	**WAKE ISLAND Hy** baz=319	**28.79**	**127**	T	T	22 14 29.7	
ENH	**Enshi** 4.3nm,0.6s	**28.88**	**261**	*e*P	**P**	**21 44 18.4**	**-0.1**
H11S1	**WAKE ISLAND Hy** baz=322,slow=76,SNR=52	**29.59**	**129**	T	T	22 15 47.8	
H11S3	**WAKE ISLAND Hy** baz=322,slow=76,SNR=35	**29.60**	**129**	T	T	22 15 27.9	
H11S2	**WAKE ISLAND Hy** baz=322,slow=76,SNR=35	**29.61**	**129**	T	T	22 15 29.7	
ZALV	**Zalesovo Beam** 3.1nm,0.6s,baz=86,slow=7.5,SNR=12	**40.91**	**310**	P	**P**	**21 46 02.2**	**+0.4**
ZALV				LR	LR	22 03 41.8	
	comp=Z,43nm,19.6s,baz=70,slow=37						
NRIK	**Noril'sk** comp=Z,53nm,18.6s,baz=110,slow=38	**41.17**	**334**	LR	LR	22 04 39.4	
CMAR	**Chiang Mai Arr** 0.6nm,0.7s,baz=46,slow=7.7,SNR=3.3	**43.44**	**254**	P	**P**	**21 46 23.1**	**+0.3**
MKAR	**Makanchi Array** 1.3nm,0.7s,baz=85,slow=10,SNR=12	**43.66**	**300**	P	**P**	**21 46 24.6**	**+0.2**
KURK	**Kurchatov** 8.7nm,0.6s	**45.14**	**306**	*e*P	**P**	**21 46 36.1**	**0.0**
ILAR	**Eielson Array** 0.5nm,0.7s,baz=272,slow=6.2,SNR=5.0	**46.41**	**34**	P	**P**	**21 46 46.3**	**+0.4**
TKM2	**Tokmak 2** 4.7nm,0.7s	**49.36**	**297**	*e*P	**P**	**21 47 09.9**	**+0.5**
AAK	**Ala-Archa** 0.6nm,0.3s,baz=179,slow=19,SNR=4.0	**50.22**	**297**	P	**P**	**21 47 13.7**	**-2.2**
EKS2	**Erkin-Say** 1.6nm,0.6s	**50.70**	**297**	*e*P	**P**	**21 47 19.6**	**+0.2**
INK	**Inuvik** 0.7nm,0.4s,baz=280,slow=6.1,SNR=3.1	**51.26**	**28**	P	**P**	**21 47 23.4**	**+0.4**
ABKAR	**Akbulak array** 1.6nm,0.5s	**57.02**	**309**	*e*P	**P**	**21 48 05.3**	**-0.1**
WRA	**Warramunga Arr** 5.1nm,0.8s,baz=9.6,slow=7.3,SNR=24	**60.11**	**189**	P	**P**	**21 48 26.0**	**-1.1**
ARCES	**ARCESS Array B** comp=Z,22nm,18.8s,baz=60,slow=39	**61.71**	**339**	LR	LR	22 17 58.9	
GEYT	**Alibeck** 0.8nm,0.5s,baz=28,slow=6.7,SNR=4.2	**63.50**	**298**	P	**P**	**21 48 49.8**	**-0.2**
ASAR	**Alice Springs** 1.7nm,0.8s,baz=14,slow=6.8,SNR=12	**63.84**	**189**	P	**P**	**21 48 52.2**	**0.0**
FINES	**FINESS Array B** 1.9nm,0.7s,baz=57,slow=7.0,SNR=7.5	**66.81**	**332**	P	**P**	**21 49 10.6**	**-0.4**
FINES				LR	LR	22 20 19.3	
	comp=Z,41nm,19.8s,baz=40,slow=38						
KBZ	**Khabaz** 3.1nm,0.9s,baz=38,slow=4.9,SNR=7.3	**69.93**	**311**	P	**P**	**21 49 31.1**	**+0.3**
STKA	**Stephens Creek** 1.0nm,0.6s,baz=9.5,slow=9.8,SNR=3.3	**71.47**	**181**	P	**P**	**21 49 39.9**	**-0.2**
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.7s,baz=38,slow=6.2	**71.97**	**338**	P	**P**	**21 49 42.4**	**-0.6**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.8s,baz=38,slow=6.0,SNR=5.2	**71.97**	**338**	P	**P**	**21 49 42.9**	**-0.1**
NOA				LR	LR	22 25 24.3	
	comp=Z,19nm,18.1s,baz=65,slow=39						
AKASG	**Malin Array Be** comp=Z,0.9nm,0.5s,baz=44,slow=5.8,SNR=5.6	**72.74**	**322**	P	**P**	**21 49 47.4**	**-0.3**
PDAR	**Pinedale Array** comp=Z,0.8nm,0.6s,baz=158,slow=1.6,SNR=4.6	**74.79**	**47**	P	**P**	**21 50 00.5**	**+0.3**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.6s,baz=37,slow=4.9,SNR=3.7	**77.82**	**312**	P	**P**	**21 50 17.2**	**-0.2**
RAO	**Raoul Island** comp=Z,368nm,0.3s	**77.86**	**146**	*e*P	**P**	**21 50 17.6**	**+0.3**
GERES	**GERESS Array B** comp=Z,0.3nm,0.5s,baz=54,slow=6.8,SNR=4.5	**80.87**	**329**	P	**P**	**21 50 34.1**	**+0.3**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=316,slow=3.8,SNR=3.5	**87.41**	**53**	P	**P**	**21 51 08.1**	**+0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.9s,baz=29,slow=3.3,SNR=2.2	**116.08**	**317**	PKP	**PKPdf**	**21 57 02.6**	**-0.8**
LPAZ	**La Paz** comp=Z,0.6nm,0.3s,baz=193,slow=1.6,SNR=3.0	**144.16**	**58**	PKP	**PKPdf**	**21 57 56.4**	**-0.4**

*JMA **03** 21:40:01.4±0.3, 21°.38N×121°.27E, h7km, M4.5*

*TAP **03** 21:40:04.3, 21°.28N×121°.32E, h53km, ML4.2, D*

*IDC **03** 21:40:10.0±4.9, 21°.20N×121°.46E, h90km±47km, mb3.5/12, mb1 3.6/13, mb1mx3.4/38, mbtmp3.8/13, MS3.2/3, Ms1 3.3/3, ms1mx2.7/30, Error ellipse: s-maj=23.4km s-min=15.8km az=73.0*

ISC 03 21:40:01.3±1.5, 21°.21N±0°.03×121°.35E±0°.04, h13km±9km, n87, σ1§61/122, mb3.7/12, 7C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin** baz=317	**0.80**	**328**	⇑*i*P	**Pn**	**21 40 19.5**	**+1.1**
TSEB				*i* S	**Sn**	**21 40 30.9**	**+0.7**
	baz=317						
LAY	**Lan-yu** baz=16	**0.84**	**13**	⇑*i*P	**Pn**	**21 40 19.7**	**+0.7**
TWK1	**Hengchun** baz=318	**0.89**	**325**	⇑*i*P	**Pn**	**21 40 20.2**	**+0.6**
TWK1				*e*S	**Sn**	**21 40 32.4**	**+0.1**
	baz=318						
HEN	**Hengchun** baz=324	**0.97**	**324**	⇑P	**Pn**	**21 40 21.8**	**+1.0**
HEN				*e*S	**Sn**	**21 40 34.7**	**+0.2**
	baz=324						
TAW	**Tawu** baz=349	**1.22**	**340**	*e*P	**Pn**	**21 40 23.6**	**-0.5**
TAW				*e*S	**Sb**	**21 40 38.4**	**-1.4**
	baz=349						
EAST	**Anshuo** baz=346	**1.25**	**338**	⇑*i*P	**Pn**	**21 40 24.7**	**0.0**
EAST				*e*S	**Sb**	**21 40 39.6**	**-1.4**
	baz=346						
SCZT	**Fangliau** baz=320	**1.34**	**330**	P	**Pg**	**21 40 26.9**	**-0.2**
SCZT				*e*S	**Sg**	**21 40 44.7**	**+0.2**
	baz=320						
ECL	**Taimali** baz=346	**1.43**	**345**	P	**Pn**	**21 40 26.3**	**-0.7**
ECL				*e*S	**Sn**	**21 40 42.5**	**-3.1**
	baz=346						
TWP	**Hsiaoliuchiu** baz=321	**1.46**	**321**	*e*P	**Pg**	**21 40 29.6**	**+0.3**
TWP				*e*S	**Sg**	**21 40 47.8**	**-0.5**
	baz=321						
TTN	**Taitung** baz=354	**1.54**	**353**	*e*P	**Pb**	**21 40 30.1**	**+0.2**
TTN				*e*S	**Sn**	**21 40 48.4**	**-0.1**
	baz=354						
TWG	**Pinlang** baz=352	**1.62**	**351**	*e*P	**Pn**	**21 40 28.8**	**-0.9**
SSD	**Sandimen** baz=345	**1.67**	**336**	P	**Pb**	**21 40 32.1**	**+0.2**
SGLT	**Jiouru** baz=343	**1.70**	**332**	*e*P	**Pb**	**21 40 33.2**	**+0.6**
SGLT				*e*S	**Sb**	**21 40 54.9**	**+0.9**
	baz=343						
TWM1	**Shoushan** baz=332	**1.82**	**332**	*e*P	**Pb**	**21 40 34.5**	**-0.1**
CHKT	**Chengkung** baz=351	**1.88**	**0**	*e*P	**Pb**	**21 40 34.9**	**-0.6**
CHKT				*e*S	**Sn**	**21 40 55.1**	**-1.6**
	baz=351						
ELDTW	**Lidau** baz=358	**1.99**	**351**	*e*P	**Pb**	**21 40 36.9**	**-0.6**
SGST	**Jiashian** baz=340	**1.99**	**339**	*e*P	**Pb**	**21 40 36.6**	**-0.9**
SGST				*e*S	**Sb**	**21 41 01.6**	**-0.7**
	baz=340						
STYT	**Tauyuan** baz=345	**2.02**	**344**	*e*P	**Pn**	**21 40 36.4**	**+1.2**
STYT				*e*S	**Sn**	**21 41 00.5**	**+0.2**
	baz=345						
CHN1	**Nanshi** baz=339	**2.11**	**339**	⇑P	**Pb**	**21 40 38.1**	**-1.3**
CHN1				*e*S	**Sb**	**21 41 04.6**	**-1.0**
	baz=339						
TWF1	**Yuli** baz=351	**2.13**	**359**	*e*P	**Pn**	**21 40 38.0**	**+1.3**
TWF1				*e*S	**Sn**	**21 41 02.3**	**-0.7**
	baz=351						
WTP	**Ta-pu** baz=342	**2.14**	**341**	⇑P	**Pb**	**21 40 38.7**	**-1.3**
WTP				*e*S	**Sn**	**21 41 04.2**	**+0.9**
	baz=342						
TWK	**Hsinying** baz=339	**2.19**	**339**	*e*P	**Pb**	**21 40 39.5**	**-1.4**
CHN4	**Tsaushan** baz=342	**2.24**	**342**	P	**Pb**	**21 40 40.3**	**-1.4**
CHN4				*e*S	**Sb**	**21 41 07.7**	**-1.8**
	baz=342						
EHY	**Hungye** baz=354	**2.28**	**359**	*e*P	**Pn**	**21 40 40.1**	**+1.3**
YUS	**Yu-Shan** baz=351	**2.30**	**351**	*e*P	**Pb**	**21 40 41.5**	**-1.5**
YUS				*e*S	**Sn**	**21 41 09.6**	**+1.7**
	baz=351						
ALS	**Alishan** baz=348	**2.34**	**348**	*e*P	**Pb**	**21 40 42.0**	**-1.6**
ALS				*e*S	**Sb**	**21 41 10.7**	**-1.9**
	baz=348						
CHY	**Chiayi** baz=340	**2.43**	**339**	*e*P	**Pb**	**21 40 43.8**	**-1.2**
CHY				*e*S	**Sn**	**21 41 11.7**	**+1.2**
	baz=340						
CHN2	**Minshiung** baz=341	**2.45**	**341**	*e*P	**Pb**	**21 40 45.1**	**-0.1**
CHN2				*e*S	**Sn**	**21 41 12.7**	**+1.9**
	baz=341						
CHN5	**Tsauling** baz=346	**2.45**	**345**	*e*P	**Pn**	**21 40 43.1**	**+1.9**
WGK	**Gukeng** baz=344	**2.57**	**344**	*e*P	**Pb**	**21 40 45.3**	**-2.0**
WGK				*e*S	**Sn**	**21 41 16.1**	**+2.3**
	baz=344						
WDGT	**Dungji** baz=333	**2.57**	**323**	*e*P	**Pn**	**21 40 43.1**	**+0.4**
WDGT				*e*S	**Sn**	**21 41 11.5**	**-2.4**
	baz=333						
ESL	**Shilin** baz=355	**2.59**	**2**	*e*P	**Pn**	**21 40 45.1**	**+2.1**
SMLT	**Sun Moon Lake** baz=352	**2.69**	**351**	*e*P	**Pn**	**21 40 47.0**	**+2.5**
SMLT				*e*S	**Sn**	**21 41 18.9**	**+1.9**
	baz=352						
TYC	**Yuchr** baz=351	**2.72**	**350**	*e*P	**Pn**	**21 40 47.1**	**+2.3**
WNT	**Mingjian** baz=347	**2.72**	**347**	*e*P	**Pn**	**21 40 46.9**	**+2.1**
TWD	**Chiawan** baz=357	**2.86**	**4**	*e*P	**Pn**	**21 40 48.3**	**+1.6**
TWD				*e*S	**Sn**	**21 41 21.4**	**+0.3**
	baz=357						
PNG	**Penghu** baz=325	**2.87**	**325**	*e*P	**Pn**	**21 40 46.8**	**-0.1**
WHF	**Hehuan Shan** baz=7.0	**2.92**	**358**	*e*P	**Pn**	**21 40 50.6**	**+2.7**
PIP	**Pasuquin**	**2.96**	**194**	⇓*i*P	**Pn**	**21 40 48.5**	**+0.5**
TCU	**Taichung** baz=348	**2.99**	**348**	*e*P	**Pn**	**21 40 51.1**	**+2.6**
TWT	**Tachien** baz=345	**3.03**	**357**	*e*P	**Pb**	**21 40 52.9**	**-2.4**
TWQ1	**Liyutan** baz=340	**3.17**	**350**	*e*P	**Pn**	**21 40 53.4**	**+2.5**
NNS	**Nan Shan** baz=10.0	**3.21**	**0**	*e*P	**Pn**	**21 40 54.9**	**+3.2**
ENA	**Nanau** baz=352	**3.22**	**6**	*e*P	**Pn**	**21 40 54.3**	**+2.6**
ENA				S	**Sn**	**21 41 31.8**	**+1.8**
	baz=352						
APYP	**Conner**	**3.33**	**182**	*e*S	**Sn**	**21 41 32.9**	**+0.1**
TWC	**Suao** baz=16	**3.41**	**8**	*e*P	**Pn**	**21 40 57.1**	**+2.9**
TWC				*e*S	**Sn**	**21 41 35.4**	**+0.7**
	baz=16						
ENTT	**Nioudou** baz=4.0	**3.42**	**3**	*e*P	**Pn**	**21 40 57.8**	**+3.4**
ENTT				*e*S	**Sn**	**21 41 35.9**	**+1.1**
	baz=4.0						
NSTT	**Nanjuang** baz=344	**3.42**	**355**	*e*P	**Pn**	**21 40 57.5**	**+3.1**
NSK	**Sanguang** baz=349	**3.45**	**0**	P	**Pn**	**21 40 57.6**	**+2.7**
NSK				*e*S	**Sn**	**21 41 37.7**	**+2.0**
	baz=349						
TWE	**Neicheng** baz=5.0	**3.50**	**5**	*e*P	**Pn**	**21 40 57.7**	**+2.1**
JYNG	**Yonagunijimaku**	**3.54**	**24**	P	**Pn**	**21 40 58.8**	**+2.7**
JYNG				*e*S	**Sn**	**21 41 38.3**	**+0.4**
YOJ	**Yonaguni jima**	**3.58**	**25**	P	**Pn**	**21 40 59.8**	**+3.2**
YOJ				*e*S	**Sn**	**21 41 38.2**	**-0.5**
HATJ	**Hateruma jima**	**3.62**	**38**	P	**Pn**	**21 40 59.0**	**+1.8**
HATJ				S	**Sn**	**21 41 39.5**	**-0.4**
IRIF	**Iriomote-Funau**	**3.80**	**35**	P	**Pn**	**21 41 01.4**	**+1.7**
IRIF				S	**Sn**	**21 41 45.8**	**+1.5**
NWF	**Wu-fen Shan** baz=353	**3.86**	**6**	*e*P	**Pn**	**21 41 04.1**	**+3.6**
NWF				*e*S	**Sn**	**21 41 47.3**	**+1.4**
	baz=353						
JKRS	**Kuro-shima**	**3.88**	**39**	P	**Pn**	**21 41 02.7**	**+1.9**
JKRS				*e*S	**Sn**	**21 41 46.3**	**0.0**
JIJ	**Ishigaki jima**	**4.06**	**39**	P	**Pn**	**21 41 04.5**	**+1.3**
JIJ				*e*S	**Sn**	**21 41 49.6**	**-1.0**
KNM	**Kinmen** baz=318	**4.17**	**320**	*e*P	**Pn**	**21 41 06.4**	**+1.6**
JISG	**Ishigakijimahi**	**4.33**	**39**	P	**Pn**	**21 41 08.0**	**+1.1**
JISG				S	**Sn**	**21 41 56.8**	**-0.4**
JTJ	**Tarama**	**4.60**	**42**	P	**Pn**	**21 41 11.9**	**+1.2**
JTJ				*e*S	**Sn**	**21 42 02.4**	**-1.6**
BOLP	**Bolinao**	**5.00**	**196**	*e*P	**Pn**	**21 41 17.7**	**+1.6**
BOLP				*e*S	**Sn**	**21 42 15.2**	**+1.4**
JIRB	**Irabujima**	**5.03**	**44**	P	**Pn**	**21 41 17.7**	**+1.1**
JIRB				*e*S	**Sn**	**21 42 12.8**	**-1.8**
JMJ	**Miyako jima 2**	**5.10**	**45**	P	**Pn**	**21 41 19.2**	**+1.7**
JMJ				*e*S	**Sn**	**21 42 15.1**	**-1.3**
JOGS	**Gusukube**	**5.14**	**46**	P	**Pn**	**21 41 19.0**	**+0.9**
JOGS				*e*S	**Sn**	**21 42 16.7**	**-0.6**
JIKM	**Ikemajima**	**5.15**	**43**	P	**Pn**	**21 41 19.4**	**+1.2**
JIKM				*e*S	**Sn**	**21 42 16.6**	**-0.9**
BALP	**Baler**	**5.45**	**178**	*e*P	**Pn**	**21 41 25.8**	**+3.5**
TGY	**Tagaytay City** comp=Z,100nm,21.6s,baz=124,slow=38	**7.08**	**183**	LR	LR	21 44 37.0	
KSRS	**Korea Array** 0.3nm,0.3s,baz=199,slow=11,SNR=4.7	**17.16**	**18**	P	**P**	**21 44 03.9**	**+1.4**
MJAR	**Matsushiro Arr** 0.7nm,0.5s,baz=230,slow=7.3,SNR=4.1	**21.19**	**40**	P	**P**	**21 44 48.3**	**+1.6**
CMAR	**Chiang Mai Arr** 0.7nm,0.7s,baz=75,slow=9.2,SNR=7.0	**21.26**	**267**	P	**P**	**21 44 49.8**	**+2.3**
CMAR				LR	LR	21 53 50.7	
	comp=Z,35nm,18.3s,baz=155,slow=38						
SONM	**Songino Array** 1.3nm,0.4s,baz=156,slow=10.0,SNR=18	**29.17**	**339**	P	**P**	**21 46 02.7**	**+0.2**
MKAR	**Makanchi Array** 2.0nm,0.6s,baz=114,slow=10.0,SNR=8.4	**40.61**	**318**	P	**P**	**21 47 42.1**	**+1.2**
H11N1	**WAKE ISLAND Hy** baz=281,slow=75,SNR=18	**42.58**	**84**	T	T	22 33 19.0	
H11N2	**WAKE ISLAND Hy** baz=281,slow=75,SNR=22	**42.58**	**84**	T	T	22 33 21.6	
H11N3	**WAKE ISLAND Hy** baz=281,slow=75,SNR=15	**42.60**	**84**	T	T	22 33 18.9	
H11S3	**WAKE ISLAND Hy** baz=282,slow=75,SNR=30	**42.62**	**85**	T	T	22 33 23.0	
H11S1	**WAKE ISLAND Hy** baz=282,slow=75,SNR=26	**42.63**	**85**	T	T	22 33 23.3	
H11S2	**WAKE ISLAND Hy** baz=282,slow=75,SNR=25	**42.64**	**85**	T	T	22 33 25.0	
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=344,slow=8.9,SNR=6.8	**42.83**	**162**	P	**P**	**21 47 57.3**	**-2.1**
ZALV	**Zalesovo Beam** 2.9nm,0.6s,baz=121,slow=7.3,SNR=8.2	**42.84**	**329**	P	**P**	**21 47 59.5**	**+0.5**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=348,slow=8.5,SNR=6.0	**46.25**	**164**	P	**P**	**21 48 27.5**	**+0.8**
BVAR	**Borovoye Array** comp=Z,109nm,20.7s,baz=66,slow=36	**50.09**	**322**	LR	LR	22 10 05.2	
ILAR	**Eielson Array** 0.2nm,0.4s,baz=251,slow=4.7,SNR=3.6	**71.78**	**27**	P	**P**	**21 51 21.7**	**-1.6**
ARCES	**ARCESS Array B** 2.2nm,0.7s,baz=70,slow=8.9,SNR=5.0	**72.34**	**338**	P	**P**	**21 51 25.8**	**-0.8**
FINES	**FINESS Array B** 1.3nm,0.7s,baz=45,slow=6.2,SNR=5.3	**74.08**	**330**	P	**P**	**21 51 36.2**	**-0.8**
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=59,slow=5.2,SNR=5.7	**80.92**	**332**	P	**P**	**21 52 15.0**	**-0.3**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=310,slow=4.7,SNR=3.0	**85.64**	**23**	P	**P**	**21 52 38.5**	**-1.0**

IDC 03 21:52:57.8±10.0, 14°.58N×119°.14E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.3/38, mbtmp3.6/3, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/42, Error ellipse: s-maj=347.9km s-min=31.7km az=37.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=96,slow=7.7,SNR=9.0	**19.74**	**284**	P	P	21 57 29.3	-0.1
GUMO	**Guam** comp=Z,44nm,18.1s,baz=138,slow=36	**24.97**	**89**	LR	LR	22 07 48.1	
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=335,slow=9.5,SNR=8.9	**37.42**	**156**	P	P	22 00 12.4	-0.6
ASAR	**Alice Springs** 0.4nm,0.4s,baz=337,slow=6.7,SNR=10	**40.66**	**159**	P	P	22 00 40.4	+0.3

*ISCJB **03** 21:53:29.3±0.6, 3°.94N±0°.05×76°.77W±0°.05, h129km±6km, mb3.4/2, Error ellipse: s-maj=9.5km s-min=6.6km az=33.7*

*RSNC **03** 21:53:30.5±1.1, 3°.93N×76°.74W, h124km±10km, ML3.4*

*IDC **03** 21:53:30.8±7.4, 3°.72N×76°.68W, h130km±46km, mb3.2/2, mb1 3.4/3, mb1mx3.1/26, mbtmp3.7/3, Error ellipse: s-maj=88.7km s-min=36.7km az=24.0*

ISC 03 21:53:30.4±1.0, 3°.94N±0°.05×76°.76W±0°.05, h122km±9km, n15, σ0§87/21, 1C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALC	**Bahia Malaga**	**0.58**	**278**	*e*P	**Pn**	**21 53 49.2**	**+0.1**
MALC				*e*S	**Sn**	**21 54 03.6**	**+0.4**
MALC				*i*		21 54 07.2	
	comp=Z,470nm,0.2s						
TOLC	**Tolima**	**1.57**	**66**	*e*P	**Pn**	**21 53 58.1**	**-1.1**
GUYC	**Guyana, Colomb**	**1.87**	**47**	*e*P	**Pn**	**21 54 02.5**	**-0.3**
GUYC				*i*		21 54 04.0	
	comp=Z,626nm,0.2s						
GUYC				*e*S	**Sn**	**21 54 28.1**	**+0.6**
PRAC	**Prado**	**1.88**	**97**	⇑*i*P	**Pn**	**21 54 02.2**	**-0.3**
PRAC				*e*S	**Sn**	**21 54 26.1**	**-1.0**
CRUC	**La Cruz**	**2.36**	**185**	*e*P	**Pn**	**21 54 09.0**	**+0.2**
CRUC				*i*		21 54 10.2	
	comp=Z,69nm,0.2s						
CRUC				*e*S	**Sn**	**21 54 38.1**	**-0.2**
SOLC	**Bahia Solano**	**2.37**	**344**	*e*P	**Pn**	**21 54 08.2**	**-0.4**
SOLC				*i*		21 54 09.4	
	comp=Z,51nm,0.1s						
NORC	**Norcasia**	**2.48**	**49**	*e*P	**Pn**	**21 54 09.7**	**-0.4**
HELC	**Santa Helena**	**2.55**	**29**	*e*P	**Pn**	**21 54 10.6**	**-0.7**
HELC				*e*S	**Sn**	**21 54 41.6**	**-1.1**
ROSC	**El Rosal** comp=Z,15nm,0.3s,baz=332,slow=5.4,SNR=16	**2.59**	**70**	P	**Pn**	**21 54 13.1**	**+1.2**
ROSC				S	**Sn**	**21 54 45.4**	**+1.8**
	comp=Z,13nm,0.3s,baz=50,slow=13,SNR=6.2						
SJAC	**San Juan de Ar**	**2.88**	**103**	*e*P	**Pn**	**21 54 15.3**	**0.0**
SJAC				*i*		21 54 52.3	
	comp=Z,255nm,0.3s						
DBBC	**Dabeiba**	**3.11**	**10**	*e*P	**Pn**	**21 54 18.5**	**+0.2**
OTAV	**Otavalo**	**4.04**	**205**	*e*P	**Pn**	**21 54 30.2**	**-0.9**
BRRC	**Barranca, Sant**	**4.37**	**44**	*e*P	**Pn**	**21 54 33.8**	**-1.2**
BRRC				*i*		21 54 35.8	
	comp=Z,37nm,0.1s						
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.5s,baz=141,slow=5.9,SNR=3.6	**64.78**	**342**	P	**P**	**22 03 56.6**	**+1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,1.1s,baz=277,slow=6.6,SNR=2.9	**77.88**	**77**	P	**P**	**22 05 14.8**	**-0.5**

CASC 03 21:53:45.6±0.9, 13°.42N×90°.01W, h46km±11km, MD3.9, mb4.0(NEIC), 5C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONS	**Sonsonate**	**0.43**	**42**	*e*P	Pn	21 53 56.0	+0.2
SONS				*e*S	Sn	21 54 04.1	+1.1
CUS1	**Cusmapa**	**0.50**	**7**	⇓*i*P	Pn	21 53 56.5	-0.2

MRLC	**Muro Lucano**	**0.14**	**1**⇑*i*Pg		Pg		21 56 03.6	+0.2
MRLC			Sg		Sg		21 56 06.4	+0.9
	5µm,0.4s							
CDRU	**Civita di Ruta**	**0.19**	**227**	Pg	Pg		21 56 05.0	+0.8
CDRU			Sg		Sg		21 56 08.4	+1.6
	2µm,0.4s							
CDRU	**Civita di Ruta**	**0.19**	**227**	Pg	Pg		21 56 05.0	+0.8
CDRU			Sg		Sg		21 56 08.4	+1.6
	2µm,0.4s							
MCRV	**Calabrutti - M**	**0.29**	**305**	Pg	Pg		21 56 06.6	+0.4
MCRV			Sg		Sb		21 56 12.3	-0.9
	1µm,0.5s							
MCRV	**Calabrutti - M**	**0.29**	**305**	Pg	Pg		21 56 06.6	+0.4
MCRV			Sg		Sb		21 56 12.3	-0.9
	1µm,0.5s							
CMPR	**Campora**	**0.33**	**205**	Pg	Pg		21 56 07.7	+0.8
CMPR			Sg		Sb		21 56 13.6	-0.5
	623nm,0.4s							
CMPR	**Campora**	**0.33**	**205**	Pg	Pg		21 56 07.7	+0.8
CMPR			Sg		Sb		21 56 13.6	-0.5
	623nm,0.4s							
VULT	**Monte Vulture**	**0.35**	**16**	Pg	Pb		21 56 08.5	-0.6
VULT			Sg		Sb		21 56 15.1	+0.2
	1µm,0.9s							
VULT	**Monte Vulture**	**0.35**	**16**	Pg	Pb		21 56 08.5	-0.6
VULT			Sg		Sb		21 56 15.1	+0.2
	1µm,0.9s							
SNAL	**S. Angelo Dei**	**0.37**	**326**	Pg	Pg		21 56 08.2	+0.5
	2µm,1.2s							
SNAL	**S. Angelo Dei**	**0.37**	**326**	Pg	Pg		21 56 08.2	+0.5
	2µm,1.2s							
MCEL	**Monticello**	**0.38**	**140**	Pg	Pg		21 56 08.5	+0.7
	572nm,0.5s							
MCEL	**Monticello**	**0.38**	**140**	Pg	Pg		21 56 08.5	+0.7
	572nm,0.5s							
ACER	**Acerenza**	**0.39**	**64**	Pg	Pb		21 56 09.1	-0.5
ACER			Sg		Sb		21 56 14.8	-1.0
	782nm,0.5s							
ACER	**Acerenza**	**0.39**	**64**	Pg	Pb		21 56 09.1	-0.5
ACER			Sg		Sb		21 56 14.8	-1.0
	782nm,0.5s							
CAFE	**Carife**	**0.45**	**335**	Pg	Pg		21 56 09.7	+0.5
	313nm,0.4s							
CAFE	**Carife**	**0.45**	**335**	Pg	Pg		21 56 09.7	+0.5
	313nm,0.4s							
PALZ	**Palazzo San Ge**	**0.49**	**48**	Pg	Pg		21 56 10.5	+0.7
PALZ			Sg		Sb		21 56 17.9	-0.8
	493nm,0.9s							
PALZ	**Palazzo San Ge**	**0.49**	**48**	Pg	Pg		21 56 10.5	+0.7
PALZ			Sg		Sb		21 56 17.9	-0.8
	493nm,0.9s							
SIRI	**Monte Sirino -**	**0.52**	**146**	Pg	Pg		21 56 10.8	+0.3
SIRI			Sg		Sb		21 56 19.8	+0.1
	356nm,0.4s							
SIRI	**Monte Sirino -**	**0.52**	**146**	Pg	Pg		21 56 10.8	+0.3
SIRI			Sg		Sb		21 56 19.8	+0.1
	356nm,0.4s							
BULG	**Bulgheria - Ca**	**0.54**	**189**	Pg	Pb		21 56 11.6	-0.7
	641nm,1.0s							
BULG	**Bulgheria - Ca**	**0.54**	**189**	Pg	Pb		21 56 11.6	-0.7
	641nm,1.0s							
SCHR	**S. Chirico Rap**	**0.61**	**133**	Pg	Pg		21 56 12.1	-0.1
	81nm,0.3s							
MRB1	**Monte Rocchett**	**0.64**	**323**	Pg	Pg		21 56 13.1	+0.3
	296nm,0.6s							
MRB1	**Monte Rocchett**	**0.64**	**323**	Pg	Pg		21 56 13.1	+0.3
	296nm,0.6s							
CUC	**Castrocucco**	**0.67**	**158**	Pg	Pg		21 56 13.8	+0.5
	301nm,1.3s							
CUC	**Castrocucco**	**0.67**	**158**	Pg	Pg		21 56 13.8	+0.5
	301nm,1.3s							
MRVN	**Minervino Murg**	**0.70**	**50**	Pg	Pg		21 56 14.2	+0.3
	106nm,0.4s							
MRVN	**Minervino Murg**	**0.70**	**50**	Pg	Pg		21 56 14.2	+0.3
	106nm,0.4s							
MIGL	**Miglionico**	**0.73**	**91**	Pg	Pg		21 56 14.7	+0.3
	564nm,0.7s							
MIGL	**Miglionico**	**0.73**	**91**	Pg	Pg		21 56 14.7	+0.3
	564nm,0.7s							
CDT	**Castel del Mon**	**0.76**	**52**	*e*Pg	Pg		21 56 15.2	+0.2
CDT			Sg		Sn		21 56 28.5	-0.8
CRAC	**Craco**	**0.77**	**109**	Pg	Pn		21 56 16.9	-0.7
	191nm,0.4s							
CRAC	**Craco**	**0.77**	**109**	Pg	Pn		21 56 16.9	-0.7
	191nm,0.4s							
PSB1	**Pescosannita**	**0.79**	**320**	Pg	Pb		21 56 16.4	-0.1
	127nm,0.8s							
PSB1	**Pescosannita**	**0.79**	**320**	Pg	Pb		21 56 16.4	-0.1
	127nm,0.8s							
PAOL	**Paolisi**	**0.81**	**301**	Pg	Pb		21 56 16.9	+0.1
	172nm,0.5s							
PAOL	**Paolisi**	**0.81**	**301**	Pg	Pb		21 56 16.9	+0.1
	172nm,0.5s							
MMN	**Mormanno**	**0.82**	**152**	Pg	Pb		21 56 17.3	+0.3
MMN	**Mormanno**	**0.82**	**152**	Pg	Pb		21 56 17.3	+0.3
AMUR	**Altamura**	**0.90**	**71**	Pg	Pb		21 56 18.2	-0.1
	112nm,0.5s							
AMUR	**Altamura**	**0.90**	**71**	Pg	Pb		21 56 18.2	-0.1
	112nm,0.5s							
MATE	**Matera**	**0.93**	**88**	Pg	Pb		21 56 18.7	-0.1
	116nm,0.3s							
MATE	**Matera**	**0.93**	**88**	Pg	Pb		21 56 18.7	-0.1
	116nm,0.3s							
SG1	**Sgolgore (BA)**	**0.94**	**76**	*e*Pg	Pb		21 56 18.9	0.0
SG1			Sg		Sn		21 56 34.0	+0.4
SACR	**S. Croce Del S**	**0.98**	**323**	Pg	Pn		21 56 20.6	0.0
SACR	**S. Croce Del S**	**0.98**	**323**	Pg	Pn		21 56 20.6	0.0
SALB	**San Lorenzo Be**	**0.99**	**138**	Pg	Pg		21 56 18.5	-0.9
	85nm,0.6s							
SALB	**San Lorenzo Be**	**0.99**	**138**	Pg	Pg		21 56 18.5	-0.9
	85nm,0.6s							
LTRZ	**Laterza**	**1.02**	**90**	Pg	Pb		21 56 20.3	0.0
LTRZ	**Laterza**	**1.02**	**90**	Pg	Pb		21 56 20.3	0.0
PTRJ	**Pietraroja**	**1.04**	**316**	Pg	Pb		21 56 20.9	+0.1
	205nm,0.6s							
PTRJ	**Pietraroja**	**1.04**	**316**	Pg	Pg		21 56 20.9	+0.1
	205nm,0.6s							
MS1	**Monte Sant'Ang**	**1.14**	**17**	*e*Pg	Pg		21 56 22.1	-0.2
MS1			Sg		Sn		21 56 39.4	+0.6
MSAG	**Monte S. Angel**	**1.14**	**16**	Pg	Pg		21 56 21.8	-0.5
	124nm,0.5s							
MSAG	**Monte S. Angel**	**1.14**	**16**	Pg	Pg		21 56 21.8	-0.5
	124nm,0.5s							
SGRT	**San Giovanni R**	**1.15**	**10**	Pg	Pg		21 56 22.1	-0.5
	148nm,0.9s							
SGRT	**San Giovanni R**	**1.15**	**10**	Pg	Pg		21 56 22.1	-0.5
	148nm,0.9s							
BAI	**Bari**	**1.17**	**65**	*e*Pg	Pn		21 56 23.1	0.0
BAI			Sg		Sn		21 56 40.2	+1.0
NOCI	**Noci**	**1.21**	**81**	Pg	Pg		21 56 23.4	-0.3
	120nm,0.4s							
NOCI	**Noci**	**1.21**	**81**	Pg	Pg		21 56 23.4	-0.3
	120nm,0.4s							
NVLJ	**Novalja**	**3.97**	**354**	*e*Pn	Pn		21 57 02.0	+0.4
NVLJ			Sn		Sn		21 57 49.7	+1.3
NVLJ	**Novalja**	**3.97**	**354**	*e*Pn	Pn		21 57 02.0	+0.4
NVLJ			Sn		Sn		21 57 49.6	+1.2

IDC 03 21:56:29.3±1.2, 15°77N×120°03E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.4/38, mbtmp3.6/5, MS2.8/1, Ms1 3.0/1, ms1mx2.4/31, Error ellipse: s-maj=56.5km s-min=20.1km az=61.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.33**	**281**	P	P	22 01 07.7	+0.3
	1.6nm,0.9s,baz=97,slow=7.6,SNR=12						
CMAR				LR	LR	22 08 04.0	
	comp=Z,30nm,20.6s,baz=95,slow=34						
SONM	**Songino Array**	**33.90**	**343**	P	P	22 03 14.0	-0.1
	0.2nm,0.4s,baz=166,slow=7.4,SNR=2.4						
WRA	**Warramunga Arr**	**38.17**	**158**	P	P	22 03 50.6	-0.1
	1.5nm,0.7s,baz=337,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**41.47**	**161**	P	P	22 04 18.2	0.0
	0.9nm,0.7s,baz=334,slow=6.7,SNR=7.2						
MKAR	**Makanchi Array**	**44.00**	**323**	P	P	22 04 38.2	-0.4
	0.3nm,0.7s,baz=114,slow=9.6,SNR=4.3						

*VIE **03** 21:57:52.6±0.2, 45°99N×12°82E, h6km, mb1.6/5, ML1.9/11, Error ellipse: s-maj=2.1km s-min=1.1km az=16.0*
*CSEM **03** 21:57:53.1±0.2, 46°04N×12°81E, h10km, ML1.8/7, Error ellipse: s-maj=5.6km s-min=3.4km az=12.0*
ROM 03 21:57:52.1±0.3, 46°00N×12°81E, h11km, Md2.1/5, Ml1.1/3, 3C, Error ellipse: s-maj=4.3km s-min=2.1km az=168.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLNI	**Malnisio**	**0.20**	**317**	*e*Pg	Pg	21 57 56.6	+0.1
MLNI				*e*Sg	Sg	21 58 00.5	+1.0
MLNI	**Malnisio**	**0.20**	**317**	*e*Pg	Pg	21 57 56.6	+0.1
POLC	**Polcenigo**	**0.22**	**277**	Pg	Pg	21 57 57.1	+0.4
POLC				Sg	Sg	21 58 01.6	+1.8
POLC	**Polcenigo**	**0.22**	**277**	*e*Pg	Pg	21 57 57.0	+0.3
POLC				*e*Sg	Sg	21 58 01.6	+1.8
POLC	**Polcenigo**	**0.22**	**277**	Pg	Pg	21 57 57.1	+0.4
POLC				Sg	Sg	21 58 01.6	+1.8
CIMO	**Cimolais**	**0.40**	**320**⇑	*e*Pg	Pg	21 57 59.6	-0.5
CIMO				*e*Sg	Sg	21 58 05.8	+0.4
CIMO	**Cimolais**	**0.40**	**320**	*e*Pg	Pg	21 57 59.6	-0.5
VINO	**Villanova**	**0.41**	**52**	Pg	Pg	21 57 59.9	-0.4
VINO				Sg	Sg	21 58 06.6	+0.8
	13nm,0.4s						
VINO	**Villanova**	**0.41**	**52**⇑	*e*Pg	Pg	21 57 59.9	-0.4
VINO				*e*Sg	Sb	21 58 07.0	-0.7
VINO	**Villanova**	**0.41**	**52**	Pg	Pg	21 57 59.9	-0.4
VINO				Sg	Sg	21 58 06.6	+0.8
	13nm,0.4s						
FUSE	**Fusea**	**0.43**	**17**	*e*Pg	Pg	21 58 00.3	-0.3
FUSE	**Fusea**	**0.43**	**17**	*e*Pg	Pg	21 58 00.3	-0.4
VARN	**Col Varnada, M**	**0.49**	**269**⇑	*e*Pg	Pg	21 58 02.1	+0.3
VARN				*e*Sg	Sb	21 58 09.6	-0.5
VARN	**Col Varnada, M**	**0.49**	**269**	*e*Pg	Pg	21 58 02.1	+0.3
SABO	**M.te Sabotino**	**0.55**	**92**	Pg	Pb	21 58 03.9	+0.1
SABO				Sg	Sb	21 58 12.0	+0.3
	21nm,0.4s						
SABO	**M.te Sabotino**	**0.55**	**92**	*e*Pg	Pb	21 58 03.5	-0.2
SABO				*e*Sg	Sb	21 58 12.3	+0.7
SABO	**M.te Sabotino**	**0.55**	**92**	Pg	Pb	21 58 03.9	+0.1
SABO				Sg	Sb	21 58 12.0	+0.3
	21nm,0.4s						
PTCC	**Patocco-Chiusa**	**0.55**	**43**	Pg	Pg	21 58 02.5	-0.4
PTCC				Sg	Sb	21 58 11.2	-0.6
	5.0nm,0.4s						
PTCC	**Patocco-Chiusa**	**0.55**	**43**	Pg	Pg	21 58 02.5	-0.4
PTCC				Sg	Sb	21 58 11.2	-0.6
	5.0nm,0.4s						
ZOU	**Zoufplan**	**0.57**	**11**	*e*Pg	Pg	21 58 02.8	-0.4
ABTA	**Abfaltersbach**	**0.78**	**345**	Sg	Sb	21 58 18.9	+0.7
	1.2nm,0.2s						
ABTA	**Abfaltersbach**	**0.78**	**345**	Pg	Pb	21 58 07.9	+0.2
	0.9nm,0.1s						
OBKA	**Obir**	**1.31**	**66**	Pg	Pg	21 58 18.0	+0.8
	0.4nm,0.1s						
OBKA				Sg	Sg	21 58 35.8	+1.6
	1.8nm,0.2s						
WTTA	**Wattenberg**	**1.50**	**328**	Pg	Pg	21 58 22.0	+1.1
	1.8nm,0.2s						
WTTA				Sg	Sg	21 58 42.8	+2.4
	1.5nm,0.2s						
WATA	**Walderalm**	**1.58**	**328**	Pg	Pg	21 58 23.7	+1.2
	1.5nm,0.2s						
FETA	**Feichten**	**1.76**	**306**	Pg	Pg	21 58 26.0	+0.1
	0.8nm,0.2s						
MOTA	**Moosalm**	**1.79**	**319**	Pg	Pg	21 58 26.8	+0.4
	0.7nm,0.2s						
MOTA				Sg	Sg	21 58 51.9	+2.3
	1.6nm,0.3s						
NVLJ	**Novalja**	**2.04**	**134**	*e*Pn	Pb	21 58 29.6	+0.4
NVLJ				Sn	Sn	21 58 52.8	+0.9
NVLJ	**Novalja**	**2.04**	**134**	*e*Pn	Pb	21 58 29.5	+0.3
NVLJ				Sn	Sn	21 58 52.7	+0.8
UDBI	**Udbina**	**2.55**	**124**	*e*Pn	Pb	21 58 39.0	+1.1
UDBI				Sn	Sb	21 59 07.9	-1.4
UDBI	**Udbina**	**2.55**	**124**	*e*Pn	Pb	21 58 39.0	+1.1
UDBI				Sn	Sb	21 59 07.9	-1.4

MEX 03 21:59:18.6±0.3, 14°22N×92°03W, h5km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.87**	**322**	*i* P	Pn	21 59 48.4	-2.9
PCIG				*e*S	Sn	22 00 11.9	-3.4
CCIG	**Comitan**	**2.05**	**357**	*e*P	Pn	21 59 54.2	+0.3

*NNC **03** 22:04:31.9±1.3, 39°.44N×73°.29E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=12.8km s-min=6.5km az=130.0*
*KRNET **03** 22:04:35.2±0.1, 39°.37N×73°.01E, h22km, mb2.5*
ISC 03 22:04:42.6±2.2, 39°.49N±0°.10×72°.79E±0°.08, h33km, n11, σ2s 22/18, 13C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.03**	**360**⇓	*e*P	**Pn**	**22 04 58.2**	**-2.7**
	baz=352						
OHH			⇓	*e*S	**Sb**	**22 05 14.6**	**-0.8**
	baz=352						
BTK	**Batken**	**1.62**	**291**⇑	*e*P	**Pn**	**22 05 09.4**	**+0.4**
	baz=293						
BTK			⇑	*e*S	**Sb**	**22 05 34.0**	**+1.8**
	baz=293						
ARSB	**Arslanbob**	**1.84**	**4**⇓	*e*P	**Pn**	**22 05 10.8**	**-1.3**
	baz=359						
ARSB			⇓	*e*S	**Sb**	**22 05 38.2**	**-0.2**
	baz=359						
ARK	**Arkit**	**2.39**	**345**⇑	*e*P	**Pn**	**22 05 20.0**	**+0.4**
	baz=342						
ARK			⇑	*e*S	**Sb**	**22 05 52.1**	**-2.1**
	baz=342						
MNAS	**Manas**	**3.00**	**356**⇑	*e*P	**Pn**	**22 05 27.8**	**-0.3**
	baz=353						
MNAS			⇑	*e*S	**Sn**	**22 06 06.9**	**+3.9**
	baz=353						
MNAS	**Manas**	**3.00**	**356**	⇓Pg	**Pn**	**22 05 27.6**	**-0.5**
MNAS			⇓	Lg	Lg	22 06 10.3	
	2.4nm,0.5s						
UCH	**Uchtor**	**3.03**	**25**⇑	*i*P	**Pn**	**22 05 26.6**	**-2.1**
	baz=21						
UCH			⇑	*i*S	**Sn**	**22 06 05.9**	**+1.8**
	baz=21						
DZET	**Dzherino**	**3.16**	**259**	⇑Pn	**Pn**	**22 05 28.1**	**-2.1**
DZET			⇑	Lg	Lg	22 06 24.4	
	8.4nm,0.5s						
AAK	**Ala-Archa**	**3.40**	**22**	⇓Pg	**Pn**	**22 05 31.7**	**-1.7**
AAK			⇓	Lg	Lg	22 06 16.9	
	2.3nm,0.6s						
KK31	**Karatay Array**	**4.00**	**335**	⇑Pn	**Pn**	**22 05 37.3**	**-4.4**
	0.8nm,0.2s,baz=34,slow=40,SNR=4.1						
KK31			⇑	Sn	**Sn**	**22 06 29.0**	**+1.7**
	0.5nm,0.3s,baz=149,slow=24,SNR=5.4						
TKM2	**Tokmak 2**	**4.03**	**31**	⇑Pg	**Pn**	**22 05 44.2**	**+2.0**
	0.4nm,0.4s						
TKM2			⇓	Lg	Lg	22 06 36.0	
	1.2nm,0.6s						

IDC 03 22:20:07.0±1.8, 9°11S×126°36E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.3/28, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=95.4km s-min=27.2km az=69.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.97**	**184**	Pn	Pn	22 22 17.4	-0.5
	0.3nm,0.3s,baz=6.4,slow=9.9,SNR=11						
FITZ				Sn	Sn	22 23 46.6	-13
	0.1nm,0.3s,baz=354,slow=18,SNR=3.3						
WRA	**Warramunga Arr**	**13.25**	**145**	Pn	Pn	22 23 16.0	-0.5
	0.1nm,0.3s,baz=321,slow=13,SNR=6.8						
WRA				Sn	Sn	22 25 33.9	-11
	0.1nm,0.3s,baz=319,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**16.18**	**154**	Pn	Pn	22 23 57.0	+1.1
	0.1nm,0.3s,baz=328,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**68.08**	**329**	P	P	22 31 08.6	0.0
	0.1nm,0.3s,baz=120,slow=5.7,SNR=3.2						

*IDC **03** 22:59:53.3±1.1, 52°.49N×132°.52W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.6/53, mbtmp3.8/6, ML3.5/1, MS2.9/8, Ms1 2.9/8, ms1mx2.7/50, Error ellipse: s-maj=29.9km s-min=9.1km az=87.0*
*NEIC **03** 22:59:54.0, 52°.54N×132°.23W, h20km, ML4.1(AEIC), MW4.0(OTT), After OTT.*
*PGC **03** 22:59:54.7±0.5, 52°.54N×132°.23W, h20km, ML4.2/16, Mw4.0, 84km Ssw of Sandspit, Bc Haida Gwaii Region*
ISC 03 22:59:55.9±1.0, 52°.65N±0°.04×132°.09W±0°.05, h7km±6km, n75, σ3s 21/85, mb3.6/5, MS3.1/6, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.22**	**111**	P	**Pb**	**23 00 01.1**	**+0.7**
BNB				S	**Sg**	**23 00 05.0**	**+1.8**
BNB	**Barry Inlet**	**0.22**	**111**	P	**Pb**	**23 00 01.0**	**+0.7**
BNB				S	**Sg**	**23 00 05.0**	**+1.8**
MOBC	**Moresby Island**	**0.50**	**8**	P	**Pb**	**23 00 06.6**	**-0.4**
MOBC				S	**Sg**	**23 00 14.9**	**+3.0**
MOBC	**Moresby Island**	**0.50**	**8**	P	**Pb**	**23 00 06.6**	**-0.4**
MOBC				S	**Sg**	**23 00 15.0**	**+3.0**
DIB	**Dawson Inlet,**	**0.60**	**337**	P	**Pg**	**23 00 07.5**	**+0.1**
DIB				S	**Sg**	**23 00 16.4**	**+1.2**
H02S1	**DAWSON INLET T**	**0.60**	**337**	Pg	**Pg**	**23 00 07.4**	**0.0**
H02S1				Lg	Lg	23 00 16.7	
H02N1	**VAN INLET T-PH**	**0.66**	**335**	Pg	**Pg**	**23 00 08.5**	**-0.1**
H02N1				Lg	Lg	23 00 18.6	
VIB	**Van Inlet**	**0.66**	**336**	P	**Pg**	**23 00 08.6**	**0.0**
VIB				S	**Sg**	**23 00 18.4**	**+1.2**
VIB	**Van Inlet**	**0.66**	**336**	P	**Pg**	**23 00 08.6**	**0.0**
VIB				S	**Sb**	**23 00 18.7**	**-0.4**
BNAB	**Bonilla**	**1.21**	**46**	P	**Pn**	**23 00 18.4**	**-0.8**
BNAB				S	**Sb**	**23 00 36.0**	**+1.1**
BNAB	**Bonilla**	**1.21**	**46**	P	**Pn**	**23 00 18.4**	**-0.8**
BNAB				S	**Sb**	**23 00 35.7**	**+0.7**
NDB	**Naden**	**1.40**	**339**	Pn	**Pn**	**23 00 19.4**	**-2.5**
NDB				Sn	**Sn**	**23 00 38.4**	**-2.2**
NDB				Sg	**Sb**	**23 00 40.7**	**+0.2**
NDB	**Naden**	**1.40**	**339**	P	**Pn**	**23 00 19.7**	**-2.2**
BBB	**Bella Bella**	**2.48**	**99**	Pn	**Pn**	**23 00 34.2**	**-2.4**
BBB				Sg	**Sb**	**23 01 11.2**	**-0.1**
BBB	**Bella Bella**	**2.48**	**99**	P	**Pn**	**23 00 34.7**	**-1.9**
BBB				S	**Sn**	**23 01 06.8**	**-0.3**
CRAG	**Craig**	**2.89**	**348**	P	**Pn**	**23 00 40.7**	**-1.5**
CRAG				S	**Sn**	**23 01 16.3**	**-0.8**
HOLB	**Holberg**	**3.18**	**128**	Pn	**Pn**	**23 00 42.8**	**-3.5**
HOLB				Sn	**Sn**	**23 01 20.9**	**-3.6**
BCBC	**Bella Coola**	**3.27**	**93**	Sg	**Sb**	**23 01 36.7**	**+2.6**
PHC	**Port Hardy**	**3.49**	**122**	Pn	**Pn**	**23 00 46.3**	**-4.3**
PHC				Sn	**Sn**	**23 01 26.4**	**-5.7**
BPBC	**Brooks Peninsu**	**3.68**	**131**	Pn	**Pn**	**23 00 50.6**	**-2.6**
BPBC				Sn	**Sn**	**23 01 35.1**	**-1.7**
WRAK	**Wrangell Islan**	**3.78**	**358**	*e*Pn	**Pn**	**23 00 53.0**	**-1.4**
MAYB	**Maynard**	**3.81**	**124**	Pn	**Pn**	**23 00 51.3**	**-3.8**
MAYB				Sn	**Sn**	**23 01 41.1**	**+1.0**
TLCB	**Telegraph Cove**	**3.90**	**121**	Pn	**Pn**	**23 00 53.3**	**-2.8**
TLCB				Sn	**Sn**	**23 01 41.0**	**-1.0**
TLCB				Sg	**Sg**	**23 02 02.1**	**+1.2**
EDB	**Eliza Dome**	**4.18**	**130**	Pn	**Pn**	**23 00 59.2**	**-0.8**
WOSB	**Woss**	**4.26**	**124**	Pn	**Pn**	**23 00 57.7**	**-3.5**
NCRB	**Newcastle Ridg**	**4.39**	**119**	Pn	**Pn**	**23 00 59.4**	**-3.6**
UBRB	**Upper Baezaeko**	**4.87**	**84**	Pn	**Pn**	**23 01 09.9**	**+0.4**
UBRB				Sg	**Sb**	**23 02 25.0**	**+4.8**
CBB	**Campbell River**	**4.96**	**119**	Pn	**Pn**	**23 01 16.2**	**-6.8**
BTB	**Buttle Lake**	**5.23**	**125**	Pn	**Pn**	**23 01 15.4**	**+0.9**
OZB	**Mount Ozzard**	**5.58**	**129**	Sg	**Sg**	**23 02 59.2**	**+4.3**
TXB	**Texada**	**5.65**	**119**	Pn	**Pn**	**23 01 16.0**	**-4.2**
TXB				Sg	**Sg**	**23 02 50.9**	**-6.3**
DLBC	**Dease Lake**	**5.91**	**11**	Pn	**Pn**	**23 01 25.8**	**+1.9**
DLBC				Sg	**Sg**	**23 03 00.8**	**-4.8**
DLBC	**Dease Lake**	**5.91**	**11**	P	**Pn**	**23 01 23.3**	**-0.6**
MGB	**Mount Grey**	**5.94**	**125**	Sn	**Sn**	**23 02 39.3**	**+6.6**
MGB				Sg	**Sg**	**23 03 03.3**	**-3.3**
SHB	**Sechelt**	**6.01**	**117**	Sg	**Sb**	**23 02 58.3**	**+5.3**
BESE	**Bessie Mountai**	**6.14**	**346**	P	**Pn**	**23 01 25.8**	**-1.2**
NLLB	**Nanaimo Lost L**	**6.16**	**121**	Sg	**Sg**	**23 03 07.9**	**-5.7**
YOUB	**Youbou, Lake C**	**6.22**	**124**	Sg	**Sg**	**23 03 08.6**	**-7.0**
WSLR	**Whistler**	**6.27**	**110**	Sg	**Sg**	**23 03 09.6**	**-7.5**
PFB	**Port Renfrew**	**6.35**	**127**	Sg	**Sg**	**23 03 18.0**	**-1.8**
LLLB	**Lillooet**	**6.67**	**104**	Sg	**Sg**	**23 03 23.7**	**-6.4**
PLBC	**Pleasant Camp**	**7.23**	**342**	Pn	**Pn**	**23 01 41.8**	**0.0**
PLBC				Sg	**Sg**	**23 03 43.7**	**-3.9**
WAPA	**Wapiti River**	**7.99**	**66**	Sg	Sg	23 04 03.9	-9.2
FNBB	**Fort Nelson**	**8.07**	**36**	Sg	**Sg**	**23 04 11.2**	**-3.5**
WHY	**Whitehorse**	**8.17**	**350**	Pn	**Pn**	**23 01 54.8**	**-0.1**
WHY	**Whitehorse**	**8.17**	**350**	P	**Pn**	**23 01 53.5**	**-1.3**
MNB	**Mounoet Dainar**	**8.39**	**88**	Pn	**Pn**	**23 01 59.5**	**+1.4**
MNB				Sg	**Sg**	**23 04 18.7**	**-6.3**
DOWB	**Downie Slide**	**8.44**	**92**	Pn	**Pn**	**23 01 59.1**	**+0.7**
DOWB				Sg	Sg	23 04 13.7	-13
PNT	**Penticton**	**8.55**	**108**	Sg	**Sg**	**23 04 26.3**	**-3.7**
HYT	**Haines Junctio**	**8.71**	**342**	Sn	**Sn**	**23 03 47.7**	**+7.0**
HYT				Sg	**Sg**	**23 04 43.9**	**+8.7**
HYT	**Haines Junctio**	**8.71**	**342**	P	**Pn**	**23 02 00.3**	**-2.0**
NEW	**Newport**	**10.50**	**109**	Lg	Lg	23 05 27.6	
	0.2nm,0.3s,baz=11,slow=14,SNR=3.2						
YKA	**Yellowknife Ar**	**13.55

TVSB	**Tavsanli**	**0.46**	**41**	*e*Pg	**Pg**	**23 02 37.0**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*PG	**Pg**	**23 02 41.2**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*Pg	**Pg**	**23 02 41.2**	**-0.1**
KHAL	**Karahalli**	**0.80**	**156**	P	**Pg**	**23 02 44.1**	**+0.3**
KHAL				S	**Sg**	**23 02 54.0**	**-0.2**
KHAL	**Karahalli**	**0.80**	**156**	*i* P	**Pg**	**23 02 44.1**	**+0.3**
KHAL				*i* S	**Sg**	**23 02 54.0**	**-0.2**
KHL	**Karahalli**	**0.85**	**155**	*e*PG	**Pg**	**23 02 44.8**	**0.0**
KHL				*e*SG	**Sb**	**23 02 56.6**	**-0.6**
KHL	**Karahalli**	**0.85**	**155**	*e*Pg	**Pg**	**23 02 44.8**	**0.0**
KHL				*e*Sg	**Sb**	**23 02 56.6**	**-0.6**
ORLT	**Orhaneli**	**0.95**	**352**	*e*PG	**Pg**	**23 02 46.8**	**0.0**
ORLT				*e*SG	**Sb**	**23 03 00.7**	**+0.5**
ORLT	**Orhaneli**	**0.95**	**352**	*e*Pg	**Pg**	**23 02 46.8**	**0.0**
ORLT				*e*Sg	**Sb**	**23 03 00.7**	**+0.5**
AKS	**Akhisar**	**1.01**	**258**	*e*PG	**Pb**	**23 02 48.1**	**-0.1**
AKS	**Akhisar**	**1.01**	**258**	*e*Pg	**Pb**	**23 02 48.1**	**-0.1**
BALB	**Balikesir**	**1.07**	**301**	*e*PN	**Pn**	**23 02 49.6**	**-0.2**
BALB	**Balikesir**	**1.07**	**301**	*e*Pn	**Pn**	**23 02 49.6**	**-0.2**
IGD	**Bursa**	**1.17**	**5**	*i* P	**Pg**	**23 02 48.8**	**-2.1**
IGD				*i* S	**Sg**	**23 03 05.6**	**-0.4**
CAVI	**Cavuskoy**	**1.25**	**28**	*e*PN	**Pn**	**23 02 52.0**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**28**	*e*Pn	**Pn**	**23 02 52.0**	**-0.3**
IZI	**Iznik**	**1.27**	**14**	*e*PN	**Pg**	**23 02 53.2**	**+0.3**
IZI	**Iznik**	**1.27**	**14**	*e*Pn	**Pg**	**23 02 53.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*PN	**Pg**	**23 02 53.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*Pn	**Pg**	**23 02 53.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*PN	**Pn**	**23 02 52.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*Pn	**Pn**	**23 02 52.7**	**-0.2**
BORA	**Eskisehir**	**1.32**	**53**	P	**Pn**	**23 02 52.7**	**-0.6**
BORA				S	**Sn**	**23 03 11.1**	**-0.1**
BORA	**Eskisehir**	**1.32**	**53**	*i* P	**Pn**	**23 02 52.7**	**-0.6**
BORA				*i* S	**Sn**	**23 03 11.1**	**-0.1**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*PN	**Pg**	**23 02 55.9**	**+0.1**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*Pn	**Pg**	**23 02 55.9**	**+0.1**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*PN	**Pg**	**23 02 55.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*Pn	**Pg**	**23 02 55.6**	**-0.3**
ESKT	**Eskisehir**	**1.44**	**72**	*e*PN	**Pg**	**23 02 55.8**	**-0.3**
ESKT	**Eskisehir**	**1.44**	**72**	*e*Pn	**Pg**	**23 02 55.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**219**	*e*PN	**Pg**	**23 02 56.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**219**	*e*Pn	**Pg**	**23 02 56.7**	**-0.1**
BOLV	**Bolvadin**	**1.51**	**104**	P	**Pn**	**23 02 55.8**	**-0.2**
BOLV				S	**Sg**	**23 03 17.4**	**+0.3**
BOLV	**Bolvadin**	**1.51**	**104**	*i* P	**Pn**	**23 02 55.9**	**-0.2**
BOLV				*i* S	**Sg**	**23 03 17.4**	**+0.3**
EDC	**Edincik**	**1.56**	**324**	*e*PN	**Pb**	**23 02 57.8**	**+0.3**
EDC	**Edincik**	**1.56**	**324**	*e*Pn	**Pb**	**23 02 57.8**	**+0.3**
DKL	**Dikili**	**1.69**	**270**	*e*PN	**Pb**	**23 02 59.9**	**+0.1**
DKL	**Dikili**	**1.69**	**270**	*e*Pn	**Pb**	**23 02 59.9**	**+0.1**
GULT	**Gulveren**	**1.73**	**39**	*e*PN	**Pn**	**23 02 59.5**	**+0.5**
GULT	**Gulveren**	**1.73**	**39**	*e*Pn	**Pn**	**23 02 59.5**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.93**	**79**	*e*PN	**Pn**	**23 03 01.9**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.93**	**79**	*e*Pn	**Pn**	**23 03 01.9**	**+0.2**
MDUB	**Mudurnu**	**2.13**	**49**	*e*PN	**Pn**	**23 03 04.8**	**+0.3**
MDUB	**Mudurnu**	**2.13**	**49**	*e*Pn	**Pn**	**23 03 04.8**	**+0.3**
KIZT	**Kizilcal**	**2.20**	**95**	*e*PN	**Pn**	**23 03 06.0**	**+0.6**
KIZT	**Kizilcal**	**2.20**	**95**	*e*Pn	**Pn**	**23 03 06.0**	**+0.6**

NEIC ***03*** *23:07:32.7, 43.62S×172.37E, h8km, ML4.0(WEL), After WEL.*
NEIC Felt at Christchurch.
WEL 03 23:07:32.7±0.1, 43.63S×172.36E, h7km, ML4.1/25, 4C-2D, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.20**	**74**	⇓PG	Pg	23 07 36.8	+0.1
CRLZ				AML	AML	23 07 37.3	
CRLZ				AML	AML	23 07 37.3	
CRLZ				AML	AML	23 07 40.3	
CRLZ				AML	AML	23 07 40.3	
MQZ	**McQueen's Vall**	**0.23**	**110**	⇓PG	Pg	23 07 37.2	-0.1
MQZ				SG	Sg	23 07 40.7	+0.4
MQZ				AML	AML	23 07 40.9	
MQZ	**McQueen's Vall**	**0.23**	**110**	Pg	Pg	23 07 37.2	-0.1
MQZ				Sg	Sg	23 07 40.7	+0.4
OXZ	**Oxford**	**0.38**	**322**	⇑PG	Pg	23 07 39.9	-0.2
OXZ	**Oxford**	**0.38**	**322**	Pg	Pg	23 07 40.0	-0.2
LTZ	**Lake Taylor**	**0.85**	**356**	P*	Pg	23 07 48.9	-0.1
LTZ				S*	Sg	23 08 00.3	+0.3
LTZ				AML	AML	23 08 05.0	
LTZ	**Lake Taylor**	**0.85**	**356**	P*	Pg	23 07 48.9	-0.1
RPZ	**Rata Peaks**	**0.95**	**264**	P*	Pg	23 07 50.7	-0.3
RPZ				AML	AML	23 08 05.5	
RPZ				AML	AML	23 08 10.0	
RPZ	**Rata Peaks**	**0.95**	**264**	P*	Pg	23 07 50.7	-0.3
INZ	**Inchbonnie**	**1.12**	**323**	P*	Pg	23 07 52.7	-1.6
WVZ	**Waitaha Valley**	**1.31**	**295**	*e*P*	Pn	23 07 56.0	-1.4
WVZ				AML	AML	23 08 17.5	
WVZ	**Waitaha Valley**	**1.31**	**295**	P*	Pn	23 07 57.4	0.0
KHZ	**Kahutara**	**1.49**	**36**	PN	Pn	23 07 57.7	-2.1
KHZ	**Kahutara**	**1.49**	**36**	Pn	Pn	23 07 57.7	-2.1
LBZ	**Lake Benmore**	**1.74**	**244**	PN	Pn	23 08 02.1	-1.2
LBZ				AML	AML	23 08 29.0	
LBZ				AML	AML	23 08 29.1	
LBZ				AML	AML	23 08 30.1	
LBZ				AML	AML	23 08 30.2	
LBZ	**Lake Benmore**	**1.74**	**244**	Pn	Pn	23 08 02.1	-1.2
FOZ	**Fox Glacier**	**1.85**	**272**	⇑PN	Pn	23 08 04.5	-0.3
FOZ				AML	AML	23 08 37.9	
FOZ				AML	AML	23 08 41.3	
FOZ				AML	AML	23 08 41.3	
FOZ	**Fox Glacier**	**1.85**	**272**	Pn	Pn	23 08 04.5	-0.3
ODZ	**Otahua Downs**	**1.88**	**220**	⇑PN	Pn	23 08 03.7	-1.5
ODZ				AML	AML	23 08 39.1	
ODZ				AML	AML	23 08 39.1	
ODZ				AML	AML	23 08 39.5	
ODZ				AML	AML	23 08 39.5	
ODZ	**Otahua Downs**	**1.88**	**220**	Pn	Pn	23 08 03.7	-1.5
THZ	**Tophouse**	**1.91**	**12**	PN	Pn	23 08 03.7	-2.0
THZ				AML	AML	23 08 41.8	
THZ				AML	AML	23 08 45.4	
THZ	**Tophouse**	**1.91**	**12**	Pn	Pn	23 08 03.7	-2.0
DSZ	**Denniston Nort**	**1.93**	**348**	⇑PN	Pn	23 08 04.3	-1.6
DSZ				AML	AML	23 08 37.6	
DSZ				AML	AML	23 08 37.9	
DSZ				AML	AML	23 08 40.9	
DSZ				AML	AML	23 08 40.9	
DSZ	**Denniston Nort**	**1.93**	**348**	Pn	Pn	23 08 04.3	-1.6
BSWZ	**Blackbirch Sta**	**2.22**	**31**	*e*PN	Pn	23 08 08.2	-1.6
BSWZ				AML	AML	23 08 45.3	
BSWZ				AML	AML	23 08 57.3	
BSWZ	**Blackbirch Sta**	**2.22**	**31**	Pn	Pn	23 08 08.6	-1.2
TUWZ	**Tuamarina**	**2.49**	**29**	AML	AML	23 08 58.9	
TUWZ				AML	AML	23 09 15.6	
TUWZ	**Tuamarina**	**2.49**	**29**	Pn	Pn	23 08 13.2	-0.4
NNZ	**Nelson**	**2.53**	**18**	*e*PN	Pn	23 08 12.6	-1.5
NNZ				AML	AML	23 08 44.5	
NNZ				AML	AML	23 08 50.1	
NNZ	**Nelson**	**2.53**	**18**	Pn	Pn	23 08 12.8	-1.3
WKZ	**Wanaka**	**2.69**	**242**	*e*PN	Pn	23 08 14.5	-1.9
WKZ				AML	AML	23 09 04.7	
WKZ				AML	AML	23 09 07.2	
WKZ	**Wanaka**	**2.69**	**242**	Pn	Pn	23 08 15.0	-1.3
EAZ	**Earnscleugh**	**2.71**	**233**	*e*PN	Pn	23 08 14.9	-1.8
EAZ				AML	AML	23 09 01.8	
EAZ				AML	AML	23 09 01.8	
EAZ				AML	AML	23 09 08.4	
EAZ				AML	AML	23 09 08.4	
EAZ	**Earnscleugh**	**2.71**	**233**	Pn	Pn	23 08 15.0	-1.7
TCW	**Tory Channel**	**2.80**	**31**	AML	AML	23 08 53.2	
TCW				AML	AML	23 09 00.3	
QRZ	**Quartz Range**	**2.81**	**3**	*e*PN	Pn	23 08 15.9	-2.0
QRZ				AML	AML	23 08 26.3	
QRZ				AML	AML	23 09 06.3	
QRZ	**Quartz Range**	**2.81**	**3**	Pn	Pn	23 08 16.4	-1.5
PLWZ	**Palliser**	**2.97**	**47**	*e*PN	Pn	23 08 17.1	-3.1
PLWZ	**Palliser**	**2.97**	**47**	Pn	Pn	23 08 17.7	-2.5
TUZ	**Tuapeka**	**3.03**	**219**	*e*PN	Pn	23 08 19.2	-1.8
TUZ				AML	AML	23 09 14.1	
TUZ				AML	AML	23 09 14.1	
TUZ				AML	AML	23 09 18.7	
TUZ				AML	AML	23 09 18.7	
TUZ	**Tuapeka**	**3.03**	**219**	Pn	Pn	23 08 19.4	-1.6
CAW	**Cannon Point**	**3.22**	**39**	*e*PN	Pn	23 08 20.3	-3.3
CAW				AML	AML	23 09 02.4	
CAW				AML	AML	23 09 06.6	
CAW	**Cannon Point**	**3.22**	**39**	Pn	Pn	23 08 21.1	-2.5
MLZ	**Mavora Lakes**	**3.50**	**239**	PN	Pn	23 08 25.5	-2.0
MLZ				AML	AML	23 09 32.1	
MLZ				AML	AML	23 09 36.5	
MLZ	**Mavora Lakes**	**3.50**	**239**	Pn	Pn	23 08 25.5	-2.0
OGWZ	**Otaki Gorge**	**3.50**	**38**	*e*PN	Pn	23 08 24.4	-3.1
OGWZ	**Otaki Gorge**	**3.50**	**38**	Pn	Pn	23 08 25.9	-1.6
SYZ	**Scrubby Hill**	**3.70**	**217**	*e*PN	Pn	23 08 28.4	-1.8
SYZ				AML	AML	23 09 43.1	
SYZ				AML	AML	23 09 45.6	
SYZ	**Scrubby Hill**	**3.70**	**217**	Pn	Pn	23 08 29.2	-1.0
MRZ	**Mangatainoka R**	**3.81**	**40**	*e*PN	Pn	23 08 28.8	-3.0
MRZ	**Mangatainoka R**	**3.81**	**40**	Pn	Pn	23 08 29.0	-2.8
TIWZ	**Tintock**	**3.87**	**44**	SN	Sn	23 09 12.9	-5.4
TIWZ				AML	AML	23 09 19.3	
WHZ	**Wether Hill Ro**	**3.87**	**233**	*e*PN	Pn	23 08 29.9	-2.7
WHZ				AML	AML	23 09 39.1	
WHZ				AML	AML	23 09 52.0	
WHZ	**Wether Hill Ro**	**3.87**	**233**	Pn	Pn	23 08 29.9	-2.7
BFZ	**Birch Farm**	**4.12**	**46**	*e*PN	Pn	23 08 34.9	-1.2
BFZ	**Birch Farm**	**4.12**	**46**	Pn	Pn	23 08 34.9	-1.2
DCZ	**Deep Cove**	**4.15**	**242**	*e*PN	Pn	23 08 34.7	-1.7
DCZ				AML	AML	23 09 51.0	
DCZ				AML	AML	23 09 52.4	
APZ	**The Paps**	**4.45**	**222**	*e*PN	Pn	23 08 38.7	-1.9
APZ				AML	AML	23 10 10.0	
APZ	**The Paps**	**4.45**	**222**	Pn	Pn	23 08 38.9	-1.7
HIZ	**Hauiti**	**5.45**	**21**	Pn	Pn	23 08 53.2	-1.0

NIED ***03*** *23:14:00, 29.10N×130.20E, h35km, Mw3.9 Best double couple: M₀9.23000×10¹⁴ NP1:φ₁227.00000°, δ24.00000°, λ94.00000°. NP2:φ₂42.00000°, δ67.00000°, λ88.00000°.*
ISCJB ***03*** *23:14:12.1±0.6, 29.11N±0.04×130.2E±0.1, h57km±5km, mb3.6/8, MS2.9/1, Error ellipse: s-maj=16.2km s-min=4.8km az=19.6*
JMA ***03*** *23:14:12.3±0.1, 29.11N×130.15E, h48km, M3.5*
IDC ***03*** *23:14:16.1±4.3, 29.21N×130.27E, h77km±46km, mb3.3/9, mb1 3.4/10, mb1mx3.3/43, mbtmp3.6/10, ML3.3/1, MS2.7/3, Ms1 2.7/3, ms1mx2.4/30, Error ellipse: s-maj=56.6km s-min=18.8km az=72.0*
ISC 03 23:14:13.1±1.1, 29.10N±0.04×130.14E±0.09, h46km±12km, n23, σ0 89/27, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.77**	**342**	P	**Pn**	**23 14 27.0**	**-0.6**
JZK	**Kikaishima**	**0.80**	**191**	P	**Pn**	**23 14 27.6**	**-0.4**
JZK				*e*S	**Sn**	**23 14 39.5**	**+0.6**
JTAJ	**Takarajima**	**0.82**	**274**	P	**Pn**	**23 14 27.9**	**-0.4**
JAM	**Amami Oshima**	**0.84**	**215**	P	**Pn**	**23 14 27.5**	**-1.0**
JAM				*e*S	**Sn**	**23 14 38.5**	**-1.2**
JYAK	**Yakushimahirau**	**1.17**	**16**	P	**Pn**	**23 14 32.4**	**-0.7**
JYAK				*e*S	**Sn**	**23 14 48.9**	**+1.0**
JAMN	**Amaminishikomi**	**1.21**	**225**	P	**Pn**	**23 14 33.4**	**-0.1**
JAMN				*e*S	**Sn**	**23 14 50.5**	**+1.8**
JKC	**Kuchinoerabu**	**1.35**	**2**	P	**Pn**	**23 14 34.8**	**-0.7**
JTK	**Tokunoshima**	**1.68**	**219**	P	**Pn**	**23 14 40.1**	**+0.1**
JTK				*e*S	**Sn**	**23 15 02.2**	**+1.8**
JOKE	**Okinoerabujima**	**2.22**	**219**	P	**Pn**	**23 14 47.4**	**-0.1**
JOW	**Kunigami**	**2.80**	**217**	P	**Pn**	**23 14 55.2**	**-0.2**
JNU	**Nakatsue**	**4.05**	**9**	P	**Pn**	**23 15 13.6**	**+1.0**
JNU	2.6nm,0.3s,baz=196,slow=13,SNR=55			S	**Sn**	**23 15 59.6**	**+0.8**
JNU	baz=225,slow=11,SNR=1.7			LR	LR	23 16 58.0	
JKE	**Kume jima 2**	**4.06**	**228**	P	**Pn**	**23 15 12.5**	**-0.2**
KSRS	**Korea Array**	**8.53**	**348**	LR	LR	23 19 25.0	
KLR	comp=Z,45nm,19.9s,baz=163,slow=37 **Kul'dur**	**20.14**	**3**	P	**P**	**23 18 43.5**	**+0.4**
SONM	0.6nm,0.5s,baz=144,slow=7.5,SNR=4.4 **Songino Array**	**26.20**	**322**	P	**P**	**23 19 43.3**	**-0.2**
TLY	0.5nm,0.5s,baz=146,slow=8.8,SNR=4.4 **Talaya**	**29.97**	**326**	LR	LR	23 32 54.5	
MKAR	comp=Z,30nm,20.6s,baz=109,slow=37 **Makanchi Array**	**40.97**	**309**	P	**P**	**23 21 51.5**	**+0.2**
KURBB	0.2nm,0.5s,baz=81,slow=9.5,SNR=2.7 **Kurchatov Arra**	**44.01**	**314**	P	**P**	**23 22 15.4**	**-0.5**
WRA	0.4nm,0.3s,baz=97,slow=9.0,SNR=4.3 **Warramunga Arr**	**46.93**	**175**	P	**P**	**23 22 54.2**	**-0.5**
BVAR	0.9nm,0.9s,baz=352,slow=8.2,SNR=3.5 **Borovoye Array**	**49.31**	**317**	P	**P**	**23 22 57.6**	**+0.2**
ASAR	1.3nm,0.4s,baz=92,slow=9.9,SNR=13 **Alice Springs**	**52.59**	**176**	P	**P**	**23 23 23.6**	**+1.3**
FINES	0.1nm,0.3s,baz=8.2,slow=13,SNR=4.3 **FINESS Array B**	**71.21**	**331**	P	**P**	**23 25 25.8**	**-1.1**
NOA	0.6nm,0.4s,baz=65,slow=6.3,SNR=6.5 **NORSAR Array B**	**77.48**	**334**	P	**P**	**23 26 02.6**	**-1.0**
	0.9nm,0.9s,baz=39,slow=7.1,SNR=2.8						

ISCJB ***03*** *23:24:34.7±0.7, 6.0N±0.1×126.0E±0.1, h142km±14km, mb3.6/5, Error ellipse: s-maj=25.9km s-min=13.8km az=30.9*
IDC ***03*** *23:24:35.0±1.5, 5.61N×125.94E, h93km±27km, mb3.5/5, mb1 3.7/5, mb1mx3.2/38, mbtmp3.8/5, Error ellipse: s-maj=113.2km s-min=18.1km az=68.0*
ISC 03 23:24:36.0±1.1, 5.9N±0.1×125.9E±0.1, h119km±14km, n12, σ1 54/19, mb3.8/5, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.13**	**16**	*e*P	**Pn**	**23 24 58.3**	**-0.9**
MATI				*e*S	**Sn**	**23 25 16.5**	**-0.3**
DAV	**Davao City (W)**	**1.26**	**344**	P	**Pn**	**23 25 00.5**	**-0.2**
DAV	116nm,0.3s,baz=80,slow=2.1,SNR=11			S	**Sn**	**23 25 20.4**	**+1.1**
DMPH	160nm,0.3s,baz=199,slow=22,SNR=15 **Davao City--Mi**	**1.29**	**341**	*e*P	**Pn**	**23 25 00.5**	**-0.5**
DMPH				*e*S	**Sn**	**23 25 22.1**	**+2.2**
KCP	**Kidapawan**	**1.42**	**324**	*i*P	**Pn**	**23 25 02.6**	**+0.1**
KCP				*i* S	**Sn**	**23 25 23.3**	**+0.6**
CTBH	**Cotabato--PC H**	**2.16**	**309**	*i*P	**Pn**	**23 25 10.7**	**-0.7**
CTBH				*i* S	**Sn**	**23 25 37.1**	**-1.4**
BUKP	**Musuan**	**2.19**	**337**	*e*P	**Pn**	**23 25 10.2**	**-1.6**
BUKP				*e*S	**Sn**	**23 25 37.9**	**-1.4**
CGP	**Cagayan de Oro**	**2.86**	**335**	*e*P	**Pn**	**23 25 17.3**	**-3.1**
CGP				*e*S	**Sn**	**23 25 54.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**23.81**	**181**	P	**P**	**23 29 38.0**	**-0.1**
WRA	3.3nm,0.7s,baz=6.0,slow=11,SNR=8.4 **Warramunga Arr**	**26.94**	**162**	P	**P**	**23 30 05.4**	**-1.1**
ASAR	0.3nm,0.3s,baz=340,slow=9.9,SNR=15 **Alice Springs**	**30.36**	**165**	P	**P**	**23 30 36.3**	**-0.5**
STKA	0.7nm,0.3s,baz=343,slow=7.2,SNR=15 **Stephens Creek**	**40.38**	**159**	P	**P**	**23 32 01.8**	**-0.6**
MKAR	1.5nm,0.5s,baz=336,slow=10.0,SNR=4.2 **Makanchi Array**	**55.37**	**325**	P	**P**	**23 34 00.9**	**+3.1**
	0.2nm,0.4s,baz=113,slow=7.9,SNR=3.6						

ISCJB ***03*** *23:34:52.3±0.7, 5.69S±0.07×148.0E±0.1, h60km, mb4.0/8, MS3.1/1, Error ellipse: s-maj=18.2km s-min=8.4km az=16.5*
IDC ***03*** *23:34:57.1±4.2, 5.74S×148.19E, h96km±40km, mb3.7/8, mb1 4.0/11, mb1mx3.7/33, mbtmp4.2/11, MS3.3/1, Ms1 3.3/1, ms1mx2.5/29, Error ellipse: s-maj=27.5km s-min=24.8km az=138.0*
ISC 03 23:34:53.3±0.9, 5.78S±0.09×148.0E±0.2, h60km, n12, σ2 8/03/14, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**194**	P	Pn	23 35 52.8	+4.7
PMG	102nm,0.3s,baz=355,slow=3.3,SNR=53			S	**Sn**	**23 36 32.1**	**+1.5**
CTA	30nm,0.3s,baz=195,slow=20,SNR=3.4 **Charters Tower**	**14.33**	**187**	P	**P**	**23 38 17.7**	**-0.8**
WRA	0.3nm,0.3s,baz=19,slow=13,SNR=6.2 **Warramunga Arr**	**19.38**	**222**	P	**Pn**	**23 39 16.9**	**+0.9**
WRA	1.8nm,0.3s,baz=48,slow=11,SNR=121			S	**S**	**23 42 45.8**	**-4.8**
ASAR	0.2nm,0.3s,baz=41,slow=20,SNR=5.3 **Alice Springs**	**22.39**	**216**	P	**P**	**23 39 48.9**	**+2.0**
ASAR	1.8nm,0.6s,baz=52,slow=8.9,SNR=15			S	**S**	**23 43 46.6**	**-2.5**
DZM	1.5nm,0.8s,baz=33,slow=24,SNR=7.8 **Mont Dzumac**	**24.07**	**134**	P	**P**	**23 40 03.5**	**+0.2**
FITZ	3.2nm,0.6s,baz=13,slow=8.8,SNR=6.2 **Fitzroy Crossi**	**25.06**	**239**	P	**P**	**23 40 14.1**	**+1.8**
	9.2nm,0.4s,baz=58,slow=10,SNR=44						

FITZ				LR	LR	23 51 10.7	
	comp=Z,63nm,19.6s,baz=73,slow=39						
SONM	**Songino Array**	**64.72**	**330**	P	**P**	**23 45 26.5**	**+1.1**
	0.3nm,0.4s,baz=122,slow=7.1,SNR=4.9						
MKAR	**Makanchi Array**	**77.99**	**320**	P	**P**	**23 46 45.4**	**+0.1**
	0.3nm,0.4s,baz=97,slow=8.2,SNR=8.0						
ZALV	**Zalesovo Beam**	**79.38**	**328**	P	**P**	**23 46 52.1**	**-0.6**
	1.0nm,0.6s,baz=109,slow=5.1,SNR=4.4						
ILAR	**Eielson Array**	**84.88**	**23**	P	**P**	**23 47 19.6**	**-1.6**
	0.6nm,0.6s,baz=251,slow=5.1,SNR=7.9						
NRIK	**Noril'sk**	**85.38**	**342**	P	**P**	**23 47 23.7**	**0.0**
	2.0nm,0.7s,baz=151,slow=2.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**146.03**	**285**	PKPbc	**PKPdf**	**23 54 26.5**	**-0.1**
	0.7nm,0.4s,baz=84,slow=2.7,SNR=29						

NIED ***04*** *00:03:00, 43.50N×145.00E, h160km, Mw4.4 Best double couple: M₀4.15000×10¹⁵ NP1:φ₁148.00000°, δ68.00000°, λ18.00000°. NP2:φ₂51.00000°, δ73.00000°, λ157.00000°.*
ISCJB ***04*** *00:03:30.4±0.4, 43.46N±0.06×144.87E±0.05, h142km±3km, mb3.8/12, Error ellipse: s-maj=10.0km s-min=5.1km az=159.9*
MOS ***04*** *00:03:30.3±0.8, 43.40N×144.87E, h150km, mb3.9/11, Error ellipse: s-maj=17.7km s-min=13.9km az=81.2*
JMA ***04*** *00:03:32.2±0.1, 43.49N×144.85E, h135km±1km, M3.7*
JMA Felt II J1.
SKHL ***04*** *00:03:32.8±0.1, 43.50N×144.93E, h139km±8km, mb4.8/3, msh4.7/3*
IDC ***04*** *00:03:35.1±2.9, 43.98N×144.67E, h143km±9km, mb3.6/11, mb1 3.7/13, mb1mx3.4/38, mbtmp4.0/13, MS3.6/3, Ms1 3.5/3, ms1mx2.6/43, Error ellipse: s-maj=63.5km s-min=14.9km az=165.0*
ISC 04 00:03:31.2±0.7, 43.44N±0.06×144.88E±0.04, h138km±5km, n52, σ0 83/60, mb3.9/12, 6C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.19**	**322**	⇓P	**Pn**	**00 03 50.7**	**+0.7**
JNK				*e*S	**Sn**	**00 04 04.0**	**-0.4**
JAK	**Akkeshi**	**0.46**	**197**	⇑P	**Pn**	**00 03 51.9**	**+0.9**
JAK				*e*S	**Sn**	**00 04 06.7**	**+0.7**
JRA	**Rausu**	**0.53**	**20**	⇓P	**Pn**	**00 03 51.8**	**+0.5**
NEM2	**Nemuro 2**	**0.64**	**96**	⇑P	**Pn**	**00 03 52.6**	**+0.6**
NEM2				*e*S	**Sn**	**00 04 07.5**	**-0.2**
JAR	**Ashorobuto**	**0.82**	**260**	⇑P	**Pn**	**00 03 54.2**	**+0.9**
JAR				*e*S	**Sn**	**00 04 10.7**	**+0.6**
JTKR	**Abashiri--Toko**	**0.88**	**307**	⇓P	**Pn**	**00 03 54.1**	**+0.3**
JTKR				*e*S	**Sn**	**00 04 10.3**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**0.93**	**50**	*d i*PN	**Pn**	**00 03 54.9**	**+0.7**
YUK				S	**Sn**	**00 04 11.4**	**-0.3**
YUK	comp=N,102nm,0.2s			pmax	pmax		
YUK	comp=Z,586nm,0.2s			pmax	pmax		
YUK	comp=E,113nm,0.1s			pmax	pmax		
YUK	comp=E,1μm,0.3s			smax	smax		
YUK	comp=N,2μm,0.6s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**0.93**	**50**	*i* P	**Pn**	**00 03 54.9**	**+0.7**
YUK				AMB	AMB	00 03 56.1	
YUK	comp=N,590nm,0.3s			*e*S	**Sn**	**00 04 11.4**	**-0.3**
YUK				A	A	00 04 15.7	
YUK	comp=N,130nm,0.4s			A	A	00 04 15.7	
YUK	comp=N,200nm,0.4s			A	A	00 04 15.7	
JOB	**Onbets**	**0.93**	**235**	⇑P	**Pn**	**00 03 55.4**	**+1.2**
JOB				*e*S	**Sn**	**00 04 12.5**	**+0.8**
JMP	**Maruseppu**	**1.24**	**298**	⇓P	**Pn**	**00 03 57.3**	**+0.2**
JMP				*e*S	**Sn**	**00 04 15.9**	**-1.0**
HRK	**Horoka**	**1.27**	**272**	*e*P	**Pn**	**00 03 58.4**	**+0.9**
JCH	**Churui**	**1.38**	**234**	⇑P	**Pn**	**00 03 59.5**	**+0.9**
JCH				*e*S	**Sn**	**00 04 19.4**	**-0.1**
SHO	**Shikotan**	**1.48**	**72**	*d i*PN	**Pn**	**00 04 00.2**	**+0.6**
SHO				*i* S	**Sn**	**00 04 20.1**	**-1.3**
SHO	comp=Z,78nm,0.3s			pmax	pmax		
SHO	comp=N,25nm,0.2s			pmax	pmax		
SHO	comp=E,27nm,0.2s			pmax	pmax		
SHO	comp=N,1μm,0.3s			smax	smax		
SHO	comp=E,4μm,0.3s			smax	smax		
SHO	**Shikotan**	**1.48**

ARCES	**ARCESS Array B**	**58.95 339**	*e*P		**P**		**00 13 15.0**	**-0.4**
FINES	**FINESS Array B**	**64.39 332**	P		**P**		**00 13 51.8**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=48,slow=7.2,SNR=32							
KBZ	**Khabaz**	**68.76 310**	LR		LR		00 50 36.4	
	comp=Z,22nm,19.1s,baz=143,slow=41							
NB2	**NORSAR Subarra**	**69.28 338**	P		**P**		**00 14 22.6**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=32,slow=6.5							
NOA	**NORSAR Array B**	**69.28 338**	P		**P**		**00 14 22.9**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=35,slow=6.2,SNR=7.4							
AKASG	**Malin Array Be**	**70.84 323**	P		**P**		**00 14 31.1**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=40,slow=5.9,SNR=5.1							
GERES	**GERESS Array B**	**78.61 330**	P		**P**		**00 15 17.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=24,slow=7.7,SNR=4.0							
LPIG	**La Paz**	**83.80 63**	LR		LR		00 45 39.8	
	comp=Z,213nm,19.9s,baz=128,slow=30							

*ISCJB **04** 00:03:31.0±0.7, 37.21N±0.03×141.62E±0.04, h21km±4km, mb4.1/36, MS3.3/3, Error ellipse: s-maj=5.8km s-min=4.5km az=24.0*
*JMA **04** 00:03:33.7±0.1, 37.27N×141.48E, h36km±2km, M4.3*
JMA Felt II J1.
*MOS **04** 00:03:33.3±1.1, 37.30N×141.47E, h33km, mb4.7/15, Error ellipse: s-maj=9.6km s-min=7.0km az=98.2*
*NEIC **04** 00:03:35.0±1.9, 37.20N×141.45E, h33km±13km, mb4.5/7, Error ellipse: s-maj=7.4km s-min=5.9km az=90.0*
NEIC Recorded [2 JMA] in Fukushima.
*IDC **04** 00:03:35.9±2.4, 37.21N×141.42E, h39km±20km, mb3.8/22, mb1 4.0/29, mb1mx3.9/45, mbtmp4.0/29, ML3.4/5, MS3.1/7, Ms1 3.1/7, ms1mx2.8/47, Error ellipse: s-maj=15.9km s-min=12.2km az=89.0*

ISC 04 00:03:35.0±0.8, 37.24N±0.04×141.50E±0.05, h35km±2km, n88, σ1s32/96, mb4.2/36, MS3.4/3, 9C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**285**	P		**Pn**	**00 03 44.0**	**-2.0**
JFK				S		**Sb**	**00 03 50.8**	**-2.8**
ONAJ	**Iwakimizuishiy**	**0.58**	**257**	P		**Pn**	**00 03 45.1**	**-1.7**
ONAJ				S		**Sn**	**00 03 53.0**	**-2.1**
JMM	**Marumori**	**0.84**	**318**	P		**Pn**	**00 03 48.5**	**-1.9**
JFT	**Otama**	**0.97**	**287**	P		**Pn**	**00 03 51.5**	**-0.7**
JFT				S		**Sn**	**00 04 03.7**	**-1.1**
JHO	**Hitachi**	**0.97**	**230**	P		**Pn**	**00 03 50.5**	**-1.7**
JHO				S		**Sn**	**00 04 03.4**	**-1.4**
JIO	**Ouri**	**1.22**	**354**	P		**Pn**	**00 03 53.7**	**-1.9**
JIO				S		**Sn**	**00 04 08.2**	**-2.7**
JOU	**Okura**	**1.31**	**330**	P		**Pn**	**00 03 56.2**	**-0.7**
JOU				S		**Sn**	**00 04 12.3**	**-0.8**
JFY	**Yanaizu**	**1.44**	**277**	P		**Pn**	**00 03 58.6**	**-0.1**
JFY				S		**Sn**	**00 04 16.7**	**+0.2**
JYS	**Shirataka**	**1.50**	**311**	P		**Pn**	**00 03 59.4**	**-0.1**
JYS				S		**Sn**	**00 04 18.8**	**+0.8**
MJAR	**Matsushiro Arr**	**2.73**	**256**	Pn		**Pn**	**00 04 16.9**	**+0.5**
	30nm,0.3s,baz=85,slow=16,SNR=106							
MJAR						Sn	**Sn**	**00 04 51.4**	**+3.2**
	30nm,0.3s,baz=96,slow=28,SNR=4.7							
MJAR						LR	LR	00 05 27.1	
	comp=Z,255nm,19.6s,baz=75,slow=42							
MAJO	**Matsushiro**	**2.73**	**256**	*ce*P		**Pn**	**00 04 17.3**	**+0.9**
MAT	**Matsushiro**	**2.73**	**256**	P		**Pn**	**00 04 17.3**	**+0.9**
MAT				S		**Sn**	**00 04 50.9**	**+2.7**
JHJ	**Hachijo jima 2**	**4.34**	**199**	Pn		**Pn**	**00 04 37.5**	**-1.0**
	31nm,0.3s,baz=58,slow=23,SNR=12							
JHJ						Sn	**Sn**	**00 05 25.8**	**-2.1**
	33nm,0.3s,baz=63,slow=22,SNR=4.4							
JHJ						LR	LR	00 06 44.6	
	comp=Z,266nm,18.6s,baz=116,slow=44							
YUK	**Yuzh-Kuril'sk**	**7.55**	**25**	*e*P		**Pn**	**00 05 22.6**	**0.0**
KUR	**Kuril'sk**	**9.31**	**29**	*e*P		**Pn**	**00 05 45.3**	**-1.4**
JNU	**Nakatsue**	**9.62**	**248**	Pn		**Pn**	**00 05 50.0**	**-0.9**
	0.1nm,0.3s,baz=183,slow=5.0,SNR=3.8							
JNU						LR	LR	00 09 48.8	
	comp=Z,82nm,19.7s,baz=161,slow=39							
YSS	**Yuzh-Sakhalins**	**9.76**	**5**	*e*P		**Pn**	**00 05 51.6**	**-1.1**
USRK	**Ussuriysk Ar.**	**10.02**	**317**	Pn		**Pn**	**00 05 57.9**	**+1.5**
	0.2nm,0.3s,baz=130,slow=13,SNR=4.1							
CBIJ	**Chichi jima**	**10.13**	**177**	Pn		**Pn**	**00 05 56.5**	**-1.5**
JCJ	**Chichijima**	**10.13**	**177**	Pn		**Pn**	**00 05 56.5**	**-1.5**
	6.7nm,0.3s,baz=277,slow=22,SNR=3.4							
KSRS	**Korea Array**	**10.81**	**275**	Pn		**Pn**	**00 06 07.1**	**-0.2**
	0.2nm,0.3s,baz=91,slow=15,SNR=2.6							
KSRS						LR	LR	00 09 58.8	
	comp=Z,88nm,18.5s,baz=80,slow=36							
KSAR	**Wonju Array Be**	**10.85**	**275**	P		**Pn**	**00 06 07.1**	**-0.7**
KSAR	**Wonju Array Be**	**10.85**	**275**	Pn		**Pn**	**00 06 07.1**	**-0.7**
MDJ	**Mudanjiang**	**11.63**	**313**	Pn		**Pn**	**00 06 18.3**	**-0.1**
TYV	**Tymovskoe**	**13.65**	**3**	*e*P		**Pn**	**00 06 48.0**	**+2.1**
TYV					pmax	pmax		
	comp=Z,11nm,0.8s							
KLR	**Kul'dur**	**13.92**	**333**	Pn		**Pn**	**00 06 50.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=176,slow=15,SNR=2.2							
KLR						LR	LR	00 12 04.3	
	comp=Z,79nm,18.1s,baz=140,slow=36							
PETK	**Petropavlovsk-**	**19.48**	**30**	LR		LR	00 16 21.4	
	comp=Z,38nm,18.1s,baz=188,slow=39							
YAK	**Yakutsk**	**25.89**	**347**	*e*P		**P**	**00 09 02.8**	**-0.5**
YAK					pmax	pmax		
	comp=Z,15nm,0.5s							
YAK	**Yakutsk**	**25.89**	**347**	*e*P		**P**	**00 09 02.8**	**-0.5**
	comp=Z,15nm,0.5s							
SEY	**Seymchan**	**26.58**	**11**	P		**P**	**00 09 11.8**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=209,slow=10,SNR=2.1							
ULN	**Ulaanbaatar**	**27.30**	**304**	*e*P		**P**	**00 09 15.6**	**-0.8**
ULN					pmax	pmax		
	comp=Z,2.0nm,0.8s							
ULN	**Ulaanbaatar**	**27.30**	**304**	*e*P		**P**	**00 09 15.8**	**-0.6**
	comp=Z,0.9nm,0.6s							
ENH	**Enshi**	**27.42**	**265**	P		**P**	**00 09 17.4**	**-0.2**
	comp=Z,2.6nm,0.4s							
SONM	**Songino Array**	**27.73**	**304**	P		**P**	**00 09 20.6**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=99,slow=9.0,SNR=12							
H11N2	**WAKE ISLAND Hy**	**28.19**	**121**	T		T	00 38 58.8	
	baz=314,slow=75,SNR=476							
H11N1	**WAKE ISLAND Hy**	**28.20**	**121**	T		T	00 38 59.3	
	baz=314,slow=75,SNR=443							
H11N3	**WAKE ISLAND Hy**	**28.21**	**121**	T		T	00 38 59.9	
	baz=314,slow=75,SNR=382							
H11S1	**WAKE ISLAND Hy**	**28.91**	**123**	T		T	00 39 45.0	
	baz=318							
H11S3	**WAKE ISLAND Hy**	**28.91**	**123**	T		T	00 39 45.5	
	baz=318							
H11S2	**WAKE ISLAND Hy**	**28.93**	**123**	T		T	00 39 45.9	
	baz=318							
TIXI	**Tiksi**	**35.10**	**353**	P		**P**	**00 10 25.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=162,slow=6.0,SNR=2.6							
TIXI	**Tiksi**	**35.10**	**353**	*e*P		**P**	**00 10 24.4**	**-0.1**
TIXI					pmax	pmax		
	comp=Z,2.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**41.62**	**255**	P		**P**	**00 11 19.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=36,slow=6.4,SNR=4.3							
CMAR						LR	LR	00 28 38.3	
	comp=Z,20nm,18.2s,baz=275,slow=36							
ZALV	**Zalesovo Beam**	**41.83**	**315**	P		**P**	**00 11 21.1**	**-0.2**
	comp=Z,5.7nm,0.8s,baz=89,slow=7.0,SNR=22							
NVS	**Novosibirsk**	**42.75**	**314**	*e*P		**P**	**00 11 27.5**	**-1.2**
MKAR	**Makanchi Array**	**44.07**	**302**	P		**P**	**00 11 39.8**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=88,slow=9.9,SNR=28							
COLA	**College**	**48.87**	**32**	*e*P		**P**	**00 12 18.0**	**+1.2**
COLA					pmax	pmax		
	comp=Z,10.0nm,0.5s							
COLA	**College**	**48.87**	**32**	*e*P		**P**	**00 12 18.0**	**+1.2**
	comp=Z,9.6nm,0.5s							
ILAR	**Eielson Array**	**49.29**	**32**	P		**P**	**00 12 20.6**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=275,slow=6.5,SNR=7.9							
TKM2	**Tokmak 2**	**49.60**	**298**	*e*P		**P**	**00 12 23.3**	**+0.3**
TKM2					pmax	pmax		
	comp=Z,3.0nm,0.8s							
TKM2	**Tokmak 2**	**49.60**	**298**	*e*P		**P**	**00 12 23.3**	**+0.3**
	comp=Z,2.9nm,0.8s							
AAK	**Ala-Archa**	**50.46**	**298**	*e*P		**P**	**00 12 29.7**	**+0.2**
AAK					pmax	pmax		
	comp=Z,3.0nm,0.9s							
KKAR	**Karatay Array**	**53.09**	**300**	*e*P		**P**	**00 12 49.4**	**+0.5**
KKAR					pmax	pmax		
	comp=Z,5.0nm,0.9s							
KKAR	**Karatay Array**	**53.09**	**300**	*e*P		**P**	**00 12 49.4**	**+0.5**
	comp=Z,4.8nm,0.9s							
INK	**Inuvik**	**54.17**	**27**	P		**P**	**00 12 56.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=328,slow=4.7,SNR=2.9							
ARU	**Arti**	**56.26**	**318**	*d*	*i*P	**P**	**00 13 11.4**	**-0.2**
ARU							00 14 06.9	
ARU							00 15 16.5	
ARU					S	**S**	**00 21 00.3**	**+1.4**
ARU					SS	**SS**	**00 24 41.1**	**-4.1**
ARU					pmax	pmax		
	comp=Z,13nm,1.2s							
WRA	**Warramunga Arr**	**57.27**	**188**	P		**P**	**00 13 19.2**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=5.9,slow=7.4,SNR=36							
WRA	**Warramunga Arr**	**57.27**	**188**	*i* P		**P**	**00 13 19.7**	**+0.5**
WRA					pmax	pmax		
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**61.00**	**188**	P		**P**	**00 13 45.7**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=13,slow=6.2,SNR=12							
YKA	**Yellowknife Ar**	**63.60**	**30**	P		**P**	**00 14 02.1**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=309,slow=7.1,SNR=3.2							
GEYT	**Alibeck**	**63.80**	**299**	P		**P**	**00 14 03.7**	**0.0**
	comp=Z,4.8nm,0.9s,baz=45,slow=2.3,SNR=9.4							
OBN	**Obninsk**	**67.98**	**323**	*e*P		**P**	**00 14 30.4**	**+0.2**
OBN				*e**PP		**pP**	**00 14 39.3**	**-1.6**
OBN				*e*			00 14 59.6	
OBN					pmax	pmax		
	comp=Z,15nm,1.7s							
OBN					MLR	MLR		
	comp=Z,19nm,14.0s							
FINES	**FINESS Array B**	**68.67**	**332**	P		**P**	**00 14 34.0**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=38,slow=9.6,SNR=7.9							
FINES	**FINESS Array B**	**68.67**	**332**	*ce*P		**P**	**00 14 34.2**	**-0.2**
FINES					pmax	pmax		
	comp=Z,3.0nm,0.7s							
STKA	**Stephens Creek**	**68.75**	**180**	P		**P**	**00 14 36.0**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=354,slow=9.2,SNR=2.9							
STKA	**Stephens Creek**	**68.75**	**180**	P		**P**	**00 14 36.0**	**+0.8**
VSR	**Storozhevoye**	**68.83**	**319**	*e*P		**P**	**00 14 35.0**	**-0.6**
VSR					pmax	pmax		
	comp=Z,5.0nm,1.1s							
NCK	**Nalchik**	**70.53**	**310**	*e*P		**P**	**00 14 46.9**	**+0.6**
NCK					pmax	pmax		
	comp=Z,4.0nm,1.0s							
KBZ	**Khabaz**	**70.83**	**311**	P		**P**	**00 14 48.2**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=9.1,slow=1.8,SNR=5.1							
KIV	**Kislovodsk**	**70.83**	**311**	*i* P		**P**	**00 14 49.1**	**+0.9**
KIV				*e**PP		**pP**	**00 14 58.7**	**-0.2**
KIV				*e**SP		**sP**	**00 15 04.4**	**+1.5**
KIV							00 15 11.0	
KIV					SSS	SSS	00 31 46.0	
KIV					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KIV					MLR	MLR		
	comp=Z,17nm,17.0s							
KIV	**Kislovodsk**	**70.83**	**311**	*e*P		**P**	**00 14 48.7**	**+0.5**
	comp=Z,5.8nm,1.1s							
ANN	**Anapa**	**73.44**	**314**	*e*P		P	00 14 58.6	-5.1
ANN					pmax	pmax		
	comp=Z,16nm,1.1s							
NB2	**NORSAR Subarra**	**74.03**	**337**	P		**P**	**00 15 06.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=36,slow=6.2							
NOA	**NORSAR Array B**	**74.03**	**337**	P		**P**	**00 15 07.1**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=38,slow=6.0,SNR=4.4							
AKASG	**Malin Array Be**	**74.18**	**322**	P		**P**	**00 15 07.4**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=46,slow=6.1,SNR=5.7							
AKASG	**Malin Array Be**	**74.18**	**322**	*ce*P		**P**	**00 15 07.8**	**-0.1**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.4s							
KIEV	**Kiev**	**74.19**	**322**	*i* P		**P**	**00 15 06.9**	**-1.1**
KIEV					pmax	pmax		
	comp=Z,2.0nm,0.6s							
NVAR	**Mina Array Bea**	**74.81**	**53**	P		**P**	**00 15 12.6**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=272,slow=8.0,SNR=3.7							
PDAR	**Pinedale Array**	**77.47**	**46**	P		**P**	**00 15 28.7**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=282,slow=4.5,SNR=3.4							
BRTR	**Keskin Array B**	**78.77**	**312**	P		**P**	**00 15 35.5**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=97,slow=6.3,SNR=3.6							
BRTR	**Keskin Array B**	**78.77**	**312**	*i* P		**P**	**00 15 38.0**	**+3.7**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.9s							
CLL	**Collm**	**80.96**	**330**	*e*P		**P**	**00 15 43.0**	**-2.7**
CLL	**Collm**	**80.96**	**330**	*e*P		**P**	**00 15 43.0**	**-2.7**
GERES	**GERESS Array B**	**82.58**	**328**	P		**P**	**00 15 54.1**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=47,slow=8.6,SNR=3.3							
BFO	**Black Forest**	**85.16**	**331**	*i* P		**P**	**00 16 08.9**	**+1.3**
TXAR	**Lajitas Array**	**89.94**	**52**	P		**P**	**00 16 32.1**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=310,slow=3.1,SNR=6.7							
TORD	**Torodi Ar. Bea**	**117.24**	**315**	PKP		**PKPdf**	**00 22 16.4**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=23,slow=1.4,SNR=4.2							
LPAZ	**La Paz**	**146.53**	**59**	PKPbc		**PKPbc**	**00 23 13.9**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=282,slow=2.4,SNR=6.5							

IDC 04 00:07:21.1±2.6, 37.81S×72.13W, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/21, mbtmp3.5/4, MS3.2/2, Ms1 3.3/2, ms1mx2.8/16, Error ellipse: s-maj=60.2km s-min=51.1km az=29.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**21.73**	**10**	P		P	00 12 13.8	-0.9
	1.1nm,0.8s,baz=191,slow=5.2,SNR=4.0							
LPAZ						LR	LR	00 22 13.4	
	comp=Z,73nm,18.7s,baz=138,slow=41							
SIV	**San Ignacio**	**23.83**	**27**	P		P	00 12 36.8	+0.8
	1.3nm,0.6s,baz=194,slow=7.7,SNR=3.2							
SIV						LR	LR	00 24 03.5	
	comp=Z,42nm,20.5s,baz=188,slow=42							
TXAR	**Lajitas Array**	**73.03**	**331**	P		P	00 18 53.1	+0.2
	0.2nm,0.7s,baz=168,slow=6.2,SNR=3.1							
TORD	**Torodi Ar. Bea**	**85.58**	**70**	P		P	00 20 01.5	-0.2
	0.7nm,1.0s,baz=220,slow=5.6,SNR=2.9							

*NIED **04** 00:25:00, 37.60N×143.90E, h5km, Mw4.1 Best double couple: M₀1.38000×10¹⁵ NP1:φ₀s11.00000°, δ28.00000°, λ-93.00000°. NP2:φ₀s194.00000°, δ62.00000°, λ-89.00000°.*
*IDC **04** 00:25:52.9±0.7, 37.48N×143.97E, h0km, mb4.0/17, mb1 4.2/25, mb1mx4.1/53, mbtmp4.0/25, ML3.8/5, MS3.2/11, Ms1 3.2/11, ms1mx2.9/59, Error ellipse: s-maj=17.3km s-min=13.4km az=128.0*
*ISCJB **04** 00:25:53.2±1.4, 37.55N±0.03×143.85E±0.04, h15km±10km, mb4.1/24, MS3.2/7, Error ellipse: s-maj=6.1km s-min=4.8km az=30.7*
*JMA **04** 00:25:55.8±0.3, 37.63N×143.89E, h54km, M4.4*
*NEIC **04** 00:25:58.1±0.5, 37.52N×143.89E, h35km, mb4.4/7, Error ellipse: s-maj=11.0km s-min=6.9km az=129.0*

ISC 04 00:25:53.7±3.8, 37.57N±0.05×143.95E±0.07, h7km±24km, n62, σ2s67/74, mb4.2/24, MS3.2/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.24**	**294**	P		**Pn**	**00 26 30.7**	**-0.4**
JIO				S		**Sn**	**00 26 56.1**	**-2.9**
OFUJ	**Ofunato**	**2.34**	**311**	P		**Pn**	**00 26 31.8**	**-0.8**
OFUJ				S		**Sn**	**00 26 58.3**	**-3.3**
JMK	**Ichinoseki**	**2.56**	**303**	P		**Pn**	**00 26 35.1**	**-0.4**
JMK				S		**Sn**	**00 27 04.2**	**-2.6**
MIYJ	**Miyakonagasawa**	**2.61**	**321**	P		**Pn**	**00 26 34.7**	**-1.5**
JOM	**Ohasama**	**2.82**	**313**	P		**Pn**	**00 26 39.0**	**-0.2**
JOM				S		**Sn**	**00 27 10.4**	**-3.0**
JFT	**Otama**	**2.88**	**270**	P		**Pn**	**00 26 39.8**	**-0.1**
JFT				S		**Sn**	**00 27 13.2**	**-1.6**
JYK	**Kaneyama**	**3.13**	**296**	P		**Pn**	**00 26 43.7**	**+0.2**
JYK				S		**Sn**	**00 27 19.8**	**-1.3**
JANG	**Nango**	**3.38**	**327**	P		**Pn**	**00 26 45.8**	**-1.1**
JANG				S		**Sn**	**00 27 23.6**	**-3.6**
BSO1	**Boso 1**	**3.78**	**220**	P		**Pn**	**00 26 51.1**	**-0.7**
BSO1				*e*S		**Sn**	**00 27 35.0**	**-1.3**
JRY	**Ryogami san**	**4.34**	**251**	P		**Pn**	**00 27 00.0**	**-0.1**
JRY				S		**Sn**	**00 27 47.5**	**-3.5**
JOT	**Ohata**	**4.42**	**330**	*e*S		**Sn**	**00 27 47.9**	**-4.9**
ERM	**Erimo**	**4.48**	**352**	*e*Pn		**Pn**	**00 27 02.2**	**+0.3**
ERM						Sn	**Sn**	**00 27 56.1**	**+1.9**
JOD2	**Odawara 2**	**4.55**	**241**	P		**Pn**	**00 27 02.5**	**-0.5**
JOD2				*e*S		**Sn**	**00 27 52.6**	**-3.5**
MJAR	**Matsushiro Arr**	**4.71**	**259**	Pn		**Pn**	**00 27 06.6**	**+1.5**
	20nm,0.3s,baz=86,slow=14,SNR=126							
MJAR						Sn	**Sn**	**00 27 59.9**	**-0.1**
	3.8nm,0.3s,baz=91,slow=8.4,SNR=4.1							
MJAR						LR	LR	00 29 05.3	
	comp=Z,239nm,20.0s,baz=95,slow=41							
MAJO	**Matsushiro**	**4.71**	**259**	*e*Pn		**Pn**	**00 27 06.5**	**+1.4**
MAJO						Sn	**Sn**	**00 28 01.1**	**+1.0**
JKB	**Kayabe**	**4.86**	**333**	P		**Pn**	**00 27 07.2**	**0.0**
JCH	**Churui**	**5.06**	**355**	*e*S		**Sn**	**00 28 02.5**	**-6.0**
JHJ2	**Mitsune**	**5.59**	**218**	*e*S		**Sn**	**00 28 15.6**	**-6.1**
JHJ2	**Mitsune**	**5.59**	**218**	*e*Pn		**Pn**	**00 27 15.4**	**-1.8**
	58nm,0.3s							
JHJ2				*e*Sn		**Sn**	**00 28 16.4**	**-5.2**
JHJ	**Hachijo jima 2**	**5.60**	**219**	Pn		**Pn**	**00 27 15.2**	**-2.2**
	67nm,0.3s,baz=122,slow=22,SNR=16							
JHJ						Sn	**Sn**	**00 28 13.8**	**-8.1**
	46nm,0.3s,baz=74,slow=23,SNR=7.6							
NEM2	**Nemuro 2**	**5.95**	**13**	P		**Pn**	**00 27 19.1**	**-3.0**
NEM2				*e*S		**Sn**	**00 28 22.2**	**-8.2**
JTKR	**Abashiri--Toko**	**6.39**	**360**	*e*S		**Sn**	**00 28 35.6**	**-5.8**
ASAJ	**Asahikawa**	**6.62**	**351**	Pn		**Pn**	**00 27 31.2**	**-0.1**
	3.3nm,0.3s,baz=215,slow=15,SNR=10							
ASAJ						Sn	**Sn**	**00 28 42.0**	**-4.9**
	0.8nm,0.3s,baz=66,slow=20,SNR=3.8							
CBIJ	**Chichi jima**	**10.55**	**189**	Pn		**Pn**	**00 28 20.8**	**-4.5**
CBIJ						Sn	**Sn**	00 30 11.4	-12
JCJ	**Chichijima**	**10.55**	**189**	Pn		**Pn**	**00 28 20.8**	**-4.5**
	5.4nm,0.3s,baz=45,slow=20,SNR=3.5							
JCJ						Sn	**Sn**	00 30 11.4	-12
	6.3nm,0.3s,baz=270,slow=20,SNR=3.0							
USRK	**Ussuriysk Ar.**	**11.21**	**310**	Pn		**Pn**	**00 28 34.4**	**+0.1**
	0.2nm,0.3s,baz=113,slow=12,SNR=3.2							
USRK						LR	LR	00 32 28.0	
	comp=Z,104nm,21.9s,baz=137,slow=35							
JNU	**Nakatsue**	**11.56**	**251**	Pn		**Pn**	**00 28 39.9**	**+0.7**
	0.4nm,0.3s,baz=85,slow=12,SNR=3.2							
JNU	**Nakatsue**	**11.56**	**251**	*e*Pn		**Pn**	**00 28 39.4**	**+0.2**
	5.9nm,0.5s							
KSRS	**Korea Array**	**12.73**	**274**	Pn		**Pn**	**00 28 56.7**	**+1.6**
	0.2nm,0.3s,baz=88,slow=14,SNR=14							
KSRS						LR	LR	00 33 44.3	
	comp=Z,103nm,18.2s,baz=88,slow=37							
KSAR	**Wonju Array Be**	**12.76**	**274**	Pn		**Pn**	**00 28 56.7**	**+1.2**
KLR	**Kul'dur**	**14.62**	**327**	Pn		**Pn**	**00 29 20.4**	**-0.4**
	0.2nm,0.3s,baz=147,slow=11,SNR=3.6							
KLR						LR	LR	00 35 29.6	
	comp=Z,45nm,19.9s,baz=5.0,slow=39							
PETK	**Petropavlovsk-**	**18.24**	**27**	P		**P**	**00 30 09.5**	**+2.1**
	0.1nm,0.3s,baz=203,slow=14,SNR=2.8							
TPUB	**Te-pu**	**24.55**	**241**	*e*P		**P**	**00 31 12.5**	**-1.6**
	20nm,1.0s							
SEY	**Seymchan**	**25.91**	**9**	P		**P**	**00 31 28.0**	**+2.0**
	2.3nm,0.9s,baz=176,slow=7.4,SNR=5.3							
H11N2	**WAKE ISLAND Hy**	**26.74**	**125**	T		T	00 59 24.4	
	baz=317,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**26.75**	**125**	T		T	00 59 25.4	
	baz=317,slow=75,SNR=9.9							
H11N3	**WAKE ISLAND Hy**	**26.76**	**125**	T		T	00 59 23.8	
	baz=317,slow=75,SNR=13							
ULN	**Ulaanbaatar**	**28.75**	**303**	*e*P		**P**	**00 31 53.3**	**+1.4**
	1.0nm,0.5s							
SONM	**Songino Array**	**29.18**	**303**	P		**P**	**00 31 57.2**	**+1.5**
	0.4nm,0.3s,baz=96,slow=11,SNR=4.9							
SONM						LR	LR	00 43 46.6	
	comp=Z,39nm,19.7s,baz=92,slow=37							
ZALV	**Zalesovo Beam**	**43.05**	**312**	P		**P**	**00 33 54.6**	**+0.7**
	1.5nm,0.4s,baz=82,slow=6.6,SNR=6.3							
ZALV						LR	LR	00 52 29.6	
	comp=Z,27nm,18.9s,baz=70,slow=37							
CMAR	**Chiang Mai Arr**	**43.59**	**257**	P		**P**	**00 34 00.1**	**+1.5**
	3.2nm,0.7s,baz=47,slow=6.5,SNR=16							
CMAR						LR	LR	00 54 48.0	
	comp=Z,14nm,18.9s,baz=155,slow=40							
NRIK	**Noril'sk**	**43.64**	**335**	LR		LR	00 53 23.4	
	comp=Z,26nm,18.1s,baz=129,slow=38							
MKAR	**Makanchi Array**	**45.55**	**302**	P		**P**	**00 34 14.8**	**+0.9**
	3.0nm,0.7s,baz=85,slow=9.7,SNR=28							
MKAR						LR	LR	00 53 12.6	
	comp=Z,21nm,19.2s,baz=85,slow=36							
KURK	**Kurchatov**	**47.20**	**308**	*e*P		**P**	**00 34 27.3**	**+0.5**
	9.0nm,0.8s							
ILAR	**Eielson Array**	**47.95**	**33**	P		**P**	**00 34 33.8**	**+1.2**
	2.5nm,0.8s,baz=265,slow=6.5,SNR=26							
TKM2	**Tokmak 2**	**51.15**	**299**	*e*P		**P**	**00 34 58.5**	**+1.0**
	3.5nm,0.8s							
AAK	**Ala-Archa**	**52.01**	**299**	*e*P		**P**	**00 35 04.9**	**+1.0**
	1.0nm,0.4s	

PDAR Pinedale Array 86.27 335 P P 00 52 12.4 +10
comp=E,0.3nm,0.6s,baz=155,slow=8.8,SNR=2.5
TORD Torodi Ar. Bea 87.00 71 P **P** **00 52 06.1 -0.4**
comp=E,0.7nm,1.1s,baz=235,slow=2.9,SNR=3.8

NIED ***04*** *00:40:00.0, 38.40N × 142.20E, h29km, Mw3.7 Best double couple: M0 3.88000 × 10^14 NP1: φ 143.00000°, δ 46.00000°, λ -34.00000°. NP2: φ 258.00000°, δ 67.00000°, λ -131.00000°.*
ISCJB ***04*** *00:40:27.5 ± 1.0, 38.38N ± 0.04 × 142.21E ± 0.07, h34km ± 9km, mb3.6/8, MS3.2/1, Error ellipse: s-maj=10.0km s-min=5.4km az=17.7*
JMA ***04*** *00:40:28.0 ± 0.1, 38.42N × 142.16E, h32km ± 1km, M3.9*
JMA Felt I J1
IDC ***04*** *00:40:30.2 ± 2.8, 38.34N × 142.10E, h41km ± 25km, mb3.4/8, mb1 3.6/11, mb1mx3.4/49, mbtmp3.7/11, ML3.7/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/30, Error ellipse: s-maj=26.3km s-min=16.6km az=92.0*
ISC 04 00:40:26.6 ± 1.9, 38.37N ± 0.04 × 142.22E ± 0.06, h16km ± 10km, n31, σ 1.1 s 53/35, mb3.7/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.69**	**277**	P		**Pg**		**00 40 40.4**	**+0.4**
JIO				S		**Sg**		**00 40 48.8**	**-0.3**
OFUJ	**Ofunato**	**0.83**	**329**	P		**Pb**		**00 40 42.5**	**-0.1**
OFUJ				S		**Sb**		**00 40 52.4**	**-1.1**
JMK	**Ichinoseki**	**0.97**	**307**	P		**Pb**		**00 40 44.7**	**-0.3**
JMK				S		**Sb**		**00 40 56.6**	**-1.0**
JOU	**Okura**	**1.22**	**270**	P		**Pn**		**00 40 48.6**	**-0.4**
JOU				S		**Sb**		**00 41 03.9**	**-0.9**
JMM	**Marumori**	**1.23**	**246**	P		**Pn**		**00 40 48.1**	**-0.9**
JMM				S		**Sb**		**00 41 02.9**	**-2.1**
JOM	**Ohasama**	**1.32**	**327**	P		**Pn**		**00 40 49.9**	**-0.4**
JOM				S		**Sn**		**00 41 06.0**	**-1.5**
JFK	**Kawauchi**	**1.46**	**227**	P		**Pn**		**00 40 51.1**	**-1.2**
JYK	**Kaneyama**	**1.55**	**291**	P		**Pn**		**00 40 53.6**	**+0.1**
JRG	**Rokugo**	**1.60**	**310**	P		**Pn**		**00 40 54.2**	**0.0**
JRG				*e*S		**Sn**		**00 41 14.5**	**-0.1**
JYS	**Shirataka**	**1.70**	**266**	*e*S		**Sn**		**00 41 16.5**	**-0.4**
JFT	**Otama**	**1.71**	**241**	P		**Pn**		**00 40 55.7**	**0.0**
JFT				*e*S		**Sn**		**00 41 16.2**	**-1.0**
MJAR	**Matsushiro Arr**	**3.67**	**241**	P		**Pn**		**00 41 24.7**	**+2.0**
	1.8nm,0.3s,baz=65,slow=12,SNR=12								
MJAR				S		**Sn**		**00 42 10.9**	**+5.3**
	2.7nm,0.3s,baz=334,slow=15,SNR=3.2								
MAT	**Matsushiro**	**3.67**	**241**	P		**Pn**		**00 41 25.1**	**+2.4**
MAT				*e*S		**Sn**		**00 42 07.5**	**+1.8**
JHJ	**Hachijo jima 2**	**5.60**	**201**	P		**Pn**		**00 41 49.0**	**-0.1**
	6.3nm,0.3s,baz=72,slow=20,SNR=4.1								
JHJ				S		**Sn**		**00 42 49.5**	**-3.7**
	10nm,0.3s,baz=73,slow=19,SNR=3.2								
ASAJ	**Asahikawa**	**5.75**	**3**	P		**Pn**		**00 41 52.4**	**+1.1**
	3.0nm,0.3s,baz=206,slow=9.4,SNR=5.0								
ASAJ				S		**Sn**		**00 42 57.7**	**+0.9**
	0.5nm,0.3s,baz=114,slow=20,SNR=2.2								
KSRS	**Korea Array**	**11.33**	**270**	LR		LR		00 46 48.3	
	comp=Z,24nm,20.0s,baz=147,slow=34								
KLR	**Kul'dur**	**13.21**	**329**	LR		LR		00 48 10.6	
	comp=Z,52nm,20.2s,baz=129,slow=35								
H11N2	**WAKE ISLAND Hy**	**28.32**	**124**	T		T		01 16 15.0	
	baz=316,slow=76,SNR=455								
H11N1	**WAKE ISLAND Hy**	**28.33**	**124**	T		T		01 16 40.3	
	baz=316,slow=76,SNR=425								
H11N3	**WAKE ISLAND Hy**	**28.34**	**124**	T		T		01 16 24.9	
	baz=316,slow=76,SNR=411								
H11S1	**WAKE ISLAND Hy**	**29.09**	**126**	T		T		01 17 34.5	
	baz=318,slow=76,SNR=128								
H11S3	**WAKE ISLAND Hy**	**29.09**	**126**	T		T		01 17 34.7	
	baz=318,slow=76,SNR=154								
H11S2	**WAKE ISLAND Hy**	**29.11**	**126**	T		T		01 17 35.2	
	baz=318,slow=76,SNR=102								
ZALV	**Zalesovo Beam**	**41.50**	**311**	P		**P**		**00 48 12.2**	**-0.4**
	0.6nm,0.3s,baz=87,slow=7.4,SNR=4.3								
ZALV				LR		LR		01 06 09.0	
	comp=Z,30nm,18.4s,baz=244,slow=37								
MKAR	**Makanchi Array**	**43.96**	**301**	P		**P**		**00 48 32.7**	**-0.1**
	0.2nm,0.4s,baz=85,slow=9.7,SNR=3.5								
ILAR	**Eielson Array**	**48.03**	**33**	P		**P**		**00 49 05.8**	**+1.2**
	0.1nm,0.5s,baz=267,slow=6.3,SNR=2.3								
BVAR	**Borovoye Array**	**50.15**	**312**	P		**P**		**00 49 20.7**	**-0.4**
	0.3nm,0.5s,baz=73,slow=8.7,SNR=2.5								
WRA	**Warramunga Arr**	**58.47**	**189**	P		**P**		**00 50 21.4**	**-0.4**
	1.0nm,0.4s,baz=7.2,slow=7.4,SNR=9.3								
ASAR	**Alice Springs**	**62.20**	**189**	P		**P**		**00 50 47.2**	**0.0**
	0.9nm,0.7s,baz=11,slow=6.6,SNR=9.0								
FINES	**FINESS Array B**	**67.93**	**332**	P		**P**		**00 51 24.0**	**-0.1**
	0.6nm,0.6s,baz=66,slow=3.5,SNR=4.5								
TXAR	**Lajitas Array**	**88.81**	**53**	P		**P**		**00 53 20.8**	**+0.8**
	0.2nm,0.6s,baz=305,slow=3.2,SNR=3.3								

IDC 04 00:43:37.4 ± 1.8, 6.96S × 128.53E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.4/36, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=88.5km s-min=26.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.43**	**194**	Pn		Pn		00 46 20.9	-1.1
	0.3nm,0.3s,baz=21,slow=10,SNR=14								
FITZ				Sn		Sn		00 48 13.8	-17
	0.3nm,0.3s,baz=332,slow=16,SNR=5.9								
WRA	**Warramunga Arr**	**14.09**	**157**	Pn		Pn		00 46 58.0	-0.4
	0.1nm,0.3s,baz=340,slow=13,SNR=8.2								
WRA				Sn		Sn		00 49 21.9	-14
	0.3nm,0.3s,baz=331,slow=23,SNR=6.4								
ASAR	**Alice Springs**	**17.40**	**163**	P		P		00 47 43.0	-0.2
	0.1nm,0.3s,baz=340,slow=11,SNR=6.9								
MKAR	**Makanchi Array**	**67.40**	**327**	P		P		00 54 35.2	+0.5
	0.2nm,0.5s,baz=118,slow=8.2,SNR=4.0								
ZALV	**Zalesovo Beam**	**70.91**	**334**	P		P		00 54 55.8	-0.5
	0.4nm,0.4s,baz=145,slow=5.3,SNR=3.6								

ISCJB ***04*** *00:52:58.3 ± 0.2, 15.96S ± 0.04 × 167.49E ± 0.04, h39km, mb5.0/62, MS3.6/21, Error ellipse: s-maj=6.2km s-min=5.2km az=166.8*
IDC ***04*** *00:52:59.8 ± 2.1, 16.08S × 167.67E, h47km ± 16km, mb4.3/13, mb1 4.5/15, mb1mx4.1/39, mbtmp4.6/15, ML5.1/2, MS3.6/21, Ms1 3.6/21, ms1mx3.5/30, Error ellipse: s-maj=23.6km s-min=14.5km az=93.0*
MOS ***04*** *00:53:01.8 ± 1.1, 15.95S × 167.45E, h68km, mb5.1/10, Error ellipse: s-maj=11.2km s-min=9.1km az=4.4*
NEIC ***04*** *00:53:03.8 ± 0.9, 15.98S × 167.46E, h73km ± 8km, mb5.1/46, Error ellipse: s-maj=5.6km s-min=5.2km az=218.0*
BJI ***04*** *00:53:03.5, 16.34S × 167.60E, h95km, mb4.9/19, mB4.9/24*
ISC 04 00:52:59.5 ± 0.3, 16.06S ± 0.05 × 167.60E ± 0.06, h39km, n154, σ 2.9 s 16/155, mb5.1/62, MS3.6/21, 8C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.08**	**190**	*e*Pn		**Pn**		**00 54 27.2**	**+0.3**
	176nm,0.3s								
DZM				*e*Sn		**Sn**		**00 55 28.7**	**-6.6**
	62nm,0.2s								
DZM				*e*LR		LR		00 55 45.0	
	687nm,27.4s								
DZM	**Mont Dzumac**	**6.08**	**190**	P		**Pn**		**00 54 28.4**	**+1.5**
	56nm,0.3s,baz=48,slow=16,SNR=216								
DZM				S		**Sn**		**00 55 35.1**	**-0.1**
	27nm,0.3s,baz=152,slow=20,SNR=7.2								
HNR	**Honiara**	**9.96**	**311**	P		**Pn**		**00 55 22.5**	**+2.4**
	16nm,0.3s,baz=200,slow=6.8,SNR=3.8								
HNR				S		**Sn**		**00 57 12.6**	**+2.0**
	9.3nm,0.3s,baz=168,slow=17,SNR=2.4								
HNR				LR		LR		00 58 57.7	
	comp=Z,495nm,20.1s,baz=174,slow=36								
HNR	**Honiara**	**9.96**	**311**	*e*P		**Pn**		**00 55 23.0**	**+2.9**
HNR				*e*S		**Sn**		**00 57 13.0**	**+2.4**
HNR	**Honiara**	**9.96**	**311**	*e*P		**Pn**		**00 55 23.6**	**+3.5**
HNR				S		**Sn**		**00 57 12.6**	**+2.0**
HNR	**Honiara**	**9.96**	**311**	*e*Pn		**Pn**		**00 55 23.6**	**+3.5**
HNR				S		**Sn**		**00 57 12.6**	**+2.0**
MSVF	**Nonsavu**	**10.14**	**101**	*e*P		Pn		00 55 30.2	+7.6
MSVF	**Nonsavu**	**10.14**	**101**	*e*Pn		Pn		00 55 30.2	+7.6
EIDS	**Eidsvold**	**18.00**	**236**	*e*P		**P**		**00 57 08.9**	**+1.9**
	22nm,1.4s								
AFI	**Afiamalu**	**20.03**	**87**	LR		LR		01 03 10.2	
	comp=Z,201nm,19.4s,baz=288,slow=31								
AFI	**Afiamalu**	**20.03**	**87**	*e*P		Pn		00 57 33.0	+1.6
AFI				pmax		pmax			
	comp=Z,159nm,1.9s								
AFI	**Afiamalu**	**20.03**	**87**	*e*P		Pn		00 57 33.0	+1.6
	comp=Z,159nm,1.9s								
CTA	**Charters Tower**	**20.68**	**256**	P		Pn		00 57 37.6	-1.2
	comp=Z,14nm,0.8s,baz=85,slow=12,SNR=15								
CTAO	**Charters Tower**	**20.68**	**256**	*e*P		**P**		**00 57 37.4**	**+1.1**
CTAO				pmax		pmax			
	comp=Z,16nm,0.8s								
CTAO	**Charters Tower**	**20.68**	**256**	*e*P		**P**		**00 57 37.4**	**+1.1**
	comp=Z,16nm,0.8s								
PMG	**Port Moresby**	**21.00**	**286**	LR		LR		01 05 03.1	
	comp=Z,270nm,19.1s,baz=94,slow=34								
PMG	**Port Moresby**	**21.00**	**286**	*e*P		**P**		**00 57 40.6**	**+0.8**
PMG				pmax		pmax			
	comp=Z,50nm,0.9s								
PMG	**Port Moresby**	**21.00**	**286**	*e*P		**P**		**00 57 40.3**	**+0.6**
	comp=Z,26nm,1.1s								
URZ	**Urewera**	**23.64**	**161**	LR		LR		01 06 12.3	
	comp=Z,234nm,21.5s,baz=10,slow=34								
URZ	**Urewera**	**23.64**	**161**	*e*P		**P**		**00 58 10.1**	**+2.9**
	comp=Z,186nm,1.8s								
BKZ	**Black Stump Fm**	**24.30**	**163**	*e*P		**P**		**00 58 16.0**	**+2.7**
	comp=Z,139nm,1.9s								
MANU	**Manus Island**	**24.32**	**303**	*e*P		**P**		**00 58 13.7**	**0.0**
	comp=Z,116nm,1.8s								
PATS	**Pohnpei**	**24.54**	**337**	*e*P		**P**		**00 58 14.8**	**-0.9**
	comp=Z,264nm,1.7s								
KHZ	**Kahutara**	**26.75**	**170**	*e*P		**P**		**00 58 36.8**	**+1.3**
	comp=Z,70nm,1.4s								
LTZ	**Lake Taylor**	**26.93**	**172**	*e*P		**P**		**00 58 39.1**	**+2.0**
	comp=Z,90nm,1.6s								
OXZ	**Oxford**	**27.44**	**173**	*e*P		**P**		**00 58 44.0**	**+2.4**
	comp=Z,170nm,1.9s								
FOZ	**Fox Glacier**	**27.45**	**177**	*e*P		**P**		**00 58 44.2**	**+2.6**
	comp=Z,43nm,1.9s								
RPZ	**Rata Peaks**	**27.72**	**175**	*e*P		**P**		**00 58 46.3**	**+2.1**
	comp=Z,71nm,1.3s								
STKA	**Stephens Creek**	**28.40**	**232**	P		**P**		**00 58 49.3**	**-1.1**
	comp=Z,5.0nm,1.1s,baz=59,slow=5.6,SNR=4.2								
STKA				LR		LR		01 08 58.8	
	comp=Z,82nm,20.4s,baz=31,slow=34								
STKA	**Stephens Creek**	**28.40**	**232**	*e*P		**P**		**00 58 51.3**	**+0.9**
STKA				pmax		pmax			
	comp=Z,3.0nm,1.3s								
STKA	**Stephens Creek**	**28.40**	**232**	*e*P		**P**		**00 58 51.3**	**+0.9**
	comp=Z,2.7nm,1.3s								
ODZ	**Otahua Downs**	**29.01**	**176**	*e*P		**P**		**00 58 57.7**	**+2.1**
	comp=Z,68nm,1.6s								
MLZ	**Mavora Lakes**	**29.22**	**179**	*e*P		**P**		**00 59 00.3**	**+2.8**
	comp=Z,115nm,1.7s								
DCZ	**Deep Cove**	**29.32**	**181**	*e*P		**P**		**00 59 01.1**	**+2.8**
	comp=Z,90nm,1.4s								
WHZ	**Wether Hill Ro**	**29.74**	**180**	*e*P		**P**		**00 59 04.7**	**+2.6**
	comp=Z,104nm,1.7s								
WB2	**Warramunga Arr**	**31.83**	**258**	*e*P		**P**		**00 59 20.3**	**-0.6**
WRAB	**Tennant Creek**	**31.83**	**258**	*e*P		**P**		**00 59 19.4**	**-1.4**
WRAB				pmax		pmax			
	comp=Z,20nm,0.7s								
WRAB	**Tennant Creek**	**31.83**	**258**	*e*P		**P**		**00 59 20.2**	**-0.6**
	comp=Z,9.7nm,0.8s								
WRA	**Warramunga Arr**	**31.84**	**258**	P		**P**		**00 59 19.9**	**-1.0**
	comp=Z,10.0nm,0.8s,baz=87,slow=9.2,SNR=83								
WRA				ScP		**ScP**		**01 05 49.4**	**-2.4**
	comp=Z,0.5nm,0.9s,baz=87,slow=4.0,SNR=3.4								
WRA				LR		LR		01 11 28.2	
	comp=Z,142nm,21.2s,baz=115,slow=35								
WRA	**Warramunga Arr**	**31.84**	**258**	P		**P**		**00 59 20.0**	**-1.0**
TAU	**Tasmania Unive**	**31.89**	**209**	*e*P		**P**		**00 59 22.4**	**+1.4**
TAU				pmax		pmax			
	comp=Z,306nm,2.0s								
TAU	**Tasmania Unive**	**31.89**	**209**	*e*P		**P**		**00 59 22.4**	**+1.4**
	comp=Z,306nm,2.0s								
AS01	**Alice Springs**	**32.48**	**251**	*e*P		**P**		**00 59 26.1**	**-0.4**
AS31	**Alice Springs**	**32.52**	**251**	*e*P		**P**		**00 59 26.8**	**-0.1**
	comp=Z,10nm,0.6s								
ASAR	**Alice Springs**	**32.52**	**251**	P		**P**		**00 59 26.8**	**-0.2**
	comp=Z,34nm,0.8s,baz=79,slow=9.1,SNR=248								
ASAR				ScP		**ScP**		**01 05 53.1**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=79,slow=4.8,SNR=4.2								
ASAR				LR		LR		01 11 41.4	
	comp=Z,198nm,21.0s,baz=83,slow=34								
SAUI	**Saumlaki**	**36.35**	**278**	*e*P		**P**		**01 00 00.1**	**0.0**
	comp=Z,506nm,1.0s								
GUMO	**Guam**	**37.05**	**321**	LR		LR		01 14 58.9	
	comp=Z,153nm,19.4s,baz=126,slow=36								
GUMO	**Guam**	**37.05**	**321**	*e*P		**P**		**01 00 06.0**	**0.0**
GUMO				pmax		pmax			
	comp=Z,22nm,0.4s								
GUMO	**Guam**	**37.05**	**321**	*e*P		**P**		**01 00 06.0**	**0.0**
	comp=Z,22nm,0.4s								
FAKI	**Fak Fak**	**37.15**	**287**	*e*P		**P**		**01 00 06.6**	**-0.3**
	comp=Z,43nm,1.2s								
FITZ	**Fitzroy Crossi**	**40.10**	**261**	*e*P		**P**		**01 00 31.4**	**-0.3**
	comp=Z,22nm,0.8s								
PPT2	**Papeete2**	**40.95**	**98**	*e*LR		LR		01 12 22.9	
	comp=Z,311nm,29.0s								
PPT	**Papeete**	**40.96**	**98**	LR		LR		01 16 20.6	
	comp=Z,62nm,18.0s,baz=110,slow=34								
SOEI	**Soe**	**42.64**	**273**	*e*P		**P**		**01 00 52.1**	**-0.6**
	comp=Z,24nm,0.5s								
MMRI	**Maumere**	**44.85**	**274**	*e*P		**P**		**01 01 10.2**	**-0.1**
	comp=Z,59nm,1.3s								
MIDW	**Midway**	**46.36**	**18**	*e*P		**P**		**01 01 22.6**	**+0.7**
	comp=Z,262nm,1.7s								
LUWI	**Luwuk**	**46.63**	**284**	*e*P		**P**		**01 01 23.7**	**-0.7**
	comp=Z,23nm,0.8s								
KAPI	**Kappang**	**48.19**	**278**	P		**P**		**01 01 36.1**	**-0.5**
	comp=Z,11nm,0.9s,baz=145,slow=11,SNR=4.3								
KAPI	**Kappang**	**48.19**	**278**	*e*P		**P**		**01 01 35.7**	**-0.9**
	comp=Z,20nm,1.2s								
KEKH	**Kekaha**	**49.55**	**41**	*e*P		**P**		**01 01 47.7**	**+0.9**
	comp=Z,240nm,1.3s								
HON	**Honolulu**	**50.19**	**43**	*e*P		**P**		**01 01 52.7**	**+1.1**
HON	**Honolulu**	**50.19**	**43**	*e*P		**P**		**01 01 52.7**	**+1.1**
KKH	**Kailua Kona**	**50.39**	**47**	*e*P		**P**		**01 01 54.1**	**+1.0**
KKH	**Kailua Kona**	**50.39**	**47**	*e*P		**P**		**01 01 54.1**	**+1.0**
OPA	**Opana**	**50.44**	**43**	*e*P		**P**		**01 01 54.4**	**+0.9**
OPA				pmax		pmax			
	comp=Z,196nm,1.4s								
OPA	**Opana**	**50.44**	**43**	*e*P		**P**		**01 01 54.4**	**+0.9**
	comp=Z,196nm,1.4s								
POHA	**Pohakuloa**	**50.80**	**47**	*e*P		**P**		**01 01 56.8**	**+0.3**
	comp=Z,346nm,1.8s								
TAOE	**Nuku Hiva Isla**	**51.41**	**89**	*e*LR		LR		01 17 03.0	
	comp=Z,214nm,29.4s								
JAGI	**Jajag, Banyuwa**	**52.65**	**272**	*e*P		**P**		**01 02 09.4**	**-0.9**
	comp=Z,73nm,1.3s								
MYLDM	**Lahad Datu**	**52.97**	**289**	*e*P		**P**		**01 02 12.3**	**-0.3**
	comp=Z,27nm,1.5s								
KKM	**Kota Kinabalu**	**55.39**	**289**	*e*P		**P**		**01 02 29.6**	**-0.8**
	comp=Z,14nm,0.9s								
JHJ	**Hachijo jima 2**	**55.66**	**332**	LR		LR		01 23 16.2	
	comp=Z,489nm,19.9s,baz=318,slow=33								
JOW	**Kunigami**	**57.24**	**318**	*e*P		**P**		**01 02 42.3**	**-0.9**
	comp=Z,45nm,1.4s								
PTCN	**Pitcairn Islan**	**58.59**	**110**	*e*P		**P**		**01 02 53.9**	**+1.1**
	comp=Z,221nm,0.9s								
INU	**Inuyama**	**58.78**	**331**	*e*P		**P**		**01 02 53.3**	**-0.5**
	comp=Z,11nm,1.2s								
CISI	**Cisompet, Garu**	**58.96**	**271**	*e*P		**P**		**01 02 54.5**	**-1.1**
	comp=Z,102nm,1.5s								
KSM	**Kuching**	**59.18**	**282**	*e*P		**P**		**01 02 55.9**	**-1.1**
	comp=Z,7.7nm,1.0s								
MJAR	**Matsushiro Arr**	**59.23**	**333**	P		**P**		**01 02 55.0**	**-1.9**
	comp=Z,5.1nm,0.8s,baz=169,slow=7.9,SNR=12								
MJAR				LR		LR		01 26 10.0	
	comp=Z,27nm,21.8s,baz=90,slow=34								
MAJO	**Matsushiro**	**59.23**	**333**	*e*P		**P**		**01 02 56.6**	**-0.3**
MAJO				pmax		pmax			
	comp=Z,30nm,0.8s								
MAJO	**Matsushiro**	**59.23**	**333**	*e*P		**P**		**01 02 57.2**	**+0.3**
	comp=Z,7.4nm,0.6s								
MJB9	**Matsu-Tunnel**	**59.23**	**333**	*e*P		**P**		**01 02 57.9**	**+1.0**
	comp=Z,1.9nm,0.6s								
VNDA	**Vanda**	**61.55**	**181**	LR		LR		01 27 15.8	
	comp=Z,40nm,18.2s,baz=11,slow=33								
ASAJ	**Asahikawa**	**64.10**	**340**	*e*P		**P**		**01 03 29.8**	**+0.3**
	comp=Z,24nm,0.9s								
YSS	**Yuzh-Sakhalins**	**66.59**	**342**	*e*P		**P**		**01 03 49.1**	**+3.5**
YSS				pmax		pmax			
	comp=Z,20nm,0.8s								
QIZ	**Qiongzhong**	**66.66**	**299**	P		**P**		**01 03 46.3**	**-0.4**
QIZ				S		**S**		**01 12 31.3**	**-4.6**
QIZ				PMZ					
	comp=Z,180nm,5.5s								
QIZ				LN					
	comp=Z,100nm,7.1s								
USRK	**Ussuriysk Ar.**	**68.21**	**333**	P		**P**		**01 03 56.1**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=150,slow=6.4,SNR=14								
USRK				LR		LR		01 32 14.5	
	comp=Z,32nm,20.5s,baz=171,slow=34								
PET	**Petropavlovsk**	**69.23**	**354**	*e*P		**P**		**01 04 01.8**	**-0.3**
PET				pmax		pmax			
	comp=Z,11nm,1.2s								
PEA0	**Petropavlovsk-**	**69.41**	**354**	*e*P		**P**		**01 04 03.5**	**+0.2**
PETK	**Petropavlovsk-**	**69.41**	**354**	P		**P**		**01 04 03.4**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=148,slow=8.3,SNR=7.3								
PETK				LR		LR		01 29 46.8	
	comp=Z,40nm,20.1s,baz=151,slow=32								
MDJ	**Mudanjiang**	**69.60**	**332**	P		**P**		**01 04 06.3**	**+1.7**
MDJ				PMZ					
	comp=Z,14nm,0.9s								
MDJ				PMZ					
	comp=Z,34nm,4.1s								
MDJ	**Mudanjiang**	**69.60**	**332**	*e*P		**P**		**01 04 05.7**	**+1.1**
	comp=Z,10nm,0.8s								
CN2	**Changchun**	**70.95**	**329**	*e*P		**P**		**01 04 11.9**	**-0.9**
CN2				*es*P		PcP		01 04 47.4	+14
CN2				PMZ					
	comp=Z,10.0nm,0.7s								
CN2				PMZ					
	comp=Z,100nm,3.0s								
KLR	**Kul'dur**	**72.35**	**336**	LR		LR		01 31 45.4	
	comp=Z,40nm,20.6s,baz=145,slow=32								
KLR	**Kul'dur**	**72.35**	**336**	*e*P		**P**		**01 04 21.4**	**+0.3**
GYA	**Guiyang**	**72.73**	**305**	P		**P**		**01 04 26.0**	**+1.9**
GYA				pP		PcP		01 04 48.9	+7.6
GYA				PP		**PP**		**01 07 10.4**	**+3.9**
GYA				S		**S**		**01 13 42.6**	**-4.7**
GYA				SKS		**SKSac**		**01 14 18.0**	**-8.8**
GYA				sS		SKKSac		01 14 22.2	-4.7
GYA				PMZ					
	comp=Z,20nm,1.0s								
GYA				PMZ					
	comp=Z,130nm,6.0s								
QSPA	**South Pole Qui**	**73.97**	**180**	*e*P		**P**		**01 04 32.3**	**+1.5**
	comp=Z,20nm,0.8s								
KMI	**Kunming**	**75.28**	**302**	P		**P**		**01 04 40.6**	**+1.5**
KMI				PMZ					
	comp=Z,15nm,0.8s								
KMI				PMZ					
	comp=Z,99nm,5.1s								
CMAR	**Chiang Mai Arr**	**75.78**	**294**	P		**P**		**01 04 42.6**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=126,slow=5.3,SNR=9.8								
CMAR				LR		LR		01 39 09.5	
	comp=Z,15nm,18.6s,baz=115,slow=36								
MA2	**Magadan**	**76.61**	**351**	LR		LR		01 33 20.1	
	comp=Z,24nm,21.0s,baz=140,slow=32								
MA2	**Magadan**	**76.61**	**351**	*e*P		**P**		**01 04 46.0**	**+0.4**
HHC	**Hu-ho-hao-te**	**76.80**	**320**	*e*P		**P**		**01 04 47.8**	**+0.5**
HHC				pP		sP		01 05 13.2	+10
HHC				S		**S**		**01 14 27.7**	**-4.4**
HHC				PMZ					
	comp=Z,20nm,1.4s								
HHC				PMZ					
	comp=Z,78nm,6.6s								
HHC				LN					
	comp=Z,120nm,14.1s								
HHC				LE					
	comp=Z,140nm,15.5s								
HHC				LZ					
	comp=Z,57nm,13.1s								
CD2	**Chengdu**	**77.07**	**308**	*e*P		**P**		**01 04 48.8**	**-0.2**
CD2				pP		sP		01 05 12.3	+6.9
CD2				sP		pP		01 05 22.3	+21
CD2				S		**S**		**01 14 30.7**	**-4.6**
CD2				SKS		**SKSac**		**01 14 52.0**	**-6.8**
CD2				sS		ScS		01 15 11.4	+7.9
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,140nm,5.2s								
LZH	**Lanzhou**	**79.45**	**312**	*e*P		**P**		**01 05 01.9**	**-0.3**
LZH				pP		sP		01 05 25.8	+7.2
LZH				sP		pP		01 05 36.0	+22
LZH				*e*PP		**PP**		**01 08 05.0**	**+1.9**
LZH				*e*S		**S**		**01 14 54.3**	**-6.6**

	comp=Z,32nm,18.0s							
VSR	**Storozhevoye**	**126.13**	**322**	*e*PKIKP		**PKPdf**	**01 11 52.3**	**-5.2**
VSR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
FINES	**FINESS Array B**	**127.07**	**338**	PKP		**PKPdf**	**01 11 58.4**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=126,slow=3.3,SNR=4.8							
NOA	**NORSAR Array B**	**131.99**	**345**	PKP		**PKPdf**	**01 12 07.6**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=42,slow=2.3,SNR=3.3							
AKASG	**Malin Array Be**	**132.01**	**325**	PKP		**PKPdf**	**01 12 07.8**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=53,slow=2.7,SNR=4.7							
BRTR	**Keskin Array B**	**133.61**	**310**	PKP		**PKPdf**	**01 12 13.2**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=94,slow=3.7,SNR=5.5							
GERES	**GERESS Array B**	**140.97**	**333**	PKP		**PKPdf**	**01 12 26.4**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=66,slow=2.5,SNR=4.2							
FUORN	**Ofenpass-Fuorn**	**144.17**	**333**	*e*PKPdf	PKPbc		01 12 29.9	+0.3
TUE	**Stuetta**	**144.68**	**334**	*e*PKPdf		**PKPdf**	**01 12 33.2**	**+0.9**
SENIN	**Lac Senin/Sane**	**145.61**	**336**	*e*PKPdf		**PKPdf**	**01 12 34.0**	**+0.1**
TIP	**Timpagrande**	**145.65**	**318**	*e*PKPdf		**PKPdf**	**01 12 34.1**	**0.0**
AQU	**L'Aquila**	**145.71**	**325**	*e*PKP2		**PKPab**	**01 12 35.6**	**+0.8**
AQU	**L'Aquila**	**145.71**	**325**	*e*PKPdf		**PKPab**	**01 12 35.6**	**+0.8**
PLDF	**La Plantade**	**147.31**	**339**	PKP		**PKPbc**	**01 12 39.9**	**+0.9**
AGO	**Saint Agoulin**	**147.40**	**340**	PKP		**PKPab**	**01 12 40.5**	**-0.7**
SSB	**Saint Sauveur**	**147.57**	**337**	*e*PKP2		**PKPbc**	**01 12 38.9**	**-0.8**
SSB	**Saint Sauveur**	**147.57**	**337**	*e*PKPdf		**PKPbc**	**01 12 38.9**	**-0.8**
PYM	**Petit Puy Mans**	**147.71**	**340**	PKP		**PKPbc**	**01 12 40.8**	**+0.7**
LBL	**Lubilhac**	**148.08**	**339**	PKP		**PKPbc**	**01 12 42.6**	**+1.4**
VSL	**Villasalto**	**149.89**	**325**	*e*PKPdf		**PKPdf**	**01 12 43.2**	**+2.2**
KEST	**Kesra**	**152.43**	**319**	PKPbc		**PKPbc**	**01 12 51.1**	**-0.8**
	comp=Z,4.5nm,0.7s,baz=230,slow=2.4,SNR=8.2							
TORD	**Torodi Ar. Bea**	**166.06**	**260**	PKP		**PKPdf**	**01 12 60.0**	**-1.3**
	comp=Z,0.9nm,1.1s,baz=100,slow=1.6,SNR=3.3							
TORD	**Torodi Ar. Bea**	**166.06**	**260**	PKP		**PKPdf**	**01 13 00.0**	**-1.3**

*ISCJB **04** 00:54:32.9±0.5, 39.°10N±0.°03×29.°09E±0.°04, h7km±6km, Error ellipse: s-maj=5.6km s-min=4.4km az=36.3*
*DDA **04** 00:54:32.9, 39.°10N×29.°09E, h7km, Ml2.7*
*ISK **04** 00:54:32.2, 39.°09N×29.°11E, h5km, MD2.7*
*CSEM **04** 00:54:32.9±0.1, 39.°10N×29.°08E, h6km±1km, ML2.7, Error ellipse: s-maj=3.3km s-min=2.4km az=120.0*

ISC 04 00:54:33.1±0.9, 39.°10N±0.°02×29.°09E±0.°02, h12km±9km, n25, σ0s42/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.30**	**260**	P			**Pg**	**00 54 39.2**	**-0.1**
DEMI				S			**Sg**	**00 54 43.4**	**0.0**
DEMI	**Demirci**	**0.30**	**260**	*i* P			**Pg**	**00 54 39.2**	**-0.1**
DEMI				*i* S			**Sg**	**00 54 43.4**	**0.0**
GDZ	**Gediz**	**0.30**	**91**	P			**Pg**	**00 54 39.5**	**+0.1**
GDZ				S			**Sg**	**00 54 43.9**	**+0.3**
GDZ	**Gediz**	**0.30**	**91**	*i* P			**Pg**	**00 54 39.5**	**+0.1**
GDZ				*i* S			**Sg**	**00 54 43.9**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**39**	*e*PG			**Pg**	**00 54 41.6**	**-0.5**
TVSB				*e*SG			**Sg**	**00 54 48.0**	**-0.2**
TVSB	**Tavsanli**	**0.45**	**39**	*e*Pg			**Pg**	**00 54 41.6**	**-0.5**
TVSB				*e*Sg			**Sg**	**00 54 48.0**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**210**	*e*PG			**Pg**	**00 54 45.7**	**-0.5**
KULA				*e*SG			**Sg**	**00 54 55.2**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**210**	*e*Pg			**Pg**	**00 54 45.7**	**-0.5**
KULA				*e*Sg			**Sg**	**00 54 55.2**	**+0.2**
KHAL	**Karahalli**	**0.79**	**157**	P			**Pb**	**00 54 48.7**	**-0.1**
KHAL				S			**Sb**	**00 54 59.3**	**-0.2**
KHAL	**Karahalli**	**0.79**	**157**	*i* P			**Pb**	**00 54 48.7**	**-0.1**
KHAL				*i* S			**Sb**	**00 54 59.3**	**-0.2**
KHL	**Karahalli**	**0.84**	**156**	*e*PG			**Pg**	**00 54 48.8**	**-0.6**
KHL	**Karahalli**	**0.84**	**156**	*e*Pg			**Pg**	**00 54 48.8**	**-0.6**
BALB	**Balikesir**	**1.08**	**300**	*e*PN			**Pb**	**00 54 53.7**	**-0.1**
BALB	**Balikesir**	**1.08**	**300**	*e*Pn			**Pb**	**00 54 53.7**	**-0.1**
IGD	**Bursa**	**1.17**	**4**	*i* P			**Pb**	**00 54 54.1**	**-1.1**
IGD				*i* S			**Sb**	**00 55 10.5**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*PN			**Pg**	**00 54 57.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*Pn			**Pg**	**00 54 57.7**	**-0.1**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*PN			**Pg**	**00 54 57.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*Pn			**Pg**	**00 54 57.8**	**-0.3**
ARMT	**Armutlu**	**1.48**	**353**	*e*PN			**Pb**	**00 55 00.3**	**-0.2**
ARMT	**Armutlu**	**1.48**	**353**	*e*Pn			**Pb**	**00 55 00.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**220**	*e*PN			**Pn**	**00 55 00.2**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**220**	*e*Pn			**Pn**	**00 55 00.2**	**+0.5**
GULT	**Gulveren**	**1.73**	**39**	*e*PN			**Pn**	**00 55 03.8**	**+0.8**
GULT	**Gulveren**	**1.73**	**39**	*e*Pn			**Pn**	**00 55 03.8**	**+0.8**

*ISCJB **04** 01:03:28.6±0.2, 4.°83S±0.°02×129.°45E±0.°03, h182km, mb4.6/52, Error ellipse: s-maj=4.4km s-min=3.0km az=159.0*
*BJI **04** 01:03:31.1, 4.°90S×129.°40E, h202km, mb4.4/17, mB4.6/11*
*NEIC **04** 01:03:32.1±0.5, 4.°88S×129.°41E, h202km±5km, mb4.7/42, Error ellipse: s-maj=5.2km s-min=3.8km az=51.0*
*IDC **04** 01:03:32.7±1.7, 4.°78S×129.°55E, h213km±17km, mb3.7/12, mb1 3.8/15, mb1mx3.6/33, mbtmp4.2/15, MS3.0/3, Ms1 3.0/3, ms1mx2.7/25, Error ellipse: s-maj=18.0km s-min=7.8km az=72.0*
*DJA **04** 01:03:33.2±0.3, 5.°S±3.°×12.°9E±.°, h197km±4km, M4.7/12, mb4.7/12, mB5.0/5, MLv4.9/4, Mw(mB)4.3/5*

ISC 04 01:03:29.8±0.3, 4.°89S±0.°04×129.°50E±0.°05, h182km, n129, σ2s19/141, mb4.5/52, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.54**	**48**	P			Pn	01 04 00.2	+5.2
BNDI				S			**Sn**	**01 04 21.7**	**+7.3**
NLAI	**Namlea**	**2.90**	**304**	P			**Pn**	**01 04 20.9**	**+3.6**
FAKI	**Fak Fak**	**3.37**	**55**	P			**Pn**	**01 04 25.9**	**+2.9**
FAKI	**Fak Fak**	**3.37**	**55**	*e*Pn			**Pn**	**01 04 25.6**	**+2.6**
FAKI				*e*Sn			**Sn**	**01 05 01.8**	**-2.8**
SAUI	**Saumlaki**	**3.56**	**150**	P			Pn	01 04 31.0	+5.6
SAUI	**Saumlaki**	**3.56**	**150**	*e*Pn			**Pn**	**01 04 29.8**	**+4.4**
SAUI				*e*Sn			**Sn**	**01 05 08.8**	**-0.2**
SIJI	**Sorong**	**4.36**	**24**	P			**Pn**	**01 04 36.8**	**+1.1**
	17nm,0.3s,baz=270,slow=24,SNR=21								
SIJI				S			**Sn**	**01 05 23.9**	**-3.4**
	baz=90,slow=24,SNR=20								
SANI	**Sanana**	**4.50**	**309**	P			**Pn**	**01 04 38.4**	**+1.1**
RKPI	**Ransiki, Papua**	**5.75**	**54**	P			**Pn**	**01 04 56.0**	**+2.4**
	2um,0.7s								
KDI	**Kendari**	**6.92**	**277**	P			**Pn**	**01 05 12.3**	**+3.4**
	80nm,1.1s,1µm0.2nm								
SOEI	**Soe**	**7.09**	**227**	P			**Pn**	**01 05 15.8**	**+4.5**
SOEI	**Soe**	**7.09**	**227**	*e*Pn			Pn	01 05 16.8	+5.5
SOEI				*e*Sn			**Sn**	**01 06 29.6**	**-1.9**
LUWI	**Luwuk**	**7.73**	**299**	*e*Pn			**Pn**	**01 05 19.2**	**-0.3**
	39nm,0.6s								
MTN	**Manton Dam**	**8.07**	**169**	P			**Pn**	**01 05 25.8**	**+1.7**
	baz=8.1,SNR=136								
MTN	**Manton Dam**	**8.07**	**169**	*e*Pn			**Pn**	**01 05 26.0**	**+2.0**
MMRI	**Maumere**	**8.12**	**242**	P			Pn	01 05 30.5	+5.9
MMRI	**Maumere**	**8.12**	**242**	*e*Pn			**Pn**	**01 05 26.0**	**+1.3**
KDU	**Kakadu**	**8.29**	**159**	P			**Pn**	**01 05 29.1**	**+2.2**
	baz=8.4,SNR=166								
KAPI	**Kappang**	**9.71**	**269**	P			**Pn**	**01 05 48.2**	**+2.6**
	2.1nm,0.3s,baz=335,slow=7.1,SNR=5.2								
KAPI				LR			LR	01 09 51.4	
	comp=Z,15nm,20.9s,baz=301,slow=39								
KAPI	**Kappang**	**9.71**	**269**	*e*Pn			**Pn**	**01 05 48.0**	**+2.4**
TTSI	**Tana Toraja**	**9.83**	**280**	P			**Pn**	**01 05 49.7**	**+2.6**
	42nm,1.1s,864nm								
JAY	**Jayapura**	**11.43**	**78**	P			**Pn**	**01 06 08.8**	**+0.8**
	0.1nm,0.3s,baz=94,slow=23,SNR=11								
PLAI	**Plampang**	**12.28**	**251**	P			**Pn**	**01 06 21.7**	**+2.9**
	76nm,0.7s								
TWSI	**Taliwang, Sumb**	**13.10**	**252**	P			**Pn**	**01 06 30.7**	**+1.5**
	36nm,0.8s								
FITZ	**Fitzroy Crossi**	**13.67**	**196**	P			**Pn**	**01 06 36.3**	**0.0**
	4.0nm,0.3s,baz=27,slow=9.9,SNR=116								
FITZ				S			Sn	01 09 00.3	-8.2
	0.3nm,0.3s,baz=233,slow=20,SNR=1.8								
FITZ	**Fitzroy Crossi**	**13.67**	**196**	P			**Pn**	**01 06 36.4**	**0.0**
	baz=14,SNR=144								
FITZ	**Fitzroy Crossi**	**13.67**	**196**	*e*Pn			**Pn**	**01 06 37.4**	**+1.1**
MYLDM	**Lahad Datu**	**14.86**	**312**	*e*Pn			**P**	**01 06 53.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**15.65**	**256**	*e*P			**Pn**	**01 07 01.1**	**+0.2**
	53nm,0.8s								
WRAB	**Tennant Creek**	**15.68**	**163**	*e*P			**Pn**	**01 07 02.2**	**+0.9**
	54nm,1.0s								
WRAB				*e*S			**S**	**01 09 50.6**	**-5.3**
WRA	**Warramunga Arr**	**15.69**	**163**	P			**Pn**	**01 07 02.2**	**+0.9**
	7.1nm,0.3s,baz=338,slow=12,SNR=221								
WRA				S			**S**	**01 09 49.0**	**-7.1**
	6.0nm,0.3s,baz=348,slow=23,SNR=7.0								
WB2	**Warramunga Arr**	**15.69**	**163**	*e*P			**Pn**	**01 07 02.5**	**+1.1**
	41nm,0.8s								
COEN	**Coen**	**16.21**	**125**	P			**Pn**	**01 07 09.9**	**+2.3**
	baz=16,SNR=31								
COEN	**Coen**	**16.21**	**125**	*e*P			**Pn**	**01 07 09.6**	**+1.9**
	52nm,1.5s								
COEN				*e*S			**S**	**01 09 59.1**	**-8.1**
GMJI	**Gumukmas**	**16.30**	**257**	P			**P**	**01 07 09.3**	**+1.0**
	68nm,1.1s								
KKM	**Kota Kinabalu**	**17.14**	**309**	*e*P			**P**	**01 07 18.5**	**+0.8**
	55nm,0.7s								
MANU	**Manus Island**	**18.05**	**82**	*e*P			**Pn**	**01 07 30.2**	**+0.6**
	34nm,0.8s								
PMG	**Port Moresby**	**18.08**	**105**	*e*P			**Pn**	**01 07 29.1**	**-0.8**
	9.8nm,0.5s								
QIS	**Mount Isa**	**18.42**	**149**	P			**Pn**	**01 07 34.2**	**+0.5**
	baz=18,SNR=71								
SBUM	**Sibu**	**18.74**	**293**	*e*P			**P**	**01 07 35.6**	**+0.6**
	37nm,0.9s								
MBWA	**Marble Bar**	**18.75**	**210**	*e*P			**P**	**01 07 35.0**	**0.0**
	26nm,0.7s								
AS31	**Alice Springs**	**19.15**	**168**	*e*P			**P**	**01 07 41.3**	**+1.9**
	42nm,0.7s								
ASAR	**Alice Springs**	**19.15**	**168**	P			**P**	**01 07 42.0**	**+2.6**
	14nm,0.3s,baz=350,slow=12,SNR=1052								
ASAR				S			**S**	**01 11 06.0**	**-0.9**
	1.3nm,0.3s,baz=348,slow=20,SNR=16								
AS01	**Alice Springs**	**19.16**	**167**	*e*P			**P**	**01 07 41.7**	**+2.3**
WRKA	**Warakurna**	**20.07**	**183**	P			**P**	**01 07 51.2**	**+1.9**
	baz=20,SNR=60								
KSM	**Kuching**	**20.19**	**288**	*e*P			**P**	**01 07 49.9**	**-0.7**
	23nm,1.1s								
CISI	**Cisompet, Garu**	**21.72**	**262**	*e*P			**P**	**01 08 03.9**	**-3.0**
	94nm,0.8s								
LEM	**Lembang**	**21.85**	**264**	P			**P**	**01 08 12.4**	**+4.1**
	45nm,0.6s,baz=78,slow=20,SNR=5.1								
CTA	**Charters Tower**	**22.23**	**134**	P			**P**	**01 08 14.2**	**+2.4**
	5.5nm,0.7s,baz=281,slow=10.0,SNR=7.4								
CTAO	**Charters Tower**	**22.23**	**134**	*e*P			**P**	**01 08 14.1**	**+2.4**
	33nm,0.7s								
XMIS	**Christmas Isla**	**24.27**	**255**	*e*P			**P**	**01 08 30.7**	**+0.2**
	219nm,1.5s								
MYKOM	**Kota Tinggi**	**26.47**	**284**	*e*P			**P**	**01 08 50.5**	**+0.2**
	9.2nm,0.9s								
KMBL	**Kambalda**	**27.30**	**194**	P			**P**	**01 08 57.1**	**-0.4**
	baz=27,SNR=13								
BBOO	**Buckleboo**	**28.45**	**168**	P			**P**	**01 09 08.9**	**+1.3**
	baz=29,SNR=34								
BBOO	**Buckleboo**	**28.45**	**168**	*e*P			**P**	**01 09 08.2**	**+0.5**
	24nm,0.6s								
TWG	**Pinlang**	**28.74**	**344**	*e*P			**P**	**01 09 11.3**	**+0.9**
	92nm,0.4s								
EIDS	**Eidsvold**	**29.04**	**137**	*e*P			**P**	**01 09 13.3**	**+0.3**
	11nm,1.4s								
STKA	**Stephens Creek**	**29.15**	**159**	P			**P**	**01 09 15.3**	**+1.4**
	4.1nm,0.4s,baz=342,slow=8.6,SNR=20								
STKA	**Stephens Creek**	**29.15**	**159**	P			**P**	**01 09 15.7**	**+1.8**
	baz=29,SNR=7.7								
STKA	**Stephens Creek**	**29.15**	**159**	*e*P			**P**	**01 09 14.3**	**+0.4**
	3.2nm,1.3s								
YULB	**Yu-li**	**29.23**	**344**	*e*P			**P**	**01 09 15.1**	**+0.4**
	10nm,1.3s								
TPUB	**Ta-pu**	**29.32**	**343**	*e*P			**P**	**01 09 17.1**	**+1.5**
	11nm,1.0s								
SSLB	**Suanglung**	**29.69**	**344**	*e*P			**P**	**01 09 19.0**	**+0.2**
	20nm,1.6s								
HTT	**Hallett**	**29.73**	**164**	P			**P**	**01 09 21.1**	**+2.0**
	baz=30,SNR=8.2								
YOJ	**Yonaguni jima**	**29.85**	**348**	*e*P			**P**	**01 09 21.0**	**+0.9**
	108nm,1.2s								
NACB	**Ninganchiao**	**29.89**	**345**	*e*P			**P**	**01 09 21.0**	**+0.4**
	16nm,0.9s								
IPM	**Ipoh**	**29.93**	**288**	*e*P			**P**	**01 09 20.3**	**-0.7**
	7.8nm,0.8s								
KULM	**Kulim**	**30.53**	**289**	*e*P			**P**	**01 09 24.3**	**-2.1**
	8.5nm,0.8s								
TATO	**Taipei**	**30.69**	**346**	*e*P			**P**	**01 09 28.5**	**+1.0**
	135nm,1.8s								
UBPT	**Khong Chiam**	**31.11**	**310**	P			**P**	**01 09 31.6**	**+0.2**
	11nm,0.8s								
JOW	**Kunigami**	**31.55**	**358**	*e*P			**P**	**01 09 36.1**	**+1.0**
	53nm,1.5s								
GSI	**Gunungsitoli**	**32.48**	**280**	*e*P			**P**	**01 09 44.5**	**+1.1**
	229nm,2.0s								
ARMA	**Armidale**	**32.86**	**143**	*e*P			**P**	**01 09 47.7**	**+1.1**
	20nm,1.4s								
PANO	**Nakornpanom**	**32.92**	**312**	P			**P**	**01 09 47.5**	**+0.3**
	18nm,1.0s								
COCO	**West Island**	**33.08**	**255**	*e*P			**P**	**01 09 48.4**	**-0.2**
	324nm,1.2s								
ARPS	**Mount Arapiles**	**33.69**	**162**	P			**P**	**01 09 56.2**	**+2.6**
	baz=34,SNR=22								
LHMI	**Lhok Sumawe**	**34.03**	**287**	*e*P			**P**	**01 09 56.1**	**-0.7**
	83nm,1.0s								
CBIJ	**Chichi jima**	**34.08**	**20**	*e*P			**P**	**01 09 56.5**	**-0.5**
	487nm,1.6s								
CHAI	**Chaiyaphum**	**34.18**	**308**	P			**P**	**01 09 57.7**	**-0.3**
	3.6nm,0.9s,188nm								
CAN	**Canberra**	**35.23**	**152**	*e*P			**P**	**01 10 09.4**	**+2.5**
	12nm,0.7s								
LOEI	**Loei**	**35.67**	**309**	P			P	01 10 04.3	-6.5
UTTA	**Uttaradit**	**36.36**	**309**	P			**P**	**01 10 16.6**	**0.0**
	3.4nm,0.9s								
SUKH	**Sukhothai**	**36.93**	**308**	P			**P**	**01 10 21.7**	**+0.2**
	5.4nm,0.8s								
JNU	**Nakatsue**	**37.82**	**2**	*e*P			**P**	**01 10 29.6**	**+0.8**
	11nm,1.2s								
CM01	**Chiang Mai Arr**	**37.98**	**308**	*e*P			**P**	**01 10 29.4**	**-1.0**
CMAR	**Chiang Mai Arr**	**38.02**	**308**	P			**P**	**01 10 30.3**	**-0.3**
	2.3nm,0.5s,baz=139,slow=7.8,SNR=17								
GYA	**Guiyang**	**38.21**	**326**	*e*P			**P**	**01 10 32.8**	**+0.5**
GYA					pP		pP	01 11 18.6	+7.6
GYA					sP		sP	01 11 41.5	+10
GYA					PP		**PnPn**	**01 12 10.0**	**+2.5**
GYA					PcP		**PcP**	**01 12 43.4**	**+0.4**
GYA					S		**S**	**01 16 13.3**	**+0.8**
GYA					sS		sS	01 17 29.9	+9.3
GYA					PMZ				
	10.0nm,0.8s								
CMMT	**Chiang Mai**	**38.22**	**309**	P			**P**	**01 10 32.1**	**-0.2**
	13nm,1.3s								
CHTO	**Chiang Mai**	**38.22**	**309**	P			**P**	**01 10 32.2**	**-0.1**
	48nm,0.9s								
CHTO	**Chiang Mai**	**38.22**	**309**	*e*P			**P**	**01 10 31.4**	**-1.0**
	8.3nm,0.9s								
KMI	**Kunming**	**39.58**	**320**	P			**P**	**01 10 45.5**	**+1.7**
KMI					PMZ				
	28nm,0.5s								
KMI					PMZ				
	95nm,5.8s								
KWAJ	**Kwajalein Atol**	**40.36**	**70**	*e*P			**P**	**01 10 51.2**	**+1.1**
	172nm,0.9s								
INU	**Inuyama**	**40.64**	**9**	*e*P			**P**	**01 10 53.7**	**+1.7**
	18nm,1.5s								
MJAR	**Matsushiro Arr**	**42.01**	**10**	P			**P**	**01 11 01.4**	**-1.8**
	1.6nm,0.6s,baz=182,slow=9.3,SNR=6.9								
MJB9	**Matsu-Tunnel**	**42.01**	**10**	*e*P			**P**	**01 11 03.9**	**+0.6**
	1.8nm,0.4s								
INCN	**Inchon**	**42.24**	**357**	*e*P			**P**	**01 11 05.7**	**+0.7**
	108nm,1.8s								
CD2	**Chengdu**	**43.27**	**327**	*e*P			**P**	**01 11 14.8**	**+1.3**
CD2					pP		pP	01 11 58.6	+5.5
CD2					sP		sP	01 12 21.9	+8.4
CD2					PcS		**PcS**	**01 16 52.2**	**0.0**
CD2					S		**S**	**01 17 27.7**	**+0.7**
CD2					sS		sS	01 18 45.5	+9.2
CD2					PMZ				
	10.0nm,0.5s								
CD2					PMZ				
	140nm,5.0s								
LZH	**Lanzhou**	**47.32**	**332**	||P		P	01 11 40.2	-5.2
LZH					pP		pP	01 12 25.0	-0.6
LZH					sP		sP	01 12 48.0	+2.0
LZH					PP		**PP**	**01 13 33.1**	**-5.3**
LZH					pmax		pmax		
	comp=Z,24nm,1.2s								
LZH					pmax		pmax		
	comp=Z,93nm,5.8s								
HHC	**Hu-ho-hao-te**	**48.39**	**342**	*e*P			**P**	**01 11 56.2**	**+2.7**
HHC					sP		sP	01 13 03.0	+8.8
HHC					PP		**PP**	**01 13 47.7**	**-0.3**
HHC					S		**S**	**01 18 41.2**	**+1.1**
HHC					PMZ				
	comp=Z,21nm,1.2s								
HHC					PMZ				
	comp=Z,78nm,4.9s								
CN2	**Changchun**	**48.60**	**356**	*e*P			**P**	**01 11 54.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**48.91**	**2**	P			**P**	**01 11 56.7**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=177,slow=7.0,SNR=5.6								
GUN	**Gumba**	**53.20**	**310**	*e*P			**P**	**01 12 28.8**	**-1.2**
	comp=Z,15nm,0.3s								
RPZ	**Rata Peaks**	**53.21**	**143**	LR			LR	01 35 12.9	
	comp=Z,22nm,18.4s,baz=290,slow=36								
KKN	**Kakani**	**53.60**	**310**	*e*P			**P**	**01 12 31.2**	**-1.5**
	comp=Z,9.3nm,0.3s								
DMN	**Daman**	**53.64**	**310**	*e*P			**P**	**01 12 32.0**	**-1.1**
	comp=Z,6.8nm,0.3s								
GKN	**Gorkha**	**54.20**	**310**	*e*P			**P**	**01 12 35.8**	**-1.2**
	comp=Z,17nm,0.4s								
KOLN	**Koldanda**	**54.88**	**309**	*e*P			**P**	**01 12 41.0**	**-1.0**
	comp=Z,15nm,0.3s								
PYUN	**Piuthan**	**55.52**	**309**	*e*P			**P**	**01 12 45.4**	**-1.1**
	comp=Z,13nm,0.3s								
SONM	**Songino Array**	**56.29**	**341**	P			**P**	**01 12 51.6**	**+0.1**
	comp=Z,0.4nm,0.2s,baz=168,slow=5.5,SNR=5.6								
WMQ	**Urumqi**	**61.37**	**327**	P			**P**	**01 13 27.7**	**+1.2**
WMQ					pP		pP	01 14 15.3	+6.5
WMQ					sP		sP	01 14 37.4	+8.8
PETK	**Petropavlovsk-**	**62.49**	**19**	P			**P**	**01 13 31.2**	**-2.5**
	comp=Z,1.3nm,0.5s,baz=174,slow=4.3,SNR=4.3								
KSH	**Kashi**	**66.14**	**317**	P			**P**	**01 13 58.7**	**+0.8**
KSH					pP		pP	01 14 46.5	+5.8
KSH					PP		**PP**	**01 16 29.7**	**+3.7**
KSH					S		S	01 22 23.1	-8.9
KSH					ScS		**SKSac**	**01 23 28.0**	**-8.6**
KSH					SS		**SS**	**01 26 47.8**	**-3.7**
KSH					PMZ				
	comp=Z,1.0nm,0.2s								
KSH					LZ				
	comp=Z,120nm,5.4s								
MK01	**Makanchi Array**	**66.18**	**327**	*e*P			**P**	**01 13 57.2**	**-0.7**
MK31	**Makanchi Array**	**66.20**	**327**	*e*P			**P**	**01 13 57.5**	**-0.5**
MKAR	**Makanchi Array**	**66.20**	**327**	P			**P**	**01 13 57.1**	**-0.8**
	comp=Z,4.4nm,0.5s,baz=123,slow=8.3,SNR=52								
MKAR	**Makanchi Array**	**66.20**	**327**	*e*P			**P**	**01 13 57.5**	**-0.5**
MAKZ	**Makanchi**	**66.38**	**326**	*e*P			**P**	**01 13 58.5**	**-0.7**
TKM2	**Tokmak 2**	**68.05**	**320**	*e*P			**P**	**01 14 09.5**	**-0.5**
	comp=Z,3.4nm,0.6s								
AAK	**Ala-Archa**	**68.62**	**320**	*e*P			**P**	**01 14 12.9**	**-0.5**
	comp=Z,2.0nm,0.6s								
EKS2	**Erkin-Say**	**69.10**	**319**	*e*P			**P**	**01 14 16.6**	**+0.2**
	comp=Z,3.5nm,0.6s								
ZALV	**Zalesovo Beam**	**69.48**	**334**	P			**P**	**01 14 16.9**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=115,slow=5.2,SNR=6.1								
VNDA	**Vanda**	**74.59**	**173**	P			**P**	**01 14 48.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=327,slow=7.4,SNR=8.7								
BRVK	**Borovoye**	**76.09**	**328**	*e*P			**P**	**01 14 56.5**	**-0.8**
GEYT	**Alibeck**	**78.48**	**310**	P			**P**	**01 15 10.6**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=172,slow=4.3,SNR=7.1								
NRIK	**Noril'sk**	**79.40**	**346**	LR			LR	01 50 34.2	
	comp=Z,33nm,21.8s,baz=103,slow=36								

ARU	**Arti**	**56.76**	**319**	*eP*	**P**	**01 25 16.0**	**+0.8**
	1.4nm,0.4s						
WRAB	**Tennant Creek**	**57.18**	**189**	*eP*	**P**	**01 25 17.6**	**-1.0**
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**57.19**	**189**	P	**P**	**01 25 17.8**	**-0.8**
	0.5nm,0.7s,baz=7.6,slow=7.1,SNR=7.3						
ABKAR	**Akbulak array**	**58.41**	**310**	*eP*	**P**	**01 25 28.7**	**+1.7**
	1.2nm,0.4s						
ASAR	**Alice Springs**	**60.92**	**189**	P	**P**	**01 25 44.2**	**-0.3**
	0.3nm,0.7s,baz=13,slow=9.5,SNR=3.4						
FINES	**FINESS Array B**	**69.08**	**332**	P	**P**	**01 26 37.8**	**+0.7**
	1.0nm,0.8s,baz=35,slow=5.1,SNR=3.7						
BMO	**Blue Mountains**	**71.43**	**48**	*eP*	**P**	**01 26 51.0**	**-0.9**
	2.8nm,0.9s						
NOA	**NORSAR Array B**	**74.40**	**338**	P	**P**	**01 27 09.3**	**+0.1**
	0.8nm,0.8s,baz=38,slow=7.3,SNR=2.6						
AKASG	**Malin Array Be**	**74.66**	**323**	P	**P**	**01 27 10.8**	**+0.1**
	0.4nm,0.3s,baz=47,slow=6.8,SNR=4.1						
R11A	**Troy Canyon, C**	**76.23**	**52**	*eP*	**P**	**01 27 20.8**	**+0.5**
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**77.18**	**46**	P	**P**	**01 27 25.2**	**-0.5**
	0.3nm,0.5s,baz=297,slow=6.0,SNR=3.5						
TXAR	**Lajitas Array**	**89.59**	**53**	P	**P**	**01 28 29.8**	**+0.3**
	0.2nm,0.5s,baz=290,slow=2.0,SNR=5.1						
LPAZ	**La Paz**	**146.12**	**61**	PKPbc	**PKPab**	**01 35 12.9**	**-0.5**
	1.3nm,0.8s,baz=356,slow=5.7,SNR=6.7						

JMA 04 01:22:03.6±0.2, 35°08N×141°29E, h26km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.50**	**211**	P	Pb	01 22 13.5	+0.1
BSO1				X		01 22 20.3	
BSO3	**Boso 3**	**0.70**	**247**	P	Pb	01 22 16.9	-0.1
BSO3				X		01 22 27.2	
CHOJ	**Chosi**	**0.71**	**331**	P	Pb	01 22 17.0	-0.4
CHOJ				*eS*	Sn	01 22 28.3	+0.1
BSO4	**Boso 4**	**0.79**	**264**	P	Pb	01 22 18.3	-0.3
BSO4				X		01 22 30.0	
JIM2	**Oshima 3**	**1.57**	**257**	P	Pn	01 22 28.4	-1.4
MAT	**Matsushiro**	**2.90**	**301**	P	Pn	01 22 51.2	+3.1
MAT				*eS*	Sn	01 23 25.6	+3.5

*NIED **04** 01:22:00, 37°30N×143°80E, h14km, Mw3.9 Best double couple: M0 6.77000×10^14 NP1:φs 79.00000°, δ 39.00000°, λ -18.00000°. NP2:φs 184.00000°, δ 79.00000°, λ -127.00000°.*
*IDC **04** 01:22:01.4±0.9, 37°11N×144°24E, h0km, mb3.7/9, mb1 3.9/13, mb1mx3.7/50, mbtmp3.8/13, ML3.6/3, MS3.3/5, Ms1 3.2/5, ms1mx2.8/36, Error ellipse: s-maj=21.7km s-min=18.8km az=81.0*
*ISCJB **04** 01:22:04.8±0.7, 37°24N±0°05×143°90E±0°05, h33km, mb3.7/9, MS3.5/4, Error ellipse: s-maj=7.3km s-min=5.4km az=161.8*
*JMA **04** 01:22:05.7±0.3, 37°28N×143°85E, h46km, M3.8*
ISC 04 01:22:06.9±0.9, 37°28N±0°06×143°97E±0°07, h35km, n35, σ1s89/37, mb3.6/9, MS3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.38**	**300**	P	**Pn**	**01 22 42.5**	**-0.9**
JFK	**Kawauchi**	**2.47**	**273**	P	**Pn**	**01 22 43.2**	**-1.4**
JFK				*eS*	**Sn**	**01 23 11.1**	**-2.5**
ONAJ	**Iwakimizuishiy**	**2.54**	**267**	P	**Pn**	**01 22 44.0**	**-1.6**
ONAJ				*eS*	**Sn**	**01 23 12.7**	**-2.6**
OFUJ	**Ofunato**	**2.55**	**315**	P	**Pn**	**01 22 44.6**	**-1.2**
OFUJ				*eS*	**Sn**	**01 23 13.9**	**-1.7**
JMK	**Ichinoseki**	**2.74**	**308**	P	**Pn**	**01 22 47.5**	**-0.8**
JFT	**Otama**	**2.90**	**276**	P	**Pn**	**01 22 50.5**	**-0.1**
JFT				*eS*	**Sn**	**01 23 22.9**	**-1.4**
JOM	**Ohasama**	**3.04**	**317**	P	**Pn**	**01 22 51.8**	**-0.6**
JOM				S	**Sn**	**01 23 26.4**	**-1.1**
JYK	**Kaneyama**	**3.28**	**301**	P	**Pn**	**01 22 55.5**	**-0.3**
JYK				*eS*	**Sn**	**01 23 32.5**	**-1.1**
JANG	**Nango**	**3.63**	**329**	P	**Pn**	**01 23 00.3**	**-0.3**
JAG	**Ashikaga**	**3.72**	**258**	P	**Pn**	**01 23 00.5**	**-1.3**
JAG				S	**Sn**	**01 23 41.3**	**-3.1**
JRY	**Ryogami san**	**4.26**	**254**	*eS*	**Sn**	**01 23 53.8**	**-4.1**
MJAR	**Matsushiro Arr**	**4.67**	**263**	Pn	**Pn**	**01 23 14.7**	**-0.3**
	11nm,0.3s,baz=87,slow=15,SNR=37						
MJAR				Sn	**Sn**	**01 24 07.6**	**-0.4**
	2.4nm,0.3s,baz=92,slow=29,SNR=4.9						
MAT	**Matsushiro**	**4.68**	**263**	P	**Pn**	**01 23 15.0**	**0.0**
MAT				S	**Sn**	**01 24 06.7**	**-1.3**
JCH	**Churui**	**5.35**	**355**	S	**Sn**	**01 24 20.6**	**-3.9**
ASAJ	**Asahikawa**	**6.91**	**352**	Pn	**Pn**	**01 23 45.1**	**-0.5**
ASAJ				Sn	**Sn**	**01 24 59.2**	**-3.7**
	baz=254,slow=33,SNR=3.0						
JCJ	**Chichijima**	**10.27**	**189**	LR	LR	01 29 19.7	
	comp=Z,27nm,18.3s,baz=132,slow=43						
USRK	**Ussuriysk Ar.**	**11.41**	**310**	Pn	**Pn**	**01 24 48.4**	**+1.1**
	0.6nm,0.3s,baz=121,slow=15,SNR=11						
KSRS	**Korea Array**	**12.77**	**276**	Pn	**Pn**	**01 25 08.2**	**+2.3**
	0.4nm,0.3s,baz=90,slow=13,SNR=6.0						
KLR	**Kul'dur**	**14.87**	**327**	Pn	**Pn**	**01 25 33.3**	**-1.1**
	0.1nm,0.3s,baz=128,slow=20,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**26.56**	**125**	T	T	01 54 42.6	
	baz=319,slow=75						
H11N1	**WAKE ISLAND Hy**	**26.57**	**125**	T	T	01 54 43.3	
	baz=319						
H11N3	**WAKE ISLAND Hy**	**26.58**	**125**	T	T	01 54 42.9	
	baz=319,slow=75						
SONM	**Songino Array**	**29.35**	**303**	P	**P**	**01 28 08.9**	**+2.5**
	1.3nm,1.0s,baz=111,slow=7.9,SNR=6.9						
ZALV	**Zalesovo Beam**	**43.26**	**312**	P	**P**	**01 30 08.3**	**+3.6**
	0.3nm,0.3s,baz=163,slow=37,SNR=2.7						
MKAR	**Makanchi Array**	**45.72**	**302**	P	**P**	**01 30 25.7**	**+1.2**
	0.4nm,0.7s,baz=76,slow=10,SNR=3.9						
ILAR	**Eielson Array**	**48.19**	**32**	P	**P**	**01 30 42.5**	**-0.9**
	0.4nm,0.6s,baz=251,slow=5.9,SNR=5.9						
BVAR	**Borovoye Array**	**51.91**	**313**	P	**P**	**01 31 12.8**	**+0.9**
	0.2nm,0.5s,baz=78,slow=7.5,SNR=2.3						
INK	**Inuvik**	**53.23**	**27**	P	**P**	**01 31 21.8**	**+0.5**
	0.8nm,0.6s,baz=306,slow=5.4,SNR=4.5						
WRA	**Warramunga Arr**	**57.63**	**191**	P	**P**	**01 31 52.0**	**-1.5**
	2.3nm,0.6s,baz=9.0,slow=7.0,SNR=17						
ASAR	**Alice Springs**	**61.36**	**191**	P	**P**	**01 32 18.2**	**-0.9**
	0.8nm,0.7s,baz=14,slow=8.9,SNR=7.3						
KBZ	**Khabaz**	**72.28**	**312**	LR	LR	02 09 00.8	
	comp=Z,23nm,18.2s,baz=90,slow=39						
AKASG	**Malin Array Be**	**75.33**	**323**	LR	LR	02 08 24.8	
	comp=Z,22nm,20.8s,baz=80,slow=37						
BRTR	**Keskin Array B**	**80.20**	**313**	LR	LR	02 15 29.1	
	comp=Z,17nm,19.4s,baz=57,slow=40						
GERES	**GERESS Array B**	**83.56**	**330**	LR	LR	02 15 17.1	
	comp=Z,33nm,19.2s,baz=50,slow=38						
TXAR	**Lajitas Array**	**88.34**	**54**	P	**P**	**01 34 55.5**	**+0.2**
	0.2nm,0.6s,baz=304,slow=2.1,SNR=3.1						

IDC 04 01:23:03.1±2.9, 33°68S×179°24W, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.6/28, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=69.7km s-min=44.9km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.45**	**212**	Pn	Pn	01 24 25.3	-0.2
	3.6nm,0.3s,baz=22,slow=11,SNR=8.7						
URZ				Sn	Sn	01 25 20.6	-8.4
	1.1nm,0.3s,baz=357,slow=18,SNR=2.1						
ASAR	**Alice Springs**	**42.00**	**271**	P	P	01 30 56.5	+0.2
	0.3nm,0.6s,baz=112,slow=7.5,SNR=5.9						
WRA	**Warramunga Arr**	**43.29**	**276**	P	P	01 31 06.4	-0.4
	0.2nm,0.3s,baz=117,slow=7.7,SNR=6.5						
FINES	**FINESS Array B**	**147.81**	**337**	PKPbc	PKPbc	01 42 48.4	-0.7
	1.1nm,0.7s,baz=45,slow=3.0,SNR=9.0						

*NIED **04** 01:41:00, 37°00N×141°20E, h11km, Mw3.6 Best double couple: M0 2.40000×10^14 NP1:φs 184.00000°, δ 67.00000°, λ 179.00000°. NP2:φs 275.00000°, δ 89.00000°, λ 23.00000°.*
*IDC **04** 01:41:07.3±1.4, 36°93N×141°25E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/28, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=33.5km s-min=26.1km az=138.0*
*ISCJB **04** 01:41:08.1±1.3, 36°99N±0°05×141°33E±0°07, h18km±9km, mb3.5/3, Error ellipse: s-maj=10.5km s-min=7.5km az=32.7*
*JMA **04** 01:41:10.0±0.1, 37°00N×141°19E, h28km±1km, M4.1*
JMA Felt II J1.
ISC 04 01:41:07.4±2.2, 36°94N±0°05×141°17E±0°07, h2km±14km, n12, σ0s91/20, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.34**	**298**	P	**Pb**	**01 41 17.5**	**+1.3**
ONAJ				S	**Sb**	**01 41 22.6**	**+0.6**
JFK	**Kawauchi**	**0.49**	**331**	P	**Pb**	**01 41 19.1**	**+0.4**
JFK				S	**Sb**	**01 41 25.2**	**-1.1**
JHO	**Hitachi**	**0.58**	**236**	P	**Pn**	**01 41 22.0**	**-0.7**
JHO				S	**Sb**	**01 41 30.6**	**+1.6**
JFT	**Otama**	**0.88**	**311**	P	**Pn**	**01 41 26.2**	**-0.6**
JFT				S	**Sb**	**01 41 37.4**	**-0.2**
JMM	**Marumori**	**0.97**	**342**	P	**Pg**	**01 41 26.3**	**+0.3**
JMM				S	**Sg**	**01 41 38.0**	**-0.6**
JSB	**Shiboa**	**1.00**	**272**	P	**Pn**	**01 41 29.5**	**+1.0**
JSB				S	**Sn**	**01 41 43.0**	**-0.2**
JFY	**Yanaizu**	**1.26**	**292**	S	**Sb**	**01 41 48.9**	**+0.4**
MJAR	**Matsushiro Arr**	**2.41**	**261**	Pn	**Pn**	**01 41 48.5**	**+0.7**
	2.9nm,0.3s,baz=81,slow=16,SNR=11						
MJAR				Sn	**Sb**	**01 42 20.4**	**-1.3**
	6.7nm,0.3s,baz=77,slow=16,SNR=4.8						
MAT	**Matsushiro**	**2.41**	**261**	P	**Pb**	**01 41 50.1**	**-1.4**
MAT				S	**Sb**	**01 42 21.0**	**-0.7**
ILAR	**Eielson Array**	**49.68**	**32**	P	**P**	**01 50 00.2**	**0.0**
	0.5nm,0.9s,baz=272,slow=7.9,SNR=4.6						
WRA	**Warramunga Arr**	**56.94**	**188**	P	**P**	**01 50 54.2**	**+0.1**
	0.3nm,0.5s,baz=5.1,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**60.67**	**188**	P	**P**	**01 51 20.1**	**+0.1**
	0.1nm,0.3s,baz=10,slow=9.1,SNR=3.6						

*ATH **04** 01:44:42.3, 38°20N×20°24E, h12km, ML2.5/30, Error ellipse: s-maj=1.5km s-min=0.8km az=61.0*
*CSEM **04** 01:44:43.0±0.2, 38°22N×20°29E, h2km, ML2.8, Error ellipse: s-maj=5.0km s-min=2.8km az=38.0*
*THE **04** 01:44:44.3, 38°26N×20°36E, h9km, ML2.8/13, Error ellipse: s-maj=1.3km s-min=0.7km az=76.0*
ISC 04 01:44:42.9±1.0, 38°22N±0°02×20°27E±0°03, h13km±7km, n128, σ1s21/193, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**100**	P	**Pg**	**01 44 48.7**	**+0.3**
VLS				S	**Sg**	**01 44 51.9**	**-0.1**
VLS	**Valsamata**	**0.26**	**100**	P	**Pg**	**01 44 48.7**	**+0.3**
VLS				S	**Sg**	**01 44 51.8**	**-0.2**
KFL	**Anninata**	**0.42**	**105**	P	**Pg**	**01 44 51.3**	**-0.1**
KFL				S	**Sg**	**01 44 56.7**	**-0.4**
KFL	**Anninata**	**0.42**	**105**	P	**Pg**	**01 44 51.3**	**-0.1**
KFL				S	**Sg**	**01 44 56.7**	**-0.4**
KFL	**Anninata**	**0.42**	**105**	P	**Pb**	**01 44 52.0**	**-0.3**
LKD2	**Lefkada island**	**0.64**	**28**	P	**Pg**	**01 44 54.6**	**-0.9**
LKD2				S	**Sg**	**01 45 04.2**	**+0.2**
LKD2	**Lefkada island**	**0.64**	**28**	P	**Pg**	**01 44 54.6**	**-0.9**
LKD2				S	**Sg**	**01 45 04.2**	**+0.2**
LKD2	**Lefkada island**	**0.64**	**28**	P	**Pg**	**01 44 54.3**	**-1.1**
LKD2				S	**Sb**	**01 45 05.8**	**+0.8**
LKD2				AML	AML	01 45 07.3	
	comp=E,1072μm,0.2s						
LKD2				AML	AML	01 45 07.9	
	comp=N,1400μm,0.3s						
ZKS	**Zakynthos**	**0.67**	**142**	P	**Pb**	**01 44 56.6**	**+0.2**
ZKS				S	**Sb**	**01 45 07.0**	**+1.4**
ZKS	**Zakynthos**	**0.67**	**142**	P	**Pg**	**01 44 55.3**	**-0.6**
ZKS				S	**Sg**	**01 45 04.7**	**0.0**
ZKS	**Zakynthos**	**0.67**	**142**	P	**Pg**	**01 44 55.3**	**-0.6**
ZKS				S	**Sg**	**01 45 04.7**	**0.0**
ZKS				AML	AML	01 45 15.5	
	comp=N,4200μm,0.4s						
ZKS				AML	AML	01 45 15.5	
	comp=E,5210μm,0.4s						
VTN	**Vitineika**	**0.79**	**113**	P	**Pb**	**01 44 59.0**	**+0.5**
VTN	**Vitineika**	**0.79**	**113**	P	**Pb**	**01 44 59.0**	**+0.5**
PDO	**Prodromos**	**0.81**	**62**	P	**Pg**	**01 44 57.4**	**-1.2**
PDO				S	**Sg**	**01 45 08.2**	**-1.1**
PDO	**Prodromos**	**0.81**	**62**	P	**Pg**	**01 44 57.4**	**-1.2**
PDO				S	**Sg**	**01 45 08.2**	**-1.1**
PDO	**Prodromos**	**0.81**	**62**	P	**Pg**	**01 44 57.0**	**-1.7**
PDO				S	**Sb**	**01 45 10.7**	**+0.9**
PDO				AML	AML	01 45 12.7	
	comp=N,1245μm,0.2s						
PDO				AML	AML	01 45 13.6	
	comp=E,1303μm,0.2s						
AXS	**Araxos**	**0.87**	**91**	P	**Pg**	**01 44 58.8**	**-1.0**
AXS				S	**Sb**	**01 45 11.2**	**-0.4**
AXS	**Araxos**	**0.87**	**91**	P	**Pg**	**01 44 58.8**	**-1.0**
AXS				S	**Sb**	**01 45 11.2**	**-0.4**
AXS	**Araxos**	**0.87**	**91**	P	**Pg**	**01 44 58.3**	**-1.5**
RLS	**Riolos of Patr**	**0.96**	**100**	P	**Pg**	**01 45 01.7**	**-0.4**
RLS				S	**Sb**	**01 45 14.9**	**+0.9**
RLS	**Riolos of Patr**	**0.96**	**100**	P	**Pb**	**01 45 01.5**	**+0.1**
RLS				S	**Sb**	**01 45 14.9**	**+0.9**
RLS	**Riolos of Patr**	**0.96**	**100**	S	**Sn**	**01 45 15.5**	**-0.2**
RLS				AML	AML	01 45 22.0	
	comp=N,512μm,0.4s						
RLS				AML	AML	01 45 22.7	
	comp=E,359μm,0.5s						
PVO	**Paravola**	**1.06**	**68**	P	**Pg**	**01 45 02.3**	**-1.1**
PVO				S	**Sb**	**01 45 17.7**	**+0.7**
PVO	**Paravola**	**1.06**	**68**	P	**Pg**	**01 45 02.3**	**-1.1**
PVO				S	**Sb**	**01 45 17.7**	**+0.7**
PVO	**Paravola**	**1.06**	**68**	P	**Pg**	**01 45 02.1**	**-1.4**
PVO				S	**Sn**	**01 45 20.3**	**+2.1**
PVO				AML	AML	01 45 23.2	
	comp=N,792μm,0.4s						
PVO				AML	AML	01 45 23.4	
	comp=E,1313μm,0.6s						
DSL	**Palaion Diasel**	**1.12**	**35**	P	**Pg**	**01 45 03.0**	**-1.5**
DSL				S	**Sn**	**01 45 19.7**	**+0.1**
DSL	**Palaion Diasel**	**1.12**	**35**	P	**Pg**	**01 45 03.2**	**-1.3**
DSL				S	**Sn**	**01 45 19.7**	**+0.1**
DSL	**Palaion Diasel**	**1.12**	**35**	P	**Pg**	**01 45 03.2**	**-1.3**
DSL				S	**Sn**	**01 45 21.6**	**+2.0**
DSL				AML	AML	01 45 22.7	
	comp=N,1449μm,0.7s						
DSL				AML	AML	01 45 23.1	
	comp=E,1583μm,0.5s						
DRO	**Drossia**	**1.17**	**103**	P	**Pb**	**01 45 04.4**	**-0.6**
DRO	**Drossia**	**1.17**	**103**	P	**Pb**	**01 45 04.8**	**-0.2**
DRO				S	**Sb**	**01 45 20.6**	**+0.5**
DRO	**Drossia**	**1.17**	**103**	P	**Pb**	**01 45 04.8**	**-0.2**
DRO				S	**Sb**	**01 45 20.6**	**+0.5**
DRO				AML	AML	01 45 27.1	
	comp=E,590μm,0.3s						
DRO				AML	AML	01 45 27.9	
	comp=N,911μm,0.4s						
UPR	**University Cam**	**1.20**	**87**	P	**Pg**	**01 45 07.7**	**+1.7**
RODI	**Rodini**	**1.28**	**85**	S	**Sb**	**01 45 23.0**	**-0.4**
RODI	**Rodini**	**1.28**	**85**	P	**Pn**	**01 45 04.6**	**-2.0**
RODI				S	**Sb**	**01 45 23.0**	**-0.4**
RODI				AML	AML	01 45 32.1	
	comp=E,481μm,0.5s						
RODI				AML	AML	01 45 32.6	
	comp=N,296μm,0.5s						
EFP	**Efpalio**	**1.30**	**81**	P	**Pn**	**01 45 06.0**	**-0.9**
EFP				S	**Sn**	**01 45 25.0**	**+0.8**
EFP	**Efpalio**	**1.30**	**81**	P	**Pn**	**01 45 06.0**	**-0.9**
EFP				S	**Sn**	**01 45 24.8**	**+0.6**
EFP	**Efpalio**	**1.30**	**81**	P	**Pn**	**01 45 04.7**	**-2.2**
EFP				S	**Sn**	**01 45 24.8**	**+0.6**
EFP				AML	AML	01 45 30.0	
	comp=E,581μm,0.6s						
EFP				AML	AML	01 45 30.4	
	comp=N,439μm,0.3s						
IGT	**Igoumenitsa**	**1.31**	**2**	P	**Pb**	**01 45 07.7**	**+0.3**
IGT				S	**Sg**	**01 45 25.2**	**+0.1**
IGT	**Igoumenitsa**	**1.31**	**2**	P	**Pg**	**01 45 08.1**	**0.0**
IGT				S	**Sg**	**01 45 25.8**	**+0.7**
IGT	**Igoumenitsa**	**1.31**	**2**	P	**Pg**	**01 45 08.1**	**0.0**
IGT				S	**Sg**	**01 45 25.8**	**+0.7**
IGT				AML	AML	01 45 31.4	
	comp=E,400μm,0.3s						
IGT				AML	AML	01 45 31.6	
	comp=N,466μm,0.3s						
AMT	**Artemida-Makis**	**1.33**	**121**	P	**Pn**	**01 45 07.1**	**-0.2**
AMT				S	**Sb**	**01 45 24.9**	**+0.1**
AMT	**Artemida-Makis**	**1.33**	**121**	P	**Pn**	**01 45 07.1**	**-0.2**
AMT				S	**Sb**	**01 45 24.9**	**+0.1**
AMT				AML	AML	01 45 31.8	
	comp=N,294μm,0.5s						
AMT				AML	AML	01 45 33.0	
	comp=E,504μm,0.7s						
LAKA	**Lakka**	**1.35**	**89**	P	**Pn**	**01 45 06.8**	**-0.7**
LAKA				S	**Sb**	**01 45 25.2**	**-0.1**
LAKA	**Lakka**	**1.35**	**89**	P	**Pn**	**01 45 06.8**	**-0.7**
LAKA				S	**Sb**	**01 45 25.2**	**-0.1**
LAKA	**Lakka**	**1.35**	**89**	P	**Pn**	**01 45 05.4**	**-2.1**
ANX	**Ano Chora**	**1.35**	**74**	P	**Pn**	**01 45 06.8**	**-0.8**
ANX				S	**Sb**	**01 45 24.7**	**-0.7**
ANX	**Ano Chora**	**1.35**	**74**	P	**Pn**	**01 45 06.8**	**-0.8**
ANX				S	**Sb**	**01 45 24.7**	**-0.7**
SGD	**Sagiada**	**1.39**	**359**	P	**Pg**	**01 45 09.8**	**+0.2**
SGD				S	**Sg**	**01 45 28.6**	**+0.9**
SGD	**Sagiada**	**1.39**	**359**	P	**Pg**	**01 45 09.8**	**+0.2**
SGD				S	**Sg**	**01 45 28.6**	**+0.9**
EVR	**Evrytania**	**1.39**	**60**	P	**Pn**	**01 45 07.7**	**-0.5**
EVR				S	**Sg**	**01 45 30.8**	**+3.0**
EVR	**Evrytania**	**1.39**	**60**	P	**Pn**	**01 45 07.7**	**-0.5**
EVR				S	**Sg**	**01 45 30.8**	**+3.0**
EVR				AML	AML	01 45 34.8	
	comp=N,166μm,0.5s						
SERG	**Sergoula**	**1.42**	**82**	S	**Sg**	**01 45 28.4**	**-0.3**
KALE	**Kalithea**	**1.48**	**83**	P	**Pn**	**01 45 09.1**	**-0.3**
KALE				S	**Sn**	**01 45 28.6**	**-0.1**
KALE	**Kalithea**	**1.48**	**83**	P	**Pn**	**01 45 09.1**	**-0.3**
KALE				S	**Sn**	**01 45 28.6**	**-0.1**
KALE	**Kalithea**	**1.48**	**83**	P	**Pg**	**01 45 12.7**	**+1.3**
KALE				S	**Sg**	**01 45 33.0**	**+2.3**
KALE				AML	AML	01 45 34.1	
	comp=N,243μm,0.6s						
KALE				AML	AML	01 45 34.6	
	comp=E,161μm,0.4s						
KLV	**Kalavryta, Ach**	**1.50**	**96**	P	**Pn**	**01 45 09.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.50**	**96**	P	**Pn**	**01 45 09.6**	**0.0**
KLV				S	**Sg**	**01 45 30.9**	**-0.2**
KLV	**Kalavryta, Ach**	**1.50**	**96**	P	**Pg**	**01 45 13.1**	**+1.4**
KLV				S	**Sg**	**01 45 30.9**	**-0.2**
KLV				AML	AML	01 45 37.0	
	comp=E,112μm,0.6s						
KLV				AML	AML	01 45 37.2	
	comp=N,126μm,0.4s						
JAN	**Janina**	**1.50**	**17**	P	**Pb**	**01 45 11.1**	**+0.4**
JAN	**Janina**	**1.50**	**17**	AML	AML	01 45 35.1	
	comp=E,431μm,0.3s						
KEK	**Kerkira**	**1.53**	**346**	P	**Pb**	**01 45 11.4**	**+0.2**
KEK	**Kerkira**	**1.53**	**346**	P	**Pb**	**01 45 11.4**	**+0.2**
ITM	**Ithomi**	**1.68**	**128**	S	**Sg**	**01 45 38.4**	**+1.5**
ITM	**Ithomi**	**1.68**	**128**	P	**Pg**	**01 45 15.2**	**0.0**
ITM				S	**Sg**	**01 45 38.4**	**+1.5**
ITM				AML	AML	01 45 51.1	
	comp=E,64μm,0.3s						
ITM				AML	AML	01 45 51.2	
	comp=N,118μm,0.4s						
PYL	**PYLOS**	**1.77**	**138**	P	**Pb**	**01 45 14.8**	**-0.4**
PYL				S	**Sb**	**01 45 37.3**	**-0.1**
PYL	**PYLOS**	**1.77**	**138**	P	**Pb**	**01 45 14.8**	**-0.4**
PYL				S	**Sb**	**01 45 37.3**	**-0.1**
PYL	**PYLOS**	**1.77**	**138**	P	**Pb**	**01 45 15.9**	**+0.7**
DSF	**Desfina**	**1.79**	**83**	P	**Pb**	**01 45 16.0**	**+0.4**
DSF				S	**Sg**	**01 45 40.6**	**+0.2**
DSF	**Desfina**	**1.79**	**83**	P	**Pb**	**01 45 16.0**	**+0.4**
DSF				S	**Sg**	**01 45 40.6**	**+0.2**
DSF				AML	AML	01 45 43.9	
	comp=E,106μm,0.3s						
DSF				AML	AML	01 45 44.8	
	comp=N,172μm,0.4s						
AGG	**Agios Georgios**	**1.80**	**63**	P	**Pb**	**01 45 15.6**	**-0.2**
AGG				S	**Sg**	**01 45 40.4**	**-0.5**
AGG	**Agios Georgios**	**1.80**	**63**	P	**Pb**	**01 45 15.6**	**-0.2**
AGG				S	**Sg**	**01 45 40.4**	**-0.5**
AGG				AML	AML	01 45 46.0	
	comp=E,399μm,0.4s						
AGG				AML	AML	01 45 46.0	
	comp=N,625μm,0.6s						
VLX	**Vlachokerasia**	**1.88**	**116**	P	**Pb**	**01 45 16.7**	**-0.5**
VLX				AML	AML	01 45 54.5	
	comp=N,167μm,0.5s						
VLX				AML	AML	01 45 54.5	
	comp=E,170μm,0.5s						
THAL	**Thalero**	**1.90**	**95**	P	**Pb**	**01 45 18.1**	**+0.7**
THAL	**Thalero**	**1.90**	**95**	P	**Pb**	**01 45 18.1**	**+0.7**
THL	**Klokotos Trika**	**1.91**	**45**	P	**Pb**	**01 45 17.0**	**-0.7**
THL				S	**Sg**	**01 45 43.4**	**-1.0**
KPRO	**Kipourio**	**1.93**	**26**	P	**Pb**	**01 45 18.2**	**+0.2**
KPRO	**Kipourio**	**1.93**	**26**	P	**Pb**	**01 45 18.2**	**+0.2**
KPRO				AML	AML	01 45 48.9	
	comp=N,318μm,0.6s						
KPRO				AML	AML	01 45 49.3	
	comp=E,344μm,0.7s						
PROD	**Prodromos**	**2.07**	**88**	P	**Pb**	**01 45 20.7**	**+0.3**
PROD				S	**Sg**	**01 45 48.1**	**-1.5**
PROD	**Prodromos**	**2.07**	**88**	P	**Pb**	**01 45 20.7**	**+0.3**
PROD				S	**Sg**	**01 45 48.1**	**-1.5**
PROD				AML	AML	01 45 48.4	
	comp=E,120μm,0.3s						
PROD				AML	AML	01 45 49.4	
	comp=N,65μm,0.3s						
PENT	**Pentalofos**	**2.08**	**19**	P	**Pb**	**01 45 20.2**	**-0.5**
PENT				S	**Sb**	**01 45 46.5**	**0.0**
PENT	**Pentalofos**	**2.08**	**19**	P	**Pb**	**01 45 20.2**	**-0.5**
PENT				S	**Sb**	**01 45 46.5**	**0.0

AOS	**Alonnisos**	**2.98**	**70**	P	**Pn**	**01 45 30.5**	**+0.6**
TIR	**Tirane**	**3.14**	**354**	P	**Pn**	**01 45 34.1**	**+2.0**
TIR	**Tirane**	**3.14**	**354**	P	**Pn**	**01 45 34.1**	**+2.0**
TAR1	**Taranto**	**3.26**	**316**	*e*Pn	**Pn**	**01 45 36.8**	**+3.0**
PLG	**Polygyros**	**3.27**	**48**	P	**Pn**	**01 45 35.3**	**+1.4**
PLG	**Polygyros**	**3.27**	**48**	P	**Pn**	**01 45 35.4**	**+1.4**
PLG				AML	AML	01 46 22.6	
	comp=E,29μm,0.4s						
PLG				AML	AML	01 46 23.5	
	comp=N,15μm,0.5s						
NOCI	**Noci**	**3.56**	**317**	P	**Pn**	**01 45 39.7**	**+1.7**
NOCI	**Noci**	**3.56**	**317**	P	**Pn**	**01 45 39.7**	**+1.7**
NOCI				AML	AML	01 46 22.8	
	comp=N,125μm,0.1s						
NOCI				AML	AML	01 46 23.4	
	comp=E,97μm,0.1s						
BARS	**Barje**	**4.74**	**14**	*e*Pn	**Pn**	**01 45 54.8**	**+0.7**
SJES	**Sjenica**	**5.04**	**358**	*e*Pn	**Pn**	**01 45 59.1**	**+0.8**
BBLS	**Lazići**	**5.67**	**354**	*e*Pn	**Pn**	**01 46 07.3**	**+0.3**
DIVS	**Divibare**	**5.87**	**358**	*e*Pn	**Pn**	**01 46 10.4**	**+0.6**
TEKS	**Tekeris**	**6.34**	**355**	*e*Pn	**Pn**	**01 46 15.9**	**-0.3**
UDBI	**Udbina**	**7.15**	**333**	*e*Pn	**Pn**	**01 46 29.3**	**+2.0**
UDBI				Sn	**Sn**	**01 47 44.2**	**-4.2**
UDBI	**Udbina**	**7.15**	**333**	*e*Pn	**Pn**	**01 46 29.2**	**+2.0**
UDBI				Sn	**Sn**	**01 47 44.2**	**-4.2**
NVLJ	**Novalja**	**7.52**	**329**	*e*Pn	**Pn**	**01 46 32.5**	**+0.3**
NVLJ				Sn	**Sn**	**01 47 53.1**	**-4.2**
NVLJ	**Novalja**	**7.52**	**329**	*e*Pn	**Pn**	**01 46 32.5**	**+0.3**
NVLJ				Sn	**Sn**	**01 47 53.1**	**-4.2**

GUC ***04*** *02:10:46.6±0.4,37.°67S×73.°83W,h19km±8km,ML3.6*
IDC ***04*** *02:10:48.8±1.8,37.°04S×72.°71W,h0km,mb3.5/2,*
mb1 3.8/3,mb1mx3.5/27,mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=81.9km s-min=34.1km az=58.0
ISCJB ***04*** *02:10:49.3±1.3,37.°56S±0.°08×73.°9W±0.°2,h23km,mb3.6/2,*
Error ellipse: s-maj=18.9km s-min=9.9km az=26.2
ISC 04 02:10:50.6±1.4**,37.°53S**±0.°08×**73.°7W**±0.°1**,h23km,n6,**
σ1°83/9,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.85**	**36**	*e*P	**Pb**	**02 11 05.6**	**-1.0**
CCSP				*e*S	**Sb**	**02 11 17.1**	**-0.4**
CCSP				IAML		02 11 20.5	
	comp=N,3μm,0.4s						
COCH	**Cobquecura**	**1.59**	**29**	*e*P	**Pn**	**02 11 17.6**	**+0.3**
COCH				*e*S	**Sb**	**02 11 41.2**	**+2.3**
CCHI	**Chillan**	**1.62**	**56**	*e*P	**Pn**	**02 11 17.6**	**0.0**
CCHI				*e*S	**Sb**	**02 11 41.5**	**+1.8**
CCHI				IAML		02 11 48.4	
	comp=E,1μm,0.6s						
PLCA	**Paso Flores**	**4.05**	**143**	Pn	**Pn**	**02 11 52.1**	**+0.9**
	comp=E,0.5nm,0.3s,baz=328,slow=14,SNR=2.7						
PLCA				Lg	Lg	02 12 50.1	
	comp=E,0.2nm,0.3s,baz=252,slow=20,SNR=1.7						
TXAR	**Lajitas Array**	**72.18**	**333**	P	**P**	**02 22 15.2**	**+1.6**
	comp=E,0.2nm,0.5s,baz=153,slow=8.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**86.69**	**71**	P	**P**	**02 23 30.2**	**-2.6**
	comp=E,0.8nm,1.1s,baz=224,slow=6.0,SNR=2.9						

JMA ***04*** *02:18:33.9±0.1,24.°36N×121.°66E,h35km±2km,M2.6*
ISCJB ***04*** *02:18:34.8±0.2,24.°38N±0.°02×121.°75E±0.°02,h28km±2km,*
Error ellipse: s-maj=3.2km s-min=2.2km az=41.1
TAP ***04*** *02:18:34.2,24.°38N×121.°70E,h29km,ML3.4,C*
ISC 04 02:18:33.4±1.0**,24.°40N**±0.°02×**121.°74E**±0.°02**,h15**km±8km,
n54,σ1°19/91,3C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.03**	**5⇑**	*i*P	Pg	02 18 39.8	+3.7
ENA	baz=43			S	Sg	02 18 43.8	+5.9
	baz=43						
TWC	**Suao**	**0.23**	**26⇓**	*i*P	Pg	02 18 41.5	+2.9
TWC	baz=32			S	**Sg**	**02 18 46.9**	**+4.7**
	baz=32						
ENTT	**Nioudou**	**0.29**	**327**	*e*P	**Pn**	**02 18 41.7**	**-1.4**
ENTT	baz=335			*e*S	**Sb**	**02 18 47.0**	**+2.0**
	baz=335						
TWE	**Neicheng**	**0.33**	**349**	*e*P	**Pn**	**02 18 42.5**	**-1.2**
TWE	baz=357			*e*S	**Sb**	**02 18 48.2**	**+2.1**
	baz=357						
NNS	**Nan Shan**	**0.34**	**278**	*e*P	**Pn**	**02 18 42.7**	**-1.1**
NNS	baz=281			*e*S	**Sb**	**02 18 48.1**	**+1.7**
	baz=281						
TWD	**Chiawan**	**0.34**	**202**	P	**Pb**	**02 18 41.8**	**+0.7**
TWD	baz=196			S	**Sb**	**02 18 47.5**	**+1.2**
	baz=196						
ILA	**Ilan**	**0.37**	**1**	*e*S	**Sb**	**02 18 50.0**	**+2.8**
	baz=7.0						
HWA	**Hwalien**	**0.43**	**196**	*e*P	**Pb**	**02 18 43.4**	**+0.6**
HWA	baz=191			*e*S	**Sb**	**02 18 50.8**	**+1.7**
	baz=191						
NSK	**Sanguang**	**0.44**	**309**	P	**Pb**	**02 18 43.7**	**+0.8**
NSK	baz=313			S	**Sb**	**02 18 49.9**	**+0.5**
	baz=313						
WHF	**Hehuan Shan**	**0.50**	**240**	*e*P	**Pb**	**02 18 44.8**	**+0.7**
WHF	baz=239			*e*S	**Sb**	**02 18 51.7**	**+0.4**
	baz=239						
TWT	**Tachien**	**0.53**	**255**	*e*P	**Pb**	**02 18 45.4**	**+0.9**
TWT	baz=255			*e*S	**Sb**	**02 18 52.9**	**+0.8**
	baz=255						
ESF	**Shoufeng Towns**	**0.56**	**202**	*e*P	**Pg**	**02 18 41.7**	**-2.8**
ESF	baz=199			*e*S	**Sn**	**02 18 57.1**	**+1.2**
	baz=199						
TWA	**Mucha**	**0.60**	**346**	*e*P	**Pn**	**02 18 46.8**	**-0.6**
TWA	baz=350			*e*S	**Sn**	**02 18 55.2**	**-1.6**
	baz=350						
ESL	**Shilin**	**0.64**	**206**	*e*P	**Pb**	**02 18 46.6**	**+0.3**
ESL	baz=202			*e*S	**Sb**	**02 18 54.8**	**-0.3**
	baz=202						
TAP1	**Taipei**	**0.67**	**343**	*e*S	**Sn**	**02 18 57.1**	**-1.4**
	baz=345						
NWF	**Wu-fen Shan**	**0.67**	**3**	P	**Pn**	**02 18 47.4**	**-1.0**
NWF	baz=5.0			*e*S	**Sn**	**02 18 58.2**	**-0.5**
	baz=5.0						
TAP	**Taipei**	**0.67**	**342**	*e*S	**Sn**	**02 18 57.7**	**-0.9**
	baz=345						
NSTT	**Nanjuang**	**0.71**	**289**	⇑P	**Pn**	**02 18 48.2**	**-0.6**
NSTT	baz=291			*e*S	**Sb**	**02 18 57.5**	**+0.5**
	baz=291						
NCU	**National Centr**	**0.76**	**319**	*e*P	**Pn**	**02 18 49.1**	**-0.5**
NCU	baz=321			*e*S	**Sn**	**02 19 01.3**	**+0.5**
	baz=321						
TWS1	**Kuangyinshan**	**0.76**	**338**	*e*P	**Pn**	**02 18 49.3**	**-0.3**
TWS1	baz=340			*e*S	**Sn**	**02 19 00.7**	**0.0**
	baz=340						
HSN	**Hsinchu**	**0.81**	**300**	*e*P	**Pg**	**02 18 47.6**	**-1.5**
HSN	baz=305			*e*S	**Sn**	**02 19 01.9**	**0.0**
	baz=305						
WDT	**Danda**	**0.84**	**221**	*e*P	**Pb**	**02 18 49.6**	**-0.2**
WDT	baz=219			*e*S	**Sb**	**02 19 01.1**	**-0.1**
	baz=219						
TWQ1	**Liyutan**	**0.88**	**267**	*e*P	**Pn**	**02 18 52.0**	**+0.8**
TWQ1	baz=267			*e*S	**Sb**	**02 19 03.6**	**+1.7**
	baz=267						
TWY	**Chenhua**	**0.89**	**352**	*e*P	**Pn**	**02 18 51.4**	**+0.1**
TWY	baz=354			*e*S	**Sn**	**02 19 03.3**	**-0.5**
	baz=354						
NSY	**Sanyi**	**0.89**	**271**	*e*P	**Pb**	**02 18 50.4**	**-0.1**
NSY	baz=272			*e*S	**Sn**	**02 19 04.8**	**+0.8**
	baz=272						

SMLT	**Sun Moon Lake**	**0.92**	**236**	⇑P	**Pn**	**02 18 51.5**	**-0.3**
	baz=235						
SMLT				S	**Sb**	**02 19 03.3**	**+0.2**
	baz=235						
TYC	**Yuchr**	**0.94**	**239**	*e*P	**Pb**	**02 18 51.7**	**+0.3**
	baz=238						
TYC				*e*S	**Sg**	**02 19 03.1**	**-0.9**
	baz=238						
EHY	**Hungye**	**0.96**	**203**	*e*P	**Pg**	**02 18 50.7**	**-1.4**
	baz=201						
EHY				*e*S	**Sn**	**02 19 07.0**	**+1.2**
	baz=201						
TCU	**Taichung**	**1.00**	**256**	*e*P	**Pn**	**02 18 53.1**	**+0.2**
	baz=255						
TCU				*e*S	**Sn**	**02 19 07.9**	**+1.3**
	baz=255						
WNT	**Mingjian**	**1.09**	**242**	*e*P	**Pn**	**02 18 55.1**	**+1.0**
	baz=241						
WNT				*e*S	**Sn**	**02 19 10.7**	**+1.7**
	baz=241						
JYNG	**Yonagunijimaku**	**1.10**	**87**	P	**Pn**	**02 18 54.3**	**+0.1**
JYNG				*e*S	**Sn**	**02 19 09.6**	**+0.4**
TWF1	**Yuli**	**1.11**	**201**	*e*P	**Pg**	**02 18 53.6**	**-1.2**
	baz=199						
TWF1				*e*S	**Sn**	**02 19 10.8**	**+1.2**
	baz=199						
YOJ	**Yonaguni jima**	**1.16**	**87**	P	**Pn**	**02 18 55.0**	**-0.1**
YOJ				S	**Sn**	**02 19 10.9**	**+0.2**
ALS	**Alishan**	**1.23**	**224**	*e*P	**Pb**	**02 18 56.2**	**-0.2**
	baz=223						
ALS				*e*S	**Sb**	**02 19 12.9**	**+0.7**
	baz=223						
CHN5	**Tsauling**	**1.25**	**231**	*e*P	**Pn**	**02 18 57.1**	**+0.7**
	baz=230						
CHN5				*e*S	**Sg**	**02 19 13.3**	**-0.6**
	baz=230						
CHKT	**Chengkung**	**1.33**	**195**	*e*S	**Sg**	**02 19 14.4**	**-2.0**
	baz=193						
ELDTW	**Lidau**	**1.37**	**209**	*e*P	**Pg**	**02 18 59.1**	**-0.7**
	baz=207						
ELDTW				*e*S	**Sn**	**02 19 17.6**	**+1.6**
	baz=207						
CHN4	**Tsaushan**	**1.48**	**225**	*e*P	**Pb**	**02 19 00.5**	**0.0**
	baz=224						
STYT	**Tauyuan**	**1.52**	**216**	*e*P	**Pn**	**02 19 00.4**	**+0.3**
	baz=215						
WTP	**Ta-pu**	**1.54**	**222**	*e*P	**Pb**	**02 19 01.5**	**-0.1**
	baz=221						
TWK	**Hsinying**	**1.60**	**226**	*e*P	**Pn**	**02 19 01.9**	**+0.7**
	baz=224						
CHN1	**Nanshi**	**1.64**	**223**	*e*P	**Pn**	**02 19 01.9**	**+0.3**
	baz=222						
TWG	**Pinlang**	**1.68**	**201**	*e*P	**Pn**	**02 19 01.3**	**-0.9**
	baz=200						
TWG				*e*S	**Sn**	**02 19 23.9**	**+0.3**
	baz=200						
IRIF	**Iriomote-Funau**	**1.82**	**92**	P	**Pb**	**02 19 04.6**	**-1.7**
IRIF				S	**Sn**	**02 19 25.7**	**-1.2**
HATJ	**Hateruma jima**	**1.92**	**100**	*e*S	**Sn**	**02 19 29.8**	**+0.5**
SSD	**Sandimen**	**1.93**	**212**	*e*P	**Pb**	**02 19 07.9**	**-0.4**
	baz=210						
JKRS	**Kuro-shima**	**2.08**	**94**	P	**Pn**	**02 19 08.0**	**+0.3**
JKRS				*e*S	**Sn**	**02 19 33.7**	**+0.4**
PNG	**Penghu**	**2.16**	**248**	*e*P	**Pn**	**02 19 08.6**	**-0.2**
	baz=247						
PNG				*e*S	**Sn**	**02 19 33.0**	**-2.4**
	baz=247						
EAST	**Anshuo**	**2.16**	**202**	*e*P	**Pn**	**02 19 09.2**	**+0.3**
	baz=201						
EAST				*e*S	**Sn**	**02 19 35.7**	**+0.2**
	baz=201						
JIJ	**Ishigaki jima**	**2.19**	**90**	P	**Pn**	**02 19 09.2**	**-0.1**
JIJ				*e*S	**Sn**	**02 19 35.5**	**-0.7**
WDGT	**Dungji**	**2.21**	**240**	*e*P	**Pn**	**02 19 09.3**	**-0.3**
	baz=239						
SCZT	**Fangliau**	**2.26**	**207**	*e*P	**Pn**	**02 19 11.4**	**+1.2**
	baz=206						
SCZT				*e*S	**Sn**	**02 19 40.4**	**+2.6**
	baz=206						
JISG	**Ishigakijimahi**	**2.35**	**85**	P	**Pn**	**02 19 11.7**	**+0.3**
JTJ	**Tarama**	**2.71**	**84**	S	**Sn**	**02 19 50.5**	**+1.6**

SJA ***04*** *02:20:38.4±0.3,40.°47S×71.°97W,h139km±32km,ML2.9,*
MW3.1
IDC ***04*** *02:20:40.9±2.1,37.°48S×74.°12W,h0km,mb3.8/5,*
mb1 4.0/7,mb1mx3.8/22,mbtmp3.9/7,ML4.1/2,MS3.6/1,
Ms1 3.6/1,ms1mx2.8/28,Error ellipse: s-maj=46.1km
s-min=39.0km az=29.0
NEIC ***04*** *02:20:42.0,37.°69S×74.°19W,h29km,mb3.8/2,*
ML4.1(GUC),After GUC.
NEIC Felt [III] at Lebu and Puren.
GUC ***04*** *02:20:42.4±0.4,37.°69S×74.°19W,h29km±5km,ML4.1*
ISCJB ***04*** *02:20:44.8±0.8,37.°53S±0.°07×73.°97W±0.°08,h33km,*
mb3.7/7,MS3.6/1,Error ellipse: s-maj=10.0km
s-min=9.0km az=135.6
ISC 04 02:20:46.6±1.0**,37.°57S**±0.°07×**73.°97W**±0.°10**,h35**km**,n23,**
σ1°28/26,mb3.8/7,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.00**	**44**	*e*P	**Pn**	**02 21 02.7**	**-1.4**
CCSP				*e*S	**Sn**	**02 21 15.2**	**-1.7**
CCSP				IAML		02 21 18.4	
	comp=N,7μm,0.4s						
COCH	**Cobquecura**	**1.72**	**34**	*e*P	**Pn**	**02 21 13.9**	**-0.1**
COCH				*e*S	**Sn**	**02 21 37.8**	**+3.1**
COCH				IAML		02 21 43.0	
	comp=E,3μm,0.5s						
CCHI	**Chillan**	**1.79**	**58**	*e*P	**Pn**	**02 21 14.8**	**-0.3**
CCHI				*e*S	**Sn**	**02 21 39.8**	**+3.2**
CANA	**Caviahue**	**2.33**	**99**	*e*P	**Pn**	**02 21 22.3**	**-0.2**
CANA				*e*S	**Sn**	**02 21 49.1**	**-0.9**
ROC1	**El Roble**	**5.18**	**29**	*e*P	**Pn**	**02 22 00.9**	**-1.0**
ASAL	**Salagasta**	**6.51**	**42**	*e*P	**Pn**	**02 22 19.6**	**-0.4**
AUSP	**Uspallata**	**6.53**	**37**	*e*P	**Pn**	**02 22 20.4**	**0.0**
RTLS	**Leoncito**	**6.92**	**35**	*e*P	**Pn**	**02 22 25.8**	**0.0**
LCO	**Las Campanas**	**8.96**	**19**	*e*Pn	**Pn**	**02 22 53.1**	**-0.7**
TRQA	**Tornquist**	**9.50**	**97**	*e*Pn	**Pn**	**02 23 00.8**	**-0.2**
LVC	**Limon Verde**	**15.53**	**18**	Pn	**Pn**	**02 24 23.0**	**-0.3**
	comp=E,3.6nm,0.3s,baz=158,slow=11,SNR=1.9						
LVC	**Limon Verde**	**15.53**	**18**	*e*Pn	**Pn**	**02 24 22.7**	**-0.7**
CPUP	**Villa Florida**	**18.00**	**56**	P	**Pn**	**02 24 52.4**	**-1.5**
	comp=E,0.1nm,0.3s,baz=238,slow=17,SNR=2.5						
LPAZ	**La Paz**	**21.82**	**15**	P	**P**	**02 25 35.4**	**-1.1**
	comp=E,0.7nm,0.8s,baz=186,slow=4.8,SNR=3.0						
SIV	**San Ignacio**	**24.33**	**31**	P	**P**	**02 25 59.6**	**-1.6**
	comp=E,2.6nm,0.7s,baz=221,slow=11,SNR=8.0						
SAML	**Samuel**	**30.12**	**22**	*e*P	**P**	**02 26 53.6**	**+0.6**
	comp=E,2.0nm,1.2s						
PCRV	**Puerto La Cruz**	**48.29**	**12**	LR	LR	02 49 33.6	
	comp=E,59nm,20.2s,slow=36						
SNAA	**Sanae**	**48.91**	**157**	*e*P	**P**	**02 29 29.4**	**+0.7**
TXAR	**Lajitas Array**	**72.13**	**333**	P	**P**	**02 32 06.4**	**-1.2**
	comp=E,0.2nm,0.5s,baz=152,slow=9.9,SNR=3.0						
DBIC	**Dimbokro**	**77.80**	**72**	P	**P**	**02 32 41.4**	**+0.9**
	comp=E,3.4nm,0.6s,baz=221,slow=6.2,SNR=5.7						
ANMO	**Albuquerque**	**78.20**	**333**	*e*P	**P**	**02 32 43.6**	**+1.1**
	comp=E,0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**86.88**	**71**	P	**P**	**02 33 28.1**	**+0.1**
	comp=E,0.8nm,0.7s,baz=236,slow=3.8,SNR=10						
ABKAR	**Akbulak array**	**145.06**	**55**	*e*PKPbc	**PKPdf**	**02 40 19.9**	**+0.3**

CRAAG ***04*** *02:23:56.5,36.°21N×1.°72E,Ml2.6*
ISCJB ***04*** *02:23:57.5±0.8,36.°35N±0.°09×1.°69E±0.°07,h15km±13km,*
Error ellipse: s-maj=15.5km s-min=6.8km az=155.7
CSEM ***04*** *02:23:57.4±0.2,36.°20N×1.°69E,h10km,mb3.3,Error*
ellipse: s-maj=6.6km s-min=4.6km az=168.0
MDD ***04*** *02:23:58.0±0.7,36.°24N×1.°69E,h0km,mb3.3/2,Error*
ellipse: s-maj=9.6km s-min=6.3km az=156.0,PRXIMO
ISC 04 02:23:57.6±1.3**,36.°25N**±0.°06×**1.°71E**±0.°04**,h16**km±8km,
n27,σ1°08/38,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.15**	**287**	P	**Pg**	**02 24 01.4**	**-0.2**
EBNR	**Beni Rached**	**0.15**	**287**	P	**Pg**	**02 24 01.4**	**-0.2**
ECHA	**Ech Chlef**	**0.29**	**251**	P	**Pg**	**02 24 03.4**	**-0.3**
ECHA	**Ech Chlef**	**0.29**	**251**	P	**Pg**	**02 24 03.4**	**-0.3**
ECHF	**Ech Chlef**	**0.31**	**253**	P	**Pg**	**02 24 03.4**	**-0.7**
ECHF	**Ech Chlef**	**0.31**	**253**	P	**Pg**	**02 24 03.4**	**-0.7**
EANR	**'Ain N'Sour**	**0.57**	**239**	P	**Pg**	**02 24 07.7**	**-1.2**
EANR	**'Ain N'Sour**	**0.57**	**239**	P	**Pg**	**02 24 07.7**	**-1.2**
OKGL	**Djebel Kef Gue**	**0.89**	**257**	P	**Pb**	**02 24 14.5**	**-0.1**
	18nm,0.1s,SNR=7.9						
OKGL				S	**Sn**	**02 24 28.4**	**+0.3**
	134nm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.89**	**257**	P	**Pb**	**02 24 14.5**	**-0.1**
	18nm,0.1s,SNR=7.9						
EMHD	**Djebel Mahouad**	**1.01**	**92**	P	**Pg**	**02 24 16.9**	**-0.2**
EMHD	**Djebel Mahouad**	**1.01**	**92**	P	**Pg**	**02 24 16.9**	**-0.2**
EMHD	**Djebel Mahouad**	**1.01**	**92**	P	**Pg**	**02 24 16.9**	**-0.2**
EIBI	**Ibiza**	**2.79**	**354**	P	**Pn**	**02 24 42.5**	**+0.9**
	0.8nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**02 25 12.5**	**-2.5**
	3.2nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.79**	**354**	P	**Pn**	**02 24 42.5**	**+0.9**
	0.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.53**	**314**	P	**Pn**	**02 24 52.9**	**+1.1**
	0.2nm,0.1s,SNR=5.5						
ETOB				S	**Sn**	**02 25 32.9**	**-0.4**
	0.3nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.53**	**314**	P	**Pn**	**02 24 52.9**	**+1.1**
	0.2nm,0.1s,SNR=5.5						
ETOB				S	**Sn**	**02 25 32.9**	**-0.4**
	0.3nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.62**	**14**	S	**Sn**	**02 25 34.1**	**-1.5**
	0.1nm,0.1s,SNR=4.0						
EBER	**Berja**	**3.76**	**281**	P	**Pn**	**02 24 55.4**	**+0.3**
	0.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**02 25 39.1**	**0.0**
	1.2nm,0.4s,SNR=7.9						
EBER	**Berja**	**3.76**	**281**	P	**Pn**	**02 24 55.4**	**+0.3**
	0.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**02 25 39.1**	**0.0**
	1.2nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**3.88**	**300**	P	**Pn**	**02 24 58.3**	**+1.6**
	1.4nm,0.4s,SNR=7.9						
SESP				S	**Sn**	**02 25 43.1**	**+1.1**
	1.1nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**3.88**	**300**	P	**Pn**	**02 24 58.3**	**+1.6**
	1.4nm,0.4s,SNR=7.9						
SESP				S	**Sn**	**02 25 43.1**	**+1.1**
	1.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.13**	**294**	P	**Pn**	**02 25 01.6**	**+1.5**
	0.2nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**02 25 47.5**	**-0.7**
	1.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.13**	**294**	P	**Pn**	**02 25 01.6**	**+1.5**
	0.2nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**02 25 47.5**	**-0.7**
	1.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.46**	**338**	P	**Pn**	**02 25 06.0**	**+1.4**
	0.4nm,0.1s,SNR=7.2						
EMOS				S	**Sn**	**02 25 54.2**	**-2.1**
	0.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.46**	**338**	P	**Pn**	**02 25 06.0**	**+1.4**
	0.4nm,0.1s,SNR=7.2						

IDC 04 02:24:29.7±5.5**,5.°85S×147.°54E,h220**km±66km**,mb2.5/1,**
mb1 2.9/3,mb1mx2.7/32,mbtmp3.3/3,Error ellipse:
s-maj=149.0km s-min=45.3km az=122.0,Eastern New
Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.56**	**186**	P	Pn	02 25 27.1	+0.2
	1.0nm,0.3s,baz=13,slow=18,SNR=2.1						
PMG				S	S	02 26 12.5	+0.6
	1.7nm,0.3s,baz=210,slow=19,SNR=6.1						
WRA	**Warramunga Arr**	**19.00**	**221**	P	P	02 28 35.1	0.0
	0.3nm,0.3s,baz=43,slow=12,SNR=26						
ASAR	**Alice Springs**	**22.05**	**215**	P	P	02 29 07.0	+0.2
	0.5nm,0.5s,baz=50,slow=8.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.57**	**285**	PKPbc	PKPdf	02 43 42.3	-0.4
	0.3nm,0.9s,baz=100,slow=4.2,SNR=2.4						

IDC ***04*** *02:39:28.0±1.5,7.°10S×154.°25E,h0km,mb3.8/7,*
mb1 4.0/7,mb1mx3.8/32,mbtmp3.9/7,MS3.0/2,Ms1 3.0/2,
ms1mx2.6/34,Error ellipse: s-maj=55.0km s-min=21.0km
az=118.0
ISCJB ***04*** *02:39:31.7±1.1,7.°1S±0.°1×154.°1E±0.°2,h33km,mb3.9/11,*
MS3.4/1,Error ellipse: s-maj=33.7km s-min=14.9km
az=28.8
NEIC ***04*** *02:39:33.8±0.8,7.°04S×154.°07E,h35km,mb4.1/2,Error*
ellipse: s-maj=25.6km s-min=11.9km az=121.0
ISC 04 02:39:33.7±1.3**,7.°1S**±0.°2×**154.°1E**±0.°2**,h35**km**,n14,**
σ0°84/12,mb3.9/11,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.25**	**251**	LR	LR	02 43 56.3	
	comp=Z,54nm,18.9s,baz=184,slow=36						
FAKI	**Fak Fak**	**22.14**	**280**	*e*P	**P**	**02 44 25.7**	**-1.0**
	16nm,1.0s						
WRAB	**Tennant Creek**	**23.04**	**234**	*e*P	**P**	**02 44 36.9**	**+0.8**
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**23.05**	**234**	P	**P**	**02 44 35.4**	**-0.8**
	0.7nm,0.5s,baz=58,slow=9.5,SNR=17						
ASAR	**Alice Springs**	**25.47**	**227**	P	**P**	**02 44 59.2**	**+0.4**
	1.0nm,0.7s,baz=60,slow=9.5,SNR=11						
STKA	**Stephens Creek**	**27.31**	**204**	P	**P**	**02 45 15.2**	**-0.1**
	0.6nm,0.4s,baz=31,slow=11,SNR=1.9						
FITZ	**Fitzroy Crossi**	**29.81**	**246**	P	**P**	**02 45 37.6**	**-0.1**
	2.0nm,0.5s,baz=54,slow=7.5,SNR=14						
JHJ	**Hachijo jima 2**	**42.20**	**342**	LR	LR	03 02 39.5	
	comp=Z,49nm,21.8s,baz=106,slow=33						
SONM	**Songino Array**	**68.91**	**328**	P	**P**	**02 50 36.7**	**+1.5**
	0.6nm,0.5s,baz=144,slow=3.9,SNR=6.5						
BILL	**Bilibino**	**75.41**	**5**	*e*P	**P**	**02 51 13.4**	**-0.1**
	1.7nm,0.4s						
MKAR	**Makanchi Array**	**82.86**	**319**	P	**P**	**02 51 54.7**	**0.0**
	0.8nm,0.6s,baz=99,slow=6.4,SNR=6.0						
ILAR	**Eielson Array**	**83.76**	**22**	P	**P**	**02 51 58.0**	**-0.9**
	0.4nm,0.6s,baz=247,slow=5.0,SNR=10						
KURK	**Kurchatov**	**86.33**	**322**	*e*P	**P**	**02 52 11.5**	**-0.6**
	1.4nm,0.4s						
**

OCAC	**Ocana**	**1.43**	**349**	*e*P		**Pn**	**02 44 42.3**	**+0.4**
OCAC				*e*S		**Sn**	**02 45 04.8**	**-0.4**
OCAC				*i*			02 45 13.5	
	comp=Z,577nm,0.4s							
NORC	**Norcasia**	**2.21**	**235**	*e*P		**Pn**	**02 44 49.8**	**-0.4**
NORC				*e*S		**Sn**	**02 45 18.7**	**-1.3**
CHIC	**Chingaza**	**2.29**	**197**	*e*P		**Pn**	**02 44 51.8**	**+0.3**
CHIC				*e*S		**Sn**	**02 45 21.0**	**-1.4**
CHIC				*i*			02 45 26.7	
	comp=Z,125nm,0.4s							
ROSC	**El Rosal**	**2.35**	**213**	P		**Pn**	**02 44 53.0**	**+0.8**
	comp=Z,24nm,0.3s,baz=290,slow=4.9,SNR=57							
ROSC				S		**Sn**	**02 45 23.8**	**+0.2**
	comp=Z,57nm,0.3s,baz=206,slow=22,SNR=12							
ROSC	**El Rosal**	**2.35**	**213**	*e*P		**Pn**	**02 44 53.0**	**+0.8**
ROSC				*e*S		**Sn**	**02 45 21.4**	**-2.2**
ROSC				*i*			02 45 29.5	
	comp=Z,307nm,0.4s							
HELC	**Santa Helena**	**2.55**	**256**	*e*P		**Pn**	**02 44 54.5**	**-0.1**
HELC				*i*			02 45 32.1	
	comp=Z,333nm,0.3s							
VIGV	**El Vigia**	**2.60**	**40**	*e*P		**Pn**	**02 44 56.0**	**+1.2**
VIGV				*e*S		**Sn**	**02 45 28.7**	**+0.4**
SOCV	**Socops**	**2.60**	**56**	*e*P		**Pn**	**02 44 56.4**	**+1.5**
SOCV				*e*S		**Sn**	**02 45 29.3**	**+0.9**
VILC	**Villavicencio,**	**2.77**	**194**	*e*P		**Pn**	**02 44 57.3**	**+0.2**
VILC				*e*S		**Sn**	**02 45 30.8**	**-1.5**
VILC				*i*			02 45 37.6	
	comp=Z,103nm,0.4s							
GUYC	**Guyana, Colomb**	**2.83**	**236**	*e*P		**Pn**	**02 44 57.9**	**-0.1**
GUYC				*e*S		**Sn**	**02 45 32.7**	**-1.2**
GUYC				*i*			02 45 38.6	
	comp=Z,304nm,0.7s							
SDV	**Santo Domingo**	**3.14**	**49**	P		**Pn**	**02 45 03.0**	**+1.4**
	comp=Z,35nm,0.3s,baz=242,slow=14,SNR=14							
SDV				S		**Sn**	**02 45 39.9**	**-0.5**
	comp=Z,15nm,0.3s,baz=249,slow=19,SNR=5.0							
SDV	**Santo Domingo**	**3.14**	**49**	*e*P		**Pn**	**02 45 03.0**	**+1.4**
SDV				*i*			02 45 04.5	
	comp=Z,78nm,0.4s							
DBBC	**Dabeiba**	**3.15**	**274**	*e*P		**Pn**	**02 45 01.7**	**0.0**
TOLC	**Tolima**	**3.18**	**226**	*e*P		**Pn**	**02 45 03.0**	**+0.8**
TOLC				*e*S		**Sn**	**02 45 41.2**	**-0.3**
ELOV	**Elorza**	**3.54**	**87**	*e*P		**Pn**	**02 45 07.6**	**+1.2**
ELOV				*e*S		**Sn**	**02 45 49.1**	**0.0**
PRAC	**Prado**	**3.60**	**211**	*e*P		**Pn**	**02 45 07.3**	**0.0**
PRAC				*e*S		**Sn**	**02 45 49.1**	**-1.4**
VIRV	**Villa del Rosa**	**3.71**	**10**	*e*P		**Pn**	**02 45 08.4**	**-0.2**
VIRV				*e*S		**Sn**	**02 45 50.9**	**-2.1**
SANV	**Sanarito**	**4.37**	**52**	*e*P		**Pn**	**02 45 17.7**	**+0.5**
SANV				*e*S		**Sn**	**02 46 07.3**	**-1.2**
CURV	**Curarigua**	**4.39**	**44**	*e*P		**Pn**	**02 45 18.2**	**+0.7**
CURV				*e*S		**Sn**	**02 46 07.5**	**-1.5**
DABV	**Dabajuro**	**4.71**	**30**	*e*P		**Pn**	**02 45 22.0**	**+0.4**
DABV				*e*S		**Sn**	**02 46 13.7**	**-2.6**
TEPV	**Terepaima**	**4.92**	**50**	*e*P		**Pn**	**02 45 25.1**	**+0.7**
SIQV	**Siquisique**	**4.96**	**40**	*e*P		**Pn**	**02 45 24.6**	**-0.4**
SIQV				*e*S		**Sn**	**02 46 19.0**	**-3.3**
BAUV	**El Baul**	**5.38**	**67**	*e*P		**Pn**	**02 45 29.6**	**-0.8**
BAUV				*e*S		**Sn**	**02 46 29.5**	**-2.5**
MAPV	**Macapo**	**5.43**	**56**	*e*P		**Pn**	**02 45 31.4**	**+0.4**
MONV	**Montecano**	**5.93**	**31**	⇓*i*P		**Pn**	**02 45 37.7**	**+0.1**
MONV				*e*S		**Sn**	**02 46 40.9**	**-4.1**
JACV	**Jacura**	**5.94**	**44**	*e*P		**Pn**	**02 45 37.7**	**0.0**
TURV	**Turiamo**	**6.28**	**55**	*e*P		**Pn**	**02 45 42.1**	**-0.1**
TURV				*e*S		**Sn**	**02 46 49.3**	**-4.0**
CUPV	**Cœpira**	**7.86**	**65**	*e*P		**Pn**	**02 46 02.6**	**-0.7**
PRGV	**PARIAGUAN**	**8.54**	**76**	*e*P		**Pn**	**02 46 11.5**	**-0.8**
PCRV	**Puerto La Cruz**	**8.95**	**68**	P		**Pn**	**02 46 19.7**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=225,slow=8.6,SNR=4.4							
TXAR	**Lajitas Array**	**36.52**	**312**	P		**P**	**02 51 03.4**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=124,slow=10,SNR=4.3							
TORD	**Torodi Ar. Bea**	**73.66**	**78**	P		**P**	**02 55 27.6**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=286,slow=6.2,SNR=5.4							
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc		**PKPbc**	**03 03 41.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=114,slow=3.5,SNR=5.4							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		**PKPbc**	**03 03 44.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=107,slow=2.7,SNR=10							

*ISCJB **04** 02:55:02.7±0.8,36°.54N±0°.06×28°.35E±0°.06,h49km±10km, Error ellipse: s-maj=11.5km s-min=6.4km az=37.2*
*CSEM **04** 02:55:02.4±0.5,36°.48N×28°.31E,h20km, MD2.7, Error ellipse: s-maj=9.8km s-min=8.7km az=27.0*
*ISK **04** 02:55:02.7,36°.52N×28°.34E,h28km, MD2.7*
*DDA **04** 02:55:03.9,36°.87N×28°.77E, h8km, Ml2.6*
ISC 04 02:55:03.3±1.4,36°.56N±0°.05×28°.40E±0°.04,h50km±10km, n18,σ0°77/32,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DALY	**Dalyan (Mu˘la**	**0.33**	**38**	*e*PG		**Pn**	**02 55 12.3**	**-0.3**
DALY				*e*SG		**Sn**	**02 55 19.1**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.33**	**38**	*e*Pg		**Pn**	**02 55 12.4**	**-0.3**
DALY				*e*Sg		**Sn**	**02 55 19.1**	**-0.3**
TURN	**Turunc**	**0.35**	**27**	*i* P		**Pn**	**02 55 12.4**	**-0.5**
TURN				*i* S		**Sn**	**02 55 19.2**	**-0.6**
FETY	**Fethiye**	**0.55**	**82**	*e*PG		**Pn**	**02 55 15.6**	**+0.3**
FETY				*e*SG		**Sn**	**02 55 24.6**	**+0.7**
FETY	**Fethiye**	**0.55**	**82**	*e*Pg		**Pn**	**02 55 15.6**	**+0.3**
FETY				*e*Sg		**Sn**	**02 55 24.6**	**+0.7**
YER	**Yerkesik**	**0.58**	**351**	*e*PG		**Pn**	**02 55 15.9**	**+0.2**
YER				*e*SG		**Sn**	**02 55 25.1**	**+0.5**
YER	**Yerkesik**	**0.58**	**351**	*e*Pg		**Pn**	**02 55 15.9**	**+0.2**
YER				*e*Sg		**Sn**	**02 55 25.1**	**+0.5**
AKAS	**Kas**	**1.02**	**108**	P		**Pn**	**02 55 20.8**	**-0.7**
AKAS				S		**Sn**	**02 55 35.8**	**+0.9**
AKAS	**Kas**	**1.02**	**108**	*i* P		**Pn**	**02 55 20.8**	**-0.7**
AKAS				*i* S		**Sn**	**02 55 35.8**	**+0.9**
GOLH	**Golhisar**	**1.15**	**54**	P		**Pn**	**02 55 21.7**	**-1.5**
GOLH				S		**Sn**	**02 55 39.0**	**+1.1**
GOLH	**Golhisar**	**1.15**	**54**	*i* P		**Pn**	**02 55 21.7**	**-1.5**
GOLH				*i* S		**Sn**	**02 55 39.0**	**+1.1**
AYDN	**Tasoluk**	**1.17**	**339**	P		**Pn**	**02 55 23.9**	**+0.4**
AYDN				S		**Sn**	**02 55 39.2**	**+0.7**
AYDN	**Tasoluk**	**1.17**	**339**	*i* P		**Pn**	**02 55 23.9**	**+0.4**
AYDN				*i* S		**Sn**	**02 55 39.2**	**+0.7**
KARP	**Karpathos**	**1.43**	**225**	*e*PN		**Pn**	**02 55 26.7**	**-0.2**
KARP	**Karpathos**	**1.43**	**225**	*e*Pn		**Pn**	**02 55 26.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**344**	*e*PN		**Pn**	**02 55 27.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**344**	*e*Pn		**Pn**	**02 55 27.3**	**+0.1**
DGB	**˙zmir**	**1.92**	**321**	*i* P		**Pn**	**02 55 32.1**	**-1.4**
DGB				*i* S		**Sn**	**02 55 55.7**	**-0.8**

*NIED **04** 03:00:00,36°.50N×140°.90E,h5km,Mw3.9 Best double couple: M0:6.77000×10^14 NP1:φs11.00000°,δ37.00000°, λ-31.00000°. NP2:φs127.00000°,δ72.00000°, λ-123.00000°.*
*IDC **04** 03:00:16.2±0.7,36°.29N×141°.05E,h0km,mb3.7/12, mb1 3.9/17,mb1mx3.8/38,mbtmp3.8/17,ML3.4/3,MS2.7/5, Ms1 2.8/5,ms1mx2.5/57,Error ellipse: s-maj=18.2km s-min=15.0km az=99.0*
*JMA **04** 03:00:17.5,36°.51N×140°.94E,h14km±1km,M3.9*
JMA Felt II J1.
ISC 04 03:00:16.6±1.7,36°.45N±0°.04×140°.97E±0°.05,h1km±10km, n34,σ1°46/32,mb3.8/12,MS2.9/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.36**	**296**	P		**Pg**	**03 00 23.9**	**+0.4**
JHO				S		**Sg**	**03 00 28.2**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.66**	**348**	P		**Pg**	**03 00 29.2**	**-0.1**
JYT	**Yasato**	**0.67**	**250**	P		**Pg**	**03 00 30.1**	**+0.7**
JYT				S		**Sb**	**03 00 39.7**	**-1.0**
JFK	**Kawauchi**	**0.91**	**355**	P		**Pg**	**03 00 33.2**	**-0.9**
JFK				S		**Sg**	**03 00 45.0**	**-1.0**
JSB	**Shiboa**	**0.99**	**302**	P		**Pb**	**03 00 35.6**	**-0.9**
JSB				S		**Sn**	**03 00 49.3**	**-2.9**
MJAR	**Matsushiro Arr**	**2.23**	**273**	Pn		**Pn**	**03 00 54.8**	**+0.2**
	13nm,0.3s,baz=104,slow=8.2,SNR=18							
MJAR				Sn		**Sb**	**03 01 25.0**	**-0.7**
	33nm,0.3s,baz=98,slow=21,SNR=7.5							
MJAR				LR		LR	03 01 40.7	
	comp=Z,76nm,19.1s,baz=100,slow=37							
MAT	**Matsushiro**	**2.23**	**273**	P		**Pn**	**03 00 54.1**	**-0.6**
MAT				S		**Sb**	**03 01 23.9**	**-1.8**
JHJ	**Hachijo jima 2**	**3.47**	**197**	Pn		**Pn**	**03 01 09.5**	**-2.2**
	5.0nm,0.3s,baz=255,slow=20,SNR=2.4							
JHJ				Sn			**03 01 53.5**	**+0.1**
	14nm,0.3s,baz=66,slow=20,SNR=2.8							
ASAJ	**Asahikawa**	**7.75**	**9**	Pn		**Pn**	**03 02 12.1**	**+1.6**
	0.6nm,0.3s,baz=222,slow=14,SNR=3.0							
ASAJ				Sn		**Sn**	**03 03 36.4**	**-2.5**
	0.2nm,0.3s,baz=72,slow=20,SNR=2.0							
JCJ	**Chichijima**	**9.39**	**173**	Pn		**Pn**	**03 02 31.1**	**-1.9**
	5.6nm,0.3s,baz=285,slow=20,SNR=3.2							
USRK	**Ussuriysk Ar.**	**10.33**	**321**	Pn		**Pn**	**03 02 48.6**	**+2.8**
	0.1nm,0.3s,baz=125,slow=15,SNR=2.6							
KSRS	**Korea Array**	**10.49**	**279**	LR		LR	03 06 20.0	
	comp=Z,36nm,20.9s,baz=80,slow=34							
PETK	**Petropavlovsk-**	**20.37**	**30**	LR		LR	03 12 29.2	
	comp=Z,20nm,21.3s,baz=180,slow=36							
SEY	**Seymchan**	**27.43**	**11**	P		**P**	**03 06 05.8**	**+2.2**
	1.0nm,0.6s,baz=180,slow=20,SNR=3.6							
SONM	**Songino Array**	**27.82**	**305**	P		**P**	**03 06 08.7**	**+1.3**
	0.5nm,0.7s,baz=99,slow=8.9,SNR=2.7							
H11N2	**WAKE ISLAND Hy**	**28.17**	**119**	T		T	03 35 40.6	
	baz=313,slow=75,SNR=154							
H11N1	**WAKE ISLAND Hy**	**28.17**	**119**	T		T	03 35 37.6	
	baz=313,slow=75,SNR=95							
H11N3	**WAKE ISLAND Hy**	**28.18**	**119**	T		T	03 35 42.1	
	baz=313,slow=75,SNR=82							
H11S1	**WAKE ISLAND Hy**	**28.85**	**121**	T		T	03 36 30.7	
	baz=314,slow=75,SNR=302							
H11S3	**WAKE ISLAND Hy**	**28.85**	**121**	T		T	03 36 25.4	
	baz=314,slow=75,SNR=838							
H11S2	**WAKE ISLAND Hy**	**28.87**	**121**	T		T	03 36 29.3	
	baz=314,slow=75,SNR=956							
CMAR	**Chiang Mai Arr**	**41.01**	**256**	LR		LR	03 25 46.5	
	comp=Z,16nm,18.9s,baz=175,slow=37							
ZALV	**Zalesovo Beam**	**42.05**	**313**	LR		LR	03 27 57.0	
	comp=Z,18nm,18.0s,baz=70,slow=39							
MKAR	**Makanchi Array**	**44.13**	**303**	P		**P**	**03 08 28.5**	**+2.0**
	0.4nm,0.5s,baz=89,slow=8.8,SNR=4.7							
ILAR	**Eielson Array**	**50.17**	**32**	P		**P**	**03 09 14.1**	**+0.7**
	0.8nm,0.9s,baz=268,slow=5.3,SNR=7.7							
INK	**Inuvik**	**55.06**	**27**	P		**P**	**03 09 49.5**	**+0.1**
	0.7nm,0.7s,baz=297,slow=4.5,SNR=2.4							
WRA	**Warramunga Arr**	**56.44**	**187**	P		**P**	**03 09 58.1**	**-1.7**
	1.1nm,0.8s,baz=5.0,slow=7.3,SNR=9.5							
ASAR	**Alice Springs**	**60.17**	**187**	P		**P**	**03 10 24.9**	**-1.0**
	0.5nm,0.7s,baz=12,slow=6.9,SNR=6.4							
FINES	**FINESS Array B**	**59.16**	**332**	P		**P**	**03 11 24.9**	**+0.7**
	1.1nm,0.7s,baz=75,slow=6.3,SNR=4.1							
AKASG	**Malin Array Be**	**74.54**	**322**	P		**P**	**03 11 57.4**	**+0.7**
	0.4nm,0.5s,baz=48,slow=6.5,SNR=3.6							
NOA	**NORSAR Array B**	**74.58**	**337**	P		**P**	**03 11 56.5**	**-0.4**
	0.7nm,0.8s,baz=38,slow=5.8,SNR=2.6							
NVAR	**Mina Array Bea**	**75.62**	**53**	P		**P**	**03 12 03.8**	**+0.3**
	0.6nm,0.6s,baz=313,slow=7.1,SNR=4.3							
PDAR	**Pinedale Array**	**78.33**	**45**	P		**P**	**03 12 18.6**	**-0.1**
	0.3nm,0.5s,baz=316,slow=2.5,SNR=2.9							
LPAZ	**La Paz**	**147.29**	**60**	PKPbc		**PKPab**	**03 20 03.7**	**-1.1**
	0.4nm,0.4s,baz=81,slow=2.5,SNR=3.6							

*ISCJB **04** 03:09:03.5±0.6,31°.26N±0°.04×115°.69W±0°.03,h1km±8km, Error ellipse: s-maj=7.6km s-min=4.0km az=22.9*
*ECX **04** 03:09:04.5±0.7,31°.26N×115°.65W,h5km,MD2.8,ML3.0*
*MEX **04** 03:09:05.2±0.5,31°.12N×115°.72W,h9km±2km,MD3.7*
ISC 04 03:09:03.8±1.1,31°.27N±0°.04×115°.69W±0°.03,h2km±11km, n22,σ0°97/39,3C-1D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.30**	**140**	*e*P		**Pg**	**03 09 09.6**	**+0.1**
SPIG				*e*S		**Sg**	**03 09 13.2**	**-0.3**
SPIG	**San Pedro Mart**	**0.30**	**140**	*e*P		**Sg**	**03 09 09.3**	**-0.2**
SPIG				*e*S		**Sg**	**03 09 13.6**	**+0.1**
SPX	**San Pedro Mart**	**0.30**	**140**	⇓*e*P		**Pg**	**03 09 09.6**	**0.0**
SPX				*e*S		**Sg**	**03 09 13.8**	**+0.2**
SPX				AML		AML	03 09 14.4	
	comp=N,2μm,0.3s							
SPX				*e*			03 09 14.4	
ZAX	**El Zacaton**	**0.56**	**296**	*e*P		**Pg**	**03 09 14.5**	**+0.1**
ZAX				*e*S		**Sg**	**03 09 23.5**	**+1.8**
ZAX				⇑*e*			03 09 26.5	
ZAX				AML		AML	03 09 26.5	
	comp=E,501nm,0.6s							
ECBX	**El Chinero**	**0.58**	**70**	⇑*e*P		**Pg**	**03 09 14.4**	**-0.5**
ECBX				*e*S		**Sg**	**03 09 21.6**	**-0.8**
ECBX				⇑*e*			03 09 25.2	
ECBX				AML		AML	03 09 25.2	
	comp=E,960nm,0.2s							
ECNX	**Esteban Cantu**	**0.87**	**296**	*e*P		**Pg**	**03 09 20.4**	**0.0**
ECNX				*e*S		**Sg**	**03 09 32.8**	**+1.2**
PBX	**Punta Banda**	**1.00**	**298**	*e*P		**Pg**	**03 09 22.5**	**-0.5**
MBIG	**Mexicali**	**1.21**	**20**	*e*P		**Pg**	**03 09 26.5**	**-0.4**
MBIG				*e*S		**Sg**	**03 09 43.4**	**+0.8**
CBX	**Cerro Bola**	**1.33**	**322**	*e*P		**Pn**	**03 09 28.1**	**-1.3**
CBX				*e*S		**Sg**	**03 09 45.0**	**-1.6**
CBX	**Cerro Bola**	**1.33**	**322**	*e*P		**Pn**	**03 09 28.3**	**-1.2**
CBX				*e*S		**Sg**	**03 09 45.9**	**-0.6**
RMX	**La Rumorosa**	**1.37**	**346**	*e*P		**Pn**	**03 09 28.7**	**-1.3**
RMX				AML		AML	03 09 50.2	
	comp=E,156nm,0.2s							
IKP	**In-Ko-Pah, Jac**	**1.42**	**345**	P		**Pn**	**03 09 30.5**	**-0.1**
	baz=164							
IKP				S		**Sb**	**03 09 48.4**	**-1.1**
	baz=164							
TJIG	**Tijuana**	**1.43**	**324**	*e*P		**Pn**	**03 09 29.9**	**-0.9**
TJIG				*e*S		**Sn**	**03 09 47.7**	**-2.4**
TJIG	**Tijuana**	**1.43**	**324**	*e*P		**Pn**	**03 09 29.4**	**-1.3**
SWSC	**Sam W. Stewart**	**1.67**	**357**	P		**Pn**	**03 09 35.0**	**+1.0**
	baz=176							
SWSC				S		**Sn**	**03 09 56.8**	**+0.8**
	baz=176							
MONP2	**Monument Peak**	**1.73**	**339**	P		**Pn**	**03 09 35.5**	**+0.4**
	baz=158							
MONP2				S		**Sn**	**03 09 58.1**	**+0.3**
	baz=158							
GLA	**Glamis**	**1.92**	**22**	Sb		**Sb**	**03 10 05.0**	**+1.1**
	baz=202							
109C	**Camp Elliot, M**	**2.01**	**324**	P		**Pn**	**03 09 39.8**	**+1.1**
	baz=142							
109C				Sb		**Sn**	**03 10 06.0**	**+1.6**
	baz=142							
BC3	**Big Chuckawall**	**2.38**	**5**	Pb		**Pb**	**03 09 48.3**	**+0.8**
	baz=184							
TPFO	**Pinon Flats**	**2.42**	**345**	Pb		**Pb**	**03 09 48.4**	**+0.4**
	baz=164							
TPFO				Sb		**Sb**	**03 10 18.6**	**+0.3**
	baz=164							
PFO	**Pinyon Flats O**	**2.42**	**345**	Pb		**Pb**	**03 09 48.6**	**+0.5**
	baz=164							
PFO				Sb		**Sb**	**03 10 19.2**	**+0.7**
	baz=164							
MURC	**Murrieta**	**2.65**	**332**	Pb		**Pb**	**03 09 51.2**	**-0.7**
	baz=150							
MURC				Sb		**Sb**	**03 10 24.7**	**-0.2**
	baz=150							

IDC 04 03:12:05.7±8.2,2°.09N×98°.15E,h0km,mb3.8/3,mb1 3.9/3, mb1mx3.5/33,mbtmp3.8/3,Error ellipse: s-maj=395.3km s-min=28.9km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.72**	**123**	P		P	03 19 56.6	-0.1
	0.5nm,0.7s,baz=302,slow=9.1,SNR=3.6							
MKAR	**Makanchi Array**	**46.62**	**345**	P		P	03 20 35.5	-0.2
	0.5nm,0.4s,baz=163,slow=8.0,SNR=5.1							
ZALV	**Zalesovo Beam**	**52.84**	**350**	P		P	03 21 22.9	0.0
	1.4nm,0.4s,baz=174,slow=5.8,SNR=4.0							

*ISCJB **04** 03:14:10.8±1.0,6°.9S±0°.1×154°.1E±0°.2,h33km,mb3.8/10, Error ellipse: s-maj=30.9km s-min=14.5km az=32.2*
*IDC **04** 03:14:15.9±5.7,6°.94S×153°.96E,h62km±48km,mb3.6/10, mb1 3.7/11,mb1mx3.6/29,mbtmp3.9/11,ML2.1/1,MS2.7/1, Ms1 2.7/1,ms1mx2.3/28,Error ellipse: s-maj=41.0km s-min=21.6km az=103.0*
ISC 04 03:14:12.9±1.1,6°.9S±0°.2×154°.0E±0°.2,h35km,n12, σ0°48/12,mb3.9/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.19**	**249**	P		Pn	03 16 00.2	+4.7
	1.9nm,0.3s,baz=38,slow=11,SNR=4.8							
PMG				LR		LR	03 18 30.1	
	comp=Z,67nm,21.2s,baz=50,slow=35							
WRA	**Warramunga Arr**	**23.04**	**234**	P		**P**	**03 19 15.3**	**0.0**
	1.0nm,0.7s,baz=58,slow=9.8,SNR=12							
WRA				PcP		**PcP**	**03 23 04.4**	**+0.2**
	0.2nm,0.5s,baz=65,slow=2.3,SNR=4.4							
ASAR	**Alice Springs**	**25.48**	**227**	P		**P**	**03 19 38.1**	**+0.1**
	0.8nm,0.7s,baz=58,slow=9.0,SNR=9.1							
STKA	**Stephens Creek**	**27.40**	**203**	P		**P**	**03 19 55.0**	**-0.2**
	1.1nm,0.7s,baz=24,slow=12,SNR=1.8							
FITZ	**Fitzroy Crossi**	**29.77**	**245**	P		**P**	**03 20 16.2**	**-0.3**
	1.3nm,0.5s,baz=54,slow=7.7,SNR=9.7							
KSRS	**Korea Array**	**50.40**	**333**	P		**P**	**03 23 06.7**	**-0.1**
	0.8nm,0.5s,baz=146,slow=7.1,SNR=3.6							
SONM	**Songino Array**	**68.72**	**328**	P		**P**	**03 25 13.4**	**+0.2**
	0.5nm,0.4s,baz=140,slow=5.2,SNR=4.0							
MKAR	**Makanchi Array**	**82.67**	**319**	P		**P**	**03 26 33.5**	**+0.6**
	0.8nm,0.7s,baz=96,slow=6.8,SNR=5.3							
ZALV	**Zalesovo Beam**	**83.54**	**326**	P		**P**	**03 26 37.2**	**0.0**
	0.8nm,0.5s,baz=93,slow=7.7,SNR=2.0							
ILAR	**Eielson Array**	**83.67**	**22**	P		**P**	**03 26 36.5**	**-1.1**
	0.4nm,0.6s,baz=242,slow=5.1,SNR=6.3							
NVAR	**Mina Array Bea**	**92.46**	**52**	P		**P**	**03 27 21.4**	**+0.6**
	0.2nm,0.3s,baz=262,slow=5.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**152.03**	**285**	PKPbc		**PKPbc**	**03 34 05.7**	**+0.2**
	0.9nm,0.7s,baz=64,slow=1.7,SNR=9.5							

*ISCJB **04** 03:21:58.8±0.8,7°.99S±0°.07×106°.64E±0°.05,h33km, mb3.5/5,Error ellipse: s-maj=10.4km s-min=6.7km az=27.8*
*DJA **04** 03:22:00.2±1.1,8°.5S±8°.×10°7E±°,h15km±8km,M4.3/13, mb4.6/1,MLv4.1/13*
*IDC **04** 03:22:03.8±5.0,7°.64S×106°.52E,h103km±39km,mb3.2/5, mb1 3.4/5,mb1mx3.1/48,mbtmp3.6/5,Error ellipse: s-maj=64.0km s-min=21.9km az=54.0*
ISC 04 03:22:01.2±1.1,7°.79S±0°.09×106°.73E±0°.06,h35km,n22, σ1°67/19,mb3.6/5,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNJI	**Cibinong**	**0.62**	**40**	P		**Pn**	**03 22 12.5**	**-1.0**
CNJI				S		**Sn**	**03 22 23.1**	**+0.8**
SKJI	**Sukabumi**	**0.80**	**348**	P		**Pn**	**03 22 15.6**	**-0.3**
CISI	**Cisompet, Garu**	**1.10**	**78**	P		**Pn**	**03 22 20.5**	**+0.3**
CISI				S		**Sn**	**03 22 36.6**	**+2.3**
LEM	**Lembang**	**1.30**	**43**	P		Pn	03 22 28.5	+5.5
	293nm,0.3s,baz=182,slow=1.3,SNR=90							
LEM				S		Sn	03 22 47.5	+8.2
	354nm,0.3s,baz=57,slow=22,SNR=12							
LEM				LR		LR	03 23 18.4	
	comp=Z,376nm,20.4s,baz=226,slow=55							
CGJI	**Cibinong**	**1.55**	**319**	P		**Pn**	**03 22 27.1**	**+0.8**
CMJI	**Cimerak**	**1.71**	**90**	P		**Pn**	**03 22 28.7**	**+0.3**
SBJI	**Serang**	**1.76**	**340**	P		**Pn**	**03 22 30.9**	**+1.7**
JCJI	**Jatiwangi**	**2.00**	**50**	P		**Pn**	**03 22 31.7**	**-0.8**
KPJI	**Karang Pucung**	**2.23**	**78**	P		**Pn**	**03 22 36.6**	**+0.9**
KASI	**Kota Agung**	**3.16**	**315**	P		**Pn**	**03 22 49.8**	**+1.4**
UGM	**Wanagama**	**3.77**	**92**	P		**Pn**	**03 22 57.3**	**+0.5**
NGJI	**Ngawi**	**4.71**	**85**	P		**Pn**	**03 23 11.3**	**+1.5**
PWJI	**Pagerwojo**	**5.04**	**93**	P		**Pn**	**03 23 15.1**	**+0.8**
PWJI				S		**Sn**	**03 24 15.2**	**+3.9**
FITZ	**Fitzroy Crossi**	**21.07**	**121**	P		**P**	**03 26 42.0**	**-0.5**
	1.9nm,0.8s,baz=278,slow=8.7,SNR=4.0							
WRA	**Warramunga Arr**	**29.35**	**117**	P		**P**	**03 27 58.3**	**-2.7**
	0.3nm,0.3s,baz=288,slow=12,SNR=8.9							
ASAR	**Alice Springs**	**30.46**	**124**	P		**P**	**03 28 09.6**	**-1.3**
	0.2nm,0.5s,baz=297,slow=8.5,SNR=3.0							
H08S2	**Diego Garcia H**	**33.92**	**268**	T		T	04 04 11.6	
	baz=92,slow=76,SNR=14							
H08S3	**Diego Garcia H**	**33.93**	**268**	T	

	1.4nm,0.3s,baz=68,slow=9.4,SNR=5.1						
NNA				S	Sn	03 31 30.8	-3.7
	14nm,0.3s,baz=205,slow=19,SNR=11						
ATAH	**Atahualpa**	**4.41**	**287**	P	Pn	03 30 42.6	-1.2
	9.0nm,0.3s,baz=70,slow=2.4,SNR=29						
ATAH				S	Sn	03 31 31.0	-4.3
	baz=319,slow=13,SNR=2.5						
LPAZ	**La Paz**	**9.75**	**144**	P	Pn	03 31 55.3	+0.5
	0.3nm,0.3s,baz=342,slow=9.4,SNR=14						
SIV	**San Ignacio**	**14.80**	**122**	P	P	03 33 01.0	-0.3
	1.2nm,0.3s,baz=295,slow=12,SNR=13						
LVC	**Limon Verde**	**14.94**	**161**	P	P	03 33 04.8	+1.7
	19nm,0.3s,baz=322,slow=7.6,SNR=5.2						
PTGA	**Pitinga**	**16.08**	**62**	P	P	03 33 19.7	+4.3
	0.3nm,0.3s,baz=235,slow=18,SNR=3.1						
CPUP	**Villa Florida**	**23.89**	**140**	P	P	03 34 36.6	-0.4
	4.3nm,1.1s,baz=319,slow=9.0,SNR=3.9						
TXAR	**Lajitas Array**	**47.12**	**324**	P	P	03 37 55.1	+0.9
	0.4nm,0.5s,baz=152,slow=8.8,SNR=4.6						
PDAR	**Pinedale Array**	**60.34**	**331**	P	P	03 39 30.7	+0.4
	0.4nm,0.6s,baz=134,slow=8.9,SNR=3.5						
SCHQ	**Schefferville**	**63.35**	**5**	P	P	03 39 49.5	-0.4
	2.4nm,0.9s,baz=158,slow=5.4,SNR=4.3						
YKA	**Yellowknife Ar**	**77.29**	**342**	P	P	03 41 14.2	-0.2
	0.4nm,0.5s,baz=140,slow=5.9,SNR=7.4						
TORD	**Torodi Ar. Bea**	**78.31**	**75**	P	P	03 41 20.7	-0.3
	0.2nm,0.4s,baz=253,slow=4.9,SNR=7.7						
WRA	**Warramunga Arr**	**140.21**	**225**	PKP	PKPdf	03 48 46.5	-2.2
	0.2nm,0.4s,baz=129,slow=1.9,SNR=3.1						

NIED ***04*** *03:32:00,40.20N×140.40E,h8km,Mw3.9 Best double couple: M₀9.35000×10¹⁴ NP1:φs38.00000°,δ72.00000°, λ168.00000°. NP2:φs131.00000°,δ79.00000°,λ18.00000°.*

ISCJB ***04*** *03:32:58.5±0.5,40.26N±0.03×140.37E±0.04,h21km±4km, mb4.0/19,MS3.7/3,Error ellipse: s-maj=5.2km s-min=4.0km az=31.1*

JMA ***04*** *03:32:58.5,40.24N×140.38E,h13km±1km,M4.1 Broadband fault plane solution: P waves. NP1: φs309.00000°,δ89.00000°,λ-25.00000°. NP2:φs39.00000°, δ65.00000°,λ-179.00000°. Principal axes: T Plg17.0000°, Azm357.0000°; N Plg65.0000°, Azm127.0000°; P Plg18.0000°, Azm261.0000°;*

JMA Felt III J1.

NEIC ***04*** *03:33:02.8±0.7,40.33N×140.34E,h37km±7km,mb4.3/6 Error ellipse: s-maj=10.3km s-min=6.2km az=120.0*

NEIC Recorded [3 JMA] in Akita.

IDC ***04*** *03:33:04.9±2.2,40.47N×140.23E,h50km±20km,mb3.7/15, mb1 3.9/20,mb1mx3.6/68,mbtmp4.0/20,ML3.8/5,MS3.6/3, Ms1 3.6/3,ms1mx2.7/59,Error ellipse: s-maj=17.2km s-min=13.4km az=119.0*

ISC 04 03:32:59.0±1.0,40°28N±0.04×140°42E±0.04,h13km±6km, n42,σ1§49/52,mb4.2/19,MS3.6/3,2C-3D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.19**	**119**	⇓P	**Pg**	**03 33 03.1**	**-0.1**
JAH				S	**Sg**	**03 33 06.2**	**+0.1**
JIW	**Iwasaki**	**0.44**	**315**	⇑P	**Pg**	**03 33 07.5**	**-0.3**
JIW				S	**Sb**	**03 33 13.7**	**-1.6**
JTM	**Tenmabayashi**	**0.71**	**44**	⇓P	**Pb**	**03 33 13.0**	**-0.2**
JTM				S	**Sb**	**03 33 23.1**	**+0.3**
JANG	**Nango**	**0.84**	**83**	⇓P	**Pg**	**03 33 14.8**	**-0.5**
JANG				S	**Sg**	**03 33 26.5**	**+0.2**
JRG	**Rokugo**	**0.90**	**169**	⇑P	**Pg**	**03 33 14.9**	**-1.5**
JRG				S	**Sg**	**03 33 26.9**	**-1.2**
ERM	**Erimo**	**2.70**	**49**	*e*Pn	**Pn**	**03 33 43.6**	**+1.5**
ERM				*e*Sn	**Sn**	**03 34 12.5**	**-2.1**
MAJO	**Matsushiro**	**4.12**	**206**	*e*Pn	**Pn**	**03 34 01.9**	**+0.2**
MAJO				*e*Sn	**Sn**	**03 34 48.2**	**-1.4**
MAT	**Matsushiro**	**4.12**	**206**	P	**Pn**	**03 34 01.7**	**+0.1**
MAT				S	**Sn**	**03 34 48.0**	**-1.7**
MJAR	**Matsushiro Arr**	**4.12**	**206**	P	**Pn**	**03 34 02.4**	**+0.7**
	7.0nm,0.3s,baz=341,slow=22,SNR=69						
MJAR				S	**Sn**	**03 34 48.4**	**-1.3**
	5.4nm,0.3s,baz=30,slow=17,SNR=4.5						
ASAJ	**Asahikawa**	**4.16**	**22**	P	**Pn**	**03 34 04.8**	**+2.6**
	7.6nm,0.3s,baz=223,slow=11,SNR=50						
ASAJ				S	**Sb**	**03 34 58.1**	**-4.1**
	2.7nm,0.3s,baz=10,slow=28,SNR=4.7						
USRK	**Ussuriysk Ar.**	**7.38**	**305**	P	**Pn**	**03 34 46.4**	**0.0**
	2.9nm,0.3s,baz=120,slow=14,SNR=30						
USRK				S	**Sn**	**03 36 06.8**	**-3.1**
	1.4nm,0.3s,baz=115,slow=27,SNR=6.9						
KSRS	**Korea Array**	**10.15**	**258**	P	**Pn**	**03 35 27.4**	**+3.0**
	3.1nm,0.3s,baz=64,slow=14,SNR=42						
KSRS				S	**Sn**	**03 37 19.2**	**+1.2**
	2.5nm,0.3s,baz=73,slow=24,SNR=17						
KSAR	**Wonju Array Be**	**10.18**	**258**	P	**Pn**	**03 35 27.4**	**+2.5**
KSAR				S	**Sn**	**03 37 19.2**	**+0.4**
JNU	**Nakatsue**	**10.47**	**230**	P	**Pn**	**03 35 32.5**	**+3.6**
	1.4nm,0.3s,baz=44,slow=4.0,SNR=13						
JNU	**Nakatsue**	**10.47**	**230**	*e*Pn	**Pn**	**03 35 29.9**	**+1.1**
KLR	**Kul'dur**	**10.86**	**328**	P	**Pn**	**03 35 35.5**	**+1.5**
	0.1nm,0.3s,baz=126,slow=13,SNR=14						
MA2	**Magadan**	**20.38**	**15**	P	**P**	**03 37 34.2**	**-1.1**
	2.0nm,0.4s,baz=208,slow=15,SNR=4.2						
SEY	**Seymchan**	**23.79**	**14**	P	**P**	**03 38 10.3**	**-0.8**
	1.3nm,0.5s,baz=193,slow=9.1,SNR=5.5						
KURK	**Kurchatov**	**43.37**	**305**	*e*P	**P**	**03 41 00.2**	**-0.6**
	4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**43.44**	**305**	P	**P**	**03 41 00.8**	**-0.6**
	1.2nm,0.8s,baz=81,slow=8.4,SNR=8.1						
ILAR	**Eielson Array**	**47.20**	**34**	P	**P**	**03 41 31.9**	**+0.9**
	1.8nm,0.9s,baz=270,slow=5.7,SNR=15						
TKM2	**Tokmak 2**	**47.47**	**296**	*e*P	**P**	**03 41 33.9**	**+0.1**
	1.5nm,0.7s						
DOT	**Dot Lake**	**48.57**	**35**	*e*P	**P**	**03 41 41.3**	**-0.4**
	2.0nm,0.5s						
INK	**Inuvik**	**51.87**	**28**	P	**P**	**03 42 07.8**	**+1.2**
	2.8nm,0.7s,baz=309,slow=9.0,SNR=9.7						
ARU	**Arti**	**53.44**	**317**	P	**P**	**03 42 18.3**	**0.0**
	1.4nm,0.3s,baz=100,slow=11,SNR=3.4						
ARU	**Arti**	**53.44**	**317**	*e*P	**P**	**03 42 18.4**	**0.0**
	1.8nm,0.4s						
ABKAR	**Akbulak array**	**55.29**	**308**	*e*P	**P**	**03 42 31.1**	**-0.8**
DLBC	**Dease Lake**	**56.57**	**39**	LR	LR	04 06 48.3	
	comp=Z,39nm,21.9s,baz=294,slow=36						
WRAB	**Tennant Creek**	**60.17**	**187**	*e*P	**P**	**03 43 07.3**	**+0.9**
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**60.18**	**187**	P	**P**	**03 43 08.1**	**+1.6**
	0.8nm,0.4s,baz=4.0,slow=7.2,SNR=12						
ARCES	**ARCESS Array B**	**60.69**	**339**	P	**P**	**03 43 08.6**	**-0.9**
	2.4nm,0.9s,baz=27,slow=8.1,SNR=3.5						
YKA	**Yellowknife Ar**	**61.41**	**31**	P	**P**	**03 43 14.8**	**+0.4**
	0.3nm,0.5s,baz=307,slow=6.1,SNR=4.2						
ASAR	**Alice Springs**	**63.91**	**187**	P	**P**	**03 43 33.9**	**+2.4**
	0.8nm,0.5s,baz=0.5,slow=6.8,SNR=7.2						
FINES	**FINESS Array B**	**65.59**	**331**	P	**P**	**03 43 41.3**	**-0.8**
	1.9nm,0.8s,baz=11,slow=7.8,SNR=7.0						
HFS	**Hagfors**	**70.82**	**335**	P	**P**	**03 44 14.8**	**-0.2**
	0.6nm,0.4s,baz=39,slow=5.7,SNR=11						
AKASG	**Malin Array Be**	**71.27**	**321**	P	**P**	**03 44 16.9**	**-0.9**
	0.5nm,0.4s,baz=45,slow=6.8,SNR=4.7						
NVAR	**Mina Array Bea**	**73.67**	**53**	P	**P**	**03 44 33.5**	**+0.8**
	0.4nm,0.5s,baz=294,slow=8.0,SNR=4.7						
PDAR	**Pinedale Array**	**75.95**	**45**	P	**P**	**03 44 46.2**	**+0.5**
	0.3nm,0.6s,baz=11,slow=1.5,SNR=3.4						
ULM	**Lac du Bonnet**	**77.22**	**33**	LR	LR	04 21 36.6	
	comp=Z,25nm,18.1s,baz=269,slow=38						
SDCO	**Great Sand Dun**	**81.65**	**47**	*e*P	**P**	**03 45 18.2**	**+0.9**
	1.2nm,0.7s						
RAR	**Rarotonga**	**82.69**	**126**	LR	LR	04 13 40.5	
	comp=Z,86nm,21.9s,baz=163,slow=29						
LPAZ	**La Paz**	**145.57**	**54**	PKPbc	**PKPdf**	**03 52 38.2**	**+0.1**
	0.8nm,0.6s,baz=355,slow=5.2,SNR=4.3						

ISCJB ***04*** *03:37:01.6±0.5,51.46N±0.03×16.15E±0.03,h0km,Error ellipse: s-maj=4.0km s-min=2.6km az=11.8*

CSEM ***04*** *03:37:04.0±0.5,51.44N×16.08E,h2km,ML3.3/9,Error ellipse: s-maj=7.6km s-min=3.9km az=1.0*

IDC ***04*** *03:37:04.2±0.8,51.47N×15.99E,h0km,mb1 3.1/5, mb1mx2.9/59,mbtmp3.0/5,ML2.4/4,Error ellipse: s-maj=13.5km s-min=7.8km az=112.0*

VIE ***04*** *03:37:07.1±0.9,51.25N×16.30E,h0km,mb2.2/4,ML2.7/4, Error ellipse: s-maj=6.6km s-min=5.5km az=94.0, Suspected Mining induced.*

ISC 04 03:37:02.6±0.8,51.53N±0.03×16.11E±0.02,h0km,n42, σ1§02/82,1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**171**	*i* Pg	**Pg**	**03 37 16.4**	**+0.4**
KSP				*e*Sg	**Sg**	**03 37 24.9**	**-0.1**
KSP	**Ksiaz**	**0.70**	**171**	*i*Pg	**Pg**	**03 37 16.4**	**+0.4**
KSP				*e*Sg	**Sg**	**03 37 24.9**	**-0.1**
UPC	**Upice**	**1.03**	**184**	*e*PG	**Pg**	**03 37 22.5**	**+0.2**
UPC				*e*SG	**Sg**	**03 37 35.1**	**-0.5**
	64nm,0.4s						
UPC	**Upice**	**1.03**	**184**	Pg	**Pg**	**03 37 22.5**	**+0.2**
UPC				Sg	**Sg**	**03 37 35.1**	**-0.5**
	64nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**174**	*e*PG	**Pg**	**03 37 25.2**	**-0.2**
DPC				*e*SG	**Sg**	**03 37 39.7**	**-1.1**
	29nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**174**	Pg	**Pg**	**03 37 25.2**	**-0.2**
DPC				Sg	**Sg**	**03 37 39.7**	**-1.1**
	29nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**225**	*e*PG	**Pg**	**03 37 29.4**	**0.0**
PVCC				*e*SG	**Sb**	**03 37 48.3**	**+0.3**
	114nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**225**	Pg	**Pg**	**03 37 29.4**	**0.0**
PVCC				Sg	**Sb**	**03 37 48.3**	**+0.3**
	114nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**245**	PN	**Pn**	**03 37 30.7**	**-0.3**
BRG				PG	**Pg**	**03 37 32.6**	**+0.9**
BRG				SG	**Sn**	**03 37 52.5**	**+1.0**
	73nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*PN	**Pn**	**03 37 34.5**	**-0.8**
GOPC				*e*PG	**Pb**	**03 37 36.7**	**-0.2**
GOPC				*e*SG	**Sb**	**03 38 00.4**	**+0.1**
	15nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	Pn	**Pn**	**03 37 34.5**	**-0.8**
PRU	**Pruhonice**	**1.84**	**213**	*e*PG	**Pn**	**03 37 36.3**	**+0.9**
PRU				*e*SG	**Sn**	**03 38 00.1**	**+0.7**
	21nm,0.5s						
PRU	**Pruhonice**	**1.84**	**213**	Pg	**Pn**	**03 37 36.3**	**+0.9**
PRU				Sg	**Sn**	**03 38 00.1**	**+0.7**
	21nm,0.5s						
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**03 37 37.0**	**-0.1**
CLL				*e*Pg	**Pb**	**03 37 40.0**	**+0.8**
CLL				*i*		03 37 43.1	
CLL				*e*		03 37 55.0	
CLL				*e*Sg	**Sg**	**03 38 06.0**	**+0.4**
	comp=Z,20nm,0.4s						
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**03 37 37.0**	**-0.4**
MORC				*e*Sg	**Sn**	**03 38 02.4**	**-0.5**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pb**	**03 37 42.5**	**+0.4**
OKC				*e*SG	**Sb**	**03 38 08.8**	**-0.3**
	comp=Z,32nm,0.7s						
OKC	**Ostrava-Krasne**	**2.13**	**142**	Pg	**Pb**	**03 37 42.5**	**+0.4**
OKC				Sg	**Sb**	**03 38 08.8**	**-0.3**
	comp=Z,32nm,0.7s						
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	**03 37 40.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=349,slow=14,SNR=2.2						
VRAC				Lg	Lg	03 38 13.0	
	comp=Z,4.1nm,0.3s,baz=270,slow=20,SNR=7.8						
VRAC	**Vranov**	**2.25**	**172**	*e*Sg	**Sb**	**03 38 12.3**	**-0.1**
TREC	**Trest**	**2.27**	**190**	*e*PN	**Pn**	**03 37 42.6**	**+1.2**
TREC				*e*PG	**Pb**	**03 37 45.1**	**+0.6**
TREC	**Trest**	**2.27**	**190**	Pn	**Pn**	**03 37 42.6**	**+1.2**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**03 37 47.7**	**+1.0**
NKC				*e*PG	**Pg**	**03 37 53.3**	**-0.3**
NKC				*e*SG	**Sg**	**03 38 28.1**	**+0.1**
	comp=Z,32nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**242**	Pn	**Pn**	**03 37 47.7**	**+1.0**
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**03 37 54.5**	**+0.6**
OJC				*e*Sg	**Sg**	**03 38 29.7**	**+1.1**
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**03 37 54.5**	**+0.6**
OJC				*e*Sg	**Sg**	**03 38 29.7**	**+1.1**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**03 37 50.5**	**+0.4**
KHC				*e*PG	**Pb**	**03 37 56.0**	**+0.8**
KHC				*e*SN	**Sn**	**03 38 22.0**	**-3.6**
KHC				*e*SG	**Sb**	**03 38 33.0**	**+1.8**
KHC	**Kasperske Hory**	**2.90**	**215**	Pn	**Pn**	**03 37 50.5**	**+0.4**
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**	**03 37 53.6**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=28,slow=13,SNR=23						
GERES				Pg	**Pb**	**03 37 59.7**	**+1.0**
	comp=Z,2.5nm,0.3s,baz=25,slow=17,SNR=31						
GERES				Sn	**Sn**	**03 38 30.7**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=31,slow=24,SNR=5.7						
GERES				Lg	Lg	03 38 39.0	
	comp=Z,3.6nm,0.3s,baz=31,slow=29,SNR=11						
SMOL	**Smolenice**	**3.14**	**164**	*e*Pg	**Pg**	**03 38 03.9**	**+1.2**
SMOL				*e*Sg	**Sg**	**03 38 41.6**	**-1.8**
SMOL	**Smolenice**	**3.14**	**164**	*e*PG	**Pg**	**03 38 03.9**	**+1.2**
SMOL				*e*SG	**Sg**	**03 38 41.6**	**-1.8**
LANS	**Liptovska Anna**	**3.21**	**137**	*e*Pg	**Pg**	**03 38 05.4**	**+1.3**
LANS				*e*Sg	**Sg**	**03 38 45.6**	**0.0**
LANS	**Liptovska Anna**	**3.21**	**137**	*e*PG	**Pg**	**03 38 05.4**	**+1.3**
LANS				*e*SG	**Sg**	**03 38 45.6**	**0.0**
VYHS	**Vyhne**	**3.51**	**149**	*e*Pg	**Pg**	**03 38 09.6**	**-0.3**
VYHS				*e*Sg	**Sg**	**03 38 53.1**	**-2.2**
VYHS	**Vyhne**	**3.51**	**149**	*e*PG	**Pg**	**03 38 09.6**	**-0.3**
VYHS				*e*SG	**Sg**	**03 38 53.1**	**-2.2**
VYHS				*e*LG	Lg	03 39 04.3	
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**03 38 00.3**	**-0.1**
BSD				*i* S	**Sn**	**03 38 41.9**	**-2.3**
MOA	**Molln**	**3.88**	**199**	Pn	**Pn**	**03 38 04.0**	**+0.6**
	comp=Z,0.9nm,0.2s						
MOA				Sg	**Sg**	**03 39 07.6**	**+0.5**
	comp=Z,7.1nm,0.4s						
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*Pg	**Pg**	**03 38 18.8**	**+1.5**
STHS				*e*Sg	**Sg**	**03 39 08.9**	**+1.0**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PG	**Pg**	**03 38 18.8**	**+1.5**
STHS				*e*SG	**Sg**	**03 39 08.9**	**+1.0**
STHS				*e*LG	Lg	03 39 23.7	
ARSA	**Arzberg**	**4.30**	**185**	Pn	**Pn**	**03 38 11.0**	**+1.7**
	comp=Z,1.0nm,0.3s						
ARSA				Sg	**Sg**	**03 39 20.0**	**-0.8**
	comp=Z,3.5nm,0.4s						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**03 39 04.0**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=281,slow=12,SNR=3.3						
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**03 39 09.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=3.2						
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**03 39 43.8**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=202,slow=14,SNR=4.0						

NIED ***04*** *03:37:00,38.30N×141.30E,h77km,Mw4.4 Best double couple: M₀4.53000×10¹⁵ NP1:φs42.00000°,δ46.00000°, λ140.00000°. NP2:φs162.00000°,δ63.00000°,λ52.00000°.*

BJI ***04*** *03:37:13.4,38.20N×141.29E,h78km,mb4.7/48,mB4.8/29, Ms4.4/15,Ms7 4.2/9*

IDC ***04*** *03:37:15.6±0.4,38.37N×141.21E,h74km±3km,mb4.2/35, mb1 4.4/41,mb1mx4.2/66,mbtmp4.5/41,MS3.1/8, Ms1 3.1/8,ms1mx2.8/47,Error ellipse: s-maj=10.8km s-min=7.3km az=126.0*

JMA ***04*** *03:37:15.8,38.27N×141.27E,h76km±1km,M4.4*

JMA Felt III J1.

MOS ***04*** *03:37:15.7±0.9,38.52N×141.12E,h79km,mb4.9/52,Error ellipse: s-maj=7.1km s-min=4.8km az=89.5*

ISCJB ***04*** *03:37:15.9±0.2,38.43N±0.02×141.15E±0.03,h82km±2km, mb4.5/138,Error ellipse: s-maj=4.7km s-min=2.9km az=139.3*

NEIC ***04*** *03:37:17.0±0.3,38.41N×141.08E,h80km±3km,mb4.7/89, Error ellipse: s-maj=4.0km s-min=2.8km az=147.0*

NEIC Recorded [3 JMA] in Iwate and Miyagi.

ISC 04 03:37:15.9±0.4,38°35N±0.04×141°28E±0.04,h78km±2km, h77km:pP-P,n335,σ1§36/377,mb4.6/138,13C-11D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.12**	**30**	P	**Pn**	**03 37 27.3**	**+0.2**
JIO				S	**Sn**	**03 37 35.2**	**-0.2**
JOU	**Okura**	**0.48**	**272**	P	**Pn**	**03 37 29.1**	**-0.2**
JOU				S	**Sn**	**03 37 39.4**	**+0.3**
JMK	**Ichinoseki**	**0.60**	**356**	P	**Pn**	**03 37 31.0**	**+0.7**
JMK				S	**Sn**	**03 37 42.1**	**+1.1**
JMM	**Marumori**	**0.62**	**218**	P	**Pn**	**03 37 29.5**	**-1.0**
JMM				S	**Sn**	**03 37 39.7**	**-1.6**
JYK	**Kaneyama**	**0.91**	**308**	P	**Pn**	**03 37 34.3**	**+0.5**
JYK				S	**Sn**	**03 37 48.1**	**+1.0**
JYS	**Shirataka**	**0.96**	**262**	P	**Pn**	**03 37 34.3**	**0.0**
JYS				S	**Sn**	**03 37 48.2**	**+0.1**
JFK	**Kawauchi**	**1.03**	**198**	P	**Pn**	**03 37 34.3**	**-1.0**
JFK				S	**Sn**	**03 37 48.0**	**-1.7**
JFT	**Otama**	**1.12**	**222**	P	**Pn**	**03 37 35.8**	**-0.4**
JFT				S	**Sn**	**03 37 50.8**	**-0.6**
JOM	**Ohasama**	**1.12**	**1**	P	**Pn**	**03 37 37.2**	**+0.9**
JOM				S	**Sn**	**03 37 53.0**	**+1.5**
JRG	**Rokugo**	**1.16**	**335**	P	**Pn**	**03 37 37.8**	**+1.1**
JRG				S	**Sn**	**03 37 54.8**	**+2.5**
JYA	**Atsumi**	**1.25**	**282**	P	**Pn**	**03 37 38.2**	**+0.3**
JYA				S	**Sn**	**03 37 54.7**	**+0.3**
JAW	**Awa shima**	**1.59**	**274**	P	**Pn**	**03 37 42.8**	**+0.5**
JNS	**Sasagawa**	**1.63**	**252**	P	**Pn**	**03 37 42.9**	**0.0**
MAJO	**Matsushiro**	**3.04**	**234**	*d* P	**Pn**	**03 38 02.5**	**+0.8**
MAJO	**Matsushiro**	**3.04**	**234**	*e*Pn	**Pn**	**03 38 02.7**	**+1.0**
MAT	**Matsushiro**	**3.04**	**234**	P	**Pn**	**03 38 02.6**	**+0.9**
MAT				S	**Sn**	**03 38 38.7**	**+1.7**
MJAR	**Matsushiro Arr**	**3.04**	**234**	P	**Pn**	**03 38 02.6**	**+0.9**
	65nm,0.3s,baz=39,slow=13,SNR=595						
MJAR				S	**Sn**	**03 38 39.0**	**+2.0**
	16nm,0.3s,baz=81,slow=15,SNR=4.2						
MJB9	**Matsu-Tunnel**	**3.04**	**235**	*e*Pn	**Pn**	**03 38 02.7**	**+1.0**
ERM	**Erimo**	**3.93**	**21**	*d* P	**Pn**	**03 38 13.1**	**-0.7**
ERM				pmax	pmax		
	comp=Z,61nm,0.8s						
ERM	**Erimo**	**3.93**	**21**	*e*Pn	**Pn**	**03 38 13.1**	**-0.7**
ERM				*e*Sn	**Sn**	**03 38 59.2**	**+0.6**
INU	**Inuyama**	**4.54**	**230**	*e*Pn	**Pn**	**03 38 22.7**	**+0.5**
JHJ	**Hachijo jima 2**	**5.36**	**194**	P	**Pn**	**03 38 32.7**	**-0.7**
	comp=Z,43nm,0.3s,baz=240,slow=19,SNR=12						
JHJ				S	**Sn**	**03 39 27.6**	**-6.2**
	comp=Z,37nm,0.3s,baz=94,slow=22,SNR=3.1						
JHJ				LR	LR	03 40 20.4	
	comp=Z,178nm,19.1s,baz=94,slow=34						
JHJ2	**Mitsune**	**5.36**	**193**	*e*Pn	**Pn**	**03 38 33.0**	**-0.4**
JHJ2				*e*Sn	**Sn**	**03 39 32.5**	**-1.3**
ASAJ	**Asahikawa**	**5.84**	**9**	P	**Pn**	**03 38 39.6**	**-0.2**
	comp=Z,25nm,0.3s,baz=212,slow=10,SNR=51						
ASAJ				S	**Sn**	**03 39 45.0**	**-0.5**
	baz=142,slow=29,SNR=2.4						
ASAJ	**Asahikawa**	**5.84**	**9**	*e*Pn	**Pn**	**03 38 39.2**	**-0.6**
ASAJ				*e*Sn	**Sn**	**03 39 43.4**	**-2.0**
YUK	**Yuzh-Kuril'sk**	**6.65**	**30**	⇑*e*P	**Pn**	**03 38 51.2**	**+0.4**
KUR	**Kuril'sk**	**8.45**	**33**	*e*P	**Pn**	**03 39 15.2**	**-0.3**
KUR				*e*S	**Sn**	**03 40 45.8**	**-3.4**
KUR				pmax	pmax		
	comp=Z,41nm,0.5s						
KUR				pmax	pmax		
	comp=N,7.0nm,0.3s						
KUR				pmax	pmax		
	comp=E,22nm,0.4s						
KUR				pmax	pmax		
	comp=Z,132nm,3.3s						
KUR				smax	smax		
	comp=E,115nm,0.5s						
KUR				smax	smax		
	comp=N,65nm,0.4s						
KUR				smax	smax		
	comp=N,191nm,3.3s						
KUR				smax	smax		
	comp=E,143nm,3.3s						
YSS	**Yuzh-Sakhalins**	**8.66**	**7**	⇑*e*P	**Pn**	**03 39 18.8**	**+0.5**
YSS				*e*S	**Sn**	**03 40 53.8**	**-0.5**
YSS				pmax	pmax		
	comp=Z,70nm,0.6s						
YSS				pmax	pmax		
	comp=N,70nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.66**	**7**	*e*Pn	**Pn**	**03 39 18.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.11**	**313**	P	**Pn**	**03 39 26.4**	**+2.0**
	comp=N,8.2nm,0.3s,baz=118,slow=14,SNR=56						
JNU	**Nakatsue**	**9.93**	**241**	P	**Pn**	**03 39 35.9**	**+0.1**
	comp=N,0.9nm,0.3s,baz=34,slow=7.5,SNR=8.9						
JNU				LR	LR	03 43 55.3	
	comp=N,126nm,19.3s,baz=106,slow=40						
JNU	**Nakatsue**	**9.93**	**241**	*e*Pn	**Pn**	**03 39 36.1**	**+0.4**
KSRS	**Korea Array**	**10.59**	**269**	P	**Pn**	**03 39 47.6**	**+2.9**
	comp=N,2.4nm,0.3s,baz=81,slow=14,SNR=27						
KSRS				LR	LR	03 42 49.5	
	comp=N,73nm,20.4s,baz=92,slow=32						
KS01	**Wonju Array Si**	**10.61**	**269**	*e*Pn	**Pn**	**03 39 46.4**	**+1.5**
KS01				*e*Sn	Sn	03 41 56.2	+14
KS15	**Wonju Array Si**	**10.62**	**269**	*e*Pn	**Pn**	**03 39 47.9**	**+2.8**
KS15				*e*Sn	Sn	03 41 58.4	+16
KSAR	**Wonju Array Be**	**10.62**	**269**	P	**Pn**	**03 39 47.6**	**+2.5**
KSAR	**Wonju Array Be**	**10.62**	**269**	P	**Pn**	**

comp=N,98nm,3.3s
YAK smax smax

comp=E,32nm,2.2s
YAK Yakutsk 24.76 347 *e*P **P** 03 42 29.0 -0.9
comp=E,57nm,0.7s
GUMO Guam 24.87 172 *e*P **P** 03 42 32.6 +1.3
GUMO pmax pmax

comp=Z,186nm,1.1s
GUMO Guam 24.87 172 *e*P **P** 03 42 32.6 +1.3
comp=Z,186nm,1.1s
SEY Seymchan 25.52 12 P **P** 03 42 37.7 +0.9
comp=Z,13nm,0.8s,baz=191,slow=8.4,SNR=29
SEY Seymchan 25.52 12⇓ *e*P **P** 03 42 38.1 +1.3
XAN Xi'an 26.39 271 P **P** 03 42 45.9 +0.9
XAN PMZ

comp=Z,12nm,1.1s
XAN PMZ

comp=Z,44nm,5.2s
ULN Ulaanbaatar 26.54 302 *de*P **P** 03 42 47.8 +1.4
ULN pmax pmax

comp=Z,5.0nm,1.2s
ULN Ulaanbaatar 26.54 302 *e*P **P** 03 42 46.0 -0.4
comp=Z,3.6nm,0.9s
SONA1 Songino Array 26.97 302 *e*P **P** 03 42 50.8 +0.5
SONM Songino Array 26.98 302 P **P** 03 42 50.0 -0.3
comp=Z,2.7nm,0.7s,baz=96,slow=8.7,SNR=16
SONM Songino Array 26.98 302 P **P** 03 42 50.0 -0.3
ENH Enshi 27.36 262 *e*P **P** 03 42 52.5 -1.3
comp=Z,36nm,0.8s
H11N2 WAKE ISLAND Hy 28.93 123 T T 04 13 24.8
baz=316,slow=75,SNR=1067
H11N1 WAKE ISLAND Hy 28.94 123 T T 04 13 25.4
baz=316,slow=75,SNR=1034
H11N3 WAKE ISLAND Hy 28.95 123 T T 04 13 26.2
baz=316,slow=75,SNR=940
ZAK Zakamensk 29.38 307 *e*P **P** 03 43 11.8 +0.2
ZAK pmax pmax

comp=Z,2.0nm,1.8s
H11S1 WAKE ISLAND Hy 29.68 125 T T 04 14 25.2
baz=318,slow=76,SNR=557
H11S3 WAKE ISLAND Hy 29.68 125 T T 04 14 26.1
baz=318,slow=76,SNR=988
H11S2 WAKE ISLAND Hy 29.70 125 T T 04 14 26.4
baz=318,slow=76,SNR=897
LZH Lanzhou 29.76 277 *e*P **P** 03 43 17.4 +2.2
LZH pP pP 03 43 36.5 +3.1
LZH sP sP 03 43 46.3 +3.9
LZH *e*PP **PnPn** 03 44 16.5 +2.5
LZH PMZ

comp=Z,23nm,1.0s
LZH PMZ

comp=Z,78nm,5.3s
LZH LN

comp=Z,330nm,13.2s
LZH LE

comp=Z,340nm,13.0s
LZH LZ

comp=Z,390nm,16.5s
GYA Guiyang 31.36 258 *e*P **P** 03 43 30.2 +0.9
GYA PMZ

comp=Z,10.0nm,0.8s
CD2 Chengdu 31.59 268 *e*P **P** 03 43 31.5 +0.3
CD2 PMZ

comp=Z,10.0nm,0.5s
BILL Bilibino 32.80 17⇓ *e*P **P** 03 43 41.3 0.0
BILL *e**PP **pP** 03 44 00.8 +1.2
BILL *e**SP **sP** 03 44 08.6 0.0
BILL *e*S **S** 03 48 52.7 +0.3
BILL pmax pmax

comp=Z,13nm,1.7s
BILL MLR MLR

comp=Z,50nm,21.0s
TIXI Tiksi 33.97 353 P **P** 03 43 49.4 -2.0
comp=Z,3.1nm,0.4s,baz=126,slow=7.6,SNR=5.5
TIXI Tiksi 33.97 353⇓ *e*P **P** 03 43 50.8 -0.6
TIXI pmax pmax

comp=Z,5.0nm,1.0s
KMI Kunming 35.07 259 P **P** 03 44 03.2 +1.4
KMI PMZ

comp=Z,19nm,0.7s
KMI PMZ

comp=Z,90nm,6.1s
TNA Tin City 39.77 30 *e*P **P** 03 44 42.0 +1.4
comp=Z,22nm,0.9s
WMQ Urumqi 40.16 295 P **P** 03 44 46.7 +2.4
WMQ pP pP 03 45 05.0 +2.0
WMQ sP sP 03 45 13.7 +1.7
WMQ PMZ

comp=Z,6.0nm,0.8s
WMQ PMZ

comp=Z,38nm,4.8s
ZAA0 Zalesovo Array 40.95 311 *e*P **P** 03 44 50.5 -0.1
ZALV Zalesovo Beam 40.95 311 P **P** 03 44 50.5 -0.2
comp=Z,8.5nm,0.6s,baz=83,slow=7.5,SNR=22
ZALV PcP **PcP** 03 46 49.0 -0.5
comp=Z,1.5nm,0.5s,baz=88,slow=3.8,SNR=3.3
CHTO Chiang Mai 41.53 254 *e*P **P** 03 44 55.5 -0.3
CHTO pmax pmax

comp=Z,5.0nm,0.8s
CHTO Chiang Mai 41.53 254 *e*P **P** 03 44 55.5 -0.3
comp=Z,5.3nm,0.8s
NVS Novosibirsk 41.86 313 *e*P **P** 03 44 57.1 -0.9
LSA Lhasa 42.00 274 *e*P **P** 03 45 01.8 +1.8
LSA pmax pmax

comp=Z,13nm,0.6s
LSA Lhasa 42.00 274 *e*P **P** 03 45 01.8 +1.8
comp=Z,13nm,0.6s
NRIK Noril'sk 42.03 335 P **P** 03 44 58.1 -1.1
comp=Z,2.9nm,0.3s,baz=106,slow=7.2,SNR=4.1
MK01 Makanchi Array 43.33 301 *e*P **P** 03 45 09.7 -0.5
MK31 Makanchi Array 43.34 301 *i* P **P** 03 45 09.7 -0.5
MK31 pmax pmax

comp=Z,6.0nm,0.6s
MK31 Makanchi Array 43.34 301 *e*P **P** 03 45 10.2 0.0
MKAR Makanchi Array 43.34 301 P **P** 03 45 10.1 0.0
comp=Z,6.4nm,0.7s,baz=87,slow=9.6,SNR=48
MKAR LR LR 04 02 11.6

comp=Z,22nm,18.9s,baz=126,slow=35
MAKZ Makanchi 43.55 301 *e*P **P** 03 45 11.8 0.0
MAKZ pmax pmax

comp=Z,6.0nm,0.8s
MAKZ Makanchi 43.55 301 *e*P **P** 03 45 11.8 0.0
comp=Z,6.3nm,0.8s
KURK Kurchatov 45.04 307 P **P** 03 45 23.7 0.0
KURK pmax pmax

comp=Z,29nm,0.8s
KURK Kurchatov 45.04 307 *e*P **P** 03 45 22.9 -0.7
comp=Z,65nm,0.8s
KURBB Kurchatov Arra 45.11 307 P **P** 03 45 23.7 -0.6
comp=Z,30nm,0.8s,baz=81,slow=8.1,SNR=199
RSO Redoubt South 45.94 39 *e*P **P** 03 45 32.4 +1.5
PDGK Podgornoye 46.08 297 P **P** 03 45 31.4 -0.5
PDGK pmax pmax

comp=Z,13nm,0.8s
KDAK Kodiak Island 46.20 43 *i* P **P** 03 45 33.0 +0.3
BPAW Bear Paw Mtn. 46.69 34 *e*P **P** 03 45 38.0 +1.6
comp=Z,21nm,1.5s
KTH Kantishna Hill 46.72 35 *e*P **P** 03 45 38.1 +1.3
comp=Z,22nm,0.9s
MLY Manley 46.80 33 *e*P **P** 03 45 39.5 +2.2
comp=Z,13nm,0.9s
GUN Gumba 46.93 274 *e*P **P** 03 45 39.7 +0.4
TRF Thorofare Moun 47.01 35 *e*P **P** 03 45 40.5 +1.3
comp=Z,11nm,0.8s
COLD Coldfoot 47.06 30 *e*P **P** 03 45 40.8 +1.5
comp=Z,3.9nm,0.7s
KKN Kakani 47.46 275 *e*P **P** 03 45 43.2 0.0
MCK McKinley 47.60 34 *e*P **P** 03 45 44.0 +0.4
MCK pmax pmax

comp=Z,15nm,1.0s
MCK McKinley 47.60 34 *e*P **P** 03 45 44.0 +0.4
comp=Z,15nm,1.0s
PMR Palmer 47.64 37 *e*P **P** 03 45 44.2 +0.4
PMR pmax pmax

comp=Z,9.0nm,0.6s
PMR Palmer 47.64 37 *e*P **P** 03 45 44.2 +0.4
comp=Z,8.5nm,0.6s
RND Reindeer 47.66 35 *e*P **P** 03 45 45.0 +0.9
RND pmax pmax

comp=Z,13nm,0.8s
RND Reindeer 47.66 35 *e*P **P** 03 45 45.0 +0.9
comp=Z,12nm,0.8s
DMN Daman 47.68 274 *e*P **P** 03 45 45.9 +0.9
GKN Gorkha 47.86 275 *e*P **P** 03 45 46.2 -0.1
MDM Murphy Dome 47.86 33 *e*P **P** 03 45 47.1 +1.5
comp=Z,24nm,1.0s

WRH Wood River Hil 47.94 33 *e*P **P** 03 45 47.4 +1.3
comp=Z,6.0nm,0.8s
SML Sawmill 48.00 37 *e*P **P** 03 45 48.0 +1.3
SML pmax pmax

comp=Z,13nm,0.7s
SML Sawmill 48.00 37 *e*P **P** 03 45 48.0 +1.3
comp=Z,13nm,0.7s
COLA College 48.03 33⇓ *e*P **P** 03 45 48.5 +1.7
COLA pmax pmax

comp=Z,6.0nm,0.8s
CCB Clear Creek Bu 48.06 33 *e*P **P** 03 45 48.1 +1.1
comp=Z,14nm,1.4s
DHY Denali Highway 48.34 35 *e*P **P** 03 45 50.6 +1.1
comp=Z,6.3nm,0.8s
IL1 Eielson Array 48.45 33 *e*P **P** 03 45 50.1 0.0
ILAR Eielson Array 48.45 33 P **P** 03 45 50.6 +0.6
comp=Z,12nm,0.7s,baz=270,slow=6.5,SNR=107
ILAR sP **sP** 03 46 17.4 -0.7
comp=Z,3.7nm,0.8s,baz=267,slow=5.8,SNR=4.4
ILB Eielson Array 48.45 33 *e*P **P** 03 45 50.9 +0.8
SCM Sheep Creek Mo 48.47 37 *e*P **P** 03 45 51.4 +1.0
SCM pmax pmax

comp=Z,18nm,0.9s
SCM Sheep Creek Mo 48.47 37 *e*P **P** 03 45 51.4 +1.0
comp=Z,18nm,0.9s
KOLN Koldanda 48.78 275 *e*P **P** 03 45 53.5 +0.1
TKM2 Tokmak 2 48.92 297 *i* P **P** 03 45 54.5 +0.3
TKM2 pmax pmax

comp=Z,7.0nm,0.5s
TKM2 Tokmak 2 48.92 297 *e*P **P** 03 45 54.8 +0.6
comp=Z,9.9nm,0.6s
PYUN Piuthan 49.10 276 *e*P **P** 03 45 56.0 +0.1
KLU Klutina 49.18 37 *e*P **P** 03 45 57.4 +1.6
comp=Z,23nm,1.3s
DIV Divide 49.30 38 *e*P **P** 03 45 57.7 +1.0
comp=Z,12nm,0.7s
OTUK Ortayu 49.57 305 P **P** 03 45 58.1 -0.8
OTUK pmax pmax

comp=Z,5.0nm,1.4s
BRVK Borovoye 49.67 312 *e*P **P** 03 45 58.4 -1.1
BRVK pmax pmax

comp=Z,13nm,0.7s
BRVK Borovoye 49.67 312 *e*P **P** 03 45 58.4 -1.1
comp=Z,13nm,0.7s
IPM Ipoh 49.74 238 *e*P **P** 03 45 59.6 -1.0
DOT Dot Lake 49.77 34 *e*P **P** 03 46 00.2 0.0
comp=Z,14nm,0.8s
AAK Ala-Archa 49.78 297⇑ *e*P **P** 03 46 00.9 +0.1
AAK pmax pmax

comp=Z,7.0nm,0.8s
AAK Ala-Archa 49.78 297 *e*P **P** 03 46 01.1 +0.3
comp=Z,3.2nm,0.6s
KSH Kashi 49.78 293 P **P** 03 46 04.2 +3.4
KSH pP pP 03 46 22.9 +2.9
KSH PcP **PcP** 03 47 22.7 +2.1
KSH PP **PP** 03 48 01.1 +5.3
KSH S **S** 03 53 04.0 -0.4
KSH ScS **ScS** 03 55 43.8 -1.1
KSH SS **SS** 03 56 36.2 -1.2
KSH PMZ

comp=Z,4.0nm,0.7s
KSH PMZ

comp=Z,59nm,4.4s
KSH LN

comp=Z,140nm,9.9s
KSH LE

comp=Z,86nm,7.6s
BMRM Bremner River 49.88 38 *e*P **P** 03 46 02.2 +1.1
comp=Z,18nm,1.1s
EKS2 Erkin-Say 50.27 298 *e*P **P** 03 46 04.3 -0.1
EKS2 pmax pmax

comp=Z,4.0nm,0.6s
EKS2 Erkin-Say 50.27 298 *e*P **P** 03 46 04.3 -0.1
comp=Z,3.5nm,0.6s
ZRNK Zerenda 50.44 312 *e*P **P** 03 46 05.2 -0.2
ZRNK pmax pmax

comp=Z,6.0nm,0.9s
ZRNK Zerenda 50.44 312 *e*P **P** 03 46 05.2 -0.2
comp=Z,6.1nm,0.9s
EGAK Eagle 50.89 33 *e*P **P** 03 46 09.2 +0.6
comp=Z,6.8nm,1.0s
MNAS Manas 51.21 298 P **P** 03 46 11.5 0.0
MNAS pmax pmax

comp=Z,7.0nm,0.7s
KKAR Karatay Array 52.38 299 *e*P **P** 03 46 19.8 -0.2
KKAR Karatay Array 52.38 299 *e*P **P** 03 46 19.8 -0.2
INK Inuvik 53.27 28 P **P** 03 46 27.2 +1.1
comp=Z,7.0nm,0.6s,baz=292,slow=7.3,SNR=30
INK LR LR 04 11 46.9
comp=Z,81nm,18.5s,baz=241,slow=39
SVE Sverdlovsk 54.09 318 *e*P **P** 03 46 32.7 +0.4
SVE pmax pmax

comp=Z,17nm,0.9s
DZET Dzherino 55.19 295 P **P** 03 46 40.6 -0.1
DZET pmax pmax

comp=Z,10.0nm,0.7s
ARU Arti 55.30 318 P **P** 03 46 40.9 -0.2
comp=Z,6.0nm,0.5s,baz=70,slow=3.1,SNR=14
ARU Arti 55.30 318 *c i*P **P** 03 46 40.6 -0.5
ARU *PP **pP** 03 47 00.5 -0.2
ARU 03 48 41.1
ARU S **S** 03 54 19.0 0.0
ARU SS **SS** 03 57 57.7 -6.0
ARU pmax pmax

comp=Z,14nm,1.0s
ARU Arti 55.30 318 *e*P **P** 03 46 40.5 -0.5
comp=Z,10nm,0.8s
AB31 Akbulak array 57.01 309 P **P** 03 46 52.5 -0.9
AB31 pmax pmax

comp=Z,2.0nm,0.6s
ABKAR Akbulak array 57.01 309 *e*P **P** 03 46 52.7 -0.7
DLBC Dease Lake 57.66 38 P **P** 03 46 59.6 +1.7
comp=Z,4.2nm,0.8s,baz=310,slow=10,SNR=5.9
DLBC Dease Lake 57.66 38 *e*P **P** 03 46 59.9 +2.0
comp=Z,3.2nm,0.8s
AKTO Aktyubinsk 57.72 311 P **P** 03 46 57.9 -0.4
comp=Z,1.7nm,0.5s,baz=84,slow=9.8,SNR=8.5
WRAB Tennant Creek 58.34 188 *e*P **P** 03 47 04.2 +1.3
WRAB pmax pmax

comp=Z,8.0nm,0.8s
WRAB Tennant Creek 58.34 188 *e*P **P** 03 47 04.2 +1.3
comp=Z,7.6nm,0.8s
WRA Warramunga Arr 58.35 188 P **P** 03 47 01.9 -1.1
comp=Z,2.0nm,0.6s,baz=4.9,slow=7.1,SNR=27
WRA pP **pP** 03 47 20.7 -2.0
comp=Z,8.7nm,0.8s,baz=0.7,slow=7.6,SNR=19
SPITS Spitsbergen Ar 59.21 349 P **P** 03 47 08.1 -0.3
comp=Z,2.8nm,0.7s,baz=67,slow=4.6,SNR=5.9
ASAR Alice Springs 62.08 188 P **P** 03 47 27.9 -0.5
comp=Z,1.2nm,0.7s,baz=11,slow=7.1,SNR=12
ASAR pP **pP** 03 47 46.9 -1.5
comp=Z,3.8nm,0.8s,baz=11,slow=6.3,SNR=15
KLMR Klimovskoe 62.59 327 *e*P **P** 03 47 29.5 -1.9
KLMR pmax pmax

comp=Z,6.0nm,0.7s
YKW3 Yellowknife Ar 62.69 30 *e*P **P** 03 47 31.8 -0.3
ARCES ARCESS Array B 62.73 339 P **P** 03 47 32.2 0.0
comp=Z,3.9nm,0.6s,baz=56,slow=7.8,SNR=40
YKA Yellowknife Ar 62.73 30 P **P** 03 47 32.6 +0.3
comp=Z,2.6nm,0.6s,baz=303,slow=6.5,SNR=23
YKA sP **sP** 03 47 59.8 -1.1
comp=Z,2.1nm,0.9s,baz=296,slow=6.6,SNR=5.9
GEYT Alibeck 63.11 298 P **P** 03 47 34.1 -1.2
comp=Z,2.5nm,0.5s,baz=120,slow=8.5,SNR=3.3
NLWA Neilton Lookou 65.91 48 *e*P **P** 03 47 55.9 +2.4
comp=Z,26nm,1.0s
OBN Obninsk 66.98 323⇓ *e*P **P** 03 47 59.7 -0.3
OBN *e* 03 48 32.7
OBN *e* 03 57 20.0
OBN *i* SS SS 04 01 08.0 +2.0
OBN pmax pmax

comp=Z,5.0nm,0.7s
FIA1 FINESS Array S 67.60 332 *e*P **P** 03 48 03.5 -0.4
comp=Z,13nm,0.7s
FINES FINESS Array B 67.60 332 P **P** 03 48 03.4 -0.5
comp=Z,9.1nm,0.6s,baz=49,slow=8.6,SNR=43
NEW Newport 69.26 44 P **P** 03 48 15.6 +1.0
comp=Z,9.0nm,0.8s,baz=315,slow=2.6,SNR=9.7
NEW Newport 69.26 44 *e*P **P** 03 48 15.9 +1.4
NEW pmax pmax

comp=Z,12nm,0.8s
NEW Newport 69.26 44 *e*P **P** 03 48 15.9 +1.4
comp=Z,12nm,0.8s
VSU Vasula 69.26 329⇑ *e*P **P** 03 48 14.0 -0.3
VSU pmax pmax

comp=Z,16nm,0.7s

SUMG Summit 69.37 360⇑ *i*P **P** 03 48 15.9 +0.7
SUMG pmax pmax

comp=Z,8.0nm,0.7s
SUMG Summit 69.37 360⇑ *i*P **P** 03 48 15.9 +0.7
comp=Z,8.4nm,0.7s
SUMG Summit 69.37 360 *e*P **P** 03 48 15.8 +0.5
comp=Z,5.9nm,0.8s
KVAR Kislovodsk Arr 69.96 311 P **P** 03 48 19.4 +0.4
comp=Z,7.9nm,0.9s,baz=325,slow=6.0,SNR=5.3
KIV Kislovodsk 69.96 311⇓ *e*P **P** 03 48 19.2 +0.2
KIV *e* 03 48 36.4
KIV *e* 03 48 41.3
KIV *e**SP **sP** 03 48 47.8 0.0
KIV S **S** 03 57 20.0 -3.1
KIV SS **SS** 04 01 49.0 -3.9
KIV SSS SSS 04 05 02.0
KIV pmax pmax

comp=Z,7.0nm,0.8s
KIV Kislovodsk 69.96 311 *e*P **P** 03 48 19.4 +0.4
comp=Z,6.0nm,0.7s
KBZ Khabaz 69.96 310 P **P** 03 48 18.9 0.0
comp=Z,2.5nm,0.8s,baz=23,slow=4.0,SNR=7.2
K05A Summer Lake 70.20 51 *e*P **P** 03 48 22.5 +1.9
comp=Z,16nm,0.9s
BSMT Bassoo Peak 70.78 44 *e*P **P** 03 48 25.7 +1.7
MOD Modoc Plateau 71.02 51 *e*P **P** 03 48 26.8 +1.3
comp=Z,4.4nm,0.7s
JTMT Jette 71.12 44 *e*P **P** 03 48 27.6 +1.6
BMO Blue Mountains 71.12 47 *e*P **P** 03 48 26.9 +0.9
comp=Z,4.3nm,0.8s
YBMT Yellow Bay 71.19 43 *e*P **P** 03 48 28.0 +1.5
SWMT Swartz Lake 71.41 44 *e*P **P** 03 48 28.9 +1.1
WVOR Wild Horse Val 71.73 50 *e*P **P** 03 48 31.5 +1.7
WVOR pmax pmax

comp=Z,9.0nm,1.0s
WVOR Wild Horse Val 71.73 50 *e*P **P** 03 48 31.5 +1.7
comp=Z,9.0nm,1.0s
MSO Missoula 71.85 44 *e*P **P** 03 48 31.4 +1.0
comp=Z,5.1nm,0.9s
FFC Flin Flon 72.66 33 *e*P **P** 03 48 35.3 +0.4
FFC pmax pmax

comp=Z,6.0nm,0.8s
FFC Flin Flon 72.66 33 *e*P **P** 03 48 35.3 +0.4
comp=Z,6.4nm,0.8s
NC405 NORSAR Array S 72.72 337 *e*P **P** 03 48 35.3 +0.1
MFID Camas Ranch 72.82 48 *e*P **P** 03 48 37.6 +1.4
comp=Z,5.0nm,0.7s
PAHR Pah Rah Range 72.86 53 *e*P **P** 03 48 38.1 +1.5
comp=Z,8.2nm,1.0s
NC204 NORSAR Array S 72.88 337 *e*P **P** 03 48 36.8 +0.5
NB2 NORSAR Subarra 72.93 337 P **P** 03 48 36.1 -0.4
comp=Z,7.9nm,0.9s,baz=38,slow=6.2
NB2 NORSAR Subarra 72.93 337 P **P** 03 48 36.0 -0.4
NB2 pmax pmax

comp=Z,7.0nm,0.9s
NOA NORSAR Array B 72.93 337 P **P** 03 48 36.1 -0.4
comp=Z,5.4nm,0.8s,baz=38,slow=5.9,SNR=18
NOA pP **pP** 03 48 57.0 +0.2
comp=Z,1.3nm,0.7s,baz=38,slow=5.9,SNR=2.8
HRY Holter Researc 73.07 43 *e*P **P** 03 48 39.2 +1.5
AKASG Malin Array Be 73.19 322 P **P** 03 48 37.2 -0.9
comp=Z,3.4nm,0.5s,baz=46,slow=6.8,SNR=4.2
AKASG Malin Array Be 73.19 322 *de*P **P** 03 48 40.5 +2.4
AKASG pmax pmax

comp=Z,1.0nm,0.4s
CMB Columbia Colle 73.19 55 *e*P **P** 03 48 40.0 +1.5
CMB pmax pmax

comp=Z,12nm,1.5s
CMB Columbia Colle 73.19 55 *e*P **P** 03 48 40.0 +1.5
comp=Z,12nm,1.5s
KIEV Kiev 73.20 322 *de*P **P** 03 48 37.6 -0.6
KIEV pmax pmax

comp=Z,6.0nm,0.8s
KIEV Kiev 73.20 322 *e*P **P** 03 48 37.4 -0.7
comp=Z,7.4nm,0.8s
AK11 Malin Array Si 73.23 322 *e*P **P** 03 48 37.8 -0.6
LRM Limekiln Ridge 73.28 44 *e*P **P** 03 48 40.5 +1.4
DLMT Dillon 73.48 45 *e*P **P** 03 48 41.7 +1.6
comp=Z,12nm,1.0s
HLID Hailey 73.56 47 *e*P **P** 03 48 42.3 +1.6
comp=Z,3.2nm,0.9s
BMN Battle Mountai 73.77 51 *e*P **P** 03 48 43.8 +1.9
BMN pmax pmax

comp=Z,8.0nm,0.8s
BMN Battle Mountai 73.77 51 *e*P **P** 03 48 43.8 +1.9
comp=Z,7.9nm,0.8s
BOZ Bozeman (W) 73.84 44 *e*P **P** 03 48 43.5 +1.2
BOZ *e* 03 49 03.1
BOZ pmax pmax

comp=Z,11nm,1.0s
BOZ Bozeman (W) 73.84 44 *e*P **P** 03 48 43.5 +1.2
comp=Z,11nm,1.0s
BOZ *e* 03 49 03.1
NV01 Mina Array Sit 74.29 53 *e*P **P** 03 48 46.3 +1.2
NVAR Mina Array Bea 74.29 53 P **P** 03 48 46.4 +1.3
comp=Z,3.0nm,0.7s,baz=294,slow=5.7,SNR=25
NWAO Narrogin (SRO) 74.36 201 *e*pP pP 03 49 07.4 +1.9
NV11 Mina Array Sit 74.38 53 *e*P **P** 03 48 47.1 +1.5
H17A Grant Village 75.21 45 *e*P **P** 03 48 53.3 +3.0
comp=Z,14nm,0.9s
IMW Indian Meadow 75.32 45 *e*P **P** 03 48 52.8 +1.7
comp=Z,7.4nm,0.8s
FLWY Flagg Ranch 75.34 45 *e*P **P** 03 48 53.5 +2.5
comp=Z,20nm,1.5s
FXWY Fox Creek 75.44 46 *e*P **P** 03 48 53.7 +2.0
comp=Z,5.5nm,0.9s
RLMT Red Lodge 75.46 44 *e*P **P** 03 48 53.4 +1.7
comp=Z,17nm,1.5s
MOOW Moose Ponds 75.53 45 *e*P **P** 03 48 53.4 +1.3
comp=Z,5.2nm,1.0s
TPAW Teton Pass 75.58 46 *e*P **P** 03 48 54.3 +1.8
comp=Z,32nm,1.8s
HVU Hansel Valley 75.61 48 *e*P **P** 03 48 54.4 +1.8
HVU pmax pmax

comp=Z,7.0nm,0.8s
HVU Hansel Valley 75.61 48 *e*P **P** 03 48 54.4 +1.8
comp=Z,6.9nm,0.8s
LOHW Long Hollow 75.69 45 *e*P **P** 03 48 55.0 +2.0
comp=Z,9.1nm,1.5s
SNOW Snow King Moun 75.70 46 *e*P **P** 03 48 55.4 +2.2
comp=Z,4.7nm,0.7s
REDW Red Top Meadow 75.71 46 *e*P **P** 03 48 55.1 +1.9
comp=Z,8.0nm,1.1s
R11A Troy Canyon, C 76.04 52 *e*P **P** 03 48 56.3 +1.2
comp=Z,7.7nm,1.1s
BSD Bornholm Skovb 76.23 332 *i*P **P** 03 48 55.0 -0.6
BSD pmax pmax

comp=Z,5.0nm,0.7s
BSD Bornholm Skovb 76.23 332⇑ *i*P **P** 03 48 55.0 -0.6
comp=Z,5.1nm,0.7s
HWUT Hardware Ranch 76.42 47 *e*P **P** 03 48 56.6 +1.4
comp=Z,10nm,1.1s
TPNV Topopah Spring 76.48 54 *e*P **P** 03 48 58.8 +1.2
TPNV pmax pmax

comp=Z,7.0nm,0.9s
TPNV Topopah Spring 76.48 54 *e*P **P** 03 48 58.8 +1.2
comp=Z,6.9nm,0.9s
DUG Dugway, Tooele 76.58 49 *e*P **P** 03 48 58.8 +0.7
DUG pmax pmax

comp=Z,8.0nm,0.9s
DUG Dugway, Tooele 76.58 49 *e*P **P** 03 48 58.8 +0.7
comp=Z,7.5nm,0.9s
TCUT Toone Canyon 76.82 48 *e*P **P** 03 49 01.3 +1.7
comp=Z,13nm,0.7s
BW06 Boulder Array 76.82 46 *e*P **P** 03 49 00.2 +0.7
comp=Z,4.3nm,0.7s
PD31 Pinedale Array 76.82 46 *e*P **P** 03 49 00.3 +0.8
PDAR Pinedale Array 76.82 46 P **P** 03 49 00.1 +0.6
comp=Z,4.3nm,0.6s,baz=263,slow=2.1,SNR=42
PDAR sP **sP** 03 49 28.1 -0.5
comp=Z,2.2nm,0.8s,baz=272,slow=1.7,SNR=4.4
BUR08 Bucovina Ar. S 77.20 321 *e*P **P** 03 49 01.6 +0.2
SHPR Sheep Range 77.44 53 *e*P **P** 03 49 04.8 +1.8
comp=Z,4.3nm,0.9s
ICU Indian Springs 77.81 52 *e*P **P** 03 49 08.9 +3.9
BRTR Keskin Array B 77.90 311 P **P** 03 49 05.2 -0.2
comp=Z,0.8nm,0.6s,baz=91,slow=4.9,SNR=6.0
CCUT Cedar City 77.91 52 *e*P **P** 03 49 07.5 +1.8
comp=Z,7.2nm,1.3s
MSU Marysvale 78.02 50 *e*P **P** 03 49 08.1 +1.8
MSU Marysvale 78.02 50 *e*P **P** 03 49 08.1 +1.8
TMUT Trail Mountain 78.10 49 *e*P **P** 03 49 08.4 +1.6
comp=Z,10nm,1.4s
P17A Butcher Ranch, 78.27 49 *e*P **P** 03 49 09.3 +1.7
comp=Z,9.8nm,0.8s
MTPU Mount Pierson 78.32 51 *e*P **P** 03 49 10.0 +1.9

comp=Z,6.9nm,1.1s
BR231 Keskin MP Arra 78.33 312 *e*P **P** **03 49 06.0 -1.8**
Q16A Castle Valley 78.37 49 *e*P **P** **03 49 10.0 +1.8**
P18A Preston Nutter 78.46 48 *e*P **P** **03 49 10.5 +1.8**
comp=Z,6.5nm,0.8s
ULM Lac du Bonnet 78.46 33 P **P** **03 49 08.0 -0.2**
comp=Z,3.4nm,0.5s,baz=318,slow=8.4,SNR=4.9
KNB Kanab 78.58 52 *e*P **P** **03 49 11.3 +2.0**
KNB pmax pmax
comp=Z,12nm,1.3s
KNB Kanab 78.58 52 *e*P **P** **03 49 11.3 +2.0**
comp=Z,12nm,1.3s
K22A Casper 78.58 44 *e*P **P** **03 49 09.6 +0.4**
comp=Z,10nm,1.0s
SRU San Rafael Swe 78.63 49 *e*P **P** **03 49 11.0 +1.4**
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 78.63 49 *e*P **P** **03 49 11.0 +1.4**
comp=Z,8.8nm,0.8s
RSSD Black Hills 78.92 42 *e*P **P** **03 49 11.8 +0.7**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 78.92 42 *e*P **P** **03 49 11.8 +0.7**
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 79.20 327 *e*P **P** **03 49 12.7 +0.4**
MORC Moravsky Berou 79.20 327 *e*P **P** **03 49 12.7 +0.4**
U15A North Rim 79.28 52 *e*P **P** **03 49 14.8 +1.5**
DPC Dobruska-Polom 79.28 328 *e*P **P** **03 49 13.4 +0.7**
DPC Dobruska-Polom 79.28 328 *e*P **P** **03 49 13.4 +0.7**
O20A White River Ci 79.29 47 *e*P **P** **03 49 14.3 +1.1**
UPC Upice 79.30 328 *e*P **P** **03 49 13.2 +0.5**
UPC Upice 79.30 328 *e*P **P** **03 49 13.2 +0.5**
Y12C Blythe 79.57 55 *e*P **P** **03 49 16.1 +1.5**
PV09 Paradox Valley 79.85 49 *e*P **P** **03 49 17.5 +1.1**
CLL Collm 79.90 330 *i*P **P** **03 49 15.6 -0.4**
comp=Z,5.0nm,1.0s
CLL Collm 79.90 330 *e*P **P** **03 49 15.9 -0.1**
CLL Collm 79.90 330 *e*P **P** **03 49 15.9 -0.1**
N23A Red Feather La 80.08 45 *e*P **P** **03 49 19.2 +1.7**
PV05 Paradox Valley 80.15 49 *e*P **P** **03 49 19.5 +1.6**
PRU Pruhonice 80.30 328 *e*P **P** **03 49 18.4 +0.2**
PRU Pruhonice 80.30 328 *e*P **P** **03 49 18.4 +0.2**
PV01 Paradox Valley 80.42 49 *e*P **P** **03 49 20.7 +1.4**
WUAZ Wupatki 80.44 52 *e*P **P** **03 49 20.8 +1.4**
comp=Z,6.1nm,1.0s
TREC Trest 80.44 327 *e*P **P** **03 49 19.5 +0.5**
TREC Trest 80.44 327 *e*P **P** **03 49 19.5 +0.5**
SMCO Snowmass 80.66 47 *e*P **P** **03 49 21.2 +0.4**
comp=Z,4.8nm,1.1s
ISCO Idaho Springs 81.01 46 *e*P **P** **03 49 23.8 +1.2**
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 81.01 46 *e*P **P** **03 49 23.8 +1.2**
comp=Z,2.7nm,0.8s
MVCO Mesa Verde 81.08 49 *e*P **P** **03 49 24.4 +1.5**
X16A Lo Mia Camp, P 81.11 53 *e*P **P** **03 49 24.6 +1.5**
MMAI Mount Meron Ar 81.11 305 P **P** **03 49 22.5 -0.4**
comp=Z,0.6nm,0.5s,baz=112,slow=9.1,SNR=3.9
KHC Kasperske Hory 81.36 328 *e*P **P** **03 49 23.5 -0.4**
KHC Kasperske Hory 81.36 328 *e*P **P** **03 49 23.5 -0.4**
GERES GERESS Array B 81.53 328 P **P** **03 49 24.3 -0.6**
comp=Z,0.8nm,0.7s,baz=0.0,slow=7.2,SNR=7.0
S22A 4UR Ranch, Cre 81.70 48 *e*P **P** **03 49 28.1 +1.9**
SDCO Great Sand Dun 82.48 47 *e*P **P** **03 49 31.7 +1.4**
TUC Tucson 82.90 54 *e*P **P** **03 49 32.7 +0.4**
TUC pmax pmax
comp=Z,3.0nm,1.0s
TUC Tucson 82.90 54 *e*P **P** **03 49 32.6 +0.4**
comp=Z,3.1nm,1.0s
ECSD EROS Data Cent 82.95 38 *e*P **P** **03 49 31.9 -0.4**
comp=Z,6.4nm,0.8s
T25A Trinidad 83.52 47 *e*P **P** **03 49 36.9 +1.3**
ANMO Albuquerque 83.82 50 *ce*P **P** **03 49 38.9 +1.7**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 83.82 50 *e*P **P** **03 49 38.0 +0.9**
comp=Z,6.2nm,1.1s
SCHQ Schefferville 84.10 16 P **P** **03 49 38.2 +0.3**
comp=Z,6.4nm,0.8s,baz=2.5,slow=5.3,SNR=7.6
BFO Black Forest 84.10 331 *i*P **P** **03 49 38.9 +0.8**
BFO Black Forest 84.10 331 *e*P **P** **03 49 38.5 +0.4**
121A Cookes Peak, D 84.64 52 *e*P **P** **03 49 42.8 +1.5**
comp=Z,2.7nm,0.8s
FUORN Ofenpass-Fuorn 84.72 329 *e*P **P** **03 49 41.7 +0.1**
IDI Anoyia 86.01 313 P **P** **03 49 46.3 -1.6**
comp=Z,3.4nm,0.6s,baz=49,slow=12,SNR=9.0
TX31 Lajitas Ar. Si 89.40 52 *e*P **P** **03 50 05.0 +0.7**
TXAR Lajitas Array 89.40 52 P **P** **03 50 05.2 +0.8**
comp=Z,2.3nm,0.7s,baz=299,slow=3.3,SNR=28
TXAR pP **pP** **03 50 25.0 -0.4**
comp=Z,0.5nm,0.6s,baz=286,slow=2.9,SNR=2.9
MIAR Mount Ida 91.42 42 *e*P **P** **03 50 14.3 +0.8**
MIAR Mount Ida 91.42 42 *e*P **P** **03 50 14.3 +0.8**
WHAR Wooly Hollow 91.53 41 *e*P **P** **03 50 14.3 +0.3**
TORD Torodi Ar. Bea 116.32 315 PKP **PKPdf** **03 55 49.2 -1.8**
comp=Z,0.3nm,0.7s,baz=12,slow=1.4,SNR=5.7
SAML Samuel 143.38 43 *e*PKPdf PKPbc 03 56 40.3 +1.2
LPAZ La Paz 146.10 58 PKPbc **PKPbc** **03 56 48.1 -0.1**
LPAZ pPKPbc pPKPbc 03 57 09.1 -0.8
comp=Z,2.6nm,0.5s,baz=345,slow=2.3,SNR=19
comp=Z,1.6nm,0.6s,baz=48,slow=1.0,SNR=3.1
LVC Limon Verde 149.79 67 PKPbc **PKPbc** **03 56 58.0 +0.3**
comp=Z,13nm,0.8s,baz=356,slow=3.1,SNR=3.6
LVC Limon Verde 149.79 67 *e*PKPbc **PKPbc** **03 56 58.0 +0.3**
SIV San Ignacio 150.29 48 PKPbc **PKPbc** **03 56 58.4 -0.2**
comp=Z,4.3nm,0.7s,baz=300,slow=1.1,SNR=9.0
SIV pPKPbc **pPKPbc** **03 57 19.1 -1.3**
comp=Z,2.1nm,0.6s,baz=208,slow=1.2,SNR=3.0
LCO Las Campanas 151.92 80 *e*PKPbc **PKPbc** **03 57 02.5 +0.1**

*DDA **04** 03:40:39.1,38°.91N×26°.43E,h7km,Ml2.7*
*ISCJB **04** 03:40:40.0±0.5,38°.90N±0°.02×26°.47E±0°.04,h7km±4km, Error ellipse: s-maj=5.3km s-min=3.5km az=171.7*
*CSEM **04** 03:40:40.5±0.2,38°.91N×26°.50E,h10km,MD2.7,Error ellipse: s-maj=4.8km s-min=4.2km az=93.0*
*ISK **04** 03:40:40.2,38°.93N×26°.51E,h10km,MD2.7*
ISC 04 03:40:40.2±1.0,38°.91N±0°.02×26°.52E±0°.03,h8km±9km, n25,σ0°66/44,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DKL	**Dikili**	**0.34**	**61**	*e*PG		**Pb**	**03 40 48.1**	**-0.5**
DKL				*e*SG		**Sg**	**03 40 52.2**	**+0.6**
DKL	**Dikili**	**0.34**	**61**	*e*Pg		**Pb**	**03 40 48.1**	**-0.5**
DKL				*e*Sg		**Sg**	**03 40 52.2**	**+0.6**
AYVA	**Ayvalik**	**0.42**	**18**	P		**Pg**	**03 40 48.1**	**-0.4**
AYVA				S		**Sg**	**03 40 55.2**	**+1.1**
AYVA	**Ayvalik**	**0.42**	**18**	*i*P		**Pg**	**03 40 48.1**	**-0.4**
AYVA				*i*S		**Sg**	**03 40 55.2**	**+1.1**
URLA	**Izmir**	**0.55**	**174**	P		**Pg**	**03 40 50.5**	**-0.3**
URLA				S		**Sg**	**03 40 58.4**	**+0.4**
URLA	**Izmir**	**0.55**	**174**	*i*P		**Pg**	**03 40 50.5**	**-0.3**
URLA				*i*S		**Sg**	**03 40 58.4**	**+0.4**
SIGR	**SIGRI**	**0.60**	**301**	*e*PG		**Pg**	**03 40 51.7**	**-0.1**
SIGR				*e*SG		**Sg**	**03 41 00.1**	**+0.5**
SIGR	**SIGRI**	**0.60**	**301**	*e*Pg		**Pg**	**03 40 51.7**	**-0.1**
SIGR				*e*Sg		**Sg**	**03 41 00.1**	**+0.5**
CHOS	**Chios island**	**0.63**	**215**	*e*PG		**Pb**	**03 40 53.3**	**-0.2**
CHOS	**Chios island**	**0.63**	**215**	*e*Pg		**Pb**	**03 40 53.3**	**-0.2**
ZEY	**˙zmir**	**0.67**	**181**	*i*P		**Pg**	**03 40 52.2**	**-0.8**
ZEY				*i*S		**Sb**	**03 41 03.5**	**+0.1**
DGB	**˙zmir**	**0.90**	**161**	*i*P		**Pg**	**03 40 56.7**	**-0.8**
DGB				*i*S		**Sg**	**03 41 08.7**	**-0.4**
EZN	**Ezine**	**0.93**	**351**	*e*PG		**Pb**	**03 40 58.7**	**+0.1**
EZN	**Ezine**	**0.93**	**351**	*e*Pg		**Pb**	**03 40 58.7**	**+0.1**
BOZC	**Bozcaada**	**1.00**	**339**	*i*P		**Pg**	**03 40 57.9**	**-1.6**
BOZC				*i*S		**Sb**	**03 41 12.7**	**-0.5**
AKHS	**Akhisar**	**1.01**	**91**	P		**Pb**	**03 41 00.2**	**+0.2**
AKHS				S		**Sn**	**03 41 15.2**	**+0.1**
AKHS	**Akhisar**	**1.01**	**91**	*i*P		**Pb**	**03 41 00.1**	**+0.2**
AKHS				*i*S		**Sn**	**03 41 15.2**	**+0.1**
BALY	**Balya**	**1.19**	**45**	P		**Pb**	**03 41 01.4**	**-1.7**
BALY				S		**Sn**	**03 41 20.3**	**+0.6**
BALY	**Balya**	**1.19**	**45**	*i*P		**Pb**	**03 41 01.4**	**-1.7**
BALY				*i*S		**Sn**	**03 41 20.3**	**+0.6**
BALB	**Balikesir**	**1.29**	**55**	*e*PN		**Pb**	**03 41 04.5**	**-0.1**
BALB	**Balikesir**	**1.29**	**55**	*e*Pn		**Pb**	**03 41 04.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**131**	*e*PN		**Pb**	**03 41 07.2**	**-0.2**
AYDB				*e*SN		**Sg**	**03 41 27.2**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**131**	*e*Pn		**Pb**	**03 41 07.2**	**-0.2**
AYDB				*e*Sn		**Sg**	**03 41 27.2**	**+0.6**
ERIK	**Erikli-Kesan**	**1.76**	**360**	*e*PN		**Pn**	**03 41 11.5**	**+0.5**
ERIK				*e*SN		**Sn**	**03 41 33.5**	**-0.1**
ERIK	**Erikli-Kesan**	**1.76**	**360**	*e*Pn		**Pn**	**03 41 11.5**	**+0.5**
ERIK				*e*Sn		**Sn**	**03 41 33.5**	**-0.1**

GUC 04 03:43:48.2±0.5,40°.46S×71°.98W,h20km±5km,ML3.9, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**1.12**	**104**	*e*P		Pb	03 44 09.6	+0.6
PLCA				*e*S		Sn	03 44 25.3	+1.6
VLCH	**Valdivia**	**1.17**	**304**	*e*P		Pb	03 44 10.0	+0.3
VLCH				*e*S		Sn	03 44 26.0	+1.3
CCHI	**Chillan**	**3.85**	**359**	*e*S		Sn	03 45 35.2	+4.2
CCHI				IAML			03 46 02.9	
	comp=N,94nm,1.1s							

GUC 04 03:54:56.3±0.4,37°.65S×73°.88W,h37km±5km,ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.01**	**38**	*e*P		Pn	03 55 15.1	+1.1
CCSP				*e*S		Sn	03 55 29.1	+2.2
CCSP				IAML			03 55 32.4	
	comp=N,4μm,0.3s							
COCH	**Cobquecura**	**1.75**	**30**	*e*P		Pn	03 55 26.3	+2.2
COCH				*e*S		Sn	03 55 46.5	+1.4
COCH				IAML			03 55 58.7	
	comp=N,656nm,0.5s							
CCHI	**Chillan**	**1.78**	**55**	*e*P		Pn	03 55 27.1	+2.6
CCHI				*e*S		Sn	03 55 50.1	+4.3
CCHI				IAML			03 56 05.0	
	comp=N,2μm,0.5s							

*IDC **04** 03:55:00.8±1.2,53°.72N×163°.97W,h0km,mb3.9/18, mb1 4.0/20,mb1mx3.8/69,mbtmp3.9/20,ML3.8/2,MS3.0/7, Ms1 3.0/7,ms1mx2.8/45, Error ellipse: s-maj=32.9km s-min=14.6km az=163.0*
*NEIC **04** 03:55:03.4,53°.41N×163°.66W,h30km,mb3.7/3, ML3.6(AEIC), After AEIC.*
ISC 04 03:55:00.6±2.0,53°.41N±0°.08×163°.74W±0°.05, h10km±11km,n60,σ1s12/58,mb3.9/17,MS3.0/7,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WESP	**Westdahl Peak**	**1.23**	**332**	P		**Pg**	**03 55 24.9**	**+0.7**
WESP				S		**Sn**	**03 55 41.3**	**+0.6**
WESN	**West Dahl Nort**	**1.26**	**337**	P		**Pg**	**03 55 25.5**	**+0.7**
WECS	**Westdahl Cape**	**1.28**	**332**	P		**Pg**	**03 55 25.9**	**+0.8**
SSLS	**Shishaldin Sou**	**1.31**	**353**	P		**Pg**	**03 55 25.8**	**0.0**
SSLS				S		**Sg**	**03 55 43.7**	**+1.0**
WEBT	**Westdahl Beart**	**1.32**	**334**	P		**Pg**	**03 55 26.7**	**+0.7**
AKSA	**Akutan Strait**	**1.37**	**303**	P		**Pg**	**03 55 27.1**	**+0.3**
AKSA				S		**Sg**	**03 55 45.7**	**+1.2**
SSLW	**Shishaldin Wes**	**1.38**	**351**	P		**Pg**	**03 55 26.7**	**-0.3**
AKUT	**Akutan**	**1.41**	**302**	P		**Pg**	**03 55 27.7**	**+0.1**
AKUT				S		**Sg**	**03 55 46.4**	**+0.6**
SSLN	**Shishaldin Nor**	**1.41**	**354**	P		**Pg**	**03 55 27.6**	**-0.1**
ZRO	**Akutan Zero**	**1.49**	**298**	P		**Pg**	**03 55 28.9**	**-0.3**
AKGG	**Akutan Green G**	**1.55**	**301**	P		**Pg**	**03 55 29.8**	**-0.5**
AKRB	**Akutan Reef Bi**	**1.56**	**298**	P		**Pg**	**03 55 29.9**	**-0.6**
UNV	**Unalaska Valle**	**1.70**	**286**	P		**Pb**	**03 55 31.4**	**-0.5**
UNV				S		**Sg**	**03 55 53.6**	**-1.6**
MTBL	**Makushin Table**	**1.83**	**289**	P		**Pb**	**03 55 33.9**	**-0.4**
BALA	**Baldy Mountain**	**1.87**	**17**	P		**Pb**	**03 55 33.6**	**-1.3**
MSW	**Makushin Switc**	**1.88**	**287**	P		**Pb**	**03 55 34.7**	**-0.3**
MSW				S		**Sb**	**03 55 58.4**	**-0.1**
MGOD	**Makushin Gods**	**1.90**	**283**	P		**Pb**	**03 55 35.6**	**+0.2**
DTNA	**Dutton South F**	**1.95**	**26**	P		**Pb**	**03 55 34.7**	**-1.4**
MCIR	**Makushin Cirqu**	**1.95**	**287**	P		**Pb**	**03 55 35.9**	**-0.3**
OKER	**Okmok East Rim**	**2.58**	**273**	P		**Pb**	**03 55 45.3**	**-1.7**
OKWE	**Okmok W'ng Wal**	**2.69**	**273**	P		**Pn**	**03 55 46.1**	**+2.1**
SDPT	**Sand Point**	**2.72**	**43**	P		**Pn**	**03 55 45.2**	**+0.9**
NIKH	**Nikolski High**	**3.11**	**264**	P		**Pn**	**03 55 51.3**	**+1.7**
VNSS	**Veniaminof 8**	**3.75**	**40**	P		**Pn**	**03 55 59.9**	**+1.1**
VNSG	**Veniaminof 6**	**3.83**	**43**	P		**Pn**	**03 56 00.7**	**+1.0**
CHGN	**Chignik**	**4.22**	**45**	*e*Pn		**Pn**	**03 56 06.0**	**+1.0**
OHAK	**Old Harbor**	**7.08**	**53**	*e*Pn		**Pn**	**03 56 43.5**	**-0.6**
	33nm,0.8s							
RC01	**Rabbit Creek A**	**10.78**	**39**	*e*Pn		**Pn**	**03 57 35.0**	**+0.1**
ILAR	**Eielson Array**	**14.24**	**30**	Pn		**Pn**	**03 58 19.6**	**-2.5**
	0.1nm,0.3s,baz=218,slow=13,SNR=5.3							
COLD	**Coldfoot**	**15.33**	**20**	*e*Pn		**Pn**	**03 58 37.0**	**+0.2**
	9.6nm,1.0s							
EGAK	**Eagle**	**16.14**	**36**	*e*Pn		**Pn**	**03 58 46.8**	**-0.4**
	4.1nm,0.8s							
DAWY	**Dawson**	**16.41**	**40**	*e*Pn		**Pn**	**03 58 51.3**	**+0.4**
	3.7nm,0.6s							
DLBC	**Dease Lake**	**19.41**	**61**	P		**Pn**	**03 59 28.0**	**+0.2**
	0.2nm,0.3s,baz=102,slow=26,SNR=2.1							
INK	**Inuvik**	**20.62**	**32**	P		**P**	**03 59 38.4**	**-1.4**
	1.4nm,0.6s,baz=227,slow=8.5,SNR=7.0							
BBB	**Bella Bella**	**21.44**	**79**	LR		LR	04 05 46.7	
	comp=Z,46nm,20.5s,baz=326,slow=30							
PETK	**Petropavlovsk-**	**22.88**	**285**	P		**P**	**04 00 03.9**	**-0.3**
	1.9nm,0.5s,baz=83,slow=14,SNR=8.1							
PETK				LR		LR	04 08 49.4	
	comp=Z,56nm,19.4s,baz=79,slow=36							
MA2	**Magadan**	**25.43**	**302**	LR		LR	04 11 23.6	
	comp=Z,40nm,18.0s,baz=126,slow=39							
YKA	**Yellowknife Ar**	**26.96**	**51**	P		**P**	**04 00 44.2**	**+2.3**
	1.7nm,0.9s,baz=274,slow=7.1,SNR=13							
YKA				LR		LR	04 12 10.8	
	comp=Z,7.3nm,18.6s,baz=180,slow=38							
TIXI	**Tiksi**	**33.62**	**328**	P		**P**	**04 01 39.7**	**-1.0**
	1.3nm,0.4s,baz=110,slow=12,SNR=2.7							
TIXI				LR		LR	04 15 31.5	
	comp=Z,40nm,20.0s,baz=48,slow=37							
H11N2	**WAKE ISLAND Hy**	**40.51**	**225**	T		T	04 46 14.0	
	baz=26,slow=75,SNR=35							
H11N3	**WAKE ISLAND Hy**	**40.52**	**225**	T		T	04 46 15.2	
	baz=26,slow=75,SNR=26							
H11N1	**WAKE ISLAND Hy**	**40.53**	**225**	T		T	04 46 17.4	
	baz=26,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hy**	**41.68**	**225**	T		T	04 47 44.8	
	baz=26,slow=76,SNR=25							
H11S2	**WAKE ISLAND Hy**	**41.70**	**225**	T		T	04 47 47.1	
	baz=26,slow=76,SNR=31							
H11S3	**WAKE ISLAND Hy**	**41.70**	**225**	T		T	04 47 46.0	
	baz=26,slow=76,SNR=28							
MJAR	**Matsushiro Arr**	**43.11**	**271**	P		**P**	**04 03 03.1**	**+2.2**
	0.5nm,0.6s,baz=55,slow=5.1,SNR=2.7							
MJAR				LR		LR	04 21 28.0	
	comp=Z,12nm,20.7s,baz=75,slow=37							
FRB	**Frobisher Bay**	**46.10**	**38**	P		**P**	**04 03 25.1**	**+0.7**
	7.9nm,0.9s,baz=314,slow=7.8,SNR=3.4							
KSRS	**Korea Array**	**48.63**	**280**	P		**P**	**04 03 42.9**	**-1.4**
	0.9nm,0.6s,baz=64,slow=8.3,SNR=3.3							
KSAR	**Wonju Array Be**	**48.66**	**280**	P		**P**	**04 03 42.9**	**-1.7**
TXAR	**Lajitas Array**	**49.37**	**94**	P		**P**	**04 03 52.1**	**+1.8**
	0.2nm,0.5s,baz=300,slow=6.4,SNR=4.2							
TXAR				LR		LR	04 21 36.1	
	comp=Z,31nm,18.6s,baz=0.0,slow=32							
SONM	**Songino Array**	**53.64**	**303**	P		**P**	**04 04 21.6**	**-0.5**
	0.5nm,0.4s,baz=38,slow=7.7,SNR=5.5							
ARCES	**ARCESS Array B**	**57.18**	**356**	P		**P**	**04 04 46.0**	**-1.1**
	3.2nm,0.9s,baz=7.4,slow=9.1,SNR=5.8							
FINES	**FINESS Array B**	**65.22**	**355**	P		**P**	**04 05 40.7**	**-1.0**
	0.3nm,0.3s,baz=5.7,slow=5.6,SNR=7.1							
MKAR	**Makanchi Array**	**65.48**	**316**	P		**P**	**04 05 42.9**	**-0.7**
	0.2nm,0.4s,baz=46,slow=6.9,SNR=3.6							
HFS	**Hagfors**	**66.78**	**1**	P		**P**	**04 05 51.4**	**-0.3**
	1.3nm,0.5s,baz=46,slow=4.3,SNR=17							
AKASG	**Malin Array Be**	**75.69**	**352**	P		**P**	**04 06 44.5**	**-1.2**
	0.4nm,0.4s,baz=12,slow=6.1,SNR=3.3							
GERES	**GERESS Array B**	**78.09**	**2**	P		**P**	**04 07 00.4**	**+1.0**
	0.3nm,0.6s,baz=27,slow=6.8,SNR=2.3							
CMAR	**Chiang Mai Arr**	**79.65**	**287**	P		**P**	**04 07 09.4**	**+1.1**
	0.6nm,0.3s,baz=19,slow=3.8,SNR=2.4							
KBZ	**Khabaz**	**80.57**	**341**	P		**P**	**04 07 14.4**	**+1.5**
	1.6nm,0.8s,baz=0.0,slow=2.0,SNR=2.9							
BRTR	**Keskin Array B**	**86.03**	**347**	P		**P**	**04 07 39.6**	**-1.8**
	0.5nm,0.4s,baz=0.5,slow=4.1,SNR=5.1							

*ISCJB **04** 03:56:43.6±0.5,36°.54N±0°.03×11°.14W±0°.04,h10km, Error ellipse: s-maj=4.3km s-min=3.7km az=30.2*
*MDD **04** 03:56:46.5±0.6,36°.47N×11°.39W,h30km,mb4.3/21,Error ellipse: s-maj=7.1km s-min=4.7km az=126.0,PRXIMO*

*CSEM **04** 03:56:46.3±0.2,36°.48N×11°.32W,h30km,ML3.6/6,Error ellipse: s-maj=4.9km s-min=3.6km az=128.0*
*INMG **04** 03:56:47.9±1.9,36°.48N×11°.37W,h31km±8km,MD2.9, ML2.9,Error ellipse: s-maj=3.9km s-min=2.6km az=116.0*
*IGIL **04** 03:56:47.5,36°.47N×11°.36W,h31km,ML2.6*
*LDG **04** 03:56:47.9±0.2,36°.54N×11°.34W,h20km,Ml3.1/3,Error ellipse: s-maj=4.3km s-min=3.1km az=46.0*
*CNRM **04** 03:56:49.1,36°.40N×11°.05W,h30km,MD3.6*
ISC 04 03:56:41.1±0.3,36°.49N±0°.01×11°.33W±0°.01,h10km,n202, σ2s63/290,17C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.11**	**72**	*i*Pn		**Pb**	**03 57 19.8**	**+0.4**
PFVI				*e*Sn		**Sn**	**03 57 42.7**	**0.0**
PFVI				A		A	03 57 43.8	
	46nm,0.2s							
PFVI	**Vila Bisbo**	**2.11**	**72**	⇑P		**Pb**	**03 57 19.8**	**+0.4**
	113nm,0.2s,SNR=18							
PFVI				S		**Sn**	**03 57 43.0**	**+0.3**
	20nm,0.2s,SNR=7.5							
PFVI	**Vila Bisbo**	**2.11**	**72**	P		**Pb**	**03 57 19.8**	**+0.4**
	113nm,0.2s,SNR=18							
PFVI				*e*Sn		**Sn**	**03 57 42.7**	**0.0**
	46nm,0.2s							
PFVI				S		**Sn**	**03 57 43.0**	**+0.3**
	20nm,0.2s,SNR=7.5							
MORF	**Marmelete**	**2.30**	**68**	*e*P		**Pb**	**03 57 22.5**	**-0.2**
MORF				*e*S		**Sn**	**03 57 47.7**	**+0.3**
MORF				AML		AML	03 57 49.0	
	comp=E,47nm,0.1s							
MORF	**Marmelete**	**2.30**	**68**	⇑*i*Pn		**Pb**	**03 57 22.5**	**-0.2**
MORF				*e*Sn		**Sn**	**03 57 48.4**	**+1.0**
MORF				A		A	03 57 58.4	
	comp=E,39nm,0.2s							
MORF	**Marmelete**	**2.30**	**68**	P		**Pb**	**03 57 22.5**	**-0.2**
MORF				S		**Sn**	**03 57 48.4**	**+1.0**
	comp=E,39nm,0.2s							
MORF	**Marmelete**	**2.30**	**68**	P		**Pb**	**03 57 22.5**	**-0.2**
MORF				S		**Sn**	**03 57 48.4**	**+1.0**
	comp=E,39nm,0.2s							
PTEO	**Sao Teotonio**	**2.34**	**62**	⇑*i*Pn		**Pb**	**03 57 23.1**	**-0.2**
PTEO				*e*Sn		**Sn**	**03 57 49.0**	**+0.7**
PTEO				A		A	03 57 53.1	
	comp=E,28nm,0.4s							
PTEO	**Sao Teotonio**	**2.34**	**62**	P		**Pb**	**03 57 23.1**	**-0.2**
PTEO				S		**Sn**	**03 57 49.0**	**+0.7**
	comp=E,14nm,0.4s							
PTEO	**Sao Teotonio**	**2.34**	**62**	P		**Pb**	**03 57 23.1**	**-0.2**
PTEO				S		**Sn**	**03 57 49.0**	**+0.7**
	comp=E,14nm,0.4s							
PNCL	**Nicolau / Gran**	**2.76**	**53**	⇑*i*Pn		Pn	03 57 29.0	+3.6
PNCL				*e*Sn		**Sn**	**03 57 59.0**	**+0.3**
PNCL				A		A	03 58 03.6	
	comp=E,29nm,0.3s							
PNCL	**Nicolau / Gran**	**2.76**	**53**	⇑*i*Pn		Pn	03 57 29.0	+3.6
PNCL				*e*Sn		**Sn**	**03 57 59.0**	**+0.3**
	comp=E,29nm,0.3s							
LIS	**Lisbon**	**2.82**	**37**	*e*Sn		**Sn**	**03 58 01.1**	**+0.9**
LIS				A		A	03 58 01.4	
	comp=E,50nm,0.1s							
LIS				A		A	03 58 04.2	
	comp=E,52nm,0.1s							
LIS	**Lisbon**	**2.82**	**37**	S		**Sn**	**03 58 01.1**	**+0.9**
	comp=E,50nm,0.1s							
LIS	**Lisbon**	**2.82**	**37**	*e*Sn		**Sn**	**03 58 01.1**	**+0.9**
	comp=E,52nm,0.1s							
MESJ	**Messejana**	**2.83**	**61**	*e*P		Pn	03 57 29.7	+3.5
MESJ				*e*S		**Sn**	**03 58 00.4**	**0.0**
MESJ				AML		AML	03 58 02.3	
	comp=N,15nm,0.1s							
MESJ	**Messejana**	**2.83**	**61**	*e*Pn		Pn	03 57 29.8	+3.5
MESJ				*e*Sn		**Sn**	**03 58 00.9**	**+0.5**
MESJ				A		A	03 58 09.6	
	comp=N,12nm,0.2s							
MESJ	**Messejana**	**2.83**	**61**	P		Pn	03 57 29.8	+3.5
MESJ				S		**Sn**	**03 58 00.9**	**+0.5**
	comp=N,12nm,0.2s							
MESJ	**Messejana**	**2.83**	**61**	P		Pn	03 57 29.8	+3.5
MESJ				S		**Sn**	**03 58 00.9**	**+0.5**
	comp=N,12nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.83**	**74**	⇑*i*Pn		Pn	03 57 30.0	+3.7
PBDV				*e*Sn		**Sn**	**03 58 00.7**	**+0.2**
PBDV				A		A	03 58 09.3	
	comp=N,14nm,0.1s							
PBDV	**Barranco-do-Ve**	**2.83**	**74**	P		Pn	03 57 30.0	+3.7
PBDV				S		**Sn**	**03 58 00.7**	**+0.2**
	comp=N,14nm,0.1s							
PBDV	**Barranco-do-Ve**	**2.83**	**74**	P		Pn	03 57 30.0	+3.7
PBDV				S		**Sn**	**03 58 00.7**	**+0.2**
	com

PESTR Estremoz 3.80 50 *e*Pn Pn 03 57 43.1 +3.4
PESTR *e*Sn **Sn 03 58 23.6 -0.8**
PESTR A A 03 58 35.4
comp=N,7.4nm,0.3s
PESTR Estremoz 3.80 50 *e*Pn Pn 03 57 43.1 +3.4
PESTR *e*Sn **Sn 03 58 23.6 -0.8**
comp=N,7.4nm,0.3s
PBAR Barrancos 3.81 63 *e*Pn **Pn 03 57 43.3 +3.5**
PBAR *e*Sn **Sn 03 58 24.2 -0.5**
PBAR A A 03 58 31.1
comp=N,18nm,0.4s
PBAR Barrancos 3.81 63 P **Pn 03 57 43.3 +3.5**
PBAR S **Sn 03 58 24.2 -0.5**
comp=N,18nm,0.4s
PBAR Barrancos 3.81 63 P **Pn 03 57 43.3 +3.5**
PBAR S **Sn 03 58 24.2 -0.5**
comp=N,18nm,0.4s
PTOM Tomar 3.88 36 *e*Pn Pn 03 57 44.4 +3.6
PTOM *e*Sn **Sn 03 58 26.2 -0.2**
PTOM A A 03 58 31.1
comp=N,23nm,0.3s
PTOM Tomar 3.88 36 P Pn 03 57 44.4 +3.6
PTOM S **Sn 03 58 26.2 -0.2**
comp=N,12nm,0.3s
PTOM Tomar 3.88 36 P Pn 03 57 44.4 +3.6
PTOM S **Sn 03 58 26.2 -0.2**
comp=N,12nm,0.3s
EMIN Mina Concepcio 3.94 70 P **Pn 03 57 44.7 +3.1**
comp=N,1.4nm,0.2s,SNR=111
EMIN S **Sn 03 58 27.4 -0.4**
comp=N,4.4nm,0.1s,SNR=5.7
EMIN Mina Concepcio 3.94 70 P **Pn 03 57 44.7 +3.1**
comp=N,1.4nm,0.2s,SNR=111
EMIN S **Sn 03 58 27.4 -0.4**
comp=N,4.4nm,0.1s,SNR=5.7
EBAD Badajoz 4.11 55 P **Pn 03 57 46.7 +2.8**
comp=N,4.3nm,0.1s,SNR=135
EBAD S **Sn 03 58 29.9 -2.1**
comp=N,20nm,0.2s,SNR=5.6
EBAD Badajoz 4.11 55 P **Pn 03 57 46.7 +2.8**
comp=N,4.3nm,0.1s,SNR=135
EBAD S **Sn 03 58 29.9 -2.1**
comp=N,20nm,0.2s,SNR=5.6
PCAS Casmilo, Conde 4.20 31 *e*Pn Pn 03 57 48.6 +3.5
PCAS *e*Sn **Sn 03 58 34.1 -0.1**
PCAS A A 03 58 39.2
comp=N,13nm,0.7s
PCAS Casmilo, Conde 4.20 31 *e*Pn Pn 03 57 48.6 +3.5
PCAS *e*Sn **Sn 03 58 34.1 -0.1**
comp=N,13nm,0.7s
PMRV Marv??o 4.28 46 ⇑*e*Pn **Pn 03 57 49.3 +3.0**
PMRV *e*Sn **Sn 03 58 34.6 -1.6**
PMRV A A 03 58 36.1
comp=N,22nm,0.3s
PMRV Marv??o 4.28 46 P **Pn 03 57 49.3 +3.0**
PMRV S **Sn 03 58 34.6 -1.6**
comp=N,22nm,0.3s
PMRV Marv??o 4.28 46 P **Pn 03 57 49.3 +3.0**
PMRV S **Sn 03 58 34.6 -1.6**
comp=N,22nm,0.3s
COI Coimbra 4.36 31 P Pn 03 57 51.0 +3.6
COI S **Sn 03 58 38.0 -0.3**
comp=N,12nm,0.5s
COI Coimbra 4.36 31 P Pn 03 57 51.0 +3.6
COI S **Sn 03 58 38.0 -0.3**
comp=N,12nm,0.5s
ESPR Espera 4.42 83 ⇑P **Pn 03 57 51.6 +3.5**
comp=N,30nm,0.1s,SNR=18
ESPR S **Sn 03 58 38.3 -1.3**
comp=N,68nm,0.2s,SNR=5.8
ESPR Espera 4.42 83 P **Pn 03 57 51.6 +3.5**
comp=N,30nm,0.1s,SNR=18
ESPR S **Sn 03 58 38.3 -1.3**
comp=N,68nm,0.2s,SNR=5.8
PCBR Castelo Branco 4.52 41 *e*Pn **Pn 03 57 52.7 +3.2**
PCBR *e*Sn **Sn 03 58 40.8 -1.3**
PCBR A A 03 58 43.6
comp=N,12nm,0.3s
PCBR Castelo Branco 4.52 41 P **Pn 03 57 52.7 +3.2**
PCBR S **Sn 03 58 40.8 -1.3**
comp=N,5.9nm,0.3s
PCBR Castelo Branco 4.52 41 P **Pn 03 57 52.7 +3.2**
PCBR S **Sn 03 58 40.8 -1.3**
comp=N,5.9nm,0.3s
EJIF Jimena Fronter 4.72 89 P Pn 03 57 56.6 +4.2
comp=N,3.4nm,0.2s,SNR=7.9
EJIF S **Sn 03 58 46.4 -0.9**
comp=N,8.4nm,0.4s,SNR=4.0
EJIF Jimena Fronter 4.72 89 P Pn 03 57 56.6 +4.2
comp=N,3.4nm,0.2s,SNR=7.9
EJIF S **Sn 03 58 46.4 -0.9**
comp=N,8.4nm,0.4s,SNR=4.0
MTE Manteigas 4.91 36 *e*Pn **Pn 03 57 58.0 +3.1**
MTE *e*Sn **Sn 03 58 50.3 -1.5**
MTE A A 03 58 54.6
comp=N,8.4nm,0.5s
MTE Manteigas 4.91 36 P **Pn 03 57 58.0 +3.1**
MTE S **Sn 03 58 50.3 -1.5**
comp=N,4.2nm,0.5s
MTE Manteigas 4.91 36 P **Pn 03 57 58.0 +3.1**
MTE S **Sn 03 58 50.3 -1.5**
comp=N,4.2nm,0.5s
ECAB El Cabril 4.97 70 ⇓P **Pn 03 57 59.1 +3.3**
comp=N,4.7nm,0.1s,SNR=18
ECAB S **Sn 03 58 51.8 -1.6**
comp=N,7.5nm,0.3s
ECAB El Cabril 4.97 70 P **Pn 03 57 59.1 +3.3**
comp=N,4.7nm,0.1s,SNR=18
ECAB S **Sn 03 58 51.8 -1.6**
comp=N,7.5nm,0.3s
PVIS Viseu 5.00 32 *e*Pn **Pn 03 57 59.4 +3.1**
PVIS *e*Sn **Sn 03 58 52.9 -1.3**
PVIS A A 03 58 56.2
comp=N,13nm,0.3s
PVIS Viseu 5.00 32 P **Pn 03 57 59.4 +3.1**
PVIS S **Sn 03 58 52.9 -1.3**
comp=N,6.3nm,0.3s
PVIS Viseu 5.00 32 P **Pn 03 57 59.4 +3.1**
PVIS S **Sn 03 58 52.9 -1.3**
comp=N,6.3nm,0.3s
EMIJ Mijas 5.28 87 P **Pn 03 58 03.8 +3.7**
comp=N,2.4nm,0.2s,SNR=5.9
EMIJ S **Sn 03 59 00.3 -0.7**
comp=N,0.8nm,0.3s
EMIJ Mijas 5.28 87 P **Pn 03 58 03.8 +3.7**
comp=N,2.4nm,0.2s,SNR=5.9
EMIJ S **Sn 03 59 00.3 -0.7**
comp=N,0.8nm,0.3s
PMPS Porto Santo 5.35 232 *e*Pn **Pn 03 58 02.6 +1.6**
PMPS *e*Sn **Sn 03 58 56.7 -6.0**
PMPS A A 03 59 01.1
comp=N,14nm,0.7s
PMPS Porto Santo 5.35 232 P **Pn 03 58 02.6 +1.6**
PMPS S **Sn 03 58 56.7 -6.0**
comp=N,7.2nm,0.7s
PMPS Porto Santo 5.35 232 P **Pn 03 58 02.6 +1.6**
PMPS S **Sn 03 58 56.7 -6.0**
comp=N,7.2nm,0.7s
CIA Chichaoua 5.36 156 P **Pn 03 58 04.0 +2.9**
CIA S **Sn 03 58 59.0 -3.9**
CIA Chichaoua 5.36 156 P **Pn 03 58 04.0 +2.9**
CIA S **Sn 03 58 59.0 -3.9**
EPLA Plasencia 5.46 48 P Pn 03 58 05.9 +3.4
comp=N,1.8nm,0.1s,SNR=21
EPLA S **Sn 03 59 04.0 -1.4**
comp=N,5.2nm,0.2s,SNR=8.1
EPLA Plasencia 5.46 48 P Pn 03 58 05.9 +3.4
comp=N,1.8nm,0.1s,SNR=21
EPLA S **Sn 03 59 04.0 -1.4**
comp=N,5.2nm,0.2s,SNR=8.1
PVRL Vila Real 5.55 29 *e*Pn Pn 03 58 07.0 +3.3
PVRL *e*Sn **Sn 03 59 05.7 -1.9**
PVRL A A 03 59 08.3
comp=N,13nm,0.1s
PVRL Vila Real 5.55 29 P Pn 03 58 07.0 +3.3
PVRL S **Sn 03 59 05.7 -1.9**
comp=N,6.6nm,0.1s
PVRL Vila Real 5.55 29 P Pn 03 58 07.0 +3.3
PVRL S **Sn 03 59 05.7 -1.9**
comp=N,6.6nm,0.1s
POLO Lamas de Olo 5.60 28 *e*Pn **Pn 03 58 07.6 +3.1**
POLO *e*Sn **Sn 03 59 06.7 -2.3**
POLO A A 03 59 10.6
comp=N,5.5nm,0.4s
POLO Lamas de Olo 5.60 28 *e*Pn **Pn 03 58 07.6 +3.1**
POLO *e*Sn **Sn 03 59 06.7 -2.3**
comp=N,5.5nm,0.4s
EADA Adamuz 5.64 71 ⇑P **Pn 03 58 08.4 +3.4**
comp=N,1.8nm,0.1s,SNR=18
EADA S **Sn 03 59 08.9 -0.9**
comp=N,3.8nm,0.1s
EADA Adamuz 5.64 71 P **Pn 03 58 08.4 +3.4**
comp=N,1.8nm,0.1s,SNR=18
EADA S **Sn 03 59 08.9 -0.9**
comp=N,3.8nm,0.1s
MVO Moncorvo 5.75 34 *e*Pn **Pn 03 58 09.4 +2.9**
MVO *e*Sn **Sn 03 59 09.9 -2.7**
MVO A A 03 59 15.0
comp=N,9.4nm,0.3s
MVO Moncorvo 5.75 34 P **Pn 03 58 09.4 +2.9**
comp=N,2.4nm,0.1s,SNR=23
MVO S **Sn 03 59 10.7 -1.9**
comp=N,5.4nm,0.1s,SNR=9.0
MVO Moncorvo 5.75 34 P **Pn 03 58 09.4 +2.9**
comp=N,2.4nm,0.1s,SNR=23
MVO *e*Sn **Sn 03 59 09.9 -2.7**
comp=N,9.4nm,0.3s
MVO S **Sn 03 59 10.7 -1.9**
comp=N,5.4nm,0.1s,SNR=9.0
PCAB Cabril 5.81 25 *e*Pn **Pn 03 58 10.2 +2.9**
PCAB *e*Sn **Sn 03 59 12.1 -1.9**
PCAB A A 03 59 16.6
comp=N,9.2nm,0.7s
PCAB Cabril 5.81 25 P **Pn 03 58 10.2 +2.9**
PCAB S **Sn 03 59 12.1 -1.9**
comp=N,4.6nm,0.7s
PCAB Cabril 5.81 25 P **Pn 03 58 10.2 +2.9**
PCAB S **Sn 03 59 12.1 -1.9**
comp=N,4.6nm,0.7s
EGOR Sierra Gorda, 5.83 82 P Pn 03 58 11.7 +4.0
comp=N,1.1nm,0.2s,SNR=7.9
EGOR S **Sn 03 59 15.7 +1.1**
comp=N,4.6nm,0.3s,SNR=7.9
EGOR Sierra Gorda, 5.83 82 P Pn 03 58 11.7 +4.0
comp=N,1.1nm,0.2s,SNR=7.9
EGOR S **Sn 03 59 15.7 +1.1**
comp=N,4.6nm,0.3s,SNR=7.9
KIB El Ksiba 5.86 130 P **Pn 03 58 10.5 +2.4**
KIB S **Sn 03 59 11.0 -4.3**
KIB El Ksiba 5.86 130 P **Pn 03 58 10.5 +2.4**
KIB S **Sn 03 59 11.0 -4.3**
TZC Tazercounte 5.90 136 P **Pn 03 58 11.0 +2.3**
TZC S **Sn 03 59 12.0 -4.5**
TZC Tazercounte 5.90 136 P **Pn 03 58 11.0 +2.3**
TZC S **Sn 03 59 12.0 -4.5**
ELOB Lobios 5.94 24 P **Pn 03 58 12.4 +3.2**
comp=N,0.7nm,0.3s,SNR=22
ELOB S **Sn 03 59 15.1 -2.2**
comp=N,2.4nm,0.3s,SNR=14
ELOB Lobios 5.94 24 P **Pn 03 58 12.4 +3.2**
comp=N,0.7nm,0.3s,SNR=22
ELOB S **Sn 03 59 15.1 -2.2**
comp=N,2.4nm,0.3s,SNR=14
PMAR Madeira 5.94 232 *e*Pn **Pn 03 58 11.3 +2.0**
PMAR *e*Sn **Sn 03 59 13.7 -3.8**
PMAR A A 03 59 21.3
comp=N,13nm,0.8s
PMAR Madeira 5.94 232 P **Pn 03 58 11.3 +2.0**
PMAR S **Sn 03 59 13.7 -3.8**
comp=N,6.7nm,0.8s
PMAR Madeira 5.94 232 P **Pn 03 58 11.3 +2.0**
PMAR S **Sn 03 59 13.7 -3.8**
comp=N,6.7nm,0.8s
PGAV Gavieira, Arco 5.96 23 *e*Pn Pn 03 58 12.9 +3.4
PGAV *e*Sn **Sn 03 59 15.6 -2.2**
PGAV A A 03 59 20.1
comp=N,10nm,0.6s
PGAV Gavieira, Arco 5.96 23 *e*Pn Pn 03 58 12.9 +3.4
PGAV *e*Sn **Sn 03 59 15.6 -2.2**
comp=N,10nm,0.6s
FUL Funchal 5.98 232 *e*Pn **Pn 03 58 11.9 +2.3**
FUL *e*Sn **Sn 03 59 12.7 -5.4**
FUL A A 03 59 23.0
comp=N,10nm,0.8s
FUL Funchal 5.98 232 P **Pn 03 58 11.9 +2.3**
FUL S **Sn 03 59 12.7 -5.4**
comp=N,5.1nm,0.8s
OUK Oukaimeden 6.00 150 P **Pn 03 58 13.0 +2.7**
OUK S **Sn 03 59 15.0 -4.3**
OUK Oukaimeden 6.00 150 P **Pn 03 58 13.0 +2.7**
OUK S **Sn 03 59 15.0 -4.3**
PMOZ Porto Moniz, M 6.06 235 P **Pn 03 58 13.2 +2.3**
comp=N,7.7nm,0.2s,SNR=4.0
PMOZ Porto Moniz, M 6.06 235 P **Pn 03 58 13.2 +2.3**
comp=N,7.7nm,0.2s,SNR=4.0
SELV Sierra Elvira 6.14 81 P Pn 03 58 16.4 +4.5
comp=N,0.4nm,0.4s,SNR=7.9
SELV S **Sn 03 59 21.3 -1.0**
comp=N,2.3nm,0.3s,SNR=7.9
SELV Sierra Elvira 6.14 81 P Pn 03 58 16.4 +4.5
comp=N,0.4nm,0.4s,SNR=7.9
SELV S **Sn 03 59 21.3 -1.0**
comp=N,2.3nm,0.3s,SNR=7.9
CZD Col de Zad 6.22 122 P **Pn 03 58 15.0 +1.8**
CZD S **Sn 03 59 18.0 -6.5**
CZD Col de Zad 6.22 122 P **Pn 03 58 15.0 +1.8**
CZD S **Sn 03 59 18.0 -6.5**
PBRG Braganca 6.39 33 *e*Pn **Pn 03 58 18.4 +3.1**
PBRG *e*Sn **Sn 03 59 26.2 -2.2**
PBRG A A 03 59 26.5
comp=N,6.2nm,0.2s
PBRG Braganca 6.39 33 P **Pn 03 58 18.4 +3.1**
PBRG S **Sn 03 59 26.2 -2.2**
comp=N,3.1nm,0.2s
PBRG Braganca 6.39 33 P **Pn 03 58 18.4 +3.1**
PBRG S **Sn 03 59 26.2 -2.2**
comp=N,3.1nm,0.2s
ECAL Calabor 6.51 32 P **Pn 03 58 19.8 +2.9**
comp=N,3.1nm,0.5s,SNR=6.9
ECAL S **Sn 03 59 28.7 -2.5**
comp=N,16nm,0.3s,SNR=11
ECAL Calabor 6.51 32 P **Pn 03 58 19.8 +2.9**
comp=N,3.1nm,0.5s,SNR=6.9
ECAL S **Sn 03 59 28.7 -2.5**
comp=N,16nm,0.3s,SNR=11
ESDC Sonseca Array 6.62 59 P **Pn 03 58 21.0 +2.5**
comp=N,1.0nm,0.2s,baz=246,slow=13,SNR=86
ESDC S **Sn 03 59 32.4 -1.7**
comp=N,0.6nm,0.3s,baz=244,slow=23,SNR=7.9
ESDC Sonseca Array 6.62 59 P **Pn 03 58 21.0 +2.5**
comp=N,1.0nm,0.2s,SNR=86
ESDC S **Sn 03 59 32.4 -1.7**
comp=N,0.6nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.70 15 P Pn 03 58 24.4 +4.9
comp=N,1.3nm,0.2s,SNR=4.0
EMAZ S **Sn 03 59 31.0 -4.9**
comp=N,5.7nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.70 15 P Pn 03 58 24.4 +4.9
comp=N,1.3nm,0.2s,SNR=4.0
EMAZ S **Sn 03 59 31.0 -4.9**
comp=N,5.7nm,0.1s,SNR=7.9
GORA Gorafe 6.71 79 P Pn 03 58 23.9 +4.2
comp=N,3.4nm,0.3s,SNR=7.9
GORA S **Sn 03 59 34.9 -1.3**
comp=N,11nm,0.4s,SNR=7.9
GORA Gorafe 6.71 79 P Pn 03 58 23.9 +4.2
comp=N,3.4nm,0.3s,SNR=7.9
GORA S **Sn 03 59 34.9 -1.3**
comp=N,11nm,0.4s,SNR=7.9
EQES Quesada 6.73 76 P **Pn 03 58 22.7 +2.7**
comp=N,0.6nm,0.2s,SNR=23
EQES S **Sn 03 59 34.0 -2.7**
comp=N,3.5nm,0.2s
EQES Quesada 6.73 76 P **Pn 03 58 22.7 +2.7**
comp=N,0.6nm,0.2s,SNR=23
EQES S **Sn 03 59 34.0 -2.7**
comp=N,3.5nm,0.2s
EAGO Agolada(Pontev 6.78 21 P **Pn 03 58 23.3 +2.6**
comp=N,0.7nm,0.1s,SNR=7.9
EAGO S **Sn 03 59 34.3 -3.6**
comp=N,2.1nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.78 21 P **Pn 03 58 23.3 +2.6**
comp=N,0.7nm,0.1s,SNR=7.9
EAGO S **Sn 03 59 34.3 -3.6**
comp=N,2.1nm,0.1s,SNR=7.9
EBER Berja 6.79 84 P **Pn 03 58 24.7 +3.7**
comp=N,0.8nm,0.3s,SNR=7.3
EBER S **Sn 03 59 38.0 -0.5**
comp=N,0.2nm,0.6s,SNR=4.0
EBER Berja 6.79 84 P **Pn 03 58 24.7 +3.7**
comp=N,0.8nm,0.3s,SNR=7.3
EBER S **Sn 03 59 38.0 -0.5**
comp=N,0.2nm,0.6s,SNR=4.0
GUD Guadarrama 6.99 51 P **Pn 03 58 26.7 +3.1**
comp=N,1.0nm,0.2s,SNR=10
GUD S **Sn 03 59 39.9 -3.2**
comp=N,0.7nm,0.4s
GUD Guadarrama 6.99 51 P **Pn 03 58 26.7 +3.1**
comp=N,1.0nm,0.2s,SNR=10
GUD S **Sn 03 59 39.9 -3.2**
comp=N,0.7nm,0.4s
SESP Santiago Espad 7.19 74 P **Pn 03 58 28.8 +2.4**
comp=N,3.4nm,0.5s,SNR=7.9
SESP S **Sn 03 59 45.8 -2.4**
comp=N,2.1nm,0.2s,SNR=7.9
SESP Santiago Espad 7.19 74 P **Pn 03 58 28.8 +2.4**
comp=N,3.4nm,0.5s,SNR=7.9
SESP S **Sn 03 59 45.8 -2.4**
comp=N,2.1nm,0.2s,SNR=7.9
EVIA Vianos 7.33 70 P **Pn 03 58 31.0 +2.7**
comp=N,0.3nm,0.2s,SNR=7.9
EVIA S **Sn 03 59 49.8 -1.9**
comp=N,1.3nm,0.3s,SNR=7.9
EVIA Vianos 7.33 70 P **Pn 03 58 31.0 +2.7**
comp=N,0.3nm,0.2s,SNR=7.9
EVIA S **Sn 03 59 49.8 -1.9**
comp=N,1.3nm,0.3s,SNR=7.9
ENIJ Nijar 7.34 84 P **Pn 03 58 31.4 +3.0**
comp=N,0.9nm,0.2s,SNR=4.0
ENIJ Nijar 7.34 84 P **Pn 03 58 31.4 +3.0**
comp=N,0.9nm,0.2s,SNR=4.0
EFAM Famara 7.57 195 S **Sn 03 59 52.6 -4.8**
comp=N,8.1nm,0.5s,SNR=7.9
EFAM Famara 7.57 195 S **Sn 03 59 52.6 -4.8**
comp=N,8.1nm,0.5s,SNR=7.9
ETOB Tobarra 8.06 72 P **Pn 03 58 40.8 +2.5**
comp=N,0.8nm,0.2s,SNR=17
ETOB S **Sn 04 00 06.1 -3.4**
comp=N,0.5nm,0.2s,SNR=5.7
ETOB Tobarra 8.06 72 P **Pn 03 58 40.8 +2.5**
comp=N,0.8nm,0.2s,SNR=17
ETOB S **Sn 04 00 06.1 -3.4**
comp=N,0.5nm,0.2s,SNR=5.7
CFUE Fuerteventura 8.12 196 S Sn 04 00 04.3 -6.7
comp=N,2.0nm,0.1s,SNR=7.9
CFUE Fuerteventura 8.12 196 S Sn 04 00 04.3 -6.7
comp=N,2.0nm,0.1s,SNR=7.9
EMUR La Murta 8.17 77 P Pn 03 58 43.7 +4.0
comp=N,1.2nm,0.3s,SNR=7.9
EMUR La Murta 8.17 77 P Pn 03 58 43.7 +4.0
comp=N,1.2nm,0.3s,SNR=7.9
EARI Arriondas 8.27 33 P Pn 03 58 44.7 +3.6
comp=N,0.3nm,0.2s,SNR=5.8
EARI S **Sn 04 00 11.2 -3.3**
comp=N,0.0nm,0.0s,SNR=7.9
EARI Arriondas 8.27 33 P Pn 03 58 44.7 +3.6
comp=N,0.3nm,0.2s,SNR=5.8
EARI S **Sn 04 00 11.2 -3.3**
SNR=7.9
AFON Font Roja 8.84 73 P Pn 03 58 54.4 +5.4
comp=N,0.1nm,0.0s,SNR=4.0
AFON Font Roja 8.84 73 P Pn 03 58 54.4 +5.4
comp=N,0.1nm,0.0s,SNR=4.0
ELAN Lanestosa 9.06 40 P Pn 03 58 55.9 +4.0
comp=N,0.3nm,0.1s,SNR=4.0
ELAN Lanestosa 9.06 40 P Pn 03 58 55.9 +4.0
comp=N,0.3nm,0.1s,SNR=4.0
EMOS Mosqueruela 9.36 62 P Pn 03 59 00.1 +4.0
comp=N,0.3nm,0.4s,SNR=6.6
EMOS S **Sn 04 00 40.6 -0.9**
comp=N,0.3nm,0.1s,SNR=4.0
EMOS Mosqueruela 9.36 62 P Pn 03 59 00.1 +4.0
comp=N,0.3nm,0.4s,SNR=6.6
EMOS S **Sn 04 00 40.6 -0.9**
comp=N,0.3nm,0.1s,SNR=4.0
ESAC San Caprasio 9.92 55 S **Sn 04 00 53.2 -2.1**
comp=N,0.4nm,0.1s,SNR=4.0
ESAC San Caprasio 9.92 55 S **Sn 04 00 53.2 -2.1**
comp=N,0.4nm,0.1s,SNR=4.0
EORO Oroz-Betelu 10.02 47 P Pn 03 59 08.9 +3.8
comp=N,0.1nm,0.1s,SNR=6.1
EORO S **Sn 04 00 55.1 -2.5**
comp=N,0.0nm,0.1s,SNR=7.9
EORO Oroz-Betelu 10.02 47 P Pn 03 59 08.9 +3.8
comp=N,0.1nm,0.1s,SNR=6.1
EORO S **Sn 04 00 55.1 -2.5**
SNR=7.9
IELO Elcoad 10.04 48 P Pn 03 59 08.9 +3.6
comp=N,1.3nm,0.2s,SNR=7.9
IELO S **Sn 04 00 55.8 -2.2**
comp=N,0.4nm,0.3s,SNR=7.9
IELO Elcoad 10.04 48 P Pn 03 59 08.9 +3.6
comp=N,1.3nm,0.2s,SNR=7.9
IELO S **Sn 04 00 55.8 -2.2**
comp=N,0.4nm,0.3s,SNR=7.9
EALK Alkurruntz 10.11 45 P **Pn 03 59 09.6 +3.3**
comp=N,0.2nm,0.1s,SNR=4.0
EALK S **Sn 04 00 55.4 -4.3**
comp=N,1.4nm,0.3s,SNR=7.9
EALK Alkurruntz 10.11 45 P **Pn 03 59 09.6 +3.3**
comp=N,0.2nm,0.1s,SNR=4.0
EALK S **Sn 04 00 55.4 -4.3**
comp=N,1.4nm,0.3s,SNR=7.9
ERTA Horta de San J 10.14 60 P Pn 03 59 11.4 +4.6
comp=N,0.3nm,0.2s,SNR=7.9
ERTA Horta de San J 10.14 60 P Pn 03 59 11.4 +4.6
comp=N,0.3nm,0.2s,SNR=7.9
SJPF Ste Jean 10.20 47 *e*Pn **Pn 03 59 10.3 +2.7**
SJPF *e*Sn **Sn 04 00 58.1 -3.9**
comp=N,1.2nm,0.4s
SJPF Ste Jean 10.20 47 P **Pn 03 59 10.3 +2.7**
SJPF S **Sn 04 00 58.1 -3.9**
comp=N,0.6nm,0.4s
SJPF Ste Jean 10.20 47 P **Pn 03 59 10.3 +2.7**
SJPF S **Sn 04 00 58.1 -3.9**
comp=N,0.6nm,0.4s
ETSF Etsaut 10.47 49 *e*Pn **Pn 03 59 14.4 +3.0**
ETSF *e*Sn **Sn 04 01 03.6 -5.2**
comp=N,0.3nm,0.2s
ETSF Etsaut 10.47 49 P **Pn 03 59 14.4 +3.0**
ETSF S **Sn 04 01 03.6 -5.2**
comp=N,0.2nm,0.2s
ETSF Etsaut 10.47 49 P **Pn 03 59 14.4 +3.0**
ETSF S **Sn 04 01 03.6 -5.2**
comp=N,0.2nm,0.2s
ATE Arette 10.50 48 P Pn 03 59 15.3 +3.7
comp=N,0.6nm,0.2s,SNR=7.9
ATE S **Sn 04 01 06.8 -2.4**
comp=N,1.2nm,0.3s,SNR=7.9
ATE Arette 10.50 48 P Pn 03 59 15.3 +3.7
comp=N,0.6nm,0.2s,SNR=7.9
ATE S **Sn 04 01 06.8 -2.4**
comp=N,1.2nm,0.3s,SNR=7.9
EPOB Poblet 10.82 60 P **Pn 03 59 18.9 +2.9**
comp=N,0.4nm,0.2s,SNR=4.0
EPOB Poblet 10.82 60 P **Pn 03 59 18.9 +2.9**
comp=N,0.4nm,0.2s,SNR=4.0
EPF Esparros 11.10 50 *e*Pn Pn 03 59 23.4 +3.5
EPF *e*Sn **Sn 04 01 18.3 -5.8**
comp=N,0.4nm,0.2s
EPF Esparros 11.10 50 P Pn 03 59 23.4 +3.5
EPF S **Sn 04 01 18.3 -5.8**
comp=N,0.2nm,0.2s
EPF Esparros 11.10 50 P Pn 03 59 23.4 +3.5
EPF S **Sn 04 01 18.3 -5.8**
comp=N,0.2nm,0.2s
CSOR Sort 11.29 55 P Pn 03 59 25.9 +3.4
comp=N,0.2nm,0.2s,SNR=7.9
CSOR Sort 11.29 55 P Pn 03 59 25.9 +3.4
comp=N,0.2nm,0.2s,SNR=7.9
CLLI Llivia 11.89 56 P Pn 03 59 34.5 +3.8
comp=N,0.4nm,0.3s,SNR=7.9
CLLI Llivia 11.89 56 P Pn 03 59 34.5 +3.8
comp=N,0.4nm,0.3s,SNR=7.9
CFON Fontmartina 11.91 60 P Pn 03 59 34.9 +3.9
comp=N,0.4nm,0.3s,SNR=7.9
CFON Fontmartina 11.91 60 P Pn 03 59 34.9 +3.9
comp=N,0.4nm,0.3s,SNR=7.9
LFF La Frestale 12.44 44 *e*Pn **Pn 03 59 40.0 +1.8**
LFF La Frestale 12.44 44 P **Pn 03 59 40.0 +1.8**
LFF La Frestale 12.44 44 P **Pn 03 59 40.0 +1.8**
RJF Les Rejaudoux 13.10 44 *e*Pn **Pn 03 59 48.2 +1.0**
RJF Les Rejaudoux 13.10 44 P **Pn 03 59 48.2 +1.0**
RJF Les Rejaudoux 13.10 44 P **Pn 03 59 48.2 +1.0**
CAF Calviac 13.19 46 *e*Pn **Pn 03 59 50.2 +1.8**
CAF Calviac 13.19 46 P **Pn 03 59 50.2 +1.8**
CAF Calviac 13.19 46 P **Pn 03 59 50.2 +1.8**

IDC 04 04:14:28.0±4.2, 30°04'S×178°22'W, h90km±33km, mb3.4/3, mb1 3.5/3, mb1mx3.4/22, mbtmpg3.7/3, Error ellipse: s-maj=100.6km s-min=51.2km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.82**	**19**	P	Pn	04 14 45.9	+0.1
	44nm,0.3s,baz=266,slow=16,SNR=1.9						
RAO				S	Sn	04 14 60.0	+1.0
	178nm,0.3s,baz=107,slow=19,SNR=5.9						
STKA	**Stephens Creek**	**34.37**	**256**	P	P	04 21 06.7	+0.3
	2.9nm,1.0s,baz=101,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**42.94**	**267**	P	P	04 22 17.9	-0.2
	0.2nm,0.4s,baz=108,slow=7.0,SNR=2.7						
WRA	**Warramunga Arr**	**43.89**	**272**	P	P	04 22 25.6	-0.2
	0.5nm,0.5s,baz=112,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**144.74**	**340**	PKP	PKPbc	04 33 52.9	+0.2
	0.6nm,0.4s,baz=44,slow=2.3,SNR=6.8						

*ISCJB **04** 04:22:33.9±0.5, 39°12N±0°03×29°07E±0°03, h5km±6km, Error ellipse: s-maj=4.8km s-min=4.5km az=159.9*
*DDA **04** 04:22:33.8, 39°13N×29°08E, h12km, Ml2.8*
*ISK **04** 04:22:33.4, 39°12N×29°07E, h6km, MD2.6*
*CSEM **04** 04:22:34.1±0.1, 39°12N×29°08E, h6km±1km, ML2.8, Error ellipse: s-maj=2.1km s-min=1.8km az=79.0*

ISC 04 04:22:34.2±0.9, 39°12N±0°03×29°08E±0°02, h14km±8km, n21, σ0.38/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**255**	P	**Pg**	**04 22 40.2**	**-0.1**
DEMI				S	**Sg**	**04 22 44.4**	**0.0**
DEMI	**Demirci**	**0.29**	**255**	*i* P	**Pg**	**04 22 40.2**	**-0.1**
DEMI				*i* S	**Sg**	**04 22 44.4**	**0.0**
GDZ	**Gediz**	**0.32**	**95**	P	**Pg**	**04 22 40.9**	**+0.2**
GDZ				S	**Sg**	**04 22 45.5**	**+0.3**
GDZ	**Gediz**	**0.32**	**95**	*i* P	**Pg**	**04 22 40.9**	**+0.2**
GDZ				*i* S	**Sg**	**04 22 45.5**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**42**	*e*PG	**Pg**	**04 22 42.6**	**-0.5**
TVSB				*e*SG	**Sg**	**04 22 49.0**	**-0.1**
TVSB	**Tavsanli**	**0.45**	**42**	*e*Pg	**Pg**	**04 22 42.6**	**-0.5**
TVSB				*e*Sg	**Sg**	**04 22 49.0**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**209**	*e*PG	**Pg**	**04 22 47.0**	**-0.5**
KULA				*e*SG	**Sg**	**04 22 56.6**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**209**	*e*Pg	**Pg**	**04 22 47.0**	**-0.5**
KULA				*e*Sg	**Sg**	**04 22 56.6**	**0.0**
KHAL	**Karahalli**	**0.81**	**156**	P	**Pg**	**04 22 50.0**	**+0.1**
KHAL				S	**Sb**	**04 23 01.0**	**0.0**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pg**	**04 22 50.0**	**+0.1**
KHAL				*i* S	**Sb**	**04 23 01.0**	**0.0**
KHL	**Karahalli**	**0.87**	**156**	*e*PG	**Pg**	**04 22 51.0**	**+0.1**
KHL	**Karahalli**	**0.87**	**156**	*e*Pg	**Pg**	**04 22 51.0**	**+0.1**
ORLT	**Orhaneli**	**0.94**	**351**	*e*PG	**Pb**	**04 22 52.4**	**+0.1**
ORLT	**Orhaneli**	**0.94**	**351**	*e*Pg	**Pb**	**04 22 52.4**	**+0.1**
BALB	**Balikesir**	**1.06**	**300**	*e*PG	**Pb**	**04 22 54.2**	**-0.2**
BALB				*e*SG	**Sn**	**04 23 09.5**	**+0.2**
BALB	**Balikesir**	**1.06**	**300**	*e*Pg	**Pb**	**04 22 54.2**	**-0.2**
BALB				*e*Sg	**Sn**	**04 23 09.5**	**+0.2**
IGD	**Bursa**	**1.15**	**5**	*i* P	**Pb**	**04 22 54.5**	**-1.3**
IGD				*i* S	**Sn**	**04 23 11.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*PN	**Pb**	**04 22 58.2**	**+0.2**
KCTX				*e*SN	**Sg**	**04 23 16.2**	**+0.9**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*Pn	**Pb**	**04 22 58.2**	**+0.2**
KCTX				*e*Sn	**Sg**	**04 23 16.2**	**+0.9**
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*PN	**Pb**	**04 23 00.6**	**+0.2**
GONE				*e*SN	**Sg**	**04 23 19.9**	**0.0**
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*Pn	**Pb**	**04 23 00.6**	**+0.2**
GONE				*e*Sn	**Sg**	**04 23 19.9**	**0.0**

*ISCJB **04** 04:23:47.7±0.3, 73°41N±0°02×8°3E±0°1, h13km, mb4.2/36, MS3.9/42, Error ellipse: s-maj=5.1km s-min=3.2km az=172.7*
*IDC **04** 04:23:47.3±0.6, 73°29N×7°44E, h0km, mb3.7/13, mb1 4.0/19, mb1mx3.8/48, mbtmpg3.8/19, ML3.8/6, MS4.0/35, Ms1 4.0/35, ms1mx3.9/44, Error ellipse: s-maj=15.1km s-min=9.8km az=69.0*
*CSEM **04** 04:23:47.2±0.1, 73°36N×7°80E, h2km, mb4.7/9, Error ellipse: s-maj=6.1km s-min=3.7km az=79.0*
*MOS **04** 04:23:48.3±1.9, 73°40N×8°51E, h10km, mb4.6/12, Error ellipse: s-maj=26.8km s-min=4.5km az=96.0*
*NEIC **04** 04:23:48.8±0.3, 73°36N×7°77E, h10km, mb4.7/10, Error ellipse: s-maj=7.7km s-min=4.7km az=76.0*
*BER **04** 04:23:49.1±2.3, 73°33N×7°35E, h10km, MD2.5, ML2.6, ML4.0(NAO)*

ISC 04 04:23:49.3±0.4, 73°34N±0°04×7°68E±0°05, h13km, n228, σ2.02/235, mb4.3/36, MS4.0/42, 2C-2D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**3.36**	**64**	Pn	**Pn**	**04 24 40.1**	**-1.2**
BJO	**Bjornoya**	**3.41**	**64**	*e*P	**Pn**	**04 24 40.2**	**-1.8**
BJO	**Bjornoya**	**3.41**	**64**	*e*P	**Pn**	**04 24 40.2**	**-1.8**
	SNR=50						
HSPB	**Hornsund (broa**	**4.20**	**25**	*e*P	**Pn**	**04 24 51.2**	**-1.6**
HSPB	**Hornsund (broa**	**4.20**	**25**	P	**Pn**	**04 24 51.1**	**-1.7**
HSPB	**Hornsund (broa**	**4.20**	**25**	Pn	**Pn**	**04 24 51.4**	**-1.4**
HSP	**Hornsund**	**4.20**	**25**	Pn	**Pn**	**04 24 51.4**	**-1.5**
BRBA	**Barentsburg A**	**5.01**	**16**	Pn	**Pn**	**04 25 02.7**	**-1.3**
TRO	**Tromso**	**5.16**	**131**	*e*P	**Pn**	**04 25 05.0**	**-1.1**
TRO				IAML		04 26 06.0	
	comp=Z,17nm,0.6s						
TRO	**Tromso**	**5.16**	**131**	P	**Pn**	**04 25 05.0**	**-1.1**
TRO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TRO	**Tromso**	**5.16**	**131**	*e*P	**Pn**	**04 25 04.9**	**-1.1**
	SNR=49						
SPA2	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.7**	**-1.3**
SPA2	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.7**	**-1.3**
SPB4	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.9**	**-1.2**
SPB4	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.9**	**-1.2**
SPA0	**Spitsbergen Ar**	**5.31**	**20**	Pn	**Pn**	**04 25 07.1**	**-1.0**
	baz=197,slow=16						
SPA0				Sn	**Sn**	**04 26 05.8**	**-3.2**
	baz=199,slow=18						
SPA0	**Spitsbergen Ar**	**5.31**	**20**	*e*P	**Pn**	**04 25 06.7**	**-1.4**
SPA0				Sn	**Sn**	**04 26 05.8**	**-3.2**
	baz=199,slow=18						
SPA0	**Spitsbergen Ar**	**5.31**	**20**	*e*P	**Pn**	**04 25 06.7**	**-1.4**
	SNR=49						
SPA0	**Spitsbergen Ar**	**5.31**	**20**	Pn	**Pn**	**04 25 07.1**	**-1.0**
	baz=197,slow=14,SNR=324						
SPA0				Sn	**Sn**	**04 26 05.8**	**-3.2**
	baz=199,slow=16						
SPA0	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 07.3**	**-0.8**
SPITS	**Spitsbergen Ar**	**5.31**	**20**	Pn	**Pn**	**04 25 07.1**	**-1.0**
	baz=200,slow=15,SNR=171						
SPITS				Sn	**Sn**	**04 26 07.2**	**-1.8**
	baz=163,slow=42,SNR=1.2						
SPA1	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.8**	**-1.3**
SPA1	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.8**	**-1.3**
SPB1	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.8**	**-1.3**
SPB1	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.8**	**-1.3**
SPB5	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.8**	**-1.3**
SPB5	**Spitsbergen Ar**	**5.31**	**20**	*e*Pn	**Pn**	**04 25 06.8**	**-1.3**
JMIC	**Jan Mayen**	**5.50**	**252**	LR	LR	04 26 45.7	
	comp=Z,1μm,19.7s,baz=69,slow=33						
JMIC	**Jan Mayen**	**5.50**	**252**	*e*P	**Pn**	**04 25 06.7**	**-3.9**
HOPEN	**Hopen**	**5.51**	**47**	Pn	**Pn**	**04 25 09.8**	**-1.1**
HOPEN	**Hopen**	**5.51**	**47**	*e*P	**Pn**	**04 25 09.7**	**-1.1**
HOPEN				*e*S	**Sn**	**04 26 09.8**	**-4.1**
HOPEN				IAML		04 26 13.3	
	comp=Z,6.5nm,0.5s						
HOPEN	**Hopen**	**5.51**	**47**	*e*P	**Pn**	**04 25 09.7**	**-1.1**
	SNR=49						
LOF	**Lofoten**	**5.58**	**157**	*e*P	**Pn**	**04 25 09.7**	**-2.1**
LOF				IAML		04 26 09.8	
	comp=Z,46nm,0.6s						
LOF	**Lofoten**	**5.58**	**157**	*e*P	**Pn**	**04 25 09.7**	**-2.1**
	SNR=49						
HAMF	**Hammerfest**	**5.64**	**111**	*e*P	**Pn**	**04 25 11.1**	**-1.6**
HAMF				IAML		04 26 17.9	
	comp=Z,11nm,0.4s						
HAMF	**Hammerfest**	**5.64**	**111**	*e*P	**Pn**	**04 25 11.1**	**-1.6**
	SNR=49						
KBS	**Kingsbay**	**5.71**	**8**	Pn	**Pn**	**04 25 12.3**	**-1.3**
KBS	**Kingsbay**	**5.71**	**8**	*e*P	**Pn**	**04 25 12.2**	**-1.4**
KBS				*e*S	**Sn**	**04 26 14.0**	**-4.8**
KBS	**Kingsbay**	**5.71**	**8**	*e*P	**Pn**	**04 25 12.2**	**-1.4**
KBS	**Kingsbay**	**5.71**	**8**	*e*Pn	**Pn**	**04 25 12.2**	**-1.3**
STEI	**Steigen**	**5.98**	**151**	*e*P	**Pn**	**04 25 16.5**	**-0.8**
STEI				IAML		04 26 23.8	
	comp=Z,12nm,0.5s						
STEI	**Steigen**	**5.98**	**151**	*e*P	**Pn**	**04 25 16.5**	**-0.8**
	SNR=49						
KIF	**Kilpisjarvi**	**6.07**	**129**	*e*P	**Pn**	**04 25 17.7**	**-0.8**
KIF	**Kilpisjarvi**	**6.07**	**129**	*e*P	**Pn**	**04 25 17.7**	**-0.8**
	SNR=49						
KTK1	**Kautokeino**	**6.63**	**123**	*e*P	**Pn**	**04 25 26.1**	**-0.2**
KTK1	**Kautokeino**	**6.63**	**123**	*e*P	**Pn**	**04 25 26.0**	**-0.2**
	SNR=47						
ARA0	**ARCESS Array S**	**6.83**	**115**	Pn	**Pn**	**04 25 27.8**	**-1.2**
	baz=319,slow=14						
ARA0				Sn	**Sn**	**04 26 42.1**	**-4.3**
	baz=315,slow=22						
ARA0	**ARCESS Array S**	**6.83**	**115**	*e*Pn	**Pn**	**04 25 28.4**	**-0.6**
	baz=319,slow=13						
ARA0	**ARCESS Array S**	**6.83**	**115**	*e*Pn	**Pn**	**04 25 28.4**	**-0.6**
ARCES	**ARCESS Array B**	**6.83**	**115**	Pn	**Pn**	**04 25 28.3**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=312,slow=12,SNR=126						
ARCES				Sn	**Sn**	**04 26 42.0**	**-4.5**
	comp=Z,2.4nm,0.3s,baz=305,slow=21,SNR=5.9						
ARE0	**ARCESS Array S**	**6.83**	**115**	*e*P	**Pn**	**04 25 28.1**	**-0.9**
ARE0				*e*S	**Sn**	**04 26 41.3**	**-5.2**
ARE0				IAML		04 26 46.2	
	comp=Z,5.4nm,0.4s						
ARE0	**ARCESS Array S**	**6.83**	**115**	*e*P	**Pn**	**04 25 28.1**	**-0.9**
	SNR=47						
ARE0	**ARCESS Array S**	**6.83**	**115**	*e*Pn	**Pn**	**04 25 28.7**	**-0.3**
ARE0	**ARCESS Array S**	**6.83**	**115**	*e*Pn	**Pn**	**04 25 28.7**	**-0.3**
KEV	**Kevo**	**7.08**	**111**	*e*P	**Pn**	**04 25 30.4**	**-2.0**
KEV	**Kevo**	**7.08**	**111**	*e*P	**Pn**	**04 25 31.2**	**-1.2**
KEV	**Kevo**	**7.08**	**111**	*e*P	**Pn**	**04 25 30.4**	**-2.0**
	SNR=47						
KEV	**Kevo**	**7.08**	**111**	*e*Pn	**Pn**	**04 25 31.2**	**-1.2**
KEV	**Kevo**	**7.08**	**111**	*e*Pn	**Pn**	**04 25 31.2**	**-1.2**
KONS	**Konsvik**	**7.12**	**162**	*e*P	**Pn**	**04 25 31.5**	**-1.4**
KONS				*e*S	**Sn**	**04 26 45.5**	**-8.1**
KONS				IAML		04 26 48.0	
	comp=Z,11nm,0.2s						
KONS	**Konsvik**	**7.12**	**162**	*e*P	**Pn**	**04 25 31.5**	**-1.4**
	SNR=47						
HEF	**Hetta**	**7.19**	**125**	*e*P	**Pn**	**04 25 33.8**	**-0.1**
HEF	**Hetta**	**7.19**	**125**	*e*P	**Pn**	**04 25 33.8**	**-0.1**
	SNR=47						
STOK	**Stokkvaagen**	**7.27**	**163**	*e*P	**Pn**	**04 25 33.5**	**-1.5**
STOK				IAML		04 26 55.9	
	comp=N,8.7nm,0.5s						
STOK	**Stokkvaagen**	**7.27**	**163**	*e*P	**Pn**	**04 25 33.5**	**-1.5**
	SNR=47						
DAG	**Danmarks Havn**	**7.57**	**309**	*i* P	Pn	04 25 33.2	-5.8
DAG	**Danmarks Havn**	**7.57**	**309**	*i* P	Pn	04 25 33.2	-5.8
DAG				*i* S	Sn	04 26 47.6	-17
SGF	**Sodankyl**	**8.63**	**124**	P	**Pn**	**04 25 55.4**	**+1.8**
NSS	**Namsos**	**8.98**	**168**	*e*P	**Pn**	**04 25 55.4**	**-3.0**
NSS				IAML		04 27 39.2	
	comp=N,7.4nm,0.6s						
NSS	**Namsos**	**8.98**	**168**	*e*P	**Pn**	**04 25 55.4**	**-3.0**
	SNR=47						
SCO	**Scoresbysund**	**9.57**	**267**	*i* P	**Pn**	**04 26 02.8**	**-3.7**
SCO	**Scoresbysund**	**9.57**	**267**	*i* P	**Pn**	**04 26 02.8**	**-3.7**
APA0	**Apatity Array**	**10.16**	**112**	Pn	**Pn**	**04 26 12.2**	**-2.3**
	baz=320,slow=12						
APA0	**Apatity Array**	**10.16**	**112**	Pn	**Pn**	**04 26 12.2**	**-2.3**
	baz=320,slow=12						
APA0	**Apatity Array**	**10.16**	**112**	Pn	**Pn**	**04 26 12.1**	**-2.3**
	baz=320,slow=12,SNR=9.7						
APA	**Apatity**	**10.29**	**111**	⇓ *i*P	**Pn**	**04 26 13.5**	**-2.9**
APA				*i*		04 28 13.0	
APA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
APA				MLR	MLR		
	comp=Z,1μm,23.0s						
OUL	**Oulu**	**10.45**	**133**	P	**Pn**	**04 26 17.7**	**-0.8**
MSF	**Maaselka**	**10.46**	**125**	P	**Pn**	**04 26 17.3**	**-1.3**
NC204	**NORSAR Array S**	**12.17**	**173**	*e*Pn	**Pn**	**04 26 40.8**	**-1.4**
NC204	**NORSAR Array S**	**12.17**	**173**	*e*Pn	**Pn**	**04 26 40.8**	**-1.4**
NC405	**NORSAR Array S**	**12.38**	**171**	*e*Pn	**Pn**	**04 26 44.3**	**-0.5**
NC405	**NORSAR Array S**	**12.38**	**171**	*e*Pn	**Pn**	**04 26 44.4**	**-0.5**
NB2	**NORSAR Subarra**	**12.43**	**172**	Pn	**Pn**	**04 26 43.8**	**-1.8**
	baz=346,slow=14						
NB2	**NORSAR Subarra**	**12.43**	**172**	Pn	**Pn**	**04 26 43.9**	**-1.7**
	comp=Z,15nm,1.4s,baz=355,slow=14						
NB2	**NORSAR Subarra**	**12.43**	**172**	Pn	**Pn**	**04 26 43.8**	**-1.8**
	baz=346,slow=14						
NB2	**NORSAR Subarra**	**12.43**	**172**	Pn	**Pn**	**04 26 43.8**	**-1.8**
	baz=346,slow=13,SNR=1.5						
NOA	**NORSAR Array B**	**12.43**	**172**	Pn	**Pn**	**04 26 44.8**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=356,slow=13,SNR=11						
NOA				LR	LR	04 31 14.3	
	comp=Z,608nm,19.8s,baz=350,slow=36						
SUF	**Sumiainen**	**12.62**	**138**	P	**Pn**	**04 26 46.3**	**-1.8**
SUF				pmax	pmax		
	comp=Z,13nm,1.8s						
SUMG	**Summit**	**13.29**	**289**	*e*P	**Pn**	**04 26 55.2**	**-2.4**
SUMG	**Summit**	**13.29**	**289**	*e*Pn	**Pn**	**04 26 55.2**	**-2.4**
SUMG	**Summit**	**13.29**	**289**	*e*Pn	**Pn**	**04 26 55.2**	**-2.4**
HFS	**Hagfors**	**13.46**	**167**	Pn	**Pn**	**04 26 57.9**	**-1.8**
	baz=354,slow=16						
HFS	**Hagfors**	**13.46**	**167**	Pn	**Pn**	**04 26 58.3**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=359,slow=12,SNR=12						
HFS				Sn	Sn	04 29 19.1	-10
	comp=Z,0.3nm,0.3s,baz=345,slow=22,SNR=3.6						
HFS				LR	LR	04 31 56.3	
	comp=Z,1μm,18.1s,baz=348,slow=36						
HFS	**Hagfors**	**13.46**	**167**	Pn	**Pn**	**04 26 57.9**	**-1.8**
	baz=354,slow=16						
JOF	**Joensuu**	**13.52**	**128**	P	**Pn**	**04 26 57.4**	**-3.1**
FIA1	**FINESS Array S**	**13.77**	**140**	*e*Pn	**Pn**	**04 27 01.5**	**-2.4**
FIA1	**FINESS Array S**	**13.77**	**140**	*e*Pn	**Pn**	**04 27 01.4**	**-2.4**
FIA0	**FINESS Array S**	**13.78**	**140**	Pn	**Pn**	**04 27 01.6**	**-2.2**
	baz=345,slow=14						
FIA0	**FINESS Array S**	**13.78**	**140**	Pn	**Pn**	**04 27 01.6**	**-2.2**
	baz=345,slow=13,SNR=1.5						
FINES	**FINESS Array B**	**13.78**	**140**	Pn	**Pn**	**04 27 02.0**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=345,slow=13,SNR=29						
FINES				LR	LR	04 32 04.9	
	comp=Z,1μm,20.9s,baz=344,slow=36						
KLMR	**Klimovskoe**	**17.28**	**120**	*e*P	**Pn**	**04 27 49.2**	**-0.6**
KLMR				*e*		04 30 54.7	
KLMR				pmax	pmax		
	comp=Z,42nm,1.4s						
EKA	**Eskdalemuir Ar**	**18.61**	**200**	P	**P**	**04 28 05.9**	**-0.1**
	baz=0.7,slow=12,SNR=3.2						
SFJD	**Kangerlussuaq**	**19.95**	**281**	LR	LR	04 34 60.0	
	comp=Z,909nm,19.1s,baz=46,slow=34						
SUW	**Suwalki**	**20.45**	**153**	*e*P	**P**	**04 28 25.6**	**-0.4**
SUW	**Suwalki**	**20.45**	**153**	*e*P	**P**	**04 28 25.6**	**-0.4**
SUW	**Suwalki**	**20.45**	**153**	*e*P	**P**	**04 28 25.6**	**-0.4**
MOS	**Moscow**	**21.41**	**129**	*e*P	**P**	**04 28 35.7**	**-0.6**
MOS				pmax	pmax		
	comp=Z,44nm,0.9s						
OBN	**Obninsk**	**21.75**	**131**	LR	LR	04 37 16.7	
	comp=Z,448nm,18.5s,baz=299,slow=37						
OBN	**Obninsk**	**21.75**	**131**	*e*P	**P**	**04 28 42.1**	**+2.1**
OBN				*e**PP	**sP**	**04 28 45.0**	**-0.4**
OBN				*e*S	Sn	04 32 49.4	+0.1
OBN				pmax	pmax		
	comp=Z,83nm,2.3s						
OBN				MLR	MLR		
	comp=Z,202nm,16.0s						
CLL	**Collm**	**22.23**	**171**	⇓ *i*P	**P**	**04 28 44.9**	**-0.3**
	comp=Z,52nm,2.3s						
CLL				*i*		04 28 49.4	
	comp=Z,64nm,1.8s						
CLL				*e*PPP	PPP	04 29 17.0	
CLL				*e*S	**S**	**04 32 48.0**	**-1.3**
CLL				Lm	MLR	04 37 00.0	
	comp=Z,500nm,18.5s						
CLL				LmV		05 33 00.0	
	comp=Z,100nm,18.8s						
CLL	**Collm**	**22.23**	**171**	*e*P	**P**	**04 28 46.8**	**+1.6**
CLL				pmax	pmax		
	comp=Z,76nm,1.9s						
CLL	**Collm**	**22.23**	**171**	*e*P	**P**	**04 28 46.8**	**+1.6**
	comp=Z,76nm,1.9s						
CLL	**Collm**	**22.23**	**171**	*e*P	**P**	**04 28 46.8**	**+1.6**
	comp=Z,76nm,1.9s						
BRG	**Berggiesshubel**	**22.71**	**170**	*e*P	**P**	**04 28 50.2**	**-0.1**
	comp=Z,2.2nm,2.1s						
BRG				S	**S**	**04 32 59.0**	**+0.9**
	comp=N,379nm,18.7s						
	comp=E,145nm,15.1s						
	comp=Z,532nm,16.3s						
BRG	**Berggiesshubel**	**22.71**	**170**	*e*P	**P**	**04 28 50.2**	**-0.1**
BRG				S	**S**	**04 32 59.0**	**+0.9**
BRG				pmax	pmax		
	comp=Z,2.2nm,2.1s						
BRG				MLR	MLR		
	comp=N,379nm,18.7s						
BRG				MLR	MLR		
	comp=E,145nm,15.1s						
BRG				MLR	MLR		
	comp=Z,532nm,16.3s						
MOX	**Moxa**	**22.84**	**174**	P	**P**	**04 28 53.5**	**+1.8**
MOX				pmax	pmax		
	comp=Z,5.0nm,1.6s						
PVCC	**Panska Ves**	**23.09**	**169**	*e*P	**P**	**04 28 56.3**	**+2.0**
PVCC				AMS	AMS	04 37 30.0	
	comp=Z,500nm,18.6s						
PVCC	**Panska Ves**	**23.09**	**169**	*e*P	**P**	**04 28 56.3**	**+2.0**
PVCC				MLR	MLR		
	comp=Z,500nm,18.6s						
PVCC	**Panska Ves**	**23.09**	**169**	P	**P**	**04 28 56.3**	**+2.0**
UPC	**Upice**	**23.20**	**166**	*e*P	**P**	**04 28 57.0**	**+1.6**
UPC				*e*S	**S**	**04 33 07.6**	**+1.0**
UPC				AMS	AMS	04 37 50.0	
	comp=Z,500nm,16.4s						
UPC	**Upice**	**23.20**	**166**	*e*P	**P**	**04 28 57.0**	**+1.6**
UPC				*e*S	**S**	**04 33 07.6**	**+1.0**
UPC				MLR	MLR		
	comp=Z,500nm,16.4s						
UPC	**Upice**	**23.20**	**166**	P	**P**	**04 28 57.0**	**+1.6**
UPC				S	**S**	**04 33 07.6**	**+1.0**
NKC	**Novy Kostel**	**23.28**	**172**	*e*P	**P**	**04 28 58.5**	**+2.2**
NKC				AMS	AMS	04 38 10.0	
	comp=Z,500nm,18.4s						
NKC	**Novy Kostel**	**23.28**	**172**	*e*P	**P**	**04 28 58.5**	**+2.2**
NKC				MLR	MLR		
	comp=Z,500nm,18.4s						
NKC	**Novy Kostel**	**23.28**	**172**	P	**P**	**04 28 58.5**	**+2.2**
DPC	**Dobruska-Polom**	**23.38**	**166**	*e*P	**P**	**04 29 00.2**	**+3.0**
DPC				*e*S	**S**	**04 33 13.1**	**+3.5**
DPC				AMS	AMS	04 37 50.0	
	comp=Z,500nm,17.6s						
DPC	**Dobruska-Polom**	**23.38**	**166**	*e*P	**P**	**04 29 00.2**	**+3.0**
DPC				*e*S	**S**	**04 33 13.1**	**+3.5**
DPC				MLR	MLR		
	comp=Z,500nm,17.6s						
PRU	**Pruhonice**	**23.62**	**169**	*e*P	**P**	**04 29 01.0**	**+1.4**
PRU				*e*S	**S**	**04 33 15.2**	**+1.7**
PRU				AMS	AMS	04 38 00.0	
	comp=Z,500nm,16.1s						
PRU	**Pruhonice**	**23.62**	**169**	*e*P	**P**	**04 29 01.0**	**+1.4**
PRU				*e*S	**S**	**04 33 15.2**	**+1.7**
PRU				MLR	MLR		
	comp=Z,500nm,16.1s						
PRU	**Pruhonice**	**23.62**	**169**	P	**P**	**04 29 01.0**	**+1.4**
PRU				S	**S**	**04 33 15.2**	**+1.7**
GOPC	**GO Pecny, Ondr**	**23.71**	**169**	*e*P	**P**	**04 29 03.3**	**+2.8**
GOPC				*e*x	x	04 29 09.1	
GOPC				*e*S	**S**	**04 33 15.4**	**+0.5**
GOPC				AMS	AMS	04 38 10.0	
	comp=Z,500nm,16.4s						
GOPC	**GO Pecny, Ondr**	**23.71**	**169**	*e*P	**P**	**04 29 03.3**	**+2.8**
GOPC				*e*		04 29 09.1	
GOPC				*e*S	**S**	**04 33 15.4**	**+0.5**
GOPC				MLR	MLR		
	comp=Z,500nm,16.4s						
OJC	**Ojcow**	**23.80**	**160**	*e*P	**P**	**04 29 02.7**	**+1.4**
OJC	**Ojcow**	**23.80**	**160**	*e*P	**P**	**04 29 02.7**	**+1.4**
OJC	**Ojcow**	**23.80**	**160**	*e*P	**P**	**04 29 02.3**	**+1.0**
	comp=Z,31nm,1.5s						
OJC	**Ojcow**	**23.80**	**160**	*e*P	**P**	**04 29 02.3**	**+1.0**
	comp=Z,31nm,1.5s						
OKC	**Ostrava-Krasne**	**24.03**	**163**	*e*P	**P**	**04 29 05.0**	**+1.6**
OKC				*e*S	**S**	**04 33 24.1**	**+4.3**
OKC				AMS	AMS	04 38 30.0	
	comp=Z,500nm,14.6s						
OKC	**Ostrava-Krasne**	**24.03**	**163**	*e*P	**P**	**04 29 05.0**	**+1.6**
OKC				*e*S	**S**	**04 33 24.1**	**+4.3**
OKC				MLR	MLR		
	comp=Z,500nm,14.6s						
OKC	**Ostrava-Krasne**	**24.03**	**163**	P	**P**	**04 29 05.0**	**+1.6**
MORC	**Moravsky Berou**	**24.04**	**164**	*e*P	**P**	**04 29 05.0**	**+1.4**
MORC				pmax	pmax		
	comp=Z,74nm,1.3s						
MORC	**Moravsky Berou**	**24.04**	**164**	*e*P	**P**	**04 29 04.9**	**+1.4**
**M

KIV							04 33 10.0	
KIV					*eS*	**S**	**04 35 51.2**	**+0.5**
KIV					*e*SSS	SSS	04 38 17.2	
KIV					pmax	pmax		
	comp=Z,5.0nm,0.6s							
KIV					MLR	MLR		
	comp=Z,147nm,16.0s							
KBZ	**Khabaz**	**33.86**	**131**	LR	LR		04 44 49.0	
	comp=Z,424nm,20.8s,baz=338,slow=37							
ESDC	**Sonseca Array**	**34.22**	**196**	P	**P**		**04 30 33.7**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=358,slow=9.5,SNR=3.9							
SCHQ	**Schefferville**	**34.36**	**279**	LR	LR		04 43 02.6	
	comp=Z,358nm,20.1s,baz=54,slow=34							
BR231	**Keskin MP Arra**	**35.69**	**146**	*eP*	**P**		**04 30 49.9**	**+2.9**
BR231	**Keskin MP Arra**	**35.69**	**146**	*eP*	**P**		**04 30 49.9**	**+2.9**
ZALV	**Zalesovo Beam**	**35.88**	**80**	LR	LR		04 48 27.7	
	comp=Z,188nm,20.7s,baz=260,slow=41							
BRTR	**Keskin Array B**	**35.95**	**145**	P	**P**		**04 30 50.3**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=346,slow=6.5,SNR=6.6							
BILL	**Bilibino**	**38.17**	**13**⇓	*eP*	**P**		**04 31 10.7**	**+3.0**
BILL				*e**PP	**sP**		**04 31 13.2**	**-0.1**
BILL				*e*			04 31 18.2	
BILL				pmax	pmax			
	comp=Z,8.0nm,1.7s							
BILL				MLR	MLR			
	comp=Z,127nm,17.0s							
YKW3	**Yellowknife Ar**	**39.00**	**322**	*eP*	**P**		**04 31 13.8**	**-0.8**
	comp=Z,7.8nm,1.4s							
YKW3	**Yellowknife Ar**	**39.00**	**322**	*eP*	**P**		**04 31 13.8**	**-0.8**
	comp=Z,7.8nm,1.4s							
YKA	**Yellowknife Ar**	**39.06**	**321**	P	**P**		**04 31 14.4**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=21,slow=9.1,SNR=9.8							
YKA				PcP	**PcP**		**04 33 23.7**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=9.8,slow=3.5,SNR=7.9							
YKA				LR	LR		04 47 13.3	
	comp=Z,50nm,19.3s,baz=0.0,slow=36							
IL1	**Eielson Array**	**41.11**	**344**	*eP*	**P**		**04 31 33.5**	**+1.4**
IL1	**Eielson Array**	**41.11**	**344**	*eP*	**P**		**04 31 33.5**	**+1.4**
ILAR	**Eielson Array**	**41.11**	**344**	P	**P**		**04 31 32.9**	**+0.7**
	comp=Z,2.1nm,1.0s,baz=2.8,slow=7.7,SNR=18							
MKAR	**Makanchi Array**	**41.56**	**87**	P	**P**		**04 31 37.3**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=337,slow=6.9,SNR=3.1							
MKAR				LR	LR		04 51 44.5	
	comp=Z,190nm,19.9s,baz=326,slow=40							
BWN	**Browne**	**41.90**	**345**	*eP*	**P**		**04 31 39.4**	**+0.8**
	comp=Z,95nm,0.9s							
BWN	**Browne**	**41.90**	**345**	*eP*	**P**		**04 31 39.4**	**+0.8**
	comp=Z,95nm,0.9s							
MNAS	**Manas**	**42.68**	**99**	P	**P**		**04 31 45.9**	**+0.5**
MNAS				pmax	pmax			
	comp=Z,3.0nm,2.1s							
GEYT	**Alibeck**	**43.00**	**117**	LR	LR		04 51 49.2	
	comp=Z,517nm,20.3s,baz=355,slow=39							
ULM	**Lac du Bonnet**	**46.31**	**300**	LR	LR		04 51 06.9	
	comp=Z,393nm,19.8s,baz=58,slow=35							
SONA1	**Songino Array**	**47.30**	**65**	*eP*	**P**		**04 32 25.2**	**+3.1**
SONM	**Songino Array**	**47.31**	**65**	P	**P**		**04 32 23.4**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=328,slow=6.8,SNR=3.9							
SONM				LR	LR		04 57 20.4	
	comp=Z,96nm,18.2s,baz=77,slow=42							
KLR	**Kul'dur**	**51.90**	**44**	LR	LR		04 56 58.9	
	comp=Z,170nm,18.1s,slow=38							
PETK	**Petropavlovsk-**	**52.17**	**22**	LR	LR		04 54 43.1	
	comp=Z,63nm,20.6s,baz=347,slow=36							
ECSD	**EROS Data Cent**	**52.56**	**298**	*eP*	**P**		**04 33 02.1**	**+0.2**
	comp=Z,22nm,1.8s							
ECSD	**EROS Data Cent**	**52.56**	**298**	*eP*	**P**		**04 33 02.1**	**+0.2**
	comp=Z,22nm,1.8s							
MSO	**Missoula**	**53.68**	**313**	*eP*	**P**		**04 33 10.7**	**+0.5**
	comp=Z,10nm,1.4s							
MSO	**Missoula**	**53.68**	**313**	*eP*	**P**		**04 33 10.7**	**+0.5**
	comp=Z,10nm,1.4s							
C04A	**Brinnon**	**54.60**	**321**	*eP*	**P**		**04 33 18.0**	**+1.3**
C04A	**Brinnon**	**54.60**	**321**	*eP*	**P**		**04 33 18.0**	**+1.3**
IMW	**Indian Meadow**	**55.83**	**310**	*eP*	**P**		**04 33 26.8**	**+0.7**
	comp=Z,6.7nm,1.4s							
IMW	**Indian Meadow**	**55.83**	**310**	*eP*	**P**		**04 33 26.8**	**+0.7**
	comp=Z,6.7nm,1.4s							
BW06	**Boulder Array**	**56.59**	**308**	*eP*	**P**		**04 33 31.1**	**-0.3**
BW06	**Boulder Array**	**56.59**	**308**	*eP*	**P**		**04 33 31.1**	**-0.3**
PDAR	**Pinedale Array**	**56.59**	**308**	P	**P**		**04 33 31.3**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=19,slow=5.0,SNR=5.7							
PDAR				LR	LR		04 57 58.6	
	comp=Z,200nm,18.1s,baz=28,slow=36							
USRK	**Ussuriysk Ar.**	**56.75**	**45**	LR	LR		04 59 54.9	
	comp=Z,84nm,18.0s,baz=336,slow=38							
TOA0	**Torodi Ar. Sit**	**60.27**	**187**	*eP*	**P**		**04 33 56.4**	**-0.7**
TOA0	**Torodi Ar. Sit**	**60.27**	**187**	*eP*	**P**		**04 33 56.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**60.27**	**187**	P	**P**		**04 33 56.3**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=1.3,slow=6.3,SNR=22							
TORD				LR	LR		05 02 00.9	
	comp=Z,74nm,18.4s,baz=315,slow=38							
KSRS	**Korea Array**	**62.34**	**51**	LR	LR		05 04 35.9	
	comp=Z,82nm,18.1s,baz=350,slow=39							
NVAR	**Mina Array Bea**	**62.64**	**314**	P	**P**		**04 34 13.9**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=12,slow=4.6,SNR=3.0							
NVAR				LR	LR		05 02 02.6	
	comp=Z,159nm,20.0s,baz=70,slow=37							
MJAR	**Matsushiro Arr**	**65.36**	**42**	LR	LR		05 04 52.8	
	comp=Z,50nm,19.9s,baz=10.0,slow=38							
DBIC	**Dimbokro**	**67.03**	**194**	LR	LR		05 04 32.0	
	comp=Z,61nm,19.2s,baz=1.5,slow=36							
TXAR	**Lajitas Array**	**67.98**	**299**	P	**P**		**04 34 47.4**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=29,slow=2.9,SNR=3.5							
TXAR				LR	LR		05 04 35.0	
	comp=Z,209nm,18.3s,baz=0.0,slow=36							
CMAR	**Chiang Mai Arr**	**72.83**	**83**	LR	LR		05 11 45.7	
	comp=Z,27nm,21.7s,baz=318,slow=40							
YOJ	**Yonaguni jima**	**73.63**	**59**	*eP*	**P**		**04 35 24.4**	**+2.4**
YOJ	**Yonaguni jima**	**73.63**	**59**	*eP*	**P**		**04 35 24.4**	**+2.4**
	comp=Z,97nm,0.6s							
YOJ	**Yonaguni jima**	**73.63**	**59**	*eP*	**P**		**04 35 24.4**	**+2.4**
	comp=Z,97nm,0.6s							
ROSC	**El Rosal**	**83.09**	**264**	LR	LR		05 09 23.2	
	comp=Z,25nm,20.7s,baz=162,slow=33							
OTAV	**Otavalo**	**88.66**	**266**	*eP*	**P**		**04 36 44.8**	**+2.4**
	comp=Z,14nm,1.4s							
OTAV	**Otavalo**	**88.66**	**266**	*eP*	**P**		**04 36 44.8**	**+2.4**
	comp=Z,14nm,1.4s							
ASAR	**Alice Springs**	**122.58**	**61**	PKP	**PKPdf**		**04 42 42.2**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=355,slow=1.6,SNR=3.9							

MEX 04 04:26:34.8±0.5, 16°.51N×98°.32W, h13km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.22**	**121**	*i* P	Pg	04 26 39.0	-0.6
PNIG				*e*S	Sg	04 26 42.6	-0.3
TLIG	**Tlapa**	**1.08**	**348**	*eP*	Pb	04 26 52.6	-2.8
TLIG				*e*S	Sb	04 27 04.7	-4.7

MAN 04 04:30:31, 7°.07N×125°.93E, h70km, mb4.3, ML3.2, MS3.0, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.35**	**111**	*eP*	Pn	04 30 45.3	+2.8
MATI				*e*S	Sn	04 30 55.3	+4.3
DMPH	**Davao City--Mi**	**0.42**	**272**⇑	*eP*	Pn	04 30 46.0	+2.9
DMPH				*e*S	Sn	04 30 55.6	+3.7
KCP	**Kidapawan**	**0.83**	**266**⇓	*i* P	Pn	04 30 50.5	+3.0
KCP				*i* S	Sn	04 31 03.3	+3.5
BUKP	**Musuan**	**1.18**	**313**	*eP*	Pn	04 30 52.6	+0.8
BUKP				*e*S	Sn	04 31 10.3	+3.0
CTBH	**Cotabato--PC H**	**1.68**	**275**⇓	*i* P	Pn	04 31 01.2	+2.9

*CSEM **04** 04:37:06.8, 36°.83N×24°.12W, h10km, ML3.6*
*PDA **04** 04:37:06.8±1.2, 36°.83N×24°.12W, h10km, MD4.1, ML3.6, Error ellipse: s-maj=7.9km s-min=5.5km az=52.0*
ISC 04 04:36:59.8±1.1, 36°.8N±0°.1×23°.84W±0°.06, h49km±26km, n50, σ2^{s}29/75, 2C, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.99**	**280**⇑	*i* P	**Pn**	**04 37 18.6**	**+1.1**
PSMN				*e*S	**Sn**	**04 37 28.2**	**-2.2**
PSMN				A	A	04 37 28.8	
	551nm,0.5s						
PSMN	**Pico do Norte,**	**0.99**	**280**⇑	*i* P	**Pn**	**04 37 18.6**	**+1.1**
PSMN				*e*S	**Sn**	**04 37 28.2**	**-2.2**
PSMA	**Santa Maria**	**1.04**	**279**	*eP*	**Pn**	**04 37 19.2**	**+1.1**
PSMA				*e*S	**Sn**	**04 37 29.5**	**-2.1**
PSMA				A	A	04 37 34.3	
	733nm,0.5s						
BART	**Pico Bartolome**	**1.41**	**312**	*eP*	**Pn**	**04 37 25.6**	**+2.4**
BART				*e*S	**Sn**	**04 37 40.1**	**-0.6**
BART				A	A	04 37 44.3	
	260nm,0.3s						
BART	**Pico Bartolome**	**1.41**	**312**	*eP*	**Pn**	**04 37 25.6**	**+2.4**
BART				*e*S	**Sn**	**04 37 40.1**	**-0.6**
PCALD	**Caldeiras da R**	**1.62**	**307**	*eP*	**Pn**	**04 37 28.4**	**+2.4**
PCALD				*e*S	**Sn**	**04 37 44.6**	**-1.2**
PCALD				A	A	04 37 48.2	
	168nm,0.4s						
CMLA	**Cha da Macela**	**1.63**	**305**	*eP*	**Pn**	**04 37 28.6**	**+2.5**
CMLA				*e*S	**Sn**	**04 37 44.8**	**-1.1**
CMLA	**Cha da Macela**	**1.63**	**305**	*eP*	**Pn**	**04 37 28.6**	**+2.5**
CMLA				*e*S	**Sn**	**04 37 44.8**	**-1.1**
GRON	**Grota Negra**	**1.64**	**305**	*eP*	**Pn**	**04 37 27.3**	**+1.1**
GRON				*e*S	**Sn**	**04 37 42.9**	**-3.2**
GRON				A	A	04 37 48.5	
	82nm,0.3s						
PDA	**Ponta Delgada**	**1.71**	**302**	*eP*	**Pn**	**04 37 29.4**	**+2.2**
PDA				*e*S	**Sn**	**04 37 46.5**	**-1.4**
PDA				A	A	04 37 49.4	
	125nm,0.2s						
PDA	**Ponta Delgada**	**1.71**	**302**	*eP*	**Pn**	**04 37 29.4**	**+2.2**
PDA				*e*S	**Sn**	**04 37 46.5**	**-1.4**
PSET	**Sete Cidades**	**1.79**	**304**	*eP*	**Pn**	**04 37 30.9**	**+2.6**
PSET				*e*S	**Sn**	**04 37 49.3**	**-0.6**
PSET				A	A	04 37 55.8	
	193nm,0.4s						
PSET	**Sete Cidades**	**1.79**	**304**	*eP*	**Pn**	**04 37 30.9**	**+2.6**
PSET				*e*S	**Sn**	**04 37 49.3**	**-0.6**
ADH	**Angra Heroismo**	**3.24**	**305**	*eP*	**Pn**	**04 37 51.7**	**+3.5**
ADH				*e*S	**Sn**	**04 38 24.2**	**-1.3**
ADH				A	A	04 38 30.0	
	73nm,0.3s						
ADH	**Angra Heroismo**	**3.24**	**305**	*eP*	**Pn**	**04 37 51.7**	**+3.5**
ADH				*e*S	**Sn**	**04 38 24.2**	**-1.3**
PMAN	**Manadas**	**3.81**	**299**	*eP*	**Pn**	**04 37 59.1**	**+3.1**
PMAN				*e*S	**Sn**	**04 38 37.9**	**-1.7**
PMAN				A	A	04 38 41.0	
	32nm,0.3s						
PMAN	**Manadas**	**3.81**	**299**	*eP*	**Pn**	**04 37 59.1**	**+3.1**
PMAN				*e*S	**Sn**	**04 38 37.9**	**-1.7**
PGRA	**Graciosa**	**3.93**	**305**	*eP*	**Pn**	**04 38 01.4**	**+3.7**
PGRA	**Graciosa**	**3.93**	**305**	*eP*	**Pn**	**04 38 01.4**	**+3.7**
ROSA	**Rosais**	**3.96**	**300**	*eP*	**Pn**	**04 38 01.2**	**+3.2**
ROSA				*e*S	**Sn**	**04 38 41.4**	**-1.8**
ROSA				A	A	04 38 44.5	
	26nm,0.3s						
ROSA	**Rosais**	**3.96**	**300**	*eP*	**Pn**	**04 38 01.2**	**+3.2**
ROSA				*e*S	**Sn**	**04 38 41.4**	**-1.8**
PCAN	**Candelaria**	**4.03**	**295**	*eP*	**Pn**	**04 38 01.8**	**+2.8**
PCAN				*e*S	**Sn**	**04 38 42.7**	**-2.1**
PCAN				A	A	04 38 47.4	
	43nm,0.3s						
PCAN	**Candelaria**	**4.03**	**295**	*eP*	**Pn**	**04 38 01.8**	**+2.8**
PCAN				*e*S	**Sn**	**04 38 42.7**	**-2.1**
HOR	**Horta**	**4.15**	**295**	*eP*	**Pn**	**04 38 03.9**	**+3.2**
HOR				*e*S	**Sn**	**04 38 46.0**	**-1.9**
HOR				A	A	04 38 46.8	
	108nm,0.3s						
HOR	**Horta**	**4.15**	**295**	*eP*	**Pn**	**04 38 03.9**	**+3.2**
HOR				*e*S	**Sn**	**04 38 46.0**	**-1.9**
CALA	**Caldeira**	**4.23**	**296**	*eP*	**Pn**	**04 38 04.7**	**+2.9**
CALA				*e*S	**Sn**	**04 38 47.6**	**-2.3**
CALA	**Caldeira**	**4.23**	**296**	*eP*	**Pn**	**04 38 04.7**	**+2.9**
CALA				*e*S	**Sn**	**04 38 47.6**	**-2.3**
PCED	**Cedros**	**4.25**	**296**	*eP*	**Pn**	**04 38 05.2**	**+3.2**
PCED				*e*S	**Sn**	**04 38 47.9**	**-2.3**
PCED				A	A	04 38 51.3	
	34nm,0.6s						
PCED	**Cedros**	**4.25**	**296**	*eP*	**Pn**	**04 38 05.2**	**+3.2**
PCED				*e*S	**Sn**	**04 38 47.9**	**-2.3**
PMAR	**Madeira**	**7.03**	**124**	*eP*	Pn	04 38 49.1	+8.8
PMAR				A	A	04 40 08.1	
	25nm,0.3s						
FUL	**Funchal**	**7.09**	**124**	*eP*	Pn	04 38 50.8	+10
FUL				A	A	04 40 09.2	
	13nm,0.1s						
PMPS	**Porto Santo**	**7.23**	**119**	*eP*	Pn	04 38 50.8	+7.9
PMPS				A	A	04 40 13.4	
	12nm,0.3s						
PMAFR	**Mafra**	**11.70**	**75**	*eS*	**Sn**	**04 41 53.3**	**+0.2**
PMAFR				A	A	04 41 57.5	
	9.7nm,0.6s						
PTEO	**Sao Teotonio**	**12.08**	**82**	*eS*	**Sn**	**04 42 02.6**	**+0.1**
PNCL	**Nicolau / Gran**	**12.24**	**79**	*eP*	**P**	**04 40 01.3**	**-1.1**
PNCL				*e*S	**Sn**	**04 42 05.7**	**-0.5**
PTOM	**Tomar**	**12.45**	**72**	*eS*	**Sn**	**04 42 11.1**	**-0.3**
PCAS	**Casmilo, Conde**	**12.45**	**70**	*eS*	**Sn**	**04 42 11.6**	**+0.1**
MESJ	**Messejana**	**12.48**	**81**	*eP*	**Pn**	**04 39 55.6**	**+0.9**
MESJ				*e*S	**Sn**	**04 42 12.5**	**+0.4**
PMTG	**Montargil**	**12.53**	**75**	*eS*	**Sn**	**04 42 12.8**	**-0.6**
PCVE	**Castro Verde**	**12.62**	**82**	*eP*	Pn	04 39 50.8	-5.9
PBDV	**Barranco-do-Ve**	**12.72**	**83**	*eS*	**Sn**	**04 42 19.1**	**+0.9**
PVAQ	**Vaqueiros**	**12.89**	**83**	*eP*	Pn	04 39 54.3	-5.9
PVAQ				*e*S	**Sn**	**04 42 22.6**	**+0.5**
PESTR	**Estremoz**	**13.01**	**76**	*eS*	**Sn**	**04 42 24.4**	**-0.7**
PVIS	**Viseu**	**13.03**	**68**	*eS*	**Sn**	**04 42 24.2**	**-1.5**
PGAV	**Gavieira, Arco**	**13.08**	**62**	*eS*	**Sn**	**04 42 22.6**	**-4.4**
PCAB	**Cabril**	**13.18**	**64**	*eS*	**Sn**	**04 42 27.5**	**-1.8**
PMRV	**Marv??o**	**13.21**	**74**	*eS*	**Sn**	**04 42 30.2**	**+0.2**
POLO	**Lamas de Olo**	**13.26**	**65**	*eS*	**Sn**	**04 42 27.5**	**-3.8**
PBAR	**Barrancos**	**13.41**	**79**	*eS*	**Sn**	**04 42 34.5**	**-0.4**
MVO	**Moncorvo**	**13.77**	**67**	*eS*	**Sn**	**04 42 39.5**	**-4.2**

IDC 04 04:54:25.8±2.9, 54°.44N×87°.03E, h0km, mb1 3.1/2, mb1mx2.9/37, mbtmp3.1/2, ML2.7/2, 3C-1D, Error ellipse: s-maj=24.1km s-min=20.3km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**250**	*i*		05 02 44.2	
	baz=71,slow=314,SNR=4.1						
ZALV	**Zalesovo Beam**	**1.39**	**250**	Pg	Pg	04 54 49.7	-2.7
	0.9nm,0.3s,baz=66,slow=17,SNR=19						
ZALV				Lg	Lg	04 55 09.8	
	1.5nm,0.3s,baz=71,slow=32,SNR=12						
KURBB	**Kurchatov Arra**	**6.44**	**237**	Pn	Pn	04 56 02.7	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=17						
KURBB				Sn	Sn	04 57 16.1	+0.1
	0.0nm,0.3s,baz=56,slow=29,SNR=3.1						
KURBB				Lg	Lg	04 57 50.9	
	0.0nm,0.3s,baz=58,slow=33,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.44**	**237**	⇑Pn	Pn	04 56 01.9	0.0
	0.9nm,0.3s						
KURBB				⇑Sn	Sn	04 57 14.4	-1.6
	3.5nm,0.6s						
KURBB				⇓Lg	Lg	04 57 48.1	
	6.4nm,0.9s						
MK31	**Makanchi Array**	**8.23**	**203**	Pn	Pn	04 56 28.1	+1.7
	0.1nm,0.3s,baz=2.2,slow=9.9,SNR=3.2						
MK31				⇑Lg	Lg	04 58 46.0	
	1.1nm,0.8s,baz=16,slow=34,SNR=4.0						
MKAR	**Makanchi Array**	**8.23**	**203**	Pn	Pn	04 56 27.8	+1.4
	0.2nm,0.3s,baz=18,slow=14,SNR=3.2						
MKAR				Lg	Lg	04 58 46.8	
	baz=30,slow=32,SNR=3.4						

*CSEM **04** 05:08:49.6, 43°.68N×12°.14E, h10km, MD1.5/6*
ROM 04 05:08:49.6±0.1, 43°.68N×12°.14E, h10km±1km, Md1.5/6, Ml0.6/5, Error ellipse: s-maj=1.5km s-min=1.2km az=2.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARC	**Parchiule**	**0.08**	**110**	Pg	Pg	05 08 52.2	+0.2
PARC				Sg	Sg	05 08 53.8	+0.1
	62nm,0.2s						
PARC	**Parchiule**	**0.08**	**110**	Pg	Pg	05 08 52.2	+0.2
PARC				Sg	Sg	05 08 53.8	+0.1
	62nm,0.2s						
CRE	**Caprese Michel**	**0.15**	**248**	Pg	Pg	05 08 53.6	+0.6
CRE				Sg	Sg	05 08 56.5	+1.1
	8.0nm,0.5s						
CRE	**Caprese Michel**	**0.15**	**248**	Pg	Pg	05 08 53.6	+0.6
CRE				Sg	Sg	05 08 56.5	+1.1
	8.0nm,0.5s						
BADI	**Badiali**	**0.18**	**155**	Pg	Pg	05 08 54.2	+0.7
BADI				Sg	Sg	05 08 57.6	+1.4
	25nm,0.2s						
BADI	**Badiali**	**0.18**	**155**	Pg	Pg	05 08 54.2	+0.7
BADI				Sg	Sg	05 08 57.6	+1.4
	25nm,0.2s						
CPGN	**Carpegna, Ital**	**0.18**	**46**	Pg	Pb	05 08 54.6	-0.6
CPGN				Sg	Sg	05 08 57.6	+1.2
	54nm,1.6s						
CPGN	**Carpegna, Ital**	**0.18**	**46**	Pg	Pb	05 08 54.6	-0.6
CPGN				Sg	Sg	05 08 57.6	+1.2
	54nm,1.6s						
ASQU	**Asqua**	**0.28**	**296**	Pg	Pg	05 08 55.6	+0.3
ASQU				Sg	Sb	05 09 00.5	-1.1
	5.0nm,0.3s						
ASQU	**Asqua**	**0.28**	**296**	Pg	Pg	05 08 55.6	+0.3
ASQU				Sg	Sb	05 09 00.5	-1.1
	5.0nm,0.3s						
ATPC	**Poggio Castell**	**0.30**	**130**	Pg	Pg	05 08 56.1	+0.4
ATPC				Sg	Sb	05 09 01.6	-0.6
	7.0nm,0.3s						
ATPC	**Poggio Castell**	**0.30**	**130**	Pg	Pg	05 08 56.1	+0.4
ATPC				Sg	Sb	05 09 01.6	-0.6
	7.0nm,0.3s						

*TIR **04** 05:23:03.8, 37°.23N×21°.16E, h7km, ML4.1*
*IDC **04** 05:23:14.9±0.7, 38°.00N×21°.12E, h0km, mb4.0/17, mb1 4.0/25, mb1mx3.9/54, mbtmp3.9/25, ML3.8/8, MS3.0/9, Ms1 3.0/9, ms1mx2.7/54, Error ellipse: s-maj=14.1km s-min=13.2km az=35.0*
*ISCJB **04** 05:23:16.4±0.3, 37°.93N±0°.01×20°.99E±0°.02, h12km±2km, mb4.0/25, MS2.9/6, Error ellipse: s-maj=2.6km s-min=1.7km az=32.7*
*PDG **04** 05:23:16.9±0.6, 37°.96N×21°.08E, h8km, ML4.0/12, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*MOS **04** 05:23:16.1±1.2, 37°.88N×20°.92E, h18km, mb4.5/8, Error ellipse: s-maj=7.8km s-min=4.2km az=75.3*
*NEIC **04** 05:23:16.7, 37°.95N×21°.10E, h14km, mb4.1/5, ML4.2(THE), ML4.0(ATH), After ATH.*
*ATH **04** 05:23:16.7, 37°.95N×21°.10E, h14km, ML4.0/39, Error ellipse: s-maj=0.7km s-min=0.5km az=214.0*
*THE **04** 05:23:17.3, 37°.95N×21°.11E, h0km±1km, ML4.2/25, Error ellipse: s-maj=1.5km s-min=0.6km az=253.0*
*CSEM **04** 05:23:17.6±0.1, 37°.96N×21°.05E, h10km, mb4.0/5, Error ellipse: s-maj=3.3km s-min=2.1km az=33.0*
ISC 04 05:23:16.7±0.6, 37°.93N±0°.01×21°.09E±0°.01, h12km±4km, n479, σ1^{s}50/606, mb4.1/25, MS2.9/6, 23C-25D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.08**	**101**	P	**Pg**	**05 23 19.3**	**+0.1**
VTN				S	**Sg**	**05 23 21.3**	**+0.2**
VTN	**Vitineika**	**0.08**	**101**	P	**Pg**	**05 23 19.1**	**-0.1**
VTN				S	**Sg**	**05 23 21.5**	**+0.4**
KFL	**Anninata**	**0.30**	**307**	P	**Pg**	**05 23 22.9**	**+0.2**
KFL	**Anninata**	**0.30**	**307**	P	**Pg**	**05 23 22.9**	**+0.2**
KFL	**Anninata**	**0.30**	**307**	P	**Pb**	**05 23 23.7**	**-0.2**
RLS	**Riolos of Patr**	**0.32**	**67**	P	**Pg**	**05 23 22.9**	**-0.3**
RLS				S	**Sg**	**05 23 28.1**	**+0.5**
RLS	**Riolos of Patr**	**0.32**	**67**	P	**Pg**	**05 23 23.0**	**-0.3**
RLS				S	**Sg**	**05 23 28.0**	**+0.5**
RLS	**Riolos of Patr**	**0.32**	**67**	P	**Pg**	**05 23 22.9**	**-0.3**
RLS				S	**Sg**	**05 23 28.1**	**+0.5**
RLS	**Riolos of Patr**	**0.32**	**67**	S	**Sb**	**05 23 28.8**	**-0.8**
RLS				AML	AML	05 23 29.4	
RLS				AML	AML	05 23 29.8	
ZKS	**Zakynthos**	**0.34**	**226**	P	**Pb**	**05 23 24.3**	**-0.4**
ZKS				S	**Sb**	**05 23 30.5**	**+0.6**
ZKS	**Zakynthos**	**0.34**	**226**	P	**Pb**	**05 23 24.2**	**-0.4**
ZKS				S	**Sg**	**05 23 28.5**	**+0.5**
ZKS	**Zakynthos**	**0.34**	**226**	P	**Pb**	**05 23 24.5**	**-0.1**
ZKS				S	**Sg**	**05 23 28.5**	**+0.5**
ZKS				AML	AML	05 23 32.8	
ZKS				AML	AML	05 23 32.8	
AXS	**Araxos**	**0.35**	**41**	P	**Pg**	**05 23 23.3**	**-0.4**
AXS				S	**Sb**	**05 23 29.2**	**-1.1**
AXS	**Araxos**	**0.35**	**41**	P	**Pg**	**05 23 23.4**	**-0.3**
AXS				S	**Sg**	**05 23 28.8**	**+0.5**
AXS	**Araxos**	**0.35**	**41**	P	**Pg**	**05 23 23.4**	**-0.3**
AXS				S	**Sg**	**05 23 28.8**	**+0.5**
VLS	**Valsamata**	**0.46**	**302**	P	**Pg**	**05 23 25.6**	**-0.2**
VLS				S	**Sb**	**05 23 33.8**	**+0.2**
VLS	**Valsamata**	**0.46**	**302**	P	**Pg**	**05 23 25.6**	**-0.2**
VLS				S	**Sb**	**05 23 33.8**	**+0.2**
VLS	**Valsamata**	**0.46**	**302**	P	**Pg**	**05 23 25.6**	**-0.2**
VLS				S	**Sg**	**05 23 31.5**	**-0.5**
VLS	**Valsamata**	**0.46**	**302**	P	**Pg**	**05 23 25.6**	**-0.2**
VLS				S	**Sb**	**05 23 33.8**	**+0.2**
DRO	**Drossia**	**0.49**	**87**	P	**Pg**	**05 23 25.8**	**-0.5**
DRO				S	**Sb**

KLV S Sb 05 23 44.6 -0.1
KLV Kalavryta, Ach 0.85 82 P Pg 05 23 32.9 -0.1
KLV S Sb 05 23 44.6 -0.1
KLV Kalavryta, Ach 0.85 82 P Pg 05 23 31.7 -1.3
KLV S Sb 05 23 44.6 -0.1
KLV Kalavryta, Ach 0.85 82 P Pg 05 23 32.9 -0.1
KLV S Sb 05 23 44.5 -0.2
KLV AML AML 05 23 46.4
comp=N,26366µm,0.5s
KLV AML AML 05 23 47.8
comp=E,19218µm,0.6s
TRIZ Trizonia 0.89 61 P Pn 05 23 35.2 +0.2
SERG Sergoula 0.90 58 P Pg 05 23 33.0 -1.1
SERG S Sb 05 23 46.9 +0.6
LKD2 Lefkada island 0.92 339 P Pg 05 23 33.7 -0.7
LKD2 Lefkada island 0.92 339 P Pg 05 23 33.7 -0.7
LKD2 S Sb 05 23 46.7 -0.1
LKD2 Lefkada island 0.92 339 P Pg 05 23 33.7 -0.7
LKD2 Lefkada island 0.92 339 P Pg 05 23 33.6 -0.7
LKD2 S Sb 05 23 46.7 -0.1
LKD2 AML AML 05 23 55.9
comp=E,20804µm,0.4s
LKD2 AML AML 05 23 56.1
comp=N,15704µm,0.3s
ANX Ano Chora 0.93 45 P Pg 05 23 33.6 -1.0
ANX S Sb 05 23 48.0 +0.8
ANX Ano Chora 0.93 45 P Pg 05 23 33.8 -0.8
ANX S Sb 05 23 47.8 +0.6
KALE Kalithea 0.95 61 P Pg 05 23 34.1 -0.8
KALE S Sb 05 23 48.0 +0.4
KALE Kalithea 0.95 61 P Pb 05 23 35.2 +0.1
KALE S Sb 05 23 48.0 +0.4
KALE Kalithea 0.95 61 P Pg 05 23 34.1 -0.8
KALE S Sb 05 23 48.0 +0.4
KALE Kalithea 0.95 61 P Pb 05 23 35.2 +0.1
KALE AML AML 05 23 52.9
comp=E,28594µm,0.5s
KALE AML AML 05 23 54.0
comp=N,44184µm,0.4s
ITM Ithomi 1.00 138 P Pg 05 23 35.2 -0.8
ITM S Sn 05 23 51.3 +0.6
ITM Ithomi 1.00 138 P Pg 05 23 35.5 -0.5
ITM S Sn 05 23 51.3 +0.6
ITM Ithomi 1.00 138 P Pg 05 23 35.2 -0.8
ITM S Sn 05 23 51.3 +0.6
ITM Ithomi 1.00 138 P Pg 05 23 35.5 -0.5
ITM S Sn 05 23 51.5 +0.8
ITM AML AML 05 23 57.9
comp=E,5614µm,0.5s
ITM AML AML 05 23 59.2
comp=N,13325µm,0.7s
EVR Evrytania 1.13 30 P Pg 05 23 37.7 -0.8
EVR S Sn 05 23 54.9 +0.9
EVR Evrytania 1.13 30 P Pg 05 23 37.7 -0.8
EVR S Sg 05 23 52.4 -0.9
EVR Evrytania 1.13 30 P Pg 05 23 37.7 -0.8
EVR S Sn 05 23 54.9 +0.9
EVR Evrytania 1.13 30 P Pg 05 23 36.7 -1.8
EVR S Sg 05 23 52.4 -0.9
EVR AML AML 05 24 06.7
comp=N,9468µm,0.9s
PYL PYLOS 1.16 153 P Pb 05 23 37.7 -0.9
PYL S Sn 05 23 56.4 +1.9
PYL PYLOS 1.16 153 P Pb 05 23 37.2 -1.4
PYL S Sn 05 23 56.4 +1.9
PYL PYLOS 1.16 153 P Pb 05 23 37.7 -0.9
PYL S Sn 05 23 56.4 +1.9
PYL PYLOS 1.16 153 P Pb 05 23 37.2 -1.4
PYL S Sg 05 23 53.8 -0.2
PYL AML AML 05 24 07.2
comp=N,6955µm,0.7s
PYL AML AML 05 24 07.2
comp=E,6622µm,0.7s
VLX Vlachokerasia 1.17 118 P Pb 05 23 38.3 -0.5
VLX S Sn 05 23 56.5 +1.6
VLX Vlachokerasia 1.17 118 P Pn 05 23 40.5 +1.6
VLX S Sn 05 23 56.1 +1.2
VLX Vlachokerasia 1.17 118 P Pb 05 23 38.3 -0.5
VLX S Sn 05 23 56.5 +1.6
VLX Vlachokerasia 1.17 118 P Pn 05 23 40.5 +1.6
VLX S Sn 05 23 56.1 +1.2
VLX AML AML 05 24 04.1
comp=E,26562µm,0.5s
VLX AML AML 05 24 06.0
comp=N,17845µm,0.5s
DSL Palaion Diasel 1.20 0 P Pb 05 23 38.8 -0.6
DSL S Sn 05 23 57.1 +1.5
DSL Palaion Diasel 1.20 0 P Pb 05 23 38.8 -0.6
DSL S Sb 05 23 54.9 0.0
DSL Palaion Diasel 1.20 0 P Pb 05 23 38.8 -0.6
DSL S Sn 05 23 57.1 +1.5
DSL Palaion Diasel 1.20 0 P Pb 05 23 38.3 -1.1
DSL S Sb 05 23 54.9 0.0
DSL AML AML 05 24 05.2
comp=E,11636µm,0.5s
DSL AML AML 05 24 06.6
comp=N,6953µm,0.4s
DSF Desfina 1.23 67 P Pn 05 23 38.4 -1.4
DSF S Sn 05 23 57.5 +1.1
DSF Desfina 1.23 67 P Pn 05 23 39.7 -0.1
DSF S Sn 05 23 57.5 +1.1
DSF Desfina 1.23 67 P Pn 05 23 38.4 -1.4
DSF S Sn 05 23 57.5 +1.1
DSF Desfina 1.23 67 P Pn 05 23 39.7 -0.1
DSF AML AML 05 24 03.5
comp=E,11079µm,0.8s
DSF AML AML 05 24 04.0
comp=N,7887µm,0.5s
THAL Thalero 1.25 85 P Pn 05 23 40.2 +0.2
THAL Thalero 1.25 85 P Pn 05 23 40.2 +0.2
THAL AML AML 05 24 05.2
comp=E,50400µm,0.5s
THAL AML AML 05 24 05.5
comp=N,49000µm,0.4s
AGG Agios Georgios 1.46 41 *e*PN Pg 05 23 45.0 +0.3
AGG Agios Georgios 1.46 41 P Pn 05 23 43.0 +0.1
AGG S Sg 05 24 04.1 +0.4
AGG Agios Georgios 1.46 41 P Pn 05 23 43.0 +0.1
AGG Agios Georgios 1.46 41 P Pn 05 23 43.0 +0.1
AGG Agios Georgios 1.46 41 *e*Pn Pg 05 23 45.0 +0.3
AGG S Sg 05 24 04.1 +0.4
AGG Agios Georgios 1.46 41 P Pn 05 23 43.0 +0.1
AGG Agios Georgios 1.46 41 P Pn 05 23 42.2 -0.7
PROD Prodromos 1.47 77 P Pn 05 23 43.3 +0.4
PROD S Sg 05 24 03.8 -0.1
PROD Prodromos 1.47 77 P Pn 05 23 43.3 +0.4
PROD S Sg 05 24 03.8 -0.1
PROD AML AML 05 24 09.0
comp=E,11658µm,0.6s
PROD AML AML 05 24 09.8
comp=N,10333µm,0.9s
LTK Loutraki 1.49 86 P Pn 05 23 43.5 +0.2
LTK Loutraki 1.49 86 P Pb 05 23 44.1 -0.1
LTK S Sg 05 24 06.6 +2.0
LTK Loutraki 1.49 86 P Pn 05 23 43.5 +0.2
LTK Loutraki 1.49 86 P Pb 05 23 44.1 -0.1
LTK S Sg 05 24 06.6 +2.0
LTK AML AML 05 24 10.2
comp=E,7696µm,0.4s
LTK AML AML 05 24 12.3
comp=N,10151µm,0.5s
IGT Igoumenitsa 1.70 340 P Pb 05 23 47.3 -0.6
IGT S Sg 05 24 11.0 -0.5
IGT Igoumenitsa 1.70 340 P Pb 05 23 47.3 -0.6
IGT S Sg 05 24 11.0 -0.5
IGT Igoumenitsa 1.70 340 P Pb 05 23 47.3 -0.6
IGT S Sb 05 24 10.1 +0.8
IGT Igoumenitsa 1.70 340 P Pb 05 23 47.3 -0.6
IGT S Sg 05 24 11.0 -0.5
IGT Igoumenitsa 1.70 340 P Pb 05 23 47.8 -0.1
IGT S Sb 05 24 10.1 +0.8
IGT AML AML 05 24 25.6
comp=E,2317µm,1.2s
IGT AML AML 05 24 27.9
comp=N,2657µm,0.8s
KRND KRANIDI 1.73 108 P Pb 05 23 48.7 +0.4
KRND S Sg 05 24 11.3 -0.9
KRND KRANIDI 1.73 108 P Pb 05 23 48.7 +0.4
KRND S Sg 05 24 11.3 -0.9
KRND KRANIDI 1.73 108 P Pg 05 23 49.8 0.0
KRND S Sb 05 24 10.8 +0.8
KRND AML AML 05 24 18.6
comp=N,11397µm,0.7s
KRND AML AML 05 24 20.3
comp=E,9819µm,1.1s
JAN Janina 1.73 354 P Pb 05 23 47.7 -0.7
JAN Janina 1.73 354 AML AML 05 24 31.6
comp=E,3286µm,1.0s
VIL2 Platees 1.74 80 P Pg 05 23 50.0 -0.1
VIL2 S Sb 05 24 11.4 +1.0
VIL2 AML AML 05 24 21.4
comp=E,9150µm,0.6s
VIL2 AML AML 05 24 22.4
comp=N,14442µm,0.7s
DID Didima 1.76 103 P Pb 05 23 49.0 +0.2
DID Didima 1.76 103 P Pb 05 23 49.3 +0.5
DID S Sb 05 24 11.0 +0.2
DID Didima 1.76 103 P Pb 05 23 49.0 +0.2
DID Didima 1.76 103 P Pb 05 23 49.3 +0.5
DID S Sb 05 24 11.0 +0.2
DID AML AML 05 24 18.5
comp=N,9060µm,0.6s
DID AML AML 05 24 19.6
comp=E,9312µm,0.7s
VILL Villia 1.77 82 P Pb 05 23 48.3 -0.8
VILL S Sg 05 24 12.8 -0.8
VILL Villia 1.77 82 P Pg 05 23 50.0 -0.6
VILL S Sg 05 24 12.8 -0.8
THL Klokotos Trika 1.78 24 P Pb 05 23 49.2 -0.1
THL S Sg 05 24 12.7 -1.3
THL Klokotos Trika 1.78 24 P Pb 05 23 49.2 -0.1
THL S Sg 05 24 12.7 -1.3
SGD Sagiada 1.81 339 P Pb 05 23 49.3 -0.4
SGD Sagiada 1.81 339 P Pb 05 23 49.3 -0.4
VLI Veliai 1.91 129 P Pb 05 23 51.6 +0.2
VLI S Sb 05 24 15.7 +0.5
VLI Veliai 1.91 129 P Pb 05 23 51.6 +0.2
VLI S Sb 05 24 15.7 +0.5
VLI Veliai 1.91 129 P Pb 05 23 51.6 +0.2
VLI S Sb 05 24 15.7 +0.5
VLI Veliai 1.91 129 P Pn 05 23 50.2 +1.2
VLI AML AML 05 24 29.9
comp=E,3255µm,0.7s
VLI AML AML 05 24 31.7
comp=N,3120µm,0.6s
SMIA Simia 1.92 60 P Pb 05 23 51.0 -0.6
SMIA S Sb 05 24 14.9 -0.5
SMIA Simia 1.92 60 P Pb 05 23 51.0 -0.6
SMIA S Sb 05 24 14.9 -0.5
KPRO Kipourio 2.03 6 P Pb 05 23 54.0 +0.4
KPRO Kipourio 2.03 6 P Pn 05 23 51.6 +0.8
KPRO Kipourio 2.03 6 P Pn 05 23 51.6 +0.8
KPRO AML AML 05 24 32.2
comp=E,5447µm,1.0s
KPRO AML AML 05 24 33.1
comp=N,3652µm,0.7s
KEK Kerkira 2.04 331 P Pn 05 23 52.2 +1.3
KEK Kerkira 2.04 331 P Pn 05 23 52.2 +1.3
KEK Kerkira 2.04 331 P Pn 05 23 52.2 +1.3
FYTO Fytoko, Volos 2.07 44 P Pb 05 23 53.6 -0.5
FYTO S Sb 05 24 19.5 -0.3
FYTO Fytoko, Volos 2.07 44 P Pb 05 23 53.6 -0.5
FYTO S Sb 05 24 19.5 -0.3
FYTO Fytoko, Volos 2.07 44 P Pb 05 23 53.6 -0.5
FYTO S Sb 05 24 19.5 -0.3
FYTO Fytoko, Volos 2.07 44 P Pb 05 23 54.1 0.0
ATH Athens Observa 2.08 88 P Pb 05 23 53.5 -0.8
ATH Athens Observa 2.08 88 P Pb 05 23 53.5 -0.8
ATH Athens Observa 2.08 88 P Pb 05 23 53.5 -0.8
ATH Athens Observa 2.08 88 P Pb 05 23 53.5 -0.8
ATHU S Sb 05 24 21.1 -0.5
ATHU Athens Univers 2.13 88 P Pn 05 23 53.1 +1.0
ATHU S Sb 05 24 21.1 -0.5
ATHU Athens Univers 2.13 88 P Pn 05 23 53.2 +1.1
ATHU S Sb 05 24 21.5 -0.1
ATHU Athens Univers 2.13 88 P Pn 05 23 53.1 +1.1
ATHU S Sb 05 24 21.1 -0.5
ATHU Athens Univers 2.13 88 P Pn 05 23 53.2 +1.1
ATHU S Sb 05 24 21.5 -0.1
ATHU AML AML 05 24 27.6
comp=N,2577µm,0.6s
ATHU AML AML 05 24 28.2
comp=E,1602µm,0.8s
VLY Voula,Athens 2.14 91 P Pb 05 23 54.0 -1.4
VLY S Sb 05 24 20.8 -1.1
VLY Voula,Athens 2.14 91 P Pb 05 23 54.3 -1.1
VLY S Sb 05 24 20.8 -1.1
VLY Voula,Athens 2.14 91 P Pb 05 23 54.0 -1.4
VLY S Sb 05 24 20.8 -1.1
VLY Voula,Athens 2.14 91 P Pb 05 23 54.3 -1.1
VLY S Sb 05 24 20.8 -1.1
VLY AML AML 05 24 31.9
comp=E,5685µm,0.5s
VLY AML AML 05 24 32.8
comp=N,5815µm,0.8s
NEO Neokhori 2.16 50 P Pb 05 23 55.5 -0.3
NEO Neokhori 2.16 50 P Pb 05 23 55.5 -0.3
NEO AML AML 05 24 35.1
comp=E,2638µm,0.9s
NEO AML AML 05 24 37.6
comp=N,3180µm,0.6s
XOR Xorichti 2.18 48 P Pb 05 23 54.7 -1.4
XOR Xorichti 2.18 48 P Pb 05 23 54.7 -1.4
XOR Xorichti 2.18 48 P Pb 05 23 54.7 -1.4
XOR Xorichti 2.18 48 P Pb 05 23 54.7 -1.4
XOR AML AML 05 24 31.6
comp=E,1933µm,0.5s
XOR AML AML 05 24 32.2
comp=N,1709µm,0.4s
PTL Penteli 2.20 86 P Pn 05 23 54.3 +1.3
PTL S Sb 05 24 23.6 +0.1
PTL Penteli 2.20 86 P Pb 05 23 55.6 -0.8
PTL S Sb 05 24 23.6 +0.1
PTL Penteli 2.20 86 P Pn 05 23 54.3 +1.3
PTL S Sb 05 24 23.6 +0.1
PTL Penteli 2.20 86 P Pb 05 23 55.6 -0.8
PTL S Sn 05 24 21.5 +1.4
PTL AML AML 05 24 27.0
comp=N,5096µm,0.6s
PTL AML AML 05 24 27.3
comp=E,6554µm,0.6s
SKIA Skiathos 2.23 56 P Pn 05 23 55.2 +1.7
SKIA Skiathos 2.23 56 P Pn 05 23 55.3 +1.7
SKIA Skiathos 2.23 56 P Pn 05 23 55.3 +1.7
SKIA AML AML 05 24 36.9
comp=E,1432µm,0.6s
SKIA AML AML 05 24 37.6
comp=N,1388µm,0.8s
PENT Pentalofos 2.26 1 P Pb 05 23 55.9 -1.6
PENT Pentalofos 2.26 1 P Pb 05 23 55.9 -1.6
PENT AML AML 05 24 43.0
comp=E,1420µm,1.0s
PENT AML AML 05 24 43.5
comp=N,2192µm,1.0s
LIT Litokhoron 2.42 26 P Pb 05 23 59.4 -0.8
LIT Litokhoron 2.42 26 P Pn 05 23 57.9 +1.8
LIT Litokhoron 2.42 26 P Pn 05 23 57.9 +1.8
LIT AML AML 05 24 41.0
comp=E,1784µm,0.6s
LIT AML AML 05 24 41.8
comp=N,2326µm,0.6s
KZN Kozani 2.43 12 P Pb 05 23 59.6 -0.8
NEST Nestorio 2.48 359 P Pb 05 24 00.1 -1.1
NEST Nestorio 2.48 359 P Pb 05 24 00.1 -1.1
NEST Nestorio 2.48 359 P Pb 05 24 00.4 -0.8
NEST AML AML 05 24 55.2
comp=N,1438µm,0.9s
NEST AML AML 05 25 00.1
comp=N,1995µm,0.7s
AOS Alonnisos 2.51 60 *e*PN Pn 05 23 59.0 +1.6
AOS Alonnisos 2.51 60 P Pn 05 23 58.3 +1.0
AOS Alonnisos 2.51 60 P Pn 05 23 58.3 +1.0
AOS Alonnisos 2.51 60 *e*Pn Pn 05 23 59.0 +1.7
AOS Alonnisos 2.51 60 P Pn 05 23 58.3 +1.0
AOS Alonnisos 2.51 60 P Pn 05 23 57.6 +0.3
ANKY Antikythira Is 2.72 139 P Pb 05 24 03.0 -2.2
ANKY Antikythira Is 2.72 139 P Pb 05 24 03.0 -2.2
ANKY Antikythira Is 2.72 139 P Pb 05 24 03.0 -2.2
ANKY Antikythira Is 2.72 139 P Pb 05 24 03.6 -1.7
ANKY AML AML 05 25 04.0
comp=E,1400µm,0.6s
ANKY AML AML 05 25 04.3
comp=N,1312µm,0.6s
SERI Serifos 2.81 105 P Pb 05 24 04.6 -2.2
SERI Serifos 2.81 105 P Pb 05 24 04.6 -2.2
PAIG Paliouri 2.84 45 P Pn 05 24 03.4 +1.6
PAIG Paliouri 2.84 45 P Pn 05 24 03.4 +1.6
PAIG Paliouri 2.84 45 P Pn 05 24 03.4 +1.6
PAIG Paliouri 2.84 45 P Pn 05 24 02.7 +0.9
FNA Florina 2.86 4 *e*PN Pn 05 24 04.7 +2.5
FNA Florina 2.86 4 P Pn 05 24 04.2 +2.1
FNA Florina 2.86 4 P Pn 05 24 04.2 +2.1
FNA Florina 2.86 4 P Pn 05 24 03.7 +1.6
FNA Florina 2.86 4 *e*Pn Pn 05 24 04.7 +2.6
FNA Florina 2.86 4 P Pn 05 24 04.2 +2.1
FNA Florina 2.86 4 P Pn 05 24 03.7 +1.6
MHLO Agia Marina, M 2.92 114 P Pn 05 24 05.3 +2.4
MHLO Agia Marina, M 2.92 114 P Pn 05 24 05.3 +2.4
MHLO Agia Marina, M 2.92 114 P Pn 05 24 05.6 +2.7
SCTE Santa Cesarea 2.96 317 P Pn 05 24 04.6 +1.2
SCTE Santa Cesarea 2.96 317 P Pn 05 24 04.6 +1.2
PLG Polygyros 3.05 36 P Pn 05 24 07.1 +2.3
PLG Polygyros 3.05 36 P Pn 05 24 05.4 +0.7
PLG Polygyros 3.05 36 P Pn 05 24 05.4 +0.7
THE Thessaloniki 3.06 28 P Pn 05 24 06.7 +1.8
THE Thessaloniki 3.06 28 P Pn 05 24 06.7 +1.8
HORT Hortiatis 3.09 30 P Pn 05 24 06.4 +1.1
HORT Hortiatis 3.09 30 P Pn 05 24 06.4 +1.1
OHR Ohrid 3.18 356 *e*Pn Pn 05 24 08.4 +1.8
OHR Ohrid 3.18 356 *e*Pn Pn 05 24 08.3 +1.7
GRG Griva 3.19 18 *e*PN Pn 05 24 09.6 +2.9
GRG Griva 3.19 18 P Pn 05 24 08.5 +1.9
GRG Griva 3.19 18 P Pn 05 24 07.8 +1.2
GRG Griva 3.19 18 *e*Pn Pn 05 24 09.6 +3.0
GRG Griva 3.19 18 P Pn 05 24 07.8 +1.2
OUR Ouranopolis 3.29 42 *e*PN Pn 05 24 10.6 +2.7
OUR Ouranopolis 3.29 42 P Pn 05 24 09.9 +1.9
OUR Ouranopolis 3.29 42 P Pn 05 24 09.9 +1.9
OUR Ouranopolis 3.29 42 P Pn 05 24 09.6 +1.6
OUR Ouranopolis 3.29 42 *e*Pn Pn 05 24 10.6 +2.6
OUR Ouranopolis 3.29 42 P Pn 05 24 09.9 +1.9
OUR Ouranopolis 3.29 42 P Pn 05 24 09.6 +1.6
SOH Sokhos 3.38 31 P Pn 05 24 11.8 +2.5
SOH Sokhos 3.38 31 P Pn 05 24 12.0 +2.7
SOH Sokhos 3.38 31 P Pn 05 24 12.0 +2.7
IMMV Iera Moni Meta 3.39 136 P Pn 05 24 11.8 +2.4
IMMV Iera Moni Meta 3.39 136 P Pn 05 24 11.8 +2.4
IMMV Iera Moni Meta 3.39 136 P Pn 05 24 12.0 +2.6
TIR Tirane 3.54 345 *i* PN Pn 05 24 11.1 -0.3
TIR *i* SN Sg 05 25 25.2 +15
TIR Tirane 3.54 345 *e*P Pn 05 24 12.5 +1.1
TIR Tirane 3.54 345 *e*Pn Pn 05 24 12.5 +1.1
TIR Tirane 3.54 345 P Pn 05 24 14.2 +2.8
TIR Tirane 3.54 345 *e*Pn Pn 05 24 12.5 +1.1
TIR Tirane 3.54 345 P Pn 05 24 14.2 +2.8
VAM Vamos 3.55 134 P Pn 05 24 13.9 +2.3
VAM Vamos 3.55 134 P Pn 05 24 13.9 +2.3
VAM Vamos 3.55 134 P Pn 05 24 13.9 +2.3
VAM Vamos 3.55 134 P Pn 05 24 13.9 +2.3
VAY Valandovo 3.57 18 *e*Pn Pn 05 24 14.1 +2.2
VAY Valandovo 3.57 18 *e*Pn Pn 05 24 14.0 +2.1
TIP Timpagrande 3.62 291 P Pn 05 24 13.7 +1.1
TIP Timpagrande 3.62 291 P Pn 05 24 13.7 +1.1
TIP Timpagrande 3.62 291 P Pn 05 24 13.7 +1.1
TIP Timpagrande 3.62 291 P Pn 05 24 13.4 +0.8
APE Apeiranthos 3.64 102 *e*PN Pn 05 24 14.7 +1.9
APE Apeiranthos 3.64 102 P Pn 05 24 15.5 +2.7
APE Apeiranthos 3.64 102 P Pn 05 24 14.3 +1.5
APE Apeiranthos 3.64 102 *e*Pn Pn 05 24 14.7 +1.9
APE Apeiranthos 3.64 102 P Pn 05 24 14.3 +1.5
APE AML AML 05 25 15.1
comp=N,493µm,0.7s
APE AML AML 05 25 15.8
comp=E,496µm,0.8s
THR5 Thira Island, 3.72 113 *e*PN Pn 05 24 15.8 +1.8
THR5 Thira Island, 3.72 113 *e*Pn Pn 05 24 15.8 +1.8
SRS Serrai 3.72 31 P Pn 05 24 15.8 +1.8
SRS Serrai 3.72 31 P Pn 05 24 15.8 +1.8
CMBO Columbo, Santo 3.74 112 P Pn 05 24 17.8 +3.5
CMBO Columbo, Santo 3.74 112 P Pn 05 24 17.8 +3.5
LIA Limnos Island 3.75 57 P Pn 05 24 17.2 +2.9
SANT Santorini 3.82 113 *e*Pn Pn 05 24 14.6 -0.8
SANT Santorini 3.82 113 *e*Pn Pn 05 24 14.6 -0.8
GVD Gavdhos 3.92 141 P Pn 05 24 17.5 +0.8
GVD Gavdhos 3.92 141 P Pn 05 24 17.5 +0.8
GVD Gavdhos 3.92 141 P Pn 05 24 17.5 +0.8
TAR1 Taranto 3.93 312 *e*Pn Pn 05 24 17.8 +1.0
CHOS Chios island 3.94 82 *e*PN Pn 05 24 18.9 +1.8
CHOS Chios island 3.94 82 P Pn 05 24 19.1 +2.1
CHOS Chios island 3.94 82 *e*Pn Pn 05 24 18.9 +1.9
CHOS Chios island 3.94 82 P Pn 05 24 19.1 +2.1
CHOS Chios island 3.94 82 P Pn 05 24 19.1 +2.1
CHOS Chios island 3.94 82 P Pn 05 24 20.2 +3.2
SIGR SIGRI 3.95 70 *e*PN Pn 05 24 19.4 +2.3
SIGR SIGRI 3.95 70 P Pn 05 24 19.7 +2.7
SIGR SIGRI 3.95 70 *e*Pn Pn 05 24 19.4 +2.4
SIGR SIGRI 3.95 70 P Pn 05 24 19.7 +2.7
SIGR SIGRI 3.95 70 P Pn 05 24 19.7 +2.7
SIGR SIGRI 3.95 70 P Pn 05 24 19.8 +2.7
NVR Nevrokopi 4.03 31 P Pn 05 24 20.7 +2.5
IDI Anoyia 4.04 130 Pn Pn 05 24 18.7 +0.3
comp=E,1.7nm,0.3s,baz=290,slow=8.9,SNR=13
IDI Sn Sn 05 25 07.4 +1.7
comp=E,5.5nm,0.3s,baz=290,slow=11,SNR=5.1
IDI Anoyia 4.04 130 *e*Pn Pn 05 24 18.1 -0.3
IDI Anoyia 4.04 130 P Pn 05 24 23.3 +4.9
IDI Anoyia 4.04 130 *e*Pg Pg 05 24 32.2 -1.9
IDI Anoyia 4.04 130 *e*Pn Pn 05 24 18.1 -0.3
IDI *e*Pg Pg 05 24 32.2 -1.9
IDI Anoyia 4.04 130 P Pn 05 24 23.3 +4.9
SKO Skopje 4.04 4 *e*Pn Pn 05 24 20.9 +2.5
SKO Skopje 4.04 4 *e*Pn Pn 05 24 20.8 +2.4
KAVA Kavala 4.05 40 P Pn 05 24 19.9 +1.5
KAVA Kavala 4.05 40 P Pn 05 24 19.9 +1.5
KAVA Kavala 4.05 40 P Pn 05 24 19.9 +1.5
KAVA Kavala 4.05 40 P Pn 05 24 19.3 +0.9
MMB Musomiste 4.18 28 *i* P Pn 05 24 21.8 +1.5
KKB Krupnik 4.22 21 *i* P Pn 05 24 22.3 +1.5
PRK Paraskevi 4.27 71 P Pn 05 24 25.1 +3.7
PRK Paraskevi 4.27 71 P Pn 05 24 25.1 +3.7
ULC Ulcinj 4.27 341 ⇓*i* Pn Pn 05 24 22.1 +0.6
ULC *e*Sn Sn 05 25 13.0 +1.8
ULC Ulcinj 4.27 341 ⇓*i* Pn Pn 05 24 22.1 +0.6
ULC *e*Sn Sn 05 25 13.0 +1.8
SMTH Samothraki Isl 4.28 52 P Pn 05 24 25.5 +3.8
SMTH Samothraki Isl 4.28 52 P Pn 05 24 25.5 +3.8
GADA Gvkgeada 4.37 57 *e*PN Pn 05 24 25.5 +2.6
GADA Gvkgeada 4.37 57 *e*Pn Pn 05 24 25.5 +2.6
SG1 Sgolgore (BA) 4.48 312 *e*Pn Pn 05 24 25.5 +1.1
LAST Lasithi 4.49 127 P Pn 05 24 26.1 +1.5
LAST Lasithi 4.49 127 P Pn 05 24 26.1 +1.5
LAST Lasithi 4.49 127 P Pn 05 24 26.1 +1.5
LAST Lasithi 4.49 127 P Pn 05 24 29.7 +5.1
DRME Dracevica, Mon 4.49 342 ⇓*i* Pn Pn 05 24 25.4 +0.8
DRME *e*Sn Sn 05 25 18.8 +2.0
DRME Dracevica, Mon 4.49 342 ⇓*i* Pn Pn 05 24 25.4 +0.8
DRME *e*Sn Sn 05 25 18.8 +2.0
EZN Ezine 4.50 64 *e*PN Pn 05 24 27.1 +2.5
EZN Ezine 4.50 64 *e*Pn Pn 05 24 27.2 +2.5
BAI Bari 4.54 316 *e*Pn Pn 05 24 26.5 +1.3
SMG Samos 4.56 91 P Pn 05 24 28.9 +3.4
SMG Samos 4.56 91 P Pn 05 24 28.9 +3.4
SMG AML AML 05 25 24.4
comp=N,604µm,0.8s
SMG AML AML 05 25 24.7
comp=E,310µm,0.9s
CUC Castrocucco 4.60 298 *e*Pn Pn 05 24 29.0 +3.0
CUC Castrocucco 4.60 298 *e*Pn Pn 05 24 29.0 +3.0
BUM Brajici-Budva 4.68 340 ⇓*i* Pn Pn 05 24 27.4 +0.3
BUM *e*Sn Sn 05 25 23.1 +1.7
BUM Brajici-Budva 4.68 340 ⇓*i* Pn Pn 05 24 27.4 +0.3
BUM *e*Sn Sn 05 25 23.1 +1.7
RZN Rozhen 4.68 36 *i* P Pn 05 24 29.2 +2.0
DKL Dikili 4.70 74 *e*PN Pn 05 24 30.1 +2.6
DKL Dikili 4.70 74 *e*Pn Pn 05 24 30.1 +2.7
PDG Podgorica 4.71 343 ⇑*i* Pn Pn 05 24 28.8 +1.3
PDG *e*Sn Sn 05 25 23.8 +1.8
TTG Podgorica 4.71 343 ⇑*i* Pn Pn 05 24 28.8 +1.3
TTG *e*Sn Sn 05 25 23.8 +1.8
PVY Plav 4.74 350 ⇑*i* Pn Pn 05 24 29.4 +1.4
PVY *e*Sn Sn 05 25 24.8 +1.9
PVY Plav 4.74 350 ⇑*i* Pn Pn 05 24 29.4 +1.4
PVY *e*Sn Sn 05 25 24.8 +1.9
ALN Alexandroupoli 4.85 51 *e*PN Pn 05 24 30.3 +0.9
ALN Alexandroupoli 4.85 51 P Pn 05 24 31.1 +1.7

ALN	**Alexandroupoli**	**4.85**	**51**	P		**Pn**	**05 24 31.1**	**+1.7**
ALN	**Alexandroupoli**	**4.85**	**51**	*e*Pn		**Pn**	**05 24 30.3**	**+0.9**
ALN	**Alexandroupoli**	**4.85**	**51**	P		**Pn**	**05 24 31.1**	**+1.7**
ALN	**Alexandroupoli**	**4.85**	**51**	P		**Pn**	**05 24 31.1**	**+1.7**
ALN	**Alexandroupoli**	**4.85**	**51**	P		**Pn**	**05 24 32.7**	**+3.3**
GELI	**Tayfur-Gelibol**	**4.86**	**58**	*e*PN		**Pn**	**05 24 31.0**	**+1.5**
GELI	**Tayfur-Gelibol**	**4.86**	**58**	*e*Pn		**Pn**	**05 24 31.0**	**+1.5**
CDT	**Castel del Mon**	**4.87**	**312**	*e*Pn		**Pn**	**05 24 30.9**	**+1.1**
IZM	**Izmir**	**4.89**	**83**	*e*PN		**Pn**	**05 24 32.8**	**+2.8**
IZM	**Izmir**	**4.89**	**83**	*e*Pn		**Pn**	**05 24 32.8**	**+2.8**
CEME	**Cevo**	**4.90**	**341**	⇓*i*Pn		**Pn**	**05 24 30.3**	**+0.1**
CEME				*e*Sn		**Sn**	**05 25 28.1**	**+1.3**
CEME	**Cevo**	**4.90**	**341**	⇓*i*Pn		**Pn**	**05 24 30.3**	**+0.1**
CEME				*e*Sn		**Sn**	**05 25 28.1**	**+1.3**
BARS	**Barje**	**4.91**	**6**	*e*Pn		**Pn**	**05 24 31.4**	**+1.1**
HCY	**Herceg Novi**	**4.93**	**337**	⇓*i*Pn		**Pn**	**05 24 30.2**	**-0.3**
HCY				*e*Sn		**Sn**	**05 25 29.1**	**+1.6**
HCY	**Herceg Novi**	**4.93**	**337**	⇓*i*Pn		**Pn**	**05 24 30.2**	**-0.3**
HCY				*e*Sn		**Sn**	**05 25 29.1**	**+1.6**
KDZ	**Kurdzhali**	**4.99**	**41**	*i* P		**Pn**	**05 24 32.1**	**+0.7**
ZKR	**Zakros**	**5.00**	**123**	P		**Pn**	**05 24 35.2**	**+3.7**
ZKR	**Zakros**	**5.00**	**123**	P		**Pn**	**05 24 35.2**	**+3.7**
PLD	**Plovdiv**	**5.01**	**33**	*i* P		**Pn**	**05 24 36.0**	**+4.4**
BEY	**Berane**	**5.02**	**350**	⇑*i*Pn		**Pn**	**05 24 33.4**	**+1.6**
BEY				*e*Sn		**Sn**	**05 25 31.8**	**+2.0**
IVA	**Berane**	**5.02**	**350**	⇑*i*Pn		**Pn**	**05 24 33.4**	**+1.6**
IVA				*e*Sn		**Sn**	**05 25 31.8**	**+2.0**
LPK	**Lapseki**	**5.04**	**59**	*e*PN		**Pn**	**05 24 34.9**	**+2.9**
LPK	**Lapseki**	**5.04**	**59**	*e*Pn		**Pn**	**05 24 34.9**	**+2.9**
NKY	**Niksic**	**5.13**	**342**	⇓*i*Pn		**Pn**	**05 24 34.9**	**+1.5**
NKY				*e*Sn		**Sn**	**05 25 33.9**	**+1.3**
NKY	**Niksic**	**5.13**	**342**	⇓*i*Pn		**Pn**	**05 24 34.9**	**+1.5**
NKY				*e*Sn		**Sn**	**05 25 33.9**	**+1.3**
TREB	**Trebinje**	**5.22**	**337**	⇑*i*Pn		**Pn**	**05 24 33.9**	**-0.6**
VAE	**Valguarnera**	**5.31**	**267**	Pn		Pn	05 24 41.9	+6.0
	comp=E,2.6nm,0.3s,baz=22,slow=11,SNR=4.1							
VAE				Sn		**Sn**	**05 25 40.0**	**+2.9**
	comp=E,5.4nm,0.3s,baz=165,slow=22,SNR=4.0							
BRY	**Bratogost**	**5.33**	**339**	⇓*i*Pn		**Pn**	**05 24 36.5**	**+0.3**
BRY				*e*Sn		**Sn**	**05 25 39.2**	**+1.6**
BRY	**Bratogost**	**5.33**	**339**	⇓*i*Pn		**Pn**	**05 24 36.5**	**+0.3**
BRY				*e*Sn		**Sn**	**05 25 39.2**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**5.38**	**88**	*e*PN		**Pn**	**05 24 39.8**	**+3.0**
AYDB	**Zeytinkoy-Aydi**	**5.38**	**88**	*e*Pn		**Pn**	**05 24 39.8**	**+3.0**
SJES	**Sjenica**	**5.39**	**351**	*e*Pn		**Pn**	**05 24 38.6**	**+1.6**
KARP	**Karpathos**	**5.43**	**114**	*e*PN		**Pn**	**05 24 40.7**	**+2.5**
KARP	**Karpathos**	**5.43**	**114**	*e*Pn		**Pn**	**05 24 40.0**	**+2.6**
MS1	**Monte Sant'Ang**	**5.47**	**315**	*e*Pn		**Pn**	**05 24 38.8**	**+0.8**
UPM	**Unac-Piva**	**5.52**	**343**	⇓*i*Pn		**Pn**	**05 24 39.9**	**+1.1**
UPM				*e*Sn		**Sn**	**05 25 43.9**	**+1.6**
UPM	**Unac-Piva**	**5.52**	**343**	⇓*i*Pn		**Pn**	**05 24 39.9**	**+1.1**
UPM				*e*Sn		**Sn**	**05 25 43.9**	**+1.6**
PLE	**Pljevlja**	**5.54**	**347**	⇓*i*Pn		**Pn**	**05 24 40.5**	**+1.4**
PLE				*e*Sn		**Sn**	**05 25 44.1**	**+1.2**
PLE	**Pljevlja**	**5.54**	**347**	P		**Pn**	**05 24 42.1**	**+3.0**
PLE				S		**Sn**	**05 25 44.0**	**+1.2**
PLE	**Pljevlja**	**5.54**	**347**	⇓*i*Pn		**Pn**	**05 24 40.5**	**+1.4**
PLE				*e*Sn		**Sn**	**05 25 44.1**	**+1.2**
IVAS	**Ivanjica**	**5.68**	**353**	*e*Pn		**Pn**	**05 24 40.8**	**-0.2**
MPEP	**Malo Peshtene**	**5.78**	**20**	*i* P		**Pn**	**05 24 45.0**	**+2.8**
GRUS	**Gruza**	**5.96**	**357**	*e*Pn		**Pn**	**05 24 45.0**	**+0.3**
KULA	**Kula-Manisa**	**5.99**	**82**	*e*PN		**Pn**	**05 24 48.2**	**+3.0**
KULA	**Kula-Manisa**	**5.99**	**82**	*e*Pn		**Pn**	**05 24 48.2**	**+3.0**
BBLS	**Lazići**	**6.06**	**348**	*e*Pn		**Pn**	**05 24 46.9**	**+0.7**
DIVS	**Divibare**	**6.22**	**353**	*e*Pn		**Pn**	**05 24 48.1**	**-0.2**
TEKS	**Tekeris**	**6.71**	**350**	*e*Pn		**Pn**	**05 24 54.3**	**-0.8**
MDVR	**Moldovita**	**6.86**	**4**	⇓*i*P		Pn	05 25 03.9	+6.8
BLY	**Banja Luka**	**7.42**	**338**	*e*Pn		**Pn**	**05 25 05.2**	**+0.5**
GZR	**Gura Zlata**	**7.56**	**9**	⇑*i*P		Pn	05 25 13.3	+6.6
GZR	**Gura Zlata**	**7.56**	**9**	⇑⇑*i*P		Pn	05 25 14.3	+7.6
BZS	**Buzias**	**7.69**	**3**	⇑*i*P		Pn	05 25 15.4	+7.0
UDBI	**Udbina**	**7.71**	**330**	*i* Pn		**Pn**	**05 25 09.8**	**+1.0**
UDBI				Sn		**Sn**	**05 26 33.8**	**-2.4**
UDBI	**Udbina**	**7.71**	**330**	*i* Pn		**Pn**	**05 25 09.7**	**+0.9**
LOT	**Lotru**	**7.77**	**14**	⇑*i*P		Pn	05 25 15.8	+6.1
ARR	**Arges**	**7.89**	**19**	⇓*i*P		Pn	05 25 16.8	+5.6
MSAB	**Monastry St. A**	**7.99**	**37**	⇓*i*P		Pn	05 25 17.4	+4.9
VOIR		**8.06**	**20**	⇑*i*P		**Pn**	**05 25 18.2**	**+4.6**
VOIR		**8.06**	**20**	⇑⇑*i*P		**Pn**	**05 25 18.2**	**+4.6**
NVLJ	**Novalja**	**8.11**	**327**	*e*Pn		**Pn**	**05 25 13.6**	**-0.6**
NVLJ				Sn		**Sn**	**05 26 43.1**	**-2.6**
NVLJ	**Novalja**	**8.11**	**327**	*e*Pn		**Pn**	**05 25 13.5**	**-0.7**
ISR	**Istrita**	**8.26**	**28**	⇓*i*P		Pn	05 25 21.3	+5.0
MLR	**Muntele Rosu**	**8.38**	**24**	Pn		Pn	05 25 23.3	+5.3
	comp=E,0.3nm,0.3s,baz=238,slow=5.2,SNR=10							
MLR	**Muntele Rosu**	**8.38**	**24**	⇑*i*P		Pn	05 25 23.4	+5.4
TIRR	**Tirgusor**	**8.54**	**38**	⇑*i*P		Pn	05 25 25.1	+5.0
TIRR	**Tirgusor**	**8.54**	**38**	*e*P		**Pn**	**05 25 22.4**	**+2.3**
TIRR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
TIRR	**Tirgusor**	**8.54**	**38**	*e*Pn		**Pn**	**05 25 22.4**	**+2.3**
	comp=Z,4.2nm,0.6s							
TIRR	**Tirgusor**	**8.54**	**38**	*e*Pn		**Pn**	**05 25 22.4**	**+2.3**
	comp=Z,4.2nm,0.6s							
BOJS	**Bojanci**	**8.73**	**332**	*i* Pn		**Pn**	**05 25 22.7**	**0.0**
BOJS				*i* Sn		**Sn**	**05 26 59.7**	**-1.3**
BOJS	**Bojanci**	**8.73**	**332**	*i* Pn		**Pn**	**05 25 22.7**	**0.0**
PLOR	**Plostina**	**8.93**	**26**	⇑*i*P		Pn	05 25 30.7	+5.2
PLOR	**Plostina**	**8.93**	**26**	⇑⇑*i*P		Pn	05 25 30.7	+5.2
CRES	**Cresnjev**	**8.93**	**334**	⇑*i*Pn		**Pn**	**05 25 25.1**	**-0.4**
DRGR		**8.93**	**7**	⇓*i*P		Pn	05 25 32.1	+6.5
DRGR		**8.93**	**7**	⇑⇑*i*P		Pn	05 25 34.5	+8.9
CFR	**Carcaliu**	**8.96**	**34**	⇑*i*P		**Pn**	**05 25 29.8**	**+4.0**
CFR	**Carcaliu**	**8.96**	**34**	P		Pn	05 25 31.1	+5.3
VRI	**Vrincioaia**	**8.97**	**26**	⇑*i*P		**Pn**	**05 25 30.8**	**+4.8**
VRI	**Vrincioaia**	**8.97**	**26**	P		**Pn**	**05 25 30.2**	**+4.2**
VRI				pmax		pmax		
	comp=Z,221nm,0.8s							
VISS	**Visnje**	**9.14**	**331**	*i* Pn		**Pn**	**05 25 29.5**	**+1.2**
VISS				*i* Sn		**Sn**	**05 27 08.2**	**-2.9**
VISS	**Visnje**	**9.14**	**331**	*i* Pn		**Pn**	**05 25 29.5**	**+1.2**
CEY	**Cerknica**	**9.25**	**330**	⇑*i*Pn		**Pn**	**05 25 30.0**	**+0.2**
TESR	**Tescani**	**9.51**	**24**	⇑*i*P		**Pn**	**05 25 38.0**	**+4.6**
JAVS	**Javornik**	**9.52**	**329**	*i* Pn		**Pn**	**05 25 33.9**	**+0.2**
JAVS				*i* Sn		**Sn**	**05 27 18.1**	**-2.4**
JAVS	**Javornik**	**9.52**	**329**	*i* Pn		**Pn**	**05 25 33.8**	**+0.2**
KEST	**Kesra**	**9.67**	**260**	Pn		**Pn**	**05 25 38.1**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=347,slow=4.2,SNR=5.0							
KEST				Sn		**Sn**	**05 27 22.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=80,slow=23,SNR=2.6							
KEST				LR		LR	05 29 52.9	
	comp=Z,59nm,20.0s,baz=276,slow=41							
PERS	**Pernice**	**9.76**	**335**	*i* Pn		**Pn**	**05 25 36.0**	**-0.8**
PERS				*i* Sn		**Sn**	**05 27 20.9**	**-5.3**
PERS	**Pernice**	**9.76**	**335**	*i* Pn		**Pn**	**05 25 36.0**	**-0.8**
SOKA	**Soboth**	**9.82**	**335**	*i* Pn		**Pn**	**05 25 36.9**	**-0.8**
	comp=Z,0.5nm,0.2s							
SOKA				*i* Sn		**Sn**	**05 27 25.6**	**-2.3**
	comp=Z,2.7nm,0.6s							
SOKA	**Soboth**	**9.82**	**335**	Pn		**Pn**	**05 25 36.9**	**-0.8**
	comp=Z,0.5nm,0.2s							
OBKA	**Obir**	**9.84**	**333**	*i* Pn		**Pn**	**05 25 38.2**	**+0.1**
	comp=Z,2.7nm,0.3s							
OBKA				*i* Sn		**Sn**	**05 27 29.6**	**+1.1**
	comp=Z,8.1nm,0.6s							
OBKA	**Obir**	**9.84**	**333**	Pn		**Pn**	**05 25 38.2**	**+0.1**
	comp=Z,2.7nm,0.3s							
OBKA				Sn		**Sn**	**05 27 29.6**	**+1.1**
	comp=Z,8.1nm,0.6s							
BRTR	**Keskin Array B**	**9.96**	**76**	Pn		**Pn**	**05 25 43.9**	**+4.2**
	comp=Z,0.3nm,0.3s,baz=256,slow=13,SNR=11							
KECS	**Kecovo**	**10.55**	**358**	*e*P		Pn	05 25 55.7	+8.0
VYHS	**Vyhne**	**10.68**	**352**	*e*P		Pn	05 25 59.1	+10
ABTA	**Abfaltersbach**	**10.85**	**327**	*i* Pn		**Pn**	**05 25 53.1**	**+1.3**
	comp=Z,1.4nm,0.4s							
ABTA				*e*Sn		**Sn**	**05 27 54.1**	**+0.9**
	comp=Z,14nm,0.6s							
ABTA	**Abfaltersbach**	**10.85**	**327**	Pn		**Pn**	**05 25 53.1**	**+1.3**
	comp=Z,1.4nm,0.4s							
ABTA				Sn		**Sn**	**05 27 54.1**	**+0.9**
	comp=Z,14nm,0.6s							
CRVS	**Cervenica-Dubn**	**10.97**	**1**	*e*P		Pn	**05 25 55.8**	**+2.4**
MOA	**Molln**	**11.10**	**335**	*i* Pn		**Pn**	**05 25 55.7**	**+0.5**
	comp=Z,1.2nm,0.2s							
MOA	**Molln**	**11.10**	**335**	Pn		**Pn**	**05 25 55.7**	**+0.5**
	comp=Z,1.2nm,0.2s							
VRAC	**Vranov**	**11.83**	**346**	LR		LR	05 30 55.5	
	comp=Z,85nm,21.3s,baz=180,slow=39							
DAVOX	**Davos/Dischmat**	**12.11**	**320**	Pn		**Pn**	**05 26 08.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=133,slow=19,SNR=2.1							
GERES	**GERESS Array B**	**12.15**	**336**	Pn		**Pn**	**05 26 09.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=158,slow=14,SNR=6.9							
GERES				LR		LR	05 32 32.7	
	comp=Z,77nm,18.8s,baz=87,slow=46							
DAVA	**Damuels**	**12.46**	**322**	*e*Sn		**Sn**	**05 28 33.0**	**+0.3**
	comp=Z,12nm,0.7s							
DAVA	**Damuels**	**12.46**	**322**	Sn		**Sn**	**05 28 33.0**	**+0.3**
	comp=Z,12nm,0.7s							
MMAI	**Mount Meron Ar**	**12.65**	**109**	Pn		**Pn**	**05 26 15.4**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=309,slow=13,SNR=5.3							
AKASG	**Malin Array Be**	**14.02**	**22**	Pn		**Pn**	**05 26 34.0**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=214,slow=12,SNR=3.3							
AKASG	**Malin Array Be**	**14.02**	**22**	P		**Pn**	**05 26 34.0**	**-1.0**
AKASG	**Malin Array Be**	**14.02**	**22**	Pn		**Pn**	**05 26 34.0**	**-1.0**
EIL	**Elat**	**14.16**	**122**	Pn		**Pn**	**05 26 35.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=323,slow=10,SNR=3.7							
EIL				Sn		Sn	05 29 03.9	-10
	comp=Z,0.3nm,0.3s,baz=319,slow=19,SNR=2.7							
ASF	**Jabal al Asfar**	**14.16**	**109**	Pn		**Pn**	**05 26 39.8**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=298,slow=13,SNR=2.5							
SUW	**Suwalki**	**16.15**	**4**	P		**P**	**05 27 06.5**	**0.0**
SUW				pmax		pmax		
	comp=Z,483nm,0.7s							
KBZ	**Khabaz**	**17.47**	**64**	P		**P**	**05 27 22.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=271,slow=8.1,SNR=5.0							
ZEI	**Tsey**	**18.03**	**67**	*e*P		**Pn**	**05 27 26.1**	**-1.1**
ZEI				pmax		pmax		
	comp=Z,18nm,0.4s							
GNI	**Garni**	**18.50**	**76**	LR		LR	05 34 46.3	
	comp=Z,43nm,18.2s,baz=263,slow=38							
ESDC	**Sonseca Array**	**19.59**	**283**	P		**Pn**	**05 27 45.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=81,slow=11,SNR=6.8							
OBN	**Obninsk**	**20.14**	**26**	⇓*e*P		Pn	05 27 55.1	+2.8
OBN				*e**PP		sP	05 28 04.8	+9.5
OBN				*SP		pP	05 28 13.0	+19
OBN				pmax		pmax		
	comp=Z,10.0nm,1.0s							
OBN				MLR		MLR		
	comp=Z,54nm,15.0s							
VSU	**Vasula**	**20.87**	**8**	P		**P**	**05 27 58.4**	**+0.1**
VSU				pmax		pmax		
	comp=Z,100nm,0.7s							
MDT	**Midelt**	**21.54**	**264**	P		**P**	**05 28 05.0**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=73,slow=13,SNR=2.3							
MDT				LR		LR	05 36 03.4	
	comp=Z,33nm,19.2s,baz=92,slow=36							
HFS	**Hagfors**	**22.71**	**350**	P		**P**	**05 28 17.2**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=156,slow=11,SNR=16							
HFS				LR		LR	05 39 37.0	
	comp=Z,50nm,18.4s,baz=178,slow=43							
FINES	**FINESS Array B**	**23.74**	**6**	P		**P**	**05 28 27.4**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=168,slow=9.8,SNR=9.1							
FINES				LR		LR	05 38 36.6	
	comp=Z,86nm,20.0s,baz=192,slow=39							
EKA	**Eskdalemuir Ar**	**23.89**	**325**	P		**P**	**05 28 29.8**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=128,slow=10.0,SNR=8.3							
NB2	**NORSAR Subarra**	**23.95**	**348**	P		**P**	**05 28 29.4**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=158,slow=9.3							
NB2	**NORSAR Subarra**	**23.95**	**348**	P		**P**	**05 28 29.3**	**-1.2**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NB2	**NORSAR Subarra**	**23.95**	**348**	P		**P**	**05 28 29.4**	**-1.1**
	comp=Z,2.1nm,0.7s,SNR=7.4							
NOA	**NORSAR Array B**	**23.95**	**348**	P		**P**	**05 28 30.1**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=158,slow=8.8,SNR=6.5							
NOA				LR		LR	05 38 07.0	
	comp=Z,20nm,20.8s,baz=180,slow=37							
SUF	**Sumiainen**	**25.01**	**6**	P		**P**	**05 28 39.9**	**-0.2**
SUF				pmax		pmax		
	comp=Z,14nm,2.0s							
AKTO	**Aktyubinsk**	**28.97**	**52**	P		**P**	**05 29 16.2**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=245,slow=11,SNR=6.0							
AKTO				LR		LR	05 43 13.8	
	comp=Z,16nm,18.7s,baz=322,slow=42							
ABKAR	**Akbulak array**	**30.01**	**55**	*e*P		**P**	**05 29 25.1**	**0.0**
	comp=Z,0.9nm,0.4s							
ABKAR	**Akbulak array**	**30.01**	**55**	*e*P		**P**	**05 29 25.1**	**0.0**
	comp=Z,0.9nm,0.4s							
TORD	**Torodi Ar. Bea**	**30.13**	**220**	P		**P**	**05 29 26.8**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=35,slow=8.7,SNR=24							
ARCES	**ARCESS Array B**	**31.75**	**3**	P		**P**	**05 29 39.3**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=191,slow=9.0,SNR=7.9							
BRVK	**Borovoye**	**36.87**	**50**	*e*P		**P**	**05 30 24.1**	**-0.7**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.7s							
BRVK	**Borovoye**	**36.87**	**50**	*e*P		**P**	**05 30 24.1**	**-0.7**
	comp=Z,5.9nm,0.7s							
KKAR	**Karatay Array**	**37.48**	**66**	*e*P		**P**	**05 30 30.4**	**+0.3**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KKAR	**Karatay Array**	**37.48**	**66**	*e*P		**P**	**05 30 30.4**	**+0.3**
	comp=Z,1.3nm,0.5s							
KKAR	**Karatay Array**	**37.48**	**66**	*e*P		**P**	**05 30 30.4**	**+0.3**
	comp=Z,1.3nm,0.5s							
OTUK	**Ortayu**	**38.17**	**58**	P		**P**	**05 30 36.1**	**+0.2**
OTUK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
DBIC	**Dimbokro**	**39.02**	**224**	P		**P**	**05 30 45.0**	**+1.8**
	comp=Z,1.5nm,0.5s,baz=0.2,slow=6.8,SNR=5.7							
DBIC	**Dimbokro**	**39.02**	**224**	P		**P**	**05 30 45.0**	**+1.8**
DBIC	**Dimbokro**	**39.02**	**224**	P		**P**	**05 30 45.0**	**+1.8**
EKS2	**Erkin-Say**	**39.93**	**66**	*e*P		**P**	**05 30 50.5**	**-0.3**
EKS2				pmax		pmax		
	comp=Z,2.0nm,0.7s							
EKS2	**Erkin-Say**	**39.93**	**66**	*e*P		**P**	**05 30 50.5**	**-0.3**
	comp=Z,2.0nm,0.7s							
EKS2	**Erkin-Say**	**39.93**	**66**	*e*P		**P**	**05 30 50.5**	**-0.3**
	comp=Z,2.1nm,0.7s							
SPITS	**Spitsbergen Ar**	**40.40**	**358**	P		**P**	**05 30 54.4**	**+0.2**
	comp=Z,8.7nm,1.1s,baz=159,slow=12,SNR=2.8							
KURK	**Kurchatov**	**42.06**	**53**	*e*P		**P**	**05 31 08.2**	**+0.1**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KURK	**Kurchatov**	**42.06**	**53**	*e*P		**P**	**05 31 08.2**	**+0.1**
	comp=Z,7.6nm,0.9s							
KURK	**Kurchatov**	**42.06**	**53**	*e*P		**P**	**05 31 08.2**	**+0.1**
	comp=Z,7.6nm,0.9s							
NVS	**Novosibirsk**	**44.52**	**47**	*e*P		**P**	**05 31 29.2**	**+1.4**
MKAR	**Makanchi Array**	**45.05**	**58**	P		**P**	**05 31 31.7**	**-0.5**
	comp=Z,3.3nm,0.4s,baz=278,slow=7.1,SNR=38							
ZALV	**Zalesovo Beam**	**45.52**	**48**	P		**P**	**05 31 35.1**	**-0.8**
	comp=Z,4.5nm,0.4s,baz=276,slow=8.6,SNR=3.7							
SCHQ	**Schefferville**	**58.94**	**318**	P		**P**	**05 33 15.2**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=88,slow=5.6,SNR=8.1							
SONM	**Songino Array**	**60.27**	**51**	P		**P**	**05 33 24.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=282,slow=7.4,SNR=3.7							
CMAR	**Chiang Mai Arr**	**69.48**	**82**	P		**P**	**05 34 25.1**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=300,slow=7.2,SNR=3.8							
BILL	**Bilibino**	**71.15**	**13**	⇓*e*P		P	05 34 40.5	+5.8
BILL				*e*			05 34 51.4	
BILL				pmax		pmax		
	comp=Z,10.0nm,1.6s							
YKA	**Yellowknife Ar**	**73.77**	**340**	P		**P**	**05 34 50.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=32,slow=5.3,SNR=5.6							
ILAR	**Eielson Array**	**77.19**	**355**	P		**P**	**05 35 10.6**	**+0.6**
	comp=Z,0.4nm,1.0s,baz=12,slow=4.6,SNR=3.6							
WRA	**Warramunga Arr**	**120.08**	**93**	PKP		**PKPdf**	**05 42 06.9**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=314,slow=1.7,SNR=4.8							
ASAR	**Alice Springs**	**121.70**	**97**	PKP		**PKPdf**	**05 42 10.2**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=290,slow=1.0,SNR=4.2							

NIED ***04*** *05:23:00,37.˚50N×143.˚70E,h5km,Mw3.7 Best double couple: M₀4.12000×10¹⁴ NP1:φ₀43.00000°,δ23.00000°, λ-70.00000°. NP2:φ₀202.00000°,δ68.00000°, λ-98.00000°.*

IDC ***04*** *05:23:22.2±1.3,37.˚37N×144.˚12E,h0km,mb3.5/3, mb1 3.8/5,mb1mx3.5/49,mbtmp3.6/5,ML3.7/2,MS2.8/4, Ms1 2.8/4,ms1mx2.4/39,Error ellipse: s-maj=43.9km s-min=24.2km az=108.0*

ISCJB ***04*** *05:23:25.1±0.8,37.˚49N±0.˚05×143.˚89E±0.˚06,h33km, mb3.6/3,MS2.9/2,Error ellipse: s-maj=6.7km s-min=6.0km az=143.2*

JMA ***04*** *05:23:26.5±0.3,37.˚46N×143.˚74E,h40km,M3.8*

ISC 04 05:23:26.1±1.1,37.˚41N±0.˚05×143.˚94E±0.˚08,h35km,n22,σ1ᵍ91/29,mb3.6/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.30**	**298**	P		**Pn**	**Sn**	**05 24 01.4**	**-0.1**
JIO				*e*S		**Sn**	**Sn**	**05 24 26.5**	**-2.0**
JFK	**Kawauchi**	**2.44**	**270**	P		**Pn**	**Sn**	**05 24 02.8**	**-0.7**
JFK				S		**Sn**	**Sn**	**05 24 29.9**	**-2.3**
OFUJ	**Ofunato**	**2.44**	**314**	P		**Pn**	**Sn**	**05 24 02.9**	**-0.6**
OFUJ				S		**Sn**	**Sn**	**05 24 29.7**	**-2.5**
JMK	**Ichinoseki**	**2.64**	**306**	P		**Pn**	**Sn**	**05 24 06.1**	**-0.1**
JMK				S		**Sn**	**Sn**	**05 24 35.5**	**-1.4**
JFT	**Otama**	**2.87**	**273**	P		**Pn**	**Sn**	**05 24 10.0**	**+0.6**
JFT				S		**Sn**	**Sn**	**05 24 41.8**	**-0.9**
JOM	**Ohasama**	**2.92**	**316**	P		**Pn**	**Sn**	**05 24 10.0**	**-0.1**
JOM				S		**Sn**	**Sn**	**05 24 42.5**	**-1.5**
JYK	**Kaneyama**	**3.20**	**299**	P		**Pn**	**Sn**	**05 24 14.7**	**+0.8**
JYK				*e*S		**Sn**	**Sn**	**05 24 50.1**	**-0.7**
JANG	**Nango**	**3.51**	**328**	S		**Sn**	**Sn**	**05 24 55.5**	**-3.0**
JRY	**Ryogami san**	**4.28**	**253**	P		**Pn**	**Sn**	**05 24 28.2**	**-0.6**
JRY				S		**Sn**	**Sn**	**05 25 14.3**	**-3.2**
MJAR	**Matsushiro Arr**	**4.67**	**261**	Pn		**Pn**	**Sn**	**05 24 35.5**	**+1.4**
	1.9nm,0.3s,baz=90,slow=15,SNR=10								
MJAR				Sn		**Sn**	**Sn**	**05 25 27.5**	**+0.4**
	1.0nm,0.3s,baz=90,slow=25,SNR=4.9								
MJAR				LR		LR	LR	05 26 32.7	
	comp=Z,80nm,18.1s,baz=80,slow=40								
MAT	**Matsushiro**	**4.67**	**261**	P		**Pn**	**Sn**	**05 24 36.1**	**+1.9**
MAT				*e*S		**Sn**	**Sn**	**05 25 28.5**	**+1.4**
JKB	**Kayabe**	**5.00**	**334**	P		**Pn**	**Sn**	**05 24 40.3**	**+1.7**
JCH	**Churui**	**5.22**	**355**	P		**Pn**	**Sn**	**05 24 40.5**	**-1.1**
JHJ	**Hachijo jima 2**	**5.47**	**220**	Sn		**Sn**	**Sn**	**05 25 40.9**	**-5.8**
	6.9nm,0.3s,baz=65,slow=23,SNR=3.6								
JTKR	**Abashiri--Toko**	**6.55**	**360**	P		**Pn**	**Sn**	**05 24 58.9**	**-1.0**
ASAJ	**Asahikawa**	**6.78**	**352**	Pn		**Pn**	**S

TXAR	**Lajitas Array**	**88.40**	**54**	P		**P**	**05 54 34.0**	**+0.2**	
	0.2nm,0.6s,baz=288,slow=3.4,SNR=4.5								
QSPA	**South Pole Qui**	**126.96**	**180**	*e*PKPdf		**PKPdf**	**06 00 44.5**	**+0.3**	

ISCJB ***04*** *05:47:52.3±0.3,3˚.67S±0˚.04×101˚.40E±0˚.05,h50km, mb4.6/31,MS3.1/5, Error ellipse: s-maj=8.0km s-min=3.7km az=140.0*

NEIC ***04*** *05:47:55.0±0.5,3˚.57S×101˚.52E,h59km±4km, mb4.7/15, Error ellipse: s-maj=8.3km s-min=3.9km az=54.0*

BJI ***04*** *05:47:54.0,3˚.60S×101˚.50E,h59km, mb4.8/25,mB4.9/16, Ms4.4/14,Ms7 4.2/12*

IDC ***04*** *05:47:55.9±7.1,3˚.49S×101˚.54E,h65km±63km, mb4.1/17, mb1 4.2/17,mb1mx3.9/36,mbtmp4.4/17,MS3.1/6, Ms1 3.1/6,ms1mx2.8/32,Error ellipse: s-maj=33.8km s-min=12.8km az=55.0*

DJA ***04*** *05:47:55.0±1.5,4˚S±4˚×10˚2E±˚,h23km±19km,M4.6/15, mb4.8/7,mB5.2/5,MLv4.5/15,Mw(mB)4.6/5*

KLM ***04*** *05:47:58.6,3˚.39S×101˚.68E,h45km, mb4.5,ML4.2,MS5.5*

ISC 04 05:47:54.1±0.4,3˚.60S±0˚.05×101˚.46E±0˚.05,h50km,n107, σ1§46/108,mb4.5/31,MS3.0/5,2C-4D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**1.67**	**300**	P	**Pn**	**05 48 23.8**	**+2.8**
MNAI	**Manna**	**1.67**	**117**	*e*Pn	**Pn**	**05 48 21.3**	**+0.3**
MNAI				*e*Sn	**Sn**	**05 48 41.3**	**-0.1**
SDSI	**Sungai Dareh**	**2.65**	**359**	P	**Pn**	**05 48 35.6**	**+1.2**
PDSI	**Padang**	**2.85**	**339**	P	**Pn**	**05 48 39.1**	**+1.9**
LWLI	**Liwa**	**2.95**	**119**	P	**Pn**	**05 48 39.8**	**+1.2**
PPI	**Padang Panjang**	**3.29**	**341**	P	**Pn**	**05 48 46.0**	**+2.7**
PPI				S	**Sn**	**05 49 25.5**	**+4.3**
KASI	**Kota Agung**	**3.58**	**122**	P	**Pn**	**05 48 49.1**	**+1.9**
BKNI	**Bangkinang**	**3.92**	**354**	P	Pn	05 48 56.8	+5.0
BKNI	**Bangkinang**	**3.92**	**354**	*e*Pn	**Pn**	**05 48 53.2**	**+1.4**
MNSI	**Mandailing Nat**	**4.75**	**337**	P	**Pn**	**05 49 05.0**	**+1.7**
CGJI	**Cibinong**	**5.17**	**126**	P	**Pn**	**05 49 09.9**	**+0.9**
	43nm,0.7s,2μm0.4nm						
CGJI				S	**Sn**	**05 50 08.1**	**+0.7**
	43nm,0.7s,2μm0.4nm						
TPRI	**Tanjung Pinang**	**5.43**	**34**	P	**Pn**	**05 49 13.3**	**+0.7**
	181nm,0.5s,27μm1.6nm						
MYKOM	**Kota Tinggi**	**5.86**	**24**	⇓P	**Pn**	**05 49 19.9**	**+1.4**
MYKOM	**Kota Tinggi**	**5.86**	**24**	*e*Pn	**Pn**	**05 49 19.5**	**+1.0**
KGM	**Kluang**	**5.88**	**18**	⇑P	**Pn**	**05 49 20.1**	**+1.4**
GSI	**Gunungsitoli**	**6.23**	**321**	P	**Pn**	**05 49 25.7**	**+2.2**
	71nm,0.5s,0.4nm						
GSI	**Gunungsitoli**	**6.23**	**321**	*e*Pn	**Pn**	**05 49 25.4**	**+1.8**
GSI				*e*Sn	**Sn**	**05 50 31.6**	**-1.8**
CNJI	**Cibinong**	**6.74**	**123**	P	**Pn**	**05 49 30.9**	**+0.3**
	49nm,1.2s,0.3nm						
LEM	**Lembang**	**6.92**	**118**	LR	LR	05 52 46.0	
	comp=Z,140nm,19.7s,baz=60,slow=42						
CISI	**Cisompet, Garu**	**7.45**	**122**	P	**Pn**	**05 49 41.3**	**+1.0**
CISI	**Cisompet, Garu**	**7.45**	**122**	*e*Pn	**Pn**	**05 49 39.6**	**-0.7**
KTGM	**Kuala Trenggan**	**9.02**	**11**	⇓P	**Pn**	**05 50 04.2**	**+2.3**
COCO	**West Island**	**9.69**	**208**	*e*Pn	**Pn**	**05 50 12.3**	**+1.3**
BBKI	**Banjar Baru**	**13.36**	**90**	P	**P**	**05 51 10.5**	**+1.2**
JAGI	**Jajag, Banyuwa**	**13.52**	**112**	*e*Pn	**Pn**	**05 51 02.2**	**-1.1**
SDKM	**Sandakan**	**18.20**	**60**	⇓P	**Pn**	**05 52 04.1**	**+0.7**
KDM	**Kudat**	**18.56**	**56**	⇓P	**Pn**	**05 52 08.4**	**+0.7**
MYLDM	**Lahad Datu**	**19.12**	**63**	⇑P	**Pn**	**05 52 15.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**22.05**	**354**	P	**P**	**05 52 44.6**	**-0.3**
	2.0nm,0.5s,baz=182,slow=8.9,SNR=12						
CMAR				LR	LR	06 01 24.2	
	comp=Z,54nm,18.2s,baz=179,slow=37						
QIZ	**Qiongzhong**	**23.95**	**20**	P	**P**	**05 53 05.2**	**+1.3**
QIZ				S	**S**	**05 57 19.0**	**+1.8**
QIZ				LE			
	120nm,13.8s						
TGY	**Tagaytay City**	**26.12**	**47**	LR	LR	06 05 16.7	
	comp=Z,30nm,21.9s,baz=146,slow=40						
FITZ	**Fitzroy Crossi**	**27.72**	**123**	P	**P**	**05 53 38.4**	**+0.3**
	2.9nm,0.8s,baz=313,slow=8.2,SNR=6.5						
FITZ	**Fitzroy Crossi**	**27.72**	**123**	*e*P	**P**	**05 53 38.2**	**+0.2**
	13nm,1.4s						
KMI	**Kunming**	**28.57**	**2**	P	**P**	**05 53 49.2**	**+3.4**
KMI				PMZ			
	28nm,0.5s						
KMI				PMZ			
	120nm,5.8s						
H08S2	**Diego Garcia H**	**29.10**	**261**	T	T	06 23 40.1	
	baz=84,slow=75,SNR=108						
H08S3	**Diego Garcia H**	**29.11**	**261**	T	T	06 23 42.8	
	baz=84,slow=75,SNR=106						
H08S1	**Diego Carcia H**	**29.12**	**261**	T	T	06 23 41.7	
	baz=84,slow=75,SNR=82						
GYA	**Guiyang**	**30.30**	**9**	*e*P	**P**	**05 54 02.8**	**+1.8**
GYA				PMZ			
	10.0nm,0.8s						
H01W3	**Cape Leeuwin H**	**33.28**	**161**	T	T	06 29 16.1	
	baz=336,slow=76,SNR=5.0						
H01W2	**Cape Leeuwin H**	**33.29**	**161**	T	T	06 29 11.0	
	baz=336,slow=76,SNR=2.8						
H01W1	**Cape Leeuwin H**	**33.30**	**161**	T	T	06 29 12.8	
	baz=336,slow=76,SNR=2.5						
CD2	**Chengdu**	**34.38**	**3**	*e*P	**P**	**05 54 37.4**	**+0.8**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
WRA	**Warramunga Arr**	**35.94**	**120**	P	**P**	**05 54 49.8**	**-0.4**
	2.2nm,0.4s,baz=303,slow=9.1,SNR=39						
WRAB	**Tennant Creek**	**35.94**	**119**	*e*P	**P**	**05 54 50.2**	**0.0**
	18nm,1.6s						
WB2	**Warramunga Arr**	**35.95**	**120**	*e*P	**P**	**05 54 50.3**	**+0.1**
	4.9nm,0.4s						
ASAR	**Alice Springs**	**37.14**	**125**	P	**P**	**05 55 00.4**	**0.0**
	2.6nm,0.4s,baz=297,slow=8.1,SNR=45						
AS31	**Alice Springs**	**37.14**	**125**	*e*P	**P**	**05 55 00.6**	**+0.1**
	2.1nm,0.4s						
AS01	**Alice Springs**	**37.18**	**125**	*e*P	**P**	**05 55 00.4**	**-0.3**
LZH	**Lanzhou**	**39.54**	**3**	*e*P	**P**	**05 55 21.0**	**+0.5**
LZH				pP	sP	05 55 37.8	-1.8
LZH				sP	pP	05 55 45.9	+12
LZH				*e*PP	**PnPn**	**05 56 57.2**	**+1.8**
LZH				PMZ			
	22nm,1.1s						
LZH				PMZ			
	75nm,4.9s						
LZH				LN			
	320nm,13.2s						
LZH				LE			
	330nm,13.5s						
LZH				LZ			
	380nm,17.3s						
HHC	**Hu-ho-hao-te**	**45.19**	**11**	*e*P	**P**	**05 56 08.3**	**+2.0**
HHC				S	**S**	**06 02 45.7**	**+3.0**
HHC				PMZ			
	13nm,1.0s						
HHC				PMZ			
	85nm,4.8s						
HHC				LN			
	87nm,15.7s						
HHC				LE			
	84nm,17.1s						
HHC				LZ			
	84nm,15.3s						
STKA	**Stephens Creek**	**47.01**	**131**	P	**P**	**05 56 21.5**	**+0.9**
	3.2nm,0.5s,baz=312,slow=6.9,SNR=12						
STKA				LR	LR	06 17 08.6	
	comp=Z,36nm,19.3s,baz=25,slow=37						
STKA	**Stephens Creek**	**47.01**	**131**	*e*P	**P**	**05 56 21.5**	**+0.9**
	4.9nm,1.8s						
KSRS	**Korea Array**	**47.68**	**29**	LR	LR	06 16 15.3	
	comp=Z,13nm,18.4s,baz=240,slow=36						
WMQ	**Urumqi**	**48.80**	**347**	P	**P**	**05 56 35.3**	**+0.9**
WMQ				pP	sP	05 56 52.0	-1.7
WMQ				sP	pP	05 56 57.7	+10
WMQ				PMZ			
	31nm,0.8s						
WMQ				PMZ			
	36nm,4.4s						
KSH	**Kashi**	**48.90**	**334**	P	**P**	**05 56 35.1**	**-0.2**
KSH				pP	sP	05 56 52.4	-2.2
KSH				PcP	**PcP**	**05 58 00.5**	**+1.4**
KSH				PP	**PP**	**05 58 28.9**	**-0.2**
KSH				S	**S**	**06 03 29.7**	**-6.0**
KSH				ScS	**ScS**	**06 06 20.1**	**-3.4**
KSH				SS	**SS**	**06 07 01.9**	**-5.2**
KSH				PMZ			
	4.0nm,0.3s						
KSH				PMZ			
	99nm,5.3s						
KSH				LN			
	530nm,16.2s						
KSH				LE			
	240nm,11.8s						
SONM	**Songino Array**	**51.40**	**4**	P	**P**	**05 56 54.0**	**-0.1**
	3.8nm,0.6s,baz=189,slow=9.3,SNR=27						
SONA1	**Songino Array**	**51.41**	**4**	*e*P	**P**	**05 56 54.0**	**-0.2**
ULN	**Ulaanbaatar**	**51.48**	**5**	*e*P	**P**	**05 56 54.4**	**-0.3**
	4.3nm,1.1s						
TKM2	**Tokmak 2**	**51.87**	**336**	*e*P	**P**	**05 56 58.3**	**+0.5**
	5.5nm,0.5s						
CN2	**Changchun**	**51.88**	**22**	*e*P	**P**	**05 56 55.8**	**-1.8**
EIDS	**Eidsvold**	**52.30**	**119**	*e*P	**P**	**05 57 00.6**	**-0.5**
	24nm,1.8s						
EKS2	**Erkin-Say**	**52.42**	**334**	*e*P	**P**	**05 57 02.7**	**+0.9**
	5.4nm,0.7s						
MK01	**Makanchi Array**	**52.93**	**344**	*e*P	**P**	**05 57 04.8**	**-0.6**
MK31	**Makanchi Array**	**52.96**	**344**	*e*P	**P**	**05 57 05.4**	**-0.1**
MKAR	**Makanchi Array**	**52.96**	**344**	P	**P**	**05 57 05.1**	**-0.4**
	11nm,0.6s,baz=151,slow=8.2,SNR=82						
MKAR	**Makanchi Array**	**52.96**	**344**	*e*P	**P**	**05 57 05.4**	**-0.1**
MAKZ	**Makanchi**	**53.06**	**343**	*e*P	**P**	**05 57 06.0**	**-0.2**
	6.6nm,1.1s						
USRK	**Ussuriysk Ar.**	**54.90**	**27**	P	**P**	**05 57 19.1**	**-0.6**
	3.9nm,0.6s,baz=218,slow=5.3,SNR=9.2						
GEYT	**Alibeck**	**57.60**	**320**	P	**P**	**05 57 39.5**	**+0.3**
	1.3nm,0.3s,baz=116,slow=3.4,SNR=2.8						
ZAA0	**Zalesovo Array**	**59.00**	**349**	*e*P	**P**	**05 57 47.5**	**-1.1**
ZALV	**Zalesovo Beam**	**59.00**	**349**	P	**P**	**05 57 47.8**	**-0.8**
	4.9nm,0.5s,baz=171,slow=5.0,SNR=29						
BRVK	**Borovoye**	**62.24**	**339**	*e*P	**P**	**05 58 10.0**	**-0.7**
	5.4nm,0.5s						
ZRNK	**Zerenda**	**62.62**	**339**	*e*P	**P**	**05 58 12.3**	**-0.8**
	3.4nm,1.2s						
PYZ	**Puysegur Point**	**70.39**	**138**	*e*P	**P**	**05 59 03.2**	**+0.2**
	306nm,1.4s						
KBZ	**Khabaz**	**70.46**	**319**	P	**P**	**05 59 03.6**	**+0.2**
	3.5nm,0.7s,baz=115,slow=4.8,SNR=11						
PETK	**Petropavlovsk-**	**73.46**	**32**	P	**P**	**05 59 19.8**	**-1.5**
	1.6nm,0.6s,baz=218,slow=9.1,SNR=2.6						
BRTR	**Keskin Array B**	**75.47**	**312**	P	**P**	**05 59 33.4**	**-0.1**
	2.0nm,0.6s,baz=138,slow=7.4,SNR=13						
BKZ	**Black Stump Fm**	**76.14**	**129**	*e*P	**P**	**05 59 37.4**	**+0.3**
	101nm,1.9s						
BR231	**Keskin MP Arra**	**76.14**	**312**	*e*P	**P**	**05 59 34.3**	**-2.9**
SEY	**Seymchan**	**76.56**	**21**	P	**P**	**05 59 38.2**	**-0.6**
	0.8nm,0.3s,baz=208,slow=9.1,SNR=6.7						
TIXI	**Tiksi**	**77.20**	**9**	LR	LR	06 40 58.9	
	comp=Z,13nm,18.6s,baz=242,slow=41						
AKASG	**Malin Array Be**	**81.63**	**322**	P	**P**	**06 00 06.0**	**-0.8**
	0.2nm,0.2s,baz=108,slow=3.8,SNR=4.5						
BUR08	**Bucovina Ar. S**	**83.43**	**319**	*e*P	**P**	**06 00 17.1**	**+0.6**
LVZ	**Lovozero**	**84.78**	**340**	*e*P	**P**	**06 00 22.3**	**-0.5**
	66nm,1.8s						
FIA1	**FINESS Array S**	**86.19**	**332**	*e*P	**P**	**06 00 29.9**	**0.0**
	18nm,1.5s						
FINES	**FINESS Array B**	**86.19**	**332**	P	**P**	**06 00 29.8**	**-0.1**
	1.1nm,0.6s,baz=113,slow=5.0,SNR=9.0						
ARA0	**ARCESS Array S**	**88.46**	**340**	*e*P	**P**	**06 00 40.8**	**+0.1**
ARCES	**ARCESS Array B**	**88.46**	**340**	P	**P**	**06 00 40.8**	**+0.1**
	2.2nm,0.7s,baz=347,slow=5.0,SNR=4.6						
CPUP	**Villa Florida**	**143.85**	**213**	PKP	**PKPdf**	**06 07 24.3**	**-0.4**
	1.2nm,0.5s,baz=209,slow=1.3,SNR=3.4						
CPUP	**Villa Florida**	**143.85**	**213**	*e*PKPdf	**PKPdf**	**06 07 23.9**	**-0.8**
BDFB	**Brasilia**	**144.25**	**237**	PKP	**PKPdf**	**06 07 25.6**	**-0.2**
	1.2nm,0.4s,baz=166,slow=4.2,SNR=3.8						
BDFB	**Brasilia**	**144.25**	**237**	*e*PKPdf	**PKPdf**	**06 07 26.2**	**+0.4**
TX31	**Lajitas Ar. Si**	**145.02**	**40**	*e*PKPbc	**PKPbc**	**06 07 25.9**	**-0.3**
TXAR	**Lajitas Array**	**145.02**	**40**	PKP	**PKPab**	**06 07 26.4**	**+0.2**
	3.6nm,0.6s,baz=285,slow=1.0,SNR=57						
PBMO	**Poplar Bluff**	**145.21**	**17**	*e*PKPbc	**PKPbc**	**06 07 25.2**	**-1.2**
X201	**Greenbrier Sit**	**145.96**	**20**	*e*PKPdf	**PKPdf**	**06 07 28.1**	**0.0**
WHAR	**Wooly Hollow**	**145.99**	**20**	*e*PKPdf	**PKPdf**	**06 07 28.0**	**-0.2**
X301	**Greenbrier Sit**	**146.00**	**21**	*e*PKPdf	**PKPdf**	**06 07 28.3**	**+0.2**
MIAR	**Mount Ida**	**146.18**	**23**	*e*PKPdf	**PKPbc**	**06 07 29.5**	**0.0**
WVT	**Waverly**	**146.51**	**14**	*e*PKPdf	**PKPbc**	**06 07 30.1**	**-0.3**
TZTN	**Tazewell**	**146.89**	**7**	*e*PKPdf	**PKPdf**	**06 07 29.8**	**+0.2**
PLAL	**Pickwick Lake**	**147.54**	**15**	*e*PKPbc	**PKPbc**	**06 07 32.4**	**-1.0**
TKL	**Tuckaleechee C**	**147.73**	**8**	*e*PKPbc	**PKPbc**	**06 07 33.2**	**-0.7**
CPCT	**Cooper Cave**	**147.82**	**8**	*e*PKPbc	**PKPbc**	**06 07 33.5**	**-0.6**
KMSC	**Kings Mountain**	**148.50**	**4**	*e*PKPbc	**PKPbc**	**06 07 34.7**	**-1.3**
BBSR	**BB Station**	**148.57**	**337**	*e*PKPbc	**PKPbc**	**06 07 36.8**	**+0.6**
GOGA	**Godfrey**	**149.98**	**8**	*e*PKPbc	**PKPbc**	**06 07 38.4**	**-1.2**

CSEM ***04*** *05:49:38.8,43˚.68N×12˚.13E,h10km, MD1.7/8*

ROM 04 05:49:38.8±0.1,43˚.68N×12˚.13E,h10km±1km,Md1.7/8, Ml0.9/5,2C,Error ellipse: s-maj=1.3km s-min=1.1km az=48.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PARC	**Parchiule**	**0.08**	**110**	Pg	Pg	05 49 41.4	+0.2
PARC				Sg	Sg	05 49 42.9	0.0
	108nm,0.2s						
PARC	**Parchiule**	**0.08**	**110**	Pg	Pg	05 49 41.4	+0.2
PARC				Sg	Sg	05 49 42.9	0.0
	108nm,0.2s						
CRE	**Caprese Michel**	**0.14**	**246**	Pg	Pg	05 49 42.8	+0.7
CRE				Sg	Sg	05 49 45.4	+1.0
	13nm,0.3s						
CRE	**Caprese Michel**	**0.14**	**246**	Pg	Pg	05 49 42.8	+0.7
CRE				Sg	Sg	05 49 45.4	+1.0
	13nm,0.3s						
CPGN	**Carpegna, Ital**	**0.18**	**48**	Pg	Pg	05 49 43.8	+1.0
CPGN				Sg	Sg	05 49 47.4	+1.8
	19nm,0.8s						
CPGN	**Carpegna, Ital**	**0.18**	**48**	Pg	Pg	05 49 43.8	+1.0
CPGN				Sg	Sg	05 49 47.4	+1.8
	19nm,0.8s						
BADI	**Badiali**	**0.19**	**154**	Pg	Pg	05 49 43.3	+0.5
BADI				Sg	Sg	05 49 46.8	+1.3
	59nm,0.1s						
BADI	**Badiali**	**0.19**	**154**	Pg	Pg	05 49 43.3	+0.5
BADI				Sg	Sg	05 49 46.8	+1.3
	59nm,0.1s						
T0502	**Localit˜ San**	**0.22**	**1**	Pg	Pg	05 49 43.9	+0.5
T0502				Sg	Sg	05 49 47.7	+1.2
	6μm,12.0s						
ASQU	**Asqua**	**0.27**	**296**	⇑*i*Pg	Pg	05 49 44.8	+0.4
ASQU				Sg	Sb	05 49 49.7	-1.0
ASQU	**Asqua**	**0.27**	**296**	⇑*i*Pg	Pg	05 49 44.8	+0.4
ASQU				Sg	Sb	05 49 49.7	-1.0
ATPC	**Poggio Castell**	**0.31**	**130**	Pg	Pg	05 49 45.3	+0.3
ATPC				Sg	Sb	05 49 50.8	-0.8
ATPC	**Poggio Castell**	**0.31**	**130**	Pg	Pg	05 49 45.3	+0.3
ATPC				Sg	Sb	05 49 50.8	-0.8
ATVO	**AVT- Monte Val**	**0.36**	**146**	Pg	Pg	05 49 46.5	+0.6
ATVO				Sg	Sb	05 49 52.4	-0.6
	11nm,0.4s						
ATVO	**AVT- Monte Val**	**0.36**	**146**	Pg	Pg	05 49 46.5	+0.6
ATVO				Sg	Sb	05 49 52.4	-0.6
	11nm,0.4s						

CSEM ***04*** *05:50:26.3,43˚.68N×12˚.13E,h10km, MD2.5/20*

ROM 04 05:50:26.3±0.1,43˚.68N×12˚.13E,h10km,Md2.5/20, Ml2.0/18,17C,Error ellipse: s-maj=0.9km s-min=0.7km az=29.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PARC	**Parchiule**	**0.09**	**112**	⇑*i*Pg	Pg	05 50 28.9	+0.2
PARC				Sg	Sg	05 50 30.4	0.0
	2μm,0.2s						
PARC	**Parchiule**	**0.09**	**112**	⇑*i*Pg	Pg	05 50 28.9	+0.2
PARC				Sg	Sg	05 50 30.4	0.0
	2μm,0.2s						
CRE	**Caprese Michel**	**0.14**	**245**	⇑*i*Pg	Pg	05 50 30.4	+0.8
CRE				Sg	Sg	05 50 33.0	+1.1
	233nm,0.4s						
CRE	**Caprese Michel**	**0.14**	**245**	⇑*i*Pg	Pg	05 50 30.4	+0.8
CRE				Sg	Sg	05 50 33.0	+1.1
	233nm,0.4s						
CPGN	**Carpegna, Ital**	**0.18**	**49**	Pg	Pg	05 50 31.1	+0.8
CPGN				Sg	Sg	05 50 34.9	+1.9
	196nm,0.4s						
CPGN	**Carpegna, Ital**	**0.18**	**49**	Pg	Pg	05 50 31.1	+0.8
CPGN				Sg	Sg	05 50 34.9	+1.9
	196nm,0.4s						
BADI	**Badiali**	**0.19**	**154**	⇑*i*Pg	Pg	05 50 30.9	+0.6
BADI				Sg	Sg	05 50 34.3	+1.3
	1μm,0.4s						
BADI	**Badiali**	**0.19**	**154**	⇑*i*Pg	Pg	05 50 30.9	+0.6
BADI				Sg	Sg	05 50 34.3	+1.3
	1μm,0.4s						
T0502	**Localit˜ San**	**0.22**	**1**	⇑*i*Pg	Pg	05 50 31.4	+0.5
T0502				Sg	Sg	05 50 35.2	+1.3
	329nm,0.2s						
ASQU	**Asqua**	**0.27**	**295**	⇑*i*Pg	Pg	05 50 32.4	+0.6
ASQU				Sg	Sb	05 50 37.0	-1.1
	215nm,0.1s						
ASQU	**Asqua**	**0.27**	**295**	⇑*i*Pg	Pg	05 50 32.4	+0.6
ASQU				Sg	Sb	05 50 37.0	-1.1
	215nm,0.1s						
SFI	**Santa Sofia**	**0.30**	**318**	⇑*i*Pg	Pg	05 50 32.8	+0.4
SFI				Sg	Sb	05 50 38.0	-1.0
	104nm,0.4s						
SFI	**Santa Sofia**	**0.30**	**318**	⇑*i*Pg	Pg	05 50 32.8	+0.4
SFI				Sg	Sb	05 50 38.0	-1.0
	104nm,0.4s						
ATPC	**Poggio Castell**	**0.31**	**130**	⇑*i*Pg	Pg	05 50 32.9	+0.4
ATPC				Sg	Sb	05 50 38.1	-1.1
	177nm,0.3s						
ATPC	**Poggio Castell**	**0.31**	**130**	⇑*i*Pg	Pg	05 50 32.9	+0.4
ATPC				Sg	Sb	05 50 38.1	-1.1
	177nm,0.3s						
ATVO	**AVT- Monte Val**	**0.36**	**146**	⇑*i*Pg	Pg	05 50 33.9	+0.5
ATVO				Sg	Sb	05 50 39.9	-0.7
	233nm,0.5s						
ATVO	**AVT- Monte Val**	**0.36**	**146**	⇑*i*Pg	Pg	05 50 33.9	+0.5
ATVO				Sg	Sb	05 50 39.9	-0.7
	233nm,0.5s						
CAFI	**Castiglion Fio**	**0.37**	**199**	⇑*i*Pg	Pb	05 50 34.4	-0.6
CAFI				Sg	Sb	05 50 40.2	-0.7
	50nm,0.4s						
CAFI	**Castiglion Fio**	**0.37**	**199**	⇑*i*Pg	Pb	05 50 34.4	-0.6
CAFI				Sg	Sb	05 50 40.2	-0.7
	50nm,0.4s						
FRON	**Frontone**	**0.46**	**110**	Pg	Pg	05 50 35.3	0.0
FRON				Sg	Sb	05 50 42.8	-0.7
	98nm,0.4s						
FRON	**Frontone**	**0.46**	**110**	Pg	Pg	05 50 35.3	0.0
FRON				Sg	Sb	05 50 42.8	-0.7
	98nm,0.4s						
FSSB	**Fossombrone**	**0.47**	**88**	Pg	Pg	05 50 35.5	0.0
FSSB				Sg	Sb	05 50 43.0	-0.7
	299nm,0.3s						
FSSB	**Fossombrone**	**0.47**	**88**	Pg	Pg	05 50 35.5	0.0
FSSB				Sg	Sb	05 50 43.0	-0.7
	299nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.51**	**161**	Pg	Pg	05 50 36.5	+0.3
	57nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.51**	**161**	Pg	Pg	05 50 36.5	+0.3
	57nm,0.3s						
SSFR	**Montelago di S**	**0.53**	**117**	Pg	Pg	05 50 36.5	-0.2
SSFR				Sg	Sb	05 50 44.8	-0.8
	217nm,0.2s						
SSFR	**Montelago di S**	**0.53**	**117**	Pg	Pg	05 50 36.5	-0.2
SSFR				Sg	Sb	05 50 44.8	-0.8
	217nm,0.2s						
ARVD	**Arcevia**	**0.62**	**107**	Pg	Pg	05 50 38.2	-0.1
ARVD				Sg	Sb	05 50 47.9	-0.1
	33nm,0.3s						
ARVD	**Arcevia**	**0.62**	**107**	Pg	Pg	05 50 38.2	-0.1
ARVD				Sg	Sb	05 50 47.9	-0.1
	33nm,0.3s						
SEI	**Scarperia**	**0.67**	**304**	Pg	Pg	05 50 39.7	+0.4
	189nm,0.6s						
SEI	**Scarperia**	**0.67**	**304**	Pg	Pg	05 50 39.7	+0.4
	189nm,0.6s						
SNTG	**Esanatoglia**	**0.73**	**126**	Pg	Pg	05 50 40.6	+0.3
SNTG				Sg	Sb	05 50 50.9	-0.3
	35nm,0.5s						
SNTG	**Esanatoglia**	**0.73**	**126**	Pg	Pg	05 50 40.6	+0.3
SNTG				Sg	Sb	05 50 50.9	-0.3
	35nm,0.5s						
MGAB	**Montegabbione**	**0.77**	**181**	Pg	Pg	05 50 41.4	+0.3
MGAB				Sg	Sg	05 50 51.7	+0.6
	76nm,0.6s						
MGAB	**Montegabbione**	**0.77**	**181**	Pg	Pg	05 50 41.4	+0.3
MGAB				Sg	Sg	05 50 51.7	+0.6
	76nm,0.6s						
CING	**Cingoli**	**0.83**	**111**	Pg	Pg	05 50 42.1	-0.2
CING				Sg	Sb	05 50 54.0	-0.2
	21nm,0.3s						
CING	**Cingoli**	**0.83**	**111**	Pg	Pg	05 50 42.1	-0.2
CING				Sg	Sb	05 50 54.0	-0.2
	21nm,0.3s						
CESI	**CESI - Serrava**	**0.88**	**140**	Pg	Pg	05 50 43.0	-0.3
	11nm,0.8s						
CESI	**CESI - Serrava**	**0.88**	**140**	Pg	Pg	05 50 43.0	-0.3
	11nm,0.8s						

ISCJB ***04*** *05:55:32.5±1.2,19˚.12N±0˚.10×67˚.45W±0˚.06,h27km, Error ellipse: s-maj=15.4km s-min=4.5km az=27.0*

NEIC ***04*** *05:55:32.9,19˚.08N×67˚.42W,h75km,MD3.1(RSPR), After RSPR.*

RSPR ***04*** *05:55:32.9,19˚.08N×67˚.42W,h75km±8km,MD3.1/6*

**ISC 04 05:55:28.0±2.1

baz=305
PCYT **Pengchaiyu** 1.01 338 eP Pb 06 04 55.0 +0.4
baz=342
NSK **Sanguang** 1.02 270 ⇓P Pg 06 04 55.6 0.0
baz=263
NSK eS Sn 06 05 09.7 +0.6
baz=263
NNS **Nan Shan** 1.04 257 eP Pg 06 04 56.7 +0.9
baz=249
NNS eS Sn 06 05 11.8 +2.2
baz=249
IRIF **Iriomote-Funau** 1.19 107 P Pg 06 04 58.9 +0.2
IRIF eS Sg 06 05 13.9 -0.4
WHF **Hehuan Shan** 1.23 244 eS Sg 06 05 16.6 +0.9
baz=237
NSTT **Nanjuang** 1.35 268 eP Pg 06 05 02.0 +0.3
baz=263
NSTT eS Sg 06 05 19.6 +0.3
baz=263
HATJ **Hateruma jima** 1.36 117 P Pg 06 05 01.8 -0.1
HATJ S Sg 06 05 19.4 -0.3
WDT **Danda** 1.54 233 eP Pg 06 05 05.8 +0.4
baz=227
WDT eS Sg 06 05 26.4 +0.8
baz=227
JISG **Ishigakijimahi** 1.67 93 P Pb 06 05 05.9 +0.1
ALS **Alishan** 1.93 233 eP Pg 06 05 11.7 -1.0
baz=228
CHN4 **Tsaushan** 2.18 233 eP Pb 06 05 14.9 +0.3
baz=228
CHN4 eS Sg 06 05 43.3 -2.5
baz=228

*ISCJB **04** 06:12:08.1±0.3,55.°93S±0.°05×27.°9W±0.°1, h121km, mb4.7/29, Error ellipse: s-maj=9.2km s-min=6.3km az=147.4*
*NEIC **04** 06:12:09.7±1.2,55.°93S×27.°90W, h119km±10km, mb4.7/25, Error ellipse: s-maj=8.5km s-min=6.3km az=223.0*
*IDC **04** 06:12:11.9±4.6,55.°93S×27.°91W, h139km±42km, mb4.2/9, mb1 4.2/10, mb1mx4.1/18, mbtmp4.6/10, MS3.7/7, Ms1 3.6/7, ms1mx3.3/21, Error ellipse: s-maj=16.7km s-min=13.6km az=47.0*
ISC 04 06:12:09.6±0.4,**55.°99S**±0.°07×**28.°09W**±0.°07,**h121**km,**n84,** σ1°**03**/79,**mb4.7**/28,**1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.12**	**286**	eP	**Pn**	**06 13 24.4**	**+0.3**
HOPE				eSn	**Sn**	**06 14 18.0**	**-3.9**
VNA1	**Neumayer--Stat**	**17.04**	**157**	P	**Pn**	**06 16 00.1**	**+0.1**
SNAA	**Sanae**	**19.00**	**156**	P	**P**	**06 16 21.2**	**-0.3**
SNAA	**Sanae**	**19.00**	**156**	eP	**P**	**06 16 21.3**	**-0.1**
	68nm,0.4s						
SNAA				eS	**S**	**06 19 47.0**	**-3.5**
PMSA	**Palmer Station**	**19.56**	**229**	P	**Pn**	**06 16 29.3**	**-0.6**
	0.6nm,0.3s,baz=74,slow=7.4,SNR=3.1						
PMSA				LR	LR	06 23 06.8	
	comp=Z,146nm,18.4s,baz=94,slow=33						
TRQA	**Tornquist**	**28.84**	**294**	eP	**P**	**06 17 56.9**	**+0.5**
	44nm,1.7s						
PLCA	**Paso Flores**	**31.50**	**281**	LR	LR	06 30 35.7	
	comp=Z,52nm,21.3s,baz=190,slow=35						
SYO	**Syowa Base**	**31.95**	**141⇑**	eP	**P**	**06 18 21.6**	**-1.7**
QSPA	**South Pole Qui**	**34.26**	**180**	eP	**P**	**06 18 44.8**	**+1.1**
CPUP	**Villa Florida**	**36.40**	**312**	P	**P**	**06 19 02.2**	**0.0**
	4.7nm,0.7s,baz=145,slow=7.1,SNR=14						
CPUP	**Villa Florida**	**36.40**	**312**	eP	**P**	**06 19 02.4**	**+0.2**
MAW	**Mawson**	**40.49**	**144**	P	**P**	**06 19 36.0**	**+0.1**
	2.9nm,0.6s,baz=222,slow=5.9,SNR=7.3						
MAW	**Mawson**	**40.49**	**144**	eP	**P**	**06 19 36.4**	**+0.5**
	9.4nm,2.0s						
SUR	**Sutherland**	**41.11**	**76**	P	**P**	**06 19 42.4**	**+0.7**
	0.3nm,0.8s,baz=217,slow=7.4,SNR=4.3						
SUR	**Sutherland**	**41.11**	**76**	eP	**P**	**06 19 43.4**	**+1.7**
	51nm,1.5s						
BDFB	**Brasilia**	**43.07**	**331**	P	**P**	**06 19 58.1**	**+0.5**
	3.8nm,0.6s,baz=136,slow=5.1,SNR=9.8						
BDFB	**Brasilia**	**43.07**	**331**	eP	**P**	**06 19 58.8**	**+1.3**
	9.5nm,0.8s						
LVC	**Limon Verde**	**44.84**	**301**	eP	**P**	**06 20 13.3**	**+1.4**
	22nm,1.6s						
PB10	**IPOC Station P**	**44.88**	**299**	eP	**P**	**06 20 12.2**	**+0.3**
	55nm,1.4s						
PB04	**IPOC Station P**	**45.67**	**300**	eP	**P**	**06 20 19.1**	**+0.8**
	30nm,1.4s						
SBA	**Scott Base**	**46.10**	**184**	eP	**P**	**06 20 22.6**	**+1.9**
	13nm,1.6s						
BOSA	**Boshof**	**46.45**	**77**	P	**P**	**06 20 23.0**	**-1.3**
	2.3nm,0.5s,baz=211,slow=8.7,SNR=8.9						
BOSA				LR	LR	06 38 30.5	
	comp=Z,61nm,18.1s,baz=242,slow=34						
BOSA	**Boshof**	**46.45**	**77**	eP	**P**	**06 20 23.0**	**-1.3**
	47nm,1.9s						
PB01	**IPOC Station P**	**46.45**	**302**	eP	**P**	**06 20 25.1**	**+0.8**
	7.1nm,0.6s						
VNDA	**Vanda**	**46.60**	**183**	P	**P**	**06 20 26.3**	**+1.5**
	4.5nm,0.6s,baz=187,slow=6.7,SNR=72						
VNDA				LR	LR	06 37 56.0	
	comp=Z,41nm,18.4s,baz=193,slow=33						
VNDA	**Vanda**	**46.60**	**183**	eP	**P**	**06 20 26.2**	**+1.5**
	4.4nm,0.6s						
H10S2	**ASCENSION HYDR**	**48.10**	**18**	T	T	07 13 30.7	
	baz=189,slow=74,SNR=22						
H10S3	**ASCENSION HYDR**	**48.10**	**18**	T	T	07 13 31.0	
	baz=189,slow=74,SNR=7.0						
H10S1	**ASCENSION HYDR**	**48.11**	**18**	T	T	07 13 32.1	
	baz=189,slow=74,SNR=17						
LBTB	**Lobatse**	**49.48**	**74**	eP	**P**	**06 20 46.7**	**-0.9**
	11nm,0.8s						
LPAZ	**La Paz**	**49.94**	**306**	P	**P**	**06 20 52.7**	**+1.0**
	8.2nm,0.5s,baz=138,slow=6.3,SNR=38						
LPAZ	**La Paz**	**49.94**	**306**	eP	**P**	**06 20 52.5**	**+0.8**
	9.1nm,0.6s						
TSUM	**Tsumeb**	**50.10**	**62**	eP	**P**	**06 20 51.9**	**-0.4**
	18nm,1.8s						
RCBR	**Riachuelo**	**50.41**	**350**	eP	**P**	**06 20 54.0**	**-0.6**
	66nm,1.4s						
CASY	**Casey**	**54.13**	**161**	eP	**P**	**06 21 22.0**	**+0.6**
	7.2nm,0.9s						
SAML	**Samuel**	**54.41**	**316**	eP	**P**	**06 21 23.9**	**-0.1**
	6.0nm,0.8s						
LSZ	**Lusaka**	**58.82**	**70**	eP	**P**	**06 21 54.6**	**-0.8**
	8.0nm,0.8s						
PTGA	**Pitinga**	**60.82**	**323**	eP	**P**	**06 22 08.8**	**-0.2**
	24nm,1.9s						
LIC	**Lamto**	**64.86**	**25**	eP	**P**	**06 22 35.9**	**+0.3**
	36nm,0.7s						
KIC	**Kosan Boka**	**65.06**	**26**	eP	**P**	**06 22 36.7**	**-0.2**
	96nm,1.6s						
TIC	**Toumodi**	**65.27**	**25**	eP	**P**	**06 22 38.0**	**-0.3**
DBIC	**Dimbokro**	**65.33**	**26**	P	**P**	**06 22 38.0**	**-0.6**
	5.3nm,0.6s,baz=168,slow=7.5,SNR=13						
DBIC	**Dimbokro**	**65.33**	**26**	eP	**P**	**06 22 38.6**	**-0.1**
	33nm,1.5s						
PRAC	**Prado**	**70.69**	**310**	eP	**P**	**06 23 12.5**	**+0.2**
	6.1nm,0.6s						
ROSC	**El Rosal**	**71.46**	**311**	LR	LR	06 55 51.9	
	comp=Z,26nm,20.5s,baz=196,slow=37						
KOWA	**Kowa**	**73.08**	**24**	eP	**P**	**06 23 26.3**	**0.0**
	1.9nm,1.0s						
TOA0	**Torodi Ar. Sit**	**73.26**	**30**	eP	**P**	**06 23 27.4**	**0.0**
	7.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.26**	**30**	P	**P**	**06 23 27.4**	**0.0**
	7.1nm,0.6s,baz=198,slow=6.3,SNR=71						
GDHS	**Morne Mazeau,**	**77.37**	**327**	eP	**P**	**06 23 51.5**	**+0.6**
	23nm,0.7s						
STKA	**Stephens Creek**	**92.04**	**171**	LR	LR	07 02 36.3	
	comp=Z,45nm,20.5s,baz=184,slow=33						
RAR	**Rarotonga**	**92.93**	**224**	LR	LR	06 58 07.3	
	comp=Z,255nm,21.4s,baz=258,slow=30						
ASAR	**Alice Springs**	**99.19**	**163**	P	**Pdif**	**06 25 36.5**	**-0.9**
	0.5nm,0.7s,baz=183,slow=4.4,SNR=5.3						
LCMT	**Little Creek M**	**117.25**	**296**	ePKPdif	**PKPdf**	**06 30 40.3**	**+0.3**
FINES	**FINESS Array B**	**124.57**	**28**	PKP	**PKPdf**	**06 30 52.2**	**-0.9**
	0.9nm,0.5s,baz=163,slow=2.0,SNR=7.6						
FIA1	**FINESS Array S**	**124.57**	**28**	ePKPdif	**PKPdf**	**06 30 52.2**	**-0.8**
ARCES	**ARCESS Array B**	**131.08**	**22**	PKP	**PKPdf**	**06 31 05.2**	**-0.1**
	6.6nm,1.1s,baz=222,slow=1.2,SNR=3.6						
QIZ	**Qiongzhong**	**131.50**	**122**	PKPbc	**PKPdf**	**06 31 08.8**	**+1.1**
QIZ				PP	**PP**	**06 33 29.3**	**+1.4**
QIZ	**Qiongzhong**	**131.50**	**122**	SS	SS	06 50 56.1	+4.3
YKA	**Yellowknife Ar**	**135.79**	**318**	PKP	**PKPdf**	**06 31 13.6**	**-0.7**
	0.5nm,0.6s,baz=129,slow=2.3,SNR=14						
MKAR	**Makanchi Array**	**137.35**	**72**	PKP	**PKPdf**	**06 31 18.7**	**+0.9**
	0.3nm,0.6s,baz=201,slow=2.8,SNR=2.8						
LZH	**Lanzhou**	**142.11**	**101**	ePKP	**PKPdf**	**06 31 27.0**	**0.0**
LZH				pPKP	pPKPdf	06 31 59.0	-0.6
LZH				sPKP		06 32 11.5	
INK	**Inuvik**	**145.44**	**321**	PKPbc	**PKPbc**	**06 31 31.8**	**0.0**
	2.9nm,0.6s,baz=88,slow=2.9,SNR=16						
EYAK	**Cordova Ski Ar**	**148.00**	**304**	ePKPbc	**PKPbc**	**06 31 40.4**	**+1.0**
DOT	**Dot Lake**	**148.22**	**310**	ePKPbc	**PKPbc**	**06 31 41.0**	**+1.1**
SCM	**Sheep Creek Mo**	**149.14**	**306**	ePKPbc	**PKPbc**	**06 31 43.8**	**+1.5**
IL1	**Eielson Array**	**149.70**	**312**	ePKPbc	**PKPbc**	**06 31 43.4**	**-0.1**
ILAR	**Eielson Array**	**149.70**	**312**	PKPbc	**PKPbc**	**06 31 43.5**	**-0.1**
	3.6nm,0.8s,baz=127,slow=1.6,SNR=36						
ILB	**Eielson Array**	**149.70**	**312**	ePKPbc	**PKPbc**	**06 31 44.3**	**+0.8**
CCB	**Clear Creek Bu**	**150.06**	**311**	ePKPbc	**PKPbc**	**06 31 44.5**	**+0.2**
WRH	**Wood River Hil**	**150.14**	**311**	ePKPbc	**PKPbc**	**06 31 44.4**	**-0.2**
RND	**Reindeer**	**150.24**	**309**	ePKPbc	**PKPbc**	**06 31 45.3**	**+0.3**
KDAK	**Kodiak Island**	**150.34**	**297**	ePKPbc	**PKPbc**	**06 31 46.1**	**+0.9**
SUA	**Susitna One**	**150.60**	**305**	ePKPbc	**PKPbc**	**06 31 45.9**	**0.0**
TRF	**Thorofare Moun**	**150.87**	**309**	ePKPbc	**PKPbc**	**06 31 46.4**	**-0.2**
SONM	**Songino Array**	**151.23**	**87**	PKPbc	**PKPbc**	**06 31 47.1**	**-0.7**
	6.6nm,0.5s,baz=221,slow=3.5,SNR=51						
SONA1	**Songino Array**	**151.24**	**87**	ePKPbc	**PKPbc**	**06 31 47.1**	**-0.8**
RSO	**Redoubt South**	**151.27**	**302**	ePKPdf	**PKPdf**	**06 31 40.0**	**-1.5**
BPAW	**Bear Paw Mtn.**	**151.31**	**310**	ePKPbc	**PKPbc**	**06 31 47.2**	**-0.2**
COLD	**Coldfoot**	**151.43**	**316**	ePKPbc	**PKPbc**	**06 31 48.5**	**+0.9**
PPLA	**Purkeypile**	**151.60**	**307**	ePKPbc	**PKPbc**	**06 31 47.8**	**-0.5**
SVW2	**Sparrevohn**	**152.77**	**303**	ePKPbc	**PKPbc**	**06 31 51.9**	**+1.2**
TT01	**Tatalina**	**153.33**	**306**	ePKPbc	**PKPbc**	**06 31 52.3**	**+0.9**
TTA	**Tatalina**	**153.33**	**306**	ePKPbc	**PKPbc**	**06 31 53.1**	**+1.2**
KLR	**Kul'dur**	**166.03**	**111**	PKPab	**PKPab**	**06 32 58.5**	**-1.7**
	0.7nm,0.5s,baz=248,slow=5.4,SNR=4.6						

MEX 04 06:12:16.3±0.6,**15.°91N**×**96.°99W,h16**km±999km,**MD3.6, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.55**	**116**	*i* P	Pg	06 12 26.9	-0.3
HUIG	**Huatulco**	**0.86**	**99**	eP	Pb	06 12 29.6	-3.3
HUIG				eS	Sb	06 12 40.2	-3.9
VHO	**Vista Hermosa**	**1.19**	**12**	*i* P	Pn	06 12 35.2	-3.2
VHO				eS	Sb	06 12 48.6	-5.1
PNIG	**Pinotepa**	**1.20**	**294**	eP	Pn	06 12 34.9	-3.5
PNIG				eS	Sb	06 12 48.8	-5.1

*ISCJB **04** 06:15:21.5±1.1,33.°15S±0.°06×70.°13W±0.°06, h120km±7km, Error ellipse: s-maj=12.0km s-min=6.1km az=142.6*
*SJA **04** 06:15:21.8±1.1,33.°10S×70.°06W, h126km±6km, ML3.1, MW3.2*
*GUC **04** 06:15:22.3±0.4,33.°00S×70.°13W, h111km±3km, ML3.3*
ISC 04 06:15:20.5±2.4,**33.°19S**±0.°08×**70.°17W**±0.°07, **h128**km±15km,**n17,** σ0°**97**/33,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.17**	**216**	eP	**Pn**	**06 15 38.8**	**+0.3**
FCH				eS	**Sn**	**06 15 51.1**	**-0.9**
FCH				IAML		06 15 52.0	
	comp=N,1μm,0.2s						
CLCH	**Cerro Calan**	**0.37**	**236**	eP	**Pn**	**06 15 39.1**	**+0.3**
CLCH				eS	**Sn**	**06 15 51.8**	**-0.8**
CLCH				IAML		06 15 53.3	
	comp=N,1μm,0.7s						
PEL	**Peldehue**	**0.43**	**276**	eP	**Pn**	**06 15 38.7**	**-0.3**
PEL				eS	**Sn**	**06 15 51.5**	**-1.5**
PEL				IAML		06 15 53.0	
	comp=N,2μm,0.2s						
STL	**Santa Lucia**	**0.47**	**238**	eP	**Pn**	**06 15 39.9**	**+0.7**
STL				eS	**Sn**	**06 15 53.1**	**-0.3**
ANTU	**Antumapu**	**0.54**	**225**	eP	**Pn**	**06 15 40.6**	**+1.0**
ANTU				eS	**Sn**	**06 15 54.2**	**+0.1**
RCDM	**Rinconada Maip**	**0.61**	**240**	eP	**Pn**	**06 15 40.8**	**+0.8**
RCDM				eS	**Sn**	**06 15 55.1**	**+0.2**
ROCH	**El Roble**	**0.74**	**287**	eP	**Pn**	**06 15 41.4**	**+0.2**
ROCH				eS	**Sn**	**06 15 55.9**	**-1.0**
ROCH				IAML		06 15 56.5	
	comp=N,2μm,0.3s						
ARCO	**CERRO ARCO**	**1.10**	**72**	eP	**Pn**	**06 15 45.2**	**+0.8**
ARCO				eS	**Sn**	**06 16 02.5**	**+0.1**
ARCO				IAML		06 16 04.9	
	comp=Z,279nm,0.3s						
AAGR	**Agrelo**	**1.13**	**85**	eP	**Pn**	**06 15 45.6**	**+1.1**
AUSP	**Uspallata**	**1.17**	**35**	eP	**Pn**	**06 15 45.7**	**+0.6**
AUSP				eS	**Sn**	**06 16 03.2**	**-0.7**
ASAL	**Salagasta**	**1.27**	**62**	eP	**Pn**	**06 15 46.9**	**+0.9**
ASAL				eS	**Sn**	**06 16 05.8**	**+0.4**
RTLS	**Leoncito**	**1.57**	**28**	eP	**Pn**	**06 15 50.8**	**+1.3**
RTLS				eS	**Sn**	**06 16 11.8**	**+0.2**
RTCV	**Cerro Valdivia**	**1.91**	**47**	eP	**Pn**	**06 15 54.0**	**+0.7**
RTCV				eS	**Sn**	**06 16 17.4**	**-0.9**
RTLL	**Cerro Villicun**	**2.34**	**38**	eP	**Pn**	**06 15 59.5**	**+0.8**
RTLL				eS	**Sn**	**06 16 27.3**	**-0.7**
AMOG	**MOGNA**	**2.66**	**33**	eP	**Pn**	**06 16 03.7**	**+1.1**
AMOG				eS	**Sn**	**06 16 34.0**	**-1.1**
ACAN	**Cantantal**	**2.67**	**71**	eP	**Pn**	**06 16 03.8**	**+0.9**
ACAN				eS	**Sn**	**06 16 32.9**	**-2.6**
MRA	**San Martin**	**3.83**	**80**	eP	**Pn**	**06 16 18.2**	**+0.3**
MRA				eS	**Sn**	**06 17 01.0**	**-1.5**
MRA				IAML		06 17 04.6	
	comp=Z,26nm,0.4s						

*ISCJB **04** 06:16:50.2±0.6,6.°81N±0.°04×73.°04W±0.°05, h161km±5km, Error ellipse: s-maj=9.0km s-min=4.1km az=38.6*
*FUNV **04** 06:16:51.7,6.°84N×73.°17W, h163km, MW2.9*
*RSNC **04** 06:16:52.6±0.6,6.°78N×73.°09W, h147km±4km, ML3.1*
ISC 04 06:16:49.6±1.4,**6.°83N**±0.°04×**73.°08W**±0.°05,**h168**km±8km, **n25,** σ1°**53**/44,**1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**204**	*i* P	**Pn**	**06 17 12.3**	**-0.1**
BARC				eS	**Sn**	**06 17 27.5**	**-2.4**
BARC				*i*		06 17 29.2	
	comp=Z,287nm,0.2s						
PAMC	**Pamplona, Colo**	**0.63**	**37**	eP	**Pn**	**06 17 15.2**	**+1.0**
PAMC				eS	**Sn**	**06 17 32.0**	**-1.0**
BRRC	**Barranca, Sant**	**0.69**	**294**	eP	**Pn**	**06 17 14.2**	**+0.4**
BRRC				eS	**Sn**	**06 17 31.5**	**-1.0**
BRRC				*i*		06 17 34.5	
	comp=Z,387nm,0.2s						
GRMC	**Gramalote, San**	**0.92**	**17**	*i* P	**Pn**	**06 17 18.1**	**+2.5**
GRMC				eS	**Sn**	**06 17 37.7**	**+2.0**
GRMC				*i*		06 17 39.5	
	comp=Z,232nm,0.3s						
CBRI	**Barrientos, No**	**0.93**	**18**	eP	**Pn**	**06 17 16.9**	**+1.2**
CBRI				eS	**Sn**	**06 17 35.1**	**-0.7**
CBRI				*i*		06 17 42.2	
	comp=Z,145nm,0.5s						
RUSC	**La Rusia**	**0.93**	**180**	eP	**Pn**	**06 17 16.1**	**0.0**
RUSC				*i*		06 17 17.1	
	comp=Z,67nm,0.3s						
RUSC				eS	**Sn**	**06 17 35.2**	**-1.3**
CAPV	**Capacho**	**1.28**	**36⇑**	*i* P	**Pn**	**06 17 20.2**	**+1.6**
CAPV				eS	**Sn**	**06 17 41.7**	**+0.6**
OCAC	**Ocana**	**1.42**	**350**	eP	**Pn**	**06 17 20.8**	**+0.9**
OCAC				eS	**Sn**	**06 17 43.6**	**+0.3**
OCAC				*i*		06 17 46.3	
	comp=Z,152nm,0.2s						
NORC	**Norcasia**	**2.18**	**235**	eP	**Pn**	**06 17 28.2**	**+0.3**
NORC				eS	**Sn**	**06 17 56.8**	**-0.7**
CHIC	**Chingaza**	**2.28**	**197**	eP	**Pn**	**06 17 30.3**	**+0.9**
CHIC				eS	**Sn**	**06 17 59.4**	**-0.9**
CHIC				*i*		06 18 09.3	
	comp=Z,73nm,0.4s						
HELC	**Santa Helena**	**2.52**	**256**	eP	**Pn**	**06 17 33.5**	**+1.4**
HELC				*i*		06 18 11.1	
	comp=Z,89nm,0.3s						
VIGV	**El Vigia**	**2.62**	**40**	eP	**Pn**	**06 17 34.6**	**+1.5**
VIGV				eS	**Sn**	**06 18 05.7**	**-1.2**
SOCV	**Socops**	**2.63**	**57**	eP	**Pn**	**06 17 34.7**	**+1.5**
SOCV				eS	**Sn**	**06 18 06.4**	**-0.7**
VILC	**Villavicencio,**	**2.77**	**193**	eP	**Pn**	**06 17 36.4**	**+1.4**
TOLC	**Tolima**	**3.15**	**225**	eP	**Pn**	**06 17 41.7**	**+1.8**
ELOV	**Elorza**	**3.57**	**87**	eP	**Pn**	**06 17 46.4**	**+1.5**
ELOV				eS	**Sn**	**06 18 27.7**	**-0.2**
PRAC	**Prado**	**3.58**	**210**	eP	**Pn**	**06 17 45.8**	**+0.8**
PRAC				eS	**Sn**	**06 18 27.8**	**-0.5**
VIRV	**Villa del Rosa**	**3.71**	**10**	eP	**Pn**	**06 17 47.0**	**+0.4**
VIRV				eS	**Sn**	**06 18 29.0**	**-2.2**
QARV	**Quebrada Arrib**	**4.20**	**37**	eP	**Pn**	**06 17 54.6**	**+1.6**
QARV				eS	**Sn**	**06 18 40.2**	**-2.3**
CURV	**Curarigua**	**4.42**	**44**	eP	**Pn**	**06 17 57.4**	**+1.6**
CURV				eS	**Sn**	**06 18 45.0**	**-2.6**
TEPV	**Terepaima**	**4.95**	**51**	eP	**Pn**	**06 18 04.3**	**+1.6**
SIQV	**Siquisique**	**4.99**	**40**	eP	**Pn**	**06 18 04.3**	**+1.2**
BAUV	**El Baul**	**5.41**	**67**	eP	**Pn**	**06 18 09.6**	**+0.9**
BAUV				eS	**Sn**	**06 19 08.6**	**-2.2**
MONV	**Montecano**	**5.95**	**31**	eP	**Pn**	**06 18 16.3**	**+0.6**
MONV				eS	**Sn**	**06 19 19.5**	**-4.0**
TURV	**Turiamo**	**6.31**	**55**	eP	**Pn**	**06 18 21.6**	**+1.1**

*ISCJB **04** 06:24:03.5±0.8,38.°15N±0.°06×26.°66E±0.°05, h15km±5km, Error ellipse: s-maj=11.3km s-min=5.1km az=23.9*
*ISK **04** 06:24:03.3,38.°16N×26.°66E, h14km, MD2.6*
*CSEM **04** 06:24:03.4±0.3,38.°13N×26.°65E, h10km, MD2.6, Error ellipse: s-maj=11.3km s-min=3.6km az=13.0*
*DDA **04** 06:24:04.0,38.°17N×26.°67E, h7km, Md2.6*
ISC 04 06:24:03.8±1.0,**38.°17N**±0.°05×**26.°66E**±0.°03,**h15**km±7km, **n14,** σ0°**15**/22,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEY	**˜zmir**	**0.14**	**302**	*i* P	**Pg**	**06 24 07.4**	**-0.2**
ZEY				*i* S	**Sg**	**06 24 10.1**	**+0.1**
URLA	**Izmir**	**0.20**	**347**	P	**Pg**	**06 24 08.3**	**-0.2**
URLA				S	**Sg**	**06 24 11.9**	**+0.2**
URLA	**Izmir**	**0.20**	**347**	*i* P	**Pg**	**06 24 08.3**	**-0.2**
URLA				*i* S	**Sg**	**06 24 11.9**	**+0.2**
DGB	**˜zmir**	**0.21**	**122**	*i* P	**Pg**	**06 24 08.5**	**-0.1**
DGB				*i* S	**Sg**	**06 24 11.9**	**0.0**
CHOS	**Chios island**	**0.52**	**295**	ePG	**Pg**	**06 24 14.0**	**-0.2**
CHOS				eSG	**Sg**	**06 24 22.3**	**+0.1**
CHOS	**Chios island**	**0.52**	**295**	ePg	**Pg**	**06 24 14.0**	**-0.2**
CHOS				eSg	**Sg**	**06 24 22.3**	**+0.1**
IZM	**Izmir**	**0.53**	**64**	ePG	**Pg**	**06 24 14.3**	**-0.1**
IZM				eSG	**Sb**	**06 24 22.3**	**-0.2**
IZM	**Izmir**	**0.53**	**64**	ePg	**Pg**	**06 24 14.3**	**-0.1**
IZM				eSg	**Sb**	**06 24 22.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**102**	ePG	**Pb**	**06 24 23.0**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**102**	ePg	**Pb**	**06 24 23.0**	**0.0**
SIGR	**SIGRI**	**1.22**	**329**	ePN	**Pb**	**06 24 26.6**	**0.0**
SIGR	**SIGRI**	**1.22**	**329**	ePn	**Pb**	**06 24 26.6**	**0.0**
KULA	**Kula-Manisa**	**1.61**	**77**	ePN	**Pn**	**06 24 32.0**	**+0.1**
KULA	**Kula-Manisa**	**1.61**	**77**	ePn	**Pn**	**06 24 32.0**	**+0.1**

*IDC **04** 06:29:29.1±1.1,6.°56S×128.°50E, h0km, mb4.0/4, mb1 4.0/6, mb1mx3.7/37, mbtmp4.0/6, ML4.2/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/32, Error ellipse: s-maj=54.3km s-min=21.0km az=79.0*
*ISCJB **04** 06:29:30.1±0.6,6.°72S±0.°04×128.°9E±0.°1, h33km, mb4.1/5, Error ellipse: s-maj=16.2km s-min=5.9km az=6.8*
*NEIC **04** 06:29:34.0±0.6,6.°59S×128.°65E, h35km, mb4.5/2, Error ellipse: s-maj=17.1km s-min=11.1km az=81.0*
ISC 04 06:29:33.3±0.8,**6.°69S**±0.°06×**128.°9E**±0.°1,**h35**km,**n14,** σ2°**55**/20,**mb4.0**/5,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.06**	**42**	ePn	**Pn**	**06 30 46.6**	**-0.1**
SIJI	**Sorong**	**6.27**	**23**	Pn	**Pn**	**06 31 02.9**	**-0.5**
	21nm,0.3s,baz=183,slow=22,SNR=2.5						
SIJI				Sn	**Sn**	**06 32 12.1**	**-1.7**
	11nm,0.3s,baz=96,slow=0.6,SNR=1.4						
FITZ	**Fitzroy Crossi**	**11.76**	**195**	Pn	**Pn**	**06 32 18.5**	**-0.2**
	0.6nm,0.3s,baz=16,slow=9.5,SNR=18						
FITZ				Sn	**Sn**	**06 34 27.2**	**-1.5**
	0.5nm,0.3s,baz=307,slow=20,SNR=4.7						
FITZ				LR	LR	06 36 53.1	
	comp=Z,76nm,18.2s,baz=4.0,slow=38						
FITZ	**Fitzroy Crossi**	**11.76**	**195**	ePn	**Pn**	**06 32 18.4**	**-0.3**
FITZ				eSn	**Sn**	**06 34 28.8**	**0.0**
WRAB	**Tennant Creek**	**14.20**	**158**	ePn	**Pn**	**06 32 51.6**	**-0.5**
WRAB				eSn	**Sn**	**06 35 33.4**	**+4.9**
WRA	**Warramunga Arr**	**14.21**	**158**	Pn	**Pn**	**06 32 50.8**	**-1.4**
	0.6nm,0.3s,baz=327,slow=14,SNR=24						
WRA				Sn	**Sn**	**06 35 22.6**	**-6.0**
	0.3nm,0.3s,baz=330,slow=23,SNR=5.9						
COEN	**Coen**	**15.83**	**118**	eP	**P**	**06 33 18.2**	**+1.1**
	35nm,1.6s						
ASAR	**Alice Springs**	**17.56**	**164**	P	**P**	**06 33 38.1**	**+1.8**
	0.4nm,0.3s,baz=339,slow=10,SNR=47						
ASAR				S	**Sn**	**06 36 45.2**	**-4.9**
	0.1nm,0.3s,baz=344,slow=17,SNR=5.4						
ASAR				LR	LR	06 40 36.4	
	comp=Z,66nm,21.8s,baz=335,slow=38						
STKA	**Stephens Creek**	**27.74**	**156**	P	**P**	**06 35 21.9**	**+3.3**
	1.1nm,0.4s,baz=342,slow=9.7,SNR=2.6						
SONM	**Songino Array**	**57.80**	**342**	P	**P**	**06 39 20.8

baz=316,slow=75,SNR=298
H11N1 WAKE ISLAND Hy 28.51 123 T T 07 05 49.7
baz=316,slow=75,SNR=336
H11N3 WAKE ISLAND Hy 28.52 123 T T 07 05 52.5
baz=316,slow=75,SNR=347
H11S1 WAKE ISLAND Hy 29.24 125 T T 07 06 50.6
baz=318,slow=76,SNR=107
H11S3 WAKE ISLAND Hy 29.24 125 T T 07 06 46.7
baz=318,slow=76,SNR=138
H11S2 WAKE ISLAND Hy 29.26 125 T T 07 06 51.8
baz=318,slow=76,SNR=122
MKAR Makanchi Array 43.77 301 P **P** **06 37 40.9 -0.4**
0.7nm,0.7s,baz=78,slow=9.6,SNR=4.3
KURBB Kurchatov Arra 45.56 307 P **P** **06 37 54.2 -1.1**
1.1nm,0.4s,baz=81,slow=8.2,SNR=7.5
ILAR Eielson Array 48.59 33 P **P** **06 38 19.2 +0.4**
0.4nm,0.7s,baz=277,slow=7.1,SNR=2.2
BVAR Borovoye Array 50.06 312 P **P** **06 38 29.4 -0.8**
0.4nm,0.4s,baz=81,slow=8.9,SNR=3.0
WRA Warramunga Arr 58.04 188 P **P** **06 39 27.9 -0.7**
0.7nm,0.6s,baz=5.4,slow=7.2,SNR=4.7
ASAR Alice Springs 61.76 188 P **P** **06 39 53.8 -0.3**
0.2nm,0.5s,baz=12,slow=4.9,SNR=4.3
YKA Yellowknife Ar 62.89 30 P **P** **06 40 01.1 0.0**
0.4nm,0.7s,baz=307,slow=7.0,SNR=6.2
FINES FINESS Array B 68.05 332 P **P** **06 40 33.6 -0.9**
1.5nm,0.8s,baz=57,slow=5.1,SNR=3.7
NOA NORSAR Array B 73.37 337 P **P** **06 41 06.3 -0.6**
0.9nm,0.9s,baz=53,slow=5.1,SNR=2.9
AKASG Malin Array Be 73.65 322 P **P** **06 41 07.6 -1.0**
0.4nm,0.3s,baz=44,slow=6.0,SNR=4.7
NVAR Mina Array Bea 74.27 53 P **P** **06 41 12.8 +0.1**
0.3nm,0.3s,baz=272,slow=5.3,SNR=4.3
PDAR Pinedale Array 76.86 46 P **P** **06 41 28.4 +0.8**
0.2nm,0.3s,baz=284,slow=5.0,SNR=3.7
TXAR Lajitas Array 89.39 53 P **P** **06 42 32.8 +0.6**
0.4nm,0.6s,baz=307,slow=3.6,SNR=8.6
LPAZ La Paz 146.04 59 PKPbc **PKPdf** **06 49 14.9 -0.2**
0.4nm,0.5s,baz=310,slow=2.4,SNR=4.1

*ISCJB **04** 06:29:53.1±0.3,34.4′45N±0.0′03×69.7′50E±0.0′04,h24km, mb4.2/23,MS3.1/5,Error ellipse: s-maj=4.7km s-min=3.6km az=150.0*
*BJI **04** 06:29:53.1,34.2′72N×69.0′31E,h17km,mb4.5/16,mB4.7/12, Ms4.1/11,Ms7 3.8/12*
*NEIC **04** 06:29:54.4±1.4,34.4′45N×69.6′36E,h16km±8km,mb4.5/12, Error ellipse: s-maj=10.6km s-min=8.0km az=152.0*
NEIC Felt [III] at Kabul. Also felt at Bagrami, Charikar and Jabal us Saraj.
*MOS **04** 06:29:54.6±1.0,34.5′51N×69.7′44E,h33km,mb4.4/14,Error ellipse: s-maj=11.1km s-min=5.2km az=84.1*
*NNC **04** 06:29:58.4±3.9,34.4′46N×69.5′54E,h108km±46km,mb3.7, mpv4.2,Error ellipse: s-maj=31.2km s-min=29.5km az=101.0*
*IDC **04** 06:30:01.7±3.0,34.6′64N×69.5′57E,h79km±26km,mb3.7/15, mb1 3.8/21,mb1mx3.6/64,mbtmp4.0/21,MS3.1/8, Ms1 3.1/8,ms1mx2.8/31,Error ellipse: s-maj=19.4km s-min=14.0km az=9.0*

ISC 04 06:29:54.7±0.5,34.38N±0.05×69.37E±0.05,h24km,n107, σ2.935/127,mb4.2/23,MS3.1/5,11C-4D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KBL	**Kabul**	**0.31**	**302**	*e*P		**Pb**		**06 30 00.1**	**-1.9**
KBL	**Kabul**	**0.31**	**302**	*e*Pg		**Pb**		**06 30 00.1**	**-1.9**
KBL				*e*Sg		**Sb**		**06 30 05.2**	**-1.8**
DZET	**Dzherino**	**4.44**	**355**	⇑Pn		**Pn**		**06 31 02.1**	**+1.5**
	39nm,0.7s								
DZET				⇑Sn		**Sn**		**06 31 55.6**	**+4.0**
	243nm,0.9s								
DZET	**Dzherino**	**4.44**	**355**	P		**Pn**		**06 31 02.1**	**+1.5**
DZET								06 31 55.5	
DZET				pmax	pmax				
	comp=Z,39nm,0.7s								
DZET				smax	smax				
	comp=N,243nm,0.9s								
THN	**Thein Dam**	**5.65**	**108**	*e*P		**Pn**		**06 31 15.7**	**-1.5**
THN				*ex*		**Sn**		**06 32 24.0**	**+2.7**
SDNR	**Sundarnagar**	**7.01**	**112**	*e*P		**Pn**		**06 31 37.0**	**+1.2**
KHET	**Khetri**	**8.36**	**137**	*e*P		**Pn**		**06 31 53.7**	**-0.6**
KHET				*e*S		**Sn**		**06 33 24.3**	**-3.7**
MNAS	**Manas**	**8.46**	**16**	⇑Pn		**Pn**		**06 31 56.0**	**+0.2**
	comp=N,16nm,1.0s								
MNAS				⇑Sn		**Sn**		**06 33 29.1**	**-1.6**
	comp=N,68nm,1.6s								
MNAS	**Manas**	**8.46**	**16**	P		**Pn**		**06 31 56.0**	**+0.2**
MNAS								06 33 29.0	
MNAS				pmax	pmax				
	comp=Z,16nm,1.0s								
MNAS				smax	smax				
	comp=N,68nm,1.6s								
KUDL	**Kundal**	**8.70**	**134**	*e*P		**Pn**		**06 31 58.9**	**-0.1**
KUDL				*e*S		**Sn**		**06 33 30.2**	**-6.2**
KK31	**Karatay Array**	**8.76**	**6**	Pn		**Pn**		**06 31 59.5**	**-0.4**
	comp=N,3.3nm,0.4s,baz=195,slow=14,SNR=80								
KK31				⇑Sn		**Sn**		**06 33 35.9**	**-1.9**
	comp=N,10.0nm,0.8s,baz=173,slow=16,SNR=4.3								
KK31	**Karatay Array**	**8.76**	**6**	*i* P		**Pn**		**06 31 59.4**	**-0.4**
KK31								06 33 37.2	
KK31				pmax	pmax				
	comp=Z,3.0nm,0.4s								
KK31				smax	smax				
	comp=N,6.0nm,0.6s								
KKAR	**Karatay Array**	**8.76**	**6**	*e*P		**Pn**		**06 31 59.7**	**-0.1**
KKAR				*e*				06 33 36.4	
KKAR	**Karatay Array**	**8.76**	**6**	*e*Pn		**Pn**		**06 31 59.7**	**-0.1**
KKAR				*e*Sn		**Sn**		**06 33 36.4**	**-1.4**
NDI	**New Delhi**	**8.78**	**128**	*ex*		Pn		06 31 54.0	-6.1
NDI				*e*S		**Sn**		**06 33 32.0**	**-6.3**
EKS2	**Erkin-Say**	**8.96**	**21**	*e*P		**Pn**		**06 32 03.3**	**+0.6**
EKS2				*e*				06 33 42.9	
EKS2	**Erkin-Say**	**8.96**	**21**	*e*Pn		**Pn**		**06 32 03.3**	**+0.6**
EKS2				*e*Sn		**Sn**		**06 33 42.9**	**-0.1**
SONA	**Sohna**	**8.99**	**131**	*e*P		**Pn**		**06 32 02.5**	**-0.5**
SONA				*e*S		**Sn**		**06 33 39.1**	**-4.3**
AAK	**Ala-Archa**	**9.17**	**24**	P		**Pn**		**06 32 06.9**	**+1.4**
	comp=N,1.8nm,0.3s,baz=168,slow=5.7,SNR=12								
AAK				S		**Sn**		**06 33 46.8**	**-1.2**
	comp=N,0.3nm,0.3s,baz=121,slow=19,SNR=3.7								
AAK				LR		LR		06 35 54.7	
	comp=N,33nm,21.4s,baz=208,slow=40								
AAK	**Ala-Archa**	**9.17**	**24**	⇑Pn		**Pn**		**06 32 04.4**	**-1.2**
	comp=N,8.5nm,0.6s								
AAK				⇑Sn		**Sn**		**06 33 45.6**	**-2.4**
	comp=N,41nm,1.1s								
AAK	**Ala-Archa**	**9.17**	**24**	P		**Pn**		**06 32 04.3**	**-1.2**
AAK								06 33 45.6	
AAK				pmax	pmax				
	comp=Z,9.0nm,0.6s								
AAK				smax	smax				
	comp=N,41nm,1.2s								
AAK	**Ala-Archa**	**9.17**	**24**	*e*Pn		**Pn**		**06 32 05.6**	**0.0**
AAK				*e*Sn		**Sn**		**06 33 47.5**	**-0.5**
FRU	**Bishkek**	**9.39**	**24**	*e*P		**Pn**		**06 32 10.0**	**+1.6**
FRU				*e*S		**Sn**		**06 33 59.0**	**+5.8**
FRU				smax	smax				
	comp=E,200nm,2.0s								
JOSI	**Joshimath**	**9.41**	**111**	*e*P		**Pn**		**06 32 09.1**	**+0.1**
JOSI				*e*S		**Sn**		**06 33 46.4**	**-7.9**
JOSI				IAML				06 35 17.7	
	comp=N,282nm,0.8s								
JOSI				IAML				06 35 18.4	
	comp=E,255nm,1.3s								
GEYT	**Alibeck**	**9.76**	**295**	P		Pn		06 32 19.7	+6.1
	comp=E,0.9nm,0.3s,baz=113,slow=10.0,SNR=2.5								
GEYT				LR		LR		06 36 41.4	
	comp=E,233nm,18.2s,baz=145,slow=41								
TKM2	**Tokmak 2**	**9.82**	**28**	⇑Pn		**Pn**		**06 32 15.6**	**+1.1**
	comp=E,8.4nm,0.9s								
TKM2				⇑Sn		**Sn**		**06 34 04.5**	**+0.4**
	comp=E,7.6nm,0.8s								
TKM2	**Tokmak 2**	**9.82**	**28**	*e*P		**Pn**		**06 32 15.7**	**+1.1**
TKM2	**Tokmak 2**	**9.82**	**28**	*e*Pn		**Pn**		**06 32 15.7**	**+1.1**
PYUN	**Piuthan**	**13.22**	**115**	*e*P		**Pn**		**06 32 59.1**	**-2.0**
	comp=E,27nm,0.4s								
KOLN	**Koldanda**	**13.86**	**115**	*e*P		**Pn**		**06 33 07.9**	**-1.9**
	comp=E,12nm,0.4s								
OTUK	**Ortayu**	**14.03**	**8**	⇑Pn		**Pn**		**06 33 11.1**	**-0.8**
	comp=E,10nm,1.2s								
OTUK				⇓Sn		**Sn**		**06 35 40.6**	**-6.2**
	comp=E,14nm,1.1s								
OTUK	**Ortayu**	**14.03**	**8**	P		**Pn**		**06 33 11.1**	**-0.8**
OTUK				S		**Sn**		**06 35 40.6**	**-6.2**
OTUK				pmax	pmax				
	comp=Z,10.0nm,1.2s								
OTUK				smax	smax				
	comp=N,14nm,1.1s								
GKN	**Gorkha**	**14.53**	**112**	*e*P		**Pn**		**06 33 16.1**	**-2.8**
	comp=N,33nm,0.6s								
DMN	**Daman**	**15.08**	**112**	*e*P		**Pn**		**06 33 23.4**	**-3.1**
	comp=N,41nm,0.8s								
KKN	**Kakani**	**15.13**	**111**	*e*P		**Pn**		**06 33 23.7**	**-3.3**
	comp=N,27nm,0.5s								
GUN	**Gumba**	**15.53**	**110**	*e*P		**Pn**		**06 33 29.0**	**-3.5**
	comp=N,41nm,0.8s								
MAKZ	**Makanchi**	**15.66**	**34**	⇑Pn		**Pn**		**06 33 31.8**	**-1.8**
	comp=N,5.1nm,0.6s								
MAKZ	**Makanchi**	**15.66**	**34**	*e*P		**Pn**		**06 33 35.3**	**+1.6**
MAKZ				pmax	pmax				
	comp=Z,6.0nm,0.6s								
MAKZ	**Makanchi**	**15.66**	**34**	*e*Pn		**Pn**		**06 33 35.3**	**+1.6**
	comp=Z,6.1nm,0.6s								
MK01	**Makanchi Array**	**15.78**	**34**	*e*Pn		**Pn**		**06 33 35.5**	**+0.3**
MK31	**Makanchi Array**	**15.79**	**34**	Pn		**Pn**		**06 33 34.0**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=220,slow=9.6,SNR=24								
MK31	**Makanchi Array**	**15.79**	**34**	*e*P		**Pn**		**06 33 34.8**	**-0.6**
MK31	**Makanchi Array**	**15.79**	**34**	*e*Pn		**Pn**		**06 33 34.8**	**-0.6**
MKAR	**Makanchi Array**	**15.79**	**34**	P		**Pn**		**06 33 34.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=218,slow=11,SNR=14								
MKAR				LR		LR		06 39 49.2	
	comp=Z,60nm,21.7s,baz=214,slow=38								
MKAR	**Makanchi Array**	**15.79**	**34**	*e*Pn		**Pn**		**06 33 34.8**	**-0.6**
AB31	**Akbulak array**	**16.42**	**338**	⇓Pn		**Pn**		**06 33 43.1**	**-0.3**
	comp=Z,1.2nm,0.5s								
AB31				⇓Sn		**Sn**		**06 36 37.9**	**-7.0**
AB31	**Akbulak array**	**16.42**	**338**	P		**Pn**		**06 33 43.1**	**-0.3**
AB31				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ABKAR	**Akbulak array**	**16.42**	**338**	*e*Pn		**Pn**		**06 33 43.2**	**-0.2**
WMQ	**Urumqi**	**17.04**	**51**	P		**Pn**		**06 33 51.6**	**+0.3**
WMQ				pP		P		06 33 54.7	+1.7
WMQ				sP		pP		06 33 58.6	-0.9
WMQ				PMZ					
	comp=Z,4.0nm,1.0s								
WMQ				PMZ					
	comp=Z,76nm,3.8s								
WMQ				LN					
	comp=Z,110nm,7.2s								
WMQ				LE					
	comp=Z,77nm,7.8s								
WMQ				LZ					
	comp=Z,59nm,19.2s								
KURBB	**Kurchatov Arra**	**17.56**	**20**	P		**Pn**		**06 33 57.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=209,slow=10,SNR=10								
KURK	**Kurchatov**	**17.67**	**20**	P		**Pn**		**06 33 57.0**	**-2.0**
AKTO	**Aktyubinsk**	**18.07**	**336**	P		**P**		**06 34 04.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=145,slow=12,SNR=4.1								
ZRNK	**Zerenda**	**18.57**	**359**	*e*P		**P**		**06 34 08.0**	**-1.7**
ZRNK				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ZRNK	**Zerenda**	**18.57**	**359**	*e*P		**P**		**06 34 08.0**	**-1.7**
	comp=Z,2.9nm,0.6s								
BVA0	**Borovoye Array**	**18.66**	**2**	⇓Pn		**P**		**06 34 10.7**	**+0.1**
	comp=Z,5.1nm,1.2s,baz=180,slow=10,SNR=3.5								
BVA0	**Borovoye Array**	**18.66**	**2**	P		**P**		**06 34 10.7**	**+0.1**
BVA0				pmax	pmax				
	comp=Z,5.0nm,1.3s								
BVAR	**Borovoye Array**	**18.66**	**2**	P		**P**		**06 34 09.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=172,slow=12,SNR=6.8								
BRVK	**Borovoye**	**18.69**	**2**	*e*P		**P**		**06 34 09.1**	**-1.9**
BRVK				pmax	pmax				
	comp=Z,20nm,1.2s								
BRVK	**Borovoye**	**18.69**	**2**	*e*P		**P**		**06 34 09.1**	**-1.9**
	comp=Z,20nm,1.2s								
LSA	**Lhasa**	**19.04**	**98**	*e*P		**Pn**		**06 34 16.9**	**+0.5**
LSA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**19.04**	**98**	*e*P		**Pn**		**06 34 16.9**	**+0.5**
	comp=Z,6.4nm,0.6s								
GNI	**Garni**	**20.40**	**294**	*e*P		Pn		06 34 31.3	-0.8
GNI				pmax	pmax				
	comp=Z,22nm,1.1s								
GNI	**Garni**	**20.40**	**294**	*e*P		Pn		06 34 31.2	-0.9
	comp=Z,22nm,1.1s								
ZEI	**Tsey**	**21.55**	**300**	*e*P		**P**		**06 34 45.5**	**+3.1**
ZEI				pmax	pmax				
	comp=Z,18nm,0.7s								
ZAA0	**Zalesovo Array**	**22.39**	**24**	*e*P		**P**		**06 34 49.0**	**-2.2**
ZALV	**Zalesovo Beam**	**22.39**	**24**	P		**P**		**06 34 49.5**	**-1.7**
	comp=Z,4.9nm,0.3s,baz=215,slow=12,SNR=4.4								
KBZ	**Khabaz**	**22.50**	**302**	P		**P**		**06 34 56.0**	**+3.7**
	comp=Z,2.6nm,0.9s,baz=110,slow=9.2,SNR=4.9								
KBZ	**Khabaz**	**22.50**	**302**	P		**P**		**06 34 56.0**	**+3.7**
KBZ				pmax	pmax				
	comp=Z,3.0nm,0.9s								
NVS	**Novosibirsk**	**22.64**	**21**	*e*P		**P**		**06 34 50.2**	**-3.5**
GTA	**Gaotai**	**24.80**	**69**	*e*P		**P**		**06 35 15.2**	**+0.3**
GTA				pP	pP			06 35 18.8	-3.2
GTA				sP	sP			06 35 21.3	-3.7
GTA				S	**S**			**06 39 34.6**	**-1.5**
GTA				sS	sS			06 39 41.9	-6.0
GTA				SS	**SnSn**			**06 40 31.4**	**+7.7**
GTA				PMZ					
	comp=Z,6.0nm,0.9s								
GTA				PMZ					
	comp=Z,36nm,5.5s								
GTA				LN					
	comp=Z,99nm,15.2s								
GTA				LE					
	comp=Z,110nm,16.2s								
GTA				LZ					
	comp=Z,110nm,12.4s								
LZH	**Lanzhou**	**28.13**	**77**	*e*P		**P**		**06 35 46.3**	**+1.3**
LZH				pP	pP			06 35 50.5	-1.7
LZH				sP	sP			06 35 53.2	-1.9
LZH				*e*PP		**PnPn**		**06 36 36.5**	**+3.5**
LZH				PMZ					
	comp=Z,20nm,1.1s								
LZH				PMZ					
	comp=Z,54nm,4.6s								
LZH				LN					
	comp=Z,330nm,12.5s								
LZH				LE					
	comp=Z,340nm,12.2s								
LZH				LZ					
	comp=Z,390nm,15.0s								
BR131	**Keskin Array S**	**28.88**	**291**	*e*P		**P**		**06 35 53.7**	**+2.1**
BRTR	**Keskin Array B**	**28.88**	**291**	P		**P**		**06 35 54.2**	**+2.5**
	comp=Z,2.1nm,0.9s,baz=105,slow=9.2,SNR=8.6								
CD2	**Chengdu**	**29.08**	**87**	*e*P		**P**		**06 35 53.5**	**+0.1**
BR231	**Keskin MP Arra**	**29.54**	**291**	*e*P		**P**		**06 35 57.2**	**-0.3**
KMI	**Kunming**	**30.30**	**99**	P		**P**		**06 36 07.6**	**+3.2**
KMI				PMZ					
	comp=Z,17nm,0.6s								
KMI				PMZ					
	comp=Z,74nm,4.3s								
SONM	**Songino Array**	**30.66**	**53**	P		**P**		**06 36 06.9**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=258,slow=8.4,SNR=3.8								
CMAR	**Chiang Mai Arr**	**30.72**	**113**	P		**P**		**06 36 09.5**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=297,slow=8.1,SNR=4.7								
CMAR				LR		LR		06 49 31.8	
	comp=Z,24nm,21.6s,baz=270,slow=38								
TIRR	**Tirgusor**	**32.90**	**300**	*e*P		**P**		**06 36 28.0**	**+1.2**
TIRR				pmax	pmax				
	comp=Z,15nm,1.5s								
TIRR	**Tirgusor**	**32.90**	**300**	*e*P		**P**		**06 36 28.0**	**+1.2**
	comp=Z,15nm,1.5s								
AKASG	**Malin Array Be**	**33.30**	**312**	P		**P**		**06 36 31.0**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=92,slow=7.6,SNR=2.7								
AKASG				LR		LR		06 52 22.2	
	comp=Z,37nm,18.5s,baz=285,slow=40								
AKASG	**Malin Array Be**	**33.30**	**312**	P		**P**		**06 36 31.0**	**+0.8**
AKASG				MLR		MLR			
	comp=Z,37nm,18.5s								
HHC	**Hu-ho-hao-te**	**33.80**	**66**	*e*P		**P**		**06 36 35.9**	**+1.1**
HHC				PP		**PnPn**		**06 37 48.3**	**+0.9**
HHC				S		**S**		**06 41 59.8**	**+2.4**
HHC				sS		sS		06 42 06.9	-2.3
HHC				SS		**SnSn**		**06 44 04.1**	**+1.3**
HHC				PMZ					
	comp=Z,22nm,1.3s								
HHC				PMZ					
	comp=Z,97nm,4.4s								
HHC				LN					
	comp=Z,140nm,14.9s								
HHC				LE					
	comp=Z,130nm,17.4s								
HHC				LZ					
	comp=Z,64nm,14.9s								
FINES	**FINESS Array B**	**38.54**	**328**	P		**P**		**06 37 15.0**	**0.0**
	comp=Z,1.4nm,0.8s,baz=148,slow=8.2,SNR=3.2								
FINES	**FINESS Array B**	**38.54**	**328**	P		**P**		**06 37 15.0**	**0.0**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.8s								
QIZ	**Qiongzhong**	**38.98**	**103**	P		**P**		**06 37 20.9**	**+1.7**
QIZ				S		**S**		**06 43 20.5**	**+3.8**
QIZ				LN					
	comp=Z,140nm,10.5s								
QIZ				LE					
	comp=Z,83nm,5.7s								
QIZ				LZ					
	comp=Z,98nm,15.0s								
ARCES	**ARCESS Array B**	**42.62**	**339**	P		**P**		**06 37 48.2**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=112,slow=7.2,SNR=4.7								
NOA	**NORSAR Array B**	**45.30**	**324**	LR		LR		06 59 39.4	
	comp=Z,20nm,18.5s,baz=305,slow=39								
TUE	**Stuetta**	**46.22**	**304**	*e*P		**P**		**06 38 19.6**	**+1.6**
	comp=Z,12nm,1.7s								
KSRS	**Korea Array**	**46.87**	**68**	LR		LR		07 00 02.1	
	comp=Z,19nm,18.5s,baz=345,slow=39								
TIXI	**Tiksi**	**48.23**	**21**	P		**P**		**06 38 31.6**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=246,slow=4.4,SNR=2.8								
PETK	**Petropavlovsk-**	**62.42**	**43**	LR		LR		07 08 13.3	
	comp=Z,19nm,18.5s,baz=92,slow=37								
TORD	**Torodi Ar. Bea**	**64.33**	**269**	P		**P**		**06 40 29.8**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=62,slow=5.8,SNR=5.0								
COLD	**Coldfoot**	**74.36**	**15**	*e*P		**P**		**06 41 29.7**	**-0.3**
	comp=Z,9.7nm,1.7s								
FITZ	**Fitzroy Crossi**	**74.74**	**125**	*e*P		**P**		**06 41 34.1**	**+1.4**
	comp=Z,32nm,1.9s								
INK	**Inuvik**	**76.20**	**9**	P		**P**		**06 41 40.0**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=341,slow=4.8,SNR=6.8								
INK	**Inuvik**	**76.20**	**9**	P		**P**		**06 41 40.0**	**-0.5**
INK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**	**77.18**	**15**	P		**P**		**06 41 44.1**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=328,slow=4.2,SNR=6.3								
DOT	**Dot Lake**	**78.76**	**15**	*e*P		**P**		**06 41 55.2**	**+0.3**
	comp=Z,14nm,1.1s								
WRA	**Warramunga Arr**	**82.03**	**121**	P		**P**		**06 42 13.4**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=324,slow=4.9,SNR=16								
WRAB	**Tennant Creek**	**82.03**	**121**	*e*P		**P**		**06 42 13.9**	**+0.8**
WRAB				pmax	pmax				
	comp=Z,12nm,1.3s								
WRAB	**Tennant Creek**	**82.03**	**121**	*e*P		**P**		**06 42 13.8**	**+0.8**
	comp=Z,12nm,1.3s								
WB2	**Warramunga Arr**	**82.04**	**121**	*e*P		**P**		**06 42 14.0**	**+0.9**
	comp=Z,15nm,1.5s								
YKA	**Yellowknife Ar**	**83.41**	**2**	P		**P**		**06 42 19.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=350,slow=5.5,SNR=7.3								
YKB5	**Yellowknife Ar**	**83.41**	**2**	*e*P		**P**		**06 42 19.6**	**0.0**
ASAR	**Alice Springs**	**84.16**	**124**	P		**P**		**06 42 24.4**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=307,slow=5.2,SNR=18								
AS01	**Alice Springs**	**84.20**	**124**	*e*P		**P**		**06 42 25.1**	**+0.9**

MEX 04 06:53:21.1±0.3,13.89N×92.26W,h23km±23km,MD3.5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PCIG		**2.03**	**333**	*e*P		Pn		06 53 51.5	-2.4
PCIG				*e*S		Sn		06 54 15.1	-3.5
CCIG	**Comitan**	**2.38**	**3**	*e*P		Pn		06 53 56.6	-2.4
CCIG				*e*S		Sn		06 54 24.4	-3.1

*ISCJB **04** 07:04:42.9±0.5,32.07N±0.02×115.15W±0.03,h11km±4km, Error ellipse: s-maj=4.6km s-min=3.1km az=174.7*
*ECX **04** 07:04:44.8±0.9,32.08N×115.17W,h8km,MD3.0,ML3.2*
*NEIC **04** 07:04:45.0,32.09N×115.21W,h8km,ML3.2(ECX), ML2.9(PAS),After ECX.*
*MEX **04** 07:04:45.0±0.6,32.15N×115.03W,h31km±8km,MD3.9*

ISC 04 07:04:42.5±1.1,32.10N±0.02×115.18W±0.02, h12km±10km,n42,σ0.972/65,5C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MBIG	**Mexicali**	**0.30**	**357**	*e*P		**Pb**		**07 04 50.8**	**+0.9**
MBIG				*e*S		**Sb**		**07 04 56.2**	**+1.3**
MBIG	**Mexicali**	**0.30**	**357**	*e*P		**Pb**		**07 04 50.8**	**+0.9**
CPBX	**Cerro Prieto**	**0.33**	**342**	⇓*e*P		**Pb**		**07 04 51.3**	**+0.9**
CPBX				*e*S		**Sb**		**07 04 56.4**	**+0.7**
ECBX	**El Chinero**	**0.64**	**170**	⇑*e*P		**Pb**		**07 04 55.8**	**+0.2**
ECBX				*e*S		**Sb**		**07 05 04.5**	**+0.1**
ECBX				AML		AML		07 05 05.8	
	comp=N,1μm,0.2s								
ECBX				⇓*e*				07 05 05.8	
EMSC	**East Mesa**	**0.66**	**14**	⇓*i*P		**Pb**		**07 04 56.4**	**+0.5**
SGL	**Mount Signal**	**0.71**	**320**	⇑*i*P		**Pn**		**07 04 57.6**	**-0.8**
DREC	**Desert Rsrch C**	**0.74**	**342**	*e*P		**Pn**		**07 04 58.1**	**-0.7**
WESC	**Westside Schoo**	**0.80**	**325**	*e*P		**Pn**		**07 04 59.4**	**-0.3**
YUH	**Yuha Desert**	**0.83**	**311**	⇑*i*P		**Pb**		**07 04 59.0**	**+0.1**
RMX	**La Rumorosa**	**0.91**	**303**	*e*P		**Pb**		**07 05 00.2**	**-0.1**
RMX				*e*S		**Sb**		**07 05 13.1**	**+0.6**
RMX				⇑*e*				07 05 14.2	
RMX				AML		AML		07 05 14.2	
	comp=N,630nm,0.2s								
IKP	**In-Ko-Pah, Jac**	**0.96**	**305**	P		**Pn**		**07 05 01.3**	**-0

214A	**Organ Pipe Nat**	**2.02**	**94**	*e*Pn		**Pn**	**07 05 15.0**	**-1.4**
IRM	**Iron Mountain** baz=180	**2.05**	**1**	Pb		**Pg**	**07 05 21.6**	**-0.2**
MURC	**Murrieta** baz=130	**2.26**	**312**	Sb		**Sg**	**07 05 54.8**	**-0.4**
BBRC	**Big Bear Solar** baz=145	**2.60**	**326**	Sb		**Sg**	**07 06 06.4**	**+0.2**
PASC	**Pasadena Art C**	**3.26**	**310**	*e*Pg		**Pg**	**07 05 45.8**	**+0.9**
TUC	**Tucson**	**3.73**	**86**	*e*Pn		**Pn**	**07 05 42.1**	**+2.0**
TUC				*e*Pg		**Pg**	**07 05 54.4**	**+0.3**
TUC				*e*Sg		**Sg**	**07 06 41.3**	**-1.0**
R11A	**Troy Canyon, C**	**6.24**	**357**	*e*Pg		**Pg**	**07 06 43.9**	**+1.9**

ISCJB ***04*** *07:09:05.7±0.5,22.°10S±0.′04×67.°26W±0.′06,h180km, mb3.9/6,Error ellipse: s-maj=7.8km s-min=5.3km az=150.6*

IDC ***04*** *07:09:05.6±0.7,22.°10S×67.°21W,h179km±9km,mb3.4/5, mb1 3.7/9,mb1mx3.5/21,mbtmp4.1/9,Error ellipse: s-maj=15.8km s-min=14.5km az=140.0*

SCB ***04*** *07:09:06.0±0.7,21.°78S×67.°12W,h175km,Ml3.7/3,Error ellipse: s-maj=18.9km s-min=7.9km az=30.0*

SJA ***04*** *07:09:06.1±0.8,22.°12S×67.°22W,h176km±8km,ML3.4, MW3.3*

ISC 04 07:09:06.0±0.7,**22.°07S**±0.′06×**67.°23W**±0.′05,**h180**km,**n26,** σ1**°33**/34,**mb3.9/6,2C-1D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.59**	**94**	*e*P	**Pn**	**07 09 40.6**	**+1.2**
YJA	comp=Z,210nm,0.7s			IAML		07 09 42.7	
YJA				*e*S	**Sn**	**07 10 05.1**	**+0.1**
LVC	**Limon Verde**	**1.65**	**251**	*e*P	**Pn**	**07 09 39.8**	**-0.1**
LVC				*e*S	**Sn**	**07 10 05.5**	**-0.5**
LVC	**Limon Verde** comp=Z,1μm,0.3s,baz=66,slow=6.1,SNR=459	**1.65**	**251**	P	**Pn**	**07 09 39.7**	**-0.1**
LVC				S	**Sn**	**07 10 05.2**	**-0.8**
MOCB	**Mochara**	**1.69**	**61**	*e*Pn	**Pn**	**07 09 41.8**	**+1.5**
MOCB	comp=Z,1μm,0.5s			*e*Sn	**Sn**	**07 10 08.1**	**+1.3**
HJA	**Humahuaca**	**2.02**	**124**	*e*P	**Pn**	**07 09 45.0**	**+1.2**
AZAP	**Zapla**	**2.92**	**138**	*e*P	**Pn**	**07 09 54.2**	**+0.2**
AHML	**Horco Molle**	**5.00**	**160**	*e*P	**Pn**	**07 10 20.2**	**+0.2**
BBOJ	**La Paz, Jacaqu**	**5.15**	**350**	*e*Pn	**Pn**	**07 10 24.9**	**+2.4**
BBOE	**La Paz, Chanca**	**5.28**	**352**	*e*Pn	**Pn**	**07 10 26.6**	**+2.4**
BBOD	**La Paz, Gloria**	**5.56**	**346**↑	*i*Pn	**Pn**	**07 10 29.4**	**+1.6**
BBOD	comp=Z,14nm,0.8s			*e*Sn	**Sn**	**07 11 31.7**	**-0.4**
LPAZ	**La Paz**	**5.81**	**351**	*e*P	**Pn**	**07 10 32.7**	**+1.4**
LPAZ	**La Paz** comp=Z,5.5nm,0.3s,baz=145,slow=6.0,SNR=297	**5.81**	**351**	P	**Pn**	**07 10 32.7**	**+1.4**
LPAZ	comp=Z,0.2nm,0.3s,baz=266,slow=19,SNR=1.8			S	**Sn**	**07 11 38.8**	**+0.6**
LPAZ	**La Paz**	**5.81**	**351**↑	*i*Pn	**Pn**	**07 10 32.7**	**+1.4**
LPAZ				*e*Sn	**Sn**	**07 11 36.3**	**-1.9**
BBOB	**La Paz, Bander**	**5.96**	**352**↓	*i*Pn	**Pn**	**07 10 34.3**	**+1.2**
BBOB	comp=Z,29nm,0.7s			*e*Sn	**Sn**	**07 11 38.9**	**-2.6**
SIV	**San Ignacio** comp=Z,12nm,0.3s,baz=254,slow=11,SNR=134	**8.39**	**45**	P	**Pn**	**07 11 02.6**	**-2.0**
SIV	comp=Z,4.1nm,0.3s,baz=154,slow=21,SNR=8.4			S	**Sn**	07 12 31.3	-7.3
SIV	**San Ignacio**	**8.39**	**45**	*e*P	**Pn**	**07 11 02.4**	**-2.2**
SIV				*e*S	Sn	07 12 31.4	-7.2
CPUP	**Villa Florida** comp=Z,0.5nm,0.3s,baz=291,slow=14,SNR=5.6	**9.98**	**117**	P	**Pn**	**07 11 26.3**	**+1.0**
NNA	**Nana** comp=Z,0.8nm,0.3s,baz=199,slow=21,SNR=4.2	**13.60**	**316**	P	**P**	**07 12 16.8**	**+2.0**
BDFB	**Brasilia** comp=Z,1.2nm,0.3s,baz=252,slow=12,SNR=18	**19.26**	**74**	P	**P**	**07 13 16.8**	**-0.4**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=143,slow=7.3,SNR=3.9	**62.00**	**324**	P	**P**	**07 19 07.2**	**-0.1**
DBIC	**Dimbokro** comp=Z,2.4nm,0.7s,baz=230,slow=11,SNR=2.4	**67.41**	**72**	P	**P**	**07 19 42.0**	**-0.5**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.5s,baz=115,slow=6.1,SNR=3.7	**75.39**	**329**	P	**P**	**07 20 29.7**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,10.0nm,0.4s,baz=254,slow=5.5,SNR=201	**76.08**	**69**	P	**P**	**07 20 33.5**	**-0.8**
BOSA	**Boshof** comp=Z,2.2nm,0.4s,baz=257,slow=4.3,SNR=8.9	**81.80**	**117**	P	**P**	**07 21 05.0**	**-0.5**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.4s,baz=133,slow=4.9,SNR=8.6	**92.25**	**340**	P	**P**	**07 21 54.8**	**-0.2**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.6s,baz=289,slow=4.4,SNR=3.0	**145.15**	**38**	PKPbc	**PKPdf**	**07 28 22.0**	**0.0**

NIED ***04*** *07:10:00,37.°20N×143.°80E,h5km,Mw3.8 Best double couple: M0 6.59000×10^14 NP1:φ=12.00000°,δ23.00000°, λ-84.00000°. NP2:φ=186.00000°,δ67.00000°, λ-92.00000°.*

IDC ***04*** *07:10:12.0±0.9,37.°08N×144.°08E,h0km,mb3.8/6, mb1 4.0/8,mb1mx3.7/39,mbtmp3.8/8,ML4.0/1,MS2.6/1, Ms1 2.6/1,ms1mx2.0/40,Error ellipse: s-maj=33.1km s-min=18.3km az=106.0*

NEIC ***04*** *07:10:13.5±0.7,37.°17N×144.°05E,h10km,mb4.4/2,Error ellipse: s-maj=15.0km s-min=10.1km az=114.0*

ISCJB ***04*** *07:10:14.9±0.6,37.°20N±0.′04×143.°87E±0.′05,h33km, mb4.0/7,Error ellipse: s-maj=5.6km s-min=4.6km az=40.2*

JMA ***04*** *07:10:16.6±0.2,37.°22N×143.°79E,h67km,M3.9*

ISC 04 07:10:16.9±1.0,**37.°24N**±0.′05×**143.°93E**±0.′08,**h35**km,**n32,** σ1**°74**/44,**mb3.9/7,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.37**	**302**	P	**Pn**	**07 10 53.1**	**-0.3**
JIO				*e*S	**Sn**	**07 11 19.7**	**-1.5**
JFK	**Kawauchi**	**2.44**	**274**	P	**Pn**	**07 10 54.1**	**-0.2**
JFK				*e*S	**Sn**	**07 11 22.0**	**-0.9**
ONAJ	**Iwakimizuishiy**	**2.50**	**268**	P	**Pn**	**07 10 54.1**	**-1.1**
ONAJ				S	**Sn**	**07 11 22.9**	**-1.6**
JMM	**Marumori**	**2.57**	**285**	P	**Pn**	**07 10 55.4**	**-0.6**
JMM				S	**Sn**	**07 11 24.6**	**-1.4**
JMK	**Ichinoseki**	**2.74**	**310**	P	**Pn**	**07 10 58.0**	**-0.3**
JMK				S	**Sn**	**07 11 29.0**	**-1.2**
JOM	**Ohasama**	**3.04**	**318**	P	**Pn**	**07 11 02.4**	**-0.2**
JOM				S	**Sn**	**07 11 36.5**	**-1.3**
JYT	**Yasato**	**3.16**	**253**	*e*S	**Sn**	**07 11 39.1**	**-1.6**
JYS	**Shirataka**	**3.21**	**289**	*e*S	**Sn**	**07 11 41.1**	**-0.9**
JYK	**Kaneyama**	**3.28**	**302**	P	**Pn**	**07 11 06.3**	**+0.5**
JYK				*e*S	**Sn**	**07 11 42.9**	**-0.6**
BSO1	**Boso 1**	**3.52**	**224**	S	**Sn**	**07 11 47.4**	**-1.3**
JAG	**Ashikaga**	**3.68**	**259**	P	**Pn**	**07 11 11.0**	**-0.3**
JRY	**Ryogami san**	**4.22**	**255**	P	**Pn**	**07 11 18.2**	**-0.6**
JRY				S	**Sn**	**07 12 04.0**	**-2.9**
JOD2	**Odawara 2**	**4.38**	**245**	P	**Pn**	**07 11 20.3**	**-0.6**
JOD2				*e*S	**Sn**	**07 12 07.7**	**-3.0**
MJAR	**Matsushiro Arr** 6.5nm,0.3s,baz=86,slow=15,SNR=32	**4.63**	**263**	Pn	**Pn**	**07 11 25.2**	**+0.7**
MJAR	1.3nm,0.3s,baz=74,slow=12,SNR=3.3			Sn	**Sn**	**07 12 13.7**	**-3.4**
MJAR	comp=Z,64nm,21.2s,baz=85,slow=38			LR	LR	07 13 11.2	
MAJO	**Matsushiro**	**4.64**	**263**	*e*Pn	**Pn**	**07 11 25.2**	**+0.7**
MAJO				*e*Sn	**Sn**	**07 12 22.1**	**+5.0**
MAT	**Matsushiro**	**4.64**	**263**	P	**Pn**	**07 11 25.7**	**+1.2**
MAT				S	**Sn**	**07 12 16.1**	**-1.0**
JOT	**Ohata**	**4.70**	**333**	P	**Pn**	**07 11 25.8**	**+0.4**
JOT				S	**Sn**	**07 12 14.8**	**-3.8**
ERM	**Erimo**	**4.81**	**353**	*e*Pn	**Pn**	**07 11 25.2**	**-1.6**
ERM				*e*Sn	**Sn**	**07 12 18.7**	**-2.6**
JHJ	**Hachijo jima 2** 30nm,0.3s,baz=88,slow=17,SNR=5.0	**5.33**	**221**	Sn	**Sn**	**07 12 30.5**	**-3.6**
ASAJ	**Asahikawa** baz=207,slow=14	**6.95**	**352**	Pn	**Pn**	**07 11 55.7**	**-0.4**
ASAJ	0.5nm,0.3s,baz=288,slow=20,SNR=4.0			Sn	**Sn**	**07 13 14.0**	**+0.1**
KLR	**Kul'dur** 0.1nm,0.3s,baz=143,slow=9.0,SNR=3.8	**14.89**	**327**	Pn	**P**	**07 13 49.8**	**-0.2**
SEY	**Seymchan** 1.9nm,0.6s,baz=203,slow=15,SNR=6.1	**26.24**	**9**	P	**P**	**07 15 50.2**	**+1.8**
H11N2	**WAKE ISLAND Hy** baz=317,slow=76,SNR=13	**26.57**	**125**	T	T	07 43 30.6	
H11N1	**WAKE ISLAND Hy** baz=317,slow=76,SNR=5.6	**26.58**	**125**	T	T	07 43 28.4	
H11N3	**WAKE ISLAND Hy** baz=317,slow=76,SNR=8.0	**26.59**	**125**	T	T	07 43 29.9	
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=97,slow=9.4,SNR=3.7	**45.71**	**302**	P	**P**	**07 18 36.2**	**+1.7**
ILAR	**Eielson Array** 0.7nm,0.9s,baz=260,slow=6.6,SNR=7.4	**48.25**	**32**	P	**P**	**07 18 54.6**	**+0.6**
INK	**Inuvik** 0.6nm,0.5s,baz=346,slow=3.3,SNR=5.1	**53.29**	**27**	P	**P**	**07 19 32.7**	**+0.9**
INK	**Inuvik** 3.0nm,1.3s	**53.29**	**27**	*e*P	**P**	**07 19 33.3**	**+1.5**
WRAB	**Tennant Creek** 15nm,1.7s	**57.58**	**191**	*e*P	**P**	**07 20 02.7**	**-0.5**
WRA	**Warramunga Arr** 1.7nm,0.6s,baz=11,slow=7.1,SNR=26	**57.59**	**191**	P	**P**	**07 20 02.5**	**-0.8**
ASAR	**Alice Springs** 0.7nm,0.7s,baz=8.7,slow=6.2,SNR=7.7	**61.31**	**190**	P	**P**	**07 20 28.3**	**-0.6**

NIED ***04*** *07:19:00,37.°30N×141.°60E,h35km,Mw3.9 Best double couple: M0 8.34000×10^14 NP1:φ=206.00000°,δ19.00000°, λ69.00000°. NP2:φ=47.00000°,δ72.00000°,λ97.00000°.*

IDC ***04*** *07:19:29.3±3.6,36.°49N×142.°32E,h52km±26km,mb3.7/8, mb1 3.7/13,mb1mx3.5/55,mbtmp3.9/13,ML3.6/4,MS2.8/4, Ms1 2.9/4,ms1mx2.5/43,Error ellipse: s-maj=40.3km s-min=23.5km az=88.0*

ISCJB ***04*** *07:19:33.5±1.1,37.°25N±0.′05×141.°70E±0.′09,h47km±8km, mb3.9/9,MS3.4/1,Error ellipse: s-maj=12.9km s-min=6.8km az=22.2*

JMA ***04*** *07:19:34.9±0.1,37.°29N×141.°59E,h45km±2km,M3.7*

JMA Felt I J1.

ISC 04 07:19:34.6±1.0,**37.°25N**±0.′05×**141.°64E**±0.′09,**h40**km±8km, **n30,**σ1**°25**/29,**mb3.9/9,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.62**	**281**	P	**Pn**	**07 19 46.8**	**-0.2**
JFK				S	**Sn**	**07 19 55.2**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.69**	**258**	P	**Pn**	**07 19 48.0**	**+0.1**
ONAJ				S	**Sn**	**07 19 56.9**	**-0.6**
JMM	**Marumori**	**0.91**	**312**	P	**Pn**	**07 19 50.4**	**-0.5**
JMM				*e*S	**Sn**	**07 20 01.6**	**-1.2**
JHO	**Hitachi**	**1.07**	**234**	P	**Pn**	**07 19 53.1**	**0.0**
JHO				S	**Sn**	**07 20 06.0**	**-0.8**
JFT	**Otama**	**1.07**	**285**	P	**Pn**	**07 19 53.9**	**+0.8**
JFT				S	**Sn**	**07 20 07.2**	**+0.4**
JIO	**Ouri**	**1.22**	**349**	P	**Pn**	**07 19 54.6**	**-0.5**
JIO				S	**Sn**	**07 20 08.5**	**-1.9**
JOU	**Okura**	**1.35**	**325**	P	**Pn**	**07 19 57.2**	**+0.2**
JFY	**Yanaizu**	**1.55**	**276**	P	**Pn**	**07 20 00.4**	**+0.7**
JFY				*e*S	**Sn**	**07 20 19.9**	**+1.2**
JYS	**Shirataka**	**1.58**	**308**	P	**Pn**	**07 20 00.7**	**+0.6**
MJAR	**Matsushiro Arr** 4.5nm,0.3s,baz=79,slow=8.9,SNR=17	**2.84**	**257**	P	Pn	07 20 19.3	+1.9
MJAR	comp=Z,147nm,18.9s,baz=65,slow=40			LR	LR	07 21 40.8	
MAT	**Matsushiro**	**2.84**	**257**	P	**Pn**	**07 20 19.1**	**+1.6**
MAT				S	**Sn**	**07 20 53.3**	**+2.8**
JHJ	**Hachijo jima 2** 8.5nm,0.3s,baz=239,slow=22,SNR=3.4	**4.40**	**201**	S	**Sn**	**07 21 27.4**	**-1.3**
ASAJ	**Asahikawa** 1.5nm,0.3s,baz=204,slow=16,SNR=4.6	**6.89**	**6**	P	**Pn**	**07 21 16.9**	**+3.9**
JNU	**Nakatsue** comp=Z,11nm,20.7s,baz=92,slow=41	**9.72**	**248**	LR	LR	07 26 22.6	
USRK	**Ussuriysk Ar.** 0.3nm,0.3s,baz=130,slow=14,SNR=6.6	**10.09**	**316**	P	Pn	07 22 03.3	+6.6
KSRS	**Korea Array** 0.4nm,0.3s,baz=92,slow=14,SNR=7.6	**10.93**	**275**	P	Pn	07 22 13.1	+4.8
KSRS	comp=Z,59nm,19.8s,baz=109,slow=33			LR	LR	07 25 54.0	
KLR	**Kul'dur** 0.2nm,0.3s,baz=150,slow=13,SNR=4.0	**13.96**	**332**	P	**P**	**07 22 56.5**	**-0.5**
SONM	**Songino Array** 1.2nm,0.6s,baz=101,slow=8.9,SNR=7.4	**27.82**	**304**	P	**P**	**07 25 20.3**	**+0.2**
H11S1	**WAKE ISLAND Hy** baz=317,slow=76,SNR=46	**28.82**	**124**	T	T	07 55 51.2	
H11S3	**WAKE ISLAND Hy** baz=317,slow=76,SNR=69	**28.83**	**124**	T	T	07 56 03.9	
H11S2	**WAKE ISLAND Hy** baz=317,slow=76,SNR=19	**28.84**	**124**	T	T	07 55 53.9	
CMAR	**Chiang Mai Arr** comp=Z,49nm,19.7s,baz=196,slow=39	**41.73**	**255**	LR	LR	07 46 57.9	
MKAR	**Makanchi Array** 2.0nm,0.7s,baz=87,slow=9.9,SNR=18	**44.16**	**302**	P	**P**	**07 27 39.2**	**-0.1**
ILAR	**Eielson Array** 0.8nm,0.8s,baz=269,slow=6.3,SNR=11	**49.21**	**32**	P	**P**	**07 28 18.8**	**+0.3**
ARU	**Arti** 1.4nm,0.3s,baz=80,slow=6.0,SNR=3.5	**56.32**	**318**	P	**P**	**07 29 11.1**	**0.0**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=9.4,slow=7.0,SNR=7.2	**57.30**	**188**	P	P	07 29 06.7	-12
AKTO	**Aktyubinsk** 0.6nm,0.5s,baz=76,slow=14,SNR=3.9	**58.67**	**312**	P	**P**	**07 29 27.1**	**-0.6**
FINES	**FINESS Array B** 0.6nm,0.7s,baz=77,slow=7.3,SNR=3.3	**68.71**	**332**	P	**P**	**07 30 33.2**	**-0.4**
HFS	**Hagfors** 1.9nm,0.8s,baz=96,slow=8.9,SNR=4.7	**73.97**	**336**	P	**P**	**07 31 05.1**	**-0.3**
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=47,slow=7.1,SNR=4.0	**74.24**	**322**	P	**P**	**07 31 06.8**	**-0.4**

MEX 04 07:19:42.7±0.6,**15.°77N**×**97.°44W,h16**km±9km,**MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.90**	**313**	*i*P	Pb	07 19 56.8	-3.1
PNIG				*e*S	Sb	07 20 07.6	-4.2
HUIG	**Huatulco**	**1.29**	**90**	*e*P	Pn	07 20 01.9	-4.2
HUIG				*e*S	Sb	07 20 17.6	-5.3
VHO	**Vista Hermosa**	**1.46**	**28**	*e*P	Pn	07 20 04.8	-3.9
VHO				*e*S	Sn	07 20 22.6	-5.0
TLIG	**Tlapa**	**2.08**	**329**	*e*P	Pn	07 20 15.0	-2.1
TLIG				*e*S	Sn	07 20 37.6	-5.1

GUC 04 07:21:58.6±0.4,**40.°35S**×**72.°21W,h3**km±2km,**ML3.9, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**0.96**	**304**	*e*P	Pb	07 22 18.0	+0.2
VLCH				*e*S	Sn	07 22 32.7	-0.4
VLCH	comp=N,8μm,0.0s			IAML		07 22 33.0	
CCHI	**Chillan**	**3.74**	**2**	*e*S	Sb	07 23 46.5	-4.5
CCHI	comp=N,98nm,1.1s			IAML		07 24 08.2	

NIED ***04*** *07:41:00,35.°30N×142.°30E,h5km,Mw3.9 Best double couple: M0 7.85000×10^14 NP1:φ=191.00000°,δ37.00000°, λ-107.00000°. NP2:φ=31.00000°,δ55.00000°, λ-78.00000°.*

IDC ***04*** *07:41:48.6±0.9,35.°21N×142.°35E,h0km,mb3.7/8, mb1 3.9/12,mb1mx3.7/47,mbtmp3.8/12,ML3.8/4,MS3.1/7, Ms1 3.1/7,ms1mx2.7/45,Error ellipse: s-maj=26.0km s-min=16.8km az=94.0*

NEIC ***04*** *07:41:49.9±0.4,35.°24N×142.°34E,h10km,mb4.6/3,Error ellipse: s-maj=8.8km s-min=5.8km az=94.0*

ISCJB ***04*** *07:41:51.5±0.5,35.°24N±0.′04×142.°31E±0.′05,h42km, mb3.9/11,MS3.2/4,Error ellipse: s-maj=5.7km s-min=5.5km az=153.2*

JMA ***04*** *07:41:51.2±0.3,35.°29N×142.°34E,h52km,M3.6*

ISC 04 07:41:53.2±0.7,**35.°20N**±0.′05×**142.°40E**±0.′06,**h42**km,**n37,** σ2**°32**/42,**mb3.8/11,MS3.2/4,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.29**	**245**	P	**Pn**	**07 42 12.6**	**-1.6**
BSO1				S	**Sn**	**07 42 29.8**	**-0.2**
CHOJ	**Chosi**	**1.35**	**292**	P	**Pn**	**07 42 13.3**	**-2.3**
CHOJ				S	**Sn**	**07 42 29.3**	**-3.0**
BSO2	**Boso 2**	**1.42**	**252**	S	**Sn**	**07 42 34.0**	**+0.4**
BSO3	**Boso 3**	**1.60**	**256**	P	**Pn**	**07 42 17.6**	**-1.1**
BSO4	**Boso 4**	**1.70**	**264**	P	**Pn**	**07 42 18.9**	**-1.4**
JAG	**Ashikaga**	**2.69**	**298**	P	**Pn**	**07 42 31.7**	**-2.2**
JOD2	**Odawara 2**	**2.71**	**272**	P	**Pn**	**07 42 32.3**	**-2.0**
JOD2				S	**Sn**	**07 43 02.7**	**-3.1**
JFT	**Otama**	**2.85**	**325**	P	**Pn**	**07 42 34.1**	**-2.1**
JRY	**Ryogami san**	**2.96**	**287**	P	**Pn**	**07 42 36.5**	**-1.2**
JHJ2	**Mitsune**	**2.99**	**226**	*e*Pn	**Pn**	**07 42 37.5**	**-0.5**
JHJ	**Hachijo jima 2** 11nm,0.3s,baz=60,slow=14,SNR=4.6	**3.00**	**227**	Pn	**Pn**	**07 42 37.3**	**-1.0**
JHJ	62nm,0.3s,baz=282,slow=22,SNR=12			Sn	**Sn**	**07 43 10.1**	**-2.9**
JYN	**Shimob**	**3.16**	**276**	P	**Pn**	**07 42 38.5**	**-2.0**
MJAR	**Matsushiro Arr** 2.7nm,0.3s,baz=94,slow=15,SNR=16	**3.66**	**293**	Pn	**Pn**	**07 42 45.6**	**-1.6**
MAJO	**Matsushiro**	**3.66**	**293**	*e*Pn	**Pn**	**07 42 46.2**	**-1.1**
MAJO				*e*Sn	**Sn**	**07 43 28.2**	**-1.0**
MAT	**Matsushiro**	**3.66**	**293**	P	**Pn**	**07 42 46.4**	**-0.9**
MAT				*e*S	**Sn**	**07 43 25.6**	**-3.6**
ERM	**Erimo** 8.9nm,0.4s	**6.83**	**5**	*e*Pn	**Pn**	**07 43 29.1**	**-1.7**
ERM				*e*Sn	**Sn**	**07 44 42.2**	**-5.0**
CBIJ	**Chichi jima**	**8.08**	**181**	Pn	**Pn**	**07 43 47.5**	**-0.6**
CBIJ				Sn	**Sn**	**07 45 12.1**	**-6.0**
JCJ	**Chichijima** 6.5nm,0.3s,baz=342,slow=22,SNR=3.7	**8.08**	**181**	Pn	**Pn**	**07 43 47.4**	**-0.6**
JCJ	baz=311,slow=20			Sn	**Sn**	**07 45 12.1**	**-6.0**
ASAJ	**Asahikawa** 1.6nm,0.3s,baz=230,slow=10,SNR=5.7	**8.91**	**1**	Pn	**Pn**	**07 43 57.3**	**-1.9**
ASAJ	0.7nm,0.3s,baz=288,slow=20,SNR=4.8			Sn	**Sn**	**07 45 35.5**	**-2.7**
JNU	**Nakatsue** comp=Z,28nm,21.1s,baz=120,slow=36	**9.77**	**261**	LR	LR	07 47 42.9	
KSRS	**Korea Array** comp=Z,60nm,19.4s,baz=128,slow=38	**11.89**	**285**	LR	LR	07 49 14.0	
KLR	**Kul'dur** comp=Z,67nm,18.2s,baz=150,slow=37	**16.06**	**334**	LR	LR	07 51 41.2	
YAK	**Yakutsk** comp=Z,45nm,18.1s,baz=40,slow=37	**28.03**	**347**	LR	LR	07 59 02.0	
SEY	**Seymchan** 0.9nm,0.4s,baz=6.5,slow=6.3,SNR=5.2	**28.45**	**10**	P	**P**	**07 47 45.4**	**+1.7**
SONM	**Songino Array** 1.1nm,0.8s,baz=99,slow=9.3,SNR=7.2	**29.49**	**306**	P	**P**	**07 47 54.2**	**+0.8**
JAY	**Jayapura** comp=Z,76nm,21.5s,slow=35	**37.55**	**183**	LR	LR	08 03 40.2	
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=134,slow=4.2,SNR=2.1	**43.75**	**314**	PcP	**PcP**	**07 51 41.7**	**+1.3**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=88,slow=9.8,SNR=3.6	**45.78**	**304**	P	**P**	**07 50 11.3**	**+0.7**
MKAR	0.4nm,0.7s,baz=93,slow=2.9,SNR=3.4			PcP	**PcP**	**07 51 49.3**	**+1.7**
MKAR	comp=Z,27nm,18.4s,baz=63,slow=37			LR	LR	08 10 00.3	
KURK	**Kurchatov** 10.0nm,0.8s	**47.70**	**310**	*e*P	**P**	**07 50 25.0**	**-0.5**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=269,slow=6.3,SNR=5.2	**50.62**	**32**	P	**P**	**07 50 49.1**	**+1.5**
WRAB	**Tennant Creek** 14nm,1.7s	**55.36**	**189**	*e*P	**P**	**07 51 24.2**	**+1.2**
WRA	**Warramunga Arr** 1.2nm,0.6s,baz=6.4,slow=7.3,SNR=15	**55.37**	**189**	P	**P**	**07 51 24.3**	**+1.2**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=357,slow=5.9,SNR=6.3	**59.10**	**189**	P	**P**	**07 51 50.7**	**+1.3**
ABKAR	**Akbulak array** 0.4nm,0.4s	**59.74**	**311**	*e*P	**P**	**07 51 53.9**	**+0.4**
NOA	**NORSAR Array B** comp=Z,11nm,19.1s,baz=0.0,slow=39	**76.18**	**338**	LR	LR	08 30 58.4	
BRTR	**Keskin Array B** 0.9nm,0.6s,baz=103,slow=4.0,SNR=4.8	**80.67**	**312**	P	**P**	**07 54 03.3**	**+1.4**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=291,slow=3.5,SNR=3.8	**90.60**	**53**	P	**P**	**07 54 53.2**	**+1.8**

GUC 04 07:41:53.4±0.4,**40.°52S**×**72.°10W,h16**km±4km,**ML4.1, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.13**	**308**	*e*P	Pb	07 42 14.7	+0.1
VLCH				*e*S	Sg	07 42 30.6	+0.6
VLCH	comp=E,8μm,0.0s			IAML		07 42 36.0	
PLCA	**Paso Flores**	**1.20**	**101**	*e*P	Pg	07 42 16.2	-0.3
PLCA				*e*S	Sg	07 42 33.1	+1.0

IDC 04 07:42:29.1±8.3,**47.°31S**×**99.°90E,h0**km,**mb3.8/4, mb1 4.0/4,mb1mx3.8/23,mbtmp3.8/4,MS3.5/10, Ms1 3.5/10,ms1mx3.2/29,Error ellipse: s-maj=212.0km s-min=30.9km az=112.0,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)** comp=Z,103nm,18.6s,baz=44,slow=32	**19.48**	**49**	LR	LR	07 52 42.4	
STKA	**Stephens Creek** 1.9nm,0.8s,baz=228,slow=14,SNR=3.1	**35.17**	**79**	P	P	07 49 24.6	-0.1
STKA	comp=Z,39nm,18.6s,baz=206,slow=35			LR	LR	08 02 52.2	
ASAR	**Alice Springs** 0.8nm,0.9s,baz=221,slow=8.8,SNR=5.6	**35.93**	**61**	P	P	07 49 31.2	0.0
ASAR	comp=Z,51nm,20.1s,baz=212,slow=34			LR	LR	08 02 33.6	
VNDA	**Vanda** 1.4nm,0.8s,baz=288,slow=9.5,SNR=8.2	**38.30**	**162**	P	P	07 49 50.6	-0.1
VNDA	comp=Z,124nm,19.4s,baz=278,slow=34			LR	LR	08 04 13.5	
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=219,slow=8.9,SNR=9.6	**39.06**	**58**	P	P	07 49 57.7	-0.1
WRA	comp=Z,112nm,19.9s,baz=340,slow=33			LR	LR	08 04 06.7	
LEM	**Lembang** baz=154,slow=76,SNR=10.0	**40.87**	**12**	LR	LR	08 04 25.2	
H08S2	**Diego Garcia H** baz=154,slow=76,SNR=10.0	**45.92**	**321**	T	T	08 39 57.8	
H08S1	**Diego Garcia H** baz=154,slow=76,SNR=5.8	**45.93**	**321**	T	T	08 39 59.4	
H08S3	**Diego Garcia H** baz=154,slow=76,SNR=7.8	**45.94**	**321**	T	T	08 39 59.2	
CTA	**Charters Tower** comp=Z,116nm,19.3s,baz=233,slow=36	**46.24**	**70**	LR	LR	08 10 34.4	
BOSA	**Boshof** comp=Z,40nm,20.0s,baz=165,slow=31	**59.50**	**260**	LR	LR	08 13 17.6

JMK	**Ichinoseki**	**2.66**	**306**	*e*S		**Sn**	**08 15 28.7**	**-1.0**
JFT	**Otama**	**2.89**	**273**	P		**Pn**	**08 15 03.2**	**+1.1**
JFT				*e*S		**Sn**	**08 15 34.9**	**-0.7**
JOM	**Ohasama**	**2.94**	**315**	*e*S		**Sn**	**08 15 36.3**	**-0.5**
JYK	**Kaneyama**	**3.22**	**299**	P		**Pn**	**08 15 07.6**	**+1.1**
JYK				*e*S		**Sn**	**08 15 44.0**	**+0.4**
JANG	**Nango**	**3.52**	**328**	*e*S		**Sn**	**08 15 49.7**	**-1.4**
BSO1	**Boso 1**	**3.67**	**222**	P		**Pn**	**08 15 11.9**	**-0.3**
JRY	**Ryogami san**	**4.31**	**253**	P		**Pn**	**08 15 21.3**	**-0.2**
JRY				*e*S		**Sn**	**08 16 07.2**	**-3.3**
MJAR	**Matsushiro Arr**	**4.70**	**261**	Pn		**Pn**	**08 15 27.9**	**+1.0**
	3.5nm,0.3s,baz=88,slow=15,SNR=34							
MJAR				Sn		**Sn**	**08 16 19.7**	**-0.3**
	baz=154,slow=34,SNR=2.1							
MAT	**Matsushiro**	**4.70**	**261**	P		**Pn**	**08 15 28.8**	**+1.9**
MAT				*e*S		**Sn**	**08 16 17.9**	**-2.2**
JCH	**Churui**	**5.21**	**355**	P		**Pn**	**08 15 34.3**	**+0.4**
JCH				*e*S		**Sn**	**08 16 29.3**	**-3.5**
AAK	**Ala-Archa**	**52.10**	**299**	LR		LR	08 46 04.8	
	comp=Z,20nm,18.8s,baz=194,slow=36							
WRA	**Warramunga Arr**	**57.77**	**191**	P		**P**	**08 24 07.1**	**+1.0**
	0.3nm,0.6s,baz=9.8,slow=7.2,SNR=5.9							
ASAR	**Alice Springs**	**61.49**	**191**	P		**P**	**08 24 32.8**	**+1.1**
	0.2nm,0.6s,baz=16,slow=7.7,SNR=3.0							

FUNV ***04*** *08:15:05.7,8˝.35N×71˝.31W,h5km,MW2.6*
ISC 04 08:15:05.7±1.3,8˚34N±0˚.06×71˚30W±0˚.04,h10km±11km, n10,σ0°97/18,1D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.44**	**98**	⇓*i*P	**Pg**	**08 15 14.1**	**-0.3**
SOCV				*e*S	**Sg**	**08 15 21.0**	**+0.8**
CAPV	**Capacho**	**1.11**	**245**	*e*P	**Pg**	**08 15 26.1**	**-1.0**
CAPV				*e*S	**Sg**	**08 15 41.7**	**0.0**
QARV	**Quebrada Arrib**	**2.00**	**22**	*e*P	**Pn**	**08 15 40.1**	**+0.5**
QARV				*e*S	**Sn**	**08 16 04.6**	**-0.1**
CURV	**Curarigua**	**2.12**	**38**	*e*P	**Pn**	**08 15 41.4**	**+0.2**
CURV				*e*S	**Sn**	**08 16 07.2**	**-0.4**
ELOV	**Elorza**	**2.24**	**126**	*e*P	**Pn**	**08 15 42.5**	**-0.4**
ELOV				*e*S	**Sn**	**08 16 10.6**	**+0.1**
VIRV	**Villa del Rosa**	**2.41**	**333**	*e*P	**Pn**	**08 15 45.0**	**-0.1**
VIRV				*e*S	**Sn**	**08 16 14.2**	**-0.5**
SIQV	**Siquisique**	**2.72**	**33**	*e*P	**Pn**	**08 15 49.5**	**+0.1**
SIQV				*e*S	**Sn**	**08 16 21.6**	**-0.9**
BAUV	**El Baul**	**3.27**	**79**	*e*P	**Pn**	**08 15 56.9**	**-0.2**
BAUV				*e*S	**Sn**	**08 16 34.9**	**-1.1**
MONV	**Montecano**	**3.82**	**20**	*e*P	**Pn**	**08 16 03.3**	**-1.2**
BCIP	**Isla Barro Col**	**8.48**	**276**	*e*P	**Pn**	**08 17 11.3**	**+2.6**

IDC ***04*** *08:15:54.4±1.0,4˚.58N×82˚.72W,h0km,mb3.9/11, mb1 4.2/13,mb1mx4.1/27,mbtmp4.0/13,ML3.0/2,MS3.3/8, Ms1 3.3/8,ms1mx3.1/27,Error ellipse: s-maj=30.4km s-min=16.4km az=32.0*
CASC ***04*** *08:15:55.8±2.2,4˚.89N×82˚.76W,h10km,MD4.4, mb4.4(NEIC)*
NEIC ***04*** *08:15:56.9±0.3,4˚.63N×82˚.56W,h10km,mb4.4/48,Error ellipse: s-maj=8.8km s-min=4.6km az=204.0*
ISC 04 08:15:57.2±0.6,4˚79N±0˚.07×82˚67W±0˚.07,h12km,n114, σ1°92/114,mb4.3/56,MS3.3/7,1C,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**3.98**	**360**	*i* P	**Pn**	**08 16 55.1**	**-3.1**
BRU2				*e*S	**Sn**	**08 17 43.1**	**-1.8**
GRGC	**Isla de Gorgon**	**4.83**	**111**	*e*P	**Pn**	**08 17 05.8**	**-3.9**
QCR	**Quepos**	**4.84**	**342**	⇑*i*P	**Pn**	**08 17 06.5**	**-3.4**
QCR				*e*S	**Sn**	**08 17 58.9**	**-7.0**
BUS	**Buena Vista**	**4.86**	**347**	*e*P	**Pn**	**08 17 08.0**	**-2.6**
URSC	**Urasca**	**5.13**	**348**	*e*P	**Pn**	**08 17 12.2**	**-1.9**
URSC				*e*S	**Sn**	**08 18 11.0**	**-2.4**
BCIP	**Isla Barro Col**	**5.18**	**33**	*e*P	**Pn**	**08 17 12.9**	**-1.7**
BCIP				*e*S	**Sn**	**08 18 11.9**	**-2.3**
BCIP	**Isla Barro Col**	**5.18**	**33**	*e*Pn	**Pn**	**08 17 14.2**	**-0.4**
MALC	**Bahia Malaga**	**5.37**	**98**	*e*P	**Pn**	**08 17 15.6**	**-1.6**
CGA2	**Cerro Gallo 2**	**5.49**	**341**	*e*P	**Pn**	**08 17 16.0**	**-3.0**
CGA2				*e*S	**Sn**	**08 18 20.1**	**-2.2**
JCR	**Jicaral**	**5.58**	**334**	*e*P	**Pn**	**08 17 18.4**	**-1.8**
UPD2	**Meteti**	**5.94**	**51**	*e*P	**Pn**	**08 17 26.5**	**+1.4**
OTAV	**Otavalo**	**6.18**	**137**	*e*Pn	**Pn**	**08 17 26.8**	**-2.0**
CRUC	**La Cruz**	**6.54**	**119**	*e*P	**Pn**	**08 17 33.8**	**+0.1**
HELC	**Santa Helena**	**7.24**	**79**	*e*P	**Pn**	**08 17 42.4**	**-0.8**
HELC	**Santa Helena**	**7.24**	**79**	*e*Pn	**Pn**	**08 17 43.2**	**0.0**
GUYC	**Guyana, Colomb**	**7.26**	**86**	*e*P	**Pn**	**08 17 42.8**	**-0.8**
TOLC	**Tolima**	**7.32**	**91**	*e*P	**Pn**	**08 17 43.3**	**-1.0**
NORC	**Norcasia**	**7.80**	**84**	*e*P	**Pn**	**08 17 50.1**	**-0.6**
PRAC	**Prado**	**7.83**	**98**	*e*P	**Pn**	**08 17 49.6**	**-1.5**
PRAC	**Prado**	**7.83**	**98**	*e*Pn	**Pn**	**08 17 50.5**	**-0.5**
MOTC	**Monteria, Cord**	**8.00**	**66**	*e*P	**Pn**	**08 17 52.4**	**-1.0**
ROSC	**El Rosal**	**8.32**	**89**	Pn	**Pn**	**08 17 58.7**	**+0.7**
	1.3nm,0.3s,baz=301,slow=4.1,SNR=9.0							
ROSC				Sn	**Sn**	**08 19 35.1**	**+2.9**
	0.3nm,0.3s,baz=236,slow=22,SNR=2.2							
ROSC				LR	LR	08 20 13.7	
	comp=Z,60nm,20.1s,baz=268,slow=31							
SJAC	**San Juan de Ar**	**8.82**	**100**	*e*P	**Pn**	**08 18 02.0**	**-2.7**
CHIC	**Chingaza**	**8.90**	**91**	*e*P	**Pn**	**08 18 04.8**	**-1.3**
VILC	**Villavicencio,**	**8.97**	**94**	*e*P	**Pn**	**08 18 04.8**	**-2.0**
RUSC	**La Rusia**	**9.60**	**83**	*e*P	**Pn**	**08 18 15.0**	**-0.8**
BARC	**Barichara**	**9.60**	**79**	*e*P	**Pn**	**08 18 15.6**	**0.0**
TGUH	**Tegucigalpa,Un**	**10.27**	**334**	*e*Pn	**Pn**	**08 18 28.4**	**+3.9**
ATAH	**Atahualpa**	**12.59**	**160**	LR	LR	08 23 24.5	
	comp=Z,249nm,18.4s,baz=4.1,slow=36							
URIC	**Uribia, Colomb**	**12.59**	**56**	*e*P	**Pn**	**08 18 55.2**	**-1.1**
PCRV	**Puerto La Cruz**	**18.65**	**72**	P	**P**	**08 20 15.3**	**+0.1**
	0.2nm,0.3s,baz=211,slow=5.1,SNR=11							
LRS	**Lares**	**20.47**	**48**	*e*P	**P**	**08 20 34.9**	**-0.2**
SJG	**San Juan**	**20.88**	**49**	P	**P**	**08 20 40.1**	**+0.7**
	12nm,0.8s,baz=240,slow=11,SNR=6.9							
SJG	**San Juan**	**20.88**	**49**	*e*P	**P**	**08 20 39.4**	**-0.1**
	18nm,0.9s							
HUMP	**Col San Antoni**	**21.13**	**50**	*e*P	**P**	**08 20 41.6**	**-0.5**
	29nm,1.1s							
CBYP	**Canovanas**	**21.20**	**49**	*e*P	**P**	**08 20 43.0**	**0.0**
	38nm,1.2s							
SVB	**Belmont**	**22.75**	**67**	*e*P	**P**	**08 20 60.0**	**+0.4**
	136nm,1.6s							
SMRT	**St. Maarten**	**23.25**	**54**	*e*P	**P**	**08 21 03.3**	**-1.4**
	16nm,0.8s							
PTGA	**Pitinga**	**23.33**	**103**	P	**P**	**08 21 04.2**	**-1.3**
	0.8nm,0.3s,baz=286,slow=11,SNR=3.1							
PTGA				LR	LR	08 30 10.4	
	comp=Z,231nm,19.3s,baz=288,slow=37							
SAML	**Samuel**	**23.74**	**125**	*e*P	**P**	**08 21 07.9**	**-1.6**
	6.8nm,1.1s							
SAML				*e*ScS	ScS	08 32 16.1	-2.9
LPAZ	**La Paz**	**25.40**	**146**	P	**P**	**08 21 23.0**	**-2.4**
	1.6nm,0.6s,baz=317,slow=8.7,SNR=10							
LPAZ	**La Paz**	**25.40**	**146**	*e*P	**P**	**08 21 24.4**	**-1.1**
	4.1nm,1.0s							
LRAL	**Lakeview Retre**	**28.39**	**352**	*e*P	**P**	**08 21 52.1**	**+0.6**
	17nm,1.8s							
SIV	**San Ignacio**	**29.71**	**134**	LR	LR	08 35 01.5	
	comp=Z,61nm,19.5s,baz=219,slow=39							
TXAR	**Lajitas Array**	**31.48**	**323**	P	**P**	**08 22 20.4**	**+1.3**
	0.2nm,0.7s,baz=134,slow=8.9,SNR=3.1							
TXAR				PcP	**PcP**	**08 25 11.9**	**-0.3**
	0.2nm,0.7s,baz=151,slow=3.9,SNR=2.2							
TZTN	**Tazewell**	**31.61**	**359**	*e*P	**P**	**08 22 21.4**	**+1.3**
	22nm,1.8s							
OLIL	**Olney**	**34.15**	**352**	*e*P	**P**	**08 22 42.5**	**+0.3**
	11nm,0.9s							
OLIL				*e*ScP	**ScP**	**08 29 06.5**	**+2.2**
MNTX	**Cornudas Mount**	**34.22**	**324**	*e*P	**P**	**08 22 44.0**	**+1.1**
	2.8nm,1.0s							
121A	**Cookes Peak, D**	**36.24**	**323**	*e*P	**P**	**08 23 03.0**	**+2.5**
	11nm,1.0s							
BNM	**Barren Site**	**36.72**	**326**	*e*P	**P**	**08 23 07.6**	**+2.9**
ANMO	**Albuquerque**	**37.22**	**327**	*e*P	**P**	**08 23 11.0**	**+2.1**
	5.7nm,1.0s							
TUC	**Tucson**	**37.97**	**320**	*e*P	**P**	**08 23 17.2**	**+2.1**
	3.2nm,1.0s							
SDCO	**Great Sand Dun**	**38.87**	**331**	*e*P	**P**	**08 23 24.3**	**+1.4**
	6.3nm,1.1s							
X18A	**Snowflake**	**38.92**	**323**	*e*P	**P**	**08 23 26.1**	**+2.9**
	4.9nm,0.9s							
W18A	**Petrified Fore**	**39.20**	**324**	*e*P	**P**	**08 23 28.5**	**+2.9**
	15nm,1.0s							
ACCN	**Adirondack Com**	**39.25**	**10**	*e*P	**P**	**08 23 26.4**	**+0.8**
	41nm,1.9s							
S22A	**4UR Ranch, Cre**	**39.53**	**329**	*e*P	**P**	**08 23 29.1**	**+0.7**
	4.2nm,1.1s							
X16A	**Lo Mia Camp, P**	**39.76**	**322**	*e*P	**P**	**08 23 32.4**	**+2.1**
	3.7nm,0.8s							
MVCO	**Mesa Verde**	**40.00**	**327**	*e*P	**P**	**08 23 34.1**	**+1.8**
	7.1nm,1.0s							
Y14A	**Wickenburg**	**40.44**	**320**	*e*P	**P**	**08 23 38.1**	**+2.3**
	16nm,1.3s							
WUAZ	**Wupatki**	**40.45**	**323**	*e*P	**P**	**08 23 38.2**	**+2.3**
	13nm,1.0s							
ISCO	**Idaho Springs**	**40.55**	**332**	*e*P	**P**	**08 23 39.0**	**+2.1**
	2.3nm,0.9s							
SMCO	**Snowmass**	**40.70**	**331**	*e*P	**P**	**08 23 39.8**	**+1.5**
	3.3nm,0.8s							
PV05	**Paradox Valley**	**40.96**	**328**	*e*P	**P**	**08 23 42.5**	**+2.3**
GLA	**Glamis**	**41.10**	**317**	*e*P	**P**	**08 23 43.9**	**+2.7**
	5.2nm,0.8s							
PV10	**Paradox Valley**	**41.15**	**328**	*e*P	**P**	**08 23 43.7**	**+1.9**
U15A	**North Rim**	**41.61**	**323**	*e*P	**P**	**08 23 47.3**	**+1.7**
	8.0nm,1.1s							
W13A	**Hualapai Mount**	**41.73**	**320**	*e*P	**P**	**08 23 49.0**	**+2.4**
	3.7nm,0.9s							
PKCU	**Pink Cliffs**	**42.31**	**324**	*e*P	**P**	**08 23 54.8**	**+3.5**
	19nm,1.5s							
KNB	**Kanab**	**42.32**	**323**	*e*P	**P**	**08 23 53.7**	**+2.4**
	7.7nm,1.1s							
SRU	**San Rafael Swe**	**42.48**	**327**	*e*P	**P**	**08 23 54.1**	**+1.5**
	8.1nm,1.2s							
Q16A	**Castle Valley**	**42.69**	**327**	*e*P	**P**	**08 23 55.4**	**+1.0**
	9.7nm,1.7s							
P17A	**Butcher Ranch,**	**42.85**	**328**	*e*P	**P**	**08 23 57.2**	**+1.6**
	4.2nm,1.1s							
MSU	**Marysvale**	**42.96**	**325**	*e*P	**P**	**08 23 58.6**	**+2.0**
CCUT	**Cedar City**	**43.00**	**323**	*e*P	**P**	**08 23 58.8**	**+1.9**
	3.5nm,1.0s							
SHPR	**Sheep Range**	**43.42**	**321**	*e*P	**P**	**08 24 02.6**	**+2.4**
	4.9nm,1.0s							
LMQ	**La Malbie**	**43.90**	**12**	*e*P	**P**	**08 24 04.7**	**+1.0**
	14nm,1.0s							
PDAR	**Pinedale Array**	**44.72**	**332**	P	**P**	**08 24 11.2**	**+0.6**
	0.4nm,0.7s,baz=115,slow=10.0,SNR=4.8							
PDAR				LR	LR	08 43 47.2	
	comp=Z,26nm,18.4s,baz=182,slow=37							
HWUT	**Hardware Ranch**	**44.84**	**329**	*e*P	**P**	**08 24 12.5**	**+1.0**
	6.5nm,1.1s							
R11A	**Troy Canyon, C**	**44.85**	**323**	*e*P	**P**	**08 24 13.0**	**+1.4**
	3.5nm,0.9s							
BGU	**Big Grassy Mou**	**45.12**	**327**	*e*P	**P**	**08 24 14.7**	**+1.0**
	4.8nm,1.1s							
REDW	**Red Top Meadow**	**45.78**	**331**	*e*P	**P**	**08 24 21.2**	**+2.1**
	4.6nm,1.0s							
NV11	**Mina Array Sit**	**46.48**	**321**	*e*P	**P**	**08 24 26.9**	**+2.3**
	5.2nm,0.9s							
NV01	**Mina Array Sit**	**46.57**	**321**	*e*P	**P**	**08 24 26.2**	**+0.9**
NVAR	**Mina Array Bea**	**46.57**	**321**	P	**P**	**08 24 26.2**	**+0.8**
	3.5nm,0.7s,baz=138,slow=6.4,SNR=5.1							
BMN	**Battle Mountai**	**47.15**	**324**	*e*P	**P**	**08 24 31.6**	**+1.8**
	14nm,1.3s							
WAKR	**Walker**	**47.33**	**320**	*e*P	**P**	**08 24 32.0**	**+0.7**
BOZ	**Bozeman (W)**	**47.88**	**333**	*e*P	**P**	**08 24 36.6**	**+1.3**
	15nm,1.8s							
WVOR	**Wild Horse Val**	**49.25**	**325**	*e*P	**P**	**08 24 47.2**	**+1.4**
	15nm,1.1s							
ORV	**Oroville**	**49.25**	**320**	*e*P	**P**	**08 24 47.5**	**+1.6**
	6.4nm,1.0s							
SCHQ	**Schefferville**	**51.51**	**12**	P	**P**	**08 25 02.7**	**0.0**
	10nm,1.1s,baz=174,slow=7.8,SNR=5.3							
YKA	**Yellowknife Ar**	**62.22**	**344**	P	**P**	**08 26 17.8**	**-0.7**
	1.1nm,0.8s,baz=140,slow=6.4,SNR=14							
DLBC	**Dease Lake**	**64.81**	**335**	*e*P	**P**	**08 26 38.2**	**+2.3**
	5.5nm,1.0s							
INK	**Inuvik**	**71.89**	**342**	*e*P	**P**	**08 27 21.7**	**+1.9**
	3.6nm,1.0s							
SUMG	**Summit**	**72.89**	**13**	*e*P	**P**	**08 27 26.3**	**+0.1**
	7.0nm,1.1s							
IL1	**Eielson Array**	**74.89**	**336**	*e*P	**P**	**08 27 38.3**	**+0.7**
ILAR	**Eielson Array**	**74.89**	**336**	P	**P**	**08 27 37.4**	**-0.3**
	0.7nm,0.8s,baz=129,slow=4.5,SNR=8.1							
ILB	**Eielson Array**	**74.89**	**336**	*e*P	**P**	**08 27 37.6**	**0.0**
ESDC	**Sonseca Array**	**78.26**	**51**	P	**P**	**08 27 58.3**	**+1.0**
	0.5nm,0.5s,baz=265,slow=6.0,SNR=5.0							
TORD	**Torodi Ar. Bea**	**83.44**	**77**	P	**P**	**08 28 25.1**	**-0.4**
	0.2nm,0.5s,baz=289,slow=4.4,SNR=5.5							
NOA	**NORSAR Array B**	**87.73**	**29**	LR	LR	09 04 04.1	
	comp=Z,11nm,21.0s,baz=310,slow=33							
GERES	**GERESS Array B**	**90.62**	**41**	LR	LR	09 02 59.8	
	comp=Z,13nm,21.9s,baz=61,slow=31							
FINES	**FINESS Array B**	**94.65**	**27**	LR	LR	09 06 57.5	
	comp=Z,14nm,22.0s,baz=165,slow=32							
H11N3	**WAKE ISLAND Hyl**	**107.45**	**292**	T	T	10 30 23.0	
	baz=79,slow=75,SNR=96							
H11N2	**WAKE ISLAND Hyl**	**107.46**	**292**	T	T	10 30 23.6	
	baz=79,slow=75,SNR=81							
H11N1	**WAKE ISLAND Hyl**	**107.47**	**292**	T	T	10 30 24.3	
	baz=79,slow=75,SNR=78							
LZH	**Lanzhou**	**138.88**	**352**	*e*PKP	**PKPdf**	**08 35 24.0**	**-2.4**
LZH				pPKP	PKiKP	08 35 27.2	+0.7
LZH				sPKP		08 35 28.6	
LZH				LR	LR		
	comp=N,100nm,18.0s						
LZH				LR	LR		
	comp=E,110nm,18.2s						
LZH				LR	LR		
	comp=Z,140nm,20.0s						
AS01	**Alice Springs**	**140.04**	**238**	*e*PKPdf	**PKPdf**	**08 35 24.4**	**-2.3**
ASAR	**Alice Springs**	**140.08**	**238**	PKhKP	PKPpre	08 35 15.5	
	comp=Z,0.3nm,0.8s,baz=108,slow=2.7,SNR=3.1						
ASAR				PKP	**PKPdf**	**08 35 24.4**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=110,slow=1.9,SNR=12						
WB2	**Warramunga Arr**	**140.96**	**244**	*e*PKPdf	**PKPdf**	**08 35 26.4**	**-1.9**
WRAB	**Tennant Creek**	**140.96**	**244**	*e*PKPdf	**PKPdf**	**08 35 25.8**	**-2.6**
WRA	**Warramunga Arr**	**140.97**	**244**	PKhKP	PKPpre	08 35 20.2	
	comp=Z,1.0nm,0.6s,baz=108,slow=2.5,SNR=7.6						
WRA				PKP	**PKPdf**	**08 35 25.8**	**-2.6**
	comp=Z,1.1nm,0.6s,baz=105,slow=2.2,SNR=18						
MTN	**Manton Dam**	**145.69**	**254**	*e*PKPdf	**PKPdf**	**08 35 35.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**149.33**	**242**	*e*PKPdf	**PKPdf**	**08 35 44.2**	**+1.5**

GUC 04 08:18:41.5±0.3,40˚48S×72˚09W,h14km±3km,ML3.6, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.11**	**307**	*e*P	Pb	08 19 02.3	-0.2
VLCH				*e*S	Sn	08 19 18.5	+0.7
VLCH				IAML		08 19 22.9	
	comp=E,3μm,0.0s						
PLCA	**Paso Flores**	**1.20**	**103**	*e*P	Pg	08 19 04.4	-0.2
PLCA				*e*S	Sg	08 19 21.4	+1.2

MEX 04 08:34:00.9±0.6,14˚11N×93˚15W,h16km±164km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.59**	**357**	*e*P	Pn	08 34 24.8	-3.6
PCIG				*e*S	Sn	08 34 43.5	-5.2
CCIG	**Comitan**	**2.37**	**24**	*e*P	Pn	08 34 38.9	-0.5
CCIG				*e*S	Sn	08 35 03.6	-4.6

IDC 04 08:35:46.2±5.3,15˚65S×172˚84W,h0km,mb4.0/3, mb1 4.1/4,mb1mx3.7/33,mbtmp4.0/4,ML3.8/1,MS2.6/1, Ms1 2.6/1,ms1mx2.4/30,Error ellipse: s-maj=218.1km s-min=26.5km az=134.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.02**	**31**	Pn	Pn	08 36 21.6	0.0
	33nm,0.3s,baz=198,slow=3.4,SNR=29						
AFI				Sn	Sn	08 36 41.8	-5.8
	156nm,0.3s,baz=118,slow=20,SNR=16						
AFI				LR	LR	08 37 13.2	
	comp=Z,146nm,20.6s,baz=24,slow=43						
STKA	**Stephens Creek**	**44.38**	**240**	P	P	08 43 59.0	+0.2
	2.6nm,1.0s,baz=96,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**50.31**	**257**	P	P	08 44 44.9	-0.2
	0.6nm,0.5s,baz=94,slow=6.7,SNR=23						
ASAR	**Alice Springs**	**50.54**	**252**	P	P	08 44 46.6	-0.3
	1.5nm,0.6s,baz=88,slow=8.4,SNR=29						

ISCJB ***04*** *08:38:09.7±0.5,32˚42N±0˚.02×115˚53W±0˚.03,h10km±4km, Error ellipse: s-maj=4.2km s-min=4.0km az=145.6*
ECX ***04*** *08:38:11.1±0.6,32˚42N×115˚53W,h5km,MD2.8,ML2.9*

ISC 04 08:38:09.3±1.1,32˚41N±0˚.03×115˚52W±0˚.03,h14km±9km, n31,σ0°54/43,6C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**87**	⇑*i*P	**Pb**	**08 38 14.7**	**+0.2**
CPBX				⇓*e*		08 38 19.1	
CPBX				AML	AML	08 38 19.1	
	comp=E,5μm,0.3s						
SGL	**Mount Signal**	**0.29**	**324**	⇓*i*P	**Pg**	**08 38 15.7**	**+0.2**
ERPC	**Ernies Place**	**0.35**	**340**	⇓*i*P	**Pb**	**08 38 17.4**	**0.0**
WESC	**Westside Schoo**	**0.39**	**333**	⇓*i*P	**Pb**	**08 38 17.8**	**-0.2**
DREC	**Desert Rsrch C**	**0.40**	**9**	*e*P	**Pb**	**08 38 18.5**	**+0.4**
YUH	**Yuha Desert**	**0.41**	**305**	⇑*i*P	**Pg**	**08 38 17.8**	**+0.2**
COK	**Cook Ranch**	**0.47**	**338**	⇓*i*P	**Pb**	**08 38 19.5**	**+0.1**
RMX	**La Rumorosa**	**0.51**	**292**	⇓*e*P	**Pg**	**08 38 19.1**	**-0.2**
RMX				*e*S	**Sg**	**08 38 25.9**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.55**	**296**	P	**Pg**	**08 38 20.4**	**+0.2**
	baz=121,SNR=16						
IKP				S	**Sg**	**08 38 27.5**	**0.0**
	baz=121						
IKP	**In-Ko-Pah, Jac**	**0.55**	**296**	⇑*i*P	**Pg**	**08 38 20.4**	**+0.2**
SWSC	**Sam W. Stewart**	**0.58**	**336**	P	**Pg**	**08 38 20.9**	**+0.2**
	baz=160,SNR=27						
GLA	**Glamis**	**0.87**	**42**	P	**Pb**	**08 38 25.8**	**-0.4**
	baz=222,SNR=9.8						
GLA				S	**Sg**	**08 38 37.3**	**-0.3**
	baz=222						
MONP2	**Monument Peak**	**0.90**	**303**	P	**Pb**	**08 38 26.8**	**0.0**
	baz=125,SNR=38						
MONP2				S	**Sb**	**08 38 38.2**	**-0.5**
	baz=125						
CBX	**Cerro Bola**	**0.97**	**265**	*e*P	**Pn**	**08 38 28.3**	**-0.3**
TJIG	**Tijuana**	**0.98**	**272**	⇑*e*P	**Pb**	**08 38 27.9**	**-0.1**
BAR	**Barrett**	**1.01**	**286**	⇑*i*P	**Pb**	**08 38 28.5**	**-0.1**
ECBX	**El Chinero**	**1.02**	**157**	*e*P	**Pg**	**08 38 29.4**	**+0.5**
ECBX				*e*S	**Sn**	**08 38 43.3**	**+0.1**
ECBX				AML	AML	08 38 46.5	
	comp=N,211nm,0.4s						
ECBX				⇓*e*		08 38 46.5	
ZAX	**El Zacaton**	**1.10**	**216**	⇓*e*P	**Pg**	**08 38 30.5**	**0.0**
ZAX				*i* S	**Sg**	**08 38 45.0**	**+0.1**
ZAX				AML	AML	08 38 47.7	
	comp=N,358nm,0.5s						
ECNX	**Esteban Cantu**	**1.18**	**231**	*i* P	**Pg**	**08 38 31.9**	**-0.2**
PBX	**Punta Banda**	**1.22**	**237**	*e*P	**Pb**	**08 38 32.3**	**+0.2**
SDRC	**San Diego Road**	**1.24**	**286**	*e*P	**Pb**	**08 38 32.4**	**-0.1**
BC3	**Big Chuckawall**	**1.24**	**3**	P	**Pn**	**08 38 31.4**	**-0.9**
	baz=183,SNR=8.5						
SPIG	**San Pedro Mart**	**1.36**	**178**	*e*P	**Pb**	**08 38 34.5**	**-0.2**
109C	**Camp Elliot, M**	**1.42**	**290**	P	**Pb**	**08 38 35.4**	**-0.1**
	baz=111,SNR=11						
109C				S	**Sb**	**08 38 53.3**	**-0.2**
	baz=111						
TPFO	**Pinon Flats**	**1.43**	**327**	P	**Pn**	**08 38 34.4**	**-0.5**
	baz=148,SNR=9.9						
TPFO				S	**Sb**	**08 38 54.2**	**+0.4**
	baz=148						
PFO	**Pinyon Flats O**	**1.44**	**327**	P	**Pn**	**08 38 34.3**	**-0.6**
	baz=148						
PFO				S	**Sb**	**08 38 54.5**	**+0.5**
	baz=148						
Y12C	**Blythe**	**1.58**	**32**	P	**Pb**	**08 38 37.4**	**-0.8**
	baz=212						
Y12C				S	**Sb**	**08 38 58.5**	**+0.5**
	baz=212						
BELC	**Belle Mtn. Jos**	**1.64**	**346**	P	**Pn**	**08 38 37.3**	**-0.5**
	baz=167						
IRM	**Iron Mountain**	**1.77**	**10**	Pb	**Pb**	**08 38 42.0**	**+0.4**
	baz=191,SNR=11						
MURC	**Murrieta**	**1.84**	**311**	Pb	**Pb**	**08 38 42.9**	**+0.1**
	baz=131,SNR=6.1						
MURC				Sb	**Sb**	**08 39 07.1**	**+1.5**
	baz=131						
BFSC	**Mount Baldy Ra**	**2.56**	**316**

JIO eS **Sn** 09 08 49.3 -0.1
OFUJ Ofunato 2.21 314 P **Pn** 09 08 26.7 0.0
OFUJ eS **Sn** 09 08 52.1 -0.7
JFT Otama 2.69 270 P **Pn** 09 08 34.2 +0.9
JFT eS **Sn** 09 09 04.9 +0.2
JOM Ohasama 2.69 316 P **Pn** 09 08 33.9 +0.6
JOM eS **Sn** 09 09 04.6 -0.1
JANG Nango 3.29 329 eS **Sn** 09 09 18.1 -1.3
JAG Ashikaga 3.60 253 P **Pn** 09 08 46.4 +0.6
JAG eS **Sn** 09 09 26.2 -0.9
BSO1 Boso 1 3.66 218 P **Pn** 09 08 45.3 -0.8
JRY Ryogami san 4.17 250 P **Pn** 09 08 53.8 +0.2
JRY eS **Sn** 09 09 38.6 -2.5
MJAR Matsushiro Arr 4.53 259 Pn **Pn** 09 09 00.3 +1.7
1.3nm,0.3s,baz=88,slow=16,SNR=14
MJAR Sn **Sn** 09 09 51.4 +1.4
0.6nm,0.3s,baz=7.8,slow=24,SNR=4.6
MAT Matsushiro 4.53 259 P **Pn** 09 09 00.8 +2.3
MAT eS **Sn** 09 09 51.6 +1.6
JCH Churui 5.05 357 P **Pn** 09 09 05.0 -0.7
JCH eS **Sn** 09 09 58.8 -4.0
JHJ Hachijo jima 2 5.48 217 Pn **Pn** 09 09 11.1 -0.5
1.8nm,0.3s,baz=122,slow=23,SNR=2.7
JHJ Sn **Sn** 09 10 06.5 -6.9
4.6nm,0.3s,baz=82,slow=18,SNR=2.2
ASAJ Asahikawa 6.60 353 Pn **Pn** 09 09 28.0 +1.0
ASAJ Sn **Sn** 09 10 38.0 -2.9
0.3nm,0.3s,baz=229,slow=30,SNR=2.9
PETK Petropavlovsk- 18.33 28 LR LR 09 19 22.9
comp=Z,16nm,20.0s,baz=119,slow=38
MA2 Magadan 22.49 9 LR LR 09 22 15.9
comp=Z,8.6nm,18.3s,baz=122,slow=38
KURBB Kurchatov Arra 47.13 308 P **P** 09 16 22.2 +1.2
0.4nm,0.5s,baz=80,slow=8.0,SNR=4.1
ILAR Eielson Array 48.06 33 P **P** 09 16 28.2 +0.1
0.4nm,0.6s,baz=264,slow=6.8,SNR=6.6
BVAR Borovoye Array 51.58 312 LR LR 09 40 18.3
comp=Z,120nm,21.1s,baz=253,slow=38
WRA Warramunga Arr 57.88 190 P **P** 09 17 40.7 -0.1
0.3nm,0.6s,baz=12,slow=7.4,SNR=6.9
ASAR Alice Springs 61.60 190 P **P** 09 18 06.4 -0.1
0.3nm,0.8s,baz=9.7,slow=6.6,SNR=3.8

*ISCJB **04** 09:19:03.0±0.5,39.°10N±0.°02×29.°01E±0.°03,h2km±6km, Error ellipse: s-maj=4.4km s-min=3.6km az=142.8*
*ISK **04** 09:19:02.7,39.°11N×28.°99E,h6km,MD2.9*
*CSEM **04** 09:19:03.3±0.1,39.°11N×29.°00E,h5km,MD2.9,Error ellipse: s-maj=1.7km s-min=1.6km az=117.0*
*DDA **04** 09:19:03.1,39.°09N×29.°01E,h7km,Md2.9*

ISC 04 09:19:03.5±0.9,39.°10N±0.°02×29.°01E±0.°02,h10km±8km, n41,σ0°43/60,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**255**	P	**Pg**	**09 19 08.4**	**+0.1**
DEMI				S	**Sg**	**09 19 12.0**	**+0.4**
DEMI	**Demirci**	**0.23**	**255**	*i* P	**Pg**	**09 19 08.4**	**+0.1**
DEMI				*i* S	**Sg**	**09 19 12.0**	**+0.4**
GDZ	**Gediz**	**0.37**	**92**	P	**Pg**	**09 19 10.7**	**-0.2**
GDZ				S	**Sg**	**09 19 16.0**	**+0.2**
GDZ	**Gediz**	**0.37**	**92**	*i* P	**Pg**	**09 19 10.7**	**-0.2**
GDZ				*i* S	**Sg**	**09 19 16.0**	**+0.2**
TVSB	**Tavsanli**	**0.49**	**46**	*e*PG	**Pg**	**09 19 12.9**	**-0.3**
TVSB				*e*SG	**Sg**	**09 19 19.7**	**0.0**
TVSB	**Tavsanli**	**0.49**	**46**	*e*Pg	**Pg**	**09 19 12.9**	**-0.3**
TVSB				*e*Sg	**Sg**	**09 19 19.7**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*PG	**Pg**	**09 19 15.6**	**-0.4**
KULA				*e*SG	**Sg**	**09 19 24.5**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*Pg	**Pg**	**09 19 15.6**	**-0.4**
KULA				*e*Sg	**Sg**	**09 19 24.5**	**0.0**
KHAL	**Karahalli**	**0.82**	**152**	P	**Pg**	**09 19 19.4**	**0.0**
KHAL				S	**Sg**	**09 19 29.3**	**-0.9**
KHAL	**Karahalli**	**0.82**	**152**	*i* P	**Pg**	**09 19 19.4**	**0.0**
KHAL				*i* S	**Sg**	**09 19 29.3**	**-0.9**
KHL	**Karahalli**	**0.88**	**152**	*e*PG	**Pb**	**09 19 20.6**	**-0.2**
KHL				*e*SG	**Sb**	**09 19 32.8**	**+0.2**
KHL	**Karahalli**	**0.88**	**152**	*e*Pg	**Pb**	**09 19 20.6**	**-0.2**
KHL				*e*Sg	**Sb**	**09 19 32.8**	**+0.2**
ORLT	**Orhaneli**	**0.94**	**355**	*e*PG	**Pg**	**09 19 21.1**	**-0.6**
ORLT				*e*SG	**Sb**	**09 19 34.2**	**-0.4**
ORLT	**Orhaneli**	**0.94**	**355**	*e*Pg	**Pg**	**09 19 21.1**	**-0.6**
ORLT				*e*Sg	**Sb**	**09 19 34.2**	**-0.4**
AKHS	**Akhisar**	**0.95**	**257**	P	**Pg**	**09 19 21.2**	**-0.7**
AKHS				S	**Sb**	**09 19 35.2**	**+0.4**
AKHS	**Akhisar**	**0.95**	**257**	*i* P	**Pg**	**09 19 21.2**	**-0.7**
AKHS				*i* S	**Sb**	**09 19 35.2**	**+0.4**
AKS	**Akhisar**	**0.96**	**257**	*e*PG	**Pg**	**09 19 21.4**	**-0.5**
AKS	**Akhisar**	**0.96**	**257**	*e*Pg	**Pg**	**09 19 21.4**	**-0.5**
BALB	**Balikesir**	**1.02**	**302**	*e*PG	**Pg**	**09 19 22.4**	**-0.8**
BALB	**Balikesir**	**1.02**	**302**	*e*Pg	**Pg**	**09 19 22.4**	**-0.8**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pg**	**09 19 25.1**	**-0.9**
IGD				*i* S	**Sn**	**09 19 42.6**	**+0.7**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*PN	**Pn**	**09 19 27.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*Pn	**Pn**	**09 19 27.4**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*PN	**Pg**	**09 19 27.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*Pn	**Pg**	**09 19 27.7**	**-0.1**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pg**	**09 19 28.0**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pg**	**09 19 28.0**	**0.0**
IZI	**Iznik**	**1.28**	**16**	*e*PN	**Pg**	**09 19 28.1**	**0.0**
IZI	**Iznik**	**1.28**	**16**	*e*Pn	**Pg**	**09 19 28.1**	**0.0**
BORA	**Eskisehir**	**1.36**	**55**	P	**Pb**	**09 19 29.2**	**+0.1**
BORA				S	**Sb**	**09 19 45.8**	**-0.8**
BORA	**Eskisehir**	**1.36**	**55**	*i* P	**Pb**	**09 19 29.2**	**+0.1**
BORA				*i* S	**Sb**	**09 19 45.8**	**-0.8**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*PN	**Pn**	**09 19 28.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*Pn	**Pn**	**09 19 28.7**	**-0.1**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pb**	**09 19 30.7**	**-0.1**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pb**	**09 19 30.7**	**-0.1**
EDC	**Edincik**	**1.52**	**325**	*e*PN	**Pb**	**09 19 31.9**	**+0.1**
EDC	**Edincik**	**1.52**	**325**	*e*Pn	**Pb**	**09 19 31.9**	**+0.1**
GULT	**Gulveren**	**1.77**	**41**	*e*PN	**Pn**	**09 19 34.6**	**+0.5**
GULT	**Gulveren**	**1.77**	**41**	*e*Pn	**Pn**	**09 19 34.6**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.12**	**319**	*e*PN	**Pn**	**09 19 39.5**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.12**	**319**	*e*Pn	**Pn**	**09 19 39.5**	**+0.6**

IDC 04 09:30:08.3±4.1,16.°29S×72.°13W,h150km±34km,mb3.3/2, mb1 3.3/4,mb1mx3.1/22,mbtmp3.6/4,Error ellipse: s-maj=42.2km s-min=22.7km az=116.0,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.84**	**90**	P	Pn	09 31 06.9	-0.1
LPAZ	0.2nm,0.3s,baz=284,slow=9.6,SNR=12			S	Sn	09 31 53.1	+0.6
LVC	**Limon Verde**	**6.98**	**155**	P	Pn	09 31 48.6	+0.1
LVC	0.1nm,0.3s,baz=247,slow=13,SNR=4.2 9.5nm,0.3s,baz=328,slow=13,SNR=5.9			S	Sn	09 33 07.2	+0.3
TORD	**Torodi Ar. Bea**	**78.60**	**73**	P	P	09 41 54.1	+0.1
YKA	86nm,0.3s,baz=354,slow=15,SNR=17 **Yellowknife Ar**	**85.30**	**342**	P	P	09 42 27.9	0.0
	0.3nm,0.5s,baz=265,slow=4.7,SNR=9.1 0.4nm,0.8s,baz=129,slow=4.5,SNR=5.1						

*IDC **04** 09:39:28.6±0.9,52.°68N×171.°01E,h0km,mb3.5/6, mb1 3.8/7,mb1mx3.5/53,mbtmp3.5/7,ML2.5/1,MS3.0/2, Ms1 3.0/2,ms1mx2.4/45,Error ellipse: s-maj=36.4km s-min=20.2km az=151.0*
*ISCJB **04** 09:39:30.6±0.8,52.°9N±0.°2×170.°7E±0.°1,h24km,mb3.5/6, MS3.5/1,Error ellipse: s-maj=25.5km s-min=10.0km az=175.4*

ISC 04 09:39:32.4±1.1,52.°8N±0.°2×170.°87E±0.°09,h24km,n15, σ1°§14/8,mb3.7/6,Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.96**	**278**	Pn	**Pn**	**09 41 28.0**	**+1.4**
PETK	0.3nm,0.3s,baz=87,slow=17,SNR=6.4			Sn	**Sn**	**09 42 54.0**	**-1.9**
MA2	0.2nm,0.3s,baz=104,slow=15,SNR=2.6 **Magadan**	**13.06**	**309**	LR	LR	09 47 49.1	
ILAR	comp=Z,28nm,18.0s,baz=129,slow=38 **Eielson Array**	**24.43**	**44**	P	**P**	**09 44 49.0**	**+0.2**
H11N2	0.4nm,0.5s,baz=249,slow=7.1,SNR=12 **WAKE ISLAND Hy 33.14 187**			T	T	10 21 25.6	
H11N3	baz=4.8,slow=76,SNR=8.4 **WAKE ISLAND Hy 33.15 187**			T	T	10 21 30.4	
	baz=4.8,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy 33.16 187**			T	T	10 21 26.9	
	baz=4.8,slow=76,SNR=8.9						
H11S1	**WAKE ISLAND Hy 34.37 187**			T	T	10 22 56.9	
	baz=4.6,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy 34.38 187**			T	T	10 22 59.7	
	baz=4.6,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy 34.38 187**			T	T	10 22 59.8	
	baz=4.6,slow=76,SNR=9.5						
YKA	**Yellowknife Ar**	**38.84**	**46**	P	**P**	**09 46 54.6**	**-0.5**
	0.3nm,0.8s,baz=291,slow=7.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**53.37**	**308**	P	**P**	**09 48 49.9**	**+0.4**
	0.3nm,0.3s,baz=56,slow=7.7,SNR=5.5						
TXAR	**Lajitas Array**	**64.59**	**75**	P	**P**	**09 50 07.5**	**-0.3**
	0.3nm,0.4s,baz=306,slow=5.0,SNR=16						
WRA	**Warramunga Arr**	**79.06**	**215**	P	**P**	**09 51 33.9**	**-0.6**
	0.5nm,0.8s,baz=27,slow=6.7,SNR=4.0						
ASAR	**Alice Springs**	**82.66**	**214**	P	**P**	**09 51 53.8**	**+0.2**
	0.5nm,0.7s,baz=19,slow=5.4,SNR=5.8						
MMAI	**Mount Meron Ar**	**86.15**	**324**	LR	LR	10 34 05.0	
	comp=Z,19nm,19.4s,baz=185,slow=38						

IDC 04 09:50:01.9±2.3,6.°73S×129.°68E,h0km,mb3.5/1, mb1 3.4/4,mb1mx3.2/36,mbtmp3.3/4,ML3.3/3,MS3.4/1, Ms1 3.4/1,ms1mx2.4/31,Error ellipse: s-maj=88.2km s-min=29.7km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.97**	**199**	Pn	Pn	09 52 55.3	+1.4
	0.2nm,0.3s,baz=18,slow=8.9,SNR=11						
FITZ				Sn	Sn	09 54 58.6	-10
	0.6nm,0.3s,baz=189,slow=15,SNR=10.0						
FITZ				LR	LR	09 57 15.4	
	comp=Z,171nm,21.1s,baz=290,slow=36						
WRA	**Warramunga Arr**	**13.89**	**161**	Pn	Pn	09 53 19.6	-0.6
	0.1nm,0.3s,baz=342,slow=13,SNR=12						
WRA				Sn	Sn	09 55 40.7	-15
	0.4nm,0.3s,baz=342,slow=21,SNR=10.0						
ASAR	**Alice Springs**	**17.32**	**167**	P	Pn	09 54 04.5	-0.8
	0.1nm,0.3s,baz=345,slow=8.9,SNR=6.8						
ASAR				S	Sn	09 57 05.0	-14
	0.1nm,0.3s,baz=344,slow=26,SNR=6.4						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	10 01 01.9	0.0
	0.2nm,0.4s,baz=126,slow=5.8,SNR=3.5						

IDC 04 09:57:52.6±32.0,3.°94N×127.°12E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/47,mbtmp3.6/4,Error ellipse: s-maj=544.8km s-min=112.6km az=149.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.95**	**184**	P	P	10 02 47.8	-0.2
	1.4nm,0.8s,baz=4.4,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**24.77**	**164**	P	P	10 03 16.2	0.0
	1.2nm,0.6s,baz=344,slow=9.5,SNR=16						
ASAR	**Alice Springs**	**28.23**	**167**	P	P	10 03 47.5	+0.1
	0.3nm,0.6s,baz=345,slow=7.2,SNR=7.6						
STKA	**Stephens Creek**	**38.19**	**160**	P	P	10 05 14.0	-0.1
	1.6nm,0.8s,baz=345,slow=12,SNR=2.6						

*ISCJB **04** 10:04:19.2±0.2,45.°39N±0.°03×91.°58E±0.°03,h10km, mb4.5/44,MS3.3/14,Error ellipse: s-maj=4.0km s-min=2.6km az=19.7*
*IDC **04** 10:04:19.0±0.6,45.°25N×91.°68E,h0km,mb4.2/21, mb1 4.4/25,mb1mx4.1/50,mbtmp4.2/25,ML4.2/4,MS3.4/17, Ms1 3.4/17,ms1mx3.1/68,Error ellipse: s-maj=17.2km s-min=11.6km az=33.0*
*OBM **04** 10:04:20.6±0.2,45.°24N×91.°62E,h2km,Ml4.1/4,Error ellipse: s-maj=2.8km s-min=0.8km az=23.0*
*BJI **04** 10:04:20.6,45.°23N×91.°66E,h8km,mb4.3/33,mB4.5/24, ML4.5/10,Ms4.0/27,Ms7 3.8/25*
*NEIC **04** 10:04:21.0±0.3,45.°30N×91.°61E,h10km,mb4.8/13,Error ellipse: s-maj=6.9km s-min=4.7km az=188.0*
*MOS **04** 10:04:22.1±1.4,45.°33N×91.°49E,h27km,mb4.9/20,Error ellipse: s-maj=8.6km s-min=5.2km az=43.2*
*NNC **04** 10:04:25.2±3.1,45.°30N×91.°23E,h18km±23km,mb4.5, mpv4.5,Error ellipse: s-maj=25.6km s-min=21.0km az=17.0*

ISC 04 10:04:21.6±0.3,45.°40N±0.°04×91.°47E±0.°03,h10km,n235, σ2§09/258,mb4.5/44,MS3.3/14,19C-6D,Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HBD	**Hovd**	**2.66**	**1**	*e*Pg	Pb	10 05 11.4	+2.1
HBD				*e*Sg	Sg	10 05 47.6	+0.7
WMQ	**Urumqi**	**3.12**	**241**	Pn	**Pn**	**10 05 12.6**	**+1.6**
WMQ				Sg	**Sg**	**10 05 59.6**	**-2.3**
WMQ				SMN			
	2μm,0.5s						
WMQ				SME			
	2μm,0.8s						
BYO	**Bayan-Olgiy**	**3.77**	**344**	*e*Pg	Pg	10 05 34.7	+1.0
BYO				*e*Sg	Sg	10 06 27.1	+4.6
	2μm,0.5s						
ULG	**Ulaangom**	**4.62**	**4**	*e*Pg	Pb	10 05 46.9	+4.2
ULG				*e*Sg	Sg	10 06 48.8	-1.0
	4μm,0.4s						
MK01	**Makanchi Array**	**6.52**	**285**	*e*Pn	**Pn**	**10 05 59.1**	**+1.5**
MK01				*e*Sn	**Sn**	**10 07 13.2**	**+1.3**
MK31	**Makanchi Array**	**6.53**	**286**	Pn	**Pn**	**10 05 59.5**	**+1.8**
	8.9nm,0.3s,baz=97,slow=15,SNR=570						
MK31				Sn	**Sn**	**10 07 14.6**	**+2.4**
	56nm,0.5s,baz=88,slow=26,SNR=10.0						
MK31				⇑Lg	Lg	10 07 49.3	
	64nm,0.4s,baz=96,slow=29,SNR=4.6						
MK31	**Makanchi Array**	**6.53**	**286**	*e*P	**Pn**	**10 05 59.5**	**+1.8**
MK31						10 07 14.6	
MK31				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MK31				smax	smax		
	comp=N,36nm,0.4s						
MK31	**Makanchi Array**	**6.53**	**286**	*e*Pn	**Pn**	**10 05 59.4**	**+1.7**
MK31				*e*Sn	**Sn**	**10 07 14.4**	**+2.2**
MKAR	**Makanchi Array**	**6.53**	**286**	Pn	**Pn**	**10 05 59.4**	**+1.7**
	comp=N,14nm,0.3s,baz=96,slow=15,SNR=248						
MKAR				Pg	**Pg**	**10 06 23.3**	**-3.3**
	comp=N,12nm,0.3s,baz=91,slow=20,SNR=8.8						
MKAR				Sn	**Sn**	**10 07 14.8**	**+2.5**
	comp=N,54nm,0.3s,baz=92,slow=27,SNR=14						
MKAR				Lg	Lg	10 07 46.1	
	comp=N,21nm,0.3s,baz=79,slow=32,SNR=3.5						
MKAR				LR	LR	10 08 53.3	
	comp=N,243nm,19.4s,baz=66,slow=41						
MAKZ	**Makanchi**	**6.75**	**285**	⇑Pn	**Pn**	**10 06 02.2**	**+1.5**
	comp=N,8.1nm,0.3s						
MAKZ				⇑Sn	**Sn**	**10 07 19.1**	**+1.6**
	comp=N,100nm,0.6s						
MAKZ				⇓Lg	Lg	10 07 54.0	
	comp=N,290nm,0.9s						
MAKZ	**Makanchi**	**6.75**	**285**	P	**Pn**	**10 06 02.1**	**+1.5**
MAKZ				pmax	pmax		
	comp=Z,14nm,0.3s						
MAKZ	**Makanchi**	**6.75**	**285**	*e*Pn	**Pn**	**10 06 02.2**	**+1.5**
MAKZ				*e*Sn	**Sn**	**10 07 17.4**	**-0.1**
TTS	**Tsetserleg**	**7.15**	**69**	*e*Pg	Pb	10 06 31.0	+5.2
TTS				*e*Sg	Sg	10 08 04.3	-6.7
	comp=Z,420nm,0.7s						
HTG	**Hatgal**	**7.72**	**45**	*e*Pg	Pb	10 06 42.1	+6.7
HTG				*e*Sg	Sg	10 08 22.7	-6.3
	comp=Z,267nm,0.6s						
GTA	**Gaotai**	**8.60**	**131**	*e*P	**Pn**	**10 06 24.7**	**-1.5**
GTA				pP	pP	10 06 28.9	
GTA				sP	sP	10 06 31.9	
GTA				S	**Sn**	**10 08 03.4**	**+0.1**
GTA				sS	sS	10 08 07.6	
GTA				PMZ			
	comp=Z,4.0nm,1.0s						
GTA				PMZ			
	comp=Z,65nm,6.4s						
GTA				LN			
	comp=Z,320nm,11.4s						
GTA				LE			
	comp=Z,450nm,10.5s						
GTA				LZ			
	comp=Z,670nm,11.4s						
PDGK	**Podgornoye**	**8.83**	**261**	⇓Pn	**Pn**	**10 06 29.3**	**0.0**
	comp=Z,20nm,0.4s						
PDGK				⇑Sn	**Sn**	**10 08 05.2**	**-3.5**
	comp=Z,58nm,0.5s						
PDGK	**Podgornoye**	**8.83**	**261**	P	**Pn**	**10 06 29.2**	**0.0**
PDGK						10 08 05.2	
PDGK				pmax	pmax		
	comp=Z,20nm,0.4s						
PDGK				smax	smax		
	comp=N,59nm,0.5s						
DZBM		**9.36**	**95**	*e*Sg	Sn	10 09 11.2	+49
	comp=N,267nm,1.0s						
ZAA0	**Zalesovo Array**	**9.57**	**336**	*e*Pn	**Pn**	**10 06 39.4**	**0.0**
ZALV	**Zalesovo Beam**	**9.57**	**336**	Pn	**Pn**	**10 06 39.0**	**-0.3**
	comp=N,2.1nm,0.3s,baz=293,slow=12,SNR=2.8						
ZALV				Pg	Pg	10 07 19.2	
	comp=N,2.6nm,0.3s,baz=160,slow=15,SNR=4.7						
ZALV				Lg	Lg	10 09 17.7	
	comp=N,3.9nm,0.3s,baz=165,slow=23,SNR=3.6						
ZALV				LR	LR	10 10 26.9	
	comp=N,201nm,18.1s,baz=254,slow=38						
ZALV	**Zalesovo Beam**	**9.57**	**336**	P	**Pn**	**10 06 39.0**	**-0.3**
KURK	**Kurchatov**	**10.10**	**306**	P	**Pn**	**10 06 47.1**	**+0.5**
KURK						10 08 35.3	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK				smax	smax		
	comp=N,1.0nm,0.3s						
KURK	**Kurchatov**	**10.10**	**306**	*e*Pn	**Pn**	**10 06 47.0**	**+0.4**
	comp=N,29nm,0.4s						
KURK				Sn	**Sn**	**10 08 36.1**	**-3.8**
KURK				Lg	Lg	10 09 42.4	
KURBB	**Kurchatov Arra**	**10.11**	**306**	Pn	**Pn**	**10 06 47.1**	**+0.4**
	comp=N,1.1nm,0.3s,baz=114,slow=14,SNR=81						
KURBB				Sn	**Sn**	**10 08 35.3**	**-4.9**
	comp=N,0.7nm,0.3s,baz=114,slow=15,SNR=4.3						
KURBB				Lg	Lg	10 09 42.4	
	comp=N,1.8nm,0.3s,baz=115,slow=32,SNR=5.5						
KURBB	**Kurchatov Arra**	**10.11**	**306**	⇑Pn	**Pn**	**10 06 47.1**	**+0.4**
	comp=N,7.1nm,0.3s						
KURBB				⇑Sn	**Sn**	**10 08 42.0**	**+1.8**
	comp=N,66nm,0.8s						
KURBB				⇓Lg	Lg	10 09 42.9	
	comp=N,320nm,0.7s						
TLY	**Talaya**	**10.22**	**48**	Pg	Pg	10 07 28.3	
	comp=N,0.0nm,0.3s,baz=244,slow=13,SNR=7.4						
TLY				Lg	Lg	10 09 40.1	
	comp=N,0.0nm,0.3s,baz=80,slow=12,SNR=7.2						
TLY				LR	LR	10 10 47.1	
	comp=N,319nm,18.2s,baz=228,slow=38						
SONB4	**Songino Array**	**10.49**	**71**	*e*Sg		10 09 48.6	
	comp=N,110nm,0.7s						
SONB5	**Songino Array**	**10.49**	**71**	*e*Sg	Sn	10 09 48.5	+59
	comp=N,224nm,0.7s						
SONA0	**Songino Array**	**10.51**	**71**	*e*Sg	Sn	10 09 47.9	+58
	comp=N,207nm,0.9s						
SONA2	**Songino Array**	**10.51**	**71**	*e*Sg	Sn	10 09 48.0	+58
	comp=N,173nm,1.0s						
SONA1	**Songino Array**	**10.52**	**71**	*e*Sg	Sn	10 09 49.0	+59
	comp=N,179nm,0.8s						
SONA4	**Songino Array**	**10.52**	**71**	*e*Sg	Sn	10 09 48.2	+58
	comp=N,256nm,1.0s						
SONB1	**Songino Array**	**10.52**	**71**	*e*Sg	Sn	10 09 48.7	+58
	comp=N,216nm,1.0s						
SONA3	**Songino Array**	**10.52**	**71**	*e*Sg	Sn	10 09 48.2	+58
	comp=N,204nm,0.9s						
SONB3	**Songino Array**	**10.52**	**71**	*e*Sg	Sn	10 09 48.3	+58
	comp=N,254nm,1.1s						
SONB2	**Songino Ar. Si**	**10.53**	**71**	*e*Sg	Sn	10 09 49.0	+58
	comp=N,203nm,0.9s						
SONM	**Songino Array**	**10.56**	**71**	Pn	**Pn**	**10 06 54.0**	**+1.1**
	comp=N,0.1nm,0.3s,baz=252,slow=15,SNR=10						
SONM				Pg		10 07 34.0	
	comp=N,1.2nm,0.3s,baz=258,slow=17,SNR=7.8						
SONM				Sn	**Sn**	**10 08 50.6**	**-0.7**
	comp=N,0.8nm,0.3s,baz=268,slow=22,SNR=4.0						
SONM				Lg	Lg	10 09 52.0	
	comp=N,3.0nm,0.3s,baz=257,slow=30,SNR=7.9						
SONM				LR	LR	10 11 04.1	
	comp=N,187nm,19.9s,baz=268,slow=39						
SONA1	**Songino Array**	**10.56**	**71**	*e*Pn	**Pn**	**10 06 52.9**	**-0.2**
UB1M		**10.65**	**71**	*e*Sg		10 09 53.2	
	comp=N,68nm,0.7s						
ALFM		**10.79**	**70**	*e*Sg		10 09 57.5	
	comp=N,97nm,0.8s						
NVS	**Novosibirsk**	**10.81**	**334**	*e*P	**Pn**	**10 06 58.9**	**+2.6**
NVS				*e*		10 08 58.2	
SEMM		**10.87**	**73**	*e*Sg		10 09 59.2	
	comp=N,30nm,0.7s						
ARTM		**11.11**	**71**	*e*Sg		10 10 07.0	
	comp=N,93nm,0.7s						
UGDM		**11.16**	**73**	*e*Sg		10 10 08.7	
	comp=N,108nm,1.1s						
TKM2	**Tokmak 2**	**11.67**	**263**	⇑Pn	**Pn**	**10 07 10.6**	**+2.4**
	comp=N,6.2nm,0.5s						
TKM2				⇑Sn	**Sn**	**10 09 15.5**	**-3.2**
	comp=N,22nm,0.6s						
TKM2	**Tokmak 2**	**11.67**	**263**	*e*P	**Pn**	**10 07 09.7**	**+1.4**
TKM2	**Tokmak 2**	**11.67**	**263**	*e*Pn	**Pn**	**10 07 09.7**	**+1.4**
FRU	**Bishkek**	**12.38**	**264**	*e*P	Pn	10 07 26.0	+8.1
FRU				pmax	pmax		
	comp=E,135nm,2.0s						
AAK	**Ala-Archa**	**12.53**	**263**	LR	LR	10 12 53.4	
	comp=E,186nm,20.8s,baz=64,slow=41						
AAK	**Ala-Archa**	**12.53**	**263**	*e*P	**Pn**	**10 07 23.7**	**+3.7**
AAK	**Ala-Archa**	**12.53**	**263**	*e*Pn	**Pn**	**10 07 20.8**	**+0.9**
KSH	**Kashi**	**12.86**	**248**	P	Pn	10 07 30.1	+5.6
KSH				pP		10 07 33.2	
KSH				PP	**PnPn**	**10 07 40.9**	**+8.8**
KSH				S	**Sn**	**10 09 53.6**	**+6.0**
KSH				PMZ			
	comp=E,5.0nm,0.3s						
KSH				PMZ			
	comp=E,87nm,4.5s						
KSH				LN			
	comp=E,290nm,12.0s						
KSH				LE			
	comp=E,200nm,10.0s						
KSH				LZ			
	comp=E,150nm,9.5s						
**EKS2

HHC LE
comp=Z,290nm,7.5s
HHC LZ
comp=Z,180nm,7.5s
LSA Lhasa 15.68 181 *e*P **Pn 10 08 00.7 -2.3**
LSA pmax pmax
comp=Z,8.0nm,0.4s
LSA Lhasa 15.68 181 *e*Pn **Pn 10 08 00.7 -2.3**
comp=Z,7.6nm,0.4s
BVA0 Borovoye Array 15.70 307 P **Pn 10 08 02.8 +0.1**
comp=Z,12nm,0.8s,baz=111,slow=13,SNR=62
BVA0 ⇑S **Sn 10 10 53.6 -3.0**
comp=Z,6.0nm,0.7s,baz=111,slow=22,SNR=5.5
BVA0 Borovoye Array 15.70 307 P **Pn 10 08 02.8 +0.1**
BVA0 S **Sn 10 10 53.6 -3.0**
BVA0 pmax pmax
comp=Z,13nm,0.9s
BVA0 smax smax
comp=N,6.0nm,0.7s
BVAR Borovoye Array 15.70 307 Pn **Pn 10 08 03.1 +0.4**
comp=N,2.3nm,0.3s,baz=106,slow=11,SNR=21
BVAR Sn **Sn 10 10 56.5 -0.2**
comp=N,1.2nm,0.3s,baz=107,slow=22,SNR=6.6
BVAR Lg Lg 10 12 45.2
comp=N,0.4nm,0.3s,baz=110,slow=25,SNR=2.8
BRVK Borovoye 15.77 307 *e*P **Pn 10 08 04.2 +0.6**
BRVK pmax pmax
comp=Z,47nm,0.5s
BRVK Borovoye 15.77 307 *e*Pn **Pn 10 08 04.2 +0.6**
comp=Z,47nm,0.5s
ZRNK Zerenda 16.47 305 *e*P **Pn 10 08 12.8 +0.2**
ZRNK pmax pmax
comp=Z,17nm,0.6s
ZRNK Zerenda 16.47 305 *e*Pn **Pn 10 08 12.8 +0.2**
comp=Z,17nm,0.6s
CD2 Chengdu 17.37 142 *e*P **Pn 10 08 20.4 -3.7**
CD2 Chengdu 17.37 142 *e*P **Pn 10 08 23.0 -1.1**
CD2 pP sP 10 08 29.2 -0.4
CD2 sP pP 10 08 31.6 +3.3
CD2 S **Sn 10 11 36.0 -1.4**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,180nm,4.6s
CD2 LN
comp=Z,150nm,8.5s
CD2 LE
comp=Z,230nm,8.5s
CD2 LZ
comp=Z,290nm,8.7s
DZET Dzherino 18.02 257 ⇑Pn **P 10 08 33.1 +0.5**
comp=Z,6.8nm,0.5s
DZET Dzherino 18.02 257 P **P 10 08 33.1 +0.5**
DZET pmax pmax
comp=Z,7.0nm,0.5s
GUN Gumba 18.02 196 *e*P **Pn 10 08 29.4 -3.0**
comp=Z,58nm,0.7s
GKN Gorkha 18.20 200 *e*P **Pn 10 08 31.5 -2.9**
comp=Z,30nm,0.5s
KKN Kakani 18.26 198 *e*P **Pn 10 08 32.4 -2.8**
comp=Z,35nm,0.6s
DMN Daman 18.47 198 *e*P **P 10 08 34.8 -3.0**
comp=Z,30nm,0.9s
PYUN Piuthan 18.54 204 *e*P **P 10 08 36.1 -2.4**
comp=Z,42nm,0.7s
KOLN Koldanda 18.68 202 *e*P **P 10 08 37.7 -2.4**
comp=Z,18nm,0.5s
AB31 Akbulak array 21.62 292 P **P 10 09 12.0 +0.3**
comp=Z,5.6nm,0.7s,baz=89,slow=12,SNR=86
AB31 Akbulak array 21.62 292 P **P 10 09 11.9 +0.3**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 21.62 292 *e*P **P 10 09 12.7 +1.0**
KMI Kunming 22.19 152 P **P 10 09 19.5 +1.3**
KMI PMZ
comp=Z,19nm,0.6s
KMI PMZ
comp=Z,53nm,5.4s
KMI LN
comp=Z,140nm,13.2s
KMI LE
comp=Z,200nm,8.9s
KMI LZ
comp=Z,190nm,14.9s
SVE Sverdlovsk 22.27 312⇑*e*P **P 10 09 20.1 +1.5**
SVE pmax pmax
comp=Z,30nm,0.8s
GYA Guiyang 22.49 142 P **P 10 09 21.2 -0.1**
GYA PP **PnPn 10 09 49.8 +5.4**
GYA PcP **PcP 10 13 18.4 +3.1**
GYA S **S 10 13 23.0 -5.1**
GYA SS **SnSn 10 14 03.8 +7.3**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,110nm,4.9s
GYA LN
comp=Z,530nm,15.8s
GYA LE
comp=Z,490nm,16.0s
GYA LZ
comp=Z,470nm,16.3s
AKTO Aktyubinsk 22.85 295 P **P 10 09 25.3 +0.5**
comp=Z,2.4nm,0.5s,baz=98,slow=8.2,SNR=8.3
AKTO LR LR 10 18 46.5
comp=Z,128nm,20.4s,baz=96,slow=38
AKTO Aktyubinsk 22.85 295 ⇓P **P 10 09 26.9 +2.1**
comp=Z,9.2nm,0.8s
AKTO Aktyubinsk 22.85 295 P **P 10 09 26.9 +2.1**
AKTO pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 23.26 310 P **P 10 09 30.6 +1.6**
comp=Z,10nm,0.5s,baz=113,slow=5.5,SNR=24
ARU Arti 23.26 310*c iP* **P 10 09 30.7 +1.7**
ARU PPP PPP 10 10 04.8
ARU S **S 10 13 43.5 +2.5**
ARU SS **SnSn 10 14 16.6 +1.9**
ARU pmax pmax
comp=Z,30nm,1.0s
ARU Arti 23.26 310 *e*P **P 10 09 30.5 +1.6**
comp=Z,23nm,0.7s
NRIK Noril'sk 24.08 357 P **P 10 09 37.0 +0.2**
comp=Z,4.3nm,0.4s,baz=171,slow=6.7,SNR=6.8
NRIK LR LR 10 19 29.7
comp=Z,119nm,20.3s,baz=252,slow=38
KLR Kul'dur 27.35 67 LR LR 10 21 28.5
comp=Z,98nm,18.4s,baz=268,slow=38
KLR Kul'dur 27.35 67 *e*P **P 10 10 09.4 +2.8**
YAK Yakutsk 27.52 39 *e*P **P 10 10 08.6 +0.6**
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.2s
CMAR Chiang Mai Arr 27.58 165 P **P 10 10 06.5 -2.4**
comp=E,0.6nm,0.3s,baz=343,slow=10,SNR=2.8
CMAR LR LR 10 22 16.4
comp=E,78nm,18.4s,baz=322,slow=39
USRK Ussuriysk Ar. 28.57 78 LR LR 10 22 37.8
comp=E,71nm,19.1s,baz=51,slow=39
QIZ Qiongzhong 30.40 144 P **P 10 10 34.9 +0.9**
QIZ S **S 10 15 36.1 +1.5**
QIZ sS **sS 10 15 41.9 +2.2**
QIZ PMZ
comp=E,13nm,2.0s
QIZ LZ
comp=E,130nm,12.2s
TIXI Tiksi 31.74 21 P **P 10 10 45.0 -0.3**
comp=E,6.0nm,0.8s,baz=228,slow=4.8,SNR=20
TIXI Tiksi 31.74 21 *e*P **P 10 10 44.1 -1.2**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
TIXI Tiksi 31.74 21 *e*P **P 10 10 45.5 +0.3**
comp=Z,5.8nm,0.7s
KLMR Klimovskoe 33.75 316 *e*P **P 10 11 03.4 +0.4**
KLMR *e**SP **sP 10 11 10.7 +3.4**
KLMR pmax pmax
comp=Z,24nm,1.0s
KBZ Khabaz 34.23 285 P **P 10 11 08.7 +1.4**
comp=Z,0.5nm,0.3s,baz=86,slow=6.3,SNR=3.5
KVAR Kislovodsk Arr 34.29 285 LR LR 10 27 04.8
comp=Z,47nm,18.0s,slow=40
GNI Garni 34.31 278 LR LR 10 27 08.9
comp=Z,45nm,19.3s,baz=36,slow=40
NEY Neytrino 34.52 284 *e*P **P 10 11 11.9 +1.9**
LPSR Galich'ya Gora 34.54 301 *e*P **P 10 11 11.5 +1.6**
LPSR pmax pmax
comp=Z,20nm,0.8s
WSAR Wadi Sarin 34.62 241 LR LR 10 25 50.2
comp=Z,44nm,18.2s,baz=84,slow=37
VSR Storozhevoye 34.64 299 *e*P **P 10 11 12.2 +1.4**
VSR pmax pmax
comp=Z,30nm,0.8s
OBN Obninsk 35.55 306⇓*e*P **P 10 11 19.9 +1.4**
OBN *e* 10 11 25.5
OBN *e* 10 11 33.0
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,45nm,18.0s
PALK Pallekele 39.12 197 *i* P P 10 11 58.1 +8.9
ARCES ARCESS Array B 40.07 330 P **P 10 11 56.9 +0.3**
comp=Z,3.0nm,0.9s,baz=80,slow=7.9,SNR=5.1
ARCES LR LR 10 30 29.5
comp=Z,68nm,19.9s,baz=108,slow=39
FIA1 FINESS Array S 40.23 317 *e*P **P 10 11 59.3 +1.3**
FINES FINESS Array B 40.24 317 P **P 10 11 59.3 +1.3**
comp=Z,6.5nm,0.6s,baz=88,slow=9.7,SNR=24
FINES FINESS Array B 40.24 317 *i* P **P 10 11 59.2 +1.2**
FINES pmax pmax
comp=Z,7.0nm,0.6s
VSU Vasula 40.37 313 *e*P **P 10 12 00.2 +1.0**
VSU pmax pmax
comp=Z,34nm,0.9s
AKASG Malin Array Be 40.85 301 P **P 10 12 04.2 +1.0**
comp=Z,7.1nm,0.4s,baz=66,slow=8.8,SNR=27
KIEV Kiev 40.87 301*c iP* **P 10 12 04.1 +0.7**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 40.87 301 *e*P **P 10 12 04.2 +0.8**
comp=Z,10.0nm,0.5s
AK11 Malin Array Si 40.90 301 *e*P **P 10 12 04.2 +0.6**
BRTR Keskin Array B 42.18 284 P **P 10 12 16.3 +1.8**
comp=Z,1.0nm,0.6s,baz=66,slow=7.4,SNR=6.6
BRTR LR LR 10 33 26.0
comp=Z,22nm,18.8s,baz=32,slow=41
BRTR Keskin Array B 42.18 284 *i* P **P 10 12 17.2 +2.7**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BR231 Keskin MP Arra 42.71 284 *e*P **P 10 12 16.9 -1.9**
BUR08 Bucovina Ar. S 44.39 298 *e*P **P 10 12 32.9 +0.6**
MLR Muntele Rosu 44.78 295 LR LR 10 34 17.1
comp=Z,13nm,19.5s,baz=56,slow=40
KLNR Kaliningrad 44.85 309 *e*P **P 10 12 36.5 +0.9**
OJC Ojcow 46.67 303 *e*P **P 10 12 51.7 +1.7**
OJC Ojcow 46.67 303 *e*P **P 10 12 51.1 +1.0**
OJC pmax pmax
comp=Z,16nm,0.6s
OJC Ojcow 46.67 303 *e*P **P 10 12 51.1 +1.0**
comp=Z,16nm,0.6s
NIE Niedzica 46.69 302 *e*P **P 10 12 52.8 +2.5**
NIE Niedzica 46.69 302 *e*P **P 10 12 52.8 +2.5**
NC405 NORSAR Array S 47.05 319 *e*P **P 10 12 53.9 +1.0**
NB2 NORSAR Subarra 47.31 319 P **P 10 12 55.8 +0.8**
comp=Z,2.9nm,0.5s,baz=72,slow=7.9
NOA NORSAR Array B 47.31 319 P **P 10 12 55.7 +0.8**
comp=Z,1.8nm,0.5s,baz=72,slow=9.1,SNR=26
BSD Bornholm Skovb 47.54 311⇑*i* P **P 10 12 57.5 +0.7**
BSD pmax pmax
comp=Z,3.0nm,0.5s
BSD Bornholm Skovb 47.54 311⇑*i* P **P 10 12 57.5 +0.7**
comp=Z,2.8nm,0.5s
MORC Moravsky Berou 48.18 303 *e*P **P 10 13 02.8 +0.9**
MORC pmax pmax
comp=Z,21nm,0.9s
MORC Moravsky Berou 48.18 303 *e*P **P 10 13 02.8 +0.9**
comp=Z,21nm,0.9s
DPC Dobruska-Polom 48.65 304 *e*P **P 10 13 07.6 +2.1**
DPC *ex* x 10 13 14.8
DPC Dobruska-Polom 48.65 304 *e*P **P 10 13 07.6 +2.1**
DPC *e* 10 13 14.8
UPC Upice 48.76 305 *e*P **P 10 13 08.2 +1.9**
UPC Upice 48.76 305 *e*P **P 10 13 08.2 +1.9**
VRAC Vranov 48.94 303 LR LR 10 35 01.0
comp=Z,46nm,19.1s,baz=134,slow=38
PVCC Panska Ves 49.59 305 *e*P **P 10 13 14.8 +2.2**
PVCC Panska Ves 49.59 305 *e*P **P 10 13 14.8 +2.2**
BRG Berggiesshubel 49.80 306 *e*P **P 10 13 10.5 -3.7**
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 49.80 306 *e*P **P 10 13 10.5 -3.7**
BRG pmax pmax
comp=Z,5.0nm,1.1s
PRU Pruhonice 49.84 305 *e*P **P 10 13 16.3 +1.8**
PRU AMS AMS 10 44 20.0
comp=Z,100nm,17.4s
PRU Pruhonice 49.84 305 *e*P **P 10 13 16.3 +1.8**
PRU MLR MLR
comp=Z,100nm,17.4s
MUD Monsted U'grnd 50.00 314 *i* P **P 10 13 17.9 +2.2**
MUD Monsted U'grnd 50.00 314 *i* P **P 10 13 17.9 +2.2**
CLL Collm 50.14 307⇑*i* P **P 10 13 18.0 +1.3**
comp=Z,10.0nm,1.0s
CLL *e* 10 13 26.0
CLL Collm 50.14 307 *e*P **P 10 13 18.1 +1.3**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 50.14 307 *e*P **P 10 13 18.1 +1.3**
comp=Z,8.2nm,0.9s
KHC Kasperske Hory 50.78 304 *e*P **P 10 13 24.0 +2.2**
KHC Kasperske Hory 50.78 304 *e*P **P 10 13 24.0 +2.2**
GERES GERESS Array B 50.84 304 P **P 10 13 22.7 +0.4**
comp=Z,0.9nm,0.6s,baz=62,slow=11,SNR=5.5
FUORN Ofenpass-Fuorn 53.95 303 *e*P **P 10 13 46.5 +0.9**
comp=Z,6.6nm,1.1s
COLD Coldfoot 58.43 24 *e*P **P 10 14 17.6 +0.7**
comp=Z,4.1nm,1.0s
FYU Fort Yukon 60.28 23 *e*P P 10 14 35.2 +5.5
comp=Z,41nm,2.0s
COLA College 60.77 25 *e*P **P 10 14 32.5 -0.6**
COLA pmax pmax
comp=Z,1.0nm,0.9s
IL1 Eielson Array 61.13 25 *e*P **P 10 14 35.1 -0.4**
ILAR Eielson Array 61.13 25 P **P 10 14 35.4 -0.2**
comp=Z,1.6nm,0.8s,baz=310,slow=4.9,SNR=20
INK Inuvik 61.73 17 P **P 10 14 39.7 +0.2**
comp=Z,1.3nm,0.6s,baz=313,slow=4.2,SNR=5.4
RAGM Ragged Mountai 65.10 27 *e*P **P 10 14 59.1 -3.0**
comp=Z,60nm,0.7s
ES19 SONSECA Array 66.38 303 *e*P **P 10 15 11.7 +1.1**
ESDC Sonseca Array 66.43 303 P **P 10 15 12.0 +1.0**
comp=Z,1.7nm,0.5s,baz=50,slow=6.3,SNR=15
YKA Yellowknife Ar 70.44 13 P **P 10 15 35.4 -0.2**
comp=Z,0.9nm,0.6s,baz=336,slow=6.4,SNR=10
YKB5 Yellowknife Ar 70.44 13 *e*P **P 10 15 35.1 -0.4**
WRA Warramunga Arr 75.81 139 P **P 10 16 05.2 -2.6**
comp=Z,1.1nm,0.7s,baz=342,slow=6.0,SNR=12
AS31 Alice Springs 78.85 141 *e*P **P 10 16 24.5 -0.3**
comp=Z,0.8nm,0.6s
ASAR Alice Springs 78.85 141 P **P 10 16 22.9 -1.9**
comp=Z,0.6nm,0.7s,baz=325,slow=5.3,SNR=14
AS01 Alice Springs 78.87 141 *e*P **P 10 16 22.4 -2.5**
TORD Torodi Ar. Bea 80.61 279 P **P 10 16 33.3 -1.4**
comp=Z,0.2nm,0.4s,baz=43,slow=4.7,SNR=6.9
B05A Bryant 82.20 22 P **P 10 16 40.6 -1.9**
baz=337
NEW Newport 83.42 19 P **P 10 16 47.0 -2.0**
baz=340
ULM Lac du Bonnet 84.52 5 P **P 10 16 53.5 -1.0**
comp=Z,3.9nm,0.6s,baz=95,slow=3.0,SNR=3.2
G03D McMinnville, O 84.68 24 P **P 10 16 53.5 -1.9**
baz=336
EGMT Eagleton 85.11 14 P **P 10 16 55.6 -2.0**
baz=345
EGMT Eagleton 85.11 14 *e*P **P 10 16 57.2 -0.5**
comp=Z,4.6nm,0.9s
G05D Wamic, OR 85.19 23 P **P 10 16 56.1 -1.9**
baz=337
A26A Wade Farm, Ken 85.34 9 P **P 10 16 56.7 -2.0**
baz=350
MSO Missoula 85.47 17 P **P 10 16 57.4 -2.1**
baz=342
DGMT Dagmar 85.51 10 P **P 10 16 57.6 -1.9**
baz=349
A32A Rocking H Ranc 85.81 5 P **P 10 16 59.2 -1.8**
baz=354
B25A Knox Farm, Ray 85.83 10 P **P 10 16 59.3 -1.9**
baz=350
B26A Jensen Ranch, 85.84 9 P **P 10 16 59.2 -2.0**
baz=350
B30A Myrvik Farm, E 86.14 7 P **P 10 17 01.2 -1.4**
baz=353
I04A Tendick Farm, 86.22 24 P **P 10 17 01.4 -1.8**
baz=337
B34A Aery, Baudette 86.34 4 P **P 10 17 01.8 -1.8**
baz=356
B35A Bob, Littlefor 86.51 3 P **P 10 17 02.7 -1.7**
baz=356
C31A Landman Farms, 86.84 6 P **P 10 17 04.3 -1.7**
baz=353
LAO LASA Array 86.98 12 P **P 10 17 04.7 -2.2**
baz=348
J05D Fort Rock, OR 87.02 23 P **P 10 17 05.0 -2.3**
baz=338
BOZ Bozeman (W) 87.06 16 P **P 10 17 05.2 -2.2**
baz=344
D26A Manning 87.14 9 P **P 10 17 05.5 -2.1**
baz=350
C36A Pine Crest Far 87.14 3 P **P 10 17 05.8 -1.8**
baz=357
C35A Jirik Farms, M 87.16 4 P **P 10 17 05.7 -2.0**
baz=356
E25A Miller Ranch, 87.55 10 P **P 10 17 07.5 -2.2**
baz=350
E26A Carlson Angus 87.69 10 P **P 10 17 08.8 -1.5**
baz=350
D34A Park Rapids 87.71 5 P **P 10 17 07.8 -2.5**
baz=355
D36A Goodland 87.71 3 P **P 10 17 08.5 -1.8**
baz=357
D37A Cotton 87.76 3 P **P 10 17 07.8 -2.8**
baz=357
D35A Remer 87.77 4 P **P 10 17 08.6 -2.0**
baz=356
E27A Carson 87.83 9 P **P 10 17 08.7 -2.2**
baz=351
E33A Westby DABS, E 88.24 5 P **P 10 17 10.5 -2.3**
baz=355
F26A Lodgepole 88.28 10 P **P 10 17 10.9 -2.2**
baz=350
E36A McGregor 88.37 3 P **P 10 17 11.6 -1.9**
baz=357
H17A Grant Village 88.47 16 P **P 10 17 11.9 -2.4**
baz=345
HLID Hailey 88.47 19 P **P 10 17 11.6 -2.6**
baz=342
F31A Hecla 88.72 7 P **P 10 17 13.1 -2.0**
baz=353
F34A Alexandria 88.99 5 P **P 10 17 14.5 -2.0**
baz=355
F36A Milaca 89.01 3 P **P 10 17 14.3 -2.2**
baz=356
G30A Faulkton 89.36 7 P **P 10 17 16.3 -1.9**
baz=352
H25A Fruitdale 89.37 11 P **P 10 17 16.2 -2.1**
baz=349
G32A Webster 89.38 6 P **P 10 17 16.1 -2.1**
baz=354
G34A Benson 89.52 5 P **P 10 17 16.9 -2.0**
baz=355
O03D Paynes Creek 89.62 25 P **P 10 17 17.3 -2.3**
baz=337
H29A Onida 89.76 8 P **P 10 17 17.8 -2.2**
baz=352
RSSD Black Hills 89.80 11 P **P 10 17 18.3 -2.2**
baz=349
RSSD Black Hills 89.80 11 *e*P **P 10 17 20.4 -0.1**
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD Black Hills 89.80 11 *e*P **P 10 17 20.4 -0.1**
comp=Z,4.9nm,0.6s
H32A Carlson Farm, 90.13 6 P **P 10 17 20.3 -1.5**
baz=354
HVU Hansel Valley 90.54 18 *e*P **P 10 17 23.9 0.0**
HVU pmax pmax
comp=Z,2.0nm,0.9s
HVU Hansel Valley 90.54 18 *e*P **P 10 17 23.9 0.0**
comp=Z,2.4nm,0.9s
I38A Scanlan Farm, 90.88 3 P **P 10 17 23.2 -2.0**
baz=357
ECSD EROS Data Cent 90.96 6 P **P 10 17 23.7 -1.9**
baz=354
DUG Dugway, Tooele 92.04 18 P **P 10 17 28.9 -2.0**
baz=343
NVAR Mina Array Bea 92.35 23 P **P 10 17 30.6 -1.9**
comp=Z,0.5nm,0.5s,baz=320,slow=4.0,SNR=4.0
L38A Oak Wood Farm, 92.75 3 P **P 10 17 31.9 -2.1**
baz=357
R11A Troy Canyon, C 93.14 21 P **P 10 17 33.6 -2.5**
baz=341
OGNE Ogallala 93.19 10 P **P 10 17 33.9 -2.2**
baz=350
N59A State Game Lan 93.31 350 P **P 10 17 34.7 -1.9**
baz=8.8
N54A Moraine State 93.68 354 P **P 10 17 36.1 -2.1**
baz=5.9
N32A Stulken Farm, 93.77 7 P **P 10 17 36.5 -2.2**
baz=353
ISCO Idaho Springs 93.80 13 P **P 10 17 36.9 -2.4**
baz=348
N33A J Bar K, Exete 93.87 7 P **P 10 17 36.9 -2.2**
baz=354
GRAC Grapevine Rang 93.95 23 P **P 10 17 37.6 -2.0**
baz=340
TPNV Topopah Spring 94.29 22 P **P 10 17 38.9 -2.4**
baz=341
MPMC Manual Prospec 94.80 23 P **P 10 17 41.2 -2.5**
baz=340
P37A Lathrop 95.23 5 P **P 10 17 43.4 -2.0**
baz=356
P40A Paris 95.39 3 P **P 10 17 43.9 -2.2**
baz=357
CBKS Cedar Bluff 95.56 9 P **P 10 17 44.5 -2.4**
baz=352
GSC Goldstone, Bar 95.69 23 P **P 10 17 45.5 -2.1**
baz=340
EDW2 Edwards Air Fo 95.75 24 P **P 10 17 46.0 -2.0**
baz=340
SDCO Great Sand Dun 95.83 13 P **P 10 17 46.2 -2.4**
baz=348
BELC Belle Mtn. Jos 97.14 23 P **P 10 17 51.8 -2.6**
baz=341
S39A Bolivar 97.17 4 P **P 10 17 52.8 -1.5**
baz=356
MURC Murrieta 97.18 24 P **P 10 17 52.2 -2.2**
baz=340
U32A Winter Ranch, 98.05 9 P **P 10 17 56.1 -2.2**
baz=352
SYO Syowa Base 120.35 199⇑*e*P **Pdif 10 19 37.3 +1.0**
LPAZ La Paz 146.30 323 PKPbc **PKPdf 10 24 01.8 -0.5**
comp=Z,2.6nm,0.8s,baz=14,slow=7.7,SNR=9.4

NIED ***04*** *10:14:00, 37.˚50N× 141.˚80E, h5km, Mw3.7 Best double couple: M0 3.38000×1014 NP1:*φ*=257.00000°, δ33.00000°, λ-54.00000°. NP2:*φ*=36.00000°, δ64.00000°, λ-111.00000°.*

ISCJB ***04*** *10:14:17.6± 1.6, 37.˚48N± 0.˚03× 141.˚91E± 0.˚05, h15km± 10km, mb3.6/8, Error ellipse: s-maj=6.3km s-min=5.4km az=16.5*

IDC ***04*** *10:14:17.4± 0.8, 37.˚54N× 141.˚72E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.6/59, mbtmp3.7/11, ML3.5/3, Error ellipse: s-maj=25.1km s-min=19.4km az=115.0*

JMA ***04*** *10:14:18.5± 0.1, 37.˚51N× 141.˚84E, h22km± 2km, M3.9*

ISC 04 10:14:17.7±1.8, 37.˚52N± 0.˚04× 141.˚79E± 0.˚06, h6km± 11km, n30, σ0°94/32, mb3.7/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.74**	**259**	P	**Pb**		**10 14 33.2**	**+0.1**
JFK				*e*S	**Sb**		**10 14 43.7**	**+0.2**
JMM	**Marumori**	**0.86**	**294**	P	**Pb**		**10 14 35.0**	**-0.1**
JMM				*e*S	**Sb**		**10 14 47.0**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.89**	**243**	P	**Pb**		**10 14 35.3**	**-0.3**
ONAJ				*e*S	**Sb**		**10 14 47.5**	**-0.3**
JIO	**Ouri**	**1.00**	**340**	P	**Pg**		**10 14 37.0**	**+0.1**
JIO				*e*S	**Sb**		**10 14 50.2**	**-0.6**
JFT	**Otama**	**1.15**	**271**	P	**Pg**		**10 14 40.2**	**+0.3**
JFT				*e*S	**Sn**		**10 14 56.1**	**-0.5**
JOU	**Okura**	**1.23**	**314**	P	**Pg**		**10 14 41.4**	**+0.1**
JOU				*e*S	**Sn**		**10 14 58.0**	**-0.4**
JMK	**Ichinoseki**	**1.50**	**343**	P	**Pb**		**10 14 45.3**	**-0.7**
JMK				*e*S	**Sn**		**10 15 04.2**	**-0.9**
JYS	**Shirataka**	**1.53**	**298**	P	**Pb**		**10 14 46.6**	**0.0**
JYS				*e*S	**Sg**		**10 15 07.3**	**+0.2**
JFY	**Yanaizu**	**1.66**	**267**	P	**Pb**		**10 14 48.0**	**-0.8**
MJAR	**Matsushiro Arr**	**3.02**	**252**	Pn	**Pn**		**10 15 07.2**	**+1.0**

3.5nm,0.3s,baz=91,slow=16,SNR=16

MAT	**Matsushiro**	**3.03**	**252**	P	**Pn**	**10 15 07.6**	**+1.4**
MAT				S	**Sb**	**10 15 45.5**	**-3.7**
JHJ	**Hachijo jima 2**	**4.68**	**201**	Pn	**Pn**	**10 15 29.3**	**+0.3**
	9.1nm,0.3s,baz=359,slow=20,SNR=2.1						
JHJ				Sn	**Sn**	**10 16 22.2**	**-1.4**
	19nm,0.3s,baz=78,slow=22,SNR=6.7						
ASAJ	**Asahikawa**	**6.62**	**5**	Pn	**Pn**	**10 15 55.1**	**-0.4**
	0.9nm,0.3s,baz=274,slow=7.4,SNR=2.5						
USRK	**Ussuriysk Ar.**	**9.98**	**315**	Pn	Pn	10 16 46.5	+4.9
	0.1nm,0.3s,baz=138,slow=14,SNR=4.5						
KSRS	**Korea Array**	**11.02**	**274**	Pn	Pn	10 17 03.8	+7.9
	0.2nm,0.3s,baz=88,slow=14,SNR=2.0						
SONM	**Songino Array**	**27.77**	**303**	P	**P**	**10 20 07.0**	**-0.3**
	0.5nm,0.5s,baz=105,slow=8.5,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	10 49 34.7	
	baz=315,slow=75,SNR=577						
H11N1	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	10 49 35.7	
	baz=315,slow=75,SNR=518						
H11N3	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	10 49 36.5	
	baz=315,slow=75,SNR=410						
H11S1	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	10 50 32.4	
	baz=316,slow=76,SNR=803						
H11S3	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	10 50 31.8	
	baz=316,slow=76,SNR=780						
H11S2	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	10 50 33.0	
	baz=316,slow=76,SNR=657						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**10 22 26.7**	**-0.1**
	1.2nm,0.8s,baz=96,slow=9.8,SNR=8.5						
WRA	**Warramunga Arr**	**57.58**	**188**	P	**P**	**10 24 08.6**	**+0.2**
	0.8nm,0.5s,baz=6.5,slow=7.2,SNR=6.5						
ASAR	**Alice Springs**	**61.31**	**188**	P	**P**	**10 24 34.5**	**+0.4**
	0.4nm,0.6s,baz=5.3,slow=5.8,SNR=2.7						
YKA	**Yellowknife Ar**	**63.24**	**30**	P	**P**	**10 24 47.2**	**+0.6**
	0.3nm,0.6s,baz=307,slow=6.7,SNR=4.0						
AKASG	**Malin Array Be**	**74.10**	**322**	P	**P**	**10 25 54.5**	**0.0**
	0.5nm,0.4s,baz=48,slow=5.8,SNR=3.0						
NVAR	**Mina Array Bea**	**74.46**	**53**	P	**P**	**10 25 58.3**	**+1.1**
	0.5nm,0.8s,baz=186,slow=9.6,SNR=3.6						
PDAR	**Pinedale Array**	**77.11**	**46**	P	**P**	**10 26 13.2**	**+0.8**
	0.4nm,0.7s,baz=333,slow=1.7,SNR=3.3						
LPAZ	**La Paz**	**146.19**	**59**	PKPbc	**PKPab**	**10 34 01.0**	**+0.2**
	1.0nm,0.6s,baz=48,slow=1.3,SNR=3.5						

*ISCJB **04** 10:18:04.3±0.4,29.06N±0.09×43.23W±0.07,h10km, mb4.2/33,MS3.8/28, Error ellipse: s-maj=13.4km s-min=8.2km az=172.5*
*IDC **04** 10:18:04.4±0.7,29.06N×43.21W,h0km,mb4.1/18, mb1 4.2/18,mb1mx4.0/75,mbtmp4.1/18,MS3.8/28, Ms1 3.8/28,ms1mx3.6/49, Error ellipse: s-maj=22.0km s-min=15.4km az=166.0*
*NEIC **04** 10:18:06.0±0.3,29.07N×43.20W,h10km,mb4.5/15, Error ellipse: s-maj=8.6km s-min=5.4km az=173.0*

ISC 04 10:18:06.0±0.6,29.1N±0.1×43.2W±0.1,h10km,n62, σ0s60/36,mb4.3/33,MS3.8/28,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**23.65**	**248**	LR	LR	10 30 36.6	
	comp=Z,52nm,19.6s,baz=62,slow=32						
BBTS	**Babate**	**28.51**	**114**	LR	LR	10 32 48.9	
	comp=Z,335nm,19.4s,baz=342,slow=31						
SCHQ	**Schefferville**	**30.88**	**333**	LR	LR	10 35 34.6	
	comp=Z,253nm,21.4s,baz=118,slow=34						
MDT	**Midelt**	**33.18**	**74**	LR	LR	10 35 01.9	
	comp=Z,127nm,20.8s,baz=282,slow=31						
PTGA	**Pitinga**	**33.69**	**211**	P	**P**	**10 24 47.4**	**-0.1**
	2.3nm,0.7s,baz=2.1,slow=11,SNR=5.1						
ESDC	**Sonseca Array**	**33.83**	**61**	P	**P**	**10 24 48.2**	**-0.4**
	2.0nm,0.9s,baz=273,slow=8.5,SNR=9.0						
ROSC	**El Rosal**	**38.06**	**237**	LR	LR	10 39 40.9	
	comp=Z,25nm,21.7s,baz=212,slow=34						
SAML	**Samuel**	**42.43**	**210**	*eP*	**P**	**10 26 01.2**	**+0.1**
	8.5nm,1.7s						
DBIC	**Dimbokro**	**42.46**	**114**	LR	LR	10 41 43.1	
	comp=Z,333nm,18.5s,baz=274,slow=33						
BFO	**Black Forest**	**43.66**	**49**	*eP*	**P**	**10 26 11.5**	**+0.6**
	2.2nm,0.8s						
KEST	**Kesra**	**44.43**	**67**	P	**P**	**10 26 17.4**	**+0.2**
	5.9nm,0.8s,baz=309,slow=1.5,SNR=6.5						
TUL1	**Leonard**	**44.44**	**293**	*eP*	**P**	**10 26 16.6**	**-0.6**
	17nm,1.1s						
TORD	**Torodi Ar. Bea**	**44.49**	**101**	P	**P**	**10 26 17.8**	**-0.2**
	1.5nm,0.9s,baz=301,slow=6.5,SNR=8.0						
TORD				LR	LR	10 42 54.1	
	comp=Z,156nm,21.0s,baz=265,slow=34						
ULM	**Lac du Bonnet**	**44.65**	**313**	LR	LR	10 45 21.6	
	comp=Z,101nm,18.3s,baz=19,slow=37						
BDFB	**Brasilia**	**44.69**	**187**	P	**P**	**10 26 19.5**	**+0.1**
	1.5nm,0.3s,baz=28,slow=3.3,SNR=3.0						
BDFB				LR	LR	10 42 24.4	
	comp=Z,162nm,20.6s,baz=24,slow=33						
H10N2	**ASCENSION HYDR**	**45.95**	**139**	T	T	11 15 21.6	
	baz=324,slow=75,SNR=257						
H10N3	**ASCENSION HYDR**	**45.95**	**139**	T	T	11 15 20.8	
	baz=324,slow=75,SNR=280						
H10N1	**ASCENSION HYDR**	**45.97**	**139**	T	T	11 15 23.3	
	baz=324,slow=75,SNR=250						
W34A	**Bridge Creek,**	**46.13**	**292**	*eP*	**P**	**10 26 31.1**	**+0.4**
	5.3nm,0.4s						
H10S1	**ASCENSION HYDR**	**46.76**	**140**	T	T	11 16 22.4	
	baz=324,slow=75,SNR=120						
H10S3	**ASCENSION HYDR**	**46.76**	**140**	T	T	11 16 24.8	
	baz=324,slow=75,SNR=140						
H10S2	**ASCENSION HYDR**	**46.77**	**140**	T	T	11 16 26.0	
	baz=324,slow=75,SNR=192						
WMOK	**Wichita Mounta**	**47.02**	**292**	*eP*	**P**	**10 26 37.7**	**0.0**
	5.1nm,1.1s						
KHC	**Kasperske Hory**	**47.20**	**48**	*eP*	**P**	**10 26 39.5**	**+0.6**
GERES	**GERESS Array B**	**47.26**	**49**	P	**P**	**10 26 39.3**	**-0.2**
	1.2nm,0.8s,baz=287,slow=5.4,SNR=3.6						
MSTX	**Muleshoe**	**50.41**	**292**	*eP*	**P**	**10 27 03.6**	**-0.3**
	11nm,1.2s						
LPAZ	**La Paz**	**51.12**	**211**	LR	LR	10 48 17.8	
	comp=Z,55nm,18.4s,baz=32,slow=36						
TXAR	**Lajitas Array**	**52.24**	**286**	P	**P**	**10 27 17.2**	**-0.4**
	2.3nm,0.8s,baz=90,slow=5.5,SNR=22						
TXAR				LR	LR	10 50 10.4	
	comp=Z,51nm,18.1s,baz=0.0,slow=37						
RES	**Resolute Bay**	**52.40**	**345**	LR	LR	10 47 13.1	
	comp=Z,154nm,21.4s,baz=92,slow=33						
ANMO	**Albuquerque**	**53.18**	**294**	*eP*	**P**	**10 27 25.8**	**+1.1**
	3.0nm,1.0s						
EGMT	**Eagleton**	**53.70**	**310**	*eP*	**P**	**10 27 27.2**	**-0.9**
	9.3nm,1.1s						
BW06	**Boulder Array**	**54.16**	**304**	*eP*	**P**	**10 27 31.1**	**-0.7**
	7.1nm,1.0s						
PDAR	**Pinedale Array**	**54.16**	**304**	P	**P**	**10 27 31.6**	**-0.2**
	2.5nm,0.7s,baz=74,slow=6.9,SNR=22						
PDAR				LR	LR	10 49 13.6	
	comp=Z,300nm,19.7s,baz=96,slow=34						
LKWY	**Lake**	**54.51**	**306**	*eP*	**P**	**10 27 35.4**	**+1.0**
	3.2nm,0.9s						
SNOW	**Snow King Moun**	**54.92**	**305**	*eP*	**P**	**10 27 37.4**	**0.0**
	5.8nm,0.9s						
FINES	**FINESS Array B**	**55.06**	**33**	P	**P**	**10 27 37.7**	**0.0**
	2.4nm,0.8s,baz=195,slow=5.9,SNR=5.1						
FINES				LR	LR	10 47 15.8	
	comp=Z,32nm,21.3s,baz=264,slow=32						
TPAW	**Teton Pass**	**55.06**	**305**	*eP*	**P**	**10 27 38.8**	**+0.4**
	4.3nm,0.9s						
ARCES	**ARCESS Array B**	**55.65**	**23**	LR	LR	10 45 10.5	
	comp=Z,49nm,21.1s,baz=280,slow=29						
MLR	**Muntele Rosu**	**55.75**	**53**	P	**P**	**10 27 43.4**	**+0.2**
	0.5nm,0.7s,baz=225,slow=8.3,SNR=4.5						
HWUT	**Hardware Ranch**	**55.82**	**303**	*eP*	**P**	**10 27 44.0**	**+0.2**
	1.4nm,0.6s						
YKA	**Yellowknife Ar**	**56.10**	**328**	P	**P**	**10 27 44.8**	**-0.3**
	1.0nm,0.9s,baz=92,slow=7.2,SNR=9.8						
YKA				LR	LR	10 51 04.9	
	comp=Z,29nm,20.2s,baz=0.0,slow=35						
CPUP	**Villa Florida**	**56.73**	**195**	LR	LR	10 50 26.7	
	comp=Z,47nm,19.3s,baz=28,slow=34						
DUG	**Dugway, Tooele**	**57.02**	**301**	*eP*	**P**	**10 27 52.2**	**-0.1**
	5.7nm,1.0s						
AKASG	**Malin Array Be**	**57.24**	**46**	P	**P**	**10 27 51.8**	**-1.7**
	0.2nm,0.3s,baz=274,slow=5.6,SNR=6.4						
AKASG				LR	LR	10 50 46.8	
	comp=Z,39nm,18.3s,baz=310,slow=34						
MFID	**Camas Ranch**	**58.57**	**305**	*eP*	**P**	**10 28 03.0**	**-0.1**
	5.7nm,1.1s						
LPIG	**La Paz**	**59.50**	**282**	LR	LR	10 52 46.6	
	comp=Z,50nm,18.6s,baz=28,slow=35						
NVAR	**Mina Array Bea**	**61.58**	**300**	LR	LR	10 54 56.7	
	comp=Z,166nm,18.4s,baz=86,slow=36						
BRTR	**Keskin Array B**	**62.52**	**58**	P	**P**	**10 28 29.9**	**-0.3**
	1.7nm,0.8s,baz=267,slow=6.9,SNR=9.1						
DLBC	**Dease Lake**	**64.11**	**324**	LR	LR	10 57 02.9	
	comp=Z,208nm,19.1s,baz=78,slow=36						
BBB	**Bella Bella**	**64.62**	**317**	LR	LR	10 55 44.8	
	comp=Z,158nm,20.8s,baz=65,slow=35						
ILAR	**Eielson Array**	**69.64**	**334**	P	**P**	**10 29 15.8**	**+0.5**
	1.0nm,0.8s,baz=66,slow=4.0,SNR=13						
ILAR				LR	LR	10 59 18.4	
	comp=Z,169nm,19.4s,baz=96,slow=36						
H09N1	**TRISTAN DA CUN**	**71.89**	**154**	T	T	11 48 59.5	
	SNR=24						
H09W1	**TRISTAN DA CUN**	**71.91**	**154**	T	T	11 47 54.0	
	SNR=6.4						
AKTO	**Aktyubinsk**	**74.77**	**41**	P	**P**	**10 29 46.9**	**+0.6**
	1.2nm,0.6s,baz=293,slow=6.9,SNR=6.3						
AKTO				LR	LR	11 01 03.9	
	comp=Z,45nm,19.6s,slow=34						
BVAR	**Borovoye Array**	**80.00**	**34**	P	**P**	**10 30 16.8**	**+1.2**
	1.5nm,0.7s,baz=310,slow=4.8,SNR=9.9						
KMBO	**Kilima Mbogo**	**82.20**	**96**	LR	LR	11 05 21.7	
	comp=Z,126nm,21.3s,baz=291,slow=34						
KURK	**Kurchatov**	**85.43**	**33**	P	**P**	**10 30 44.3**	**+0.5**
KURBB	**Kurchatov Arra**	**85.45**	**33**	P	**P**	**10 30 44.3**	**+0.4**
	1.9nm,0.2s,baz=307,slow=5.4,SNR=10.0						
BOSA	**Boshof**	**87.00**	**125**	LR	LR	11 03 34.8	
	comp=Z,55nm,19.6s,baz=268,slow=31						
MKAR	**Makanchi Array**	**89.89**	**34**	P	**P**	**10 31 05.6**	**+0.3**
	0.8nm,1.0s,baz=347,slow=5.0,SNR=5.2						
MKAR				LR	LR	11 09 23.8	
	comp=Z,66nm,19.6s,baz=53,slow=34						
PETK	**Petropavlovsk-**	**96.17**	**348**	LR	LR	11 14 53.3	
	comp=Z,34nm,20.5s,baz=50,slow=35						
DZM	**Mont Dzumac**	**152.41**	**278**	PKPbc	**PKPbc**	**10 38 02.4**	**-0.6**
	3.3nm,0.8s,baz=112,slow=9.5,SNR=3.7						

*SOME **04** 10:19:04.3,44.77N×82.17E,h5km*
*ISCJB **04** 10:19:07.7±1.3,44.73N±0.06×82.3E±0.1,h10km, Error ellipse: s-maj=14.6km s-min=5.1km az=29.2*

ISC 04 10:19:04.7±1.7,44.77N±0.06×82.16E±0.09,h10km,n7, σ0s83/14,1C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.75**	**256**	*eP*	**Pg**	**10 19 37.4**	**-0.8**
	2.9nm,0.2s						
DJR				*eS*	**Sg**	**10 20 01.6**	**+0.7**
	5.7nm,0.3s						
KTMS	**Ketmen**	**1.86**	**225**	*eP*	**Pb**	**10 19 38.8**	**0.0**
	1.6nm,0.2s						
KTMS				*eS*	**Sg**	**10 20 04.0**	**-0.3**
	15nm,0.4s						
MK31	**Makanchi Array**	**2.02**	**3**	Pn	**Pg**	**10 19 42.8**	**-0.7**
	1.9nm,0.3s,baz=186,slow=15,SNR=56						
MK31				Sn	**Sg**	**10 20 09.9**	**+0.2**
	2.4nm,0.5s,baz=185,slow=27,SNR=14						
MAKZ	**Makanchi**	**2.04**	**357**	⇑Pn	**Pb**	**10 19 42.1**	**+0.2**
	2.2nm,0.5s						
MAKZ				⇓Sn	**Sg**	**10 20 10.5**	**+0.2**
	1.1nm,0.5s						
KAPS	**Kapalarasan**	**2.05**	**285**	*eP*	**Pb**	**10 19 42.1**	**0.0**
	1.8nm,0.2s						
KAPS				⇓*iS*	**Sg**	**10 20 09.5**	**-1.1**
	2.9nm,0.3s						
UZB	**Uzynbulak**	**2.79**	**235**	*eP*	**Pb**	**10 19 54.0**	**-0.6**
	0.9nm,0.3s						
UZB				*eS*	**Sb**	**10 20 30.0**	**+1.1**
	2.3nm,0.3s						
KPKS	**Kokpek**	**2.82**	**244**	*eP*	**Pb**	**10 19 55.3**	**+0.1**
	4.0nm,0.2s						
KPKS				*eS*	**Sb**	**10 20 31.5**	**+1.7**
	9.4nm,0.6s						

*GUC **04** 10:19:03.9±0.5,40.40S×72.09W,h3km±2km,ML3.9*
*NEIC **04** 10:19:03.0,40.40S×72.09W,h3km,ML3.9(GUC), After GUC.*
NEIC Felt [III] at Lago Ranco.
*IDC **04** 10:19:05.0±1.3,40.25S×71.99W,h0km,mb4.0/6, mb1 4.2/7,mb1mx4.0/30,mbtmp4.1/7,ML5.1/1, Error ellipse: s-maj=38.9km s-min=13.1km az=36.0*
*ISCJB **04** 10:19:07.8±0.9,40.3S±0.1×72.1W±0.1,h33km,mb3.9/6, Error ellipse: s-maj=22.6km s-min=7.5km az=26.4*

ISC 04 10:19:09.5±1.0,40.3S±0.2×72.1W±0.1,h35km,n14, σ1s33/19,mb3.8/6,1C,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.04**	**299**	*eP*	**Pn**	**10 19 25.2**	**-2.4**
VLCH				*eS*	**Sn**	**10 19 41.1**	**+0.3**
VLCH				IAML		10 19 43.7	
	comp=E,6μm,1.0s						
PLCA	**Paso Flores**	**1.23**	**110**	Pg	**Pn**	**10 19 27.7**	**-2.5**
	comp=E,4.6nm,0.3s,baz=311,slow=12,SNR=4.6						
PLCA				Lg	Lg	10 19 45.3	
	comp=E,106nm,0.3s,baz=171,slow=18,SNR=8.6						
PLCA				LR	LR	10 19 54.9	
	comp=E,214nm,20.5s,baz=310,slow=42						
PLCA	**Paso Flores**	**1.23**	**110**	⇑*eP*	**Pn**	**10 19 27.9**	**-2.2**
PLCA				*eS*	**Sn**	**10 19 46.7**	**+1.1**
LVC	**Limon Verde**	**17.86**	**10**	P	**P**	**10 23 15.7**	**-0.3**
	comp=E,5.6nm,0.3s,baz=207,slow=12,SNR=3.3						
LPAZ	**La Paz**	**24.19**	**9**	P	**P**	**10 24 22.8**	**-0.6**
	comp=E,1.2nm,0.4s,baz=187,slow=6.7,SNR=3.1						
SIV	**San Ignacio**	**26.06**	**25**	P	**P**	**10 24 38.6**	**-1.1**
	comp=E,2.1nm,0.8s,baz=220,slow=9.5,SNR=3.8						
TXAR	**Lajitas Array**	**75.26**	**332**	P	**P**	**10 30 50.0**	**+1.2**
	comp=E,0.9nm,0.8s,baz=163,slow=7.1,SNR=3.9						
BOSA	**Boshof**	**77.21**	**117**	P	**P**	**10 30 59.2**	**-0.9**
	comp=E,2.3nm,0.8s,baz=241,slow=7.0,SNR=3.6						
DBIC	**Dimbokro**	**77.30**	**70**	P	**P**	**10 31 00.9**	**+0.4**
	comp=E,4.0nm,0.6s,baz=208,slow=5.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**86.41**	**70**	P	**P**	**10 31 48.6**	**+0.2**
	comp=E,0.6nm,0.8s,baz=217,slow=4.5,SNR=3.2						
SEY	**Seymchan**	**145.37**	**326**	PKPbc	**PKPab**	**10 38 43.5**	**+0.8**
	comp=E,1.9nm,0.8s,baz=34,slow=9.5,SNR=5.2						
BVAR	**Borovoye Array**	**151.62**	**51**	PKP	**PKPdf**	**10 38 54.7**	**+1.7**
	comp=E,0.7nm,0.8s,baz=15,slow=6.2,SNR=3.6						
BVAR				PKPbc	**PKiKP**	**10 39 00.5**	**+0.8**
	comp=E,0.9nm,0.6s,baz=289,slow=4.5,SNR=5.5						
KURBB	**Kurchatov Arra**	**157.10**	**53**	PKP	**PKPdf**	**10 39 01.6**	**+0.9**
	comp=E,0.9nm,0.9s,baz=288,slow=1.7,SNR=8.2						
KURBB				PKPab	**PKPab**	**10 39 32.0**	**+0.6**
	comp=E,0.2nm,0.3s,baz=278,slow=5.0,SNR=4.9						
KURK	**Kurchatov**	**157.13**	**53**	PKP	**PKPdf**	**10 39 01.6**	**+0.8**
KURK				PKPab	**PKPab**	**10 39 32.0**	**+0.5**

*ISCJB **04** 10:20:08.8±0.6,39.12N±0.03×29.01E±0.04,h4km±7km, Error ellipse: s-maj=6.2km s-min=4.5km az=149.8*
*DDA **04** 10:20:08.5,39.11N×29.02E,h7km,Md2.9*
*ISK **04** 10:20:08.5,39.09N×29.07E,h8km,MD2.7*
*CSEM **04** 10:20:09.0±0.1,39.11N×29.01E,h5km,MD2.9, Error ellipse: s-maj=2.4km s-min=1.9km az=104.0*

ISC 04 10:20:09.0±0.9,39.11N±0.02×29.01E±0.03,h12km±9km, n31,σ0s63/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**254**	P	**Pg**	**10 20 14.0**	**0.0**
DEMI				S	**Sg**	**10 20 17.2**	**-0.3**
DEMI	**Demirci**	**0.24**	**254**	*i* P	**Pg**	**10 20 14.0**	**0.0**
DEMI				*i* S	**Sg**	**10 20 17.2**	**-0.3**
GDZ	**Gediz**	**0.37**	**93**	P	**Pg**	**10 20 16.5**	**+0.1**
GDZ				S	**Sg**	**10 20 21.8**	**+0.5**
GDZ	**Gediz**	**0.37**	**93**	*i* P	**Pg**	**10 20 16.4**	**+0.1**
GDZ				*i* S	**Sg**	**10 20 21.8**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**46**	*e*PG	**Pg**	**10 20 18.2**	**-0.3**
TVSB				*e*SG	**Sg**	**10 20 25.0**	**0.0**
TVSB	**Tavsanli**	**0.49**	**46**	*e*Pg	**Pg**	**10 20 18.2**	**-0.3**
TVSB				*e*Sg	**Sg**	**10 20 25.0**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*PG	**Pg**	**10 20 21.7**	**0.0**
KULA				*e*SG	**Sb**	**10 20 30.9**	**-0.6**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*Pg	**Pg**	**10 20 21.7**	**0.0**
KULA				*e*Sg	**Sb**	**10 20 30.9**	**-0.6**
KHAL	**Karahalli**	**0.83**	**153**	P	**Pb**	**10 20 25.6**	**+0.2**
KHAL				S	**Sg**	**10 20 36.1**	**+0.2**
KHAL	**Karahalli**	**0.83**	**153**	*i* P	**Pb**	**10 20 25.6**	**+0.2**
KHAL				*i* S	**Sg**	**10 20 36.1**	**+0.2**
KHL	**Karahalli**	**0.88**	**153**	*e*PG	**Pg**	**10 20 25.2**	**-0.8**
KHL	**Karahalli**	**0.88**	**153**	*e*Pg	**Pg**	**10 20 25.2**	**-0.8**
BALB	**Balikesir**	**1.02**	**301**	*e*Pn	**Pn**	**10 20 29.9**	**+0.7**
BALB	**Balikesir**	**1.02**	**301**	*e*Pn	**Pn**	**10 20 29.9**	**+0.7**
IGD	**Bursa**	**1.16**	**7**	*i* P	**Pb**	**10 20 30.0**	**-1.0**
IGD				*i* S	**Sb**	**10 20 43.4**	**-2.6**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*PN	**Pg**	**10 20 33.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*Pn	**Pg**	**10 20 33.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pg**	**10 20 33.4**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pg**	**10 20 33.4**	**+0.2**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pg**	**10 20 33.4**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pg**	**10 20 33.4**	**+0.1**
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pg**	**10 20 33.4**	**-0.1**
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pg**	**10 20 33.4**	**-0.1**
BORA	**Eskisehir**	**1.35**	**55**	P	**Pb**	**10 20 34.4**	**+0.1**
BORA				S	**Sg**	**10 20 52.9**	**+0.3**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pb**	**10 20 34.4**	**+0.1**
BORA				*i* S	**Sg**	**10 20 52.9**	**+0.3**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pb**	**10 20 36.3**	**+0.2**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pb**	**10 20 36.3**	**+0.2**
GULT	**Gulveren**	**1.76**	**41**	*e*PN	**Pn**	**10 20 39.8**	**+0.5**
GULT	**Gulveren**	**1.76**	**41**	*e*Pn	**Pn**	**10 20 39.8**	**+0.5**
SILT	**Sile**	**2.10**	**13**	*e*PN	**Pn**	**10 20 45.1**	**+1.2**
SILT	**Sile**	**2.10**	**13**	*e*Pn	**Pn**	**10 20 45.1**	**+1.2**

*IDC **04** 10:24:40.8±1.8,37.11N×142.40E,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.4/69,mbtmp3.6/5,ML3.3/2, Error ellipse: s-maj=39.2km s-min=30.5km az=63.0*
*ISCJB **04** 10:24:44.1±0.9,36.79N±0.05×142.23E±0.07,h19km, mb3.5/3, Error ellipse: s-maj=8.3km s-min=6.7km az=170.5*
*JMA **04** 10:24:45.6±0.4,36.84N×142.11E,h20km±5km,M3.4*

ISC 04 10:24:45.1±1.3,36.79N±0.05×142.20E±0.09,h19km,n16, σ1s57/22,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.17**	**286**	P	**Pn**	**10 25 05.2**	**-1.3**
JFK	**Kawauchi**	**1.21**	**299**	P	**Pn**	**10 25 05.8**	**-1.3**
JHO	**Hitachi**	**1.32**	**263**	P	**Pn**	**10 25 07.7**	**-0.9**
JHO				S	**Sn**	**10 25 25.7**	**0.0**
JMM	**Marumori**	**1.56**	**314**	P	**Pn**	**10 25 11.0**	**-0.8**
JFT	**Otama**	**1.66**	**297**	P	**Pn**	**10 25 13.2**	**0.0**
JIO	**Ouri**	**1.80**	**338**	P	**Pn**	**10 25 16.1**	**+1.0**
JIO				S	**Sn**	**10 25 37.5**	**+0.1**
JOU	**Okura**	**1.99**	**323**	P	**Pn**	**10 25 18.4**	**+0.6**
JOU				S	**Sn**	**10 25 41.9**	**-0.4**
JFY	**Yanaizu**	**2.09**	**288**	S	**Sn**	**10 25 44.2**	**-0.5**
JYS	**Shirataka**	**2.22**	**311**	*e*S	**Sn**	**10 25 47.9**	**0.0**
JAG	**Ashikaga**	**2.24**	**262**	P	**Pn**	**10 25 21.5**	**+0.3**
MJAR	**Matsushiro Arr**	**2.32**	**267**	Pn	**Pn**	**10 25 36.0**	**+1.3**
	3.4nm,0.3s,baz=93,slow=9.7,SNR=37						
MJAR				Sn	**Sn**	**10 26 16.4**	**+3.8**
	2.1nm,0.3s,baz=90,slow=32,SNR=5.4						
MAT	**Matsushiro**	**3.22**	**267**	P	**Pn**	**10 25 36.3**	**+1.6**
MAT				S	**Sn**	**10 26 12.4**	**-0.2**
JHJ	**Hachijo jima 2**	**4.17**	**209**	Pn	**Pn**	**10 25 49.0**	**+1.4**
	3.8nm,0.3s,baz=41,slow=19,SNR=5.2						
JHJ				Sn	**Sn**	**10 26 32.2**	**-3.6**
	7.9nm,0.3s,baz=177,slow=23,SNR=3.0						
WRA	**Warramunga Arr**	**56.91**	**189**	P	**P**	**10 34 30.0**	**+1.1**
	0.5nm,1.1s,baz=6.8,slow=7.3,SNR=4.6						
ASAR	**Alice Springs**	**60.64**	**189**	P	**P**	**10 34 56.2**	**+1.4**
	0.3nm,0.8s,baz=138,slow=8.6,SNR=3.6						
BRTR	**Keskin Array B**	**79.49**	**312**	P	**P**	**10 36 48.7**	**-1.9**
	0.4nm,0.4s,baz=66,slow=4.1,SNR=3.3						

IDC 04 10:25:30.1±2.2,0.24N×128.37E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/53,mbtmp3.3/4,MS3.4/1,Ms1 3.4/1, ms1mx2.4/21,Error ellipse: s-maj=200.4km s-min=22.4km az=68.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.89**	**164**	P	P	10 30 13.5	-0.7
	0.3nm,0.6s,baz=347,slow=12,SNR=4.7						

YUK					AMB	AMB	10 41 29.5		
	comp=E,61nm,0.3s								
YUK					*e*S	**Sn**	**10 42 27.0**	**-1.7**	
YUK					A	A	10 42 53.4		
	comp=E,51nm,0.6s								
YUK					A	A	10 42 53.4		
	comp=E,87nm,0.6s								
PETK	**Petropavlovsk-**	**7.12**	**23**	P		**Pn**	**10 41 45.2**	**+2.3**	
	comp=E,0.7nm,0.3s,baz=183,slow=10,SNR=16								
YSS	**Yuzh-Sakhalins**	**7.13**	**276**	*e*PN		**Pn**	**10 41 44.3**	**+1.2**	
YSS				pmax		pmax			
	comp=Z,10.0nm,0.9s								
YSS				MLR		MLR			
	comp=Z,300nm,17.0s								
YSS	**Yuzh-Sakhalins**	**7.13**	**276**	*e*P		**Pn**	**10 41 43.9**	**+0.8**	
PET	**Petropavlovsk**	**7.32**	**27**	*e*S		**Sn**	**10 43 06.4**	**-1.0**	
JKA	**Kamikawa-asahi**	**7.83**	**255**	*e*P		**Pn**	**10 41 55.0**	**+2.3**	
ASAJ	**Asahikawa**	**7.83**	**255**	P		**Pn**	**10 41 55.0**	**+2.3**	
	baz=0.5,slow=3.5								
ASAJ	**Asahikawa**	**7.83**	**255**	PN		**Pn**	**10 41 55.0**	**+2.3**	
TYV	**Tymovskoe**	**8.11**	**305**	*e*P		**Pn**	**10 41 58.4**	**+1.9**	
MA2	**Magadan**	**13.04**	**355**	P		**Pn**	**10 43 03.9**	**+0.1**	
	comp=Z,1.3nm,0.3s,baz=191,slow=12,SNR=8.9								
MA2				LR		LR	10 47 41.1		
	comp=Z,52nm,20.9s,baz=142,slow=36								
KLR	**Kul'dur**	**14.56**	**288**	P		**Pn**	**10 43 25.3**	**+0.8**	
	comp=Z,0.1nm,0.3s,baz=72,slow=8.3,SNR=2.0								
MJAR	**Matsushiro Arr**	**15.02**	**233**	P		**P**	**10 43 34.7**	**-0.9**	
	comp=Z,0.3nm,0.3s,baz=34,slow=9.1,SNR=9.6								
MJAR				LR		LR	10 49 13.5		
	comp=Z,37nm,19.7s,baz=55,slow=37								
USRK	**Ussuriysk Ar.**	**15.04**	**268**	P		**Pn**	**10 43 31.9**	**+0.9**	
	comp=Z,0.3nm,0.3s,baz=74,slow=13,SNR=4.3								
SEY	**Seymchan**	**16.34**	**359**	P		**P**	**10 43 49.4**	**-0.7**	
	comp=Z,0.3nm,0.3s,baz=167,slow=13,SNR=6.0								
YAK	**Yakutsk**	**20.43**	**327**	LR		LR	10 52 27.8		
	comp=Z,31nm,18.6s,baz=125,slow=37								
KSRS	**Korea Array**	**20.77**	**253**	P		**P**	**10 44 38.7**	**-0.1**	
	comp=Z,1.7nm,0.7s,baz=58,slow=9.7,SNR=7.9								
H11N2	**WAKE ISLAND Hy**	**29.11**	**153**	T		T	11 17 19.7		
	baz=340,slow=75,SNR=283								
H11N1	**WAKE ISLAND Hy**	**29.12**	**153**	T		T	11 17 27.4		
	baz=340,slow=75,SNR=231								
H11N3	**WAKE ISLAND Hy**	**29.13**	**153**	T		T	11 17 23.7		
	baz=340,slow=75,SNR=180								
H11S1	**WAKE ISLAND Hy**	**30.20**	**154**	T		T	11 18 35.6		
	baz=341,slow=76,SNR=228								
H11S3	**WAKE ISLAND Hy**	**30.21**	**154**	T		T	11 18 45.7		
	baz=341,slow=76,SNR=216								
H11S2	**WAKE ISLAND Hy**	**30.22**	**154**	T		T	11 18 36.8		
	baz=341,slow=76,SNR=181								
SONM	**Songino Array**	**31.38**	**290**	P		**P**	**10 46 18.7**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=98,slow=10,SNR=3.7								
SONM				LR		LR	10 59 52.5		
	comp=Z,63nm,18.5s,baz=282,slow=38								
ILAR	**Eielson Array**	**36.63**	**38**	P		**P**	**10 47 04.1**	**+0.6**	
	comp=Z,0.7nm,0.7s,baz=269,slow=7.5,SNR=9.3								
INK	**Inuvik**	**41.74**	**32**	P		**P**	**10 47 47.0**	**+0.9**	
	comp=Z,1.8nm,0.8s,baz=314,slow=9.9,SNR=6.3								
INK	**Inuvik**	**41.74**	**32**	P		**P**	**10 47 47.0**	**+0.9**	
INK				pmax		pmax			
	comp=Z,2.0nm,0.7s								
INK	**Inuvik**	**41.74**	**32**	*e*P		**P**	**10 47 47.0**	**+0.9**	
MKAR	**Makanchi Array**	**47.01**	**297**	P		**P**	**10 48 25.9**	**-2.5**	
	comp=Z,0.8nm,0.8s,baz=70,slow=8.0,SNR=6.4								
MKAR				PcP		**PcP**	**10 49 58.2**	**-1.9**	
	comp=Z,0.5nm,0.7s,baz=65,slow=6.8,SNR=2.7								
YKA	**Yellowknife Ar**	**51.01**	**37**	P		**P**	**10 48 59.7**	**+1.0**	
	comp=Z,0.4nm,0.7s,baz=291,slow=7.0,SNR=5.7								
YKA				PcP		**PcP**	**10 50 14.4**	**+0.1**	
	comp=Z,0.3nm,0.5s,baz=314,slow=3.8,SNR=5.4								
CMAR	**Chiang Mai Arr**	**52.35**	**256**	P		**P**	**10 49 09.7**	**+0.2**	
	comp=Z,0.8nm,0.4s,baz=34,slow=8.9,SNR=6.8								
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**10 50 29.2**	**-2.0**	
	comp=Z,1.6nm,0.5s,baz=37,slow=7.4,SNR=21								
PDAR	**Pinedale Array**	**64.80**	**54**	P		**P**	**10 50 37.0**	**+0.9**	
	comp=Z,2.5nm,0.7s,baz=222,slow=2.0,SNR=4.9								
NB2	**NORSAR Subarra**	**68.34**	**341**	P		**P**	**10 50 56.1**	**-2.0**	
	comp=Z,3.2nm,0.7s,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**68.34**	**341**	P		**P**	**10 50 56.6**	**-1.5**	
	comp=Z,4.4nm,0.9s,baz=28,slow=6.3,SNR=8.0								
NOA				LR		LR	11 23 45.7		
	comp=Z,10.0nm,19.1s,baz=40,slow=38								
NOA	**NORSAR Array B**	**68.34**	**341**	P		**P**	**10 50 56.6**	**-1.5**	
NOA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
NOA				MLR		MLR			
	comp=Z,10.0nm,19.1s								
WRA	**Warramunga Arr**	**68.41**	**199**	P		**P**	**10 50 58.9**	**0.0**	
	comp=Z,0.6nm,0.8s,baz=18,slow=6.7,SNR=6.1								
HFS	**Hagfors**	**68.57**	**340**	P		**P**	**10 50 57.7**	**-1.8**	
	comp=Z,5.2nm,0.7s,baz=54,slow=7.5,SNR=14								
AKASG	**Malin Array Be**	**71.65**	**326**	P		**P**	**10 51 16.4**	**-2.1**	
	comp=Z,2.8nm,0.5s,baz=36,slow=6.3,SNR=7.6								
AKASG				LR		LR	11 25 09.5		
	comp=Z,19nm,18.5s,baz=290,slow=38								
ASAR	**Alice Springs**	**72.10**	**198**	P		**P**	**10 51 22.6**	**+1.1**	
	comp=Z,0.8nm,0.6s,baz=11,slow=5.5,SNR=19								
SCHQ	**Schefferville**	**73.41**	**23**	P		**P**	**10 51 29.3**	**+0.4**	
	comp=Z,3.2nm,0.6s,baz=256,slow=12,SNR=4.0								
MLR	**Muntele Rosu**	**77.17**	**325**	P		**P**	**10 51 50.1**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=189,slow=4.6,SNR=4.6								
TXAR	**Lajitas Array**	**77.54**	**61**	P		**P**	**10 51 54.2**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=296,slow=3.9,SNR=8.5								
BRTR	**Keskin Array B**	**78.48**	**317**	P		**P**	**10 51 56.3**	**-2.0**	
	comp=Z,0.7nm,0.8s,baz=51,slow=6.5,SNR=5.3								

*GUC **04** 10:45:58.6±0.4,40.46S×72.11W,h19km±3km,ML4.2*
*NEIC **04** 10:45:58.0,40.46S×72.11W,h19km,ML4.3(GUC),After GUC.*
NEIC Felt [II] at Lago Ranco.
*IDC **04** 10:45:59.6±1.3,40.10S×71.84W,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.9/21,mbtmp3.8/5,Error ellipse: s-maj=36.2km s-min=13.5km az=42.0*
*ISCJB **04** 10:46:02.2±0.7,40.2S±0.1×71.98W±0.09,h33km,mb3.7/5, Error ellipse: s-maj=18.1km s-min=7.0km az=26.1*

ISC 04 10:46:02.5±1.5,40.4S±0.3×72.1W±0.1,h35km,n9, σ1§40/10,mb3.9/5,1C,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
VLCH	**Valdivia**	**1.06**	**302**	*e*P		**Pn**	**10**	**46**	**18.9**	**-1.8**
VLCH				*e*S		**Sn**	**10**	**46**	**34.5**	**+0.2**
VLCH				IAML			10	46	43.1	
	comp=N,11μm,1.3s									
PLCA	**Paso Flores**	**1.22**	**108**	Pg		**Pn**	**10**	**46**	**21.6**	**-1.5**
	comp=N,181nm,0.3s,baz=301,slow=12,SNR=53									
PLCA				Lg		Lg	10	46	38.7	
	comp=N,185nm,0.3s,baz=27,slow=17,SNR=9.0									
PLCA				LR		LR	10	47	03.0	
	comp=N,336nm,19.8s,baz=306,slow=54									
PLCA	**Paso Flores**	**1.22**	**108**	*e*P		**Pn**	**10**	**46**	**21.6**	**-1.5**
PLCA				*e*S		**Sn**	**10**	**46**	**38.6**	**+0.2**
LVC	**Limon Verde**	**17.91**	**10**	*e*Pn		**Pn**	**10**	**50**	**07.7**	**-1.4**
	comp=N,5.0nm,0.8s									
LPAZ	**La Paz**	**24.24**	**9**	P		**P**	**10**	**51**	**17.9**	**+1.1**
	comp=N,1.6nm,0.9s,baz=144,slow=9.2,SNR=4.1									
VNDA	**Vanda**	**57.86**	**192**	P		P	10	55	55.2	+5.2
	comp=N,0.5nm,0.4s,baz=125,slow=8.8,SNR=2.9									
TXAR	**Lajitas Array**	**75.30**	**332**	P		**P**	**10**	**57**	**43.4**	**+1.5**
	comp=N,0.3nm,0.9s,baz=134,slow=3.6,SNR=3.0									
DBIC	**Dimbokro**	**77.33**	**70**	P		**P**	**10**	**57**	**54.5**	**+0.7**
	comp=N,2.2nm,0.6s,baz=205,slow=4.2,SNR=1.8									
TORD	**Torodi Ar. Bea**	**86.44**	**70**	P		**P**	**10**	**58**	**41.7**	**+0.2**
	comp=N,0.7nm,0.9s,baz=203,slow=6.3,SNR=3.1									

GUC 04 10:48:24.9±0.4,40.45S×72.04W,h11km±2km,ML3.7, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
VLCH	**Valdivia**	**1.13**	**304**	*e*P		Pb	10	48	46.5	0.0
VLCH				*e*S		Sn	10	49	02.7	+0.5
VLCH				IAML			10	49	04.5	
	comp=N,4μm,0.1s									
PLCA	**Paso Flores**	**1.17**	**104**	*e*P		Pg	10	48	47.4	0.0
PLCA				*e*S		Sn	10	49	04.5	+1.2

*ISCJB **04** 10:49:29.2±0.7,35.55N±0.04×140.14E±0.07,h77km±5km, mb3.2/3,Error ellipse: s-maj=9.7km s-min=6.1km az=148.7*
*JMA **04** 10:49:29.4±0.2,35.63N×140.16E,h68km±2km,M2.6*
*IDC **04** 10:49:33.5±2.4,35.41N×139.65E,h82km±13km,mb3.0/3, mb1 3.2/4,mb1mx2.9/66,mbtmp3.4/4,Error ellipse: s-maj=48.9km s-min=6.8km az=67.0*

ISC 04 10:49:30.1±1.1,35.57N±0.05×140.14E±0.06,h70km±8km, n16,σ0§79/25,mb3.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
JCN	**Nagara**	**0.16**	**162**	P		**Pn**	**10**	**49**	**40.4**	**-0.2**
JCN				S		**Sn**	**10**	**49**	**49.2**	**+1.1**
BSO3	**Boso 3**	**0.82**	**158**	P		**Pn**	**10**	**49**	**45.9**	**-0.3**
BSO3				X			10	49	59.9	
JOD2	**Odawara 2**	**0.91**	**251**	P		**Pn**	**10**	**49**	**47.2**	**-0.4**
JOD2				S		**Sn**	**10**	**50**	**00.0**	**-0.5**
JAG	**Ashikaga**	**1.02**	**327**	P		**Pn**	**10**	**49**	**48.0**	**-0.9**
JIM2	**Oshima 3**	**1.03**	**215**	P		**Pn**	**10**	**49**	**48.4**	**-0.6**
JIM2				*e*S		**Sn**	**10**	**50**	**02.1**	**-1.0**
JRY	**Ryogami san**	**1.10**	**294**	P		**Pn**	**10**	**49**	**50.1**	**+0.1**
JRY				*e*S		**Sn**	**10**	**50**	**06.1**	**+1.4**
BSO1	**Boso 1**	**1.14**	**143**	P		**Pn**	**10**	**49**	**49.1**	**-0.8**
BSO1				X			10	50	04.8	
JYN	**Shimob**	**1.30**	**267**	P		**Pn**	**10**	**49**	**52.5**	**-0.1**
JYN				S		**Sn**	**10**	**50**	**10.0**	**+0.6**
JIZS	**Izushimoda**	**1.34**	**231**	P		**Pn**	**10**	**49**	**52.6**	**-0.4**
JIZS				S		**Sn**	**10**	**50**	**09.5**	**-0.6**
JKT	**Katashina**	**1.40**	**329**	P		**Pn**	**10**	**49**	**53.5**	**-0.3**
MJAR	**Matsushiro Arr**	**1.84**	**302**	P		**Pn**	**10**	**50**	**00.0**	**+0.4**
	7.7nm,0.3s,baz=132,slow=14,SNR=71									
MJAR				S		**Sn**	**10**	**50**	**20.3**	**-1.8**
	4.3nm,0.3s,baz=132,slow=20,SNR=7.6									
MAT	**Matsushiro**	**1.84**	**302**	P		**Pn**	**10**	**50**	**00.0**	**+0.3**
MAT				S		**Sn**	**10**	**50**	**21.6**	**-0.6**
JHJ	**Hachijo jima 2**	**2.46**	**187**	P		**Pn**	**10**	**50**	**08.7**	**+0.6**
	24nm,0.3s,baz=69,slow=22,SNR=6.4									
JHJ				S		**Sn**	**10**	**50**	**37.7**	**+0.6**
	29nm,0.3s,baz=80,slow=22,SNR=6.5									
MKAR	**Makanchi Array**	**44.04**	**303**	P		**P**	**10**	**57**	**31.7**	**+0.8**
	0.1nm,0.4s,baz=81,slow=9.5,SNR=2.2									
KURBB	**Kurchatov Arra**	**46.11**	**309**	P		**P**	**10**	**57**	**47.6**	**+0.4**
	0.2nm,0.5s,baz=85,slow=7.0,SNR=4.9									
WRA	**Warramunga Arr**	**55.48**	**187**	P		**P**	**10**	**58**	**57.3**	**-0.5**
	0.3nm,0.5s,baz=0.7,slow=7.6,SNR=5.6									

IDC 04 10:51:36.8±1.6,6.43S×154.37E,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.6/47,mbtmp3.9/6,ML2.4/1,Error ellipse: s-maj=59.6km s-min=25.3km az=136.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
PMG	**Port Moresby**	**7.73**	**247**	Pn		Pn	10	53	32.5	+1.8
	2.9nm,0.3s,baz=29,slow=14,SNR=4.1									
PMG				Sn		Sn	10	54	59.9	+0.9
	1.0nm,0.3s,baz=222,slow=20,SNR=1.5									
WRA	**Warramunga Arr**	**23.64**	**233**	P		P	10	56	49.4	-0.6
	1.8nm,0.8s,baz=60,slow=10.0,SNR=10									
ASAR	**Alice Springs**	**26.09**	**227**	P		P	10	57	12.5	0.0
	0.3nm,0.4s,baz=56,slow=9.7,SNR=4.5									
STKA	**Stephens Creek**	**27.99**	**204**	P		P	10	57	29.9	+0.5
	1.6nm,1.0s,baz=44,slow=12,SNR=1.9									
FITZ	**Fitzroy Crossi**	**30.32**	**245**	P		P	10	57	49.5	-0.8
	3.1nm,0.8s,baz=81,slow=11,SNR=3.7									
ILAR	**Eielson Array**	**83.08**	**22**	P		P	11	04	03.6	-0.5
	0.2nm,0.5s,baz=212,slow=8.5,SNR=1.5									
TORD	**Torodi Ar. Bea**	**152.27**	**286**	PKPbc		PKPbc	11	11	36.4	+0.6
	0.6nm,0.7s,baz=95,slow=3.5,SNR=3.7									

*ISCJB **04** 10:51:41.4±0.2,56.29N±0.04×161.56W±0.06,h200km, mb3.9/25,Error ellipse: s-maj=6.4km s-min=2.7km az=138.3*
*NEIC **04** 10:51:42.6,55.98N×161.21W,h205km,mb4.1/10,After AEIC.*
*IDC **04** 10:51:42.5±4.6,56.43N×161.59W,h190km±38km, mb3.6/13,mb1 3.7/15,mb1mx3.3/71,mbtmp4.0/15,Error ellipse: s-maj=32.3km s-min=11.9km az=34.0*

ISC 04 10:51:42.8±0.5,56.20N±0.07×161.47W±0.06,h200km, n109,σ1§61/119,mb4.0/25,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
PVV	**Pavlof Volcano**	**0.85**	**192**	P		**Pn**	**10**	**52**	**10.3**	**-1.4**
PS4A	**Pavlof South-4**	**0.88**	**194**	P		**Pn**	**10**	**52**	**10.5**	**-1.4**
HAG	**Hague Volcano**	**0.92**	**196**	P		**Pn**	**10**	**52**	**10.9**	**-1.3**
VNWF	**Veniaminof 8**	**1.07**	**92**	P		**Pn**	**10**	**52**	**12.7**	**-0.4**
VNFG	**Veniaminof 2**	**1.07**	**85**	P		**Pn**	**10**	**52**	**11.9**	**-1.3**
DOL	**Dolgoi Island**	**1.08**	**192**	P		**Pn**	**10**	**52**	**11.4**	**-1.8**
VNSW	**Veniaminof 7**	**1.08**	**96**	P		**Pn**	**10**	**52**	**12.0**	**-1.1**
DTNA	**Dutton South F**	**1.14**	**203**	P		**Pn**	**10**	**52**	**12.5**	**-1.1**
DT1	**Dutton Round H**	**1.19**	**203**	P		**Pn**	**10**	**52**	**12.5**	**-1.4**
BALA	**Baldy Mountain**	**1.25**	**217**	P		**Pn**	**10**	**52**	**13.9**	**-0.5**
VNHG	**Veniaminof 1**	**1.29**	**88**	P		**Pn**	**10**	**52**	**13.3**	**-1.5**
FALS	**False Pass**	**1.74**	**220**	P		**Pn**	**10**	**52**	**17.5**	**-1.2**
FALS				S		**Sn**	**10**	**52**	**44.4**	**-2.2**
ANPB	**Aniakchak Plen**	**1.87**	**70**	P		**Pn**	**10**	**52**	**18.6**	**-1.4**
ANNW	**Aniakchak Nort**	**1.96**	**66**	P		**Pn**	**10**	**52**	**20.4**	**-0.5**
ANPK	**Aniakchak Peak**	**1.96**	**69**	P		**Pn**	**10**	**52**	**19.7**	**-1.3**
SSLW	**Shishaldin Wes**	**2.08**	**228**	P		**Pn**	**10**	**52**	**21.9**	**-0.3**
WESN	**West Dahl Nort**	**2.41**	**229**	P		**Pn**	**10**	**52**	**25.9**	**+0.2**
WEBT	**Westdahl Beart**	**2.47**	**231**	P		**Pn**	**10**	**52**	**26.1**	**-0.3**
WESP	**Westdahl Peak**	**2.52**	**229**	P		**Pn**	**10**	**52**	**26.9**	**-0.1**
WESP				S		**Sn**	**10**	**53**	**01.5**	**0.0**
PLBL	**Peulik Blue Cr**	**2.96**	**58**	P		**Pn**	**10**	**52**	**31.1**	**-0.8**
PLK5	**Peulik 5**	**3.09**	**52**	P		**Pn**	**10**	**52**	**33.1**	**-0.3**
PLK1	**Peulik 1**	**3.11**	**57**	P		**Pn**	**10**	**52**	**33.0**	**-0.6**
AKSA	**Akutan Strait**	**3.19**	**231**	P		**Pn**	**10**	**52**	**34.1**	**-0.6**
AKSA				S		**Sn**	**10**	**53**	**19.3**	**-1.2**
PLK3	**Peulik 3**	**3.22**	**60**	P		**Pn**	**10**	**52**	**34.3**	**-0.7**
AKUT	**Akutan**	**3.22**	**232**	P		**Pn**	**10**	**52**	**34.3**	**-0.7**
ZRO	**Akutan Zero**	**3.34**	**233**	P		**Pn**	**10**	**52**	**36.0**	**-0.5**
UNV	**Unalaska Valle**	**3.73**	**233**	P		**Pn**	**10**	**52**	**39.9**	**-1.4**
KELA	**Mount Kelaz**	**3.83**	**52**	P		**Pn**	**10**	**52**	**41.9**	**-0.6**
MGOD	**Makushin Gods**	**3.94**	**234**	P		**Pn**	**10**	**52**	**42.9**	**-0.9**
KVTA	**Katmai Vly 10**	**4.00**	**54**	P		**Pn**	**10**	**52**	**43.9**	**-0.6**
KABR	**Katmai Barrier**	**4.03**	**59**	P		**Pn**	**10**	**52**	**43.9**	**-1.1**
KAWH	**Katmai**	**4.23**	**56**	P		**Pn**	**10**	**52**	**46.4**	**-1.0**
KAHC	**Katmai Hardscr**	**4.27**	**52**	P		**Pn**	**10**	**52**	**47.2**	**-0.8**
MCNL	**McNeil River**	**4.86**	**49**	P		**Pn**	**10**	**52**	**54.8**	**-0.5**
FOPK	**Fourpeaked Vol**	**5.02**	**56**	P		**Pn**	**10**	**52**	**55.8**	**-1.6**
CDD	**Cape Douglas**	**5.02**	**54**	P		**Pn**	**10**	**52**	**56.2**	**-1.0**
KDAK	**Kodiak Island**	**5.11**	**58**	P		**Pn**	**10**	**52**	**56.4**	**-2.1**
NIKH	**Nikolski High**	**5.37**	**236**	*e*Pn		**Pn**	**10**	**53**	**00.8**	**-1.1**
NIKH				*e*Sn		**Sn**	**10**	**53**	**59.9**	**-4.5**
SVW2	**Sparrevohn**	**5.79**	**30**	*e*Pn		**Pn**	**10**	**53**	**06.2**	**-1.1**
RDWB	**Redoubt West**	**6.25**	**43**	P		**Pn**	**10**	**53**	**12.8**	**-0.5**
NCT	**North Crescent**	**6.27**	**42**	P		**Pn**	**10**	**53**	**13.2**	**-0.3**
RSO	**Redoubt South**	**6.27**	**43**	*e*Pn		**Pn**	**10**	**53**	**13.2**	**-0.4**
HOM	**Homer**	**6.28**	**52**	*e*Pn		**Pn**	**10**	**53**	**12.2**	**-1.2**
CNPM	**China Poot**	**6.40**	**54**	P		**Pn**	**10**	**53**	**13.3**	**-1.8**
BRLK	**Bradley Lake**	**6.67**	**53**	P		**Pn**	**10**	**53**	**16.1**	**-2.4**
SPWE	**Spurr West**	**6.88**	**39**	P		**Pn**	**10**	**53**	**22.1**	**+0.7**
CKL	**Chakachamna La**	**6.91**	**40**	P		**Pn**	**10**	**53**	**22.3**	**+0.5**
SPU	**Mount Spurr**	**7.00**	**41**	*e*Pn		**Pn**	**10**	**53**	**22.6**	**-0.3**
SPU				*e*Sn		**Sn**	**10**	**54**	**39.9**	**-2.5**
TT01	**Tatalina**	**7.27**	**20**	P		**Pn**	**10**	**53**	**26.8**	**+0.4**
TTA	**Tatalina**	**7.29**	**20**	*e*Pn		**Pn**	**10**	**53**	**27.1**	**+0.3**
SLKM	**Skilak Lake**	**7.32**	**49**	P		**Pn**	**10**	**53**	**25.6**	**-1.5**
SEW	**Seward**	**7.46**	**53**	P		**Pn**	**10**	**53**	**26.2**	**-2.3**
SUA	**Susitna One**	**7.66**	**42**	P		**Pn**	**10**	**53**	**30.8**	**-0.9**
SKT	**Skwentna**	**7.73**	**37**	P		**Pn**	**10**	**53**	**32.6**	**+0.3**
PPLA	**Purkeypile**	**8.20**	**31**	*e*Pn		**Pn**	**10**	**53**	**39.5**	**+1.0**
PMR	**Palmer**	**8.36**	**45**	*e*Pn		**Pn**	**10**	**53**	**38.9**	**-1.6**
MID	**Middleton Isla**	**8.70**	**62**	*e*Pn		**Pn**	**10**	**53**	**42.9**	**-2.1**
SML	**Sawmill**	**8.80**	**45**	*e*Pn		**Pn**	**10**	**53**	**42.0**	**-4.3**
SML				*e*Sn		Sn	10	55	12.7	-12
TRF	**Thorofare Moun**	**9.18**	**33**	*e*Pn		**Pn**	**10**	**53**	**49.6**	**-1.8**
SCM	**Sheep Creek Mo**	**9.21**	**46**	*e*Pn		**Pn**	**10**	**53**	**49.0**	**-2.7**
EYAK	**Cordova Ski Ar**	**9.33**	**56**	*e*Pn		**Pn**	**10**	**53**	**50.1**	**-3.0**
BPAW	**Bear Paw Mtn.**	**9.48**	**29**	*e*Pn		**Pn**	**10**	**53**	**53.5**	**-1.6**
DIV	**Divide**	**9.54**	**52**	*e*Pn		**Pn**	**10**	**53**	**53.6**	**-2.4**
KLU	**Klutina**	**9.63**	**50**	*e*Pn		**Pn**	**10**	**53**	**54.8**	**-2.4**
KLU				*e*Sn		Sn	10	55	36.3	-8.5
BMRM	**Bremner River**	**10.01**	**55**	*e*Pn		**Pn**	**10**	**53**	**59.9**	**-2.1**
MLY	**Manley**	**10.29**	**26**	*e*Pn		**Pn**	**10**	**54**	**06.2**	**+0.6**
CRQM	**Cirque**	**10.61**	**57**	*e*Pn		**Pn**	**10**	**54**	**08.6**	**-1.4**
CCB	**Clear Creek Bu**	**10.81**	**33**	*e*Pn		**Pn**	**10**	**54**	**09.4**	**-2.7**
ILAR	**Eielson Array**	**11.18**	**34**	P		Pn	10	54	13.1	-3.8
	0.2nm,0.3s,baz=228,slow=12,SNR=11									
ILAR				S		Sn	10	56	10.5	-11
	0.2nm,0.3s,baz=196,slow=25,SNR=3.3									
ILB	**Eielson Array**	**11.18**	**34**	*e*Pn		**Pn**	**10**	**54**	**14.1**	**-2.9**
DOT	**Dot Lake**	**11.46**	**42**	*e*Pn		**Pn**	**10**	**54**	**19.2**	**-1.3**
COLD	**Coldfoot**	**12.26**	**21**	*e*Pn		**Pn**	**10**	**54**	**29.4**	**-1.3**
EGAK	**Eagle**	**13.13**	**41**	*e*Pn		**Pn**	**10**	**54**	**40.9**	**-0.7**
DAWY	**Dawson**	**13.47**	**45**	*e*Pn		**Pn**	**10**	**54**	**45.2**	**-0.7**
DAWY				*e*ScP		**ScP**	**11**	**03**	**17.5**	**+7.1**
DLBC	**Dease Lake**	**17.05**	**69**	P		**Pn**	**10**	**55**	**31.1**	**+1.7**
	0.1nm,0.3s,baz=293,slow=15,SNR=2.6									
INK	**Inuvik**	**17.57**	**35**	P		**P**	**10**	**55**	**31.9**	**-1.6**
	0.3nm,0.3s,baz=199,slow=9.3,SNR=12									
SEY	**Seymchan**	**23.86**	**305**	P		**P**	**10**	**56**	**36.4**	**-1.1**
	1.0nm,0.4s,baz=49,slow=22,SNR=4.8									
YKW3	**Yellowknife Ar**	**24.22**	**55**	*e*P		**P**	**10**	**56**	**41.1**	**+0.3**
	2.6nm,0.7s									
YKA	**Yellowknife Ar**	**24.23**	**56**	P		**P**	**10**	**56**	**40.9**	**0.0**
	1.7nm,0.6s,baz=276,slow=9.3,SNR=26									
YKA				PcP		**PcP**	**11**	**00**	**13.9**	**-1.2**
	0.5nm,0.6s,baz=290,slow=2.4,SNR=7.6									
YKB5	**Yellowknife Ar**	**24.23**	**56**	*e*P		**P**	**10**	**56**	**40.4**	**-0.5**
TIXI	**Tiksi**	**32.00**	**326**	P		**P**	**10**	**57**	**48.6**	**-1.1**
	1.2nm,0.3s,baz=94,slow=11,SNR=4.7									
NVAR	**Mina Array Bea**	**33.55**	**104**	P		**P**	**10**	**58**	**05.8**	**+2.1**
	0.7nm,0.5s,baz=323,slow=7.6,SNR=5.2									
NVAR				PcP		**PcP**	**11**	**00**	**39.7**	**+0.3**
	0.5nm,0.6s,baz=302,slow=5.2,SNR=3.2									
H17A	**Grant Village**	**33.81**	**88**	*e*P		P	10	58	09.7	+3.6
	2.6nm,0.6s									
YAK	**Yakutsk**	**34.27**	**309**

YUK A A 11 02 21.4
comp=E,650nm,0.5s
JCH Churui 1.27 220 ⇑P **Pn 11 02 01.8 +1.2**
JCH *e*S **Sn 11 02 21.0 +0.6**
JKK2 Kamakawa 2 1.27 283 ⇑P **Pn 11 02 02.9 +2.3**
JFR Furan 1.43 253 ⇓P **Pn 11 02 04.2 +1.9**
JFR *e*S **Sn 11 02 26.1 +2.7**
JKA Kamikawa-asahi 1.45 292 *e*P **Pn 11 02 05.2 +2.8**
ASAJ Asahikawa 1.45 292 P **Pn 11 02 05.2 +2.7**
comp=E,69nm,0.3s,baz=114,slow=6.3,SNR=850
ASAJ S **Sn 11 02 26.9 +3.3**
comp=E,28nm,0.3s,baz=65,slow=32,SNR=32
SHO Shikotan 1.73 80 *d* iPN **Pn 11 02 06.5 +0.9**
SHO *i* S **Sn 11 02 28.8 -0.5**
SHO pmax pmax
comp=Z,2μm,0.3s
SHO pmax pmax
comp=N,513nm,0.4s
SHO pmax pmax
comp=E,1μm,0.4s
SHO smax smax
comp=N,16μm,0.4s
SHO smax smax
comp=E,14μm,0.4s
SHO Shikotan 1.73 80 *i* P **Pn 11 02 06.5 +0.9**
SHO AMB AMB 11 02 07.9
comp=E,1μm,0.5s
SHO *i* S **Sn 11 02 29.2 -0.1**
SHO A A 11 02 29.9
comp=E,1μm,0.8s
SHO A A 11 02 29.9
comp=E,1μm,0.8s
JNBK Urakawa-nobuka 1.82 224 ⇓P **Pn 11 02 07.3 +0.6**
JNBK *e*S **Sn 11 02 30.7 -0.5**
ERM Erimo 1.85 212 *ce*PN **Pn 11 02 08.5 +1.4**
ERM pmax pmax
comp=Z,170nm,0.6s
ERM Erimo 1.85 212 *e*P **Pn 11 02 08.5 +1.4**
ERM Erimo 1.85 212 *e*Pn **Pn 11 02 09.2 +2.1**
JSE Soyaes 1.92 316 ⇑P **Pn 11 02 09.9 +2.1**
JSE *e*S **Sn 11 02 35.4 +2.2**
KUR Kuril'sk 2.93 55 *d* iPN **Pn 11 02 22.5 +2.1**
KUR *i* S **Sn 11 03 00.7 +4.9**
KUR pmax pmax
comp=N,55nm,1.0s
KUR pmax pmax
comp=Z,313nm,1.0s
KUR pmax pmax
comp=E,71nm,0.6s
KUR smax smax
comp=N,348nm,0.4s
KUR smax smax
comp=E,328nm,0.5s
KUR Kuril'sk 2.93 55 *i* P **Pn 11 02 22.5 +2.1**
KUR AMB AMB 11 02 24.1
comp=E,55nm,0.7s
KUR AMB AMB 11 02 24.1
comp=E,71nm,0.7s
KUR AMB AMB 11 02 24.1
comp=E,310nm,0.7s
KUR *i* S **Sn 11 02 57.8 +2.0**
KUR A A 11 03 01.1
comp=E,350nm,0.5s
KUR A A 11 03 01.1
comp=E,320nm,0.5s
YSS Yuzh-Sakhalins 3.56 341 ⇑ *i* PN **Pn 11 02 30.2 +1.6**
YSS *i* S **Sn 11 03 11.5 +1.0**
YSS pmax pmax
comp=Z,50nm,0.5s
YSS smax smax
comp=N,280nm,1.0s
YSS smax smax
comp=E,250nm,1.0s
YSS MLR MLR
comp=Z,200nm,6.0s
YSS Yuzh-Sakhalins 3.56 341 *e*P **Pn 11 02 30.5 +1.9**
YSS *e*S **Sn 11 03 13.6 +3.1**
YSS A A 11 03 14.9
comp=Z,308nm,0.8s
YSS Yuzh-Sakhalins 3.56 341 *e*Pn **Pn 11 02 30.4 +1.7**
YSS *e*Sn **Sn 11 03 12.7 +2.2**
UGL Uglegorsk 5.72 344 *e*PN **Pn 11 02 55.6 -1.7**
UGL *e*S **Sn 11 04 00.4 -1.5**
UGL Uglegorsk 5.72 344 *e*P **Pn 11 02 59.0 +1.7**
UGL AMB AMB 11 03 02.5
comp=Z,46nm,0.7s
TYV Tymovskoe 7.37 351 *e*PN **Pn 11 03 17.0 -2.4**
TYV pmax pmax
comp=Z,22nm,0.8s
TYV Tymovskoe 7.37 351 *e*P **Pn 11 03 22.3 +2.9**
TYV AMB AMB 11 03 26.8
comp=Z,22nm,0.8s
HABR Khabarovsk 8.16 310 *e*PN **Pn 11 03 28.4 -1.7**
HABR *e*S **Sn 11 04 59.2 -1.5**
HABR pmax pmax
comp=N,18nm,1.1s
HABR pmax pmax
comp=E,40nm,1.1s
HABR pmax pmax
comp=Z,59nm,1.1s
MJB9 Matsu-Tunnel 8.52 216 *e*Pn **Pn 11 03 35.0 -0.1**
MAJO Matsushiro 8.53 216 *e*PN **Pn 11 03 34.7 -0.4**
MAJO Matsushiro 8.53 216 *e*P **Pn 11 03 34.7 -0.4**
MAJO Matsushiro 8.53 216 *e*Pn **Pn 11 03 35.0 -0.1**
MJAR Matsushiro Arr 8.53 216 P **Pn 11 03 35.0 -0.1**
comp=Z,3.3nm,0.3s,baz=24,slow=12,SNR=71
MJAR S **Sn 11 05 07.8 -1.9**
comp=Z,0.4nm,0.3s,baz=314,slow=20,SNR=1.4
MJAR LR LR 11 07 22.9
comp=Z,67nm,18.9s,baz=80,slow=41
GRNR Gornyy 9.02 325 *e*P **Pn 11 03 43.8 +2.2**
GRNR AMB AMB 11 03 46.8
comp=Z,47nm,1.0s
USRK Ussuriysk Ar. 9.03 278 P **Pn 11 03 42.7 +0.9**
comp=Z,0.4nm,0.3s,baz=85,slow=14,SNR=5.6
INU Inuyama 10.05 217 *e*Pn **Pn 11 03 55.4 -0.1**
KLR Kul'dur 10.43 307 P **Pn 11 04 01.6 +1.2**
comp=Z,0.3nm,0.3s,baz=111,slow=16,SNR=18
JHJ Hachijo jima 2 11.09 201 P **Pn 11 04 08.2 -1.2**
comp=Z,7.3nm,0.3s,baz=124,slow=23,SNR=7.3
JHJ S **Sn 11 06 03.5 -8.2**
comp=Z,22nm,0.3s,baz=148,slow=23,SNR=5.8
EKMR Ekimchan 12.17 325 *e*P **Pn 11 04 22.9 -0.5**
EKMR AMB AMB 11 04 25.0
comp=Z,11nm,0.9s
PEA0 Petropavlovsk- 12.94 38 *e*Pn **Pn 11 04 33.0 -0.4**
PETK Petropavlovsk- 12.94 38 P **Pn 11 04 32.5 -0.8**
comp=Z,1.2nm,0.3s,baz=219,slow=8.6,SNR=26
CN2 Changchun 13.77 277 *e*P **Pn 11 04 43.2 -0.8**
KSRS Korea Array 13.99 250 P **Pn 11 04 46.8 -0.2**
comp=Z,0.4nm,0.3s,baz=60,slow=12,SNR=47
KS01 Wonju Array Si 14.00 250 *e*Pn **Pn 11 04 45.8 -1.2**
KS15 Wonju Array Si 14.02 250 *e*Pn **Pn 11 04 47.1 -0.3**
KSAR Wonju Array Be 14.02 250 P **Pn 11 04 46.8 -0.6**
KSAR Wonju Array Be 14.02 250 P **Pn 11 04 46.8 -0.6**
JNU Nakatsue 14.91 230 P **Pn 11 04 57.6 -1.1**
comp=Z,0.4nm,0.3s,baz=209,slow=4.1,SNR=5.4
TJN Taejon 14.95 247 *e*P **Pn 11 04 59.0 0.0**
BMKR Bomnak 15.06 323 *e*P **Pn 11 05 00.5 +0.2**
BMKR AMB AMB 11 05 04.3
comp=Z,9.0nm,0.5s
ZEA Zeya 15.20 318 *e*P **Pn 11 05 01.7 -0.3**
ZEA AMB AMB 11 05 04.7
comp=Z,40nm,0.6s
ZEA AMB AMB 11 05 04.7
comp=Z,20nm,0.6s
ZEA AMB AMB 11 05 04.7
comp=Z,58nm,0.6s
KROS Kirovskiy 15.74 320 *e*P **Pn 11 05 09.0 +0.3**
KROS AMB AMB 11 05 11.5
comp=Z,11nm,0.5s
KROS AMB AMB 11 05 11.5
comp=Z,7.0nm,0.5s
KROS AMB AMB 11 05 11.5
comp=Z,16nm,0.5s
MA2 Magadan 16.46 11 P **Pn 11 05 16.7 -0.7**
comp=Z,0.9nm,0.3s,baz=216,slow=10,SNR=13
MA2 Magadan 16.46 11 *e*P **Pn 11 05 16.8 -0.6**
MA2 Magadan 16.46 11 *e*P **P 11 05 17.9 +0.2**
SEY Seymchan 19.91 11 P **P 11 05 54.6 -0.7**
comp=Z,2.6nm,0.3s,baz=194,slow=7.8,SNR=36
YAK Yakutsk 20.41 340 P **P 11 06 01.0 +0.2**
comp=Z,2.6nm,0.3s,baz=134,slow=12,SNR=10
YAK Yakutsk 20.41 340 *e*P **P 11 05 58.6 -2.2**
YAK *e*S **S 11 09 40.4 -1.4**
YAK *e**SS **sS 11 10 15.4 -6.6**
YAK *e* 11 17 12.0
YAK pmax pmax
comp=Z,11nm,0.8s
YAK smax smax
comp=N,31nm,1.5s
YAK smax smax
comp=E,22nm,2.2s
YAK Yakutsk 20.41 340 *e*P **P 11 06 00.6 -0.2**
YAK Yakutsk 20.41 340 *e*P **P 11 06 01.2 +0.5**
comp=E,24nm,0.8s
NJ2 Nanjing 23.19 249 *e*P **P 11 06 31.6 +2.2**
NJ2 PMZ
comp=E,18nm,0.8s
SONA1 Songino Array 26.72 293 *e*P **P 11 07 02.4 +0.9**
SONM Songino Array 26.73 293 P **P 11 07 02.5 +1.0**
comp=E,16nm,0.6s,baz=72,slow=8.9,SNR=60
BILL Bilibino 27.07 18 *ce*P **P 11 07 01.5 -2.6**
BILL *e* 11 07 46.6
BILL pmax pmax
comp=Z,8.0nm,2.5s
BILL MLR MLR
comp=Z,54nm,16.0s
WHN Wuhan 27.17 251 ⇑P **P 11 07 08.5 +3.1**
WHN PMZ
comp=Z,30nm,0.6s
TLY Talaya 28.35 301 P **P 11 07 16.2 +0.5**
comp=Z,5.6nm,0.7s,baz=106,slow=4.7,SNR=8.4
TLY Talaya 28.35 301 *e*P **P 11 07 17.1 +1.3**
TLY pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 29.14 350 P **P 11 07 19.3 -3.1**
comp=Z,0.8nm,0.3s,baz=141,slow=6.7,SNR=4.0
MOY Mondy 30.00 301 *e*P **P 11 07 30.8 +0.3**
MOY pmax pmax
comp=Z,12nm,1.5s
LZH Lanzhou 31.83 270 ⇓P **P 11 07 48.3 +1.6**
LZH pP pP 11 08 20.0 +4.3
LZH sP sP 11 08 38.0 +6.9
LZH PP **PnPn 11 08 58.5 +1.8**
LZH PMZ
comp=Z,23nm,1.0s
LZH PMZ
comp=Z,75nm,4.9s
GTA Gaotai 33.39 278 *e*P P 11 08 06.8 +6.5
GTA pP pP 11 08 35.1 +5.7
GTA sP sP 11 08 47.6 +2.8
GTA PMZ
comp=Z,6.0nm,0.7s
CD2 Chengdu 34.45 262 *e*P **P 11 08 09.4 0.0**
QIZ Qiongzhong 37.98 241 P **P 11 08 40.8 +1.4**
QIZ pP **pP 11 09 10.4 +1.4**
QIZ PP **PnPn 11 10 10.8 -1.0**
QIZ S **S 11 14 23.4 +1.9**
QIZ PMZ
comp=Z,12nm,2.1s
QIZ LZ
comp=Z,79nm,13.8s
KMI Kunming 38.59 255 P **P 11 08 46.3 +1.5**
KMI PMZ
comp=Z,21nm,0.8s
KMI PMZ
comp=Z,49nm,4.5s
ZALV Zalesovo Beam 39.53 307 P **P 11 08 51.9 -0.1**
comp=Z,8.1nm,0.4s,baz=90,slow=5.9,SNR=4.1
NVS Novosibirsk 40.29 308 *e*P **P 11 08 58.5 +0.3**
NVS pmax pmax
comp=Z,19nm,1.1s
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=E,15nm,1.1s
NVS Novosibirsk 40.29 308 *e*P **P 11 08 58.5 +0.3**
WMQ Urumqi 40.33 291 P **P 11 09 00.7 +1.9**
WMQ pP pP 11 09 31.7 +3.0
WMQ sP sP 11 09 48.7 +4.8
WMQ PMZ
comp=E,8.0nm,0.6s
WMQ PMZ
comp=E,53nm,4.6s
KDAK Kodiak Island 40.78 47 *ce*P **P 11 09 02.3 +0.1**
KDAK Kodiak Island 40.78 47 *e*P **P 11 09 02.3 +0.1**
BPAW Bear Paw Mtn. 41.02 37 *e*P **P 11 09 05.0 +0.8**
comp=E,7.2nm,1.0s
MLY Manley 41.10 36 *e*P **P 11 09 04.7 -0.1**
comp=E,4.7nm,0.8s
COLD Coldfoot 41.32 32 *e*P **P 11 09 06.9 +0.4**
comp=E,3.8nm,0.6s
TRF Thorofare Moun 41.36 38 *e*P **P 11 09 08.2 +1.2**
comp=E,7.2nm,0.9s
MCK McKinley 41.94 38 *e*P **P 11 09 12.4 +0.7**
MCK pmax pmax
comp=Z,33nm,1.7s
MCK McKinley 41.94 38 *e*P **P 11 09 12.4 +0.7**
MCK McKinley 41.94 38 *e*P **P 11 09 12.4 +0.7**
comp=Z,33nm,1.7s
RND Reindeer 42.00 38 *e*P **P 11 09 12.2 0.0**
RND pmax pmax
comp=Z,6.0nm,0.6s
RND Reindeer 42.00 38 *e*P **P 11 09 12.2 0.0**
comp=Z,5.5nm,0.6s
MDM Murphy Dome 42.17 36 *e*P **P 11 09 14.0 +0.5**
comp=Z,10nm,0.8s
WRH Wood River Hil 42.26 37 *e*P **P 11 09 14.7 +0.5**
comp=Z,5.4nm,0.9s
COLA College 42.34 36 ⇑ *i* P **P 11 09 15.8 +1.0**
COLA pmax pmax
comp=Z,19nm,1.0s
COLA College 42.34 36 *e*P **P 11 09 15.8 +1.0**
COLA College 42.34 36 *e*P **P 11 09 15.9 +1.2**
comp=Z,41nm,1.3s
CCB Clear Creek Bu 42.37 36 *e*P **P 11 09 15.4 +0.3**
comp=Z,8.1nm,1.3s
SML Sawmill 42.40 40 *e*P **P 11 09 15.5 +0.1**
SML pmax pmax
comp=Z,15nm,0.9s
SML Sawmill 42.40 40 *e*P **P 11 09 15.5 +0.1**
SML Sawmill 42.40 40 *e*P **P 11 09 15.5 +0.1**
comp=Z,15nm,0.9s
IL1 Eielson Array 42.76 36 *e*P **P 11 09 18.6 +0.4**
ILAR Eielson Array 42.76 36 P **P 11 09 18.6 +0.5**
comp=Z,8.7nm,0.9s,baz=261,slow=5.9,SNR=65
ILB Eielson Array 42.76 36 *e*P **P 11 09 18.7 +0.5**
MK31 Makanchi Array 42.92 297 *e*P **P 11 09 20.5 +0.7**
MK31 Makanchi Array 42.92 297 *e*P **P 11 09 20.4 +0.7**
MKAR Makanchi Array 42.92 297 P **P 11 09 20.4 +0.5**
comp=Z,14nm,0.7s,baz=82,slow=8.9,SNR=42
MKAR Makanchi Array 42.92 297 *e*P **P 11 09 20.4 +0.6**
MK01 Makanchi Array 42.92 297 *e*P **P 11 09 20.2 +0.4**
MAKZ Makanchi 43.12 297 *e*P **P 11 09 22.1 +0.7**
MAKZ pmax pmax
comp=Z,17nm,0.8s
MAKZ Makanchi 43.12 297 *e*P **P 11 09 22.1 +0.7**
comp=Z,17nm,0.8s
FYU Fort Yukon 43.30 33 *e*P **P 11 09 23.1 +0.6**
comp=Z,16nm,0.9s
KLU Klutina 43.58 41 *e*P **P 11 09 25.1 +0.2**
comp=Z,7.7nm,0.6s
KURK Kurchatov 43.99 303 P **P 11 09 29.3 +1.0**
KURK Kurchatov 43.99 303 P **P 11 09 29.3 +1.0**
KURBB Kurchatov Arra 44.07 303 P **P 11 09 29.3 +0.4**
comp=Z,33nm,0.5s,baz=72,slow=8.9,SNR=75
DOT Dot Lake 44.11 37 *e*P **P 11 09 29.1 0.0**
comp=Z,14nm,0.7s
EGAK Eagle 45.19 36 *e*P **P 11 09 38.2 +0.7**
comp=Z,6.3nm,0.8s
CMAR Chiang Mai Arr 45.62 251 P **P 11 09 42.6 +1.1**
comp=Z,1.3nm,0.5s,baz=36,slow=6.5,SNR=5.8
INK Inuvik 47.51 30 P **P 11 09 55.9 +0.2**
baz=298,slow=5.4
INK Inuvik 47.51 30 *e*P **P 11 09 55.8 +0.2**
INK pmax pmax
comp=Z,10.0nm,0.9s
INK Inuvik 47.51 30 *e*P **P 11 09 55.8 +0.2**
comp=Z,9.6nm,0.9s
BRVK Borovoye 48.13 309 *e*P **P 11 10 01.1 +0.5**
BRVK pmax pmax
comp=Z,58nm,1.0s
BRVK Borovoye 48.13 309 *e*P **P 11 10 01.1 +0.5**
comp=Z,58nm,1.0s
OTUK Ortayu 48.69 302 P **P 11 10 06.0 +1.0**
OTUK pmax pmax
comp=Z,36nm,0.5s
TKM2 Tokmak 2 48.80 294 *e*P **P 11 10 07.3 +1.1**
TKM2 pmax pmax
comp=Z,11nm,0.8s
TKM2 Tokmak 2 48.80 294 *e*P **P 11 10 07.2 +1.1**
comp=Z,11nm,0.8s
ZRNK Zerenda 48.89 309 *e*P **P 11 10 07.1 +0.6**
ZRNK pmax pmax
comp=Z,39nm,1.3s
ZRNK Zerenda 48.89 309 *e*P **P 11 10 07.1 +0.6**
comp=Z,38nm,1.3s
AAK Ala-Archa 49.66 295 *i* P **P 11 10 11.4 -1.2**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 49.66 295 *e*P **P 11 10 12.9 +0.3**
AAK Ala-Archa 49.66 295 *e*P **P 11 10 13.0 +0.3**
comp=Z,5.8nm,0.5s
KSH Kashi 50.09 290 *e*P **P 11 10 20.6 +4.7**
EKS2 Erkin-Say 50.12 295 *e*P **P 11 10 16.7 +0.6**
EKS2 pmax pmax
comp=Z,9.0nm,0.5s
EKS2 Erkin-Say 50.12 295 *e*P **P 11 10 16.7 +0.6**
comp=Z,9.1nm,0.5s
MNAS Manas 51.03 295 P **P 11 10 24.0 +1.0**
MNAS pmax pmax
comp=Z,16nm,0.7s
SVE Sverdlovsk 51.91 316 *e*P **P 11 10 29.5 +0.5**
SVE pmax pmax
comp=Z,51nm,1.1s
SVE Sverdlovsk 51.91 316 *e*P **P 11 10 29.5 +0.5**
KKAR Karatay Array 52.05 297 *e*P **P 11 10 30.8 +0.4**
KKAR Karatay Array 52.05 297 *e*P **P 11 10 30.8 +0.4**
SOKR Solikamsk 52.65 320 *c* iP **P 11 10 33.0 -1.4**
SOKR pmax pmax
comp=Z,50nm,1.1s
ARU Arti 53.11 316 *d* iP **P 11 10 37.5 -0.4**
ARU *PP **pP 11 11 08.0 -1.2**
ARU 11 12 35.2
ARU S **S 11 17 58.7 +1.1**
ARU SS **SS 11 21 36.4 -1.7**
ARU pmax pmax
comp=Z,39nm,1.0s
ARU Arti 53.11 316 *e*P **P 11 10 37.8 -0.2**
comp=Z,44nm,1.1s
KAPI Kappang 53.29 211 P **P 11 10 40.4 +0.8**
comp=Z,7.3nm,0.6s,baz=316,slow=3.4,SNR=4.8
DZET Dzherino 55.27 293 P **P 11 10 55.0 +1.0**
DZET pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 55.63 308 *e*P **P 11 10 56.9 +0.7**
YKA Yellowknife Ar 57.00 33 P **P 11 11 06.1 +0.4**
comp=Z,3.2nm,0.8s,baz=305,slow=6.7,SNR=35
YKB5 Yellowknife Ar 57.00 33 *e*P **P 11 11 04.9 -0.7**
MTN Manton Dam 57.48 195 *e*P **P 11 11 10.2 +0.6**
comp=Z,26nm,0.6s
ARCES ARCESS Array B 58.70 339 P **P 11 11 17.6 +0.1**
comp=Z,4.1nm,0.5s,baz=45,slow=7.1,SNR=23
KLMR Klimovskoe 59.50 327 *e*P **P 11 11 21.8 -1.3**
KLMR pmax pmax
comp=Z,15nm,0.9s
JOF Joensuu 61.30 331 P **P 11 11 35.7 +0.4**
JOF pmax pmax
comp=Z,21nm,0.7s
CDMR Cedar Moraine 61.84 50 *e*P **P 11 11 37.4 -1.8**
GEYT Alibeck 62.79 297 P **P 11 11 46.5 +0.7**
comp=Z,2.5nm,0.4s,baz=45,slow=4.4,SNR=4.8
SUF Sumiainen 63.19 333 P **P 11 11 48.2 +0.4**
SUF pmax pmax
comp=Z,37nm,0.7s
FITZ Fitzroy Crossi 63.78 200 P **P 11 11 53.2 +1.0**
comp=Z,3.6nm,0.8s,baz=0.6,slow=7.7,SNR=4.2
WRAB Tennant Creek 63.90 191 *e*P **P 11 11 53.2 +0.2**
WRAB pmax pmax
comp=Z,23nm,0.9s
WRAB Tennant Creek 63.90 191 *e*P **P 11 11 53.1 +0.1**
comp=Z,11nm,0.9s
WB2 Warramunga Arr 63.91 191 *e*P **P 11 11 53.1 0.0**
comp=Z,10nm,0.9s
WRA Warramunga Arr 63.91 191 P **P 11 11 52.8 -0.2**
comp=Z,7.7nm,0.8s,baz=11,slow=7.0,SNR=43
WRA Warramunga Arr 63.91 191 *ce*P **P 11 11 52.7 -0.4**
WRA pmax pmax
comp=Z,8.0nm,0.9s
FIA1 FINESS Array S 64.11 332 *e*P **P 11 11 53.8 -0.1**
FINES FINESS Array B 64.11 332 P **P 11 11 53.7 -0.2**
comp=Z,37nm,0.6s,baz=46,slow=7.7,SNR=246
SUMG Summit 64.11 1 ⇑ *i* P **P 11 11 54.9 +0.7**
SUMG pmax pmax
comp=Z,26nm,0.8s
SUMG Summit 64.11 1 ⇑ *i* P **P 11 11 54.9 +0.7**
comp=Z,26nm,0.8s
SUMG Summit 64.11 1 *e*P **P 11 11 54.4 +0.2**
comp=Z,27nm,0.8s
OBN Obninsk 64.27 323 ⇓ *e*P **P 11 11 55.1 +0.1**
OBN *e* 11 12 30.2
OBN *e**SP **sP 11 12 41.8 -0.2**
OBN *e*S **S 11 20 28.3 +6.6**
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 64.27 323 *e*P **P 11 11 54.9 -0.1**
LPSR Galich'ya Gora 64.79 319 *e*P **P 11 11 58.9 +0.4**
LPSR pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 65.56 318 *e*P **P 11 12 03.7 +0.2**
VSR pmax pmax
comp=Z,30nm,0.6s
VSU Vasula 65.99 329 *e*P **P 11 12 06.2 +0.1**
VSU pmax pmax
comp=Z,46nm,0.8s
GOF Gofitskoye 67.49 311 ⇑ *e*P **P 11 12 17.0 +1.1**
AS01 Alice Springs 67.63 190 *e*P **P 11 12 17.4 +0.5**
ASAR Alice Springs 67.64 190 P **P 11 12 17.6 +0.7**
comp=Z,2.7nm,0.7s,baz=6.0,slow=5.3,SNR=23
DLMT Dillon 68.12 48 *e*P **P 11 12 20.4 +0.4**
comp=Z,2.6nm,0.8s
GUDG Gudauri 68.34 308 P **P 11 12 23.6 +2.1**
KIV Kislovodsk 68.39 310 *d* iP **P 11 12 23.3 +1.6**
KIV 11 12 49.0
KIV *i* *PP **pP 11 12 54.3 -0.1**
KIV *e*S **S 11 21 03.8 -8.4**
KIV pmax pmax
comp=Z,22nm,0.9s
KIV Kislovodsk 68.39 310 *e*P **P 11 12 20.7 -1.0**
KIV Kislovodsk 68.39 310 *e*P **P 11 12 23.2 +1.6**
comp=Z,22nm,0.8s
KBZ Khabaz 68.42 310 P **P 11 12 23.1 +1.4**
comp=Z,9.7nm,0.8s,baz=64,slow=5.5,SNR=25
BOZ Bozeman (W) 68.45 47 *e*P **P 11 12 23.5 +1.4**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 68.45 47 *e*P **P 11 12 23.5 +1.4**
BOZ Bozeman (W) 68.45 47 *e*P **P 11 12 23.4 +1.4**
comp=Z,3.2nm,0.8s
ZEI Tsey 68.47 309 *e*P **P 11 12 21.6 -0.7**
ZEI pmax pmax
comp=Z,14nm,0.4s
ZEI Tsey 68.47 309 *e*P **P 11 12 21.6 -0.7**
NC405 NORSAR Array S 68.82 338 *e*P **P 11 12 24.0 +0.1**
NC303 NORSAR Array S 68.82 338 *e*P **P 11 12 24.2 +0.3**
NEY Neytrino 68.83 310 *e*P **P 11 12 25.0 +0.5**
ONI Oni 68.85 309 P **P 11 12 26.2 +1.7**
ONI Oni 68.85 309 P **P 11 12 26.1 +1.7**
NC204 NORSAR Array S 68.95 338 *e*P **P 11 12 25.5 +0.7**
NB201 NORSAR Array S 68.99 338 *e*P **P 11 12 25.3 +0.3**
NB2 NORSAR Subarra 69.02 338 P **P 11 12 25.0 -0.2**
comp=Z,14nm,0.8s,baz=34,slow=6.5
NB2 NORSAR Subarra 69.02 338 P **P 11 12 25.0 -0.2**
baz=34,slow=6.5
NB2 NORSAR Subarra 69.02 338 P **P 11 12 24.9 -0.2**
NB2 pmax pmax
comp=Z,12nm,0.8s
NOA NORSAR Array B 69.02 338 P **P 11 12 25.0 -0.2**
comp=Z,15nm,0.8s,baz=35,slow=6.1,SNR=52
NBO02 NORSAR Array S 69.11 338 *e*P **P 11 12 25.6 -0.1**
NBO00 NORSAR Array S 69.15 338 *e*P **P 11 12 26.1 +0.2**
NVAR Mina Array Bea 69.30 56 P **P 11 12 28.7 +1.2**
comp=Z,1.3nm,0.7s,baz=292,slow=7.2,SNR=7.4
H17A Grant Village 69.84 48 *e*P **P 11 12 33.8 +3.0**
comp=Z,4.2nm,1.1s
AKASG Malin Array Be 70.53 322 P **P 11 12 34.0 -0.4**
comp=Z,9.2nm,0.5s,baz=40,slow=6.3,SNR=12
AKBB Malin Array Si 70.53 322 *e*P **P 11 12 34.5 0.0**
AKBB pmax pmax
comp=Z,13nm,0.6s
AKBB Malin Array Si 70.53 322 *e*P **P 11 12 34.5 0.0**
comp=Z,13nm,0.6s
KIEV Kiev 70.54 322 *c* iP **P 11 12 33.8 -0.8**
KIEV pmax pmax
comp=Z,10.0nm,0.9s

KIEV	**Kiev**	**70.54**	**322**	*e*P		**P**	**11 12 33.8**	**-0.8**
KIEV	**Kiev**	**70.54**	**322**	*e*P		**P**	**11 12 34.3**	**-0.3**
	comp=Z,14nm,0.5s							
AK11	**Malin Array Si**	**70.57**	**322**	*e*P		**P**	**11 12 34.7**	**-0.1**
KLNR	**Kaliningrad**	**71.28**	**329**	*e*P		**P**	**11 12 38.6**	**-0.3**
KLNR					pmax	pmax		
	comp=Z,50nm,1.0s							
BW06	**Boulder Array**	**71.48**	**48**	*e*P		**P**	**11 12 41.1**	**+0.4**
PDAR	**Pinedale Array**	**71.48**	**48**	P		**P**	**11 12 41.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=255,slow=1.6,SNR=9.8							
BSD	**Bornholm Skovb**	**72.74**	**332**	*i* P		**P**	**11 12 48.0**	**+0.4**
BSD					pmax	pmax		
	comp=Z,16nm,0.6s							
BSD	**Bornholm Skovb**	**72.74**	**332**	*i* P		**P**	**11 12 48.0**	**+0.4**
	comp=Z,16nm,0.6s							
SORM	**Soroca**	**72.78**	**321**	⇑*i*P		**P**	**11 12 47.7**	**-0.3**
SORM	**Soroca**	**72.78**	**321**	⇑P		**P**	**11 12 47.7**	**-0.3**
BUR08	**Bucovina Ar. S**	**74.57**	**322**	*e*P		**P**	**11 12 58.8**	**+0.2**
BURAR	**Bucovina Array**	**74.58**	**322**	⇑*i*P		**P**	**11 12 59.3**	**+0.6**
BURAR	**Bucovina Array**	**74.58**	**322**	⇑P		**P**	**11 12 59.3**	**+0.6**
PHWY	**Pilot Hill**	**74.69**	**47**	*e*P		**P**	**11 12 57.4**	**-2.3**
	comp=Z,6.3nm,0.7s							
TESR	**Tescani**	**74.76**	**321**	⇑*i*P		**P**	**11 12 59.4**	**-0.2**
KOLS	**Kolonicke sedl**	**74.85**	**325**	*e*P		**P**	**11 13 00.6**	**+0.5**
KOLS					pmax	pmax		
	comp=Z,3.0nm,0.8s							
KOLS	**Kolonicke sedl**	**74.85**	**325**	*e*P		**P**	**11 13 00.6**	**+0.5**
OJC	**Ojcow**	**74.86**	**327**	*e*P		**P**	**11 13 00.9**	**+0.8**
OJC	**Ojcow**	**74.86**	**327**	*e*P		**P**	**11 13 00.9**	**+0.8**
OJC	**Ojcow**	**74.86**	**327**	*e*P		**P**	**11 13 00.9**	**+0.8**
OJC	**Ojcow**	**74.86**	**327**	*e*P		**P**	**11 13 00.9**	**+0.8**
VRI	**Vrincioaia**	**75.21**	**320**	⇑*i*P		**P**	**11 13 00.7**	**-1.5**
VRI	**Vrincioaia**	**75.21**	**320**	⇑P		**P**	**11 13 00.7**	**-1.5**
NIE	**Niedzica**	**75.29**	**326**	*e*P		**P**	**11 13 04.1**	**+1.5**
NIE	**Niedzica**	**75.29**	**326**	*e*P		**P**	**11 13 04.1**	**+1.5**
MLR	**Muntele Rosu**	**75.85**	**320**	⇓*i*P		**P**	**11 13 06.8**	**+0.8**
MLR	**Muntele Rosu**	**75.85**	**320**	⇓P		**P**	**11 13 06.8**	**+0.8**
UPC	**Upice**	**76.09**	**329**	*e*P		**P**	**11 13 08.1**	**+1.0**
UPC	**Upice**	**76.09**	**329**	*e*P		**P**	**11 13 08.1**	**+1.0**
MORC	**Moravsky Berou**	**76.10**	**328**	*e*P		**P**	**11 13 08.3**	**+1.1**
MORC					pmax	pmax		
	comp=Z,34nm,0.6s							
MORC	**Moravsky Berou**	**76.10**	**328**	*e*P		**P**	**11 13 08.3**	**+1.1**
	comp=Z,34nm,0.6s							
DPC	**Dobruska-Polom**	**76.10**	**329**	*e*P		**P**	**11 13 07.9**	**+0.6**
DPC	**Dobruska-Polom**	**76.10**	**329**	*e*P		**P**	**11 13 07.9**	**+0.6**
BR131	**Keskin Array S**	**76.22**	**312**	*e*P		**P**	**11 13 08.9**	**+0.7**
BRTR	**Keskin Array B**	**76.22**	**312**	P		**P**	**11 13 08.6**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=111,slow=3.4,SNR=7.6							
BRTR				PP		**PP**	**11 15 59.6**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=38,slow=6.3,SNR=3.8							
BRTR	**Keskin Array B**	**76.22**	**312**	*ce*P		**P**	**11 13 08.8**	**+0.6**
BRTR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
DRGR		**76.31**	**323**	⇑*i*P		**P**	**11 13 09.0**	**+0.4**
DRGR		**76.31**	**323**	⇑P		**P**	**11 13 09.0**	**+0.4**
CLL	**Collm**	**76.53**	**331**	⇑*i*P		**P**	**11 13 09.6**	**0.0**
	comp=Z,9.0nm,0.8s							
CLL				*i*			11 13 11.8	
	comp=Z,10.0nm,0.8s							
CLL	**Collm**	**76.53**	**331**	*e*P		**P**	**11 13 09.8**	**+0.2**
CLL					pmax	pmax		
	comp=Z,8.0nm,0.7s							
CLL	**Collm**	**76.53**	**331**	*e*P		**P**	**11 13 09.7**	**+0.2**
CLL	**Collm**	**76.53**	**331**	*e*P		**P**	**11 13 09.8**	**+0.2**
	comp=Z,8.3nm,0.7s							
ARR	**Arges**	**76.55**	**321**	⇓*i*P		**P**	**11 13 11.7**	**+1.8**
BR231	**Keskin MP Arra**	**76.60**	**313**	*e*P		**P**	**11 13 09.6**	**-0.8**
VYHS	**Vyhne**	**76.61**	**326**	*e*P		**P**	**11 13 11.0**	**+0.9**
VYHS					pmax	pmax		
	comp=Z,3.0nm,1.0s							
VYHS	**Vyhne**	**76.61**	**326**	*e*P		**P**	**11 13 11.0**	**+0.9**
VRAC	**Vranov**	**76.84**	**328**	⇓*i*P		**P**	**11 13 12.7**	**+1.3**
VRAC	**Vranov**	**76.84**	**328**	⇓P		**P**	**11 13 12.7**	**+1.3**
GOPC	**GO Pecny, Ondr**	**77.03**	**329**	*e*P		**P**	**11 13 13.4**	**+0.9**
GOPC	**GO Pecny, Ondr**	**77.03**	**329**	*e*P		**P**	**11 13 13.4**	**+0.9**
PRU	**Pruhonice**	**77.06**	**329**	*e*P		**P**	**11 13 13.1**	**+0.5**
PRU	**Pruhonice**	**77.06**	**329**	*e*P		**P**	**11 13 13.1**	**+0.5**
PRU	**Pruhonice**	**77.06**	**329**	*e*P		**P**	**11 13 13.1**	**+0.5**
KHC	**Kasperske Hory**	**78.12**	**330**	*e*P		**P**	**11 13 19.5**	**+0.9**
KHC	**Kasperske Hory**	**78.12**	**330**	*e*P		**P**	**11 13 19.5**	**+0.9**
KHC	**Kasperske Hory**	**78.12**	**330**	*e*P		**P**	**11 13 19.5**	**+0.9**
GERES	**GERESS Array B**	**78.31**	**329**	P		**P**	**11 13 19.9**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=31,slow=5.5,SNR=11							
GEA0	**GERESS Array S**	**78.32**	**329**	*e*P		**P**	**11 13 19.3**	**-0.4**
ANMO	**Albuquerque**	**78.65**	**52**	*e*P		**P**	**11 13 18.5**	**-3.4**
FUORN	**Ofenpass-Fuorn**	**81.44**	**330**	*e*P		**P**	**11 13 37.2**	**+0.4**
	comp=Z,4.1nm,0.8s							
TUE	**Stuetta**	**81.90**	**330**	*e*P		**P**	**11 13 39.2**	**0.0**
	comp=Z,4.2nm,0.6s							
LAST	**Lasithi**	**83.94**	**314**	*e*P		**P**	**11 13 49.9**	**+0.2**
	comp=Z,26nm,1.0s							
TX31	**Lajitas Ar. Si**	**84.34**	**55**	*e*P		**P**	**11 13 52.2**	**+0.4**
TXAR	**Lajitas Array**	**84.34**	**55**	P		**P**	**11 13 52.5**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=293,slow=3.5,SNR=21							
ES19	**SONSECA Array**	**92.29**	**336**	*e*P		**P**	**11 14 29.7**	**+0.2**
ESDC	**Sonseca Array**	**92.33**	**336**	P		**P**	**11 14 29.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=24,slow=3.3,SNR=4.8							
TORD	**Torodi Ar. Bea**	**114.09**	**320**	PP		**PP**	**11 20 50.5**	**-3.2**
	comp=Z,1.1nm,0.8s,baz=14,slow=4.9,SNR=5.4							

*SOME **04** 11:03:56.6,44.˚18N×81.˚93E,h15km*
*ISCJB **04** 11:03:58.2±1.1,44.˚01N±0.˚05×82.˚02E±0.˚09,h10km, Error ellipse: s-maj=11.3km s-min=4.4km az=35.5*
*NNC **04** 11:03:58.8±1.9,44.˚18N×81.˚72E,h0km, mb3.8, mpv3.4, Error ellipse: s-maj=24.1km s-min=5.0km az=124.0*

ISC 04 11:03:56.5±1.3,44.˚17N±0.˚05×81.˚95E±0.˚06,h10km,n26,
σ1s59/47,11C-6D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.36**	**239**	*e*P	**Pn**	**11 04 21.2**	**-0.6**
	94nm,0.2s						
KTMS				*e*S	**Sb**	**11 04 39.7**	**-0.1**
	65nm,0.4s						
DJR	**Jarkent**	**1.56**	**277**	*e*P	**Pn**	**11 04 24.2**	**-0.2**
	138nm,0.2s						
DJR				*e*S	**Sn**	**11 04 44.1**	**-0.7**
	94nm,0.6s						
SHLS	**Shalkode**	**1.81**	**237**	*e*P	**Pn**	**11 04 28.8**	**+0.8**
	71nm,0.4s						
SHLS				*e*S	**Sb**	**11 04 52.3**	**-0.4**
	95nm,0.5s						
PDGK	**Podgornoye**	**1.98**	**246**	⇑Pn	**Pn**	**11 04 30.6**	**+0.7**
	16nm,0.3s						
PDGK				⇓Sn	**Sb**	**11 04 56.4**	**-0.8**
	87nm,0.7s						
KAPS	**Kapalarasan**	**2.16**	**302**	*e*P	**Pb**	**11 04 35.9**	**+0.1**
	81nm,0.5s						
KAPS				*e*S	**Sg**	**11 05 03.8**	**-2.2**
	152nm,0.6s						
UZB	**Uzynbulak**	**2.36**	**245**	*e*P	**Pn**	**11 04 37.2**	**+1.7**
	48nm,0.3s						
UZB				*e*S	**Sb**	**11 05 07.1**	**-1.3**
	46nm,0.4s						
KPKS	**Kokpek**	**2.47**	**255**	*e*P	**Pb**	**11 04 39.0**	**-2.0**
	420nm,0.2s						
KPKS				*e*S	**Sb**	**11 05 09.7**	**-1.8**
	174nm,0.3s						
MNBS	**Baschi**	**2.56**	**269**	*e*P	**Pn**	**11 04 39.8**	**+1.6**
	18nm,0.5s						
MNBS				*e*S	**Sn**	**11 05 10.4**	**+0.9**
	192nm,0.6s						
MK31	**Makanchi Array**	**2.64**	**5**	Pn	**Pb**	**11 04 43.5**	**-0.4**
	2.5nm,0.3s,baz=189,slow=12,SNR=323						
MK31				⇑Sn	**Sg**	**11 05 18.9**	**-2.4**
	28nm,0.6s,baz=185,slow=30,SNR=9.6						
MAKZ	**Makanchi**	**2.64**	**0**	⇓Pn	**Pb**	**11 04 43.2**	**-0.8**
	8.1nm,0.3s						
MAKZ				⇓Sn	**Sg**	**11 05 19.6**	**-1.8**
	5.9nm,0.4s						
TDK	**Taldyqorghan**	**2.67**	**290**	*e*P	**Pb**	**11 04 43.9**	**-0.6**
	62nm,0.4s						
TDK				*e*S	**Sb**	**11 05 17.3**	**+0.1**
	64nm,0.2s						
ZHN	**Zhinishke**	**2.74**	**250**	*e*P	**Pb**	**11 04 43.9**	**-1.8**
	23nm,0.3s						
ZHN				⇑*i*S	**Sb**	**11 05 18.2**	**-1.2**
	30nm,0.2s						
SATY	**Saty**	**2.80**	**248**	*e*P	**Pb**	**11 04 44.9**	**-1.9**
	60nm,0.1s						
SATY				*e*S	**Sb**	**11 05 20.7**	**-0.5**
	97nm,0.4s						
KURS	**Kuram**	**2.82**	**257**	*e*P	**Pb**	**11 04 47.0**	**0.0**
KURS				*e*S	**Sb**	**11 05 23.9**	**+2.2**
CHKK	**Chushkaly**	**3.59**	**267**	*e*P	**Pb**	**11 04 59.1**	**-0.9**
	32nm,0.5s						
CHKK				*e*S	**Sb**	**11 05 43.5**	**-0.1**
	49nm,0.3s						
KOTS	**Kotyrbulak**	**3.63**	**257**	*e*P	**Pb**	**11 05 01.2**	**+0.3**
KOTS				*e*S	**Sb**	**11 05 47.0**	**+2.0**
MDOK	**Medeo**	**3.70**	**256**	*e*P	**Pb**	**11 05 02.6**	**+0.6**
	24nm,0.4s						
MDOK				*e*S	**Sb**	**11 05 49.1**	**+2.1**
	14nm,0.6s						
ZSN	**Zaisan**	**3.70**	**27**	*e*P	**Pb**	**11 05 03.7**	**+1.7**
	3.6nm,0.2s						
ZSN				*e*S	**Sg**	**11 05 51.9**	**-3.5**
	9.6nm,0.7s						
TNSS	**Tian-Shan**	**3.81**	**255**	*e*P	**Pb**	**11 05 05.4**	**+1.3**
	15nm,0.7s						
TNSS				*e*S	**Sb**	**11 05 54.3**	**+3.9**
	23nm,0.9s						
KUU	**Kurty**	**4.06**	**268**	*e*P	**Pb**	**11 05 07.3**	**-0.8**
	31nm,0.5s						
KUU				⇓*i*S	**Sb**	**11 05 57.6**	**+0.4**
	18nm,0.4s						
DGS	**Degeres**	**4.58**	**260**	*e*P	**Pb**	**11 05 17.7**	**+0.7**
	8.8nm,0.4s						
DGS				*e*S	**Sb**	**11 06 15.7**	**+3.5**
	26nm,0.6s						
TKM2	**Tokmak 2**	**4.79**	**257**	⇑Pn	**Pn**	**11 05 10.0**	**+1.1**
	1.6nm,0.6s						
TKM2				⇑Pg	**Pb**	**11 05 20.8**	**+0.2**
	6.0nm,0.5s						
TKM2				⇑Lg	Lg	11 06 25.6	
	14nm,0.7s						
KURBB	**Kurchatov Arra**	**6.86**	**341**	⇑Pn	**Pn**	**11 05 38.8**	**+1.7**
	4.1nm,0.5s						
KURBB				⇓Sn	**Sn**	**11 06 56.6**	**+1.4**
	15nm,0.7s						
KURBB				⇑Lg	Lg	11 07 35.8	
	16nm,0.6s						
MNAS	**Manas**	**7.09**	**260**	⇑Pn	**Pn**	**11 05 41.7**	**+1.3**
	1.1nm,0.5s						
MNAS				⇑Lg	Lg	11 07 38.7	
	4.0nm,1.1s						
OTUK	**Ortayu**	**7.82**	**305**	⇑Lg	Lg	11 08 00.7	
	4.2nm,0.6s						
KK31	**Karatay Array**	**8.37**	**267**	⇓Lg	Lg	11 08 19.2	
	2.8nm,0.8s,baz=72,slow=27,SNR=6.5						

KRSC 04 11:08:22.1±1.6,48.˚85N×157.˚40E,h30km±14km,ML3.9,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.02**	**336**	*e*P	Pn	11 08 53.6	-0.4
SKR				S	Sb	11 09 20.5	-2.2
PAU	**Pauzhetka**	**2.65**	**352**	S	Sn	11 09 36.3	+2.5
ASAK	**Asacha**	**3.56**	**5**	P	Pn	11 09 19.1	+3.9
RUS	**Russkaya**	**3.66**	**11**	P	Pn	11 09 20.3	+3.7
RUS				S	Sn	11 10 04.1	+5.4
MTVR	**Mutnovka**	**3.68**	**7**	P	Pn	11 09 21.0	+4.1
KRMR	**Karymshinskiy**	**4.02**	**6**	P	Pn	11 09 25.8	+4.3
PET	**Petropavlovsk**	**4.26**	**10**	P	Pn	11 09 28.4	+3.6
PET				S	Sn	11 10 19.0	+5.6
UGLR	**Uglovaya**	**4.46**	**11**	P	Pn	11 09 32.5	+4.8
AVH	**Avacha**	**4.50**	**10**	P	Pn	11 09 33.0	+4.7
AVH				S	Sn	11 10 25.9	+6.3
SMAR	**Somma**	**4.51**	**11**	P	Pn	11 09 33.6	+5.1
SDLR	**Sedlovina**	**4.54**	**11**	P	Pn	11 09 33.0	+4.3
SDLR				S	Sn	11 10 26.5	+6.0
KRER	**Koryakskii**	**4.54**	**10**	P	Pn	11 09 33.9	+5.0
KRX	**Arik**	**4.59**	**9**	P	Pn	11 09 34.4	+4.9
GNL	**Ganaly**	**4.87**	**4**	P	Pn	11 09 38.5	+5.2
MKZ	**Mys Kozlova**	**6.32**	**24**	P	Pn	11 09 57.8	+4.7
MKZ				S	Sn	11 11 08.7	+4.6
BKI	**Bering**	**8.27**	**36**	S	Sn	11 11 56.4	+4.3

*ISN **04** 11:26:09.3±1.4,30.˚68N×50.˚26E,h0km±76km, ML3.7*
*IDC **04** 11:26:16.3±1.5,31.˚15N×49.˚64E,h0km, mb3.6/10, mb1 3.8/14,mb1mx3.7/47,mbtmp3.7/14,ML3.6/4,MS2.9/5, Ms1 2.9/5,ms1mx2.5/44, Error ellipse: s-maj=30.5km s-min=21.5km az=171.0*
*ISCJB **04** 11:26:17.2±0.6,30.˚98N±0.˚05×49.˚61E±0.˚05,h10km, mb3.5/10,MS3.4/2, Error ellipse: s-maj=8.4km s-min=4.9km az=32.4*
*THR **04** 11:26:18.6±0.6,31.˚15N×49.˚90E,h18km±9km, ML3.9*
*CSEM **04** 11:26:19.3±0.5,31.˚09N×49.˚67E,h5km,ML3.7, Error ellipse: s-maj=13.1km s-min=5.7km az=38.0*
*TEH **04** 11:26:20.1,31.˚10N×49.˚67E,h3km,ML3.7*

ISC 04 11:26:18.4±0.8,31.˚08N±0.˚05×49.˚67E±0.˚05,h10km,n57,
σ1s73/59,mb3.6/10,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.27**	**325**	*e*Pg	**Pn**	**11 26 43.4**	**+1.2**
SHGR				*e*Sg	**Sn**	**11 27 01.3**	**+2.0**
SHGR				AML	AML	11 27 03.6	
	comp=N,4μm,0.7s						
SHGR				AML	AML	11 27 04.0	
	comp=E,4μm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.27**	**325**	*e*Pg	**Pn**	**11 26 43.4**	**+1.2**
SHGR				*e*Sg	**Sn**	**11 27 01.3**	**+2.0**
IPIR	**Pirpir**	**1.91**	**33**	*e*Pn	**Pn**	**11 26 53.3**	**+1.9**
IPIR				*e*Sg	**Sb**	**11 27 19.5**	**+1.8**
IPIR				*e*AMB	AMB	11 27 24.4	
	comp=Z,7μm,0.4s						
IPIR	**Pirpir**	**1.91**	**33**	*e*Pn	**Pn**	**11 26 53.3**	**+1.9**
IPIR				*e*Sg	**Sb**	**11 27 19.5**	**+1.8**
IGAR	**Gharneh**	**2.42**	**56**	*e*Pn	**Pn**	**11 27 00.4**	**+2.1**
IGAR				*e*AMB	AMB	11 27 42.8	
	comp=Z,2μm,0.3s						
IRAM	**Ramesheh**	**2.44**	**72**	*e*Pn	**Pn**	**11 27 00.6**	**+2.1**
IRAM	**Ramesheh**	**2.44**	**72**	*e*Pn	**Pn**	**11 27 00.6**	**+2.1**
IKMR	**Kamar-syah**	**2.67**	**336**	*e*Pn	**Pn**	**11 27 02.6**	**+1.2**
IKMR	**Kamar-syah**	**2.67**	**336**	*e*Pn	**Pn**	**11 27 02.6**	**+1.2**
KHMZ	**Khomeyn**	**2.67**	**5**	*e*Pn	**Pn**	**11 27 01.9**	**+0.2**
KHMZ				*e*Sg	**Sb**	**11 27 39.7**	**+0.4**
KHMZ				AML	AML	11 27 44.4	
	comp=E,271nm,0.5s						
KHMZ	**Khomeyn**	**2.67**	**5**	*e*Pn	**Pn**	**11 27 01.9**	**+0.2**
KHMZ				*e*Sg	**Sb**	**11 27 39.7**	**+0.4**
IKLH	**Kolahrood**	**2.76**	**35**	*e*Pn	**Pn**	**11 27 05.2**	**+2.2**
IKLH				*e*AMB	AMB	11 27 54.9	
	comp=Z,3μm,0.3s						
IKLH	**Kolahrood**	**2.76**	**35**	*e*Pn	**Pn**	**11 27 05.2**	**+2.2**
IZEF	**Zefreh**	**2.90**	**51**	*e*AMB	AMB	11 27 12.5	
	comp=Z,1μm,0.2s						
IZEF				*e*Pn	**Pn**	**11 27 07.1**	**+2.2**
QAM	**Ghamsar**	**3.07**	**29**	*e*AMB	AMB	11 27 54.9	
	comp=Z,3μm,0.2s						
QAM				*e*Pn	**Pn**	**11 27 09.8**	**+2.6**
IPAR	**Pars**	**3.17**	**112**	*e*Pn	**Pn**	**11 27 08.5**	**-0.1**
IPAR				*e*AMB	AMB	11 28 16.5	
	comp=Z,3μm,0.4s						
IPAR	**Pars**	**3.17**	**112**	*e*Pn	**Pn**	**11 27 08.5**	**-0.1**
ISRV	**Sarvestan**	**3.43**	**119**	*e*Pn	**Pn**	**11 27 14.8**	**+2.6**
ISRV				*e*AMB	AMB	11 28 25.5	
	comp=Z,2μm,0.3s						
ISRV	**Sarvestan**	**3.43**	**119**	*e*Pn	**Pn**	**11 27 14.8**	**+2.6**
ASAO	**Ashtian**	**3.48**	**5**	*e*Pn	**Pn**	**11 27 12.7**	**-0.1**
ASAO				AML	AML	11 28 15.4	
	comp=E,140nm,1.1s						
ASAO	**Ashtian**	**3.48**	**5**	*e*Pn	**Pn**	**11 27 12.7**	**-0.1**
ISAD	**Sadrabad**	**3.54**	**75**	*e*Pn	**Pn**	**11 27 15.5**	**+1.9**
ISAD				*e*AMB	AMB	11 28 15.3	
	comp=Z,1μm,0.5s						
ISAD	**Sadrabad**	**3.54**	**75**	*e*Pn	**Pn**	**11 27 15.5**	**+1.9**
IKOM	**Komasi**	**3.59**	**330**	*e*Pn	**Pn**	**11 27 16.7**	**+2.5**
IKOM				*e*AMB	AMB	11 28 27.4	
	comp=Z,2μm,0.2s						
IKOM	**Komasi**	**3.59**	**330**	*e*Pn	**Pn**	**11 27 16.7**	**+2.5**
IVIS	**Veis**	**4.18**	**326**	*e*Pn	Pn	11 27 17.7	-4.6
IVIS				*e*AMB	AMB	11 28 29.5	
	comp=Z,708nm,0.2s						
ICHK	**Chekchek**	**4.21**	**73**	*e*Pn	**Pn**	**11 27 24.0**	**+1.1**
ICHK				*e*AMB	AMB	11 28 15.8	
	comp=Z,776nm,0.3s						
ICHK	**Chekchek**	**4.21**	**73**	*e*Pn	**Pn**	**11 27 24.0**	**+1.1**
IMEH	**Mehriz**	**4.25**	**84**	*e*Pn	**Pn**	**11 27 24.6**	**+1.2**
IMEH				*e*AMB	AMB	11 28 37.8	
	comp=Z,450nm,0.3s						
IMEH	**Mehriz**	**4.25**	**84**	*e*Pn	**Pn**	**11 27 24.6**	**+1.2**
IVRN	**Varamin**	**4.28**	**23**	*e*Pn	**Pn**	**11 27 24.7**	**+1.1**
IVRN				*e*AMB	AMB	11 27 40.9	
	comp=Z,595nm,0.3s						
IVRN				*e*Sg	**Sg**	**11 28 32.1**	**-3.7**
IVRN	**Varamin**	**4.28**	**23**	*e*Pn	**Pn**	**11 27 24.7**	**+1.1**
IRAZ	**Razeghan**	**4.32**	**3**	*e*Pn	**Pn**	**11 27 25.8**	**+1.4**
IRAZ				*e*AMB	AMB	11 28 46.5	
	comp=Z,1μm,0.4s						
IRAZ	**Razeghan**	**4.32**	**3**	*e*Pn	**Pn**	**11 27 25.8**	**+1.4**
IR3	**Iran Long-Peri**	**4.54**	**14**	*e*Pn	**Pn**	**11 27 28.4**	**+1.2**
IR3	**Iran Long-Peri**	**4.54**	**14**	*e*Pn	**Pn**	**11 27 28.4**	**+1.2**
IBAF	**Bafgh**	**5.08**	**83**	*e*Pn	**Pn**	**11 27 36.0**	**+1.3**
IBAF				*e*AMB	AMB	11 27 55.5	
	comp=Z,328nm,0.3s						
IBAF	**Bafgh**	**5.08**	**83**	*e*Pn	**Pn**	**11 27 36.0**	**+1.3**
GEYT	**Alibeck**	**9.76**	**43**	Pn	**Pn**	**11 28 39.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=236,slow=11,SNR=5.6						
GEYT				LR	LR	11 33 11.7	
	comp=Z,72nm,20.0s,baz=335,slow=43						
WSAR	**Wadi Sarin**	**11.16**	**132**	Pn	**Pn**	**11 28 58.2**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=297,slow=12,SNR=2.5						
WSAR				Sn	Sn	11 30 55.4	-7.6
	comp=Z,0.5nm,0.3s,baz=227,slow=22,SNR=2.3						
WSAR				LR	LR	11 34 33.9	
	comp=Z,60nm,18.4s,baz=8.0,slow=44						
MMAI	**Mount Meron Ar**	**12.26**	**283**	LR	LR	11 35 14.8	
	comp=Z,60nm,18.2s,baz=125,slow=44						
EIL	**Elat**	**12.78**	**267**	LR	LR	11 35 29.6	
	comp=Z,108nm,18.9s,baz=57,slow=43						
KBZ	**Khabaz**	**13.72**	**339**	Pn	Pn	11 29 38.0	+5.1
	comp=Z,0.1nm,0.3s,baz=170,slow=11,SNR=2.3						
KVAR	**Kislovodsk Arr**	**13.99**	**339**	Pn	**Pn**	**11 29 40.7**	**+4.0**
	baz=98,slow=9.5,SNR=1.7						
BRTR	**Keskin Array B**	**15.64**	**308**	Pn	**Pn**	**11 30 01.1**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=111,slow=8.2,SNR=2.4						
AKTO	**Aktyubinsk**	**20.32**	**16**	P	**P**	**11 30 52.8**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=193,slow=13,SNR=3.5						
AKTO				LR	LR	11 40 02.9	
	comp=Z,16nm,18.1s,baz=116,slow=41						
IDI	**Anoyia**	**21.14**	**288**	P	**P**	**11 31 03.7**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=62,slow=15,SNR=2.4						
MLR	**Muntele Rosu**	**23.42**	**315**	P	**P**	**11 31 29.6**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=32,slow=1.4,SNR=2.9						
AKASG	**Malin Array Be**	**24.82**	**328**	P	**P**	**11 31 38.5**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=120,slow=7.7,SNR=2.0						
BVAR	**Borovoye Array**	**26.61**	**29**	P	**P**	**11 31 55.5**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=198,slow=38,SNR=3.4						
KURBB	**Kurchatov Arra**	**29.01**	**39**	P	**P**	**11 32 17.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=242,slow=9.9,SNR=2.2						
MKAR	**Makanchi Array**	**29.58**	**49**	P	**P**	**11 32 23.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=243,slow=10,SNR=2.4						
FINES	**FINESS Array B**	**34.08**	**340**	P	**P**	**11 33 00.7**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=147,slow=8.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**47.49**	**259**	P	**P**	**11 34 53.4**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=54,slow=8.8,SNR=2.9						
ILAR	**Eielson Array**	**83.59**	**7**	P	**P**	**11 38 45.0**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=329,slow=6.0,SNR=3.4						
YKA	**Yellowknife Ar**	**85.90**	**353**	P	**P**	**11 38 56.9**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=18,slow=5.9,SNR=1.8						
GUMO	**Guam**	**87.46**	**76**	LR	LR	12 21 57.0	
	comp=Z,164nm,20.3s,baz=174,slow=38						

*JMA **04** 11:31:03.4±0.2,36.˚46N×142.˚64E,h32km,MS3.1*
*IDC **04** 11:31:06.9±2.7,37.˚00N×142.˚38E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.3/44,mbtmp3.4/4,ML3.0/1, Error ellipse: s-maj=67.6km s-min=33.3km az=61.0*

**ISC 04 11:31:06.4±2.5,36.˚6N±0.˚1×142

HWQ				*e*S		**Sg**	**11 41 59.4**	**+0.9**
BHL	**Bhannes**	**0.48**	**260**	*e*P		**Pg**	**11 41 56.3**	**+0.6**
BHL	**Bhannes**	**0.48**	**260**	*e*P		**Pg**	**11 41 56.3**	**+0.6**
RCY	**Rachaya**	**0.58**	**213**	*e*P		**Pg**	**11 41 58.1**	**+0.4**
RCY				*e*S		**Sg**	**11 42 05.9**	**+0.6**
DQRL	**Deir Qamar**	**0.61**	**243**	*e*P		**Pg**	**11 41 58.5**	**+0.3**
DQRL	**Deir Qamar**	**0.61**	**243**	*e*P		**Pg**	**11 41 58.5**	**+0.3**
BRBR	**Barbar**	**0.62**	**201**	*e*P		**Pg**	**11 41 58.7**	**+0.4**
BRBR				*e*S		**Sb**	**11 42 07.4**	**-1.3**
BRBR				*e*S		**Sg**	**11 42 08.0**	**+1.6**
BRBR				AML		AML	11 42 12.5	
	comp=Z,34nm,0.3s							
TOTH	**TOTAH**	**0.65**	**164**	*e*P		**Pb**	**11 42 00.2**	**0.0**
ROOS	**tl˙alroos**	**0.91**	**78**	*e*P		**Pn**	**11 42 05.0**	**-0.9**
SALA	**Sala**	**1.34**	**161**	*e*P		**Pg**	**11 42 12.1**	**-0.1**
SALA				AML		AML	11 42 35.0	
	comp=Z,18nm,0.3s							
ZALF	**Zalf**	**1.41**	**138**	*e*P		**Pg**	**11 42 13.8**	**+0.3**
ZALF				AML		AML	11 42 36.8	
	comp=Z,12nm,0.2s							
ARNB	**Al Arnab**	**1.88**	**354**	*e*P		**Pg**	**11 42 21.7**	**-0.8**

*IDC **04** 11:41:43.0±7.2, 36˚.58N×142˚.52E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/37, mbtmp3.3/3, ML3.2/1, MS3.7/2, Ms1 3.7/2, ms1mx2.6/30, Error ellipse: s-maj=156.3km s-min=43.2km az=31.0*

*JMA **04** 11:41:45.3±0.3, 36˚.56N×142˚.40E, h18km±4km, M3.1*

*ISCJB **04** 11:41:46.1±2.2, 36˚.53N±0˚.04×142˚.43E±0˚.08, h31km±19km, mb3.5/2, MS3.7/2, Error ellipse: s-maj=10.6km s-min=6.9km az=4.4*

ISC 04 11:41:49.3±1.9, 36˚.57N±0˚.05×142˚.3E±0˚.1, h42km±25km, n16, σ1s07/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.31**	**294**	P		**Pn**	**11 42 10.2**	**-1.0**
JFK	**Kawauchi**	**1.39**	**305**	P		**Pn**	**11 42 11.0**	**-1.2**
JHO	**Hitachi**	**1.39**	**272**	P		**Pn**	**11 42 11.1**	**-1.1**
JHO				*e*S		**Sn**	**11 42 30.0**	**+0.6**
JMM	**Marumori**	**1.77**	**318**	P		**Pn**	**11 42 16.5**	**-0.8**
JFT	**Otama**	**1.83**	**302**	P		**Pn**	**11 42 18.3**	**0.0**
JFT				*e*S		**Sn**	**11 42 42.5**	**+2.2**
JIO	**Ouri**	**2.03**	**338**	P		**Pn**	**11 42 20.0**	**-0.9**
JIO				*e*S		**Sn**	**11 42 45.7**	**+0.7**
BSO1	**Boso 1**	**2.19**	**210**	P		**Pn**	**11 42 21.9**	**-0.8**
BSO1				*e*S		**Sn**	**11 42 50.0**	**+1.7**
JAG	**Ashikaga**	**2.29**	**267**	P		**Pn**	**11 42 24.4**	**-0.2**
JAG				*e*S		**Sn**	**11 42 52.9**	**+1.2**
JMK	**Ichinoseki**	**2.53**	**341**	P		**Pn**	**11 42 27.4**	**-0.4**
JMK				S		**Sn**	**11 42 58.1**	**+0.7**
JRY	**Ryogami san**	**2.80**	**260**	P		**Pn**	**11 42 31.0**	**-0.5**
JRY				S		**Sn**	**11 43 04.7**	**+0.6**
JYK	**Kaneyama**	**2.80**	**327**	P		**Pn**	**11 42 31.4**	**-0.2**
MJAR	**Matsushiro Arr**	**3.29**	**271**	Pn		**Pn**	**11 42 37.8**	**-0.5**
	2.2nm,0.3s,baz=90,slow=16,SNR=28							
MJAR				S		**Sn**	**11 43 14.7**	**-1.6**
	1.1nm,0.3s,baz=81,slow=16,SNR=6.0							
AAK	**Ala-Archa**	**51.34**	**299**	LR		LR	12 13 44.9	
	comp=Z,348nm,19.8s,baz=72,slow=37							
WRA	**Warramunga Arr**	**56.70**	**189**	P		**P**	**11 51 28.7**	**+0.1**
	0.5nm,0.8s,baz=6.6,slow=6.9,SNR=6.6							
ASAR	**Alice Springs**	**60.43**	**189**	P		**P**	**11 51 54.4**	**-0.1**
	0.3nm,0.8s,baz=8.7,slow=6.7,SNR=3.5							
NOA	**NORSAR Array B**	**74.89**	**338**	LR		LR	12 30 49.7	
	comp=Z,8.5nm,18.7s,baz=90,slow=39							

*IDC **04** 11:48:19.3±2.4, 40˚.57S×72˚.27W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.9/26, mbtmp4.0/6, ML5.1/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/24, Error ellipse: s-maj=52.2km s-min=15.8km az=24.0*

*GUC **04** 11:48:20.0±0.7, 40˚.46S×72˚.07W, h7km±11km, ML3.9*

*ISCJB **04** 11:48:23.1±1.4, 40˚.5S±0˚.2×72˚.2W±0˚.1, h33km, mb3.7/5, MS4.1/1, Error ellipse: s-maj=30.1km s-min=7.0km az=27.0*

ISC 04 11:48:24.5±1.9, 40˚.5S±0˚.3×72˚.1W±0˚.2, h35km, n11, σ1s27/11, mb3.7/5, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLCH	**Valdivia**	**1.10**	**309**	⇓*i*P		**Pn**	**11 48 41.7**	**-1.6**
VLCH				*i* S		**Sn**	**11 48 56.6**	**-0.7**
VLCH				IAML			11 48 60.0	
	comp=N,4μm,0.1s							
PLCA	**Paso Flores**	**1.23**	**102**	Pg		**Pn**	**11 48 44.0**	**-1.3**
	comp=N,110nm,0.3s,baz=306,slow=12,SNR=30							
PLCA				Lg		Lg	11 49 02.5	
	comp=N,145nm,0.3s,baz=170,slow=21,SNR=12							
PLCA				LR		LR	11 49 24.5	
	comp=N,350nm,18.2s,baz=226,slow=50							
PLCA	**Paso Flores**	**1.23**	**102**	*e*P		**Pn**	**11 48 43.4**	**-1.9**
PLCA				*i* S		**Sn**	**11 49 00.5**	**-0.1**
CCHI	**Chillan**	**3.89**	**1**	IAML			11 50 34.7	
	comp=E,189nm,0.9s							
LVC	**Limon Verde**	**18.04**	**10**	P		**P**	**11 52 33.2**	**+0.1**
	comp=E,5.7nm,0.3s,baz=214,slow=10,SNR=5.4							
LPAZ	**La Paz**	**24.37**	**9**	P		**P**	**11 53 41.2**	**+1.1**
	comp=E,1.6nm,0.8s,baz=165,slow=8.9,SNR=5.0							
SIV	**San Ignacio**	**26.24**	**25**	P		**P**	**11 53 55.9**	**-0.5**
	comp=E,0.9nm,0.5s,baz=222,slow=10,SNR=3.7							
TXAR	**Lajitas Array**	**75.39**	**332**	P		**P**	**12 00 06.1**	**+1.5**
	comp=E,0.2nm,0.7s,baz=155,slow=8.7,SNR=2.9							
DBIC	**Dimbokro**	**77.41**	**70**	P		**P**	**12 00 17.1**	**+0.8**
	comp=E,3.2nm,0.8s,baz=195,slow=6.9,SNR=4.4							
RPZ	**Rata Peaks**	**78.69**	**221**	LR		LR	12 26 00.9	
	comp=E,94nm,19.4s,baz=250,slow=29							
TORD	**Torodi Ar. Bea**	**86.52**	**70**	P		**P**	**12 01 04.2**	**+0.1**
	comp=E,0.6nm,1.0s,baz=225,slow=5.9,SNR=2.7							

KRSC 04 11:50:31.3±2.6, 49˚.34N×155˚.96E, h224km±13km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.35**	**4**	*e*P		Pn	11 51 07.2	+1.4
SKR				*i* S		S	11 51 33.3	+0.4
PAU	**Pauzhetka**	**2.20**	**14**	S		S	11 51 47.1	+0.6
RUS	**Russkaya**	**3.50**	**27**	P		Pn	11 51 27.5	-0.3
UGLR	**Uglovaya**	**4.28**	**24**	P		Pn	11 51 39.1	+1.8
AVH	**Avacha**	**4.30**	**23**	P		Pn	11 51 40.6	+3.0
SMAR	**Somma**	**4.32**	**23**	P		Pn	11 51 39.8	+1.9
KRER	**Koryakskii**	**4.34**	**23**	P		Pn	11 51 40.4	+2.2
SDLR	**Sedlovina**	**4.35**	**24**	P		Pn	11 51 38.7	+0.4
KRX	**Arik**	**4.37**	**22**	P		Pn	11 51 40.6	+2.2
GNL	**Ganaly**	**4.54**	**15**	P		Pn	11 51 41.1	+0.6

*ISCJB **04** 11:53:09.1±0.9, 36˚.2N±0˚.2×137˚.4E±0˚.2, h253km±7km, mb2.9/2, Error ellipse: s-maj=32.3km s-min=12.9km az=149.9*

*JMA **04** 11:53:09.9±0.2, 36˚.24N×137˚.37E, h250km±2km, M2.8*

*IDC **04** 11:53:09.1±5.7, 35˚.69N×136˚.66E, h202km±151km, mb2.8/2, mb1 3.1/2, mb1mx2.6/57, mbtmp3.3/2, Error ellipse: s-maj=264.8km s-min=114.3km az=37.0*

ISC 04 11:53:09.9±1.3, 36˚.2N±0˚.1×137˚.4E±0˚.1, h248km±9km, n12, σ0s34/17, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JGN	**Niukaw**	**0.06**	**310**	P		**Pn**	**11 53 42.1**	**+0.2**
JGN				S		**S**	**11 54 06.5**	**-0.6**
MAT	**Matsushiro**	**0.76**	**62**	P		**Pn**	**11 53 43.7**	**+0.1**
MAT				S		**S**	**11 54 09.9**	**-0.1**
MAT	**Matsushiro**	**0.76**	**62**	P		**Pn**	**11 53 43.9**	**+0.3**
MAT				*e*S		**S**	**11 54 10.0**	**-0.1**
MJAR	**Matsushiro Arr**	**0.76**	**62**	P		**Pn**	**11 53 44.1**	**+0.6**
	2.5nm,0.3s,baz=246,slow=6.6,SNR=44							
MJAR				S		**S**	**11 54 10.0**	**-0.1**
	0.5nm,0.3s,baz=102,slow=31,SNR=12							
JKG	**Kaga**	**0.85**	**277**	P		**Pn**	**11 53 44.3**	**+0.4**
JYN	**Shimob**	**1.17**	**125**	P		**Pn**	**11 53 46.1**	**+0.2**
JAG	**Ashikaga**	**1.70**	**81**	P		**Pn**	**11 53 49.5**	**-0.1**
JWT	**Wachi**	**1.84**	**241**	P		**Pn**	**11 53 51.1**	**+0.3**
JWT				*e*S		**S**	**11 54 22.8**	**-0.2**
JSD	**Sado**	**1.98**	**21**	P		**Pn**	**11 53 51.9**	**-0.1**
JFT	**Otama**	**2.73**	**60**	P		**Pn**	**11 53 59.8**	**+0.5**
WRA	**Warramunga Arr**	**55.89**	**183**	P		**P**	**12 02 22.3**	**+0.1**
	0.1nm,0.4s,baz=0.1,slow=7.6,SNR=7.5							
ASAR	**Alice Springs**	**59.62**	**184**	P		**P**	**12 02 47.6**	**-0.3**
	0.4nm,0.9s,baz=357,slow=5.9,SNR=4.3							

GUC 04 11:58:22.7±0.4, 40˚.47S×72˚.08W, h8km±3km, ML3.6, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLCH	**Valdivia**	**1.12**	**306**	*e*P		Pg	11 58 44.0	-0.2
VLCH				*e*S		Sn	11 59 00.7	+0.6
VLCH				IAML			11 59 02.5	
	comp=N,3μm,0.1s							
PLCA	**Paso Flores**	**1.19**	**103**	*e*P		Pn	11 58 45.6	0.0
PLCA				*e*S		Sn	11 59 03.3	+1.2

*BJI **04** 12:01:09.1, 34˚.45N×69˚.10E, h13km, mb4.4/17, mB4.5/12, Ms4.0/12, Ms7 3.8/11*

*IDC **04** 12:01:12.6±0.6, 34˚.53N×69˚.49E, h0km, mb4.1/20, mb1 4.3/24, mb1mx4.1/52, mbtmp4.2/24, ML4.2/4, MS3.3/11, Ms1 3.3/11, ms1mx2.9/60, Error ellipse: s-maj=14.9km s-min=14.0km az=36.0*

*NEIC **04** 12:01:14.8±1.3, 34˚.47N×69˚.47E, h16km±8km, mb4.3/8, Error ellipse: s-maj=8.4km s-min=6.9km az=151.0*

NEIC Felt [III] at Kabul. Also felt at Bagrami and Charikar.

*ISCJB **04** 12:01:14.3±0.3, 34˚.50N±0˚.03×69˚.59E±0˚.04, h24km, mb4.2/29, MS3.2/10, Error ellipse: s-maj=4.7km s-min=3.2km az=143.5*

*MOS **04** 12:01:15.2±1.0, 34˚.55N×69˚.61E, h25km, mb4.4/16, Error ellipse: s-maj=9.1km s-min=4.8km az=85.4*

*NNC **04** 12:01:22.7±3.7, 34˚.64N×69˚.47E, h131km±15km, mb3.8, mpv4.7, Error ellipse: s-maj=31.3km s-min=25.5km az=59.0*

ISC 04 12:01:16.2±0.4, 34˚.48N±0˚.05×69˚.42E±0˚.03, h24km, n135, σ2s48/155, mb4.2/29, MS3.2/10, 8C-12D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**0.32**	**281**	*e*P		**Pb**	**12 01 21.7**	**-1.9**
KBL	**Kabul**	**0.32**	**281**	*e*Pg		**Pb**	**12 01 21.7**	**-1.9**
KBL				*e*Sg		**Sb**	**12 01 26.5**	**-2.2**
CEP	**Cherat**	**2.16**	**107**	P		**Pb**	**12 01 54.3**	**-0.4**
CEP				S		**Sb**	**12 02 26.0**	**+4.8**
THW	**Thamme Wali**	**2.56**	**130**	P		**Pb**	**12 02 00.1**	**-1.4**
SARP	**Sargodha**	**3.73**	**132**	P		**Pb**	**12 02 15.0**	**+2.7**
DZET	**Dzherino**	**4.34**	**354**	⇓Pn		**Pn**	**12 02 22.8**	**+1.9**
	86nm,0.4s							
DZET				⇑Sn		**Sn**	**12 03 16.0**	**+5.2**
	382nm,0.8s							
DZET	**Dzherino**	**4.34**	**354**	P		**Pn**	**12 02 22.7**	**+1.9**
DZET							12 03 15.9	
DZET				pmax		pmax		
	comp=Z,86nm,0.4s							
DZET				smax		smax		
	comp=N,572nm,0.7s							
THN	**Thein Dam**	**5.64**	**109**	*e*P		**Pn**	**12 02 38.4**	**-0.1**
THN				*e*S		**Sn**	**12 03 41.0**	**-1.6**
BHK	**Bhakra**	**6.62**	**116**	*ex*		**Sb**	**12 04 31.0**	**+1.6**
SDNR	**Sundarnagar**	**7.00**	**113**	*e*P		**Pn**	**12 02 58.0**	**+0.7**
KSH	**Kashi**	**7.26**	**44**	Pn		**Pn**	**12 02 58.3**	**-2.6**
KSH				Sn		Sn	12 03 55.0	-28
KSH				smax		smax		
	comp=N,170nm,0.7s							
KSH				smax		smax		
	comp=E,130nm,0.8s							
MNAS	**Manas**	**8.35**	**16**	⇓Pn		**Pn**	**12 03 16.5**	**+0.6**
	comp=E,44nm,1.1s							
MNAS				⇑Sn		**Sn**	**12 04 49.8**	**+0.4**
	comp=E,56nm,0.6s							
MNAS	**Manas**	**8.35**	**16**	P		**Pn**	**12 03 16.4**	**+0.6**
MNAS							12 04 49.8	
MNAS				pmax		pmax		
	comp=Z,44nm,1.1s							
MNAS				smax		smax		
	comp=N,56nm,0.6s							
KHET	**Khetri**	**8.40**	**138**	*e*P		**Pn**	**12 03 15.7**	**-0.8**
KHET				*e*S		**Sn**	**12 04 43.6**	**-7.0**
KK31	**Karatay Array**	**8.65**	**5**	⇓Pn		**Pn**	**12 03 20.7**	**+0.7**
	comp=N,14nm,0.5s,baz=195,slow=14,SNR=193							
KK31				⇓Sn		**Sn**	**12 04 56.8**	**+0.1**
	comp=N,36nm,0.8s,baz=192,slow=23,SNR=5.8							
KK31	**Karatay Array**	**8.65**	**5**	*e*P		**Pn**	**12 03 20.6**	**+0.7**
KK31				*e*			12 04 56.8	
KK31				pmax		pmax		
	comp=Z,14nm,0.5s							
KK31				smax		smax		
	comp=N,9.0nm,0.4s							
KKAR	**Karatay Array**	**8.65**	**5**	*e*P		**Pn**	**12 03 20.8**	**+0.9**
KKAR	**Karatay Array**	**8.65**	**5**	*e*Pn		**Pn**	**12 03 20.8**	**+0.9**
KUDL	**Kundal**	**8.74**	**134**	*e*P		**Pn**	**12 03 20.3**	**-0.8**
KUDL				*e*S		Sn	12 04 49.0	-10
KUDL				IAML			12 06 02.3	
	comp=E,32nm,0.8s							
KUDL				IAML			12 06 03.3	
	comp=N,37nm,0.3s							
NDI	**New Delhi**	**8.80**	**129**	*ex*		Pn	12 03 15.0	-7.0
NDI				*e*S		Sn	12 04 52.0	-8.5
EKS2	**Erkin-Say**	**8.85**	**21**	*e*P		**Pn**	**12 03 22.9**	**+0.2**
EKS2	**Erkin-Say**	**8.85**	**21**	*e*Pn		**Pn**	**12 03 22.9**	**+0.2**
SONA	**Sohna**	**9.02**	**131**	*e*P		**Pn**	**12 03 23.2**	**-1.7**
SONA				*ex*		x	12 05 01.2	
AAK	**Ala-Archa**	**9.06**	**24**	Pn		**Pn**	**12 03 26.4**	**+0.8**
	comp=N,5.9nm,0.3s,baz=211,slow=8.8,SNR=15							
AAK				Sn		**Sn**	**12 05 05.8**	**-1.0**
	comp=N,1.4nm,0.3s,baz=189,slow=19,SNR=3.1							
AAK	**Ala-Archa**	**9.06**	**24**	P		**Pn**	**12 03 26.0**	**+0.5**
AAK							12 05 07.6	
AAK				pmax		pmax		
	comp=Z,16nm,0.6s							
AAK				smax		smax		
	comp=N,47nm,0.8s							
AAK	**Ala-Archa**	**9.06**	**24**	*e*Pn		**Pn**	**12 03 26.1**	**+0.5**
AAK				Sn		**Sn**	**12 05 05.8**	**-1.0**
FRU	**Bishkek**	**9.28**	**24**	*e*P		**Pn**	**12 03 30.0**	**+1.6**
FRU				*e*S		**Sn**	**12 05 16.0**	**+4.0**
FRU				pmax		pmax		
	comp=Z,70nm,1.8s							
FRU				smax		smax		
	comp=E,200nm,1.8s							
JOSI	**Joshimath**	**9.41**	**112**	*e*P		**Pn**	**12 03 30.5**	**+0.1**
JOSI				*e*S		**Sn**	**12 05 12.1**	**-3.5**
JOSI				IAML			12 06 35.6	
	comp=E,455nm,1.0s							
JOSI				IAML			12 06 36.1	
	comp=N,353nm,1.0s							
TKM2	**Tokmak 2**	**9.71**	**28**	Pn		**Pn**	**12 03 36.1**	**+1.5**
	comp=N,19nm,0.8s							
TKM2				⇓Sn		**Sn**	**12 05 23.7**	**+0.8**
	comp=N,8.6nm,0.6s							
TKM2	**Tokmak 2**	**9.71**	**28**	*e*P		**Pn**	**12 03 35.1**	**+0.6**
TKM2	**Tokmak 2**	**9.71**	**28**	*e*Pn		**Pn**	**12 03 35.1**	**+0.6**
GEYT	**Alibeck**	**9.76**	**294**	Pn		**Pn**	**12 03 37.0**	**+1.8**
	comp=N,0.8nm,0.3s,baz=128,slow=13,SNR=5.7							
GEYT				Sn		Sn	12 05 34.7	+11
	comp=N,0.5nm,0.3s,baz=121,slow=17,SNR=2.9							
GEYT				LR		LR	12 07 53.4	
	comp=N,212nm,18.2s,baz=130,slow=41							
PYUN	**Piuthan**	**13.22**	**115**	*e*P		**Pn**	**12 04 20.5**	**-2.2**
	comp=N,40nm,0.4s							
KOLN	**Koldanda**	**13.86**	**115**	*e*P		**Pn**	**12 04 29.3**	**-2.0**
	comp=N,14nm,0.4s							
OTUK	**Ortayu**	**13.92**	**8**	⇓Pn		**Pn**	**12 04 32.0**	**0.0**
	comp=N,8.8nm,0.8s							
OTUK				⇑Sn		**Sn**	**12 07 00.6**	**-5.2**
	comp=N,8.7nm,0.6s							
OTUK	**Ortayu**	**13.92**	**8**	P		**Pn**	**12 04 31.9**	**0.0**
OTUK				pmax		pmax		
	comp=Z,25nm,1.7s							
GKN	**Gorkha**	**14.52**	**112**	*e*P		**Pn**	**12 04 37.4**	**-2.9**
	comp=Z,52nm,0.6s							
WSAR	**Wadi Sarin**	**14.64**	**223**	LR		LR	12 11 18.3	
	comp=Z,61nm,18.6s,baz=73,slow=41							
DMN	**Daman**	**15.08**	**113**	*e*P		**Pn**	**12 04 44.4**	**-3.6**
	comp=Z,59nm,0.7s							
KKN	**Kakani**	**15.12**	**112**	*e*P		**Pn**	**12 04 44.9**	**-3.6**
	comp=Z,49nm,0.6s							
GUN	**Gumba**	**15.52**	**110**	*e*P		**Pn**	**12 04 50.2**	**-3.7**
	comp=Z,19nm,0.5s							
MAKZ	**Makanchi**	**15.54**	**34**	*e*P		**Pn**	**12 04 52.6**	**-1.1**
MAKZ				pmax		pmax		
	comp=Z,17nm,0.6s							
MAKZ	**Makanchi**	**15.54**	**34**	*e*Pn		**Pn**	**12 04 52.6**	**-1.1**
	comp=Z,17nm,0.6s							
MAKZ				*e*Sn		**S**	**12 07 57.6**	**-2.8**

MK01	**Makanchi Array**	**15.67**	**35**	*e*Pn		**Pn**	**12 04 55.0**	**-0.3**
MK31	**Makanchi Array**	**15.68**	**34**	Pn		**Pn**	**12 04 55.1**	**-0.4**
	comp=Z,3.9nm,0.6s,baz=198,slow=9.6,SNR=54							
MK31	**Makanchi Array**	**15.68**	**34**	P		**Pn**	**12 04 55.1**	**-0.4**
MK31				pmax		pmax		
	comp=Z,5.0nm,0.6s							
MK31	**Makanchi Array**	**15.68**	**34**	*e*Pn		**Pn**	**12 04 55.3**	**-0.2**
MKAR	**Makanchi Array**	**15.68**	**34**	Pn		**Pn**	**12 04 54.2**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=217,slow=9.1,SNR=28							
MKAR				LR		LR	12 11 09.7	
	comp=Z,101nm,20.9s,baz=220,slow=38							
MKAR	**Makanchi Array**	**15.68**	**34**	*i* P		**Pn**	**12 04 55.2**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.5s							
MKAR	**Makanchi Array**	**15.68**	**34**	*e*Pn		**Pn**	**12 04 55.3**	**-0.3**
AB31	**Akbulak array**	**16.34**	**337**	P		**Pn**	**12 05 03.2**	**-0.8**
	comp=Z,4.1nm,0.5s,baz=154,slow=12,SNR=94							
AB31				⇓S		**Sn**	**12 07 58.6**	**-6.0**
	comp=Z,4.5nm,0.6s,baz=159,slow=22,SNR=4.1							
AB31	**Akbulak array**	**16.34**	**337**	*e*P		**Pn**	**12 05 03.2**	**-0.8**
AB31							12 08 02.1	
AB31				pmax		pmax		
	comp=Z,4.0nm,0.5s							
AB31				smax		smax		
	comp=N,5.0nm,0.6s							
ABKAR	**Akbulak array**	**16.34**	**337**	*e*Pn		**Pn**	**12 05 03.7**	**-0.3**
ABKAR				*e*Sn		**Sn**	**12 08 02.5**	**-2.0**
WMQ	**Urumqi**	**16.94**	**51**	P		**P**	**12 05 12.4**	**-1.0**
WMQ				pP		pP	12 05 16.0	-4.0
WMQ				sP		sP	12 05 20.0	-3.1
WMQ				PMZ				
	comp=N,6.0nm,0.6s							
WMQ				PMZ				
	comp=N,68nm,3.6s							
WMQ				LN				
	comp=N,99nm,8.4s							
WMQ				LE				
	comp=N,82nm,6.2s							
WMQ				LZ				
	comp=N,82nm,20.8s							
KURBB	**Kurchatov Arra**	**17.45**	**20**	P		**Pn**	**12 05 16.3**	**-1.5**
	comp=N,0.3nm,0.3s,baz=210,slow=11,SNR=32							
KURK	**Kurchatov Arra**	**17.45**	**20**	⇑P		**Pn**	**12 05 16.8**	**-1.0**
	comp=N,11nm,0.7s							
KURK	**Kurchatov**	**17.56**	**20**	*e*P		**Pn**	**12 05 18.8**	**-0.4**
KURK				pmax		pmax		
	comp=Z,17nm,0.9s							
KURK	**Kurchatov**	**17.56**	**20**	*e*Pn		**Pn**	**12 05 18.8**	**-0.4**
	comp=Z,17nm,0.9s							
AKTO	**Aktyubinsk**	**18.00**	**336**	P		**P**	**12 05 26.7**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=133,slow=15,SNR=8.7							
AKTO	**Aktyubinsk**	**18.00**	**336**	⇓P		**P**	**12 05 25.3**	**+0.4**
	comp=Z,8.1nm,0.9s							
AKTO				⇓S		**Sn**	**12 08 39.7**	**-4.8**
	comp=Z,5.5nm,0.9s							
AKTO	**Aktyubinsk**	**18.00**	**336**	P		**P**	**12 05 25.3**	**+0.4**
AKTO				S		**Sn**	**12 08 39.7**	**-4.8**
AKTO				pmax		pmax		
	comp=Z,8.0nm,1.0s							
AKTO				smax		smax		
	comp=N,6.0nm,0.9s							
ZRNK	**Zerenda**	**18.47**	**359**	⇓P		**P**	**12 05 28.4**	**-1.8**
	comp=N,4.6nm,0.7s							
ZRNK				⇓S		**Sn**	**12 08 49.7**	**-6.2**
	comp=N,8.7nm,1.1s							
ZRNK	**Zerenda**	**18.47**	**359**	*i* P		**P**	**12 05 28.3**	**-1.8**
ZRNK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
ZRNK	**Zerenda**	**18.47**	**359**	*e*P		**P**	**12 05 29.0**	**-1.1**
	comp=Z,7.5nm,0.9s							
BVA0	**Borovoye Array**	**18.55**	**2**	P		**P**	**12 05 30.3**	**-0.8**
	comp=Z,6.6nm,0.9s,baz=172,slow=8.7,SNR=26							
BVA0	**Borovoye Array**	**18.55**	**2**	P		**P**	**12 05 30.3**	**-0.8**
BVA0				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BVAR	**Borovoye Array**	**18.55**	**2**	P		**P**	**12 05 29.5**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=182,slow=12,SNR=12							
BRVK	**Borovoye**	**18.58**	**2**	*e*P		**P**	**12 05 30.8**	**-0.6**
BRVK				pmax		pmax		
	comp=Z,19nm,0.6s							
BRVK	**Borovoye**	**18.58**	**2**	*e*P		**P**	**12 05 30.8**	**-0.6**
	comp=Z,19nm,0.6s							
LSA	**Lhasa**	**19.00**	**99**	*e*P		**P**	**12 05 34.8**	**-1.9**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.4s							
LSA	**Lhasa**	**19.00**	**99**	*e*P		**P**	**12 05 34.8**	**-1.9**
	comp=Z,4.0nm,0.4s							
GNI	**Garni**	**20.40**	**293**	LR		LR	12 16 25.1	
	comp=Z,43nm,18.2s,baz=109,slow=45							
GNI	**Garni**	**20.40**	**293**	*i* P		Pn	12 05 55.4	+1.7
GNI				pmax		pmax		
	comp=Z,115nm,1.2s							
ZEI	**Tsey**	**21.54**	**300**	*e*P		**P**	**12 06 06.1**	**+2.3**
ZEI				pmax		pmax		
	comp=Z,36nm,1.0s							
ZALV	**Zalesovo Beam**	**22.28**	**24**	P		**P**	**12 06

BRTR					pmax	pmax			
	comp=Z,4.0nm,0.9s								
BR231	**Keskin MP Arra**	**29.55**	**291**	*eP*	**P**	**12 07 15.9**	**-3.2**
SONM	**Songino Array**	**30.56**	**53**	P	**P**	**12 07 26.2**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=251,slow=9.2,SNR=6.3						
SONA1	**Songino Array**	**30.57**	**53**	*eP*	**P**	**12 07 31.1**	**+3.1**
CMAR	**Chiang Mai Arr**	**30.72**	**114**	P	**P**	**12 07 29.9**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=297,slow=8.5,SNR=8.3						
CMAR				LR	LR	12 21 07.3	
	comp=Z,23nm,19.3s,baz=275,slow=39						
CMAR	**Chiang Mai Arr**	**30.72**	**114**	*ce*P	**P**	**12 07 30.7**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KIEV	**Kiev**	**33.27**	**312**	*eP*	**P**	**12 07 54.6**	**+3.1**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**33.71**	**67**	*eP*	**P**	**12 07 54.5**	**-1.1**
HHC				PP	**PnPn**	**12 09 07.8**	**-0.1**
HHC				S	**S**	**12 13 17.9**	**+0.3**
HHC				SS	**SnSn**	**12 15 21.0**	**-1.3**
HHC				PMZ			
	comp=Z,34nm,1.1s						
HHC				PMZ			
	comp=Z,61nm,5.9s						
HHC				LN			
	comp=Z,120nm,13.7s						
HHC				LE			
	comp=Z,150nm,14.9s						
HHC				LZ			
	comp=Z,150nm,13.7s						
MLR	**Muntele Rosu**	**34.70**	**302**	P	**P**	**12 08 05.8**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=55,slow=7.3,SNR=6.3						
MLR				LR	LR	12 25 26.3	
	comp=Z,12nm,18.4s,baz=56,slow=42						
NRIK	**Noril'sk**	**36.34**	**11**	P	**P**	**12 08 18.0**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=201,slow=4.6,SNR=4.5						
NRIK				LR	LR	12 25 08.6	
	comp=Z,66nm,18.5s,baz=124,slow=40						
NRIK	**Noril'sk**	**36.34**	**11**	P	**P**	**12 08 18.0**	**+0.1**
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NRIK				MLR	MLR		
	comp=Z,66nm,18.5s						
FINES	**FINESS Array B**	**38.48**	**328**	P	**P**	**12 08 36.1**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=98,slow=10.0,SNR=3.8						
DPC	**Dobruska-Polom**	**41.37**	**309**	*eP*	**P**	**12 09 04.8**	**+4.5**
DPC	**Dobruska-Polom**	**41.37**	**309**	*eP*	**P**	**12 09 04.8**	**+4.5**
PRU	**Pruhonice**	**42.51**	**309**	*eP*	P	12 09 15.3	+5.8
PRU	**Pruhonice**	**42.51**	**309**	*eP*	P	12 09 15.3	+5.8
ARCES	**ARCESS Array B**	**42.54**	**339**	P	**P**	**12 09 09.5**	**0.0**
	comp=Z,1.6nm,0.6s,baz=112,slow=9.6,SNR=12						
BRG	**Berggiesshubel**	**42.90**	**310**	*e*(P)	**P**	**12 09 16.7**	**+4.1**
	comp=Z,2.9nm,0.9s						
BRG	**Berggiesshubel**	**42.90**	**310**	*eP*	**P**	**12 09 16.7**	**+4.1**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CLL	**Collm**	**43.49**	**311**	*eP*	**P**	**12 09 22.0**	**+4.6**
CLL	**Collm**	**43.49**	**311**	*eP*	**P**	**12 09 22.0**	**+4.6**
NB2	**NORSAR Subarra**	**45.24**	**324**	P	**P**	**12 09 30.8**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=101,slow=7.9						
NOA	**NORSAR Array B**	**45.24**	**324**	P	**P**	**12 09 30.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=100,slow=8.0,SNR=3.2						
KSAR	**Wonju Array Be**	**46.76**	**69**	P	**P**	**12 09 43.5**	**-0.1**
KSAR	**Wonju Array Be**	**46.76**	**69**	P	**P**	**12 09 43.5**	**-0.1**
KSRS	**Korea Array**	**46.78**	**69**	P	**P**	**12 09 43.5**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=275,slow=7.8,SNR=5.9						
KSRS				LR	LR	12 32 25.5	
	comp=Z,35nm,18.1s,baz=175,slow=40						
KLR	**Kul'dur**	**47.38**	**52**	*eP*	**P**	**12 09 46.8**	**-1.5**
TIXI	**Tiksi**	**48.12**	**21**	*i* P	**P**	**12 09 52.7**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BILL	**Bilibino**	**60.98**	**25**⇑	*eP*	**P**	**12 11 26.9**	**-0.2**
BILL				*e*		12 11 30.6	
BILL				*e**PP	**sP**	**12 11 37.3**	**-0.2**
BILL				*e*		12 13 39.4	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,38nm,18.0s						
TORD	**Torodi Ar. Bea**	**64.38**	**269**	P	**P**	**12 11 49.2**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=46,slow=5.7,SNR=7.9						
TORD				LR	LR	12 43 12.4	
	comp=Z,65nm,18.6s,baz=245,slow=39						
DBIC	**Dimbokro**	**73.30**	**267**	LR	LR	12 47 20.9	
	comp=Z,60nm,19.8s,baz=66,slow=38						
BOSA	**Boshof**	**75.37**	**219**	P	**P**	**12 12 59.2**	**+1.4**
	comp=Z,2.3nm,0.6s,baz=332,slow=4.9,SNR=4.2						
INK	**Inuvik**	**76.10**	**9**	P	**P**	**12 13 01.5**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=340,slow=5.7,SNR=17						
INK	**Inuvik**	**76.10**	**9**	*eP*	**P**	**12 13 01.3**	**-0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**76.10**	**9**	*eP*	**P**	**12 13 01.3**	**-0.1**
	comp=Z,2.7nm,0.7s						
COLA	**College**	**76.77**	**15**	*eP*	**P**	**12 13 04.7**	**-0.5**
COLA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
COLA	**College**	**76.77**	**15**	*eP*	**P**	**12 13 04.7**	**-0.5**
	comp=Z,7.7nm,1.1s						
IL1	**Eielson Array**	**77.06**	**15**	*eP*	**P**	**12 13 05.2**	**-1.7**
ILAR	**Eielson Array**	**77.06**	**15**	P	**P**	**12 13 05.7**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=295,slow=4.8,SNR=19						
KDAK	**Kodiak Island**	**81.55**	**21**	*i* P	**P**	**12 13 31.0**	**-0.5**
WRA	**Warramunga Arr**	**82.04**	**121**	P	**P**	**12 13 34.8**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=325,slow=4.9,SNR=43						
WRA	**Warramunga Arr**	**82.04**	**121**	*i* P	**P**	**12 13 35.0**	**+0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**83.31**	**2**	P	**P**	**12 13 40.4**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=351,slow=5.3,SNR=16						
ASAR	**Alice Springs**	**84.18**	**124**	P	**P**	**12 13 46.0**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=308,slow=5.2,SNR=52						
ASAR	**Alice Springs**	**84.18**	**124**	P	**P**	**12 13 46.0**	**+0.3**
STKA	**Stephens Creek**	**94.64**	**126**	P	**P**	**12 14 35.6**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=299,slow=22,SNR=3.3						

*IDC **04** 12:08:32.0±2.6, 36.00N×141.14E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/56, mbtmp3.5/5, ML3.6/2, Error ellipse: s-maj=62.3km s-min=25.0km az=68.0*
*ISCJB **04** 12:08:43.5±1.2, 35.61N±0.06×140.2E±0.1, h50km, mb3.4/3, Error ellipse: s-maj=12.8km s-min=8.4km az=178.8*
*JMA **04** 12:08:43.8±0.2, 35.70N×140.12E, h64km±2km, M3.0*
ISC 04 12:08:44.3±1.1, 35.63N±0.06×140.04E±0.07, h50km, n13, σ2s 18/16, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JCN	**Nagara**	**0.25**	**149**	P		**Pn**	**Pn**	**12 08 54.8**	**+1.8**
JCN				S		**Sn**	**Sn**	**12 09 03.8**	**+4.7**
JOD2	**Odawara 2**	**0.86**	**245**	P		**Pn**	**Pn**	**12 09 01.1**	**+0.9**
JOD2				S		**Sn**	**Sn**	**12 09 13.6**	**+1.8**
JAG	**Ashikaga**	**0.93**	**329**	P		**Pn**	**Pn**	**12 09 01.2**	**+0.2**
JRY	**Ryogami san**	**1.01**	**293**	P		**Pn**	**Pn**	**12 09 03.4**	**+1.3**
JYN	**Shimob**	**1.23**	**264**	P		**Pn**	**Pn**	**12 09 06.1**	**+0.9**
JKT	**Katashina**	**1.30**	**331**	P		**Pn**	**Pn**	**12 09 06.4**	**+0.2**
JIZS	**Izushimoda**	**1.32**	**227**	S		**Sn**	**Sn**	**12 09 23.9**	**+1.1**
MJAR	**Matsushiro Arr**	**1.74**	**302**	Pn		**Pn**	**Pn**	**12 09 12.8**	**+0.7**
	14nm,0.3s,baz=98,slow=14,SNR=59								
MAT	**Matsushiro**	**1.75**	**302**	P		**Pn**	**Pn**	**12 09 13.3**	**+1.1**
MAT				S		**Sn**	**Sn**	**12 09 37.2**	**+4.0**
JHJ	**Hachijo jima 2**	**2.51**	**185**	Pn		**Pn**	**Pn**	**12 09 22.4**	**-0.2**
	17nm,0.3s,baz=135,slow=22,SNR=6.7								
MKAR	**Makanchi Array**	**43.94**	**303**	P		**P**	**P**	**12 16 44.9**	**-1.3**
	0.2nm,0.4s,baz=95,slow=6.2,SNR=3.1								
KURBB	**Kurchatov Arra**	**46.01**	**309**	P		**P**	**P**	**12 17 00.6**	**-1.9**
	0.3nm,0.4s,baz=82,slow=7.6,SNR=4.3								
WRA	**Warramunga Arr**	**55.53**	**187**	P		**P**	**P**	**12 18 12.1**	**-2.3**
	0.2nm,0.5s,baz=1.1,slow=7.5,SNR=7.8								

*IDC **04** 12:09:04.7±0.6, 35.24N×141.21E, h0km, mb4.1/23, mb1 4.3/27, mb1mx4.1/58, mbtmp4.1/27, ML4.2/4, MS3.5/3, Ms1 3.5/3, ms1mx2.8/48, Error ellipse: s-maj=17.5km s-min=12.3km az=93.0*
*ISCJB **04** 12:09:05.7±0.4, 35.24N±0.03×141.52E±0.06, h27km, mb4.2/32, MS3.5/1, Error ellipse: s-maj=7.2km s-min=4.1km az=7.5*
*JMA **04** 12:09:09.1±0.2, 35.25N×141.28E, h17km±4km, M3.7*
*NEIC **04** 12:09:09.4±0.4, 35.23N×141.36E, h35km, mb4.7/10, Error ellipse: s-maj=9.9km s-min=7.3km az=97.0*

ISC 04 12:09:07.8±0.5, 35.18N±0.04×141.44E±0.07, h27km, n58, σ2s 00/59, mb4.2/32, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BSO1	**Boso 1**	**0.64**	**216**	P		**Pn**	**Pn**	**12 09 21.5**	**+0.8**
CHOJ	**Chosi**	**0.70**	**318**	P		**Pn**	**Pb**	**12 09 20.1**	**-1.4**
CHOJ				*e*S		**Sn**	**Sb**	**12 09 28.0**	**-2.9**
JHJ2	**Mitsune**	**2.46**	**214**	*e*Pn		**Pn**	**Pn**	**12 09 46.4**	**+0.3**
JHJ2				*e*Sn		**Sn**	**Sn**	**12 10 16.9**	**+1.6**
JHJ	**Hachijo jima 2**	**2.47**	**214**	Pn		**Pn**	**Pn**	**12 09 46.4**	**+0.1**
	130nm,0.3s,baz=106,slow=11,SNR=20								
JHJ				Sn		**Sn**	**Sn**	**12 10 15.8**	**+0.3**
	184nm,0.3s,baz=254,slow=23,SNR=10								
MJAR	**Matsushiro Arr**	**2.95**	**298**	Pn		**Pn**	**Pn**	**12 09 52.8**	**-0.2**
	10nm,0.3s,baz=128,slow=11,SNR=9.6								
MJAR				LR		LR		12 11 08.2	
	comp=Z,585nm,18.7s,baz=110,slow=45								
MAJO	**Matsushiro**	**2.96**	**298**	*e*Pn		**Pn**	**Pn**	**12 09 54.4**	**+1.3**
ERM	**Erimo**	**6.96**	**11**	*e*Pn		**Pn**	**Pn**	**12 10 47.3**	**-0.7**
ERM				*e*Sn		**Sn**	**Sn**	**12 12 04.8**	**-1.4**
CBIJ	**Chichi jima**	**8.08**	**175**	*e*Pn		**Pn**	**Pn**	**12 11 03.0**	**-0.5**
CBIJ				Sn		**Sn**	**Sn**	**12 12 27.6**	**-6.3**
CBIJ				*e*Sn		**Sn**	**Sn**	**12 12 27.7**	**-6.2**
JCJ	**Chichijima**	**8.08**	**175**	Pn		**Pn**	**Pn**	**12 11 02.4**	**-1.1**
	10.0nm,0.3s,baz=297,slow=16,SNR=6.2								
JCJ				Sn		**Sn**	**Sn**	**12 12 27.6**	**-6.3**
ASAJ	**Asahikawa**	**8.97**	**5**	Pn		**Pn**	**Pn**	**12 11 13.1**	**-2.5**
	3.0nm,0.3s,baz=228,slow=8.8,SNR=24								
JNU	**Nakatsue**	**8.99**	**260**	Pn		**Pn**	**Pn**	**12 11 18.2**	**+2.3**
	0.3nm,0.3s,baz=71,slow=5.1,SNR=4.9								
JNU	**Nakatsue**	**8.99**	**260**	Pn		**Pn**	**Pn**	**12 11 18.4**	**+2.5**
KSRS	**Korea Array**	**11.14**	**286**	Pn		**Pn**	**Pn**	**12 11 47.5**	**+2.2**
	0.2nm,0.3s,baz=97,slow=14,SNR=11								
KSRS				LR		LR		12 16 21.1	
	comp=Z,304nm,18.2s,baz=72,slow=40								
KSAR	**Wonju Array Be**	**11.17**	**286**	Pn		**Pn**	**Pn**	**12 11 47.5**	**+1.8**
USRK	**Ussuriysk Ar.**	**11.57**	**324**	Pn		**Pn**	**Pn**	**12 11 51.7**	**+0.5**
	0.5nm,0.3s,baz=132,slow=12,SNR=24								
YSS	**Yuzh-Sakhalins**	**11.81**	**4**	*e*Pn		**Pn**	**Pn**	**12 11 52.9**	**-1.5**
KLR	**Kul'dur**	**15.75**	**336**	Pn		**Pn**	**Pn**	**12 12 44.2**	**-3.5**
	0.2nm,0.3s,baz=145,slow=12,SNR=6.7								
BJT	**Baijiatuan**	**20.57**	**291**	*eP*		**P**	**P**	**12 13 41.9**	**-2.6**
	6.7nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**27.23**	**118**	T		T	T	12 43 47.0	
	baz=310,slow=75,SNR=25								
H11N1	**WAKE ISLAND Hy**	**27.23**	**118**	T		T	T	12 43 33.0	
	baz=310,slow=75,SNR=32								
H11N3	**WAKE ISLAND Hy**	**27.24**	**118**	T		T	T	12 43 32.9	
	baz=310,slow=75,SNR=30								
ENH	**Enshi**	**27.25**	**269**	*eP*		**P**	**P**	**12 14 47.5**	**-2.3**
	4.4nm,0.7s								
H11S1	**WAKE ISLAND Hy**	**27.88**	**120**	T		T	T	12 44 17.4	
	baz=312,slow=75,SNR=91								
H11S3	**WAKE ISLAND Hy**	**27.88**	**120**	T		T	T	12 44 20.0	
	baz=312,slow=75,SNR=86								
YAK	**Yakutsk**	**27.89**	**348**	*eP*		**P**	**P**	**12 14 54.8**	**-0.3**
	9.4nm,0.8s								
H11S2	**WAKE ISLAND Hy**	**27.89**	**120**	T		T	T	12 44 17.6	
	baz=312,slow=75,SNR=75								
SEY	**Seymchan**	**28.61**	**10**	P		**P**	**P**	**12 15 02.9**	**+1.4**
	1.2nm,0.8s,baz=278,slow=18,SNR=3.0								
SONM	**Songino Array**	**28.87**	**307**	P		**P**	**P**	**12 15 04.9**	**+0.6**
	0.9nm,0.5s,baz=106,slow=9.3,SNR=5.7								
CMAR	**Chiang Mai Arr**	**41.08**	**257**	P		**P**	**P**	**12 16 48.5**	**-0.9**
	1.4nm,0.7s,baz=49,slow=7.4,SNR=8.3								
ZALV	**Zalesovo Beam**	**43.19**	**314**	P		**P**	**P**	**12 17 05.7**	**-0.5**
	2.9nm,0.6s,baz=92,slow=6.3,SNR=10.0								
ZALV				PcP		**PcP**	**PcP**	**12 18 55.2**	**0.0**
	0.6nm,0.3s,baz=90,slow=4.3,SNR=3.3								
NRIK	**Noril'sk**	**44.96**	**336**	P		**P**	**P**	**12 17 20.4**	**+0.3**
	1.6nm,0.4s,baz=214,slow=1.2,SNR=3.6								
MKAR	**Makanchi Array**	**45.14**	**304**	P		**P**	**P**	**12 17 21.8**	**-0.2**
	1.7nm,0.5s,baz=91,slow=10.0,SNR=21								
KURK	**Kurchatov**	**47.11**	**309**	P		**P**	**P**	**12 17 37.4**	**0.0**
	1.3nm,0.6s								
KURBB	**Kurchatov Arra**	**47.17**	**309**	P		**P**	**P**	**12 17 37.4**	**-0.5**
	4.5nm,0.6s,baz=85,slow=8.3,SNR=36								
SOEI	**Soe**	**47.55**	**203**	*eP*		**P**	**P**	**12 17 40.7**	**-0.5**
	30nm,0.8s								
TKM2	**Tokmak 2**	**50.55**	**300**	*eP*		**P**	**P**	**12 18 04.5**	**+0.4**
	4.7nm,0.6s								
ILAR	**Eielson Array**	**51.06**	**32**	P		**P**	**P**	**12 18 08.1**	**+0.7**
	0.8nm,0.7s,baz=264,slow=6.1,SNR=7.7								
BVAR	**Borovoye Array**	**51.85**	**313**	P		**P**	**P**	**12 18 13.0**	**-0.4**
	1.0nm,0.5s,baz=101,slow=7.7,SNR=6.5								
FITZ	**Fitzroy Crossi**	**55.07**	**198**	*eP*		**P**	**P**	**12 18 38.3**	**+0.9**
	6.4nm,0.8s								
WRAB	**Tennant Creek**	**55.22**	**188**	*eP*		**P**	**P**	**12 18 38.6**	**+0.2**
	4.8nm,0.6s								
WRA	**Warramunga Arr**	**55.23**	**188**	P		**P**	**P**	**12 18 38.8**	**+0.3**
	5.3nm,0.6s,baz=2.8,slow=7.6,SNR=63								
ARU	**Arti**	**57.77**	**319**	P		**P**	**P**	**12 18 55.7**	**-0.5**
	2.9nm,0.5s,baz=83,slow=6.1,SNR=5.5								
ASAR	**Alice Springs**	**58.95**	**188**	P		**P**	**P**	**12 19 06.5**	**+1.7**
	6.5nm,0.6s,baz=15,slow=12,SNR=104								
ABKAR	**Akbulak array**	**59.16**	**311**	*eP*		**P**	**P**	**12 19 05.7**	**-0.3**
	1.2nm,0.4s								
MBWA	**Marble Bar**	**59.69**	**204**	*eP*		**P**	**P**	**12 19 10.9**	**+0.9**
	35nm,0.9s								
AKTO	**Aktyubinsk**	**59.94**	**313**	P		**P**	**P**	**12 19 11.6**	**+0.2**
	0.6nm,0.4s,baz=72,slow=11,SNR=4.4								
YKA	**Yellowknife Ar**	**65.41**	**30**	P		**P**	**P**	**12 19 48.5**	**+0.8**
	0.5nm,0.8s,baz=303,slow=6.7,SNR=5.3								
STKA	**Stephens Creek**	**66.70**	**180**	P		**P**	**P**	**12 19 58.5**	**+2.3**
	1.8nm,0.7s,baz=352,slow=10,SNR=3.2								
FINES	**FINESS Array B**	**70.47**	**333**	P		**P**	**P**	**12 20 19.4**	**0.0**
	0.9nm,0.7s,baz=98,slow=7.2,SNR=4.1								
KVAR	**Kislovodsk Arr**	**72.13**	**311**	LR		LR	LR	12 55 29.1	
	comp=Z,22nm,18.7s,baz=326,slow=39								
AKASG	**Malin Array Be**	**75.78**	**323**	P		**P**	**P**	**12 20 50.7**	**-0.4**
	1.4nm,0.5s,baz=45,slow=6.6,SNR=7.9								
NB2	**NORSAR Subarra**	**75.90**	**337**	P		**P**	**P**	**12 20 51.7**	**0.0**
	comp=Z,1.2nm,0.7s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**75.90**	**337**	P		**P**	**P**	**12 20 51.7**	**0.0**
	comp=Z,1.6nm,0.7s,baz=39,slow=5.8,SNR=5.3								
NVAR	**Mina Array Bea**	**76.09**	**53**	P		**P**	**P**	**12 20 56.1**	**+2.7**
	comp=Z,1.2nm,0.8s,baz=289,slow=4.5,SNR=4.0								
PDAR	**Pinedale Array**	**78.96**	**45**	P		**P**	**P**	**12 21 11.2**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=222,slow=2.0,SNR=5.5								
BRTR	**Keskin Array B**	**80.10**	**312**	P		**P**	**P**	**12 21 15.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=98,slow=5.1,SNR=3.1								
GERES	**GERESS Array B**	**84.30**	**328**	P		**P**	**P**	**12 21 37.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=58,slow=3.3,SNR=8.1								
TXAR	**Lajitas Array**	**91.24**	**52**	P		**P**	**P**	**12 22 13.7**	**+2.6**
	comp=Z,0.2nm,0.4s,baz=234,slow=4.5,SNR=4.2								

MAN 04 12:17:47, 12.82N×122.93E, h28km, mb4.1, ML3.0, MS2.7, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AUQP	**San Andres**	**0.56**	**333**	*eP*		Pb	Pb	12 17 58.1	-0.2
AUQP				*e*S		Sn	Sn	12 18 09.6	+2.2
OTRP	**Odiongan**	**1.00**	**243**	*eP*		Pb	Pb	12 18 05.6	-0.2
OTRP				*e*S		Sb	Sb	12 18 19.2	+0.7
GQP	**Guinayangan**	**1.17**	**336**⇓	*eP*		Pn	Pn	12 18 07.8	+0.2
GQP				*e*S		Sb	Sb	12 18 24.1	+0.6
BOAC	**Boac**	**1.23**	**301**	*eP*		Pn	Pn	12 18 08.2	-0.2
BOAC				*e*S		Sb	Sb	12 18 26.6	+1.4
RCP	**Roxas**	**1.27**	**188**⇑	*eP*		Pn	Pn	12 18 09.6	+0.6
PVCP	**Virac**	**1.42**	**57**	*eP*		Pn	Pn	12 18 11.8	+0.9
PVCP				*e*S		Sb	Sb	12 18 31.6	+1.2
SJMP	**San Jose**	**1.81**	**259**	*eP*		Pb	Pb	12 18 18.2	-1.2

*ISK **04** 12:17:56.9, 37.43N×28.08E, h8km, MD2.5*
*ISCJB **04** 12:17:57.1±0.6, 37.41N±0.03×28.05E±0.06, h11km±6km, Error ellipse: s-maj=9.2km s-min=4.6km az=153.5*
*CSEM **04** 12:17:57.3±0.1, 37.43N×28.07E, h10km, MD2.5, Error ellipse: s-maj=2.2km s-min=1.6km az=51.0*
*DDA **04** 12:17:57.0, 37.43N×28.08E, h7km, Md2.6*
ISC 04 12:17:57.3±0.9, 37.43N±0.03×28.07E±0.03, h14km±9km, n19, σ0s 37/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AYDN	**Tasoluk**	**0.28**	**326**	P		**Pg**	**Pg**	**12 18 03.0**	**-0.1**
AYDN				S		**Sg**	**Sg**	**12 18 07.1**	**0.0**
AYDN	**Tasoluk**	**0.28**	**326**	*i* P		**Pg**	**Pg**	**12 18 03.0**	**-0.1**
AYDN				*i* S		**Sg**	**Sg**	**12 18 07.1**	**0.0**
YER	**Yerkesik**	**0.34**	**150**	*e*PG		**Pg**	**Pg**	**12 18 04.0**	**-0.2**
YER				*e*SG		**Sg**	**Sg**	**12 18 09.3**	**+0.5**
YER	**Yerkesik**	**0.34**	**150**	*e*Pg		**Pg**	**Pg**	**12 18 04.0**	**-0.2**
YER				*e*Sg		**Sg**	**Sg**	**12 18 09.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.54**	**344**	*e*PG		**Pg**	**Pg**	**12 18 07.8**	**-0.1**
AYDB				*e*SG		**Sb**	**Sb**	**12 18 15.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.54**	**344**	*e*Pg		**Pg**	**Pg**	**12 18 07.8**	**-0.1**
AYDB				*e*Sg		**Sb**	**Sb**	**12 18 15.7**	**-0.6**
TURN	**Turunc**	**0.70**	**142**	*i* P		**Pg**	**Pg**	**12 18 09.6**	**-1.3**
TURN				*i* S		**Sg**	**Sg**	**12 18 19.8**	**-0.2**
BODT	**Bodrum**	**0.71**	**239**	*e*PG		**Pg**	**Pg**	**12 18 11.1**	**0.0**
BODT	**Bodrum**	**0.71**	**239**	*e*Pg		**Pg**	**Pg**	**12 18 11.1**	**0.0**
GCAM	**G?zelcaml?**	**0.72**	**292**	P		**Pb**	**Pb**	**12 18 11.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.72**	**292**	*i* P		**Pb**	**Pb**	**12 18 11.5**	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.77**	**143**	*e*PG		**Pg**	**Pg**	**12 18 12.0**	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.77**	**143**	*e*Pg		**Pg**	**Pg**	**12 18 12.0**	**-0.1**
DNZL	**Cakiroluk**	**0.82**	**71**	P		**Pb**	**Pb**	**12 18 13.3**	**-0.1**
DNZL				S		**Sb**	**Sb**	**12 18 24.4**	**+0.1**
DNZL	**Cakiroluk**	**0.82**	**71**	*i* P		**Pb**	**Pb**	**12 18 13.3**	**-0.1**
DNZL				*i* S		**Sb**	**Sb**	**12 18 24.4**	**+0.1**
FETY	**Fethiye**	**1.13**	**134**	*e*PN		**Pn**	**Pn**	**12 18 19.1**	**+0.4**
FETY	**Fethiye**	**1.13**	**134**	*e*Pn		**Pn**	**Pn**	**12 18 19.1**	**+0.4**
KULA	**Kula-Manisa**	**1.18**	**23**	*e*PN		**Pb**	**Pb**	**12 18 19.8**	**+0.3**
KULA	**Kula-Manisa**	**1.18**	**23**	*e*Pn		**Pb**	**Pb**	**12 18 19.8**	**+0.3**

JMA 04 12:19:51.6±0.1, 38.15N×142.13E, h15km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JIO	**Ouri**	**0.69**	**297**	P		Pg	Pg	12 20 04.7	-0.3
JIO				*e*S		Sg	Sg	12 20 13.9	-0.2
OFUJ	**Ofunato**	**1.00**	**339**	P		Pb	Pb	12 20 09.9	-0.7
OFUJ				*e*S		Sb	Sb	12 20 23.3	-0.2
JMK	**Ichinoseki**	**1.07**	**319**	P		Pb	Pb	12 20 11.7	-0.2
JMK				*e*S		Sb	Sb	12 20 25.7	0.0
JMM	**Marumori**	**1.09**	**255**	P		Pb	Pb	12 20 11.5	-0.7
JMM				*e*S		Sb	Sb	12 20 26.1	-0.2
JOU	**Okura**	**1.17**	**281**	P		Pn	Pn	12 20 13.4	-0.1
JOM	**Ohasama**	**1.47**	**334**	P		Pn	Pn	12 20 17.8	+0.2
JOM				*e*S		Sn	Sn	12 20 36.8	+0.2
JFT	**Otama**	**1.55**	**247**	*e*S		Sb	Sb	12 20 39.3	-0.2
JYK	**Kaneyama**	**1.59**	**299**	P		Pb	Pb	12 20 20.1	-0.5
JYK				*e*S		Sb	Sb	12 20 40.6	+0.1

*ISCJB **04** 12:23:35.5±0.9, 5.46S±0.08×147.37E±0.09, h170km, mb4.0/5, Error ellipse: s-maj=12.6km s-min=10.8km az=9.4*
*IDC **04** 12:23

comp=Z,156nm,18.4s,baz=190,slow=36
SNAA **Sanae** 45.72 156 eP P 12 32 11.6 -2.0
comp=Z,12nm,1.0s
RCBR **Riachuelo** 47.18 53 eP P 12 32 23.5 -2.2
comp=Z,0.8nm,0.4s
QSPA **South Pole Qui** 49.88 180 eP P 12 32 45.6 -0.6
comp=Z,21nm,0.8s
VNDA **Vanda** 57.89 192 P P 12 33 47.1 +2.8
comp=Z,1.2nm,0.9s,baz=148,slow=4.6,SNR=5.1
MAW **Mawson** 67.08 163 LR LR 13 04 00.2
comp=Z,102nm,18.2s,baz=241,slow=36
TXAR **Lajitas Array** 75.34 332 P P 12 35 38.4 +2.1
comp=Z,0.6nm,0.9s,baz=151,slow=5.7,SNR=5.6
TXAR LR LR 13 03 39.3
comp=Z,113nm,19.1s,baz=0.0,slow=32
TX31 **Lajitas Ar. Si** 75.34 332 eP P 12 35 38.5 +2.2
SWET **Sewanee** 76.31 348 eP P 12 35 41.9 +0.2
comp=Z,2.3nm,0.8s
BOSA **Boshof** 77.11 117 P P 12 35 47.5 +0.8
comp=Z,2.5nm,0.8s,baz=338,slow=5.9,SNR=3.1
BOSA LR LR 13 08 45.6
comp=Z,34nm,18.5s,baz=228,slow=35
DBIC **Dimbokro** 77.23 70 P P 12 35 46.8 -0.6
comp=Z,1.7nm,0.6s,baz=132,slow=1.9,SNR=3.0
WVT **Waverly** 77.51 347 eP P 12 35 49.2 +0.9
comp=Z,5.7nm,0.8s
ANMO **Albuquerque** 81.41 332 LR LR 13 06 56.2
comp=Z,76nm,19.7s,baz=176,slow=32
ANMO **Albuquerque** 81.41 332 eP P 12 36 11.3 +1.4
comp=Z,5.0nm,0.9s
T25A **Trinidad** 82.68 334 eP P 12 36 17.4 +0.9
comp=Z,23nm,1.5s
S22A **4UR Ranch, Cre** 84.05 333 eP P 12 36 25.6 +1.8
comp=Z,17nm,1.8s
PFO **Pinyon Flats O** 84.30 324 LR LR 13 04 31.2
comp=Z,17nm,21.8s,baz=138,slow=29
U15A **North Rim** 84.94 328 eP P 12 36 30.1 +1.9
comp=Z,9.9nm,1.6s
SMCO **Snowmass** 85.39 333 eP P 12 36 33.1 +2.5
comp=Z,18nm,1.6s
KNB **Kanab** 85.66 328 eP P 12 36 33.3 +1.7
comp=Z,7.6nm,1.0s
CCUT **Cedar City** 86.34 328 eP P 12 36 37.4 +2.3
comp=Z,10nm,1.3s
ECSD **EROS Data Cent** 86.62 342 eP P 12 36 38.2 +2.1
comp=Z,12nm,1.0s
R11A **Troy Canyon, C** 87.93 327 eP P 12 36 45.5 +2.8
comp=Z,16nm,1.8s
NVAR **Mina Array Bea** 89.15 325 LR LR 13 09 11.5
comp=Z,40nm,19.7s,baz=250,slow=31
HWUT **Hardware Ranch** 89.16 331 eP P 12 36 45.3 -3.1
comp=Z,11nm,1.0s
BW06 **Boulder Array** 89.47 333 eP P 12 36 51.6 +1.6
PDAR **Pinedale Array** 89.47 333 P P 12 36 50.6 +0.7
comp=Z,0.2nm,0.6s,baz=157,slow=4.5,SNR=7.7
PDAR LR LR 13 12 06.8
comp=Z,92nm,21.4s,baz=155,slow=32
IMW **Indian Meadow** 90.94 333 eP P 12 36 58.0 +1.2
comp=Z,6.0nm,1.0s
H17A **Grant Village** 91.25 333 P P 12 36 54.7 -3.6
comp=Z,3.8nm,0.6s
KMRM **Mail Ridge** 93.03 323 eP P 12 37 08.3 +2.0
comp=Z,96nm,1.6s
ILAR **Eielson Array** 119.85 331 PKP PKPdf 12 42 43.5 +1.3
comp=Z,0.5nm,0.9s,baz=95,slow=2.5,SNR=4.1
AKTO **Aktyubinsk** 144.08 57 PKP PKPdf 12 43 27.4 -0.6
comp=Z,2.4nm,0.8s,baz=296,slow=1.8,SNR=4.7
ARU **Arti** 144.31 46 PKP PKPdf 12 43 26.8 -1.4
comp=Z,1.4nm,0.3s,baz=297,slow=4.6,SNR=6.0
ABKAR **Akbulak array** 145.25 59 ePKPdf PKPbc 12 43 28.7 -1.1
ABKAR ePKPbc PKPdf 12 43 29.7 -0.4
SEY **Seymchan** 145.46 326 PKPbc PKPbc 12 43 29.2 -0.8
comp=Z,3.2nm,1.0s,baz=31,slow=8.7,SNR=5.4
TIXI **Tiksi** 146.94 348 ePKPbc PKPab 12 43 34.7 -1.0
BVAR **Borovoye Array** 151.58 51 PKP PKPdf 12 43 42.4 +2.1
comp=Z,1.1nm,0.8s,baz=298,slow=4.2,SNR=5.6
BVAR PKPbc PKiKP 12 43 48.2 +1.2
comp=Z,1.9nm,0.9s,baz=316,slow=4.1,SNR=6.6
MKAR **Makanchi Array** 160.31 62 PKP PKPdf 12 43 53.4 +1.3
comp=Z,0.2nm,0.3s,baz=228,slow=1.5,SNR=5.6

*IDC **04** 12:25:11.6±2.3, 35°.27N×141°.44E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.4/55, mbtmp3.6/6, ML3.3/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/49, Error ellipse: s-maj=64.1km s-min=22.1km az=66.0*
*ISCJB **04** 12:25:13.3±1.0, 35°.21N±0°.04×141°.51E±0°.08, h27km, mb3.7/4, Error ellipse: s-maj=9.6km s-min=6.3km az=169.7*
*JMA **04** 12:25:13.7±0.2, 35°.23N×141°.53E, h42km±3km, M3.0*
ISC 04 12:25:15.6±1.3, 35°.22N±0°.05×141°.34E±0°.09, h27km, n22, σ0§70/19, mb3.9/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	0.62	321	P	Pb	12 25 27.3	-0.7
CHOJ				eS	Sn	12 25 38.0	+0.2
BSO1	**Boso 1**	0.64	208	P	Pn	12 25 27.9	-0.5
BSO1				X		12 25 37.7	
BSO3	**Boso 3**	0.80	239	P	Pn	12 25 30.8	-0.1
BSO3				eS	Sn	12 25 42.6	+0.8
BSO4	**Boso 4**	0.86	255	P	Pb	12 25 31.7	-0.1
JCN	**Nagara**	0.95	282	P	Pb	12 25 33.4	-0.1
JYT	**Yasato**	1.37	317	P	Pn	12 25 38.2	-0.8
JIM2	**Oshima 3**	1.65	253	P	Pn	12 25 42.0	-0.8
JOD2	**Odawara 2**	1.85	272	eS	Sb	12 26 10.5	-0.9
JHJ	**Hachijo jima 2**	2.46	212	Pn	Pn	12 25 53.8	-0.2
	24nm,0.3s,baz=329,slow=20,SNR=15						
JHJ				Sn	Sn	12 26 23.2	0.0
	35nm,0.3s,baz=91,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	2.87	298	Pn	Pn	12 26 00.5	+0.9
	2.2nm,0.3s,baz=138,slow=13,SNR=34						
MJAR				LR	LR	12 27 25.6	
	comp=Z,86nm,19.5s,baz=105,slow=47						
MAT	**Matsushiro**	2.87	298	P	Pn	12 26 00.8	+1.2
MAT				eS	Sn	12 26 33.5	+0.3
JNU	**Nakatsue**	8.92	259	LR	LR	12 31 07.7	
	comp=Z,49nm,18.8s,baz=310,slow=40						
H11N2	**WAKE ISLAND Hy**	27.31	118	T	T	12 59 39.1	
	baz=310,slow=76,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	27.32	118	T	T	12 59 33.5	
	baz=310,slow=76,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	27.33	118	T	T	12 59 36.8	
	baz=310,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	27.96	120	T	T	13 00 25.7	
	baz=312,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	27.96	120	T	T	13 00 25.2	
	baz=312,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	27.98	120	T	T	13 00 23.7	
	baz=312,slow=75,SNR=17						
MKAR	**Makanchi Array**	45.05	304	P	P	12 33 28.6	-0.4
	0.3nm,0.4s,baz=87,slow=12,SNR=4.1						
KURBB	**Kurchatov Array**	47.09	309	P	P	12 33 44.9	0.0
	0.5nm,0.4s,baz=85,slow=8.3,SNR=5.8						
WRA	**Warramunga Arr**	55.26	188	P	P	12 34 46.5	0.0
	0.6nm,0.5s,baz=3.0,slow=7.5,SNR=11						
ASAR	**Alice Springs**	58.99	188	P	P	12 35 14.2	+1.3
	0.7nm,0.7s,baz=15,slow=12,SNR=12						

*NEIC **04** 12:26:23.0, 40°.48S×72°.12W, h15km, ML4.3(GUC), After GUC.*
NEIC Felt [III] at Puyehue.
*IDC **04** 12:26:23.5±0.8, 40°.59S×72°.14W, h0km, mb4.4/7, mb1 4.7/8, mb1mx4.3/27, mbtmp4.5/8, ML5.3/1, Error ellipse: s-maj=33.5km s-min=12.4km az=18.0*
*GUC **04** 12:26:23.6±0.4, 40°.48S×72°.12W, h15km±4km, ML4.3*
*ISCJB **04** 12:26:27.4±0.6, 40°.47S±0°.10×72°.10W±0°.09, h33km, mb4.7/14, Error ellipse: s-maj=15.9km s-min=6.5km az=30.1*
ISC 04 12:26:28.9±0.5, 40°.5S±0°.1×72°.03W±0°.09, h35km, n35, σ1§18/40, mb4.7/14, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	1.13	304	eP	Pn	12 26 44.3	-3.9
VLCH				eS	Sn	12 27 00.1	-2.4
VLCH				IAML		12 27 03.5	
	comp=E,15µm,1.1s						
PLCA	**Paso Flores**	1.16	105	Pg	Pn	12 26 47.5	-1.3
	comp=E,361nm,0.3s,baz=305,slow=13,SNR=21						
PLCA				Lg	Lg	12 27 04.2	
	comp=E,318nm,0.3s,baz=187,slow=19,SNR=6.4						
PLCA				LR	LR	12 27 14.1	
	comp=E,634nm,18.1s,baz=306,slow=42						
PLCA	**Paso Flores**	1.16	105	eP	Pn	12 26 46.7	-2.0
PLCA				eS	Sn	12 27 04.1	+0.7
LVC	**Limon Verde**	17.98	9	P	Pn	12 30 35.0	-1.3
	comp=E,9.7nm,0.3s,baz=216,slow=13,SNR=4.1						
LPAZ	**La Paz**	24.31	9	P	P	12 31 44.5	+0.6
	comp=E,6.0nm,0.9s,baz=159,slow=8.0,SNR=8.2						
SIV	**San Ignacio**	26.16	24	P	P	12 31 58.0	-2.0
	comp=E,6.9nm,0.9s,baz=217,slow=9.1,SNR=10.0						
SNAA	**Sanae**	45.67	156	eP	P	12 34 43.8	-2.0
	comp=E,1µm,1.3s						
QSPA	**South Pole Qui**	49.80	180	eP	P	12 35 18.2	+0.2
	comp=E,20nm,0.8s						
TXAR	**Lajitas Array**	75.38	332	P	P	12 38 09.7	+0.9
	comp=E,0.8nm,0.8s,baz=157,slow=8.5,SNR=9.9						
BOSA	**Boshof**	77.13	117	P	P	12 38 18.7	-0.4
	comp=E,5.6nm,0.8s,baz=211,slow=5.6,SNR=9.3						
DBIC	**Dimbokro**	77.32	70	P	P	12 38 21.4	+1.3
	comp=E,6.5nm,0.7s,baz=257,slow=4.7,SNR=5.9						
PFO	**Pinyon Flats O**	84.33	324	P	P	12 39 00.1	+2.9
	comp=E,5.6nm,1.0s,baz=170,slow=4.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	86.43	70	P	P	12 39 07.8	-0.2
	comp=E,1.7nm,0.9s,baz=246,slow=2.9,SNR=6.8						
ECSD	**EROS Data Cent**	86.68	342	eP	P	12 39 08.5	0.0
	comp=E,14nm,1.0s						
NVAR	**Mina Array Bea**	89.18	325	P	P	12 39 23.0	+2.2
	comp=E,1.4nm,0.9s,baz=164,slow=7.6,SNR=5.5						
HWUT	**Hardware Ranch**	89.20	331	eP	P	12 39 22.4	+1.6
	comp=E,12nm,1.1s						
PDAR	**Pinedale Array**	89.51	333	P	P	12 39 23.6	+1.3
	comp=E,2.3nm,1.0s,baz=141,slow=5.0,SNR=11						
IMW	**Indian Meadow**	90.98	333	eP	P	12 39 29.9	+0.7
	comp=E,6.5nm,1.0s						
GERES	**GERESS Array B**	116.59	47	PKP	PKPdf	12 45 07.4	-1.2
	comp=E,0.9nm,0.8s,baz=246,slow=1.0,SNR=3.4						
ILAR	**Eielson Array**	119.89	331	PKP	PKPdf	12 45 14.3	-0.1
	comp=E,0.8nm,0.9s,baz=181,slow=2.2,SNR=7.9						
BRTR	**Keskin Array B**	124.77	65	PKP	PKPdf	12 45 24.6	-0.1
	comp=E,0.7nm,0.8s,baz=238,slow=7.1,SNR=4.6						
AKASG	**Malin Array Be**	126.40	51	PKP	PKPdf	12 45 27.0	-0.2
	comp=E,0.5nm,0.5s,baz=258,slow=2.6,SNR=4.0						
AKTO	**Aktyubinsk**	144.17	57	PKP	PKPbc	12 45 58.9	+0.4
	comp=E,4.5nm,0.9s,baz=282,slow=4.6,SNR=9.1						
PETK	**Petropavlovsk-**	144.39	308	PKP	PKPdf	12 46 00.5	-0.1
	comp=E,5.0nm,0.8s,baz=57,slow=5.5,SNR=6.2						
ARU	**Arti**	144.41	46	PKP	PKPdf	12 45 59.8	-0.6
	comp=E,6.1nm,0.7s,baz=264,slow=3.8,SNR=10.0						
ARU	**Arti**	144.41	46	ePKPdf	PKPbc	12 45 59.7	+0.7
ARU				PKP	PKPdf	12 45 59.8	-0.6
ABKAR	**Akbulak array**	145.34	59	ePKPbc	PKPdf	12 46 02.6	+0.2
SEY	**Seymchan**	145.49	326	PKPbc	PKPdf	12 46 02.1	-0.1
	comp=E,7.9nm,0.9s,baz=21,slow=5.0,SNR=14						
TIXI	**Tiksi**	147.01	348	ePKPdf	PKPdf	12 46 04.5	0.0
MA2	**Magadan**	147.27	320	PKPbc	PKPbc	12 46 07.7	+0.1
	comp=E,9.2nm,0.9s,baz=126,slow=4.7,SNR=4.8						
NRIK	**Noril'sk**	149.09	14	PKPbc	PKPbc	12 46 12.5	+0.4
	comp=E,3.9nm,0.7s,baz=300,slow=1.2,SNR=3.7						
BVAR	**Borovoye Array**	151.68	51	PKP	PKPdf	12 46 13.9	+1.4
	comp=E,2.0nm,0.9s,baz=270,slow=1.5,SNR=9.1						
BVAR				PKPbc	PKiKP	12 46 19.4	+0.1
	comp=E,3.2nm,0.9s,baz=292,slow=4.7,SNR=9.9						
AAK	**Ala-Archa**	154.94	74	ePKPdf	PKPdf	12 46 18.9	+1.1
AAK				ePKPbc	PKiKP	12 46 27.5	+1.0
AAK				ePKPab	PKPab	12 46 42.4	+0.3
MKAR	**Makanchi Array**	160.40	63	PKP	PKPdf	12 46 25.1	+0.8
	comp=E,0.4nm,0.6s,baz=278,slow=3.6,SNR=8.3						
MKAR				PKPab	PKPab	12 47 05.5	0.0
	comp=E,1.4nm,0.9s,baz=292,slow=3.8,SNR=6.0						
MKAR				PP	PP	12 50 47.5	-0.9
	comp=E,0.1nm,0.4s,baz=256,slow=3.6,SNR=4.8						
SONM	**Songino Array**	172.53	8	PKP	PKPdf	12 46 34.0	+0.3
	comp=E,0.2nm,0.3s,baz=162,slow=0.9,SNR=4.1						
SONM				PKPab	PKPab	12 47 59.7	+0.9
	comp=E,0.5nm,0.7s,baz=0.0,slow=4.6,SNR=3.7						

IDC 04 12:26:43.5±37.0, 30°.34S×176°.83W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/34, mbtmp3.7/3, Error ellipse: s-maj=683.3km s-min=186.6km az=97.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	1.44	319	Sn	Sn	12 27 46.9	+16
	337nm,0.3s,baz=65,slow=19,SNR=5.2						
STKA	**Stephens Creek**	35.47	257	P	P	12 33 41.7	-0.1
	0.8nm,0.6s,baz=113,slow=13,SNR=3.3						
ASAR	**Alice Springs**	44.12	266	P	P	12 34 53.5	-0.4
	0.5nm,0.7s,baz=104,slow=7.7,SNR=6.7						
WRA	**Warramunga Arr**	45.10	271	P	P	12 35 01.9	+0.1
	0.5nm,0.4s,baz=111,slow=8.0,SNR=7.9						

GUC 04 12:35:06.9±0.3, 40°.50S×72°.22W, h7km±2km, ML3.5, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	1.05	311	eP	Pb	12 35 27.2	-0.1
VLCH				eS	Sn	12 35 42.6	-0.3
VLCH				IAML		12 35 46.0	
	comp=E,2µm,0.1s						
PLCA	**Paso Flores**	1.29	101	eP	Pg	12 35 31.8	+0.2
PLCA				eS	Sn	12 35 50.5	+1.5

*ISCJB **04** 12:37:47.6±1.4, 37°.3N±0°.1×142°.35E±0°.09, h21km, mb3.3/2, Error ellipse: s-maj=15.2km s-min=9.6km az=160.7*
*JMA **04** 12:37:48.6±0.2, 37°.40N×142°.25E, h12km±3km, M3.4*
*IDC **04** 12:37:50.0±3.5, 36°.76N×142°.48E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/52, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=82.4km s-min=39.9km az=54.0*
ISC 04 12:37:49.0±1.7, 37°.3N±0°.1×142°.2E±0°.1, h21km, n11, σ0§98/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	1.08	276	P	Pb	12 38 09.0	0.0
JFK				eS	Sn	12 38 23.3	0.0
ONAJ	**Iwakimizuishiy**	1.15	262	eS	Sn	12 38 26.0	+0.9
JMM	**Marumori**	1.28	298	P	Pn	12 38 11.5	-0.2
JIO	**Ouri**	1.37	330	P	Pn	12 38 11.8	-1.1
JFT	**Otama**	1.52	280	P	Pb	12 38 16.3	-0.2
JFT				eS	Sb	12 38 35.8	+0.4
JOU	**Okura**	1.65	312	P	Pn	12 38 17.0	+0.2
JMK	**Ichinoseki**	1.86	335	P	Pn	12 38 19.2	-0.4
JYK	**Kaneyama**	2.21	319	P	Pn	12 38 24.9	+0.5
MJAR	**Matsushiro Arr**	3.30	258	Pn	Pb	12 38 44.6	-2.2
	0.5nm,0.3s,baz=86,slow=15,SNR=3.8						
MKAR	**Makanchi Array**	44.54	302	P	P	12 46 06.9	+7.7
	0.1nm,0.3s,baz=88,slow=10,SNR=1.3						
WRA	**Warramunga Arr**	57.39	189	P	P	12 47 36.8	+0.9
	0.6nm,1.1s,baz=6.8,slow=7.1,SNR=1.8						

JMA 04 12:45:53.4±0.3, 35°.22N×141°.41E, h42km±5km, M2.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	0.66	317	P	Pn	12 46 06.1	-0.2
BSO1	**Boso 1**	0.67	212	P	Pn	12 46 06.7	+0.8
BSO3	**Boso 3**	0.85	241	P	Pn	12 46 08.3	-0.3
BSO4	**Boso 4**	0.91	256	P	Pn	12 46 10.4	+0.8
JYT	**Yasato**	1.41	316	S	Sn	12 46 35.3	+1.3
JHO	**Hitachi**	1.55	334	P	Pn	12 46 19.4	+0.9

IDC 04 12:46:07.1±4.5, 36°.28N×140°.44E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.1/62, mbtmp3.3/2, Error ellipse: s-maj=99.5km s-min=35.1km az=39.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	1.82	279	Pn	Pn	12 46 39.5	-0.2
	0.3nm,0.3s,baz=93,slow=13,SNR=4.9						
WRA	**Warramunga Arr**	56.21	187	P	P	12 55 47.5	-1.5
	0.3nm,0.6s,baz=2.1,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	59.94	187	P	P	12 56 16.3	+1.1
	0.2nm,0.7s,baz=16,slow=12,SNR=5.9						

*ISCJB **04** 12:47:14.8±0.6, 38°.95N±0°.02×27°.94E±0°.03, h1km±5km, Error ellipse: s-maj=4.4km s-min=3.2km az=146.5*
*ISK **04** 12:47:14.7, 38°.93N×27°.94E, h7km, MD2.9*
*CSEM **04** 12:47:15.2±0.1, 38°.92N×27°.94E, h8km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.6km az=138.0*
*DDA **04** 12:47:15.0, 38°.92N×27°.96E, h7km, Md2.9*
ISC 04 12:47:15.2±0.9, 38°.93N±0°.02×27°.94E±0°.02, h7km±7km, n52, σ0§64/69, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	0.12	242	ePG	Pg	12 47 17.3	-0.4
AKS				eSG	Sg	12 47 19.6	+0.3
AKS	**Akhisar**	0.12	242	ePg	Pg	12 47 17.3	-0.4
AKS				eSg	Sg	12 47 19.7	+0.3
DEMI	**Demirci**	0.61	79	P	Pg	12 47 27.0	0.0
DEMI				S	Sg	12 47 35.2	+0.3
DEMI	**Demirci**	0.61	79	*i* P	Pg	12 47 27.0	0.0
DEMI				*i* S	Sg	12 47 35.2	+0.3
BALB	**Balikesir**	0.71	356	ePG	Pg	12 47 29.2	+0.5
BALB				eSG	Sg	12 47 38.5	+0.5
BALB	**Balikesir**	0.71	356	ePg	Pg	12 47 29.3	+0.5
BALB				eSg	Sg	12 47 38.5	+0.5
IZM	**Izmir**	0.76	225	ePG	Pg	12 47 29.4	-0.3
IZM				eSG	Sb	12 47 40.2	-1.0
IZM	**Izmir**	0.76	225	ePg	Pg	12 47 29.4	-0.3
IZM				eSg	Sb	12 47 40.2	-1.0
DKL	**Dikili**	0.82	280	ePG	Pg	12 47 31.0	+0.1
DKL	**Dikili**	0.82	280	ePg	Pg	12 47 31.0	+0.1
DST	**Dursunbey**	0.85	38	ePG	Pb	12 47 32.0	-0.3
DST	**Dursunbey**	0.85	38	ePg	Pb	12 47 32.1	-0.3
AYDB	**Zeytinkoy-Aydi**	0.98	182	ePG	Pg	12 47 33.8	-0.3
AYDB	**Zeytinkoy-Aydi**	0.98	182	ePg	Pg	12 47 33.8	-0.3
AYVA	**Ayvalik**	1.04	291	P	Pb	12 47 35.8	+0.2
AYVA				S	Sb	12 47 49.6	+0.1
AYVA	**Ayvalik**	1.04	291	*i* P	Pb	12 47 35.8	+0.2
AYVA				*i* S	Sb	12 47 49.6	+0.1
GONE	**Gonen-Balikesi**	1.13	350	ePN	Pg	12 47 36.8	-0.1
GONE	**Gonen-Balikesi**	1.13	350	ePn	Pg	12 47 36.8	-0.1
URLA	**Izmir**	1.20	242	P	Pg	12 47 37.2	-1.0
URLA				S	Sn	12 47 55.3	+0.3
URLA	**Izmir**	1.20	242	*i* P	Pg	12 47 37.2	-1.0
URLA				*i* S	Sn	12 47 55.3	+0.3
GDZ	**Gediz**	1.21	82	*i* P	Pb	12 47 38.4	-0.1
GDZ				*i* S	Sn	12 47 54.8	-0.6
DGB	**˜zmir**	1.21	224	*i* P	Pn	12 47 42.6	+4.1
DGB				*i* S	Sn	12 47 54.5	-0.6
AYDN	**Tasoluk**	1.27	182	P	Pg	12 47 39.2	-0.3
AYDN				S	Sn	12 47 56.3	-0.5
AYDN	**Tasoluk**	1.27	182	*i* P	Pg	12 47 39.2	-0.3
AYDN				*i* S	Sn	12 47 56.3	-0.5
TVSB	**Tavsanli**	1.29	66	ePN	Pg	12 47 39.9	0.0
TVSB	**Tavsanli**	1.29	66	ePn	Pg	12 47 39.9	0.0
ORLT	**Orhaneli**	1.33	33	ePN	Pn	12 47 40.2	-0.1
ORLT	**Orhaneli**	1.33	33	ePn	Pn	12 47 40.2	-0.1
KHAL	**Karahalli**	1.33	114	S	Sn	12 47 58.5	0.0
KHAL	**Karahalli**	1.33	114	*i* P	Pg	12 47 41.1	+0.3
KHAL				*i* S	Sn	12 47 58.5	0.0
KCTX	**Karacabey (Bur**	1.37	13	ePN	Pb	12 47 41.0	-0.2
KCTX	**Karacabey (Bur**	1.37	13	ePn	Pb	12 47 41.0	-0.2
KHL	**Karahalli**	1.38	116	ePN	Pb	12 47 41.1	-0.3
KHL	**Karahalli**	1.38	116	ePn	Pb	12 47 41.1	-0.3
EDC	**Edincik**	1.41	357	ePN	Pn	12 47 41.5	+0.1
EDC	**Edincik**	1.41	357	ePn	Pn	12 47 41.5	+0.1
CHOS	**Chios island**	1.58	250	ePN	Pb	12 47 44.1	-0.6
CHOS	**Chios island**	1.58	250	ePn	Pb	12 47 44.1	-0.6
MDNY	**Mudanya-Bursa**	1.61	27	ePN	Pn	12 47 44.1	+0.1
MDNY	**Mudanya-Bursa**	1.61	27	ePn	Pn	12 47 44.1	+0.1
SIGR	**SIGRI**	1.65	280	ePN	Pn	12 47 44.7	+0.1
SIGR	**SIGRI**	1.65	280	ePn	Pn	12 47 44.7	+0.1
ARMT	**Armutlu**	1.78	23	ePN	Pn	12 47 46.0	-0.4
ARMT	**Armutlu**	1.78	23	ePn	Pn	12 47 46.0	-0.4
IZI	**Iznik**	1.83	40	ePN	Pn	12 47 47.4	+0.2
IZI	**Iznik**	1.83	40	ePn	Pn	12 47 47.4	+0.2
RKY	**Sarkoy-Tekirda**	1.85	342	ePN	Pn	12 47 47.6	+0.2
RKY	**Sarkoy-Tekirda**	1.85	342	ePn	Pn	12 47 47.6	+0.2
GELI	**Tayfur-Gelibol**	1.85	323	ePN	Pn	12 47 47.6	+0.2
GELI	**Tayfur-Gelibol**	1.85	323	ePn	Pn	12 47 47.6	+0.2
CAVI	**Cavuskoy**	1.94	49	ePN	Pn	12 47 48.9	+0.3
CAVI	**Cavuskoy**	1.94	49	ePn	Pn	12 47 48.9	+0.3

*NEIC **04** 12:51:57.0, 40°.46S×72°.09W, h11km, ML4.3(GUC), After GUC.*
*IDC **04** 12:51:57.7±1.0, 40°.34S×72°.05W, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/27, mbtmp4.1/9, ML5.2/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/26, Error ellipse: s-maj=35.4km s-min=11.7km az=29.0*
*GUC **04** 12:51:58.1±0.5, 40°.47S×72°.09W, h13km±7km, ML4.3*
*ISCJB **04** 12:52:01.4±0.8, 40°.3S±0°.1×72°.0W±0°.1, h33km, mb4.1/9, MS3.2/2, Error ellipse: s-maj=21.0km s-min=6.5km az=26.2*
ISC 04 12:52:02.5±0.9, 40°.4S±0°.2×72°.0W±0°.1, h35km, n21, σ1§03/21, mb4.0/9, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	1.07	300	eP	Pn	12 52 19.0	-2.1
VLCH				*i* S	Sn	12 52 34.8	0.0
VLCH				IAML		12 52 42.1	
	comp=N,11µm,1.0s						
PLCA	**Paso Flores**	1.20	109	Pg	Pn	12 52 21.3	-1.5
	comp=N,74nm,0.3s,baz=305,slow=13,SNR=20						
PLCA				Lg	Lg	12 52 38.0	
	comp=N,217nm,0.3s,baz=60,slow=10,SNR=13						
PLCA	**Paso Flores**	1.20	109	*i* P	Pn	12 52 21.0	-1.8
PLCA				*i* S	Sn	12 52 38.0	+0.2
PSCH	**Puerto Saavedr**	1.87	325	IAML

SFI	**Santa Sofia**	**0.11 291**	Pg	Pg	12 54 03.2	+0.4
SFI			Sg	Sg	12 54 05.4	+0.6
	32nm,0.2s					
T0502	**Localit˜ San**	**0.11 72**	Pg	Pg	12 54 03.3	+0.5
T0502			Sg	Sg	12 54 05.5	+0.6
	1116µm,50.0s					
PARC	**Parchiule**	**0.28 140**	Pg	Pb	12 54 06.7	-0.5
VMG	**Vicchio**	**0.34 287**	Pg	Pg	12 54 07.3	+0.6
VMG			Sg	Sb	12 54 12.5	-1.0

*CSEM **04** 12:54:04.0, 43˚.89N×11˚.99E, h9km, MD1.8/5*
ROM 04 12:54:04.0±0.1, **43˚.89N**×**11˚.99E, h9**km, **Md1.8**/5, **Ml1.3**/2,
Error ellipse: s-maj=1.2km s-min=0.6km az=16.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**279**	Pg	Pg	12 54 07.2	+0.6
SFI				Sg	Sg	12 54 08.8	+0.4
	32nm,0.2s						
SFI	**Santa Sofia**	**0.10**	**279**	Pg	Pg	12 54 07.2	+0.6
SFI				Sg	Sg	12 54 08.8	+0.4
	32nm,0.2s						
T0502	**Localit˜ San**	**0.11**	**83**	Pg	Pg	12 54 06.9	+0.3
T0502				Sg	Sg	12 54 09.2	+0.7
	1116µm,50.0s						
CRE	**Caprese Michel**	**0.27**	**186**	Pg	Pb	12 54 10.4	-0.7
CRE				Sg	Sb	12 54 14.9	-0.9
CRE	**Caprese Michel**	**0.27**	**186**	Pg	Pb	12 54 10.4	-0.7
CRE				Sg	Sb	12 54 14.9	-0.9
PARC	**Parchiule**	**0.30**	**143**	Pg	Pb	12 54 10.8	-0.8
PARC				Sg	Sb	12 54 15.7	-0.9
PARC	**Parchiule**	**0.30**	**143**	Pg	Pb	12 54 10.8	-0.8
PARC				Sg	Sb	12 54 15.7	-0.9
PARC	**Parchiule**	**0.30**	**143**	Pg	Pb	12 54 10.8	-0.8
VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	12 54 11.2	+0.6
VMG				Sg	Sb	12 54 16.8	-0.7
VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	12 54 11.2	+0.6
VMG				Sg	Sb	12 54 16.8	-0.7

*IDC **04** 12:54:59.5±1.7, 35˚.28N×141˚.46E, h0km, mb3.7/3, mb1 3.6/6, mb1mx3.4/56, mbtmp3.6/6, ML3.3/3, MS2.8/3, Ms1 2.8/3, ms1mx2.3/46, Error ellipse: s-maj=45.7km s-min=22.4km az=75.0*
*ISCJB **04** 12:55:01.2±1.2, 35˚.21N±0˚.05×141˚.5E±0˚.1, h25km, mb3.8/3, MS3.3/1, Error ellipse: s-maj=13.1km s-min=6.5km az=164.7*
*JMA **04** 12:55:02.2±0.2, 35˚.23N×141˚.45E, h38km±3km, M3.0*
ISC 04 12:55:02.4±1.4, **35˚.27N**±0˚.06×**141˚.5E**±0˚.1, **h25**km, **n16,**
σ1s03/17, mb3.9/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.65**	**312**	P	**Pn**	**12 55 15.1**	**-0.8**
CHOJ				S	**Sn**	**12 55 25.5**	**+0.2**
BSO1	**Boso 1**	**0.72**	**212**	P	**Pn**	**12 55 15.5**	**-1.0**
BSO1				*eX*		12 55 27.3	
BSO3	**Boso 3**	**0.90**	**239**	P	**Pn**	**12 55 18.5**	**-0.6**
KTR	**Katsuura**	**0.93**	**263**	P	**Pb**	**12 55 19.1**	**-0.8**
BSO4	**Boso 4**	**0.95**	**253**	P	**Pb**	**12 55 19.3**	**-0.8**
JCN	**Nagara**	**1.03**	**279**	P	**Pb**	**12 55 21.1**	**-0.4**
JYT	**Yasato**	**1.40**	**314**	P	**Pb**	**12 55 26.5**	**-1.2**
JHJ	**Hachijo jima 2**	**2.55**	**213**	Pn	**Pn**	**12 55 41.8**	**-0.4**
	18nm,0.3s,baz=77,slow=22,SNR=15						
JHJ				Sn	**Sn**	**12 56 11.2**	**-1.1**
	37nm,0.3s,baz=283,slow=23,SNR=9.0						
MJAR	**Matsushiro Arr**	**2.92**	**297**	Pn	**Pn**	**12 55 48.1**	**+0.9**
	1.7nm,0.3s,baz=59,slow=13,SNR=23						
MJAR				LR	LR	12 57 11.7	
	comp=Z,80nm,18.4s,baz=115,slow=46						
MAT	**Matsushiro**	**2.92**	**297**	P	**Pn**	**12 55 48.8**	**+1.6**
MAT				*eS*	**Sn**	**12 56 21.8**	**+0.3**
ASAJ	**Asahikawa**	**8.88**	**5**	Pn	**Pn**	**12 57 08.0**	**-1.0**
	0.4nm,0.3s,baz=193,slow=8.3,SNR=6.2						
JNU	**Nakatsue**	**9.01**	**259**	LR	LR	13 00 29.4	
	comp=Z,31nm,20.1s,baz=134,slow=37						
MKAR	**Makanchi Array**	**45.09**	**304**	P	**P**	**13 03 16.9**	**+0.5**
	0.4nm,0.5s,baz=67,slow=9.1,SNR=4.1						
WRA	**Warramunga Arr**	**55.32**	**188**	P	**P**	**13 04 34.0**	**0.0**
	0.7nm,0.4s,baz=0.9,slow=7.5,SNR=22						
ASAR	**Alice Springs**	**59.05**	**188**	P	**P**	**13 05 02.2**	**+1.9**
	0.5nm,0.5s,baz=16,slow=12,SNR=25						
ARCES	**ARCESS Array B**	**65.65**	**340**	LR	LR	13 36 08.7	
	comp=Z,21nm,20.8s,baz=246,slow=38						

*NEIC **04** 12:56:43.0, 40˚.54S×72˚.32W, h2km, ML3.6(GUC), After GUC.*
NEIC Felt [IV] at Lago Ranco.
*IDC **04** 12:56:44.0±2.7, 40˚.87S×72˚.35W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/25, mbtmp3.8/4, ML5.4/1, Error ellipse: s-maj=58.2km s-min=17.7km az=10.0*
*GUC **04** 12:56:43.0±0.4, 40˚.54S×72˚.32W, h2km±1km, ML3.6*
*ISCJB **04** 12:56:47.1±2.0, 40˚.7S±0˚.2×72˚.5W±0˚.2, h33km, mb3.5/3, Error ellipse: s-maj=36.5km s-min=10.5km az=22.4*
ISC 04 12:56:48.8±2.3, **40˚.7S**±0˚.3×**72˚.5W**±0˚.2, **h35**km, **n7,** σ2s71/8,
mb3.6/3, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.06**	**324**	*eP*	**Pn**	**12 57 03.6**	**-3.5**
VLCH				IAML		12 57 25.0	
	comp=N,3µm,0.5s						
PLCA	**Paso Flores**	**1.44**	**93**	Pg	**Pn**	**12 57 10.2**	**-2.3**
	comp=N,145nm,0.3s,baz=317,slow=15,SNR=32						
PLCA				Lg	Lg	12 57 28.1	
	comp=N,44nm,0.3s,baz=224,slow=20,SNR=5.7						
PLCA	**Paso Flores**	**1.44**	**93**	*eP*	**Pn**	**12 57 09.5**	**-2.9**
PLCA				*eS*	**Sn**	**12 57 30.3**	**0.0**
LVC	**Limon Verde**	**18.25**	**10**	P	**Pn**	**13 01 00.1**	**+0.5**
	comp=N,11nm,0.3s,baz=202,slow=12,SNR=3.9						
LPAZ	**La Paz**	**24.58**	**10**	P	**P**	**13 02 08.6**	**+2.3**
	comp=N,1.8nm,0.9s,baz=170,slow=9.7,SNR=4.9						
TXAR	**Lajitas Array**	**75.43**	**332**	P	**P**	**13 08 31.2**	**+2.2**
	comp=N,0.2nm,0.8s,baz=146,slow=9.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**86.81**	**70**	P	**P**	**13 09 29.7**	**0.0**
	comp=N,0.4nm,0.8s,baz=212,slow=5.1,SNR=2.5						

*IDC **04** 13:05:01.9±1.9, 40˚.54S×72˚.19W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/25, mbtmp4.1/6, MS3.8/1, Ms1 3.8/1, ms1mx2.8/26, Error ellipse: s-maj=45.7km s-min=14.7km az=23.0*
*ISCJB **04** 13:05:05.0±2.0, 40˚.6S±0˚.2×72˚.2W±0˚.3, h33km, mb3.8/5, Error ellipse: s-maj=38.8km s-min=18.4km az=135.2*
ISC 04 13:05:07.3±2.0, **40˚.5S**±0˚.3×**72˚.0W**±0˚.2, **h35**km, **n8,** σ0s44/8,
mb3.8/5, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**1.11**	**100**	Pg	**Pn**	**13 05 26.3**	**-0.1**
	45nm,0.3s,baz=315,slow=12,SNR=5.9						
PLCA				Lg	Lg	13 05 43.5	
	90nm,0.3s,baz=58,slow=10,SNR=7.9						
PLCA				LR	LR	13 06 04.4	
	comp=Z,135nm,20.9s,baz=287,slow=49						
LVC	**Limon Verde**	**18.07**	**9**	P	**P**	**13 09 16.6**	**+0.6**
	baz=213,slow=11,SNR=6.8						
LVC				LR	LR	13 17 03.4	
	comp=Z,308nm,21.3s,baz=206,slow=40						
LPAZ	**La Paz**	**24.40**	**9**	P	**P**	**13 10 22.5**	**-0.6**
	1.9nm,0.8s,baz=172,slow=9.0,SNR=5.5						
SIV	**San Ignacio**	**26.24**	**24**	P	**P**	**13 10 38.7**	**-0.5**
	2.3nm,0.8s,baz=212,slow=6.7,SNR=4.5						
TXAR	**Lajitas Array**	**75.48**	**332**	P	**P**	**13 16 47.6**	**-0.2**
	0.3nm,0.8s,baz=172,slow=9.0,SNR=5.1						
DBIC	**Dimbokro**	**77.33**	**70**	P	**P**	**13 16 58.7**	**+0.2**
	5.7nm,0.9s,baz=198,slow=2.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**86.44**	**70**	P	**P**	**13 17 46.6**	**+0.2**
	0.5nm,0.9s,baz=250,slow=4.2,SNR=3.5						
SEY	**Seymchan**	**145.59**	**326**	PKPbc	**PKPab**	**13 24 41.4**	**+0.1**
	2.0nm,0.8s,baz=180,slow=3.0,SNR=5.6						

*DDA **04** 13:07:19.6, 37˚.23N×28˚.21E, h7km, Md2.6*
*ISK **04** 13:07:19.3, 37˚.24N×28˚.18E, h5km, MD2.6*
*CSEM **04** 13:07:19.9±0.2, 37˚.26N×28˚.19E, h2km, MD2.6, Error ellipse: s-maj=5.4km s-min=3.2km az=38.0*
ISC 04 13:07:19.6±1.0, **37˚.23N**±0˚.04×**28˚.19E**±0˚.03, **h8**km±9km,
n17, σ0s42/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**142**	*e*PG	**Pg**	**13 07 21.9**	**-0.4**
YER				*e*SG	**Sg**	**13 07 24.7**	**+0.5**
YER	**Yerkesik**	**0.12**	**142**	*e*Pg	**Pg**	**13 07 21.9**	**-0.4**
YER				*e*Sg	**Sg**	**13 07 24.7**	**+0.5**
TURN	**Turunc**	**0.49**	**137**	*i* P	**Pg**	**13 07 28.6**	**-0.4**
TURN				*i* S	**Sg**	**13 07 35.7**	**+0.4**
AYDN	**Tasoluk**	**0.50**	**330**	P	**Pg**	**13 07 29.5**	**+0.3**
AYDN				S	**Sg**	**13 07 35.1**	**-0.7**
AYDN	**Tasoluk**	**0.50**	**330**	*i* P	**Pg**	**13 07 29.5**	**+0.3**
AYDN				*i* S	**Sg**	**13 07 35.1**	**-0.7**
DALY	**Dalyan (Mu˜la**	**0.55**	**138**	*e*PG	**Pb**	**13 07 31.2**	**-0.3**
DALY				*e*SG	**Sb**	**13 07 39.3**	**-0.3**
DALY	**Dalyan (Mu˜la**	**0.55**	**138**	*e*Pg	**Pb**	**13 07 31.2**	**-0.3**
DALY				*e*Sg	**Sb**	**13 07 39.3**	**-0.3**
BDRM	**Kayabasi**	**0.62**	**255**	P	**Pg**	**13 07 31.5**	**0.0**
BDRM				S	**Sb**	**13 07 41.6**	**+0.1**
BDRM	**Kayabasi**	**0.62**	**255**	*i* P	**Pg**	**13 07 31.5**	**0.0**
BDRM				*i* S	**Sb**	**13 07 41.6**	**+0.1**
BODT	**Bodrum**	**0.72**	**257**	*e*PG	**Pg**	**13 07 33.2**	**-0.3**
BODT				*e*SG	**Sb**	**13 07 44.5**	**0.0**
BODT	**Bodrum**	**0.72**	**257**	*e*Pg	**Pg**	**13 07 33.2**	**-0.3**
BODT				*e*Sg	**Sb**	**13 07 44.5**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**342**	*e*PG	**Pg**	**13 07 33.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**342**	*e*Pg	**Pg**	**13 07 33.9**	**-0.2**
FETY	**Fethiye**	**0.93**	**129**	*e*PG	**Pb**	**13 07 38.6**	**+0.6**
FETY	**Fethiye**	**0.93**	**129**	*e*Pg	**Pb**	**13 07 38.6**	**+0.6**
ELL	**Elmali**	**1.46**	**109**	*e*PN	**Pb**	**13 07 47.5**	**+0.4**
ELL	**Elmali**	**1.46**	**109**	*e*Pn	**Pb**	**13 07 47.5**	**+0.4**

*ISK **04** 13:11:44.4, 38˚.87N×27˚.88E, h5km, MD2.7*
*CSEM **04** 13:11:45.6±0.2, 38˚.88N×27˚.85E, h2km, MD2.7, Error ellipse: s-maj=6.5km s-min=5.3km az=53.0*
*DDA **04** 13:11:45.7, 38˚.88N×27˚.82E, h7km, Md2.6*
ISC 04 13:11:44.4±0.9, **38˚.87N**±0˚.03×**27˚.87E**±0˚.03, **h4**km±6km,
n16, σ0s80/25, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.04**	**283**	*e*PG	**Pg**	**13 11 45.4**	**-0.1**
AKS				*e*SG	**Sg**	**13 11 46.4**	**+0.1**
AKS	**Akhisar**	**0.04**	**283**	*e*Pg	**Pg**	**13 11 45.4**	**-0.1**
AKS				*e*Sg	**Sg**	**13 11 46.4**	**+0.1**
DEMI	**Demirci**	**0.69**	**75**	S	**Sn**	**13 12 10.1**	**-2.0**
DEMI	**Demirci**	**0.69**	**75**	*i* P	**Pb**	**13 11 59.6**	**+0.6**
DEMI				*i* S	**Sn**	**13 12 10.1**	**-2.0**
KULA	**Kula-Manisa**	**0.72**	**119**	*e*PG	**Pb**	**13 11 59.3**	**-0.2**
KULA				*e*SG	**Sb**	**13 12 10.0**	**+0.3**
KULA	**Kula-Manisa**	**0.72**	**119**	*e*Pg	**Pb**	**13 11 59.3**	**-0.2**
KULA				*e*Sg	**Sb**	**13 12 10.0**	**+0.3**
BALY	**Balya**	**0.89**	**348**	P	**Pb**	**13 12 02.4**	**0.0**
BALY				S	**Sb**	**13 12 15.5**	**+0.8**
BALY	**Balya**	**0.89**	**348**	*i* P	**Pb**	**13 12 02.4**	**0.0**
BALY				*i* S	**Sb**	**13 12 15.5**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.92**	**179**	*e*PG	**Pb**	**13 12 03.2**	**+0.3**
AYDB				*e*SG	**Sn**	**13 12 17.1**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.92**	**179**	*e*Pg	**Pb**	**13 12 03.3**	**+0.3**
AYDB				*e*Sg	**Sn**	**13 12 17.2**	**-0.8**
TVSB	**Tavsanli**	**1.37**	**64**	*e*PN	**Pg**	**13 12 11.5**	**+0.8**
TVSB	**Tavsanli**	**1.37**	**64**	*e*Pn	**Pg**	**13 12 11.5**	**+0.8**
CHOS	**Chios island**	**1.50**	**252**	*e*PN	**Pg**	**13 12 13.8**	**+0.7**
CHOS	**Chios island**	**1.50**	**252**	*e*Pn	**Pg**	**13 12 13.8**	**+0.7**
SIGR	**SIGRI**	**1.60**	**283**	*e*PN	**Pg**	**13 12 15.2**	**+0.1**
SIGR	**SIGRI**	**1.60**	**283**	*e*Pn	**Pg**	**13 12 15.2**	**+0.1**

*CSEM **04** 13:12:00.3, 43˚.87N×11˚.99E, h11km±1km, ML1.2/7*
ROM 04 13:12:00.3±0.1, **43˚.87N**×**11˚.99E, h11**km±1km, **Ml1.2**/7,
Error ellipse: s-maj=1.9km s-min=1.1km az=6.0, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**287**	Pg	Pg	13 12 03.5	+0.4
SFI				Sg	Sg	13 12 05.6	+0.5
SFI	**Santa Sofia**	**0.10**	**287**	Pg	Pg	13 12 03.5	+0.4
SFI				Sg	Sg	13 12 05.6	+0.5
T0502	**Localit˜ San**	**0.11**	**76**	Pg	Pg	13 12 03.7	+0.5
T0502				Sg	Sg	13 12 05.9	+0.6
ASQU	**Asqua**	**0.16**	**242**	Pg	Pb	13 12 04.8	-0.6
ASQU	**Asqua**	**0.16**	**242**	Pg	Pb	13 12 04.8	-0.6
CPGN	**Carpegna, Ital**	**0.25**	**107**	Pg	Pb	13 12 06.5	-0.5
CPGN	**Carpegna, Ital**	**0.25**	**107**	Pg	Pb	13 12 06.5	-0.5
CRE	**Caprese Michel**	**0.26**	**186**	Pg	Pb	13 12 06.6	-0.4
CRE	**Caprese Michel**	**0.26**	**186**	Pg	Pb	13 12 06.6	-0.4
PARC	**Parchiule**	**0.29**	**141**	Pg	Pb	13 12 07.1	-0.5
PARC				Sg	Sb	13 12 12.2	-0.2
PARC	**Parchiule**	**0.29**	**141**	Pg	Pb	13 12 07.1	-0.5
PARC				Sg	Sb	13 12 12.2	-0.2
VMG	**Vicchio**	**0.33**	**285**	Pg	Pb	13 12 07.9	-0.4
VMG				Sg	Sb	13 12 12.7	-0.9
	41nm,0.1s						
VMG	**Vicchio**	**0.33**	**285**	Pg	Pb	13 12 07.9	-0.4
VMG				Sg	Sb	13 12 12.7	-0.9
	41nm,0.1s						
BADI	**Badiali**	**0.41**	**153**	Pg	Pg	13 12 08.2	-0.2
BADI				Sg	Sb	13 12 14.9	-0.9
	50nm,0.2s						
BADI	**Badiali**	**0.41**	**153**	Pg	Pg	13 12 08.2	-0.2
BADI				Sg	Sb	13 12 14.9	-0.9
	50nm,0.2s						
SEI	**Scarperia**	**0.49**	**292**	Pg	Pg	13 12 09.7	-0.2
	77nm,0.2s						
SEI	**Scarperia**	**0.49**	**292**	Pg	Pg	13 12 09.7	-0.2
	77nm,0.2s						
ATPC	**Poggio Castell**	**0.52**	**139**	Pg	Pg	13 12 10.9	+0.4
ATPC				Sg	Sg	13 12 17.7	+0.4
	16nm,0.2s						
ATPC	**Poggio Castell**	**0.52**	**139**	Pg	Pg	13 12 10.9	+0.4
ATPC				Sg	Sg	13 12 17.7	+0.4
	16nm,0.2s						
CAFI	**Castiglion Fio**	**0.55**	**182**	Pg	Pb	13 12 11.8	-0.1
CAFI				Sg	Sg	13 12 18.9	+0.8
	19nm,0.6s						
CAFI	**Castiglion Fio**	**0.55**	**182**	Pg	Pb	13 12 11.8	-0.1
CAFI				Sg	Sg	13 12 18.9	+0.8
	19nm,0.6s						
ATVO	**AVT- Monte Val**	**0.58**	**148**	Pg	Pg	13 12 11.8	+0.2
ATVO				Sg	Sb	13 12 20.3	-0.4
	22nm,0.3s						
ATVO	**AVT- Monte Val**	**0.58**	**148**	Pg	Pg	13 12 11.8	+0.2
ATVO				Sg	Sb	13 12 20.3	-0.4
	22nm,0.3s						

*CSEM **04** 13:12:03.8, 43˚.88N×11˚.99E, h9km, MD2.2/10*
ROM 04 13:12:03.8±0.1, **43˚.88N**×**11˚.99E, h9**km, **Md2.2**/10, **Ml1.5**/6,
Error ellipse: s-maj=1.2km s-min=0.7km az=3.7, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**283**	Pg	Pg	13 12 06.8	+0.4
SFI				Sg	Sg	13 12 08.9	+0.7
SFI	**Santa Sofia**	**0.10**	**283**	Pg	Pg	13 12 06.8	+0.4
SFI				Sg	Sg	13 12 08.9	+0.7
T0502	**Localit˜ San**	**0.11**	**80**	Pg	Pg	13 12 06.9	+0.4
T0502				Sg	Sg	13 12 09.1	+0.8
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	13 12 07.9	+0.5
ASQU				Sg	Sg	13 12 11.1	+1.2
	138nm,0.2s						
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	13 12 07.9	+0.5
ASQU				Sg	Sg	13 12 11.1	+1.2
	138nm,0.2s						
ASQU	**Asqua**	**0.17**	**239**	Sg	Pg	13 12 07.8	+0.4
	138nm,0.2s						
ASQU	**Asqua**	**0.17**	**239**	Sg	Pg	13 12 07.8	+0.4
	138nm,0.2s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	13 12 10.3	-0.4
	51nm,0.4s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	13 12 10.3	-0.4
	51nm,0.4s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Sg	Pb	13 12 10.2	-0.5
	51nm,0.4s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Sg	Pb	13 12 10.2	-0.5
	51nm,0.4s						
CRE	**Caprese Michel**	**0.26**	**186**	Pg	Pg	13 12 09.8	+0.7
CRE				Sg	Sb	13 12 14.7	-0.7
	85nm,0.2s						

CRE	**Caprese Michel**	**0.26 186**	Pg	Pg	13 12 09.8	+0.7
CRE			Sg	Sb	13 12 14.7	-0.7
	85nm,0.2s					
CRE	**Caprese Michel**	**0.26 186**	Sg	Pg	13 12 09.8	+0.7
	85nm,0.2s					
CRE	**Caprese Michel**	**0.26 186**	Sg	Pg	13 12 09.8	+0.7
	85nm,0.2s					
PARC	**Parchiule**	**0.30 142**	Pg	Pg	13 12 10.2	+0.5
PARC			Sg	Sb	13 12 15.6	-0.7
PARC	**Parchiule**	**0.30 142**	Pg	Pg	13 12 10.2	+0.5
PARC			Sg	Sb	13 12 15.6	-0.7
VMG	**Vicchio**	**0.33 284**	Pg	Pg	13 12 11.1	+0.7
VMG			Sg	Sb	13 12 16.8	-0.5
	41nm,0.1s					
VMG	**Vicchio**	**0.33 284**	Pg	Pg	13 12 11.1	+0.7
VMG			Sg	Sb	13 12 16.8	-0.5
	41nm,0.1s					
BADI	**Badiali**	**0.42 153**	Pg	Pg	13 12 12.4	+0.5
BADI			Sg	Sb	13 12 19.6	-0.1
	50nm,0.2s					
BADI	**Badiali**	**0.42 153**	Pg	Pg	13 12 12.4	+0.5
BADI			Sg	Sb	13 12 19.6	-0.1
	50nm,0.2s					
SEI	**Scarperia**	**0.49 291**	Pg	Pg	13 12 13.7	+0.4
	77nm,0.2s					
SEI	**Scarperia**	**0.49 291**	Pg	Pg	13 12 13.7	+0.4
	77nm,0.2s					
ATPC	**Poggio Castell**	**0.53 139**	Pg	Pg	13 12 14.3	+0.3
	16nm,0.2s					
ATPC	**Poggio Castell**	**0.53 139**	Pg	Pg	13 12 14.3	+0.3
	16nm,0.2s					
ATVO	**AVT- Monte Val**	**0.58 148**	Pg	Pg	13 12 15.5	+0.4
	22nm,0.3s					
ATVO	**AVT- Monte Val**	**0.58 148**	Pg	Pg	13 12 15.5	+0.4
	22nm,0.3s					

*IDC **04** 13:17:21.5±1.4, 40˚.68S×72˚.19W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/29, mbtmp3.8/5, ML5.3/1, Error ellipse: s-maj=46.2km s-min=14.0km az=13.0*
*ISCJB **04** 13:17:25.0±1.7, 40˚.7S±0˚.2×72˚.2W±0˚.2, h33km, mb3.6/4, Error ellipse: s-maj=35.2km s-min=19.2km az=33.6*
ISC 04 13:17:27.4±1.3, **40˚.6S**±0˚.2×**72˚.0W**±0˚.2, **h35**km, **n10,**
σ0s85/10, mb3.6/4, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**1.08**	**98**	Pg	**Pn**	**13 17 45.6**	**-0.4**
	136nm,0.3s,baz=313,slow=12,SNR=16						
PLCA				Lg	Lg	13 18 01.9	
	102nm,0.3s,baz=29,slow=18,SNR=7.0						
LVC	**Limon Verde**	**18.11**	**9**	P	**Pn**	**13 21 36.8**	**+0.2**
	9.5nm,0.3s,baz=183,slow=11,SNR=3.6						
LPAZ	**La Paz**	**24.45**	**9**	P	**P**	**13 22 44.2**	**+0.6**
	1.0nm,0.6s,baz=157,slow=7.2,SNR=3.6						
TXAR	**Lajitas Array**	**75.54**	**332**	P	**P**	**13 29 06.8**	**-1.5**
	0.2nm,0.4s,baz=156,slow=4.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**86.43**	**69**	P	**P**	**13 30 06.6**	**+0.2**
	0.2nm,0.5s,baz=240,slow=2.8,SNR=2.7						
PDAR	**Pinedale Array**	**89.67**	**333**	P	**P**	**13 30 21.4**	**-0.2**
	0.2nm,0.4s,baz=139,slow=7.0,SNR=4.5						
BRTR	**Keskin Array B**	**124.78**	**65**	PKP	**PKPdf**	**13 36 23.0**	**-0.2**
	0.6nm,0.8s,baz=216,slow=4.6,SNR=2.9						
SEY	**Seymchan**	**145.64**	**325**	PKPbc	**PKPdf**	**13 37 01.5**	**+0.6**
	2.1nm,0.9s,baz=16,slow=14,SNR=3.7						
TIXI	**Tiksi**	**147.17**	**348**	PKPbc	**PKPdf**	**13 37 04.4**	**+1.2**
	1.0nm,0.3s,baz=359,slow=6.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**157.19**	**54**	PKP	**PKPdf**	**13 37 19.4**	**+0.6**
	0.2nm,0.3s,baz=294,slow=2.1,SNR=4.9						

*IDC **04** 13:20:50.3±0.6, 40˚.47S×72˚.10W, h0km, mb4.5/11, mb1 4.6/13, mb1mx4.4/29, mbtmp4.5/13, ML4.0/1, MS4.3/1, Ms1 4.3/1, ms1mx3.2/22, Error ellipse: s-maj=22.4km s-min=11.8km az=21.0*
*GUC **04** 13:20:51.7±0.4, 40˚.42S×72˚.07W, h13km±4km, ML4.4*
*NEIC **04** 13:20:51.0, 40˚.42S×72˚.06W, h13km, mb4.7/21, ML4.4(GUC), After GUC.*
NEIC Felt [III] at Puyehue.
*ISCJB **04** 13:20:55.5±0.3, 40˚.29S±0˚.06×71˚.80W±0˚.07, h33km, mb4.5/27, Error ellipse: s-maj=9.8km s-min=6.2km az=44.7*
ISC 04 13:20:55.9±0.4, **40˚.36S**±0˚.06×**72˚.01W**±0˚.06, **h35**km, **n111,**
σ1s40/117, mb4.6/27, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.10**	**300**	*i* P	**Pn**	**13 21 11.6**	**-3.1**
VLCH				*i* S	**Sn**	**13 21 27.0**	**-1.7**
VLCH				IAML		13 21 35.5	
	comp=N,19µm,1.1s						
PLCA	**Paso Flores**	**1.17**	**109**	Pg	**Pn**	**13 21 14.4**	**-1.5**
	comp=N,24nm,0.3s,baz=308,slow=12,SNR=5.4						
PLCA				Lg	Lg	13 21 31.1	
	comp=N,313nm,0.3s,baz=19,slow=22,SNR=13						
PLCA	**Paso Flores**	**1.17**	**109**	*i* P	**Pn**	**13 21 13.5**	**-2.4**
PLCA				*i* S	**Sn**	**13 21 30.3**	**-0.5**
PLCA	**Paso Flores**	**1.17**	**109**	*e*Pn	**Pn**	**13 21

X201	Greenbrier Sit	77.58	343	*e*P		P	13 32 48.9	+0.9
	comp=N,7.3nm,1.0s							
MNTX	Cornudas Mount	78.08	331	*e*P		P	13 32 50.8	-0.1
	comp=N,10nm,1.9s							
PBMO	Poplar Bluff	78.61	345	*e*P		P	13 32 53.5	-0.2
	comp=N,5.8nm,0.9s							
TUL1	Leonard	78.99	341	*e*P		P	13 32 56.6	+0.7
LBTB	Lobatse	79.66	114	*e*P		P	13 32 59.9	-0.3
ANMO	Albuquerque	81.38	332	*e*P		P	13 33 10.7	+1.7
T25A	Trinidad	82.66	334	*e*P		P	13 33 17.5	+1.8
KOWA	Kowa	83.29	65	*e*P		P	13 33 19.9	+0.7
SDCO	Great Sand Dun	83.57	334	*e*P		P	13 33 21.9	+1.4
S22A	4UR Ranch, Cre	84.03	333	*e*P		P	13 33 24.6	+1.7
MVCO	Mesa Verde	84.14	331	*e*P		P	13 33 25.4	+2.1
PFO	Pinyon Flats O	84.27	324	*e*P		P	13 33 26.7	+2.7
PV01	Paradox Valley	84.99	332	*e*P		P	13 33 29.6	+2.0
SMCO	Snowmass	85.36	333	*e*P		P	13 33 31.3	+1.6
KNB	Kanab	85.63	328	*e*P		P	13 33 33.0	+2.2
GSC	Goldstone, Bar	85.85	325	*e*P		P	13 33 36.9	+5.1
SHPR	Sheep Range	86.16	326	*e*P		P	13 33 35.6	+2.3
MTPU	Mount Pierson	86.27	329	*e*P		P	13 33 36.0	+1.9
CCUT	Cedar City	86.31	328	*e*P		P	13 33 36.8	+2.6
TORD	Torodi Ar. Bea	86.39	70	P		P	13 33 34.2	-0.6
	comp=N,1.5nm,0.8s,baz=220,slow=4.4,SNR=8.6							
SRU	San Rafael Swe	86.57	331	*e*P		P	13 33 36.9	+1.6
ECSD	EROS Data Cent	86.61	342	*e*P		P	13 33 36.0	+0.8
Q16A	Castle Valley	86.64	330	*e*P		P	13 33 38.0	+2.3
MSU	Marysvale	86.67	330	*e*P		P	13 33 38.0	+2.1
P18A	Preston Nutter	86.92	331	*e*P		P	13 33 38.9	+1.7
TMUT	Trail Mountain	86.99	331	*e*P		P	13 33 39.7	+2.2
SPMN	Marine on St.	87.22	345	*e*P		P	13 33 38.7	+0.6
R11A	Troy Canyon, C	87.90	327	*e*P		P	13 33 44.1	+2.3
DUG	Dugway, Tooele	88.38	330	*e*P		P	13 33 46.1	+2.1
NVAR	Mina Array Bea	89.12	325	P		P	13 33 49.4	+1.8
	comp=N,0.2nm,0.3s,baz=157,slow=4.8,SNR=4.4							
HWUT	Hardware Ranch	89.14	331	*e*P		P	13 33 48.8	+1.2
BW06	Boulder Array	89.44	333	*e*P		P	13 33 49.2	+0.1
PD31	Pinedale Array	89.44	333	*e*P		P	13 33 50.1	+1.1
PDAR	Pinedale Array	89.44	333	P		P	13 33 49.6	+0.6
	comp=N,2.2nm,1.0s,baz=142,slow=5.1,SNR=11							
HVU	Hansel Valley	89.73	331	*e*P		P	13 33 52.3	+2.0
ELK	Elko	89.79	329	*e*P		P	13 33 52.2	+1.5
REDW	Red Top Meadow	90.42	333	*e*P		P	13 33 54.5	+0.9
LOHW	Long Hollow	90.55	333	*e*P		P	13 33 55.6	+1.4
TPAW	Teton Pass	90.56	333	*e*P		P	13 33 55.8	+1.5
IMW	Indian Meadow	90.92	333	*e*P		P	13 33 57.0	+1.1
FLWY	Flagg Ranch	91.00	333	*e*P		P	13 33 57.7	+1.4
RLMT	Red Lodge	91.43	335	*e*P		P	13 33 60.0	+1.7
HLID	Hailey	91.88	331	*e*P		P	13 34 02.5	+2.2
MCMT	McKenzie Canyo	92.40	332	*e*P		P	13 34 04.9	+2.1
DLMT	Dillon	92.77	333	*e*P		P	13 34 07.4	+3.1
WRA	Warramunga Arr	115.18	207	PKP		PKPdf	13 39 33.0	-0.9
	comp=N,0.5nm,1.0s,baz=150,slow=3.5,SNR=3.2							
WRA	Warramunga Arr	115.18	207	PKP		PKPdf	13 39 33.0	-0.9
GERES	GERESS Array B	116.52	47	PKP		PKPdf	13 39 35.4	-0.1
	comp=N,0.5nm,0.6s,baz=343,slow=4.2,SNR=4.0							
ILAR	Eielson Array	119.83	332	PKP		PKPdf	13 39 41.5	+0.3
	comp=N,0.9nm,0.8s,baz=178,slow=2.7,SNR=9.5							
NB2	NORSAR Subarra	121.31	34	PKPdf		PKPdf	13 39 43.5	-0.8
	comp=Z,1.3nm,0.6s,baz=241,slow=1.9							
NOA	NORSAR Array B	121.31	34	PKP		PKPdf	13 39 44.5	+0.1
	comp=Z,1.2nm,0.8s,baz=245,slow=2.3,SNR=3.7							
BRTR	Keskin Array B	124.72	65	PKP		PKPdf	13 39 51.5	-0.1
	comp=Z,1.3nm,0.7s,baz=180,slow=2.2,SNR=8.7							
FINES	FINESS Array B	128.13	37	PKP		PKPdf	13 39 57.9	+0.6
	comp=Z,3.2nm,1.1s,baz=236,slow=2.5,SNR=3.1							
GEYT	Alibeck	141.66	77	PKP		PKPdf	13 40 24.2	+0.8
	comp=Z,1.2nm,0.4s,baz=263,slow=6.0,SNR=3.5							
AKTO	Aktyubinsk	144.12	57	PKP		PKPbc	13 40 25.7	+0.3
	comp=Z,5.5nm,0.8s,baz=251,slow=3.0,SNR=15							
ARU	Arti	144.34	46	PKP		PKPbc	13 40 26.5	+0.6
	comp=Z,6.7nm,0.8s,baz=256,slow=3.0,SNR=11							
PETK	Petropavlovsk-	144.35	308	PKP		PKPab	13 40 25.3	-0.4
	comp=Z,5.0nm,0.9s,baz=78,slow=9.2,SNR=4.8							
SEY	Seymchan	145.43	326	PKPbc		PKPdf	13 40 28.1	-1.0
	comp=Z,9.0nm,0.9s,baz=98,slow=3.4,SNR=21							
HYB	Hyderabad	145.82	123	*i* PKP		PKPdf	13 40 31.0	-0.2
TIXI	Tiksi	146.93	348	PKPbc		PKPdf	13 40 32.0	+0.6
	comp=Z,10nm,0.8s,baz=63,slow=3.5,SNR=19							
MA2	Magadan	147.22	320	PKPbc		PKPbc	13 40 34.8	+0.3
	comp=Z,12nm,1.1s,baz=91,slow=7.7,SNR=5.6							
NRIK	Noril'sk	149.01	14	PKPbc		PKPbc	13 40 38.9	-0.1
	comp=Z,4.6nm,0.7s,baz=271,slow=0.5,SNR=4.0							
BVAR	Borovoye Array	151.62	51	PKP		PKPdf	13 40 40.4	+0.9
	comp=Z,1.5nm,0.8s,baz=256,slow=6.0,SNR=7.4							
BVAR				PKPbc		PKiKP	13 40 46.2	0.0
	comp=Z,2.7nm,0.7s,baz=259,slow=2.4,SNR=9.3							
AAK	Ala-Archa	154.90	74	PKPab		PKPab	13 41 08.8	-0.2
	comp=Z,3.5nm,0.7s,baz=234,slow=3.2,SNR=7.3							
KURBB	Kurchatov Arra	157.09	54	PKP		PKPdf	13 40 47.3	+0.1
	comp=Z,2.5nm,0.9s,baz=278,slow=1.6,SNR=22							
KURBB				PKPab		PKPab	13 41 16.6	-1.2
	comp=Z,1.3nm,0.8s,baz=285,slow=5.1,SNR=8.5							
KURK	Kurchatov	157.12	53	PKP		PKPdf	13 40 47.3	+0.1
KURK				PKPab		PKPab	13 41 16.6	-1.3
ZALV	Zalesovo Beam	159.32	41	PKP		PKPdf	13 40 49.9	+0.2
	comp=Z,1.7nm,0.7s,baz=304,slow=2.7,SNR=8.3							
MKAR	Makanchi Array	160.35	62	PKP		PKPdf	13 40 51.8	+0.6
	comp=Z,1.6nm,1.0s,baz=263,slow=2.0,SNR=7.6							
MKAR				PKPab		PKPab	13 41 30.8	-1.5
	comp=Z,1.1nm,0.8s,baz=292,slow=3.3,SNR=6.1							
MKAR				PP		PP	13 45 14.8	-0.3
	comp=Z,1.1nm,0.8s,baz=316,slow=6.8,SNR=4.6							
SONM	Songino Array	172.44	8	PKP		PKPdf	13 41 00.5	-0.2
	comp=Z,1.2nm,1.1s,baz=188,slow=1.0,SNR=6.9							
SONM				PKPab		PKPab	13 42 25.6	+0.2
	comp=Z,0.6nm,0.8s,baz=350,slow=5.6,SNR=4.3							
LZH	Lanzhou	174.63	141	*e*PKP		PKPdf	13 41 00.0	-1.9
LZH				pPKP		pPKPdf	13 41 11.2	-2.2
LZH				sPKP			13 41 15.0	
LZH				PKP		PKPab	13 42 35.0	-0.6
LZH				LR		LR		
	comp=N,130nm,18.0s							
LZH				LR		LR		
	comp=E,130nm,18.0s							
LZH				LR		LR		
	comp=Z,160nm,20.1s							

IDC 04 13:23:20.7±5.5, 30.18S×177.78W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/26, mbtmp3.6/3, Error ellipse: s-maj=216.0km s-min=49.7km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.72	257	P	P	13 30 14.0	+1.5
	1.0nm,0.7s,baz=86,slow=13,SNR=1.8						
ASAR	Alice Springs	43.31	267	P	P	13 31 23.8	-0.9
	0.2nm,0.6s,baz=105,slow=7.0,SNR=12						
WRA	Warramunga Arr	44.28	272	P	P	13 31 31.5	-1.0
	0.5nm,0.3s,baz=111,slow=8.1,SNR=18						
FINES	FINESS Array B	145.00	340	PKPbc	PKPbc	13 42 58.1	-0.4
	0.9nm,0.3s,baz=48,slow=3.5,SNR=11						

IDC 04 13:31:04.7±4.2, 20.19S×179.17E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/41, mbtmp3.3/2, Error ellipse: s-maj=279.3km s-min=46.4km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.01	257	P	P	13 38 58.4	+0.3
	0.2nm,0.4s,baz=95,slow=7.5,SNR=10.0						
WRA	Warramunga Arr	42.01	262	P	P	13 38 57.6	-0.6
	0.3nm,0.4s,baz=98,slow=7.3,SNR=9.4						
ARCES	ARCESS Array B	128.11	349	PKP	PKPdf	13 50 12.0	-0.2
	10nm,0.8s,baz=48,slow=1.3,SNR=27						

*MOS **04** 13:37:41.4±1.6, 7.58S×74.46W, h139km, mb5.1/66, Error ellipse: s-maj=16.0km s-min=5.9km az=114.0*

*NEIC **04** 13:37:42.0, 7.74S×74.63W, h141km, mb5.2/180, After ARE.*

NEIC Felt [III] at Pucallpa. Also felt at Barranca.

*GCMT **04** 13:37:42.0±0.3, 7.84S×74.46W, h154km±2km, MW5.0/81, Moment Tensor Solution. s38,c43; s81,c114; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.59±.10; Mθθ-0.20±.10; Mφφ3.79±.13; Mrθ-0.31±.09; Mrφ-0.75±.13; Mθφ-0.42±.13; Best double couple: Ms3.79700×10^16 NP1:φs356.00000°, δ48.00000°, λ-81.00000°. NP2: φs163.00000°, δ43.00000°, λ-100.00000°. Principal axes:*

T 3.9430, Plg3.0000°, Azm80.0000°; N -0.2940, Plg7.0000°, Azm170.0000°; P -3.6510, Plg83.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*BJI **04** 13:37:44.3, 7.70S×74.30W, h140km, mB5.1/21*

*ISCJB **04** 13:37:44.2±0.5, 7.65S±0.03×74.46W±0.03, h156km±4km, mb5.0/243, Error ellipse: s-maj=5.3km s-min=3.5km az=135.4*

*IDC **04** 13:37:45.4±0.4, 7.64S×74.32W, h152km±3km, mb4.8/27, mb1 4.9/31, mb1mx4.8/40, mbtmp5.1/31, MS3.5/5, Ms1 3.5/5, ms1mx3.1/30, Error ellipse: s-maj=13.0km s-min=8.3km az=55.0*

ISC 04 13:37:44.7±0.3, 7.77S±0.04×74.47W±0.06, h152km±3km, h151km: pP-P, n994, σ1929/1059, mb5.1/241, 14C-10D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.94	279	P	Pn	13 38 43.7	-1.0
	651nm,0.3s,baz=69,slow=3.5,SNR=3869						
ATAH				S	Sn	13 39 29.6	-1.6
	265nm,0.3s,baz=15,slow=22,SNR=9.6						
NNA	Nana	4.80	209	P	Pn	13 38 55.6	-0.1
	66nm,0.3s,baz=1.4,slow=3.4,SNR=55						
NNA				S	Sn	13 39 47.8	-3.1
	266nm,0.3s,baz=135,slow=23,SNR=16						
NNA	Nana	4.80	209	*e*Pn	Pn	13 38 55.3	-0.3
NNA				*e*Sn	Sn	13 39 46.1	-4.9
NNA				S	Sn	13 39 47.8	-3.1
OTAV	Otavalo	8.89	333	*e*P	Pn	13 39 50.4	0.0
OTAV	Otavalo	8.89	333	*e*Pn	Pn	13 39 47.6	-2.9
CRUC	La Cruz	9.60	345	*e*P	Pn	13 39 58.3	-1.4
LPAZ	La Paz	10.49	144	P	Pn	13 40 11.3	-0.5
	3.7nm,0.3s,baz=332,slow=14,SNR=56						
LPAZ				LR	LR	13 44 32.5	
	comp=Z,282nm,21.2s,baz=326,slow=39						
LPAZ	La Paz	10.49	144	*e*Pn	Pn	13 40 10.8	-1.0
SAML	Samuel	11.23	97	*e*Pn	Pn	13 40 18.9	-2.1
PRAC	Prado	11.41	358	*e*P	Pn	13 40 25.5	+2.1
PRAC	Prado	11.41	358	*e*Pn	Pn	13 40 26.0	+2.6
VILC	Villavicencio,	11.82	4	*e*P	Pn	13 40 29.5	+0.6
TOLC	Tolima	12.30	356	*e*P	P	13 40 47.0	+5.8
CHIC	Chingaza	12.34	3	*e*P	Pn	13 40 34.8	-1.0
ROSC	El Rosal	12.52	1	LR	LR	13 45 46.4	
	comp=Z,69nm,18.1s,baz=116,slow=39						
PB11	IPOC Station P	12.80	159	*e*Pn	Pn	13 40 39.2	-2.4
GUYC	Guyana, Colomb	12.94	356	*e*P	P	13 40 47.6	-0.9
NORC	Norcasia	13.25	358	*e*P	P	13 40 50.4	-1.1
RUSC	La Rusia	13.64	6	*e*P	Pn	13 40 52.1	-0.5
HELC	Santa Helena	13.90	356	*e*P	Pn	13 40 51.6	-4.2
HELC	Santa Helena	13.90	356	*e*Pn	Pn	13 40 55.4	-0.4
PB01	IPOC Station P	14.05	160	*e*Pn	P	13 41 00.6	+0.2
BARC	Barichara	14.32	5	*e*P	P	13 41 04.0	+0.4
BRRC	Barranca, Sant	14.79	3	*e*P	Pn	13 41 06.8	+0.2
PB04	IPOC Station P	15.07	164	*e*Pn	P	13 41 12.6	+0.7
	111nm,1.0s						
PAMC	Pamplona, Colo	15.11	7	*e*P	P	13 41 12.2	-0.4
SIV	San Ignacio	15.44	123	P	Pn	13 41 14.9	+0.3
	14nm,0.3s,baz=314,slow=11,SNR=103						
CBRI	Barrientos, No	15.47	6	*e*P	P	13 41 16.4	+0.1
GRMC	Gramalote, San	15.47	6	*e*P	P	13 41 17.6	+1.3
LVC	Limon Verde	15.70	161	P	P	13 41 20.1	+1.1
	181nm,0.3s,baz=325,slow=6.4,SNR=39						
LVC				S	S	13 44 20.8	+6.3
	33nm,0.3s,baz=162,slow=20,SNR=8.9						
LVC	Limon Verde	15.70	161	*e*Pn	P	13 41 20.3	+1.3
	35nm,0.8s						
LVC				S	S	13 44 20.8	+6.3
OCAC	Ocana	15.94	4	*e*P	P	13 41 21.5	0.0
PTGA	Pitinga	16.05	65	P	P	13 41 23.2	+0.6
	6.4nm,0.3s,baz=244,slow=12,SNR=104						
PB10	IPOC Station P	16.10	167	*e*Pn	P	13 41 24.2	+1.2
	63nm,1.2s						
MOTC	Monteria, Cord	16.48	356	*e*P	Pn	13 41 27.2	-0.1
SDV	Santo Domingo	16.98	13	P	Pn	13 41 33.4	-0.2
	6.1nm,0.3s,baz=200,slow=11,SNR=12						
SDV	Santo Domingo	16.98	13	*e*P	Pn	13 41 37.6	+4.0
	46nm,0.7s						
PAYG	Puerto Ayora	17.27	293	P	P	13 41 35.6	-0.4
	325nm,1.0s						
SJCC	San Jacinto, C	17.56	358	*e*P	P	13 41 38.9	-0.3
BCIP	Isla Barro Col	17.65	342	*e*P	P	13 41 40.1	-0.1
	50nm,0.8s						
URIC	Uribia, Colomb	19.50	7	*e*P	P	13 41 57.2	-3.1
PCRV	Puerto La Cruz	20.34	29	P	Pn	13 42 11.0	-2.0
	14nm,0.6s,baz=313,slow=1.3,SNR=6.5						
LCO	Las Campanas	21.43	171	*e*P	P	13 42 19.0	-2.2
	45nm,0.9s						
CPUP	Villa Florida	24.63	141	P	P	13 42 50.6	-0.6
	51nm,0.8s,baz=325,slow=9.6,SNR=63						
CPUP	Villa Florida	24.63	141	*e*P	P	13 42 50.1	-1.1
SVB	Belmont	24.68	32	*e*P	P	13 42 51.2	-0.6
	59nm,0.9s						
MTDJ	Mount Denham	26.00	353	*e*P	P	13 43 04.9	+1.1
	110nm,0.8s						
BANI	BANI	26.31	9	*e*P	P	13 43 08.0	+1.5
SDD	Santo Domingo	26.44	10	*e*P	P	13 43 08.6	+1.0
	145nm,0.9s						
SDDR	Presa de Saban	26.76	7	*e*P	P	13 43 10.6	+0.1
	23nm,0.8s						
MPR	Mayaguez	26.81	16	*e*P	P	13 43 10.6	-0.3
	46nm,0.7s						
SJG	San Juan	26.99	18	P	P	13 43 12.4	-0.1
	63nm,0.6s,baz=173,slow=4.9,SNR=18						
SJG	San Juan	26.99	18	*e*P	P	13 43 10.4	-2.2
	68nm,0.7s						
BDFB	Brasilia	27.04	109	P	P	13 43 13.2	+0.1
	18nm,0.8s,baz=269,slow=9.6,SNR=21						
BDFB	Brasilia	27.04	109	*e*P	P	13 43 11.8	-1.4
	57nm,1.0s						
HUMP	Col San Antoni	27.11	18	*e*P	P	13 43 13.8	+0.2
	30nm,0.6s						
MTP	Monte Pirata	27.16	19	*e*P	P	13 43 13.6	-0.5
	40nm,0.8s						
CBYP	Canovanas	27.23	18	*e*P	P	13 43 14.1	-0.7
	62nm,0.9s						
STVI	Saint Thomas	27.60	20	*e*P	P	13 43 17.1	-0.8
	41nm,0.7s						
ANWB	Willy Bob	28.21	26	*e*P	P	13 43 20.3	-3.0
	58nm,0.7s						
TEIG	Teich	30.96	334	P	P	13 43 46.4	-1.2
	58nm,1.0s						
TRQA	Tornquist	32.20	161	*e*P	P	13 43 56.2	-2.2
	13nm,0.8s						
TRQA				*e*PcP	PcP	13 46 43.3	-0.3
DWPF	Disney Wildern	36.30	350	*e*P	P	13 44 34.7	+0.9
	88nm,0.9s						
RCBR	Riachuelo	38.34	90	P	P	13 44 51.3	+0.1
	15nm,0.8s,baz=257,slow=9.0,SNR=8.2						
CHRN	Cochrane	39.38	178	*e*P	P	13 44 59.0	-0.3
	32nm,1.0s						
TIGA	Tifton	39.95	348	P	P	13 45 04.9	+0.7
	baz=166,SNR=7.2						
TIGA	Tifton	39.95	348	*e*P	P	13 45 02.4	-1.9
	92nm,1.1s						
BRAL	Brewton	40.55	343	*e*P	P	13 45 06.5	-2.7
	128nm,0.7s						
448A	Bay Minette	40.56	342	P	P	13 45 10.1	+0.7
	baz=160						
447A	Lucedale	40.68	341	P	P	13 45 11.1	+0.7
	baz=158						
CSU	Charleston Sou	40.87	353	*e*P	P	13 45 13.0	+1.1
446A	Poplarville	40.91	340	P	P	13 45 13.3	+1.1
	baz=157						
ZAIG	Zacatecas	40.96	318	*e*P	P	13 45 15.2	+2.1
	21nm,1.4s						
NHSC	New Hope	41.01	353	*e*P	P	13 45 10.9	-2.0
	314nm,0.9s						
035Z	Hargill	41.02	327	P	P	13 45 14.6	+1.5
	baz=143						
348A	Jackson	41.02	342	P	P	13 45 13.8	+0.7
	baz=160						
445A	Amite	41.19	339	P	P	13 45 15.0	+0.5
	baz=156						
347A	Saraland	41.21	342	P	P	13 45 15.1	+0.5
	baz=159						
444A	Pine Grove	41.32	339	P	P	13 45 16.7	+1.1
	baz=155						
035A	Encino	41.41	327	P	P	13 45 17.8	+1.5
	baz=143						
346A	Big Creek Wild	41.49	340	P	P	13 45 15.5	-1.4
	baz=158						
345A	Thompson Farm,	41.61	340	P	P	13 45 18.8	+0.9
	baz=157						
248A	Dixon Mills	41.61	343	P	P	13 45 18.3	+0.4
	baz=160,SNR=19						
034A	Hebbronville	41.83	327	P	P	13 45 21.7	+1.9
	baz=143,SNR=18						
GOGA	Godfrey	41.83	349	P	P	13 45 17.2	-2.5
GOGA				pmax	pmax		
	comp=Z,61nm,0.9s						
GOGA	Godfrey	41.83	349	P	P	13 45 17.2	-2.5
	comp=Z,61nm,0.9s						
247A	Quitman	41.84	342	P	P	13 45 19.1	-0.6
	baz=159						
442A	Mamou	41.96	337	P	P	13 45 22.2	+1.4
	baz=153						
344A	Westbrook Farm	41.99	339	P	P	13 45 21.3	+0.3
	baz=156						
934A	Benavides	42.16	327	P	P	13 45 24.4	+1.9
	baz=143,SNR=16						
245A	Little AP, Sta	42.23	340	P	P	13 45 23.0	+0.1
	baz=157						
LRAL	Lakeview Retre	42.29	344	*e*P	P	13 45 22.2	-1.1
	comp=Z,59nm,1.0s						
441A	DeRidder	42.30	336	P	P	13 45 24.7	+1.3
	baz=152						
147A	Livingston	42.31	343	P	P	13 45 23.1	-0.5
	baz=160						
JSC	Jenkinsville	42.31	352	*e*P	P	13 45 23.3	-0.2
JSC				pmax	pmax		
	comp=Z,26nm,0.9s						
JSC	Jenkinsville	42.31	352	*e*P	P	13 45 23.3	-0.2
	comp=Z,26nm,0.9s						
835A	Beeville	42.35	329	P	P	13 45 25.4	+1.5
	baz=145,SNR=11						
342A	Flagon Creek P	42.51	337	P	P	13 45 26.0	+0.9
	baz=154						
146A	Union	42.52	342	P	P	13 45 25.5	+0.3
	baz=159						
736A	Circle Diamond	42.52	330	P	P	13 45 27.2	+2.0
	baz=146,SNR=8.7						
637A	Eagle Lake	42.56	331	P	P	13 45 27.3	+1.6
	baz=147,SNR=6.9						
933A	Laredo	42.58	327	P	P	13 45 27.2	+1.3
	baz=142,SNR=18						
834A	Tilden	42.60	328	P	P	13 45 27.5	+1.5
	baz=144,SNR=7.0						
VBMS	Vicksburg	42.61	340	P	P	13 45 26.3	+0.4
	baz=156						
440A	Kirbyville	42.61	335	P	P	13 45 27.1	+1.1
	baz=151						
243A	Waterproof	42.64	338	P	P	13 45 26.4	+0.2
	baz=155						
Z47A	Carrollton	42.74	343	P	P	13 45 26.8	-0.2
	baz=160						
145A	Houston Renfro	42.76	341	P	P	13 45 27.0	-0.2
	baz=157						
Z48A	Northport	42.76	344	P	P	13 45 26.8	-0.4
	baz=161,SNR=24						
341A	Kurthwood	42.80	336	P	P	13 45 28.1	+0.5
	baz=152						
735A	Kenedy	42.80	329	P	P	13 45 29.1	+1.4
	baz=145						
538A	Harpers Horsep	42.83	333	P	P	13 45 29.3	+1.5
	baz=149						
636A	Smothers Creek	42.94	331	P	P	13 45 30.3	+1.6
	baz=146,SNR=18						
144A	Alexander Plac	42.95	340	P	P	13 45 29.3	+0.5
	baz=157						
439A	Center Grove,	43.00	334	P	P	13 45 30.6	+1.5
	baz=150						
Z46A	Louisville	43.00	342	P	P	13 45 29.4	+0.4
	baz=159,SNR=13						
242A	Grayson	43.05	338	P	P	13 45 30.2	+0.6
	baz=154						
537A	Green Hill Far	43.09	332	P	P	13 45 31.4	+1.5
	baz=148						
KMSC	Kings Mountain	43.16	352	P	P	13 45 31.1	+0.7
	baz=170,SNR=21						
KMSC	Kings Mountain	43.16	352	*e*P	P	13 45 30.5	+0.1
	comp=Z,57nm,0.8s						
340A	Bronson	43.17	335	P	P	13 45 31.2	+0.7
	baz=152,SNR=7.6						
734A	La Parita Cree	43.18	328	P	P	13 45 32.2	+1.5
	baz=144,SNR=12						
833A	Chaparral WMA,	43.21	327	P	P	13 45 32.3	+1.4
	baz=143,SNR=15						
635A	Leesville	43.22	330	P	P	13 45 32.3	+1.3
	baz=145						
241A	Mo Tay, Goldon	43.31	337	P	P	13 45 32.7	+1.1
	baz=153						
Y47A	UCPARC, Winfie	43.34	344	P	P	13 45 31.6	-0.2
	baz=161,SNR=27						
143A	Socs Landing,	43.36	339	P	P	13 45 31.6	-0.4
	baz=155						
339A	Huntington	43.37	335	P	P	13 45 33.0	+0.9
	baz=151						
Z45A	Winona	43.39	341	P	P	13 45 32.5	+0.3
	baz=158						
142A	Monroe	43.41	338	P	P	13 45 32.8	+0.4
	baz=155						
536A	Bastrop	43.44	331	P	P	13 45 34.1	+1.4
	baz=147,SNR=6.7						
733A	Divot King Ran	43.47	328	P	P	13 45 33.9	+0.9
	baz=143,SNR=6.3						
832A	Faith Ranch, C	43.49	327	P	P	13 45 34.5	+1.3
	baz=142,SNR=8.1						
634A	China Grove, S	43.51	329	P	P	13 45 35.1	+1.9
	baz=145						
Z44A	Pea Ridge, Bel	43.55	340	P

baz=148,SNR=13
237A Washetta, Mont 44.49 334 P P 13 45 42.5 +1.5
baz=149,SNR=11
Y42A Garnett, Star 44.52 339 P P 13 45 41.2 0.0
baz=155
X44A Crenshaw 44.58 341 P P 13 45 42.0 +0.3
baz=158
CCAR Cane Creek 44.59 339 eP P 13 45 41.0 -0.8
comp=Z,76nm,1.0s
Z40A Long Farm, Mag 44.59 337 P P 13 45 42.5 +0.7
baz=153
335A Moody 44.62 332 P P 13 45 43.4 +1.3
baz=147,SNR=17
434A Burnet 44.63 330 P P 13 45 43.0 +0.7
baz=146,SNR=15
138A Matatall Enter 44.75 335 P P 13 45 44.5 +1.5
baz=151,SNR=12
236A Katherine and 44.80 333 P P 13 45 45.0 +1.4
baz=148,SNR=8.9
X43A Marvell 44.83 341 P P 13 45 44.9 +1.2
baz=157
Y41A Eaglette Beard 44.85 338 P P 13 45 44.0 +0.1
baz=154
Z39A Irene McRaven, 44.88 336 P P 13 45 44.3 +0.1
baz=152
TZTN Tazewell 44.89 350 eP P 13 45 43.0 -1.2
comp=Z,48nm,1.3s
TZTN ePcP PcP 13 47 19.1 -4.1
W45A Hickory Valley 44.90 343 P P 13 45 43.2 -1.0
baz=159
137A Heron Place, G 44.97 334 P P 13 45 46.4 +1.5
baz=150,SNR=6.3
433A Art 44.99 330 P P 13 45 45.9 +0.8
baz=145,SNR=71
334A Lometa 45.04 331 P P 13 45 46.4 +0.9
baz=146,SNR=26
VWCC Virginia Weste 45.07 354 eP P 13 45 46.5 +1.0
BLA Blacksburg 45.09 353 P P 13 45 42.9 -2.8
BLA e 13 47 23.5
BLA pmax pmax
comp=Z,101nm,0.7s
BLA Blacksburg 45.09 353 P P 13 45 42.9 -2.8
comp=Z,101nm,0.7s
BLA ePcP PcP 13 47 23.5 -0.4
JCT Junction City 45.13 329 P P 13 45 47.1 +0.8
baz=144,SNR=13
JCT Junction City 45.13 329 eP P 13 45 43.5 -2.8
JCT e 13 47 23.8
JCT pmax pmax
comp=Z,23nm,0.8s
JCT Junction City 45.13 329 eP P 13 45 43.5 -2.8
comp=Z,23nm,0.8s
JCT ePcP PcP 13 47 23.8 -0.4
URVA University of 45.19 357 eP P 13 45 47.4 +0.9
136A Ennis 45.21 333 P P 13 45 47.9 +1.2
baz=149,SNR=5.2
Z38A Mt. Pleasant 45.21 336 P P 13 45 47.6 +0.9
baz=151
Y40A Okolona 45.22 338 P P 13 45 47.0 +0.2
baz=154,SNR=12
WHTX Lake Whitney, 45.22 332 P P 13 45 47.8 +0.9
baz=147
WHTX Lake Whitney, 45.22 332 eP P 13 45 44.6 -2.3
comp=Z,88nm,1.3s
WHTX ePcP PcP 13 47 24.5 +0.1
X41A Kaden, Bauxite 45.37 339 P P 13 45 47.9 0.0
baz=155,SNR=6.0
333A Richland Sprin 45.40 330 P P 13 45 48.9 +0.6
baz=145,SNR=17
Z37A Pogue Cattle C 45.43 335 P P 13 45 49.5 +1.0
baz=150,SNR=5.9
WVT Waverly 45.44 345 eP P 13 45 46.9 -1.6
WVT pmax pmax
comp=Z,21nm,0.8s
WVT Waverly 45.44 345 eP P 13 45 46.9 -1.6
comp=Z,21nm,0.8s
Y39A Lockesburg 45.46 337 P P 13 45 49.3 +0.7
baz=152,SNR=18
X40A Basin Creek Fa 45.48 339 P P 13 45 48.4 -0.4
baz=154,SNR=7.0
234A Clairette 45.55 331 P P 13 45 50.4 +1.0
baz=146,SNR=21
UALR University of 45.56 339 eP P 13 45 48.9 -0.5
comp=Z,60nm,0.8s
135A Vickery Place, 45.67 333 P P 13 45 51.4 +1.0
baz=148
Y38A Idabel 45.70 336 P P 13 45 51.0 +0.4
baz=152,SNR=5.4
MIAR Mount Ida 45.80 338 P P 13 45 50.9 -0.4
baz=153,SNR=11
MIAR Mount Ida 45.80 338 eP P 13 45 47.4 -4.0
MIAR e 13 47 26.5
MIAR pmax pmax
comp=Z,18nm,0.8s
MIAR Mount Ida 45.80 338 eP P 13 45 47.4 -4.0
comp=Z,18nm,0.8s
MIAR ePcP PcP 13 47 26.5 +0.1
Z36A Blue Ridge 45.84 334 P P 13 45 52.6 +0.9
baz=149,SNR=10
W41B Gary Mavity, V 45.89 340 P P 13 45 51.4 -0.6
baz=155,SNR=24
233A Rising Star 45.93 331 P P 13 45 53.3 +0.9
baz=146,SNR=28
X39A Fountain Ranch 45.98 337 P P 13 45 53.1 +0.3
baz=153,SNR=50
134A White-Moore Ra 45.99 332 P P 13 45 53.6 +0.6
baz=147,SNR=31
X301 Greenbrier Sit 46.00 339 eP P 13 45 52.4 -0.5
comp=Z,52nm,0.9s
WHAR Wooly Hollow 46.01 340 eP P 13 45 52.3 -0.7
comp=Z,46nm,0.9s
X201 Greenbrier Sit 46.04 340 eP P 13 45 52.6 -0.6
comp=Z,52nm,0.8s
V42A Cord 46.18 341 P P 13 45 53.3 -1.0
baz=157,SNR=20
W40A Ferguson Farm, 46.20 339 P P 13 45 54.6 +0.2
baz=154,SNR=6.7
Z35A Perchaven, San 46.25 333 P P 13 45 56.2 +1.3
baz=148,SNR=18
Y36A Durant 46.32 335 P P 13 45 56.7 +1.3
baz=150,SNR=17
TXAR Lajitas Array 46.38 324 P P 13 45 56.8 +0.7
comp=Z,12nm,0.8s,baz=148,slow=9.0,SNR=116
TXAR PcP PcP 13 47 28.9 +0.3
comp=Z,5.2nm,0.9s,baz=147,slow=7.5,SNR=5.7
TX31 Lajitas Ar. Si 46.38 324 eP P 13 45 56.8 +0.7
X38A Whitesboro 46.39 337 P P 13 45 56.7 +0.7
baz=152,SNR=35
V41A Mountainview 46.41 340 P P 13 45 55.5 -0.6
baz=156,SNR=28
133A Hamilton Ranch 46.42 331 P P 13 45 57.4 +1.1
baz=146,SNR=39
W39A Magazine 46.46 338 P P 13 45 56.6 +0.2
baz=153,SNR=34
X37A Clayton 46.54 336 P P 13 45 58.0 +0.9
baz=151,SNR=41
Z34A Collier Ranch, 46.59 333 P P 13 45 58.7 +1.2
baz=147,SNR=9.1
W38A Poteau 46.62 337 P P 13 45 58.4 +0.7
baz=152,SNR=28
Y35A Marietta 46.65 334 P P 13 45 59.4 +1.4
baz=149,SNR=21
SLBS Sierra La Lagu 46.67 313 eP P 13 46 00.3 +1.9
comp=Z,48nm,1.4s
ABTX Abilene, Hawle 46.78 330 P P 13 46 00.4 +1.3
baz=145,SNR=32
ABTX Abilene, Hawle 46.78 330 eP P 13 45 58.9 -0.2
comp=Z,100nm,0.8s
ABTX ePcP PcP 13 47 29.5 -0.4
Z33A Whitaker Ranch 46.91 332 P P 13 46 01.2 +1.2
baz=146,SNR=26
X36A Centrahoma 46.92 335 P P 13 46 00.5 +0.4
baz=150,SNR=16
V39A Pettigrew 46.98 339 P P 13 46 00.5 -0.1
baz=154
Y34A Reagan Ranch, 47.01 333 P P 13 46 01.7 +0.9
baz=148,SNR=24
X35A Drake 47.04 334 P P 13 46 01.6 +0.6
baz=149,SNR=22
W37B Quinton 47.04 336 P P 13 46 01.3 +0.2
baz=151,SNR=26
WCI Wyandotte Cave 47.07 347 eP P 13 45 58.7 -2.5
WCI pmax pmax
comp=Z,30nm,0.8s
WCI Wyandotte Cave 47.07 347 eP P 13 45 58.7 -2.5
comp=Z,30nm,0.8s
S45A Carrier Mills 47.09 345 P P 13 46 00.1 -1.2
baz=161
USIN University of 47.13 346 eP P 13 46 00.4 -1.3
comp=Z,58nm,0.8s
U40A Yellville 47.17 340 P P 13 46 01.4 -0.6
baz=155,SNR=36
USHA Ushuaia 47.19 175 P P 13 46 03.4 +1.5
comp=Z,67nm,0.6s,baz=360,slow=5.3,SNR=7.0
V38A Canehill 47.28 338 P P 13 46 02.4 -0.5
baz=153,SNR=38
S44A Carbondale 47.29 344 P P 13 46 02.0 -0.9
baz=160,SNR=9.9
W36A Wetumka 47.36 336 P P 13 46 03.8 +0.3
baz=150,SNR=7.7
S43A Fulton Ridge, 47.40 343 P P 13 46 02.6 -1.2
baz=159,SNR=7.3
U39A Green Forest 47.41 339 P P 13 46 03.1 -0.8
baz=154,SNR=22
T41A Mountain View 47.43 341 P P 13 46 02.8 -1.2
baz=157,SNR=15
Y33A Hilltop Ranch, 47.44 333 P P 13 46 05.2 +1.0
baz=147,SNR=23
HHAR Hobbs 47.48 339 eP P 13 46 03.8 -0.6
comp=Z,51nm,0.8s
MVL Millersville 47.56 358 eP P 13 46 05.8 +1.0
comp=Z,57nm,1.0s
V37A Hulbert 47.58 337 P P 13 46 05.1 -0.1
baz=152,SNR=28
X34A Smith Ranch, M 47.58 334 P P 13 46 06.2 +0.9
baz=148,SNR=21
W35A Tecumseh 47.64 335 P P 13 46 05.7 +0.1
baz=150,SNR=26
R44A Waltonville 47.76 344 P P 13 46 05.3 -1.2
baz=160
T40A Mansfield 47.77 340 P P 13 46 05.9 -0.8
baz=156,SNR=38
U38A Gravette 47.79 338 P P 13 46 06.3 -0.5
baz=153,SNR=19
V36A Jenks 47.81 336 P P 13 46 07.2 +0.2
baz=151,SNR=28
X33A Lawton 47.83 333 P P 13 46 07.5 +0.3
baz=147
TUL1 Leonard 47.86 337 P P 13 46 07.5 +0.2
baz=151,SNR=21
TUL1 Leonard 47.86 337 eP P 13 46 04.8 -2.5
comp=Z,76nm,0.8s
TUL1 ePcP PcP 13 47 33.6 0.0
O56A Blue Knob Stat 47.94 356 P P 13 46 08.9 +0.9
baz=175,SNR=39
T39A Clever 47.95 340 P P 13 46 07.5 -0.5
baz=155,SNR=6.2
BLO Bloomington 48.02 347 eP P 13 46 07.6 -0.9
BLO pmax pmax
comp=Z,64nm,0.6s
BLO Bloomington 48.02 347 eP P 13 46 07.6 -0.9
comp=Z,64nm,0.6s
U37A Salina 48.03 338 P P 13 46 08.6 0.0
baz=152,SNR=20
X32A Elmer 48.09 332 P P 13 46 10.0 +0.9
baz=146,SNR=36
W34A Bridge Creek, 48.09 334 P P 13 46 09.7 +0.5
baz=148
W34A Bridge Creek, 48.09 334 eP P 13 46 09.8 +0.7
comp=Z,103nm,1.6s
WMOK Wichita Mounta 48.12 333 P P 13 46 09.8 +0.4
baz=147,SNR=32
WMOK Wichita Mounta 48.12 333 eP P 13 46 07.1 -2.3
WMOK e 13 47 35.0
WMOK pmax pmax
comp=Z,17nm,0.8s
WMOK Wichita Mounta 48.12 333 eP P 13 46 07.1 -2.3
comp=Z,17nm,0.8s
WMOK ePcP PcP 13 47 35.0 +0.4
V35A Meyer Ranch, C 48.15 335 P P 13 46 09.6 0.0
baz=150,SNR=16
S40A Lebanon 48.17 341 P P 13 46 08.7 -1.0
baz=156,SNR=32
BRNJ Basking Ridge 48.21 360 eP P 13 46 10.4 +0.5
comp=Z,17nm,0.7s
U36A Oologah 48.25 337 P P 13 46 10.4 +0.1
baz=152,SNR=10
SSPA Standing Stone 48.26 357 eP P 13 46 09.2 -1.1
comp=Z,110nm,1.4s
SSPA ePcP PcP 13 47 35.2 +0.2
T38A Diamond 48.28 339 P P 13 46 09.9 -0.7
baz=154,SNR=24
W33A Caddo, Fort Co 48.33 333 P P 13 46 12.1 +1.2
baz=148,SNR=15
ACSO Alum Creek Sta 48.40 351 eP P 13 46 08.8 -2.6
comp=Z,43nm,0.8s
N59A State Game Lan 48.46 359 P P 13 46 12.5 +0.7
baz=178,SNR=8.9
V34A Guthrie 48.49 335 P P 13 46 12.3 +0.1
baz=149,SNR=18
V34A Guthrie 48.49 335 eP P 13 46 09.7 -2.5
comp=Z,61nm,0.8s
V34A ePcP PcP 13 47 36.2 +0.3
S39A Bolivar 48.53 340 P P 13 46 11.6 -0.8
baz=155,SNR=36
Q43A New Douglas 48.58 344 P P 13 46 12.6 -0.2
baz=160
T37A Cheneyville 18 48.59 338 P P 13 46 12.6 -0.3
baz=153,SNR=35
U35A Pawnee 48.63 336 P P 13 46 13.7 +0.5
baz=150
W32A Sentinel 48.65 333 P P 13 46 14.1 +0.7
baz=147
S38A Stockton 48.68 339 P P 13 46 12.8 -0.8
baz=154,SNR=6.5
R40A Maddies Statio 48.73 341 P P 13 46 12.7 -1.3
baz=156,SNR=11
N54A Moraine State 48.75 354 P P 13 46 14.6 +0.5
baz=173,SNR=19
Q42A Golden Eagle 48.78 343 P P 13 46 13.8 -0.6
baz=159
V33A Lossen Ranch, 48.81 334 P P 13 46 15.0 +0.3
baz=148,SNR=10
YLE Yale 48.86 2 eP P 13 46 15.4 +0.6
comp=Z,47nm,0.9s
T36A Boggs Farm, Ca 48.90 337 P P 13 46 15.3 +0.1
baz=152,SNR=42
R39A Chumby, Stover 49.00 341 P P 13 46 15.0 -1.0
baz=156
T35A Sooner Cattle 49.02 337 P P 13 46 16.4 +0.2
baz=151,SNR=17
U34A Anderson Ranch 49.02 335 P P 13 46 16.5 +0.3
baz=149,SNR=19
U34A Anderson Ranch 49.02 335 eP P 13 46 13.1 -3.1
comp=Z,216nm,1.4s
V32A Arapaho 49.06 333 P P 13 46 17.5 +1.0
baz=147
MNTX Cornudas Mount 49.12 325 P P 13 46 17.1 +0.1
baz=138,SNR=31
MNTX Cornudas Mount 49.12 325 eP P 13 46 17.2 +0.1
comp=Z,24nm,1.1s
MNTX ePcP PcP 13 47 35.0 -3.3
S37A Fort Scott 49.12 339 P P 13 46 16.4 -0.6
baz=153,SNR=32
R38A Fenwick Farm, 49.18 340 P P 13 46 16.4 -0.9
baz=154,SNR=23
U33A Lingo Farm, Me 49.26 335 P P 13 46 18.1 +0.1
baz=149
M54A Oil Creek Stat 49.26 355 P P 13 46 18.2 +0.2
baz=173,SNR=28
SFIN Lafayette 49.30 347 P P 13 46 17.1 -1.2
baz=164,SNR=21
SFIN Lafayette 49.30 347 eP P 13 46 15.9 -2.4
comp=Z,70nm,0.6s
Q40A Laux Farm, Aux 49.31 342 P P 13 46 17.3 -1.1
baz=157,SNR=14
S36A Lake Cedric, C 49.37 338 P P 13 46 18.5 -0.3
baz=152,SNR=22
T34A McClaskey Farm 49.38 336 P P 13 46 19.3 +0.4
baz=150,SNR=12
MSTX Muleshoe 49.43 329 P P 13 46 19.8 +0.3
baz=142,SNR=22
MSTX Muleshoe 49.43 329 eP P 13 46 18.3 -1.2
comp=Z,39nm,0.8s
MSTX ePcP PcP 13 47 39.6 +0.1
BRYW Bryant College 49.51 3 eP P 13 46 20.4 +0.5
comp=Z,71nm,1.0s
U32A Wiser Ranch, 49.59 334 P P 13 46 21.4 +0.8
baz=148,SNR=11
AMTX Amarillo 49.60 330 P P 13 46 21.3 +0.6
baz=144
AMTX Amarillo 49.60 330 P P 13 46 17.5 -3.3
comp=Z,62nm,1.4s
S35A Otter Creek Ra 49.61 337 P P 13 46 20.8 +0.1
baz=151,SNR=27
R37A Teagarden Farm 49.61 339 P P 13 46 20.1 -0.6
baz=153
Q39A Willow Grove F 49.64 341 P P 13 46 19.9 -1.0
baz=156,SNR=30
BINY Binghamton 49.74 359 eP P 13 46 18.9 -2.6
comp=Z,133nm,0.8s
Q38A Cooks Store, C 49.78 340 P P 13 46 21.2 -0.7
baz=155,SNR=20
P40A Paris 49.80 342 P P 13 46 20.9 -1.1
baz=157,SNR=13
T33A Patterson Ranc 49.86 335 P P 13 46 23.2 +0.6
baz=149,SNR=7.2
R36A Gordon, Harris 49.87 338 P P 13 46 22.4 -0.2
baz=153,SNR=7.2
S34A Willow Spring 49.93 336 P P 13 46 23.4 +0.2
baz=150,SNR=10
P39B Salisbury 49.98 342 P P 13 46 22.5 -0.9
baz=156,SNR=22
Q37A Longview Farm, 49.98 340 P P 13 46 22.9 -0.5
baz=154
HDIL Hopedale 49.99 345 P P 13 46 22.4 -1.1
baz=161,SNR=10
HDIL Hopedale 49.99 345 eP P 13 46 21.4 -2.0
comp=Z,139nm,0.6s
HDIL ePcP PcP 13 47 39.0 -2.2
WES Weston 49.99 3 eP P 13 46 23.9 +0.5
WES pmax pmax
comp=Z,103nm,1.5s
WES Weston 49.99 3 eP P 13 46 23.9 +0.5
comp=Z,103nm,1.5s
HRV Adam Dziewonsk 50.10 3 eP P 13 46 22.6 -1.6
HRV pmax pmax
comp=Z,34nm,0.9s
HRV Adam Dziewonsk 50.10 3 eP P 13 46 22.6 -1.6
comp=Z,34nm,0.9s
S33A Kaszmaul Farm, 50.20 336 P P 13 46 25.9 +0.7
baz=149,SNR=6.2
T32A Huddle Ranch, 50.23 335 P P 13 46 26.3 +0.9
baz=148,SNR=9.1
TRY Troy 50.26 1 eP P 13 46 26.4 +0.9
comp=Z,30nm,0.8s
O40A La Belle 50.29 343 P P 13 46 24.8 -1.0
baz=158,SNR=18
P38A Dawn 50.35 341 P P 13 46 25.5 -0.7
baz=155,SNR=13
MMNY Mt. Morris Dam 50.35 357 eP P 13 46 26.8 +0.7
Q36A Arnold C. Orve 50.41 339 P P 13 46 26.4 -0.3
baz=153,SNR=6.1
R34A Isabella, Hill 50.51 337 P P 13 46 27.8 +0.4
baz=150,SNR=18
Q35A Mercer Eighty, 50.53 338 P P 13 46 27.5 -0.1
baz=152,SNR=26
P37A Lathrop 50.59 340 P P 13 46 26.9 -1.1
baz=154,SNR=18
BUF Buffalo 50.61 356 eP P 13 46 28.8 +0.7
O39A Kirksville 50.61 342 P P 13 46 27.3 -0.8
baz=157,SNR=16
S32A Newby Ranch, P 50.68 335 P P 13 46 29.7 +0.9
baz=148,SNR=8.3
O38A Galt 50.78 341 P P 13 46 28.9 -0.5
baz=156
R33A Olander Ranch, 50.80 336 P P 13 46 30.2 +0.5
baz=150,SNR=6.0
P36A Good Intent, A 50.91 339 P P 13 46 30.0 -0.4
baz=153,SNR=12
ACCN Adirondack Com 50.91 1 eP P 13 46 30.9 +0.5
comp=Z,16nm,0.9s
Q34A Chapman 50.93 337 P P 13 46 30.8 +0.2
baz=151,SNR=6.4
KSU1 Kansas State U 50.96 338 P P 13 46 30.7 -0.1
baz=152
KSU1 Kansas State U 50.96 338 P P 13 46 28.3 -2.5
comp=Z,72nm,0.9s
O37A Wolven Farm, M 51.04 341 P P 13 46 31.1 -0.3
baz=155
P35A Duane Minner, 51.12 339 P P 13 46 31.6 -0.4
baz=152
121A Cookes Peak, D 51.12 323 P P 13 46 33.4 +1.0
baz=136,SNR=20
121A Cookes Peak, D 51.12 323 eP P 13 46 32.1 -0.3
comp=Z,33nm,0.9s
N39A Derby Farms, D 51.17 342 P P 13 46 31.6 -0.7
baz=157,SNR=17
R32A Long Quarter, 51.20 336 P P 13 46 33.0 +0.4
baz=149,SNR=8.8
319A Douglas 51.22 321 eP P 13 46 34.0 +0.9
HNH Hanover 51.27 2 eP P 13 46 33.9 +0.9
comp=Z,28nm,1.0s
O36A Bolckow 51.28 340 P P 13 46 32.2 -1.0
baz=154
N38A Joes South For 51.32 342 P P 13 46 32.5 -0.9
baz=156,SNR=8.7
Q33A Connelly Farm, 51.34 337 P P 13 46 33.9 +0.3
baz=150,SNR=10
P34A Walnut Farm, R 51.43 338 P P 13 46 34.4 +0.1
baz=151,SNR=17
MDV Middlebury 51.53 1 eP P 13 46 35.5 +0.6
N37A Lee Faris, Mou 51.59 341 P P 13 46 34.7 -0.8
baz=155,SNR=6.0
Q32A Meitler Ranch, 51.62 336 P P 13 46 35.9 +0.1
baz=149,SNR=16
BNM Barren Site 51.63 326 eP P 13 46 36.9 +0.7
P33A Williams Farm, 51.66 337 P P 13 46 36.2 +0.1
baz=150,SNR=6.8
O35A Humboldt 51.73 339 P P 13 46 35.6 -0.9
baz=153
LPM Los Pinos Moun 51.75 326 eP P 13 46 37.8 +0.8
LENM Lemitar 51.84 325 eP P 13 46 39.7 +2.0
M38A Pleasantville 51.88 342 P P 13 46 36.5 -1.0
baz=156,SNR=9.7
N36A Muff Farm, Cla 51.89 340 P P 13 46 37.0 -0.7
baz=154,SNR=8.7
CBKS Cedar Bluff 51.95 335 P P 13 46 38.7 +0.4
baz=148,SNR=11
CBKS Cedar Bluff 51.95 335 P P 13 46 36.1 -2.1
CBKS pmax pmax
comp=Z,71nm,1.0s
CBKS Cedar Bluff 51.95 335 P P 13 46 36.1 -2.1
comp=Z,71nm,1.0s
LAZ Ladron 52.10 326 eP P 13 46 40.7 +1.1
ANMO Albuquerque 52.13 327 P P 13 46 40.1 +0.3
baz=139
ANMO Albuquerque 52.13 327 *d iP* P 13 46 40.5 +0.7
ANMO pmax pmax
comp=Z,53nm,1.2s
ANMO Albuquerque 52.13 327 eP P 13 46 39.5 -0.3
comp=Z,38nm,1.0s
M37A Trindle Farm, 52.13 341 P P 13 46 38.9 -0.5
baz=155,SNR=8.3
LONY Lake Ozonia 52.14 360 eP P 13 46 37.8 -1.7
comp=Z,29nm,0.9s
N35A Tabor 52.17 340 P P 13 46 39.0 -0.7
baz=153,SNR=7.2
O33A Hebron 52.18 338 P P 13 46 39.7 -0.1
baz=151,SNR=10
P32A Huiting Farm, 52.18 336 P P 13 46 39.7 -0.2
baz=149
WVL Waterville 52.27 4 eP P 13 46 41.2 +0.9
comp=Z,25nm,1.0s
SCIA State Center 52.33 342 eP P 13 46 39.2 -1.7
comp=Z,35nm,0.6s
FRNY Flat Rock 52.36 1 eP P 13 46 41.6 +0.5
comp=Z,34nm,0.8s
M36A Felix, Anita 52.41 341 P P 13 46 40.6 -1.0
baz=154,SNR=10
N34A Lincoln 52.45 339 P P 13 46 41.2 -0.6
baz=152,SNR=5.4
JFWS Jewell Farm 52.45 345 eP P 13 46 38.6 -3.1
JFWS pmax pmax
comp=Z,51nm,0.8s
JFWS Jewell Farm 52.45 345 eP P 13 46 38.6 -3.1
comp=Z,51nm,0.8s
L38A Oak Wood Farm, 52.47 343 P P 13 46 40.9 -1.0
baz=157,SNR=6.9
O32A Brockman Farm, 52.60 337 P P 13 46 43.0 0.0
baz=150,SNR=11
L37A Phoenix Point, 52.69 342 P P 13 46 42.3 -1.3
baz=156
N33A J Bar K, Exete 52.70 338 P P 13 46 43.5 -0.2
baz=151,SNR=8.7
M35A Neola 52.72 340 P P 13 46 43.4 -0.4
baz=154,SNR=5.2
T25A Trinidad 52.74 330 P P 13 46 45.3 +1.0
baz=142,SNR=37
T25A Trinidad 52.74 330 eP P 13 46 45.3 +1.0
comp=Z,64nm,1.1s
TUC Tucson 52.79 321 P P 13 46 45.2 +0.6
baz=133
TUC Tucson 52.79 321 eP P 13 46 40.8 -3.8

TUC pmax pmax
comp=Z,14nm,0.9s
TUC Tucson 52.79 321 *eP* **P** 13 46 40.8 -3.8
comp=Z,14nm,0.9s
K38A Parkersburg 52.88 343 P **P** 13 46 43.8 -1.2
baz=157,SNR=6.4
O31A Woolen Ranch, 52.92 336 P **P** 13 46 45.5 +0.2
baz=149
L36A Harm Buss Farm 52.95 341 P **P** 13 46 44.9 -0.6
baz=155
PKME Peaks-Kenny Pk 52.99 5 *eP* **P** 13 46 45.0 -0.7
comp=Z,41nm,0.7s
N32A Stulken Farm, 53.04 337 P **P** 13 46 45.8 -0.4
baz=150
M34A Aspy Farms, Fr 53.06 339 P **P** 13 46 45.7 -0.6
baz=152,SNR=8.0
K37A Belmond 53.24 342 P **P** 13 46 46.2 -1.4
baz=156,SNR=8.9
L35A Bielow Farm, R 53.25 340 P **P** 13 46 46.8 -0.8
baz=154,SNR=8.7
M33A Taylor Creek F 53.34 339 P **P** 13 46 47.6 -0.7
baz=152
N31A Bailey Ranch, 53.35 337 P **P** 13 46 49.1 +0.6
baz=150
K36A Gilmore City 53.37 342 P **P** 13 46 47.7 -0.8
baz=155,SNR=9.8
KSCO Kaye Shedlock' 53.38 333 P **P** 13 46 49.4 +0.5
baz=145
KSCO Kaye Shedlock' 53.38 333 P P 13 46 44.0 -4.9
comp=Z,112nm,1.3s
L34A Svendsen Farm, 53.40 340 P **P** 13 46 47.7 -1.0
baz=153,SNR=11
J38A Wedel Dairy, R 53.41 344 P **P** 13 46 47.1 -1.8
baz=158,SNR=7.6
BGNE Belgrade 53.55 338 P **P** 13 46 49.9 0.0
baz=151,SNR=6.8
BGNE Belgrade 53.55 338 P P 13 46 44.0 -5.8
comp=Z,163nm,0.8s
K35A Storm Lake 53.70 341 P **P** 13 46 50.1 -0.8
baz=154,SNR=11
J37A Redenius Farm, 53.71 343 P **P** 13 46 49.5 -1.5
baz=157,SNR=6.1
TRQ Mont Tremblant 53.74 360 *eP* **P** 13 46 51.1 -0.1
SDCO Great Sand Dun 53.75 330 P **P** 13 46 52.6 +0.8
baz=141,SNR=74
SDCO Great Sand Dun 53.75 330 *eP* **P** 13 46 51.8 0.0
comp=Z,49nm,1.0s
M31A Lambtecht Ranc 53.80 337 P **P** 13 46 52.1 +0.4
baz=150,SNR=5.3
X18A Snowflake 53.81 324 *eP* **P** 13 46 53.2 +1.1
214A Organ Pipe Nat 53.85 319 P **P** 13 46 53.3 +1.1
baz=131,SNR=20
214A Organ Pipe Nat 53.85 319 *eP* **P** 13 46 50.6 -1.6
comp=Z,252nm,1.3s
L33A Hoskins 53.89 339 P **P** 13 46 52.0 -0.4
baz=152,SNR=14
J36A Seneca 1, Swea 53.97 342 P **P** 13 46 51.4 -1.4
baz=156,SNR=5.8
L32A Elgin 54.01 338 P **P** 13 46 52.6 -0.6
baz=151
I38A Scanlan Farm, 54.04 344 P **P** 13 46 52.3 -1.1
baz=158,SNR=29
LMN Caledonia Moun 54.07 8 *eP* **P** 13 46 53.7 +0.2
comp=Z,61nm,1.1s
W18A Petrified Fore 54.10 324 P **P** 13 46 55.2 +1.0
baz=135,SNR=5.4
W18A Petrified Fore 54.10 324 *eP* **P** 13 46 51.8 -2.4
comp=Z,107nm,1.5s
K33A Hardington 54.18 340 P **P** 13 46 54.1 -0.4
baz=152
J35A Milford 54.27 341 P **P** 13 46 54.0 -1.0
baz=155,SNR=8.5
I37A Lemond, Waseca 54.31 343 P **P** 13 46 54.2 -1.2
baz=157
S22A 4UR Ranch, Cre 54.43 329 P **P** 13 46 57.0 +0.3
baz=140,SNR=39
S22A 4UR Ranch, Cre 54.43 329 *eP* **P** 13 46 57.4 +0.7
comp=Z,73nm,1.5s
J34A George 54.44 341 P **P** 13 46 55.6 -0.7
baz=154,SNR=7.2
L31A Butterfield Fa 54.47 338 P **P** 13 46 56.7 +0.1
baz=150,SNR=30
Q24A Divide 54.53 331 P **P** 13 46 58.2 +0.8
baz=142,SNR=16
K32A Verdigre 54.57 339 P **P** 13 46 56.5 -0.8
baz=151,SNR=5.1
X16A Lo Mia Camp, P 54.62 322 *eP* **P** 13 46 59.1 +1.1
H37A Dierke Farm, C 54.70 344 P **P** 13 46 57.2 -0.9
baz=158
OGNE Ogallala 54.70 335 P **P** 13 46 58.7 +0.3
baz=146,SNR=7.8
OGNE Ogallala 54.70 335 *eP* **P** 13 46 55.5 -2.9
comp=Z,53nm,0.8s
J33A Davis 54.80 340 P **P** 13 46 58.4 -0.5
baz=153,SNR=9.4
K31A O'Neill 54.82 338 P **P** 13 46 59.2 +0.2
baz=150,SNR=7.0
MVCO Mesa Verde 54.91 327 P **P** 13 47 00.6 +0.5
baz=138,SNR=14
MVCO Mesa Verde 54.91 327 *eP* **P** 13 46 56.9 -3.2
comp=Z,74nm,1.6s
MVCO *ePcP* **PcP** 13 47 59.3 -1.0
H36A Jessenland, He 54.98 343 P **P** 13 46 59.4 -0.7
baz=156,SNR=7.7
113A Mohawk Valley, 54.99 319 *eP* **P** 13 47 01.5 +1.1
ECSD EROS Data Cent 55.05 341 P **P** 13 46 59.8 -0.9
baz=153,SNR=24
ECSD EROS Data Cent 55.05 341 *eP* **P** 13 46 58.5 -2.2
comp=Z,20nm,0.8s
I34A Hadley 55.08 341 P **P** 13 47 00.6 -0.3
baz=154
J32A Parkston 55.15 339 P **P** 13 47 00.6 -0.8
baz=152,SNR=7.4
K30A Basset 55.19 338 P **P** 13 47 01.9 +0.2
baz=149,SNR=22
LMQ La Malbaie 55.19 3 *eP* **P** 13 46 58.6 -3.0
LMQ *ePcP* **PcP** 13 48 00.3 -0.5
Y14A Wickenburg 55.26 321 *eP* **P** 13 47 03.3 +0.8
SPMN Marine on St. 55.27 344 P **P** 13 47 01.1 -1.0
baz=158,SNR=22
SPMN Marine on St. 55.27 344 *eP* **P** 13 46 59.1 -3.0
comp=Z,84nm,0.8s
WUAZ Wupatki 55.34 323 P **P** 13 47 04.1 +1.0
baz=134,SNR=27
WUAZ Wupatki 55.34 323 *eP* **P** 13 47 00.3 -2.7
comp=Z,52nm,0.9s
WUAZ *ePcP* **PcP** 13 48 02.5 +0.6
I33A Coleman 55.39 341 P **P** 13 47 02.5 -0.6
baz=153,SNR=5.2
J31A Geddes 55.40 339 P **P** 13 47 02.5 -0.6
baz=151
ISCO Idaho Springs 55.40 331 P **P** 13 47 04.4 +0.7
baz=142,SNR=15
ISCO Idaho Springs 55.40 331 P **P** 13 46 59.7 -4.0
ISCO *e* 13 48 02.8
ISCO pmax pmax
comp=Z,14nm,0.8s
ISCO Idaho Springs 55.40 331 P **P** 13 46 59.7 -4.0
comp=Z,14nm,0.8s
ISCO *ePcP* **PcP** 13 48 02.8 +0.6
G36A St. Michael 55.53 344 P **P** 13 47 03.2 -0.9
baz=157
SMCO Snowmass 55.59 330 *eP* **P** 13 47 03.7 -1.4
comp=Z,27nm,1.0s
SMCO *ePcP* **PcP** 13 48 03.8 +0.8
I32A Karley and Nic 55.59 340 P **P** 13 47 04.1 -0.5
baz=152,SNR=5.9
J30A Dallas 55.70 338 P **P** 13 47 05.0 -0.4
baz=150,SNR=14
GLA Glamis 55.85 319 P **P** 13 47 07.4 +0.7
baz=129,SNR=5.9
GLA Glamis 55.85 319 *eP* **P** 13 47 07.9 +1.2
GLA pmax pmax
comp=Z,20nm,1.1s
GLA Glamis 55.85 319 *eP* **P** 13 47 07.9 +1.2
comp=Z,20nm,1.1s
H33A Prehn Over Nor 55.94 341 P **P** 13 47 06.6 -0.4
baz=153,SNR=6.0
I31A Royce, Wessing 55.97 339 P **P** 13 47 07.4 +0.1
baz=151
PV04 Paradox Valley 56.00 328 *eP* **P** 13 47 05.4 -2.4
H32A Carlson Farm, 56.01 340 P **P** 13 47 07.0 -0.5
baz=152
F36A Milaca 56.05 344 P **P** 13 47 07.0 -0.7
baz=157,SNR=45
G34A Benson 56.09 342 P **P** 13 47 07.0 -1.1
baz=155
Y12C Blythe 56.10 320 P **P** 13 47 09.2 +0.8
baz=130,SNR=6.9
Y12C Blythe 56.10 320 *eP* **P** 13 47 09.4 +1.1
comp=Z,37nm,1.3s
I30A Oacoma 56.19 338 P **P** 13 47 09.1 +0.3
baz=150
PDMCI Parker Dam,Lak 56.21 321 P **P** 13 47 09.8 +0.6
baz=131,SNR=6.1
G33A Ortonville 56.30 341 P **P** 13 47 08.7 -0.8
baz=154,SNR=7.4
F35A Swanville 56.34 343 P **P** 13 47 09.2 -0.6
baz=156,SNR=16
H31A Wolsey 56.34 340 P **P** 13 47 09.6 -0.3
baz=151
E37A Wrenshall 56.40 345 P **P** 13 47 10.0 -0.2
baz=159
N23A Red Feather La 56.42 332 P **P** 13 47 11.7 +0.9
baz=142,SNR=14
N23A Red Feather La 56.42 332 *eP* **P** 13 47 11.4 +0.6
comp=Z,24nm,1.0s
SWSC Sam W. Stewart 56.42 318 P **P** 13 47 10.9 +0.2
baz=128
IKP In-Ko-Pah, Jac 56.45 318 P **P** 13 47 11.9 +1.0
baz=128
SUSD Miller 56.48 339 P **P** 13 47 10.6 -0.2
baz=151,SNR=8.8
F34A Alexandria 56.48 343 P **P** 13 47 10.4 -0.4
baz=155,SNR=12
PHWY Pilot Hill 56.51 332 *eP* **P** 13 47 12.1 +0.6
comp=Z,35nm,1.0s
W13A Hualapai Mount 56.57 321 *eP* **P** 13 47 13.3 +1.3
E36A McGregor 56.58 345 P **P** 13 47 10.8 -0.7
baz=158,SNR=47
I29A Vivian Onida 56.60 338 P **P** 13 47 11.5 -0.2
baz=149,SNR=7.4
BC3 Big Chuckawall 56.64 319 P **P** 13 47 13.2 +0.9
baz=123,SNR=19
G32A Webster 56.69 341 P **P** 13 47 12.2 -0.1
baz=153
IRM Iron Mountain 56.76 320 P **P** 13 47 13.9 +0.9
baz=130,SNR=43
MONP2 Monument Peak 56.81 318 P **P** 13 47 13.6 -0.1
baz=128
F33A 5 Mile Ranch, 56.83 342 P **P** 13 47 12.3 -0.9
baz=154,SNR=16
G31A Conde 56.90 340 P **P** 13 47 13.3 -0.5
baz=152
E35A Pequot Lakes 56.93 344 P **P** 13 47 13.4 -0.5
baz=156,SNR=18
O20A White River Ci 56.95 329 P **P** 13 47 15.6 +1.1
baz=139,SNR=10
D37A Cotton 56.96 345 P **P** 13 47 13.5 -0.7
baz=159,SNR=20
C39A Grand Marais 57.05 347 P **P** 13 47 13.8 -1.0
baz=162,SNR=8.5
H29A Onida 57.09 338 P **P** 13 47 14.8 -0.3
baz=149
E34A Wadena 57.10 343 P **P** 13 47 14.9 -0.3
baz=156,SNR=5.8
G30A Faulkton 57.14 339 P **P** 13 47 15.3 -0.2
baz=151,SNR=19
MMU Miners Mountai 57.16 326 *eP* **P** 13 47 16.9 +0.8
D36A Goodland 57.17 345 P **P** 13 47 14.7 -0.9
baz=158,SNR=13
BELC Bell Mtn. Jos 57.21 319 P **P** 13 47 17.3 +1.0
baz=129,SNR=23
PKCU Pink Cliffs 57.21 324 *eP* **P** 13 47 18.2 +1.6
comp=Z,44nm,1.7s
C38A Sawbill Land. 57.21 347 P **P** 13 47 14.7 -1.3
baz=160
KNB Kanab 57.21 324 *eP* **P** 13 47 17.8 +1.4
KNB pmax pmax
comp=Z,43nm,1.1s
KNB Kanab 57.21 324 *eP* **P** 13 47 17.8 +1.4
comp=Z,43nm,1.1s
109C Camp Elliot, M 57.26 317 P **P** 13 47 18.0 +1.4
baz=127
TPFO Pinon Flats 57.26 318 P **P** 13 47 17.7 +1.0
baz=128,SNR=11
PFO Pinyon Flats O 57.27 318 *eP* **P** 13 47 14.4 -2.4
PFO pmax pmax
comp=Z,28nm,1.1s
PFO Pinyon Flats O 57.27 318 *eP* **P** 13 47 14.4 -2.4
comp=Z,28nm,1.1s
D35A Remer 57.31 344 P **P** 13 47 15.6 -1.1
baz=157,SNR=6.8
LDFC Landfair 57.32 321 *eP* **P** 13 47 18.6 +1.5
comp=Z,29nm,0.8s
E33A Westby DABS, E 57.34 342 P **P** 13 47 16.5 -0.4
baz=155,SNR=5.2
SRU San Rafael Swe 57.39 327 *eP* **P** 13 47 18.1 +0.5
SRU pmax pmax
comp=Z,116nm,1.8s
SRU San Rafael Swe 57.39 327 *eP* **P** 13 47 18.1 +0.5
comp=Z,116nm,1.8s
C37A Embarrass 57.44 346 P **P** 13 47 16.9 -0.6
baz=159,SNR=17
LCMT Little Creek M 57.46 324 *eP* **P** 13 47 19.1 +1.1
comp=Z,30nm,1.1s
G29A Hoven 57.47 339 P **P** 13 47 18.0 +0.2
baz=150
F31A Hecla 57.48 340 P **P** 13 47 17.4 -0.4
baz=152,SNR=7.2
EYMN Ely 57.48 346 P **P** 13 47 16.9 -0.8
baz=160,SNR=12
EYMN Ely 57.48 346 *eP* **P** 13 47 14.3 -3.4
comp=Z,47nm,0.9s
GMRC Granite Mounta 57.48 320 P **P** 13 47 19.0 +0.7
baz=130,SNR=28
MTPU Mount Pierson 57.55 325 *eP* **P** 13 47 19.8 +0.8
comp=Z,8.1nm,0.8s
Q16A Castle Valley 57.60 326 *eP* **P** 13 47 20.2 +1.1
comp=Z,30nm,1.2s
P18A Preston Nutter 57.61 328 *eP* **P** 13 47 20.1 +0.8
comp=Z,41nm,1.4s
C36A Pine Crest Far 57.62 345 P **P** 13 47 18.4 -0.4
baz=158,SNR=26
D34A Park Rapids 57.63 343 P **P** 13 47 18.2 -0.7
baz=156,SNR=12
E32A Braaten, Kindr 57.75 342 P **P** 13 47 19.5 -0.2
baz=154
MURC Murrieta 57.75 318 P **P** 13 47 21.3 +1.2
baz=128,SNR=5.9
P17A Butcher Ranch, 57.77 327 *eP* **P** 13 47 20.9 +0.7
comp=Z,28nm,0.8s
C35A Jirik Farms, M 57.86 345 P **P** 13 47 19.6 -0.9
baz=157,SNR=6.1
D33A AnnSam, Waubun 57.87 343 P **P** 13 47 20.2 -0.3
baz=155
MSU Marysvale 57.87 325 *eP* **P** 13 47 22.0 +1.0
MSU Marysvale 57.87 325 *eP* **P** 13 47 22.0 +1.0
CCUT Cedar City 57.89 324 *eP* **P** 13 47 22.6 +1.4
comp=Z,13nm,0.9s
TMUT Trail Mountain 57.89 327 *eP* **P** 13 47 22.2 +0.9
comp=Z,13nm,0.8s
HEC Hector,Ludlow 57.94 320 P **P** 13 47 22.9 +1.5
baz=129,SNR=7.5
E31A Nome 57.97 341 P **P** 13 47 21.1 -0.2
baz=153,SNR=7.4
F29A Eureka 57.99 339 P **P** 13 47 21.5 0.0
baz=150,SNR=11
K22A Casper 58.06 333 P **P** 13 47 22.7 +0.5
baz=142,SNR=17
K22A Casper 58.06 333 *eP* **P** 13 47 19.6 -2.6
comp=Z,48nm,0.9s
K22A *ePcP* **PcP** 13 48 12.4 0.0
TUQ Turquoise Moun 58.06 320 P **P** 13 47 23.4 +1.1
baz=130,SNR=12
C34A RKJ Ranch, Bem 58.07 344 P **P** 13 47 21.1 -0.8
baz=156,SNR=8.1
RSSD Black Hills 58.16 335 P **P** 13 47 23.7 +0.8
baz=145
RSSD Black Hills 58.16 335 *eP* **P** 13 47 22.5 -0.4
RSSD pmax pmax
comp=Z,40nm,0.9s
RSSD Black Hills 58.16 335 *eP* **P** 13 47 22.5 -0.4
comp=Z,40nm,0.9s
E30A Jud 58.26 340 P **P** 13 47 23.4 +0.1
baz=151,SNR=10
SHPR Sheep Range 58.27 322 *eP* **P** 13 47 24.9 +1.1
comp=Z,42nm,1.4s
SCI2 San Clemente I 58.29 317 P **P** 13 47 24.2 +0.4
baz=126
D31A Mcclaflin, Tow 58.35 342 P **P** 13 47 23.8 -0.1
baz=153,SNR=8.7
H25A Fruitdale 58.39 336 P **P** 13 47 24.8 +0.5
baz=146,SNR=14
B35A Bob, Littlefor 58.41 345 P **P** 13 47 23.5 -0.7
baz=158,SNR=19
C33A Trail 58.41 343 P **P** 13 47 23.4 -0.9
baz=155
BFSC Mount Baldy Ra 58.44 318 P **P** 13 47 25.0 0.0
baz=128,SNR=6.3
GSC Goldstone, Bar 58.54 320 P **P** 13 47 26.5 +0.9
baz=129,SNR=17
GSC Goldstone, Bar 58.54 320 *eP* **P** 13 47 26.5 +0.9
GSC pmax pmax
comp=Z,35nm,1.3s
GSC Goldstone, Bar 58.54 320 *eP* **P** 13 47 26.5 +0.9
comp=Z,35nm,1.3s
FMP Fort Macarthur 58.55 317 P **P** 13 47 26.8 +1.2
baz=127
E29A Napoleon 58.56 340 P **P** 13 47 25.4 0.0
baz=151,SNR=11
SHOC Shoshone, Teco 58.58 321 P **P** 13 47 26.7 +1.0
baz=130,SNR=12
C32A Crookston 58.69 343 P **P** 13 47 26.0 -0.2
baz=154
DRLN Deer Lake 58.69 13 *eP* **P** 13 47 26.2 0.0
comp=Z,65nm,0.7s
MWC Mount Wilson 58.70 318 *eP* **P** 13 47 27.7 +0.9
MWC pmax pmax
comp=Z,34nm,1.3s
MWC Mount Wilson 58.70 318 *eP* **P** 13 47 27.7 +0.9
comp=Z,34nm,1.3s
D30A Buchanan 58.74 341 P **P** 13 47 26.7 +0.1
baz=152,SNR=16
B34A Aery, Baudette 58.76 344 P **P** 13 47 25.9 -0.8
baz=157,SNR=16
B33A Robert and Kas 58.82 344 P **P** 13 47 26.7 -0.5
baz=156,SNR=6.8
E28A Huff 58.93 339 P **P** 13 47 28.4 +0.4
baz=150,SNR=19
D29A Pettibone, Tap 58.98 340 P **P** 13 47 28.3 +0.1
baz=151
C31A Landman Farms, 59.02 342 P **P** 13 47 28.3 -0.2
baz=153,SNR=9.5
F26A Lodgepole 59.04 337 P **P** 13 47 29.3 +0.5
baz=147,SNR=8.4
EDW2 Edwards Air Fo 59.05 319 P **P** 13 47 29.4 +0.3
baz=128,SNR=9.8
E27A Carson 59.12 338 P **P** 13 47 29.8 +0.6
baz=148,SNR=7.9
C30A Mose, Pekin 59.17 341 P **P** 13 47 29.7 +0.2
baz=152,SNR=5.4
TPNV Topopah Spring 59.23 322 P **P** 13 47 31.7 +1.4
baz=130,SNR=32
TPNV Topopah Spring 59.23 322 *eP* **P** 13 47 31.6 +1.2
TPNV pmax pmax
comp=Z,28nm,0.9s
TPNV Topopah Spring 59.23 322 *eP* **P** 13 47 31.6 +1.2
comp=Z,28nm,0.9s
FURC Furnace Creek, 59.30 321 P **P** 13 47 31.7 +1.1
baz=129,SNR=17
TCUT Toone Canyon 59.30 328 *eP* **P** 13 47 31.8 +0.9
comp=Z,133nm,0.7s
A33A Warroad 59.38 344 P **P** 13 47 30.5 -0.4
baz=156,SNR=24
DUG Dugway, Tooele 59.40 326 P **P** 13 47 32.5 +1.1
baz=135,SNR=49
DUG Dugway, Tooele 59.40 326 P **P** 13 47 29.6 -1.9
DUG pmax pmax
comp=Z,65nm,1.0s
DUG Dugway, Tooele 59.40 326 P **P** 13 47 29.6 -1.9
comp=Z,64nm,1.0s
F25A Bowman 59.41 337 P **P** 13 47 31.8 +0.5
baz=146,SNR=9.5
D28A Regan 59.42 340 P **P** 13 47 31.9 +0.6
baz=150
MPMC Manual Prospec 59.44 320 P **P** 13 47 32.2 +0.3
baz=128,SNR=16
E26A Carlson Angus 59.49 338 P **P** 13 47 32.3 +0.5
baz=148,SNR=16
PD31 Pinedale Array 59.58 331 *eP* **P** 13 47 32.6 -0.1
PDAR Pinedale Array 59.58 331 P **P** 13 47 32.7 -0.1
comp=Z,7.5nm,0.7s,baz=142,slow=7.4,SNR=51
PDAR PcP **PcP** 13 48 18.2 -0.3
comp=Z,4.8nm,0.5s,baz=123,slow=6.5,SNR=12
BW06 Boulder Array 59.58 331 P **P** 13 47 32.6 -0.2
baz=139,SNR=31
BW06 Boulder Array 59.58 331 *eP* **P** 13 47 32.0 -0.7
comp=Z,13nm,1.4s
BW06 *ePcP* **PcP** 13 48 17.6 -0.9
MCU Monte Cristo P 59.60 328 *eP* **P** 13 47 33.5 +0.4
DAC Darwin (Calif) 59.65 320 *eP* **P** 13 47 29.4 -3.9
DAC pmax pmax
comp=Z,13nm,1.1s
DAC Darwin (Calif) 59.65 320 *eP* **P** 13 47 29.4 -3.9
comp=Z,13nm,1.1s
A32A Rocking H Ranc 59.66 343 P **P** 13 47 32.2 -0.7
baz=155,SNR=8.2
MDND Maddock 59.66 341 P **P** 13 47 33.6 +0.6
baz=151
MDND Maddock 59.66 341 *eP* **P** 13 47 31.4 -1.5
comp=Z,213nm,1.0s
D27A Center 59.68 339 P **P** 13 47 33.0 -0.1
baz=149
RSUT Red Spur Mount 59.68 329 *eP* **P** 13 47 33.9 +0.3
R11A Troy Canyon, C 59.73 323 P **P** 13 47 34.8 +1.0
baz=131,SNR=30
R11A Troy Canyon, C 59.73 323 *eP* **P** 13 47 32.0 -1.8
comp=Z,33nm,1.4s
HWUT Hardware Ranch 59.74 328 *eP* **P** 13 47 34.1 +0.3
comp=Z,53nm,0.8s
B30A Myrvik Farm, E 59.79 342 P **P** 13 47 33.6 -0.1
baz=153,SNR=7.2
C28A Hausauer Farms 59.81 340 P **P** 13 47 34.4 +0.4
baz=150,SNR=6.0
ISA Isabella, Lake 59.84 319 P **P** 13 47 35.3 +0.9
baz=128
ISA Isabella, Lake 59.84 319 *eP* **P** 13 47 35.9 +1.4
ISA pmax pmax
comp=Z,11nm,0.8s
ISA Isabella, Lake 59.84 319 *eP* **P** 13 47 35.9 +1.4
comp=Z,11nm,0.8s
E25A Miller Ranch, 59.87 337 P **P** 13 47 35.1 +0.7
baz=147,SNR=8.4
D26A Manning 59.95 338 P **P** 13 47 35.4 +0.5
baz=148,SNR=5.5
GRAC Grapevine Rang 59.95 321 P **P** 13 47 36.4 +1.2
baz=129
SPUT South Promonto 59.99 328 *eP* **P** 13 47 36.5 +1.0
comp=Z,57nm,1.1s
BGU Big Grassy Mou 60.03 327 *eP* **P** 13 47 36.6 +0.9
comp=Z,34nm,1.1s
CWC Cottonwood Cre 60.05 320 P **P** 13 47 36.9 +0.9
baz=128
B29A Wagenman Farm, 60.12 341 P **P** 13 47 36.7 +0.6
baz=152,SNR=11
A30A Hoffart Farm, 60.22 342 P **P** 13 47 36.4 -0.3
baz=153
VES Vestal, Richgr 60.34 319 P **P** 13 47 38.9 +1.2
baz=127
D25A Fairfield 60.38 338 P **P** 13 47 38.9 +1.0
baz=147,SNR=6.1
B28A Dugan Ranch, T 60.44 340 P **P** 13 47 38.8 +0.6
baz=150,SNR=6.4
A29A Manning Farm, 60.49 341 P **P** 13 47 38.4 -0.1
baz=152,SNR=12
HVU Hansel Valley 60.50 328 *eP* **P** 13 47 39.5 +0.6
HVU pmax pmax
comp=Z,28nm,1.0s
HVU Hansel Valley 60.50 328 *eP* **P** 13 47 39.5 +0.6
comp=Z,28nm,1.0s
C26A Wahner Farm, P 60.50 339 P **P** 13 47 39.4 +0.8
baz=148
TIN Tinemaha, Big 60.53 321 P **P** 13 47 40.5 +1.3
baz=128
SMMC Simmler 60.63 318 P **P** 13 47 40.9 +1.1
baz=126,SNR=5.8
REDW Red Top Meadow 60.66 330 *eP* **P** 13 47 36.6 -3.5
comp=Z,36nm,1.1s
SNOW Snow King Moun 60.69 330 *eP* **P** 13 47 36.5 -3.8
comp=Z,22nm,0.8s
ULM Lac du Bonnet 60.70 344 P **P** 13 47 39.0 -1.0
comp=Z,44nm,0.7s,baz=162,slow=6.8,SNR=31
ULM pP **pP** 13 48 15.1 -0.7
comp=Z,46nm,0.9s,baz=158,slow=6.7,SNR=11
ULM PcP **PcP** 13 48 22.1 -0.3
comp=Z,18nm,0.8s,baz=190,slow=4.0,SNR=4.4
ULM Lac du Bonnet 60.70 344 *eP* **P** 13 47 38.9 -1.0
comp=Z,52nm,0.8s
ULM pP **pP** 13 48 15.1 -0.7
ULM PcP **PcP** 13 48 22.1 -0.3
B27A Peters Farms, 60.70 340 P **P** 13 47 40.8 +0.8
baz=149,SNR=9.0
LOHW Long Hollow 60.72 331 *eP* **P** 13 47 38.2 -2.3

comp=Z,21nm,0.8s
TPAW Teton Pass 60.80 330 *e*P P 13 47 40.1 -1.1
comp=Z,15nm,0.8s
A28A Rude Farm, Bot 60.81 341 P P 13 47 40.8 +0.1
baz=151
C25A Freed Ranch, W 60.82 338 P P 13 47 41.5 +0.6
baz=147
MOOW Moose Ponds 60.89 331 *e*P P 13 47 41.8 +0.1
comp=Z,73nm,1.8s
B26A Jensen Ranch, 61.02 339 P P 13 47 42.9 +0.8
baz=148,SNR=7.6
IMW Indian Meadow 61.10 331 P P 13 47 42.6 -0.5
comp=Z,36nm,0.8s
IMW *e*PcP PcP 13 48 24.5 -0.1
FLWY Flagg Ranch 61.12 331 *e*P P 13 47 42.3 -0.8
comp=Z,66nm,0.8s
ELK Elko 61.12 325 *e*P P 13 47 40.0 -3.3
ELK *e* 13 48 24.3
ELK pmax pmax
comp=Z,22nm,1.4s
ELK Elko 61.12 325 *e*P P 13 47 40.0 -3.3
comp=Z,22nm,1.4s
ELK *e*PcP PcP 13 48 24.3 -0.5
LAO LASA Array 61.14 336 P P 13 47 43.5 +0.5
baz=144,SNR=12
LAO LASA Array 61.14 336 *e*P P 13 47 40.9 -2.2
comp=Z,54nm,1.3s
A27A Ledoux Ranch, 61.17 340 P P 13 47 44.1 +1.0
baz=150,SNR=5.1
RLMT Red Lodge 61.23 333 *e*P P 13 47 44.3 +0.4
baz=140,SNR=32
RLMT Red Lodge 61.23 333 *e*P P 13 47 42.8 -1.1
comp=Z,31nm,0.9s
B25A Knox Farm, Ray 61.26 339 P P 13 47 45.2 +1.4
baz=147
MLAC Mammoth, Mammo 61.26 321 P P 13 47 45.3 +1.0
baz=128
H17A Grant Village 61.29 331 P P 13 47 45.6 +1.3
baz=138,SNR=13
H17A Grant Village 61.29 331 P P 13 47 43.6 -0.7
comp=Z,43nm,1.5s
NV11 Mina Array Sit 61.34 322 *e*P P 13 47 45.6 +0.9
A26A Wade Farm, Ken 61.39 340 P P 13 47 45.4 +0.8
baz=149
NV01 Mina Array Sit 61.42 322 *e*P P 13 47 46.1 +0.8
NVAR Mina Array Bea 61.42 322 P P 13 47 45.8 +0.4
comp=Z,8.3nm,0.8s,baz=129,slow=6.2,SNR=31
NVAR PcP PcP 13 48 26.2 +0.2
comp=Z,6.4nm,0.7s,baz=126,slow=4.0,SNR=11
YFT Old Faithful 61.46 331 *e*P P 13 47 47.8 +2.3
comp=Z,98nm,1.5s
YMR Madison River 61.68 331 *e*P P 13 47 48.7 +1.8
comp=Z,77nm,0.9s
YHH Holmes Hill 61.72 331 *e*P P 13 47 48.5 +1.2
DGMT Dagmar 61.80 338 P P 13 47 48.6 +1.1
baz=146,SNR=6.5
DGMT Dagmar 61.80 338 P P 13 47 47.2 -0.2
comp=Z,56nm,0.8s
QLMT Earthquake Lak 62.02 331 *e*P P 13 47 50.7 +1.5
BMN Battle Mountai 62.05 324 *e*P P 13 47 48.0 -1.4
BMN pmax pmax
comp=Z,17nm,0.9s
BMN Battle Mountai 62.05 324 *e*P P 13 47 48.0 -1.4
comp=Z,17nm,0.9s
WAKR Walker 62.17 321 *e*P P 13 47 51.5 +1.2
CMB Columbia Colle 62.48 320 P P 13 47 51.9 -0.3
CMB pmax pmax
comp=Z,10.0nm,1.0s
CMB Columbia Colle 62.48 320 P P 13 47 51.9 -0.3
comp=Z,10nm,1.0s
HLID Hailey 62.61 328 P P 13 47 53.8 +0.8
baz=134,SNR=22
HLID Hailey 62.61 328 *e*P P 13 47 52.7 -0.4
comp=Z,20nm,1.0s
HLID *e*PcP PcP 13 48 29.9 -0.7
SCHQ Schefferville 62.69 5 P P 13 47 53.2 0.0
comp=Z,33nm,0.8s,baz=192,slow=5.8,SNR=18
SCHQ pP pP 13 48 29.4 +0.2
comp=Z,24nm,0.9s,baz=181,slow=5.2,SNR=5.0
MCMT McKenzie Canyo 62.71 330 *e*P P 13 47 54.9 +1.0
BOZ Bozeman (W) 62.72 332 P P 13 47 54.3 +0.5
baz=138,SNR=93
BOZ Bozeman (W) 62.72 332 *e*P P 13 47 54.2 +0.4
BOZ pmax pmax
comp=Z,78nm,1.3s
BOZ Bozeman (W) 62.72 332 *e*P P 13 47 54.2 +0.4
comp=Z,78nm,1.3s
PAHR Pah Rah Range 62.88 322 *e*P P 13 47 56.0 +1.1
comp=Z,35nm,1.0s
DLMT Dillon 62.98 331 P P 13 47 55.0 -0.4
comp=Z,26nm,1.0s
LRM Limekiln Ridge 63.24 331 *e*P P 13 47 57.8 +0.5
AFDM Forest Hills D 63.40 321 *e*P P 13 47 58.9 +0.7
comp=Z,15nm,0.9s
HRY Holter Researc 63.60 332 *e*P P 13 48 00.3 +0.8
EGMT Eagleton 63.67 334 P P 13 48 00.5 +0.7
baz=140,SNR=35
EGMT Eagleton 63.67 334 *e*P P 13 47 57.9 -2.0
comp=Z,57nm,0.8s
ORV Oroville 64.08 321 *e*P P 13 48 03.9 +1.2
ORV pmax pmax
comp=Z,68nm,1.1s
ORV Oroville 64.08 321 *e*P P 13 48 03.9 +1.2
comp=Z,68nm,1.1s
WVOR Wild Horse Val 64.15 325 *e*P P 13 47 59.4 -3.8
WVOR pmax pmax
comp=Z,28nm,1.1s
WVOR Wild Horse Val 64.15 325 *e*P P 13 47 59.4 -3.8
comp=Z,28nm,1.1s
CHMT Chamberlain Mo 64.42 332 *e*P P 13 48 05.4 +0.5
MSO Missoula 64.68 331 P P 13 48 07.4 +0.9
baz=136,SNR=62
MSO Missoula 64.68 331 *e*P P 13 48 07.5 +0.9
comp=Z,82nm,0.9s
O03D Paynes Creek 64.71 322 P P 13 48 06.8 0.0
baz=126,SNR=5.4
MOD Modoc Plateau 64.78 324 *e*P P 13 48 05.7 -1.6
comp=Z,31nm,1.1s
BMO Blue Mountains 65.01 328 *e*P P 13 48 09.1 +0.4
comp=Z,12nm,1.0s
SWMT Swartz Lake 65.20 332 *e*P P 13 48 10.7 +0.9
WDC Whiskeytown Da 65.33 321 *e*P P 13 48 09.9 -0.8
WDC pmax pmax
comp=Z,10.0nm,0.9s
WDC Whiskeytown Da 65.33 321 *e*P P 13 48 09.9 -0.8
comp=Z,9.7nm,0.9s
YBMT Yellow Bay 65.46 332 *e*P P 13 48 12.7 +1.1
JTMT Jette 65.50 332 *e*P P 13 48 12.9 +1.1
M04C Macdoel 65.62 323 P P 13 48 13.6 +0.9
baz=127,SNR=15
K05A Summer Lake 65.63 324 *e*P P 13 48 14.2 +1.3
comp=Z,72nm,1.0s
N02D Trinity Center 65.67 322 P P 13 48 12.7 -0.3
baz=126
BLMT Blacktail Moun 65.73 332 *e*P P 13 48 14.3 +1.0
BSMT Bassoo Peak 65.82 331 *e*P P 13 48 15.0 +1.0
M02C Callahan 66.00 322 P P 13 48 15.1 0.0
baz=126
K04D Chiloquin, OR 66.07 324 P P 13 48 16.6 +1.0
baz=127
J05D Fort Rock, OR 66.17 324 P P 13 48 17.4 +1.1
baz=128,SNR=13
G08A Pilot Rock 66.18 327 *e*P P 13 48 17.0 +0.8
comp=Z,14nm,0.8s
WALA Waterton Lakes 66.28 333 *e*P P 13 48 16.3 -0.4
FFC Flin Flon 66.39 343 *e*P P 13 48 14.6 -2.6
FFC pmax pmax
comp=Z,33nm,1.0s
FFC Flin Flon 66.39 343 *e*P P 13 48 14.6 -2.6
comp=Z,32nm,1.0s
JCC Jacoby Creek, 66.39 321 *e*P P 13 48 19.0 +1.6
comp=Z,61nm,1.3s
I05D Terrebonne, OR 66.88 325 P P 13 48 21.9 +1.3
baz=128,SNR=13
L02D Cave Junction, 66.90 322 P P 13 48 21.7 +0.9
baz=126,SNR=7.0
I04A Tendick Farm, 67.16 324 P P 13 48 22.7 +0.4
baz=127
HAWA Hanford 67.20 328 *e*P P 13 48 19.2 -3.3
NEW Newport 67.23 331 P P 13 48 23.2 +0.5
baz=134,SNR=18
NEW Newport 67.23 331 *e*P P 13 48 21.1 -1.6
NEW pmax pmax
comp=Z,37nm,0.8s
NEW Newport 67.23 331 *e*P P 13 48 21.1 -1.6
comp=Z,36nm,0.8s
G05D Wamic, OR 67.43 326 P P 13 48 24.9 +0.9
baz=129
C09A Chrisman Ranch 67.48 330 *e*P P 13 48 26.1 +1.9
comp=Z,101nm,1.4s
H04A Detroit Lake 67.57 325 *e*P P 13 48 25.4 +0.4
comp=Z,24nm,0.9s
I03D Drain, OR 67.65 324 P P 13 48 26.2 +0.9
baz=126
FCC Fort Churchill 68.17 349 *e*P P 13 48 28.0 -0.2
FCC Fort Churchill 68.17 349 *e*P P 13 48 28.0 -0.2
B08A Colville Reser 68.38 330 *e*P P 13 48 30.5 +0.6
comp=Z,36nm,0.8s
LON Longmire 68.64 327 *e*P P 13 48 32.1 +0.5
LON pmax pmax
comp=Z,10.0nm,0.8s
LON Longmire 68.64 327 *e*P P 13 48 32.0 +0.5
comp=Z,10nm,0.8s
F04D Rainier, OR 68.88 326 P P 13 48 34.5 +1.5
baz=128
D05A Emumclaw 69.01 327 *e*P P 13 48 34.6 +0.9
comp=Z,69nm,0.9s
E03A Lebam 69.47 326 *e*P P 13 48 38.2 +1.7
comp=Z,85nm,1.4s
B05A Bryant 69.73 328 P P 13 48 38.6 +0.4
baz=129,SNR=22
NLWA Neilton Lookou 70.14 327 *e*P P 13 48 42.3 +1.5
comp=Z,50nm,1.0s
A04D Lummi Island 70.34 328 P P 13 48 43.2 +1.4
baz=128,SNR=29
PGC Sidney 70.68 328 *e*P P 13 48 45.1 +1.2
DBIC Dimbokro 70.89 80 P P 13 48 45.4 -0.5
comp=Z,28nm,0.7s,baz=238,slow=5.9,SNR=31
DBIC pP pP 13 49 22.1 -0.6
comp=Z,3.9nm,0.5s,baz=259,slow=2.0,SNR=1.7
DBIC LR LR 14 17 42.9
comp=Z,45nm,20.2s,baz=180,slow=34
NRS Narsarsuaq 72.38 14 *i*P P 13 48 52.9 -0.9
NRS pmax pmax
comp=Z,34nm,0.9s
NRS Narsarsuaq 72.38 14 *i*P P 13 48 52.9 -0.9
comp=Z,34nm,0.9s
KOWA Kowa 73.28 72 *e*P P 13 48 59.8 -0.3
VNA1 Neumayer--Stat 74.94 162 P P 13 49 10.3 +1.7
PFVI Vila Bisbo 75.76 49 *e*P P 13 49 12.7 -1.3
comp=Z,184nm,1.5s
MORF Marmelete 75.96 49 *e*P P 13 49 14.9 -0.3
MORF Marmelete 75.96 49 *e*P P 13 49 16.4 +1.2
comp=Z,102nm,1.9s
MORF Marmelete 75.96 49 *e*P P 13 49 16.2 +1.0
PNCL Nicolau / Gran 76.34 48 *e*P P 13 49 18.0 +0.8
comp=Z,45nm,1.1s
MESJ Messejana 76.47 48 *e*P P 13 49 17.4 -0.5
MESJ Messejana 76.47 48 *e*P P 13 49 18.8 +0.8
comp=Z,41nm,2.0s
PCVE Castro Verde 76.53 48 *e*P P 13 49 19.5 +1.2
comp=Z,30nm,0.8s
YKA Yellowknife Ar 76.53 342 P P 13 49 17.4 -0.3
comp=Z,11nm,0.7s,baz=137,slow=6.1,SNR=164
YKA pP pP 13 49 55.4 +0.3
comp=Z,1.8nm,0.6s,baz=136,slow=6.2,SNR=2.7
SFJD Kangerlussuaq 76.54 9 *i*P P 13 49 16.8 -0.9
SFJD pmax pmax
comp=Z,25nm,0.9s
SFJD Kangerlussuaq 76.54 9 *i*P P 13 49 16.8 -0.9
comp=Z,25nm,0.9s
PBEJ Beja 76.80 48 *e*P P 13 49 20.6 +0.8
comp=Z,26nm,2.0s
EVO Evora 76.87 48 *e*P P 13 49 20.8 +0.6
comp=Z,32nm,1.1s
PMTG Montargil 76.91 47 *e*P P 13 49 20.8 +0.4
comp=Z,32nm,1.8s
SNAA Sanae 76.93 162 P P 13 49 21.0 +1.0
SNAA Sanae 76.93 162 *d*iP P 13 49 20.6 +0.5
SNAA Sanae 76.93 162 *e*P P 13 49 20.9 +0.8
PTOM Tomar 76.97 46 *e*P P 13 49 21.0 +0.2
comp=Z,33nm,0.7s
PCAS Casmilo, Conde 77.07 46 *e*P P 13 49 21.1 -0.2
comp=Z,17nm,1.0s
PESTR Estremoz 77.30 47 *e*P P 13 49 23.2 +0.6
comp=Z,31nm,1.1s
PBAR Barrancos 77.46 48 *e*P P 13 49 24.1 +0.6
comp=Z,41nm,1.7s
PMRV Marv??o 77.64 47 *e*P P 13 49 24.4 -0.1
comp=Z,14nm,1.5s
PCBR Castelo Branco 77.73 46 *e*P P 13 49 25.1 +0.1
comp=Z,15nm,0.9s
PVIS Viseu 77.75 46 *e*P P 13 49 25.1 0.0
comp=Z,23nm,1.1s
MTE Manteigas 77.88 46 *e*P P 13 49 26.0 +0.1
comp=Z,20nm,0.9s
MTE Manteigas 77.88 46 *e*P P 13 49 25.4 -0.5
PGAV Gavieira, Arco 77.95 44 *e*P P 13 49 26.1 -0.2
comp=Z,26nm,1.4s
PCAB Cabril 78.02 45 *e*P P 13 49 26.8 +0.2
comp=Z,35nm,0.9s
POLO Lamas de Olo 78.06 45 *e*P P 13 49 26.8 -0.1
comp=Z,9.6nm,1.1s
PVRL Vila Real 78.08 45 *e*P P 13 49 26.7 -0.2
comp=Z,24nm,1.4s
TORD Torodi Ar. Bea 78.43 75 P P 13 49 28.6 -0.7
comp=Z,21nm,0.9s,baz=284,slow=5.5,SNR=90
TORD pP pP 13 50 04.5 -2.4
comp=Z,9.9nm,1.0s,baz=265,slow=5.4,SNR=4.0
TORD S S 13 59 08.5 -4.8
comp=Z,1.7nm,1.0s,baz=261,slow=8.8,SNR=5.5
ILULI Ilulissat 78.50 8⇓*i*P P 13 49 28.0 -0.6
ILULI pmax pmax
comp=Z,33nm,0.7s
ILULI Ilulissat 78.50 8⇓*i*P P 13 49 28.0 -0.6
comp=Z,33nm,0.7s
MVO Moncorvo 78.52 45 *e*P P 13 49 29.6 +0.2
comp=Z,33nm,0.9s
PBRG Braganca 78.95 45 *e*P P 13 49 31.8 +0.1
comp=Z,14nm,1.8s
DLBC Dease Lake 79.59 334 *e*P P 13 49 35.8 +0.9
PAB San Pablo 79.90 48 *e*P P 13 49 37.5 +0.5
PAB San Pablo 79.90 48 *e*P P 13 49 37.5 +0.5
ESDC Sonseca Array 80.22 48 *e*P P 13 49 39.1 +0.4
comp=Z,8.9nm,0.8s,baz=254,slow=6.3,SNR=47
ESLA Sonseca Array 80.22 48 *e*P P 13 49 39.2 +0.5
ES19 SONSECA Array 80.27 48 *e*P P 13 49 39.1 +0.1
NVL N'lazarevskaya 81.50 160 *e*P P 13 49 48.1 +3.4
QSPA South Pole Qui 82.34 180 *e*P P 13 49 50.1 +0.6
comp=Z,237nm,0.8s
SUMG Summit 83.48 10 *e*P P 13 49 55.3 -0.1
SUMG pmax pmax
comp=Z,28nm,0.8s
SUMG Summit 83.48 10⇓*i*P P 13 49 55.8 +0.4
comp=Z,64nm,0.8s
SUMG *i* 13 50 33.7
SUMG Summit 83.48 10 *e*P P 13 49 55.3 -0.1
comp=Z,28nm,0.8s
ROSF Rostrenen 83.50 39 *e*P P 13 49 54.8 -0.7
ROSF pmax pmax
comp=Z,29nm,1.1s
REYF Montagne du Re 83.81 45⇑*e*P P 13 49 58.3 +1.0
TAM Tamanrasset 83.84 66 *e*P P 13 49 58.2 +0.1
TAM pmax pmax
comp=Z,38nm,1.3s
TAM Tamanrasset 83.84 66 *e*P P 13 49 58.2 +0.1
comp=Z,38nm,1.3s
VIEF Viey 84.05 45⇑*e*P P 13 49 59.6 +1.1
RESF Ens 84.25 46⇑*e*P P 13 50 00.7 +1.1
SALF Salau 84.84 46⇑*e*P P 13 50 03.9 +1.4
GRR Gorron 85.05 40 *e*P P 13 50 02.4 -0.9
GRR pmax pmax
comp=Z,14nm,0.8s
LFF La Frestale 85.11 44 *e*P P 13 50 03.3 -0.4
LFF pmax pmax
comp=Z,37nm,0.8s
FLN La Foliniere 85.40 40 *e*P P 13 50 04.4 -0.6
FLN pmax pmax
comp=Z,21nm,1.0s
SCO Scoresbysund 85.63 16⇓*i*P P 13 50 06.1 +0.4
SCO *i* 13 50 43.2
SCO Scoresbysund 85.63 16⇓*i*P P 13 50 06.1 +0.4
SCO *i* 13 50 43.2
FILF Fillols 85.76 46⇑*e*P P 13 50 07.1 0.0
CAF Calviac 86.02 44 *e*P P 13 50 07.8 -0.5
CAF pmax pmax
comp=Z,14nm,0.8s
INK Inuvik 86.28 341 P P 13 50 08.9 0.0
comp=Z,19nm,0.8s,baz=97,slow=6.3,SNR=47
INK pP pP 13 50 47.2 +0.1
comp=Z,12nm,0.9s,baz=106,slow=3.5,SNR=5.6
LBL Lubilhac 86.90 44⇑*e*P P 13 50 13.9 +1.3
AGO Saint Agoulin 87.03 43⇑*e*P P 13 50 14.1 +1.0
BMRM Bremner River 87.30 333 *e*P P 13 50 14.9 +0.8
EGAK Eagle 87.32 337 *e*P P 13 50 14.2 +0.1
AVF Avril sur Loir 87.36 42 *e*P P 13 50 13.6 -1.0
AVF pmax pmax
comp=Z,7.0nm,1.2s
SSB Saint Sauveur 87.80 44 *e*P P 13 50 17.0 +0.1
SSB Saint Sauveur 87.80 44 *e*P P 13 50 17.0 +0.1
DIV Divide 87.89 333 *e*P P 13 50 17.4 +0.5
DOT Dot Lake 88.05 335 *e*P P 13 50 17.7 +0.1
KLU Klutina 88.08 333 *e*P P 13 50 18.3 +0.4
SBA Scott Base 88.27 191 *e*P P 13 50 20.3 +1.9
SBA Scott Base 88.27 191 *e*P P 13 50 20.3 +1.9
SCM Sheep Creek Mo 88.83 333 *e*P P 13 50 20.3 -1.1
SCM Sheep Creek Mo 88.83 333 *e*P P 13 50 20.3 -1.1
SNF Seneffe 88.85 39 P P 13 50 21.4 -0.2
DOU Dourbes 88.95 39 P P 13 50 22.0 0.0
comp=Z,13nm,1.4s
CABF La Chapelle 89.15 43 *e*P P 13 50 22.4 -0.8
CABF pmax pmax
comp=Z,7.0nm,0.7s
SML Sawmill 89.28 333 *e*P P 13 50 23.7 +0.3
SML Sawmill 89.28 333 *e*P P 13 50 23.7 +0.3
VNDA Vanda 89.34 190 P P 13 50 25.0 +1.5
comp=Z,8.6nm,0.9s,baz=128,slow=4.7,SNR=41
VNDA pP pP 13 51 04.0 +2.1
comp=Z,3.8nm,0.8s,baz=81,slow=2.4,SNR=4.3
VNDA LR LR 14 23 33.3
comp=Z,26nm,21.2s,baz=288,slow=31
LPL La Plagne 89.36 44 *e*P P 13 50 24.2 -0.2
LPL pmax pmax
comp=Z,20nm,0.8s
LPG La Plagne 89.37 44 *e*P P 13 50 24.4 -0.2
LPG pmax pmax
comp=Z,22nm,0.8s
TSUM Tsumeb 89.41 109 P P 13 50 25.5 +0.4
comp=Z,18nm,0.8s,baz=270,slow=5.3,SNR=22
TSUM Tsumeb 89.41 109 *e*P P 13 50 25.9 +0.7
BCLA Clavier 89.46 39 P P 13 50 24.9 +0.5
KEST Kesra 89.49 54 P P 13 50 24.8 -0.3
comp=Z,15nm,0.7s,baz=17,slow=2.6,SNR=15
KEST Kesra 89.49 54 *e*P P 13 50 25.4 +0.3
PMR Palmer 89.57 333 *e*P P 13 50 24.7 0.0
PMR Palmer 89.57 333 *e*P P 13 50 24.7 0.0
IL1 Eielson Array 89.60 336 *e*P P 13 50 23.6 -1.2
ILAR Eielson Array 89.60 336 P P 13 50 24.6 -0.3
comp=Z,9.8nm,0.9s,baz=136,slow=3.2,SNR=76
ILAR pP pP 13 51 03.2 0.0
comp=Z,8.1nm,0.9s,baz=129,slow=3.3,SNR=10.0
ILAR PP PP 13 53 57.1 -1.6
comp=Z,3.3nm,1.1s,baz=108,slow=6.8,SNR=11
ILAR PKKPbc PKKPdf 14 07 57.6 +1.1
comp=Z,0.4nm,0.6s,baz=287,slow=3.2,SNR=5.9
ILB Eielson Array 89.60 336 *e*P P 13 50 24.6 -0.2
LOMF Lomont 89.80 42⇑*e*P P 13 50 26.3 +0.1
WLF Walferdange 89.83 40 P P 13 50 26.7 +0.4
comp=Z,18nm,1.6s
WLF Walferdange 89.83 40 *e*P P 13 50 26.6 +0.4
WLF Walferdange 89.83 40 *e*P P 13 50 26.6 +0.4
HINF Hinteralfeld 89.91 42 *e*P P 13 50 25.5 -1.2
HINF pmax pmax
comp=Z,13nm,1.4s
SENIN Lac Senin/Sane 89.92 43 *e*P P 13 50 27.2 +0.2
CCB Clear Creek Bu 89.93 336 *e*P P 13 50 26.2 -0.1
MEM Membach 89.94 39 P P 13 50 26.5 -0.2
comp=Z,8.4nm,1.6s
RND Reindeer 89.99 334 *e*P P 13 50 27.3 +0.5
RND Reindeer 89.99 334 *e*P P 13 50 27.3 +0.5
WRH Wood River Hil 89.99 335 *e*P P 13 50 26.6 -0.1
COLA College 90.02 336 *d*iP P 13 50 26.9 +0.2
COLA pmax pmax
comp=Z,36nm,1.0s
COLA College 90.02 336 *e*P P 13 50 26.7 0.0
MOF Molkenrain 90.10 42⇑*e*P P 13 50 27.1 -0.6
MCK McKinley 90.12 335 *e*P P 13 50 27.8 +0.5
MCK McKinley 90.12 335 *e*P P 13 50 27.8 +0.5
ECH Echery 90.19 41⇑*e*P P 13 50 27.8 -0.2
MDM Murphy Dome 90.20 336 *e*P P 13 50 27.9 +0.2
KDAK Kodiak Island 90.23 328 *i*P P 13 50 28.1 +0.2
SUR Sutherland 90.32 123 P P 13 50 29.3 +0.1
comp=Z,0.7nm,0.8s,baz=282,slow=5.9,SNR=9.1
OHAK Old Harbor 90.47 328 *e*P P 13 50 29.4 +0.4
TRF Thorofare Moun 90.62 334 *e*P P 13 50 29.7 -0.1
LANF Langenberg 90.76 41⇑*e*P P 13 50 30.6 0.0
SPU Mount Spurr 90.81 332 *e*P P 13 50 30.8 +0.2
KTH Kantishna Hill 90.92 334 *e*P P 13 50 31.3 +0.2
RSO Redoubt South 90.97 331 *e*P P 13 50 31.8 +0.2
BPAW Bear Paw Mtn. 91.10 335 *e*P P 13 50 30.5 -1.3
SYO Syowa Base 91.17 161⇑*e*pP pP 13 51 08.0 -2.5
SYO Syowa Base 91.17 161⇓*eX* pP 13 51 10.4 -0.1
PPLA Purkeypile 91.31 333 *e*P P 13 50 30.9 -2.1
comp=Z,43nm,1.2s
TUE Stuetta 91.33 43 *e*P P 13 50 33.1 -0.4
COLD Coldfoot 91.64 338 *e*P P 13 50 35.1 +0.9
DAVOX Davos/Dischmat 91.74 43 P P 13 50 35.5 +0.1
comp=Z,10nm,0.8s,baz=236,slow=2.4,SNR=17
CLL Collm 94.42 39 *e*P P 13 50 48.0 +0.6
comp=Z,4.0nm,1.0s
CLL *e*pP pP 13 51 11.0 -15
CLL Collm 94.42 39 *e*P P 13 50 48.0 +0.6
CLL pmax pmax
comp=Z,4.0nm,1.0s
JAVS Javornik 94.49 44 *i*P P 13 50 48.1 +0.1
GERES GERESS Array B 94.58 41 P P 13 50 49.0 +0.7
comp=Z,0.8nm,0.6s,baz=270,slow=4.7,SNR=7.0
GERES LR LR 14 28 44.9
comp=Z,26nm,21.8s,baz=36,slow=32
GERES GERESS Array B 94.58 41 P P 13 50 49.0 +0.7
NB2 NORSAR Subarra 94.64 29 P P 13 50 48.7 +0.4
comp=Z,7.6nm,0.8s,baz=261,slow=4.6
NB2 NORSAR Subarra 94.64 29 P P 13 50 48.7 +0.4
baz=261,slow=4.6
NOA NORSAR Array B 94.64 29 P P 13 50 49.1 +0.8
comp=Z,4.6nm,0.8s,baz=262,slow=4.8,SNR=10
BOSA Boshof 94.77 120 P P 13 50 49.7 -0.1
comp=Z,8.3nm,1.0s,baz=243,slow=4.5,SNR=7.6
BOSA Boshof 94.77 120 *e*P P 13 50 50.1 +0.3
BRG Berggiesshubel 94.96 39 *e*P P 13 50 50.2 +0.3
comp=Z,6.8nm,1.4s
BRG Berggiesshubel 94.96 39 *e*P P 13 50 50.2 +0.3
BRG pmax pmax
comp=Z,7.0nm,1.4s
PRU Pruhonice 95.25 40 *e*P P 13 50 52.2 +1.0
PRU Pruhonice 95.25 40 *e*P P 13 50 52.2 +1.0
BOJS Bojanci 95.28 45 *i*P P 13 50 52.0 +0.5
PERS Pernice 95.30 44 *i*P P 13 50 46.6 -5.0
HFS Hagfors 95.76 30 PKKPbc PKKPbc 14 07 39.7 -5.5
comp=Z,1.3nm,0.6s,baz=209,slow=1.5,SNR=4.3
LBTB Lobatse 95.78 116 P P 13 50 54.4 0.0
comp=Z,9.9nm,0.8s,baz=284,slow=5.0,SNR=14
LBTB Lobatse 95.78 116 *e*P P 13 50 54.8 +0.4
TREC Trest 95.79 41 *e*P P 13 50 54.8 +1.0
TREC Trest 95.79 41 *e*P P 13 50 54.8 +1.0
UPC Upice 96.23 40 *e*P P 13 50 56.7 +1.0
UPC Upice 96.23 40 *e*P P 13 50 56.7 +1.0
DPC Dobruska-Polom 96.42 40 *e*P P 13 50 56.9 +0.3
DPC Dobruska-Polom 96.42 40 *e*P P 13 50 56.9 +0.3
VRAC Vranov 96.52 41 P P 13 50 57.3 +0.2
comp=Z,1.6nm,0.4s,baz=279,slow=7.1,SNR=3.9
MORC Moravsky Berou 97.17 41 *e*P Pdif 13 51 01.0 +0.9
MORC Moravsky Berou 97.17 41 *e*P Pdif 13 51 01.0 +0.9
SPITS Spitsbergen Ar 97.72 12 PKKPbc PKKPbc 14 07 37.1 -3.2
comp=Z,1.7nm,0.7s,baz=138,slow=7.6,SNR=5.3
VYHS Vyhne 97.94 42 *e*P Pdif 13 51 04.0 +0.5
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 97.94 42 *e*P Pdif 13 51 04.0 +0.5
VYHS Vyhne 97.94 42 *e*PKP 14 07 37.3
MAW Mawson 98.93 165 P Pdif 13 51 08.2 +0.7
comp=Z,2.3nm,0.7s,baz=336,slow=10,SNR=4.4
MAW pP pP 13 51 48.2 +2.1
comp=Z,5.4nm,0.9s,baz=310,slow=8.0,SNR=3.7
KECS Kecovo 99.04 42 *e*P **Pdif** **13 51 09.3 +0.9**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 99.04 42 *e*P **Pdif** **13 51 09.3 +0.9**
MATP Matopo 99.32 112 P **Pdif** **13 51 10.8 +0.4**
comp=Z,6.2nm,0.9s,baz=248,slow=3.5,SNR=9.8
ARCES ARCESS Array B 100.72 21 PKKPbc PKKPbc 14 07 29.2 -2.4
comp=Z,3.5nm,0.8s,baz=96,slow=4.3,SNR=6.6
FINES FINESS Array B 101.82 29 PKKPbc PKKPbc 14 07 25.8 -2.3
comp=Z,2.5nm,0.8s,baz=98,slow=3.9,SNR=9.5
KIS Kishinev 104.70 44 *e* 13 57 00.0
KBZ Khabaz 115.00 45 PKP PKPdf 13 56 08.6 +0.7
comp=Z,4.7nm,0.8s,baz=234,slow=4.1,SNR=11

ARU	**Arti**	**119.16**	**28**	PKP	**PKPdf**	**13 56 15.9**	**+0.4**		
	comp=Z,4.4nm,0.6s,baz=274,slow=4.6,SNR=10.0								
AKTO	**Aktyubinsk**	**122.09**	**34**	PKKPbc	PKKPbc	14 06 19.7	-0.7		
	comp=Z,2.3nm,0.6s,baz=104,slow=3.6,SNR=7.2								
ABKAR	**Akbulak array**	**123.76**	**34**	*e*PKPdf	**PKPdf**	**13 56 25.1**	**+0.5**		
BVAR	**Borovoye Array**	**126.62**	**26**	PKP	**PKPdf**	**13 56 30.6**	**+0.6**		
	comp=Z,6.4nm,0.8s,baz=273,slow=2.7,SNR=31								
BVAR				pPKP	**pPKPdf**	**13 57 10.5**	**+0.4**		
	comp=Z,2.6nm,0.7s,baz=214,slow=0.5,SNR=5.6								
TYV	**Tymovskoe**	**127.20**	**331**	*e*PKIKP	**PKPdf**	**13 56 30.8**	**-0.3**		
TYV				pmax	pmax				
	comp=Z,7.0nm,0.5s								
STKA	**Stephens Creek**	**127.66**	**219**	PKP	**PKPdf**	**13 56 33.4**	**+0.8**		
	comp=Z,18nm,0.7s,baz=101,slow=2.4,SNR=35								
STKA				pPKP	**pPKPdf**	**13 57 14.2**	**+1.3**		
	comp=Z,9.2nm,0.6s,baz=92,slow=3.4,SNR=6.3								
GEYT	**Alibeck**	**127.77**	**47**	PKP	**PKPdf**	**13 56 33.5**	**+0.8**		
	comp=Z,5.1nm,0.7s,baz=262,slow=3.0,SNR=8.0								
GEYT				PKPPKP	**P'P'df**	**14 14 57.2**	**+2.2**		
	comp=Z,3.7nm,0.4s,baz=174,slow=3.0,SNR=9.6								
YSS	**Yuzh-Sakhalins**	**129.67**	**327**	*i*PKIKP	**PKPdf**	**13 56 36.4**	**+0.5**		
YSS				pmax	pmax				
	comp=Z,10.0nm,0.6s								
YSS	**Yuzh-Sakhalins**	**129.67**	**327**	*e*PKPdf	**PKPdf**	**13 56 36.2**	**+0.3**		
NVS	**Novosibirsk**	**129.78**	**17**	*e*PKIKP	**PKPdf**	**13 56 36.4**	**+0.5**		
NVS				*e*		13 57 15.4			
NVS				pmax	pmax				
	comp=N,1.0nm,1.2s								
NVS				pmax	pmax				
	comp=E,4.0nm,1.2s								
NVS				pmax	pmax				
	comp=Z,13nm,1.2s								
ZALV	**Zalesovo Beam**	**131.01**	**16**	PKP	**PKPdf**	**13 56 38.6**	**+0.3**		
	comp=Z,29nm,0.9s,baz=299,slow=3.1,SNR=90								
ZALV				pPKP	**pPKPdf**	**13 57 18.5**	**0.0**		
	comp=Z,5.9nm,0.5s,baz=298,slow=2.2,SNR=6.5								
ZALV				SKPbc	**SKPab**	**13 59 48.9**	**-0.2**		
	comp=Z,2.0nm,0.8s,baz=328,slow=5.1,SNR=3.8								
CTA	**Charters Tower**	**131.31**	**235**	PKP	**PKPdf**	**13 56 40.5**	**+0.6**		
	comp=Z,6.8nm,0.5s,baz=91,slow=2.6,SNR=17								
CTAO	**Charters Tower**	**131.31**	**235**	*e*PKIKP	**PKPdf**	**13 56 39.1**	**-0.8**		
CTAO	**Charters Tower**	**131.31**	**235**	*e*PKPdf	**PKPdf**	**13 56 39.1**	**-0.8**		
ASAJ	**Asahikawa**	**131.50**	**325**	PKP	**PKPdf**	**13 56 40.5**	**+1.0**		
	comp=Z,12nm,0.9s,baz=288,slow=11,SNR=6.9								
KURK	**Kurchatov**	**131.71**	**23**	PKIKP	**PKPdf**	**13 56 40.6**	**+0.9**		
KURK						13 57 20.1			
KURK				pmax	pmax				
	comp=Z,13nm,0.9s								
KURK	**Kurchatov**	**131.71**	**23**	*e*PKPdf	**PKPdf**	**13 56 39.6**	**-0.1**		
KURK				pPKP	**pPKPdf**	**13 57 20.1**	**+0.2**		
KURK				SKPbc	**SKPab**	**13 59 52.5**	**+0.3**		
KURBB	**Kurchatov Arra**	**131.75**	**23**	PKP	**PKPdf**	**13 56 40.5**	**+0.8**		
	comp=Z,13nm,0.9s,baz=314,slow=2.5,SNR=77								
KURBB				pPKP	**pPKPdf**	**13 57 20.1**	**+0.1**		
	comp=Z,6.7nm,0.9s,baz=314,slow=2.9,SNR=7.2								
KURBB				SKPbc	**SKPab**	**13 59 52.5**	**+0.1**		
	comp=Z,0.7nm,0.8s,baz=318,slow=3.7,SNR=4.1								
HABR	**Khabarovsk**	**132.38**	**334**	*e*PKIKP	**PKPdf**	**13 56 39.8**	**-1.2**		
HABR				*e*		13 59 03.9			
HABR				*e*PPP	PPP	14 01 55.7			
HABR				*e*		14 03 41.7			
HABR				*e*SS	SS	14 16 35.9	+4.6		
HABR				*e*SSS	SSS	14 21 30.8			
HABR				pmax	pmax				
	comp=E,4.0nm,0.7s								
HABR				pmax	pmax				
	comp=N,9.0nm,1.4s								
HABR				pmax	pmax				
	comp=Z,14nm,1.4s								
WSAR	**Wadi Sarin**	**132.49**	**66**	PKP	**PKPdf**	**13 56 42.9**	**+0.9**		
	comp=Z,5.5nm,0.7s,baz=297,slow=2.9,SNR=5.3								
EKS2	**Erkin-Say**	**135.41**	**34**	*e*PKIKP	**PKPdf**	**13 56 47.3**	**+0.2**		
EKS2	**Erkin-Say**	**135.41**	**34**	*e*PKPdf	**PKPdf**	**13 56 47.3**	**+0.2**		
AAK	**Ala-Archa**	**135.82**	**33**	PKP	**PKPdf**	**13 56 49.6**	**+1.6**		
	comp=Z,6.6nm,0.7s,baz=196,slow=2.9,SNR=17								
AAK	**Ala-Archa**	**135.82**	**33**	*e*PKPdf	**PKPdf**	**13 56 48.6**	**+0.7**		
TLY	**Talaya**	**136.19**	**2**	PKP	**PKPdf**	**13 56 47.7**	**-0.4**		
	comp=Z,4.9nm,0.6s,baz=0.0,slow=4.0,SNR=4.8								
TKM2	**Tokmak 2**	**136.21**	**32**	*e*PKIKP	**PKPdf**	**13 56 49.6**	**+0.9**		
TKM2	**Tokmak 2**	**136.21**	**32**	*e*PKPdf	**PKPdf**	**13 56 49.6**	**+0.9**		
MKAR	**Makanchi Array**	**136.31**	**23**	PKP	**PKPdf**	**13 56 48.6**	**+0.1**		
	comp=Z,7.8nm,0.8s,baz=339,slow=1.8,SNR=47								
MKAR				pPKP	**pPKPdf**	**13 57 28.7**	**0.0**		
	comp=Z,3.6nm,0.8s,baz=354,slow=2.4,SNR=4.7								
USRK	**Ussuriysk Ar.**	**137.00**	**332**	PKP	**PKPdf**	**13 56 49.7**	**-0.1**		
	comp=Z,6.1nm,0.8s,baz=26,slow=4.0,SNR=4.7								
MDJ	**Mudanjiang**	**137.75**	**334**	PKP	**PKPdf**	**13 56 51.5**	**+0.3**		
ASAR	**Alice Springs**	**138.23**	**221**	PKhKP	PKPpre	13 56 44.5			
	comp=Z,4.1nm,0.5s,baz=137,slow=2.5,SNR=19								
ASAR				PKP	**PKPdf**	**13 56 52.8**	**0.0**		
	comp=Z,13nm,0.8s,baz=126,slow=2.0,SNR=25								
ASAR				pPKP	pPKPdf	13 57 32.9	-0.1		
	comp=Z,4.7nm,0.5s,baz=121,slow=1.8,SNR=3.9								
MJAR	**Matsushiro Arr**	**138.70**	**319**	PKhKP	PKPpre	13 56 44.8			
	comp=Z,2.4nm,0.8s,baz=49,slow=2.7,SNR=8.0								
MJAR				PKP	**PKPdf**	**13 56 52.9**	**-0.4**		
	comp=Z,5.8nm,0.7s,baz=102,slow=1.2,SNR=17								
MAJO	**Matsushiro**	**138.71**	**319**	*i* PKIKP	**PKPdf**	**13 56 52.8**	**-0.4**		
MAJO	**Matsushiro**	**138.71**	**319**	*e*PKPdf	**PKPdf**	**13 56 51.9**	**-1.3**		
KSH	**Kashi**	**138.75**	**35**	PKP	**PKPdf**	**13 56 51.6**	**-1.8**		
KSH				sPKP		13 57 48.8			
KSH				SKS	**SKSdf**	**14 03 42.8**	**-7.2**		
KSH				SS	**SS**	**14 17 45.4**	**-2.9**		
KSH				PPMZ					
	comp=Z,56nm,4.9s								
KSH				LN					
	comp=Z,68nm,4.5s								
KSH				LE					
	comp=Z,72nm,4.4s								
KSH				LZ					
	comp=Z,110nm,5.3s								
SONM	**Songino Array**	**140.06**	**359**	PKhKP	PKPpre	13 56 48.1			
	comp=Z,0.9nm,0.6s,baz=316,slow=2.2,SNR=7.9								
SONM				PKP	**PKPdf**	**13 56 55.9**	**+0.4**		
	comp=Z,2.4nm,0.7s,baz=320,slow=0.9,SNR=13								
SONM				pPKP	pPKPdf	13 57 35.2	-0.5		
	comp=Z,1.8nm,0.7s,baz=118,slow=0.2,SNR=3.1								
SONM				PP	**PP**	**13 59 53.2**	**+0.3**		
	comp=Z,1.6nm,0.9s,baz=336,slow=3.3,SNR=7.8								
WRAB	**Tennant Creek**	**140.48**	**225**	*i* PKIKP	**PKPdf**	**13 56 56.7**	**-0.2**		
WRAB	**Tennant Creek**	**140.48**	**225**	*e*PKPdf	**PKPdf**	**13 56 55.0**	**-1.9**		
WRA	**Warramunga Arr**	**140.48**	**225**	PKhKP	PKPpre	13 56 50.6			
	comp=Z,4.0nm,0.3s,baz=131,slow=2.7,SNR=83								
WRA				PKP	**PKPdf**	**13 56 57.1**	**+0.2**		
	comp=Z,21nm,0.7s,baz=130,slow=1.9,SNR=51								
WRA				pPKP	pPKPdf	13 57 36.6	-0.6		
	comp=Z,7.1nm,0.6s,baz=132,slow=1.9,SNR=3.6								
WMQ	**Urumqi**	**140.84**	**21**	PKP	**PKPdf**	**13 56 56.2**	**-0.8**		
WMQ				LN					
	comp=Z,13nm,17.8s								
WMQ				LE					
	comp=Z,13nm,20.0s								
WMQ				LZ					
	comp=Z,10.0nm,24.6s								
THN	**Thein Dam**	**143.01**	**44**	*e*P	**PKPdf**	**13 56 56.0**	**-5.0**		
JAY	**Jayapura**	**143.46**	**255**	PKP	**PKPdf**	**13 57 02.9**	**+0.5**		
	comp=Z,0.5nm,0.3s,baz=98,slow=23,SNR=9.7								
KSRS	**Korea Array**	**144.14**	**329**	PKP	**PKPab**	**13 57 00.8**	**-0.1**		
	comp=Z,10nm,0.7s,baz=37,slow=3.7,SNR=48								
KSRS				pPKP	**pPKPdf**	**13 57 40.8**	**-2.3**		
	comp=Z,5.2nm,1.0s,baz=31,slow=1.5,SNR=2.7								
KSAR	**Wonju Array Be**	**144.17**	**329**	PKIKP	**PKPab**	**13 57 00.8**	**-0.2**		
KSAR						13 57 40.8			
KSAR	**Wonju Array Be**	**144.17**	**329**	PKP	**PKPab**	**13 57 00.8**	**-0.2**		
KSAR				pPKP	**pPKPdf**	**13 57 40.8**	**-2.4**		
JNU	**Nakatsue**	**145.54**	**321**	PKPbc	**PKPdf**	**13 57 04.7**	**-0.8**		
	comp=Z,47nm,0.9s,baz=46,slow=4.9,SNR=26								
JNU				pPKPbc	pPKPbc	13 57 44.1	-1.5		
	comp=Z,17nm,0.9s,baz=38,slow=8.4,SNR=2.7								
BJI	**Beijing**	**146.48**	**345**	PKPbc	**PKPbc**	**13 57 07.4**	**-1.0**		
BJT	**Baijiatuan**	**146.50**	**345**	*e*PKIKP	**PKPdf**	**13 57 05.2**	**-1.7**		
BJT	**Baijiatuan**	**146.50**	**345**	*e*PKPdf	**PKPdf**	**13 57 05.2**	**-1.7**		
HHC	**Hu-ho-hao-te**	**146.62**	**352**	*e*PKPbc	**PKPbc**	**13 57 08.2**	**-0.8**		
HHC				pPKP	pPKPdf	13 57 46.7	-0.8		
HHC				PP	**PP**	**14 00 34.9**	**+2.7**		
HHC				SKKS		14 07 08.5			
HHC				SS	**SS**	**14 19 21.6**	**+4.0**		
HHC				PPMZ					
	comp=Z,65nm,9.0s								
POO	**Poona**	**147.40**	**68**	*i*P	**PKPdf**	**13 57 09.0**	**0.0**		
	comp=Z,100nm,1.0s								
FITZ	**Fitzroy Crossi**	**147.52**	**218**	PKPbc	**PKPbc**	**13 57 12.6**	**+0.7**		
	comp=Z,78nm,0.7s,baz=181,slow=2.7,SNR=83								
FITZ				pPKPbc	**pPKPbc**	**13 57 53.5**	**+1.7**		
	comp=Z,47nm,1.0s,baz=186,slow=1.5,SNR=5.7								
FITZ	**Fitzroy Crossi**	**147.52**	**218**	*e*PKPbc	**PKPdf**	**13 57 09.9**	**+0.7**		
FITZ				pPKPbc	**pPKPbc**	**13 57 53.5**	**+1.7**		
MBWA	**Marble Bar**	**148.05**	**206**	*e*PKPab	**PKPbc**	**13 57 13.8**	**+0.5**		
GTA	**Gaotai**	**148.08**	**8**	*e*PKPbc	**PKPdf**	**13 57 10.4**	**+0.7**		
GTA				PKPab	**PKPab**	**13 57 16.8**	**+0.7**		
GTA				pPKP	pPKPdf	13 57 51.8	+1.8		
GTA				PP	**PP**	**14 00 45.3**	**+4.5**		
GTA				SKS	**SKSdf**	**14 03 59.6**	**-4.7**		
GTA				SKKS	**SKKSac**	**14 07 16.3**	**-2.6**		
GTA				SS	**SS**	**14 19 32.8**	**-1.3**		
GTA				PPMZ					
	comp=Z,50nm,8.1s								
GTA				LN					
	comp=Z,66nm,18.1s								
GTA				LE					
	comp=Z,75nm,16.2s								
GTA				LZ					
	comp=Z,63nm,21.9s								
TIA	**Tai'an**	**149.77**	**341**	⇓PKPbc	**PKPbc**	**13 57 16.8**	**-0.4**		
PYUN	**Piuthan**	**150.63**	**44**	*e*P	**PKPdf**	**13 57 14.7**	**+0.5**		
KOLN	**Koldanda**	**151.25**	**43**	*e*P	**PKPdf**	**13 57 15.4**	**+0.2**		
LZH	**Lanzhou**	**151.77**	**3**	*e*PKPbc	**PKPdf**	**13 57 10.1**	**-5.6**		
LZH				pPKP	pPKPdf	13 57 48.0	-8.0		
LZH				sPKP		13 58 02.6			
LZH				PPMZ					
	comp=Z,130nm,5.9s								
GKN	**Gorkha**	**151.80**	**42**	*e*P	**PKPdf**	**13 57 16.3**	**+0.4**		
HYB	**Hyderabad**	**152.01**	**67**	*i* P	**PKPdf**	**13 57 17.0**	**+0.7**		
HYB				*e*		13 57 33.0			
KKN	**Kakani**	**152.36**	**41**	*e*P	**PKPdf**	**13 57 17.3**	**+0.4**		
DMN	**Daman**	**152.37**	**42**	*e*P	**PKPdf**	**13 57 17.4**	**+0.5**		
PKIN	**Phulchoki**	**152.58**	**42**	*e*P	**PKPdf**	**13 57 17.2**	**0.0**		
GUN	**Gumba**	**152.67**	**40**	*e*P	**PKPdf**	**13 57 17.8**	**+0.3**		
XAN	**Xi'an**	**153.67**	**354**	PKPbc	**PKPdf**	**13 57 18.3**	**0.0**		
WHN	**Wuhan**	**155.88**	**341**	PKP	**PKPdf**	**13 57 23.4**	**+2.0**		
WHN				PKPab	**PKPab**	**13 57 48.2**	**-0.6**		
CD2	**Chengdu**	**156.91**	**4**	PKP	**PKPdf**	**13 57 21.0**	**-1.8**		
CD2				pPKP	pPKPdf	13 57 58.4	-4.8		
CD2				sPKP		13 58 12.9			
CD2				PP	**PP**	**14 01 30.6**	**-0.1**		
CD2				SKS	**SKSdf**	**14 04 14.0**	**-1.1**		
CD2				SKKS	**SKKSac**	**14 08 05.6**	**-1.4**		
CD2				SS	**SS**	**14 21 12.5**	**+1.9**		
GYA	**Guiyang**	**161.38**	**357**	*e*PKP	**PKPdf**	**13 57 27.0**	**-1.2**		
GYA				pPKP	pPKPdf	13 58 05.2	-3.5		
GYA				PKPab	**PKPab**	**13 58 14.6**	**+1.8**		
GYA				PKS	**PKSdf**	**14 00 58.9**	**-2.8**		
GYA				PP	**PP**	**14 01 58.4**	**+3.4**		
GYA				PPMZ					
	comp=Z,140nm,7.9s								
KMI	**Kunming**	**162.53**	**8**	PKP	**PKPdf**	**13 57 28.0**	**-1.6**		
CHTO	**Chiang Mai**	**167.29**	**30**	*e*PKIKP	**PKPdf**	**13 57 32.1**	**-1.4**		
CHTO				*e*		13 58 38.9			
CHTO	**Chiang Mai**	**167.29**	**30**	*e*PKPdf	**PKPdf**	**13 57 32.0**	**-1.4**		
CHTO				*e*PKPab	**PKPab**	**13 58 38.9**	**0.0**		
CMAR	**Chiang Mai Arr**	**167.59**	**30**	PKP	**PKPdf**	**13 57 34.4**	**+0.6**		
	comp=Z,5.4nm,1.0s,baz=288,slow=1.8,SNR=28								
CMAR				pPKP	**pPKPdf**	**13 58 14.9**	**+0.7**		
	comp=Z,3.5nm,0.9s,baz=304,slow=1.6,SNR=6.8								
CMAR				PKPab	**PKPab**	**13 58 40.8**	**+0.5**		
	comp=Z,8.1nm,0.8s,baz=318,slow=6.1,SNR=31								
CMAR				pPKPab	**pPKPab**	**13 59 19.3**	**+0.4**		
	comp=Z,2.8nm,1.0s,baz=322,slow=5.7,SNR=3.4								
QIZ	**Qiongzhong**	**168.05**	**340**	PKP	**PKPdf**	**13 57 34.5**	**+0.5**		
QIZ				sPKP		13 58 23.0			
QIZ				PP	**PP**	**14 02 32.1**	**+2.2**		
QIZ				SKS	**SKSdf**	**14 04 25.9**	**+1.8**		
QIZ				SS	**SS**	**14 23 11.5**	**+5.2**		
QIZ				PPMZ					
	comp=Z,86nm,8.4s								

*GUC **04** 13:40:14.4±0.5, 40.˚48S×72.˚08W, h12km±9km, ML3.9*
*IDC **04** 13:40:15.1±1.3, 39.˚66S×71.˚12W, h0km, mb3.7/1, mb1 4.2/1, mb1mx3.5/33, mbtmp3.7/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/21, Error ellipse: s-maj=129.5km s-min=12.4km az=70.0*

ISC 04 13:40:17.9±2.0, 40.˚4S±0.˚6×72.˚1W±0.˚3, h35km, n13, σ1§25/12, MS3.6/4, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.08**	**301**	*i* P	**Pn**	**13 40 36.4**	**-1.9**
VLCH				*i* S	**Sn**	**13 40 49.8**	**-0.5**
VLCH				IAML		13 40 52.2	
	comp=E,5μm,0.3s						
PLCA	**Paso Flores**	**1.20**	**108**	Pg	**Pn**	**13 40 36.7**	**-1.5**
	comp=E,157nm,0.3s,baz=301,slow=13,SNR=23						
PLCA				Lg	Lg	13 40 53.8	
	comp=E,288nm,0.3s,baz=230,slow=19,SNR=12						
PLCA	**Paso Flores**	**1.20**	**108**	*i* P	**Pn**	**13 40 36.5**	**-1.7**
PLCA				*i* S	**Sn**	**13 40 53.0**	**-0.3**
NNA	**Nana**	**28.59**	**350**	LR	LR	13 55 35.7	
	comp=E,118nm,18.2s,baz=152,slow=33						
MAW	**Mawson**	**67.09**	**163**	LR	LR	14 20 30.5	
	comp=E,44nm,18.4s,baz=238,slow=36						
TXAR	**Lajitas Array**	**75.31**	**332**	P	**P**	**13 51 58.8**	**+1.3**
	comp=E,0.6nm,0.8s,baz=154,slow=9.4,SNR=4.1						
TXAR				LR	LR	14 19 30.6	
	comp=E,37nm,21.6s,baz=0.0,slow=31						
BOSA	**Boshof**	**77.17**	**117**	LR	LR	14 23 24.7	
	comp=E,18nm,18.4s,baz=232,slow=34						
HFS	**Hagfors**	**122.02**	**36**	PKP	**PKPdf**	**13 59 07.7**	**0.0**
	comp=E,1.1nm,0.5s,baz=191,slow=4.5,SNR=4.8						
BRTR	**Keskin Array B**	**124.76**	**65**	PKP	**PKPdf**	**13 59 14.8**	**+1.0**
	comp=E,0.5nm,0.5s,baz=222,slow=1.9,SNR=3.4						
AKTO	**Aktyubinsk**	**144.15**	**57**	PKP	**PKPdf**	**13 59 48.5**	**-0.7**
	comp=E,1.9nm,0.7s,baz=289,slow=4.3,SNR=4.5						
ARU	**Arti**	**144.37**	**46**	PKP	**PKPdf**	**13 59 48.9**	**-0.5**
	comp=E,3.1nm,0.6s,baz=220,slow=2.8,SNR=4.9						
TIXI	**Tiksi**	**146.94**	**348**	PKPbc	**PKPbc**	**13 59 55.8**	**+0.4**
	baz=70,slow=3.3						
BVAR	**Borovoye Array**	**151.65**	**51**	PKPbc	**PKPbc**	**14 00 08.9**	**+1.1**
	comp=E,1.2nm,0.6s,baz=298,slow=3.1,SNR=4.1						

*DDA **04** 13:46:52.9, 39.˚10N×29.˚08E, h7km, Md3.0*
*ISCJB **04** 13:46:53.2±0.6, 39.˚11N±0.˚03×29.˚08E±0.˚04, h1km±7km, Error ellipse: s-maj=5.7km s-min=4.1km az=146.7*
*CSEM **04** 13:46:53.5±0.1, 39.˚10N×29.˚09E, h2km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.1km az=95.0*
*ISK **04** 13:46:53.1, 39.˚09N×29.˚10E, h6km, MD2.8*

ISC 04 13:46:53.4±0.9, 39.˚11N±0.˚02×29.˚08E±0.˚02, h11km±9km, n41, σ0§62/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**257**	P	**Pg**	**13 46 59.6**	**+0.2**
DEMI				S	**Sg**	**13 47 03.7**	**+0.3**
DEMI	**Demirci**	**0.29**	**257**	*i* P	**Pg**	**13 46 59.8**	**+0.2**
DEMI				*i* S	**Sg**	**13 47 03.7**	**+0.3**
GDZ	**Gediz**	**0.31**	**94**	P	**Pg**	**13 46 59.7**	**0.0**
GDZ				S	**Sg**	**13 47 04.3**	**+0.4**
GDZ	**Gediz**	**0.31**	**94**	*i* P	**Pg**	**13 46 59.7**	**0.0**
GDZ				*i* S	**Sg**	**13 47 04.3**	**+0.4**
TVSB	**Tavsanli**	**0.45**	**41**	*e*Pg	**Pg**	**13 47 02.2**	**0.0**
TVSB				*e*SG	**Sg**	**13 47 08.7**	**+0.5**
TVSB	**Tavsanli**	**0.45**	**41**	*e*Pg	**Pg**	**13 47 02.2**	**0.0**
TVSB				*e*Sg	**Sg**	**13 47 08.7**	**+0.5**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*PG	**Pg**	**13 47 06.6**	**0.0**
KULA				*e*SG	**Sg**	**13 47 15.5**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*Pg	**Pg**	**13 47 06.6**	**0.0**
KULA				*e*Sg	**Sg**	**13 47 15.5**	**0.0**
KHAL	**Karahalli**	**0.81**	**156**	P	**Pg**	**13 47 09.2**	**+0.3**
KHAL				S	**Sg**	**13 47 19.5**	**0.0**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pg**	**13 47 09.2**	**+0.3**
KHAL				*i* S	**Sg**	**13 47 19.5**	**0.0**
KHL	**Karahalli**	**0.86**	**156**	*e*PG	**Pg**	**13 47 09.8**	**-0.2**
KHL	**Karahalli**	**0.86**	**156**	*e*Pg	**Pg**	**13 47 09.8**	**-0.2**
ORLT	**Orhaneli**	**0.94**	**351**	*e*PG	**Pg**	**13 47 11.3**	**-0.3**
ORLT	**Orhaneli**	**0.94**	**351**	*e*Pg	**Pg**	**13 47 11.3**	**-0.3**
BALB	**Balikesir**	**1.07**	**300**	*e*PN	**Pn**	**13 47 14.7**	**+0.3**
BALB	**Balikesir**	**1.07**	**300**	*e*Pn	**Pn**	**13 47 14.7**	**+0.3**
IGD	**Bursa**	**1.16**	**5**	*i* P	**Pb**	**13 47 14.3**	**-1.1**
IGD				*i* S	**Sb**	**13 47 28.5**	**-1.9**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*PN	**Pg**	**13 47 17.7**	**+0.5**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*Pn	**Pg**	**13 47 17.7**	**+0.5**
IZI	**Iznik**	**1.26**	**14**	*e*PN	**Pg**	**13 47 18.4**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*PN	**Pg**	**13 47 18.3**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn	**Pg**	**13 47 18.3**	**+0.6**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*PN	**Pg**	**13 47 18.5**	**+0.5**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*Pn	**Pg**	**13 47 18.5**	**+0.5**
BORA	**Eskisehir**	**1.31**	**54**	P	**Pn**	**13 47 17.8**	**+0.1**
BORA				S	**Sn**	**13 47 36.5**	**+1.2**
BORA	**Eskisehir**	**1.31**	**54**	*i* P	**Pn**	**13 47 17.8**	**+0.1**
BORA				*i* S	**Sn**	**13 47 36.5**	**+1.2**
ADVT	**Abdulvahap**	**1.41**	**21**	*e*PN	**Pb**	**13 47 19.8**	**0.0**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*PN	**Pg**	**13 47 21.1**	**+0.3**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*Pn	**Pg**	**13 47 21.1**	**+0.3**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pg**	**13 47 21.4**	**-0.1**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pg**	**13 47 21.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**219**	*e*PN	**Pb**	**13 47 21.2**	**0.0**
EDC	**Edincik**	**1.55**	**323**	*e*PN	**Pb**	**13 47 22.5**	**+0.3**
EDC	**Edincik**	**1.55**	**323**	*e*Pn	**Pb**	**13 47 22.5**	**+0.3**
GULT	**Gulveren**	**1.72**	**39**	*e*PN	**Pb**	**13 47 24.9**	**-0.2**
ISK	**Istanbul-Kandi**	**1.95**	**359**	*e*PN	**Pb**	**13 47 28.0**	**-1.0**
ISK	**Istanbul-Kandi**	**1.95**	**359**	*e*Pn	**Pb**	**13 47 28.0**	**-1.0**
SILT	**Sile**	**2.08**	**12**	*e*PN	**Pb**	**13 47 30.1**	**-1.1**
SILT	**Sile**	**2.08**	**12**	*e*Pn	**Pb**	**13 47 30.1**	**-1.1**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*PN	**Pb**	**13 47 31.3**	**-1.1**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*Pn	**Pb**	**13 47 31.3**	**-1.1**

*GUC **04** 13:48:44.8±0.4, 40.˚59S×72.˚25W, h16km±4km, ML4.1*
*IDC **04** 13:48:46.1±0.8, 40.˚39S×72.˚06W, h0km, mb4.4/7, mb1 4.6/8, mb1mx4.4/21, mbtmp4.5/8, ML5.3/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/22, Error ellipse: s-maj=31.6km s-min=11.9km az=27.0*
*NEIC **04** 13:48:47.9±0.3, 40.˚43S×71.˚81W, h10km, mb4.7/27, ML4.1(GUC), Error ellipse: s-maj=11.3km s-min=7.2km az=65.0*
*ISCJB **04** 13:48:50.4±0.3, 40.˚37S±0.˚06×71.˚88W±0.˚09, h33km, mb4.6/31, MS3.4/1, Error ellipse: s-maj=10.8km s-min=6.9km az=140.5*

ISC 04 13:48:51.5±0.5, 40.˚35S±0.˚07×71.˚93W±0.˚07, h35km, n70, σ1§34/72, mb4.7/31, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**1.12**	**110**	Pg	**Pn**	**13 49 09.4**	**-1.3**
	160nm,0.3s,baz=312,slow=12,SNR=31						
PLCA				Lg	Lg	13 49 26.2	
	225nm,0.3s,baz=211,slow=23,SNR=10						
**P

comp=E,4.2nm,0.7s,baz=235,slow=5.9,SNR=6.7
KURBB Kurchatov Arra 157.03 54 PKP **PKPdf 14 08 43.6 +0.9**
comp=E,3.4nm,1.1s,baz=283,slow=1.8,SNR=19
KURBB PKPab **PKPab 14 09 13.2 0.0**
comp=E,1.4nm,0.8s,baz=283,slow=4.9,SNR=8.5
KURK Kurchatov 157.06 53 PKP **PKPdf 14 08 43.6 +0.9**
KURK PKPab **PKPab 14 09 13.2 -0.1**
ZALV Zalesovo Beam 159.27 41 PKP **PKPdf 14 08 44.9 -0.4**
comp=E,0.8nm,0.5s,baz=240,slow=2.9,SNR=6.8
MKAR Makanchi Array 160.29 62 PKP **PKPdf 14 08 47.1 +0.3**
comp=E,0.3nm,0.3s,baz=272,slow=3.2,SNR=5.7
MKAR PKPab **PKPab 14 09 27.4 -0.1**
comp=E,0.9nm,0.7s,baz=267,slow=2.4,SNR=4.9
SONM Songino Array 172.42 9 PKP **PKPdf 14 08 56.1 -0.2**
comp=E,1.2nm,1.0s,baz=186,slow=1.5,SNR=5.3
SONM PKPab **PKPab 14 10 21.7 +0.7**
comp=E,0.7nm,0.8s,baz=343,slow=3.1,SNR=4.6

---

*MOS **04** 13:51:05.6±0.9, 39°.18N×29°.15E, h9km, mb4.2/2, Error ellipse: s-maj=8.2km s-min=3.9km az=101.6*
*NEIC **04** 13:51:06.0, 39°.13N×29°.09E, h5km, ML4.2(ISK), After ISK.*
*DDA **04** 13:51:06.1, 39°.11N×29°.10E, h16km, Ml4.1*
*CSEM **04** 13:51:06.7±0.1, 39°.12N×29°.11E, h5km, ML4.1, Error ellipse: s-maj=2.0km s-min=1.9km az=25.0*
*IDC **04** 13:51:06.2±0.9, 39°.21N×29°.17E, h0km, mb3.8/14, mb1 3.9/20, mb1mx3.7/57, mbtmp3.8/20, ML3.6/6, MS2.9/10, Ms1 2.9/10, ms1mx2.6/59, Error ellipse: s-maj=16.5km s-min=12.0km az=14.0*
*ISK **04** 13:51:06.1, 39°.12N×29°.10E, h5km, ML4.2*
*ISCJB **04** 13:51:06.0±0.4, 39°.15N±0°.01×29°.09E±0°.02, h7km±3km, mb3.8/15, MS2.9/6, Error ellipse: s-maj=2.4km s-min=2.3km az=28.7*
*THE **04** 13:51:08.0, 39°.07N×28°.97E, h2km±2km, ML4.1/1, Error ellipse: s-maj=2.6km s-min=1.0km az=126.0*

ISC 04 13:51:06.9±0.9, **39°.13N**±0°.02×**29°.10E**±0°.01, **h9**km±7km, **n292**,σ1$1**1**/331, **mb3.9**/15, **MS2.8**/6, **31C-14D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.30**	**97**	P	**Pg**	**13 51 13.0**	**+0.2**
GDZ				S	**Sg**	**13 51 17.5**	**+0.6**
GDZ	**Gediz**	**0.30**	**97**	⇓*i*P	**Pg**	**13 51 13.0**	**+0.2**
GDZ				*i* S	**Sg**	**13 51 17.5**	**+0.6**
DEMI	**Demirci**	**0.31**	**255**	P	**Pg**	**13 51 12.7**	**-0.4**
DEMI				S	**Sg**	**13 51 16.5**	**-0.7**
DEMI	**Demirci**	**0.31**	**255**	⇑*i*P	**Pg**	**13 51 12.7**	**-0.4**
DEMI				*i* S	**Sg**	**13 51 16.5**	**-0.7**
TVSB	**Tavsanli**	**0.43**	**41**	*e*PG	**Pg**	**13 51 15.3**	**0.0**
TVSB				*e*SG	**Sg**	**13 51 20.9**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**41**	*e*Pg	**Pg**	**13 51 15.3**	**0.0**
TVSB				*e*Sg	**Sg**	**13 51 20.9**	**-0.1**
DST	**Dursunbey**	**0.61**	**322**	*e*PG	**Pg**	**13 51 18.3**	**-0.4**
DST	**Dursunbey**	**0.61**	**322**	*e*Pg	**Pg**	**13 51 18.3**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*PG	**Pg**	**13 51 19.7**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**210**	P	**Pg**	**13 51 19.6**	**-0.7**
KULA				S	**Sg**	**13 51 28.5**	**-1.0**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*Pg	**Pg**	**13 51 19.7**	**-0.7**
KULA				S	**Sg**	**13 51 28.5**	**-1.0**
KHAL	**Karahalli**	**0.81**	**158**	P	**Pg**	**13 51 22.2**	**-0.3**
KHAL				S	**Sg**	**13 51 32.9**	**-0.2**
KHAL	**Karahalli**	**0.81**	**158**	⇑*i*P	**Pg**	**13 51 22.2**	**-0.3**
KHAL				*i* S	**Sg**	**13 51 32.9**	**-0.2**
KHL	**Karahalli**	**0.87**	**157**	*e*PG	**Pg**	**13 51 23.4**	**-0.1**
KHL				*e*SG	**Sb**	**13 51 34.9**	**-1.0**
KHL	**Karahalli**	**0.87**	**157**	*e*Pg	**Pg**	**13 51 23.4**	**-0.1**
KHL				*e*Sg	**Sb**	**13 51 34.9**	**-1.0**
ORLT	**Orhaneli**	**0.93**	**350**	*e*PG	**Pg**	**13 51 24.5**	**-0.3**
ORLT	**Orhaneli**	**0.93**	**350**	*e*Pg	**Pg**	**13 51 24.5**	**-0.3**
AKHS	**Akhisar**	**1.03**	**257**	P	**Pg**	**13 51 26.1**	**-0.6**
AKHS				S	**Sb**	**13 51 40.8**	**+0.2**
AKHS	**Akhisar**	**1.03**	**257**	⇑*i*P	**Pg**	**13 51 26.1**	**-0.6**
AKHS				*i* S	**Sb**	**13 51 40.8**	**+0.2**
AKS	**Akhisar**	**1.03**	**257**	*e*PG	**Pg**	**13 51 26.4**	**-0.3**
AKS	**Akhisar**	**1.03**	**257**	*e*Pg	**Pg**	**13 51 26.4**	**-0.3**
BALB	**Balikesir**	**1.08**	**299**	*e*PG	**Pg**	**13 51 27.3**	**-0.3**
BALB	**Balikesir**	**1.08**	**299**	*e*Pg	**Pg**	**13 51 27.3**	**-0.3**
IGD	**Bursa**	**1.14**	**4**	⇑*i*P	**Pb**	**13 51 27.0**	**-1.8**
IGD				*i* S	**Sb**	**13 51 44.3**	**+0.6**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*PN	**Pn**	**13 51 29.8**	**-0.4**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*Pn	**Pn**	**13 51 29.8**	**-0.4**
IZI	**Iznik**	**1.24**	**13**	*e*PN	**Pn**	**13 51 30.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*PN	**Pn**	**13 51 30.5**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*Pn	**Pn**	**13 51 30.5**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*PN	**Pn**	**13 51 30.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn	**Pn**	**13 51 30.8**	**-0.1**
BORA	**Eskisehir**	**1.29**	**54**	P	**Pn**	**13 51 30.5**	**-0.7**
BORA				S	**Sn**	**13 51 49.0**	**+0.3**
BORA	**Eskisehir**	**1.29**	**54**	⇑*i*P	**Pn**	**13 51 30.5**	**-0.7**
BORA				*i* S	**Sn**	**13 51 49.0**	**+0.3**
BALY	**Balya**	**1.30**	**299**	P	**Pn**	**13 51 31.0**	**-0.3**
BALY				S	**Sn**	**13 51 49.6**	**+0.7**
BALY	**Balya**	**1.30**	**299**	⇓*i*P	**Pn**	**13 51 31.0**	**-0.3**
BALY				*i* S	**Sn**	**13 51 49.6**	**+0.7**
GEMT	**Gemlik**	**1.31**	**3**	*e*PN	**Pn**	**13 51 31.4**	**0.0**
GEMT	**Gemlik**	**1.31**	**3**	*e*Pn	**Pn**	**13 51 31.4**	**0.0**
ADVT	**Abdulvahap**	**1.40**	**20**	*e*PN	**Pn**	**13 51 32.7**	**+0.1**
ESKT	**Eskisehir**	**1.41**	**73**	*e*PN	**Pb**	**13 51 33.4**	**-0.1**
ESKT	**Eskisehir**	**1.41**	**73**	*e*Pn	**Pb**	**13 51 33.4**	**-0.1**
ESKT	**Eskisehir**	**1.41**	**73**	⇓*i*P	**Pn**	**13 51 33.0**	**+0.1**
ESKT				*i* S	Sg	13 52 04.0	+12
SEYT	**Eskypehyr**	**1.41**	**73**	P	**Pn**	**13 51 33.0**	**+0.1**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*PN	**Pb**	**13 51 33.9**	**+0.2**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*Pn	**Pb**	**13 51 33.9**	**+0.2**
DNZL	**Cakiroluk**	**1.43**	**182**	P	**Pn**	**13 51 32.4**	**-0.8**
DNZL	**Cakiroluk**	**1.43**	**182**	⇑*i*P	**Pn**	**13 51 32.4**	**-0.8**
DNZL				*i* S	**Sg**	**13 51 55.7**	**+2.8**
ARMT	**Armutlu**	**1.45**	**353**	*e*PN	**Pn**	**13 51 33.6**	**+0.2**
ARMT	**Armutlu**	**1.45**	**353**	*e*Pn	**Pn**	**13 51 33.6**	**+0.2**
GPA	**Golpazari**	**1.49**	**38**	*e*PN	**Pn**	**13 51 34.3**	**+0.4**
GPA	**Golpazari**	**1.49**	**38**	*e*Pn	**Pn**	**13 51 34.3**	**+0.4**
BOLV	**Bolvadin**	**1.50**	**105**	P	**Pb**	**13 51 34.5**	**-0.5**
BOLV				S	**Sg**	**13 51 55.0**	**-0.1**
BOLV	**Bolvadin**	**1.50**	**105**	*i* P	**Pb**	**13 51 34.5**	**-0.5**
BOLV				*i* S	**Sg**	**13 51 55.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**219**	*e*PN	**Pn**	**13 51 33.8**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**219**	*e*Pn	**Pn**	**13 51 33.8**	**-0.5**
EDC	**Edincik**	**1.55**	**322**	*e*PN	**Pn**	**13 51 34.5**	**-0.2**
EDC	**Edincik**	**1.55**	**322**	P	**Pn**	**13 51 34.4**	**-0.2**
EDC	**Edincik**	**1.55**	**322**	*e*Pn	**Pn**	**13 51 34.5**	**-0.2**
IZM	**Izmir**	**1.61**	**244**	*e*PN	**Pn**	**13 51 36.0**	**+0.5**
IZM	**Izmir**	**1.61**	**244**	*e*Pn	**Pn**	**13 51 36.1**	**+0.5**
KNL	**Bal¯kesir**	**1.67**	**314**	*i* P	**Pn**	**13 51 35.2**	**-1.2**
KNL				*i* S	**Sb**	**13 51 59.2**	**+0.3**
GULT	**Gulveren**	**1.70**	**39**	*e*PN	**Pn**	**13 51 37.2**	**+0.4**
DKL	**Dikili**	**1.71**	**269**	*e*PN	**Pn**	**13 51 37.5**	**+0.7**
DKL	**Dikili**	**1.71**	**269**	*e*Pn	**Pn**	**13 51 37.5**	**+0.7**
AYDN	**Tasoluk**	**1.75**	**214**	P	**Pn**	**13 51 36.7**	**-0.8**
AYDN				S	**Sg**	**13 52 02.4**	**-0.7**
AYDN	**Tasoluk**	**1.75**	**214**	*i* P	**Pn**	**13 51 36.7**	**-0.8**
AYDN				*i* S	**Sg**	**13 52 02.4**	**-0.7**
HRT	**Hereke**	**1.75**	**14**	*e*PN	**Pn**	**13 51 37.3**	**-0.2**
HRT	**Hereke**	**1.75**	**14**	*e*Pn	**Pn**	**13 51 37.3**	**-0.2**
SPNC	**Sapanca-Adapaz**	**1.81**	**30**	*e*PN	**Pn**	**13 51 38.8**	**+0.5**
MRMT	**Marmara Adasi**	**1.88**	**322**	*e*PN	**Pn**	**13 51 40.0**	**+0.7**
MRMT	**Marmara Adasi**	**1.88**	**322**	*e*Pn	**Pn**	**13 51 40.0**	**+0.7**
AYVA	**Ayvalik**	**1.88**	**276**	P	**Pb**	**13 51 41.7**	**+0.3**
AYVA	**Ayvalik**	**1.88**	**276**	*i* P	**Pb**	**13 51 41.7**	**+0.3**
AYVA				*i* S	**Sg**	**13 52 06.5**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.91**	**80**	*e*PN	**Pn**	**13 51 40.0**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.91**	**80**	*e*Pn	**Pn**	**13 51 40.0**	**+0.3**
GOLH	**Golhisar**	**1.92**	**169**	P	**Pn**	**13 51 39.8**	**-0.1**
GOLH	**Golhisar**	**1.92**	**169**	*i* P	**Pn**	**13 51 39.8**	**-0.1**
GOLH				*i* S	**Sg**	**13 52 12.9**	**+4.4**
ISK	**Istanbul-Kandi**	**1.94**	**359**	*e*PN	**Pn**	**13 51 40.6**	**+0.6**
ISK	**Istanbul-Kandi**	**1.94**	**359**	P	**Pn**	**13 51 39.7**	**-0.3**
ISK				S	**Sb**	**13 52 07.8**	**+1.1**
ISK	**Istanbul-Kandi**	**1.94**	**359**	P	**Pn**	**13 51 39.7**	**-0.3**
ISK	**Istanbul-Kandi**	**1.94**	**359**	P	**Pn**	**13 51 39.7**	**-0.3**
ISK	**Istanbul-Kandi**	**1.94**	**359**	*e*Pn	**Pn**	**13 51 40.6**	**+0.6**
ISK				S	**Sb**	**13 52 07.8**	**+1.1**
GLHS	**Glhisar (BURDU**	**1.99**	**171**	*e*PN	**Pn**	**13 51 41.5**	**+0.6**
BCK	**Bucak**	**2.03**	**144**	*e*PN	**Pn**	**13 51 41.8**	**+0.4**
BCK	**Bucak**	**2.03**	**144**	P	**Pn**	**13 51 42.2**	**+0.8**
BCK	**Bucak**	**2.03**	**144**	*e*Pn	**Pn**	**13 51 41.8**	**+0.4**
DGB	**¯zmir**	**2.04**	**239**	*i* P	**Pg**	**13 51 45.5**	**-0.5**
DGB				*i* S	**Sg**	**13 52 11.6**	**-0.9**
GCAM	**G?zelcaml?**	**2.04**	**226**	P	**Pn**	**13 51 42.4**	**+1.0**
GCAM				S	**Sb**	**13 52 09.3**	**-0.4**
GCAM	**G?zelcaml?**	**2.04**	**226**	*i* P	**Pn**	**13 51 42.4**	**+1.0**
GCAM				*i* S	**Sb**	**13 52 09.3**	**-0.4**
SILT	**Sile**	**2.07**	**11**	*e*PN	**Pn**	**13 51 42.1**	**+0.3**
SILT	**Sile**	**2.07**	**11**	*e*Pn	**Pn**	**13 51 42.1**	**+0.3**
BGKT	**Bogazkoy**	**2.07**	**353**	*e*PN	**Pn**	**13 51 41.5**	**-0.3**
BGKT	**Bogazkoy**	**2.07**	**353**	*e*Pn	**Pn**	**13 51 41.5**	**-0.3**
YER	**Yerkesik**	**2.09**	**198**	*e*PN	**Pn**	**13 51 41.8**	**-0.3**
YER	**Yerkesik**	**2.09**	**198**	P	**Pn**	**13 51 41.6**	**-0.6**
YER	**Yerkesik**	**2.09**	**198**	P	**Pn**	**13 51 41.8**	**-0.3**
YER	**Yerkesik**	**2.09**	**198**	*e*Pn	**Pn**	**13 51 41.8**	**-0.3**
MDUB	**Mudurnu**	**2.10**	**50**	*e*PN	**Pn**	**13 51 43.2**	**+0.8**
MDUB	**Mudurnu**	**2.10**	**50**	*e*Pn	**Pn**	**13 51 43.2**	**+0.8**
URLA	**Izmir**	**2.10**	**250**	P	**Pb**	**13 51 44.8**	**-0.4**
URLA	**Izmir**	**2.10**	**250**	*i* P	**Pb**	**13 51 44.8**	**-0.4**
URLA				*i* S	**Sg**	**13 52 14.1**	**-0.3**
KLYT	**Kilyos**	**2.13**	**359**	*e*PN	**Pn**	**13 51 43.0**	**+0.4**
KLYT	**Kilyos**	**2.13**	**359**	*e*Pn	**Pn**	**13 51 43.0**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.15**	**317**	*e*PN	**Pn**	**13 51 43.1**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.15**	**317**	*e*Pn	**Pn**	**13 51 43.1**	**+0.1**
CTKS	**Kestanelik-??a**	**2.16**	**348**	*e*PN	**Pn**	**13 51 43.8**	**+0.8**
CTKS	**Kestanelik-??a**	**2.16**	**348**	*e*Pn	**Pn**	**13 51 43.8**	**+0.8**
KIZT	**Kizilcal**	**2.18**	**96**	*e*PN	**Pn**	**13 51 44.4**	**+1.0**
KIZT	**Kizilcal**	**2.18**	**96**	*e*Pn	**Pn**	**13 51 44.4**	**+1.0**
LPK	**Lapseki**	**2.19**	**305**	*e*PN	**Pn**	**13 51 44.7**	**+1.2**
LPK	**Lapseki**	**2.19**	**305**	*e*Pn	**Pn**	**13 51 44.7**	**+1.2**
PRK	**Paraskevi**	**2.20**	**274**	P	**Pn**	**13 51 43.3**	**-0.3**
PRK	**Paraskevi**	**2.20**	**274**	P	**Pn**	**13 51 43.3**	**-0.3**
PRK	**Paraskevi**	**2.20**	**274**	P	**Pn**	**13 51 43.3**	**-0.3**
TKR	**Tekirdag**	**2.22**	**328**	*e*PN	**Pn**	**13 51 45.1**	**+1.3**
TKR	**Tekirdag**	**2.22**	**328**	*e*Pn	**Pn**	**13 51 45.1**	**+1.3**
SUTC	**Sutluce-Ispart**	**2.22**	**137**	*e*PN	**Pn**	**13 51 44.6**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.22**	**137**	*e*Pn	**Pn**	**13 51 44.6**	**+0.6**
EZN	**Ezine**	**2.26**	**289**	*e*PN	**Pn**	**13 51 45.1**	**+0.7**
EZN	**Ezine**	**2.26**	**289**	P	**Pn**	**13 51 44.6**	**+0.2**
EZN	**Ezine**	**2.26**	**289**	P	**Pn**	**13 51 44.6**	**+0.2**
EZN	**Ezine**	**2.26**	**289**	*e*Pn	**Pn**	**13 51 45.1**	**+0.7**
SMG	**Samos**	**2.27**	**232**	P	**Pn**	**13 51 43.2**	**-1.4**
SMG	**Samos**	**2.27**	**232**	P	**Pn**	**13 51 43.2**	**-1.4**
DALY	**Dalyan (Mu¯la**	**2.33**	**189**	*e*PN	**Pn**	**13 51 46.9**	**+1.5**
DALY	**Dalyan (Mu¯la**	**2.33**	**189**	*e*Pn	**Pn**	**13 51 46.9**	**+1.5**
GELI	**Tayfur-Gelibol**	**2.39**	**303**	*e*PN	**Pn**	**13 51 46.4**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.39**	**303**	*e*Pn	**Pn**	**13 51 46.4**	**+0.2**
CTYL	**Yalikoy Yolu**	**2.43**	**345**	*e*PN	**Pn**	**13 51 46.6**	**-0.1**
CTYL	**Yalikoy Yolu**	**2.43**	**345**	*e*Pn	**Pn**	**13 51 46.6**	**-0.1**
FETY	**Fethiye**	**2.48**	**180**	*e*PN	**Pn**	**13 51 48.4**	**+0.8**
FETY	**Fethiye**	**2.48**	**180**	P	**Pn**	**13 51 48.3**	**+0.7**
FETY	**Fethiye**	**2.48**	**180**	P	**Pn**	**13 51 48.3**	**+0.7**
CHOS	**Chios island**	**2.49**	**254**	P	**Pn**	**13 51 47.4**	**-0.3**
CHOS	**Chios island**	**2.49**	**254**	P	**Pn**	**13 51 47.4**	**-0.3**
BODT	**Bodrum**	**2.50**	**215**	P	**Pn**	**13 51 46.9**	**-0.8**
BODT	**Bodrum**	**2.50**	**215**	P	**Pn**	**13 51 46.9**	**-0.8**
ERIK	**Erikli-Kesan**	**2.52**	**309**	*e*PN	**Pn**	**13 51 48.8**	**+0.8**
ERIK	**Erikli-Kesan**	**2.52**	**309**	*e*Pn	**Pn**	**13 51 48.8**	**+0.8**
SIGR	**SIGRI**	**2.52**	**273**	*e*PN	**Pn**	**13 51 48.9**	**+0.8**
SIGR	**SIGRI**	**2.52**	**273**	*e*Pn	**Pn**	**13 51 48.9**	**+0.8**
GADA	**Gvkgeada**	**2.69**	**294**	*e*PN	**Pn**	**13 51 51.2**	**+0.8**
GADA	**Gvkgeada**	**2.69**	**294**	P	**Pn**	**13 51 50.5**	**+0.1**
GADA	**Gvkgeada**	**2.69**	**294**	P	**Pn**	**13 51 50.5**	**+0.1**
GADA	**Gvkgeada**	**2.69**	**294**	*e*Pn	**Pn**	**13 51 51.2**	**+0.8**
LADK	**Ladik-KONYA**	**2.72**	**109**	*e*PN	**Pn**	**13 51 51.7**	**+0.9**
LADK	**Ladik-KONYA**	**2.72**	**109**	*e*Pn	**Pn**	**13 51 51.7**	**+0.9**
PHSR	**Pinarhisar**	**2.78**	**335**	*e*PN	**Pn**	**13 51 53.1**	**+1.5**
PHSR	**Pinarhisar**	**2.78**	**335**	*e*Pn	**Pn**	**13 51 53.1**	**+1.5**
ENEZ	**Enez**	**2.78**	**306**	*e*PN	**Pn**	**13 51 52.0**	**+0.4**
ENEZ	**Enez**	**2.78**	**306**	P	**Pn**	**13 51 52.0**	**+0.4**
ENEZ	**Enez**	**2.78**	**306**	P	**Pn**	**13 51 52.0**	**+0.4**
KDZE	**Karadeniz Ereo**	**2.83**	**39**	*e*PN	**Pn**	**13 51 53.3**	**+1.0**
KDZE	**Karadeniz Ereo**	**2.83**	**39**	*e*Pn	**Pn**	**13 51 53.3**	**+1.0**
LOD	**Lodumlu**	**2.93**	**74**	*e*PN	**Pn**	**13 51 54.8**	**+1.0**
LOD	**Lodumlu**	**2.93**	**74**	*e*Pn	**Pn**	**13 51 54.8**	**+1.0**
ALN	**Alexandroupoli**	**2.94**	**308**	*e*PN	**Pn**	**13 51 54.4**	**+0.6**
ALN	**Alexandroupoli**	**2.94**	**308**	P	**Pn**	**13 51 53.7**	**-0.1**
ALN				S	**Sn**	**13 52 29.6**	**+0.4**
ALN	**Alexandroupoli**	**2.94**	**308**	*e*P	**Pn**	**13 51 53.7**	**-0.1**
ALN				*e*S	**Sn**	**13 52 29.6**	**+0.4**
ALN	**Alexandroupoli**	**2.94**	**308**	P	**Pn**	**13 51 53.7**	**-0.1**
ALN	**Alexandroupoli**	**2.94**	**308**	*e*Pn	**Pn**	**13 51 54.4**	**+0.6**
ALN				S	**Sn**	**13 52 29.6**	**+0.4**
KSL	**Kastellorizon**	**2.99**	**173**	P	**Pn**	**13 51 55.6**	**+1.1**
ARG	**Arkhangelos**	**3.00**	**195**	P	**Pn**	**13 51 56.0**	**+1.3**
CHBY	**Cihanbeyli**	**3.01**	**99**	*e*PN	**Pn**	**13 51 55.9**	**+1.1**
CHBY	**Cihanbeyli**	**3.01**	**99**	*e*Pn	**Pn**	**13 51 55.9**	**+1.1**
SMTH	**Samothraki Isl**	**3.06**	**297**	P	**Pn**	**13 51 55.3**	**-0.2**
SMTH	**Samothraki Isl**	**3.06**	**297**	P	**Pn**	**13 51 55.3**	**-0.2**
LIA	**Limnos Island**	**3.13**	**286**	P	**Pn**	**13 51 56.5**	**+0.1**
LIA	**Limnos Island**	**3.13**	**286**	P	**Pn**	**13 51 56.5**	**+0.1**
EDRB	**Edirne**	**3.26**	**327**	P	**Pn**	**13 51 58.6**	**+0.4**
EDRB	**Edirne**	**3.26**	**327**	P	**Pn**	**13 51 58.6**	**+0.4**
BRTR	**Keskin Array B**	**3.56**	**79**	Pn	**Pn**	**13 52 03.6**	**+1.1**
	1.8nm,0.3s,baz=254,slow=13,SNR=56						
BRTR				Pg	**Pg**	**13 52 15.1**	**-0.1**
	4.0nm,0.3s,baz=255,slow=17,SNR=23						
BRTR				Sn	**Sn**	**13 52 44.0**	**-0.8**
	4.3nm,0.3s,baz=262,slow=22,SNR=6.4						
BRTR				Lg		13 53 03.3	
	2.6nm,0.3s,baz=252,slow=18,SNR=2.7						
KDZ	**Kurdzhali**	**3.78**	**313**	*i* P	**Pn**	**13 52 05.4**	**+0.1**
JMB	**Yambol**	**3.85**	**331**	*i* P	**Pn**	**13 52 07.3**	**+1.0**
KAVA	**Kavala**	**3.99**	**299**	P	**Pn**	**13 52 08.2**	**0.0**
KAVA	**Kavala**	**3.99**	**299**	P	**Pn**	**13 52 08.2**	**0.0**
DIM	**Dimitrovgrad**	**3.99**	**318**	*i* P	**Pn**	**13 52 08.3**	**+0.1**
OUR	**Ouranopolis**	**4.13**	**289**	P	**Pn**	**13 52 09.8**	**-0.3**
OUR	**Ouranopolis**	**4.13**	**289**	P	**Pn**	**13 52 09.8**	**-0.3**
ROIA	**ROIAK**	**4.17**	**342**	*i* P	**Pn**	**13 52 10.8**	**0.0**
RZN	**Rozhen**	**4.21**	**309**	*i* P	**Pn**	**13 52 11.6**	**+0.1**
PAIG	**Paliouri**	**4.27**	**283**	P	**Pn**	**13 52 12.3**	**+0.2**
PAIG	**Paliouri**	**4.27**	**283**	P	**Pn**	**13 52 12.3**	**+0.2**
PAIG	**Paliouri**	**4.27**	**283**	P	**Pn**	**13 52 12.3**	**+0.2**
PRD	**Provadia**	**4.27**	**343**	*i* P	**Pn**	**13 52 11.6**	**-0.4**
PLD	**Plovdiv**	**4.48**	**313**	P	**Pn**	**13 52 15.2**	**+0.3**
PLD	**Plovdiv**	**4.48**	**313**	*i* P	**Pn**	**13 52 15.1**	**+0.2**
PLG	**Polygyros**	**4.54**	**289**	P	**Pn**	**13 52 19.1**	**+3.3**
NVR	**Nevrokopi**	**4.58**	**301**	P	**Pn**	**13 52 16.6**	**+0.2**
NVR	**Nevrokopi**	**4.58**	**301**	P	**Pn**	**13 52 16.6**	**+0.2**
PSN	**Preselentsi**	**4.61**	**352**	*i* P	**Pn**	**13 52 16.2**	**-0.5**
SRS	**Serrai**	**4.67**	**297**	P	**Pn**	**13 52 17.5**	**-0.1**
SRS	**Serrai**	**4.67**	**297**	P	**Pn**	**13 52 17.5**	**-0.1**
SRS	**Serrai**	**4.67**	**297**	P	**Pn**	**13 52 17.5**	**-0.1**
MANR	**Mangalia**	**4.70**	**355**	⇓*i*P	**Pn**	**13 52 18.4**	**+0.4**
SZH	**Strazhica**	**4.78**	**331**	*i* P	Pn	13 52 13.7	-5.4
MMB	**Musomiste**	**4.79**	**303**	*i* P	**Pn**	**13 52 19.2**	**0.0**
MSAB	**Monastry St. A**	**5.05**	**350**	⇓*i*P	**Pn**	**13 52 23.9**	**+1.1**
PGB	**Panagyurishte**	**5.07**	**314**	*i* P	**Pn**	**13 52 22.9**	**-0.2**
IDI	**Anoyia**	**5.09**	**223**	Pn	**Pn**	**13 52 24.2**	**+0.7**
	1.5nm,0.3s,baz=52,slow=14,SNR=15						
IDI				Lg	Lg	13 53 56.6	
	0.3nm,0.3s,baz=57,slow=9.6,SNR=1.9						
KKB	**Krupnik**	**5.34**	**303**	*i* P	**Pn**	**13 52 27.0**	**+0.2**
TIRR	**Tirgusor**	**5.35**	**355**	⇑*i*P	**Pn**	**13 52 27.2**	**+0.3**
TIRR	**Tirgusor**	**5.35**	**355**	*e*P	**Pn**	**13 52 27.2**	**+0.3**
HARR	**Harsova**	**5.63**	**351**	⇑*i*P	**Pn**	**13 52 31.2**	**+0.5**
HARR	**Harsova**	**5.63**	**351**	⇑⇑P	**Pn**	**13 52 31.2**	**+0.5**
MPEP	**Malo Peshtene**	**5.85**	**318**	*i* P	**Pn**	**13 52 34.1**	**+0.3**
TLCR		**6.06**	**358**	⇑*i*P	**Pn**	**13 52 37.7**	**+1.1**
TLCR		**6.06**	**358**	⇑⇑P	**Pn**	**13 52 37.7**	**+1.1**
CFR	**Carcaliu**	**6.09**	**354**	⇑*i*P	**Pn**	**13 52 37.1**	**0.0**
CFR	**Carcaliu**	**6.09**	**354**	⇑⇑P	**Pn**	**13 52 37.1**	**0.0**
ISR	**Istrita**	**6.28**	**343**	⇓*i*P	**Pn**	**13 52 41.3**	**+1.5**
ISR	**Istrita**	**6.28**	**343**	⇓⇓P	**Pn**	**13 52 41.4**	**+1.6**
SEV	**Sevastopol'**	**6.40**	**31**	*e*P	**Pn**	**13 52 40.3**	**-1.0**
SEV				*e*S	**Sn**	**13 53 49.9**	**-4.5**
SEV				pmax	pmax		
	comp=Z,12nm,0.4s						
SEV				smax	smax		
	comp=N,17nm,0.3s						
SEV				smax	smax		
	comp=E,11nm,0.5s						
YAL	**Yalta**	**6.55**	**34**	*e*P	**Pn**	**13 52 43.8**	**+0.4**
YAL				*e*S	**Sn**	**13 53 54.6**	**-3.6**
YAL				pmax	pmax		
	comp=Z,71nm,0.4s						
YAL				smax	smax		
	comp=N,25nm,0.4s						
YAL				smax	smax		
	comp=E,25nm,0.3s						
BARS	**Barje**	**6.63**	**306**	*e*P	**Pn**	**13 52 45.5**	**+1.0**
MLR	**Muntele Rosu**	**6.78**	**341**	Pn	**Pn**	**13 52 47.4**	**+0.8**
	comp=E,0.2nm,0.3s,baz=158,slow=2.4,SNR=26						
MLR				Lg	Lg	13 54 50.0	
	baz=273,slow=22,SNR=2.4						
MLR				LR	LR	13 55 35.5	
	comp=E,26nm,22.0s,baz=144,slow=40						
MLR	**Muntele Rosu**	**6.78**	**341**	⇑*i*P	**Pn**	**13 52 48.1**	**+1.5**
MLR	**Muntele Rosu**	**6.78**	**341**	⇑P	**Pn**	**13 52 48.1**	**+1.5**
MTUR	**Matau**	**6.79**	**335**	⇓*i*P	**Pn**	**13 52 47.8**	**+1.0**
MTUR	**Matau**	**6.79**	**335**	⇓P	**Pn**	**13 52 47.8**	**+1.0**
ODBI	**Odobesti**	**6.80**	**348**	⇑*i*P	**Pn**	**13 52 48.7**	**+1.8**
SIM	**Simferopol'**	**6.91**	**31**	*e*P	**Pn**	**13 52 48.5**	**+0.1**
SIM				*e*S	**Sn**	**13 54 03.0**	**-4.1**

CPUP	**Villa Florida**	**18.68**	**46**	LR	LR	14 10 29.2			
	comp=E,110nm,19.4s,baz=220,slow=37								
LPAZ	**La Paz**	**24.27**	**9**	P	**P**	**14 04 16.0**	**+1.1**		
	comp=E,2.4nm,0.8s,baz=184,slow=3.6,SNR=5.5								
SIV	**San Ignacio**	**26.16**	**25**	P	**P**	**14 04 31.8**	**+0.4**		
	comp=E,4.7nm,0.9s,baz=216,slow=8.9,SNR=5.6								
SIV				LR	LR	14 15 54.6			
	comp=E,51nm,18.4s,baz=202,slow=39								
NNA	**Nana**	**28.59**	**350**	LR	LR	14 14 27.8			
	comp=E,44nm,18.5s,baz=154,slow=32								
BDFB	**Brasilia**	**32.40**	**47**	LR	LR	14 17 57.3			
	comp=E,83nm,21.3s,baz=223,slow=35								
SNAA	**Sanae**	**45.76**	**156**	*e*P	**P**	**14 07 16.6**	**-1.2**		
QSPA	**South Pole Qui**	**49.85**	**180**	*e*P	**P**	**14 07 50.3**	**+0.6**		
	comp=E,13nm,0.8s								
TXAR	**Lajitas Array**	**75.28**	**332**	P	**P**	**14 10 41.6**	**+2.0**		
	comp=E,0.6nm,0.8s,baz=157,slow=8.8,SNR=6.4								
ECSD	**EROS Data Cent**	**86.60**	**343**	*e*P	**P**	**14 11 38.8**	**-0.7**		
	comp=E,7.2nm,0.9s								
HWUT	**Hardware Ranch**	**89.10**	**332**	*e*P	**P**	**14 11 51.4**	**-0.3**		
	comp=E,6.4nm,1.0s								
SEY	**Seymchan**	**145.38**	**326**	PKPbc	**PKPab**	**14 18 33.9**	**+0.4**		
	comp=E,3.4nm,0.9s,baz=93,slow=6.3,SNR=8.4								
BVAR	**Borovoye Array**	**151.74**	**51**	PKP	**PKPdf**	**14 18 46.2**	**+2.2**		
	comp=E,0.8nm,0.8s,baz=350,slow=7.9,SNR=4.0								
BVAR				PKPbc	**PKiKP**	**14 18 52.0**	**+1.3**		
	comp=E,1.2nm,0.7s,baz=329,slow=2.6,SNR=6.5								
KURBB	**Kurchatov Arra**	**157.21**	**54**	PKP	**PKPdf**	**14 18 52.1**	**+0.5**		
	comp=E,1.5nm,1.1s,baz=270,slow=1.7,SNR=8.6								
KURK	**Kurchatov**	**157.24**	**53**	PKP	**PKPdf**	**14 18 52.1**	**+0.5**		
ZALV	**Zalesovo Beam**	**159.43**	**41**	PKP	**PKPdf**	**14 18 55.3**	**+1.1**		
	comp=E,0.7nm,0.6s,baz=332,slow=5.9,SNR=3.6								
MKAR	**Makanchi Array**	**160.48**	**62**	PKP	**PKPdf**	**14 18 55.6**	**0.0**		
	comp=E,0.7nm,0.8s,baz=279,slow=2.3,SNR=5.3								
MKAR				PKPab	**PKPab**	**14 19 37.1**	**0.0**		
	comp=E,0.1nm,0.2s,baz=258,slow=6.1,SNR=3.7								

*IDC **04** 14:01:28.1±1.5,35°.25N×141°.64E,h0km,mb3.9/6, mb1 3.8/11,mb1mx3.6/57,mbtmp3.8/11,ML3.5/4,MS2.9/4, Ms1 2.9/4,ms1mx2.6/49,Error ellipse: s-maj=40.7km s-min=16.9km az=72.0*

*ISCJB **04** 14:01:29.5±0.9,35°.22N±0°.04×141°.61E±0°.09,h25km, mb3.8/6,Error ellipse: s-maj=10.8km s-min=6.4km az=178.9*

*JMA **04** 14:01:31.8±0.3,35°.24N×141°.42E,h40km±3km,M3.1*

ISC 04 14:01:32.4±1.0,35°.26N±0°.05×141°.40E±0°.08,h25km,n28, σ1$55/25,mb4.0/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.63**	**316**	P	**Pb**	**14 01 44.5**	**-0.2**
CHOJ				*e*S	**Sn**	**14 01 54.8**	**-0.1**
BSO1	**Boso 1**	**0.69**	**210**	P	**Pb**	**14 01 45.4**	**-0.1**
BSO3	**Boso 3**	**0.86**	**238**	P	**Pb**	**14 01 47.8**	**-0.7**
KTR	**Katsuura**	**0.89**	**263**	P	**Pb**	**14 01 48.3**	**-0.9**
BSO4	**Boso 4**	**0.91**	**253**	P	**Pb**	**14 01 48.8**	**-0.6**
JCN	**Nagara**	**0.99**	**280**	P	**Pb**	**14 01 50.9**	**0.0**
JYT	**Yasato**	**1.38**	**315**	P	**Pn**	**14 01 56.0**	**0.0**
JIM2	**Oshima 3**	**1.70**	**252**	P	**Pn**	**14 01 59.4**	**-1.1**
JHJ	**Hachijo jima 2**	**2.52**	**213**	Pn	**Pn**	**14 02 11.4**	**-0.3**
	37nm,0.3s,baz=115,slow=7.9,SNR=12						
JHJ					**Sn**	**14 02 40.6**	**-1.0**
	73nm,0.3s,baz=67,slow=21,SNR=16						
MJAR	**Matsushiro Arr**	**2.89**	**297**	Pn	**Pn**	**14 02 17.9**	**+1.0**
	3.2nm,0.3s,baz=98,slow=13,SNR=24						
MJAR					**Sn**	**14 02 47.6**	**-3.2**
	3.2nm,0.3s,baz=33,slow=16,SNR=6.3						
MJAR				LR	LR	14 03 43.0	
	comp=Z,292nm,18.7s,baz=120,slow=44						
MAT	**Matsushiro**	**2.89**	**297**	P	**Pn**	**14 02 17.8**	**+0.9**
MAT				*e*S	**Sn**	**14 02 47.7**	**-3.2**
JCJ	**Chichijima**	**8.16**	**175**	LR	LR	14 06 16.1	
	comp=Z,36nm,21.0s,baz=229,slow=35						
ASAJ	**Asahikawa**	**8.90**	**6**	Pn	**Pn**	**14 03 38.9**	**-0.5**
	1.1nm,0.3s,baz=211,slow=11,SNR=14						
ASAJ					**Sn**	**14 05 15.6**	**-3.2**
	0.4nm,0.3s,baz=294,slow=20,SNR=2.6						
JNU	**Nakatsue**	**8.97**	**259**	LR	LR	14 07 34.3	
	comp=Z,67nm,20.3s,baz=310,slow=40						
KSRS	**Korea Array**	**11.09**	**285**	Pn	**Pn**	**14 04 12.5**	**+3.2**
	0.1nm,0.3s,baz=99,slow=14,SNR=5.3						
KSRS				LR	LR	14 08 38.1	
	comp=Z,112nm,18.4s,baz=74,slow=38						
USRK	**Ussuriysk Ar.**	**11.49**	**324**	Pn	**Pn**	**14 04 16.6**	**+1.7**
	0.1nm,0.3s,baz=131,slow=11,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**27.29**	**118**	T	T	14 35 53.3	
	baz=310,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.30**	**118**	T	T	14 35 53.7	
	baz=310,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.31**	**118**	T	T	14 35 54.3	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**27.94**	**120**	T	T	14 36 39.7	
	baz=312,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**27.94**	**120**	T	T	14 36 39.3	
	baz=312,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**27.96**	**120**	T	T	14 36 53.9	
	baz=312,slow=76,SNR=21						
SONM	**Songino Array**	**28.80**	**307**	P	**P**	**14 07 29.9**	**+1.4**
	0.2nm,0.5s,baz=98,slow=7.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**43.12**	**314**	P	**P**	**14 09 30.6**	**+0.2**
	0.9nm,0.4s,baz=99,slow=9.3,SNR=3.5						
MKAR	**Makanchi Array**	**45.07**	**304**	P	**P**	**14 09 46.2**	**-0.1**
	0.8nm,0.6s,baz=82,slow=6.6,SNR=6.4						
KURBB	**Kurchatov Arra**	**47.10**	**309**	P	**P**	**14 10 01.9**	**-0.1**
	1.0nm,0.5s,baz=84,slow=7.5,SNR=10						
WRA	**Warramunga Arr**	**55.30**	**188**	P	**P**	**14 11 03.3**	**-0.6**
	2.6nm,0.8s,baz=0.9,slow=7.5,SNR=18						
ASAR	**Alice Springs**	**59.03**	**188**	P	**P**	**14 11 30.5**	**+0.3**
	1.2nm,0.7s,baz=16,slow=11,SNR=31						

*NEIC **04** 14:06:32.0,40°.40S×72°.02W,h5km,mb4.4/2,ML4.3(GUC), After GUC.*

NEIC Felt [V] at Rio Bueno and [IV] at Lago Ranco.

*GUC **04** 14:06:32.2±0.7,40°.40S×72°.02W,h5km±6km,ML4.3*

*ISCJB **04** 14:06:35.0±0.8,40°.16S±0°.08×71°.90W±0°.07,h33km, mb4.4/2,Error ellipse: s-maj=12.6km s-min=6.3km az=19.0*

ISC 04 14:06:36.1±1.1,40°.3S±0°.1×71°.99W±0°.06,h35km,n7, σ1$50/10,Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.07**	**296**	*e*P	**Pn**	**14 06 52.9**	**-1.7**
VLCH				IAML		14 07 09.0	
	comp=N,15μm,0.0s						
VLCH				*i*S	**Sn**	**14 07 09.9**	**+1.7**
PLCA	**Paso Flores**	**1.19**	**113**	*i*P	**Pn**	**14 06 54.8**	**-1.5**
PLCA				*i*S	**Sn**	**14 07 11.4**	**+0.1**
TRQA	**Tornquist**	**8.09**	**77**	*e*Pn	**Pn**	**14 08 30.3**	**-0.8**
TRQA				*e*Sn	**Sn**	**14 10 02.8**	**+1.6**
LCO	**Las Campanas**	**11.29**	**6**	Pn	**Pn**	**14 09 13.9**	**-1.3**
LVC	**Limon Verde**	**17.81**	**9**	Pn	**Pn**	**14 10 40.8**	**-0.7**
SAML	**Samuel**	**32.17**	**17**	*e*P	**P**	**14 13 01.9**	**+1.3**
	comp=N,1.5nm,0.8s						
QSPA	**South Pole Qui**	**49.97**	**180**	*e*P	**P**	**14 15 27.3**	**+0.9**
	comp=N,8.9nm,0.8s						

*ISK **04** 14:10:50.7,39°.10N×29°.05E,h5km,MD2.6*

*ISCJB **04** 14:10:51.3±0.6,39°.11N±0°.04×29°.06E±0°.04,h4km±9km, Error ellipse: s-maj=6.9km s-min=4.9km az=164.7*

*CSEM **04** 14:10:51.5±0.2,39°.13N×29°.05E,h5km,MD2.6,Error ellipse: s-maj=4.1km s-min=3.4km az=130.0*

*DDA **04** 14:10:51.0,39°.08N×29°.09E,h7km,Md2.6*

ISC 04 14:10:51.3±0.9,39°.11N±0°.03×29°.07E±0°.03,h13km±9km, n21,σ0$26/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.28**	**257**	P	**Pg**	**14 10 57.2**	**0.0**
DEMI				S	**Sg**	**14 11 01.4**	**+0.2**
DEMI	**Demirci**	**0.28**	**257**	*i*P	**Pg**	**14 10 57.2**	**0.0**
DEMI				*i*S	**Sg**	**14 11 01.4**	**+0.2**
GDZ	**Gediz**	**0.32**	**93**	P	**Pg**	**14 10 57.7**	**-0.2**
GDZ				S	**Sg**	**14 11 02.4**	**0.0**
GDZ	**Gediz**	**0.32**	**93**	*i*P	**Pg**	**14 10 57.7**	**-0.2**
GDZ				*i*S	**Sg**	**14 11 02.4**	**0.0**
TVSB	**Tavsanli**	**0.46**	**41**	*e*PG	**Pg**	**14 11 00.1**	**-0.3**
TVSB	**Tavsanli**	**0.46**	**41**	*e*Pg	**Pg**	**14 11 00.1**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*PG	**Pg**	**14 11 04.2**	**-0.2**
KULA				*e*SG	**Sg**	**14 11 13.1**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*Pg	**Pg**	**14 11 04.2**	**-0.2**
KULA				*e*Sg	**Sg**	**14 11 13.1**	**-0.2**
KHAL	**Karahalli**	**0.81**	**156**	P	**Pn**	**14 11 08.9**	**+0.5**
KHAL				S	**Sb**	**14 11 17.6**	**-0.4**
KHAL	**Karahalli**	**0.81**	**156**	*i*P	**Pn**	**14 11 08.9**	**+0.5**
KHAL				*i*S	**Sb**	**14 11 17.6**	**-0.4**
BALB	**Balikesir**	**1.06**	**300**	*e*PG	**Pb**	**14 11 11.6**	**0.0**
BALB	**Balikesir**	**1.06**	**300**	*e*Pg	**Pb**	**14 11 11.6**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**28**	*e*PN	**Pg**	**14 11 15.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pb**	**14 11 15.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pb**	**14 11 15.4**	**+0.1**
BORA	**Eskisehir**	**1.32**	**54**	P	**Pg**	**14 11 16.6**	**0.0**
BORA				S	**Sg**	**14 11 34.0**	**+0.2**
BORA	**Eskisehir**	**1.32**	**54**	*i*P	**Pg**	**14 11 16.6**	**0.0**
BORA				*i*S	**Sg**	**14 11 34.0**	**+0.2**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	**Pg**	**14 11 18.9**	**-0.5**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	**Pg**	**14 11 18.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**219**	*e*PN	**Pb**	**14 11 18.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**219**	*e*Pn	**Pb**	**14 11 18.7**	**-0.1**

*GUC **04** 14:13:16.6±0.9,40°.49S×72°.14W,h7km±19km,ML3.9*

*NEIC **04** 14:13:16.0,40°.49S×72°.14W,h7km,mb4.4/2,ML3.9(GUC), After GUC.*

*ISCJB **04** 14:13:20.0±0.7,40°.39S±0°.09×72°.2W±0°.1,h33km,mb4.1/9, Error ellipse: s-maj=15.6km s-min=8.3km az=34.5*

*IDC **04** 14:13:20.0±4.9,40°.38S×71°.91W,h15km±28km,mb4.0/7, mb1 4.2/8,mb1mx4.0/20,mbtmp4.2/8,ML5.2/1,Error ellipse: s-maj=34.1km s-min=15.4km az=36.0*

ISC 04 14:13:21.9±0.6,40°.4S±0°.1×72°.13W±0°.08,h35km,n29, σ1$28/32,mb4.0/9,2D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.03**	**303**	*e*P	**Pn**	**14 13 36.4**	**-3.4**
VLCH				IAML		14 14 00.7	
	comp=N,6μm,0.8s						
PLCA	**Paso Flores**	**1.25**	**107**	Pg	**Pn**	**14 13 40.8**	**-2.2**
	comp=N,98nm,0.3s,baz=312,slow=13,SNR=25						
PLCA				Lg	Lg	14 13 55.9	
	comp=N,113nm,0.3s,baz=30,slow=19,SNR=6.6						
PLCA	**Paso Flores**	**1.25**	**107**	*i*P	**Pn**	**14 13 40.5**	**-2.5**
PLCA				*i*S	**Sn**	**14 13 57.3**	**-1.3**
LVC	**Limon Verde**	**17.93**	**10**	P	**Pn**	**14 17 27.7**	**-1.0**
	comp=N,8.0nm,0.3s,baz=212,slow=4.9,SNR=4.9						
LVC	**Limon Verde**	**17.93**	**10**	*e*P	**Pn**	**14 17 27.4**	**-1.3**
	comp=N,28nm,1.3s						
LPAZ	**La Paz**	**24.26**	**9**	P	**P**	**14 18 37.4**	**+1.1**
	comp=N,3.0nm,0.8s,baz=159,slow=6.9,SNR=7.9						
SIV	**San Ignacio**	**26.13**	**25**	P	**P**	**14 18 52.3**	**-0.4**
	comp=N,4.2nm,0.9s,baz=227,slow=9.9,SNR=6.9						
SNAA	**Sanae**	**45.76**	**156**	*e*P	**P**	**14 21 39.1**	**-0.3**
QSPA	**South Pole Qui**	**49.87**	**180**	*e*P	**P**	**14 22 11.7**	**+0.3**
	comp=N,18nm,0.9s						
SYO	**Syowa Base**	**59.99**	**157**	*e*pP	**P**	**14 23 23.0**	**-1.3**
LRAL	**Lakeview Retre**	**74.33**	**347**	*e*P	**P**	**14 24 54.3**	**-1.2**
	comp=N,3.3nm,0.6s						
TXAR	**Lajitas Array**	**75.29**	**332**	P	**P**	**14 25 03.1**	**+1.8**
	comp=N,0.4nm,0.7s,baz=156,slow=9.6,SNR=5.3						
BOSA	**Boshof**	**77.22**	**117**	P	**P**	**14 25 12.4**	**-0.2**
	comp=N,4.0nm,1.1s,baz=235,slow=10,SNR=3.7						
DBIC	**Dimbokro**	**77.37**	**70**	P	**P**	**14 25 14.8**	**+1.5**
	comp=N,2.6nm,0.5s,baz=204,slow=7.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**86.47**	**70**	P	**P**	**14 26 00.8**	**-0.3**
	comp=N,0.9nm,0.9s,baz=235,slow=3.6,SNR=4.3						
PDAR	**Pinedale Array**	**89.42**	**333**	P	**P**	**14 26 15.5**	**+0.6**
	comp=N,0.2nm,0.3s,baz=146,slow=6.6,SNR=3.1						
ILAR	**Eielson Array**	**119.80**	**332**	PKP	**PKPdf**	**14 32 07.0**	**-0.2**
	comp=N,0.3nm,0.7s,baz=157,slow=1.0,SNR=5.3						
NOA	**NORSAR Array B**	**121.38**	**34**	PKP	**PKPdf**	**14 32 11.6**	**+1.2**
	comp=N,1.4nm,0.8s,baz=215,slow=4.2,SNR=3.5						
BRTR	**Neskin Array B**	**124.81**	**65**	PKP	**PKPdf**	**14 32 18.6**	**+0.8**
	comp=N,0.4nm,0.5s,baz=211,slow=0.8,SNR=3.0						
AKASG	**Malin Array Be**	**126.42**	**51**	PKP	**PKPdf**	**14 32 20.5**	**+0.2**
	comp=N,0.3nm,0.3s,baz=264,slow=0.9,SNR=3.5						
AKTO	**Aktyubinsk**	**144.20**	**57**	PKP	PKPbc	14 32 52.3	+0.8
	comp=N,2.6nm,0.7s,baz=288,slow=3.2,SNR=12						
ARU	**Arti**	**144.41**	**46**	PKP	PKPbc	14 32 52.6	+0.5
	comp=N,1.2nm,0.3s,baz=256,slow=4.2,SNR=4.0						
SEY	**Seymchan**	**145.39**	**326**	PKPbc	**PKPab**	**14 32 56.4**	**+1.3**
	comp=N,3.9nm,0.8s,baz=152,slow=4.0,SNR=10						
TIXI	**Tiksi**	**146.93**	**348**	PKPbc	**PKPbc**	**14 32 59.8**	**+0.5**
	comp=N,3.7nm,0.8s,baz=71,slow=4.4,SNR=11						
BVAR	**Borovoye Array**	**151.70**	**51**	PKP	**PKPdf**	**14 33 06.9**	**+1.4**
	comp=N,0.7nm,0.8s,baz=286,slow=1.0,SNR=3.7						
BVAR				PKPbc	**PKiKP**	**14 33 13.7**	**+1.5**
	comp=N,0.9nm,0.7s,baz=270,slow=2.9,SNR=5.0						
KURBB	**Kurchatov Arra**	**157.17**	**54**	PKP	**PKPdf**	**14 33 13.9**	**+0.7**
	comp=N,1.0nm,0.8s,baz=301,slow=1.6,SNR=7.5						
KURBB				PKPab	**PKPab**	**14 33 44.5**	**+0.3**
	comp=N,0.4nm,0.7s,baz=283,slow=5.8,SNR=4.1						
KURK	**Kurchatov**	**157.20**	**53**	PKP	**PKPdf**	**14 33 13.9**	**+0.7**
KURK				PKPab	**PKPab**	**14 33 44.5**	**+0.2**
ZALV	**Zalesovo Beam**	**159.39**	**41**	PKP	**PKPdf**	**14 33 15.9**	**+0.1**
	comp=N,1.1nm,0.8s,baz=270,slow=4.3,SNR=3.3						
MKAR	**Makanchi Array**	**160.44**	**62**	PKP	**PKPdf**	**14 33 17.6**	**+0.3**
	comp=N,0.1nm,0.3s,baz=259,slow=1.5,SNR=3.6						
MKAR				PKPab	**PKPab**	**14 33 58.0**	**-0.5**
	comp=N,0.2nm,0.3s,baz=270,slow=2.9,SNR=4.4						

*IDC **04** 14:14:46.1±4.8,40°.41S×71°.97W,h15km±27km,mb3.9/5, mb1 4.1/6,mb1mx3.9/20,mbtmp4.1/6,ML5.2/1,MS3.9/6, Ms1 3.8/6,ms1mx3.3/29,Error ellipse: s-maj=44.0km s-min=17.6km az=31.0*

*ISCJB **04** 14:14:47.2±1.9,40°.4S±0°.2×72°.0W±0°.3,h33km,mb3.8/5, MS3.9/4,Error ellipse: s-maj=41.1km s-min=16.7km az=140.1*

ISC 04 14:14:49.0±1.5,40°.4S±0°.2×71°.8W±0°.2,h35km,n16, σ0$48/11,mb3.9/5,MS3.9/4,Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**1.03**	**109**	Pg	**Pn**	**14 15 07.0**	**-0.1**
	94nm,0.3s,baz=307,slow=13,SNR=7.9						
PLCA				Lg	Lg	14 15 23.8	
	77nm,0.3s,baz=310,slow=5.3,SNR=6.9						
USHA	**Ushuaia**	**14.62**	**172**	LR	LR	14 24 46.4	
	comp=Z,429nm,18.1s,baz=201,slow=41						
LVC	**Limon Verde**	**17.91**	**9**	P	**Pn**	**14 18 55.2**	**-0.4**
	7.0nm,0.3s,baz=202,slow=10,SNR=3.8						
CPUP	**Villa Florida**	**18.50**	**45**	LR	LR	14 25 55.8	
	comp=Z,140nm,20.1s,baz=222,slow=36						
LPAZ	**La Paz**	**24.24**	**9**	P	**P**	**14 20 03.9**	**+0.5**
	2.9nm,0.8s,baz=184,slow=6.8,SNR=3.6						
SIV	**San Ignacio**	**26.06**	**24**	P	**P**	**14 20 19.4**	**+0.2**
	2.8nm,0.9s,baz=170,slow=9.6,SNR=4.1						
SIV				LR	LR	14 32 25.8	
	comp=Z,58nm,19.2s,baz=181,slow=41						
BDFB	**Brasilia**	**32.22**	**47**	LR	LR	14 35 49.8	
	comp=Z,129nm,19.0s,baz=220,slow=39						
TXAR	**Lajitas Array**	**75.41**	**332**	P	**P**	**14 26 29.4**	**+0.2**
	0.4nm,0.9s,baz=150,slow=7.3,SNR=3.7						
DBIC	**Dimbokro**	**77.16**	**70**	P	**P**	**14 26 39.4**	**0.0**
	2.7nm,0.9s,baz=180,slow=6.1,SNR=2.7						
RPZ	**Rata Peaks**	**78.92**	**221**	LR	LR	14 53 38.8	
	comp=Z,93nm,21.9s,baz=253,slow=30						
RAO	**Raoul Island**	**82.59**	**238**	LR	LR	14 54 36.5	
	comp=Z,508nm,21.5s,baz=56,slow=29						
TORD	**Torodi Ar. Bea**	**86.27**	**69**	P	**P**	**14 27 27.2**	**-0.1**
	0.9nm,0.9s,baz=242,slow=3.2,SNR=3.8						
SEY	**Seymchan**	**145.53**	**326**	PKPbc	**PKPab**	**14 34 22.8**	**-0.1**
	0.8nm,0.7s,baz=109,slow=22,SNR=2.9						
TIXI	**Tiksi**	**147.00**	**348**	PKPbc	**PKPbc**	**14 34 25.7**	**-1.0**
	1.9nm,0.7s,baz=4.7,slow=3.4,SNR=3.6						
BVAR	**Borovoye Array**	**151.54**	**51**	PKPbc	**PKPbc**	**14 34 39.0**	**+0.4**
	0.6nm,0.7s,baz=264,slow=4.3,SNR=3.8						
MKAR	**Makanchi Array**	**160.25**	**63**	PKPab	**PKPab**	**14 35 25.4**	**+0.5**
	0.1nm,0.3s,baz=258,slow=4.3,SNR=2.4						

IDC 04 14:21:49.8±6.4,0°.36N×122°.80E,h137km±62km,mb3.0/5, mb1 3.2/7,mb1mx3.0/45,mbtmp3.5/7,Error ellipse: s-maj=83.7km s-min=16.0km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.14**	**210**	P	Pn	**14 23 18.6**	**+0.3**
	1.4nm,0.3s,baz=341,slow=1.7,SNR=5.3						
FITZ	**Fitzroy Crossi**	**18.55**	**171**	P	P	14 25 56.2	+0.1
	0.4nm,0.3s,baz=6.8,slow=9.0,SNR=16						
WRA	**Warramunga Arr**	**23.13**	**151**	P	P	14 26 44.3	+0.2
	1.2nm,0.9s,baz=330,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.20**	**156**	P	P	14 27 11.9	0.0
	0.3nm,0.5s,baz=343,slow=14,SNR=11						
ASAR				PcP	PcP	14 30 34.7	-0.7
	0.1nm,0.4s,baz=353,slow=2.5,SNR=6.2						
SONM	**Songino Array**	**49.39**	**345**	P	P	14 30 26.2	+0.6
	0.1nm,0.4s,baz=164,slow=5.8,SNR=2.1						
MKAR	**Makanchi Array**	**58.21**	**328**	P	P	14 31 29.3	-0.3
	0.5nm,0.5s,baz=127,slow=8.5,SNR=6.5						
KURBB	**Kurchatov Arra**	**62.56**	**330**	P	P	14 31 58.6	-0.5
	0.1nm,0.3s,baz=143,slow=6.7,SNR=5.3						

*NIED **04** 14:27:00,36°.40N×142°.80E,h8km,Mw3.6 Best double couple: M0 3.06000×10^14 NP1:φs176.00000°,δ45.00000°, λ-121.00000°. NP2:φs36.00000°,δ52.00000°, λ-62.00000°.*

*ISCJB **04** 14:27:23.4±0.9,36°.38N±0°.04×142°.74E±0°.07,h29km, mb3.5/4,Error ellipse: s-maj=8.8km s-min=6.1km az=161.4*

*JMA **04** 14:27:23.8±0.1,36°.42N×142°.79E,h47km,M3.9*

*IDC **04** 14:27:40.0±1.1,34°.47N×137°.14E,h0km,mb3.4/5, mb1 3.5/7,mb1mx3.3/46,mbtmp3.4/7,ML2.9/2,Error ellipse: s-maj=28.4km s-min=21.5km az=74.0*

ISC 04 14:27:25.1±1.4,36°.40N±0°.05×142°.76E±0°.10,h29km,n19, σ1$51/29,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.72**	**295**	S	**Sn**	**14 28 13.3**	**-0.9**
JHO	**Hitachi**	**1.78**	**278**	P	**Pn**	**14 27 53.0**	**-0.8**
JHO				S	**Sn**	**14 28 14.7**	**-0.7**
JFK	**Kawauchi**	**1.79**	**303**	P	**Pn**	**14 27 53.2**	**-0.9**
JFK				*e*S	**Sn**	**14 28 15.3**	**-0.6**
JMM	**Marumori**	**2.15**	**314**	P	**Pn**	**14 27 57.8**	**-1.1**
JMM				S	**Sn**	**14 28 24.1**	**-0.5**
JFT	**Otama**	**2.24**	**301**	P	**Pn**	**14 28 00.1**	**-0.1**
JFT				S	**Sn**	**14 28 27.4**	**+0.5**
BSO1	**Boso 1**	**2.27**	**220**	P	**Pn**	**14 27 59.9**	**-0.1**
JAG	**Ashikaga**	**2.67**	**272**	P	**Pn**	**14 28 05.8**	**-0.2**
JRY	**Ryogami san**	**3.14**	**264**	P	**Pn**	**14 28 12.2**	**-0.4**
JRY				*e*S	**Sn**	**14 28 48.1**	**-1.1**
JYK	**Kaneyama**	**3.15**	**324**	P	**Pn**	**14 28 11.9**	**-0.9**
JYK				*e*S	**Sn**	**14 28 48.8**	**-0.6**
JOD2	**Odawara 2**	**3.19**	**250**	P	**Pn**	**14 28 13.3**	**0.0**
JOD2				*e*S	**Sn**	**14 28 49.8**	**-0.5**
JYN	**Shimob**	**3.53**	**257**	P	**Pn**	**14 28 18.6**	**+0.6**
MJAR	**Matsushiro Arr**	**3.67**	**274**	Pn	**Pn**	**14 28 19.8**	**-0.1**
	2.3nm,0.3s,baz=215,slow=26,SNR=27						
MJAR					**Sn**	**14 29 05.8**	**+3.7**
	2.2nm,0.3s,baz=74,slow=12,SNR=6.8						
MAT	**Matsushiro**	**3.67**	**274**	P	**Pn**	**14 28 20.5**	**+0.6**
MAT				S	**Sn**	**14 28 59.9**	**-2.3**
MAT	**Matsushiro**	**3.67**	**274**	P	**Pn**	**14 28 21.3**	**+1.4**
JHJ	**Hachijo jima 2**	**4.08**	**218**	Pn	**Pn**	**14 28 24.4**	**-1.2**
	7.9nm,0.3s,baz=20,slow=22,SNR=7.8						
JHJ					**Sn**	**14 29 09.3**	**-3.1**
	22nm,0.3s,baz=287,slow=19,SNR=4.4						
MKAR	**Makanchi Array**	**45.37**	**303**	P	**P**	**14 35 38.7**	**-2.0**
	0.2nm,0.3s,baz=96,slow=9.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**47.24**	**309**	P	**P**	**14 35 55.4**	**+0.1**
	1.0nm,0.6s,baz=84,slow=7.3,SNR=9.6						

BEHE				*e*Sn		**Sn**	**14 37 11.8**	**+0.8**
BEHE	**Becsehely**	**1.40**	**151**	*e*Pn		**Pb**	**14 36 52.9**	**+0.3**
BEHE				*e*Sn		**Sn**	**14 37 11.8**	**+0.8**
KRUC	**Moravsky**	**1.43**	**16**	*e*Pg		**Pg**	**14 36 52.5**	**-0.9**
KRUC				*e*Sg		**Sb**	**14 37 10.9**	**-0.8**
70nm,0.3s								
OBKA	**Obir**	**1.45**	**216**	Pg		**Pn**	**14 36 53.1**	**+0.1**
6.8nm,0.2s,SNR=22								
OBKA				Sg		**Sb**	**14 37 12.7**	**+0.4**
13nm,0.4s								
TREC	**Trest**	**1.62**	**353**	*e*PG		**Pb**	**14 36 56.3**	**0.0**
TREC				*e*SG		**Sg**	**14 37 17.6**	**-0.3**
108nm,0.4s								
TREC	**Trest**	**1.62**	**353**	Pg		**Pb**	**14 36 56.3**	**0.0**
TREC				Sg		**Sg**	**14 37 17.6**	**-0.3**
108nm,0.4s								
VRAC	**Vranov**	**1.71**	**18**	*e*Pn		**Pn**	**14 36 56.6**	**+0.1**
VRAC				*e*Sg		**Sb**	**14 37 19.0**	**-0.7**
44nm,0.3s								
KBA	**Koelnbreinsper**	**1.77**	**251**	Pg		**Pb**	**14 36 59.4**	**+0.5**
0.8nm,0.1s								
KBA				Sn		**Sn**	**14 37 22.5**	**+2.1**
9.8nm,0.3s								
KHC	**Kasperske Hory**	**2.06**	**315**	*e*PG		**Pb**	**14 37 04.5**	**+0.7**
KHC				*e*SG		**Sb**	**14 37 31.0**	**+1.2**
KHC	**Kasperske Hory**	**2.06**	**315**	Pg		**Pb**	**14 37 04.5**	**+0.7**
KHC				Sg		**Sb**	**14 37 31.0**	**+1.2**
VYHS	**Vyhne**	**2.20**	**67**	*e*Pn		**Pn**	**14 37 02.1**	**-1.1**
VYHS	**Vyhne**	**2.20**	**67**	*e*Pg		**Pg**	**14 37 09.6**	**+1.5**
VYHS				*e*Sg		**Sg**	**14 37 39.7**	**+3.1**
VYHS	**Vyhne**	**2.20**	**67**	*e*PN		**Pn**	**14 37 02.1**	**-1.1**
VYHS				*e*PG		**Pg**	**14 37 09.6**	**+1.5**
VYHS				*e*			14 37 28.2	
VYHS	**Vyhne**	**2.20**	**67**	*e*SG		**Sg**	**14 37 39.7**	**+3.1**
VYHS				*e*LG		Lg	14 37 46.7	
GOPC	**GO Pecny, Ondr**	**2.32**	**344**	*e*PG		**Pb**	**14 37 09.1**	**+0.8**
GOPC				*e*SG		**Sg**	**14 37 39.5**	**-0.9**
19nm,0.3s								
GOPC	**GO Pecny, Ondr**	**2.32**	**344**	Pg		**Pb**	**14 37 09.1**	**+0.8**
GOPC				Sg		**Sg**	**14 37 39.5**	**-0.9**
19nm,0.3s								
MORC	**Moravsky Berou**	**2.39**	**29**	*e*Pn		**Pn**	**14 37 06.0**	**+0.1**
MORC				*e*Sn		**Sn**	**14 37 35.2**	**-0.5**
PRU	**Pruhonice**	**2.44**	**341**	*e*PG		**Pb**	**14 37 10.2**	**-0.2**
PRU				*e*SG		**Sb**	**14 37 42.3**	**+1.5**
30nm,0.4s								
PRU	**Pruhonice**	**2.44**	**341**	Pg		**Pb**	**14 37 10.2**	**-0.2**
PRU				Sg		**Sb**	**14 37 42.3**	**+1.5**
30nm,0.4s								
DPC	**Dobruska-Polom**	**2.69**	**7**	*e*PG		**Pb**	**14 37 15.3**	**+0.7**
DPC				*e*SG		**Sg**	**14 37 51.1**	**-1.1**
30nm,0.6s								
DPC	**Dobruska-Polom**	**2.69**	**7**	Pg		**Pb**	**14 37 15.3**	**+0.7**
DPC				Sg		**Sg**	**14 37 51.1**	**-1.1**
30nm,0.6s								
UPC	**Upice**	**2.82**	**3**	*e*SG		**Sg**	**14 37 55.8**	**-0.8**
34nm,0.5s								
UPC	**Upice**	**2.82**	**3**	Sg		**Sg**	**14 37 55.8**	**-0.8**
34nm,0.5s								
NVLJ	**Novalja**	**3.19**	**192**	*e*Pn		**Pn**	**14 37 16.6**	**-0.3**
NVLJ				Sn		**Sn**	**14 37 54.1**	**-1.1**
NVLJ	**Novalja**	**3.19**	**192**	*e*Pn		**Pn**	**14 37 16.5**	**-0.3**
NVLJ				Sn		**Sn**	**14 37 54.1**	**-1.1**
NKC	**Novy Kostel**	**3.36**	**320**	*e*SG		**Sg**	**14 38 11.6**	**-2.2**
24nm,0.6s								
NKC	**Novy Kostel**	**3.36**	**320**	Sg		**Sg**	**14 38 11.6**	**-2.2**
24nm,0.6s								
BRG	**Berggiesshubel**	**3.41**	**340**	PG		**Pg**	**14 37 30.1**	**-1.0**
BRG				SG		**Sg**	**14 38 14.5**	**-0.7**
16nm,0.3s								

*CSEM **04** 14:36:28.7,43˚.67N×12˚.11E,h10km,MD1.9/9*
ROM 04 14:36:28.7±0.1,43˚.67N×12˚.11E,h10km,Md1.9/9,MI1.2/8,6C,Error ellipse: s-maj=1.5km s-min=0.8km az=55.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARC	**Parchiule**	**0.09**	**105**	⇑*i*Pg	Pg	14 36 31.5	+0.3
PARC				Sg	Sg	14 36 33.1	+0.1
246nm,0.3s							
PARC	**Parchiule**	**0.09**	**105**	⇑*i*Pg	Pg	14 36 31.5	+0.3
PARC				Sg	Sg	14 36 33.1	+0.1
246nm,0.3s							
BADI	**Badiali**	**0.19**	**150**	⇑*i*Pg	Pg	14 36 33.5	+0.8
BADI				Sg	Sg	14 36 36.8	+1.4
82nm,0.2s							
BADI	**Badiali**	**0.19**	**150**	⇑*i*Pg	Pg	14 36 33.5	+0.8
BADI				Sg	Sg	14 36 36.8	+1.4
82nm,0.2s							
CPGN	**Carpegna, Ital**	**0.20**	**49**	Pg	Pg	14 36 33.8	+0.9
CPGN				Sg	Sg	14 36 37.7	+1.9
33nm,0.4s							
CPGN	**Carpegna, Ital**	**0.20**	**49**	Pg	Pg	14 36 33.8	+0.9
CPGN				Sg	Sg	14 36 37.7	+1.9
33nm,0.4s							
T0502	**Localit˘ San**	**0.23**	**4**	Pg	Pg	14 36 34.0	+0.6
T0502				Sg	Sg	14 36 37.8	+1.2
5µm,7.6s							
ASQU	**Asqua**	**0.27**	**298**	⇑*i*Pg	Pb	14 36 34.9	-0.8
ASQU				Sg	Sb	14 36 39.4	-0.9
20nm,0.2s							
ASQU	**Asqua**	**0.27**	**298**	⇑*i*Pg	Pb	14 36 34.9	-0.8
ASQU				Sg	Sb	14 36 39.4	-0.9
20nm,0.2s							
SFI	**Santa Sofia**	**0.30**	**320**	Pg	Pg	14 36 35.4	+0.6
SFI				Sg	Sb	14 36 40.5	-0.9
11nm,0.3s							
SFI	**Santa Sofia**	**0.30**	**320**	Pg	Pg	14 36 35.4	+0.6
SFI				Sg	Sb	14 36 40.5	-0.9
11nm,0.3s							
ATPC	**Poggio Castell**	**0.32**	**128**	Pg	Pg	14 36 35.4	+0.4
ATPC				Sg	Sb	14 36 40.8	-0.9
18nm,0.3s							
ATPC	**Poggio Castell**	**0.32**	**128**	Pg	Pg	14 36 35.4	+0.4
ATPC				Sg	Sb	14 36 40.8	-0.9
18nm,0.3s							
ATVO	**AVT- Monte Val**	**0.36**	**144**	Pg	Pg	14 36 36.5	+0.7
ATVO				Sg	Sb	14 36 42.4	-0.6
29nm,0.4s							
ATVO	**AVT- Monte Val**	**0.36**	**144**	Pg	Pg	14 36 36.5	+0.7
ATVO				Sg	Sb	14 36 42.4	-0.6
29nm,0.4s							
FSSB	**Fossombrone**	**0.48**	**87**	Pg	Pg	14 36 38.2	+0.1
FSSB				Sg	Sb	14 36 45.6	-0.9
FSSB	**Fossombrone**	**0.48**	**87**	Pg	Pg	14 36 38.2	+0.1
FSSB				Sg	Sb	14 36 45.6	-0.9

*ISCJB **04** 14:37:11.5±1.0,55˚.6S±0˚.1×25˚.4W±0˚.5,h10km,mb4.1/3,MS3.6/1,Error ellipse: s-maj=42.1km s-min=16.5km az=159.0*
*IDC **04** 14:37:11.3±0.9,55˚.61S×25˚.40W,h0km,mb4.1/3,mb1 4.3/3,mb1mx3.7/33,mbtmp4.1/3,MS3.6/1,Ms1 3.5/1,ms1mx2.9/21,Error ellipse: s-maj=42.7km s-min=29.7km az=83.0*
ISC 04 14:37:12.8±0.8,55˚.6S±0˚.2×25˚.4W±0˚.3,h10km,n11,σ0s39/10,mb4.2/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.86**	**160**	P	**P**	**14 41 10.5**	**-0.1**
SNAA	**Sanae**	**18.77**	**158**	P	**Pn**	**14 41 32.4**	**+0.3**
BOSA	**Boshof**	**44.90**	**75**	LR	LR	15 02 07.5	
comp=Z,65nm,18.2s,baz=195,slow=33							
VNDA	**Vanda**	**47.06**	**182**	P	**P**	**14 45 44.0**	**+0.1**
2.0nm,0.6s,baz=186,slow=6.1,SNR=16							
LPAZ	**La Paz**	**50.94**	**303**	P	**P**	**14 46 15.2**	**+0.1**
1.8nm,0.6s,baz=141,slow=6.1,SNR=5.5							
TORD	**Torodi Ar. Bea**	**72.19**	**28**	P	**P**	**14 48 38.0**	**+0.4**
0.7nm,0.6s,baz=203,slow=7.4,SNR=7.9							
CMAR	**Chiang Mai Arr**	**124.28**	**109**	PKP	**PKPdf**	**14 56 10.8**	**-0.8**
0.6nm,0.7s,baz=224,slow=3.4,SNR=4.5							
YKA	**Yellowknife Ar**	**136.50**	**318**	PKP	**PKPdf**	**14 56 33.5**	**+0.1**
0.2nm,0.5s,baz=129,slow=2.0,SNR=3.0							
INK	**Inuvik**	**146.08**	**321**	PKPbc	**PKPbc**	**14 56 51.0**	**-0.3**
1.5nm,0.8s,baz=67,slow=4.9,SNR=5.7							
SONM	**Songino Array**	**149.71**	**84**	PKPbc	**PKPbc**	**14 57 01.8**	**-0.1**
0.7nm,0.5s,baz=247,slow=3.7,SNR=6.3							
ILAR	**Eielson Array**	**150.55**	**312**	PKPbc	**PKPbc**	**14 57 03.0**	**-0.2**
1.8nm,0.8s,baz=121,slow=1.7,SNR=21							

*CSEM **04** 14:40:15.1,43˚.88N×11˚.98E,h7km,ML2.2/7*
ROM 04 14:40:15.1±0.1,43˚.88N×11˚.98E,h7km,MI2.2/7,Error ellipse: s-maj=1.7km s-min=0.9km az=20.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**284**	Pg	Pg	14 40 17.7	+0.3
SFI				Sg	Sg	14 40 19.8	+0.8
914nm,0.2s							
SFI	**Santa Sofia**	**0.10**	**284**	Pg	Pg	14 40 17.7	+0.3
SFI				Sg	Sg	14 40 19.8	+0.8
914nm,0.2s							
T0502	**Localit˘ San**	**0.12**	**80**	Pg	Pg	14 40 18.0	+0.3
T0502				Sg	Sg	14 40 20.3	+0.8
2µm,0.1s							
ASQU	**Asqua**	**0.16**	**238**	Pg	Pg	14 40 19.0	+0.6
ASQU				Sg	Sg	14 40 21.9	+1.2
951nm,0.3s							
ASQU	**Asqua**	**0.16**	**238**	Pg	Pg	14 40 19.0	+0.6
ASQU				Sg	Sg	14 40 21.9	+1.2
951nm,0.3s							
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pg	14 40 20.5	+0.2
CPGN				Sg	Sb	14 40 26.2	-0.8
181nm,0.4s							
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pg	14 40 20.5	+0.2
CPGN				Sg	Sb	14 40 26.2	-0.8
181nm,0.4s							
CRE	**Caprese Michel**	**0.26**	**184**	Pg	Pg	14 40 20.8	+0.5
CRE				Sg	Sb	14 40 25.6	-1.3
CRE	**Caprese Michel**	**0.26**	**184**	Pg	Pg	14 40 20.8	+0.5
CRE				Sg	Sb	14 40 25.6	-1.3
PARC	**Parchiule**	**0.30**	**141**	Pg	Pb	14 40 22.5	-0.3
PARC				Sg	Sb	14 40 26.5	-1.5
143nm,0.4s							
PARC	**Parchiule**	**0.30**	**141**	Pg	Pb	14 40 22.5	-0.3
PARC				Sg	Sb	14 40 26.5	-1.5
143nm,0.4s							
VMG	**Vicchio**	**0.32**	**285**	Pg	Pb	14 40 22.4	-0.8
VMG				Sg	Sb	14 40 27.3	-1.3
134nm,0.1s							
VMG	**Vicchio**	**0.32**	**285**	Pg	Pb	14 40 22.4	-0.8
VMG				Sg	Sb	14 40 27.3	-1.3
134nm,0.1s							
BADI	**Badiali**	**0.42**	**152**	Pg	Pg	14 40 23.7	+0.5
BADI				Sg	Sb	14 40 30.8	-0.6
125nm,0.2s							
BADI	**Badiali**	**0.42**	**152**	Pg	Pg	14 40 23.7	+0.5
BADI				Sg	Sb	14 40 30.8	-0.6
125nm,0.2s							
SEI	**Scarperia**	**0.48**	**291**	Pg	Pb	14 40 25.7	-0.2
SEI				Sg	Sb	14 40 32.6	-0.6
SEI	**Scarperia**	**0.48**	**291**	Pg	Pb	14 40 25.7	-0.2
SEI				Sg	Sb	14 40 32.6	-0.6
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	14 40 26.6	+0.1
ATVO				Sg	Sb	14 40 36.5	+0.2
86nm,0.5s							
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	14 40 26.6	+0.1
ATVO				Sg	Sb	14 40 36.5	+0.2
86nm,0.5s							

*ATH **04** 14:41:08.7,39˚.06N×26˚.85E,h12km±6km,ML2.2/2,Error ellipse: s-maj=7.1km s-min=1.7km az=250.0*
*ISK **04** 14:41:08.8,39˚.05N×26˚.82E,h8km,MD2.8*
*ISCJB **04** 14:41:09.1±0.4,39˚.03N±0˚.02×26˚.83E±0˚.03,h6km±3km,Error ellipse: s-maj=3.9km s-min=3.2km az=171.2*
*DDA **04** 14:41:09.2,39˚.04N×26˚.84E,h7km,Md2.7*
*CSEM **04** 14:41:09.4±0.1,39˚.04N×26˚.83E,h8km,MD2.8,Error ellipse: s-maj=3.6km s-min=3.2km az=68.0*
ISC 04 14:41:09.2±0.8,39˚.04N±0˚.02×26˚.83E±0˚.02,h9km±5km,n59,σ0s42/78,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKL	**Dikili**	**0.07**	**62**	*e*PG	**Pg**	**14 41 11.1**	**-0.2**
DKL				*e*SG	**Sg**	**14 41 12.9**	**0.0**
DKL	**Dikili**	**0.07**	**62**	*e*Pg	**Pg**	**14 41 11.1**	**-0.2**
DKL				*e*Sg	**Sg**	**14 41 12.9**	**0.0**
AYVA	**Ayvalik**	**0.29**	**338**	P	**Pg**	**14 41 15.2**	**+0.2**
AYVA				S	**Sg**	**14 41 19.8**	**+0.9**
AYVA	**Ayvalik**	**0.29**	**338**	*i* P	**Pg**	**14 41 15.2**	**+0.2**
AYVA				*i* S	**Sg**	**14 41 19.8**	**+0.9**
PRK	**Paraskevi**	**0.48**	**296**	S	**Sg**	**14 41 24.3**	**-0.6**
PRK	**Paraskevi**	**0.48**	**296**	P	**Pg**	**14 41 19.0**	**+0.5**
PRK				S	**Sg**	**14 41 24.3**	**-0.6**
PRK				AML	AML	14 41 27.6	
comp=N,386µm,0.4s							
PRK				AML	AML	14 41 27.8	
comp=E,673µm,0.5s							
URLA	**Izmir**	**0.70**	**195**	P	**Pg**	**14 41 22.3**	**-0.5**
URLA				S	**Sb**	**14 41 32.8**	**-0.6**
URLA	**Izmir**	**0.70**	**195**	*i* P	**Pg**	**14 41 22.3**	**-0.5**
URLA				*i* S	**Sb**	**14 41 32.8**	**-0.6**
URLA				*i* S	**Sg**	**14 41 33.6**	**+1.6**
IZM	**Izmir**	**0.72**	**152**	*e*PG	**Pg**	**14 41 23.3**	**+0.1**
IZM	**Izmir**	**0.72**	**152**	*e*Pg	**Pg**	**14 41 23.3**	**+0.1**
SIGR	**SIGRI**	**0.78**	**283**	*e*PG	**Pg**	**14 41 24.0**	**-0.2**
SIGR				*e*SG	**Sb**	**14 41 36.0**	**+0.6**
SIGR	**SIGRI**	**0.78**	**283**	P	**Pg**	**14 41 23.7**	**-0.5**
SIGR	**SIGRI**	**0.78**	**283**	*e*Pg	**Pg**	**14 41 24.0**	**-0.2**
SIGR				*e*Sg	**Sb**	**14 41 36.1**	**+0.6**
SIGR	**SIGRI**	**0.78**	**283**	P	**Pg**	**14 41 23.7**	**-0.5**
AKS	**Akhisar**	**0.78**	**101**	*e*PG	**Pg**	**14 41 24.6**	**+0.2**
AKS				*e*SG	**Sb**	**14 41 36.2**	**+0.5**
AKS	**Akhisar**	**0.78**	**101**	*e*Pg	**Pg**	**14 41 24.6**	**+0.2**
AKS				*e*Sg	**Sb**	**14 41 36.2**	**+0.5**
ZEY	**˜zmir**	**0.84**	**198**	*i* P	**Pg**	**14 41 24.7**	**-0.7**
ZEY				*i* S	**Sb**	**14 41 37.7**	**+0.4**
EZN	**Ezine**	**0.88**	**334**	*e*PG	**Pg**	**14 41 25.7**	**-0.4**
EZN	**Ezine**	**0.88**	**334**	*e*Pg	**Pg**	**14 41 25.7**	**-0.4**
CHOS	**Chios island**	**0.89**	**223**	*e*PG	**Pg**	**14 41 26.6**	**+0.2**
CHOS	**Chios island**	**0.89**	**223**	*e*Pg	**Pg**	**14 41 26.6**	**+0.2**
CHOS				S	**Sb**	**14 41 39.4**	**+0.6**
CHOS	**Chios island**	**0.89**	**223**	P	**Pg**	**14 41 26.0**	**-0.3**
CHOS				S	**Sb**	**14 41 39.4**	**+0.6**
CHOS				AML	AML	14 41 42.6	
comp=E,406µm,0.3s							
CHOS				AML	AML	14 41 43.3	
comp=N,337µm,0.3s							
DGB	**˜zmir**	**0.99**	**178**	*i* P	**Pb**	**14 41 28.8**	**+0.3**
DGB				*i* S	**Sg**	**14 41 40.6**	**-0.4**
BOZC	**Bozcaada**	**1.00**	**323**	*i* P	**Pb**	**14 41 29.0**	**+0.3**
BOZC				*i* S	**Sn**	**14 41 43.2**	**-0.4**
BALB	**Balikesir**	**1.01**	**53**	*e*PG	**Pg**	**14 41 28.5**	**-0.2**
BALB	**Balikesir**	**1.01**	**53**	*e*Pg	**Pg**	**14 41 28.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.21**	**33**	*e*PN	**Pg**	**14 41 32.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.21**	**33**	*e*Pn	**Pg**	**14 41 32.2**	**-0.1**
SMG	**Samos**	**1.33**	**180**	P	**Pn**	**14 41 33.5**	**-0.4**
SMG	**Samos**	**1.33**	**180**	P	**Pn**	**14 41 33.5**	**-0.4**
LPK	**Lapseki**	**1.33**	**358**	*e*PN	**Pn**	**14 41 34.0**	**+0.1**
LPK	**Lapseki**	**1.33**	**358**	*e*Pn	**Pn**	**14 41 34.0**	**+0.1**
GADA	**Gvkgeada**	**1.36**	**328**	*e*PN	**Pn**	**14 41 34.1**	**-0.2**
GADA	**Gvkgeada**	**1.36**	**328**	*e*Pn	**Pn**	**14 41 34.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.37**	**142**	*e*PN	**Pb**	**14 41 35.0**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.37**	**142**	*e*Pn	**Pb**	**14 41 35.1**	**0.0**
GELI	**Tayfur-Gelibol**	**1.38**	**349**	*e*PN	**Pn**	**14 41 34.8**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.38**	**349**	*e*Pn	**Pn**	**14 41 34.8**	**+0.2**
KULA	**Kula-Manisa**	**1.52**	**110**	*e*PN	**Pb**	**14 41 37.6**	**-0.1**
KULA	**Kula-Manisa**	**1.52**	**110**	*e*Pn	**Pb**	**14 41 37.6**	**-0.1**
EDC	**Edincik**	**1.53**	**31**	*e*PN	**Pb**	**14 41 37.2**	**-0.5**
EDC	**Edincik**	**1.53**	**31**	*e*Pn	**Pb**	**14 41 37.2**	**-0.5**
LIA	**Limnos Island**	**1.54**	**304**	P	**Pb**	**14 41 38.0**	**+0.2**
ERIK	**Erikli-Kesan**	**1.65**	**352**	*e*PN	**Pn**	**14 41 38.7**	**+0.4**
ERIK	**Erikli-Kesan**	**1.65**	**352**	*e*Pn	**Pn**	**14 41 38.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.67**	**9**	*e*PN	**Pn**	**14 41 38.7**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.67**	**9**	*e*Pn	**Pn**	**14 41 38.7**	**+0.1**
MRMT	**Marmara Adasi**	**1.67**	**20**	*e*PN	**Pn**	**14 41 38.6**	**-0.1**
MRMT	**Marmara Adasi**	**1.67**	**20**	*e*Pn	**Pn**	**14 41 38.6**	**-0.1**
KCTX	**Karacabey (Bur**	**1.70**	**43**	*e*PN	**Pn**	**14 41 39.2**	**+0.2**
KCTX	**Karacabey (Bur**	**1.70**	**43**	*e*Pn	**Pn**	**14 41 39.2**	**+0.2**
SMTH	**Samothraki Isl**	**1.75**	**325**	P	**Pn**	**14 41 39.5**	**-0.1**
SMTH	**Samothraki Isl**	**1.75**	**325**	P	**Pn**	**14 41 39.5**	**-0.1**
ENEZ	**Enez**	**1.77**	**343**	*e*PN	**Pn**	**14 41 39.4**	**-0.6**
ENEZ	**Enez**	**1.77**	**343**	*e*Pn	**Pn**	**14 41 39.4**	**-0.6**
KESN	**Edirne-Kesan**	**1.79**	**356**	P	**Pg**	**14 41 43.4**	**-0.2**
KESN				S	**Sb**	**14 42 04.8**	**-0.2**
KESN	**Edirne-Kesan**	**1.79**	**356**	*i* P	**Pg**	**14 41 43.4**	**-0.2**
KESN				*i* S	**Sb**	**14 42 04.8**	**-0.2**
ALN	**Alexandroupoli**	**1.95**	**342**	P	**Pb**	**14 41 44.8**	**-0.1**
ALN	**Alexandroupoli**	**1.95**	**342**	P	**Pb**	**14 41 44.8**	**-0.1**

*CSEM **04** 14:41:10.3,43˚.88N×11˚.98E,h8km,ML1.5/4*
ROM 04 14:41:10.3±0.1,43˚.88N×11˚.98E,h8km,MI1.5/4,Error ellipse: s-maj=2.5km s-min=1.0km az=11.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**286**	Pg	Pg	14 41 13.2	+0.5
SFI				Sg	Sg	14 41 15.2	+0.8
162nm,0.2s							
SFI	**Santa Sofia**	**0.10**	**286**	Pg	Pg	14 41 13.2	+0.5
SFI				Sg	Sg	14 41 15.2	+0.8
162nm,0.2s							
T0502	**Localit˘ San**	**0.12**	**78**	Pg	Pg	14 41 13.2	+0.2
T0502				Sg	Sg	14 41 15.5	+0.6
ASQU	**Asqua**	**0.16**	**239**	Pg	Pg	14 41 14.4	+0.7
ASQU				Sg	Sg	14 41 17.3	+1.3
92nm,0.3s							
ASQU	**Asqua**	**0.16**	**239**	Pg	Pg	14 41 14.4	+0.7
ASQU				Sg	Sg	14 41 17.3	+1.3
92nm,0.3s							
CPGN	**Carpegna, Ital**	**0.26**	**107**	Pg	Pb	14 41 16.8	-0.5
CPGN				Sg	Sb	14 41 21.4	-0.6
130nm,0.3s							
CPGN	**Carpegna, Ital**	**0.26**	**107**	Pg	Pb	14 41 16.8	-0.5
CPGN				Sg	Sb	14 41 21.4	-0.6
130nm,0.3s							
PARC	**Parchiule**	**0.30**	**140**	Pg	Pg	14 41 16.6	+0.4
PARC				Sg	Sb	14 41 21.6	-1.3
39nm,0.4s							
PARC	**Parchiule**	**0.30**	**140**	Pg	Pg	14 41 16.6	+0.4
PARC				Sg	Sb	14 41 21.6	-1.3
39nm,0.4s							
VMG	**Vicchio**	**0.32**	**285**	Pg	Pg	14 41 17.4	+0.7
VMG				Sg	Sb	14 41 23.0	-0.7
143nm,0.1s							
VMG	**Vicchio**	**0.32**	**285**	Pg	Pg	14 41 17.4	+0.7
VMG				Sg	Sb	14 41 23.0	-0.7
143nm,0.1s							
SEI	**Scarperia**	**0.48**	**292**	Pg	Pg	14 41 19.8	+0.1
SEI				Sg	Sb	14 41 27.8	-0.5
SEI	**Scarperia**	**0.48**	**292**	Pg	Pg	14 41 19.8	+0.1
SEI				Sg	Sb	14 41 27.8	-0.5
FSSB	**Fossombrone**	**0.61**	**107**	Pg	Pg	14 41 22.1	0.0
FSSB				Sg	Sb	14 41 32.0	+0.1
185nm,0.3s							
FSSB	**Fossombrone**	**0.61**	**107**	Pg	Pg	14 41 22.1	0.0
FSSB				Sg	Sb	14 41 32.0	+0.1
185nm,0.3s							

*CSEM **04** 14:41:30.9,43˚.88N×11˚.98E,h8km,ML2.4/12*
ROM 04 14:41:30.9±0.1,43˚.88N×11˚.98E,h8km,MI2.4/12,2C,Error ellipse: s-maj=1.4km s-min=0.8km az=20.0,
Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**285**	Pg	Pg	14 41 33.8	+0.5
SFI				Sg	Sg	14 41 35.8	+0.7
1µm,0.2s							
SFI	**Santa Sofia**	**0.10**	**285**	Pg	Pg	14 41 33.8	+0.5
SFI				Sg	Sg	14 41 35.8	+0.7
1µm,0.2s							
T0502	**Localit˘ San**	**0.11**	**79**	Pg	Pg	14 41 33.9	+0.4
T0502				Sg	Sg	14 41 36.1	+0.8
ASQU	**Asqua**	**0.16**	**240**	⇑*i*Pg	Pg	14 41 35.0	+0.7
ASQU				Sg	Sg	14 41 37.8	+1.1
1µm,0.3s							
ASQU	**Asqua**	**0.16**	**240**	⇑*i*Pg	Pg	14 41 35.0	+0.7
ASQU				Sg	Sg	14 41 37.8	+1.1
1µm,0.3s							
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	14 41 37.3	-0.6
501nm,0.3s							
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	14 41 37.3	-0.6
501nm,0.3s							
CRE	**Caprese Michel**	**0.26**	**185**	Pg	Pg	14 41 36.9	+0.8
CRE				Sg	Sb	14 41 41.6	-1.0
1µm,0.3s							
CRE	**Caprese Michel**	**0.26**	**185**	Pg	Pg	14 41 36.9	+0.8
CRE				Sg	Sb	14 41 41.6	-1.0
1µm,0.3s							
PARC	**Parchiule**	**0.29**	**141**	Pg	Pg	14 41 37.3	+0.6
PARC				Sg	Sb	14 41 42.3	-1.2
438nm,0.4s							
PARC	**Parchiule**	**0.29**	**141**	Pg	Pg	14 41 37.3	+0.6
PARC				Sg	Sb	14 41 42.3	-1.2
438nm,0.4s							
VMG	**Vicchio**	**0.33**	**285**	Pg	Pg	14 41 38

ISC 04 14:44:22.0±0.9, 37°25N±0°.03×28°23E±0°.03, h7km±8km, n14, σ0s53/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**158**	*e*PG	**Pg**	**14 44 24.4**	**-0.2**
YER				*e*SG	**Sg**	**14 44 26.8**	**+0.4**
YER	**Yerkesik**	**0.12**	**158**	*e*Pg	**Pg**	**14 44 24.4**	**-0.2**
YER				*e*Sg	**Sg**	**14 44 26.8**	**+0.4**
AYDN	**Tasoluk**	**0.50**	**326**	P	**Pb**	**14 44 32.2**	**-0.9**
AYDN				S	**Sb**	**14 44 39.9**	**-0.7**
AYDN	**Tasoluk**	**0.50**	**326**	*i* P	**Pb**	**14 44 32.2**	**-0.9**
AYDN				*i* S	**Sb**	**14 44 39.9**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.55**	**141**	*e*PG	**Pb**	**14 44 33.5**	**-0.3**
DALY				*e*SG	**Sb**	**14 44 41.9**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.55**	**141**	*e*Pg	**Pb**	**14 44 33.5**	**-0.3**
DALY				*e*Sg	**Sb**	**14 44 41.9**	**+0.1**
BDRM	**Kayabasi**	**0.65**	**254**	P	**Pg**	**14 44 34.6**	**+0.1**
BDRM				S	**Sb**	**14 44 44.7**	**-0.2**
BDRM	**Kayabasi**	**0.65**	**254**	*i* P	**Pg**	**14 44 34.6**	**+0.1**
BDRM				*i* S	**Sb**	**14 44 44.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**339**	*e*PG	**Pg**	**14 44 36.5**	**+0.1**
AYDB				*e*SG	**Sb**	**14 44 49.1**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**339**	*e*Pg	**Pg**	**14 44 36.5**	**+0.1**
AYDB				*e*Sg	**Sb**	**14 44 49.1**	**+1.3**
BODT	**Bodrum**	**0.76**	**256**	*e*PG	**Pb**	**14 44 37.2**	**-0.2**
BODT				*e*SG	**Sb**	**14 44 48.2**	**+0.3**
BODT	**Bodrum**	**0.76**	**256**	*e*Pg	**Pb**	**14 44 37.2**	**-0.2**
BODT				*e*Sg	**Sb**	**14 44 48.2**	**+0.3**
DNZL	**Cakiroluk**	**0.79**	**56**	P	**Pn**	**14 44 39.8**	**+0.2**
DNZL				S	**Sn**	**14 44 51.7**	**-0.1**
DNZL	**Cakiroluk**	**0.79**	**56**	*i* P	**Pn**	**14 44 39.8**	**+0.2**
DNZL				*i* S	**Sn**	**14 44 51.7**	**-0.1**

*CSEM **04** 14:44:23.9, 43°.88N×11°.98E, h8km, ML2.0/12*
ROM 04 14:44:23.9±0.1, 43°.88N×11°.98E, h8km, Ml2.0/12, 2C, Error ellipse: s-maj=1.5km s-min=0.8km az=19.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**282**	Pg	Pg	14 44 26.8	+0.5
SFI				Sg	Sg	14 44 28.8	+0.8
	454nm,0.2s						
SFI	**Santa Sofia**	**0.10**	**282**	Pg	Pg	14 44 26.8	+0.5
SFI				Sg	Sg	14 44 28.8	+0.8
	454nm,0.2s						
T0502	**Localit˜ San**	**0.12**	**82**	Pg	Pg	14 44 26.9	+0.3
T0502				Sg	Sg	14 44 29.1	+0.7
	1µm,0.2s						
ASQU	**Asqua**	**0.16**	**238** ⇑	*i*Pg	Pg	14 44 28.1	+0.7
ASQU				Sg	Sg	14 44 31.1	+1.3
	295nm,0.3s						
ASQU	**Asqua**	**0.16**	**238** ⇑	*i*Pg	Pg	14 44 28.1	+0.7
ASQU				Sg	Sg	14 44 31.1	+1.3
	295nm,0.3s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	14 44 30.2	-0.7
CPGN				Sg	Sb	14 44 35.3	-0.3
	136nm,0.4s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	14 44 30.2	-0.7
CPGN				Sg	Sb	14 44 35.3	-0.3
	136nm,0.4s						
CRE	**Caprese Michel**	**0.27**	**185**	Pg	Pg	14 44 29.9	+0.7
CRE				Sg	Sb	14 44 34.6	-1.1
	442nm,0.2s						
CRE	**Caprese Michel**	**0.27**	**185**	Pg	Pg	14 44 29.9	+0.7
CRE				Sg	Sb	14 44 34.6	-1.1
	442nm,0.2s						
PARC	**Parchiule**	**0.30**	**141**	Pg	Pg	14 44 30.3	+0.4
PARC				Sg	Sb	14 44 35.3	-1.3
	131nm,0.4s						
PARC	**Parchiule**	**0.30**	**141**	Pg	Pg	14 44 30.3	+0.4
PARC				Sg	Sb	14 44 35.3	-1.3
	131nm,0.4s						
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	14 44 31.0	+0.7
VMG				Sg	Sb	14 44 36.6	-0.7
	120nm,0.1s						
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	14 44 31.0	+0.7
VMG				Sg	Sb	14 44 36.6	-0.7
	120nm,0.1s						
BADI	**Badiali**	**0.42**	**153**	Pg	Pg	14 44 32.6	+0.5
BADI				Sg	Sb	14 44 39.4	-0.6
	159nm,0.2s						
BADI	**Badiali**	**0.42**	**153**	Pg	Pg	14 44 32.6	+0.5
BADI				Sg	Sb	14 44 39.4	-0.6
	159nm,0.2s						
SEI	**Scarperia**	**0.48**	**291**	Pg	Pg	14 44 33.5	+0.2
SEI				Sg	Sb	14 44 41.4	-0.5
	297nm,0.3s						
SEI	**Scarperia**	**0.48**	**291**	Pg	Pg	14 44 33.5	+0.2
SEI				Sg	Sb	14 44 41.4	-0.5
	297nm,0.3s						
ATPC	**Poggio Castell**	**0.53**	**139**	Pg	Pg	14 44 34.3	+0.1
ATPC				Sg	Sb	14 44 43.0	-0.3
	54nm,0.5s						
ATPC	**Poggio Castell**	**0.53**	**139**	Pg	Pg	14 44 34.3	+0.1
ATPC				Sg	Sb	14 44 43.0	-0.3
	54nm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	14 44 35.6	+0.3
ATVO				Sg	Sb	14 44 44.9	0.0
	51nm,0.4s						
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	14 44 35.6	+0.3
ATVO				Sg	Sb	14 44 44.9	0.0
	51nm,0.4s						
FSSB	**Fossombrone**	**0.61**	**108**	Pg	Pg	14 44 35.6	-0.1
FSSB				Sg	Sb	14 44 45.5	0.0
	50nm,0.3s						
FSSB	**Fossombrone**	**0.61**	**108**	Pg	Pg	14 44 35.6	-0.1
FSSB				Sg	Sb	14 44 45.5	0.0
	50nm,0.3s						
FRON	**Frontone**	**0.65**	**124**	Pg	Pg	14 44 36.5	0.0
	18nm,0.1s						
FRON	**Frontone**	**0.65**	**124**	Pg	Pg	14 44 36.5	0.0
	18nm,0.1s						
SSFR	**Montelago di S**	**0.73**	**127**	Pg	Pg	14 44 37.8	-0.2
	45nm,0.2s						
SSFR	**Montelago di S**	**0.73**	**127**	Pg	Pg	14 44 37.8	-0.2
	45nm,0.2s						
CRMI	**Carmignano**	**0.74**	**263**	Pg	Pb	14 44 38.7	-0.3
CRMI	**Carmignano**	**0.74**	**263**	Pg	Pb	14 44 38.7	-0.3

*CSEM **04** 14:44:55.3, 43°.88N×11°.98E, h8km, ML2.0/10*
ROM 04 14:44:55.3±0.1, 43°.88N×11°.98E, h8km, Ml2.0/10, Error ellipse: s-maj=1.5km s-min=0.9km az=20.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**283**	Pg	Pg	14 44 58.2	+0.5
SFI				Sg	Sg	14 45 00.2	+0.8
	454nm,0.2s						
SFI	**Santa Sofia**	**0.10**	**283**	Pg	Pg	14 44 58.2	+0.5
SFI				Sg	Sg	14 45 00.2	+0.8
	454nm,0.2s						
T0502	**Localit˜ San**	**0.12**	**81**	Pg	Pg	14 44 58.2	+0.2
T0502				Sg	Sg	14 45 00.6	+0.8
	1µm,0.2s						
ASQU	**Asqua**	**0.16**	**238**	Pg	Pg	14 44 59.5	+0.7
ASQU				Sg	Sg	14 45 02.6	+1.5
	295nm,0.3s						
ASQU	**Asqua**	**0.16**	**238**	Pg	Pg	14 44 59.5	+0.7
ASQU				Sg	Sg	14 45 02.6	+1.5
	295nm,0.3s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	14 45 01.6	-0.7
CPGN				Sg	Sb	14 45 06.8	-0.2
	136nm,0.4s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	14 45 01.6	-0.7
CPGN				Sg	Sb	14 45 06.8	-0.2
	136nm,0.4s						
CRE	**Caprese Michel**	**0.26**	**185**	Pg	Pg	14 45 01.3	+0.7
CRE				Sg	Sb	14 45 06.1	-0.9
	442nm,0.2s						
CRE	**Caprese Michel**	**0.26**	**185**	Pg	Pg	14 45 01.3	+0.7
CRE				Sg	Sb	14 45 06.1	-0.9
	442nm,0.2s						
PARC	**Parchiule**	**0.30**	**141**	Pg	Pg	14 45 01.7	+0.4
PARC				Sg	Sb	14 45 06.8	-1.2
	131nm,0.4s						
PARC	**Parchiule**	**0.30**	**141**	Pg	Pg	14 45 01.7	+0.4
PARC				Sg	Sb	14 45 06.8	-1.2
	131nm,0.4s						
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	14 45 02.5	+0.8
VMG				Sg	Sb	14 45 08.1	-0.6
	120nm,0.1s						
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	14 45 02.5	+0.8
VMG				Sg	Sb	14 45 08.1	-0.6
	120nm,0.1s						
BADI	**Badiali**	**0.42**	**153**	Pg	Pg	14 45 04.0	+0.5
BADI				Sg	Sb	14 45 10.8	-0.6
	159nm,0.2s						
BADI	**Badiali**	**0.42**	**153**	Pg	Pg	14 45 04.0	+0.5
BADI				Sg	Sb	14 45 10.8	-0.6
	159nm,0.2s						
SEI	**Scarperia**	**0.48**	**291**	Pg	Pg	14 45 04.9	+0.2
SEI				Sg	Sb	14 45 13.0	-0.3
	297nm,0.3s						
SEI	**Scarperia**	**0.48**	**291**	Pg	Pg	14 45 04.9	+0.2
SEI				Sg	Sb	14 45 13.0	-0.3
	297nm,0.3s						
ATPC	**Poggio Castell**	**0.53**	**139**	Pg	Pg	14 45 05.8	+0.2
ATPC				Sg	Sb	14 45 14.4	-0.2
	54nm,0.5s						
ATPC	**Poggio Castell**	**0.53**	**139**	Pg	Pg	14 45 05.8	+0.2
ATPC				Sg	Sb	14 45 14.4	-0.2
	54nm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	14 45 07.1	+0.4
ATVO				Sg	Sb	14 45 16.3	0.0
	51nm,0.4s						
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	14 45 07.1	+0.4
ATVO				Sg	Sb	14 45 16.3	0.0
	51nm,0.4s						
FSSB	**Fossombrone**	**0.61**	**108**	Pg	Pg	14 45 06.9	-0.2
FSSB				Sg	Sb	14 45 16.9	0.0
	50nm,0.3s						
FSSB	**Fossombrone**	**0.61**	**108**	Pg	Pg	14 45 06.9	-0.2
FSSB				Sg	Sb	14 45 16.9	0.0
	50nm,0.3s						

IDC 04 14:44:59.6±3.1, 24°.62N×95°.86E, h215km±38km, mb2.9/3, mb1 3.2/4, mb1mx2.7/55, mbtmp3.4/4, Error ellipse: s-maj=146.8km s-min=18.5km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.77**	**154**	P	Pn	14 46 37.0	0.0
	0.3nm,0.3s,baz=330,slow=12,SNR=17						
MKAR	**Makanchi Array**	**24.65**	**337**	P	P	14 50 00.5	0.0
	0.2nm,0.4s,baz=146,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**58.01**	**136**	P	P	14 54 30.0	-0.2
	0.7nm,1.0s,baz=321,slow=7.5,SNR=8.3						
ASAR	**Alice Springs**	**60.54**	**140**	P	P	14 54 47.8	+0.3
	0.5nm,0.9s,baz=326,slow=6.5,SNR=5.2						

*IDC **04** 14:47:35.9±9.1, 5°.80S×152°.69E, h36km±70km, mb3.5/5, mb1 3.9/6, mb1mx3.5/38, mbtmp3.8/6, ML2.2/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/35, Error ellipse: s-maj=71.8km s-min=34.0km az=120.0*
ISC 04 14:47:36.5±1.9, 5°.8S±0°.4×152°.5E±0°.4, h38km, n8, σ1s16/9, mb3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.45**	**236**	Pn	**Pn**	**14 49 09.5**	**+0.6**
	2.8nm,0.3s,baz=57,slow=10,SNR=17						
PMG				Sn	**Sn**	**14 50 20.6**	**-0.8**
	2.6nm,0.3s,baz=337,slow=15,SNR=2.5						
PMG				LR	LR	14 51 28.7	
	comp=Z,36nm,20.3s,baz=20,slow=36						
WRA	**Warramunga Arr**	**22.63**	**230**	P	**P**	**14 52 35.2**	**+0.8**
	1.5nm,0.6s,baz=53,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**25.28**	**223**	P	**P**	**14 53 00.4**	**+0.9**
	1.2nm,0.7s,baz=61,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**28.99**	**243**	P	**P**	**14 53 31.8**	**-1.0**
	1.1nm,0.5s,baz=52,slow=9.1,SNR=6.5						
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**14 59 48.5**	**+1.8**
	0.1nm,0.3s,baz=104,slow=6.1,SNR=3.7						
ILAR	**Eielson Array**	**83.14**	**22**	P	**P**	**14 59 57.9**	**-0.3**
	0.9nm,0.9s,baz=248,slow=5.7,SNR=6.6						
KURBB	**Kurchatov Arra**	**84.39**	**322**	P	**P**	**15 00 04.2**	**-0.7**
	4.3nm,0.2s,baz=109,slow=4.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**150.35**	**286**	PKPbc	**PKPbc**	**15 07 23.9**	**-1.0**
	1.0nm,0.8s,baz=82,slow=3.1,SNR=5.8						

*ISCJB **04** 14:48:12.2±0.5, 43°.88N±0°.03×11°.98E±0°.03, h14km±4km, Error ellipse: s-maj=5.5km s-min=2.6km az=30.4*
*ROM **04** 14:48:12.1±0.1, 43°.87N×11°.98E, h7km±1km, Ml2.4/16, Error ellipse: s-maj=1.8km s-min=0.9km az=20.0*
*CSEM **04** 14:48:12.4±0.1, 43°.87N×11°.98E, h12km, ML3.0/17, Error ellipse: s-maj=4.1km s-min=1.8km az=29.0*
ISC 04 14:48:12.3±0.8, 43°.88N±0°.03×11°.99E±0°.02, h10km±5km, n37, σ0s41/74, 2C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.11**	**286**	Pg	**Pg**	**14 48 14.9**	**-0.1**
SFI				Sg	**Sg**	**14 48 16.9**	**-0.1**
	902nm,0.2s						
SFI	**Santa Sofia**	**0.11**	**286**	Pg	**Pg**	**14 48 14.9**	**-0.1**
SFI				Sg	**Sg**	**14 48 16.9**	**-0.1**
	902nm,0.2s						
T0502	**Localit˜ San**	**0.11**	**77**	Pg	**Pg**	**14 48 15.0**	**-0.1**
T0502				Sg	**Sg**	**14 48 17.2**	**+0.1**
	2µm,0.2s						
ASQU	**Asqua**	**0.16**	**241** ⇑	*i*Pg	**Pg**	**14 48 16.1**	**+0.2**
ASQU				Sg	**Sg**	**14 48 19.0**	**+0.5**
	1µm,0.3s						
ASQU	**Asqua**	**0.16**	**241** ⇑	*i*Pg	**Pg**	**14 48 16.1**	**+0.2**
ASQU				Sg	**Sg**	**14 48 19.0**	**+0.5**
	1µm,0.3s						
CPGN	**Carpegna, Ital**	**0.25**	**107**	Pg	**Pb**	**14 48 18.3**	**-0.7**
CPGN				Sg	**Sb**	**14 48 23.2**	**-0.3**
	376nm,0.5s						
CPGN	**Carpegna, Ital**	**0.25**	**107**	Pg	**Pb**	**14 48 18.3**	**-0.7**
CPGN				Sg	**Sb**	**14 48 23.2**	**-0.3**
	376nm,0.5s						
PARC	**Parchiule**	**0.29**	**141**	Pg	**Pg**	**14 48 18.3**	**+0.1**
PARC				Sg	**Sb**	**14 48 23.4**	**-1.1**
	432nm,0.3s						
PARC	**Parchiule**	**0.29**	**141**	Pg	**Pg**	**14 48 18.3**	**+0.1**
PARC				Sg	**Sb**	**14 48 23.4**	**-1.1**
	432nm,0.3s						
VMG	**Vicchio**	**0.33**	**285**	Pg	**Pg**	**14 48 19.2**	**+0.3**
VMG				Sg	**Sb**	**14 48 25.1**	**-0.6**
	143nm,0.1s						
VMG	**Vicchio**	**0.33**	**285**	Pg	**Pg**	**14 48 19.2**	**+0.3**
VMG				Sg	**Sb**	**14 48 25.1**	**-0.6**
	143nm,0.1s						
BADI	**Badiali**	**0.41**	**153**	Pg	**Pg**	**14 48 20.3**	**-0.1**
BADI				Sg	**Sb**	**14 48 27.4**	**-0.5**
	474nm,0.2s						
BADI	**Badiali**	**0.41**	**153**	Pg	**Pg**	**14 48 20.3**	**-0.1**
BADI				Sg	**Sb**	**14 48 27.4**	**-0.5**
	474nm,0.2s						
SEI	**Scarperia**	**0.49**	**292**	Pg	**Pg**	**14 48 21.7**	**-0.2**
SEI				Sg	**Sb**	**14 48 29.2**	**-1.0**
	496nm,0.2s						
SEI	**Scarperia**	**0.49**	**292**	Pg	**Pg**	**14 48 21.7**	**-0.2**
SEI				Sg	**Sb**	**14 48 29.2**	**-1.0**
	496nm,0.2s						
ATPC	**Poggio Castell**	**0.52**	**139**	Pg	**Pg**	**14 48 22.3**	**-0.1**
ATPC				Sg	**Sb**	**14 48 30.9**	**-0.2**
	225nm,0.3s						
ATPC	**Poggio Castell**	**0.52**	**139**	Pg	**Pg**	**14 48 22.3**	**-0.1**
ATPC				Sg	**Sb**	**14 48 30.9**	**-0.2**
	225nm,0.3s						
ATVO	**AVT- Monte Val**	**0.58**	**148**	Pg	**Pg**	**14 48 23.3**	**-0.2**
ATVO				Sg	**Sb**	**14 48 32.9**	**+0.1**
	201nm,0.5s						
ATVO	**AVT- Monte Val**	**0.58**	**148**	Pg	**Pg**	**14 48 23.3**	**-0.2**
ATVO				Sg	**Sb**	**14 48 32.9**	**+0.1**
	201nm,0.5s						
FSSB	**Fossombrone**	**0.60**	**108**	Pg	**Pg**	**14 48 23.7**	**-0.2**
FSSB				Sg	**Sb**	**14 48 33.6**	**+0.2**
	177nm,0.3s						
FSSB	**Fossombrone**	**0.60**	**108**	Pg	**Pg**	**14 48 23.7**	**-0.2**
FSSB				Sg	**Sb**	**14 48 33.6**	**+0.2**
	177nm,0.3s						
MTRZ	**Monterenzio**	**0.63**	**323**	Pg	**Pg**	**14 48 24.5**	**+0.1**
MTRZ				Sg	**Sb**	**14 48 34.1**	**-0.1**
	214nm,0.4s						
MTRZ	**Monterenzio**	**0.63**	**323**	Pg	**Pg**	**14 48 24.5**	**+0.1**
MTRZ				Sg	**Sb**	**14 48 34.1**	**-0.1**
	214nm,0.4s						
FRON	**Frontone**	**0.64**	**124**	Pg	**Pg**	**14 48 24.7**	**0.0**
FRON				Sg	**Sb**	**14 48 35.1**	**+0.5**
	76nm,0.3s						
FRON	**Frontone**	**0.64**	**124**	Pg	**Pg**	**14 48 24.7**	**0.0**
FRON				Sg	**Sb**	**14 48 35.1**	**+0.5**
	76nm,0.3s						
SSFR	**Montelago di S**	**0.72**	**127**	Pg	**Pg**	**14 48 25.8**	**-0.5**
SSFR				Sg	**Sb**	**14 48 36.8**	**-0.2**
	137nm,0.2s						
SSFR	**Montelago di S**	**0.72**	**127**	Pg	**Pg**	**14 48 25.8**	**-0.5**
SSFR				Sg	**Sb**	**14 48 36.8**	**-0.2**
	137nm,0.2s						
MURB	**Monte Urbino**	**0.73**	**147**	Pg	**Pg**	**14 48 26.3**	**0.0**
MURB				Sg	**Sb**	**14 48 37.0**	**0.0**
	264nm,0.3s						
MURB	**Monte Urbino**	**0.73**	**147**	Pg	**Pg**	**14 48 26.3**	**0.0**
MURB				Sg	**Sb**	**14 48 37.0**	**0.0**
	264nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.73**	**158**	Pg	**Pg**	**14 48 26.1**	**-0.2**
ATTE				Sg	**Sb**	**14 48 37.1**	**0.0**
	88nm,0.4s						
ATTE	**AVT- Monte Tez**	**0.73**	**158**	Pg	**Pg**	**14 48 26.1**	**-0.2**
ATTE				Sg	**Sb**	**14 48 37.1**	**0.0**
	88nm,0.4s						
CRMI	**Carmignano**	**0.74**	**264**	Pg	**Pb**	**14 48 26.8**	**-0.5**
CRMI				Sg	**Sb**	**14 48 37.9**	**+0.4**
	54nm,0.5s						
CRMI	**Carmignano**	**0.74**	**264**	Pg	**Pb**	**14 48 26.8**	**-0.5**
CRMI				Sg	**Sb**	**14 48 37.9**	**+0.4**
	54nm,0.5s						
ARVD	**Arcevia**	**0.79**	**118**	Pg	**Pg**	**14 48 27.1**	**-0.4**
ARVD				Sg	**Sb**	**14 48 39.4**	**+0.6**
	40nm,0.4s						
ARVD	**Arcevia**	**0.79**	**118**	Pg	**Pg**	**14 48 27.1**	**-0.4**
ARVD				Sg	**Sb**	**14 48 39.4**	**+0.6**
	40nm,0.4s						
NVLJ	**Novalja**	**2.18**	**71**	*i* Pn	**Pn**	**14 48 49.1**	**+0.6**
NVLJ				Sn	**Sn**	**14 49 16.1**	**+0.4**
NVLJ	**Novalja**	**2.18**	**71**	*i* Pn	**Pn**	**14 48 49.1**	**+0.6**
NVLJ				Sn	**Sn**	**14 49 16.0**	**+0.4**

*CSEM **04** 14:48:27.9, 43°.89N×11°.98E, h8km, ML1.6/5*
ROM 04 14:48:27.9±0.5, 43°.89N×11°.98E, h8km±6km, Ml1.6/5, Error ellipse: s-maj=3.5km s-min=1.6km az=6.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.09**	**278**	Pg	Pg	14 48 30.6	+0.4
SFI				Sg	Sg	14 48 32.8	+0.9
	165nm,0.2s						
SFI	**Santa Sofia**	**0.09**	**278**	Pg	Pg	14 48 30.6	+0.4
SFI				Sg	Sg	14 48 32.8	+0.9
	165nm,0.2s						
T0502	**Localit˜ San**	**0.12**	**86**	Pg	Pg	14 48 30.7	+0.1
T0502				Sg	Sg	14 48 32.9	+0.4
	145nm,0.2s						
ASQU	**Asqua**	**0.17**	**235**	Pg	Pg	14 48 31.8	+0.4
ASQU				Sg	Sg	14 48 34.9	+1.1
	75nm,0.3s						
ASQU	**Asqua**	**0.17**	**235**	Pg	Pg	14 48 31.8	+0.4
ASQU				Sg	Sg	14 48 34.9	+1.1
	75nm,0.3s						
CPGN	**Carpegna, Ital**	**0.27**	**110**	Pg	Pb	14 48 34.5	-0.5
CPGN				Sg	Sb	14 48 39.3	-0.5
	167nm,0.5s						
CPGN	**Carpegna, Ital**	**0.27**	**110**	Pg	Pb	14 48 34.5	-0.5
CPGN				Sg	Sb	14 48 39.3	-0.5
	167nm,0.5s						
PARC	**Parchiule**	**0.31**	**142**	Pg	Pg	14 48 34.5	+0.5
PARC				Sg	Sb	14 48 40.1	-0.8
	56nm,0.3s						
PARC	**Parchiule**	**0.31**	**142**	Pg	Pg	14 48 34.5	+0.5
PARC				Sg	Sb	14 48 40.1	-0.8
	56nm,0.3s						

*CSEM **04** 14:51:12.7, 43°.88N×11°.98E, h9km, MD2.1/10*
ROM 04 14:51:12.7±0.1, 43°.88N×11°.98E, h9km±1km, Md2.1/10, Ml1.4/6, Error ellipse: s-maj=2.0km s-min=1.0km az=8.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**284**	Pg	Pg	14 51 15.6	+0.4
SFI				Sg	Sg	14 51 17.6	+0.6
	105nm,0.2s						
SFI	**Santa Sofia**	**0.10**	**284**	Pg	Pg	14 51 15.6	+0.4
SFI				Sg	Sg	14 51 17.6	+0.6
	105nm,0.2s						
T0502	**Localit˜ San**	**0.11**	**80**	Pg	Pg	14 51 15.6	+0.2
T0502				Sg	Sg	14 51 17.9	+0.7
	216nm,0.2s						
ASQU	**Asqua**	**0.16**	**239**	Pg	Pg	14 51 16.8	+0.6
ASQU				Sg	Sg	14 51 19.9	+1.3
	91nm,0.2s						
ASQU	**Asqua**	**0.16**	**239**	Pg	Pg	14 51 16.8	+0.6
ASQU				Sg	Sg	14 51 19.9	+1.3
	91nm,0.2s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	14 51 19.2	-0.4
CPGN				Sg	Sb	14 51 23.8	-0.4
	46nm,0.3s						
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	14 51 19.2	-0.4
CPGN				Sg	Sb	14 51 23.8	-0.4
	46nm,0.3s						
CRE	**Caprese Michel**	**0.26**	**185**	Pg	Pb	14 51 18.9	-0.8
CRE				Sg	Sb	14 51 23.8	-0.6
CRE	**Caprese Michel**	**0.26**	**185**	Pg	Pb	14 51 18.9	-0.8
CRE				Sg	Sb	14 51 23.8	-0.6
PARC	**Parchiule**	**0.30**	**141**	Pg	Pg	14 51 19.0	+0.4
PARC				Sg	Sb	14 51 24.1	-1.2
	36nm,0.4s						
PARC	**Parchiule**	**0.30**	**141**	Pg	Pg	14 51 19.0	+0.4
PARC				Sg	Sb	14 51 24.1	-1.2
	36nm,0.4s						
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	14 51 19.8	+0.6
VMG				Sg	Sb	14 51 25.3	-0.9
	52nm,0.1s						
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	14 51 19.8	+0.6
VMG				Sg	Sb	14 51 25.3	-0.9
	52nm,0.1s						
BADI	**Badiali**	**0.42**	**153**	Pg	Pg	14 51 21.3	+0.5
BADI	**Badiali**	**0.42**	**153**	Pg	Pg	14 51 21.3	+0.5
SEI	**Scarperia**	**0.48**	**291**	Pg	Pg

CRE	**Caprese Michel**	**0.27**	**186**	Pg	**Pg**	**14 52 05.6**	**+0.3**
CRE				Sg	**Sb**	**14 52 10.3**	**-0.8**
	585nm,0.2s						
CRE	**Caprese Michel**	**0.27**	**186**	Pg	**Pg**	**14 52 05.6**	**+0.3**
CRE				Sg	**Sb**	**14 52 10.3**	**-0.8**
	585nm,0.2s						
PARC	**Parchiule**	**0.30**	**142**	Pg	**Pg**	**14 52 06.0**	**+0.2**
PARC				Sg	**Sb**	**14 52 11.1**	**-0.8**
	524nm,0.3s						
PARC	**Parchiule**	**0.30**	**142**	Pg	**Pg**	**14 52 06.0**	**+0.2**
PARC				Sg	**Sb**	**14 52 11.1**	**-0.8**
	524nm,0.3s						
VMG	**Vicchio**	**0.33**	**283**	Pg	**Pg**	**14 52 06.7**	**+0.4**
VMG				Sg	**Sb**	**14 52 12.2**	**-0.5**
	364nm,0.4s						
VMG	**Vicchio**	**0.33**	**283**	Pg	**Pg**	**14 52 06.7**	**+0.4**
VMG				Sg	**Sb**	**14 52 12.2**	**-0.5**
	364nm,0.4s						
BADI	**Badiali**	**0.42**	**154**	Pg	**Pg**	**14 52 08.3**	**+0.3**
BADI				Sg	**Sb**	**14 52 15.0**	**-0.4**
	430nm,0.3s						
BADI	**Badiali**	**0.42**	**154**	Pg	**Pg**	**14 52 08.3**	**+0.3**
BADI				Sg	**Sb**	**14 52 15.0**	**-0.4**
	430nm,0.3s						
SEI	**Scarperia**	**0.48**	**290**	Pg	**Pg**	**14 52 09.2**	**0.0**
SEI				Sg	**Sb**	**14 52 17.2**	**-0.1**
	491nm,0.2s						
SEI	**Scarperia**	**0.48**	**290**	Pg	**Pg**	**14 52 09.2**	**0.0**
SEI				Sg	**Sb**	**14 52 17.2**	**-0.1**
	491nm,0.2s						
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	**Pg**	**14 52 10.1**	**0.0**
ATPC				Sg	**Sb**	**14 52 18.9**	**+0.4**
	205nm,0.3s						
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	**Pg**	**14 52 10.1**	**0.0**
ATPC				Sg	**Sb**	**14 52 18.9**	**+0.4**
	205nm,0.3s						
ATVO	**AVT- Monte Val**	**0.59**	**149**	Pg	**Pg**	**14 52 11.4**	**+0.2**
ATVO				Sg	**Sb**	**14 52 20.8**	**+0.5**
	187nm,0.4s						
ATVO	**AVT- Monte Val**	**0.59**	**149**	Pg	**Pg**	**14 52 11.4**	**+0.2**
ATVO				Sg	**Sb**	**14 52 20.8**	**+0.5**
	187nm,0.4s						
FSSB	**Fossombrone**	**0.60**	**108**	Pg	**Pg**	**14 52 11.4**	**-0.1**
FSSB				Sg	**Sb**	**14 52 21.2**	**+0.5**
	126nm,0.3s						
FSSB	**Fossombrone**	**0.60**	**108**	Pg	**Pg**	**14 52 11.4**	**-0.1**
FSSB				Sg	**Sb**	**14 52 21.2**	**+0.5**
	126nm,0.3s						
MTRZ	**Monterenzio**	**0.62**	**323**	Pg	**Pb**	**14 52 12.4**	**0.0**
MTRZ				Sg	**Sb**	**14 52 21.0**	**-0.1**
	335nm,0.7s						
MTRZ	**Monterenzio**	**0.62**	**323**	Pg	**Pb**	**14 52 12.4**	**0.0**
MTRZ				Sg	**Sb**	**14 52 21.0**	**-0.1**
	335nm,0.7s						
FRON	**Frontone**	**0.65**	**124**	Pg	**Pg**	**14 52 12.0**	**-0.3**
	58nm,0.4s						
FRON	**Frontone**	**0.65**	**124**	Pg	**Pg**	**14 52 12.0**	**-0.3**
	58nm,0.4s						
FNVD	**Fontana Vidola**	**0.68**	**295**	Pg	**Pg**	**14 52 13.0**	**0.0**
	109nm,0.5s						
FNVD	**Fontana Vidola**	**0.68**	**295**	Pg	**Pg**	**14 52 13.0**	**0.0**
	109nm,0.5s						
SSFR	**Montelago di S**	**0.73**	**128**	Pg	**Pg**	**14 52 13.5**	**-0.4**
	117nm,0.2s						
SSFR	**Montelago di S**	**0.73**	**128**	Pg	**Pg**	**14 52 13.5**	**-0.4**
	117nm,0.2s						
NVLJ	**Novalja**	**2.18**	**71**	*e*Pn	**Pn**	**14 52 34.9**	**-0.8**
NVLJ				Sn	**Sn**	**14 53 04.2**	**+1.5**
NVLJ	**Novalja**	**2.18**	**71**	*e*Pn	**Pn**	**14 52 34.9**	**-0.8**
NVLJ				Sn	**Sn**	**14 53 04.1**	**+1.5**

*ISCJB **04** 14:52:05.8±0.6, 37°24′N±0°04′×28°20′E±0°06, h10km±7km, Error ellipse: s-maj=9.9km s-min=5.5km az=144.2*
*DDA **04** 14:52:05.9, 37°24′N×28°19′E, h7km, Md2.6*
*ISK **04** 14:52:05.2, 37°22′N×28°16′E, h5km, MD2.5*
*CSEM **04** 14:52:06.3±0.2, 37°25′N×28°20′E, h2km, MD2.5, Error ellipse: s-maj=4.7km s-min=2.9km az=49.0*

ISC 04 14:52:06.3±1.0, 37°23′N±0°03′×28°21′E±0°03′, h7km±9km, n15, σ0§60/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.11**	**149**	*e*PG	**Pg**	**14 52 08.5**	**-0.3**
YER				*e*SG	**Sg**	**14 52 10.9**	**+0.4**
YER	**Yerkesik**	**0.11**	**149**	*e*Pg	**Pg**	**14 52 08.5**	**-0.3**
YER				*e*Sg	**Sg**	**14 52 10.9**	**+0.4**
TURN	**Turunc**	**0.47**	**138**	*i* P	**Pg**	**14 52 13.4**	**-2.0**
AYDN	**Tasoluk**	**0.51**	**329**	P	**Pg**	**14 52 15.7**	**-0.4**
AYDN				S	**Sg**	**14 52 23.0**	**+0.3**
AYDN	**Tasoluk**	**0.51**	**329**	*i* P	**Pg**	**14 52 15.7**	**-0.4**
AYDN				*i* S	**Sg**	**14 52 23.0**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.54**	**139**	*e*PG	**Pg**	**14 52 17.4**	**+0.6**
DALY				*e*SG	**Sb**	**14 52 26.1**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.54**	**139**	*e*Pg	**Pg**	**14 52 17.4**	**+0.6**
DALY				*e*Sg	**Sb**	**14 52 26.1**	**0.0**
BDRM	**Kayabasi**	**0.63**	**255**	P	**Pg**	**14 52 18.1**	**-0.4**
BDRM				S	**Sg**	**14 52 27.3**	**+0.5**
BDRM	**Kayabasi**	**0.63**	**255**	*i* P	**Pg**	**14 52 18.1**	**-0.4**
BDRM				*i* S	**Sg**	**14 52 27.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**341**	*e*PG	**Pg**	**14 52 20.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**341**	*e*Pg	**Pg**	**14 52 20.8**	**-0.2**
DNZL	**Cakiroluk**	**0.81**	**55**	P	**Pg**	**14 52 21.6**	**-0.2**
DNZL	**Cakiroluk**	**0.81**	**55**	*i* P	**Pg**	**14 52 21.6**	**-0.2**
FETY	**Fethiye**	**0.92**	**130**	*e*PG	**Pb**	**14 52 24.5**	**0.0**
FETY	**Fethiye**	**0.92**	**130**	*e*Pg	**Pb**	**14 52 24.5**	**0.0**

*IDC **04** 14:52:04.7±1.9, 40°69S×72°13W, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/21, mbtmp4.2/6, ML5.5/1, Error ellipse: s-maj=46.0km s-min=14.3km az=16.0*
*ISCJB **04** 14:52:07.0±0.7, 40°65S±0°09×72°23W±0°09, h33km, mb4.1/7, Error ellipse: s-maj=14.1km s-min=6.9km az=33.3*
*NEIC **04** 14:52:06.0, 40°50S×72°12W, h19km, mb4.4/3, ML3.9(GUC), After GUC.*
*GUC **04** 14:52:06.2±0.6, 40°50S×72°12W, h19km±7km, ML3.9*

ISC 04 14:52:08.6±0.8, 40°6S±0°1×72°20W±0°07, h35km, n16, σ1§83/16, mb4.0/7, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.13**	**314**	*e*P	**Pn**	**14 52 25.5**	**-2.4**
VLCH				*i* S	**Sn**	**14 52 40.9**	**-1.2**
VLCH				IAML		14 52 45.6	
	comp=N,6μm,0.2s						
PLCA	**Paso Flores**	**1.26**	**97**	Pg	**Pn**	**14 52 28.6**	**-1.3**
	comp=N,82nm,0.3s,baz=309,slow=12,SNR=21						
PLCA				Lg	Lg	14 52 44.5	
	comp=N,90nm,0.3s,baz=19,slow=22,SNR=8.2						
PLCA	**Paso Flores**	**1.26**	**97**	*i* P	**Pn**	**14 52 28.3**	**-1.5**
PLCA				*i* S	**Sn**	**14 52 44.4**	**-1.2**
TRQA	**Tornquist**	**8.32**	**76**	*e*Pn	Pn	**14 54 04.6**	**-2.1**
LCO	**Las Campanas**	**11.63**	**7**	*e*Pn	Pn	14 54 53.8	+1.5
LVC	**Limon Verde**	**18.15**	**10**	P	**P**	**14 56 20.4**	**+2.1**
	comp=N,14nm,0.3s,baz=221,slow=10,SNR=7.2						
LVC	**Limon Verde**	**18.15**	**10**	*e*P	**P**	**14 56 16.3**	**-2.0**
	comp=N,3.9nm,0.6s						
LPAZ	**La Paz**	**24.48**	**9**	P	**P**	**14 57 27.7**	**+2.6**
	comp=N,1.9nm,0.9s,baz=173,slow=8.1,SNR=5.4						
SIV	**San Ignacio**	**26.36**	**25**	P	**P**	**14 57 41.7**	**+0.2**
	comp=N,1.3nm,0.5s,baz=221,slow=8.5,SNR=4.2						
SNAA	**Sanae**	**45.58**	**156**	*e*P	**P**	**15 00 24.4**	**-0.4**
QSPA	**South Pole Qui**	**49.65**	**180**	*e*P	**P**	**15 00 55.4**	**-1.0**
	comp=N,12nm,0.9s						
TXAR	**Lajitas Array**	**75.46**	**332**	P	P	15 03 51.8	+2.8
	comp=N,0.2nm,0.7s,baz=146,slow=8.4,SNR=3.3						
DBIC	**Dimbokro**	**77.49**	**70**	P	**P**	**15 04 01.7**	**+1.0**
	comp=N,21nm,1.4s,baz=225,slow=8.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**86.60**	**70**	P	**P**	**15 04 49.0**	**+0.5**
	comp=N,0.9nm,0.9s,baz=236,slow=3.5,SNR=3.8						
ECSD	**EROS Data Cent**	**86.79**	**343**	*e*P	**P**	**15 04 50.6**	**+1.9**
	comp=N,2.9nm,0.9s						
SEY	**Seymchan**	**145.54**	**325**	PKPbc	**PKPab**	**15 11 44.7**	**+2.2**
	comp=N,1.6nm,0.7s,baz=342,slow=2.4,SNR=3.6						

*IDC **04** 14:52:26.0±2.9, 40°89S×71°97W, h0km, mb3.9/3, mb1 4.3/4, mb1mx3.9/21, mbtmp4.1/4, ML5.6/1, Error ellipse: s-maj=73.4km s-min=55.4km az=61.0*
*NEIC **04** 14:52:30.4±0.7, 40°52S×72°38W, h10km, mb4.2/4, Error ellipse: s-maj=19.4km s-min=11.7km az=88.0*

*ISCJB **04** 14:52:32.1±0.9, 40°50S±0°09×72°1W±0°2, h33km, mb4.1/6, Error ellipse: s-maj=21.7km s-min=13.2km az=177.0*

ISC 04 14:52:33.8±0.9, 40°5S±0°1×72°2W±0°2, h35km, n12, σ1§19/11, mb4.0/6, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**1.30**	**101**	Lg	Lg	14 53 07.7	
	383nm,0.3s,baz=86,slow=16,SNR=6.9						
TRQA	**Tornquist**	**8.31**	**76**	Pn	**Pn**	**14 54 32.7**	**+0.9**
LCO	**Las Campanas**	**11.53**	**7**	Pn	**Pn**	**14 55 17.4**	**+1.3**
LVC	**Limon Verde**	**18.05**	**10**	P	**P**	**14 56 42.3**	**-0.2**
	18nm,0.3s,baz=217,slow=7.1,SNR=9.0						
LVC	**Limon Verde**	**18.05**	**10**	*e*P	**Pn**	**14 56 41.8**	**-0.5**
	6.0nm,0.6s						
LPAZ	**La Paz**	**24.39**	**10**	P	**P**	**14 57 50.2**	**+0.7**
	3.9nm,0.8s,baz=188,slow=9.9,SNR=6.7						
SAML	**Samuel**	**32.43**	**17**	*e*P	**P**	**14 59 00.0**	**-0.5**
	1.9nm,0.8s						
SNAA	**Sanae**	**45.68**	**156**	P	**P**	**15 00 51.1**	**+0.3**
QSPA	**South Pole Qui**	**49.75**	**180**	*e*P	**P**	**15 01 23.3**	**+0.9**
	12nm,0.8s						
TXAR	**Lajitas Array**	**75.36**	**332**	P	**P**	**15 04 13.8**	**+0.2**
	0.4nm,0.8s,baz=153,slow=8.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**86.59**	**70**	P	**P**	**15 05 11.0**	**-2.6**
	1.1nm,1.0s,baz=231,slow=6.7,SNR=3.9						
ECSD	**EROS Data Cent**	**86.69**	**343**	*e*P	**P**	**15 05 13.2**	**-0.2**
	1.7nm,0.6s						

*ISCJB **04** 14:56:24.1±2.0, 40°6S±0°2×72°1W±0°3, h33km, mb3.8/5, Error ellipse: s-maj=39.6km s-min=18.1km az=136.2*
*IDC **04** 14:56:24.0±4.5, 40°47S×72°00W, h18km±26km, mb3.9/5, mb1 4.1/6, mb1mx3.9/21, mbtmp4.1/6, ML5.4/1, Error ellipse: s-maj=42.3km s-min=16.1km az=28.0*

ISC 04 14:56:26.4±1.7, 40°5S±0°3×71°9W±0°2, h35km, n9, σ0§53/9, mb3.9/5, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**1.07**	**104**	Pg	**Pn**	**14 56 44.9**	**-0.1**
	137nm,0.3s,baz=308,slow=12,SNR=26						
PLCA				Lg	Lg	14 57 01.2	
	119nm,0.3s,baz=30,slow=21,SNR=7.8						
LVC	**Limon Verde**	**18.00**	**9**	P	**P**	**15 00 35.0**	**+0.6**
	12nm,0.3s,baz=205,slow=8.1,SNR=6.2						
LPAZ	**La Paz**	**24.34**	**9**	P	**P**	**15 01 41.7**	**+0.1**
	2.2nm,0.8s,baz=184,slow=9.1,SNR=7.1						
SIV	**San Ignacio**	**26.16**	**24**	P	**P**	**15 01 56.7**	**-0.8**
	3.5nm,0.9s,baz=218,slow=8.9,SNR=5.4						
TXAR	**Lajitas Array**	**75.46**	**332**	P	**P**	**15 08 06.8**	**0.0**
	0.2nm,0.4s,baz=147,slow=11,SNR=4.5						
DBIC	**Dimbokro**	**77.25**	**70**	P	**P**	**15 08 17.8**	**+0.5**
	4.0nm,0.8s,baz=201,slow=4.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**86.36**	**69**	P	**P**	**15 09 04.8**	**-0.3**
	0.6nm,0.8s,baz=235,slow=5.1,SNR=3.0						
BRTR	**Keskin Array B**	**124.71**	**65**	PKP	**PKPdf**	**15 15 22.4**	**+0.3**
	0.6nm,0.8s,baz=190,slow=4.2,SNR=3.4						
SEY	**Seymchan**	**145.57**	**326**	PKPbc	**PKPab**	**15 15 60.0**	**-0.4**
	1.8nm,0.9s,baz=160,slow=3.3,SNR=4.0						

*GUC **04** 14:59:53.2±0.4, 40°52S×72°08W, h14km±4km, ML4.1*
*IDC **04** 14:59:54.0±2.2, 40°37S×72°01W, h0km, mb3.5/2, mb1 4.2/3, mb1mx3.8/20, mbtmp4.0/3, ML5.5/1, Error ellipse: s-maj=54.8km s-min=13.2km az=30.0*
*ISCJB **04** 14:59:55.8±1.7, 40°5S±0°2×72°1W±0°1, h33km, mb3.4/2, Error ellipse: s-maj=33.8km s-min=7.1km az=25.5*

ISC 04 14:59:57.0±1.8, 40°5S±0°3×72°1W±0°1, h35km, n7, σ1§79/9, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.12**	**307**	*i* P	**Pn**	**15 00 13.9**	**-2.3**
VLCH				*i* S	**Sn**	**15 00 29.8**	**-0.6**
VLCH				IAML		15 00 30.8	
	comp=E,8μm,0.3s						
PLCA	**Paso Flores**	**1.19**	**102**	Pg	**Pn**	**15 00 16.6**	**-0.7**
	comp=E,76nm,0.3s,baz=313,slow=12,SNR=10						
PLCA				Lg	Lg	15 00 32.2	
	comp=E,337nm,0.3s,baz=22,slow=23,SNR=6.0						
PLCA	**Paso Flores**	**1.19**	**102**	*i* P	**Pn**	**15 00 15.0**	**-2.2**
PLCA				*i* S	**Sn**	**15 00 31.3**	**-1.0**
LVC	**Limon Verde**	**18.03**	**10**	P	**Pn**	**15 04 04.9**	**-0.2**
	comp=E,15nm,0.3s,baz=228,slow=9.6,SNR=3.3						
LPAZ	**La Paz**	**24.36**	**9**	P	**P**	**15 05 13.0**	**+0.6**
	comp=E,1.6nm,0.9s,baz=174,slow=9.8,SNR=3.5						
TXAR	**Lajitas Array**	**75.40**	**332**	P	**P**	**15 11 39.5**	**+2.5**
	comp=E,0.3nm,0.7s,baz=144,slow=7.8,SNR=5.3						
SEY	**Seymchan**	**145.50**	**326**	PKPbc	**PKPab**	**15 19 31.5**	**+0.8**
	comp=E,1.9nm,0.8s,baz=97,slow=7.4,SNR=4.9						

*GUC **04** 15:05:39.6±0.7, 40°54S×72°16W, h7km±7km, ML4.7*
*NEIC **04** 15:05:39.0, 40°54S×72°16W, h7km, mb4.7/13, ML4.7(GUC), After GUC.*
NEIC Felt [V] at Río Bueno and [IV] at Lago Ranco. Also felt at Panguipulli. Felt at Bariloche, Argentina.
*IDC **04** 15:05:41.7±0.7, 40°40S×72°03W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.3/18, mbtmp4.3/9, ML5.7/1, MS4.2/9, Ms1 4.1/9, ms1mx3.8/26, Error ellipse: s-maj=22.3km s-min=12.1km az=27.0*
*ISCJB **04** 15:05:44.6±0.3, 40°44S±0°05×72°07W±0°07, h33km, mb4.5/15, MS4.0/6, Error ellipse: s-maj=8.5km s-min=5.5km az=135.6*

ISC 04 15:05:46.3±0.4, 40°42S±0°07×72°07W±0°06, h35km, n76, σ1§69/75, mb4.6/15, MS4.0/6, 1C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.09**	**304**	*i* P	**Pn**	**15 06 01.2**	**-3.8**
VLCH				*i* S	**Sn**	**15 06 16.7**	**-2.1**
VLCH				IAML		15 06 17.0	
	comp=N,36μm,0.0s						
PLCA	**Paso Flores**	**1.20**	**106**	Pg	**Pn**	**15 06 03.4**	**-3.3**
	comp=N,318nm,0.3s,baz=303,slow=12,SNR=48						
PLCA				Lg	Lg	15 06 20.6	
	comp=N,91nm,0.3s,baz=274,slow=21,SNR=4.6						
PLCA	**Paso Flores**	**1.20**	**106**	*i* P	**Pn**	**15 06 03.3**	**-3.3**
PLCA				*i* S	**Sn**	**15 06 22.1**	**+0.3**
PLCA	**Paso Flores**	**1.20**	**106**	*e*Pn	**Pn**	**15 06 03.2**	**-3.4**
CHRN	**Cochrane**	**6.84**	**183**	*e*Pn	**Pn**	**15 07 23.4**	**-0.6**
ROC1	**El Roble**	**7.48**	**7**	*e*Pn	**Pn**	**15 07 33.4**	**+0.4**
TRQA	**Tornquist**	**8.18**	**76**	*e*Pn	**Pn**	**15 07 40.4**	**-2.0**
USHA	**Ushuaia**	**14.62**	**172**	LR	LR	15 14 11.7	
	comp=N,2μm,21.1s,baz=236,slow=35						
LVC	**Limon Verde**	**17.96**	**10**	P	**Pn**	**15 09 52.9**	**-0.6**
	comp=N,23nm,0.3s,baz=208,slow=12,SNR=6.4						
LVC				LR	LR	15 16 57.0	
	comp=N,3μm,18.8s,baz=199,slow=38						
LVC	**Limon Verde**	**17.96**	**10**	*e*Pn	**Pn**	**15 09 51.6**	**-1.9**
	comp=N,17nm,0.9s						
PB04	**IPOC Station P**	**18.10**	**6**	*e*P	**P**	**15 09 57.0**	**+1.8**
	comp=N,61nm,1.2s						
CPUP	**Villa Florida**	**18.64**	**46**	LR	LR	15 17 31.6	
	comp=N,316nm,21.7s,baz=222,slow=38						
PB01	**IPOC Station P**	**19.44**	**7**	*e*P	**P**	**15 10 09.6**	**-0.2**
	comp=N,22nm,0.9s						
PB11	**IPOC Station P**	**20.69**	**6**	*e*P	**P**	**15 10 22.7**	**-0.8**
	comp=N,68nm,1.0s						
LPAZ	**La Paz**	**24.29**	**9**	P	**P**	**15 11 01.7**	**+0.7**
	comp=N,8.6nm,0.9s,baz=161,slow=7.9,SNR=16						
LPAZ	**La Paz**	**24.29**	**9**	*e*P	**P**	**15 11 00.8**	**-0.3**
	comp=N,30nm,1.4s						
PMSA	**Palmer Station**	**24.84**	**172**	LR	LR	15 20 31.6	
	comp=N,502nm,18.9s,baz=328,slow=36						
SIV	**San Ignacio**	**26.15**	**25**	P	**P**	**15 11 16.9**	**-0.4**
	comp=N,3.8nm,0.9s,baz=219,slow=9.7,SNR=5.7						
SIV				LR	LR	15 22 28.2	
	comp=N,315nm,19.2s,baz=183,slow=38						
BDFB	**Brasilia**	**32.36**	**47**	LR	LR	15 27 13.3	
	comp=N,333nm,18.8s,baz=212,slow=40						
VNA1	**Neumayer--Stat**	**43.84**	**154**	P	**P**	**15 13 48.6**	**+0.1**
PRAC	**Prado**	**43.99**	**356**	*e*P	**P**	**15 13 50.7**	**+0.4**
	comp=N,11nm,0.8s						
SNAA	**Sanae**	**45.71**	**156**	P	**P**	**15 14 02.4**	**-1.0**
SNAA	**Sanae**	**45.71**	**156**	*e*P	**P**	**15 14 01.6**	**-1.8**
	comp=N,42nm,1.2s						
HELC	**Santa Helena**	**46.49**	**355**	*e*P	**P**	**15 14 09.5**	**-0.9**
	comp=N,30nm,1.0s						
SDV	**Santo Domingo**	**49.08**	**2**	LR	LR	15 37 12.9	
	comp=N,111nm,20.2s,baz=240,slow=39						
QSPA	**South Pole Qui**	**49.83**	**180**	*e*P	**P**	**15 14 34.8**	**-0.7**
	comp=N,26nm,1.1s						
SBA	**Scott Base**	**56.80**	**193**	*e*P	**P**	**15 15 29.4**	**+3.0**
	comp=N,7.1nm,1.1s						
VNDA	**Vanda**	**57.82**	**192**	P	**P**	**15 15 33.8**	**+0.3**
	comp=N,2.9nm,1.1s,baz=140,slow=9.8,SNR=6.5						
VNDA	**Vanda**	**57.82**	**192**	*e*P	**P**	**15 15 33.2**	**-0.4**
	comp=N,9.4nm,1.4s						
MAW	**Mawson**	**67.05**	**163**	*e*P	**P**	**15 16 34.9**	**-0.4**
TAOE	**Nuku Hiva Isla**	**67.64**	**278**	*e*LR	LR	15 37 15.9	
	comp=N,247nm,25.8s						
PPT2	**Papeete2**	**69.42**	**264**	*e*LR	LR	15 38 05.7	
	comp=N,90nm,24.8s						
LRAL	**Lakeview Retre**	**74.38**	**347**	*e*P	**P**	**15 17 18.6**	**-1.6**
	comp=N,7.1nm,0.8s						
TXAR	**Lajitas Array**	**75.34**	**332**	P	**P**	**15 17 26.6**	**+0.7**
	comp=N,1.2nm,0.8s,baz=155,slow=8.7,SNR=9.9						
TX31	**Lajitas Ar. Si**	**75.34**	**332**	*e*P	**P**	**15 17 27.0**	**+1.0**
BOSA	**Boshof**	**77.17**	**117**	P	**P**	**15 17 39.1**	**+2.4**
	comp=N,2.3nm,0.8s,baz=217,slow=10,SNR=2.2						
BOSA				LR	LR	15 48 09.8	
	comp=N,95nm,19.0s,baz=208,slow=33						
DBIC	**Dimbokro**	**77.34**	**70**	P	**P**	**15 17 37.6**	**0.0**
	comp=N,7.4nm,1.0s,baz=210,slow=5.1,SNR=5.7						
DBIC				LR	LR	15 48 59.9	
	comp=N,104nm,18.9s,baz=194,slow=34						
WVT	**Waverly**	**77.54**	**347**	*e*P	**P**	**15 17 38.6**	**+0.5**
	comp=N,8.0nm,1.1s						
LAZ	**Ladron**	**81.17**	**331**	*e*P	**P**	**15 17 57.7**	**-0.6**
ANMO	**Albuquerque**	**81.41**	**332**	*e*P	**P**	**15 17 57.7**	**-1.8**
T25A	**Trinidad**	**82.69**	**334**	*e*P	**P**	**15 18 08.1**	**+1.9**
KOWA	**Kowa**	**83.36**	**65**	*e*P	**P**	**15 18 11.6**	**+1.8**
S22A	**4UR Ranch, Cre**	**84.06**	**333**	*e*P	**P**	**15 18 15.1**	**+1.8**
PV01	**Paradox Valley**	**85.02**	**332**	*e*P	**P**	**15 18 17.6**	**-0.4**
SMCO	**Snowmass**	**85.39**	**334**	*e*P	**P**	**15 18 21.7**	**+1.6**
MWC	**Mount Wilson**	**85.53**	**323**	*e*P	**P**	**15 18 20.4**	**-0.3**
SHPR	**Sheep Range**	**86.18**	**327**	*e*P	**P**	**15 18 25.1**	**+1.3**
MTPU	**Mount Pierson**	**86.29**	**329**	*e*P	**P**	**15 18 26.5**	**+1.9**
CCUT	**Cedar City**	**86.33**	**328**	*e*P	**P**	**15 18 27.0**	**+2.4**
TORD	**Torodi Ar. Bea**	**86.45**	**70**	P	**P**	**15 18 25.9**	**+0.4**
	comp=N,0.6nm,0.7s,baz=230,slow=6.8,SNR=3.8						
ECSD	**EROS Data Cent**	**86.65**	**342**	P	**P**	**15 18 21.6**	**-4.1**
Q16A	**Castle Valley**	**86.67**	**330**	*e*P	**P**	**15 18 28.0**	**+1.8**
MSU	**Marysvale**	**86.70**	**330**	*e*P	**P**	**15 18 28.2**	**+1.8**
TMUT	**Trail Mountain**	**87.01**	**331**	*e*P	**P**	**15 18 31.2**	**+3.2**
R11A	**Troy Canyon, C**	**87.92**	**327**	*e*P	**P**	**15 18 35.7**	**+3.5**
HWUT	**Hardware Ranch**	**89.16**	**332**	*e*P	**P**	**15 18 36.5**	**-1.6**
BW06	**Boulder Array**	**89.47**	**333**	*e*P	**P**	**15 18 40.7**	**+1.1**
PDAR	**Pinedale Array**	**89.47**	**333**	P	**P**	**15 18 39.9**	**+0.4**
	comp=N,0.3nm,0.3s,baz=131,slow=6.8,SNR=5.1						
IMW	**Indian Meadow**	**90.95**	**333**	*e*P	**P**	**15 18 50.5**	**+4.1**
ILAR	**Eielson Array**	**119.86**	**332**	PKP	**PKPdf**	**15 24 32.2**	**+0.6**
	comp=N,0.5nm,1.0s,baz=177,slow=2.3,SNR=4.3						
BRTR	**Keskin Array B**	**124.79**	**65**	PKP	**PKPdf**	**15 24 43.0**	**+0.9**
	comp=N,0.3nm,0.4s,baz=62,slow=3.4,SNR=2.8						
BRTR	**Keskin Array B**	**124.79**	**65**	PKP	**PKPdf**	**15 24 43.0**	**+0.9**
AKTO	**Aktyubinsk**	**144.19**	**57**	PKP	**PKPdf**	**15 25 17.0**	**-0.6**
	comp=N,1.7nm,0.6s,baz=293,slow=3.3,SNR=8.4						
PETK	**Petropavlovsk-**	**144.34**	**308**	PKP	**PKPdf**	**15 25 19.6**	**+1.7**
	comp=N,3.0nm,0.8s,baz=90,slow=1.4,SNR=4.2						
ABKAR	**Akbulak array**	**145.36**	**59**	*e*PKPdf	**PKPbc**	**15 25 19.2**	**-0.4**
SEY	**Seymchan**	**145.45**	**326**	PKPbc	**PKPab**	**15 25 20.1**	**+0.3**
	comp=N,2.9nm,0.8s,baz=92,slow=8.4,SNR=8.1						
HYB	**Hyderabad**	**145.82**	**124**	*i* PKP	**PKPab**	**15 25 24.0**	**+1.5**
TIXI	**Tiksi**	**146.98**	**348**	*e*PKPdf	**PKPbc**	**15 25 23.1**	**-0.8**
NRIK	**Noril'sk**	**149.07**	**14**	PKPbc	**PKPbc**	**15 25 29.8**	**+0.3**
	comp=N,1.9nm,0.7s,baz=34,slow=3.6,SNR=4.8						
BVAR	**Borovoye Array**	**151.69**	**51**	PKP	**PKPdf**	**15 25 31.3**	**+1.4**
	comp=N,0.3nm,0.4s,baz=299,slow=3.0,SNR=4.6						
BVAR				PKPbc	**PKiKP**	**15 25 37.6**	**+0.9**
	comp=N,1.7nm,0.9s,baz=270,slow=2.9,SNR

comp=N,236nm,0.3s,baz=30,slow=22,SNR=11
PLCA **Paso Flores** 1.20 102 *i* P **Pb** 15 19 39.0 -3.5
PLCA *i* S **Sn** 15 19 57.1 -1.8
PLCA **Paso Flores** 1.20 102 *e*Pn **Pn** 15 19 41.2 -1.3
PSCH **Puerto Saavedr** 1.97 329 *e*P **Pn** 15 19 49.4 -3.5
PSCH *i* S **Sn** 15 20 16.6 -1.0
CHRN **Cochrane** 6.76 183 *e*Pn Pn 15 21 01.0 +2.2
ROC1 **El Roble** 7.56 7 *e*Pn **Pn** 15 21 10.8 +0.8
TRQA **Tornquist** 8.22 76 *e*Pn **Pn** 15 21 18.4 -0.4
USHA **Ushuaia** 14.55 172 LR LR 15 28 24.5
comp=N,2µm,19.1s,baz=88,slow=38
LVC **Limon Verde** 18.04 10 P **P** 15 23 32.7 +1.5
comp=N,22nm,0.3s,baz=185,slow=7.5,SNR=15
LVC LR LR 15 31 24.6
comp=N,2µm,20.3s,baz=164,slow=40
LVC **Limon Verde** 18.04 10 *e*P **P** 15 23 31.5 +0.3
comp=N,9.9nm,0.6s
CPUP **Villa Florida** 18.72 45 LR LR 15 31 01.6
comp=N,181nm,21.6s,baz=220,slow=37
PB01 **IPOC Station P** 19.52 7 *e*P **Pn** 15 23 49.9 +1.5
comp=N,8.3nm,0.9s
PB11 **IPOC Station P** 20.78 7 *e*P **P** 15 24 00.7 -0.2
comp=N,19nm,0.7s
LPAZ **La Paz** 24.37 9 P **P** 15 24 40.8 +2.3
comp=N,3.2nm,0.9s,baz=185,slow=12,SNR=7.6
LPAZ **La Paz** 24.37 9 *e*P **P** 15 24 39.1 +0.6
comp=N,11nm,1.3s
PMSA **Palmer Station** 24.76 172 LR LR 15 34 00.8
comp=N,414nm,18.6s,baz=320,slow=36
SIV **San Ignacio** 26.23 25 P **P** 15 24 54.6 -0.2
comp=N,3.1nm,0.8s,baz=217,slow=11,SNR=3.9
SIV LR LR 15 36 58.5
comp=N,276nm,20.6s,baz=160,slow=40
NNA **Nana** 28.71 350 LR LR 15 34 31.0
comp=N,289nm,19.9s,baz=165,slow=32
ATAH **Atahualpa** 33.70 349 LR LR 15 37 22.5
comp=N,221nm,19.8s,baz=182,slow=32
VNA1 **Neumayer--Stat** 43.78 154 P **P** 15 27 25.0 +0.1
SNAA **Sanae** 45.64 156 P **P** 15 27 40.8 +1.0
SNAA **Sanae** 45.64 156 *e*P **P** 15 27 37.4 -2.4
QSPA **South Pole Qui** 49.75 180 *e*P **P** 15 28 12.7 +0.9
comp=N,6.8nm,1.0s
SYO **Syowa Base** 59.87 157 *e*P **P** 15 29 24.0 -0.9
MAW **Mawson** 66.98 163 LR LR 15 58 15.1
comp=N,145nm,19.6s,baz=238,slow=35
GOGA **Godfrey** 74.29 350 *e*P **P** 15 30 59.2 +2.5
comp=N,5.2nm,1.0s
LRAL **Lakeview Retre** 74.45 347 *e*P **P** 15 30 57.8 +0.1
comp=N,8.9nm,0.9s
TX31 **Lajitas Ar. Si** 75.40 332 *e*P **P** 15 31 05.7 +2.2
TXAR **Lajitas Array** 75.40 332 P **P** 15 31 04.5 +1.1
comp=N,1.4nm,1.0s,baz=141,slow=8.1,SNR=8.1
TXAR LR LR 15 58 36.0
comp=N,78nm,21.0s,baz=0.0,slow=31
CPCT **Cooper Cave** 76.44 350 *e*P **P** 15 31 10.6 +1.6
comp=N,4.2nm,1.1s
DBIC **Dimbokro** 77.39 70 P **P** 15 31 14.8 -0.1
comp=N,14nm,1.1s,baz=196,slow=4.6,SNR=5.4
WVT **Waverly** 77.62 347 *e*P **P** 15 31 16.1 +0.5
comp=N,4.9nm,1.0s
MNTX **Cornudas Mount** 78.16 331 *e*P **P** 15 31 20.9 +2.0
comp=N,2.2nm,1.1s
RPZ **Rata Peaks** 78.71 221 LR LR 15 59 17.5
comp=N,601nm,20.1s,baz=38,slow=30
LBTB **Lobatse** 79.67 114 *e*P **P** 15 31 27.6 0.0
comp=N,20nm,1.5s
ANMO **Albuquerque** 81.47 332 *e*P **P** 15 31 37.4 +0.4
comp=N,3.3nm,0.8s
T25A **Trinidad** 82.75 334 *e*P **P** 15 31 45.0 +1.3
comp=N,8.0nm,1.0s
SDCO **Great Sand Dun** 83.67 334 *e*P **P** 15 31 49.9 +1.5
comp=N,2.2nm,1.0s
S22A **4UR Ranch, Cre** 84.12 333 *e*P **P** 15 31 53.9 +3.1
comp=N,2.6nm,0.9s
SMCO **Snowmass** 85.45 334 *e*P **P** 15 31 59.6 +2.0
comp=N,5.2nm,1.0s
KNB **Kanab** 85.71 328 *e*P **P** 15 32 00.7 +2.0
comp=N,7.4nm,1.1s
CCUT **Cedar City** 86.39 328 *e*P **P** 15 32 03.5 +1.4
comp=N,8.1nm,1.0s
TOA0 **Torodi Ar. Sit** 86.50 70 *e*P **P** 15 32 01.9 -1.0
TORD **Torodi Ar. Bea** 86.50 70 P **P** 15 32 02.0 -0.9
comp=N,1.1nm,0.9s,baz=237,slow=5.0,SNR=4.7
ECSD **EROS Data Cent** 86.72 342 *e*P **P** 15 32 02.8 -0.4
comp=N,0.9nm,0.6s
MSU **Marysvale** 86.76 330 *e*P **P** 15 32 07.5 +3.7
TMUT **Trail Mountain** 87.07 331 *e*P **P** 15 32 06.8 +1.3
comp=N,5.3nm,1.0s
DAC **Darwin (Calif)** 87.09 325 *e*P **P** 15 32 06.9 +1.4
comp=N,6.4nm,1.2s
R11A **Troy Canyon, C** 87.98 327 *e*P P 15 32 13.9 +4.2
comp=N,4.8nm,1.2s
DUG **Dugway, Tooele** 88.46 330 P **P** 15 32 13.3 +1.5
comp=N,6.7nm,1.1s
HWUT **Hardware Ranch** 89.22 332 P **P** 15 32 15.4 -0.1
comp=N,13nm,1.2s
BW06 **Boulder Array** 89.54 333 *e*P **P** 15 32 18.4 +1.4
comp=N,3.0nm,1.0s
PDAR **Pinedale Array** 89.54 333 P **P** 15 32 17.8 +0.8
comp=N,1.8nm,0.9s,baz=152,slow=4.1,SNR=9.9
HVU **Hansel Valley** 89.82 331 *e*P **P** 15 32 19.6 +1.4
comp=N,6.3nm,1.1s
RLMT **Red Lodge** 91.53 335 *e*P **P** 15 32 29.6 +3.4
comp=N,7.7nm,1.3s
MCMT **McKenzie Canyo** 92.49 332 *e*P **P** 15 32 33.7 +3.1
BRTR **Keskin Array B** 124.84 65 PKP **PKPdf** 15 38 19.3 -0.3
comp=N,0.5nm,0.7s,baz=220,slow=3.8,SNR=3.6
ARU **Arti** 144.48 47 *e*PKPdf **PKPdf** 15 38 54.4 -0.9
ABKAR **Akbulak array** 145.42 59 *e*PKPbc **PKPab** 15 38 57.3 0.0
SEY **Seymchan** 145.50 326 PKPbc **PKPab** 15 38 57.5 +0.3
comp=N,6.8nm,1.0s,baz=64,slow=5.7,SNR=11
TIXI **Tiksi** 147.05 348 *e*PKPdf **PKPbc** 15 39 00.2 -1.1
ZRNK **Zerenda** 150.95 51 *e*PKPdf **PKPdf** 15 39 07.0 +1.0
MJAR **Matsushiro Arr** 156.02 270 PKPab **PKPab** 15 39 42.1 +0.8
comp=N,1.0nm,0.8s,baz=119,slow=2.3,SNR=4.1
ZAA0 **Zalesovo Array** 159.47 41 *e*PKPdf **PKPdf** 15 39 16.7 -0.8
MKAR **Makanchi Array** 160.48 63 PKP **PKPdf** 15 39 18.8 -0.2
comp=N,0.1nm,0.2s,baz=260,slow=2.5,SNR=3.6
MKAR PKPab **PKPab** 15 39 59.8 -0.6
comp=N,0.7nm,1.0s,baz=289,slow=4.4,SNR=4.3
SONM **Songino Array** 172.59 8 PKP **PKPdf** 15 39 28.1 -0.3
comp=N,0.4nm,0.9s,baz=17,slow=1.5,SNR=3.9
SONM PKPab **PKPab** 15 40 53.8 +0.1
comp=N,0.4nm,0.8s,baz=338,slow=3.4,SNR=4.1
GTA **Gaotai** 173.69 97 *e*PKP **PKPdf** 15 39 30.8 +1.7
GTA pPKP pPKPdf 15 39 42.0 +9.4
GTA sPKP 15 39 46.3
LZH **Lanzhou** 174.56 143 *e*PKP **PKPdf** 15 39 30.6 +1.0
LZH pPKP pPKPdf 15 39 42.0 +9.0
LZH sPKP 15 39 45.7
LZH PKP **PKPab** 15 41 05.5 +2.7
LZH LR LR
comp=N,130nm,18.0s
LZH LR LR
comp=E,140nm,18.0s
LZH LR LR
comp=Z,170nm,20.0s

GUC 04 15:27:13.9±0.5, 40°49S×72°12W, h12km±3km, ML3.7, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.10**	**308**	*i* S		Sn	15 27 50.6	+0.5
VLCH				IAML			15 28 06.0	
comp=N,4µm,0.1s								
PLCA	**Paso Flores**	**1.22**	**102**	*i* P	Pg		15 27 37.6	+0.2
PLCA				*i* S		Sn	15 27 54.8	+1.3

*IDC **04** 15:35:44.1±1.9, 8°30S×154°64E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/42, mbtmp4.0/10, ML1.8/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/31, Error ellipse: s-maj=55.1km s-min=22.4km az=121.0*
*ISCJB **04** 15:35:47.9±1.5, 8°2S±0°2×154°5E±0°2, h33km, mb3.9/9, Error ellipse: s-maj=39.2km s-min=15.9km az=39.8*
ISC 04 15:35:49.5±1.8, 8°3S±0°3×154°6E±0°2, h35km, n14, σ1§15/11, mb4.0/9, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.40**	**102**		Sn	Sn	15 38 22.9	+14
comp=N,3.0s,baz=137,slow=16,SNR=1.9								
HNR				LR	LR		15 39 02.7	
comp=Z,499nm,18.9s,baz=298,slow=37								

HNR	**Honiara**	**5.40**	**102**	*e*P	Pn		15 37 17.0	+9.4
HNR				*e*S	Sn		15 37 22.0	-47
PMG	**Port Moresby**	**7.43**	**261**	Pn	**Pn**		**15 37 35.8**	**+0.3**
0.9nm,0.3s,baz=81,slow=13,SNR=4.0								
DZM	**Mont Dzumac**	**17.80**	**141**	LR	LR		15 45 58.7	
comp=Z,147nm,18.7s,baz=48,slow=34								
WRA	**Warramunga Arr**	**22.76**	**237**	P	**P**		**15 40 48.0**	**-1.1**
1.6nm,0.8s,baz=56,slow=9.7,SNR=7.9								
ASAR	**Alice Springs**	**25.02**	**230**	P	**P**		**15 41 10.2**	**-0.3**
2.4nm,0.9s,baz=62,slow=10,SNR=19								
KSRS	**Korea Array**	**51.92**	**333**	P	**P**		**15 44 54.4**	**-0.5**
1.5nm,0.9s,baz=151,slow=8.1,SNR=6.9								
USRK	**Ussuriysk Ar.**	**56.13**	**341**	P	**P**		**15 45 24.2**	**-1.3**
3.0nm,0.9s,baz=151,slow=8.3,SNR=6.3								
CMAR	**Chiang Mai Arr**	**61.01**	**296**	P	**P**		**15 45 59.3**	**-0.7**
0.6nm,0.4s,baz=98,slow=6.5,SNR=4.4								
SONM	**Songino Array**	**70.23**	**328**	P	**P**		**15 46 60.0**	**+0.8**
1.3nm,0.9s,baz=136,slow=6.5,SNR=6.7								
MKAR	**Makanchi Array**	**84.13**	**319**	P	**P**		**15 48 17.5**	**+0.4**
0.8nm,0.7s,baz=105,slow=6.7,SNR=7.1								
ILAR	**Eielson Array**	**84.74**	**22**	P	**P**		**15 48 18.9**	**-0.8**
0.5nm,0.9s,baz=235,slow=3.2,SNR=3.9								
ZALV	**Zalesovo Beam**	**85.05**	**326**	P	**P**		**15 48 23.1**	**+1.7**
0.9nm,0.6s,baz=114,slow=3.7,SNR=4.2								
TORD	**Torodi Ar. Bea**	**152.96**	**283**	PKPbc	**PKPbc**		**15 55 45.9**	**+1.6**
0.8nm,0.9s,baz=72,slow=2.3,SNR=3.4								

*ISCJB **04** 15:36:16.7±0.6, 39°12N±0°04×28°98E±0°04, h10km±5km, Error ellipse: s-maj=6.4km s-min=5.5km az=154.6*
*DDA **04** 15:36:16.8, 39°08N×28°99E, h7km, Md2.6*
*ISK **04** 15:36:16.4, 39°13N×28°97E, h12km, MD2.7*
*CSEM **04** 15:36:16.7±0.1, 39°12N×28°97E, h10km, MD2.6, Error ellipse: s-maj=1.4km s-min=1.2km az=97.0*
ISC 04 15:36:16.9±1.0, 39°12N±0°04×28°98E±0°03, h12km±8km, n16, σ0§15/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**250**	P	**Pg**		**15 36 21.6**	**0.0**
DEMI				S		**Sg**	**15 36 24.7**	**-0.1**
DEMI	**Demirci**	**0.22**	**250**	*i* P	**Pg**		**15 36 21.6**	**0.0**
DEMI				*i* S		**Sg**	**15 36 24.7**	**-0.1**
GDZ	**Gediz**	**0.39**	**94**	P	**Pg**		**15 36 24.6**	**-0.2**
GDZ				S		**Sg**	**15 36 30.4**	**+0.3**
GDZ	**Gediz**	**0.39**	**94**	*i* P	**Pg**		**15 36 24.6**	**-0.2**
GDZ				*i* S		**Sg**	**15 36 30.4**	**+0.3**
TVSB	**Tavsanli**	**0.50**	**48**	*e*PG	**Pg**		**15 36 26.7**	**-0.1**
TVSB				*e*SG		**Sg**	**15 36 33.7**	**+0.2**
TVSB	**Tavsanli**	**0.50**	**48**	*e*Pg	**Pg**		**15 36 26.7**	**-0.1**
TVSB				*e*Sg		**Sg**	**15 36 33.7**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**202**	*e*PG	**Pg**		**15 36 29.6**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**202**	*e*Pg	**Pg**		**15 36 29.6**	**0.0**
KHAL	**Karahalli**	**0.85**	**151**	P	**Pg**		**15 36 33.3**	**0.0**
KHAL				S		**Sg**	**15 36 44.2**	**-0.1**
KHAL	**Karahalli**	**0.85**	**151**	*i* P	**Pg**		**15 36 33.3**	**0.0**
KHAL				*i* S		**Sg**	**15 36 44.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.24**	**338**	*e*PN	**Pn**		**15 36 40.1**	**0.0**
KCTX				*e*SN	**Sn**		**15 36 56.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.24**	**338**	*e*Pn	**Pn**		**15 36 40.1**	**0.0**
KCTX				*e*Sn	**Sn**		**15 36 56.8**	**-0.1**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*PN	**Pn**		**15 36 40.6**	**+0.1**
IZI	**Iznik**	**1.28**	**17**	*e*PN	**Pn**		**15 36 40.5**	**-0.1**
ARMT	**Armutlu**	**1.45**	**357**	*e*PN	**Pn**		**15 36 43.0**	**+0.1**
ARMT	**Armutlu**	**1.45**	**357**	*e*Pn	**Pn**		**15 36 43.1**	**+0.1**

*IDC **04** 15:36:15.4±1.1, 16°98N×147°96E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/51, mbtmp3.7/11, ML4.1/1, Error ellipse: s-maj=31.0km s-min=18.4km az=100.0*
*ISCJB **04** 15:36:18.8±0.9, 16°93N±0°09×147°8E±0°2, h33km, mb3.7/10, Error ellipse: s-maj=25.5km s-min=9.8km az=22.7*
ISC 04 15:36:20.7±1.1, 16°9N±0°1×147°8E±0°2, h35km, n11, σ1§02/12, mb3.7/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.37**	**221**	Pn	**Pn**		**15 37 25.6**	**+1.0**
10nm,0.3s,baz=54,slow=8.8,SNR=4.1								
GUMO				Sn	**Sn**		**15 38 12.3**	**-2.0**
6.1nm,0.3s,baz=162,slow=20,SNR=3.7								
MJAR	**Matsushiro Arr**	**21.34**	**338**	P	**P**		**15 41 04.9**	**+0.2**
2.1nm,0.7s,baz=176,slow=9.4,SNR=8.8								
WRA	**Warramunga Arr**	**38.95**	**200**	P	**P**		**15 43 44.0**	**+0.4**
0.7nm,0.6s,baz=23,slow=9.2,SNR=5.1								
ASAR	**Alice Springs**	**42.56**	**199**	P	**P**		**15 44 14.2**	**+0.9**
0.4nm,0.8s,baz=19,slow=6.4,SNR=2.4								
SONM	**Songino Array**	**45.81**	**322**	P	**P**		**15 44 39.8**	**+0.6**
0.2nm,0.3s,baz=129,slow=8.1,SNR=3.5								
CMAR	**Chiang Mai Arr**	**46.50**	**280**	P	**P**		**15 44 45.0**	**0.0**
1.4nm,0.7s,baz=75,slow=6.8,SNR=8.7								
ZALV	**Zalesovo Beam**	**60.67**	**323**	P	**P**		**15 46 28.7**	**+0.4**
0.4nm,0.3s,baz=116,slow=6.6,SNR=3.1								
MKAR	**Makanchi Array**	**61.17**	**314**	P	**P**		**15 46 31.6**	**-0.2**
0.2nm,0.3s,baz=86,slow=8.8,SNR=3.4								
KURBB	**Kurchatov Arra**	**64.01**	**318**	P	**P**		**15 46 50.2**	**-0.5**
0.7nm,0.5s,baz=98,slow=7.3,SNR=13								
ILAR	**Eielson Array**	**64.36**	**26**	P	**P**		**15 46 51.1**	**-1.6**
0.5nm,0.7s,baz=247,slow=5.0,SNR=5.3								
YKA	**Yellowknife Ar**	**78.61**	**28**	P	**P**		**15 48 18.8**	**+0.2**
0.5nm,0.5s,baz=288,slow=5.5,SNR=7.8								

*IDC **04** 15:37:25.8±2.8, 6°41S×147°87E, h0km, mb4.0/3, mb1 4.1/5, mb1mx3.6/43, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=62.3km s-min=32.6km az=92.0*
*NEIC **04** 15:37:34.8±4.0, 6°66S×147°63E, h60km±26km, mb4.3/1, Error ellipse: s-maj=39.4km s-min=24.8km az=218.0*
ISC 04 15:37:33.4±2.0, 6°5S±0°1×147°7E±0°3, h63km, n9, σ1§54/10, mb3.8/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.99**	**191**	Pn	**Pn**		**15 38 16.7**	**-1.7**
7.6nm,0.3s,baz=52,slow=4.4,SNR=12								
PMG				Sn	**Sn**		**15 38 55.8**	**+2.7**
8.1nm,0.3s,baz=356,slow=18,SNR=7.8								
WRA	**Warramunga Arr**	**18.69**	**223**	P	**Pn**		**15 41 46.8**	**-0.9**
0.3nm,0.3s,baz=47,slow=11,SNR=8.0								
ASAR	**Alice Springs**	**21.68**	**216**	P	**P**		**15 42 18.2**	**-0.9**
1.8nm,0.5s,baz=53,slow=8.7,SNR=13								
FITZ	**Fitzroy Crossi**	**24.47**	**240**	P	**P**		**15 42 47.5**	**+0.8**
5.0nm,0.4s,baz=52,slow=7.8,SNR=42								
FITZ	**Fitzroy Crossi**	**24.47**	**240**	*e*P	**P**		**15 42 45.6**	**-1.1**
4.6nm,0.4s								
STKA	**Stephens Creek**	**25.94**	**192**	P	**P**		**15 42 60.0**	**0.0**
1.6nm,0.7s,baz=360,slow=10,SNR=4.2								
KAPI	**Kappang**	**27.89**	**271**	P	**P**		**15 43 18.3**	**+0.6**
QSPA	**South Pole Qui**	**83.52**	**180**	*e*P	**P**		**15 49 54.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**145.92**	**284**	PKPbc	**PKPab**		**15 57 09.2**	**+1.7**
0.9nm,0.9s,baz=88,slow=3.2,SNR=7.5								

*IDC **04** 15:39:24.4±1.1, 17°18N×147°79E, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/50, mbtmp3.5/7, ML3.8/1, Error ellipse: s-maj=40.5km s-min=20.9km az=109.0*
*ISCJB **04** 15:39:27.7±1.0, 17°1N±0°1×147°7E±0°2, h33km, mb3.4/6, Error ellipse: s-maj=34.5km s-min=12.6km az=28.5*
ISC 04 15:39:29.7±1.1, 17°1N±0°2×147°7E±0°2, h35km, n7, σ1§39/8, mb3.5/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.43**	**218**	Pn	**Pn**		**15 40 35.6**	**+1.1**
4.5nm,0.3s,baz=178,slow=1.5,SNR=6.8								
GUMO				Sn	**Sn**		**15 41 22.8**	**-2.0**
6.5nm,0.3s,baz=55,slow=16,SNR=3.4								
WRA	**Warramunga Arr**	**39.08**	**200**	P	**P**		**15 46 52.7**	**-0.9**
0.3nm,0.6s,baz=23,slow=9.1,SNR=4.3								
ASAR	**Alice Springs**	**42.70**	**199**	P	**P**		**15 47 25.1**	**+1.7**
0.2nm,0.8s,baz=21,slow=6.9,SNR=2.8								
CMAR	**Chiang Mai Arr**	**46.33**	**279**	P	**P**		**15 47 53.1**	**+0.4**
0.5nm,0.3s,baz=65,slow=6.6,SNR=3.8								
KURBB	**Kurchatov Arra**	**63.77**	**318**	P	**P**		**15 49 58.1**	**0.0**
0.4nm,0.5s,baz=94,slow=7.4,SNR=8.1								
ILAR	**Eielson Array**	**64.25**	**26**	P	**P**		**15 50 00.3**	**-0.8**
0.2nm,0.5s,baz=260,slow=7.0,SNR=3.4								
YKA	**Yellowknife Ar**	**78.50**	**28**	P	**P**		**15 51 26.9**	**-0.2**
0.3nm,0.5s,baz=284,slow=5.6,SNR=4.1								

*NIED **04** 15:41:00, 36°10N×142°10E, h14km, Mw3.8 Best double couple: M0 5.13000×10^14 NP1: ϕ=228.00000°, δ=38.00000°, λ=135.00000° NP2: ϕ=357.00000°, δ=64.00000°, λ=61.00000°.*
*IDC **04** 15:41:46.8±1.6, 35°96N×142°33E, h0km, mb3.7/5, mb1 3.7/10, mb1mx3.5/49, mbtmp3.6/10, ML3.6/4, MS3.0/5, Ms1 3.0/5, ms1mx2.6/52, Error ellipse: s-maj=35.2km s-min=19.8km az=69.0*
*ISCJB **04** 15:41:47.8±0.8, 36°06N±0°05×142°22E±0°08, h23km, mb3.7/5, MS3.3/3, Error ellipse: s-maj=9.0km s-min=6.5km az=13.3*
*JMA **04** 15:41:49.3±0.3, 36°10N×142°08E, h70km, MS3.5*
ISC 04 15:41:50.6±1.2, 36°02N±0°06×142°17E±0°09, h23km, n31, σ2§07/27, mb3.7/5, MS3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.11**	**254**	P	**Pn**		**15 42 08.9**	**-1.8**
CHOJ				*e*S		**Sb**	**15 42 24.1**	**-1.1**
JHO	**Hitachi**	**1.42**	**295**	P	**Pn**		**15 42 11.8**	**-3.3**
ONAJ	**Iwakimizuishiy**	**1.55**	**315**	P	**Pn**		**15 42 13.6**	**-3.2**
BSO1	**Boso 1**	**1.67**	**216**	P	**Pn**		**15 42 17.3**	**-0.7**
BSO1				S	**Sn**		**15 42 39.1**	**+0.6**
JFK	**Kawauchi**	**1.70**	**323**	P	**Pn**		**15 42 15.9**	**-3.0**
BSO3	**Boso 3**	**1.82**	**229**	P	**Pn**		**15 42 19.2**	**-1.1**
JFT	**Otama**	**2.10**	**316**	P	**Pn**		**15 42 22.6**	**-1.8**
JAG	**Ashikaga**	**2.23**	**281**	P	**Pn**		**15 42 23.9**	**-2.3**
JOD2	**Odawara 2**	**2.62**	**254**	P	**Pn**		**15 42 30.1**	**-1.5**
JRY	**Ryogami san**	**2.65**	**271**	P	**Pn**		**15 42 29.8**	**-2.2**
JYN	**Shimob**	**2.99**	**261**	P	**Pn**		**15 42 35.6**	**-1.1**
MJAR	**Matsushiro Arr**	**3.24**	**280**	Pn	**Pn**		**15 42 38.9**	**-1.3**
5.8nm,0.3s,baz=87,slow=15,SNR=27								
MJAR				Sn	**Sn**		**15 43 20.9**	**+2.9**
3.6nm,0.3s,baz=18,slow=18,SNR=6.8								
MJAR				LR	LR		15 44 07.3	
comp=Z,79nm,19.2s,baz=95,slow=42								
MAT	**Matsushiro**	**3.25**	**280**	P	**Pn**		**15 42 38.9**	**-1.2**
MAT				S	**Sn**		**15 43 15.8**	**-2.3**
JHJ	**Hachijo jima 2**	**3.50**	**215**	Pn	**Pn**		**15 42 42.3**	**-1.3**
46nm,0.3s,baz=239,slow=23,SNR=17								
JHJ				Sn	**Sn**		**15 43 20.9**	**-3.4**
82nm,0.3s,baz=304,slow=22,SNR=9.8								
ASAJ	**Asahikawa**	**8.10**	**2**	Pn	**Pn**		**15 43 44.4**	**-2.4**
0.9nm,0.3s,baz=211,slow=12,SNR=10								
USRK	**Ussuriysk Ar.**	**11.29**	**319**	Pn	**Pn**		**15 44 32.4**	**+2.0**
0.1nm,0.3s,baz=162,slow=20,SNR=1.9								
KSRS	**Korea Array**	**11.52**	**281**	Pn	**Pn**		**15 44 36.0**	**+2.3**
0.1nm,0.3s,baz=96,slow=14,SNR=4.4								
KSRS				LR	LR		15 48 14.4	
comp=Z,22nm,18.4s,baz=106,slow=33								
MA2	**Magadan**	**24.23**	**11**	LR	LR		15 56 07.8	
comp=Z,20nm,18.1s,baz=334,slow=36								
H11N2	**WAKE ISLAND Hy**	**27.11**	**120**	T	T		16 16 10.9	
baz=312,slow=75,SNR=3.6								
H11N1	**WAKE ISLAND Hy**	**27.12**	**120**	T	T		16 16 09.1	
baz=312,slow=75,SNR=4.1								
H11N3	**WAKE ISLAND Hy**	**27.13**	**120**	T	T		16 16 10.4	
baz=312,slow=75,SNR=3.6								
H11S1	**WAKE ISLAND Hy**	**27.80**	**122**	T	T		16 16 55.1	
baz=314,slow=76,SNR=8.6								
H11S3	**WAKE ISLAND Hy**	**27.80**	**122**	T	T		16 16 57.3	
baz=314,slow=76,SNR=6.5								
H11S2	**WAKE ISLAND Hy**	**27.82**	**122**	T	T		16 17 00.1	
baz=314,slow=76,SNR=7.5								
SONM	**Songino Array**	**28.86**	**305**	P	**P**		**15 47 48.4**	**+1.0**
1.5nm,1.0s,baz=111,slow=7.9,SNR=2.4								
MKAR	**Makanchi Array**	**45.18**	**303**	P	**P**		**15 50 06.5**	**+0.9**
0.6nm,0.6s,baz=93,slow=8.6,SNR=3.5								
KURBB	**Kurchatov Arra**	**47.11**	**309**	P	**P**		**15 50 22.1**	**+1.5**
1.3nm,0.8s,baz=83,slow=7.7,SNR=5.1								
WRA	**Warramunga Arr**	**56.15**	**189**	P	**P**		**15 51 27.5**	**-0.9**
0.5nm,0.8s,baz=6.9,slow=7.2,SNR=5.6								
ASAR	**Alice Springs**	**59.87**	**189**	P	**P**		**15 51 54.6**	**0.0**
0.6nm,1.2s,baz=13,slow=8.6,SNR=3.4								
OBN	**Obninsk**	**69.27**	**324**	LR	LR		16 23 46.2	
comp=Z,61nm,20.5s,baz=281,slow=36								
JMIC	**Jan Mayen**	**71.25**	**350**	LR	LR		16 25 24.7	
comp=Z,24nm,19.3s,baz=242,slow=37								

*IDC **04** 15:54:15.2±0.8, 17°02N×147°85E, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.9/50, mbtmp3.9/15, ML4.0/1, Error ellipse: s-maj=27.7km s-min=15.7km az=96.0*
*ISCJB **04** 15:54:18.4±0.8, 16°97N±0°08×147°7E±0°2, h33km, mb3.9/14, Error ellipse: s-maj=22.9km s-min=8.4km az=23.4*
ISC 04 15:54:20.5±0.9, 17°0N±0°1×147°8E±0°2, h35km, n15, σ0§98/18, mb3.9/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.36**	**220**	Pn	**Pn**		**15 55 24.7**	**+0.4**
8.2nm,0.3s,baz=22,slow=6.9,SNR=9.1								
GUMO				Sn	**Sn**		**15 56 13.0**	**-1.0**
13nm,0.3s,baz=24,slow=20,SNR=3.8								
MJAR	**Matsushiro Arr**	**21.25**	**338**	P	**P**		**15 59 03.8**	**+0.2**
3.1nm,0.7s,baz=169,slow=9.7,SNR=18								
KSRS	**Korea Array**	**26.86**	**323**	P	**P**		**15 59 56.2**	**-1.7**
0.9nm,0.7s,baz=147,slow=9.1,SNR=5.5								
WRA	**Warramunga Arr**	**38.98**	**200**	P	**P**		**16 01 43.4**	**-0.3**
1.0nm,0.7s,baz=24,slow=9.1,SNR=12								
WRA				PcP	**PcP**		**16 03 54.6**	**+0.9**
0.2nm,0.5s,baz=15,slow=2.9,SNR=2.8								
ASAR	**Alice Springs**	**42.59**	**199**	P	**P**		**16 02 13.4**	**0.0**
0.1nm,0.3s,baz=24,slow=6.9,SNR=8.6								
ASAR				PcP	**PcP**		**16 04 06.5**	**+1.1**
0.

MK08	**Makanchi Array**	**0.20**	**231**	P	**Pg**	**15 57 35.3**	**-0.2**
MK08				S	**Sg**	**15 57 41.0**	**+2.0**
MAKZ	**Makanchi**	**0.37**	**259**	⇑P	**Pb**	**15 57 38.8**	**+0.2**
	33nm,0.5s						
MAKZ				⇑S	**Sn**	**15 57 47.0**	**-0.7**
	358nm,0.4s						
ZSN	**Zaisan**	**1.41**	**65**	*e*P	**Pn**	**15 57 54.9**	**-0.3**
	26nm,0.3s						
ZSN				*e*S	**Sg**	**15 58 15.1**	**-1.0**
	96nm,0.3s						
KAPS	**Kapalarasan**	**2.71**	**235**	*e*P	**Pb**	**15 58 17.2**	**-1.2**
	13nm,0.2s						
KAPS				*e*S	**Sb**	**15 58 53.6**	**+2.2**
	79nm,0.4s						
DJR	**Jarkent**	**3.18**	**218**	*e*P	**Pb**	**15 58 25.7**	**-0.8**
	17nm,0.3s						
DJR				*e*S	**Sb**	**15 59 07.9**	**+3.0**
	49nm,0.3s						
TDK	**Taldyqorghan**	**3.42**	**238**	*e*P	**Pb**	**15 58 27.2**	**-3.3**
	11nm,0.1s						
TDK				*e*S	**Sb**	**15 59 11.0**	**-0.7**
	73nm,0.2s						
KTMS	**Ketmen**	**3.76**	**205**	*e*P	**Pb**	**15 58 35.7**	**-0.6**
	7.2nm,0.3s						
KTMS				*e*S	**Sb**	**15 59 25.4**	**+3.9**
	45nm,0.3s						
SEM	**Semipalatinsk**	**3.83**	**338**	*e*P	**Pb**	**15 58 38.8**	**+1.3**
	10nm,0.3s						
SEM				*e*S	**Sg**	**15 59 31.0**	**-2.6**
	85nm,0.2s						
MNBS	**Baschi**	**4.02**	**227**	*e*P	**Pb**	**15 58 42.0**	**+1.1**
	0.2nm,0.1s						
MNBS				*e*S	**Sg**	**15 59 36.1**	**-3.6**
	82nm,0.7s						
SHLS	**Shalkode**	**4.16**	**208**	*e*P	**Pb**	**15 58 44.9**	**+1.6**
	10.0nm,0.4s						
SHLS				*e*S	**Sg**	**15 59 40.4**	**-3.7**
	51nm,0.4s						
ARXS	**Arharly**	**4.23**	**233**	*e*P	**Pb**	**15 58 42.7**	**-1.7**
	6.8nm,0.4s						
ARXS				*e*S	**Sb**	**15 59 37.5**	**+2.4**
	84nm,0.5s						
KPKS	**Kokpek**	**4.36**	**220**	*e*P	**Pb**	**15 58 46.7**	**+0.2**
	41nm,0.2s						
KPKS				*e*S	**Sb**	**15 59 44.1**	**+5.5**
	84nm,0.3s						
UZB	**Uzynbulak**	**4.48**	**215**	*e*P	**Pb**	**15 58 46.0**	**-2.6**
	3.8nm,0.4s						
UZB				*e*S	**Sb**	**15 59 43.3**	**+1.1**
	24nm,0.4s						
KURS	**Kuram**	**4.57**	**224**	*e*P	**Pb**	**15 58 48.8**	**-1.3**
KURS				*e*S	**Sb**	**15 59 48.5**	**+3.7**
KURBB	**Kurchatov Arra**	**4.58**	**326**	Pn	**Pn**	**15 58 39.2**	**+0.6**
	0.3nm,0.3s,baz=142,slow=13,SNR=38						
KURBB				Lg	Lg	15 59 55.7	
	1.6nm,0.3s,baz=140,slow=32,SNR=8.7						
KURBB	**Kurchatov Arra**	**4.58**	**326**	⇓Pn	**Pn**	**15 58 38.6**	**-0.1**
	1.8nm,0.2s						
KURBB				⇓Pg	**Pb**	**15 58 53.7**	**+3.6**
	7.2nm,0.5s						
KURBB				⇓Lg	Lg	15 59 55.1	
	193nm,0.7s						
SATY	**Saty**	**4.80**	**219**	*e*P	**Pb**	**15 58 54.2**	**+0.1**
	12nm,0.2s						
SATY				*e*S	**Sb**	**15 59 57.0**	**+5.5**
	86nm,0.3s						
CHKK	**Chushkaly**	**4.91**	**234**	*e*P	**Pb**	**15 58 55.6**	**-0.3**
	3.8nm,0.3s						
CHKK				*e*S	**Sb**	**15 59 59.6**	**+5.1**
	23nm,0.7s						
KTBS	**Karatobe**	**5.19**	**234**	*e*P	**Pb**	**15 59 01.2**	**+0.6**
KTBS				*e*S	**Sb**	**16 00 09.3**	**+6.7**
KUU	**Kurty**	**5.27**	**238**	*e*P	**Pb**	**15 59 04.0**	**+1.9**
	5.0nm,0.4s						
KUU				*e*S	**Sg**	**16 00 14.6**	**-5.1**
	28nm,0.5s						
KOTS	**Kotyrbulak**	**5.28**	**228**	*e*P	**Pb**	**15 59 04.5**	**+2.2**
KOTS				*e*S	**Sg**	**16 00 15.2**	**-4.8**
MDOK	**Medeo**	**5.37**	**228**	*e*P	**Pb**	**15 59 04.2**	**+0.4**
	3.3nm,0.6s						
MDOK				*e*S	**Sg**	**16 00 15.4**	**-7.3**
	16nm,0.8s						
TNSS	**Tian-Shan**	**5.51**	**228**	*e*P	**Pb**	**15 59 09.1**	**+2.9**
	5.2nm,0.8s						
TNSS				*e*S	**Sg**	**16 00 22.8**	**-4.4**
	22nm,0.4s						
DGS	**Degeres**	**6.00**	**235**	*e*P	**Pb**	**15 59 17.2**	**+2.7**
	4.8nm,0.3s						
DGS				*e*S	**Sg**	**16 00 37.6**	**-5.4**
	30nm,0.6s						
TKM2	**Tokmak 2**	**6.30**	**234**	⇑Pn	**Pn**	**15 59 01.5**	**-1.1**
	2.1nm,1.1s						
TKM2				Lg	Lg	16 00 49.5	
	9.9nm,0.8s						
OTUK	**Ortayu**	**7.02**	**285**	⇑Pn	**Pn**	**15 59 12.0**	**-0.2**
	1.5nm,0.2s						
OTUK				⇑Lg	Lg	16 01 13.5	
	20nm,0.7s						
AAK	**Ala-Archa**	**7.11**	**236**	Lg	Lg	16 01 15.4	
	0.4nm,0.3s,baz=314,slow=20,SNR=6.7						
ZALV	**Zalesovo Beam**	**7.23**	**11**	Pn	**Pn**	**15 59 13.4**	**-1.6**
	1.5nm,0.3s,baz=191,slow=14,SNR=22						
ZALV				Sn	**Sn**	**16 00 30.2**	**-6.3**
	baz=188,slow=22,SNR=2.6						
ZALV				Lg	Lg	16 01 14.8	
	1.1nm,0.3s,baz=196,slow=26,SNR=4.7						
MNAS	**Manas**	**8.37**	**242**	⇓Pn	**Pn**	**15 59 32.0**	**+1.1**
	0.4nm,0.5s						
MNAS				⇓Lg	Lg	16 01 55.4	
	5.7nm,0.7s						
KK31	**Karatay Array**	**9.30**	**250**	⇓Pn	**Pn**	**15 59 43.9**	**+0.4**
	0.3nm,0.3s,baz=60,slow=14						
KK31				⇑Lg	Lg	16 02 24.6	
	1.6nm,0.5s,baz=67,slow=27,SNR=4.3						
BVA0	**Borovoye Array**	**9.93**	**313**	Lg	Lg	16 02 47.3	
	11nm,1.1s,baz=122,slow=20,SNR=6.3						
BVAR	**Borovoye Array**	**9.93**	**313**	Pn	**Pn**	**15 59 51.4**	**-0.8**
	0.6nm,0.3s,baz=122,slow=12,SNR=9.3						
BVAR				Sn	**Sn**	**16 01 40.3**	**-2.7**
	0.4nm,0.3s,baz=115,slow=26,SNR=4.1						
BVAR				Lg	Lg	16 02 46.8	
	0.6nm,0.3s,baz=127,slow=31,SNR=8.5						
CHKZ	**Chkalovo**	**10.20**	**316**	⇓Pn	**Pn**	**15 59 54.6**	**-1.2**
	0.8nm,0.6s						
CHKZ				⇑Lg	Lg	16 02 53.0	
	9.5nm,0.8s						
ZRNK	**Zerenda**	**10.61**	**310**	Pn	**Pn**	**16 00 00.8**	**-0.6**
	0.6nm,0.3s						
ZRNK				Sn	**Sn**	**16 02 02.2**	**+2.6**
	1.4nm,0.6s						
ZRNK				⇑Lg	Lg	16 03 05.9	
	14nm,1.1s						
NOA	**NORSAR Array B**	**42.04**	**316**	P	**P**	**16 05 17.6**	**-2.9**
	1.0nm,0.9s,baz=74,slow=7.9,SNR=3.4						
WRA	**Warramunga Arr**	**81.25**	**132**	pP	**P**	**16 09 47.9**	**+2.7**
	0.2nm,0.5s,baz=330,slow=4.8,SNR=3.8						

*NEIC **04** 16:03:44.0,40°.55S×72°.16W,h16km,ML4.7(GUC),After GUC.*
NEIC Felt [III] at Rio Bueno.
*GUC **04** 16:03:44.3±0.5,40°.55S×72°.17W,h16km±9km,ML4.7*
*IDC **04** 16:03:45.7±3.1,40°.62S×72°.18W,h0km,mb3.4/2, mb1 4.0/3,mb1mx3.6/24,mbtmp3.8/3,ML5.4/1,Error ellipse: s-maj=68.2km s-min=15.9km az=20.0*
*ISCJB **04** 16:03:47.8±1.8,40°.6S±0°.2×72°.2W±0°.1,h33km,mb3.2/2, Error ellipse: s-maj=31.6km s-min=7.1km az=26.0*

ISC 04 16:03:48.9±2.2,40°.6S±0°.2×72°.2W±0°.1,h35km,n8, σ2s16/10,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.10**	**315**	*i* P	**Pn**	**16 04 05.1**	**-2.7**
VLCH				*i* S	**Sn**	**16 04 20.9**	**-0.8**
VLCH				IAML		16 04 26.0	
	comp=N,35μm,0.1s						
PLCA	**Paso Flores**	**1.30**	**97**	Pg	**Pn**	**16 04 10.1**	**-0.6**
	comp=N,60nm,0.3s,baz=298,slow=16,SNR=5.2						
PLCA				Lg	Lg	16 04 25.8	
	comp=N,64nm,0.3s,baz=38,slow=22,SNR=3.1						
PLCA	**Paso Flores**	**1.30**	**97**	*i* P	**Pn**	**16 04 07.8**	**-2.8**
PLCA				*i* S	**Sn**	**16 04 25.3**	**-1.5**
TRQA	**Tornquist**	**8.35**	**76**	Pn	**Pn**	**16 05 46.3**	**-1.2**
	comp=N,56nm,1.4s						
LCO	**Las Campanas**	**11.62**	**7**	*e*Pn	**Pn**	**16 06 32.0**	**-0.5**
LVC	**Limon Verde**	**18.15**	**10**	P	**P**	**16 08 00.8**	**+2.2**
	comp=N,12nm,0.3s,baz=214,slow=11,SNR=5.9						
LPAZ	**La Paz**	**24.48**	**10**	P	**P**	**16 09 06.5**	**+1.1**
	comp=N,0.9nm,0.6s,baz=194,slow=12,SNR=3.6						
TXAR	**Lajitas Array**	**75.43**	**332**	P	**P**	**16 15 31.8**	**+2.6**
	comp=N,0.1nm,0.6s,baz=159,slow=7.7,SNR=2.9						

*ISCJB **04** 16:09:11.4±0.5,39°.24N±0°.04×28°.93E±0°.04,h9km,Error ellipse: s-maj=5.3km s-min=4.4km az=175.8*
*ISK **04** 16:09:11.2,39°.25N×28°.93E,h6km,MD2.7*
*CSEM **04** 16:09:11.5±0.1,39°.24N×28°.93E,h8km,MD2.6,Error ellipse: s-maj=2.9km s-min=2.6km az=163.0*
*DDA **04** 16:09:12.2,39°.15N×28°.96E,h7km,Md2.6*

ISC 04 16:09:11.8±0.9,39°.25N±0°.03×28°.93E±0°.03,h9km,n28, σ0s32/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**219**	P	**Pg**	**16 09 16.9**	**-0.3**
DEMI				S	**Sg**	**16 09 20.5**	**-0.2**
DEMI	**Demirci**	**0.27**	**219**	*i* P	**Pg**	**16 09 16.9**	**-0.3**
DEMI				*i* S	**Sg**	**16 09 20.5**	**-0.2**
GDZ	**Gediz**	**0.46**	**110**	P	**Pg**	**16 09 20.5**	**-0.2**
GDZ				S	**Sg**	**16 09 26.6**	**-0.2**
GDZ	**Gediz**	**0.46**	**110**	*i* P	**Pg**	**16 09 20.6**	**-0.2**
GDZ				*i* S	**Sg**	**16 09 26.6**	**-0.2**
TVSB	**Tavsanli**	**0.46**	**64**	*e*PG	**Pg**	**16 09 20.5**	**-0.3**
TVSB	**Tavsanli**	**0.46**	**64**	*e*Pg	**Pg**	**16 09 20.5**	**-0.3**
KULA	**Kula-Manisa**	**0.76**	**196**	*e*PG	**Pg**	**16 09 26.4**	**-0.2**
KULA	**Kula-Manisa**	**0.76**	**196**	*e*Pg	**Pg**	**16 09 26.4**	**-0.2**
ORLT	**Orhaneli**	**0.80**	**358**	*e*PG	**Pg**	**16 09 27.0**	**-0.2**
ORLT	**Orhaneli**	**0.80**	**358**	*e*Pg	**Pg**	**16 09 27.0**	**-0.2**
BALB	**Balikesir**	**0.90**	**296**	*e*PG	**Pg**	**16 09 28.7**	**-0.4**
BALB				*e*SG	**Sb**	**16 09 42.2**	**+0.5**
BALB	**Balikesir**	**0.90**	**296**	*e*Pg	**Pg**	**16 09 28.7**	**-0.4**
BALB				*e*Sg	**Sb**	**16 09 42.2**	**+0.5**
AKS	**Akhisar**	**0.94**	**247**	*e*PG	**Pg**	**16 09 29.7**	**-0.2**
AKS	**Akhisar**	**0.94**	**247**	*e*Pg	**Pg**	**16 09 29.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.11**	**337**	*e*PN	**Pg**	**16 09 32.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.11**	**337**	*e*Pn	**Pg**	**16 09 32.8**	**-0.3**
IZI	**Iznik**	**1.16**	**21**	*e*PN	**Pb**	**16 09 33.9**	**-0.3**
IZI	**Iznik**	**1.16**	**21**	*e*Pn	**Pb**	**16 09 33.9**	**-0.3**
CAVI	**Cavuskoy**	**1.18**	**36**	*e*PN	**Pb**	**16 09 34.2**	**-0.3**
CAVI	**Cavuskoy**	**1.18**	**36**	*e*Pn	**Pb**	**16 09 34.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.25**	**310**	*e*PN	**Pb**	**16 09 35.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.25**	**310**	*e*Pn	**Pb**	**16 09 35.5**	**0.0**
ARMT	**Armutlu**	**1.31**	**358**	*e*PN	**Pn**	**16 09 36.5**	**+0.1**
ARMT	**Armutlu**	**1.31**	**358**	*e*Pn	**Pn**	**16 09 36.5**	**+0.1**
EDC	**Edincik**	**1.37**	**323**	*e*PN	**Pb**	**16 09 37.4**	**-0.2**
EDC	**Edincik**	**1.37**	**323**	*e*Pn	**Pb**	**16 09 37.4**	**-0.2**
GULT	**Gulveren**	**1.70**	**45**	*e*PN	**Pn**	**16 09 42.4**	**+0.7**
GULT	**Gulveren**	**1.70**	**45**	*e*Pn	**Pn**	**16 09 42.4**	**+0.7**

*ROM **04** 16:12:01.9±0.1,43°.88N×11°.99E,h8km±1km,Ml3.0/4, Error ellipse: s-maj=2.1km s-min=1.0km az=0.0*
*ISCJB **04** 16:12:01.9±0.3,43°.89N±0°.02×11°.90E±0°.02,h14km±2km, mb3.7/6,MS2.7/2,Error ellipse: s-maj=3.5km s-min=2.3km az=166.1*
*IDC **04** 16:12:02.8±1.0,43°.93N×12°.19E,h0km,mb3.7/6, mb1 3.7/12,mb1mx3.6/45,mbtmp3.6/12,ML3.4/6,MS3.0/7, Ms1 3.0/7,ms1mx2.6/68,Error ellipse: s-maj=23.0km s-min=12.8km az=110.0*
*LDG **04** 16:12:02.2±0.2,43°.96N×12°.12E,h2km,Ml3.6/18,Error ellipse: s-maj=5.9km s-min=3.2km az=163.0*
*CSEM **04** 16:12:02.0±0.1,43°.88N×11°.95E,h5km,ML3.4/10,Error ellipse: s-maj=4.9km s-min=2.6km az=28.0*
*PRU **04** 16:12:04.8,44°.01N×12°.17E,h6km*
*STR **04** 16:12:11.6±0.3,44°.20N×11°.21E,h10km,Ml3.8,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 04 16:12:03.3±0.8,43°.85N±0°.02×11°.94E±0°.02,h10km±5km, n167,σ2s21/249,mb3.9/6,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.08**	**310**	Pg	**Pg**	**16 12 04.5**	**-1.2**
SFI	**Santa Sofia**	**0.08**	**310**	Pg	**Pg**	**16 12 04.5**	**-1.2**
ASQU	**Asqua**	**0.12**	**242**	Pg	**Pg**	**16 12 05.9**	**-0.3**
ASQU				Sg	**Sg**	**16 12 09.1**	**+0.8**
ASQU	**Asqua**	**0.12**	**242**	Pg	**Pg**	**16 12 05.9**	**-0.3**
ASQU				Sg	**Sg**	**16 12 09.1**	**+0.8**
T0502	**Localit˜ San**	**0.15**	**72**	Pg	**Pg**	**16 12 04.8**	**-1.9**
CPGN	**Carpegna, Ital**	**0.28**	**100**	Pg	**Pg**	**16 12 08.3**	**-0.8**
CPGN	**Carpegna, Ital**	**0.28**	**100**	Pg	**Pg**	**16 12 08.3**	**-0.8**
VMG	**Vicchio**	**0.30**	**291**	Pg	**Pg**	**16 12 09.0**	**-0.4**
	236nm,0.2s						
VMG	**Vicchio**	**0.30**	**291**	Pg	**Pg**	**16 12 09.0**	**-0.4**
	236nm,0.2s						
SEI	**Scarperia**	**0.46**	**296**	Pg	**Pg**	**16 12 11.7**	**-0.6**
SEI	**Scarperia**	**0.46**	**296**	Pg	**Pg**	**16 12 11.7**	**-0.6**
BLLA	**Bellaria**	**0.48**	**53**	Pg	**Pg**	**16 12 11.2**	**-1.5**
	3μm,1.4s						
BLLA	**Bellaria**	**0.48**	**53**	Pg	**Pg**	**16 12 11.2**	**-1.5**
	3μm,1.4s						
CAFI	**Castiglion Fio**	**0.52**	**177**	Pg	**Pg**	**16 12 13.2**	**-0.3**
CAFI	**Castiglion Fio**	**0.52**	**177**	Pg	**Pg**	**16 12 13.2**	**-0.3**
ATPC	**Poggio Castell**	**0.53**	**134**	Pg	**Pg**	**16 12 12.3**	**-1.3**
ATPC	**Poggio Castell**	**0.53**	**134**	Pg	**Pg**	**16 12 12.3**	**-1.3**
PIEI	**Pieia**	**0.54**	**126**	Pg	**Pg**	**16 12 12.1**	**-1.6**
PIEI	**Pieia**	**0.54**	**126**	Pg	**Pg**	**16 12 12.1**	**-1.6**
ATVO	**AVT- Monte Val**	**0.58**	**144**	Pg	**Pg**	**16 12 14.0**	**-0.6**
ATVO	**AVT- Monte Val**	**0.58**	**144**	Pg	**Pg**	**16 12 14.0**	**-0.6**
MTRZ	**Monterenzio**	**0.62**	**327**	Pg	**Pg**	**16 12 14.6**	**-0.8**
	1μm,0.5s						
MTRZ	**Monterenzio**	**0.62**	**327**	Pg	**Pg**	**16 12 14.6**	**-0.8**
	1μm,0.5s						
FSSB	**Fossombrone**	**0.63**	**104**	Pg	**Pg**	**16 12 13.6**	**-1.9**
FSSB	**Fossombrone**	**0.63**	**104**	Pg	**Pg**	**16 12 13.6**	**-1.9**
FRON	**Frontone**	**0.66**	**120**	Pg	**Pg**	**16 12 14.6**	**-1.5**
FRON	**Frontone**	**0.66**	**120**	Pg	**Pg**	**16 12 14.6**	**-1.5**
CRMI	**Carmignano**	**0.70**	**265**	Pg	**Pg**	**16 12 16.9**	**+0.1**
	435nm,0.6s						
CRMI	**Carmignano**	**0.70**	**265**	Pg	**Pg**	**16 12 16.9**	**+0.1**
	435nm,0.6s						
ATTE	**AVT- Monte Tez**	**0.72**	**155**	Pg	**Pg**	**16 12 16.2**	**-1.0**
ATTE	**AVT- Monte Tez**	**0.72**	**155**	Pg	**Pg**	**16 12 16.2**	**-1.0**
SSFR	**Montelago di S**	**0.74**	**124**	Pg	**Pg**	**16 12 15.8**	**-1.8**
SSFR	**Montelago di S**	**0.74**	**124**	Pg	**Pg**	**16 12 15.8**	**-1.8**
MAIM	**Mastiano**	**1.04**	**274**	Pg	**Pg**	**16 12 23.0**	**-0.4**
	261nm,0.6s						
MAIM	**Mastiano**	**1.04**	**274**	Pg	**Pg**	**16 12 23.0**	**-0.4**
	261nm,0.6s						
NVLJ	**Novalja**	**2.23**	**70**	*e*Pn	**Pn**	**16 12 39.5**	**-0.7**
NVLJ				Sn	**Sn**	**16 13 06.1**	**-1.6**
PGF	**Pioggiola**	**2.51**	**240**	*e*Pn	**Pn**	**16 12 43.3**	**-0.9**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**16 13 14.4**	**-0.5**
	25nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	**2.51**	**240**	*e*Pn	**Pn**	**16 12 43.3**	**-0.9**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**16 13 14.4**	**-0.5**
	13nm,0.3s,SNR=1.0						
VOJS	**Vojsko**	**2.58**	**32**	*i* Pn	**Pn**	**16 12 42.7**	**-2.4**
ROBS	**Robic**	**2.64**	**24**	*i* Pn	**Pn**	**16 12 43.9**	**-1.9**
UDBI	**Udbina**	**2.84**	**75**	*e*Pn	**Pn**	**16 12 50.4**	**+1.7**
UDBI				Sn	**Sn**	**16 13 22.6**	**-0.3**
LJU	**Ljubljana**	**2.86**	**39**	*e*Pn	**Pn**	**16 12 47.2**	**-1.7**
LJU				*e*Sn	**Sn**	**16 13 22.2**	**-1.2**
ABTA	**Abfaltersbach**	**2.92**	**8**	*e*Pn	**Pn**	**16 12 49.2**	**-0.6**
	16nm,0.3s,SNR=24						
ABTA				*e*Sn	**Sn**	**16 13 24.4**	**-0.6**
	141nm,0.5s						
MYKA	**Terra Mystica**	**3.03**	**23**	*i* Pn	**Pn**	**16 12 50.4**	**-0.9**
	5.4nm,0.3s						
OBKA	**Obir**	**3.24**	**34**	*e*Pn	**Pn**	**16 12 53.9**	**-0.3**
	12nm,0.4s,SNR=20						
SBF	**Sospel**	**3.25**	**272**	*e*Pn	**Pn**	**16 12 52.7**	**-1.7**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**16 13 32.2**	**-1.0**
	100nm,0.4s						
SBF	**Sospel**	**3.25**	**272**	*e*Pn	**Pn**	**16 12 52.7**	**-1.7**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**16 13 32.2**	**-1.0**
	50nm,0.4s						
DAVOX	**Davos/Dischmat**	**3.27**	**334**	Pn	**Pn**	**16 12 57.5**	**+2.8**
	6.5nm,0.3s,baz=141,slow=14,SNR=25						
DAVOX				Sn	**Sb**	**16 13 37.4**	**-3.9**
	6.5nm,0.3s,baz=37,slow=22,SNR=5.9						
FETA	**Feichten**	**3.28**	**345**	*e*Pn	**Pn**	**16 12 56.8**	**+2.0**
	49nm,0.7s,SNR=30						
FETA				*i* Sn	**Sn**	**16 13 33.4**	**-0.6**
	31nm,0.5s						
REVF	**Revere**	**3.31**	**270**	P	**Pn**	**16 12 56.1**	**+1.0**
REVF				S	**Sn**	**16 13 33.5**	**-1.0**
REVF	**Revere**	**3.31**	**270**	P	**Pn**	**16 12 56.1**	**+1.0**
REVF				S	**Sn**	**16 13 33.5**	**-1.0**
LUCF	**Luceram**	**3.32**	**272**	P	**Pn**	**16 12 55.7**	**+0.4**
LUCF				S	**Sn**	**16 13 33.5**	**-1.3**
LUCF	**Luceram**	**3.32**	**272**	P	**Pn**	**16 12 55.7**	**+0.4**
LUCF				S	**Sn**	**16 13 33.5**	**-1.3**
KBA	**Koelnbreinsper**	**3.38**	**17**	*i* Pn	**Pn**	**16 12 55.3**	**-0.8**
	13nm,0.4s,SNR=16						
WTTA	**Wattenberg**	**3.42**	**357**	*i* Pn	**Pn**	**16 12 59.5**	**+2.8**
	26nm,0.4s						
WTTA				*e*Sn	**Sn**	**16 13 38.6**	**+1.2**
	99nm,0.5s						
MVIF	**Mont Vial**	**3.46**	**272**	P	**Pn**	**16 12 57.7**	**+0.4**
MVIF				S	**Sn**	**16 13 36.9**	**-1.4**
MVIF	**Mont Vial**	**3.46**	**272**	P	**Pn**	**16 12 57.7**	**+0.4**
MVIF				S	**Sn**	**16 13 36.9**	**-1.4**
WATA	**Walderalm**	**3.49**	**356**	*i* Pn	**Pn**	**16 12 58.9**	**+1.1**
	SNR=48						
MOTA	**Moosalm**	**3.54**	**351**	*i* Pn	**Pn**	**16 12 59.5**	**+1.1**
	35nm,0.6s,SNR=35						
MOTA				*e*Sn	**Sn**	**16 13 43.2**	**+2.8**
	44nm,0.5s						
SOKA	**Soboth**	**3.57**	**37**	*i* Pn	**Pn**	**16 13 00.3**	**+1.5**
	2.9nm,0.3s						
SOKA				*e*Sg	**Sg**	**16 13 58.3**	**+0.3**
	27nm,0.4s						
CALN	**Calern**	**3.65**	**270**	P	**Pn**	**16 13 00.8**	**+0.9**
CALN				S	**Sn**	**16 13 41.9**	**-1.2**
CALN	**Calern**	**3.65**	**270**	P	**Pn**	**16 13 00.8**	**+0.9**
CALN				S	**Sn**	**16 13 41.9**	**-1.2**
DAVA	**Damuels**	**3.73**	**338**	*i* Pn	**Pn**	**16 13 03.0**	**+2.1**
	41nm,0.4s,SNR=48						
DAVA				*i* Sn	**Sn**	**16 13 47.3**	**+2.4**
	74nm,0.5s						
RETA	**Reutte**	**3.73**	**348**	*e*Pn	**Pn**	**16 13 03.1**	**+2.2**
	17nm,0.4s,SNR=11						
RETA				*i* Sn	**Sn**	**16 13 47.7**	**+2.8**
	51nm,0.4s						
MBDF	**Montbardon**	**3.81**	**285**	*e*Pn	**Pn**	**16 13 01.9**	**-0.2**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**16 13 46.5**	**-0.5**
	52nm,0.5s,SNR=1.0						
MBDF	**Montbardon**	**3.81**	**285**	*e*Pn	**Pn**	**16 13 01.9**	**-0.2**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**16 13 46.5**	**-0.5**
	26nm,0.5s,SNR=1.0						
FRF	**La Foret Royal**	**3.84**	**267**	*e*Pn	**Pn**	**16 13 01.6**	**-0.8**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**16 13 45.0**	**-2.7**
	38nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	**3.84**	**267**	*e*Pn	**Pn**	**16 13 01.6**	**-0.8**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**16 13 45.0**	**-2.7**
	19nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**3.98**	**264**	*e*Pn	**Pn**	**16 13 03.1**	**-1.1**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**16 13 48.5**	**-2.3**
	16nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**3.98**	**264**	*e*Pn	**Pn**	**16 13 03.1**	**-1.1**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**16 13 48.5**	**-2.3**
	8.1nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**4.05**	**296**	*e*Pn	**Pn**	**16 13 05.4**	**-0.1**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**16 13 50.2**	**-2.8**
	28nm,0.5s						
LPG	**La Plagne**	**4.05**	**296**	*e*Pn	**Pn**	**16 13 05.4**	**-0.1**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**16 13 50.2**	**-2.8**
	14nm,0.5s						
LPL	**La Plagne**	**4.07**	**296**	*e*Pn	**Pn**	**16 13 06.4**	**+0.7**
	SNR=1.0						
LPL	**La Plagne**	**4.07**	**296**	*e*Pn	**Pn**	**16 13 06.4**	**+0.7**
	SNR=1.0						
ARSA	**Arzberg**	**4.23**	**35**	*i* Pn	**Pn**	**16 13 07.9**	**+0.2**
	3.2nm,0.2s						
MOA	**Molln**	**4.32**	**21**	*i* Pn	**Pn**	**16 13 08.0**	**-0.9**
	15nm,0.5s,SNR=19						
MOA				*e*Sn	**Sn**	**16 13 59.3**	**0.0**
	37nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.47**	**286**	*e*Pn	**Pn**	**16 13 11.2**	**+0.1**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.47**	**286**	*e*Pn	**Pn**	**16 13 11.2**	**+0.1**
	SNR=1.0						
SMRF	**

HAU				*e*Sn		**Sn**	**16 14 28.3**	**-5.0**
	36nm,0.4s							
LASF	**Ste Croix**	**5.83**	**275**	*e*Pn		**Pn**	**16 13 29.9**	**+0.1**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**16 14 33.7**	**-3.0**
	4.6nm,0.5s,SNR=1.0							
LASF	**Ste Croix**	**5.83**	**275**	*e*Pn		**Pn**	**16 13 29.9**	**+0.1**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**16 14 33.7**	**-3.0**
	2.3nm,0.5s,SNR=1.0							
LANF	**Langenberg**	**5.87**	**332**	P		**Pn**	**16 13 31.4**	**+1.1**
LANF				S		**Sn**	**16 14 36.8**	**-0.8**
LANF	**Langenberg**	**5.87**	**332**	P		**Pn**	**16 13 31.4**	**+1.1**
LANF				S		**Sn**	**16 14 36.8**	**-0.8**
TOD	**Tromm**	**6.14**	**341**	P		**Pn**	**16 13 36.5**	**+2.5**
TOD				S		**Sn**	**16 14 45.9**	**+1.6**
PLDF	**La Plantade**	**6.27**	**293**	P		**Pn**	**16 13 35.3**	**-0.5**
PLDF				S		**Sn**	**16 14 45.6**	**-2.0**
PLDF	**La Plantade**	**6.27**	**293**	P		**Pn**	**16 13 35.3**	**-0.5**
PLDF				S		**Sn**	**16 14 45.6**	**-2.0**
VRAC	**Vranov**	**6.33**	**29**	Pn		**Pn**	**16 13 34.8**	**-1.8**
	0.1nm,0.3s,baz=219,slow=16,SNR=2.7							
VRAC				Sn		**Sn**	**16 14 46.4**	**-2.5**
	1.2nm,0.3s,baz=333,slow=18,SNR=3.6							
VRAC				LR		LR	16 16 40.2	
	comp=Z,110nm,18.1s,baz=243,slow=45							
SMF	**Signal de Mont**	**6.36**	**299**	*e*Pn		**Pn**	**16 13 36.7**	**-0.3**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**16 14 45.9**	**-3.7**
	20nm,0.5s							
SMF	**Signal de Mont**	**6.36**	**299**	*e*Pn		**Pn**	**16 13 36.7**	**-0.3**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**16 14 45.9**	**-3.7**
	9.9nm,0.5s							
LBL	**Lubilhac**	**6.36**	**286**	P		**Pn**	**16 13 37.6**	**+0.5**
LBL	**Lubilhac**	**6.36**	**286**	P		**Pn**	**16 13 37.6**	**+0.5**
GOPC	**GO Pecny, Ondr**	**6.37**	**17**	*e*PN		**Pn**	**16 13 35.0**	**-2.1**
GOPC				AMS		AMS	16 16 30.0	
	200nm,12.5s							
GOPC	**GO Pecny, Ondr**	**6.37**	**17**	Pn		**Pn**	**16 13 35.0**	**-2.1**
PAGF	**Fort de Pagny**	**6.38**	**320**	*e*Pn		**Pn**	**16 13 37.3**	**+0.1**
	baz=126							
PAGF				*e*Sn		**Sn**	**16 14 44.5**	**-5.5**
	8.9nm,0.6s							
PAGF	**Fort de Pagny**	**6.38**	**320**	*e*Pn		**Pn**	**16 13 37.3**	**+0.1**
PAGF				*e*Sn		**Sn**	**16 14 44.5**	**-5.5**
	4.4nm,0.6s							
PRU	**Pruhonice**	**6.39**	**15**	*e*PN		**Pn**	**16 13 36.0**	**-1.4**
PRU				*e*SN		**Sn**	**16 14 44.7**	**-5.7**
PRU				AMS		AMS	16 16 30.0	
	200nm,12.5s							
PRU	**Pruhonice**	**6.39**	**15**	Pn		**Pn**	**16 13 36.0**	**-1.4**
PRU				Sn		**Sn**	**16 14 44.7**	**-5.7**
NKC	**Novy Kostel**	**6.39**	**3**	*e*SN		**Sn**	**16 14 44.2**	**-6.2**
NKC				AMS		AMS	16 16 30.0	
	100nm,12.1s							
NKC	**Novy Kostel**	**6.39**	**3**	Sn		**Sn**	**16 14 44.2**	**-6.2**
LOR	**Lormes**	**6.62**	**304**	*e*Pn		**Pn**	**16 13 39.0**	**-1.5**
	baz=125							
LOR				*e*Sn		**Sn**	**16 14 51.5**	**-4.5**
	32nm,0.4s							
LOR	**Lormes**	**6.62**	**304**	*e*Pn		**Pn**	**16 13 39.0**	**-1.5**
LOR				*e*Sn		**Sn**	**16 14 51.5**	**-4.5**
	16nm,0.4s							
AGO	**Saint Agoulin**	**6.62**	**292**	P		**Pn**	**16 13 40.5**	**-0.1**
AGO				S		**Sn**	**16 14 54.9**	**-1.2**
AGO	**Saint Agoulin**	**6.62**	**292**	P		**Pn**	**16 13 40.5**	**-0.1**
AGO				S		**Sn**	**16 14 54.9**	**-1.2**
MEZF	**Maizieres J'vi**	**6.67**	**317**	*e*Pn		**Pn**	**16 13 39.9**	**-1.3**
	baz=137,SNR=1.0							
MEZF	**Maizieres J'vi**	**6.67**	**317**	*e*Pn		**Pn**	**16 13 39.9**	**-1.3**
	SNR=1.0							
VYHS	**Vyhne**	**6.67**	**43**	*e*PN		**Pn**	**16 13 45.3**	**+4.1**
AVF	**Avril sur Loir**	**6.72**	**299**	*e*Pn		**Pn**	**16 13 41.5**	**-0.5**
	SNR=1.0							
AVF	**Avril sur Loir**	**6.72**	**299**	*e*Pn		**Pn**	**16 13 41.5**	**-0.5**
	SNR=1.0							
RUP	**Ruppelstein**	**6.74**	**332**	P		**Pn**	**16 13 43.6**	**+1.4**
RUP				S		**Sn**	**16 14 58.5**	**-0.5**
SSF	**Saint Saulge**	**6.74**	**301**	*e*Pn		**Pn**	**16 13 40.0**	**-2.2**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**16 14 54.0**	**-5.0**
	13nm,0.6s,SNR=1.0							
SSF	**Saint Saulge**	**6.74**	**301**	*e*Pn		**Pn**	**16 13 40.0**	**-2.2**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**16 14 54.0**	**-5.0**
	6.6nm,0.6s,SNR=1.0							
BGF	**Bois d'Agland**	**6.97**	**296**	*e*Pn		**Pn**	**16 13 45.0**	**-0.3**
	SNR=1.0							
BGF	**Bois d'Agland**	**6.97**	**296**	*e*Pn		**Pn**	**16 13 45.0**	**-0.3**
	SNR=1.0							
MTLF	**Montolieu**	**7.07**	**269**	*e*Pn		**Pn**	**16 13 45.6**	**-1.2**
	SNR=1.0							
MTLF	**Montolieu**	**7.07**	**269**	*e*Pn		**Pn**	**16 13 45.6**	**-1.2**
	SNR=1.0							
CAF	**Calviac**	**7.15**	**282**	*e*Pn		**Pn**	**16 13 47.5**	**-0.4**
	SNR=1.0							
CAF	**Calviac**	**7.15**	**282**	*e*Pn		**Pn**	**16 13 47.5**	**-0.4**
	SNR=1.0							
DPC	**Dobruska-Polom**	**7.16**	**23**	*e*PN		**Pn**	**16 13 44.9**	**-3.0**
DPC				*e*SN		**Sn**	**16 15 03.3**	**-5.9**
DPC				AMS		AMS	16 16 50.0	
	100nm,16.7s							
DPC	**Dobruska-Polom**	**7.16**	**23**	Pn		**Pn**	**16 13 44.9**	**-3.0**
DPC				Sn		**Sn**	**16 15 03.3**	**-5.9**
BARS	**Barje**	**7.28**	**95**	*e*Pn		**Pn**	**16 13 52.2**	**+2.6**
TCF	**Toulx Ste Croi**	**7.30**	**293**	*e*Pn		**Pn**	**16 13 50.1**	**+0.2**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**16 15 08.0**	**-4.9**
	8.4nm,0.5s							
TCF	**Toulx Ste Croi**	**7.30**	**293**	*e*Pn		**Pn**	**16 13 50.1**	**+0.2**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**16 15 08.0**	**-4.9**
	4.2nm,0.5s							
CLL	**Collm**	**7.49**	**5**	*e*Pn		**Pn**	**16 13 51.0**	**-1.5**
CLL				*i* Pnmax			16 13 53.0	
CLL				*e*			16 15 10.0	
CLL				*e*Sb		**Sn**	**16 15 24.0**	**+6.5**
CLL				*e*Sg		**Sg**	**16 16 03.0**	**-0.6**
CLL				L		L	16 16 30.0	
	comp=N,100nm,19.3s							
CLL				L		L	16 16 30.0	
	comp=E,100nm,19.3s							
CLL				L		L	16 16 30.0	
	comp=Z,100nm,20.6s							
KECS	**Kecovo**	**7.53**	**49**	*e*		Pb	16 14 07.6	-6.2
EPF	**Esparros**	**8.48**	**268**	*e*Pn		**Pn**	**16 14 06.0**	**-0.1**
EPF	**Esparros**	**8.48**	**268**	*e*Pn		**Pn**	**16 14 06.0**	**-0.1**
ESDC	**Sonseca Array**	**12.58**	**256**	Pn		**Pn**	**16 15 05.8**	**+3.5**
	comp=Z,0.2nm,0.3s,baz=64,slow=14,SNR=7.4							
EKA	**Eskdalemuir Ar**	**15.05**	**325**	Pn		**P**	**16 15 38.3**	**-2.9**
	baz=137,slow=14,SNR=3.2							
HFS	**Hagfors**	**16.34**	**3**	LR		LR	16 22 41.4	
	comp=Z,67nm,21.4s,baz=180,slow=39							
NOA	**NORSAR Array B**	**17.22**	**359**	LR		LR	16 23 06.4	
	comp=Z,28nm,21.6s,baz=225,slow=39							
FINES	**FINESS Array B**	**19.52**	**21**	P		**Pn**	**16 16 31.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=188,slow=9.1,SNR=4.0							
FINES				LR		LR	16 25 29.2	
	comp=Z,82nm,18.2s,baz=128,slow=42							
KVAR	**Kislovodsk Arr**	**22.11**	**79**	LR		LR	16 26 22.5	
	comp=Z,33nm,20.6s,baz=325,slow=39							
ARCES	**ARCESS Array B**	**26.67**	**11**	LR		LR	16 27 25.7	
	comp=Z,24nm,21.9s,baz=266,slow=35							
TORD	**Torodi Ar. Bea**	**31.84**	**199**	P		**P**	**16 18 28.7**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=11,slow=9.6,SNR=6.7							
ZALV	**Zalesovo Beam**	**46.34**	**51**	P		**P**	**16 20 34.8**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=289,slow=9.0,SNR=2.7							
MKAR	**Makanchi Array**	**48.03**	**60**	P		**P**	**16 20 42.2**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=280,slow=6.9,SNR=17							
SONM	**Songino Array**	**61.82**	**50**	P		**P**	**16 22 23.8**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=300,slow=8.5,SNR=4.3							
YKA	**Yellowknife Ar**	**65.70**	**336**	P		**P**	**16 22 49.2**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=37,slow=5.4,SNR=4.9							
ILAR	**Eielson Array**	**70.45**	**351**	P		**P**	**16 23 18.9**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=8.2,slow=8.2,SNR=3.0							

*CSEM **04** 16:12:04.1±0.1,43.88N×11.93E,h10km,ML3.9/7,Error ellipse: s-maj=4.0km s-min=2.6km az=42.0*
ROM 04 16:12:04.0±0.1,43.88N×11.98E,h8km,Ml3.6/6,Error ellipse: s-maj=1.3km s-min=0.8km az=3.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.10**	**282**	Pg	Pg	16 12 06.8	+0.4
SFI					Sg	Sg	16 12 08.7	+0.6
SFI	**Santa Sofia**	**0.10**	**282**	Pg	Pg	16 12 06.8	+0.4
SFI					Sg	Sg	16 12 08.7	+0.6
T0502	**Localit˜ San**	**0.11**	**81**	Pg	Pg	16 12 06.9	+0.3
T0502					Sg	Sg	16 12 09.3	+0.9
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	16 12 08.0	+0.5
ASQU					Sg	Sg	16 12 11.0	+1.1
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	16 12 08.0	+0.5
ASQU					Sg	Sg	16 12 11.0	+1.1
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	16 12 10.3	-0.7
CPGN	**Carpegna, Ital**	**0.26**	**108**	Pg	Pb	16 12 10.3	-0.7
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	16 12 10.7	+0.2
	236nm,0.2s						
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	16 12 10.7	+0.2
	236nm,0.2s						
BLLA	**Bellaria**	**0.44**	**53**	Pg	Pb	16 12 13.5	-0.4
	16µm,1.4s						
BLLA	**Bellaria**	**0.44**	**53**	Pg	Pb	16 12 13.5	-0.4
	16µm,1.4s						
SEI	**Scarperia**	**0.48**	**291**	Pg	Pb	16 12 14.4	-0.4
SEI	**Scarperia**	**0.48**	**291**	Pg	Pb	16 12 14.4	-0.4
ATPC	**Poggio Castell**	**0.53**	**139**	Pg	Pg	16 12 14.7	+0.5
ATPC					Sg	Sb	16 12 23.1	-0.2
ATPC	**Poggio Castell**	**0.53**	**139**	Pg	Pg	16 12 14.7	+0.5
ATPC					Sg	Sb	16 12 23.1	-0.2
PIEI	**Pieia**	**0.53**	**131**	Pg	Pg	16 12 14.8	+0.6
PIEI					Sg	Sg	16 12 22.1	+0.9
PIEI	**Pieia**	**0.53**	**131**	Pg	Pg	16 12 14.8	+0.6
PIEI					Sg	Sg	16 12 22.1	+0.9
CAFI	**Castiglion Fio**	**0.55**	**181**	Pg	Pg	16 12 15.3	+0.6
CAFI					Sg	Sb	16 12 23.9	-0.2
CAFI	**Castiglion Fio**	**0.55**	**181**	Pg	Pg	16 12 15.3	+0.6
CAFI					Sg	Sb	16 12 23.9	-0.2
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	16 12 15.8	+0.5
ATVO					Sg	Sb	16 12 25.1	+0.1
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	16 12 15.8	+0.5
ATVO					Sg	Sb	16 12 25.1	+0.1
FSSB	**Fossombrone**	**0.60**	**108**	Pg	Pg	16 12 15.8	+0.1
FSSB	**Fossombrone**	**0.60**	**108**	Pg	Pg	16 12 15.8	+0.1
MTRZ	**Monterenzio**	**0.62**	**323**	Pg	Pg	16 12 16.3	+0.3
	6µm,0.5s						
MTRZ	**Monterenzio**	**0.62**	**323**	Pg	Pg	16 12 16.3	+0.3
	6µm,0.5s						
FRON	**Frontone**	**0.65**	**124**	Pg	Pg	16 12 16.8	+0.3
FRON	**Frontone**	**0.65**	**124**	Pg	Pg	16 12 16.8	+0.3
FNVD	**Fontana Vidola**	**0.68**	**295**	Pg	Pg	16 12 17.5	+0.3
	2µm,0.6s						
FNVD	**Fontana Vidola**	**0.68**	**295**	Pg	Pg	16 12 17.5	+0.3
	2µm,0.6s						
SSFR	**Montelago di S**	**0.73**	**127**	Pg	Pg	16 12 18.0	-0.1
SSFR	**Montelago di S**	**0.73**	**127**	Pg	Pg	16 12 18.0	-0.1
MURB	**Monte Urbino**	**0.73**	**147**	Pg	Pg	16 12 18.2	+0.1
	4µm,0.7s						
MURB	**Monte Urbino**	**0.73**	**147**	Pg	Pg	16 12 18.2	+0.1
	4µm,0.7s						
ATTE	**AVT- Monte Tez**	**0.74**	**158**	Pg	Pg	16 12 18.2	0.0
ATTE	**AVT- Monte Tez**	**0.74**	**158**	Pg	Pg	16 12 18.2	0.0
SNTG	**Esanatoglia**	**0.94**	**132**	Pg	Pg	16 12 22.0	0.0
SNTG	**Esanatoglia**	**0.94**	**132**	Pg	Pg	16 12 22.0	0.0
MGAB	**Montegabbione**	**0.97**	**174**	Pg	Pg	16 12 22.7	0.0
	3µm,1.0s						
MGAB	**Montegabbione**	**0.97**	**174**	Pg	Pg	16 12 22.7	0.0
	3µm,1.0s						
BDI	**Bagni Di Lucca**	**1.02**	**281**	Pg	Pg	16 12 23.6	+0.1
	626nm,0.5s						
BDI	**Bagni Di Lucca**	**1.02**	**281**	Pg	Pg	16 12 23.6	+0.1
	626nm,0.5s						
AQU	**L'Aquila**	**1.85**	**145**	*e*Pn	Pn	16 12 36.4	+0.4

*ISCJB **04** 16:13:29.8±0.6,39.13N±0.04×29.07E±0.05,h13km±5km, Error ellipse: s-maj=6.9km s-min=5.7km az=42.8*
*CSEM **04** 16:13:29.5±0.2,39.13N×29.06E,h14km±1km,MD2.5, Error ellipse: s-maj=4.5km s-min=3.9km az=129.0*
*ISK **04** 16:13:29.0,39.19N×28.99E,h10km,MD2.6*
*DDA **04** 16:13:30.1,39.08N×29.08E,h7km,Md2.5*
ISC 04 16:13:29.6±1.0,39.12N±0.04×29.11E±0.04,h14km±10km, n13,σ0961/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.29**	**96**	P	**Pb**	**16 13 36.8**	**0.0**
GDZ				S	**Sb**	**16 13 41.1**	**-0.5**
GDZ	**Gediz**	**0.29**	**96**	*i* P	**Pb**	**16 13 36.8**	**0.0**
GDZ				*i* S	**Sb**	**16 13 41.1**	**-0.5**
DEMI	**Demirci**	**0.31**	**256**	P	**Pg**	**16 13 36.0**	**-0.1**
DEMI				S	**Sg**	**16 13 40.7**	**+0.2**
DEMI	**Demirci**	**0.31**	**256**	*i* P	**Pg**	**16 13 36.0**	**-0.1**
DEMI				*i* S	**Sg**	**16 13 40.7**	**+0.2**
TVSB	**Tavsanli**	**0.43**	**40**	*e*PG	**Pg**	**16 13 38.3**	**+0.2**
TVSB				*e*SG	**Sb**	**16 13 45.2**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**40**	*e*Pg	**Pg**	**16 13 38.3**	**+0.2**
TVSB				*e*Sg	**Sb**	**16 13 45.2**	**-0.2**
KHAL	**Karahalli**	**0.81**	**158**	P	**Pb**	**16 13 45.8**	**+0.3**
KHAL				S	**Sg**	**16 13 56.2**	**+0.3**
KHAL	**Karahalli**	**0.81**	**158**	*i* P	**Pb**	**16 13 45.8**	**+0.3**
KHAL				*i* S	**Sg**	**16 13 56.2**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*PN	**Pb**	**16 13 52.8**	**+0.3**
CAVI				*e*SN	**Sn**	**16 14 09.9**	**+1.2**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*Pn	**Pb**	**16 13 52.8**	**+0.3**
CAVI				*e*Sn	**Sn**	**16 14 09.9**	**+1.2**
IZI	**Iznik**	**1.25**	**13**	*e*PN	**Pg**	**16 13 52.7**	**-0.9**
IZI				*e*SN	**Sb**	**16 14 09.6**	**+0.7**
ARMT	**Armutlu**	**1.45**	**353**	*e*PN	**Pn**	**16 13 54.5**	**-1.0**
ARMT	**Armutlu**	**1.45**	**353**	*e*Pn	**Pn**	**16 13 54.6**	**-1.0**

*NEIC **04** 16:24:38.0,40.48S×72.12W,h13km,ML4.7(GUC),After GUC.*
NEIC Felt [V] at Puyehue, [IV] at Futrono and Lago Ranco, [III] at Puerto Montt and [II] at Los Muermos.
*GUC **04** 16:24:38.1±0.8,40.48S×72.13W,h13km±10km,ML4.7*
*IDC **04** 16:24:39.5±4.1,40.51S×72.14W,h13km±22km,mb3.7/3, mb1 3.9/4,mb1mx3.7/18,mbtmp4.0/4,ML5.3/1,Error ellipse: s-maj=52.1km s-min=24.2km az=29.0*
*ISCJB **04** 16:24:41.3±1.2,40.2S±0.1×72.1W±0.1,h33km,mb3.6/3, Error ellipse: s-maj=20.9km s-min=8.4km az=40.1*
ISC 04 16:24:42.1±1.6,40.4S±0.2×72.1W±0.1,h35km,n13, σ1965/12,mb3.7/3,2C,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.04**	**302**	*i* P	**Pn**	**16 24 58.9**	**-1.3**
VLCH				IAML		16 25 20.0	
	comp=N,28µm,0.1s						
PLCA	**Paso Flores**	**1.24**	**108**	Pg	**Pn**	**16 25 02.2**	**-0.8**
	comp=N,49nm,0.3s,baz=298,slow=12,SNR=9.0						
PLCA				Lg	Lg	16 25 19.7	
	comp=N,59nm,0.3s,baz=226,slow=20,SNR=7.4						
PLCA	**Paso Flores**	**1.24**	**108**	*i* P	**Pn**	**16 25 01.1**	**-1.9**
PLCA				*i* S	**Sn**	**16 25 18.8**	**+0.3**
CCHI	**Chillan**	**3.75**	**0**	*e*P	**Pn**	**16 25 36.3**	**-1.2**
CCHI				IAML		16 26 19.5	
	comp=N,746nm,0.6s						
COCH	**Cobquecura**	**4.25**	**352**	*e*P	Pn	16 25 33.7	-11
LCO	**Las Campanas**	**11.38**	**6**	Pn	**Pn**	**16 27 21.6**	**-0.8**
LVC	**Limon Verde**	**17.90**	**10**	P	**P**	**16 28 49.2**	**+0.2**
	comp=N,9.0nm,0.3s,baz=210,slow=14,SNR=2.4						
LVC	**Limon Verde**	**17.90**	**10**	*e*Pn	**Pn**	**16 28 46.2**	**-2.5**
LPAZ	**La Paz**	**24.23**	**9**	P	**P**	**16 29 59.0**	**+2.7**
	comp=N,1.6nm,0.8s,baz=168,slow=9.3,SNR=5.0						
SIV	**San Ignacio**	**26.10**	**25**	P	**P**	**16 30 14.1**	**+1.3**
	comp=N,1.8nm,0.8s,baz=222,slow=7.7,SNR=3.4						
SYO	**Syowa Base**	**60.01**	**157**	*e*P	P	16 34 37.0	-7.7
TORD	**Torodi Ar. Bea**	**86.44**	**70**	P	**P**	**16 37 22.4**	**+1.1**
	comp=N,0.5nm,0.9s,baz=224,slow=4.0,SNR=2.7						
TIXI	**Tiksi**	**146.91**	**348**	PKPbc	**PKPbc**	**16 44 19.9**	**+0.3**
	comp=N,1.1nm,0.5s,baz=33,slow=3.1,SNR=5.2						

*GEN **04** 16:24:45.7,43.84N×12.04E,h1km,ML3.1*
*ROM **04** 16:24:46.7±0.1,43.88N×11.98E,h7km±1km,Ml3.1/35, Error ellipse: s-maj=1.9km s-min=1.3km az=11.0*
*ISCJB **04** 16:24:46.5±0.2,43.92N±0.02×11.91E±0.02,h21km±2km, mb3.6/2,Error ellipse: s-maj=2.9km s-min=2.2km az=17.5*
*LDG **04** 16:24:46.6±0.2,43.82N×12.09E,h2km,Ml3.4/15,Error ellipse: s-maj=5.7km s-min=4.7km az=178.0*
*IDC **04** 16:24:46.0±1.5,43.93N×12.17E,h0km,mb3.6/2, mb1 3.5/6,mb1mx3.3/52,mbtmp3.4/6,ML3.4/4,Error ellipse: s-maj=28.1km s-min=14.5km az=107.0*

*CSEM **04** 16:24:46.9±0.1,43.86N×11.94E,h10km,ML3.5/24,Error ellipse: s-maj=3.0km s-min=2.0km az=37.0*
*PRU **04** 16:24:50.2,43.99N×12.37E,h12km*
*STR **04** 16:24:54.1±0.2,44.21N×11.24E,h10km,Ml3.4,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 04 16:24:46.0±0.7,43.91N±0.02×12.00E±0.02,h12km±4km, n189,σ1957/274,2C,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T0502	**Localit˜ San**	**0.10**	**95**	Pg	**Pg**	**16 24 49.6**	**+0.8**
T0502				Sg	**Sg**	**16 24 51.9**	**+1.0**
	21µm,0.7s						
SFI	**Santa Sofia**	**0.11**	**267**	Pg	**Pg**	**16 24 49.4**	**+0.4**
SFI				Sg	**Sg**	**16 24 51.4**	**+0.2**
	9µm,0.3s						
SFI	**Santa Sofia**	**0.11**	**267**	Pg	**Pg**	**16 24 49.4**	**+0.4**
SFI				Sg	**Sg**	**16 24 51.4**	**+0.2**
	9µm,0.3s						
ASQU	**Asqua**	**0.19**	**234**	Pg	**Pg**	**16 24 50.6**	**+0.4**
ASQU				Sg	**Sg**	**16 24 53.7**	**+0.6**
	10µm,0.3s						
ASQU	**Asqua**	**0.19**	**234**	Pg	**Pg**	**16 24 50.6**	**+0.4**
ASQU				Sg	**Sg**	**16 24 53.7**	**+0.6**
	10µm,0.3s						
CPGN	**Carpegna, Ital**	**0.26**	**115**	Pg	**Pb**	**16 24 53.2**	**+0.5**
CPGN	**Carpegna, Ital**	**0.26**	**115**	Pg	**Pb**	**16 24 53.2**	**+0.5**
PARC	**Parchiule**	**0.31**	**147**	Pg	**Pb**	**16 24 52.9**	**-0.7**
PARC				Sg	**Sb**	**16 24 58.1**	**-0.6**
	3µm,0.4s						
PARC	**Parchiule**	**0.31**	**147**	Pg	**Pb**	**16 24 52.9**	**-0.7**
PARC				Sg	**Sb**	**16 24 58.1**	**-0.6**
	3µm,0.4s						
VMG	**Vicchio**	**0.33**	**279**	↑*i* Pg	**Pg**	**16 24 53.6**	**+0.8**
	143nm,0.1s						
VMG	**Vicchio**	**0.33**	**279**	↑*i* Pg	**Pg**	**16 24 53.6**	**+0.8**
	143nm,0.1s						
BLLA	**Bellaria**	**0.41**	**55**	Pg	**Pn**	**16 24 56.1**	**-1.7**
	6µm,1.4s						
BLLA	**Bellaria**	**0.41**	**55**	Pg	**Pn**	**16 24 56.1**	**-1.7**
	6µm,1.4s						
BADI	**Badiali**	**0.44**	**156**	Pg	**Pg**	**16 24 54.9**	**+0.3**
BADI				Sg	**Sb**	**16 25 02.1**	**-0.1**
	2µm,0.4s						
BADI	**Badiali**	**0.44**	**156**	Pg	**Pg**	**16 24 54.9**	**+0.3**
BADI				Sg	**Sb**	**16 25 02.1**	**-0.1**
	2µm,0.4s						
IMOL	**Imola, Italy**	**0.49**	**338**	Pg	**Pb**	**16 24 57.7**	**+1.2**
	430nm,0.3s						
IMOL	**Imola, Italy**	**0.49**	**338**	Pg	**Pb**	**16 24 57.7**	**+1.2**
	430nm,0.3s						
SEI	**Scarperia**	**0.49**	**287**	Pg	**Pg**	**16 24 56.1**	**+0.5**
SEI	**Scarperia**	**0.49**	**287**	Pg	**Pg**	**16 24 56.1**	**+0.5**
PIEI	**Pieia**	**0.54**	**134**	Pg	**Pb**	**16 24 56.8**	**-0.7**
PIEI				Sg	**Sb**	**16 25 05.3**	**+0.1**
	528nm,0.5s						
PIEI	**Pieia**	**0.54**	**134**	Pg	**Pb**	**16 24 56.8**	**-0.7**
PIEI				Sg	**Sb**	**16 25 05.3**	**+0.1**
	528nm,0.5s						
ATPC	**Poggio Castell**	**0.54**	**142**	Pg	**Pb**	**16 24 56.9**	**-0.6**
ATPC				Sg	**Sb**	**16 25 06.0**	**+0.7**
	2µm,0.5s						
ATPC	**Poggio Castell**	**0.54**	**142**	Pg	**Pb**	**16 24 56.9**	**-0.6**
ATPC				Sg	**Sb**	**16 25 06.0**	**+0.7**
	2µm,0.5s						
CAFI	**Castiglion Fio**	**0.58**	**182**	Pg	**Pg**	**16 24 57.7**	**+0.4**
CAFI				Sg	**Sb**	**16 25 07.0**	**+0.6**
	2µm,0.5s						
CAFI	**Castiglion Fio**	**0.58**	**182**	Pg	**Pg**	**16 24 57.7**	**+0.4**
CAFI				Sg	**Sb**	**16 25 07.0**	**+0.6**
	2µm,0.5s						
FSSB	**Fossombrone**	**0.60**	**111**	Pg	**Pb**	**16 24 58.4**	**-0.1**
	1µm,0.3s						
FSSB	**Fossombrone**	**0.60**	**111**	Pg	**Pb**	**16 24 58.4**	**-0.1**
	1µm,0.3s						
ATVO	**AVT- Monte Val**	**0.60**	**151**	Pg	**Pb**	**16 24 58.2**	**-0.4**
ATVO				Sg	**Sb**	**16 25 07.4**	**+0.3**
	2µm,0.5s						
ATVO	**AVT- Monte Val**	**0.60**	**151**	Pg	**Pb**	**16 24

201nm,0.6s
CESX Cesi 1.37 162 Pn Pg 16 25 12.6 +0.3
559nm,0.6s
CESX Cesi 1.37 162 Pn Pg 16 25 12.6 +0.3
559nm,0.6s
CASP Castiglione de 1.39 217 Pn Pn 16 25 10.8 -0.5
133nm,0.9s
CASP Castiglione de 1.39 217 Pn Pn 16 25 10.8 -0.5
133nm,0.9s
TEOL Teolo 1.47 351 Pn Pb 16 25 13.6 +0.3
768nm,0.6s
TEOL Teolo 1.47 351 Pn Pb 16 25 13.6 +0.3
768nm,0.6s
GRAM Graiana 1.51 293 P Pb 16 25 14.6 +0.6
NVLJ Novalja 2.16 71 ePn Pb 16 25 23.6 -1.6
NVLJ Sn Sb 16 25 50.2 -1.8
NVLJ Novalja 2.16 71 ePn Pb 16 25 23.5 -1.6
NVLJ Sn Sb 16 25 50.1 -1.8
PCP Piancastagn 2.56 285 P Pn 16 25 26.8 -0.7
PGF Pioggiola 2.58 239 ePg Pn 16 25 27.3 -0.5
SNR=1.0
PGF eSg Sn 16 25 56.1 -3.0
14nm,0.3s,SNR=1.0
PGF Pioggiola 2.58 239 ePg Pn 16 25 27.3 -0.5
SNR=1.0
PGF eSg Sn 16 25 56.1 -3.0
6.9nm,0.3s,SNR=1.0
UDBI Udbina 2.77 76 i Pn Pb 16 25 33.8 -1.8
UDBI Sn Sb 16 26 07.1 -2.5
UDBI Udbina 2.77 76 i Pn Pb 16 25 33.8 -1.8
UDBI Sn Sb 16 26 07.1 -2.5
ABTA Abfaltersbach 2.86 7 ePn Pn 16 25 33.7 +2.1
10.0nm,0.4s,SNR=14
ABTA Sn Sn 16 26 08.4 +2.4
86nm,0.6s
ABTA Abfaltersbach 2.86 7 Pn Pn 16 25 33.7 +2.1
10.0nm,0.4s,SNR=14
ABTA Sn Sn 16 26 08.4 +2.4
86nm,0.6s
IMI Imperia 2.97 271 P Pn 16 25 32.6 -0.4
OBKA Obir 3.16 34 i Pn Pn 16 25 34.5 -1.2
0.6nm,0.1s
OBKA Obir 3.16 34 Pn Pn 16 25 34.5 -1.2
0.6nm,0.1s
DAVOX Davos/Dischmat 3.24 333 Pn Pn 16 25 40.0 +3.1
3.9nm,0.3s,baz=153,slow=11,SNR=16
DAVOX Sn Sb 16 26 19.6 -3.4
6.8nm,0.3s,baz=323,slow=20,SNR=6.2
FETA Feichten 3.24 344 ePn Pb 16 25 40.5 -3.0
19nm,0.6s,SNR=13
FETA eSn Sb 16 26 19.8 -3.2
16nm,0.6s
FETA Feichten 3.24 344 Pn Pb 16 25 40.5 -3.0
19nm,0.6s,SNR=13
FETA Sn Sb 16 26 19.8 -3.2
16nm,0.6s
SBF Sospel 3.30 271 ePn Pn 16 25 37.4 -0.2
SNR=1.0
SBF eSn Sn 16 26 13.5 -3.3
65nm,0.6s,SNR=1.0
SBF Sospel 3.30 271 ePn Pn 16 25 37.4 -0.2
SNR=1.0
SBF eSn Sn 16 26 13.5 -3.3
33nm,0.6s,SNR=1.0
REVF Revere 3.36 269 P Pn 16 25 39.5 +1.1
REVF S Sn 16 26 17.3 -0.9
REVF Revere 3.36 269 P Pn 16 25 39.5 +1.1
REVF S Sn 16 26 17.3 -0.9
LUCF Luceram 3.36 271 P Pn 16 25 39.0 +0.5
LUCF S Sn 16 26 16.0 -2.4
LUCF Luceram 3.36 271 P Pn 16 25 39.0 +0.5
LUCF S Sn 16 26 16.0 -2.4
WTTA Wattenberg 3.36 356 i Sn Sb 16 26 23.5 -3.1
31nm,0.5s
WTTA Wattenberg 3.36 356 Sn Sb 16 26 23.5 -3.1
31nm,0.5s
WATA Walderalm 3.44 355 i Pn Pb 16 25 43.6 -3.3
15nm,0.4s,SNR=13
WATA Walderalm 3.44 355 Pn Pb 16 25 43.6 -3.3
15nm,0.4s,SNR=13
MOTA Moosalm 3.49 350 i Pn Pb 16 25 44.3 -3.6
12nm,0.3s,SNR=16
MOTA Moosalm 3.49 350 Pn Pb 16 25 44.3 -3.6
12nm,0.3s,SNR=16
SOKA Soboth 3.50 37 i Pn Pb 16 25 44.5 -3.5
0.4nm,0.2s
SOKA Soboth 3.50 37 Pn Pb 16 25 44.5 -3.5
0.4nm,0.2s
MVIF Mont Vial 3.50 271 P Pn 16 25 41.0 +0.5
MVIF S Sn 16 26 19.3 -2.7
MVIF Mont Vial 3.50 271 P Pn 16 25 41.0 +0.5
MVIF S Sn 16 26 19.3 -2.7
DAVA Damuels 3.69 337 i Pn Pb 16 25 47.4 -3.8
31nm,0.6s,SNR=27
DAVA i Sn Sn 16 26 31.2 +4.6
28nm,0.5s
DAVA Damuels 3.69 337 Pn Pb 16 25 47.4 -3.8
31nm,0.6s,SNR=27
DAVA Sn Sn 16 26 31.2 +4.6
28nm,0.5s
CALN Calern 3.70 269 P Pn 16 25 43.6 +0.4
CALN S Sn 16 26 25.2 -1.6
CALN Calern 3.70 269 P Pn 16 25 43.6 +0.4
CALN S Sn 16 26 25.2 -1.6
MBDF Montbardon 3.84 284 ePn Pn 16 25 46.8 +1.7
MBDF eSn Sn 16 26 30.5 +0.2
30nm,0.6s
MBDF Montbardon 3.84 284 ePn Pn 16 25 46.8 +1.7
MBDF eSn Sn 16 26 30.5 +0.2
15nm,0.6s
FRF La Foret Royal 3.90 267 ePn Pn 16 25 46.4 +0.7
SNR=1.0
FRF eSn Sn 16 26 29.9 -1.5
11nm,0.3s
FRF La Foret Royal 3.90 267 ePn Pn 16 25 46.4 +0.7
SNR=1.0
FRF eSn Sn 16 26 29.9 -1.5
5.7nm,0.3s
LMR La Mourre 4.03 264 ePn Pn 16 25 46.9 -0.6
SNR=1.0
LMR eSn Sn 16 26 32.5 -2.2
8.7nm,0.4s
LMR La Mourre 4.03 264 ePn Pn 16 25 46.9 -0.6
SNR=1.0
LMR eSn Sn 16 26 32.5 -2.2
4.3nm,0.4s
LPG La Plagne 4.07 295 ePn Pn 16 25 50.4 +2.1
SNR=1.0
LPG La Plagne 4.07 295 ePn Pn 16 25 50.4 +2.1
SNR=1.0
LPL La Plagne 4.08 295 ePn Pn 16 25 50.3 +1.8
SNR=1.0
LPL eSn Sn 16 26 36.6 +0.2
13nm,0.4s,SNR=1.0
LPL La Plagne 4.08 295 ePn Pn 16 25 50.3 +1.8
SNR=1.0
LPL eSn Sn 16 26 36.6 +0.2
6.7nm,0.4s,SNR=1.0
MOA Molln 4.25 21 ePn Pn 16 25 53.0 +2.5
6.8nm,0.4s,SNR=6.5
MOA i Sn Sn 16 26 41.9 +1.8
16nm,0.4s
MOA Molln 4.25 21 Pn Pn 16 25 53.0 +2.5
6.8nm,0.4s,SNR=6.5
MOA Sn Sn 16 26 41.9 +1.8
16nm,0.4s
ORIF Oris-en-Rattie 4.50 285 ePn Pn 16 25 56.0 +1.9
SNR=1.0
ORIF eSn Sn 16 26 45.5 -0.9
11nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 4.50 285 ePn Pn 16 25 56.0 +1.9
SNR=1.0
ORIF eSn Sn 16 26 45.5 -0.9
5.7nm,0.5s,SNR=1.0
SMRF Simiane la Rot 4.64 273 ePn Pn 16 25 56.9 +0.9
SNR=1.0
SMRF eSn Sn 16 26 47.6 -2.2
8.0nm,0.4s,SNR=1.0
SMRF Simiane la Rot 4.64 273 ePn Pn 16 25 56.9 +0.9
SNR=1.0
SMRF eSn Sn 16 26 47.6 -2.2
4.0nm,0.4s,SNR=1.0
BBS Basel-Blauen 4.75 320 P Pn 16 25 57.4 -0.1
BBS S Sn 16 26 50.5 -2.0
SPAK Spaichingen-Ko 4.75 333 P Pn 16 25 58.9 +1.3
SPAK S Sn 16 26 52.8 +0.1
FELD Feldberg im Sc 4.85 326 P Pn 16 26 00.1 +1.1
FELD S Sn 16 26 53.2 -1.9
CABF La Chapelle 4.97 305 ePn Pn 16 26 03.1 +2.5
SNR=1.0
CABF eSn Sn 16 26 57.9 -0.2
12nm,0.6s,SNR=1.0
CABF La Chapelle 4.97 305 ePn Pn 16 26 03.1 +2.5
SNR=1.0
CABF eSn Sn 16 26 57.9 -0.2
5.9nm,0.6s,SNR=1.0
LOMF Lomont 5.00 315 P Pn 16 26 01.0 0.0
LOMF S Sn 16 26 56.8 -1.9
LOMF Lomont 5.00 315 P Pn 16 26 01.0 0.0
LOMF S Sn 16 26 56.8 -1.9
GERES GERESS Array B 5.08 13 Pn Pn 16 26 03.2 +1.2
1.0nm,0.3s,baz=192,slow=14,SNR=23
GERES Sn Sn 16 27 01.1 +0.6
3.5nm,0.3s,baz=193,slow=21,SNR=10.0
MOF Molkenrain 5.20 321 P Pn 16 26 04.1 +0.3
MOF S Sn 16 27 01.8 -2.0
MOF Molkenrain 5.20 321 P Pn 16 26 04.1 +0.3
MOF S Sn 16 27 01.8 -2.0
HINF Hinteralfeld 5.31 319 ePn Pn 16 26 07.5 +2.3
SNR=1.0
HINF eSn Sn 16 27 05.9 -0.4
15nm,0.4s
HINF Hinteralfeld 5.31 319 ePn Pn 16 26 07.5 +2.3
SNR=1.0
HINF eSn Sn 16 27 05.9 -0.4
7.6nm,0.4s
KHC Kasperske Hory 5.33 11 ePN Pn 16 26 06.5 +1.0
KHC eSN Sn 16 27 08.5 +1.6
KHC eSG Sg 16 27 48.0 +11
KHC Kasperske Hory 5.33 11 Pn Pn 16 26 06.5 +1.0
KHC Sn Sn 16 27 08.5 +1.6
VIVF Saint-Julien-l 5.34 283 ePn Pn 16 26 06.0 +0.4
VIVF Saint-Julien-l 5.34 283 ePn Pn 16 26 06.0 +0.4
ECH Echery 5.47 324 P Pn 16 26 08.0 +0.7
ECH S Sn 16 27 08.9 -1.3
ECH Echery 5.47 324 P Pn 16 26 08.0 +0.7
ECH S Sn 16 27 08.9 -1.3
CDF Champ du Feu 5.57 326 ePn Pn 16 26 10.0 +1.2
SNR=1.0
CDF eSn Sn 16 27 12.1 -0.7
15nm,0.3s
CDF Champ du Feu 5.57 326 ePn Pn 16 26 10.0 +1.2
SNR=1.0
CDF eSn Sn 16 27 12.1 -0.7
7.7nm,0.3s
HAU Haudompre 5.68 318 ePn Pn 16 26 12.0 +1.7
SNR=1.0
HAU eSn Sn 16 27 14.9 -0.6
41nm,0.4s
HAU Haudompre 5.68 318 ePn Pn 16 26 12.0 +1.7
SNR=1.0
HAU eSn Sn 16 27 14.9 -0.6
21nm,0.4s
LANF Langenberg 5.84 332 P Pn 16 26 13.3 +0.8
LANF S Sn 16 27 19.2 -0.2
LANF Langenberg 5.84 332 P Pn 16 26 13.3 +0.8
LANF S Sn 16 27 19.2 -0.2
LASF Ste Croix 5.88 274 ePn Pn 16 26 13.1 +0.1
LASF Ste Croix 5.88 274 ePn Pn 16 26 13.1 +0.1
VRAC Vranov 6.26 29 Pn Pn 16 26 19.3 +1.2
0.4nm,0.3s,baz=189,slow=13,SNR=2.4
VRAC Sn Sn 16 27 29.2 -0.4
0.5nm,0.3s,baz=332,slow=15,SNR=2.7
VRAC Vranov 6.26 29 ePn Pn 16 26 20.8 +2.6
VRAC eSn Sn 16 27 29.9 +0.3
PRU Pruhonice 6.32 15 eSN Sn 16 27 28.0 -3.2
NKC Novy Kostel 6.33 3 eSN Sn 16 27 29.2 -2.3
SMF Signal de Mont 6.37 298 ePn Pn 16 26 21.5 +1.7
SNR=1.0
SMF eSn Sn 16 27 31.1 -1.4
5.1nm,0.4s
SMF Signal de Mont 6.37 298 ePn Pn 16 26 21.5 +1.7
SNR=1.0
SMF eSn Sn 16 27 31.1 -1.4
2.5nm,0.4s
VYHS Vyhne 6.59 44 eSn Sn 16 27 35.8 -2.1
VYHS Vyhne 6.59 44 eSN Sn 16 27 35.8 -2.1
LOR Lormes 6.63 303 ePn Pn 16 26 25.0 +1.8
baz=125,SNR=1.0
LOR eSn Sn 16 27 38.0 -0.7
14nm,0.4s,SNR=1.0
LOR Lormes 6.63 303 ePn Pn 16 26 25.0 +1.8
SNR=1.0
LOR eSn Sn 16 27 38.0 -0.7
6.8nm,0.4s,SNR=1.0
RUP Ruppelstein 6.71 331 P Pn 16 26 25.5 +1.1
AVF Avril sur Loir 6.74 298 ePn Pn 16 26 26.2 +1.4
SNR=1.0
AVF Avril sur Loir 6.74 298 ePn Pn 16 26 26.2 +1.4
SNR=1.0
SSF Saint Saulge 6.75 301 eSn Sn 16 27 40.7 -1.0
5.3nm,0.4s,SNR=1.0
SSF Saint Saulge 6.75 301 eSn Sn 16 27 40.7 -1.0
2.7nm,0.4s,SNR=1.0
BGF Bois d'Agland 6.98 295 ePn Pn 16 26 30.0 +1.9
SNR=1.0
BGF Bois d'Agland 6.98 295 ePn Pn 16 26 30.0 +1.9
SNR=1.0
DPC Dobruska-Polom 7.08 23 ePN Pn 16 26 29.5 0.0
DPC eSN Sn 16 27 46.8 -3.2
DPC Dobruska-Polom 7.08 23 Pn Pn 16 26 29.5 0.0
MTLF Montolieu 7.12 269 ePn Pn 16 26 30.5 +0.4
SNR=1.0
MTLF Montolieu 7.12 269 ePn Pn 16 26 30.5 +0.4
SNR=1.0
CAF Calviac 7.19 282 ePn Pn 16 26 31.5 +0.5
SNR=1.0
CAF Calviac 7.19 282 ePn Pn 16 26 31.5 +0.5
SNR=1.0
CLL Collm 7.43 5 ePn Pn 16 26 36.0 +1.7
CLL i 16 26 45.5
CLL e 16 27 55.0
CLL eSb Sn 16 28 09.0 +11
CLL eSg Sg 16 28 49.0 +4.6
BAIF Baives 8.13 322 ePn Pn 16 26 45.1 +1.2
SNR=1.0
BAIF Baives 8.13 322 ePn Pn 16 26 45.1 +1.2
SNR=1.0
EKA Eskdalemuir Ar 15.03 325 Pn P 16 28 21.1 -2.5
baz=137,slow=14,SNR=2.2
TORD Torodi Ar. Bea 31.91 199 P P 16 31 12.2 +0.8
0.6nm,0.7s,baz=13,slow=8.5,SNR=4.0
MKAR Makanchi Array 47.96 61 P P 16 33 27.0 +2.5
0.6nm,0.7s,baz=280,slow=6.1,SNR=8.4

*GUC **04** 16:28:44.3±0.7, 40.58S×72.25W, h18km±3km, ML4.7*
*IDC **04** 16:28:45.7±0.8, 40.56S×72.07W, h0km, mb4.4/8, mb1 4.6/9, mb1mx4.4/24, mbtmp4.5/9, ML5.8/1, MS4.5/17, Ms1 4.4/17, ms1mx4.4/23, Error ellipse: s-maj=26.2km s-min=11.8km az=17.0*
*ISCJB **04** 16:28:46.0±0.3, 40.66S±0.03×72.08W±0.05, h10km, mb4.7/45, MS4.4/14, Error ellipse: s-maj=5.9km s-min=4.7km az=14.8*
*GCMT **04** 16:28:47.9±0.3, 40.59S×72.22W, h21km±1km, MW5.0/78, Moment Tensor Solution. s28,c34; s78,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.19±.18; $M_{\theta\theta}$-1.95±.14; $M_{\phi\phi}$3.14±.16; $M_{r\theta}$-1.67±.29; $M_{\theta\phi}$2.84±.10; $M_{\phi r}$-0.13±.23; Best double couple: M=4.26700×10^{16} NP1:ϕ_s65.00000°, δ77.00000°, λ-27.00000°. NP2: ϕ_s162.00000°, δ64.00000°, λ-165.00000°. Principal axes: T 4.5260, Plg8.0000°, Azm116.0000°; N -0.5170, Plg60.0000°, Azm221.0000°; P -4.0090, Plg28.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 16:28:47.7±2.5, 40.55S×71.90W, h10km±15km, mb4.8/42, ML4.7(GUC) Error ellipse: s-maj=15.2km s-min=8.5km az=83.0*
NEIC Felt at Osorno, Purranque and Valdivia. Felt [II] at Bariloche, Argentina.
ISC 04 16:28:46.6±0.4, **40.61S**±0.04×**72.25W**±0.04, **h10km, n89, σ2s07/82, mb4.7**/45, **MS4.4**/14, **Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMCH	**Puerto Montt**	**1.01**	**209**	*i* P	**Pb**	**16 29 02.5**	**-3.7**
PMCH				*i* S	**Sb**	**16 29 16.8**	**-2.8**
PUEL	**Puelo Alto**	**1.06**	**182**	*i* P	**Pb**	**16 29 04.0**	**-3.0**
PUEL				*i* S	**Sg**	**16 29 18.9**	**-1.9**
PUEL				IAML		16 29 31.5	
	comp=N,24µm,1.5s						
VLCH	**Valdivia**	**1.11**	**316**	*i* P	**Pb**	**16 29 04.0**	**-3.9**
VLCH				*i* S	**Sb**	**16 29 18.4**	**-3.8**
VLCH				IAML		16 29 22.8	
	comp=N,49µm,0.1s						
PLCA	**Paso Flores**	**1.30**	**96**	Pg	**Pb**	**16 29 07.9**	**-3.2**
	comp=N,530nm,0.3s,baz=300,slow=14,SNR=70						
PLCA				Lg	Lg	16 29 24.9	
	comp=N,838nm,0.3s,baz=41,slow=23,SNR=9.3						
PLCA	**Paso Flores**	**1.30**	**96**	*i* P	**Pb**	**16 29 07.3**	**-3.9**
PLCA				*i* S	**Sn**	**16 29 25.0**	**-3.4**
PLCA	**Paso Flores**	**1.30**	**96**	*e*Pg	**Pb**	**16 29 07.8**	**-3.4**
CHRN	**Cochrane**	**6.65**	**182**	*e*Pn	**Pn**	**16 30 26.8**	**+2.5**
ROC1	**El Roble**	**7.68**	**8**	*e*Pn	**Pn**	**16 30 37.9**	**-0.9**
TRQA	**Tornquist**	**8.35**	**76**	*e*Pn	**Pn**	**16 30 47.2**	**-0.6**
USHA	**Ushuaia**	**14.46**	**171**	LR	LR	16 37 16.2	
	comp=N,5µm,21.3s,baz=300,slow=35						
LVC	**Limon Verde**	**18.16**	**10**	P	**P**	**16 32 58.4**	**-1.3**
	comp=N,29nm,0.3s,baz=192,slow=13,SNR=19						
LVC				LR	LR	16 40 02.1	
	comp=N,8µm,18.7s,baz=207,slow=37						
LVC	**Limon Verde**	**18.16**	**10**	*e*Pn	**P**	**16 32 58.6**	**-1.1**
	comp=N,17nm,0.8s						
PB04	**IPOC Station P**	**18.30**	**6**	*e*Pn	**P**	**16 32 59.7**	**-1.3**
	comp=N,39nm,1.1s						
CPUP	**Villa Florida**	**18.87**	**46**	P	**Pn**	**16 33 11.3**	**+3.8**
	comp=N,0.3nm,0.3s,baz=221,slow=9.0,SNR=6.7						
CPUP				LR	LR	16 40 37.1	
	comp=N,793nm,20.7s,baz=222,slow=38						
PB01	**IPOC Station P**	**19.64**	**8**	*e*P	**Pn**	**16 33 14.9**	**-2.1**
	comp=N,23nm,1.0s						
PB11	**IPOC Station P**	**20.89**	**7**	*e*P	**P**	**16 33 28.8**	**-0.5**
	comp=N,65nm,1.0s						
LPAZ	**La Paz**	**24.49**	**10**	P	**P**	**16 34 06.7**	**-0.1**
	comp=N,13nm,1.1s,baz=158,slow=8.8,SNR=18						
LPAZ	**La Paz**	**24.49**	**10**	*e*P	**P**	**16 34 06.5**	**-0.3**
	comp=N,15nm,1.0s						
PMSA	**Palmer Station**	**24.67**	**172**	LR	LR	16 43 26.0	
	comp=N,1µm,18.3s,baz=340,slow=36						
SIV	**San Ignacio**	**26.38**	**25**	P	**P**	**16 34 21.5**	**-1.6**
	comp=N,5.0nm,0.8s,baz=212,slow=9.9,SNR=9.0						
SIV				LR	LR	16 45 32.6	
	comp=N,791nm,18.6s,baz=212,slow=38						
NNA	**Nana**	**28.79**	**351**	LR	LR	16 44 27.6	
	comp=N,781nm,18.0s,baz=180,slow=33						
BDFB	**Brasilia**	**32.58**	**47**	P	**P**	**16 35 18.5**	**+0.1**
	comp=N,3.0nm,0.7s,baz=217,slow=10,SNR=3.3						
BDFB				LR	LR	16 50 17.6	
	comp=N,927nm,18.0s,baz=210,slow=40						
ATAH	**Atahualpa**	**33.78**	**349**	LR	LR	16 47 20.6	
	comp=N,536nm,18.3s,baz=189,slow=33						
OTAV	**Otavalo**	**41.04**	**351**	*e*P	**P**	**16 36 31.3**	**+0.5**
	comp=N,24nm,1.8s						
SNAA	**Sanae**	**45.59**	**156**	*e*P	**P**	**16 37 06.7**	**+0.2**
QSPA	**South Pole Qui**	**49.64**	**180**	*e*P	**P**	**16 37 35.7**	**-2.4**
RKT	**Rikitea**	**54.95**	**268**	*e*LR	LR	16 54 28.5	
	comp=N,416nm,28.5s						
VNDA	**Vanda**	**57.61**	**192**	LR	LR	17 01 48.6	
	comp=N,173nm,18.9s,baz=136,slow=34						
VNDA	**Vanda**	**57.61**	**192**	*e*P	**P**	**16 38 37.2**	**+1.0**
	comp=N,5.1nm,1.2s						
MAW	**Mawson**	**66.91**	**163**	LR	LR	17 09 59.7	
	comp=N,422nm,18.1s,baz=234,slow=37						
TAOE	**Nuku Hiva Isla**	**67.53**	**278**	*e*S	**S**	**16 48 40.3**	**+0.1**
	comp=N,62nm,24.2s						
TAOE	**Nuku Hiva Isla**	**67.53**	**278**	*e*LR	LR	17 00 12.6	
	comp=N,860nm,25.1s						
PPT2	**Papeete2**	**69.27**	**264**	*e*LR	LR	17 00 55.7	
	comp=N,330nm,25.8s						
PPT	**Papeete**	**69.28**	**264**	LR	LR	17 03 13.6	
	comp=N,304nm,18.0s,baz=146,slow=30						
GOGA	**Godfrey**	**74.38**	**350**	*e*P	**P**	**16 40 24.8**	**+0.5**
	comp=N,31nm,1.8s						
LRAL	**Lakeview Retre**	**74.53**	**347**	*e*P	**P**	**16 40 25.7**	**+0.4**
	comp=N,9.3nm,0.9s						
JCT	**Junction City**	**75.20**	**336**	*e*P	**P**	**16 40 31.7**	**+2.5**
	comp=N,13nm,0.8s						
TXAR	**Lajitas Array**	**75.44**	**332**	P	**P**	**16 40 31.9**	**+1.2**
	comp=N,2.0nm,1.0s,baz=147,slow=8.5,SNR=13						
TXAR				LR	LR	17 08 52.2	
	comp=N,249nm,18.5s,baz=0.0,slow=32						
TX31	**Lajitas Ar. Si**	**75.44**	**332**	*e*P	**P**	**16 40 33.0**	**+2.2**
CPCT	**Cooper Cave**	**76.52**	**350**	*e*P	**P**	**16 40 37.6**	**+0.9**
	comp=N,3.1nm,0.8s						
BOSA	**Boshof**	**77.20**	**117**	P	**P**	**16 40 40.5**	**-0.6**
	comp=N,3.1nm,0.8s,baz=198,slow=3.4,SNR=5.4						
BOSA				LR	LR	17 11 14.5	
	comp=N,244nm,19.0s,baz=220,slow=33						
DBIC	**Dimbokro**	**77.53**	**70**	P	**P**	**16 40 42.6**	**-0.2**
	comp=N,5.9nm,0.7s,baz=196,slow=8.4,SNR=5.2						
DBIC				LR	LR	17 12 13.8	
	comp=N,290nm,18.7s,baz=204,slow=34						
WVT	**Waverly**	**77.69**	**347**	*e*P	**P**	**16 40 43.9**	**+0.7**
	comp=N,6.6nm,1.0s						
MNTX	**Cornudas Mount**	**78.20**	**332**	*e*P	**P**	**16 40 47.4**	**+1.2**
	comp=N,4.4nm,1.3s						
WMOK	**Wichita Mounta**	**78.86**	**338**	*e*P	**P**	**16 40 52.4**	**+2.7**
	comp=N,12nm,1.6s						
TUL1	**Leonard**	**79.16**	**341**	*e*P	**P**	**16 40 52.4**	**+1.1**
	comp=N,9.3nm,0.8s						
MSTX	**Muleshoe**	**79.37**	**335**	*e*P	**P**	**16 40 54.7**	**+2.0**
	comp=N,12nm,1.3s						
LBTB	**Lobatse**	**79.73**	**114**	*e*P	**P**	**16 40 56.3**	**+1.2**
	comp=N,7.8nm,1.0s						
LPM	**Los Pinos Moun**	**81.01**	**332**	*e*P	**P**	**16 41 04.6**	**+3.0**
ANMO	**Albuquerque**	**81.52**	**332**	*e*P	**P**	**16 41 07.1**	**+2.8**
	comp=N,4.7nm,0.9s						
T25A	**Trinidad**	**82.80**	**335**	*e*P	**P**	**16 41 13.9**	**+2.9**
	comp=N,9.1nm,1.0s						
SDCO	**Great Sand Dun**	**83.71**	**334**	*e*P	**P**	**16 41 17.6**	**+1.8**
	comp=N,2.7nm,1.0s						
PFO	**Pinyon Flats O**	**84.36**	**324**	*e*P	**P**	**16 41 21.8**	**+2.8**
	comp=N,7.6nm,1.1s						
U15A	**North Rim**	**85.02**	**329**	*e*P	P	16 41 27.2	+4.7
	comp=N,20nm,1.8s						
SMCO	**Snowmass**	**85.50**	**334**	*e*P	**P**	**16 41 26.1**	**+1.2**
	comp=N,14nm,1.5s						
ISCO	**Idaho Springs**	**85.61**	**335**	*e*P	**P**	**16 41 24.4**	**-1.0**
	comp=N,5.1nm,1.2s						
KNB	**Kanab**	**85.74**	**329**	*e*P	**P**	**16 41 28.8**	**+2.9**
	comp=N,9.3nm,1.0s						
SHPR	**Sheep Range**	**86.26**	**327**	*e*P	**P**	**16 41 31.3**	**+2.9**
	comp=N,20nm,1.8s						
MTPU	**Mount Pierson**	**86.38**	**329**	*e*P	**P**	**16 41 31.6**	**+2.3**
	comp=N,4.6nm,1.0s						
CCUT	**Cedar City**	**86.42**	**328**	*e*P	**P**	**16 41 31.2**	**+1.9**
	comp=N,6.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**86.64**	**70**	P	**P**	**16 41 31.6**	**+0.9**
	comp=N,1.4nm,0.9s,baz=219,slow=4.9,SNR=4.3						
TORD				LR	LR	17 18 42.7	
	comp=N,157nm,18.6s,baz=240,slow=35						
SRU	**San Rafael Swe**	**86.69**	**331**	*e*P	**P**	**16 41 33.0**	**+2.4**
	comp=N,3.6nm,0.8s						
Q16A	**Castle Valley**	**86.76**	**331**	*e*P	**P**	**16 41 33.5**	**+2.6**
	comp=N,48nm,1.9s						
ECSD	**EROS Data Cent**	**86.78**	**343**	*e*P	**P**	**16 41 30.0**	**-0.7**
	comp=N,8.8nm,0.9s						
O20A	**White River Ci**	**86.79**	**333**	*e*P	**P**	**16 41 32.9**	**+1.9**
	comp=N,9.2nm,1.0s						
MSU	**Marysvale**	**86.79**	**330**	*e*P	**P**	**16 41 34.4**	**+3.3**
P18A	**Preston Nutter**	**87.05**	**332**	*e*P	**P**	**16 41 35.5**	**+3.0**
	comp=N,7.3nm,0.9s						
TMUT	**Trail Mountain**	**87.11**	**331**	*e*P	**P**	**16 41 36.5**	**+3.7**
	comp=N,11nm,1.1s						
R11A	**Troy Canyon, C**	**88.00**	**327**	*e*P	**P**	**16 41 39.5**	**+2.6**
	comp=N,14nm,1.7s						
DUG	**Dugway, Tooele**	**88.50**	**330**	*e*P	**P**	**16 41 40.0**	**+0.8**
	comp=N,3.8nm,0.9s						
NVAR	**Mina Array Bea**	**89.22**	**326**	LR	LR	17 14 05.3	
	comp=N,121nm,20.3s,baz=200,slow=30						
HWUT	**Hardware Ranch**	**89.26**	**332**	*e*P	**P**	**16 41 43.2**	**+0.5**
	comp=N,9.2nm,0.9s						
PDAR	**Pinedale Array**	**89.58**	**333**	P	**P**	**16 41 46.1**	**+1.8**
	comp=N,1.8nm,1.0s,baz=134,slow=6.4,SNR=8.9						
HVU	**Hansel Valley**	**89.86**	**331**	*e*P	**P**	**16 41 48.4**	**+2.8**
	comp=N,7.4nm,1.1s						
ELK	**Elko**	**89.91**	**329**	*e*P	**P**	**16 41 45.8**	**-0.1**
	comp=N,3.5nm,0.9s						
TPAW	**Teton Pass**	**90.70**	**333**	*e*P	**P**	**16 41 49.6**	**0.0**
	comp=N,5.6nm,1.1s						
IMW	**Indian Meadow**	**91.05**	**333**	*e*P	**P**	**16 41 51.2**	**+0.1**
	comp=N,3.9nm,0.9s						
HLID	**Hailey**	**92.00**	**331**	*e*P	**P**	**16 41 55.9**	**+0.4**
	comp=N,2.6nm,0.8s						
SCHQ	**Schefferville**	**95.18**	**3**	LR	LR	17 27 34.6	
	comp=N,71nm,19.7s,baz=236,slow=37						
WRA	**Warramunga Arr**	**114.88**	**208**	PKP	PKPdf	16 47 27.0	-1.0

comp=N,1.0nm,1.1s,baz=164,slow=1.7,SNR=3.5
BRTR Keskin Array B 124.99 65 PKP **PKPdf 16 47 46.9 0.0**
comp=N,0.8nm,0.8s,baz=219,slow=1.8,SNR=3.9
AKASG **Malin Array Be 126.63 51** PKP **PKPdf 16 47 49.2 -0.3**
comp=N,0.3nm,0.4s,baz=263,slow=1.7,SNR=4.5
SEY Seymchan 145.53 325 PKPbc **PKPab 16 48 25.4 +1.1**
comp=N,2.3nm,0.7s,baz=108,slow=4.8,SNR=7.3
HYB Hyderabad 145.83 124 *i* PKP **PKPab 16 48 26.5 -0.4**
TIXI Tiksi 147.13 348 PKPbc **PKPbc 16 48 27.2 -1.5**
comp=N,3.1nm,0.6s,baz=50,slow=3.1,SNR=6.9
MJAR Matsushiro Arr 155.91 270 PKPab **PKPab 16 49 09.7 +1.8**
comp=N,1.5nm,0.8s,baz=132,slow=2.7,SNR=5.0
MKAR Makanchi Array 160.62 63 PKP **PKPdf 16 48 46.2 0.0**
comp=N,0.2nm,0.2s,baz=297,slow=0.6,SNR=3.5
MKAR PKPab **PKPab 16 49 28.3 +0.3**
comp=N,0.3nm,0.5s,baz=294,slow=4.8,SNR=4.1
SONM Songino Array 172.71 7 PKP **PKPdf 16 48 57.2 +1.7**
comp=N,0.2nm,0.4s,baz=233,slow=1.4,SNR=2.5
SONM PKPab **PKPab 16 50 21.5 +0.2**
comp=N,0.3nm,0.7s,baz=322,slow=4.4,SNR=2.5
LZH Lanzhou 174.54 145 *e*PKP **PKPdf 16 48 58.0 +1.3**
LZH pPKP pPKPdf 16 49 04.6 +4.5
LZH sPKP 16 49 06.8
LZH PKP **PKPab 16 50 33.1 +3.3**
LZH LR LR
comp=N,150nm,17.9s
LZH LR LR
comp=E,160nm,18.2s
LZH LR LR
comp=Z,190nm,20.1s

*ISCJB **04** 16:34:57.5±0.7,0.°42N±0.°09×127.°5E±0.°3,h162km, mb3.7/8,Error ellipse: s-maj=36.8km s-min=11.0km az=170.0*
*IDC **04** 16:34:57.3±6.8,0.°44N×127.°54E,h138km±68km,mb3.5/8, mb1 3.5/9,mb1mx3.3/48,mbtmp3.9/9,Error ellipse: s-maj=43.7km s-min=16.8km az=83.0*
ISC 04 16:34:59.3±0.8,0.°4N±0.°1×127.°5E±0.°3,h162km,n10, σ0s82/11,mb3.9/8,1C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**7.51**	**334**	*i*P	**Pn**	**16 36 45.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.50**	**186**	P	**P**	**16 39 02.7**	**-0.5**
	0.1nm,0.3s,baz=11,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**21.31**	**162**	P	**P**	**16 39 32.8**	**-0.7**
	1.3nm,0.3s,baz=340,slow=11,SNR=20						
ASAR	**Alice Springs**	**24.73**	**166**	P	**P**	**16 40 06.9**	**+1.1**
	0.6nm,0.4s,baz=341,slow=10.0,SNR=14						
ASAR				PcP	**PcP**	**16 43 38.6**	**0.0**
	0.4nm,0.9s,baz=6.0,slow=2.2,SNR=4.2						
KSRS	**Korea Array**	**36.85**	**1**	P	**P**	**16 41 52.3**	**+0.4**
	0.6nm,0.5s,baz=176,slow=9.5,SNR=4.3						
MJAR	**Matsushiro Arr**	**37.28**	**14**	P	**P**	**16 41 54.5**	**-1.1**
	1.1nm,0.4s,baz=191,slow=9.7,SNR=2.9						
SONM	**Songino Array**	**50.67**	**342**	P	**P**	**16 43 42.7**	**+0.6**
	0.6nm,0.6s,baz=159,slow=8.9,SNR=4.0						
PETK	**Petropavlovsk-**	**58.20**	**21**	P	**P**	**16 44 37.2**	**+0.9**
	1.5nm,0.5s,baz=186,slow=5.3,SNR=5.9						
MKAR	**Makanchi Array**	**60.72**	**326**	P	**P**	**16 44 54.1**	**+0.4**
	0.7nm,0.4s,baz=118,slow=8.3,SNR=15						
TIXI	**Tiksi**	**71.12**	**0**	P	**P**	**16 45 59.0**	**-0.6**
	0.9nm,0.3s,baz=153,slow=4.5,SNR=3.4						

*NIED **04** 16:37:00,39.°10N×142.°10E,h44km,Mw3.8 Best double couple: M0 5.42000×10^14 NP1:φs272.00000°,δ36.00000°, λ-168.00000°. NP2:φs173.00000°,δ83.00000°, λ-54.00000°.*
*ISCJB **04** 16:37:55.0±0.8,39.°07N±0.°04×142.°19E±0.°09,h50km±7km, mb3.6/6,Error ellipse: s-maj=12.3km s-min=5.6km az=15.3*
*JMA **04** 16:37:56.1±0.1,39.°09N×142.°14E,h45km±1km,M3.9*
JMA Felt II J1.
*IDC **04** 16:37:58.6±2.4,39.°05N×142.°35E,h73km±21km,mb3.3/6, mb1 3.5/10,mb1mx3.3/52,mbtmp3.7/10,MS2.5/2, Ms1 2.5/2,ms1mx2.3/25,Error ellipse: s-maj=25.9km s-min=14.1km az=104.0*
ISC 04 16:37:54.1±1.5,39.°00N±0.°04×142.°23E±0.°08,h30km±10km, n28,σ2s01/33,mb3.6/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.44**	**280**	P	**Pn**	**16 38 05.6**	**+1.1**
OFUJ				S	**Sn**	**16 38 12.2**	**+0.7**
MIYJ	**Miyakonagasawa**	**0.66**	**331**	P	**Pb**	**16 38 07.5**	**+0.3**
MIYJ				*e*S	**Sb**	**16 38 15.5**	**-0.5**
JMK	**Ichinoseki**	**0.79**	**267**	P	**Pb**	**16 38 10.0**	**+0.7**
JMK				S	**Sn**	**16 38 19.9**	**-0.1**
JOM	**Ohasama**	**0.87**	**303**	P	**Pn**	**16 38 10.6**	**+0.3**
JOM				*e*S	**Sn**	**16 38 21.0**	**-1.0**
JIO	**Ouri**	**0.88**	**232**	P	**Pb**	**16 38 11.8**	**+1.0**
JIO				*e*S	**Sb**	**16 38 22.7**	**+0.5**
JTH	**Tanohata**	**0.98**	**343**	P	**Pn**	**16 38 11.9**	**+0.1**
JTH				*e*S	**Sn**	**16 38 23.2**	**-1.5**
JRG	**Rokugo**	**1.30**	**288**	P	**Pn**	**16 38 17.1**	**+0.8**
JRG				*e*S	**Sn**	**16 38 32.9**	**+0.2**
JOU	**Okura**	**1.38**	**243**	P	**Pb**	**16 38 18.7**	**-0.6**
JOU				*e*S	**Sn**	**16 38 35.6**	**+1.0**
JYK	**Kaneyama**	**1.46**	**267**	P	**Pn**	**16 38 19.6**	**+1.1**
JANG	**Nango**	**1.48**	**338**	P	**Pn**	**16 38 18.9**	**+0.2**
JANG				*e*S	**Sn**	**16 38 35.7**	**-1.3**
MJAR	**Matsushiro Arr**	**4.02**	**234**	P	**Pn**	**16 38 57.3**	**+3.6**
	3.2nm,0.3s,baz=39,slow=11,SNR=53						
MJAR				S	**Sb**	**16 39 48.2**	**-4.3**
	1.7nm,0.3s,baz=22,slow=16,SNR=5.6						
MJAR				LR	LR	16 40 44.0	
	comp=Z,89nm,19.9s,baz=65,slow=40						
MAT	**Matsushiro**	**4.02**	**234**	P	**Pn**	**16 38 57.0**	**+3.3**
MAT				S	**Sb**	**16 39 47.5**	**-5.0**
ASAJ	**Asahikawa**	**5.12**	**3**	P	**Pn**	**16 39 11.2**	**+2.5**
	baz=216,slow=14						
JHJ	**Hachijo jima 2**	**6.19**	**199**	P	**Pn**	**16 39 27.0**	**+3.4**
	6.4nm,0.3s,baz=13,slow=14,SNR=7.5						
JHJ				S	**Sn**	**16 40 32.3**	**-1.0**
	12nm,0.3s,baz=60,slow=20,SNR=3.2						
USRK	**Ussuriysk Ar.**	**9.26**	**307**	P	**Pn**	**16 40 09.7**	**+4.1**
	0.4nm,0.3s,baz=115,slow=15,SNR=4.9						
KSRS	**Korea Array**	**11.36**	**267**	P	Pn	16 40 42.9	+8.6
	0.2nm,0.3s,baz=83,slow=14,SNR=4.1						
KSRS				LR	LR	16 44 55.0	
	comp=Z,15nm,19.1s,baz=225,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	17 14 12.5	
	baz=318,slow=75,SNR=638						
H11N1	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	17 14 13.2	
	baz=318,slow=75,SNR=338						
H11N3	**WAKE ISLAND Hy**	**28.69**	**125**	T	T	17 14 13.8	
	baz=318,slow=75,SNR=246						
H11S1	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	17 15 11.0	
	baz=319,slow=76,SNR=70						
H11S3	**WAKE ISLAND Hy**	**29.46**	**127**	T	T	17 15 10.7	
	baz=319,slow=76,SNR=91						
H11S2	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	17 15 21.7	
	baz=319,slow=76,SNR=80						
MKAR	**Makanchi Array**	**43.65**	**301**	P	**P**	**16 45 56.1**	**+0.2**
	0.4nm,0.4s,baz=80,slow=8.2,SNR=5.0						
ILAR	**Eielson Array**	**47.49**	**33**	P	**P**	**16 46 27.0**	**+1.0**
	0.4nm,0.6s,baz=270,slow=6.5,SNR=5.8						
WRA	**Warramunga Arr**	**59.10**	**189**	P	**P**	**16 47 51.5**	**-0.2**
	0.5nm,0.4s,baz=6.7,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**62.82**	**189**	P	**P**	**16 48 17.1**	**+0.1**
	0.2nm,0.6s,baz=24,slow=4.5,SNR=4.7						
FINES	**FINESS Array B**	**67.38**	**332**	P	**P**	**16 48 45.7**	**-0.4**
	1.2nm,0.8s,baz=39,slow=10.0,SNR=3.2						
AKASG	**Malin Array Be**	**73.14**	**322**	P	**P**	**16 49 20.3**	**-1.2**
	0.1nm,0.3s,baz=50,slow=7.5,SNR=2.6						

*IDC **04** 16:43:19.8±0.8,20.°27S×168.°32E,h0km,mb4.1/13, mb1 4.3/14,mb1mx4.1/34,mbtmp4.1/14,ML4.3/1,MS3.8/11, Ms1 3.8/11,ms1mx3.5/30,Error ellipse: s-maj=27.5km s-min=17.6km az=127.0*
*ISCJB **04** 16:43:21.9±0.2,20.°34S±0.°07×168.°33E±0.°06,h26km, mb4.4/21,MS3.8/9,Error ellipse: s-maj=11.4km s-min=5.7km az=142.8*
*NEIC **04** 16:43:21.1±0.4,20.°28S×168.°36E,h10km,mb5.1/9,Error ellipse: s-maj=12.8km s-min=9.2km az=141.0*
ISC 04 16:43:23.3±0.5,20.°37S±0.°09×168.°33E±0.°09,h26km,n91, σ0s87/83,mb4.3/20,MS3.9/9,1C,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.44**	**226**	*e*Pn	**Pn**	**16 44 01.0**	**-0.7**
	516nm,0.2s						
DZM				*e*Sn	**Sn**	**16 44 29.5**	**-1.3**
	2μm,0.3s						
DZM	**Mont Dzumac**	**2.44**	**226**	Pn	**Pn**	**16 44 01.7**	**0.0**
	66nm,0.3s,baz=118,slow=12,SNR=1227						
DZM				Sn	**Sn**	**16 44 31.3**	**+0.5**
	183nm,0.3s,baz=309,slow=22,SNR=7.5						
MSVF	**Nonsavu**	**9.56**	**76**	Pn	**Pn**	**16 45 40.7**	**+1.3**
	64nm,1.4s						
HNR	**Honiara**	**13.55**	**322**	LR	LR	16 50 43.5	
	comp=Z,167nm,21.9s,baz=132,slow=33						
ARMA	**Armidale**	**18.09**	**233**	*e*Pn	**P**	**16 47 36.5**	**+3.3**
	49nm,1.2s						
URZ	**Urewera**	**19.38**	**159**	LR	LR	16 54 23.8	
	comp=Z,312nm,19.8s,baz=342,slow=34						
CTA	**Charters Tower**	**20.72**	**267**	P	Pn	16 48 05.7	+1.3
	7.3nm,0.7s,baz=94,slow=12,SNR=12						
CTAO	**Charters Tower**	**20.72**	**267**	*e*P	**P**	**16 48 02.4**	**+0.5**
	112nm,1.0s						
SNZO	**South Karori**	**21.57**	**167**	*e*P	**P**	**16 48 09.5**	**-1.4**
RPZ	**Rata Peaks**	**23.39**	**175**	LR	LR	16 57 11.6	
	comp=Z,282nm,18.2s,baz=34,slow=35						
STKA	**Stephens Creek**	**26.53**	**239**	P	**P**	**16 49 00.3**	**+1.3**
	3.9nm,0.9s,baz=94,slow=15,SNR=3.7						
STKA				LR	LR	16 59 15.9	
	comp=Z,262nm,18.4s,baz=62,slow=36						
WRAB	**Tennant Creek**	**31.87**	**265**	*e*P	**P**	**16 49 47.1**	**+0.4**
WRA	**Warramunga Arr**	**31.88**	**265**	P	**P**	**16 49 46.2**	**-0.5**
	0.8nm,0.6s,baz=94,slow=8.1,SNR=7.0						
WRA				PcP	**PcP**	**16 52 36.8**	**-0.4**
	1.0nm,0.8s,baz=94,slow=3.1,SNR=4.4						
ASAR	**Alice Springs**	**32.04**	**258**	P	**P**	**16 49 48.5**	**+0.3**
	3.5nm,0.6s,baz=86,slow=9.0,SNR=79						
ASAR				PcP	**PcP**	**16 52 37.1**	**-0.5**
	1.1nm,0.8s,baz=96,slow=4.2,SNR=4.0						
ASAR				LR	LR	17 02 35.8	
	comp=Z,252nm,19.2s,baz=96,slow=36						
PPT2	**Papeete2**	**39.82**	**93**	*e*LR	LR	17 00 56.8	
	330nm,25.8s						
FITZ	**Fitzroy Cossi**	**40.29**	**266**	LR	LR	17 06 39.9	
	comp=Z,189nm,20.9s,slow=35						
KAPI	**Kappang**	**49.58**	**281**	LR	LR	17 13 31.6	
	comp=Z,35nm,19.6s,baz=122,slow=37						
TAOE	**Nuku Hiva Isla**	**50.96**	**85**	*e*LR	LR	17 06 50.8	
	183nm,26.6s						
VNDA	**Vanda**	**57.28**	**182**	P	**P**	**16 53 10.5**	**+2.2**
	1.7nm,1.0s,baz=1.9,slow=5.7,SNR=5.6						
SBA	**Scott Base**	**57.53**	**180**	*e*P	**P**	**16 53 12.0**	**+2.0**
	9.5nm,0.9s						
MJAR	**Matsushiro Arr**	**63.36**	**333**	P	**P**	**16 53 49.4**	**-0.9**
	0.6nm,0.6s,baz=162,slow=6.5,SNR=4.6						
JNU	**Nakatsue**	**64.10**	**325**	LR	LR	17 21 18.2	
	comp=Z,23nm,19.4s,baz=128,slow=36						
KSRS	**Korea Array**	**68.96**	**326**	P	**P**	**16 54 27.0**	**+0.7**
	0.5nm,0.6s,baz=139,slow=7.6,SNR=4.6						
KSAR	**Wonju Array Be**	**68.97**	**326**	P	**P**	**16 54 27.0**	**+0.6**
QSPA	**South Pole Qui**	**69.69**	**180**	*e*P	**P**	**16 54 30.9**	**+0.2**
	35nm,0.9s						
USRK	**Ussuriysk Ar.**	**72.35**	**333**	P	**P**	**16 54 47.4**	**+0.6**
	2.1nm,0.7s,baz=104,slow=4.6,SNR=4.5						
PETK	**Petropavlovsk-**	**73.75**	**353**	P	**P**	**16 54 55.3**	**+0.4**
	3.0nm,1.0s,baz=170,slow=8.8,SNR=2.7						
KLR	**Kul'dur**	**76.55**	**336**	P	**P**	**16 55 11.6**	**+0.5**
	0.5nm,0.3s,baz=123,slow=1.8,SNR=3.5						
CMAR	**Chiang Mai Arr**	**78.19**	**295**	P	**P**	**16 55 22.6**	**+1.5**
	2.9nm,0.8s,baz=134,slow=4.0,SNR=21						
CHTO	**Chiang Mai**	**78.35**	**295**	*e*P	**P**	**16 55 21.8**	**-0.1**
	2.9nm,0.9s						
SYO	**Syowa Base**	**83.62**	**196**	*i*eX	**P**	**16 55 46.0**	**-3.1**
SNCC	**San Nicolas Is**	**87.00**	**53**	P	**P**	**16 56 07.0**	**+0.4**
	baz=243						
SONM	**Songino Array**	**87.61**	**323**	P	**P**	**16 56 09.5**	**+0.2**
	1.0nm,0.9s,baz=133,slow=5.2,SNR=7.0						
YAK	**Yakutsk**	**87.69**	**343**	LR	LR	17 35 54.1	
	comp=Z,41nm,18.2s,baz=96,slow=36						
SNAA	**Sanae**	**88.00**	**183**	*e*P	**P**	**16 56 10.6**	**-0.3**
BILL	**Bilibino**	**88.16**	**359**	*e*P	**P**	**16 56 08.6**	**-2.7**
	9.1nm,1.0s						
L02D	**Cave Junction,**	**88.32**	**44**	P	**P**	**16 56 12.7**	**0.0**
	baz=240						
N02D	**Trinity Center**	**88.34**	**45**	P	**P**	**16 56 13.2**	**+0.3**
	baz=241						
M02C	**Callahan**	**88.44**	**45**	P	**P**	**16 56 13.7**	**+0.3**
	baz=241						
CMB	**Columbia Colle**	**88.54**	**48**	*e*P	**P**	**16 56 12.7**	**-1.2**
	93nm,1.5s						
O03D	**Paynes Creek**	**88.62**	**46**	P	**P**	**16 56 13.7**	**-0.5**
	baz=242						
EDW2	**Edwards Air Fo**	**88.86**	**52**	P	**P**	**16 56 15.5**	**0.0**
	baz=244						
HUMO	**Hull Mountain**	**88.96**	**43**	*e*P	**P**	**16 56 15.4**	**-0.3**
	29nm,0.8s						
MONP2	**Monument Peak**	**89.19**	**54**	P	**P**	**16 56 17.2**	**-0.2**
	baz=245						
I03D	**Drain, OR**	**89.24**	**42**	P	**P**	**16 56 16.9**	**0.0**
	baz=241						
M04C	**Macdoel**	**89.30**	**45**	P	**P**	**16 56 17.2**	**-0.3**
	baz=242						
IKP	**In-Ko-Pah, Jac**	**89.33**	**55**	P	**P**	**16 56 17.6**	**-0.2**
	baz=245						
LRMC	**Laurel Mtn Rad**	**89.35**	**52**	P	**P**	**16 56 17.7**	**-0.2**
	baz=244						
RRX	**Edison Barstow**	**89.60**	**52**	P	**P**	**16 56 18.9**	**0.0**
	baz=245						
TIN	**Tinemaha, Big**	**89.64**	**50**	P	**P**	**16 56 19.2**	**0.0**
	baz=244						
SWSC	**Sam W. Stewart**	**89.69**	**55**	P	**P**	**16 56 19.3**	**-0.1**
	baz=245						
MPMC	**Manual Prospec**	**89.74**	**51**	P	**P**	**16 56 19.5**	**-0.3**
	baz=244						
I04A	**Tendick Farm,**	**89.88**	**43**	P	**P**	**16 56 19.7**	**-0.4**
	baz=241						
GSC	**Goldstone, Bar**	**89.92**	**52**	P	**P**	**16 56 20.3**	**-0.2**
	baz=245						
BELC	**Belle Mtn. Jos**	**89.98**	**54**	P	**P**	**16 56 20.7**	**-0.2**
	baz=245						
HEC	**Hector,Ludlow**	**90.07**	**53**	P	**P**	**16 56 20.9**	**-0.3**
	baz=245						
NVAR	**Mina Array Bea**	**90.18**	**49**	P	**P**	**16 56 21.6**	**-0.3**
	5.1nm,0.7s,baz=232,slow=7.8,SNR=14						
NVAR				LR	LR	17 29 29.9	
	comp=Z,92nm,20.0s,baz=255,slow=31						
GRAC	**Grapevine Rang**	**90.23**	**50**	P	**P**	**16 56 21.9**	**+0.1**
	baz=245						
BC3	**Big Chuckawall**	**90.25**	**54**	P	**P**	**16 56 22.0**	**-0.1**
	baz=246						
MOD	**Modoc Plateau**	**90.37**	**45**	*e*P	**P**	**16 56 22.1**	**-0.4**
	12nm,1.0s						
FURC	**Furnace Creek,**	**90.37**	**51**	P	**P**	**16 56 22.7**	**+0.3**
	baz=245						
J05D	**Fort Rock, OR**	**90.40**	**43**	P	**P**	**16 56 23.0**	**+0.4**
	baz=242						
GLA	**Glamis**	**90.48**	**55**	P	**P**	**16 56 23.3**	**+0.1**
	baz=246						
GMRC	**Granite Mounta**	**90.56**	**53**	P	**P**	**16 56 23.5**	**0.0**
	baz=246						
SHOC	**Shoshone, Teco**	**90.56**	**52**	P	**P**	**16 56 23.3**	**-0.1**
	baz=245						
TUQ	**Turquoise Moun**	**90.63**	**52**	P	**P**	**16 56 23.8**	**-0.1**
	baz=245						
IRM	**Iron Mountain**	**90.69**	**54**	P	**P**	**16 56 24.1**	**+0.1**
	baz=246						
Y12C	**Blythe**	**91.00**	**54**	P	**P**	**16 56 25.2**	**-0.2**
	baz=246						
TPNV	**Topopah Spring**	**91.02**	**51**	P	**P**	**16 56 25.2**	**-0.5**
	baz=245						
PDMCI	**Parker Dam,Lak**	**91.51**	**54**	P	**P**	**16 56 27.9**	**+0.1**
	baz=246						
ILAR	**Eielson Array**	**91.56**	**18**	P	**P**	**16 56 28.2**	**+0.9**
	0.7nm,0.8s,baz=230,slow=5.8,SNR=5.3						
214A	**Organ Pipe Nat**	**91.61**	**57**	P	**P**	**16 56 27.9**	**-0.5**
	baz=247						
A04D	**Lummi Island**	**92.07**	**38**	P	**P**	**16 56 30.0**	**0.0**
	baz=241						
R11A	**Troy Canyon, C**	**92.08**	**50**	P	**P**	**16 56 30.1**	**-0.5**
	baz=246						
B05A	**Bryant**	**92.21**	**39**	P	**P**	**16 56 30.6**	**-0.1**
	baz=242						
TUC	**Tucson**	**93.33**	**57**	P	**P**	**16 56 36.4**	**0.0**
	baz=248						
HLID	**Hailey**	**95.00**	**45**	P	**P**	**16 56 43.8**	**-0.1**
	baz=247						
PDAR	**Pinedale Array**	**98.00**	**47**	P	Pdif	16 56 59.3	+1.6
	0.5nm,0.7s,baz=242,slow=1.9,SNR=2.8						
TXAR	**Lajitas Array**	**98.05**	**62**	LR	LR	17 32 17.6	
	comp=Z,42nm,22.0s,baz=0.0,slow=30						
YKA	**Yellowknife Ar**	**102.06**	**28**	P	**Pdif**	**16 57 14.8**	**-0.1**
	0.1nm,0.5s,baz=257,slow=4.4,SNR=3.7						
ARCES	**ARCESS Array B**	**125.93**	**345**	PKP	**PKPdf**	**17 02 21.7**	**-0.6**
	2.1nm,0.6s,baz=46,slow=3.7,SNR=5.3						
DPC	**Dobruska-Polom**	**142.79**	**330**	*e*pPKP	**pPKPdf**	**17 03 00.8**	**-2.3**
DPC				*ex*		17 03 06.3	
EKA	**Eskdalemuir Ar**	**144.50**	**352**	PKP	PKPbc	17 02 55.9	+0.2
	2.8nm,0.8s,baz=27,slow=2.8,SNR=4.4						
GERES	**GERESS Array B**	**145.06**	**330**	PKP	**PKPbc**	**17 02 57.8**	**-0.1**
	1.6nm,0.8s,baz=37,slow=3.3,SNR=12						
ARSA	**Arzberg**	**145.27**	**327**	*i* PKPdf	**PKPdf**	**17 02 59.0**	**+0.2**
	3.2nm,1.1s						
MOA	**Molln**	**145.49**	**329**	*i* PKPab	**PKPab**	**17 02 59.8**	**+0.4**
	7.9nm,1.0s						
SOKA	**Soboth**	**145.90**	**327**	*i* PKPab	**PKPbc**	**17 03 00.5**	**-0.1**
	9.8nm,1.3s						
WTTA	**Wattenberg**	**147.16**	**330**	*i* pPKPdf	**PKPbc**	**17 03 04.5**	**+0.1**
	5.8nm,0.9s						
MOTA	**Moosalm**	**147.35**	**331**	*i* pPKPdf	**PKPbc**	**17 03 04.7**	**-0.1**
	5.7nm,0.9s						
DAVOX	**Davos/Dischmat**	**148.33**	**331**	PKPbc	**PKPbc**	**17 03 07.8**	**+0.2**
	9.0nm,0.8s,baz=358,slow=4.1,SNR=11						
TORD	**Torodi Ar. Bea**	**165.33**	**243**	PKP	**PKPdf**	**17 03 25.9**	**-0.4**
	1.0nm,0.8s,baz=266,slow=1.0,SNR=6.4						
TORD				PKPab	**PKPab**	**17 04 23.7**	**-0.4**
	1.0nm,1.0s,baz=123,slow=5.3,SNR=3.4						

*CSEM **04** 16:50:39.3,43.°89N×11.°99E,h9km,MD1.8/8*
ROM 04 16:50:39.3±0.1,43.°89N×11.°99E,h9km,Md1.8/8,Ml1.1/5, Error ellipse: s-maj=2.0km s-min=1.0km az=16.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T0502	**Localit˜ San**	**0.11**	**81**	Pg	Pg	16 50 42.5	+0.6
T0502				Sg	Sg	16 50 44.8	+1.0
SFI	**Santa Sofia**	**0.11**	**281**	Pg	Pg	16 50 42.4	+0.4
SFI				Sg	Sg	16 50 44.5	+0.7
	14nm,0.1s						
SFI	**Santa Sofia**	**0.11**	**281**	Pg	Pg	16 50 42.4	+0.4
SFI				Sg	Sg	16 50 44.5	+0.7
	14nm,0.1s						
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	16 50 43.6	+0.6
ASQU				Sg	Sg	16 50 46.8	+1.3
	175nm,0.3s						
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	16 50 43.6	+0.6
ASQU				Sg	Sg	16 50 46.8	+1.3
	175nm,0.3s						
PARC	**Parchiule**	**0.30**	**143**	Pg	Pg	16 50 45.9	+0.7
PARC				Sg	Sb	16 50 51.0	-0.8
	22nm,0.3s						
PARC	**Parchiule**	**0.30**	**143**	Pg	Pg	16 50 45.9	+0.7
PARC				Sg	Sb	16 50 51.0	-0.8
	22nm,0.3s						
VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	16 50 46.6	+0.7
VMG				Sg	Sb	16 50 52.0	-0.8
	48nm,0.2s						
VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	16 50 46.6	+0.7
VMG				Sg	Sb	16 50 52.0	-0.8
	48nm,0.2s						
BADI	**Badiali**	**0.42**	**154**	Pg	Pg	16 50 48.1	+0.6
BADI				Sg	Sb	16 50 55.0	-0.2
	20nm,0.2s						
BADI	**Badiali**	**0.42**	**154**	Pg	Pg	16 50 48.1	+0.6
BADI				Sg	Sb	16 50 55.0	-0.2
	20nm,0.2s						
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	16 50 48.9	+0.1
SEI				Sg	Sb	16 50 57.2	-0.2
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	16 50 48.9	+0.1
SEI				Sg	Sb	16 50 57.2	-0.2
PIEI	**Pieia**	**0.53**	**131**	Pg	Pg	16 50 49.2	-0.3
	5.0nm,0.2s						
PIEI	**Pieia**	**0.53**	**131**	Pg	Pg	16 50 49.2	-0.3
	5.0nm,0.2s						

*CSEM **04** 16:51:22.9,43.°89N×11.°98E,h9km,ML2.1/12*
ROM 04 16:51:22.9±0.1,43.°89N×11.°98E,h9km,Ml2.1/12,Error ellipse: s-maj=1.8km s-min=0.9km az=14.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.09**	**280**	Pg	Pg	16 51 25.8	+0.5
SFI				Sg	Sg	16 51 27.8	+0.7
	839nm,0.3s						
SFI	**Santa Sofia**	**0.09**	**280**	Pg	Pg	16 51 25.8	+0.5
SFI				Sg	Sg	16 51 27.8	+0.7
	839nm,0.3s						
T0502	**Localit˜ San**	**0.12**	**84**	Pg	Pg	16 51 26.2	+0.5
T0502				Sg	Sg	16 51 28.5	+0.9
	779nm,0.2s						
ASQU	**Asqua**	**0.16**	**236**	Pg	Pg	16 51 27.1	+0.7
ASQU				Sg	Sg	16 51 30.1	+1.2
	354nm,0.3s						
ASQU	**Asqua**	**0.16**	**236**	Pg	Pg	16 51 27.1	+0.7
ASQU				Sg	Sg	16 51 30.1	+1.2
	354nm,0.3s						
CPGN	**Carpegna, Ital**	**0.27**	**109**	Pg	Pb	16 51 29.5	-0.4
CPGN				Sg	Sb	16 51 34.5	-0.1
	193nm,0.5s						
CPGN	**Carpegna, Ital**	**0.27**	**109**	Pg	Pb	16 51 29.5	-0.4
CPGN				Sg	Sb	16 51 34.5	-0.1
	193nm,0.5s						
PARC

*ISCJB **04** 17:00:24.0±0.6,24°.87N±0′.03×122°.45E±0′.03,h6^{km}±4^{km}, Error ellipse: s-maj=5.7km s-min=3.8km az=24.2*
*JMA **04** 17:00:24.1±0.1,24°.88N×122°.47E,h36^{km},M2.5*
*TAP **04** 17:00:24.8,24°.87N×122°.36E,h6^{km}±1^{km},ML2.7,D*
ISC 04 17:00:23.7±1.3,**24°.88N**±0′.04×**122°.42E**±0′.04,**h7**^{km}±13^{km}, **n21,σ0°55/38,1C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.59**	**243**	*i* P	**Pb**	**17 00 36.0**	**-0.2**
	baz=239						
TWC				S	**Sb**	**17 00 44.6**	**-0.2**
	baz=239						
NWF	**Wu-fen Shan**	**0.61**	**288**	P	**Pb**	**17 00 37.0**	**+0.2**
	baz=290						
NWF				*i* S	**Sb**	**17 00 45.6**	**-0.1**
	baz=290						
JYNG	**Yonagunijimaku**	**0.64**	**132**	P	**Pg**	**17 00 36.2**	**+0.2**
JYNG				*e*S	**Sg**	**17 00 44.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.68**	**128**	P	**Pg**	**17 00 36.6**	**-0.1**
YOJ				S	**Sg**	**17 00 45.4**	**-0.2**
TWE	**Neicheng**	**0.70**	**257**	*i* P	**Pb**	**17 00 38.4**	**+0.1**
	baz=255						
TWE				*i* S	**Sb**	**17 00 47.7**	**-0.5**
	baz=255						
ENA	**Nanau**	**0.77**	**234**	⇑ *i* P	**Pb**	**17 00 39.0**	**-0.3**
	baz=231						
ENA				*e*S	**Sb**	**17 00 50.4**	**+0.5**
	baz=231						
TWA	**Mucha**	**0.77**	**278**	*e*P	**Pb**	**17 00 39.2**	**-0.3**
	baz=278						
TWA				*e*S	**Sb**	**17 00 50.4**	**+0.3**
	baz=278						
PCYT	**Pengchaiyu**	**0.81**	**337**	*e*P	**Pb**	**17 00 40.0**	**-0.2**
	baz=341						
PCYT				*e*S	**Sn**	**17 00 53.0**	**-0.9**
	baz=341						
ENTT	**Nioudou**	**0.81**	**253**	P	**Pb**	**17 00 40.5**	**+0.3**
	baz=251						
ENTT				*e*S	**Sb**	**17 00 51.6**	**+0.2**
	baz=251						
TWY	**Chenhua**	**0.85**	**298**	*e*P	**Pb**	**17 00 40.5**	**-0.2**
	baz=300						
TWY				*e*S	**Sb**	**17 00 52.3**	**0.0**
	baz=300						
TWS1	**Kuangyinshan**	**0.94**	**284**	*e*P	**Pb**	**17 00 42.6**	**+0.3**
	baz=285						
TWS1				*e*S	**Sb**	**17 00 54.7**	**-0.3**
	baz=285						
NSK	**Sanguang**	**0.99**	**259**	P	**Pb**	**17 00 43.4**	**+0.2**
	baz=257						
NSK				S	**Sb**	**17 00 56.5**	**0.0**
	baz=257						
NNS	**Nan Shan**	**1.05**	**246**	P	**Pn**	**17 00 44.7**	**-0.3**
	baz=243						
NNS				S	**Sn**	**17 00 58.8**	**-1.1**
	baz=243						
WHF	**Hehuan Shan**	**1.28**	**236**	P	**Pg**	**17 00 48.5**	**+0.1**
	baz=233						
TWT	**Tachien**	**1.29**	**242**	*e*P	**Pb**	**17 00 48.4**	**-0.1**
	baz=240						
NSTT	**Nanjuang**	**1.32**	**260**	*e*P	**Pg**	**17 00 48.8**	**-0.3**
	baz=258						
NSTT				*e*S	**Sn**	**17 01 08.0**	**+1.7**
	baz=258						
TWQ1	**Liyutan**	**1.59**	**251**	*e*P	**Pg**	**17 00 54.1**	**-0.2**
	baz=249						
SMLT	**Sun Moon Lake**	**1.71**	**235**	P	**Pn**	**17 00 54.5**	**+0.5**
	baz=233						
SMLT				*e*S	**Sb**	**17 01 17.2**	**0.0**
	baz=233						
TYC	**Yuchr**	**1.73**	**236**	*e*P	**Pb**	**17 00 55.4**	**-0.3**
	baz=234						
ALS	**Alishan**	**2.01**	**228**	*e*P	**Pn**	**17 00 59.2**	**+0.9**
	baz=226						
ALS				*e*S	**Sn**	**17 01 24.0**	**+0.2**
	baz=226						
CHN5	**Tsauling**	**2.04**	**232**	*e*P	**Pb**	**17 01 00.2**	**-1.0**
	baz=230						
CHN5				*e*S	**Sb**	**17 01 25.4**	**-1.3**
	baz=230						

*GUC **04** 17:00:43.9±0.5,40°.55S×72°.19W,h8^{km}±6^{km},ML4.6*
*IDC **04** 17:00:47.8±1.0,40°.23S×71°.91W,h0^{km},mb4.1/7, mb1 4.4/8,mb1mx4.3/19,mbtmp4.3/8,ML5.3/1,MS4.1/13, Ms1 4.0/13,ms1mx3.8/27,Error ellipse: s-maj=25.4km s-min=12.5km az=40.0*
*NEIC **04** 17:00:48.4±0.4,40°.36S×71°.78W,h10^{km},mb4.7/31, ML4.6(GUC),Error ellipse: s-maj=13.7km s-min=7.4km az=83.0*
*ISCJB **04** 17:00:50.2±0.4,40°.34S±0′.04×71°.97W±0′.08,h33^{km}, mb4.6/32,MS4.0/11,Error ellipse: s-maj=8.4km s-min=5.6km az=169.3*
ISC 04 17:00:51.9±0.5,**40°.40S**±0′.05×**71°.95W**±0′.09,**h35**^{km},**n88, σ1°77/80,mb4.7/32,MS4.0/11,1C-1D,Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**1.12**	**108**	Pg	**Pn**	**17 01 09.5**	**-1.6**
	233nm,0.3s,baz=302,slow=13,SNR=25						
PLCA				Lg	Lg	17 01 26.2	
	85nm,0.3s,baz=224,slow=23,SNR=3.1						
PLCA	**Paso Flores**	**1.12**	**108**	⇑ *i*P	**Pn**	**17 01 08.2**	**-3.0**
PLCA				*i* S	**Sn**	**17 01 28.6**	**+3.2**
PLCA	**Paso Flores**	**1.12**	**108**	*e*Pg	**Pn**	**17 01 08.1**	**-3.0**
PLCA				*e*Sn	**Sn**	**17 01 25.6**	**+0.2**
VLCH	**Valdivia**	**1.16**	**300**	*e*P	Pn	17 01 05.3	-6.2
CCHI	**Chillan**	**3.79**	**358**	IAML		17 02 58.6	
	comp=N,498nm,1.2s						
CHRN	**Cochrane**	**6.86**	**184**	*e*Pn	**Pn**	**17 02 28.5**	**-1.5**
ROC1	**El Roble**	**7.45**	**6**	*e*P	**Pn**	**17 02 38.0**	**-0.3**
ROC1				⇓ *e*S	**Sn**	**17 04 02.2**	**+0.5**
ROC1	**El Roble**	**7.45**	**6**	*e*Pn	**Pn**	**17 02 38.1**	**-0.2**
AAGR	**Agrelo**	**7.72**	**20**	*e*P	**Pn**	**17 02 44.9**	**+3.0**
ARCO	**CERRO ARCO**	**7.92**	**19**	*e*P	**Pn**	**17 02 47.9**	**+3.2**
ARCO				IAML		17 03 18.2	
	comp=Z,13nm,0.5s						
TRQA	**Tornquist**	**8.09**	**76**	*e*Pn	Pn	17 02 37.3	-10
ASAL	**Salagasta**	**8.19**	**19**	*e*P	**Pn**	**17 02 50.7**	**+2.4**
AUSP	**Uspallata**	**8.42**	**15**	*e*P	**Pn**	**17 02 52.7**	**+1.0**
RTLS	**Leoncito**	**8.85**	**15**	*e*P	**Pn**	**17 02 59.1**	**+1.6**
RTCV	**Cerro Valdivia**	**8.95**	**19**	*e*P	**Pn**	**17 03 02.1**	**+3.3**
MRA	**San Martin**	**9.41**	**34**	*e*P	**Pn**	**17 03 09.7**	**+4.5**
MRA				IAmb	IAmb	17 03 13.5	
MRA				IAML		17 03 14.9	
	comp=Z,21nm,0.7s						
AMOG	**MOGNA**	**9.85**	**18**	*e*P	**Pn**	**17 03 11.2**	**+0.1**
TCA	**Tanti**	**10.83**	**36**	*e*P	Pn	17 03 29.6	+5.1
TCA				IAML		17 03 31.3	
	comp=Z,5.7nm,0.8s						
AGUA	**GUANDACOL**	**11.25**	**16**	*e*P	**Pn**	**17 03 29.5**	**-0.8**
LCO	**Las Campanas**	**11.41**	**6**	*e*Pn	**Pn**	**17 03 31.3**	**-1.3**
CYA	**Choya**	**12.96**	**25**	*e*P	**Pn**	**17 03 51.3**	**-2.3**
CYA				IAML		17 04 00.2	
	comp=Z,4.1nm,0.6s						
USHA	**Ushuaia**	**14.63**	**172**	LR	LR	17 10 40.4	
	comp=Z,2μm,21.7s,baz=201,slow=40						
PB10	**IPOC Station P**	**16.88**	**4**	*e*Pn	**Pn**	**17 04 43.7**	**-1.7**
	comp=Z,25nm,1.0s						
LVC	**Limon Verde**	**17.92**	**9**	P	**Pn**	**17 04 57.0**	**-1.7**
	comp=Z,9.0nm,0.3s,baz=190,slow=12,SNR=4.7						
LVC				LR	LR	17 12 44.5	
	comp=Z,1μm,19.1s,baz=177,slow=40						
LVC	**Limon Verde**	**17.92**	**9**	*e*Pn	**Pn**	**17 04 57.0**	**-1.7**
	comp=Z,54nm,1.7s						
PB04	**IPOC Station P**	**18.08**	**5**	*e*Pn	**Pn**	**17 04 58.4**	**-2.0**
	comp=Z,41nm,1.1s						
PB01	**IPOC Station P**	**19.41**	**7**	*e*P	**P**	**17 05 15.4**	**+0.2**
	comp=Z,37nm,1.1s						
PB11	**IPOC Station P**	**20.66**	**6**	*e*P	**P**	**17 05 27.6**	**-1.3**
	comp=Z,53nm,1.0s						
LPAZ	**La Paz**	**24.25**	**9**	P	**P**	**17 06 06.6**	**+0.2**
	comp=Z,10nm,1.1s,baz=192,slow=9.0,SNR=15						
LPAZ				LR	LR	17 17 32.2	
	comp=Z,198nm,18.4s,baz=150,slow=42						
LPAZ	**La Paz**	**24.25**	**9**	*e*P	**P**	**17 06 06.8**	**+0.4**
	comp=Z,13nm,0.9s						
PMSA	**Palmer Station**	**24.84**	**172**	LR	LR	17 15 27.7	
	comp=Z,447nm,19.1s,baz=314,slow=35						
PMSA	**Palmer Station**	**24.84**	**172**	*e*P	**P**	**17 06 12.8**	**+2.2**
	comp=Z,115nm,1.2s						
SIV	**San Ignacio**	**26.10**	**24**	P	**P**	**17 06 22.3**	**-0.2**
	comp=Z,5.1nm,0.9s,baz=223,slow=10.0,SNR=8.3						
SIV				LR	LR	17 18 29.4	
	comp=Z,287nm,18.4s,baz=211,slow=41						
SAML	**Samuel**	**32.28**	**16**	*e*P	**P**	**17 07 15.9**	**-1.4**
	comp=Z,21nm,1.8s						
BDFB	**Brasilia**	**32.28**	**47**	P	**P**	**17 07 15.3**	**-2.2**
	comp=Z,1.4nm,0.4s,baz=198,slow=9.0,SNR=3.0						
BDFB				LR	LR	17 21 53.5	
	comp=Z,504nm,20.5s,baz=216,slow=39						
OTAV	**Otavalo**	**40.88**	**350**	*e*P	**P**	**17 08 30.3**	**-0.8**
	comp=Z,8.5nm,1.4s						
PTGA	**Pitinga**	**40.96**	**18**	*e*P	**P**	**17 08 30.5**	**-0.8**
	comp=Z,6.0nm,0.5s						
PRAC	**Prado**	**43.98**	**356**	*e*P	**P**	**17 08 57.1**	**+1.3**
	comp=Z,10nm,0.9s						
SNAA	**Sanae**	**45.69**	**156**	P	**P**	**17 09 07.2**	**-1.7**
SNAA	**Sanae**	**45.69**	**156**	*e*P	**P**	**17 09 06.2**	**-2.8**
	comp=Z,17nm,1.2s						
HELC	**Santa Helena**	**46.48**	**355**	*e*P	**P**	**17 09 15.9**	**-0.1**
	comp=Z,29nm,0.9s						
QSPA	**South Pole Qui**	**49.85**	**180**	*e*P	**P**	**17 09 39.6**	**-1.7**
FDF	**Fort de France**	**55.76**	**13**	*e*P	**P**	**17 10 24.6**	**-0.7**
	comp=Z,27nm,1.0s						
VNDA	**Vanda**	**57.86**	**192**	P	**P**	**17 10 42.0**	**+2.6**
	comp=Z,1.4nm,1.1s,baz=145,slow=4.3,SNR=4.3						
VNDA				LR	LR	17 33 39.1	
	comp=Z,66nm,18.0s,baz=171,slow=34						
SJG	**San Juan**	**58.46**	**6**	LR	LR	17 39 56.2	
	comp=Z,67nm,18.5s,baz=220,slow=40						
CBYP	**Canovanas**	**58.64**	**7**	*e*P	**P**	**17 10 43.1**	**-2.6**
	comp=Z,42nm,1.5s						
TAOE	**Nuku Hiva Isla**	**67.72**	**277**	*e*LR	LR	17 32 17.6	
	comp=Z,233nm,24.8s						
PPT2	**Papeete2**	**69.51**	**264**	*e*LR	LR	17 32 58.4	
	comp=Z,180nm,28.5s						
PPT	**Papeete**	**69.52**	**264**	LR	LR	17 34 19.4	
	comp=Z,156nm,19.4s,baz=37,slow=29						
LPIG	**La Paz**	**73.44**	**324**	LR	LR	17 38 16.8	
	comp=Z,88nm,18.1s,baz=188,slow=31						
CASY	**Casey**	**73.64**	**181**	*e*P	**P**	**17 12 20.3**	**-0.9**
	comp=Z,11nm,1.5s						
HPIG		**73.96**	**329**	*e*P	**P**	**17 12 22.6**	**-1.3**
	comp=Z,18nm,1.8s						
GOGA	**Godfrey**	**74.21**	**350**	*e*P	**P**	**17 12 24.9**	**0.0**
	comp=Z,9.1nm,1.2s						
LRAL	**Lakeview Retre**	**74.38**	**347**	*e*P	**P**	**17 12 25.3**	**-0.6**
	comp=Z,8.9nm,0.9s						
LTX	**Lajitas**	**75.37**	**332**	*e*P	**P**	**17 12 31.4**	**-0.4**
TXAR	**Lajitas Array**	**75.37**	**332**	P	**P**	**17 12 31.4**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=155,slow=6.6,SNR=8.2						
CPCT	**Cooper Cave**	**76.36**	**349**	*e*P	**P**	**17 12 36.1**	**-1.1**
	comp=Z,13nm,1.9s						
BOSA	**Boshof**	**77.10**	**117**	LR	LR	17 42 57.2	
	comp=Z,70nm,19.0s,baz=210,slow=33						
DBIC	**Dimbokro**	**77.25**	**70**	LR	LR	17 44 23.1	
	comp=Z,96nm,18.7s,baz=186,slow=34						
WVT	**Waverly**	**77.54**	**347**	*e*P	**P**	**17 12 42.6**	**-1.2**
	comp=Z,10nm,1.1s						
ANMO	**Albuquerque**	**81.44**	**332**	*e*P	**P**	**17 13 05.8**	**+0.5**
	comp=Z,4.3nm,1.0s						
SDCO	**Great Sand Dun**	**83.63**	**334**	*e*P	**P**	**17 13 17.8**	**+1.0**
	comp=Z,11nm,1.6s						
PV09	**Paradox Valley**	**85.57**	**332**	*e*P	**P**	**17 13 26.8**	**+0.2**
KNB	**Kanab**	**85.69**	**328**	*e*P	**P**	**17 13 29.1**	**+2.1**
	comp=Z,12nm,1.3s						
TORD	**Torodi Ar. Bea**	**86.36**	**69**	P	**P**	**17 13 30.8**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=230,slow=5.5,SNR=3.8						
TORD				LR	LR	17 47 44.1	
	comp=Z,82nm,20.8s,baz=180,slow=33						
TOA1	**Torodi Ar. Sit**	**86.36**	**69**	*e*P	**P**	**17 13 30.8**	**+0.1**
CCUT	**Cedar City**	**86.36**	**328**	*e*P	**P**	**17 13 32.9**	**+2.4**
	comp=Z,6.5nm,1.1s						
ECSD	**EROS Data Cent**	**86.65**	**342**	*e*P	**P**	**17 13 34.5**	**+3.0**
	comp=Z,15nm,1.3s						
TMUT	**Trail Mountain**	**87.04**	**331**	*e*P	**P**	**17 13 34.0**	**+0.2**
	comp=Z,9.0nm,1.0s						
DAC	**Darwin (Calif)**	**87.07**	**325**	*e*P	**P**	**17 13 38.2**	**+4.4**
	comp=Z,7.1nm,1.2s						
R11A	**Troy Canyon, C**	**87.95**	**327**	*e*P	P	17 13 42.9	+4.8
	comp=Z,4.7nm,1.3s						
DUG	**Dugway, Tooele**	**88.43**	**330**	*e*P	**P**	**17 13 41.5**	**+1.2**
PD31	**Pinedale Array**	**89.50**	**333**	*e*P	**P**	**17 13 45.4**	**+0.1**
PDAR	**Pinedale Array**	**89.50**	**333**	P	**P**	**17 13 45.4**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=160,slow=5.5,SNR=2.5						
ELK	**Elko**		**89.85**	**329**	*e*P	**P**	**17 13 47.3**	**+0.3**
	comp=Z,3.4nm,1.1s						
LON	**Longmire**		**97.48**	**328**	*e*P	**P**	**17 14 20.5**	**-1.2**
	comp=Z,22nm,2.0s						
ARU	**Arti**	**144.33**	**46**	*e*PKPdf		**PKPab**	**17 20 21.2**	**-0.3**
ABKAR	**Akbulak array**	**145.27**	**59**	*e*PKPbc		**PKPbc**	**17 20 23.9**	**-1.2**
TIXI	**Tiksi**	**146.98**	**348**	*e*PKPdf		**PKPdf**	**17 20 28.2**	**+0.8**
ZRNK	**Zerenda**	**150.80**	**51**	*e*PKPdf		**PKPdf**	**17 20 36.7**	**+2.5**
ZAA1	**Zalesovo Array**	**159.32**	**41**	*e*PKPdf		**PKPdf**	**17 20 46.4**	**+0.7**
ZAA0	**Zalesovo Array**	**159.32**	**41**	*e*PKPdf		**PKPdf**	**17 20 45.2**	**-0.5**
ZALV	**Zalesovo Beam**	**159.32**	**41**	PKP		**PKPdf**	**17 20 46.4**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=254,slow=2.7,SNR=4.7						
MK32	**Makanchi Array**	**160.33**	**63**	*e*PKPdf		**PKPdf**	**17 20 49.0**	**+1.9**
MK32				*e*PKPab		**PKPab**	**17 21 29.8**	**+1.7**
MKAR	**Makanchi Array**	**160.33**	**63**	PKP		**PKPdf**	**17 20 49.0**	**+1.9**
	comp=Z,0.8nm,1.0s,baz=279,slow=2.8,SNR=5.1						
MKAR				PKPab		**PKPab**	**17 21 29.8**	**+1.7**
	comp=Z,1.2nm,1.1s,baz=264,slow=2.9,SNR=5.0						
SONA0	**Songino Array**	**172.47**	**9**	*e*PKPab		**PKPab**	**17 22 23.8**	**+2.2**
SONM	**Songino Array**	**172.47**	**9**	PKPab		**PKPab**	**17 22 23.8**	**+2.2**
	comp=Z,0.3nm,0.4s,baz=350,slow=1.8,SNR=4.5						
LZH	**Lanzhou**	**174.57**	**141**	*e*PKP		**PKPdf**	**17 20 56.5**	**-1.4**
LZH				pPKP		pPKPdf	17 21 03.3	-6.1
LZH				sPKP			17 21 06.0	
LZH				PKP		**PKPab**	**17 22 31.5**	**+0.2**
LZH				LR	LR			
	comp=N,140nm,18.0s							
LZH				LR	LR			
	comp=E,140nm,18.0s							
LZH				LR	LR			
	comp=Z,170nm,20.1s							

*IDC **04** 17:12:40.2±4.8,2°.79S×139°.15E,h21^{km}±33^{km},mb3.7/6, mb1 4.0/7,mb1mx3.6/31,mbtmp3.9/7,ML3.7/1,MS3.1/4, Ms1 3.1/4,ms1mx2.8/32,Error ellipse: s-maj=34.9km s-min=17.8km az=107.0*
*ISCJB **04** 17:12:41.4±0.7,2°.9S±0′.1×139°.0E±0′.1,h46^{km},mb3.9/5, MS3.2/1,Error ellipse: s-maj=20.8km s-min=12.9km az=31.3*
ISC 04 17:12:43.2±0.8,**2°.9S**±0′.1×**139°.1E**±0′.2,**h46**^{km},**n11, σ1°24/8,mb3.9/5,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.65**	**78**	Pg	**Pn**	**17 13 09.7**	**0.0**
	2.7nm,0.3s,baz=252,slow=21,SNR=73						
JAY				Lg	Lg	17 13 30.4	
	3.2nm,0.3s,baz=89,slow=23,SNR=17						
PMG	**Port Moresby**	**10.33**	**129**	LR	LR	17 19 03.0	
	comp=Z,98nm,19.9s,baz=299,slow=37						
DAV	**Davao City (W)**	**16.70**	**306**	LR	LR	17 22 33.4	
	comp=Z,33nm,20.3s,baz=300,slow=36						
GUMO	**Guam**	**17.31**	**19**	LR	LR	17 21 52.4	
	comp=Z,78nm,20.7s,baz=178,slow=32						
WRA	**Warramunga Arr**	**17.61**	**195**	P	**Pn**	**17 16 43.8**	**-1.6**
	0.2nm,0.3s,baz=18,slow=13,SNR=16						
FITZ	**Fitzroy Crossi**	**20.09**	**220**	P	**P**	**17 17 12.9**	**-0.2**
	2.3nm,0.7s,baz=39,slow=11,SNR=7.9						
FITZ				LR	LR	17 25 20.5	
	comp=Z,113nm,20.8s,baz=80,slow=38						
ASAR	**Alice Springs**	**21.29**	**193**	P	**P**	**17 17 26.6**	**+0.5**
	1.0nm,0.4s,baz=22,slow=10.0,SNR=19						
KLR	**Kul'dur**	**52.26**	**354**	P	**P**	**17 21 50.2**	**+0.4**
	1.1nm,0.5s,baz=218,slow=3.7,SNR=6.8						
MKAR	**Makanchi Array**	**70.13**	**322**	P	**P**	**17 23 51.2**	**+0.3**
	0.6nm,0.5s,baz=131,slow=4.4,SNR=17						
VNDA	**Vanda**	**75.61**	**175**	P	**P**	**17 24 24.4**	**+1.6**
	1.3nm,0.7s,baz=321,slow=7.2,SNR=9.6						
ILAR	**Eielson Array**	**85.80**	**24**	P	**P**	**17 25 16.1**	**-1.4**
	0.6nm,0.8s,baz=256,slow=5.1,SNR=5.5						

*ISK **04** 17:13:39.7,39°.20N×28°.99E,h5^{km},MD2.5*
*CSEM **04** 17:13:40.9±0.2,39°.16N×29°.08E,h10^{km},MD2.5,Error ellipse: s-maj=6.3km s-min=3.8km az=123.0*
*ISCJB **04** 17:13:41.1±0.6,39°.15N±0′.04×29°.09E±0′.05,h10^{km}±5^{km}, Error ellipse: s-maj=7.1km s-min=4.5km az=43.7*
*DDA **04** 17:13:41.4,39°.15N×29°.11E,h7^{km},Md2.5*
ISC 04 17:13:40.7±1.1,**39°.17N**±0′.03×**29°.04E**±0′.04,**h9**^{km}±11^{km}, **n16,σ0°50/30,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.28**	**244**	P	**Pb**	**17 13 48.2**	**+0.2**
DEMI				S	**Sb**	**17 13 52.8**	**0.0**
DEMI	**Demirci**	**0.28**	**244**	*i* P	**Pb**	**17 13 48.2**	**+0.2**
DEMI				*i* S	**Sb**	**17 13 52.8**	**0.0**
GDZ	**Gediz**	**0.35**	**103**	P	**Pg**	**17 13 47.7**	**0.0**
GDZ				S	**Sg**	**17 13 51.8**	**-0.6**
GDZ	**Gediz**	**0.35**	**103**	*i* P	**Pg**	**17 13 47.7**	**0.0**
GDZ				*i* S	**Sg**	**17 13 51.8**	**-0.6**
TVSB	**Tavsanli**	**0.43**	**49**	*e*PG	**Pg**	**17 13 49.0**	**-0.2**
TVSB				*e*SG	**Sg**	**17 13 55.5**	**+0.6**
TVSB	**Tavsanli**	**0.43**	**49**	*e*Pg	**Pg**	**17 13 49.0**	**-0.2**
TVSB				*e*Sg	**Sg**	**17 13 55.5**	**+0.6**
KULA	**Kula-Manisa**	**0.71**	**204**	*e*PG	**Pg**	**17 13 54.1**	**-0.3**
KULA				*e*SG	**Sg**	**17 14 04.7**	**+0.9**
KULA	**Kula-Manisa**	**0.71**	**204**	*e*Pg	**Pg**	**17 13 54.2**	**-0.3**
KULA				*e*Sg	**Sg**	**17 14 04.7**	**+0.9**
KHAL	**Karahalli**	**0.87**	**156**	P	**Pg**	**17 13 57.5**	**+0.1**
KHAL				S	**Sg**	**17 14 08.3**	**-0.5**
KHAL	**Karahalli**	**0.87**	**156**	*i* P	**Pg**	**17 13 57.5**	**+0.1**
KHAL				*i* S	**Sg**	**17 14 08.3**	**-0.5**
CAVI	**Cavuskoy**	**1.21**	**31**	*e*PN	**Pg**	**17 14 03.1**	**-0.8**
CAVI				*e*SN	**Sb**	**17 14 20.0**	**+0.5**
CAVI	**Cavuskoy**	**1.21**	**31**	*e*Pn	**Pg**	**17 14 03.1**	**-0.8**
CAVI				*e*Sn	**Sb**	**17 14 20.0**	**+0.5**
BORA	**Eskisehir**	**1.31**	**56**	P	**Pg**	**17 14 06.4**	**+0.6**
BORA				S	**Sn**	**17 14 22.9**	**0.0**
BORA	**Eskisehir**	**1.31**	**56**	*i* P	**Pg**	**17 14 06.4**	**+0.6**
BORA				*i* S	**Sn**	**17 14 22.9**	**0.0**
ARMT	**Armutlu**	**1.40**	**355**	*e*PN	**Pg**	**17 14 06.2**	**-0.4**
ARMT	**Armutlu**	**1.40**	**355**	*e*Pn	**Pn**	**17 14 06.2**	**-0.4**

*ISK **04** 17:14:35.8,39°.10N×29°.05E,h5^{km},MD2.6*
*ISCJB **04** 17:14:37.6±0.6,39°.13N±0′.04×29°.01E±0′.05,h7^{km}±6^{km}, Error ellipse: s-maj=7.0km s-min=4.7km az=44.1*
*DDA **04** 17:14:37.6,39°.13N×29°.01E,h7^{km},Md2.6*
*CSEM **04** 17:14:37.5±0.2,39°.14N×28°.99E,h8^{km},MD2.6,Error ellipse: s-maj=5.6km s-min=3.7km az=115.0*
ISC 04 17:14:37.7±0.9,**39°.13N**±0′.03×**29°.00E**±0′.03,**h15**^{km}±9^{km}, **n16,σ0°60/28,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**249**	P	**Pg**	**17 14 43.1**	**+0.1**
DEMI				S	**Sg**	**17 14 46.4**	**-0.1**
DEMI	**Demirci**	**0.24**	**249**	*i* P	**Pg**	**17 14 43.1**	**+0.1**
DEMI				*i* S	**Sg**	**17 14 46.4**	**-0.1**
GDZ	**Gediz**	**0.38**	**96**	P	**Pg**	**17 14 45.4**	**-0.1**
GDZ				S	**Sg**	**17 14 50.7**	**0.0**
GDZ	**Gediz**	**0.38**	**96**	*i* P	**Pg**	**17 14 45.4**	**-0.1**
GDZ				*i* S	**Sg**	**17 14 50.7**	**0.0**
TVSB	**Tavsanli**	**0.48**	**48**	*e*PG	**Pg**	**17 14 46.2**	**-1.1**
TVSB				*e*SG	**Sg**	**17 14 53.8**	**-0.1**
TVSB	**Tavsanli**	**0.48**	**48**	*e*Pg	**Pg**	**17 14 46.2**	**-1.1**
TVSB				*e*Sg	**Sg**	**17 14 53.8**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*PG	**Pg**	**17 14 49.6**	**-1.2**
KULA				*e*SG	**Sg**	**17 14 59.8**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*Pg	**Pg**	**17 14 49.6**	**-1.2**
KULA				*e*Sg	**Sg**	**17 14 59.8**	**+0.2**
KHAL	**Karahalli**	**0.85**	**153**	P	**Pb**	**17 14 55.0**	**+0.7**
KHAL				S	**Sg**	**17 15 05.4**	**0.0**
KHAL	**Karahalli**	**0.85**	**153**	*i* P	**Pb**	**17 14 55.0**	**+0.7**
KHAL				*i* S	**Sg**	**17 15 05.5**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*PN	**Pn**	**17 15 00.8**	**0.0**
CAVI				*e*SN	**Sg**	**17 15 19.1**	**+0.9**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pn**	**17 15 00.8**	**0.0**
CAVI				*e*Sn	**Sg**	**17 15 19.2**	**+0.9**
IZI	**Iznik**	**1.26**	**17**	*e*PN	**Pb**	**17 15 01.6**	**+0.3**
IZI	**Iznik**	**1.26**	**17**	*e*Pn	**Pb**	**17 15 01.6**	**+0.3**
ARMT	**Armutlu**	**1.44**	**356**	*e*PN	**Pb**	**17 15 04.5**	**+0.2**
ARMT	**Armutlu**	**1.44**	**356**	*e*Pn	**Pb**	**17 15 04.5**	**+0.2**

PGC 04 17:16:57.9,60°.55N×139°.20W,h5^{km},ML2.1/9,93km west of Haines Jct., Yt Southeastern Alaska, Southeastern Alaska

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

ASAJ				Sn	**Sn**	**17 24 45.0**	**-4.2**
	0.4nm,0.3s,baz=270,slow=20,SNR=3.3							
MKAR	**Makanchi Array**	**44.94**	**302**	P	**P**	**17 30 27.5**	**+2.7**
	0.3nm,0.8s,baz=72,slow=9.4,SNR=2.7							
WRA	**Warramunga Arr**	**58.32**	**190**	P	**P**	**17 32 05.0**	**+0.2**
	1.0nm,0.9s,baz=8.8,slow=7.1,SNR=6.8							
ASAR	**Alice Springs**	**62.04**	**190**	P	**P**	**17 32 30.5**	**+0.2**
	0.3nm,1.0s,baz=5.7,slow=6.0,SNR=3.4							

*ISCJB **04** 17:23:16.7±1.0, 40.04N±0.09×41.69E±0.05, h31km±5km, Error ellipse: s-maj=15.2km s-min=5.9km az=176.0*
*CSEM **04** 17:23:16.5±0.7, 39.99N×41.71E, h5km, MD2.6, Error ellipse: s-maj=19.2km s-min=6.6km az=2.0*
*ISK **04** 17:23:16.3, 39.77N×41.70E, h3km, MD2.6*
*DDA **04** 17:23:18.4, 39.92N×41.72E, h7km, Md2.8*

ISC 04 17:23:15.7±1.3, 40.06N±0.09×41.67E±0.04, h30km±10km, n12, σ0°40/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.18**	**94**	*i* P	**Pb**	**17 23 21.8**	**-0.2**
HOMI				*i* S	**Sb**	**17 23 26.6**	**+0.3**
ERZM	**Erzurum**	**0.28**	**237**	P	**Pn**	**17 23 24.2**	**+0.1**
ERZM	**Erzurum**	**0.28**	**237**	*i* P	**Pn**	**17 23 24.2**	**+0.1**
EZM	**Erzurum**	**0.28**	**237**	*e*PG	**Pn**	**17 23 24.1**	**0.0**
EZM				*e*SG	**Sn**	**17 23 29.8**	**+0.4**
EATA	**Eleskirt**	**0.66**	**107**	P	**Pb**	**17 23 28.5**	**-0.5**
EATA				S	**Sb**	**17 23 38.7**	**+0.6**
EATA	**Eleskirt**	**0.66**	**107**	*i* P	**Pb**	**17 23 28.6**	**-0.5**
EATA				*i* S	**Sb**	**17 23 38.7**	**+0.6**
EKAR	**Karacoban**	**0.86**	**159**	P	**Pb**	**17 23 32.5**	**+0.3**
EKAR				S	**Sb**	**17 23 42.9**	**-0.6**
EKAR	**Karacoban**	**0.86**	**159**	*i* P	**Pb**	**17 23 32.5**	**+0.3**
EKAR				*i* S	**Sb**	**17 23 42.9**	**-0.6**
YEDI	**Yedisu-Bingol**	**1.06**	**235**	*e*PG	**Pb**	**17 23 35.4**	**-0.3**
YEDI				*e*SG	**Sb**	**17 23 49.4**	**0.0**
YEDI	**Yedisu-Bingol**	**1.06**	**235**	*e*Pg	**Pb**	**17 23 35.4**	**-0.3**
YEDI				*e*Sg	**Sb**	**17 23 49.4**	**0.0**
AGRB	**Hanur-Agry**	**1.13**	**115**	*e*PG	**Pb**	**17 23 36.4**	**-0.4**
AGRB				*e*SG	**Sb**	**17 23 51.2**	**0.0**
AGRB	**Hanur-Agry**	**1.13**	**115**	*e*Pg	**Pb**	**17 23 36.4**	**-0.4**
AGRB				*e*Sg	**Sb**	**17 23 51.2**	**0.0**

*IDC **04** 17:30:57.8±2.7, 40.32S×71.98W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.8/28, mbtmp3.9/4, ML5.3/1, Error ellipse: s-maj=57.5km s-min=13.0km az=35.0*
*NEIC **04** 17:30:58.8±0.7, 40.49S×71.94W, h10km, mb4.4/3, Error ellipse: s-maj=17.0km s-min=10.6km az=87.0*
*ISCJB **04** 17:30:59.6±0.7, 40.49S±0.06×72.02W±0.09, h33km, mb3.8/4, Error ellipse: s-maj=11.0km s-min=8.0km az=144.8*

ISC 04 17:31:01.6±0.9, 40.52S±0.08×71.99W±0.1, h35km, n14, σ0°84/15, mb3.8/4, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**1.07**	**102**	Pg	**Pn**	**17 31 20.1**	**0.0**
	209nm,0.3s,baz=301,slow=7.1,SNR=17						
PLCA				Lg	Lg	17 31 36.0	
	92nm,0.3s,baz=231,slow=16,SNR=5.7						
PLCA				LR	LR	17 31 57.4	
	comp=Z,780nm,20.2s,baz=242,slow=51						
PLCA	**Paso Flores**	**1.07**	**102**	*e*Pn	**Pn**	**17 31 19.8**	**-0.4**
PLCA				*e*Sn	**Sn**	**17 31 34.7**	**+0.8**
CHRN	**Cochrane**	**6.75**	**184**	*e*Pn	**Pn**	**17 32 38.8**	**+0.7**
ROC1	**El Roble**	**7.56**	**6**	*e*Pn	**Pn**	**17 32 51.1**	**+1.5**
TRQA	**Tornquist**	**8.10**	**76**	*e*Pn	**Pn**	**17 32 57.2**	**+0.5**
LVC	**Limon Verde**	**18.04**	**9**	P	**Pn**	**17 35 08.3**	**-1.5**
	9.8nm,0.3s,baz=190,slow=12,SNR=3.8						
PB01	**IPOC Station P**	**19.52**	**7**	*e*P	**P**	**17 35 26.0**	**0.0**
	18nm,1.5s						
PB11	**IPOC Station P**	**20.78**	**6**	*e*P	**P**	**17 35 39.1**	**-0.7**
	15nm,1.0s						
LPAZ	**La Paz**	**24.37**	**9**	P	**P**	**17 36 17.2**	**+0.1**
	1.7nm,0.9s,baz=183,slow=11,SNR=4.9						
SIV	**San Ignacio**	**26.20**	**24**	P	**P**	**17 36 32.0**	**-1.0**
	2.9nm,0.8s,baz=218,slow=12,SNR=4.9						
SNAA	**Sanae**	**45.58**	**156**	*e*P	**P**	**17 39 17.7**	**0.0**
	12nm,1.1s						
QSPA	**South Pole Qui**	**49.73**	**180**	*e*P	**P**	**17 39 50.0**	**-0.1**
LTX	**Lajitas**	**75.48**	**332**	*e*P	**P**	**17 42 42.8**	**+0.7**
TXAR	**Lajitas Array**	**75.48**	**332**	P	**P**	**17 42 42.8**	**+0.7**
	0.1nm,0.5s,baz=172,slow=6.9,SNR=2.9						

GUC 04 17:35:36.3±0.5, 40.40S×72.10W, h9km±3km, ML4.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.06**	**304**	*e*P	Pg	17 35 55.2	-1.4
VLCH				*i* S	Sb	17 36 11.2	+0.4
VLCH				IAML		17 36 28.7	
	comp=E,8μm,1.2s						
PLCA	**Paso Flores**	**1.23**	**106**	*i* P	Pb	17 35 59.2	-0.5
PLCA				*i* S	Sn	17 36 16.7	+0.1

*ISK **04** 17:39:45.9, 39.09N×29.04E, h5km, MD2.9*
*DDA **04** 17:39:45.9, 39.08N×29.05E, h7km, Md2.9*
*ISCJB **04** 17:39:46.0±0.5, 39.09N±0.03×29.05E±0.03, h2km±7km, Error ellipse: s-maj=5.6km s-min=3.8km az=10.1*
*CSEM **04** 17:39:46.2±0.1, 39.09N×29.06E, h2km, MD2.9, Error ellipse: s-maj=1.8km s-min=1.7km az=152.0*

ISC 04 17:39:46.4±1.0, 39.09N±0.02×29.06E±0.02, h7km±10km, n61, σ0°62/72, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**260**	P	**Pg**	**17 39 51.6**	**-0.1**
DEMI				S	**Sg**	**17 39 55.3**	**0.0**
DEMI	**Demirci**	**0.27**	**260**	*i* P	**Pg**	**17 39 51.6**	**-0.1**
DEMI				*i* S	**Sg**	**17 39 55.3**	**0.0**
GDZ	**Gediz**	**0.33**	**90**	P	**Pg**	**17 39 52.8**	**-0.1**
GDZ				S	**Sg**	**17 39 57.8**	**+0.5**
GDZ	**Gediz**	**0.33**	**90**	*i* P	**Pg**	**17 39 52.8**	**-0.1**
GDZ				*i* S	**Sg**	**17 39 57.8**	**+0.5**
TVSB	**Tavsanli**	**0.48**	**41**	*e*PG	**Pg**	**17 39 55.3**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**41**	*e*Pg	**Pg**	**17 39 55.3**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*PG	**Pg**	**17 39 58.7**	**-0.2**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*Pg	**Pg**	**17 39 58.7**	**-0.2**
KHAL	**Karahalli**	**0.79**	**154**	P	**Pb**	**17 40 01.8**	**-0.7**
KHAL				S	**Sg**	**17 40 12.4**	**+0.4**
KHAL	**Karahalli**	**0.79**	**154**	*i* P	**Pb**	**17 40 01.8**	**-0.7**
KHAL				*i* S	**Sg**	**17 40 12.3**	**+0.4**
KHL	**Karahalli**	**0.85**	**154**	*e*PG	**Pb**	**17 40 02.8**	**-0.7**
KHL	**Karahalli**	**0.85**	**154**	*e*Pg	**Pb**	**17 40 02.8**	**-0.7**
AKS	**Akhisar**	**0.99**	**258**	*e*PG	**Pb**	**17 40 05.2**	**-0.6**
AKS				*e*SG	**Sb**	**17 40 19.0**	**-0.1**
AKS	**Akhisar**	**0.99**	**258**	*e*Pg	**Pb**	**17 40 05.3**	**-0.6**
AKS				*e*Sg	**Sb**	**17 40 19.0**	**-0.1**
BALB	**Balikesir**	**1.06**	**302**	*e*PG	**Pb**	**17 40 06.8**	**-0.3**
BALB				*e*SG	**Sb**	**17 40 21.8**	**+0.6**
BALB	**Balikesir**	**1.06**	**302**	*e*Pg	**Pb**	**17 40 06.8**	**-0.3**
BALB				*e*Sg	**Sb**	**17 40 21.8**	**+0.6**
IGD	**Bursa**	**1.18**	**5**	*i* P	**Pg**	**17 40 07.8**	**-1.2**
IGD				*i* S	**Sn**	**17 40 25.2**	**-0.4**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*PN	**Pn**	**17 40 10.7**	**+0.2**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*Pn	**Pn**	**17 40 10.7**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*PN	**Pb**	**17 40 10.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*Pn	**Pb**	**17 40 10.9**	**0.0**
IZI	**Iznik**	**1.29**	**14**	*e*PN	**Pb**	**17 40 10.8**	**-0.2**
IZI	**Iznik**	**1.29**	**14**	*e*Pn	**Pb**	**17 40 10.8**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*PN	**Pb**	**17 40 11.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*Pn	**Pb**	**17 40 11.1**	**+0.1**
GEMT	**Gemlik**	**1.35**	**4**	*e*PN	**Pg**	**17 40 11.8**	**-0.4**
GEMT	**Gemlik**	**1.35**	**4**	*e*Pn	**Pg**	**17 40 11.8**	**-0.4**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*PN	**Pb**	**17 40 13.3**	**-0.2**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*Pn	**Pb**	**17 40 13.3**	**-0.2**
ESKT	**Eskisehir**	**1.46**	**72**	*e*PN	**Pn**	**17 40 12.7**	**-0.5**
ESKT	**Eskisehir**	**1.46**	**72**	*e*Pn	**Pn**	**17 40 12.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**219**	*e*PN	**Pb**	**17 40 13.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**219**	*e*Pn	**Pb**	**17 40 13.6**	**-0.3**
ARMT	**Armutlu**	**1.48**	**354**	*e*PN	**Pb**	**17 40 13.9**	**-0.4**
ARMT	**Armutlu**	**1.48**	**354**	*e*Pn	**Pb**	**17 40 13.9**	**-0.4**
EDC	**Edincik**	**1.56**	**324**	*e*PN	**Pb**	**17 40 14.9**	**-0.6**
EDC	**Edincik**	**1.56**	**324**	*e*Pn	**Pb**	**17 40 14.9**	**-0.6**
IZM	**Izmir**	**1.56**	**244**	*e*PN	**Pb**	**17 40 15.0**	**-0.6**
IZM	**Izmir**	**1.56**	**244**	*e*Pn	**Pb**	**17 40 15.0**	**-0.6**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pb**	**17 40 18.0**	**-0.9**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pb**	**17 40 18.0**	**-0.9**
HRT	**Hereke**	**1.79**	**15**	*e*PN	**Pn**	**17 40 18.3**	**+0.5**
HRT	**Hereke**	**1.79**	**15**	*e*Pn	**Pn**	**17 40 18.3**	**+0.5**
KRBG	**Karabiga-Canak**	**1.88**	**314**	*e*PN	**Pb**	**17 40 19.8**	**-1.2**
KRBG	**Karabiga-Canak**	**1.88**	**314**	*e*Pn	**Pb**	**17 40 19.8**	**-1.2**
MRMT	**Marmara Adasi**	**1.88**	**324**	*e*PN	**Pn**	**17 40 19.7**	**+0.7**
MRMT	**Marmara Adasi**	**1.88**	**324**	*e*Pn	**Pn**	**17 40 19.7**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*PN	**Pn**	**17 40 20.5**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*Pn	**Pn**	**17 40 20.5**	**+0.5**
ISK	**Istanbul-Kandi**	**1.97**	**0**	*e*PN	**Pn**	**17 40 20.9**	**+0.7**
ISK	**Istanbul-Kandi**	**1.97**	**0**	*e*Pn	**Pn**	**17 40 20.9**	**+0.7**
SILT	**Sile**	**2.11**	**12**	*e*PN	**Pn**	**17 40 23.2**	**+1.1**
SILT	**Sile**	**2.11**	**12**	*e*Pn	**Pn**	**17 40 23.2**	**+1.1**
MDUB	**Mudurnu**	**2.15**	**49**	*e*PN	**Pn**	**17 40 23.4**	**+0.7**
MDUB	**Mudurnu**	**2.15**	**49**	*e*Pn	**Pn**	**17 40 23.4**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*PN	**Pn**	**17 40 23.2**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*Pn	**Pn**	**17 40 23.2**	**+0.5**
CTKS	**Kestanelik-??a**	**2.19**	**349**	*e*PN	**Pn**	**17 40 24.1**	**+1.0**
CTKS	**Kestanelik-??a**	**2.19**	**349**	*e*Pn	**Pn**	**17 40 24.1**	**+1.0**
KIZT	**Kizilcal**	**2.21**	**95**	*e*PN	**Pn**	**17 40 24.8**	**+1.2**
KIZT	**Kizilcal**	**2.21**	**95**	*e*Pn	**Pn**	**17 40 24.8**	**+1.2**

*IDC **04** 17:43:13.9±2.5, 40.24S×71.80W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.7/27, mbtmp3.8/4, ML4.9/1, Error ellipse: s-maj=58.0km s-min=12.3km az=40.0*
*NEIC **04** 17:43:16.1±1.6, 40.23S×71.51W, h10km, mb4.0/2, Error ellipse: s-maj=29.2km s-min=9.9km az=52.0*

ISC 04 17:43:18.9±1.7, 40.3S±0.1×71.6W±0.2, h35km, n10, σ1°52/11, mb3.3/3, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**0.91**	**122**	Pg	**Pn**	**17 43 33.4**	**-1.8**
	67nm,0.3s,baz=296,slow=10,SNR=5.9						
PLCA				Lg	Lg	17 43 50.4	
	82nm,0.3s,baz=89,slow=16,SNR=6.6						
PLCA	**Paso Flores**	**0.91**	**122**	*e*Pg	**Pn**	**17 43 33.7**	**-1.6**
PLCA				*e*Sn	**Sn**	**17 43 50.2**	**+2.9**
ROC1	**El Roble**	**7.28**	**4**	*e*Pn	**Pn**	**17 45 02.0**	**-0.9**
TRQA	**Tornquist**	**7.77**	**77**	*e*Pn	**Pn**	**17 45 07.9**	**-1.5**
LVC	**Limon Verde**	**17.73**	**8**	P	**Pn**	**17 47 23.1**	**-0.3**
	3.8nm,0.3s,baz=200,slow=17,SNR=2.1						
PB01	**IPOC Station P**	**19.23**	**6**	*e*P	**Pn**	**17 47 41.9**	**+0.6**
	3.8nm,0.9s						
PB11	**IPOC Station P**	**20.49**	**5**	*e*P	**P**	**17 47 54.3**	**+0.4**
	12nm,0.8s						
LPAZ	**La Paz**	**24.07**	**8**	P	**P**	**17 48 32.0**	**+0.4**
	0.7nm,0.7s,baz=202,slow=8.5,SNR=2.6						
SIV	**San Ignacio**	**25.84**	**24**	P	**P**	**17 48 47.1**	**-0.1**
	1.3nm,0.6s,baz=219,slow=7.6,SNR=2.6						
TXAR	**Lajitas Array**	**75.38**	**331**	P	**P**	**17 54 59.1**	**+0.3**
	0.2nm,0.7s,baz=148,slow=9.0,SNR=2.4						

*IDC **04** 17:46:34.8±3.2, 6.72S×150.38E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/28, mbtmp3.9/5, ML2.2/1, Error ellipse: s-maj=90.8km s-min=26.9km az=112.0*

ISC 04 17:46:39.9±2.7, 6.8S±0.3×150.4E±0.5, h33km, n6, σ0°69/7, mb3.8/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.10**	**230**	Pn	**Pn**	**17 47 41.3**	**+1.0**
	10nm,0.3s,baz=44,slow=12,SNR=41						
PMG				Sn	**Sn**	**17 48 26.7**	**-0.5**
	14nm,0.3s,baz=20,slow=23,SNR=7.5						
WRA	**Warramunga Arr**	**20.32**	**228**	P	**P**	**17 51 13.3**	**-0.1**
	2.7nm,0.5s,baz=53,slow=11,SNR=50						
ASAR	**Alice Springs**	**23.06**	**221**	P	**P**	**17 51 42.2**	**-0.5**
	0.6nm,0.7s,baz=60,slow=9.6,SNR=13						
FITZ	**Fitzroy Crossi**	**26.59**	**243**	P	**P**	**17 52 14.7**	**-0.6**
	3.1nm,0.8s,baz=55,slow=10,SNR=17						
KSRS	**Korea Array**	**48.73**	**336**	P	**P**	**17 55 21.4**	**0.0**
	0.5nm,0.5s,baz=159,slow=9.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**148.50**	**284**	PKPbc	**PKPbc**	**18 06 24.4**	**0.0**
	0.7nm,0.5s,baz=75,slow=2.4,SNR=6.1						

*GUC **04** 17:54:02.0±0.5, 40.66S×72.26W, h14km±5km, ML4.8*
*ISCJB **04** 17:54:05.9±0.4, 40.38S±0.06×71.95W±0.06, h10km, mb4.9/49, MS4.0/10, Error ellipse: s-maj=10.0km s-min=4.9km az=32.3*
*IDC **04** 17:54:05.7±1.5, 40.43S×72.03W, h0km, mb4.2/6, mb1 4.5/7, mb1mx4.2/28, mbtmp4.3/7, ML5.5/1, MS4.0/12, Ms1 4.0/12, ms1mx3.8/26, Error ellipse: s-maj=41.3km s-min=12.9km az=28.0*
*NEIC **04** 17:54:07.5±1.8, 40.46S×71.74W, h14km±10km, mb4.9/49, ML4.8(GUC), Error ellipse: s-maj=11.3km s-min=6.3km az=80.0*
NEIC Felt at Bariloche. Also felt at Osorno, Chile.
*BJI **04** 17:54:08.3, 40.30S×71.70W, h21km, mB5.1/4, Ms5.2/6, Ms7 5.0/4*

ISC 04 17:54:06.1±0.4, 40.45S±0.06×72.10W±0.05, h10km, n100, σ1°81/99, mb4.9/49, MS4.1/10, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.08**	**306**	*i* P	**Pb**	**17 54 22.4**	**-4.5**
VLCH				*i* S	**Sb**	**17 54 38.3**	**-2.8**
VLCH				IAML		17 54 55.7	
	comp=N,39μm,3.3s						
PLCA	**Paso Flores**	**1.22**	**104**	Pg	**Pb**	**17 54 27.9**	**-1.4**
	comp=N,221nm,0.3s,baz=307,slow=12,SNR=20						
PLCA				Lg	Lg	17 54 45.4	
	comp=N,73nm,0.3s,baz=54,slow=18,SNR=3.8						
PLCA	**Paso Flores**	**1.22**	**104**	*i* P	**Pb**	**17 54 25.7**	**-3.6**
PLCA				*i* S	**Sg**	**17 54 43.4**	**-2.0**
PLCA	**Paso Flores**	**1.22**	**104**	*e*Pg	**Pb**	**17 54 27.1**	**-2.2**
PLCA				*e*Sn	**Sn**	**17 54 44.5**	**-1.4**
CHRN	**Cochrane**	**6.81**	**183**	*e*Pn	**Pn**	**17 55 45.0**	**-1.1**
ROC1	**El Roble**	**7.51**	**7**	*e*Pn	**Pn**	**17 55 55.5**	**-0.4**
TRQA	**Tornquist**	**8.21**	**76**	*e*Pn	**Pn**	**17 56 01.4**	**-3.9**
TRQA				*e*Lg	Lg	17 58 27.6	
LCO	**Las Campanas**	**11.47**	**6**	*e*Pn	**Pn**	**17 56 45.8**	**-4.4**
PB10	**IPOC Station P**	**16.93**	**5**	*e*Pn	**Pn**	**17 58 02.1**	**-1.1**
	comp=N,73nm,1.3s						
LVC	**Limon Verde**	**17.99**	**10**	Pn	**P**	**17 58 18.5**	**+1.3**
	comp=N,14nm,0.3s,baz=205,slow=9.9,SNR=10						
LVC				LR	LR	18 06 15.4	
	comp=N,1μm,21.1s,baz=174,slow=41						
LVC	**Limon Verde**	**17.99**	**10**	*e*Pn	**P**	**17 58 17.7**	**+0.5**
	comp=N,55nm,1.6s						
PB04	**IPOC Station P**	**18.13**	**6**	*e*Pn	**P**	**17 58 18.7**	**+0.1**
	comp=N,75nm,1.5s						
CPUP	**Villa Florida**	**18.68**	**46**	P	**Pn**	**17 58 27.9**	**+3.1**
	comp=N,0.2nm,0.3s,baz=240,slow=12,SNR=2.4						
CPUP				LR	LR	18 05 40.5	
	comp=N,396nm,21.2s,baz=223,slow=37						
CPUP	**Villa Florida**	**18.68**	**46**	*e*P	**Pn**	**17 58 27.1**	**+2.4**
PB01	**IPOC Station P**	**19.47**	**7**	*e*P	**Pn**	**17 58 34.2**	**-0.2**
	comp=N,55nm,1.4s						
PB11	**IPOC Station P**	**20.72**	**7**	*e*P	Pn	17 58 48.1	-1.1
	comp=N,81nm,1.2s						
LPAZ	**La Paz**	**24.32**	**9**	P	**P**	**17 59 26.0**	**+1.3**
	comp=N,3.6nm,0.8s,baz=185,slow=7.5,SNR=12						
LPAZ				LR	LR	18 09 11.1	
	comp=N,117nm,20.1s,baz=162,slow=37						
LPAZ	**La Paz**	**24.32**	**9**	*e*P	**P**	**17 59 25.0**	**+0.3**
	comp=N,34nm,1.6s						
PMSA	**Palmer Station**	**24.81**	**172**	LR	LR	18 09 07.1	
	comp=N,306nm,18.2s,baz=304,slow=36						
SIV	**San Ignacio**	**26.19**	**25**	P	**P**	**17 59 41.0**	**+0.1**
	comp=N,4.8nm,0.8s,baz=231,slow=8.5,SNR=11						
SIV				LR	LR	18 10 17.7	
	comp=N,223nm,18.0s,baz=174,slow=37						
SAML	**Samuel**	**32.36**	**17**	*e*P	**P**	**18 00 36.5**	**+0.8**
	comp=N,29nm,1.9s						
BDFB	**Brasilia**	**32.40**	**47**	LR	LR	18 15 12.0	
	comp=N,563nm,19.6s,baz=215,slow=39						
OTAV	**Otavalo**	**40.90**	**350**	*e*P	**P**	**18 01 51.6**	**+2.5**
	comp=N,14nm,1.3s						
PTGA	**Pitinga**	**41.04**	**19**	*e*P	**P**	**18 01 48.9**	**-0.8**
	comp=N,6.7nm,0.6s						
PRAC	**Prado**	**44.02**	**356**	*e*P	**P**	**18 02 16.0**	**+2.0**
	comp=N,50nm,1.7s						
ROSC	**El Rosal**	**45.11**	**357**	*e*P	**P**	**18 02 25.3**	**+2.2**
	comp=N,11nm,1.3s						
SNAA	**Sanae**	**45.69**	**156**	*e*P	**P**	**18 02 25.7**	**-1.1**
	comp=N,21nm,1.4s						
HELC	**Santa Helena**	**46.51**	**355**	*e*P	**P**	**18 02 33.7**	**-0.5**
	comp=N,17nm,0.7s						
SDV	**Santo Domingo**	**49.10**	**2**	*e*P	**P**	**18 02 53.2**	**-0.8**
	comp=N,17nm,0.4s						
QSPA	**South Pole Qui**	**49.80**	**180**	*e*P	**P**	**18 02 59.5**	**+0.7**
RKT	**Rikitea**	**55.06**	**268**	*e*LR	LR	18 19 46.2	
	comp=N,299nm,32.5s						
TGUH	**Tegucigalpa,Un**	**56.02**	**342**	*e*P	**P**	**18 03 46.0**	**+0.9**
	comp=N,15nm,0.5s						
MTP	**Monte Pirata**	**58.56**	**7**	*e*P	**P**	**18 04 03.8**	**+0.9**
	comp=N,18nm,1.2s						
CBYP	**Canovanas**	**58.70**	**7**	*e*P	**P**	**18 04 03.8**	**-0.2**
	comp=N,12nm,1.0s						
SMRT	**St. Maarten**	**58.80**	**10**	*e*P	**P**	**18 04 04.6**	**0.0**
	comp=N,62nm,1.5s						
GTBY	**Guantanamo Bay**	**60.13**	**357**	*e*P	**P**	**18 04 13.0**	**-0.7**
	comp=N,65nm,1.2s						
ASCN	**Ascension**	**60.52**	**74**	*e*P	**P**	**18 04 15.5**	**-1.2**
	comp=N,503nm,1.7s						
MAW	**Mawson**	**67.03**	**163**	LR	LR	18 36 18.8	
	comp=N,96nm,18.1s,baz=241,slow=38						
TAOE	**Nuku Hiva Isla**	**67.62**	**278**	*e*LR	LR	18 25 41.9	
	comp=N,303nm,24.4s						
PPT2	**Papeete2**	**69.39**	**264**	*e*LR	LR	18 26 18.6	
	comp=N,198nm,27.2s						
PPT	**Papeete**	**69.40**	**264**	LR	LR	18 27 15.9	
	comp=N,100nm,19.7s,baz=78,slow=29						
CASY	**Casey**	**73.59**	**181**	*e*P	**P**	**18 05 35.8**	**-3.1**
	comp=N,15nm,1.7s						
HPIG		**73.94**	**329**	*e*P	**P**	**18 05 44.1**	**+2.4**
	comp=N,11nm,1.4s						
VBMS	**Vicksburg**	**74.28**	**344**	*e*P	**P**	**18 05 44.1**	**+0.8**
	comp=N,26nm,0.3s						
LRAL	**Lakeview Retre**	**74.40**	**347**	*e*P	**P**	**18 05 43.2**	**-0.8**
	comp=N,6.4nm,0.8s						
RAR	**Rarotonga**	**74.85**	**255**	LR	LR	18 31 59.4	
	comp=N,160nm,18.1s,baz=15,slow=30						
LTX	**Lajitas**	**75.36**	**332**	*e*P	**P**	**18 05 51.5**	**+1.7**
TX31	**Lajitas Ar. Si**	**75.36**	**332**	*e*P	**P**	**18 05 50.5**	**+0.7**
TXAR	**Lajitas Array**	**75.36**	**332**	P	**P**	**18 05 51.5**	**+1.7**
	comp=N,0.9nm,0.9s,baz=155,slow=9.1,SNR=7.0						
BOSA	**Boshof**	**77.18**	**117**	LR	LR	18 35 57.2	
	comp=N,62nm,19.5s,baz=246,slow=33						
DBIC	**Dimbokro**	**77.37**	**70**	P	**P**	**18 06 01.6**	**+0.1**
	comp=N,4.9nm,0.8s,baz=206,slow=8.9,SNR=3.7						
DBIC				LR	LR	18 35 27.8	
	comp=N,100nm,20.7s,baz=198,slow=32						
DBIC	**Dimbokro**	**77.37**	**70**	*e*P	**P**	**18 06 01.0**	**-0.4**
	comp=N,30nm,1.3s						
WVT	**Waverly**	**77.56**	**347**	*e*P	**P**	**18 06 01.5**	**-0.4**
	comp=N,6.8nm,0.6s						
TSUM	**Tsumeb**	**77.57**	**105**	*e*P	**P**	**18 06 02.8**	**0.0**
	comp=N,14nm,1.4s						
WHAR	**Wooly Hollow**	**77.62**	**343**	*e*P	**P**	**18 06 02.8**	**+0.5**
	comp=N,26nm,1.6s						
X201	**Greenbrier Sit**	**77.64**	**343**	*e*P	**P**	**18 06 03.3**	**+0.9**
	comp=N,26nm,1.7s						
WMOK	**Wichita Mounta**	**78.75**	**338**	*e*P	**P**	**18 06 10.0**	**+1.4**
	comp=N,13nm,1.6s						
ANMO	**Albuquerque**	**81.42**	**332**	*e*P	**P**	**18 06 24.8**	**+1.5**
	comp=N,4.8nm,1.1s						
T25A	**Trinidad**	**82.70**	**334**	*e*P	**P**	**18 06 31.7**	**+1.7**
	comp=N,50nm,1.9s						
S22A	**4UR Ranch, Cre**	**84.07**	**333**	*e*P	**P**	**18 06 38.9**	**+1.8**
	comp=N,21nm,1.8s						
SMCO	**Snowmass**	**85.41**	**334**	*e*P	**P**	**18 06 45.4**	**+1.4**
	comp=N,25nm,1.9s						
KNB	**Kanab**	**85.67**	**328**	*e*P	**P**	**18 06 47.6**	**+2.6**
	comp=N

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.12**	**194**	*eP*	Pb	17 54 53.3	+2.1
GUIM				*eS*	Sb	17 54 57.4	+3.3
JAP	**San Jose, Anti**	**0.66**	**270**	*eP*	Pn	17 55 02.0	+0.8
RCP	**Roxas**	**0.82**	**9**	*eP*	Pb	17 55 02.8	+0.3
RCP				*eS*	Sn	17 55 15.4	+0.5
LLP	**Lapu-Lapu**	**1.39**	**108**	*eP*	Pb	17 55 12.7	+0.4
LLP				*eS*	Sb	17 55 31.2	+1.5
SNPH	**Sibulan**	**1.52**	**156**	*eP*	Pn	17 55 12.9	-0.2
SNPH				*i* S	Sb	17 55 33.1	-0.4
CUYO	**Cuyo Island**	**1.58**	**274**	*eP*	Pn	17 55 13.7	-0.2
CUYO				*eS*	Sb	17 55 36.4	+1.3
TBP	**Tagbilaran**	**1.61**	**131**	*eP*	Pb	17 55 20.2	+4.1
OTRP	**Odiongan**	**1.71**	**340**	*eP*	Pb	17 55 17.1	-0.6
OTRP				*eS*	Sb	17 55 39.3	+0.5
OCLP	**Ormoc**	**1.98**	**81**	*eP*	Pb	17 55 21.3	-1.0
OCLP				*eS*	Sb	17 55 49.5	+2.9
SJMP	**San Jose**	**2.25**	**319**	*eP*	Pn	17 55 23.8	+0.7
SJMP				*eS*	Sb	17 55 52.4	-2.0
BOAC	**Boac**	**2.80**	**344**	*eP*	Pn	17 55 32.6	+1.9
BOAC				*eS*	Sn	17 56 06.5	+2.6
IPIL	**Ipil**	**2.94**	**181**	*eP*	Pn	17 55 35.0	+2.3
IPIL				*eS*	Sn	17 56 09.1	+1.7
PAGZ	**Pagadian**	**2.98**	**165**	*eP*	Pn	17 55 36.2	+3.1
ENPP	**El Nido**	**3.17**	**279**	*eP*	Pn	17 55 36.4	+0.6
ENPP				*eS*	Sn	17 56 11.7	-1.3

*ISCJB **04** 18:04:42.9±1.4, 1.5S±0.2×16.2W±0.2, h12km, mb4.2/8, MS3.7/7, Error ellipse: s-maj=29.9km s-min=24.4km az=146.2*

*IDC **04** 18:04:42.8±2.4, 1.51S×16.10W, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.6/48, mbtmp4.0/6, MS3.7/8, Ms1 3.7/8, ms1mx3.2/39, Error ellipse: s-maj=68.6km s-min=30.1km az=81.0*

*NEIC **04** 18:04:43.7±1.0, 1.60S×16.15W, h10km, mb4.9/2, Error ellipse: s-maj=26.5km s-min=21.1km az=99.0*

ISC 04 18:04:44.7±1.4, 1.5S±0.2×16.1W±0.2, h12km, n33, σ1f11/17, mb4.2/8, MS3.7/7, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.47**	**165**	T	T	18 13 04.9	
	baz=348,slow=74,SNR=342						
H10N3	**ASCENSION HYDR**	**6.48**	**166**	T	T	18 13 00.5	
	baz=348,slow=74,SNR=322						
H10N1	**ASCENSION HYDR**	**6.49**	**165**	T	T	18 13 04.3	
	baz=348,slow=74,SNR=375						
H10S1	**ASCENSION HYDR**	**7.52**	**169**	T	T	18 14 21.2	
	baz=351,slow=74,SNR=192						
H10S3	**ASCENSION HYDR**	**7.53**	**169**	T	T	18 14 24.9	
	baz=351,slow=74,SNR=286						
H10S2	**ASCENSION HYDR**	**7.54**	**169**	T	T	18 14 22.8	
	baz=351,slow=74,SNR=196						
DBIC	**Dimbokro**	**13.88**	**54**	LR	LR	18 12 09.8	
	comp=Z,178nm,21.5s,baz=173,slow=32						
TORD	**Torodi Ar. Bea**	**22.91**	**50**	P	**P**	**18 09 47.5**	**-1.2**
	5.2nm,0.8s,baz=230,slow=11,SNR=13						
TORD				LR	LR	18 17 32.5	
	comp=Z,100nm,19.8s,baz=190,slow=34						
TOA1	**Torodi Ar. Sit**	**22.91**	**50**	*eP*	**P**	**18 09 47.5**	**-1.3**
MDT	**Midelt**	**35.84**	**17**	P	**P**	**18 11 45.8**	**+1.3**
	3.9nm,0.8s,baz=262,slow=8.3,SNR=7.2						
SIV	**San Ignacio**	**46.55**	**249**	LR	LR	18 33 24.4	
	comp=Z,91nm,18.1s,baz=160,slow=37						
CPUP	**Villa Florida**	**46.64**	**234**	LR	LR	18 29 58.9	
	comp=Z,97nm,19.4s,baz=217,slow=32						
H05S1	**Guadeloupe/Mar**	**47.02**	**291**	T	T	19 03 56.2	
	SNR=4.2						
BOSA	**Boshof**	**47.77**	**128**	P	**P**	**18 13 22.7**	**+0.4**
	3.0nm,0.7s,baz=293,slow=7.2,SNR=9.3						
LPAZ	**La Paz**	**53.25**	**251**	LR	LR	18 36 08.5	
	comp=Z,76nm,21.2s,baz=152,slow=35						
MORC	**Moravsky Berou**	**58.71**	**25**	*eP*	**P**	**18 14 41.9**	**-0.5**
	27nm,1.5s						
MLR	**Muntele Rosu**	**59.78**	**33**	*eP*	**P**	**18 14 49.3**	**-0.7**
	10nm,1.5s						
BR231	**Keskin MP Arra**	**60.72**	**42**	*eP*	**P**	**18 14 58.4**	**+2.0**
BR101	**Keskin Array S**	**61.23**	**42**	*eP*	**P**	**18 15 00.4**	**+0.4**
BR131	**Keskin Array S**	**61.23**	**42**	*eP*	**P**	**18 14 59.2**	**-0.7**
BRTR	**Keskin Array B**	**61.23**	**42**	P	**P**	**18 15 00.4**	**+0.4**
	1.1nm,0.9s,baz=230,slow=5.8,SNR=7.3						
ATAH	**Atahualpa**	**62.30**	**263**	LR	LR	18 41 10.6	
	comp=Z,132nm,21.6s,baz=131,slow=35						
AK11	**Malin Array Si**	**64.72**	**30**	*eP*	**P**	**18 15 22.3**	**-0.4**
AKASG	**Malin Array Be**	**64.76**	**30**	P	**P**	**18 15 21.2**	**-1.7**
	0.1nm,0.2s,baz=231,slow=6.1,SNR=6.1						
LMQ	**La Malbaie**	**67.87**	**324**	*eP*	**P**	**18 15 42.4**	**-0.6**
FIA0	**FINESS Array S**	**70.57**	**20**	*eP*	**P**	**18 15 59.5**	**+0.1**
FINES	**FINESS Array B**	**70.57**	**20**	P	**P**	**18 15 59.5**	**+0.1**
	1.4nm,0.8s,baz=263,slow=7.5,SNR=4.6						
VOSK	**Vostochnaya**	**89.44**	**37**	*eP*	**P**	**18 17 43.0**	**+1.4**
AAK	**Ala-Archa**	**91.47**	**48**	LR	LR	19 05 13.3	
	comp=Z,21nm,18.3s,baz=246,slow=40						
PDAR	**Pinedale Array**	**93.55**	**313**	LR	LR	18 54 02.9	
	comp=Z,31nm,21.1s,baz=96,slow=32						
ASAR	**Alice Springs**	**141.58**	**133**	PKhKP	PKPpre	18 24 11.2	
	0.7nm,0.8s,baz=226,slow=2.5,SNR=9.7						
ASAR				PKP	**PKPdf**	**18 24 15.8**	**-1.1**
	0.6nm,0.9s,baz=226,slow=2.3,SNR=5.4						
WRA	**Warramunga Arr**	**144.03**	**128**	PKP	PKPbc	18 24 19.2	0.0
	0.5nm,0.7s,baz=240,slow=2.6,SNR=9.5						
WR1	**Warramunga Arr**	**144.03**	**128**	*e*PKPdf	PKPbc	18 24 19.2	0.0

*CSEM **04** 18:06:24.2, 43.89N×11.99E, h9km, MD1.6/6*

ROM 04 18:06:24.2±0.1, 43.89N×11.99E, h9km, Md1.6/6, Error ellipse: s-maj=1.4km s-min=0.7km az=2.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0502	**Localit˜ San**	**0.11**	**82**	Pg	Pg	18 06 27.2	+0.4
T0502				Sg	Sg	18 06 29.5	+0.9
SFI	**Santa Sofia**	**0.11**	**280**	Pg	Pg	18 06 27.1	+0.3
SFI				Sg	Sg	18 06 29.2	+0.5
SFI	**Santa Sofia**	**0.11**	**280**	Pg	Pg	18 06 27.1	+0.3
SFI				Sg	Sg	18 06 29.2	+0.5
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	18 06 28.4	+0.5
ASQU				Sg	Sg	18 06 31.6	+1.2
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	18 06 28.4	+0.5
ASQU				Sg	Sg	18 06 31.6	+1.2
PARC	**Parchiule**	**0.30**	**143**	Pg	Pg	18 06 30.6	+0.5
PARC				Sg	Sb	18 06 36.0	-0.7
PARC	**Parchiule**	**0.30**	**143**	Pg	Pg	18 06 30.6	+0.5
PARC				Sg	Sb	18 06 36.0	-0.7
VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	18 06 31.5	+0.7
VMG				Sg	Sb	18 06 37.1	-0.7
VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	18 06 31.5	+0.7
VMG				Sg	Sb	18 06 37.1	-0.7
CAFI	**Castiglion Fio**	**0.56**	**182**	Pg	Pb	18 06 35.6	-0.5
CAFI	**Castiglion Fio**	**0.56**	**182**	Pg	Pb	18 06 35.6	-0.5

*GEN **04** 18:06:48.1, 43.85N×12.11E, h1km, ML3.6*

*CSEM **04** 18:06:50.7±0.1, 43.85N×11.95E, h10km, ML3.8/26, Error ellipse: s-maj=2.3km s-min=1.6km az=23.0*

*ROM **04** 18:06:50.2±0.1, 43.87N×11.98E, h7km±1km, Ml3.6/42, Error ellipse: s-maj=1.5km s-min=1.0km az=10.0*

*PDG **04** 18:06:50.7±0.9, 43.89N×11.98E, h12km±1km, ML3.7/10, Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*

*LDG **04** 18:06:50.2±0.1, 43.87N×12.11E, h2km, Ml3.7/23, Error ellipse: s-maj=3.7km s-min=2.3km az=5.0*

*NEIC **04** 18:06:50.0, 43.89N×11.98E, h9km, ML3.3(ROM), After ROM.*

NEIC Felt at Florence and in parts of Emilia-Romagna and Tuscany.

*IDC **04** 18:06:50.3±0.8, 43.93N×12.03E, h0km, mb3.7/9, mb1 3.8/19, mb1mx3.7/53, mbtmp3.6/19, ML3.4/10, MS2.9/5, Ms1 2.9/5, ms1mx2.7/46, Error ellipse: s-maj=14.3km s-min=10.8km az=96.0*

*ISCJB **04** 18:06:50.4±0.2, 43.90N±0.01×11.93E±0.01, h23km±2km, mb3.7/9, Error ellipse: s-maj=2.3km s-min=1.4km az=17.9*

*PRU **04** 18:06:52.8, 43.91N×11.99E, h21km*

*STR **04** 18:06:59.8±0.2, 44.27N×11.19E, h10km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 04 18:06:51.2±0.7, 43.85N±0.02×11.94E±0.01, h11km±4km, n341, σ1f70/493, mb4.0/9, 31C-7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.09**	**313**	Pg	**Pg**	**18 06 53.0**	**-0.9**
SFI				Sg	**Sg**	**18 06 55.1**	**-0.8**
	26µm,0.5s						
SFI	**Santa Sofia**	**0.09**	**313**	Pg	**Pg**	**18 06 53.0**	**-0.9**
SFI				Sg	**Sg**	**18 06 55.1**	**-0.8**
	26µm,0.5s						
ASQU	**Asqua**	**0.12**	**246**	*i*Pg	**Pg**	**18 06 54.3**	**0.0**
ASQU				Sg	**Sg**	**18 06 57.4**	**+0.9**
	37µm,0.3s						
ASQU	**Asqua**	**0.12**	**246**	*i*Pg	**Pg**	**18 06 54.3**	**0.0**
ASQU				Sg	**Sg**	**18 06 57.4**	**+0.9**
	37µm,0.3s						
T0502	**Localit˜ San**	**0.15**	**69**	Pg	**Pg**	**18 06 53.2**	**-1.6**
T0502				Sg	**Sg**	**18 06 55.7**	**-1.6**
	30µm,0.2s						
CPGN	**Carpegna, Ital**	**0.28**	**99**	Pg	**Pg**	**18 06 56.6**	**-0.4**
	11µm,0.7s						
CPGN	**Carpegna, Ital**	**0.28**	**99**	Pg	**Pg**	**18 06 56.6**	**-0.4**
	11µm,0.7s						
PARC	**Parchiule**	**0.29**	**132**	Pg	**Pg**	**18 06 56.6**	**-0.6**
PARC				Sg	**Sg**	**18 07 01.9**	**+0.7**
	8µm,0.3s						
PARC	**Parchiule**	**0.29**	**132**	Pg	**Pg**	**18 06 56.6**	**-0.6**
VMG	**Vicchio**	**0.31**	**292**	*i*Pg	**Pg**	**18 06 57.3**	**-0.2**
	180nm,0.2s						
VMG	**Vicchio**	**0.31**	**292**	*i*Pg	**Pg**	**18 06 57.3**	**-0.2**
	180nm,0.2s						
BADI	**Badiali**	**0.40**	**146**	Pg	**Pg**	**18 06 58.5**	**-0.7**
BADI				Sg	**Sb**	**18 07 06.0**	**-0.5**
	10µm,0.8s						
BADI	**Badiali**	**0.40**	**146**	Pg	**Pg**	**18 06 58.5**	**-0.7**
SEI	**Scarperia**	**0.47**	**297**	*i*Pg	**Pg**	**18 06 59.7**	**-0.7**
SEI	**Scarperia**	**0.47**	**297**	*i*Pg	**Pg**	**18 06 59.7**	**-0.7**
BLLA	**Bellaria**	**0.49**	**52**	Pg	**Pg**	**18 06 59.6**	**-1.2**
	26µm,1.6s						
BLLA	**Bellaria**	**0.49**	**52**	Pg	**Pg**	**18 06 59.6**	**-1.2**
	26µm,1.6s						
FIR	**Firenze**	**0.50**	**262**	Pg	**Pg**	**18 07 01.3**	**+0.3**
	9µm,0.5s						
FIR	**Firenze**	**0.50**	**262**	Pg	**Pg**	**18 07 01.3**	**+0.3**
	9µm,0.5s						
CAFI	**Castiglion Fio**	**0.52**	**178**	*i*Pg	**Pg**	**18 07 01.2**	**-0.1**
CAFI				Sg	**Sb**	**18 07 10.4**	**+0.6**
	4µm,0.6s						
CAFI	**Castiglion Fio**	**0.52**	**178**	*i*Pg	**Pg**	**18 07 01.2**	**-0.1**
ATPC	**Poggio Castell**	**0.52**	**134**	Pg	**Pg**	**18 07 00.6**	**-0.9**
ATPC				Sg	**Sb**	**18 07 09.5**	**-0.5**
	5µm,0.8s						
ATPC	**Poggio Castell**	**0.52**	**134**	Pg	**Pg**	**18 07 00.6**	**-0.9**
PIEI	**Pieia**	**0.53**	**125**	Pg	**Pg**	**18 07 00.3**	**-1.3**
PIEI				Sg	**Sg**	**18 07 09.2**	**+0.5**
	1µm,0.2s						
PIEI	**Pieia**	**0.53**	**125**	Pg	**Pg**	**18 07 00.3**	**-1.3**
PIEI				Sg	**Sg**	**18 07 09.2**	**+0.5**
	1µm,0.2s						
IMOL	**Imola, Italy**	**0.53**	**345**	Pg	**Pg**	**18 07 01.2**	**-0.4**
	1µm,0.6s						
IMOL	**Imola, Italy**	**0.53**	**345**	Pg	**Pg**	**18 07 01.2**	**-0.4**
	1µm,0.6s						
ATVO	**AVT- Monte Val**	**0.57**	**143**	Pg	**Pg**	**18 07 01.8**	**-0.6**
ATVO				Sg	**Sb**	**18 07 11.5**	**0.0**
	4µm,0.7s						
ATVO	**AVT- Monte Val**	**0.57**	**143**	Pg	**Pg**	**18 07 01.8**	**-0.6**
FSSB	**Fossombrone**	**0.63**	**104**	Pg	**Pg**	**18 07 01.9**	**-1.5**
FSSB				Sg	**Sg**	**18 07 11.9**	**+0.2**
	4µm,0.4s						
FSSB	**Fossombrone**	**0.63**	**104**	Pg	**Pg**	**18 07 01.9**	**-1.5**
FSSB				Sg	**Sg**	**18 07 11.9**	**+0.2**
	4µm,0.4s						
MTRZ	**Monterenzio**	**0.63**	**328**	*i*Pg	**Pg**	**18 07 02.4**	**-1.1**
	8µm,0.5s						
MTRZ	**Monterenzio**	**0.63**	**328**	*i*Pg	**Pg**	**18 07 02.4**	**-1.1**
	8µm,0.5s						
FRON	**Frontone**	**0.66**	**119**	Pg	**Pg**	**18 07 02.7**	**-1.3**
FRON				Sg	**Sb**	**18 07 13.4**	**-0.5**
	3µm,0.9s						
FRON	**Frontone**	**0.66**	**119**	Pg	**Pg**	**18 07 02.7**	**-1.3**
PESA	**Pesaro**	**0.66**	**81**	Pg	**Pg**	**18 07 02.6**	**-1.4**
	3µm,0.6s						
PESA	**Pesaro**	**0.66**	**81**	Pg	**Pg**	**18 07 02.6**	**-1.4**
	3µm,0.6s						
FNVD	**Fontana Vidola**	**0.67**	**299**	Pg	**Pg**	**18 07 03.6**	**-0.7**
	3µm,0.6s						
FNVD	**Fontana Vidola**	**0.67**	**299**	Pg	**Pg**	**18 07 03.6**	**-0.7**
	3µm,0.6s						
ATTE	**AVT- Monte Tez**	**0.71**	**155**	Pg	**Pg**	**18 07 04.3**	**-0.8**
	3µm,0.7s						
ATTE	**AVT- Monte Tez**	**0.71**	**155**	Pg	**Pg**	**18 07 04.3**	**-0.8**
	3µm,0.7s						
MURB	**Monte Urbino**	**0.72**	**143**	Pg	**Pg**	**18 07 04.3**	**-0.9**
	5µm,0.7s						
MURB	**Monte Urbino**	**0.72**	**143**	Pg	**Pg**	**18 07 04.3**	**-0.9**
	5µm,0.7s						
SSFR	**Montelago di S**	**0.74**	**123**	Pg	**Pg**	**18 07 04.1**	**-1.4**
SSFR				Sg	**Sb**	**18 07 16.2**	**0.0**
SSFR	**Montelago di S**	**0.74**	**123**	Pg	**Pg**	**18 07 04.1**	**-1.4**
CMPO	**Campotto Po**	**0.74**	**353**	Pg	**Pg**	**18 07 05.3**	**-0.3**
	8µm,1.0s						
CMPO	**Campotto Po**	**0.74**	**353**	Pg	**Pg**	**18 07 05.3**	**-0.3**
	8µm,1.0s						
ARVD	**Arcevia**	**0.81**	**115**	Pg	**Pg**	**18 07 05.2**	**-1.6**
	1µm,0.9s						
ARVD	**Arcevia**	**0.81**	**115**	Pg	**Pg**	**18 07 05.2**	**-1.6**
	1µm,0.9s						
FROS	**Frosini**	**0.85**	**222**	Pg	**Pb**	**18 07 07.9**	**-0.1**
	7µm,1.2s						
FROS	**Frosini**	**0.85**	**222**	Pg	**Pb**	**18 07 07.9**	**-0.1**
	7µm,1.2s						
FIU	**Minerbio Fiu**	**0.86**	**338**	Pg	**Pb**	**18 07 08.1**	**0.0**
	5µm,0.6s						
FIU	**Minerbio Fiu**	**0.86**	**338**	Pg	**Pb**	**18 07 08.1**	**0.0**
	5µm,0.6s						
ZCCA	**Zocca**	**0.86**	**307**	Pg	**Pg**	**18 07 07.9**	**+0.1**
	2µm,1.1s						
ZCCA	**Zocca**	**0.86**	**307**	Pg	**Pg**	**18 07 07.9**	**+0.1**
	2µm,1.1s						
POPM	**Popiglio**	**0.88**	**284**	P	**Pg**	**18 07 07.2**	**-0.9**
POPM				S	**Sb**	**18 07 20.0**	**-0.1**
SNTG	**Esanatoglia**	**0.94**	**129**	Pg	**Pg**	**18 07 07.9**	**-1.4**
	1µm,0.7s						
SNTG	**Esanatoglia**	**0.94**	**129**	Pg	**Pg**	**18 07 07.9**	**-1.4**
	1µm,0.7s						
MGAB	**Montegabbione**	**0.94**	**172**	*i*Pg	**Pg**	**18 07 08.5**	**-0.9**
	3µm,0.7s						
MGAB	**Montegabbione**	**0.94**	**172**	*i*Pg	**Pg**	**18 07 08.5**	**-0.9**
	3µm,0.7s						
SENI	**Senigallia**	**0.95**	**98**	Pg	**Pg**	**18 07 09.4**	**-0.1**
	2µm,0.8s						
SENI	**Senigallia**	**0.95**	**98**	Pg	**Pg**	**18 07 09.4**	**-0.1**
	2µm,0.8s						
BDI	**Bagni Di Lucca**	**0.99**	**283**	Pg	**Pg**	**18 07 09.3**	**-1.0**
	2µm,1.0s						
BDI	**Bagni Di Lucca**	**0.99**	**283**	Pg	**Pg**	**18 07 09.3**	**-1.0**
	2µm,1.0s						
SACS	**San Casciano d**	**1.00**	**181**	*i*Pg	**Pg**	**18 07 09.8**	**-0.6**
	2µm,0.7s						
CING	**Cingoli**	**1.03**	**117**	Pg	**Pg**	**18 07 09.8**	**-1.2**
	2µm,0.8s						
CING	**Cingoli**	**1.03**	**117**	Pg	**Pg**	**18 07 09.8**	**-1.2**
	2µm,0.8s						
MAIM	**Mastiano**	**1.05**	**274**	Pg	**Pb**	**18 07 10.1**	**-1.2**
	1µm,0.8s						
MAIM	**Mastiano**	**1.05**	**274**	Pg	**Pb**	**18 07 10.1**	**-1.2**
	1µm,0.8s						
MAIM				S	**Sg**	**18 07 24.9**	**-0.1**
ARCI	**Arcidosso**	**1.05**	**199**	*i*Pg	**Pg**	**18 07 10.8**	**-0.6**
	1µm,1.0s						
ARCI	**Arcidosso**	**1.05**	**199**	*i*Pg	**Pg**	**18 07 10.8**	**-0.6**
	1µm,1.0s						
TRIF	**Trifonti**	**1.05**	**226**	*i*Pg	**Pb**	**18 07 11.1**	**-0.3**
	798nm,0.6s						
TRIF	**Trifonti**	**1.05**	**226**	*i*Pg	**Pb**	**18 07 11.1**	**-0.3**
	798nm,0.6s						
SASS	**Sassa**	**1.08**	**238**	Pg	**Pb**	**18 07 11.4**	**-0.5**
	630nm,0.7s						
SASS	**Sassa**	**1.08**	**238**	Pg	**Pb**	**18 07 11.4**	**-0.5**
	630nm,0.7s						
MCIV	**Monte Civitell**	**1.08**	**190**	*i*Pg	**Pb**	**18 07 11.5**	**-0.5**
	843nm,0.9s						
MCIV	**Monte Civitell**	**1.08**	**190**	*i*Pg	**Pb**	**18 07 11.5**	**-0.5**
	843nm,0.9s						
CESI	**CESI - Serrava**	**1.10**	**140**	Pg	**Pb**	**18 07 10.9**	**-1.3**
CESI	**CESI - Serrava**	**1.10**	**140**	Pg	**Pb**	**18 07 10.9**	**-1.3**
SARO	**Sassorosso**	**1.16**	**288**	P	**Pb**	**18 07 12.2**	**-1.1**
SARO				S	**Sb**	**18 07 28.3**	**-0.1**
VLC	**Villacollemand**	**1.16**	**286**	*e*Pg	**Pb**	**18 07 12.3**	**-1.0**
VLC	**Villacollemand**	**1.16**	**286**	*e*Pg	**Pb**	**18 07 12.3**	**-1.0**
FDMO	**Fiordimonte**	**1.16**	**134**	Pg	**Pb**	**18 07 11.9**	**-1.4**
	2µm,0.9s						
FDMO	**Fiordimonte**	**1.16**	**134**	Pg	**Pb**	**18 07 11.9**	**-1.4**
	2µm,0.9s						
LATE	**Laterza**	**1.23**	**185**	Pg	**Pn**	**18 07 13.5**	**-0.9**
	1µm,0.9s						
LATE	**Laterza**	**1.23**	**185**	Pg	**Pn**	**18 07 13.5**	**-0.9**
	1µm,0.9s						
AOI	**Ancona**	**1.24**	**103**	Pg	**Pn**	**18 07 13.9**	**-0.6**
	681nm,0.6s						
AOI	**Ancona**	**1.24**	**103**	Pg	**Pn**	**18 07 13.9**	**-0.6**
	681nm,0.6s						
CASP	**Castiglione de**	**1.31**	**217**	Pg	**Pn**	**18 07 14.3**	**-1.2**
	555nm,0.9s						
CASP	**Castiglione de**	**1.31**	**217**	Pg	**Pn**	**18 07 14.3**	**-1.2**
	555nm,0.9s						
CESX	**Cesi**	**1.32**	**159**	Pg	**Pn**	**18 07 14.5**	**-1.1**
	2µm,0.6s						
CESX	**Cesi**	**1.32**	**159**	Pg	**Pn**	**18 07 14.5**	**-1.1**
	2µm,0.6s						
NRCA	**Norcia**	**1.33**	**139**	Pg	**Pn**	**18 07 15.2**	**-0.5**
	2µm,1.2s						
NRCA	**Norcia**	**1.33**	**139**	Pg	**Pn**	**18 07 15.2**	**-0.5**
	2µm,1.2s						
GRAM	**Graiana**	**1.49**	**296**	P	**Pn**	**18 07 17.2**	**-0.8**
AQU	**L'Aquila**	**1.84**	**144**	*e*Pn	**Pn**	**18 07 23.0**	**+0.3**
AQU	**L'Aquila**	**1.84**	**144**	*e*Pn	**Pn**	**18 07 23.3**	**+0.6**
NVLJ	**Novalja**	**2.23**	**70**	*e*Pn	**Pn**	**18 07 27.0**	**-1.0**
NVLJ				S	**Sn**	**18 07 54.3**	**-1.2**
NVLJ	**Novalja**	**2.23**	**70**	*e*Pn	**Pn**	**18 07 27.0**	**-1.0**
NVLJ				S	**Sn**	**18 07 54.3**	**-1.2**
SKDS	**Skadanscina**	**2.26**	**40**	*e*Pn	**Pn**	**18 07 26.0**	**-2.5**
	comp=Z,421nm,0.5s						
SKDS	**Skadanscina**	**2.26**	**40**	Pn	**Pn**	**18 07 26.0**	**-2.5**
	comp=Z,421nm,0.5s						
TRI	**Trieste**	**2.27**	**34**	*e*Pn	**Pn**	**18 07 26.7**	**-2.0**
TRI	**Trieste**	**2.27**	**34**	*e*Pn	**Pn**	**18 07 26.7**	**-2.0**
PGF	**Pioggiola**	**2.51**	**240**	*e*Pn	**Pn**	**18 07 31.8**	**-0.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**18 08 01.9**	**-0.7**
	comp=Z,420nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	**2.51**	**240**	*e*Pn	**Pn**	**18 07 31.8**	**-0.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**18 08 01.9**	**-0.7**
	comp=Z,21nm,0.3s,SNR=1.0						
VOJS	**Vojsko**	**2.59**	**32**	*i* Pn	**Pn**	**18 07 30.8**	**-2.3**
	comp=Z,429nm,1.0s						
VOJS	**Vojsko**	**2.59**	**32**	*i* Pn	**Pn**	**18 07 30.8**	**-2.3**
	comp=Z,429nm,1.0s						
CEY	**Cerknica**	**2.59**	**42**	*e*Pn	**Pn**	**18 07 30.8**	**-2.3**
CADS	**Cadrg**	**2.70**	**28**	*i* Pn	**Pn**	**18 07 33.0**	**-1.6**
CADS	**Cadrg**	**2.70**	**28**	*i* Pn	**Pn**	**18 07 33.0**	**-1.6**
UDBI	**Udbina**	**2.84**	**75**	*i* Pn	**Pn**	**18 07 37.3**	**+0.8**
UDBI					Sn	**18 08 11.1**	**+0.5**
UDBI	**Udbina**	**2.84**	**75**	*i* Pn	**Pn**	**18 07 37.2**	**+0.8**
UDBI					Sn	**18 08 11.1**	**+0.5**
LJU	**Ljubljana**	**2.87**	**39**	*e*Pn	**Pn**	**18 07 36.0**	**-0.8**
LJU				*e*Sn	**Sn**	**18 08 10.5**	**-0.8**
LJU	**Ljubljana**	**2.87**	**39**	*e*Pn	**Pn**	**18 07 34.9**	**-1.9**
ABTA	**Abfaltersbach**	**2.93**	**8**	*e*Pn	**Pn**	**18 07 37.4**	**-0.4**
	comp=Z,60nm,0.5s,SNR=35						
ABTA				*e*Sn	**Sn**	**18 08 12.1**	**-0.9**
	comp=Z,168nm,0.6s						
ABTA	**Abfaltersbach**	**2.93**	**8**	Pn	**Pn**	**18 07 37.4**	**-0.4**
	comp=Z,60nm,0.5s,SNR=35						
ABTA				Sn	**Sn**	**18 08 12.1**	**-0.9**
	comp=Z,168nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**3.02**	**338**	*e*Pn	**Pn**	**18 07 40.3**	**+1.2**
FUORN	**Ofenpass-Fuorn**	**3.02**	**338**	*e*Pn	**Pn**	**18 07 40.3**	**+1.2**
MYKA	**Terra Mystica**	**3.03**	**23**	*e*Pn	**Pn**	**18 07 38.8**	**-0.4**
	comp=Z,8.4nm,0.4s,SNR=15						
MYKA	**Terra Mystica**	**3.03**	**23**	Pn	**Pn**	**18 07 38.8**	**-0.4**
	comp=Z,8.4nm,0.4s,SNR=15						
CRES	**Cresnjev**	**3.19**	**50**	*e*Pn	**Pn**	**18 07 40.0**	**-1.3**
TUE	**Stuetta**	**3.20**	**326**	*e*Pn	**Pn**	**18 07 42.1**	**+0.5**
TUE	**Stuetta**	**3.20**	**326**	*e*Pn	**Pn**	**18 07 42.1**	**+0.5**
OBKA	**Obir**	**3.24**	**34**	*i* Pn	**Pn**	**18 07 40.9**	**-1.2**
	comp=Z,6.4nm,0.3s,SNR=17				

comp=Z,11nm,0.3s,SNR=20
RETA Sn Sn 18 08 34.6 +1.8
comp=Z,50nm,0.4s
MBDF Montbardon 3.81 285 *e*Pn Pn 18 07 49.6 -0.4
MBDF *e*Sn Sn 18 08 33.8 -1.0
comp=Z,88nm,0.6s,SNR=1.0
MBDF Montbardon 3.81 285 *e*Pn Pn 18 07 49.6 -0.4
MBDF *e*Sn Sn 18 08 33.8 -1.0
comp=Z,44nm,0.6s,SNR=1.0
FRF La Foret Royal 3.85 268 *e*Pn Pn 18 07 49.6 -0.7
SNR=1.0
FRF *e*Sn Sn 18 08 32.5 -3.0
comp=Z,43nm,0.4s,SNR=1.0
FRF La Foret Royal 3.85 268 *e*Pn Pn 18 07 49.6 -0.7
SNR=1.0
FRF *e*Sn Sn 18 08 32.5 -3.0
comp=Z,22nm,0.4s,SNR=1.0
LMR La Mourre 3.98 264 *e*Pn Pn 18 07 50.9 -1.2
SNR=1.0
LMR *e*Sn Sn 18 08 36.3 -2.3
comp=Z,12nm,0.2s
LMR La Mourre 3.98 264 *e*Pn Pn 18 07 50.9 -1.2
SNR=1.0
LMR *e*Sn Sn 18 08 36.3 -2.3
comp=Z,6.1nm,0.2s
LPG La Plagne 4.05 296 *e*Pn Pn 18 07 54.4 +1.0
SNR=1.0
LPG *e*Sn Sn 18 08 38.9 -2.0
comp=Z,39nm,0.5s
LPG La Plagne 4.05 296 *e*Pn Pn 18 07 54.4 +1.0
SNR=1.0
LPG *e*Sn Sn 18 08 38.9 -2.0
comp=Z,19nm,0.5s
LPL La Plagne 4.07 296 *e*Pn Pn 18 07 54.7 +1.1
SNR=1.0
LPL *e*Sn Sn 18 08 38.6 -2.7
comp=Z,47nm,0.5s
LPL La Plagne 4.07 296 *e*Pn Pn 18 07 54.7 +1.1
SNR=1.0
LPL *e*Sn Sn 18 08 38.6 -2.7
comp=Z,23nm,0.5s
SENIN Lac Senin/Sane 4.14 309 *e*Pn Pn 18 07 56.5 +2.0
SENIN *e*Sn Sn 18 08 39.1 -3.8
SENIN Lac Senin/Sane 4.14 309 *e*Pn Pn 18 07 56.5 +2.0
SENIN *e*Sn Sn 18 08 39.1 -3.8
RSL Roselend 4.21 298 P Pn 18 07 55.2 -0.2
RSL S Sn 18 08 40.0 -4.6
RSL Roselend 4.21 298 P Pn 18 07 55.2 -0.2
RSL S Sn 18 08 40.0 -4.6
ARSA Arzberg 4.24 35 *i* Pn Pn 18 07 54.7 -1.0
comp=Z,9.6nm,0.5s
ARSA Arzberg 4.24 35 Pn Pn 18 07 54.7 -1.0
comp=Z,9.6nm,0.5s
BEHE Becsehely 4.31 51 *e*Pn Pn 18 07 58.1 +1.4
MOA Molln 4.32 21 *i* Pn Pn 18 07 56.5 -0.4
comp=Z,3.9nm,0.2s,SNR=17
MOA *e*Sn Sn 18 08 45.8 -1.4
comp=Z,68nm,0.7s
MOA Molln 4.32 21 Pn Pn 18 07 56.5 -0.4
comp=Z,3.9nm,0.2s,SNR=17
MOA Sn Sn 18 08 45.8 -1.4
comp=Z,68nm,0.7s
GDM Grand'Maison 4.38 290 P Pn 18 07 57.5 -0.3
GDM Grand'Maison 4.38 290 P Pn 18 07 57.5 -0.3
ORIF Oris-en-Rattie 4.47 286 *e*Pn Pn 18 07 59.9 +0.9
SNR=1.0
ORIF *e*Sn Sn 18 08 48.6 -2.4
comp=Z,40nm,0.5s,SNR=1.0
ORIF Oris-en-Rattie 4.47 286 *e*Pn Pn 18 07 59.9 +0.9
SNR=1.0
ORIF *e*Sn Sn 18 08 48.6 -2.4
comp=Z,20nm,0.5s,SNR=1.0
SMRF Simiane la Rot 4.60 274 *e*Pn Pn 18 08 00.9 +0.2
SNR=1.0
SMRF *e*Sn Sn 18 08 51.6 -2.5
comp=Z,19nm,0.4s,SNR=1.0
SMRF Simiane la Rot 4.60 274 *e*Pn Pn 18 08 00.9 +0.2
SNR=1.0
SMRF *e*Sn Sn 18 08 51.6 -2.5
comp=Z,9.3nm,0.4s,SNR=1.0
GRN Grenoble 4.64 290 P Pn 18 08 01.2 -0.1
GRN Grenoble 4.64 290 P Pn 18 08 01.2 -0.1
VSL Villasalto 4.75 205 *e*Pn Pn 18 08 04.3 +1.6
VSL Villasalto 4.75 205 *e*Pn Pn 18 08 04.3 +1.6
BBS Basel-Blauen 4.77 321 P Pn 18 08 01.7 -1.3
BBS S Sn 18 08 54.1 -4.1
SPAK Spaichingen-Ko 4.79 334 P Pn 18 08 03.5 +0.2
SPAK S Sn 18 08 56.3 -2.5
CUC Castrocucco 4.81 142 *e*Pn Pn 18 08 07.1 +3.4
CUC Castrocucco 4.81 142 *e*Pn Pn 18 08 07.1 +3.4
TREB Trebinje 4.82 101 *e*Pn Pn 18 08 03.2 -0.4
FELD Feldberg im Sc 4.88 327 P Pn 18 08 04.6 0.0
FELD S Sn 18 08 57.5 -3.6
BRY Bratogost 4.90 99 *e*Pn Pn 18 08 05.4 +0.4
BRY *e*Sn Sn 18 09 01.0 -0.7
BRY Bratogost 4.90 99 *e*Pn Pn 18 08 05.4 +0.4
BRY *e*Sn Sn 18 09 01.0 -0.7
CABF La Chapelle 4.97 306 *e*Pn Pn 18 08 06.6 +0.8
SNR=1.0
CABF *e*Sn Sn 18 09 00.8 -2.5
SNR=1.0
CABF *e*Sg Sg 18 09 27.7 -3.1
comp=Z,35nm,0.7s,SNR=1.0
CABF La Chapelle 4.97 306 *e*Pn Pn 18 08 06.6 +0.8
SNR=1.0
CABF *e*Sn Sn 18 09 00.8 -2.5
SNR=1.0
CABF *e*Sg Sg 18 09 27.7 -3.1
comp=Z,18nm,0.7s,SNR=1.0
HCY Herceg Novi 5.00 104 ⇓ *i* Pn Pn 18 08 06.3 +0.2
HCY *e*Sn Sn 18 09 03.6 -0.2
HCY Herceg Novi 5.00 104 ⇓ *i* Pn Pn 18 08 06.3 +0.2
HCY *e*Sn Sn 18 09 03.6 -0.2
LOMF Lomont 5.01 316 P Pn 18 08 06.1 -0.3
LOMF S Sn 18 09 00.4 -3.9
LOMF Lomont 5.01 316 P Pn 18 08 06.1 -0.3
LOMF S Sn 18 09 00.4 -3.9
UPM Unac-Piva 5.11 95 ⇑ *i* Pn Pn 18 08 08.6 +0.8
UPM *e*Sn Sn 18 09 05.8 -1.0
UPM Unac-Piva 5.11 95 ⇑ *i* Pn Pn 18 08 08.6 +0.8
UPM *e*Sn Sn 18 09 05.8 -1.0
BFO Black Forest 5.14 332 *e*Pn Pn 18 08 07.4 -0.7
BFO Black Forest 5.14 332 *e*Pn Pn 18 08 07.4 -0.7
GEA0 GERESS Array S 5.14 13 *e*Pn Pn 18 08 06.1 -2.0
GEA0 GERESS Array S 5.14 13 *e*Pn Pn 18 08 06.1 -2.0
GEC2 GERESS Array S 5.15 13 *e*Pn Pn 18 08 06.8 -1.5
GEC2 GERESS Array S 5.15 13 *e*Pn Pn 18 08 06.8 -1.4
GERES GERESS Array B 5.15 13 Pn Pn 18 08 06.7 -1.5
comp=Z,0.8nm,0.3s,baz=192,slow=14,SNR=20
GERES Sn Sn 18 09 05.4 -2.3
comp=Z,4.3nm,0.3s,baz=202,slow=24,SNR=9.4
GERES Lg Lg 18 09 35.0
comp=Z,1.6nm,0.3s,baz=188,slow=24,SNR=3.5
GERES LR LR 18 10 04.6
comp=Z,89nm,19.7s,baz=166,slow=38
MOF Molkenrain 5.23 322 P Pn 18 08 09.4 +0.1
MOF S Sn 18 09 06.7 -2.9
MOF Molkenrain 5.23 322 P Pn 18 08 09.4 +0.1
MOF S Sn 18 09 06.7 -2.9
NKY Niksic 5.25 99 ⇑ *i* Pn Pn 18 08 10.5 +0.8
NKY *e*Sn Sn 18 09 09.3 -0.9
NKY Niksic 5.25 99 ⇑ *i* Pn Pn 18 08 10.5 +0.8
NKY *e*Sn Sn 18 09 09.3 -0.9
CEME Cevo 5.27 102 *e*Pn Pn 18 08 10.4 +0.5
CEME *e*Sn Sn 18 09 09.6 -0.9
CEME Cevo 5.27 102 *e*Pn Pn 18 08 10.4 +0.5
CEME *e*Sn Sn 18 09 09.6 -0.9
VIVF Saint-Julien-I 5.31 283 *e*Pn Pn 18 08 09.9 -0.5
SNR=1.0
VIVF *e*Sn Sn 18 09 10.2 -1.3
comp=Z,9.1nm,0.5s,SNR=1.0
VIVF Saint-Julien-I 5.31 283 *e*Pn Pn 18 08 09.9 -0.5
SNR=1.0
VIVF *e*Sn Sn 18 09 10.2 -1.3
comp=Z,4.6nm,0.5s,SNR=1.0
BUM Brajici-Budva 5.32 104 ⇓ *i* Pn Pn 18 08 11.2 +0.5
BUM *e*Sn Sn 18 09 11.3 -0.7
BUM Brajici-Budva 5.32 104 ⇓ *i* Pn Pn 18 08 11.2 +0.5
BUM *e*Sn Sn 18 09 11.3 -0.7
HINF Hinteralfeld 5.33 320 *e*Pn Pn 18 08 10.1 -0.6
SNR=1.0
HINF *e*Sn Sn 18 09 09.2 -2.8
comp=Z,61nm,0.6s,SNR=1.0
HINF Hinteralfeld 5.33 320 *e*Pn Pn 18 08 10.1 -0.6
SNR=1.0
HINF *e*Sn Sn 18 09 09.2 -2.8
comp=Z,30nm,0.6s,SNR=1.0
BBLS Lazići 5.40 87 *e*Pn Pn 18 08 12.6 +0.9
KHC Kasperske Hory 5.41 12 *e*PN Pn 18 08 10.5 -1.3
KHC *e*SN Sn 18 09 12.0 -2.0
KHC *e*SG Sg 18 09 43.0 -1.7
KHC Kasperske Hory 5.41 12 Pn Pn 18 08 10.5 -1.3
KHC Sn Sn 18 09 12.0 -2.0
PLE Pljevlja 5.44 93 *e*Pn Pn 18 08 13.4 +1.1
PLE *e*Sn Sn 18 09 14.0 -0.8
PLE Pljevlja 5.44 93 *e*Pn Pn 18 08 13.4 +1.1
PLE *e*Sn Sn 18 09 14.0 -0.8
SSB Saint Sauveur 5.47 288 P Pn 18 08 12.7 0.0
SSB S Sn 18 09 13.2 -2.5
SSB Saint Sauveur 5.47 288 P Pn 18 08 12.7 0.0
SSB Saint Sauveur 5.47 288 *e*Pn Pn 18 08 13.0 +0.3
SSB S Sn 18 09 13.2 -2.5
SSB Saint Sauveur 5.47 288 *e*Pn Pn 18 08 13.0 +0.3
ECH Echery 5.49 324 P Pn 18 08 12.7 -0.2
ECH S Sn 18 09 12.9 -3.2
ECH Echery 5.49 324 P Pn 18 08 12.7 -0.2
ECH S Sn 18 09 12.9 -3.2
TEKS Tekeris 5.50 80 *e*Pn Pn 18 08 12.6 -0.5
PDG Podgorica 5.54 102 ⇓ *i* Pn Pn 18 08 13.8 +0.3
PDG *e*Sn Sn 18 09 16.8 -0.3
TTG Podgorica 5.54 102 ⇓ *i* Pn Pn 18 08 13.8 +0.3
TTG *e*Sn Sn 18 09 16.8 -0.3
DRME Dracevica, Mon 5.57 105 *e*Pn Pn 18 08 15.0 +1.1
DRME *e*Sn Sn 18 09 17.1 -0.7
DRME Dracevica, Mon 5.57 105 *e*Pn Pn 18 08 14.4 +0.5
DRME *e*Sn Sn 18 09 17.1 -0.7
CDF Champ du Feu 5.60 326 *e*Pn Pn 18 08 13.5 -0.9
SNR=1.0
CDF *e*Sn Sn 18 09 14.7 -4.1
comp=Z,100nm,0.6s
CDF Champ du Feu 5.60 326 *e*Pn Pn 18 08 13.5 -0.9
SNR=1.0
CDF *e*Sn Sn 18 09 14.7 -4.1
comp=Z,50nm,0.6s
ULC Ulcinj 5.69 107 ⇑ *i* Pn Pn 18 08 16.1 +0.5
ULC *e*Sn Sn 18 09 20.7 -0.2
ULC Ulcinj 5.69 107 ⇑ *i* Pn Pn 18 08 16.1 +0.5
ULC *e*Sn Sn 18 09 20.7 -0.2
HAU Haudompre 5.70 319 *e*Pn Pn 18 08 15.4 -0.4
SNR=1.0
HAU *e*Sn Sn 18 09 19.2 -2.0
comp=Z,125nm,0.5s,SNR=1.0
HAU Haudompre 5.70 319 *e*Pn Pn 18 08 15.4 -0.4
SNR=1.0
HAU *e*Sn Sn 18 09 19.2 -2.0
comp=Z,62nm,0.5s,SNR=1.0
DIVS Divibare 5.82 85 *e*Pn Pn 18 08 15.8 -1.7
LASF Ste Croix 5.84 275 *e*Pn Pn 18 08 17.2 -0.5
SNR=1.0
LASF *e*Sn Sn 18 09 20.7 -3.9
comp=Z,6.9nm,0.5s,SNR=1.0
LASF Ste Croix 5.84 275 *e*Pn Pn 18 08 17.2 -0.5
SNR=1.0
LASF *e*Sn Sn 18 09 20.7 -3.9
comp=Z,3.5nm,0.5s,SNR=1.0
LANF Langenberg 5.88 332 P Pn 18 08 17.7 -0.5
LANF S Sn 18 09 23.5 -2.0
LANF Langenberg 5.88 332 P Pn 18 08 17.7 -0.5
LANF S Sn 18 09 23.5 -2.0
BEY Berane 5.88 97 ⇑ *i* Pn Pn 18 08 19.5 +1.2
BEY *e*Sn Sn 18 09 24.6 -1.1
IVA Berane 5.88 97 ⇑ *i* Pn Pn 18 08 19.5 +1.2
IVA *e*Sn Sn 18 09 24.6 -1.1
IVAS Ivanjica 5.96 90 *e*Pn Pn 18 08 20.3 +0.9
PVY Plav 5.99 99 *e*Pn Pn 18 08 20.4 +0.5
PVY *e*Sn Sn 18 09 27.3 -1.2
KTD Kalmit 6.09 335 P Pn 18 08 21.7 +0.6
KTD S Sn 18 09 29.2 -1.5
TOD Tromm 6.15 341 P Pn 18 08 22.8 +0.8
TOD S Sn 18 09 31.7 -0.6
PLDF La Plantade 6.28 293 P Pn 18 08 23.5 -0.2
PLDF S Sn 18 09 32.1 -3.3
PLDF La Plantade 6.28 293 P Pn 18 08 23.5 -0.2
PLDF S Sn 18 09 32.1 -3.3
VRAC Vranov 6.34 29 Pn Pn 18 08 24.7 +0.2
comp=Z,0.9nm,0.3s,baz=210,slow=13,SNR=10.0
VRAC Sn Sn 18 09 33.2 -3.6
comp=Z,0.9nm,0.3s,baz=187,slow=13,SNR=4.1
VRAC Lg Lg 18 10 14.8
comp=Z,0.3nm,0.3s,baz=128,slow=19,SNR=2.5
VRAC LR LR 18 11 05.8
comp=Z,133nm,20.5s,baz=219,slow=41
VRAC Vranov 6.34 29 ⇑ *i* P Pn 18 08 21.1 -3.4
VRAC Vranov 6.34 29 *e*Pn Pn 18 08 22.9 -0.6
VRAC *e*Sn Sn 18 09 32.6 -4.2
GRUS Gruza 6.35 87 *e*Pn Pn 18 08 25.8 +1.2
LBL Lubilhac 6.36 286 P Pn 18 08 24.8 -0.1
LBL Lubilhac 6.36 286 P Pn 18 08 24.8 -0.1
SMF Signal de Mont 6.36 299 *e*Pn Pn 18 08 24.5 -0.4
SNR=1.0
SMF *e*Sn Sn 18 09 35.7 -1.8
comp=Z,16nm,0.4s,SNR=1.0
SMF Signal de Mont 6.36 299 *e*Pn Pn 18 08 24.5 -0.4
SNR=1.0
SMF *e*Sn Sn 18 09 35.7 -1.8
comp=Z,7.8nm,0.4s,SNR=1.0
GOPC GO Pecny, Ondr 6.38 17 *e*PN Pn 18 08 23.5 -1.6
GOPC *e*SN Sn 18 09 32.8 -5.0
GOPC AMS AMS 18 11 20.0
comp=Z,400nm,9.9s
GOPC GO Pecny, Ondr 6.38 17 Pn Pn 18 08 23.5 -1.6
PAGF Fort de Pagny 6.38 320 *e*Pn Pn 18 08 24.3 -0.8
baz=131
PAGF Fort de Pagny 6.38 320 *e*Pn Pn 18 08 24.3 -0.8
PRU Pruhonice 6.40 15 *e*PN Pn 18 08 24.3 -1.0
PRU *e*SN Sn 18 09 33.4 -4.9
PRU AMS AMS 18 11 20.0
comp=Z,400nm,11.0s
PRU Pruhonice 6.40 15 Pn Pn 18 08 24.3 -1.0
NKC Novy Kostel 6.40 3 *e*PN Pn 18 08 24.7 -0.7
NKC *e*SN Sn 18 09 33.0 -5.4
NKC Novy Kostel 6.40 3 Pn Pn 18 08 24.7 -0.7
SFTF Sexfontaines 6.49 315 *e*Pn Pn 18 08 25.9 -0.6
baz=129
SFTF Sexfontaines 6.49 315 *e*Pn Pn 18 08 25.9 -0.6
LOR Lormes 6.62 304 *e*Pn Pn 18 08 28.5 +0.1
baz=127,SNR=1.0
LOR *e*Sn Sn 18 09 40.8 -3.1
comp=Z,55nm,0.5s,SNR=1.0
LOR Lormes 6.62 304 *e*Pn Pn 18 08 28.5 +0.1
SNR=1.0
LOR *e*Sn Sn 18 09 40.8 -3.1
comp=Z,27nm,0.5s,SNR=1.0
AGO Saint Agoulin 6.63 293 P Pn 18 08 28.3 -0.2
AGO Saint Agoulin 6.63 293 P Pn 18 08 28.3 -0.2
PYM Petit Puy Mans 6.63 290 P Pn 18 08 28.3 -0.3
PYM Petit Puy Mans 6.63 290 P Pn 18 08 28.3 -0.3
MEZF Maizieres J'vi 6.67 317 *e*Sn Sn 18 09 40.8 -4.2
comp=Z,20nm,0.5s,SNR=1.0
MEZF Maizieres J'vi 6.67 317 *e*Sn Sn 18 09 40.8 -4.2
comp=Z,9.9nm,0.5s,SNR=1.0
VYHS Vyhne 6.67 43 *e*PN Pb 18 08 40.6 -6.6
VYHS *e*SG Sb 18 10 15.0 +8.1
SELS Selova 6.70 92 *e*Pn Pn 18 08 29.4 -0.2
AVF Avril sur Loir 6.73 299 *e*Pn Pn 18 08 30.3 +0.4
SNR=1.0
AVF *e*Sn Sn 18 09 42.8 -3.7
comp=Z,7.3nm,0.5s,SNR=1.0
AVF Avril sur Loir 6.73 299 *e*Pn Pn 18 08 30.3 +0.4
SNR=1.0
AVF *e*Sn Sn 18 09 42.8 -3.7
comp=Z,3.7nm,0.5s,SNR=1.0
SSF Saint Saulge 6.75 301 *e*Pn Pn 18 08 29.8 -0.3
SNR=1.0
SSF *e*Sn Sn 18 09 42.3 -4.6
comp=Z,15nm,0.5s,SNR=1.0
SSF Saint Saulge 6.75 301 *e*Pn Pn 18 08 29.8 -0.3
SNR=1.0
ABH Alteburg 6.75 335 P Pn 18 08 29.6 -0.5
PSZ Piszkesteto 6.89 51 ⇓ *i* P Pn 18 08 33.4 +1.3
BGF Bois d'Agland 6.97 296 *e*Pn Pn 18 08 32.7 -0.5
SNR=1.0
BGF *e*Sn Sn 18 09 48.7 -3.7
comp=Z,16nm,0.4s
BGF Bois d'Agland 6.97 296 *e*Pn Pn 18 08 32.7 -0.5
SNR=1.0
BGF *e*Sn Sn 18 09 48.7 -3.7
comp=Z,8.1nm,0.4s
WLF Walferdange 7.05 328 PN Pn 18 08 33.0 -1.2
WLF Walferdange 7.05 328 SN Sn 18 09 51.0 -3.2
comp=E,13nm,0.0s
WLF Walferdange 7.05 328 *e*Pn Pn 18 08 32.4 -1.8
WLF Sn Sn 18 09 51.0 -3.2
WLF Walferdange 7.05 328 *e*Pn Pn 18 08 32.4 -1.8
MORC Moravsky Berou 7.07 31 ⇑ *i* P Pn 18 08 29.3 -5.3
MORC Moravsky Berou 7.07 31 *e*Pn Pn 18 08 32.0 -2.6
MORC Moravsky Berou 7.07 31 *e*Pn Pn 18 08 32.0 -2.6
MDVR Moldovita 7.08 79 ⇑ *i* P Pn 18 08 24.8 -10
MTLF Montolieu 7.08 269 *e*Pn Pn 18 08 34.5 -0.1
SNR=1.0
MTLF Montolieu 7.08 269 *e*Pn Pn 18 08 34.5 -0.1
SNR=1.0
CAF Calviac 7.16 282 *e*Pn Pn 18 08 36.0 +0.2
SNR=1.0
CAF *e*Sg Sg 18 10 35.9 -4.9
comp=E,1.9nm,0.4s,SNR=1.0
CAF Calviac 7.16 282 *e*Pn Pn 18 08 36.0 +0.2
SNR=1.0
DPC Dobruska-Polom 7.16 23 *e*PN Pn 18 08 33.6 -2.2
DPC *e*SN Sn 18 09 50.8 -6.4
DPC AMS AMS 18 11 40.0
comp=E,200nm,11.0s
DPC Dobruska-Polom 7.16 23 Pn Pn 18 08 33.6 -2.2
BARS Barje 7.28 95 *e*Pn Pn 18 08 38.6 +1.2
TCF Toulx Ste Croi 7.31 293 *e*Pn Pn 18 08 38.4 +0.6
SNR=1.0
TCF *e*Sn Sn 18 09 58.3 -2.4
comp=E,9.2nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 7.31 293 *e*Pn Pn 18 08 38.4 +0.6
SNR=1.0
TCF *e*Sn Sn 18 09 58.3 -2.4
comp=E,4.6nm,0.4s,SNR=1.0
OKC Ostrava-Krasne 7.35 33 *e*PN Pn 18 08 37.5 -0.9
OKC Ostrava-Krasne 7.35 33 Pn Pn 18 08 37.5 -0.9
CLL Collm 7.50 5 *e*Pn Pn 18 08 39.0 -1.4
CLL *e*Pg Pg 18 09 13.0 -1.8
CLL *e*Sb Sn 18 10 11.0 +5.6
CLL *e*Sg Sg 18 10 50.0 -1.8
CLL Collm 7.50 5 *e*Pn Pn 18 08 38.4 -2.0
CLL Collm 7.50 5 *e*Pn Pn 18 08 38.4 -2.0
RJF Les Rejaudoux 7.58 285 *e*Pn Pn 18 08 41.9 +0.3
SNR=1.0
RJF Les Rejaudoux 7.58 285 *e*Pn Pn 18 08 41.9 +0.3
SNR=1.0
MEM Membach 7.88 331 PN Pn 18 08 46.8 +1.2
MEM Membach 7.88 331 Pn Pn 18 08 46.8 +1.2
BCLA Clavier 7.98 328 PN Pn 18 08 48.8 +1.8
BCLA SN Sn 18 10 11.5 -5.7
comp=N,6.3nm,0.0s
BCLA Clavier 7.98 328 Pn Pn 18 08 48.8 +1.8
DOU Dourbes 8.02 324 PN Pn 18 08 48.2 +0.6
DOU SN Sn 18 10 15.8 -2.3
comp=E,6.2nm,0.0s
DOU Dourbes 8.02 324 Pn Pn 18 08 48.1 +0.6
DOU Sn Sn 18 10 15.7 -2.3
OJC Ojcow 8.33 37 *e*Pn Pn 18 08 51.7 -0.1
OJC Ojcow 8.33 37 *e*Pn Pn 18 08 51.7 -0.1
KEST Kesra 8.34 195 Pn Pn 18 08 53.6 +1.5
comp=E,0.1nm,0.3s,baz=274,slow=19,SNR=1.8
KEST LR LR 18 12 07.1
comp=E,118nm,19.8s,baz=350,slow=38
KEST Kesra 8.34 195 *e*Pn Pn 18 08 55.7 +3.5
EPF Esparros 8.48 268 *e*Pn Pn 18 08 53.8 -0.2
EPF Esparros 8.48 268 *e*Pn Pn 18 08 53.8 -0.2
ETSF Etsaut 9.15 268 *e*Pn Pn 18 09 03.4 +0.2
SNR=1.0
ETSF Etsaut 9.15 268 *e*Pn Pn 18 09 03.4 +0.2
SNR=1.0
VOIR 9.48 76 ⇑ *i* P Pn 18 09 07.1 -0.6
MLR Muntele Rosu 10.12 76 Pn Pn 18 09 17.7 +1.3
comp=E,0.0nm,0.3s,baz=285,slow=20,SNR=2.4
ESDC Sonseca Array 12.58 256 Pn Pn 18 09 50.4 +0.3
comp=E,0.2nm,0.3s,baz=64,slow=14,SNR=7.2
EKA Eskdalemuir Ar 15.06 325 Pn Pn 18 10 25.1 +1.3
baz=134,slow=13,SNR=2.9
BRTR Keskin Array B 16.69 97 Pn Pn 18 10 45.8 +0.7
comp=E,0.1nm,0.3s,baz=312,slow=9.5,SNR=4.6
NOA NORSAR Array B 17.23 359 P P 18 10 52.8 -0.4
comp=E,0.1nm,0.3s,baz=178,slow=12,SNR=2.7
NOA LR LR 18 17 51.9
comp=E,26nm,19.8s,baz=240,slow=39
FINES FINESS Array B 19.52 21 P P 18 11 18.1 -0.2
comp=E,0.1nm,0.3s,baz=184,slow=7.6,SNR=4.9
MMAI Mount Meron Ar 21.26 113 P P 18 11 37.1 -0.3
comp=E,0.3nm,0.4s,baz=270,slow=7.2,SNR=3.7
KBZ Khabaz 22.29 79 P P 18 11 50.1 +1.8
comp=E,1.9nm,0.8s,baz=308,slow=7.2,SNR=5.1
TORD Torodi Ar. Bea 31.83 199 P P 18 13 16.1 0.0
comp=E,1.7nm,0.9s,baz=8.7,slow=8.8,SNR=7.7
ZALV Zalesovo Beam 46.95 51 P P 18 15 22.3 +0.6
comp=E,0.5nm,0.4s,baz=281,slow=8.2,SNR=2.8
MKAR Makanchi Array 48.03 60 P P 18 15 30.6 +0.4
comp=E,2.5nm,0.7s,baz=288,slow=6.3,SNR=25
SONM Songino Array 61.82 50 P P 18 17 10.7 +0.6
comp=E,1.1nm,0.8s,baz=301,slow=8.7,SNR=8.5
YKA Yellowknife Ar 65.71 336 P P 18 17 36.0 +0.8
comp=E,1.3nm,1.0s,baz=44,slow=6.7,SNR=9.2
ILAR Eielson Array 70.46 351 P P 18 18 06.2 +1.1
comp=E,0.4nm,0.7s,baz=11,slow=6.3,SNR=5.2
CMAR Chiang Mai Arr 75.34 78 P P 18 18 35.4 +0.6
comp=E,0.5nm,0.7s,baz=301,slow=6.1,SNR=5.3

---

*ISCJB **04** 18:10:42.0±0.5,39°.08N±0°.03×29°.10E±0°.04, h9km±5km, Error ellipse: s-maj=4.9km s-min=4.7km az=17.9*
*ISK **04** 18:10:41.3,39°.09N×29°.08E, h5km, MD2.8*
*DDA **04** 18:10:41.9,39°.11N×29°.13E, h7km, Md2.8*
*CSEM **04** 18:10:42.0±0.1,39°.08N×29°.11E, h8km, MD2.8, Error ellipse: s-maj=3.0km s-min=2.3km az=80.0*

ISC 04 18:10:42.1±0.9, **39°.09N**±0°.02×**29°.11E**±0°.02, **h10**km±9km, **n41**, **o0°41/54**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.29**	**90**	P		**Pg**		**18 10 47.7**	**-0.2**
GDZ				S		**Sg**		**18 10 51.8**	**0.0**
GDZ	**Gediz**	**0.29**	**90**	*i* P		**Pg**		**18 10 47.7**	**-0.2**
GDZ				*i* S		**Sg**		**18 10 51.8**	**0.0**
DEMI	**Demirci**	**0.31**	**262**	P		**Pg**		**18 10 48.6**	**+0.2**
DEMI				S		**Sg**		**18 10 52.9**	**+0.3**
DEMI	**Demirci**	**0.31**	**262**	*i* P		**Pg**		**18 10 48.6**	**+0.2**
DEMI				*i* S		**Sg**		**18 10 52.9**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**212**	*e*PG		**Pg**		**18 10 54.8**	**-0.3**
KULA				*e*SG		**Sg**		**18 11 03.9**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**212**	*e*Pg		**Pg**		**18 10 54.8**	**-0.3**
KULA				*e*Sg		**Sg**		**18 11 03.9**	**0.0**
KHAL	**Karahalli**	**0.78**	**157**	P		**Pg**		**18 10 57.3**	**+0.3**
KHAL				S		**Sb**		**18 11 07.9**	**-0.4**
KHAL	**Karahalli**	**0.78**	**157**	*i* P		**Pg**		**18 10 57.3**	**+0.3**
KHAL				*i* S		**Sb**		**18 11 07.9**	**-0.4**
KHL	**Karahalli**	**0.83**	**157**	*e*PG		**Pg**		**18 10 57.9**	**-0.2**
KHL				*e*SG		**Sb**		**18 11 10.0**	**+0.2**
KHL	**Karahalli**	**0.83**	**157**	*e*Pg		**Pg**		**18 10 57.9**	**-0.2**
KHL				*e*Sg		**Sb**		**18 11 10.0**	**+0.2**
BALB	**Balikesir**	**1.10**	**300**	*e*PN		**Pg**		**18 11 02.6**	**-0.7**
BALB				*e*SN		**Sb**		**18 11 17.8**	**+0.1**
BALB	**Balikesir**	**1.10**	**300**	*e*Pn		**Pg**		**18 11 02.6**	**-0.7**
BALB				*e*Sn		**Sb**		**18 11 17.8**	**+0.1**
IGD	**Bursa**	**1.18**	**3**	*i* P		**Pg**		**18 11 03.9**	**-0.8**
IGD				*i* S		**Sb**		**18 11 20.3**	**+0.5**
CAVI	**Cavuskoy**	**1.25**	**27**	*e*PN		**Pn**		**18 11 05.3**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**27**	*e*Pn		**Pn**		**18 11 05.3**	**-0.3**
IZI	**Iznik**	**1.28**	**12**	*e*PN		**Pn**		**18 11 06.1**	**0.0**
IZI	**Iznik**	**1.28**	**12**	*e*Pn		**Pn**		**18 11 06.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*PN		**Pg**		**18 11 06.6**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*Pn		**Pg**		**18 11 06.6**	**-0.3**
KCTX	**Karacabey (Bur**	**1.31**	**334**	*e*PN		**Pg**		**18 11 07.0**	**-0.3**
KCTX	**Karacabey (Bur**	**1.31**	**334**	*e*Pn		**Pg**		**18 11 07.0**	**-0.3**
ADVT	**Abdulvahap**	**1.43**	**20**	*e*PN		**Pn**		**18 11 08.1**	**0.0**
ADVT	**Abdulvahap**	**1.43**	**20**	*e*Pn		**Pn**		**18 11 08.1**	**0.0**
GONE	**Gonen-Balikesi**	**1.46**	**311**	*e*PN		**Pb**		**18 11 09.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.46**	**311**	*e*Pn		**Pb**		**18 11 09.2**	**-0.2**
ARMT	**Armutlu**	**1.49**	**353**	*e*PN		**Pn**		**18 11 09.4**	**+0.5**
ARMT	**Armutlu**	**1.49**	**353**	*e*Pn		**Pn**		**18 11 09.4**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**220**	*e*PN		**Pn**		**18 11 08.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**220**	*e*Pn		**Pn**		**18 11 08.8**	**-0.2**
EDC	**Edincik**	**1.58**	**323**	*e*PN		**Pn**		**18 11 10.5**	**+0.3**
EDC	**Edincik**	**1.58**	**323**	*e*Pn		**Pn**		**18 11 10.5**	**+0.3**
GULT	**Gulveren**	**1.72**	**38**	*e*PN		**Pn**		**18 11 12.9**	**+0.7**
GULT	**Gulveren**	**1.72**	**38**	*e*Pn		**Pn**		**18 11 12.9**	**+0.7**
KRBG	**Karabiga-Canak**	**1.91**	**314**	*e*PN		**Pn**		**18 11 15.2**	**+0.5**
KRBG	**Karabiga-Canak**	**1.91**	**314**	*e*Pn		**Pn**		**18 11 15.2**	**+0.5**

MDUB	**Mudurnu**	**2.12**	**49**	*e*PN	**Pn**	**18 11 18.3**	**+0.6**
MDUB	**Mudurnu**	**2.12**	**49**	*e*Pn	**Pn**	**18 11 18.3**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.19**	**318**	*e*PN	**Pn**	**18 11 19.1**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.19**	**318**	*e*Pn	**Pn**	**18 11 19.1**	**+0.6**
CTKS	**Kestanelik-??a**	**2.20**	**348**	*e*PN	**Pn**	**18 11 19.4**	**+0.8**
CTKS	**Kestanelik-??a**	**2.20**	**348**	*e*Pn	**Pn**	**18 11 19.4**	**+0.8**

MOS ***04*** *18:23:17.9±1.6,39.62N×45.28E,h8km,mb3.9/1, Error ellipse: s-maj=31.0km s-min=7.6km az=101.3*
TIF ***04*** *18:23:18.7,39.81N×45.38E,h13km±2km*
TEH ***04*** *18:23:19.1,39.84N×45.05E,h5km,ML3.1*
CSEM ***04*** *18:23:21.2±0.3,39.72N×45.12E,h2km,ML3.1, Error ellipse: s-maj=29.1km s-min=5.5km az=62.0*
ISC 04 18:23:18.1±1.2,39.90N±0.03×45.30E±0.05,h5km±12km, n33,σ1812/58,1C,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNI	**Garni**	**0.50**	**301**	*i* PG	**Pb**	**18 23 29.0**	**-0.5**
IMRD	**Marand**	**1.22**	**165**	*e*Pg	**Pb**	**18 23 41.3**	**-0.5**
IMRD				*e*AMB	AMB	18 23 45.0	
	comp=Z,9μm,0.1s						
IMRD				*e*Sg	**Sn**	**18 23 58.2**	**-0.7**
IMRD	**Marand**	**1.22**	**165**	*e*Pg	**Pb**	**18 23 41.3**	**-0.5**
IMRD				*e*Sg	**Sn**	**18 23 58.2**	**-0.7**
ISHB	**Shabestar**	**1.63**	**171**	*e*Pn	**Pb**	**18 23 48.3**	**-0.5**
ISHB				*e*AMB	AMB	18 24 13.6	
	comp=Z,2μm,0.1s						
ITBZ	**Tabriz**	**1.79**	**158**	*e*Pn	**Pb**	**18 23 51.0**	**-0.4**
ITBZ				*e*AMB	AMB	18 23 54.5	
	comp=Z,874nm,0.1s						
ITBZ				*e*Sg	**Sg**	**18 24 15.3**	**-0.2**
ITBZ	**Tabriz**	**1.79**	**158**	*e*Pn	**Pb**	**18 23 51.0**	**-0.4**
ITBZ				*e*Sg	**Sg**	**18 24 15.3**	**-0.2**
TBLG	**Delisi**	**1.88**	**347**	P	**Pg**	**18 23 54.9**	**+0.7**
TBLG				S	**Sg**	**18 24 20.4**	**+1.8**
TBLG	**Delisi**	**1.88**	**347**	PN	**Pn**	**18 23 51.6**	**+0.6**
TBLG	**Delisi**	**1.88**	**347**	P	**Pn**	**18 23 51.7**	**+0.7**
BGD	**Bogdanovka**	**1.89**	**317**	P	**Pg**	**18 23 53.6**	**-0.7**
BGD				S	**Sg**	**18 24 19.8**	**+1.1**
BGD	**Bogdanovka**	**1.89**	**317**	P	**Pg**	**18 23 56.4**	**+2.1**
BGD				S	**Sg**	**18 24 20.0**	**+1.3**
AKH	**Akhalkalaki**	**2.04**	**318**	P	**Pg**	**18 23 56.2**	**-1.2**
AKH				S	**Sg**	**18 24 23.4**	**-0.5**
AKH	**Akhalkalaki**	**2.04**	**318**	PN	**Pg**	**18 23 57.1**	**-0.2**
AKH				S	**Sg**	**18 24 23.3**	**-0.5**
AKH	**Akhalkalaki**	**2.04**	**318**	P	**Pg**	**18 23 57.2**	**-0.1**
AKH				S	**Sg**	**18 24 23.4**	**-0.5**
IHRS	**Heris**	**2.08**	**139**	*e*Pn	**Pb**	**18 23 55.9**	**-0.5**
IHRS				*e*AMB	AMB	18 24 00.1	
	comp=Z,2μm,0.1s						
IHRS	**Heris**	**2.08**	**139**	*e*Pn	**Pb**	**18 23 55.9**	**-0.5**
DUS	**Dusheti**	**2.24**	**349**	P	**Pb**	**18 23 59.6**	**+0.5**
DUS				S	**Sg**	**18 24 20.2**	**+0.1**
DUS	**Dusheti**	**2.24**	**349**	PN	**Pg**	**18 24 01.0**	**-0.1**
DUS				S	**Sg**	**18 24 31.1**	**+1.0**
DUS	**Dusheti**	**2.24**	**349**	P	**Pg**	**18 24 01.0**	**-0.1**
DUS				S	**Sg**	**18 24 31.2**	**+1.1**
IBST	**Bostanabad**	**2.52**	**150**	*e*AMB	AMB	18 24 07.9	
	comp=Z,544nm,0.1s						
IBST				*e*Pn	**Pb**	**18 24 04.4**	**+0.4**
GUDG	**Gudauri**	**2.64**	**347**	P	**Pb**	**18 24 05.2**	**-0.8**
GUDG				S	**Sb**	**18 24 39.3**	**+0.4**
GUDG	**Gudauri**	**2.64**	**347**	P	**Pb**	**18 24 06.2**	**+0.1**
GUDG				S	**Sb**	**18 24 41.3**	**+2.4**
ISRB	**Sarab**	**2.77**	**137**	*e*AMB	AMB	18 24 50.6	
	comp=Z,723nm,0.2s						
ISRB				*e*Pn	**Pb**	**18 24 08.1**	**-0.2**
GNBR	**Gunib**	**2.79**	**26**	*e*PN	**Pb**	**18 24 07.3**	**-1.2**
GNBR				*i* S	**Sb**	**18 24 43.4**	**+0.4**
LACR	**Lac**	**3.02**	**346**	*e*PN	**Pb**	**18 24 12.2**	**-0.3**
LACR				*e*S	**Sb**	**18 24 52.0**	**+2.2**
ONI	**Oni**	**3.03**	**333**	P	**Pb**	**18 24 10.2**	**-2.4**
ONI				S	**Sb**	**18 24 49.0**	**-0.9**
ONI	**Oni**	**3.03**	**333**	PN	**Pb**	**18 24 12.1**	**-0.5**
ONI				S	**Sg**	**18 24 53.0**	**-2.5**
ONI	**Oni**	**3.03**	**333**	P	**Pb**	**18 24 12.2**	**-0.4**
ONI				S	**Sg**	**18 24 53.0**	**-2.5**
VLKR	**Vladikavkaz**	**3.18**	**352**	*e*PN	**Pb**	**18 24 14.6**	**-0.6**
VLKR				*e*S	**Sb**	**18 24 55.6**	**+1.3**
DIGR	**Digorskoe uzhe**	**3.27**	**337**	*e*PN	**Pb**	**18 24 15.8**	**-0.9**
DIGR				*e*S	**Sb**	**18 24 58.1**	**+1.2**
KORR	**Kora**	**3.32**	**344**	*e*PN	**Pb**	**18 24 16.7**	**-0.8**
KORR				*e*S	**Sb**	**18 24 58.7**	**+0.5**
GROC	**Groznyy**	**3.33**	**6**	*e*PN	**Pb**	**18 24 15.2**	**-2.4**
GROC				*e*S	**Sb**	**18 24 57.6**	**-0.7**
ARNR	**Ardon**	**3.37**	**347**	*e*PN	**Pb**	**18 24 16.9**	**-1.4**
ARNR				*e*S	**Sb**	**18 25 00.1**	**+0.5**

NEIC ***04*** *18:26:38.0,40.52S×72.21W,h9km,mb4.0/3,ML4.5(GUC), After GUC.*
NEIC Felt [V] at Puyehue. Associated with eruption at the Complejo Volcanico Puyehue-Cordon Caulle.
IDC ***04*** *18:26:38.9±3.2,40.60S×72.20W,h0km,mb3.6/2, mb1 4.1/3,mb1mx3.8/25,mbtmp3.9/3,ML5.0/1,MS4.3/1, Ms1 4.3/1,ms1mx3.0/21, Error ellipse: s-maj=67.6km s-min=16.0km az=22.0*
GUC ***04*** *18:26:38.0±0.4,40.52S×72.21W,h9km±3km,ML4.5*
ISC 04 18:26:39.3±0.8,40.51S±0.09×72.10W±0.07,h10km,n18, σ258/18,mb3.6/3,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.12**	**309**	*i* P	**Pg**	**18 26 58.0**	**-2.9**
VLCH				*i* S	**Sn**	**18 27 13.2**	**-3.3**
VLCH				IAML		18 27 19.0	
	comp=N,25μm,0.1s						
PLCA	**Paso Flores**	**1.20**	**101**	Pg	**Pb**	**18 27 02.3**	**+0.1**
	comp=N,110nm,0.3s,baz=298,slow=13,SNR=18						
PLCA				Lg	Lg	18 27 20.6	
	comp=N,68nm,0.3s,baz=60,slow=23,SNR=4.1						
PLCA				LR	LR	18 27 23.1	
	comp=N,231nm,19.0s,baz=313,slow=35						
PLCA	**Paso Flores**	**1.20**	**101**	*i* P	**Pn**	**18 27 01.9**	**-0.4**
PLCA				*i* S	**Sn**	**18 27 19.8**	**+1.2**
CHRN	**Cochrane**	**6.74**	**183**	*e*Pn	**Pn**	**18 28 21.2**	**+3.0**
ROC1	**El Roble**	**7.57**	**7**	*e*Pn	**Pn**	**18 28 33.2**	**+3.3**
TRQA	**Tornquist**	**8.23**	**76**	*e*Pn	**Pn**	**18 28 34.7**	**-3.9**
LCO	**Las Campanas**	**11.53**	**6**	*e*Pn	Pn	18 29 29.4	+5.2
EFI	**East Falkland**	**14.78**	**144**	*e*Pn	Pn	18 30 00.3	-7.9
PB10	**IPOC Station P**	**17.00**	**5**	*e*Pn	**P**	**18 30 40.4**	**+1.4**
	comp=N,19nm,1.2s						
LVC	**Limon Verde**	**18.05**	**10**	P	**P**	**18 30 52.6**	**+1.5**
	comp=N,5.2nm,0.3s,baz=164,slow=14,SNR=3.6						
LVC	**Limon Verde**	**18.05**	**10**	*e*P	**P**	**18 30 53.8**	**+2.8**
	comp=N,3.3nm,0.8s						
PB11	**IPOC Station P**	**20.79**	**7**	*e*P	**P**	**18 31 18.9**	**-1.8**
	comp=N,12nm,1.0s						
LPAZ	**La Paz**	**24.39**	**9**	P	**P**	**18 32 00.1**	**+1.7**
	comp=N,1.3nm,0.8s,baz=168,slow=9.0,SNR=4.8						
LPAZ	**La Paz**	**24.39**	**9**	*e*P	**P**	**18 32 00.1**	**+1.7**
LPAZ				*e*pP	**pP**	**18 32 00.5**	**-1.0**
PMSA	**Palmer Station**	**24.75**	**172**	*e*P	**P**	**18 31 56.9**	**-3.7**
	comp=N,173nm,1.5s						
RAR	**Rarotonga**	**74.83**	**255**	LR	LR	19 04 21.9	
	comp=N,153nm,18.1s,baz=189,slow=30						
TXAR	**Lajitas Array**	**75.41**	**332**	P	**P**	**18 38 25.2**	**+1.9**
	comp=N,0.4nm,0.8s,baz=161,slow=9.3,SNR=4.3						
LTX	**Lajitas**	**75.42**	**332**	*e*P	**P**	**18 38 25.2**	**+1.9**

ISCJB ***04*** *18:34:14.9±0.6,39.09N±0.04×29.04E±0.05,h9km, Error ellipse: s-maj=7.1km s-min=4.0km az=147.4*
CSEM ***04*** *18:34:14.8±0.1,39.08N×29.04E,h10km,MD2.8, Error ellipse: s-maj=5.0km s-min=3.2km az=138.0*
ISK ***04*** *18:34:14.0,39.08N×29.06E,h6km,MD2.8*
DDA ***04*** *18:34:15.2,39.10N×29.04E,h7km,Md2.5*
ISC 04 18:34:15.1±1.0,39.09N±0.04×29.04E±0.03,h9km,n18, σ053/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**259**	P	**Pg**	**18 34 20.9**	**+0.5**
DEMI				S	**Sg**	**18 34 24.6**	**+0.7**
DEMI	**Demirci**	**0.26**	**259**	*i* P	**Pg**	**18 34 20.9**	**+0.5**
DEMI				*i* S	**Sg**	**18 34 24.6**	**+0.7**
GDZ	**Gediz**	**0.34**	**90**	P	**Pg**	**18 34 22.3**	**+0.4**
GDZ				S	**Sg**	**18 34 27.4**	**+0.9**
GDZ	**Gediz**	**0.34**	**90**	*i* P	**Pg**	**18 34 22.3**	**+0.4**
GDZ				*i* S	**Sg**	**18 34 27.4**	**+0.9**
TVSB	**Tavsanli**	**0.48**	**42**	*e*PG	**Pg**	**18 34 24.0**	**-0.6**
TVSB				*e*SG	**Sg**	**18 34 31.2**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**42**	*e*Pg	**Pg**	**18 34 24.0**	**-0.6**
TVSB				*e*Sg	**Sg**	**18 34 31.2**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*PG	**Pg**	**18 34 26.9**	**-0.7**
KULA				*e*SG	**Sg**	**18 34 36.2**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*Pg	**Pg**	**18 34 26.9**	**-0.7**
KULA				*e*Sg	**Sg**	**18 34 36.2**	**+0.1**
BALB	**Balikesir**	**1.05**	**302**	*e*PN	**Pg**	**18 34 35.0**	**-0.4**
BALB	**Balikesir**	**1.05**	**302**	*e*Pn	**Pg**	**18 34 35.0**	**-0.4**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN	**Pn**	**18 34 38.9**	**-0.2**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*Pn	**Pn**	**18 34 38.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*PN	**Pb**	**18 34 39.5**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*Pn	**Pb**	**18 34 39.5**	**0.0**
ARMT	**Armutlu**	**1.48**	**355**	*e*PN	**Pn**	**18 34 42.1**	**+0.2**
ARMT	**Armutlu**	**1.48**	**355**	*e*Pn	**Pn**	**18 34 42.2**	**+0.2**
GULT	**Gulveren**	**1.76**	**40**	*e*PN	**Pn**	**18 34 45.3**	**-0.5**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn	**Pn**	**18 34 45.3**	**-0.5**

IDC 04 18:39:02.3±584.0,39.67S×67.74W,h0km,Error ellipse: s-maj=246.6km s-min=216.6km az=119.0,Southern Argentina

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I02AR	**USHUAIA INFRAS**	**14.92**	**179**	*i*		20 11 10.0	
	baz=357,slow=332,SNR=0.4						
I41PY	**VILLA FLORIDA**	**15.89**	**36**	*i*		20 00 00.0	
	baz=212,slow=320,SNR=2.5						
I09BR	**BRASILIA INFRA**	**29.50**	**41**	*i*		21 40 00.0	
	baz=211,slow=322,SNR=2.8						
I27DE	**GEORG VON NEUM**	**43.10**	**155**	*i*		23 15 20.0	
	baz=290,slow=379,SNR=0.3						

ISK ***04*** *18:40:43.4,39.03N×41.95E,h9km,MD2.9*
ISCJB ***04*** *18:40:44.1±0.9,38.98N±0.04×41.95E±0.04,h1km±9km, Error ellipse: s-maj=7.2km s-min=4.6km az=151.4*
CSEM ***04*** *18:40:44.6±0.3,39.03N×41.91E,h10km,MD3.1, Error ellipse: s-maj=7.6km s-min=6.2km az=133.0*
DDA ***04*** *18:40:45.3,39.01N×41.87E,h7km,Md3.1*
ISC 04 18:40:44.5±1.2,39.03N±0.03×41.91E±0.03,h9km±10km, n23,σ080/37,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKAR	**Karacoban**	**0.25**	**28**	P	**Pb**	**18 40 51.8**	**+0.4**
EKAR				S	**Sb**	**18 40 57.2**	**+1.2**
EKAR	**Karacoban**	**0.25**	**28**	*i* P	**Pb**	**18 40 51.9**	**+0.4**
EKAR				*i* S	**Sb**	**18 40 57.2**	**+1.2**
VRTB	**Varto-Mus**	**0.38**	**290**	*e*PG	**Pg**	**18 40 52.0**	**+0.1**
VRTB				*e*SG	**Sb**	**18 40 58.6**	**-0.9**
VRTB	**Varto-Mus**	**0.38**	**290**	*e*Pg	**Pg**	**18 40 52.0**	**+0.1**
VRTB				*e*Sg	**Sb**	**18 40 58.6**	**-0.9**
BNGL	**BINGOL**	**0.60**	**262**	*i* P	**Pg**	**18 40 56.7**	**+0.6**
BNGL				*i* S	**Sb**	**18 41 05.5**	**-0.5**
ECAT	**Cat-ERZURUM**	**0.93**	**308**	P	**Pg**	**18 41 02.3**	**0.0**
ECAT				S	**Sn**	**18 41 16.6**	**-0.9**
ECAT	**Cat-ERZURUM**	**0.93**	**308**	*i* P	**Pg**	**18 41 02.4**	**0.0**
ECAT				*i* S	**Sn**	**18 41 16.6**	**-0.9**
EATA	**Eleskirt**	**0.94**	**28**	P	**Pn**	**18 41 03.8**	**-0.5**
EATA				S	**Sn**	**18 41 18.0**	**0.0**
EATA	**Eleskirt**	**0.94**	**28**	*i* P	**Pn**	**18 41 03.8**	**-0.5**
EATA				*i* S	**Sn**	**18 41 18.0**	**0.0**
EZM	**Erzurum**	**0.97**	**334**	*e*PG	**Pg**	**18 41 03.1**	**0.0**
AGRB	**Hanur-Agry**	**1.00**	**57**	*e*PG	**Pg**	**18 41 02.9**	**-0.8**
AGRB				*e*SG	**Sg**	**18 41 16.5**	**-0.2**
AGRB	**Hanur-Agry**	**1.00**	**57**	*e*Pg	**Pg**	**18 41 02.9**	**-0.8**
AGRB				*e*Sg	**Sg**	**18 41 16.5**	**-0.2**
HOMI	**Horasan**	**1.01**	**360**	*i* P	**Pb**	**18 41 04.7**	**+0.4**
HOMI				*i* S	**Sn**	**18 41 22.5**	**+2.8**
YEDI	**Yedisu-Bingol**	**1.14**	**291**	*e*PN	**Pg**	**18 41 05.7**	**-0.6**
YEDI	**Yedisu-Bingol**	**1.14**	**291**	*e*Pn	**Pg**	**18 41 05.7**	**-0.6**
BTMN	**Batman**	**1.25**	**204**	P	**Pg**	**18 41 09.2**	**+0.8**
BTMN				S	**Sn**	**18 41 25.1**	**-0.1**
BTMN	**Batman**	**1.25**	**204**	*i* P	**Pg**	**18 41 09.2**	**+0.8**
BTMN				*i* S	**Sn**	**18 41 25.1**	**-0.1**
SIRT	**Sirnak**	**1.58**	**165**	*e*PN	**Pn**	**18 41 11.9**	**-1.0**
SIRT	**Sirnak**	**1.58**	**165**	*e*Pn	**Pn**	**18 41 11.9**	**-1.0**
MAZI	**Mazidag**	**1.95**	**217**	*e*PN	**Pn**	**18 41 17.9**	**0.0**
MAZI	**Mazidag**	**1.95**	**217**	*e*Pn	**Pn**	**18 41 17.9**	**0.0**
PTK	**Pertek**	**1.97**	**267**	*e*PN	**Pn**	**18 41 18.5**	**+0.3**
PTK	**Pertek**	**1.97**	**267**	*e*Pn	**Pn**	**18 41 18.5**	**+0.3**

ISK ***04*** *18:52:01.3,40.07N×34.67E,h5km,MD3.1*
DDA ***04*** *18:52:02.1,40.08N×34.69E,h7km,Md3.2*
CSEM ***04*** *18:52:02.1±0.1,40.09N×34.67E,h5km,MD3.1, Error ellipse: s-maj=3.0km s-min=2.6km az=67.0*
ISC 04 18:52:02.4±0.9,40.09N±0.02×34.67E±0.02,h5km±8km, n48,σ072/68,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CORM	**Corum**	**0.10**	**341**	*e*PG	**Pg**	**18 52 04.1**	**-0.4**
CORM				*e*SG	**Sg**	**18 52 06.4**	**+0.5**
CORM	**Corum**	**0.10**	**341**	*e*Pg	**Pg**	**18 52 04.1**	**-0.4**
CORM				*e*Sg	**Sg**	**18 52 06.4**	**+0.5**
COAL	**Corum-Alaca**	**0.29**	**55**	P	**Pg**	**18 52 07.7**	**-0.4**
COAL				S	**Sg**	**18 52 12.5**	**+0.5**
COAL	**Corum-Alaca**	**0.29**	**55**	*i* P	**Pg**	**18 52 07.7**	**-0.4**
COAL				*i* S	**Sg**	**18 52 12.5**	**+0.5**
CDAG	**Cicekdag**	**0.52**	**207**	P	**Pg**	**18 52 11.9**	**-0.4**
CDAG				S	**Sg**	**18 52 19.4**	**+0.4**
CDAG	**Cicekdag**	**0.52**	**207**	*i* P	**Pg**	**18 52 11.8**	**-0.4**
CDAG				*i* S	**Sg**	**18 52 19.4**	**+0.4**
YOZ	**Yozgat**	**0.67**	**132**	*e*PG	**Pg**	**18 52 14.8**	**-0.4**
YOZ				*e*SG	**Sg**	**18 52 24.0**	**+0.1**
YOZ	**Yozgat**	**0.67**	**132**	*e*Pg	**Pg**	**18 52 14.8**	**-0.4**
YOZ				*e*Sg	**Sg**	**18 52 24.0**	**+0.1**
CANT	**Cankiri**	**0.96**	**303**	*e*PG	**Pg**	**18 52 20.0**	**-0.7**
KAMT	**Kaman**	**1.03**	**226**	*e*PG	**Pg**	**18 52 21.2**	**-0.9**
KAMT	**Kaman**	**1.03**	**226**	*e*Pg	**Pg**	**18 52 21.2**	**-0.9**
ELDT	**Eldivan**	**1.03**	**293**	P	**Pn**	**18 52 23.4**	**-0.3**
ELDT	**Eldivan**	**1.03**	**293**	*i* P	**Pn**	**18 52 23.4**	**-0.3**
ELDT				*i* S	**Sb**	**18 52 37.5**	**+0.7**
TOS	**Tosya**	**1.07**	**333**	*e*PG	**Pg**	**18 52 22.2**	**-0.6**
TOS	**Tosya**	**1.07**	**333**	*e*Pg	**Pg**	**18 52 22.3**	**-0.6**
ILGA	**Ilgaz**	**1.21**	**323**	P	**Pg**	**18 52 25.6**	**+0.1**
ILGA				S	**Sn**	**18 52 42.6**	**-0.5**
ILGA	**Ilgaz**	**1.21**	**323**	*i* P	**Pg**	**18 52 25.6**	**+0.1**
ILGA				*i* S	**Sn**	**18 52 42.6**	**-0.5**
AVNS	**Nevsehir-Avano**	**1.29**	**174**	P	**Pb**	**18 52 27.6**	**+0.5**
AVNS				S	**Sn**	**18 52 44.6**	**-0.2**
AVNS	**Nevsehir-Avano**	**1.29**	**174**	*i* P	**Pb**	**18 52 27.6**	**+0.5**
AVNS				*i* S	**Sn**	**18 52 44.6**	**-0.2**
BBAL	**Bala**	**1.31**	**246**	P	**Pn**	**18 52 26.2**	**-1.3**
BBAL				S	**Sn**	**18 52 45.5**	**+0.1**
BBAL	**Bala**	**1.31**	**246**	*i* P	**Pn**	**18 52 26.2**	**-1.3**
BBAL				*i* S	**Sn**	**18 52 45.5**	**+0.1**
BYBT	**Boyabat**	**1.38**	**3**	*e*PN	**Pn**	**18 52 28.3**	**-0.1**
BYBT	**Boyabat**	**1.38**	**3**	*e*Pn	**Pn**	**18 52 28.3**	**-0.1**
CUSAR	**Sarkisla-SIVAS**	**1.39**	**118**	P	**Pn**	**18 52 27.1**	**-1.4**
CUSAR				S	**Sn**	**18 52 48.8**	**+1.5**
CUSAR	**Sarkisla-SIVAS**	**1.39**	**118**	*i* P	**Pn**	**18 52 27.1**	**-1.4**
CUSAR				*i* S	**Sn**	**18 52 48.8**	**+1.5**
AFSR	**Afˇar-Bala (A**	**1.39**	**243**	*e*PN	**Pn**	**18 52 27.9**	**-0.7**
AFSR	**Afˇar-Bala (A**	**1.39**	**243**	*e*Pn	**Pn**	**18 52 27.9**	**-0.7**
SERE	**Sereflikochisa**	**1.43**	**217**	*e*PN	**Pn**	**18 52 28.8**	**-0.3**
SERE	**Sereflikochisa**	**1.43**	**217**	*e*Pn	**Pn**	**18 52 28.8**	**-0.3**
KVT	**Kavak**	**1.44**	**46**	*e*PN	**Pn**	**18 52 28.7**	**-0.6**
KVT	**Kavak**	**1.44**	**46**	*e*Pn	**Pn**	**18 52 28.7**	**-0.6**
BNN	**Bunyan**	**1.53**	**143**	*e*PN	**Pn**	**18 52 30.0**	**-0.6**
BNN	**Bunyan**	**1.53**	**143**	*e*Pn	**Pn**	**18 52 30.0**	**-0.6**
AKSY	**AKSARAY - Alti**	**1.60**	**206**	P	**Pn**	**18 52 31.5**	**+0.1**
AKSY	**AKSARAY - Alti**	**1.60**	**206**	*i* P	**Pn**	**18 52 31.5**	**+0.1**
AKSY				*i* S	**Sn**	**18 52 52.4**	**-0.1**
DIKM	**Dikmen**	**1.62**	**16**	*e*PN	**Pn**	**18 52 31.4**	**-0.3**
DIKM	**Dikmen**	**1.62**	**16**	*e*Pn	**Pn**	**18 52 31.4**	**-0.3**
KKUL	**Konya-Kulu**	**1.63**	**237**	P	**Pb**	**18 52 32.5**	**-0.6**
KKUL				S	**Sg**	**18 52 57.1**	**+2.2**
KKUL	**Konya-Kulu**	**1.63**	**237**	*i* P	**Pb**	**18 52 32.5**	**-0.6**
KKUL				*i* S	**Sg**	**18 52 57.1**	**+2.2**
GULA	**Gulagac**	**1.77**	**191**	*e*PN	**Pn**	**18 52 33.3**	**-0.5**
GULA	**Gulagac**	**1.77**	**191**	*e*Pn	**Pn**	**18 52 33.3**	**-0.5**
SVSK	**Karacayir**	**1.80**	**95**	*e*PN	**Pn**	**18 52 33.8**	**-0.2**
SVSK	**Karacayir**	**1.80**	**95**	*e*Pn	**Pn**	**18 52 33.8**	**-0.2**
SARI	**SarD1z-Kayseri**	**2.16**	**140**	*e*PN	**Pn**	**18 52 38.9**	**-0.3**
YESY	**Yesilyurt**	**2.41**	**198**	*e*PN	**Pn**	**18 52 42.4**	**-0.2**
YESY	**Yesilyurt**	**2.41**	**198**	*e*Pn	**Pn**	**18 52 42.4**	**-0.2**
KIZT	**Kizilcal**	**2.47**	**242**	*e*PN	**Pn**	**18 52 43.1**	**-0.4**
KIZT	**Kizilcal**	**2.47**	**242**	*e*Pn	**Pn**	**18 52 43.1**	**-0.4**

IDC ***04*** *18:54:00.1±0.9,28.89S×176.79W,h0km,mb4.0/8, mb1 4.2/9,mb1mx4.1/34,mbtmp4.0/9,ML4.3/1,MS3.6/6, Ms1 3.6/6,ms1mx3.2/22, Error ellipse: s-maj=29.2km s-min=20.8km az=149.0*
ISCJB ***04*** *18:54:03.1±0.7,29.54S±0.06×176.78W±0.1,h36km, mb4.4/14,MS3.5/4, Error ellipse: s-maj=15.1km s-min=8.0km az=6.6*
NEIC ***04*** *18:54:04.7±0.7,29.46S×176.80W,h35km,mb4.9/15, Error ellipse: s-maj=16.8km s-min=9.3km az=102.0*
ISC 04 18:54:05.6±0.8,29.65S±0.08×176.9W±0.1,h36km,n49, σ259/46,mb4.3/14,MS3.5/4,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.99**	**293**	LR	LR	18 54 16.1	
	comp=Z,426nm,18.9s,baz=42,slow=15						
RAO				Pn	**Pn**	**18 54 23.6**	**+0.6**
	252nm,0.3s,baz=294,slow=20,SNR=5.0						
RAO				Sn	Sn	18 54 42.2	+6.5
	1μm,0.3s,baz=94,slow=21,SNR=12						
RAO	**Raoul Island**	**0.99**	**293**	*e*Pn	**Pn**	**18 54 22.7**	**-0.2**
RAO					Sn	18 54 42.2	+6.5
OUZ	**Omahuta**	**9.78**	**233**	*e*Pn	Pn	18 56 33.4	+10
URZ	**Urewera**	**9.93**	**209**	*e*Pn	**Pn**	**18 56 27.1**	**+1.3**
BKZ	**Black Stump Fm**	**10.95**	**208**	*e*Pn	**Pn**	**18 56 40.4**	**+0.5**
HIZ	**Hauiti**	**11.18**	**216**	*e*Pn	**Pn**	**18 56 47.0**	**+4.1**
BFZ	**Birch Farm**	**12.35**	**205**	*e*Pn	**Pn**	**18 57 00.6**	**+1.7**
BFZ				*e*Sn	**Sn**	**18 59 12.8**	**-2.5**
THZ	**Tophouse**	**14.65**	**212**	*e*Pn	**Pn**	**18 57 30.2**	**0.0**
	195nm,1.9s						
THZ				*e*Sn	**Sn**	**19 00 07.9**	**-3.3**
KHZ	**Kahutara**	**14.90**	**209**	*e*Pn	**Pn**	**18 57 33.3**	**-0.2**
	273nm,2.0s						
KHZ				*e*Sn	**Sn**	**19 00 11.3**	**-5.9**
LTZ	**Lake Taylor**	**15.74**	**211**	*e*Pn	**Pn**	**18 57 45.6**	**+1.0**
	49nm,1.3s						
CRLZ	**Canterbury Las**	**16.23**	**208**	*e*Pn	**P**	**18 57 53.9**	**+0.3**
	240nm,1.6s						
OXZ	**Oxford**	**16.28**	**210**	*e*Pn	**Pn**	**18 57 51.8**	**+0.4**
	186nm,1.9s						
OXZ				*e*Sn	Sn	19 00 40.6	-10
MQZ	**McQueen's Vall**	**16.33**	**208**	*e*Pn	**Pn**	**18 57 51.3**	**-0.7**
	180nm,1.7s						
MQZ				*e*Sn	**Sn**	**19 00 42.0**	**-10**
DZM	**Mont Dzumac**	**16.79**	**293**	LR	LR	19 03 21.7	
	comp=Z,370nm,18.4s,baz=72,slow=34						
RPZ	**Rata Peaks**	**17.02**	**211**	P	**P**	**18 58 08.3**	**+5.9**
	1.1nm,0.3s,baz=300,slow=20,SNR=4.5						
RPZ				LR	LR	19 05 32.6	
	comp=Z,167nm,18.8s,baz=40,slow=39						
RPZ	**Rata Peaks**	**17.02**	**211**	*e*Pn	**Pn**	**18 58 00.7**	**-0.1**
	163nm,1.9s						
LBZ	**Lake Benmore**	**17.94**	**211**	*e*P	**P**	**18 58 14.1**	**+1.6**
	169nm,1.9s						
ODZ	**Otahua Downs**	**18.25**

BADI	**Badiali**	**0.42**	**153**	Pg	Pg	19 00 41.5 +0.3

*CSEM **04** 19:00:40.1, 43˙.87N×11˙.98E, h7km, MD2.3/14*
ROM 04 19:00:40.1±0.1, 43˙.87N×11˙.98E, h7km±1km, Md2.3/14, MI1.9/13, 2C, Error ellipse: s-maj=1.7km s-min=0.9km az=34.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**293**	Pg	Pg	19 00 42.7	+0.3
SFI				Sg	Sg	19 00 44.7	+0.6
	704nm,0.3s						
SFI	**Santa Sofia**	**0.10**	**293**	Pg	Pg	19 00 42.7	+0.3
SFI				Sg	Sg	19 00 44.7	+0.6
	704nm,0.3s						
T0502	**Localit˜ San**	**0.12**	**73**	Pg	Pg	19 00 42.9	+0.1
T0502				Sg	Sg	19 00 45.4	+0.8
ASQU	**Asqua**	**0.15**	**243**	⇑*i*Pg	Pg	19 00 44.0	+0.7
ASQU				Sg	Sg	19 00 47.1	+1.6
	410nm,0.3s						
ASQU	**Asqua**	**0.15**	**243**	⇑*i*Pg	Pg	19 00 44.0	+0.7
ASQU				Sg	Sg	19 00 47.1	+1.6
	410nm,0.3s						
CPGN	**Carpegna, Ital**	**0.26**	**104**	Pg	Pb	19 00 46.7	-0.5
	83nm,0.4s						
CPGN	**Carpegna, Ital**	**0.26**	**104**	Pg	Pb	19 00 46.7	-0.5
	83nm,0.4s						
PARC	**Parchiule**	**0.29**	**139**	Pg	Pg	19 00 46.4	+0.6
PARC				Sg	Sb	19 00 51.6	-1.0
	115nm,0.3s						
PARC	**Parchiule**	**0.29**	**139**	Pg	Pg	19 00 46.4	+0.6
PARC				Sg	Sb	19 00 51.6	-1.0
	115nm,0.3s						
VMG	**Vicchio**	**0.33**	**287**	Pg	Pg	19 00 47.1	+0.6
VMG				Sg	Sb	19 00 52.6	-1.1
VMG	**Vicchio**	**0.33**	**287**	Pg	Pg	19 00 47.1	+0.6
VMG				Sg	Sb	19 00 52.6	-1.1
BADI	**Badiali**	**0.41**	**151**	Pg	Pg	19 00 48.5	+0.5
BADI				Sg	Sb	19 00 55.3	-0.7
	121nm,0.2s						
BADI	**Badiali**	**0.41**	**151**	Pg	Pg	19 00 48.5	+0.5
BADI				Sg	Sb	19 00 55.3	-0.7
	121nm,0.2s						
BADI	**Badiali**	**0.41**	**151**	Sg	Pg	19 00 48.5	+0.5
	121nm,0.2s						
BADI	**Badiali**	**0.41**	**151**	Sg	Pg	19 00 48.5	+0.5
	121nm,0.2s						
SEI	**Scarperia**	**0.48**	**293**	Pg	Pg	19 00 49.7	+0.2
SEI				Sg	Sg	19 00 56.7	+0.8
	202nm,0.2s						
SEI	**Scarperia**	**0.48**	**293**	Pg	Pg	19 00 49.7	+0.2
SEI				Sg	Sg	19 00 56.7	+0.8
	202nm,0.2s						
ATPC	**Poggio Castell**	**0.52**	**138**	Pg	Pg	19 00 50.3	+0.2
ATPC				Sg	Sb	19 00 59.1	-0.2
	49nm,0.2s						
ATPC	**Poggio Castell**	**0.52**	**138**	Pg	Pg	19 00 50.3	+0.2
ATPC				Sg	Sb	19 00 59.1	-0.2
	49nm,0.2s						
IMOL	**Imola, Italy**	**0.52**	**341**	Pg	Pb	19 00 51.0	-0.6
IMOL				Sg	Sb	19 00 59.5	+0.2
IMOL	**Imola, Italy**	**0.52**	**341**	Pg	Pb	19 00 51.0	-0.6
IMOL				Sg	Sb	19 00 59.5	+0.2
PIEI	**Pieia**	**0.52**	**129**	Pg	Pg	19 00 50.3	+0.1
PIEI				Sg	Sb	19 00 58.3	-1.1
	25nm,0.3s						
PIEI	**Pieia**	**0.52**	**129**	Pg	Pg	19 00 50.3	+0.1
PIEI				Sg	Sb	19 00 58.3	-1.1
	25nm,0.3s						
CAFI	**Castiglion Fio**	**0.54**	**181**	Pg	Pb	19 00 51.2	-0.6
CAFI				Sg	Sb	19 01 00.0	+0.2
	58nm,0.5s						
CAFI	**Castiglion Fio**	**0.54**	**181**	Pg	Pb	19 00 51.2	-0.6
CAFI				Sg	Sb	19 01 00.0	+0.2
	58nm,0.5s						
ATVO	**AVT- Monte Val**	**0.58**	**147**	Pg	Pg	19 00 51.5	+0.3
ATVO				Sg	Sb	19 01 00.8	-0.1
	54nm,0.4s						
ATVO	**AVT- Monte Val**	**0.58**	**147**	Pg	Pg	19 00 51.5	+0.3
ATVO				Sg	Sb	19 01 00.8	-0.1
	54nm,0.4s						
FSSB	**Fossombrone**	**0.61**	**106**	Pg	Pg	19 00 51.8	0.0
FSSB				Sg	Sb	19 01 01.7	-0.1
	53nm,0.2s						
FSSB	**Fossombrone**	**0.61**	**106**	Pg	Pg	19 00 51.8	0.0
FSSB				Sg	Sb	19 01 01.7	-0.1
	53nm,0.2s						
MTRZ	**Monterenzio**	**0.63**	**324**	Pg	Pg	19 00 52.8	+0.6
MTRZ				Sg	Sb	19 01 01.6	-0.9
	107nm,0.6s						
MTRZ	**Monterenzio**	**0.63**	**324**	Pg	Pg	19 00 52.8	+0.6
MTRZ				Sg	Sb	19 01 01.6	-0.9
	107nm,0.6s						
ATTE	**AVT- Monte Tez**	**0.72**	**158**	Pg	Pg	19 00 54.3	+0.3
ATTE				Sg	Sb	19 01 05.1	-0.1
	43nm,0.5s						
ATTE	**AVT- Monte Tez**	**0.72**	**158**	Pg	Pg	19 00 54.3	+0.3
ATTE				Sg	Sb	19 01 05.1	-0.1
	43nm,0.5s						
SSFR	**Montelago di S**	**0.73**	**126**	Pg	Pg	19 00 54.4	+0.3
SSFR				Sg	Sb	19 01 05.6	+0.3
	45nm,0.2s						
SSFR	**Montelago di S**	**0.73**	**126**	Pg	Pg	19 00 54.4	+0.3
SSFR				Sg	Sb	19 01 05.6	+0.3
	45nm,0.2s						

*CSEM **04** 19:01:13.8, 43˙.89N×11˙.99E, h9km, ML1.9/9*
ROM 04 19:01:13.8±0.1, 43˙.89N×11˙.99E, h9km, MI1.9/9, Error ellipse: s-maj=1.6km s-min=0.8km az=11.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**281**	Pg	Pg	19 01 16.8	+0.4
SFI				Sg	Sg	19 01 18.9	+0.6
	704nm,0.3s						
SFI	**Santa Sofia**	**0.10**	**281**	Pg	Pg	19 01 16.8	+0.4
SFI				Sg	Sg	19 01 18.9	+0.6
	704nm,0.3s						
T0502	**Localit˜ San**	**0.11**	**82**	Pg	Pg	19 01 16.9	+0.4
T0502				Sg	Sg	19 01 19.2	+0.8
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	19 01 18.0	+0.6
ASQU				Sg	Sg	19 01 21.1	+1.2
	410nm,0.3s						
ASQU	**Asqua**	**0.17**	**239**	Pg	Pg	19 01 18.0	+0.6
ASQU				Sg	Sg	19 01 21.1	+1.2
	410nm,0.3s						
CPGN	**Carpegna, Ital**	**0.26**	**109**	Pg	Pb	19 01 20.2	-0.4
	83nm,0.4s						
CPGN	**Carpegna, Ital**	**0.26**	**109**	Pg	Pb	19 01 20.2	-0.4
	83nm,0.4s						
PARC	**Parchiule**	**0.30**	**142**	Pg	Pg	19 01 20.3	+0.5
PARC				Sg	Sb	19 01 25.6	-0.7
	115nm,0.3s						
PARC	**Parchiule**	**0.30**	**142**	Pg	Pg	19 01 20.3	+0.5
PARC				Sg	Sb	19 01 25.6	-0.7
	115nm,0.3s						
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	19 01 21.0	+0.6
VMG				Sg	Sb	19 01 26.6	-0.7
VMG	**Vicchio**	**0.33**	**284**	Pg	Pg	19 01 21.0	+0.6
VMG				Sg	Sb	19 01 26.6	-0.7
BADI	**Badiali**	**0.42**	**154**	Pg	Pg	19 01 22.4	+0.4
BADI				Sg	Sb	19 01 29.6	-0.2
	121nm,0.2s						
BADI	**Badiali**	**0.42**	**154**	Pg	Pg	19 01 22.4	+0.4
BADI				Sg	Sb	19 01 29.6	-0.2
	121nm,0.2s						
SEI	**Scarperia**	**0.49**	**291**	Pg	Pg	19 01 23.5	+0.2
SEI				Sg	Sb	19 01 31.8	0.0
	202nm,0.2s						
SEI	**Scarperia**	**0.49**	**291**	Pg	Pg	19 01 23.5	+0.2
SEI				Sg	Sb	19 01 31.8	0.0
	202nm,0.2s						
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	Pg	19 01 24.3	+0.2
	49nm,0.2s						
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	Pg	19 01 24.3	+0.2
	49nm,0.2s						
PIEI	**Pieia**	**0.53**	**131**	Pg	Pg	19 01 24.2	+0.1
	25nm,0.3s						
PIEI	**Pieia**	**0.53**	**131**	Pg	Pg	19 01 24.2	+0.1
	25nm,0.3s						
CAFI	**Castiglion Fio**	**0.56**	**182**	Pg	Pb	19 01 25.3	-0.4
	58nm,0.5s						
CAFI	**Castiglion Fio**	**0.56**	**182**	Pg	Pb	19 01 25.3	-0.4
	58nm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**149**	Pg	Pg	19 01 25.6	+0.4
	54nm,0.4s						
ATVO	**AVT- Monte Val**	**0.59**	**149**	Pg	Pg	19 01 25.6	+0.4
	54nm,0.4s						

*NIED **04** 19:08:00, 37˙.20N×141˙.40E, h5km, Mw3.9 Best double couple: M₀6.79000×10¹⁴ NP1:φ=206.00000°, δ5.00000°, λ114.00000°. NP2:φ=2.00000°, δ85.00000°, λ88.00000°.*
JMA 04 19:08:02.7±0.1, 37˙.19N×141˙.37E, h49km±1km, M3.4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.43**	**294**	P	Pn	19 08 12.9	-0.3
JFK				*e*S	Sn	19 08 19.9	-0.7
ONAJ	**Iwakimizuishiy**	**0.47**	**259**	P	Pn	19 08 13.4	-0.1
ONAJ				*e*S	Sn	19 08 20.8	-0.5
JMM	**Marumori**	**0.82**	**326**	P	Pn	19 08 17.8	-0.1
JMM				S	Sn	19 08 28.6	-0.4
JHO	**Hitachi**	**0.86**	**228**	P	Pn	19 08 18.0	-0.6
JHO				*e*S	Sn	19 08 29.0	-1.2
JFT	**Otama**	**0.89**	**292**	P	Pn	19 08 19.6	+0.7
JFT				*e*S	Sn	19 08 31.3	+0.6
JIO	**Ouri**	**1.26**	**359**	P	Pn	19 08 23.7	-0.2
JIO				S	Sn	19 08 38.3	-1.5
JOU	**Okura**	**1.30**	**335**	P	Pn	19 08 25.1	+0.6
JFY	**Yanaizu**	**1.34**	**280**	P	Pn	19 08 25.9	+0.8
JYS	**Shirataka**	**1.46**	**315**	P	Pn	19 08 27.7	+1.1
JYS				*e*S	Sn	19 08 46.1	+1.5
MAT	**Matsushiro**	**2.62**	**257**	P	Pn	19 08 44.0	+1.5
MAT				S	Sn	19 09 19.3	+6.2

*TRN **04** 19:22:06.6, 15˙.82N×61˙.53W, h19km, MD3.5*
*ISCJB **04** 19:22:08.4±0.3, 15˙.83N±0˙.02×61˙.55W±0˙.04, h23km±2km, mb3.6/3, Error ellipse: s-maj=6.4km s-min=2.4km az=160.9*
*IDC **04** 19:22:09.9±3.1, 16˙.03N×60˙.69W, h45km±21km, mb3.3/3, mb1 3.7/3, mb1mx3.2/33, mbtmp3.5/3, Error ellipse: s-maj=73.0km s-min=6.4km az=78.0*
ISC 04 19:22:07.9±0.9, 15˙.81N±0˙.02×61˙.53W±0˙.03, h14km±6km, n45, σ0.977/68, mb3.7/3, 4C-10D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.12**	**291**	⇓*i*P	Pg	19 22 10.9	-0.4
TBG				*e*S	Sb	19 22 16.3	+1.4
MGG	**Marie-Galante**	**0.23**	**61**	⇓*i*P	Pb	19 22 14.7	+0.7
MGG				*e*S	Sb	19 22 17.5	-0.4
DOG	**Dongo Capester**	**0.24**	**338**	*e*P	Pg	19 22 13.5	+0.4
HMG	**Houelmont**	**0.24**	**316**	⇓*i*P	Pg	19 22 13.1	-0.1
ECG	**Echelle**	**0.26**	**332**	⇓*e*P	Pg	19 22 13.9	+0.2
SCG	**Saint Claude**	**0.27**	**326**	⇓*i*P	Pg	19 22 13.8	+0.1
LKG	**Breislack**	**0.27**	**332**	*e*P	Pg	19 22 13.9	+0.1
CRG	**Carmichael**	**0.28**	**332**	⇓*e*P	Pg	19 22 14.1	+0.2
BBL	**Barber's Block**	**0.28**	**169**	*e*	Pg	19 22 11.0	-3.0
BBL	**Barber's Block**	**0.28**	**169**	*e*P	Pb	19 22 15.3	+0.4
BBL				*e*S	Sb	19 22 20.2	+0.7
BCG	**Bois Riant Cap**	**0.29**	**342**	⇑*i*P	Pg	19 22 14.4	+0.3
MLG	**Mont-d'or**	**0.31**	**325**	⇓*e*P	Pg	19 22 14.5	+0.1
DWS	**Wesley**	**0.32**	**139**	⇓*i*P	Pb	19 22 16.0	+0.6
DWS				*e*S	Sb	19 22 21.0	+0.6
SSG	**Sans Toucher**	**0.32**	**332**	⇓*e*P	Pg	19 22 14.5	0.0
MDN	**Morne-Daniel**	**0.50**	**165**	⇑*e*P	Pb	19 22 19.7	+1.1
MDN				*e*S	Sb	19 22 27.3	+1.5
DLPL	**La Plaine**	**0.54**	**150**	⇑*i*P	Pb	19 22 20.0	+0.7
DLPL				*e*S	Sn	19 22 29.2	-1.1
DSHT	**Scott's Head**	**0.61**	**166**	*e*P	Pn	19 22 21.6	-0.6
DSHT				*e*S	Sb	19 22 30.0	+1.1
DEG	**La Desirade**	**0.67**	**42**	⇑*i*P	Pg	19 22 21.5	+0.4
H05N1	**Guadeloupe/Mar**	**0.68**	**42**	P	Pg	19 22 21.4	+0.2
H05N1				S	Sg	19 22 30.2	+0.1
PCM	**Pelee Case Pet**	**1.03**	**163**	*e*P	Pb	19 22 27.5	-0.1
PCM	**Pelee Case Pet**	**1.03**	**163**	*e*P	Pn	19 22 28.2	+0.1
CXM	**Morne La Croix**	**1.05**	**161**	⇓*e*P	Pb	19 22 28.0	0.0
CXM				*e*S	Sg	19 22 42.7	+0.7
BAMF	**Morne Balai**	**1.05**	**160**	*e*P	Pb	19 22 28.0	0.0
GBMF	**Grand Be**	**1.06**	**161**	*e*P	Pb	19 22 28.0	-0.2
PML	**Morne Lenard**	**1.07**	**162**	*e*P	Pb	19 22 28.0	-0.3
MLYT	**Lee's Yard**	**1.11**	**325**	*e*P	Pb	19 22 28.2	-0.8
MLYT				*e*S	Sn	19 22 45.6	+1.3
FDF	**Fort de France**	**1.13**	**161**	*e*P	Pb	19 22 28.8	-0.5
FDF				*e*S	Sg	19 22 46.2	+1.8
BPA	**Boggy Peak**	**1.27**	**346**	*i*P	Pn	19 22 30.4	-1.0
BPA				*e*S	Sg	19 22 49.2	+0.2
ZAM	**Aeronautique**	**1.32**	**159**	*e*P	Pn	19 22 32.1	+0.1
LPMF	**Morne Lapointe**	**1.34**	**156**	*e*P	Pn	19 22 32.5	+0.2
TRMF	**Trois Ilets**	**1.34**	**160**	*e*P	Pn	19 22 32.2	-0.2
BIM	**Bigot**	**1.36**	**161**	*e*P	Pn	19 22 32.5	-0.1
BIM				*e*S	Sn	19 22 50.5	+0.1
H05S1	**Guadeloupe/Mar**	**1.53**	**154**	P	Pn	19 22 35.5	+0.7
H05S1				S	Sb	19 22 55.4	+0.1
NEV	**Hard Times**	**1.66**	**323**	*e*P	Pn	19 22 36.9	+0.2
NEV				*e*S	Sb	19 22 58.8	-0.4
ANWB	**Willy Bob**	**1.87**	**352**	*e*P	Pn	19 22 39.2	-0.3
ANWB				*e*S	Sn	19 23 03.1	+0.1
ANWB				*e*S	Sb	19 23 04.1	-1.0
MCLT	**Moule a Chique**	**2.16**	**165**	*e*P	Pn	19 22 43.6	0.0
MCLT				*e*S	Sn	19 23 10.3	+0.1
SABA	**Saba**	**2.44**	**318**	*e*P	Pn	19 22 47.0	-0.5
SVV	**Soufriere Volc**	**2.49**	**173**	*e*P	Pn	19 22 48.1	-0.1
SVV				*e*S	Sn	19 23 18.5	0.0
SVB	**Belmont**	**2.54**	**174**	*e*P	Pn	19 22 48.8	0.0
SVB				*e*S	Sn	19 23 19.8	+0.3
FCV	**Fort Charlotte**	**2.65**	**174**	*e*P	Pn	19 22 50.8	+0.5
FCV				*e*S	Sn	19 23 23.6	+1.3
SMRT	**St. Maarten**	**2.68**	**327**	*e*P	Pn	19 22 51.1	+0.4
SMRT				*e*S	Sn	19 23 23.2	+0.2
GRW	**Mount Saint Ca**	**3.63**	**182**	*e*P	Pn	19 23 05.0	+1.1
GRW				*e*S	Sn	19 23 47.4	+0.8
PDAR	**Pinedale Array**	**48.91**	**313**	P	P	19 30 54.7	+0.7
	0.4nm,0.5s,baz=115,slow=9.0,SNR=4.0						
YKA	**Yellowknife Ar**	**59.45**	**334**	P	P	19 32 09.5	-0.6
	0.5nm,0.6s,baz=106,slow=7.4,SNR=5.7						
ILAR	**Eielson Array**	**73.86**	**334**	P	P	19 33 40.5	-1.7
	0.2nm,0.5s,baz=72,slow=5.8,SNR=3.3						

*CSEM **04** 19:24:45.6, 43˙.89N×11˙.98E, h9km, MD1.8/4*
ROM 04 19:24:45.6±0.1, 43˙.89N×11˙.98E, h9km±1km, Md1.8/4, MI1.3/4, Error ellipse: s-maj=3.0km s-min=1.0km az=18.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**281**	Pg	Pg	19 24 48.5	+0.4
SFI				Sg	Sg	19 24 50.5	+0.6
	124nm,0.2s						
SFI	**Santa Sofia**	**0.10**	**281**	Pg	Pg	19 24 48.5	+0.4
SFI				Sg	Sg	19 24 50.5	+0.6
	124nm,0.2s						
T0502	**Localit˜ San**	**0.12**	**83**	Pg	Pg	19 24 48.9	+0.5
T0502				Sg	Sg	19 24 51.2	+0.8
	99nm,0.1s						
PARC	**Parchiule**	**0.30**	**141**	Pg	Pg	19 24 52.2	+0.5
PARC				Sg	Sb	19 24 57.6	-0.7
	20nm,0.2s						
PARC	**Parchiule**	**0.30**	**141**	Pg	Pg	19 24 52.2	+0.5
PARC				Sg	Sb	19 24 57.6	-0.7
	20nm,0.2s						
VMG	**Vicchio**	**0.32**	**284**	Pg	Pg	19 24 52.6	+0.6
VMG				Sg	Sb	19 24 58.1	-0.7
	21nm,0.1s						
VMG	**Vicchio**	**0.32**	**284**	Pg	Pg	19 24 52.6	+0.6
VMG				Sg	Sb	19 24 58.1	-0.7
	21nm,0.1s						
BADI	**Badiali**	**0.42**	**153**	Pg	Pg	19 24 54.0	+0.1
BADI				Sg	Sb	19 25 01.4	-0.3
	16nm,0.2s						
BADI	**Badiali**	**0.42**	**153**	Pg	Pg	19 24 54.0	+0.1
BADI				Sg	Sb	19 25 01.4	-0.3
	16nm,0.2s						

*ROM **04** 19:25:44.5±0.1, 43˙.88N×11˙.99E, h8km±1km, Md2.7/28, MI2.1/23, Error ellipse: s-maj=1.9km s-min=0.8km az=26.0*
*CSEM **04** 19:25:44.5±0.1, 43˙.90N×12˙.01E, h10km, ML2.8/15, Error ellipse: s-maj=4.0km s-min=1.8km az=28.0*
ISC 04 19:25:44.3±0.8, 43˙.89N±0˙.02×12˙.00E±0˙.02, h12km±5km, n59, σ0.956/94, 4C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0502	**Localit˜ San**	**0.10**	**86**	Pg	Pg	19 25 47.3	+0.1
T0502				Sg	Sg	19 25 49.3	0.0
	119µm,1.4s						
SFI	**Santa Sofia**	**0.11**	**276**	Pg	Pg	19 25 47.6	+0.2
SFI				Sg	Sg	19 25 49.7	0.0
SFI	**Santa Sofia**	**0.11**	**276**	Pg	Pg	19 25 47.6	+0.2
SFI				Sg	Sg	19 25 49.7	0.0
ASQU	**Asqua**	**0.18**	**238**	⇑*i*Pg	Pg	19 25 48.8	+0.3
	312nm,0.2s						
ASQU	**Asqua**	**0.18**	**238**	⇑*i*Pg	Pg	19 25 48.8	+0.3
	312nm,0.2s						
CPGN	**Carpegna, Ital**	**0.25**	**112**	Pg	Pb	19 25 50.7	-0.1
CPGN				Sg	Sb	19 25 55.1	+1.9
	451nm,0.6s						
CPGN	**Carpegna, Ital**	**0.25**	**112**	Pg	Pb	19 25 50.7	-0.1
CPGN				Sg	Sb	19 25 55.1	+1.9
	451nm,0.6s						
PARC	**Parchiule**	**0.30**	**145**	⇑*i*Pg	Pg	19 25 50.8	+0.4
PARC	**Parchiule**	**0.30**	**145**	⇑*i*Pg	Pg	19 25 50.8	+0.4
VMG	**Vicchio**	**0.34**	**282**	Pg	Pg	19 25 51.7	+0.5
VMG				Sg	Sb	19 25 57.4	-0.2
	114nm,0.1s						
VMG	**Vicchio**	**0.34**	**282**	Pg	Pg	19 25 51.7	+0.5
VMG				Sg	Sb	19 25 57.4	-0.2
	114nm,0.1s						
BADI	**Badiali**	**0.42**	**155**	Pg	Pg	19 25 52.8	+0.1
BADI				Sg	Sb	19 26 00.0	+0.1
	229nm,0.3s						
BADI	**Badiali**	**0.42**	**155**	Pg	Pg	19 25 52.8	+0.1
BADI				Sg	Sb	19 26 00.0	+0.1
	229nm,0.3s						
SEI	**Scarperia**	**0.49**	**289**	Pg	Pg	19 25 54.3	+0.3
SEI				Sg	Sb	19 26 01.8	-0.3
	427nm,0.3s						
SEI	**Scarperia**	**0.49**	**289**	Pg	Pg	19 25 54.3	+0.3
SEI				Sg	Sb	19 26 01.8	-0.3
	427nm,0.3s						
PIEI	**Pieia**	**0.53**	**133**	Pg	Pg	19 25 54.7	+0.1
PIEI				Sg	Sb	19 26 03.1	+0.1
	39nm,0.3s						
PIEI	**Pieia**	**0.53**	**133**	Pg	Pg	19 25 54.7	+0.1
PIEI				Sg	Sb	19 26 03.1	+0.1
	39nm,0.3s						
ATPC	**Poggio Castell**	**0.53**	**141**	Pg	Pg	19 25 54.8	+0.2
ATPC				Sg	Sb	19 26 03.5	+0.5
	121nm,0.7s						
ATPC	**Poggio Castell**	**0.53**	**141**	Pg	Pg	19 25 54.8	+0.2
ATPC				Sg	Sb	19 26 03.5	+0.5
	121nm,0.7s						
CAFI	**Castiglion Fio**	**0.56**	**183**	Pg	Pg	19 25 55.5	+0.2
CAFI				Sg	Sb	19 26 04.8	+0.7
	100nm,0.7s						
CAFI	**Castiglion Fio**	**0.56**	**183**	Pg	Pg	19 25 55.5	+0.2
CAFI				Sg	Sb	19 26 04.8	+0.7
	100nm,0.7s						
ATVO	**AVT- Monte Val**	**0.59**	**150**	Pg	Pg	19 25 55.9	+0.1
ATVO				Sg	Sb	19 26 05.5	+0.7
	106nm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**150**	Pg	Pg	19 25 55.9	+0.1
ATVO				Sg	Sb	19 26 05.5	+0.7
	106nm,0.5s						
FSSB	**Fossombrone**	**0.59**	**109**	Pg	Pg	19 25 56.1	+0.2
FSSB				Sg	Sb	19 26 05.8	+0.8
	114nm,0.3s						
FSSB	**Fossombrone**	**0.59**	**109**	Pg	Pg	19 25 56.1	+0.2
FSSB				Sg	Sb	19 26 05.8	+0.8
	114nm,0.3s						
MTRZ	**Monterenzio**	**0.62**	**321**	Pg	Pg	19 25 56.9	+0.5
MTRZ				Sg	Sb	19 26 06.3	+0.6
	220nm,0.4s						
MTRZ	**Monterenzio**	**0.62**	**321**	Pg	Pg	19 25 56.9	+0.5
MTRZ				Sg	Sb	19 26 06.3	+0.6
	220nm,0.4s						
FRON	**Frontone**	**0.64**	**125**	Pg	Pg	19 25 56.3	-0.5
	64nm,0.7s						
FRON	**Frontone**	**0.64**	**125**	Pg	Pg	19 25 56.3	-0.5
	64nm,0.7s						
FNVD	**Fontana Vidola**	**0.69**	**294**	Pg	Pb	19 25 58.2	-0.1
FNVD				Sg	Sb	19 26 08.4	+0.6
	156nm,0.9s						
FNVD	**Fontana Vidola**	**0.69**	**294**	Pg	Pb	19 25 58.2	-0.1
FNVD				Sg	Sb	19 26 08.4	+0.6
	156nm,0.9s						
SSFR	**Montelago di S**	**0.73**	**129**	Pg	Pg	19 25 58.3	-0.1
SSFR				Sg	Sb	19 26 09.7	+0.9
	55nm,0.3s						
SSFR	**Montelago di S**	**0.73**	**129**	Pg	Pg	19 25 58.3	-0.1
SSFR				Sg	Sb	19 26 09.7	+0.9
	55nm,0.3s						
MURB	**Monte Urbino**	**0.73**	**149**	Pg	Pg	19 25 58.4	-0.2
	145nm,0.5s						
MURB	**Monte Urbino**	**0.73**	**149**	Pg	Pg	19 25 58.4	-0.2
	145nm,0.5s						
ATTE	**AVT- Monte Tez**	**0.74**	**160**	Pg	Pg	19 25 58.4	-0.3
ATTE	**AVT- Monte Tez**	**0.74**	**160**	Pg	Pg	19 25 58.4	-0.3
CRMI	**Carmignano**	**0.76**	**262**	Pg	Pb	19 25 59.3	0.0
CRMI				Sg	Sb	19 26 09.5	-0.1
	86nm,0.9s						
CRMI	**Carmignano**	**0.76**	**262**	Pg	Pb	19 25 59.3	0.0
CRMI				Sg	Sb	19 26 09.5	-0.1
	86nm,0.9s						
ARVD	**Arcevia**	**0.79**	**120**	Pg	Pg	19 25 59.1	-0.4
ARVD				Sg	Sb	19 26 11.7	+1.2
	44nm,0.8s						
ARVD	**Arcevia**	**0.79**	**120**	Pg	Pg	19 25 59.1	-0.4
ARVD				Sg	Sb	19 26 11.7	+1.2
	44nm,0.8s						
FROS	**Frosini**	**

KRER	Koryakskii	3.28	14	*e*P		Pn	19 27 21.8	+3.0
GNL	Ganaly	3.58	5	P		Pn	19 27 26.5	+3.6

*ISK **04** 19:26:33.3, 39°.12N × 28°.96E, h5km, MD2.9*
*DDA **04** 19:26:33.9, 39°.11N × 28°.99E, h3km, Md3.0*
*CSEM **04** 19:26:34.5 ± 0.1, 39°.11N ± 0°.02 × 28°.98E ± 0°.02, h2km, MD3.0, Error ellipse: s-maj=2.5km s-min=2.0km az=50.0*

ISC 04 19:26:34.5±1.0, **39°.11N**±0°.02×**28°.98E**±0°.02, **h7**km±9km, **n68**, σ**0°70/82**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**251**	P	**Pg**	**19 26 38.8**	**0.0**
DEMI				S	**Sg**	**19 26 42.0**	**+0.2**
DEMI	**Demirci**	**0.22**	**251**	*i* P	**Pg**	**19 26 38.8**	**0.0**
DEMI				*i* S	**Sg**	**19 26 42.0**	**+0.2**
GDZ	**Gediz**	**0.39**	**93**	P	**Pg**	**19 26 42.0**	**-0.1**
GDZ				S	**Sg**	**19 26 47.6**	**+0.3**
GDZ	**Gediz**	**0.39**	**93**	*i* P	**Pg**	**19 26 42.0**	**-0.1**
GDZ				*i* S	**Sg**	**19 26 47.6**	**+0.3**
TVSB	**Tavsanli**	**0.50**	**48**	*e*PG	**Pg**	**19 26 44.0**	**-0.2**
TVSB	**Tavsanli**	**0.50**	**48**	*e*Pg	**Pg**	**19 26 44.0**	**-0.2**
DST	**Dursunbey**	**0.56**	**331**	*e*PG	**Pg**	**19 26 45.5**	**+0.1**
DST	**Dursunbey**	**0.56**	**331**	*e*Pg	**Pg**	**19 26 45.5**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*PG	**Pg**	**19 26 46.7**	**-0.2**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*Pg	**Pg**	**19 26 46.7**	**-0.2**
KHAL	**Karahalli**	**0.84**	**151**	P	**Pg**	**19 26 50.4**	**-0.2**
KHAL				S	**Sg**	**19 27 01.4**	**-0.2**
KHAL	**Karahalli**	**0.84**	**151**	*i* P	**Pg**	**19 26 50.4**	**-0.2**
KHAL				*i* S	**Sg**	**19 27 01.4**	**-0.2**
KHL	**Karahalli**	**0.90**	**151**	*e*PG	**Pb**	**19 26 51.5**	**-0.9**
KHL				*e*SG	**Sn**	**19 27 05.8**	**-0.9**
KHL	**Karahalli**	**0.90**	**151**	*e*Pg	**Pb**	**19 26 51.5**	**-0.9**
KHL				*e*Sg	**Sn**	**19 27 05.8**	**-0.9**
ORLT	**Orhaneli**	**0.94**	**356**	*e*PG	**Pg**	**19 26 52.1**	**-0.4**
AKS	**Akhisar**	**0.94**	**256**	*e*PG	**Pb**	**19 26 52.6**	**-0.5**
BALB	**Balikesir**	**1.00**	**302**	*e*PG	**Pb**	**19 26 53.6**	**-0.5**
BALB				*e*SG	**Sb**	**19 27 07.9**	**+0.4**
BALB	**Balikesir**	**1.00**	**302**	*e*Pg	**Pb**	**19 26 53.6**	**-0.5**
BALB				*e*Sg	**Sb**	**19 27 07.9**	**+0.4**
IGD	**Bursa**	**1.16**	**8**	*i* P	**Pg**	**19 26 54.9**	**-1.9**
IGD				*i* S	**Sg**	**19 27 10.8**	**-1.1**
BALY	**Balya**	**1.23**	**301**	P	**Pg**	**19 26 57.4**	**-0.6**
BALY	**Balya**	**1.23**	**301**	*i* P	**Pg**	**19 26 57.4**	**-0.6**
KCTX	**Karacabey (Bur**	**1.25**	**338**	*e*PN	**Pn**	**19 26 58.3**	**-0.1**
KCTX	**Karacabey (Bur**	**1.25**	**338**	*e*Pn	**Pn**	**19 26 58.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**357**	*e*PN	**Pg**	**19 26 58.1**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.26**	**357**	*e*Pn	**Pg**	**19 26 58.1**	**-0.5**
CAVI	**Cavuskoy**	**1.28**	**31**	*e*PN	**Pn**	**19 26 59.0**	**+0.2**
CAVI	**Cavuskoy**	**1.28**	**31**	*e*Pn	**Pn**	**19 26 59.0**	**+0.2**
IZI	**Iznik**	**1.28**	**17**	*e*PN	**Pn**	**19 26 59.0**	**+0.1**
GEMT	**Gemlik**	**1.33**	**7**	*e*PN	**Pb**	**19 26 59.7**	**-0.1**
GEMT	**Gemlik**	**1.33**	**7**	*e*Pn	**Pb**	**19 26 59.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.37**	**313**	*e*PN	**Pb**	**19 27 00.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.37**	**313**	*e*Pn	**Pb**	**19 27 00.4**	**0.0**
BORA	**Eskisehir**	**1.38**	**56**	P	**Pb**	**19 27 00.4**	**-0.1**
BORA				S	**Sn**	**19 27 19.1**	**+0.5**
BORA	**Eskisehir**	**1.38**	**56**	*i* P	**Pb**	**19 27 00.4**	**-0.1**
BORA				*i* S	**Sn**	**19 27 19.1**	**+0.5**
ADVT	**Abdulvahap**	**1.44**	**24**	*e*PN	**Pg**	**19 27 01.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**217**	*e*PN	**Pg**	**19 27 01.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**217**	*e*Pn	**Pg**	**19 27 01.8**	**-0.3**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pg**	**19 27 01.8**	**-0.6**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pg**	**19 27 01.8**	**-0.6**
EDC	**Edincik**	**1.50**	**325**	*e*PN	**Pb**	**19 27 02.7**	**-0.6**
EDC	**Edincik**	**1.50**	**325**	*e*Pn	**Pb**	**19 27 02.7**	**-0.6**
ESKT	**Eskisehir**	**1.51**	**74**	*e*PN	**Pb**	**19 27 02.6**	**-0.2**
ESKT	**Eskisehir**	**1.51**	**74**	*e*Pn	**Pb**	**19 27 02.6**	**-0.2**
GULT	**Gulveren**	**1.77**	**41**	*e*PN	**Pb**	**19 27 06.4**	**-0.9**
HRT	**Hereke**	**1.79**	**17**	*e*PN	**Pb**	**19 27 06.9**	**-0.7**
HRT	**Hereke**	**1.79**	**17**	*e*Pn	**Pb**	**19 27 06.9**	**-0.7**
KRBG	**Karabiga-Canak**	**1.82**	**315**	*e*PN	**Pn**	**19 27 06.9**	**+0.7**
KRBG	**Karabiga-Canak**	**1.82**	**315**	*e*Pn	**Pn**	**19 27 06.9**	**+0.7**
MRMT	**Marmara Adasi**	**1.83**	**325**	*e*PN	**Pn**	**19 27 07.1**	**+0.7**
MRMT	**Marmara Adasi**	**1.83**	**325**	*e*Pn	**Pn**	**19 27 07.1**	**+0.7**
ISK	**Istanbul-Kandi**	**1.95**	**2**	*e*PN	**Pn**	**19 27 09.0**	**+1.0**
ISK	**Istanbul-Kandi**	**1.95**	**2**	*e*Pn	**Pn**	**19 27 09.0**	**+1.0**
BGKT	**Bogazkoy**	**2.07**	**356**	*e*PN	**Pn**	**19 27 10.4**	**+0.8**
BGKT	**Bogazkoy**	**2.07**	**356**	*e*Pn	**Pn**	**19 27 10.4**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*PN	**Pn**	**19 27 11.1**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*Pn	**Pn**	**19 27 11.1**	**+1.1**
SILT	**Sile**	**2.10**	**14**	*e*PN	**Pb**	**19 27 11.6**	**-1.3**
SILT	**Sile**	**2.10**	**14**	*e*Pn	**Pb**	**19 27 11.6**	**-1.3**
KLYT	**Kilyos**	**2.14**	**1**	*e*PN	**Pn**	**19 27 11.9**	**+1.3**
KLYT	**Kilyos**	**2.14**	**1**	*e*Pn	**Pn**	**19 27 11.9**	**+1.3**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*PN	**Pn**	**19 27 11.7**	**+1.0**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*Pn	**Pn**	**19 27 11.7**	**+1.0**
MDUB	**Mudurnu**	**2.18**	**51**	*e*PN	**Pn**	**19 27 12.4**	**+1.1**
SAHE	**Sakarya_HENDEK**	**2.26**	**39**	*i* P	**Pb**	**19 27 16.1**	**+0.6**
SAHE				*i* S	**Sg**	**19 27 47.5**	**+0.5**
KIZT	**Kizilcal**	**2.27**	**95**	*e*PN	**Pn**	**19 27 13.4**	**+0.9**
KIZT	**Kizilcal**	**2.27**	**95**	*e*Pn	**Pn**	**19 27 13.4**	**+0.9**
CTYL	**Yalikoy Yolu**	**2.42**	**348**	*e*PN	**Pn**	**19 27 15.6**	**+1.2**
CTYL	**Yalikoy Yolu**	**2.42**	**348**	*e*Pn	**Pn**	**19 27 15.6**	**+1.2**

GUC 04 19:33:28.6±0.5, **40°.58S**×**72°.24W**, **h12**km±6km, **ML3.7**, **Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.09**	**315**	*i* P	Pb	19 33 48.4	-1.0
VLCH				*i* S	Sg	19 34 03.8	0.0
VLCH				IAML		19 34 10.0	
	comp=N,4μm,0.1s						
PLCA	**Paso Flores**	**1.29**	**97**	*i* P	Pn	19 33 52.5	-0.1
PLCA				*i* S	Sn	19 34 09.9	+0.1

*ISCJB **04** 19:43:12.7±0.6, 31°.91N±0°.02×114°.94W±0°.03, h8km±5km, Error ellipse: s-maj=4.0km s-min=3.6km az=41.1*
*ECX **04** 19:43:15.4±0.7, 31°.87N × 115°.00W, h9km, MD3.0, ML3.3*
*NEIC **04** 19:43:15.4, 31°.87N × 115°.01W, h9km, ML3.3(ECX), ML2.9(PAS), After ECX.*
*MEX **04** 19:43:16.1±0.4, 31°.91N × 114°.89W, h16km±9km, MD3.8*

ISC 04 19:43:13.5±1.0, **31°.91N**±0°.02×**114°.99W**±0°.02, **h14**km±9km, **n49**, σ**1°24/71**, **1C-4D**, **Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.44**	**187**	⇑*i* P	**Pg**	**19 43 22.2**	**0.0**
ECBX				*e*S	**Sg**	**19 43 28.0**	**-0.1**
MBIG	**Mexicali**	**0.53**	**341**	*e*P	**Pb**	**19 43 25.3**	**+0.8**
MBIG				*e*S	**Sb**	**19 43 32.5**	**+0.5**
CPBX	**Cerro Prieto**	**0.57**	**333**	*e*P	**Pb**	**19 43 26.1**	**+0.8**
CPBX				*e*S	**Sb**	**19 43 46.4**	**+1.3**
YMD	**Yuma Desert**	**0.75**	**30**	⇓*i*P	**Pb**	**19 43 28.7**	**+0.5**
EMSC	**East Mesa**	**0.83**	**0**	⇓*i*P	**Pb**	**19 43 30.1**	**+0.5**
SPIG	**San Pedro Mart**	**0.95**	**205**	*i* P	**Pb**	**19 43 31.8**	**-0.1**
SPIG				*i* S	**Sg**	**19 43 43.9**	**-0.5**
SPIG	**San Pedro Mart**	**0.95**	**205**	*e*P	**Pb**	**19 43 31.6**	**-0.3**
SPIG	**San Pedro Mart**	**0.95**	**205**	*e*Pn	**Pb**	**19 43 31.8**	**-0.1**
SPIG				*e*Sn	**Sg**	**19 43 43.9**	**-0.5**
SPX	**San Pedro Mart**	**0.95**	**205**	AML	AML	19 43 45.5	
	comp=N,636nm,0.1s						
SPX				⇓*e*		19 43 45.5	
GLA	**Glamis**	**1.15**	**7**	P	**Pb**	**19 43 34.5**	**-0.7**
	baz=186						
GLA	**Glamis**	**1.15**	**7**	*e*Pg	**Pb**	**19 43 34.5**	**-0.7**
GLA				*e*Sn	**Sb**	**19 43 48.4**	**-1.5**
RMX	**La Rumorosa**	**1.15**	**307**	⇓*e*P	**Pn**	**19 43 35.6**	**+0.3**
ZAX	**El Zacaton**	**1.16**	**251**	*e*P	**Pn**	**19 43 35.3**	**-0.1**
ZAX				*e*S	**Sb**	**19 43 50.1**	**-0.1**
ZAX				AML	AML	19 43 51.3	
	comp=N,615nm,0.5s						
IKP	**In-Ko-Pah, Jac**	**1.20**	**308**	P	**Pg**	**19 43 36.8**	**+0.2**
	baz=128						
IKP				S	**Sg**	**19 43 52.5**	**+0.1**
	baz=128						
SWSC	**Sam W. Stewart**	**1.24**	**327**	P	**Pb**	**19 43 36.8**	**+0.2**
	baz=146						
113A	**Mohawk Valley,**	**1.35**	**50**	*e*Pn	**Pn**	**19 43 37.5**	**-0.3**
113A				*e*Sn	**Sn**	**19 43 54.1**	**-1.4**
ECNX	**Esteban Cantu**	**1.39**	**260**	*e*P	**Pn**	**19 43 38.9**	**+0.4**
CBX	**Cerro Bola**	**1.48**	**286**	*e*P	**Pn**	**19 43 39.5**	**-0.3**
CBX				*e*S	**Sn**	**19 43 58.2**	**-0.6**
CBX	**Cerro Bola**	**1.48**	**286**	*e*P	**Pb**	**19 43 40.5**	**-0.2**
CBX				AML	AML	19 44 05.8	
	comp=N,560nm,0.6s						
PBX	**Punta Banda**	**1.48**	**264**	*e*P	**Pb**	**19 43 40.5**	**-0.4**
TJIG	**Tijuana**	**1.52**	**291**	*e*P	**Pn**	**19 43 40.1**	**-0.1**
TJIG				*e*S	**Sn**	**19 43 58.6**	**-1.3**
MONP2	**Monument Peak**	**1.56**	**309**	Pb	**Pg**	**19 43 43.4**	**0.0**
	baz=129						
MONP2				S	**Sb**	**19 44 03.0**	**+1.1**
	baz=129						
BAR	**Barrett**	**1.62**	**299**	*e*Pn	**Pn**	**19 43 41.5**	**-0.1**
BAR				*e*Pg	**Pg**	**19 43 44.5**	**-0.1**
BAR				*e*Sn	**Sn**	**19 43 59.9**	**-2.4**
BC3	**Big Chuckawall**	**1.79**	**348**	P	**Pn**	**19 43 43.7**	**-0.2**
	baz=167						
214A	**Organ Pipe Nat**	**1.85**	**88**	P	**Pn**	**19 43 45.5**	**+0.6**
	baz=269						
Y12C	**Blythe**	**1.88**	**12**	P	**Pn**	**19 43 45.2**	**+0.1**
	baz=192						
Y12C	**Blythe**	**1.88**	**12**	*e*Pn	**Pn**	**19 43 44.8**	**-0.3**
Y12C				*e*Pg	**Pg**	**19 43 49.4**	**-0.1**
109C	**Camp Elliot, M**	**2.04**	**299**	Pb	**Pb**	**19 43 51.5**	**+1.2**
	baz=118						
TPFO	**Pinon Flats**	**2.09**	**324**	Pb	**Pb**	**19 43 51.4**	**+0.1**
	baz=144						
PFO	**Pinyon Flats O**	**2.10**	**324**	Pb	**Pb**	**19 43 51.3**	**-0.2**
	baz=144						
PFO	**Pinyon Flats O**	**2.10**	**324**	*e*Pn	**Pn**	**19 43 47.5**	**-0.8**
PFO				*e*Pg	**Pb**	**19 43 51.2**	**-0.3**
BELC	**Belle Mtn. Jos**	**2.25**	**338**	Pb	**Pb**	**19 43 53.7**	**-0.3**
	baz=158						
MURC	**Murrieta**	**2.51**	**313**	Pb	**Pb**	**19 43 59.7**	**+1.4**
	baz=132						
MURC				Sb	**Sg**	**19 44 32.2**	**-1.9**
	baz=132						
Y14A	**Wickenburg**	**2.62**	**39**	*e*Pn	**Pn**	**19 43 55.4**	**0.0**
Y14A				*e*Sn	**Sg**	**19 44 36.8**	**-1.1**
W13A	**Hualapai Mount**	**3.31**	**16**	*e*Pn	**Pn**	**19 44 06.6**	**+1.5**
W13A				*e*Pg	**Pg**	**19 44 17.3**	**+0.3**
MWC	**Mount Wilson**	**3.46**	**313**	*e*Pn	**Pn**	**19 44 06.3**	**-0.8**
MWC				*e*Sg	**Sb**	**19 44 58.5**	**+1.9**
PASC	**Pasadena Art C**	**3.50**	**311**	*e*Pn	**Pn**	**19 44 09.4**	**+1.9**
PASC				*e*Sg	**Sb**	**19 45 02.0**	**+4.3**
TUC	**Tucson**	**3.59**	**82**	*e*Pn	**Pn**	**19 44 10.6**	**+1.8**
TUC				*e*Sg	**Sg**	**19 45 06.5**	**-2.3**
GSC	**Goldstone, Bar**	**3.71**	**336**	*e*Pn	**Pn**	**19 44 11.6**	**+1.2**
GSC				*e*Pg	**Pg**	**19 44 25.4**	**+0.9**
X16A	**Lo Mia Camp, P**	**3.89**	**49**	*e*Pn	**Pn**	**19 44 13.5**	**+0.5**
TJR	**Tejon Ranch**	**4.42**	**316**	*e*Pn	**Pn**	**19 44 16.1**	**-3.9**
WUAZ	**Wupatki**	**4.70**	**39**	*e*Pn	**Pn**	**19 44 23.8**	**-0.2**
DAC	**Darwin (Calif)**	**4.86**	**334**	*e*Pn	**Pn**	**19 44 26.9**	**+0.6**
319A	**Douglas**	**4.90**	**95**	*e*Pn	**Pn**	**19 44 28.2**	**+1.4**
U15A	**North Rim**	**5.03**	**26**	*e*Pn	**Pn**	**19 44 31.3**	**+2.5**
SRIG	**Santa Rosalia**	**5.16**	**152**	*e*Pn	**Pn**	**19 44 31.4**	**+1.1**
LCMT	**Little Creek M**	**5.29**	**15**	*e*Pn	**Pn**	**19 44 30.0**	**-2.2**
KNB	**Kanab**	**5.40**	**19**	*e*Pn	**Pn**	**19 44 35.5**	**+1.7**
W18A	**Petrified Fore**	**5.43**	**52**	*e*Pn	**Pn**	**19 44 34.8**	**+0.6**

IDC 04 19:44:14.6±1.1, **34°.00N**×**137°.57E**, **h0**km, **mb3.4/5, mb1 3.4/7, mb1mx3.3/47, mbtmp3.3/7, ML3.0/2, Error ellipse: s-maj=33.0km s-min=18.2km az=60.0, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.04**	**115**	Pn	Pn	19 44 50.4	+0.1
	18nm,0.3s,baz=105,slow=21,SNR=18						
JHJ				Sn	Sg	19 45 24.5	+4.2
	40nm,0.3s,baz=249,slow=23,SNR=9.1						
MAT	**Matsushiro**	**2.59**	**11**	P	Pn	19 44 58.6	+0.7
MAT				S	Sb	19 45 33.2	-1.3
MJAR	**Matsushiro Arr**	**2.59**	**11**	Pn	Pn	19 44 57.9	0.0
	2.0nm,0.3s,baz=203,slow=17,SNR=27						
MJAR				Sn	Sb	19 45 34.4	-0.1
	1.6nm,0.3s,baz=225,slow=24,SNR=5.6						
SONM	**Songino Array**	**27.10**	**310**	P	P	19 49 59.5	+0.3
	0.1nm,0.4s,baz=106,slow=11,SNR=2.1						
ZALV	**Zalesovo Beam**	**41.74**	**315**	P	P	19 52 05.3	+0.1
	0.4nm,0.5s,baz=99,slow=7.4,SNR=2.3						
MKAR	**Makanchi Array**	**43.15**	**304**	P	P	19 52 16.2	-0.7
	0.2nm,0.6s,baz=96,slow=9.3,SNR=2.1						
WRA	**Warramunga Arr**	**53.73**	**184**	P	P	19 53 38.6	0.0
	0.4nm,0.4s,baz=7.1,slow=7.5,SNR=4.3						
ASAR	**Alice Springs**	**57.45**	**184**	P	P	19 54 05.3	-0.1
	0.2nm,0.5s,baz=8.7,slow=6.0,SNR=3.0						

*ISCJB **04** 19:45:08.5±0.3, 0°.08N±0°.03×124°.35E±0°.03, h73km, mb4.4/31, Error ellipse: s-maj=4.7km s-min=4.1km az=27.2*
*NEIC **04** 19:45:11.0±0.9, 0°.02N × 124°.34E, h86km±10km, mb4.6/23, Error ellipse: s-maj=11.2km s-min=6.2km az=56.0*
*IDC **04** 19:45:11.5±2.5, 0°.03N × 124°.34E, h87km±26km, mb3.7/10, mb1 3.9/13, mb1mx3.7/40, mbtmp4.1/13, MS3.0/4, Ms1 3.0/4, ms1mx2.5/38, Error ellipse: s-maj=18.8km s-min=12.7km az=75.0*
*DJA **04** 19:45:13.0±0.4, 0°.5S±4°×12°4E±°, h97km±16km, M4.6/14, mb4.8/12, mB5.0/6, MLv4.8/14, Mw(mB)4.3/6*

ISC 04 19:45:10.0±0.4, **0°.02N**±0°.05×**124°.40E**±0°.04, **h73**km, **n65, σ1°91/71, mb4.4/31, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.93**	**237**	P	**Pn**	**19 45 42.0**	**+1.2**
LUWI				S	**Sn**	**19 46 09.2**	**+4.9**
LUWI	**Luwuk**	**1.93**	**237**	*e*Pn	**Pn**	**19 45 40.6**	**-0.2**
LUWI				*e*Sn	**Sn**	**19 46 07.7**	**+3.4**
MRSI	**Marisa**	**2.50**	**281**	P	**Pn**	**19 45 46.6**	**-1.8**
MRSI				S	Sn	19 46 06.5	-11
SANI	**Sanana**	**2.60**	**142**	P	**Pn**	**19 45 48.9**	**-0.9**
SANI				S	**Sn**	**19 46 16.7**	**-3.6**
LBMI	**Labuha**	**3.17**	**102**	P	**Pn**	**19 45 59.4**	**+1.8**
KDI	**Kendari**	**4.33**	**204**	P	**Pn**	**19 46 13.6**	**+0.3**
KDI				S	**Sn**	**19 46 55.3**	**-7.3**
PCI	**Palu**	**4.65**	**259**	P	**Pn**	**19 46 20.3**	**+2.5**
TTSI	**Tana Toraja**	**5.49**	**236**	P	**Pn**	**19 46 30.7**	**+1.4**
	172nm,0.7s,2μm1.3nm						
TTSI				S	**Sn**	**19 47 31.1**	**0.0**
	172nm,0.7s,2μm1.3nm						
MSAI	**Masohi**	**5.63**	**126**	P	**Pn**	**19 46 34.1**	**+3.0**
	129nm,0.8s,1μm0.5nm						
MSAI				S	**Sn**	**19 47 36.0**	**+1.6**
	129nm,0.8s,1μm0.5nm						
SPSI	**Sidrap Palu**	**6.08**	**229**	P	**Pn**	**19 46 37.5**	**+0.2**
	187nm,0.5s,3μm0.8nm						
KAPI	**Kappang**	**6.82**	**223**	P	**Pn**	**19 46 49.1**	**+1.7**
	16nm,0.3s,baz=70,slow=3.9,SNR=39						
KAPI				S	**Sn**	**19 48 01.3**	**-2.3**
	12nm,0.3s,baz=223,slow=23,SNR=16						
KAPI				LR	LR	19 49 56.4	
	comp=Z,57nm,21.9s,baz=65,slow=42						
KAPI	**Kappang**	**6.82**	**223**	*e*Pn	**Pn**	**19 46 44.5**	**-2.9**
KAPI				*e*Sn	**Sn**	**19 48 03.4**	**-0.2**
SWI	**Sorong**	**6.92**	**97**	P	**Pn**	**19 46 51.5**	**+2.7**
	68nm,1.0s,0.2nm						
SIJI	**Sorong**	**6.93**	**97**	P	**Pn**	**19 46 51.2**	**+2.3**
	9.9nm,0.3s,baz=174,slow=11,SNR=2.3						
SIJI				S	**Sn**	**19 48 10.1**	**+3.8**
	13nm,0.3s,baz=183,slow=23,SNR=2.8						
DAV	**Davao City (W)**	**7.11**	**10**	LR	LR	19 50 05.4	
	comp=Z,84nm,19.4s,baz=141,slow=41						
BSSI	**Bau Bau, Buton**	**7.25**	**212**	P	**Pn**	**19 46 56.0**	**+2.6**
	80nm,1.3s,0.5nm						
MYLDM	**Lahad Datu**	**7.81**	**311**	*e*Pn	**Pn**	**19 47 03.5**	**+2.6**
FAKI	**Fak Fak**	**8.37**	**110**	P	**Pn**	**19 47 08.4**	**-0.3**
	59nm,1.4s						
FAKI	**Fak Fak**	**8.37**	**110**	*e*Pn	**Pn**	**19 47 08.7**	**0.0**
FAKI				*e*Sn	Sn	19 48 32.2	-9.5
MMRI	**Maumere**	**8.86**	**194**	*e*Pn	**Pn**	**19 47 17.9**	**+2.6**
KKM	**Kota Kinabalu**	**10.13**	**306**	*e*Pn	**Pn**	**19 47 33.2**	**+0.4**
WSI	**Waingapu**	**10.45**	**203**	P	**Pn**	**19 47 38.8**	**+1.8**
KSM	**Kuching**	**14.16**	**276**	*e*Pn	**Pn**	**19 48 28.9**	**+1.7**
MTN	**Manton Dam**	**14.42**	**153**	*e*Pn	**Pn**	**19 48 32.1**	**+1.6**
FITZ	**Fitzroy Crossi**	**18.05**	**176**	P	**P**	**19 49 15.1**	**-0.3**
	0.4nm,0.3s,baz=7.0,slow=8.1,SNR=21						
FITZ	**Fitzroy Crossi**	**18.05**	**176**	*e*P	**P**	**19 49 15.9**	**+0.4**
	6.3nm,0.8s						
CISI	**Cisompet, Garu**	**18.16**	**245**	*e*P	P	19 49 09.0	-7.9
	240nm,1.8s						
MBWA	**Marble Bar**	**21.53**	**192**	*e*P	**P**	**19 49 52.9**	**-0.4**
	16nm,0.8s						
WRAB	**Tennant Creek**	**22.09**	**154**	*e*P	**P**	**19 50 00.5**	**+1.2**
	6.3nm,0.8s						
WRA	**Warramunga Arr**	**22.10**	**154**	P	**P**	**19 49 58.6**	**-0.8**
	5.7nm,0.7s,baz=333,slow=10.0,SNR=40						
WB2	**Warramunga Arr**	**22.10**	**154**	*e*P	**P**	**19 49 60.0**	**+0.5**
COEN	**Coen**	**23.20**	**128**	*e*P	**P**	**19 50 12.0**	**+1.1**
	55nm,1.7s						
YULB	**Yu-li**	**23.43**	**353**	*e*P	**P**	**19 50 13.4**	**+0.4**
	22nm,1.4s						
TPUB	**Ta-pu**	**23.43**	**351**	*e*P	**P**	**19 50 13.7**	**+0.7**
	15nm,1.2s						
IPM	**Ipoh**	**23.76**	**281**	*e*P	**P**	**19 50 15.4**	**-0.7**
	20nm,1.4s						
NACB	**Ninganchiao**	**24.17**	**354**	*e*P	**P**	**19 50 18.0**	**-1.5**
	16nm,0.9s						
AS31	**Alice Springs**	**25.29**	**159**	*e*P	**P**	**19 50 30.6**	**+0.8**
	2.7nm,0.5s						
ASAR	**Alice Springs**	**25.29**	**159**	P	**P**	**19 50 30.5**	**+0.7**
	5.0nm,0.7s,baz=336,slow=8.1,SNR=59						
AS01	**Alice Springs**	**25.30**	**159**	*e*P	**P**	**19 50 30.6**	**+0.7**
GSI	**Gunungsitoli**	**26.85**	**273**	*e*P	**P**	**19 50 42.1**	**-1.8**
	55nm,1.6s						
CMAR	**Chiang Mai Arr**	**31.00**	**308**	P	**P**	**19 51 21.3**	**+0.5**
	0.4nm,0.7s,baz=109,slow=7.9,SNR=3.8						
STKA	**Stephens Creek**	**35.65**	**154**	P	**P**	**19 52 02.4**	**+1.2**
	3.0nm,0.7s,baz=330,slow=8.0,SNR=9.9						
MJAR	**Matsushiro Arr**	**38.54**	**18**	P	**P**	**19 52 25.6**	**0.0**
	2.0nm,0.7s,baz=190,slow=8.8,SNR=11						
ARMA	**Armidale**	**39.83**	**142**	*e*P	**P**	**19 52 36.2**	**-0.3**
	45nm,1.8s						
BJT	**Baijiatuau**	**40.52**	**350**	*e*P	**P**	**19 52 41.5**	**-0.4**
	7.8nm,0.4s						
CAN	**Canberra**	**41.98**	**149**	*e*P	**P**	**19 52 52.9**	**-1.1**
	64nm,1.7s						
KWAJ	**Kwajalein Atol**	**43.92**	**77**	*e*P	**P**	**19 53 08.4**	**-1.5**
	135nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.51**	**8**	P	**P**	**19 53 15.3**	**+1.1**
	1.1nm,0.4s,baz=198,slow=8.0,SNR=4.6						
ASAJ	**Asahikawa**	**46.81**	**18**	*e*P	**P**	**19 53 31.9**	**-0.5**
	73nm,1.7s						
KLR	**Kul'dur**	**49.43**	**6**	P	**P**	**19 53 52.5**	**0.0**
	0.9nm,0.5s,baz=238,slow=6.7,SNR=5.6						
SONM	**Songino Array**	**50.14**	**344**	P	**P**	**19 53 57.1**	**-0.9**
	0.6nm,0.9s,baz=156,slow=7.2,SNR=4.6						
DCZ	**Deep Cove**	**58.90**	**146**	*e*P	**P**	**19 54 59.0**	**-2.4**
	141nm,1.8s						
MK01	**Makanchi Array**	**59.32**	**328**	*e*P	**P**	**19 55 03.6**	**-0.8**
MK31	**Makanchi Array**	**59.34**	**328**	*e*P	**P**	**19 55 03.9**	**-0.6**
MKAR	**Makanchi Array**	**59.34**	**328**	P	**P**	**19 55 03.7**	**-0.8**
	1.0nm,0.4s,baz=124,slow=8.1,SNR=30						
MKAR				LR	LR	20 21 47.5	
	comp=Z,11nm,20.9s,baz=296,slow=37						
MKAR	**Makanchi Array**	**59.34**	**328**	*e*P	**P**	**19 55 03.9**	**-0.6**
MAKZ	**Makanchi**	**59.52**	**327**	*e*P	**P**	**19 55 04.5**	**-1.2**
	5.5nm,1.6s			

1.0nm,0.5s,baz=56,slow=9.9,SNR=23
ASAR Alice Springs 26.53 224 P P 20 18 27.0 -0.1
0.5nm,0.7s,baz=55,slow=8.3,SNR=7.8
FITZ Fitzroy Crossi 30.25 242 P P 20 18 59.4 -0.6
1.9nm,0.8s,baz=83,slow=10,SNR=6.6
MKAR Makanchi Array 80.98 319 P P 20 25 00.9 +0.1
0.2nm,0.6s,baz=95,slow=5.9,SNR=3.0

*GEN **04** 20:13:52.6, 44˚.00N × 12˚.06E, h12km, ML2.2*
*CSEM **04** 20:13:53.1±0.1, 43˚.83N × 11˚.93E, h15km, ML2.7/15, Error ellipse: s-maj=4.2km s-min=1.7km az=31.0*
ROM 04 20:13:52.9±0.1, 43˚.87N × 11˚.98E, h8km, Md2.8/13, Ml2.3/17, 4C, Error ellipse: s-maj=1.5km s-min=0.7km az=30.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**292**	Pg	Pg	20 13 55.8	+0.4
SFI				Sg	Sg	20 13 57.9	+0.8
	2µm,0.2s						
SFI	**Santa Sofia**	**0.10**	**292**	Pg	Pg	20 13 55.8	+0.4
SFI				Sg	Sg	20 13 57.9	+0.8
	2µm,0.2s						
T0502	**Localit˜ San**	**0.12**	**73**	Pg	Pg	20 13 56.0	+0.4
T0502				Sg	Sg	20 13 58.2	+0.8
	3µm,0.2s						
ASQU	**Asqua**	**0.16**	**244** ⇑*i*	Pg	Pg	20 13 57.1	+0.9
ASQU				Sg	Sg	20 13 59.8	+1.3
	1µm,0.3s						
ASQU	**Asqua**	**0.16**	**244** ⇑*i*	Pg	Pg	20 13 57.1	+0.9
ASQU				Sg	Sg	20 13 59.8	+1.3
	1µm,0.3s						
CPGN	**Carpegna, Ital**	**0.25**	**105**	Pg	Pb	20 13 59.2	-0.6
CPGN				Sg	Sg	20 14 02.3	+0.9
	308nm,0.4s						
CPGN	**Carpegna, Ital**	**0.25**	**105**	Pg	Pb	20 13 59.2	-0.6
CPGN				Sg	Sg	20 14 02.3	+0.9
	308nm,0.4s						
PARC	**Parchiule**	**0.29**	**139**	Pg	Pg	20 13 59.3	+0.7
PARC	**Parchiule**	**0.29**	**139**	Pg	Pg	20 13 59.3	+0.7
VMG	**Vicchio**	**0.33**	**287** ⇑*i*	Pg	Pg	20 13 59.9	+0.5
VMG	**Vicchio**	**0.33**	**287** ⇑*i*	Pg	Pg	20 13 59.9	+0.5
BADI	**Badiali**	**0.40**	**152**	Pg	Pg	20 14 01.4	+0.6
BADI				Sg	Sb	20 14 08.0	-0.6
	376nm,0.5s						
BADI	**Badiali**	**0.40**	**152**	Pg	Pg	20 14 01.4	+0.6
BADI				Sg	Sb	20 14 08.0	-0.6
	376nm,0.5s						
SEI	**Scarperia**	**0.49**	**293**	Pg	Pg	20 14 02.3	-0.1
	900nm,0.2s						
SEI	**Scarperia**	**0.49**	**293**	Pg	Pg	20 14 02.3	-0.1
	900nm,0.2s						
ATPC	**Poggio Castell**	**0.52**	**138**	Pg	Pg	20 14 03.3	+0.4
ATPC				Sg	Sb	20 14 12.2	+0.3
	156nm,0.4s						
ATPC	**Poggio Castell**	**0.52**	**138**	Pg	Pg	20 14 03.3	+0.4
ATPC				Sg	Sb	20 14 12.2	+0.3
	156nm,0.4s						
PIEI	**Pieia**	**0.52**	**129**	Pg	Pg	20 14 03.0	+0.1
PIEI				Sg	Sb	20 14 10.9	-1.1
	59nm,0.4s						
PIEI	**Pieia**	**0.52**	**129**	Pg	Pg	20 14 03.0	+0.1
PIEI				Sg	Sb	20 14 10.9	-1.1
	59nm,0.4s						
IMOL	**Imola, Italy**	**0.52**	**341**	Pg	Pb	20 14 04.3	0.0
IMOL				Sg	Sb	20 14 11.9	-0.2
	65nm,0.5s						
IMOL	**Imola, Italy**	**0.52**	**341**	Pg	Pb	20 14 04.3	0.0
IMOL				Sg	Sb	20 14 11.9	-0.2
	65nm,0.5s						
ATVO	**AVT- Monte Val**	**0.57**	**147**	Pg	Pg	20 14 04.4	+0.4
ATVO				Sg	Sb	20 14 13.6	0.0
	145nm,0.5s						
ATVO	**AVT- Monte Val**	**0.57**	**147**	Pg	Pg	20 14 04.4	+0.4
ATVO				Sg	Sb	20 14 13.6	0.0
	145nm,0.5s						
FSSB	**Fossombrone**	**0.60**	**107**	Pg	Pg	20 14 04.6	+0.1
FSSB				Sg	Sb	20 14 14.3	-0.1
	130nm,0.3s						
FSSB	**Fossombrone**	**0.60**	**107**	Pg	Pg	20 14 04.6	+0.1
FSSB				Sg	Sb	20 14 14.3	-0.1
	130nm,0.3s						
MTRZ	**Monterenzio**	**0.63**	**324**	Pg	Pg	20 14 05.4	+0.3
MTRZ				Sg	Sg	20 14 13.8	+0.5
	249nm,0.5s						
MTRZ	**Monterenzio**	**0.63**	**324**	Pg	Pg	20 14 05.4	+0.3
MTRZ				Sg	Sg	20 14 13.8	+0.5
	249nm,0.5s						
FRON	**Frontone**	**0.64**	**123**	Pg	Pg	20 14 05.5	+0.2
FRON				Sg	Sb	20 14 15.9	+0.4
	77nm,0.7s						
FRON	**Frontone**	**0.64**	**123**	Pg	Pg	20 14 05.5	+0.2
FRON				Sg	Sb	20 14 15.9	+0.4
	77nm,0.7s						
FNVD	**Fontana Vidola**	**0.69**	**296**	Pg	Pg	20 14 06.6	+0.4
FNVD				Sg	Sb	20 14 16.6	-0.4
	121nm,0.5s						
FNVD	**Fontana Vidola**	**0.69**	**296**	Pg	Pg	20 14 06.6	+0.4
FNVD				Sg	Sb	20 14 16.6	-0.4
	121nm,0.5s						
ATTE	**AVT- Monte Tez**	**0.72**	**158**	Pg	Pg	20 14 07.2	+0.4
	116nm,0.4s						
ATTE	**AVT- Monte Tez**	**0.72**	**158**	Pg	Pg	20 14 07.2	+0.4
	116nm,0.4s						
SSFR	**Montelago di S**	**0.72**	**126**	Pg	Pg	20 14 06.8	0.0
	94nm,0.2s						
SSFR	**Montelago di S**	**0.72**	**126**	Pg	Pg	20 14 06.8	0.0
	94nm,0.2s						
ARVD	**Arcevia**	**0.79**	**118**	Pg	Pg	20 14 07.9	-0.1
ARVD				Sg	Sb	20 14 19.7	0.0
	87nm,1.2s						
ARVD	**Arcevia**	**0.79**	**118**	Pg	Pg	20 14 07.9	-0.1
ARVD				Sg	Sb	20 14 19.7	0.0
	87nm,1.2s						
POPM	**Popiglio**	**0.90**	**282**	P	Pg	20 14 10.0	-0.2
POPM				S	Sg	20 14 21.6	-0.4
MAIM	**Mastiano**	**1.08**	**273**	P	Pg	20 14 12.4	-1.2
MAIM				S	Sg	20 14 26.4	-1.2
SARO	**Sassorosso**	**1.18**	**286**	P	Pg	20 14 14.2	-1.4
SARO				S	Sg	20 14 29.0	-2.0
NVLJ	**Novalja**	**2.19**	**70**	*e*Pn	Pn	20 14 30.6	+1.0
NVLJ				Sn	Sn	20 14 58.1	+1.2
NVLJ	**Novalja**	**2.19**	**70**	*e*Pn	Pn	20 14 30.5	+0.9
NVLJ				Sn	Sn	20 14 58.1	+1.2

*CSEM **04** 20:13:58.1±0.1, 43˚.83N × 11˚.94E, h15km, ML2.8/11, Error ellipse: s-maj=4.4km s-min=2.2km az=40.0*
ROM 04 20:13:57.7±0.1, 43˚.83N × 11˚.97E, h6km ±1km, Md2.7/10, Ml2.3/14, Error ellipse: s-maj=1.5km s-min=0.9km az=35.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.12**	**312**	Pg	Pg	20 14 00.1	-0.1
SFI				Sg	Sg	20 14 02.4	+0.5
	2µm,0.2s						
SFI	**Santa Sofia**	**0.12**	**312**	Pg	Pg	20 14 00.1	-0.1
SFI				Sg	Sg	20 14 02.4	+0.5
	2µm,0.2s						
ASQU	**Asqua**	**0.13**	**257**	Pg	Pg	20 14 01.4	+0.9
ASQU				Sg	Sg	20 14 03.7	+1.3
	1µm,0.3s						
ASQU	**Asqua**	**0.13**	**257**	Pg	Pg	20 14 01.4	+0.9
ASQU				Sg	Sg	20 14 03.7	+1.3
	1µm,0.3s						
T0502	**Localit˜ San**	**0.14**	**59**	Pg	Pg	20 14 00.4	-0.3
T0502				Sg	Sg	20 14 03.3	+0.7
	3µm,0.2s						
CPGN	**Carpegna, Ital**	**0.26**	**95**	Pg	Pb	20 14 03.9	-0.9
CPGN				Sg	Sb	20 14 08.4	-1.2
	308nm,0.4s						
CPGN	**Carpegna, Ital**	**0.26**	**95**	Pg	Pb	20 14 03.9	-0.9
CPGN				Sg	Sb	20 14 08.4	-1.2
	308nm,0.4s						
PARC	**Parchiule**	**0.26**	**132**	Pg	Pb	20 14 04.0	-0.9
PARC				Sg	Sb	20 14 08.3	-1.4
	282nm,0.3s						
PARC	**Parchiule**	**0.26**	**132**	Pg	Pb	20 14 04.0	-0.9
PARC				Sg	Sb	20 14 08.3	-1.4
	282nm,0.3s						
PARC	**Parchiule**	**0.26**	**132**	Sg	Pb	20 14 04.3	-0.6
	282nm,0.3s						
PARC	**Parchiule**	**0.26**	**132**	Sg	Pb	20 14 04.3	-0.6
	282nm,0.3s						
VMG	**Vicchio**	**0.34**	**294**	Pg	Pb	20 14 05.7	-0.4
	450nm,0.4s						
VMG	**Vicchio**	**0.34**	**294**	Pg	Pb	20 14 05.7	-0.4
	450nm,0.4s						
VMG	**Vicchio**	**0.34**	**294**	Sg	Pb	20 14 05.5	-0.6
	450nm,0.4s						
VMG	**Vicchio**	**0.34**	**294**	Sg	Pb	20 14 05.5	-0.6
	450nm,0.4s						
BADI	**Badiali**	**0.37**	**148**	Pg	Pb	20 14 06.3	-0.5
BADI				Sg	Sb	20 14 11.9	-0.9
	376nm,0.5s						
BADI	**Badiali**	**0.37**	**148**	Pg	Pb	20 14 06.3	-0.5
BADI				Sg	Sb	20 14 11.9	-0.9
	376nm,0.5s						
ATPC	**Poggio Castell**	**0.49**	**134**	Pg	Pb	20 14 08.3	-0.5
ATPC				Sg	Sb	20 14 16.1	-0.2
	156nm,0.4s						
ATPC	**Poggio Castell**	**0.49**	**134**	Pg	Pb	20 14 08.3	-0.5
ATPC				Sg	Sb	20 14 16.1	-0.2
	156nm,0.4s						
CAFI	**Castiglion Fio**	**0.50**	**180**	Pg	Pg	20 14 08.0	+0.7
CAFI				Sg	Sb	20 14 15.4	-1.0
	107nm,0.4s						
CAFI	**Castiglion Fio**	**0.50**	**180**	Pg	Pg	20 14 08.0	+0.7
CAFI				Sg	Sb	20 14 15.4	-1.0
	107nm,0.4s						
SEI	**Scarperia**	**0.50**	**298**	Pg	Pb	20 14 08.2	-0.7
	900nm,0.2s						
SEI	**Scarperia**	**0.50**	**298**	Pg	Pb	20 14 08.2	-0.7
	900nm,0.2s						
PIEI	**Pieia**	**0.50**	**125**	Pg	Pg	20 14 08.1	+0.7
	59nm,0.4s						
PIEI	**Pieia**	**0.50**	**125**	Pg	Pg	20 14 08.1	+0.7
	59nm,0.4s						
ATVO	**AVT- Monte Val**	**0.55**	**144**	Pg	Pb	20 14 09.6	-0.1
ATVO				Sg	Sb	20 14 17.4	-0.4
	145nm,0.5s						
ATVO	**AVT- Monte Val**	**0.55**	**144**	Pg	Pb	20 14 09.6	-0.1
ATVO				Sg	Sb	20 14 17.4	-0.4
	145nm,0.5s						
IMOL	**Imola, Italy**	**0.56**	**343**	Pg	Pb	20 14 09.8	-0.1
IMOL				Sg	Sb	20 14 17.6	-0.5
	65nm,0.5s						
IMOL	**Imola, Italy**	**0.56**	**343**	Pg	Pb	20 14 09.8	-0.1
IMOL				Sg	Sb	20 14 17.6	-0.5
	65nm,0.5s						
FSSB	**Fossombrone**	**0.60**	**103**	Pg	Pb	20 14 10.7	+0.1
	130nm,0.3s						
FSSB	**Fossombrone**	**0.60**	**103**	Pg	Pb	20 14 10.7	+0.1
	130nm,0.3s						
MTRZ	**Monterenzio**	**0.66**	**327**	Pg	Pb	20 14 11.3	-0.3
MTRZ				Sg	Sb	20 14 20.3	-0.8
	249nm,0.5s						
MTRZ	**Monterenzio**	**0.66**	**327**	Pg	Pb	20 14 11.3	-0.3
MTRZ				Sg	Sb	20 14 20.3	-0.8
	249nm,0.5s						
MAIM	**Mastiano**	**1.07**	**275**	Pg	Pg	20 14 17.6	-0.6
MAIM				Sg	Sb	20 14 32.8	-0.1
	40nm,0.6s						
MAIM	**Mastiano**	**1.07**	**275**	Pg	Pg	20 14 17.6	-0.6
MAIM				Sg	Sb	20 14 32.8	-0.1
	40nm,0.6s						
UDBI	**Udbina**	**2.82**	**74**	*e*Pn	Pn	20 14 42.1	-1.2
UDBI				Sn	Sn	20 15 14.8	-2.9
UDBI	**Udbina**	**2.82**	**74**	*e*Pn	Pn	20 14 42.1	-1.3
UDBI	**Udbina**	**2.82**	**74**	Sn	Sn	20 15 14.8	-2.9

*JMA **04** 20:17:53.2±0.2, 37˚.03N × 142˚.75E, h37km, M3.3*
*IDC **04** 20:17:57.9±1.6, 37˚.61N × 142˚.04E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.4/48, mbtmp3.5/7, ML3.4/2, MS2.5/3, Ms1 2.5/3, ms1mx2.3/41, Error ellipse: s-maj=43.8km s-min=22.0km az=74.0*
ISC 04 20:17:53.3±2.1, 37.1N ±0.1 × 142.7E ±0.1, h9km, n26, σ1s 61/20, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.48**	**282**	P	Pn	**20 18 19.1**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.52**	**271**	P	Pn	**20 18 19.8**	**-0.8**
ONAJ				S	Sn	**20 18 38.5**	**-2.1**
JMM	**Marumori**	**1.71**	**298**	P	Pn	**20 18 22.3**	**-0.9**
JIO	**Ouri**	**1.74**	**323**	P	Pn	**20 18 23.0**	**-0.6**
JIO				S	Sn	**20 18 45.0**	**-0.9**
JFT	**Otama**	**1.93**	**284**	P	Pn	**20 18 26.1**	**-0.2**
JMK	**Ichinoseki**	**2.20**	**328**	P	Pn	**20 18 29.8**	**-0.2**
JYK	**Kaneyama**	**2.60**	**316**	P	Pn	**20 18 35.7**	**+0.2**
JOM	**Ohasama**	**2.63**	**336**	P	Pn	**20 18 35.9**	**0.0**
JAG	**Ashikaga**	**2.69**	**257**	P	Pn	**20 18 36.0**	**-0.6**
JRY	**Ryogami san**	**3.23**	**252**	P	Pn	**20 18 43.5**	**-0.7**
MJAR	**Matsushiro Arr**	**3.64**	**263**	Pn	Pn	**20 18 50.2**	**+0.4**
	1.5nm,0.3s,baz=22,slow=21,SNR=25						
MJAR				LR	LR	20 19 42.1	
	comp=Z,23nm,18.1s,baz=110,slow=32						
MAT	**Matsushiro**	**3.64**	**263**	P	Pn	**20 18 50.5**	**+0.7**
MAT				S	Sn	**20 19 37.7**	**+4.8**
ASAJ	**Asahikawa**	**7.03**	**359**	Pn	Pn	**20 19 35.3**	**-1.0**
	1.0nm,0.3s,baz=201,slow=14,SNR=16						
ASAJ				Sn	Sn	**20 20 59.5**	**+3.2**
	0.2nm,0.3s,baz=102,slow=20,SNR=2.5						
USRK	**Ussuriysk Ar.**	**10.80**	**315**	LR	LR	20 24 30.9	
	comp=Z,65nm,19.8s,baz=167,slow=39						
KLR	**Kul'dur**	**14.52**	**330**	LR	LR	20 27 09.8	
	comp=Z,28nm,18.8s,baz=110,slow=40						
H11N2	**WAKE ISLAND Hy**	**27.30**	**123**	T	T	20 52 29.3	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**27.31**	**123**	T	T	20 52 39.6	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**27.32**	**123**	T	T	20 52 32.9	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.03**	**125**	T	T	20 53 28.1	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.03**	**125**	T	T	20 53 28.3	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.05**	**125**	T	T	20 53 36.1	
	baz=316						
SONM	**Songino Array**	**28.61**	**304**	P	P	**20 23 49.6**	**-0.4**
	0.6nm,0.7s,baz=100,slow=8.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**42.64**	**312**	P	P	**20 25 49.8**	**0.0**
	0.4nm,0.3s,baz=86,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**44.96**	**302**	P	P	**20 26 08.0**	**-0.6**
	0.4nm,0.7s,baz=94,slow=9.9,SNR=5.9						
WRA	**Warramunga Arr**	**57.26**	**189**	P	P	20 27 49.8	+8.7
	0.5nm,0.7s,baz=9.1,slow=7.1,SNR=5.1						
ASAR	**Alice Springs**	**60.99**	**189**	P	P	20 28 16.4	+9.5
	0.3nm,0.7s,baz=12,slow=8.2,SNR=6.0						

MAN 04 20:19:22, 13˚.42N × 120˚.80E, h10km, mb4.4, ML3.3, MS3.2, 1C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.17**	**61** ⇓*e*	P	Pg	20 19 25.8	0.0
PGP				*e*S	Sg	20 19 28.2	-0.2
TGY	**Tagaytay City**	**0.69**	**11** ⇓*i*	P	Pg	20 19 35.8	+0.4
TGY				*i* S	Sb	20 19 45.9	0.0
LQP	**Lukban**	**1.00**	**46** ⇑*e*	P	Pg	20 19 27.2	-14
SJMP	**San Jose**	**1.00**	**162** *e*P		Pn	20 19 57.2	+0.9
SJMP				*e*S	Sn	20 19 57.2	+0.9
BOAC	**Boac**	**1.02**	**88** *e*P		Pg	20 19 39.7	-1.9
BOAC				*e*S	Sg	20 19 54.2	-0.7
BUSP	**Coron**	**1.52**	**203** *e*P		Pn	20 19 49.5	+0.2
BUSP				*e*S	Sg	20 20 10.6	-0.4
OTRP	**Odiongan**	**1.59**	**131** *e*P		Pn	20 19 50.7	+0.5
OTRP				*e*S	Sb	20 20 12.4	+0.7
GQP	**Guinayangan**	**1.68**	**73** ⇓*e*P		Pn	20 19 51.5	+0.1
GQP				*e*S	Sb	20 20 13.6	-0.5
POLP	**Polilio Island**	**1.71**	**40** *e*P		Pn	20 19 52.4	+0.5
POLP				*e*S	Sb	20 20 15.2	+0.1
AUQP	**San Andres**	**1.83**	**93** *e*P		Pn	20 19 54.1	+0.6
BALP	**Baler**	**2.43**	**18** *e*P		Pb	20 20 04.6	-1.2
CUYO	**Cuyo Island**	**2.56**	**175** *e*P		Pn	20 20 03.8	+0.1
CUYO				*e*S	Sn	20 20 34.5	-0.4
ENPP	**El Nido**	**2.58**	**212** *e*P		Pn	20 20 04.4	+0.6
ENPP				*e*S	Sn	20 20 34.4	-0.8

MAN 04 20:22:23, 13˚.39N × 120˚.87E, h19km, mb4.1, ML2.9, MS2.7, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.14**	**37** ⇓*e*P	P	Pb	20 22 25.7	+0.3
PGP				*i* S	Sb	20 22 28.0	+1.3
TGY	**Tagaytay City**	**0.71**	**5** ⇑*i*P	P	Pn	20 22 37.7	-0.4
TGY				*i* S	Sb	20 22 45.8	-0.4
BOAC	**Boac**	**0.95**	**86** *e*P		Pb	20 22 39.6	-1.3
BOAC				*e*S	Sn	20 22 55.4	+0.9
SJMP	**San Jose**	**0.96**	**165** *e*P		Pg	20 22 42.1	+0.5
SJMP				*e*S	Sn	20 22 57.6	+3.1
LQP	**Lukban**	**0.97**	**42** ⇑*e*P		Pb	20 22 28.9	-12
OTRP	**Odiongan**	**1.52**	**132** *e*P		Pb	20 22 50.5	-0.1
OTRP				*e*S	Sg	20 23 12.4	+0.2
BUSP	**Coron**	**1.52**	**205** *e*P		Pn	20 22 49.4	+0.2
BUSP				*e*S	Sb	20 23 11.0	+1.3
GQP	**Guinayangan**	**1.62**	**71** ⇓*e*P		Pn	20 22 50.7	+0.2
GQP				*e*S	Sb	20 23 12.4	+0.1
POLP	**Polilio Island**	**1.69**	**38** *e*P		Pn	20 22 52.5	+0.9
POLP				*e*S	Sb	20 23 14.4	0.0
CUYO	**Cuyo Island**	**2.53**	**177** *e*P		Pn	20 23 04.1	+1.0
CUYO				*e*S	Sn	20 23 35.0	+1.5
ENPP	**El Nido**	**2.59**	**213** *e*P		Pn	20 23 04.3	+0.4
ENPP				*e*S	Sn	20 23 36.3	+1.5

IDC 04 20:39:08.1±2.7, 6˚.23S × 130˚.18E, h88km ±39km, mb3.0/1, mb1 3.1/4, mb1mx2.9/36, mbtmp3.3/4, Error ellipse: s-maj=75.1km s-min=16.7km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.44**	**12**	P	Pn	20 40 27.6	+0.9
SIJI				S	Sn	20 41 28.2	+0.2
FITZ	**Fitzroy Crossi**	**12.60**	**200**	P	Pn	20 42 04.2	+0.1
	0.1nm,0.3s,baz=20,slow=6.7,SNR=7.4						
FITZ				S	Sn	20 44 16.3	-6.4
	0.1nm,0.3s,baz=72,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**14.21**	**164**	P	Pn	20 42 23.8	-1.6
	0.0nm,0.3s,baz=346,slow=13,SNR=5.7						
WRA				S	Sn	20 44 51.8	-10
	0.1nm,0.3s,baz=342,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**17.70**	**169**	P	Pn	20 43 09.5	+0.5
	0.1nm,0.3s,baz=347,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	20 49 56.1	0.0
	0.1nm,0.4s,baz=130,slow=5.8,SNR=4.0						

*IDC **04** 20:42:15.2±0.9, 8˚.20S × 154˚.14E, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.9/33, mbtmp3.9/13, ML1.3/1, MS3.3/7, Ms1 3.3/7, ms1mx2.9/33, Error ellipse: s-maj=24.5km s-min=18.1km az=118.0*
*ISCJB **04** 20:42:18.3±0.3, 8˚.17S ±0˚.04 × 154˚.16E ±0˚.04, h33km, mb4.6/29, MS3.1/5, Error ellipse: s-maj=6.3km s-min=5.7km az=23.6*
*NEIC **04** 20:42:19.7±2.8, 8˚.17S × 154˚.19E, h30km ±21km, mb5.2/18, Error ellipse: s-maj=8.6km s-min=7.3km az=149.0*
ISC 04 20:42:20.5±0.4, 8˚.10S ±0˚.06 × 154˚.24E ±0˚.05, h35km, n52, σ1s 72/53, mb4.6/29, MS3.2/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.39**	**332**	*e*Pn	**Pn**	**20 43 25.1**	**+0.3**
RABL				*e*Sn	**Sn**	**20 44 17.1**	**+2.3**
HNR	**Honiara**	**5.80**	**104**	Pn	**Pn**	**20 43 42.0**	**-2.1**
	2.1nm,0.3s,baz=246,slow=20,SNR=2.6						
HNR				Sn	**Sn**	**20 44 52.8**	**+3.4**
	6.7nm,0.3s,baz=102,slow=20,SNR=2.0						
HNR				LR	LR	20 45 32.3	
	comp=Z,436nm,19.1s,baz=259,slow=34						
PMG	**Port Moresby**	**7.11**	**259**	Pn	**Pn**	**20 44 00.4**	**-1.7**
	0.3nm,0.3s,baz=295,slow=19,SNR=1.5						
PMG				Sn	**Sn**	**20 45 26.3**	**+4.5**
	0.5nm,0.3s,baz=280,slow=17,SNR=1.3						
PMG	**Port Moresby**	**7.11**	**259**	*e*Pn	**Pn**	**20 44 04.6**	**+2.5**
PMG				Sn	**Sn**	**20 45 26.3**	**+4.5**
PATS	**Pohnpei**	**15.38**	**15**	*e*Pn	**P**	**20 45 57.7**	**-1.6**
	273nm,1.8s						
EIDS	**Eidsvold**	**17.44**	**190**	*e*P	**P**	**20 46 21.9**	**-0.1**
	21nm,1.8s						
DZM	**Mont Dzumac**	**18.20**	**141**	LR	LR	20 52 27.0	
	comp=Z,110nm,19.5s,baz=68,slow=34						
TARA	**Tarawa**	**20.87**	**64**	*e*P	**P**	**20 47 00.1**	**+0.4**
	69nm,0.8s						
KWAJ	**Kwajalein Atol**	**21.44**	**39**	*e*P	**P**	**20 47 05.5**	**-0.2**
	145nm,0.9s						
FAKI	**Fak Fak**	**22.47**	**282**	*e*P	**P**	**20 47 14.1**	**-2.9**
	67nm,1.3s						
WRAB	**Tennant Creek**	**22.56**	**237**	*e*P	**P**	**20 47 15.5**	**-2.4**
	36nm,1.9s						
WR1	**Warramunga Arr**	**22.58**	**236**	*e*P	**P**	**20 47 15.5**	**-2.5**
	7.4nm,1.0s						
WRA	**Warramunga Arr**	**22.58**	**236**	P	**P**	**20 47 15.5**	**-2.5**
	2.6nm,1.0s,baz=63,slow=9.8,SNR=8.8						
GUMO	**Guam**	**23.47**	**337**	LR	LR	20 54 49.2	
	comp=Z,50nm,20.1s,baz=140,slow=32						
FUNA	**Funafuti**	**24.70**	**93**	*e*P	**P**	**20 47 37.3**	**-1.3**
	304nm,1.9s						
AS01	**Alice Springs**	**24.85**	**229**	*e*P	**P**	**20 47 38.4**	**-1.4**
AS31	**Alice Springs**	**24.88**	**229**	*e*P	**P**	**20 47 39.4**	**-0.8**
	1.2nm,0.9s						
ASAR	**Alice Springs**	**24.88**	**229**	P	**P**	**20 47 39.0**	**-1.2**
	2.2nm,0.9s,baz=63,slow=10,SNR=20						
ASAR				LR	LR	20 55 39.0	
	comp=Z,30nm,20.0s,baz=70,slow=32						
MSVF	**Nonsavu**	**25.08**	**115**	*e*P	**P**	**20 47 41.6**	**-0.5**
	29nm,1.6s						
STKA	**Stephens Creek**	**26.42**	**205**	P	**P**	**20 47 53.6**	**-0.4**
	1.8nm,0.7s,baz=31,slow=12,SNR=3.1						
STKA				LR	LR	20 56 46.1	
	comp=Z,76nm,19.1s,baz=26,slow=33						
STKA	**Stephens Creek**	**26.42**	**205**	*e*P	**P**	**20 47 53.4**	**-0.7**
	6.0nm,1.6s						
FITZ	**Fitzroy Crossi**	**29.53**	**247**	P	**P**	**20 48 18.8**	**-3.1**
	1

ISCJB ***04*** *21:01:21.4±0.5, 39°.09N±0°.03×29°.13E±0°.03, h2km±6km, Error ellipse: s-maj=5.0km s-min=4.1km az=156.2*
DDA ***04*** *21:01:21.2, 39°.10N×29°.15E, h7km, Md2.9*
ISK ***04*** *21:01:21.1, 39°.09N×29°.15E, h5km, MD2.9*
CSEM ***04*** *21:01:21.6±0.1, 39°.10N×29°.14E, h2km, MD2.9, Error ellipse: s-maj=2.0km s-min=1.6km az=112.0*

ISC 04 21:01:21.8±1.0, 39°.10N±0°.02×29°.14E±0°.02, h9km±9km, n51, σ0s50/64, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.27**	**92**	P		**Pg**		**21 01 27.4**	**+0.1**
GDZ				S		**Sg**		**21 01 31.3**	**+0.5**
GDZ	**Gediz**	**0.27**	**92**	*i* P		**Pg**		**21 01 27.4**	**+0.1**
GDZ				*i* S		**Sg**		**21 01 31.3**	**+0.5**
DEMI	**Demirci**	**0.33**	**261**	P		**Pg**		**21 01 28.2**	**-0.2**
DEMI				S		**Sg**		**21 01 32.6**	**-0.2**
DEMI	**Demirci**	**0.33**	**261**	*i* P		**Pg**		**21 01 28.2**	**-0.2**
DEMI				*i* S		**Sg**		**21 01 32.6**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**35**	*e*PG		**Pg**		**21 01 30.0**	**-0.3**
TVSB				*e*SG		**Sg**		**21 01 35.9**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**35**	*e*Pg		**Pg**		**21 01 30.0**	**-0.3**
TVSB				*e*Sg		**Sg**		**21 01 35.9**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*PG		**Pg**		**21 01 34.8**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg		**Pg**		**21 01 34.8**	**-0.4**
KHAL	**Karahalli**	**0.78**	**159**	P		**Pg**		**21 01 36.8**	**0.0**
KHAL				S		**Sg**		**21 01 47.2**	**+0.3**
KHAL	**Karahalli**	**0.78**	**159**	*i* P		**Pg**		**21 01 36.8**	**0.0**
KHAL				*i* S		**Sg**		**21 01 47.2**	**+0.3**
KHL	**Karahalli**	**0.83**	**159**	*e*PG		**Pg**		**21 01 37.4**	**-0.4**
KHL				*e*SG		**Sg**		**21 01 48.9**	**+0.3**
KHL	**Karahalli**	**0.83**	**159**	*e*Pg		**Pg**		**21 01 37.4**	**-0.4**
KHL				*e*Sg		**Sg**		**21 01 48.9**	**+0.3**
AKS	**Akhisar**	**1.05**	**259**	*e*PG		**Pg**		**21 01 42.0**	**-0.1**
AKS	**Akhisar**	**1.05**	**259**	*e*Pg		**Pg**		**21 01 42.0**	**-0.1**
BALB	**Balikesir**	**1.12**	**299**	*e*PN		**Pb**		**21 01 43.2**	**-0.1**
BALB	**Balikesir**	**1.12**	**299**	*e*Pn		**Pb**		**21 01 43.2**	**-0.1**
IGD	**Bursa**	**1.17**	**2**	*i* P		**Pb**		**21 01 42.4**	**-1.8**
IGD				*i* S		**Sg**		**21 01 59.8**	**+0.4**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*PN		**Pg**		**21 01 45.3**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**26**	*e*Pn		**Pg**		**21 01 45.3**	**-0.1**
IZI	**Iznik**	**1.27**	**12**	*e*PN		**Pb**		**21 01 45.8**	**-0.1**
IZI	**Iznik**	**1.27**	**12**	*e*Pn		**Pb**		**21 01 45.8**	**-0.1**
BORA	**Eskisehir**	**1.28**	**52**	P		**Pn**		**21 01 45.6**	**-0.5**
BORA				S		**Sn**		**21 02 03.3**	**-0.2**
BORA	**Eskisehir**	**1.28**	**52**	*i* P		**Pn**		**21 01 45.6**	**-0.5**
BORA				*i* S		**Sn**		**21 02 03.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*PN		**Pb**		**21 01 46.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**351**	*e*Pn		**Pb**		**21 01 46.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*PN		**Pg**		**21 01 46.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*Pn		**Pg**		**21 01 46.9**	**-0.1**
ESKT	**Eskisehir**	**1.39**	**72**	*e*PN		**Pb**		**21 01 48.0**	**-0.2**
ADVT	**Abdulvahap**	**1.41**	**19**	*e*PN		**Pb**		**21 01 48.2**	**-0.1**
ADVT	**Abdulvahap**	**1.41**	**19**	*e*Pn		**Pb**		**21 01 48.3**	**-0.1**
GONE	**Gonen-Balikesi**	**1.47**	**311**	*e*PN		**Pb**		**21 01 49.0**	**-0.3**
GONE	**Gonen-Balikesi**	**1.47**	**311**	*e*Pn		**Pb**		**21 01 49.1**	**-0.3**
ARMT	**Armutlu**	**1.48**	**352**	*e*PN		**Pb**		**21 01 49.4**	**-0.2**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn		**Pb**		**21 01 49.4**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	*e*PN		**Pn**		**21 01 49.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**221**	*e*Pn		**Pn**		**21 01 49.4**	**+0.2**
EDC	**Edincik**	**1.59**	**322**	*e*PN		**Pb**		**21 01 51.0**	**-0.4**
EDC	**Edincik**	**1.59**	**322**	*e*Pn		**Pb**		**21 01 51.0**	**-0.4**
IZM	**Izmir**	**1.62**	**245**	*e*PN		**Pb**		**21 01 51.7**	**-0.3**
IZM	**Izmir**	**1.62**	**245**	*e*Pn		**Pb**		**21 01 51.7**	**-0.3**
GULT	**Gulveren**	**1.70**	**38**	*e*PN		**Pn**		**21 01 52.2**	**+0.3**
GULT	**Gulveren**	**1.70**	**38**	*e*Pn		**Pn**		**21 01 52.2**	**+0.3**
HRT	**Hereke**	**1.77**	**13**	*e*PN		**Pb**		**21 01 53.5**	**-1.0**
HRT	**Hereke**	**1.77**	**13**	*e*Pn		**Pb**		**21 01 53.5**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.88**	**79**	*e*PN		**Pn**		**21 01 55.0**	**+0.6**
ISK	**Istanbul-Kandi**	**1.97**	**358**	*e*PN		**Pn**		**21 01 56.2**	**+0.8**
ISK	**Istanbul-Kandi**	**1.97**	**358**	*e*Pn		**Pn**		**21 01 56.2**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.19**	**317**	*e*PN		**Pn**		**21 01 59.5**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.19**	**317**	*e*Pn		**Pn**		**21 01 59.5**	**+1.0**
CTKS	**Kestanelik-??a**	**2.19**	**347**	*e*PN		**Pn**		**21 01 59.4**	**+0.9**
CTKS	**Kestanelik-??a**	**2.19**	**347**	*e*Pn		**Pn**		**21 01 59.4**	**+0.9**

NIED ***04*** *21:14:00, 35°.90N×141°.40E, h35km, Mw4.4 Best double couple: M0=4.36000×10^15 NP1:φs=285.00000°, δ29.00000°, λ-160.00000°. NP2:φs=177.00000°, δ80.00000°, λ-62.00000°.*
BJI ***04*** *21:14:05.9, 35°.70N×141°.33E, h43km, mb4.7/44, mB4.7/30, Ms4.0/26, Ms7 3.7/25*
MOS ***04*** *21:14:06.7±0.7, 35°.78N×141°.25E, h41km, mb4.9/26, Error ellipse: s-maj=9.1km s-min=6.1km az=121.4*
JMA ***04*** *21:14:07.4±0.1, 35°.88N×141°.28E, h41km±1km, M4.4*
JMA Felt II J1.
ISCJB ***04*** *21:14:07.3±0.4, 35°.79N±0°.03×141°.25E±0°.03, h46km±3km, mb4.7/87, MS3.5/16, Error ellipse: s-maj=4.5km s-min=4.2km az=15.2*
NEIC ***04*** *21:14:08.8±0.4, 35°.77N×141°.23E, h44km±4km, mb4.8/52, Error ellipse: s-maj=3.8km s-min=2.8km az=127.0*
NEIC Recorded [2 JMA] in Ibaraki and Tochigi.
IDC ***04*** *21:14:09.3±1.9, 35°.80N×141°.19E, h49km±17km, mb3.9/23, mb1 4.1/29, mb1mx4.0/45, mbtmp4.1/29, ML3.8/5, MS3.5/21, Ms1 3.5/21, ms1mx3.3/48, Error ellipse: s-maj=16.0km s-min=13.0km az=94.0*

ISC 04 21:14:09.0±0.5, 35°.79N±0°.04×141°.29E±0°.04, h48km±3km, n212, σ1s52/232, mb4.7/87, MS3.5/16, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.36**	**257**	P		**Pn**		**21 14 16.6**	**-1.9**
CHOJ				*e*S		**Sn**		**21 14 23.3**	**-1.9**
JYT	**Yasato**	**0.99**	**297**	P		**Pn**		**21 14 24.3**	**-2.2**
JYT				S		**Sn**		**21 14 36.8**	**-2.6**
JHO	**Hitachi**	**1.01**	**325**	P		**Pn**		**21 14 24.0**	**-2.8**
JHO				S		**Sn**		**21 14 36.4**	**-3.5**
BSO4	**Boso 4**	**1.11**	**225**	P		**Pn**		**21 14 28.5**	**+0.5**
BSO1	**Boso 1**	**1.16**	**193**	P		**Pn**		**21 14 28.3**	**0.0**
BSO3	**Boso 3**	**1.17**	**213**	P		**Pn**		**21 14 28.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.60**	**288**	P		**Pn**		**21 14 47.7**	**-0.9**
	34nm,0.3s,baz=297,slow=21,SNR=282								
MJAR				LR		LR		21 15 56.7	
	comp=Z,708nm,20.4s,baz=125,slow=43								
MAJO	**Matsushiro**	**2.60**	**288**	*e*P		**Pn**		**21 14 48.4**	**-0.2**
MAJO	**Matsushiro**	**2.60**	**288**	*e*Pn		**Pn**		**21 14 48.4**	**-0.2**
MAT	**Matsushiro**	**2.60**	**288**	P		**Pn**		**21 14 48.3**	**-0.3**
MAT				S		**Sn**		**21 15 18.3**	**-0.7**
JHJ2	**Mitsune**	**2.93**	**205**	*e*Pn		**Pn**		**21 14 52.9**	**-0.1**
JHJ	**Hachijo jima 2**	**2.93**	**205**	P		**Pn**		**21 14 53.1**	**0.0**
	106nm,0.3s,baz=330,slow=19,SNR=63								
JHJ				S		**Sn**		**21 15 26.9**	**-0.2**
	568nm,0.3s,baz=294,slow=23,SNR=21								
JHJ				LR		LR		21 16 11.8	
	comp=Z,179nm,19.4s,baz=42,slow=42								
INU	**Inuyama**	**3.51**	**264**	*e*Pn		**Pn**		**21 15 01.3**	**+0.3**
ERM	**Erimo**	**6.39**	**13**	*e*P		**Pn**		**21 15 40.7**	**+0.2**
ERM	**Erimo**	**6.39**	**13**	*e*Pn		**Pn**		**21 15 40.7**	**+0.2**
ASAJ	**Asahikawa**	**8.38**	**6**	P		**Pn**		**21 16 03.8**	**-4.0**
	3.5nm,0.3s,baz=230,slow=9.4,SNR=24								
ASAJ				S		**Sn**		**21 17 35.8**	**-5.3**
	1.3nm,0.3s,baz=78,slow=27,SNR=3.1								
ASAJ	**Asahikawa**	**8.38**	**6**	*e*Pn		**Pn**		**21 16 04.6**	**-3.2**
ASAJ				S		**Sn**		**21 17 35.8**	**-5.3**
CBIJ	**Chichi jima**	**8.70**	**175**	*e*Pn		**Pn**		**21 16 10.4**	**-1.8**
CBIJ				S		**Sn**		**21 17 41.8**	**-7.1**
JCJ	**Chichijima**	**8.70**	**175**	P		**Pn**		**21 16 08.5**	**-3.7**
	37nm,0.3s,baz=285,slow=22,SNR=18								
JCJ				S		**Sn**		**21 17 41.8**	**-7.1**
	20nm,0.3s,baz=56,slow=23,SNR=5.8								
JNU	**Nakatsue**	**8.99**	**256**	P		**Pn**		**21 16 15.2**	**-1.1**
	0.6nm,0.3s,baz=42,slow=6.9,SNR=5.9								
JNU				LR		LR		21 20 16.8	
	comp=Z,617nm,19.1s,baz=115,slow=41								
JNU	**Nakatsue**	**8.99**	**256**	*e*Pn		**Pn**		**21 16 13.6**	**-2.7**
KSRS	**Korea Array**	**10.87**	**283**	P		**Pn**		**21 16 42.5**	**+0.7**
	0.5nm,0.3s,baz=105,slow=13,SNR=9.1								
KSRS				LR		LR		21 20 44.1	
	comp=Z,300nm,21.8s,baz=98,slow=36								
KS01	**Wonju Array Si**	**10.89**	**283**	*e*Pn		**Pn**		**21 16 42.3**	**+0.1**
KS15	**Wonju Array Si**	**10.90**	**283**	*e*Pn		**Pn**		**21 16 42.3**	**0.0**
KSAR	**Wonju Array Be**	**10.90**	**283**	P		**Pn**		**21 16 42.5**	**+0.2**
KSAR	**Wonju Array Be**	**10.90**	**283**	P		**Pn**		**21 16 42.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**11.02**	**323**	P		**Pn**		**21 16 43.5**	**-0.3**
	0.3nm,0.3s,baz=119,slow=12,SNR=6.2								
USRK				LR		LR		21 20 48.3	
	comp=Z,251nm,18.3s,baz=126,slow=36								
YSS	**Yuzh-Sakhalins**	**11.21**	**5**	*e*P		Pn		21 16 53.9	+7.4
YSS				pmax		pmax			
	comp=Z,10.0nm,0.5s								
YSS	**Yuzh-Sakhalins**	**11.21**	**5**	*e*Pn		**Pn**		**21 16 47.7**	**+1.2**
	comp=Z,15nm,0.8s								
MDJ	**Mudanjiang**	**12.55**	**318**	P		**Pn**		**21 17 08.4**	**+3.7**
MDJ				PMZ					
	comp=Z,6.0nm,1.2s								
MDJ				PMZ					
	comp=Z,66nm,4.7s								
MDJ				LN					
	comp=Z,150nm,15.1s								
MDJ				LE					
	comp=Z,75nm,18.6s								
MDJ				LZ					
	comp=Z,210nm,17.2s								
JOW	**Kunigami**	**14.25**	**235**	*e*Pn		**Pn**		**21 17 29.8**	**+1.8**
CN2	**Changchun**	**14.56**	**308**	*e*P		**Pn**		**21 17 33.0**	**+1.0**
CN2				*es*P		P		21 17 49.0	+12
CN2				*e*S		**Sn**		**21 20 13.0**	**+1.1**
CN2				PMZ					
	comp=Z,10.0nm,0.7s								
CN2				PMZ					
	comp=Z,100nm,3.0s								
CN2				LN					
	comp=Z,300nm,13.0s								
CN2				LE					
	comp=Z,400nm,13.0s								
CN2				LZ					
	comp=Z,200nm,14.0s								
TYV	**Tymovskoe**	**15.11**	**3**	*e*P		**Pn**		**21 17 37.5**	**-1.6**
TYV				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KLR	**Kul'dur**	**15.15**	**335**	P		**Pn**		**21 17 38.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=116,slow=8.5,SNR=3.0								
KLR				LR		LR		21 22 58.8	
	comp=Z,108nm,19.7s,baz=144,slow=35								
DL2	**Dalian**	**15.94**	**287**	P		**Pn**		**21 17 50.9**	**+1.0**
DL2				PMZ					
	comp=Z,22nm,1.2s								
BJI	**Beijing**	**20.24**	**290**	P		**P**		**21 18 38.8**	**-1.3**
BJI				S		**S**		**21 22 24.4**	**-0.1**
BJI				PMZ					
	comp=Z,9.0nm,1.3s								
BJI				PMZ					
	comp=Z,54nm,4.6s								
BJI				LN					
	comp=Z,35nm,20.0s								
BJI				LE					
	comp=Z,87nm,27.6s								
BJI				LZ					
	comp=Z,99nm,30.0s								
PETK	**Petropavlovsk-**	**20.82**	**29**	P		**P**		**21 18 46.7**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=226,slow=8.8,SNR=6.6								
PETK				LR		LR		21 26 23.2	
	comp=Z,46nm,21.7s,baz=224,slow=35								
SSLB	**Suanglung**	**21.27**	**241**	*e*P		**P**		**21 18 49.9**	**-1.4**
	comp=Z,11nm,0.9s								
YULB	**Yu-li**	**21.27**	**240**	*e*P		**P**		**21 18 51.5**	**+0.1**
	comp=Z,19nm,1.4s								
TWG	**Pinlang**	**21.80**	**239**	*e*P		**P**		**21 18 56.2**	**-0.8**
	comp=Z,121nm,1.1s								
TPUB	**Ta-pu**	**21.80**	**241**	*e*P		**P**		**21 18 56.5**	**-0.6**
	comp=Z,15nm,1.2s								
HHC	**Hu-ho-hao-te**	**23.80**	**291**	*e*P		**P**		**21 19 16.9**	**-0.5**
HHC				pP		pP		21 19 29.8	+0.2
HHC				PP		**PnPn**		**21 19 50.0**	**+3.1**
HHC				S		**S**		**21 23 27.4**	**-2.4**
HHC				sS		sS		21 23 45.2	-5.3
HHC				PMZ					
	comp=Z,17nm,1.2s								
HHC				PMZ					
	comp=Z,46nm,6.5s								
MA2	**Magadan**	**24.59**	**12**	LR		LR		21 29 07.9	
	comp=Z,44nm,18.5s,baz=244,slow=36								
XAN	**Xi'an**	**26.54**	**276**	P		**P**		**21 19 40.9**	**-1.4**
XAN				pP		pP		21 19 50.2	-4.5
XAN				sP		sP		21 19 54.3	-6.1
XAN				PP		**PnPn**		**21 20 22.3**	**-2.0**
XAN				S		**S**		**21 24 07.1**	**-6.3**
XAN				PMZ					
	comp=Z,9.0nm,0.9s								
XAN				PMZ					
	comp=Z,42nm,7.2s								
XAN				LN					
	comp=Z,100nm,15.1s								
XAN				LE					
	comp=Z,110nm,16.0s								
XAN				LZ					
	comp=Z,110nm,15.9s								
ENH	**Enshi**	**27.15**	**267**	*e*P		**P**		**21 19 46.5**	**-1.3**
	comp=Z,5.2nm,0.7s								
YAK	**Yakutsk**	**27.27**	**348**	*e*P		P		21 19 59.1	+11
YAK				pmax		pmax			
	comp=Z,15nm,1.3s								
YAK				pmax		pmax			
	comp=N,7.0nm,1.4s								
H11N2	**WAKE ISLAND Hy**	**27.62**	**119**	T		T		21 48 49.9	
	baz=311,slow=75,SNR=62								
H11N1	**WAKE ISLAND Hy**	**27.63**	**119**	T		T		21 48 56.7	
	baz=311,slow=75,SNR=79								
H11N3	**WAKE ISLAND Hy**	**27.64**	**119**	T		T		21 48 51.6	
	baz=311,slow=75,SNR=70								
H11S1	**WAKE ISLAND Hy**	**28.29**	**121**	T		T		21 49 53.4	
	baz=313,slow=75,SNR=53								
H11S3	**WAKE ISLAND Hy**	**28.29**	**121**	T		T		21 49 51.6	
	baz=313,slow=75,SNR=73								
H11S2	**WAKE ISLAND Hy**	**28.30**	**121**	T		T		21 49 55.4	
	baz=313,slow=75,SNR=69								
SONA1	**Songino Array**	**28.41**	**306**	*e*P		**P**		**21 19 58.6**	**-0.5**
SONM	**Songino Array**	**28.41**	**306**	P		**P**		**21 19 59.0**	**-0.1**
	comp=N,1.9nm,0.5s,baz=104,slow=9.0,SNR=24								
SONM				LR		LR		21 31 53.9	
	comp=N,90nm,19.0s,baz=98,slow=38								
LZH	**Lanzhou**	**30.20**	**282**	*e*P		**P**		**21 20 14.5**	**-0.5**
LZH				pP		pP		21 20 26.7	-0.8
LZH				sP		sP		21 20 32.0	-1.2
LZH				PP		**PnPn**		**21 21 13.5**	**-0.4**
LZH				PMZ					
	comp=N,25nm,1.3s								
LZH				PMZ					
	comp=N,87nm,5.2s								
LZH				LN					
	comp=N,400nm,12.9s								
LZH				LE					
	comp=N,360nm,13.0s								
LZH				LZ					
	comp=N,470nm,16.5s								
GYA	**Guiyang**	**30.93**	**262**	P		**P**		**21 20 22.8**	**+1.3**
GYA				pP		pP		21 20 34.6	+0.6
GYA				PP		**PnPn**		**21 21 24.2**	**+0.6**
GYA				PcP		**PcP**		**21 23 19.0**	**+1.9**
GYA				S		**S**		**21 25 23.8**	**+1.1**
GYA				sS		sS		21 25 42.3	-1.4
GYA				ScP		**ScP**		**21 26 56.0**	**+0.1**
GYA				SS		**SnSn**		**21 27 06.8**	**+1.0**
GYA				ScS		**ScS**		**21 30 51.0**	**-2.1**
GYA				PMZ					
	comp=N,20nm,0.8s								
GYA				PMZ					
	comp=N,120nm,4.9s								
GYA				LN					
	comp=N,530nm,16.8s								
GYA				LE					
	comp=N,490nm,17.0s								
GYA				LZ					
	comp=N,470nm,17.3s								
TLY	**Talaya**	**31.08**	**313**	*e*P		**P**		**21 20 23.0**	**+0.5**
TLY				pmax		pmax			
	comp=Z,3.0nm,0.9s								
TLY	**Talaya**	**31.08**	**313**	*e*P		**P**		**21 20 23.0**	**+0.5**
	comp=Z,3.4nm,0.9s								
CD2	**Chengdu**	**31.59**	**272**	P		**P**		**21 20 27.0**	**-0.3**
CD2				pP		pP		21 20 39.1	-0.7
CD2				sP		sP		21 20 44.8	-0.6
CD2				S		**S**		**21 25 32.8**	**-0.1**
CD2				sS		sS		21 25 53.7	-0.2
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
QIZ	**Qiongzhong**	**32.34**	**247**	P		**P**		**21 20 34.2**	**+0.4**
QIZ				pP		**pP**		**21 20 44.6**	**-1.7**
QIZ				S		**S**		**21 25 44.9**	**+0.4**
QIZ				sS		**sS**		**21 26 03.6**	**-2.0**
QIZ				LN					
	comp=Z,95nm,6.8s								
QIZ				LE					
	comp=Z,87nm,2.7s								
QIZ				LZ					
	comp=Z,130nm,20.0s								
GTA	**Gaotai**	**32.85**	**289**	*e*P		**P**		**21 20 37.8**	**-0.5**
GTA				pP		pP		21 20 46.0	-4.8
GTA				sP		sP		21 20 50.6	-5.9
GTA				S		**S**		**21 25 52.1**	**-0.4**
GTA				sS		sS		21 26 09.7	-3.8
GTA				SS		**SnSn**		**21 27 53.7**	**+1.5**
GTA				PMZ					
	comp=Z,6.0nm,1.0s								
GTA				PMZ					
	comp=Z,60nm,6.4s								
GTA				LN					
	comp=Z,87nm,17.1s								
GTA				LE					
	comp=Z,64nm,17.6s								
GTA				LZ					
	comp=Z,120nm,16.6s								
KMI	**Kunming**	**34.69**	**263**	P		**P**		**21 20 55.2**	**+0.7**
KMI				PMZ					
	comp=Z,9.0nm,0.6s								
KMI				PMZ					
	comp=Z,85nm,5.7s								
BILL	**Bilibino**	**35.25**	**16**	*e*P		P		21 21 10.3	+12
BILL				*e*				21 21 25.3	
BILL								21 22 26.0	
BILL				*e*SSS		SSS		21 29 10.5	
BILL				pmax		pmax			
	comp=Z,4.0nm,1.1s								
BILL				MLR		MLR			
	comp=Z,51nm,18.0s								
BILL	**Bilibino**	**35.25**	**16**	*e*P		**P**		**21 20 58.7**	**+0.1**
	comp=Z,19nm,1.9s								
MIDW	**Midway**	**35.66**	**90**	*e*P		**P**		**21 21 03.1**	**+0.6**
	comp=Z,330nm,1.8s								
KWAJ	**Kwajalein Atol**	**36.02**	**132**	*e*P		**P**		**21 21 05.6**	**-0.2**
KWAJ	**Kwajalein Atol**	**36.02**	**132**	*e*P		**P**		**21 21 05.6**	**-0.2**
	comp=Z,120nm,0.9s								
TIXI	**Tiksi**	**36.52**	**353**	P		**P**		**21 21 08.7**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=145,slow=6.9,SNR=9.3								
TIXI	**Tiksi**	**36.52**	**353**	*e*P		**P**		**21 21 08.8**	**-0.6**
TIXI				pmax		pmax			
	comp=Z,2.0nm,1.1s								
TIXI	**Tiksi**	**36.52**	**353**	*e*P		**P**		**21 21 08.8**	**-0.6**
	comp=Z,2.2nm,1.1s								
MYLDM	**Lahad Datu**	**36.98**	**220**	*e*P		**P**		**21 21 13.4**	**-0.5**
	comp=Z,13nm,1.2s								
KKM	**Kota Kinabalu**	**37.50**	**224**	*e*P		**P**		**21 21 18.7**	**+0.3**
	comp=Z,19nm,1.5s								
MANU	**Manus Island**	**38.06**	**170**	*e*P		**P**		**21 21 23.0**	**0.0**
	comp=Z,177nm,1.8s								
CM31	**Chiang Mai Arr**	**41.09**	**257**	*e*P		**P**		**21 21 48.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.09**	**257**	P		**P**		**21 21 47.0**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=50,slow=7.4,SNR=6.8								
CMAR				LR		LR		21 40 01.7	
	comp=Z,70nm,19.9s,baz=155,slow=38								
CMAR	**Chiang Mai Arr**	**41.09**	**257**	P		**P**		**21 21 47.0**	**-1.3**
CM01	**Chiang Mai Arr**	**41.10**	**257**	*e*P		**P**		**21 21 48.5**	**+0.1**
WMQ	**Urumqi**	**41.32**	**298**	P		**P**		**21 21 51.6**	**+1.6**
WMQ				pP		pP		21 22 03.9	+1.1
WMQ				sP		sP		21 22 10.2	+1.8
WMQ				PMZ					
	comp=Z,9.0nm,0.8s								
WMQ				PMZ					
	comp=Z,43nm,3.8s								
WMQ				LN					
	comp=Z,24nm,21.8s								
WMQ				LE					
	comp=Z,20nm,21.8s								
WMQ				LZ					
	comp=Z,19nm,19.4s								
ZAA0	**Zalesovo Array**	**42.69**	**313**	*e*P		**P**		**21 22 01.0**	**+0.1**
ZALV	**Zalesovo Beam**	**42.69**	**313**	P		**P**		**21 22 00.5**	**-0.4**
	comp=Z,4.7nm,0.5s,baz=94,slow=7.3,SNR=24								
ZALV				LR		LR		21 40 34.9	
	comp=Z,36nm,19.1s,baz=70,slow=37								
SBUM	**Sibu**	**42.71**	**226**	*e*P		**P**		**21 22 00.9**	**-0.6**
	comp=Z,8.5nm,1.4s								
NVS	**Novosibirsk**	**43.63**	**315**	*e*P		**P**		**21 22 08.4**	**-0.1**
NVS				pmax		pmax			
	comp=E,6.0nm,1.0s								
NVS				pmax		pmax			
	comp=Z,8.0nm,1.0s								
NRIK	**Noril'sk**	**44.36**	**336**	P		**P**		**21 22 14.4**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=206,slow=5.2,SNR=4.0								
NRIK				LR		LR		21 42 42.3	
	comp=Z,43nm,19.1s,baz=108,slow=39								
KSM	**Kuching**	**44.62**	**227**	*e*P		**P**		**21 22 16.7**	**-0.2**
	comp=Z,6.3nm,1.0s								
MK01	**Makanchi Array**	**44.70**	**303**	*e*P		**P**		**21 22 17.3**	**+0.1**

MDM	**Murphy Dome**	**50.03**	**32**	*eP*	**P**	**21 23 00.0**	**+1.6**
	comp=Z,3.2nm,0.8s							
TKM2	**Tokmak 2**	**50.14**	**299**	*eP*	**P**	**21 23 00.6**	**+0.8**
TKM2				pmax	pmax			
	comp=Z,14nm,1.3s							
TKM2	**Tokmak 2**	**50.14**	**299**	*eP*	**P**	**21 23 00.6**	**+0.8**
	comp=Z,14nm,1.3s							
IL1	**Eielson Array**	**50.61**	**32**	*eP*	**P**	**21 23 03.1**	**+0.4**
ILAR	**Eielson Array**	**50.61**	**32**	P	**P**	**21 23 02.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=265,slow=6.0,SNR=13							
ILB	**Eielson Array**	**50.61**	**32**	*eP*	**P**	**21 23 02.9**	**+0.2**
LHMI	**Lhok Sumawe**	**50.81**	**244**	*eP*	**P**	**21 23 05.2**	**+0.3**
	comp=Z,145nm,1.1s							
KSH	**Kashi**	**50.83**	**295**	P	**P**	**21 23 07.2**	**+2.3**
KSH				pP	sP	21 23 20.8	-2.8
KSH				PcP	**PcP**	**21 24 22.5**	**+1.3**
KSH				PP	**PP**	**21 25 06.1**	**+4.8**
KSH				S	**S**	**21 30 15.3**	**-2.3**
KSH				ScS	**ScS**	**21 32 50.6**	**-1.1**
KSH				SS	**SS**	**21 33 53.1**	**+0.7**
KSH				PMZ				
	comp=Z,2.0nm,0.3s							
KSH				PMZ				
	comp=Z,56nm,4.9s							
KSH				LN				
	comp=Z,96nm,8.4s							
KSH				LE				
	comp=Z,120nm,5.7s							
AAK	**Ala-Archa**	**51.00**	**299**	*eP*	**P**	**21 23 06.2**	**0.0**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AAK	**Ala-Archa**	**51.00**	**299**	*eP*	**P**	**21 23 06.2**	**0.0**
	comp=Z,3.4nm,0.8s							
PSI	**Prapat**	**51.07**	**240**	*eP*	**P**	**21 23 07.0**	**0.0**
PSI				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PSI	**Prapat**	**51.07**	**240**	*eP*	**P**	**21 23 07.0**	**0.0**
	comp=Z,6.6nm,0.9s							
OTUK	**Ortayu**	**51.08**	**307**	P	**P**	**21 23 06.7**	**+0.1**
OTUK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
FYU	**Fort Yukon**	**51.24**	**29**	*eP*	**P**	**21 23 07.5**	**+0.1**
	comp=Z,12nm,0.6s							
BRVK	**Borovoye**	**51.40**	**313**	*eP*	**P**	**21 23 09.2**	**+0.4**
BRVK				pmax	pmax			
	comp=Z,18nm,1.0s							
BRVK	**Borovoye**	**51.40**	**313**	*eP*	**P**	**21 23 09.2**	**+0.4**
	comp=Z,18nm,1.0s							
BKNI	**Bangkinang**	**51.40**	**236**	*eP*	**P**	**21 23 09.2**	**0.0**
	comp=Z,30nm,0.5s							
EKS2	**Erkin-Say**	**51.50**	**299**	*eP*	**P**	**21 23 09.8**	**-0.1**
EKS2				pmax	pmax			
	comp=Z,25nm,1.8s							
EKS2	**Erkin-Say**	**51.50**	**299**	*eP*	**P**	**21 23 09.8**	**-0.1**
	comp=Z,25nm,1.8s							
MENT	**Mentasta**	**52.12**	**34**	*eP*	**P**	**21 23 14.1**	**-0.1**
	comp=Z,9.1nm,1.0s							
ZRNK	**Zerenda**	**52.18**	**313**	*eP*	**P**	**21 23 14.8**	**+0.2**
ZRNK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ZRNK	**Zerenda**	**52.18**	**313**	*eP*	**P**	**21 23 14.8**	**+0.2**
	comp=Z,9.2nm,1.0s							
MNAS	**Manas**	**52.45**	**300**	P	**P**	**21 23 17.3**	**+0.3**
MNAS				pmax	pmax			
	comp=Z,5.0nm,1.2s							
EGAK	**Eagle**	**53.05**	**32**	*eP*	**P**	**21 23 21.7**	**+0.8**
	comp=Z,17nm,2.0s							
GSI	**Gunungsitoli**	**53.08**	**240**	*eP*	**P**	**21 23 21.1**	**-0.6**
	comp=Z,28nm,1.1s							
KKAR	**Karatay Array**	**53.67**	**301**	*eP*	**P**	**21 23 26.1**	**+0.3**
KKAR	**Karatay Array**	**53.67**	**301**	*eP*	**P**	**21 23 26.1**	**+0.3**
DAWY	**Dawson**	**53.91**	**32**	*eP*	**P**	**21 23 28.2**	**+0.9**
	comp=Z,7.1nm,1.6s							
HON	**Honolulu**	**54.46**	**88**	*eP*	**P**	**21 23 31.9**	**+0.1**
HON	**Honolulu**	**54.46**	**88**	*eP*	**P**	**21 23 31.9**	**+0.1**
	comp=Z,203nm,1.0s							
INK	**Inuvik**	**55.55**	**27**	P	**P**	**21 23 39.3**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=276,slow=2.7,SNR=4.9							
INK	**Inuvik**	**55.55**	**27**	*eP*	**P**	**21 23 40.6**	**+1.7**
INK				pmax	pmax			
	comp=Z,11nm,1.6s							
INK	**Inuvik**	**55.55**	**27**	*eP*	**P**	**21 23 40.6**	**+1.7**
	comp=Z,11nm,1.6s							
WRAB	**Tennant Creek**	**55.80**	**188**	*eP*	**P**	**21 23 41.6**	**+0.3**
WRAB				pmax	pmax			
	comp=Z,40nm,1.9s							
WRAB	**Tennant Creek**	**55.80**	**188**	*eP*	**P**	**21 23 41.6**	**+0.3**
	comp=Z,40nm,1.9s							
WB2	**Warramunga Arr**	**55.81**	**188**	*eP*	**P**	**21 23 41.7**	**+0.3**
	comp=Z,15nm,1.4s							
WRA	**Warramunga Arr**	**55.81**	**188**	P	**P**	**21 23 41.5**	**+0.1**
	comp=Z,3.0nm,0.3s,baz=7.8,slow=7.7,SNR=163							
DZET	**Dzherino**	**56.30**	**296**	P	**P**	**21 23 45.3**	**+0.3**
DZET				pmax	pmax			
	comp=Z,12nm,0.7s							
ARU	**Arti**	**57.23**	**319**	P	**P**	**21 23 51.0**	**-0.1**
ARU	**Arti**	**57.23**	**319**	*eP*	**P**	**21 23 51.2**	**+0.1**
	comp=Z,8.4nm,0.7s							
KBL	**Kabul**	**57.77**	**292**	*eP*	**P**	**21 23 56.1**	**+0.5**
KBL				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KBL	**Kabul**	**57.77**	**292**	*eP*	**P**	**21 23 56.1**	**+0.5**
	comp=Z,2.3nm,0.7s							
ABKAR	**Akbulak array**	**58.67**	**311**	*eP*	**P**	**21 24 01.2**	**-0.1**
AS01	**Alice Springs**	**59.53**	**188**	*eP*	**P**	**21 24 06.8**	**-0.7**
AS31	**Alice Springs**	**59.54**	**188**	*eP*	**P**	**21 24 08.0**	**+0.5**
	comp=Z,5.7nm,1.7s							
ASAR	**Alice Springs**	**59.54**	**188**	P	**P**	**21 24 08.0**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=19,slow=12,SNR=49							
ASAR	**Alice Springs**	**59.54**	**188**	P	**P**	**21 24 08.0**	**+0.4**
DLBC	**Dease Lake**	**59.67**	**38**	*eP*	**P**	**21 24 09.6**	**+1.4**
	comp=Z,6.5nm,1.4s							
GEYT	**Alibeck**	**64.35**	**299**	P	**P**	**21 24 39.7**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=62,slow=6.7,SNR=3.0							
GEYT				LR	LR	21 54 49.3		
	comp=Z,35nm,19.8s,baz=355,slow=38							
YKA	**Yellowknife Ar**	**64.94**	**30**	P	**P**	**21 24 43.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=303,slow=6.3,SNR=5.3							
ARCES	**ARCESS Array B**	**65.13**	**340**	P	**P**	**21 24 44.1**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=67,slow=9.3,SNR=4.3							
MSF	**Maaselka**	**66.14**	**335**	P	**P**	**21 24 51.1**	**+0.1**
VRH	**Novokhopyorsk**	**68.44**	**318**	*eP*	P	21 25 19.1	+13
VRH				pmax	pmax			
	comp=Z,30nm,0.8s							
SUF	**Sumiainen**	**69.05**	**333**	P	**P**	**21 25 08.8**	**-0.5**
LPSR	**Galich'ya Gora**	**69.19**	**320**	*eP*	P	21 25 21.7	+11
LPSR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
VSR	**Storozhevoye**	**69.80**	**319**	*eP*	P	21 25 25.0	+11
VSR				pmax	pmax			
	comp=Z,8.0nm,1.0s							
FINES	**FINESS Array B**	**69.87**	**332**	P	**P**	**21 25 14.1**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=66,slow=4.6,SNR=8.1							
FINES				LR	LR	21 57 11.8		
	comp=Z,28nm,18.1s,baz=51,slow=37							
KBZ	**Khabaz**	**71.64**	**311**	P	**P**	**21 25 26.0**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=51,slow=1.9,SNR=4.8							
KIV	**Kislovodsk**	**71.65**	**311⇑**	*eP*	**P**	**21 25 27.2**	**+1.5**
KIV				*e*		21 25 38.9		
KIV				pmax	pmax			
	comp=Z,4.0nm,0.7s							
AKASG	**Malin Array Be**	**75.22**	**322**	P	**P**	**21 25 46.2**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=47,slow=6.0,SNR=13							
AKASG				LR	LR	22 01 57.5		
	comp=Z,58nm,18.5s,baz=255,slow=38							
RAO	**Raoul Island**	**75.23**	**144**	LR	LR	21 56 32.5		
	comp=Z,138nm,18.4s,baz=75,slow=34							
NB2	**NORSAR Subarra**	**75.30**	**337**	P	**P**	**21 25 46.7**	**0.0**
	comp=Z,3.6nm,0.7s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**75.30**	**337**	P	**P**	**21 25 46.8**	**0.0**
	comp=Z,2.2nm,0.8s,baz=39,slow=5.7,SNR=5.9							
NOA				LR	LR	22 02 09.8		
	comp=Z,25nm,19.5s,baz=15,slow=38							
BOZ	**Bozeman (W)**	**75.68**	**44**	*eP*	**P**	**21 25 49.7**	**+0.3**
BOZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BOZ	**Bozeman (W)**	**75.68**	**44**	*eP*	**P**	**21 25 49.7**	**+0.3**
	comp=Z,2.3nm,0.9s							
ELK	**Elko**	**76.44**	**49**	*eP*	**P**	**21 25 54.2**	**+0.3**
ELK	**Elko**	**76.44**	**49**	*eP*	**P**	**21 25 54.2**	**+0.3**
ELK				*e*PcP	**sP**	**21 26 16.7**	**+3.7**
LKWY	**Lake**	**77.03**	**44**	*eP*	**P**	**21 25 58.3**	**+1.1**
LKWY				pmax	pmax			
	comp=Z,45nm,1.3s							
LKWY	**Lake**	**77.03**	**44**	*eP*	**P**	**21 25 58.2**	**+1.1**
	comp=Z,45nm,1.3s							
H17A	**Grant Village**	**77.03**	**44**	*eP*	**P**	**21 25 57.8**	**+0.5**
	comp=Z,3.1nm,0.9s							
DUG	**Dugway, Tooele**	**78.25**	**49**	*eP*	**P**	**21 26 05.3**	**+1.4**
DUG	**Dugway, Tooele**	**78.25**	**49**	*eP*	**P**	**21 26 05.3**	**+1.4**
DUG				*es*P	**sP**	**21 26 28.0**	**+4.8**
PDAR	**Pinedale Array**	**78.62**	**45**	P	**P**	**21 26 06.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=225,slow=1.9,SNR=5.4							
KWP	**Kalwaria Pacla**	**79.08**	**324**	P	**P**	**21 26 09.0**	**+0.8**
BUR08	**Bucovina Ar. S**	**79.22**	**322**	*eP*	**P**	**21 26 09.7**	**+0.7**
RAR	**Rarotonga**	**79.52**	**126**	LR	LR	21 57 52.3		
	comp=Z,111nm,18.5s,baz=318,slow=33							
BR131	**Keskin Array S**	**79.60**	**312**	*eP*	**P**	**21 26 11.9**	**+0.5**
BRTR	**Keskin Array B**	**79.60**	**312**	P	**P**	**21 26 11.1**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=104,slow=4.4,SNR=10.0							
MSU	**Marysvale**	**79.66**	**50**	*eP*	**P**	**21 26 08.2**	**-3.6**
MSU	**Marysvale**	**79.66**	**50**	*eP*	**P**	**21 26 08.2**	**-3.6**
BR231	**Keskin MP Arra**	**80.05**	**312**	*eP*	**P**	**21 26 12.5**	**-1.3**
URZ	**Urewera**	**80.79**	**152**	LR	LR	21 58 48.1		
	comp=Z,57nm,18.8s,baz=120,slow=33							
GLA	**Glamis**	**81.25**	**56**	*eP*	**P**	**21 26 21.9**	**+1.7**
GLA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
GLA	**Glamis**	**81.25**	**56**	*eP*	**P**	**21 26 21.9**	**+1.7**
	comp=Z,8.6nm,0.8s							
BZS	**Buzias**	**82.40**	**322**	P	**P**	**21 26 25.9**	**0.0**
KHC	**Kasperske Hory**	**83.55**	**328**	*eP*	**P**	**21 26 32.5**	**+0.6**
KHC				*ep*P	**pP**	**21 26 44.5**	**-1.4**
KHC	**Kasperske Hory**	**83.55**	**328**	*eP*	**P**	**21 26 32.5**	**+0.6**
KHC				*e*		21 26 44.5		
GERES	**GERESS Array B**	**83.72**	**328**	P	**P**	**21 26 32.4**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=38,slow=6.8,SNR=7.1							
LIT	**Litokhoron**	**85.81**	**318**	P	**P**	**21 26 43.2**	**-0.2**
TX31	**Lajitas Ar. Si**	**90.96**	**52**	*eP*	**P**	**21 27 09.2**	**+1.0**
TXAR	**Lajitas Array**	**90.97**	**52**	P	**P**	**21 27 08.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=307,slow=3.1,SNR=11							
TXAR				LR	LR	22 03 05.1		
	comp=Z,23nm,21.1s,baz=0.0,slow=32							
TORD	**Torodi Ar. Bea**	**118.13**	**314**	PKP	**PKPdf**	**21 32 51.0**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=84,slow=2.0,SNR=4.2							
LPAZ	**La Paz**	**147.40**	**61**	PKPbc	**PKPbc**	**21 33 49.7**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=337,slow=2.9,SNR=18							

*ISCJB **04** 21:48:29.3±0.5, 39°.12N±0°.04×29°.01E±0°.04, h9km, Error ellipse: s-maj=5.8km s-min=3.8km az=148.6*
*CSEM **04** 21:48:29.5±0.1, 39°.13N×29°.01E, h9km, MD2.7, Error ellipse: s-maj=1.5km s-min=1.1km az=159.0*
*ISK **04** 21:48:29.0, 39°.13N×29°.00E, h10km, MD2.7*
*DDA **04** 21:48:29.7, 39°.09N×29°.04E, h7km, Ml2.7*

ISC 04 21:48:29.7±1.0, 39°.13N±0°.03×29°.01E±0°.02, h9km, n28, σ0s31/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**249**	P	**Pg**	**21 48 35.0**	**+0.3**
DEMI				S	**Sg**	**21 48 38.6**	**+0.6**
DEMI	**Demirci**	**0.24**	**249**	*i* P	**Pg**	**21 48 35.0**	**+0.3**
DEMI				*i* S	**Sg**	**21 48 38.6**	**+0.6**
GDZ	**Gediz**	**0.37**	**96**	P	**Pg**	**21 48 36.8**	**-0.2**
GDZ				S	**Sg**	**21 48 41.9**	**0.0**
GDZ	**Gediz**	**0.37**	**96**	*i* P	**Pg**	**21 48 36.8**	**-0.2**
GDZ				*i* S	**Sg**	**21 48 41.9**	**0.0**
TVSB	**Tavsanli**	**0.47**	**48**	*e*PG	**Pg**	**21 48 38.9**	**0.0**
TVSB				*e*SG	**Sg**	**21 48 45.9**	**+0.7**
TVSB	**Tavsanli**	**0.47**	**48**	*e*Pg	**Pg**	**21 48 38.9**	**0.0**
TVSB				*e*Sg	**Sg**	**21 48 45.9**	**+0.7**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*PG	**Pg**	**21 48 42.6**	**-0.1**
KULA				*e*SG	**Sg**	**21 48 51.2**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*Pg	**Pg**	**21 48 42.6**	**-0.1**
KULA				*e*Sg	**Sg**	**21 48 51.2**	**-0.3**
ORLT	**Orhaneli**	**0.92**	**355**	*e*PG	**Pg**	**21 48 47.2**	**-0.2**
ORLT	**Orhaneli**	**0.92**	**355**	*e*Pg	**Pg**	**21 48 47.2**	**-0.2**
AKS	**Akhisar**	**0.97**	**255**	*e*PG	**Pg**	**21 48 48.1**	**-0.1**
AKS	**Akhisar**	**0.97**	**255**	*e*Pg	**Pg**	**21 48 48.1**	**-0.1**
BALB	**Balikesir**	**1.01**	**301**	*e*PG	**Pg**	**21 48 48.8**	**-0.3**
BALB	**Balikesir**	**1.01**	**301**	*e*Pg	**Pg**	**21 48 48.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	**Pn**	**21 48 53.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*Pn	**Pn**	**21 48 53.1**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*PN	**Pn**	**21 48 53.2**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pn**	**21 48 53.2**	**-0.2**
IZI	**Iznik**	**1.26**	**16**	*e*PN	**Pn**	**21 48 53.1**	**-0.4**
IZI	**Iznik**	**1.26**	**16**	*e*Pn	**Pn**	**21 48 53.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.37**	**312**	*e*PN	**Pn**	**21 48 54.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.37**	**312**	*e*Pn	**Pn**	**21 48 54.8**	**-0.2**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pn**	**21 48 55.9**	**0.0**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pn**	**21 48 55.9**	**0.0**
EDC	**Edincik**	**1.50**	**324**	*e*PN	**Pn**	**21 48 56.7**	**-0.1**
EDC	**Edincik**	**1.50**	**324**	*e*Pn	**Pn**	**21 48 56.7**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*PN	**Pn**	**21 49 03.6**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*Pn	**Pn**	**21 49 03.6**	**+0.2**

*ISK **04** 22:15:28.8, 39°.12N×29°.02E, h6km, MD2.8*
*ISCJB **04** 22:15:29.5±0.5, 39°.12N±0°.03×29°.01E±0°.04, h6km±6km, Error ellipse: s-maj=4.9km s-min=4.5km az=152.2*
*DDA **04** 22:15:29.4, 39°.14N×29°.01E, h7km, MD2.7*
*CSEM **04** 22:15:29.8±0.1, 39°.13N×29°.02E, h8km, MD2.7, Error ellipse: s-maj=1.8km s-min=1.6km az=39.0*

ISC 04 22:15:29.8±0.9, 39°.13N±0°.03×29°.02E±0°.02, h11km±9km, n28, σ0s42/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**250**	P	**Pg**	**22 15 35.0**	**0.0**
DEMI	**Demirci**	**0.25**	**250**	*i* P	**Pg**	**22 15 35.0**	**0.0**
DEMI				*i* S	**Sg**	**22 15 38.5**	**+0.1**
GDZ	**Gediz**	**0.36**	**96**	P	**Pg**	**22 15 37.2**	**+0.2**
GDZ				S	**Sg**	**22 15 42.3**	**+0.5**
GDZ	**Gediz**	**0.36**	**96**	*i* P	**Pg**	**22 15 37.2**	**+0.2**
GDZ				*i* S	**Sg**	**22 15 42.4**	**+0.5**
TVSB	**Tavsanli**	**0.47**	**47**	*e*PG	**Pg**	**22 15 38.7**	**-0.3**
TVSB				*e*SG	**Sg**	**22 15 45.3**	**0.0**
TVSB	**Tavsanli**	**0.47**	**47**	*e*Pg	**Pg**	**22 15 38.7**	**-0.3**
TVSB				*e*Sg	**Sg**	**22 15 45.3**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**22 15 42.4**	**-0.4**
KULA				*e*SG	**Sg**	**22 15 51.3**	**-0.4**
KHAL	**Karahalli**	**0.84**	**154**	P	**Pb**	**22 15 46.3**	**-0.2**
KHAL				S	**Sb**	**22 15 57.4**	**-0.5**
KHAL	**Karahalli**	**0.84**	**154**	*i* P	**Pb**	**22 15 46.3**	**-0.2**
KHAL				*i* S	**Sb**	**22 15 57.4**	**-0.5**
BALB	**Balikesir**	**1.02**	**300**	*e*PG	**Pb**	**22 15 49.3**	**-0.2**
BALB				*e*SG	**Sb**	**22 16 03.6**	**+0.7**
BALB	**Balikesir**	**1.02**	**300**	*e*Pg	**Pb**	**22 15 49.3**	**-0.2**
BALB				*e*Sg	**Sb**	**22 16 03.6**	**+0.7**
IGD	**Bursa**	**1.14**	**7**	*i* P	**Pg**	**22 15 50.6**	**-1.2**
IGD				*i* S	**Sn**	**22 16 08.2**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*PN	**Pn**	**22 15 53.0**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*Pn	**Pn**	**22 15 53.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pn**	**22 15 53.6**	**-0.1**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pn**	**22 15 53.6**	**-0.1**
IZI	**Iznik**	**1.26**	**16**	*e*PN	**Pg**	**22 15 53.7**	**-0.3**
IZI	**Iznik**	**1.26**	**16**	*e*Pn	**Pg**	**22 15 53.7**	**-0.3**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*PN	**Pb**	**22 15 55.6**	**-0.1**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pb**	**22 15 55.6**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pb**	**22 15 55.9**	**-0.4**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pb**	**22 15 55.9**	**-0.4**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pb**	**22 15 56.4**	**-0.3**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pb**	**22 15 56.4**	**-0.3**
EDC	**Edincik**	**1.51**	**324**	*e*PN	**Pb**	**22 15 57.3**	**-0.5**
EDC	**Edincik**	**1.51**	**324**	*e*Pn	**Pb**	**22 15 57.3**	**-0.5**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pn**	**22 16 00.5**	**+0.4**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	**22 16 00.5**	**+0.4**

*ISCJB **04** 21:43:13.6±0.5, 39°.10N±0°.03×29°.10E±0°.04, h3km±7km, Error ellipse: s-maj=5.1km s-min=4.3km az=147.1*
*CSEM **04** 21:43:13.8±0.1, 39°.11N×29°.11E, h5km, ML2.9, Error ellipse: s-maj=3.1km s-min=2.6km az=97.0*
*ISK **04** 21:43:13.2, 39°.09N×29°.15E, h5km, MD2.8*
*DDA **04** 21:43:13.7, 39°.12N×29°.10E, h7km, Ml2.9*

ISC 04 21:43:13.9±0.9, 39°.10N±0°.02×29°.10E±0°.02, h9km±9km, n39, σ0s48/53, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.30**	**93**	P	**Pg**	**21 43 20.1**	**+0.2**
GDZ				S	**Sg**	**21 43 24.4**	**+0.4**
GDZ	**Gediz**	**0.30**	**93**	*i* P	**Pg**	**21 43 20.1**	**+0.2**
GDZ				*i* S	**Pg**	**21 43 20.1**	**+0.2**
GDZ				*i* S	**Sg**	**21 43 24.4**	**+0.4**
DEMI	**Demirci**	**0.30**	**259**	P	**Pg**	**21 43 18.8**	**-1.2**
DEMI				S	**Sg**	**21 43 24.7**	**+0.6**
DEMI	**Demirci**	**0.30**	**259**	*i* P	**Pg**	**21 43 18.8**	**-1.2**
DEMI				*i* S	**Sg**	**21 43 24.7**	**+0.6**
TVSB	**Tavsanli**	**0.45**	**39**	*e*PG	**Pg**	**21 43 22.2**	**-0.5**
TVSB				*e*SG	**Sg**	**21 43 28.3**	**-0.2**
TVSB	**Tavsanli**	**0.45**	**39**	*e*Pg	**Pg**	**21 43 22.2**	**-0.5**
TVSB				*e*Sg	**Sg**	**21 43 28.3**	**-0.2**
KULA	**Kula-Manisa**	**0.68**	**210**	*e*PG	**Pg**	**21 43 27.0**	**-0.1**
KULA				*e*SG	**Sg**	**21 43 36.4**	**+0.5**
KULA	**Kula-Manisa**	**0.68**	**210**	*e*Pg	**Pg**	**21 43 27.0**	**-0.1**
KULA				*e*Sg	**Sg**	**21 43 36.4**	**+0.5**
KHAL	**Karahalli**	**0.79**	**157**	P	**Pb**	**21 43 29.7**	**-0.3**
KHAL				S	**Sb**	**21 43 40.8**	**0.0**
KHAL	**Karahalli**	**0.79**	**157**	*i* P	**Pb**	**21 43 29.7**	**-0.3**
KHAL				*i* S	**Sb**	**21 43 40.8**	**0.0**
KHL	**Karahalli**	**0.85**	**157**	*e*PG	**Pg**	**21 43 29.6**	**-0.7**
KHL				*e*SG	**Sg**	**21 43 41.0**	**-0.2**
KHL	**Karahalli**	**0.85**	**157**	*e*Pg	**Pg**	**21 43 29.6**	**-0.7**
KHL				*e*Sg	**Sg**	**21 43 41.1**	**-0.2**
ORLT	**Orhaneli**	**0.95**	**351**	*e*PG	**Pg**	**21 43 32.1**	**-0.2**
ORLT	**Orhaneli**	**0.95**	**351**	*e*Pg	**Pg**	**21 43 32.1**	**-0.2**
AKS	**Akhisar**	**1.03**	**258**	*e*PG	**Pb**	**21 43 34.1**	**+0.2**
AKS	**Akhisar**	**1.03**	**258**	*e*Pg	**Pb**	**21 43 34.1**	**+0.2**
BALB	**Balikesir**	**1.09**	**300**	*e*PN	**Pb**	**21 43 35.3**	**+0.4**
BALB	**Balikesir**	**1.09**	**300**	*e*Pn	**Pb**	**21 43 35.3**	**+0.4**
IGD	**Bursa**	**1.16**	**4**	*i* P	**Pg**	**21 43 35.1**	**-1.2**
IGD				*i* S	**Sn**	**21 43 52.2**	**-0.2**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*PN	**Pg**	**21 43 36.9**	**-0.8**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*Pn	**Pg**	**21 43 36.9**	**-0.8**
IZI	**Iznik**	**1.27**	**13**	*e*PN	**Pb**	**21 43 38.0**	**0.0**
IZI	**Iznik**	**1.27**	**13**	*e*Pn	**Pb**	**21 43 38.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*PN	**Pb**	**21 43 38.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn	**Pb**	**21 43 38.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*PN	**Pb**	**21 43 39.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*Pn	**Pb**	**21 43 39.0**	**+0.5**
GONE	**Gonen-Balikesi**	**1.44**	**311**	*e*PN	**Pb**	**21 43 41.2**	**+0.3**
GONE	**Gonen-Balikesi**	**1.44**	**311**	*e*Pn	**Pb**	**21 43 41.2**	**+0.3**
ARMT	**Armutlu**	**1.47**	**353**	*e*PN	**Pb**	**21 43 41.5**	**0.0**
ARMT	**Armutlu**	**1.47**	**353**	*e*Pn	**Pb**	**21 43 41.5**	**0.0**
EDC	**Edincik**	**1.56**	**323**	*e*PN	**Pb**	**21 43 43.1**	**+0.1**
EDC	**Edincik**	**1.56**	**323**	*e*Pn	**Pb**	**21 43 43.1**	**+0.1**
SPNC	**Sapanca-Adapaz**	**1.83**	**30**	*e*PN	**Pn**	**21 43 46.3**	**+0.7**
SPNC	**Sapanca-Adapaz**	**1.83**	**30**	*e*Pn	**Pn**	**21 43 46.3**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.91**	**79**	*e*PN	**Pn**	**21 43 46.7**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.91**	**79**	*e*Pn	**Pn**	**21 43 46.7**	**-0.1**
MDUB	**Mudurnu**	**2.12**	**49**	*e*PN	**Pn**	**21 43 49.

PARC Sg **Sg** **22 18 49.0 +1.0**
6µm,0.4s
VMG **Vicchio** **0.34 276**⇑ *i*Pg **Pg** **22 18 44.4 +0.6**
180nm,0.2s
VMG **Vicchio** **0.34 276**⇑ *i*Pg **Pg** **22 18 44.4 +0.6**
180nm,0.2s
BLLA **Bellaria** **0.39 57** Pg **Pn** **22 18 46.7 -1.3**
BLLA Sg **Sn** **22 18 55.1 -0.1**
5µm,1.0s
BLLA **Bellaria** **0.39 57** Pg **Pn** **22 18 46.7 -1.3**
BLLA Sg **Sn** **22 18 55.1 -0.1**
5µm,1.0s
BADI **Badiali** **0.45 159** Pg **Pg** **22 18 45.9 +0.1**
BADI Sg **Sg** **22 18 52.9 +1.1**
5µm,0.3s
BADI **Badiali** **0.45 159** Pg **Pg** **22 18 45.9 +0.1**
BADI Sg **Sg** **22 18 52.9 +1.1**
5µm,0.3s
IMOL **Imola, Italy** **0.47 335** Pg **Pn** **22 18 48.6 -0.6**
IMOL Sg **Sn** **22 18 56.9 -0.4**
618nm,0.5s
IMOL **Imola, Italy** **0.47 335** Pg **Pn** **22 18 48.6 -0.6**
IMOL Sg **Sn** **22 18 56.9 -0.4**
618nm,0.5s
SEI **Scarperia** **0.49 285**⇑ *i*Pg **Pg** **22 18 46.8 +0.2**
SEI **Scarperia** **0.49 285**⇑ *i*Pg **Pg** **22 18 46.8 +0.2**
PIEI **Pieia** **0.54 136** Pg **Pg** **22 18 47.4 -0.1**
PIEI Sg **Sb** **22 18 55.8 0.0**
822nm,0.4s
PIEI **Pieia** **0.54 136** Pg **Pg** **22 18 47.4 -0.1**
PIEI Sg **Sb** **22 18 55.8 0.0**
822nm,0.4s
ATPC **Poggio Castell** **0.55 145**⇓ *i*Pg **Pg** **22 18 47.8 +0.2**
ATPC Sg **Sb** **22 18 56.5 +0.5**
ATPC **Poggio Castell** **0.55 145**⇓ *i*Pg **Pg** **22 18 47.8 +0.2**
ATPC Sg **Sb** **22 18 56.5 +0.5**
FIR **Firenze** **0.57 255** Pg **Pg** **22 18 48.6 +0.5**
4µm,0.5s
FIR **Firenze** **0.57 255** Pg **Pg** **22 18 48.6 +0.5**
4µm,0.5s
PESA **Pesaro** **0.59 89** Pg **Pn** **22 18 49.9 -0.9**
PESA Sg **Sn** **22 18 59.4 -0.9**
2µm,0.5s
PESA **Pesaro** **0.59 89** Pg **Pn** **22 18 49.9 -0.9**
PESA Sg **Sn** **22 18 59.4 -0.9**
2µm,0.5s
FSSB **Fossombrone** **0.60 113** Pg **Pb** **22 18 48.8 -0.3**
FSSB Sg **Sn** **22 18 58.8 -1.6**
2µm,0.4s
FSSB **Fossombrone** **0.60 113** Pg **Pb** **22 18 48.8 -0.3**
FSSB Sg **Sn** **22 18 58.8 -1.6**
2µm,0.4s
MTRZ **Monterenzio** **0.60 319** Pg **Pb** **22 18 49.5 +0.4**
MTRZ Sg **Sb** **22 18 59.6 +2.2**
4µm,0.6s
MTRZ **Monterenzio** **0.60 319** Pg **Pb** **22 18 49.5 +0.4**
MTRZ Sg **Sb** **22 18 59.6 +2.2**
4µm,0.6s
CAFI **Castiglion Fio** **0.60 184** Pg **Pg** **22 18 48.5 -0.1**
CAFI Sg **Sg** **22 18 56.5 -0.1**
2µm,0.4s
CAFI **Castiglion Fio** **0.60 184** Pg **Pg** **22 18 48.5 -0.1**
CAFI Sg **Sg** **22 18 56.5 -0.1**
2µm,0.4s
ATVO **AVT- Monte Val** **0.61 153** Pg **Pg** **22 18 48.9 0.0**
ATVO Sg **Sb** **22 18 58.0 +0.1**
3µm,0.5s
ATVO **AVT- Monte Val** **0.61 153** Pg **Pg** **22 18 48.9 0.0**
ATVO Sg **Sb** **22 18 58.0 +0.1**
3µm,0.5s
FRON **Frontone** **0.66 128** Pg **Pg** **22 18 49.6 0.0**
FRON Sg **Sb** **22 19 00.1 +1.0**
1µm,0.7s
FRON **Frontone** **0.66 128** Pg **Pg** **22 18 49.6 0.0**
FRON Sg **Sb** **22 19 00.1 +1.0**
1µm,0.7s
CMPO **Campotto Po** **0.67 347** Pg **Pn** **22 18 53.7 +1.9**
3µm,1.1s
CMPO **Campotto Po** **0.67 347** Pg **Pn** **22 18 53.7 +1.9**
3µm,1.1s
FNVD **Fontana Vidola** **0.69 291** Pg **Pg** **22 18 50.3 +0.1**
FNVD Sg **Sb** **22 19 01.6 +1.6**
2µm,0.6s
FNVD **Fontana Vidola** **0.69 291** Pg **Pg** **22 18 50.3 +0.1**
FNVD Sg **Sb** **22 19 01.6 +1.6**
2µm,0.6s
SSFR **Montelago di S** **0.74 131** Pg **Pg** **22 18 51.0 -0.2**
SSFR Sg **Sb** **22 19 01.9 +0.4**
1µm,0.2s
SSFR **Montelago di S** **0.74 131** Pg **Pg** **22 18 51.0 -0.2**
SSFR Sg **Sb** **22 19 01.9 +0.4**
1µm,0.2s
MURB **Monte Urbino** **0.76 151** Pg **Pg** **22 18 51.4 -0.2**
3µm,0.4s
MURB **Monte Urbino** **0.76 151** Pg **Pg** **22 18 51.4 -0.2**
3µm,0.4s
ATTE **AVT- Monte Tez** **0.77 161** Pg **Pg** **22 18 51.6 -0.2**
2µm,0.4s
ATTE **AVT- Monte Tez** **0.77 161** Pg **Pg** **22 18 51.6 -0.2**
2µm,0.4s
ARVD **Arcevia** **0.80 122** Pg **Pb** **22 18 52.3 -0.1**
629nm,0.7s
ARVD **Arcevia** **0.80 122** Pg **Pb** **22 18 52.3 -0.1**
629nm,0.7s
FIU **Minerbio Fiu** **0.81 332** Pg **Pn** **22 18 54.9 +1.2**
3µm,0.8s
FIU **Minerbio Fiu** **0.81 332** Pg **Pn** **22 18 54.9 +1.2**
3µm,0.9s
ZCCA **Zocca** **0.86 300** Pg **Pn** **22 18 55.0 +0.4**
504nm,0.7s
ZCCA **Zocca** **0.86 300** Pg **Pn** **22 18 55.0 +0.4**
504nm,0.7s
SENI **Senigallia** **0.91 104** Pg **Pn** **22 18 55.7 +0.6**
1µm,0.8s
SENI **Senigallia** **0.91 104** Pg **Pn** **22 18 55.7 +0.6**
1µm,0.8s
POPM **Popiglio** **0.92 278** P **Pb** **22 18 55.3 +0.8**
SNTG **Esanatoglia** **0.95 135** Pg **Pb** **22 18 54.7 -0.4**
755nm,0.5s
SNTG **Esanatoglia** **0.95 135** Pg **Pb** **22 18 54.7 -0.4**
755nm,0.5s
FROS **Frosini** **0.95 221** Pg **Pb** **22 18 55.0 -0.1**
2µm,0.9s
FROS **Frosini** **0.95 221** Pg **Pb** **22 18 55.0 -0.1**
2µm,0.9s
CING **Cingoli** **1.02 123** Pg **Pg** **22 18 56.4 -0.1**
784nm,0.7s
CING **Cingoli** **1.02 123** Pg **Pg** **22 18 56.4 -0.1**
784nm,0.7s
MGAB **Montegabbione** **1.02 176** Pg **Pb** **22 18 56.2 0.0**
3µm,0.8s
MGAB **Montegabbione** **1.02 176** Pg **Pb** **22 18 56.2 0.0**
3µm,0.8s
BDI **Bagni Di Lucca** **1.03 278** Pg **Pb** **22 18 56.4 -0.1**
894nm,0.9s
BDI **Bagni Di Lucca** **1.03 278** Pg **Pb** **22 18 56.4 -0.1**
894nm,0.9s
RAVA **Ravarino** **1.05 322** Pn **Pn** **22 18 58.5 +1.4**
2µm,0.6s
RAVA **Ravarino** **1.05 322** Pn **Pn** **22 18 58.5 +1.4**
2µm,0.6s
SACS **San Casciano d** **1.08 184** Pg **Pb** **22 18 57.1 -0.2**
1µm,0.7s
MAIM **Mastiano** **1.10 270** Pg **Pb** **22 18 57.4 -0.2**
811nm,0.7s
MAIM **Mastiano** **1.10 270** P **Pb** **22 18 57.5 -0.2**
CESI **CESI - Serrava** **1.13 145** Pn **Pb** **22 18 57.8 -0.3**
261nm,0.6s
CESI **CESI - Serrava** **1.13 145** Pn **Pb** **22 18 57.8 -0.3**
261nm,0.6s
ARCI **Arcidosso** **1.15 200** Pn **Pn** **22 18 58.1 -0.4**
605nm,0.8s
ARCI **Arcidosso** **1.15 200** Pn **Pn** **22 18 58.1 -0.4**
605nm,0.8s
TRIF **Trifonti** **1.15 225** Pn **Pn** **22 18 58.4 -0.1**
299nm,0.6s
TRIF **Trifonti** **1.15 225** Pn **Pn** **22 18 58.4 -0.1**
299nm,0.6s
SASS **Sassa**ˊˊˊˊ **1.18 236** Pn **Pn** **22 18 58.3 -0.5**
466nm,1.1s
SASS **Sassa**ˊˊˊˊ **1.18 236** Pn **Pn** **22 18 58.3 -0.5**
466nm,1.1s
MCIV **Monte Civitell** **1.18 192** Pn **Pn** **22 18 58.7 -0.2**
359nm,1.0s
MCIV **Monte Civitell** **1.18 192** Pn **Pn** **22 18 58.7 -0.2**
359nm,1.0s
FDMO **Fiordimonte** **1.18 139** Pn **Pn** **22 18 58.9 -0.1**
700nm,0.7s
FDMO **Fiordimonte** **1.18 139** Pn **Pn** **22 18 58.9 -0.1**
700nm,0.7s
SARO **Sassorosso** **1.19 283** P **Pn** **22 18 59.0 -0.2**
VLC **Villacollemand** **1.20 282** Pg **Pn** **22 18 59.1 -0.1**
621nm,1.4s
VLC **Villacollemand** **1.20 282** Pg **Pn** **22 18 59.1 -0.1**
621nm,1.4s
AOI **Ancona** **1.21 108** Pn **Pg** **22 19 00.6 +0.5**
504nm,0.7s
AOI **Ancona** **1.21 108** Pn **Pg** **22 19 00.6 +0.5**
504nm,0.7s
ERBM **Eremo** **1.25 294** Pn **Pg** **22 19 01.9 +0.9**
635nm,1.1s
ERBM **Eremo** **1.25 294** Pn **Pg** **22 19 01.9 +0.9**
635nm,1.1s
NOVE **Novellara** **1.28 313** Pn **Pg** **22 19 03.1 +1.7**
NOVE **Novellara** **1.28 313** Pn **Pg** **22 19 03.1 +1.7**
LATE **Laterza** **1.32 187** Pn **Pn** **22 19 00.9 0.0**
769nm,0.9s
LATE **Laterza** **1.32 187** Pn **Pn** **22 19 00.9 0.0**
769nm,0.9s
NRCA **Norcia** **1.36 144** Pg **Pb** **22 19 02.5 +0.5**
NRCA **Norcia** **1.36 144** Pg **Pb** **22 19 02.5 +0.5**
CESX **Cesi** **1.38 163** Pn **Pn** **22 19 02.2 +0.5**
1µm,0.8s
CESX **Cesi** **1.38 163** Pn **Pn** **22 19 02.2 +0.5**
1µm,0.8s
CASP **Castiglione de** **1.42 217** Pn **Pn** **22 19 01.4 -0.7**
166nm,0.8s
CASP **Castiglione de** **1.42 217** Pn **Pn** **22 19 01.4 -0.7**
166nm,0.8s
TEOL **Teolo** **1.45 350** Pn **Pg** **22 19 04.6 -0.1**
3µm,1.0s
TEOL **Teolo** **1.45 350** Pn **Pg** **22 19 04.6 -0.1**
3µm,1.0s
PLMA **Palmaria, Port** **1.57 275** Pg **Pb** **22 19 06.5 +0.9**
408nm,1.0s
PLMA **Palmaria, Port** **1.57 275** Pg **Pb** **22 19 06.5 +0.9**
408nm,1.0s
GUMA **Gualdo di Mace** **1.64 121** Pn **Pn** **22 19 01.3 -4.0**
2µm,0.6s
AQU **L'Aquila** **1.87 147** *e*Pn **Pb** **22 19 10.7 -0.1**
NVLJ **Novalja** **2.15 72** *e*Pn **Pb** **22 19 14.2 -1.2**
NVLJ Sn **Sb** **22 19 41.3 -0.6**
NVLJ **Novalja** **2.15 72** *e*Pn **Pb** **22 19 14.2 -1.2**
NVLJ Sn **Sb** **22 19 41.2 -0.6**
SKDS **Skadanscina** **2.15 41** *i* Pn **Pn** **22 19 12.9 +0.6**
SKDS **Skadanscina** **2.15 41** *i* Pn **Pn** **22 19 12.9 +0.6**
JAVS **Javornik** **2.44 36** *i* Pn **Pn** **22 19 17.2 +0.8**
JAVS **Javornik** **2.44 36** *i* Pn **Pn** **22 19 17.2 +0.8**
CEY **Cerknica** **2.49 43** *e*Pn **Pn** **22 19 17.8 +0.8**
PGF **Pioggiola** **2.60 239** *e*Pn **Pn** **22 19 18.8 +0.3**
SNR=1.0
PGF *e*Sn **Sn** **22 19 49.4 -0.6**
31nm,0.4s
PGF **Pioggiola** **2.60 239** *e*Pn **Pn** **22 19 18.8 +0.3**
SNR=1.0
PGF *e*Sn **Sn** **22 19 49.4 -0.6**
16nm,0.4s
VISS **Visnje** **2.75 46** *i* Pn **Pn** **22 19 21.9 +1.5**
VISS **Visnje** **2.75 46** *i* Pn **Pn** **22 19 21.9 +1.5**
UDBI **Udbina** **2.76 76** *e*Pn **Pb** **22 19 24.7 -1.2**
UDBI Sn **Sb** **22 19 56.7 -2.9**
UDBI **Udbina** **2.76 76** *e*Pn **Pb** **22 19 24.7 -1.2**
UDBI Sn **Sb** **22 19 56.7 -2.9**
LJU **Ljubljana** **2.76 39** *e*Pn **Pn** **22 19 22.2 +1.5**
BOJS **Bojanci** **2.79 55** *i* Pn **Pn** **22 19 22.8 +1.7**
BOJS **Bojanci** **2.79 55** *i* Pn **Pn** **22 19 22.8 +1.7**
ABTA **Abfaltersbach** **2.84 7** *e*Pn **Pn** **22 19 24.4 +2.6**
12nm,0.4s,SNR=12
ABTA *e*Sn **Sb** **22 19 59.4 -2.6**
74nm,0.5s
ABTA **Abfaltersbach** **2.84 7** Pn **Pn** **22 19 24.4 +2.6**
12nm,0.4s,SNR=12
ABTA Sn **Sb** **22 19 59.4 -2.6**
74nm,0.5s
MYKA **Terra Mystica** **2.93 22** *i* Pn **Pn** **22 19 25.7 +2.6**
5.2nm,0.5s
MYKA *i* Sn **Sb** **22 20 02.5 -2.1**
12nm,0.3s
MYKA **Terra Mystica** **2.93 22** Pn **Pn** **22 19 25.7 +2.6**
5.2nm,0.5s
MYKA Sn **Sb** **22 20 02.5 -2.1**
12nm,0.3s
CRES **Cresnjev** **3.09 51** *e*Pn **Pn** **22 19 27.1 +1.9**
OBKA **Obir** **3.14 34** *e*Pn **Pn** **22 19 28.1 +2.2**
20nm,0.6s
OBKA **Obir** **3.14 34** Pn **Pn** **22 19 28.1 +2.2**
20nm,0.6s
FETA **Feichten** **3.22 344** *i* Pn **Pb** **22 19 30.8 -3.1**
16nm,0.5s,SNR=12
FETA *e*Sn **Sb** **22 20 11.9 -1.1**
60nm,0.8s
FETA **Feichten** **3.22 344** Pn **Pb** **22 19 30.8 -3.1**
16nm,0.5s,SNR=12
FETA Sn **Sb** **22 20 11.9 -1.1**
60nm,0.8s
KBA **Koelnbreinsper** **3.28 16** *i* Pn **Pn** **22 19 30.8 +2.8**
6.5nm,0.2s,SNR=12
KBA *i* Sn **Sb** **22 20 10.6 -4.2**
22nm,0.4s
KBA **Koelnbreinsper** **3.28 16** Pn **Pn** **22 19 30.8 +2.8**
6.5nm,0.2s,SNR=12
KBA Sn **Sb** **22 20 10.6 -4.2**
22nm,0.4s
SBF **Sospel** **3.31 270** *e*Pn **Pn** **22 19 28.6 +0.3**
SNR=1.0
SBF *e*Sn **Sn** **22 20 08.3 +0.8**
56nm,0.4s,SNR=1.0
REVF **Revere** **3.37 268** P **Pn** **22 19 30.0 +0.9**
REVF S **Sn** **22 20 05.9 -3.0**
LUCF **Luceram** **3.38 271** P **Pn** **22 19 30.0 +0.8**
LUCF S **Sn** **22 20 05.8 -3.3**
WATA **Walderalm** **3.42 355** *i* Pn **Pb** **22 19 35.1 -2.2**
5.4nm,0.2s,SNR=8.0
WATA **Walderalm** **3.42 355** Pn **Pb** **22 19 35.1 -2.2**
5.4nm,0.2s,SNR=8.0
MOTA **Moosalm** **3.48 350** *i* Pn **Pb** **22 19 35.0 -3.2**
9.6nm,0.5s,SNR=11
MOTA **Moosalm** **3.48 350** Pn **Pb** **22 19 35.0 -3.2**
9.6nm,0.5s,SNR=11
MVIF **Mont Vial** **3.52 271** P **Pn** **22 19 31.3 +0.1**
MVIF S **Sn** **22 20 09.1 -3.5**
RETA **Reutte** **3.67 347** *i* Pn **Pn** **22 19 36.9 +3.8**
4.3nm,0.3s
RETA *i* Sn **Sb** **22 20 21.2 -4.5**
34nm,0.6s
RETA **Reutte** **3.67 347** Pn **Pn** **22 19 36.9 +3.8**
4.3nm,0.3s
RETA Sn **Sb** **22 20 21.2 -4.5**
34nm,0.6s
DAVA **Damuels** **3.68 337** *i* Pn **Pb** **22 19 38.0 -3.7**
20nm,0.5s,SNR=13
DAVA *i* Sn **Sb** **22 20 21.7 -4.5**
29nm,0.3s
DAVA **Damuels** **3.68 337** Pn **Pb** **22 19 38.0 -3.7**
20nm,0.5s,SNR=13
DAVA Sn **Sb** **22 20 21.7 -4.5**
29nm,0.3s
CALN **Calern** **3.71 269** P **Pn** **22 19 34.5 +0.6**
CALN S **Sn** **22 20 14.5 -3.0**
MBDF **Montbardon** **3.85 284** *e*Pn **Pn** **22 19 36.3 +0.6**
SNR=1.0
MBDF *e*Sn **Sn** **22 20 22.0 +1.2**
24nm,0.5s
FRF **La Foret Royal** **3.91 266** *e*Pn **Pn** **22 19 36.4 0.0**
SNR=1.0
FRF *e*Sn **Sn** **22 20 21.4 -0.7**
35nm,0.4s
FRF **La Foret Royal** **3.91 266** *e*Pn **Pn** **22 19 36.4 0.0**
SNR=1.0
FRF *e*Sn **Sn** **22 20 21.4 -0.7**
18nm,0.4s
LMR **La Mourre** **4.04 263** *e*Pn **Pn** **22 19 38.2 0.0**
SNR=1.0
LMR *e*Sn **Sn** **22 20 23.7 -1.7**
10nm,0.3s
LMR **La Mourre** **4.04 263** *e*Pn **Pn** **22 19 38.2 0.0**
SNR=1.0
LMR *e*Sn **Sn** **22 20 23.7 -1.7**
5.1nm,0.3s
LPG **La Plagne** **4.07 294** *e*Pn **Pn** **22 19 40.8 +1.9**
SNR=1.0
LPG *e*Sn **Sn** **22 20 27.9 +1.5**
24nm,0.6s
LPG **La Plagne** **4.07 294** *e*Pn **Pn** **22 19 40.8 +1.9**
SNR=1.0
LPG *e*Sn **Sn** **22 20 27.9 +1.5**
12nm,0.6s
LPL **La Plagne** **4.09 295** *e*Pn **Pn** **22 19 40.4 +1.3**
SNR=1.0
LPL *e*Sn **Sn** **22 20 28.3 +1.5**
12nm,0.3s
LPL **La Plagne** **4.09 295** *e*Pn **Pn** **22 19 40.4 +1.3**
SNR=1.0
LPL *e*Sn **Sn** **22 20 28.3 +1.5**
5.8nm,0.3s
ARSA **Arzberg** **4.13 35** *e*Pn **Pn** **22 19 40.9 +1.4**
2.4nm,0.4s
ARSA **Arzberg** **4.13 35** Pn **Pn** **22 19 40.9 +1.4**
2.4nm,0.4s
MOA **Molln** **4.22 21** *e*Pn **Pn** **22 19 43.3 +2.6**
2.9nm,0.2s,SNR=9.3
MOA *i* Sn **Sn** **22 20 32.7 +2.9**
15nm,0.5s
MOA **Molln** **4.22 21** Pn **Pn** **22 19 43.3 +2.6**
2.9nm,0.2s,SNR=9.3
MOA Sn **Sn** **22 20 32.7 +2.9**
15nm,0.5s
ORIF **Oris-en-Rattie** **4.51 285** *e*Pn **Pn** **22 19 46.9 +2.2**
SNR=1.0
ORIF **Oris-en-Rattie** **4.51 285** *e*Pn **Pn** **22 19 46.9 +2.2**
SNR=1.0
SMRF **Simiane la Rot** **4.65 273** *e*Pn **Pn** **22 19 47.9 +1.2**
SNR=1.0
SMRF *e*Sn **Sn** **22 20 41.1 +0.6**
12nm,0.5s,SNR=1.0
SMRF **Simiane la Rot** **4.65 273** *e*Pn **Pn** **22 19 47.9 +1.2**
SNR=1.0
SMRF *e*Sn **Sn** **22 20 41.1 +0.6**
6.0nm,0.5s,SNR=1.0
BBS **Basel-Blauen** **4.74 320** P **Pn** **22 19 50.0 +2.1**
BBS S **Sn** **22 20 41.8 -0.8**
SPAK **Spaichingen-Ko** **4.74 333** P **Pn** **22 19 50.4 +2.5**
SPAK S **Sn** **22 20 43.3 +0.6**
TREB **Trebinje** **4.78 103** *e*Pn **Pn** **22 19 50.7 +2.4**
FELD **Feldberg im Sc** **4.84 326** P **Pn** **22 19 51.6 +2.3**
FELD S **Sn** **22 20 44.3 -0.9**
BRY **Bratogost** **4.86 100** *e*Pn **Pn** **22 19 52.0 +2.4**
CABF **La Chapelle** **4.97 305** *e*Pn **Pn** **22 19 53.8 +2.7**
SNR=1.0
CABF **La Chapelle** **4.97 305** *e*Pn **Pn** **22 19 53.8 +2.7**
SNR=1.0
LOMF **Lomont** **5.00 315** P **Pn** **22 19 52.6 +1.2**
LOMF S **Sn** **22 20 46.7 -2.3**
LOMF **Lomont** **5.00 315** P **Pn** **22 19 52.6 +1.2**
LOMF S **Sn** **22 20 46.7 -2.3**
UPM **Unac-Piva** **5.06 96** *e*Pn **Pn** **22 19 56.7 +4.3**
MOF **Molkenrain** **5.20 321** P **Pn** **22 19 55.5 +1.3**
MOF S **Sn** **22 20 52.2 -1.7**
MOF **Molkenrain** **5.20 321** P **Pn** **22 19 55.5 +1.3**
MOF S **Sn** **22 20 52.2 -1.7**
HINF **Hinteralfeld** **5.30 319** *e*Pn **Pn** **22 19 57.5 +1.9**
SNR=1.0
HINF *e*Sn **Sn** **22 20 55.7 -0.8**
16nm,0.4s,SNR=1.0
HINF **Hinteralfeld** **5.30 319** *e*Pn **Pn** **22 19 57.5 +1.9**
SNR=1.0
HINF *e*Sn **Sn** **22 20 55.7 -0.8**
8.1nm,0.4s,SNR=1.0
KHC **Kasperske Hory** **5.31 11** *e*PN **Pn** **22 19 58.0 +2.3**
KHC *e*SN **Sn** **22 20 59.5 +2.8**
KHC *e*SG Sg 22 21 38.0 +11
KHC **Kasperske Hory** **5.31 11** Pn **Pn** **22 19 58.0 +2.3**
KHC Sn **Sn** **22 20 59.5 +2.8**
VIVF **Saint-Julien-l** **5.34 283** *e*Pn **Pn** **22 19 56.8 +0.6**
SNR=1.0
VIVF *e*Sg **Sg** **22 21 26.8 -1.5**
3.8nm,0.6s,SNR=1.0
VIVF **Saint-Julien-l** **5.34 283** *e*Pn **Pn** **22 19 56.8 +0.6**
SNR=1.0
VIVF *e*Sg **Sg** **22 21 26.8 -1.5**
1.9nm,0.6s,SNR=1.0
TEKS **Tekeris** **5.43 81** *e*Pn **Pn** **22 19 59.1 +1.8**
ECH **Echery** **5.46 323** P **Pn** **22 19 59.8 +2.1**
ECH S **Sn** **22 20 59.7 -0.6**
ECH **Echery** **5.46 323** P **Pn** **22 19 59.8 +2.1**
DRME **Dracevica, Mon** **5.53 106** *e*Pn **Pn** **22 20 01.9 +3.2**
CDF **Champ du Feu** **5.56 325** *e*Pn **Pn** **22 20 01.0 +1.8**
SNR=1.0
CDF *e*Sn **Sn** **22 21 02.2 -0.7**
14nm,0.4s,SNR=1.0
CDF **Champ du Feu** **5.56 325** *e*Pn **Pn** **22 20 01.0 +1.8**
SNR=1.0
HAU **Haudompre** **5.68 318** *e*Pn **Pn** **22 20 02.7 +2.0**
SNR=1.0
HAU *e*Sn **Sn** **22 21 05.5 -0.2**
38nm,0.4s
HAU **Haudompre** **5.68 318** *e*Pn **Pn** **22 20 02.7 +2.0**
SNR=1.0
HAU *e*Sn **Sn** **22 21 05.5 -0.2**
19nm,0.4s
TREC **Trest** **5.87 23** *e*SN **Sn** **22 21 10.9 +0.4**
LASF **Ste Croix** **5.89 274** *e*Pn **Pn** **22 20 03.9 +0.3**
SNR=1.0
LASF *e*Sn **Sn** **22 21 10.2 -0.7**
2.8nm,0.4s,SNR=1.0
LASF **Ste Croix** **5.89 274** *e*Pn **Pn** **22 20 03.9 +0.3**
SNR=1.0
LASF *e*Sn **Sn** **22 21 10.2 -0.7**
1.4nm,0.4s,SNR=1.0
VRAC **Vranov** **6.23 29** *e*Pn **Pn** **22 20 10.4 +2.1**
VRAC *e*Sn **Sn** **22 21 22.1 +2.7**
GOPC **GO Pecny, Ondr** **6.28 17** *e*PN **Pn** **22 20 10.6 +1.6**
GOPC *e*SN **Sn** **22 21 20.8 +0.3**
GOPC **GO Pecny, Ondr** **6.28 17** Pn **Pn** **22 20 10.6 +1.6**
PLDF **La Plantade** **6.30 292** P **Pn** **22 20 09.7 +0.4**
PLDF **La Plantade** **6.30 292** P **Pn** **22 20 09.7 +0.4**
PRU **Pruhonice** **6.30 15** *e*PN **Pn** **22 20 11.1 +1.8**
PRU *e*SN **Sn** **22 21 20.2 -0.8**
PRU AMS AMS 22 23 10.0
100nm,8.1s
PRU **Pruhonice** **6.30 15** Pn **Pn** **22 20 11.1 +1.8**
NKC **Novy Kostel** **6.31 3** *e*PN **Pn** **22 20 12.9 +3.5**
NKC *e*SN **Sn** **22 21 19.7 -1.6**
NKC **Novy Kostel** **6.31 3** Pn **Pn** **22 20 12.9 +3.5**
PAGF **Fort de Pagny** **6.36 319** *e*Pn **Pn** **22 20 11.6 +1.6**
PAGF **Fort de Pagny** **6.36 319** *e*Pn **Pn** **22 20 11.6 +1.6**
SMF **Signal de Mont** **6.38 298** *e*Pn **Pn** **22 20 12.4 +2.1**
SNR=1.0
SMF *e*Sn **Sn** **22 21 22.2 -0.7**
8.5nm,0.4s
SMF **Signal de Mont** **6.38 298** *e*Pn **Pn** **22 20 12.4 +2.1**
SNR=1.0
SMF *e*Sn **Sn** **22 21 22.2 -0.7**
4.2nm,0.4s
LBL **Lubilhac** **6.40 285** P **Pn** **22 20 10.9 +0.2**
LBL **Lubilhac** **6.40 285** P **Pn** **22 20 10.9 +0.2**
SFTF **Sexfontaines** **6.47 314** *e*Pn **Pn** **22 20 13.5 +1.9**
baz=126
SFTF **Sexfontaines** **6.47 314** *e*Pn **Pn** **22 20 13.5 +1.9**
VYHS **Vyhne** **6.57 44** *e*Pg **Pg** **22 20 44.8 +2.2**
VYHS **Vyhne** **6.57 44** *e*PG **Pg** **22 20 44.8 +2.2**
LOR **Lormes** **6.63 303** *e*Pn **Pn** **22 20 15.4 +1.7**
baz=125,SNR=1.0
LOR *e*Sn **Sn** **22 21 28.3 -0.7**
11nm,0.4s,SNR=1.0
LOR **Lormes** **6.63 303** *e*Pn **Pn** **22 20 15.4 +1.7**
SNR=1.0
LOR *e*Sn **Sn** **22 21 28.3 -0.7**
5.6nm,0.4s,SNR=1.0
SELS **Selova** **6.65 93** *e*Pn **Pn** **22 20 16.5 +2.4**
AGO **Saint Agoulin** **6.65 292** P **Pn** **22 20 14.0 -0.1**
AGO **Saint Agoulin** **6.65 292** P **Pn** **22 20 14.0 -0.1**
MEZF **Maizieres J'vi** **6.65 316** *e*Pn **Pn** **22 20 16.2 +2.1**
SNR=1.0
MEZF *e*Sn **Sn** **22 21 30.3 +0.7**
9.0nm,0.5s,SNR=1.0
MEZF **Maizieres J'vi** **6.65 316** *e*Pn **Pn** **22 20 16.2 +2.1**
SNR=1.0
MEZF *e*Sn **Sn** **22 21 30.3 +0.7**
4.5nm,0.5s,SNR=1.0
AVF **Avril sur Loir** **6.74 298** *e*Pn **Pn** **22 20 17.5 +2.2**
SNR=1.0
AVF *e*Sn **Sn** **22 21 29.8 -2.0**
4.6nm,0.6s,SNR=1.0
AVF **Avril sur Loir** **6.74 298** *e*Pn **Pn** **22 20 17.5 +2.2**
SNR=1.0
SSF **Saint Saulge** **6.75 301** *e*Pn **Pn** **22 20 16.9 +1.5**
SNR=1.0
SSF **Saint Saulge** **6.75 301** *e*Pn **Pn** **22 20 16.9 +1.5**
SNR=1.0

PVCC	**Panska Ves**	**6.83**	**14**	*e*SN	**Sn**	**22 21 34.1**	**+0.2**	
BGF	**Bois d'Agland**	**6.99**	**295**	*e*Pn	**Pn**	**22 20 20.5**	**+1.8**	
	SNR=1.0							
BGF				*e*Sn	**Sn**	**22 21 37.3**	**-0.6**	
	10nm,0.5s,SNR=1.0							
BGF	**Bois d'Agland**	**6.99**	**295**	*e*Pn	**Pn**	**22 20 20.5**	**+1.8**	
	SNR=1.0							
BGF				*e*Sn	**Sn**	**22 21 37.3**	**-0.6**	
	5.1nm,0.5s,SNR=1.0							
DPC	**Dobruska-Polom**	**7.06**	**23**	*e*PN	**Pn**	**22 20 20.0**	**+0.3**	
DPC				*e*SN	**Sn**	**22 21 39.0**	**-0.8**	
DPC				AMS	AMS	22 24 30.0		
	200nm,7.3s							
DPC	**Dobruska-Polom**	**7.06**	**23**	Pn	**Pn**	**22 20 20.0**	**+0.3**	
MTLF	**Montolieu**	**7.14**	**269**	*e*Pn	**Pn**	**22 20 21.4**	**+0.7**	
MTLF	**Montolieu**	**7.14**	**269**	*e*Pn	**Pn**	**22 20 21.4**	**+0.7**	
CAF	**Calviac**	**7.20**	**281**	*e*Pn	**Pn**	**22 20 22.0**	**+0.4**	
	SNR=1.0							
CAF	**Calviac**	**7.20**	**281**	*e*Pn	**Pn**	**22 20 22.0**	**+0.4**	
	SNR=1.0							
BARS	**Barje**	**7.22**	**95**	*e*Pn	**Pn**	**22 20 23.4**	**+1.4**	
TCF	**Toulx Ste Croi**	**7.33**	**292**	*e*Pn	**Pn**	**22 20 24.2**	**+0.8**	
	SNR=1.0							
TCF	**Toulx Ste Croi**	**7.33**	**292**	*e*Pn	**Pn**	**22 20 24.2**	**+0.8**	
	SNR=1.0							
CLL	**Collm**	**7.41**	**5**	*e*Pn	**Pn**	**22 20 26.0**	**+1.5**	
CLL				*e*		22 21 49.0		
CLL				*e*Sb	Sb	22 22 02.0	-11	
CLL				*e*Sg	**Sg**	**22 22 37.0**	**+2.5**	
CRVS	**Cervenica-Dubn**	**8.20**	**49**	*e*	**Pb**	**22 20 55.8**	**-2.8**	
ETSF	**Etsaut**	**9.21**	**268**	*e*Pn	**Pn**	**22 20 50.7**	**+1.4**	
	SNR=1.0							
ETSF	**Etsaut**	**9.21**	**268**	*e*Pn	**Pn**	**22 20 50.7**	**+1.4**	
	SNR=1.0							

NEIC ***04*** *22:37:55.6, 43°.62S×172°.42E, h12km, ML3.9(WEL), After WEL.*

NEIC Felt at Christchurch.

WEL 04 22:37:55.7±0.1, 43°.63S×172°.42E, h11km, ML3.9/19, 7C-4D, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.15**	**71**	⇑PG	Pg	22 37 59.3	+0.1
CRLZ				SG	Sg	22 38 01.7	0.0
CRLZ				AML	AML	22 38 02.1	
CRLZ				AML	AML	22 38 02.1	
CRLZ				AML	AML	22 38 02.1	
CRLZ	**Canterbury Las**	**0.15**	**71**	Pg	Pg	22 37 59.3	+0.1
CRLZ				Sg	Sg	22 38 01.7	0.0
MQZ	**McQueen's Vall**	**0.19**	**115**	⇓PG	Pg	22 37 59.8	0.0
MQZ				SG	Sg	22 38 02.8	+0.3
MQZ				AML	AML	22 38 03.4	
MQZ	**McQueen's Vall**	**0.19**	**115**	Pg	Pg	22 37 59.8	0.0
OXZ	**Oxford**	**0.41**	**317**	⇓P*	Pg	22 38 03.5	-0.3
OXZ	**Oxford**	**0.41**	**317**	P*	Pg	22 38 03.4	-0.4
LTZ	**Lake Taylor**	**0.85**	**353**	⇑P*	Pg	22 38 11.9	-0.3
LTZ				S*	Sg	22 38 23.6	+0.3
LTZ				AML	AML	22 38 23.7	
LTZ	**Lake Taylor**	**0.85**	**353**	P*	Pg	22 38 11.9	-0.2
RPZ	**Rata Peaks**	**1.00**	**264**	⇓P*	Pg	22 38 14.3	-0.6
RPZ				S*	Sg	22 38 27.4	-0.5
RPZ				AML	AML	22 38 32.6	
RPZ	**Rata Peaks**	**1.00**	**264**	P*	Pg	22 38 14.3	-0.6
INZ	**Inchbonnie**	**1.15**	**321**	⇓P*	Pb	22 38 16.3	-1.3
WVZ	**Waitaha Valley**	**1.35**	**294**	PN	Pn	22 38 19.5	-0.9
WVZ				AML	AML	22 38 45.8	
WVZ	**Waitaha Valley**	**1.35**	**294**	Pn	Pn	22 38 19.6	-0.9
KHZ	**Kahutara**	**1.46**	**34**	⇑PN	Pn	22 38 20.3	-1.7
KHZ	**Kahutara**	**1.46**	**34**	Pn	Pn	22 38 20.3	-1.7
LBZ	**Lake Benmore**	**1.78**	**244**	PN	Pn	22 38 25.6	-0.8
LBZ				AML	AML	22 38 56.0	
LBZ				AML	AML	22 38 56.0	
LBZ				AML	AML	22 38 59.1	
LBZ				AML	AML	22 38 59.1	
LBZ	**Lake Benmore**	**1.78**	**244**	Pn	Pn	22 38 25.6	-0.8
FOZ	**Fox Glacier**	**1.90**	**272**	PN	Pn	22 38 28.2	+0.2
FOZ				AML	AML	22 39 01.5	
FOZ				AML	AML	22 39 01.6	
FOZ				AML	AML	22 40 58.6	
FOZ	**Fox Glacier**	**1.90**	**272**	Pn	Pn	22 38 28.2	+0.2
THZ	**Tophouse**	**1.90**	**11**	⇑PN	Pn	22 38 26.5	-1.6
THZ				AML	AML	22 39 04.3	
THZ				AML	AML	22 39 05.2	
THZ	**Tophouse**	**1.90**	**11**	Pn	Pn	22 38 26.4	-1.6
ODZ	**Otahua Downs**	**1.91**	**221**	⇑PN	Pn	22 38 26.8	-1.4
ODZ				AML	AML	22 39 03.9	
ODZ				AML	AML	22 39 03.9	
ODZ				AML	AML	22 39 04.6	
ODZ				AML	AML	22 39 04.7	
ODZ	**Otahua Downs**	**1.91**	**221**	Pn	Pn	22 38 26.8	-1.4
DSZ	**Denniston Nort**	**1.93**	**346**	PN	Pn	22 38 27.6	-1.0
DSZ				AML	AML	22 39 00.4	
DSZ				AML	AML	22 39 00.4	
DSZ				AML	AML	22 39 05.9	
DSZ				AML	AML	22 39 05.9	
DSZ	**Denniston Nort**	**1.93**	**346**	Pn	Pn	22 38 27.6	-1.0
BSWZ	**Blackbirch Sta**	**2.19**	**30**	PN	Pn	22 38 30.7	-1.4
BSWZ				AML	AML	22 39 01.0	
BSWZ	**Blackbirch Sta**	**2.19**	**30**	Pn	Pn	22 38 30.7	-1.4
TUWZ	**Tuamarina**	**2.47**	**28**	PN	Pn	22 38 33.9	-2.0
TUWZ	**Tuamarina**	**2.47**	**28**	Pn	Pn	22 38 33.9	-2.0
NNZ	**Nelson**	**2.51**	**17**	PN	Pn	22 38 35.4	-1.0
NNZ	**Nelson**	**2.51**	**17**	Pn	Pn	22 38 35.4	-1.0
HHSZ	**Highcliff Hill**	**2.60**	**209**	PN	Pn	22 38 36.3	-1.5
HHSZ	**Highcliff Hill**	**2.60**	**209**	Pn	Pn	22 38 36.3	-1.5
JCZ	**Jackson Bay**	**2.67**	**259**	⇑PN	Pn	22 38 38.6	-0.1
JCZ				AML	AML	22 39 24.6	
JCZ				AML	AML	22 39 26.4	
JCZ	**Jackson Bay**	**2.67**	**259**	Pn	Pn	22 38 38.6	-0.1
WKZ	**Wanaka**	**2.73**	**243**	PN	Pn	22 38 38.5	-0.9
WKZ				AML	AML	22 39 26.2	
WKZ				AML	AML	22 39 26.2	
WKZ				AML	AML	22 39 34.6	
WKZ				AML	AML	22 39 34.6	
WKZ	**Wanaka**	**2.73**	**243**	Pn	Pn	22 38 38.5	-0.9
EAZ	**Earnscleugh**	**2.75**	**233**	⇑PN	Pn	22 38 38.4	-1.3
EAZ				AML	AML	22 39 25.8	
EAZ				AML	AML	22 39 25.8	
EAZ				AML	AML	22 39 26.0	
EAZ				AML	AML	22 39 26.0	
EAZ	**Earnscleugh**	**2.75**	**233**	Pn	Pn	22 38 38.4	-1.3
TCW	**Tory Channel**	**2.78**	**30**	PN	Pn	22 38 38.8	-1.3
TCW				AML	AML	22 39 12.8	
TCW				AML	AML	22 39 37.2	
TCW	**Tory Channel**	**2.78**	**30**	Pn	Pn	22 38 38.8	-1.3
QRZ	**Quartz Range**	**2.80**	**2**	PN	Pn	22 38 39.4	-1.0
QRZ				AML	AML	22 39 13.6	
QRZ				AML	AML	22 39 31.5	
QRZ				AML	AML	22 39 31.6	
QRZ				AML	AML	22 39 31.7	
QRZ	**Quartz Range**	**2.80**	**2**	Pn	Pn	22 38 39.5	-1.0
BHW	**Baring Head**	**2.86**	**40**	PN	Pn	22 38 38.8	-2.5
BHW	**Baring Head**	**2.86**	**40**	Pn	Pn	22 38 38.8	-2.5
TUZ	**Tuapeka**	**3.06**	**220**	PN	Pn	22 38 42.8	-1.2
TUZ				AML	AML	22 39 40.1	
TUZ				AML	AML	22 39 40.2	
TUZ				AML	AML	22 39 41.4	
TUZ				AML	AML	22 39 41.4	
TUZ	**Tuapeka**	**3.06**	**220**	Pn	Pn	22 38 42.8	-1.2
TRWZ	**Traveller**	**3.28**	**48**	PN	Pn	22 38 44.4	-2.7
TRWZ	**Traveller**	**3.28**	**48**	Pn	Pn	22 38 44.4	-2.7
KIW	**Kapiti Island**	**3.32**	**35**	PN	Pn	22 38 45.9	-1.8
KIW	**Kapiti Island**	**3.32**	**35**	Pn	Pn	22 38 45.9	-1.8
MTW	**Mount Morrison**	**3.36**	**44**	PN	Pn	22 38 45.4	-2.7
MTW	**Mount Morrison**	**3.36**	**44**	Pn	Pn	22 38 45.5	-2.7
MSZ	**Milford Sound**	**3.40**	**251**	PN	Pn	22 38 44.1	-4.6
MSZ				AML	AML	22 39 05.7	
MSZ				AML	AML	22 39 26.0	
OGWZ	**Otaki Gorge**	**3.47**	**37**	PN	Pn	22 38 47.1	-2.5
OGWZ	**Otaki Gorge**	**3.47**	**37**	Pn	Pn	22 38 47.2	-2.5
SYZ	**Scrubby Hill**	**3.73**	**217**	PN	Pn	22 38 52.0	-1.1
SYZ				AML	AML	22 40 02.1	
SYZ				AML	AML	22 40 06.4	
SYZ	**Scrubby Hill**	**3.73**	**217**	Pn	Pn	22 38 52.0	-1.1
MRZ	**Mangatainoka R**	**3.78**	**39**	PN	Pn	22 38 51.1	-2.8
MRZ	**Mangatainoka R**	**3.78**	**39**	Pn	Pn	22 38 51.1	-2.8
WHZ	**Wether Hill Ro**	**3.91**	**233**	PN	Pn	22 38 53.3	-2.4
WHZ	**Wether Hill Ro**	**3.91**	**233**	Pn	Pn	22 38 53.3	-2.4
BFZ	**Birch Farm**	**4.09**	**45**	PN	Pn	22 38 55.1	-3.1
BFZ	**Birch Farm**	**4.09**	**45**	Pn	Pn	22 38 55.1	-3.1
APZ	**The Paps**	**4.48**	**223**	PN	Pn	22 39 02.5	-1.1
APZ	**The Paps**	**4.48**	**223**	Pn	Pn	22 39 02.5	-1.1
DREZ	**Durham Road**	**4.63**	**17**	PN	Pn	22 39 01.0	-4.6
DREZ	**Durham Road**	**4.63**	**17**	Pn	Pn	22 39 01.0	-4.6
VRZ	**Vera Road**	**4.83**	**22**	PN	Pn	22 39 08.4	0.0
VRZ	**Vera Road**	**4.83**	**22**	Pn	Pn	22 39 08.4	0.0
WNVZ	**Wahianoa**	**4.91**	**30**	PN	Pn	22 39 09.6	-0.1
WNVZ	**Wahianoa**	**4.91**	**30**	Pn	Pn	22 39 09.6	0.0
HIZ	**Hauiti**	**5.43**	**21**	PN	Pn	22 39 15.0	-1.5
HIZ	**Hauiti**	**5.43**	**21**	Pn	Pn	22 39 15.1	-1.5
KNZ	**Kokohu**	**6.06**	**42**	Pn	Pn	22 39 21.9	-3.4

ISCJB ***04*** *22:42:38.0±0.7, 36°.3N±0°.1×7°.85E±0°.05, h10km, Error ellipse: s-maj=15.6km s-min=5.6km az=178.8*

CSEM ***04*** *22:42:37.8±0.2, 36°.30N×7°.84E, h8km, MD3.1, Error ellipse: s-maj=7.5km s-min=2.8km az=179.0*

CRAAG ***04*** *22:42:38.5, 36°.37N×7°.66E, Ml3.6*

TUN ***04*** *22:42:41.2, 36°.33N×8°.36E, h15km, MD3.1*

ISC 04 22:42:36.4±1.1, 36°.4N±0°.1×7°.91E±0°.03, h10km, n19, σ0s61/18, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHAT	**Ghardimaou**	**0.34**	**68**	*i* P	**Pn**	**22 42 46.5**	**-1.0**
ABSA	**Djebel Ababsia**	**0.36**	**255**	P	**Pg**	**22 42 43.4**	**-0.2**
ABSA	**Djebel Ababsia**	**0.36**	**255**	P	**Pg**	**22 42 43.4**	**-0.2**
CMAH	**Djebel Manchou**	**0.47**	**304**	P	**Pb**	**22 42 46.6**	**-0.3**
CMAH	**Djebel Manchou**	**0.47**	**304**	P	**Pb**	**22 42 46.6**	**-0.3**
BLIT	**Baltah**	**0.91**	**67**	*i* P	**Pn**	**22 42 56.3**	**+1.0**
KRIT	**Krib**	**0.94**	**91**	*i* P	**Pn**	**22 42 56.9**	**+1.2**
CAEH	**'Ain El Ouahch**	**0.95**	**296**	P	**Pn**	**22 42 56.0**	**+0.2**
CAEH	**'Ain El Ouahch**	**0.95**	**296**	P	**Pn**	**22 42 56.0**	**+0.2**
CKFL	**Kef-Lekhel**	**0.96**	**272**	P	**Pn**	**22 42 55.8**	**-0.3**
CKFL	**Kef-Lekhel**	**0.96**	**272**	P	**Pn**	**22 42 55.8**	**-0.3**
CASM	**Ain Smara**	**1.15**	**265**	P	**Pn**	**22 42 58.7**	**+0.1**
CASM	**Ain Smara**	**1.15**	**265**	P	**Pn**	**22 42 58.7**	**+0.1**
CTEI	**Djebel Teioual**	**1.25**	**257**	P	**Pg**	**22 43 01.2**	**+0.7**
CTEI	**Djebel Teioual**	**1.25**	**257**	P	**Pg**	**22 43 01.2**	**+0.7**
TROZ	**Trozza**	**1.59**	**120**	*i* P	**Pg**	**22 43 06.5**	**-0.4**
DFRA	**Djebel Bou Aff**	**1.65**	**277**	P	**Pb**	**22 43 06.5**	**-0.4**
DFRA	**Djebel Bou Aff**	**1.65**	**277**	P	**Pb**	**22 43 06.5**	**-0.4**
SET	**Setif**	**2.03**	**266**	P	Pg	22 43 20.0	+4.6

MAN 04 22:42:52, 9°.12N×126°.72E, h16km, mb4.0, ML2.8, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.99**	**201**	⇑*i* P	Pb	22 43 10.4	-0.4
BUKP	**Musuan**	**2.05**	**233**	*e*P	Pn	22 43 27.2	+1.3
CGP	**Cagayan de Oro**	**2.11**	**252**	⇓*e*P	Pn	22 43 27.3	+0.7
CGP				*e*S	Sn	22 43 54.1	+1.6

IDC ***04*** *22:43:10.1±1.9, 36°.81N×142°.23E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.3/53, mbtmp3.5/6, ML3.2/3, MS2.5/2, Ms1 2.5/2, ms1mx2.1/35, Error ellipse: s-maj=35.3km s-min=20.5km az=93.0*

JMA ***04*** *22:43:14.0±0.3, 36°.97N×141°.97E, h39km, M3.3*

ISC 04 22:43:11.1±2.4, 36°.89N±0°.05×141°.91E±0°.07, h3km±14km, n25, σ1s24/27, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.91**	**284**	P	**Pn**	**22 43 30.5**	**-0.5**
JFK	**Kawauchi**	**0.95**	**300**	P	**Pn**	**22 43 31.0**	**-0.5**
JFK				*e*S	**Sb**	**22 43 43.7**	**+0.2**
JHO	**Hitachi**	**1.11**	**256**	P	**Pn**	**22 43 34.2**	**+0.6**
JHO				*e*S	**Sn**	**22 43 49.5**	**+0.1**
JMM	**Marumori**	**1.32**	**318**	P	**Pb**	**22 43 36.0**	**-0.6**
JFT	**Otama**	**1.40**	**297**	P	**Pg**	**22 43 38.7**	**+0.6**
JFT				*e*S	**Sn**	**22 43 56.5**	**-0.2**
JIO	**Ouri**	**1.63**	**344**	P	**Pn**	**22 43 40.1**	**-0.6**
JIO				*e*S	**Sn**	**22 44 00.0**	**-2.2**
JOU	**Okura**	**1.78**	**327**	P	**Pb**	**22 43 43.5**	**-0.9**
JFY	**Yanaizu**	**1.83**	**287**	P	**Pb**	**22 43 45.6**	**+0.2**
JFY				*e*S	**Sb**	**22 44 09.4**	**+0.6**
JYS	**Shirataka**	**1.98**	**313**	P	**Pb**	**22 43 47.0**	**-0.8**
JAG	**Ashikaga**	**2.03**	**258**	P	**Pb**	**22 43 48.2**	**-0.4**
JMK	**Ichinoseki**	**2.13**	**345**	P	**Pn**	**22 43 47.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.99**	**264**	Pn	**Pb**	**22 44 02.2**	**-2.9**
	4.0nm,0.3s,baz=87,slow=15,SNR=29						
MJAR				Sn	**Sb**	**22 44 40.7**	**-1.4**
	2.4nm,0.3s,baz=85,slow=25,SNR=5.7						
MJAR				LR	LR	22 45 31.3	
	comp=Z,55nm,18.5s,baz=85,slow=44						
MAT	**Matsushiro**	**2.99**	**265**	P	**Pb**	**22 44 02.7**	**-2.4**
MAT				S	**Sb**	**22 44 41.7**	**-0.4**
JHJ	**Hachijo jima 2**	**4.14**	**206**	Pn	**Pn**	**22 44 16.7**	**+1.4**
	6.6nm,0.3s,baz=10.0,slow=17,SNR=5.7						
JHJ				Sn	**Sn**	**22 45 04.0**	**-0.2**
	14nm,0.3s,baz=239,slow=5.9,SNR=4.4						
ASAJ	**Asahikawa**	**7.24**	**4**	Pn	**Pn**	**22 44 58.5**	**+0.6**
	0.2nm,0.3s,baz=356,slow=15,SNR=3.2						
ASAJ				Sn	**Sn**	**22 46 20.0**	**-0.6**
	0.5nm,0.3s,baz=132,slow=14,SNR=3.1						
KSRS	**Korea Array**	**11.18**	**277**	LR	LR	22 50 18.4	
	comp=Z,26nm,19.8s,baz=148,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.73**	**121**	T	T	23 18 18.2	
	baz=314,slow=75,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**27.74**	**121**	T	T	23 18 25.1	
	baz=314,slow=75,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**27.75**	**121**	T	T	23 18 16.0	
	baz=314,slow=75,SNR=6.6						
SONM	**Songino Array**	**28.20**	**304**	P	**P**	**22 49 07.2**	**+2.2**
	0.3nm,0.5s,baz=101,slow=7.6,SNR=2.4						
H11S1	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	23 19 07.1	
	baz=318,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	23 19 15.3	
	baz=318,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	23 19 09.1	
	baz=318						
MKAR	**Makanchi Array**	**44.53**	**302**	P	**P**	**22 51 25.1**	**+1.0**
	0.1nm,0.2s,baz=79,slow=8.7,SNR=2.1						
WRA	**Warramunga Arr**	**56.97**	**188**	P	**P**	**22 52 56.8**	**-1.2**
	0.2nm,0.5s,baz=5.4,slow=7.0,SNR=5.0						

SJA ***04*** *22:48:15.8±0.5, 24°.86S×69°.50W, h141km±36km, ML3.1*

NEIC ***04*** *22:48:16.8±1.9, 24°.92S×69°.25W, h84km±15km, mb4.3/3, Error ellipse: s-maj=21.3km s-min=13.9km az=53.0*

ISCJB ***04*** *22:48:17.0±0.3, 24°.90S±0°.03×69°.50W±0°.05, h105km±5km, mb4.0/8, Error ellipse: s-maj=7.8km s-min=5.0km az=176.8*

IDC ***04*** *22:48:18.7±0.8, 24°.87S×69°.32W, h96km±5km, mb3.8/6, mb1 3.9/8, mb1mx3.6/32, mbtmp4.1/8, Error ellipse: s-maj=23.1km s-min=11.1km az=95.0*

GUC ***04*** *22:48:21.7±0.6, 24°.67S×69°.50W, h76km±13km, ML4.0*

ISC 04 22:48:17.7±0.6, 24°.89S±0°.04×69°.43W±0°.06, h94km±5km, h94km:pP-P, n39, σ1s34/51, mb4.2/8, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.92**	**286**	*e*P	**Pn**	**22 48 38.3**	**+1.1**
PB14				*i* S	**Sn**	**22 48 52.6**	**+0.8**
PB14				IAML		22 48 54.1	
	comp=E,6μm,0.7s						
ANCH	**Antofagasta**	**1.50**	**323**	*i* P	**Pn**	**22 48 44.6**	**+1.0**
ANCH				*i* S	**Sn**	**22 49 02.0**	**-1.2**
ANCH				IAML		22 49 09.0	
	comp=N,2μm,0.2s						
PB10	**IPOC Station P**	**1.71**	**323**	⇑*i* P	**Pn**	**22 48 47.2**	**+0.9**
PB10				*i* S	**Sn**	**22 49 06.6**	**-1.5**
PB10				IAML		22 49 15.9	
	comp=N,5μm,0.5s						
PB06	**IPOC Station P**	**2.18**	**357**	*e*P	**Pn**	**22 48 53.2**	**+0.7**
PB06				*i* S	**Sn**	**22 49 18.4**	**-0.7**
PB06				IAML		22 49 31.3	
	comp=N,1μm,0.1s						
LVC	**Limon Verde**	**2.32**	**12**	*e*P	**Pn**	**22 48 55.4**	**+0.8**
LVC				⇓*e*S	**Sn**	**22 49 19.1**	**-3.6**
LVC	**Limon Verde**	**2.32**	**12**	⇓P	**Pn**	**22 48 55.3**	**+0.7**
	comp=N,1μm,0.3s,baz=157,slow=7.3,SNR=153						
LVC				S	**Sn**	**22 49 23.5**	**+0.8**
	comp=N,6μm,0.3s,baz=233,slow=20,SNR=22						
CDCH	**Caldera**	**2.51**	**210**	*i* S	**Sn**	**22 49 26.4**	**-0.2**
CDCH				IAML		22 49 34.4	
	comp=E,925nm,0.4s						
CPCH	**Copiapo**	**2.60**	**198**	*e*P	**Pn**	**22 48 57.0**	**-0.9**
CPCH				*e*S	**Sn**	**22 49 25.1**	**-3.7**
CPCH				IAML		22 49 35.5	
	comp=E,578nm,0.2s						
FSA	**Cafayete**	**3.35**	**112**	*e*P	**Pn**	**22 49 09.5**	**+1.4**
FSA				IAML		22 49 11.9	
	comp=Z,12nm,0.5s						
SLA	**San Lorenzo**	**3.57**	**88**	*e*P	**Pn**	**22 49 12.7**	**+1.6**
VCA	**Vinchina**	**3.99**	**164**	*e*P	**Pn**	**22 49 19.0**	**+2.3**
VCA				IAML		22 49 49.5	
	comp=Z,51nm,0.7s						
AZAP	**Zapla**	**4.03**	**81**	*e*P	**Pn**	**22 49 18.4**	**+1.0**
HJA	**Humahuaca**	**4.04**	**66**	*e*P	**Pn**	**22 49 20.4**	**+2.7**
AHML	**Horco Molle**	**4.14**	**118**	*e*P	**Pn**	**22 49 20.1**	**+1.3**
YJA	**Yavi**	**4.49**	**54**	⇓*e*P	**Pn**	**22 49 25.5**	**+1.6**
AGUA	**GUANDACOL**	**4.66**	**170**	*e*P	**Pn**	**22 49 27.4**	**+1.6**
CYA	**Choya**	**4.80**	**138**	*e*P	**Pn**	**22 49 28.5**	**+0.8**
CYA				*e*S	Sn	22 49 58.2	-24
CYA				IAML		22 50 00.0	
	comp=Z,11nm,0.6s						
AMOG	**MOGNA**	**6.08**	**172**	*e*P	**Pn**	**22 49 44.8**	**-0.4**
ACAN	**Cantantal**	**7.62**	**166**	*e*P	**Pn**	**22 50 05.4**	**-0.6**
ASAL	**Salagasta**	**7.69**	**176**	*e*P	**Pn**	**22 50 06.4**	**-0.6**
LPAZ	**La Paz**	**8.64**	**8**	P	**Pn**	**22 50 19.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=246,slow=4.9,SNR=15						
CPUP	**Villa Florida**	**11.01**	**100**	P	**Pn**	**22 50 48.9**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=228,slow=15,SNR=1.8						
SIV	**San Ignacio**	**11.81**	**43**	P	Pn	22 50 58.2	-4.9
	comp=Z,5.4nm,0.3s,baz=244,slow=9.1,SNR=59						
SIV				S	Sn	22 53 03.3	-10
	comp=Z,0.2nm,0.3s,baz=323,slow=20,SNR=3.1						
SAML	**Samuel**	**16.93**	**22**	*e*Pn	**P**	**22 52 08.8**	**-0.6**
	comp=Z,4.8nm,0.9s						
BDFB	**Brasilia**	**22.07**	**69**	P	**P**	**22 53 03.7**	**-1.5**
	comp=Z,5.0nm,0.6s,baz=238,slow=9.2,SNR=7.1						
BDFB				pP	**pP**	**22 53 23.9**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=235,slow=7.9,SNR=2.6						
PTGA	**Pitinga**	**25.70**	**22**	P	**P**	**22 53 39.1**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=220,slow=8.4,SNR=4.3						
PTGA				pP	**pP**	**22 54 00.0**	**-0.2**
	comp=Z,8.0nm,1.0s,baz=215,slow=8.6,SNR=4.5						
RCBR	**Riachuelo**	**37.30**	**65**	P	**P**	**22 55 21.7**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=211,slow=11,SNR=3.3						
TXAR	**Lajitas Array**	**63.15**	**327**	P	**P**	**22 58 36.6**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=152,slow=8.2,SNR=3.5						
BW06	**Boulder Array**	**76.81**	**331**	*e*P	**P**	**22 59 58.0**	**-1.3**
	comp=Z,2.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**78.95**	**70**	P	**P**	**23 00 11.4**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=258,slow=5.0,SNR=32						
TORD				pP	**pP**	**23 00 37.1**	**+1.2**
	comp=Z,1.9nm,0.4s,baz=259,slow=5.4,SNR=10						
MAW	**Mawson**	**81.24**	**163**	P	**P**	**23 00 22.9**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=198,slow=5.3,SNR=6.5						
CASY	**Casey**	**89.12**	**180**	*e*P	**P**	**23 01 02.8**	**+0.6**
	comp=Z,4.7nm,0.6s						
ASAR	**Alice Springs**	**126.70**	**207**	PKP	**PKPdf**	**23 07 11.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=131,slow=1.7,SNR=8.1						
WRA	**Warramunga Arr**	**129.79**	**210**	PKP	**PKPdf**	**23 07 17.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=151,slow=1.6,SNR=10						
KURK	**Kurchatov**	**144.39**	**35**	PKP	**PKPdf**	**23 07 42.4**	**-0.2**
KURK				pPKP	**pPKPdf**	**23 08 08.1**	**-0.6**
KURBB	**Kurchatov Arra**	**144.39**	**35**	PKP	**PKPdf**	**23 07 42.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=300,slow=3.1,SNR=4.7						
KURBB				pPKP	**pPKPdf**	**23 08 08.1**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=308,slow=4.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**145.19**	**27**	PKPbc	**PKPab**	**23 07 44.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=281,slow=2.9,SNR=11						
ZALV				pPKPbc	pPKPbc	23 08 10.2	+0.7
	comp=Z,2.4nm,0.7s,baz=315,slow=4.5

PARC	**Parchiule**	**0.28**	**140**	Pg	Pg	22 51 41.8 +0.7
PARC				Sg	Sb	22 51 46.7 -1.2
	218nm,0.2s					
VMG	**Vicchio**	**0.33**	**287**	Pg	Pg	22 51 42.5 +0.5
	183nm,0.2s					
VMG	**Vicchio**	**0.33**	**287**	Pg	Pg	22 51 42.5 +0.5
	183nm,0.2s					
BADI	**Badiali**	**0.40**	**152**	Pg	Pg	22 51 43.9 +0.6
BADI				Sg	Sb	22 51 50.5 -0.8
	221nm,0.3s					
BADI	**Badiali**	**0.40**	**152**	Pg	Pg	22 51 43.9 +0.6
BADI				Sg	Sb	22 51 50.5 -0.8
	221nm,0.3s					
SEI	**Scarperia**	**0.49**	**293**	Pg	Pg	22 51 45.1 +0.1
	294nm,0.2s					
SEI	**Scarperia**	**0.49**	**293**	Pg	Pg	22 51 45.1 +0.1
	294nm,0.2s					
ATPC	**Poggio Castell**	**0.52**	**138**	Pg	Pg	22 51 45.9 +0.5
ATPC				Sg	Sb	22 51 54.3 -0.3
	115nm,0.3s					
ATPC	**Poggio Castell**	**0.52**	**138**	Pg	Pg	22 51 45.9 +0.5
ATPC				Sg	Sb	22 51 54.3 -0.3
	115nm,0.3s					
PIEI	**Pieia**	**0.52**	**129**	Pg	Pg	22 51 45.5 0.0
PIEI				Sg	Sb	22 51 53.8 -0.9
	63nm,0.1s					
PIEI	**Pieia**	**0.52**	**129**	Pg	Pg	22 51 45.5 0.0
PIEI				Sg	Sb	22 51 53.8 -0.9
	63nm,0.1s					
IMOL	**Imola, Italy**	**0.52**	**341**	Pg	Pb	22 51 46.7 -0.3
IMOL				Sg	Sb	22 51 55.3 +0.5
	19nm,0.4s					
IMOL	**Imola, Italy**	**0.52**	**341**	Pg	Pb	22 51 46.7 -0.3
IMOL				Sg	Sb	22 51 55.3 +0.5
	19nm,0.4s					
CAFI	**Castiglion Fio**	**0.54**	**182**	Pg	Pg	22 51 46.5 +0.6
CAFI				Sg	Sb	22 51 55.2 0.0
	40nm,0.5s					
CAFI	**Castiglion Fio**	**0.54**	**182**	Pg	Pg	22 51 46.5 +0.6
CAFI				Sg	Sb	22 51 55.2 0.0
	40nm,0.5s					
ATVO	**AVT- Monte Val**	**0.57**	**148**	Pg	Pg	22 51 46.9 +0.4
ATVO				Sg	Sb	22 51 56.4 +0.2
	80nm,0.2s					
ATVO	**AVT- Monte Val**	**0.57**	**148**	Pg	Pg	22 51 46.9 +0.4
ATVO				Sg	Sb	22 51 56.4 +0.2
	80nm,0.2s					
FSSB	**Fossombrone**	**0.60**	**107**	Pg	Pg	22 51 47.1 +0.1
FSSB	**Fossombrone**	**0.60**	**107**	Pg	Pg	22 51 47.1 +0.1
PESA	**Pesaro**	**0.62**	**83**	Pg	Pg	22 51 47.6 +0.1
PESA	**Pesaro**	**0.62**	**83**	Pg	Pg	22 51 47.6 +0.1
MTRZ	**Monterenzio**	**0.63**	**324**	Pg	Pb	22 51 49.1 +0.2
MTRZ				Sg	Sb	22 51 57.1 -0.9
	158nm,0.6s					
MTRZ	**Monterenzio**	**0.63**	**324**	Pg	Pb	22 51 49.1 +0.2
MTRZ				Sg	Sb	22 51 57.1 -0.9
	158nm,0.6s					
FRON	**Frontone**	**0.64**	**123**	Pg	Pg	22 51 48.0 +0.2
FRON				Sg	Sb	22 51 58.3 +0.1
	37nm,0.2s					
FRON	**Frontone**	**0.64**	**123**	Pg	Pg	22 51 48.0 +0.2
FRON				Sg	Sb	22 51 58.3 +0.1
	37nm,0.2s					
FNVD	**Fontana Vidola**	**0.69**	**296**	Pg	Pg	22 51 48.8 0.0
FNVD				Sg	Sb	22 51 59.3 -0.5
	53nm,0.4s					
FNVD	**Fontana Vidola**	**0.69**	**296**	Pg	Pg	22 51 48.8 0.0
FNVD				Sg	Sb	22 51 59.3 -0.5
	53nm,0.4s					
ATTE	**AVT- Monte Tez**	**0.72**	**158**	Pg	Pg	22 51 49.4 +0.1
ATTE				Sg	Sb	22 52 00.7 +0.2
	36nm,0.4s					
ATTE	**AVT- Monte Tez**	**0.72**	**158**	Pg	Pg	22 51 49.4 +0.1
ATTE				Sg	Sb	22 52 00.7 +0.2
	36nm,0.4s					
MURB	**Monte Urbino**	**0.72**	**147**	Pg	Pg	22 51 49.7 +0.4
	110nm,0.3s					
MURB	**Monte Urbino**	**0.72**	**147**	Pg	Pg	22 51 49.7 +0.4
	110nm,0.3s					
SSFR	**Montelago di S**	**0.72**	**126**	Pg	Pg	22 51 49.2 -0.1
SSFR				Sg	Sb	22 52 00.5 0.0
	114nm,0.2s					
SSFR	**Montelago di S**	**0.72**	**126**	Pg	Pg	22 51 49.2 -0.1
SSFR				Sg	Sb	22 52 00.5 0.0
	114nm,0.2s					
ARVD	**Arcevia**	**0.79**	**118**	Pg	Pg	22 51 50.3 -0.3
ARVD				Sg	Sb	22 52 02.7 +0.4
	21nm,0.2s					
ARVD	**Arcevia**	**0.79**	**118**	Pg	Pg	22 51 50.3 -0.3
ARVD				Sg	Sb	22 52 02.7 +0.4
	21nm,0.2s					
FROS	**Frosini**	**0.89**	**223**	Pg	Pb	22 51 53.3 0.0
FROS				Sg	Sb	22 52 05.1 -0.3
	33nm,0.5s					
FROS	**Frosini**	**0.89**	**223**	Pg	Pb	22 51 53.3 0.0
FROS				Sg	Sb	22 52 05.1 -0.3
	33nm,0.5s					
SNTG	**Esanatoglia**	**0.92**	**131**	Pg	Pg	22 51 53.3 +0.1
SNTG				Sg	Sb	22 52 07.3 +0.9
	23nm,0.6s					
SNTG	**Esanatoglia**	**0.92**	**131**	Pg	Pg	22 51 53.3 +0.1
SNTG				Sg	Sb	22 52 07.3 +0.9
	23nm,0.6s					
MGAB	**Montegabbione**	**0.96**	**174**	Pg	Pb	22 51 54.2 -0.2
	35nm,0.8s					
MGAB	**Montegabbione**	**0.96**	**174**	Pg	Pb	22 51 54.2 -0.2
	35nm,0.8s					
SACS	**San Casciano d**	**1.02**	**183**	Pg	Pb	22 51 55.7 +0.2
	16nm,0.5s					
BDI	**Bagni Di Lucca**	**1.02**	**282**	Pg	Pg	22 51 54.6 -0.5
	11nm,0.4s					
BDI	**Bagni Di Lucca**	**1.02**	**282**	Pg	Pg	22 51 54.6 -0.5
	11nm,0.4s					
ARCI	**Arcidosso**	**1.08**	**200**	Pg	Pg	22 51 56.1 -0.1
	21nm,0.8s					
ARCI	**Arcidosso**	**1.08**	**200**	Pg	Pg	22 51 56.1 -0.1
	21nm,0.8s					

ROM 04 23:00:03.9±0.1, 43°.87N×11°.98E, h9km, Md1.7/4, Ml1.5/1, Error ellipse: s-maj=1.2km s-min=0.5km az=20.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**288**	Pg	Pg	23 00 06.8	+0.4
SFI				Sg	Sg	23 00 08.8	+0.7
T0502	**Localit` San**	**0.12**	**77**	Pg	Pg	23 00 06.9	+0.3
T0502				Sg	Sg	23 00 09.4	+0.9
PARC	**Parchiule**	**0.29**	**140**	Pg	Pg	23 00 10.5	+0.8
PARC				Sg	Sb	23 00 15.8	-0.6
	55nm,0.3s						
VMG	**Vicchio**	**0.33**	**286**	Pg	Pb	23 00 11.2	-0.8
VMG				Sg	Sb	23 00 16.6	-0.7
	44nm,0.1s						

*GEN **04** 23:00:24.5, 43°.91N×12°.07E, h8km, ML2.0*
*CSEM **04** 23:00:25.7±0.1, 43°.88N×11°.96E, h10km, ML2.7/7, Error ellipse: s-maj=2.6km s-min=1.3km az=26.0*

ROM 04 23:00:25.5±0.1, 43°.88N×11°.97E, h8km±1km, Md2.6/30, Ml1.8/13, Error ellipse: s-maj=1.6km s-min=0.8km az=19.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.09**	**283**	Pg	Pg	23 00 28.2	+0.3
SFI				Sg	Sg	23 00 30.1	+0.6
	790nm,0.2s						
SFI	**Santa Sofia**	**0.09**	**283**	Pg	Pg	23 00 28.2	+0.3
SFI				Sg	Sg	23 00 30.1	+0.6
	790nm,0.2s						
T0502	**Localit` San**	**0.12**	**82**	Pg	Pg	23 00 28.5	+0.2
T0502				Sg	Sg	23 00 31.0	+0.8
	1µm,0.3s						
ASQU	**Asqua**	**0.16**	**236**	Pg	Pg	23 00 29.6	+0.7
ASQU				Sg	Sg	23 00 32.3	+1.1
ASQU	**Asqua**	**0.16**	**236**	Pg	Pg	23 00 29.6	+0.7
ASQU				Sg	Sg	23 00 32.3	+1.1
CPGN	**Carpegna, Ital**	**0.27**	**108**	Pg	Pb	23 00 31.9	-0.7
CPGN				Sg	Sb	23 00 36.5	-0.8
CPGN	**Carpegna, Ital**	**0.27**	**108**	Pg	Pb	23 00 31.9	-0.7
CPGN				Sg	Sb	23 00 36.5	-0.8
PARC	**Parchiule**	**0.30**	**140**	Pg	Pg	23 00 32.1	+0.5
PARC				Sg	Sb	23 00 37.1	-1.2

PARC	**Parchiule**	**0.30**	**140**	Pg	Pg	23 00 32.1 +0.5
PARC				Sg	Sb	23 00 37.1 -1.2
VMG	**Vicchio**	**0.32**	**284**	Pg	Pg	23 00 32.4 +0.6
VMG				Sg	Sb	23 00 38.1 -0.6
	133nm,0.1s					
VMG	**Vicchio**	**0.32**	**284**	Pg	Pg	23 00 32.4 +0.6
VMG				Sg	Sb	23 00 38.1 -0.6
	133nm,0.1s					
BADI	**Badiali**	**0.42**	**152**	Pg	Pg	23 00 34.0 +0.2
BADI				Sg	Sb	23 00 40.6 -1.1
BADI	**Badiali**	**0.42**	**152**	Pg	Pg	23 00 34.0 +0.2
BADI				Sg	Sb	23 00 40.6 -1.1
SEI	**Scarperia**	**0.47**	**291**	Pg	Pg	23 00 34.9 +0.2
SEI				Sg	Sb	23 00 42.3 -1.0
	918nm,0.2s					
SEI	**Scarperia**	**0.47**	**291**	Pg	Pg	23 00 34.9 +0.2
SEI				Sg	Sb	23 00 42.3 -1.0
	918nm,0.2s					
IMOL	**Imola, Italy**	**0.50**	**341**	Pg	Pb	23 00 36.7 +0.1
	33nm,0.5s					
IMOL	**Imola, Italy**	**0.50**	**341**	Pg	Pb	23 00 36.7 +0.1
	33nm,0.5s					
ATPC	**Poggio Castell**	**0.54**	**139**	Pg	Pg	23 00 36.1 +0.2
ATPC				Sg	Sb	23 00 44.5 -0.5
	5.0nm,0.3s					
ATPC	**Poggio Castell**	**0.54**	**139**	Pg	Pg	23 00 36.1 +0.2
ATPC				Sg	Sb	23 00 44.5 -0.5
	5.0nm,0.3s					
PIEI	**Pieia**	**0.54**	**130**	Pg	Pg	23 00 35.9 0.0
PIEI				Sg	Sg	23 00 43.6 +0.7
	2.0nm,0.5s					
PIEI	**Pieia**	**0.54**	**130**	Pg	Pg	23 00 35.9 0.0
PIEI				Sg	Sg	23 00 43.6 +0.7
	2.0nm,0.5s					
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	23 00 37.2 +0.2
ATVO				Sg	Sb	23 00 46.4 -0.2
	14nm,0.2s					
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	23 00 37.2 +0.2
ATVO				Sg	Sb	23 00 46.4 -0.2
	14nm,0.2s					
MTRZ	**Monterenzio**	**0.61**	**324**	Pg	Pb	23 00 37.9 -0.5
	520nm,0.7s					
MTRZ	**Monterenzio**	**0.61**	**324**	Pg	Pb	23 00 37.9 -0.5
	520nm,0.7s					
FSSB	**Fossombrone**	**0.61**	**108**	Pg	Pg	23 00 37.4 0.0
FSSB	**Fossombrone**	**0.61**	**108**	Pg	Pg	23 00 37.4 0.0
PESA	**Pesaro**	**0.63**	**85**	Pg	Pg	23 00 38.2 +0.5
PESA	**Pesaro**	**0.63**	**85**	Pg	Pg	23 00 38.2 +0.5
FRON	**Frontone**	**0.66**	**124**	Pg	Pg	23 00 38.3 +0.1
FRON	**Frontone**	**0.66**	**124**	Pg	Pg	23 00 38.3 +0.1
FNVD	**Fontana Vidola**	**0.67**	**295**	Pg	Pg	23 00 38.8 +0.3
	146nm,0.6s					
FNVD	**Fontana Vidola**	**0.67**	**295**	Pg	Pg	23 00 38.8 +0.3
	146nm,0.6s					
ATTE	**AVT- Monte Tez**	**0.74**	**158**	Pg	Pg	23 00 39.7 -0.1
ATTE				Sg	Sb	23 00 50.5 -0.4
	72nm,0.3s					
ATTE	**AVT- Monte Tez**	**0.74**	**158**	Pg	Pg	23 00 39.7 -0.1
ATTE				Sg	Sb	23 00 50.5 -0.4
	72nm,0.3s					
MURB	**Monte Urbino**	**0.74**	**147**	Pg	Pg	23 00 39.9 +0.2
MURB				Sg	Sb	23 00 51.4 +0.5
	55nm,0.3s					
MURB	**Monte Urbino**	**0.74**	**147**	Pg	Pg	23 00 39.9 +0.2
MURB				Sg	Sb	23 00 51.4 +0.5
	55nm,0.3s					
SSFR	**Montelago di S**	**0.74**	**127**	Pg	Pg	23 00 39.5 -0.2
SSFR				Sg	Sb	23 00 50.8 -0.1
	18nm,0.2s					
SSFR	**Montelago di S**	**0.74**	**127**	Pg	Pg	23 00 39.5 -0.2
SSFR				Sg	Sb	23 00 50.8 -0.1
	18nm,0.2s					
ARVD	**Arcevia**	**0.80**	**118**	Pg	Pg	23 00 40.7 -0.2
ARVD				Sg	Sb	23 00 52.9 +0.2
ARVD	**Arcevia**	**0.80**	**118**	Pg	Pg	23 00 40.7 -0.2
ARVD				Sg	Sb	23 00 52.9 +0.2
POPM	**Popiglio**	**0.89**	**281**	P	Pg	23 00 42.8 +0.2
POPM				S	Sg	23 00 54.7 +0.5
FROS	**Frosini**	**0.90**	**222**	Pg	Pb	23 00 43.3 0.0
FROS				Sg	Sb	23 00 54.9 -0.5
FROS	**Frosini**	**0.90**	**222**	Pg	Pb	23 00 43.3 0.0
FROS				Sg	Sb	23 00 54.9 -0.5
SNTG	**Esanatoglia**	**0.94**	**131**	Pg	Pg	23 00 43.4 -0.2
SNTG				Sg	Sb	23 00 57.5 +0.8
SNTG	**Esanatoglia**	**0.94**	**131**	Pg	Pg	23 00 43.4 -0.2
SNTG				Sg	Sb	23 00 57.5 +0.8
MGAB	**Montegabbione**	**0.98**	**174**	Pg	Pg	23 00 44.4 +0.1
MGAB				Sg	Sb	23 00 58.1 +0.4
MGAB	**Montegabbione**	**0.98**	**174**	Pg	Pg	23 00 44.4 +0.1
MGAB				Sg	Sb	23 00 58.1 +0.4
BDI	**Bagni Di Lucca**	**1.01**	**281**	Pg	Pg	23 00 45.0 +0.1
BDI				Sg	Sg	23 00 57.9 -0.1
	24nm,0.5s					
BDI	**Bagni Di Lucca**	**1.01**	**281**	Pg	Pg	23 00 45.0 +0.1
BDI				Sg	Sg	23 00 57.9 -0.1
	24nm,0.5s					
CING	**Cingoli**	**1.02**	**119**	Pg	Pb	23 00 45.7 +0.2
CING	**Cingoli**	**1.02**	**119**	Pg	Pb	23 00 45.7 +0.2
MAIM	**Mastiano**	**1.07**	**272**	Pg	Pg	23 00 45.6 -0.4
	23nm,0.6s					
MAIM	**Mastiano**	**1.07**	**272**	P	Pg	23 00 44.9 -1.1
MAIM	**Mastiano**	**1.07**	**272**	Pg	Pg	23 00 45.6 -0.4
	23nm,0.6s					
MAIM				S	Sg	23 00 59.2 -0.7
ARCI	**Arcidosso**	**1.09**	**199**	Pg	Pg	23 00 46.1 -0.4
ARCI	**Arcidosso**	**1.09**	**199**	Pg	Pg	23 00 46.1 -0.4
TRIF	**Trifonti**	**1.09**	**226**	Pg	Pb	23 00 46.8 +0.2
TRIF	**Trifonti**	**1.09**	**226**	Pg	Pb	23 00 46.8 +0.2
CESI	**CESI - Serrava**	**1.11**	**142**	Pg	Pg	23 00 46.6 -0.2
CESI	**CESI - Serrava**	**1.11**	**142**	Pg	Pg	23 00 46.6 -0.2
SARO	**Sassorosso**	**1.17**	**285**	P	Pg	23 00 47.1 -0.9
FDMO	**Fiordimonte**	**1.17**	**136**	Pg	Pg	23 00 48.1 +0.1
FDMO	**Fiordimonte**	**1.17**	**136**	Pg	Pg	23 00 48.1 +0.1
NVLJ	**Novalja**	**2.19**	**71**	*e*Pn	Pn	23 01 01.8 -0.4
NVLJ				Sn	Sn	23 01 29.1 -0.3
NVLJ	**Novalja**	**2.19**	**71**	*e*Pn	Pn	23 01 01.7 -0.4
NVLJ				Sn	Sn	23 01 29.0 -0.4
UDBI	**Udbina**	**2.80**	**75**	*e*Pn	Pn	23 01 12.0 +1.4
UDBI				Sn	Sn	23 01 45.5 +0.9
UDBI	**Udbina**	**2.80**	**75**	*e*Pn	Pn	23 01 12.0 +1.4
UDBI				Sn	Sn	23 01 45.5 +0.9

*NSSC **04** 23:02:38.4±1.4, 33°.88N×35°.55E, h0km±14km, ML1.6*
*GRAL **04** 23:02:39.9±0.3, 33°.81N×35°.77E, h28km±2km, MD2.9*
*CSEM **04** 23:02:39.9, 33°.81N×35°.77E, h28km, ML2.9*
*ISCJB **04** 23:02:40.5±1.1, 33°.84N±0°.04×35°.66E±0°.08, h24km±7km, Error ellipse: s-maj=11.3km s-min=6.0km az=9.7*

ISC 04 23:02:40.2±1.2, 33°.83N±0°.03×35°.72E±0°.08, h26km±10km, n14, σ0.985/23, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.09**	**323**	*e*P	**Pb**	**23 02 44.9**	**-0.1**
BHL				*e*S	**Sb**	**23 02 48.7**	**+0.4**
BHL	**Bhannes**	**0.09**	**323**	*e*P	**Pb**	**23 02 44.9**	**-0.1**
BHL				*e*S	**Sb**	**23 02 48.7**	**+0.4**
DQRL	**Deir Qamar**	**0.18**	**226**	*e*P	**Pb**	**23 02 45.6**	**-0.2**
DQRL				*e*S	**Sb**	**23 02 49.7**	**+0.2**
DQRL	**Deir Qamar**	**0.18**	**226**	*e*P	**Pb**	**23 02 45.6**	**-0.2**
DQRL				*e*S	**Sb**	**23 02 49.7**	**+0.2**
BEYL	**Beirut**	**0.20**	**283**	*e*P	**Pb**	**23 02 45.9**	**+0.1**
BEYL	**Beirut**	**0.20**	**283**	*e*P	**Pb**	**23 02 45.9**	**+0.1**
RCY	**Rachaya**	**0.34**	**164**	*e*P	**Pb**	**23 02 47.0**	**-1.1**
RCY				*e*S	**Sb**	**23 02 52.4**	**-1.0**
BRBR	**Barbar**	**0.46**	**155**	*e*P	**Pb**	**23 02 49.2**	**-0.7**
BRBR				AML	AML	23 02 57.9	
	comp=N,22nm,0.5s						
BRBR				*e*S	**Sn**	**23 02 58.8**	**+0.1**
				AML	AML	23 02 59.3	
	comp=E,53nm,0.5s						
HWQ	**Hawqa**	**0.48**	**23**	*e*P	**Pb**	**23 02 49.5**	**-0.8**
HWQ				*e*S	**Sb**	**23 02 56.6**	**-0.5**
HWQ	**Hawqa**	**0.48**	**23**	*e*P	**Pb**	**23 02 49.5**	**-0.8**
HWQ				*e*S	**Sb**	**23 02 56.6**	**-0.5**
MARH	**Ras Al Marh**	**0.66**	**73**	*e*P	**Pn**	**23 02 54.0**	**-0.2**
MARH				*e*S	**Sn**	**23 03 05.0**	**+1.1**
MARH				AML	AML	23 03 07.7	
	comp=E,67nm,0.4s						
MARH				AML	AML	23 03 08.4	
	comp=N,19nm,0.6s						
FKH	**Fakeheh**	**0.71**	**54**	*e*P	**Pb**	**23 02 52.5**	**-1.5**

ROOS	**tl_alroos**	**1.35**	**75**	*e*P	**Pb**	**23 03 07.0 +2.2**
SALA	**Sala**	**1.40**	**142**	*e*P	**Pb**	**23 03 06.3 +0.5**

*ISCJB **04** 23:13:10.5±1.3, 31°.95S±0°.07×179°.9E±0°.3, h400km, mb2.8/2, Error ellipse: s-maj=30.7km s-min=9.3km az=2.2*
*IDC **04** 23:13:11.8±8.1, 32°.06S×179°.94W, h398km±92km, mb2.6/2, mb1 2.9/3, mb1mx2.8/26, mbtmp3.6/3, Error ellipse: s-maj=106.8km s-min=34.3km az=8.0*

ISC 04 23:13:12.5±1.3, 32°.07S±0°.09×179°.8E±0°.2, h400km, n28, σ1.906/38, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.84**	**191**	PN	**Pn**	**23 14 43.8**	**+0.6**
HAZ	**Te Kaha**	**5.90**	**196**	PN	**Pn**	**23 14 45.1**	**+1.2**
HAZ				SN	**S**	**23 15 57.3**	**-1.1**
PKGZ	**Pakihiroa**	**5.97**	**193**	PN	**Pn**	**23 14 44.6**	**-0.1**
PUZ	**Puketiti**	**6.12**	**191**	PN	**Pn**	**23 14 44.7**	**-1.5**
PUZ				SN	**S**	**23 16 01.3**	**-1.5**
TWGZ	**Tauwhareparae**	**6.27**	**193**	PN	**Pn**	**23 14 48.6**	**+0.7**
TWGZ				SN	**S**	**23 16 07.1**	**+1.3**
URZ	**Urewera**	**6.55**	**199**	P	**Pn**	**23 14 51.5**	**+0.6**
	3.2nm,0.3s,baz=269,slow=3.8,SNR=14						
URZ				S	**S**	**23 16 12.5**	**+1.1**
	13nm,0.3s,baz=84,slow=22,SNR=21						
URZ	**Urewera**	**6.55**	**199**	PN	**Pn**	**23 14 49.5**	**-1.4**
URZ				SN	**S**	**23 16 09.6**	**-1.7**
RIGZ	**Rimuhau**	**6.82**	**193**	PN	**P**	**23 14 55.6**	**+1.0**
RIGZ				SN	**S**	**23 16 17.4**	**+0.3**
SNGZ	**Shannon Statio**	**6.99**	**196**	*e*PN	**P**	**23 14 57.2**	**+0.8**
SNGZ				SN	**S**	**23 16 20.9**	**+0.5**
KNZ	**Kokohu**	**7.14**	**193**	*e*PN	**P**	**23 14 58.5**	**+0.4**
KNZ				SN	**S**	**23 16 23.8**	**+0.3**
BKZ	**Black Stump Fm**	**7.57**	**200**	PN	**P**	**23 15 03.2**	**+0.3**
BHHZ	**Black Hill Sta**	**7.99**	**201**	*e*PN	**Pn**	**23 15 07.2**	**-0.1**
KRHZ	**Kereru**	**8.05**	**199**	*e*PN	**P**	**23 15 08.5**	**+0.3**
KAHZ	**Kahuranaki**	**8.06**	**196**	*e*PN	**P**	**23 15 10.2**	**+1.8**
PNHZ	**Pukenui**	**8.35**	**199**	*e*PN	**Pn**	**23 15 11.6**	**+0.3**
PRHZ	**Porangahau**	**8.56**	**196**	PN	**P**	**23 15 14.2**	**+0.3**
BFZ	**Birch Farm**	**9.05**	**197**	*e*PN	**Pn**	**23 15 19.9**	**+0.6**
BFZ				SN	**S**	**23 17 02.3**	**-1.3**
MRZ	**Mangatainoka R**	**9.21**	**200**	*e*PN	**Pn**	**23 15 21.7**	**+0.5**
MRZ				SN	**S**	**23 17 05.0**	**-2.0**
OGWZ	**Otaki Gorge**	**9.48**	**202**	*e*PN	**P**	**23 15 23.3**	**-0.8**
TUMZ	**Tuamarina**	**10.44**	**205**	*e*PN	**P**	**23 15 34.2**	**-0.5**
THZ	**Tophouse**	**11.12**	**208**	PN	**P**	**23 15 41.6**	**-0.8**
ASAR	**Alice Springs**	**41.15**	**270**	P	**P**	**23 20 22.4**	**+2.4**
	0.2nm,0.4s,baz=104,slow=7.5,SNR=2.6						
WRA	**Warramunga Arr**	**42.30**	**275**	P	**P**	**23 20 29.1**	**0.0**
	0.3nm,0.5s,baz=111,slow=8.0,SNR=5.9						
ARCES	**ARCESS Array B**	**139.78**	**346**	PKP	**PKPdf**	**23 31 52.7**	**+0.1**
	2.2nm,0.7s,baz=27,slow=5.7,SNR=4.5						
FINES	**FINESS Array B**	**146.00**	**338**	PKPbc	**PKPbc**	**23 32 04.4**	**-0.9**
	3.1nm,0.4s,baz=49,slow=4.6,SNR=44						
NB2	**NORSAR Subarra**	**150.06**	**349**	PKP	**PKPbc**	**23 32 14.7**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.06**	**349**	PKPbc	**PKPbc**	**23 32 15.2**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=18,slow=4.2,SNR=5.4						
AKASG	**Malin Array Be**	**151.39**	**319**	PKPbc	**PKPbc**	**23 32 18.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=58,slow=3.5,SNR=4.9						

TRN 04 23:17:52.5, 17°.16N×61°.12W, h21km, MD3.7, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.72**	**261**	*e*P	Pn	23 18 09.4	+2.0
BPA				*e*S	Sn	23 18 20.4	+2.6
ANWB	**Willy Bob**	**0.82**	**309**	*e*P	Pn	23 18 10.0	+1.2
ANWB				*e*S	Sn	23 18 24.0	+3.7
SEG	**Port Louis**	**0.84**	**207**	*e*P	Pn	23 18 09.7	+0.6
DEG	**La Desirade**	**0.84**	**176**	*e*P	Pn	23 18 10.3	+1.2
MLYT	**Lee's Yard**	**1.12**	**247**	*e*P	Pb	23 18 15.2	+2.1
MLYT				*e*S	Sn	23 18 31.5	+3.8
SSG	**Sans Toucher**	**1.19**	**207**	*i*P	Pb	23 18 15.2	+0.7
FNG	**Fond-Bernard**	**1.22**	**207**	*e*P	Pb	23 18 15.5	+0.5
MGG	**Marie-Galante**	**1.25**	**189**	*e*P	Pb	23 18 16.4	+1.1
TBG	**Guadaloupe-3**	**1.39**	**201**	*e*P	Pb	23 18 18.3	+0.5
TBG	**Guadaloupe-3**	**1.39**	**201**	*e*	Pb	23 18 36.6	+19
TBG				*e*S	Sb	23 18 37.7	+2.6
DWS	**Wesley**	**1.59**	**187**	*e*P	Pb	23 18 21.8	+0.6
DWS				*e*S	Sb	23 18 41.8	+1.0
BBL	**Barber's Block**	**1.66**	**192**	*e*P	Pb	23 18 22.5	+0.1
BBL				*e*S	Sb	23 18 43.4	+0.6
SMRT	**St. Maarten**	**2.07**	**296**	*e*P	Pb	23 18 28.2	-1.2
SMRT				*e*S	Sb	23 18 53.5	-1.2

*UPP **04** 23:23:12.2, 67°.83N×20°.20E, h0km, ML1.0, Mining explosion.*
*CSEM **04** 23:23:12.2±0.3, 67°.84N×20°.25E, h2km, ML1.0, Error ellipse: s-maj=7.4km s-min=5.9km az=167.0, Mining explosion.*

HEL 04 23:23:13.0±0.1, 67°.85N×20°.14E, h0km, ML1.6, ML1.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**36**	*i*P	Pg	23 23 15.0	-0.4
KUA				*i*S	Sg	23 23 16.9	-0.1
KUA	**Kurravaara**

*ROM **04** 23:33:49.1±0.1, 41°.25N×15°.89E, h6^{km}±1^{km}, Md2.9/39, Ml2.6/38, Error ellipse: s-maj=1.0km s-min=0.6km az=39.0*
*CSEM **04** 23:33:49.2±0.1, 41°.27N×15°.88E, h5^{km}, ML3.5/30, Error ellipse: s-maj=2.7km s-min=1.9km az=36.0*
*ISCJB **04** 23:33:50.1±0.2, 41°.27N±0°.02×15°.90E±0°.02, h19^{km}±4^{km}, Error ellipse: s-maj=2.9km s-min=2.1km az=35.2*

ISC 04 23:33:48.9±1.0, 41°.27N±0°.02×15°.92E±0°.02, h18^{km}±5^{km}, n89, σ0^{s}66/160, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRVN	**Minervino Murg**	**0.29**	**135**	Pg	**Pb**	**23 33 56.1**	**+0.4**
MRVN				Sg	**Sb**	**23 34 00.9**	**+0.6**
	254nm,0.4s						
MRVN	**Minervino Murg**	**0.29**	**135**	Pg	**Pb**	**23 33 56.1**	**+0.4**
MRVN				Sg	**Sb**	**23 34 00.9**	**+0.6**
	254nm,0.4s						
CDT	**Castel del Mon**	**0.33**	**125**	*i* Pg	**Pb**	**23 33 56.7**	**+0.4**
CDT				Sg	**Sb**	**23 34 01.9**	**+0.7**
PALZ	**Palazzo San Ge**	**0.33**	**175**	Pg	**Pb**	**23 33 56.6**	**+0.3**
PALZ				Sg	**Sb**	**23 34 01.7**	**+0.5**
	498nm,0.4s						
PALZ	**Palazzo San Ge**	**0.33**	**175**	Pg	**Pb**	**23 33 56.6**	**+0.3**
PALZ				Sg	**Sb**	**23 34 01.7**	**+0.5**
	498nm,0.4s						
VULT	**Monte Vulture**	**0.39**	**216**	Pg	**Pb**	**23 33 57.5**	**+0.1**
VULT				Sg	**Sg**	**23 34 02.8**	**+0.2**
	690nm,0.4s						
VULT	**Monte Vulture**	**0.39**	**216**	Pg	**Pb**	**23 33 57.5**	**+0.1**
VULT				Sg	**Sg**	**23 34 02.8**	**+0.2**
	690nm,0.4s						
MS1	**Monte Sant'Ang**	**0.43**	**2**	*e*Pg	**Pb**	**23 33 58.5**	**+0.3**
MS1				Sg	**Sb**	**23 34 05.5**	**+1.1**
MSAG	**Monte S. Angel**	**0.44**	**359**	Pg	**Pb**	**23 33 58.5**	**+0.2**
MSAG				Sg	**Sb**	**23 34 05.5**	**+0.9**
	641nm,0.4s						
MSAG	**Monte S. Angel**	**0.44**	**359**	Pg	**Pb**	**23 33 58.5**	**+0.2**
MSAG				Sg	**Sb**	**23 34 05.5**	**+0.9**
	641nm,0.4s						
ACER	**Acerenza**	**0.48**	**178**	Pg	**Pb**	**23 33 59.2**	**+0.2**
ACER				Sg	**Sb**	**23 34 06.3**	**+0.5**
	855nm,0.3s						
ACER	**Acerenza**	**0.48**	**178**	Pg	**Pb**	**23 33 59.2**	**+0.2**
ACER				Sg	**Sb**	**23 34 06.3**	**+0.5**
	855nm,0.3s						
SGRT	**San Giovanni R**	**0.50**	**345**	Pg	**Pb**	**23 33 59.6**	**+0.3**
SGRT				Sg	**Sn**	**23 34 08.0**	**-1.6**
	784nm,0.2s						
SGRT	**San Giovanni R**	**0.50**	**345**	Pg	**Pb**	**23 33 59.6**	**+0.3**
SGRT				Sg	**Sn**	**23 34 08.0**	**-1.6**
	784nm,0.2s						
CAFE	**Carife**	**0.57**	**245**	Pg	**Pg**	**23 34 00.3**	**-0.1**
CAFE				Sg	**Sb**	**23 34 09.5**	**+1.2**
	136nm,0.3s						
CAFE	**Carife**	**0.57**	**245**	Pg	**Pg**	**23 34 00.3**	**-0.1**
CAFE				Sg	**Sb**	**23 34 09.5**	**+1.2**
	136nm,0.3s						
MOCO	**Biccari - m.te**	**0.58**	**280**	Pg	**Pb**	**23 34 01.1**	**+0.4**
MOCO				Sg	**Sb**	**23 34 09.1**	**+0.5**
	195nm,0.5s						
MRLC	**Muro Lucano**	**0.61**	**213**	Pg	**Pg**	**23 34 00.9**	**-0.1**
MRLC				Sg	**Sb**	**23 34 09.8**	**+0.5**
	242nm,0.3s						
MRLC	**Muro Lucano**	**0.61**	**213**	Pg	**Pg**	**23 34 00.9**	**-0.1**
MRLC				Sg	**Sb**	**23 34 09.8**	**+0.5**
	242nm,0.3s						
AMUR	**Altamura**	**0.63**	**125**	Pg	**Pn**	**23 34 02.3**	**-0.7**
AMUR				Sg	**Sn**	**23 34 11.4**	**-1.3**
	352nm,0.3s						
AMUR	**Altamura**	**0.63**	**125**	Pg	**Pn**	**23 34 02.3**	**-0.7**
AMUR				Sg	**Sn**	**23 34 11.4**	**-1.3**
	352nm,0.3s						
SNAL	**S. Angelo Dei**	**0.64**	**238**	Pg	**Pg**	**23 34 01.1**	**-0.5**
SNAL				Sg	**Sb**	**23 34 10.9**	**+0.7**
	171nm,0.3s						
SNAL	**S. Angelo Dei**	**0.64**	**238**	Pg	**Pg**	**23 34 01.1**	**-0.5**
SNAL				Sg	**Sb**	**23 34 10.9**	**+0.7**
	171nm,0.3s						
SG1	**Sgolgore (BA)**	**0.72**	**127**	*e*Pg	**Pn**	**23 34 03.9**	**-0.3**
SG1				Sg	**Sn**	**23 34 15.1**	**+0.3**
MRB1	**Monte Rocchett**	**0.73**	**259**	Pg	**Pg**	**23 34 03.5**	**+0.2**
MRB1				Sg	**Sg**	**23 34 13.9**	**+0.9**
	577nm,0.4s						
MRB1	**Monte Rocchett**	**0.73**	**259**	Pg	**Pg**	**23 34 03.5**	**+0.2**
MRB1				Sg	**Sg**	**23 34 13.9**	**+0.9**
	577nm,0.4s						
BAI	**Bari**	**0.74**	**102**	*e*Pg	**Pn**	**23 34 04.5**	**0.0**
BAI				Sg	**Sn**	**23 34 15.1**	**-0.2**
MCRV	**Calabrutti - M**	**0.75**	**230**	Pg	**Pb**	**23 34 02.7**	**-0.8**
MCRV				Sg	**Sg**	**23 34 14.4**	**+0.8**
	193nm,0.4s						
MCRV	**Calabrutti - M**	**0.75**	**230**	Pg	**Pg**	**23 34 02.7**	**-0.8**
MCRV				Sg	**Sg**	**23 34 14.4**	**+0.8**
	193nm,0.4s						
MIGL	**Miglionico**	**0.77**	**149**	Pg	**Pn**	**23 34 04.8**	**-0.2**
MIGL				Sg	**Sn**	**23 34 16.2**	**0.0**
	851nm,0.4s						
MIGL	**Miglionico**	**0.77**	**149**	Pg	**Pn**	**23 34 04.8**	**-0.2**
MIGL				Sg	**Sn**	**23 34 16.2**	**0.0**
	851nm,0.4s						
GATE	**Gambatesa**	**0.80**	**288**	Pg	**Pn**	**23 34 04.9**	**-0.4**
GATE				Sg	**Sn**	**23 34 16.5**	**-0.3**
GATE	**Gambatesa**	**0.80**	**288**	Pg	**Pn**	**23 34 04.9**	**-0.4**
GATE				Sg	**Sn**	**23 34 16.5**	**-0.3**
PSB1	**Pescosannita**	**0.84**	**267**	Pg	**Pg**	**23 34 05.1**	**-0.2**
PSB1				Sg	**Sg**	**23 34 16.5**	**+0.1**
	135nm,0.5s						
PSB1	**Pescosannita**	**0.84**	**267**	Pg	**Pg**	**23 34 05.1**	**-0.2**
PSB1				Sg	**Sg**	**23 34 16.5**	**+0.1**
	135nm,0.5s						
MATE	**Matera**	**0.86**	**136**	Pg	**Pn**	**23 34 05.8**	**-0.3**
MATE				Sg	**Sn**	**23 34 18.4**	**+0.2**
	181nm,0.5s						
MATE	**Matera**	**0.86**	**136**	Pg	**Pn**	**23 34 05.8**	**-0.3**
MATE				Sg	**Sn**	**23 34 18.4**	**+0.2**
	181nm,0.5s						
CDRU	**Civita di Ruta**	**0.91**	**211**	Pg	**Pb**	**23 34 05.4**	**-0.9**
CDRU				Sg	**Sg**	**23 34 19.1**	**+0.4**
	83nm,0.3s						
CDRU	**Civita di Ruta**	**0.91**	**211**	Pg	**Pb**	**23 34 05.4**	**-0.9**
CDRU				Sg	**Sg**	**23 34 19.1**	**+0.4**
	83nm,0.3s						
SACR	**S. Croce Del S**	**0.92**	**278**	Pg	**Pg**	**23 34 06.7**	**-0.2**
SACR				Sg	**Sg**	**23 34 19.5**	**+0.4**
	275nm,0.7s						
SACR	**S. Croce Del S**	**0.92**	**278**	Pg	**Pg**	**23 34 06.7**	**-0.2**
SACR				Sg	**Sg**	**23 34 19.5**	**+0.4**
	275nm,0.7s						
MCEL	**Monticello**	**0.95**	**186**	Pg	**Pb**	**23 34 06.7**	**-0.2**
MCEL				Sg	**Sg**	**23 34 20.0**	**+0.1**
	163nm,0.7s						
MCEL	**Monticello**	**0.95**	**186**	Pg	**Pb**	**23 34 06.7**	**-0.2**
MCEL				Sg	**Sg**	**23 34 20.0**	**+0.1**
	163nm,0.7s						
LTRZ	**Laterza**	**0.95**	**134**	Pg	**Pn**	**23 34 07.5**	**0.0**
LTRZ				Sg	**Sn**	**23 34 21.1**	**+0.5**
	177nm,0.3s						
LTRZ	**Laterza**	**0.95**	**134**	Pg	**Pn**	**23 34 07.5**	**0.0**
LTRZ				Sg	**Sn**	**23 34 21.1**	**+0.5**
	177nm,0.3s						
CRAC	**Craco**	**0.99**	**157**	Pg	**Pg**	**23 34 08.3**	**+0.2**
CRAC				Sg	**Sn**	**23 34 22.5**	**+1.1**
	225nm,0.3s						
CRAC	**Craco**	**0.99**	**157**	Pg	**Pg**	**23 34 08.3**	**+0.2**
CRAC				Sg	**Sn**	**23 34 22.5**	**+1.1**
	225nm,0.3s						
NOCI	**Noci**	**0.99**	**119**	Pg	**Pg**	**23 34 08.3**	**+0.1**
NOCI				Sg	**Sn**	**23 34 22.1**	**+0.6**
	239nm,0.2s						
NOCI	**Noci**	**0.99**	**119**	Pg	**Pg**	**23 34 08.3**	**+0.1**
NOCI				Sg	**Sn**	**23 34 22.1**	**+0.6**
	239nm,0.2s						
BSSO	**Busso**	**1.04**	**286**	Pg	**Pg**	**23 34 08.8**	**-0.2**
BSSO				Sg	**Sn**	**23 34 23.5**	**+0.7**
	83nm,0.6s						
BSSO	**Busso**	**1.04**	**286**	Pg	**Pg**	**23 34 08.8**	**-0.2**
BSSO				Sg	**Sn**	**23 34 23.5**	**+0.7**
	83nm,0.6s						
PAOL	**Paolisi**	**1.05**	**257**	Pg	**Pb**	**23 34 08.4**	**-0.2**
PAOL				Sg	**Sg**	**23 34 23.1**	**0.0**
	116nm,0.5s						
PAOL	**Paolisi**	**1.05**	**257**	Pg	**Pb**	**23 34 08.4**	**-0.2**
PAOL				Sg	**Sg**	**23 34 23.1**	**0.0**
	116nm,0.5s						
PTRJ	**Pietraroja**	**1.05**	**276**	Pg	**Pb**	**23 34 08.7**	**0.0**
PTRJ				Sg	**Sg**	**23 34 22.8**	**-0.4**
	509nm,0.5s						
PTRJ	**Pietraroja**	**1.05**	**276**	Pg	**Pb**	**23 34 08.7**	**0.0**
PTRJ				Sg	**Sg**	**23 34 22.8**	**-0.4**
	509nm,0.5s						
CMPR	**Campora**	**1.06**	**206**	Pg	**Pn**	**23 34 09.0**	**0.0**
CMPR				Sg	**Sn**	**23 34 23.1**	**-0.2**
	121nm,0.5s						
CMPR	**Campora**	**1.06**	**206**	Pg	**Pn**	**23 34 09.0**	**0.0**
CMPR				Sg	**Sn**	**23 34 23.1**	**-0.2**
	121nm,0.5s						
SCHR	**S. Chirico Rap**	**1.08**	**174**	Pg	**Pn**	**23 34 09.2**	**0.0**
SCHR				Sg	**Sn**	**23 34 23.8**	**0.0**
	72nm,0.4s						
SIRI	**Monte Sirino -**	**1.09**	**182**	Pg	**Pb**	**23 34 09.3**	**0.0**
SIRI				Sg	**Sb**	**23 34 23.6**	**+0.4**
	110nm,0.3s						
SIRI	**Monte Sirino -**	**1.09**	**182**	Pg	**Pb**	**23 34 09.3**	**0.0**
SIRI				Sg	**Sb**	**23 34 23.6**	**+0.4**
	110nm,0.3s						
TRIV	**Trivento**	**1.14**	**296**	Pg	**Pb**	**23 34 10.5**	**+0.3**
TRIV				Sg	**Sg**	**23 34 27.2**	**+1.2**
	77nm,0.6s						
TRIV	**Trivento**	**1.14**	**296**	Pg	**Pb**	**23 34 10.5**	**+0.3**
TRIV				Sg	**Sg**	**23 34 27.2**	**+1.2**
	77nm,0.6s						
FRES	**Fresagrandinar**	**1.17**	**307**	Pn	**Pg**	**23 34 11.4**	**-0.2**
	88nm,0.4s						
FRES	**Fresagrandinar**	**1.17**	**307**	Pn	**Pg**	**23 34 11.4**	**-0.2**
	88nm,0.4s						
BULG	**Bulgheria - Ca**	**1.26**	**199**	Pg	**Pb**	**23 34 12.3**	**+0.1**
BULG				Sg	**Sn**	**23 34 28.7**	**+0.4**
	100nm,0.8s						
BULG	**Bulgheria - Ca**	**1.26**	**199**	Pg	**Pb**	**23 34 12.3**	**+0.1**
BULG				Sg	**Sn**	**23 34 28.7**	**+0.4**
	100nm,0.8s						
TAR1	**Taranto**	**1.27**	**125**	*e*Pg	**Pg**	**23 34 13.2**	**-0.3**
VAGA	**Valle Agricola**	**1.28**	**277**	Pn	**Pn**	**23 34 11.9**	**-0.1**
VAGA				Sn	**Sg**	**23 34 30.2**	**-0.2**
	133nm,0.6s						
VAGA	**Valle Agricola**	**1.28**	**277**	Pn	**Pn**	**23 34 11.9**	**-0.1**
VAGA				Sn	**Sg**	**23 34 30.2**	**-0.2**
	133nm,0.6s						
CUC	**Castrocucco**	**1.28**	**184**	Pn	**Pb**	**23 34 12.4**	**-0.1**
	61nm,0.6s						
CUC	**Castrocucco**	**1.28**	**184**	Pn	**Pb**	**23 34 12.4**	**-0.1**
	61nm,0.6s						
MIDA	**Miranda**	**1.31**	**287**	Pn	**Pb**	**23 34 13.1**	**+0.1**
MIDA				Sn	**Sg**	**23 34 31.8**	**+0.5**
	51nm,0.5s						
MIDA	**Miranda**	**1.31**	**287**	Pn	**Pb**	**23 34 13.1**	**+0.1**
RNI2	**Rionero Sannit**	**1.40**	**289**	Pg	**Pb**	**23 34 14.8**	**+0.2**
RNI2	**Rionero Sannit**	**1.40**	**289**	Pg	**Pb**	**23 34 14.8**	**+0.2**
SALB	**San Lorenzo Be**	**1.43**	**167**	Pn	**Pb**	**23 34 15.2**	**+0.1**
SALB				Sn	**Sg**	**23 34 34.2**	**-1.0**
	44nm,0.5s						
SALB	**San Lorenzo Be**	**1.43**	**167**	Pn	**Pb**	**23 34 15.2**	**+0.1**
SALB				Sn	**Sg**	**23 34 34.2**	**-1.0**
	44nm,0.5s						
CERA	**Filignano**	**1.47**	**283**	Pg	**Pb**	**23 34 16.0**	**+0.2**
	112nm,0.9s						
CERA	**Filignano**	**1.47**	**283**	Pg	**Pb**	**23 34 16.0**	**+0.2**
	112nm,0.9s						
CAFR	**Castel Frentan**	**1.52**	**310**	Pg	**Pb**	**23 34 16.2**	**-0.3**
CAFR	**Castel Frentan**	**1.52**	**310**	Pg	**Pb**	**23 34 16.2**	**-0.3**
MESG	**Mesagne**	**1.61**	**114**	Pg	**Pg**	**23 34 19.8**	**-0.2**
	164nm,0.6s						
MESG	**Mesagne**	**1.61**	**114**	Pg	**Pg**	**23 34 19.8**	**-0.2**
	164nm,0.6s						
INTR	**Introdacqua**	**1.68**	**297**	Pg	**Pn**	**23 34 17.8**	**+0.2**
	65nm,0.7s						
INTR	**Introdacqua**	**1.68**	**297**	Pg	**Pn**	**23 34 17.8**	**+0.2**
	65nm,0.7s						
UDBI	**Udbina**	**3.26**	**358**	*i* Pn	**Pn**	**23 34 41.7**	**+2.4**
UDBI				Sn	**Sn**	**23 35 14.8**	**-2.7**
UDBI	**Udbina**	**3.26**	**358**	*i* Pn	**Pn**	**23 34 41.6**	**+2.4**
UDBI				Sn	**Sn**	**23 35 14.8**	**-2.7**
NVLJ	**Novalja**	**3.38**	**347**	*e*Pn	**Pn**	**23 34 40.4**	**-0.4**
NVLJ	**Novalja**	**3.38**	**347**	*e*Pn	**Pn**	**23 34 40.3**	**-0.4**

IDC 05 00:01:49.2±2.9, 17°.24S×174°.37W, h0^{km}, mb3.7/3, mb1 4.0/3, mb1mx3.7/26, mbtmpg3.7/3, Error ellipse: s-maj=327.0km s-min=33.3km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.54**	**258**	P	P	00 10 34.1	-0.4
	0.7nm,1.0s,baz=94,slow=8.1,SNR=6.0						
ASAR	**Alice Springs**	**48.67**	**253**	P	P	00 10 35.6	+0.1
	1.4nm,0.6s,baz=88,slow=8.4,SNR=32						
TXAR	**Lajitas Array**	**82.41**	**56**	P	P	00 14 13.7	0.0
	0.1nm,0.4s,baz=201,slow=7.3,SNR=4.1						

*BJI **05** 00:16:42.3, 12°.47N×144°.69E, h46^{km}, mb5.1/71, mB5.0/42, Ms4.4/45, Ms7 4.1/44*
*ISCJB **05** 00:16:45.0±0.8, 12°.63N±0°.03×144°.32E±0°.03, h47^{km}±7^{km}, mb5.1/165, MS3.8/36, Error ellipse: s-maj=4.5km s-min=4.3km az=36.3*
*GCMT **05** 00:16:48.4±0.2, 12°.39N×144°.18E, h86^{km}±2^{km}, MW5.0/80, Moment Tensor Solution. s59,c72; s80,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$-2.36±.17; M$_{\theta\theta}$1.74±.17; M$_{\phi\phi}$0.61±.19; M$_{r\theta}$3.50±.09; M$_{r\phi}$1.84±.15; M$_{\theta\phi}$1.18±.12; Best double couple: M$_{o}$4.61800×10^{16} NP1:ϕ$_s$249.00000°, δ73.00000°, λ-78.00000°. NP2: ϕ$_s$33.00000°, δ21.00000°, λ-124.00000°. Principal axes: T 4.8680, Plg27.0000°, Azm329.0000°; N -0.5020, Plg12.0000°, Azm65.0000°; P -4.3690, Plg61.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **05** 00:16:48.2±0.9, 12°.61N×144°.41E, h89^{km}, mb5.1/57 Error ellipse: s-maj=9.8km s-min=5.1km az=112.8*
*NEIC **05** 00:16:48.4±0.8, 12°.62N×144°.29E, h66^{km}±7^{km}, mb5.2/94, Error ellipse: s-maj=4.7km s-min=3.8km az=88.0*
NEIC Felt [II] at Dededo and Tamuning. Also felt at Apra Harbor, Hagatna Heights, Mangilao, Merizo and Yona.
*IDC **05** 00:16:49.4±0.8, 12°.62N×144°.24E, h76^{km}±7^{km}, mb4.6/37, mb1 4.7/39, mb1mx4.6/51, mbtmp4.9/39, MS3.8/31, Ms1 3.8/31, ms1mx3.7/44, Error ellipse: s-maj=11.5km s-min=7.8km az=87.0*
*DJA **05** 00:16:51.8±0.5, 13°.N±7°.×14°.5E±°, h113^{km}±6^{km}, M4.7/20, mb5.0/20, mB5.7/3, MLv4.6/1, Mw(mB)5.2/3*

ISC 05 00:16:48.5±0.4, 12°.60N±0°.03×144°.36E±0°.04, h69^{km}±3^{km}, h68^{km}:pP-P, n393, σ1^{s}74/447, mb5.1/165, 14C-15D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.10**	**27**	P	**Pn**	**00 17 10.6**	**+2.4**
	422nm,0.3s,baz=313,slow=10,SNR=280						
GUMO				S	**Sn**	**00 17 25.7**	**+2.8**
	2μm,0.3s,baz=0.0,slow=20,SNR=56						
GUMO	**Guam**	**1.10**	**27**	*e*P	**Pn**	**00 17 09.8**	**+1.6**
GUMO				S	**Sn**	**00 17 25.7**	**+2.8**
GUMO	**Guam**	**1.10**	**27**	*e*Pn	**Pn**	**00 17 09.8**	**+1.6**
GUMO				S	**Sn**	**00 17 25.7**	**+2.8**
CBIJ	**Chichi jima**	**14.57**	**352**	P	**Pn**	**00 20 11.8**	**+0.8**
JCJ	**Chichijima**	**14.57**	**352**	P	**Pn**	**00 20 11.8**	**+0.8**
	baz=283,slow=19						
MANU	**Manus Island**	**14.85**	**168**	*e*Pn	**Pn**	**00 20 16.2**	**+1.4**
PATS	**Pohnpei**	**14.89**	**111**	*e*Pn	**Pn**	**00 20 14.1**	**-1.3**
PATS				*e*Sn	Sn	00 22 48.5	-11
JAY	**Jayapura**	**15.45**	**194**	P	**P**	**00 20 26.5**	**+0.8**
	0.1nm,0.3s,baz=80,slow=23,SNR=19						
JAY	**Jayapura**	**15.45**	**194**	P	**P**	**00 20 27.5**	**+1.8**
GENI	**Genyem**	**15.66**	**196**	P	**P**	**00 20 29.7**	**+1.8**
	166nm,1.1s						
RABL	**Rabaul**	**18.39**	**155**	*e*P	**Pn**	**00 20 59.2**	**+0.2**
	218nm,1.6s						
SWI	**Sorong**	**18.65**	**225**	P	**Pn**	**00 21 08.5**	**+6.4**
DAV	**Davao City (W)**	**19.30**	**255**	P	**P**	**00 21 08.2**	**+0.1**
	37nm,0.3s,baz=50,slow=8.8,SNR=6.0						
DAV				LR	LR	00 27 33.6	
	comp=Z,130nm,20.9s,baz=90,slow=34						
DAV	**Davao City (W)**	**19.30**	**255**	*e*P	**P**	**00 21 08.2**	**+0.1**
	217nm,0.4s						
FAKI	**Fak Fak**	**19.56**	**219**	*e*P	**Pn**	**00 21 13.0**	**+0.2**
	236nm,2.0s						
JOW	**Kunigami**	**20.70**	**316**	*e*P	**P**	**00 21 22.9**	**-0.3**
	41nm,0.9s						
JHJ2	**Mitsune**	**20.84**	**349**	*e*P	**P**	**00 21 24.3**	**-0.3**
	377nm,1.3s						
JHJ	**Hachijo jima 2**	**20.85**	**349**	LR	LR	00 29 16.6	
	comp=Z,305nm,18.6s,baz=126,slow=36						
PMG	**Port Moresby**	**22.04**	**173**	P	**P**	**00 21 42.3**	**+4.7**
	11nm,0.8s,baz=340,slow=18,SNR=2.2						
PMG				LR	LR	00 29 42.2	
	comp=Z,364nm,19.3s,baz=7.0,slow=35						
PMG	**Port Moresby**	**22.04**	**173**	*e*P	**P**	**00 21 38.4**	**+0.8**
	33nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**22.28**	**72**	T	T	00 44 33.2	
	baz=258,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**22.30**	**72**	T	T	00 44 30.9	
	baz=258,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**22.30**	**72**	T	T	00 44 56.7	
	baz=258,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**22.75**	**69**	T	T	00 45 19.7	
	baz=255,slow=75,SNR=32						
H11N2	**WAKE ISLAND Hy**	**22.76**	**69**	T	T	00 45 31.5	
	baz=255,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**22.77**	**69**	T	T	00 45 32.1	
	baz=255,slow=75,SNR=41						
TGY	**Tagaytay City**	**22.84**	**276**	LR	LR	00 29 07.9	
	comp=Z,179nm,21.2s,baz=127,slow=32						
KWAJ	**Kwajalein Atol**	**23.15**	**97**	*e*P	**P**	**00 21 46.0**	**-3.3**
KWAJ				pmax	pmax		
	comp=Z,263nm,1.3s						
KWAJ	**Kwajalein Atol**	**23.15**	**97**	*e*P	**P**	**00 21 46.0**	**-3.3**
	comp=Z,263nm,1.3s						
YOJ	**Yonaguni jima**	**23.39**	**303**	*e*P	**P**	**00 21 51.0**	**-0.5**
YOJ				pmax	pmax		
	comp=Z,186nm,1.2s						
YOJ	**Yonaguni jima**	**23.39**	**303**	*e*P	**P**	**00 21 51.0**	**-0.5**
	comp=Z,186nm,1.2s						
INU	**Inuyama**	**23.61**	**345**	*e*P	**P**	**00 21 52.3**	**-1.0**
	comp=Z,70nm,1.3s						
JNU	**Nakatsue**	**23.86**	**331**	P	**P**	**00 21 55.5**	**-0.2**
	comp=Z,141nm,0.9s,baz=128,slow=3.1,SNR=72						
JNU	**Nakatsue**	**23.86**	**331**	*e*P	**P**	**00 21 54.9**	**-0.8**
	comp=Z,281nm,1.2s						
SAUI	**Saumlaki**	**24.22**	**213**	*e*P	**P**	**00 21 57.9**	**-1.1**
	comp=Z,548nm,1.1s						
TWG	**Pinlang**	**24.37**	**298**	*e*P	**P**	**00 22 00.1**	**-0.2**
	comp=Z,111nm,0.4s						
YULB	**Yu-li**	**24.38**	**299**	*e*P	**P**	**00 22 00.4**	**-0.1**
	comp=Z,216nm,1.8s						
NACB	**Ninganchiao**	**24.44**	**301**	*e*P	**P**	**00 22 00.7**	**-0.2**
	comp=Z,119nm,1.6s						
MJAR	**Matsushiro Arr**	**24.47**	**348**	P	**P**	**00 21 60.0**	**-1.2**
	comp=Z,30nm,0.8s,baz=168,slow=8.9,SNR=36						
MJAR				LR	LR	00 31 08.9	
	comp=Z,268nm,20.5s,baz=170,slow=35						
MJAR	**Matsushiro Arr**	**24.47**	**348**	P	**P**	**00 22 00.0**	**-1.2**
MAJO	**Matsushiro**	**24.48**	**348**	*c* P	**P**	**00 21 59.2**	**-2.0**
MAJO				pmax	pmax		
	comp=Z,293nm,0.9s						
MAJO	**Matsushiro**	**24.48**	**348**	*e*P	**P**	**00 22 00.2**	**-1.0**
	comp=Z,58nm,0.9s						
MJB9	**Matsu-Tunnel**	**24.48**	**348**	*e*P	**P**	**00 22 00.3**	**-0.9**
	comp=Z,14nm,0.9s						
SSLB	**Suanglung**	**24.82**	**300**	*e*P	**P**	**00 22 04.1**	**-0.4**
	comp=Z,318nm,1.5s						
YHNB	**Yeheng**	**24.82**	**302**	*e*P	**P**	**00 22 03.6**	**-0.9**
	comp=Z,226nm,2.0s						
TATO	**Taipei**	**24.86**	**303**	*e*P	**P**	**00 22 04.5**	**-0.3**
	comp=Z,411nm,1.9s						
TPUB	**Ta-pu**	**24.92**	**299**	*e*P	**P**	**00 22 04.6**	**-0.8**
	comp=Z,79nm,1.3s						
MRSI	**Marisa**	**25.28**	**243**	P	**P**	**00 22 09.4**	**+0.6**
	comp=Z,44nm,1.2s,comp=Z,2μm						
LUWI	**Luwuk**	**25.35**	**239**	P	**P**	**00 22 12.3**	**+2.9**
	comp=Z,94nm,1.2s,comp=Z,3μm						
LUWI	**Luwuk**	**25.35**	**239**	*e*P	**P**	**00 22 09.5**	**+0.1**
	comp=Z,89nm,1.0s						
COEN	**Coen**	**26.41**	**183**	*e*P	**P**	**00 22 18.6**	**-0.3**
	comp=Z,17nm,0.9s						
MYLDM	**Lahad Datu**	**26.57**	**256**	||P	**P**	**00 22 22.7**	**+2.3**
MYLDM	**Lahad Datu**	**26.57**	**256**	*e*P	**P**	**00 22 21.7**	**+1.3**
	comp=Z,84nm,1.1s						
HNR	**Honiara**	**26.81**	**144**	LR	LR	00 32 14.7	
	comp=Z,111nm,21.7s,baz=338,slow=34						
HNR	**Honiara**	**26.81**	**144**	*e*P	**P**	**00 22 22.4**	**-0.1**
HNR				pmax	pmax		
	comp=Z,159nm,0.8s						
HNR	**Honiara**	**26.81**	**144**	*e*P	**P**	**00 22 22.4**	**-0.1**
	comp=Z,159nm,0.8s						
QZH	**Quanzhou**	**27.25**	**300**	*e*P	**P**	**00 22 29.7**	**+3.3**
QZH				S	**S**	**00 27 03.0**	**+2.1**
QZH				LZ			
	comp=Z,2μm,35.4s						
TSM	**Tawau**	**27.45**	**255**	||P	**P**	**00 22 31.3**	**+3.0**
SDKM	**Sandakan**	**27.68**	**258**	||P	**P**	**00 22 33.5**	**+3.1**
KDM	**Kudat**	**27.70**	**261**	||P	**P**	**

QIZ LE
comp=Z,240nm,20.8s
QIZ LZ
comp=Z,400nm,26.3s
WRAB Tennant Creek 33.80 197 *i* P **P 00 23 23.2 -1.0**
WRAB pmax pmax
comp=Z,143nm,0.8s
WRAB Tennant Creek 33.80 197 *e*P **P 00 23 23.8 -0.4**
comp=Z,55nm,0.8s
WB2 Warramunga Arr 33.80 197 *e*P **P 00 23 23.4 -0.8**
comp=Z,59nm,0.9s
WRA Warramunga Arr 33.81 197 P **P 00 23 23.4 -0.9**
comp=Z,35nm,0.8s,baz=22,slow=9.9,SNR=166
WRA PcP **PcP 00 26 02.4 +0.2**
comp=Z,2.4nm,0.8s,baz=12,slow=3.1,SNR=6.0
WRA ScP **ScP 00 29 39.6 -1.5**
comp=Z,1.0nm,0.9s,baz=8.9,slow=3.5,SNR=4.3
WRA LR LR 00 36 08.1
comp=Z,246nm,21.4s,baz=15,slow=34
WRA Warramunga Arr 33.81 197 *i* P **P 00 23 23.3 -1.0**
WRA pmax pmax
comp=Z,35nm,0.8s
TIA Tai'an 33.96 318 ⇓P **P 00 23 25.7 +0.2**
TIA PMZ
comp=Z,20nm,1.3s
YSS Yuzh-Sakhalins 34.27 358 *e*P **P 00 23 27.2 -0.8**
YSS *e* 00 23 56.0
YSS *e*S **S 00 28 56.7 +6.7**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS Yuzh-Sakhalins 34.27 358 *e*P **P 00 23 26.3 -1.6**
comp=Z,47nm,1.6s
MDJ Mudanjiang 34.32 341 P **P 00 23 27.8 -0.7**
MDJ pP pP 00 23 41.7 -3.4
MDJ sP sP 00 23 46.7 -6.4
MDJ S **S 00 28 52.2 +1.3**
MDJ sS sS 00 29 15.1 -4.2
MDJ ScP **ScP 00 29 41.4 -1.1**
MDJ PMZ
comp=Z,4.0nm,0.5s
MDJ PMZ
comp=Z,48nm,3.9s
MDJ LN
comp=Z,200nm,17.4s
MDJ LE
comp=Z,170nm,18.8s
MDJ LZ
comp=Z,320nm,22.3s
MDJ Mudanjiang 34.32 341 *e*P **P 00 23 28.5 0.0**
comp=Z,13nm,0.6s
CN2 Changchun 35.10 336 ⇓P **P 00 23 34.8 -0.4**
CN2 *e*sP pP 00 23 53.0 +1.2
CN2 *e*S **S 00 29 04.2 +1.3**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,100nm,5.0s
CN2 LN
comp=Z,200nm,15.0s
CN2 LE
comp=Z,200nm,15.0s
CN2 LZ
comp=Z,300nm,16.0s
KSM Kuching 35.50 255 *e*P **P 00 23 39.6 +0.6**
comp=Z,20nm,1.1s
FITZ Fitzroy Crossi 35.66 212 P **P 00 23 40.4 +0.1**
comp=Z,13nm,1.0s,baz=46,slow=9.4,SNR=9.4
FITZ PcP **PcP 00 26 08.2 +0.6**
comp=Z,6.0nm,0.7s,baz=119,slow=0.9,SNR=11
HABR Khabarovsk 36.59 350 *e*P **P 00 23 45.1 -2.8**
HABR *e**SP **sP 00 24 13.4 +0.8**
HABR *e* 00 25 09.5
HABR *e* 00 26 06.6
HABR *e*S **S 00 29 22.1 -3.5**
HABR *e**SS **sS 00 29 55.0 +0.8**
HABR *e*SS **SnSn 00 32 00.1 -1.4**
HABR *e* 00 33 52.4
HABR pmax pmax
comp=Z,5.0nm,0.8s
HABR pmax pmax
comp=E,16nm,1.5s
HABR pmax pmax
comp=Z,13nm,1.5s
HABR MLR MLR
comp=Z,116nm,18.0s
JAGI Jajag, Banyuwa 36.60 237 *e*P **P 00 23 48.0 -0.4**
comp=Z,140nm,1.8s
ENH Enshi 36.72 304 *e*P **P 00 23 49.5 +0.3**
comp=Z,13nm,0.4s
BJT Baijiatuau 36.91 323 *e*P **P 00 23 50.9 +0.2**
BJT pmax pmax
comp=Z,21nm,0.7s
BJT Baijiatuau 36.91 323 *e*P **P 00 23 50.9 +0.2**
comp=Z,21nm,0.7s
BJI Beijing 36.92 323 P **P 00 23 50.1 -0.7**
BJI S **S 00 29 32.2 +1.4**
BJI PMZ
comp=Z,63nm,1.0s
BJI PMZ
comp=Z,250nm,3.6s
BJI LN
comp=Z,240nm,21.8s
BJI LE
comp=Z,210nm,18.9s
BJI LZ
comp=Z,620nm,33.4s
AS01 Alice Springs 37.45 196 *e*P **P 00 23 54.1 -1.4**
AS31 Alice Springs 37.47 196 *e*P **P 00 23 55.5 -0.1**
comp=Z,5.2nm,0.6s
ASAR Alice Springs 37.47 196 P **P 00 23 55.2 -0.4**
comp=Z,11nm,0.7s,baz=17,slow=11,SNR=93
ASAR PcP **PcP 00 26 13.3 +0.4**
comp=Z,3.0nm,0.8s,baz=33,slow=2.6,SNR=7.2
ASAR ScP **ScP 00 29 54.0 -0.4**
comp=Z,1.3nm,1.2s,baz=11,slow=6.8,SNR=4.1
ASAR LR LR 00 38 44.9
comp=Z,215nm,21.4s,baz=25,slow=35
UBPT Khong Chiam 37.81 279 P **P 00 24 00.7 +2.1**
comp=Z,13nm,1.9s,comp=Z,727nm
GYA Guiyang 37.95 297 *e*P **P 00 24 00.2 +0.3**
GYA pP pP 00 24 14.0 -2.7
GYA PP **PnPn 00 25 30.6 +0.8**
GYA PcP **PcP 00 26 15.6 +1.0**
GYA S **S 00 29 48.5 +1.3**
GYA ScP **ScP 00 29 58.0 +1.6**
GYA sS sS 00 30 11.2 -4.6
GYA SS **SnSn 00 32 26.5 -8.6**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.9s
GYA LN
comp=Z,560nm,18.8s
GYA LE
comp=Z,540nm,19.0s
GYA LZ
comp=Z,460nm,18.3s
KLR Kul'dur 37.98 347 P **P 00 23 59.3 -0.3**
comp=Z,16nm,0.9s,baz=153,slow=6.6,SNR=52
KLR LR LR 00 38 52.6
comp=Z,165nm,21.5s,baz=173,slow=35
KLR Kul'dur 37.98 347 *c* *iP* **P 00 23 58.2 -1.5**
TYV Tymovskoe 38.18 358 *e*P **P 00 24 02.2 +0.9**
TYV pmax pmax
comp=Z,26nm,1.0s
EIDS Eidsvold 38.30 170 *e*P **P 00 24 02.6 +0.1**
comp=Z,69nm,1.5s
XAN Xi'an 38.63 310 P **P 00 24 05.4 0.0**
XAN pP pP 00 24 17.6 -4.6
XAN sP sP 00 24 23.1 -7.1
XAN PP **PP 00 25 35.4 +0.4**
XAN S **S 00 29 51.9 -5.1**
XAN PMZ
comp=Z,16nm,1.2s
XAN PMZ
comp=Z,65nm,3.7s
XAN LN
comp=Z,190nm,20.0s
XAN LE
comp=Z,150nm,17.7s
XAN LZ
comp=Z,250nm,20.7s
PANO Nakornpanom 38.63 282 P **P 00 24 07.1 +1.5**
comp=Z,130nm,0.7s

MIDW Midway 38.89 61 *e*P **P 00 24 03.8 -3.8**
comp=Z,300nm,1.6s
SKNT Sakolnakorn 39.23 281 P **P 00 24 11.6 +1.0**
comp=Z,56nm,1.0s,comp=Z,2μm
NONG Nongkai 40.06 283 P **P 00 24 18.6 +1.2**
comp=Z,27nm,1.3s
HHC Hu-ho-hao-te 40.20 320 *e*P **P 00 24 18.5 0.0**
HHC pP pP 00 24 32.1 -3.3
HHC PP **PnPn 00 26 00.2 +3.9**
HHC S **S 00 30 20.9 +0.3**
HHC sS sS 00 30 45.9 -3.5
HHC PMZ
comp=Z,22nm,1.0s
HHC PMZ
comp=Z,110nm,5.7s
HHC LN
comp=Z,270nm,14.0s
HHC LE
comp=Z,290nm,15.1s
HHC LZ
comp=Z,320nm,19.9s
KHON Khomkaen 40.34 280 P **P 00 24 21.3 +1.5**
comp=Z,22nm,0.8s
FUNA Funafuti 40.48 120 *e*P **P 00 24 19.4 -1.6**
comp=Z,179nm,1.6s
DZM Mont Dzumac 40.70 148 *e*P **P 00 24 22.4 -0.3**
comp=Z,82nm,1.4s
DZM Mont Dzumac 40.70 148 *e*LR LR 00 35 34.2
comp=Z,877nm,32.4s
DZM Mont Dzumac 40.70 148 P **P 00 24 23.0 +0.3**
comp=Z,18nm,0.8s,baz=336,slow=4.3,SNR=13
DZM PcP **PcP 00 26 23.4 +0.1**
comp=Z,5.0nm,0.6s,baz=337,slow=19,SNR=8.4
CHBT CHBT 40.97 275 P **P 00 24 26.8 +1.8**
comp=Z,69nm,1.2s,comp=Z,4μm
KMI Kunming 41.14 294 P **P 00 24 27.8 +1.2**
KMI S **S 00 30 35.7 +0.5**
KMI sS sS 00 31 03.7 -0.4
KMI SS **SS 00 33 36.4 -3.9**
KMI PMZ
comp=Z,28nm,1.2s
KMI PMZ
comp=Z,170nm,4.8s
KMI LN
comp=Z,160nm,16.4s
KMI LE
comp=Z,210nm,20.1s
KMI LZ
comp=Z,320nm,34.6s
CHAI Chaiyaphum 41.15 280 P **P 00 24 27.1 +0.6**
comp=Z,27nm,0.8s,comp=Z,254nm
SRAK Srakaew 41.17 277 P **P 00 24 23.8 -2.8**
comp=Z,55nm,1.0s,comp=Z,622nm
KTGM Kuala Trenggan 41.31 264 ⇓P **P 00 24 30.0 +2.2**
MBWA Marble Bar 41.36 216 *e*P **P 00 24 27.7 -0.4**
comp=Z,239nm,1.4s
MYKOM Kota Tinggi 41.53 258 ⇑P **P 00 24 31.6 +2.0**
MYKOM Kota Tinggi 41.53 258 *e*P **P 00 24 30.7 +1.1**
comp=Z,25nm,0.9s
CD2 Chengdu 41.60 303 P **P 00 24 29.5 -0.5**
CD2 pP pP 00 24 42.8 -4.2
CD2 sP sP 00 24 49.0 -5.9
CD2 PcS **PcS 00 30 17.2 -0.5**
CD2 S **S 00 30 42.8 +1.3**
CD2 sS sS 00 31 05.8 -4.6
CD2 SS **SS 00 33 50.7 +1.9**
CD2 PMZ
comp=Z,110nm,0.6s
CD2 PMZ
comp=Z,180nm,5.2s
CD2 LN
comp=Z,260nm,14.9s
CD2 LE
comp=Z,350nm,20.9s
CD2 LZ
comp=Z,280nm,21.4s
PEA0 Petropavlovsk- 41.79 12 *e*P **P 00 24 28.9 -2.3**
PETK Petropavlovsk- 41.79 12 P **P 00 24 31.6 +0.4**
comp=Z,2.5nm,0.7s,baz=192,slow=2.7,SNR=4.8
PETK PcP **PcP 00 26 26.7 +0.5**
comp=Z,2.8nm,1.0s,baz=117,slow=3.2,SNR=4.4
PETK LR LR 00 40 32.1
comp=Z,150nm,20.6s,baz=193,slow=34
HIA Hailar 41.83 336 *e*P **P 00 24 31.5 -0.1**
HIA pmax pmax
comp=Z,13nm,0.4s
HIA Hailar 41.83 336 *e*P **P 00 24 31.5 -0.1**
comp=Z,13nm,0.4s
LOEI Loei 41.84 282 P **P 00 24 29.6 -2.5**
comp=Z,29nm,1.0s
PET Petropavlovsk 41.91 13 *e*P **P 00 24 33.2 +1.1**
PET *e*S **S 00 30 49.0 +3.7**
PET MLR MLR
comp=Z,100nm,17.0s
PET Petropavlovsk 41.91 13 *e*P **P 00 24 30.6 -1.5**
comp=Z,20nm,0.9s
KGM Kluang 41.98 259 ⇓P **P 00 24 35.1 +1.9**
UTTA Uttaradit 42.52 283 P **P 00 24 38.3 +0.7**
comp=Z,12nm,0.9s,comp=Z,96nm
LZH Lanzhou 43.26 310 ⇑P **P 00 24 45.3 +1.7**
LZH pP pP 00 24 57.4 -3.3
LZH sP sP 00 25 05.2 -3.4
LZH PcP **PcP 00 26 36.3 +4.6**
LZH *e*S **S 00 31 06.2 +0.2**
LZH sS sS 00 31 27.0 -8.1
LZH SS **SS 00 34 15.0 -6.5**
LZH PMZ
comp=Z,70nm,1.1s
LZH PMZ
comp=Z,220nm,4.0s
LZH LN
comp=Z,360nm,17.4s
LZH LE
comp=Z,150nm,13.8s
LZH LZ
comp=Z,260nm,18.3s
FRIM Kepong 43.28 261 ⇑P **P 00 24 45.2 +1.4**
ARMA Armidale 43.34 171 *e*P **P 00 24 44.4 +0.3**
comp=Z,38nm,1.0s
SUKH Sukhothai 43.40 282 P **P 00 24 46.0 +1.3**
comp=Z,17nm,0.9s,comp=Z,142nm
LAMP Lampang 43.41 284 P **P 00 24 45.8 +1.0**
comp=Z,8.8nm,0.9s
IPM Ipoh 43.55 263 *e*P **P 00 24 46.3 +0.3**
comp=Z,27nm,0.9s
PHET Kaeng Krachan 43.59 276 P **P 00 24 48.5 +2.2**
comp=Z,15nm,1.1s,comp=Z,136nm
KULM Kulim 43.73 264 *e*P **P 00 24 48.2 +0.8**
comp=Z,36nm,0.9s
SURA Surathani 44.02 270 P **P 00 24 52.3 +2.5**
comp=Z,159nm,0.8s,comp=Z,14μm
CM01 Chiang Mai Arr 44.04 283 *e*P **P 00 24 49.9 0.0**
CM31 Chiang Mai Arr 44.06 284 *e*P **P 00 24 51.8 +1.7**
CMAR Chiang Mai Arr 44.06 284 P **P 00 24 49.7 -0.4**
comp=Z,16nm,0.5s,baz=82,slow=6.7,SNR=68
CMAR LR LR 00 41 22.1
comp=Z,87nm,20.5s,baz=90,slow=34
CMAR Chiang Mai Arr 44.06 284 *ce*P **P 00 24 50.5 +0.5**
CMAR pmax pmax
comp=Z,16nm,0.5s
CMMT Chiang Mai 44.06 284 P **P 00 24 50.3 +0.2**
comp=Z,15nm,0.8s
CHTO Chiang Mai 44.06 284 P **P 00 24 50.4 +0.3**
comp=Z,66nm,0.9s
CHTO Chiang Mai 44.06 284 *e*P **P 00 24 50.7 +0.6**
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CHTO Chiang Mai 44.06 284 *e*P **P 00 24 50.7 +0.6**
comp=Z,7.2nm,0.7s
TRTT Trang 44.17 268 P **P 00 24 53.8 +2.8**
comp=Z,17nm,1.0s
STKA Stephens Creek 44.30 183 P **P 00 24 50.3 -1.4**
comp=Z,21nm,0.9s,baz=357,slow=8.2,SNR=21
STKA Stephens Creek 44.30 183 P **P 00 24 50.3 -1.4**
STKA pmax pmax
comp=Z,20nm,0.9s
STKA Stephens Creek 44.30 183 *e*P **P 00 24 50.7 -1.0**
KHLT Khaolaem Dam 44.47 278 P **P 00 24 55.5 +2.2**
comp=Z,18nm,1.2s
JOHN Johnston Islan 44.72 79 *e*P **P 00 24 52.6 -2.7**
comp=Z,185nm,1.1s
XMIS Christmas Isla 44.76 241 *e*P **P 00 24 55.3 -0.3**
comp=Z,66nm,1.1s
SURT Suratani 44.87 270 P **P 00 24 59.5 +3.0**
comp=Z,15nm,1.0s
MSVF Nonsavu 44.88 131 *e*P **P 00 24 55.1 -1.5**

MSVF pmax pmax
comp=Z,43nm,0.9s
MSVF Nonsavu 44.88 131 *e*P **P 00 24 57.0 +0.3**
comp=Z,34nm,0.9s
BBOO Buckleboo 45.84 190 *e*P **P 00 25 03.2 -0.7**
comp=Z,45nm,0.7s
PSI Prapat 45.99 262 *e*P **P 00 25 05.3 -0.3**
PSI pmax pmax
comp=Z,14nm,0.8s
PSI Prapat 45.99 262 *e*P **P 00 25 05.3 -0.3**
comp=Z,14nm,0.8s
KNTN Kanton 46.22 106 *e*P **P 00 25 05.3 -1.8**
comp=Z,104nm,1.1s
MA2 Magadan 47.13 4 P **P 00 25 13.4 -0.3**
comp=Z,26nm,1.0s,baz=180,slow=8.9,SNR=4.8
SONM Songino Array 47.26 326 P **P 00 25 14.8 -0.2**
comp=Z,6.9nm,0.5s,baz=144,slow=8.5,SNR=34
SONM PcP **PcP 00 26 45.2 0.0**
comp=Z,2.5nm,0.8s,baz=152,slow=6.1,SNR=3.6
SONM LR LR 00 44 44.6
comp=Z,232nm,21.3s,baz=96,slow=36
SONA1 Songino Array 47.26 326 *e*P **P 00 25 14.3 -0.7**
LHMI Lhok Sumawe 47.35 266 *e*P **P 00 25 15.1 -1.0**
comp=Z,134nm,1.0s
GTA Gaotai 47.47 312 *e*P **P 00 25 16.6 -0.2**
GTA pP pP 00 25 28.6 -5.5
GTA sP sP 00 25 33.7 -8.2
GTA PcP **PcP 00 26 47.7 +1.5**
GTA ScP **ScP 00 30 34.0 -0.5**
GTA PcS **PcS 00 30 38.2 -3.5**
GTA S **S 00 32 06.4 -0.1**
GTA sS sS 00 32 27.7 -8.2
GTA SS **SS 00 35 28.7 -6.4**
GTA PMZ
comp=Z,14nm,1.2s
GTA PMZ
comp=Z,140nm,6.7s
GTA LN
comp=Z,120nm,15.2s
GTA LE
comp=Z,160nm,18.1s
GTA LZ
comp=Z,170nm,17.1s
GSI Gunungsitoli 47.69 260 *e*P **P 00 25 17.8 -0.9**
comp=Z,94nm,1.3s
CAN Canberra 47.86 175 *e*P **P 00 25 19.7 0.0**
CAN pmax pmax
comp=Z,123nm,1.9s
CAN Canberra 47.86 175 *e*P **P 00 25 19.6 0.0**
comp=Z,123nm,1.9s
ZAK Zakamensk 50.39 327 *e*P **P 00 25 37.8 -1.1**
ZAK pmax pmax
comp=Z,16nm,1.3s
YAK Yakutsk 50.48 351 P **P 00 25 40.6 +1.4**
comp=Z,3.7nm,0.5s,baz=348,slow=22,SNR=10
YAK Yakutsk 50.48 351 *e*P **P 00 25 38.3 -0.9**
YAK *e**PP **pP 00 25 59.0 +2.3**
YAK *e* 00 26 51.4
YAK *e*S **S 00 32 47.9 +0.1**
YAK *e**SS sS 00 33 28.5 +11
YAK *e* 00 35 19.5
YAK pmax pmax
comp=Z,62nm,0.9s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=N,36nm,2.3s
YAK smax smax
comp=E,22nm,3.5s
YAK Yakutsk 50.48 351 *e*P **P 00 25 38.4 -0.8**
comp=E,74nm,0.8s
SEY Seymchan 50.58 5 P **P 00 25 40.1 +0.1**
comp=E,20nm,1.0s,baz=174,slow=6.4,SNR=34
SEY Seymchan 50.58 5 *i* P **P 00 25 39.7 -0.3**
TLY Talaya 50.93 328 P **P 00 25 42.9 +0.1**
comp=E,9.1nm,0.7s,baz=170,slow=5.2,SNR=15
TLY Talaya 50.93 328 *e*P **P 00 25 43.4 +0.5**
TLY *e* 00 27 34.2
TLY *e*S **S 00 32 51.1 -3.3**
TLY pmax pmax
comp=Z,32nm,1.5s
TLY MLR MLR
comp=Z,74nm,17.0s
TLY Talaya 50.93 328 *e*P **P 00 25 43.0 +0.1**
comp=Z,18nm,0.9s
SHL Shillong 50.95 293 *e*P **P 00 25 41.5 -2.1**
LSA Lhasa 52.01 298 *e*P **P 00 25 52.9 +1.0**
LSA pmax pmax
comp=Z,22nm,0.7s
LSA Lhasa 52.01 298 *e*P **P 00 25 52.9 +1.0**
comp=Z,22nm,0.7s
NWAO Narrogin (SRO) 52.16 209 LR LR 00 50 19.5
comp=Z,46nm,18.1s,slow=39
COCO West Island 53.20 244 *e*P **P 00 25 59.9 -0.3**
COCO West Island 53.20 244 *e*P **P 00 25 59.9 -0.3**
comp=Z,336nm,1.7s
GUN Gumba 56.46 295 *e*P **P 00 26 24.3 +0.2**
comp=Z,104nm,0.8s
PKIN Phulchoki 56.87 295 *e*P **P 00 26 26.6 -0.3**
KKN Kakani 56.98 295 *e*P **P 00 26 27.4 -0.2**
DMN Daman 57.13 295 *e*P **P 00 26 28.7 0.0**
comp=Z,54nm,0.9s
BILL Bilibino 57.21 10 *c* *iP* **P 00 26 27.0 -1.3**
BILL *e* 00 27 20.6
BILL *e* 00 28 34.8
BILL *e*S **S 00 34 17.1 -1.5**
BILL *e*SS **SS 00 38 08.7 +0.2**
BILL pmax pmax
comp=Z,45nm,1.0s
BILL Bilibino 57.21 10 *e*P **P 00 26 27.4 -0.9**
comp=Z,43nm,1.0s
WMQ Urumqi 57.46 314 P **P 00 26 31.9 +1.3**
WMQ pP pP 00 26 46.1 -2.3
WMQ sP sP 00 26 49.3 -6.8
WMQ PcP **PcP 00 27 24.2 +0.6**
WMQ S **S 00 34 25.3 +2.5**
WMQ SS **SS 00 38 16.9 +3.5**
WMQ PMZ
comp=Z,23nm,1.2s
WMQ PMZ
comp=Z,120nm,4.0s
WMQ LN
comp=Z,35nm,23.8s
WMQ LE
comp=Z,71nm,34.4s
WMQ LZ
comp=Z,85nm,28.0s
GKN Gorkha 57.56 295 *e*P **P 00 26 31.6 0.0**
comp=Z,34nm,0.5s
KOLN Koldanda 58.47 295 *e*P **P 00 26 37.9 -0.2**
comp=Z,51nm,0.8s
PYUN Piuthan 59.02 295 *e*P **P 00 26 41.6 -0.3**
comp=Z,83nm,0.8s
TIXI Tiksi 59.76 354 *i* P **P 00 26 43.8 -2.1**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 59.76 354 *e*P **P 00 26 43.9 -2.1**
comp=Z,7.7nm,0.9s
MK01 Makanchi Array 61.85 316 *e*P **P 00 27 00.5 -0.2**
MK31 Makanchi Array 61.86 316 *ce*P **P 00 27 00.6 -0.1**
MK31 pmax pmax
comp=Z,34nm,0.9s
MK31 Makanchi Array 61.86 316 *e*P **P 00 27 00.0 -0.7**
MKAR Makanchi Array 61.86 316 P **P 00 27 00.5 -0.2**
comp=Z,20nm,0.7s,baz=94,slow=8.6,SNR=138
MKAR LR LR 00 54 37.2
comp=Z,63nm,20.0s,baz=90,slow=37
MKAR PKP2bc 00 56 14.9
comp=Z,0.6nm,0.9s,baz=298,slow=2.6,SNR=4.1
MAKZ Makanchi 62.07 316 *e*P **P 00 27 02.1 0.0**
MAKZ pmax pmax
comp=Z,44nm,0.9s
MAKZ Makanchi 62.07 316 *e*P **P 00 27 02.1 0.0**
comp=Z,44nm,0.9s
ZAA0 Zalesovo Array 62.14 325 *e*P **P 00 27 01.3 -1.1**
ZALV Zalesovo Beam 62.14 325 P **P 00 27 01.4 -0.9**
comp=Z,13nm,0.7s,baz=106,slow=6.5,SNR=40
ZALV PcP **PcP 00 27 40.9 -1.1**
comp=Z,7.2nm,0.4s,baz=121,slow=4.5,SNR=15
ZALV LR LR 00 53 24.9
comp=Z,127nm,21.6s,baz=68,slow=35
ZALV PKPPKP **P'P'df 00 56 11.2 -0.1**
comp=Z,0.3nm,0.3s,baz=318,slow=2.0,SNR=3.8
PDGK Podgornoye 63.21 312 *i* P **P 00 27 09.7 0.0**

PDGK pmax pmax
comp=Z,33nm,0.9s
NVS Novosibirsk 63.29 325 ⇑ *i*P **P 00 27 09.8 -0.2**
NVS *e* 00 27 45.3
NVS *e*S **S 00 35 36.1 -0.7**
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,31nm,1.3s
NVS pmax pmax
comp=Z,40nm,1.3s
NVS smax smax
comp=N,8.0nm,2.0s
NVS smax smax
comp=E,8.0nm,1.4s
HYB Hyderabad 63.48 283 *i*P **P 00 27 13.0 +1.0**
KURK Kurchatov 65.02 320 P **P 00 27 21.0 -0.4**
KURK pmax pmax
comp=Z,57nm,0.7s
KURK Kurchatov 65.02 320 *e*P **P 00 27 20.8 -0.7**
comp=Z,148nm,0.8s
KURBB Kurchatov Arra 65.06 320 P **P 00 27 20.9 -0.7**
comp=Z,57nm,0.7s,baz=103,slow=6.4,SNR=268
THN Thein Dam 65.40 300 *e*P P 00 27 19.0 -5.2
KSH Kashi 65.45 308 P **P 00 27 27.4 +2.8**
KSH pP pP 00 27 40.2 -2.6
KSH PcP **PcP 00 28 00.3 +4.2**
KSH PP **PP 00 29 53.7 +4.4**
KSH S **S 00 36 08.0 +3.7**
KSH ScS **ScS 00 37 15.3 +0.9**
KSH SS **SS 00 40 24.0 +5.3**
KSH PMZ
comp=Z,19nm,0.7s
KSH LN
comp=Z,82nm,7.3s
KSH LE
comp=Z,76nm,6.7s
KSH LZ
comp=Z,120nm,6.2s
RSO Redoubt South 65.88 29 *e*P **P 00 27 28.1 +1.1**
TKM2 Tokmak 2 66.00 311 *i*P **P 00 27 28.4 +0.2**
TKM2 pmax pmax
comp=Z,22nm,0.9s
TKM2 Tokmak 2 66.00 311 *e*P **P 00 27 28.2 0.0**
comp=Z,19nm,0.9s
FRU Bishkek 66.71 311 *i*P **P 00 27 32.0 -0.5**
FRU pmax pmax
comp=Z,50nm,2.0s
AAK Ala-Archa 66.78 311 *c i*P **P 00 27 32.2 -1.0**
AAK pmax pmax
comp=Z,29nm,1.0s
AAK Ala-Archa 66.78 311 *e*P **P 00 27 33.8 +0.7**
comp=Z,15nm,1.0s
NRIK Noril'sk 66.90 341 P **P 00 27 31.6 -1.5**
comp=Z,9.2nm,0.8s,baz=106,slow=8.6,SNR=17
NRIK LR LR 00 55 53.1
comp=Z,44nm,21.8s,baz=114,slow=35
KTH Kantishna Hill 67.64 26 *e*P **P 00 27 38.4 +0.3**
comp=Z,21nm,1.1s
BPAW Bear Paw Mtn. 67.78 25 *e*P **P 00 27 39.5 +0.7**
comp=Z,4.7nm,1.3s
TRF Thorofare Moun 67.88 26 *e*P **P 00 27 40.0 +0.3**
comp=Z,5.9nm,0.9s
MNAS Manas 68.24 311 *i*P **P 00 27 42.3 0.0**
MNAS pmax pmax
comp=Z,25nm,1.6s
SML Sawmill 68.31 28 *e*P **P 00 27 42.0 -0.3**
SML pmax pmax
comp=Z,6.0nm,1.0s
SML Sawmill 68.31 28 *e*P **P 00 27 42.0 -0.3**
comp=Z,6.2nm,1.0s
OTUK Ortayu 68.74 317 P **P 00 27 44.9 -0.3**
OTUK pmax pmax
comp=Z,24nm,0.9s
COLD Coldfoot 69.05 22 *e*P **P 00 27 47.5 +0.8**
comp=Z,18nm,0.9s
IL1 Eielson Array 69.67 25 *e*P **P 00 27 48.8 -1.8**
ILAR Eielson Array 69.67 25 P **P 00 27 49.1 -1.5**
comp=Z,3.6nm,0.8s,baz=258,slow=4.3,SNR=24
ILAR LR LR 00 56 25.3
comp=Z,70nm,21.2s,baz=258,slow=34
ILB Eielson Array 69.67 25 *e*P **P 00 27 50.2 -0.3**
KK31 Karatay Array 69.73 311 *ce*P **P 00 27 51.2 -0.2**
KK31 pmax pmax
comp=Z,16nm,0.7s
KKAR Karatay Array 69.73 311 *e*P **P 00 27 51.2 -0.2**
KKAR Karatay Array 69.73 311 *e*P **P 00 27 51.2 -0.2**
VOSK Vostochnaya 70.01 322 P **P 00 27 51.4 -1.5**
VOSK pmax pmax
comp=Z,21nm,0.9s
CHKZ Chkalovo 70.32 323 *i*P **P 00 27 53.1 -1.6**
CHKZ pmax pmax
comp=Z,31nm,0.7s
BVA0 Borovoye Array 70.39 322 P **P 00 27 54.2 -1.0**
BVA0 pmax pmax
comp=Z,62nm,0.8s
BVAR Borovoye Array 70.39 322 P **P 00 27 54.6 -0.7**
comp=Z,65nm,0.7s,baz=101,slow=7.7,SNR=207
BRVK Borovoye 70.46 322 *e*P **P 00 27 55.1 -0.6**
BRVK pmax pmax
comp=Z,130nm,0.7s
BRVK Borovoye 70.46 322 *e*P **P 00 27 55.0 -0.6**
comp=Z,130nm,0.7s
DOT Dot Lake 70.63 27 *e*P **P 00 27 56.7 +0.2**
comp=Z,25nm,0.8s
KBL Kabul 70.94 302 *e*P **P 00 27 58.8 -0.4**
KBL pmax pmax
comp=Z,33nm,1.0s
KBL Kabul 70.94 302 *e*P **P 00 27 58.8 -0.4**
comp=Z,33nm,1.0s
DZET Dzherino 70.98 307 P **P 00 27 58.6 -0.7**
DZET pmax pmax
comp=Z,53nm,0.5s
ZRNK Zerenda 71.22 322 *i*P **P 00 27 59.4 -0.8**
ZRNK pmax pmax
comp=Z,66nm,1.0s
ZRNK Zerenda 71.22 322 *e*P **P 00 27 59.5 -0.8**
comp=Z,51nm,0.9s
PPT Papeete 71.77 113 LR LR 00 54 12.1
comp=Z,97nm,18.3s,baz=306,slow=31
PPT2 Papeete2 71.78 113 *e*LR LR 00 49 39.4
comp=Z,485nm,31.8s
EGAK Eagle 72.08 26 *e*P **P 00 28 05.7 +0.6**
comp=Z,5.9nm,0.9s
INK Inuvik 75.47 22 P **P 00 28 24.2 -0.6**
comp=Z,7.5nm,0.9s,baz=285,slow=2.7,SNR=12
INK Inuvik 75.47 22 *e*P **P 00 28 25.1 +0.2**
SVE Sverdlovsk 76.13 326 *e*P **P 00 28 28.9 0.0**
SVE pmax pmax
comp=Z,34nm,1.2s
AB31 Akbulak array 76.94 318 *ce*P **P 00 28 32.4 -1.3**
AB31 pmax pmax
comp=Z,17nm,0.5s
ABKAR Akbulak array 76.94 318 *e*P **P 00 28 32.3 -1.3**
DLBC Dease Lake 77.08 33 P **P 00 28 34.2 -0.2**
comp=Z,6.5nm,0.8s,baz=282,slow=7.0,SNR=11
ARU Arti 77.29 325 *d i*P **P 00 28 34.7 -0.8**
ARU *e*PP **pP 00 28 54.6 +0.5**
ARU pmax pmax
comp=Z,35nm,1.0s
ARU Arti 77.29 325 *e*P **P 00 28 34.4 -1.1**
comp=Z,24nm,0.7s
TAOE Nuku Hiva Isla 77.96 102 *e*LR LR 00 52 21.0
comp=Z,231nm,34.1s
AKTO Aktyubinsk 78.09 319 P **P 00 28 38.9 -1.2**
comp=Z,9.2nm,0.8s,baz=92,slow=7.1,SNR=20
GEYT Alibeck 79.44 307 P **P 00 28 47.6 -0.2**
comp=Z,18nm,0.7s,baz=70,slow=1.7,SNR=66
GEYT LR LR 01 06 15.2
comp=Z,67nm,21.6s,baz=340,slow=37
CASY Casey 82.54 193 *e*P **P 00 29 03.9 +0.5**
comp=Z,11nm,1.1s
L02D Cave Junction, 83.16 48 P **P 00 29 09.2 +1.8**
baz=281
M02C Callahan 83.85 49 P **P 00 29 13.7 +2.7**
baz=281
YBH Yreka Blue Hor 83.89 49 *e*P **P 00 29 13.4 +2.1**
YBH pmax pmax
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 83.89 49 *e*P **P 00 29 13.4 +2.1**
comp=Z,12nm,1.1s
YKA Yellowknife Ar 83.96 27 P **P 00 29 10.6 -0.3**
comp=Z,2.9nm,0.5s,baz=289,slow=5.5,SNR=30
YKA LR LR 01 06 00.4
comp=Z,5.5nm,20.0s,baz=0.0,slow=35
M04C Macdoel 84.52 49 P **P 00 29 15.7 +1.3**
baz=282
J05D Fort Rock, OR 84.64 47 P **P 00 29 16.4 +1.3**
baz=282
O03D Paynes Creek 84.86 50 P **P 00 29 17.5 +1.3**
baz=282
RES Resolute Bay 85.62 13 *e*P **P 00 29 20.6 +1.5**
RES Resolute Bay 85.62 13 *e*P **P 00 29 20.6 +1.5**
KLMR Klimovskoe 86.18 332 *e*P **P 00 29 19.8 -2.3**
KLMR *e**SP **sP 00 29 49.2 +0.7**
KLMR pmax pmax
comp=Z,13nm,1.0s
LRV Little Rabbit 86.29 54 *e*P **P 00 29 19.4 -3.9**
NEW Newport 86.29 41 P **P 00 29 24.3 +1.2**
baz=285
NEW Newport 86.29 41 *e*P **P 00 29 24.4 +1.4**
NEW pmax pmax
comp=Z,13nm,1.1s
NEW Newport 86.29 41 *e*P **P 00 29 24.4 +1.4**
comp=Z,13nm,1.1s
WVOR Wild Horse Val 86.70 47 *e*P **P 00 29 27.9 +2.6**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 86.70 47 *e*P **P 00 29 27.9 +2.6**
comp=Z,5.7nm,0.9s
BMO Blue Mountains 87.04 45 *e*P **P 00 29 27.9 +1.1**
BMO pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 87.04 45 *e*P **P 00 29 27.9 +1.1**
comp=Z,5.6nm,0.9s
ARCES ARCESS Array B 87.87 342 P **P 00 29 29.4 -0.8**
comp=Z,2.7nm,0.7s,baz=69,slow=6.8,SNR=9.4
ARCES LR LR 01 09 28.2
comp=Z,45nm,21.9s,baz=70,slow=36
BSMT Bassoo Peak 87.91 41 *e*P **P 00 29 33.7 +2.6**
NV01 Mina Array Sit 87.92 51 *e*P **P 00 29 32.9 +1.5**
NVAR Mina Array Bea 87.92 51 P **P 00 29 33.1 +1.8**
comp=Z,5.7nm,0.8s,baz=300,slow=6.3,SNR=4.6
NVAR LR LR 01 09 24.8
comp=Z,16nm,18.1s,baz=267,slow=36
VRH Novokhopyorsk 88.05 322 *e*P **P 00 29 29.5 -1.8**
VRH pmax pmax
comp=Z,20nm,0.7s
MFID Camas Ranch 88.44 46 *e*P **P 00 29 34.7 +1.1**
comp=Z,8.1nm,1.0s
DAC Darwin (Calif) 89.01 53 *e*P **P 00 29 38.9 +2.4**
DAC Darwin (Calif) 89.01 53 *e*P **P 00 29 38.9 +2.4**
NCK Nalchik 89.09 314 ⇓ *i*P **P 00 29 34.8 -1.7**
NCK pmax pmax
comp=Z,4.0nm,0.9s
MPMC Manual Prospec 89.15 53 P **P 00 29 37.8 +0.7**
baz=285
LPSR Galich'ya Gora 89.24 324 *e*P **P 00 29 35.7 -1.2**
LPSR pmax pmax
comp=Z,20nm,1.0s
HLID Hailey 89.39 45 P **P 00 29 39.0 +0.9**
baz=287
HLID Hailey 89.39 45 *e*P **P 00 29 39.9 +1.7**
comp=Z,4.1nm,0.9s
KBZ Khabaz 89.50 315 P **P 00 29 39.3 +1.0**
comp=Z,5.2nm,0.9s,baz=53,slow=2.8,SNR=11
KBZ LR LR 01 12 55.1
comp=Z,69nm,21.4s,baz=50,slow=38
VSR Storozhevoye 89.56 323 *e*P **P 00 29 35.5 -3.0**
VSR pmax pmax
comp=Z,20nm,1.3s
KIV Kislovodsk 89.58 315 *e*P **P 00 29 37.3 -1.6**
KIV *e* 00 40 00.4
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,72nm,19.0s
KIV Kislovodsk 89.58 315 *e*P **P 00 29 38.1 -0.8**
comp=Z,8.4nm,1.0s
ELK Elko 89.60 48 *e*P **P 00 29 39.7 +0.5**
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 89.60 48 *e*P **P 00 29 39.7 +0.5**
comp=Z,6.3nm,1.0s
OBN Obninsk 89.66 327 *ce*P **P 00 29 37.4 -1.4**
OBN *e* 00 33 05.2
OBN *e*PPP PPP 00 35 10.5
OBN *e*S **SKSac 00 40 01.7 -1.6**
OBN pmax pmax
comp=Z,51nm,1.7s
OBN MLR MLR
comp=Z,80nm,17.0s
OBN Obninsk 89.66 327 *e*P **P 00 29 37.9 -1.0**
NEY Neytrino 89.77 314 *e*P **P 00 29 39.2 -0.7**
NEY pmax pmax
comp=Z,1.0nm,0.8s
TPNV Topopah Spring 89.88 52 P **P 00 29 40.8 +0.3**
baz=286
TPNV Topopah Spring 89.88 52 *e*P **P 00 29 45.3 +4.7**
TPNV pmax pmax
comp=Z,8.0nm,1.0s
TPNV Topopah Spring 89.88 52 *e*P **P 00 29 45.2 +4.7**
comp=Z,8.1nm,1.0s
GSC Goldstone, Bar 89.88 54 P **P 00 29 41.3 +0.8**
baz=285
R11A Troy Canyon, C 90.00 51 P **P 00 29 42.3 +1.2**
baz=286
R11A Troy Canyon, C 90.00 51 *e*P **P 00 29 43.1 +2.0**
LRM Limekiln Ridge 90.05 43 *e*P **P 00 29 44.2 +3.0**
VNDA Vanda 90.52 176 P **P 00 29 42.2 -0.1**
comp=Z,3.2nm,1.2s,baz=314,slow=7.0,SNR=6.1
VNDA LR LR 01 08 49.8
comp=Z,37nm,19.1s,baz=338,slow=34
VNDA Vanda 90.52 176 *e*P **P 00 29 43.1 +0.8**
PFO Pinyon Flats O 90.61 55 P **P 00 29 44.8 +0.9**
baz=286
PFO Pinyon Flats O 90.61 55 *e*P **P 00 29 46.7 +2.8**
PFO pmax pmax
comp=Z,10.0nm,1.3s
PFO Pinyon Flats O 90.61 55 *e*P **P 00 29 46.7 +2.8**
comp=Z,9.6nm,1.3s
TPFO Pinon Flats 90.61 55 P **P 00 29 45.5 +1.5**
baz=286
BOZ Bozeman (W) 90.65 43 P **P 00 29 45.0 +1.1**
baz=289
MONP2 Monument Peak 90.83 56 P **P 00 29 46.4 +1.3**
baz=286
SHPR Sheep Range 90.84 52 *e*P **P 00 29 47.5 +2.5**
comp=Z,14nm,1.5s
BELC Belle Mtn. Jos 90.87 55 P **P 00 29 46.4 +1.2**
baz=286
GMRC Granite Mounta 90.93 54 P **P 00 29 45.5 +0.1**
baz=286
IKP In-Ko-Pah, Jac 91.14 56 P **P 00 29 47.5 +1.1**
baz=286
BC3 Big Chuckawall 91.40 55 P **P 00 29 49.8 +2.2**
baz=286
SPUT South Promonto 91.45 47 *e*P **P 00 29 47.6 -0.2**
IRM Iron Mountain 91.51 55 P **P 00 29 50.1 +2.1**
baz=286
DUG Dugway, Tooele 91.53 48 P **P 00 29 49.6 +1.4**
baz=288
DUG Dugway, Tooele 91.53 48 *e*P **P 00 29 49.5 +1.4**
DUG Dugway, Tooele 91.53 48 *e*P **P 00 29 49.5 +1.4**
IMW Indian Meadow 91.68 44 *e*P **P 00 29 50.8 +1.9**
comp=Z,2.4nm,0.8s
FXWY Fox Creek 91.71 45 *e*P **P 00 29 51.7 +2.8**
H17A Grant Village 91.76 44 P **P 00 29 51.5 +2.3**
baz=290
H17A Grant Village 91.76 44 *e*P **P 00 29 51.8 +2.6**
comp=Z,7.9nm,1.0s
FLWY Flagg Ranch 91.78 44 *e*P **P 00 29 50.4 +1.1**
FIA1 FINESS Array S 91.84 335 *e*P **P 00 29 47.2 -1.7**
FINES FINESS Array B 91.84 335 P **P 00 29 46.8 -2.1**
comp=Z,9.9nm,0.8s,baz=64,slow=5.3,SNR=19
FINES FINESS Array B 91.84 335 *i*P **P 00 29 47.5 -1.4**
FINES pmax pmax
comp=Z,10.0nm,0.8s
MOOW Moose Ponds 91.86 44 *e*P **P 00 29 50.2 +0.5**
HWUT Hardware Ranch 91.99 47 *e*P **P 00 29 51.2 +1.0**
Y12C Blythe 92.12 55 P **P 00 29 52.8 +2.0**
baz=287
Y12C Blythe 92.12 55 *e*P **P 00 29 53.9 +3.1**
RLMT Red Lodge 92.39 43 P **P 00 29 54.8 +2.7**
baz=290
RLMT Red Lodge 92.39 43 *e*P **P 00 29 53.0 +1.0**
KNB Kanab 92.49 51 *e*P P 00 29 58.0 +5.3
KNB Kanab 92.49 51 *e*P P 00 29 58.0 +5.3
BW06 Boulder Array 93.01 45 *e*P **P 00 29 55.3 +0.3**
PDAR Pinedale Array 93.01 45 P **P 00 29 55.5 +0.5**
comp=Z,0.7nm,0.6s,baz=248,slow=1.6,SNR=7.0
PDAR LR LR 01 06 45.4
comp=Z,41nm,19.7s,baz=284,slow=32
VSU Vasula 93.07 332 *e*P **P 00 29 52.6 -2.0**
VSU pmax pmax
comp=Z,22nm,1.0s
LAO LASA Array 93.80 41 P **P 00 30 00.0 +1.7**
baz=293
LAO LASA Array 93.80 41 *e*P **P 00 29 59.5 +1.2**
214A Organ Pipe Nat 94.02 56 P **P 00 30 02.8 +3.2**
baz=288
AKASG Malin Array Be 95.53 325 LR LR 01 17 18.0
comp=Z,60nm,18.8s,baz=65,slow=38
BRTR Keskin Array B 97.38 313 P **P 00 30 13.1 -1.9**
comp=Z,1.2nm,0.7s,baz=90,slow=3.8,SNR=10.0
BRTR LR LR 01 17 56.5
comp=Z,30nm,21.8s,baz=40,slow=38
NOA NORSAR Array B 97.79 339 LR LR 01 17 22.0
comp=Z,38nm,20.0s,baz=25,slow=37
BR231 Keskin MP Arra 97.94 314 *e*P **P 00 30 13.9 -3.5**
MAW Mawson 98.33 203 LR LR 01 14 24.6
comp=Z,44nm,18.5s,baz=46,slow=35
CRVS Cervenica-Dubn 100.78 326 *e*P **Pdif 00 30 28.7 -1.0**
CRVS Cervenica-Dubn 100.78 326 *e*P **Pdif 00 30 28.7 -1.0**
VYHS Vyhne 102.44 326 *e*P **Pdif 00 30 36.6 -0.5**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 102.44 326 *e*P **Pdif 00 30 36.6 -0.5**
CLL Collm 103.66 331 *e*PP PP 00 34 54.0 -4.8
CLL *e*PS **PS 00 44 06.0 -4.6**
CLL *e*PPS PPS 00 45 24.0
GERES GERESS Array B 104.92 329 PKiKP **PKiKP 00 35 03.6 +0.7**
comp=Z,0.4nm,0.5s,baz=57,slow=3.6,SNR=4.1
ESDC Sonseca Array 120.22 332 PKP **PKPdf 00 35 32.4 +0.1**
comp=Z,0.3nm,0.5s,baz=13,slow=3.2,SNR=4.0
TORD Torodi Ar. Bea 135.00 303 PKhKP PKPpre 00 35 53.4
comp=Z,0.4nm,1.0s,baz=36,slow=2.5,SNR=4.6
TORD PKP **PKPdf 00 35 59.5 -1.4**
comp=Z,0.5nm,0.5s,baz=30,slow=2.0,SNR=7.0
TORD SKPbc **SKPbc 00 39 23.6 -2.2**
comp=Z,0.9nm,0.9s,baz=28,slow=2.7,SNR=3.7
AAGR Agreo 143.48 129 *e*P PKPbc 00 36 14.3 +0.9
ASAL Salagasta 143.69 129 *e*P PKPbc 00 36 14.7 +0.7
DBIC Dimbokro 143.91 300 PKP PKPbc 00 36 15.3 +0.2
comp=Z,3.8nm,0.4s,baz=43,slow=4.0,SNR=22
RTLL Cerro Villicun 144.50 127 *e*P PKPbc 00 36 16.8 +0.4
TRQA Tornquist 145.46 142 *e*P **PKPab 00 36 19.4 -0.1**
VCA Vinchina 145.71 123 *e*P **PKPab 00 36 21.6 +0.6**
LVC Limon Verde 146.83 112 PKPbc **PKPbc 00 36 24.7 +0.4**
comp=Z,32nm,0.8s,baz=259,slow=5.8,SNR=12
TCA Tanti 147.47 130 *e*P **PKPbc 00 36 25.5 0.0**
CYA Choya 147.78 124 ⇓ *e*P **PKPbc 00 36 26.6 +0.2**
LPAZ La Paz 148.34 101 PKPbc **PKPbc 00 36 30.1 +1.2**
comp=Z,8.6nm,0.8s,baz=284,slow=2.2,SNR=42
FSA Cafayete 148.47 120 *e*P **PKPbc 00 36 29.6 +1.2**
AHML Horco Molle 148.78 121 *e*P **PKPbc 00 36 29.4 +0.4**
HJA Humahuaca 149.83 115 *e*P **PKPbc 00 36 33.8 +1.6**
AZAP Zapla 149.85 117 *e*P **PKPbc 00 36 32.9 +0.9**
YJA Yavi 149.99 113 *e*P **PKPdf 00 36 29.9 +2.2**
SAML Samuel 152.71 85 *e*PKPdf **PKPdf 00 36 32.4 +1.0**
SAML *e*PKPbc **PKiKP 00 36 39.2 +0.5**
SAML *es*PKPdf **PKPab 00 36 49.5 0.0**
PTGA Pitinga 153.15 66 PKPbc **PKPbc 00 36 39.6 0.0**
baz=326,slow=7.3
PTGA PKPab **PKPab 00 36 50.5 -0.8**
comp=Z,1.4nm,0.2s,baz=319,slow=5.7,SNR=3.2
SIV San Ignacio 155.13 101 PKPab **PKPab 00 37 01.0 +1.2**
comp=Z,3.1nm,1.0s,baz=247,slow=9.9,SNR=3.8
CPUP Villa Florida 155.46 127 PKPbc PKPdf 00 36 44.4 +9.5
comp=Z,5.5nm,1.2s,baz=225,slow=2.9,SNR=3.1
CPUP PKPab **PKPab 00 37 01.9 +1.1**
comp=Z,7.8nm,0.8s,baz=243,slow=5.3,SNR=15
BDFB Brasilia 167.62 106 PKP **PKPdf 00 36 47.5 -0.5**
comp=Z,4.5nm,1.1s,baz=208,slow=1.7,SNR=3.2
BDFB PKPab **PKPab 00 37 54.6 +0.2**
comp=Z,3.6nm,0.9s,baz=230,slow=7.0,SNR=3.1

NIED ***05*** *00:16:00, 36.50N× 140.90E, h5km, Mw3.7 Best double couple: M0 4.28000× 10^14 NP1:ϕs 30.00000°, δ54.00000°, λ-39.00000°. NP2:ϕs 146.00000°, δ59.00000°, λ-137.00000°.*

ISCJB ***05*** *00:16:55.6± 1.2, 36.49N± 0.04× 141.08E± 0.05, h8km± 7km, mb3.7/8, Error ellipse: s-maj=7.8km s-min=6.6km az=138.0*

IDC ***05*** *00:16:56.0± 1.0, 36.52N× 140.93E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.6/52, mbtmp3.7/11, ML3.1/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/44, Error ellipse: s-maj=22.8km s-min=18.5km az=98.0*

JMA ***05*** *00:16:58.3± 0.1, 36.52N× 140.93E, h14km± 2km, M3.9*

JMA Felt II J1.

ISC 05 00:16:56.5± 3.3, 36.54N± 0.04× 140.92E± 0.05, h3km± 22km, n24, σ 80/24, mb3.8/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.29**	**284**	P	**Pb**	**00 17 04.1**	**-0.3**
JHO				S	**Sb**	**00 17 09.1**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.57**	**350**	P	**Pb**	**00 17 09.7**	**+0.5**
ONAJ				S	**Sb**	**00 17 18.1**	**+0.4**
JYT	**Yasato**	**0.67**	**242**	P	**Pb**	**00 17 10.9**	**+0.2**
JYT				S	**Sb**	**00 17 20.4**	**+0.1**
JFK	**Kawauchi**	**0.83**	**357**	P	**Pb**	**00 17 13.7**	**+0.2**
JSB	**Shiboa**	**0.91**	**298**	P	**Pn**	**00 17 16.2**	**0.0**
JSB				S	**Sn**	**00 17 29.6**	**-0.3**
MJAR	**Matsushiro Arr**	**2.19**	**271**	Pn	**Pn**	**00 17 34.7**	**+1.0**
	8.6nm,0.3s,baz=88,slow=14,SNR=56						
MJAR				Sn	**Sb**	**00 18 02.8**	**-1.4**
	29nm,0.3s,baz=126,slow=24,SNR=7.1						
MJAR				LR	LR	00 18 39.4	
	comp=Z,190nm,18.4s,baz=95,slow=48						
MAT	**Matsushiro**	**2.19**	**271**	P	**Pn**	**00 17 35.0**	**+1.2**
MAT				S	**Sb**	**00 18 04.7**	**+0.5**
JHJ	**Hachijo jima 2**	**3.54**	**196**	Pn	**Pn**	**00 17 52.6**	**+0.3**
	16nm,0.3s,baz=46,slow=12,SNR=3.5						
JHJ				Sn	**Sn**	**00 18 35.5**	**+0.9**
	11nm,0.3s,baz=52,slow=19,SNR=3.1						
ASAJ	**Asahikawa**	**7.68**	**9**	Pn	**Pn**	**00 18 48.5**	**-0.6**
	0.1nm,0.8s,baz=209,slow=10,SNR=2.7						
KSRS	**Korea Array**	**10.44**	**279**	Pn	Pn	00 19 32.4	+5.3
	0.2nm,0.3s,baz=92,slow=14,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**28.24**	**119**	T	T	00 52 25.8	
	baz=312,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.25**	**119**	T	T	00 52 31.1	
	baz=312,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.26**	**119**	T	T	00 52 26.4	
	baz=312,slow=75,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**28.93**	**121**	T	T	00 53 12.5	
	baz=314,slow=76,SNR=53						
H11S3	**WAKE ISLAND Hy**	**28.93**	**121**	T	T	00 53 12.1	
	baz=314,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**28.95**	**121**	T	T	00 53 13.9	
	baz=314,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**41.96**	**313**	P	**P**	**00 24 48.0**	**-0.3**
	0.8nm,0.4s,baz=99,slow=7.3,SNR=4.0						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**00 25 06.1**	**+0.6**
	0.2nm,0.3s,baz=87,slow=9.4,SNR=2.3						
KURBB	**Kurchatov Arra**	**46.00**	**308**	P	**P**	**00 25 20.2**	**-0.7**
	2.5nm,0.7s,baz=82,slow=7.6,SNR=18						
ILAR	**Eielson Array**	**50.12**	**32**	P	**P**	**00 25 54.1**	**+1.5**
	0.4nm,0.7s,baz=275,slow=7.9,SNR=3.4						
WRA	**Warramunga Arr**	**56.52**	**187**	P	**P**	**00 26 39.0**	**-1.1**
	1.0nm,0.7s,baz=7.8,slow=7.0,SNR=3.4						
ASAR	**Alice Springs**	**60.25**	**187**	P	**P**	**00 27 05.8**	**-0.3**
	0.5nm,0.7s,baz=20,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**69.07**	**332**	P	**P**	**00 28 02.2**	**-1.0**
	1.9nm,1.0s,baz=29,slow=3.2,SNR=2.5						
PDAR	**Pinedale Array**	**78.29**	**45**	P	**P**	**00 28 58.7**	**+0.6**
	0.2nm,0.5s,baz=238,slow=1.7,SNR=2.6						

MEX 05 00:17:48.7± 0.8, 17.12N× 101.16W, h20km± 5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.56**	**329**	*e*P	Pb	00 17 58.1	-1.8
ZIIG				*e*S	Sb	00 18 05.9	-1.6
CAIG	**El Cayaco**	**0.86**	**95**	*e*P	Pb	00 18 02.4	-2.5
CAIG				*e*S	Sb	00 18 12.4	-3.5
ARIG	**Puente Sto Nin**	**1.39**	**34**	*e*P	Pn	00 18 10.1	-2.9
ARIG				*e*S	Sn	00 18 26.4	-4.3
MEIG	**Mezcala**	**1.67**	**61**	*e*P	Pn	00 18 14.7	-2.2
MEIG				*e*S	Sn	00 18 34.2	-3.6
PLIG	**Platanillo**	**2.02**	**51**	*e*P	Pn	00 18 20.6	-1.2

PLIG				*e*S	Sn	00 18 43.2	-3.3
TLIG	**Tlapa**	**2.51**	**80**	*e*P	Pn	00 18 25.3	-3.3
TLIG				*e*S	Sn	00 18 55.3	-3.5

ISCJB ***05*** *00:29:47.7±0.7, 19.00N±0.06×145.6E±0.2, h214km, mb3.5/9, Error ellipse: s-maj=26.7km s-min=8.2km az=177.0*
IDC ***05*** *00:29:50.1±1.7, 18.94N×145.54E, h224km±17km, mb3.4/9, mb1 3.6/12, mb1mx3.2/44, mbtmp4.0/12, Error ellipse: s-maj=25.4km s-min=10.2km az=82.0*

ISC 05 00:29:49.3±0.8, 19.00N±0.07×145.6E±0.2, h214km, n12, σ1§09/13, mb3.6/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.42**	**187**	P	**Pn**	**00 31 11.5**	**+2.1**
	4.8nm,0.3s,baz=353,slow=8.1,SNR=3.8						
GUMO				S	**S**	**00 32 11.9**	**-0.8**
	9.5nm,0.3s,baz=14,slow=19,SNR=3.1						
JCJ	**Chichijima**	**8.65**	**339**	P	**Pn**	**00 31 51.3**	**+0.4**
	baz=270,slow=19						
MJAR	**Matsushiro Arr**	**18.65**	**341**	P	**P**	**00 33 52.1**	**+0.9**
	0.5nm,0.3s,baz=175,slow=12,SNR=9.1						
KSRS	**Korea Array**	**24.02**	**324**	P	**P**	**00 34 45.0**	**+0.4**
	0.6nm,0.5s,baz=143,slow=8.5,SNR=3.9						
WRA	**Warramunga Arr**	**40.24**	**197**	P	**P**	**00 37 05.0**	**-0.4**
	6.7nm,0.7s,baz=15,slow=8.9,SNR=86						
ASAR	**Alice Springs**	**43.91**	**196**	P	**P**	**00 37 34.4**	**-0.6**
	1.4nm,0.6s,baz=15,slow=6.3,SNR=28						
DZM	**Mont Dzumac**	**45.63**	**152**	P	**P**	**00 37 47.9**	**-0.7**
	4.3nm,0.6s,baz=316,slow=19,SNR=11						
MKAR	**Makanchi Array**	**58.18**	**314**	P	**P**	**00 39 20.8**	**-0.2**
	0.6nm,0.7s,baz=88,slow=8.5,SNR=6.6						
ILAR	**Eielson Array**	**63.43**	**26**	P	**P**	**00 39 56.3**	**+0.4**
	0.2nm,0.5s,baz=258,slow=4.2,SNR=3.5						
BVAR	**Borovoye Array**	**66.18**	**320**	P	**P**	**00 40 13.8**	**-0.1**
	0.9nm,0.5s,baz=104,slow=9.5,SNR=4.9						
YKA	**Yellowknife Ar**	**77.78**	**28**	P	**P**	**00 41 23.0**	**+0.5**
	0.3nm,0.6s,baz=290,slow=5.8,SNR=4.6						
FINES	**FINESS Array B**	**86.57**	**335**	P	**P**	**00 42 06.1**	**-2.0**
	0.9nm,0.7s,baz=79,slow=4.1,SNR=6.0						

IDC 05 00:39:01.8±3.2, 4.98S×133.71E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.4/25, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=130.3km s-min=30.7km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.89**	**178**	Pn	Pn	00 42 33.0	-0.8
	0.1nm,0.3s,baz=355,slow=13,SNR=7.4						
WRA				Sn	Sn	00 45 08.7	-11
	0.1nm,0.3s,baz=359,slow=22,SNR=2.9						
FITZ	**Fitzroy Crossi**	**15.24**	**211**	Pn	Pn	00 42 38.3	-0.2
	0.2nm,0.3s,baz=39,slow=12,SNR=9.4						
FITZ				Sn	Sn	00 45 19.3	-8.9
	0.2nm,0.3s,baz=122,slow=19,SNR=4.3						
ASAR	**Alice Springs**	**18.58**	**179**	P	Pn	00 43 20.9	+0.1
	0.2nm,0.3s,baz=6.9,slow=11,SNR=8.3						
ASAR				S	Sn	00 46 42.5	-6.8
	0.1nm,0.3s,baz=352,slow=26,SNR=3.0						
MKAR	**Makanchi Array**	**68.64**	**325**	P	P	00 50 07.0	0.0
	0.3nm,0.4s,baz=112,slow=7.2,SNR=4.3						

DJA 05 00:45:42.3±0.5, 6.7S±4.7×107.7E±5.7, h13km±4km, M3.5/10, MLv3.5/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBJI	**Citeko**	**0.45**	**278**	P	Pg	00 45 49.3	-1.9
LEM	**Lembang**	**0.47**	**138**	P	Pn	00 45 55.9	+1.0
CNJI	**Cibinong**	**0.84**	**192**	P	Pg	00 45 56.0	-2.6
SKJI	**Sukabumi**	**0.90**	**235**	P	Pg	00 45 57.9	-1.9
SKJI				S	Sg	00 46 11.5	-0.2
JCJI	**Jatiwangi**	**0.96**	**91**	P	Pb	00 45 58.7	-2.2
JCJI				S	Sg	00 46 13.7	+0.2
CISI	**Cisompet, Garu**	**1.19**	**154**	P	Pn	00 46 02.7	-2.0
CISI				S	Sb	00 46 19.7	-0.3
SBJI	**Serang**	**1.22**	**287**	P	Pn	00 46 03.6	-1.4
CGJI	**Cibinong**	**1.60**	**265**	P	Pn	00 46 09.8	-0.5
CGJI				S	Sb	00 46 32.1	+0.2
CMJI	**Cimerak**	**1.73**	**139**	P	Pn	00 46 10.6	-1.4
KPJI	**Karang Pucung**	**1.83**	**118**	P	Pn	00 46 12.4	-1.0

GUC 05 00:53:26.5±0.7, 34.92S×71.67W, h36km±8km, ML3.6, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.51**	**217**	⇓*i*P	Pn	00 53 52.7	+1.6
COCH				*i* S	Sn	00 54 11.9	+2.4
COCH				IAML		00 54 17.6	
	comp=E,885nm,0.2s						
RCDM	**Rinconada Maip**	**1.60**	**27**	⇑*i*P	Pn	00 53 53.0	+0.8
ANTU	**Antumapu**	**1.60**	**33**	⇓*i*P	Pn	00 53 54.2	+1.9
ANTU				*i* S	Sn	00 54 14.4	+2.6
ANTU				IAML		00 54 19.1	
	comp=E,2µm,0.3s						
FSR	**Penalolen**	**1.72**	**34**	*e*P	Pn	00 53 55.9	+1.9
FSR				*i* S	Sn	00 54 17.4	+2.6
CLCH	**Cerro Calan**	**1.79**	**32**	⇑*i*P	Pn	00 53 56.4	+1.5
CLCH				*i* S	Sn	00 54 19.1	+2.7
PEL	**Peldehue**	**1.95**	**25**	*e*P	Pn	00 53 58.5	+1.4
PEL				*i* S	Sn	00 54 23.4	+3.0
PEL				IAML		00 54 28.4	
	comp=N,675nm,0.4s						
FCH	**Farellones**	**1.96**	**36**	⇓*i*P	Pn	00 53 59.3	+1.8
FCH				*i* S	Sn	00 54 24.6	+3.6
FCH				IAML		00 54 27.9	
	comp=N,614nm,0.2s						
ROCH	**El Roble**	**2.02**	**16**	IAML		00 54 29.4	
	comp=N,1µm,0.3s						

IDC ***05*** *00:55:50.5±1.7, 35.19N×142.50E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.4/43, mbtmp3.6/7, ML3.4/3, MS2.2/2, Ms1 2.2/2, ms1mx2.1/35, Error ellipse: s-maj=45.3km s-min=24.7km az=87.0*
JMA ***05*** *00:55:52.9±0.4, 35.28N×142.41E, h43km, M3.4*
ISCJB ***05*** *00:55:54.0±0.9, 35.27N±0.05×142.34E±0.08, h42km, mb3.5/4, Error ellipse: s-maj=9.0km s-min=7.7km az=169.8*

ISC 05 00:55:56.1±1.2, 35.24N±0.06×142.34E±0.10, h42km, n17, σ1§90/21, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.26**	**243**	P	**Pn**	**00 56 15.3**	**-1.4**
BSO1				*e*X		00 56 31.8	
CHOJ	**Chosi**	**1.29**	**292**	P	**Pn**	**00 56 16.1**	**-1.5**
CHOJ				*e*S	**Sn**	**00 56 32.4**	**-1.3**
BSO3	**Boso 3**	**1.56**	**254**	P	**Pn**	**00 56 20.1**	**-1.0**
BSO3				*e*X		00 56 40.2	
BSO4	**Boso 4**	**1.66**	**262**	P	**Pn**	**00 56 21.8**	**-0.7**
BSO4				*e*X		00 56 44.1	
JFK	**Kawauchi**	**2.43**	**331**	P	**Pn**	**00 56 30.3**	**-3.0**
JIM2	**Oshima 3**	**2.44**	**259**	*e*S	**Sn**	**00 57 01.3**	**-0.8**
JAG	**Ashikaga**	**2.62**	**298**	P	**Pn**	**00 56 34.3**	**-1.7**
JAG				S	**Sn**	**00 57 04.8**	**-1.8**
JFT	**Otama**	**2.79**	**325**	P	**Pn**	**00 56 37.3**	**-1.0**
JFT				S	**Sn**	**00 57 07.7**	**-3.0**
JHJ	**Hachijo jima 2**	**2.99**	**226**	Pn	**Pn**	**00 56 38.7**	**-2.2**
	5.9nm,0.3s,baz=18,slow=21,SNR=6.7						
JHJ				Sn	**Sn**	**00 57 12.1**	**-3.4**
	27nm,0.3s,baz=252,slow=23,SNR=7.0						
MJAR	**Matsushiro Arr**	**3.59**	**292**	Pn	**Pn**	**00 56 48.8**	**-0.5**
	1.6nm,0.3s,baz=228,slow=19,SNR=16						
MJAR				LR	LR	00 57 54.4	
	comp=Z,16nm,19.5s,baz=105,slow=34						
MAT	**Matsushiro**	**3.60**	**292**	P	**Pn**	**00 56 49.0**	**-0.3**
MAT				*e*S	**Sn**	**00 57 32.0**	**+1.4**
ASAJ	**Asahikawa**	**8.87**	**1**	Pn	**Pn**	**00 57 59.6**	**-2.1**
	0.9nm,0.3s,baz=228,slow=9.7,SNR=7.7						
KSRS	**Korea Array**	**11.83**	**285**	LR	LR	01 03 07.8	
	comp=Z,21nm,20.5s,baz=199,slow=36						
MKAR	**Makanchi Array**	**45.72**	**304**	P	**P**	**01 04 15.3**	**+2.3**
	0.2nm,0.6s,baz=88,slow=9.5,SNR=2.5						
WRA	**Warramunga Arr**	**55.40**	**189**	P	**P**	**01 05 26.5**	**+0.4**
	0.5nm,0.6s,baz=6.3,slow=7.6,SNR=7.7						
AKASG	**Malin Array Be**	**76.18**	**323**	P	**P**	**01 07 40.6**	**+1.0**

	0.2nm,0.3s,baz=51,slow=3.7,SNR=2.0							
BRTR	**Keskin Array B**	**80.61**	**312**	P	**P**	**01 08 05.8**	**+1.3**
	0.5nm,0.8s,baz=54,slow=5.7,SNR=4.1							

ISK ***05*** *01:09:55.4, 39.11N×29.11E, h5km, MD2.9*
ISCJB ***05*** *01:09:56.2±0.5, 39.11N±0.03×29.11E±0.04, h8km±5km, Error ellipse: s-maj=5.0km s-min=4.9km az=143.6*
CSEM ***05*** *01:09:56.4, 39.10N×29.12E, h7km, Md2.9*

ISC 05 01:09:56.4±0.9, 39.11N±0.03×29.11E±0.02, h12km±8km, n36, σ0§42/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.29**	**94**	P	**Pg**	**01 10 02.5**	**+0.1**
GDZ				S	**Sg**	**01 10 06.6**	**+0.2**
GDZ	**Gediz**	**0.29**	**94**	*i* P	**Pg**	**01 10 02.5**	**+0.1**
GDZ				*i* S	**Sg**	**01 10 06.6**	**+0.2**
DEMI	**Demirci**	**0.31**	**258**	P	**Pg**	**01 10 02.8**	**0.0**
DEMI				S	**Sg**	**01 10 07.3**	**+0.1**
DEMI	**Demirci**	**0.31**	**258**	*i* P	**Pg**	**01 10 02.9**	**0.0**
DEMI				*i* S	**Sg**	**01 10 07.3**	**+0.1**
TVSB	**Tavsanli**	**0.44**	**38**	*e*PG	**Pg**	**01 10 04.8**	**-0.3**
TVSB				*e*SG	**Sg**	**01 10 10.3**	**-0.6**
TVSB	**Tavsanli**	**0.44**	**38**	*e*Pg	**Pg**	**01 10 04.8**	**-0.3**
TVSB				*e*Sg	**Sg**	**01 10 10.3**	**-0.6**
KHAL	**Karahalli**	**0.79**	**158**	P	**Pb**	**01 10 12.0**	**-0.3**
KHAL				S	**Sg**	**01 10 22.5**	**+0.3**
KHAL	**Karahalli**	**0.79**	**158**	*i* P	**Pb**	**01 10 12.0**	**-0.3**
KHAL				*i* S	**Sg**	**01 10 22.4**	**+0.3**
KHL	**Karahalli**	**0.85**	**158**	*e*PG	**Pg**	**01 10 12.1**	**-0.7**
KHL				*e*SG	**Sb**	**01 10 24.3**	**-0.2**
KHL	**Karahalli**	**0.85**	**158**	*e*Pg	**Pg**	**01 10 12.1**	**-0.7**
KHL				*e*Sg	**Sb**	**01 10 24.3**	**-0.2**
BALB	**Balikesir**	**1.09**	**299**	*e*PN	**Pg**	**01 10 16.9**	**-0.5**
BALB				*e*SN	**Sn**	**01 10 32.6**	**+0.1**
BALB	**Balikesir**	**1.09**	**299**	*e*Pn	**Pg**	**01 10 16.9**	**-0.5**
BALB				*e*Sn	**Sn**	**01 10 32.6**	**+0.1**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*PN	**Pb**	**01 10 19.5**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pb**	**01 10 19.5**	**-0.1**
IZI	**Iznik**	**1.26**	**13**	*e*PN	**Pn**	**01 10 19.7**	**-0.2**
IZI	**Iznik**	**1.26**	**13**	*e*Pn	**Pn**	**01 10 19.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**352**	*e*PN	**Pn**	**01 10 20.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**352**	*e*Pn	**Pn**	**01 10 20.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*PN	**Pn**	**01 10 20.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*Pn	**Pn**	**01 10 20.5**	**+0.1**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*PN	**Pb**	**01 10 22.7**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*Pn	**Pb**	**01 10 22.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.45**	**311**	*e*PN	**Pb**	**01 10 23.4**	**+0.1**
GONE	**Gonen-Balikesi**	**1.45**	**311**	*e*Pn	**Pb**	**01 10 23.4**	**+0.1**
ARMT	**Armutlu**	**1.47**	**353**	*e*PN	**Pn**	**01 10 23.2**	**+0.5**
ARMT	**Armutlu**	**1.47**	**353**	*e*Pn	**Pn**	**01 10 23.2**	**+0.5**
EDC	**Edincik**	**1.57**	**323**	*e*PN	**Pn**	**01 10 24.5**	**+0.4**
EDC	**Edincik**	**1.57**	**323**	*e*Pn	**Pn**	**01 10 24.5**	**+0.4**
GULT	**Gulveren**	**1.71**	**39**	*e*PN	**Pn**	**01 10 26.6**	**+0.5**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**01 10 26.6**	**+0.5**
HRT	**Hereke**	**1.76**	**14**	*e*PN	**Pn**	**01 10 27.2**	**+0.4**
HRT	**Hereke**	**1.76**	**14**	*e*Pn	**Pn**	**01 10 27.3**	**+0.4**
SILT	**Sile**	**2.08**	**11**	*e*PN	**Pn**	**01 10 31.9**	**+0.7**
SILT	**Sile**	**2.08**	**11**	*e*Pn	**Pn**	**01 10 31.9**	**+0.7**
MDUB	**Mudurnu**	**2.11**	**49**	*e*PN	**Pn**	**01 10 32.5**	**+0.9**
MDUB	**Mudurnu**	**2.11**	**49**	*e*Pn	**Pn**	**01 10 32.5**	**+0.9**

CSEM ***05*** *01:15:02.7, 41.96N×46.09E, h0km, ML2.8*
TIF ***05*** *01:15:02.7, 41.96N×46.09E, h9km±1km*
MOS ***05*** *01:15:03.9±1.7, 41.96N×46.09E, h11km, mb3.9/1, Error ellipse: s-maj=8.6km s-min=7.8km az=91.0*

ISC 05 01:15:02.9±1.2, 41.97N±0.03×46.06E±0.02, h6km±10km, n29, σ1§04/53, 3C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNZR	**Khunzakh**	**0.75**	**40**	⇓*i*PG	**Pb**	**01 15 17.5**	**-1.0**
XNZR				*e*S	**Sb**	**01 15 27.8**	**-1.2**
XNZR				pmax	pmax		
	comp=Z,48nm,0.1s						
KMKR	**Kumukh**	**0.79**	**78**	⇑*i*PG	**Pb**	**01 15 18.8**	**-0.5**
KMKR				*i* S	**Sb**	**01 15 29.8**	**-0.5**
KMKR				pmax	pmax		
	comp=Z,29nm,0.2s						
GNBR	**Gunib**	**0.79**	**58**	⇑*i*PG	**Pb**	**01 15 18.5**	**-0.7**
GNBR				*e*		01 15 29.3	
GNBR				pmax	pmax		
	comp=Z,32nm,0.4s						
GNBR				smax	smax		
	comp=N,234nm,0.6s						
GNBR				smax	smax		
	comp=E,226nm,0.5s						
GNBR				smax	smax		
	comp=E,269nm,0.8s						
UNCR	**Uncukul**	**0.92**	**36**	*e*PG	**Pg**	**01 15 20.3**	**-0.4**
UNCR				*i* S	**Sb**	**01 15 33.5**	**-0.5**
TBLG	**Delisi**	**1.01**	**257**	P	**Pb**	**01 15 23.1**	**+0.1**
TBLG				S	**Sn**	**01 15 38.1**	**-0.3**
TBLG	**Delisi**	**1.01**	**257**	PG	**Pb**	**01 15 23.0**	**+0.1**
TBLG				S	**Sn**	**01 15 38.1**	**-0.3**
TBLG	**Delisi**	**1.01**	**257**	P	**Pb**	**01 15 23.1**	**+0.1**
TBLG				S	**Sn**	**01 15 38.1**	**-0.3**
DUS	**Dusheti**	**1.02**	**277**	P	**Pn**	**01 15 23.5**	**-0.4**
DUS				S	**Sn**	**01 15 38.5**	**0.0**
DUS	**Dusheti**	**1.02**	**277**	PG	**Pn**	**01 15 23.4**	**-0.4**
DUS				S	**Sn**	**01 15 38.1**	**-0.5**
DUS	**Dusheti**	**1.02**	**277**	*e*Pn	**Pn**	**01 15 23.5**	**-0.4**
DUS				S	**Sn**	**01 15 38.1**	**-0.5**
KRNR	**Karanay**	**1.06**	**36**	*e*PG	**Pg**	**01 15 22.5**	**-0.8**
KRNR				*e*S	**Sg**	**01 15 36.5**	**-0.6**
KRNR				pmax	pmax		
	comp=Z,36nm,0.2s						
DLMR	**Dylym**	**1.18**	**21**	*e*PG	**Pb**	**01 15 25.0**	**-0.8**
DLMR				*e*S	**Sn**	**01 15 43.0**	**+0.6**
DBC	**Dubki**	**1.20**	**28**	⇑*i*PG	Pn	01 15 31.4	+5.1
DBC				*i* S	**Sn**	**01 15 47.5**	**+4.6**
DBC				pmax	pmax		
	comp=Z,15nm,0.2s						
GROC	**Groznyy**	**1.25**	**351**	*e*PG	**Pg**	**01 15 26.8**	**-0.1**
GROC				*e*		01 15 44.7	
GROC				pmax	pmax		
	comp=Z,152nm,0.2s						
GROC				smax	smax		
	comp=E,242nm,0.4s						
GROC				smax	smax		
	comp=E,38nm,0.4s						
GROC				smax	smax		
	comp=N,224nm,0.4s						
GUDG	**Gudauri**	**1.27**	**293**	P	**Pg**	**01 15 27.7**	**+0.3**
GUDG				S	**Sn**	**01 15 45.9**	**+0.8**
GUDG	**Gudauri**	**1.27**	**293**	P	**Pg**	**01 15 27.8**	**+0.4**
GUDG				S	**Sg**	**01 15 44.4**	**+0.5**
AKT	**Akhty**	**1.34**	**111**	*e*PG	**Pg**	**01 15 27.9**	**-0.8**
AKT				*e*		01 15 47.7	
AKT				pmax	pmax		
	comp=Z,21nm,0.4s						
AKT				smax	smax		
	comp=E,42nm,0.3s						
AKT				smax	smax		
	comp=N,56nm,0.5s						
AKT				smax	smax		
	comp=N,60nm,0.3s						
KMGR	**Komgaron**	**1.40**	**321**	*e*PG	**Pg**	**01 15 30.3**	**+0.5**
KMGR				*e*S	**Sg**	**01 15 50.0**	**+2.0**
LACR	**Lac**	**1.56**	**304**	*e*PG	**Pb**	**01 15 32.0**	**-0.3**
LACR				*e*S	**Sg**	**01 15 53.8**	**+0.7**
KSMR	**Kasumkent**	**1.59**	**103**	*e*PG	**Pg**	**01 15 34.0**	**+0.6**
KSMR				*e*S	**Sg**	**01 15 56.5**	**+2.5**
KORR	**Kora**	**1.85**	**308**	*e*PN	**Pg**	**01 15 37.8**	**-0.5**
KORR				*e*S	**Sg**	**01 16 03.2**	**+0.9**
BGD	**Bogdanovka**	**1.97**	**250**	P	**Pb**	**01 15 38.4**	**-1.0**
BGD				S	**Sb**	**01 16 04.9**	**+0.5**
BGD	**Bogdanovka**	**1.97**	**250**	P	**Pb**	**01 15 38.4**	**-1.0**
BGD				S	**Sb**	**01 16 04.9**	**+0.5**
AKH	**Akhalkalaki**	**2.00**	**255**	P	**Pb**	**01 15 38.7**	**-1.2**
AKH				S	**Sb**	**01 16 05.5**	**+0.4**
ONI	**Oni**	**2.03**	**289**	P	**Pb**	**01 15 39.1**	**-1.2**
ONI				S	**Sb**	**01 16 06.0**	**+0.1**
ONI	**Oni**	**2.03**	**289**	PN	**Pb**	**01 15 39.1**	**-1.2**
ONI	**Oni**	**2.03**	**289**	P	**Pb**	**01 15 39.1**	**-1.2**
ONI				S	**Sb**	**01 16 06.0**	**+0.1**
DIGR	**Digorskoe uzhe**	**2.06**	**298**	*e*PN	**Pb**	**01 15 40.0**	**-0.8**

DIGR				*e*S	**Sb**	**01 16 07.8**	**+1.1**
LSNR	**Lesken**	**2.10**	**309**	*e*PN	**Pb**	**01 15 41.3**	**-0.2**
LSNR				*e*S	**Sg**	**01 16 09.8**	**-0.7**

NIED ***05*** *01:22:00, 35.70N×140.60E, h50km, Mw4.3 Best double couple: M0 2.67000×10^15 NP1:φ210.00000°, δ24.00000°, λ105.00000°. NP2:φ14.00000°, δ67.00000°, λ84.00000°.*
ISCJB ***05*** *01:22:02.9±0.5, 35.68N±0.04×140.80E±0.07, h55km±4km, mb3.8/15, MS3.3/7, Error ellipse: s-maj=9.0km s-min=6.1km az=167.6*
JMA ***05*** *01:22:04.3±0.1, 35.71N×140.64E, h48km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs7.00000°, δ79.00000°, λ86.00000°. NP2:φs209.00000°, δ12.00000°, λ111.00000°. Principal axes: T Plg56.0000°, Azm272.0000°; N Plg4.0000°, Azm84.0000°; P Plg34.0000°, Azm101.0000°;*
JMA Felt II J1.
IDC ***05*** *01:22:04.3±1.7, 35.63N×140.66E, h51km±16km, mb3.6/15, mb1 3.8/20, mb1mx3.7/38, mbtmp3.9/20, ML3.6/3, MS3.3/12, Ms1 3.3/12, ms1mx3.0/37 Error ellipse: s-maj=19.7km s-min=10.4km az=87.0*

ISC 05 01:22:04.1±0.8, 35.64N±0.05×140.76E±0.06, h50km±7km, n44, σ1§70/38, mb3.9/15, MS3.2/7, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.11**	**51**	⇑P	**Pn**	**01 22 12.3**	**+0.3**
CHOJ				S	**Sn**	**01 22 16.8**	**-0.8**
JCN	**Nagara**	**0.50**	**245**	⇓P	**Pn**	**01 22 15.8**	**+0.4**
BSO4	**Boso 4**	**0.73**	**208**	⇓P	**Pn**	**01 22 18.9**	**+0.8**
JYT	**Yasato**	**0.75**	**322**	⇓P	**Pn**	**01 22 17.2**	**-1.3**
JYT				S	**Sn**	**01 22 26.5**	**-2.4**
BSO3	**Boso 3**	**0.86**	**194**	P	**Pn**	**01 22 20.4**	**+0.8**
JHO	**Hitachi**	**0.99**	**351**	⇓P	**Pn**	**01 22 21.1**	**-0.5**
BSO1	**Boso 1**	**1.00**	**169**	P	**Pn**	**01 22 22.8**	**+1.5**
JAG	**Ashikaga**	**1.32**	**307**	P	**Pn**	**01 22 25.1**	**-1.0**
JOD2	**Odawara 2**	**1.41**	**255**	⇓P	**Pn**	**01 22 26.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.25**	**294**	P	**Pn**	**01 22 39.0**	**0.0**
	16nm,0.3s,baz=95,slow=11,SNR=162						
MJAR				LR	LR	01 23 38.4	
	comp=Z,533nm,19.3s,baz=110,slow=44						
MAT	**Matsushiro**	**2.26**	**294**	P	**Pn**	**01 22 39.3**	**+0.3**
MAT				*e*S	**Sn**	**01 23 06.3**	**+0.7**
JHJ	**Hachijo jima 2**	**2.64**	**198**	P	**Pn**	**01 22 44.0**	**-0.2**
	29nm,0.3s,baz=337,slow=19,SNR=24						
JHJ				S	**Sn**	**01 23 15.1**	**+0.2**
	102nm,0.3s,baz=359,slow=23,SNR=8.3						
JNU	**Nakatsue**	**8.54**	**256**	P	**Pn**	**01 24 09.3**	**+4.1**
	0.2nm,0.3s,baz=64,slow=6.2,SNR=3.6						
JNU				LR	LR	01 27 43.3	
	comp=Z,303nm,18.2s,baz=119,slow=40						
ASAJ	**Asahikawa**	**8.59**	**9**	P	**Pn**	**01 24 04.6**	**-1.1**
	1.0nm,0.3s,baz=207,slow=10,SNR=7.8						
JCJ	**Chichijima**	**8.60**	**171**	P	**Pn**	**01 24 04.8**	**-1.1**
	9.0nm,0.3s,baz=2.4,slow=21,SNR=9.2						
JCJ				S	**Sn**	**01 25 35.0**	**-6.6**
	3.9nm,0.3s,baz=90,slow=20,SNR=3.5						
KSRS	**Korea Array**	**10.48**	**284**	P	**Pn**	**01 24 34.8**	**+3.1**
	0.1nm,0.3s,baz=100,slow=14,SNR=18						
KSRS				LR	LR	01 28 26.1	
	comp=Z,183nm,21.1s,baz=124,slow=37						
USRK	**Ussuriysk Ar.**	**10.88**	**324**	P	**Pn**	**01 24 38.0**	**+0.9**
	0.1nm,0.3s,baz=121,slow=15,SNR=4.4						
USRK				LR	LR	01 28 31.1	
	comp=Z,73nm,20.9s,baz=128,slow=36						
KLR	**Kul'dur**	**15.11**	**337**	LR	LR	01 31 04.7	
	comp=Z,58nm,20.8s,baz=134,slow=36						
MA2	**Magadan**	**24.83**	**12**	LR	LR	01 37 21.8	
	comp=Z,39nm,18.5s,baz=242,slow=37						
YAK	**Yakutsk**	**27.32**	**349**	LR	LR	01 39 15.2	
	comp=Z,24nm,18.4s,baz=194,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	01 57 17.0	
	baz=309,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	01 57 02.7	
	baz=309,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	01 57 26.9	
	baz=309,slow=75,SNR=34						
SONM	**Songino Array**	**28.16**	**306**	P	**P**	**01 27 50.9**	**-0.7**
	0.9nm,0.6s,baz=110,slow=11,SNR=2.7						
SONM				LR	LR	01 39 31.1	
	comp=Z,61nm,19.8s,baz=79,slow=37						
H11S1	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	01 57 54.5	
	baz=312,slow=75,SNR=68						
H11S3	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	01 57 45.5	
	baz=312,slow=75,SNR=44						
H11S2	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	01 57 54.1	
	baz=312,slow=75,SNR=38						
CMAR	**Chiang Mai Arr**	**40.64**	**256**	LR	LR	01 46 43.8	
	comp=Z,41nm,18.8s,baz=65,slow=36						
ZALV	**Zalesovo Beam**	**42.48**	**314**	P	**P**	**01 29 53.4**	**-0.6**
	1.9nm,0.7s,baz=90,slow=7.4,SNR=8.1						
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**01 30 09.8**	**-0.1**
	2

AKSY				S	Sg	01 55 07.9	+1.5	
AKSY	**AKSARAY - Alti**	**0.16**	**121**	*i* P	**Pg**	01 55 04.6	+0.3	
AKSY				*i* S	**Sg**	01 55 07.9	+1.5	
SERE	**Sereflikochisa**	**0.22**	**356**	*e*PG	**Pg**	01 55 04.5	-0.9	
SERE				*e*SG	**Sg**	01 55 08.9	+0.7	
SERE	**Sereflikochisa**	**0.22**	**356**	*e*Pg	**Pg**	01 55 04.5	-0.9	
SERE				*e*Sg	**Sg**	01 55 08.9	+0.7	
CHBY	**Cihanbeyli**	**0.56**	**255**	*e*PG	**Pg**	01 55 12.1	+0.1	
CHBY				*e*SG	**Sb**	01 55 21.8	-0.7	
CHBY	**Cihanbeyli**	**0.56**	**255**	*e*Pg	**Pg**	01 55 12.1	+0.1	
CHBY				*e*Sg	**Sb**	01 55 21.8	-0.7	
GULA	**Gulagac**	**0.64**	**127**	*e*PG	**Pg**	01 55 13.4	-0.1	
GULA				*e*SG	**Sb**	01 55 22.5	-2.2	
GULA	**Gulagac**	**0.64**	**127**	*e*Pg	**Pg**	01 55 13.4	-0.1	
GULA				*e*Sg	**Sb**	01 55 22.5	-2.2	
KAMT	**Kaman**	**0.65**	**9**	*e*PG	**Pg**	01 55 12.5	-1.1	
KAMT	**Kaman**	**0.65**	**9**	*e*Pg	**Pg**	01 55 12.5	-1.1	
KKUL	**Konya-Kulu**	**0.68**	**310**	P	**Pg**	01 55 14.4	+0.1	
KKUL				S	**Sg**	01 55 24.3	+1.2	
KKUL	**Konya-Kulu**	**0.68**	**310**	*i* P	**Pg**	01 55 14.4	+0.1	
KKUL				*i* S	**Sg**	01 55 24.3	+1.2	
AFSR	**Afˇar-Bala (A**	**0.82**	**331**	*e*PG	**Pg**	01 55 16.7	-0.2	
AFSR	**Afˇar-Bala (A**	**0.82**	**331**	*e*Pg	**Pg**	01 55 16.7	-0.2	
BBAL	**Bala**	**0.89**	**336**	P	**Pg**	01 55 18.2	0.0	
BBAL				S	**Sb**	01 55 31.9	0.0	
BBAL	**Bala**	**0.89**	**336**	*i* P	**Pg**	01 55 18.2	0.0	
BBAL				*i* S	**Sb**	01 55 31.9	0.0	
YESY	**Yesilyurt**	**0.95**	**172**	*e*PG	**Pb**	01 55 19.6	-1.0	
YESY	**Yesilyurt**	**0.95**	**172**	*e*Pg	**Pb**	01 55 19.6	-1.0	
AVNS	**Nevsehir-Avano**	**0.99**	**85**	P	**Pg**	01 55 18.4	-1.8	
AVNS	**Nevsehir-Avano**	**0.99**	**85**	*i* P	**Pg**	01 55 18.4	-1.8	
AVNS				*i* S	**Sn**	01 55 36.3	-0.7	
NIG	**Nigde**	**1.02**	**127**	*e*PG	**Pb**	01 55 20.7	-1.1	
NIG	**Nigde**	**1.02**	**127**	*e*Pg	**Pb**	01 55 20.7	-1.1	
CDAG	**Cicekdag**	**1.08**	**34**	P	**Pg**	01 55 20.1	-1.8	
CDAG				S	**Sg**	01 55 36.7	+0.7	
CDAG	**Cicekdag**	**1.08**	**34**	*i* P	**Pg**	01 55 20.1	-1.8	
CDAG				*i* S	**Sg**	01 55 36.7	+0.7	
LADK	**Ladik-KONYA**	**1.09**	**241**	*e*PN	**Pb**	01 55 22.1	-0.9	
LADK	**Ladik-KONYA**	**1.09**	**241**	*e*Pn	**Pb**	01 55 22.1	-0.9	
KDHN	**Kadinhani**	**1.17**	**260**	P	**Pg**	01 55 23.0	-0.6	
KDHN	**Kadinhani**	**1.17**	**260**	*i* P	**Pg**	01 55 23.0	-0.6	
KDHN				*i* S	**Sn**	01 55 43.5	+2.1	
KONT	**Konya--Tatoy**	**1.24**	**231**	*e*PN	**Pn**	01 55 25.0	-0.7	
KONT	**Konya--Tatoy**	**1.24**	**231**	*e*Pn	**Pn**	01 55 25.0	-0.7	
KIZT	**Kizilcal**	**1.34**	**277**	*e*PN	**Pn**	01 55 26.2	-0.9	
KIZT	**Kizilcal**	**1.34**	**277**	*e*Pn	**Pn**	01 55 26.2	-0.9	
KERG	**Konya-Eregli**	**1.38**	**162**	P	**Pg**	01 55 28.0	+0.3	
KERG	**Konya-Eregli**	**1.38**	**162**	*i* P	**Pg**	01 55 28.0	+0.3	
KERG				*i* S	**Sn**	01 55 48.6	+1.9	
YOZ	**Yozgat**	**1.62**	**56**	*e*PN	**Pn**	01 55 31.1	0.0	
YOZ	**Yozgat**	**1.62**	**56**	*e*Pn	**Pn**	01 55 31.1	0.0	
CORM	**Corum**	**1.66**	**29**	*e*PN	**Pn**	01 55 31.2	-0.3	
CORM	**Corum**	**1.66**	**29**	*e*Pn	**Pn**	01 55 31.2	-0.3	
SVRH	**Sivrihisar-ESK**	**1.76**	**295**	*e*PN	**Pn**	01 55 33.1	+0.2	
SVRH	**Sivrihisar-ESK**	**1.76**	**295**	*e*Pn	**Pn**	01 55 33.1	+0.2	
ELDT	**Eldivan**	**1.76**	**356**	P	**Pn**	01 55 32.8	-0.2	
ELDT				S	**Sb**	01 55 58.5	+1.4	
ELDT	**Eldivan**	**1.76**	**356**	*i* P	**Pn**	01 55 32.8	-0.2	
ELDT				*i* S	**Sb**	01 55 58.5	+1.4	
BNN	**Bunyan**	**1.77**	**85**	*e*PN	**Pn**	01 55 32.7	-0.4	
BNN	**Bunyan**	**1.77**	**85**	*e*Pn	**Pn**	01 55 32.7	-0.4	
COAL	**Corum-Alaca**	**1.87**	**35**	P	**Pn**	01 55 34.1	-0.3	
COAL	**Corum-Alaca**	**1.87**	**35**	*i* P	**Pn**	01 55 34.1	-0.3	
COAL				*i* S	**Sb**	01 56 01.7	+1.6	
KARA	**Karaisali**	**1.87**	**141**	*e*PN	**Pn**	01 55 34.2	-0.2	
KARA	**Karaisali**	**1.87**	**141**	*e*Pn	**Pn**	01 55 34.2	-0.2	
CANT	**Cankiri**	**1.87**	**1**	P	**Pn**	01 55 34.4	-0.2	
AKO	**Adana**	**1.94**	**130**	*i* P	**Pg**	01 55 37.4	-1.0	
ERMK	**Ermenek**	**2.15**	**195**	P	**Pb**	01 55 39.2	-1.9	
ERMK	**Ermenek**	**2.15**	**195**	*i* P	**Pb**	01 55 39.2	-1.9	
KOZT	**Kozan**	**2.17**	**125**	*e*PN	**Pn**	01 55 38.5	+0.1	
KOZT	**Kozan**	**2.17**	**125**	*e*Pn	**Pn**	01 55 38.5	+0.1	
CUSAR	**Sarkisla-SIVAS**	**2.18**	**71**	P	**Pn**	01 55 38.8	+0.1	
CUSAR	**Sarkisla-SIVAS**	**2.18**	**71**	*i* P	**Pn**	01 55 38.8	+0.1	
CUSAR				*i* S	**Sg**	01 56 16.6	+5.3	
SARI	**SarD1z-Kayseri**	**2.24**	**97**	*e*PN	**Pn**	01 55 39.5	-0.2	
TOS	**Tosya**	**2.33**	**8**	*e*PN	**Pn**	01 55 40.6	-0.1	
TOS	**Tosya**	**2.33**	**8**	*e*Pn	**Pn**	01 55 40.6	-0.1	
SUTC	**Sutluce-Ispart**	**2.39**	**239**	*e*PN	**Pb**	01 55 42.6	-2.5	
SUTC	**Sutluce-Ispart**	**2.39**	**239**	*e*Pn	**Pb**	01 55 42.6	-2.5	
CEYT	**Ceyhan**	**2.42**	**134**	*e*PN	**Pn**	01 55 42.3	+0.3	
CEYT	**Ceyhan**	**2.42**	**134**	*e*Pn	**Pn**	01 55 42.3	+0.3	
MDUB	**Mudurnu**	**2.53**	**314**	*e*PN	**Pn**	01 55 43.7	+0.1	
MDUB	**Mudurnu**	**2.53**	**314**	*e*Pn	**Pn**	01 55 43.7	+0.1	
KRTS	**Karatas**	**2.58**	**146**	*e*PN	**Pn**	01 55 44.8	+0.7	
KRTS	**Karatas**	**2.58**	**146**	*e*Pn	**Pn**	01 55 44.8	+0.7	
SAFT	**Safranbolu**	**2.60**	**345**	*e*PN	**Pn**	01 55 44.8	+0.4	
SAFT	**Safranbolu**	**2.60**	**345**	*e*Pn	**Pn**	01 55 44.8	+0.4	
TOKT	**Tokat**	**2.79**	**54**	*e*PN	**Pn**	01 55 46.8	-0.2	
TOKT	**Tokat**	**2.79**	**54**	*e*Pn	**Pn**	01 55 46.8	-0.2	
BYBT	**Boyabat**	**2.88**	**18**	*e*PN	**Pn**	01 55 49.0	+0.8	
BYBT	**Boyabat**	**2.88**	**18**	*e*Pn	**Pn**	01 55 49.0	+0.8	
SVSK	**Karacayir**	**2.90**	**65**	*e*PN	**Pn**	01 55 49.0	+0.6	
SVSK	**Karacayir**	**2.90**	**65**	*e*Pn	**Pn**	01 55 49.0	+0.6	
GULT	**Gulveren**	**2.92**	**307**	*e*PN	**Pn**	01 55 49.3	+0.5	
GULT	**Gulveren**	**2.92**	**307**	*e*Pn	**Pn**	01 55 49.3	+0.5	
KVT	**Kavak**	**3.02**	**38**	*e*PN	**Pn**	01 55 50.4	+0.3	
KVT	**Kavak**	**3.02**	**38**	*e*Pn	**Pn**	01 55 50.4	+0.3	
DIKM	**Dikmen**	**3.18**	**23**	*e*PN	**Pn**	01 55 53.0	+0.6	
DIKM	**Dikmen**	**3.18**	**23**	*e*Pn	**Pn**	01 55 53.0	+0.6	
BZK	**Bozkurt**	**3.24**	**6**	*e*PN	**Pn**	01 55 53.7	+0.5	
BZK	**Bozkurt**	**3.24**	**6**	*e*Pn	**Pn**	01 55 53.7	+0.5	
RSDY	**Resadiye-TOKAT**	**3.34**	**59**	*e*PN	**Pn**	01 55 55.2	+0.7	
RSDY	**Resadiye-TOKAT**	**3.34**	**59**	*e*Pn	**Pn**	01 55 55.2	+0.7	

IDC ***05*** *02:00:13.0±0.9, 18°.65N×61°.63W, h0km, mb3.7/8, mb1 4.0/12, mb1mx3.8/33, mbtmp3.8/12, ML3.6/4, MS3.5/14, Ms1 3.5/14, ms1mx3.2/36, Error ellipse: s-maj=23.1km s-min=19.9km az=156.0*

ISCJB ***05*** *02:00:15.1±0.5, 18°.63N±0°.03×61°.72W±0°.04, h26km, mb3.7/8, MS3.5/12, Error ellipse: s-maj=6.3km s-min=4.7km az=158.9*

TRN ***05*** *02:00:16.6, 18°.56N×61°.82W, h63km, MD4.2*

ISC 05 02:00:16.7±0.6, 18°.60N±0°.06×61°.76W±0°.06, h26km, n41, σ1§29/41, mb3.8/8, MS3.5/12, 3C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.93**	**182**	*e*P	**Pb**	02 00 34.4	+0.3
SMRT	**St. Maarten**	**1.37**	**246**	*e*P	**Pn**	02 00 39.5	-0.6
SMRT				*e*S	**Sn**	02 00 57.5	+0.1
BPA	**Boggy Peak**	**1.55**	**183**	*e*P	**Pn**	02 00 42.3	-0.4
BPA				*e*S	**Sn**	02 01 01.8	-0.1
SEUS	**St. Eustatius**	**1.60**	**227**	*e*P	**Pn**	02 00 43.7	+0.4
SEUS	**St. Eustatius**	**1.60**	**227**	*e*	**Pn**	02 00 44.0	+0.7
SEUS				*e*S	**Sn**	02 01 03.6	+0.4
SABA	**Saba**	**1.72**	**236**	*e*P	**Pn**	02 00 45.2	+0.3
MLYT	**Lee's Yard**	**1.92**	**192**	*i*P	**Pn**	02 00 48.2	+0.6
H05N1	**Guadeloupe/Mar**	**2.37**	**163**	Pn	**Pn**	02 00 53.1	-0.8
H05N1				Sn	**Sn**	02 01 20.9	-1.3
DEG	**La Desirade**	**2.37**	**164**	*e*P	**Pn**	02 00 54.5	+0.5
MGG	**Marie-Galante**	**2.70**	**171**	*e*P	**Pn**	02 00 59.6	+1.2
DWS	**Wesley**	**3.05**	**172**	*e*P	**Pn**	02 01 04.6	+1.4
BBL	**Barber's Block**	**3.07**	**175**	*e*P	**Pn**	02 01 03.7	+0.1
BBL				*e*S	**Sn**	02 01 38.5	-1.0
BAMF	**Morne Balai**	**3.81**	**171**	*e*P	**Pn**	02 01 15.0	+1.2
CXM	**Morne La Croix**	**3.81**	**171**	*e*P	**Pn**	02 01 14.1	+0.2
FDF	**Fort de France**	**3.89**	**171**	*e*P	**Pn**	02 01 15.7	+0.8
FDF				*e*S	**Sn**	02 01 58.7	-1.1
LPMF	**Morne Lapointe**	**4.08**	**169**	*e*P	**Pn**	02 01 18.6	+1.2
SJG	**San Juan**	**4.20**	**264**	Pn	**Pn**	02 01 18.5	-0.5
	4.4nm,0.3s,baz=75,slow=9.8,SNR=17						
SJG				Sn	**Sn**	02 02 05.9	-1.4
	7.6nm,0.3s,baz=80,slow=8.8,SNR=4.3						
SJG				LR	LR	02 03 26.9	
	comp=Z,731nm,18.7s,baz=10,slow=45						
H05S1	**Guadeloupe/Mar**	**4.25**	**168**	Pn	**Pn**	02 01 21.7	+1.9
	SNR=30						
H05S1				Sn	**Sn**	02 02 08.5	0.0
	SNR=4.1						
MCLT	**Moule a Chique**	**4.93**	**171**	*e*P	**Pn**	02 01 28.9	-0.2
MCLT	**Moule a Chique**	**4.93**	**171**	*e*S	**Sn**	02 02 22.3	-3.0
PCRV	**Puerto La Cruz**	**8.83**	**199**	Pn	**Pn**	02 02 24.0	+1.2
	0.8nm,0.3s,baz=137,slow=7.6,SNR=4.0						
SDDR	**Presa de Saban**	**9.03**	**274**	*e*P	**Pn**	02 02 24.2	-1.4
SDDR	**Presa de Saban**	**9.03**	**274**	*e*S	**Sn**	02 04 02.2	-4.3
ROSC	**El Rosal**	**18.38**	**223**	P	**Pn**	02 04 31.0	+0.8
	0.9nm,0.3s,baz=78,slow=19,SNR=3.8						
ROSC				LR	LR	02 13 16.0	
	comp=Z,215nm,18.1s,baz=37,slow=42						
PTGA	**Pitinga**	**19.29**	**175**	P	**P**	02 04 39.9	+0.1
	0.5nm,0.3s,baz=344,slow=16,SNR=6.2						
TKL	**Tuckaleechee C**	**25.84**	**316**	LR	LR	02 15 24.1	
	comp=Z,900nm,19.3s,baz=174,slow=35						
LPAZ	**La Paz**	**35.23**	**191**	LR	LR	02 22 17.5	
	comp=Z,100nm,18.2s,baz=355,slow=38						
TXAR	**Lajitas Array**	**39.57**	**294**	P	**P**	02 07 48.6	+2.6
	0.9nm,0.8s,baz=119,slow=10,SNR=4.7						
TXAR				LR	LR	02 29 56.2	
	comp=Z,16nm,18.8s,baz=0.0,slow=45						
PDAR	**Pinedale Array**	**46.87**	**312**	P	**P**	02 08 45.6	+0.6
	0.7nm,0.7s,baz=98,slow=11,SNR=6.4						
PDAR				LR	LR	02 29 05.1	
	comp=Z,34nm,19.9s,baz=112,slow=37						
NVAR	**Mina Array Bea**	**52.63**	**304**	LR	LR	02 31 46.5	
	comp=Z,46nm,22.0s,baz=85,slow=36						
ESDC	**Sonseca Array**	**53.72**	**54**	P	**P**	02 09 37.5	+0.8
	0.2nm,0.5s,baz=278,slow=6.7,SNR=4.2						
ESDC				LR	LR	02 27 43.3	
	comp=Z,25nm,20.0s,baz=290,slow=31						
DBIC	**Dimbokro**	**56.56**	**94**	LR	LR	02 30 56.5	
	comp=Z,38nm,20.3s,baz=200,slow=33						
YKA	**Yellowknife Ar**	**56.85**	**334**	P	**P**	02 09 58.0	-0.9
	0.4nm,0.4s,baz=102,slow=7.4,SNR=8.1						
TORD	**Torodi Ar. Bea**	**61.02**	**85**	P	**P**	02 10 27.0	-1.5
	0.6nm,1.1s,baz=288,slow=6.0,SNR=3.6						
NOA	**NORSAR Array B**	**65.66**	**31**	LR	LR	02 38 07.8	
	comp=Z,28nm,18.1s,baz=195,slow=35						
GERES	**GERESS Array B**	**66.71**	**44**	P	**P**	02 11 05.0	-0.6
	0.5nm,0.7s,baz=267,slow=4.8,SNR=4.7						
ILAR	**Eielson Array**	**71.28**	**333**	P	**P**	02 11 34.4	+0.9
	1.1nm,1.1s,baz=101,slow=4.8,SNR=4.6						
FINES	**FINESS Array B**	**72.83**	**30**	P	**P**	02 11 43.0	+0.2
	2.1nm,0.9s,baz=309,slow=6.1,SNR=3.8						
FINES				LR	LR	02 40 50.3	
	comp=Z,31nm,19.0s,baz=290,slow=34						
AKASG	**Malin Array Be**	**76.44**	**41**	LR	LR	02 44 21.4	
	comp=Z,50nm,18.7s,baz=275,slow=35						
BRTR	**Keskin Array B**	**82.35**	**51**	LR	LR	02 46 35.4	
	comp=Z,8.9nm,19.6s,baz=260,slow=34						
ASF	**Jabal al Asfar**	**87.31**	**57**	LR	LR	02 50 03.9	
	comp=Z,57nm,19.4s,slow=34						

ISCJB ***05*** *02:05:13.8±0.5, 39°.14N±0°.03×29°.09E±0°.05, h9km, Error ellipse: s-maj=5.6km s-min=4.4km az=30.2*

DDA ***05*** *02:05:13.9, 39°.12N×29°.10E, h7km, Md2.8*

ISK ***05*** *02:05:13.3, 39°.14N×29°.09E, h7km, MD2.7*

CSEM ***05*** *02:05:13.9±0.1, 39°.14N×29°.09E, h8km, MD2.8, Error ellipse: s-maj=1.9km s-min=1.5km az=98.0*

ISC 05 02:05:14.1±0.9, 39°.15N±0°.03×29°.10E±0°.03, h9km, n27, σ0§38/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.32**	**250**	P	**Pg**	02 05 20.6	+0.2
DEMI				S	**Sg**	02 05 24.9	+0.3
DEMI	**Demirci**	**0.32**	**250**	*i* P	**Pg**	02 05 20.6	+0.2
DEMI				*i* S	**Sg**	02 05 24.9	+0.3
TVSB	**Tavsanli**	**0.41**	**43**	*e*PG	**Pg**	02 05 22.0	-0.2
TVSB				*e*SG	**Sg**	02 05 28.2	+0.5
TVSB	**Tavsanli**	**0.41**	**43**	*e*Pg	**Pg**	02 05 22.0	-0.2
TVSB				*e*Sg	**Sg**	02 05 28.2	+0.5
KULA	**Kula-Manisa**	**0.72**	**208**	*e*PG	**Pg**	02 05 27.5	-0.5
KULA	**Kula-Manisa**	**0.72**	**208**	*e*Pg	**Pg**	02 05 27.5	-0.5
KHAL	**Karahalli**	**0.84**	**158**	P	**Pg**	02 05 30.0	-0.2
KHAL				S	**Sg**	02 05 41.3	+0.2
KHAL	**Karahalli**	**0.84**	**158**	*i* P	**Pg**	02 05 30.0	-0.2
KHAL				*i* S	**Sg**	02 05 41.3	+0.2
KHL	**Karahalli**	**0.89**	**158**	*e*PG	**Pg**	02 05 30.7	-0.5
KHL	**Karahalli**	**0.89**	**158**	*e*Pg	**Pg**	02 05 30.7	-0.5
BALB	**Balikesir**	**1.06**	**298**	*e*PG	**Pg**	02 05 34.1	-0.4
BALB	**Balikesir**	**1.06**	**298**	*e*Pg	**Pg**	02 05 34.1	-0.4
IGD	**Bursa**	**1.12**	**4**	*i* P	**Pg**	02 05 34.5	-1.1
CAVI	**Cavuskoy**	**1.20**	**28**	*e*PN	**Pb**	02 05 36.8	-0.2
CAVI	**Cavuskoy**	**1.20**	**28**	*e*Pn	**Pb**	02 05 36.8	-0.2
MDNY	**Mudanya-Bursa**	**1.23**	**352**	*e*PN	**Pg**	02 05 37.6	-0.1
MDNY	**Mudanya-Bursa**	**1.23**	**352**	*e*Pn	**Pg**	02 05 37.6	-0.1
KCTX	**Karacabey (Bur**	**1.25**	**333**	*e*PN	**Pb**	02 05 37.9	-0.1
KCTX	**Karacabey (Bur**	**1.25**	**333**	*e*Pn	**Pb**	02 05 37.9	-0.1
BORA	**Eskisehir**	**1.28**	**55**	P	**Pb**	02 05 38.5	+0.1
BORA	**Eskisehir**	**1.28**	**55**	*i* P	**Pb**	02 05 38.5	+0.1
ARMT	**Armutlu**	**1.43**	**353**	*e*PN	**Pn**	02 05 40.3	+0.1
ARMT	**Armutlu**	**1.43**	**353**	*e*Pn	**Pn**	02 05 40.3	+0.1
EDC	**Edincik**	**1.53**	**322**	*e*PN	**Pn**	02 05 41.6	0.0
EDC	**Edincik**	**1.53**	**322**	*e*Pn	**Pn**	02 05 41.6	0.0
GULT	**Gulveren**	**1.68**	**40**	*e*PN	**Pn**	02 05 44.3	+0.5
GULT	**Gulveren**	**1.68**	**40**	*e*Pn	**Pn**	02 05 44.3	+0.5

DDA ***05*** *02:07:50.7, 39°.10N×29°.44E, h12km, Md3.0*

ISK ***05*** *02:07:50.5, 39°.10N×29°.42E, h6km, MD2.9*

IASPEI ***05*** *02:07:51.2±0.9, 39°.11N±0°.02×29°.43E±0°.03, h10km±5km, Error ellipse: s-maj=4.9km s-min=3.4km az=105.0, GT5 selection from ISC bulletin GT5 identified by Bondˇjr and McLaughlin (2009) selection criteria Bondˇjr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ISCJB ***05*** *02:07:51.0±0.4, 39°.09N±0°.02×29°.41E±0°.05, h8km±4km, Error ellipse: s-maj=6.5km s-min=3.9km az=15.0*

CSEM ***05*** *02:07:51.1±0.1, 39°.10N×29°.43E, h6km±1km, MD2.9, Error ellipse: s-maj=2.9km s-min=2.2km az=108.0*

ISC 05 02:07:51.3±0.8, 39°.10N±0°.02×29°.43E±0°.03, h10km±5km, n47, σ0§51/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.04**	**111**	P	**Pg**	02 07 53.3	-0.1
GDZ				S	**Sg**	02 07 54.8	0.0
GDZ	**Gediz**	**0.04**	**111**	*i* P	**Pg**	02 07 53.3	-0.1
GDZ				*i* S	**Sg**	02 07 54.8	0.0
TVSB	**Tavsanli**	**0.35**	**4**	*e*PG	**Pg**	02 07 57.4	-0.8
TVSB				*e*SG	**Sg**	02 08 03.0	+0.2
TVSB	**Tavsanli**	**0.35**	**4**	*e*Pg	**Pg**	02 07 57.4	-0.8
TVSB				*e*Sg	**Sg**	02 08 03.0	+0.2
DEMI	**Demirci**	**0.56**	**264**	P	**Pg**	02 08 02.0	-0.1
DEMI	**Demirci**	**0.56**	**264**	*i* P	**Pg**	02 08 02.0	-0.1
KHAL	**Karahalli**	**0.73**	**176**	P	**Pg**	02 08 05.1	-0.4
KHAL				S	**Sg**	02 08 14.8	-0.3
KHAL	**Karahalli**	**0.73**	**176**	*i* P	**Pg**	02 08 05.1	-0.4
KHAL				*i* S	**Sg**	02 08 14.8	-0.3
KHL	**Karahalli**	**0.78**	**175**	*e*PG	**Pb**	02 08 06.7	-0.4
KHL				*e*SG	**Sg**	02 08 16.8	+0.2
KHL	**Karahalli**	**0.78**	**175**	*e*Pg	**Pb**	02 08 06.7	-0.4
KHL				*e*Sg	**Sg**	02 08 16.8	+0.2
KULA	**Kula-Manisa**	**0.84**	**226**	*e*PG	**Pg**	02 08 06.9	-0.6
KULA				*e*SG	**Sg**	02 08 18.1	-0.3
KULA	**Kula-Manisa**	**0.84**	**226**	*e*Pg	**Pg**	02 08 06.9	-0.6
KULA				*e*Sg	**Sg**	02 08 18.1	-0.3
CAVI	**Cavuskoy**	**1.14**	**16**	*e*PN	**Pb**	02 08 12.6	-0.6
CAVI				*e*SN	**Sn**	02 08 29.6	+0.4
CAVI	**Cavuskoy**	**1.14**	**16**	*e*Pn	**Pb**	02 08 12.6	-0.6
CAVI				*e*Sn	**Sn**	02 08 29.6	+0.4
IGD	**Bursa**	**1.17**	**351**	*i* P	**Pb**	02 08 12.5	-1.2
IGD				*i* S	**Sn**	02 08 29.8	-0.1
ESKT	**Eskisehir**	**1.18**	**69**	*e*PN	**Pb**	02 08 13.6	-0.2
ESKT	**Eskisehir**	**1.18**	**69**	*e*Pn	**Pb**	02 08 13.6	-0.2
IZI	**Iznik**	**1.23**	**2**	*e*PN	**Pg**	02 08 14.7	-0.2
IZI	**Iznik**	**1.23**	**2**	*e*Pn	**Pg**	02 08 14.7	-0.2
AKS	**Akhisar**	**1.28**	**260**	*e*PN	**Pb**	02 08 15.3	-0.2
AKS	**Akhisar**	**1.28**	**260**	*e*Pn	**Pb**	02 08 15.3	-0.2
BALB	**Balikesir**	**1.31**	**295**	*e*PN	**Pb**	02 08 16.1	+0.1
BALB	**Balikesir**	**1.31**	**295**	*e*Pn	**Pb**	02 08 16.2	+0.1
MDNY	**Mudanya-Bursa**	**1.33**	**342**	*e*PN	**Pb**	02 08 16.4	0.0
MDNY	**Mudanya-Bursa**	**1.33**	**342**	*e*Pn	**Pb**	02 08 16.4	0.0
ADVT	**Abdulvahap**	**1.35**	**10**	*e*PN	**Pb**	02 08 16.3	-0.4
ADVT	**Abdulvahap**	**1.35**	**10**	*e*Pn	**Pb**	02 08 16.3	-0.4
KCTX	**Karacabey (Bur**	**1.43**	**325**	*e*PN	**Pb**	02 08 17.8	-0.2
KCTX	**Karacabey (Bur**	**1.43**	**325**	*e*Pn	**Pb**	02 08 17.8	-0.2
ARMT	**Armutlu**	**1.52**	**344**	*e*PN	**Pb**	02 08 19.1	-0.6
ARMT	**Armutlu**	**1.52**	**344**	*e*Pn	**Pb**	02 08 19.1	-0.6
GULT	**Gulveren**	**1.57**	**32**	*e*PN	**Pb**	02 08 19.8	-0.6
GULT	**Gulveren**	**1.57**	**32**	*e*Pn	**Pb**	02 08 19.8	-0.6
GONE	**Gonen-Balikesi**	**1.64**	**305**	*e*PN	**Pb**	02 08 20.8	-0.9
GONE	**Gonen-Balikesi**	**1.64**	**305**	*e*Pn	**Pb**	02 08 20.8	-0.9
SVRH	**Sivrihisar-ESK**	**1.66**	**77**	*e*PN	**Pn**	02 08 21.0	+0.4
SVRH	**Sivrihisar-ESK**	**1.66**	**77**	*e*Pn	**Pn**	02 08 21.0	+0.4
HRT	**Hereke**	**1.73**	**6**	*e*Pn	**Pn**	02 08 22.1	+0.6
HRT	**Hereke**	**1.73**	**6**	*e*Pn	**Pn**	02 08 22.1	+0.6
EDC	**Edincik**	**1.73**	**316**	*e*PN	**Pn**	02 08 22.0	+0.5
EDC	**Edincik**	**1.73**	**316**	*e*Pn	**Pn**	02 08 22.0	+0.5
MDUB	**Mudurnu**	**1.93**	**44**	*e*PN	**Pn**	02 08 25.0	+0.7
MDUB	**Mudurnu**	**1.93**	**44**	*e*Pn	**Pn**	02 08 25.0	+0.7
ISK	**Istanbul-Kandi**	**1.98**	**352**	*e*PN	**Pn**	02 08 25.8	+0.9
ISK	**Istanbul-Kandi**	**1.98**	**352**	*e*Pn	**Pn**	02 08 25.8	+0.9
SILT	**Sile**	**2.05**	**5**	*e*PN	**Pn**	02 08 26.6	+0.7
SILT	**Sile**	**2.05**	**5**	*e*Pn	**Pn**	02 08 26.6	+0.7

ISK ***05*** *02:11:02.8, 39°.14N×28°.98E, h3km, MD2.5*

ISCJB ***05*** *02:11:04.0±0.6, 39°.13N±0°.04×28°.99E±0°.04, h8km±5km, Error ellipse: s-maj=6.1km s-min=5.7km az=170.0*

CSEM ***05*** *02:11:03.8±0.1, 39°.14N×28°.97E, h6km±1km, MD2.5, Error ellipse: s-maj=3.7km s-min=3.2km az=8.0*

DDA ***05*** *02:11:04.1, 39°.09N×28°.99E, h7km, Md2.5*

ISC 05 02:11:04.2±1.1, 39°.14N±0°.03×28°.98E±0°.03, h8km±10km, n14, σ0§45/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**244**	P	**Pg**	02 11 08.9	0.0
DEMI				S	**Sg**	02 11 12.1	+0.1
DEMI	**Demirci**	**0.23**	**244**	*i* P	**Pg**	02 11 08.9

ENPP	**El Nido**	**4.25**	**181**	*e*P	**Pn**	02 52 57.2	**+0.4**
CMAR	**Chiang Mai Arr**	**19.86**	**281**	P	**Pn**	02 56 26.0	**+1.4**
	0.4nm,0.3s,baz=98,slow=8.1,SNR=11						
KSRS	**Korea Array**	**23.13**	**17**	P	P	02 57 05.4	+7.6
	0.5nm,0.5s,baz=198,slow=11,SNR=5.0						
SONM	**Songino Array**	**34.03**	**344**	P	**P**	02 58 34.9	**-0.6**
	0.4nm,0.5s,baz=163,slow=9.4,SNR=2.9						
WRA	**Warramunga Arr**	**38.12**	**157**	P	**P**	02 59 10.2	**-0.4**
	0.9nm,0.9s,baz=338,slow=9.3,SNR=7.7						
ASAR	**Alice Springs**	**41.39**	**160**	P	**P**	02 59 38.3	**+0.5**
	0.4nm,0.7s,baz=338,slow=7.0,SNR=7.5						
MKAR	**Makanchi Array**	**43.90**	**323**	P	**P**	02 59 57.0	**-1.0**
	0.5nm,0.6s,baz=128,slow=7.9,SNR=5.4						

*ISCJB **05** 03:02:04.6±0.4, 17°.05N±0°.06×94°.16W±0°.04, h153km±4km, mb3.7/8, Error ellipse: s-maj=9.2km s-min=5.9km az=13.4*
*IDC **05** 03:02:05.0±0.6, 17°.18N×93°.97W, h140km±6km, mb3.6/8, mb1 3.8/10, mb1mx3.5/37, mbtmp4.0/10, Error ellipse: s-maj=17.5km s-min=15.2km az=6.0*
*MEX **05** 03:02:08.2±0.9, 17°.03N×94°.20W, h142km±13km, MD4.7*

ISC 05 03:02:05.3±0.7, 17°.09N±0°.06×94°.12W±0°.04, h151km±6km, n23, σ1ᵒ53/32, mb3.7/8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.73**	**271**	P	**Pn**	**03 02 28.9**	**+0.7**
CMIG				S	**Sn**	**03 02 45.2**	**-0.3**
TUIG	**Tuzandepetl**	**0.99**	**343**	*i* P	**Pn**	**03 02 31.0**	**+0.9**
TUIG				*i* S	**Sn**	**03 02 48.0**	**-1.0**
TGBT	**Tuxtla Gutierr**	**1.03**	**107**	*e*P	**Pn**	**03 02 31.2**	**+0.8**
TGBT				*e*S	**Sn**	**03 02 49.5**	**0.0**
PCIG		**1.62**	**148**	*i* P	**Pn**	**03 02 37.5**	**+1.2**
PCIG				*i* S	**Sn**	**03 02 60.0**	**0.0**
HUIG	**Huatulco**	**2.32**	**236**	*i* P	**Pn**	**03 02 42.5**	**-1.8**
HUIG				*i* S	**Sn**	**03 03 12.7**	**-1.6**
OXBJ	**Oaxaca**	**2.50**	**270**	*e*P	**Pn**	**03 02 47.7**	**+1.0**
OXBJ				*e*S	**Sn**	**03 03 16.4**	**-2.1**
VHO	**Vista Hermosa**	**2.50**	**270**	*e*P	**Pn**	**03 02 47.8**	**+1.1**
VHO				*e*S	**Sn**	**03 03 17.6**	**-1.1**
PANG	**Puerto Angel**	**2.67**	**238**	*e*P	**Pn**	**03 02 46.3**	**-2.2**
TPIG	**Tehuac#an**	**3.37**	**294**	*e*P	**Pn**	**03 02 58.5**	**+0.9**
TPIG				*e*S	**Sn**	**03 03 36.9**	**-1.2**
PNIG	**Pinotepa**	**3.91**	**260**	*e*P	**Pn**	**03 03 03.1**	**-1.3**
TLIG	**Tlapa**	**4.28**	**277**	*e*P	**Pn**	**03 03 10.1**	**+0.7**
TEIG	**Tepich**	**6.36**	**60**	P	**Pn**	**03 03 35.7**	**-1.1**
	12nm,0.3s,baz=267,slow=24,SNR=14						
TEIG				S	**Sn**	**03 04 42.8**	**-5.6**
	1.9nm,0.3s,baz=253,slow=19,SNR=2.2						
TXAR	**Lajitas Array**	**15.01**	**326**	P	**P**	**03 05 31.9**	**+0.1**
	0.1nm,0.3s,baz=151,slow=15,SNR=20						
LPAZ	**La Paz**	**41.90**	**141**	P	**P**	**03 09 43.1**	**+1.2**
	0.9nm,0.6s,baz=299,slow=2.1,SNR=7.3						
SIV	**San Ignacio**	**46.28**	**133**	P	**P**	**03 10 15.1**	**-1.0**
	1.1nm,0.5s,baz=315,slow=8.7,SNR=4.6						
YKA	**Yellowknife Ar**	**47.58**	**347**	P	**P**	**03 10 25.5**	**0.0**
	1.6nm,0.7s,baz=149,slow=7.4,SNR=18						
ILAR	**Eielson Array**	**59.22**	**337**	P	**P**	**03 11 50.5**	**+0.1**
	0.3nm,0.6s,baz=143,slow=5.0,SNR=10						
NB2	**NORSAR Subarra**	**82.41**	**28**	P	**P**	**03 14 11.7**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=293,slow=5.1						
NOA	**NORSAR Array B**	**82.41**	**28**	P	**P**	**03 14 11.4**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=292,slow=5.1,SNR=4.9						
ARCES	**ARCESS Array B**	**83.85**	**18**	P	**P**	**03 14 17.4**	**-0.3**
	comp=Z,6.5nm,1.0s,baz=280,slow=5.2,SNR=3.7						
GERES	**GERESS Array B**	**88.52**	**39**	P	**P**	**03 14 41.2**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=308,slow=4.8,SNR=5.5						
TORD	**Torodi Ar. Bea**	**91.62**	**76**	P	**P**	**03 14 56.1**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=298,slow=5.2,SNR=2.4						
WRA	**Warramunga Arr**	**134.09**	**259**	PKP	**PKPdf**	**03 21 06.4**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=92,slow=4.5,SNR=3.6						

*ISK **05** 03:06:08.6, 39°.06N×29°.06E, h10km, MD2.7*
*ISCJB **05** 03:06:09.3±0.5, 39°.08N±0°.03×28°.99E±0°.04, h5km±6km, Error ellipse: s-maj=5.4km s-min=4.3km az=148.9*
*CSEM **05** 03:06:09.4±0.2, 39°.08N×28°.98E, h8km, MD2.7, Error ellipse: s-maj=4.0km s-min=3.3km az=99.0*
*DDA **05** 03:06:09.0, 39°.13N×28°.98E, h7km, Md2.7*

ISC 05 03:06:09.2±0.9, 39°.08N±0°.02×29°.00E±0°.02, h12km±9km, n28, σ0ᵒ53/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**260**	P	**Pg**	**03 06 14.2**	**+0.2**
DEMI				S	**Sg**	**03 06 17.4**	**0.0**
DEMI	**Demirci**	**0.23**	**260**	*i* P	**Pg**	**03 06 14.2**	**+0.2**
DEMI				*i* S	**Sg**	**03 06 17.4**	**0.0**
GDZ	**Gediz**	**0.37**	**89**	P	**Pb**	**03 06 17.6**	**-0.3**
GDZ				S	**Sb**	**03 06 23.2**	**-0.5**
GDZ	**Gediz**	**0.37**	**89**	*i* P	**Pb**	**03 06 17.6**	**-0.3**
GDZ				*i* S	**Sb**	**03 06 23.2**	**-0.5**
TVSB	**Tavsanli**	**0.51**	**44**	*e*PG	**Pg**	**03 06 19.0**	**-0.3**
TVSB				*e*SG	**Sg**	**03 06 25.9**	**-0.2**
TVSB	**Tavsanli**	**0.51**	**44**	*e*Pg	**Pg**	**03 06 19.0**	**-0.3**
TVSB				*e*Sg	**Sg**	**03 06 25.9**	**-0.2**
KULA	**Kula-Manisa**	**0.63**	**205**	*e*PG	**Pg**	**03 06 21.6**	**+0.1**
KULA				*e*SG	**Sb**	**03 06 30.1**	**-0.8**
KULA	**Kula-Manisa**	**0.63**	**205**	*e*Pg	**Pg**	**03 06 21.6**	**+0.1**
KULA				*e*Sg	**Sb**	**03 06 30.1**	**-0.8**
KHAL	**Karahalli**	**0.81**	**152**	P	**Pb**	**03 06 26.0**	**+0.7**
KHAL				S	**Sb**	**03 06 37.0**	**+0.8**
KHAL	**Karahalli**	**0.81**	**152**	*i* P	**Pb**	**03 06 26.0**	**+0.7**
KHAL				*i* S	**Sb**	**03 06 37.0**	**+0.8**
KHL	**Karahalli**	**0.86**	**152**	*e*PG	**Pg**	**03 06 24.7**	**-1.2**
KHL				*e*SG	**Sg**	**03 06 36.9**	**-0.3**
KHL	**Karahalli**	**0.86**	**152**	*e*Pg	**Pg**	**03 06 24.7**	**-1.2**
KHL				*e*Sg	**Sg**	**03 06 36.9**	**-0.3**
BALB	**Balikesir**	**1.03**	**303**	*e*PN	**Pn**	**03 06 29.9**	**+0.4**
BALB	**Balikesir**	**1.03**	**303**	*e*Pn	**Pn**	**03 06 29.9**	**+0.4**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*PN	**Pg**	**03 06 33.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*Pn	**Pg**	**03 06 33.6**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**356**	*e*PN	**Pb**	**03 06 33.5**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**356**	*e*Pn	**Pb**	**03 06 33.5**	**+0.1**
BORA	**Eskisehir**	**1.38**	**54**	P	**Pg**	**03 06 36.1**	**+0.4**
BORA				S	**Sg**	**03 06 54.0**	**+0.4**
BORA	**Eskisehir**	**1.38**	**54**	*i* P	**Pg**	**03 06 36.1**	**+0.4**
BORA				*i* S	**Sg**	**03 06 54.0**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.43**	**218**	*e*PN	**Pb**	**03 06 35.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.43**	**218**	*e*Pn	**Pb**	**03 06 35.9**	**0.0**
ARMT	**Armutlu**	**1.48**	**356**	*e*PN	**Pn**	**03 06 36.1**	**+0.4**
ARMT	**Armutlu**	**1.48**	**356**	*e*Pn	**Pn**	**03 06 36.2**	**+0.4**
GULT	**Gulveren**	**1.78**	**40**	*e*PN	**Pn**	**03 06 40.3**	**+0.4**
GULT	**Gulveren**	**1.78**	**40**	*e*Pn	**Pn**	**03 06 40.3**	**+0.4**
MRMT	**Marmara Adasi**	**1.86**	**325**	*e*PN	**Pb**	**03 06 42.5**	**-0.8**
MRMT	**Marmara Adasi**	**1.86**	**325**	*e*Pn	**Pb**	**03 06 42.5**	**-0.8**

IDC 05 03:07:03.7±2.4, 6°.51S×130°.09E, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.4/32, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=93.6km s-min=29.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.31**	**200**	Pn	Pn	03 09 59.5	-0.9
	0.2nm,0.3s,baz=20,slow=11,SNR=21						
FITZ				Sn	Sn	03 12 02.7	-16
	0.6nm,0.3s,baz=150,slow=20,SNR=6.3						
WRA	**Warramunga Arr**	**13.97**	**163**	Pn	Pn	03 10 23.7	+0.5
	0.4nm,0.3s,baz=348,slow=13,SNR=29						
WRA				Sn	Sn	03 12 46.4	-13
	1.0nm,0.3s,baz=345,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.44**	**168**	P	Pn	03 11 09.0	+0.3
	0.3nm,0.3s,baz=348,slow=9.5,SNR=15						
ASAR				S	Sn	03 14 11.3	-12
	0.2nm,0.3s,baz=346,slow=25,SNR=5.0						
MKAR	**Makanchi Array**	**67.87**	**327**	P	P	03 18 04.1	0.0
	0.5nm,0.6s,baz=146,slow=7.3,SNR=3.7						

*ISCJB **05** 03:23:56.5±0.5, 39°.12N±0°.03×29°.01E±0°.04, h1km±7km, Error ellipse: s-maj=5.2km s-min=4.2km az=39.9*
*DDA **05** 03:23:56.5, 39°.10N×29°.03E, h7km, Md2.7*
*ISK **05** 03:23:56.4, 39°.11N×28°.99E, h5km, MD2.9*
*CSEM **05** 03:23:56.8±0.1, 39°.12N×29°.00E, h2km, MD2.7, Error ellipse: s-maj=2.1km s-min=1.8km az=58.0*

ISC 05 03:23:56.8±1.0, 39°.12N±0°.02×29°.02E±0°.02, h7km±12km, n51, σ0ᵒ49/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**252**	P	**Pg**	**03 24 01.8**	**+0.1**
DEMI				S	**Sg**	**03 24 05.2**	**+0.1**
DEMI	**Demirci**	**0.25**	**252**	*i* P	**Pg**	**03 24 01.8**	**+0.1**
DEMI				*i* S	**Sg**	**03 24 05.2**	**+0.1**
GDZ	**Gediz**	**0.36**	**95**	P	**Pg**	**03 24 03.9**	**+0.1**
GDZ				S	**Sg**	**03 24 09.2**	**+0.6**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**03 24 03.9**	**+0.1**
GDZ				*i* S	**Sg**	**03 24 09.2**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**46**	*e*PG	**Pg**	**03 24 05.9**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**46**	*e*Pg	**Pg**	**03 24 05.9**	**-0.1**
DST	**Dursunbey**	**0.57**	**327**	*e*PG	**Pg**	**03 24 07.9**	**0.0**
DST	**Dursunbey**	**0.57**	**327**	*e*Pg	**Pg**	**03 24 07.9**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**03 24 09.5**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**03 24 09.5**	**-0.2**
KHAL	**Karahalli**	**0.84**	**154**	P	**Pg**	**03 24 12.9**	**+0.1**
KHAL				S	**Sg**	**03 24 23.7**	**0.0**
KHAL	**Karahalli**	**0.84**	**154**	*i* P	**Pg**	**03 24 12.9**	**+0.1**
KHAL				*i* S	**Sg**	**03 24 23.7**	**0.0**
KHL	**Karahalli**	**0.89**	**154**	*e*PG	**Pb**	**03 24 14.2**	**-0.4**
KHL				*e*SG	**Sg**	**03 24 25.8**	**+0.4**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg	**Pb**	**03 24 14.3**	**-0.4**
KHL				*e*Sg	**Sg**	**03 24 25.8**	**+0.4**
ORLT	**Orhaneli**	**0.93**	**354**	*e*PG	**Pg**	**03 24 14.9**	**+0.3**
ORLT				*e*SG	**Sb**	**03 24 28.3**	**+0.4**
ORLT	**Orhaneli**	**0.93**	**354**	*e*Pg	**Pg**	**03 24 14.9**	**+0.3**
ORLT				*e*Sg	**Sb**	**03 24 28.3**	**+0.4**
AKS	**Akhisar**	**0.97**	**256**	*e*PG	**Pg**	**03 24 15.2**	**-0.3**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg	**Pg**	**03 24 15.2**	**-0.3**
BALB	**Balikesir**	**1.02**	**301**	*e*PG	**Pg**	**03 24 16.1**	**-0.4**
BALB	**Balikesir**	**1.02**	**301**	*e*Pg	**Pg**	**03 24 16.1**	**-0.4**
IGD	**Bursa**	**1.15**	**7**	*i* P	**Pb**	**03 24 17.8**	**-1.2**
IGD				*i* S	**Sg**	**03 24 32.5**	**-1.2**
BALY	**Balya**	**1.25**	**300**	P	**Pg**	**03 24 20.8**	**0.0**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pg**	**03 24 20.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN	**Pb**	**03 24 20.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pb**	**03 24 20.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pg**	**03 24 21.1**	**+0.3**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pg**	**03 24 21.1**	**+0.3**
IZI	**Iznik**	**1.26**	**16**	*e*PN	**Pg**	**03 24 21.4**	**+0.4**
IZI	**Iznik**	**1.26**	**16**	*e*Pn	**Pg**	**03 24 21.4**	**+0.4**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*PN	**Pb**	**03 24 23.0**	**0.0**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*Pn	**Pb**	**03 24 23.0**	**0.0**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pg**	**03 24 24.3**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pg**	**03 24 24.3**	**+0.2**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pn**	**03 24 23.3**	**-0.2**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pn**	**03 24 23.3**	**-0.2**
ESKT	**Eskisehir**	**1.47**	**74**	*e*PN	**Pg**	**03 24 25.1**	**0.0**
ESKT	**Eskisehir**	**1.47**	**74**	*e*Pn	**Pg**	**03 24 25.1**	**0.0**
EDC	**Edincik**	**1.52**	**324**	*e*PN	**Pn**	**03 24 24.6**	**+0.2**
EDC	**Edincik**	**1.52**	**324**	*e*Pn	**Pn**	**03 24 24.6**	**+0.2**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pb**	**03 24 28.5**	**-0.7**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pb**	**03 24 28.5**	**-0.7**
HRT	**Hereke**	**1.77**	**16**	*e*PN	**Pb**	**03 24 29.1**	**-0.5**
HRT	**Hereke**	**1.77**	**16**	*e*Pn	**Pb**	**03 24 29.1**	**-0.5**
ISK	**Istanbul-Kandi**	**1.94**	**1**	*e*PN	**Pn**	**03 24 30.9**	**+0.7**
ISK	**Istanbul-Kandi**	**1.94**	**1**	*e*Pn	**Pn**	**03 24 30.9**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	*e*PN	**Pb**	**03 24 32.2**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	*e*Pn	**Pb**	**03 24 32.2**	**-0.8**
SILT	**Sile**	**2.08**	**13**	*e*PN	**Pn**	**03 24 32.8**	**+0.6**
SILT	**Sile**	**2.08**	**13**	*e*Pn	**Pn**	**03 24 32.8**	**+0.6**
MDUB	**Mudurnu**	**2.15**	**51**	*e*PN	**Pb**	**03 24 34.9**	**-1.3**
MDUB	**Mudurnu**	**2.15**	**51**	*e*Pn	**Pb**	**03 24 34.9**	**-1.3**

*IDC **05** 03:36:06.8±1.8, 23°.18S×179°.81W, h507km±16km, mb3.6/9, mb1 3.8/10, mb1mx3.4/34, mbtmp4.5/10, Error ellipse: s-maj=18.3km s-min=16.8km az=154.0*
*ISCJB **05** 03:36:08.3±0.7, 23°.43S±0°.09×180°.0W±0°.1, h532km, mb4.0/9, Error ellipse: s-maj=14.2km s-min=12.1km az=9.7*

ISC 05 03:36:08.7±0.6, 23°.49S±0°.10×179°.8W±0°.1, h532km, n25, σ2ᵒ07/29, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.77**	**274**	P	**P**	**03 38 57.6**	**+2.1**
	0.8nm,0.3s,baz=99,slow=14,SNR=10						
URZ	**Urewera**	**14.96**	**189**	P	**P**	**03 39 18.4**	**+0.6**
	1.7nm,0.3s,baz=270,slow=4.6,SNR=6.7						
URZ				S	**S**	**03 41 49.0**	**-4.8**
	0.3nm,0.3s,baz=345,slow=3.7,SNR=3.2						
PMG	**Port Moresby**	**34.54**	**288**	P	**P**	**03 42 11.3**	**-1.6**
	16nm,0.7s,baz=81,slow=9.4,SNR=3.8						
STKA	**Stephens Creek**	**35.05**	**248**	P	**P**	**03 42 18.2**	**+1.1**
	5.0nm,0.4s,baz=96,slow=12,SNR=14						
ASAR	**Alice Springs**	**42.29**	**260**	P	**P**	**03 43 16.3**	**+0.4**
	11nm,0.6s,baz=100,slow=7.0,SNR=150						
ASAR				ScP	**ScP**	**03 48 00.8**	**+3.4**
	1.3nm,0.9s,baz=101,slow=3.8,SNR=6.5						
ASAR				S	**S**	**03 48 56.8**	**-1.5**
	0.9nm,0.7s,baz=101,slow=13,SNR=10						
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**03 43 18.2**	**-0.3**
	6.7nm,0.2s,baz=90,slow=5.8,SNR=242						
WRA				ScP	**ScP**	**03 48 02.7**	**+3.9**
	2.7nm,1.1s,baz=105,slow=3.8,SNR=6.3						
WRA				S	**S**	**03 49 01.3**	**-1.8**
	2.8nm,1.2s,baz=97,slow=14,SNR=4.3						
VNDA	**Vanda**	**54.80**	**185**	P	**P**	**03 44 50.2**	**+2.3**
	1.4nm,0.6s,baz=1.3,slow=6.4,SNR=19						
MAW	**Mawson**	**78.20**	**200**	P	**P**	**03 47 14.1**	**+1.4**
	2.3nm,0.6s,baz=166,slow=8.6,SNR=6.5						
TXAR	**Lajitas Array**	**90.06**	**58**	P	**P**	**03 48 13.7**	**+1.6**
	1.0nm,0.7s,baz=210,slow=6.6,SNR=17						
ILAR	**Eielson Array**	**91.59**	**13**	P	**P**	**03 48 16.9**	**-1.3**
	0.2nm,0.5s,baz=222,slow=5.8,SNR=6.2						
PDAR	**Pinedale Array**	**92.27**	**44**	P	**P**	**03 48 21.8**	**-0.4**
	0.6nm,0.6s,baz=199,slow=4.1,SNR=6.3						
KURBB	**Kurchatov Arra**	**115.08**	**316**	PKP	**PKPdf**	**03 53 48.1**	**-1.0**
	0.1nm,0.3s,baz=80,slow=1.9,SNR=4.6						
BVAR	**Borovoye Array**	**120.25**	**319**	PKP	**PKPdf**	**03 53 57.8**	**-1.3**
	0.6nm,0.4s,baz=78,slow=2.1,SNR=3.9						
SPITS	**Spitsbergen Ar**	**124.72**	**356**	PKP	**PKPdf**	**03 54 05.2**	**-1.8**
	1.6nm,0.7s,baz=149,slow=6.6,SNR=5.5						
ARCES	**ARCESS Array B**	**131.52**	**348**	PKP	**PKPdf**	**03 54 19.4**	**-0.6**
	5.6nm,1.0s,baz=11,slow=1.2,SNR=4.1						
FINES	**FINESS Array B**	**138.12**	**342**	PKhKP	PKPpre	03 54 26.0	
	3.4nm,1.1s,baz=330,slow=2.7,SNR=2.5						
FINES				PKP	**PKPdf**	**03 54 32.0**	**-0.6**
	1.3nm,0.8s,baz=90,slow=1.4,SNR=2.8						
FINES				SKP		03 57 18.3	
	1.3nm,0.6s,baz=43,slow=3.4,SNR=7.6						
NB2	**NORSAR Subarra**	**141.70**	**351**	PKP	**PKPdf**	**03 54 34.2**	**-4.9**
	comp=Z,0.6nm,0.6s,baz=13,slow=3.1						
NOA	**NORSAR Array B**	**141.70**	**351**	PKhKP	PKPpre	03 54 34.5	
	comp=Z,0.5nm,0.6s,baz=54,slow=0.9,SNR=4.0						
AKASG	**Malin Array Be**	**144.73**	**328**	PKP	**PKPdf**	**03 54 44.4**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=44,slow=4.2,SNR=8.2						
BRTR	**Keskin Array B**	**147.48**	**308**	PKPbc	**PKPbc**	**03 54 52.7**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=155,slow=3.9,SNR=5.7						
UPC	**Upice**	**150.35**	**339**	*e*PKP	**PKPbc**	**03 55 00.8**	**+1.1**
DPC	**Dobruska-Polom**	**150.38**	**339**	*e*PKP	**PKPbc**	**03 55 01.1**	**+1.2**
PVCC	**Panska Ves**	**150.78**	**341**	*e*PKP	**PKPbc**	**03 55 01.9**	**+1.2**
GERES	**GERESS Array B**	**152.53**	**340**	PKPbc	**PKPbc**	**03 55 05.2**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=132,slow=5.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**169.62**	**188**	PKPab	**PKPab**	**03 56 33.5**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=172,slow=4.3,SNR=4.6						

*ISCJB **05** 03:47:13.9±0.6, 39°.12N±0°.04×29°.11E±0°.04, h2km±9km, Error ellipse: s-maj=6.6km s-min=4.9km az=4.3*
*DDA **05** 03:47:13.9, 39°.13N×29°.11E, h7km, Md2.5*
*CSEM **05** 03:47:14.1±0.1, 39°.11N×29°.10E, h5km, MD2.5, Error ellipse: s-maj=3.1km s-min=2.9km az=39.0*
*ISK **05** 03:47:15.8, 39°.27N×29°.11E, h6km, MD2.6*

ISC 05 03:47:14.1±1.0, 39°.11N±0°.03×29°.11E±0°.02, h10km±10km, n18, σ0ᵒ67/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.29**	**95**	P	**Pg**	**03 47 20.1**	**+0.1**
GDZ				S	**Sg**	**03 47 24.4**	**+0.5**
GDZ	**Gediz**	**0.29**	**95**	*i* P	**Pg**	**03 47 20.1**	**+0.1**
GDZ				*i* S	**Sg**	**03 47 24.4**	**+0.5**
DEMI	**Demirci**	**0.32**	**257**	P	**Pg**	**03 47 20.6**	**+0.2**
DEMI				S	**Sg**	**03 47 25.2**	**+0.4**
DEMI	**Demirci**	**0.32**	**257**	*i* P	**Pg**	**03 47 20.6**	**+0.2**
DEMI				*i* S	**Sg**	**03 47 25.2**	**+0.4**
TVSB	**Tavsanli**	**0.43**	**39**	*e*PG	**Pg**	**03 47 22.7**	**+0.1**
TVSB				*e*SG	**Sg**	**03 47 27.6**	**-0.7**
TVSB	**Tavsanli**	**0.43**	**39**	*e*Pg	**Pg**	**03 47 22.7**	**+0.1**
TVSB				*e*Sg	**Sg**	**03 47 27.6**	**-0.7**
DST	**Dursunbey**	**0.62**	**322**	*e*PG	**Pg**	**03 47 26.0**	**-0.2**
DST				*e*SG	**Sg**	**03 47 33.6**	**-0.7**
DST	**Dursunbey**	**0.62**	**322**	*e*Pg	**Pg**	**03 47 26.0**	**-0.2**
DST				*e*Sg	**Sg**	**03 47 33.6**	**-0.7**
KHAL	**Karahalli**	**0.80**	**158**	P	**Pg**	**03 47 29.9**	**+0.4**
KHAL				S	**Sg**	**03 47 38.1**	**-1.9**
KHAL	**Karahalli**	**0.80**	**158**	*i* P	**Pg**	**03 47 29.9**	**+0.4**
KHAL				*i* S	**Sg**	**03 47 38.1**	**-1.9**
BORA	**Eskisehir**	**1.29**	**53**	P	**Pg**	**03 47 38.9**	**+0.1**
BORA				S	**Sb**	**03 47 55.6**	**+0.6**
BORA	**Eskisehir**	**1.29**	**53**	*i* P	**Pg**	**03 47 38.9**	**+0.1**
BORA				*i* S	**Sb**	**03 47 55.6**	**+0.6**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*PN	**Pn**	**03 47 38.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*Pn	**Pn**	**03 47 38.3**	**+0.2**
ARMT	**Armutlu**	**1.46**	**352**	*e*PN	**Pn**	**03 47 41.0**	**+0.5**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pn**	**03 47 41.0**	**+0.5**
GULT	**Gulveren**	**1.70**	**39**	*e*PN	**Pb**	**03 47 45.1**	**-0.4**
GULT	**Gulveren**	**1.70**	**39**	*e*Pn	**Pb**	**03 47 45.1**	**-0.4**

*ISK **05** 03:57:38.4, 39°.22N×28°.96E, h11km, MD2.6*
*DDA **05** 03:57:39.0, 39°.27N×28°.90E, h7km, Md2.4*
*ISCJB **05** 03:57:39.1±0.6, 39°.24N±0°.03×28°.89E±0°.05, h9km, Error ellipse: s-maj=5.7km s-min=4.1km az=17.7*
*CSEM **05** 03:57:39.1±0.2, 39°.25N×28°.90E, h8km, MD2.6, Error ellipse: s-maj=4.9km s-min=3.3km az=99.0*

ISC 05 03:57:39.2±0.9, 39°.25N±0°.03×28°.91E±0°.04, h9km, n22, σ0ᵒ42/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**216**	P	**Pg**	**03 57 44.6**	**+0.2**
DEMI	**Demirci**	**0.26**	**216**	*i* P	**Pg**	**03 57 44.6**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**65**	*e*PG	**Pg**	**03 57 47.7**	**-0.7**
TVSB				*e*SG	**Sg**	**03 57 54.5**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**65**	*e*Pg	**Pg**	**03 57 47.7**	**-0.7**
TVSB				*e*Sg	**Sg**	**03 57 54.5**	**-0.1**
GDZ	**Gediz**	**0.47**	**110**	S	**Sg**	**03 57 55.2**	**+0.6**
GDZ	**Gediz**	**0.47**	**110**	*i* S	**Sg**	**03 57 55.2**	**+0.6**
KULA	**Kula-Manisa**	**0.76**	**195**	*e*PG	**Pg**	**03 57 53.6**	**-0.3**
KULA				*e*SG	**Sg**	**03 58 03.4**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**257**	P	**Pg**	**04 17 15.9**	**+0.1**
DEMI				S	**Sg**	**04 17 19.8**	**+0.3**
DEMI	**Demirci**	**0.28**	**257**	*i* P	**Pg**	**04 17 15.9**	**+0.1**
DEMI				*i* S	**Sg**	**04 17 19.8**	**+0.3**
GDZ	**Gediz**	**0.32**	**93**	P	**Pg**	**04 17 16.5**	**-0.2**
GDZ				S	**Sg**	**04 17 21.1**	**+0.1**
GDZ	**Gediz**	**0.32**	**93**	*i* P	**Pg**	**04 17 16.5**	**-0.2**
GDZ				*i* S	**Sg**	**04 17 21.1**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**42**	*e*PG	**Pg**	**04 17 19.0**	**-0.3**
TVSB	**Tavsanli**	**0.46**	**42**	*e*Pg	**Pg**	**04 17 19.0**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*PG	**Pg**	**04 17 22.8**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*Pg	**Pg**	**04 17 22.8**	**-0.4**
KHAL	**Karahalli**	**0.81**	**155**	P	**Pg**	**04 17 25.7**	**-0.1**
KHAL				S	**Sg**	**04 17 36.6**	**+0.4**
KHAL	**Karahalli**	**0.81**	**155**	*i* P	**Pg**	**04 17 25.7**	**-0.1**
KHAL				*i* S	**Sg**	**04 17 36.6**	**+0.4**
KHL	**Karahalli**	**0.86**	**155**	*e*PG	**Pg**	**04 17 26.4**	**-0.4**
KHL				*e*SG	**Sb**	**04 17 38.8**	**-0.6**
KHL	**Karahalli**	**0.86**	**155**	*e*Pg	**Pg**	**04 17 26.4**	**-0.4**
KHL				*e*Sg	**Sb**	**04 17 38.8**	**-0.6**
ORLT	**Orhaneli**	**0.95**	**352**	*e*PG	**Pg**	**04 17 28.1**	**-0.5**
ORLT	**Orhaneli**	**0.95**	**352**	*e*Pg	**Pg**	**04 17 28.1**	**-0.5**
AKS	**Akhisar**	**1.00**	**257**	*e*PG	**Pg**	**04 17 29.3**	**-0.2**
AKS				*e*SG	**Sb**	**04 17 43.6**	**+0.1**
AKS	**Akhisar**	**1.00**	**257**	*e*Pg	**Pg**	**04 17 29.3**	**-0.2**
AKS				*e*Sg	**Sb**	**04 17 43.6**	**+0.1**
BALB	**Balikesir**	**1.06**	**301**	*e*PG	**Pb**	**04 17 30.8**	**-0.3**
BALB	**Balikesir**	**1.06**	**301**	*e*Pg	**Pb**	**04 17 30.8**	**-0.3**
IGD	**Bursa**	**1.16**	**5**	*i* P	**Pg**	**04 17 30.9**	**-1.8**
IGD				*i* S	**Sn**	**04 17 49.2**	**-0.1**
IZI	**Iznik**	**1.27**	**14**	*e*PN	**Pn**	**04 17 35.4**	**+0.7**
IZI	**Iznik**	**1.27**	**14**	*e*Pn	**Pn**	**04 17 35.4**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN	**Pn**	**04 17 34.9**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn	**Pn**	**04 17 34.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pn**	**04 17 35.4**	**+0.6**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pn**	**04 17 35.4**	**+0.6**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*PN	**Pg**	**04 17 37.3**	**-0.3**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*Pn	**Pg**	**04 17 37.3**	**-0.3**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*PN	**Pb**	**04 17 37.3**	**0.0**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*Pn	**Pb**	**04 17 37.3**	**0.0**
ESKT	**Eskisehir**	**1.45**	**73**	*e*PN	**Pb**	**04 17 37.5**	**-0.2**
ESKT	**Eskisehir**	**1.45**	**73**	*e*Pn	**Pb**	**04 17 37.5**	**-0.2**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	**Pb**	**04 17 37.9**	**-0.1**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	**Pb**	**04 17 37.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**219**	*e*PN	**Pb**	**04 17 37.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**219**	*e*Pn	**Pb**	**04 17 37.7**	**-0.6**
EDC	**Edincik**	**1.55**	**324**	*e*PN	**Pb**	**04 17 39.1**	**-0.3**
EDC	**Edincik**	**1.55**	**324**	*e*Pn	**Pb**	**04 17 39.1**	**-0.3**
IZM	**Izmir**	**1.58**	**244**	*e*PN	**Pb**	**04 17 39.4**	**-0.5**
IZM	**Izmir**	**1.58**	**244**	*e*Pn	**Pb**	**04 17 39.4**	**-0.5**
DKL	**Dikili**	**1.68**	**270**	*e*PN	**Pn**	**04 17 40.2**	**0.0**
DKL	**Dikili**	**1.68**	**270**	*e*Pn	**Pn**	**04 17 40.2**	**0.0**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pb**	**04 17 42.1**	**-0.5**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pb**	**04 17 42.1**	**-0.5**
HRT	**Hereke**	**1.78**	**15**	*e*PN	**Pb**	**04 17 42.6**	**-0.7**
HRT	**Hereke**	**1.78**	**15**	*e*Pn	**Pb**	**04 17 42.6**	**-0.7**
MRMT	**Marmara Adasi**	**1.88**	**323**	*e*PN	**Pn**	**04 17 43.8**	**+0.8**
MRMT	**Marmara Adasi**	**1.88**	**323**	*e*Pn	**Pn**	**04 17 43.8**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.94**	**79**	*e*PN	**Pn**	**04 17 44.5**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.94**	**79**	*e*Pn	**Pn**	**04 17 44.5**	**+0.6**
ISK	**Istanbul-Kandi**	**1.96**	**360**	*e*PN	**Pn**	**04 17 45.0**	**+0.9**
ISK	**Istanbul-Kandi**	**1.96**	**360**	*e*Pn	**Pn**	**04 17 45.0**	**+0.9**
SILT	**Sile**	**2.09**	**12**	*e*PN	**Pn**	**04 17 47.0**	**+1.1**
SILT	**Sile**	**2.09**	**12**	*e*Pn	**Pn**	**04 17 47.0**	**+1.1**
MDUB	**Mudurnu**	**2.14**	**50**	*e*PN	**Pn**	**04 17 48.0**	**+1.4**
MDUB	**Mudurnu**	**2.14**	**50**	*e*Pn	**Pn**	**04 17 48.0**	**+1.4**
KLYT	**Kilyos**	**2.15**	**360**	*e*PN	**Pn**	**04 17 47.7**	**+1.1**
KLYT	**Kilyos**	**2.15**	**360**	*e*Pn	**Pn**	**04 17 47.7**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*PN	**Pn**	**04 17 47.6**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*Pn	**Pn**	**04 17 47.6**	**+0.9**
CTKS	**Kestanelik-??a**	**2.17**	**349**	*e*PN	**Pn**	**04 17 47.7**	**+0.7**
CTKS	**Kestanelik-??a**	**2.17**	**349**	*e*Pn	**Pn**	**04 17 47.7**	**+0.7**
CTYL	**Yalikoy Yolu**	**2.44**	**346**	*e*PN	**Pn**	**04 17 51.8**	**+1.1**
CTYL	**Yalikoy Yolu**	**2.44**	**346**	*e*Pn	**Pn**	**04 17 51.8**	**+1.1**

*DDA **05** 04:17:47.2, 39°.23N×28°.85E, h7km, Md2.6*
*ISK **05** 04:17:49.9, 39°.11N×29°.09E, h6km, MD2.7*
*ISCJB **05** 04:17:50.4±0.5, 39°.09N±0°.04×29°.07E±0°.04, h9km, Error ellipse: s-maj=5.4km s-min=4.1km az=168.7*
*CSEM **05** 04:17:50.4±0.1, 39°.10N×29°.07E, h6km±1km, MD2.7, Error ellipse: s-maj=2.6km s-min=2.2km az=136.0*

ISC 05 04:17:50.4±0.9, **39°.11N**±0°.03×**29°.08E**±0°.02, **h9**km, **n30, σ0s32**/38, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**258**	P	**Pg**	**04 17 56.4**	**+0.3**
DEMI				S	**Sg**	**04 18 00.3**	**+0.3**
DEMI	**Demirci**	**0.29**	**258**	*i* P	**Pg**	**04 17 56.4**	**+0.3**
DEMI				*i* S	**Sg**	**04 18 00.3**	**+0.3**
GDZ	**Gediz**	**0.32**	**93**	P	**Pg**	**04 17 57.0**	**+0.3**
GDZ				S	**Sg**	**04 18 01.8**	**+0.8**
GDZ	**Gediz**	**0.32**	**93**	*i* P	**Pg**	**04 17 57.0**	**+0.3**
GDZ				*i* S	**Sg**	**04 18 01.8**	**+0.8**
TVSB	**Tavsanli**	**0.46**	**41**	*e*PG	**Pg**	**04 17 59.2**	**-0.1**
TVSB				*e*SG	**Sg**	**04 18 05.7**	**+0.4**
TVSB	**Tavsanli**	**0.46**	**41**	*e*Pg	**Pg**	**04 17 59.2**	**-0.1**
TVSB				*e*Sg	**Sg**	**04 18 05.7**	**+0.4**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*PG	**Pg**	**04 18 03.2**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*Pg	**Pg**	**04 18 03.2**	**-0.1**
KHAL	**Karahalli**	**0.80**	**156**	P	**Pg**	**04 18 06.1**	**-0.4**
KHAL	**Karahalli**	**0.80**	**156**	*i* P	**Pg**	**04 18 06.1**	**-0.4**
KHL	**Karahalli**	**0.85**	**156**	*e*PG	**Pg**	**04 18 06.8**	**0.0**
KHL	**Karahalli**	**0.85**	**156**	*e*Pg	**Pg**	**04 18 06.8**	**0.0**
ORLT	**Orhaneli**	**0.95**	**352**	*e*PG	**Pb**	**04 18 08.8**	**-0.3**
ORLT	**Orhaneli**	**0.95**	**352**	*e*Pg	**Pb**	**04 18 08.8**	**-0.3**
AKS	**Akhisar**	**1.01**	**258**	*e*PG	**Pb**	**04 18 10.1**	**+0.1**
AKS	**Akhisar**	**1.01**	**258**	*e*Pg	**Pb**	**04 18 10.1**	**+0.1**
BALB	**Balikesir**	**1.07**	**300**	*e*PN	**Pn**	**04 18 11.2**	**-0.3**
BALB				*e*SN	**Sn**	**04 18 26.5**	**0.0**
BALB	**Balikesir**	**1.07**	**300**	*e*Pn	**Pn**	**04 18 11.2**	**-0.3**
BALB				*e*Sn	**Sn**	**04 18 26.5**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*PN	**Pg**	**04 18 14.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn	**Pg**	**04 18 14.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pg**	**04 18 15.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pg**	**04 18 15.1**	**+0.1**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*PN	**Pb**	**04 18 17.0**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*Pn	**Pb**	**04 18 17.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*PN	**Pb**	**04 18 17.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*Pn	**Pb**	**04 18 17.2**	**+0.1**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	**Pb**	**04 18 17.5**	**-0.4**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	**Pb**	**04 18 17.5**	**-0.4**
EDC	**Edincik**	**1.55**	**323**	*e*PN	**Pb**	**04 18 19.4**	**+0.1**
EDC	**Edincik**	**1.55**	**323**	*e*Pn	**Pb**	**04 18 19.4**	**+0.1**

*ISCJB **05** 04:19:07.1±0.6, 67°.78N±0°.03×20°.36E±0°.09, h0km, Error ellipse: s-maj=5.2km s-min=4.5km az=173.1*
*UPP **05** 04:19:07.5, 67°.84N×20°.20E, h0km, ML0.8, Suspected Mining explosion.*
*CSEM **05** 04:19:07.1±0.1, 67°.78N×20°.26E, h2km, ML0.8, Error ellipse: s-maj=3.3km s-min=2.8km az=176.0, Mining explosion.*
*HEL **05** 04:19:08.2±0.1, 67°.83N×20°.19E, h0km, ML2.1, ML0.8(UPP), Explosion*
*IDC **05** 04:19:11.4±1.4, 67°.84N×21°.10E, h0km, mb1 2.8/3, mb1mx2.7/50, mbtmp2.7/3, ML2.1/3, Error ellipse: s-maj=23.5km s-min=8.3km az=118.0*

ISC 05 04:19:07.4±0.9, **67°.79N**±0°.03×**20°.28E**±0°.03, **h0**km, **n25, σ0s83**/32, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.16**	**8**	*i* P	**Pg**	**04 19 10.2**	**-0.3**
KUA				*i* S	**Sg**	**04 19 12.1**	**-0.6**
KUA	**Kurravaara**	**0.16**	**8**	P	**Pg**	**04 19 10.2**	**-0.3**
KUA				S	**Sg**	**04 19 12.1**	**-0.6**
NIKU	**Nikkaluokta**	**0.48**	**280**	*i* P	**Pg**	**04 19 16.3**	**-0.2**
NIKU	**Nikkaluokta**	**0.48**	**280**	P	**Pg**	**04 19 16.3**	**-0.2**
LANU	**Lannavaara**	**0.70**	**67**	*e*P	**Pg**	**04 19 21.1**	**+0.4**
LANU	**Lannavaara**	**0.70**	**67**	P	**Pg**	**04 19 21.1**	**+0.4**
SALU	**Saltoluokta**	**0.80**	**239**	*i* P	**Pg**	**04 19 22.1**	**-0.5**
SALU	**Saltoluokta**	**0.80**	**239**	P	**Pg**	**04 19 22.1**	**-0.5**
KIF	**Kilpisjarvi**	**1.23**	**9**	*e*P	**Pb**	**04 19 31.2**	**-0.3**
KIF				*e*S	**Sg**	**04 19 47.0**	**+0.1**
KIF	**Kilpisjarvi**	**1.23**	**9**	P	**Pb**	**04 19 31.2**	**-0.3**
KIF				S	**Sg**	**04 19 47.0**	**+0.1**
PAJU	**Pajala**	**1.34**	**124**	*e*P	**Pb**	**04 19 33.0**	**-0.4**
PAJU	**Pajala**	**1.34**	**124**	P	**Pb**	**04 19 33.0**	**-0.4**
HEF	**Hetta**	**1.41**	**62**	*e*P	**Pn**	**04 19 33.7**	**-0.7**
HEF				*e*S	**Sg**	**04 19 52.2**	**-0.6**
HEF	**Hetta**	**1.41**	**62**	P	**Pn**	**04 19 33.6**	**-0.7**
HEF				S	**Sg**	**04 19 52.1**	**-0.6**
TOF	**Tornio**	**2.35**	**135**	*e*PB	**Pb**	**04 19 49.8**	**-0.7**
TOF				*e*SG	**Sg**	**04 20 21.6**	**-1.0**
TOF	**Tornio**	**2.35**	**135**	Pb	**Pb**	**04 19 49.8**	**-0.7**
TOF				Sg	**Sg**	**04 20 21.6**	**-1.0**
SGF	**Sodankyl**	**2.42**	**95**	*e*SG	**Sg**	**04 20 24.1**	**-0.9**
SGF	**Sodankyl**	**2.42**	**95**	Sg	**Sg**	**04 20 24.1**	**-0.9**
ARCES	**ARCESS Array B**	**2.59**	**45**	Pn	**Pn**	**04 19 51.9**	**+1.3**
	0.3nm,0.3s,baz=225,slow=15,SNR=13						
ARCES				Lg	Lg	04 20 24.9	
	1.8nm,0.3s,baz=225,slow=24,SNR=16						
ARE0	**ARCESS Array S**	**2.59**	**45**	*e*SG	**Sb**	**04 20 27.8**	**+0.7**
ARE0	**ARCESS Array S**	**2.59**	**45**	Sg	**Sb**	**04 20 27.7**	**+0.7**
KEV	**Kevo**	**3.14**	**48**	*e*SB	**Sb**	**04 20 42.6**	**-0.2**
KEV				MSG		04 20 44.6	
	comp=Z,4.9nm,0.4s						
KEV	**Kevo**	**3.14**	**48**	Sb	**Sb**	**04 20 42.6**	**-0.2**
FINES	**FINESS Array B**	**6.84**	**156**	Pn	**Pn**	**04 20 51.8**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=338,slow=15,SNR=3.4						
FINES				Lg	Lg	04 22 44.8	
	comp=Z,0.3nm,0.3s,baz=342,slow=27,SNR=6.5						
NOA	**NORSAR Array B**	**7.82**	**214**	Pn	Pn	04 21 07.6	+5.2
	comp=Z,0.1nm,0.3s,baz=32,slow=14,SNR=2.4						
NOA				Lg	Lg	04 23 16.3	
	comp=Z,0.2nm,0.3s,baz=312,slow=26,SNR=3.0						

*NIED **05** 04:20:00, 37°.50N×142°.60E, h11km, Mw3.3 Best double couple: M0=8.89000×10^13 NP1:φs=328.00000°, δ60.00000°, λ=-166.00000°. NP2:φs=231.00000°, δ78.00000°, λ=-31.00000°.*

JMA 05 04:20:59.4±0.2, **37°.47N**×**142°.64E**, **h0**km, **M3.9, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.41**	**266**	P	Pn	04 21 26.1	-0.3
JFK				S	Sb	04 21 45.4	+0.3
JIO	**Ouri**	**1.42**	**314**	P	Pn	04 21 25.9	-0.5
JIO				S	Sn	04 21 46.3	+0.5
ONAJ	**Iwakimizuishiy**	**1.51**	**257**	P	Pn	04 21 27.8	0.0
ONAJ				*e*S	Sg	04 21 48.0	-0.1
JMM	**Marumori**	**1.52**	**286**	P	Pn	04 21 27.3	-0.5
JOU	**Okura**	**1.80**	**300**	P	Pn	04 21 32.3	+0.6
JFT	**Otama**	**1.83**	**272**	P	Pn	04 21 33.2	-0.6
JFT				*e*S	Sg	04 21 57.9	-0.4
JMK	**Ichinoseki**	**1.85**	**323**	P	Pb	04 21 33.5	-0.7
JMK				*e*S	Sg	04 21 58.9	-0.1
JYS	**Shirataka**	**2.17**	**291**	P	Pb	04 21 38.4	-1.2
JYS				*e*S	Sn	04 22 05.4	+1.0
JOM	**Ohasama**	**2.26**	**333**	P	Pn	04 21 39.0	+0.9
JOM				*e*S	Sn	04 22 07.7	+1.0
JYK	**Kaneyama**	**2.31**	**310**	P	Pn	04 21 39.6	+0.9
JAG	**Ashikaga**	**2.76**	**249**	*e*S	Sn	04 22 20.3	+1.4
MAT	**Matsushiro**	**3.67**	**257**	P	Pb	04 22 01.6	-3.5
MAT				*e*S	Sb	04 22 47.5	-2.6

TAP 05 04:36:47.2, 23°.53N×121°.77E, h14km, ML2.6, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.28**	**310**	*e*P	Pb	04 36 53.8	-0.2
	baz=310						
TEGC				*e*S	Sb	04 36 58.3	-0.3
	baz=310						
EHY	**Hungye**	**0.41**	**267**	*i* P	Pg	04 36 55.2	-0.3
	baz=266						
EHY				*i* S	Sg	04 37 01.1	-0.1
	baz=266						
ESL	**Shilin**	**0.42**	**312**	P	Pg	04 36 55.0	-0.6
	baz=312						
ESL				*e*S	Sg	04 37 00.7	-0.7
	baz=312						
TWF1	**Yuli**	**0.47**	**248**	P	Pg	04 36 56.1	-0.4
	baz=247						
TWF1				S	Sg	04 37 03.5	+0.6
	baz=247						
CHKT	**Chengkung**	**0.57**	**221**	P	Pg	04 36 58.2	-0.2
	baz=220						
CHKT				*e*S	Sg	04 37 06.3	+0.4
	baz=220						
TWD	**Chiawan**	**0.57**	**344**	P	Pg	04 36 58.1	-0.4
	baz=344						
TWD				S	Sg	04 37 06.3	+0.2
	baz=344						
WDT	**Danda**	**0.63**	**291**	*e*P	Pg	04 36 59.0	-0.6
	baz=291						
WDT				S	Sg	04 37 07.3	-0.7
	baz=291						
ELDTW	**Lidau**	**0.77**	**244**	*i* P	Pg	04 37 00.8	-1.4
	baz=243						
ELDTW				S	Sg	04 37 10.6	-1.8
	baz=243						
SMLT	**Sun Moon Lake**	**0.88**	**294**	P	Pg	04 37 03.0	-1.2
	baz=293						
SMLT				*e*S	Sb	04 37 16.4	+0.5
	baz=293						
ALS	**Alishan**	**0.89**	**269**	*e*P	Pg	04 37 03.6	-0.9
	baz=268						
ALS				S	Sg	04 37 15.1	-1.1
	baz=268						
TYC	**Yuchr**	**0.92**	**294**	P	Pb	04 37 03.5	-1.4
	baz=294						
TYC				S	Sb	04 37 16.3	-0.7
	baz=294						
TWG	**Pinlang**	**0.95**	**223**	*e*P	Pb	04 37 04.4	-1.2
	baz=222						
TWG				*e*S	Sb	04 37 17.4	-0.6
	baz=222						
NNS	**Nan Shan**	**0.98**	**338**	*e*P	Pb	04 37 06.0	0.0
	baz=338						
STYT	**Tauyuan**	**1.00**	**249**	*e*P	Pb	04 37 05.2	-1.2
	baz=248						
STYT				*e*S	Sb	04 37 18.0	-1.5
	baz=248						
CHN5	**Tsauling**	**1.01**	**274**	P	Pb	04 37 05.8	-0.7
	baz=273						
CHN5				*e*S	Sg	04 37 20.2	+0.3
	baz=273						
WNT	**Mingjian**	**1.06**	**289**	*e*S	Sn	04 37 22.3	+0.1
	baz=289						
CHN4	**Tsaushan**	**1.10**	**261**	*e*P	Pb	04 37 07.7	-0.3
	baz=260						
CHN4				*e*S	Sb	04 37 22.2	0.0
	baz=260						
WTP	**Ta-pu**	**1.10**	**255**	*e*P	Pb	04 37 07.3	-0.8
	baz=254						
WTP				*e*S	Sb	04 37 22.0	-0.4
	baz=254						
ENTT	**Nioudou**	**1.12**	**350**	P	Pb	04 37 07.6	-0.8
	baz=350						
ENTT				*e*S	Sb	04 37 22.0	-1.0
	baz=350						
SGST	**Jiashian**	**1.18**	**248**	*e*S	Sb	04 37 23.6	-0.9
	baz=247						
CHN1	**Nanshi**	**1.19**	**254**	*e*P	Pn	04 37 08.5	-1.1
	baz=253						
CHN1				*e*S	Sb	04 37 24.4	-0.6
	baz=253						
NSK	**Sanguang**	**1.20**	**342**	*e*P	Pn	04 37 09.1	-0.7
	baz=341						
NSK				*e*S	Sb	04 37 24.2	-1.1
	baz=341						
TWK	**Hsinying**	**1.21**	**258**	*e*P	Pn	04 37 09.4	-0.3
	baz=257						
TWK				*e*S	Sb	04 37 24.1	-1.4
	baz=257						
TWQ1	**Liyutan**	**1.23**	**312**	*e*P	Pb	04 37 10.1	-0.1
	baz=311						
TWQ1				*e*S	Sg	04 37 27.1	+0.3
	baz=311						
NSTT	**Nanjuang**	**1.30**	**327**	*e*S	Sb	04 37 27.6	-0.6
	baz=327						
EAST	**Anshuo**	**1.42**	**217**	*e*P	Pn	04 37 12.1	-0.6
	baz=216						
EAST				*e*S	Sn	04 37 29.6	-1.7
	baz=216						

*IDC **05** 04:38:08.8±0.9, 10°.33N×126°.12E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/32, mbtmp3.7/7, Error ellipse: s-maj=41.6km s-min=22.1km az=67.0*
*MAN **05** 04:38:16, 10°.35N×126°.09E, h81km, mb4.8, ML3.7, MS3.7*
*ISCJB **05** 04:38:17.1±0.8, 10°.31N±0°.04×126°.11E±0°.08, h79km±8km, mb3.5/7, Error ellipse: s-maj=13.1km s-min=6.4km az=167.0*

ISC 05 04:38:18.0±1.2, **10°.32N**±0°.05×**126°.11E**±0°.09, **h70**km±12km, **n22, σ1s17**/21, **mb3.8**/7, **3C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.43**	**333**	*e*P	**Pn**	**04 38 41.6**	**-0.4**
BESP				*e*S	**Sn**	**04 39 01.6**	**+1.4**
OCLP	**Ormoc**	**1.64**	**296**	*e*P	**Pn**	**04 38 43.6**	**-1.2**
LLP	**Lapu-Lapu**	**2.11**	**270**	*e*P	**Pn**	**04 38 49.7**	**-1.4**
LLP				*e*S	**Sn**	**04 39 16.3**	**0.0**
BIPH	**Bislig**	**2.14**	**173**	*i* P	**Pn**	**04 38 52.0**	**+0.4**
BIPH				*i* S	**Sn**	**04 39 16.1**	**-1.1**
TBP	**Tagbilaran**	**2.30**	**254**	*i* P	**Pn**	**04 38 56.4**	**+2.7**
CGP	**Cagayan de Oro**	**2.32**	**217**	*e*P	**Pn**	**04 38 52.6**	**-1.4**
CGP				*i* S	**Sn**	**04 39 21.6**	**+0.1**
BUKP	**Musuan**	**2.64**	**203**	*e*P	**Pn**	**04 38 58.4**	**0.0**
BUKP				*e*S	**Sn**	**04 39 31.0**	**+1.6**
RCP	**Roxas**	**3.52**	**291**	*e*P	**Pn**	**04 39 10.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**27.50**	**290**	P	**P**	**04 43 57.9**	**-0.1**
	1.3nm,0.3s,baz=107,slow=7.2,SNR=5.2						
WRA	**Warramunga Arr**	**31.15**	**165**	P	**P**	**04 44 29.6**	**-0.7**
	0.3nm,0.8s,baz=344,slow=9.5,SNR=4.9						
ASAR	**Alice Springs**	**34.63**	**167**	P	**P**	**04 45 00.2**	**-0.5**
	0.2nm,0.3s,baz=353,slow=7.2,SNR=7.0						
H11S3	**WAKE ISLAND Hy 40.06**	**74**		T	T	05 28 39.0	
	baz=262,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy 40.07**	**74**		T	T	05 28 45.3	
	baz=262,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy 40.08**	**74**		T	T	05 28 37.5	
	baz=262,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy 40.39**	**72**		T	T	05 29 09.2	
	baz=264						
H11N2	**WAKE ISLAND Hy 40.40**	**72**		T	T	05 29 08.8	
	baz=264						
H11N3	**WAKE ISLAND Hy 40.41**	**72**		T	T	05 29 06.3	
	baz=264						
MKAR	**Makanchi Array**	**51.89**	**323**	P	**P**	**04 47 19.5**	**+0.1**
	0.6nm,0.6s,baz=116,slow=9.8,SNR=4.9						
ILAR	**Eielson Array**	**79.46**	**26**	P	**P**	**04 50 16.9**	**+0.3**
	0.2nm,0.7s,baz=229,slow=5.5,SNR=5.1						
FINES	**FINESS Array B**	**85.77**	**322**	P	**P**	**04 50 48.5**	**-0.9**
	1.3nm,0.9s,baz=64,slow=4.4,SNR=4.6						
YKA	**Yellowknife Ar**	**93.77**	**24**	P	**P**	**04 51 28.5**	**+1.5**
	0.4nm,0.8s,baz=315,slow=5.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**120.10**	**292**	PKP	**PKPdf**	**04 57 01.3**	**-0.5**
	0.3nm,0.9s,baz=40,slow=3.2,SNR=3.7						

*ISCJB **05** 04:39:02.6±0.5, 39°.14N±0°.03×28°.97E±0°.03, h8km±5km, Error ellipse: s-maj=4.6km s-min=4.4km az=26.1*
*DDA **05** 04:39:02.4, 39°.13N×28°.99E, h7km, Ml2.7*
*CSEM **05** 04:39:02.7±0.1, 39°.14N×28°.97E, h8km, ML2.7, Error ellipse: s-maj=1.4km s-min=1.3km az=79.0*
*ISK **05** 04:39:02.3, 39°.15N×28°.97E, h8km, MD2.8*

ISC 05 04:39:02.9±0.9, **39°.14N**±0°.02×**28°.98E**±0°.02, **h14**km±9km, **n39, σ0s46**/52, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**244**	P	**Pg**	**04 39 08.1**	**+0.1**
DEMI				S	**Sg**	**04 39 11.4**	**0.0**
DEMI	**Demirci**	**0.23**	**244**	*i* P	**Pg**	**04 39 08.1**	**+0.1**
DEMI				*i* S	**Sg**	**04 39 11.4**	**0.0**
GDZ	**Gediz**	**0.40**	**98**	P	**Pg**	**04 39 10.9**	**0.0**
GDZ				S	**Sg**	**04 39 16.0**	**-0.3**
GDZ	**Gediz**	**0.40**	**98**	*i* P	**Pg**	**04 39 10.9**	**0.0**
GDZ				*i* S	**Sg**	**04 39 16.0**	**-0.3**
TVSB	**Tavsanli

MAJO	**Matsushiro**	**5.36**	**234**	*e*Pn	**Pn**	04 53	**26.4**	**+1.3**
	66nm,0.8s							
MAT	**Matsushiro**	**5.36**	**234**	P	**Pn**	04 53	**26.5**	**+1.5**
MAT				*e*S	**Sn**	04 54	**26.6**	**-0.5**
YSS	**Yuzh-Sakhalins**	**7.11**	**356**	*e*Pn	**Pn**	04 53	**49.8**	**+0.8**
JHJ	**Hachijo jima 2**	**7.38**	**205**	Pn	**Pn**	04 53	**50.3**	**-2.5**
	5.0nm,0.3s,baz=246,slow=20,SNR=5.0							
JHJ				Sn	Sn	04 55	08.2	-8.7
	19nm,0.3s,baz=278,slow=23,SNR=5.9							
USRK	**Ussuriysk Ar.**	**9.64**	**300**	Pn	**Pn**	04 54	**25.3**	**+1.7**
	0.4nm,0.3s,baz=99,slow=12,SNR=20							
USRK				LR	LR	04 58	09.4	
	comp=Z,347nm,19.1s,baz=96,slow=38							
JNU	**Nakatsue**	**12.22**	**241**	Pn	**Pn**	04 54	**57.8**	**-1.2**
	0.2nm,0.3s,baz=156,slow=4.7,SNR=4.8							
JNU	**Nakatsue**	**12.22**	**241**	*e*Pn	**Pn**	04 54	**59.6**	**+0.6**
KSRS	**Korea Array**	**12.46**	**264**	Pn	**Pn**	04 55	**05.5**	**+3.3**
	0.2nm,0.3s,baz=83,slow=13,SNR=13							
KSRS				LR	LR	04 59	33.4	
	comp=Z,392nm,18.2s,baz=75,slow=36							
KSAR	**Wonju Array Be**	**12.49**	**264**	Pn	**Pn**	04 55	**05.5**	**+2.8**
KLR	**Kul'dur**	**12.58**	**322**	Pn	**Pn**	04 55	**04.6**	**+0.7**
	0.1nm,0.3s,baz=132,slow=11,SNR=9.2							
PETK	**Petropavlovsk-**	**16.40**	**31**	LR	LR	05 01	45.1	
	comp=Z,83nm,20.7s,baz=210,slow=35							
MA2	**Magadan**	**20.25**	**11**	P	**P**	04 56	**40.8**	**+0.5**
	9.0nm,0.7s,baz=196,slow=11,SNR=3.9							
SEY	**Seymchan**	**23.70**	**10**	P	**P**	04 57	**16.5**	**-0.3**
	6.5nm,0.9s,baz=205,slow=5.7,SNR=13							
YAK	**Yakutsk**	**23.75**	**344**	*e*P	**P**	04 57	**16.6**	**-0.7**
	20nm,0.8s							
SONM	**Songino Array**	**27.75**	**299**	P	**P**	04 57	**54.1**	**+0.2**
	2.0nm,0.6s,baz=88,slow=8.5,SNR=18							
SONM				LR	LR	05 09	45.4	
	comp=Z,289nm,18.0s,baz=92,slow=38							
ENH	**Enshi**	**29.34**	**262**	*e*P	**P**	04 58	**07.7**	**-0.3**
	4.8nm,0.5s							
TIXI	**Tiksi**	**32.72**	**351**	LR	LR	05 13	34.9	
	comp=Z,109nm,18.5s,baz=178,slow=39							
ZALV	**Zalesovo Beam**	**41.32**	**310**	P	**P**	04 59	**50.6**	**0.0**
	2.6nm,0.6s,baz=83,slow=7.6,SNR=5.2							
CMAR	**Chiang Mai Arr**	**43.87**	**254**	P	**P**	05 00	**12.1**	**+0.3**
	0.6nm,0.4s,baz=40,slow=7.4,SNR=2.7							
MKAR	**Makanchi Array**	**44.10**	**300**	P	**P**	05 00	**13.3**	**-0.1**
	2.3nm,0.8s,baz=80,slow=10.0,SNR=16							
MKAR				LR	LR	05 19	33.3	
	comp=Z,96nm,19.0s,baz=76,slow=37							
SEW	**Seward**	**45.31**	**40**	*e*P	**P**	05 00	**21.8**	**-1.0**
	18nm,1.2s							
KURK	**Kurchatov**	**45.57**	**306**	P	**P**	05 00	**25.5**	**+0.5**
KURBB	**Kurchatov Arra**	**45.65**	**306**	P	**P**	05 00	**25.5**	**-0.1**
	4.4nm,0.8s,baz=80,slow=8.4,SNR=39							
ILAR	**Eielson Array**	**46.21**	**34**	P	**P**	05 00	**30.1**	**+0.3**
	0.5nm,0.7s,baz=260,slow=6.9,SNR=15							
DIV	**Divide**	**47.01**	**39**	*e*P	**P**	05 00	**35.9**	**-0.4**
	3.5nm,0.6s							
DOT	**Dot Lake**	**47.52**	**35**	*e*P	**P**	05 00	**40.0**	**-0.2**
	3.2nm,0.8s							
TKM2	**Tokmak 2**	**49.81**	**297**	*e*P	**P**	05 00	**59.1**	**+0.8**
	8.5nm,1.0s							
BVAR	**Borovoye Array**	**49.96**	**311**	P	**P**	05 00	**58.7**	**-0.3**
	1.5nm,0.7s,baz=80,slow=9.2,SNR=8.7							
BRVK	**Borovoye**	**50.01**	**311**	*e*P	**P**	05 00	**59.3**	**-0.1**
	3.9nm,0.5s							
INK	**Inuvik**	**51.10**	**28**	P	**P**	05 01	**08.6**	**+1.2**
	1.1nm,0.5s,baz=290,slow=8.6,SNR=8.2							
EKS2	**Erkin-Say**	**51.15**	**297**	*e*P	**P**	05 01	**07.9**	**-0.4**
	2.2nm,0.7s							
KKAR	**Karatay Array**	**53.20**	**299**	*e*P	**P**	05 01	**22.9**	**-0.5**
	1.5nm,0.7s							
ARU	**Arti**	**55.38**	**318**	P	**P**	05 01	**39.6**	**+0.5**
	1.5nm,0.3s,baz=68,slow=4.7,SNR=4.0							
ARU	**Arti**	**55.38**	**318**	*e*P	**P**	05 01	**38.9**	**-0.1**
	5.6nm,0.9s							
ABKAR	**Akbulak array**	**57.43**	**309**	*e*P	**P**	05 01	**53.5**	**-0.3**
	2.0nm,0.5s							
AKTO	**Aktyubinsk**	**58.06**	**311**	P	**P**	05 02	**00.4**	**+2.2**
	0.5nm,0.3s,baz=80,slow=15,SNR=3.7							
WRAB	**Tennant Creek**	**60.10**	**190**	*e*P	**P**	05 02	**11.6**	**-0.9**
	3.9nm,0.8s							
WRA	**Warramunga Arr**	**60.11**	**190**	P	**P**	05 02	**11.5**	**-1.2**
	2.6nm,0.6s,baz=8.7,slow=7.0,SNR=22							
YKA	**Yellowknife Ar**	**60.52**	**31**	P	**P**	05 02	**14.7**	**-0.3**
	0.5nm,0.8s,baz=302,slow=6.3,SNR=3.5							
ASAR	**Alice Springs**	**63.84**	**190**	P	**P**	05 02	**37.4**	**-0.3**
	0.8nm,0.6s,baz=359,slow=5.4,SNR=12							
GEYT	**Alibeck**	**63.95**	**299**	P	**P**	05 02	**38.2**	**-0.3**
	2.0nm,0.8s,baz=338,slow=1.6,SNR=4.3							
FINES	**FINESS Array B**	**67.10**	**332**	P	**P**	05 02	**58.1**	**-0.2**
	1.9nm,0.7s,baz=50,slow=6.0,SNR=9.0							
FINES				LR	LR	05 35	21.3	
	comp=Z,136nm,19.5s,baz=12,slow=39							
KVAR	**Kislovodsk Arr**	**70.32**	**311**	P	**P**	05 03	**20.1**	**+1.2**
	5.4nm,0.9s,baz=190,slow=19,SNR=5.7							
KIV	**Kislovodsk**	**70.32**	**311**	*e*P	**P**	05 03	**20.4**	**+1.4**
	8.3nm,0.9s							
KBZ	**Khabaz**	**70.34**	**311**	P	**P**	05 03	**18.6**	**-0.3**
	3.9nm,0.9s,baz=4.1,slow=2.3,SNR=5.6							
NVAR	**Mina Array Bea**	**71.96**	**55**	P	**P**	05 03	**30.6**	**+1.4**
	1.0nm,0.7s,baz=312,slow=7.2,SNR=5.0							
NVAR				LR	LR	05 28	37.8	
	comp=Z,13nm,20.5s,baz=268,slow=30							
NB2	**NORSAR Subarra**	**72.22**	**338**	P	**P**	05 03	**30.0**	**0.0**
	comp=Z,2.0nm,0.8s,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**72.22**	**338**	P	**P**	05 03	**29.5**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=37,slow=6.3,SNR=4.2							
AKASG	**Malin Array Be**	**73.08**	**323**	P	**P**	05 03	**34.7**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=44,slow=5.9,SNR=7.0							
R11A	**Troy Canyon, C**	**73.71**	**54**	*e*P	**P**	05 03	**39.9**	**+0.4**
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**74.50**	**47**	P	**P**	05 03	**44.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=5.7,slow=0.9,SNR=3.8							
STHS	**Stebnicka Huta**	**77.60**	**326**	*e*P	**P**	05 04	**02.8**	**+1.5**
BRTR	**Keskin Array B**	**78.22**	**312**	P	**P**	05 04	**04.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=170,slow=10.0,SNR=3.8							
DPC	**Dobruska-Polom**	**78.94**	**329**	*e*P	**P**	05 04	**09.3**	**+0.5**
CLL	**Collm**	**79.47**	**331**	*e*P	**P**	05 04	**11.0**	**-0.5**
PRU	**Pruhonice**	**79.93**	**329**	*e*P	**P**	05 04	**14.5**	**+0.4**
TXAR	**Lajitas Array**	**87.08**	**54**	P	**P**	05 04	**51.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=294,slow=3.7,SNR=4.7							

SGS 05 04:53:31.7, 25°.20N × 37°.80E, h19km, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY06	**LNY06**	**0.02**	**304**	S	Sg	04 53 37.7	+0.3
LNY06				P	Pg	04 53 35.2	+0.1
LNY12	**LNY12**	**0.08**	**342**	P	Pg	04 53 35.4	0.0
LNY12	**LNY12**	**0.08**	**342**	S	Sg	04 53 37.7	-0.2
LNY12				P	Pg	04 53 35.3	-0.1
LNY10	**LNY10**	**0.09**	**38**	P	Pg	04 53 35.4	-0.1
LNY10	**LNY10**	**0.09**	**38**	P	Pg	04 53 35.4	-0.1
LNY11	**LNY11**	**0.12**	**349**	P	Pg	04 53 35.8	0.0
LNY11	**LNY11**	**0.12**	**349**	S	Sg	04 53 38.3	-0.3
LNY11				P	Pg	04 53 35.8	0.0
LNY01	**LNY01**	**0.15**	**81**	P	Pg	04 53 36.1	0.0
LNY01	**LNY01**	**0.15**	**81**	S	Sg	04 53 38.6	-0.4
LNY01				P	Pg	04 53 36.1	0.0
LNY04	**LNY04**	**0.16**	**298**	P	Pg	04 53 36.1	-0.1
LNY04	**LNY04**	**0.16**	**298**	S	Sg	04 53 38.9	-0.4
LNY04				P	Pg	04 53 36.1	-0.1
LNY08	**LNY08**	**0.17**	**164**	P	Pg	04 53 36.5	+0.1
LNY05	**LNY05**	**0.18**	**212**	P	Pg	04 53 36.5	0.0
LNY05	**LNY05**	**0.18**	**212**	S	Sg	04 53 39.6	0.0
LNY05				P	Pg	04 53 36.4	0.0
LNY03	**LNY03**	**0.19**	**15**	P	Pg	04 53 36.6	0.0
LNY03	**LNY03**	**0.19**	**15**	S	Sg	04 53 39.7	-0.3
LNY03				P	Pg	04 53 36.6	-0.1
LNY07	**LNY07**	**0.22**	**252**	P	Pg	04 53 37.0	0.0
LNY07	**LNY07**	**0.22**	**252**	S	Sg	04 53 40.4	-0.3
LNY07				P	Pg	04 53 37.0	0.0

DJA 05 04:54:29.5±0.7, 0°N±5° × 9°9E±°, h59km±16km, M3.9/8, mb3.8/1, MLv3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.11**	**64**	P	Pn	04 54 49.4	+0.5
SBSI	**Sibolga**	**1.27**	**14**	P	Pn	04 54 53.3	+2.2
SBSI				S	Sn	04 55 10.2	+2.9
GSI	**Gunungsitoli**	**1.41**	**315**	P	Pn	04 54 53.3	+0.3
PPI	**Padang Panjang**	**1.97**	**113**	P	Pn	04 55 00.8	+0.2
PPI				S	Sn	04 55 24.4	+0.2
TPTI		**3.25**	**334**	P	Pn	04 55 18.1	+0.1
KCSI	**Kotacane, Aceh**	**3.29**	**346**	P	Pn	04 55 16.8	-1.8

*ISCJB **05** 05:05:19.0±0.4, 39°.06N±0°.03 × 29°.04E±0°.03, h9km, Error ellipse: s-maj=4.5km s-min=3.2km az=171.6*
*DDA **05** 05:05:18.1, 39°.10N × 29°.05E, h7km, Md3.0*
*ISK **05** 05:05:18.6, 39°.07N × 29°.03E, h5km, MD3.0*
*CSEM **05** 05:05:18.8±0.1, 39°.07N × 29°.05E, h2km, MD3.0, Error ellipse: s-maj=1.7km s-min=1.6km az=153.0*

ISC 05 05:05:19.0±0.8, 39°.07N±0°.02 × 29°.05E±0°.02, h9km, n68, σ055/76, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**265**	P	**Pg**	**05 05 24.0**	**-0.3**
DEMI				S	**Sg**	**05 05 27.9**	**+0.1**
DEMI	**Demirci**	**0.26**	**265**	*i* P	**Pg**	**05 05 24.0**	**-0.3**
DEMI				*i* S	**Sg**	**05 05 27.9**	**+0.1**
GDZ	**Gediz**	**0.34**	**86**	P	**Pg**	**05 05 25.1**	**-0.6**
GDZ				S	**Sg**	**05 05 30.0**	**-0.1**
GDZ	**Gediz**	**0.34**	**86**	*i* P	**Pg**	**05 05 25.1**	**-0.6**
GDZ				*i* S	**Sg**	**05 05 30.0**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**40**	*e*PG	**Pg**	**05 05 27.7**	**-1.0**
TVSB	**Tavsanli**	**0.50**	**40**	*e*Pg	**Pg**	**05 05 27.7**	**-1.0**
KULA	**Kula-Manisa**	**0.63**	**209**	*e*PG	**Pg**	**05 05 31.0**	**-0.2**
KULA	**Kula-Manisa**	**0.63**	**209**	*e*Pg	**Pg**	**05 05 31.0**	**-0.2**
DST	**Dursunbey**	**0.63**	**328**	*e*PG	**Pg**	**05 05 31.0**	**-0.2**
DST	**Dursunbey**	**0.63**	**328**	*e*Pg	**Pg**	**05 05 31.0**	**-0.2**
KHAL	**Karahalli**	**0.78**	**154**	P	**Pg**	**05 05 33.9**	**0.0**
KHAL	**Karahalli**	**0.78**	**154**	*i* P	**Pg**	**05 05 33.9**	**0.0**
KHL	**Karahalli**	**0.83**	**153**	*e*PG	**Pb**	**05 05 35.5**	**-0.1**
KHL	**Karahalli**	**0.83**	**153**	*e*Pg	**Pb**	**05 05 35.5**	**-0.1**
AKHS	**Akhisar**	**0.98**	**259**	P	**Pg**	**05 05 37.9**	**0.0**
AKHS				S	**Sb**	**05 05 51.1**	**-0.2**
AKHS	**Akhisar**	**0.98**	**259**	*i* P	**Pg**	**05 05 37.9**	**0.0**
AKHS				*i* S	**Sb**	**05 05 51.1**	**-0.2**
AKS	**Akhisar**	**0.98**	**259**	*e*PG	**Pg**	**05 05 37.9**	**0.0**
AKS	**Akhisar**	**0.98**	**259**	*e*Pg	**Pg**	**05 05 37.9**	**0.0**
ORLT	**Orhaneli**	**0.98**	**353**	*e*PG	**Pg**	**05 05 37.9**	**0.0**
ORLT	**Orhaneli**	**0.98**	**353**	*e*Pg	**Pg**	**05 05 37.9**	**0.0**
BALB	**Balikesir**	**1.07**	**303**	*e*PG	**Pg**	**05 05 39.2**	**-0.4**
BALB				*e*SG	**Sg**	**05 05 53.5**	**+0.1**
BALB	**Balikesir**	**1.07**	**303**	*e*Pg	**Pg**	**05 05 39.2**	**-0.4**
BALB				*e*Sg	**Sg**	**05 05 53.6**	**+0.1**
CAVI	**Cavuskoy**	**1.29**	**28**	*e*PN	**Pg**	**05 05 43.8**	**+0.1**
CAVI	**Cavuskoy**	**1.29**	**28**	*e*Pn	**Pg**	**05 05 43.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.31**	**354**	*e*PN	**Pg**	**05 05 44.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.31**	**354**	*e*Pn	**Pg**	**05 05 44.0**	**0.0**
IZI	**Iznik**	**1.31**	**14**	*e*PN	**Pg**	**05 05 44.0**	**-0.1**
IZI	**Iznik**	**1.31**	**14**	*e*Pn	**Pg**	**05 05 44.0**	**-0.1**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*PN	**Pn**	**05 05 43.5**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*Pn	**Pn**	**05 05 43.5**	**0.0**
GEMT	**Gemlik**	**1.37**	**4**	*e*PN	**Pg**	**05 05 45.3**	**+0.1**
GEMT	**Gemlik**	**1.37**	**4**	*e*Pn	**Pg**	**05 05 45.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.44**	**313**	*e*PN	**Pb**	**05 05 45.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.44**	**313**	*e*Pn	**Pb**	**05 05 45.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**219**	*e*PN	**Pn**	**05 05 45.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**219**	*e*Pn	**Pn**	**05 05 45.3**	**-0.1**
ADVT	**Abdulvahap**	**1.46**	**21**	*e*PN	**Pb**	**05 05 46.1**	**-0.3**
ADVT	**Abdulvahap**	**1.46**	**21**	*e*Pn	**Pb**	**05 05 46.1**	**-0.3**
ESKT	**Eskisehir**	**1.47**	**72**	*e*PN	**Pn**	**05 05 45.9**	**+0.2**
ESKT	**Eskisehir**	**1.47**	**72**	*e*Pn	**Pn**	**05 05 45.9**	**+0.2**
ARMT	**Armutlu**	**1.50**	**354**	*e*PN	**Pb**	**05 05 46.7**	**-0.4**
ARMT	**Armutlu**	**1.50**	**354**	*e*Pn	**Pb**	**05 05 46.7**	**-0.4**
IZM	**Izmir**	**1.55**	**245**	*e*PN	**Pb**	**05 05 47.5**	**-0.4**
IZM	**Izmir**	**1.55**	**245**	*e*Pn	**Pb**	**05 05 47.5**	**-0.4**
GPA	**Golpazari**	**1.56**	**38**	*e*PN	**Pb**	**05 05 47.7**	**-0.3**
GPA	**Golpazari**	**1.56**	**38**	*e*Pn	**Pb**	**05 05 47.7**	**-0.3**
EDC	**Edincik**	**1.57**	**325**	*e*PN	**Pb**	**05 05 47.7**	**-0.5**
EDC	**Edincik**	**1.57**	**325**	*e*Pn	**Pb**	**05 05 47.7**	**-0.5**
GULT	**Gulveren**	**1.77**	**39**	*e*PN	**Pn**	**05 05 50.6**	**+0.8**
GULT	**Gulveren**	**1.77**	**39**	*e*Pn	**Pn**	**05 05 50.6**	**+0.8**
HRT	**Hereke**	**1.81**	**15**	*e*PN	**Pb**	**05 05 51.4**	**-1.0**
HRT	**Hereke**	**1.81**	**15**	*e*Pn	**Pb**	**05 05 51.4**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.96**	**78**	*e*PN	**Pn**	**05 05 53.5**	**+1.1**
SVRH	**Sivrihisar-ESK**	**1.96**	**78**	*e*Pn	**Pn**	**05 05 53.6**	**+1.1**
SILT	**Sile**	**2.13**	**12**	*e*PN	**Pn**	**05 05 55.8**	**+1.1**
SILT	**Sile**	**2.13**	**12**	*e*Pn	**Pn**	**05 05 55.8**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.17**	**319**	*e*PN	**Pn**	**05 05 55.9**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.17**	**319**	*e*Pn	**Pn**	**05 05 55.9**	**+0.6**
MDUB	**Mudurnu**	**2.17**	**49**	*e*PN	**Pn**	**05 05 56.7**	**+1.4**
MDUB	**Mudurnu**	**2.17**	**49**	*e*Pn	**Pn**	**05 05 56.7**	**+1.4**
KLYT	**Kilyos**	**2.18**	**360**	*e*PN	**Pn**	**05 05 56.4**	**+0.9**
KLYT	**Kilyos**	**2.18**	**360**	*e*Pn	**Pn**	**05 05 56.4**	**+0.9**
CTKS	**Kestanelik-??a**	**2.21**	**349**	*e*PN	**Pn**	**05 05 56.2**	**+0.4**
CTKS	**Kestanelik-??a**	**2.21**	**349**	*e*Pn	**Pn**	**05 05 56.2**	**+0.4**
KIZT	**Kizilcal**	**2.21**	**94**	*e*PN	**Pn**	**05 05 56.6**	**+0.6**
KIZT	**Kizilcal**	**2.21**	**94**	*e*Pn	**Pn**	**05 05 56.6**	**+0.6**
CTYL	**Yalikoy Yolu**	**2.47**	**347**	*e*PN	**Pn**	**05 06 00.4**	**+1.0**
CTYL	**Yalikoy Yolu**	**2.47**	**347**	*e*Pn	**Pn**	**05 06 00.4**	**+1.0**

*MOS **05** 05:21:43.9±0.7, 31°.79N × 104°.27E, h23km, mb4.9/43, Error ellipse: s-maj=7.3km s-min=5.0km az=112.8*
*ISCJB **05** 05:21:45.0±0.9, 31°.79N±0°.02 × 104°.21E±0°.03, h30km±7km, mb4.6/107, MS3.6/15, Error ellipse: s-maj=3.7km s-min=3.4km az=163.8*
*NEIC **05** 05:21:44.9±0.1, 31°.84N × 104°.21E, mb4.8/38, ML4.8(BJI), Error ellipse: s-maj=3.6km s-min=3.0km az=52.0*
NEIC Felt at Chengdu.
*BJI **05** 05:21:45.3, 31°.80N × 104°.14E, h19km, mb4.6/31, mB4.5/22, ML4.6/23, Ms4.2/41, Ms7 4.0/40*
*IDC **05** 05:21:47.5±3.0, 31°.80N × 104°.27E, h33km±22km, mb4.3/36, mb1 4.4/38, mb1mx4.3/54, mbtmp4.4/38, ML4.0/2, MS3.5/14, Ms1 3.5/14, ms1mx3.2/52, Error ellipse: s-maj=12.2km s-min=8.9km az=46.0*

ISC 05 05:21:44.2±0.4, 31°.80N±0°.03 × 104°.34E±0°.03, h12km±2km, h11km:pP-P, n279, σ1§86/331, mb4.8/107, MS3.6/15, 16C-10D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.02**	**210**	ǁ *i* Pg	**Pg**	**05 22 02.4**	**-1.4**
CD2				Sg	**Sg**	**05 22 16.4**	**-0.6**
CD2				SMN			
	17μm,0.5s						
CD2				SME			
	12μm,0.5s						
LZH	**Lanzhou**	**4.30**	**355**	Pn	**Pn**	**05 22 52.4**	**+2.7**
LZH				Pg	**Pg**	**05 23 05.3**	**-1.3**
LZH				Sn	**Sn**	**05 23 42.6**	**+2.7**
LZH				Sg	**Sg**	**05 24 01.5**	**-0.8**
LZH				SMN			
	1μm,1.3s						
LZH				SME			
	1μm,0.9s						
LZH				LN			
	3μm,6.2s						
LZH				LE			
	2μm,4.8s						
LZH				LZ			
	2μm,7.3s						
XAN	**Xi'an**	**4.45**	**59**	Pn	**Pn**	**05 22 53.3**	**+1.6**
XAN				Pg	**Pg**	**05 23 06.3**	**-3.2**
XAN				Sn	**Sb**	**05 23 50.4**	**-5.7**
XAN				Sg	**Sg**	**05 24 06.6**	**-0.6**
XAN				SMN			
	1μm,0.6s						
XAN				SME			
	1μm,0.8s						
XAN				LN			
	1μm,7.3s						
XAN				LE			
	2μm,9.1s						
XAN				LZ			
	2μm,8.4s						
ENH	**Enshi**	**4.67**	**108**	*e*Pn	**Pn**	**05 22 57.6**	**+3.0**
ENH				*e*Sn	**Sn**	**05 23 51.0**	**+2.2**
GYA	**Guiyang**	**5.69**	**159**	Pn	**Pn**	**05 23 09.6**	**+0.8**
GYA				Sn	**Sn**	**05 24 14.9**	**+0.7**
GYA				Sg	**Sg**	**05 24 45.1**	**-1.9**
GYA				SMN			
	840nm,0.8s						
GYA				SME			
	730nm,0.9s						
KMI	**Kunming**	**6.80**	**192**	Pn	**Pn**	**05 23 25.3**	**+1.2**
KMI				Sn	**Sn**	**05 24 39.9**	**-1.6**
KMI				SMN			
	190nm,0.9s						
KMI				SME			
	170nm,0.6s						
KMI				LN			
	530nm,3.8s						
KMI				LE			
	290nm,3.8s						
KMI				LZ			
	1μm,13.0s						
GTA	**Gaotai**	**8.44**	**335**	*e*P	**Pn**	**05 23 46.9**	**+0.4**
GTA				pP	pP	05 23 50.6	
GTA				sP	sP	05 23 53.1	
GTA				S	**Sn**	**05 25 23.8**	**+1.9**
GTA				sS	sS	05 25 28.5	
GTA				PMZ			
	4.0nm,1.3s						
GTA				PMZ			
	100nm,5.2s						
GTA				LN			
	1μm,13.8s						
GTA				LE			
	1μm,16.6s						
GTA				LZ			
	860nm,14.3s						
WHN	**Wuhan**	**8.66**	**96**	P	**Pn**	**05 23 49.1**	**-0.3**
WHN				S	**Sn**	**05 25 24.3**	**-2.8**
WHN				LR	LR		
	comp=N,2μm,8.0s						
WHN				LR	LR		
	comp=E,3μm,10.2s						
WHN				LR	LR		
	comp=Z,3μm,9.4s						
HHC	**Hu-ho-hao-te**	**10.74**	**31**	*e*P	**Pn**	**05 24 21.2**	**+3.2**
HHC				PP	**PnPn**	**05 24 34.9**	**+9.1**
HHC				S	**Sn**	**05 26 24.3**	**+6.0**
HHC				sS		05 26 35.5	
HHC				PMZ			
	comp=Z,20nm,0.9s						
HHC				PMZ			
	comp=Z,79nm,4.8s						
HHC				LN			
	comp=Z,1μm,10.9s						
HHC				LE			
	comp=Z,670nm,8.4s						
HHC				LZ			
	comp=Z,640nm,9.7s						
TIA	**Tai'an**	**11.48**	**64**	*e*P	**Pn**	**05 24 25.9**	**-2.2**
TIA				S	Sn	05 26 22.1	-14
TIA				pmax	pmax		
	comp=Z,20nm,1.1s						
TIA				LR	LR		
	comp=N,290nm,9.3s						
TIA				LR	LR		
	comp=E,520nm,9.3s						
TIA				LR	LR		
	comp=Z,560nm,10.4s						
LSA	**Lhasa**	**11.54**	**263**	*e*P	**Pn**	**05 24 29.3**	**0.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LSA	**Lhasa**	**11.54**	**263**	*e*Pn	**Pn**	**05 24 29.3**	**0.0**
	comp=Z,9.0nm,0.6s						
GZH	**Guangzhou**	**11.79**	**135**	P	**Pn**	**05 24 32.0**	**-0.3**
GZH				S	Sn	05 26 32.9	-11
GZH				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2	**Nanjing**	**12.33**	**85**	*e*P	**Pn**	**05 24 41.5**	**+1.8**
NJ2				S	**Sn**	**05 26 57.0**	**-0.1**
NJ2				LN			
	comp=Z,380nm,8.4s						
NJ2				LE			
	comp=Z,1μm,12.2s						
NJ2				LZ			
	comp=Z,2μm,13.3s						
SHL	**Shillong**	**12.57**	**244**	*e*P	**Pn**	**05 24 41.0**	**-2.2**
BJT	**Baijiatuan**	**12.61**	**46**	*e*P	**Pn**	**05 24 43.9**	**+0.5**
BJT	**Baijiatuan**	**12.61**	**46**	*e*Pn	**Pn**	**05 24 43.9**	**+0.5**
BJI	**Beijing**	**12.62**	**46**	P	**Pn**	**05 24 45.3**	**+1.7**
BJI				S	**Sn**	**05 27 07.7**	**+3.5**
BJI				PMZ			
	comp=Z,4.0nm,0.7s						
BJI				PMZ			
	comp=Z,68nm,8.1s						
BJI				LN			
	comp=Z,1μm,14.5s						
BJI				LE			
	comp=Z,770nm,15.6s						
BJI				LZ			
	comp=Z,180nm,16.7s						
QIZ	**Qiongzhong**	**13.64**	**157**	P	**Pn**	**05 25 00.0**	**+2.3**
QIZ				S	**Sn**	**05 27 35.4**	**+6.1**
QIZ				LN			
	comp=Z,390nm,6.5s			

comp=Z,100nm,4.8s
WMQ LN
comp=Z,170nm,10.2s
WMQ LE
comp=Z,210nm,8.8s
KOLN Koldanda 18.44 263 *e*P **P 05 25 56.3 -3.7**
comp=Z,60nm,0.8s
ZAK Zakamensk 18.59 358 *e*P **Pn 05 26 01.4 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
PYUN Piuthan 18.86 264 *e*P **P 05 26 01.7 -2.9**
comp=Z,29nm,0.5s
CHBT CHBT 19.04 186 P **Pn 05 26 08.8 +1.7**
comp=Z,36nm,0.7s,comp=Z,5µm
TJN Taejon 19.59 70*c e*P **Pn 05 26 15.0 +1.4**
TLY Talaya 19.88 359 LR LR 05 34 48.2
comp=Z,175nm,19.1s,baz=169,slow=39
TLY Talaya 19.88 359 *e*P **Pn 05 26 21.5 +4.6**
TLY *e*S **S 05 29 55.3 -3.5**
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY MLR MLR
comp=Z,258nm,10.0s
KS15 Wonju Array Si 20.15 67 *e*P Pn 05 26 20.8 +0.5
KSAR Wonju Array Be 20.15 67 P Pn 05 26 20.0 -0.3
KSAR Wonju Array Be 20.15 67 P Pn 05 26 20.0 -0.3
KS01 Wonju Array Si 20.17 67 *e*P Pn 05 26 20.2 -0.2
KSRS Korea Array 20.19 67 P Pn 05 26 20.0 -0.7
comp=Z,9.3nm,0.8s,baz=254,slow=10,SNR=42
KSRS LR LR 05 34 21.9
comp=Z,42nm,18.2s,baz=254,slow=37
KSRS Korea Array 20.19 67 P Pn 05 26 20.0 -0.6
KSRS pmax pmax
comp=Z,9.0nm,0.8s
KSRS MLR MLR
comp=Z,42nm,18.2s
IRK Irkutsk 20.43 360 *e*P **P 05 26 21.8 +0.5**
IRK pmax pmax
comp=Z,54nm,1.2s
CN2 Changchun 20.47 48 ⇑P Pn 05 26 24.4 +0.5
CN2 e*S* **S 05 30 07.9 -2.8**
CN2 PMZ
comp=Z,40nm,0.6s
CN2 PMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,300nm,11.0s
CN2 LE
comp=Z,200nm,11.0s
CN2 LZ
comp=Z,300nm,12.0s
JNU Nakatsue 22.41 80 P **P 05 26 44.2 +1.4**
comp=Z,5.4nm,0.9s,baz=296,slow=8.6,SNR=1.8
JNU LR LR 05 36 41.1
comp=Z,247nm,19.0s,baz=301,slow=40
MK01 Makanchi Array 22.58 318 *e*P **P 05 26 44.0 -0.5**
MK01 *e*PcP **PcP 05 30 37.0 -0.6**
MK31 Makanchi Array 22.60 318 *e*P **P 05 26 44.3 -0.4**
MK31 Makanchi Array 22.60 318 *e*P **P 05 26 44.3 -0.4**
MKAR Makanchi Array 22.60 318 P **P 05 26 44.8 +0.1**
comp=Z,14nm,0.8s,baz=117,slow=12,SNR=63
MKAR PcP **PcP 05 30 37.2 -0.4**
comp=Z,2.0nm,0.5s,baz=186,slow=1.9,SNR=9.0
MKAR ScP **ScP 05 34 12.5 -2.6**
comp=Z,0.2nm,0.4s,baz=131,slow=4.4,SNR=3.7
MKAR LR LR 05 36 30.0
comp=Z,218nm,18.4s,baz=129,slow=39
MKAR Makanchi Array 22.60 318 P **P 05 26 44.8 +0.1**
MKAR 05 30 37.3
MKAR pmax pmax
comp=Z,13nm,0.8s
MKAR MLR MLR
comp=Z,218nm,18.4s
MKAR Makanchi Array 22.60 318 *e*P **P 05 26 44.4 -0.3**
MKAR *e*PcP **PcP 05 30 37.3 -0.4**
MKAR ScP **ScP 05 34 12.5 -2.6**
PDGK Podgornoye 22.73 307 P **P 05 26 46.0 -0.1**
PDGK pmax pmax
comp=Z,16nm,1.0s
MAKZ Makanchi 22.79 318 *e*P **P 05 26 46.3 -0.4**
MAKZ pmax pmax
comp=Z,23nm,1.3s
MAKZ Makanchi 22.79 318 *e*P **P 05 26 46.2 -0.4**
comp=Z,23nm,1.3s
SURA Surathani 22.94 192 P **P 05 26 48.7 +0.3**
comp=Z,20nm,1.3s
MDJ Mudanjiang 23.50 50 P **P 05 26 50.6 -3.4**
MDJ pmax pmax
comp=Z,4.0nm,0.6s
MDJ pmax pmax
comp=Z,43nm,5.0s
TRTT Trang 24.23 191 P **P 05 27 01.6 +0.5**
comp=Z,25nm,0.9s
KSH Kashi 24.24 296 P **P 05 27 04.6 +3.4**
KSH pP sP 05 27 08.7 +2.5
KSH PP **PnPn 05 27 39.1 +8.4**
KSH PcP **PcP 05 30 44.9 +3.6**
KSH S **S 05 31 20.2 +0.6**
KSH SS **SnSn 05 32 14.1 +12**
KSH PMZ
comp=Z,12nm,0.6s
KSH LN
comp=Z,300nm,11.9s
KSH LE
comp=Z,260nm,11.3s
KSH LZ
comp=Z,180nm,12.9s
SKLT Songkhla 24.75 189 P **P 05 27 07.4 +1.6**
comp=Z,22nm,1.0s
USRK Ussuriysk Ar. 24.93 52 P **P 05 27 08.7 +1.4**
comp=Z,7.7nm,0.8s,baz=252,slow=11,SNR=14
TKM2 Tokmak 2 25.29 304 *e*P **P 05 27 11.4 +0.7**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 25.29 304 *e*P **P 05 27 11.4 +0.7**
comp=Z,5.9nm,0.8s
FRU Bishkek 25.95 304 *e*P P 05 27 08.0 -8.6
AAK Ala-Archa 25.99 303 P **P 05 27 17.4 +0.3**
comp=Z,4.2nm,0.7s,baz=92,slow=2.5,SNR=8.0
AAK PcP **PcP 05 30 44.7 -0.5**
comp=Z,1.4nm,0.4s,baz=173,slow=4.4,SNR=4.8
AAK LR LR 05 38 35.3
comp=Z,94nm,18.1s,baz=90,slow=39
AAK Ala-Archa 25.99 303*c i*P **P 05 27 18.1 +1.0**
AAK pmax pmax
comp=Z,14nm,1.1s
AAK Ala-Archa 25.99 303 *e*P **P 05 27 16.6 -0.5**
comp=Z,5.9nm,0.9s
AAK *e*PcP **PcP 05 30 45.2 0.0**
ZALV Zalesovo Beam 26.19 333 P **P 05 27 18.7 +0.1**
comp=Z,8.3nm,0.6s,baz=128,slow=9.6,SNR=4.5
ZALV PcP **PcP 05 30 44.6 -0.6**
comp=Z,0.9nm,0.5s,baz=140,slow=3.4,SNR=2.0
ZALV LR LR 05 38 15.6
comp=Z,52nm,21.8s,baz=248,slow=38
EKS2 Erkin-Say 26.51 303 *e*P **P 05 27 21.6 -0.2**
EKS2 *e* 05 30 46.8
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 26.51 303 *e*P **P 05 27 21.6 -0.2**
comp=Z,5.8nm,0.8s
EKS2 *e*PcP **PcP 05 30 46.8 +0.3**
KURBB Kurchatov Arra 26.81 322 P **P 05 27 24.1 -0.1**
comp=Z,8.5nm,0.9s,baz=129,slow=8.6,SNR=41
KURBB PcP **PcP 05 30 46.2 -0.5**
comp=Z,4.0nm,0.6s,baz=109,slow=2.2,SNR=18
KURK Kurchatov 26.82 322 P **P 05 27 24.1 -0.2**
KURK 05 30 46.3
KURK Kurchatov 26.82 322 P **P 05 27 24.1 -0.2**
KURK PcP **PcP 05 30 46.2 -0.5**
KLR Kul'dur 26.94 42 P **P 05 27 26.4 +1.0**
comp=Z,1.4nm,0.6s,baz=270,slow=13,SNR=5.8
KLR PcP **PcP 05 30 47.3 +0.2**
comp=Z,1.1nm,0.7s,baz=217,slow=5.1,SNR=3.5
KLR LR LR 05 39 15.7
comp=Z,110nm,18.9s,baz=236,slow=39
KLR Kul'dur 26.94 42⇑*e*P **P 05 27 26.7 +1.3**
MNAS Manas 27.39 302 P **P 05 27 30.1 +0.4**
MNAS pmax pmax
comp=Z,4.0nm,1.2s
MJAR Matsushiro Arr 28.33 71 P **P 05 27 38.4 +0.4**
comp=Z,0.9nm,0.7s,baz=276,slow=11,SNR=4.5
MJAR PcP **PcP 05 30 51.0 +0.3**
comp=Z,1.6nm,0.7s,baz=261,slow=1.8,SNR=7.6
MJAR LR LR 05 38 17.7
comp=Z,33nm,20.2s,baz=300,slow=35

KKAR Karatay Array 28.95 303 *e*P **P 05 27 43.1 -0.4**
KKAR *e**PP **sP 05 27 48.0 -0.5**
KKAR Karatay Array 28.95 303 *e*P **P 05 27 43.1 -0.4**
KKAR *e*pP **sP 05 27 48.0 -0.5**
OTUK Ortayu 29.23 313 P **P 05 27 46.0 +0.1**
OTUK pmax pmax
comp=Z,19nm,1.2s
MYLDM Lahad Datu 29.62 150 *e*P **P 05 27 51.6 +2.1**
comp=Z,36nm,1.3s
DZET Dzherino 29.68 294 P **P 05 27 50.0 -0.1**
DZET pmax pmax
comp=Z,9.0nm,0.6s
JHJ Hachijo jima 2 29.85 78 LR LR 05 40 50.0
comp=Z,94nm,18.8s,baz=208,slow=38
ERM Erimo 32.43 61⇑P **P 05 28 17.7 +3.6**
YSS Yuzh-Sakhalins 32.96 51⇑*e*P **P 05 28 19.7 +1.0**
YSS pmax pmax
comp=Z,8.0nm,1.1s
ZRNK Zerenda 33.10 320 *e*P **P 05 28 19.5 -0.4**
ZRNK *e* 05 31 02.3
ZRNK pmax pmax
comp=Z,9.0nm,1.3s
ZRNK Zerenda 33.10 320 *e*P **P 05 28 19.5 -0.4**
comp=Z,9.4nm,1.3s
ZRNK *e*PcP **PcP 05 31 02.3 -0.7**
YAK Yakutsk 34.39 21⇓*i*P **P 05 28 31.6 +0.7**
YAK pmax pmax
comp=Z,10.0nm,0.6s
YUK Yuzh-Kuril'sk 34.61 57⇑*e*P **P 05 28 34.1 +1.0**
ABKAR Akbulak array 37.37 311 *e*P **P 05 28 55.2 -1.5**
ABKAR *e*pP **sP 05 29 00.9 -0.8**
ABKAR *e*PcP **PcP 05 31 14.4 -1.1**
TTSI Tana Toraja 37.64 154 P P 05 29 05.2 +5.9
GEYT Alibeck 38.11 292 P **P 05 29 04.1 +0.9**
comp=Z,9.6nm,0.5s,baz=92,slow=4.5,SNR=22
GEYT PcP **PcP 05 31 18.1 0.0**
comp=Z,1.3nm,0.5s,baz=101,slow=3.0,SNR=4.2
NRIK Noril'sk 38.78 351 P **P 05 29 08.5 +0.2**
comp=Z,7.6nm,0.6s,baz=148,slow=7.1,SNR=8.6
SVE Sverdlovsk 39.07 323 *e*P **P 05 29 11.8 +0.9**
KPJI Karang Pucung 39.16 173 P **P 05 29 13.4 +1.4**
comp=Z,50nm,0.7s
CISI Cisompet, Garu 39.27 175 *e*P **P 05 29 13.5 +0.4**
comp=Z,30nm,0.6s
CISI *e*PcP **PcP 05 31 19.1 -2.9**
KAPI Kappang 39.44 155 P **P 05 29 14.6 +0.2**
comp=Z,6.9nm,0.5s,baz=201,slow=9.1,SNR=4.7
ARU Arti 40.02 322 P **P 05 29 19.1 +0.3**
comp=Z,18nm,0.6s,baz=110,slow=3.5,SNR=35
ARU PcP **PcP 05 31 23.1 -0.5**
comp=Z,2.4nm,0.5s,baz=270,slow=3.0,SNR=3.0
ARU Arti 40.02 322*c i*P **P 05 29 18.7 -0.1**
ARU 05 31 18.3
ARU S **S 05 35 23.7 -0.4**
ARU SS **SS 05 38 14.4 -6.5**
ARU pmax pmax
comp=Z,23nm,0.7s
ARU Arti 40.02 322 *e*P **P 05 29 18.9 +0.1**
comp=Z,24nm,0.7s
ARU *e*pP **sP 05 29 23.1 -0.7**
ARU PcP **PcP 05 31 23.1 -0.5**
MA2 Magadan 41.40 34 P **P 05 29 30.7 +0.5**
SOKR Solikamsk 41.95 326⇓*i*P **P 05 29 32.8 -1.8**
SOKR pmax pmax
comp=Z,28nm,1.1s
TIXI Tiksi 42.04 11 P **P 05 29 34.6 -0.6**
comp=Z,1.5nm,0.4s,baz=227,slow=2.3,SNR=4.4
TIXI PcP **PcP 05 31 30.0 +0.1**
comp=Z,4.0nm,0.8s,baz=274,slow=2.6,SNR=6.1
TIXI LR LR 05 48 33.0
comp=Z,151nm,18.1s,baz=224,slow=38
TIXI Tiksi 42.04 11⇑*i*P **P 05 29 35.0 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 42.04 11 *e*P **P 05 29 34.8 -0.5**
TIXI *e*pP **pP 05 29 39.4 +0.6**
TIXI *e*PcP **PcP 05 31 29.6 -0.3**
SEY Seymchan 43.39 30 P **P 05 29 46.1 -0.3**
comp=Z,1.2nm,0.6s,baz=206,slow=10,SNR=4.5
SEY PcP **PcP 05 31 34.9 +0.3**
comp=Z,4.0nm,0.9s,baz=77,slow=1.7,SNR=5.0
SEY Seymchan 43.39 30⇓*e*P **P 05 29 47.2 +0.9**
PETK Petropavlovsk- 43.55 45 P **P 05 29 48.8 +1.0**
comp=Z,4.1nm,0.7s,baz=254,slow=4.1,SNR=2.2
KBZ Khabaz 48.99 302 P **P 05 30 30.4 -0.2**
comp=Z,1.8nm,0.6s,baz=117,slow=8.1,SNR=5.9
KIV Kislovodsk 49.11 303 *e*P **P 05 30 32.0 +0.3**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,53nm,16.0s
BILL Bilibino 50.46 25*c e*P **P 05 30 42.3 +0.7**
BILL pmax pmax
comp=Z,8.0nm,1.7s
BILL MLR MLR
comp=Z,200nm,17.0s
KLMR Klimovskoe 50.62 325 *e*P **P 05 30 41.2 -1.6**
KLMR pmax pmax
comp=Z,15nm,0.6s
OBN Obninsk 52.11 318 *e*P **P 05 30 52.8 -1.2**
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,72nm,18.0s
FITZ Fitzroy Crossi 53.65 155 P **P 05 31 05.5 -0.3**
comp=Z,2.2nm,0.3s,baz=11,slow=0.9,SNR=5.8
FITZ Fitzroy Crossi 53.65 155 *e*P **P 05 31 05.5 -0.3**
comp=Z,5.2nm,0.9s
FITZ *e*pP **pP 05 31 09.5 -0.1**
BR131 Keskin Array S 56.58 299 *e*P **P 05 31 26.4 -0.7**
BR131 *e*pP **pP 05 31 30.6 -0.2**
BRTR Keskin Array B 56.58 299 P **P 05 31 26.1 -0.9**
comp=Z,2.0nm,0.6s,baz=103,slow=6.5,SNR=14
ARCES ARCESS Array B 56.71 336 P **P 05 31 27.0 -0.4**
comp=Z,5.0nm,0.6s,baz=78,slow=8.3,SNR=30
ARCES PcP **PcP 05 32 22.8 -0.5**
comp=Z,2.7nm,0.8s,baz=94,slow=5.3,SNR=3.6
AKASG Malin Array Be 57.06 313 P **P 05 31 28.9 -1.2**
comp=Z,3.2nm,0.6s,baz=66,slow=7.3,SNR=8.5
AKASG PcP **PcP 05 32 23.8 -1.2**
comp=Z,0.6nm,0.4s,baz=71,slow=4.3,SNR=4.4
AK11 Malin Array Si 57.10 313 *e*P **P 05 31 29.6 -0.7**
FIA1 FINESS Array S 57.11 326 *e*P **P 05 31 29.8 -0.5**
FINES FINESS Array B 57.11 326 P **P 05 31 29.7 -0.6**
comp=Z,8.2nm,0.5s,baz=84,slow=7.3,SNR=84
VSU Vasula 57.17 322⇑*i*P **P 05 31 30.2 -0.5**
VSU pmax pmax
comp=Z,28nm,0.6s
BR231 Keskin MP Arra 57.19 300 *e*P **P 05 31 27.2 -4.1**
SORM Soroca 58.17 310⇓*i*P **P 05 31 36.9 -1.1**
SORM Soroca 58.17 310⇓P **P 05 31 36.9 -1.1**
COEN Coen 58.78 135 *e*P **P 05 31 43.5 +1.0**
comp=Z,13nm,0.8s
WRAB Tennant Creek 58.93 147 *e*P **P 05 31 43.9 +0.4**
WRAB *e**PP **sP 05 31 48.5 -0.2**
WRAB pmax pmax
comp=Z,16nm,0.6s
WRAB Tennant Creek 58.93 147 *e*P **P 05 31 43.9 +0.4**
comp=Z,16nm,0.6s
WRAB *e*pP **sP 05 31 48.5 -0.2**
WRA Warramunga Arr 58.94 147 P **P 05 31 43.9 +0.3**
comp=Z,8.8nm,0.6s,baz=320,slow=11,SNR=201
WB2 Warramunga Arr 58.94 147 *e*P **P 05 31 44.0 +0.4**
comp=Z,18nm,0.6s
BUR08 Bucovina Ar. S 60.35 310 *e*P **P 05 31 50.8 -2.4**
ARR Arges 61.37 308⇓*i*P **P 05 31 59.5 -0.7**
KWP Kalwaria Pacla 61.39 313 *e*P **P 05 32 00.2 +0.1**
KWP Kalwaria Pacla 61.39 313⇓*i*P **P 05 32 00.0 -0.1**
KWP Kalwaria Pacla 61.39 313⇓P **P 05 32 00.0 -0.1**
AS31 Alice Springs 61.98 149 *e*P **P 05 32 04.9 +0.6**
comp=Z,1.8nm,0.5s
ASAR Alice Springs 61.98 149 P **P 05 32 04.7 +0.3**
comp=Z,3.6nm,0.5s,baz=335,slow=6.6,SNR=74
AS01 Alice Springs 62.00 149 *e*P **P 05 32 04.6 +0.1**
DRGR 62.22 310⇑*i*P **P 05 32 05.6 -0.2**
DRGR 62.22 310⇑P **P 05 32 05.6 -0.2**
STHS Stebnicka Huta 62.36 313 *e*P **P 05 32 06.4 -0.3**
STHS pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 62.36 313 *e*P **P 05 32 06.4 -0.3**
CRVS Cervenica-Dubn 62.38 312 *e*P **P 05 32 06.1 -0.7**
CRVS Cervenica-Dubn 62.38 312 *e*P **P 05 32 06.1 -0.7**
NIE Niedzica 62.95 313 *e*P **P 05 32 11.2 +0.6**
NIE Niedzica 62.95 313 *e*P **P 05 32 11.2 +0.6**
BZS Buzias 63.31 309⇑*i*P **P 05 32 11.3 -1.7**

BZS Buzias 63.31 309⇑P **P 05 32 11.3 -1.7**
MDVR Moldovita 63.52 308⇑*i*P **P 05 32 14.2 -0.3**
NC405 NORSAR Array S 63.93 327 *e*P **P 05 32 16.2 -0.7**
OKC Ostrava-Krasne 64.14 314 AMS AMS 06 01 30.0
comp=Z,100nm,12.1s
NB201 NORSAR Array S 64.15 327 *e*P **P 05 32 17.1 -1.3**
VYHS Vyhne 64.16 313 *e*P **P 05 32 18.6 0.0**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 64.16 313 *e*P **P 05 32 18.6 0.0**
NB2 NORSAR Subarra 64.19 327 P **P 05 32 16.9 -1.7**
comp=Z,3.1nm,0.6s,baz=73,slow=6.9
NOA NORSAR Array B 64.19 327 P **P 05 32 17.5 -1.1**
comp=Z,2.9nm,0.6s,baz=74,slow=5.9,SNR=24
NOA LR LR 06 02 47.6
comp=Z,26nm,19.0s,baz=310,slow=38
LAST Lasithi 64.19 297 *e*P **P 05 32 18.3 -0.9**
comp=Z,25nm,1.3s
NC204 NORSAR Array S 64.32 328 *e*P **P 05 32 18.9 -0.5**
GRG Griva 64.36 304 P **P 05 32 17.3 -2.8**
GRG pmax pmax
comp=Z,11nm,1.2s
MORC Moravsky Berou 64.53 314⇓*i*P **P 05 32 21.1 0.0**
MORC Moravsky Berou 64.53 314 *e*P **P 05 32 21.2 +0.1**
MORC pmax pmax
comp=Z,24nm,1.2s
MORC Moravsky Berou 64.53 314 *e*P **P 05 32 21.2 +0.1**
comp=Z,24nm,1.2s
DPC Dobruska-Polom 65.07 315 *e*P **P 05 32 24.7 +0.1**
DPC Dobruska-Polom 65.07 315 *e*P **P 05 32 24.7 +0.1**
AGG Agios Georgios 65.11 302 *e*P **P 05 32 23.2 -1.8**
AGG pmax pmax
comp=Z,52nm,1.2s
AGG Agios Georgios 65.11 302 *e*P **P 05 32 23.2 -1.8**
comp=Z,52nm,1.2s
UPC Upice 65.21 315 *e*P **P 05 32 25.6 +0.2**
UPC Upice 65.21 315 *e*P **P 05 32 25.6 +0.2**
CTA Charters Tower 65.38 136 P **P 05 32 27.4 +0.6**
comp=Z,3.1nm,0.5s,baz=329,slow=7.1,SNR=8.2
NWAO Narrogin (SRO) 65.52 168 P **P 05 32 27.6 +0.2**
comp=Z,2.7nm,0.5s,baz=202,slow=5.1,SNR=5.0
PVCC Panska Ves 66.06 316 *e*P **P 05 32 31.9 +1.0**
PVCC Panska Ves 66.06 316 *e*P **P 05 32 31.9 +1.0**
GOPC GO Pecny, Ondr 66.15 315 AMS AMS 06 02 40.0
PRU Pruhonice 66.27 315 *e*P **P 05 32 32.4 +0.1**
PRU AMS AMS 06 02 40.0
comp=Z,100nm,12.3s
PRU Pruhonice 66.27 315 *e*P **P 05 32 32.4 +0.1**
PRU MLR MLR
comp=Z,100nm,12.3s
ARSA Arzberg 66.69 312 *i* P **P 05 32 34.2 -0.8**
comp=Z,3.4nm,1.5s
CLL Collm 66.69 317 *e*P **P 05 32 34.0 -0.9**
comp=Z,6.0nm,1.3s
CLL *e*PP **PP 05 35 00.0 -1.4**
CLL Collm 66.69 317 *e*P **P 05 32 34.0 -0.9**
CLL pmax pmax
comp=Z,6.0nm,1.3s
COLD Coldfoot 66.76 24 *e*P **P 05 32 35.6 +0.6**
comp=Z,10nm,1.2s
GOLS Golise 67.09 311 *i* P **P 05 32 37.1 -0.5**
PERS Pernice 67.18 312 *i* P **P 05 32 37.5 -0.7**
GEC2 GERESS Array S 67.21 314 *e*P **P 05 32 37.6 -0.8**
GEC2 pmax pmax
comp=Z,8.0nm,1.4s
GEC2 GERESS Array S 67.21 314 *e*P **P 05 32 37.6 -0.8**
comp=Z,8.3nm,1.4s
GERES GERESS Array B 67.21 314 P **P 05 32 38.3 -0.1**
comp=Z,1.1nm,0.5s,baz=65,slow=5.3,SNR=16
GERES LR LR 06 03 49.7
comp=Z,90nm,19.8s,baz=82,slow=38
SOKA Soboth 67.21 312 *i* P **P 05 32 37.9 -0.5**
comp=Z,6.5nm,1.3s
GEA0 GERESS Array S 67.21 314 *e*P **P 05 32 38.0 -0.5**
MOA Molln 67.25 313 *i* P **P 05 32 38.7 +0.2**
comp=Z,5.6nm,1.2s
MLY Manley 67.56 26 *e*P **P 05 32 40.4 +0.1**
comp=Z,9.9nm,1.4s
OBKA Obir 67.59 312 *i* P **P 05 32 40.5 -0.4**
comp=Z,2.6nm,0.7s
BPAW Bear Paw Mtn. 67.89 27 *e*P **P 05 32 42.0 -0.3**
comp=Z,16nm,1.6s
PPLA Purkeypile 67.96 29 *e*P **P 05 32 43.0 +0.1**
comp=Z,21nm,1.4s
ROBS Robic 68.35 312 *i* P **P 05 32 44.2 -1.3**
MDM Murphy Dome 68.53 26 *e*P **P 05 32 46.9 +0.5**
comp=Z,10nm,1.1s
COLA College 68.72 26 *e*P **P 05 32 48.0 +0.6**
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 68.72 26 *e*P **P 05 32 48.0 +0.6**
comp=Z,11nm,0.9s
ABTA Abfaltersbach 68.78 312 *i* P **P 05 32 47.0 -1.3**
comp=Z,2.4nm,0.6s
RND Reindeer 69.06 27 *e*P **P 05 32 49.6 -0.1**
RND pmax pmax
comp=Z,19nm,1.7s
RND Reindeer 69.06 27 *e*P **P 05 32 49.6 -0.1**
comp=Z,19nm,1.7s
WATA Walderalm 69.12 313 *i* P **P 05 32 50.0 -0.5**
comp=Z,3.4nm,0.8s
ILAR Eielson Array 69.12 26 P **P 05 32 49.0 -1.1**
comp=Z,2.0nm,1.0s,baz=280,slow=5.3,SNR=21
ILAR PcP **PcP 05 33 13.9 0.0**
comp=Z,0.6nm,0.7s,baz=299,slow=4.4,SNR=5.0
ILAR PP **PP 05 35 25.8 +3.5**
comp=Z,0.7nm,1.0s,baz=297,slow=6.0,SNR=3.7
ILB Eielson Array 69.12 26 *e*P **P 05 32 49.2 -0.8**
IL1 Eielson Array 69.13 26 *e*P **P 05 32 49.2 -0.8**
SUA Susitna One 69.22 30 *e*P **P 05 32 50.9 +0.1**
comp=Z,8.1nm,0.8s
MOTA Moosalm 69.41 314 *i* P **P 05 32 51.5 -0.8**
comp=Z,1.9nm,0.5s
RETA Reutte 69.56 314 *i* P **P 05 32 53.1 0.0**
comp=Z,1.8nm,0.5s
FETA Feichten 69.78 313 *i* P **P 05 32 54.1 -0.5**
comp=Z,9.0nm,1.2s
AQU L'Aquila 70.03 308 *e*P **P 05 32 55.7 -0.4**
AQU pmax pmax
comp=Z,20nm,1.3s
AQU L'Aquila 70.03 308 *e*P **P 05 32 55.7 -0.4**
comp=Z,20nm,1.3s
SML Sawmill 70.06 29 *e*P **P 05 32 56.2 +0.3**
SML pmax pmax
comp=Z,15nm,1.1s
SML Sawmill 70.06 29 *e*P **P 05 32 56.2 +0.3**
comp=Z,14nm,1.1s
KDAK Kodiak Island 70.15 34 *e*P **P 05 32 56.9 +0.5**
KDAK pmax pmax
comp=Z,23nm,1.3s
KDAK Kodiak Island 70.15 34 *e*P **P 05 32 56.9 +0.5**
comp=Z,23nm,1.3s
FUORN Ofenpass-Fuorn 70.24 313 *e*P **P 05 32 57.1 -0.4**
comp=Z,11nm,1.1s
DOT Dot Lake 70.77 26 *e*P **P 05 32 59.9 -0.2**
comp=Z,7.5nm,0.8s
EGAK Eagle 71.19 24 *e*P **P 05 33 03.0 +0.3**
comp=Z,2.0nm,0.8s
KLU Klutina 71.21 28 *e*P **P 05 33 03.5 +0.5**
comp=Z,13nm,0.9s
KMBO Kilima Mbogo 71.27 257 P **P 05 33 03.6 -0.5**
comp=Z,5.9nm,0.8s,baz=47,slow=9.8,SNR=13
KMBO Kilima Mbogo 71.27 257 *e*P **P 05 33 03.7 -0.5**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 71.27 257 *e*P **P 05 33 03.7 -0.5**
comp=Z,7.1nm,0.9s
INK Inuvik 71.44 19 *e*P **P 05 33 04.0 -0.1**
INK *e**PP **pP 05 33 08.2 +0.4**
INK pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 71.44 19 *e*P **P 05 33 04.0 -0.1**
comp=Z,8.2nm,0.9s
INK *e*pP **pP 05 33 08.2 +0.4**
BMRM Bremner River 72.03 29 *e*P **P 05 33 08.6 +0.7**
comp=Z,12nm,0.9s
DAWY Dawson 72.23 24 *e*P **P 05 33 09.1 +0.1**
comp=Z,5.0nm,0.8s
EIDS Eidsvold 72.27 136 *e*P **P 05 33 10.8 +1.2**
comp=Z,8.8nm,1.1s
STKA Stephens Creek 72.48 147 P **P 05 33 10.8 +0.1**
comp=Z,5.7nm,0.6s,baz=333,slow=5.2,SNR=12
CRQM Cirque 72.74 28 *e*P **P 05 33 12.2 -0.1**
comp=Z,11nm,0.8s
SUMG Summit 72.80 349 *e*P **P 05 33 12.3 -0.4**
SUMG pmax pmax

	comp=Z,5.0nm,0.7s							
SUMG	**Summit**	**72.80**	**349**	*e*P		**P**	**05 33 12.3**	**-0.4**
	comp=Z,5.3nm,0.7s							
LPG	**La Plagne**	**72.93**	**313**	*e*P		**P**	**05 33 13.2**	**-0.6**
LPG				pmax	pmax			
	comp=Z,11nm,0.6s							
LPL	**La Plagne**	**72.93**	**313**	*e*P		**P**	**05 33 13.1**	**-0.6**
LPL				pmax	pmax			
	comp=Z,10.0nm,0.5s							
ORIF	**Oris-en-Rattie**	**73.74**	**313**	*e*P		**P**	**05 33 17.4**	**-1.0**
ORIF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
AVF	**Avril sur Loir**	**74.37**	**316**	*e*P		**P**	**05 33 20.7**	**-1.2**
AVF				pmax	pmax			
	comp=Z,11nm,1.1s							
KEST	**Kesra**	**75.85**	**303**	P		**P**	**05 33 30.5**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=217,slow=0.6,SNR=5.5							
GRR	**Gorron**	**75.99**	**318**	*e*P		**P**	**05 33 30.5**	**-0.7**
GRR				pmax	pmax			
	comp=Z,37nm,1.4s							
CAF	**Calviac**	**76.09**	**314**	*e*P		**P**	**05 33 31.3**	**-0.6**
CAF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
SKAG	**Skagway**	**76.63**	**27**	*e*P		**P**	**05 33 35.9**	**+1.3**
YKW3	**Yellowknife Ar**	**80.91**	**17**	*e*P		**P**	**05 33 57.5**	**-0.5**
YKA	**Yellowknife Ar**	**80.97**	**17**	P		**P**	**05 33 58.2**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=330,slow=5.3,SNR=41							
YKB5	**Yellowknife Ar**	**80.97**	**17**	*e*P		**P**	**05 33 57.9**	**-0.5**
ESDC	**Sonseca Array**	**82.70**	**312**	P		**P**	**05 34 07.7**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=39,slow=6.8,SNR=5.1							
LSZ	**Lusaka**	**86.60**	**250**	*e*P		**P**	**05 34 27.5**	**-0.6**
LSZ				pmax	pmax			
	comp=Z,10.0nm,1.2s							
LSZ	**Lusaka**	**86.60**	**250**	*e*P		**P**	**05 34 27.5**	**-0.6**
	comp=Z,9.5nm,1.2s							
FFC	**Flin Flon**	**90.89**	**15**	*e*P		**P**	**05 34 47.8**	**+0.1**
FFC				pmax	pmax			
	comp=Z,13nm,1.6s							
FFC	**Flin Flon**	**90.89**	**15**	*e*P		**P**	**05 34 47.8**	**+0.1**
	comp=Z,13nm,1.6s							
SCHQ	**Schefferville**	**93.39**	**355**	P		**P**	**05 34 58.6**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=24,slow=6.1,SNR=5.5							
TORD	**Torodi Ar. Bea**	**93.62**	**288**	P		**P**	**05 34 60.0**	**-1.0**
	comp=Z,2.9nm,1.0s,baz=32,slow=3.2,SNR=4.3							
MTPU	**Mount Pierson**	**102.62**	**29**	*e*Pdif		**Pdif**	**05 35 49.8**	**+8.1**
TXAR	**Lajitas Array**	**113.63**	**27**	PKiKP		**PKiKP**	**05 40 22.8**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=333,slow=0.6,SNR=7.6							
HELC	**Santa Helena**	**142.23**	**360**	*e*P		**PKPdf**	**05 41 13.0**	**-4.8**
NORC	**Norcasia**	**142.84**	**359**	*e*P		**PKPdf**	**05 41 14.8**	**-3.7**
GUYC	**Guyana, Colomb**	**143.19**	**360**	*e*P		PKPbc	05 41 15.9	-0.6
ROSC	**El Rosal**	**143.55**	**358**	PKP		PKPbc	05 41 18.0	+0.6
	comp=Z,4.0nm,0.6s,baz=109,slow=10,SNR=3.5							
CRUC	**La Cruz**	**146.80**	**2**	*e*P		**PKPdf**	**05 41 26.6**	**+0.8**
OTAV	**Otavalo**	**148.03**	**5**	*e*PKPdf		**PKPdf**	**05 41 27.8**	**-0.1**
OTAV				*e*PKPbc		**PKiKP**	**05 41 32.1**	**-0.8**
BDFB	**Brasilia**	**150.14**	**296**	PKPbc		**PKPbc**	**05 41 34.5**	**-1.3**
	comp=Z,2.4nm,0.4s,baz=47,slow=2.2,SNR=6.0							
LPAZ	**La Paz**	**163.11**	**334**	PKP		**PKPdf**	**05 41 48.1**	**+0.1**
	comp=Z,2.5nm,1.0s,baz=329,slow=5.9,SNR=7.4							
PLCA	**Paso Flores**	**170.18**	**203**	PKPab		**PKPab**	**05 43 06.9**	**-0.9**
	comp=Z,8.9nm,0.7s,baz=156,slow=10.0,SNR=2.6							

MEX 05 05:29:24.7±0.6, 17°.18N×101°.13W, h8km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.53**	**323**	*e*P		05 29 34.5	-0.6
ZIIG				*e*S		05 29 42.1	0.0
CAIG	**El Cayaco**	**0.83**	**99**	*e*P		05 29 38.6	-2.0
CAIG				*e*S		05 29 49.3	-2.2
ARIG	**Puente Sto Nin**	**1.32**	**34**	*i* P		05 29 46.3	-3.3
ARIG				*e*S		05 30 02.1	-4.8
MEIG	**Mezcala**	**1.62**	**62**	*i* P		05 29 50.0	-3.6
MEIG				*e*S		05 30 10.1	-4.7
PLIG	**Platanillo**	**1.96**	**52**	*e*P		05 29 56.0	-2.4
PLIG				*e*S		05 30 19.1	-4.2
TLIG	**Tlapa**	**2.47**	**81**	*e*P		05 30 02.8	-2.6
TLIG				*e*S		05 30 32.6	-3.4

BUC 05 05:31:29.2±0.3, 45°.79N×26°.71E, h84km, MD2.5/2, 7C-6D, Error ellipse: s-maj=6.6km s-min=3.6km az=18.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.08**	**329**	⇑*i* P		05 31 41.3	+0.1
PLOR	**Plostina**	**0.08**	**329**	⇑*i* P		05 31 41.3	+0.1
PLOR				*i* S		05 31 50.1	0.0
VRI	**Vrincioaia**	**0.08**	**11**	⇓*i* P		05 31 41.6	+0.4
VRI	**Vrincioaia**	**0.08**	**11**	⇓*i* P		05 31 41.6	+0.4
VRI				*i* S		05 31 50.4	+0.3
MLR	**Muntele Rosu**	**0.61**	**241**	⇑*i* P		05 31 44.7	+0.2
MLR	**Muntele Rosu**	**0.61**	**241**	⇑*i* P		05 31 44.7	+0.2
MLR				*i* S		05 31 55.5	-0.3
TESR	**Tescani**	**0.73**	**357**	⇓*i* P		05 31 45.8	+0.3
TESR	**Tescani**	**0.73**	**357**	⇓*i* P		05 31 45.8	+0.3
TESR				*i* S		05 31 57.6	0.0
CFR	**Carcaliu**	**1.18**	**121**	S		05 32 06.0	-0.6
CFR	**Carcaliu**	**1.18**	**121**	*i* S		05 32 06.0	-0.6
VOIR		**1.21**	**254**	⇓*i* P		05 31 51.3	+0.2
VOIR		**1.21**	**254**	⇓*i* P		05 31 51.3	+0.2
VOIR				*i* S		05 32 07.0	-0.6
VOIR		**1.21**	**254**	⇑*i* P		05 31 52.7	+1.6
TIRR	**Tirgusor**	**1.79**	**137**	⇑*i* P		05 31 59.0	+0.5
TIRR				S		05 32 19.5	-1.2
TIRR	**Tirgusor**	**1.79**	**137**	⇑*i* P		05 31 59.0	+0.5
TIRR				*i* S		05 32 19.5	-1.2

*CSEM **05** 05:40:12.7, 46°.06N×15°.67E, h0km, ML0.1*
LJU 05 05:40:12.7, 46°.06N×15°.67E, h5km, ML0.1, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOLS	**Golise**	**0.06**	**216**	⇓*i* Pg		05 40 14.3	+0.1
GOLS				*i* Sg		05 40 15.3	+0.1
	comp=Z,12nm,0.1s						
GOLS	**Golise**	**0.06**	**216**	⇓*i* Pg		05 40 14.3	+0.1
GOLS				*i* Sg		05 40 15.3	+0.1
	comp=Z,12nm,0.1s						
DOBS	**Dobrina**	**0.17**	**303**	*i* Pg		05 40 16.2	+0.1
DOBS				*i* Sg		05 40 18.8	+0.4
DOBS	**Dobrina**	**0.17**	**303**	*i* Pg		05 40 16.2	+0.1
DOBS				*i* Sg		05 40 18.8	+0.4
CESS	**Cesta pri Krsk**	**0.17**	**240**	*i* Sg		05 40 18.8	+0.4
CESS	**Cesta pri Krsk**	**0.17**	**240**	*i* Sg		05 40 18.8	+0.5
GCIS	**Gornji Cirnik**	**0.19**	**190**	*i* Pg		05 40 16.5	0.0
GCIS				*i* Sg		05 40 19.6	+0.6
	comp=Z,1.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.19**	**190**	*i* Pg		05 40 16.5	0.0
GCIS				*i* Sg		05 40 19.6	+0.5
	comp=Z,1.0nm,0.1s						
LEGS	**Legarje**	**0.27**	**246**	*i* Pg		05 40 18.2	+0.2
LEGS				*i* Sg		05 40 21.9	+0.4
LEGS	**Legarje**	**0.27**	**246**	*i* Pg		05 40 18.2	+0.2
LEGS				*i* Sg		05 40 22.0	+0.4

JMA 05 05:41:36.6, 32°.59N×132°.02E, h33km±1km, M0.8, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKIT	**Kitakata**	**0.48**	**274**	P		05 41 46.4	-0.5
JKIT				*e*S		05 41 54.0	+0.1
JUS	**Usuki**	**0.53**	**335**	P		05 41 47.3	-0.3
JUS				S		05 41 55.1	-0.1
JTO	**Tosashimizu**	**0.71**	**68**	P		05 41 50.0	-0.3
JTO				*e*S		05 41 59.4	-0.8

JMA 05 05:43:11.9±0.1, 36°.82N×138°.59E, h3km±3km, M0.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.41**	**228**	P		05 43 19.9	0.0
MAT				S		05 43 25.4	+0.2
MAT	**Matsushiro**	**0.41**	**228**	P		05 43 19.9	0.0
MAT				S		05 43 25.4	+0.2
JNG	**Nsakai**	**0.57**	**224**	P		05 43 22.9	+0.1
JNG				S		05 43 30.4	+0.1

NNC 05 05:46:30.0±1.8, 36°.47N×71°.44E, h107km±87km, mb2.8, mpv3.5, 4C-3D, Error ellipse: s-maj=25.3km s-min=12.8km az=104.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.12**	**319**	⇑P		05 47 17.9	+0.2
	7.0nm,0.5s						
DZET				⇑S		05 47 54.8	+0.5
	18nm,0.3s						
MNAS	**Manas**	**6.07**	**7**	⇑P		05 47 56.7	-0.7
	1.5nm,0.6s						
MNAS				⇓S		05 49 05.7	+0.2
	2.2nm,0.4s						
AAK	**Ala-Archa**	**6.59**	**20**	⇑P		05 48 04.5	+0.1
	2.3nm,0.8s						
AAK				⇓S		05 49 19.4	+1.2
	5.1nm,0.8s						
KK31	**Karatay Array**	**6.66**	**354**	P		05 48 05.2	-0.1
	5.4nm,0.5s,baz=184,slow=14,SNR=61						
KK31				⇓S		05 49 20.8	+1.1
	1.0nm,0.4s,baz=178,slow=22,SNR=4.0						

*NIED **05** 05:49:00, 32°.20N×142°.20E, h5km, Mw3.6 Best double couple: M◎3.10000×10^14 NP1:φ◎323.00000°, δ24.00000°, λ-77.00000°. NP2:φ◎129.00000°, δ66.00000°, λ-96.00000°.*

JMA 05 05:49:24.7±0.2, 32°.21N×142°.17E, h0km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.18**	**294**	P		05 50 02.9	+0.7
JHCJ				S		05 50 31.2	+1.3
JHJ2	**Mitsune**	**2.18**	**295**	P		05 50 03.0	+0.8
JHJ2				*e*S		05 50 30.8	+0.9
BSO1	**Boso 1**	**2.63**	**338**	P		05 50 09.6	+1.6
BSO1				*e*S		05 50 43.6	-1.5
BSO2	**Boso 2**	**2.80**	**335**	*e*S		05 50 46.0	+1.2
BSO3	**Boso 3**	**2.93**	**332**	P		05 50 14.2	+1.9
BSO3				*e*S		05 50 47.7	-0.4
JYN	**Shimob**	**4.46**	**318**	P		05 50 37.3	+3.7
JYN				*e*S		05 51 29.0	+2.8
JRY	**Ryogami san**	**4.67**	**325**	P		05 50 37.4	+1.0
JRY				*e*S		05 51 32.6	+1.3
JAG	**Ashikaga**	**4.77**	**333**	P		05 50 39.2	+1.4
JAG				*e*S		05 51 34.4	+0.6
MAT	**Matsushiro**	**5.42**	**324**	*e*S		05 51 51.5	+1.5
JFT	**Otama**	**5.51**	**345**	P		05 50 49.2	+1.2
JFT				*e*S		05 51 50.4	-1.6

*NEIC **05** 06:13:06.1, 54°.11N×162°.54W, h3km, mb4.6/32, ML4.2(AEIC), After AEIC.*
*MOS **05** 06:13:06.5±0.9, 54°.36N×162°.67W, h23km, mb4.9/46, Error ellipse: s-maj=11.1km s-min=4.8km az=86.4*
*ISCJB **05** 06:13:09.0±0.4, 54°.24N±0°.03×162°.54W±0°.03, h47km±2km, mb4.5/107, MS3.4/24, Error ellipse: s-maj=5.8km s-min=2.6km az=169.1*
*IDC **05** 06:13:09.6±3.8, 54°.35N×162°.77W, h33km±29km, mb4.2/37, mb1 4.3/40, mb1mx4.2/65, mbtmp4.4/40, ML3.8/3, MS3.4/24, Ms1 3.4/24, ms1mx3.3/47, Error ellipse: s-maj=18.8km s-min=9.7km az=178.0*
ISC 05 06:13:08.3±0.6, 54°.18N±0°.06×162°.60W±0°.03, h32km±3km, n407, σ1$10/400, mb4.7/107, MS3.4/24, 29C-11D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRPK	**Brown Peak**	**0.81**	**305**	P		**06 13 23.7**	**+0.1**
DT1	**Dutton Round H**	**0.95**	**11**	P		**06 13 25.5**	**-0.7**
SSLS	**Shishaldin Sou**	**0.98**	**304**	P		**06 13 26.9**	**+0.1**
DTNA	**Dutton South F**	**0.99**	**12**	P		**06 13 26.3**	**-0.6**
BALA	**Baldy Mountain**	**1.02**	**354**	P		**06 13 28.2**	**+0.8**
SSLN	**Shishaldin Nor**	**1.03**	**308**	P		**06 13 28.1**	**+0.4**
DOL	**Dolgoi Island**	**1.06**	**23**	P		**06 13 27.1**	**+0.1**
SSLW	**Shishaldin Wes**	**1.07**	**304**	P		**06 13 28.1**	**-0.2**
WESN	**West Dahl Nort**	**1.23**	**289**	P		**06 13 30.3**	**-0.6**
PS4A	**Pavlof South-4**	**1.24**	**20**	P		**06 13 30.6**	**-0.7**
WESP	**Westdahl Peak**	**1.28**	**285**	P		**06 13 31.0**	**-0.9**
WESP				S		**06 13 49.7**	**+1.6**
PVV	**Pavlof Volcano**	**1.28**	**21**	P		**06 13 31.0**	**-0.9**
WECS	**Westdahl Cape**	**1.32**	**286**	P		**06 13 32.0**	**-0.6**
WEBT	**Westdahl Beart**	**1.33**	**289**	P		**06 13 32.2**	**-0.5**
PN6	**Pavlof North-6**	**1.33**	**17**	P		**06 13 32.6**	**-0.2**
PN6				S		**06 13 53.0**	**+3.5**
SDPT	**Sand Point**	**1.70**	**46**	P		**06 13 37.0**	**-1.9**
AKSA	**Akutan Strait**	**1.82**	**270**	P		**06 13 37.9**	**+0.5**
AKA	**Akutan**	**1.87**	**270**	P		**06 13 38.8**	**+0.8**
AKA				S		**06 14 03.8**	**-0.8**
AKGG	**Akutan Green G**	**2.00**	**272**	P		**06 13 41.0**	**+1.2**
AKGG				S		**06 14 09.1**	**+0.8**
AKRB	**Akutan Reef Bi**	**2.04**	**270**	P		**06 13 42.0**	**+1.6**
AKRB				S		**06 14 09.7**	**0.0**
MSW	**Makushin Switc**	**2.48**	**266**	P		**06 13 47.6**	**+1.1**
MGOD	**Makushin Gods**	**2.55**	**263**	P		**06 13 48.9**	**+1.3**
VNWF	**Veniaminof 8**	**2.63**	**40**	P		**06 13 51.0**	**+2.4**
VNSG	**Veniaminof 6**	**2.80**	**45**	P		**06 13 51.9**	**+0.9**
VNNF	**Veniaminof 3**	**2.82**	**40**	P		**06 13 53.7**	**+2.4**
VNHG	**Veniaminof 1**	**2.84**	**43**	P		**06 13 53.7**	**+2.2**
CHGN	**Chignik**	**3.20**	**47**	P		**06 13 58.6**	**+2.3**
OKAK	**Okmok**	**3.46**	**262**	P		**06 14 02.3**	**+2.3**
ANPB	**Aniakchak Plen**	**3.60**	**41**	P		**06 14 03.9**	**+2.1**
ANPK	**Aniakchak Peak**	**3.68**	**42**	P		**06 14 05.2**	**+2.1**
ANNW	**Aniakchak Nort**	**3.74**	**40**	P		**06 14 06.3**	**+2.4**
NIKH	**Nikolski High**	**3.92**	**255**	P		**06 14 17.2**	**+1.0**
PLK1	**Peulik 1**	**4.95**	**40**	P		**06 14 22.3**	**+2.0**
KABR	**Katmai Barrier**	**5.82**	**44**	P		**06 14 33.9**	**+1.5**
OHAK	**Old Harbor**	**6.08**	**56**	*e*Pn		**06 14 35.5**	**-0.4**
KAHC	**Katmai Hardscr**	**6.15**	**40**	P		**06 14 39.2**	**+2.3**
KDAK	**Kodiak Island**	**6.68**	**53**	*i* P		**06 14 43.9**	**-0.2**
MCNL	**McNeil River**	**6.77**	**39**	P		**06 14 48.2**	**+2.9**
KOWE	**Korovin West**	**7.22**	**260**	P		**06 14 54.7**	**+3.1**
SVW2	**Sparrevohn**	**7.89**	**26**	*e*Pn		**06 15 02.8**	**+2.1**
HOM	**Homer**	**8.12**	**43**	*e*Pn		**06 15 04.5**	**+0.7**
CNPM	**China Poot**	**8.21**	**45**	P		**06 15 06.6**	**+1.5**
RDWB	**Redoubt West**	**8.23**	**36**	P		06 15 10.2	+4.7
RSO	**Redoubt South**	**8.24**	**36**	*e*Pn		06 15 10.6	+4.9
BRLK	**Bradley Lake**	**8.49**	**44**	*e*Pn		**06 15 09.7**	**+0.7**
SPWE	**Spurr West**	**8.90**	**33**	P		**06 15 18.4**	**+3.7**
CKL	**Chakachamna La**	**8.91**	**34**	P		06 15 19.4	+4.5
SPU	**Mount Spurr**	**9.00**	**35**	*e*Pn		**06 15 16.6**	**+0.6**
SEW	**Seward**	**9.28**	**45**	*e*Pn		**06 15 20.4**	**+0.7**
TT01	**Tatalina**	**9.40**	**19**	*e*Pn		**06 15 23.3**	**+2.0**
TTA	**Tatalina**	**9.42**	**19**	*e*P		**06 15 23.1**	**+1.4**
TTA	**Tatalina**	**9.42**	**19**	*e*Pn		**06 15 23.1**	**+1.4**
SUA	**Susitna One**	**9.64**	**36**	*e*Pn		**06 15 25.9**	**+1.1**
RC01	**Rabbit Creek A**	**9.76**	**40**	*e*Pn		**06 15 26.5**	**+0.2**
PPLA	**Purkeypile**	**10.28**	**28**	*e*Pn		06 15 37.9	+4.3
PMR	**Palmer**	**10.30**	**39**	*e*P		**06 15 33.5**	**-0.3**
PMR				pmax	pmax		
	comp=Z,11nm,0.9s						
PMR	**Palmer**	**10.30**	**39**	*e*Pn		**06 15 33.5**	**-0.3**
	comp=Z,11nm,0.9s						
SML	**Sawmill**	**10.74**	**39**	*e*P		**06 15 42.1**	**+2.4**
SML	**Sawmill**	**10.74**	**39**	*e*Pn		**06 15 42.1**	**+2.4**
EYAK	**Cordova Ski Ar**	**11.09**	**48**	*e*Pn		**06 15 43.4**	**-1.1**
SCM	**Sheep Creek Mo**	**11.13**	**40**	*e*P		**06 15 44.4**	**-0.7**
SCM	**Sheep Creek Mo**	**11.13**	**40**	*e*Pn		**06 15 44.4**	**-0.7**
KTH	**Kantishna Hill**	**11.15**	**28**	*e*Pn		**06 15 48.7**	**+3.3**
TRF	**Thorofare Moun**	**11.25**	**29**	*e*Pn		**06 15 48.1**	**+1.3**
DIV	**Divide**	**11.36**	**45**	*e*Pn		**06 15 47.5**	**-0.8**
KLU	**Klutina**	**11.49**	**44**	*e*Pn		**06 15 49.7**	**-0.4**
KLU				*e*Sn		**06 17 56.3**	**-0.8**
RAGM	**Ragged Mountai**	**11.49**	**50**	*e*Pn		**06 15 50.5**	**+0.4**
BPAW	**Bear Paw Mtn.**	**11.57**	**26**	*e*Pn		**06 15 53.9**	**+2.8**
RND	**Reindeer**	**11.65**	**32**	*e*P		**06 15 52.0**	**-0.2**
RND	**Reindeer**	**11.65**	**32**	*e*Pn		**06 15 52.0**	**-0.2**
BMRM	**Bremner River**	**11.78**	**48**	*e*Pn		**06 15 55.6**	**+1.6**
BMRM				*e*Sn		**06 18 02.3**	**-2.0**
MCK	**McKinley**	**11.86**	**31**	*e*P		**06 15 55.6**	**+0.5**
MCK	**McKinley**	**11.86**	**31**	*e*Pn		**06 15 55.6**	**+0.5**
CRQM	**Cirque**	**12.34**	**50**	*e*Pn		**06 16 02.9**	**+1.2**
MLY	**Manley**	**12.40**	**24**	*e*Pn		**06 16 04.7**	**+2.3**
PAX	**Paxson**	**12.51**	**38**	*e*P		**06 16 03.5**	**-0.4**
PAX	**Paxson**	**12.51**	**38**	*e*Pn		**06 16 03.5**	**-0.4**
WRH	**Wood River Hil**	**12.66**	**30**	*e*Pn		**06 16 03.9**	**-2.0**
CCB	**Clear Creek Bu**	**12.87**	**30**	*e*Pn		**06 16 06.6**	**-2.2**
MDM	**Murphy Dome**	**12.99**	**28**	*e*Pn		**06 16 10.2**	**-0.2**
COLA	**College**	**13.03**	**29**	*e*P		**06 16 11.9**	**+1.0**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
COLA	**College**	**13.03**	**29**	*e*Pn		**06 16 11.9**	**+1.0**
	comp=Z,8.6nm,0.8s						
MENT	**Mentasta**	**13.14**	**41**	*e*Pn		**06 16 12.7**	**+0.1**
ILAR	**Eielson Array**	**13.23**	**30**	Pn		**06 16 11.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=18						
ILAR				Sn		**06 18 36.5**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=216,slow=21,SNR=3.3						
ILAR				LR	LR	06 21 44.8	
	comp=Z,312nm,18.7s,baz=252,slow=39						
ILB	**Eielson Array**	**13.23**	**30**	*e*Pn		**06 16 11.6**	**-2.2**
DOT	**Dot Lake**	**13.42**	**38**	*e*Pn		**06 16 15.7**	**-0.7**
COLD	**Coldfoot**	**14.38**	**20**	*e*Pn		**06 16 31.4**	**+2.0**
EGAK	**Eagle**	**15.11**	**37**	*e*Pn		**06 16 38.4**	**-0.8**
	comp=Z,5.0nm,0.6s						
DAWY	**Dawson**	**15.39**	**41**	*e*Pn		**06 16 42.0**	**-0.9**
	comp=Z,8.4nm,0.8s						
DLBC	**Dease Lake**	**18.45**	**63**	P		**06 17 20.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=260,slow=11,SNR=3.5						
DLBC				LR	LR	06 23 44.6	
	comp=Z,94nm,18.2s,baz=294,slow=34						
DLBC	**Dease Lake**	**18.45**	**63**	*e*P		**06 17 24.3**	**+2.9**
	comp=Z,7.1nm,0.9s						
INK	**Inuvik**	**19.61**	**33**	P		**06 17 32.2**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=225,slow=7.0,SNR=21						
INK				LR	LR	06 25 55.9	
	comp=Z,241nm,19.3s,baz=232,slow=39						
INK	**Inuvik**	**19.61**	**33**	*e*P		**06 17 32.3**	**-1.3**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	**Inuvik**	**19.61**	**33**	*e*P		**06 17 32.3**	**-1.3**
	comp=Z,7.4nm,1.0s						
BILL	**Bilibino**	**20.14**	**326**	⇑*i* P		**06 17 39.5**	**+0.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.2s						
BILL				MLR	MLR		
	comp=Z,127nm,16.0s						
BILL	**Bilibino**	**20.14**	**326**	*e*P		**06 17 39.5**	**+0.1**
	comp=Z,10nm,1.1s						
BBB	**Bella Bella**	**20.64**	**81**	LR	LR	06 24 24.6	
	comp=Z,87nm,19.0s,baz=212,slow=33						
PEA0	**Petropavlovsk-**	**23.35**	**284**	*e*P		**06 18 13.2**	**-0.4**
PEA0B	**Petropavlovsk-**	**23.35**	**284**	*e*P		**06 18 13.3**	**-0.4**
	comp=Z,29nm,0.6s						
PETK	**Petropavlovsk-**	**23.35**	**284**	P		**06 18 13.2**	**-0.5**
	comp=Z,20nm,0.5s,baz=80,slow=13,SNR=57						
PETK				LR	LR	06 27 25.6	
	comp=Z,83nm,20.2s,baz=88,slow=37						
SEY	**Seymchan**	**24.57**	**309**	P		**06 18 23.4**	**-1.6**
	comp=Z,2.4nm,0.6s,baz=141,slow=15,SNR=8.8						
SEY	**Seymchan**	**24.57**	**309**	P		**06 18 25.8**	**+0.9**
MA2	**Magadan**	**25.60**	**301**	P		**06 18 34.8**	**+0.4**
	comp=Z,3.1nm,0.4s,baz=111,slow=14,SNR=3.7						
MA2	**Magadan**	**25.60**	**301**	⇑P		**06 18 35.0**	**+0.7**
YKW3	**Yellowknife Ar**	**25.94**	**52**	*e*P		**06 18 38.0**	**+0.7**
	comp=Z,4.3nm,1.0s						
YKA	**Yellowknife Ar**	**25.95**	**52**	P		**06 18 38.2**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=272,slow=9.0,SNR=33						
YKA				LR	LR	06 29 53.1	
	comp=Z,11nm,19.4s,baz=180,slow=39						
YKB5	**Yellowknife Ar**	**25.95**	**52**	*e*P		**06 18 37.8**	**+0.3**
PAT2	**Paterson 2**	**28.36**	**89**	*e*P		**06 18 59.0**	**-0.2**
NEW	**Newport**	**28.68**	**83**	LR	LR	06 28 42.1	
	comp=Z,62nm,20.1s,baz=292,slow=32						
TIXI	**Tiksi**	**33.34**	**328**	P		**06 19 41.0**	**-1.8**
	comp=Z,5.3nm,1.0s,baz=88,slow=9.6,SNR=7.9						
TIXI				PcP	**PcP**	06 22 24.0	+0.2
	comp=Z,1.2nm,0.3s,baz=60,slow=4.1,SNR=3.3						
TIXI	**Tiksi**	**33.34**	**328**	⇓*i* P		**06 19 42.2**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**33.34**	**328**	*e*P		**06 19 41.9**	**-0.9**
	comp=Z,5.3nm,1.0s						
TIXI				PcP	**PcP**	06 22 24.0	+0.2
NV01	**Mina Array Sit**	**33.78**	**99**	*e*P		**06 19 49.5**	**+2.2**
NVAR	**Mina Array Bea**	**33.78**	**99**	P		**06 19 49.4**	**+2.1**
	comp=Z,0.9nm,0.7s,baz=284,slow=11,SNR=6.4						
NVAR				LR	LR	06 31 09.4	
	comp=Z,78nm,19.8s,baz=267,slow=32						
YAK	**Yakutsk**	**35.06**	**311**	*e*P

B34A Aery, Baudette 41.34 69 P P 06 20 50.7 -0.1
baz=304,SNR=6.6
214A Organ Pipe Nat 41.52 102 P P 06 20 53.6 +1.0
baz=317
H11N2 WAKE ISLAND Hy 41.53 226 T T 07 05 12.3
baz=26,slow=76,SNR=394
H11N3 WAKE ISLAND Hy 41.54 226 T T 07 05 12.8
baz=26,slow=76,SNR=300
H11N1 WAKE ISLAND Hy 41.55 226 T T 07 05 14.2
baz=26,slow=76,SNR=274
J30A Dallas 41.66 78 P P 06 20 53.2 -0.3
baz=308
C34A RKJ Ranch, Bem 41.67 70 P P 06 20 53.6 0.0
baz=305
D34A Park Rapids 41.84 71 P P 06 20 54.6 -0.4
baz=306
B35A Bob, Littlefor 41.92 69 P P 06 20 55.4 -0.1
baz=305,SNR=8.3
H32A Carlson Farm, 42.11 76 P P 06 20 57.6 +0.3
baz=307
C35A Jirik Farms, M 42.16 70 P P 06 20 57.7 +0.2
baz=305
H33A Prehn Over Nor 42.40 75 P P 06 20 59.8 +0.3
baz=307
TUC Tucson 42.43 99 P P 06 21 01.1 +1.1
baz=317
USRK Ussuriysk Ar. 42.44 284 LR LR 06 39 49.5
comp=Z,58nm,19.5s,baz=30,slow=38
D35A Remer 42.48 70 P P 06 21 00.4 +0.3
baz=306,SNR=6.7
H11S1 WAKE ISLAND Hy 42.70 226 T T 07 06 40.2
baz=26,slow=76,SNR=428
H11S2 WAKE ISLAND Hy 42.72 226 T T 07 06 42.5
baz=26,slow=76,SNR=538
H11S3 WAKE ISLAND Hy 42.72 226 T T 07 06 41.8
baz=26,slow=76,SNR=326
C36A Pine Crest Far 42.75 69 P P 06 21 02.2 -0.1
baz=306
D36A Goodland 42.91 70 P P 06 21 04.0 +0.3
baz=306,SNR=5.4
ECSD EROS Data Cent 43.05 76 P P 06 21 05.0 +0.2
baz=308
ANMO Albuquerque 43.08 93 ⇑*i*P P 06 21 06.2 +0.8
ANMO pmax pmax
comp=Z,2.0nm,1.8s
C37A Embarrass 43.13 69 P P 06 21 05.3 -0.1
baz=306
E36A McGregor 43.25 71 P P 06 21 06.5 0.0
baz=307,SNR=7.4
D37A Cotton 43.33 69 P P 06 21 06.9 -0.1
baz=306
G35A Watkins 43.35 73 P P 06 21 07.5 +0.3
baz=307
EYMN Ely 43.38 68 P P 06 21 07.4 0.0
baz=306,SNR=6.5
EYMN Ely 43.38 68 *e*P P 06 21 07.9 +0.5
comp=Z,6.9nm,0.8s
H35A Sunnyside Ranc 43.47 74 P P 06 21 08.3 +0.1
baz=308
F36A Milaca 43.50 71 P P 06 21 08.1 -0.3
baz=307
MDJ Mudanjiang 43.55 286 P P 06 21 06.6 -2.2
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,31nm,4.0s
C38A Sawbill Land. 43.63 68 P P 06 21 09.4 -0.1
baz=306
G36A St. Michael 43.75 72 P P 06 21 10.9 +0.4
baz=308
O31A Woolen Ranch, 43.76 82 P P 06 21 10.2 -0.4
baz=311
MAJO Matsushiro 43.78 271 ⇑*i*P P 06 21 10.4 -0.4
MAJO pmax pmax
comp=Z,64nm,0.8s
MAJO Matsushiro 43.78 271 *e*P P 06 21 11.6 +0.8
comp=Z,9.4nm,0.8s
MAT Matsushiro 43.78 271 P P 06 21 10.3 -0.5
MJAR Matsushiro Arr 43.78 271 P P 06 21 10.8 0.0
comp=Z,1.9nm,0.6s,baz=32,slow=6.5,SNR=12
MJB9 Matsu-Tunnel 43.78 271 *e*P P 06 21 11.5 +0.7
comp=Z,2.5nm,0.8s
K34A Le Mars 44.00 77 P P 06 21 12.9 +0.4
baz=309
H36A Jessenland, He 44.05 73 P P 06 21 13.0 +0.2
baz=308
C39A Grand Marais 44.19 67 P P 06 21 13.9 0.0
baz=306
SPMN Marine on St. 44.29 72 P P 06 21 15.2 +0.4
baz=308
I37A Lemond, Waseca 44.70 74 P P 06 21 18.7 +0.7
baz=309
J37A Redenius Farm, 45.06 74 P P 06 21 21.3 +0.4
baz=309
FRB Frobisher Bay 45.08 39 P P 06 21 20.6 -0.1
comp=Z,3.5nm,0.5s,baz=328,slow=8.1,SNR=9.5
I38A Scanlan Farm, 45.29 73 P P 06 21 23.1 +0.4
baz=309
K37A Belmond 45.35 75 P P 06 21 23.3 0.0
baz=310
Q33A Connelly Farm, 45.39 82 P P 06 21 23.9 +0.3
baz=312
N35A Tabor 45.43 78 P P 06 21 24.8 +0.9
baz=311
L37A Phoenix Point, 45.70 76 P P 06 21 26.5 +0.5
baz=310
MNTX Cornudas Mount 46.03 95 P P 06 21 29.0 +0.3
baz=317
L38A Oak Wood Farm, 46.14 75 P P 06 21 29.1 -0.3
baz=310
CN2 Changchun 46.38 288 *e*P P 06 21 35.1 +3.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
M38A Pleasantville 46.47 76 P P 06 21 31.6 -0.5
baz=311
NRIK Noril'sk 46.73 333 P P 06 21 32.5 -1.2
comp=Z,3.8nm,0.5s,baz=78,slow=7.3,SNR=5.7
NRIK LR LR 06 41 52.1
comp=Z,52nm,21.3s,baz=80,slow=37
KBS Kingsbay 47.11 1 *e*P P 06 21 37.4 +0.8
KBS pmax pmax
comp=Z,2.0nm,0.4s
KBS Kingsbay 47.11 1 *e*P P 06 21 37.4 +0.8
comp=Z,2.3nm,0.4s
N39A Derby Farms, D 47.22 76 P P 06 21 37.9 0.0
baz=311
DAG Danmarks Havn 47.33 11 *i*P P 06 21 38.0 -0.3
DAG pmax pmax
comp=Z,9.0nm,0.7s
DAG Danmarks Havn 47.33 11 *i*P P 06 21 38.0 -0.3
comp=Z,13nm,0.7s
SUMG Summit 47.78 20 *i*P P 06 21 42.9 +0.6
SUMG pmax pmax
comp=Z,16nm,1.0s
SUMG Summit 47.78 20 *i*P P 06 21 42.9 +0.6
comp=Z,16nm,1.0s
SUMG Summit 47.78 20 *e*P P 06 21 43.2 +0.8
comp=Z,19nm,1.1s
O40A La Belle 48.08 77 P P 06 21 44.0 -0.6
baz=312
T37A Cheneyville 18 48.35 82 P P 06 21 46.4 -0.4
baz=313
P40A Paris 48.38 77 P P 06 21 46.5 -0.4
baz=312
TX31 Lajitas Ar. Si 48.76 96 *e*P P 06 21 51.2 +1.1
TXAR Lajitas Array 48.76 96 P P 06 21 51.5 +1.4
comp=Z,0.9nm,0.8s,baz=294,slow=5.2,SNR=11
TXAR LR LR 06 41 25.2
comp=Z,35nm,18.3s,baz=0.0,slow=35
SFJD Kangerlussuaq 48.90 29 P P 06 21 51.4 +1.0
comp=Z,18nm,0.9s,baz=320,slow=6.3,SNR=9.2
SFJD Kangerlussuaq 48.90 29 *e*P P 06 21 51.0 +0.5
SFJD pmax pmax
comp=Z,16nm,0.8s
SFJD Kangerlussuaq 48.90 29 *i*P P 06 21 51.3 +0.8
comp=Z,22nm,1.1s
SFJD Kangerlussuaq 48.90 29 *e*P P 06 21 51.0 +0.5
comp=Z,16nm,0.8s
KSRS Korea Array 49.17 280 P P 06 21 53.5 +0.6
comp=Z,11nm,0.8s,baz=51,slow=7.1,SNR=49
KSRS LR LR 06 42 43.8
comp=Z,18nm,20.0s,baz=54,slow=36
KS01 Wonju Array Si 49.17 280 *e*P P 06 21 53.2 +0.2
KS15 Wonju Array Si 49.20 280 *e*P P 06 21 53.6 +0.4
KSAR Wonju Array Be 49.20 280 P P 06 21 53.6 +0.4
KSAR Wonju Array Be 49.20 280 P P 06 21 53.5 +0.4

HDIL Hopedale 49.26 74 P P 06 21 53.1 -0.6
baz=312,SNR=7.8
HDIL Hopedale 49.26 74 *e*P P 06 21 53.5 -0.2
comp=Z,18nm,0.8s
T39A Clever 49.31 81 P P 06 21 53.1 -1.0
baz=314
Q43A New Douglas 50.12 76 P P 06 22 00.3 +0.1
baz=313
TJN Taejon 50.23 279 *d*iP P 06 22 01.5 +0.4
TJN *e**PP sP 06 22 12.7 -1.7
JNU Nakatsue 50.47 274 P P 06 22 03.6 +0.6
comp=Z,3.6nm,0.7s,baz=9.6,slow=8.1,SNR=3.8
W40A Ferguson Farm, 50.76 82 P P 06 22 04.7 -0.4
baz=315
S43A Fulton Ridge, 50.84 78 P P 06 22 05.1 -0.6
baz=314
434A Burnet 50.84 90 P P 06 22 06.0 +0.2
baz=317
V41A Mountainview 50.88 81 P P 06 22 05.0 -1.1
baz=314
R44A Waltonville 50.95 76 P P 06 22 05.4 -1.1
baz=314
SCHQ Schefferville 51.27 48 P P 06 22 09.3 +0.6
comp=Z,1.9nm,0.8s,baz=321,slow=10,SNR=2.9
SCHQ LR LR 06 46 01.2
comp=Z,50nm,18.7s,baz=326,slow=38
SADO Sadowa 52.01 64 P P 06 22 14.4 +0.1
comp=Z,0.9nm,0.5s,baz=315,slow=13,SNR=2.8
WVT Waverly 53.13 78 *e*P P 06 22 22.7 -0.1
WVT pmax pmax
comp=Z,5.0nm,1.0s
WVT Waverly 53.13 78 *e*P P 06 22 22.7 -0.1
comp=Z,4.5nm,1.0s
SONA1 Songino Array 53.77 303 *e*P P 06 22 27.4 -0.1
SONM Songino Array 53.78 303 P P 06 22 27.6 0.0
comp=Z,2.4nm,1.0s,baz=49,slow=6.7,SNR=11
SONM PcP PcP 06 23 33.2 +0.1
comp=Z,2.7nm,0.9s,baz=64,slow=2.1,SNR=7.8
HHC Hu-ho-hao-te 55.98 294 *e*P P 06 22 45.6 +2.1
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.5s
ARCES ARCESS Array B 56.45 357 LR LR 06 46 23.0
comp=Z,32nm,21.9s,baz=242,slow=35
ZALV Zalesovo Beam 58.73 320 LR LR 06 49 28.1
comp=Z,74nm,20.5s,baz=70,slow=37
SOKR Solikamsk 62.26 339 ⇓*i*P P 06 23 23.5 -3.0
SOKR pmax pmax
comp=Z,17nm,1.1s
GTA Gaotai 63.16 301 *e*P P 06 23 33.4 +0.3
GTA pP sP 06 23 43.1 -3.5
GTA sP pP 06 23 46.7 +3.9
GTA pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 63.59 295 *e*P P 06 23 36.4 +0.5
LZH pP pP 06 23 45.2 -0.5
LZH sP sP 06 23 49.2 -0.2
LZH pmax pmax
comp=Z,16nm,1.0s
KURK Kurchatov 63.60 322 ⇓*i*P P 06 23 35.8 +0.1
KURK *i**PP sP 06 23 47.8 -1.3
KURK pmax pmax
comp=Z,10.0nm,1.2s
KURK Kurchatov 63.60 322 *e*P P 06 23 35.7 +0.1
comp=Z,9.8nm,1.2s
SVE Sverdlovsk 63.87 335 *e*P P 06 23 37.4 +0.1
SVE pmax pmax
comp=Z,17nm,1.0s
KLMR Klimovskoe 63.97 348 *e*P P 06 23 36.1 -1.7
KLMR pmax pmax
comp=Z,15nm,1.4s
BRVK Borovoye 64.47 328 *e*P P 06 23 41.5 +0.2
BRVK pmax pmax
comp=Z,20nm,0.7s
BRVK Borovoye 64.47 328 *e*P P 06 23 41.5 +0.2
comp=Z,20nm,0.7s
FIA1 FINESS Array S 64.51 355 *e*P P 06 23 40.5 -0.9
FINES FINESS Array B 64.52 355 P P 06 23 40.8 -0.7
comp=Z,4.2nm,0.6s,baz=19,slow=7.7,SNR=30
FINES LR LR 06 53 42.7
comp=Z,23nm,18.1s,baz=360,slow=38
ARU Arti 64.73 336 P P 06 23 42.6 -0.3
comp=Z,4.5nm,0.5s,baz=339,slow=1.6,SNR=10
ARU Arti 64.73 336 *d*iP P 06 23 42.4 -0.5
ARU 06 24 13.6
ARU S S 06 32 19.8 -1.0
ARU SS SS 06 36 26.7 -4.3
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 64.73 336 *e*P P 06 23 42.2 -0.8
comp=Z,8.1nm,0.7s
NC405 NORSAR Array S 64.96 3 *e*P P 06 23 44.2 -0.2
ZRNK Zerenda 64.97 328 *e*P P 06 23 44.6 +0.1
ZRNK pmax pmax
comp=Z,12nm,0.6s
ZRNK Zerenda 64.97 328 *e*P P 06 23 44.6 +0.1
comp=Z,12nm,0.6s
NB2 NORSAR Subarra 65.02 3 P P 06 23 44.3 -0.5
comp=Z,1.4nm,0.6s,baz=360,slow=6.9
NOA NORSAR Array B 65.02 3 P P 06 23 44.7 -0.1
comp=Z,3.8nm,0.8s,baz=357,slow=6.5,SNR=10
NOA LR LR 06 53 34.0
comp=Z,8.7nm,18.8s,baz=355,slow=37
MK31 Makanchi Array 65.39 317 *e*P P 06 23 47.1 -0.3
MK31 Makanchi Array 65.39 317 *e*P P 06 23 47.1 -0.3
MKAR Makanchi Array 65.39 317 P P 06 23 46.9 -0.6
comp=Z,2.0nm,0.6s,baz=45,slow=5.7,SNR=25
MKAR LR LR 06 54 51.9
comp=Z,36nm,19.4s,baz=21,slow=38
MKAR Makanchi Array 65.39 317 *e*P P 06 23 47.3 -0.1
MK01 Makanchi Array 65.41 317 *e*P P 06 23 46.7 -0.8
WMQ Urumqi 65.50 312 P P 06 23 51.5 +3.3
WMQ pP sP 06 24 01.5 -0.2
WMQ sP pP 06 24 05.5 +7.5
WMQ pmax pmax
comp=Z,3.0nm,0.6s
WMQ pmax pmax
comp=Z,49nm,5.2s
WMQ LR LR
comp=N,28nm,27.6s
WMQ LR LR
comp=Z,13nm,27.6s
MAKZ Makanchi 65.51 317 *e*P P 06 23 47.7 -0.5
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
MAKZ Makanchi 65.51 317 *e*P P 06 23 47.7 -0.5
comp=Z,2.8nm,0.6s
TAOE Nuku Hiva Isla 65.60 156 *e*LR LR 06 43 37.5
comp=Z,52nm,24.0s
TAOE Nuku Hiva Isla 65.60 156 *e*T T 07 35 15.7
comp=Z,28nm,0.2s
HFS Hagfors 66.00 2 P P 06 23 50.5 -0.5
comp=Z,5.6nm,0.5s,baz=27,slow=3.6,SNR=37
VSU Vasula 67.46 355 ⇓*i*P P 06 24 00.4 +0.1
VSU pmax pmax
comp=Z,99nm,2.5s
OTUK Ortayu 67.92 324 P P 06 24 03.7 +0.2
OTUK pmax pmax
comp=Z,6.0nm,1.0s
PDGK Podgornoye 69.37 316 P P 06 24 13.4 +0.8
PDGK pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 69.93 348 ⇓*e*P P 06 24 15.2 -0.6
OBN *e* 06 24 35.3
OBN pmax pmax
comp=Z,8.0nm,0.8s
AKTO Aktyubinsk 70.33 334 P P 06 24 18.3 -0.1
comp=Z,7.4nm,0.8s,baz=23,slow=5.5,SNR=22
ABKAR Akbulak array 70.89 332 *e*P P 06 24 21.8 0.0
TKM2 Tokmak 2 71.25 319 *e*P P 06 24 25.1 +0.7
TKM2 pmax pmax
comp=Z,6.0nm,1.1s
TKM2 Tokmak 2 71.25 319 *e*P P 06 24 25.1 +0.7
comp=Z,5.8nm,1.1s
FRU Bishkek 71.71 319 *e*P P 06 24 26.0 -0.9
AAK Ala-Archa 71.92 319 LR LR 06 57 42.5
comp=Z,98nm,20.8s,baz=8.0,slow=37
AAK Ala-Archa 71.92 319 ⇑*i*P P 06 24 28.9 +0.5
AAK pmax pmax
comp=Z,14nm,1.0s
AAK Ala-Archa 71.92 319 *e*P P 06 24 28.6 +0.3
EKS2 Erkin-Say 72.17 320 *e*P P 06 24 30.3 +0.5
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 72.17 320 *e*P P 06 24 30.3 +0.5

comp=Z,6.5nm,0.9s
TIAR Tiarei 72.34 167 *e*T T 07 43 39.0
comp=Z,12nm,0.2s
PPT2 Papeete2 72.35 167 *e*LR LR 06 46 36.5
comp=Z,77nm,25.2s
MNAS Manas 72.80 321 P P 06 24 34.3 +0.7
MNAS pmax pmax
comp=Z,6.0nm,1.2s
KKAR Karatay Array 73.00 322 *e*P P 06 24 34.6 0.0
KKAR Karatay Array 73.00 322 *e*P P 06 24 34.6 0.0
VSR Storozhevoye 73.41 346 *e*P P 06 24 35.6 -1.2
VSR pmax pmax
comp=Z,20nm,1.1s
KSH Kashi 74.00 317 ScS ScS 06 34 48.0 -0.3
CLL Collm 74.82 3 *i*P P 06 24 44.9 -0.1
comp=Z,7.0nm,1.0s
CLL Collm 74.82 3 *i*P P 06 24 44.9 -0.1
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 74.82 3 *e*P P 06 24 45.2 +0.2
comp=Z,6.6nm,1.0s
AKASG Malin Array Be 75.02 352 P P 06 24 45.4 -0.8
comp=Z,4.6nm,0.5s,baz=12,slow=5.9,SNR=33
KIEV Kiev 75.03 352 *e*P P 06 24 45.4 -0.9
KIEV pmax pmax
comp=Z,17nm,0.9s
KIEV Kiev 75.03 352 *e*P P 06 24 45.4 -0.9
comp=Z,16nm,0.9s
AK11 Malin Array Si 75.05 352 *e*P P 06 24 45.2 -1.1
MEM Membach 75.14 7 P P 06 24 47.5 +0.6
comp=Z,5.2nm,0.9s
MOX Moxa 75.43 4 P P 06 24 49.2 +0.6
MOX pmax pmax
comp=Z,10.0nm,1.0s
BAIF Baives 75.54 9 *e*P P 06 24 49.1 -0.1
BAIF pmax pmax
comp=Z,4.0nm,0.7s
PVCC Panska Ves 75.64 2 *e*P P 06 24 50.5 +0.7
PVCC Panska Ves 75.64 2 *e*P P 06 24 50.5 +0.7
UPC Upice 75.68 1 *e*P P 06 24 50.6 +0.6
UPC Upice 75.68 1 *e*P P 06 24 50.6 +0.6
DPC Dobruska-Polom 75.84 1 *e*P P 06 24 51.6 +0.6
DPC Dobruska-Polom 75.84 1 *e*P P 06 24 51.6 +0.6
NKC Novy Kostel 75.88 3 *e*P P 06 24 51.3 +0.1
NKC Novy Kostel 75.88 3 *e*P P 06 24 51.3 +0.1
OKC Ostrava-Krasne 76.35 360 *e*P P 06 24 54.1 +0.3
OKC Ostrava-Krasne 76.35 360 *e*P P 06 24 54.1 +0.3
MORC Moravsky Berou 76.42 360 ⇑*i*P P 06 24 54.7 +0.4
MORC Moravsky Berou 76.42 360 ⇑P P 06 24 54.7 +0.4
MORC Moravsky Berou 76.42 360 *e*P P 06 24 54.5 +0.2
comp=Z,26nm,1.1s
STHS Stebnicka Huta 76.72 357 *e*P P 06 24 57.2 +1.2
STHS pmax pmax
comp=Z,10.0nm,1.3s
STHS Stebnicka Huta 76.72 357 *e*P P 06 24 57.2 +1.2
VRAC Vranov 76.88 1 P P 06 24 57.3 +0.4
comp=Z,3.9nm,0.6s,baz=11,slow=4.5,SNR=7.1
VRAC Vranov 76.88 1 ⇑*i*P P 06 24 57.6 +0.7
VRAC Vranov 76.88 1 ⇑P P 06 24 57.6 +0.7
WET Wettzell 76.98 3 P P 06 24 59.0 +1.6
WET pmax pmax
comp=Z,8.0nm,1.2s
LANS Liptovska Anna 77.03 359 *e*P P 06 24 58.6 +0.9
LANS Liptovska Anna 77.03 359 *e*P P 06 24 58.6 +0.9
CRVS Cervenica-Dubn 77.23 357 *e*P P 06 24 59.1 +0.2
CRVS Cervenica-Dubn 77.23 357 *e*P P 06 24 59.1 +0.2
GEC2 GERESS Array S 77.30 3 *e*P P 06 24 59.6 +0.2
GEC2 GERESS Array S 77.30 3 *e*P P 06 24 59.6 +0.2
GERES GERESS Array B 77.30 3 P P 06 24 59.8 +0.5
comp=Z,2.5nm,0.6s,baz=5.7,slow=5.4,SNR=19
GEA0 GERESS Array S 77.31 3 *e*P P 06 24 59.6 +0.3
DZET Dzherino 77.38 321 P P 06 25 01.2 +1.2
DZET pmax pmax
comp=Z,3.0nm,0.4s
SORM Soroca 77.64 353 ⇑*i*P P 06 25 00.3 -0.8
SORM Soroca 77.64 353 ⇑P P 06 25 00.3 -0.8
KECS Kecovo 77.68 358 *e*P P 06 25 01.6 +0.3
KECS pmax pmax
comp=Z,3.0nm,1.2s
KECS Kecovo 77.68 358 *e*P P 06 25 01.6 +0.3
VYHS Vyhne 77.69 359 *e*P P 06 25 02.0 +0.6
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 77.69 359 *e*P P 06 25 02.0 +0.6
HINF Hinteralfeld 77.98 7 *e*P P 06 25 02.8 -0.3
HINF pmax pmax
comp=Z,3.0nm,0.7s
PSZ Piszkesteto 78.25 358 ⇑*i*P P 06 25 04.6 0.0
PSZ Piszkesteto 78.25 358 *e*P P 06 25 04.9 +0.3
PSZ pmax pmax
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 78.25 358 *e*P P 06 25 04.9 +0.3
comp=Z,8.2nm,1.1s
BUR08 Bucovina Ar. S 78.33 355 *e*P P 06 25 05.3 +0.2
BURAR Bucovina Array 78.36 355 ⇓*i*P P 06 25 05.2 -0.1
BURAR Bucovina Array 78.36 355 ⇓P P 06 25 05.2 -0.1
RETA Reutte 78.55 5 *i*P P 06 25 06.8 +0.6
comp=Z,5.6nm,1.3s
AVF Avril sur Loir 78.70 10 *e*P P 06 25 06.6 -0.4
AVF pmax pmax
comp=Z,32nm,1.9s
MOTA Moosalm 78.71 4 *i*P P 06 25 07.5 +0.2
comp=Z,9.8nm,1.0s
WATA Walderalm 78.74 4 *i*P P 06 25 07.8 +0.4
comp=Z,5.6nm,0.6s
WTTA Wattenberg 78.81 4 *i*P P 06 25 08.4 +0.6
comp=Z,5.1nm,0.6s
ARSA Arzberg 78.93 1 *i*P P 06 25 09.2 +0.9
comp=Z,2.9nm,0.7s,SNR=5.4
ARCR ARCALIA 78.94 355 ⇑*i*P P 06 25 03.7 -4.6
FETA Feichten 79.01 5 *i*P P 06 25 09.7 +0.7
comp=Z,9.2nm,1.0s
KBA Koelnbreinsper 79.06 3 *i*P P 06 25 10.1 +0.9
comp=Z,9.7nm,0.7s
KBA Koelnbreinsper 79.06 3 P P 06 25 10.4 +1.2
KBA pmax pmax
comp=Z,16nm,1.0s
CABF La Chapelle 79.12 8 *e*P P 06 25 09.6 +0.1
CABF pmax pmax
comp=Z,46nm,2.0s
DAVOX Davos/Dischmat 79.21 5 P P 06 25 10.9 +0.8
comp=Z,4.0nm,0.5s,baz=148,slow=2.2,SNR=11
DRGR 79.30 356 ⇑*i*P P 06 25 10.7 +0.3
DRGR 79.30 356 ⇑P P 06 25 10.7 +0.3
ABTA Abfaltersbach 79.36 3 *i*P P 06 25 12.0 +1.2
comp=Z,8.8nm,1.1s
FUORN Ofenpass-Fuorn 79.39 5 *e*P P 06 25 12.0 +0.9
comp=Z,17nm,1.4s
SOKA Soboth 79.50 2 *i*P P 06 25 12.1 +0.6
comp=Z,16nm,1.3s,SNR=10
MYKA Terra Mystica 79.51 3 *i*P P 06 25 12.7 +1.1
comp=Z,3.9nm,0.8s
PERS Pernice 79.54 2 *i*P P 06 25 12.5 +0.8
OBKA Obir 79.66 2 *i*P P 06 25 13.1 +0.7
comp=Z,16nm,0.6s,SNR=24
SIRR Siria 79.86 357 ⇑*i*P P 06 25 13.7 +0.3
KVAR Kislovodsk Arr 79.88 342 P P 06 25 14.9 +1.3
comp=Z,5.5nm,0.4s,baz=99,slow=7.8,SNR=3.4
KIV Kislovodsk 79.88 342 *e*P P 06 25 14.5 +0.9
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,23nm,18.0s
CADS Cadrg 79.92 3 *i*P P 06 25 13.6 -0.2
DOPR Dopca 80.00 354 ⇑*i*P P 06 25 14.6 +0.5
VRI Vrincioaia 80.01 353 ⇑*i*P P 06 25 13.6 -0.6
VRI Vrincioaia 80.01 353 ⇑P P 06 25 13.6 -0.6
KBZ Khabaz 80.06 342 P P 06 25 14.9 +0.5
comp=Z,7.7nm,0.9s,baz=1.3,slow=3.8,SNR=14
KBZ LR LR 07 05 16.0
comp=Z,20nm,19.0s,baz=6.0,slow=39
CMAR Chiang Mai Arr 80.07 288 P P 06 25 15.1 +0.2
comp=Z,5.3nm,0.8s,baz=16,slow=5.5,SNR=22
CMAR Chiang Mai Arr 80.07 288 *i*P P 06 25 15.3 +0.4
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CM01 Chiang Mai Arr 80.09 288 *e*P P 06 25 14.9 -0.1
LPL La Plagne 80.26 8 *e*P P 06 25 16.6 +0.8
LPL pmax pmax
comp=Z,3.0nm,1.0s
LPG La Plagne 80.28 8 *e*P P 06 25 16.8 +0.8
LPG pmax pmax
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 80.44 354 P P 06 25 16.7 0.0
comp=Z,0.4nm,0.8s,baz=236,slow=5.2,SNR=4.3

MLR	**Muntele Rosu**	**80.44**	**354**	⇑*iP*	**P**	**06 25 17.9**	**+1.2**
BZS	**Buzias**	**80.51**	**357**	⇑*iP*	**P**	**06 25 17.2**	**+0.3**
BZS	**Buzias**	**80.51**	**357**	⇑**P**	**P**	**06 25 17.2**	**+0.3**
VOIR		**80.54**	**355**	⇑*iP*	**P**	**06 25 18.0**	**+0.8**
VOIR		**80.54**	**355**	⇑**P**	**P**	**06 25 18.0**	**+0.8**
CFR	**Carcaliu**	**80.59**	**352**	⇑*iP*	**P**	**06 25 17.7**	**+0.4**
CFR	**Carcaliu**	**80.59**	**352**	⇑**P**	**P**	**06 25 17.7**	**+0.4**
ARR	**Arges**	**80.64**	**355**	⇑*iP*	**P**	**06 25 18.1**	**+0.5**
BOJS	**Bojanci**	**80.67**	**2**	*iP*	**P**	**06 25 18.0**	**+0.2**
VIVF	**Saint-Julien-l**	**80.74**	**9**	*eP*	**P**	**06 25 18.3**	**+0.1**
VIVF				pmax	pmax		
	comp=Z,18nm,1.7s						
ZEI	**Tsey**	**80.78**	**341**	*eP*	**P**	**06 25 18.0**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TIRR	**Tirgusor**	**81.29**	**352**	⇓*iP*	P	06 25 11.4	-10
TIRR	**Tirgusor**	**81.29**	**352**	⇓**P**	P	06 25 11.5	-10
MDVR	**Moldovita**	**81.34**	**357**	⇑*iP*	**P**	**06 25 21.6**	**+0.2**
GEYT	**Alibeck**	**81.78**	**329**	P	**P**	**06 25 24.7**	**+0.9**
	comp=Z,1.9nm,0.4s,baz=337,slow=7.1,SNR=5.7						
MTLF	**Montolieu**	**81.99**	**11**	*eP*	**P**	**06 25 24.8**	**0.0**
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLD	**Plovdiv**	**83.88**	**355**	P	**P**	**06 25 36.6**	**+2.0**
ES19	**SONSECA Array**	**84.71**	**16**	*eP*	**P**	**06 25 39.2**	**+0.3**
ESDC	**Sonseca Array**	**84.72**	**16**	P	**P**	**06 25 39.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=347,slow=4.6,SNR=8.3						
BR231	**Keskin MP Arra**	**85.42**	**348**	*eP*	**P**	**06 25 43.1**	**+0.6**
BR131	**Keskin Array S**	**85.43**	**348**	*eP*	**P**	**06 25 42.9**	**+0.2**
BRTR	**Keskin Array B**	**85.43**	**348**	P	**P**	**06 25 43.0**	**+0.4**
	comp=Z,4.1nm,1.0s,baz=50,slow=2.1,SNR=20						
BRTR	**Keskin Array B**	**85.43**	**348**	P	**P**	**06 25 43.0**	**+0.4**

*ISCJB **05** 06:15:34.8±0.5,37°.21N±0°.04×28°.19E±0°.04,h12km±11km, Error ellipse: s-maj=6.5km s-min=4.7km az=29.0*
*ISK **05** 06:15:34.7,37°.21N×28°.19E,h8km,MD2.6*
*DDA **05** 06:15:34.3,37°.23N×28°.22E,h7km,Md2.6*
*CSEM **05** 06:15:35.0±0.2,37°.22N×28°.20E,h10km,MD2.6, Error ellipse: s-maj=4.4km s-min=3.8km az=30.0*

ISC 05 06:15:34.7±0.9,**37°.23N**±0°.03×**28°.22E**±0°.03,**h10**km±7km, **n21**,σ0**°34**/31,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.11**	**154**	*e*PG	**Pg**	**06 15 37.3**	**-0.2**
YER				*e*SG	**Sg**	**06 15 39.4**	**0.0**
YER	**Yerkesik**	**0.11**	**154**	*e*Pg	**Pg**	**06 15 37.3**	**-0.2**
YER				*e*Sg	**Sg**	**06 15 39.4**	**0.0**
TURN	**Turunc**	**0.47**	**140**	*i* P	**Pg**	**06 15 43.2**	**-0.6**
AYDN	**Tasoluk**	**0.51**	**328**	P	**Pg**	**06 15 44.5**	**-0.2**
AYDN				S	**Sg**	**06 15 51.9**	**+0.5**
AYDN	**Tasoluk**	**0.51**	**328**	*i* P	**Pg**	**06 15 44.5**	**-0.2**
AYDN				*i* S	**Sg**	**06 15 51.9**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.54**	**140**	*e*PG	**Pg**	**06 15 45.7**	**+0.5**
DALY				*e*SG	**Sb**	**06 15 53.7**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.54**	**140**	*e*Pg	**Pg**	**06 15 45.7**	**+0.5**
DALY				*e*Sg	**Sb**	**06 15 53.7**	**-0.3**
BDRM	**Kayabasi**	**0.64**	**255**	P	**Pg**	**06 15 46.9**	**-0.3**
BDRM				S	**Sb**	**06 15 57.4**	**+0.3**
BDRM	**Kayabasi**	**0.64**	**255**	*i* P	**Pg**	**06 15 46.9**	**-0.3**
BDRM				*i* S	**Sb**	**06 15 57.4**	**+0.3**
BODT	**Bodrum**	**0.75**	**257**	*e*PG	**Pg**	**06 15 49.0**	**-0.2**
BODT	**Bodrum**	**0.75**	**257**	*e*Pg	**Pg**	**06 15 49.0**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**340**	*e*PG	**Pb**	**06 15 50.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**340**	*e*Pg	**Pb**	**06 15 50.2**	**0.0**
DNZL	**Cakiroluk**	**0.80**	**55**	P	**Pg**	**06 15 49.9**	**-0.3**
DNZL				S	**Sn**	**06 16 03.9**	**-0.4**
DNZL	**Cakiroluk**	**0.80**	**55**	*i* P	**Pg**	**06 15 49.9**	**-0.3**
DNZL				*i* S	**Sn**	**06 16 03.9**	**-0.4**
FETY	**Fethiye**	**0.91**	**131**	*e*PG	**Pb**	**06 15 53.0**	**+0.4**
FETY	**Fethiye**	**0.91**	**131**	*e*Pg	**Pb**	**06 15 53.0**	**+0.4**
NIS1	**Nisyros Isl.**	**1.05**	**233**	*e*PG	**Pg**	**06 15 54.5**	**-0.3**
NIS1	**Nisyros Isl.**	**1.05**	**233**	*e*Pg	**Pg**	**06 15 54.6**	**-0.3**
KULA	**Kula-Manisa**	**1.33**	**15**	*e*PN	**Pg**	**06 16 00.3**	**+0.1**
KULA	**Kula-Manisa**	**1.33**	**15**	*e*Pn	**Pg**	**06 16 00.3**	**+0.1**

*IDC **05** 06:15:33.8±1.3,5°.59S×147°.20E,h176km±11km,mb3.6/7, mb1 3.9/9,mb1mx3.5/41,mbtmp4.1/9,Error ellipse: s-maj=16.4km s-min=9.9km az=107.0*

ISC 05 06:15:35.5±0.8,**5°.60S**±0°.08×**147°.1E**±0°.1,**h195**km,**n12**, σ2**°24**/16,**mb4.0**/8,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.78**	**178**	P	**Pn**	**06 16 33.2**	**-1.3**
	10nm,0.3s,baz=346,slow=9.9,SNR=4.4						
PMG				S	**Sn**	**06 17 17.6**	**-3.2**
	15nm,0.3s,baz=251,slow=23,SNR=14						
JAY	**Jayapura**	**7.03**	**296**	P	**Pn**	**06 17 16.0**	**-0.2**
	0.1nm,0.3s,baz=96,slow=22,SNR=5.7						
JAY				S	**Sn**	**06 18 32.4**	**-3.6**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**18.87**	**220**	P	**Pn**	**06 19 43.4**	**-0.8**
	2.8nm,0.3s,baz=39,slow=11,SNR=101						
WRA				S	**S**	**06 23 06.6**	**+1.1**
	0.1nm,0.3s,baz=40,slow=20,SNR=12						
ASAR	**Alice Springs**	**21.97**	**214**	P	**P**	**06 20 16.2**	**+2.2**
	6.4nm,0.6s,baz=46,slow=8.7,SNR=34						
ASAR				S	**S**	**06 24 08.0**	**+5.3**
	5.4nm,0.9s,baz=30,slow=22,SNR=22						
FITZ	**Fitzroy Crossi**	**24.32**	**237**	P	**P**	**06 20 36.9**	**+1.4**
	5.5nm,0.4s,baz=52,slow=11,SNR=34						
DZM	**Mont Dzumac**	**24.90**	**133**	P	**P**	**06 20 40.7**	**-0.1**
	4.8nm,0.9s,baz=317,slow=18,SNR=5.0						
GYA	**Guiyang**	**50.45**	**311**	*eP*	**P**	**06 24 14.2**	**+0.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SONM	**Songino Array**	**64.08**	**331**	P	**P**	**06 25 50.3**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=149,slow=3.4,SNR=2.8						
VNDA	**Vanda**	**72.31**	**177**	P	**P**	**06 26 39.0**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=332,slow=6.4,SNR=15						
MKAR	**Makanchi Array**	**77.22**	**320**	P	**P**	**06 27 08.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=104,slow=6.4,SNR=3.2						
ILAR	**Eielson Array**	**85.10**	**23**	P	**P**	**06 27 48.3**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=252,slow=4.8,SNR=18						
TORD	**Torodi Ar. Bea**	**145.03**	**285**	PKPbc	**PKPab**	**06 34 50.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=61,slow=3.4,SNR=6.2						

*ATH **05** 06:22:33.8,39°.31N×23°.21E,h4km,ML1.6/6,Error ellipse: s-maj=1.4km s-min=0.8km az=46.0*
*CSEM **05** 06:22:33.9±0.2,39°.29N×23°.20E,h0km±2km,ML1.6,Error ellipse: s-maj=2.9km s-min=2.6km az=28.0*

THE 05 06:22:33.8,39°.31N×23°.22E,h4km,ML1.8/7,Error ellipse: s-maj=0.9km s-min=0.4km az=24.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.01**	**149**	P	Pg	06 22 34.4	-0.1
NEO				S	Sg	06 22 34.9	-0.1
NEO	**Neokhori**	**0.01**	**149**	P	Pg	06 22 34.5	0.0
NEO				S	Sg	06 22 35.2	+0.2
NEO	**Neokhori**	**0.01**	**149**	P	Pg	06 22 34.5	0.0
NEO				S	Sg	06 22 35.2	+0.2
NEO				AML	AML	06 22 35.2	
	comp=N,15858μm,0.3s						
NEO				AML	AML	06 22 35.5	
	comp=E,8305μm,0.1s						
XOR	**Xorichti**	**0.06**	**338**	P	Pg	06 22 35.1	0.0
XOR				S	Sg	06 22 36.2	+0.1
XOR	**Xorichti**	**0.06**	**338**	P	Pg	06 22 35.0	-0.1
XOR				S	Sg	06 22 36.3	+0.2
XOR	**Xorichti**	**0.06**	**338**	P	Pg	06 22 35.0	-0.1
XOR				S	Sg	06 22 36.3	+0.2
XOR				AML	AML	06 22 37.0	
	comp=N,3973μm,0.1s						
XOR				AML	AML	06 22 37.2	
	comp=E,2789μm,0.1s						
FYTO	**Fytoko, Volos**	**0.24**	**294**	P	Pg	06 22 38.3	-0.1
FYTO				S	Sg	06 22 41.8	+0.3
FYTO	**Fytoko, Volos**	**0.24**	**294**	P	Pg	06 22 38.2	-0.2
FYTO				S	Sg	06 22 41.5	0.0
FYTO	**Fytoko, Volos**	**0.24**	**294**	P	Pg	06 22 38.2	-0.2
FYTO				S	Sg	06 22 41.5	0.0
FYTO				AML	AML	06 22 42.3	
	comp=N,420μm,0.1s						
FYTO				AML	AML	06 22 42.3	
	comp=E,326μm,0.1s						
SKIA	**Skiathos**	**0.24**	**127**	P	Pg	06 22 38.3	-0.1
SKIA				S	Sg	06 22 41.9	+0.3
SKIA	**Skiathos**	**0.24**	**127**	P	Pg	06 22 38.3	-0.1
SKIA				S	Sg	06 22 41.5	-0.1
SKIA	**Skiathos**	**0.24**	**127**	P	Pg	06 22 37.8	-0.6
SKIA				S	Sg	06 22 41.5	0.0
SKIA				AML	AML	06 22 42.1	
	comp=N,292μm,0.3s						
SKIA				AML	AML	06 22 42.2	
	comp=E,208μm,0.2s						
SMIA	**Simia**	**0.43**	**181**	P	Pg	06 22 42.2	+0.1
SMIA				S	Sg	06 22 48.2	+0.5
SMIA	**Simia**	**0.43**	**181**	P	Pg	06 22 42.2	+0.1
SMIA				S	Sg	06 22 48.2	+0.5
SMIA	**Simia**	**0.43**	**181**	P	Pg	06 22 42.4	+0.3
SMIA				S	Sb	06 22 49.3	-1.6
SMIA				AML	AML	06 22 50.0	
	comp=N,369μm,0.3s						
SMIA				AML	AML	06 22 52.5	
	comp=E,256μm,0.5s						
AOS	**Alonnisos**	**0.53**	**105**	P	Pg	06 22 44.1	+0.1
AOS				S	Sg	06 22 51.2	+0.3
AOS	**Alonnisos**	**0.53**	**105**	P	Pg	06 22 43.9	-0.1
AOS				S	Sg	06 22 51.2	+0.3
AOS	**Alonnisos**	**0.53**	**105**	P	Pg	06 22 43.9	-0.1
LKR	**Lokris**	**0.68**	**195**	P	Pg	06 22 46.5	-0.4
LKR				S	Sg	06 22 56.1	+0.4
LKR	**Lokris**	**0.68**	**195**	P	Pg	06 22 46.5	-0.4
LKR				S	Sg	06 22 56.1	+0.4
PAIG	**Paliouri**	**0.71**	**30**	P	Pb	06 22 48.4	-0.4
PAIG				S	Sb	06 22 59.0	+0.1
PAIG	**Paliouri**	**0.71**	**30**	P	Pb	06 22 48.4	-0.4
PAIG				S	Sb	06 22 59.0	0.0
PAIG				AML	AML	06 23 00.4	
	comp=N,50μm,0.5s						
PAIG				AML	AML	06 23 00.5	
	comp=E,48μm,0.4s						
AGG	**Agios Georgios**	**0.75**	**248**	P	Pg	06 22 47.5	-0.7
AGG				S	Sb	06 22 59.0	-1.1
AGG	**Agios Georgios**	**0.75**	**248**	P	Pg	06 22 47.4	-0.8
AGG				S	Sb	06 22 59.9	-1.1
AGG	**Agios Georgios**	**0.75**	**248**	P	Pg	06 22 47.4	-0.7

*CSEM **05** 06:22:45.7,38°.40N×21°.81E,h11km,ML1.3/7*

ATH 05 06:22:45.7,38°.40N×21°.81E,h11km±3km,**ML1.3**/6,**Error ellipse: s-maj=3.2km s-min=0.9km az=79.0,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.08**	**72**	P	Pg	06 22 47.8	-0.4
EFP				S	Sg	06 22 49.0	-1.0
EFP	**Efpalio**	**0.08**	**72**	P	Pg	06 22 47.8	-0.4
EFP				S	Sg	06 22 49.0	-1.0
EFP				AML	AML	06 22 50.2	
	comp=E,1348μm,0.3s						
EFP				AML	AML	06 22 51.0	
	comp=N,858μm,0.4s						
RODI	**Rodini**	**0.11**	**137**	P	Pg	06 22 48.2	-0.3
RODI				S	Sg	06 22 50.5	+0.1
RODI	**Rodini**	**0.11**	**137**	P	Pg	06 22 48.2	-0.3
RODI				S	Sg	06 22 50.5	+0.1
RODI				AML	AML	06 22 50.8	
	comp=E,690μm,0.3s						
RODI				AML	AML	06 22 51.7	
	comp=N,403μm,0.2s						
UPR	**University Cam**	**0.12**	**187**	P	Pg	06 22 48.3	-0.3
UPR	**University Cam**	**0.12**	**187**	P	Pg	06 22 48.3	-0.3
SERG	**Sergoula**	**0.20**	**86**	P	Pg	06 22 49.9	-0.1
SERG				S	Sg	06 22 54.2	+1.3
LAKA	**Lakka**	**0.21**	**140**	P	Pg	06 22 50.4	+0.2
LAKA				S	Sg	06 22 53.6	+0.4
LAKA	**Lakka**	**0.21**	**140**	P	Pg	06 22 50.4	+0.2
LAKA				S	Sg	06 22 53.6	+0.4
LAKA				AML	AML	06 22 54.5	
	comp=E,94μm,0.1s						
LAKA				AML	AML	06 22 55.4	
	comp=N,108μm,0.3s						
ANX	**Ano Chora**	**0.21**	**25**	P	Pg	06 22 50.2	-0.1
ANX				S	Sg	06 22 54.4	+1.0
ANX	**Ano Chora**	**0.21**	**25**	AML	AML	06 22 54.2	
	comp=E,487μm,0.3s						
ANX				S	Sg	06 22 54.4	+1.0
ANX				AML	AML	06 22 55.8	
	comp=N,390μm,0.3s						
TRIZ	**Trizonia**	**0.21**	**100**	P	Pg	06 22 50.2	0.0
TRIZ				S	Sg	06 22 54.3	+1.1
KALE	**Kalithea**	**0.26**	**92**	P	Pg	06 22 51.0	-0.2
KALE				S	Sg	06 22 55.9	+1.1
KALE	**Kalithea**	**0.26**	**92**	P	Pg	06 22 51.0	-0.1
KALE				S	Sg	06 22 55.9	+1.2
PVO	**Paravola**	**0.31**	**315**	P	Pg	06 22 51.2	-0.7
PVO				S	Sb	06 22 57.5	-0.9
PVO	**Paravola**	**0.31**	**315**	P	Pg	06 22 51.2	-0.8
PVO				S	Sb	06 22 57.5	-0.9
RLS	**Riolos of Patr**	**0.43**	**218**	P	Pb	06 22 55.5	+0.1
RLS				S	Sb	06 23 01.3	-0.7
KLV	**Kalavryta, Ach**	**0.45**	**143**	P	Pg	06 22 54.1	-0.5
KLV				S	Sg	06 22 59.5	-1.0
KLV	**Kalavryta, Ach**	**0.45**	**143**	P	Pg	06 22 54.1	-0.5
KLV				S	Sg	06 22 59.5	-1.0
DRO	**Drossia**	**0.45**	**189**	P	Pg	06 22 54.1	-0.5
DRO				S	Sb	06 23 03.1	+0.5
DRO	**Drossia**	**0.45**	**189**	P	Pg	06 22 54.1	-0.5
DRO				S	Sb	06 23 03.1	+0.5
DRO				AML	AML	06 23 03.6	
	comp=N,109μm,0.2s						
DRO				AML	AML	06 23 04.5	
	comp=E,169μm,0.2s						
EVR	**Evrytania**	**0.52**	**0**	P	Pg	06 22 55.2	-0.6
EVR				S	Sb	06 23 06.2	+1.7
EVR	**Evrytania**	**0.52**	**0**	P	Pg	06 22 55.2	-0.6
EVR				AML	AML	06 23 05.1	
	comp=N,43μm,0.1s						
EVR				S	Sb	06 23 06.2	+1.7
PDO	**Prodromos**	**0.53**	**292**	P	Pg	06 22 54.3	-1.7
PDO	**Prodromos**	**0.53**	**292**	P	Pg	06 22 54.4	-1.6

*CSEM **05** 06:22:48.0,43°.90N×11°.97E,h9km,MD1.9/6*

ROM 05 06:22:48.0±0.2,**43°.90N**×**11°.97E**,**h9**km±1km,**Md1.9**/6, **Ml1.0**/5,**Error ellipse: s-maj=3.3km s-min=1.1km az=166.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.09**	**275**	Pg	Pg	06 22 50.7	+0.3
SFI				Sg	Sg	06 22 52.8	+0.7
	37nm,0.1s						
SFI	**Santa Sofia**	**0.09**	**275**	Pg	Pg	06 22 50.7	+0.3
SFI				Sg	Sg	06 22 52.8	+0.7
	37nm,0.1s						
T0502	**Localit˜ San**	**0.12**	**88**	Pg	Pg	06 22 51.1	+0.3
T0502				Sg	Sg	06 22 53.6	+0.8
	36nm,0.2s						
ASQU	**Asqua**	**0.17**	**233**	Pg	Pg	06 22 52.1	+0.5
ASQU				Sg	Sg	06 22 55.1	+1.1
	40nm,0.2s						
ASQU	**Asqua**	**0.17**	**233**	Pg	Pg	06 22 52.1	+0.5
ASQU				Sg	Sg	06 22 55.1	+1.1
	40nm,0.2s						
CPGN	**Carpegna, Ital**	**0.27**	**111**	Pg	Pb	06 22 54.6	-0.5
	11nm,0.4s						
CPGN	**Carpegna, Ital**	**0.27**	**111**	Pg	Pb	06 22 54.6	-0.5
	11nm,0.4s						
PARC	**Parchiule**	**0.32**	**142**	Pg	Pg	06 22 54.5	+0.2
PARC				Sg	Sb	06 23 00.2	-0.8
	14nm,0.2s						
PARC	**Parchiule**	**0.32**	**142**	Pg	Pg	06 22 54.5	+0.2
PARC				Sg	Sb	06 23 00.2	-0.8
	14nm,0.2s						
BADI	**Badiali**	**0.43**	**153**	Pg	Pg	06 22 57.1	+0.6
BADI				Sg	Sb	06 23 04.2	-0.3
BADI	**Badiali**	**0.43**	**153**	Pg	Pg	06 22 57.1	+0.6
BADI				Sg	Sb	06 23 04.2	-0.3

*GUC **05** 06:25:22.0±0.4,36°.68S×73°.46W,h7km±1km,ML3.6*

ISC 05 06:25:20.7±2.6,**36°.71S**±0°.07×**73°.5W**±0°.1,**h10**km,**n12**, σ1**°37**/18,**1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.35**	**113**	*e*P	**Pg**	**06 25 28.1**	**+0.4**
CCSP				*e*S	**Sg**	**06 25 32.5**	**+0.2**
CCSP				IAML		06 25 34.3	
	comp=N,9μm,0.3s						
COCH	**Cobquecura**	**0.82**	**46**	*e*P	**Pg**	**06 25 36.0**	**-0.5**
COCH				*e*S	**Sg**	**06 25 46.2**	**-0.9**
COCH				IAML		06 25 48.3	
	comp=N,7μm,0.4s						
CCHI	**Chillan**	**1.16**	**85**	*e*P	**Pb**	**06 25 41.4**	**-1.4**
CCHI				*e*S	**Sg**	**06 25 56.4**	**-1.6**
CCHI				IAML		06 26 01.5	
	comp=E,3μm,0.4s						
ROC1	**El Roble**	**4.25**	**30**	*e*P	**Pn**	**06 26 25.4**	**-0.3**
ROC1				*e*S	**Sb**	**06 27 29.3**	**+2.1**
AUSP	**Uspallata**	**5.62**	**38**	*e*P	**Pn**	**06 26 45.4**	**+0.7**
AUSP				⇓*e*S	**Sb**	**06 28 06.9**	**+0.3**
ASAL	**Salagasta**	**5.63**	**45**	*e*P	**Pn**	**06 26 45.9**	**+1.4**
RTLS	**Leoncito**	**6.01**	**37**	*e*P	**Pn**	**06 26 50.9**	**+0.9**
RTLS				*e*S	**Sb**	**06 28 21.2**	**+3.3**
RTCV	**Cerro Valdivia**	**6.34**	**42**	*e*P	**Pn**	**06 26 54.0**	**-0.4**
RTLL	**Cerro Villicun**	**6.80**	**39**	*e*P	**Pn**	**06 27 00.1**	**-0.5**
AMOG	**MOGNA**	**7.11**	**37**	*e*P	**Pn**	**06 27 04.0**	**-0.9**
MRA	**San Martin**	**7.72**	**59**	*e*P	**Pn**	**06 27 14.4**	**+1.2**
MRA				IAML		06 27 50.1	
	comp=Z,3.2nm,0.6s						
AGUA	**GUANDACOL**	**8.34**	**32**	*e*P	**Pn**	**06 27 21.2**	**-0.6**

*JMA **05** 06:26:14.7,23°.71N×121°.62E,h38km±2km,M2.9*
*TAP **05** 06:26:15.3,23°.75N×121°.65E,h39km±1km,ML3.1,D*
*ISCJB **05** 06:26:16.0±0.3,23°.74N±0°.02×121°.66E±0°.02,h35km±5km, Error ellipse: s-maj=3.6km s-min=2.5km az=140.6*

ISC 05 06:26:16.1±0.9,**23°.73N**±0°.02×**121°.63E**±0°.03,**h34**km±6km, **n48**,σ1**°11**/89,**6C-1D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.09**	**256**	P	**Pb**	**06 26 22.4**	**+0.5**
TEGC							
	baz=243						
				*e*S	**Sb**	**06 26 27.4**	**+1.5**
ESF	**Shoufeng Towns**	**0.18**	**321**	P	**Pn**	**06 26 22.7**	**+1.8**
	baz=312						
ESF				*e*S	**Sn**	**06 26 28.1**	**+5.9**
	baz=312						
ESL	**Shilin**	**0.20**	**295**	*e*P	**Pb**	**06 26 21.9**	**-0.9**
	baz=287						
ESL				*e*S	**Sb**	**06 26 26.6**	**-0.8**
	baz=287						
HWA	**Hwalien**	**0.25**	**355**	*e*P	**Pb**	**06 26 22.5**	**-0.8**
	baz=351						
HWA				*e*S	**Sn**	**06 26 29.3**	**+3.3**
	baz=351						
TWD	**Chiawan**	**0.35**	**355**	P	**Pb**	**06 26 23.9**	**-0.7**
	baz=353						
TWD				*e*S	**Sn**	**06 26 30.9**	**+0.7**
	baz=353						
EHY	**Hungye**	**0.36**	**232**	*e*P	**Pb**	**06 26 23.7**	**-1.1**
	baz=229						
EHY				*e*S	**Sn**	**06 26 31.9**	**+1.3**
	baz=229						
WDT	**Danda**	**0.46**	**273**	*i* P	**Pb**	**06 26 25.4**	**-1.0**
	baz=270						
WDT				*e*S	**Sb**	**06 26 33.2**	**-0.2**
	baz=270						
TWF1	**Yuli**	**0.48**	**219**	*e*P	**Pb**	**06 26 25.5**	**-1.1**
	baz=218						
TWF1				*e*S	**Sn**	**06 26 34.8**	**+0.9**
	baz=218						
WHF	**Hehuan Shan**	**0.53**	**321**	*i* P	**Pb**	**06 26 26.3**	**-1.3**
	baz=318						
WHF				*e*S	**Sb**	**06 26 34.3**	**-1.2**
	baz=318						
TWT	**Tachien**	**0.67**	**321**	*i* P	**Pb**	**06 26 28.9**	**-0.7**
	baz=318						
TWT				*i* S	**Sb**	**06 26 37.4**	**-1.3**
	baz=318						
CHKT	**Chengkung**	**0.67**	**201**	*i* P	**Pb**	**06 26 29.1**	**-0.5**
	baz=201						
CHKT				*i* S	**Sn**	**06 26 39.5**	**+1.1**
	baz=201						
SMLT	**Sun Moon Lake**	**0.69**	**283**	⇑P	**Pb**	**06 26 28.9**	**-0.9**
	baz=280						
SMLT				S	**Sb**	**06 26 38.3**	**-0.9**
	baz=280						
ENA	**Nanau**	**0.70**	**8**	*e*P	**Pn**	**06 26 30.4**	**+0.8**
	baz=7.0						
ENA				*e*S	**Sn**	**06 26 41.4**	**+2.2**
	baz=7.0						
TYC	**Yuchr**	**0.73**	**284**	⇑*iP*	**Pn**	**06 26 29.4**	**-0.5**
	baz=282						
TYC				*e*S	**Sb**	**06 26 39.8**	**-0.5**
	baz=282						
ELDTW	**Lidau**	**0.78**	**226**	*e*P	**Pn**	**06 26 29.6**	**-1.1**
	baz=225						
ALS	**Alishan**	**0.79**	**254**	*i* P	**Pn**	**06 26 30.8**	**-0.2**
	baz=252						
ALS				*e*S	**Sb**	**06 26 40.7**	**-1.5**
	baz=252						
WNT	**Mingjian**	**0.88**	**280**	⇑*iP*	**Pn**	**06 26 32.6**	**+0.6**
	baz=278						
WNT				*i* S	**Sb**	**06 26 45.1**	**+0.6**
	baz=278						
CHN5	**Tsauling**	**0.88**	**262**	⇑*iP*	**Pn**	**06 26 32.6**	**+0.4**
	baz=260						
CHN5				S	**Sn**	**06 26 44.9**	**+1.0**
	baz=260						
TWC	**Suao**	**0.90**	**13**	P	**Pn**	**06 26 32.6**	**+0.3**
	baz=12						
TWC				*e*S	**Sb**	**06 26 46.2**	**+1.3**
	baz=12						
ENTT	**Nioudou**	**0.91**	**356**	*e*P	**Pn**	**06 26 32.4**	**0.0**
	baz=355						
ENTT				*e*S	**Sn**	**06 26 44.2**	**-0.1**
	baz=355						
TCU	**Taichung**	**0.97**	**296**	*e*P	**Pn**	**06 26 33.4**	**+0.1**
	baz=293						
TCU				*e*S	**Sb**	**06

SGST	**Jiashian**	**1.16**	**236**	P		**Pn**	**06 26 36.5 +0.6**
	baz=235						
SGST				*e*S		**Sb**	**06 26 53.2 +0.8**
	baz=235						
WTCT	**Ta-ch'eng**	**1.24**	**276**	*e*P		**Pn**	**06 26 36.9 -0.2**
	baz=274						
WTCT				*e*S		**Sb**	**06 26 55.9 +1.1**
	baz=274						
TWA	**Mucha**	**1.25**	**358**	*e*P		**Pn**	**06 26 37.3 +0.2**
	baz=357						
SSD	**Sandimen**	**1.34**	**223**	*e*P		**Pn**	**06 26 38.8 +0.3**
	baz=222						
SSD				*e*S		**Sb**	**06 26 57.4 -0.3**
	baz=222						
JYNG	**Yonagunijimaku**	**1.40**	**59**	P		**Pn**	**06 26 38.9 -0.3**
JYNG				*e*S		**Sn**	**06 26 56.7 +0.3**
YOJ	**Yonaguni jima**	**1.46**	**60**	P		**Pn**	**06 26 39.9 -0.1**
EAST	**Anshuo**	**1.52**	**208**	*e*P		**Pn**	**06 26 42.2 +1.3**
	baz=208						
EAST				*e*S		**Sn**	**06 27 01.1 +1.6**
	baz=208						
SCZT	**Fangliau**	**1.64**	**215**	*e*P		**Pb**	**06 26 45.2 -0.5**
	baz=214						
SCZT				*e*S		**Sb**	**06 27 05.4 -0.7**
	baz=214						
PNG	**Penghu**	**1.91**	**266**	S		**Sn**	**06 27 09.8 +0.8**
	baz=264						
IRIF	**Iriomote-Funau**	**2.01**	**72**	P		**Pn**	**06 26 47.6 0.0**
IRIF				*e*S		**Sn**	**06 27 11.8 +0.2**
JKRS	**Kuro-shima**	**2.23**	**76**	P		**Pn**	**06 26 51.3 +0.7**
JKRS				*e*S		**Sn**	**06 27 17.8 +0.8**
JIJ	**Ishigaki jima**	**2.38**	**74**	P		**Pn**	**06 26 52.4 -0.3**
JIJ				*e*S		**Sn**	**06 27 19.9 -0.8**
JISG	**Ishigakijimahi**	**2.59**	**70**	P		**Pn**	**06 26 55.2 -0.4**
JTJ	**Tarama**	**2.95**	**71**	P		**Pn**	**06 27 00.6 +0.1**

IDC 05 06:30:47.9±1.4, 3°39S×151°80E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, ML1.5/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/36, Error ellipse: s-maj=43.1km s-min=24.4km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.54**	**217**	Pn	Pn	06 32 38.3	-1.0
	0.4nm,0.3s,baz=19,slow=12,SNR=2.1						
PMG				LR	LR	06 35 22.1	
	comp=Z,75nm,21.9s,baz=276,slow=36						
HNR	**Honiara**	**10.07**	**127**	LR	LR	06 36 42.6	
	comp=Z,83nm,19.5s,baz=189,slow=35						
DZM	**Mont Dzumac**	**23.38**	**144**	P	P	06 35 58.0	-0.6
	6.3nm,0.9s,baz=312,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**23.68**	**225**	P	P	06 36 02.0	+0.5
	2.1nm,0.8s,baz=49,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.56**	**219**	P	P	06 36 28.6	+0.8
	0.8nm,0.8s,baz=47,slow=10.0,SNR=8.6						
ILAR	**Eielson Array**	**81.25**	**22**	P	P	06 43 05.2	-0.4
	0.2nm,0.7s,baz=247,slow=5.6,SNR=8.0						

*ISCJB **05** 06:38:30.5±0.5, 39°08N±0°.03×29°.03E±0°.03, h3km±6km, Error ellipse: s-maj=5.0km s-min=4.0km az=18.0*
*ISK **05** 06:38:30.2, 39°.09N×29°.06E, h5km, MD2.8*
*DDA **05** 06:38:30.1, 39°.10N×29°.00E, h7km, Md2.6*
*CSEM **05** 06:38:30.8±0.1, 39°.08N×29°.04E, h5km, MD2.6, Error ellipse: s-maj=2.5km s-min=2.1km az=54.0*

ISC 05 06:38:30.5±1.0, 39°08N±0°.02×29°02E±0°.02, h9km±8km, n39, σ0°39/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**262**	P	**Pg**	**06 38 35.3**	**0.0**
DEMI				S	**Sg**	**06 38 38.7**	**+0.2**
DEMI	**Demirci**	**0.24**	**262**	*i* P	**Pg**	**06 38 35.3**	**0.0**
DEMI				*i* S	**Sg**	**06 38 38.7**	**+0.2**
GDZ	**Gediz**	**0.36**	**88**	P	**Pg**	**06 38 37.9**	**+0.2**
GDZ				S	**Sg**	**06 38 43.1**	**+0.6**
GDZ	**Gediz**	**0.36**	**88**	*i* P	**Pg**	**06 38 37.9**	**+0.2**
GDZ				*i* S	**Sg**	**06 38 43.1**	**+0.6**
TVSB	**Tavsanli**	**0.51**	**43**	*e*PG	**Pg**	**06 38 40.0**	**-0.4**
TVSB				*e*SG	**Sg**	**06 38 46.7**	**-0.4**
TVSB	**Tavsanli**	**0.51**	**43**	*e*Pg	**Pg**	**06 38 40.0**	**-0.4**
TVSB				*e*Sg	**Sg**	**06 38 46.7**	**-0.4**
DST	**Dursunbey**	**0.61**	**330**	*e*PG	**Pg**	**06 38 42.6**	**+0.3**
DST	**Dursunbey**	**0.61**	**330**	*e*Pg	**Pg**	**06 38 42.6**	**+0.3**
KHAL	**Karahalli**	**0.80**	**152**	P	**Pb**	**06 38 46.2**	**-0.4**
KHAL				S	**Sb**	**06 38 57.1**	**-0.5**
KHAL	**Karahalli**	**0.80**	**152**	*i* P	**Pb**	**06 38 46.2**	**-0.4**
KHAL				*i* S	**Sb**	**06 38 57.1**	**-0.5**
KHL	**Karahalli**	**0.85**	**152**	*e*PG	**Pb**	**06 38 47.2**	**-0.3**
KHL				*e*SG	**Sb**	**06 38 58.7**	**-0.4**
KHL	**Karahalli**	**0.85**	**152**	*e*Pg	**Pb**	**06 38 47.2**	**-0.3**
KHL				*e*Sg	**Sb**	**06 38 58.7**	**-0.4**
BALB	**Balikesir**	**1.05**	**303**	*e*PG	**Pn**	**06 38 51.5**	**+0.1**
BALB				*e*SG	**Sn**	**06 39 06.6**	**+0.4**
BALB	**Balikesir**	**1.05**	**303**	*e*Pg	**Pn**	**06 38 51.5**	**+0.1**
BALB				*e*Sg	**Sn**	**06 39 06.6**	**+0.4**
IGD	**Bursa**	**1.20**	**7**	*i* P	**Sn**	**06 38 52.2**	**-1.2**
IGD				*i* S	**Sn**	**06 39 03.3**	**-0.5**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*PN	**Pg**	**06 38 55.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*Pn	**Pg**	**06 38 55.3**	**0.0**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*PN	**Pn**	**06 38 54.7**	**-0.1**
CAVI				*e*SN	**Sn**	**06 39 12.8**	**+0.5**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*Pn	**Pn**	**06 38 54.7**	**-0.1**
CAVI				*e*Sn	**Sn**	**06 39 12.8**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.29**	**356**	*e*PN	**Pg**	**06 38 55.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**356**	*e*Pn	**Pg**	**06 38 55.3**	**-0.1**
IZI	**Iznik**	**1.31**	**15**	*e*PN	**Pg**	**06 38 55.8**	**+0.2**
IZI	**Iznik**	**1.31**	**15**	*e*Pn	**Pg**	**06 38 55.8**	**+0.2**
BORA	**Eskisehir**	**1.37**	**54**	P	**Pb**	**06 38 56.2**	**-0.2**
BORA				S	**Sg**	**06 39 15.0**	**+0.4**
BORA	**Eskisehir**	**1.37**	**54**	*i* P	**Pb**	**06 38 56.2**	**-0.2**
BORA				*i* S	**Sg**	**06 39 15.0**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.43**	**218**	*e*PN	**Pg**	**06 38 58.0**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.43**	**218**	*e*Pn	**Pg**	**06 38 58.0**	**0.0**
ADVT	**Abdulvahap**	**1.47**	**22**	*e*PN	**Pb**	**06 38 57.8**	**-0.2**
ADVT	**Abdulvahap**	**1.47**	**22**	*e*Pn	**Pb**	**06 38 57.8**	**-0.2**
ARMT	**Armutlu**	**1.49**	**355**	*e*PN	**Pb**	**06 38 58.5**	**0.0**
ARMT	**Armutlu**	**1.49**	**355**	*e*Pn	**Pb**	**06 38 58.5**	**0.0**
EDC	**Edincik**	**1.55**	**325**	*e*PN	**Pb**	**06 38 59.3**	**-0.1**
EDC	**Edincik**	**1.55**	**325**	*e*Pn	**Pb**	**06 38 59.3**	**-0.1**
GULT	**Gulveren**	**1.78**	**40**	*e*PN	**Pn**	**06 39 02.0**	**+0.5**
GULT	**Gulveren**	**1.78**	**40**	*e*Pn	**Pn**	**06 39 02.1**	**+0.5**
MRMT	**Marmara Adasi**	**1.88**	**325**	*e*PN	**Pb**	**06 39 04.4**	**-0.7**
MRMT	**Marmara Adasi**	**1.88**	**325**	*e*Pn	**Pb**	**06 39 04.4**	**-0.7**
RKY	**Sarkoy-Tekirda**	**2.14**	**319**	*e*PN	**Pn**	**06 39 07.0**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.14**	**319**	*e*Pn	**Pn**	**06 39 07.0**	**+0.5**

*ISCJB **05** 06:49:20.3±0.5, 53°.55N±0°.09×153°.60E±0°.09, h480km, mb3.0/9, Error ellipse: s-maj=12.4km s-min=7.5km az=0.9*
*MOS **05** 06:49:20.5±0.8, 53°.48N×153°.84E, h502km, mb3.8/3, Error ellipse: s-maj=20.5km s-min=14.8km az=63.7*
*IDC **05** 06:49:21.5±1.3, 53°.48N×153°.82E, h498km±19km, mb2.5/10, mb1 2.7/11, mb1mx2.6/53, mbtmp3.4/11, Error ellipse: s-maj=21.0km s-min=14.6km az=125.0*
*KRSC **05** 06:49:22.0±2.4, 53°.36N×154°.27E, h494km±29km, ML4.2*

ISC 05 06:49:20.6±0.8, 53°.5N±0°.1×153°.89E±0°.09, h480km, n36, σ2°21/40, mb3.1/9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**2.31**	**97**	P	**P**	**06 50 27.9**	**+2.4**
	0.4nm,0.3s,baz=323,slow=2.8,SNR=8.2						
GNL	**Ganaly**	**2.43**	**83**	P	**P**	**06 50 29.0**	**+2.7**
GNL	**Ganaly**	**2.43**	**83**	*e*P	**P**	**06 50 29.0**	**+2.7**
AVH	**Avacha**	**2.91**	**92**	P	**P**	**06 50 32.1**	**+2.7**
AVH	**Avacha**	**2.91**	**92**	*e*P	**P**	**06 50 32.1**	**+2.7**
KRER	**Koryakskii**	**2.91**	**91**	P	**P**	**06 50 32.3**	**+2.8**
KRER	**Koryakskii**	**2.91**	**91**	*e*P	**P**	**06 50 32.3**	**+2.8**
SMAR	**Somma**	**2.95**	**92**	P	**P**	**06 50 32.4**	**+2.6**
SMAR	**Somma**	**2.95**	**92**	*e*P	**P**	**06 50 32.4**	**+2.6**
UGLR	**Uglovaya**	**2.97**	**93**	P	**P**	**06 50 32.7**	**+2.9**
UGLR	**Uglovaya**	**2.97**	**93**	*e*P	**P**	**06 50 32.7**	**+2.9**
RUS	**Russkaya**	**2.98**	**108**	P	**S**	**06 50 30.4**	**+0.7**
RUS				S	**S**	**06 51 26.7**	**+0.6**
RUS	**Russkaya**	**2.98**	**108**	*e*P	**P**	**06 50 30.4**	**+0.7**
RUS				*e*S	**S**	**06 51 26.7**	**+0.6**
SDLR	**Sedlovina**	**3.00**	**91**	P	**P**	**06 50 32.1**	**+2.1**
SDLR	**Sedlovina**	**3.00**	**91**	*e*P	**P**	**06 50 32.1**	**+2.1**
NLC	**Nalytchevo**	**3.28**	**93**	S	**S**	**06 51 31.2**	**+1.1**
ESO	**Esso**	**3.73**	**46**	P	**P**	**06 50 38.2**	**+2.9**
ESO	**Esso**	**3.73**	**46**	*e*P	**P**	**06 50 38.2**	**+2.9**
KOZ	**Kozyrevsk**	**4.34**	**51**	P	**P**	**06 50 43.6**	**+3.2**
KOZ	**Kozyrevsk**	**4.34**	**51**	P	**P**	**06 50 43.6**	**+3.2**
BZMR	**Bezymyannaya**	**4.57**	**54**	P	**P**	**06 50 45.3**	**+2.7**
BZMR	**Bezymyannaya**	**4.57**	**54**	P	**P**	**06 50 45.3**	**+2.7**
MKZ	**Mys Kozlova**	**4.76**	**73**	P	**P**	**06 50 45.4**	**+1.3**
MKZ				S	**S**	**06 51 48.7**	**-3.6**
MKZ	**Mys Kozlova**	**4.76**	**73**	*e*P	**P**	**06 50 45.4**	**+1.3**
MKZ				*e*S	**S**	**06 51 48.7**	**-3.6**
BKI	**Bering**	**7.28**	**71**	*e*S	**S**	**06 52 37.1**	**-0.6**
MJAR	**Matsushiro Arr**	**20.14**	**219**	P	**P**	**06 53 22.2**	**+0.7**
	0.6nm,0.5s,baz=15,slow=11,SNR=4.9						
TIXI	**Tiksi**	**21.28**	**338**	P	**P**	**06 53 30.8**	**-0.5**
	0.8nm,0.4s,baz=141,slow=6.1,SNR=3.9						
ILAR	**Eielson Array**	**31.21**	**45**	P	**P**	**06 54 58.8**	**-0.3**
	0.2nm,0.6s,baz=257,slow=6.3,SNR=8.2						
INK	**Inuvik**	**35.85**	**37**	P	**P**	**06 55 38.0**	**-0.2**
	0.2nm,0.3s,baz=298,slow=11,SNR=4.8						
KURK	**Kurchatov**	**44.33**	**298**	P	**P**	**06 56 46.5**	**-0.1**
KURBB	**Kurchatov Arra**	**44.43**	**298**	P	**P**	**06 56 46.5**	**-0.9**
	0.2nm,0.5s,baz=63,slow=7.6,SNR=2.7						
MKAR	**Makanchi Array**	**44.60**	**292**	P	**P**	**06 56 47.8**	**-1.1**
	0.1nm,0.5s,baz=60,slow=8.5,SNR=3.0						
YKA	**Yellowknife Ar**	**45.37**	**41**	P	**P**	**06 56 54.2**	**-0.2**
	0.2nm,0.6s,baz=258,slow=7.1,SNR=3.0						
BVAR	**Borovoye Array**	**47.19**	**305**	P	**P**	**06 57 07.2**	**-1.3**
	0.3nm,0.4s,baz=64,slow=5.0,SNR=2.9						
WRA	**Warramunga Arr**	**75.02**	**199**	P	**P**	**07 00 11.3**	**-0.8**
	0.4nm,0.7s,baz=12,slow=5.8,SNR=3.7						
ASAR	**Alice Springs**	**78.73**	**199**	P	**P**	**07 00 31.4**	**-0.9**
	0.5nm,0.6s,baz=15,slow=4.6,SNR=5.9						

*ISCJB **05** 06:49:44.2±0.8, 4°.10S±0°.10×152°.2E±0°.1, h150km, mb3.5/7, Error ellipse: s-maj=21.5km s-min=11.8km az=25.5*
*IDC **05** 06:49:44.9±4.4, 4°.13S×152°.20E, h144km±42km, mb3.5/7, mb1 3.6/9, mb1mx3.4/44, mbtmp3.9/9, MS3.7/3, Ms1 3.7/3, ms1mx3.2/26, Error ellipse: s-maj=27.2km s-min=25.5km az=85.0*

ISC 05 06:49:45.4±1.0, 4°2S±0°.1×152°2E±0°.2, h150km, n11, σ1°45/10, mb3.5/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.25**	**224**	P	**Pn**	**06 51 26.6**	**-2.3**
	1.5nm,0.3s,baz=29,slow=11,SNR=10						
PMG				S	**Sn**	**06 52 52.6**	**+2.5**
	0.4nm,0.3s,baz=45,slow=18,SNR=1.7						
PMG				LR	LR	06 53 34.0	
	comp=Z,239nm,18.7s,baz=6.5,slow=32						
HNR	**Honiara**	**9.29**	**125**	LR	LR	06 55 36.0	
	comp=Z,442nm,18.8s,baz=286,slow=38						
CTA	**Charters Tower**	**16.88**	**200**	P	**Pn**	**06 53 33.3**	**+0.4**
	0.2nm,0.3s,baz=0.0,slow=15,SNR=2.4						
DZM	**Mont Dzumac**	**22.53**	**144**	P	**P**	**06 54 33.6**	**+0.5**
	8.1nm,0.9s,baz=332,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	**23.46**	**227**	P	**P**	**06 54 40.3**	**-1.2**
	3.1nm,0.8s,baz=49,slow=9.9,SNR=15						
ASAR	**Alice Springs**	**26.25**	**221**	P	**P**	**06 55 07.1**	**+0.2**
	0.8nm,0.7s,baz=53,slow=8.8,SNR=7.4						
URZ	**Urewera**	**40.84**	**150**	LR	LR	07 14 02.2	
	comp=Z,168nm,18.8s,baz=26,slow=36						
SONM	**Songino Array**	**65.47**	**328**	P	**P**	**07 00 13.0**	**+0.4**
	0.6nm,0.6s,baz=148,slow=6.8,SNR=3.7						
MKAR	**Makanchi Array**	**79.46**	**319**	P	**P**	**07 01 36.3**	**+1.0**
	0.4nm,0.8s,baz=109,slow=7.1,SNR=3.8						
ILAR	**Eielson Array**	**81.77**	**32**	P	**P**	**07 01 47.0**	**-0.1**
	0.7nm,0.7s,baz=246,slow=5.4,SNR=20						
KURBB	**Kurchatov Arra**	**82.93**	**322**	P	**P**	**07 01 53.3**	**-0.2**
	0.1nm,0.2s,baz=100,slow=4.9,SNR=3.8						

*ISCJB **05** 06:56:41.4±0.5, 39°.12N±0°.03×28°.99E±0°.03, h3km±5km, Error ellipse: s-maj=4.9km s-min=3.4km az=177.8*
*DDA **05** 06:56:41.1, 39°.15N×28°.99E, h7km, Md2.8*
*ISK **05** 06:56:41.3, 39°.12N×29°.00E, h5km, MD2.8*
*CSEM **05** 06:56:41.6±0.1, 39°.12N×29°.00E, h2km, MD2.8, Error ellipse: s-maj=2.1km s-min=1.8km az=179.0*

ISC 05 06:56:41.6±1.0, 39°14N±0°.02×28°98E±0°.02, h6km±9km, n57, σ0°49/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**246**	P	**Pg**	**06 56 46.0**	**0.0**
DEMI				S	**Sg**	**06 56 49.2**	**+0.2**
DEMI	**Demirci**	**0.22**	**246**	*i* P	**Pg**	**06 56 46.0**	**0.0**
DEMI				*i* S	**Sg**	**06 56 49.2**	**+0.2**
GDZ	**Gediz**	**0.39**	**96**	P	**Pg**	**06 56 49.4**	**+0.1**
GDZ				S	**Sg**	**06 56 54.9**	**+0.4**
GDZ	**Gediz**	**0.39**	**96**	*i* P	**Pg**	**06 56 49.4**	**+0.1**
GDZ				*i* S	**Sg**	**06 56 54.9**	**+0.4**
TVSB	**Tavsanli**	**0.49**	**50**	*e*PG	**Pg**	**06 56 51.3**	**+0.2**
TVSB				*e*SG	**Sg**	**06 56 57.9**	**+0.4**
TVSB	**Tavsanli**	**0.49**	**50**	*e*Pg	**Pg**	**06 56 51.3**	**+0.2**
TVSB				*e*Sg	**Sg**	**06 56 57.9**	**+0.4**
DST	**Dursunbey**	**0.55**	**329**	*e*PG	**Pb**	**06 56 53.0**	**-0.7**
DST	**Dursunbey**	**0.55**	**329**	*e*Pg	**Pb**	**06 56 53.0**	**-0.7**
KHAL	**Karahalli**	**0.86**	**152**	P	**Pg**	**06 56 57.6**	**-0.6**
KHAL				S	**Sg**	**06 57 08.8**	**-0.6**
KHAL	**Karahalli**	**0.86**	**152**	*i* P	**Pg**	**06 56 57.6**	**-0.6**
KHAL				*i* S	**Sg**	**06 57 08.8**	**-0.6**
ORLT	**Orhaneli**	**0.91**	**356**	*e*PG	**Pg**	**06 56 59.4**	**+0.2**
ORLT	**Orhaneli**	**0.91**	**356**	*e*Pg	**Pg**	**06 56 59.4**	**+0.2**
KHL	**Karahalli**	**0.92**	**152**	*e*PG	**Pg**	**06 56 58.9**	**-0.3**
KHL	**Karahalli**	**0.92**	**152**	*e*Pg	**Pg**	**06 56 58.9**	**-0.3**
AKHS	**Akhisar**	**0.94**	**255**	P	**Pb**	**06 57 00.3**	**-0.1**
AKHS	**Akhisar**	**0.94**	**255**	*i* P	**Pb**	**06 57 00.3**	**-0.1**
AKS	**Akhisar**	**0.94**	**255**	*e*PG	**Pg**	**06 57 00.0**	**+0.3**
AKS				*e*SG	**Sb**	**06 57 13.3**	**+0.1**
AKS	**Akhisar**	**0.94**	**255**	*e*Pg	**Pg**	**06 57 00.0**	**+0.3**
AKS				*e*Sg	**Sb**	**06 57 13.3**	**+0.1**
BALB	**Balikesir**	**0.99**	**301**	*e*PG	**Pb**	**06 57 01.3**	**+0.1**
BALB				*e*SG	**Sn**	**06 57 16.2**	**-0.3**
IGD	**Bursa**	**1.14**	**9**	*i* P	**Pg**	**06 57 02.1**	**-1.4**
IGD				*i* S	**Sg**	**06 57 17.5**	**-0.9**
BALY	**Balya**	**1.21**	**300**	P	**Pg**	**06 57 04.6**	**-0.3**
BALY				S	**Sb**	**06 57 21.2**	**+0.2**
BALY	**Balya**	**1.21**	**300**	*i* P	**Pg**	**06 57 04.6**	**-0.3**
BALY				*i* S	**Sb**	**06 57 21.2**	**+0.2**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*PN	**Pn**	**06 57 05.5**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.23**	**357**	*e*PN	**Pn**	**06 57 05.7**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.23**	**357**	*e*Pn	**Pn**	**06 57 05.7**	**+0.2**
CAVI	**Cavuskoy**	**1.26**	**32**	*e*PN	**Pg**	**06 57 05.9**	**+0.1**
CAVI	**Cavuskoy**	**1.26**	**32**	*e*Pn	**Pg**	**06 57 05.9**	**+0.1**
IZI	**Iznik**	**1.26**	**17**	*e*PN	**Pn**	**06 57 06.1**	**+0.2**
IZI	**Iznik**	**1.26**	**17**	*e*Pn	**Pn**	**06 57 06.1**	**+0.2**
GEMT	**Gemlik**	**1.31**	**7**	*e*PN	**Pg**	**06 57 07.0**	**+0.3**
GEMT	**Gemlik**	**1.31**	**7**	*e*Pn	**Pg**	**06 57 07.0**	**+0.3**
BORA	**Eskisehir**	**1.36**	**56**	P	**Pg**	**06 57 07.7**	**-0.1**
BORA				S	**Sn**	**06 57 26.0**	**+0.2**
BORA	**Eskisehir**	**1.36**	**56**	*i* P	**Pg**	**06 57 07.7**	**-0.1**
BORA				*i* S	**Sn**	**06 57 25.9**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**24**	*e*PN	**Pn**	**06 57 07.8**	**-0.3**
ADVT	**Abdulvahap**	**1.42**	**24**	*e*Pn	**Pn**	**06 57 07.8**	**-0.3**
ARMT	**Armutlu**	**1.43**	**356**	*e*PN	**Pb**	**06 57 09.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**216**	*e*PN	**Pb**	**06 57 09.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**216**	*e*Pn	**Pb**	**06 57 09.3**	**0.0**
EDC	**Edincik**	**1.48**	**325**	*e*PN	**Pb**	**06 57 09.7**	**0.0**
EDC	**Edincik**	**1.48**	**325**	*e*Pn	**Pb**	**06 57 09.7**	**0.0**
ESKT	**Eskisehir**	**1.50**	**75**	*e*PN	**Pn**	**06 57 09.4**	**+0.2**
ESKT	**Eskisehir**	**1.50**	**75**	*e*Pn	**Pn**	**06 57 09.5**	**+0.2**
GULT	**Gulveren**	**1.76**	**42**	*e*PN	**Pn**	**06 57 13.3**	**+0.5**
GULT	**Gulveren**	**1.76**	**42**	*e*Pn	**Pn**	**06 57 13.3**	**+0.5**
HRT	**Hereke**	**1.77**	**17**	*e*PN	**Pb**	**06 57 14.1**	**-0.4**
MRMT	**Marmara Adasi**	**1.81**	**324**	*e*PN	**Pb**	**06 57 14.5**	**-0.8**
MRMT	**Marmara Adasi**	**1.81**	**324**	*e*Pn	**Pb**	**06 57 14.5**	**-0.8**
ISK	**Istanbul-Kandi**	**1.93**	**2**	*e*PN	**Pn**	**06 57 15.9**	**+0.9**
ISK	**Istanbul-Kandi**	**1.93**	**2**	*e*Pn	**Pn**	**06 57 16.0**	**+0.9**
SVRH	**Sivrihisar-ESK**	**2.00**	**80**	*e*PN	**Pn**	**06 57 16.5**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.00**	**80**	*e*Pn	**Pn**	**06 57 16.5**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.08**	**319**	*e*PN	**Pb**	**06 57 18.6**	**-1.2**
RKY	**Sarkoy-Tekirda**	**2.08**	**319**	*e*Pn	**Pb**	**06 57 18.6**	**-1.2**
SILT	**Sile**	**2.08**	**14**	*e*PN	**Pn**	**06 57 17.8**	**+0.7**
SILT	**Sile**	**2.08**	**14**	*e*Pn	**Pn**	**06 57 17.8**	**+0.7**
CTKS	**Kestanelik-??a**	**2.13**	**350**	*e*PN	**Pn**	**06 57 18.6**	**+0.8**
CTKS	**Kestanelik-??a**	**2.13**	**350**	*e*Pn	**Pn**	**06 57 18.6**	**+0.8**

MAN 05 07:00:38, 9°.78N×123°.61E, h15km, mb4.3, ML3.1, MS2.9, 1C-3D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.26**	**110**	‖ *i* P	Pn	07 00 50.6	+3.2
SNPH	**Sibulan**	**0.57**	**220**	‖ *i* P	Pb	07 00 50.5	+0.8
SNPH				*i* S	Sn	07 01 01.7	+0.9
LLP	**Lapu-Lapu**	**0.64**	**33**	*e*P	Pb	07 00 50.8	-0.1
LLP				*e*S	Sg	07 00 59.2	+0.1
PLP	**Palo**	**1.93**	**44**	‖ *e*P	Pn	07 01 10.9	+0.6
PLP				*e*S	Sb	07 01 35.8	-0.9
RCP	**Roxas**	**1.96**	**334**	‖ *e*P	Pn	07 01 11.6	+0.8
SJMP	**San Jose**	**3.62**	**318**	*e*P	Pn	07 01 24.9	-8.6
SJMP	**San Jose**	**3.62**	**318**	*e*P	Pn	07 01 30.0	-3.5
SJMP	**San Jose**	**3.62**	**318**	*e*P	Pg	07 01 54.5	+7.1
SJMP				*e*S	Sn	07 01 55.9	-20

*IDC **05** 07:02:06.8±0.4, 3°.70S×152°.20E, h0km, mb5.0/23, mb1 5.0/25, mb1mx5.0/32, mbtmp5.0/25, ML3.4/2, MS4.6/36, Ms1 4.6/36, ms1mx4.6/42, Error ellipse: s-maj=17.7km s-min=11.5km az=87.0*
*ISCJB **05** 07:02:07.0±0.2, 3°.69S±0°.02×152°.13E±0°.03, h10km, mb5.2/136, MS4.7/40, Error ellipse: s-maj=4.6km s-min=3.2km az=169.4*
*BJI **05** 07:02:07.4, 3°.27S×152°.45E, h9km, mb5.1/75, mB5.3/54, Ms5.0/74, Ms7 4.8/70*
*GCMT **05** 07:02:08.7±0.1, 3°.76S×151°.96E, h12km, MW5.4/124, Moment Tensor Solution. s88,c131; s124,c221; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=0.11±.02; Mθθ 1.40±.02; Mϕϕ -1.29±.02; Mrθ 0.17±.05; Mθϕ -0.13±.02; Mϕr -0.33±.05; Best double couple: M=1.40300×10^17 NP1:ϕ=317.00000°, δ=85.00000°, λ=-15.00000°. NP2:ϕ=48.00000°, δ=75.00000°, λ=-175.00000°. Principal axes: T 1.4280, Plg=7.0000°, Azm=4.0000°; N -0.0510, Plg=74.0000°, Azm=119.0000°; P -1.3780, Plg=14.0000°, Azm=272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 07:02:08.7±0.2, 3°.69S×152°.08E, h10km, mb5.4/78 Error ellipse: s-maj=5.1km s-min=3.7km az=82.0*
NEIC Felt at Namatanai. Also felt at Kokopo and Rabaul, New Britain.
*MOS **05** 07:02:09.9±1.3, 3°.65S×152°.05E, h29km, mb5.5/45, MS4.8/7, Error ellipse: s-maj=9.1km s-min=5.8km az=99.0*
*DJA **05** 07:02:11.6±1.5, 4°S±3°×15°2E±°, h28km±11km, M5.4/46, mb5.2/46, mB5.8/20, MLv6.0/1, Mw(mB)5.3/20*

ISC 05 07:02:10.6±0.6, 3°.76S±0°.04×152°.19E±0°.05, h20km±2km, n361, σ2°05/386, mb5.3/136, MS4.7/40, 17C-11D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.43**	**184**	*e*Pg	**Pg**	**07 02 17.0**	**-2.5**
MANU	**Manus Island**	**5.11**	**289**	*e*Pn	**Pn**	**07 03 23.9**	**-2.2**
PMG	**Port Moresby**	**7.51**	**221**	Pn	**Pn**	**07 03 58.5**	**-0.6**
	7.3nm,0.3s,baz=40,slow=9.9,SNR=21						
PMG				LR	LR	07 06 13.0	
	comp=Z,5μm,21.9s,baz=

baz=30,SNR=5.6
FITZ Fitzroy Crossi 29.65 239 eP P 07 08 13.2 -1.8
comp=Z,63nm,1.3s
STKA Stephens Creek 29.69 198 P P 07 08 13.8 -1.5
comp=Z,12nm,0.9s,baz=12,slow=7.8,SNR=4.8
STKA LR LR 07 19 38.4
comp=Z,3μm,21.3s,baz=15,slow=35
STKA Stephens Creek 29.69 198 eP P 07 08 15.1 -0.2
STKA pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 29.69 198 eP P 07 08 15.1 -0.2
comp=Z,6.0nm,1.0s
MMRI Maumere 30.16 259 P P 07 08 30.7 +11
MMRI Maumere 30.16 259 eP P 07 08 19.1 -0.6
MRSI Marisa 30.52 277 P P 07 08 25.0 +2.1
comp=Z,52nm,1.3s,comp=Z,2μm
YNG Young 30.59 186 P P 07 08 23.0 -0.2
baz=31,SNR=9.5
CAN Canberra 31.55 185 eP P 07 08 31.3 -0.4
CAN pmax pmax
comp=Z,38nm,0.9s
CAN Canberra 31.55 185 eP P 07 08 31.3 -0.4
comp=Z,38nm,0.9s
TTSI Tana Toraja 32.32 270 P P 07 08 44.2 +5.4
SPSI Sidrap Palu 32.35 269 P P 07 08 40.1 +1.1
comp=Z,55nm,1.4s,comp=Z,1μm
KAPI Kappang 32.37 267 P P 07 08 37.7 -1.5
comp=Z,9.3nm,0.4s,baz=96,slow=12,SNR=5.1
KAPI Kappang 32.37 267 eP P 07 08 38.8 -0.4
comp=Z,34nm,0.9s
PCI Palu 32.45 274 P P 07 08 40.2 +0.3
comp=Z,288nm,1.1s,comp=Z,3μm
PCI Palu 32.45 274 P P 07 08 37.4 -2.5
PCI pmax pmax
comp=Z,288nm,1.1s
BBOO Buckleboo 32.61 206 P P 07 08 41.9 +0.8
baz=33,SNR=4.8
BBOO Buckleboo 32.61 206 eP P 07 08 40.0 -1.0
comp=Z,42nm,1.0s
ARPS Mount Arapiles 34.21 195 P P 07 08 55.1 +0.2
baz=34,SNR=14
TOO Toolangi 34.21 189 P P 07 08 53.6 -1.4
TOO pmax pmax
comp=Z,73nm,1.2s
MYLDM Lahad Datu 34.81 285 eP P 07 09 00.3 -0.1
comp=Z,73nm,1.1s
TSM Tawau 35.21 283 ⇑P P 07 09 02.9 -1.0
MBWA Marble Bar 35.98 239 eP P 07 09 04.5 -5.9
comp=Z,75nm,0.9s
SDKM Sandakan 36.18 285 ⇓P P 07 09 11.3 -1.0
OUZ Omahuta 37.05 150 eP P 07 09 21.1 +1.8
comp=Z,233nm,1.0s
BBKI Banjar Baru 37.28 269 P P 07 09 26.3 +4.7
JAGI Jajag, Banyuwa 38.10 261 P P 07 09 35.2 +6.7
JHJ Hachijo jima 2 38.51 343 LR LR 07 24 16.4
comp=Z,862nm,19.7s,baz=180,slow=35
MOO Moorlands 38.77 186 P P 07 09 34.6 +0.8
baz=39,SNR=3.5
BTM Bintulu 39.69 280 ⇓P P 07 09 41.9 0.0
YOJ Yonaguni jima 39.90 316 eP P 07 09 42.5 -1.0
YOJ pmax pmax
comp=Z,135nm,0.8s
YOJ Yonaguni jima 39.90 316 eP P 07 09 42.5 -1.0
comp=Z,136nm,0.8s
HIZ Hauiti 40.29 152 eP P 07 09 49.7 +3.2
comp=Z,282nm,1.2s
PWJI Pagerwojo 40.38 262 P P 07 09 46.8 -0.8
comp=Z,45nm,1.3s
YULB Yu-li 40.45 313 eP P 07 09 45.6 -2.4
comp=Z,52nm,0.9s
NACB Ninganchiao 40.71 315 eP P 07 09 49.0 -1.1
comp=Z,76nm,0.9s
STKI Sintang 40.86 274 P P 07 09 53.4 +1.8
TPUB Ta-pu 40.88 313 eP P 07 09 49.5 -2.1
comp=Z,38nm,0.9s
SSLB Suanglung 40.94 314 eP P 07 09 51.4 -0.7
comp=Z,39nm,1.0s
YHNB Yeheng 41.18 315 eP P 07 09 53.5 -0.6
comp=Z,109nm,0.9s
URZ Urewera 41.19 150 P P 07 09 54.2 +0.3
comp=Z,53nm,1.1s,baz=17,slow=6.8,SNR=6.7
URZ Urewera 41.19 150 eP P 07 09 54.5 +0.6
comp=Z,181nm,1.2s
TATO Taipei 41.29 315 eP P 07 09 51.2 -3.8
comp=Z,154nm,0.9s
INU Inuyama 41.43 341 eP P 07 09 52.0 -3.9
comp=Z,63nm,1.7s
BKZ Black Stump Fm 41.59 151 eP P 07 09 58.0 +0.8
comp=Z,97nm,1.2s
JNU Nakatsue 41.87 333 P P 07 09 58.2 -1.4
comp=Z,96nm,0.9s,baz=126,slow=3.6,SNR=58
JNU LR LR 07 26 49.2
comp=Z,571nm,18.5s,baz=138,slow=36
JNU Nakatsue 41.87 333 eP P 07 09 58.5 -1.1
comp=Z,135nm,0.9s
THZ Tophouse 42.14 157 eP P 07 10 02.4 +0.7
comp=Z,138nm,0.9s
MJAR Matsushiro Arr 42.16 343 P P 07 09 58.0 -3.9
comp=Z,3.8nm,1.0s,baz=161,slow=8.3,SNR=8.8
MJAR PcP PcP 07 11 56.0 -0.2
comp=Z,4.1nm,0.9s,baz=156,slow=4.3,SNR=5.7
MJAR LR LR 07 26 22.4
comp=Z,857nm,20.8s,baz=180,slow=35
MAJO Matsushiro 42.17 343 ⇑iP P 07 10 01.4 -0.6
MAJO pmax pmax
comp=Z,107nm,1.2s
MAJO Matsushiro 42.17 343 eP P 07 09 59.5 -2.5
comp=Z,16nm,1.0s
MAT Matsushiro 42.17 343 P P 07 09 57.7 -4.3
MAT S S 07 16 21.0 0.0
MJB9 Matsu-Tunnel 42.17 343 eP P 07 09 59.6 -2.4
comp=Z,4.1nm,1.0s
KSM Kuching 42.18 276 eP P 07 10 01.2 -1.2
comp=Z,98nm,1.3s
MORW Morawa 42.54 230 P P 07 10 02.9 -2.2
baz=43,SNR=3.6
BFZ Birch Farm 42.67 153 eP P 07 10 05.7 -0.3
comp=Z,361nm,1.5s
LTZ Lake Taylor 42.77 158 eP P 07 10 08.9 +2.1
comp=Z,167nm,1.3s
BLDU Ballidu 42.82 227 P P 07 10 08.2 +0.8
baz=43,SNR=7.5
KHZ Kahutara 42.95 157 eP P 07 10 09.1 +0.9
comp=Z,539nm,1.9s
RPZ Rata Peaks 43.15 160 eP P 07 10 11.6 +1.7
comp=Z,154nm,0.9s
OXZ Oxford 43.16 159 eP P 07 10 10.8 +0.9
comp=Z,82nm,1.1s
KPJI Karang Pucung 43.19 263 P P 07 10 10.5 -0.1
comp=Z,54nm,1.7s
DCZ Deep Cove 43.56 165 eP P 07 10 14.8 +1.7
comp=Z,94nm,1.1s
CRLZ Canterbury Las 43.59 158 eP P 07 10 14.0 +0.7
comp=Z,257nm,1.3s
NWAO Narrogin (SRO) 43.69 224 P P 07 10 13.4 -1.0
comp=Z,5.1nm,0.7s,baz=288,slow=9.6,SNR=2.9
MLZ Mavora Lakes 43.73 164 eP P 07 10 16.1 +1.5
comp=Z,95nm,1.0s
WHZ Wether Hill Ro 44.16 164 eP P 07 10 17.7 -0.3
comp=Z,37nm,0.8s
ODZ Otahua Downs 44.19 161 eP P 07 10 18.6 +0.4
comp=Z,151nm,1.7s
CISI Cisompet, Garu 44.30 263 P P 07 10 23.8 +4.1
CISI Cisompet, Garu 44.30 263 eP P 07 10 18.1 -1.5
comp=Z,152nm,1.1s
LEM Lembang 44.48 264 P P 07 10 28.1 +6.9
CNJI Cibinong 44.98 263 P P 07 10 29.1 +4.1
SSE Sheshan 45.55 322 P P 07 10 27.5 -1.7
SSE S S 07 17 09.1 -1.5
SSE PMZ
comp=Z,55nm,0.8s
SSE PMZ
comp=Z,140nm,5.7s
SSE LN
comp=Z,830nm,25.8s
SSE LE
comp=Z,860nm,25.7s
SSE LZ
comp=Z,860nm,19.0s
TJN Taejon 46.18 332c iP P 07 10 33.1 -1.0
GZH Guangzhou 46.35 307 P P 07 10 35.3 -0.4
GZH S S 07 17 27.3 +5.0
GZH PMZ
comp=Z,280nm,4.9s
KSRS Korea Array 46.80 333 P P 07 10 37.9 -1.1
comp=Z,18nm,0.9s,baz=150,slow=9.4,SNR=81
KSRS PcP PcP 07 12 12.4 +0.5
comp=Z,2.3nm,0.8s,baz=145,slow=4.5,SNR=3.6
KSRS LR LR 07 28 46.4
comp=Z,657nm,20.3s,baz=142,slow=34
KS15 Wonju Array Si 46.81 333 eP P 07 10 38.3 -0.8
KSAR Wonju Array Be 46.81 333 P P 07 10 37.9 -1.2
KSAR 07 12 12.5
KSAR Wonju Array Be 46.81 333 P P 07 10 37.9 -1.2
KSAR PcP PcP 07 12 12.4 +0.4
KS01 Wonju Array Si 46.83 333 eP P 07 10 37.6 -1.6
INCN Inchon 47.41 332 eP P 07 10 43.4 -0.5
comp=Z,232nm,1.0s
QIZ Qiongzhong 47.42 300 P P 07 10 45.0 +0.8
QIZ S S 07 17 37.8 0.0
QIZ LN
comp=Z,300nm,23.7s
QIZ LE
comp=Z,830nm,20.9s
QIZ LZ
comp=Z,1μm,21.8s
NJ2 Nanjing 47.66 321 eP P 07 10 45.7 -0.1
NJ2 S S 07 17 44.4 +3.7
NJ2 PMZ
comp=Z,13nm,0.7s
NJ2 PMZ
comp=Z,270nm,3.7s
NJ2 LN
comp=Z,940nm,17.3s
NJ2 LE
comp=Z,830nm,19.5s
NJ2 LZ
comp=Z,2μm,20.6s
ASAJ Asahikawa 48.43 351 eP P 07 10 51.2 -0.3
comp=Z,54nm,1.1s
MYKOM Kota Tinggi 48.63 276 eP P 07 10 57.5 +3.9
comp=Z,128nm,1.8s
KUR Kuril'sk 48.93 356 eP P 07 10 52.9 -2.4
KUR eS S 07 17 54.2 -4.0
KUR pmax pmax
comp=Z,271nm,4.8s
KGM Kluang 49.18 276 ⇓P P 07 10 57.4 -0.5
WHN Wuhan 49.69 316 ⇓P P 07 11 01.2 -0.2
WHN S S 07 18 04.5 -4.9
WHN PMZ
comp=Z,240nm,1.9s
WHN LN
comp=Z,1μm,12.1s
WHN LE
comp=Z,1μm,15.2s
WHN LZ
comp=Z,2μm,16.4s
KTGM Kuala Trenggan 49.83 280 ⇓P P 07 11 02.6 -0.2
DL2 Dalian 50.97 329 P P 07 11 10.6 -0.4
DL2 S S 07 18 31.1 +4.1
DL2 PMZ
comp=Z,110nm,1.1s
DL2 PMZ
comp=Z,280nm,5.2s
DL2 LN
comp=Z,560nm,25.3s
DL2 LE
comp=Z,700nm,21.1s
DL2 LZ
comp=Z,1μm,23.9s
FRIM Kepong 51.01 277 ⇓P P 07 11 11.3 -0.4
USRK Ussuriysk Ar. 51.07 341 P P 07 11 09.6 -2.0
comp=Z,11nm,0.9s,baz=161,slow=8.1,SNR=37
USRK LR LR 07 31 51.2
comp=Z,535nm,19.3s,baz=150,slow=35
YSS Yuzh-Sakhalins 51.18 352 eP P 07 11 10.9 -1.5
YSS eS S 07 18 29.0 -0.5
YSS eSS SS 07 22 03.0 -2.3
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS pmax pmax
comp=Z,200nm,6.0s
YSS smax smax
comp=E,400nm,11.0s
YSS smax smax
comp=N,400nm,10.0s
YSS MLR MLR
comp=Z,400nm,16.0s
YSS MLR MLR
comp=N,500nm,15.0s
YSS Yuzh-Sakhalins 51.18 352 eP P 07 11 11.5 -0.9
comp=N,34nm,1.2s
TIA Tai'an 51.52 324 ⇓P P 07 11 14.3 -0.9
TIA S S 07 18 33.3 -1.4
TIA PMZ
comp=N,40nm,0.8s
TIA LN
comp=N,790nm,16.0s
TIA LE
comp=N,600nm,16.0s
TIA LZ
comp=N,1μm,19.4s
IPM Ipoh 51.77 279 ⇑P P 07 11 16.7 -0.8
IPM Ipoh 51.77 279 eP P 07 11 16.1 -1.4
comp=N,28nm,1.2s
PPI Padang Panjang 51.85 272 P P 07 11 17.0 -1.1
comp=N,70nm,0.9s,comp=N,950nm
MDJ Mudanjiang 52.24 340 P P 07 11 19.2 -1.2
MDJ S S 07 18 43.3 -1.0
MDJ ScS ScS 07 21 07.2 -2.2
MDJ SS SS 07 22 15.2 -7.0
MDJ PMZ
comp=N,34nm,1.3s
MDJ PMZ
comp=N,65nm,2.9s
MDJ LN
comp=N,730nm,33.4s
MDJ LE
comp=N,1μm,29.9s
MDJ LZ
comp=N,740nm,28.1s
MDJ Mudanjiang 52.24 340 eP P 07 11 19.3 -1.0
comp=N,41nm,1.0s
KULM Kulim 52.26 280 ⇑P P 07 11 20.7 -0.4
KULM Kulim 52.26 280 eP P 07 11 19.5 -1.5
comp=N,42nm,1.4s
SKLT Songkhla 52.60 282 P P 07 11 27.5 +3.9
comp=N,40nm,1.2s
ENH Enshi 53.01 313 eP P 07 11 25.1 -1.3
comp=N,62nm,1.3s
CN2 Changchun 53.11 336 ⇓P P 07 11 25.8 -1.0
CN2 eSP pP 07 11 32.0 -1.1
CN2 eS S 07 18 56.2 0.0
CN2 PMZ
comp=N,20nm,1.1s
CN2 PMZ
comp=N,300nm,5.0s
CN2 LN
comp=N,1μm,16.0s
CN2 LE
comp=N,1μm,16.0s
CN2 LZ
comp=N,1μm,17.0s
GYA Guiyang 53.29 307 P P 07 11 30.0 +1.4
GYA PP PP 07 13 31.2 +2.2
GYA ScP ScP 07 16 34.6 +1.5
GYA S S 07 19 00.8 +1.3
GYA SS SS 07 22 38.4 -1.2
GYA PMZ
comp=N,20nm,1.0s
GYA PMZ
comp=N,130nm,5.9s
GYA LN
comp=N,590nm,19.2s
GYA LE
comp=N,550nm,20.0s
GYA LZ
comp=N,610nm,19.6s
TRTT Trang 53.63 283 P P 07 11 41.6 +10
HABR Khabarovsk 54.13 346ceP P 07 11 31.0 -3.2
HABR e*PP sP 07 11 41.1 -1.9
HABR e*SP pP 07 11 45.4 +4.9
HABR e 07 12 35.5
HABR e 07 13 33.1
HABR eS S 07 19 05.8 -4.0
HABR e*SS sS 07 19 23.4 +3.1
HABR e 07 21 17.6
HABR eSS SS 07 22 49.7 -2.2
HABR pmax pmax
comp=E,6.0nm,0.8s
HABR pmax pmax
comp=N,9.0nm,1.5s
HABR pmax pmax
comp=Z,40nm,1.5s
HABR MLR MLR
comp=Z,272nm,18.0s
BJT Baijiatuau 54.68 326 eP P 07 11 37.4 -1.0
BJT pmax pmax
comp=Z,86nm,1.4s
BJT Baijiatuau 54.68 326 eP P 07 11 37.4 -1.0
comp=Z,86nm,1.4s
BJI Beijing 54.70 326 P P 07 11 37.0 -1.5
BJI S S 07 19 18.0 +0.2
BJI PMZ
comp=Z,25nm,2.2s
BJI PMZ
comp=Z,200nm,3.5s
BJI LN
comp=Z,770nm,19.6s
BJI LE
comp=Z,640nm,16.1s
BJI LZ
comp=Z,1μm,29.9s
TYV Tymovskoe 55.02 353 eP P 07 11 38.5 -2.1
TYV e 07 19 32.0
TYV pmax pmax
comp=Z,20nm,0.8s
TPTI 55.42 277 P P 07 11 55.1 +11
XAN Xi'an 55.45 316 P P 07 11 42.6 -1.6
XAN pP pP 07 11 46.6 -3.9
XAN sP sP 07 11 49.0 -4.0
XAN PP PP 07 13 47.5 -0.8
XAN S S 07 19 28.5 +0.2
XAN sS sS 07 19 34.6 -4.2
XAN SS SS 07 23 12.6 -0.8
XAN PMZ
comp=Z,21nm,1.0s
XAN PMZ
comp=Z,79nm,6.7s
XAN LN
comp=Z,430nm,18.1s
XAN LE
comp=Z,520nm,20.0s
XAN LZ
comp=Z,860nm,18.7s
KLR Kul'dur 55.68 344 LR LR 07 36 05.7
comp=Z,179nm,18.1s,slow=37
KLR Kul'dur 55.68 344 ⇑iP P 07 11 44.4 -1.0
KMI Kunming 55.91 304 P P 07 11 48.6 +0.8
KMI pP pP 07 11 53.9 -0.3
KMI sP sP 07 11 55.6 -1.0
KMI S S 07 19 38.4 +3.4
KMI SS SS 07 23 20.9 -0.3
KMI PMZ
comp=Z,26nm,1.0s
KMI PMZ
comp=Z,150nm,3.1s
KMI LN
comp=Z,690nm,18.5s
KMI LE
comp=Z,300nm,19.0s
KMI LZ
comp=Z,820nm,18.5s
MLSI Meulaboh, Aceh 56.31 278 P P 07 11 50.0 -0.6
PETK Petropavlovsk- 56.85 4 P P 07 11 53.1 -0.6
comp=Z,10nm,0.9s,baz=140,slow=7.2,SNR=9.7
PETK LR LR 07 32 17.8
comp=Z,1μm,21.3s,baz=197,slow=32
CMAR Chiang Mai Arr 56.89 295 P P 07 11 55.5 +0.8
comp=Z,15nm,0.9s,baz=108,slow=5.5,SNR=48
CHTO Chiang Mai 57.00 295 eP P 07 11 56.1 +0.7
CHTO pmax pmax
comp=Z,76nm,1.6s
CHTO Chiang Mai 57.00 295 eP P 07 11 56.1 +0.7
comp=Z,76nm,1.6s
NKL Nikolayevsk 57.52 352 eP P 07 11 57.0 -1.4
NKL e 07 20 00.5
NKL pmax pmax
comp=Z,130nm,1.8s
NKL pmax pmax
comp=Z,300nm,6.0s
NKL MLR MLR
comp=Z,500nm,15.0s
CD2 Chengdu 57.60 310 ⇑P P 07 11 58.7 -0.8
CD2 pP pP 07 12 01.8 -4.1
CD2 sP sP 07 12 03.1 -5.3
CD2 PcS PcS 07 16 53.0 -1.1
CD2 S S 07 19 57.7 +0.8
CD2 sS sS 07 20 03.0 -4.4
CD2 SS SS 07 23 49.2 +1.8
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,280nm,5.8s
CD2 LN
comp=Z,650nm,19.9s
CD2 LE
comp=Z,970nm,21.4s
CD2 LZ
comp=Z,1μm,18.4s
HHC Hu-ho-hao-te 57.85 324 eP P 07 12 00.5 -0.7
HHC sP sP 07 12 08.8 -1.2
HHC S S 07 20 00.3 +0.3
HHC sS sS 07 20 03.4 -7.1
HHC PMZ
comp=Z,54nm,1.2s
HHC PMZ
comp=Z,170nm,5.6s
HHC LN
comp=Z,450nm,18.2s
HHC LE
comp=Z,690nm,16.1s
HHC LZ
comp=Z,860nm,18.0s
BTO Baotou 58.61 323 eP P 07 12 05.7 -0.8
PPT Papeete 58.62 108 LR LR 07 35 59.5
comp=Z,267nm,18.1s,baz=276,slow=35
PPT2 Papeete2 58.62 108 eS S 07 20 09.9 -0.8
comp=Z,388nm,29.8s
PPT2 eLQ LQ 07 26 54.7
comp=Z,955nm,31.0s
PPT2 eLR LR 07 29 27.1
comp=Z,949nm,24.2s,baz=294
HIA Hailar 59.84 336 eP P 07 12 14.4 -0.3
HIA pmax pmax
comp=Z,48nm,1.0s
HIA Hailar 59.84 336 eP P 07 12 14.4 -0.3
comp=Z,48nm,1.0s
LZH Lanzhou 60.07 316 ⇑P P 07 12 17.7 +1.0
LZH pP pP 07 12 21.9 -1.2
LZH sP sP 07 12 24.0 -1.5
LZH PP PP 07 14 30.1 +0.7
LZH eS S 07 20 31.0 +2.0
LZH sS sS 07 20 36.7 -2.8
LZH SS SS 07 24 28.1 +1.9
LZH PMZ
comp=Z,64nm,1.1s
LZH PMZ
comp=Z,190nm,4.0s
LZH LN
comp=Z,450nm,16.0s
LZH LE
comp=Z,390nm,14.9s
LZH LZ
comp=Z,830nm,18.2s
MA2 Magadan 63.15 359 LR LR 07 39 38.0
comp=Z,405nm,19.1s,baz=204,slow=36
MA2 Magadan 63.15 359 eP P 07 12 35.1 -1.7
MA2 pmax pmax
comp=Z,98nm,1.2s
MA2 Magadan 63.15 359 eP P 07 12 35.1 -1.7
comp=Z,98nm,1.2s
CLNS Chul'man 64.34 344 eP P 07 12 43.4 -1.4
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS pmax pmax
comp=Z,20nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.8s
GTA Gaotai 64.48 317 eP P 07 12 46.1 -0.1
GTA pP pP 07 12 49.8 -2.9
GTA sP sP 07 12 52.2 -2.9
GTA PcP PcP 07 13 18.4 -2.0
GTA S S 07 21 25.5 +1.0
GTA sS sS 07 21 34.8 -0.4
GTA PMZ
comp=E,25nm,1.2s
GTA PMZ
comp=E,190nm,6.4s

GTA LN
comp=E,420nm,16.6s
GTA LE
comp=E,410nm,19.0s
GTA LZ
comp=E,430nm,20.9s
CIT Chita 64.50 335 *e*P **P** **07 12 45.6 -0.4**
CIT *e* 07 12 55.0
CIT *e* 07 13 00.4
CIT *e* 07 13 19.3
CIT pmax pmax
comp=Z,123nm,1.4s
SONM Songino Array 65.13 328 P **P** **07 12 50.4 +0.1**
comp=Z,18nm,0.9s,baz=145,slow=5.8,SNR=66
SONM LR LR 07 38 42.5
comp=Z,722nm,21.6s,baz=120,slow=34
SONM PKP2bc 07 41 33.6
comp=Z,0.5nm,0.3s,baz=281,slow=3.4,SNR=5.4
SONA1 Songino Array 65.13 328 *e*P **P** **07 12 48.9 -1.3**
SHL Shillong 65.26 300 *e*P **P** **07 12 51.0 -0.6**
SEY Seymchan 66.51 0 ||*i*P **P** **07 12 58.2 -0.4**
LSA Lhasa 67.15 304 *e*P **P** **07 13 04.7 +0.7**
LSA pmax pmax
comp=Z,58nm,1.3s
LSA Lhasa 67.15 304 *e*P **P** **07 13 04.7 +0.7**
comp=Z,58nm,1.3s
TAOE Nuku Hiva Isla 67.37 98 *e*SS SS 07 26 09.9 -11
comp=Z,251nm,27.5s
TAOE *e*LQ LQ 07 30 38.1
comp=Z,557nm,29.2s
TAOE *e*LR LR 07 33 22.9
comp=Z,2µm,26.1s,baz=272
YAK Yakutsk 67.84 349 LR LR 07 41 31.4
comp=Z,307nm,20.5s,baz=106,slow=35
YAK Yakutsk 67.84 349 *e*P **P** **07 13 06.3 -0.8**
YAK *e* 07 13 33.1
YAK *e* 07 15 36.3
YAK *e*S **S** **07 22 04.8 +0.7**
YAK *e* 07 23 01.3
YAK *e*SSS SSS 07 29 26.0
YAK pmax pmax
comp=Z,65nm,1.1s
YAK pmax pmax
comp=E,14nm,1.4s
YAK pmax pmax
comp=N,32nm,1.2s
YAK pmax pmax
comp=Z,74nm,2.3s
YAK pmax pmax
comp=N,43nm,2.0s
YAK pmax pmax
comp=E,20nm,1.9s
YAK smax smax
comp=E,133nm,3.9s
YAK smax smax
comp=N,83nm,3.8s
YAK Yakutsk 67.84 349 *e*P **P** **07 13 06.8 -0.3**
ZAK Zakamensk 68.29 329 *e*P **P** **07 13 09.3 -1.1**
ZAK pmax pmax
comp=Z,32nm,1.2s
CASY Casey 68.83 197 *e*P **P** **07 13 14.9 +1.7**
TLY Talaya 68.88 330 PKP2bc **P'P'df** **07 41 28.9 +2.7**
comp=Z,1.7nm,0.6s,baz=297,slow=8.3,SNR=3.4
TLY LR LR 07 42 59.1
comp=Z,352nm,20.3s,baz=122,slow=36
TLY Talaya 68.88 330 *e*P **P** **07 13 13.2 -0.7**
TLY *e*S **S** **07 22 22.2 +5.2**
TLY *e* 07 23 13.1
TLY *e*SS **SS** **07 26 42.1 -0.6**
TLY pmax pmax
comp=Z,31nm,1.3s
TLY MLR MLR
comp=Z,291nm,16.0s
IRK Irkutsk 68.91 331 *e*P **P** **07 13 13.2 -0.8**
IRK pmax pmax
comp=Z,53nm,2.1s
MOY Mondy 70.22 329 *e*P **P** **07 13 22.1 -0.2**
MOY pmax pmax
comp=Z,60nm,2.5s
GUN Gumba 71.07 301 *e*P **P** **07 13 27.7 -0.5**
comp=Z,130nm,0.9s
PKIN Phulchoki 71.40 301 *e*P **P** **07 13 29.8 -0.3**
KKN Kakani 71.55 301 *e*P **P** **07 13 30.0 -1.0**
comp=Z,99nm,1.0s
DMN Daman 71.65 301 *e*P **P** **07 13 31.2 -0.5**
comp=Z,182nm,1.1s
GKN Gorkha 72.15 301 *e*P **P** **07 13 33.5 -1.1**
comp=Z,263nm,1.3s
BILL Bilibino 72.32 6 *d i*P **P** **07 13 34.4 -0.1**
BILL *e* 07 13 49.1
BILL pmax pmax
comp=Z,20nm,1.0s
BILL Bilibino 72.32 6 *e*P **P** **07 13 34.2 -0.3**
RKT Rikitea 72.75 113 *e*LQ LQ 07 32 51.0
comp=Z,938nm,30.2s
RKT *e*LR LR 07 36 01.1
comp=Z,1µm,26.8s
KOLN Koldanda 72.99 300 *e*P **P** **07 13 38.8 -0.8**
comp=Z,81nm,0.8s
PYUN Piuthan 73.59 301 *e*P **P** **07 13 42.2 -0.9**
comp=Z,179nm,0.9s
VNDA Vanda 73.89 178 P **P** **07 13 43.7 0.0**
comp=Z,9.3nm,1.1s,baz=330,slow=6.7,SNR=21
VNDA LR LR 07 43 36.9
comp=Z,366nm,20.1s,baz=352,slow=34
VNDA Vanda 73.89 178 *e*P **P** **07 13 44.3 +0.6**
VNDA Vanda 73.89 178 *e*P **P** **07 13 44.3 +0.6**
SBA Scott Base 74.44 177 *e*P **P** **07 13 49.9 +3.0**
SBA pmax pmax
comp=Z,55nm,1.3s
SBA Scott Base 74.44 177 *e*P **P** **07 13 49.9 +3.0**
comp=Z,55nm,1.3s
WMQ Urumqi 74.57 317 P **P** **07 13 47.8 -0.6**
WMQ pP pP 07 13 51.5 -3.4
WMQ sP sP 07 13 54.3 -3.0
WMQ PcP **PcP** **07 14 04.6 +1.9**
WMQ S **S** **07 23 24.6 +1.6**
WMQ sS sS 07 23 29.0 -4.8
WMQ SS **SS** **07 28 03.7 -6.6**
WMQ PMZ
comp=Z,17nm,1.2s
WMQ PMZ
comp=Z,290nm,3.8s
WMQ LN
comp=Z,250nm,20.0s
WMQ LE
comp=Z,180nm,21.4s
WMQ LZ
comp=Z,220nm,22.6s
MIR Mirnyy 74.67 201 *e*P **P** **07 13 51.0 +2.6**
MIR pmax pmax
comp=Z,4.0nm,1.2s
HYB Hyderabad 75.58 289 *i*P **P** **07 13 53.0 -1.7**
SVW2 Sparrevohn 76.11 23 *e*P **P** **07 13 58.1 +1.3**
TIXI Tiksi 76.79 353 LR LR 07 43 11.3
comp=Z,199nm,21.6s,baz=172,slow=32
TIXI Tiksi 76.79 353 *e*P **P** **07 13 59.1 -1.3**
TIXI Tiksi 76.79 353 *e*P **P** **07 13 59.1 -1.3**
TT01 Tatalina 77.01 22 *e*P **P** **07 14 02.3 +0.5**
TTA Tatalina 77.03 22 *e*P **P** **07 14 02.0 0.0**
TTA Tatalina 77.03 22 *e*P **P** **07 14 02.0 0.0**
SEW Seward 78.12 26 *e*P **P** **07 14 07.0 -1.0**
comp=Z,37nm,1.1s
SUA Susitna One 78.26 24 *e*P **P** **07 14 08.5 -0.5**
PPLA Purkeypile 78.45 23 *e*P **P** **07 14 10.5 +0.5**
RC01 Rabbit Creek A 78.49 25 *e*P **P** **07 14 10.8 +0.7**
MK31 Makanchi Array 79.15 319 *i*P **P** **07 14 13.2 -0.9**
MK31 pmax pmax
comp=Z,22nm,1.1s
MKAR Makanchi Array 79.15 319 P **P** **07 14 13.7 -0.4**
comp=Z,15nm,1.0s,baz=101,slow=6.3,SNR=64
MKAR PKKPbc **PKKPbc** **07 33 08.8 +1.2**
comp=Z,1.0nm,1.1s,baz=330,slow=7.0,SNR=3.5
MKAR PKPPKP **P'P'df** **07 41 11.9 +2.9**
comp=Z,0.7nm,0.9s,baz=5.7,slow=2.4,SNR=5.1
MKAR LR LR 07 47 47.6
comp=Z,279nm,20.3s,baz=100,slow=35
KTH Kantishna Hill 79.29 22 *e*P **P** **07 14 13.7 -0.9**
comp=Z,24nm,0.8s
MAKZ Makanchi 79.36 319 *i*P **P** **07 14 14.5 -0.7**
MAKZ pmax pmax
comp=Z,52nm,1.3s
MAKZ Makanchi 79.36 319 *e*P **P** **07 14 14.7 -0.5**
SML Sawmill 79.43 25 *e*P **P** **07 14 15.3 0.0**
SML pmax pmax
comp=Z,13nm,1.0s
SML Sawmill 79.43 25 *e*P **P** **07 14 15.3 0.0**
comp=Z,13nm,1.0s
TRF Thorofare Moun 79.48 23 *e*P **P** **07 14 15.1 -0.6**
BPAW Bear Paw Mtn. 79.55 22 *e*P **P** **07 14 15.1 -0.8**
comp=Z,5.5nm,1.1s
ZALV Zalesovo Beam 79.96 326 P **P** **07 14 17.2 -1.0**
comp=Z,5.5nm,0.4s,baz=112,slow=5.3,SNR=10.0
ZALV LR LR 07 50 18.1
comp=Z,380nm,20.4s,baz=70,slow=36
RND Reindeer 80.01 23 *e*P **P** **07 14 17.6 -0.9**
RND Reindeer 80.01 23 *e*P **P** **07 14 17.6 -0.9**
PDGK Podgornoye 80.10 315 P **P** **07 14 19.6 +0.4**
PDGK pmax pmax
comp=Z,18nm,1.0s
MCK McKinley 80.14 23 *e*P **P** **07 14 18.4 -0.7**
MCK pmax pmax
comp=Z,83nm,0.9s
MCK McKinley 80.14 23 *e*P **P** **07 14 18.4 -0.7**
comp=Z,83nm,0.9s
DIV Divide 80.20 26 *e*P **P** **07 14 19.9 +0.3**
comp=Z,66nm,1.3s
BMRM Bremner River 80.64 26 *e*P **P** **07 14 21.9 0.0**
comp=Z,71nm,1.3s
THN Thein Dam 80.64 304 *e*P P 07 14 17.6 -4.8
NVS Novosibirsk 81.13 327 ||*i*P **P** **07 14 23.9 -0.6**
NVS pmax pmax
comp=N,21nm,1.8s
NVS pmax pmax
comp=E,37nm,1.8s
NVS pmax pmax
comp=Z,83nm,1.8s
PAX Paxson 81.16 24 *e*P **P** **07 14 24.3 -0.3**
PAX pmax pmax
comp=Z,9.0nm,0.9s
PAX Paxson 81.16 24 *e*P **P** **07 14 24.3 -0.3**
comp=Z,9.3nm,0.9s
ILAR Eielson Array 81.43 22 P **P** **07 14 24.9 -1.1**
comp=Z,11nm,1.0s,baz=247,slow=5.5,SNR=110
ILAR PP PP 07 17 47.2 +15
comp=Z,0.5nm,0.8s,baz=243,slow=6.0,SNR=3.9
ILAR PKKPbc **PKKPbc** **07 32 59.5 -3.7**
comp=Z,0.6nm,0.9s,baz=310,slow=1.3,SNR=6.6
ILAR LR LR 07 48 19.7
comp=Z,581nm,19.3s,baz=265,slow=34
COLD Coldfoot 81.48 19 *e*P **P** **07 14 25.5 -0.7**
comp=Z,19nm,1.0s
KSH Kashi 81.80 311 P **P** **07 14 31.1 +2.5**
KSH pP pP 07 14 35.3 +0.1
KSH **PP** **07 17 39.5 +3.5**
KSH S **S** **07 24 44.1 +2.9**
KSH SS **SS** **07 30 07.8 +8.3**
KSH PMZ
comp=Z,40nm,1.4s
KSH LN
comp=Z,110nm,5.9s
KSH LE
comp=Z,110nm,5.9s
KSH LZ
comp=Z,280nm,13.6s
DOT Dot Lake 82.03 24 *e*P **P** **07 14 28.8 -0.4**
comp=Z,115nm,1.1s
KURK Kurchatov 82.58 322 *c i*P **P** **07 14 30.8 -1.5**
KURK pmax pmax
comp=Z,45nm,1.7s
KURK Kurchatov 82.58 322 *e*P **P** **07 14 31.3 -1.0**
KURK PKKPbc **PKKPbc** **07 32 59.5 -0.4**
KURK P'P' 07 41 07.0
KURBB Kurchatov Arra 82.61 322 PKKPbc PKKPbc 07 32 59.5 -0.3
comp=Z,1.3nm,1.0s,baz=292,slow=2.8,SNR=6.5
KURBB PKPPKP 07 41 07.0
comp=Z,1.1nm,0.9s,baz=292,slow=2.9,SNR=8.1
TKM2 Tokmak 2 82.78 314 *i*P **P** **07 14 32.9 -0.9**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 82.78 314 *e*P **P** **07 14 33.0 -0.7**
comp=Z,9.6nm,0.9s
FRU Bishkek 83.46 314 ||*e*P **P** **07 14 36.0 -1.1**
FRU *i* 07 14 42.0
FRU pmax pmax
comp=Z,90nm,2.2s
AAK Ala-Archa 83.51 313 LR LR 07 52 52.2
comp=Z,366nm,19.3s,baz=80,slow=36
AAK Ala-Archa 83.51 313 P **P** **07 14 37.1 -0.4**
AAK pmax pmax
comp=Z,16nm,1.3s
AAK Ala-Archa 83.51 313 *e*P **P** **07 14 37.2 -0.4**
comp=Z,66nm,1.8s
EGAK Eagle 83.65 23 *e*P **P** **07 14 37.6 +0.2**
comp=Z,23nm,0.9s
EKS2 Erkin-Say 84.04 313 *e*P **P** **07 14 39.6 -0.6**
EKS2 pmax pmax
comp=Z,19nm,1.0s
EKS2 Erkin-Say 84.04 313 *e*P **P** **07 14 39.6 -0.6**
comp=Z,19nm,1.0s
DAWY Dawson 84.09 24 *e*P **P** **07 14 39.6 -0.2**
comp=Z,22nm,1.2s
SKAG Skagway 84.41 29 *e*P **P** **07 14 41.4 -0.1**
comp=Z,27nm,1.3s
NRIK Noril'sk 84.79 341 P **P** **07 14 42.8 -0.4**
comp=Z,43nm,1.1s,baz=115,slow=5.6,SNR=43
MNAS Manas 84.93 313 *i*P **P** **07 14 44.4 -0.3**
MNAS pmax pmax
comp=Z,97nm,1.2s
QSPA South Pole Qui 86.19 180 *e*P **P** **07 14 49.9 -0.6**
comp=Z,311nm,1.1s
MAW Mawson 86.29 203 P **P** **07 14 49.6 -1.1**
comp=Z,9.6nm,0.9s,baz=79,slow=5.5,SNR=10.0
MAW LR LR 07 50 17.0
comp=Z,558nm,20.6s,baz=68,slow=34
MAW Mawson 86.29 203 P **P** **07 14 50.0 -0.7**
baz=86,SNR=7.7
KK31 Karatay Array 86.48 313 *i*P **P** **07 14 51.4 -0.8**
KK31 pmax pmax
comp=Z,44nm,1.5s
KKAR Karatay Array 86.48 313 *e*P **P** **07 14 51.2 -1.0**
KKAR pmax pmax
comp=Z,27nm,1.2s
KKAR Karatay Array 86.48 313 *e*P **P** **07 14 51.2 -1.0**
comp=Z,27nm,1.2s
DLBC Dease Lake 86.81 31 *e*P **P** **07 14 54.6 +1.1**
comp=Z,16nm,1.2s
DZET Dzherino 87.17 309 P **P** **07 14 54.5 -1.3**
DZET pmax pmax
comp=Z,31nm,1.0s
INK Inuvik 87.71 21 P **P** **07 14 56.4 -1.1**
comp=Z,20nm,1.1s,baz=227,slow=6.6,SNR=21
INK PKKPbc **PKKPbc** **07 32 48.0 -0.3**
comp=Z,2.1nm,0.9s,baz=106,slow=3.3,SNR=4.6
INK LR LR 07 50 25.2
comp=Z,498nm,21.7s,baz=288,slow=33
BVA0 Borovoye Array 88.05 323 *i*P **P** **07 14 57.8 -1.8**
BVA0 pmax pmax
comp=Z,23nm,0.9s
BVAR Borovoye Array 88.05 323 P **P** **07 14 57.9 -1.6**
comp=Z,19nm,0.8s,baz=104,slow=6.3,SNR=91
BVAR LR LR 07 56 44.5
comp=Z,380nm,18.1s,baz=79,slow=37
BRVK Borovoye 88.12 323 *e*P **P** **07 14 58.4 -1.5**
BRVK pmax pmax
comp=Z,45nm,0.8s
BRVK Borovoye 88.12 323 *e*P **P** **07 14 58.4 -1.5**
comp=Z,45nm,0.8s
ZRNK Zerenda 88.87 323 *i*P **P** **07 15 01.4 -2.0**
ZRNK pmax pmax
comp=Z,21nm,0.9s
NVAR Mina Array Bea 91.92 52 LR LR 07 51 54.6
comp=Z,632nm,19.0s,baz=270,slow=32
SVE Sverdlovsk 93.97 327 ||*e*P **P** **07 15 25.0 -2.0**
SVE pmax pmax
comp=Z,36nm,1.9s
SVE MLR MLR
comp=Z,765nm,20.0s
AB31 Akbulak array 94.29 319 *i*P **P** **07 15 25.9 -2.8**
AB31 pmax pmax
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 94.29 319 *e*P **P** **07 15 26.4 -2.3**
comp=Z,4.6nm,0.8s
SYO Syowa Base 94.44 199 ||*e*P **P** **07 15 29.8 +0.9**
SYO Syowa Base 94.44 199 ||*e*pP pP 07 15 33.0 -2.6
WSAR Wadi Sarin 94.74 293 LR LR 08 01 03.2
comp=Z,70nm,20.3s,baz=118,slow=37
YKA Yellowknife Ar 94.79 28 P **P** **07 15 29.8 -0.9**
comp=Z,3.0nm,1.0s,baz=272,slow=4.6,SNR=13
YKA PP **PP** **07 19 26.7 +7.5**
comp=Z,0.4nm,0.8s,baz=271,slow=7.2,SNR=4.0
YKA PKKPbc **PKKPdf** **07 32 28.4 -1.2**
comp=Z,0.9nm,0.9s,baz=89,slow=2.8,SNR=5.6
YKA LR LR 07 54 05.4
comp=Z,44nm,21.5s,baz=0.0,slow=33
ARU Arti 95.12 326 *e*P **P** **07 15 29.3 -3.0**
ARU 07 19 19.3
ARU S **SKSac** **07 26 02.2 -4.8**
ARU MLR MLR
comp=Z,710nm,21.0s
ARU Arti 95.12 326 *e*P **P** **07 15 29.7 -2.6**
comp=Z,22nm,1.3s
GEYT Alibeck 95.50 308 LR LR 07 58 50.4
comp=Z,253nm,22.0s,baz=85,slow=36
AKTO Aktyubinsk 95.54 320 LR LR 07 58 55.5
comp=Z,305nm,19.8s,baz=90,slow=36
AKTO Aktyubinsk 95.54 320 *i*P **P** **07 15 31.7 -2.7**
AKTO pmax pmax
comp=Z,7.0nm,1.0s
PDAR Pinedale Array 98.60 47 P **P** **07 15 46.4 -2.3**
comp=Z,0.1nm,0.4s,baz=274,slow=5.9,SNR=2.1
PDAR PP **PP** **07 19 52.0 +2.5**
comp=Z,0.5nm,0.9s,baz=239,slow=6.2,SNR=3.2
PDAR LR LR 07 55 45.2
comp=Z,411nm,19.1s,baz=277,slow=33
TXAR Lajitas Array 104.16 61 PKKPbc PKKPbc 07 32 03.9 +1.4
comp=Z,0.4nm,0.8s,baz=134,slow=3.6,SNR=4.6
KLMR Klimovskoe 104.19 332 *e*P **Pdif** **07 16 09.4 -3.4**
KLMR pmax pmax
comp=Z,4.0nm,0.6s
OBN Obninsk 107.53 327 *i*P **Pdif** **07 16 29.7 +1.9**
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,459nm,21.0s
FINES FINESS Array B 109.86 336 PKiKP **PKiKP** **07 20 38.5 -1.7**
comp=Z,1.9nm,0.8s,baz=63,slow=2.3,SNR=3.1
ANN Anapa 110.08 317 *i*P **Pdif** **07 16 26.8 -13**
ANN *e*SS SS 07 36 41.1 +1.9
ANN *e*SSS SSS 07 40 51.1
ANN pmax pmax
comp=Z,30nm,1.0s
ANN MLR MLR
comp=Z,261nm,22.0s
AKASG Malin Array Be 113.30 324 PKKPbc PKKPbc 07 31 31.8 -2.2
comp=Z,0.3nm,0.3s,baz=281,slow=3.0,SNR=3.4
BRTR Keskin Array B 114.16 312 PP **PP** **07 21 43.1 -0.9**
comp=Z,2.8nm,1.1s,baz=100,slow=6.4,SNR=8.5
BRTR PKKPbc **PKKPbc** **07 31 31.8 +0.9**
comp=Z,1.8nm,0.9s,baz=222,slow=3.3,SNR=9.3
NOA NORSAR Array B 115.73 340 PKP **PKPdf** **07 20 50.1 -1.3**
comp=Z,1.4nm,0.8s,baz=44,slow=2.2,SNR=3.9
STHS Stebnicka Huta 118.45 326 *e*PKiKP **PKPdf** **07 20 57.3 +0.3**
STHS Stebnicka Huta 118.45 326 *e*PKP **PKPdf** **07 20 57.3 +0.3**
OKC Ostrava-Krasne 119.92 328 AMS AMS 08 13 30.0
comp=Z,500nm,17.5s
VYHS Vyhne 120.29 326 *e*PKiKP **PKPdf** **07 21 02.9 +2.3**
VYHS Vyhne 120.29 326 *e*PKP **PKPdf** **07 21 02.9 +2.3**
DPC Dobruska-Polom 120.59 329 *e*PKPdf **PKPdf** **07 21 05.3 +4.2**
DPC *e*PP **PP** **07 22 28.3 +0.3**
DPC AMS AMS 08 15 00.0
comp=Z,500nm,20.3s
DPC Dobruska-Polom 120.59 329 *e*PKiKP **PKPdf** **07 21 05.3 +4.2**
DPC *e* 07 22 28.3
DPC MLR MLR
comp=Z,500nm,20.3s
UPC Upice 120.65 329 AMS AMS 08 15 20.0
comp=Z,400nm,17.5s
PVCC Panska Ves 121.37 330 AMS AMS 08 15 30.0
comp=Z,400nm,21.8s
GOPC GO Pecny, Ondr 121.64 329 *e*SS SS 07 39 16.1 +6.3
GOPC AMS AMS 08 15 50.0
comp=Z,600nm,18.9s
TREC Trest 121.65 328 AMS AMS 08 15 10.0
comp=Z,700nm,17.5s
CLL Collm 121.65 331 *i*PKPdf **PKPdf** **07 21 06.0 +2.9**
comp=Z,5.0nm,1.0s
CLL *e* 07 21 15.0
CLL *e*PP **PP** **07 22 35.0 -0.1**
CLL *e*SS SS 07 39 12.0 +2.3
CLL Collm 121.65 331 *i*PKiKP **PKPdf** **07 21 06.0 +2.9**
CLL pmax pmax
comp=Z,5.0nm,1.0s
PRU Pruhonice 121.72 329 AMS AMS 08 15 50.0
comp=Z,400nm,22.2s
KHC Kasperske Hory 122.74 329 *e*PKPdf **PKPdf** **07 21 08.5 +3.2**
KHC Kasperske Hory 122.74 329 *e*PKiKP **PKPdf** **07 21 08.5 +3.2**
GERES GERESS Array B 122.86 329 PKP **PKPdf** **07 21 06.0 +0.4**
comp=Z,2.5nm,0.9s,baz=70,slow=1.6,SNR=13
GERES PKKPbc **PKKPab** **07 30 58.7 +0.4**
comp=Z,0.7nm,0.8s,baz=204,slow=2.2,SNR=5.1
SOKA Soboth 123.44 326 *i*sPKPdf **PKPdf** **07 21 09.9 +3.1**
comp=Z,4.9nm,1.2s
BOJS Bojanci 123.99 325 *e*PKPdf **PKPdf** **07 21 10.8 +3.0**
MOZS Mozjanca 123.99 326 *e*PKPdf **PKPdf** **07 21 11.1 +3.3**
LJU Ljubljana 124.09 325 *e*PKPdf **PKPdf** **07 21 10.6 +2.7**
ABTA Abfaltersbach 124.78 327 *i*pPKiKP **PKPdf** **07 21 12.2 +2.8**
comp=Z,4.4nm,1.0s
MOTA Moosalm 125.15 329 *i*sPKPdf **PKPdf** **07 21 13.3 +3.2**
comp=Z,6.3nm,1.0s
MEM Membach 125.34 334 PKP **PKPdf** **07 21 14.2 +4.0**
FETA Feichten 125.56 328 *i*pPKiKP **PKPdf** **07 21 13.8 +2.8**
comp=Z,6.0nm,0.9s
BCLA Clavier 125.78 334 PKP **PKPdf** **07 21 15.1 +4.1**
DAVA Damuels 125.82 329 *i*sPKiKP **PKPdf** **07 21 15.0 +3.6**
comp=Z,6.6nm,0.9s
SNF Seneffe 126.15 335 PKP **PKPdf** **07 21 16.3 +4.6**
DOU Dourbes 126.33 335 PKP **PKPdf** **07 21 15.2 +3.1**
AUSP Uspallata 126.74 135 *e*P **PKPdf** **07 21 14.6 +0.8**
ASAL Salagasta 126.91 136 *e*P **PKPdf** **07 21 13.7 -0.1**
AMOG MOGNA 128.09 135 *e*P **PKPdf** **07 21 17.4 +1.2**
NNA Nana 128.81 109 PKP **PKPdf** **07 21 19.0 +1.1**
comp=Z,12nm,0.9s,baz=211,slow=6.1,SNR=3.6
AGUA GUANDACOL 128.89 133 *e*P **PKPdf** **07 21 21.1 +3.3**
OTAV Otavalo 129.28 93 *e*PKPdf **PKPdf** **07 21 19.4 0.0**
CRUC La Cruz 130.87 91 *e*P **PKPdf** **07 21 25.9 +3.7**
LVC Limon Verde 132.06 125 PKP **PKPdf** **07 21 25.9 +1.7**
comp=Z,40nm,1.0s,baz=232,slow=3.4,SNR=2.7
MOTC Monteria, Cord 132.20 82 *e*P **PKPdf** **07 21 23.9 -0.4**
FSA Cafayete 132.60 131 *e*P **PKPdf** **07 21 29.6 +4.6**
PRAC Prado 133.03 88 *e*P **PKPdf** **07 21 26.9 +1.0**
NORC Norcasia 133.07 86 *e*P **PKPdf** **07 21 28.0 +2.0**
ROSC El Rosal 133.61 87 PKP **PKPdf** **07 21 28.9 +1.4**
comp=Z,3.6nm,0.6s,baz=256,slow=2.7,SNR=5.0
CHIC Chingaza 134.20 87 *e*P **PKPdf** **07 21 31.6 +3.0**
YJA Yavi 135.02 127 *e*P **PKPdf** **07 21 31.4 +1.5**
LPAZ La Paz 135.44 118 PKhKP PKPpre 07 21 19.1
comp=Z,0.6nm,0.6s,baz=248,slow=8.9,SNR=4.2
LPAZ PKP **PKiKP** **07 21 32.1 -0.5**
comp=Z,12nm,0.9s,baz=270,slow=1.9,SNR=20
ESDC Sonseca Array 138.23 332 PP PP 07 24 19.9 -3.1
comp=Z,1.7nm,0.8s,baz=37,slow=7.5,SNR=6.8
CPUP Villa Florida 138.64 138 PKhKP PKPpre 07 21 25.9
comp=Z,3.7nm,0.8s,baz=187,slow=2.8,SNR=6.6
SIV San Ignacio 141.69 122 PKhKP PKPpre 07 21 35.0
comp=Z,4.9nm,0.9s,baz=216,slow=2.9,SNR=7.6
SAML Samuel 142.54 110 *e*PKPdf **PKPdf** **07 21 39.1 -4.2**
SPB Sao Paulo 146.76 146 PKPdf **PKPab** **07 21 53.7 +0.4**
TORD Torodi Ar. Bea 149.40 290 PKPbc **PKPbc** **07 21 58.1 -1.3**
comp=Z,4.8nm,0.9s,baz=54,slow=1.7,SNR=23
BDFB Brasilia 152.22 134 PKPbc **PKPbc** **07 22 03.9 -2.2**
comp=Z,35nm,0.9s,baz=129,slow=0.7,SNR=9.5
DBIC Dimbokro 156.96 278 PKP **PKPdf** **07 22 04.1 -1.9**
comp=Z,4.8nm,0.9s,baz=21,slow=1.5,SNR=3.1
DBIC PKPab **PKPab** **07 22 35.4 -0.7**
comp=Z,10nm,0.9s,baz=225,slow=1.4,SNR=3.6

IDC 05 07:09:55.5±3.0, 0.94N×97.75E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/38, mbtmp3.5/4, Error ellipse: s-maj=95.8km s-min=28.4km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**		**26.59**	251	T	T	07 42 43.3
	baz=72,slow=76,SNR=135						
H08S3	**Diego Garcia H**		**26.59**	251	T	T	07 42 37.6
	baz=72,slow=76,SNR=104						
H08S1	**Diego Carcia H**		**26.61**	251	T	T	07 42 38.7
	baz=72,slow=76,SNR=126						
WRA	**Warramunga Arr**	**41.43**	**122**	P	P	07 17 44.4	+0.1
	0.5nm,1.0s,baz=304,slow=8.8,SNR=3.7						
ASAR	**Alice Springs**	**42.80**	**127**	P	P	07 17 54.9	-0.5
	0.7nm,0.9s,baz=294,slow=7.0,SNR=4.1						
KSRS	**Korea Array**	**45.76**	**34**	P	P	07 18 18.8	0.0
	0.8nm,0.7s,baz=218,slow=9.2,SNR=5.0						
MKAR	**Makanchi Array**	**47.63**	**346**	P	P	07 18 33.1	-0.3
	0.8nm,0.7s,baz=171,slow=9.1,SNR=4.6						

JMA 05 07:12:09.9, 41.53N×140.97E, h10km±1km, M0.7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.16	158	P	Pg	07 12 13.4	0.0
JOT				S	Sg	07 12 15.8	0.0
JKB	Kayabe	0.36	7	P	Pg	07 12 17.1	0.0

JMA 05 07:13:36.7±0.2, 36.83N×138.58E, h1km±3km, M1.0, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGK	Kuni	0.27	170	S	Sg	07 13 46.8	+1.4
MAT	Matsushiro	0.41	226	P	Pg	07 13 44.7	+0.1
MAT				S	Sg	07 13 50.1	+0.1
MAT	Matsushiro	0.41	226	P	Pg	07 13 44.7	+0.1
MAT				S	Sg	07 13 50.0	0.0
JKT	Katashina	0.54	97	S	Sg	07 13 54.4	+0.3
JHK	Hiroka	0.55	40	S	Sg	07 13 54.6	+0.4
JNG	Nsakai	0.57	223	P	Pg	07 13 47.7	0.0
JNG				S	Sg	07 13 55.2	+0.1
JRY	Ryogami san	0.85	162	P	Pg	07 13 53.2	+0.2
JRY				S	Sg	07 14 04.3	+0.2

IDC 05 07:14:52.5±3.1, 4.58S×153.70E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/37, mbtmp3.2/3, Error ellipse: s-maj=271.0km s-min=31.7km az=128.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.26	229	P	P	07 20 11.9	+0.3
	0.7nm,0.9s,baz=54,slow=9.8,SNR=4.8						
ASAR	Alice Springs	26.90	223	P	P	07 20 35.5	-0.2
	0.2nm,0.7s,baz=58,slow=8.8,SNR=2.7						
ILAR	Eielson Array	81.62	22	P	P	07 27 12.1	-0.1
	0.1nm,0.6s,baz=250,slow=4.8,SNR=4.6						

*IDC **05** 07:15:18.3±0.9, 3.61S×152.28E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/38, mbtmp3.9/9, ML1.7/1, MS3.7/1, Ms1 3.7/1, ms1mx3.0/46, Error ellipse: s-maj=32.9km s-min=21.0km az=100.0*

*ISCJB **05** 07:15:22.2±0.8, 3.6S±0.1×152.3E±0.2, h33km, mb3.7/8, Error ellipse: s-maj=26.3km s-min=18.8km az=2.3*

ISC 05 07:15:23.7±1.0, 3.7S±0.1×152.2E±0.2, h35km, n11, σ1°42/10, mb3.6/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.56	221	Pn	Pn	07 17 10.0	-1.5
	0.7nm,0.3s,baz=35,slow=13,SNR=6.7						
HNR	Honiara	9.58	127	LR	LR	07 21 55.8	
	comp=Z,387nm,18.2s,baz=338,slow=42						
DZM	Mont Dzumac	22.91	144	P	P	07 20 24.3	-0.5
	7.9nm,0.9s,baz=239,slow=4.7,SNR=6.8						
WRA	Warramunga Arr	23.74	226	P	P	07 20 32.6	-0.4
	3.4nm,1.0s,baz=49,slow=9.6,SNR=10.0						
ASAR	Alice Springs	26.57	220	P	P	07 21 00.5	+1.7
	0.8nm,0.8s,baz=55,slow=9.0,SNR=6.3						
MKAR	Makanchi Array	79.10	319	P	P	07 27 24.4	-0.4
	0.3nm,0.8s,baz=100,slow=4.8,SNR=2.7						
ILAR	Eielson Array	81.38	22	P	P	07 27 35.2	-1.4
	0.3nm,0.6s,baz=245,slow=5.9,SNR=7.8						
KURBB	Kurchatov Arra	82.56	322	P	P	07 27 43.7	+0.6
	0.1nm,0.5s,baz=97,slow=4.1,SNR=3.2						
MAW	Mawson	86.34	203	P	P	07 28 03.9	+2.0
	2.2nm,0.8s,baz=28,slow=15,SNR=3.7						
BVAR	Borovoye Array	88.00	323	P	P	07 28 11.5	+1.3
	1.2nm,1.0s,baz=104,slow=6.1,SNR=2.5						
TORD	Torodi Ar. Bea	149.38	290	PKPbc	PKPbc	07 35 09.4	-0.7
	0.3nm,0.8s,baz=110,slow=2.9,SNR=2.0						

*IDC **05** 07:22:50.1±0.7, 36.56N×144.59E, h0km, mb3.8/22, mb1 4.0/27, mb1mx3.9/71, mbtmp3.8/27, ML3.3/4, Error ellipse: s-maj=18.5km s-min=15.5km az=148.0*

*NEIC **05** 07:22:51.9±0.4, 36.58N×144.57E, h10km, mb4.1/3, Error ellipse: s-maj=9.1km s-min=6.3km az=138.0*

*ISCJB **05** 07:22:54.4±0.4, 36.72N±0.04×144.31E±0.04, h33km, mb3.8/24, Error ellipse: s-maj=5.9km s-min=4.3km az=168.0*

*JMA **05** 07:22:54.2±0.4, 36.68N×144.24E, h32km, M3.9*

ISC 05 07:22:56.2±0.6, 36.76N±0.06×144.38E±0.07, h35km, n59, σ2°29/72, mb3.8/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	2.87	283	P	Pn	07 23 38.3	-1.2
JFK				S	Sn	07 24 11.0	-1.8
JIO	Ouri	2.94	306	P	Pn	07 23 39.8	-0.6
JIO				eS	Sn	07 24 12.7	-1.8
JMM	Marumori	3.06	292	P	Pn	07 23 41.0	-1.1
JMM				eS	Sn	07 24 16.9	-0.6
JFT	Otama	3.32	284	P	Pn	07 23 45.7	+0.1
JMK	Ichinoseki	3.32	312	P	Pn	07 23 45.0	-0.7
JMK				eS	Sn	07 24 23.9	0.0
BSO1	Boso 1	3.47	234	eS	Sn	07 24 25.9	-1.0
JOM	Ohasama	3.64	319	P	Pn	07 23 50.5	+0.4
JOM				S	Sn	07 24 30.9	-0.9
JYK	Kaneyama	3.84	305	P	Pn	07 23 53.5	+0.7
JYK				eS	Sn	07 24 38.3	+1.5
JAG	Ashikaga	3.98	267	P	Pn	07 23 53.8	-0.9
JAG				S	Sn	07 24 38.2	-1.9
JRY	Ryogami san	4.48	262	P	Pn	07 24 00.6	-1.0
JRY				eS	Sn	07 24 50.3	-2.2
MJAR	Matsushiro Arr	4.96	269	Pn	Pn	07 24 08.2	-0.1
	2.2nm,0.3s,baz=85,slow=11,SNR=31						
MAJO	Matsushiro	4.97	269	ePn	Pn	07 24 08.8	+0.5
	22nm,0.8s						
MAJO				eSn	Sn	07 25 05.2	+0.7
MAT	Matsushiro	4.97	269	P	Pn	07 24 08.4	+0.1
MAT				eS	Sn	07 25 03.0	-1.5
JHJ2	Mitsune	5.22	227	ePn	Pn	07 24 08.9	-2.9
JHJ2				eSn	Sn	07 25 05.9	-4.9
JHJ	Hachijo jima 2	5.24	227	Pn	Pn	07 24 08.2	-3.7
	8.5nm,0.3s,baz=2.6,slow=18,SNR=16						
JHJ				Sn	Sn	07 25 03.5	-7.6
	20nm,0.3s,baz=18,slow=18,SNR=4.8						
ERM	Erimo	5.33	350	ePn	Pn	07 24 14.2	+0.9
ERM				eSn	Sn	07 25 09.1	-4.4
JKB	Kayabe	5.74	334	P	Pn	07 24 19.9	+1.0
JCH	Churui	5.90	353	P	Pn	07 24 19.6	-1.5
JCH				S	Sn	07 25 23.0	-4.4
NEM2	Nemuro 2	6.68	9	P	Pn	07 24 28.3	-3.5
NEM2				S	Sn	07 25 39.9	-6.7
JTKR	Abashiri--Toko	7.21	357	P	Pn	07 24 37.2	-1.9
JTKR				S	Sn	07 25 54.5	-5.2
ASAJ	Asahikawa	7.47	350	Pn	Pn	07 24 41.6	-1.0
	0.2nm,0.3s,baz=180,slow=20,SNR=2.3						
ASAJ				Sn	Sn	07 26 01.1	-5.1
	0.2nm,0.3s,baz=139,slow=17,SNR=3.0						
ASAJ	Asahikawa	7.47	350	Pn	Pn	07 24 41.6	-1.0
ASAJ				Sn	Sn	07 26 01.1	-5.1
ASAJ				eSn	Sn	07 26 04.8	-1.4
USRK	Ussuriysk Ar.	12.00	312	Pn	Pn	07 25 45.5	+0.8
	0.1nm,0.3s,baz=96,slow=15,SNR=3.8						
KSRS	Korea Array	13.16	278	Pn	Pn	07 26 01.0	+0.5
	0.1nm,0.3s,baz=97,slow=14,SNR=8.4						
KSAR	Wonju Array Be	13.19	278	Pn	Pn	07 26 01.0	+0.1
JOW	Kunigami	16.87	239	eP	Pn	07 26 49.2	-0.4
	4.4nm,0.4s						
H11N2	WAKE ISLAND Hy	26.00	125	T	T	07 55 12.8	
	baz=316,slow=75,SNR=395						
H11N1	WAKE ISLAND Hy	26.01	125	T	T	07 55 12.8	
	baz=316,slow=75,SNR=132						
H11N3	WAKE ISLAND Hy	26.02	125	T	T	07 55 13.4	
	baz=316,slow=75,SNR=169						
SEY	Seymchan	26.66	8	P	P	07 28 31.7	+0.2
	0.6nm,0.4s,baz=190,slow=13,SNR=4.1						
H11S1	WAKE ISLAND Hy	26.75	127	T	T	07 56 08.8	
	baz=318,slow=76,SNR=92						
H11S3	WAKE ISLAND Hy	26.75	127	T	T	07 56 07.6	
	baz=318,slow=76,SNR=80						
H11S2	WAKE ISLAND Hy	26.77	127	T	T	07 56 07.6	
	baz=318,slow=76,SNR=70						
SONM	Songino Array	29.91	304	P	P	07 29 03.1	+2.3
	0.7nm,0.6s,baz=90,slow=6.3,SNR=3.4						
CMAR	Chiang Mai Arr	43.74	258	P	P	07 30 59.7	+1.4
	1.0nm,0.8s,baz=51,slow=7.2,SNR=5.5						
ZALV	Zalesovo Beam	43.85	313	P	P	07 31 01.1	+2.3
	0.8nm,0.3s,baz=79,slow=9.0,SNR=2.3						
ZALV				PcP	PcP	07 32 43.5	-1.1
	1.5nm,0.5s,baz=50,slow=2.3,SNR=4.3						
MKAR	Makanchi Array	46.27	303	P	P	07 31 20.1	+2.0
	1.6nm,0.8s,baz=83,slow=9.9,SNR=12						
KURK	Kurchatov	47.97	309	P	P	07 31 33.0	+1.8
KURBB	Kurchatov Arra	48.04	309	P	P	07 31 33.0	+1.2
	1.6nm,0.7s,baz=82,slow=8.0,SNR=17						
ILAR	Eielson Array	48.46	32	P	P	07 31 34.6	-0.3
	0.6nm,0.9s,baz=259,slow=5.9,SNR=8.0						
TKM2	Tokmak 2	51.84	299	eP	P	07 32 02.8	+1.7
	4.8nm,1.1s						
BVAR	Borovoye Array	52.51	313	P	P	07 32 06.9	+1.3
	0.9nm,0.8s,baz=110,slow=6.9,SNR=5.7						
INK	Inuvik	53.55	27	P	P	07 32 12.8	-0.2
	0.8nm,0.9s,baz=332,slow=9.9,SNR=4.0						
WRA	Warramunga Arr	57.19	191	P	P	07 32 36.9	-2.8
	1.0nm,1.0s,baz=11,slow=7.3,SNR=6.5						
ABKAR	Akbulak array	59.92	311	eP	P	07 32 59.7	+1.1
	1.6nm,0.9s						
AKTO	Aktyubinsk	60.61	313	P	P	07 33 04.2	+0.9
	1.5nm,0.8s,baz=71,slow=12,SNR=5.2						
ASAR	Alice Springs	60.91	191	P	P	07 33 03.9	-1.6
	0.3nm,0.6s,baz=0,slow=5.7,SNR=3.6						
YKA	Yellowknife Ar	62.84	31	P	P	07 33 18.2	+0.1
	0.2nm,0.7s,baz=295,slow=7.0,SNR=2.5						
FINES	FINESS Array B	70.15	333	P	P	07 34 04.3	-0.4
	0.9nm,0.7s,baz=81,slow=7.8,SNR=2.8						
KBZ	Khabaz	72.87	312	P	P	07 34 22.4	+0.9
	2.2nm,1.0s,baz=68,slow=5.4,SNR=3.5						
NVAR	Mina Array Bea	73.23	54	P	P	07 34 24.2	+0.2
	0.6nm,0.7s,baz=292,slow=8.9,SNR=4.4						
NB2	NORSAR Subarra	75.34	338	P	P	07 34 36.6	+1.0
	comp=Z,0.7nm,0.7s,baz=38,slow=5.6						
NOA	NORSAR Array B	75.34	338	P	P	07 34 36.4	+0.8
	comp=Z,2.1nm,0.9s,baz=37,slow=5.5,SNR=4.6						
AKASG	Malin Array Be	75.95	324	P	P	07 34 38.9	-0.4
	comp=Z,0.6nm,0.5s,baz=41,slow=5.7,SNR=6.3						
PDAR	Pinedale Array	76.14	47	P	P	07 34 41.0	+0.1
	comp=Z,0.2nm,0.4s,baz=309,slow=5.7,SNR=2.5						
BRTR	Keskin Array B	80.79	313	P	P	07 35 06.8	+0.4
	comp=Z,0.9nm,0.9s,baz=123,slow=4.6,SNR=6.3						
GERES	GERESS Array B	84.17	330	P	P	07 35 25.0	+1.2
	comp=Z,0.3nm,0.7s,baz=52,slow=6.4,SNR=1.9						
TXAR	Lajitas Array	88.38	54	P	P	07 35 44.5	-0.4
	comp=Z,0.4nm,0.7s,baz=306,slow=3.0,SNR=5.0						
TORD	Torodi Ar. Bea	119.18	317	PKP	PKPdf	07 41 41.3	-0.8
	comp=Z,0.5nm,0.9s,baz=307,slow=2.9,SNR=2.8						

MEX 05 07:29:36.3±0.5, 16.54N×98.44W, h16km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.34	116	*i* P	Pg	07 29 42.1	-1.2
PNIG				*i* S	Sg	07 29 47.1	-1.0
TLIG	Tlapa	1.02	353	*i* P	Pb	07 29 52.1	-3.6
TLIG				*e*S	Sb	07 30 04.7	-4.3

*ISK **05** 07:30:25.8, 38.36N×28.14E, h6km, MD2.7*

*ISCJB **05** 07:30:26.3±0.5, 38.38N±0.03×28.13E±0.04, h4km±6km, Error ellipse: s-maj=4.8km s-min=4.1km az=23.8*

*DDA **05** 07:30:26.5, 38.38N×28.13E, h7km, Md2.8*

*CSEM **05** 07:30:26.7±0.1, 38.37N×28.12E, h8km, MD2.7, Error ellipse: s-maj=2.7km s-min=2.4km az=114.0*

ISC 05 07:30:26.5±1.0, 38.36N±0.02×28.14E±0.02, h6km±12km, n34, σ0°48/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	Kula-Manisa	0.44	69	ePG	Pg	07 30 35.4	+0.4
KULA				eSG	Sg	07 30 41.1	+0.3
KULA	Kula-Manisa	0.44	69	ePg	Pg	07 30 35.4	+0.4
KULA				eSg	Sg	07 30 41.1	+0.3
AYDB	Zeytinkoy-Aydi	0.46	205	ePG	Pg	07 30 35.3	0.0
AYDB				eSG	Sg	07 30 42.0	+0.7
AYDB	Zeytinkoy-Aydi	0.46	205	ePg	Pg	07 30 35.3	0.0
AYDB				eSg	Sg	07 30 42.0	+0.7
AKHS	Akhisar	0.58	334	P	Pg	07 30 37.7	0.0
AKHS				S	Sg	07 30 44.5	-0.7
AKHS	Akhisar	0.58	334	*i* P	Pg	07 30 37.7	0.0
AKHS				*i* S	Sg	07 30 44.5	-0.7
AKS	Akhisar	0.58	334	ePG	Pg	07 30 37.6	-0.1
AKS				eSG	Sg	07 30 45.4	+0.2
AKS	Akhisar	0.58	334	ePg	Pg	07 30 37.6	-0.1
AKS				eSg	Sg	07 30 45.4	+0.2
IZM	Izmir	0.69	274	ePG	Pg	07 30 39.5	-0.3
IZM	Izmir	0.69	274	ePg	Pg	07 30 39.5	-0.3
AYDN	Tasoluk	0.72	196	P	Pg	07 30 40.7	+0.2
AYDN	Tasoluk	0.72	196	*i* P	Pg	07 30 40.7	+0.2
DEMI	Demirci	0.82	33	P	Pg	07 30 42.5	+0.2
DEMI				S	Sg	07 30 52.9	-0.1
DEMI	Demirci	0.82	33	*i* P	Pg	07 30 42.5	+0.2
DEMI				*i* S	Sg	07 30 52.9	-0.1
DNZL	Cakiroluk	0.98	133	P	Pn	07 30 47.3	+0.3
DNZL				S	Sb	07 30 59.6	+0.4
DNZL	Cakiroluk	0.98	133	*i* P	Pn	07 30 47.3	+0.3
DNZL				*i* S	Sb	07 30 59.6	+0.4
KHAL	Karahalli	1.06	89	P	Pn	07 30 47.8	-0.3
KHAL				S	Sg	07 30 59.7	-1.1
KHAL	Karahalli	1.06	89	*i* P	Pn	07 30 47.8	-0.3
KHAL				*i* S	Sg	07 30 59.7	-1.1
DKL	Dikili	1.20	307	ePN	Pb	07 30 49.5	-0.1
DKL	Dikili	1.20	307	ePn	Pb	07 30 49.5	-0.1
YER	Yerkesik	1.23	175	ePN	Pg	07 30 49.3	-0.8
YER	Yerkesik	1.23	175	ePn	Pg	07 30 49.3	-0.8
GDZ	Gediz	1.28	55	P	Pg	07 30 51.5	+0.4
GDZ				S	Sg	07 31 06.7	-1.0
GDZ	Gediz	1.28	55	*i* P	Pg	07 30 51.5	+0.4
GDZ				*i* S	Sg	07 31 06.7	-1.0
BALB	Balikesir	1.30	351	ePN	Pn	07 30 51.0	-0.1
BALB	Balikesir	1.30	351	ePn	Pn	07 30 51.0	-0.1
BODT	Bodrum	1.45	207	ePN	Pn	07 30 53.2	-0.1
BODT	Bodrum	1.45	207	ePn	Pn	07 30 53.2	-0.1
TVSB	Tavsanli	1.50	43	ePN	Pn	07 30 54.0	-0.1
TVSB	Tavsanli	1.50	43	ePn	Pn	07 30 54.0	-0.1
CHOS	Chios island	1.64	272	ePN	Pn	07 30 56.2	+0.3
CHOS	Chios island	1.64	272	ePn	Pn	07 30 56.2	+0.3
ARMT	Armutlu	2.27	14	ePN	Pn	07 31 05.3	+0.7
ARMT	Armutlu	2.27	14	ePn	Pn	07 31 05.3	+0.7

*IDC **05** 07:31:29.6±0.7, 3.96S×152.11E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.1/50, mbtmp4.2/18, MS4.2/18, Ms1 4.2/18, ms1mx4.0/33, Error ellipse: s-maj=24.6km s-min=15.4km az=94.0*

*GCMT **05** 07:31:32.8±0.2, 3.71S×151.91E, h16km±1km, MW5.0/103, Moment Tensor Solution. s26,c30; s103,c153; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.31±.11; Mθθ 1.22±.10; Mφφ -0.91±.10; Mrθ 0.37±.33; Mθφ 3.32±.09; Mφr 0.30±.26; Best double couple: Mo 3.51600×10^16 NP1: ϕs 99.00000°, δ 85.00000°, λ 4.00000°. NP2: ϕs 9.00000°, δ 86.00000°, λ 175.00000°. Principal axes: T 3.6990, Plg 7.0000°, Azm 324.0000°; N -0.3640, Plg 83.0000°, Azm 148.0000°; P -3.3320, Plg 0.0000°, Azm 54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 07:31:32.8±0.3, 3.66S×151.95E, h10km, mb4.9/29 Error ellipse: s-maj=9.8km s-min=6.3km az=108.0*

*ISCJB **05** 07:31:34.5±0.3, 3.75S±0.04×151.95E±0.06, h33km, mb4.6/50, MS4.2/17, Error ellipse: s-maj=8.3km s-min=6.0km az=15.0*

*BJI **05** 07:31:35.3, 3.11S×151.74E, h10km, mb4.7/37, mB5.1/21, Ms4.8/17, Ms7 4.4/16*

ISC 05 07:31:35.4±0.6, 3.91S±0.07×152.2E±0.1, h35km, n97, σ1°30/80, mb4.7/50, MS4.2/17, 1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	5.13	291	ePn	Pn	07 32 47.0	-2.8
MANU				eScS	ScS	07 47 10.1	+5.0
PMG	Port Moresby	7.38	222	Pn	Pn	07 33 21.3	+0.6
	1.5nm,0.3s,baz=9.7,slow=13,SNR=11						
PMG				LR	LR	07 36 15.8	
	comp=Z,3μm,20.8s,baz=34,slow=39						
PMG	Port Moresby	7.38	222	ePn	Pn	07 33 23.0	+2.3
HNR	Honiara	9.48	126	ePn	Pn	07 33 54.1	+4.6
COEN	Coen	13.35	221	ePn	P	07 34 45.6	-6.0
CTA	Charters Tower	17.08	199	P	P	07 35 32.7	-0.3
	0.2nm,0.3s,baz=23,slow=7.7,SNR=3.1						
CTAO	Charters Tower	17.08	199	ePn	P	07 35 36.1	+3.0
	20nm,1.1s						
GUMO	Guam	18.83	338	LR	LR	07 43 02.9	
	comp=Z,259nm,20.3s,baz=158,slow=37						
EIDS	Eidsvold	21.36	183	eP	P	07 36 23.6	+3.8
	74nm,2.0s						
DZM	Mont Dzumac	22.75	144	P	P	07 36 33.2	-1.6
	16nm,1.0s,baz=358,slow=10,SNR=9.4						
WRAB	Tennant Creek	23.56	226	eP	P	07 36 40.5	-2.4
	32nm,1.1s						
WB2	Warramunga Arr	23.57	226	eP	P	07 36 41.4	-1.6
	27nm,1.1s						
WRA	Warramunga Arr	23.58	226	P	P	07 36 40.7	-2.3
	9.9nm,1.0s,baz=50,slow=9.7,SNR=40						
WRA				PcP	PcP	07 40 26.4	-1.3
	0.6nm,0.9s,baz=38,slow=2.0,SNR=3.3						
WRA				LR	LR	07 46 17.9	
	comp=Z,664nm,19.1s,baz=55,slow=38						
AS01	Alice Springs	26.36	220	eP	P	07 37 07.0	-1.5
AS31	Alice Springs	26.39	220	eP	P	07 37 10.7	+1.9
	4.2nm,1.0s						
ASAR	Alice Springs	26.39	220	P	P	07 37 07.9	-0.9
	2.9nm,0.8s,baz=52,slow=8.9,SNR=21						
ASAR				PcP	PcP	07 40 34.2	+0.2
	0.3nm,0.8s,baz=57,slow=3.4,SNR=2.6						
ASAR				LR	LR	07 48 10.0	
	comp=Z,622nm,19.6s,baz=39,slow=38						
STKA	Stephens Creek	29.54	198	LR	LR	07 49 06.2	
	comp=Z,508nm,19.0s,baz=6.2,slow=36						
FITZ	Fitzroy Crossi	29.54	239	P	P	07 37 35.5	-1.4
	8.1nm,1.1s,baz=68,slow=2.1,SNR=3.9						
FITZ				LR	LR	07 49 48.9	
	comp=Z,899nm,20.7s,baz=62,slow=37						
FITZ	Fitzroy Crossi	29.54	239	eP	P	07 37 39.2	+2.3
	13nm,1.1s						
JCJ	Chichijima	32.30	343	LR	LR	07 49 40.3	
	comp=Z,278nm,22.0s,baz=148,slow=34						
URZ	Urewera	41.07	150	eP	P	07 39 19.9	+4.3
	71nm,1.2s						
JNU	Nakatsue	41.99	333	P	P	07 39 22.4	-0.9
	10.0nm,0.6s,baz=110,slow=1.6,SNR=18						
JNU	Nakatsue	41.99	333	eP	P	07 39 21.2	-2.1
	31nm,1.1s						
KSM	Kuching	42.17	276	eP	P	07 39 24.8	-0.2
	23nm,1.2s						
MJAR	Matsushiro Arr	42.30	343	LR	LR	07 54 53.7	
	comp=Z,204nm,21.6s,baz=170,slow=33						
NWAO	Narrogin (SRO)	43.56	224	LR	LR	07 57 34.4	
	comp=Z,622nm,18.7s,baz=292,slow=36						
KSRS	Korea Array	46.92	333	P	P	07 40 01.9	-0.7
	2.1nm,0.8s,baz=157,slow=8.8,SNR=7.3						
KSRS				LR	LR	07 59 04.4	
	comp=Z,179nm,18.2s,baz=142,slow=35						
KSAR	Wonju Array Be	46.93	333	P	P	07 40 01.9	-0.7
KS01	Wonju Array Si	46.96	333	eP	P	07 40 01.5	-1.4
QIZ	Qiongzhong	47.47	300	P	P	07 40 05.6	-1.6
QIZ				S	S	07 47 00.6	+0.8
QIZ				LN			
	210nm,21.4s						
QIZ				LE			
	210nm,16.6s						
QIZ				LZ			
	370nm,23.0s						
INCN	Inchon	47.53	332	eP	P	07 40 06.7	-0.8
	29nm,0.8s						
NJ2	Nanjing	47.76	321	eP	P	07 40 21.3	+12
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
USRK	Ussuriysk Ar.	51.21	341	P	P	07 40 35.1	-0.2
	comp=Z,2.7nm,0.8s,baz=121,slow=7.4,SNR=5.0						
MDJ	Mudanjiang	52.37	340	P	P	07 40 43.0	-1.0
MDJ				PMZ			
	comp=Z,9.0nm,0.8s						
MDJ				PMZ			
	comp=Z,34nm,4.7s						
CN2	Changchun	53.23	336	eP	P	07 40 52.5	+2.1
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
GYA	Guiyang	53.35	307	eP	P	07 40 52.8	+1.1
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
XAN	Xi'an	55.54	316	P	P	07 41 14.5	+7.0
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,25nm,6.5s						
KLR	Kul'dur	55.82	344	P	P	07 41 08.9	-0.2
	comp=Z,1.6nm,0.8s,baz=150,slow=7.1,SNR=7.5						
KMI	Kunming	55.97	304	P	P	07 41 11.0	+0.1
KMI				pP	pP	07 41 13.7	-7.8
KMI				sP	sP	07 41 15.0	-11
KMI				PMZ			
	comp=Z,30nm,0.5s						
KMI				LN			
	comp=Z,150nm,14.9s						
KMI				LE			
	comp=Z,340nm,20.4s						
KMI				LZ			
	comp=Z,390nm,28.4s						
CM01	Chiang Mai Arr	56.90	295	eP	P	07 41 17.7	+0.3
CMAR	Chiang Mai Arr	56.93	295	P	P	07 41 17.8	+0.2
	comp=Z,0.8nm,0.3s,baz=112,slow=4.3,SNR=4.0						
CMAR				LR	LR	08 04 21.6	
	comp=Z,136nm,21.8s,baz=100,slow=35						
PETK	Petropavlovsk-	57.00	4	LR	LR	08 02 06.2	
	comp=Z,144nm,20.9s,baz=186,slow=32						
CD2	Chengdu	57.68	310	P	P	07 41 22.2	-0.5
CD2				pP	pP	07 41 25.4	-7.9
CD2				PcS	PcS	07 46 17.1	+0.2
CD2				S	S	07 49 19.9	+0.7
CD2				sS	sS	07 49 25.3	-11
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,140nm,5.4s						
CD2				LN			
	comp=Z,290nm,15.4s						
CD2				LE			
	comp=Z,370nm,17.4s						
CD2				LZ			
	comp=Z,430nm,18.1s						
HHC	Hu-ho-hao-te	57.96	324	eP	P	07 41

WMQ				PMZ				
	comp=Z,4.0nm,0.6s							
WMQ				PMZ				
	comp=Z,69nm,3.6s							
WMQ				LN				
	comp=Z,83nm,24.2s							
WMQ				LE				
	comp=Z,160nm,25.8s							
WMQ				LZ				
	comp=Z,97nm,24.2s							
TTA	**Tatalina**	**77.18**	**22**	*e*P		**P**	**07 43 25.8**	**+0.4**
	comp=Z,15nm,1.3s							
PMR	**Palmer**	**79.14**	**25**	*e*P		**P**	**07 43 36.4**	**+0.2**
	comp=Z,9.5nm,1.2s							
MK01	**Makanchi Array**	**79.23**	**319**	*e*P		**P**	**07 43 35.8**	**-1.3**
MK31	**Makanchi Array**	**79.24**	**319**	*e*P		**P**	**07 43 37.0**	**-0.2**
MKAR	**Makanchi Array**	**79.24**	**319**	P		**P**	**07 43 36.9**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=116,slow=5.5,SNR=5.2							
MKAR				LR		LR	08 17 52.6	
	comp=Z,133nm,19.9s,baz=112,slow=35							
MKAR	**Makanchi Array**	**79.24**	**319**	*e*P		**P**	**07 43 36.8**	**-0.3**
KTH	**Kantishna Hill**	**79.44**	**22**	*e*P		**P**	**07 43 38.8**	**+0.9**
	comp=Z,34nm,1.7s							
MAKZ	**Makanchi**	**79.45**	**319**	*e*P		**P**	**07 43 37.4**	**-0.8**
	comp=Z,12nm,1.4s							
SML	**Sawmill**	**79.58**	**25**	*e*P		**P**	**07 43 40.2**	**+1.5**
	comp=Z,26nm,1.3s							
BPAW	**Bear Paw Mtn.**	**79.70**	**22**	*e*P		**P**	**07 43 39.8**	**+0.5**
	comp=Z,18nm,1.5s							
ZAA0	**Zalesovo Array**	**80.06**	**326**	*e*P		**P**	**07 43 40.1**	**-1.2**
RND	**Reindeer**	**80.16**	**23**	*e*P		**P**	**07 43 42.2**	**+0.4**
	comp=Z,9.7nm,0.9s							
MLY	**Manley**	**80.29**	**21**	*e*P		**P**	**07 43 43.4**	**+0.9**
	comp=Z,16nm,1.2s							
MCK	**McKinley**	**80.29**	**23**	*e*P		**P**	**07 43 43.1**	**+0.6**
	comp=Z,13nm,0.8s							
BMRM	**Bremner River**	**80.79**	**26**	*e*P		**P**	**07 43 45.4**	**+0.2**
	comp=Z,31nm,1.4s							
WRH	**Wood River Hil**	**80.98**	**22**	*e*P		**P**	**07 43 46.5**	**+0.4**
	comp=Z,15nm,1.2s							
MDM	**Murphy Dome**	**81.17**	**22**	*e*P		**P**	**07 43 46.8**	**-0.3**
	comp=Z,9.4nm,1.2s							
CCB	**Clear Creek Bu**	**81.17**	**22**	*e*P		**P**	**07 43 47.2**	**+0.1**
	comp=Z,14nm,1.3s							
COLA	**College**	**81.27**	**22**	*e*P		**P**	**07 43 47.6**	**0.0**
	comp=Z,19nm,0.3s							
IL1	**Eielson Array**	**81.58**	**22**	*e*P		**P**	**07 43 48.6**	**-0.7**
ILAR	**Eielson Array**	**81.58**	**22**	P		**P**	**07 43 48.7**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=251,slow=5.3,SNR=20							
ILAR				LR		LR	08 15 55.7	
	comp=Z,210nm,20.1s,baz=262,slow=33							
ILB	**Eielson Array**	**81.58**	**22**	*e*P		**P**	**07 43 49.0**	**-0.2**
COLD	**Coldfoot**	**81.63**	**19**	*e*P		**P**	**07 43 50.5**	**+1.0**
	comp=Z,11nm,1.3s							
KSH	**Kashi**	**81.88**	**311**	P		P	07 43 54.3	+2.7
KSH				pP		pP	07 43 59.8	-2.8
KSH				PP		**PP**	**07 47 02.2**	**+2.9**
KSH				S		**S**	**07 54 05.7**	**+2.7**
KSH				PMZ				
	comp=Z,2.0nm,0.3s							
KSH				PMZ				
	comp=Z,43nm,4.0s							
KSH				LN				
	comp=Z,260nm,10.8s							
KSH				LE				
	comp=Z,160nm,13.4s							
DOT	**Dot Lake**	**82.18**	**24**	*e*P		**P**	**07 43 53.5**	**+1.0**
	comp=Z,42nm,1.3s							
KURK	**Kurchatov**	**82.68**	**322**	P		**P**	**07 43 55.4**	**+0.1**
KURBB	**Kurchatov Arra**	**82.71**	**322**	P		**P**	**07 43 55.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=103,slow=4.6,SNR=5.9							
AAK	**Ala-Archa**	**83.60**	**313**	*e*P		**P**	**07 44 00.8**	**+0.3**
	comp=Z,9.9nm,1.5s							
EGAK	**Eagle**	**83.80**	**23**	*e*P		**P**	**07 44 01.9**	**+1.1**
EKS2	**Erkin-Say**	**84.12**	**313**	*e*P		**P**	**07 44 02.9**	**-0.2**
	comp=Z,6.9nm,1.1s							
NRIK	**Noril'sk**	**84.92**	**341**	P		**P**	**07 44 06.8**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=120,slow=4.4,SNR=5.8							
QSPA	**South Pole Qui**	**86.04**	**180**	*e*P		P	07 44 16.4	+4.1
KKAR	**Karatay Array**	**86.56**	**313**	*e*P		**P**	**07 44 15.7**	**+0.6**
INK	**Inuvik**	**87.86**	**21**	P		**P**	**07 44 21.4**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=246,slow=5.9,SNR=5.0							
INK	**Inuvik**	**87.86**	**21**	*e*P		P	07 44 25.1	+4.3
BVAR	**Borovoye Array**	**88.15**	**323**	P		**P**	**07 44 21.6**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=106,slow=5.2,SNR=8.0							
BRVK	**Borovoye**	**88.22**	**323**	*e*P		**P**	**07 44 22.4**	**-0.5**
	comp=Z,14nm,1.0s							
ZRNK	**Zerenda**	**88.97**	**323**	*e*P		**P**	**07 44 25.8**	**-0.6**
	comp=Z,4.9nm,1.0s							
NVAR	**Mina Array Bea**	**92.04**	**52**	LR		LR	08 18 14.0	
	comp=Z,284nm,21.8s,baz=266,slow=30							
SYO	**Syowa Base**	**94.29**	**199**	*e*P		P	07 44 52.4	+1.6
YKA	**Yellowknife Ar**	**94.94**	**28**	P		**P**	**07 44 55.0**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=274,slow=5.0,SNR=2.9							
YKA				LR		LR	08 24 11.3	
	comp=Z,12nm,20.3s,baz=0.0,slow=33							
YKA	**Yellowknife Ar**	**94.94**	**28**	P		**P**	**07 44 55.0**	**+1.2**
PDAR	**Pinedale Array**	**98.72**	**47**	LR		LR	08 23 32.9	
	comp=Z,193nm,21.1s,baz=288,slow=32							
TORD	**Torodi Ar. Bea**	**149.42**	**289**	PKPbc		**PKPab**	**07 51 22.1**	**-4.6**
	comp=Z,0.8nm,0.9s,baz=64,slow=3.4,SNR=3.3							

*IDC **05** 07:42:12.0±0.6, 7.70S×107.25E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.9/48, mbtmp4.1/12, Error ellipse: s-maj=30.9km s-min=14.2km az=56.0*
*NEIC **05** 07:42:16.8±0.5, 8.02S×106.97E, h35km, mb4.0/4, Error ellipse: s-maj=14.2km s-min=8.7km az=214.0*
*DJA **05** 07:42:19.1±0.6, 8˚S±4˚×10˚7E±˚, h21km±6km, M4.9/29, mb5.1/11, mB5.6/4, MLv4.8/29, Mw(mB)5.1/4*
*ISCJB **05** 07:42:20.2±0.6, 7.84S±0.09×107.30E±0.04, h81km±5km, mb3.9/13, Error ellipse: s-maj=15.3km s-min=4.3km az=22.0*

ISC 05 07:42:20.4±1.0, **7.91S**±0.10×**107.26E**±0.06, **h67**km±8km, **n138**, σ1$**02**/139, **mb4.0**/13, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNJI	**Cibinong**	**0.61**	**348**	P		**Pn**	**07 42 34.4**	**+0.3**
CNJI				S		**Sn**	**07 42 44.6**	**+0.5**
CISI	**Cisompet, Garu**	**0.65**	**58**	P		**Pn**	**07 42 34.5**	**-0.2**
CISI				S		**Sn**	**07 42 45.2**	**+0.1**
CISI	**Cisompet, Garu**	**0.65**	**58**	*e*Pn		**Pn**	**07 42 34.5**	**-0.2**
CISI				*e*Sn		**Sn**	**07 42 45.0**	**-0.1**
LEM	**Lembang**	**1.13**	**18**	Pg		Pn	07 42 48.4	+7.8
	452nm,0.3s,baz=3.8,slow=2.6,SNR=92							
LEM				Lg		Lg	07 43 06.0	
	779nm,0.3s,baz=131,slow=22,SNR=15							
SKJI	**Sukabumi**	**1.14**	**322**	P		**Pn**	**07 42 41.1**	**+0.6**
SKJI				S		**Sn**	**07 42 56.9**	**+1.4**
CMJI	**Cimerak**	**1.19**	**84**	P		**Pn**	**07 42 40.7**	**-0.4**
CMJI				S		**Sn**	**07 42 55.9**	**-0.7**
KPJI	**Karang Pucung**	**1.75**	**71**	P		**Pn**	**07 42 49.9**	**+1.2**
TNG	**Tangerang**	**1.83**	**341**	P		**Pn**	**07 42 53.6**	**+3.9**
CGJI	**Cibinong**	**2.02**	**310**	P		**Pn**	**07 42 52.6**	**+0.4**
SBJI	**Serang**	**2.10**	**328**	P		**Pn**	**07 42 55.9**	**+2.5**
BLSI	**Bandar Lampung**	**3.22**	**322**	P		**Pn**	**07 43 10.8**	**+2.2**
UGM	**Wanagama**	**3.23**	**90**	P		**Pn**	**07 43 08.9**	**+0.1**
SMRI	**Semarang**	**3.27**	**75**	P		**Pn**	**07 43 11.9**	**+2.6**
SMRI	**Semarang**	**3.27**	**75**	*e*Pn		**Pn**	**07 43 10.8**	**+1.5**
SMRI				*e*Sn		**Sn**	**07 43 48.6**	**+1.5**
KASI	**Kota Agung**	**3.62**	**311**	P		**Pn**	**07 43 15.2**	**+1.1**
PCJI	**Pacitan**	**3.89**	**94**	P		**Pn**	**07 43 18.1**	**+0.3**
NGJI	**Ngawi**	**4.20**	**83**	P		Pn	07 43 28.7	+6.7
LWLI	**Liwa**	**4.28**	**312**	P		**Pn**	**07 43 25.6**	**+2.3**
PWJI	**Pagerwojo**	**4.50**	**92**	P		**Pn**	**07 43 26.4**	**+0.2**
TBJI	**Tambak Boyo**	**4.68**	**77**	P		**Pn**	**07 43 30.0**	**+1.4**
MNAI	**Manna**	**5.54**	**309**	P		**Pn**	**07 43 41.1**	**+0.7**
	293nm,0.7s,11µm1.8nm							
GMJI	**Gumukmas**	**6.14**	**94**	P		**Pn**	**07 43 49.4**	**+0.9**
	64nm,1.0s,0.4nm							
BLJI	**Banyuglugur**	**6.28**	**89**	P		**Pn**	**07 43 51.5**	**+1.0**
	64nm,0.7s,0.6nm							
JAGI	**Jajag, Banyuwa**	**6.85**	**95**	P		**Pn**	**07 43 59.1**	**+0.8**
	89nm,0.9s,3µm0.7nm							
JAGI	**Jajag, Banyuwa**	**6.85**	**95**	*e*Pn		**Pn**	**07 43 58.9**	**+0.6**
	67nm,0.4s							
JAGI				*e*Sn		**Sn**	**07 45 16.5**	**+1.7**
ABJI	**Asem Bagus**	**6.91**	**90**	P		**Pn**	**07 44 01.2**	**+2.1**
	149nm,0.6s,4µm0.8nm							
SRBI	**Singaraja**	**7.88**	**92**	P		**Pn**	**07 44 14.4**	**+2.0**
	67nm,0.6s,0.4nm							
PPSI	**Pulau Pagai**	**8.84**	**305**	P		**Pn**	**07 44 23.9**	**-1.7**
	411nm,0.8s							
RGRI	**Rengat**	**8.97**	**327**	P		Pn	07 44 18.8	-8.5
PLAI	**Plampang**	**10.45**	**96**	P		**Pn**	**07 44 47.6**	**+0.1**
MBWA	**Marble Bar**	**17.85**	**139**	*e*P		**P**	**07 46 22.6**	**-1.6**
	10nm,0.6s							
FITZ	**Fitzroy Crossi**	**20.55**	**121**	P		Pn	07 46 55.2	-1.3
	5.4nm,0.7s,baz=288,slow=6.9,SNR=13							
FITZ	**Fitzroy Crossi**	**20.55**	**121**	*e*P		Pn	07 46 54.6	-1.9
	4.4nm,0.8s							
WRA	**Warramunga Arr**	**28.82**	**117**	*e*P		**P**	**07 48 13.2**	**+0.6**
	0.5nm,0.6s,baz=282,slow=9.6,SNR=13							
WRA				PcP		**PcP**	**07 51 21.5**	**+0.4**
	0.5nm,0.6s,baz=311,slow=1.9,SNR=5.0							
WRAB	**Tennant Creek**	**28.83**	**117**	*e*P		**P**	**07 48 13.2**	**+0.5**
	1.9nm,0.8s							
ASAR	**Alice Springs**	**29.96**	**125**	P		**P**	**07 48 23.6**	**+0.9**
	0.7nm,0.7s,baz=301,slow=8.1,SNR=7.5							
ASAR				PcP		**PcP**	**07 51 24.9**	**+1.0**
	0.4nm,0.5s,baz=310,slow=2.1,SNR=4.7							
PALU	**Palau**	**31.08**	**61**	P		**P**	**07 48 30.1**	**-2.5**
	baz=8.8,SNR=4.2							
H08S2	**Diego Garcia H**	**34.44**	**268**	T		T	08 25 31.8	
	baz=93,slow=76,SNR=61							
H08S3	**Diego Garcia H**	**34.45**	**268**	T		T	08 25 30.1	
	baz=93,slow=76,SNR=74							
H08S1	**Diego Garcia H**	**34.46**	**268**	T		T	08 25 32.3	
	baz=93,slow=76,SNR=60							
STKA	**Stephens Creek**	**39.85**	**132**	P		**P**	**07 49 48.4**	**+0.7**
	4.3nm,0.4s,baz=312,slow=7.0,SNR=13							
SONM	**Songino Array**	**55.51**	**359**	PcP		**PcP**	**07 52 47.8**	**-0.2**
	1.2nm,0.4s,baz=176,slow=4.3,SNR=6.3							
MKAR	**Makanchi Array**	**58.82**	**340**	P		**P**	**07 52 10.2**	**-1.8**
	0.4nm,0.3s,baz=151,slow=9.5,SNR=12							
KLR	**Kul'dur**	**60.81**	**18**	P		**P**	**07 52 24.3**	**-1.2**
	1.1nm,0.5s,baz=298,slow=6.2,SNR=4.8							
KURBB	**Kurchatov Arra**	**63.39**	**340**	P		**P**	**07 52 42.7**	**0.0**
	0.9nm,0.6s,baz=154,slow=5.8,SNR=9.1							
KURK	**Kurchatov**	**63.44**	**340**	P		**P**	**07 52 42.7**	**-0.3**
MAW	**Mawson**	**66.58**	**197**	P		**P**	**07 53 05.1**	**+1.9**
	1.1nm,0.4s,baz=50,slow=7.2,SNR=5.6							
BVAR	**Borovoye Array**	**68.30**	**337**	P		**P**	**07 53 13.7**	**-0.6**
	1.1nm,0.3s,baz=130,slow=8.5,SNR=15							
ABKAR	**Akbulak array**	**70.32**	**329**	*e*P		**P**	**07 53 26.7**	**-0.2**
	3.4nm,0.4s							
AKTO	**Aktyubinsk**	**72.03**	**329**	P		**P**	**07 53 36.8**	**-0.4**
	1.2nm,0.3s,baz=113,slow=4.6,SNR=5.8							
VNDA	**Vanda**	**75.03**	**169**	P		**P**	**07 53 55.4**	**+1.0**
	0.7nm,0.8s,baz=309,slow=6.6,SNR=3.9							
BRTR	**Keskin Array B**	**82.62**	**312**	P		**P**	**07 54 37.2**	**+0.4**
	0.8nm,0.6s,baz=101,slow=6.4,SNR=4.9							
YKA	**Yellowknife Ar**	**117.62**	**20**	PKP		**PKPdf**	**08 00 58.6**	**+0.1**
	0.3nm,0.6s,baz=336,slow=1.5,SNR=4.8							
R37A	**Teagarden Farm**	**143.75**	**30**	P		**PKPdf**	**08 01 46.4**	**-2.0**
	baz=321							
TXAR	**Lajitas Array**	**143.96**	**50**	PKP		**PKPdf**	**08 01 48.4**	**-0.8**
	0.4nm,0.5s,baz=218,slow=1.0,SNR=11							
X32A	**Elmer**	**144.05**	**39**	P		**PKPdf**	**08 01 47.9**	**-1.1**
	baz=311							
W33A	**Caddo, Fort Co**	**144.06**	**37**	P		**PKPdf**	**08 01 48.3**	**-0.8**
	baz=313							
P40A	**Paris**	**144.07**	**26**	P		**PKPdf**	**08 01 47.6**	**-1.3**
	baz=326							
WMOK	**Wichita Mounta**	**144.15**	**38**	P		**PKPdf**	**08 01 47.9**	**-1.3**
	baz=312,SNR=7.2							
T36A	**Boggs Farm, Ca**	**144.17**	**32**	P		**PKPdf**	**08 01 47.5**	**-1.6**
	baz=319							
S37A	**Fort Scott**	**144.18**	**31**	P		**PKPdf**	**08 01 47.7**	**-1.4**
	baz=321							
R38A	**Fenwick Farm,**	**144.30**	**29**	P		**PKPdf**	**08 01 48.5**	**-0.9**
	baz=323							
Q40A	**Laux Farm, Aux**	**144.50**	**26**	P		**PKPdf**	**08 01 48.9**	**-0.7**
	baz=326							
V35A	**Meyer Ranch, C**	**144.59**	**35**	P		**PKPdf**	**08 01 49.7**	**-0.2**
	baz=316							
R39A	**Thumbuy, Stover**	**144.62**	**28**	P		**PKPdf**	**08 01 48.9**	**-1.0**
	baz=324							
T37A	**Cheneyville 18**	**144.62**	**31**	P		**PKPdf**	**08 01 49.4**	**-0.5**
	baz=320							
S38A	**Stockton**	**144.74**	**30**	P		**PKPdf**	**08 01 48.9**	**-1.2**
	baz=322,SNR=5.8							
X34A	**Smith Ranch, M**	**144.82**	**37**	P		**PKPdf**	**08 01 50.1**	**-0.3**
	baz=314							
S39A	**Bolivar**	**144.98**	**29**	P		**PKPdf**	**08 01 50.6**	**+0.1**
	baz=323							
R40A	**Maddies Statio**	**144.99**	**27**	P		**PKPdf**	**08 01 50.4**	**-0.1**
	baz=325,SNR=14							
W35A	**Tecumseh**	**145.00**	**36**	P		**PKPdf**	**08 01 50.4**	**-0.3**
	baz=316							
T38A	**Diamond**	**145.01**	**31**	P		**PKPdf**	**08 01 50.1**	**-0.5**
	baz=321,SNR=7.4							
U37A	**Salina**	**145.06**	**32**	P		**PKPdf**	**08 01 50.6**	**-0.1**
	baz=319							
TUL1	**Leonard**	**145.06**	**34**	P		**PKPdf**	**08 01 51.0**	**+0.3**
	baz=318,SNR=5.5							
V36A	**Jenks**	**145.07**	**34**	P		**PKPdf**	**08 01 50.9**	**+0.2**
	baz=318,SNR=6.7							
Z33A	**Whitaker Ranch**	**145.12**	**40**	P		**PKPdf**	**08 01 50.9**	**0.0**
	baz=311							
Y34A	**Reagan Ranch,**	**145.30**	**38**	P		**PKPab**	**08 01 51.9**	**+0.7**
	baz=313,SNR=5.6							
W36A	**Wetumka**	**145.38**	**35**	P		**PKPab**	**08 01 51.9**	**+0.5**
	baz=316							
U38A	**Gravette**	**145.42**	**32**	P		**PKPab**	**08 01 51.1**	**-0.4**
	baz=320,SNR=6.8							
V37A	**Hulbert**	**145.44**	**33**	P		**PKPab**	**08 01 51.7**	**0.0**
	baz=319,SNR=5.6							
S40A	**Lebanon**	**145.44**	**28**	P		**PKPab**	**08 01 51.7**	**+0.1**
	baz=324,SNR=11							
133A	**Hamilton Ranch**	**145.45**	**41**	P		**PKPab**	**08 01 52.7**	**+0.9**
	baz=310,SNR=7.8							
X35A	**Drake**	**145.47**	**37**	P		**PKPab**	**08 01 52.0**	**+0.2**
	baz=315,SNR=5.7							
T39A	**Clever**	**145.48**	**30**	P		**PKPab**	**08 01 52.3**	**+0.5**
	baz=322,SNR=12							
Z34A	**Collier Ranch,**	**145.59**	**39**	P		**PKPab**	**08 01 53.2**	**+0.8**
	baz=312							
X36A	**Centrahoma**	**145.71**	**36**	P		**PKPab**	**08 01 52.9**	**+0.2**
	baz=316							
T40A	**Mansfield**	**145.79**	**29**	P		**PKPab**	**08 01 53.0**	**0.0**
	baz=324,SNR=7.4							
W37B	**Quinton**	**145.83**	**34**	P		**PKPab**	**08 01 53.4**	**+0.3**
	baz=318							
233A	**Rising Star**	**145.84**	**42**	P		**PKPab**	**08 01 54.2**	**+0.9**
	baz=309,SNR=6.4							
V38A	**Canehill**	**145.85**	**32**	P		**PKPab**	**08 01 52.9**	**-0.3**
	baz=320,SNR=5.1							
U39A	**Green Forest**	**145.93**	**31**	P		**PKPab**	**08 01 53.2**	**-0.3**
	baz=322							
M54A	**Oil Creek Stat**	**145.98**	**9**	P		**PKPab**	**08 01 53.6**	**+0.1**
	baz=348							
134A	**White-Moore Ra**	**146.02**	**40**	P		**PKPab**	**08 01 55.0**	**+1.1**
	baz=311,SNR=5.7							
BDFB	**Brasilia**	**146.12**	**226**	PKPbc		**PKPab**	**08 01 55.5**	**+0.6**
	3.6nm,0.8s,baz=98,slow=2.7,SNR=6.1							
JCT	**Junction City**	**146.16**	**45**	P		**PKPab**	**08 01 55.2**	**+0.6**
	baz=306							
333A	**Richland Sprin**	**146.21**	**43**	P		**PKPab**	**08 01 55.0**	**+0.3**
	baz=308,SNR=6.5							
Y36A	**Durant**	**146.23**	**37**	P		**PKPab**	**08 01 54.7**	**0.0**
	baz=315							
T41A	**Mountain View**	**146.24**	**28**	P		**PKPab**	**08 01 54.5**	**-0.1**
	baz=325,SNR=5.1							
U40A	**Yellville**	**146.26**	**30**	P		**PKPab**	**08 01 54.3**	**-0.5**
	baz=323,SNR=5.4							
V39A	**Pettigrew**	**146.26**	**31**	P		**PKPab**	**08 01 54.2**	**-0.6**
	baz=321,SNR=5.8							
X37A	**Clayton**	**146.26**	**35**	P		**PKPab**	**08 01 54.5**	**-0.3**
	baz=317							
234A	**Clairette**	**146.35**	**41**	P		**PKPab**	**08 01 55.5**	**+0.2**
	baz=310							
R44A	**Waltonville**	**146.38**	**24**	P		**PKPab**	**08 01 54.4**	**-0.7**
	baz=330							
W38A	**Poteau**	**146.38**	**33**	P		**PKPab**	**08 01 55.0**	**-0.2**
	baz=319							
433A	**Art**	**146.49**	**44**	P		**PKPab**	**08 01 55.8**	**0.0**
	baz=308							
X38A	**Whitesboro**	**146.51**	**34**	P		**PKPab**	**08 01 55.9**	**+0.2**
	baz=318							
S43A	**Fulton Ridge,**	**146.55**	**25**	P		**PKPab**	**08 01 55.6**	**-0.2**
	baz=328							
Z36A	**Blue Ridge**	**146.57**	**38**	P		**PKPbc**	**08 01 54.4**	**-0.5**
	baz=314							
W39A	**Magazine**	**146.68**	**32**	P		**PKPab**	**08 01 55.6**	**-0.7**
	baz=320							
334A	**Lometa**	**146.71**	**42**	P		**PKPab**	**08 01 55.8**	**-0.8**
	baz=309							
434A	**Burnet**	**147.01**	**43**	P		**PKPbc**	**08 01 54.7**	**-1.5**
	baz=309							
N59A	**State Game Lan**	**147.02**	**4**	P		**PKPbc**	**08 01 56.0**	**0.0**
	baz=355							
X39A	**Fountain Ranch**	**147.02**	**34**	P		**PKPab**	**08 01 57.5**	**-0.3**
	baz=319,SNR=7.4							
V41A	**Mountainview**	**147.06**	**30**	P		**PKPab**	**08 01 56.7**	**-1.2**
	baz=323							
136A	**Ennis**	**147.06**	**39**	P		**PKPab**	**08 01 57.5**	**-0.4**
	baz=313							
W40A	**Ferguson Farm,**	**147.06**	**32**	P		**PKPab**	**08 01 56.4**	**-1.4**
	baz=321							
Z37A	**Pogue Cattle C**	**147.11**	**37**	P		**PKPab**	**08 01 56.6**	**-1.5**
	baz=315							
633A	**Saathoff Ranch**	**147.19**	**46**	P		**PKPab**	**08 01 58.1**	**-0.5**
	baz=306							
MIAR	**Mount Ida**	**147.29**	**33**	P		**PKPab**	**08 01 58.3**	**-0.5**
	baz=320,SNR=5.8							
534A	**Blanco**	**147.35**	**44**	P		**PKPab**	**08 01 58.1**	**-1.1**
	baz=308							
O56A	**Blue Knob Stat**	**147.36**	**8**	P		**PKPab**	**08 01 57.2**	**-1.7**
	baz=350							
236A	**Katherine and**	**147.38**	**39**	P		**PKPab**	**08 01 58.5**	**-0.7**
	baz=313							
Y39A	**Lockesburg**	**147.46**	**34**	P		**PKPab**	**08 01 58.4**	**-1.0**
	baz=318							
833A	**Chaparral WMA,**	**147.68**	**48**	P		**PKPbc**	**08 01 57.8**	**-0.3**
	baz=304							
237A	**Washetta, Mont**	**147.83**	**39**	P		**PKPab**	**08 02 00.0**	**-1.0**
	baz=314							
933A	**Laredo**	**148.16**	**49**	P		**PKPab**	**08 02 01.8**	**-0.7**
	baz=303							
536A	**Bastrop**	**148.28**	**43**	P		**PKPab**	**08 02 01.6**	**-1.3**
	baz=310							
241A	**Mo Tay, Goldon**	**149.54**	**35**	P		**PKPbc**	**08 02 04.1**	**+1.3**
	baz=318							
Y45A	**Yeager Farm, C**	**149.87**	**29**	P		**PKPbc**	**08 02 03.2**	**-0.4**
	baz=326							
341A	**Kurthwood**	**149.90**	**37**	P		**PKPbc**	**08 02 05.4**	**+1.7**
	baz=317							
Y46A	**Houston**	**150.18**	**28**	P		**PKPbc**	**08 02 04.7**	**+0.4**
	baz=327							
Z45A	**Winona**	**150.20**	**29**	P		**PKPbc**	**08 02 04.7**	**+0.3**
	baz=325							
Z47A	**Carrollton**	**151.11**	**27**	P		**PKPbc**	**08 02 07.2**	**+0.7**
	baz=328							
146A	**Union**	**151.11**	**29**	P		**PKPbc**	**08 02 07.1**	**+0.5**
	baz=325							
Z48A	**Northport**	**151.19**	**26**	P		**PKPbc**	**08 02 06.9**	**+0.2**
	baz=329							
147A	**Livingston**	**151.45**	**28**	P		**PKPbc**	**08 02 07.9**	**+0.6**
	baz=327							
543A	**St. Martinvill**	**151.57**	**37**	P		**PKPbc**	**08 02 08.4**	**+0.7**
	baz=318							
KMSC	**Kings Mountain**	**151.77**	**15**	P		**PKPbc**	**08 02 07.7**	**-0.3**
	baz=342							

*BJI **05** 07:46:20.0, 2˚.94N×126˚.77E, h40km, mb4.8/41, mB4.8/23, Ms4.4/17, Ms7 4.2/15*
*IDC **05** 07:46:26.8±1.8, 3˚.17N×126˚.52E, h56km±15km, mb4.3/37, mb1 4.4/38, mb1mx4.3/49, mbtmp4.6/38, MS3.8/4, Ms1 3.8/4, ms1mx3.2/42, Error ellipse: s-maj=16.3km s-min=7.6km az=80.0*
*ISCJB **05** 07:46:27.1±0.5, 3˚.30N±0˚.02×126˚.71E±0˚.03, h74km±4km, mb4.6/62, Error ellipse: s-maj=5.5km s-min=3.2km az=167.7*
*NEIC **05** 07:46:28.3±0.7, 3˚.24N×126˚.70E, h73km±6km, mb4.7/23, Error ellipse: s-maj=7.4km s-min=4.6km az=66.0*
NEIC Felt at Bitung.
*DJA **05** 07:46:29.7±0.7, 3˚N±5˚×12˚7E±˚, h83km±7km, M4.8/24, mb4.8/24, mB5.2/8, MLv5.0/4, Mw(mB)4.6/8*
*KLM **05** 07:46:31.6, 3˚.50N×126˚.58E, h68km, mb4.8, MS5.8*

ISC 05 07:46:28.3±0.8, **3˚27N**±0˚04×**126˚64E**±0˚05, **h68**km±6km, **n200**, σ1$**58**/215, **mb4.7**/61, **8C-15D**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.18**	**291**	P		**Pn**	**07 46 47.2**	**-1.9**
MATI	**Mati**	**3.67**	**354**	*e*P		**Pn**	**07 47 22.9**	**+0.2**
MATI			

GUMO	**Guam**	**20.73**	**59**	LR	LR	07 58 51.9		
	comp=Z,165nm,19.0s,baz=226,slow=36							
TPUB	**Ta-pu**	**20.75**	**344**	*eP*	**P**	**07 51 00.0**	**-3.6**
	44nm,0.7s							
SSLB	**Suanglung**	**21.13**	**345**	*eP*	**P**	**07 51 04.1**	**-3.6**
	25nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.26**	**183**	P	**P**	**07 51 08.1**	**-1.0**
	10nm,0.7s,baz=25,slow=7.1,SNR=13							
FITZ				S	**S**	**07 55 00.1**	**-1.6**
	4.0nm,0.8s,baz=307,slow=10,SNR=4.7							
FITZ	**Fitzroy Crossi**	**21.26**	**183**	P	**P**	**07 51 08.0**	**-1.1**
	baz=21,SNR=8.6							
FITZ	**Fitzroy Crossi**	**21.26**	**183**	*eP*	**P**	**07 51 07.3**	**-1.7**
	12nm,0.8s							
FITZ				S	**S**	**07 55 00.1**	**-1.6**
LEM	**Lembang**	**21.47**	**242**	P	**P**	**07 51 16.9**	**+5.2**
	45nm,0.8s,baz=9.4,slow=15,SNR=3.4							
YHNB	**Yeheng**	**21.88**	**347**	*eP*	**P**	**07 51 12.5**	**-3.2**
	31nm,0.6s							
CBJI	**Citeko**	**21.98**	**244**	P	**P**	**07 51 20.8**	**+4.0**
MYKOM	**Kota Tinggi**	**22.81**	**267**	*eP*	**P**	**07 51 27.0**	**+1.2**
	21nm,1.1s							
CGJI	**Cibinong**	**23.10**	**245**	P	**P**	**07 51 28.6**	**0.0**
	69nm,0.7s,5μm							
KGM	**Kluang**	**23.33**	**268**	⇓P	**P**	**07 51 28.5**	**-2.3**
KTGM	**Kuala Trenggan**	**23.52**	**276**	⇓P	**P**	**07 51 33.2**	**+0.5**
COEN	**Coen**	**23.70**	**137**	P	**P**	**07 51 33.2**	**-1.1**
	baz=24							
UBPT	**Khong Chiam**	**24.02**	**301**	P	**P**	**07 51 37.6**	**+0.5**
	26nm,0.8s							
WB0	**Warramunga Arr**	**24.12**	**162**	P	**P**	**07 51 37.1**	**-0.9**
	baz=24							
WRAB	**Tennant Creek**	**24.27**	**162**	*eP*	**P**	**07 51 38.7**	**-0.6**
	20nm,0.8s							
WRA	**Warramunga Arr**	**24.27**	**162**	P	**P**	**07 51 38.1**	**-1.2**
	8.1nm,0.4s,baz=342,slow=9.9,SNR=51							
WRA				S	**S**	**07 55 51.9**	**-1.8**
	4.7nm,1.0s,baz=346,slow=17,SNR=4.5							
WRA				ScP	**ScP**	**07 58 53.5**	**+2.6**
	1.3nm,0.9s,baz=343,slow=3.0,SNR=6.4							
WB2	**Warramunga Arr**	**24.28**	**162**	*eP*	**P**	**07 51 38.5**	**-0.8**
	27nm,0.8s							
WR0	**Warramunga Arr**	**24.35**	**162**	P	**P**	**07 51 39.2**	**-0.9**
	baz=24							
SDSI	**Sungai Dareh**	**25.54**	**261**	P	P	07 52 04.7	+14	
IPM	**Ipoh**	**25.58**	**274**	⇓P	**P**	**07 51 54.3**	**+2.9**
IPM	**Ipoh**	**25.58**	**274**	*eP*	**P**	**07 51 51.2**	**-0.2**
	16nm,0.9s							
PANO	**Nakornpanom**	**25.64**	**304**	P	**P**	**07 51 52.5**	**+0.6**
	55nm,0.8s							
KULM	**Kulim**	**25.99**	**275**	*eP*	**P**	**07 51 54.8**	**-0.3**
	21nm,1.0s							
SKNT	**Sakolnakorn**	**26.08**	**303**	P	**P**	**07 51 56.0**	**+0.1**
	32nm,0.7s,5μm							
QIS	**Mount Isa**	**26.88**	**152**	P	**P**	**07 52 03.7**	**+0.7**
	baz=27,SNR=8.0							
MNSI	**Mandalling Nat**	**27.15**	**265**	P	**P**	**07 52 01.6**	**-3.9**
CHAI	**Chaiyaphum**	**27.31**	**299**	P	**P**	**07 52 09.0**	**+2.1**
	4.0nm,0.8s							
AS31	**Alice Springs**	**27.69**	**166**	*eP*	**P**	**07 52 09.9**	**-0.3**
	2.8nm,0.5s							
ASAR	**Alice Springs**	**27.69**	**166**	P	**P**	**07 52 09.4**	**-0.8**
	1.1nm,0.5s,baz=346,slow=7.2,SNR=19							
ASAR				PcP	**PcP**	**07 55 27.1**	**+1.1**
	1.3nm,0.6s,baz=3.6,slow=1.7,SNR=5.6							
ASAR				S	**S**	**07 56 46.8**	**-1.0**
	1.8nm,0.9s,baz=351,slow=20,SNR=5.5							
ASAR				ScP	**ScP**	**07 59 03.5**	**+2.6**
	1.7nm,0.8s,baz=351,slow=2.7,SNR=8.6							
AS01	**Alice Springs**	**27.70**	**165**	*eP*	**P**	**07 52 09.7**	**-0.6**
WRKA	**Warakurna**	**28.18**	**177**	P	**P**	**07 52 14.9**	**+0.3**
	baz=28,SNR=7.3							
GIRL	**Giralia**	**28.46**	**205**	P	**P**	**07 52 17.4**	**+0.4**
	baz=29,SNR=3.4							
PBKT	**Sadao Pong**	**28.48**	**299**	P	**P**	**07 52 19.9**	**+2.6**
	14nm,0.7s							
LOEI	**Loei**	**28.63**	**301**	P	**P**	**07 52 16.1**	**-2.6**
	16nm,0.8s							
NJ2	**Nanjing**	**29.55**	**347**	*eP*	**P**	**07 52 27.7**	**+1.1**
NJ2				PMZ				
	21nm,0.7s							
JNU	**Nakatsue**	**29.96**	**7**	P	**P**	**07 52 29.2**	**-1.2**
	8.1nm,0.8s,baz=133,slow=2.8,SNR=5.7							
GYA	**Guiyang**	**29.97**	**322**	*eP*	**P**	**07 52 31.8**	**+1.2**
GYA				PMZ				
	10.0nm,0.8s							
CM01	**Chiang Mai Arr**	**31.00**	**301**	*eP*	**P**	**07 52 40.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**31.03**	**301**	P	**P**	**07 52 40.9**	**+1.0**
	6.2nm,0.9s,baz=116,slow=7.2,SNR=20							
CMMT	**Chiang Mai**	**31.18**	**302**	P	**P**	**07 52 41.9**	**+0.7**
	19nm,0.7s,368nm							
CHTO	**Chiang Mai**	**31.18**	**302**	P	**P**	**07 52 42.0**	**+0.8**
	78nm,0.8s							
CHTO	**Chiang Mai**	**31.18**	**302**	*eP*	**P**	**07 52 41.4**	**+0.2**
	12nm,0.6s							
ENH	**Enshi**	**31.38**	**331**	*eP*	**P**	**07 52 41.8**	**-1.1**
	14nm,0.6s							
KMI	**Kunming**	**31.64**	**316**	P	**P**	**07 52 43.8**	**-1.7**
KMI				pP	pP	07 52 53.6	-8.3
KMI				sP	sP	07 52 57.6	-12
KMI				PMZ				
	17nm,0.5s							
MORW	**Morawa**	**33.72**	**197**	P	**P**	**07 53 03.5**	**+0.2**
	baz=34							
KS15	**Wonju Array Si**	**34.03**	**2**	*eP*	**P**	**07 53 06.5**	**+0.6**
KSAR	**Wonju Array Be**	**34.03**	**2**	P	**P**	**07 53 06.8**	**+1.0**
KSAR				PcP	**PcP**	**07 55 43.9**	**+1.5**
KSRS	**Korea Array**	**34.04**	**2**	P	**P**	**07 53 06.8**	**+0.9**
	5.1nm,0.7s,baz=181,slow=9.7,SNR=19							
KSRS				PcP	**PcP**	**07 55 43.9**	**+1.5**
	1.7nm,0.7s,baz=174,slow=3.3,SNR=6.5							
KS01	**Wonju Array Si**	**34.07**	**2**	*eP*	**P**	**07 53 06.1**	**-0.1**
KS01				*e*PcP	**PcP**	**07 55 43.8**	**+1.3**
KMBL	**Kambalda**	**34.74**	**187**	P	**P**	**07 53 12.2**	**+0.1**
	baz=35,SNR=4.7							
XAN	**Xi'an**	**34.79**	**334**	P	**P**	**07 53 10.6**	**-1.9**
XAN				PMZ				
	8.0nm,0.8s							
XAN				PMZ				
	81nm,6.4s							
MJAR	**Matsushiro Arr**	**34.79**	**16**	P	**P**	**07 53 14.6**	**+2.1**
	1.1nm,0.6s,baz=193,slow=8.4,SNR=2.5							
CD2	**Chengdu**	**34.96**	**324**	*eP*	**P**	**07 53 13.6**	**-0.5**
HNR	**Honiara**	**35.51**	**111**	LR	LR	08 07 59.7		
	comp=Z,176nm,21.2s,baz=272,slow=36							
KLBR	**Kellerberrin**	**35.68**	**193**	P	**P**	**07 53 20.1**	**0.0**
	baz=36							
MUN	**Mundaring**	**36.42**	**195**	P	**P**	**07 53 26.8**	**+0.2**
	baz=37							
BBOO	**Buckleboo**	**36.97**	**167**	P	**P**	**07 53 32.0**	**+0.8**
	baz=37,SNR=5.6							
EIDS	**Eidsvold**	**37.05**	**142**	P	**P**	**07 53 31.2**	**-0.7**
	baz=37,SNR=5.2							
STKA	**Stephens Creek**	**37.73**	**159**	P	**P**	**07 53 37.1**	**-0.5**
	5.4nm,0.7s,baz=332,slow=9.5,SNR=7.5							
STKA				PcP	**PcP**	**07 55 53.9**	**+0.3**
	2.6nm,0.5s,baz=347,slow=7.8,SNR=3.9							
STKA	**Stephens Creek**	**37.73**	**159**	P	**P**	**07 53 37.6**	**0.0**
	baz=38,SNR=6.8							
LZH	**Lanzhou**	**38.85**	**330**	*eP*	**P**	**07 53 47.9**	**+0.7**
LZH				pP	pP	07 53 58.6	-5.4
LZH				sP	sP	07 54 06.5	-5.4
LZH				PMZ				
	38nm,1.1s							
LZH				PMZ				
	140nm,7.2s							
CMSA	**Cobar Meteorol**	**39.08**	**154**	P	**P**	**07 53 49.2**	**+0.3**
	baz=39							
HHC	**Hu-ho-hao-te**	**39.81**	**342**	*eP*	P	07 54 03.7	+8.7	
HHC				S	S	08 00 06.8	+12	
HHC				pmax	pmax			
	comp=Z,16nm,1.1s							
HHC				pmax	pmax			
	comp=Z,91nm,8.3s							
HHC				LR	LR			
	comp=N,170nm,18.1s							
HHC				LR	LR			
	comp=E,310nm,18.6s							
HHC				LR	LR			
	comp=Z,210nm,17.3s							
SHL	**Shillong**	**40.08**	**307**	*ex*	x	07 53 57.0		
SHL				*ex*	x	07 53 57.0		
CN2	**Changchun**	**40.38**	**359**	*eP*	**P**	**07 54 01.1**	**+1.6**
CN2				PMZ				
	comp=Z,10.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**41.04**	**6**	P	**P**	**07 54 05.6**	**+0.7**
	comp=Z,3.7nm,0.7s,baz=199,slow=8.4,SNR=9.7							

ARMA	**Armidale**	**41.13**	**146**	P	**P**	**07 54 07.0**	**+0.9**	
	baz=41,SNR=7.0							
MDJ	**Mudanjiang**	**41.26**	**3**	P	**P**	**07 54 04.1**	**-2.7**	
MDJ				PMZ				
	comp=Z,2.0nm,0.4s							
MDJ				PMZ				
	comp=Z,29nm,3.0s							
YNG	**Young**	**42.62**	**153**	P	**P**	**07 54 20.4**	**+2.4**	
	baz=43							
LSA	**Lhasa**	**42.67**	**312**	*eP*	**P**	**07 54 19.2**	**0.0**	
	comp=Z,6.5nm,0.6s							
ASAJ	**Asahikawa**	**43.06**	**17**	P	**P**	**07 54 22.1**	**+0.7**	
	comp=Z,7.9nm,0.7s,baz=248,slow=15,SNR=4.9							
GTA	**Gaotai**	**43.45**	**329**	*eP*	**P**	**07 54 25.2**	**+0.4**	
GTA				pP	pP	07 54 37.7	-4.1	
GTA				sP	sP	07 54 42.2	-7.5	
GTA				PcP	**PP**	**07 56 07.6**	**+0.6**	
GTA				PMZ				
	comp=Z,14nm,0.9s							
PALK	**Pallekele**	**45.90**	**277**	P	**P**	**07 54 43.3**	**-1.3**	
	comp=Z,15nm,1.0s,baz=117,slow=8.2,SNR=3.5							
GUN	**Gumba**	**45.92**	**306**	*eP*	**P**	**07 54 44.2**	**-0.8**	
	comp=Z,27nm,0.4s							
KLR	**Kul'dur**	**46.00**	**5**	P	**P**	**07 54 45.0**	**+0.2**	
	comp=Z,2.0nm,0.4s,baz=215,slow=5.6,SNR=10							
DMN	**Daman**	**46.42**	**306**	*eP*	**P**	**07 54 48.4**	**-0.4**	
	comp=Z,14nm,0.6s							
GKN	**Gorkha**	**46.96**	**306**	*eP*	**P**	**07 54 52.2**	**-0.7**	
SONM	**Songino Array**	**47.70**	**342**	P	**P**	**07 54 58.0**	**-0.3**	
	comp=Z,3.5nm,0.5s,baz=150,slow=8.0,SNR=22							
SONM				PcP	**PcP**	**07 56 27.3**	**+0.7**	
	comp=Z,2.1nm,0.6s,baz=171,slow=3.3,SNR=5.1							
KOLN	**Koldanda**	**47.71**	**305**	*eP*	**P**	**07 54 58.1**	**-0.7**	
	comp=Z,59nm,0.5s							
SONA1	**Songino Array**	**47.71**	**342**	*eP*	**P**	**07 54 57.7**	**-0.7**	
PYUN	**Piuthan**	**48.34**	**305**	*eP*	**P**	**07 55 03.4**	**-0.2**	
	comp=Z,78nm,0.8s							
MOO	**Moorlands**	**49.16**	**160**	P	**P**	**07 55 10.8**	**+1.4**	
	baz=49							
HYB	**Hyderabad**	**49.19**	**290**	*i* P	**P**	**07 55 09.0**	**-1.1**	
TLY	**Talaya**	**51.94**	**342**	P	**P**	**07 55 30.7**	**+0.5**	
	comp=Z,4.6nm,0.6s,baz=224,slow=4.6,SNR=4.7							
WMQ	**Urumqi**	**53.05**	**325**	P	**P**	**07 55 39.1**	**+0.4**	
WMQ				pP	pP	07 55 51.6	-4.6	
WMQ				sP	sP	07 55 57.1	-6.8	
WMQ				LN				
	comp=Z,80nm,20.2s							
WMQ				LE				
	comp=Z,140nm,22.8s							
WMQ				LZ				
	comp=Z,96nm,23.6s							
NDI	**New Delhi**	**53.30**	**304**	*eP*	P	07 55 31.5	-9.2	
PETK	**Petropavlovsk-**	**55.89**	**22**	P	**P**	**07 55 59.9**	**+0.9**	
	comp=Z,4.6nm,0.6s,baz=179,slow=3.9,SNR=13							
MK01	**Makanchi Array**	**57.86**	**325**	*eP*	**P**	**07 56 12.1**	**-1.0**	
MK31	**Makanchi Array**	**57.88**	**325**	*eP*	**P**	**07 56 12.5**	**-0.8**	
MKAR	**Makanchi Array**	**57.88**	**325**	P	**P**	**07 56 12.6**	**-0.7**	
	comp=Z,7.7nm,0.4s,baz=119,slow=7.5,SNR=91							
MKAR				ScP	**ScP**	**08 01 00.5**	**+1.2**	
	comp=Z,0.4nm,0.8s,baz=103,slow=3.1,SNR=2.4							
MAKZ	**Makanchi**	**58.07**	**325**	*eP*	**P**	**07 56 13.3**	**-1.2**	
	comp=Z,9.2nm,0.6s							
KSH	**Kashi**	**58.30**	**315**	P	**P**	**07 56 16.9**	**+0.4**	
KSH				pP	pP	07 56 27.1	-7.2	
KSH				PcP	**PcP**	**07 57 05.5**	**-1.5**	
KSH				PP	**PP**	**07 58 26.6**	**+0.4**	
KSH				S	**S**	**08 04 13.9**	**-0.1**	
KSH				ScS	**ScS**	**08 05 58.9**	**-1.4**	
KSH				SS	**SS**	**08 08 11.5**	**+4.5**	
KSH				PMZ				
	comp=Z,5.0nm,0.6s							
KSH				PMZ				
	comp=Z,35nm,3.2s							
KSH				LN				
	comp=Z,220nm,8.6s							
KSH				LE				
	comp=Z,97nm,5.6s							
YAK	**Yakutsk**	**58.67**	**2**	P	**P**	**07 56 18.8**	**+0.5**	
	comp=Z,3.8nm,0.6s,baz=347,slow=18,SNR=9.2							
YAK	**Yakutsk**	**58.67**	**2**	*eP*	**P**	**07 56 18.7**	**+0.3**	
	comp=Z,53nm,0.8s							
TKM2	**Tokmak 2**	**60.03**	**319**	*eP*	**P**	**07 56 28.1**	**-0.4**	
	comp=Z,14nm,1.4s							
AAK	**Ala-Archa**	**60.64**	**318**	P	**P**	**07 56 31.8**	**-0.7**	
	comp=Z,1.2nm,0.4s,baz=159,slow=10,SNR=5.5							
AAK	**Ala-Archa**	**60.64**	**318**	*eP*	**P**	**07 56 31.7**	**-0.9**	
	comp=Z,4.9nm,1.1s							
ZALV	**Zalesovo Beam**	**60.96**	**333**	P	**P**	**07 56 33.2**	**-1.1**	
	comp=Z,11nm,0.3s,baz=129,slow=5.9,SNR=3.0							
EKS2	**Erkin-Say**	**61.13**	**318**	*eP*	**P**	**07 56 35.8**	**-0.1**	
KBL	**Kabul**	**61.73**	**308**	*eP*	**P**	**07 56 39.8**	**-0.3**	
	comp=Z,9.6nm,0.7s							
KURBB	**Kurchatov Arra**	**62.08**	**328**	P	**P**	**07 56 41.4**	**-0.5**	
	comp=Z,28nm,0.7s,baz=127,slow=6.3,SNR=150							
KURK	**Kurchatov**	**62.08**	**328**	*eP*	**P**	**07 56 41.3**	**-0.5**	
	comp=Z,95nm,0.6s							
SEY	**Seymchan**	**62.50**	**13**	P	**P**	**07 56 45.4**	**+0.9**	
	comp=Z,3.3nm,0.7s,baz=204,slow=4.9,SNR=10							
KKAR	**Karatay Array**	**63.51**	**317**	*eP*	**P**	**07 56 50.8**	**-0.8**	
BVAR	**Borovoye Array**	**67.66**	**327**	P	**P**	**07 57 17.3**	**-0.8**	
	comp=Z,7.4nm,0.7s,baz=123,slow=7.8,SNR=46							
BRVK	**Borovoye**	**67.73**	**327**	*eP*	**P**	**07 57 17.5**	**-1.1**	
TIXI	**Tiksi**	**68.30**	**1**	*eP*	**P**	**07 57 21.2**	**-0.5**	
ZRNK	**Zerenda**	**68.38**	**327**	*eP*	**P**	**07 57 21.7**	**-0.9**	
WSAR	**Wadi Sarin**	**68.52**	**294**	P	**P**	**07 57 22.4**	**-1.7**	
	comp=Z,4.9nm,0.9s,baz=117,slow=2.0,SNR=3.0							
NRIK	**Noril'sk**	**70.85**	**346**	P	**P**	**07 57 37.8**	**+0.3**	
	comp=Z,13nm,0.7s,baz=125,slow=6.2,SNR=35							
GEYT	**Alibeck**	**71.11**	**309**	P	**P**	**07 57 39.4**	**-0.4**	
	comp=Z,2.6nm,0.7s,baz=163,slow=5.6,SNR=7.4							
ABKAR	**Akbulak array**	**72.45**	**321**	*eP*	**P**	**07 57 46.7**	**-0.8**	
AKTO	**Aktyubinsk**	**73.96**	**322**	P	**P**	**07 57 55.9**	**-0.5**	
	comp=Z,14nm,0.7s,baz=104,slow=7.7,SNR=30							
ARU	**Arti**	**75.28**	**328**	P	**P**	**07 58 03.2**	**-0.7**	
	comp=Z,16nm,0.7s,baz=114,slow=3.0,SNR=16							
ARU	**Arti**	**75.28**	**328**	*eP*	**P**	**07 58 02.7**	**-1.2**	
	comp=Z,9.1nm,0.5s							
OPO	**Ambohidratompo**	**81.05**	**251**	P	**P**	**07 58 36.9**	**+0.1**	
	comp=Z,12nm,0.7s,baz=104,slow=2.2							
VNDA	**Vanda**	**82.98**	**173**	P	**P**	**07 58 45.9**	**+0.4**	
	comp=Z,1.1nm,0.7s,baz=302,slow=7.3,SNR=7.3							
ILAR	**Eielson Array**	**85.56**	**25**	P	**P**	**07 58 58.5**	**-0.4**	
	comp=Z,0.4nm,0.5s,baz=248,slow=5.1,SNR=15							
ASF	**Jabal al Asfar**	**88.06**	**302**	P	**P**	**07 59 12.7**	**+0.9**	
	comp=Z,7.7nm,0.9s,baz=28,slow=3.0,SNR=11							
KMBO	**Kilima Mbogo**	**89.45**	**269**	P	**P**	**07 59 18.7**	**-0.3**	
	comp=Z,2.5nm,0.6s,baz=37,slow=6.9,SNR=5.6							
KMBO	**Kilima Mbogo**	**89.45**	**269**	*eP*	**P**	**07 59 19.6**	**+0.6**	
	comp=Z,3.3nm,1.0s							
BRTR	**Keskin Array B**	**90.24**	**310**	P	**P**	**07 59 21.0**	**-1.0**	
	comp=Z,5.7nm,0.9s,baz=116,slow=5.6,SNR=27							
ARCES	**ARCESS Array B**	**90.85**	**340**	P	**P**	**07 59 22.6**	**-1.4**	
	comp=Z,2.0nm,0.4s,baz=78,slow=6.8,SNR=10							
AKASG	**Malin Array Be**	**92.19**	**321**	P	**P**	**07 59 29.4**	**-1.2**	
	comp=Z,0.9nm,0.4s,baz=65,slow=4.7,SNR=7.5							
FINES	**FINESS Array B**	**92.19**	**332**	P	**P**	**07 59 29.3**	**-1.0**	
	comp=Z,1.4nm,0.5s,baz=78,slow=3.6,SNR=13							
SORM	**Soroca**	**93.12**	**318**	⇓*i*P	**P**	**07 59 35.0**	**+0.1**	
TIRR	**Tirgusor**	**93.60**	**315**	⇓*i*P	**P**	**07 59 37.0**	**-0.2**	
CFR	**Carcaliu**	**93.69**	**315**	⇓*i*P	**P**	**07 59 37.4**	**-0.2**	
TESR	**Tescani**	**94.51**	**317**	⇓*i*P	**P**	**07 59 41.3**	**-0.1**	
VRI	**Vrancioaia**	**94.56**	**316**	⇑*i*P	**P**	**07 59 42.5**	**+0.8**	
PLOR	**Ploistina**	**94.62**	**316**	⇑*i*P	**P**	**07 59 41.8**	**-0.1**	
MLR	**Muntele Rosu**	**95.17**	**316**	⇑*i*P	**P**	**07 59 44.3**	**-0.3**	
BURAR	**Bucovina Array**	**95.28**	**318**	⇑*i*P	**P**	**07 59 44.8**	**-0.2**	
DRGR		**97.12**	**318**	⇓*i*P	**P**	**07 59 53.0**	**-0.4**	
CRVS	**Cervenica-Dubn**	**97.47**	**320**	*eP*	Pdif	07 59 55.5	+0.7	
STHS	**Stebnicka Huta**	**97.48**	**321**	*eP*	Pdif	07 59 55.7	+0.8	
NB2	**NORSAR Subarra**	**99.16**	**334**	P	**Pdif**	**08 00 00.7**	**-1.4**	
	comp=Z,0.7nm,0.6s,baz=66,slow=4.8							
NOA	**NORSAR Array B**	**99.16**	**334**	P	**Pdif**	**08 00 00.5**	**-1.7**	
	comp=Z,1.0nm,0.6s,baz=67,slow=4.5,SNR=3.9							
GERES	**GERESS Array B**	**102.39**	**321**	P	**Pdif**	**08 00 16.5**	**-0.4**	
	comp=Z,0.2nm,0.6s,baz=5.6,slow=5.5,SNR=3.5							
TXAR	**Lajitas Array**	**121.95**	**52**	PKP	**PKPdf**	**08 05 16.5**	**+0.7**	
	comp=Z,0.5nm,0.6s,baz=338,slow=1.4,SNR=9.8							
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP	**PKPdf**	**08 05 17.3**	**-0.6**	
	comp=Z,0.8nm,0.6s,baz=38,slow=2.3,SNR=5.4							
WMOK	**Wichita Mounta**	**123.03**	**44**	*e*Pdif	**Pdif**	**08 01 46.0**	**-2.8**	
JCT	**Junction City**	**124.43**	**49**	*e*PKPdf	**PKPdf**	**08 05 21.6**	**+1.1**	
LPAZ	**La Paz**	**160.55**	**133**	PKP	**PKPdf**	**08 06 22.7**	**+0.5**	
	comp=Z,1.5nm,1.0s,baz=303,slow=5.9,SNR=5.0							

*IDC **05** 07:49:50.1±1.5,38°.76N×144°.70E,h0km,mb3.4/2,*

mb1 3.7/4,mb1mx3.3/48,mbtmp3.4/4,ML3.6/1,Error ellipse: s-maj=43.2km s-min=24.3km az=103.0

*ISCJB **05** 07:49:52.6±0.8,38°.81N±0°.04×144°.77E±0°.05,h33km, mb3.5/2,Error ellipse: s-maj=7.0km s-min=4.9km az=43.7*

*JMA **05** 07:49:54.2±0.1,38°.70N×144°.56E,h27km,M3.6*

ISC 05 07:49:54.5±1.2,38.77N±0°.06×144.76E±0°.07,h35km,n23, σ1s27/35,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.42**	**290**	P	**Pn**	**07 50 31.4**	**-0.2**
MIYJ				S	**Sn**	**07 50 59.3**	**-0.7**
OFUJ	**Ofunato**	**2.43**	**278**	P	**Pn**	**07 50 31.5**	**-0.2**
JTH	**Tanohata**	**2.53**	**298**	P	**Pn**	**07 50 33.3**	**+0.2**
JTH				S	**Sn**	**07 51 02.2**	**-0.5**
JMK	**Ichinoseki**	**2.77**	**275**	P	**Pn**	**07 50 36.4**	**0.0**
JMK				S	**Sn**	**07 51 07.9**	**-0.7**
JOM	**Ohasama**	**2.79**	**286**	P	**Pn**	**07 50 36.8**	**+0.2**
JOM				S	**Sn**	**07 51 08.1**	**-0.9**
JANG	**Nango**	**2.98**	**304**	P	**Pn**	**07 50 39.5**	**+0.3**
JOU	**Okura**	**3.24**	**264**	P	**Pn**	**07 50 42.5**	**-0.3**
JOU				*e*S	**Sn**	**07 51 19.2**	**-1.0**
JRG	**Rokugo**	**3.27**	**282**	P	**Pn**	**07 50 43.6**	**+0.3**
JRG				*e*S	**Sn**	**07 51 20.9**	**-0.1**
JYK	**Kaneyama**	**3.44**	**274**	P	**Pn**	**07 50 46.2**	**+0.6**
JYK				*e*S	**Sn**	**07 51 25.4**	**+0.3**
JTM	**Tenmabayashi**	**3.49**	**306**	P	**Pn**	**07 50 47.6**	**+1.4**
JTM				*e*S	**Sn**	**07 51 26.3**	**+0.1**
JAH	**Hinai**	**3.49**	**295**	P	**Pn**	**07 50 47.0**	**+0.7**
JAH				*e*S	**Sn**	**07 51 26.8**	**+0.4**
JFT	**Otama**	**3.71**	**252**	P	**Pn**	**07 50 49.1**	**-0.2**
JFT				*e*S	**Sn**	**07 51 30.3**	**-1.4**
JCH	**Churui**	**3.98**	**345**	P	**Pn**	**07 50 52.8**	**-0.2**
JCH				*e*S	**Sn**	**07 51 37.6**	**-0.8**
NEM2	**Nemuro 2**	**4.65**	**9**	P	**Pn**	**07 51 00.5**	**-1.6**
NEM2				*e*S	**Sn**	**07 51 51.2**	**-3.6**
JTKR	**Abashiri--Toko**	**5.23**	**353**	P	**Pn**	**07 51 10.2**	**0.0**
JTKR				*e*S	**Sn**	**07 52 07.8**	**-1.4**
JRY	**Ryogami san**	**5.42**	**241**	P	**Pn**	**07 51 11.5**	**-1.3**
JRY				*e*S	**Sn**	**07 52 09.8**	**-4.1**
ASAJ	**Asahikawa**	**5.58**	**344**	Pn	**Pn**	**07 51 13.5**	**-1.4**
ASAJ	baz=180,slow=10			Sn	**Sn**	**07 52 18.2**	**+0.4**
	baz=90,slow=20						
MJAR	**Matsushiro Arr**	**5.66**	**249**	Pn	**Pn**	**07 51 16.2**	**+0.1**
	1.8nm,0.3s,baz=62,slow=13,SNR=20						
H11N2	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	08 23 30.9	
	baz=320,slow=74,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**26.96**	**128**	T	T	08 23 29.8	
	baz=320,slow=74,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**26.97**	**128**	T	T	08 23 33.0	
	baz=320,slow=74,SNR=5.3						
ILAR	**Eielson Array**	**46.60**	**33**	P	**P**	**07 58 20.5**	**+1.9**
	0.2nm,0.6s,baz=260,slow=6.2,SNR=4.3						
WRA	**Warramunga Arr**	**59.22**	**191**	P	**P**	**07 59 52.3**	**+0.1**
	0.7nm,0.8s,baz=13,slow=6.7,SNR=3.5						

IDC 05 07:53:55.4±2.9,3°.89S×151°.68E,h0km,mb3.3/3, mb1 3.7/3,mb1mx3.3/33,mbtmp3.4/3,Error ellipse: s-maj=299.5km s-min=28.3km az=126.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.25**	**225**	P	P	07 59 04.2

msh5.5/3
*MOS **05** 08:17:06.4±1.1,46.71N×152.75E,h51km,mb4.0/3, Error ellipse: s-maj=16.4km s-min=9.3km az=58.7*
*IDC **05** 08:17:08.5±3.0,46.86N×152.65E,h77km±26km,mb3.1/11, mb1 3.3/13,mb1mx3.2/44,mbtmp3.5/13, Error ellipse: s-maj=25.6km s-min=17.1km az=131.0*

ISC 05 08:17:03.4±0.8,**46.5N**±0.1×**153.04E**±0.10,**h35**km,**n51**, σ2s**69**/55,**mb3.5**/11,**1C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.81**	**253**	*e*PN	**Pn**	**08 18 04.1**	**+4.5**
KUR				*e*S	**Sn**	**08 18 46.2**	**+3.0**
KUR				pmax	pmax		
	comp=Z,17nm,0.2s						
KUR				smax	smax		
	comp=N,51nm,0.5s						
KUR				smax	smax		
	comp=E,20nm,0.5s						
KUR	**Kuril'sk**	**3.81**	**253**	*e*P	**Pn**	**08 18 02.1**	**+2.5**
KUR				AMB	AMB	08 18 04.4	
	comp=E,43nm,0.4s						
KUR				*e*S	**Sn**	**08 18 43.8**	**+0.6**
KUR				A	A	08 19 02.1	
	comp=E,164nm,0.5s						
KUR				A	A	08 19 02.1	
	comp=E,156nm,0.5s						
SKR	**Severo-Kuril's**	**4.70**	**25**	*e*PN	**Pn**	**08 18 14.1**	**+2.3**
SKR	**Severo-Kuril's**	**4.70**	**25**	*e*P	**Pn**	**08 18 14.1**	**+2.3**
SHO	**Shikotan**	**5.09**	**242**	*e*PN	**Pn**	**08 18 18.6**	**+1.4**
SHO				*i* S	**Sn**	**08 19 13.8**	**-0.9**
SHO				pmax	pmax		
	comp=Z,13nm,0.6s						
SHO				pmax	pmax		
	comp=E,15nm,0.7s						
SHO				pmax	pmax		
	comp=N,5.0nm,0.3s						
SHO				smax	smax		
	comp=N,39nm,0.4s						
SHO				smax	smax		
	comp=E,78nm,0.4s						
SHO	**Shikotan**	**5.09**	**242**	*e*P	**Pn**	**08 18 18.6**	**+1.4**
SHO				AMB	AMB	08 18 21.4	
	comp=E,40nm,0.5s						
SHO				*i* S	**Sn**	**08 19 13.8**	**-0.9**
SHO				A	A	08 19 33.8	
	comp=E,56nm,0.4s						
SHO				A	A	08 19 33.8	
	comp=E,99nm,0.4s						
PAU	**Pauzhetka**	**5.60**	**25**	*e*PN	**Pn**	**08 18 27.4**	**+3.3**
PAU				*e*S	**Sn**	**08 19 29.8**	**+2.6**
PAU	**Pauzhetka**	**5.60**	**25**	*e*P	**Pn**	**08 18 27.4**	**+3.3**
PAU				*e*S	**Sn**	**08 19 29.8**	**+2.6**
YUK	**Yuzh-Kuril'sk**	**5.61**	**247**	*e*PN	**Pn**	**08 18 27.7**	**+3.4**
YUK				*e*S	**Sn**	**08 19 33.2**	**+5.7**
YUK				pmax	pmax		
	comp=Z,41nm,0.4s						
YUK				pmax	pmax		
	comp=N,23nm,0.2s						
YUK				pmax	pmax		
	comp=E,31nm,0.2s						
YUK				smax	smax		
	comp=N,31nm,0.6s						
YUK				smax	smax		
	comp=E,88nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.61**	**247**	*e*P	**Pn**	**08 18 26.0**	**+1.7**
YUK				AMB	AMB	08 18 28.2	
	comp=E,24nm,0.3s						
YUK				AMB	AMB	08 18 28.2	
	comp=E,31nm,0.3s						
YUK				AMB	AMB	08 18 28.2	
	comp=E,42nm,0.3s						
YUK				*e*S	**Sn**	**08 19 27.3**	**-0.2**
YUK				A	A	08 19 50.2	
	comp=E,46nm,0.4s						
YUK				A	A	08 19 50.2	
	comp=E,89nm,0.4s						
NEM2	**Nemuro 2**	**6.03**	**242**	P	**Pn**	**08 18 31.5**	**+1.5**
NEM2				*e*S	**Sn**	**08 19 36.4**	**-1.4**
JNK	**Nakash**	**6.55**	**247**	P	**Pn**	**08 18 40.2**	**+2.9**
JAK	**Akkeshi**	**6.87**	**243**	*e*S	**Sn**	**08 19 56.0**	**-2.5**
JTKR	**Abashiri--Toko**	**6.91**	**252**	P	**Pn**	**08 18 45.7**	**+3.6**
JAR	**Ashorobuto**	**7.30**	**248**	P	**Pn**	**08 18 50.5**	**+3.0**
JAR				*e*S	**Sn**	**08 20 10.6**	**+1.5**
PETK	**Petropavlovsk-**	**7.31**	**23**	P	**Pn**	**08 18 48.8**	**+1.1**
	baz=183,slow=10,SNR=2.4						
HRK	**Horoka**	**7.64**	**251**	*e*P	**Pn**	**08 18 55.8**	**+3.6**
JKK2	**Kamakawa 2**	**7.72**	**254**	P	**Pn**	**08 18 56.9**	**+3.7**
JKA	**Kamikawa-asahi**	**7.72**	**256**	*e*P	**Pn**	**08 18 57.3**	**+4.0**
ASAJ	**Asahikawa**	**7.73**	**256**	P	**Pn**	**08 18 57.3**	**+4.0**
	comp=E,0.6nm,0.3s,baz=77,slow=18,SNR=6.2						
JCH	**Churui**	**7.91**	**244**	*e*S	**Sn**	**08 20 21.7**	**-2.2**
TYV	**Tymovskoe**	**8.17**	**306**	*e*PN	**Pn**	**08 19 02.5**	**+3.2**
ERM	**Erimo**	**8.37**	**242**	PN	**Pn**	**08 19 05.8**	**+3.7**
ERM	**Erimo**	**8.37**	**242**	*e*P	**Pn**	**08 19 05.8**	**+3.7**
JNB	**Noboribetsu**	**9.46**	**249**	P	**Pn**	**08 19 19.1**	**+2.0**
KSRS	**Korea Array**	**20.66**	**253**	P	**P**	**08 21 39.8**	**-0.2**
	comp=E,0.5nm,0.6s,baz=55,slow=9.4,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**28.98**	**152**	T	T	08 54 19.3	
	baz=340,slow=76,SNR=278						
H11N1	**WAKE ISLAND Hy**	**28.99**	**152**	T	T	08 54 18.8	
	baz=340,slow=76,SNR=146						
H11N3	**WAKE ISLAND Hy**	**28.99**	**152**	T	T	08 54 21.0	
	baz=340,slow=76,SNR=142						
H11S1	**WAKE ISLAND Hy**	**30.06**	**153**	T	T	08 55 38.6	
	baz=341,slow=76,SNR=163						
H11S3	**WAKE ISLAND Hy**	**30.07**	**153**	T	T	08 55 41.4	
	baz=341,slow=76,SNR=171						
H11S2	**WAKE ISLAND Hy**	**30.08**	**153**	T	T	08 55 38.6	
	baz=341,slow=76,SNR=165						
ILAR	**Eielson Array**	**36.81**	**38**	P	**P**	**08 24 06.3**	**-1.3**
	comp=E,0.1nm,0.8s,baz=289,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**47.03**	**298**	P	**P**	**08 25 28.2**	**-3.0**
	comp=E,0.1nm,0.4s,baz=59,slow=5.6,SNR=3.3						
MKAR				PcP	**PcP**	**08 27 01.9**	**-1.0**
	comp=E,0.3nm,0.6s,baz=90,slow=5.8,SNR=2.2						
KURK	**Kurchatov**	**47.49**	**304**	P	**P**	**08 25 32.3**	**-2.3**
KURK	**Kurchatov**	**47.49**	**304**	*e*P	**P**	**08 25 32.3**	**-2.3**
KURBB	**Kurchatov Arra**	**47.58**	**304**	P	**P**	**08 25 32.3**	**-3.0**
	comp=E,0.2nm,0.4s,baz=71,slow=8.3,SNR=3.2						
YKA	**Yellowknife Ar**	**51.19**	**37**	P	**P**	**08 26 02.7**	**0.0**
	comp=E,0.2nm,0.6s,baz=284,slow=5.0,SNR=2.6						
AAK	**Ala-Archa**	**53.92**	**297**	*i*P	P	08 26 11.9	-12
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**64.29**	**335**	P	**P**	**08 27 32.1**	**-2.6**
	comp=Z,0.6nm,0.4s,baz=25,slow=8.3,SNR=12						
FINES	**FINESS Array B**	**64.29**	**335**	*e*P	**P**	**08 27 32.3**	**-2.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.29**	**335**	*e*P	**P**	**08 27 32.3**	**-2.4**
WRA	**Warramunga Arr**	**68.21**	**199**	P	**P**	**08 28 01.7**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=17,slow=6.9,SNR=2.7						
NB2	**NORSAR Subarra**	**68.49**	**341**	P	**P**	**08 27 59.0**	**-2.7**
	comp=Z,0.6nm,0.5s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.49**	**341**	P	**P**	**08 27 59.4**	**-2.2**
	comp=Z,0.6nm,0.6s,baz=30,slow=6.6,SNR=4.8						
NOA	**NORSAR Array B**	**68.49**	**341**	*e*P	**P**	**08 27 59.7**	**-2.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**68.49**	**341**	*e*P	**P**	**08 27 59.7**	**-2.0**
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**08 28 19.1**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=34,slow=5.8,SNR=6.0						
AKASG	**Malin Array Be**	**71.77**	**326**	*e*P	**P**	**08 28 19.4**	**-2.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**71.91**	**198**	P	**P**	**08 28 25.6**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=13,slow=4.9,SNR=5.4						
TXAR	**Lajitas Array**	**77.68**	**60**	P	**P**	**08 28 57.3**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=309,slow=4.3,SNR=2.8						

*IDC **05** 08:19:00.1±2.0,36.92N×141.11E,h0km,mb3.3/3, mb1 3.4/5,mb1mx3.2/45,mbtmp3.3/5,ML2.9/2, Error ellipse: s-maj=39.6km s-min=23.1km az=71.0*
*ISCJB **05** 08:19:01.8±1.0,37.11N±0.03×140.89E±0.07,h6km±4km, mb3.3/3,Error ellipse: s-maj=9.7km s-min=5.0km az=17.5*
*JMA **05** 08:19:02.5,37.12N×140.83E,h8km±1km,M3.3*
JMA Felt II J1.

ISC 05 08:19:00.2±1.8,**37.08N**±0.04×**140.96E**±0.08,**h7**km±10km, **n13**,σ1s**35**/22,**mb3.5**/3,**4C-1D,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.13**	**282**	⇓P	**Pg**	**08 19 03.8**	**+0.8**
ONAJ				S	**Sg**	**08 19 04.9**	**0.0**
JFK	**Kawauchi**	**0.30**	**347**	⇑P	**Pb**	**08 19 07.6**	**-0.3**
JFK				S	**Sb**	**08 19 11.4**	**-1.6**
JHO	**Hitachi**	**0.56**	**214**	P	**Pn**	**08 19 12.8**	**-1.8**
JHO				S	**Sb**	**08 19 20.1**	**-0.4**
JFT	**Otama**	**0.66**	**312**	⇑P	**Pb**	**08 19 13.7**	**-0.4**
JFT				S	**Sg**	**08 19 21.5**	**-0.1**
JMM	**Marumori**	**0.80**	**351**	⇑P	**Pn**	**08 19 16.5**	**-1.4**
JMM				S	**Sb**	**08 19 26.7**	**-0.7**
JSB	**Shiboa**	**0.84**	**263**	P	**Pn**	**08 19 17.4**	**-1.0**
JSB				S	**Sg**	**08 19 27.8**	**+0.7**
JFY	**Yanaizu**	**1.05**	**289**	⇑P	**Pb**	**08 19 20.5**	**-0.2**
JFY				S	**Sg**	**08 19 32.9**	**-1.1**
MJAR	**Matsushiro Arr**	**2.27**	**257**	Pn	**Pb**	**08 19 40.6**	**-0.8**
	3.3nm,0.3s,baz=80,slow=16,SNR=24						
MJAR				Sn	**Sb**	**08 20 08.5**	**-1.3**
	2.0nm,0.3s,baz=81,slow=29,SNR=6.9						
MAT	**Matsushiro**	**2.27**	**257**	P	**Pb**	**08 19 40.6**	**-0.9**
MAT				S	**Sb**	**08 20 10.0**	**+0.2**
JHJ	**Hachijo jima 2**	**4.06**	**194**	Pn	**Pn**	**08 20 01.4**	**-1.4**
	2.2nm,0.3s,baz=61,slow=19,SNR=4.5						
MKAR	**Makanchi Array**	**43.79**	**302**	P	**P**	**08 27 10.3**	**+3.9**
	0.1nm,0.5s,baz=92,slow=9.4,SNR=2.1						
KURBB	**Kurchatov Arra**	**45.69**	**308**	P	**P**	**08 27 22.1**	**+0.6**
	0.2nm,0.4s,baz=85,slow=8.3,SNR=2.8						
WRA	**Warramunga Arr**	**57.05**	**187**	P	**P**	**08 28 47.2**	**+0.3**
	0.5nm,1.0s,baz=7.6,slow=7.5,SNR=5.8						

*IDC **05** 08:19:16.2±2.9,1.03S×99.72E,h0km,mb3.6/3,mb1 3.8/3, mb1mx3.4/43,mbtmp3.6/3,Error ellipse: s-maj=166.2km s-min=27.2km az=53.0*
*ISCJB **05** 08:19:28.4±0.8,0.77S±0.05×99.87E±0.07,h57km, mb3.5/3, Error ellipse: s-maj=9.6km s-min=7.7km az=1.8*
*DJA **05** 08:19:28.9±0.7,1°S±3°×10°E±°,h39km±10km,M3.7/6, MLv3.7/6*

ISC 05 08:19:26.5±1.0,**0.79S**±0.06×**99.88E**±0.07,**h57**km,**n13**, σ2s**83**/13,**mb3.5**/3,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.59**	**102**	P	**Pn**	**08 19 42.0**	**+2.7**
PDSI				S	**Sn**	**08 19 50.0**	**+1.4**
PPI	**Padang Panjang**	**0.61**	**58**	P	**Pn**	**08 19 42.0**	**+2.5**
PPI				S	**Sn**	**08 19 51.7**	**+2.8**
MNSI	**Mandailing Nat**	**1.60**	**349**	P	**Pn**	**08 19 54.5**	**+2.0**
BKNI	**Bangkinang**	**1.60**	**46**	P	**Pn**	**08 19 54.5**	**+2.0**
PPSI	**Pulau Pagai**	**1.97**	**176**	P	**Pn**	**08 19 59.5**	**+2.0**
PPSI				S	**Sn**	**08 20 24.6**	**+3.6**
GSI	**Gunungsitoli**	**3.10**	**312**	P	**Pn**	**08 20 15.7**	**+2.7**
H08S2	**Diego Garcia H**	**28.13**	**255**	T	T	08 53 21.5	
	baz=77,slow=75,SNR=4.1						
H08S3	**Diego Garcia H**	**28.14**	**255**	T	T	08 53 22.1	
	baz=77,slow=75,SNR=3.7						
H08S1	**Diego Garcia H**	**28.15**	**255**	T	T	08 53 21.5	
	baz=77,slow=75,SNR=3.3						
WRA	**Warramunga Arr**	**38.72**	**122**	P	**P**	**08 26 41.9**	**-3.4**
	0.2nm,0.3s,baz=297,slow=9.2,SNR=9.6						
ASAR	**Alice Springs**	**40.07**	**127**	P	**P**	**08 26 54.0**	**-2.7**
	0.4nm,0.5s,baz=299,slow=7.2,SNR=9.6						
ASAR				PcP	**PcP**	**08 28 58.5**	**-2.1**
	0.2nm,0.5s,baz=301,slow=3.2,SNR=3.7						
MKAR	**Makanchi Array**	**49.84**	**344**	P	**P**	**08 28 12.7**	**-1.1**
	0.5nm,0.5s,baz=168,slow=8.0,SNR=6.8						
TXAR	**Lajitas Array**	**143.81**	**36**	PKP	PKPab	08 38 52.3	-0.9
	0.3nm,0.9s,baz=270,slow=1.8,SNR=2.6						

*NIED **05** 08:21:00,37.70N×143.90E,h5km,Mw4.1 Best double couple: Mo1.37000×10^15 NP1:ϕs22.00000°,δ24.00000°, λ-76.00000°. NP2:ϕs186.00000°,δ67.00000°, λ-96.00000°.*
*IDC **05** 08:21:52.7±0.6,37.43N×144.09E,h0km,mb3.9/17, mb1 4.1/23,mb1mx4.0/48,mbtmp4.0/23,ML4.1/4,MS3.2/1, Ms1 3.2/1,ms1mx2.4/47,Error ellipse: s-maj=17.1km s-min=13.3km az=113.0*
*ISCJB **05** 08:21:55.8±0.4,37.51N±0.04×143.88E±0.05,h33km, mb3.9/21,Error ellipse: s-maj=5.8km s-min=4.6km az=39.6*
*JMA **05** 08:21:56.3±0.1,37.73N×143.86E,h25km,M4.4*
*NEIC **05** 08:21:57.9±0.4,37.48N×144.03E,h35km,mb4.3/4, Error ellipse: s-maj=10.3km s-min=7.3km az=135.0*

ISC 05 08:21:58.4±0.6,**37.65N**±0.05×**143.93E**±0.06,**h35**km,**n53**, σ2s**21**/62,**mb3.9**/21,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.19**	**292**	P	**Pn**	**08 22 31.0**	**-1.2**
JIO				S	**Sn**	**08 22 56.7**	**-1.4**
OFUJ	**Ofunato**	**2.28**	**310**	P	**Pn**	**08 22 32.3**	**-1.2**
JMK	**Ichinoseki**	**2.50**	**302**	P	**Pn**	**08 22 35.6**	**-0.9**
JOM	**Ohasama**	**2.75**	**312**	P	**Pn**	**08 22 39.3**	**-0.7**
JOM				*e*S	**Sn**	**08 23 10.8**	**-1.3**
JFT	**Otama**	**2.85**	**269**	*e*S	**Sn**	**08 23 13.5**	**-1.1**
JRG	**Rokugo**	**3.12**	**305**	P	**Pn**	**08 22 44.5**	**-0.5**
JANG	**Nango**	**3.31**	**326**	*e*S	**Sn**	**08 23 25.5**	**-2.3**
BSO1	**Boso 1**	**3.82**	**220**	P	**Pn**	**08 22 51.1**	**-3.1**
BSO1				*e*S	**Sn**	**08 23 34.1**	**-3.5**
JTM	**Tenmabayashi**	**3.84**	**326**	P	**Pn**	**08 22 55.4**	**+0.4**
JTM				*e*S	**Sn**	**08 23 36.8**	**-2.1**
JOT	**Ohata**	**4.34**	**330**	P	**Pn**	**08 23 02.1**	**+0.2**
JRY	**Ryogami san**	**4.35**	**250**	*e*S	**Sn**	**08 23 46.5**	**-4.9**
ERM	**Erimo**	**4.40**	**353**	*e*Pn	**Pn**	**08 23 02.3**	**-0.3**
JOD2	**Odawara 2**	**4.57**	**240**	P	**Pn**	**08 23 01.8**	**-3.2**
JOD2				*e*S	**Sn**	**08 23 51.3**	**-5.5**
MJAR	**Matsushiro Arr**	**4.70**	**258**	Pn	**Pn**	**08 23 05.7**	**-1.1**
	28nm,0.3s,baz=86,slow=15,SNR=69						
MAJO	**Matsushiro**	**4.70**	**258**	*e*Pn	**Pn**	**08 23 07.2**	**+0.4**
MAT	**Matsushiro**	**4.70**	**258**	P	**Pn**	**08 23 07.1**	**+0.3**
MAT				S	**Sn**	**08 23 59.6**	**-0.6**
JKB	**Kayabe**	**4.79**	**333**	P	**Pn**	**08 23 07.9**	**0.0**
JKB				*e*S	**Sn**	**08 23 59.0**	**-3.1**
JCH	**Churui**	**4.98**	**355**	P	**Pn**	**08 23 09.1**	**-1.5**
JCH				*e*S	**Sn**	**08 24 03.7**	**-3.3**
JHJ2	**Mitsune**	**5.63**	**218**	*e*Pn	**Pn**	**08 23 16.9**	**-2.7**
JHJ	**Hachijo jima 2**	**5.64**	**218**	Pn	**Pn**	**08 23 15.2**	**-4.6**
	25nm,0.3s,baz=333,slow=22,SNR=38						
JHJ				Sn	Sn	08 24 13.5	-10
	43nm,0.3s,baz=84,slow=22,SNR=11						
NEM2	**Nemuro 2**	**5.88**	**13**	P	**Pn**	**08 23 19.3**	**-3.6**
NEM2				*e*S	**Sn**	**08 24 22.1**	**-6.9**
ASAJ	**Asahikawa**	**6.54**	**352**	Pn	**Pn**	**08 23 32.1**	**+0.1**
	3.6nm,0.3s,baz=194,slow=15,SNR=28						
ASAJ				Sn	**Sn**	**08 24 42.3**	**-3.1**
	2.1nm,0.3s,baz=120,slow=20,SNR=3.8						
ASAJ	**Asahikawa**	**6.54**	**352**	*e*Pn	**Pn**	**08 23 32.3**	**+0.2**
ASAJ				Sn	**Sn**	**08 24 42.3**	**-3.1**
ASAJ				*e*Sn	Sn	08 24 43.4	-2.0
CBIJ	**Chichi jima**	**10.62**	**188**	Pn	Pn	08 24 21.5	-6.5
CBIJ				Sn	Sn	08 26 10.7	-15
JCJ	**Chichijima**	**10.62**	**188**	Pn	Pn	08 24 21.5	-6.5
	baz=15,slow=20						
JCJ				Sn	Sn	08 26 10.7	-15
	8.1nm,0.3s,baz=300,slow=20,SNR=4.7						
USRK	**Ussuriysk Ar.**	**11.15**	**310**	Pn	**Pn**	**08 24 36.2**	**+1.1**
	0.4nm,0.3s,baz=125,slow=13,SNR=5.8						
KSRS	**Korea Array**	**12.71**	**274**	Pn	**Pn**	**08 24 58.0**	**+1.5**
	0.2nm,0.3s,baz=85,slow=14,SNR=12						
KSAR	**Wonju Array Be**	**12.74**	**274**	Pn	**Pn**	**08 24 58.0**	**+1.0**
KLR	**Kul'dur**	**14.55**	**327**	Pn	**Pn**	**08 25 19.8**	**-1.8**
	0.1nm,0.3s,baz=129,slow=15,SNR=4.1						
KLR				LR	LR	08 31 30.9	
	comp=Z,93nm,18.6s,baz=126,slow=39						
BJT	**Baijiatuau**	**21.72**	**285**	*e*P	**P**	**08 26 47.2**	**+0.8**
	6.1nm,0.8s						
SEY	**Seymchan**	**25.84**	**9**	P	**P**	**08 27 27.1**	**+0.9**
	3.4nm,0.8s,baz=185,slow=8.3,SNR=11						
SONM	**Songino Array**	**29.13**	**303**	P	**P**	**08 27 58.1**	**+2.1**
	0.7nm,0.4s,baz=91,slow=9.5,SNR=4.5						
ENH	**Enshi**	**29.38**	**266**	P	**P**	**08 27 58.2**	**0.0**
	5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.59**	**257**	P	**P**	**08 30 01.0**	**+1.8**
	0.4nm,0.3s,baz=46,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**45.49**	**302**	P	**P**	**08 30 15.4**	**+1.2**
	0.7nm,0.6s,baz=86,slow=11,SNR=6.4						
KURK	**Kurchatov**	**47.13**	**308**	P	**P**	**08 30 28.5**	**+1.6**
KURBB	**Kurchatov Arra**	**47.21**	**308**	P	**P**	**08 30 28.5**	**+1.0**
	1.3nm,0.4s,baz=82,slow=8.0,SNR=11						
ILAR	**Eielson Array**	**47.90**	**33**	P	**P**	**08 30 33.2**	**+0.5**
	2.1nm,0.7s,baz=263,slow=6.5,SNR=28						
TKM2	**Tokmak 2**	**51.10**	**299**	*e*P	**P**	**08 30 59.1**	**+1.4**
	5.2nm,1.4s						
INK	**Inuvik**	**52.93**	**28**	P	**P**	**08 31 11.4**	**+0.8**
	1.0nm,0.7s,baz=282,slow=5.6,SNR=6.2						
WRAB	**Tennant Creek**	**57.98**	**191**	*e*P	**P**	**08 31 44.3**	**-3.1**
	3.4nm,0.8s						
WRA	**Warramunga Arr**	**57.99**	**191**	P	**P**	**08 31 45.3**	**-2.2**
	3.0nm,0.6s,baz=11,slow=7.4,SNR=34						
WRA				PcP	**PcP**	**08 32 38.3**	**-1.0**
	0.8nm,0.6s,baz=3.0,slow=4.4,SNR=6.9						
ASAR	**Alice Springs**	**61.71**	**190**	P	**P**	**08 32 11.4**	**-1.6**
	2.0nm,0.8s,baz=12,slow=7.3,SNR=22						
ASAR				PcP	**PcP**	**08 32 54.1**	**0.0**
	0.4nm,0.7s,baz=10,slow=4.7,SNR=2.7						
YKA	**Yellowknife Ar**	**62.27**	**31**	P	**P**	**08 32 16.2**	**-0.1**
	0.5nm,0.8s,baz=302,slow=6.8,SNR=4.4						
FINES	**FINESS Array B**	**69.19**	**333**	P	**P**	**08 33 01.9**	**+0.9**
	0.9nm,0.8s,baz=22,slow=12,SNR=3.2						
KBZ	**Khabaz**	**72.01**	**312**	P	**P**	**08 33 20.1**	**+1.6**
	1.5nm,0.8s,baz=34,slow=3.6,SNR=2.7						
NVAR	**Mina Array Bea**	**73.01**	**54**	P	**P**	**08 33 26.0**	**+1.1**
	0.6nm,0.9s,baz=280,slow=5.4,SNR=3.4						
NB2	**NORSAR Subarra**	**74.38**	**338**	P	P	08 33 43.4	+11
	comp=Z,0.6nm,0.7s,baz=39,slow=5.9						
NOA	**NORSAR Array B**	**74.38**	**338**	P	**P**	**08 33 32.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=37,slow=5.9,SNR=2.8						
AKASG	**Malin Array Be**	**75.02**	**323**	P	**P**	**08 33 36.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=34,slow=3.5,SNR=3.3						
PDAR	**Pinedale Array**	**75.80**	**47**	P	**P**	**08 33 41.5**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=252,slow=1.4,SNR=4.9						
TXAR	**Lajitas Array**	**88.15**	**54**	P	**P**	**08 34 45.9**	**0.0**
	comp=Z,0.3nm,0.7s,baz=272,slow=2.8,SNR=5.9						
LPAZ	**La Paz**	**144.65**	**62**	PKP	PKPbc	08 41 31.1	-0.3
	comp=Z,0.4nm,0.5s,baz=218,slow=0.9,SNR=4.6						

JMA 05 08:22:12.9,37.11N×140.83E,h7km±1km,**M3.3,6C-1D Broadband fault plane solution: P waves. NP1:** ϕs217.00000°,δ66.00000°,λ-102.00000°. **NP2:** ϕs64.00000°,δ27.00000°,λ-66.00000°. **Principal axes:** T Plg20.0000°, Azm316.0000°; N Plg11.0000°, Azm222.0000°; P Plg67.0000°, Azm106.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.03**	**252**	⇓P	Pg	08 22 14.1	-0.2
ONAJ				S	Sg	08 22 15.2	-0.1
JFK	**Kawauchi**	**0.26**	**8**	⇑P	Pg	08 22 18.0	0.0
JFK				S	Sg	08 22 21.8	+0.3
JHO	**Hitachi**	**0.54**	**203**	⇑P	Pg	08 22 23.1	-0.2
JHO				S	Sg	08 22 30.5	+0.1
JFT	**Otama**	**0.57**	**316**	⇑P	Pg	08 22 24.1	+0.3
JFT				S	Sg	08 22 32.0	+0.8
JSB	**Shiboa**	**0.74**	**259**	⇑P	Pb	08 22 27.8	-0.4
JSB				S	Sb	08 22 38.2	-0.3
JMM	**Marumori**	**0.76**	**358**	⇑P	Pg	08 22 27.0	-0.4
JMM				S	Sg	08 22 37.4	+0.1
JFY	**Yanaizu**	**0.94**	**289**	⇑P	Pg	08 22 30.9	-0.2
JFY				S	Sg	08 22 43.3	0.0
JYT	**Yasato**	**1.02**	**210**	P	Pg	08 22 31.8	-0.6
JYT				S	Sg	08 22 45.8	+0.2
MAT	**Matsushiro**	**2.18**	**256**	P	Pn	08 22 50.8	+1.2
MAT				*e*S	Sn	08 23 17.8	+0.9

*JMA **05** 08:23:12.3±0.2,38.65N×142.98E,h19km±4km,M3.8*
*IDC **05** 08:23:13.6±1.5,38.99N×144.05E,h0km,mb4.0/5, mb1 4.1/5,mb1mx3.6/41,mbtmp4.0/5,Error ellipse: s-maj=49.3km s-min=23.8km az=80.0*

ISC 05 08:23:14.4±2.7,**38.71N**±0.08×**142.79E**±0.09,**h1**km±14km, **n11**,σ2s**75**/14,**mb4.1**/5,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.95**	**293**	P	**Pg**	**08 23 32.2**	**-0.5**
OFUJ				*e*S	**Sg**	**08 23 47.2**	**+2.2**
MIYJ	**Miyakonagasawa**	**1.15**	**319**	*e*S	**Sb**	**08 23 51.5**	**-1.0**
JIO	**Ouri**	**1.16**	**258**	P	**Pn**	**08 23 35.1**	**-2.6**
JIO				S	**Sb**	**08 23 51.8**	**-0.9**
JMK	**Ichinoseki**	**1.25**	**282**	P	**Pn**	**08 23 36.9**	**-2.1**
JMK				*e*S	**Sb**	**08 23 55.5**	**+0.1**
JOM	**Ohasama**	**1.40**	**304**	P	**Pn**	**08 23 39.4**	**-1.6**
JOM				*e*S	**Sn**	**08 23 59.2**	**-0.8**
JANG	**Nango**	**1.94**	**330**

0.5nm,0.6s,baz=90,slow=9.4,SNR=3.7
KURBB **Kurchatov Arra** 45.64 308 P P 08 40 58.8 -0.8
1.3nm,0.6s,baz=86,slow=8.2,SNR=14
ILAR **Eielson Array** 49.66 32 P P 08 41 30.4 -0.2
0.3nm,0.9s,baz=270,slow=5.7,SNR=4.9
WRA **Warramunga Arr** 57.06 187 P P 08 42 24.2 -1.2
0.5nm,0.7s,baz=3.8,slow=7.2,SNR=11
ASAR **Alice Springs** 60.79 187 P P 08 42 50.9 -0.5
0.2nm,0.7s,baz=1.9,slow=6.8,SNR=3.7
FINES **FINESS Array B** 68.57 332 P P 08 43 41.8 +0.1
1.3nm,0.8s,baz=38,slow=16,SNR=3.7
AKASG **Malin Array Be** 74.00 322 P P 08 44 15.3 +0.6
0.8nm,0.6s,baz=52,slow=6.0,SNR=5.2

*IDC **05** 08:38:58.3±0.5,26.88N×143.94E,h0km,mb4.1/25, mb1 4.2/29,mb1mx4.1/58,mbtmp4.1/29,ML3.3/4,MS2.8/2, Ms1 2.9/2,ms1mx2.3/45, Error ellipse: s-maj=16.2km s-min=13.2km az=68.0*
*BJI **05** 08:38:58.8,26.52N×143.67E,h11km,mb4.4/22,mB4.7/9, Ms4.4/3,Ms7 4.1/3*
*NEIC **05** 08:38:59.5±0.3,26.78N×143.87E,h10km,mb4.6/12,Error ellipse: s-maj=8.1km s-min=6.1km az=63.0*
*ISCJB **05** 08:39:01.1±0.4,26.78N±0.06×143.88E±0.05,h33km, mb4.3/38,MS2.7/1, Error ellipse: s-maj=8.4km s-min=6.1km az=13.0*

ISC 05 08:39:03.1±0.5,26.80N±0.08×143.87E±0.07,h35km,n74, σ1§20/72,mb4.3/38,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.54**	**281**	*e*Pn		**Pn**	**08 39 27.5**	**-0.5**
CBIJ				*e*Sn		**Sn**	**08 39 47.2**	**+0.5**
JCJ	**Chichijima**	**1.54**	**281**	Pn		**Pn**	**08 39 27.6**	**-0.4**
	26nm,0.3s,baz=71,slow=23,SNR=27							
JCJ				Sn		**Sn**	**08 39 45.4**	**-1.4**
	138nm,0.3s,baz=73,slow=19,SNR=24							
JHJ2	**Mitsune**	**7.21**	**332**	*e*Pn		**Pn**	**08 40 45.9**	**0.0**
JHJ	**Hachijo jima 2**	**7.23**	**332**	Pn		**Pn**	**08 40 43.3**	**-3.0**
	3.2nm,0.3s,baz=60,slow=20,SNR=5.3							
JHJ				Sn		Sn	08 41 58.1	-9.0
	2.0nm,0.3s,baz=234,slow=19,SNR=2.2							
MJAR	**Matsushiro Arr**	**10.84**	**335**	Pn		**Pn**	**08 41 33.5**	**-2.3**
	0.7nm,0.3s,baz=165,slow=11,SNR=24							
MAJO	**Matsushiro**	**10.84**	**335**	*e*Pn		**Pn**	**08 41 33.6**	**-2.2**
MJB9	**Matsu-Tunnel**	**10.85**	**335**	*e*Pn		**Pn**	**08 41 34.1**	**-1.8**
GUMO	**Guam**	**13.18**	**176**	LR		LR	08 46 42.2	
	comp=Z,49nm,19.6s,baz=66,slow=35							
JOW	**Kunigami**	**13.93**	**274**	*e*Pn		**Pn**	**08 42 16.4**	**-1.7**
KSRS	**Korea Array**	**17.16**	**312**	Pn		**Pn**	**08 43 00.7**	**+0.6**
	0.2nm,0.3s,baz=128,slow=14,SNR=12							
KSAR	**Wonju Array Be**	**17.18**	**312**	Pn		**Pn**	**08 43 00.7**	**+0.4**
USRK	**Ussuriysk Ar.**	**19.84**	**334**	Pn		**P**	**08 43 31.1**	**+0.3**
	0.2nm,0.3s,baz=156,slow=11,SNR=3.4							
MDJ	**Mudanjiang**	**21.17**	**331**	P		**P**	**08 43 45.9**	**+0.7**
MDJ				PMZ				
	4.0nm,0.9s							
MDJ				PMZ				
	25nm,4.2s							
CN2	**Changchun**	**22.59**	**323**	*e*P		**P**	**08 44 04.3**	**+3.9**
CN2				PMZ				
	10.0nm,0.7s							
H11S3	**WAKE ISLAND Hy**	**22.59**	**107**	T		T	09 07 09.9	
	baz=295							
H11S1	**WAKE ISLAND Hy**	**22.60**	**107**	T		T	09 07 08.2	
	baz=295							
H11S2	**WAKE ISLAND Hy**	**22.61**	**107**	T		T	09 07 08.8	
	baz=295							
KLR	**Kul'dur**	**24.28**	**340**	P		**P**	**08 44 16.4**	**-0.6**
	2.5nm,0.6s,baz=148,slow=6.9,SNR=17							
WHN	**Wuhan**	**26.14**	**285**	P		**P**	**08 44 34.2**	**+0.2**
MANU	**Manus Island**	**28.87**	**173**	*e*P		P	08 44 52.5	-6.1
	198nm,0.5s							
MANU				*e*PP		**PP**	**08 46 04.7**	**+0.4**
HHC	**Hu-ho-hao-te**	**30.09**	**306**	*e*P		**P**	**08 45 07.4**	**-1.9**
HHC				PMZ				
	26nm,1.2s							
HHC				PMZ				
	69nm,4.7s							
CD2	**Chengdu**	**35.24**	**286**	*e*P		**P**	**08 45 54.0**	**-0.4**
CD2				PMZ				
	10.0nm,0.5s							
SONA1	**Songino Array**	**35.97**	**316**	*e*P		**P**	**08 46 01.8**	**+1.1**
SONM	**Songino Array**	**35.97**	**316**	P		**P**	**08 46 01.3**	**+0.7**
	1.1nm,0.6s,baz=113,slow=9.8,SNR=5.3							
KMI	**Kunming**	**36.91**	**277**	P		**P**	**08 46 10.0**	**+1.0**
KMI				PMZ				
	16nm,0.8s							
TLY	**Talaya**	**39.12**	**320**	P		**P**	**08 46 26.4**	**-0.6**
	1.0nm,0.3s,baz=42,slow=15,SNR=2.0							
COEN	**Coen**	**40.52**	**181**	*e*P		**P**	**08 46 37.4**	**-1.6**
	1.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**42.12**	**268**	LR		LR	09 03 06.8	
	comp=Z,10nm,21.1s,baz=185,slow=34							
TIXI	**Tiksi**	**45.67**	**353**	P		**P**	**08 47 19.3**	**-0.7**
	1.2nm,0.3s,baz=159,slow=5.1,SNR=3.8							
WRAB	**Tennant Creek**	**47.37**	**192**	*e*P		**P**	**08 47 32.1**	**-1.7**
	9.5nm,0.9s							
WB2	**Warramunga Arr**	**47.37**	**192**	*e*P		**P**	**08 47 31.9**	**-2.0**
	22nm,1.4s							
WRA	**Warramunga Arr**	**47.38**	**192**	P		**P**	**08 47 34.7**	**+0.8**
	6.0nm,0.7s,baz=14,slow=8.7,SNR=16							
WMQ	**Urumqi**	**47.97**	**306**	P		**P**	**08 47 39.9**	**+1.4**
WMQ				pP		pP	08 47 44.4	-4.5
WMQ				sP		sP	08 47 46.9	-6.2
FITZ	**Fitzroy Crossi**	**48.02**	**204**	P		**P**	**08 47 39.3**	**+0.4**
	3.4nm,0.6s,baz=337,slow=8.1,SNR=7.6							
ASAR	**Alice Springs**	**51.09**	**192**	P		**P**	**08 48 03.0**	**+0.7**
	0.6nm,0.6s,baz=12,slow=5.7,SNR=8.8							
ASAR				PcP		**PcP**	**08 49 18.3**	**+0.5**
	0.6nm,0.7s,baz=32,slow=3.6,SNR=3.5							
MK01	**Makanchi Array**	**51.82**	**310**	*e*P		**P**	**08 48 07.4**	**-0.2**
MK31	**Makanchi Array**	**51.82**	**310**	*e*P		**P**	**08 48 07.5**	**-0.1**
MKAR	**Makanchi Array**	**51.82**	**310**	P		**P**	**08 48 08.8**	**+1.2**
	3.3nm,0.8s,baz=90,slow=8.8,SNR=24							
MKAR	**Makanchi Array**	**51.82**	**310**	*e*P		**P**	**08 48 07.7**	**0.0**
MAKZ	**Makanchi**	**52.04**	**310**	*e*P		**P**	**08 48 10.4**	**+1.1**
	11nm,1.4s							
NRIK	**Noril'sk**	**53.47**	**338**	P		**P**	**08 48 19.6**	**+0.2**
	1.4nm,0.3s,baz=102,slow=11,SNR=3.7							
KURK	**Kurchatov**	**54.27**	**315**	P		**P**	**08 48 26.5**	**+1.0**
KURBB	**Kurchatov Arra**	**54.32**	**315**	P		**P**	**08 48 26.5**	**+0.6**
	2.8nm,0.6s,baz=90,slow=7.7,SNR=28							
TKM2	**Tokmak 2**	**56.82**	**305**	*e*P		**P**	**08 48 45.2**	**+1.0**
	3.2nm,0.8s							
KSH	**Kashi**	**57.02**	**301**	*e*P		P	08 48 50.7	+5.0
KSH				PMZ				
	6.0nm,0.8s							
ILAR	**Eielson Array**	**57.25**	**28**	P		**P**	**08 48 45.8**	**-1.0**
	1.0nm,1.0s,baz=251,slow=6.2,SNR=9.9							
ILAR				PcP		**PcP**	**08 49 40.5**	**-0.2**
	0.3nm,0.7s,baz=270,slow=2.7,SNR=4.1							
AAK	**Ala-Archa**	**57.66**	**305**	P		**P**	**08 48 50.4**	**+0.3**
	0.9nm,0.3s,baz=156,slow=3.1,SNR=3.7							
BVAR	**Borovoye Array**	**59.28**	**318**	P		**P**	**08 49 01.8**	**+0.7**
	1.3nm,0.3s,baz=81,slow=11,SNR=14							
BRVK	**Borovoye**	**59.34**	**318**	*e*P		**P**	**08 49 02.4**	**+1.0**
	12nm,1.1s							
ZRNK	**Zerenda**	**60.12**	**318**	*e*P		**P**	**08 49 07.8**	**+1.0**
	2.2nm,0.8s							
KKAR	**Karatay Array**	**60.48**	**306**	*e*P		**P**	**08 49 10.5**	**+0.9**
INK	**Inuvik**	**62.67**	**25**	P		**P**	**08 49 23.9**	**+0.1**
	0.7nm,0.5s,baz=289,slow=2.9,SNR=7.1							
INK	**Inuvik**	**62.67**	**25**	*e*P		**P**	**08 49 23.9**	**+0.1**
	0.4nm,0.4s							
ARU	**Arti**	**65.58**	**323**	P		**P**	**08 49 43.6**	**+0.5**
	1.3nm,0.2s,baz=118,slow=2.8,SNR=5.2							
ARU	**Arti**	**65.58**	**323**	*e*P		**P**	**08 49 43.7**	**+0.6**
	7.8nm,1.1s							
AKTO	**Aktyubinsk**	**67.29**	**316**	P		**P**	**08 49 54.5**	**+0.3**
	1.3nm,0.7s,baz=78,slow=8.1,SNR=4.6							
YKA	**Yellowknife Ar**	**71.68**	**29**	P		**P**	**08 50 20.9**	**-0.1**
	0.8nm,0.8s,baz=293,slow=5.4,SNR=6.7							
FINES	**FINESS Array B**	**78.87**	**334**	P		**P**	**08 51 02.5**	**+0.1**
	0.9nm,0.6s,baz=101,slow=9.9,SNR=4.0							
KBZ	**Khabaz**	**79.31**	**314**	P		**P**	**08 51 06.7**	**+1.6**
	4.9nm,0.7s,baz=43,slow=1.3,SNR=12							
NVAR	**Mina Array Bea**	**79.51**	**52**	P		**P**	**08 51 07.7**	**+1.1**
	1.3nm,0.6s,baz=294,slow=6.0,SNR=10							
BOZ	**Bozeman (W)**	**80.64**	**43**	*e*P		**P**	**08 51 13.7**	**+1.1**
	7.7nm,1.9s							
IMW	**Indian Meadow**	**81.92**	**45**	*e*P		**P**	**08 51 21.4**	**+1.8**
	2.8nm,0.8s							
RLMT	**Red Lodge**	**82.34**	**43**	*e*P		**P**	**08 51 23.1**	**+1.4**
	2.8nm,0.5s							
DUG	**Dugway, Tooele**	**82.49**	**49**	*e*P		**P**	**08 51 20.0**	**-2.4**
	2.5nm,0.6s							
PDAR	**Pinedale Array**	**83.36**	**45**	P		**P**	**08 51 27.1**	**+0.1**
	0.3nm,0.5s,baz=264,slow=4.5,SNR=4.4							
AKASG	**Malin Array Be**	**83.74**	**324**	P		P	**08 51 28.2**	**-0.2**
	0.4nm,0.4s,baz=52,slow=5.0,SNR=4.9							
NOA	**NORSAR Array B**	**84.43**	**339**	P		**P**	**08 51 31.7**	**-0.1**
	1.4nm,0.9s,baz=38,slow=5.1,SNR=3.2							
PHWY	**Pilot Hill**	**86.72**	**45**	*e*P		**P**	**08 51 44.1**	**+0.2**
	7.3nm,1.0s							
BRTR	**Keskin Array B**	**87.30**	**314**	P		**P**	**08 51 46.9**	**+0.3**
	1.3nm,0.8s,baz=85,slow=4.1,SNR=6.7							
BR231	**Keskin MP Arra**	**87.80**	**314**	*e*P		**P**	**08 51 47.3**	**-1.6**
TXAR	**Lajitas Array**	**94.56**	**54**	P		**P**	**08 52 19.7**	**-0.9**
	0.3nm,0.9s,baz=316,slow=3.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**125.90**	**312**	PKP		**PKPdf**	**08 58 02.8**	**+0.7**
	0.5nm,0.9s,baz=59,slow=3.9,SNR=2.8							
PLCA	**Paso Flores**	**148.41**	**125**	PKPbc		**PKPbc**	**08 58 47.6**	**+1.6**
	7.9nm,0.5s,baz=326,slow=6.0,SNR=2.5							
LPAZ	**La Paz**	**148.53**	**77**	PKPbc		**PKPbc**	**08 58 49.0**	**+1.3**
	3.0nm,0.8s,baz=303,slow=1.3,SNR=11							

IDC 05 08:41:31.0±2.2,5.71S×130.60E,h0km,mb3.5/1, mb1 3.9/4,mb1mx3.4/43,mbtmp3.7/4,ML3.8/3,Error ellipse: s-maj=93.3km s-min=27.7km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.24**	**201**	Pn		Pn	08 44 42.1	+1.7
	0.5nm,0.3s,baz=22,slow=9.9,SNR=17							
FITZ				Sn		Sn	08 46 59.8	-8.7
	0.6nm,0.3s,baz=295,slow=17,SNR=8.0							
WRA	**Warramunga Arr**	**14.61**	**166**	Pn		Pn	08 44 57.2	-2.0
	0.3nm,0.3s,baz=347,slow=14,SNR=24							
WRA				Sn		Sn	08 47 29.5	-13
	0.4nm,0.3s,baz=352,slow=22,SNR=7.4							
ASAR	**Alice Springs**	**18.14**	**170**	P		Pn	08 45 44.5	0.0
	0.4nm,0.3s,baz=356,slow=12,SNR=26							
ASAR				S		Sn	08 48 55.1	-13
	0.1nm,0.3s,baz=351,slow=27,SNR=3.6							
MKAR	**Makanchi Array**	**67.48**	**326**	P		P	08 52 28.8	0.0
	0.2nm,0.4s,baz=114,slow=6.9,SNR=3.2							

*ISCJB **05** 08:43:57.4±0.9,23.74N±0.03×122.53E±0.02,h14km±6km, Error ellipse: s-maj=4.7km s-min=2.6km az=161.9*
*JMA **05** 08:43:57.9±0.1,23.80N×122.47E,h30km,M2.4*
*TAP **05** 08:43:58.0,23.77N×122.35E,h3km±1km,ML3.0,D*

ISC 05 08:43:56.3±1.2,23.73N±0.03×122.49E±0.03,h14km±9km, n40,σ0§77/66,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.83**	**30**	P		**Pb**	**08 44 12.5**	**-0.1**
JYNG				*e*S		**Sb**	**08 44 22.4**	**-1.3**
YOJ	**Yonaguni jima**	**0.87**	**33**	P		**Pb**	**08 44 13.3**	**0.0**
YOJ				*e*S		**Sb**	**08 44 23.4**	**-1.4**
TWD	**Chiawan**	**0.89**	**294**	⇓*i*P		**Pg**	**08 44 14.0**	**+0.5**
	baz=294							
TWD				S		**Sn**	**08 44 25.8**	**-1.3**
	baz=294							
ESL	**Shilin**	**0.97**	**275**	*i* P		**Pb**	**08 44 15.0**	**+0.1**
	baz=272							
ESL				*e*S		**Sg**	**08 44 27.5**	**-0.3**
	baz=272							
ENA	**Nanau**	**0.98**	**316**	*e*P		**Pn**	**08 44 16.1**	**+0.4**
	baz=320							
ENA				*e*S		**Sn**	**08 44 30.1**	**+0.8**
	baz=320							
TWC	**Suao**	**1.06**	**327**	P		**Pn**	**08 44 17.0**	**+0.3**
	baz=331							
TWC				S		**Sn**	**08 44 31.2**	**0.0**
	baz=331							
EHY	**Hungye**	**1.09**	**259**	*e*P		**Pg**	**08 44 17.9**	**+0.5**
	baz=254							
EHY				*e*S		**Sn**	**08 44 32.0**	**-0.1**
	baz=254							
TWF1	**Yuli**	**1.16**	**251**	*i* P		**Pg**	**08 44 19.2**	**+0.6**
	baz=246							
TWF1				*e*S		**Sg**	**08 44 34.2**	**+0.5**
	baz=246							
WHF	**Hehuan Shan**	**1.20**	**291**	*i* P		**Pn**	**08 44 19.2**	**+0.2**
	baz=290							
WHF				*e*S		**Sn**	**08 44 35.3**	**+0.1**
	baz=290							
ENTT	**Nioudou**	**1.24**	**317**	P		**Pb**	**08 44 19.8**	**+0.2**
	baz=320							
ENTT				*e*S		**Sg**	**08 44 38.6**	**+2.2**
	baz=320							
NNS	**Nan Shan**	**1.24**	**305**	*e*P		**Pg**	**08 44 20.5**	**+0.2**
	baz=306							
NNS				*e*S		**Sg**	**08 44 36.4**	**-0.1**
	baz=306							
TWE	**Neicheng**	**1.24**	**323**	P		**Pg**	**08 44 20.2**	**-0.1**
	baz=327							
TWE				*e*S		**Sg**	**08 44 38.0**	**+1.5**
	baz=327							
WDT	**Danda**	**1.24**	**272**	⇓*i*P		**Pb**	**08 44 20.0**	**+0.3**
	baz=269							
WDT				S		**Sg**	**08 44 35.8**	**-0.7**
	baz=269							
HATJ	**Hateruma jima**	**1.25**	**74**	P		**Pn**	**08 44 19.7**	**+0.4**
HATJ				*e*S		**Sn**	**08 44 36.1**	**+0.1**
IRIF	**Iriomote-Funau**	**1.29**	**62**	P		**Pn**	**08 44 20.7**	**+0.8**
TWT	**Tachien**	**1.31**	**294**	*e*P		**Pg**	**08 44 21.5**	**-0.1**
	baz=293							
NSK	**Sanguang**	**1.40**	**313**	*e*P		**Pn**	**08 44 21.8**	**+0.3**
	baz=315							
SMLT	**Sun Moon Lake**	**1.46**	**276**	P		**Pb**	**08 44 23.5**	**+0.1**
	baz=274							
SMLT				*e*S		**Sg**	**08 44 42.0**	**-1.5**
	baz=274							
JKRS	**Kuro-shima**	**1.48**	**70**	P		**Pn**	**08 44 23.6**	**+1.1**
NWF	**Wu-fen Shan**	**1.49**	**334**	*e*S		**Sg**	**08 44 44.1**	**-0.2**
	baz=338							
TWA	**Mucha**	**1.50**	**327**	*e*P		**Pb**	**08 44 24.5**	**+0.5**
	baz=330							
TYC	**Yuchr**	**1.50**	**277**	*e*P		**Pg**	**08 44 25.2**	**-0.1**
	baz=275							
TYC				*e*S		**Sg**	**08 44 43.1**	**-1.8**
	baz=275							
ALS	**Alishan**	**1.56**	**262**	*e*P		**Pb**	**08 44 25.5**	**+0.4**
	baz=259							
ALS				S		**Sb**	**08 44 44.9**	**0.0**
	baz=259							
TWG	**Pinlang**	**1.58**	**236**	*e*S		**Sn**	**08 44 44.7**	**+0.4**
	baz=230							
NSTT	**Nanjuang**	**1.63**	**304**	*e*P		**Pg**	**08 44 26.9**	**-0.8**
	baz=304							
NSTT				*e*S		**Sb**	**08 44 46.4**	**-0.2**
	baz=304							
JIJ	**Ishigaki jima**	**1.64**	**67**	P		**Pn**	**08 44 24.9**	**+0.2**
JIJ				S		**Sn**	**08 44 45.9**	**+0.3**
CHN5	**Tsauling**	**1.67**	**266**	P		**Pb**	**08 44 27.6**	**+0.8**
	baz=263							
CHN5				*e*S		**Sg**	**08 44 48.4**	**-1.6**
	baz=263							
TWQ1	**Liyutan**	**1.69**	**292**	*e*P		**Pb**	**08 44 27.1**	**-0.1**
	baz=291							
TWQ1				*e*S		**Sb**	**08 44 48.1**	**-0.1**
	baz=291							
TCU	**Taichung**	**1.71**	**285**	*e*S		**Sg**	**08 44 50.5**	**-1.0**
	baz=283							
NSY	**Sanyi**	**1.72**	**294**	*e*P		**Pg**	**08 44 28.6**	**-0.8**
	baz=293							
CHN4	**Tsaushan**	**1.78**	**258**	*e*P		**Pb**	**08 44 29.9**	**+1.2**
	baz=255							
CHN4				*e*S		**Sg**	**08 44 52.9**	**-0.7**
	baz=255							
WTP	**Ta-pu**	**1.79**	**255**	*e*P		**Pb**	**08 44 29.4**	**+0.5**
	baz=251							
WTP				*e*S		**Sg**	**08 44 52.5**	**-1.4**
	baz=251							
SGST	**Jiashian**	**1.86**	**250**	*e*P		**Pb**	**08 44 30.6**	**+0.4**
	baz=246							
SGST				*e*S		**Sg**	**08 44 55.5**	**-0.8**
	baz=246							
JISG	**Ishigakijimahi**	**1.87**	**62**	P		**Pn**	**08 44 28.5**	**+0.6**
JISG				*e*S		**Sn**	**08 44 51.1**	**-0.2**
CHN1	**Nanshi**	**1.88**	**254**	*e*P		**Pb**	**08 44 31.0**	**+0.5**
	baz=250							
CHN1				*e*S		**Sg**	**08 44 56.2**	**-0.7**
	baz=250							
TWK	**Hsinying**	**1.89**	**256**	*e*S		**Sb**	**08 44 54.9**	**+0.7**
	baz=253							
SSD	**Sandimen**	**1.97**	**241**	*e*P		**Pb**	**08 44 32.2**	**+0.3**
	baz=236							
TAW	**Tawu**	**2.00**	**227**	*e*P		**Pb**	**08 44 32.6**	**+0.1**
	baz=223							
SCZT	**Fangliau**	**2.19**	**232**	*e*P		**Pb**	**08 44 35.2**	**-0.4**
	baz=228							
JTJ	**Tarama**	**2.22**	**65**	*e*S		**Sn**	**08 44 59.6**	**-0.3**

*ISCJB **05** 08:47:51.9±0.5,37.21N±0.03×28.18E±0.03,h0km,Error ellipse: s-maj=5.2km s-min=3.6km az=19.6*
*DDA **05** 08:47:52.0,37.22N×28.17E,h7km,Md2.6,Suspected Mining explosion.*
*CSEM **05** 08:47:51.8±0.2,37.23N×28.20E,h1km,MD2.5,Error ellipse: s-maj=5.3km s-min=3.6km az=24.0,Suspected Mining explosion.*
*ISK **05** 08:47:51.1,37.23N×28.19E,h8km,MD2.5*

ISC 05 08:47:50.9±0.9,37.30N±0.04×28.23E±0.03,h0km,n15, σ0§40/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.17**	**164**	*e*PG		**Pg**	**08 47 54.2**	**0.0**
YER				*e*SG		**Sg**	**08 47 56.7**	**+0.4**
YER	**Yerkesik**	**0.17**	**164**	*e*Pg		**Pg**	**08 47 54.2**	**0.0**
YER				*e*Sg		**Sg**	**08 47 56.7**	**+0.4**
AYDN	**Tasoluk**	**0.46**	**323**	P		**Pb**	**08 48 01.9**	**0.0**
AYDN				S		**Sb**	**08 48 09.3**	**0.0**
AYDN	**Tasoluk**	**0.46**	**323**	*i* P		**Pb**	**08 48 01.9**	**0.0**
AYDN				*i* S		**Sb**	**08 48 09.3**	**0.0**
TURN	**Turunc**	**0.52**	**144**	*i* P		**Pg**	**08 48 00.6**	**-0.2**
TURN				*i* S		**Sg**	**08 48 08.1**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.59**	**144**	*e*PG		**Pg**	**08 48 02.1**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.59**	**144**	*e*Pg		**Pg**	**08 48 02.1**	**-0.1**
BDRM	**Kayabasi**	**0.67**	**250**	P		**Pg**	**08 48 03.0**	**-0.7**
BDRM				S		**Sg**	**08 48 13.2**	**+0.9**
BDRM	**Kayabasi**	**0.67**	**250**	*i* P		**Pg**	**08 48 03.0**	**-0.7**
BDRM				*i* S		**Sg**	**08 48 13.2**	**+0.9**
DNZL	**Cakiroluk**	**0.76**	**59**	P		**Pb**	**08 48 07.3**	**+0.1**
DNZL				S		**Sn**	**08 48 21.2**	**-0.3**
DNZL	**Cakiroluk**	**0.76**	**59**	*i* P		**Pb**	**08 48 07.3**	**+0.1**
DNZL				*i* S		**Sn**	**08 48 21.2**	**-0.3**
BODT	**Bodrum**	**0.77**	**253**	*e*PG		**Pg**	**08 48 05.6**	**-0.1**
BODT				*e*SG		**Sg**	**08 48 15.9**	**+0.3**
BODT	**Bodrum**	**0.77**	**253**	*e*Pg		**Pg**	**08 48 05.6**	**-0.1**
BODT				*e*Sg		**Sg**	**08 48 15.9**	**+0.3**
FETY	**Fethiye**	**0.95**	**134**	*e*PG		**Pb**	**08 48 10.0**	**-0.3**
FETY	**Fethiye**	**0.95**	**134**	*e*Pg		**Pb**	**08 48 10.0**	**-0.3**

*NSSC **05** 08:56:59.6±1.7,36.77N×38.69E,h50km±68km,ML2.1*
*CSEM **05** 08:57:00.2,37.03N×39.25E,h7km,MD3.3*
*DDA **05** 08:57:00.2,37.03N×39.25E,h7km,Md3.3*
*ISCJB **05** 08:57:01.7±0.6,37.02N±0.04×39.28E±0.04,h10km,Error ellipse: s-maj=5.7km s-min=4.3km az=28.6*

ISC 05 08:56:59.8±0.9,37.01N±0.03×39.27E±0.03,h10km,n12, σ1§91/24,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFNV	**Sufian**	**0.90**	**131**	*e*P		**Pn**	**08 57 19.5**	**+0.9**
SFNV				*e*S		**Sn**	**08 57 34.2**	**+2.6**
SFNV				AML		AML	08 57 39.7	
	comp=Z,48nm,0.3s							
ATAB	**Bozova**	**0.91**	**301**	P		**Pg**	**08 57 16.2**	**-1.1**
ATAB				S		**Sn**	**08 57 32.2**	**+0.4**
ATAB	**Bozova**	**0.91**	**301**	*i* P		**Pg**	**08 57 16.2**	**-1.1**
ATAB				*i* S		**Sn**	**08 57 32.2**	**+0.4**
MNKR	**ALMNKUR**	**1.06**	**180**	*e*P		**Pg**	**08 57 17.0**	**-3.3**
MNKR				*e*S		**Sg**	**08 57 29.8**	**-4.4**
MNKR				AML		AML	08 57 39.6	
	comp=Z,109nm,0.2s							
DIYA	**Diyarbakir**	**1.13**	**36**	P		**Pn**	**08 57 21.5**	**-0.3**
DIYA				S		**Sn**	**08 57 38.8**	**+1.3**
DIYA	**Diyarbakir**	**1.13**	**36**	*i* P		**Pn**	**08 57 21.6**	**-0.3**
DIYA				*i* S		**Sn**	**08 57 38.8**	**+1.3**
KSRV	**Kasrt alli**	**1.16**	**191**	*e*P		**Pg**	**08 57 25.2**	**+3.0**
KSRV				*e*S		**Sn**	**08 57 42.3**	**+4.2**
KSRV				AML		AML	08 57 45.2	
	comp=Z,17nm,0.3s							
MARD	**Mardin**	**1.24**	**75**	*i* P		**Pg**	**08 57 24.1**	**+0.4**
MARD				*i* S		**Sn**	**08 57 41.5**	**+1.3**
GZT	**Gaziantep**	**1.41**	**285**	*i* P		**Pg**	**08 57 26.9**	**0.0**
GZT				*i* S		**Sg**	**08 57 46.2**	**+1.0**
ELZG	**Elazig**	**1.50**	**351**	P		**Pb**	**08 57 27.6**	**-0.3**
ELZG				S		**Sg**	**08 57 48.0**	**-0.3**
ELZG	**Elazig**	**1.50**	**351**	*i* P		**Pb**	**08 57 27.6**	**-0.3**
ELZG				*i* S		**Sg**	**08 57 48.0**	**-0.3**
MZRK	**Al-Mazaregh**	**1.62**	**136**	*e*P		**Pg**	**08 57 29.9**	**-1.1**
MZRK				*e*S		**Sg**	**08 57 50.6**	**-1.4**
MZRK				AML		AML	08 57

mb1 3.5/2, mb1mx3.2/30, mbtmp3.2/2, Error ellipse: s-maj=193.4km s-min=49.8km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**226**	P	P	09 08 52.0	-0.7
	0.6nm,0.8s,baz=54,slow=9.9,SNR=3.4						
ASAR	**Alice Springs**	**26.85**	**220**	P	P	09 09 19.1	+0.9
	0.5nm,1.0s,baz=48,slow=9.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.65**	**290**	PKPbc	PKPbc	09 23 27.6	-0.9
	0.7nm,0.8s,baz=52,slow=1.6,SNR=4.5						

*ISK **05** 09:10:37.6, 37˚.21N×28˚.12E, h5km, MD2.5*
*ISCJB **05** 09:10:38.6±0.5, 37˚.22N±0˚.03×28˚.16E±0˚.04, h0km, Error ellipse: s-maj=5.4km s-min=3.3km az=136.2*
*DDA **05** 09:10:38.5, 37˚.21N×28˚.15E, h7km, Md2.7, Suspected Mining explosion.*
*CSEM **05** 09:10:38.9±0.2, 37˚.22N×28˚.16E, h1km, MD2.5, Error ellipse: s-maj=4.8km s-min=3.1km az=45.0, Suspected Mining explosion.*

ISC 05 09:10:36.4±0.9, 37.17N±0˚.04×28.03E±0˚.04, h0km, n15, σ0s57/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.21**	**100**	*e*PG	**Pg**	**09 10 41.3**	**+0.9**
YER				*e*SG	**Sg**	**09 10 43.8**	**+0.8**
YER	**Yerkesik**	**0.21**	**100**	*e*Pg	**Pg**	**09 10 41.3**	**+0.9**
YER				*e*Sg	**Sg**	**09 10 43.8**	**+0.8**
AYDN	**Tasoluk**	**0.50**	**346**	P	**Pb**	**09 10 48.4**	**+0.2**
AYDN				S	**Sb**	**09 10 55.7**	**-0.4**
AYDN	**Tasoluk**	**0.50**	**346**	*i* P	**Pb**	**09 10 48.4**	**+0.2**
AYDN				*i* S	**Sb**	**09 10 55.7**	**-0.4**
TURN	**Turunc**	**0.55**	**123**	*i* P	**Pg**	**09 10 47.0**	**+0.1**
TURN				*i* S	**Sg**	**09 10 54.4**	**+0.4**
BODT	**Bodrum**	**0.58**	**260**	*e*PG	**Pn**	**09 10 51.7**	**-0.3**
BODT				*e*SG	**Sn**	**09 11 01.8**	**-0.5**
BODT	**Bodrum**	**0.58**	**260**	*e*Pg	**Pn**	**09 10 51.7**	**-0.3**
BODT				*e*Sg	**Sn**	**09 11 01.8**	**-0.5**
DALY	**Dalyan (Mu˘la**	**0.61**	**125**	*e*PG	**Pb**	**09 10 49.8**	**-0.2**
DALY				*e*SG	**Sb**	**09 10 59.1**	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.61**	**125**	*e*Pg	**Pb**	**09 10 49.8**	**-0.2**
DALY				*e*Sg	**Sb**	**09 10 59.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**352**	*e*PG	**Pb**	**09 10 53.5**	**+0.5**
AYDB				*e*SG	**Sb**	**09 11 05.0**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**352**	*e*Pg	**Pb**	**09 10 53.5**	**+0.5**
AYDB				*e*Sg	**Sb**	**09 11 05.0**	**+0.8**
DNZL	**Cakiroluk**	**0.96**	**57**	P	**Pg**	**09 10 54.8**	**-0.1**
DNZL				S	**Sg**	**09 11 06.4**	**-0.9**
DNZL	**Cakiroluk**	**0.96**	**57**	*i* P	**Pg**	**09 10 54.8**	**-0.1**
DNZL				*i* S	**Sg**	**09 11 06.4**	**-0.9**
FETY	**Fethiye**	**1.00**	**122**	*e*PG	**Pn**	**09 10 57.3**	**-0.5**
FETY	**Fethiye**	**1.00**	**122**	*e*Pg	**Pn**	**09 10 57.3**	**-0.5**

*IDC **05** 09:13:57.8±0.9, 1˚.44S×148˚.87E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/34, mbtmp3.9/12, ML3.4/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/37, Error ellipse: s-maj=33.4km s-min=17.4km az=100.0*
*ISCJB **05** 09:14:01.2±0.7, 1˚.51S±0˚.08×148˚.9E±0˚.2, h33km, mb3.9/11, MS3.2/4, Error ellipse: s-maj=23.3km s-min=11.5km az=5.9*
*NEIC **05** 09:14:03.5±2.6, 1˚.52S×148˚.90E, h40km±23km, mb4.5/3, Error ellipse: s-maj=20.1km s-min=14.3km az=88.0*

ISC 05 09:14:03.0±0.8, 1.50S±0˚.09×148.9E±0˚.2, h35km, n29, σ0s87/19, mb3.9/11, MS3.1/4, 1C, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.05**	**192**	Pn	**Pn**	**09 15 58.0**	**+0.6**
	baz=353,slow=16,SNR=2.8						
PMG				LR	LR	09 18 46.9	
	comp=Z,150nm,21.9s,baz=320,slow=36						
PMG	**Port Moresby**	**8.05**	**192**	*e*Pn	**Pn**	**09 15 57.8**	**+0.4**
CTA	**Charters Tower**	**18.66**	**188**	P	**P**	**09 18 18.1**	**0.0**
	0.1nm,0.3s,baz=5.8,slow=12,SNR=4.1						
CTAO	**Charters Tower**	**18.66**	**188**	*e*P	**Pn**	**09 18 18.2**	**-0.4**
	39nm,1.1s						
WRAB	**Tennant Creek**	**23.20**	**217**	*e*P	**P**	**09 19 07.4**	**+0.4**
	26nm,1.5s						
WRA	**Warramunga Arr**	**23.21**	**217**	P	**P**	**09 19 06.4**	**-0.7**
	2.7nm,0.7s,baz=39,slow=10,SNR=20						
EIDS	**Eidsvold**	**23.83**	**175**	*e*P	**P**	**09 19 10.5**	**-2.5**
DAV	**Davao City (W)**	**24.77**	**290**	LR	LR	09 28 35.0	
	comp=Z,67nm,18.3s,baz=298,slow=36						
ASAR	**Alice Springs**	**26.40**	**212**	P	**P**	**09 19 36.8**	**+0.3**
	2.4nm,0.8s,baz=45,slow=8.4,SNR=22						
H11S3	**WAKE ISLAND Hy**	**26.48**	**41**	T	T	09 47 02.7	
	baz=222,slow=74,SNR=514						
H11S2	**WAKE ISLAND Hy**	**26.48**	**41**	T	T	09 47 03.2	
	baz=222,slow=74,SNR=202						
H11S1	**WAKE ISLAND Hy**	**26.50**	**41**	T	T	09 47 03.2	
	baz=222,SNR=207						
H11N1	**WAKE ISLAND Hy**	**27.50**	**39**	T	T	09 48 25.6	
	baz=221,slow=76,SNR=39						
H11N3	**WAKE ISLAND Hy**	**27.51**	**39**	T	T	09 48 25.8	
	baz=221,slow=76,SNR=54						
H11N2	**WAKE ISLAND Hy**	**27.52**	**39**	T	T	09 48 24.7	
	baz=221,slow=76,SNR=50						
FITZ	**Fitzroy Crossi**	**28.17**	**233**	P	**P**	**09 19 51.4**	**-0.9**
	2.6nm,1.0s,baz=76,slow=9.0,SNR=3.0						
FITZ	**Fitzroy Crossi**	**28.17**	**233**	*e*P	**P**	**09 19 51.6**	**-0.8**
	17nm,1.7s						
KAPI	**Kappang**	**29.30**	**262**	LR	LR	09 32 37.8	
	comp=Z,43nm,18.2s,baz=86,slow=38						
JHJ	**Hachijo jima 2**	**35.49**	**347**	LR	LR	09 32 14.9	
	comp=Z,34nm,21.8s,baz=107,slow=31						
CMAR	**Chiang Mai Arr**	**52.96**	**294**	P	**P**	**09 23 16.9**	**+0.5**
	0.9nm,0.4s,baz=97,slow=4.8,SNR=4.8						
SONM	**Songino Array**	**61.48**	**329**	P	**P**	**09 24 16.4**	**0.0**
	0.3nm,0.5s,baz=133,slow=6.1,SNR=2.8						
MKAR	**Makanchi Array**	**75.29**	**319**	P	**P**	**09 25 42.5**	**-0.1**
	0.4nm,0.5s,baz=125,slow=6.1,SNR=5.7						
VNDA	**Vanda**	**76.28**	**177**	P	**P**	**09 25 48.5**	**+0.8**
	0.7nm,0.8s,baz=308,slow=5.5,SNR=5.1						
ILAR	**Eielson Array**	**80.62**	**23**	P	**P**	**09 26 11.1**	**-0.7**
	0.6nm,0.9s,baz=256,slow=5.0,SNR=4.4						
MAW	**Mawson**	**87.11**	**203**	P	**P**	**09 26 45.5**	**+0.7**
	0.9nm,0.6s,baz=153,slow=2.3,SNR=2.9						
AKTO	**Aktyubinsk**	**91.70**	**320**	LR	LR	10 07 52.2	
	comp=Z,18nm,20.5s,slow=35						
NVAR	**Mina Array Bea**	**93.12**	**52**	P	**P**	**09 27 14.8**	**+0.8**
	0.4nm,0.7s,baz=297,slow=8.2,SNR=4.1						
SYO	**Syowa Base**	**95.44**	**200**	*e*P	**P**	**09 27 24.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**145.53**	**291**	PKPbc	**PKPdf**	**09 33 38.0**	**-0.5**
	1.6nm,0.9s,baz=50,slow=2.3,SNR=7.1						

MEX 05 09:17:51.3±0.4, 14.09N×92.25W, h20km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.86**	**330**	*e*P	Pn	09 18 19.8	-2.2
PCIG				*e*S	Sn	09 18 40.7	-4.2

TRN 05 09:25:31.9, 15.87N×61.55W, h21km, MD3.5, 10C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.10**	**261**	*e*P	Pb	09 25 36.1	+0.1
PHG	**Guadaloupe-2**	**0.17**	**328**	↑*i*P	Pb	09 25 38.3	+0.2
DOG	**Dongo Capester**	**0.18**	**337**	↑*i*P	Pb	09 25 38.4	+0.4
HMG	**Houelmont**	**0.19**	**308**	↑*i*P	Pb	09 25 37.9	0.0
ECG	**Echelle**	**0.20**	**329**	↑*i*P	Pb	09 25 38.7	+0.6
SCG	**Saint Claude**	**0.21**	**321**	↑*i*P	Pb	09 25 38.5	+0.6
LKG	**Breislack**	**0.21**	**329**	↑*i*P	Pb	09 25 38.7	+0.6
LKG				*e*S	Sb	09 25 41.8	-0.6
CRG	**Carmichael**	**0.21**	**330**	↑*i*P	Pb	09 25 38.8	+0.7
MGG	**Marie-Galante**	**0.23**	**77**	*e*P	Pb	09 25 40.4	+2.5
MLG	**Mont-d'or**	**0.25**	**321**	↑*i*P	Pb	09 25 39.2	+1.0
SSG	**Sans Toucher**	**0.25**	**330**	↑*i*P	Pb	09 25 39.3	+1.0
BBL	**Barber's Block**	**0.35**	**168**	*e*P	Pn	09 25 41.5	-0.3
BBL				*e*S	Sn	09 25 46.8	-1.3
DWS	**Wesley**	**0.37**	**143**	*e*P	Pn	09 25 42.1	0.0
DWS				*e*S	Sn	09 25 47.9	-0.8
DLPL	**La Plaine**	**0.60**	**151**	*e*P	Pn	09 25 46.1	+0.8
DLPL				*e*S	Sn	09 25 54.7	+0.2
DEG	**La Desirade**	**0.65**	**46**	*e*P	Pn	09 25 46.7	+0.8
DEG				*e*S	Sn	09 25 56.4	+0.9
MLYT	**Lee's Yard**	**1.05**	**324**	*e*P	Pn	09 25 53.0	+1.5
MLYT				*e*S	Sn	09 26 07.9	+2.4
PCM	**Pelee Case Pet**	**1.09**	**163**	*e*P	Pb	09 25 53.6	+1.4
PCM	**Pelee Case Pet**	**1.09**	**163**	*e*P	Pb	09 25 54.1	+2.0
CXM	**Morne La Croix**	**1.11**	**161**	↑*i*P	Pb	09 25 53.9	+1.3
CXM				*e*S	Sn	09 26 09.1	+1.9
BAMF	**Morne Balai**	**1.11**	**160**	*e*P	Pb	09 25 54.0	+1.5
GBMF	**Grand Be**	**1.13**	**161**	*e*P	Pb	09 25 54.0	+1.2
PML	**Morne Lenard**	**1.14**	**162**	*e*P	Pb	09 25 54.1	+1.2
FDF	**Fort de France**	**1.19**	**161**	*e*P	Pb	09 25 54.6	+0.8
FDF				*e*S	Sn	09 26 12.3	+3.3
BPA	**Boggy Peak**	**1.21**	**346**	*e*P	Pb	09 25 55.6	+1.5
BPA				*e*S	Sn	09 26 12.3	+2.9
ZAM	**Aeronautique**	**1.38**	**159**	*e*P	Pb	09 25 57.9	+0.9
LPMF	**Morne Lapointe**	**1.40**	**156**	*e*P	Pb	09 25 58.2	+0.8
TRMF	**Trois Ilets**	**1.41**	**160**	*e*P	Pb	09 25 58.0	+0.5
BIM	**Bigot**	**1.42**	**161**	*e*P	Pb	09 25 58.2	+0.5
ANWB	**Willy Bob**	**1.81**	**353**	*e*P	Pb	09 26 03.9	-0.5
ANWB				*e*S	Sb	09 26 27.0	+0.5
SEUS	**St. Eustatius**	**2.12**	**320**	*e*P	Pb	09 26 08.5	-1.2
SEUS				*e*S	Sb	09 26 35.4	-0.2
SABA	**Saba**	**2.38**	**317**	*e*P	Pb	09 26 12.3	-1.9
SMRT	**St. Maarten**	**2.62**	**326**	*e*S	Sn	09 26 46.8	+2.6

MAN 05 09:27:11, 12.09N×122.11E, h1km, mb3.9, ML2.7, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.29**	**342**	*e*P	Pg	09 27 16.4	-0.1
OTRP				*e*S	Sg	09 27 20.5	+0.2
RCP	**Roxas**	**0.81**	**130**	↓*e*P	Pg	09 27 26.8	+0.3
SJMP	**San Jose**	**1.04**	**291**	*e*P	Pn	09 27 32.6	-0.1
SJMP				*e*S	Sn	09 27 48.8	+0.9
ENPP	**El Nido**	**2.78**	**252**	*e*P	Pn	09 27 57.8	+1.2

*ISCJB **05** 09:34:44.8±0.8, 35˚.89N±0˚.05×140˚.3E±0˚.1, h60km, mb3.4/5, Error ellipse: s-maj=12.6km s-min=7.3km az=165.2*
*JMA **05** 09:34:46.9±0.1, 35˚.98N×140˚.15E, h59km±1km, M3.1 JMA Felt I J1.*
*IDC **05** 09:34:46.9±2.3, 35˚.87N×140˚.19E, h69km±20km, mb3.1/5, mb1 3.3/6, mb1mx3.1/48, mbtmp3.4/6, Error ellipse: s-maj=33.0km s-min=12.4km az=74.0*

ISC 05 09:34:46.0±0.9, 35.91N±0˚.06×140.18E±0˚.09, h60km, n11, σ0s81/14, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.32**	**2**	P	**Pn**	**09 34 56.7**	**+0.4**
JYT				S	**Sn**	**09 35 04.0**	**+0.3**
JAG	**Ashikaga**	**0.79**	**311**	P	**Pn**	**09 35 01.5**	**+0.2**
JRY	**Ryogami san**	**1.04**	**276**	P	**Pn**	**09 35 05.4**	**+0.7**
MJAR	**Matsushiro Arr**	**1.72**	**292**	P	**Pn**	**09 35 14.4**	**+0.7**
	13nm,0.3s,baz=96,slow=8.7,SNR=211						
MAT	**Matsushiro**	**1.72**	**292**	P	**Pn**	**09 35 14.8**	**+1.1**
MAT				*e*S	**Sn**	**09 35 33.0**	**-1.6**
JHJ	**Hachijo jima 2**	**2.80**	**187**	P	**Pn**	**09 35 28.2**	**-0.2**
	17nm,0.3s,baz=286,slow=24,SNR=16						
JHJ				S	**Sn**	**09 36 01.9**	**+0.9**
	34nm,0.3s,baz=83,slow=23,SNR=8.0						
MKAR	**Makanchi Array**	**43.89**	**303**	P	**P**	**09 42 47.0**	**+0.5**
	0.1nm,0.3s,baz=96,slow=8.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**45.92**	**309**	P	**P**	**09 43 02.4**	**-0.1**
	0.3nm,0.2s,baz=81,slow=7.4,SNR=3.6						
ILAR	**Eielson Array**	**50.97**	**32**	P	**P**	**09 43 41.1**	**-0.1**
	0.4nm,0.7s,baz=268,slow=5.7,SNR=8.8						
WRA	**Warramunga Arr**	**55.82**	**187**	P	**P**	**09 44 16.3**	**-0.9**
	0.2nm,0.5s,baz=0.7,slow=7.6,SNR=8.3						
ASAR	**Alice Springs**	**59.55**	**187**	P	**P**	**09 44 43.2**	**-0.2**
	0.2nm,0.7s,baz=6.3,slow=9.3,SNR=3.2						

*KLM **05** 09:40:57.7, 3˚.06S×101˚.89E, h81km, mb4.6, ML4.1*
*BJI **05** 09:40:58.9, 3˚.14S×101˚.75E, h141km, mb4.6/7, mB4.6/5*
*ISCJB **05** 09:41:00.4±0.4, 2˚.69S±0˚.04×101˚.81E±0˚.04, h119km±3km, mb4.5/40, Error ellipse: s-maj=8.7km s-min=4.5km az=140.7*
*IDC **05** 09:41:01.4±1.7, 2˚.76S×101˚.83E, h114km±14km, mb4.1/26, mb1 4.1/26, mb1mx3.9/47, mbtmp4.4/26, MS3.1/1, Ms1 3.1/1, ms1mx2.5/37, Error ellipse: s-maj=19.1km s-min=9.2km az=52.0*
*NEIC **05** 09:41:01.5±0.6, 2˚.72S×101˚.79E, h113km±5km, mb4.7/18, Error ellipse: s-maj=11.4km s-min=5.0km az=60.0*
NEIC Felt [II] at Bengkulu.
*DJA **05** 09:41:02.0±0.3, 3˚.S±3˚×10˚.2E±˚, h81km±9km, M4.4/20, mb4.5/4, MLv4.4/20*

ISC 05 09:41:01.4±0.8, 2.73S±0˚.05×101.79E±0˚.05, h113km±6km, n174, σ0s87/159, mb4.4/40, 3C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.61**	**132**	P	**Pn**	**09 41 17.8**	**-1.5**
PPSI	**Pulau Pagai**	**1.78**	**269**	P	**Pn**	**09 41 31.8**	**+0.1**
SDSI	**Sungai Dareh**	**1.82**	**349**	P	**Pn**	**09 41 31.4**	**-0.8**
MNAI	**Manna**	**2.00**	**144**	P	**Pn**	**09 41 34.3**	**-0.2**
MNAI	**Manna**	**2.00**	**144**	*e*Pn	**Pn**	**09 41 34.4**	**-0.3**
MNAI				*e*Sn	**Sn**	**09 42 02.0**	**+2.3**
LHSI	**Lahat**	**2.05**	**122**	P	**Pn**	**09 41 35.0**	**-0.1**
JMBI	**JAMBI**	**2.15**	**60**	P	**Pn**	**09 41 35.4**	**-0.9**
PDSI	**Padang**	**2.24**	**324**	P	**Pn**	**09 41 37.5**	**-0.1**
PPI	**Padang Panjang**	**2.65**	**328**	P	**Pn**	**09 41 43.1**	**+0.2**
BKNI	**Bangkinang**	**3.12**	**346**	P	**Pn**	**09 41 49.3**	**+0.1**
BKNI	**Bangkinang**	**3.12**	**346**	*e*Pn	**Pn**	**09 41 49.2**	**+0.1**
LWLI	**Liwa**	**3.21**	**135**	P	**Pn**	**09 41 50.9**	**+0.6**
KLI	**Kotabumi**	**3.72**	**125**	P	**Pn**	**09 41 58.6**	**+1.5**
KASI	**Kota Agung**	**3.87**	**136**	P	**Pn**	**09 41 58.9**	**-0.2**
MNSI	**Mandailing Nat**	**4.14**	**328**	P	**Pn**	**09 42 02.3**	**-0.4**
TPRI	**Tanjung Pinang**	**4.54**	**37**	P	**Pn**	**09 42 07.9**	**-0.2**
MYKOM	**Kota Tinggi**	**4.94**	**25**	↓P	**Pn**	**09 42 12.9**	**-0.5**
KGM	**Kluang**	**4.95**	**18**	↑P	**Pn**	**09 42 14.0**	**+0.4**
GSI	**Gunungsitoli**	**5.81**	**314**	P	**Pn**	**09 42 24.8**	**-0.5**
	60nm,0.4s,0.3nm						
GSI	**Gunungsitoli**	**5.81**	**314**	*e*Pn	**Pn**	**09 42 24.4**	**-0.9**
	39nm,0.3s						
GSI				*e*Sn	**Sn**	**09 43 29.0**	**-1.7**
IPM	**Ipoh**	**7.20**	**354**	*e*Pn	**Pn**	**09 42 46.3**	**+2.3**
	8.7nm,0.5s						
CISI	**Cisompet, Garu**	**7.68**	**129**	P	**Pn**	**09 42 48.4**	**-2.2**
	55nm,1.2s,0.4nm						
KULM	**Kulim**	**8.04**	**352**	*e*Pn	**Pn**	**09 42 55.7**	**+0.1**
BTM	**Bintulu**	**12.73**	**63**	↓P	**Pn**	**09 43 57.2**	**-1.3**
PLAI	**Plampang**	**17.01**	**112**	P	**P**	**09 44 52.8**	**+0.1**
SDKM	**Sandakan**	**17.49**	**62**	↑P	**P**	**09 44 57.5**	**-0.5**
KDM	**Kudat**	**17.81**	**57**	↓P	**P**	**09 45 01.4**	**0.0**
MYLDM	**Lahad Datu**	**18.45**	**65**	↑P	**P**	**09 45 07.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**21.24**	**353**	P	**P**	**09 45 39.1**	**+0.6**
	2.3nm,0.8s,baz=182,slow=8.9,SNR=11						
CMAR				ScP	**ScP**	**09 53 07.0**	**+0.8**
	0.9nm,0.4s,baz=198,slow=4.2,SNR=6.0						
MBWA	**Marble Bar**	**25.31**	**138**	*e*P	**P**	**09 46 18.0**	**+0.3**
	34nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.93**	**125**	*e*P	**P**	**09 46 43.1**	**+1.9**
	16nm,1.7s						
H08S2	**Diego Garcia H**	**29.57**	**259**	T	T	10 16 59.0	
	baz=83,slow=75,SNR=48						
H08S3	**Diego Garcia H**	**29.58**	**259**	T	T	10 16 52.8	
	baz=83,slow=75,SNR=44						
H08S1	**Diego Garcia H**	**29.59**	**259**	T	T	10 17 01.7	
	baz=83,slow=75,SNR=32						
NWAO	**Narrogin (SRO)**	**33.35**	**156**	P	**P**	**09 47 28.3**	**-0.5**
	8.6nm,0.9s,baz=274,slow=16,SNR=4.7						
ENH	**Enshi**	**33.63**	**12**	*e*P	**P**	**09 47 31.3**	**0.0**
	5.4nm,0.4s						
WRA	**Warramunga Arr**	**36.09**	**121**	P	**P**	**09 47 51.5**	**-1.1**
	1.4nm,0.5s,baz=288,slow=10,SNR=51						
WRA				PcP	**PcP**	**09 50 15.9**	**-0.6**
	0.4nm,0.5s,baz=312,slow=2.2,SNR=4.1						
WRA				ScP	**ScP**	**09 53 51.5**	**-1.1**
	0.7nm,0.9s,baz=305,slow=3.0,SNR=4.5						
WRAB	**Tennant Creek**	**36.09**	**121**	*e*P	**P**	**09 47 51.6**	**-1.0**
	3.3nm,0.8s						
XAN	**Xi'an**	**37.18**	**10**	P	**P**	**09 48 01.4**	**-0.3**
XAN				PMZ			
	20nm,0.7s						
XAN				PMZ			
	52nm,5.7s						
ASAR	**Alice Springs**	**37.38**	**127**	P	**P**	**09 48 03.1**	**-0.5**
	3.8nm,0.5s,baz=299,slow=7.9,SNR=103						
ASAR				PcP	**PcP**	**09 50 20.9**	**+0.6**
	0.5nm,0.5s,baz=312,slow=2.3,SNR=5.3						
ASAR				S	**S**	**09 53 39.9**	**-3.7**
	0.3nm,0.8s,baz=302,slow=16,SNR=4.2						
ASAR				ScP	**ScP**	**09 53 57.7**	**+0.2**
	1.1nm,0.7s,baz=300,slow=3.9,SNR=13						
NDI	**New Delhi**	**39.14**	**325**	*e*P	P	09 48 12.0	-6.2
JNU	**Nakatsue**	**45.02**	**35**	P	**P**	**09 49 06.5**	**+0.6**
	4.6nm,0.8s,baz=168,slow=4.1,SNR=3.7						
GUMO	**Guam**	**45.70**	**68**	LR	LR	10 09 30.8	
	comp=Z,23nm,19.7s,baz=100,slow=37						
KSAR	**Wonju Array Be**	**46.73**	**29**	P	**P**	**09 49 20.1**	**+0.9**
KSRS	**Korea Array**	**46.76**	**29**	P	**P**	**09 49 20.1**	**+0.7**
	2.7nm,0.9s,baz=214,slow=8.2,SNR=16						
STKA	**Stephens Creek**	**47.34**	**132**	P	**P**	**09 49 24.3**	**+0.2**
	2.4nm,0.5s,baz=324,slow=7.6,SNR=15						
SONM	**Songino Array**	**50.51**	**4**	P	**P**	**09 49 49.1**	**+0.9**
	3.2nm,0.5s,baz=187,slow=9.9,SNR=28						
SONM				PcP	**PcP**	**09 51 04.8**	**+0.2**
	1.1nm,0.5s,baz=182,slow=2.4,SNR=5.9						
TKM2	**Tokmak 2**	**51.22**	**335**	*e*P	**P**	**09 49 53.7**	**+0.1**
	21nm,0.7s						
AAK	**Ala-Archa**	**51.45**	**334**	P	**P**	**09 49 55.3**	**-0.1**
	3.0nm,0.5s,baz=126,slow=7.5,SNR=9.6						
AAK	**Ala-Archa**	**51.45**	**334**	*e*P	**P**	**09 49 55.7**	**+0.4**
	3.5nm,0.8s						
MJAR	**Matsushiro Arr**	**51.74**	**38**	P	**P**	**09 49 57.1**	**-0.3**
	3.4nm,0.8s,baz=217,slow=7.4,SNR=15						
EKS2	**Erkin-Say**	**51.79**	**334**	*e*P	**P**	**09 49 58.2**	**+0.4**
	18nm,0.6s						
MKAR	**Makanchi Array**	**52.22**	**343**	P	**P**	**09 50 00.6**	**-0.2**
	6.6nm,0.7s,baz=148,slow=7.9,SNR=53						
EIDS	**Eidsvold**	**52.45**	**120**	*e*P	**P**	**09 50 04.3**	**+1.4**
	2.3nm,0.9s						
MDJ	**Mudjiang**	**53.28**	**25**	*e*P	**P**	**09 50 07.6**	**-1.0**
	7.5nm,0.5s						
KKAR	**Karatay Array**	**53.62**	**332**	*e*P	**P**	**09 50 11.8**	**+0.6**
	2.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**53.98**	**27**	P	**P**	**09 50 14.6**	**+0.9**
	17nm,0.7s,baz=224,slow=5.7,SNR=47						
KURBB	**Kurchatov Arra**	**56.76**	**342**	P	**P**	**09 50 33.3**	**-0.2**
	8.8nm,0.7s,baz=160,slow=6.8,SNR=70						
KURBB				PcP	**PcP**	**09 51 28.4**	**+0.3**
	1.0nm,0.5s,baz=145,slow=2.3,SNR=5.0						
KURK	**Kurchatov**	**56.82**	**343**	*e*P	**P**	**09 50 34.1**	**+0.2**
	25nm,0.6s						
KURK				PcP	**PcP**	**09 51 28.4**	**+0.1**
GEYT	**Alibeck**	**57.15**	**319**	P	**P**	**09 50 36.9**	**+0.3**
	1.5nm,0.3s,baz=149,slow=3.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**58.22**	**348**	P	**P**	**09 50 43.5**	**-0.2**
	8.2nm,0.4s,baz=176,slow=5.9,SNR=7.0						
ASAJ	**Asahikawa**	**59.22**	**33**	*e*P	**P**	**09 50 51.8**	**+1.0**
	1.2nm,0.6s						
BVAR	**Borovoye Array**	**61.49**	**339**	P	**P**	**09 51 05.4**	**-0.7**
	7.4nm,0.6s,baz=139,slow=8.4,SNR=39						
BRVK	**Borovoye**	**61.55**	**339**	*e*P	**P**	**09 51 05.5**	**-1.0**
	33nm,0.8s						
ABKAR	**Akbulak array**	**63.14**	**331**	*e*P	**P**	**09 51 16.4**	**-0.8**
	12nm,0.8s						
AKTO	**Aktyubinsk**	**64.86**	**331**	P	**P**	**09 51 27.9**	**-0.5**
	1.0nm,0.4s,baz=109,slow=9.9						
ARU	**Arti**	**68.59**	**336**	P	**P**	**09 51 51.3**	**-0.6**
	2.2nm,0.4s,baz=290,slow=15,SNR=4.5						
ARU	**Arti**	**68.59**	**336**	*e*P	**P**	**09 51 51.5**	**-0.4**
	3.6nm,0.6s						
KBZ	**Khabaz**	**70.03**	**319**	P	**P**	**09 52 01.6**	**+0.5**
	3.9nm,0.7s,baz=116,slow=7.7,SNR=12						
BRTR	**Keskin Array B**	**75.13**	**312**	P	**P**	**09 52 31.5**	**-0.1**
	3.5nm,0.7s,baz=134,slow=7.4,SNR=23						
SEY	**Seymchan**	**75.64**	**21**	P	**P**	**09 52 33.4**	**-0.4**
	2.1nm,0.7s,baz=210,slow=4.9,SNR=6.1						
TIXI	**Tiksi**	**76.30**	**9**	P	**P**	**09 52 36.2**	**-1.2**
	1.1nm,0.3s,baz=260,slow=3.7,SNR=3.2						
AKASG	**Malin Array Be**	**81.15**	**322**	P	**P**	**09 53 04.2**	**-0.2**

2.4nm,0.8s,baz=119,slow=7.3,SNR=6.0
W40A Ferguson Farm, 144.87 21 P **PKPab 10 00 24.9 -0.1**
baz=334
V42A Cord 144.90 19 P **PKPab 10 00 24.8 -0.3**
baz=337
Y37A Hugo 144.92 26 P **PKPab 10 00 25.0 -0.2**
baz=329
134A White-Moore Ra 144.94 30 P **PKPab 10 00 25.5 +0.1**
baz=324
233A Rising Star 144.96 32 P **PKPdf 10 00 26.0 -0.1**
baz=322,SNR=11
BDFB Brasilia 145.00 238 PKPbc **PKPdf 10 00 27.5 +0.9**
1.9nm,0.8s,baz=153,slow=9.0,SNR=2.8
X39A Fountain Ranch 145.08 23 P **PKPdf 10 00 26.1 -0.1**
baz=332
Z36A Blue Ridge 145.15 27 P **PKPbc 10 00 25.6 -0.4**
baz=327
W41B Gary Mavity, V 145.18 20 P **PKPbc 10 00 25.4 -0.6**
baz=335
MIAR Mount Ida 145.26 23 P **PKPdf 10 00 26.4 0.0**
baz=332
MIAR Mount Ida 145.26 23 *e*PKPdf **PKPab 10 00 26.6 +0.1**
135A Vickery Place, 145.28 29 P **PKPbc 10 00 26.5 +0.1**
baz=325
Y38A Idabel 145.34 25 P **PKPbc 10 00 26.3 -0.3**
baz=330
234A Clairette 145.36 31 P **PKPdf 10 00 26.5 -0.2**
baz=323,SNR=5.8
333A Richland Sprin 145.46 32 P **PKPab 10 00 27.4 0.0**
baz=322,SNR=13
Z37A Pogue Cattle C 145.58 26 P **PKPbc 10 00 27.4 0.0**
baz=328
X40A Basin Creek Fa 145.59 22 P **PKPab 10 00 27.7 0.0**
baz=334
Y39A Lockesburg 145.59 24 P **PKPab 10 00 27.6 -0.1**
baz=331
JCT Junction City 145.66 34 P **PKPab 10 00 28.3 +0.1**
baz=320
JCT Junction City 145.66 34 *e*PKPbc **PKPbc 10 00 27.9 +0.1**
433A Art 145.84 33 P **PKPbc 10 00 28.2 -0.1**
baz=321
334A Lometa 145.85 31 P **PKPbc 10 00 28.2 -0.1**
baz=323,SNR=7.6
Y41A Eaglette Beard 146.21 22 P **PKPbc 10 00 28.9 -0.4**
baz=334
434A Burnet 146.24 32 P **PKPbc 10 00 29.3 -0.2**
baz=322,SNR=5.8
X43A Marvell 146.24 19 P **PKPbc 10 00 28.9 -0.4**
baz=337
138A Matatall Enter 146.27 26 P **PKPbc 10 00 29.5 0.0**
baz=329
335A Moody 146.30 31 P **PKPbc 10 00 29.7 +0.1**
baz=324
533A Kerrville 146.40 34 P **PKPbc 10 00 30.2 +0.2**
baz=320
X44A Crenshaw 146.49 18 P **PKPbc 10 00 29.9 -0.2**
baz=338
336A Riesel 146.51 30 P **PKPbc 10 00 30.3 +0.1**
baz=325
435B Jarrell 146.62 31 P **PKPbc 10 00 30.4 -0.1**
baz=323
633A Saathoff Ranch 146.78 35 P **PKPab 10 00 32.5 0.0**
baz=319
140A Cam and Jess, 146.93 24 P **PKPbc 10 00 32.7 -0.2**
baz=331
Y44A Strider, Charl 146.97 18 P **PKPab 10 00 32.6 -0.4**
baz=338
832A Faith Ranch, C 147.19 37 P **PKPbc 10 00 32.8 +0.5**
baz=317
Y45A Yeager Farm, C 147.26 18 P **PKPbc 10 00 32.3 0.0**
baz=339
338A Crockett 147.27 28 P **PKPbc 10 00 32.7 +0.4**
baz=327
Y46A Houston 147.45 17 P **PKPbc 10 00 32.8 +0.1**
baz=340
KMSC Kings Mountain 147.62 5 P **PKPbc 10 00 32.9 -0.3**
baz=354
KMSC Kings Mountain 147.62 5 *e*PKPbc **PKPbc 10 00 32.7 -0.5**
635A Leesville 147.62 33 P **PKPbc 10 00 34.4 +1.0**
baz=322
438A Sam Houston St 147.70 29 P **PKPbc 10 00 34.5 +0.9**
baz=326
Y47A UCPARC, Winfie 147.71 15 P **PKPbc 10 00 33.1 -0.4**
baz=342
143A Socs Landing, 147.71 21 P **PKPbc 10 00 34.5 +1.0**
baz=335
340A Bronson 147.86 26 P **PKPbc 10 00 34.5 +0.5**
baz=330
636A Smothers Creek 147.93 32 P **PKPab 10 00 35.7 -1.3**
baz=323
439A Center Grove, 148.00 28 P **PKPbc 10 00 35.3 +1.0**
baz=328
Z46A Louisville 148.07 17 P **PKPbc 10 00 34.8 +0.4**
baz=340
341A Kurthwood 148.24 25 P **PKPbc 10 00 35.1 +0.2**
baz=331
Z48A Northport 148.28 15 P **PKPbc 10 00 34.3 -0.7**
baz=342
145A Houston Renfro 148.31 19 P **PKPbc 10 00 35.1 0.0**
baz=337
Z47A Carrollton 148.31 16 P **PKPbc 10 00 35.0 -0.1**
baz=341
736A Circle Diamond 148.34 33 P **PKPbc 10 00 36.7 +1.4**
baz=322
440A Kirbyville 148.40 26 P **PKPbc 10 00 37.1 +1.7**
baz=329
146A Union 148.55 18 P **PKPbc 10 00 36.2 +0.4**
baz=339
244A Avery, Jackson 148.56 21 P **PKPbc 10 00 36.2 +0.4**
baz=336

*NIED **05** 10:14:00,37.°60N×143.°80E,h5km,Mw3.7 Best double couple: M₀4.71000×10¹⁴ NP1:φs30.00000°,δ26.00000°, λ-100.00000°. NP2:φs221.00000°,δ65.00000°, λ-85.00000°.*
*IDC **05** 10:14:04.2±0.9,37.°45N×144.°02E,h0km,mb3.7/9, mb1 3.9/14,mb1mx3.7/47,mbtmp3.9/14,ML4.0/4,MS2.9/4, Ms1 2.9/4,ms1mx2.4/54,Error ellipse: s-maj=23.1km s-min=15.5km az=110.0*
*ISCJB **05** 10:14:05.9±1.4,37.°61N±0.°03×143.°89E±0.°05, h24km±12km,mb3.7/10,MS3.3/1,Error ellipse: s-maj=6.3km s-min=5.7km az=14.6*
*NEIC **05** 10:14:05.1±0.7,37.°46N×144.°12E,h10km,mb4.0/2,Error ellipse: s-maj=14.7km s-min=9.2km az=111.0*
*JMA **05** 10:14:07.3±0.2,37.°61N×143.°83E,h41km,M4.1*
ISC 05 10:14:04.7±3.7,37.°58N±0.°04×143.°97E±0.°07,h7km±24km, n47,σ2ˢ22/59,mb3.8/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.24**	**294**	P		**Pn**	**10 14 41.9**	**-0.4**
JIO				S		**Sn**	**10 15 07.4**	**-2.9**
OFUJ	**Ofunato**	**2.35**	**310**	P		**Pn**	**10 14 43.2**	**-0.6**
OFUJ				*e*S		**Sn**	**10 15 09.6**	**-3.2**
JMK	**Ichinoseki**	**2.56**	**303**	P		**Pn**	**10 14 46.4**	**-0.3**
JMK				S		**Sn**	**10 15 15.4**	**-2.7**
JOU	**Okura**	**2.73**	**288**	P		**Pn**	**10 14 49.1**	**+0.1**
JOM	**Ohasama**	**2.82**	**313**	P		**Pn**	**10 14 50.5**	**+0.2**
JOM				S		**Sn**	**10 15 22.3**	**-2.3**
JFT	**Otama**	**2.88**	**270**	P		**Pn**	**10 14 51.2**	**0.0**
JFT				*e*S		**Sn**	**10 15 24.0**	**-2.2**
JYK	**Kaneyama**	**3.14**	**296**	P		**Pn**	**10 14 55.3**	**+0.7**
JYK				S		**Sn**	**10 15 31.3**	**-1.1**
JRG	**Rokugo**	**3.18**	**306**	P		**Pn**	**10 14 55.3**	**+0.1**
JRG				*e*S		**Sn**	**10 15 32.3**	**-1.2**
JANG	**Nango**	**3.38**	**326**	P		**Pn**	**10 14 57.8**	**-0.2**
JANG				S		**Sn**	**10 15 34.7**	**-3.7**
JAH	**Hinai**	**3.68**	**316**	*e*S		**Sn**	**10 15 44.6**	**-1.1**
JAG	**Ashikaga**	**3.79**	**254**	P		**Pn**	**10 15 03.8**	**+0.2**
JAG				S		**Sn**	**10 15 45.5**	**-3.0**
JTM	**Tenmabayashi**	**3.91**	**326**	P		**Pn**	**10 15 05.8**	**+0.5**
JTM				*e*S		**Sn**	**10 15 47.9**	**-3.6**
JRY	**Ryogami san**	**4.35**	**251**	P		**Pn**	**10 15 10.9**	**-0.5**
JRY				S		Sn	10 15 57.7	-4.7
JOT	**Ohata**	**4.42**	**330**	P		**Pn**	**10 15 12.8**	**+0.6**
JOT				*e*S		Sn	10 15 59.5	-4.4
ERM	**Erimo**	**4.47**	**352**	*e*Pn		**Pn**	**10 15 12.6**	**-0.4**
ERM				*e*Sn		**Sn**	**10 16 01.0**	**-4.2**
JOD2	**Odawara 2**	**4.56**	**241**	*e*S		Sn	10 16 02.9	-4.7
MJAR	**Matsushiro Arr**	**4.72**	**259**	Pn		**Pn**	**10 15 17.6**	**+1.2**
	6.4nm,0.3s,baz=89,slow=16,SNR=68							
MJAR				Sn		**Sn**	**10 16 12.7**	**+1.2**
	0.9nm,0.3s,baz=193,slow=22,SNR=4.0							
MJAR				LR		LR	10 17 15.7	
	comp=Z,59nm,19.8s,baz=90,slow=41							
MAJO	**Matsushiro**	**4.72**	**259**	*e*Pn		**Pn**	**10 15 17.7**	**+1.2**
MAT	**Matsushiro**	**4.72**	**259**	P		**Pn**	**10 15 18.1**	**+1.7**
MAT				S		**Sn**	**10 16 11.3**	**-0.2**
JKB	**Kayabe**	**4.86**	**333**	*e*S		Sn	10 16 09.9	-4.9
JCH	**Churui**	**5.05**	**355**	P		**Pn**	**10 15 20.2**	**-0.7**
JCH				S		**Sn**	**10 16 14.1**	**-5.4**
JHJ2	**Mitsune**	**5.60**	**218**	*e*Pn		**Pn**	**10 15 27.5**	**-1.0**
JHJ2				*e*Sn		**Sn**	**10 16 28.8**	**-4.3**
JHJ	**Hachijo jima 2**	**5.61**	**219**	Pn		**Pn**	**10 15 27.3**	**-1.4**
	5.9nm,0.3s,baz=171,slow=21,SNR=9.6							
JHJ				Sn		**Sn**	**10 16 28.4**	**-4.9**
	14nm,0.3s,baz=85,slow=24,SNR=4.6							
ASAJ	**Asahikawa**	**6.61**	**351**	Pn		**Pn**	**10 15 42.5**	**+0.2**
	3.1nm,0.3s,baz=200,slow=15,SNR=24							
ASAJ				Sn		**Sn**	**10 16 54.4**	**-3.5**
	1.0nm,0.3s,baz=251,slow=31,SNR=3.8							
ASAJ	**Asahikawa**	**6.61**	**351**	*e*Pn		**Pn**	**10 15 42.4**	**0.0**
	4.9nm,0.7s							
ASAJ				*e*Sn		**Sn**	**10 16 56.4**	**-1.6**
CBIJ	**Chichi jima**	**10.56**	**189**	Pn		**Pn**	**10 16 33.1**	**-3.5**
CBIJ				Sn		Sn	10 18 24.1	-11
JCJ	**Chichijima**	**10.56**	**189**	Pn		**Pn**	**10 16 33.1**	**-3.5**
	2.5nm,0.3s,baz=288,slow=22,SNR=2.7							
JCJ				Sn		Sn	10 18 24.1	-11
	3.6nm,0.3s,baz=271,slow=23,SNR=2.5							
USRK	**Ussuriysk Ar.**	**11.21**	**310**	Pn		**Pn**	**10 16 45.5**	**+0.1**
	0.1nm,0.3s,baz=96,slow=15,SNR=2.9							
KSRS	**Korea Array**	**12.74**	**274**	Pn		**Pn**	**10 17 10.6**	**+4.2**
	0.1nm,0.3s,baz=85,slow=14,SNR=6.9							
KSRS				LR		LR	10 22 20.9	
	comp=Z,40nm,18.3s,baz=91,slow=39							
KSAR	**Wonju Array Be**	**12.77**	**274**	Pn		**Pn**	**10 17 10.6**	**+3.8**
KLR	**Kul'dur**	**14.62**	**327**	Pn		**P**	**10 17 39.5**	**+1.0**
	0.1nm,0.3s,baz=135,slow=13,SNR=6.5							
KLR				LR		LR	10 23 02.7	
	comp=Z,38nm,18.7s,baz=83,slow=36							
SEY	**Seymchan**	**25.90**	**9**	P		**P**	**10 19 39.5**	**+2.4**
	2.8nm,1.0s,baz=185,slow=9.5,SNR=5.7							
H11N2	**WAKE ISLAND Hy**	**26.74**	**125**	T		T	10 47 20.7	
	baz=298							
H11N1	**WAKE ISLAND Hy**	**26.75**	**125**	T		T	10 47 20.2	
	baz=298							
H11N3	**WAKE ISLAND Hy**	**26.76**	**125**	T		T	10 46 52.1	
	baz=298							
SONM	**Songino Array**	**29.19**	**303**	P		**P**	**10 20 07.9**	**+1.0**
	0.3nm,0.5s,baz=99,slow=9.2,SNR=2.3							
CMAR	**Chiang Mai Arr**	**43.60**	**257**	P		**P**	**10 22 11.9**	**+2.0**
	0.8nm,0.5s,baz=50,slow=8.4,SNR=4.3							
MKAR	**Makanchi Array**	**45.55**	**302**	P		**P**	**10 22 26.3**	**+1.1**
	1.0nm,0.7s,baz=67,slow=11,SNR=7.1							
ILAR	**Eielson Array**	**47.94**	**33**	P		**P**	**10 22 44.5**	**+1.0**
	0.6nm,0.7s,baz=260,slow=6.7,SNR=14							
TKM2	**Tokmak 2**	**51.16**	**299**	*e*P		**P**	**10 23 10.0**	**+1.3**
INK	**Inuvik**	**52.97**	**27**	P		**P**	**10 23 23.1**	**+1.7**
	0.7nm,0.8s,baz=319,slow=5.8,SNR=3.7							
INK	**Inuvik**	**52.97**	**27**	*e*P		**P**	**10 23 22.9**	**+1.4**
	2.3nm,1.3s							
WRA	**Warramunga Arr**	**57.93**	**191**	P		**P**	**10 23 57.1**	**-0.6**
	0.5nm,0.7s,baz=10,slow=7.4,SNR=9.0							
ABKAR	**Akbulak array**	**59.14**	**311**	*e*P		**P**	**10 24 06.4**	**+0.5**
	0.8nm,0.6s							
AKTO	**Aktyubinsk**	**59.82**	**312**	LR		LR	10 49 56.6	
	comp=Z,23nm,20.5s,baz=100,slow=36							
ASAR	**Alice Springs**	**61.65**	**190**	P		**P**	**10 24 23.1**	**-0.3**
	0.4nm,0.8s,baz=16,slow=9.4,SNR=6.0							
FINES	**FINESS Array B**	**69.27**	**333**	P		**P**	**10 25 13.0**	**+0.8**
	1.3nm,0.9s,baz=18,slow=6.8,SNR=3.7							

*SOME **05** 10:17:58.0,39.°65N×73.°92E,h10km*
*NNC **05** 10:18:04.5±2.1,40.°05N×73.°85E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=18.9km s-min=13.0km az=165.0*
*KRNET **05** 10:18:08.5±0.1,40.°19N×73.°72E,mb2.7*
ISC 05 10:18:05.9±2.1,40.°11N±0.°08×73.°74E±0.°03,h2km±12km, n22,σ1ˢ85/40,15C-7D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.84**	**300**	↑*e*P		**Pn**	**10 18 26.2**	**+1.4**
	baz=296							
OHH				↑*e*S		**Sn**	**10 18 38.4**	**+0.6**
	baz=296							
ARSB	**Arslanbob**	**1.35**	**335**	↓*e*P		**Pg**	**10 18 31.3**	**-0.4**
	baz=334							
ARSB				↓*e*S		**Sg**	**10 18 48.9**	**-0.3**
	baz=334							
ARK	**Arkit**	**2.16**	**322**	↑*e*P		**Pn**	**10 18 42.2**	**-0.8**
	baz=321							
ARK				↑*e*S		**Sn**	**10 19 07.0**	**-3.4**
	baz=321							
NRN	**Naryn**	**2.17**	**52**	↑*e*P		**Pn**	**10 18 42.5**	**-0.8**
	baz=54							
NRN				↑*e*S		**Sn**	**10 19 08.1**	**-2.8**
	baz=54							
BTK	**Batken**	**2.24**	**270**	↑*e*P		**Pn**	**10 18 43.5**	**-0.6**
	baz=268							
BTK				↑*e*S		**Sn**	**10 19 11.0**	**-1.4**
	baz=268							
MNAS	**Manas**	**2.56**	**339**	↑*e*P		**Pn**	**10 18 48.5**	**0.0**
	baz=339							
MNAS				↑*e*S		**Sn**	**10 19 16.7**	**-3.5**
	baz=339							
MNAS	**Manas**	**2.56**	**339**	↓Pn		**Pn**	**10 18 48.4**	**-0.1**
	1.7nm,0.4s							
MNAS				↓Lg		Lg	10 19 28.3	
	12nm,0.4s							
AAK	**Ala-Archa**	**2.59**	**12**	↑Pn		**Pn**	**10 18 48.2**	**-0.7**
	4.0nm,0.5s							
AAK				↓Lg		Lg	10 19 28.7	
	9.4nm,0.5s							
MRKS	**Merke**	**2.67**	**352**	*e*P		**Pb**	**10 18 53.9**	**-0.5**
	11nm,0.4s							
MRKS				*e*S		**Sg**	**10 19 31.4**	**-0.1**
	64nm,0.3s							
TKM2	**Tokmak 2**	**3.14**	**26**	↓Pn		**Pn**	**10 18 56.1**	**-0.4**
	4.1nm,0.6s							
TKM2				↑Lg		Lg	10 19 47.9	
	3.2nm,0.4s							
KST	**Kastek**	**3.38**	**29**	*e*P		**Pb**	**10 19 05.2**	**-1.4**
	2.1nm,0.1s							
KST				*e*S		**Sb**	**10 19 50.5**	**+2.4**
	11nm,0.4s							
IUG	**Iuzhnay**	**3.46**	**307**	*e*P		**Pb**	**10 19 08.6**	**+0.6**
	6.0nm,0.3s							
IUG				*e*S		**Sg**	**10 19 56.7**	**-0.6**
	21nm,0.4s							
DGS	**Degeres**	**3.48**	**25**	*e*P		**Pb**	**10 19 09.6**	**+1.2**
	6.6nm,0.7s							
DGS				*e*S		**Sg**	**10 19 59.1**	**+1.3**
	8.3nm,0.6s							
TNSS	**Tian-Shan**	**3.79**	**38**	*e*P		**Pb**	**10 19 15.1**	**+1.3**
	6.3nm,0.6s							
TNSS				*e*S		**Sg**	**10 20 07.5**	**-0.3**
	6.9nm,0.8s							
KK31	**Karatay Array**	**3.85**	**322**	↑Pn		**Pb**	**10 19 06.2**	**+0.1**
	0.1nm,0.3s,baz=130,slow=13,SNR=7.5							
KK31				Pg		**Pb**	**10 19 16.2**	**+1.7**
	0.6nm,0.3s,baz=133,slow=15,SNR=5.2							
KK31				↑Lg		Lg	10 20 08.2	
	2.8nm,0.5s,baz=139,slow=29,SNR=5.4							
MDOK	**Medeo**	**3.93**	**38**	*e*P		**Pb**	**10 19 14.9**	**-1.1**
	4.6nm,0.7s							
MDOK				*e*S		**Sb**	**10 20 07.5**	**+3.3**
	8.9nm,0.5s							
BRLS	**Borolday**	**4.06**	**313**	*e*P		**Pb**	**10 19 18.6**	**+0.5**
	1.3nm,0.3s							
BRLS				*e*S		**Sg**	**10 20 13.9**	**-2.4**
	6.4nm,0.4s							
KTBS	**Karatobe**	**4.22**	**30**	*e*P		**Pb**	**10 19 22.9**	**+2.0**
KTBS				*e*S		**Sg**	**10 20 21.0**	**-0.4**
KUU	**Kurty**	**4.25**	**26**	*e*P		**Pb**	**10 19 20.7**	**-0.7**
	3.5nm,0.6s							
KUU				*e*S		**Sb**	**10 20 16.7**	**+3.6**
	8.3nm,0.7s							
CHKK	**Chushkaly**	**4.48**	**32**	*e*P		**Pb**	**10 19 26.4**	**+1.2**
	4.8nm,0.5s							
CHKK				*e*S		**Sg**	**10 20 26.6**	**-3.1**
	10nm,0.3s							
SATY	**Saty**	**4.58**	**48**	*e*P		**Pb**	**10 19 26.9**	**-0.1**
	11nm,0.6s							
SATY				*e*S		**Sb**	**10 20 27.2**	**+4.6**
	6.4nm,0.8s							
PDGK	**Podgornoye**	**5.37**	**51**	↑Pg		**Pb**	**10 19 40.2**	**-0.2**
	1.9nm,0.7s							
PDGK				↓Lg		Lg	10 20 51.9	
	4.2nm,0.7s							

*BJI **05** 10:25:15.5,34.°31S×71.°66W,h44km,mB5.4/23,Ms5.2/21, Ms7 5.1/23*
*NEIC **05** 10:25:15.0,35.°00S×72.°19W,h32km,mb5.5/251, MS4.6/119,ML5.6(GUC),After GUC.*
NEIC Felt [VII] at Constitucion; [VI] at Cauquenes, Chanco, Curico, Hualane, Iloca, Linares, Maule and Talca; [V] at Colbun, Longavi, Molina, Parral, Pencahue, Pichilemu, Rio Claro, Romeral, San Clemente, San Fernando, San Javier and Santa Cruz. Felt widely in central Chile from Tiltil and Vina del Mar to Concepcion.
*GUC **05** 10:25:15.6±0.3,35.°00S×72.°19W,h32km±2km,ML5.6*
*GCMT **05** 10:25:15.0±0.1,35.°01S×72.°11W,h50km,MW5.3/98, Moment Tensor Solution. s90,c134; s98,c164; Duration: 1ˢ1 Moment tensor: Scale 10¹⁷Nm; Mrr0.98±.02; Mθθ0.05±.02; Mφφ-1.02±.02; Mrθ0.25±.02; Mθφ-0.17±.02; Mφr-0.69±.02; Best double couple: M₀1.25200×10¹⁷ NP1:φs172.00000°,δ63.00000°, λ74.00000°. NP2:φs24.00000°,δ31.00000°,λ118.00000°. Principal axes: T 1.2630, Plg68.0000°, Azm52.0000°; N -0.0180, Plg14.0000°, Azm180.0000°; P -1.2420, Plg17.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **05** 10:25:15.0±0.9,34.°93S×71.°81W,h33km,mb5.8/32, MS4.9/12 Error ellipse: s-maj=15.6km s-min=6.2km az=99.6*
*ISCJB **05** 10:25:17.7±0.4,35.°05S±0.°02×71.°77W±0.°04,h64km±3km, mb5.5/280,Error ellipse: s-maj=5.8km s-min=3.6km az=5.7*
*IDC **05** 10:25:17.2±0.3,35.°03S×71.°76W,h43km±2km,mb5.2/23, mb1 5.2/26,mb1mx5.2/32,mbtmp5.4/26,MS4.6/27, Ms1 4.6/27,ms1mx4.6/31,Error ellipse: s-maj=12.0km s-min=8.9km az=89.0*
ISC 05 10:25:16.7±0.2,35.°10S±0.°03×71.°94W±0.°04,h44km±1km, h43km:pP-P,n1287,σ1ˢ20/1381,mb5.5/280,MS4.7/151, 37C-24D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.24**	**214**	*e*P		**Pn**	**10 25 36.5**	**-1.1**
COCH				*e*S		**Sn**	**10 25 52.1**	**-1.1**
COCH				IAML			10 25 59.5	
	comp=E,123μm,1.8s							
CCHI	**Chillan**	**1.51**	**184**	↑*e*P		**Pn**	**10 25 42.2**	**+1.0**
CCHI				*e*S		**Sn**	**10 26 02.5**	**+2.9**
CCHI				IAML			10 26 09.4	
	comp=N,118μm,0.4s							
RCDM	**Rinconada Maip**	**1.86**	**31**	*e*P		**Pn**	**10 25 46.3**	**+0.2**
RCDM				*e*S		**Sn**	**10 26 09.8**	**+1.5**
ANTU	**Antumapu**	**1.87**	**36**	*e*P		**Pn**	**10 25 47.0**	**+0.8**
ANTU				*e*S		**Sn**	**10 26 10.7**	**+2.1**
STL	**Santa Lucia**	**1.97**	**33**	*e*P		**Pn**	**10 25 48.4**	**+0.7**
STL				*e*S		**Sn**	**10 26 13.2**	**+2.0**
CCSP	**San Pedro de C**	**1.99**	**208**	*e*P		**Pn**	**10 25 47.7**	**-0.1**
CCSP				*e*S		**Sn**	**10 26 12.1**	**+0.7**
CCSP				IAML			10 26 21.7	
	comp=N,60μm,0.5s							
CLCH	**Cerro Calan**	**2.06**	**35**	↑*e*P		**Pn**	**10 25 49.5**	**+0.7**
CLCH				*e*S		**Sn**	**10 26 15.6**	**+2.4**
CLCH				IAML			10 26 20.8	
	comp=N,99μm,1.5s							
PEL	**Peldehue**	**2.21**	**28**	↑*e*P		**Pn**	**10 25 51.4**	**+0.5**
PEL				*e*S		**Sn**	**10 26 18.6**	**+1.6**
PEL				IAML			10 26 24.1	
	comp=N,53μm,1.0s							
FCH	**Farellones**	**2.23**	**38**	*e*P		**Pn**	**10 25 52.4**	**+0.9**
FCH				*e*S		**Sn**	**10 26 20.8**	**+2.8**
ROC1	**El Roble**	**2.25**	**20**	*e*P		**Pn**	**10 25 52.9**	**+1.2**
ROC1				*e*S		**Sn**	**10 26 23.2**	**+4.9**
ROC1	**El Roble**	**2.25**	**20**	*e*Pn		**Pn**	**10 25 52.5**	**+0.9**
ROC1				*e*Sn		**Sn**	**10 26 23.6**	**+5.3**
ROCH	**El Roble**	**2.25**	**20**	*e*P		**Pn**	**10 25 51.9**	**+0.2**
ROCH				*e*S		**Sn**	**10 26 19.6**	**+1.3**
CANA	**Caviahue**	**2.88**	**166**	*e*P		**Pn**	**10 26 03.2**	**+3.1**
CANA				*e*S		Sn	10 26 53.1	+20
AAGR	**Agrelo**	**3.27**	**53**	||*e*P		**Pn**	**10 26 08.1**	**+2.6**
ARCO	**CERRO ARCO**	**3.36**	**49**	*e*P		**Pn**	**10 26 09.2**	**+2.4**
ARCO				IAML			10 26 30.6	
	comp=Z,4μm,0.4s							
AUSP	**Uspallata**	**3.57**	**37**	*e*P		**Pn**	**10 26 11.8**	**+2.0**
ASAL	**Salagasta**	**3.59**	**47**	*e*P		**Pn**	**10 26 12.9**	**+2.9**
PSCH	**Puerto Saavedr**	**3.88**	**197**	*e*P		**Pn**	**10 26 14.2**	**+0.5**
RTLS	**Leoncito**	**3.96**	**35**	*e*P		**Pn**	**10 26 17.4**	**+2.2**
RTCV	**Cerro Valdivia**	**4.30**	**42**	*e*P		**Pn**	**10 26 20.7**	**+1.1**
RTCV				*e*S		**Sn**	**10 27 15.4**	**+7.0**
SJA	**San Juan**	**4.54**	**39**	IAML			10 27 29.4	
	comp=Z,2μm,0.7s							
RTLL	**Cerro Villicun**	**4.75**	**39**	*e*P		**Pn**	**10 26 26.6**	**+0.8**
AMOG	**MOGNA**	**5.05**	**36**	*e*P		**Pn**	**10 26 30.8**	**+0.8**
PLCA	**Paso Flores**	**5.73**	**169**	*e*P		**Pn**	**10 26 42.3**	**+3.0**
PLCA				IAML			10 27 16.7	
	comp=Z,844nm,0.6s							
PLCA	**Paso Flores**	**5.73**	**169**	P		**Pn**	**10 26 42.1**	**+2.8**
	comp=Z,35nm,0.3s,baz=359,slow=11,SNR=41							
PLCA				Lg		Lg	10 28 17.9	
	comp=Z,27nm,0.3s,baz=103,slow=14,SNR=2.2							
PLCA				LR		LR	10 29 04.4	
	comp=Z,8μm,20.2s,baz=16,slow=39							
PLCA	**Paso Flores**	**5.73**	**169**	*e*Pn		**Pn**	**10 26 42.5**	**+3.2**
PLCA				Lg		Lg	10 28 17.9	
MRA	**San Martin**	**5.83**	**65**	*e*P		**Pn**	**10 26 42.2**	**+1.5**
MRA				IAML			10 27 19.7	
	comp=Z,2μm,0.8s							
SUCO	**SUCO**	**6.10**	**75**	IAML			10 27 12.2	
	comp=Z,824nm,0.6s							
AGUA	**GUANDACOL**	**6.31**	**29**	↓*e*P		**Pn**	**10 26 48.9**	**+1.7**
VCA	**Vinchina**	**7.09**	**28**	*e*P		**Pn**	**10 26 57.2**	**-0.8**
VCA				IAML			10 28 40.2	
	comp=Z,2μm,0.5s							
TCA	**Tanti**	**7.20**	**61**	*e*P		**Pn**	**10 26 59.1**	**-0.5**
TCA				IAML			10 27 03.9	
	comp=Z,412nm,0.5s							
CYA	**Choya**	**8.44**	**40**	IAML			10 29 21.4	
	comp=Z,255nm,0.6s							
TRQA	**Tornquist**	**8.54**	**113**	*e*Pn		**Pn**	**10 27 19.7**	**+1.9**
FSA	**Cafayete**	**10.32**	**31**	IAML			10 29 54.2	
	comp=Z,82nm,0.7s							
PB10	**IPOC Station P**	**11.60**	**6**	*e*Pn		**Pn**	**10 27 59.3**	**-0.4**
CHRN	**Cochrane**	**12.15**	**182**	*e*Pn		**Pn**	**10 28 07.9**	**+0.8**
LVC	**Limon Verde**	**12.72**	**13**	P		Pn	10 28 08.9	-6.4
	comp=Z,40nm,0.3s,baz=188,slow=13,SNR=8.9							
LVC				LR		LR	10 33 07.7	
	comp=Z,16μm,20.7s,baz=211,slow=37							
LVC	**Limon Verde**	**12.72**	**13**	*e*Pn		**Pn**	**10 28 10.5**	**-4.8**
PB04	**IPOC Station P**	**12.81**	**7**	*e*Pn		**Pn**	**10 28 16.8**	**+0.4**
YJA	**Yavi**	**14.05**	**25**	IAML			10 28 51.3	
	comp=Z,22nm,0.7s							
PB01	**IPOC Station P**	**14.16**	**9**	*e*Pn		**Pn**	**10 28 34.0**	**-0.7**
CPUP	**Villa Florida**	**15.29

comp=Z,2µm,18.2s,baz=216,slow=40
NNA Nana 23.43 348 P **P** **10 30 22.6 +0.6**
comp=Z,42nm,0.7s,baz=194,slow=11,SNR=15
NNA pP **pP** **10 30 33.6 +0.4**
comp=Z,54nm,0.8s,baz=199,slow=8.8,SNR=8.0
NNA LR LR 10 37 23.8
comp=Z,789nm,21.6s,baz=162,slow=31
NNA Nana 23.43 348 *e*P **P** **10 30 22.7 +0.6**
comp=Z,318nm,1.1s
NNA pP **pP** **10 30 33.6 +0.4**
SPB Sao Paulo 24.18 68 *e*P **P** **10 30 27.5 -1.5**
comp=Z,224nm,1.1s
SPB LR LR
comp=Z,6µm,19.0s
SAML Samuel 27.23 19 *e*P **P** **10 30 55.7 -0.9**
comp=Z,58nm,1.0s
SAML LR LR
comp=Z,2µm,19.0s
ATAH Atahualpa 28.45 346 P **P** **10 31 09.7 +1.7**
comp=Z,20nm,1.0s,baz=160,slow=5.5,SNR=7.3
ATAH ScP **ScP** **10 37 59.1 +2.2**
comp=Z,3.4nm,0.6s,baz=115,slow=4.3,SNR=3.7
ATAH LR LR 10 40 47.8
comp=Z,542nm,20.3s,baz=202,slow=33
BDFB Brasilia 28.90 54 P **P** **10 31 09.8 -1.8**
comp=Z,63nm,1.0s,baz=212,slow=7.5,SNR=42
BDFB pP **pP** **10 31 22.2 -1.1**
comp=Z,47nm,1.0s,baz=187,slow=9.3,SNR=5.9
BDFB sP **sP** **10 31 28.3 -0.3**
comp=Z,87nm,1.0s,baz=207,slow=6.4,SNR=9.3
BDFB LR LR 10 43 47.5
comp=Z,4µm,21.5s,baz=224,slow=39
BDFB PKP2bc 11 05 53.8
comp=Z,1.1nm,0.5s,baz=47,slow=26,SNR=3.8
BDFB Brasilia 28.90 54 *e*P **P** **10 31 10.1 -1.5**
comp=Z,265nm,1.1s
BDFB pP **pP** **10 31 22.2 -1.1**
BDFB sP **sP** **10 31 28.3 -0.3**
BDFB ⇑*e* 11 05 53.8
PMSA Palmer Station 30.09 173 LR LR 10 42 55.8
comp=Z,2µm,20.3s,baz=334,slow=35
HOPE Hope Point 31.21 139 *e*P **P** **10 31 31.8 +0.2**
comp=Z,186nm,1.1s
HOPE LR LR
comp=Z,837nm,22.0s
RPN Rapa Nui 32.84 274 PFAKE
RPN LR LR 10 32 00.0 +14
comp=Z,540nm,21.0s
OTAV Otavalo 35.67 349 *e*P **P** **10 32 12.2 +0.9**
OTAV Otavalo 35.67 349 *e*P **P** **10 32 12.8 +1.5**
comp=Z,83nm,1.4s
OTAV LR LR
comp=Z,279nm,20.0s
PTGA Pitinga 35.97 21 P **P** **10 32 12.2 -1.1**
comp=Z,135nm,0.8s,baz=205,slow=9.6,SNR=208
PTGA pP **pP** **10 32 24.6 -0.6**
comp=Z,42nm,0.7s,baz=323,slow=22,SNR=6.6
PTGA sP **sP** **10 32 31.3 +0.9**
comp=Z,50nm,0.9s,baz=214,slow=9.1,SNR=3.7
PTGA Pitinga 35.97 21 *e*P **P** **10 32 12.2 -1.1**
comp=Z,170nm,0.9s
PTGA pP **pP** **10 32 24.6 -0.6**
PTGA sP **sP** **10 32 31.3 +0.9**
PTGA LR LR
comp=Z,35µm,21.0s
CRUC La Cruz 36.77 352 *e*P **P** **10 32 22.3 +1.7**
SJAC San Juan de Ar 38.21 357 *e*P **P** **10 32 32.6 +0.1**
PAYG Puerto Ayora 38.28 329 *e*P **P** **10 32 34.6 +1.7**
comp=Z,51nm,1.0s
PAYG LR LR
comp=Z,954nm,19.0s
GRGC Isla de Gorgon 38.35 350 *e*P **P** **10 32 32.6 -0.9**
PRAC Prado 38.70 355 *e*P **P** **10 32 36.8 +0.3**
PRAC Prado 38.70 355 *e*P **P** **10 32 36.8 +0.3**
comp=Z,79nm,0.8s
VILC Villavicencio, 39.03 357 *e*P **P** **10 32 39.7 +0.3**
CHIC Chingaza 39.55 357 *e*P **P** **10 32 44.4 +0.4**
ROSC El Rosal 39.78 356 P **P** **10 32 47.7 +1.8**
comp=Z,47nm,0.8s,baz=162,slow=6.0,SNR=28
ROSC PcP **PcP** **10 34 52.0 +0.4**
comp=Z,10nm,0.7s,baz=221,slow=13,SNR=2.7
ROSC El Rosal 39.78 356 *e*P **P** **10 32 48.2 +2.3**
comp=Z,36nm,0.8s
ROSC PcP **PcP** **10 34 52.0 +0.4**
NORC Norcasia 40.53 356 *e*P **P** **10 32 52.2 +0.5**
RUSC La Rusia 40.78 358 *e*P **P** **10 32 54.3 0.0**
HELC Santa Helena 41.20 355 *e*P **P** **10 32 57.0 -0.7**
HELC Santa Helena 41.20 355 *e*P **P** **10 32 58.0 +0.4**
comp=Z,207nm,0.8s
BARC Barichara 41.48 358 *e*P **P** **10 32 59.6 -0.1**
BRRC Barranca, Sant 42.01 357 *e*P **P** **10 33 00.3 -3.5**
CBRI Barrientos, No 42.59 359 *e*P **P** **10 33 07.2 -1.5**
GRMC Gramalote, San 42.59 359 *e*P **P** **10 33 08.1 -0.6**
SDV Santo Domingo 43.76 2 P **P** **10 33 17.4 -0.8**
comp=Z,80nm,0.9s,baz=198,slow=5.8,SNR=17
SDV PcP **PcP** **10 35 04.5 0.0**
comp=Z,12nm,0.3s,baz=3.3,slow=5.1,SNR=2.0
SDV Santo Domingo 43.76 2 *e*P **P** **10 33 17.5 -0.7**
comp=Z,89nm,0.9s
SDV PcP **PcP** **10 35 04.5 0.0**
SDV LR LR
comp=Z,448nm,20.0s
RCBR Riachuelo 44.16 57 P **P** **10 33 20.6 -0.7**
comp=Z,51nm,1.1s,baz=217,slow=12,SNR=10
RCBR PcP **PcP** **10 35 05.8 +0.1**
comp=Z,19nm,0.8s,baz=161,slow=6.7,SNR=5.5
RCBR Riachuelo 44.16 57 *e*P **P** **10 33 20.5 -0.8**
comp=Z,172nm,1.5s
RCBR PcP **PcP** **10 35 05.8 +0.1**
RCBR LR LR
comp=Z,3µm,20.0s
BCIP Isla Barro Col 44.65 349 *e*P **P** **10 33 26.0 +1.0**
comp=Z,54nm,0.9s
BCIP LR LR
comp=Z,357nm,21.0s
PCRV Puerto La Cruz 45.55 10 P **P** **10 33 31.7 -0.6**
comp=Z,72nm,0.9s,baz=201,slow=2.4,SNR=20
PCRV pP **pP** **10 33 42.9 -1.5**
comp=Z,44nm,1.0s,baz=159,slow=4.7,SNR=4.8
GRGR Grenville 47.97 14 PFAKE 10 34 00.0 +8.8
GRGR LR LR
comp=Z,933nm,20.0s
VNA1 Neumayer--Stat 48.64 157 P **P** **10 33 56.8 +1.1**
SVB Belmont 49.16 14 *e*P **P** **10 33 58.7 -1.6**
comp=Z,151nm,1.0s
BBGH Gun Hill 49.39 16 PFAKE 10 34 10.0 +7.9
BBGH LR LR
comp=Z,1µm,22.0s
BIM Bigot 50.41 14 *e*P **P** **10 34 08.6 -1.2**
TRMF Trois Ilets 50.43 14 *e*P **P** **10 34 09.1 -0.8**
ZAM Aeronautique 50.47 14 *e*P **P** **10 34 09.2 -1.0**
SNAA Sanae 50.54 157 P **P** **10 34 10.9 +0.6**
SNAA Sanae 50.54 157 *c*/P **P** **10 34 10.7 +0.4**
SNAA Sanae 50.54 157 *e*P **P** **10 34 10.9 +0.6**
comp=Z,78nm,0.9s
FDF Fort de France 50.60 14 *e*P **P** **10 34 09.6 -1.6**
FDF Fort de France 50.60 14 *e*P **P** **10 34 09.7 -1.6**
FDF pmax pmax
comp=Z,147nm,0.9s
FDF MLR MLR
comp=Z,251nm,19.0s
FDF Fort de France 50.60 14 *e*P **P** **10 34 09.7 -1.6**
comp=Z,147nm,0.9s
FDF LR LR
comp=Z,251nm,19.0s
GBMF Grand Be 50.66 14 *e*P **P** **10 34 10.5 -1.2**
PCM Pelee Case Pet 50.67 13 *e*P **P** **10 34 10.5 -1.3**
CXM Morne La Croix 50.67 14 *e*P **P** **10 34 10.7 -1.3**
BAMF Morne Balai 50.68 14 *e*P **P** **10 34 10.6 -1.3**
TGUH Tegucigalpa,Un 51.00 341 *e*P **P** **10 34 14.8 +0.6**
comp=Z,129nm,0.9s
TBG Guadaloupe-3 51.60 13 *e* **P** **10 34 15.7 -3.0**
GDHS Morne Mazeau, 51.99 12 *e*P **P** **10 34 19.9 -1.8**
comp=Z,153nm,0.8s
MLYT Lee's Yard 52.36 12 *e* **P** **10 34 21.3 -3.1**
SEUS St. Eustatius 52.98 11 *e* **P** **10 34 26.7 -2.3**
SEUS St. Eustatius 52.98 11 *e*P **P** **10 34 27.7 -1.2**
comp=Z,123nm,0.9s
CDVI St. Croix 52.99 9 *e*P **P** **10 34 27.7 -1.3**
comp=Z,77nm,0.9s
SABA Saba 53.07 10 *e* **P** **10 34 28.1 -1.5**
SABA Saba 53.07 10 *e*P **P** **10 34 28.3 -1.3**
comp=Z,141nm,0.9s
SJG San Juan 53.20 7 LR LR 11 00 32.6
comp=Z,249nm,18.1s,baz=176,slow=40
SJG San Juan 53.20 7 *e*P **P** **10 34 29.2 -1.3**
SJG San Juan 53.20 7 *e*P **P** **10 34 29.2 -1.3**
MPR Mayaguez 53.21 6 *e*P **P** **10 34 29.8 -0.8**
comp=Z,68nm,1.1s
BANI BANI 53.21 2 *e*P **P** **10 34 30.6 -0.2**
MTP Monte Pirata 53.24 8 *e*P **P** **10 34 29.2 -1.7**
comp=Z,64nm,1.0s
HUMP Col San Antoni 53.26 7 *e*P **P** **10 34 29.1 -1.8**
comp=Z,35nm,0.9s
MTDJ Mount Denham 53.29 353 PFAKE
MTDJ LR LR 10 34 40.0 +8.7
comp=Z,387nm,21.0s
SDD Santo Domingo 53.29 2 *e*P **P** **10 34 30.7 -0.5**
comp=Z,302nm,1.0s
LRS Lares 53.31 6 *e*P **P** **10 34 30.1 -1.3**
ANWB Willy Bob 53.35 12 *e* **P** **10 34 29.1 -2.5**
ANWB Willy Bob 53.35 12 *e*P **P** **10 34 29.6 -2.1**
comp=Z,188nm,0.8s
ANWB LR LR
comp=Z,599nm,21.0s
CBYP Canovanas 53.38 7 *e*P **P** **10 34 30.2 -1.7**
comp=Z,139nm,0.9s
AGP Aguadilla 53.40 6 *e*P **P** **10 34 30.4 -1.6**
comp=Z,84nm,1.3s
SMRT St. Maarten 53.52 11 *e* **P** **10 34 30.2 -2.6**
SMRT St. Maarten 53.52 11 *e*P **P** **10 34 30.3 -2.6**
comp=Z,31nm,0.8s
STVI Saint Thomas 53.56 8 *e*P **P** **10 34 31.2 -1.9**
comp=Z,29nm,0.8s
SDDR Presa de Saban 53.78 1 *e*P **P** **10 34 34.1 -0.7**
comp=Z,35nm,0.9s
SDDR LR LR
comp=Z,312nm,20.0s
ABVI Anegada Island 54.01 9 *e*P **P** **10 34 34.9 -1.6**
comp=Z,132nm,0.9s
GTBY Guantanamo Bay 54.80 356 *e*P **P** **10 34 41.8 -0.4**
comp=Z,67nm,0.9s
GTBY LR LR
comp=Z,312nm,21.0s
QSPA South Pole Qui 55.14 180 *e*P **P** **10 34 45.9 +1.4**
QSPA LR LR
comp=Z,353nm,21.0s
NVL N'lazarevskaya 55.29 156 *e*P **P** **10 34 47.7 +2.6**
NVL *e**PP **pP** **10 34 54.5 -3.1**
NVL *e*S **S** **10 42 30.6 +5.1**
NVL *e*SSS SSS 10 48 23.9
RKT Rikitea 55.54 264 *e*LR LR 10 51 08.8
comp=Z,1µm,30.0s
RKT Rikitea 55.54 264 *e*T T 11 34 09.8
comp=Z,3.5nm,0.3s
CMIG Matias Romero 56.29 333 P **P** **10 34 53.7 +0.8**
comp=Z,6.7nm,0.9s
GRTK Grand Turk 56.30 1 *e*P **P** **10 34 53.2 +0.3**
comp=Z,180nm,0.9s
GRTK LR LR
comp=Z,290nm,19.0s
TEIG Tepich 57.16 342 *e*P **P** **10 34 59.3 +0.2**
comp=Z,58nm,0.8s
TEIG LR LR
comp=Z,146nm,21.0s
TLIG Tlapa 58.15 330 *e*P **P** **10 35 07.7 +1.4**
comp=Z,38nm,1.1s
ASCN Ascension 59.07 77 PFAKE
ASCN LR LR 10 35 30.0 +17
comp=Z,1µm,20.0s
SHEL Horse Pasture 61.66 90 PFAKE
SHEL LR LR 10 35 40.0 +10
comp=Z,306nm,19.0s
SBA Scott Base 62.02 192 *e*P **P** **10 35 34.2 +2.3**
SBA pmax pmax
comp=Z,40nm,1.3s
SBA Scott Base 62.02 192 *e*P **P** **10 35 34.2 +2.3**
comp=Z,40nm,1.3s
VNDA Vanda 63.05 191 P **P** **10 35 40.8 +2.0**
comp=Z,8.4nm,1.0s,baz=136,slow=5.6,SNR=32
VNDA LR LR 10 59 33.0
comp=Z,173nm,19.7s,baz=127,slow=33
VNDA PKPPKP **P'P'df** **11 04 37.4 -6.6**
comp=Z,3.2nm,1.0s,baz=330,slow=5.7,SNR=4.7
VNDA PKP2bc 11 04 42.5
comp=Z,2.2nm,1.0s,baz=292,slow=3.5,SNR=9.5
VNDA PKP2ab 11 04 50.5
comp=Z,1.1nm,0.8s,baz=291,slow=5.1,SNR=4.2
VNDA Vanda 63.05 191 *e*P **P** **10 35 40.9 +2.2**
comp=Z,21nm,1.1s
VNDA P'P' 11 04 37.4
VNDA ⇑*e* 11 04 42.5
VNDA P'P'ab **P'P'ab** **11 04 50.5 -7.5**
ZAIG Zacatecas 64.47 329 *e*P **P** **10 35 51.0 +1.9**
comp=Z,25nm,1.2s
SYO Syowa Base 64.82 158 *j*/P **P** **10 35 49.0 -1.5**
SYO Syowa Base 64.82 158 *j*/pP pP 10 35 58.4 -4.7
035Z Hargill 66.03 334 P **P** **10 36 00.5 +1.7**
baz=157
035A Encino 66.48 335 P **P** **10 36 03.5 +1.8**
baz=157,SNR=6.3
034A Hebbronville 66.80 334 P **P** **10 36 05.4 +1.7**
baz=157,SNR=13
TIGA Tifton 67.08 349 P **P** **10 36 05.0 -0.5**
baz=170,SNR=15
TIGA Tifton 67.08 349 *e*P **P** **10 36 04.9 -0.5**
comp=Z,85nm,0.9s
TAOE Nuku Hiva Isla 67.15 275 *e*S **S** **10 44 58.4 +0.5**
comp=Z,268nm,27.6s
TAOE Nuku Hiva Isla 67.15 275 *e*LR LR 10 56 27.0
comp=Z,960nm,29.0s,baz=117
934A Benavides 67.23 334 P **P** **10 36 08.1 +1.7**
baz=157,SNR=9.7
448A Bay Minette 67.36 345 P **P** **10 36 07.9 +0.8**
baz=166
447A Lucedale 67.40 344 P **P** **10 36 09.0 +1.5**
baz=165
BRAL Brewton 67.43 346 *e*P **P** **10 36 08.2 +0.7**
comp=Z,59nm,0.8s
BRAL LR LR
comp=Z,186nm,21.0s
BBSR BB Station 67.46 7 PFAKE 10 36 20.0 +12
BBSR LR LR
comp=Z,209nm,19.0s
543A St. Martinvill 67.50 341 P **P** **10 36 10.3 +2.3**
baz=163
933A Laredo 67.51 334 P **P** **10 36 09.5 +1.3**
baz=156,SNR=24
446A Poplarville 67.56 344 P **P** **10 36 09.9 +1.5**
baz=165,SNR=8.2
737A Port Lavaca 67.60 337 P **P** **10 36 10.4 +1.7**
baz=159
835A Beeville 67.62 335 P **P** **10 36 10.7 +1.8**
baz=158,SNR=6.6
834A Tilden 67.72 335 P **P** **10 36 11.3 +1.8**
baz=157,SNR=27
445A Amite 67.73 343 P **P** **10 36 10.8 +1.3**
baz=164
444A Pine Grove 67.81 343 P **P** **10 36 11.6 +1.6**
baz=164,SNR=6.2
348A Jackson 67.84 345 P **P** **10 36 10.9 +0.8**
baz=166
638A Roshon 67.89 338 P **P** **10 36 12.6 +2.1**
baz=160
347A Saraland 67.96 345 P **P** **10 36 11.7 +0.7**
baz=166,SNR=12
736A Circle Diamond 67.98 336 P **P** **10 36 13.1 +2.0**
baz=158,SNR=22
RGRS Roger Stewart 68.09 353 *e*P **P** **10 36 12.0 +0.3**
comp=Z,455nm,0.9s
735A Kenedy 68.13 336 P **P** **10 36 13.7 +1.7**
baz=158,SNR=8.5
CSU Charleston Sou 68.15 353 *e*P **P** **10 36 11.8 -0.3**
346A Big Creek Wild 68.16 344 P **P** **10 36 13.2 +1.0**
baz=165,SNR=11
637A Eagle Lake 68.19 337 P **P** **10 36 14.1 +1.7**
baz=159,SNR=8.2
833A Chaparral WMA, 68.20 334 P **P** **10 36 13.6 +1.1**
baz=156,SNR=33
345A Thompson Farm, 68.21 343 P **P** **10 36 13.9 +1.5**
baz=164
NHSC New Hope 68.28 353 *e*P **P** **10 36 13.0 +0.1**
comp=Z,159nm,0.9s
NHSC *e*pP **pP** **10 36 26.7 +1.1**
NHSC LR LR
comp=Z,197nm,20.0s
539A Cross D Ranch, 68.32 339 P **P** **10 36 15.1 +1.9**
baz=160,SNR=5.4
832A Faith Ranch, C 68.38 334 P **P** **10 36 14.4 +0.8**
baz=156,SNR=27
734A La Parita Cree 68.38 335 P **P** **10 36 14.9 +1.2**
baz=157
636A Smothers Creek 68.46 337 P **P** **10 36 15.7 +1.6**
baz=158,SNR=39
248A Dixon Mills 68.46 346 P **P** **10 36 14.6 +0.6**
baz=166,SNR=7.1
441A DeRidder 68.48 340 P **P** **10 36 15.7 +1.5**
baz=162
344A Westbrook Farm 68.52 343 P **P** **10 36 15.7 +1.3**
baz=164,SNR=6.0
733A Divot King Ran 68.52 334 P **P** **10 36 15.4 +0.9**
baz=156,SNR=7.6
343A Vidalia 68.57 342 P **P** **10 36 15.9 +1.1**
baz=163
247A Quitman 68.61 345 P **P** **10 36 16.0 +1.1**
baz=166,SNR=16
635A Leesville 68.61 336 P **P** **10 36 16.0 +0.9**
baz=158,SNR=6.8
538A Harpers Horsep 68.66 338 P **P** **10 36 16.7 +1.4**
baz=160
SLBS Sierra La Lagu 68.67 323 *e*P **P** **10 36 16.9 +1.3**
SLBS *e*pP **pP** **10 36 30.0 +1.5**
246A Jackson Lee, B 68.68 344 P **P** **10 36 16.3 +0.9**
baz=165
440A Kirbyville 68.69 340 P **P** **10 36 16.9 +1.3**
baz=161
537A Green Hill Far 68.78 337 P **P** **10 36 17.4 +1.3**
baz=159,SNR=15
MEH Mehetia 68.78 263 *e*T T 11 50 43.1
comp=Z,39nm,0.2s
634A China Grove, S 68.80 335 P **P** **10 36 17.1 +0.9**
baz=157
342A Flagon Creek P 68.84 341 P **P** **10 36 17.8 +1.4**
baz=162,SNR=21
245A Little AP, Sta 68.87 344 P **P** **10 36 17.6 +1.0**
baz=164,SNR=8.5
439A Center Grove, 68.97 339 P **P** **10 36 18.7 +1.4**
baz=160,SNR=13
GOGA Godfrey 69.00 350 *e*P **P** **10 36 16.9 -0.5**
GOGA pmax pmax
comp=Z,49nm,1.0s
GOGA Godfrey 69.00 350 *e*P **P** **10 36 16.9 -0.5**
comp=Z,49nm,0.9s
GOGA LR LR
comp=Z,271nm,22.0s
536A Bastrop 69.01 337 P **P** **10 36 18.7 +1.1**
baz=158,SNR=5.8
341A Kurthwood 69.03 341 P **P** **10 36 18.8 +1.2**
baz=162,SNR=34
244A Avery, Jackson 69.07 343 P **P** **10 36 18.9 +1.1**
baz=164,SNR=15
243A Waterproof 69.11 342 P **P** **10 36 19.4 +1.4**
baz=163
147A Livingston 69.14 345 P **P** **10 36 18.8 +0.5**
baz=166,SNR=17
535A Dale 69.14 336 P **P** **10 36 19.1 +0.8**
baz=158,SNR=13
438A Sam Houston St 69.14 338 P **P** **10 36 19.9 +1.5**
baz=160
633A Saathoff Ranch 69.16 335 P **P** **10 36 19.5 +1.0**
baz=157,SNR=21
VBMS Vicksburg 69.20 343 P **P** **10 36 19.6 +1.0**
baz=164
VBMS Vicksburg 69.20 343 *e*P **P** **10 36 19.6 +1.0**
comp=Z,72nm,1.0s
LRAL Lakeview Retre 69.23 347 *e*P **P** **10 36 18.6 -0.2**
comp=Z,33nm,0.9s
146A Union 69.27 345 P **P** **10 36 19.9 +0.9**
baz=165,SNR=26
340A Bronson 69.31 340 P **P** **10 36 20.3 +1.0**
baz=161,SNR=18
339A Huntington 69.42 339 P **P** **10 36 21.1 +1.1**
baz=161,SNR=22
437A Phantom Ranch, 69.42 338 P **P** **10 36 21.5 +1.5**
baz=159
145A Houston Renfro 69.43 344 P **P** **10 36 21.2 +1.2**
baz=165,SNR=10
534A Blanco 69.44 336 P **P** **10 36 20.4 +0.2**
baz=157,SNR=6.5
242A Grayson 69.45 342 P **P** **10 36 21.6 +1.4**
baz=163,SNR=40
HPIG 69.45 328 *e*P **P** **10 36 21.4 +0.8**
HPIG *e*pP **pP** **10 36 34.1 +0.7**
JSC Jenkinsville 69.57 352 *e*P **P** **10 36 20.5 -0.4**
JSC pmax pmax
comp=Z,45nm,0.9s
JSC Jenkinsville 69.57 352 *e*P **P** **10 36 20.5 -0.4**
comp=Z,45nm,0.9s
144A Alexander Plac 69.57 343 P **P** **10 36 22.0 +1.0**
baz=164
436A Wall Ranch, Ga 69.57 337 P **P** **10 36 21.9 +1.0**
baz=159
Z47A Carrollton 69.60 346 P **P** **10 36 21.5 +0.4**
baz=166,SNR=48
241A Mo Tay, Goldon 69.61 341 P **P** **10 36 22.3 +1.1**
baz=162,SNR=18
338A Crockett 69.66 339 P **P** **10 36 23.0 +1.5**
baz=160,SNR=6.7
533A Kerrville 69.67 335 P **P** **10 36 22.7 +1.0**
baz=157,SNR=36
Z48A Northport 69.67 346 P **P** **10 36 21.5 0.0**
baz=167,SNR=25
Z46A Louisville 69.78 345 P **P** **10 36 23.5 +1.3**
baz=165,SNR=26
337A Centerville 69.80 338 P **P** **10 36 24.0 +1.6**
baz=160,SNR=14
TVO Taravao 69.80 262 *e*T T 11 51 59.0
comp=Z,2.7nm,0.3s
435B Jarrell 69.83 337 P **P** **10 36 23.5 +0.9**
baz=158,SNR=9.8
NATX Nacogdoches 69.85 339 P **P** **10 36 23.7 +1.0**
baz=160,SNR=5.4
NATX Nacogdoches 69.85 339 *e*P **P** **10 36 24.0 +1.3**
comp=Z,73nm,0.9s
NATX LR LR
comp=Z,91nm,19.0s
240A Hunter Patters 69.86 340 P **P** **10 36 23.9 +1.2**
baz=161
143A Socs Landing, 69.87 343 P **P** **10 36 23.5 +0.8**
baz=163,SNR=37
TIAR Tiarei 69.99 262 *e*T T 11 52 13.5
comp=Z,9.6nm,0.3s
239A Gary 70.04 340 P **P** **10 36 24.9 +1.1**
baz=161
434A Burnet 70.09 336 P **P** **10 36 24.7 +0.5**
baz=158,SNR=38
Z45A Winona 70.11 344 P **P** **10 36 25.3 +1.1**
baz=165,SNR=7.8
336A Riesel 70.16 337 P **P** **10 36 25.3 +0.8**
baz=159,SNR=29
PPT2 Papeete2 70.16 262 *e*S **S** **10 45 35.7 +2.1**
comp=Z,370nm,27.0s
PPT2 Papeete2 70.16 262 *e*LR LR 10 57 49.1
comp=Z,2µm,27.2s,baz=120
141A Papa Simpson, 70.16 341 P **P** **10 36 25.6 +1.0**
baz=162,SNR=12
PPT Papeete 70.17 262 LR LR 10 59 24.1
comp=Z,482nm,18.7s,baz=129,slow=29
Z44A Pea Ridge, Bel 70.19 344 P **P** **10 36 25.6 +0.9**
baz=164,SNR=12
CNNC Cliffs of the 70.19 355 *e*P **P** **10 36 25.0 +0.4**
comp=Z,122nm,0.9s
CNNC LR LR
comp=Z,306nm,22.0s
238A Jacksonville 70.21 339 P **P** **10 36 25.9 +1.1**
baz=160
Y47A UCPARC, Winfie 70.24 346 P **P** **10 36 25.4 +0.4**
baz=166,SNR=109
335A Moody 70.25 337 P **P** **10 36 25.6 +0.5**
baz=158,SNR=14
JCT Junction City 70.31 335 P **P** **10 36 26.4 +0.8**
baz=156,SNR=8.1
JCT Junction City 70.31 335 *e*P **P** **10 36 26.2 +0.6**
JCT pmax pmax
comp=Z,58nm,1.0s
JCT Junction City 70.31 335 *e*P **P** **10 36 26.2 +0.6**
comp=Z,58nm,0.9s
JCT LR LR
comp=Z,345nm,21.0s
433A Art 70.31 335 P **P** **10 36 26.1 +0.5**
baz=157,SNR=66
Z43A Armstrong Fami 70.32 343 P **P** **10 36 26.0 +0.5**
baz=164
140A Cam and Jess, 70.37 341 P **P** **10 36 26.8 +1.0**
baz=162,SNR=6.8
237A Washetta, Mont 70.41 339 P **P** **10 36 27.3 +1.2**
baz=160,SNR=11
KMSC Kings Mountain 70.42 352 P **P** **10 36 25.9 -0.2**
baz=172,SNR=26
KMSC Kings Mountain 70.42 352 *e*P **P** **10 36 25.8 -0.3**
comp=Z,59nm,0.9s

Y46A Houston 70.42 345 P P 10 36 26.3 +0.2
baz=166,SNR=27
Z42A Norrel Spur, H 70.55 342 P P 10 36 27.3 +0.4
baz=163
334A Lometa 70.56 336 P P 10 36 27.7 +0.7
baz=158,SNR=42
Y45A Yeager Farm, C 70.56 345 P P 10 36 27.5 +0.6
baz=165,SNR=22
236A Katherine and 70.63 338 P P 10 36 28.3 +0.9
baz=159,SNR=12
TXAR Lajitas Array 70.73 331 P P 10 36 28.9 +0.7
comp=Z,9.7nm,0.7s,baz=151,slow=8.1,SNR=145
TXAR pP pP 10 36 41.9 +0.9
comp=Z,13nm,0.6s,baz=152,slow=8.8,SNR=20
TXAR LR LR 11 03 22.4
comp=Z,464nm,18.2s,baz=0.0,slow=32
TXAR PKP2bc 11 04 25.4
comp=Z,0.9nm,1.1s,baz=324,slow=7.7,SNR=4.6
TX31 Lajitas Ar. Si 70.73 331 eP P 10 36 29.0 +0.7
Z41A Richland Creek 70.75 342 P P 10 36 29.1 +0.9
baz=162,SNR=6.8
333A Richland Sprin 70.80 336 P P 10 36 28.9 +0.4
baz=157,SNR=42
Y44A Strider, Charl 70.80 344 P P 10 36 28.7 +0.3
baz=164
138A Matatall Enter 70.82 339 P P 10 36 29.2 +0.7
baz=160,SNR=9.3
WHTX Lake Whitney, 70.91 337 P P 10 36 29.7 +0.5
baz=158,SNR=27
WHTX Lake Whitney, 70.91 337 eP P 10 36 29.6 +0.5
comp=Z,68nm,0.8s
Z40A Long Farm, Mag 70.91 341 P P 10 36 29.9 +0.8
baz=162,SNR=5.1
Y43A Makayla and Ka 70.91 343 P P 10 36 29.9 +0.8
baz=164,SNR=7.4
137A Heron Place, G 70.95 339 P P 10 36 30.6 +1.2
baz=160,SNR=17
Y42A Garnett, Star 71.05 343 P P 10 36 30.6 +0.6
baz=163,SNR=7.0
X45A UM Field Stati 71.06 345 P P 10 36 29.9 -0.1
baz=165,SNR=17
136A Ennis 71.07 338 P P 10 36 30.4 +0.4
baz=159,SNR=11
Z39A Irene McRaven, 71.11 340 P P 10 36 31.0 +0.7
baz=161
CCAR Cane Creek 71.12 343 eP P 10 36 31.0 +0.6
comp=Z,287nm,1.8s
234A Clairette 71.14 337 P P 10 36 31.1 +0.5
baz=158,SNR=31
OXF Oxford 71.15 345 eP P 10 36 30.1 -0.4
OXF pmax pmax
comp=Z,110nm,0.9s
OXF Oxford 71.15 345 eP P 10 36 30.1 -0.4
comp=Z,106nm,0.9s
CPCT Cooper Cave 71.16 349 eP P 10 36 30.3 -0.3
comp=Z,46nm,0.9s
SWET Sewanee 71.16 348 eP P 10 36 30.5 -0.2
comp=Z,45nm,0.8s
WLAR White Oak Lake 71.24 341 eP P 10 36 32.0 +0.9
comp=Z,80nm,0.9s
TKL Tuckaleechee C 71.25 350 eP P 10 36 30.5 -0.6
TKL Tuckaleechee C 71.25 350 eP P 10 36 30.5 -0.6
comp=Z,54nm,0.9s
Y41A Eaglette Beard 71.30 342 P P 10 36 32.1 +0.7
baz=162,SNR=55
X44A Crenshaw 71.30 344 P P 10 36 31.6 +0.2
baz=165
PLAL Pickwick Lake 71.33 346 eP P 10 36 31.3 -0.3
comp=Z,61nm,0.8s
PLAL epP pP 10 36 44.8 +0.3
Z38A Mt. Pleasant 71.34 340 P P 10 36 32.5 +0.7
baz=160
233A Rising Star 71.40 336 P P 10 36 32.6 +0.4
baz=157,SNR=43
135A Vickery Place, 71.42 337 P P 10 36 32.6 +0.4
baz=156,SNR=9.0
Z37A Pogue Cattle C 71.47 339 P P 10 36 33.2 +0.6
baz=160
X43A Marvell 71.48 344 P P 10 36 33.3 +0.7
baz=164,SNR=8.1
Y40A Okolona 71.59 341 P P 10 36 33.6 +0.4
baz=162,SNR=13
134A White-Moore Ra 71.65 337 P P 10 36 34.0 +0.4
baz=158,SNR=8.0
W45A Hickory Valley 71.72 345 P P 10 36 34.2 +0.2
baz=165,SNR=7.6
Y39A Lockesburg 71.74 341 P P 10 36 34.5 +0.4
baz=161,SNR=7.8
Z36A Blue Ridge 71.78 339 P P 10 36 35.0 +0.6
baz=159,SNR=41
W44A Shelby Farms P 71.84 345 P P 10 36 34.9 +0.2
baz=165
MET Memphis--Engin 71.85 345 eP P 10 36 35.1 +0.4
comp=Z,106nm,0.6s
X41A Kaden, Bauxite 71.86 342 P P 10 36 34.8 0.0
baz=163,SNR=14
Y38A Idabel 71.91 340 P P 10 36 35.4 +0.3
baz=161,SNR=11
X40A Basin Creek Fa 71.93 342 P P 10 36 35.6 +0.4
baz=162,SNR=13
133A Hamilton Ranch 71.95 336 P P 10 36 35.9 +0.5
baz=157,SNR=42
UALR University of 72.08 342 eP P 10 36 35.9 -0.2
comp=Z,31nm,0.9s
Z35A Perchaven, San 72.09 338 P P 10 36 36.8 +0.6
baz=159,SNR=53
TZTN Tazewell 72.09 350 eP P 10 36 35.6 -0.6
comp=Z,138nm,1.6s
MAW Mawson 72.11 163 P P 10 36 36.8 +0.9
comp=Z,75nm,0.8s,baz=207,slow=6.9,SNR=118
MAW sP PcP 10 36 55.0 +0.8
comp=Z,56nm,0.8s,baz=221,slow=7.1,SNR=7.7
MAW LR LR 11 08 02.6
comp=Z,863nm,21.0s,baz=231,slow=36
MAW Mawson 72.11 163 eP P 10 36 36.9 +0.9
comp=Z,21nm,0.9s
MAW sP PcP 10 36 55.0 +0.8
BBTS Babate 72.14 57 P P 10 36 37.3 +0.4
comp=Z,123nm,1.0s,baz=230,slow=2.8,SNR=13
BBTS sP sP 10 36 54.4 -0.3
comp=Z,108nm,0.9s,baz=212,slow=2.4,SNR=6.0
MIAR Mount Ida 72.17 341 P P 10 36 36.8 0.0
baz=162,SNR=16
MIAR Mount Ida 72.17 341 eP P 10 36 36.7 0.0
MIAR pmax pmax
comp=Z,20nm,0.9s
MIAR Mount Ida 72.17 341 eP P 10 36 36.7 0.0
comp=Z,20nm,0.9s
MIAR LR LR
comp=Z,135nm,19.0s
Y37A Hugo 72.20 339 P P 10 36 37.5 +0.6
baz=160
ABTX Abilene, Hawle 72.21 336 P P 10 36 37.5 +0.5
baz=157,SNR=32
ABTX Abilene, Hawle 72.21 336 eP P 10 36 37.3 +0.3
comp=Z,66nm,0.9s
X39A Fountain Ranch 72.28 341 P P 10 36 37.9 +0.5
baz=161,SNR=28
Y36A Durant 72.32 339 P P 10 36 38.2 +0.6
baz=160,SNR=17
Z34A Collier Ranch, 72.33 337 P P 10 36 38.0 +0.3
baz=158,SNR=28
VWCC Virginia Weste 72.36 353 eP P 10 36 37.7 0.0
BLA Blacksburg 72.37 353 eP P 10 36 37.8 -0.1
BLA pmax pmax
comp=Z,31nm,1.0s
BLA Blacksburg 72.37 353 eP P 10 36 37.8 -0.1
comp=Z,30nm,0.9s
BLA LR LR
comp=Z,173nm,22.0s
WVT Waverly 72.39 347 eP P 10 36 37.7 -0.3
WVT pmax pmax
comp=Z,250nm,0.9s
WVT Waverly 72.39 347 eP P 10 36 37.7 -0.3
comp=Z,250nm,0.9s
HBAR Harrisburg 72.43 344 eP P 10 36 37.8 -0.4
W41B Gary Mavity, V 72.44 343 P P 10 36 38.3 +0.1
baz=163,SNR=26
HALT Halls 72.48 345 eP P 10 36 38.7 +0.2
comp=Z,94µm,1.0s
Z33A Whitaker Ranch 72.53 337 P P 10 36 39.4 +0.5
baz=157,SNR=44
Y35A Marietta 72.55 338 P P 10 36 39.7 +0.7
baz=159,SNR=10
WHAR Wooly Hollow 72.56 343 eP P 10 36 39.0 0.0
comp=Z,65nm,1.0s
X201 Greenbrier Sit 72.58 343 eP P 10 36 39.2 +0.1
comp=Z,92nm,0.9s
X201 epP pP 10 36 52.1 +0.1
X38A Whitesboro 72.63 340 P P 10 36 39.8 +0.4
baz=161,SNR=22
W40A Ferguson Farm, 72.66 342 P P 10 36 40.2 +0.6
baz=162,SNR=18
GNAR Gosnell 72.68 345 eP P 10 36 39.5 -0.2
GNAR epP pP 10 36 53.9 +1.4
X37A Clayton 72.70 340 P P 10 36 39.8 0.0
baz=160,SNR=9.4
UTMT University of 72.80 346 eP P 10 36 40.6 +0.2
comp=Z,216nm,0.9s
GLAT Glass 72.82 345 eP P 10 36 41.8 +1.3
Y34A Reagan Ranch, 72.82 338 P P 10 36 40.7 +0.1
baz=158,SNR=22
V42A Cord 72.83 344 P P 10 36 40.1 -0.5
baz=164,SNR=14
SRIG Santa Rosalia 72.84 323 eP P 10 36 42.5 +1.7
comp=Z,32nm,1.0s
W39A Magazine 72.84 341 P P 10 36 41.4 +0.7
baz=162,SNR=94
W38A Poteau 72.92 341 P P 10 36 41.6 +0.5
baz=161,SNR=34
X36A Centrahoma 72.97 339 P P 10 36 41.3 -0.2
baz=160,SNR=58
X35A Drake 72.99 339 P P 10 36 41.5 -0.1
baz=159,SNR=39
V41A Mountainview 73.00 343 P P 10 36 41.5 -0.1
baz=163,SNR=53
PVMO Portageville 73.04 345 eP P 10 36 43.1 +1.3
comp=Z,1µm,0.4s
CBN Corbin Frederi 73.11 356 eP P 10 36 42.4 +0.3
comp=Z,54nm,1.0s
CBN LR LR
comp=Z,284nm,21.0s
Y33A Hilltop Ranch, 73.14 337 P P 10 36 42.8 +0.3
baz=158,SNR=27
W37B Quinton 73.24 340 P P 10 36 43.0 0.0
baz=160,SNR=28
PARMO Parma 73.29 345 eP P 10 36 43.9 +0.6
V39A Pettigrew 73.42 342 P P 10 36 44.3 +0.2
baz=162,SNR=50
X34A Smith Ranch, M 73.44 338 P P 10 36 44.6 +0.3
baz=158,SNR=32
W36A Wetumka 73.46 339 P P 10 36 43.7 -0.7
baz=160,SNR=26
MNTX Cornudas Mount 73.50 331 P P 10 36 44.3 -0.4
baz=152,SNR=64
MNTX Cornudas Mount 73.50 331 eP P 10 36 44.2 -0.4
comp=Z,25nm,0.8s
MNTX epP pP 10 36 57.6 0.0
MNTX LR LR
comp=Z,445nm,20.0s
PBMO Poplar Bluff 73.55 345 eP P 10 36 44.6 -0.2
comp=Z,53nm,0.8s
PBMO epP pP 10 36 58.4 +0.8
X33A Lawton 73.59 337 P P 10 36 44.8 -0.4
baz=158,SNR=12
HSIG 73.63 325 eP P 10 36 46.7 +1.2
comp=Z,27nm,0.9s
HSIG epP pP 10 36 58.9 +0.6
V38A Canehill 73.64 341 P P 10 36 45.1 -0.3
baz=161,SNR=12
W35A Tecumseh 73.67 339 P P 10 36 45.0 -0.5
baz=159,SNR=18
U40A Yellville 73.71 343 P P 10 36 45.7 -0.1
baz=162,SNR=61
X32A Elmer 73.74 337 P P 10 36 46.1 +0.1
baz=157,SNR=16
V37A Hulbert 73.86 341 P P 10 36 46.6 0.0
baz=161,SNR=18
WMOK Wichita Mounta 73.86 337 P P 10 36 46.4 -0.4
baz=158,SNR=28
WMOK Wichita Mounta 73.86 337 eP P 10 36 45.8 -0.9
WMOK e*PP pP 10 37 00.4 +0.8
WMOK Wichita Mounta 73.86 337 eP P 10 36 45.8 -0.9
comp=Z,31nm,1.3s
WMOK epP pP 10 37 00.4 +0.8
WMOK LR LR
comp=Z,149nm,19.0s
U39A Green Forest 73.89 342 P P 10 36 46.7 -0.1
baz=162,SNR=53
HHAR Hobbs 73.91 342 eP P 10 36 46.8 -0.2
comp=Z,38nm,0.9s
HHAR epP pP 10 36 59.9 +0.1
V36A Jenks 73.99 340 P P 10 36 47.3 -0.1
baz=160,SNR=38
W34A Bridge Creek, 74.01 338 P P 10 36 47.6 0.0
baz=158,SNR=10
W34A Bridge Creek, 74.01 338 eP P 10 36 47.0 -0.6
comp=Z,31nm,0.8s
S45A Carrier Mills 74.04 346 P P 10 36 47.2 -0.4
baz=166,SNR=18
TUL1 Leonard 74.06 340 P P 10 36 47.7 -0.1
baz=160,SNR=34
TUL1 Leonard 74.06 340 eP P 10 36 47.6 -0.3
comp=Z,71nm,0.9s
TUL1 epP pP 10 37 00.9 +0.1
T41A Mountain View 74.10 344 P P 10 36 48.0 -0.1
baz=163,SNR=33
USIN University of 74.14 347 eP P 10 36 47.4 -0.8
comp=Z,116nm,0.9s
W33A Caddo, Fort Co 74.15 338 P P 10 36 49.2 +0.8
baz=158,SNR=63
WCI Wyandotte Cave 74.16 348 eP P 10 36 47.2 -1.2
WCI Wyandotte Cave 74.16 348 eP P 10 36 47.2 -1.2
comp=Z,27nm,0.8s
U38A Gravette 74.18 341 P P 10 36 48.4 -0.2
baz=161,SNR=9.6
S44A Carbondale 74.19 346 P P 10 36 48.5 0.0
baz=166,SNR=10
SIUC Southern Illin 74.20 346 eP P 10 36 48.3 -0.3
comp=Z,73nm,0.9s
V35A Meyer Ranch, C 74.22 339 P P 10 36 48.6 -0.1
baz=159,SNR=32
SUR Sutherland 74.23 119 P P 10 36 50.5 +1.1
comp=Z,2.5nm,0.9s,baz=228,slow=6.0,SNR=18
SUR Sutherland 74.23 119 eP P 10 36 50.8 +1.3
comp=Z,47nm,0.9s
SUR LR LR
comp=Z,1µm,22.0s
S43A Fulton Ridge, 74.24 345 P P 10 36 48.6 -0.3
baz=165,SNR=72
SDMD Soldier's Deli 74.27 356 eP P 10 36 49.5 +0.6
comp=Z,26nm,0.9s
U37A Salina 74.34 341 P P 10 36 49.5 0.0
baz=161,SNR=16
W32A Sentinel 74.37 337 P P 10 36 50.4 +0.7
baz=157,SNR=66
T40A Mansfield 74.38 343 P P 10 36 49.5 -0.2
baz=163,SNR=17
T39A Clever 74.47 342 P P 10 36 50.3 0.0
baz=162,SNR=34
V34A Guthrie 74.49 339 P P 10 36 50.4 +0.1
baz=159,SNR=27
V34A Guthrie 74.49 339 eP P 10 36 50.2 -0.2
comp=Z,73nm,1.0s
V34A epP pP 10 37 03.7 +0.4
U36A Oologah 74.50 340 P P 10 36 50.6 +0.2
baz=160
MSTX Muleshoe 74.52 334 P P 10 36 50.8 +0.1
baz=154,SNR=32
MSTX Muleshoe 74.52 334 eP P 10 36 50.3 -0.5
comp=Z,44nm,0.8s
MSTX epP PcP 10 37 04.3 -0.6
R44A Waltonville 74.69 346 P P 10 36 50.8 -0.6
baz=166,SNR=13
V33A Lossen Ranch, 74.71 338 P P 10 36 51.9 +0.2
baz=158,SNR=33
T38A Diamond 74.72 342 P P 10 36 51.6 0.0
baz=161,SNR=30
MCWV Mont Chateau 74.74 354 eP P 10 36 51.5 -0.2
comp=Z,30nm,0.9s
U35A Pawnee 74.76 339 P P 10 36 52.3 +0.4
baz=159,SNR=52
S40A Lebanon 74.81 343 P P 10 36 52.2 +0.1
baz=163,SNR=68
MVL Millersville 74.83 356 eP P 10 36 52.7 +0.5
comp=Z,54nm,1.3s
V32A Arapaho 74.85 337 P P 10 36 53.4 +0.9
baz=158,SNR=5.0
319A Douglas 74.87 327 eP P 10 36 54.3 +1.5
comp=Z,46nm,0.9s
AMTX Amarillo 74.96 335 P P 10 36 53.9 +0.7
baz=155
AMTX Amarillo 74.96 335 eP P 10 36 53.6 +0.4
comp=Z,69nm,1.1s
AMTX epP PcP 10 37 06.9 +0.1
T37A Cheneyville 18 74.96 341 P P 10 36 52.9 -0.1
baz=161,SNR=39
OLIL Olney 74.97 347 eP P 10 36 52.0 -1.0
comp=Z,42nm,1.0s
LIC Lamto 75.05 71 eP P 10 36 53.7 -0.4
comp=Z,104nm,0.8s
U34A Anderson Ranch 75.05 339 P P 10 36 53.6 +0.1
baz=159,SNR=17
U34A Anderson Ranch 75.05 339 eP P 10 36 53.8 +0.2
comp=Z,58nm,0.9s
S39A Bolivar 75.09 343 P P 10 36 53.6 -0.2
baz=162,SNR=33
BLO Bloomington 75.12 348 eP P 10 36 53.1 -0.8
BLO Bloomington 75.12 348 eP P 10 36 53.1 -0.8
comp=Z,45nm,0.9s
T36A Boggs Farm, Ca 75.16 340 P P 10 36 54.4 +0.2
baz=160,SNR=39
S38A Stockton 75.18 342 P P 10 36 54.1 -0.2
baz=162,SNR=80
T35A Sooner Cattle 75.20 340 P P 10 36 54.7 +0.3
baz=160,SNR=35
121A Cookes Peak, D 75.22 329 P P 10 36 56.7 +1.8
baz=150,SNR=32
121A Cookes Peak, D 75.22 329 eP P 10 36 56.0 +1.1
comp=Z,43nm,0.9s
U33A Lingo Farm, Me 75.22 338 P P 10 36 54.8 +0.2
baz=158
O56A Blue Knob Stat 75.24 355 P P 10 36 54.7 +0.1
baz=175,SNR=14
SLM Saint Louis 75.30 345 eP P 10 36 54.8 -0.1
SLM Saint Louis 75.30 345 eP P 10 36 54.8 -0.1
comp=Z,127nm,0.9s
TIC Toumodi 75.31 71 eP P 10 36 55.3 -0.3
KIC Kosan Boka 75.35 71 eP P 10 36 55.6 -0.3
comp=Z,425nm,0.9s
LUPA Lehigh Univers 75.39 357 eP P 10 36 56.2 +0.8
comp=Z,42nm,0.9s
R40A Maddies Static 75.41 344 P P 10 36 55.7 +0.1
baz=163,SNR=91
BRNJ Basking Ridge 75.45 358 eP P 10 36 56.3 +0.6
comp=Z,51nm,0.9s
U32A Winter Ranch, 75.45 338 P P 10 36 56.4 +0.6
baz=158,SNR=20
DBIC Dimbokro 75.45 71 P P 10 36 56.3 -0.2
comp=Z,121nm,0.8s,baz=208,slow=6.0,SNR=77
DBIC sP sP 10 37 14.0 -0.3
comp=Z,58nm,1.0s,baz=216,slow=5.1,SNR=5.3
DBIC LR LR 11 07 07.2
comp=Z,420nm,20.8s,baz=214,slow=33
DBIC Dimbokro 75.45 71 eP P 10 36 56.2 -0.2
comp=Z,143nm,0.9s
DBIC sP sP 10 37 14.0 -0.3
Q43A New Douglas 75.48 346 P P 10 36 55.9 -0.1
baz=165,SNR=70
T34A McClaskey Farm 75.50 339 P P 10 36 56.5 +0.4
baz=159,SNR=26
CPNY Central Park 75.54 358 eP P 10 36 56.2 0.0
comp=Z,24nm,0.8s
S37A Fort Scott 75.54 341 P P 10 36 56.2 -0.1
baz=161,SNR=11
SSPA Standing Stone 75.56 355 eP P 10 36 56.5 +0.1
comp=Z,40nm,0.9s
R39A Chumby, Stover 75.61 343 P P 10 36 56.6 -0.1
baz=162,SNR=40
Q42A Golden Eagle 75.62 345 P P 10 36 56.7 -0.1
baz=165,SNR=28
ACSO Alum Creek Sta 75.64 351 eP P 10 36 56.4 -0.5
comp=Z,133nm,0.8s
ACSO epP pP 10 37 10.3 +0.6
ACSO LR LR
comp=Z,154nm,19.0s
R38A Fenwick Farm, 75.71 342 P P 10 36 56.9 -0.4
baz=162,SNR=23
S36A Lake Cedric, C 75.71 341 P P 10 36 57.1 -0.2
baz=160,SNR=53
N59A State Game Lan 75.72 357 P P 10 36 58.0 +0.6
baz=177,SNR=24
PAL Palisades 75.75 358 eP P 10 36 57.9 +0.5
PAL Palisades 75.75 358 eP P 10 36 57.9 +0.5
comp=Z,18nm,0.9s
ODNJ Ogdensburg 75.85 358 eP P 10 36 58.4 +0.4
comp=Z,38nm,1.0s
ODNJ epP pP 10 37 12.7 +1.8
T33A Patterson Ranc 75.86 339 P P 10 36 59.0 +0.7
baz=158,SNR=20
S35A Otter Creek Ra 75.87 340 P P 10 36 58.5 +0.3
baz=160,SNR=25
Q40A Laux Farm, Aux 76.04 344 P P 10 36 59.3 +0.1
baz=163,SNR=59
YLE Yale 76.04 359 eP P 10 37 00.4 +1.3
comp=Z,105nm,0.9s
N54A Moraine State 76.05 354 P P 10 36 59.2 0.0
baz=173,SNR=28
R37A Teagarden Farm 76.06 342 P P 10 36 59.1 -0.2
baz=161,SNR=25
S34A Willow Spring 76.11 340 P P 10 36 59.7 +0.1
baz=159
BNM Barren Site 76.15 331 eP P 10 37 01.4 +1.1
T32A Huddler Ranch, 76.16 338 P P 10 37 00.8 +0.8
baz=158,SNR=10
Y22D IRIS PASSCAL I 76.20 331 eP P 10 37 02.2 +1.8
comp=Z,28nm,0.6s
R36A Gordon, Harris 76.25 341 P P 10 37 00.2 -0.1
baz=160,SNR=5.1
S33A Kaszmaul Farm, 76.27 339 P P 10 37 01.0 +0.5
baz=158,SNR=6.5
LPM Los Pinos Moun 76.29 331 eP P 10 37 02.1 +1.2
Q39A Willow Grove F 76.30 343 P P 10 37 00.4 -0.2
baz=163,SNR=25
TUC Tucson 76.33 327 P P 10 37 02.7 +1.6
baz=148
TUC Tucson 76.33 327 eP P 10 37 02.3 +1.2
TUC Tucson 76.33 327 eP P 10 37 02.3 +1.2
comp=Z,34nm,1.1s
TUC LR LR
comp=Z,208nm,21.0s
Q38A Cooks Store, C 76.37 343 P P 10 37 01.1 +0.1
baz=162
SFIN Lafayette 76.39 348 P P 10 37 00.1 -1.0
baz=168
SFIN Lafayette 76.39 348 eP P 10 36 60.0 -1.2
comp=Z,26nm,0.8s
RAR Rarotonga 76.42 254 LR LR 11 02 31.4
comp=Z,357nm,19.0s,baz=110,slow=29
R35A Emporia Munici 76.43 341 P P 10 37 01.8 +0.4
baz=160
Q37A Longview Farm, 76.50 342 P P 10 37 01.3 -0.5
baz=161,SNR=12
P40A Paris 76.54 344 P P 10 37 02.1 +0.1
baz=163,SNR=73
M54A Oil Creek Stat 76.56 354 P P 10 37 01.8 -0.3
baz=174,SNR=18
LAZ Ladron 76.58 331 eP P 10 37 04.0 +1.4
LAZ epP sP 10 37 18.3 -2.2
BRYW Bryant College 76.64 0 eP P 10 37 03.2 +0.7
comp=Z,116nm,1.0s
S32A Newby Ranch, P 76.64 338 P P 10 37 03.3 +0.7
baz=158,SNR=18
P39B Salisbury 76.67 344 P P 10 37 02.5 -0.2
baz=163,SNR=27
R34A Isabella, Hill 76.70 340 P P 10 37 03.3 +0.3
baz=159,SNR=18
ALLY Alegheny Colle 76.74 354 eP P 10 37 02.7 -0.4
comp=Z,56nm,0.9s
ANMO Albuquerque 76.78 331 P P 10 37 05.2 +1.4
baz=152
ANMO Albuquerque 76.78 331 eP P 10 37 04.8 +1.1
ANMO Albuquerque 76.78 331 eP P 10 37 04.8 +1.1
comp=Z,24nm,0.9s
ANMO LR LR
comp=Z,467nm,20.0s
Q36A Arnold C. Orve 76.83 341 P P 10 37 03.8 +0.2
baz=161
Q35A Mercer Eighty, 76.89 341 P P 10 37 03.9 -0.1
baz=160
R33A Olander Ranch, 76.92 339 P P 10 37 04.5 +0.3
baz=159,SNR=8.3
HDIL Hopedale 76.96 347 P P 10 37 04.0 -0.4
baz=166,SNR=19
HDIL Hopedale 76.96 347 eP P 10 37 04.0 -0.4
comp=Z,79nm,0.8s
HDIL LR LR
comp=Z,258nm,20.0s
214A Organ Pipe Nat 76.96 325 P P 10 37 06.5 +1.9
baz=147,SNR=33
214A Organ Pipe Nat 76.96 325 eP P 10 37 05.9 +1.3
comp=Z,107nm,0.9s
P38A Dawn 76.98 343 P P 10 37 04.2 -0.2

baz=162,SNR=52
QUA2 Belchertown 77.00 360 *e*P P 10 37 05.1 +0.6
comp=Z,61nm,1.0s
BINY Binghamton 77.01 357 *e*P P 10 37 04.8 +0.1
comp=Z,46nm,1.0s
BINY LR LR
comp=Z,259nm,20.0s
BCX Boston College 77.06 1 *e*P P 10 37 05.3 +0.5
comp=Z,58nm,0.9s
O40A La Belle 77.07 344 P P 10 37 04.7 -0.2
baz=164,SNR=26
WES Weston 77.11 0 *e*P P 10 37 05.7 +0.6
WES Weston 77.11 0 *e*P P 10 37 05.7 +0.6
comp=Z,67nm,1.1s
P37A Lathrop 77.14 342 P P 10 37 04.6 -0.8
baz=162,SNR=16
ERPA Erie 77.19 354 *e*P P 10 37 04.3 -1.3
comp=Z,77nm,0.9s
Q34A Chapman 77.20 340 P P 10 37 05.8 +0.1
baz=159
HRV Adam Dziewonsk 77.23 0 *e*P P 10 37 06.6 +0.8
HRV Adam Dziewonsk 77.23 0 *e*P P 10 37 06.6 +0.8
comp=Z,61nm,1.0s
R32A Long Quarter, 77.24 339 P P 10 37 06.3 +0.3
baz=158,SNR=22
KSU1 Kansas State U 77.27 341 P P 10 37 06.4 +0.3
baz=160
KSU1 Kansas State U 77.27 341 *e*P P 10 37 05.9 -0.3
comp=Z,38nm,0.7s
KSU1 LR LR
comp=Z,118nm,19.0s
O39A Kirksville 77.35 344 P P 10 37 06.6 +0.1
baz=163,SNR=9.6
P36A Good Intent, A 77.39 342 P P 10 37 06.5 -0.2
baz=161,SNR=15
O38A Galt 77.44 343 P P 10 37 07.1 +0.1
baz=162,SNR=9.5
TRY Troy 77.47 359 *e*P P 10 37 08.2 +1.1
comp=Z,148nm,1.0s
P35A Duane Minner, 77.52 341 P P 10 37 07.4 -0.1
baz=160,SNR=22
Q33A Connelly Farm, 77.52 340 P P 10 37 07.9 +0.3
baz=159,SNR=8.7
O37A Wolven Farm, M 77.64 343 P P 10 37 07.9 -0.2
baz=162,SNR=19
MMNY Mt. Morris Dam 77.65 356 *e*P P 10 37 08.3 +0.2
Q32A Meitler Ranch, 77.72 339 P P 10 37 09.2 +0.5
baz=158,SNR=5.5
P34A Walnut Farm, R 77.75 341 P P 10 37 09.2 +0.4
baz=160,SNR=6.5
AAM Ann Arbor 77.77 351 *e*P P 10 37 08.1 -0.7
AAM pmax pmax
comp=Z,61nm,1.2s
AAM MLR MLR
comp=Z,223nm,22.0s
AAM Ann Arbor 77.77 351 *e*P P 10 37 08.1 -0.7
comp=Z,61nm,1.2s
AAM LR LR
comp=Z,223nm,22.0s
O36A Bolckow 77.81 342 P P 10 37 08.6 -0.5
baz=161,SNR=10.0
X18A Snowflake 77.85 329 *e*P P 10 37 11.2 +1.5
comp=Z,20nm,0.9s
P33A Williams Farm, 77.89 340 P P 10 37 10.0 +0.5
baz=159
BUF Buffalo 77.91 355 *e*P P 10 37 09.8 +0.3
CBKS Cedar Bluff 77.91 338 P P 10 37 10.5 +0.8
baz=157,SNR=7.3
CBKS Cedar Bluff 77.91 338 *e*P P 10 37 10.3 +0.5
CBKS pmax pmax
comp=Z,61nm,1.0s
CBKS MLR MLR
comp=Z,163nm,20.0s
CBKS Cedar Bluff 77.91 338 *e*P P 10 37 10.3 +0.5
comp=Z,61nm,1.0s
CBKS LR LR
comp=Z,163nm,20.0s
N39A Derby Farms, D 77.93 344 P P 10 37 09.7 -0.1
baz=163,SNR=29
T25A Trinidad 77.95 334 P P 10 37 11.7 +1.5
baz=154,SNR=31
T25A Trinidad 77.95 334 *e*P P 10 37 11.7 +1.5
comp=Z,86nm,0.9s
MIR Mirnyy 78.02 174 *i* P P 10 37 11.0 +1.0
MIR pmax pmax
comp=Z,4.0nm,1.0s
N38A Joes South For 78.02 344 P P 10 37 10.4 +0.2
baz=162,SNR=26
113A Mohawk Valley, 78.08 325 *e*P P 10 37 12.4 +1.6
113A *ep*P **pP** 10 37 25.3 +1.6
ACCN Adirondack Com 78.12 359 *e*P P 10 37 11.1 +0.4
comp=Z,60nm,1.1s
O35A Humboldt 78.18 341 P P 10 37 10.7 -0.5
baz=160
FFD Franklin Falls 78.19 0 *e*P P 10 37 12.0 +0.9
comp=Z,113nm,0.9s
N37A Lee Faris, Mou 78.22 343 P P 10 37 11.2 -0.1
baz=162,SNR=7.5
W18A Petrified Fore 78.26 329 P P 10 37 13.4 +1.4
baz=149,SNR=9.5
W18A Petrified Fore 78.26 329 *e*P P 10 37 13.4 +1.4
comp=Z,42nm,1.0s
O34A Beatrice 78.31 341 P P 10 37 12.2 +0.3
baz=160,SNR=9.3
P32A Huiting Farm, 78.32 339 P P 10 37 12.4 +0.5
baz=158,SNR=8.3
X16A Lo Mia Camp, P 78.40 328 *e*P P 10 37 14.2 +1.5
comp=Z,39nm,1.0s
HNH Hanover 78.43 360 *e*P P 10 37 12.9 +0.4
comp=Z,72nm,0.9s
O33A Hebron 78.45 340 P P 10 37 12.9 +0.2
baz=159,SNR=17
N36A Muff Farm, Cla 78.45 342 P P 10 37 12.6 -0.1
baz=161,SNR=10
M38A Pleasantville 78.61 344 P P 10 37 13.0 -0.5
baz=163,SNR=49
N35A Tabor 78.67 342 P P 10 37 13.5 -0.3
baz=161,SNR=21
Y14A Wickenburg 78.70 326 *e*P P 10 37 15.6 +1.3
comp=Z,86nm,0.9s
NCB Newcomb 78.72 358 *e*P P 10 37 14.4 +0.3
MDV Middlebury 78.73 359 *e*P P 10 37 14.2 +0.1
M37A Trindle Farm, 78.79 343 P P 10 37 14.5 0.0
baz=162,SNR=25
O32A Brockman Farm, 78.82 340 P P 10 37 15.4 +0.6
baz=158
GLA Glamis 78.82 324 P P 10 37 16.5 +1.6
baz=146,SNR=6.5
GLA Glamis 78.82 324 *e*P P 10 37 16.7 +1.8
GLA Glamis 78.82 324 *e*P P 10 37 16.7 +1.8
comp=Z,63nm,1.6s
TSUM Tsumeb 78.84 106 *e*P P 10 37 16.0 +0.4
comp=Z,46nm,1.0s
TSUM LR LR
comp=Z,569nm,20.0s
N34A Lincoln 78.87 341 P P 10 37 14.9 0.0
baz=160,SNR=15
SDCO Great Sand Dun 78.89 333 P P 10 37 16.6 +1.1
baz=153,SNR=46
SDCO Great Sand Dun 78.89 333 *e*P P 10 37 16.3 +0.9
comp=Z,20nm,0.9s
SDCO LR LR
comp=Z,264nm,19.0s
CASY Casey 78.93 181 *e*P P 10 37 16.2 +1.1
comp=Z,49nm,0.8s
CASY LR LR
comp=Z,80nm,19.0s
KSCO Kaye Shedlock' 79.01 336 P P 10 37 17.3 +1.3
baz=155,SNR=17
KSCO Kaye Shedlock' 79.01 336 *e*P P 10 37 17.0 +1.1
comp=Z,42nm,0.9s
KSCO *ep*P **pP** 10 37 30.3 +1.3
M36A Felix, Anita 79.02 343 P P 10 37 15.6 -0.1
baz=161,SNR=20
O31A Woolen Ranch, 79.02 339 P P 10 37 16.5 +0.7
baz=158,SNR=15
N33A J Bar K, Exete 79.03 341 P P 10 37 16.3 +0.5
baz=159,SNR=5.5
SCIA State Center 79.08 344 *e*P P 10 37 15.6 -0.4
comp=Z,60nm,1.0s
SCIA *ep*P **pP** 10 37 28.8 -0.3
SCIA LR LR
comp=Z,197nm,20.0s
IKP In-Ko-Pah, Jac 79.11 323 P P 10 37 18.2 +1.7
baz=145,SNR=7.9
SWSC Sam W. Stewart 79.20 324 P P 10 37 18.6 +1.6
baz=145
L38A Oak Wood Farm, 79.24 344 P P 10 37 16.6 -0.3
baz=163,SNR=16
Y12C Blythe 79.25 325 P P 10 37 18.9 +1.8
baz=146,SNR=13
Y12C Blythe 79.25 325 *e*P P 10 37 19.0 +1.8
comp=Z,31nm,0.9s
M35A Neola 79.25 342 P P 10 37 17.0 0.0
baz=161
N32A Stulken Farm, 79.29 340 P P 10 37 17.9 +0.6
baz=158
WUAZ Wupatki 79.30 328 P P 10 37 19.3 +1.6
baz=148,SNR=24
WUAZ Wupatki 79.30 328 *e*P P 10 37 19.0 +1.4
comp=Z,28nm,0.9s
WUAZ LR LR
comp=Z,157nm,20.0s
WVL Waterville 79.31 2 *e*P P 10 37 18.0 +0.8
comp=Z,72nm,1.1s
LONY Lake Ozonia 79.38 358 *e*P P 10 37 17.8 +0.2
comp=Z,63nm,1.0s
LONY LR LR
comp=Z,197nm,21.0s
S22A 4UR Ranch, Cre 79.38 333 P P 10 37 19.3 +1.2
baz=152,SNR=28
S22A 4UR Ranch, Cre 79.38 333 *e*P P 10 37 19.4 +1.2
comp=Z,15nm,0.9s
L37A Phoenix Point, 79.41 344 P P 10 37 17.5 -0.3
baz=152,SNR=6.2
BAR Barrett 79.41 323 *e*P P 10 37 19.7 +1.5
comp=Z,22nm,1.1s
JFWS Jewell Farm 79.42 346 *e*P P 10 37 17.5 -0.4
JFWS Jewell Farm 79.42 346 *e*P P 10 37 17.5 -0.4
comp=Z,58nm,1.0s
JFWS LR LR
comp=Z,264nm,19.0s
MONP2 Monument Peak 79.46 323 P P 10 37 20.2 +1.6
baz=144,SNR=9.6
BOSA Boshof 79.49 117 *i* P P 10 37 19.4 +0.3
BOSA *i* 10 37 19.5
baz=240,slow=6.5
BOSA Boshof 79.49 117 P P 10 37 19.0 0.0
comp=Z,119nm,0.9s,baz=215,slow=5.3,SNR=5.4
BOSA LR LR 11 08 01.5
comp=Z,235nm,20.1s,baz=230,slow=32
BOSA Boshof 79.49 117 *e*P P 10 37 19.1 0.0
comp=Z,162nm,1.0s
M34A Aspy Farms, Fr 79.51 341 P P 10 37 18.4 0.0
baz=160,SNR=6.9
PDMCI Parker Dam,Lak 79.53 326 P P 10 37 20.4 +1.7
baz=146
EMMW East Machias 79.54 3 *e*P P 10 37 19.4 +0.9
comp=Z,52nm,1.0s
MVCO Mesa Verde 79.56 331 P P 10 37 20.2 +1.1
baz=150,SNR=24
MVCO Mesa Verde 79.56 331 *e*P P 10 37 20.1 +1.1
comp=Z,27nm,1.0s
MVCO LR LR
comp=Z,521nm,21.0s
FRNY Flat Rock 79.57 359 *e*P P 10 37 18.8 +0.1
comp=Z,55nm,0.9s
BC3 Big Chuckawall 79.61 324 P P 10 37 20.8 +1.4
baz=145,SNR=24
K38A Parkersburg 79.68 345 P P 10 37 18.9 -0.4
baz=163,SNR=5.9
M33A Taylor Creek F 79.74 341 P P 10 37 19.8 +0.1
baz=159
SADO Sadowa 79.76 355 PKKPbc PKKPbc 10 56 05.5 -2.8
comp=Z,1.3nm,0.7s,baz=319,slow=5.9,SNR=4.3
SADO Sadowa 79.76 355 *e*P P 10 37 19.2 -0.5
comp=Z,64nm,1.1s
SADO PKKPbc **PKKPbc** 10 56 05.5 -2.8
109C Camp Elliot, M 79.80 323 P P 10 37 21.9 +1.7
baz=144
L35A Bielow Farm, R 79.82 342 P P 10 37 20.0 -0.1
baz=161,SNR=12
Q24A Divide 79.84 334 P P 10 37 21.8 +1.1
baz=153,SNR=20
Q24A Divide 79.84 334 *e*P P 10 37 21.4 +0.7
comp=Z,33nm,0.8s
BGNE Belgrade 79.85 340 P P 10 37 20.9 +0.5
baz=159
BGNE Belgrade 79.85 340 *e*P P 10 37 20.8 +0.5
comp=Z,82nm,0.9s
IRM Iron Mountain 79.88 325 P P 10 37 22.3 +1.7
baz=146,SNR=17
L34A Svendsen Farm, 79.89 342 P P 10 37 20.5 0.0
baz=160,SNR=9.5
K37A Belmond 79.99 344 P P 10 37 20.4 -0.6
baz=162,SNR=5.7
M31A Lambtecht Ranc 80.02 340 P P 10 37 22.3 +1.0
baz=158,SNR=10
PKME Peaks-Kenny Pk 80.02 2 *e*P P 10 37 21.7 +0.6
comp=Z,46nm,1.1s
PKME LR LR
comp=Z,223nm,20.0s
K36A Gilmore City 80.06 343 P P 10 37 21.7 +0.3
baz=162,SNR=14
TPFO Pinon Flats 80.06 324 P P 10 37 23.4 +1.7
baz=144,SNR=31
PFO Pinyon Flats O 80.06 324 LR LR 11 05 39.7
comp=Z,320nm,21.4s,baz=130,slow=30
PFO Pinyon Flats O 80.06 324 *e*P P 10 37 23.5 +1.7
PFO Pinyon Flats O 80.06 324 *e*P P 10 37 23.5 +1.7
comp=Z,31nm,0.9s
W13A Hualapai Mount 80.07 326 *e*P P 10 37 23.4 +1.5
comp=Z,18nm,0.9s
BELC Belle Mtn. Jos 80.16 324 P P 10 37 23.9 +1.6
baz=145,SNR=12
J38A Wedel Dairy, R 80.26 345 P P 10 37 21.9 -0.6
baz=163,SNR=11
L33A Hoskins 80.32 341 P P 10 37 22.8 -0.1
baz=159
K35A Storm Lake 80.32 343 P P 10 37 23.1 +0.3
baz=161
L32A Elgin 80.36 341 P P 10 37 23.5 +0.5
baz=159
PV01 Paradox Valley 80.39 331 *e*P P 10 37 24.6 +1.1
MURC Murrieta 80.41 323 P P 10 37 25.2 +1.6
baz=144,SNR=13
U15A North Rim 80.47 328 *e*P P 10 37 25.7 +1.6
comp=Z,24nm,0.8s
U15A *ep*P **pP** 10 37 38.5 +1.4
J37A Redenius Farm, 80.49 344 P P 10 37 23.5 -0.2
baz=162,SNR=7.3
K34A Le Mars 80.50 342 P P 10 37 23.9 +0.1
baz=160,SNR=8.1
PV05 Paradox Valley 80.55 331 *e*P P 10 37 25.3 +0.9
OGNE Ogallala 80.57 337 P P 10 37 25.3 +1.0
baz=156
OGNE Ogallala 80.57 337 *e*P P 10 37 25.1 +0.8
comp=Z,27nm,0.8s
OGNE LR LR
comp=Z,187nm,20.0s
SCI2 San Clemente I 80.59 322 P P 10 37 25.9 +1.4
baz=143
LDFC Landfair 80.61 325 *e*P P 10 37 26.9 +2.2
comp=Z,43nm,1.0s
GMRC Granite Mounta 80.63 325 P P 10 37 26.6 +1.7
baz=145,SNR=28
K33A Hardington 80.66 342 P P 10 37 25.0 +0.4
baz=160,SNR=8.7
J36A Seneca 1, Swea 80.68 344 P P 10 37 24.7 0.0
baz=162,SNR=13
SMCO Snowmass 80.69 333 *e*P P 10 37 26.6 +1.2
comp=Z,32nm,0.8s
PV04 Paradox Valley 80.74 331 *e*P P 10 37 26.2 +0.8
ISCO Idaho Springs 80.75 334 P P 10 37 26.5 +1.0
baz=153,SNR=18
ISCO Idaho Springs 80.75 334 *e*P P 10 37 26.5 +1.0
ISCO Idaho Springs 80.75 334 *e*P P 10 37 26.5 +1.0
comp=Z,13nm,0.8s
ISCO LR LR
comp=Z,223nm,22.0s
L31A Butterfield Fa 80.75 340 P P 10 37 26.1 +0.9
baz=158,SNR=15
PV10 Paradox Valley 80.78 331 *e*P P 10 37 26.4 +0.8
LMN Caledonia Moun 80.83 5 *e*P P 10 37 25.7 +0.3
comp=Z,33nm,0.9s
I38A Scanlan Farm, 80.92 345 P P 10 37 25.5 -0.5
baz=163,SNR=44
J35A Milford 80.92 343 P P 10 37 26.1 +0.1
baz=161
PV09 Paradox Valley 80.92 331 *e*P P 10 37 27.6 +1.1
PV09 *ep*P **pP** 10 37 41.4 +1.8
K32A Verdigre 80.96 341 P P 10 37 26.4 +0.1
baz=159
TRQ Mont Tremblant 80.98 358 *e*P P 10 37 26.0 -0.3
HEC Hector,Ludlow 80.99 324 P P 10 37 28.4 +1.7
baz=145,SNR=12
KOWA Kowa 81.02 65 *e*P P 10 37 27.2 0.0
comp=Z,63nm,1.3s
J34A George 81.03 342 P P 10 37 26.7 +0.2
baz=160,SNR=7.9
EKU East Kanab 81.10 328 *e*P P 10 37 29.1 +1.8
I37A Lemond, Waseca 81.12 345 P P 10 37 26.9 -0.2
baz=163,SNR=22
K31A O'Neill 81.14 340 P P 10 37 27.9 +0.7
baz=158,SNR=23
BFSC Mount Baldy Ra 81.16 323 P P 10 37 29.0 +1.4
baz=144,SNR=22
KNB Kanab 81.19 328 *e*P P 10 37 29.5 +1.7
KNB Kanab 81.19 328 *e*P P 10 37 29.5 +1.7
comp=Z,58nm,1.0s
I36A Fitzsimmons Fa 81.26 344 P P 10 37 27.7 -0.1
baz=162,SNR=9.9
TUQ Turquoise Moun 81.29 325 P P 10 37 29.8 +1.4
baz=145,SNR=15
J33A Davis 81.31 342 P P 10 37 27.8 -0.2
baz=160,SNR=16
PKCU Pink Cliffs 81.33 329 *e*P P 10 37 30.0 +1.2
comp=Z,33nm,1.3s
I35A Creekview Farm 81.33 343 P P 10 37 28.0 -0.2
baz=161,SNR=16
MWC Mount Wilson 81.34 323 *e*P P 10 37 30.4 +1.7
MWC Mount Wilson 81.34 323 *e*P P 10 37 30.4 +1.7
comp=Z,22nm,0.9s
PASC Pasadena Art C 81.36 323 *e*P P 10 37 30.6 +2.0
comp=Z,21nm,0.9s
LCMT Little Creek M 81.37 328 *e*P P 10 37 29.9 +1.2
comp=Z,15nm,1.1s
K30A Basset 81.43 340 P P 10 37 29.8 +1.0
baz=158,SNR=14
DECC Green Verdugo 81.50 323 P P 10 37 31.2 +1.9
baz=143,SNR=7.0
H37A Dierke Farm, C 81.56 345 P P 10 37 29.2 -0.1
baz=163,SNR=11
J32A Parkston 81.59 341 P P 10 37 29.5 -0.1
baz=159,SNR=12
GSC Goldstone, Bar 81.60 324 P P 10 37 31.6 +1.7
baz=144,SNR=16
GSC Goldstone, Bar 81.60 324 *e*P P 10 37 31.6 +1.7
GSC Goldstone, Bar 81.60 324 *e*P P 10 37 31.6 +1.7
comp=Z,15nm,0.9s
ECSD EROS Data Cent 81.61 342 P P 10 37 29.8 +0.1
baz=160,SNR=86
ECSD EROS Data Cent 81.61 342 *e*P P 10 37 29.6 -0.1
comp=Z,62nm,0.9s
ECSD *ep*P **pP** 10 37 42.5 -0.2
ECSD LR LR
comp=Z,129nm,20.0s
I34A Hadley 81.72 343 P P 10 37 30.6 +0.4
baz=161
BLG Laguna Peak, P 81.75 322 P P 10 37 31.8 +1.2
baz=143
J31A Geddes 81.76 341 P P 10 37 30.7 +0.2
baz=158,SNR=6.7
LBTB Lobatse 81.77 115 *e*P P 10 37 31.0 -0.3
LBTB Lobatse 81.77 115 *e*P P 10 37 31.0 -0.3
comp=Z,104nm,0.9s
H36A Jessenland, He 81.78 344 P P 10 37 30.6 +0.1
baz=162,SNR=23
MTPU Mount Pierson 81.78 329 *e*P P 10 37 32.5 +1.4
comp=Z,20nm,0.9s
SHPR Sheep Range 81.81 326 *e*P P 10 37 32.8 +1.7
comp=Z,20nm,0.9s
N23A Red Feather La 81.83 335 P P 10 37 32.3 +1.0
baz=153,SNR=15
N23A Red Feather La 81.83 335 *e*P P 10 37 32.2 +1.0
comp=Z,20nm,0.9s
SHOC Shoshone, Teco 81.83 325 P P 10 37 32.2 +1.1
baz=145,SNR=6.8
EDW2 Edwards Air Fo 81.83 323 P P 10 37 32.3 +1.2
baz=144,SNR=17
CCUT Cedar City 81.87 328 *e*P P 10 37 33.5 +2.0
comp=Z,30nm,0.9s
SCZ2 Santa Cruz Isl 81.95 322 P P 10 37 33.5 +1.8
baz=142
I33A Coleman 81.95 342 P P 10 37 31.7 +0.3
baz=160
OSI Osito Audit: C 81.98 323 P P 10 37 33.5 +1.6
baz=143,SNR=9.4
OSI Osito Audit: C 81.98 323 *e*P P 10 37 33.4 +1.5
comp=Z,35nm,0.8s
J30A Dallas 82.00 340 P P 10 37 31.9 +0.2
baz=158,SNR=11
O20A White River Ci 82.00 333 P P 10 37 32.8 +0.8
baz=151,SNR=17
O20A White River Ci 82.00 333 *e*P P 10 37 32.8 +0.8
comp=Z,16nm,0.8s
SRU San Rafael Swe 82.00 331 *e*P P 10 37 32.8 +0.7
SRU San Rafael Swe 82.00 331 *e*P P 10 37 32.8 +0.7
comp=Z,24nm,0.8s
PHWY Pilot Hill 82.02 335 *e*P P 10 37 32.9 +0.6
comp=Z,20nm,0.8s
H35A Sunnyside Ranc 82.09 344 P P 10 37 32.0 -0.1
baz=161,SNR=24
I32A Karley and Nic 82.10 342 P P 10 37 32.5 +0.3
baz=159
SPMN Marine on St. 82.15 345 P P 10 37 31.8 -0.6
baz=163
SPMN Marine on St. 82.15 345 *e*P P 10 37 31.8 -0.6
comp=Z,97nm,0.2s
LRMC Laurel Mtn Rad 82.16 324 P P 10 37 34.1 +1.2
baz=144
MSU Marysvale 82.17 329 *e*P P 10 37 34.3 +1.3
MSU Marysvale 82.17 329 *e*P P 10 37 34.3 +1.3
LMQ La Malbaie 82.28 1 *e*P P 10 37 33.2 +0.1
H34A Spellman Lake, 82.29 343 P P 10 37 33.5 +0.3
baz=161
COWI Conover 82.30 348 *e*P P 10 37 32.7 -0.5
comp=Z,31nm,1.2s
COWI LR LR
comp=Z,187nm,19.0s
P18A Preston Nutter 82.34 331 *e*P P 10 37 35.0 +1.1
comp=Z,39nm,0.9s
G36A St. Michael 82.36 345 P P 10 37 33.3 -0.2
baz=162,SNR=9.3
I31A Royce, Wessing 82.39 341 P P 10 37 34.0 +0.3
baz=158,SNR=5.6
P17A Butcher Ranch, 82.40 331 *e*P P 10 37 34.9 +0.8
comp=Z,26nm,1.0s
TMUT Trail Mountain 82.44 330 *e*P P 10 37 35.6 +1.1
comp=Z,19nm,0.8s
ARVC Arvin 82.44 323 P P 10 37 35.4 +1.2
baz=143
G35A Watkins 82.51 344 P P 10 37 34.5 +0.2
baz=162
I30A Oacoma 82.52 340 P P 10 37 34.8 +0.4
baz=158,SNR=13
H33A Prehn Over Nor 82.53 342 P P 10 37 34.6 +0.1
baz=160,SNR=14
MPMC Manual Prospec 82.54 324 P P 10 37 36.1 +1.2
baz=144,SNR=10
H32A Carlson Farm, 82.54 342 P P 10 37 34.5 0.0
baz=159,SNR=12
FURC Furnace Creek, 82.57 325 P P 10 37 36.5 +1.7
baz=144,SNR=17
TPNV Topopah Spring 82.67 326 P P 10 37 37.4 +1.7
baz=145,SNR=24
TPNV Topopah Spring 82.67 326 *e*P P 10 37 37.3 +1.7
TPNV Topopah Spring 82.67 326 *e*P P 10 37 37.3 +1.7
comp=Z,17nm,0.9s
ISA Isabella, Lake 82.69 323 P P 10 37 37.5 +1.9
baz=143,SNR=7.4
ISA Isabella, Lake 82.69 323 *e*P P 10 37 37.8 +2.2
ISA Isabella, Lake 82.69 323 *e*P P 10 37 37.8 +2.2
comp=Z,17nm,0.8s
PKM Mcpherson Peak 82.75 322 P P 10 37 37.7 +1.6
baz=142
DAC Darwin (Calif) 82.76 324 *e*P P 10 37 37.6 +1.5
DAC *e**PP **pP** 10 37 50.3 +1.2
DAC Darwin (Calif) 82.76 324 *e*P P 10 37 37.6 +1.5
comp=Z,23nm,0.9s
DAC *ep*P **pP** 10 37 50.3 +1.2
H31A Wolsey 82.79 341 P P 10 37 35.7 -0.1
baz=159,SNR=15
G34A Benson 82.80 343 P P 10 37 35.5 -0.3
baz=161
LTZ Lake Taylor 82.84 222 *e*P P 10 37 37.7 +1.2
LTZ *ep*P **pP** 10 37 51.1 +1.6
I29A Vivian Onida 82.87 340 P P 10 37 36.3 +0.1
baz=157
RPZ Rata Peaks 82.87 221 P P 10 37 38.6 +2.1
comp=Z,31nm,0.9s,baz=99,slow=3.9,SNR=8.0
RPZ pP **pP** 10 37 51.0 +1.4
comp=Z,54nm,1.1s,baz=282,slow=11,SNR=7.2

RPZ LR LR 11 05 41.5
comp=Z,514nm,21.5s,baz=140,slow=29
RPZ Rata Peaks 82.87 221 *eP* **P 10 37 39.0 +2.4**
RPZ *epP* **pP 10 37 51.4 +1.8**
SUSD Miller 82.88 341 P **P 10 37 36.6 +0.3**
baz=158
PSUT Pine Spring 82.91 328 *eP* **P 10 37 37.1 +0.3**
comp=Z,38nm,1.0s
F36A Milaca 82.91 345 P **P 10 37 35.9 -0.4**
baz=162,SNR=36
G33A Ortonville 82.94 343 P **P 10 37 36.3 -0.3**
baz=160
URZ Urewera 82.98 228 LR LR 11 05 52.9
comp=Z,475nm,21.1s,baz=140,slow=29
CWC Cottonwood Cre 83.13 324 P **P 10 37 39.4 +1.5**
baz=144
F35A Swanville 83.14 344 P **P 10 37 37.5 0.0**
baz=162,SNR=6.9
VES Vestal, Richgr 83.14 323 P **P 10 37 39.4 +1.6**
baz=143,SNR=12
SMMC Simmler 83.17 322 P **P 10 37 39.6 +1.5**
baz=142
F34A Alexandria 83.23 344 P **P 10 37 38.0 0.0**
baz=161,SNR=7.0
GRAC Grapevine Rang 83.23 325 P **P 10 37 40.0 +1.6**
baz=144
E37A Wrenshall 83.35 346 P **P 10 37 39.7 +1.1**
baz=163
H29A Onida 83.40 340 P **P 10 37 39.7 +0.8**
baz=157
E36A McGregor 83.48 345 P **P 10 37 39.1 -0.2**
baz=163,SNR=30
F33A 5 Mile Ranch, 83.51 343 P **P 10 37 39.1 -0.4**
baz=160,SNR=9.9
R11A Troy Canyon, C 83.52 327 P **P 10 37 41.4 +1.5**
baz=146,SNR=48
R11A Troy Canyon, C 83.52 327 *eP* **P 10 37 41.5 +1.5**
comp=Z,19nm,0.8s
G30A Faulkton 83.57 341 P **P 10 37 40.1 +0.3**
baz=158,SNR=5.7
K22A Casper 83.59 335 P **P 10 37 40.8 +0.7**
baz=152,SNR=15
K22A Casper 83.59 335 *eP* **P 10 37 40.9 +0.7**
comp=Z,35nm,0.9s
JLU Jordanelle 83.65 331 *eP* **P 10 37 41.4 +0.8**
comp=Z,20nm,0.7s
KLJ Keetly 83.65 331 *eP* **P 10 37 41.0 +0.4**
TIN Tinemaha, Big 83.69 324 P **P 10 37 42.4 +1.7**
baz=144
E35A Pequot Lakes 83.76 345 P **P 10 37 41.0 +0.3**
baz=162
G29A Hoven 83.84 341 P **P 10 37 41.6 +0.4**
baz=158
DUG Dugway, Tooele 83.86 330 P **P 10 37 42.9 +1.3**
baz=148,SNR=31
DUG Dugway, Tooele 83.86 330 *eP* **P 10 37 42.6 +1.0**
DUG Dugway, Tooele 83.86 330 *eP* **P 10 37 42.6 +1.0**
comp=Z,117nm,1.8s
DUG LR LR
comp=Z,284nm,19.0s
E34A Wadena 83.89 344 P **P 10 37 41.5 +0.2**
baz=161
D37A Cotton 83.92 346 P **P 10 37 41.5 -0.1**
baz=163,SNR=8.2
F31A Hecla 84.02 342 P **P 10 37 42.3 +0.3**
baz=159,SNR=6.3
TCUT Toone Canyon 84.07 331 *eP* **P 10 37 44.0 +1.2**
comp=Z,65nm,1.3s
E33A Westby DABS, E 84.07 344 P **P 10 37 42.2 -0.1**
baz=161
RSSD Black Hills 84.08 337 P **P 10 37 43.0 +0.3**
baz=154
RSSD Black Hills 84.08 337 *eP* **P 10 37 43.0 +0.3**
RSSD Black Hills 84.08 337 *eP* **P 10 37 43.0 +0.3**
comp=Z,17nm,0.8s
D36A Goodland 84.09 346 P **P 10 37 42.2 -0.2**
baz=163
C39A Grand Marais 84.13 348 P **P 10 37 42.0 -0.6**
baz=165,SNR=26
D35A Remer 84.18 345 P **P 10 37 42.8 -0.1**
baz=162,SNR=22
F30A Leola 84.19 341 P **P 10 37 43.1 +0.1**
baz=158
C38A Sawbill Land. 84.24 347 P **P 10 37 42.6 -0.6**
baz=164,SNR=32
H25A Fruitdale 84.39 338 P **P 10 37 44.6 +0.5**
baz=155,SNR=7.4
F29A Eureka 84.40 341 P **P 10 37 44.3 +0.3**
baz=158,SNR=5.6
E32A Braaten, Kindr 84.41 343 P **P 10 37 44.4 +0.4**
baz=160
C37A Embarrass 84.42 346 P **P 10 37 43.7 -0.4**
baz=164,SNR=12
D34A Park Rapids 84.44 344 P **P 10 37 44.0 -0.2**
baz=161,SNR=8.2
MLAC Mammoth, Mammo 84.44 324 P **P 10 37 46.3 +1.5**
baz=143,SNR=12
EYMN Ely 84.50 347 P **P 10 37 44.0 -0.5**
baz=164,SNR=30
EYMN Ely 84.50 347 *eP* **P 10 37 43.9 -0.6**
comp=Z,46nm,1.3s
EYMN LR LR
comp=Z,139nm,19.0s
TOA0 Torodi Ar. Sit 84.51 70 *eP* **P 10 37 44.9 -0.4**
TORD Torodi Ar. Bea 84.51 70 P **P 10 37 44.9 -0.4**
comp=Z,127nm,0.9s,baz=249,slow=4.2,SNR=432
TORD *pP* **pP 10 37 57.5 -0.9**
comp=Z,35nm,0.8s,baz=253,slow=3.8,SNR=9.7
TORD *sP* **sP 10 38 03.0 -0.3**
comp=Z,53nm,0.9s,baz=234,slow=4.0,SNR=7.7
TORD LR LR 11 13 51.0
comp=Z,471nm,19.6s,baz=240,slow=34
RSUT Red Spur Mount 84.52 331 *eP* **P 10 37 45.5 +0.5**
HWUT Hardware Ranch 84.55 331 *eP* **P 10 37 45.5 +0.4**
comp=Z,30nm,0.8s
HWUT LR LR
comp=Z,480nm,20.0s
BGU Big Grassy Mou 84.56 330 *eP* **P 10 37 45.6 +0.5**
comp=Z,26nm,1.3s
E31A Nome 84.57 342 P **P 10 37 45.4 +0.5**
baz=159,SNR=15
C36A Pine Crest Far 84.58 346 P **P 10 37 44.7 -0.2**
baz=163,SNR=11
D33A AnnSam, Waubun 84.63 344 P **P 10 37 44.9 -0.3**
baz=161,SNR=8.6
SPUT South Promonto 84.65 331 *eP* **P 10 37 46.3 +0.7**
comp=Z,27nm,0.9s
C35A Jirik Farms, M 84.76 345 P **P 10 37 45.4 -0.4**
baz=162,SNR=23
NV11 Mina Array Sit 84.76 325 *eP* **P 10 37 47.4 +1.1**
comp=Z,111nm,1.0s
BW06 Boulder Array 84.77 333 P **P 10 37 46.4 +0.1**
baz=150,SNR=22
BW06 Boulder Array 84.77 333 *eP* **P 10 37 46.2 -0.1**
comp=Z,52nm,1.7s
BW06 LR LR
comp=Z,356nm,19.0s
PD31 Pinedale Array 84.77 333 *eP* **P 10 37 46.3 0.0**
PDAR Pinedale Array 84.77 333 P **P 10 37 46.0 -0.3**
comp=Z,6.9nm,0.7s,baz=149,slow=4.0,SNR=48
PDAR *pP* **pP 10 37 59.2 -0.1**
comp=Z,5.2nm,0.7s,baz=151,slow=3.4,SNR=6.9
PDAR PKKPbc **PKKPbc 10 55 54.8 -1.8**
comp=Z,1.2nm,0.6s,baz=315,slow=0.2,SNR=9.9
PDAR PKPPKP **P'P'df 11 04 02.2 +5.2**
comp=Z,0.3nm,0.6s,baz=7.6,slow=4.5,SNR=3.7
PDAR LR LR 11 12 29.5
comp=Z,302nm,18.1s,baz=156,slow=33
E30A Jud 84.78 342 P **P 10 37 46.5 +0.6**
baz=158
HDU Hyde Park 84.79 331 *eP* **P 10 37 46.6 +0.3**
NV01 Mina Array Sit 84.83 325 *eP* **P 10 37 47.9 +1.2**
NVAR Mina Array Bea 84.83 325 P **P 10 37 47.8 +1.1**
comp=Z,111nm,0.8s,baz=158,slow=5.5,SNR=92
NVAR *pP* **pP 10 38 00.8 +1.1**
comp=Z,1.3nm,0.7s,baz=112,slow=32,SNR=3.5
NVAR *sP* **sP 10 38 06.1 +1.5**
comp=Z,8.4nm,0.8s,baz=155,slow=5.4,SNR=8.3
NVAR PKKPbc **PKKPbc 10 55 56.3 +0.1**
comp=Z,1.4nm,0.8s,baz=302,slow=3.5,SNR=7.0
NVAR LR LR 11 08 16.8
comp=Z,181nm,22.0s,baz=150,slow=30
PMOZ Porto Moniz, M 84.85 44 *eP* **P 10 37 43.7 -3.0**
PMOZ Porto Moniz, M 84.85 44 *eLR* LR 11 06 05.8
comp=Z,468nm,20.0s
D32A Dogwood Acres, 84.90 343 P **P 10 37 46.8 +0.3**
baz=160
C34A RKJ Ranch, Bem 84.91 345 P **P 10 37 46.3 -0.2**
baz=162
DRLN Deer Lake 84.96 9 *eP* **P 10 37 46.7 0.0**
comp=Z,102nm,0.9s
D31A Mcclaflin, Tow 84.99 343 P **P 10 37 47.5 +0.6**
baz=159
E29A Napoleon 85.03 341 P **P 10 37 47.4 +0.2**
baz=158
BEI Bear River Ran 85.06 331 *eP* **P 10 37 47.3 -0.4**
HVU Hansel Valley 85.17 331 *eP* **P 10 37 48.6 +0.4**
HVU Hansel Valley 85.17 331 *eP* **P 10 37 48.6 +0.4**
comp=Z,28nm,0.8s
C33A Trail 85.20 344 P **P 10 37 48.1 +0.1**
baz=161
F26A Lodgepole 85.22 339 P **P 10 37 48.7 +0.4**
baz=155,SNR=6.0
D30A Buchanan 85.31 342 P **P 10 37 48.9 +0.4**
baz=158,SNR=11
E28A Huff 85.32 341 P **P 10 37 49.0 +0.3**
baz=157,SNR=7.3
B35A Bob, Littlefor 85.33 346 P **P 10 37 48.5 -0.2**
baz=162,SNR=24
ELK Elko 85.34 328 *eP* **P 10 37 49.9 +0.7**
ELK Elko 85.34 328 *eP* **P 10 37 49.9 +0.7**
comp=Z,13nm,0.8s
AHID Auburn Hatcher 85.35 332 *eP* **P 10 37 49.8 +0.7**
comp=Z,38nm,1.3s
AHID LR LR
comp=Z,378nm,21.0s
RAO Raoul Island 85.36 237 LR LR 11 07 52.5
comp=Z,90nm,20.8s,baz=82,slow=30
WAKR Walker 85.42 325 *eP* **P 10 37 51.9 +2.3**
E27A Carson 85.43 340 P **P 10 37 49.6 +0.4**
baz=156,SNR=5.8
D29A Pettibone, Tap 85.48 341 P **P 10 37 49.0 -0.4**
baz=158
CMB Columbia Colle 85.51 324 *eP* **P 10 37 51.0 +1.2**
CMB Columbia Colle 85.51 324 *eP* **P 10 37 51.0 +1.2**
comp=Z,14nm,1.1s
F25A Bowman 85.52 339 P **P 10 37 50.3 +0.6**
baz=155,SNR=6.2
B33A Robert and Kas 85.64 344 P **P 10 37 50.1 -0.1**
baz=161
B34A Aery, Baudette 85.64 345 P **P 10 37 49.9 -0.3**
baz=162,SNR=6.7
C31A Landman Farms, 85.69 343 P **P 10 37 50.8 +0.4**
baz=159
E26A Carlson Angus 85.72 339 P **P 10 37 51.1 +0.5**
baz=156,SNR=6.2
REDW Red Top Meadow 85.77 333 *eP* **P 10 37 51.6 +0.4**
comp=Z,36nm,1.1s
C30A Mose, Pekin 85.79 342 P **P 10 37 51.5 +0.6**
baz=159,SNR=8.8
SNOW Snow King Moun 85.82 333 *eP* **P 10 37 51.9 +0.4**
comp=Z,19nm,0.8s
LOHW Long Hollow 85.89 333 *eP* **P 10 37 52.1 +0.3**
comp=Z,12nm,0.8s
TPAW Teton Pass 85.92 333 *eP* **P 10 37 52.4 +0.4**
comp=Z,19nm,0.9s
B32A Ashes, Strandq 85.97 344 P **P 10 37 51.5 -0.3**
baz=160,SNR=16
E25A Miller Ranch, 86.03 339 P **P 10 37 52.9 +0.7**
baz=155,SNR=7.4
D27A Center 86.04 340 P **P 10 37 53.2 +1.0**
baz=156
MOOW Moose Ponds 86.06 333 *eP* **P 10 37 52.8 +0.1**
comp=Z,9.3nm,0.9s
MDND Maddock 86.21 342 P **P 10 37 53.9 +0.9**
baz=158
MDND Maddock 86.21 342 *eP* **P 10 37 53.8 +0.8**
comp=Z,161nm,1.2s
D26A Manning 86.22 340 P **P 10 37 53.7 +0.6**
baz=156,SNR=14
A33A Warroad 86.23 345 P **P 10 37 53.1 0.0**
baz=161,SNR=18
B31A Greenbush Farm 86.26 343 P **P 10 37 53.2 0.0**
baz=159
IMW Indian Meadow 86.26 333 *eP* **P 10 37 54.1 +0.4**
comp=Z,30nm,1.1s
C28A Hausauer Farms 86.29 341 P **P 10 37 53.5 +0.1**
baz=157
FLWY Flagg Ranch 86.33 333 *eP* **P 10 37 54.8 +0.9**
comp=Z,32nm,0.8s
PAHR Pah Rah Range 86.35 325 *eP* **P 10 37 55.7 +1.6**
comp=Z,26nm,1.1s
YTP The Promontory 86.44 334 *eP* **P 10 37 55.4 +0.8**
B30A Myrvik Farm, E 86.45 343 P **P 10 37 54.4 +0.2**
baz=159,SNR=19
A32A Rocking H Ranc 86.45 344 P **P 10 37 54.4 +0.2**
baz=160
AFDM Forest Hills D 86.51 324 *eP* **P 10 37 55.9 +1.2**
comp=Z,24nm,1.2s
H17A Grant Village 86.55 333 P **P 10 37 56.0 +0.9**
149,SNR=8.9
H17A Grant Village 86.55 333 *eP* **P 10 37 56.3 +1.2**
comp=Z,8.6nm,0.8s
D25A Fairfield 86.59 339 P **P 10 37 55.6 +0.7**
baz=155,SNR=14
MATP Matopo 86.61 112 *i* P **P 10 37 56.2 +0.3**
MATP *i* 10 37 56.6
baz=218,slow=4.8
A31A Linda, St. Vin 86.63 344 P **P 10 37 55.3 +0.3**
baz=160
LKWY Lake 86.63 334 *eP* **P 10 37 57.2 +1.7**
LKWY Lake 86.63 334 *eP* **P 10 37 57.2 +1.7**
comp=Z,14nm,0.9s
LKWY LR LR
comp=Z,390nm,22.0s
YFT Old Faithful 86.70 333 *eP* **P 10 37 57.5 +1.8**
comp=Z,23nm,1.0s
RLMT Red Lodge 86.71 335 P **P 10 37 56.3 +0.5**
baz=150,SNR=28
RLMT Red Lodge 86.71 335 *eP* **P 10 37 55.9 +0.1**
comp=Z,105nm,1.7s
RLMT *epP* **pP 10 38 09.3 +0.4**
RLMT LR LR
comp=Z,157nm,19.0s
B29A Wagenman Farm, 86.71 342 P **P 10 37 56.3 +0.8**
baz=158,SNR=9.6
A30A Hoffart Farm, 86.90 343 P **P 10 37 56.4 +0.1**
baz=159,SNR=5.6
YMR Madison River 86.93 333 *eP* **P 10 37 58.1 +1.2**
comp=Z,42nm,0.9s
B28A Dugan Ranch, T 86.96 341 P **P 10 37 57.4 +0.8**
baz=157,SNR=15
LAO LASA Array 87.06 337 P **P 10 37 57.4 +0.1**
baz=153,SNR=14
LAO LASA Array 87.06 337 *eP* **P 10 37 57.4 +0.1**
comp=Z,87nm,1.4s
LAO LR LR
comp=Z,201nm,20.0s
C25A Freed Ranch, W 87.08 339 P **P 10 37 58.2 +0.9**
baz=155,SNR=5.5
A29A Manning Farm, 87.11 342 P **P 10 37 57.6 +0.3**
baz=158,SNR=24
B27A Peters Farms, 87.15 341 P **P 10 37 58.5 +0.8**
baz=156,SNR=5.3
ORV Oroville 87.24 324 *eP* **P 10 37 59.1 +0.9**
ORV Oroville 87.24 324 *eP* **P 10 37 59.1 +0.9**
comp=Z,46nm,1.3s
QLMT Earthquake Lak 87.24 333 *eP* **P 10 37 60.0 +1.6**
HLID Hailey 87.33 331 P **P 10 37 59.8 +1.0**
baz=147,SNR=19
HLID Hailey 87.33 331 *eP* **P 10 37 59.9 +1.1**
comp=Z,18nm,0.9s
HLID LR LR
comp=Z,183nm,19.0s
A28A Rude Farm, Bot 87.36 342 P **P 10 37 59.1 +0.5**
baz=157,SNR=7.0
B26A Jensen Ranch, 87.39 340 P **P 10 37 59.5 +0.7**
baz=156
GCMT Greycliff 87.43 335 *eP* **P 10 37 59.1 -0.1**
B25A Knox Farm, Ray 87.56 340 P **P 10 38 00.5 +0.9**
baz=155,SNR=8.5
ULM Lac du Bonnet 87.57 345 P **P 10 37 58.9 -0.6**
comp=Z,38nm,0.9s,baz=169,slow=3.6,SNR=30
ULM Lac du Bonnet 87.57 345 *eP* **P 10 37 59.1 -0.5**
ULM pmax pmax
comp=Z,86nm,1.2s
ULM Lac du Bonnet 87.57 345 *eP* **P 10 37 59.0 -0.5**
comp=Z,86nm,1.2s
A27A Leoux Ranch, 87.65 341 P **P 10 38 00.9 +0.9**
baz=156
MCMT McKenzie Canyo 87.77 332 P **P 10 38 01.9 +0.9**
MFID Camas Ranch 87.78 330 *eP* **P 10 38 01.8 +0.9**
comp=Z,12nm,0.8s
A26A Wade Farm, Ken 87.81 341 P **P 10 38 01.3 +0.6**
baz=156,SNR=9.4
O03D Paynes Creek 87.96 324 P **P 10 38 02.2 +0.5**
baz=141,SNR=12
BOZ Bozeman (W) 88.01 333 P **P 10 38 02.1 +0.1**
baz=149,SNR=14
BOZ Bozeman (W) 88.01 333 *eP* **P 10 38 02.1 +0.1**
BOZ Bozeman (W) 88.01 333 *eP* **P 10 38 02.1 +0.1**
comp=Z,7.3nm,0.8s
BOZ LR LR
comp=Z,298nm,19.0s
DGMT Dagmar 88.03 339 P **P 10 38 02.5 +0.6**
baz=154,SNR=15
DGMT Dagmar 88.03 339 *eP* **P 10 38 02.5 +0.6**
comp=Z,191nm,1.3s
DGMT *epP* **pP 10 38 15.8 +0.8**
DGMT LR LR
comp=Z,186nm,21.0s
DLMT Dillon 88.13 333 *eP* **P 10 38 03.3 +0.8**
comp=Z,24nm,1.1s
WVOR Wild Horse Val 88.19 327 PFAKE 10 38 10.0 +7.1
WVOR LR LR
comp=Z,263nm,20.0s
LRM Limekiln Ridge 88.46 333 *eP* **P 10 38 04.9 +0.6**
MOD Modoc Plateau 88.52 326 *eP* **P 10 38 05.7 +1.2**
comp=Z,24nm,0.8s
MOD *epP* **pP 10 38 19.3 +1.7**
WDC Whiskeytown Da 88.54 324 *eP* **P 10 38 04.6 +0.2**
WDC Whiskeytown Da 88.54 324 *eP* **P 10 38 04.6 +0.2**
comp=Z,18nm,0.8s
N02D Trinity Center 88.92 324 P **P 10 38 07.0 +0.7**
baz=141,SNR=5.9
HRY Holter Researc 88.99 334 *eP* **P 10 38 07.3 +0.7**
M04C Macdoel 89.14 325 P **P 10 38 08.5 +1.2**
baz=141,SNR=11
M02C Callahan 89.31 324 P **P 10 38 09.2 +1.0**
baz=141
LSZ Lusaka 89.39 108 *eP* **P 10 38 10.7 +1.4**
LSZ Lusaka 89.39 108 P **P 10 38 10.7 +1.4**
SNR=7.4
LSZ Lusaka 89.39 108 P **P 10 38 10.7 +1.4**
SNR=7.4
LSZ Lusaka 89.39 108 *eP* **P 10 38 10.7 +1.4**
comp=Z,42nm,1.0s
LSZ LR LR
comp=Z,593nm,19.0s
EGMT Eagleton 89.39 336 P **P 10 38 08.4 +0.1**
baz=150,SNR=7.5
EGMT Eagleton 89.39 336 *eP* **P 10 38 08.0 -0.3**
comp=Z,18nm,1.1s
EGMT LR LR
comp=Z,233nm,20.0s
K05A Summer Lake 89.44 326 *eP* **P 10 38 10.3 +1.5**
comp=Z,40nm,0.9s
YBH Yreka Blue Hor 89.51 325 *eP* **P 10 38 09.6 +0.6**
YBH Yreka Blue Hor 89.51 325 *eP* **P 10 38 09.6 +0.6**
comp=Z,119nm,2.0s
BMO Blue Mountains 89.57 330 *eP* **P 10 38 09.5 +0.2**
comp=Z,7.5nm,0.9s
BMO LR LR
comp=Z,193nm,21.0s
SCHQ Schefferville 89.67 3 P **P 10 38 08.5 -0.9**
comp=Z,20nm,1.0s,baz=162,slow=3.8,SNR=15
SCHQ LR LR 11 19 57.1
comp=Z,105nm,20.6s,baz=226,slow=37
SCHQ Schefferville 89.67 3 *eP* **P 10 38 08.6 -0.7**
comp=Z,42nm,1.3s
CHMT Chamberlain Mo 89.68 333 *eP* **P 10 38 10.3 +0.5**
CHMT *epP* **pP 10 38 23.6 +0.5**
K04D Chiloquin, OR 89.75 326 P **P 10 38 11.0 +0.8**
baz=141
MSO Missoula 89.87 333 P **P 10 38 11.7 +1.1**
baz=147
MSO Missoula 89.87 333 *eP* **P 10 38 10.9 +0.3**
comp=Z,26nm,1.6s
AFI Afiamalu 89.96 253 LR LR 11 08 39.0
comp=Z,492nm,19.6s,baz=140,slow=29
J05D Fort Rock, OR 90.03 326 P **P 10 38 12.7 +1.2**
baz=142,SNR=12
L02D Cave Junction, 90.26 324 P **P 10 38 13.7 +1.3**
baz=140
F10A Beach Ranch, E 90.45 330 *eP* **P 10 38 14.8 +1.4**
comp=Z,16nm,1.0s
SWMT Swartz Lake 90.46 333 *eP* **P 10 38 14.1 +0.8**
G08A Pilot Rock 90.62 329 *eP* **P 10 38 15.5 +1.3**
comp=Z,22nm,1.4s
YBMT Yellow Bay 90.76 333 *eP* **P 10 38 15.5 +0.8**
JTMT Jette 90.76 333 *eP* **P 10 38 15.8 +0.9**
I05D Terrebonne, OR 90.90 327 P **P 10 38 16.1 +0.7**
baz=142,SNR=5.7
I04A Tendick Farm, 90.96 326 P **P 10 38 16.5 +0.8**
baz=141
BLMT Blacktail Moun 91.01 333 *eP* **P 10 38 16.5 +0.4**
BSMT Bassoo Peak 91.04 333 P **P 10 38 16.4 +0.2**
H04A Detroit Lake 91.55 327 *eP* **P 10 38 18.8 +0.4**
comp=Z,12nm,0.9s
HAWA Hanford 91.74 329 PFAKE 10 38 30.0 +11
HAWA LR LR
comp=Z,217nm,22.0s
RTC Rabat Centre 91.80 49 PFAKE 10 38 30.0 +10
RTC LR LR
comp=Z,3µm,20.0s
D08A Wollman Farm, 92.02 330 *eP* **P 10 38 21.5 +1.0**
comp=Z,14nm,0.9s
NEW Newport 92.27 332 P **P 10 38 21.2 -0.5**
baz=145
NEW Newport 92.27 332 PFAKE 10 38 30.0 +8.3
NEW LR LR
comp=Z,240nm,19.0s
C09A Chrisman Ranch 92.35 331 *eP* **P 10 38 22.9 +0.9**
comp=Z,16nm,0.9s
F04A Amboy 92.62 327 *eP* **P 10 38 23.4 +0.1**
comp=Z,18nm,0.8s
PFVI Vila Bisbo 92.73 46 *eP* **P 10 38 24.8 +0.8**
comp=Z,125nm,1.8s
PFVI Vila Bisbo 92.73 46 *eP* **P 10 38 23.6 -0.4**
comp=Z,119nm,1.4s
LTY Liberty 92.90 329 *eP* **P 10 38 24.3 -0.3**
comp=Z,9.3nm,1.0s
LON Longmire 92.99 328 *eP* **P 10 38 25.4 +0.4**
LON Longmire 92.99 328 *eP* **P 10 38 25.4 +0.4**
comp=Z,6.9nm,0.9s
PTEO Sao Teotonio 93.07 45 *eP* **P 10 38 26.2 +0.6**
comp=Z,58nm,1.6s
FFC Flin Flon 93.12 343 *eP* **P 10 38 24.9 -0.4**
FFC Flin Flon 93.12 343 *eP* **P 10 38 24.9 -0.4**
comp=Z,6.8nm,0.9s
FFC LR LR
comp=Z,216nm,21.0s
TAM Tamanrasset 93.22 64 *eP* **P 10 38 27.1 +0.3**
TAM Tamanrasset 93.22 64 *eP* **P 10 38 27.1 +0.3**
comp=Z,29nm,0.9s
TAM LR LR
comp=Z,352nm,19.0s
PBDV Barranco-do-Ve 93.33 46 *eP* **P 10 38 27.3 +0.5**
comp=Z,86nm,1.9s
D05A Enumclaw 93.41 328 *eP* **P 10 38 27.7 +0.8**
comp=Z,17nm,0.9s
PVAQ Vaqueiros 93.57 46 *eLR* LR 11 10 24.2
comp=Z,184nm,18.0s
PNCL Nicolau / Gran 93.57 45 *eP* **P 10 38 28.2 +0.4**
comp=Z,44nm,2.5s
PBEJ Beja 93.90 45 *eP* **P 10 38 29.8 +0.4**
comp=Z,34nm,1.4s
B06A Marblemount 94.23 330 *eP* **P 10 38 30.6 0.0**
comp=Z,11nm,0.6s
NLWA Neilton Lookou 94.38 328 PFAKE 10 38 40.0 +8.6
NLWA LR LR
comp=Z,367nm,22.0s
PMTG Montargil 94.39 44 *eP* **P 10 38 31.3 -0.3**
comp=Z,16nm,1.2s
PESTR Estremoz 94.62 45 *eP* **P 10 38 32.7 0.0**
comp=Z,17nm,1.2s
PTOM Tomar 94.66 44 *eP* **P 10 38 33.2 +0.4**
PMRV Marv??o 95.11 45 *eP* **P 10 38 34.7 -0.2**
comp=Z,20nm,1.1s
PMRV Marv??o 95.11 45 *eSKSac* **SKKSac 10 49 31.7 +1.9**
PMRV Marv??o 95.11 45 *eLR* LR 11 10 21.6
comp=Z,276nm,22.0s
FCC Fort Churchill 95.32 349 *eP* **P 10 38 35.1 -0.2**
FCC pmax pmax
comp=Z,23nm,0.9s
FCC Fort Churchill 95.32 349 *eP* **P 10 38 35.1 -0.2**
comp=Z,23nm,0.9s
PCBR Castelo Branco 95.34 44 *eP* **P 10 38 35.7 -0.2**
comp=Z,16nm,1.2s
MTE Manteigas 95.67 44 *eP* **P 10 38 37.4 -0.1**
comp=Z,27nm,1.4s
MTE Manteigas 95.67 44 *eSKSac* SKSac 10 49 22.7 +13
MTE Manteigas 95.67 44 *eLR* LR 11 10 40.7

comp=Z,234nm,20.0s
MTE Manteigas 95.67 44 PFAKE 10 38 50.0 +12
MTE LR LR
comp=Z,276nm,19.0s
PVIS Viseu 95.69 43 *eP* **P 10 38 36.9 -0.7**
comp=Z,23nm,1.3s
PVRL Vila Real 96.16 43 *eP* **P 10 38 39.4 -0.3**
comp=Z,29nm,1.8s
PGAV Gavieira, Arco 96.32 42 *e*SKSac **SKKSac 10 49 36.0 -2.7**
PGAV Gavieira, Arco 96.32 42 *e*LR LR 11 11 19.1
comp=Z,439nm,20.0s
MVO Moncorvo 96.47 43 *eP* **P 10 38 41.0 -0.2**
comp=Z,18nm,1.0s
MVO Moncorvo 96.47 43 *e*SKSac **SKSac 10 49 21.2 +7.0**
MVO Moncorvo 96.47 43 *e*LR LR 11 11 22.3
comp=Z,263nm,18.0s
PAB San Pablo 96.96 46 *eP* **P 10 38 43.4 -0.1**
PAB San Pablo 96.96 46 *eP* **P 10 38 43.4 -0.1**
comp=Z,10nm,1.1s
PAB LR LR
comp=Z,252nm,22.0s
PBRG Braganca 97.06 43 *eP* **P 10 38 43.6 -0.2**
comp=Z,29nm,1.4s
ESDC Sonseca Array 97.28 46 P **P 10 38 44.3 -0.5**
comp=Z,4.6nm,0.9s,baz=244,slow=4.1,SNR=19
ESDC LR LR 11 21 30.1
comp=Z,136nm,21.1s,baz=225,slow=35
ESLA Sonseca Array 97.28 46 *eP* **P 10 38 44.7 -0.1**
comp=Z,7.4nm,1.0s
ES19 SONSECA Array 97.33 46 *eP* **P 10 38 44.8 -0.2**
DZM Mont Dzumac 100.66 233 *e*PS **SP 10 51 58.8 -5.2**
comp=Z,174nm,28.1s
DZM *e*SS **SS 10 57 39.0 +7.9**
comp=Z,123nm,25.7s
DZM Mont Dzumac 100.66 233 *e*LR LR 11 12 02.4
comp=Z,1µm,28.4s
SFJD Kangerlussuaq 103.06 8 PFAKE 10 39 20.0 +10
SFJD LR LR
comp=Z,168nm,20.0s
YKA Yellowknife Ar 103.12 341 Pdiff **Pdif 10 39 09.5 -0.7**
comp=Z,2.5nm,0.8s,baz=139,slow=4.4,SNR=22
YKA PP **PP 10 43 27.2 +1.2**
comp=Z,0.8nm,0.9s,baz=129,slow=8.3,SNR=4.8
YKA PKKPbc **PKKPbc 10 55 05.4 -2.4**
comp=Z,0.6nm,0.6s,baz=323,slow=3.8,SNR=8.7
YKA PKKPab PKKPdf 10 55 25.0 +8.6
comp=Z,0.3nm,0.8s,baz=322,slow=4.7,SNR=5.2
YKB5 Yellowknife Ar 103.12 341 *e*Pdif **Pdif 10 39 09.7 -0.5**
YKW3 Yellowknife Ar 103.18 341 *e*Pdif **Pdif 10 39 10.2 -0.3**
KEST Kesra 103.40 56 Pdiff **Pdif 10 39 12.7 +0.4**
comp=Z,3.4nm,1.0s,baz=208,slow=9.5,SNR=4.1
KMBO Kilima Mbogo 104.97 102 PFAKE 10 43 50.0
KMBO LR LR
comp=Z,368nm,20.0s
DLBC Dease Lake 105.00 332 PKKPbc PKKPbc 10 55 01.6 -0.5
comp=Z,1.7nm,0.7s,baz=302,slow=7.2,SNR=4.2
VSL Villasalto 105.47 53 PFAKE 10 43 50.0
VSL LR LR
comp=Z,575nm,21.0s
SSB Saint Sauveur 105.66 45 PFAKE 10 43 50.0
SSB LR LR
comp=Z,323nm,21.0s
STKA Stephens Creek 106.30 209 PKKPab PKKPab 10 55 12.4 -4.1
comp=Z,4.9nm,1.1s,baz=340,slow=5.5,SNR=2.9
BNI Bardonecchia 106.80 47 PFAKE 10 43 50.0
BNI LR LR
comp=Z,330nm,19.0s
CLTB Caltabellotta 107.01 56 PFAKE 10 43 50.0
CLTB LR LR
comp=Z,607nm,19.0s
ESK Eskdalemuir 107.44 34 PFAKE 10 43 50.0
ESK LR LR
comp=Z,340nm,19.0s
VLC Villacollemand 108.58 49 PFAKE 10 43 50.0
VLC LR LR
comp=Z,115nm,20.0s
WLF Walferdange 108.97 42 PFAKE 10 43 50.0
WLF LR LR
comp=Z,375nm,20.0s
TUE Stuetta 109.14 46 PFAKE 10 43 50.0
TUE LR LR
comp=Z,289nm,19.0s
CEL Celeste 109.18 56 PFAKE 10 43 50.0
CEL LR LR
comp=Z,930nm,20.0s
BFO Black Forest 109.50 44 PFAKE 10 43 50.0
BFO LR LR
comp=Z,186nm,21.0s
AQU L'Aquila 109.56 52 PFAKE 10 43 50.0
AQU LR LR
comp=Z,415nm,20.0s
CUC Castrocucco 109.98 55 PFAKE 10 43 50.0
CUC LR LR
comp=Z,327nm,19.0s
TIP Timpagrande 110.22 56 PFAKE 10 44 00.0
TIP LR LR
comp=Z,691nm,19.0s
INK Inuvik 112.72 339 PKKPbc PKKPbc 10 54 36.2 -1.2
comp=Z,2.9nm,1.0s,baz=357,slow=4.1,SNR=5.3
INK PKKPab **PKKPab 10 54 43.9 +2.7**
comp=Z,2.3nm,1.0s,baz=261,slow=8.3,SNR=3.9
GEA0 GERESS Array S 112.86 46 *e*PKiKP **PKiKP 10 43 47.6 -0.7**
GEC2 GERESS Array S 112.86 46 *e*PKIKP **PKiKP 10 43 48.8 +0.4**
GEC2 GERESS Array S 112.86 46 *e*PKiKP **PKiKP 10 43 48.8 +0.4**
GERES GERESS Array B 112.86 46 PKiKP **PKiKP 10 43 47.5 -0.9**
comp=Z,1.4nm,0.7s,baz=225,slow=0.6,SNR=12
GERES PKKPbc **PKKPbc 10 54 34.1 -2.4**
comp=Z,0.5nm,0.4s,baz=22,slow=19,SNR=9.9
GERES PKKPab **PKKPab 10 54 45.5 +3.8**
comp=Z,0.9nm,0.8s,baz=60,slow=5.3,SNR=4.3
EGAK Eagle 113.11 334 *e*PKiKP **PKiKP 10 43 48.5 +0.3**
EGAK LR LR
comp=Z,156nm,22.0s
TIR Tirane 113.34 55 PFAKE 10 44 00.0
TIR LR LR
comp=Z,599nm,19.0s
DOT Dot Lake 113.57 332 *e*PKiKP **PKiKP 10 43 49.8 +0.6**
CLL Collm 113.59 43 *i* PKiKP **PKiKP 10 43 49.6 +0.1**
comp=Z,5.0nm,1.2s
CLL *e*PP **PP 10 44 41.0 -1.6**
CLL *e* 10 45 50.0
CLL *e*PS **PS 10 54 18.0 -0.9**
CLL *e*PPS PPS 10 55 36.0
CLL *e* 11 05 48.0
CLL Collm 113.59 43 *i* PKIKP **PKiKP 10 43 49.6 +0.1**
CLL *e* 10 44 41.0
CLL pmax pmax
comp=Z,5.0nm,1.2s
PRU Pruhonice 113.87 45 AMS AMS 11 37 00.0
comp=Z,200nm,21.4s
TREC Trest 114.11 46 AMS AMS 11 41 10.0
KDAK Kodiak Island 114.32 325 PFAKE 10 44 00.0 +9.3
KDAK LR LR
comp=Z,339nm,19.0s
VRAC Vranov 114.77 46 ⇑*i*P PKPdf 10 43 53.5 +1.6
VRAC Vranov 114.77 46 ⇑PKIKP PKPdf 10 43 53.5 +1.6
SANT Santorini 115.03 62 PFAKE 10 44 00.0 +7.1
SANT LR LR
comp=Z,321nm,21.0s
DPC Dobruska-Polom 115.06 45 *e*PKP **PKPdf 10 43 53.0 +0.5**
DPC AMS AMS 11 35 40.0
comp=Z,200nm,16.9s
DPC Dobruska-Polom 115.06 45 *e*PKIKP **PKPdf 10 43 53.0 +0.5**
DPC MLR MLR
comp=Z,200nm,16.9s
IL1 Eielson Array 115.20 333 *e*PKPdf **PKPdf 10 43 51.7 -0.6**
ILAR Eielson Array 115.20 333 PKP **PKPdf 10 43 51.8 -0.5**
comp=Z,2.3nm,0.9s,baz=176,slow=1.3,SNR=24
ILAR PKKPbc **PKKPbc 10 54 26.7 -2.1**
comp=Z,0.5nm,0.8s,baz=312,slow=4.0,SNR=6.5
ILAR PKKPab **PKKPab 10 54 31.2 +0.8**
comp=Z,0.8nm,0.9s,baz=295,slow=4.5,SNR=6.7
ILB Eielson Array 115.20 333 *e*PKPdf **PKPdf 10 43 52.2 0.0**
CCB Clear Creek Bu 115.49 332 *e*PKPdf **PKPdf 10 43 52.5 -0.3**
WRH Wood River Hil 115.52 332 *e*PKPdf **PKPdf 10 43 52.9 0.0**
KONO Kongsberg 115.58 34 PFAKE 10 44 00.0 +6.9
KONO LR LR
comp=Z,305nm,20.0s
COLA College 115.62 333 *e*PKIKP **PKPdf 10 43 52.5 -0.5**
COLA MLR MLR
comp=Z,177nm,19.0s
COLA College 115.62 333 *e*PKPdf **PKPdf 10 43 52.5 -0.5**
COLA LR LR
comp=Z,177nm,19.0s
TRF Thorofare Moun 115.91 331 *e*PKPdf **PKPdf 10 43 53.9 0.0**
BWN Browne 115.91 332 *e*PKPdf **PKPdf 10 43 53.9 +0.3**

OKC Ostrava-Krasne 115.91 46 AMS AMS 11 38 00.0
comp=Z,200nm,12.8s
TIM Timisoara 116.12 51 ⇑*i*P PKPdf 10 44 02.5 +8.0
TIM Timisoara 116.12 51 ⇑PKIKP PKPdf 10 44 02.5 +8.0
PSZ Piszkesteto 116.18 49 ⇓*i*P PKPdf 10 44 06.2 +11
PSZ Piszkesteto 116.18 49 PFAKE 10 44 10.0 +15
PSZ LR LR
comp=Z,264nm,22.0s
KTH Kantishna Hill 116.21 331 *e*PKPdf **PKPdf 10 43 54.4 0.0**
BZS Buzias 116.32 51 ⇑*i*P **PKPdf 10 43 54.6 -0.4**
BZS Buzias 116.32 51 ⇑PKIKP **PKPdf 10 43 54.6 -0.4**
BPAW Bear Paw Mtn. 116.47 331 *e*PKPdf **PKPdf 10 43 54.4 -0.3**
AS01 Alice Springs 116.61 207 *e*PKPdf **PKPdf 10 43 55.3 -1.1**
ASAR Alice Springs 116.63 207 PKP **PKPdf 10 43 55.3 -1.2**
comp=Z,2.0nm,0.7s,baz=135,slow=1.7,SNR=24
ASAR PKKPbc **PKKPbc 10 54 22.1 -0.9**
comp=Z,1.6nm,0.8s,baz=342,slow=3.1,SNR=12
ASAR PKKPab **PKKPab 10 54 27.5 -3.2**
comp=Z,1.8nm,0.8s,baz=336,slow=3.5,SNR=9.7
ASAR PKKP **PKKPdf 10 54 46.4 -1.8**
comp=Z,0.9nm,0.6s,baz=340,slow=3.2,SNR=8.8
NOA NORSAR Array B 116.90 33 PKP **PKPdf 10 43 54.8 -0.8**
comp=Z,2.1nm,1.1s,baz=230,slow=2.0,SNR=3.0
NOA PKKPab **PKKPab 10 54 25.6 +2.3**
comp=Z,1.5nm,0.8s,baz=67,slow=4.5,SNR=3.9
NIE Niedzica 117.03 47 *e*PKP **PKPdf 10 43 57.0 +0.7**
NIE Niedzica 117.03 47 *e*PKIKP **PKPdf 10 43 57.0 +0.7**
DRGR 117.49 51 ⇑*i*P **PKPdf 10 43 57.2 -0.1**
DRGR 117.49 51 ⇑PKIKP **PKPdf 10 43 57.2 -0.1**
COLD Coldfoot 117.53 335 *e*PKPdf **PKPdf 10 43 57.2 +0.6**
LOT Lotru 117.64 52 ⇓*i*P **PKPdf 10 43 58.3 +0.6**
TT01 Tatalina 118.04 329 *e*PKPdf **PKPdf 10 43 58.6 +0.8**
TTA Tatalina 118.05 329 *e*PKIKP **PKPdf 10 43 58.0 +0.1**
TTA Tatalina 118.05 329 *e*PKPdf **PKPdf 10 43 58.0 +0.1**
ARR Arges 118.17 53 ⇓*i*P **PKPdf 10 43 58.8 +0.1**
MTUR Matau 118.40 53 ⇑*i*P **PKPdf 10 44 05.3 +6.2**
MTUR Matau 118.40 53 ⇑PKIKP **PKPdf 10 44 05.3 +6.2**
VOIR 118.47 53 ⇓*i*P **PKPdf 10 43 59.2 0.0**
VOIR 118.47 53 ⇓PKIKP **PKPdf 10 43 59.2 0.0**
KWP Kalwaria Pacla 118.56 48 *e*PKP **PKPdf 10 43 59.6 +0.4**
KWP Kalwaria Pacla 118.56 48 *e*PKIKP **PKPdf 10 43 59.6 +0.4**
ARCR ARCALIA 118.64 51 ⇓*i*P **PKPdf 10 43 59.6 +0.2**
DOPR Dopca 118.89 52 ⇓*i*P **PKPdf 10 44 00.0 +0.1**
MLR Muntele Rosu 119.07 53 ⇓*i*P **PKPdf 10 43 59.9 -0.6**
MLR Muntele Rosu 119.07 53 ⇓PKIKP **PKPdf 10 43 59.9 -0.6**
MLR Muntele Rosu 119.07 53 *e*PKPdf **PKPdf 10 43 59.6 -0.9**
BUR08 Bucovina Ar. S 119.38 50 *e*PKPdf **PKPdf 10 44 01.1 +0.1**
BURAR Bucovina Array 119.38 50 ⇑*i*P **PKPdf 10 44 01.6 +0.7**
BURAR Bucovina Array 119.38 50 ⇑PKIKP **PKPdf 10 44 01.7 +0.8**
PLOR Plostina 119.67 53 ⇑*i*P **PKPdf 10 44 00.9 -0.6**
PLOR Plostina 119.67 53 ⇑PKIKP **PKPdf 10 44 00.9 -0.6**
VRI Vrincioaia 119.72 53 ⇓*i*P **PKPdf 10 44 00.8 -0.7**
VRI Vrincioaia 119.72 53 ⇓PKIKP **PKPdf 10 44 00.8 -0.7**
WC3 Warramunga Arr 119.82 209 *e*PKPdf **PKPdf 10 44 01.9 -0.8**
WB2 Warramunga Arr 119.84 209 *e*PKPdf **PKPdf 10 44 01.9 -0.7**
WRA Warramunga Arr 119.84 209 PKP **PKPdf 10 44 02.0 -0.7**
comp=Z,5.1nm,0.6s,baz=168,slow=1.6,SNR=86
WRA pPKP **pPKPdf 10 44 15.8 -0.5**
comp=Z,4.2nm,0.7s,baz=168,slow=1.5,SNR=8.5
WRA PKKPbc **PKKPbc 10 54 11.0 -0.4**
comp=Z,1.2nm,0.9s,baz=348,slow=4.7,SNR=6.0
WRA PKKP **PKKPdf 10 54 34.5 -7.7**
comp=Z,0.6nm,0.5s,baz=344,slow=4.2,SNR=6.4
WRAB Tennant Creek 119.85 209 *c i* PKIKP **PKPdf 10 44 03.1 +0.4**
WRAB pmax pmax
comp=Z,38nm,2.5s
TESR Tescani 119.90 52 ⇑*i*P **PKPdf 10 44 01.1 -0.8**
CSS Mathiatis 120.26 67 *e*PKPdf **PKPdf 10 44 03.5 +0.6**
CSS LR LR
comp=Z,39nm,21.0s
TIRR Tirgusor 120.33 55 ⇓*i*P **PKPdf 10 44 02.6 -0.1**
TIRR Tirgusor 120.33 55 ⇓PKIKP **PKPdf 10 44 02.6 -0.1**
TIRR Tirgusor 120.33 55 *e*PKPdf **PKPdf 10 44 01.9 -0.8**
SUW Suwalki 120.35 43 *e*PKP **PKPdf 10 44 02.3 -0.1**
SUW Suwalki 120.35 43 *e*PKIKP **PKPdf 10 44 02.3 -0.1**
CFR Carcaliu 120.40 54 ⇑*i*P **PKPdf 10 44 02.4 -0.4**
CFR Carcaliu 120.40 54 ⇑PKIKP **PKPdf 10 44 02.4 -0.4**
TLCR 120.86 54 ⇓*i*P **PKPdf 10 44 03.5 -0.2**
TLCR 120.86 54 ⇓PKIKP **PKPdf 10 44 03.5 -0.2**
SORM Soroca 121.54 51 ⇓*i*P **PKPdf 10 44 01.0 -3.9**
SORM Soroca 121.54 51 ⇓PKIKP **PKPdf 10 44 01.0 -3.9**
BR231 Keskin MP Arra 121.71 61 *e*PKPdf **PKPdf 10 44 06.3 +0.6**
ANTO Ankara 121.73 61 *e*PKIKP **PKPdf 10 44 06.4 +0.7**
ANTO Ankara 121.73 61 *e*PKPdf **PKPdf 10 44 06.4 +0.7**
BR131 Keskin Array S 122.29 61 *e*PKPdf **PKPdf 10 44 06.8 0.0**
BRTR Keskin Array B 122.29 61 PKP **PKPdf 10 44 06.4 -0.5**
comp=Z,9.1nm,0.8s,baz=194,slow=2.5,SNR=48
BRTR pPKP **pPKPdf 10 44 19.9 -0.5**
comp=Z,5.4nm,0.7s,baz=150,slow=2.7,SNR=8.8
BRTR sPKP 10 44 25.0
comp=Z,5.6nm,0.8s,baz=182,slow=3.3,SNR=7.2
PMG Port Moresby 122.34 227 PFAKE 10 44 20.0 +12
PMG LR LR
comp=Z,477nm,21.0s
AK11 Malin Array Si 122.83 48 *e*PKPdf **PKPdf 10 44 06.3 -1.0**
KIEV Kiev 122.86 48 PFAKE 10 44 20.0 +13
KIEV LR LR
comp=Z,220nm,21.0s
AKASG Malin Array Be 122.87 48 PKP **PKPdf 10 44 06.1 -1.3**
comp=Z,3.3nm,0.6s,baz=271,slow=2.3,SNR=17
AKASG pPKP **pPKPdf 10 44 20.3 -0.7**
comp=Z,2.7nm,0.6s,baz=270,slow=2.1,SNR=3.3
AKASG sPKP 10 44 25.2
comp=Z,0.8nm,0.5s,baz=271,slow=2.2,SNR=4.8
AKASG Malin Array Be 122.87 48 *c i* PKIKP **PKPdf 10 44 06.0 -1.3**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 122.87 48 *e*PKIKP **PKPdf 10 44 06.0 -1.4**
AKBB Malin Array Si 122.87 48 *e*PKPdf **PKPdf 10 44 06.0 -1.4**
KBS Kingsbay 123.00 13 PFAKE 10 44 20.0 +13
KBS LR LR
comp=Z,89nm,19.0s
VSU Vasula 123.50 39 ⇑*i* PKIKP **PKPdf 10 44 07.6 -0.7**
VSU pmax pmax
comp=Z,43nm,1.0s
FINES FINESS Array B 123.84 35 PKP **PKPdf 10 44 08.2 -0.7**
comp=Z,3.0nm,0.9s,baz=291,slow=5.3,SNR=4.3
SIM Simferopol' 124.33 56 *i* PKIKP **PKPdf 10 44 10.3 -0.1**
SIM pmax pmax
comp=Z,17nm,0.7s
FITZ Fitzroy Crossi 124.52 200 *e*PKPdf **PKPdf 10 44 11.3 -0.3**
ARCES ARCESS Array B 124.97 25 PKP **PKPdf 10 44 10.5 -0.4**
comp=Z,12nm,1.1s,baz=212,slow=2.9,SNR=3.4
H11S2 WAKE ISLAND Hyt 25.83 268 T T 13 02 47.1
baz=119,slow=75,SNR=49
H11S1 WAKE ISLAND Hyt 25.84 268 T T 13 02 47.9
baz=119,slow=75,SNR=38
H11S3 WAKE ISLAND Hyt 25.84 268 T T 13 02 47.3
baz=119,slow=75,SNR=18
H11N3 WAKE ISLAND Hyt 26.27 270 T T 13 02 53.9
baz=115,slow=79,SNR=23
H11N1 WAKE ISLAND Hyt 26.28 270 T T 13 02 54.3
baz=115,slow=79,SNR=40
H11N2 WAKE ISLAND Hyt 26.29 270 T T 13 03 04.3
baz=115,slow=79,SNR=27
MTN Manton Dam 127.54 209 *e*PKPdf **PKPdf 10 44 17.4 -0.1**
SOC Sochi 127.81 59 *i* PKIKP **PKPdf 10 44 16.8 -0.3**
SOC *e* 10 46 16.3
SOC *e*SS SS 11 03 32.1 +2.4
SOC *e*SSS SSS 11 08 12.1
SOC pmax pmax
comp=Z,34nm,0.9s
OBN Obninsk 128.17 44 PKP **PKPdf 10 44 17.4 0.0**
comp=Z,6.6nm,0.4s,baz=265,slow=9.8,SNR=7.1
OBN pPKP **pPKPdf 10 44 31.6 +0.7**
comp=Z,9.8nm,0.4s,baz=37,slow=8.1,SNR=1.6
OBN Obninsk 128.17 44 *c i* PKIKP **PKPdf 10 44 18.2 +0.8**
OBN *e* 10 46 18.3
OBN pmax pmax
comp=Z,50nm,2.5s
OBN MLR MLR
comp=Z,216nm,21.0s
OBN Obninsk 128.17 44 *e*PKPdf **PKPdf 10 44 17.8 +0.4**
OBN pPKP **pPKPdf 10 44 31.6 +0.7**
OBN LR LR
comp=Z,285nm,20.0s
MOS Moscow 128.85 43 *e*PKIKP **PKPdf 10 44 16.1 -2.6**
MOS pmax pmax
comp=Z,39nm,1.1s
VSR Storozhevoye 129.10 49 *e*PKIKP **PKPdf 10 44 18.9 -0.4**
VSR pmax pmax
comp=Z,20nm,1.1s
LPSR Galich'ya Gora 129.18 47 *e*PKIKP **PKPdf 10 44 19.9 +0.5**
LPSR pmax pmax

comp=Z,20nm,0.9s
NEY Neytrino 129.85 60 *d i* PKIKP **PKPdf 10 44 22.3 +1.1**
KIV Kislovodsk 129.99 59 *i* PKIKP **PKPdf 10 44 21.4 0.0**
KIV *e* 10 46 31.0
KIV *e*PS **PS 10 56 42.0 -3.7**
KIV pmax pmax
comp=Z,45nm,1.1s
KIV MLR MLR
comp=Z,135nm,21.0s
KIV Kislovodsk 129.99 59 P **PKPdf 10 44 20.8 -0.6**
SNR=9.5
KIV Kislovodsk 129.99 59 PKPdf **PKPdf 10 44 20.8 -0.6**
SNR=9.5
KIV Kislovodsk 129.99 59 *e*PKPdf **PKPdf 10 44 21.5 +0.2**
KIV LR LR
comp=Z,139nm,20.0s
KBZ Khabaz 130.09 59 PKP **PKPdf 10 44 21.8 +0.4**
comp=Z,12nm,1.0s,baz=266,slow=4.9,SNR=14
KBZ SKPbc **SKPab 10 47 39.8 -0.6**
comp=Z,2.3nm,0.8s,baz=225,slow=5.6,SNR=4.6
KLMR Klimovskoe 130.24 37 *e*PKIKP **PKPdf 10 44 20.0 -1.1**
KLMR *e* 10 46 32.3
KLMR pmax pmax
comp=Z,40nm,1.1s
NCK Nalchik 130.53 60 ⇑*i*PKIKP **PKPdf 10 44 23.9 +1.6**
GNI Garni 130.53 64 *e*PKIKP **PKPdf 10 44 23.7 +1.1**
GNI MLR MLR
comp=Z,250nm,21.0s
GNI Garni 130.53 64 P **PKPdf 10 44 23.1 +0.4**
SNR=5.5
GNI Garni 130.53 64 PKPdf **PKPdf 10 44 23.1 +0.4**
SNR=5.5
GNI Garni 130.53 64 *e*PKPdf **PKPdf 10 44 23.6 +1.1**
GNI LR LR
comp=Z,250nm,21.0s
ZEI Tsey 130.58 61 *i* PKIKP **PKPdf 10 44 21.2 -1.5**
ZEI pmax pmax
comp=Z,46nm,1.1s
VRH Novokhopyorsk 130.69 49 *e*PKIKP **PKPdf 10 44 22.7 +0.4**
VRH pmax pmax
comp=Z,20nm,0.9s
BILL Bilibino 133.85 334 ⇑*i*PKIKP **PKPdf 10 44 28.4 +0.6**
BILL pmax pmax
comp=Z,23nm,1.7s
BILL MLR MLR
comp=Z,229nm,24.0s
BILL Bilibino 133.85 334 *e*PKPdf **PKPdf 10 44 28.3 +0.5**
BILL LR LR
comp=Z,111nm,21.0s
WBK Wadi Bani Khal 135.64 93 P **PKPdf 10 44 32.5 -0.1**
SNR=7.5
WBK Wadi Bani Khal 135.64 93 PKPdf **PKPdf 10 44 32.5 -0.1**
SNR=7.5
KAPI Kappang 138.61 198 PFAKE 10 44 50.0 +12
KAPI LR LR
comp=Z,210nm,22.8s
SOKR Solikamsk 138.91 37 ⇑*i*PKIKP **PKPdf 10 44 36.4 -1.0**
SOKR pmax pmax
comp=Z,20nm,1.3s
GEYT Alibeck 140.14 71 PKhKP PKPpre 10 44 30.7
comp=Z,4.6nm,0.8s,baz=129,slow=2.0,SNR=4.7
GEYT PKP **PKPdf 10 44 40.3 -0.1**
comp=Z,7.4nm,0.6s,baz=257,slow=5.8,SNR=12
GEYT pPKP pPKPdf 10 44 53.6 -0.4
comp=Z,10nm,1.0s,baz=283,slow=14,SNR=2.7
PET Petropavlovsk 140.41 313 PFAKE 10 44 50.0 +10
PET LR LR
comp=Z,189nm,22.0s
ARU Arti 140.51 42 PKhKP PKPpre 10 44 27.8
comp=Z,2.1nm,0.7s,baz=277,slow=9.0,SNR=3.0
ARU Arti 140.51 42 *i* PKHKP PKPpre 10 44 32.8
ARU Arti 140.51 42 *e*PKPpre PKPpre 10 44 32.2
ARU LR LR
comp=Z,277nm,21.0s
GUMO Guam 140.54 246 PFAKE 10 44 50.0 +8.3
GUMO LR LR
comp=Z,125nm,20.0s
AKTO Aktyubinsk 140.97 51 PKhKP PKPpre 10 44 34.1
comp=Z,11nm,0.9s,baz=268,slow=2.9,SNR=18
AKTO PKP **PKPdf 10 44 41.3 -0.1**
comp=Z,5.7nm,0.8s,baz=275,slow=3.9,SNR=7.4
AKTO pPKP pPKPdf 10 44 54.8 -0.3
comp=Z,5.9nm,0.8s,baz=24,slow=6.0,SNR=3.0
AKTO PP **PP 10 47 43.6 +0.3**
comp=Z,5.5nm,1.0s,baz=229,slow=6.3,SNR=3.5
PEA0 Petropavlovsk- 140.97 313 *e*PKPpre PKPpre 10 44 37.7
PEA0 *e*PKPdf **PKiKP 10 44 43.4 -0.7**
PEA0B Petropavlovsk- 140.97 313 *e*PKPdf **PKPdf 10 44 44.1 +2.7**
PETK Petropavlovsk- 140.97 313 PKhKP PKPpre 10 44 34.6
comp=Z,3.7nm,0.7s,baz=72,slow=4.8,SNR=5.4
PETK PKP **PKiKP 10 44 43.3 -0.8**
comp=Z,9.0nm,0.9s,baz=79,slow=7.7,SNR=7.8
PETK SKPbc **SKPbc 10 48 14.0 -0.5**
comp=Z,7.3nm,1.0s,baz=95,slow=7.4,SNR=6.1
SEY Seymchan 141.02 329 PKhKP PKPpre 10 44 34.5
comp=Z,3.1nm,0.8s,baz=135,slow=5.7,SNR=7.4
SEY PKP **PKPdf 10 44 42.1 +1.0**
comp=Z,16nm,0.8s,baz=120,slow=4.3,SNR=29
SEY SKPbc **SKPbc 10 48 14.2 -0.1**
comp=Z,11nm,1.3s,baz=118,slow=3.7,SNR=6.1
SEY Seymchan 141.02 329 ⇓*i*PKIKP **PKPdf 10 44 42.5 +1.4**
SVE Sverdlovsk 141.54 41 *e*PKHKP PKPpre 10 44 36.2
SVE pmax pmax
comp=Z,15nm,1.2s
TIXI Tiksi 141.78 350 PKhKP PKPpre 10 44 34.8
comp=Z,4.2nm,0.7s,baz=41,slow=2.2,SNR=6.9
TIXI PKP **PKPdf 10 44 42.0 -0.2**
comp=Z,9.2nm,0.9s,baz=24,slow=2.1,SNR=14
TIXI Tiksi 141.78 350 *c i* PKIKP **PKPdf 10 44 41.7 -0.6**
TIXI Tiksi 141.78 350 *e*PKPpre PKPpre 10 44 35.0
TIXI *e*PKPdf **PKPdf 10 44 42.1 -0.2**
TIXI LR LR
comp=Z,495nm,19.0s
AB31 Akbulak array 142.29 53 *i* PKHKP PKPpre 10 44 37.1
AB31 pmax pmax
comp=Z,42nm,0.9s
MA2 Magadan 143.07 325 PKhKP PKPpre 10 44 41.1
comp=Z,14nm,0.9s,baz=97,slow=5.7,SNR=5.7
MA2 Magadan 143.07 325 PKHKP PKPpre 10 44 41.1
MA2 MLR MLR
comp=Z,718nm,19.0s
MA2 Magadan 143.07 325 PKPpre PKPpre 10 44 41.1
MA2 LR LR
comp=Z,718nm,19.0s
NRIK Noril'sk 143.87 12 PKhKP PKPpre 10 44 43.5
comp=Z,9.9nm,0.8s,baz=23,slow=1.4,SNR=19
BKNI Bangkinang 144.79 168 *e*PKPdf **PKPab 10 44 48.0 -0.3**
GSI Gunungsitoli 144.99 162 *e*PKPbc **PKPdf 10 44 50.1 +0.3**
POO Poona 145.51 110 ⇑*i*P **PKPdf 10 44 48.0 -2.5**
comp=Z,240nm,1.0s
KSM Kuching 146.48 184 *e*PKPdf **PKPbc 10 44 53.7 0.0**
KSM LR LR
comp=Z,6µm,22.0s
MYKOM Kota Tinggi 146.63 172 *e*PKPdf **PKPdf 10 44 53.0 +0.5**
SKHT Srikalahasti 146.76 123 *e*PKPbc **PKPbc 10 44 53.6 -0.8**
PSI Prapat 146.76 163 *e*PKIKP **PKPdf 10 44 53.4 +0.5**
PSI Prapat 146.76 163 *e*PKPdf **PKPdf 10 44 53.4 +0.5**
ZRNK Zerenda 147.24 45 *e*PKIKP **PKPdf 10 44 52.9 +0.6**
ZRNK Zerenda 147.24 45 *e*PKPdf **PKPdf 10 44 52.9 +0.6**
SBUM Sibum 147.29 188 *e*PKPdf **PKPdf 10 44 53.3 -0.3**
SBUM *e*PKPbc **PKPbc 10 44 56.2 +0.3**
KLRI Killari 147.33 113 *e*PKPdf **PKPdf 10 44 53.2 -0.4**
KLRI *e*PKPbc **PKPbc 10 44 55.2 -0.8**
RCLA Racherla 147.40 119 *e*PKPdf **PKPdf 10 44 53.4 -0.3**
RCLA *e*PKPbc **PKPbc 10 44 55.5 -0.7**
FRIM Kepong 147.74 168 ⇑P **PKPbc 10 44 57.1 -0.1**
SRLM Srisailam 147.78 119 *e*PKPdf **PKPdf 10 44 54.1 -0.2**
SRLM *e*PKPbc **PKPbc 10 44 56.9 -0.4**
CHKZ Chkalovo 147.93 43 PKIKP **PKPdf 10 44 52.2 -1.2**
CHKZ pmax pmax
comp=Z,134nm,1.2s
BRVK Borovoye 147.94 44 *e*PKIKP **PKPdf 10 44 53.4 -0.1**
BRVK *e* 10 44 56.8
BRVK MLR MLR
comp=Z,318nm,20.0s
BRVK Borovoye 147.94 44 *e*PKPdf **PKPdf 10 44 53.4 -0.1**
BRVK *e*PKPbc **PKPbc 10 44 56.8 +0.3**
BRVK LR LR
comp=Z,318nm,20.0s
BVA0 Borovoye Array 148.02 44 PKIKP **PKPdf 10 44 53.5 -0.1**
BVA0 pmax pmax
comp=Z,52nm,0.9s
BVAR Borovoye Array 148.02 44 PKP **PKPdf 10 44 54.1 +0.5**
comp=Z,17nm,0.7s,baz=270,slow=1.5,SNR=32
BVAR PKPbc **PKPbc 10 44 56.8 0.0**

comp=Z,30nm,0.7s,baz=278,slow=4.2,SNR=46
BVAR pPKPbc **pPKPbc** **10 45 10.9 +0.6**
comp=Z,18nm,0.7s,baz=263,slow=3.9,SNR=6.9
KBL Kabul 148.10 80 *e*PKIKP **PKPdf** **10 44 54.5 -0.1**
KBL Kabul 148.10 80 *e*PKPdf **PKPdf** **10 44 54.5 -0.1**
KUR Kuril'sk 148.22 301⇑ *e*PKP2 **PKPab** **10 44 59.7 -1.0**
NJS Nagarjunasagar 148.38 118 *e*PKPdf **PKPdf** **10 44 55.1 -0.2**
NJS *e*PKPbc **PKPbc** **10 44 58.2 -0.6**
ADKI Addanki 148.38 120 *e*PKPdf **PKPdf** **10 44 54.9 -0.4**
ADKI *e*PKPbc **PKPbc** **10 44 58.2 -0.5**
HYB Hyderabad 148.39 116 *i* PKP **PKPbc** **10 44 58.0 -0.8**
HYB *es*PKP 10 45 18.0
HYBB Hyderabad (bro 148.39 116 *e*PKPdf **PKPdf** **10 44 54.7 -0.6**
HYBB *e*PKPbc **PKPbc** **10 44 57.9 -0.9**
DZET Dzherino 148.59 71 PKIKP **PKPdf** **10 44 55.8 +0.6**
MYLDM Lahad Datu 148.71 200 *e*PKPbc **PKPbc** **10 45 01.5 +1.7**
IPM Ipoh 148.85 166 *e*PKPdf **PKPdf** **10 44 55.9 -0.4**
IPM *e*PKPbc **PKPbc** **10 44 59.8 -0.3**
SRSP Sriramsagar 149.17 114 *e*PKPdf **PKPdf** **10 44 56.1 -0.4**
SRSP *e*PKPbc **PKPbc** **10 45 00.1 -0.7**
KULM Kulim 149.56 165 *e*PKPdf **PKPdf** **10 44 57.5 +0.2**
KULM *e*PKPbc **PKPbc** **10 45 01.6 -0.3**
KULM LR LR
comp=Z,5μm,21.0s
YAK Yakutsk 149.78 340 PKP **PKPdf** **10 44 55.6 -0.5**
comp=Z,1.0nm,0.3s,baz=318,slow=22,SNR=2.5
YAK pPKPbc **PKPbc** **10 45 00.5 -0.4**
comp=Z,7.8nm,0.7s,baz=217,slow=15,SNR=20
YAK pPKPab **PKPab** **10 45 07.1 +0.7**
comp=Z,1.7nm,0.4s,baz=280,slow=22,SNR=6.9
YAK pPKPbc **pPKPbc** **10 45 13.9 -0.5**
comp=Z,3.4nm,0.6s,baz=202,slow=23,SNR=1.8
YAK Yakutsk 149.78 340 *e*PKHKP PKPpre 10 45 00.3
YAK *e* 10 48 33.7
YAK pmax pmax
comp=Z,160nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,13nm,1.3s
YAK pmax pmax
comp=Z,159nm,4.5s
YAK pmax pmax
comp=N,95nm,3.6s
YAK pmax pmax
comp=E,52nm,3.4s
YAK Yakutsk 149.78 340 PKP **PKPdf** **10 44 55.6 -0.5**
YAK *e*PKPbc **PKPbc** **10 45 00.7 -0.2**
YAK PKPab **PKPab** **10 45 07.2 +0.7**
YAK pPKPbc **pPKPbc** **10 45 13.9 -0.5**
YAK LR LR
comp=Z,147nm,20.0s
RPR Rampur 149.84 115 *e*PKPbc **PKPbc** **10 45 01.9 -0.5**
KK31 Karatay Array 149.98 63 *i* PKHKP PKPpre 10 44 57.1
KK31 pmax pmax
comp=Z,79nm,1.2s
KKAR Karatay Array 149.98 63 *e*PKPdf **PKPdf** **10 44 57.6 +0.5**
KKAR *e*PKPbc **PKPbc** **10 45 01.7 -0.4**
KKM Kota Kinabalu 150.13 196 *e*PKPbc **PKPbc** **10 45 01.9 -1.5**
KKM LR LR
comp=Z,6μm,22.0s
PVM Polavaram 150.50 120 *e*PKPdf **PKPdf** **10 44 58.1 -0.5**
PVM *e*PKPbc **PKPbc** **10 45 03.6 -0.4**
TYV Tymovskoe 150.52 313 *e*PKIKP **PKPdf** **10 44 57.0 -0.6**
TYV pmax pmax
comp=Z,46nm,0.8s
SKLT Songkhla 151.38 164 P **PKPbc** **10 45 05.8 -0.4**
comp=Z,98nm,1.2s
MNAS Manas 151.48 64 PKIKP **PKPdf** **10 44 59.3 -0.3**
MNAS pmax pmax
comp=Z,84nm,1.1s
YSS Yuzh-Sakhalins 151.50 305 *e*PKIKP **PKPdf** **10 44 58.8 -0.5**
YSS *e* 10 45 05.4
YSS MLR MLR
comp=Z,450nm,21.0s
YSS Yuzh-Sakhalins 151.50 305 *e*PKPdf **PKPdf** **10 44 58.8 -0.5**
YSS *e*PKPbc **PKPbc** **10 45 05.4 0.0**
YSS LR LR
comp=Z,450nm,21.0s
ERM Erimo 151.84 295 PFAKE 10 45 10.0 +3.6
ERM LR LR
comp=Z,189nm,18.6s
KRAB Krabi 152.04 161 P **PKPbc** **10 45 07.3 -0.4**
comp=Z,142nm,0.8s
EKS2 Erkin-Say 152.40 64 *e*PKIKP **PKPdf** **10 45 01.8 +0.8**
EKS2 *e* 10 45 08.4
EKS2 MLR MLR
comp=Z,976nm,22.0s
EKS2 Erkin-Say 152.40 64 *e*PKPdf **PKPdf** **10 45 01.8 +0.8**
EKS2 *e*PKPbc **PKiKP** **10 45 08.4 +0.3**
EKS2 LR LR
comp=Z,976nm,22.0s
SURT Suratani 152.64 160 P **PKPbc** **10 45 09.2 +0.2**
comp=Z,18nm,0.9s
AAK Ala-Archa 152.93 64 PKP **PKPdf** **10 45 02.5 +0.7**
comp=Z,5.4nm,0.9s,baz=165,slow=2.8,SNR=12
AAK PKPbc **PKPbc** **10 45 09.8 +0.7**
comp=Z,90nm,0.8s,baz=178,slow=1.8,SNR=133
AAK PKPab **PKPab** **10 45 20.3 -0.2**
comp=Z,51nm,0.8s,baz=184,slow=5.5,SNR=12
AAK PP **PP** **10 48 51.7 -2.5**
comp=Z,11nm,1.0s,baz=258,slow=9.5,SNR=4.1
AAK Ala-Archa 152.93 64 PKIKP **PKPdf** **10 45 02.1 +0.3**
AAK pmax pmax
comp=Z,108nm,0.9s
AAK Ala-Archa 152.93 64 PKPdf **PKPbc** **10 45 09.8 +0.7**
SNR=60
AAK Ala-Archa 152.93 64 *e*PKPdf **PKPdf** **10 45 02.5 +0.7**
AAK *e*PKPbc **PKiKP** **10 45 09.7 +0.4**
AAK PKPab **PKPab** **10 45 20.3 -0.2**
AAK PP **PP** **10 48 51.7 -2.5**
AAK LR LR
comp=Z,569nm,19.0s
FRU Bishkek 153.00 63⇓ *e*PKIKP **PKPdf** **10 45 01.0 -0.8**
FRU *i* 10 45 08.5
FRU *i* 10 48 52.0
CHLP Challavanipeta 153.05 122 *e*PKPbc **PKPbc** **10 45 10.1 +0.3**
SURA Surathani 153.06 161 P **PKPbc** **10 45 09.9 -0.1**
comp=Z,30nm,1.0s
KURBB Kurchatov Arra 153.60 45 PKP **PKPdf** **10 45 02.1 -0.2**
comp=Z,2.7nm,0.7s,baz=301,slow=1.8,SNR=19
KURBB PKPbc **PKiKP** **10 45 10.1 0.0**
comp=Z,14nm,1.0s,baz=295,slow=2.9,SNR=28
KURBB pPKP **pPKPdf** **10 45 15.8 -0.2**
comp=Z,9.1nm,0.6s,baz=300,slow=3.2,SNR=12
KURBB PKPab **PKPab** **10 45 22.9 +0.1**
comp=Z,26nm,1.0s,baz=293,slow=4.0,SNR=26
KURBB PP **PP** **10 48 56.4 -0.9**
comp=Z,3.2nm,0.8s,baz=287,slow=6.4,SNR=5.8
KURK Kurchatov 153.61 45 PKIKP **PKPdf** **10 45 02.1 -0.2**
KURK *e* 10 45 09.7
KURK 10 45 15.8
KURK *e* 10 45 22.5
KURK 10 48 56.4
KURK MLR MLR
comp=Z,4μm,21.0s
KURK Kurchatov 153.61 45 PKP **PKPdf** **10 45 02.1 -0.2**
KURK *e*PKPbc **PKPbc** **10 45 09.7 -0.4**
KURK pPKP **pPKPdf** **10 45 15.8 -0.2**
KURK *e*PKPab **PKPab** **10 45 22.5 -0.3**
KURK PP **PP** **10 48 56.4 -0.9**
KURK LR LR
comp=Z,4μm,21.0s
TKM2 Tokmak 2 153.71 63 PKIKP **PKPdf** **10 45 02.6 -0.4**
TKM2 pmax pmax
comp=Z,37nm,0.9s
TKM2 Tokmak 2 153.71 63 *e*PKPbc **PKPbc** **10 45 10.8 -0.1**
TKM2 *e*PKPab **PKPab** **10 45 23.8 -0.1**
TKM2 LR LR
comp=Z,1μm,19.0s
NVS Novosibirsk 153.81 33⇑ *i*PKIKP **PKPdf** **10 45 02.9 +0.5**
NVS *e* 10 49 07.5
NVS pmax pmax
comp=E,14nm,1.6s
NVS pmax pmax
comp=Z,55nm,1.6s
NVS pmax pmax
comp=N,7.0nm,1.2s
KSH Kashi 154.18 71 PKPbc **PKPdf** **10 45 03.3 -0.4**
KSH pPKP PKiKP 10 45 14.4 +2.5
KSH SKS **SKSdf** **10 52 04.7 -2.2**
KSH PPMZ
comp=N,120nm,4.7s
KSH LN
comp=N,80nm,8.1s
KSH LE
comp=N,77nm,5.9s
KSH LZ
comp=N,260nm,18.2s
ZAA0 Zalesovo Array 155.10 34 *e*PKPdf **PKPdf** **10 45 04.0 -0.3**
ZALV Zalesovo Beam 155.10 34 PKP **PKPdf** **10 45 03.1 -1.1**
comp=N,5.7nm,0.8s,baz=278,slow=2.7,SNR=27
ZALV PKPbc PKPbc 10 45 12.9
comp=N,11nm,0.9s,baz=294,slow=3.2,SNR=13
ZALV pPKP **pPKPdf** **10 45 17.6 -0.3**
comp=N,12nm,0.4s,baz=303,slow=3.5,SNR=17
ZALV pPKPbc pPKPbc 10 45 26.7 0.0
comp=N,21nm,0.8s,baz=280,slow=3.8,SNR=10.0
ZALV PKPab **PKPab** **10 45 29.0 0.0**
comp=N,22nm,0.8s,baz=288,slow=2.9,SNR=13
MJAR Matsushiro Arr 155.55 282 PKPbc PKPdf 10 45 14.7 +9.2
comp=N,3.3nm,1.0s,baz=159,slow=1.5,SNR=7.5
MJAR pPKP pPKPdf 10 45 20.2 +1.0
comp=N,1.1nm,0.4s,baz=32,slow=14,SNR=4.0
MAJO Matsushiro 155.56 282 *e*PKPdf **PKPdf** **10 45 03.3 -2.2**
MAJO LR LR
comp=Z,1μm,22.0s
MJB9 Matsu-Tunnel 155.56 282 *e*PKPdf **PKPdf** **10 45 04.1 -1.4**
HABR Khabarovsk 155.99 312 *ce*PKIKP **PKPdf** **10 45 05.3 -0.3**
HABR *e* 10 45 16.1
HABR *e* 10 45 33.2
HABR *e* 10 52 09.0
HABR *e*SS SS 11 08 58.7 +2.8
HABR *e*SSS SSS 11 14 57.2
HABR pmax pmax
comp=E,13nm,1.1s
HABR pmax pmax
comp=Z,33nm,1.1s
HABR pmax pmax
comp=N,8.0nm,1.1s
BOD Bodaibo 156.92 352 *e*PKP2 **PKPab** **10 45 35.7 -1.0**
BOD pmax pmax
comp=Z,47nm,0.9s
MAKZ Makanchi 157.20 51 *e*PKIKP **PKPdf** **10 45 07.3 0.0**
MAKZ Makanchi 157.20 51 *e*PKPdf **PKPdf** **10 45 07.3 0.0**
MAKZ *e*PKPab **PKPab** **10 45 38.2 -0.2**
MK31 Makanchi Array 157.40 51 *e*PKIKP **PKPdf** **10 45 07.6 0.0**
MK31 Makanchi Array 157.40 51 *e*PKPdf **PKPdf** **10 45 07.6 0.0**
MK31 *e*PKPab **PKPab** **10 45 38.9 -0.3**
MKAR Makanchi Array 157.40 51 PKP **PKPdf** **10 45 06.8 -0.7**
comp=Z,5.5nm,0.9s,baz=337,slow=1.3,SNR=14
MKAR PKPbc PKPbc 10 45 17.9
comp=Z,2.8nm,0.8s,baz=298,slow=2.6,SNR=5.9
MKAR pPKP **pPKPdf** **10 45 20.9 -0.4**
comp=Z,7.6nm,0.8s,baz=300,slow=1.7,SNR=12
MKAR PKPab **PKPab** **10 45 38.1 -1.2**
comp=Z,25nm,0.8s,baz=298,slow=2.6,SNR=20
MKAR PP **PP** **10 49 16.5 -2.2**
comp=Z,4.9nm,1.0s,baz=282,slow=5.8,SNR=5.2
MKAR Makanchi Array 157.40 51 *e*PKPdf **PKPdf** **10 45 07.6 0.0**
MKAR PKPbc PKPbc 10 45 17.9
MKAR pPKP **pPKPdf** **10 45 20.9 -0.4**
MKAR *e*PKPab **PKPab** **10 45 38.8 -0.5**
MKAR PP **PP** **10 49 16.5 -2.2**
MK01 Makanchi Array 157.42 51 *e*PKPdf **PKPdf** **10 45 07.1 -0.5**
PYUN Piuthan 157.57 101 *e*P **PKPdf** **10 45 08.3 -0.3**
KLR Kul'dur 157.59 316 PKP **PKPdf** **10 45 06.1 -1.6**
comp=Z,2.8nm,0.8s,baz=352,slow=5.6,SNR=8.8
KLR PKPbc PKPbc 10 45 19.8
comp=Z,2.5nm,0.8s,baz=101,slow=2.2,SNR=5.6
KLR PKPab **PKPab** **10 45 39.8 -0.1**
comp=Z,3.6nm,0.9s,baz=38,slow=4.3,SNR=2.9
KOLN Koldanda 157.92 103 *e*P **PKPdf** **10 45 08.4 -0.7**
GKN Gorkha 158.85 103 *e*P **PKPdf** **10 45 09.5 -0.6**
DMN Daman 159.05 105 *e*P **PKPdf** **10 45 10.2 -0.3**
KKN Kakani 159.27 104 *e*P **PKPdf** **10 45 10.3 -0.4**
USRK Ussuriysk Ar. 159.51 304 PKP **PKPdf** **10 45 10.7 +0.6**
comp=Z,0.7nm,0.6s,baz=169,slow=2.2,SNR=3.1
USRK pPKP **pPKPdf** **10 45 23.0 -0.8**
comp=Z,1.0nm,0.6s,baz=238,slow=47,SNR=1.7
USRK PKPab **PKPab** **10 45 49.1 +0.7**
comp=Z,4.1nm,0.9s,baz=103,slow=6.1,SNR=5.9
USRK pPKPab **pPKPab** **10 46 02.1 +0.4**
comp=Z,2.5nm,0.8s,baz=150,slow=43,SNR=2.7
GUN Gumba 159.80 105 *e*P **PKPdf** **10 45 10.9 -0.6**
MDJ Mudanjiang 160.98 306 PKP **PKPdf** **10 45 10.0 -1.8**
MDJ Mudanjiang 160.98 306 PFAKE 10 45 20.0 +8.2
MDJ LR LR
comp=Z,202nm,19.7s
JNU Nakatsue 161.01 271 PKPab **PKPab** **10 45 56.8 +1.4**
comp=Z,7.7nm,1.0s,baz=84,slow=6.3,SNR=3.7
CM01 Chiang Mai Arr 161.53 152 *e*PKPdf **PKPdf** **10 45 12.9 -0.2**
CM01 *e*PKPab **PKPab** **10 45 57.1 -0.6**
CM31 Chiang Mai Arr 161.56 152 *e*PKPdf **PKPdf** **10 45 12.8 -0.3**
CMAR Chiang Mai Arr 161.56 152 PKP **PKPdf** **10 45 13.2 0.0**
comp=Z,4.8nm,0.8s,baz=251,slow=2.5,SNR=19
CMAR pPKP **pPKPdf** **10 45 26.6 -0.3**
comp=Z,3.8nm,0.9s,baz=233,slow=2.5,SNR=5.1
CMAR PKPab **PKPab** **10 45 56.8 -1.0**
comp=Z,5.6nm,0.9s,baz=216,slow=6.1,SNR=9.5
CMAR pPKPab **pPKPab** **10 46 10.8 -0.2**
comp=Z,0.4nm,0.3s,baz=308,slow=34,SNR=1.6
CMAR PP **PP** **10 49 39.9 -0.5**
comp=Z,0.3nm,0.3s,baz=228,slow=7.5,SNR=3.2
LAMP Lampang 161.88 153 PKP **PKPdf** **10 45 16.1 +2.6**
CHTO Chiang Mai 161.88 151 *e*PKIKP **PKPdf** **10 45 13.3 -0.2**
CHTO *e* 10 45 58.3
CHTO MLR MLR
comp=Z,4μm,20.0s
CHTO Chiang Mai 161.88 151 *e*PKPdf **PKPdf** **10 45 13.3 -0.2**
CHTO *e*PKPab **PKPab** **10 45 58.3 -1.0**
CHTO LR LR
comp=Z,4μm,20.0s
WMQ Urumqi 162.06 55 PKP **PKPdf** **10 45 12.6 -0.4**
WMQ LN
comp=Z,85nm,22.0s
WMQ LE
comp=Z,110nm,26.6s
WMQ LZ
comp=Z,170nm,26.6s
MOY Mondy 162.67 15 *e*PKP2 **PKPab** **10 46 02.8 +0.7**
MOY pmax pmax
comp=Z,37nm,2.1s
TLY Talaya 163.12 10 PKP **PKPdf** **10 45 13.5 -0.2**
comp=Z,2.4nm,0.8s,baz=219,slow=4.7,SNR=3.5
TLY PKPab **PKPab** **10 46 04.3 +0.4**
comp=Z,11nm,0.8s,baz=335,slow=4.6,SNR=16
TLY Talaya 163.12 10 *e*PKIKP **PKPdf** **10 45 13.6 -0.2**
TLY MLR MLR
comp=Z,1μm,21.0s
TLY Talaya 163.12 10 *e*PKPdf **PKPdf** **10 45 13.6 -0.2**
TLY *e*PKPab **PKPab** **10 46 04.7 +0.9**
TLY LR LR
comp=Z,1μm,21.0s
SHL Shillong 163.13 120 *e*P PKPdf 10 45 06.0 -8.8
SHL *ex* x 10 46 05.5
HIA Hailar 163.43 332 PFAKE 10 45 20.0 +5.9
HIA LR LR
comp=Z,123nm,17.9s
KSRS Korea Array 163.81 284 PKP **PKPdf** **10 45 13.8 -1.0**
comp=Z,1.3nm,1.0s,baz=48,slow=1.8,SNR=9.3
KSRS pPKP **pPKPdf** **10 45 27.2 -1.3**
comp=Z,0.9nm,0.8s,baz=106,slow=2.6,SNR=3.0
KSRS PKPab **PKPab** **10 46 08.8 +1.3**
comp=Z,4.3nm,0.9s,baz=101,slow=4.3,SNR=10
KSRS pPKPab **pPKPab** **10 46 21.8 +1.1**
comp=Z,1.8nm,0.8s,baz=97,slow=4.5,SNR=2.7
KS01 Wonju Array Si 163.83 284 *e*PKPdf **PKPdf** **10 45 13.5 -1.3**
KS01 *e*PKPab **PKPab** **10 46 09.1 +1.5**
KSAR Wonju Array Be 163.84 284 PKIKP **PKPdf** **10 45 13.8 -1.0**
KSAR 10 45 27.2
KSAR 10 46 08.8
KSAR Wonju Array Be 163.84 284 PKP **PKPdf** **10 45 13.8 -1.0**
KSAR pPKP **pPKPdf** **10 45 27.2 -1.3**
KSAR PKPab **PKPab** **10 46 08.8 +1.1**
KSAR pPKPab **pPKPab** **10 46 21.8 +0.9**
QIZ Qiongzhong 163.92 186 PKP **PKPdf** **10 45 15.0 -0.5**
QIZ PP **PP** **10 49 54.5 +1.9**
QIZ LZ
comp=Z,250nm,21.5s
CN2 Changchun 164.02 308 *e*PKP **PKPdf** **10 45 17.0 +2.2**
ZAK Zakamensk 164.33 11 *e*PKIKP **PKPdf** **10 45 13.4 -1.6**
ZAK pmax pmax
comp=Z,2.0nm,2.1s
YHNB Yeheng 164.48 232 PFAKE 10 45 30.0 +14
YHNB LR LR
comp=Z,149nm,20.7s
TATO Taipei 164.62 233 PFAKE 10 45 30.0 +14
TATO LR LR
comp=Z,119nm,18.6s
SONA1 Songino Array 167.20 5 *e*PKPdf **PKPdf** **10 45 16.1 -1.4**
SONA1 *e*PKPab **PKPab** **10 46 22.2 +0.1**
SONM Songino Array 167.21 5 PKP **PKPdf** **10 45 16.2 -1.3**
comp=Z,0.8nm,0.8s,baz=352,slow=0.6,SNR=8.0
SONM pPKP **pPKPdf** **10 45 30.6 -0.5**
comp=Z,1.1nm,0.8s,baz=280,slow=0.6,SNR=4.2
SONM PKPab **PKPab** **10 46 22.7 +0.6**
comp=Z,13nm,0.9s,baz=347,slow=4.8,SNR=33
SONM PP **PP** **10 50 09.4 -0.5**
comp=Z,2.7nm,1.0s,baz=345,slow=3.6,SNR=5.5
KMI Kunming 169.05 154 PKP **PKPdf** **10 45 19.8 +0.2**
KMI pPKP pPKPdf 10 45 29.4 -3.8
KMI sPKP 10 45 33.7
KMI LN
comp=Z,130nm,19.8s
KMI LE
comp=Z,140nm,18.8s
KMI LZ
comp=Z,240nm,23.3s
GYA Guiyang 171.31 172 PKP **PKPdf** **10 45 20.0 -0.7**
GYA sPKP 10 45 39.8
GYA PKPab **PKPab** **10 46 42.2 +1.4**
GYA PKS **PKSdf** **10 48 52.0 -1.2**
GYA PP **PP** **10 50 32.4 +1.9**
GYA PPMZ
comp=Z,140nm,9.2s
GTA Gaotai 172.14 54 *e*PKP **PKPdf** **10 45 20.8 +0.1**
GTA pPKP pPKPdf 10 45 34.9 +0.5
GTA sPKP 10 45 42.1
GTA PKPab **PKPab** **10 46 44.0 -0.4**
GTA PP **PP** **10 50 38.1 +2.2**
GTA SKS **SKSdf** **10 52 20.2 -0.3**
GTA SKKS **SKKSac** **10 57 19.0 +0.2**
GTA PPMZ
comp=Z,200nm,8.6s
GTA LN
comp=Z,140nm,20.9s
GTA LE
comp=Z,170nm,21.9s
GTA LZ
comp=Z,210nm,20.4s
TIA Tai'an 172.54 281 *e*PKP **PKPdf** **10 45 20.3 -0.5**
HHC Hu-ho-hao-te 173.62 335 *e*PKP **PKPdf** **10 45 21.4 +0.2**
HHC sPKP 10 45 35.4
HHC PP **PP** **10 50 41.5 -0.7**
HHC SKKS 10 57 23.6
HHC PPMZ
comp=Z,73nm,9.1s
HHC LN
comp=Z,220nm,19.4s
HHC LE
comp=Z,170nm,19.6s
HHC LZ
comp=Z,330nm,19.5s
CD2 Chengdu 174.48 138 PKP **PKPdf** **10 45 21.4 -0.3**
CD2 pPKP pPKPdf 10 45 35.5 +0.1
CD2 sPKP 10 45 40.8
CD2 PP **PP** **10 50 46.6 -0.2**
CD2 SKS **SKSdf** **10 52 20.6 -0.8**
CD2 SKKS **SKKSac** **10 57 28.6 -1.4**
CD2 SS **SS** **11 12 04.2 -0.2**
CD2 PPMZ
comp=Z,220nm,5.2s
CD2 LE
comp=Z,690nm,21.4s
CD2 LZ
comp=Z,280nm,14.9s
LZH Lanzhou 176.42 73 *e*PKP **PKPdf** **10 45 22.8 +0.6**
LZH pPKP pPKPdf 10 45 33.8 -2.1
LZH sPKP 10 45 39.5
LZH PP **PP** **10 50 57.6 +0.5**
LZH SKKS 10 57 37.4
LZH PPMZ
comp=Z,360nm,6.7s
LZH LN
comp=Z,190nm,17.6s
LZH LE
comp=Z,280nm,18.5s
LZH LZ
comp=Z,350nm,20.4s
XAN Xi'an 178.73 214 PKP **PKPdf** **10 45 20.8 -1.7**
XAN pPKP pPKPdf 10 45 31.6 -4.6
XAN PKS **PKSdf** **10 48 51.6 -3.0**
XAN SKS **SKSdf** **10 52 18.7 -3.2**

IDC 05 10:33:18.0±10.0**,18°.48S**×**173°.21E,h0**km**,mb4.2**/3**,**
mb1 4.4/4**,mb1mx3.8**/35**,mbtmp4.3**/4**,ML3.8**/1**,Error**
ellipse: s-maj=211.1km s-min=39.6km az=43.0,Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.00**	**171**	P	P	10 37 52.3	+0.1
	0.3nm,0.3s,baz=357,slow=3.9,SNR=3.3						
STKA	**Stephens Creek**	**31.43**	**239**	P	P	10 39 41.8	+0.5
	2.9nm,0.9s,baz=80,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**36.68**	**261**	P	P	10 40 27.0	+0.1
	1.3nm,0.7s,baz=95,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**36.95**	**255**	P	P	10 40 28.5	-0.8
	3.8nm,0.7s,baz=87,slow=8.9,SNR=69						

*CSEM **05** 10:41:40.2,43°.88N*×*12°.00E,h9km,MD2.1/12*
ROM 05 10:41:40.2±0.1**,43°.88N**×**12°.00E,h9**km**,Md2.1**/12**,**
Ml1.2/10**,Error ellipse: s-maj=1.5km s-min=0.7km**
az=19.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T0502	**Localˆ San**	**0.10**	**79**	Pg	Pg	10 41 43.0	+0.3
T0502				Sg	Sg	10 41 45.2	+0.8
	137nm,0.2s						
SFI	**Santa Sofia**	**0.12**	**282**	Pg	Pg	10 41 43.2	+0.3
SFI				Sg	Sg	10 41 45.6	+0.8
	78nm,0.1s						
SFI	**Santa Sofia**	**0.12**	**282**	Pg	Pg	10 41 43.2	+0.3
SFI				Sg	Sg	10 41 45.6	+0.8
	78nm,0.1s						
ASQU	**Asqua**	**0.17**	**241**	Pg	Pg	10 41 44.6	+0.7
ASQU				Sg	Sg	10 41 47.9	+1.5
	113nm,0.3s						
ASQU	**Asqua**	**0.17**	**241**	Pg	Pg	10 41 44.6	+0.7
ASQU				Sg	Sg	10 41 47.9	+1.5
	113nm,0.3s						
CPGN	**Carpegna, Ital**	**0.24**	**109**	Pg	Pg	10 41 46.6	+1.4
	29nm,0.5s						
CPGN	**Carpegna, Ital**	**0.24**	**109**	Pg	Pg	10 41 46.6	+1.4
	29nm,0.5s						
PARC	**Parchiule**	**0.29**	**143**	Pg	Pg	10 41 46.6	+0.6
PARC				Sg	Sb	10 41 51.8	-0.8
	25nm,0.3s						
PARC	**Parchiule**	**0.29**	**143**	Pg	Pg	10 41 46.6	+0.6
PARC				Sg	Sb	10 41 51.8	-0.8
	25nm,0.3s						
VMG	**Vicchio**	**0.34**	**284**	Pg	Pb	10 41 47.9	-0.6
VMG				Sg	Sb	10 41 53.4	-0.7
	30nm,0.2s						
VMG	**Vicchio**	**0.34**	**284**	Pg	Pb	10 41 47.9	-0.6
VMG				Sg	Sb	10 41 53.4	-0.7
	30nm,0.2s						
BADI	**Badiali**	**0.41**	**155**	Pg	Pg	10 41 48.7	+0.5
BADI				Sg	Sb	10 41 55.8	-0.2
	36nm,0.1s						
BADI	**Badiali**	**0.41**	**155**	Pg	Pg	10 41 48.7	+0.5
BADI				Sg	Sb	10 41 55.8	-0.2
	36nm,0.1s						
SEI	**Scarperia**	**0.50**	**291**	Pg	Pg	10 41 50.3	+0.4
SEI				Sg	Sb	10 41 58.5	-0.1
SEI	**Scarperia**	**0.50**	**291**	Pg	Pg	10 41 50.3	+0.4
SEI				Sg	Sb	10 41 58.5	-0.1
PIEI	**Pieia**	**0.52**	**132**	Pg	Pg	10 41 50.5	+0.3
PIEI				Sg	Sb	10 41 59.0	-0.2
	5.0nm,0.2s						
PIEI	**Pieia**	**0.52**	**132**	Pg	Pg	10 41 50.5	+0.3
PIEI				Sg	Sb	10 41 59.0	-0.2
	5.0nm,0.2s						
ATPC	**Poggio Castell**	**0.52**	**140**	Pg	Pg	10 41 50.8	+0.5
	13nm,0.3s						
ATPC	**Poggio Castell**	**0.52**	**140**	Pg	Pg	10 41 50.8	+0.5
	13nm,0.3s						
CAFI	**Castiglion Fio**	**0.55**	**183**	Pg	Pg	10 41 51.3	+0.4
	7.0nm,0.3s						
CAFI	**Castiglion Fio**	**0.55**	**183**	Pg	Pg	10 41 51.3	+0.4

	7.0nm,0.3s							
ATVO	**AVT- Monte Val**	**0.58**	**149**	Pg	Pg	10 41 51.8	+0.4	
	7.0nm,0.2s							
ATVO	**AVT- Monte Val**	**0.58**	**149**	Pg	Pg	10 41 51.8	+0.4	
	7.0nm,0.2s							

NIED ***05*** *10:46:00, 36°.90N× 140°.80E, h8km, Mw3.7 Best double couple: M◎3.83000×10^14 NP1:φs 6.00000°, δ44.00000°, λ-54.00000°. NP2:φs 140.00000°, δ56.00000°, λ-120.00000°.*

IDC ***05*** *10:46:04.1±0.8, 36°.99N× 140°.74E, h0km, mb3.8/16, mb1 3.9/19, mb1mx3.8/58, mbtmp3.8/19, ML3.5/3, MS4.0/3, Ms1 4.0/3, ms1mx2.8/50, Error ellipse: s-maj=19.9km s-min=16.5km az=95.0*

ISCJB ***05*** *10:46:05.3±0.6, 36°.92N±0°.03× 140°.86E±0°.05, h22km±3km, mb3.8/19, MS4.1/3, Error ellipse: s-maj=7.1km s-min=4.0km az=23.6*

JMA ***05*** *10:46:06.3, 36°.92N× 140°.73E, h14km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs346.00000°, δ49.00000°, λ-84.00000°. NP2: φs157.00000°, δ41.00000°, λ-97.00000°. Principal axes: T Plg4.0000°, Azm72.0000°; N Plg5.0000°, Azm162.0000°; P Plg84.0000°, Azm303.0000°;*

JMA Felt II J1.

NEIC ***05*** *10:46:09.7±0.9, 36°.92N× 140°.66E, h39km±8km, mb4.2/2 Error ellipse: s-maj=11.9km s-min=8.0km az=116.0*

NEIC Recorded [2 JMA] in Fukushima and Ibaraki.

ISC 05 10:46:06.0±0.9, 36°.91N±0°.03× 140°.77E±0°.05, h15km±5km, n48, σ1°16/50, mb3.8/19, MS4.0/3, 6C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.20**	**8**	⇑P	**Pg**	**10 46 10.7**	**+0.1**
ONAJ				S	**Sg**	**10 46 13.7**	**0.0**
JHO	**Hitachi**	**0.34**	**208**	⇑P	**Pg**	**10 46 13.0**	**0.0**
JHO				S	**Sg**	**10 46 17.6**	**0.0**
JFK	**Kawauchi**	**0.47**	**11**	⇑P	**Pg**	**10 46 15.2**	**-0.1**
JFK				S	**Sg**	**10 46 21.5**	**-0.1**
JSB	**Shiboa**	**0.68**	**275**	⇑P	**Pb**	**10 46 19.6**	**-0.1**
JSB				S	**Sb**	**10 46 28.8**	**-0.1**
JFT	**Otama**	**0.70**	**331**	⇓P	**Pg**	**10 46 19.4**	**-0.3**
JFT				S	**Sg**	**10 46 28.3**	**-0.6**
JYT	**Yasato**	**0.82**	**214**	P	**Pg**	**10 46 21.3**	**-0.7**
JYT				S	**Sb**	**10 46 33.0**	**+0.1**
JMM	**Marumori**	**0.96**	**1**	⇑P	**Pb**	**10 46 23.6**	**-0.8**
JMM				S	**Sb**	**10 46 35.9**	**-1.0**
JFY	**Yanaizu**	**0.98**	**301**	⇑P	**Pb**	**10 46 24.2**	**-0.6**
JFY				S	**Sb**	**10 46 36.7**	**-0.9**
MJAR	**Matsushiro Arr**	**2.09**	**261**	Pn	**Pn**	**10 46 41.5**	**+1.0**
	37nm,0.3s,baz=85,slow=16,SNR=256						
MJAR				Sn	**Sb**	**10 47 09.3**	**-0.1**
	56nm,0.3s,baz=77,slow=31,SNR=14						
MAJO	**Matsushiro**	**2.09**	**261**	*e*Pn	**Pn**	**10 46 41.8**	**+1.3**
MAT	**Matsushiro**	**2.09**	**261**	P	**Pn**	**10 46 41.6**	**+1.0**
MAT				S	**Sb**	**10 47 09.2**	**-0.2**
JHJ	**Hachijo jima 2**	**3.87**	**192**	Pn	**Pn**	**10 47 06.4**	**+1.4**
	5.5nm,0.3s,baz=333,slow=22,SNR=8.4						
JHJ				Sn	**Sb**	**10 47 56.6**	**-3.9**
	13nm,0.3s,baz=46,slow=22,SNR=2.7						
JHJ2	**Mitsune**	**3.87**	**192**	*e*Pn	**Pn**	**10 47 06.0**	**+1.0**
ERM	**Erimo**	**5.42**	**19**	*e*Pn	**Pn**	**10 47 28.8**	**+2.4**
ERM				*e*Sn	**Sn**	**10 48 26.7**	**-1.8**
ASAJ	**Asahikawa**	**7.33**	**10**	Pn	**Pn**	**10 47 53.1**	**+0.5**
	0.7nm,0.3s,baz=237,slow=11,SNR=6.2						
JNU	**Nakatsue**	**8.95**	**248**	LR	LR	10 52 12.0	
	comp=Z,41nm,20.6s,baz=110,slow=41						
USRK	**Ussuriysk Ar.**	**9.88**	**320**	Pn	**Pn**	**10 48 29.0**	**+1.5**
	0.2nm,0.3s,baz=132,slow=11,SNR=5.8						
KSRS	**Korea Array**	**10.26**	**277**	Pn	Pn	10 48 38.8	+6.0
	0.2nm,0.3s,baz=94,slow=14,SNR=11						
KSAR	**Wonju Array Be**	**10.29**	**277**	Pn	Pn	10 48 38.8	+5.5
KLR	**Kul'dur**	**13.95**	**335**	Pn	**P**	**10 49 30.0**	**-1.2**
	0.1nm,0.3s,baz=123,slow=14,SNR=3.1						
SEY	**Seymchan**	**27.02**	**12**	P	**P**	**10 51 50.2**	**+3.0**
	1.8nm,0.9s,baz=116,slow=9.7,SNR=2.6						
SONM	**Songino Array**	**27.43**	**304**	P	**P**	**10 51 49.9**	**-1.4**
	0.9nm,0.7s,baz=111,slow=7.9,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	11 21 51.2	
	baz=313,slow=75,SNR=227						
H11N1	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	11 21 51.8	
	baz=313,slow=75,SNR=227						
H11N3	**WAKE ISLAND Hy**	**28.55**	**120**	T	T	11 21 52.5	
	baz=313,slow=75,SNR=182						
H11S1	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	11 22 41.2	
	baz=314,slow=76,SNR=104						
H11S3	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	11 22 41.2	
	baz=314,slow=76,SNR=84						
H11S2	**WAKE ISLAND Hy**	**29.25**	**122**	T	T	11 22 42.6	
	baz=314,slow=76,SNR=67						
ZALV	**Zalesovo Beam**	**41.62**	**312**	P	**P**	**10 53 53.2**	**-0.2**
	1.7nm,0.8s,baz=105,slow=4.9,SNR=3.2						
MKAR	**Makanchi Array**	**43.74**	**302**	P	**P**	**10 54 10.8**	**0.0**
	0.5nm,0.5s,baz=94,slow=7.3,SNR=3.3						
KURK	**Kurchatov**	**45.60**	**308**	P	**P**	**10 54 24.0**	**-1.5**
KURBB	**Kurchatov Arra**	**45.67**	**308**	P	**P**	**10 54 24.0**	**-2.0**
	1.5nm,0.6s,baz=83,slow=8.0,SNR=8.6						
TKM2	**Tokmak 2**	**49.23**	**298**	*e*P	**P**	**10 54 54.5**	**+0.3**
	2.9nm,1.0s						
ILAR	**Eielson Array**	**49.88**	**32**	P	**P**	**10 54 58.4**	**-0.1**
	0.2nm,0.7s,baz=273,slow=5.2,SNR=3.5						
BVAR	**Borovoye Array**	**50.27**	**312**	P	**P**	**10 55 01.5**	**-0.1**
	0.6nm,0.5s,baz=79,slow=7.5,SNR=3.5						
BVAR				PcP	**PcP**	**10 56 20.7**	**+0.3**
	0.7nm,0.6s,baz=90,slow=4.4,SNR=3.6						
WRA	**Warramunga Arr**	**56.87**	**187**	P	**P**	**10 55 49.8**	**-0.5**
	1.1nm,0.8s,baz=5.0,slow=7.4,SNR=5.2						
ABKAR	**Akbulak array**	**57.62**	**310**	*e*P	**P**	**10 55 54.8**	**-0.6**
	1.1nm,0.6s						
AKTO	**Aktyubinsk**	**58.37**	**312**	P	**P**	**10 56 01.9**	**+1.2**
	0.6nm,0.5s,baz=59,slow=12,SNR=4.0						
SPITS	**Spitsbergen Ar**	**60.55**	**349**	P	**P**	**10 56 15.3**	**+0.1**
	4.0nm,1.0s,baz=67,slow=16,SNR=2.8						
ASAR	**Alice Springs**	**60.59**	**187**	P	**P**	**10 56 17.5**	**+1.3**
	0.4nm,0.8s,baz=7.5,slow=7.8,SNR=3.0						
GEYT	**Alibeck**	**63.44**	**299**	P	**P**	**10 56 35.2**	**-0.1**
	0.5nm,0.2s,baz=28,slow=6.5,SNR=2.8						
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**10 57 08.0**	**-0.5**
	1.8nm,0.7s,baz=77,slow=8.6,SNR=5.9						
JMIC	**Jan Mayen**	**70.18**	**350**	LR	LR	11 28 55.1	
	comp=Z,87nm,20.7s,baz=258,slow=37						
AKASG	**Malin Array Be**	**74.08**	**322**	P	**P**	**10 57 40.7**	**-0.6**
	0.2nm,0.3s,baz=44,slow=5.9,SNR=5.5						
NOA	**NORSAR Array B**	**74.10**	**337**	P	**P**	**10 57 41.4**	**0.0**
	1.0nm,0.8s,baz=45,slow=5.1,SNR=2.9						
NOA				LR	LR	11 32 29.9	
	comp=Z,66nm,21.2s,baz=255,slow=38						
BRTR	**Keskin Array B**	**78.55**	**311**	LR	LR	11 38 29.4	
	comp=Z,152nm,20.8s,baz=264,slow=40						
GERES	**GERESS Array B**	**82.54**	**328**	P	**P**	**10 58 28.2**	**-0.2**
	0.3nm,0.5s,baz=52,slow=6.4,SNR=3.6						
TXAR	**Lajitas Array**	**90.61**	**52**	P	**P**	**10 59 09.2**	**+1.0**
	0.1nm,0.5s,baz=298,slow=1.9,SNR=2.5						

NIED ***05*** *11:16:00, 37°.10N× 140°.80E, h8km, Mw4.2 Best double couple: M◎2.31000×10^15 NP1:φs 6.00000°, δ49.00000°, λ-131.00000°. NP2:φs 239.00000°, δ56.00000°, λ-53.00000°.*

ISCJB ***05*** *11:16:36.5±0.5, 37°.04N±0°.03× 140°.83E±0°.04, h11km±3km, mb4.0/23, MS3.1/2, Error ellipse: s-maj=6.2km s-min=4.0km az=20.6*

JMA ***05*** *11:16:37.0, 37°.05N× 140°.77E, h11km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs 0.00000°, δ61.00000°, λ-125.00000°. NP2:φs 235.00000°, δ45.00000°, λ-44.00000°. Principal axes: T Plg9.0000°, Azm114.0000°; N Plg30.0000°, Azm19.0000°; P Plg58.0000°, Azm219.0000°;*

JMA Felt III J1.

IDC ***05*** *11:16:43.6±1.9, 36°.86N× 140°.61E, h62km±17km, mb3.7/24, mb1 3.9/29, mb1mx3.8/55, mbtmp4.0/29, MS3.2/5, Ms1 3.2/5, ms1mx2.9/40 Error ellipse: s-maj=14.7km s-min=13.0km az=93.0*

ISC 05 11:16:36.2±1.2, 36°.99N±0°.03× 140°.76E±0°.04, h2km±8km, n50, σ1°58/54, mb4.1/23, 4C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.11**	**15**	⇓P	**Pg**	**11 16 39.1**	**+0.7**
ONAJ				S	**Sg**	**11 16 40.8**	**+0.9**
JFK	**Kawauchi**	**0.38**	**13**	⇓P	**Pg**	**11 16 43.5**	**0.0**
JFK				S	**Sg**	**11 16 48.1**	**-0.5**
JHO	**Hitachi**	**0.41**	**202**	⇓P	**Pb**	**11 16 46.0**	**-0.1**
JHO				S	**Sb**	**11 16 52.4**	**-0.4**
JFT	**Otama**	**0.62**	**327**	⇑P	**Pg**	**11 16 48.5**	**+0.4**
JFT				S	**Sg**	**11 16 56.5**	**+0.2**
JSB	**Shiboa**	**0.68**	**268**	⇑P	**Pb**	**11 16 50.9**	**+0.2**
JSB				S	**Sb**	**11 17 00.6**	**+0.1**
JMM	**Marumori**	**0.87**	**2**	⇑P	**Pg**	**11 16 52.2**	**-0.7**
JMM				S	**Sg**	**11 17 02.9**	**-1.3**
JYT	**Yasato**	**0.89**	**211**	⇓P	**Pg**	**11 16 54.3**	**+1.1**
JFY	**Yanaizu**	**0.94**	**296**	⇑P	**Pb**	**11 16 54.6**	**-0.6**
JFY				S	**Sb**	**11 17 07.0**	**-1.1**
MJAR	**Matsushiro Arr**	**2.10**	**258**	P	**Pn**	**11 17 13.0**	**+0.7**
	18nm,0.3s,baz=106,slow=15,SNR=205						
MJAR				S	**Sg**	**11 17 42.8**	**-0.8**
	59nm,0.3s,baz=49,slow=26,SNR=15						
MAT	**Matsushiro**	**2.10**	**258**	P	**Pb**	**11 17 13.7**	**-1.3**
MAT				S	**Sb**	**11 17 42.0**	**+0.5**
JHJ	**Hachijo jima 2**	**3.95**	**192**	P	**Pn**	**11 17 38.5**	**+0.8**
	8.9nm,0.3s,baz=145,slow=21,SNR=12						
JHJ				S	**Sn**	**11 18 27.3**	**+2.8**
	30nm,0.3s,baz=77,slow=21,SNR=8.4						
ASAJ	**Asahikawa**	**7.25**	**11**	P	**Pn**	**11 18 23.8**	**+0.7**
	1.4nm,0.3s,baz=227,slow=9.0,SNR=13						
ASAJ				S	**Sn**	**11 19 50.1**	**+4.2**
JNU	**Nakatsue**	**8.97**	**247**	P	**Pn**	**11 18 50.0**	**+3.2**
	0.2nm,0.3s,baz=50,slow=12,SNR=4.7						
USRK	**Ussuriysk Ar.**	**9.81**	**320**	P	Pn	11 19 02.9	+4.7
	0.2nm,0.3s,baz=134,slow=16,SNR=24						
USRK				LR	LR	11 22 27.4	
	comp=Z,110nm,19.7s,baz=141,slow=35						
JCJ	**Chichijima**	**9.94**	**173**	P	**Pn**	**11 18 56.2**	**-3.8**
	2.9nm,0.3s,baz=286,slow=22,SNR=2.2						
KSRS	**Korea Array**	**10.25**	**276**	P	**Pn**	**11 19 08.0**	**+3.7**
	0.2nm,0.3s,baz=93,slow=14,SNR=29						
KSRS				LR	LR	11 22 42.3	
	comp=Z,157nm,19.6s,baz=94,slow=35						
KLR	**Kul'dur**	**13.88**	**335**	P	**P**	**11 19 59.9**	**-2.3**
	0.2nm,0.3s,baz=137,slow=13,SNR=8.0						
KLR				LR	LR	11 24 56.4	
	comp=Z,128nm,20.1s,baz=140,slow=35						
PETK	**Petropavlovsk-**	**19.99**	**31**	P	**Pn**	**11 21 13.2**	**+1.8**
	2.4nm,0.7s,baz=201,slow=7.9,SNR=3.5						
MA2	**Magadan**	**23.51**	**13**	P	**P**	**11 21 48.8**	**+1.7**
	15nm,0.8s,baz=233,slow=8.3,SNR=7.3						
YAK	**Yakutsk**	**26.00**	**348**	P	**P**	**11 22 11.5**	**+1.5**
	1.5nm,0.4s,baz=359,slow=22,SNR=3.0						
SEY	**Seymchan**	**26.93**	**12**	P	**P**	**11 22 20.4**	**+1.9**
	6.4nm,1.0s,baz=203,slow=8.1,SNR=13						
SONM	**Songino Array**	**27.38**	**304**	P	**P**	**11 22 22.0**	**-0.8**
	1.3nm,0.7s,baz=108,slow=9.7,SNR=6.0						
SONM				LR	LR	11 34 20.1	
	comp=Z,52nm,18.4s,baz=104,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	11 52 21.5	
	baz=313,slow=75,SNR=321						
H11N1	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	11 52 22.1	
	baz=313,slow=75,SNR=304						
H11N3	**WAKE ISLAND Hy**	**28.59**	**122**	T	T	11 52 22.9	
	baz=313,slow=75,SNR=282						
H11S1	**WAKE ISLAND Hy**	**29.28**	**122**	T	T	11 53 15.4	
	baz=314,slow=75,SNR=305						
H11S3	**WAKE ISLAND Hy**	**29.28**	**122**	T	T	11 53 13.6	
	baz=314,slow=75,SNR=231						
H11S2	**WAKE ISLAND Hy**	**29.29**	**122**	T	T	11 53 19.4	
	baz=314,slow=75,SNR=197						
TLY	**Talaya**	**29.96**	**311**	LR	LR	11 34 21.7	
	comp=Z,54nm,21.9s,baz=58,slow=35						
ZALV	**Zalesovo Beam**	**41.56**	**312**	P	**P**	**11 24 26.0**	**+1.2**
	2.7nm,0.3s,baz=90,slow=7.2,SNR=2.3						
MKAR	**Makanchi Array**	**43.70**	**302**	P	**P**	**11 24 41.9**	**-0.6**
	1.9nm,0.7s,baz=87,slow=11,SNR=5.4						
KURBB	**Kurchatov Arra**	**45.62**	**308**	P	**P**	**11 24 56.1**	**-1.5**
	3.6nm,0.9s,baz=83,slow=8.2,SNR=18						
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**11 25 29.6**	**-0.4**
	2.0nm,0.7s,baz=268,slow=6.2,SNR=42						
BVAR	**Borovoye Array**	**50.21**	**312**	P	**P**	**11 25 32.5**	**-0.8**
	1.4nm,0.7s,baz=69,slow=8.1,SNR=7.2						
BVAR				PcP	**PcP**	**11 26 51.5**	**-0.9**
	1.2nm,0.7s,baz=41,slow=2.7,SNR=4.7						
ARU	**Arti**	**56.05**	**318**	P	**P**	**11 26 17.6**	**+1.4**
	1.5nm,0.3s,baz=322,slow=8.2,SNR=3.0						
WRA	**Warramunga Arr**	**56.95**	**187**	P	**P**	**11 26 20.9**	**-2.0**
	1.7nm,0.6s,baz=3.1,slow=7.2,SNR=25						
AKTO	**Aktyubinsk**	**58.31**	**312**	P	**P**	**11 26 33.0**	**+0.7**
	1.1nm,0.8s,baz=74,slow=8.0,SNR=3.2						
ASAR	**Alice Springs**	**60.68**	**187**	P	**P**	**11 26 48.2**	**-0.7**
	1.3nm,0.8s,baz=8.9,slow=6.6,SNR=8.8						
GEYT	**Alibeck**	**63.40**	**299**	P	**P**	**11 27 06.6**	**-0.6**
	1.0nm,0.5s,baz=76,slow=6.1,SNR=3.4						
YKA	**Yellowknife Ar**	**64.10**	**30**	P	**P**	**11 27 13.5**	**+2.2**
	0.5nm,0.8s,baz=306,slow=6.8,SNR=4.5						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**11 27 39.2**	**-1.0**
	2.3nm,0.8s,baz=45,slow=5.7,SNR=5.3						
AKASG	**Malin Array Be**	**74.01**	**322**	P	**P**	**11 28 10.8**	**-2.2**
	0.5nm,0.4s,baz=44,slow=6.9,SNR=7.0						
NB2	**NORSAR Subarra**	**74.02**	**337**	P	**P**	**11 28 11.5**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=40,slow=6.5						
NOA	**NORSAR Array B**	**74.02**	**337**	P	**P**	**11 28 11.2**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=39,slow=6.2,SNR=4.5						
NVAR	**Mina Array Bea**	**75.43**	**53**	P	**P**	**11 28 22.4**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=302,slow=6.4,SNR=10						
PDAR	**Pinedale Array**	**78.07**	**45**	P	**P**	**11 28 36.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=205,slow=1.9,SNR=2.9						
BRTR	**Keskin Array B**	**78.49**	**311**	P	**P**	**11 28 39.3**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=76,slow=5.2,SNR=3.6						
GERES	**GERESS Array B**	**82.47**	**328**	P	**P**	**11 28 58.8**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=12,slow=6.0,SNR=2.4						
TXAR	**Lajitas Array**	**90.56**	**52**	P	**P**	**11 29 40.4**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=288,slow=5.1,SNR=3.9						
LPAZ	**La Paz**	**147.16**	**59**	PKPbc	**PKPbc**	**11 36 21.6**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=359,slow=4.6,SNR=3.2						

ISCJB ***05*** *11:28:37.4±0.6, 38°.78N± 0°.03× 141°.73E±0°.08, h75km±5km, mb3.5/2, Error ellipse: s-maj=10.1km s-min=5.2km az=15.8*

IDC ***05*** *11:28:38.0±2.4, 38°.72N× 142°.01E, h63km±27km, mb3.2/2, mb1 3.5/7, mb1mx3.1/38, mbtmp3.5/7, ML3.0/5, Error ellipse: s-maj=44.4km s-min=11.4km az=103.0*

JMA ***05*** *11:28:39.2, 38°.79N× 141°.62E, h68km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs 230.00000°, δ66.00000°, λ142.00000°. NP2: φs 338.00000°, δ56.00000°, λ29.00000°. Principal axes: T Plg43.0000°, Azm190.0000°; N Plg46.0000°, Azm22.0000°; P Plg6.0000°, Azm286.0000°;*

JMA Felt I J1.

ISC 05 11:28:38.9±1.1, 38°.77N±0°.04× 141°.73E±0°.08, h68km±8km, n24, σ1°15/31, 4C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.31**	**351**	⇑P	**Pn**	**11 28 50.1**	**+0.1**
OFUJ				S	**Sn**	**11 28 57.9**	**-0.2**
JIO	**Ouri**	**0.43**	**224**	⇑P	**Pn**	**11 28 50.9**	**0.0**
JIO				*i* S	**Sn**	**11 28 59.0**	**-0.7**
JMK	**Ichinoseki**	**0.44**	**295**	⇑P	**Pn**	**11 28 50.5**	**-0.5**
JMK				S	**Sn**	**11 28 58.6**	**-1.2**
JOM	**Ohasama**	**0.78**	**334**	⇑P	**Pn**	**11 28 54.4**	**-0.3**
JOM				S	**Sn**	**11 29 05.3**	**-0.9**
JOU	**Okura**	**0.93**	**245**	⇓P	**Pn**	**11 28 56.0**	**-0.5**
JOU				S	**Sn**	**11 29 08.4**	**-1.1**
JRG	**Rokugo**	**1.06**	**307**	P	**Pn**	**11 28 57.6**	**-0.5**
JRG				S	**Sn**	**11 29 11.2**	**-1.1**
JYK	**Kaneyama**	**1.08**	**278**	⇓P	**Pn**	**11 28 57.6**	**-0.8**
JYK				S	**Sn**	**11 29 12.0**	**-0.8**
JMM	**Marumori**	**1.17**	**220**	P	**Pn**	**11 28 58.9**	**-0.5**
JMM				S	**Sn**	**11 29 13.2**	**-1.5**
JYS	**Shirataka**	**1.42**	**248**	⇓P	**Pn**	**11 29 02.4**	**-0.3**
JYS				S	**Sn**	**11 29 20.3**	**-0.4**
JFK	**Kawauchi**	**1.56**	**206**	P	**Pn**	**11 29 04.7**	**+0.1**
JFK				S	**Sn**	**11 29 23.6**	**-0.4**
JYA	**Atsumi**	**1.59**	**264**	⇓P	**Pn**	**11 29 04.5**	**-0.5**
JYA				*e*S	**Sn**	**11 29 23.8**	**-0.9**
MJAR	**Matsushiro Arr**	**3.57**	**233**	P	**Pn**	**11 29 34.2**	**+2.3**
	1.3nm,0.3s,baz=41,slow=11,SNR=29						
ASAJ	**Asahikawa**	**5.38**	**7**	P	**Pn**	**11 29 55.9**	**-0.7**
	0.4nm,0.3s,baz=106,slow=32,SNR=5.4						
ASAJ				S	**Sn**	**11 30 57.6**	**+0.5**
	0.4nm,0.3s,baz=87,slow=33,SNR=2.6						
JHJ	**Hachijo jima 2**	**5.86**	**196**	P	**Pn**	**11 30 03.5**	**+0.3**
	5.8nm,0.3s,baz=336,slow=23,SNR=3.1						
JHJ				S	**Sn**	**11 31 07.3**	**-1.5**
	7.0nm,0.3s,baz=98,slow=22,SNR=4.8						
USRK	**Ussuriysk Ar.**	**9.10**	**310**	P	**Pn**	**11 30 47.6**	**+0.2**
	0.2nm,0.3s,baz=114,slow=15,SNR=5.5						
KSRS	**Korea Array**	**10.96**	**267**	P	**Pn**	**11 31 16.6**	**+3.8**
	0.2nm,0.3s,baz=83,slow=14,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**28.86**	**124**	T	T	12 05 03.0	
	baz=317,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	12 05 03.6	
	baz=317,slow=75,SNR=122						
H11N3	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	12 05 04.3	
	baz=317,slow=75,SNR=81						
H11S1	**WAKE ISLAND Hy**	**29.63**	**126**	T	T	12 05 56.9	
	baz=318,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**29.63**	**126**	T	T	12 05 55.3	
	baz=318,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**29.65**	**126**	T	T	12 05 56.2	
	baz=318,slow=76,SNR=46						
WRA	**Warramunga Arr**	**58.81**	**188**	P	**P**	**11 38 29.6**	**-0.8**
	0.5nm,0.6s,baz=5.6,slow=7.1,SNR=11						
YKA	**Yellowknife Ar**	**62.19**	**31**	P	**P**	**11 38 52.1**	**-0.7**
	0.2nm,0.7s,baz=302,slow=5.8,SNR=3.2						

NIED ***05*** *11:33:00, 37°.50N× 143°.80E, h5km, Mw4.0 Best double couple: M◎1.05000×10^15 NP1:φs 18.00000°, δ38.00000°, λ-104.00000°. NP2:φs 215.00000°, δ53.00000°, λ-79.00000°.*

IDC ***05*** *11:33:45.0±0.6, 37°.51N× 144°.01E, h0km, mb3.9/17, mb1 4.1/24, mb1mx4.0/39, mbtmp4.0/24, ML3.6/6, Error ellipse: s-maj=16.1km s-min=13.1km az=127.0*

NEIC ***05*** *11:33:46.4±0.4, 37°.55N× 144°.01E, h10km, mb4.4/6, Error ellipse: s-maj=8.7km s-min=6.1km az=126.0*

ISCJB ***05*** *11:33:48.0±0.4, 37°.51N± 0°.04× 143°.86E±0°.04, h33km, mb4.0/23, Error ellipse: s-maj=5.5km s-min=4.6km az=138.5*

JMA ***05*** *11:33:48.8±0.3, 37°.54N× 143°.80E, h50km, M4.1*

ISC 05 11:33:50.5±0.6, 37.60N±0.05×143.85E±0.07, h35km, n48, σ1§69/60, mb4.0/23, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.15**	**294**	P	**Pn**	**11 34 23.3**	**-0.6**
JIO				S	**Sn**	**11 34 48.6**	**-0.8**
JFK	**Kawauchi**	**2.38**	**265**	P	**Pn**	**11 34 25.7**	**-1.4**
JFK				*e*S	**Sn**	**11 34 53.5**	**-1.5**
JOM	**Ohasama**	**2.75**	**314**	P	**Pn**	**11 34 31.3**	**-0.8**
JOM				S	**Sn**	**11 35 03.0**	**-1.0**
JFT	**Otama**	**2.79**	**269**	P	**Pn**	**11 34 32.7**	**-0.1**
JFT				S	**Sn**	**11 35 05.2**	**0.0**
JYK	**Kaneyama**	**3.05**	**297**	P	**Pn**	**11 34 36.2**	**-0.1**
JYK				S	**Sn**	**11 35 11.6**	**+0.1**
JAG	**Ashikaga**	**3.71**	**253**	P	**Pn**	**11 34 44.6**	**-0.7**
BSO1	**Boso 1**	**3.75**	**219**	P	**Pn**	**11 34 43.3**	**-2.0**
BSO1				S	**Sn**	**11 35 26.6**	**-1.3**
JRY	**Ryogami san**	**4.27**	**250**	P	**Pn**	**11 34 51.8**	**-1.3**
JRY				S	**Sn**	**11 35 39.2**	**-2.6**
JOT	**Ohata**	**4.36**	**331**	P	**Pn**	**11 34 54.0**	**-0.2**
ERM	**Erimo**	**4.45**	**353**	*e*Pn	**Pn**	**11 34 53.6**	**-1.8**
ERM				*e*Sn	**Sn**	**11 35 41.6**	**-4.3**
MJAR	**Matsushiro Arr**	**4.63**	**259**	Pn	**Pn**	**11 34 58.4**	**+0.4**
	7.4nm,0.3s,baz=87,slow=16,SNR=70						
MJAR				Sn	**Sn**	**11 35 53.8**	**+3.1**
	2.5nm,0.3s,baz=202,slow=20,SNR=5.6						
MAJO	**Matsushiro**	**4.63**	**259**	*e*Pn	**Pn**	**11 34 58.4**	**+0.4**
JKB	**Kayabe**	**4.80**	**334**	P	**Pn**	**11 34 59.5**	**-0.8**
JHJ2	**Mitsune**	**5.56**	**218**	*e*Pn	**Pn**	**11 35 08.5**	**-2.3**
JHJ2				*e*Sn	**Sn**	**11 36 08.8**	**-4.6**
JHJ	**Hachijo jima 2**	**5.57**	**218**	Pn	**Pn**	**11 35 08.8**	**-2.1**
	25nm,0.3s,baz=79,slow=23,SNR=22						
JHJ				Sn	**Sn**	**11 36 08.9**	**-4.7**
	38nm,0.3s,baz=253,slow=23,SNR=6.1						
ASAJ	**Asahikawa**	**6.58**	**352**	Pn	**Pn**	**11 35 23.2**	**-1.6**
	2.7nm,0.3s,baz=220,slow=17,SNR=30						
ASAJ				Sn	**Sn**	**11 36 35.1**	**-3.4**
	baz=62,slow=33,SNR=4.9						
ASAJ	**Asahikawa**	**6.58**	**352**	*e*Pn	**Pn**	**11 35 22.8**	**-2.0**
	7.4nm,0.9s						
ASAJ				Sn	**Sn**	**11 36 35.1**	**-3.4**
CBIJ	**Chichi jima**	**10.56**	**188**	Pn	Pn	11 36 12.8	-6.7
CBIJ				Sn	Sn	11 38 05.1	-11
JCJ	**Chichijima**	**10.56**	**188**	Pn	Pn	11 36 12.8	-6.7
	4.0nm,0.3s,baz=276,slow=23,SNR=4.2						
JCJ				Sn	Sn	11 38 05.1	-11
	7.1nm,0.3s,baz=280,slow=22,SNR=4.5						
USRK	**Ussuriysk Ar.**	**11.13**	**310**	Pn	**Pn**	**11 36 28.1**	**+1.0**
	0.2nm,0.3s,baz=98,slow=14,SNR=11						
JNU	**Nakatsue**	**11.49**	**251**	Pn	**Pn**	**11 36 32.6**	**+0.5**
	0.1nm,0.3s,baz=80,slow=17,SNR=3.1						
KSRS	**Korea Array**	**12.65**	**274**	Pn	**Pn**	**11 36 49.2**	**+1.3**
	0.1nm,0.3s,baz=91,slow=13,SNR=25						
KSAR	**Wonju Array Be**	**12.68**	**274**	Pn	**Pn**	**11 36 49.2**	**+0.8**
KLR	**Kul'dur**	**14.56**	**327**	Pn	**Pn**	**11 37 12.8**	**-1.0**
	0.1nm,0.3s,baz=138,slow=12,SNR=4.0						
SEY	**Seymchan**	**25.90**	**9**	P	**P**	**11 39 19.5**	**+0.7**
	3.4nm,0.8s,baz=184,slow=6.5,SNR=11						
YAK	**Yakutsk**	**25.99**	**345**	P	**P**	**11 39 19.4**	**-0.3**
	1.3nm,0.4s,baz=88,slow=18,SNR=1.9						
SONM	**Songino Array**	**29.10**	**303**	P	**P**	**11 39 49.0**	**+1.1**
	1.3nm,1.1s,baz=98,slow=7.6,SNR=5.5						
ENH	**Enshi**	**29.31**	**266**	*e*P	**P**	**11 39 51.3**	**+1.5**
	3.1nm,0.5s						
ZALV	**Zalesovo Beam**	**42.98**	**312**	P	**P**	**11 41 47.1**	**+1.0**
	2.1nm,0.3s,baz=98,slow=7.4,SNR=2.0						
CMAR	**Chiang Mai Arr**	**43.52**	**257**	P	**P**	**11 41 52.2**	**+1.4**
	1.9nm,0.6s,baz=45,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**45.47**	**302**	P	**P**	**11 42 06.3**	**+0.2**
	2.0nm,0.7s,baz=85,slow=9.7,SNR=13						
KURK	**Kurchatov**	**47.12**	**308**	*e*P	**P**	**11 42 18.9**	**-0.1**
	20nm,1.2s						
ILAR	**Eielson Array**	**47.98**	**33**	P	**P**	**11 42 24.9**	**-0.6**
	0.9nm,0.8s,baz=260,slow=6.0,SNR=24						
TKM2	**Tokmak 2**	**51.07**	**299**	*e*P	**P**	**11 42 51.0**	**+1.3**
	6.8nm,1.1s						
WRAB	**Tennant Creek**	**57.92**	**191**	*e*P	**P**	**11 43 37.0**	**-2.1**
	4.4nm,0.9s						
WRA	**Warramunga Arr**	**57.93**	**191**	P	**P**	**11 43 37.5**	**-1.8**
	2.4nm,0.7s,baz=11,slow=7.4,SNR=27						
WRA				PcP	**PcP**	**11 44 31.0**	**-0.2**
	0.8nm,0.8s,baz=2.4,slow=4.5,SNR=4.9						
ABKAR	**Akbulak array**	**59.06**	**311**	*e*P	**P**	**11 43 47.3**	**+0.4**
	0.5nm,0.4s						
ASAR	**Alice Springs**	**61.65**	**190**	P	**P**	**11 44 03.8**	**-1.0**
	1.3nm,0.8s,baz=10.0,slow=6.6,SNR=16						
YKA	**Yellowknife Ar**	**62.34**	**31**	P	**P**	**11 44 08.9**	**-0.1**
	0.3nm,0.7s,baz=293,slow=6.7,SNR=3.5						
FINES	**FINESS Array B**	**69.21**	**333**	P	**P**	**11 44 53.2**	**-0.1**
	1.1nm,0.7s,baz=27,slow=13,SNR=4.2						
KBZ	**Khabaz**	**72.00**	**312**	P	**P**	**11 45 11.9**	**+1.4**
	2.5nm,0.9s,baz=241,slow=3.9,SNR=5.0						
NVAR	**Mina Array Bea**	**73.09**	**54**	P	**P**	**11 45 18.1**	**+0.6**
	0.3nm,0.8s,baz=295,slow=7.6,SNR=2.4						
NB2	**NORSAR Subarra**	**74.40**	**338**	P	**P**	**11 45 24.8**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=7.6,SNR=4.7						
NOA	**NORSAR Array B**	**74.40**	**338**	P	**P**	**11 45 24.7**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=44,slow=6.3,SNR=4.8						
AKASG	**Malin Array Be**	**75.03**	**323**	P	**P**	**11 45 28.2**	**-0.1**
	comp=Z,2.4nm,0.7s						
KIEV	**Kiev**	**75.04**	**323**	*e*P	**P**	**11 45 28.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=256,slow=3.6,SNR=2.7						
PDAR	**Pinedale Array**	**75.88**	**47**	P	**P**	**11 45 33.6**	**0.0**
	comp=Z,0.1nm,0.6s,baz=298,slow=7.7,SNR=2.6						
TXAR	**Lajitas Array**	**88.23**	**54**	P	**P**	**11 46 38.7**	**+0.3**

*ISCJB **05** 11:36:50.7±0.4, 37.06N±0.02×140.80E±0.05, h10km, mb3.6/10, Error ellipse: s-maj=5.3km s-min=3.2km az=17.3*

*JMA **05** 11:36:50.6, 37.07N×140.77E, h10km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs355.00000°, δ68.00000°, λ-120.00000°. NP2: φs233.00000°, δ36.00000°, λ-38.00000°. Principal axes: T Plg18.0000°, Azm107.0000°; N Plg28.0000°, Azm7.0000°; P Plg56.0000°, Azm226.0000°;*

JMA Felt II J1.

*IDC **05** 11:36:50.7±0.7, 36.89N×140.83E, h0km, mb3.6/10, mb1 3.8/15, mb1mx3.7/38, mbtmp3.7/15, ML2.8/4 Error ellipse: s-maj=19.4km s-min=14.6km az=121.0*

ISC 05 11:36:52.4±0.6, 37.05N±0.03×140.77E±0.04, h10km, n32, σ2§15/37, mb3.6/10, 3C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.06**	**24**	↓P	**Pg**	**11 36 52.5**	**-2.1**
ONAJ				S	**Sg**	**11 36 54.0**	**-2.2**
JFK	**Kawauchi**	**0.33**	**15**	↓P	**Pg**	**11 36 56.8**	**-2.2**
JFK				S	**Sg**	**11 37 01.3**	**-2.1**
JHO	**Hitachi**	**0.46**	**200**	↓P	**Pg**	**11 36 59.8**	**-1.6**
JHO				S	**Sg**	**11 37 06.4**	**-1.1**
JFT	**Otama**	**0.58**	**324**	↑P	**Pg**	**11 37 01.9**	**-1.8**
JFT				S	**Sg**	**11 37 09.7**	**-1.7**
JSB	**Shiboa**	**0.68**	**264**	↑P	**Pg**	**11 37 04.5**	**-1.1**
JSB				S	**Sg**	**11 37 14.0**	**-0.6**
JMM	**Marumori**	**0.82**	**1**	↓P	**Pg**	**11 37 05.7**	**-2.5**
JMM				S	**Sg**	**11 37 16.0**	**-2.8**
JFY	**Yanaizu**	**0.92**	**293**	↑P	**Pg**	**11 37 08.1**	**-2.0**
JFY				S	**Sg**	**11 37 20.1**	**-2.0**
JYT	**Yasato**	**0.94**	**210**	↓P	**Pg**	**11 37 08.2**	**-2.2**
JYT				S	**Sg**	**11 37 21.5**	**-1.2**
MJAR	**Matsushiro Arr**	**2.12**	**257**	Pn	**Pn**	**11 37 25.8**	**-2.0**
	9.8nm,0.3s,baz=93,slow=16,SNR=24						
MJAR				Sn	**Sb**	**11 37 55.7**	**-1.4**
	13nm,0.3s,baz=89,slow=28,SNR=11						
MAT	**Matsushiro**	**2.12**	**257**	P	**Pn**	**11 37 27.1**	**-0.7**
MAT				S	**Sb**	**11 37 56.9**	**-0.3**
JHJ	**Hachijo jima 2**	**4.00**	**192**	Pn	**Pn**	**11 37 52.9**	**-0.8**
	1.9nm,0.3s,baz=73,slow=22,SNR=2.5						
JHJ				Sn	**Sn**	**11 38 41.5**	**+0.8**
	3.6nm,0.3s,baz=109,slow=22,SNR=2.3						
ASAJ	**Asahikawa**	**7.20**	**11**	Pn	**Pn**	**11 38 37.8**	**+0.1**
ASAJ				Sn	**Sn**	**11 40 06.5**	**+7.1**
	0.4nm,0.3s,baz=223,slow=21,SNR=5.0						
JNU	**Nakatsue**	**9.00**	**247**	Pn	**Pn**	**11 39 01.6**	**-0.9**
	0.1nm,0.3s,baz=332,slow=23,SNR=2.0						
USRK	**Ussuriysk Ar.**	**9.77**	**320**	Pn	**Pn**	**11 39 16.3**	**+3.4**
	0.2nm,0.3s,baz=135,slow=13,SNR=6.8						
KSRS	**Korea Array**	**10.25**	**276**	Pn	Pn	11 39 23.8	+4.3
	0.1nm,0.3s,baz=91,slow=14,SNR=10						
KLR	**Kul'dur**	**13.83**	**335**	Pn	**P**	**11 40 14.2**	**-2.6**
	0.1nm,0.3s,baz=141,slow=12,SNR=3.6						
SEY	**Seymchan**	**26.88**	**12**	P	**P**	**11 42 35.1**	**+2.0**
	1.5nm,0.8s,baz=209,slow=9.9,SNR=3.7						
SONM	**Songino Array**	**27.35**	**304**	P	**P**	**11 42 38.8**	**+1.2**
	0.4nm,0.6s,baz=92,slow=7.5,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	12 12 34.2	
	baz=313,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	12 12 35.2	
	baz=313,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	12 12 34.7	
	baz=313,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**29.30**	**122**	T	T	12 13 29.5	
	baz=315,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.30**	**122**	T	T	12 13 30.3	
	baz=315,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**29.32**	**122**	T	T	12 13 30.6	
	baz=315,slow=76,SNR=8.2						
MKAR	**Makanchi Array**	**43.67**	**302**	P	**P**	**11 44 58.4**	**+1.1**
	0.4nm,0.5s,baz=86,slow=9.0,SNR=3.8						
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**11 45 43.7**	**-0.9**
	0.6nm,0.7s,baz=265,slow=5.9,SNR=17						
INK	**Inuvik**	**54.61**	**27**	P	**P**	**11 46 21.9**	**+1.4**
	0.5nm,0.5s,baz=268,slow=3.5,SNR=3.5						
WRA	**Warramunga Arr**	**57.01**	**187**	P	**P**	**11 46 35.5**	**-2.8**
	1.0nm,0.8s,baz=4.3,slow=7.3,SNR=6.2						
ASAR	**Alice Springs**	**60.73**	**187**	P	**P**	**11 47 04.3**	**+0.1**
	0.3nm,0.8s,baz=7.5,slow=7.9,SNR=3.3						
FINES	**FINESS Array B**	**68.56**	**332**	P	**P**	**11 47 55.4**	**+0.6**
	1.2nm,0.7s,baz=46,slow=6.0,SNR=3.5						
NVAR	**Mina Array Bea**	**75.39**	**53**	P	**P**	**11 48 36.5**	**0.0**
	0.3nm,0.7s,baz=295,slow=6.9,SNR=2.6						
TXAR	**Lajitas Array**	**90.52**	**52**	P	**P**	**11 49 56.5**	**+1.6**
	0.1nm,0.6s,baz=342,slow=5.7,SNR=2.4						

*IDC **05** 11:51:10.5±0.4, 55.78S×146.80E, h0km, mb5.3/17, mb1 5.3/18, mb1mx5.3/24, mbtmp5.3/18, ML4.6/1, MS6.2/24, Ms1 6.2/24, ms1mx6.1/28, Error ellipse: s-maj=17.7km s-min=13.0km az=103.0*

*BJI **05** 11:51:10.8, 56.00S×146.55E, h10km, mb5.5/49, mB6.0/57, Ms6.4/75, Ms7 6.2/69*

*ISCJB **05** 11:51:11.1±0.2, 55.89S±0.03×146.78E±0.05, h10km, mb5.8/112, MS6.4/506, Error ellipse: s-maj=4.3km s-min=4.0km az=176.5*

*NEIC **05** 11:51:12.0±0.1, 55.84S×146.62E, h3km, mb5.9/92, MS6.4/299, MW6.4, MW6.4, Error ellipse: s-maj=5.1km s-min=4.6km az=170.0, Moment Tensor Solution. s25 Moment tensor: Scale 1018Nm; Mrr0.03; Mθθ1.37; Mϕϕ-1.40; Mrθ2.91; Mrϕ-3.20; Mθϕ-0.37; Best double couple: M○4.60000×1018 NP1:φs79.00000°, δ86.00000°, λ142.00000°. NP2:φs172.00000°, δ52.00000°, λ6.00000°. Principal axes: T 4.9500, Plg29.0000°, Azm28.0000°; N -0.9100, Plg52.0000°, Azm253.0000°; P -4.0400, Plg22.0000°, Azm131.0000°;*

*MOS **05** 11:51:12.4±1.9, 55.80S×146.66E, h10km, mb5.7/31, MS6.3/93 Error ellipse: s-maj=19.7km s-min=6.6km az=92.1*

*GCMT **05** 11:51:12.0±0.0, 56.00S×146.91E, h12km, MW6.4/140, Moment Tensor Solution. s139,c343; s140,c592; Duration: 4§0 Moment tensor: Scale 1018Nm; Mrr-0.19±.02; Mθθ2.27±.02; Mϕϕ-2.08±.02; Mrθ0.37±.06; Mθϕ-5.14±.02; Mrϕ-0.09±.06; Best double couple: M○5.59400×1018 NP1:φs78.00000°, δ88.00000°, λ177.00000°. NP2:φs169.00000°, δ87.00000°, λ2.00000°. Principal axes: T 5.6980, Plg4.0000°, Azm33.0000°; N -0.2110, Plg86.0000°, Azm235.0000°; P -5.4890, Plg1.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **05** 11:51:12.0±0.0, 55.94S×146.59E, h15km, Moment Tensor Solution. s15 Moment tensor: Scale 1018Nm; Mrr-0.16; Mθθ2.86; Mϕϕ-2.70; Mrθ1.51; Mθϕ-4.34; Mrϕ1.82; Best double couple: M○5.70000×1018 NP1:φs255.00000°, δ79.00000°, λ-160.00000°. NP2:φs161.00000°, δ71.00000°, λ-12.00000°. Principal axes: T 5.2700, Plg5.0000°, Azm27.0000°; N 0.7300, Plg67.0000°, Azm284.0000°; P -6.0000, Plg21.0000°, Azm119.0000°;*

ISC 05 11:51:13.6±0.5, 55.84S±0.04×147.24E±0.04, h14km±2km, n1383, σ1§98/1201, mb5.9/116, MS6.4/514, 70C-29D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**6.85**	**84**	P	**Pn**	**11 52 51.5**	**-2.0**
	baz=6.7,SNR=10						
MCQ	**Macquarie Isla**	**6.85**	**84**	*e*P	**Pn**	**11 52 50.6**	**-2.9**
MCQ	**Macquarie Isla**	**6.85**	**84**	*e*Pn	**Pn**	**11 52 50.6**	**-2.9**
TAU	**Tasmania Unive**	**12.95**	**0**	*e*P	**Pn**	**11 54 19.7**	**+2.7**
TAU	**Tasmania Unive**	**12.95**	**0**	*e*Pn	**Pn**	**11 54 19.7**	**+2.7**
MOO	**Moorlands**	**13.41**	**360**	P	**Pn**	**11 54 24.0**	**+0.6**
	baz=13,SNR=9.7						
PYZ	**Puysegur Point**	**15.56**	**60**	*e*Pn	**P**	**11 54 56.6**	**+0.1**
	2µm,2.0s						
APZ	**The Paps**	**15.74**	**64**	*e*PN	**P**	**11 54 57.0**	**-1.7**
DCZ	**Deep Cove**	**16.29**	**59**	*e*Pn	**P**	**11 55 07.6**	**+2.9**
	517nm,1.5s						
WHZ	**Wether Hill Ro**	**16.37**	**61**	*e*Pn	**P**	**11 55 04.7**	**-0.9**
	2µm,2.0s						
WHZ	**Wether Hill Ro**	**16.37**	**61**	PN	**P**	**11 55 04.8**	**-0.9**
WHZ				SN	**Sn**	**11 58 01.4**	**-2.7**
SYZ	**Scrubby Hill**	**16.53**	**65**	PN	**P**	**11 55 09.2**	**+2.0**
MLZ	**Mavora Lakes**	**16.83**	**60**	*e*Pn	**P**	**11 55 12.3**	**+1.6**
	853nm,1.6s						
TUZ	**Tuapeka**	**17.17**	**64**	PN	**P**	**11 55 15.8**	**+1.4**
WKZ	**Wanaka**	**17.66**	**61**	*e*Pn	**P**	**11 55 24.7**	**+4.8**
	2µm,1.4s						
WKZ	**Wanaka**	**17.66**	**61**	PN	**P**	**11 55 19.7**	**-0.2**
JCZ	**Jackson Bay**	**18.10**	**58**	*e*P*	**P**	**11 55 26.4**	**+1.6**
TOO	**Toolangi**	**18.32**	**356**	P	**P**	**11 55 28.0**	**+0.8**
TOO				pmax	pmax		
	comp=Z,389nm,0.9s						
ODZ	**Otahua Downs**	**18.32**	**64**	*e*P	**P**	**11 55 31.6**	**+4.5**
	comp=Z,239nm,1.3s						
LBZ	**Lake Benmore**	**18.56**	**61**	*e*P	**Pn**	**11 55 33.8**	**+3.8**
	comp=Z,629nm,1.5s						
LBZ	**Lake Benmore**	**18.56**	**61**	P*	**Pn**	**11 55 30.1**	**+0.2**
FOZ	**Fox Glacier**	**19.00**	**59**	*e*P	**Pn**	**11 55 38.9**	**+3.6**
	comp=Z,680nm,1.9s						
ARPS	**Mount Arapiles**	**19.43**	**347**	P	**Pn**	**11 55 40.1**	**-0.4**
	baz=19,SNR=21						
RPZ	**Rata Peaks**	**19.47**	**61**	P	**P**	**11 55 39.5**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=214,slow=6.9,SNR=15						
RPZ				LR	LR	12 01 48.3	
	comp=Z,325µm,19.9s,baz=223,slow=32						
RPZ	**Rata Peaks**	**19.47**	**61**	*e*P	**Pn**	**11 55 40.8**	**-0.2**
	comp=Z,192nm,1.0s						
RPZ	**Rata Peaks**	**19.47**	**61**	P*	**P**	**11 55 39.4**	**-0.4**
OXZ	**Oxford**	**20.25**	**62**	*e*P	Pn	11 55 51.6	+1.4
	comp=Z,449nm,1.4s						
OXZ				LR	LR		
	comp=Z,132µm,20.0s						
OXZ	**Oxford**	**20.25**	**62**	P*	Pn	11 55 50.1	-0.1
CASY	**Casey**	**20.26**	**224**	*e*P	**P**	**11 55 44.8**	**-3.3**
	comp=Z,1µm,1.8s						
CASY				LR	LR		
	comp=Z,99µm,20.0s						
MQZ	**McQueen's Vall**	**20.28**	**64**	*e*P	Pn	11 55 52.2	+1.7
	comp=Z,956nm,1.9s						
MQZ				LR	LR		
	comp=Z,98µm,19.0s						
MQZ	**McQueen's Vall**	**20.28**	**64**	*e*P*	Pn	11 55 51.7	+1.1
CRLZ	**Canterbury Las**	**20.36**	**64**	*e*P	Pn	11 55 52.8	+1.4
	comp=Z,640nm,1.5s						
CRLZ				LR	LR		
	comp=Z,108µm,18.0s						
INZ	**Inchbonnie**	**20.40**	**60**	P*	Pn	11 55 51.3	-0.7
CAN	**Canberra**	**20.56**	**4**	*e*P	**P**	**11 55 52.8**	**+1.1**
CAN				pmax	pmax		
	comp=Z,490nm,1.2s						
CAN	**Canberra**	**20.56**	**4**	*e*P	**P**	**11 55 52.8**	**+1.1**
	comp=Z,486nm,1.2s						
CAN				LR	LR		
	comp=Z,110µm,19.0s						
CNB	**Canberra Magne**	**20.58**	**5**	P	**P**	**11 55 51.0**	**-1.0**
	baz=20,SNR=31						
LTZ	**Lake Taylor**	**20.76**	**62**	*e*P	Pn	11 55 57.8	+1.6
	comp=Z,683nm,1.7s						
LTZ				LR	LR		
	comp=Z,377µm,20.0s						
DSZ	**Denniston Nort**	**21.31**	**59**	P*	**P**	**11 56 02.4**	**+2.6**
YNG	**Young**	**21.56**	**3**	P	**P**	**11 56 01.1**	**-1.4**
	baz=21,SNR=29						
KHZ	**Kahutara**	**21.66**	**63**	*e*P	**P**	**11 56 07.0**	**+3.5**
	comp=Z,374nm,1.1s						
KHZ				LR	LR		
	comp=Z,212µm,19.0s						
THZ	**Tophouse**	**21.84**	**61**	*e*P	**P**	**11 56 08.1**	**+2.7**
	comp=Z,305nm,1.2s						
THZ				LR	LR		
	comp=Z,190µm,20.0s						
THZ	**Tophouse**	**21.84**	**61**	P*	**P**	**11 56 09.4**	**+4.0**
VNDA	**Vanda**	**22.38**	**172**	P	**P**	**11 56 09.5**	**-1.4**
	comp=Z,123nm,1.1s,baz=337,slow=9.6,SNR=135						
VNDA				LR	LR	12 03 47.4	
	comp=Z,50µm,18.2s,baz=344,slow=34						
VNDA	**Vanda**	**22.38**	**172**	P	**P**	**11 56 09.5**	**-1.4**
VNDA				pmax	pmax		
	comp=Z,111nm,1.0s						
VNDA				MLR	MLR		
	comp=Z,50µm,18.2s						
VNDA	**Vanda**	**22.38**	**172**	*e*P	**P**	**11 56 07.3**	**-3.5**
	comp=Z,1µm,1.6s						
MGCD	**Mangrove Creek**	**22.79**	**8**	P	**P**	**11 56 14.4**	**-1.2**
	baz=23,SNR=14						
SNZO	**South Karori**	**23.07**	**62**	*e*P	**P**	**11 56 21.9**	**+3.5**
	comp=Z,279nm,1.1s						
SNZO				LR	LR		
	comp=Z,211µm,20.0s						
SBA	**Scott Base**	**23.13**	**170**	*e*P	**P**	**11 56 16.6**	**-2.1**
SBA				pmax	pmax		
	comp=Z,700nm,1.4s						
SBA	**Scott Base**	**23.13**	**170**	*e*P	**P**	**11 56 16.6**	**-2.1**
	comp=Z,696nm,1.4s						
SBA				LR	LR		
	comp=Z,27µm,22.0s						
STKA	**Stephens Creek**	**24.29**	**348**	P	**P**	**11 56 27.3**	**-3.0**
	comp=Z,38nm,0.9s,baz=158,slow=9.9,SNR=24						
STKA				LR	LR	12 04 21.6	
	comp=Z,53µm,18.6s,baz=172,slow=33						
STKA	**Stephens Creek**	**24.29**	**348**	P	**P**	**11 56 28.7**	**-1.6**
	baz=24,SNR=23						
STKA	**Stephens Creek**	**24.29**	**348**	*e*P	**P**	**11 56 28.9**	**-1.3**
	comp=Z,57nm,1.0s						
BFZ	**Birch Farm**	**24.31**	**64**	*e*P	**P**	**11 56 32.5**	**+2.1**
	comp=Z,463nm,1.3s						
BFZ				LR	LR		
	comp=Z,222µm,18.0s						
BBOO	**Buckleboo**	**24.32**	**337**	P	**P**	**11 56 30.0**	**-0.6**
	baz=24,SNR=22						
BBOO	**Buckleboo**	**24.32**	**337**	*e*P	**P**	**11 56 29.3**	**-1.3**
	comp=Z,239nm,1.0s						
BBOO				LR	LR		
	comp=Z,50µm,19.0s						
CMSA	**Cobar Meteorol**	**24.32**	**357**	P	**P**	**11 56 29.9**	**-0.7**
	baz=24,SNR=46						
HIZ	**Hauiti**	**25.29**	**58**	*e*P	**P**	**11 56 40.3**	**+1.0**
	comp=Z,164nm,1.3s						
HIZ				LR	LR		
	comp=Z,54µm,20.0s						
BKZ	**Black Stump Fm**	**25.59**	**62**	*e*P	**P**	**11 56 43.4**	**+1.3**
	comp=Z,242nm,1.2s						
BKZ				LR	LR		
	comp=Z,181µm,20.0s						
ARMA	**Armidale**	**25.61**	**9**	P	**P**	**11 56 41.4**	**-0.9**
	baz=26,SNR=24						
ARMA	**Armidale**	**25.61**	**9**	*e*P	**P**	**11 56 41.5**	**-0.9**
	comp=Z,220nm,1.3s						
ARMA				LR	LR		
	comp=Z,104µm,20.0s						
LHI	**Lord Howe Isla**	**25.70**	**24**	*e*P	**P**	**11 56 44.3**	**+1.2**
	comp=Z,984nm,1.9s						
LHI				LR	LR		
	comp=Z,103µm,21.0s						
URZ	**Urewera**	**26.59**	**61**	P	**P**	**11 56 51.5**	**+0.4**
	comp=Z,231nm,1.0s,baz=228,slow=5.7,SNR=26						
URZ				LR	LR	12 06 28.0	
	comp=Z,147µm,21.6s,baz=209,slow=34						
URZ	**Urewera**	**26.59**	**61**	*e*P	**P**	**11 56 51.1**	**0.0**
	comp=Z,305nm,1.0s						
MIR	**Mirnyy**	**27.29**	**225**	*e*P	**P**	**11 56 55.0**	**-2.1**
MIR				*i* S	**S**	**12 01 42.0**	**+6.4**
MIR				pmax	pmax		
	comp=Z,4µm,10.0s						
MIR				smax	smax		
	comp=N,8µm,15.0s						
MIR				MLR	MLR		
	comp=Z,83µm,14.0s						
OUZ	**Omahuta**	**27.39**	**52**	*e*P	**P**	**11 57 02.6**	**+4.2**
	comp=Z,434nm,1.9s						
OUZ				LR	LR		
	comp=Z,101µm,20.0s						
MXZ	**Matakaoa Point**	**27.73**	**62**	PFAKE		11 57 20.0	+19
MXZ				LR	LR		
	comp=Z,196µm,18.0s						
RMQ	**Roma**	**29.35**	**3**	P	**P**	**11 57 13.9**	**-2.0**
	baz=29,SNR=66						
KMBL	**Kambalda**	**30.26**	**313**	P	**P**	**11 57 22.5**	**-1.4**
	baz=30,SNR=14						
EIDS	**Eidsvold**	**30.57**	**7**	P	**P**	**11 57 26.8**	**+0.1**
	baz=30,SNR=18						
EIDS	**

comp=Z,113nm,0.7s,baz=164,slow=6.8,SNR=100
WRA PcP **PcP** **12 00 42.9 -0.9**
comp=Z,22nm,1.1s,baz=172,slow=2.5,SNR=5.2
WRA ScP **ScP** **12 04 31.7 +1.7**
comp=Z,9.0nm,1.2s,baz=166,slow=2.4,SNR=3.7
WRA LR LR 12 12 00.1
comp=Z,13µm,19.7s,baz=165,slow=34
WRAB Tennant Creek 37.14 340*c iP* **P 11 58 22.8 -0.9**
WRAB pmax pmax
comp=Z,546nm,0.8s
WRAB MLR MLR
comp=Z,50µm,16.0s
WRAB Tennant Creek 37.14 340 *eP* **P 11 58 20.6 -3.2**
comp=Z,199nm,0.8s
WRAB LR LR
comp=Z,21µm,18.0s
MAW Mawson 38.38 218 P **P 11 58 31.2 -2.5**
comp=Z,20nm,0.7s,baz=112,slow=11,SNR=32
MAW LR LR 12 13 33.6
comp=Z,72µm,18.4s,baz=86,slow=35
MAW Mawson 38.38 218 P **P 11 58 34.4 +0.7**
baz=38,SNR=22
MAW Mawson 38.38 218 *eP* **P 11 58 31.6 -2.1**
comp=Z,90nm,1.9s
MBWA Marble Bar 40.24 318 *eP* **P 11 58 46.6 -3.2**
comp=Z,2µm,1.2s
MBWA *e*PcP **PcP** **12 00 52.9 -0.6**
FITZ Fitzroy Crossi 41.08 328 LR LR 12 14 41.0
comp=Z,35µm,19.5s,baz=170,slow=34
FITZ Fitzroy Crossi 41.08 328 P **P 11 58 54.9 -1.7**
baz=41,SNR=51
FITZ Fitzroy Crossi 41.08 328 *eP* **P 11 58 54.3 -2.3**
comp=Z,217nm,1.4s
GIRL Giralia 41.14 310 P **P 11 58 57.7 +0.6**
baz=41,SNR=6.4
COEN Coen 41.92 354 P **P 11 59 04.2 +0.7**
baz=42,SNR=15
COEN Coen 41.92 354 *eP* **P 11 59 01.5 -2.0**
comp=Z,253nm,1.5s
COEN LR LR
comp=Z,32µm,20.0s
KDU Kakadu 44.56 339 P **P 11 59 22.7 -2.2**
baz=45,SNR=15
MSVF Nonsavu 44.63 44⇓*iP* **P**
MSVF MLR MLR 11 59 28.8 +3.3
comp=Z,33nm,17.0s
MSVF Nonsavu 44.63 44 *eP* **P 11 59 29.9 +4.4**
comp=Z,16nm,0.9s
MSVF LR LR
comp=Z,40µm,20.0s
MTN Manton Dam 44.69 337 P **P 11 59 25.3 -0.7**
baz=45,SNR=3.5
MTN Manton Dam 44.69 337 *eP* **P 11 59 23.4 -2.5**
comp=Z,381nm,1.3s
MTN LR LR
comp=Z,34µm,20.0s
SYO Syowa Base 44.87 209⇓*eX* P 11 59 20.4 -6.4
SYO Syowa Base 44.87 209⇓*iP* **P 11 59 26.0 -0.8**
SYO Syowa Base 44.87 209⇓*iS* **P 11 59 29.0 +2.2**
PAF Port-aux-Franc 44.96 244 PFAKE 11 59 40.0 +12
PAF LR LR
comp=Z,70µm,20.0s
PMG Port Moresby 46.32 360 LR LR 12 17 55.0
comp=Z,81µm,18.6s,baz=184,slow=35
PMG Port Moresby 46.32 360*c iP* **P 11 59 39.3 +0.5**
PMG pmax pmax
comp=Z,751nm,1.7s
PMG MLR MLR
comp=Z,142µm,15.0s
PMG Port Moresby 46.32 360 *eP* **P 11 59 39.7 +0.9**
comp=Z,135nm,1.0s
HNR Honiara 47.37 17 P **P 11 59 46.8 -0.2**
comp=Z,94nm,0.8s,baz=195,slow=2.0,SNR=2.7
HNR LR LR 12 16 27.4
comp=Z,12µm,20.3s,baz=186,slow=32
HNR Honiara 47.37 17 *eP* **P 11 59 48.0 +1.0**
HNR Honiara 47.37 17 *eP* **P 11 59 48.8 +1.8**
comp=Z,312nm,1.0s
SAUI Saumlaki 49.38 339 PFAKE 12 00 10.0 +7.5
SAUI LR LR
comp=Z,47µm,18.0s
SOEI Soe 49.39 330 P **P 12 00 03.3 +0.5**
comp=Z,196nm,1.6s,comp=Z,5µm
SOEI Soe 49.39 330 *eP* **P 12 00 02.9 +0.1**
comp=Z,317nm,1.3s
SOEI LR LR
comp=Z,41µm,20.0s
NVL N'lazarevskaya 49.76 198 *eP* **P 12 00 04.0 -0.8**
NVL *e* 12 02 04.7
NVL *e*S **S** **12 07 15.5 +2.5**
NVL *e*SS **SS** **12 10 49.5 +4.9**
BASI Baing, Sumba 50.08 325 P **P 12 00 10.2 +2.3**
comp=Z,460nm,1.6s,comp=Z,7µm
SNAA Sanae 51.05 192 P **P 12 00 12.9 -1.8**
SNAA Sanae 51.05 192⇓*iP* **P 12 00 12.9 -1.8**
SNAA Sanae 51.05 192 *eP* **P 12 00 12.1 -2.6**
comp=Z,363nm,1.7s
SNAA LR LR
comp=Z,88µm,18.0s
MMRI Maumere 51.05 328 P **P 12 00 14.0 -1.2**
comp=Z,267nm,1.8s,comp=Z,5µm
MMRI Maumere 51.05 328 *eP* **P 12 00 14.2 -1.1**
comp=Z,800nm,1.7s
MMRI LR LR
comp=Z,26µm,20.0s
RABL Rabaul 51.65 6 *eP* **P 12 00 20.8 +1.0**
comp=Z,623nm,0.3s
RABL LR LR
comp=Z,16µm,21.0s
RAR Rarotonga 52.13 71 LR LR 12 17 40.1
comp=Z,27µm,21.9s,baz=220,slow=30
PLAI Plampang 52.32 322 P **P 12 00 25.1 +0.4**
comp=Z,86nm,1.7s,comp=Z,2µmcomp=Z,16µm
AFI Afiamalu 52.36 54 P **P 12 00 25.6 +0.5**
comp=Z,117nm,1.0s,baz=240,slow=0.7,SNR=6.0
AFI LR LR 12 20 04.2
comp=Z,16µm,21.6s,baz=205,slow=33
AFI Afiamalu 52.36 54 *eP* **P 12 00 27.2 +2.1**
comp=Z,199nm,1.1s
VNA1 Neumayer--Stat 52.59 190 P **P 12 00 24.4 -1.7**
TWSI Taliwang, Sumb 52.72 321 P **P 12 00 28.3 +0.7**
comp=Z,106nm,1.6s,comp=Z,2µm
BNDI Bandanaira 53.03 338 P **P 12 00 32.4 +2.5**
comp=Z,660nm,1.4s,comp=Z,10µm
GENI Genyem 53.40 351 P **P 12 00 36.6 +4.0**
FUNA Funafuti 53.49 41 PFAKE 12 00 50.0 +17
FUNA LR LR
comp=Z,32µm,21.0s
MANU Manus Island 53.64 0 PFAKE 12 00 50.0 +16
MANU LR LR
comp=Z,28µm,19.0s
SRBI Singaraja 53.92 319 P **P 12 00 37.0 +0.5**
comp=Z,195nm,1.5s,comp=Z,3µm
BSSI Bau Bau, Buton 53.94 326 P **P 12 00 36.5 -0.2**
comp=Z,224nm,1.4s,comp=Z,4µm
JAGI Jajag, Banyuwa 53.96 318 P **P 12 00 35.9 -0.9**
comp=Z,109nm,1.3s,comp=Z,2µm
JAGI Jajag, Banyuwa 53.96 318 PFAKE 12 00 50.0 +13
JAGI LR LR
comp=Z,29µm,21.0s
FAKI Fak Fak 54.13 341 P **P 12 00 36.0 -2.0**
comp=Z,363nm,1.4s,comp=Z,6µm
FAKI Fak Fak 54.13 341 *eP* **P 12 00 36.1 -1.9**
comp=Z,272nm,0.9s
FAKI LR LR
comp=Z,19µm,20.0s
GMJI Gumukmas 54.41 317 P **P 12 00 38.0 -2.1**
comp=Z,141nm,1.2s,comp=Z,2µm
ABJI Asem Bagus 54.55 319 P P 12 00 46.4 +5.3
RKPI Ransiki, Papua 55.19 344 P **P 12 00 50.2 +4.5**
KAPI Kappang 55.24 326 LR LR 12 23 56.7
comp=Z,13µm,20.3s,baz=169,slow=36
KAPI Kappang 55.24 326 *eP* **P 12 00 45.1 -1.0**
comp=Z,166nm,1.0s
PCJI Pacitan 55.37 315 P **P 12 00 47.5 +0.5**
comp=Z,132nm,1.6s,comp=Z,3µm
KDI Kendari 55.38 330 P **P 12 00 47.7 +0.6**
comp=Z,143nm,1.1s,comp=Z,3µm
XMIS Christmas Isla 55.66 308 *eP* **P 12 00 47.1 -2.0**
comp=Z,330nm,1.5s
UGM Wanagama 55.89 314 P **P 12 00 53.4 +2.6**
comp=Z,224nm,1.3s,comp=Z,4µm
UGM Wanagama 55.89 314 PFAKE 12 01 00.0 +9.2
UGM LR LR
comp=Z,35µm,20.0s
CRZF Crozet Islands 55.96 236 PFAKE 12 01 00.0 +9.1
CRZF LR LR
comp=Z,22µm,22.0s
NGJI Ngawi 56.01 316 P **P 12 00 55.6 +4.0**
SPSI Sidrap Palu 56.22 326 P **P 12 00 51.5 -1.6**
comp=Z,190nm,1.4s,comp=Z,4µm
SANI Sanana 56.31 334 P **P 12 00 54.5 +0.8**
SMRI Semarang 56.70 315 *eP* **P 12 00 57.5 +0.9**
comp=Z,361nm,1.4s
SMRI LR LR
comp=Z,30µm,19.0s
KPJI Karang Pucung 57.06 313 P **P 12 00 58.4 -0.7**
comp=Z,180nm,2.3s,comp=Z,4µm
TTSI Tana Toraja 57.07 327 P **P 12 00 57.4 -1.8**
comp=Z,198nm,1.5s,comp=Z,3µm
LBMI Labuha 57.32 336 P **P 12 01 02.0 +1.1**
comp=Z,388nm,1.6s,comp=Z,6µm
CISI Cisompet, Garu 57.33 312 P **P 12 00 59.5 -1.6**
comp=Z,135nm,1.4s
CISI Cisompet, Garu 57.33 312 *eP* **P 12 01 00.1 -1.0**
comp=Z,359nm,1.6s
CISI LR LR
comp=Z,24µm,22.0s
PMSA Palmer Station 57.35 165 PFAKE 12 01 10.0 +10
PMSA LR LR
comp=Z,22µm,18.0s
LEM Lembang 58.07 312 P P 12 01 11.3 +4.9
LUWI Luwuk 58.12 331 P **P 12 01 04.9 -1.6**
comp=Z,316nm,1.5s,comp=Z,5µm
LUWI Luwuk 58.12 331 *eP* **P 12 01 05.6 -0.9**
comp=Z,1µm,1.7s
BBKI Banjar Baru 58.34 321 P **P 12 01 07.4 -0.7**
comp=Z,424nm,1.4s,comp=Z,7µm
COCO West Island 58.35 298 PFAKE 12 01 20.0 +12
COCO LR LR
comp=Z,27µm,22.0s
PCI Palu 59.09 328 P **P 12 01 13.9 +0.6**
PCI pmax pmax
comp=Z,119nm,1.3s
MRSI Marisa 59.79 330 P **P 12 01 17.1 -1.0**
comp=Z,90nm,1.0s,comp=Z,3µm
PPT2 Papeete2 60.62 78 *eS* **S 12 09 32.3 -7.3**
comp=Z,20µm,26.5s
PPT2 *e*LQ LQ 12 16 41.7
comp=Z,49µm,26.2s
PPT2 *e*LR LR 12 19 14.5
comp=Z,29µm,22.2s,baz=216
PPT Papeete 60.63 78 LR LR 12 21 51.4
comp=Z,20µm,21.4s,baz=220,slow=30
TARA Tarawa 60.74 30 *eP* **P 12 01 25.9 +1.3**
comp=Z,421nm,1.3s
TARA LR LR
comp=Z,32µm,20.0s
MNAI Manna 62.29 308 PFAKE 12 01 50.0 +15
MNAI LR LR
comp=Z,17µm,20.0s
KNTN Kanton 62.32 48 PFAKE 12 01 50.0 +15
KNTN LR LR
comp=Z,29µm,22.0s
PATS Pohnpei 63.13 12 P **P 12 01 39.8 -0.8**
baz=63,SNR=3.5
PATS Pohnpei 63.13 12 PFAKE 12 01 50.0 +9.4
PATS LR LR
comp=Z,23µm,20.0s
VAH Vaihoa 63.60 78 *eP* **P 12 01 40.5 -3.4**
comp=Z,124nm,1.2s
PALU Palau 63.85 346 P **P 12 01 45.4 +0.1**
baz=64,SNR=8.1
RKT Rikitea 64.39 94 *eS* **S 12 10 19.9 -7.0**
comp=Z,15µm,34.5s
RKT *e*LQ LQ 12 18 08.6
comp=Z,47µm,31.5s
RKT *e*LR LR 12 20 49.6
comp=Z,35µm,31.2s,baz=214
RKT Rikitea 64.39 94 *eT* T 13 11 30.5
comp=Z,21nm,0.3s
KSM Kuching 64.56 318⇑*P* **P 12 01 50.5 +0.5**
KSM Kuching 64.56 318 *eP* **P 12 01 50.0 -0.1**
comp=Z,194nm,1.3s
KSM LR LR
comp=Z,15µm,22.0s
TSM Tawau 64.61 327⇑*P* **P 12 01 51.0 +0.6**
SBUM Sibu 64.76 321⇓*P* **P 12 01 52.1 +0.7**
SBUM Sibu 64.76 321 *eP* **P 12 01 49.4 -2.0**
comp=Z,176nm,1.5s
SBUM LR LR
comp=Z,20µm,22.0s
BTM Bintulu 65.15 322⇓*P* **P 12 01 53.8 -0.1**
MYLDM Lahad Datu 65.26 328⇓*P* **P 12 01 57.2 +2.6**
MYLDM Lahad Datu 65.26 328 *eP* **P 12 01 55.6 +1.0**
comp=Z,152nm,1.2s
PTCN Pitcairn Islan 65.59 99 PFAKE 12 02 10.0 +13
PTCN LR LR
comp=Z,13µm,18.0s
SDKM Sandakan 66.09 327⇓*P* **P 12 01 59.4 -0.7**
BUKP Musuan 66.11 336 *eP* **P 12 02 00.1 -0.1**
PAGZ Pagadian 66.48 334 *eP* **P 12 02 03.5 +1.1**
KKM Kota Kinabalu 66.78 326⇓*P* **P 12 02 03.4 -1.1**
KKM Kota Kinabalu 66.78 326 *eP* **P 12 02 02.1 -2.4**
comp=Z,177nm,1.4s
BKNI Bangkinang 67.31 309 *eP* **P 12 02 05.9 -1.9**
comp=Z,452nm,1.6s
BKNI LR LR
comp=Z,33µm,20.0s
KDM Kudat 67.41 327⇑*P* **P 12 02 09.4 +1.1**
MYKOM Kota Tinggi 67.41 312⇑*P* **P 12 02 08.1 -0.3**
MYKOM Kota Tinggi 67.41 312 *eP* **P 12 02 07.2 -1.3**
comp=Z,140nm,1.3s
MYKOM LR LR
comp=Z,29µm,20.0s
KGM Kluang 67.84 312⇑*P* **P 12 02 11.3 +0.2**
BATP Bataraza 68.90 329 *eP* **P 12 02 16.8 -0.9**
GUMO Guam 69.19 358 *eP* **P 12 02 20.6 +1.1**
GUMO pmax pmax
comp=Z,482nm,1.3s
GUMO MLR MLR
comp=Z,12µm,22.0s
GUMO Guam 69.19 358 *eP* **P 12 02 20.6 +1.1**
comp=Z,482nm,1.3s
GUMO LR LR
comp=Z,12µm,22.0s
OCLP Ormoc 69.28 336 *eP* **P 12 02 21.3 +1.3**
PLP Palo 69.31 337⇓*eP* **P 12 02 15.6 -4.7**
GUIM Jordan 69.35 334 *eP* **P 12 02 19.0 -1.5**
FRIM Kepong 69.66 310⇓*P* **P 12 02 22.8 +0.3**
GSI Gunungsitoli 69.74 306 *P* **P 12 02 23.0 0.0**
comp=Z,160nm,1.6s,comp=Z,3µm
GSI Gunungsitoli 69.74 306 *eP* **P 12 02 22.9 0.0**
comp=Z,510nm,1.7s
GSI LR LR
comp=Z,19µm,20.0s
HOPE Hope Point 70.19 178 PFAKE 12 02 40.0 +15
HOPE LR LR
comp=Z,11µm,21.0s
PSI Prapat 70.45 308 *eP* **P 12 02 24.4 -3.1**
PSI pmax pmax
comp=Z,159nm,1.4s
PSI MLR MLR
comp=Z,40µm,22.0s
PSI Prapat 70.45 308 *eP* **P 12 02 24.4 -3.1**
comp=Z,159nm,1.4s
PSI LR LR
comp=Z,40µm,22.0s
ENPP El Nido 70.73 331 *eP* **P 12 02 28.2 -0.8**
EFI East Falkland 70.82 164 *eP* **P 12 02 27.6 -1.5**
EFI pmax pmax
comp=Z,162nm,1.4s
EFI MLR MLR
comp=Z,15µm,21.0s
EFI East Falkland 70.82 164 *eP* **P 12 02 27.6 -1.5**
comp=Z,162nm,1.4s
EFI LR LR
comp=Z,15µm,21.0s
KTGM Kuala Trenggan 70.91 313⇑*P* **P 12 02 29.7 -0.4**
IPM Ipoh 71.03 310⇓*P* **P 12 02 30.8 -0.1**
IPM Ipoh 71.03 310 *eP* **P 12 02 30.1 -0.8**
comp=Z,187nm,1.4s
IPM LR LR
comp=Z,22µm,20.0s
SJMP San Jose 71.48 333 *eP* **P 12 02 33.1 -0.4**
KCSI Kotacane, Aceh 71.61 307 *P* **P 12 02 30.9 -3.5**
comp=Z,106nm,1.3s,comp=Z,2µm
PVCP Virac 71.84 336 *eP* **P 12 02 36.9 +1.3**
KULM Kulim 71.92 310⇑*P* **P 12 02 35.4 -0.8**
KULM Kulim 71.92 310 *eP* **P 12 02 34.7 -1.5**
comp=Z,444nm,1.5s
KULM LR LR
comp=Z,27µm,22.0s
BOAC Boac 72.26 334 *eP* **P 12 02 37.2 -0.9**
LUBP Lubang 72.93 333 *eP* **P 12 02 40.8 -1.3**
TAOE Nuku Hiva Isla 72.97 81 *eS* **S 12 12 01.5 -7.7**
comp=Z,9µm,25.5s
TAOE *e*SS **SS** **12 16 44.7 -4.9**
comp=Z,6µm,27.8s
TAOE *e*LQ LQ 12 21 23.2
comp=Z,25µm,27.7s
TAOE *e*LR LR 12 25 06.2
comp=Z,17µm,25.0s,baz=226
XMAS Kiritimati 73.06 59 *eP* **P 12 02 45.9 +2.9**
XMAS LR LR
comp=Z,20µm,18.0s
TGY Tagaytay City 73.10 333 P **P 12 02 41.5 -1.8**
comp=Z,76nm,0.3s,baz=127,slow=7.3,SNR=4.4
MRIV Mauritius Mete 73.31 258 *eP* **P 12 02 43.9 -0.7**
LHMI Lhok Sumawe 73.49 307 PFAKE 12 03 00.0 +14
LHMI LR LR
comp=Z,35µm,21.0s
RER Riviere de l'E 73.58 257 *eP* **P 12 02 45.1 -1.2**
comp=Z,310nm,1.1s
RER LR LR
comp=Z,25µm,20.0s
RPN Rapa Nui 75.06 116 PFAKE 12 03 10.0 +15
RPN LR LR
comp=Z,5µm,18.0s
H08S2 Diego Garcia H 75.15 278 T T 13 25 18.0
baz=147,slow=76,SNR=1257
H08S1 Diego Garcia H 75.16 278 T T 13 25 20.3
baz=147,slow=76,SNR=1004
KRAB Krabi 75.17 310 P **P 12 02 55.0 -0.3**
comp=Z,66nm,1.4s,comp=Z,4µm
H08S3 Diego Garcia H 75.17 278 T T 13 25 15.4
baz=147,slow=76,SNR=1227
PKDT Phuket 75.25 309 P **P 12 02 57.2 +1.4**
comp=Z,92nm,1.5s,comp=Z,5µm
DGAR Diego Garcia 75.36 278 PFAKE 12 03 10.0 +13
DGAR LR LR
comp=Z,8µm,20.0s
CAUP Cauayan 75.61 335 *eP* **P 12 02 56.7 -1.0**
H11S2 WAKE ISLAND Hy 75.86 19 T T 13 26 34.0
baz=188,slow=76,SNR=25
H11S3 WAKE ISLAND Hy 75.86 19 T T 13 26 33.7
baz=188,slow=76,SNR=25
H11S1 WAKE ISLAND Hy 75.87 19 T T 13 26 34.5
baz=188,slow=76,SNR=27
SURT Suratani 76.00 310 P **P 12 03 01.4 +1.3**
comp=Z,31nm,1.3s,comp=Z,714nm
H08N1 Diego Garcia H 77.05 278 T T 13 27 48.3
baz=137,slow=75,SNR=890
H08N3 Diego Garcia H 77.06 278 T T 13 27 49.1
baz=137,slow=75,SNR=751
H08N2 Diego Garcia H 77.07 278 T T 13 27 43.2
baz=137,slow=75,SNR=1210
H11N1 WAKE ISLAND Hy 77.08 19 T T 13 28 03.3
baz=188,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 77.09 19 T T 13 28 10.5
baz=188,slow=76,SNR=17
H11N2 WAKE ISLAND Hy 77.10 19 T T 13 28 10.6
baz=188,slow=76,SNR=12
CHBT CHBT 77.96 315 P **P 12 03 10.7 -0.3**
comp=Z,180nm,1.2s,comp=Z,3µm
PLCA Paso Flores 78.58 152 P **P 12 03 14.4 0.0**
comp=Z,23nm,1.1s,baz=246,slow=11,SNR=3.1
PLCA LR LR 12 31 17.7
comp=Z,12µm,19.5s,baz=216,slow=31
PLCA Paso Flores 78.58 152 *eP* **P 12 03 14.7 +0.2**
comp=Z,147nm,1.6s
JOHN Johnston Islan 80.94 42 PFAKE 12 03 40.0 +13
JOHN LR LR
comp=Z,22µm,19.0s
SUR Sutherland 80.98 224 *eP* **P 12 03 27.3 -0.5**
comp=Z,384nm,1.8s
SUR LR LR
comp=Z,16µm,21.0s
QIZ Qiongzhong 81.01 324 P **P 12 03 27.5 -0.1**
QIZ pP **pP** **12 03 31.2 -1.1**
QIZ PP **PP** **12 06 30.9 -1.9**
QIZ S **S** **12 13 37.9 +1.8**
QIZ sS **sS** **12 13 43.9 0.0**
QIZ SS **SS** **12 18 52.4 +1.2**
QIZ LN
comp=Z,4µm,17.5s
QIZ LE
comp=Z,11µm,24.9s
QIZ LZ
comp=Z,10µm,25.8s
QIZ Qiongzhong 81.01 324 *eP* **P 12 03 28.5 +1.0**
comp=Z,193nm,1.5s
QIZ LR LR
comp=Z,9µm,22.0s
YULB Yu-li 81.95 336 *eP* **P 12 03 32.1 -0.4**
comp=Z,56nm,1.2s
YULB LR LR
comp=Z,5µm,19.0s
TPUB Ta-pu 82.02 335 *eP* **P 12 03 31.8 -1.1**
comp=Z,203nm,1.5s
TPUB LR LR
comp=Z,5µm,20.0s
DGPR DIGLIPUR 82.33 307 *eP* **P 12 03 33.2 -1.5**
DGPR IAmb IAmb 12 03 40.9
comp=Z,194nm,1.5s
SSLB Suanglung 82.41 336 *eP* **P 12 03 33.8 -1.2**
comp=Z,109nm,1.5s
SSLB LR LR
comp=Z,7µm,20.0s
BOSA Boshof 82.48 229 P **P 12 03 34.8 -0.9**
comp=Z,39nm,1.0s,baz=152,slow=6.2,SNR=29
BOSA LR LR 12 34 13.0
comp=Z,10µm,21.1s,baz=153,slow=31
BOSA Boshof 82.48 229 *eP* **P 12 03 34.5 -1.1**
comp=Z,66nm,1.1s
YOJ Yonaguni jima 82.61 338 PFAKE 12 03 50.0 +14
YOJ LR LR
comp=Z,11µm,19.0s
NACB Ninganchiao 82.64 337 PFAKE 12 03 50.0 +14
NACB LR LR
comp=Z,6µm,22.0s
CBIJ Chichi jima 82.72 355 P **P 12 03 36.0 -0.4**
JCJ Chichijima 82.72 355 P **P 12 03 36.0 -0.4**
comp=Z,54nm,0.9s
MCO Taipa Grande 82.76 329 P **P 12 03 37.0 +0.3**
YHNB Yeheng 83.17 336 PFAKE 12 03 50.0 +11
YHNB LR LR
comp=Z,9µm,22.0s
PALK Pallekele 83.17 294 *eP* **P 12 03 38.8 -0.4**
PALK pmax pmax
comp=Z,134nm,1.4s
PALK MLR MLR
comp=Z,16µm,22.0s
PALK Pallekele 83.17 294 *eP* **P 12 03 38.8 -0.4**
comp=Z,134nm,1.4s
PALK LR LR
comp=Z,16µm,22.0s
TRQA Tornquist 83.21 157 *eP* **P 12 03 37.7 -1.4**
comp=Z,135nm,1.8s
TRQA LR LR
comp=Z,13µm,20.0s
TATO Taipei 83.44 337 PFAKE 12 03 50.0 +10
TATO LR LR
comp=Z,6µm,21.0s
GZH Guangzhou 83.73 329 P **P 12 03 43.8 +2.1**
GZH S **S** **12 14 08.9 +5.1**
GZH PMZ
comp=Z,2µm,8.0s
GZH LZ
comp=Z,18µm,24.1s
QZH Quanzhou 84.08 334⇑*iP* P 12 03 36.9 -6.6
QZH PP PP 12 06 33.0 -25
QZH Quanzhou 84.08 334 S **S** **12 14 00.0 -7.3**
QZH Quanzhou 84.08 334 SS SS 12 19 32.1 -4.7
CM01 Chiang Mai Arr 84.43 315 *eP* **P 12 03 44.1 -1.3**
CM31 Chiang Mai Arr 84.47 315 *eP* **P 12 03 46.0 +0.4**
CMAR Chiang Mai Arr 84.47 315 P **P 12 03 42.9 -2.7**
comp=Z,5.7nm,0.9s,baz=177,slow=4.8,SNR=32
CMAR PP **PP** **12 06 57.0 -4.3**
comp=Z,9.5nm,1.3s,baz=160,slow=5.6,SNR=3.0
CMAR PKPPKP **P'P'df** **12 30 02.1 +3.5**
comp=Z,0.4nm,0.7s,baz=149,slow=2.6,SNR=4.1
CMAR LR LR 12 40 10.6
comp=Z,13µm,19.4s,baz=165,slow=35
CMAR Chiang Mai Arr 84.47 315*c e*P **P 12 03 44.9 -0.7**
CMAR pmax pmax
comp=Z,13nm,1.1s
CHTO Chiang Mai 84.79 315 *eP* **P 12 03 45.7 -1.5**
CHTO Chiang Mai 84.79 315 *eP* **P 12 03 45.7 -1.5**
comp=Z,143nm,1.4s

CHTO LR LR
comp=Z,19μm,22.0s
LBTB Lobatse 85.48 231 eP P 12 03 50.6 -0.4
LBTB pmax pmax
comp=Z,112nm,1.5s
LBTB Lobatse 85.48 231 eP P 12 03 50.6 -0.4
comp=Z,112nm,1.5s
ROC1 El Roble 85.70 149 eP P 12 03 57.9 +5.7
comp=Z,21nm,0.7s
TRIS Tristan da Cun 85.82 196 PFAKE 12 04 00.0 +7.7
TRIS LR LR
comp=Z,30μm,19.0s
TRD Trivandrum 86.16 291 eP P 12 03 52.7 -1.5
AAGR Agrelo 86.22 150‖ eP P 12 03 53.4 -1.1
ASAL Salagasta 86.69 150‖ eP P 12 03 55.4 -1.4
AUSP Uspallata 86.88 150‖ eP P 12 03 57.2 -0.8
ACAN Cantantal 87.44 151‖ eP P 12 03 58.9 -1.6
RTCV Cerro Valdivia 87.45 150‖ eP P 12 04 00.1 -0.4
MRA San Martin 87.69 153 eP P 12 03 60.0 -1.8
RTLL Cerro Villicun 87.97 150 eP P 12 04 01.2 -1.8
MDRS Chennai 88.32 296 eP P 12 04 02.9 -1.7
GYA Guiyang 88.96 324 ⇑ iP P 12 04 06.5 -1.0
GYA PP **PP 12 07 41.0 +3.4**
GYA S **S 12 14 55.2 +0.3**
GYA SS **SS 12 20 52.6 +4.0**
GYA PMZ
comp=Z,130nm,0.9s
GYA PMZ
comp=Z,460nm,8.9s
GYA LN
comp=Z,8μm,22.4s
GYA LE
comp=Z,3μm,23.6s
GYA LZ
comp=Z,10μm,24.5s
MIDW Midway 89.00 31 PFAKE 12 04 20.0 +13
MIDW LR LR
comp=Z,10μm,20.0s
TCA Tanti 89.01 153 eP P 12 04 04.5 -3.5
KMI Kunming 89.08 321 P **P 12 04 09.2 +1.0**
KMI pP pP 12 04 13.0 0.0
KMI sP sP 12 04 15.3 +0.6
KMI PP **PP 12 07 36.5 -2.2**
KMI S **S 12 14 55.1 -1.2**
KMI PMZ
comp=Z,44nm,1.3s
KMI PMZ
comp=Z,780nm,8.4s
KMI LN
comp=Z,17μm,19.0s
KMI LE
comp=Z,6μm,20.0s
KMI LZ
comp=Z,19μm,19.0s
UWE Uwekahuna 89.24 53 PFAKE 12 04 20.0 +11
UWE LR LR
comp=Z,13μm,21.0s
SSE Sheshan 89.41 338 P **P 12 04 10.4 +1.1**
SSE PP **PP 12 07 40.5 -0.4**
SSE S **S 12 14 58.7 +0.1**
SSE SS **SS 12 20 57.8 +3.1**
SSE PMZ
comp=Z,29nm,0.8s
SSE PMZ
comp=Z,440nm,8.9s
SSE LN
comp=Z,4μm,33.3s
SSE LE
comp=Z,5μm,33.5s
SSE LZ
comp=Z,7μm,21.5s
POHA Pohakuloa 89.42 52 eP P 12 04 12.0 +2.0
comp=Z,197nm,1.3s
POHA LR LR
comp=Z,14μm,22.0s
KEKH Kekaha 89.58 48 eP P 12 04 12.6 +2.3
comp=Z,143nm,1.1s
KEKH LR LR
comp=Z,14μm,20.0s
HPAH Hawaii Prepara 89.59 52 PFAKE 12 04 20.0 +9.5
HPAH LR LR
comp=Z,13μm,22.0s
JNU Nakatsue 89.71 346 P **P 12 04 09.2 -1.5**
comp=Z,9.8nm,0.9s,baz=162,slow=12,SNR=5.5
JNU PP **PP 12 07 43.6 +0.2**
comp=Z,39nm,1.2s,baz=48,slow=3.8,SNR=4.5
JNU Nakatsue 89.71 346 eP P 12 04 11.9 +1.2
comp=Z,68nm,1.3s
JNU PP **PP 12 07 43.6 +0.2**
HON Honolulu 89.72 50 PFAKE 12 04 20.0 +9.0
HON LR LR
comp=Z,16μm,19.0s
HLK Haleakala 89.98 51 PFAKE 12 04 30.0 +17
HLK LR LR
comp=Z,13μm,21.0s
OPA Opana 90.04 49 PFAKE 12 04 30.0 +18
OPA LR LR
comp=Z,17μm,20.0s
VCA Vinchina 90.49 149‖ eP P 12 04 12.8 -2.2
WHN Wuhan 90.51 332 ‖ P P 12 04 14.8 +0.3
WHN pP **sP 12 04 20.6 -0.4**
WHN SKS **SKSac 12 14 44.4 -0.6**
WHN S **S 12 15 09.0 +0.2**
WHN PMZ
comp=Z,140nm,1.4s
WHN LN
comp=Z,9μm,18.6s
WHN LE
comp=Z,11μm,18.1s
WHN LZ
comp=Z,13μm,21.4s
VIS Vishakhapatnam 90.77 301 eP P 12 04 14.2 -1.7
VIS IAmb IAmb 12 04 24.2
comp=Z,126nm,1.6s
NJ2 Nanjing 90.84 336 eP P 12 04 14.5 -1.5
NJ2 sP **pP 12 04 20.4 -0.4**
NJ2 SKS **SKSac 12 14 47.4 +0.6**
NJ2 SS **SS 12 21 13.7 -1.8**
NJ2 PMZ
comp=Z,21nm,0.5s
NJ2 PMZ
comp=Z,700nm,6.5s
NJ2 LN
comp=Z,8μm,18.4s
NJ2 LE
comp=Z,5μm,19.5s
NJ2 LZ
comp=Z,12μm,18.4s
INU Inuyama 91.25 352 eP P 12 04 18.6 +0.8
comp=Z,99nm,1.4s
INU LR LR
comp=Z,6μm,20.0s
CYA Choya 91.44 151‖ eP P 12 04 18.1 -1.2
ENH Enshi 91.62 328 eP P 12 04 20.8 +1.1
comp=Z,11nm,0.9s
ENH LR LR
comp=Z,5μm,19.0s
BWNR Bhubaneshwar 91.81 304 eP P 12 04 20.8 +0.1
BWNR IAmb IAmb 12 04 29.0
comp=Z,153nm,2.0s
MJAR Matsushiro Arr 92.34 353 P **P 12 04 21.0 -1.9**
comp=Z,19nm,1.1s,baz=184,slow=5.4,SNR=36
MJAR PP **PP 12 08 02.0 -2.2**
comp=Z,3.0nm,1.1s,baz=181,slow=6.8,SNR=4.1
MJAR PKKPbc **PKKPbc 12 21 38.6 +2.1**
comp=Z,0.7nm,0.8s,baz=118,slow=10,SNR=3.0
MJAR LR LR 12 46 56.0
comp=Z,3μm,18.8s,baz=165,slow=36
MAJO Matsushiro 92.35 353 ⇑ iP P 12 04 22.9 0.0
MAJO pmax pmax
comp=Z,312nm,1.3s
MAJO MLR MLR
comp=Z,19μm,18.0s
MAJO Matsushiro 92.35 353 eP P 12 04 23.7 +0.8
comp=Z,76nm,1.4s
MAJO LR LR
comp=Z,4μm,18.0s
MAT Matsushiro 92.35 353 P **P 12 04 23.4 +0.5**
MAT S **S 12 15 31.0 +5.7**
MJB9 Matsu-Tunnel 92.35 353 eP P 12 04 24.3 +1.4
comp=Z,19nm,1.4s
LSZ Lusaka 92.76 238 eP P 12 04 26.4 +0.8
LSZ pmax pmax
comp=Z,91nm,1.4s
LSZ MLR MLR
comp=Z,26μm,22.0s
LSZ Lusaka 92.76 238 eP P 12 04 26.4 +0.8
comp=Z,91nm,1.4s
LSZ LR LR
comp=Z,26μm,22.0s
HYB Hyderabad 92.86 297 i P P 12 04 25.0 -0.7
HYB eP P **PP 12 08 04.0 -4.4**
HYB eSKS **SKSac 12 14 58.0 -1.0**
HYB eS **ScS 12 15 32.0 -0.7**
HYB LR LR
comp=Z,41nm,26.0s
HYB Hyderabad 92.86 297 eP P 12 04 23.1 -2.7
TJN Taejon 93.41 344 c iP P 12 04 28.4 +0.7
FSA Cafayete 93.60 150‖ eP P 12 04 27.9 -1.6
GOA Goa 93.67 292 eP P 12 04 26.8 -2.6
SHL Shillong 93.72 312 eP P 12 04 28.1 -1.6
TSUM Tsumeb 94.02 227 eP P 12 04 30.9 -0.5
comp=Z,18nm,1.3s
TSUM LR LR
comp=Z,16μm,20.0s
CD2 Chengdu 94.03 324 ⇑ P P 12 04 31.0 +0.2
CD2 pP pP 12 04 34.4 -1.3
CD2 SKS **SKSac 12 15 05.8 +1.0**
CD2 S **ScS 12 15 42.3 +0.4**
CD2 sS sS 12 15 48.0 -0.5
CD2 SS **SS 12 22 04.4 +3.0**
CD2 PMZ
comp=Z,30nm,0.7s
CD2 PMZ
comp=Z,530nm,7.0s
CD2 LN
comp=Z,7μm,18.9s
CD2 LE
comp=Z,11μm,17.7s
CD2 LZ
comp=Z,7μm,16.9s
KS15 Wonju Array Si 94.38 345 eP P 12 04 32.4 +0.3
KSAR Wonju Array Be 94.38 345 P **P 12 04 30.2 -2.0**
KSAR 12 08 20.4
KSAR Wonju Array Be 94.38 345 P **P 12 04 30.2 -2.0**
KSAR PP **PP 12 08 20.4 +0.2**
KSRS Korea Array 94.38 345 P **P 12 04 30.2 -2.0**
comp=Z,2.4nm,1.0s,baz=173,slow=4.2,SNR=19
KSRS PP **PP 12 08 20.4 +0.2**
comp=Z,2.4nm,0.9s,baz=169,slow=8.8,SNR=5.5
KSRS LR LR 12 43 55.6
comp=Z,6μm,22.0s,baz=167,slow=34
KSRS Korea Array 94.38 345 P **P 12 04 30.2 -2.0**
KSRS 12 08 20.4
KSRS pmax pmax
comp=Z,2.0nm,1.0s
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KS01 Wonju Array Si 94.41 345 eP P 12 04 32.7 +0.4
INCN Inchon 94.61 344 eP P 12 04 34.9 +1.6
comp=Z,40nm,1.4s
INCN LR LR
comp=Z,9μm,20.0s
PB10 IPOC Station P 94.68 146 PFAKE 12 04 50.0 +16
PB10 LR LR
comp=Z,8μm,21.0s
BOK Bokaro 94.79 306 eP P 12 04 33.2 -1.2
TIA Tai'an 95.23 336 eP P 12 04 35.5 -0.6
TIA PMZ
comp=Z,20nm,1.4s
TIA PMZ
comp=Z,450nm,8.2s
TIA LN
comp=Z,6μm,20.2s
TIA LE
comp=Z,4μm,21.1s
TIA LZ
comp=Z,10μm,20.4s
XAN Xi'an 95.31 329 P **P 12 04 35.8 -0.8**
XAN pP pP 12 04 39.8 -1.6
XAN sP sP 12 04 42.0 -1.2
XAN PP **PP 12 08 27.2 -0.3**
XAN SKS **SKSac 12 15 09.5 -2.1**
XAN S **S 12 15 46.7 -4.8**
XAN SS **SS 12 22 15.9 -3.7**
XAN PMZ
comp=Z,8.0nm,1.1s
XAN PMZ
comp=Z,360nm,8.1s
XAN LN
comp=Z,7μm,23.3s
XAN LE
comp=Z,5μm,22.2s
XAN LZ
comp=Z,9μm,24.5s
CPUP Villa Florida 95.51 158 P **P 12 04 38.1 +0.1**
comp=Z,7.6nm,1.1s,baz=174,slow=4.5,SNR=6.9
CPUP PP **PP 12 08 30.8 +3.0**
comp=Z,3.0nm,1.0s,baz=61,slow=14,SNR=4.0
CPUP LR LR 12 41 45.3
comp=Z,5μm,21.4s,baz=194,slow=32
AZAP Zapla 95.64 151‖ eP P 12 04 38.2 -0.7
NGP Nagpur 95.77 299 eP P 12 04 37.6 -1.4
NGP IAmb IAmb 12 04 46.7
comp=Z,73nm,1.7s
PB04 IPOC Station P 95.91 146 PFAKE 12 04 50.0 +10
PB04 LR LR
comp=Z,8μm,22.0s
LVC Limon Verde 96.04 147 eP P 12 04 41.6 +0.7
comp=Z,33nm,1.3s
LVC LR LR
comp=Z,8μm,22.0s
POO Poona 96.19 294 eP P 12 04 39.9 -1.1
DL2 Dalian 96.87 340 ⇑ iP P 12 04 46.2 +2.7
DL2 PP **PP 12 08 41.3 +1.9**
DL2 SKS **SKSac 12 15 18.7 -0.6**
DL2 S **ScS 12 16 10.3 +5.3**
DL2 SS **SS 12 22 43.1 +1.6**
DL2 PMZ
comp=Z,440nm,10.2s
DL2 LN
comp=Z,5μm,20.7s
DL2 LE
comp=Z,5μm,21.1s
DL2 LZ
comp=Z,13μm,23.1s
PB01 IPOC Station P 97.33 146 PFAKE 12 05 00.0 +14
PB01 LR LR
comp=Z,8μm,22.0s
YJA Yavi 97.46 150 eP P 12 04 46.5 -0.8
ERM Erimo 97.55 357 PFAKE 12 05 00.0 +13
ERM LR LR
comp=Z,6μm,20.0s
LSA Lhasa 97.66 313 P Pdif 12 04 48.5 +0.5
LSA LN
comp=Z,8μm,38.2s
LSA LE
comp=Z,6μm,34.7s
LSA LZ
comp=Z,28μm,39.1s
LSA Lhasa 97.66 313 eP Pdif 12 04 49.1 +1.1
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA MLR MLR
comp=Z,8μm,19.0s
LSA Lhasa 97.66 313 eP Pdif 12 04 49.1 +1.1
comp=Z,7.8nm,0.8s
LSA LR LR
comp=Z,8μm,19.0s
TIY Taiyuan 97.80 333 eP Pdif 12 04 49.1 +1.2
TIY PP **PP 12 08 48.8 +2.1**
TIY SKS **SKSac 12 15 28.6 +4.2**
TIY S **S 12 16 09.4 -3.4**
TIY PMZ
comp=Z,190nm,8.9s
TIY LN
comp=Z,3μm,15.7s
TIY LE
comp=Z,1μm,16.9s
TIY LZ
comp=Z,3μm,18.6s
BHPL Bhopal 98.33 299 eP P 12 04 48.0 -2.6
BHPL IAmb IAmb 12 04 52.6
comp=Z,24nm,1.5s
GUN Gumba 98.35 308 eP P 12 04 49.8 -1.1
comp=Z,80nm,1.4s
DMN Daman 98.44 308 eP P 12 04 50.0 -1.2
comp=Z,26nm,1.0s
PB11 IPOC Station P 98.47 145 PFAKE 12 05 00.0 +8.3
PB11 LR LR
comp=Z,8μm,22.0s
KKN Kakani 98.51 308 eP P 12 04 50.3 -1.2
comp=Z,11nm,0.7s
LZH Lanzhou 98.76 326 eP Pdif 12 04 54.6 +2.3
LZH pP sP 12 04 58.9 +0.1
LZH sP pP 12 05 01.4 +4.3
LZH PP **PP 12 08 58.3 +4.1**
LZH SKS **SKSac 12 15 32.1 +2.6**
LZH S **S 12 16 18.2 -3.0**
LZH PMZ
comp=Z,38nm,1.3s
LZH PMZ
comp=Z,330nm,8.5s
LZH LN
comp=Z,7μm,18.0s
LZH LE
comp=Z,4μm,17.4s
LZH LZ
comp=Z,12μm,19.7s
GKN Gorkha 98.98 307 eP Pdif 12 04 52.4 -1.1
BJT Baijiatuau 99.08 336 PFAKE 12 05 00.0 +6.6
BJT LR LR
comp=Z,10μm,22.0s
BJI Beijing 99.10 336 P **Pdif 12 04 54.3 +0.8**
BJI PP **PP 12 08 58.1 +1.6**
BJI SKS **SKSac 12 15 29.8 -0.8**
BJI S **ScS 12 16 26.0 +2.4**
BJI PMZ
comp=Z,9.0nm,1.4s
BJI PMZ
comp=Z,360nm,10.4s
BJI LN
comp=Z,5μm,23.1s
BJI LE
comp=Z,6μm,21.2s
BJI LZ
comp=Z,9μm,24.0s
KOLN Koldanda 99.25 306 eP Pdif 12 04 52.3 -2.5
comp=Z,7.5nm,0.8s
SNY Shenyang 99.35 342 ⇑ P Pdif 12 04 48.5 -6.1
SNY PP **PP 12 08 54.1 -4.3**
SNY Shenyang 99.35 342 SKS **SKSac 12 15 35.6 +3.8**
SNY Shenyang 99.35 342 S **S 12 16 18.3 -7.3**
SNY Shenyang 99.35 342 SS SS 12 23 15.3 -1.0
ASAJ Asahikawa 99.67 357 PFAKE 12 05 10.0 +14
ASAJ LR LR
comp=Z,7μm,21.0s
PYUN Piuthan 99.81 306 eP Pdif 12 04 54.6 -2.7
comp=Z,30nm,0.8s
SPB Sao Paulo 99.90 166 PFAKE 12 05 10.0 +12
SPB LR LR
comp=Z,8μm,19.0s
KMBO Kilima Mbogo 100.17 253 LR LR 12 42 46.2
comp=Z,9μm,19.0s,baz=140,slow=31
USRK Ussuriysk Ar. 100.50 349 P **Pdif 12 04 59.5 -0.2**
comp=Z,1.7nm,0.8s,baz=135,slow=4.0,SNR=5.5
USRK PP **PP 12 09 03.3 -3.9**
comp=Z,1.9nm,0.8s,baz=198,slow=5.6,SNR=4.3
KUR Kuril'sk 100.71 0 eP Pdif 12 05 00.0 -0.5
KUR e 12 09 06.9
KUR eSS SS 12 23 36.9 +1.8
KUR MLR MLR
comp=N,7μm,19.0s
KUR MLR MLR
comp=E,3μm,19.0s
KUR MLR MLR
comp=Z,6μm,19.0s
CN2 Changchun 100.97 344 eP Pdif 12 05 04.1 +2.4
CN2 esP sP 12 05 11.0 +2.6
CN2 PP **PP 12 09 13.8 +3.1**
CN2 eS **Sdif 12 16 39.5 +0.5**
CN2 eSS **SS 12 23 42.0 +3.1**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,100nm,5.0s
CN2 LN
comp=Z,5μm,19.0s
CN2 LE
comp=Z,4μm,19.0s
CN2 LZ
comp=Z,6μm,21.0s
HHC Hu-ho-hao-te 100.98 333 eP Pdif 12 05 03.4 +1.4
HHC PP **PP 12 09 15.7 +4.8**
HHC SKS 12 15 40.3
HHC S **Sdif 12 16 36.8 -2.7**
HHC sS sS 12 16 45.5 -2.1
HHC PMZ
comp=Z,22nm,1.2s
HHC PMZ
comp=Z,210nm,8.3s
HHC LN
comp=Z,5μm,18.0s
HHC LE
comp=Z,6μm,19.0s
HHC LZ
comp=Z,7μm,18.7s
MDJ Mudanjiang 101.19 347 P **Pdif 12 05 04.8 +2.1**
MDJ S **Sdif 12 16 45.5 +4.7**
MDJ SS **SS 12 23 47.5 +5.6**
MDJ PMZ
comp=Z,5.0nm,1.6s
MDJ PMZ
comp=Z,250nm,7.7s
MDJ LN
comp=Z,6μm,37.1s
MDJ LE
comp=Z,4μm,35.1s
MDJ LZ
comp=Z,8μm,39.2s
MDJ Mudanjiang 101.19 347 PFAKE 12 05 10.0 +7.3
MDJ LR LR
comp=Z,7μm,21.0s
LPAZ La Paz 102.21 145 P **Pdif 12 05 07.0 -1.9**
comp=Z,1.0nm,0.8s,baz=291,slow=4.4,SNR=2.8
LPAZ PKiKP **PKiKP 12 09 30.6 -0.4**
comp=Z,2.8nm,1.1s,baz=230,slow=5.9,SNR=3.8
LPAZ PKKPbc **PKKPbc 12 21 03.1 -5.7**
comp=Z,1.4nm,1.1s,baz=359,slow=6.1,SNR=3.5
LPAZ La Paz 102.21 145 eP Pdif 12 05 09.4 +0.5
LPAZ i 12 09 30.6
LPAZ La Paz 102.21 145 ePdif Pdif 12 05 09.4 +0.5
LPAZ PKiKP **PKiKP 12 09 30.6 -0.4**
LPAZ PKKPbc **PKKPbc 12 21 03.1 -5.7**
YSS Yuzh-Sakhalins 102.50 357 eP Pdif 12 05 10.2 +1.8
YSS e 12 09 24.2
YSS e 12 15 41.3
YSS eS **Sdif 12 16 52.0 +0.5**
YSS pmax pmax
comp=Z,100nm,7.0s
YSS smax smax
comp=E,700nm,15.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS MLR MLR
comp=N,3μm,18.0s
YSS MLR MLR
comp=E,3μm,19.0s
YSS Yuzh-Sakhalins 102.50 357 PFAKE 12 05 20.0 +12
YSS LR LR
comp=Z,3μm,22.0s
NNA Nana 103.07 136 PFAKE 12 05 20.0 +8.0
NNA LR LR
comp=Z,15μm,20.0s
GTA Gaotai 103.09 324 eP Pdif 12 05 12.3 +0.8
GTA pP 12 05 16.1
GTA sP 12 05 18.9
GTA PP **PKiKP 12 09 30.8 -0.3**
GTA SKS 12 15 51.3
GTA S **Sdif 12 16 55.9 -1.3**
GTA sS SKKSac 12 17 04.2 +33
GTA SS **SS 12 24 12.4 +3.8**
GTA PMZ
comp=Z,5.0nm,1.1s
GTA PMZ
comp=Z,180nm,6.7s
GTA LN
comp=Z,7μm,19.5s
GTA LE
comp=Z,6μm,21.4s
GTA LZ
comp=Z,8μm,20.4s
DDI Dehra Dun 103.97 304 eP Pdif 12 05 14.3 -1.2
SHEL Horse Pasture 104.93 207 PFAKE 12 05 30.0 +10
SHEL LR LR
comp=Z,14μm,22.0s

SMLA Simla 105.06 303 *e*P **Pdif** **12 05 20.1 -0.2**
KLR Kul'dur 105.50 350 PP PP 12 09 43.6 -0.9
comp=Z,10.0nm,1.2s,baz=171,slow=6.1,SNR=5.7
DHRM DHARAMSHALA 106.40 303 *e*P **Pdif** **12 05 21.7 -4.8**
DHRM IAmb IAmb 12 05 23.0
comp=Z,11nm,0.2s
PAYG Puerto Ayora 107.05 118 PFAKE 12 09 50.0
PAYG LR LR
comp=Z,16µm,21.0s
HIA Hailar 107.23 342 PFAKE 12 09 50.0
HIA LR LR
comp=Z,6µm,20.0s
BDFB Brasilia 107.64 165 PFAKE 12 09 50.0
BDFB LR LR
comp=Z,17µm,18.0s
FURI Furi 107.71 260 PFAKE 12 09 50.0
FURI LR LR
comp=Z,6µm,22.0s
SONM Songino Array 108.83 332 Pdiff **Pdif** **12 05 38.1 +1.3**
comp=Z,0.4nm,0.4s,baz=157,slow=4.7,SNR=4.1
SONM PKiKP **PKiKP** **12 09 40.6 -0.8**
comp=Z,1.4nm,0.6s,baz=150,slow=6.8,SNR=4.9
SONM PKKPab **PKKPab** **12 20 58.2 -0.7**
comp=Z,2.9nm,1.2s,baz=351,slow=3.9,SNR=4.8
SONA1 Songino Array 108.84 332 *e*PKiKP **PKiKP** **12 09 40.7 -0.7**
PET Petropavlovsk 108.91 7 *e*P **Pdif** **12 05 40.4 +3.6**
PET *e* 12 16 15.5
PET *e*PPS PPS 12 19 36.7
PET pmax pmax
comp=Z,200nm,15.4s
PET Petropavlovsk 108.91 7 PFAKE 12 09 50.0
PET LR LR
comp=Z,10µm,22.0s
PEA0B Petropavlovsk- 108.93 7 PFAKE 12 09 50.0
PEA0B LR LR
comp=Z,9µm,22.0s
PETK Petropavlovsk- 108.93 7 PP PP 12 10 11.0 +1.4
comp=Z,3.9nm,1.0s,baz=159,slow=4.6,SNR=3.7
DAMY Dhamar 109.14 268 PFAKE 12 09 50.0
DAMY LR LR
comp=Z,8µm,21.0s
SMY Shemya 110.46 17 PFAKE 12 10 00.0
SMY LR LR
comp=Z,11µm,20.0s
SAML Samuel 110.67 148 PFAKE 12 10 00.0
SAML LR LR
comp=Z,2µm,19.0s
WMQ Urumqi 111.27 318 PKP **PKiKP** **12 09 45.8 -0.3**
WMQ PP **PP** **12 10 29.1 +2.3**
WMQ SKKS 12 17 22.8
WMQ SS **SS** **12 25 58.8 -0.6**
WMQ PPMZ
comp=Z,530nm,8.8s
WMQ LN
comp=Z,3µm,25.2s
WMQ LE
comp=Z,2µm,19.0s
WMQ LZ
comp=Z,4µm,19.0s
KBL Kabul 111.76 300 PFAKE 12 10 00.0
KBL LR LR
comp=Z,14µm,22.0s
ZAK Zakamensk 111.99 331 *e*PKiKP PKiKP 12 09 37.2 -10
ZAK pmax pmax
comp=Z,7.0nm,1.5s
KSH Kashi 112.53 308 PKP **PKiKP** **12 09 51.4 +2.7**
KSH PP **PP** **12 10 40.9 +5.0**
KSH PKS **PKSdf** **12 13 25.1 -0.3**
KSH SKS **SKSdf** **12 17 00.4 +0.4**
KSH SS **SS** **12 26 14.5 -1.9**
KSH PPMZ
comp=Z,220nm,6.2s
KSH LN
comp=Z,4µm,17.1s
KSH LE
comp=Z,8µm,19.9s
KSH LZ
comp=Z,14µm,25.0s
TLY Talaya 113.07 332 PFAKE 12 10 00.0
TLY LR LR
comp=Z,6µm,21.0s
OTAV Otavalo 113.42 129 PFAKE 12 10 00.0
OTAV LR LR
comp=Z,4µm,22.0s
MOY Mondy 113.77 331 *e*PKiKP **PKiKP** **12 09 53.3 +2.7**
NIKH Nikolski High 114.32 27 PFAKE 12 10 00.0 +8.6
NIKH LR LR
comp=Z,10µm,22.0s
ASCN Ascension 114.64 200 PFAKE 12 10 10.0 +17
ASCN LR LR
comp=Z,24µm,22.0s
TKM2 Tokmak 2 115.45 309 *e*PKiKP **PKPdf** **12 09 54.4 +0.1**
TKM2 MLR MLR
comp=Z,11µm,22.0s
TKM2 Tokmak 2 115.45 309 *e*PKPdf **PKPdf** **12 09 54.4 +0.1**
TKM2 LR LR
comp=Z,11µm,22.0s
AAK Ala-Archa 115.71 309 PKP **PKPdf** **12 09 54.7 0.0**
comp=Z,1.8nm,0.5s,baz=110,slow=6.2,SNR=5.0
AAK Ala-Archa 115.71 309 *e*PKiKP **PKPdf** **12 09 54.1 -0.6**
AAK MLR MLR
comp=Z,7µm,22.0s
AAK Ala-Archa 115.71 309 *e*PKPdf **PKPdf** **12 09 54.1 -0.6**
AAK LR LR
comp=Z,7µm,22.0s
UNV Unalaska Valle 115.73 28 PFAKE 12 10 10.0 +16
UNV LR LR
comp=Z,12µm,22.0s
FRU Bishkek 115.81 309 *e*PKiKP **PKPdf** **12 09 56.0 +1.3**
FRU *e* 12 10 56.0
MKAR Makanchi Array 115.84 316 PKP **PKPdf** **12 09 53.0 -1.6**
comp=Z,5.0nm,0.9s,baz=111,slow=2.7,SNR=12
MKAR PKKPab **PKKPab** **12 20 32.9 +4.4**
comp=Z,1.3nm,0.9s,baz=318,slow=1.6,SNR=4.6
MAKZ Makanchi 115.97 316 *e*PKiKP **PKPdf** **12 09 53.9 -1.0**
MAKZ MLR MLR
comp=Z,7µm,22.0s
MAKZ Makanchi 115.97 316 *e*PKPdf **PKPdf** **12 09 53.9 -1.0**
MAKZ LR LR
comp=Z,7µm,22.0s
EKS2 Erkin-Say 116.05 308 *e*PKiKP **PKPdf** **12 09 54.4 -0.9**
EKS2 MLR MLR
comp=Z,7µm,22.0s
EKS2 Erkin-Say 116.05 308 *e*PKPdf **PKPdf** **12 09 54.4 -0.9**
EKS2 LR LR
comp=Z,7µm,22.0s
AKUT Akutan 116.18 29 PFAKE 12 10 10.0 +15
AKUT LR LR
comp=Z,13µm,22.0s
SLBS Sierra La Lagu 116.40 86 PFAKE 12 10 10.0 +13
SLBS LR LR
comp=Z,9µm,19.0s
KKAR Karatay Array 117.86 306 *e*PKiKP **PKPdf** **12 09 57.8 -0.8**
KKAR Karatay Array 117.86 306 *e*PKPdf **PKPdf** **12 09 57.8 -0.8**
TLIG Tlapa 117.92 100 PFAKE 12 10 10.0 +10
TLIG LR LR
comp=Z,7µm,18.0s
PRAC Prado 118.07 131 PFAKE 12 10 10.0 +10
PRAC LR LR
comp=Z,4µm,19.0s
MOIG Morelia 118.16 96 PFAKE 12 10 10.0 +10
MOIG LR LR
comp=Z,8µm,21.0s
YAK Yakutsk 118.34 351 PKP **PKPdf** **12 09 58.6 -0.3**
comp=Z,0.8nm,0.3s,baz=25,slow=22,SNR=2.6
YAK PP **PP** **12 11 15.8 -0.4**
comp=Z,1.2nm,0.3s,baz=346,slow=23,SNR=4.3
YAK Yakutsk 118.34 351 *e*PKiKP **PKPdf** **12 09 56.9 -2.0**
YAK *e* 12 11 15.4
YAK *e* 12 16 50.5
YAK *e*PS **PS** **12 21 00.5 -0.9**
YAK *e*SS SS 12 27 26.0 -5.6
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=Z,251nm,3.3s
YAK pmax pmax
comp=E,26nm,2.7s
YAK pmax pmax
comp=N,141nm,3.5s
YAK Yakutsk 118.34 351 PKP **PKPdf** **12 09 58.6 -0.3**
YAK PP **PP** **12 11 15.8 -0.4**
YAK LR LR
comp=Z,6µm,19.0s
RCBR Riachuelo 118.49 176 PFAKE 12 10 10.0 +9.1
RCBR LR LR
comp=Z,10µm,21.0s
SEY Seymchan 118.51 3 PKP **PKPdf** **12 09 59.5 +0.3**
comp=Z,2.0nm,0.8s,baz=84,slow=2.5,SNR=5.5
SNCC San Nicolas Is 118.51 72 PFAKE 12 10 10.0 +10
SNCC LR LR
comp=Z,10µm,20.0s
SDPT Sand Point 118.73 31 PFAKE 12 10 10.0 +10
SDPT LR LR
comp=Z,7µm,20.0s
UNM Universidad Na 119.00 98 PFAKE 12 10 10.0 +8.1
UNM LR LR
comp=Z,8µm,18.0s
ROSC El Rosal 119.33 131 PFAKE 12 10 20.0 +17
ROSC LR LR
comp=Z,4µm,18.0s
PTGA Pitinga 119.42 148 PFAKE 12 10 10.0 +7.4
PTGA LR LR
comp=Z,7µm,18.0s
BAR Barrett 119.62 75 PFAKE 12 10 10.0 +7.6
BAR LR LR
comp=Z,10µm,18.0s
ZAIG Zacatecas 119.83 93 *e*PKPdf **PKPdf** **12 10 03.8 +0.4**
ZAIG LR LR
comp=Z,5µm,20.0s
GEYT Alibeck 119.91 294 PKP **PKPdf** **12 10 01.5 -1.3**
comp=Z,6.7nm,0.9s,baz=259,slow=0.8,SNR=12
MONP2 Monument Peak 119.92 75 P **PKPdf** **12 10 03.3 +0.1**
baz=220
PASC Pasadena Art C 119.94 72 *e*PKPdf **PKPdf** **12 10 04.5 +1.5**
PASC LR LR
comp=Z,9µm,20.0s
HSIG 119.98 82 PFAKE 12 10 20.0 +17
HSIG LR LR
comp=Z,8µm,20.0s
OSI Osito Audit: C 119.98 72 PFAKE 12 10 20.0 +17
OSI LR LR
comp=Z,11µm,20.0s
HELC Santa Helena 120.01 129 PFAKE 12 10 20.0 +16
HELC LR LR
comp=Z,12µm,21.0s
MWC Mount Wilson 120.04 73 *e*PKiKP **PKPdf** **12 10 03.8 +0.4**
MWC MLR MLR
comp=Z,10µm,22.0s
MWC Mount Wilson 120.04 73 *e*PKPdf **PKPdf** **12 10 03.8 +0.4**
MWC LR LR
comp=Z,10µm,22.0s
SAO San Andreas Ge 120.17 68 PFAKE 12 10 20.0 +17
SAO LR LR
comp=Z,15µm,18.0s
KURBB Kurchatov Arra 120.40 317 PKP **PKPdf** **12 10 01.5 -1.8**
comp=Z,6.5nm,1.0s,baz=144,slow=1.5,SNR=13
KURBB PP **PP** **12 11 29.4 -1.3**
comp=Z,2.6nm,1.1s,baz=150,slow=5.7,SNR=8.2
KURBB PKKPab **PKKPbc** **12 20 09.5 +0.5**
comp=Z,1.1nm,1.0s,baz=319,slow=4.9,SNR=7.3
TPFO Pinon Flats 120.44 74 P **PKPdf** **12 10 03.0 -1.1**
baz=220
KURK Kurchatov 120.44 317 ⇑*i*PKiKP **PKPdf** **12 10 04.4 +1.1**
KURK Kurchatov 120.44 317 *e*PKPdf **PKPdf** **12 10 03.3 0.0**
KURK PP **PP** **12 11 29.4 -1.5**
KURK PKKPab **PKKPbc** **12 20 09.5 +0.6**
KURK LR LR
comp=Z,5µm,20.0s
PFO Pinyon Flats O 120.44 74 PKP **PKPdf** **12 10 04.6 +0.5**
comp=Z,3.1nm,0.9s,baz=206,slow=4.4,SNR=3.8
PFO Pinyon Flats O 120.44 74 *e*PKPdf **PKPdf** **12 10 05.8 +1.7**
PFO LR LR
comp=Z,10µm,19.0s
MCCM Marconi Confer 120.47 66 PFAKE 12 10 20.0 +16
MCCM LR LR
comp=Z,12µm,18.0s
EDW2 Edwards Air Fo 120.58 72 P **PKPdf** **12 10 05.4 +1.2**
baz=221
BCIP Isla Barro Col 120.66 123 PFAKE 12 10 20.0 +15
BCIP LR LR
comp=Z,5µm,21.0s
ZAA0 Zalesovo Array 120.78 322 *e*PKPdf **PKPdf** **12 10 04.6 +0.8**
ZALV Zalesovo Beam 120.78 322 PKP **PKPdf** **12 10 04.6 +0.7**
comp=Z,3.9nm,0.9s,baz=119,slow=1.9,SNR=7.7
ZALV PP **PP** **12 11 30.1 -3.1**
comp=Z,1.1nm,0.6s,baz=134,slow=4.3,SNR=2.6
ZALV PKKPab **PKKPbc** **12 20 09.8 +2.2**
comp=Z,0.6nm,0.4s,baz=5.2,slow=1.6,SNR=3.4
GLA Glamis 120.91 76 PFAKE 12 10 20.0 +15
GLA LR LR
comp=Z,12µm,18.0s
ISA Isabella, Lake 120.91 71 *e*PKiKP **PKPdf** **12 10 06.2 +1.4**
ISA MLR MLR
comp=Z,11µm,20.0s
ISA Isabella, Lake 120.91 71 *e*PKPdf **PKPdf** **12 10 06.2 +1.4**
ISA LR LR
comp=Z,11µm,20.0s
BELC Belle Mtn. Jos 120.99 74 P **PKPdf** **12 10 06.0 +0.9**
baz=221
HOPS Hopland Field 121.01 65 PFAKE 12 10 20.0 +15
HOPS LR LR
comp=Z,12µm,20.0s
BC3 Big Chuckawall 121.02 75 P **PKPdf** **12 10 06.6 +1.5**
baz=221
TGUH Tegucigalpa,Un 121.14 113 PFAKE 12 10 20.0 +14
TGUH LR LR
comp=Z,3µm,21.0s
214A Organ Pipe Nat 121.19 78 P **PKPdf** **12 10 05.6 +0.2**
baz=220
113A Mohawk Valley, 121.27 77 *e*PKPdf **PKPdf** **12 10 06.3 +0.7**
113A LR LR
comp=Z,13µm,20.0s
HEC Hector,Ludlow 121.43 73 P **PKPdf** **12 10 07.4 +1.5**
baz=221
GSC Goldstone, Bar 121.53 73 P **PKPdf** **12 10 06.9 +0.8**
baz=221
GSC Goldstone, Bar 121.53 73 *e*PKiKP **PKPdf** **12 10 07.4 +1.3**
GSC MLR MLR
comp=Z,9µm,22.0s
GSC Goldstone, Bar 121.53 73 *e*PKPdf **PKPdf** **12 10 07.4 +1.3**
GSC LR LR
comp=Z,9µm,22.0s
IRM Iron Mountain 121.57 75 P **PKPdf** **12 10 06.6 +0.5**
baz=221
Y12C Blythe 121.60 75 P **PKPdf** **12 10 07.5 +1.4**
baz=221
Y12C Blythe 121.60 75 *e*PKPdf **PKPdf** **12 10 08.3 +2.2**
Y12C LR LR
comp=Z,12µm,19.0s
KMRM Mail Ridge 121.60 64 PFAKE 12 10 20.0 +14
KMRM LR LR
comp=Z,12µm,21.0s
CMB Columbia Colle 121.68 68 PFAKE 12 10 20.0 +14
CMB LR LR
comp=Z,9µm,18.0s
MPMC Manual Prospec 121.73 72 P **PKPdf** **12 10 08.5 +1.9**
baz=221
GMRC Granite Mounta 121.76 74 P **PKPdf** **12 10 07.2 +0.6**
baz=221
DAC Darwin (Calif) 121.84 71 PFAKE 12 10 20.0 +13
DAC LR LR
comp=Z,17µm,20.0s
JCC Jacoby Creek, 121.89 63 PFAKE 12 10 20.0 +14
JCC LR LR
comp=Z,9µm,20.0s
NVS Novosibirsk 122.04 322 ⇓*i*PKiKP **PKPdf** **12 10 03.5 -2.7**
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,0.9s
AFDM Forest Hills D 122.06 67 *e*PKPdf **PKPdf** **12 10 08.6 +1.8**
AFDM LR LR
comp=Z,9µm,18.0s
KHMM Horse Mountain 122.08 63 *e*PKPdf **PKPdf** **12 10 09.0 +2.0**
KHMM LR LR
comp=Z,11µm,20.0s
TUQ Turquoise Moun 122.11 73 P **PKPdf** **12 10 08.0 +0.8**
baz=221
PDMCI Parker Dam,Lak 122.22 75 P **PKPdf** **12 10 09.7 +2.4**
baz=221
ORV Oroville 122.23 66 *e*PKiKP **PKPdf** **12 10 08.5 +1.3**
ORV MLR MLR
comp=Z,6µm,18.0s
ORV Oroville 122.23 66 *e*PKPdf **PKPdf** **12 10 08.5 +1.3**
ORV LR LR
comp=Z,6µm,18.0s
SHOC Shoshone, Teco 122.26 73 P **PKPdf** **12 10 08.6 +1.2**
baz=222
LDFC Landfair 122.28 74 *e*PKPdf **PKPdf** **12 10 08.4 +0.9**
LDFC LR LR
comp=Z,13µm,18.0s
FURC Furnace Creek, 122.37 72 P **PKPdf** **12 10 08.6 +1.1**
baz=222
WDC Whiskeytown Da 122.46 65 *e*PKiKP **PKPdf** **12 10 07.3 -0.2**
WDC MLR MLR
comp=Z,10µm,22.0s
WDC Whiskeytown Da 122.46 65 *e*PKPdf **PKPdf** **12 10 07.3 -0.2**
WDC LR LR
comp=Z,10µm,22.0s
OHAK Old Harbor 122.49 34 PFAKE 12 10 20.0 +13
OHAK LR LR
comp=Z,17µm,19.0s
TUC Tucson 122.57 79 P **PKPdf** **12 10 07.5 -0.7**
baz=221
TUC Tucson 122.57 79 *e*PKiKP **PKPdf** **12 10 09.4 +1.3**
TUC MLR MLR
comp=Z,14µm,20.0s
TUC Tucson 122.57 79 *e*PKPdf **PKPdf** **12 10 09.4 +1.3**
TUC LR LR
comp=Z,14µm,20.0s
Y14A Wickenburg 122.57 76 *e*PKPdf **PKPdf** **12 10 09.7 +1.6**
Y14A LR LR
comp=Z,60µm,19.0s
O03D Paynes Creek 122.63 65 P **PKPdf** **12 10 07.1 -1.0**
baz=222,SNR=5.9
N02D Trinity Center 122.67 64 P **PKPdf** **12 10 08.6 +0.5**
baz=222,SNR=8.4
319A Douglas 122.70 81 *e*PKPdf **PKPdf** **12 10 09.8 +1.3**
319A LR LR
comp=Z,10µm,21.0s
M02C Callahan 122.91 64 P **PKPdf** **12 10 08.7 +0.2**
baz=222
W13A Hualapai Mount 122.96 75 *e*PKPdf **PKPdf** **12 10 11.0 +2.0**
TPNV Topopah Spring 123.06 72 P **PKPdf** **12 10 09.6 +0.5**
baz=222
TPNV Topopah Spring 123.06 72 *e*PKiKP **PKPdf** **12 10 09.0 -0.1**
TPNV MLR MLR
comp=Z,14µm,20.0s
TPNV Topopah Spring 123.06 72 *e*PKPdf **PKPdf** **12 10 08.9 -0.1**
TPNV LR LR
comp=Z,14µm,20.0s
NV01 Mina Array Sit 123.06 69 *e*PKPdf **PKPdf** **12 10 08.6 -0.5**
NVAR Mina Array Bea 123.06 69 PKP **PKPdf** **12 10 08.2 -0.9**
comp=Z,3.7nm,1.0s,baz=178,slow=2.9,SNR=18
NVAR PKKPab PKKPbc 12 20 07.1 +8.3
comp=Z,0.3nm,0.6s,baz=31,slow=3.2,SNR=3.0
L02D Cave Junction, 123.10 63 P **PKPdf** **12 10 09.4 +0.6**
baz=222
NV11 Mina Array Sit 123.14 69 *e*PKPdf **PKPdf** **12 10 10.9 +1.7**
NV11 LR LR
comp=Z,12µm,19.0s
KDAK Kodiak Island 123.16 34 PFAKE 12 10 20.0 +12
KDAK LR LR
comp=Z,17µm,20.0s
YBH Yreka Blue Hor 123.23 63 *e*PKiKP **PKPdf** **12 10 09.9 +0.7**
YBH MLR MLR
comp=Z,13µm,19.0s
YBH Yreka Blue Hor 123.23 63 *e*PKPdf **PKPdf** **12 10 09.8 +0.7**
YBH LR LR
comp=Z,13µm,19.0s
SHPR Sheep Range 123.32 73 *e*PKPdf **PKPdf** **12 10 11.7 +2.1**
SHPR LR LR
comp=Z,8µm,18.0s
GAMB Gambell 123.43 20 PFAKE 12 10 20.0 +11
GAMB LR LR
comp=Z,8µm,21.0s
PAHR Pah Rah Range 123.44 67 *e*PKPdf **PKPdf** **12 10 10.2 +0.5**
PAHR LR LR
comp=Z,12µm,18.0s
M04C Macdoel 123.71 64 P **PKPdf** **12 10 11.0 +0.9**
baz=223
HUMO Hull Mountain 123.75 63 *e*PKPdf **PKPdf** **12 10 10.6 +0.6**
HUMO LR LR
comp=Z,14µm,20.0s
X16A Lo Mia Camp, P 123.79 77 *e*PKPdf **PKPdf** **12 10 11.3 +0.7**
X16A LR LR
comp=Z,10µm,20.0s
TX31 Lajitas Ar. Si 124.31 87 *e*PKPdf **PKPdf** **12 10 11.2 -0.4**
TXAR Lajitas Array 124.31 87 PKP **PKPdf** **12 10 09.2 -2.4**
comp=Z,1.6nm,0.8s,baz=195,slow=4.9,SNR=14
TXAR PKKPab **PKKPab** **12 19 56.6 +2.1**
comp=Z,1.0nm,0.8s,baz=72,slow=3.9,SNR=8.2
K04D Chiloquin, OR 124.37 63 P **PKPdf** **12 10 12.0 +0.6**
baz=223
BILL Bilibino 124.37 9*c i*PKiKP **PKPdf** **12 10 11.8 +1.5**
BILL *e* 12 11 56.4
BILL *e* 12 17 22.5
BILL *e*SS SS 12 28 48.5 -0.1
BILL *e*SSS SSS 12 33 23.5
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,6µm,19.0s
BILL Bilibino 124.37 9 *e*PKPdf **PKPdf** **12 10 11.4 +1.1**
BILL LR LR
comp=Z,6µm,21.0s
121A Cookes Peak, D 124.41 82 P **PKPdf** **12 10 12.4 +0.6**
baz=221
121A Cookes Peak, D 124.41 82 *e*PKPdf **PKPdf** **12 10 13.3 +1.5**
R11A Troy Canyon, C 124.45 71 P **PKPdf** **12 10 11.9 +0.2**
baz=223
R11A Troy Canyon, C 124.45 71 PFAKE 12 10 20.0 +8.3
R11A LR LR
comp=Z,16µm,19.0s
SDV Santo Domingo 124.52 133 PFAKE 12 10 20.0 +7.4
SDV LR LR
comp=Z,9µm,20.0s
MOD Modoc Plateau 124.58 65 PFAKE 12 10 20.0 +8.2
MOD LR LR
comp=Z,8µm,18.0s
WUAZ Wupatki 124.64 76 *e*PKPdf **PKPdf** **12 10 13.8 +1.7**
WUAZ LR LR
comp=Z,11µm,19.0s
X18A Snowflake 124.69 78 *e*PKPdf **PKPdf** **12 10 13.6 +1.3**
X18A LR LR
comp=Z,10µm,20.0s
LCMT Little Creek M 124.72 74 *e*PKPdf **PKPdf** **12 10 13.9 +1.6**
U15A North Rim 124.81 75 *e*PKPdf **PKPdf** **12 10 13.5 +0.9**
U15A LR LR
comp=Z,8µm,19.0s
K05A Summer Lake 124.88 64 *e*PKPdf **PKPdf** **12 10 12.1 -0.3**
K05A LR LR
comp=Z,10µm,20.0s
I04A Tendick Farm, 124.89 62 P **PKPdf** **12 10 12.2 +0.1**
baz=224
KNB Kanab 124.96 74 *e*PKiKP **PKPdf** **12 10 14.8 +2.1**
KNB MLR MLR
comp=Z,10µm,18.0s
KNB Kanab 124.96 74 *e*PKPdf **PKPdf** **12 10 14.8 +2.1**
KNB LR LR
comp=Z,10µm,18.0s
HOM Homer 124.97 33 PFAKE 12 10 20.0 +8.3
HOM LR LR
comp=Z,14µm,19.0s
SVW2 Sparrevohn 124.98 30 *e*PKPdf **PKPdf** **12 10 13.5 +1.7**
SVW2 LR LR
comp=Z,8µm,22.0s
CNPM China Poot 124.99 33 *e*PKPdf **PKPdf** **12 10 12.7 +0.9**
CNPM LR LR
comp=Z,16µm,19.0s
COR Corvallis 125.02 61 PFAKE 12 10 20.0 +7.7
COR LR LR
comp=Z,17µm,22.0s
CCUT Cedar City 125.06 73 *e*PKPdf **PKPdf** **12 10 15.4 +2.4**
CCUT LR LR
comp=Z,10µm,18.0s
BMN Battle Mountai 125.10 68 *e*PKiKP **PKPdf** **12 10 14.0 +1.2**
BMN MLR MLR
comp=Z,8µm,19.0s
BMN Battle Mountai 125.10 68 *e*PKPdf **PKPdf** **12 10 14.0 +1.2**
BMN LR LR
comp=Z,8µm,19.0s
J05D Fort Rock, OR 125.11 63 P **PKPdf** **12 10 11.5 -1.2**
baz=224,SNR=11
MNTX Cornudas Mount 125.13 84 P **PKPdf** **12 10 11.5 -1.5**
baz=221
MNTX Cornudas Mount 125.13 84 *e*PKPdf **PKPdf** **12 10 13.1 +0.1**
MNTX LR LR
comp=Z,6µm,20.0s
W18A Petrified Fore 125.25 78 PFAKE 12 10 30.0 +17
W18A LR LR
comp=Z,9µm,21.0s
RSO Redoubt South 125.28 32 *e*PKPdf **PKPdf** **12 10 14.0 +1.4**
BRLK Bradley Lake 125.29 33 *e*PKPdf **PKPdf** **12 10 13.1 +0.7**

BRLK LR LR
comp=Z,16µm,19.0s
034A Hebbronville 125.38 93 P **PKPdf 12 10 14.6 +1.0**
baz=219
933A Laredo 125.47 92 P **PKPdf 12 10 15.2 +1.5**
baz=219
BVAR Borovoye Array 125.49 314 PKP **PKPdf 12 10 11.3 -1.7**
comp=Z,10nm,0.9s,baz=137,slow=3.0,SNR=16
BVAR PP **PP 12 12 03.4 -1.7**
comp=Z,1.6nm,0.6s,baz=246,slow=39,SNR=3.0
PSUT Pine Spring 125.51 72 *e*PKPdf **PKPdf 12 10 15.4 +1.6**
PSUT LR LR
comp=Z,10µm,20.0s
PKCU Pink Cliffs 125.55 74 PFAKE 12 10 30.0 +16
PKCU LR LR
comp=Z,9µm,19.0s
BRVK Borovoye 125.56 314 *e*PKIKP **PKPdf 12 10 12.2 -0.9**
BRVK MLR MLR
comp=Z,17µm,21.0s
BRVK Borovoye 125.56 314 *e*PKPdf **PKPdf 12 10 12.2 -0.9**
BRVK LR LR
comp=Z,17µm,21.0s
832A Faith Ranch, C 125.59 91 P **PKPdf 12 10 15.6 +1.6**
baz=220
H04A Detroit Lake 125.64 61 PFAKE 12 10 30.0 +16
H04A LR LR
comp=Z,11µm,22.0s
TEIG Tepich 125.71 108 PFAKE 12 10 30.0 +16
TEIG LR LR
comp=Z,6µm,18.0s
TNA Tin City 125.77 21 *e*PKPdf **PKPdf 12 10 14.9 +1.9**
TNA LR LR
comp=Z,6µm,22.0s
WVOR Wild Horse Val 125.82 66 *e*PKIKP **PKPdf 12 10 14.5 +0.4**
WVOR MLR MLR
comp=Z,9µm,20.0s
WVOR Wild Horse Val 125.82 66 *e*PKPdf **PKPdf 12 10 14.5 +0.4**
WVOR LR LR
comp=Z,9µm,20.0s
I05D Terrebonne, OR 125.82 62 P **PKPdf 12 10 14.6 +0.7**
baz=224
F03A Seaside 125.87 59 PFAKE 12 10 30.0 +16
F03A LR LR
comp=Z,10µm,22.0s
934A Benavides 125.88 93 P **PKPdf 12 10 17.0 +2.4**
baz=219
833A Chaparral WMA, 125.94 92 P **PKPdf 12 10 16.0 +1.4**
baz=220
SEW Seward 126.00 34 *e*PKPdf **PKPdf 12 10 15.4 +1.8**
SEW LR LR
comp=Z,10µm,22.0s
ZRNK Zerenda 126.00 313 *e*PKIKP **PKPdf 12 10 12.7 -1.2**
ZRNK MLR MLR
comp=Z,10µm,21.0s
ZRNK Zerenda 126.00 313 *e*PKPdf **PKPdf 12 10 12.7 -1.2**
ZRNK LR LR
comp=Z,10µm,21.0s
Y22D IRIS PASSCAL I 126.04 81 PFAKE 12 10 30.0 +15
Y22D LR LR
comp=Z,15µm,20.0s
MTPU Mount Pierson 126.05 74 *e*PKPdf **PKPdf 12 10 16.5 +1.4**
MTPU LR LR
comp=Z,8µm,19.0s
SPU Mount Spurr 126.06 32 *e*PKPdf **PKPdf 12 10 14.5 +0.7**
LAZ Ladron 126.16 80 *e*PKPdf **PKPdf 12 10 17.3 +2.1**
DBIC Dimbokro 126.18 215 PKP **PKPdf 12 10 15.1 -0.5**
comp=Z,11nm,1.0s,baz=167,slow=1.4,SNR=4.4
DBIC Dimbokro 126.18 215 *e*PKPdf **PKPdf 12 10 15.8 +0.3**
BNM Barren Site 126.26 81 *e*PKPdf **PKPdf 12 10 17.0 +1.6**
733A Divot King Ran 126.30 91 P **PKPdf 12 10 15.8 +0.5**
baz=220
E03A Lebam 126.31 59 PFAKE 12 10 30.0 +15
E03A LR LR
comp=Z,10µm,21.0s
TT01 Tatalina 126.33 28 *e*PKPdf **PKPdf 12 10 14.4 +0.2**
TTA Tatalina 126.36 28 *e*PKIKP **PKPdf 12 10 13.0 -1.4**
TTA MLR MLR
comp=Z,18µm,22.0s
TTA Tatalina 126.36 28 *e*PKPdf **PKPdf 12 10 13.0 -1.4**
TTA LR LR
comp=Z,18µm,22.0s
ELK Elko 126.37 69 *e*PKIKP **PKPdf 12 10 16.9 +1.5**
ELK Elko 126.37 69 *e*PKPdf **PKPdf 12 10 16.9 +1.5**
MSU Marysvale 126.40 73 *e*PKIKP **PKPdf 12 10 16.2 +0.7**
MSU Marysvale 126.40 73 *e*PKPdf **PKPdf 12 10 16.1 +0.7**
F04A Amboy 126.42 60 PFAKE 12 10 30.0 +15
F04A LR LR
comp=Z,11µm,21.0s
MID Middleton Isla 126.47 36 PFAKE 12 10 30.0 +15
MID LR LR
comp=Z,9µm,22.0s
SUA Susitna One 126.67 32 *e*PKPdf **PKPdf 12 10 15.5 +0.4**
SUA LR LR
comp=Z,12µm,20.0s
RC01 Rabbit Creek A 126.68 33 *e*PKPdf **PKPdf 12 10 15.9 +1.0**
RC01 LR LR
comp=Z,12µm,20.0s
NLWA Neilton Lookou 126.76 58 PFAKE 12 10 30.0 +14
NLWA LR LR
comp=Z,13µm,19.0s
G06A Carlson Farm, 126.81 62 PFAKE 12 10 30.0 +14
G06A LR LR
comp=Z,10µm,21.0s
633A Saathoff Ranch 126.93 91 P **PKPdf 12 10 18.2 +1.7**
baz=220
ANMO Albuquerque 126.94 81 P **PKPdf 12 10 17.7 +1.1**
baz=223
ANMO Albuquerque 126.94 81 *c i*PKIKP **PKPdf 12 10 18.8 +2.2**
ANMO pmax pmax
comp=Z,11nm,2.5s
ANMO Albuquerque 126.94 81 *e*PKPdf **PKPdf 12 10 18.2 +1.6**
ANMO LR LR
comp=Z,12µm,20.0s
PMR Palmer 127.26 33 *e*PKIKP **PKPdf 12 10 16.9 +0.9**
PMR MLR MLR
comp=Z,13µm,22.0s
PMR Palmer 127.26 33 *e*PKPdf **PKPdf 12 10 16.9 +0.9**
PMR LR LR
comp=Z,13µm,22.0s
DUG Dugway, Tooele 127.27 71 P **PKPdf 12 10 17.4 +0.4**
baz=224
DUG Dugway, Tooele 127.27 71 PFAKE 12 10 30.0 +13
DUG LR LR
comp=Z,11µm,20.0s
LON Longmire 127.30 60 *e*PKIKP **PKPdf 12 10 18.3 +1.6**
LON MLR MLR
comp=Z,8µm,22.0s
LON Longmire 127.30 60 *e*PKPdf **PKPdf 12 10 18.3 +1.6**
LON LR LR
comp=Z,8µm,22.0s
JCT Junction City 127.35 90 P **PKPdf 12 10 16.7 -0.7**
baz=221
JCT Junction City 127.35 90 *e*PKIKP **PKPdf 12 10 18.2 +0.9**
JCT MLR MLR
comp=Z,7µm,18.0s
JCT Junction City 127.35 90 *e*PKPdf **PKPdf 12 10 18.2 +0.9**
JCT LR LR
comp=Z,7µm,18.0s
PPLA Purkeypile 127.38 30 *e*PKPdf **PKPdf 12 10 16.6 +0.1**
PPLA LR LR
comp=Z,8µm,21.0s
MVCO Mesa Verde 127.46 77 P **PKPdf 12 10 16.5 -1.0**
baz=224
MVCO Mesa Verde 127.46 77 *e*PKPdf **PKPdf 12 10 17.2 -0.4**
MVCO LR LR
comp=Z,9µm,20.0s
533A Kerrville 127.48 90 P **PKPdf 12 10 16.8 -0.8**
baz=220
TMUT Trail Mountain 127.48 73 *e*PKPdf **PKPdf 12 10 19.7 +2.0**
TMUT LR LR
comp=Z,8µm,18.0s
EYAK Cordova Ski Ar 127.52 35 PFAKE 12 10 30.0 +13
EYAK LR LR
comp=Z,23µm,21.0s
D05A Enumclaw 127.52 59 PFAKE 12 10 30.0 +13
D05A LR LR
comp=Z,8µm,20.0s
SML Sawmill 127.67 33 *e*PKIKP **PKPdf 12 10 17.8 +0.9**
SML MLR MLR
comp=Z,15µm,22.0s
SML Sawmill 127.67 33 *e*PKPdf **PKPdf 12 10 17.8 +0.9**
SML LR LR
comp=Z,15µm,22.0s
BGU Big Grassy Mou 127.67 71 *e*PKPdf **PKPdf 12 10 17.8 0.0**
BGU LR LR
comp=Z,12µm,19.0s

G08A Pilot Rock 127.69 63 *e*PKPdf **PKPdf 12 10 20.2 +2.6**
SRU San Rafael Swe 127.72 74 *e*PKIKP **PKPdf 12 10 17.6 -0.4**
SRU MLR MLR
comp=Z,8µm,20.0s
SRU San Rafael Swe 127.72 74 *e*PKPdf **PKPdf 12 10 17.6 -0.4**
SRU LR LR
comp=Z,8µm,20.0s
RAGM Ragged Mountai 127.75 36 PFAKE 12 10 30.0 +13
RAGM LR LR
comp=Z,16µm,21.0s
PV05 Paradox Valley 127.76 76 *e*PKPdf **PKPdf 12 10 18.5 +0.4**
534A Blanco 127.76 91 P **PKPdf 12 10 17.3 -0.8**
baz=220
CAST Castle Rocks 127.82 30 PFAKE 12 10 30.0 +13
CAST LR LR
comp=Z,3µm,22.0s
PGC Sidney 127.85 57 PFAKE 12 10 30.0 +12
PGC LR LR
comp=Z,9µm,21.0s
TIXI Tiksi 127.86 353 PKP **PKPdf 12 10 14.8 -2.1**
comp=Z,15nm,1.0s,baz=96,slow=1.6,SNR=15
TIXI Tiksi 127.86 353 *i*PKIKP **PKPdf 12 10 16.0 -0.9**
TIXI *i* 12 10 19.2
TIXI Tiksi 127.86 353 *e*PKPdf **PKPdf 12 10 14.9 -2.0**
TIXI LR LR
comp=Z,6µm,20.0s
P17A Butcher Ranch, 127.86 74 PFAKE 12 10 30.0 +12
P17A LR LR
comp=Z,10µm,18.0s
DIV Divide 127.95 35 *e*PKPdf **PKPdf 12 10 19.0 +1.5**
DIV LR LR
comp=Z,23µm,22.0s
433A Art 127.96 90 P **PKPdf 12 10 17.6 -0.9**
baz=221
MFID Camas Ranch 127.96 67 *e*PKPdf **PKPdf 12 10 18.6 +0.4**
MFID LR LR
comp=Z,5µm,21.0s
SCM Sheep Creek Mo 128.00 33 PFAKE 12 10 30.0 +12
SCM LR LR
comp=Z,11µm,22.0s
PV10 Paradox Valley 128.00 76 *e*PKPdf **PKPdf 12 10 18.6 0.0**
PV09 Paradox Valley 128.04 76 *e*PKPdf **PKPdf 12 10 19.3 +0.6**
PV01 Paradox Valley 128.09 76 *e*PKPdf **PKPdf 12 10 19.9 +1.2**
PV04 Paradox Valley 128.09 76 *e*PKPdf **PKPdf 12 10 18.2 -0.4**
HAWA Hanford 128.17 62 PFAKE 12 10 30.0 +12
HAWA LR LR
comp=Z,12µm,20.0s
KLU Klutina 128.18 34 *e*PKPdf **PKPdf 12 10 19.6 +1.7**
KLU LR LR
comp=Z,11µm,20.0s
BMRM Bremner River 128.21 35 *e*PKPdf **PKPdf 12 10 18.9 +1.0**
BMRM LR LR
comp=Z,19µm,22.0s
BMO Blue Mountains 128.21 64 PFAKE 12 10 30.0 +11
BMO LR LR
comp=Z,16µm,20.0s
LTY Liberty 128.22 60 PFAKE 12 10 30.0 +12
LTY LR LR
comp=Z,11µm,22.0s
B05A Bryant 128.23 58 P **PKPdf 12 10 18.3 0.0**
baz=226
P18A Preston Nutter 128.24 74 *e*PKPdf **PKPdf 12 10 19.8 +0.7**
P18A LR LR
comp=Z,9µm,19.0s
SPUT South Promonto 128.25 71 *e*PKPdf **PKPdf 12 10 20.5 +1.6**
SPUT LR LR
comp=Z,10µm,19.0s
KTH Kantishna Hill 128.26 30 *e*PKPdf **PKPdf 12 10 18.9 +0.9**
KTH LR LR
comp=Z,10µm,21.0s
535A Dale 128.27 92 P **PKPdf 12 10 19.4 +0.4**
baz=220
MSTX Muleshoe 128.28 84 P **PKPdf 12 10 18.8 -0.2**
baz=222
MSTX Muleshoe 128.28 84 *e*PKPdf **PKPdf 12 10 18.9 -0.2**
MSTX LR LR
comp=Z,8µm,20.0s
JLU Jordanelle 128.28 72 *e*PKPdf **PKPdf 12 10 20.3 +1.3**
JLU LR LR
comp=Z,13µm,20.0s
TRF Thorofare Moun 128.36 31 *e*PKPdf **PKPdf 12 10 18.7 +0.4**
TRF LR LR
comp=Z,10µm,20.0s
CRAG Craig 128.39 46 PFAKE 12 10 30.0 +12
CRAG LR LR
comp=Z,14µm,21.0s
HVU Hansel Valley 128.41 70 *e*PKIKP **PKPdf 12 10 21.1 +2.0**
HVU MLR MLR
comp=Z,10µm,19.0s
HVU Hansel Valley 128.41 70 *e*PKPdf **PKPdf 12 10 21.1 +2.0**
HVU LR LR
comp=Z,10µm,19.0s
333A Richland Sprin 128.45 89 P **PKPdf 12 10 19.4 0.0**
baz=221
434A Burnet 128.47 91 P **PKPdf 12 10 19.1 -0.4**
baz=221
CRQM Cirque 128.53 36 *e*PKPdf **PKPdf 12 10 20.0 +1.3**
GNI Garni 128.60 287 *c i*PKIKP **PKPdf 12 10 23.5 +4.0**
GNI pmax pmax
comp=Z,168nm,1.7s
GNI Garni 128.60 287 *e*PKPdf **PKPdf 12 10 19.0 -0.5**
GNI LR LR
comp=Z,6µm,22.0s
BPAW Bear Paw Mtn. 128.66 30 *e*PKPdf **PKPdf 12 10 18.0 -0.7**
BPAW LR LR
comp=Z,9µm,21.0s
TCUT Toone Canyon 128.67 72 PFAKE 12 10 30.0 +10
TCUT LR LR
comp=Z,12µm,20.0s
B06A Marblemount 128.70 58 PFAKE 12 10 30.0 +11
B06A LR LR
comp=Z,10µm,18.0s
RND Reindeer 128.74 31 *e*PKIKP **PKPdf 12 10 19.0 +0.1**
RND Reindeer 128.74 31 *e*PKPdf **PKPdf 12 10 19.0 +0.1**
S22A 4UR Ranch, Cre 128.76 78 P **PKPdf 12 10 20.2 +0.1**
baz=224
S22A 4UR Ranch, Cre 128.76 78 *e*PKPdf **PKPdf 12 10 21.4 +1.3**
S22A LR LR
comp=Z,9µm,20.0s
HLID Hailey 128.80 67 P **PKPdf 12 10 20.9 +1.0**
baz=226
HLID Hailey 128.80 67 *e*PKPdf **PKPdf 12 10 22.1 +2.2**
HLID LR LR
comp=Z,6µm,18.0s
YKU2 Yakutat 128.81 39 PFAKE 12 10 30.0 +11
YKU2 LR LR
comp=Z,21µm,22.0s
334A Lometa 128.88 90 P **PKPdf 12 10 21.7 +1.6**
baz=221
DHY Denali Highway 128.93 32 *e*PKPdf **PKPdf 12 10 21.0 +1.6**
DHY LR LR
comp=Z,8µm,20.0s
HWUT Hardware Ranch 128.93 71 *e*PKPdf **PKPdf 12 10 20.3 +0.1**
HWUT LR LR
comp=Z,10µm,19.0s
D08A Wollman Farm, 128.94 61 *e*PKPdf **PKPdf 12 10 22.1 +2.3**
D08A LR LR
comp=Z,14µm,21.0s
E09A Wood Farm, Sta 128.95 62 PFAKE 12 10 30.0 +10
E09A LR LR
comp=Z,8µm,22.0s
MCK McKinley 128.96 31 *e*PKIKP **PKPdf 12 10 19.8 +0.5**
MCK MLR MLR
comp=Z,15µm,20.0s
MCK McKinley 128.96 31 *e*PKPdf **PKPdf 12 10 19.8 +0.5**
MCK LR LR
comp=Z,15µm,20.0s
233A Rising Star 129.02 89 P **PKPdf 12 10 20.7 +0.3**
baz=222
DHAK Deception Hill 129.03 40 PFAKE 12 10 30.0 +10
DHAK LR LR
comp=Z,23µm,22.0s
AKTO Aktyubinsk 129.04 305 PKP **PKPdf 12 10 18.6 -1.3**
comp=Z,2.7nm,0.7s,baz=284,slow=6.7,SNR=4.2
ABTX Abilene, Hawle 129.05 88 P **PKPdf 12 10 20.7 +0.3**
baz=222
ABTX Abilene, Hawle 129.05 88 *e*PKPdf **PKPdf 12 10 20.5 0.0**
ABTX LR LR
comp=Z,11µm,18.0s
BWN Browne 129.15 30 *e*PKPdf **PKPdf 12 10 20.9 +1.3**
BWN LR LR
comp=Z,15µm,20.0s
DGRG David-gareji 129.18 288 P **PKPdf 12 10 19.0 -1.4**
DGRG David-gareji 129.18 288 PKIKP **PKPdf 12 10 19.0 -1.4**
335A Moody 129.30 91 P **PKPdf 12 10 20.3 -0.6**

baz=221
WRAK Wrangell Islan 129.37 45 PFAKE 12 10 30.0 +10
WRAK LR LR
comp=Z,14µm,18.0s
PAX Paxson 129.43 33 *e*PKIKP **PKPdf 12 10 22.8 +2.5**
PAX MLR MLR
comp=Z,15µm,22.0s
PAX Paxson 129.43 33 *e*PKPdf **PKPdf 12 10 22.8 +2.5**
PAX LR LR
comp=Z,15µm,22.0s
133A Hamilton Ranch 129.45 88 P **PKPdf 12 10 20.9 -0.3**
baz=222
MLY Manley 129.45 29 *e*PKPdf **PKPdf 12 10 20.5 +0.3**
MLY LR LR
comp=Z,9µm,22.0s
SDCO Great Sand Dun 129.50 79 P **PKPdf 12 10 21.5 0.0**
baz=224
SDCO Great Sand Dun 129.50 79 *e*PKPdf **PKPdf 12 10 22.2 +0.7**
SDCO LR LR
comp=Z,7µm,19.0s
AMTX Amarillo 129.56 84 P **PKPdf 12 10 20.9 -0.5**
baz=223
AMTX Amarillo 129.56 84 *e*PKPdf **PKPdf 12 10 22.1 +0.6**
AMTX LR LR
comp=Z,10µm,20.0s
B08A Colville Reser 129.63 60 PFAKE 12 10 30.0 +8.9
B08A LR LR
comp=Z,7µm,22.0s
T25A Trinidad 129.67 80 P **PKPdf 12 10 21.6 -0.1**
baz=224
T25A Trinidad 129.67 80 *e*PKPdf **PKPdf 12 10 23.6 +1.8**
T25A LR LR
comp=Z,11µm,20.0s
O20A White River Ci 129.69 75 P **PKPdf 12 10 22.0 +0.3**
baz=225
O20A White River Ci 129.69 75 *e*PKPdf **PKPdf 12 10 23.7 +2.1**
O20A LR LR
comp=Z,8µm,19.0s
SMCO Snowmass 129.71 76 *e*PKPdf **PKPdf 12 10 22.9 +0.9**
SMCO LR LR
comp=Z,11µm,20.0s
TBLG Delisi 129.71 288 P **PKPdf 12 10 25.2 +3.7**
TBLG Delisi 129.71 288 PKIKP **PKPdf 12 10 25.1 +3.7**
TOC4 Torodi Ar. Sit 129.74 226 PFAKE 12 10 30.0 +7.7
TOC4 LR LR
comp=Z,7µm,21.0s
TOC3 Torodi Ar. Sit 129.75 226 PFAKE 12 10 30.0 +7.7
TOC3 LR LR
comp=Z,7µm,18.0s
TOB3 Torodi Ar. Sit 129.75 226 PFAKE 12 10 30.0 +7.7
TOB3 LR LR
comp=Z,6µm,20.0s
TOC5 Torodi Ar. Sit 129.76 226 PFAKE 12 10 30.0 +7.7
TOC5 LR LR
comp=Z,7µm,20.0s
C09A Chrisman Ranch 129.76 61 *e*PKPdf **PKPdf 12 10 22.0 +0.7**
TOA0 Torodi Ar. Sit 129.77 226 *e*PKPdf **PKPdf 12 10 21.6 -0.8**
TORD Torodi Ar. Bea 129.77 226 PKhKP PKPpre 12 10 08.7
comp=Z,0.4nm,0.7s,baz=132,slow=0.9,SNR=3.6
TORD PKP **PKPdf 12 10 20.9 -1.4**
comp=Z,6.8nm,1.0s,baz=124,slow=1.5,SNR=14
TORD SKPbc SKPbc 12 13 44.7 +0.9
comp=Z,1.5nm,0.9s,baz=193,slow=5.2,SNR=3.9
WRH Wood River Hil 129.77 31 *e*PKPdf **PKPdf 12 10 21.4 +0.7**
WRH LR LR
comp=Z,15µm,19.0s
TOB5 Torodi Ar. Sit 129.78 226 PFAKE 12 10 30.0 +7.7
TOB5 LR LR
comp=Z,7µm,21.0s
TOB1 Torodi Ar. Sit 129.78 226 PFAKE 12 10 30.0 +7.7
TOB1 LR LR
comp=Z,7µm,21.0s
TOC1 Torodi Ar. Sit 129.78 226 PFAKE 12 10 30.0 +7.6
TOC1 LR LR
comp=Z,8µm,18.0s
TOC7 Torodi Ar. Sit 129.79 226 PFAKE 12 10 30.0 +7.6
TOC7 LR LR
comp=Z,7µm,21.0s
WHTX Lake Whitney, 129.81 90 P **PKPdf 12 10 22.5 +0.6**
baz=221
WHTX Lake Whitney, 129.81 90 *e*PKPdf **PKPdf 12 10 23.0 +1.1**
WHTX LR LR
comp=Z,8µm,18.0s
134A White-Moore Ra 129.89 89 P **PKPdf 12 10 23.7 +1.7**
baz=222
MENT Mentasta 129.95 34 *e*PKPdf **PKPdf 12 10 23.2 +2.0**
MENT LR LR
comp=Z,10µm,20.0s
CCB Clear Creek Bu 129.98 31 *e*PKPdf **PKPdf 12 10 20.6 -0.5**
CCB LR LR
comp=Z,16µm,20.0s
AHID Auburn Hatcher 129.99 70 *e*PKPdf **PKPdf 12 10 24.2 +2.1**
AHID LR LR
comp=Z,10µm,20.0s
438A Sam Houston St 130.00 93 P **PKPdf 12 10 23.5 +1.2**
baz=221
Z33A Whitaker Ranch 130.03 88 P **PKPdf 12 10 22.7 +0.4**
baz=222
HDA Harding Lake 130.05 31 *e*PKPdf **PKPdf 12 10 21.6 +0.3**
HDA LR LR
comp=Z,10µm,20.0s
MDM Murphy Dome 130.09 30 *e*PKPdf **PKPdf 12 10 22.0 +0.6**
COLA College 130.14 30 *e*PKIKP **PKPdf 12 10 21.6 +0.2**
COLA MLR MLR
comp=Z,13µm,20.0s
COLA College 130.14 30 *e*PKPdf **PKPdf 12 10 21.6 +0.2**
COLA LR LR
comp=Z,13µm,20.0s
AKH Akhalkalaki 130.16 287 P **PKPdf 12 10 27.7 +5.2**
AKH Akhalkalaki 130.16 287 PKIKP **PKPdf 12 10 27.7 +5.2**
ILAR Eielson Array 130.34 31 PKhKP PKPpre 12 10 08.8
comp=Z,0.6nm,0.9s,baz=247,slow=3.9,SNR=5.3
ILAR PKP **PKPdf 12 10 21.5 -0.3**
comp=Z,2.9nm,0.8s,baz=256,slow=2.6,SNR=22
ILAR SKPbc **SKPbc 12 13 45.7 +1.4**
comp=Z,1.0nm,0.9s,baz=248,slow=2.3,SNR=5.8
ILAR PKKPab **SKKSac 12 19 28.4 -2.8**
comp=Z,0.1nm,0.3s,baz=18,slow=3.2,SNR=4.9
ILAR SKKPbc **SKKPbc 12 23 25.4 +0.9**
comp=Z,1.3nm,1.1s,baz=17,slow=1.9,SNR=5.2
ILAR Eielson Array 130.34 31 PKIKP **PKPdf 12 10 21.5 -0.3**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILB Eielson Array 130.34 31 *e*PKPdf **PKPdf 12 10 21.0 -0.9**
IL1 Eielson Array 130.34 31 *e*PKPdf **PKPdf 12 10 21.8 -0.1**
236A Katherine and 130.34 91 P **PKPdf 12 10 22.4 -0.4**
baz=221
SKAG Skagway 130.34 41 PFAKE 12 10 30.0 +8.0
SKAG LR LR
comp=Z,16µm,20.0s
DOT Dot Lake 130.36 33 *e*PKPdf **PKPdf 12 10 22.6 +0.6**
DOT LR LR
comp=Z,37µm,22.0s
REDW Red Top Meadow 130.53 70 *e*PKPdf **PKPdf 12 10 24.3 +1.1**
REDW LR LR
comp=Z,8µm,19.0s
338A Crockett 130.55 93 P **PKPdf 12 10 24.7 +1.4**
baz=221
Q24A Divide 130.56 78 P **PKPdf 12 10 24.7 +1.2**
baz=225
Q24A Divide 130.56 78 PFAKE 12 10 40.0 +16
Q24A LR LR
comp=Z,9µm,19.0s
TPAW Teton Pass 130.57 70 *e*PKPdf **PKPdf 12 10 24.8 +1.4**
TPAW LR LR
comp=Z,9µm,22.0s
X32A Elmer 130.57 87 P **PKPdf 12 10 22.4 -0.9**
baz=223
Z34A Collier Ranch, 130.57 89 P **PKPdf 12 10 22.2 -1.1**
baz=222
Y33A Hilltop Ranch, 130.64 87 P **PKPdf 12 10 24.3 +0.9**
baz=223
NEW Newport 130.65 61 SKPbc **SKPab 12 13 47.5 +1.4**
comp=Z,2.0nm,0.8s,baz=126,slow=8.0,SNR=2.5
NEW SKP 12 13 59.1
comp=Z,1.2nm,0.5s,baz=83,slow=12,SNR=3.1
NEW Newport 130.65 61 SKPbc **SKPab 12 13 47.5 +1.4**
NEW SKP 12 13 59.1
NEW LR LR
comp=Z,15µm,21.0s
SNOW Snow King Moun 130.65 70 *e*PKPdf **PKPdf 12 10 25.5 +2.0**
SNOW LR LR
comp=Z,9µm,20.0s
136A Ennis 130.69 91 P **PKPdf 12 10 23.8 +0.3**
baz=222
BW06 Boulder Array 130.81 71 P **PKPdf 12 10 24.4 +0.7**

baz=227
BW06 **Boulder Array** 130.81 71 *e*PKPdf **PKPdf** 12 10 24.0 +0.2
BW06 LR LR
comp=Z,9μm,19.0s
PD31 **Pinedale Array** 130.81 71 *e*PKPdf **PKPdf** 12 10 26.2 +2.4
PDAR **Pinedale Array** 130.81 71 PKP **PKPdf** 12 10 23.7 0.0
comp=Z,2.5nm,1.0s,baz=225,slow=4.0,SNR=12
PDAR PP **PP** 12 12 42.3 +1.8
comp=Z,1.1nm,0.9s,baz=243,slow=13,SNR=2.9
PDAR SKKPbc SKKPbc 12 23 21.9 +0.6
comp=Z,1.6nm,0.9s,baz=68,slow=5.3,SNR=4.3
LOHW **Long Hollow** 130.84 70 *e*PKPdf **PKPdf** 12 10 27.3 +3.6
LOHW LR LR
comp=Z,10μm,22.0s
IMW **Indian Meadow** 130.85 69 *e*PKPdf **PKPdf** 12 10 24.9 +1.0
IMW LR LR
comp=Z,8μm,19.0s
MOOW **Moose Ponds** 130.85 70 *e*PKPdf **PKPdf** 12 10 25.1 +1.3
ISCO **Idaho Springs** 130.89 77 P **PKPdf** 12 10 23.5 -0.6
baz=226
ISCO **Idaho Springs** 130.89 77 *e*PKIKP **PKPdf** 12 10 26.0 +1.9
ISCO MLR MLR
comp=Z,13μm,20.0s
ISCO **Idaho Springs** 130.89 77 *e*PKPdf **PKPdf** 12 10 26.0 +1.9
ISCO LR LR
comp=Z,13μm,20.0s
ZEI **Tsey** 130.89 289 *i* PKIKP **PKPdf** 12 10 25.2 +1.3
ZEI pmax pmax
comp=Z,59nm,1.4s
Z35A **Perchaven, San** 130.92 89 P **PKPdf** 12 10 24.6 +0.6
baz=222
DLMT **Dillon** 130.98 67 *e*PKPdf **PKPdf** 12 10 26.3 +2.4
DLMT LR LR
comp=Z,7μm,22.0s
ONI **Oni** 131.00 288 P **PKPdf** 12 10 27.9 +4.0
ONI **Oni** 131.00 288 PKIKP **PKPdf** 12 10 27.9 +4.0
WMOK **Wichita Mounta** 131.09 87 P **PKPdf** 12 10 24.3 0.0
baz=223
WMOK **Wichita Mounta** 131.09 87 *e*PKIKP **PKPdf** 12 10 23.9 -0.4
WMOK MLR MLR
comp=Z,8μm,22.0s
WMOK **Wichita Mounta** 131.09 87 *e*PKPdf **PKPdf** 12 10 23.9 -0.4
WMOK LR LR
comp=Z,8μm,22.0s
X33A **Lawton** 131.10 87 P **PKPdf** 12 10 24.5 +0.2
baz=223
FLWY **Flagg Ranch** 131.11 69 *e*PKPdf **PKPdf** 12 10 25.4 +1.1
FLWY LR LR
comp=Z,8μm,19.0s
W32A **Sentinel** 131.11 86 P **PKPdf** 12 10 23.3 -1.0
baz=223
CSS **Mathiatis** 131.21 274 PFAKE 12 10 40.0 +16
CSS LR LR
comp=Z,2μm,20.0s
NATX **Nacogdoches** 131.21 93 *e*PKPdf **PKPdf** 12 10 25.5 +0.9
NATX LR LR
comp=Z,5μm,18.0s
137A **Heron Place, G** 131.22 91 P **PKPdf** 12 10 24.4 -0.1
baz=222
COLD **Coldfoot** 131.26 27 *e*PKPdf **PKPdf** 12 10 24.6 +1.1
COLD LR LR
comp=Z,11μm,21.0s
MSO **Missoula** 131.28 65 P **PKPdf** 12 10 24.8 +0.4
baz=228
MSO **Missoula** 131.28 65 *e*PKPdf **PKPdf** 12 10 25.9 +1.5
MSO LR LR
comp=Z,16μm,20.0s
YFT **Old Faithful** 131.28 69 *e*PKPdf **PKPdf** 12 10 26.3 +1.7
YFT LR LR
comp=Z,11μm,18.0s
Z36A **Blue Ridge** 131.34 90 P **PKPdf** 12 10 24.9 +0.2
baz=222
YMR **Madison River** 131.36 69 PFAKE 12 10 40.0 +15
YMR LR LR
comp=Z,7μm,19.0s
LRM **Limekiln Ridge** 131.37 66 *e*PKPdf **PKPdf** 12 10 27.4 +2.7
H17A **Grant Village** 131.38 69 *e*PKPdf **PKPdf** 12 10 27.8 +3.0
H17A LR LR
comp=Z,13μm,18.0s
340A **Bronson** 131.39 94 P **PKPdf** 12 10 25.9 +1.0
baz=221
Y35A **Marietta** 131.46 89 P **PKPdf** 12 10 26.5 +1.6
baz=223
N23A **Red Feather La** 131.47 76 P **PKPdf** 12 10 24.2 -1.0
baz=226
N23A **Red Feather La** 131.47 76 *e*PKPdf **PKPdf** 12 10 27.8 +2.7
N23A LR LR
comp=Z,12μm,20.0s
239A **Gary** 131.51 93 P **PKPdf** 12 10 25.3 +0.2
baz=221
X34A **Smith Ranch, M** 131.52 88 P **PKPdf** 12 10 24.3 -0.8
baz=223
BSMT **Bassoo Peak** 131.54 63 *e*PKPdf **PKPdf** 12 10 26.6 +1.6
W33A **Caddo, Fort Co** 131.56 87 P **PKPdf** 12 10 24.6 -0.5
baz=223
DLBC **Dease Lake** 131.67 44 PFAKE 12 10 40.0 +15
DLBC LR LR
comp=Z,18μm,22.0s
BOZ **Bozeman (W)** 131.68 67 P **PKPdf** 12 10 25.0 -0.2
baz=228
BOZ **Bozeman (W)** 131.68 67 *e*PKIKP **PKPdf** 12 10 26.1 +0.9
BOZ MLR MLR
comp=Z,7μm,20.0s
BOZ **Bozeman (W)** 131.68 67 *e*PKPdf **PKPdf** 12 10 26.1 +0.9
BOZ LR LR
comp=Z,7μm,20.0s
CHMT **Chamberlain Mo** 131.69 65 *e*PKPdf **PKPdf** 12 10 26.5 +1.2
SWMT **Swartz Lake** 131.71 64 *e*PKPdf **PKPdf** 12 10 25.0 -0.1
JTMT **Jette** 131.72 63 *e*PKPdf **PKPdf** 12 10 27.0 +1.8
NEY **Neytrino** 131.84 288 *e*PKIKP **PKPdf** 12 10 26.8 +1.2
NEY *i* 12 10 27.6
BLMT **Blacktail Moun** 131.85 63 *e*PKPdf **PKPdf** 12 10 26.3 +0.7
X35A **Drake** 131.86 88 P **PKPdf** 12 10 25.9 +0.2
baz=223
Y36A **Durant** 131.88 89 P **PKPdf** 12 10 26.0 +0.2
baz=223
YBMT **Yellow Bay** 131.94 63 *e*PKPdf **PKPdf** 12 10 25.6 +0.1
KSCO **Kaye Shedlock'** 131.99 80 *e*PKPdf **PKPdf** 12 10 30.1 +4.1
KSCO LR LR
comp=Z,8μm,19.0s
W34A **Bridge Creek,** 132.02 87 P **PKPdf** 12 10 26.1 +0.1
baz=223
W34A **Bridge Creek,** 132.02 87 *e*PKPdf **PKPdf** 12 10 28.8 +2.8
W34A LR LR
comp=Z,8μm,21.0s
PHWY **Pilot Hill** 132.02 76 *e*PKPdf **PKPdf** 12 10 30.0 +3.8
PHWY LR LR
comp=Z,11μm,20.0s
EGAK **Eagle** 132.06 33 *e*PKPdf **PKPdf** 12 10 25.2 +0.2
EGAK LR LR
comp=Z,14μm,22.0s
KBZ **Khabaz** 132.07 289 PKP **PKPdf** 12 10 24.8 -0.9
comp=Z,6.2nm,0.9s,baz=216,slow=3.4,SNR=5.6
FYU **Fort Yukon** 132.12 30 *e*PKPdf **PKPdf** 12 10 26.3 +1.1
FYU LR LR
comp=Z,15μm,20.0s
DAWY **Dawson** 132.12 35 *e*PKPdf **PKPdf** 12 10 24.7 -0.6
DAWY LR LR
comp=Z,17μm,22.0s
Z38A **Mt. Pleasant** 132.14 91 P **PKPdf** 12 10 26.6 +0.4
baz=222
NRIK **Noril'sk** 132.14 336 PKP **PKPdf** 12 10 25.3 +0.2
comp=Z,9.9nm,0.9s,baz=149,slow=1.8,SNR=9.0
NRIK SKP 12 13 57.2
comp=Z,6.9nm,0.8s,baz=155,slow=8.2,SNR=6.9
V33A **Lossen Ranch,** 132.15 86 P **PKPdf** 12 10 26.6 +0.3
baz=224
SVE **Sverdlovsk** 132.17 312 *i* PKIKP **PKPdf** 12 10 29.4 +3.9
SVE *e* 12 12 49.2
SVE *e* 12 30 22.2
SVE pmax pmax
comp=Z,40nm,2.1s
SVE MLR MLR
comp=Z,6μm,21.0s
GTBY **Guantanamo Bay** 132.22 121 PFAKE 12 10 40.0 +13
GTBY LR LR
comp=Z,6μm,20.0s
342A **Flagon Creek P** 132.24 95 P **PKPdf** 12 10 27.3 +0.8
baz=221
Y37A **Hugo** 132.31 90 P **PKPdf** 12 10 27.0 +0.4
baz=223
X36A **Centrahoma** 132.34 89 P **PKPdf** 12 10 27.5 +0.9
baz=223
KIV **Kislovodsk** 132.34 289 *e*PKIKP **PKPdf** 12 10 26.3 -0.1
KIV MLR MLR
comp=Z,3μm,20.0s
KIV **Kislovodsk** 132.34 289 *e*PKPdf **PKPdf** 12 10 26.3 -0.1
KIV LR LR
comp=Z,3μm,20.0s
PAPH **Port-au-Prince** 132.34 125 PFAKE 12 10 40.0 +13
PAPH LR LR
comp=Z,5μm,21.0s
K22A **Casper** 132.36 73 *e*PKPdf **PKPdf** 12 10 28.6 +2.0
K22A LR LR
comp=Z,10μm,20.0s
W35A **Tecumseh** 132.46 88 P **PKPdf** 12 10 26.2 -0.6
baz=223
RLMT **Red Lodge** 132.56 69 P **PKPdf** 12 10 25.6 -1.4
baz=228
RLMT **Red Lodge** 132.56 69 *e*PKPdf **PKPdf** 12 10 28.3 +1.3
RLMT LR LR
comp=Z,8μm,19.0s
V34A **Guthrie** 132.59 87 *e*PKPdf **PKPdf** 12 10 28.6 +1.6
V34A LR LR
comp=Z,10μm,21.0s
BBGH **Gun Hill** 132.61 143 PFAKE 12 10 40.0 +12
BBGH LR LR
comp=Z,5μm,20.0s
U33A **Lingo Farm, Me** 132.69 86 P **PKPdf** 12 10 26.2 -1.1
baz=224
T32A **Huddler Ranch,** 132.76 84 P **PKPdf** 12 10 27.0 -0.4
baz=225
WALA **Waterton Lakes** 132.77 62 PFAKE 12 10 40.0 +13
WALA LR LR
comp=Z,10μm,21.0s
Y38A **Idabel** 132.78 91 P **PKPdf** 12 10 28.0 +0.6
baz=223
ARU **Arti** 132.79 311 *e*PKIKP **PKPdf** 12 10 27.0 +0.3
ARU MLR MLR
comp=Z,6μm,20.0s
ARU **Arti** 132.79 311 *e*PKPdf **PKPdf** 12 10 26.9 +0.3
ARU LR LR
comp=Z,6μm,20.0s
W36A **Wetumka** 132.82 88 P **PKPdf** 12 10 26.9 -0.6
baz=223
GOF **Gofitskoye** 132.89 290 *ce*PKIKP **PKPdf** 12 10 23.4 -3.9
X37A **Clayton** 132.90 90 P **PKPdf** 12 10 27.5 -0.2
baz=223
V35A **Meyer Ranch, C** 132.92 87 P **PKPdf** 12 10 26.8 -0.8
baz=224
U34A **Anderson Ranch** 133.01 86 P **PKPdf** 12 10 27.3 -0.5
baz=224
U34A **Anderson Ranch** 133.01 86 *e*PKPdf **PKPdf** 12 10 30.0 +2.2
U34A LR LR
comp=Z,7μm,18.0s
KOWA **Kowa** 133.19 220 PFAKE 12 10 40.0 +11
KOWA LR LR
comp=Z,429μm,22.0s
SDDR **Presa de Saban** 133.20 126 PFAKE 12 10 40.0 +11
SDDR LR LR
comp=Z,3μm,20.0s
X38A **Whitesboro** 133.27 90 P **PKPdf** 12 10 29.1 +0.7
baz=223
W37B **Quinton** 133.27 89 P **PKPdf** 12 10 27.7 -0.6
baz=223
U35A **Pawnee** 133.42 87 P **PKPdf** 12 10 27.3 -1.3
baz=224
ZAM **Aeronautique** 133.43 141 *e*P **PKPdf** 12 10 31.4 +2.2
V36A **Jenks** 133.45 88 P **PKPdf** 12 10 28.1 -0.5
baz=224
446A **Poplarville** 133.46 98 P **PKPdf** 12 10 28.9 +0.1
baz=220
CBKS **Cedar Bluff** 133.46 82 *e*PKIKP **PKPdf** 12 10 30.4 +1.8
CBKS MLR MLR
comp=Z,11μm,20.0s
CBKS **Cedar Bluff** 133.46 82 *e*PKPdf **PKPdf** 12 10 30.4 +1.8
CBKS LR LR
comp=Z,11μm,20.0s
WLAR **White Oak Lake** 133.52 92 *e*PKPdf **PKPdf** 12 10 31.5 +2.7
WLAR LR LR
comp=Z,7μm,19.0s
FDF **Fort de France** 133.53 141 *e*P **PKPdf** 12 10 35.8 +6.3
FDF **Fort de France** 133.53 141 PFAKE 12 10 40.0 +11
FDF LR LR
comp=Z,4μm,22.0s
X39A **Fountain Ranch** 133.55 91 P **PKPdf** 12 10 28.8 -0.1
baz=223
CXM **Morne La Croix** 133.60 141 *e*P **PKPdf** 12 10 35.8 +6.1
TUL1 **Leonard** 133.62 88 P **PKPdf** 12 10 28.9 -0.1
baz=224
TUL1 **Leonard** 133.62 88 *e*PKPdf **PKPdf** 12 10 30.4 +1.4
TUL1 LR LR
comp=Z,8μm,18.0s
T34A **McClaskey Farm** 133.63 86 P **PKPdf** 12 10 28.2 -0.7
baz=225
OGNE **Ogallala** 133.66 78 PFAKE 12 10 40.0 +11
OGNE LR LR
comp=Z,8μm,19.0s
244A **Avery, Jackson** 133.66 96 P **PKPdf** 12 10 28.7 -0.5
baz=221
W38A **Poteau** 133.73 90 P **PKPdf** 12 10 29.1 -0.1
baz=223
R32A **Long Quarter,** 133.76 83 P **PKPdf** 12 10 29.1 -0.1
baz=225
MIAR **Mount Ida** 133.88 91 P **PKPdf** 12 10 28.7 -0.8
baz=223
MIAR **Mount Ida** 133.88 91 *e*PKIKP **PKPdf** 12 10 31.6 +2.1
MIAR MLR MLR
comp=Z,5μm,18.0s
MIAR **Mount Ida** 133.88 91 *e*PKPdf **PKPdf** 12 10 31.6 +2.1
MIAR LR LR
comp=Z,5μm,18.0s
VBMS **Vicksburg** 133.89 96 PFAKE 12 10 40.0 +10
VBMS LR LR
comp=Z,2μm,20.0s
T35A **Sooner Cattle** 133.93 86 P **PKPdf** 12 10 29.3 -0.3
baz=224
V37A **Hulbert** 133.97 89 P **PKPdf** 12 10 28.8 -0.8
baz=224
R33A **Olander Ranch,** 134.09 84 P **PKPdf** 12 10 29.9 +0.1
baz=225
EGMT **Eagleton** 134.21 66 P **PKPdf** 12 10 27.7 -2.1
baz=230
EGMT **Eagleton** 134.21 66 PFAKE 12 10 40.0 +10
EGMT LR LR
comp=Z,8μm,21.0s
W39A **Magazine** 134.24 90 P **PKPdf** 12 10 31.7 +1.5
baz=223
MPR **Mayaguez** 134.35 131 PFAKE 12 10 40.0 +9.2
MPR LR LR
comp=Z,3μm,19.0s
V38A **Canehill** 134.37 89 P **PKPdf** 12 10 30.9 +0.5
baz=224
Y42A **Garnett, Star** 134.37 93 P **PKPdf** 12 10 32.9 +2.4
baz=222
347A **Saraland** 134.38 98 P **PKPdf** 12 10 33.1 +2.5
baz=220
T36A **Boggs Farm, Ca** 134.39 87 P **PKPdf** 12 10 32.1 +1.8
baz=225
BR131 **Keskin Array S** 134.41 278 *e*PKPdf **PKPdf** 12 10 31.4 +0.9
BRTR **Keskin Array B** 134.41 278 PKP **PKPdf** 12 10 28.7 -1.8
comp=Z,2.3nm,0.7s,baz=147,slow=4.3,SNR=11
BRTR PP **PP** 12 13 03.6 +0.2
comp=Z,1.8nm,0.9s,baz=182,slow=14,SNR=1.7
CCAR **Cane Creek** 134.44 93 PFAKE 12 10 40.0 +9.4
CCAR LR LR
comp=Z,5μm,19.0s
X41A **Kaden, Bauxite** 134.44 92 P **PKPdf** 12 10 31.0 +0.5
baz=223
R34A **Isabella, Hill** 134.50 85 P **PKPdf** 12 10 31.3 +0.8
baz=226
S35A **Otter Creek Ra** 134.58 86 P **PKPdf** 12 10 32.2 +1.5
baz=225
W40A **Ferguson Farm,** 134.64 91 P **PKPdf** 12 10 31.3 +0.4
baz=223
P32A **Huiting Farm,** 134.66 82 P **PKPdf** 12 10 31.5 +0.6
baz=226
SJG **San Juan** 134.67 133 PFAKE 12 10 40.0 +8.6
SJG LR LR
comp=Z,4μm,20.0s
RSSD **Black Hills** 134.69 74 P **PKPdf** 12 10 29.0 -2.0
baz=229
RSSD **Black Hills** 134.69 74 *e*PKIKP **PKPdf** 12 10 28.8 -2.2
RSSD MLR MLR
comp=Z,8μm,19.0s
RSSD **Black Hills** 134.69 74 *e*PKPdf **PKPdf** 12 10 28.8 -2.2
RSSD LR LR
comp=Z,8μm,19.0s
Z44A **Pea Ridge, Bel** 134.72 95 P **PKPdf** 12 10 30.8 -0.3
baz=222
GDHS **Morne Mazeau,** 134.73 139 PFAKE 12 10 40.0 +8.3
GDHS LR LR
comp=Z,3μm,20.0s
UALR **University of** 134.75 92 *e*PKPdf **PKPdf** 12 10 32.8 +1.7
UALR LR LR
comp=Z,6μm,20.0s
U38A **Gravette** 134.79 89 P **PKPdf** 12 10 29.3 -1.9
baz=224
HUMP **Col San Antoni** 134.82 133 *e*PKPdf **PKPdf** 12 10 32.4 +0.7
HUMP LR LR
comp=Z,5μm,21.0s
MTP **Monte Pirata** 134.91 133 PFAKE 12 10 40.0 +8.1
MTP LR LR
comp=Z,4μm,21.0s
HHAR **Hobbs** 134.93 89 *e*PKPdf **PKPdf** 12 10 31.9 +0.4
HHAR LR LR
comp=Z,5μm,18.0s
CBYP **Canovanas** 134.94 133 *e*PKPdf **PKPdf** 12 10 32.9 +0.9
CBYP LR LR
comp=Z,6μm,20.0s
BR231 **Keskin MP Arra** 134.97 278 *e*PKPdf **PKPdf** 12 10 29.4 -2.1
T37A **Cheneyville 18** 134.98 88 P **PKPdf** 12 10 30.4 -1.1
baz=225
ANTO **Ankara** 134.98 278 PFAKE 12 10 40.0 +8.5
ANTO LR LR
comp=Z,6μm,22.0s
S36A **Lake Cedric, C** 135.02 86 P **PKPdf** 12 10 30.5 -1.1
baz=225
BRAL **Brewton** 135.03 100 PFAKE 12 10 40.0 +8.2
BRAL LR LR
comp=Z,3μm,19.0s
W41B **Gary Mavity, V** 135.09 92 P **PKPdf** 12 10 29.7 -2.0
baz=223
X201 **Greenbrier Sit** 135.11 91 *e*PKPdf **PKPdf** 12 10 32.6 +0.8
X201 LR LR
comp=Z,6μm,20.0s
WHAR **Wooly Hollow** 135.15 91 *e*PKPdf **PKPdf** 12 10 32.1 +0.2
WHAR LR LR
comp=Z,6μm,20.0s
LAO **LASA Array** 135.19 69 *e*PKPdf **PKPdf** 12 10 34.1 +2.4
LAO LR LR
comp=Z,9μm,19.0s
U39A **Green Forest** 135.26 89 P **PKPdf** 12 10 31.2 -0.9
baz=224
T38A **Diamond** 135.27 88 P **PKPdf** 12 10 31.2 -0.9
baz=225
STVI **Saint Thomas** 135.38 134 PFAKE 12 10 50.0 +17
STVI LR LR
comp=Z,4μm,20.0s
SEUS **St. Eustatius** 135.38 137 PFAKE 12 10 50.0 +17
SEUS LR LR
comp=Z,5μm,21.0s
KSU1 **Kansas State U** 135.41 84 PFAKE 12 10 40.0 +7.8
KSU1 LR LR
comp=Z,9μm,19.0s
GRTK **Grand Turk** 135.47 125 PFAKE 12 10 50.0 +17
GRTK LR LR
comp=Z,6μm,21.0s
SOKR **Solikamsk** 135.50 313 *c i*PKIKP **PKPdf** 12 10 31.7 +0.1
SOKR pmax pmax
comp=Z,27nm,1.0s
Q35A **Mercer Eighty,** 135.56 85 P **PKPdf** 12 10 31.3 -1.3
baz=226
V41A **Mountainview** 135.58 91 P **PKPdf** 12 10 30.2 -2.5
baz=224
U40A **Yellville** 135.60 90 P **PKPdf** 12 10 31.9 -0.8
baz=224
YER **Yerkesik** 135.61 272 *e*PKHKP PKPpre 12 10 10.5
YER MLR MLR
comp=Z,9μm,20.0s
YER **Yerkesik** 135.61 272 *e*PKPdf PKPpre 12 10 10.5
YER LR LR
comp=Z,9μm,20.0s
ANN **Anapa** 135.72 286 *i* PKIKP **PKPdf** 12 10 35.6 +3.0
ANN *e* 12 13 12.9
ANN *e*PPP PPP 12 16 10.1
ANN *e*SSS SSS 12 36 06.7
ANN pmax pmax
comp=Z,100nm,1.2s
ANN MLR MLR
comp=Z,4μm,24.0s
ANN MLR MLR
comp=E,4μm,24.0s
DWPF **Disney Wildern** 135.73 108 PFAKE 12 10 50.0 +17
DWPF LR LR
comp=Z,4μm,19.0s
T39A **Clever** 135.78 89 P **PKPdf** 12 10 32.7 -0.3
baz=225
LAST **Lasithi** 135.78 267 *e*PKPdf **PKPdf** 12 10 32.9 -0.3
SMRT **St. Maarten** 135.85 136 PFAKE 12 10 50.0 +16
SMRT LR LR
comp=Z,4μm,22.0s
R37A **Teagarden Farm** 135.86 86 P **PKPdf** 12 10 31.9 -1.2
baz=226
ABVI **Anegada Island** 135.97 134 PFAKE 12 10 50.0 +16
ABVI LR LR
comp=Z,4μm,20.0s
ANWB **Willy Bob** 136.00 138 PFAKE 12 10 50.0 +16
ANWB LR LR
comp=Z,4μm,21.0s
BGNE **Belgrade** 136.12 81 *e*PKPdf **PKPdf** 12 10 36.2 +2.6
BGNE LR LR
comp=Z,6μm,20.0s
IDI **Anoyia** 136.20 267 PP PP 12 13 10.5 -4.1
comp=Z,1.6nm,0.5s,baz=173,slow=17,SNR=3.1
IDI **Anoyia** 136.20 267 P **PKPdf** 12 10 36.3 +2.4
IDI **Anoyia** 136.20 267 *e*PKPdf **PKPdf** 12 10 35.6 +1.7
IDI PP **PP** 12 13 10.5 -4.1
OXF **Oxford** 136.20 95 *e*PKIKP **PKPdf** 12 10 35.1 +1.2
OXF MLR MLR
comp=Z,4μm,18.0s
OXF **Oxford** 136.20 95 *e*PKPdf **PKPdf** 12 10 35.1 +1.2
OXF LR LR
comp=Z,4μm,18.0s
S39A **Bolivar** 136.28 88 P **PKPdf** 12 10 33.8 -0.1
baz=225
R38A **Fenwick Farm,** 136.29 87 P **PKPdf** 12 10 33.3 -0.6
baz=226
GVD **Gavdhos** 136.33 266 P **PKPdf** 12 10 36.8 +2.7
GVD **Gavdhos** 136.33 266 P **PKPdf** 12 10 36.8 +2.7
T40A **Mansfield** 136.35 89 P **PKPdf** 12 10 34.5 +0.4
baz=225
MET **Memphis--Engin** 136.35 94 PFAKE 12 10 50.0 +16
MET LR LR
comp=Z,7μm,20.0s
KULA **Kula-Manisa** 136.36 273 P **PKPdf** 12 10 37.7 +3.6
Z48A **Northport** 136.41 97 P **PKPdf** 12 10 33.6 -0.6
baz=222
LRAL **Lakeview Retre** 136.47 98 *e*PKPdf **PKPdf** 12 10 34.8 +0.5
LRAL LR LR
comp=Z,4μm,20.0s
TAM **Tamanrasset** 136.60 236 *e*PKIKP **PKPdf** 12 10 35.5 +0.4
TAM MLR MLR
comp=Z,8μm,18.0s
TAM **Tamanrasset** 136.60 236 *e*PKPdf **PKPdf** 12 10 35.5 +0.4
TAM LR LR
comp=Z,8μm,18.0s
Y47A **UCPARC, Winfie** 136.63 97 P **PKPdf** 12 10 34.4 -0.2
baz=222
INK **Inuvik** 136.67 32 PKhKP PKPpre 12 10 23.7
INK PKP **PKPdf** 12 10 33.9 +0.3
comp=Z,15nm,1.0s
INK SKKPbc SKKPbc 12 22 54.3 -6.8
comp=Z,2.9nm,1.0s,baz=48,slow=5.5,SNR=4.3
INK **Inuvik** 136.67 32 *e*PKPpre PKPpre 12 10 25.7
INK *e*PKPdf **PKPdf** 12 10 34.0 +0.3
INK SKKPbc SKKPbc 12 22 54.3 -6.8
VAM **Vamos** 136.68 266 P **PKPdf** 12 10 40.0 +5.3
IMMV **Iera Moni Meta** 136.84 266 P **PKPdf** 12 10 34.0 -1.0
TIGA **Tifton** 137.15 103 *e*PKPdf **PKPdf** 12 10 36.8 +1.1
TIGA LR LR
comp=Z,3μm,21.0s
HALT **Halls** 137.26 93 PFAKE 12 10 50.0 +14
HALT LR LR
comp=Z,7746μm,18.0s
PBMO **Poplar Bluff** 137.26 92 PFAKE 12 10 50.0 +14
PBMO LR LR
comp=Z,5μm,21.0s
PLAL **Pickwick Lake** 137.30 95 *e*PKPdf **PKPdf** 12 10 37.0 +1.2
PLAL LR LR
comp=Z,4μm,20.0s
DGMT **Dagmar** 137.38 69 PFAKE 12 10 50.0 +14
DGMT LR LR
comp=Z,9μm,19.0s
PVMO **Portageville** 137.41 93 PFAKE 12 10 50.0 +14
PVMO LR LR
comp=Z,5μm,19.0s
VRH **Novokhopyorsk** 137.46 296 *e*PKIKP **PKPdf** 12 10 39.1 +3.5

VRH *e* 12 13 19.8
VRH pmax pmax
comp=Z,20nm,1.4s
P38A Dawn 137.50 86 P **PKPdf** 12 10 34.9 -1.2
baz=227
ANKY Antikythira Is 137.51 266 P **PKPdf** 12 10 40.8 +4.6
SIM Simferopol' 137.62 284 *i* PKIKP **PKPdf** 12 10 40.7 +4.6
SIM *e*PPP PPP 12 16 23.0
SIM *i* SS SS 12 31 34.0 +2.4
SIM pmax pmax
comp=Z,240nm,9.2s
SIM MLR MLR
comp=N,4µm,19.0s
ISK Istanbul-Kandi 137.88 276 P **PKPdf** 12 10 39.5 +2.8
ISK Istanbul-Kandi 137.88 276 PKIKP **PKPdf** 12 10 39.5 +2.8
ISK Istanbul-Kandi 137.88 276 P **PKPdf** 12 10 39.5 +2.8
WVT Waverly 138.26 94 PFAKE 12 10 50.0 +12
WVT LR LR
comp=Z,6µm,21.0s
ECSD EROS Data Cent 138.51 79 *e*PKPpre PKPpre 12 10 29.7
ECSD LR LR
comp=Z,10µm,18.0s
SIUC Southern Illin 138.61 92 PFAKE 12 10 50.0 +12
SIUC LR LR
comp=Z,6µm,20.0s
VLY Voula,Athens 138.65 269 P **PKPdf** 12 10 39.8 +1.5
SLM Saint Louis 138.68 90 *e*PKIKP **PKPdf** 12 10 37.9 -0.4
SLM Saint Louis 138.68 90 *e*PKPdf **PKPdf** 12 10 37.9 -0.4
GOGA Godfrey 138.71 101 *e*PKIKP **PKPdf** 12 10 39.3 +0.8
GOGA MLR MLR
comp=Z,3µm,21.0s
GOGA Godfrey 138.71 101 *e*PKPdf **PKPdf** 12 10 39.3 +0.8
GOGA LR LR
comp=Z,3µm,21.0s
DID Didima 138.72 268 P **PKPdf** 12 10 40.2 +1.8
VSR Storozhevoye 138.76 295 *e*PKIKP **PKPdf** 12 10 41.4 +3.4
VSR *e*SS SS 12 31 39.2 -5.8
VSR *e*SSS SSS 12 37 00.3
VSR pmax pmax
comp=Z,10.0nm,1.5s
O40A La Belle 138.77 87 P **PKPdf** 12 10 35.7 -2.7
baz=227
GADA Gvkgeada 139.07 273 P **PKPdf** 12 10 41.1 +2.2
SCIA State Center 139.21 84 *e*PKPdf **PKPdf** 12 10 39.8 +0.6
SCIA LR LR
comp=Z,12µm,20.0s
ITM Ithomi 139.22 266 P **PKPdf** 12 10 42.3 +2.9
MDND Maddock 139.44 72 PFAKE 12 10 50.0 +11
MDND LR LR
comp=Z,12µm,18.0s
ALN Alexandropoli 139.46 274 P **PKPdf** 12 10 39.5 -0.1
ALN Alexandropoli 139.46 274 PKIKP **PKPdf** 12 10 39.5 -0.1
ALN Alexandropoli 139.46 274 P **PKPdf** 12 10 39.5 -0.1
SMTH Samothraki Isl 139.47 273 P **PKPdf** 12 10 38.6 -1.1
SMTH Samothraki Isl 139.47 273 P **PKPdf** 12 10 38.6 -1.1
K37A Belmond 139.54 82 P **PKPdf** 12 10 37.1 -2.6
baz=229
CPCT Cooper Cave 139.63 98 *e*PKPdf **PKPdf** 12 10 41.7 +1.6
USIN University of 139.66 93 PFAKE 12 10 50.0 +10
USIN LR LR
comp=Z,8µm,20.0s
LPSR Galich'ya Gora 139.68 297 *e*PKIKP **PKPdf** 12 10 42.6 +3.0
LPSR *e* 12 13 31.7
LPSR pmax pmax
comp=Z,10.0nm,0.8s
EDRB Edirne 139.70 275 P PKPpre 12 10 32.8
DSF Desfina 139.75 268 P **PKPdf** 12 10 43.2 +2.9
DRO Drossia 139.89 267 P **PKPdf** 12 10 43.6 +3.0
OLIL Olney 139.95 91 *e*PKPpre PKPpre 12 10 33.9
OLIL LR LR
comp=Z,6µm,20.0s
TKL Tuckaleechee C 140.20 99 *e*PKHKP PKPpre 12 10 34.6
TKL MLR MLR
comp=Z,4µm,20.0s
TKL Tuckaleechee C 140.20 99 *e*PKPpre PKPpre 12 10 34.6
TKL LR LR
comp=Z,4µm,20.0s
ANX Ano Chora 140.22 268 P **PKPdf** 12 10 46.2 +5.0
YKA Yellowknife Ar 140.22 46 PKhKP PKPpre 12 10 30.6
comp=Z,0.9nm,0.6s,baz=239,slow=3.3,SNR=16
YKA PKP **PKPdf** 12 10 37.5 -2.8
comp=Z,1.4nm,0.6s,baz=235,slow=2.8,SNR=23
YKA PP **PP** 12 13 38.5 -0.7
comp=Z,1.2nm,1.0s,baz=254,slow=5.0,SNR=4.2
YKA SKKPab SKKPab 12 22 32.1 -15
comp=Z,1.4nm,1.0s,baz=63,slow=5.8,SNR=5.2
YKA Yellowknife Ar 140.22 46 PKIKP **PKPdf** 12 10 37.5 -2.8
YKA 12 13 38.5
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKB5 Yellowknife Ar 140.22 46 *e*PKPpre PKPpre 12 10 33.6
YKW3 Yellowknife Ar 140.25 46 *e*PKPpre PKPpre 12 10 33.6
AGG Agios Georgios 140.28 269 P **PKPdf** 12 10 40.8 -0.4
AGG Agios Georgios 140.28 269 PFAKE 12 10 50.0 +8.8
AGG LR LR
comp=Z,11µm,22.0s
NHSC New Hope 140.29 105 *e*PKPdf **PKPdf** 12 10 42.5 +1.2
NHSC LR LR
comp=Z,5µm,20.0s
KAVA Kavala 140.39 273 P **PKPdf** 12 10 41.4 +0.1
TIRR Tirgusor 140.45 280 ⇑*i*P PKPpre 12 10 32.9
TIRR Tirgusor 140.45 280 *e*PKIKP **PKPdf** 12 10 42.3 +1.0
TIRR MLR MLR
comp=Z,5µm,21.0s
TIRR Tirgusor 140.45 280 *e*PKPdf **PKPdf** 12 10 42.2 +1.0
TIRR LR LR
comp=Z,5µm,21.0s
HDIL Hopedale 140.52 88 *e*PKPpre PKPpre 12 10 34.7
HDIL LR LR
comp=Z,8µm,18.0s
JSC Jenkinsville 140.58 102 *e*PKIKP **PKPdf** 12 10 43.6 +1.7
JSC MLR MLR
comp=Z,4µm,19.0s
JSC Jenkinsville 140.58 102 *e*PKPdf **PKPdf** 12 10 43.6 +1.7
JSC LR LR
comp=Z,4µm,19.0s
WCI Wyandotte Cave 140.62 94 *e*PKHKP PKPpre 12 10 36.5
WCI MLR MLR
comp=Z,5µm,21.0s
WCI Wyandotte Cave 140.62 94 *e*PKPpre PKPpre 12 10 36.5
WCI LR LR
comp=Z,5µm,21.0s
THL Klokotos Trika 140.83 269 P **PKPdf** 12 10 40.0 -2.1
TZTN Tazewell 140.96 98 *e*PKPpre PKPpre 12 10 40.8
TZTN LR LR
comp=Z,6µm,21.0s
SRS Serrai 140.99 272 P **PKPdf** 12 10 40.7 -1.7
NVR Nevrokopi 140.99 273 P **PKPdf** 12 10 43.0 +0.5
CFR Carcaliu 141.06 281 ⇑*i*P **PKPdf** 12 10 37.6 -4.7
CFR Carcaliu 141.06 281 ⇑PKIKP **PKPdf** 12 10 37.6 -4.7
DSL Palaion Diasel 141.06 268 P **PKPdf** 12 10 44.8 +2.2
LKD2 Lefkada island 141.06 267 P **PKPdf** 12 10 47.8 +5.1
BLO Bloomington 141.14 92 *e*PKHKP PKPpre 12 10 37.1
BLO MLR MLR
comp=Z,6µm,21.0s
BLO Bloomington 141.14 92 *e*PKPpre PKPpre 12 10 37.1
BLO LR LR
comp=Z,6µm,21.0s
KMSC Kings Mountain 141.17 101 *e*PKPpre PKPpre 12 10 39.9
KMSC LR LR
comp=Z,4µm,22.0s
KPRO Kipourio 141.47 269 P **PKPdf** 12 10 45.9 +2.5
JFWS Jewell Farm 141.53 85 *e*PKHKP PKPpre 12 10 36.8
JFWS MLR MLR
comp=Z,11µm,21.0s
JFWS Jewell Farm 141.53 85 *e*PKPpre PKPpre 12 10 36.8
JFWS LR LR
comp=Z,11µm,21.0s
GRG Griva 141.56 271 P **PKPdf** 12 10 44.8 +1.3
SPMN Marine on St. 141.56 80 *e*PKPpre PKPpre 12 10 37.3
SPMN LR LR
comp=Z,12µm,19.0s
SFIN Lafayette 141.64 90 *e*PKPpre PKPpre 12 10 39.3
SFIN LR LR
comp=Z,7µm,18.0s
IGT Igoumenitsa 141.76 268 P PKPpre 12 10 39.3
IGT Igoumenitsa 141.76 268 PKIKP PKPpre 12 10 39.3
IGT Igoumenitsa 141.76 268 P PKPpre 12 10 39.3
KIS Kishinev 141.79 283 *e*PKP PKPpre 12 10 39.0
KIS *e*SKP 12 14 30.0
KIS Kishinev 141.79 283 *e*PKKP 12 20 30.0
KIS LRM MLR 13 11 34.0
comp=Z,4µm,22.0s
KIS Kishinev 141.79 283 *e*PKIKP PKPpre 12 10 39.0
KIS MLR MLR
comp=Z,3µm,20.0s
KIS MLR MLR
comp=Z,4µm,22.0s
SGD Sagiada 141.87 268 P PKPpre 12 10 39.3
ISR Istrita 141.90 279 ⇑*i*P **PKPdf** 12 10 47.8 +3.8
ISR Istrita 141.90 279 ⇑PKIKP **PKPdf** 12 10 47.8 +3.8
MOS Moscow 142.00 300 *e*PKIKP **PKPdf** 12 10 44.7 +1.0
MOS *i* 12 10 49.0
MOS *e*SS SS 12 32 59.6 +37
MOS MLR MLR
comp=Z,7µm,20.0s
MOS MLR MLR
comp=N,5µm,21.0s
MOS MLR MLR
comp=E,4µm,21.0s
FFC Flin Flon 142.07 62 *e*PKHKP PKPpre 12 10 39.7
FFC MLR MLR
comp=Z,11µm,20.0s
FFC Flin Flon 142.07 62 *e*PKPpre PKPpre 12 10 39.7
FFC LR LR
comp=Z,11µm,20.0s
OBN Obninsk 142.21 299 *e*PKHKP PKPpre 12 10 37.0
OBN *e*SS SS 12 32 23.2 -1.9
OBN *e*SSS SSS 12 37 41.0
OBN pmax pmax
comp=Z,14nm,0.9s
OBN Obninsk 142.21 299 *e*PKPpre PKPpre 12 10 39.0
OBN LR LR
comp=Z,6µm,21.0s
VRI Vrincioaia 142.26 280 ⇑*i*P PKPpre 12 10 37.7
VRI Vrincioaia 142.26 280 ⇑PKHKP PKPpre 12 10 37.7
PLOR Plostina 142.29 280 ⇓*i*P PKPpre 12 10 37.5
PLOR Plostina 142.29 280 ⇓PKHKP PKPpre 12 10 37.6
MLR Muntele Rosu 142.47 279 ⇑*i*P PKPpre 12 10 38.9
MLR Muntele Rosu 142.47 279 *e*PKHKP PKPpre 12 10 38.5
MLR MLR
comp=Z,6µm,22.0s
MLR Muntele Rosu 142.47 279 *e*PKPpre PKPpre 12 10 38.5
MLR LR LR
comp=Z,6µm,22.0s
OHR Ohrid 142.56 270 *e*PKP **PKPdf** 12 10 45.0 -0.3
TESR Tescani 142.69 281 ⇑*i*P PKPpre 12 10 38.5
SORM Soroca 142.71 284 ⇑*i*P PKPpre 12 10 38.9
SORM Soroca 142.71 284 ⇑PKHKP PKPpre 12 10 38.9
SKO Skopje 142.77 271 *i* PKP **PKPdf** 12 10 46.0 +0.4
ULM Lac du Bonnet 142.83 71 PKHKP PKPpre 12 10 39.8
comp=Z,7.8nm,0.7s,baz=247,slow=3.6,SNR=9.7
ULM Lac du Bonnet 142.83 71 *e*PKPpre PKPpre 12 10 40.8
ULM LR LR
comp=Z,7µm,20.0s
VOIR 142.93 279 ⇑*i*P PKPpre 12 10 40.5
VOIR 142.93 279 ⇑PKHKP PKPpre 12 10 40.5
DOPR Dopca 143.06 280 ⇑*i*P PKPab 12 10 41.6 +0.2
ARR Arges 143.12 278 ⇑*i*P PKPbc 12 10 44.1 +0.9
CNNC Cliffs of the 143.14 105 *e*PKPpre PKPpre 12 10 41.4
CNNC LR LR
comp=Z,5µm,19.0s
BLA Blacksburg 143.18 100 *e*PKHKP PKPpre 12 10 43.1
BLA MLR MLR
comp=Z,5µm,22.0s
BLA Blacksburg 143.18 100 *e*PKPpre PKPpre 12 10 43.1
BLA LR LR
comp=Z,5µm,22.0s
TIR Tirane 143.25 269 *e*PKHKP PKPpre 12 10 42.0
TIR Tirane 143.25 269 *e*PKPpre PKPpre 12 10 42.0
CEL Celeste 143.37 262 *e*PKPdf **PKPdf** 12 10 46.0 -0.8
CEL LR LR
comp=Z,6µm,21.0s
VWCC Virginia Weste 143.46 100 *e*PKPpre PKPpre 12 10 44.1
KLMR Klimovskoe 143.52 308 *e*PKIKP PKPbc 12 10 43.7 +0.1
KLMR *e* 12 13 58.1
KLMR pmax pmax
comp=Z,56nm,1.0s
TIP Timpagrande 143.53 264 P **PKPdf** 12 10 46.1 -1.0
TIP Timpagrande 143.53 264 *e*PKPdf **PKPdf** 12 10 46.3 -0.8
TIP LR LR
comp=Z,6µm,20.0s
AKASG Malin Array Be 143.68 289 PKhKP PKPpre 12 10 41.5
comp=Z,15nm,0.7s,baz=92,slow=3.5,SNR=26
AKASG PKP **PKPdf** 12 10 45.9 -1.0
comp=Z,16nm,0.7s,baz=95,slow=2.6,SNR=36
AKBB Malin Array Si 143.68 289 *e*PKHKP PKPpre 12 10 42.3
AKBB MLR MLR
comp=Z,7µm,21.0s
AKBB Malin Array Si 143.68 289 *e*PKPpre PKPpre 12 10 42.3
AKBB LR LR
comp=Z,7µm,21.0s
AK11 Malin Array Si 143.70 289 *e*PKPpre PKPpre 12 10 41.1
ACSO Alum Creek Sta 143.86 94 *e*PKPdf PKPab 12 10 43.2 -1.5
ACSO LR LR
comp=Z,6µm,19.0s
EYMN Ely 143.91 77 *e*PKPdf PKPab 12 10 43.0 -1.6
EYMN LR LR
comp=Z,11µm,19.0s
ULC Ulcinj 144.00 270 ⇑*i*PKP PKPab 12 10 43.1 -2.1
PVY Plav 144.01 271 ⇓*i*PKP **PKPab** 12 10 43.5 -1.8
BURAR Bucovina Array 144.13 282 ⇑*i*P **PKPab** 12 10 45.6 0.0
BURAR Bucovina Array 144.13 282 ⇑PKIKP **PKPab** 12 10 45.6 0.0
COWI Conover 144.14 81 *e*PKPdf **PKPab** 12 10 45.5 -0.1
COWI LR LR
comp=Z,10µm,18.0s
BUR08 Bucovina Ar. S 144.16 282 *e*PKPpre PKPpre 12 10 45.0
DRME Dracevica, Mon 144.18 270 ⇑*i*PKP **PKPab** 12 10 44.1 -1.7
IVA Berane 144.22 271 *e*PKP **PKPab** 12 10 44.3 -1.8
PDG Podgorica 144.30 270 P **PKPab** 12 10 44.3 -1.9
TTG Podgorica 144.30 270 *e*PKP **PKPab** 12 10 43.7 -2.5
ARCR ARCALIA 144.30 280 ⇑*i*P **PKPdf** 12 10 50.8 +2.7
CLTB Caltabellotta 144.38 259 *e*PKPdf **PKPab** 12 10 46.5 -0.3
CLTB LR LR
comp=Z,9µm,22.0s
MDVR Moldovita 144.40 275 ⇑*i*P **PKPab** 12 10 44.6 -2.0
DEV Deva 144.40 278 ⇑*i*P **PKPab** 12 10 45.7 -0.8
DEV Deva 144.40 278 ⇑PKIKP **PKPab** 12 10 45.7 -0.8
BUM Brajici-Budva 144.42 270 ⇑*i*PKP **PKPab** 12 10 44.0 -2.8
CJR Cluj-Napoca 144.51 279 ⇑*i*P **PKPab** 12 10 46.1 -0.9
CJR Cluj-Napoca 144.51 279 ⇑PKIKP **PKPab** 12 10 46.1 -0.9
CEME Cevo 144.56 270 ⇑*i*PKP **PKPab** 12 10 44.7 -2.6
CUC Castrocucco 144.62 264 *e*PKPdf **PKPab** 12 10 46.4 -1.1
NKY Niksic 144.69 271 ⇑*i*PKP **PKPab** 12 10 45.5 -2.3
HCY Herceg Novi 144.74 270 ⇑*i*PKP **PKPab** 12 10 45.5 -2.4
PLE Pljevlja 144.80 272 *e*PKP **PKPab** 12 10 45.2 -3.0
AAM Ann Arbor 144.85 91 *e*PKP2 **PKPab** 12 10 47.3 -1.0
AAM MLR MLR
comp=Z,7µm,19.0s
AAM Ann Arbor 144.85 91 *e*PKPbc **PKPab** 12 10 47.3 -1.0
AAM LR LR
comp=Z,7µm,19.0s
DIVS Divibare 144.94 273 P **PKPab** 12 10 44.8 -3.9
BZS Buzias 144.96 276 ⇑*i*P **PKPab** 12 10 46.4 -2.2
BZS Buzias 144.96 276 ⇑PKIKP **PKPab** 12 10 46.4 -2.2
UPM Unac-Piva 144.99 271 ⇑*i*PKP PKPbc 12 10 45.6 -3.4
BRY Bratogost 145.00 270 ⇑*i*PKP **PKPbc** 12 10 46.1 -2.9
DRGR 145.04 279 ⇑*i*P **PKPbc** 12 10 45.4 -3.5
BMR Baia Mare 145.12 281 ⇑*i*P **PKPbc** 12 10 47.4 -1.6
BMR Baia Mare 145.12 281 ⇑PKIKP **PKPbc** 12 10 47.4 -1.6
KEST Kesra 145.14 253 PKP **PKPbc** 12 10 49.0 -0.6
comp=Z,121nm,1.1s,baz=263,slow=1.0,SNR=36
KEST Kesra 145.14 253 *e*PKPdf **PKPbc** 12 10 48.8 -0.8
KEST LR LR
comp=Z,16µm,21.0s
MCWV Mont Chateau 145.23 98 *e*PKPdf **PKPbc** 12 10 49.0 -0.7
MCWV LR LR
comp=Z,3µm,18.0s
SIRR Siria 145.32 277 ⇓*i*P **PKPbc** 12 10 48.7 -1.1
CBN Corbin Frederi 145.58 102 *e*PKPdf **PKPdf** 12 10 50.5 -0.1
CBN LR LR
comp=Z,6µm,20.0s
TRPA Tarpa 145.91 281 *e*PKPbc **PKPdf** 12 10 50.1 -0.7
LVV L'vov 146.01 284 *i* PKIKP **PKPdf** 12 10 49.1 -1.8
MICGM Minsk 146.31 294 *e*PKP **PKPdf** 12 10 50.0 -1.2
MICGM *e*PKP **PKPdf** 12 10 50.0 -1.2
MICGM *e*PP PP 12 14 04.0 -12
MICGM *e*PPP PPP 12 17 32.0
MICGM *e*SKS **SKSdf** 12 17 52.0 -7.1
MICGM *e*SKKS **SKKSac** 12 21 00.0 -6.2
MICGM *e*KSP 12 24 30.0
MICGM *e*SS SS 12 33 48.0 +36
MICGM *e*SSS SSS 12 39 00.0
MICGM *e*LR LR 13 05 50.0
MICGM LRM MLR 13 14 10.0
comp=Z,6.3nm,20.0s
MICGM LRM MLR 13 14 16.0
comp=E,7.0nm,20.0s
MNK Minsk 146.31 294 *e*PKIKP **PKPdf** 12 10 50.0 -1.2
MNK *e* 12 10 50.0
MNK *e*PPP PPP 12 17 32.0
MNK *e* 12 17 52.0
MNK MLR MLR
comp=Z,6µm,20.0s
MNK MLR MLR
comp=E,7µm,20.0s
UZH Uzhgorod 146.32 281 *e*PKIKP **PKPdf** 12 10 50.9 -0.6
UZH *i* 12 10 53.9
UZH *e* 12 14 14.5
ALLY Alegheny Colle 146.40 95 *e*PKPdf **PKPdf** 12 10 52.4 +0.5
ALLY LR LR
comp=Z,6µm,20.0s
ABSA Djebel Ababsia 146.54 251 P **PKPab** 12 10 57.4 +2.4
KWP Kalwaria Pacla 146.64 283 *e*PKP **PKPbc** 12 10 52.9 -0.8
KWP LMZ LR 13 09 50.5
comp=Z,8µm,28.7s
KWP Kalwaria Pacla 146.64 283 ⇑*i*P **PKPdf** 12 10 50.7 -1.3
KWP Kalwaria Pacla 146.64 283 ⇑PKIKP **PKPdf** 12 10 50.7 -1.3
SDMD Soldier's Deli 146.73 101 *e*PKPdf **PKPbc** 12 10 53.5 -0.8
ERPA Erie 146.80 94 *e*PKPdf **PKPbc** 12 10 54.5 +0.2
ERPA LR LR
comp=Z,6µm,19.0s
CMAH Djebel Manchou 146.84 252 P **PKPab** 12 10 55.9 -0.2
CRVS Cervenica-Dubn 146.93 281 *e*PKP2 **PKPdf** 12 10 53.1 +0.6
CRVS *e* 12 38 53.4
CRVS Cervenica-Dubn 146.93 281 *e*PKP **PKPdf** 12 10 53.1 +0.6
CRVS *e* 12 10 59.7
CRVS *e*SS SS 12 33 49.5 +30
CRVS *e* 12 38 53.4
CTEI Djebel Teioual 146.96 250 P **PKPab** 12 10 59.9 +3.3
SSPA Standing Stone 146.99 98 *e*PKPdf **PKPbc** 12 10 54.6 -0.4
SSPA LR LR
comp=Z,7µm,20.0s
NACGM Naroch 147.06 294 *e*PKP **PKPdf** 12 10 52.0 -0.5
NACGM PKPM 12 10 58.0
comp=Z,0.2nm,0.8s
NACGM *e*PP PP 12 13 36.0 -44
NACGM *e*PPP PPP 12 16 04.0
NACGM *e*SKS **SKSdf** **12 18 10.0 +10**
NACGM *e*SKKS SKKSac 12 21 37.0 +27
NACGM *e*SS **SS** **12 33 20.0 -0.7**
NACGM *e*SSS SSS 12 38 43.0
NACGM *e*LQ LQ 13 01 20.0
NACGM *e*LR LR 13 06 23.0
CASM Ain Smara 147.06 250 P **PKPab** 12 10 59.8 +2.9
KECS Kecovo 147.25 280 *e*PKIKP **PKPdf** 12 10 53.1 0.0
KECS Kecovo 147.25 280 *e*PKP **PKPdf** 12 10 53.0 0.0
CAEH 'Ain El Ouahch 147.26 251 P **PKPab** 12 10 57.8 +0.1
PSZ Piszkesteto 147.26 279 ⇑*i*P **PKPbc** 12 10 54.5 -1.1
PSZ Piszkesteto 147.26 279 *e*PKPdf **PKPbc** 12 10 55.5 -0.1
PSZ Piszkesteto 147.26 279 ⇑PKP2 **PKPbc** 12 10 54.5 -1.1
PSZ Piszkesteto 147.26 279 *e*PKPdf **PKPdf** 12 10 53.4 +0.2
PSZ LR LR
comp=Z,6µm,22.0s
IDID Didziasalis 147.26 294 *e*P **PKPdf** 12 10 53.7 +0.9
IDID IAmb IAmb 12 11 11.3
comp=Z,68nm,1.0s
PUL Pulkovo 147.29 303 ⇑*i*PKP2 **PKPab** 12 11 00.0 +3.0
STHS Stebnicka Huta 147.33 282 *e*PKP2 **PKPbc** 12 10 54.9 -0.7
STHS Stebnicka Huta 147.33 282 *e*PKP **PKPbc** 12 10 54.9 -0.7
STHS *e* 12 11 07.3
CKHR Kef el Ahmar 147.39 249 P **PKPab** 12 11 03.0 +4.6
MVL Millersville 147.41 101 *e*PKPdf **PKPbc** 12 10 54.8 -1.3
MVL LR LR
comp=Z,4µm,20.0s
BUD Budapest 147.50 277 *e*PKPdf **PKPab** 12 10 58.3 0.0
BUD Budapest 147.50 277 PKP2 **PKPab** 12 10 57.8 -0.5
AQU L'Aquila 147.55 265 *e*PKP2 **PKPdf** 12 10 54.8 +1.0
AQU MLR MLR
comp=Z,8µm,22.0s
AQU L'Aquila 147.55 265 *e*PKPdf **PKPdf** 12 10 54.8 +1.0
AQU LR LR
comp=Z,8µm,22.0s
SET Setif 147.59 249 P **PKPab** 12 11 03.0 +3.9
DFRA Djebel Bou Aff 147.60 250 P **PKPab** 12 11 02.9 +3.8
BBSR BB Station 147.68 123 *e*PKPdf **PKPbc** 12 10 56.1 -0.9
BBSR LR LR
comp=Z,4µm,20.0s
ISAL Salakas 147.69 295 *e*P **PKPbc** 12 10 55.0 -1.3
ISAL IAmb IAmb 12 11 08.2
comp=Z,48nm,0.9s
IZAR Zarasai 147.70 295 *e*P **PKPbc** 12 10 55.0 -1.4
IZAR IAmb IAmb 12 11 08.2
comp=Z,86nm,1.2s
FCC Fort Churchill 147.76 59 PFAKE 12 11 10.0 +11
FCC LR LR
comp=Z,12µm,21.0s
LVZ Lovozero 147.81 319 *e*PKIKP **PKPdf** 12 10 54.6 +1.1
LVZ MLR MLR
comp=Z,9µm,22.0s
LVZ Lovozero 147.81 319 *e*PKPdf **PKPdf** 12 10 54.6 +1.1
LVZ LR LR
comp=Z,9µm,22.0s
NIE Niedzica 147.85 281 *e*PKP **PKPbc** 12 10 57.4 +0.3
NIE LMZ LR 13 10 37.8
comp=Z,5µm,27.9s
NIE Niedzica 147.85 281 *e*PKP2 **PKPbc** 12 10 57.4 +0.3
VSL Villasalto 147.85 257 *e*PKPdf **PKPdf** 12 10 54.7 +0.3
VSL LR LR
comp=Z,8µm,21.0s
BUF Buffalo 147.96 94 *e*PKPdf **PKPbc** 12 10 57.0 -0.5
BUF *e*PKPbc **PKPab** 12 11 02.6 +2.4
VYHS Vyhne 148.17 279 *e*PKP2 **PKPbc** 12 10 56.6 -1.3
VYHS *e*SS SS 12 33 34.0 +0.5
VYHS *e* 12 39 08.0
VYHS Vyhne 148.17 279 *e*PKP **PKPbc** 12 10 56.6 -1.3
VYHS *e* 12 10 59.9
VYHS *e* 12 11 03.4
VYHS *e*SS SS 12 33 34.0 +0.5
VYHS *e* 12 39 08.0
LANS Liptovska Anna 148.17 280 *e*PKP2 **PKPbc** 12 10 56.4 -1.6
LANS Liptovska Anna 148.17 280 *e*PKP **PKPbc** 12 10 56.4 -1.6
LANS *e* 12 10 59.7
LANS *e* 12 11 04.3
LUPA Lehigh Univers 148.36 101 *e*PKPdf **PKPbc** 12 10 57.1 -1.6
LUPA LR LR
comp=Z,7µm,20.0s
MMNY Mt. Morris Dam 148.37 95 *e*PKPdf **PKPbc** 12 10 57.4 -1.2
VSU Vasula 148.53 300 ⇑*i*PKP2 **PKPbc** 12 10 56.8 -1.7
SUW Suwalki 148.54 290 *e*PKP **PKPdf** 12 10 56.4 +1.4
SUW LMZ LR 13 03 18.4
comp=Z,8µm,41.5s
SUW Suwalki 148.54 290 *e*PKIKP **PKPdf** 12 10 56.4 +1.4
OJC Ojcow 148.55 282 *e*PKP **PKPbc** 12 10 57.7 -1.1
OJC LMZ LR 13 12 12.1
comp=Z,6µm,27.7s
OJC Ojcow 148.55 282 *e*PKP2 **PKPbc** 12 10 57.7 -1.1
OJC Ojcow 148.55 282 *e*PKPdf **PKPdf** 12 10 56.7 +1.5
KSPA Keystone Colle 148.79 99 *e*PKPdf **PKPbc** 12 10 58.3 -1.4
KSPA LR LR
comp=Z,6µm,19.0s
BEL Belsk 148.81 285 *e*PKP **PKPab** 12 11 02.0 -1.4
BEL LMZ LR 13 11 45.1
comp=Z,11µm,25.4s
BEL Belsk 148.81 285 *e*PKP2 **PKPab** 12 11 02.0 -1.4
BRNJ Basking Ridge 148.87 101 *e*PKPbc **PKPbc** 12 11 01.6 +1.7
BRNJ LR LR
comp=Z,6µm,18.0s
EMHD Djebel Mahouad 148.87 246 P **PKPbc** 12 11 00.3 0.0
SADO Sadowa 148.95 91 *e*PKPdf **PKPdf** 12 10 57.7 +1.7
SADO LR LR
comp=Z,7µm,20.0s
ETRT Tiaret 149.08 243 P **PKPbc** 12 10 59.4 -1.4
BINY Binghamton 149.10 98 *e*PKPdf **PKPdf** 12 10 57.7 +1.3
BINY *e*PKPbc **PKiKP** 12 11 01.5 -0.3
BINY *e*PKPab **PKPab** 12 11 05.7 +0.8
BINY LR LR
comp=Z,8µm,21.0s
ODNJ Ogdensburg 149.12 101 *e*PKPbc **PKPbc** 12 11 01.5 +0.9
ODNJ LR LR
comp=Z,5µm,18.0s
LJU Ljubljana 149.20 272 *e*PKPdf **PKPbc** 12 10 58.7 -1.9
LJU *e*PKPbc **PKiKP** 12 11 00.9 -1.0
LJU *e*SS SS 12 33 45.0 -0.1
LJU *e* 12 39 15.1
LJU *e* 12 54 01.5
OKC Ostrava-Krasne 149.27 280 *e*PKP **PKPbc** 12 10 58.8 -1.8
OKC *e*pPKP **PKiKP** 12 11 03.0 +1.2
OKC *ex* x 12 11 07.1

OKC				*ex*	x	12 14 59.3			
OKC				AMS	AMS	13 29 40.0			
	comp=Z,4µm,21.0s								
OKC	**Ostrava-Krasne**	**149.27**	**280**	*e*PKIKP	**PKPbc**	**12 10 58.8**	**-1.8**		
OKC				*e*		12 11 03.0			
OKC				*e*		12 11 07.1			
OKC				MLR	MLR				
	comp=Z,4µm,21.0s								
CPNY	**Central Park**	**149.28**	**102**	*e*PKPbc	**PKPbc**	**12 11 02.3**	**+1.4**		
SOKA	**Soboth**	**149.28**	**273**	*i* sPKPdf	**PKPbc**	**12 10 59.1**	**-1.9**		
	comp=Z,176nm,1.1s,SNR=32								
ARSA	**Arzberg**	**149.34**	**274**	*es*PKPdf	**PKPbc**	**12 10 59.0**	**-2.0**		
	comp=Z,391nm,1.9s,SNR=23								
TRI	**Trieste**	**149.43**	**270**	*e*PKIKP	**PKPbc**	**12 10 59.1**	**-2.1**		
TRI				*e*		12 11 04.7			
TRI				MLR	MLR				
	comp=Z,6µm,22.0s								
TRI	**Trieste**	**149.43**	**270**	*e*PKPdf	**PKPbc**	**12 10 59.1**	**-2.1**		
TRI				*e*PKPbc	**PKPab**	**12 11 04.7**	**-1.4**		
TRI				LR	LR				
	comp=Z,6µm,22.0s								
OJGS	**Djebel Guires**	**149.44**	**242**	P	**PKPab**	**12 11 11.0**	**+4.4**		
PAL	**Palisades**	**149.45**	**102**	*e*PKP2	**PKPbc**	**12 11 02.3**	**+1.0**		
PAL				MLR	MLR				
	comp=Z,7µm,20.0s								
PAL	**Palisades**	**149.45**	**102**	*e*PKPbc	**PKPbc**	**12 11 02.3**	**+1.0**		
PAL				LR	LR				
	comp=Z,7µm,20.0s								
OBKA	**Obir**	**149.46**	**272**	*i* PKPbc	**PKPbc**	**12 11 00.1**	**-1.2**		
	comp=Z,293nm,1.6s,SNR=11								
MORC	**Moravsky Berou**	**149.57**	**280**	⇑ *i*P	**PKPdf**	**12 10 58.7**	**+1.8**		
MORC	**Moravsky Berou**	**149.57**	**280**	⇑PKIKP	**PKPdf**	**12 10 58.7**	**+1.8**		
MORC	**Moravsky Berou**	**149.57**	**280**	PFAKE		12 11 10.0	+3.4		
MORC				LR	LR				
	comp=Z,19µm,21.0s								
EANR	**ʿAin N'Sour**	**149.62**	**243**	P	**PKPab**	**12 11 04.7**	**-2.5**		
ECHA	**Ech Chlef**	**149.64**	**244**	P	**PKPab**	**12 11 07.9**	**+0.7**		
EBNR	**Beni Rached**	**149.66**	**244**	P	**PKPab**	**12 11 05.9**	**-1.5**		
ODJA	**Bouhanifia**	**149.75**	**241**	P	**PKPab**	**12 11 07.0**	**-0.8**		
MDT	**Midelt**	**149.79**	**232**	PKPbc	**PKPbc**	**12 11 00.4**	**-2.2**		
	comp=Z,21nm,1.1s,baz=186,slow=4.1,SNR=9.8								
FIA1	**FINESS Array S**	**149.81**	**305**	*e*PKPdf	**PKPdf**	**12 10 57.8**	**+1.0**		
FINES	**FINESS Array B**	**149.81**	**305**	PKP	**PKPdf**	**12 10 55.5**	**-1.3**		
	comp=Z,5.6nm,0.6s,baz=208,slow=2.7,SNR=8.0								
FINES				PKPbc	**PKPbc**	**12 11 00.2**	**-1.4**		
	comp=Z,23nm,0.8s,baz=106,slow=2.8,SNR=44								
VRAC	**Vranov**	**149.85**	**279**	⇑ *i*P	**PKPdf**	**12 10 59.5**	**+2.2**		
RES	**Resolute Bay**	**150.01**	**28**	*e*PKIKP	**PKPbc**	**12 11 01.9**	**+0.2**		
RES				MLR	MLR				
	comp=Z,9µm,22.0s								
RES	**Resolute Bay**	**150.01**	**28**	*e*PKPbc	**PKPbc**	**12 11 01.9**	**+0.2**		
RES				LR	LR				
	comp=Z,9µm,22.0s								
MYKA	**Terra Mystica**	**150.04**	**272**	*i* sPKPdf	**PKPbc**	**12 11 00.6**	**-2.2**		
	comp=Z,319nm,1.7s,SNR=20								
YLE	**Yale**	**150.20**	**102**	PFAKE		12 11 10.0	+0.6		
YLE				LR	LR				
	comp=Z,9µm,19.0s								
OLHC	**Oulhaca**	**150.31**	**239**	P	**PKPab**	**12 11 10.0**	**-0.1**		
KLNR	**Kaliningrad**	**150.37**	**290**	⇑PKIKP	**PKPdf**	**12 10 59.7**	**+1.9**		
KLNR				*i*		12 11 05.3			
MOA	**Molln**	**150.38**	**274**	*i* sPKPdf	**PKPbc**	**12 11 00.8**	**-2.6**		
	comp=Z,226nm,2.1s,SNR=26								
VLC	**Villacollemand**	**150.39**	**265**	*e*PKPbc	**PKPbc**	**12 11 04.2**	**+0.6**		
KBA	**Koelnbreinsper**	**150.46**	**272**	*i* sPKPdf	**PKPdf**	**12 11 00.7**	**+2.2**		
	comp=Z,157nm,1.1s,SNR=17								
TREC	**Trest**	**150.47**	**278**	*e*PKP	**PKPbc**	**12 11 01.7**	**-1.9**		
TREC				*ep*PKP	**PKiKP**	**12 11 06.0**	**+1.7**		
TREC				*ex*	x	12 15 02.5			
TREC				AMS	AMS	13 25 40.0			
	comp=Z,7µm,21.5s								
TREC	**Trest**	**150.47**	**278**	*e*PKIKP	**PKPbc**	**12 11 01.7**	**-1.9**		
TREC				*e*		12 11 06.0			
TREC				MLR	MLR				
	comp=Z,7µm,21.5s								
DPC	**Dobruska-Polom**	**150.54**	**280**	*e*PKP	**PKPbc**	**12 11 02.3**	**-1.5**		
DPC				*ep*PKP	**PKiKP**	**12 11 06.8**	**+2.3**		
DPC				*ex*	x	12 11 16.4			
DPC				*e*SS	SS	12 33 54.8	-5.2		
DPC				AMS	AMS	13 28 30.0			
	comp=Z,6µm,21.5s								
DPC	**Dobruska-Polom**	**150.54**	**280**	*e*PKIKP	**PKPbc**	**12 11 02.3**	**-1.5**		
DPC				*e*		12 11 06.8			
DPC				*e*SS	SS	12 33 54.8	-5.2		
DPC				MLR	MLR				
	comp=Z,6µm,21.5s								
TRY	**Troy**	**150.74**	**99**	*e*PKPbc	**PKPbc**	**12 11 04.7**	**+0.2**		
TRY				LR	LR				
	comp=Z,10µm,19.0s								
ABTA	**Abfaltersbach**	**150.75**	**271**	*i* sPKPdf	**PKPdf**	**12 11 01.6**	**+2.7**		
	comp=Z,591nm,2.4s,SNR=24								
UPC	**Upice**	**150.79**	**280**	*e*PKP	**PKPbc**	**12 11 02.7**	**-1.6**		
UPC				*ep*PKP	**PKiKP**	**12 11 07.4**	**+2.4**		
UPC				*e*SS	SS	12 33 58.0	-4.7		
UPC				AMS	AMS	13 28 40.0			
	comp=Z,7µm,22.0s								
UPC	**Upice**	**150.79**	**280**	*e*PKIKP	**PKPbc**	**12 11 02.7**	**-1.6**		
UPC				*e*		12 11 07.4			
UPC				*e*SS	SS	12 33 58.0	-4.7		
UPC				MLR	MLR				
	comp=Z,7µm,22.0s								
KSP	**Ksiaz**	**150.80**	**281**	*e*PKP	**PKPbc**	**12 11 02.1**	**-2.2**		
KSP				LMZ	LR	13 13 55.6			
	comp=Z,6µm,30.1s								
KSP	**Ksiaz**	**150.80**	**281**	*e*PKIKP	**PKPbc**	**12 11 02.1**	**-2.2**		
KEV	**Kevo**	**150.80**	**322**	*e*PKIKP	**PKPbc**	**12 11 03.5**	**-0.2**		
KEV				MLR	MLR				
	comp=Z,6µm,19.0s								
KEV	**Kevo**	**150.80**	**322**	*e*PKPbc	**PKPbc**	**12 11 03.5**	**-0.2**		
KEV				LR	LR				
	comp=Z,6µm,19.0s								
ACCN	**Adirondack Com**	**151.16**	**98**	*e*PKPdf	**PKPbc**	**12 11 04.3**	**-1.2**		
ACCN				LR	LR				
	comp=Z,8µm,21.0s								
QUA2	**Belchertown**	**151.17**	**101**	PFAKE		12 11 10.0	-3.4		
QUA2				LR	LR				
	comp=Z,6µm,20.0s								
GOPC	**GO Pecny, Ondr**	**151.18**	**278**	*e*PKP	**PKPbc**	**12 11 04.3**	**-1.0**		
GOPC				*ep*PKP	**PKiKP**	**12 11 07.9**	**+2.1**		
GOPC				*ex*	x	12 11 19.5			
GOPC				*e*SS	SS	12 33 59.9	-7.1		
GOPC				AMS	AMS	13 33 40.0			
	comp=Z,6µm,20.4s								
GOPC	**GO Pecny, Ondr**	**151.18**	**278**	*e*PKIKP	**PKPbc**	**12 11 04.3**	**-1.0**		
GOPC				*e*		12 11 07.9			
GOPC				*e*SS	SS	12 33 59.9	-7.1		
GOPC				MLR	MLR				
	comp=Z,6µm,20.4s								
GEC2	**GERESS Array S**	**151.23**	**276**	PFAKE		12 11 10.0	-3.6		
GEC2				LR	LR				
	comp=Z,8µm,22.0s								
GERES	**GERESS Array B**	**151.23**	**276**	PKPbc	**PKPbc**	**12 11 03.6**	**-1.9**		
	comp=Z,11nm,0.8s,baz=132,slow=2.0,SNR=40								
ARA0	**ARCESS Array S**	**151.32**	**321**	*e*PKPdf	**PKPbc**	**12 11 03.4**	**-1.6**		
ARCES	**ARCESS Array B**	**151.32**	**321**	PKPbc	**PKPbc**	**12 11 02.4**	**-2.6**		
	comp=Z,20nm,0.6s,baz=115,slow=1.7,SNR=32								
ARE0	**ARCESS Array S**	**151.32**	**321**	*e*PKPbc	**PKPbc**	**12 11 04.4**	**-0.6**		
ARE0				LR	LR				
	comp=Z,8µm,21.0s								
PRU	**Pruhonice**	**151.35**	**278**	*e*PKP	**PKPbc**	**12 11 03.9**	**-1.7**		
PRU				*ep*PKP	**PKiKP**	**12 11 07.4**	**+1.3**		
PRU				*e*SS	SS	12 34 03.2	-5.7		
PRU				AMS	AMS	13 33 40.0			
	comp=Z,6µm,20.0s								
PRU	**Pruhonice**	**151.35**	**278**	*e*PKIKP	**PKPbc**	**12 11 03.9**	**-1.7**		
PRU				*e*		12 11 07.4			
PRU				*e*SS	SS	12 34 03.2	-5.7		
PRU				MLR	MLR				
	comp=Z,6µm,20.0s								
BRYW	**Bryant College**	**151.38**	**103**	*e*PKPbc	**PKPbc**	**12 11 08.2**	**+2.3**		
BRYW				LR	LR				
	comp=Z,13µm,21.0s								
LONY	**Lake Ozonia**	**151.43**	**95**	*e*PKPdf	**PKPbc**	**12 11 03.7**	**-2.3**		
LONY				LR	LR				
	comp=Z,9µm,22.0s								
KHC	**Kasperske Hory**	**151.45**	**276**	*e*PKP	**PKPbc**	**12 11 04.0**	**-2.0**		
KHC				*ex*	x	12 11 11.5			
KHC	**Kasperske Hory**	**151.45**	**276**	*e*PKIKP	**PKPbc**	**12 11 04.0**	**-2.0**		
KHC				*e*		12 11 11.5			
WTTA	**Wattenberg**	**151.53**	**271**	*i* sPKPdf	**PKPdf**	**12 11 02.7**	**+2.5**		
	comp=Z,178nm,1.1s,SNR=15								
PVCC	**Panska Ves**	**151.60**	**279**	*e*PKP	**PKPbc**	**12 11 03.4**	**-2.8**		
PVCC				*ep*PKP	**PKiKP**	**12 11 08.6**	**+2.0**		
PVCC				*ex*	x	12 11 12.7			
PVCC				*ex*	x	12 11 19.3			
PVCC				AMS	AMS	13 34 00.0			
	comp=Z,6µm,20.0s								
PVCC	**Panska Ves**	**151.60**	**279**	*e*PKIKP	**PKPbc**	**12 11 03.4**	**-2.8**		
PVCC				*e*		12 11 08.6			
PVCC				*e*		12 11 12.7			
PVCC				MLR	MLR				
	comp=Z,6µm,20.0s								
WATA	**Walderalm**	**151.61**	**271**	*i* sPKPdf	**PKPbc**	**12 11 04.2**	**-2.4**		
	comp=Z,44nm,0.8s,SNR=17								
VAF	**Ylistaro**	**151.74**	**308**	PKIKP	**PKPbc**	**12 11 04.8**	**-1.3**		
HRV	**Adam Dziewonsk**	**151.76**	**102**	*e*PKIKP	**PKPbc**	**12 11 08.8**	**+2.0**		
HRV				MLR	MLR				
	comp=Z,6µm,20.0s								
HRV	**Adam Dziewonsk**	**151.76**	**102**	*e*PKPbc	**PKPbc**	**12 11 08.8**	**+2.0**		
HRV				LR	LR				
	comp=Z,6µm,20.0s								
RTC	**Rabat Centre**	**151.77**	**230**	PFAKE		12 11 10.0	+2.9		
RTC				LR	LR				
	comp=Z,66µm,20.0s								
WES	**Weston**	**151.81**	**102**	*e*PKIKP	**PKPbc**	**12 11 09.3**	**+2.4**		
WES				MLR	MLR				
	comp=Z,15µm,19.0s								
WES	**Weston**	**151.81**	**102**	*e*PKPbc	**PKPbc**	**12 11 09.3**	**+2.4**		
WES				LR	LR				
	comp=Z,15µm,19.0s								
MDV	**Middlebury**	**151.83**	**98**	*e*PKPbc	**PKPbc**	**12 11 07.4**	**+0.5**		
BCX	**Boston College**	**151.86**	**102**	*e*PKPbc	**PKPbc**	**12 11 07.7**	**+0.7**		
MOTA	**Moosalm**	**151.88**	**271**	*i* sPKPdf	**PKPdf**	**12 11 03.3**	**+2.6**		
	comp=Z,72nm,0.8s,SNR=25								
FETA	**Feichten**	**151.91**	**270**	*i* sPKPdf	**PKPdf**	**12 11 02.9**	**+2.2**		
	comp=Z,179nm,1.2s,SNR=25								
FUORN	**Ofenpass-Fuorn**	**151.94**	**269**	*e*PKPdf	**PKPbc**	**12 11 04.8**	**-2.7**		
FUORN				LR	LR				
	comp=Z,10µm,21.0s								
FRNY	**Flat Rock**	**152.12**	**96**	PFAKE		12 11 10.0	+2.5		
FRNY				LR	LR				
	comp=Z,8µm,20.0s								
SPB1	**Spitsbergen Ar**	**152.14**	**341**	*e*PKPbc	**PKPbc**	**12 11 06.6**	**-0.1**		
HNH	**Hanover**	**152.14**	**99**	PFAKE		12 11 10.0	+2.4		
HNH				LR	LR				
	comp=Z,13µm,21.0s								
SPA1	**Spitsbergen Ar**	**152.14**	**341**	*e*PKPbc	**PKPbc**	**12 11 06.4**	**-0.2**		
SPB2	**Spitsbergen Ar**	**152.14**	**340**	*e*PKPbc	**PKPbc**	**12 11 07.3**	**+0.6**		
SPB5	**Spitsbergen Ar**	**152.14**	**341**	*e*PKPbc	**PKPbc**	**12 11 06.3**	**-0.4**		
SPA0	**Spitsbergen Ar**	**152.14**	**341**	*e*PKPbc	**PKPbc**	**12 11 06.1**	**-0.6**		
SPA2	**Spitsbergen Ar**	**152.14**	**341**	*e*PKPbc	**PKPbc**	**12 11 07.1**	**+0.5**		
SPA3	**Spitsbergen Ar**	**152.14**	**341**	*e*PKPbc	**PKPbc**	**12 11 06.9**	**+0.2**		
SPB3	**Spitsbergen Ar**	**152.15**	**340**	*e*PKPbc	**PKPbc**	**12 11 06.8**	**+0.1**		
SPB4	**Spitsbergen Ar**	**152.15**	**341**	*e*PKPbc	**PKPbc**	**12 11 07.1**	**+0.4**		
RETA	**Reutte**	**152.15**	**271**	*i* sPKPdf	**PKPdf**	**12 11 03.8**	**+2.8**		
	comp=Z,94nm,1.1s,SNR=15								
FFD	**Franklin Falls**	**152.34**	**100**	PFAKE		12 11 10.0	+1.9		
FFD				LR	LR				
	comp=Z,12µm,21.0s								
TUE	**Stuetta**	**152.37**	**268**	*e*PKPdf	**PKPbc**	**12 11 06.6**	**-1.7**		
TUE				LR	LR				
	comp=Z,9µm,20.0s								
TRQ	**Mont Tremblant**	**152.41**	**93**	*e*PKPbc	**PKPbc**	**12 11 08.4**	**+0.2**		
DAVA	**Damuels**	**152.53**	**270**	*i* PKPdf	**PKPdf**	**12 10 59.8**	**-1.9**		
	comp=Z,294nm,1.9s,SNR=18								
KBS	**Kingsbay**	**152.58**	**343**	*e*PKIKP	**PKPbc**	**12 11 08.8**	**+1.2**		
KBS				MLR	MLR				
	comp=Z,7µm,22.0s								
KBS	**Kingsbay**	**152.58**	**343**	*e*PKPbc	**PKPbc**	**12 11 08.8**	**+1.2**		
KBS				LR	LR				
	comp=Z,7µm,22.0s								
NKC	**Novy Kostel**	**152.64**	**277**	*e*PKP	**PKPbc**	**12 11 06.8**	**-1.8**		
NKC				*ep*PKP	**PKiKP**	**12 11 11.3**	**+2.5**		
NKC				AMS	AMS	13 32 30.0			
	comp=Z,7µm,20.9s								
NKC	**Novy Kostel**	**152.64**	**277**	*e*PKIKP	**PKPbc**	**12 11 06.8**	**-1.8**		
NKC				*e*		12 11 11.3			
NKC				MLR	MLR				
	comp=Z,7µm,20.9s								
CLL	**Collm**	**152.85**	**280**	*e*PKPbc	**PKPbc**	**12 11 07.0**	**-1.9**		
CLL				*i*		12 11 11.1			
	comp=Z,34nm,1.1s								
CLL				*i*		12 11 14.5			
	comp=Z,90nm,1.4s								
CLL				*e*		12 11 22.0			
CLL				*i*		12 11 27.9			
	comp=Z,115nm,1.2s								
CLL				*i*		12 15 09.3			
CLL				*e*SKKSac	SKKSac	12 21 36.0	-6.6		
CLL				*e*PSKS		12 25 17.0			
CLL				*e*PPS	PPS	12 28 12.0			
CLL				*e*SS	**SS**	**12 34 23.0**	**-2.3**		
CLL				*e*		12 35 48.0			
CLL				*e*SSS	SSS	12 40 12.0			
CLL				*e*SSSS		12 44 06.0			
CLL	**Collm**	**152.85**	**280**	*e*PKIKP	**PKPbc**	**12 11 07.0**	**-1.9**		
CLL				*i*		12 11 11.1			
CLL				*i*		12 11 14.5			
CLL	**Collm**	**152.85**	**280**	*e*PKPbc	**PKPbc**	**12 11 07.7**	**-1.3**		
CLL				LR	LR				
	comp=Z,6µm,21.0s								
BNI	**Bardonecchia**	**153.03**	**263**	PFAKE		12 11 10.0	+0.2		
BNI				LR	LR				
	comp=Z,10µm,22.0s								
GRFO	**Grafenberg**	**153.06**	**275**	PFAKE		12 11 10.0	+0.5		
GRFO				LR	LR				
	comp=Z,500nm,19.0s								
BSD	**Bornholm Skovb**	**153.39**	**289**	*e*PKIKP	**PKPdf**	**12 11 05.5**	**+3.1**		
BSD				MLR	MLR				
	comp=Z,8µm,22.0s								
BSD	**Bornholm Skovb**	**153.39**	**289**	*i* P	**PKPdf**	**12 11 05.5**	**+3.1**		
SENIN	**Lac Senin/Sane**	**153.46**	**266**	*e*PKPbc	**PKPbc**	**12 11 09.8**	**-0.9**		
SENIN				LR	LR				
	comp=Z,7µm,22.0s								
BFO	**Black Forest**	**153.98**	**271**	*e*PKIKP	**PKPbc**	**12 11 08.1**	**-3.5**		
BFO				MLR	MLR				
	comp=Z,5µm,21.0s								
BFO	**Black Forest**	**153.98**	**271**	*e*PKPdf	**PKPbc**	**12 11 08.1**	**-3.5**		
BFO				LR	LR				
	comp=Z,5µm,21.0s								
RGN	**Rugen**	**154.03**	**287**	PFAKE		12 11 10.0	-1.4		
RGN				LR	LR				
	comp=Z,9µm,22.0s								
WVL	**Waterville**	**154.15**	**100**	*e*PKPdf	**PKPdf**	**12 11 05.5**	**+1.7**		
WVL				LR	LR				
	comp=Z,15µm,20.0s								
SSB	**Saint Sauveur**	**154.36**	**261**	*e*PKIKP	**PKPbc**	**12 11 09.6**	**-2.9**		
SSB				MLR	MLR				
	comp=Z,7µm,20.0s								
SSB	**Saint Sauveur**	**154.36**	**261**	*e*PKPdf	**PKPbc**	**12 11 09.6**	**-2.9**		
SSB				LR	LR				
	comp=Z,7µm,20.0s								
MOF	**Molkenrain**	**154.40**	**269**	PKIKP	**PKPbc**	**12 11 08.5**	**-4.1**		
PMOZ	**Porto Moniz, M**	**154.55**	**212**	*e*PKPdf	**PKPdf**	**12 11 03.3**	**-1.7**		
PMOZ	**Porto Moniz, M**	**154.55**	**212**	*e*LQ	LQ	12 55 03.1			
PMOZ				*e*LR	LR	13 03 10.7			
	comp=Z,9µm,22.0s								
LANF	**Langenberg**	**154.62**	**271**	PKIKP	**PKPbc**	**12 11 09.9**	**-3.0**		
PKME	**Peaks-Kenny Pk**	**154.78**	**99**	*e*PKPdf	**PKPdf**	**12 11 05.5**	**+0.8**		
PKME				LR	LR				
	comp=Z,8µm,20.0s								
PVAQ	**Vaqueiros**	**155.01**	**233**	*e*SS	SS	12 34 58.8	+10		
PVAQ	**Vaqueiros**	**155.01**	**233**	*e*LQ	LQ	12 56 40.9			
PVAQ				*e*LR	LR	13 04 05.4			
	comp=Z,9µm,20.0s								
ES19	**SONSECA Array**	**155.02**	**242**	*e*PKPdf	**PKPdf**	**12 11 06.2**	**+0.8**		
ESDC	**Sonseca Array**	**155.03**	**242**	PKP	**PKPdf**	**12 11 05.5**	**+0.1**		
	comp=Z,0.6nm,0.7s,baz=74,slow=1.8,SNR=4.5								
ESDC				PKPbc	PKPbc	12 11 11.0			
	comp=Z,3.8nm,1.0s,baz=72,slow=0.9,SNR=12								
ESLA	**Sonseca Array**	**155.03**	**242**	PFAKE		12 11 20.0	-10		
ESLA				LR	LR				
	comp=Z,8µm,20.0s								
PAB	**San Pablo**	**155.12**	**241**	*e*PKPbc	PKPdf	12 11 14.1	+8.6		
PAB				LR	LR				
	comp=Z,8µm,18.0s								
PFVI	**Vila Bisbo**	**155.28**	**231**	*e*PKPdf	**PKPdf**	**12 11 06.5**	**+0.8**		
PFVI	**Vila Bisbo**	**155.28**	**231**	PFAKE		12 11 20.0	-11		
PFVI				LR	LR				
	comp=Z,8µm,22.0s								
PBAR	**Barrancos**	**155.33**	**235**	*e*PKPdf	**PKPdf**	**12 11 08.8**	**+3.1**		
PCVE	**Castro Verde**	**155.34**	**233**	*e*PKPdf	**PKPdf**	**12 11 07.2**	**+1.5**		
MORF	**Marmelete**	**155.34**	**231**	*e*SS	SS	12 34 52.8	+0.8		
EMMW	**East Machias**	**155.45**	**102**	*e*PKPdf	**PKPdf**	**12 11 06.8**	**+1.1**		
EMMW				*e*PKPab	**PKPab**	**12 11 30.5**	**-0.9**		
LMQ	**La Malbaie**	**155.55**	**94**	*e*PKPdf	**PKPdf**	**12 11 08.7**	**+3.0**		
LMQ				*e*PKPab	**PKPab**	**12 11 33.4**	**+1.6**		
LMQ				LR	LR				
	comp=Z,13µm,19.0s								
MESJ	**Messejana**	**155.59**	**233**	*e*SS	SS	12 34 55.4	+0.7		
WLF	**Walferdange**	**155.90**	**272**	*e*PKP2	**PKPab**	**12 11 31.7**	**-1.5**		
WLF				MLR	MLR				
	comp=Z,8µm,19.0s								
WLF	**Walferdange**	**155.90**	**272**	*e*PKPab	**PKPab**	**12 11 31.7**	**-1.5**		
WLF				LR	LR				
	comp=Z,8µm,19.0s								
PNCL	**Nicolau / Gran**	**155.96**	**233**	*e*PKPdf	**PKPdf**	**12 11 09.3**	**+2.8**		
EVO	**Evora**	**156.07**	**234**	*e*PKPdf	**PKPdf**	**12 11 11.2**	**+4.5**		
EVO	**Evora**	**156.07**	**234**	*e*PKPab	**PKPab**	**12 11 33.4**	**-0.8**		
PESTR	**Estremoz**	**156.14**	**235**	*e*PKPdf	**PKPdf**	**12 11 08.4**	**+1.6**		
PQI	**Presque Isle**	**156.34**	**98**	*e*PKPdf	**PKPdf**	**12 11 07.8**	**+1.1**		
PMRV	**Marv??o**	**156.50**	**236**	*e*PKPdf	**PKPdf**	**12 11 09.7**	**+2.4**		
PMRV	**Marv??o**	**156.50**	**236**	*e*PKPab	**PKPab**	**12 11 38.0**	**+1.9**		
PMRV	**Marv??o**	**156.50**	**236**	*e*SS	SS	12 35 05.7	+1.1		
PMRV	**Marv??o**	**156.50**	**236**	*e*LQ	LQ	12 55 24.5			
PMRV				*e*LR	LR	13 05 01.1			
	comp=Z,9µm,20.0s								
NC405	**NORSAR Array S**	**156.53**	**301**	*e*PKPab	**PKPab**	**12 11 34.6**	**-1.0**		
NC602	**NORSAR Array S**	**156.57**	**300**	*e*PKPdf	**PKPdf**	**12 11 08.8**	**+2.2**		
NC602				*e*PKPab	**PKPab**	**12 11 35.1**	**-0.7**		
PMTG	**Montargil**	**156.60**	**234**	*e*PKPdf	**PKPdf**	**12 11 07.2**	**-0.2**		
PMTG	**Montargil**	**156.60**	**234**	*e*PKPab	**PKPab**	**12 11 37.1**	**+0.6**		
NC303	**NORSAR Array S**	**156.71**	**302**	*e*PKPab	**PKPab**	**12 11 36.0**	**-0.3**		
LIS	**Lisbon**	**156.73**	**232**	*e*P	**PKPdf**	**12 11 07.6**	**0.0**		
LIS				AMS	AMS	13 38 35.0			
	comp=Z,10µm,18.3s								
LIS	**Lisbon**	**156.73**	**232**	*e*PKIKP	**PKPdf**	**12 11 07.5**	**0.0**		
NB2	**NORSAR Subarra**	**156.76**	**301**	PKPdf	**PKPdf**	**12 11 08.2**	**+1.3**		
	comp=Z,13nm,1.0s,baz=97,slow=1.4								
NB2	**NORSAR Subarra**	**156.76**	**301**	PKPdf	**PKPdf**	**12 11 08.2**	**+1.3**		
	baz=97,slow=1.4								
NOA	**NORSAR Array B**	**156.76**	**301**	PKP	**PKPdf**	**12 11 05.3**	**-1.6**		
	comp=Z,3.1nm,1.1s,baz=39,slow=23,SNR=2.3								
NOA				PKPab	**PKPab**	**12 11 34.9**	**-1.8**		
	comp=Z,16nm,0.9s,baz=96,slow=4.7,SNR=18								
MUD	**Monsted U'grnd**	**156.89**	**289**	*e*PKIKP	**PKPdf**	**12 11 07.4**	**+0.3**		
MUD	**Monsted U'grnd**	**156.89**	**289**	*i* P	**PKPdf**	**12 11 07.4**	**+0.3**		
NBO02	**NORSAR Array S**	**156.94**	**301**	*e*PKPdf	**PKPdf**	**12 11 08.4**	**+1.3**		
NBO02				*e*PKPab	**PKPab**	**12 11 39.2**	**+1.8**		
NBO00	**NORSAR Array S**	**156.97**	**301**	*e*PKPab	**PKPab**	**12 11 36.8**	**-0.8**		
NC204	**NORSAR Array S**	**157.01**	**302**	*e*PKPab	**PKPab**	**12 11 35.5**	**-2.2**		
MTE	**Manteigas**	**157.34**	**238**	*e*PKPdf	**PKPdf**	**12 11 11.4**	**+3.0**		
MTE	**Manteigas**	**157.34**	**238**	*e*PKPab	**PKPab**	**12 11 40.3**	**+0.6**		
MTE	**Manteigas**	**157.34**	**238**	*e*SS	SS	12 35 20.4	+6.7		
MTE	**Manteigas**	**157.34**	**238**	*e*LQ	LQ	12 56 08.0			
MTE				*e*LR	LR	13 05 20.2			
	comp=Z,9µm,20.0s								
MTE	**Manteigas**	**157.34**	**238**	PFAKE		12 11 20.0	+12		
MTE				LR	LR				
	comp=Z,10µm,20.0s								
KONO	**Kongsberg**	**157.37**	**297**	PFAKE		12 11 20.0	+12		
KONO				LR

0.2nm,0.1s,SNR=7.9
EADA Pg **Pb** 12 10 42.3 +0.9
2.4nm,0.1s,SNR=6.6
EADA Sn **Sb** 12 10 56.8 -0.5
2.5nm,0.1s,SNR=7.9
EADA Lg Lg 12 10 59.3
18nm,0.4s,SNR=15
EADA Adamuz 1.26 27 Pn **Pn** 12 10 41.0 +0.1
0.2nm,0.1s,SNR=7.9
SELV Sierra Elvira 1.28 81 Pg **Pb** 12 10 43.0 +1.4
1.2nm,0.2s,SNR=7.9
SELV Lg Lg 12 11 00.1
0.7nm,0.1s,SNR=7.9
SELV Sierra Elvira 1.28 81 Pg **Pb** 12 10 43.0 +1.4
1.2nm,0.2s,SNR=7.9
SELV Lg Lg 12 11 00.1
0.7nm,0.1s,SNR=7.9
EMIN Mina Concepcio 1.30 304 Pg **Pn** 12 10 40.8 -0.6
2.6nm,0.3s,SNR=17
EMIN Lg Lg 12 10 58.6
12nm,0.2s
EMIN Mina Concepcio 1.30 304 Pg **Pn** 12 10 40.8 -0.6
2.6nm,0.3s,SNR=17
EMIN Lg Lg 12 10 58.6
12nm,0.2s
PBAR Barrancos 1.78 310 *e*Pn **Pn** 12 10 47.2 -0.7
PBAR *e*Sg **Sb** 12 11 13.3 +1.3
PBAR A A 12 11 16.8
9.6nm,0.6s
PBAR Barrancos 1.78 310 Pn **Pn** 12 10 47.2 -0.7
PBAR Lg Lg 12 11 13.3
9.6nm,0.6s
PBAR Barrancos 1.78 310 Pn **Pn** 12 10 47.2 -0.7
PBAR *e*Sg **Sb** 12 11 13.3 +1.3
9.6nm,0.6s
EGRO El Granado 1.80 286 Pn **Pn** 12 10 48.0 -0.2
19nm,1.0s,SNR=4.0
EGRO Pg **Pb** 12 10 50.3 -0.1
14nm,1.2s,SNR=11
EGRO Lg Lg 12 11 12.9
3.8nm,0.3s,SNR=9.9
EGRO El Granado 1.80 286 Pn **Pn** 12 10 48.0 -0.2
19nm,1.0s,SNR=4.0
EQES Quesada 1.94 66 Pn **Pn** 12 10 50.2 0.0
21nm,0.8s,SNR=4.0
EQES Pg **Pb** 12 10 52.9 +0.1
20nm,0.8s,SNR=6.7
EQES Sn **Sn** 12 11 13.5 -0.8
18nm,0.8s,SNR=4.0
EQES Lg Lg 12 11 18.0
1.9nm,0.2s,SNR=7.9
EQES Quesada 1.94 66 Pn **Pn** 12 10 50.2 0.0
21nm,0.8s,SNR=4.0
EQES Lg Lg 12 11 18.0
1.9nm,0.2s,SNR=7.9
PVAQ Vaqueiros 1.95 281 *e*Pn **Pn** 12 10 49.9 -0.4
PVAQ *e*Sn **Sn** 12 11 12.5 -1.9
PVAQ *e*Sg **Sb** 12 11 18.1 +1.0
PVAQ A A 12 11 20.6
7.6nm,0.3s
PVAQ Vaqueiros 1.95 281 Pn **Pn** 12 10 49.9 -0.4
PVAQ Sn **Sn** 12 11 12.5 -1.9
PVAQ Lg Lg 12 11 18.1
7.6nm,0.3s
PVAQ Vaqueiros 1.95 281 Pn **Pn** 12 10 49.9 -0.4
PVAQ Sn **Sn** 12 11 12.5 -1.9
PVAQ *e*Sg **Sb** 12 11 18.1 +1.0
7.6nm,0.3s
PBDV Barranco-do-Ve 2.10 276 *e*Pn **Pn** 12 10 52.0 -0.4
PBDV *e*Sn **Sn** 12 11 16.5 -1.7
PBDV *e*Sg **Sb** 12 11 22.8 +1.3
PBDV A A 12 11 30.2
6.2nm,0.7s
PBDV Barranco-do-Ve 2.10 276 Pn **Pn** 12 10 52.0 -0.4
PBDV Sn **Sn** 12 11 16.5 -1.7
PBDV Lg Lg 12 11 22.8
6.2nm,0.7s
PBDV Barranco-do-Ve 2.10 276 Pn **Pn** 12 10 52.0 -0.4
PBDV Sn **Sn** 12 11 16.5 -1.7
PBDV *e*Sg **Sb** 12 11 22.8 +1.3
6.2nm,0.7s
EBAD Badajoz 2.17 322 Pn **Pn** 12 10 52.9 -0.4
2.1nm,0.6s,SNR=6.3
EBAD Sn **Sn** 12 11 18.2 -1.7
31nm,1.0s
EBAD Lg Lg 12 11 24.7
2.4nm,0.3s,SNR=6.5
EBAD Badajoz 2.17 322 Pn **Pn** 12 10 52.9 -0.4
2.1nm,0.6s,SNR=6.3
EBAD Sn **Sn** 12 11 18.2 -1.7
31nm,1.0s
EBAD Lg Lg 12 11 24.7
2.4nm,0.3s,SNR=6.5
PCVE Castro Verde 2.25 286 *e*Pn **Pn** 12 10 54.0 -0.4
PCVE *e*Sg **Sb** 12 11 27.5 +1.8
PCVE A A 12 11 35.1
5.5nm,0.5s
PCVE Castro Verde 2.25 286 Pn **Pn** 12 10 54.0 -0.4
PCVE Lg Lg 12 11 27.5
5.5nm,0.5s
PCVE Castro Verde 2.25 286 Pn **Pn** 12 10 54.0 -0.4
PCVE *e*Sg **Sb** 12 11 27.5 +1.8
5.5nm,0.5s
MESJ Messejana 2.45 290 *e*P **Pg** 12 11 06.0 +1.2
MESJ AMS AMS 13 38 49.9
comp=Z,8μm,16.1s
MESJ Messejana 2.45 290 *e*PKPdf **Pg** 12 11 09.5 +4.7
MESJ Messejana 2.45 290 *e*Pn **Pn** 12 10 56.8 -0.3
MESJ *e*Sn **Sn** 12 11 25.5 -1.1
MESJ *e*Sg **Sg** 12 11 35.1 -1.5
MESJ A A 12 11 35.7
comp=Z,7.0nm,0.7s
MESJ Messejana 2.45 290 Pn **Pn** 12 10 56.8 -0.3
MESJ Sn **Sn** 12 11 25.5 -1.1
MESJ Lg Lg 12 11 35.1
comp=Z,7.0nm,0.7s
MESJ Messejana 2.45 290 Pn **Pn** 12 10 56.8 -0.3
MESJ Sn **Sn** 12 11 25.5 -1.1
MESJ *e*Sg **Sg** 12 11 35.1 -1.5
comp=Z,7.0nm,0.7s
PESTR Estremoz 2.56 316 *e*Pn **Pn** 12 10 58.5 -0.2
PESTR *e*Sn **Sn** 12 11 28.0 -1.5
PESTR *e*Sg **Sg** 12 11 37.5 -2.7
PESTR A A 12 11 43.3
comp=Z,5.5nm,0.8s
PESTR Estremoz 2.56 316 *e*Pn **Pn** 12 10 58.5 -0.2
PESTR *e*Sn **Sn** 12 11 28.0 -1.5
PESTR *e*Sg **Sg** 12 11 37.5 -2.7
comp=Z,5.5nm,0.8s
MORF Marmelete 2.68 277 *e*P **Pb** 12 11 05.5 +0.1
MORF AMS AMS 13 20 47.5
comp=Z,7μm,11.8s
MORF Marmelete 2.68 277 *e*PKPdf **Pb** 12 11 06.9 +1.4
MORF Marmelete 2.68 277 *e*Pg **Pb** 12 11 06.5 +1.0
MORF *e*Sn **Sn** 12 11 31.6 -0.8
MORF *e*Sg **Sb** 12 11 40.8 +2.7
MORF A A 12 11 45.6
comp=Z,3.6nm,0.2s
MORF Marmelete 2.68 277 Pg **Pb** 12 11 06.5 +1.0
MORF Sn **Sn** 12 11 31.6 -0.8
MORF Lg Lg 12 11 40.8
comp=Z,3.6nm,0.2s
MORF Marmelete 2.68 277 Pg **Pb** 12 11 06.5 +1.0
MORF Sn **Sn** 12 11 31.6 -0.8
MORF *e*Sg **Sb** 12 11 40.8 +2.7
comp=Z,3.6nm,0.2s
PTEO Sao Teotonio 2.77 281 *e*Sg **Sg** 12 11 44.5 -2.3
PTEO A A 12 11 47.5
comp=Z,6.1nm,0.4s
PTEO Sao Teotonio 2.77 281 Lg Lg 12 11 44.5
comp=Z,3.1nm,0.4s
PTEO Sao Teotonio 2.77 281 *e*Sg **Sg** 12 11 44.5 -2.3
comp=Z,6.1nm,0.4s
PFVI Vila Bisbo 2.81 273 *e*Sn **Sn** 12 11 34.0 -1.6
PFVI *e*Sg **Sg** 12 11 46.6 -1.7
PFVI Vila Bisbo 2.81 273 Sn **Sn** 12 11 32.3 -3.3
comp=Z,2.1nm,0.1s,SNR=7.9
PFVI Lg Lg 12 11 43.6
comp=Z,2.3nm,0.1s,SNR=4.0
PFVI Vila Bisbo 2.81 273 *e*Sn **Sn** 12 11 34.0 -1.6
PFVI Lg Lg 12 11 43.7
comp=Z,2.3nm,0.1s,SNR=4.0
PFVI *e*Sg **Sg** 12 11 46.6 -1.7
ESDC Sonseca Array 2.83 22 Lg Lg 12 11 45.8
comp=Z,1.5nm,0.2s,SNR=7.9
ESDC Sonseca Array 2.83 22 Lg Lg 12 11 45.8
comp=Z,1.5nm,0.2s,SNR=7.9
PMRV Marv??o 2.89 326 *e*Pn **Pn** 12 11 02.7 -0.5
PMRV *e*Sg **Sb** 12 11 46.6 +2.5
PMRV A A 12 11 53.4
comp=Z,4.6nm,0.6s
PMRV Marv??o 2.89 326 Pn **Pn** 12 11 02.7 -0.5
PMRV Lg Lg 12 11 46.6
comp=Z,4.6nm,0.6s
PMRV Marv??o 2.89 326 Pn **Pn** 12 11 02.7 -0.5
PMRV *e*Sg **Sb** 12 11 46.6 +2.5
comp=Z,4.6nm,0.6s
PMTG Montargil 3.06 312 *e*Sg **Sb** 12 11 51.9 +2.9
PMTG A A 12 12 02.1
comp=Z,3.7nm,0.5s
PMTG Montargil 3.06 312 *e*Sg **Sb** 12 11 51.9 +2.9
comp=Z,3.7nm,0.5s
EPLA Plasencia 3.08 349 Sn **Sn** 12 11 38.7 -3.5
comp=Z,0.4nm,0.1s,SNR=7.9
EPLA Lg Lg 12 11 51.7
comp=Z,17nm,1.1s,SNR=5.9
ETOB Tobarra 3.38 61 Sn **Sn** 12 11 48.6 -1.2
comp=Z,21nm,0.9s,SNR=4.4

*DDA **05** 12:26:55.9,39°.11N×29°.03E,h7km,Md2.6*
*ISCJB **05** 12:26:56.6±0.6,39°.09N±0°.03×29°.02E±0°.04,h7km±6km, Error ellipse: s-maj=6.1km s-min=4.5km az=40.3*
*CSEM **05** 12:26:56.7±0.1,39°.10N×29°.03E,h5km,MD2.6,Error ellipse: s-maj=3.9km s-min=2.5km az=120.0*
*ISK **05** 12:26:56.0,39°.05N×29°.08E,h10km,MD2.6*
ISC 05 12:26:56.6±1.0,39°.10N±0°.03×29°.03E±0°.03,h10km±8km, n19,σ0s55/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**257**	P	**Pg**	**12 27 01.8**	**0.0**
DEMI				S	**Sg**	**12 27 05.5**	**+0.2**
DEMI	**Demirci**	**0.25**	**257**	*i* P	**Pg**	**12 27 01.8**	**0.0**
DEMI				*i* S	**Sg**	**12 27 05.5**	**+0.2**
GDZ	**Gediz**	**0.35**	**92**	P	**Pg**	**12 27 03.5**	**-0.2**
GDZ				S	**Sg**	**12 27 08.8**	**+0.4**
GDZ	**Gediz**	**0.35**	**92**	*i* P	**Pg**	**12 27 03.5**	**-0.2**
GDZ				*i* S	**Sg**	**12 27 08.8**	**+0.4**
TVSB	**Tavsanli**	**0.48**	**44**	*e*PG	**Pg**	**12 27 05.8**	**-0.3**
TVSB				*e*SG	**Sb**	**12 27 13.7**	**-0.8**
TVSB	**Tavsanli**	**0.48**	**44**	*e*Pg	**Pg**	**12 27 05.8**	**-0.3**
TVSB				*e*Sg	**Sb**	**12 27 13.7**	**-0.8**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG	**Pg**	**12 27 09.0**	**-0.2**
KULA				*e*SG	**Sg**	**12 27 17.7**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg	**Pg**	**12 27 09.0**	**-0.2**
KULA				*e*Sg	**Sg**	**12 27 17.7**	**-0.1**
KHAL	**Karahalli**	**0.81**	**153**	P	**Pb**	**12 27 13.0**	**+0.1**
KHAL				S	**Sb**	**12 27 23.4**	**-0.5**
KHAL	**Karahalli**	**0.81**	**153**	*i* P	**Pb**	**12 27 13.0**	**+0.1**
KHAL				*i* S	**Sb**	**12 27 23.4**	**-0.5**
IGD	**Bursa**	**1.17**	**6**	*i* P	**Pg**	**12 27 17.5**	**-1.6**
IGD				*i* S	**Sb**	**12 27 34.2**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN	**Pg**	**12 27 20.6**	**-0.4**
CAVI				*e*SN	**Sn**	**12 27 38.3**	**+0.9**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*Pn	**Pg**	**12 27 20.6**	**-0.4**
CAVI				*e*Sn	**Sn**	**12 27 38.3**	**+0.9**
IZI	**Iznik**	**1.28**	**15**	*e*PN	**Pg**	**12 27 21.9**	**+0.6**
IZI	**Iznik**	**1.28**	**15**	*e*Pn	**Pg**	**12 27 21.9**	**+0.6**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pn**	**12 27 21.5**	**-0.1**
BORA				S	**Sn**	**12 27 40.1**	**+0.5**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pn**	**12 27 21.4**	**-0.1**
BORA				*i* S	**Sn**	**12 27 40.1**	**+0.5**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pg**	**12 27 24.4**	**-0.5**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pg**	**12 27 24.4**	**-0.5**

MEX 05 12:42:37.0±0.6,17°.26N×100°.41W,h40km±10km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.24**	**147**	*i* P	Pn	12 42 43.0	-1.7
CAIG				*i* S	Sn	12 42 48.6	-1.5
ACP2	**Acapulco**	**0.62**	**127**	*e*P	Pn	12 42 47.5	-1.9
ACP2				*e*S	Sn	12 42 55.8	-2.5
ACX	**Acapulco**	**0.65**	**126**	*e*P	Pn	12 42 44.7	-5.1
ACX				*e*S	Sn	12 42 52.9	-6.0
MEIG	**Mezcala**	**1.00**	**48**	*e*P	Pn	12 42 52.8	-2.0
MEIG				*i* S	Sn	12 43 05.5	-2.3
ARIG	**Puente Sto Nin**	**1.02**	**3**	*e*P	Pn	12 42 52.9	-2.0
ARIG				*i* S	Sn	12 43 05.9	-2.2
ZIIG	**Zihuatanejo**	**1.07**	**289**	*e*P	Pn	12 42 54.3	-1.2
ZIIG				*e*S	Sn	12 43 06.2	-3.0
PLIG	**Platanillo**	**1.42**	**37**	*e*P	Pn	12 42 59.2	-1.2
PLIG				*e*S	Sn	12 43 15.8	-2.3
TLIG	**Tlapa**	**1.78**	**80**	*e*P	Pn	12 43 05.8	+0.3
TLIG				*i* S	Sn	12 43 24.9	-2.0

*IDC **05** 12:42:50.9±1.0,37°.18N×142°.62E,h0km,mb3.5/7, mb1 3.7/10,mb1mx3.4/58,mbtmp3.6/10,ML3.2/3,Error ellipse: s-maj=26.0km s-min=17.6km az=95.0*
*ISCJB **05** 12:42:51.2±0.7,37°.25N±0°.05×142°.41E±0°.06,h10km, mb3.5/7,Error ellipse: s-maj=7.2km s-min=6.3km az=150.3*
*JMA **05** 12:42:54.6±0.3,37°.27N×142°.21E,h22km±4km,M3.7*
ISC 05 12:42:52.7±0.9,37°.24N±0°.06×142°.35E±0°.06,h10km,n26, σ1s69/27,mb3.6/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.18**	**277**	P	**Pb**	**12 43 14.1**	**-1.2**
JFK				*e*S	**Sg**	**12 43 27.8**	**-3.0**
ONAJ	**Iwakimizuishiy**	**1.25**	**264**	P	**Pb**	**12 43 15.0**	**-1.4**
JMM	**Marumori**	**1.39**	**297**	P	**Pn**	**12 43 17.3**	**-0.8**
JIO	**Ouri**	**1.45**	**327**	P	**Pn**	**12 43 18.4**	**-0.6**
JFT	**Otama**	**1.63**	**280**	P	**Pn**	**12 43 21.5**	**0.0**
JFT				*e*S	**Sn**	**12 43 40.8**	**-1.7**
JOU	**Okura**	**1.75**	**311**	P	**Pn**	**12 43 23.2**	**+0.1**
JOU				*e*S	**Sn**	**12 43 43.9**	**-1.5**
JYS	**Shirataka**	**2.06**	**299**	P	**Pn**	**12 43 29.1**	**+1.7**
JYS				*e*S	**Sn**	**12 43 53.4**	**+0.3**
JFY	**Yanaizu**	**2.11**	**275**	P	**Pn**	**12 43 28.7**	**+0.5**
MJAR	**Matsushiro Arr**	**3.39**	**259**	Pn	**Pn**	**12 43 47.5**	**+1.8**
	2.3nm,0.3s,baz=93,slow=16,SNR=25						
MJAR				Sn	**Sn**	**12 44 30.4**	**+4.4**
	2.8nm,0.3s,baz=179,slow=32,SNR=6.8						
MAT	**Matsushiro**	**3.39**	**259**	P	**Pn**	**12 43 47.2**	**+1.4**
MAT				*e*S	**Sn**	**12 44 27.2**	**+1.1**
JHJ	**Hachijo jima 2**	**4.62**	**208**	Pn	**Pn**	**12 44 02.5**	**-0.1**
	12nm,0.3s,baz=336,slow=18,SNR=17						
JHJ				Sn	**Sn**	**12 44 53.5**	**-2.7**
	12nm,0.3s,baz=133,slow=23,SNR=6.1						
ASAJ	**Asahikawa**	**6.87**	**1**	Pn	**Pn**	**12 44 35.3**	**+1.8**
	0.3nm,0.3s,baz=202,slow=16,SNR=4.4						
ASAJ				Sn	**Sn**	**12 45 52.0**	**+0.2**
	0.1nm,0.3s,baz=153,slow=33,SNR=2.7						
KSRS	**Korea Array**	**11.49**	**275**	Pn	Pn	12 45 43.7	+6.9
	0.1nm,0.3s,baz=90,slow=14,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**27.62**	**122**	T	T	13 18 04.2	
	baz=315,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**27.63**	**122**	T	T	13 17 36.7	
	baz=315,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**27.64**	**122**	T	T	13 17 38.3	
	baz=315,slow=75,SNR=17						
SONM	**Songino Array**	**28.29**	**303**	P	**P**	**12 48 47.9**	**+1.4**
	0.3nm,0.5s,baz=111,slow=8.1,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**28.35**	**125**	T	T	13 18 30.6	
	baz=316,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.35**	**125**	T	T	13 18 50.4	
	baz=316,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.37**	**125**	T	T	13 18 32.2	
	baz=316,slow=76,SNR=14						
MKAR	**Makanchi Array**	**44.64**	**302**	P	**P**	**12 51 07.8**	**+2.4**
	0.7nm,0.8s,baz=98,slow=10,SNR=2.7						
KURBB	**Kurchatov Arra**	**46.47**	**308**	P	**P**	**12 51 20.2**	**+0.5**
	0.3nm,0.4s,baz=83,slow=8.0,SNR=5.3						
ILAR	**Eielson Array**	**48.92**	**32**	P	**P**	**12 51 37.5**	**-1.1**
	0.3nm,0.7s,baz=268,slow=6.2,SNR=6.4						
WRA	**Warramunga Arr**	**57.37**	**189**	P	**P**	**12 52 40.5**	**-0.8**
	0.4nm,0.6s,baz=5.4,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**61.10**	**189**	P	**P**	**12 53 07.0**	**-0.1**
	0.3nm,0.9s,baz=17,slow=11,SNR=4.7						
FINES	**FINESS Array B**	**68.98**	**333**	P	**P**	**12 53 58.6**	**+0.8**
	1.6nm,0.9s,baz=33,slow=22,SNR=3.4						

*ISK **05** 12:47:51.6,37°.23N×28°.18E,h2km,MD2.8*
*DDA **05** 12:47:52.2,37°.23N×28°.20E,h7km,Md2.8*
*CSEM **05** 12:47:52.7±0.1,37°.23N×28°.20E,h2km,MD2.8,Error ellipse: s-maj=4.1km s-min=2.9km az=35.0*
ISC 05 12:47:52.6±0.9,37°.22N±0°.03×28°.20E±0°.03,h6km±9km, n29,σ0s53/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.11**	**141**	*e*PG	**Pg**	**12 47 54.6**	**-0.4**
YER				*e*SG	**Sg**	**12 47 57.2**	**+0.6**
YER	**Yerkesik**	**0.11**	**141**	*e*Pg	**Pg**	**12 47 54.6**	**-0.4**
YER				*e*Sg	**Sg**	**12 47 57.2**	**+0.6**
TURN	**Turunc**	**0.48**	**137**	*i* P	**Pg**	**12 48 01.0**	**-0.8**
AYDN	**Tasoluk**	**0.51**	**330**	P	**Pg**	**12 48 01.8**	**-0.6**
AYDN				S	**Sg**	**12 48 09.4**	**+0.4**
AYDN	**Tasoluk**	**0.51**	**330**	*i* P	**Pg**	**12 48 01.8**	**-0.6**
AYDN				*i* S	**Sg**	**12 48 09.4**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.55**	**138**	*e*PG	**Pg**	**12 48 02.9**	**-0.2**
DALY				*e*SG	**Sb**	**12 48 12.1**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.55**	**138**	*e*Pg	**Pg**	**12 48 02.9**	**-0.2**
DALY				*e*Sg	**Sb**	**12 48 12.1**	**-0.6**
BDRM	**Kayabasi**	**0.62**	**256**	P	**Pg**	**12 48 04.2**	**-0.4**
BDRM	**Kayabasi**	**0.62**	**256**	*i* P	**Pg**	**12 48 04.2**	**-0.4**
BODT	**Bodrum**	**0.72**	**258**	*e*PG	**Pg**	**12 48 06.2**	**-0.3**
BODT				*e*SG	**Sb**	**12 48 16.9**	**-1.0**
BODT	**Bodrum**	**0.72**	**258**	*e*Pg	**Pg**	**12 48 06.2**	**-0.3**
BODT				*e*Sg	**Sb**	**12 48 16.9**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**342**	*e*PG	**Pg**	**12 48 07.0**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**342**	*e*Pg	**Pg**	**12 48 07.0**	**-0.3**
DNZL	**Cakiroluk**	**0.82**	**55**	P	**Pg**	**12 48 08.2**	**-0.2**
DNZL	**Cakiroluk**	**0.82**	**55**	*i* P	**Pg**	**12 48 08.2**	**-0.2**
GCAM	**G?zelcami?**	**0.90**	**302**	P	**Pb**	**12 48 10.7**	**0.0**
GCAM	**G?zelcami?**	**0.90**	**302**	*i* P	**Pb**	**12 48 10.7**	**0.0**
FETY	**Fethiye**	**0.92**	**129**	*e*PG	**Pb**	**12 48 10.7**	**-0.3**
FETY	**Fethiye**	**0.92**	**129**	*e*Pg	**Pb**	**12 48 10.7**	**-0.3**
NIS1	**Nisyros Isl.**	**1.02**	**233**	*e*PG	**Pg**	**12 48 12.2**	**0.0**
NIS1	**Nisyros Isl.**	**1.02**	**233**	*e*Pg	**Pg**	**12 48 12.2**	**0.0**
ELL	**Elmali**	**1.45**	**108**	*e*PN	**Pn**	**12 48 19.7**	**+0.2**
ELL	**Elmali**	**1.45**	**108**	*e*Pn	**Pn**	**12 48 19.7**	**+0.2**
AKAS	**Kas**	**1.50**	**131**	P	**Pg**	**12 48 21.9**	**+0.5**
AKAS	**Kas**	**1.50**	**131**	*i* P	**Pg**	**12 48 21.9**	**+0.5**
KHAL	**Karahalli**	**1.54**	**41**	P	**Pn**	**12 48 21.0**	**+0.2**
KHAL	**Karahalli**	**1.54**	**41**	*i* P	**Pn**	**12 48 21.0**	**+0.2**
SIGR	**SIGRI**	**2.71**	**318**	*e*PN	**Pn**	**12 48 37.8**	**+1.1**
SIGR	**SIGRI**	**2.71**	**318**	*e*Pn	**Pn**	**12 48 37.8**	**+1.1**

*ISCJB **05** 12:48:19.8±0.4,35°.10N±0°.04×71°.82E±0°.05,h33km, mb3.9/11,Error ellipse: s-maj=7.0km s-min=4.2km az=148.6*
*IDC **05** 12:48:25.2±3.1,35°.28N×71°.80E,h63km±27km,mb3.6/11, mb1 3.7/17,mb1mx3.4/51,mbtmp3.9/17,ML3.7/6,Error ellipse: s-maj=18.3km s-min=16.1km az=179.0*
*NNC **05** 12:48:26.0±4.1,35°.24N×71°.65E,h130km±17km,mb3.3, mpv3.9,Error ellipse: s-maj=32.0km s-min=23.1km az=178.0*
ISC 05 12:48:22.2±0.7,35°.19N±0°.06×71°.77E±0°.07,h35km,n34, σ2s66/36,mb3.7/11,10C-3D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**4.31**	**328**	⇑P	Pn	12 49 27.3	+2.0
	14nm,0.4s						
DZET				⇑S	**Sn**	**12 50 19.1**	**+4.8**
	40nm,0.4s						
SDNR	**Sundarnagar**	**5.70**	**129**	*e*P	Pn	12 49 48.0	+3.6
SDNR				*e*S	**Sn**	**12 50 53.0**	**+4.3**
MNAS	**Manas**	**7.31**	**4**	⇓P	Pn	12 50 08.7	+2.1
	2.8nm,0.4s						
MNAS				⇑S	**Sn**	**12 51 32.1**	**+3.8**
	5.0nm,0.4s						
AAK	**Ala-Archa**	**7.73**	**15**	P	Pn	12 50 14.8	+2.5
	1.8nm,0.3s,baz=188,slow=4.2,SNR=11						
AAK				S	**Sn**	**12 51 41.2**	**+2.5**
	0.8nm,0.3s,baz=320,slow=16,SNR=7.6						
AAK	**Ala-Archa**	**7.73**	**15**	⇑P	Pn	12 50 15.5	+3.1
	4.1nm,0.6s						
AAK				⇓S	**Sn**	**12 51 40.8**	**+2.1**
	6.2nm,0.5s						
KK31	**Karatay Array**	**7.96**	**353**	P	**Pn**	**12 50 16.8**	**+1.4**
	1.8nm,0.3s,baz=180,slow=13,SNR=82						
KK31				⇓S	**Sn**	**12 51 46.0**	**+1.8**
	2.5nm,0.5s,baz=181,slow=24,SNR=6.5						
TKM2	**Tokmak 2**	**8.27**	**20**	⇑P	Pn	12 50 23.2	+3.4
	1.6nm,0.6s						
TKM2				⇑S	**Sn**	**12 51 57.2**	**+5.1**
	2.5nm,0.8s						
GEYT	**Alibeck**	**11.31**	**288**	P	**Pn**	**12 51 02.4**	**+1.1**
	0.3nm,0.3s,baz=100,slow=7.5,SNR=4.9						
GEYT				S	**Sn**	**12 53 11.4**	**+5.0**
	0.6nm,0.3s,baz=98,slow=22,SNR=3.6						
PYUN	**Piuthan**	**11.89**	**123**	*e*P	**Pn**	**12 51 08.8**	**-0.6**
	13nm,0.3s						
KOLN	**Koldanda**	**12.51**	**123**	*e*P	**Pn**	**12 51 17.0**	**-0.9**
	5.2nm,0.3s						
GKN	**Gorkha**	**13.10**	**120**	*e*P	**Pn**	**12 51 24.4**	**-1.5**
	14nm,0.3s						
DMN	**Daman**	**13.66**	**120**	*e*P	**Pn**	**12 51 32.2**	**-1.5**
	12nm,0.4s						
KKN	**Kakani**	**13.68**	**119**	*e*P	**Pn**	**12 51 32.6**	**-1.3**
	6.9nm,0.3s						
PKIN	**Phulchoki**	**13.89**	**119**	*e*P	**Pn**	**12 51 35.3**	**-1.5**
	18nm,0.5s						
PKI	**Pulchoki**	**13.90**	**119**	*e*P	**Pn**	**12 51 35.5**	**-1.5**
	3.4nm,0.2s						
MKAR	**Makanchi Array**	**14.04**	**31**	P	**Pn**	**12 51 37.9**	**-0.6**
	0.1nm,0.3s,baz=209,slow=12,SNR=3.8						
GUN	**Gumba**	**14.04**	**117**	*e*P	**Pn**	**12 51 37.1**	**-1.9**
	5.5nm,0.2s						
KURBB	**Kurchatov Arra**	**16.19**	**16**	P	**P**	**12 52 08.9**	**-0.7**
	0.2nm,0.3s,baz=204,slow=10,SNR=36						
AB31	**Akbulak array**	**16.53**	**332**	⇑P	**P**	**12 52 09.8**	**-3.7**
	2.4nm,0.5s,baz=152,slow=13,SNR=52						
AB31				⇑S	**Sn**	**12 55 06.8**	**-6.7**
	0.9nm,0.5s,baz=152,slow=23,SNR=5.4						
BVAR	**Borovoye Array**	**17.86**	**357**	P	**P**	**12 52 28.8**	**+0.7**
	0.5nm,0.3s,baz=152,slow=9.7,SNR=6.8						
AKTO	**Aktyubinsk**	**18.22**	**331**	P	**P**	**12 52 33.0**	**+0.8**
	0.6nm,0.3s,baz=144,slow=16,SNR=9.4						
AKTO	**Aktyubinsk**	**18.22**	**331**	⇑P	**P**	**12 52 33.3**	**+1.2**
	7.0nm,1.0s						
AKTO				⇑S	**Sn**	**12 55 49.5**	**-5.0**
	2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**20.87**	**22**	P	Pn	12 53 01.1	-2.5
	6.9nm,0.3s,baz=221,slow=11,SNR=2.1						
FINES	**FINESS Array B**	**38.92**	**327**	P	**P**	**12 55 42.4**	**-1.7**
	1.2nm,0.8s,baz=116,slow=13,SNR=4.1						
ARCES	**ARCESS Array B**	**42.59**	**338**	P	**P**	**12 56 14.3**	**-0.1**
	3.0nm,0.9s,baz=114,slow=9.0,SNR=4.4						
NOA	**NORSAR Array B**	**45.80**	**324**	P	**P**	**12 56 39.7**	**-0.5**
	0.7nm,0.7s,baz=96,slow=7.8,SNR=2.9						
SIJI	**Sorong**	**65.98**	**109**	P	**P**	**12 59 03.6**	**-1.7**
	74nm,0.4s,baz=1.2,slow=18,SNR=3.0						
TORD	**Torodi Ar. Bea**	**66.32**	**270**	P	**P**	**12 59

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.00**	**197**	Pn	**Pn**	**12 49 47.3**	**-1.4**
	14nm,0.3s,baz=44,slow=4.4,SNR=69						
PMG				*e*Sn	Sn	12 50 30.3	+6.8
	46nm,0.3s,baz=11,slow=19,SNR=9.9						
PMG	**Port Moresby**	**3.00**	**197**	*e*Pn	**Pn**	**12 49 46.0**	**-2.8**
PMG				*e*Sg	Sn	12 50 31.4	+7.9
JAY	**Jayapura**	**8.32**	**298**	Pn	**Pn**	**12 51 03.7**	**+2.0**
	0.2nm,0.3s,baz=268,slow=24,SNR=4.3						
COEN	**Coen**	**8.81**	**213**	*e*Pn	**Pn**	**12 51 06.8**	**-1.6**
COEN				*e*Sn	**Sn**	**12 52 43.7**	**-2.6**
HNR	**Honiara**	**12.14**	**105**	Pn	**Pn**	**12 51 54.6**	**+0.6**
	2.5nm,0.3s,baz=137,slow=0.9,SNR=2.8						
CTA	**Charters Tower**	**13.61**	**187**	Pn	**Pn**	**12 52 14.1**	**+0.1**
	0.2nm,0.3s,baz=281,slow=15,SNR=8.2						
FAKI	**Fak Fak**	**16.13**	**282**	*e*P	**Pn**	**12 52 47.8**	**+0.7**
	78nm,1.3s						
WRAB	**Tennant Creek**	**18.83**	**224**	*e*P	**P**	**12 53 18.0**	**-1.4**
	7.5nm,0.6s						
WRA	**Warramunga Arr**	**18.85**	**224**	P	**P**	**12 53 18.9**	**-0.7**
	0.7nm,0.3s,baz=52,slow=11,SNR=33						
ASAR	**Alice Springs**	**21.81**	**217**	P	**P**	**12 53 50.1**	**-1.5**
	2.7nm,0.5s,baz=54,slow=8.6,SNR=76						
ARMA	**Armidale**	**24.02**	**172**	*e*P	**P**	**12 54 13.7**	**-0.2**
	16nm,1.0s						
FITZ	**Fitzroy Crossi**	**24.69**	**240**	P	**P**	**12 54 18.9**	**-1.2**
	28nm,0.7s,baz=51,slow=8.0,SNR=124						
FITZ	**Fitzroy Crossi**	**24.69**	**240**	*e*P	**P**	**12 54 18.3**	**-1.7**
	47nm,1.0s						
MMRI	**Maumere**	**25.66**	**264**	*e*P	**P**	**12 54 27.5**	**-1.4**
	29nm,0.6s						
STKA	**Stephens Creek**	**25.94**	**193**	P	**P**	**12 54 30.9**	**-0.4**
	8.4nm,1.1s,baz=34,slow=13,SNR=8.3						
KAPI	**Kappang**	**28.18**	**272**	P	**P**	**12 54 53.5**	**+1.9**
	8.9nm,0.8s,baz=119,slow=11,SNR=4.5						
MBWA	**Marble Bar**	**31.02**	**239**	*e*P	**P**	**12 55 14.9**	**-1.8**
	33nm,0.6s						
MJAR	**Matsushiro Arr**	**43.81**	**349**	P	**P**	**12 57 04.1**	**-0.4**
	1.6nm,1.0s,baz=167,slow=7.4,SNR=5.3						
MAJO	**Matsushiro**	**43.81**	**349**	*e*P	**P**	**12 57 03.7**	**-0.9**
	7.6nm,1.1s						
KSRS	**Korea Array**	**47.60**	**338**	P	**P**	**12 57 33.9**	**-0.6**
	0.9nm,0.8s,baz=155,slow=9.8,SNR=6.0						
KSAR	**Wonju Array Be**	**47.61**	**338**	P	**P**	**12 57 33.9**	**-0.6**
IPM	**Ipoh**	**48.19**	**282**	*e*P	**P**	**12 57 40.2**	**+0.8**
	18nm,1.2s						
KULM	**Kulim**	**48.73**	**283**	*e*P	**P**	**12 57 44.2**	**+0.6**
	15nm,1.1s						
CMAR	**Chiang Mai Arr**	**54.40**	**298**	P	**P**	**12 58 28.1**	**+2.2**
	1.0nm,0.8s,baz=133,slow=4.0,SNR=4.3						
KLR	**Kul'dur**	**57.31**	**347**	LR	LR	13 20 23.9	
	comp=Z,802nm,20.6s,baz=308,slow=33						
PETK	**Petropavlovsk-**	**59.96**	**7**	P	**P**	**12 59 03.7**	**-0.8**
	2.0nm,0.5s,baz=158,slow=5.6,SNR=8.5						
SONM	**Songino Array**	**65.36**	**330**	P	**P**	**12 59 40.8**	**+0.1**
	0.3nm,0.6s,baz=152,slow=6.7,SNR=3.9						
VNDA	**Vanda**	**71.34**	**177**	P	**P**	**13 00 18.3**	**+0.7**
	1.4nm,0.8s,baz=323,slow=4.5,SNR=6.3						
MKAR	**Makanchi Array**	**78.55**	**320**	P	**P**	**13 00 59.0**	**-0.7**
	0.4nm,0.4s,baz=100,slow=8.4,SNR=7.4						
QSPA	**South Pole Qui**	**83.46**	**180**	*e*P	**P**	**13 01 25.7**	**+0.1**
	50nm,1.0s						
ILAR	**Eielson Array**	**85.55**	**23**	P	**P**	**13 01 35.0**	**-1.0**
	0.3nm,0.8s,baz=251,slow=4.5,SNR=7.5						
YKA	**Yellowknife Ar**	**99.14**	**28**	LR	LR	13 47 35.6	
	comp=Z,414nm,18.9s,baz=0.0,slow=36						
GERES	**GERESS Array B**	**122.91**	**326**	PKP	**PKPdf**	**13 07 54.8**	**+0.4**
	0.4nm,0.6s,baz=122,slow=1.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**146.22**	**284**	PKPbc	**PKPab**	**13 08 39.9**	**-0.3**
	1.6nm,0.4s,baz=75,slow=2.9,SNR=28						
BDFB	**Brasilia**	**152.84**	**144**	PKPbc	**PKPbc**	**13 08 56.7**	**+0.5**
	1.5nm,0.5s,baz=234,slow=6.5,SNR=2.4						
DBIC	**Dimbokro**	**153.07**	**272**	PKPbc	**PKPbc**	**13 08 56.5**	**-0.1**
	2.9nm,0.9s,baz=120,slow=12,SNR=3.1						

DDA ***05*** *12:50:56.6,39.16N×29.00E,h7km,Md2.7*
ISK ***05*** *12:50:56.8,39.13N×29.01E,h6km,MD2.7*
ISCJB ***05*** *12:50:57.1±0.5,39.13N±0.03×29.02E±0.03,h5km±6km, Error ellipse: s-maj=4.7km s-min=3.9km az=145.2*
CSEM ***05*** *12:50:57.4±0.1,39.13N×29.02E,h5km,MD2.7, Error ellipse: s-maj=2.4km s-min=2.2km az=118.0*

ISC 05 12:50:57.3±0.9, 39.13N±0.02×29.02E±0.02, h13km±9km, n29, σ0 38/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**249**	P	**Pg**	**12 51 02.8**	**+0.2**
DEMI				S	**Sg**	**12 51 05.7**	**-0.6**
DEMI	**Demirci**	**0.25**	**249**	*i* P	**Pg**	**12 51 02.8**	**+0.2**
DEMI				*i* S	**Sg**	**12 51 05.7**	**-0.6**
GDZ	**Gediz**	**0.36**	**97**	P	**Pg**	**12 51 05.0**	**+0.3**
GDZ				S	**Sg**	**12 51 10.0**	**+0.3**
GDZ	**Gediz**	**0.36**	**97**	*i* P	**Pg**	**12 51 05.0**	**+0.3**
GDZ				*i* S	**Sg**	**12 51 10.0**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**47**	*e*PG	**Pg**	**12 51 06.6**	**0.0**
TVSB				*e*SG	**Sg**	**12 51 12.9**	**0.0**
TVSB	**Tavsanli**	**0.47**	**47**	*e*Pg	**Pg**	**12 51 06.6**	**0.0**
TVSB				*e*Sg	**Sg**	**12 51 12.9**	**0.0**
DST	**Dursunbey**	**0.56**	**327**	*e*PG	**Pg**	**12 51 08.4**	**0.0**
DST				*e*SG	**Sg**	**12 51 15.9**	**0.0**
DST	**Dursunbey**	**0.56**	**327**	*e*Pg	**Pg**	**12 51 08.4**	**0.0**
DST				*e*Sg	**Sg**	**12 51 15.9**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*PG	**Pg**	**12 51 10.4**	**-0.1**
KULA				*e*SG	**Sg**	**12 51 19.7**	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*Pg	**Pg**	**12 51 10.4**	**-0.1**
KULA				*e*Sg	**Sg**	**12 51 19.7**	**+0.3**
KHAL	**Karahalli**	**0.85**	**154**	P	**Pb**	**12 51 14.5**	**+0.6**
KHAL				S	**Sg**	**12 51 24.2**	**-0.5**
KHAL	**Karahalli**	**0.85**	**154**	*i* P	**Pb**	**12 51 14.5**	**+0.6**
KHAL				*i* S	**Sg**	**12 51 24.2**	**-0.5**
KHL	**Karahalli**	**0.90**	**154**	*e*PG	**Pg**	**12 51 14.5**	**-0.2**
KHL	**Karahalli**	**0.90**	**154**	*e*Pg	**Pg**	**12 51 14.5**	**-0.2**
AKHS	**Akhisar**	**0.97**	**255**	P	**Pg**	**12 51 16.1**	**+0.1**
AKHS				S	**Sb**	**12 51 29.1**	**+0.4**
AKHS	**Akhisar**	**0.97**	**255**	*i* P	**Pg**	**12 51 16.1**	**+0.1**
AKHS				*i* S	**Sb**	**12 51 29.1**	**+0.4**
IGD	**Bursa**	**1.14**	**7**	*i* P	**Pb**	**12 51 18.3**	**-0.6**
IGD				*i* S	**Sb**	**12 51 33.0**	**-0.5**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	**Pg**	**12 51 21.6**	**+0.4**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*Pn	**Pg**	**12 51 21.6**	**+0.4**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*PN	**Pg**	**12 51 21.2**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pg**	**12 51 21.2**	**-0.1**
IZI	**Iznik**	**1.25**	**16**	*e*PN	**Pg**	**12 51 22.0**	**+0.6**
IZI	**Iznik**	**1.25**	**16**	*e*Pn	**Pg**	**12 51 22.0**	**+0.6**
BORA	**Eskisehir**	**1.34**	**56**	P	**Pn**	**12 51 21.2**	**-0.6**
BORA				S	**Sg**	**12 51 40.9**	**+0.4**
BORA	**Eskisehir**	**1.34**	**56**	*i* P	**Pn**	**12 51 21.2**	**-0.6**
BORA				*i* S	**Sg**	**12 51 40.9**	**+0.4**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*PN	**Pb**	**12 51 23.4**	**+0.5**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pb**	**12 51 23.4**	**+0.5**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pb**	**12 51 24.1**	**+0.1**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pb**	**12 51 24.1**	**+0.1**

IDC 05 13:11:51.8±4.1, 15.24S×173.07W, h95km±60km, mb3.7/4, mb1 3.9/4, mb1mx3.4/29, mbtmp4.1/4, Error ellipse: s-maj=164.1km s-min=48.0km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.82**	**44**	P	Pn	13 12 22.7	+0.8
	26nm,0.3s,baz=189,slow=2.5,SNR=35						
AFI				S	Sn	13 12 44.9	+0.1
	88nm,0.3s,baz=251,slow=20,SNR=10						
DZM	**Mont Dzumac**	**20.56**	**248**	P	P	13 16 22.6	-0.5
	4.6nm,0.8s,baz=123,slow=15,SNR=6.4						
STKA	**Stephens Creek**	**44.40**	**240**	P	P	13 19 52.7	-0.5
	1.3nm,0.5s,baz=94,slow=9.9,SNR=3.8						
WRA	**Warramunga Arr**	**50.19**	**257**	P	P	13 20 38.4	+0.1
	0.7nm,0.6s,baz=92,slow=6.8,SNR=27						
ASAR	**Alice Springs**	**50.47**	**252**	P	P	13 20 40.4	0.0
	4.0nm,0.5s,baz=90,slow=7.7,SNR=186						

IDC ***05*** *13:11:54.4±0.8, 14.47S×174.02W, h0km, mb4.0/8, mb1 4.4/8, mb1mx4.1/27, mbtmp4.0/8, Error ellipse: s-maj=38.9km s-min=21.8km az=137.0*
ISCJB ***05*** *13:11:57.7±0.5, 14.6S±0.1×174.1W±0.2, h33km, mb4.4/19, Error ellipse: s-maj=24.5km s-min=14.6km az=40.7*
NEIC ***05*** *13:12:07.3±2.8, 14.61S×174.10W, h101km±25km, mb4.4/11, Error ellipse: s-maj=26.0km s-min=16.8km az=128.0*

ISC 05 13:11:59.6±0.6, 14.6S±0.2×174.0W±0.2, h35km, n46, σ1 27/39, mb4.5/19, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.23**	**246**	*e*Pn	Pn	13 14 03.3	+6.6
H11S2	**WAKE ISLAND Hy**	**37.94**	**329**	T	T	14 00 23.1	
	baz=149,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**37.95**	**329**	T	T	14 00 07.7	
	baz=149,slow=76,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**37.96**	**329**	T	T	14 00 14.8	
	baz=149,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**38.89**	**331**	T	T	14 01 28.4	
	baz=150,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**38.90**	**331**	T	T	14 01 18.4	
	baz=150,slow=76,SNR=30						
H11N2	**WAKE ISLAND Hy**	**38.91**	**331**	T	T	14 01 22.9	
	baz=150,slow=76,SNR=20						
WRA	**Warramunga Arr**	**49.44**	**256**	P	**P**	**13 20 46.2**	**-0.5**
	2.0nm,1.0s,baz=96,slow=7.8,SNR=9.5						
ASAR	**Alice Springs**	**49.79**	**251**	P	**P**	**13 20 48.6**	**-0.7**
	5.5nm,0.8s,baz=85,slow=8.5,SNR=28						
VNDA	**Vanda**	**64.14**	**186**	P	**P**	**13 22 31.8**	**+1.8**
	2.2nm,1.1s,baz=2.5,slow=5.7,SNR=4.2						
PETK	**Petropavlovsk-**	**71.66**	**342**	P	**P**	**13 23 18.6**	**+1.1**
	5.0nm,0.9s,baz=134,slow=11,SNR=5.4						
NVAR	**Mina Array Bea**	**74.13**	**42**	P	**P**	**13 23 31.8**	**-1.1**
	1.1nm,0.8s,baz=233,slow=9.6,SNR=6.8						
QSPA	**South Pole Qui**	**75.47**	**180**	*e*P	**P**	**13 23 38.5**	**-1.6**
	38nm,1.1s						
SRU	**San Rafael Swe**	**79.69**	**45**	*e*P	**P**	**13 24 06.9**	**+2.8**
	16nm,1.7s						
MNTX	**Cornudas Mount**	**80.22**	**54**	*e*P	**P**	**13 24 09.4**	**+2.4**
	6.0nm,1.4s						
TX31	**Lajitas Ar. Si**	**80.66**	**56**	*e*P	**P**	**13 24 08.2**	**-1.3**
TXAR	**Lajitas Array**	**80.66**	**56**	P	**P**	**13 24 09.1**	**-0.4**
	0.9nm,0.9s,baz=223,slow=6.8,SNR=8.3						
WRH	**Wood River Hil**	**81.25**	**11**	*e*P	**P**	**13 24 11.4**	**-0.3**
	6.8nm,1.0s						
MLY	**Manley**	**81.30**	**10**	*e*P	**P**	**13 24 12.9**	**+0.9**
	15nm,2.0s						
CCB	**Clear Creek Bu**	**81.47**	**11**	*e*P	**P**	**13 24 13.3**	**+0.5**
	4.7nm,1.1s						
S22A	**4UR Ranch, Cre**	**81.66**	**48**	*e*P	**P**	**13 24 15.3**	**+0.5**
	15nm,1.8s						
COLA	**College**	**81.66**	**11**	*e*P	**P**	**13 24 14.1**	**+0.3**
	5.4nm,0.9s						
IL1	**Eielson Array**	**81.75**	**11**	*e*P	**P**	**13 24 14.5**	**+0.2**
ILAR	**Eielson Array**	**81.75**	**11**	P	**P**	**13 24 14.3**	**0.0**
	0.6nm,0.9s,baz=218,slow=5.8,SNR=5.9						
SMCO	**Snowmass**	**82.18**	**46**	*e*P	**P**	**13 24 19.6**	**+2.0**
	4.3nm,1.1s						
COLD	**Coldfoot**	**83.42**	**9**	*e*P	**P**	**13 24 23.9**	**+1.0**
	6.1nm,1.2s						
ABTX	**Abilene, Hawle**	**85.08**	**55**	*e*P	**P**	**13 24 30.2**	**-2.0**
	10nm,0.9s						
YKA	**Yellowknife Ar**	**89.58**	**24**	P	**P**	**13 24 52.0**	**-1.2**
	0.6nm,0.9s,baz=239,slow=4.2,SNR=6.0						
YKA	**Yellowknife Ar**	**89.58**	**24**	P	**P**	**13 24 52.0**	**-1.2**
VRAC	**Vranov**	**144.28**	**348**	PKP	**PKPdf**	**13 31 32.2**	**+0.2**
	0.4nm,0.4s,baz=101,slow=8.3,SNR=2.9						
KHC	**Kasperske Hory**	**144.97**	**351**	*e*PKP	**PKPdf**	**13 31 37.0**	**+3.8**
KHC				*ex*	x	13 31 42.0	
BRTR	**Keskin Array B**	**145.13**	**321**	PKPbc	**PKPdf**	**13 31 33.5**	**-0.4**
	1.9nm,0.8s,baz=121,slow=1.7,SNR=9.6						
GERES	**GERESS Array B**	**145.23**	**351**	PKPbc	**PKPbc**	**13 31 32.8**	**-0.6**
	0.9nm,0.9s,baz=320,slow=3.5,SNR=3.1						
MOA	**Molln**	**146.11**	**350**	*i* PKiKP	**PKiKP**	**13 31 38.3**	**-1.1**
	0.1nm,0.2s						
RETA	**Reutte**	**146.94**	**354**	*i* PKiKP	**PKPab**	**13 31 39.6**	**-0.4**
	7.2nm,1.6s						
WATA	**Walderalm**	**147.00**	**353**	*i* PKiKP	**PKPab**	**13 31 39.8**	**-0.6**
	1.5nm,0.6s						
KBA	**Koelnbreinsper**	**147.01**	**351**	*i* PKiKP	**PKiKP**	**13 31 41.7**	**+0.3**
	2.6nm,0.5s						
MOTA	**Moosalm**	**147.04**	**354**	*i* PKiKP	**PKPab**	**13 31 40.3**	**-0.3**
	3.1nm,0.9s						
WTTA	**Wattenberg**	**147.06**	**353**	*i* PKiKP	**PKPab**	**13 31 40.1**	**-0.5**
	4.2nm,0.9s						
SOKA	**Soboth**	**147.10**	**348**	*i* PKiKP	**PKPab**	**13 31 40.4**	**-0.3**
	4.3nm,1.0s						
DAVA	**Damuels**	**147.22**	**355**	*i* PKPab	**PKPbc**	**13 31 39.1**	**-0.4**
	4.5nm,0.9s						
OBKA	**Obir**	**147.35**	**349**	*i* PKPbc	**PKPbc**	**13 31 38.7**	**-1.2**
	3.1nm,1.3s						
MYKA	**Terra Mystica**	**147.40**	**350**	*i* PKPab	**PKPbc**	**13 31 40.4**	**+0.5**
	0.9nm,0.4s						
FETA	**Feichten**	**147.40**	**354**	*i* PKiKP	**PKiKP**	**13 31 42.5**	**+0.2**
	2.7nm,0.9s						
ABTA	**Abfaltersbach**	**147.45**	**352**	*i* PKPbc	**PKPbc**	**13 31 39.0**	**-1.2**
	5.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**175.62**	**108**	PKP	**PKPdf**	**13 32 07.9**	**+0.9**
	1.3nm,1.2s,baz=240,slow=5.0,SNR=3.6						

IDC ***05*** *13:12:05.3±1.2, 36.14N×142.59E, h0km, mb3.8/7, mb1 3.8/12, mb1mx3.6/55, mbtmp3.8/12, ML3.0/4, Error ellipse: s-maj=27.6km s-min=20.4km az=96.0*
ISCJB ***05*** *13:12:06.4±0.6, 36.20N±0.03×142.50E±0.05, h18km, mb3.8/10, Error ellipse: s-maj=6.4km s-min=4.8km az=18.9*
JMA ***05*** *13:12:08.1±0.3, 36.17N×142.49E, h71km, M3.1*
NEIC ***05*** *13:12:10.4±0.9, 36.21N×142.51E, h35km, mb4.2/2, Error ellipse: s-maj=16.7km s-min=10.7km az=123.0*

ISC 05 13:12:08.8±0.8, 36.16N±0.05×142.39E±0.07, h18km, n37, σ1 24/40, mb3.9/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.32**	**250**	P	**Pb**	**13 12 32.0**	**-1.1**
JHO	**Hitachi**	**1.53**	**287**	P	**Pn**	**13 12 34.6**	**-0.7**
JHO				S	**Sn**	**13 12 54.8**	**+0.1**
JFK	**Kawauchi**	**1.71**	**315**	*e*S	**Sn**	**13 12 58.3**	**-0.8**
BSO1	**Boso 1**	**1.90**	**218**	P	**Pn**	**13 12 39.7**	**0.0**
BSO1				S	**Sb**	**13 13 05.2**	**-0.4**
JMM	**Marumori**	**2.13**	**324**	P	**Pn**	**13 12 42.4**	**-1.0**
JMM				S	**Sn**	**13 13 08.3**	**-1.0**
JFT	**Otama**	**2.13**	**310**	P	**Pn**	**13 12 43.8**	**+0.3**
JFT				S	**Sb**	**13 13 10.9**	**-2.1**
JAG	**Ashikaga**	**2.38**	**277**	P	**Pn**	**13 12 47.1**	**+0.1**
JAG				*e*S	**Sn**	**13 13 16.0**	**+0.3**
JRY	**Ryogami san**	**2.83**	**268**	P	**Pn**	**13 12 53.0**	**-0.1**
JOD2	**Odawara 2**	**2.83**	**252**	P	**Pn**	**13 12 53.4**	**+0.3**
JOD2				*e*S	**Sn**	**13 13 26.3**	**-0.5**
JMK	**Ichinoseki**	**2.94**	**342**	P	**Pn**	**13 12 53.5**	**-1.0**
MJAR	**Matsushiro Arr**	**3.39**	**278**	Pn	**Pn**	**13 13 01.7**	**+0.9**
	2.9nm,0.3s,baz=104,slow=7.7,SNR=52						
MAJO	**Matsushiro**	**3.40**	**278**	*e*Pn	**Pn**	**13 13 00.6**	**-0.3**
MAT	**Matsushiro**	**3.40**	**278**	P	**Pn**	**13 13 01.9**	**+1.0**
MAT				*e*S	**Sn**	**13 13 40.6**	**-0.1**
JHJ2	**Mitsune**	**3.71**	**216**	*e*Pn	**Pn**	**13 13 05.5**	**+0.3**
JHJ	**Hachijo jima 2**	**3.72**	**216**	Pn	**Pn**	**13 13 05.2**	**0.0**
	8.4nm,0.3s,baz=78,slow=21,SNR=11						
JHJ				Sn	**Sn**	**13 13 45.8**	**-2.8**
	20nm,0.3s,baz=255,slow=23,SNR=7.3						
ERM	**Erimo**	**5.88**	**6**	*e*Pn	**Pn**	**13 13 31.8**	**-3.1**
ASAJ	**Asahikawa**	**7.95**	**1**	Pn	**Pn**	**13 14 02.1**	**-1.2**
ASAJ				Sn	**Sn**	**13 15 33.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**11.29**	**318**	Pn	**Pn**	**13 14 49.2**	**0.0**
	0.2nm,0.3s,baz=126,slow=14,SNR=5.9						
KSRS	**Korea Array**	**11.67**	**281**	Pn	**Pn**	**13 14 56.8**	**+2.5**
	0.1nm,0.3s,baz=99,slow=13,SNR=9.8						
KSAR	**Wonju Array Be**	**11.70**	**281**	Pn	**Pn**	**13 14 56.8**	**+2.1**
KLR	**Kul'dur**	**15.20**	**333**	Pn	**P**	**13 15 47.2**	**-0.1**
	0.1nm,0.3s,baz=151,slow=10,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**27.03**	**121**	T	T	13 45 58.9	
	baz=313,slow=75,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**27.04**	**121**	T	T	13 45 58.0	
	baz=313,slow=75,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**27.05**	**121**	T	T	13 45 56.4	
	baz=313,slow=75,SNR=7.7						
SEY	**Seymchan**	**27.50**	**10**	P	**P**	**13 17 57.4**	**+3.6**
	0.8nm,0.6s,baz=114,slow=10,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**27.73**	**123**	T	T	13 46 52.3	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**27.73**	**123**	T	T	13 46 52.9	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**27.75**	**123**	T	T	13 46 52.4	
	baz=319						
SONM	**Songino Array**	**28.92**	**305**	P	**P**	**13 18 07.5**	**+0.6**
	1.4nm,0.7s,baz=110,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**45.25**	**303**	P	**P**	**13 20 25.6**	**+0.6**
	1.8nm,0.7s,baz=90,slow=10,SNR=11						
KURK	**Kurchatov**	**47.09**	**309**	*e*P	**P**	**13 20 39.1**	**-0.2**
	5.3nm,0.8s						
ILAR	**Eielson Array**	**49.81**	**32**	P	**P**	**13 20 59.8**	**-0.4**
	0.3nm,0.9s,baz=272,slow=6.6,SNR=4.9						
WRA	**Warramunga Arr**	**56.32**	**189**	P	**P**	**13 21 47.7**	**-0.8**
	0.6nm,0.9s,baz=6.5,slow=7.4,SNR=2.7						
ARU	**Arti**	**57.53**	**319**	P	**P**	**13 21 57.7**	**+0.9**
	1.1nm,0.3s,baz=323,slow=3.5,SNR=3.5						
ABKAR	**Akbulak array**	**59.10**	**311**	*e*P	**P**	**13 22 08.0**	**+0.1**
	0.3nm,0.3s						
KBZ	**Khabaz**	**72.06**	**311**	P	**P**	**13 23 32.1**	**+0.4**
	1.1nm,0.7s,baz=144,slow=2.4,SNR=2.8						
AKASG	**Malin Array Be**	**75.46**	**323**	P	**P**	**13 23 51.1**	**-0.5**
	0.1nm,0.4s,baz=270,slow=37,SNR=2.7						

MAN 05 13:27:04, 7.57N×123.30E, h20km, mb4.0, ML2.8, MS2.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.28**	**16**	*e*P	Pb	13 27 11.7	+1.3
PAGZ				*e*S	Sn	13 27 18.2	-0.6
IPIL	**Ipil**	**0.76**	**286**	*e*P	Pn	13 27 19.9	+0.3
IPIL				*e*S	Sn	13 27 31.8	+1.4
DCPH	**Dipolog City**	**1.00**	**3**	*e*P	Pn	13 27 24.2	+1.2
CGP	**Cagayan de Oro**	**1.63**	**57**	*e*P	Pn	13 27 31.8	+0.2
CGP				*i* S	Sb	13 27 53.5	-0.1

ISCJB ***05*** *13:34:27.9±1.0, 1.05N±0.09×121.75E±0.06, h44km, mb3.7/5, Error ellipse: s-maj=13.7km s-min=7.4km az=160.0*
IDC ***05*** *13:34:27.3±1.1, 0.62N×122.57E, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.6/42, mbtmp3.8/7, ML4.1/2, Error ellipse: s-maj=56.7km s-min=17.7km az=70.0*
DJA ***05*** *13:34:28.5±0.6, 1.1N±3.3×12.2E±.1, h15km±7km, M4.5/22, mB5.7/1, mb4.5/16, MLv4.5/22, Mw(mB)5.2/1*

ISC 05 13:34:28.3±1.8, 1.0N±0.2×121.81E±0.08, h44km, n23, σ2 9 24/22, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.57**	**166**	P	**Pn**	**13 34 39.7**	**-0.5**
GTOI	**Gorontalo**	**1.27**	**108**	P	**Pn**	**13 34 50.0**	**+0.4**
GTOI				S	**Sn**	**13 35 02.8**	**-2.7**
KMSI	**Cibinong**	**2.22**	**102**	P	**Pn**	**13 35 07.1**	**+4.4**
LUWI	**Luwuk**	**2.28**	**155**	P	**Pn**	**13 35 05.6**	**+2.1**
PCI	**Palu**	**2.76**	**226**	P	**Pn**	**13 35 10.4**	**+0.3**
TTSI	**Tana Toraja**	**4.52**	**206**	P	**Pn**	**13 35 36.1**	**+1.9**
SGSI	**Sangihe**	**4.55**	**55**	P	**Pn**	**13 35 37.0**	**+2.2**
KDI	**Kendari**	**5.03**	**171**	P	**Pn**	**13 35 43.4**	**+2.1**
	58nm,1.0s,0.2nm						
SANI	**Sanana**	**5.18**	**126**	P	**Pn**	**13 35 46.3**	**+2.9**
	38nm,0.9s,0.3nm						
SPSI	**Sidrap Palu**	**5.37**	**202**	P	**Pn**	**13 35 47.9**	**+1.9**
	55nm,0.8s,0.2nm						
LBMI	**Labuha**	**5.93**	**106**	P	**Pn**	**13 35 56.3**	**+2.6**
	40nm,1.0s,0.2nm						
KAPI	**Kappang**	**6.35**	**199**	Pn	**Pn**	**13 36 00.7**	**+1.3**
	1.7nm,0.3s,baz=36,slow=17,SNR=3.8						
MTKI	**Muara Teweh, K**	**7.18**	**254**	P	**Pn**	**13 36 12.2**	**+1.3**
	24nm,0.4s,5µm1.1nm						
BSSI	**Bau Bau, Buton**	**7.25**	**190**	P	**Pn**	**13 36 14.0**	**+2.2**
	38nm,1.4s,0.2nm					

KHL	**Karahalli**	**0.86**	**159**	*e*Pg		**Pg**	**13 40 11.0**	**-0.6**
KHL				*e*Sg		**Sb**	**13 40 22.8**	**-0.7**
IGD	**Bursa**	**1.14**	**2**	*i* P		**Pg**	**13 40 16.1**	**-0.9**
IGD				*i* S		**Sg**	**13 40 30.4**	**-1.4**
CAVI	**Cavuskoy**	**1.20**	**27**	*e*PN		**Pb**	**13 40 18.0**	**+0.1**
CAVI	**Cavuskoy**	**1.20**	**27**	*e*Pn		**Pb**	**13 40 18.0**	**+0.1**
IZI	**Iznik**	**1.24**	**12**	*e*PN		**Pn**	**13 40 18.8**	**+0.4**
IZI	**Iznik**	**1.24**	**12**	*e*Pn		**Pn**	**13 40 18.8**	**+0.4**
BORA	**Eskisehir**	**1.27**	**53**	P		**Pn**	**13 40 19.6**	**+0.9**
BORA				S		**Sn**	**13 40 36.1**	**+0.3**
BORA	**Eskisehir**	**1.27**	**53**	*i* P		**Pn**	**13 40 19.6**	**+0.9**
BORA				*i* S		**Sn**	**13 40 36.1**	**+0.3**
ARMT	**Armutlu**	**1.45**	**352**	*e*PN		**Pb**	**13 40 22.4**	**+0.3**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn		**Pb**	**13 40 22.4**	**+0.3**
GULT	**Gulveren**	**1.68**	**39**	*e*PN		**Pn**	**13 40 25.2**	**+0.7**
GULT	**Gulveren**	**1.68**	**39**	*e*Pn		**Pn**	**13 40 25.2**	**+0.7**

*ISCJB **05** 13:45:20.4±0.3, 40°.38N±0°.03×27°.11E±0°.02, h8km±3km, Error ellipse: s-maj=4.4km s-min=2.9km az=174.6*
*DDA **05** 13:45:20.5, 40°.37N×27°.14E, h4km, Md2.7*
*CSEM **05** 13:45:20.7±0.1, 40°.38N×27°.11E, h10km, MD2.7, Error ellipse: s-maj=1.8km s-min=1.2km az=173.0*
*ISK **05** 13:45:20.1, 40°.38N×27°.11E, h9km, MD2.7*
*ATH **05** 13:45:21.0, 40°.36N×27°.02E, h23km±2km, ML2.1/3, Error ellipse: s-maj=3.4km s-min=1.5km az=63.0*

ISC 05 13:45:20.7±0.8, **40°.37N**±0°.02×**27°.11E**±0°.02, **h13**km±6km, **n57**, σ0**949**/78, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.14**	**82**	*e*PG	**Pg**	**13 45 24.2**	**-0.1**
KRBG				*e*SG	**Sg**	**13 45 26.4**	**-0.4**
KRBG	**Karabiga-Canak**	**0.14**	**82**	*e*Pg	**Pg**	**13 45 24.2**	**-0.1**
KRBG				*e*Sg	**Sg**	**13 45 26.4**	**-0.4**
LPK	**Lapseki**	**0.27**	**270**	*e*PG	**Pg**	**13 45 26.3**	**0.0**
LPK				*e*SG	**Sg**	**13 45 30.4**	**+0.3**
LPK	**Lapseki**	**0.27**	**270**	*e*Pg	**Pg**	**13 45 26.3**	**0.0**
LPK				*e*Sg	**Sg**	**13 45 30.4**	**+0.3**
SART	**Tekirdag**	**0.32**	**10**	P	**Pg**	**13 45 27.4**	**+0.1**
SART				S	**Sg**	**13 45 32.1**	**+0.3**
SART	**Tekirdag**	**0.32**	**10**	*i* P	**Pg**	**13 45 27.4**	**+0.1**
SART				*i* S	**Sg**	**13 45 32.1**	**+0.3**
KNL	**Bal¯–kesir**	**0.33**	**108**	*i* P	**Pg**	**13 45 26.8**	**-0.7**
KNL				*i* S	**Sg**	**13 45 32.0**	**-0.1**
MRMT	**Marmara Adasi**	**0.44**	**58**	*e*PG	**Pg**	**13 45 29.2**	**-0.2**
MRMT				*e*SG	**Sg**	**13 45 34.9**	**-0.4**
MRMT	**Marmara Adasi**	**0.44**	**58**	*e*Pg	**Pg**	**13 45 29.2**	**-0.2**
MRMT				*e*Sg	**Sg**	**13 45 34.9**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.49**	**273**	*e*PG	**Pg**	**13 45 30.1**	**-0.2**
GELI				*e*SG	**Sg**	**13 45 36.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.49**	**273**	*e*Pg	**Pg**	**13 45 30.1**	**-0.2**
GELI				*e*Sg	**Sg**	**13 45 36.7**	**-0.1**
ERIK	**Erikli-Kesan**	**0.54**	**303**	*e*PG	**Pg**	**13 45 31.1**	**-0.2**
ERIK	**Erikli-Kesan**	**0.54**	**303**	*e*Pg	**Pg**	**13 45 31.1**	**-0.2**
GONE	**Gonen-Balikesi**	**0.55**	**126**	*e*PG	**Pg**	**13 45 31.4**	**0.0**
GONE	**Gonen-Balikesi**	**0.55**	**126**	*e*Pg	**Pg**	**13 45 31.4**	**0.0**
EDC	**Edincik**	**0.58**	**92**	*e*PG	**Pg**	**13 45 31.4**	**-0.6**
EDC	**Edincik**	**0.58**	**92**	*e*Pg	**Pg**	**13 45 31.4**	**-0.6**
ENEZ	**Enez**	**0.81**	**297**	*e*PG	**Pg**	**13 45 36.3**	**-0.2**
ENEZ	**Enez**	**0.81**	**297**	*e*Pg	**Pg**	**13 45 36.3**	**-0.2**
BALB	**Balikesir**	**0.94**	**141**	*e*PG	**Pg**	**13 45 38.2**	**-0.6**
BALB	**Balikesir**	**0.94**	**141**	*e*Pg	**Pg**	**13 45 38.2**	**-0.6**
GADA	**Gvkgeada**	**0.94**	**259**	*e*PG	**Pg**	**13 45 38.2**	**-0.7**
GADA	**Gvkgeada**	**0.94**	**259**	*e*Pg	**Pg**	**13 45 38.2**	**-0.7**
KCTX	**Karacabey (Bur**	**0.96**	**96**	*e*PG	**Pg**	**13 45 39.0**	**-0.2**
KCTX	**Karacabey (Bur**	**0.96**	**96**	*e*Pg	**Pg**	**13 45 39.0**	**-0.2**
ALN	**Alexandroupoli**	**0.96**	**303**	*e*PG	**Pg**	**13 45 38.9**	**-0.4**
ALN	**Alexandroupoli**	**0.96**	**303**	*e*Pg	**Pg**	**13 45 38.9**	**-0.4**
ALN				S	**Sg**	**13 45 50.9**	**-1.0**
ALN	**Alexandroupoli**	**0.96**	**303**	P	**Pg**	**13 45 38.7**	**-0.6**
ALN				S	**Sg**	**13 45 50.9**	**-1.0**
ALN				AML	AML	13 45 54.2	
	comp=N,126μm,0.5s						
ALN				AML	AML	13 45 54.9	
	comp=E,140μm,0.4s						
BOZC	**Bozcaada**	**0.97**	**237**	*i* P	**Pg**	**13 45 39.3**	**0.0**
BOZC				*i* S	**Sg**	**13 45 51.6**	**-0.4**
AYVA	**Ayvalik**	**1.11**	**197**	P	**Pg**	**13 45 42.1**	**0.0**
AYVA				S	**Sg**	**13 45 56.0**	**-0.6**
AYVA	**Ayvalik**	**1.11**	**197**	*i* P	**Pg**	**13 45 42.1**	**0.0**
AYVA				*i* S	**Sg**	**13 45 56.0**	**-0.6**
SMTH	**Samothraki Isl**	**1.21**	**275**	P	**Pn**	**13 45 43.4**	**+0.1**
SMTH				S	**Sb**	**13 45 58.1**	**-0.8**
SMTH	**Samothraki Isl**	**1.21**	**275**	P	**Pn**	**13 45 43.4**	**+0.1**
SMTH				S	**Sb**	**13 45 58.1**	**-0.8**
SMTH				AML	AML	13 46 00.3	
	comp=E,171μm,0.2s						
SMTH				AML	AML	13 46 00.8	
	comp=N,164μm,0.2s						
PRK	**Paraskevi**	**1.30**	**210**	P	**Pn**	**13 45 44.8**	**+0.3**
PRK				S	**Sg**	**13 46 02.7**	**+0.2**
PRK	**Paraskevi**	**1.30**	**210**	P	**Pn**	**13 45 44.8**	**+0.3**
PRK				S	**Sg**	**13 46 02.7**	**+0.2**
PRK				AML	AML	13 46 03.6	
	comp=N,187μm,0.4s						
PRK				AML	AML	13 46 03.9	
	comp=E,229μm,0.9s						
ARMT	**Armutlu**	**1.35**	**81**	*e*PN	**Pb**	**13 45 46.0**	**+0.2**
ARMT	**Armutlu**	**1.35**	**81**	*e*Pn	**Pb**	**13 45 46.0**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.36**	**90**	*e*PN	**Pb**	**13 45 46.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.36**	**90**	*e*Pn	**Pb**	**13 45 46.0**	**+0.1**
CTKS	**Kestanelik-??a**	**1.37**	**50**	*e*PN	**Pn**	**13 45 45.3**	**-0.1**
CTKS	**Kestanelik-??a**	**1.37**	**50**	*e*Pn	**Pn**	**13 45 45.3**	**-0.1**
CTYL	**Yalikoy Yolu**	**1.42**	**39**	*e*PN	**Pn**	**13 45 46.3**	**+0.2**
CTYL	**Yalikoy Yolu**	**1.42**	**39**	*e*Pn	**Pn**	**13 45 46.3**	**+0.2**
BGKT	**Bogazkoy**	**1.50**	**57**	*e*PN	**Pn**	**13 45 48.0**	**+0.8**
BGKT	**Bogazkoy**	**1.50**	**57**	*e*Pn	**Pn**	**13 45 48.0**	**+0.8**
EDRB	**Edirne**	**1.50**	**350**	*e*PN	**Pn**	**13 45 47.9**	**+0.6**
EDRB	**Edirne**	**1.50**	**350**	*e*Pn	**Pn**	**13 45 47.9**	**+0.6**
SIGR	**SIGRI**	**1.51**	**220**	*e*PN	**Pn**	**13 45 48.2**	**+0.8**
SIGR	**SIGRI**	**1.51**	**220**	P	**Pn**	**13 45 48.1**	**+0.7**
SIGR	**SIGRI**	**1.51**	**220**	P	**Pn**	**13 45 48.1**	**+0.7**
LIA	**Limnos Island**	**1.55**	**253**	P	**Pn**	**13 45 48.7**	**+0.8**
LIA				S	**Sn**	**13 46 08.7**	**+0.8**
ISK	**Istanbul-Kandi**	**1.64**	**64**	*e*PN	**Pn**	**13 45 49.6**	**+0.5**
ISK	**Istanbul-Kandi**	**1.64**	**64**	*e*Pn	**Pn**	**13 45 49.6**	**+0.5**
SILT	**Sile**	**2.08**	**67**	*e*PN	**Pn**	**13 45 56.1**	**+1.0**
SILT	**Sile**	**2.08**	**67**	*e*Pn	**Pn**	**13 45 56.2**	**+1.0**
CHOS	**Chios island**	**2.15**	**203**	P	**Pn**	**13 45 56.6**	**+0.4**
CHOS	**Chios island**	**2.15**	**203**	P	**Pn**	**13 45 56.6**	**+0.4**

*ISK **05** 13:46:46.4, 39°.18N×28°.91E, h9km, MD2.4*
*ISCJB **05** 13:46:48.0±0.7, 39°.14N±0°.04×29°.01E±0°.05, h22km±9km, Error ellipse: s-maj=8.4km s-min=5.9km az=137.8*
*CSEM **05** 13:46:47.6±0.3, 39°.17N×28°.98E, h10km, MD2.5, Error ellipse: s-maj=9.3km s-min=6.5km az=121.0*
*DDA **05** 13:46:49.5, 39°.04N×29°.02E, h7km, Md2.5*

ISC 05 13:46:47.8±1.1, **39°.14N**±0°.04×**29°.00E**±0°.04, **h26**km±10km, **n14**, σ0**92**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**246**	P	**Pb**	**13 46 54.3**	**+0.1**
DEMI				S	**Sb**	**13 46 58.1**	**-0.5**
DEMI	**Demirci**	**0.24**	**246**	*i* P	**Pb**	**13 46 54.3**	**+0.1**
DEMI				*i* S	**Sb**	**13 46 58.1**	**-0.5**
GDZ	**Gediz**	**0.38**	**98**	P	**Pb**	**13 46 56.9**	**+0.8**
GDZ				S	**Sb**	**13 47 00.8**	**-1.1**
GDZ	**Gediz**	**0.38**	**98**	*i* P	**Pb**	**13 46 56.9**	**+0.8**
GDZ				*i* S	**Sb**	**13 47 00.8**	**-1.1**
TVSB	**Tavsanli**	**0.47**	**49**	*e*PG	**Pb**	**13 46 56.2**	**-1.5**
TVSB				*e*SG	**Sb**	**13 47 04.6**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**49**	*e*Pg	**Pb**	**13 46 56.2**	**-1.5**
TVSB				*e*Sg	**Sb**	**13 47 04.6**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*PG	**Pb**	**13 47 00.2**	**-0.9**
KULA				*e*SG	**Sb**	**13 47 10.1**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*Pg	**Pb**	**13 47 00.3**	**-0.9**
KULA				*e*Sg	**Sb**	**13 47 10.1**	**-0.1**
KHAL	**Karahalli**	**0.86**	**154**	P	**Pn**	**13 47 05.3**	**+1.0**
KHAL				S	**Sb**	**13 47 14.2**	**-1.1**
KHAL	**Karahalli**	**0.86**	**154**	*i* P	**Pn**	**13 47 05.3**	**+1.0**
KHAL				*i* S	**Sb**	**13 47 14.2**	**-1.1**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*PN	**Pn**	**13 47 10.6**	**+1.0**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*Pn	**Pn**	**13 47 10.6**	**+1.0**
ARMT	**Armutlu**	**1.43**	**356**	*e*PN	**Pn**	**13 47 12.7**	**+0.6**
ARMT	**Armutlu**	**1.43**	**356**	*e*Pn	**Pn**	**13 47 12.7**	**+0.6**

*IDC **05** 13:50:03.7±5.0, 31°.77S×70°.17W, h64km±42km, mb3.7/4, mb1 3.9/7, mb1mx3.7/27, mbtmp4.0/7, ML4.0/2, Error ellipse: s-maj=39.4km s-min=29.2km az=53.0*
*ISCJB **05** 13:50:07.6±0.4, 31°.64S±0°.03×70°.27W±0°.04, h115km±4km, mb3.7/4, Error ellipse: s-maj=6.7km s-min=4.2km az=34.1*
*GUC **05** 13:50:07.9±0.4, 31°.64S×70°.60W, h112km±5km, ML3.9*
*SJA **05** 13:50:08.0±1.2, 31°.68S×70°.26W, h100km±13km, ML3.9, MW3.9*

ISC 05 13:50:08.2±0.8, **31°.64S**±0°.04×**70°.29W**±0°.04, **h108**km±8km, **n32**, σ1**908**/48, **mb3.8**/4, **4C-14D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.86**	**101**	⇓*e*P	**Pn**	**13 50 28.5**	**+0.4**
AUSP	**Uspallata**	**0.96**	**128**	⇓*e*P	**Pn**	**13 50 29.4**	**+0.3**
AUSP				*e*S	**Sn**	**13 50 45.0**	**+0.1**
ROCH	**El Roble**	**1.47**	**205**	*e*P	**Pn**	**13 50 34.5**	**-0.2**
ROCH				*e*S	**Sn**	**13 50 54.4**	**-0.4**
ROCH				IAML		13 50 55.3	
	comp=N,5μm,0.3s						
ROC1	**El Roble**	**1.47**	**205**	*e*P	**Pn**	**13 50 34.7**	**-0.1**
ROC1				*e*S	**Sn**	**13 50 54.6**	**-0.3**
SJA	**San Juan**	**1.48**	**86**	*e*P	**Pn**	**13 50 35.2**	**+0.6**
SJA				*e*S	**Sn**	**13 50 54.8**	**+0.1**
SJA				IAML		13 50 56.6	
	comp=Z,1μm,0.3s						
RTCV	**Cerro Valdivia**	**1.50**	**99**	*e*P	**Pn**	**13 50 35.2**	**+0.2**
RTCV				*e*S	**Sn**	**13 50 55.1**	**-0.2**
TLL	**Tololo Astrono**	**1.53**	**343**	⇑*i*P	**Pn**	**13 50 35.6**	**+0.1**
TLL				*i* S	**Sn**	**13 50 56.3**	**+0.1**
TLL				IAML		13 50 58.8	
	comp=E,3μm,0.6s						
PEL	**Peldehue**	**1.54**	**193**	⇓*i*P	**Pn**	**13 50 35.2**	**-0.2**
PEL				*e*S	**Sn**	**13 50 56.0**	**-0.1**
PEL				IAML		13 50 59.0	
	comp=E,1μm,0.2s						
ASAL	**Salagasta**	**1.56**	**128**	⇓*e*P	**Pn**	**13 50 36.5**	**+0.8**
ASAL				*e*S	**Sn**	**13 50 58.0**	**+1.5**
RTLL	**Cerro Villicun**	**1.58**	**79**	⇓*e*P	**Pn**	**13 50 35.9**	**0.0**
RTLL				*e*S	**Sn**	**13 50 56.5**	**-0.4**
ARCO	**CERRO ARCO**	**1.66**	**137**	⇓*e*P	**Pn**	**13 50 38.3**	**+1.3**
ARCO				⇓*e*S	**Sn**	**13 50 59.2**	**+0.3**
ARCO				IAML		13 51 03.8	
	comp=Z,2μm,0.4s						
AMOG	**MOGNA**	**1.69**	**66**	⇓*e*P	**Pn**	**13 50 37.6**	**+0.4**
AMOG				*e*S	**Sn**	**13 50 59.2**	**-0.1**
FCH	**Farellones**	**1.69**	**180**	⇑*i*P	**Pn**	**13 50 38.4**	**+0.9**
FCH				*i* S	**Sn**	**13 51 01.5**	**+1.8**
FCH				IAML		13 51 05.7	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**1.77**	**187**	⇓*i*P	**Pn**	**13 50 38.5**	**+0.3**
CLCH				*e*S	**Sn**	**13 51 01.9**	**+0.8**
CLCH				IAML		13 51 07.1	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.90**	**193**	⇑*i*P	**Pn**	**13 50 39.6**	**-0.2**
RCDM				*i* S	**Sn**	**13 51 03.7**	**-0.2**
AAGR	**Agrelo**	**1.90**	**140**	⇓*e*P	**Pn**	**13 50 41.5**	**+1.6**
AAGR				*e*S	**Sn**	**13 51 06.1**	**+2.4**
ANTU	**Antumapu**	**1.95**	**189**	*e*P	**Pn**	**13 50 40.4**	**-0.1**
ANTU				*i* S	**Sn**	**13 51 05.4**	**+0.3**
ANTU				IAML		13 51 08.1	
	comp=N,1μm,0.6s						
AGUA	**GUANDACOL**	**2.64**	**36**	⇓*e*P	**Pn**	**13 50 51.1**	**+1.5**
AGUA				*e*S	**Sn**	**13 51 23.4**	**+2.1**
ACAN	**Cantantal**	**2.71**	**104**	⇓*e*P	**Pn**	**13 50 52.0**	**-0.1**
ACAN				*e*S	**Sn**	**13 51 21.5**	**-1.2**
VCA	**Vinchina**	**3.41**	**32**	*e*P	**Pn**	**13 51 00.8**	**+1.1**
VCA				IAML		13 51 42.5	
	comp=Z,297nm,0.4s						
MRA	**San Martin**	**3.96**	**103**	IAML		13 51 54.0	
	comp=Z,313nm,0.6s						
TCA	**Tanti**	**4.87**	**88**	⇓*e*P	**Pn**	**13 51 17.8**	**-1.5**
TCA				IAML		13 52 13.9	
	comp=Z,68nm,0.3s						
CYA	**Choya**	**5.03**	**52**	⇓*e*P	**Pn**	**13 51 19.6**	**-1.8**
CYA				IAML		13 52 16.4	
	comp=Z,33nm,0.3s						
FSA	**Cafayete**	**6.67**	**36**	⇓*e*P	**Pn**	**13 51 42.5**	**-1.3**
FSA				IAML		13 53 43.1	
	comp=Z,4.9nm,0.6s						
LVC	**Limon Verde**	**9.07**	**8**	P	Pn	13 52 12.4	-4.3
	comp=Z,42nm,0.3s,baz=164,slow=8.8,SNR=15						
CPUP	**Villa Florida**	**12.51**	**68**	P	**Pn**	**13 52 59.0**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=234,slow=12,SNR=3.8						
LPAZ	**La Paz**	**15.41**	**8**	P	**Pn**	**13 53 40.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=178,slow=8.5,SNR=16						
BDFB	**Brasilia**	**25.80**	**57**	P	**P**	**13 55 29.2**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=237,slow=8.1,SNR=4.2						
TXAR	**Lajitas Array**	**68.44**	**329**	P	**P**	**14 01 00.3**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=153,slow=7.2,SNR=6.4						
MAW	**Mawson**	**75.02**	**163**	P	**P**	**14 01 37.1**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=322,slow=3.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**82.01**	**69**	P	**P**	**14 02 16.5**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=261,slow=4.9,SNR=4.5						
WRA	**Warramunga Arr**	**123.54**	**208**	PKP	**PKPdf**	**14 08 53.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=157,slow=1.8,SNR=5.1						

*IDC **05** 14:02:06.2±3.5, 7°.86S×109°.45E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/33, mbtmp3.8/3, Error ellipse: s-maj=127.8km s-min=65.5km az=35.0*
*NEIC **05** 14:02:06.7±1.1, 7°.42S×109°.60E, h10km, mb3.7/2, Error ellipse: s-maj=28.7km s-min=13.1km az=180.0*
NEIC Felt [III] at Banjarnegara and Kebumen.
*DJA **05** 14:02:07.7±0.2, 8°.S±4°×11°.0E±°, h10km, M3.8/20, MLv3.8/20*
*ISCJB **05** 14:02:08.8±0.4, 7°.53S±0°.08×109°.69E±0°.03, h33km, mb3.6/4, Error ellipse: s-maj=11.5km s-min=3.7km az=8.9*

ISC 05 14:02:10.6±0.9, **7°.56S**±0°.08×**109°.65E**±0°.03, **h35**km, **n28,** σ1**872**/30, **mb3.7**/4, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.75**	**288**	P	**Pn**	**14 02 22.3**	**-2.4**
KPJI				S	**Sn**	**14 02 35.4**	**+0.6**
UGM	**Wanagama**	**0.93**	**112**	P	**Pn**	**14 02 24.0**	**-3.2**
UGM				S	**Sn**	**14 02 37.8**	**-1.6**
SMRI	**Semarang**	**0.94**	**57**	P	**Pn**	**14 02 25.1**	**-2.2**
SMRI				S	**Sn**	**14 02 40.8**	**+1.3**
SMRI	**Semarang**	**0.94**	**57**	*e*Pn	**Pn**	**14 02 24.9**	**-2.4**
CMJI	**Cimerak**	**1.21**	**260**	P	**Pn**	**14 02 29.8**	**-1.2**
CMJI				S	**Sn**	**14 02 47.1**	**+0.9**
WOJI	**Wonogiri, Jawa**	**1.29**	**102**	P	**Pn**	**14 02 29.7**	**-2.4**
PCJI	**Pacitan**	**1.64**	**113**	P	**Pn**	**14 02 34.7**	**-2.2**
JCJI	**Jatiwangi**	**1.74**	**308**	P	**Pn**	**14 02 35.9**	**-2.4**
NGJI	**Ngawi**	**1.81**	**84**	P	**Pn**	**14 02 43.0**	**+3.8**
CISI	**Cisompet, Garu**	**1.82**	**270**	P	**Pn**	**14 02 38.3**	**-1.2**
CISI	**Cisompet, Garu**	**1.82**	**270**	*e*Pn	**Pn**	**14 02 38.0**	**-1.5**
PWJI	**Pagerwojo**	**2.18**	**102**	P	**Pn**	**14 02 44.8**	**+0.4**
TBJI	**Tambak Boyo**	**2.30**	**71**	P	**Pn**	**14 02 44.4**	**-1.7**
CNJI	**Cibinong**	**2.51**	**276**	P	**Pn**	**14 02 49.1**	**+0.1**
SKJI	**Sukabumi**	**3.12**	**280**	P	**Pn**	**14 02 56.9**	**-0.4**
GMJI	**Gumukmas**	**3.82**	**101**	P	**Pn**	**14 03 06.5**	**-0.5**
BLJI	**Banyuglugur**	**3.92**	**93**	P	**Pn**	**14 03 07.6**	**-0.7**
CGJI	**Cibinong**	**4.04**	**283**	P	**Pn**	**14 03 09.7**	**-0.3**
JAGI	**Jajag, Banyuwa**	**4.55**	**102**	P	**Pn**	**14 03 15.8**	**-1.2**
JAGI	**Jajag, Banyuwa**	**4.55**	**102**	*e*Pn	**Pn**	**14 03 19.2**	**+2.2**
FITZ	**Fitzroy Crossi**	**18.76**	**125**	*e*P	**P**	**14 06 27.1**	**+0.3**
	3.3nm,1.0s						
WRA	**Warramunga Arr**	**26.90**	**120**	P	**P**	**14 07 49.6**	**+0.9**
	1.1nm,0.8s,baz=292,slow=11,SNR=10.0						
WRAB	**Tennant Creek**	**26.91**	**120**	P	**P**	**14 07 48.3**	**-0.4**
	2.2nm,1.0s						
H01W3	**Cape Leeuwin H**	**27.50**	**172**	T	T	14 36 56.5	
	baz=317,slow=76,SNR=5.5						
H01W1	**Cape Leeuwin H**	**27.51**	**172**	T	T	14 36 56.5	
	baz=317,slow=76,SNR=6.2						
H01W2	**Cape Leeuwin H**	**27.52**	**172**	T	T	14 36 56.5	
	baz=317,slow=76,SNR=7.2						
ASAR	**Alice Springs**	**28.24**	**127**	P	**P**	**14 08 01.0**	**+0.4**
	0.4nm,0.5s,baz=300,slow=8.0,SNR=11						
ASAR				PcP	**PcP**	**14 11 14.6**	**+0.9**
	0.3nm,1.0s,baz=296,slow=1.9,SNR=3.3						
STKA	**Stephens Creek**	**38.33**	**133**	P	**P**	**14 09 28.3**	**0.0**
	1.0nm,0.4s,baz=310,slow=10.0,SNR=3.3						

*ISCJB **05** 14:07:33.6±0.5, 6°.89N±0°.04×73°.09W±0°.04, h158km±5km, mb3.0/2, Error ellipse: s-maj=8.0km s-min=3.5km az=41.6*

*FUNV **05** 14:07:34.3, 6°.81N×73°.23W, h163km, MW3.1*
*RSNC **05** 14:07:36.4±0.9, 6°.82N×73°.14W, h144km±6km, ML2.9*
*IDC **05** 14:07:41.0±1.5, 6°.59N×74°.93W, h175km±20km, mb2.6/2, mb1 3.0/2, mb1mx2.7/28, mbtmp3.1/2, Error ellipse: s-maj=62.2km s-min=28.1km az=73.0*

ISC 05 14:07:34.8±0.9, **6°.88N**±0°.04×**73°.09W**±0°.05, **h155**km±6km, **n29**, σ1**822**/47, **1C-5D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**197**	*i* P	**Pn**	**14 07 55.8**	**-0.3**
BARC				*e*S	**Sn**	**14 08 10.5**	**-1.9**
BARC				*i*		14 08 12.1	
	comp=Z,174nm,0.3s						
PAMC	**Pamplona, Colo**	**0.60**	**40**	*e*P	**Pn**	**14 07 58.6**	**+0.8**
PAMC				*e*S	**Sn**	**14 08 15.4**	**+0.1**
PAMC				*i*		14 08 17.9	
	comp=Z,65nm,0.5s						
BRRC	**Barranca, Sant**	**0.66**	**291**	⇑*i*P	**Pn**	**14 07 57.6**	**+0.2**
BRRC				*e*S	**Sn**	**14 08 14.4**	**-0.4**
BRRC				*i*		14 08 18.4	
	comp=Z,234nm,0.1s						
RUSC	**La Rusia**	**0.98**	**179**	*e*P	**Pn**	**14 07 59.8**	**-0.6**
RUSC				*e*S	**Sn**	**14 08 18.8**	**-1.1**
RUSC				*i*		14 08 20.4	
	comp=Z,91nm,0.3s						
CAPV	**Capacho**	**1.25**	**38**	⇓*i*P	**Pn**	**14 08 03.8**	**+1.3**
CAPV				*e*S	**Sn**	**14 08 24.6**	**+0.9**
OCAC	**Ocana**	**1.37**	**351**	*e*P	**Pn**	**14 08 03.7**	**+0.1**
OCAC				*e*S	**Sn**	**14 08 26.2**	**+0.5**
OCAC				*i*		14 08 29.4	
	comp=Z,137nm,0.2s						
NORC	**Norcasia**	**2.19**	**234**	*e*P	**Pn**	**14 08 12.2**	**-0.3**
NORC				*e*S	**Sn**	**14 08 39.7**	**-1.9**
NORC				*i*		14 08 43.7	
	comp=Z,14nm,0.3s						
CHIC	**Chingaza**	**2.32**	**196**	*e*P	**Pn**	**14 08 14.1**	**-0.3**
CHIC				*e*S	**Sn**	**14 08 43.8**	**-1.1**
CHIC				*i*		14 08 48.8	
	comp=Z,50nm,0.3s						
ROSC	**El Rosal**	**2.36**	**211**	P	**Pn**	**14 08 16.0**	**+1.2**
	comp=Z,7.8nm,0.3s,baz=321,slow=22,SNR=28						
ROSC				S	**Sn**	**14 08 44.2**	**-1.5**
	comp=Z,18nm,0.3s,baz=98,slow=16,SNR=14						
HELC	**Santa Helena**	**2.51**	**254**	*e*P	**Pn**	**14 08 16.6**	**-0.1**
HELC				*e*S	**Sn**	**14 08 47.4**	**-1.5**
HELC				*i*		14 08 55.0	
	comp=Z,71nm,0.6s						
SOCV	**Socops**	**2.62**	**58**	*e*P	**Pn**	**14 08 18.2**	**+0.5**
SOCV				*e*S	**Sn**	**14 08 50.2**	**-0.6**
GUYC	**Guyana, Colomb**	**2.81**	**234**	*e*P	**Pn**	**14 08 20.2**	**-0.2**
GUYC				*e*S	**Sn**	**14 08 54.7**	**-1.0**
TOLC	**Tolima**	**3.17**	**224**	*e*P	**Pn**	**14 08 25.7**	**+0.9**
ELOV	**Elorza**	**3.59**	**88**	*e*P	**Pn**	**14 08 30.2**	**+0.4**
ELOV				*e*S	**Sn**	**14 09 11.9**	**-0.6**
PRAC	**Prado**	**3.61**	**210**	*e*P	**Pn**	**14 08 29.9**	**-0.3**
PRAC				*e*S	**Sn**	**14 09 12.0**	**-1.2**
PRAC				*i*		14 09 18.7	
	comp=Z,164nm,0.2s						
VIRV	**Villa del Rosa**	**3.67**	**11**	*e*P	**Pn**	**14 08 30.6**	**-0.3**
VIRV				*e*S	**Sn**	**14 09 12

*ISK **05** 14:11:24.0, 39˚44.N×39˚.97E, h22km, MD2.5*
*ISCJB **05** 14:11:25.3±0.6, 39˚.41N±0˚.03×40˚.01E±0˚.04, h1km±8km, Error ellipse: s-maj=6.2km s-min=4.3km az=33.0*
*CSEM **05** 14:11:25.2±0.4, 39˚.40N×40˚.00E, h10km, MD2.5, Error ellipse: s-maj=8.4km s-min=6.8km az=11.0*
ISC 05 14:11:25.0±1.1, 39˚.42N±0˚.03×39˚.98E±0˚.02, h7km±10km, n21, σ0ˢ92/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.26**	**310**	*e*PG	**Pg**		**14 11 30.0**	**-0.2**
ERZN				*e*SG	**Sg**		**14 11 34.8**	**+1.0**
YEDI	**Yedisu-Bingol**	**0.44**	**87**	*e*PG	**Pg**		**14 11 33.6**	**+0.1**
YEDI				*e*SG	**Sb**		**14 11 40.8**	**-1.2**
YEDI	**Yedisu-Bingol**	**0.44**	**87**	*e*Pg	**Pg**		**14 11 33.6**	**+0.1**
YEDI				*e*Sg	**Sb**		**14 11 40.8**	**-1.2**
TNCL	**Tunceli-Merkez**	**0.46**	**229**	P	**Pb**		**14 11 34.8**	**-0.6**
TNCL				S	**Sb**		**14 11 41.6**	**-0.8**
TNCL	**Tunceli-Merkez**	**0.46**	**229**	*i* P	**Pb**		**14 11 34.8**	**-0.6**
TNCL				*i* S	**Sb**		**14 11 41.6**	**-0.8**
BINT	**Bingol**	**0.67**	**144**	*e*Pg	**Pg**		**14 11 38.4**	**+0.5**
BGOL	**Bingol**	**0.69**	**128**	S	**Sg**		**14 11 47.6**	**+0.5**
BGOL	**Bingol**	**0.69**	**128**	*i* P	**Pg**		**14 11 38.2**	**0.0**
BGOL				*i* S	**Sg**		**14 11 47.6**	**+0.5**
BNGB	**Bing¯¶l**	**0.69**	**128**	*e*PG	**Pg**		**14 11 38.4**	**+0.1**
PTK	**Pertek**	**0.69**	**221**	*e*PG	**Pg**		**14 11 38.5**	**+0.1**
PTK	**Pertek**	**0.69**	**221**	*e*Pg	**Pg**		**14 11 38.5**	**+0.1**
KELT	**Kelkit**	**0.92**	**323**	P	**Pg**		**14 11 41.9**	**-0.8**
KELT				S	**Sn**		**14 11 58.3**	**+0.1**
KELT	**Kelkit**	**0.92**	**323**	*i* P	**Pg**		**14 11 41.9**	**-0.8**
KELT				*i* S	**Sn**		**14 11 58.3**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.16**	**207**	*e*PN	**Pg**		**14 11 45.7**	**-1.6**
SVRC	**Sivrice-ELAZID**	**1.16**	**207**	*e*Pn	**Pg**		**14 11 45.7**	**-1.6**
KEMA	**Kemaliye**	**1.16**	**263**	P	**Pg**		**14 11 47.3**	**0.0**
KEMA				S	**Sn**		**14 12 06.2**	**+2.2**
KEMA	**Kemaliye**	**1.16**	**263**	*i* P	**Pg**		**14 11 47.3**	**0.0**
KEMA				*i* S	**Sn**		**14 12 06.2**	**+2.2**
ELZG	**Elazig**	**1.20**	**221**	P	**Pn**		**14 11 48.3**	**-0.1**
ELZG				S	**Sn**		**14 12 06.1**	**+1.1**
ELZG	**Elazig**	**1.20**	**221**	*i* P	**Pn**		**14 11 48.3**	**-0.1**
ELZG				*i* S	**Sn**		**14 12 06.1**	**+1.1**
SUSE	**Susehri**	**1.58**	**301**	P	**Pb**		**14 11 54.6**	**-0.1**
SUSE				S	**Sg**		**14 12 16.5**	**+0.7**
SUSE	**Susehri**	**1.58**	**301**	*i* P	**Pb**		**14 11 54.6**	**-0.1**
SUSE				*i* S	**Sg**		**14 12 16.6**	**+0.7**

MEX 05 14:11:28.5±0.5, 15˚.03N×93˚.48W, h16km±105km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**0.71**	**21**	*i* P		Pg	14 11 40.2	-2.3
PCIG				*i* S		Sg	14 11 48.6	-3.3

*NIED **05** 14:31:00, 37˚.50N×141˚.70E, h50km, Mw4.1 Best double couple: M₀1.80000×10¹⁵ NP1:φ₁87.00000°, δ37.00000°, λ104.00000°. NP2:φ₂249.00000°, δ55.00000°, λ80.00000°.*
*ISCJB **05** 14:31:44.4±0.9, 37˚.50N±0˚.04×141˚.77E±0˚.07, h37km±8km, mb3.6/13, Error ellipse: s-maj=9.9km s-min=5.5km az=17.9*
*JMA **05** 14:31:45.2±0.1, 37˚.51N×141˚.70E, h38km±3km, M4.1*
JMA Felt I J1.
*IDC **05** 14:31:50.8±2.8, 37˚.46N×141˚.45E, h79km±26km, mb3.4/12, mb1 3.5/16, mb1mx3.4/35, mbtmp3.6/16, Error ellipse: s-maj=23.0km s-min=16.5km az=100.0*
ISC 05 14:31:43.9±1.2, 37˚.52N±0˚.04×141˚.73E±0˚.05, h20km±5km, n36, σ1ˢ44/41, mb3.7/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.70**	**257**	P		**Pn**	**14 31 58.3**	**-0.4**
JFK				S		**Sg**	**14 32 07.1**	**0.0**
JMM	**Marumori**	**0.82**	**295**	P		**Pn**	**14 32 00.1**	**-0.2**
JMM				S		**Sg**	**14 32 10.4**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.85**	**241**	P		**Pg**	**14 32 00.4**	**-0.2**
ONAJ				S		**Sb**	**14 32 10.7**	**-0.4**
JIO	**Ouri**	**0.98**	**342**	P		**Pg**	**14 32 02.5**	**-0.5**
JIO				S		**Sb**	**14 32 14.1**	**-0.6**
JFT	**Otama**	**1.11**	**270**	P		**Pg**	**14 32 05.0**	**-0.4**
JFT				S		**Sb**	**14 32 18.5**	**+0.1**
JOU	**Okura**	**1.19**	**315**	P		**Pb**	**14 32 05.8**	**0.0**
JOU				S		**Sn**	**14 32 21.1**	**0.0**
JHO	**Hitachi**	**1.30**	**226**	P		**Pn**	**14 32 06.3**	**-0.7**
JHO				S		**Sn**	**14 32 21.3**	**-2.5**
JMK	**Ichinoseki**	**1.48**	**344**	P		**Pb**	**14 32 10.0**	**-0.8**
JYS	**Shirataka**	**1.49**	**298**	P		**Pb**	**14 32 10.3**	**-0.6**
JYS				S		**Sb**	**14 32 29.8**	**+0.3**
JFY	**Yanaizu**	**1.62**	**267**	P		**Pn**	**14 32 11.9**	**+0.6**
MJAR	**Matsushiro Arr**	**2.98**	**252**	P		**Pn**	**14 32 31.5**	**+1.3**
	4.6nm,0.3s,baz=77,slow=16,SNR=43							
MJAR				S		**Sb**	**14 33 11.6**	**-0.8**
	8.9nm,0.3s,baz=60,slow=23,SNR=5.4							
MAT	**Matsushiro**	**2.98**	**252**	P		**Pn**	**14 32 31.9**	**+1.7**
MAT				*e*S		**Sn**	**14 33 07.7**	**+2.3**
JHJ	**Hachijo jima 2**	**4.67**	**200**	P		**Pn**	**14 32 54.0**	**+0.6**
	18nm,0.3s,baz=332,slow=21,SNR=16							
JHJ				S		Sn	14 33 35.5	-12
	22nm,0.3s,baz=60,slow=20,SNR=3.6							
ASAJ	**Asahikawa**	**6.62**	**5**	P		**Pn**	**14 33 20.3**	**+0.2**
	2.8nm,0.3s,baz=221,slow=9.7,SNR=43							
ASAJ				S		**Sn**	**14 34 35.0**	**+0.1**
	1.7nm,0.3s,baz=98,slow=31,SNR=5.8							
USRK	**Ussuriysk Ar.**	**9.94**	**315**	P		**Pn**	**14 34 09.5**	**+3.9**
	0.4nm,0.3s,baz=120,slow=13,SNR=6.4							
KSRS	**Korea Array**	**10.97**	**274**	P		**Pn**	**14 34 23.5**	**+3.8**
	0.1nm,0.3s,baz=87,slow=14,SNR=7.3							
KLR	**Kul'dur**	**13.75**	**331**	P		**P**	**14 35 03.2**	**-2.9**
	0.1nm,0.3s,baz=146,slow=14,SNR=3.9							
YAK	**Yakutsk**	**25.65**	**347**	P		**P**	**14 37 10.4**	**-1.5**
	0.6nm,0.3s,baz=166,slow=19,SNR=3.1							
SEY	**Seymchan**	**26.26**	**11**	P		**P**	**14 37 19.4**	**+1.9**
	0.9nm,0.8s,baz=162,slow=18,SNR=2.6							
SONM	**Songino Array**	**27.73**	**303**	P		**P**	**14 37 30.9**	**-0.2**
	0.9nm,0.6s,baz=98,slow=8.5,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**28.19**	**122**	T		T	15 07 09.0	
	baz=315,slow=76,SNR=455							
H11N1	**WAKE ISLAND Hy**	**28.19**	**122**	T		T	15 07 09.0	
	baz=315,slow=76,SNR=514							
H11N3	**WAKE ISLAND Hy**	**28.20**	**122**	T		T	15 07 10.7	
	baz=315,slow=76,SNR=544							
H11S1	**WAKE ISLAND Hy**	**28.92**	**124**	T		T	15 08 01.0	
	baz=316							
H11S3	**WAKE ISLAND Hy**	**28.92**	**124**	T		T	15 08 00.3	
	baz=316,slow=74							
H11S2	**WAKE ISLAND Hy**	**28.93**	**124**	T		T	15 08 01.3	
	baz=316,slow=74							
ZALV	**Zalesovo Beam**	**41.77**	**312**	P		**P**	**14 39 31.2**	**-0.6**
	1.7nm,0.3s,baz=98,slow=6.3,SNR=2.1							
MKAR	**Makanchi Array**	**44.08**	**302**	P		**P**	**14 39 48.1**	**-2.4**
	0.9nm,0.7s,baz=68,slow=13,SNR=6.8							
ILAR	**Eielson Array**	**48.95**	**33**	P		**P**	**14 40 29.1**	**+0.7**
	0.4nm,0.7s,baz=266,slow=6.4,SNR=15							
WRA	**Warramunga Arr**	**57.58**	**188**	P		**P**	**14 41 31.6**	**-0.7**
	0.6nm,0.6s,baz=7.1,slow=7.4,SNR=15							
ASAR	**Alice Springs**	**61.31**	**188**	P		**P**	**14 41 57.7**	**-0.3**
	0.2nm,0.8s,baz=1.4,slow=3.7,SNR=3.7							
YKA	**Yellowknife Ar**	**63.26**	**30**	P		**P**	**14 42 11.7**	**+1.0**
	0.2nm,0.6s,baz=304,slow=6.1,SNR=3.4							
FINES	**FINESS Array B**	**68.50**	**332**	P		**P**	**14 42 44.2**	**-0.2**
	1.4nm,0.7s,baz=51,slow=11,SNR=3.7							
AKASG	**Malin Array Be**	**74.06**	**322**	P		**P**	**14 43 17.7**	**-0.6**
	0.4nm,0.4s,baz=51,slow=5.8,SNR=4.7							
NVAR	**Mina Array Bea**	**74.49**	**53**	P		**P**	**14 43 22.5**	**+1.2**
	0.1nm,0.3s,baz=286,slow=6.4,SNR=4.3							
PDAR	**Pinedale Array**	**77.14**	**46**	P		**P**	**14 43 37.6**	**+1.2**
	0.3nm,0.5s,baz=298,slow=1.9,SNR=3.3							

*ISCJB **05** 14:36:58.5±0.5, 39˚.14N±0˚.03×28˚.95E±0˚.04, h10km±5km, Error ellipse: s-maj=5.6km s-min=4.8km az=11.1*
*CSEM **05** 14:36:58.7±0.1, 39˚.13N×28˚.95E, h10km, MD2.6, Error ellipse: s-maj=2.3km s-min=2.0km az=61.0*
*ISK **05** 14:36:58.3, 39˚.16N×28˚.93E, h7km, MD2.7*
*DDA **05** 14:36:59.0, 39˚.08N×28˚.99E, h7km, Md2.6*
ISC 05 14:36:58.7±0.9, 39˚.12N±0˚.03×28˚.96E±0˚.03, h16km±7km, n28, σ0ˢ35/38, Turkey

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

DEMI	**Demirci**	**0.21**	**247**	P		**Pg**	**14 37 03.8**	**+0.2**
DEMI				S		**Sg**	**14 37 06.9**	**0.0**
DEMI	**Demirci**	**0.21**	**247**	*i* P		**Pg**	**14 37 03.8**	**+0.2**
DEMI				*i* S		**Sg**	**14 37 06.9**	**0.0**
GDZ	**Gediz**	**0.41**	**95**	P		**Pg**	**14 37 06.8**	**-0.2**
GDZ				S		**Sg**	**14 37 12.4**	**-0.3**
GDZ	**Gediz**	**0.41**	**95**	*i* P		**Pg**	**14 37 06.8**	**-0.2**
GDZ				*i* S		**Sg**	**14 37 12.4**	**-0.3**
TVSB	**Tavsanli**	**0.51**	**50**	*e*PG		**Pg**	**14 37 08.7**	**-0.2**
TVSB				*e*SG		**Sg**	**14 37 15.6**	**-0.2**
TVSB	**Tavsanli**	**0.51**	**50**	*e*Pg		**Pg**	**14 37 08.7**	**-0.2**
TVSB				*e*Sg		**Sg**	**14 37 15.6**	**-0.2**
KULA	**Kula-Manisa**	**0.65**	**201**	*e*PG		**Pg**	**14 37 11.7**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**201**	*e*Pg		**Pg**	**14 37 11.7**	**+0.2**
KHAL	**Karahalli**	**0.86**	**151**	P		**Pg**	**14 37 15.2**	**-0.2**
KHAL				S		**Sg**	**14 37 26.2**	**-0.6**
KHAL	**Karahalli**	**0.86**	**151**	*i* P		**Pg**	**14 37 15.2**	**-0.2**
KHAL				*i* S		**Sg**	**14 37 26.2**	**-0.6**
KHL	**Karahalli**	**0.91**	**151**	*e*PG		**Pn**	**14 37 17.3**	**+0.4**
KHL	**Karahalli**	**0.91**	**151**	*e*Pg		**Pn**	**14 37 17.3**	**+0.4**
BALB	**Balikesir**	**0.98**	**302**	*e*PG		**Pb**	**14 37 17.0**	**-0.3**
BALB				*e*SG		**Sb**	**14 37 29.6**	**-0.4**
BALB	**Balikesir**	**0.98**	**302**	*e*Pg		**Pb**	**14 37 17.0**	**-0.3**
BALB				*e*Sg		**Sb**	**14 37 29.6**	**-0.4**
KCTX	**Karacabey (Bur**	**1.23**	**338**	*e*PN		**Pn**	**14 37 21.6**	**+0.3**
KCTX	**Karacabey (Bur**	**1.23**	**338**	*e*Pn		**Pn**	**14 37 21.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**357**	*e*PN		**Pb**	**14 37 21.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**357**	*e*Pn		**Pb**	**14 37 21.8**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**32**	*e*PN		**Pb**	**14 37 22.8**	**+0.5**
CAVI	**Cavuskoy**	**1.27**	**32**	*e*Pn		**Pb**	**14 37 22.8**	**+0.5**
IZI	**Iznik**	**1.28**	**18**	*e*PN		**Pg**	**14 37 23.1**	**-0.2**
IZI	**Iznik**	**1.28**	**18**	*e*Pn		**Pg**	**14 37 23.1**	**-0.2**
ARMT	**Armutlu**	**1.44**	**357**	*e*PN		**Pb**	**14 37 25.3**	**+0.1**
ARMT	**Armutlu**	**1.44**	**357**	*e*Pn		**Pb**	**14 37 25.3**	**+0.1**
EDC	**Edincik**	**1.49**	**326**	*e*PN		**Pb**	**14 37 25.6**	**-0.3**
EDC	**Edincik**	**1.49**	**326**	*e*Pn		**Pb**	**14 37 25.6**	**-0.3**
GULT	**Gulveren**	**1.77**	**42**	*e*PN		**Pn**	**14 37 29.5**	**+0.7**
GULT	**Gulveren**	**1.77**	**42**	*e*Pn		**Pn**	**14 37 29.5**	**+0.7**

*ISCJB **05** 14:46:31.5±0.5, 39˚.12N±0˚.03×28˚.97E±0˚.04, h9km, Error ellipse: s-maj=5.2km s-min=4.5km az=141.2*
*CSEM **05** 14:46:31.6±0.1, 39˚.13N×28˚.96E, h10km, MD2.3, Error ellipse: s-maj=4.0km s-min=2.8km az=80.0*
*ISK **05** 14:46:31.2, 39˚.15N×28˚.94E, h5km, MD2.6*
*DDA **05** 14:46:32.0, 39˚.08N×28˚.98E, h7km, Md2.3*
ISC 05 14:46:31.8±0.9, 39˚.13N±0˚.03×28˚.97E±0˚.03, h9km, n22, σ0ˢ57/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**247**	P		**Pg**	**14 46 36.8**	**+0.5**
DEMI				S		**Sg**	**14 46 39.7**	**+0.4**
DEMI	**Demirci**	**0.22**	**247**	*i* P		**Pg**	**14 46 36.8**	**+0.5**
DEMI				*i* S		**Sg**	**14 46 39.7**	**+0.4**
GDZ	**Gediz**	**0.40**	**96**	P		**Pg**	**14 46 39.9**	**+0.3**
GDZ				S		**Sg**	**14 46 45.6**	**+0.8**
GDZ	**Gediz**	**0.40**	**96**	*i* P		**Pg**	**14 46 39.9**	**+0.3**
GDZ				*i* S		**Sg**	**14 46 45.6**	**+0.8**
TVSB	**Tavsanli**	**0.50**	**50**	*e*PG		**Pg**	**14 46 41.4**	**0.0**
TVSB				*e*SG		**Sg**	**14 46 48.6**	**+0.7**
TVSB	**Tavsanli**	**0.50**	**50**	*e*Pg		**Pg**	**14 46 41.4**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**202**	*e*PG		**Pg**	**14 46 44.6**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**202**	*e*Pg		**Pg**	**14 46 44.6**	**0.0**
KHAL	**Karahalli**	**0.86**	**152**	P		**Pg**	**14 46 48.0**	**-0.3**
KHAL				S		**Sg**	**14 46 58.2**	**-1.3**
KHAL	**Karahalli**	**0.86**	**152**	*i* P		**Pg**	**14 46 48.0**	**-0.3**
KHAL				*i* S		**Sg**	**14 46 58.2**	**-1.3**
KHL	**Karahalli**	**0.91**	**152**	*e*PG		**Pb**	**14 46 50.0**	**+0.2**
KHL	**Karahalli**	**0.91**	**152**	*e*Pg		**Pb**	**14 46 50.0**	**+0.2**
ORLT	**Orhaneli**	**0.92**	**356**	*e*PG		**Pg**	**14 46 48.7**	**-0.7**
ORLT	**Orhaneli**	**0.92**	**356**	*e*Pg		**Pg**	**14 46 48.7**	**-0.7**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*PN		**Pn**	**14 46 54.5**	**-0.6**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*Pn		**Pn**	**14 46 54.6**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.24**	**357**	*e*PN		**Pn**	**14 46 55.0**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**357**	*e*Pn		**Pn**	**14 46 55.0**	**-0.3**
CAVI	**Cavuskoy**	**1.26**	**32**	*e*PN		**Pn**	**14 46 55.8**	**+0.1**
CAVI	**Cavuskoy**	**1.26**	**32**	*e*Pn		**Pn**	**14 46 55.8**	**+0.1**
ARMT	**Armutlu**	**1.44**	**357**	*e*PN		**Pn**	**14 46 58.2**	**+0.3**
ARMT	**Armutlu**	**1.44**	**357**	*e*Pn		**Pn**	**14 46 58.3**	**+0.3**

*ISCJB **05** 14:47:59.6±0.6, 39˚.11N±0˚.03×29˚.03E±0˚.04, h8km±6km, Error ellipse: s-maj=5.8km s-min=5.4km az=137.1*
*CSEM **05** 14:47:59.6±0.1, 39˚.11N×29˚.02E, h8km, MD2.4, Error ellipse: s-maj=2.1km s-min=1.6km az=92.0*
*ISK **05** 14:47:59.1, 39˚.11N×29˚.04E, h9km, MD2.7*
*DDA **05** 14:47:59.5, 39˚.09N×29˚.04E, h7km, Md2.4*
ISC 05 14:47:59.8±0.9, 39˚.11N±0˚.03×29˚.03E±0˚.03, h12km±9km, n18, σ0ˢ19/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**256**	P		**Pg**	**14 48 05.1**	**0.0**
DEMI				S		**Sg**	**14 48 08.7**	**0.0**
DEMI	**Demirci**	**0.25**	**256**	*i* P		**Pg**	**14 48 05.1**	**0.0**
DEMI				*i* S		**Sg**	**14 48 08.7**	**0.0**
GDZ	**Gediz**	**0.35**	**93**	P		**Pg**	**14 48 06.7**	**-0.2**
GDZ				S		**Sg**	**14 48 11.7**	**+0.1**
GDZ	**Gediz**	**0.35**	**93**	*i* P		**Pg**	**14 48 06.7**	**-0.2**
GDZ				*i* S		**Sg**	**14 48 11.7**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**44**	*e*PG		**Pg**	**14 48 09.2**	**0.0**
TVSB				*e*SG		**Sg**	**14 48 15.5**	**-0.1**
TVSB	**Tavsanli**	**0.48**	**44**	*e*Pg		**Pg**	**14 48 09.2**	**0.0**
TVSB				*e*Sg		**Sg**	**14 48 15.5**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG		**Pg**	**14 48 12.3**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg		**Pg**	**14 48 12.3**	**-0.3**
KHAL	**Karahalli**	**0.82**	**154**	P		**Pg**	**14 48 16.1**	**+0.1**
KHAL				S		**Sg**	**14 48 26.5**	**+0.2**
KHAL	**Karahalli**	**0.82**	**154**	*i* P		**Pg**	**14 48 16.1**	**+0.1**
KHAL				*i* S		**Sg**	**14 48 26.5**	**+0.2**
KHL	**Karahalli**	**0.87**	**154**	*e*PG		**Pg**	**14 48 16.4**	**-0.2**
KHL				*e*SG		**Sb**	**14 48 28.6**	**0.0**
KHL	**Karahalli**	**0.87**	**154**	*e*Pg		**Pg**	**14 48 16.4**	**-0.2**
KHL				*e*Sg		**Sb**	**14 48 28.6**	**0.0**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN		**Pg**	**14 48 23.8**	**-0.3**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn		**Pg**	**14 48 23.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN		**Pn**	**14 48 23.2**	**-0.2**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn		**Pn**	**14 48 23.2**	**-0.2**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN		**Pn**	**14 48 26.4**	**+0.3**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn		**Pn**	**14 48 26.4**	**+0.3**

*IDC **05** 14:48:08.1±1.1, 25˚.67N×142˚.87E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/30, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=51.3km s-min=19.6km az=88.0*
*ISCJB **05** 14:48:11.8±1.0, 25˚.7N±0˚.1×142˚.8E±0˚.3, h40km, mb3.7/6, Error ellipse: s-maj=42.3km s-min=14.8km az=174.8*
ISC 05 14:48:13.9±1.2, 25˚.7N±0˚.1×142˚.8E±0˚.3, h40km, n13, σ0ˢ49/7, mb3.6/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**11.52**	**341**	Pn		**Pn**	**14 50 55.7**	**0.0**
	0.2nm,0.3s,baz=153,slow=11,SNR=3.1							
H11N1	**WAKE ISLAND Hy**	**22.98**	**100**	T		T	15 16 47.6	
	baz=290,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy**	**22.98**	**100**	T		T	15 16 47.9	
	baz=290,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**22.99**	**100**	T		T	15 16 49.7	
	baz=290,slow=75,SNR=14							
H11S3	**WAKE ISLAND Hy**	**23.23**	**103**	T		T	15 17 11.5	
	baz=292,slow=75,SNR=2.6							
H11S1	**WAKE ISLAND Hy**	**23.23**	**103**	T		T	15 17 12.2	
	baz=292,slow=75,SNR=4.9							
H11S2	**WAKE ISLAND Hy**	**23.25**	**103**	T		T	15 17 11.8	
	baz=292,slow=75,SNR=6.1							
KLR	**Kul'dur**	**25.04**	**343**	P		**P**	**14 53 34.9**	**+0.7**
	1.2nm,0.7s,baz=176,slow=11,SNR=3.8							
WRA	**Warramunga Arr**	**46.09**	**191**	P		**P**	**14 56 34.1**	**-0.1**
	1.4nm,0.5s,baz=8.0,slow=8.6,SNR=31							
ASAR	**Alice Springs**	**49.81**	**191**	P		**P**	**14 57 03.2**	**+0.3**
	0.2nm,0.5s,baz=359,slow=8.3,SNR=5.2							
MKAR	**Makanchi Array**	**51.81**	**310**	P		**P**	**14 57 17.4**	**-0.5**
	0.5nm,0.7s,baz=86,slow=10,SNR=4.2							
ILAR	**Eielson Array**	**58.68**	**29**	P		**P**	**14 58 06.7**	**-0.3**
	0.3nm,0.8s,baz=250,slow=6.1,SNR=6.1							
FINES	**FINESS Array B**	**79.46**	**334**	P		**P**	**15 00 16.1**	**+0.2**
	1.2nm,0.4s,baz=69,slow=5.0,SNR=18							

KRSC 05 14:52:18.3±2.0, 49˚.15N×156˚.57E, h30km±14km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.56**	**350**	*e*P		Pb	14 52 45.6	-0.9
SKR				*e*S		Sb	14 53 05.1	-0.8
PAU	**Pauzhetka**	**2.33**	**4**	*e*P		Pb	14 52 57.8	-1.7
PAU				*e*S		Sn	14 53 24.6	+2.6
ASAK	**Asacha**	**3.35**	**14**	*e*P		Pb	14 53 13.3	-3.7
RUS	**Russkaya**	**3.52**	**20**	*e*P		Pn	14 53 14.7	+3.9
RUS				*e*S		Sn	14 53 54.7	+3.4
PET	**Petropavlovsk**	**4.10**	**18**	P		Pn	14 53 21.8	+3.0
PET				S		Sn	14 54 10.7	+5.1
UGLR	**Uglovaya**	**4.31**	**18**	*e*P		Pn	14 53 26.9	+5.1
AVH	**Avacha**	**4.34**	**18**	*e*P		Pn	14 53 27.8	+5.6
SMAR	**Somma**	**4.36**	**18**	*e*P		Pn	14 53 27.3	+4.8
KRER	**Koryakskii**	**4.38**	**17**	*e*P		Pn	14 53 27.7	+4.8
SDLR	**Sedlovina**	**4.39**	**19**	*e*P		Pn	14 53 27.2	+4.3
SDLR				S		Sn	14 54 19.7	+6.8
KRX	**Arik**	**4.42**	**16**	*e*P		Pn	14 53 27.9	+4.6
GNL	**Ganaly**	**4.63**	**10**	*e*P		Pn	14 53 28.8	+2.5
MKZ	**Mys Kozlova**	**6.29**	**29**	*e*P		Pn	14 53 52.7	+3.9

*ISK **05** 14:55:47.7, 37˚.26N×28˚.17E, h5km, MD2.5*
*ISCJB **05** 14:55:49.1±0.6, 37˚.26N±0˚.03×28˚.22E±0˚.04, h0km, Error ellipse: s-maj=5.8km s-min=3.5km az=39.3*
*CSEM **05** 14:55:49.4±0.2, 37˚.26N×28˚.21E, h2km, MD2.5, Error ellipse: s-maj=5.6km s-min=4.0km az=40.0, Suspected Mining explosion.*
*DDA **05** 14:55:49.0, 37˚.22N×28˚.23E, h7km, Md2.4, Suspected Mining explosion.*
ISC 05 14:55:48.0±0.9, 37˚.33N±0˚.04×28˚.28E±0˚.04, h0km, n17, σ0ˢ40/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.20**	**178**	*e*PG		**Pg**	**14 55 51.8**	**0.0**
YER				*e*SG		**Sg**	**14 55 54.0**	**-0.3**
YER	**Yerkesik**	**0.20**	**178**	*e*Pg		**Pg**	**14 55 51.8**	**0.0**
YER				*e*Sg		**Sg**	**14 55 54.0**	**-0.3**
AYDN	**Tasoluk**	**0.46**	**316**	P		**Pb**	**14 55 58.9**	**0.0**
AYDN				S		**Sb**	**14 56 06.6**	**+0.3**
AYDN	**Tasoluk**	**0.46**	**316**	*i* P		**Pb**	**14 55 58.9**	**0.0**
AYDN				*i* S		**Sb**	**14 56 06.6**	**+0.3**
TURN	**Turunc**	**0.53**	**150**	*i* P		**Pg**	**14 55 57.3**	**-0.8**
TURN				*i* S		**Sg**	**14 56 04.8**	**-0.1**
DALY	**Dalyan (Mu¯la**	**0.60**	**150**	*e*PG		**Pg**	**14 55 60.0**	**+0.6**
DALY				*e*SG		**Sb**	**14 56 10.2**	**0.0**
DALY	**Dalyan (Mu¯la**	**0.60**	**150**	*e*Pg		**Pg**	**14 56 00.0**	**+0.6**
DALY				*e*Sg		**Sb**	**14 56 10.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**334**	*e*PG		**Pb**	**14 56 02.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**334**	*e*Pg		**Pb**	**14 56 02.7**	**-0.2**
DNZL	**Cakiroluk**	**0.71

BSO1	**Boso 1**	**2.64**	**210**	*e*S	**Sn**	**15 05 34.4**	**+1.2**
JOM	**Ohasama**	**2.70**	**338**	P	**Pn**	**15 05 02.5**	**-0.2**
JRY	**Ryogami san**	**3.11**	**253**	P	**Pn**	**15 05 09.0**	**+0.7**
JOD2	**Odawara 2**	**3.29**	**240**	P	**Pn**	**15 05 11.8**	**+1.0**
MJAR	**Matsushiro Arr**	**3.53**	**265**	Pn	**Pn**	**15 05 14.5**	**+0.4**
	1.8nm,0.3s,baz=78,slow=14,SNR=23						
MAT	**Matsushiro**	**3.53**	**265**	P	**Pn**	**15 05 16.2**	**+2.1**
MAT				*e*S	**Sb**	**15 06 03.7**	**-1.0**
JHJ	**Hachijo jima 2**	**4.46**	**212**	Pn	**Pn**	**15 05 27.4**	**+0.5**
	7.6nm,0.3s,baz=16,slow=21,SNR=11						
JHJ				Sn	**Sn**	**15 06 14.7**	**-4.3**
	14nm,0.3s,baz=278,slow=22,SNR=6.3						
JCJ	**Chichijima**	**9.84**	**182**	Pn	**Pn**	**15 06 40.7**	**0.0**
	3.3nm,0.3s,baz=311,slow=20,SNR=2.4						
JCJ				Sn	**Sn**	**15 08 27.7**	**-3.6**
	4.5nm,0.3s,baz=255,slow=20,SNR=2.9						
KSRS	**Korea Array**	**11.70**	**277**	Pn	**Pn**	**15 07 08.5**	**+2.4**
	0.1nm,0.3s,baz=89,slow=14,SNR=11						
PETK	**Petropavlovsk-**	**19.30**	**28**	P	**Pn**	**15 08 45.7**	**+0.6**
	0.0nm,0.3s,baz=192,slow=6.2,SNR=2.8						
SONM	**Songino Array**	**28.60**	**304**	P	**P**	**15 10 16.7**	**+1.1**
	1.8nm,0.9s,baz=94,slow=8.5,SNR=10						
ZALV	**Zalesovo Beam**	**42.65**	**312**	P	**P**	**15 12 16.0**	**+0.3**
	0.5nm,0.4s,baz=81,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	**44.94**	**302**	P	**P**	**15 12 33.6**	**-0.7**
	1.1nm,0.9s,baz=94,slow=7.3,SNR=7.4						
ILAR	**Eielson Array**	**49.06**	**32**	P	**P**	**15 13 05.3**	**-0.8**
	0.2nm,0.7s,baz=294,slow=2.9,SNR=4.5						
WRA	**Warramunga Arr**	**57.13**	**189**	P	**P**	**15 14 05.4**	**-0.6**
	0.5nm,0.8s,baz=6.5,slow=6.9,SNR=4.7						
ASAR	**Alice Springs**	**60.85**	**189**	P	**P**	**15 14 31.5**	**-0.3**
	0.1nm,0.4s,baz=1.6,slow=6.6,SNR=7.3						
NVAR	**Mina Array Bea**	**74.28**	**54**	P	**P**	**15 15 57.5**	**+0.5**
	0.1nm,0.4s,baz=280,slow=5.4,SNR=2.3						
PDAR	**Pinedale Array**	**77.05**	**46**	P	**P**	**15 16 15.4**	**+2.6**
	0.4nm,0.4s,baz=308,slow=8.9,SNR=3.9						

MEX 05 15:06:58.5±0.4, 16°77N×98°50W, h16km±7km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**137**	*i* P	Pg	15 07 07.2	-1.6
PNIG				*i* S	Sg	15 07 13.7	-2.1
TLIG	**Tlapa**	**0.79**	**355**	*i* P	Pg	15 07 11.4	-2.6
TLIG				*i* S	Sg	15 07 20.4	-4.0
CAIG	**El Cayaco**	**1.72**	**279**	*i* P	Pn	15 07 23.9	-3.8
CAIG				*i* S	Sn	15 07 44.7	-4.7

GUC 05 15:17:46.1±0.7, 40°62S×72°15W, h13km±5km, ML3.6, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUEL	**Puelo Alto**	**1.05**	**186**	*e*P	Pb	15 18 06.0	-0.1
PUEL				*i* S	Sn	15 18 21.0	-0.1
VLCH	**Valdivia**	**1.17**	**314**	*e*P	Pg	15 18 08.5	-0.1
VLCH				*i* S	Sn	15 18 24.6	+0.8
VLCH				IAML		15 18 27.9	
	comp=N,2μm,0.5s						
PLCA	**Paso Flores**	**1.22**	**96**⇑	*i* P	Pb	15 18 09.2	+0.1

*IDC **05** 15:18:42.8±9.7,36°.18N×70°.66E,h152km±88km, mb3.2/6, mb1 3.3/8,mb1mx3.0/37,mbtmp3.7/8,MS3.7/1,Ms1 3.7/1, ms1mx2.7/41,Error ellipse: s-maj=41.6km s-min=24.1km az=18.0*

*ISCJB **05** 15:18:47.7±0.8,36°.60N±0°.06×70°.66E±0°.09,h204km, mb3.3/5,Error ellipse: s-maj=10.0km s-min=8.2km az=17.3*

*NNC **05** 15:18:52.3±2.8,36°.90N×70°.51E,h198km±19km,mb2.8, mpv3.9,Error ellipse: s-maj=27.7km s-min=16.2km az=151.0*

ISC 05 15:18:49.2±1.1, 36°66N±0°.09×70°60E±0°.08, h204km, n17, σ1§68/23, mb3.3/5, 7C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**327**	⇓P	**Pn**	**15 19 34.1**	**0.0**
	5.0nm,0.2s						
DZET				⇓S	**S**	**15 20 07.4**	**-1.2**
	84nm,0.5s						
MNAS	**Manas**	**6.00**	**14**	⇑P	**Pn**	**15 20 16.7**	**+0.1**
	9.6nm,0.6s						
MNAS				⇓S	**S**	**15 21 24.7**	**-0.8**
	31nm,0.6s						
KK31	**Karatay Array**	**6.43**	**359**	⇑P	**Pn**	**15 20 22.3**	**+0.2**
	3.2nm,0.3s,baz=177,slow=13,SNR=92						
KK31				⇓S	**S**	**15 21 33.2**	**-2.3**
	2.4nm,0.3s,baz=187,slow=22,SNR=14						
AAK	**Ala-Archa**	**6.68**	**26**	⇓P	**Pn**	**15 20 25.3**	**0.0**
	4.5nm,0.4s						
AAK				⇓S	**S**	**15 21 40.2**	**-1.2**
	8.0nm,0.7s						
TKM2	**Tokmak 2**	**7.34**	**30**	⇑P	**Pn**	**15 20 33.2**	**-0.7**
	14nm,0.6s						
TKM2				⇑S	**S**	**15 21 56.7**	**-0.5**
	2.6nm,0.7s						
AB31	**Akbulak array**	**14.78**	**332**	⇑P	**Pn**	**15 22 09.0**	**+0.6**
	0.4nm,0.3s,baz=145,slow=12,SNR=12						
AB31				⇑S	**S**	**15 24 48.8**	**-3.4**
	1.4nm,0.8s						
BVA0	**Borovoye Array**	**16.36**	**360**	⇓P	**Pn**	**15 22 30.1**	**+2.6**
	2.0nm,0.8s,baz=112,slow=7.4,SNR=7.5						
BVA0				⇑S	**S**	**15 25 27.4**	**0.0**
	1.3nm,0.9s						
BVAR	**Borovoye Array**	**16.36**	**360**	P	**Pn**	**15 22 28.3**	**+0.8**
	0.4nm,0.3s,baz=161,slow=10,SNR=7.7						
AKTO	**Aktyubinsk**	**16.48**	**331**	P	**Pn**	**15 22 30.6**	**+1.7**
	0.3nm,0.3s,baz=150,slow=11,SNR=5.3						
AKTO	**Aktyubinsk**	**16.48**	**331**	⇓P	**Pn**	**15 22 31.1**	**+2.2**
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**15 23 06.5**	**+1.5**
	1.6nm,0.5s,baz=219,slow=11,SNR=4.9						
ATD	**Arta Tunnel**	**35.36**	**232**	LR	LR	15 43 49.9	
	comp=Z,103nm,19.1s,baz=114,slow=43						
FINES	**FINESS Array B**	**37.17**	**326**	P	**P**	**15 25 42.4**	**+2.2**
	1.4nm,0.7s,baz=118,slow=11,SNR=2.9						
TORD	**Torodi Ar. Bea**	**65.40**	**268**	P	**P**	**15 29 09.3**	**-1.0**
	0.4nm,0.5s,baz=47,slow=6.0,SNR=5.7						
YKA	**Yellowknife Ar**	**81.09**	**2**	P	**P**	**15 30 42.9**	**+1.7**
	0.2nm,0.3s,baz=348,slow=5.4,SNR=4.9						
WRA	**Warramunga Arr**	**82.35**	**122**	P	**P**	**15 30 46.3**	**-2.2**
	0.5nm,0.7s,baz=324,slow=5.0,SNR=9.2						
ASAR	**Alice Springs**	**84.61**	**125**	P	**P**	**15 30 57.9**	**-2.0**
	0.2nm,0.6s,baz=312,slow=4.7,SNR=7.9						

*NEIC **05** 15:35:21.1,41°.03N×82°.08W,h5km,MN3.0(OGSO),After OGSO.*

NEIC Felt [III] at Creston, Lodi, Spencer and West Salem; [II] at Barberton, Homerville, Medina, Polk and Seville. Felt in much of the Akron-Mansfield-Wellington-Wooster area.

*OTT **05** 15:35:22.1±0.1,41°.03N×82°.08W,h5km,MN3.5/16*

OTT Ohio, U.S. Felt. 128km south from Leamington, On Felt in Ohio.

ISC 05 15:35:20.2±1.3, 41°00N±0°.02×82°04W±0°.02, h1km±10km, n45, σ1§68/100, 1C-1D, Ohio

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIO	**Pelee Island,**	**0.87**	**330**	⇑PG	**Pg**	**15 35 37.3**	**+0.5**
PLIO				SG	**Sg**	**15 35 48.8**	**+0.7**
PLIO				Trac		15 35 49.9	
	comp=Z,174nm,0.1s						
ACSO	**Alum Creek Sta**	**1.05**	**223**	*e*Pn	**Pg**	**15 35 40.0**	**-0.4**
ACSO				*e*Sn	**Sg**	**15 35 53.5**	**-0.6**
N54A	**Moraine State**	**1.56**	**91**	P	**Pn**	**15 35 49.5**	**+0.4**
	baz=273						
N54A				S	**Sn**	**15 36 09.9**	**0.0**
	baz=273						
ALLY	**Alegheny Colle**	**1.57**	**65**	PG	**Pn**	**15 35 49.7**	**+0.5**
ALLY				SG	**Sn**	**15 36 09.6**	**-0.6**
ALLY				Trac		15 36 14.0	
	comp=Z,123nm,0.2s						
AAM	**Ann Arbor**	**1.77**	**318**	*e*Pn	**Pn**	**15 35 52.3**	**+0.3**
AAM				*e*Sn	**Sn**	**15 36 14.4**	**-0.8**
M54A	**Oil Creek Stat**	**1.86**	**74**	Pb	**Pb**	**15 35 54.6**	**-0.5**
	baz=256						
M54A				S	**Sn**	**15 36 18.3**	**+0.8**
	baz=256						
ERPA	**Erie**	**1.90**	**54**	⇓PN	**Pb**	**15 35 55.2**	**-0.5**
ERPA				SN	**Sn**	**15 36 18.1**	**-0.3**
ERPA				SG	**Sg**	**15 36 21.4**	**+0.1**
ERPA				Trac		15 36 25.6	
	comp=Z,37nm,0.1s						
ELFO	**Elginfield**	**2.25**	**14**	PN	**Pn**	**15 35 59.6**	**+1.0**
ELFO				PG	**Pb**	**15 36 01.6**	**-0.1**
ELFO				SN	**Sn**	**15 36 27.4**	**+0.2**
ELFO				SG	**Sb**	**15 36 30.6**	**+0.4**
ELFO				Trac		15 36 33.4	
	comp=Z,132nm,0.1s						
TYNO	**Tyneside**	**2.64**	**37**	PN	**Pn**	**15 36 05.5**	**+1.5**
TYNO				SN	**Sn**	**15 36 36.8**	**0.0**
TYNO				SG	**Sb**	**15 36 43.0**	**+1.6**
TYNO				Trac		15 36 45.4	
	comp=Z,57nm,0.1s						
O56A	**Blue Knob Stat**	**2.75**	**104**	Pb	**Pb**	**15 36 08.5**	**-1.6**
	baz=287						
O56A				S	**Sn**	**15 36 40.0**	**+0.7**
	baz=287						
EFO	**Effingham**	**2.91**	**43**	PN	**Pn**	**15 36 08.4**	**+0.7**
EFO				PG	**Pb**	**15 36 11.6**	**-1.4**
EFO				SN	**Sn**	**15 36 43.0**	**-0.4**
EFO				SG	**Sb**	**15 36 51.0**	**+1.9**
EFO				Trac		15 36 55.7	
	comp=Z,16nm,0.1s						
ACTO	**Acton**	**2.99**	**29**	PN	**Pn**	**15 36 09.3**	**+0.5**
ACTO				PG	**Pb**	**15 36 14.2**	**-0.1**
ACTO				SN	**Sn**	**15 36 45.8**	**+0.5**
ACTO				SG	**Sg**	**15 36 54.3**	**-2.0**
ACTO				Trac		15 36 55.4	
	comp=Z,40nm,0.1s						
BASO	**Ashfield**	**3.02**	**5**	PN	**Pn**	**15 36 10.5**	**+1.3**
BASO				SN	**Sn**	**15 36 45.6**	**-0.5**
BASO				SG	**Sb**	**15 36 51.4**	**-0.8**
BASO				Trac		15 36 55.7	
	comp=Z,98nm,0.2s						
STCO	**Saint Catharin**	**3.07**	**43**	SN	**Sn**	**15 36 46.9**	**-0.3**
STCO				SG	**Sb**	**15 36 55.9**	**+2.3**
STCO				Trac		15 36 58.5	
	comp=Z,30nm,0.1s						
SSPA	**Standing Stone**	**3.17**	**95**	*e*Pn	**Pn**	**15 36 13.6**	**+2.3**
SSPA				*e*Sn	**Sn**	**15 36 52.9**	**+3.0**
BRCO	**Bruce Peninsul**	**3.27**	**8**	PN	**Pb**	**15 36 16.1**	**-2.9**
BRCO				SN	**Sn**	**15 36 52.8**	**+0.7**
BRCO				PN	**Sb**	**15 37 01.0**	**+1.7**
BRCO				Trac		15 37 07.1	
	comp=Z,128nm,0.2s						
TORO	**Toronto--Lesli**	**3.29**	**37**	SN	**Sn**	**15 36 51.9**	**-0.7**
TORO				LG	Lg	15 37 03.2	
TORO				Trac		15 37 05.6	
	comp=Z,70nm,0.1s						
MEDO	**Medina**	**3.43**	**50**	PN	**Pn**	**15 36 15.4**	**+0.6**
MEDO				PG	**Pb**	**15 36 20.0**	**-1.9**
MEDO				SN	**Sn**	**15 36 55.1**	**-1.1**
MEDO				LG	Lg	15 37 06.2	
MEDO				Trac		15 37 10.5	
	comp=Z,26nm,0.2s						
BMRO	**Meriville Lake**	**3.64**	**9**	PN	**Pn**	**15 36 20.5**	**+2.8**
BMRO				SN	**Sn**	**15 37 01.5**	**+0.2**
BMRO				LG	Lg	15 37 13.1	
BMRO				Trac		15 37 15.5	
	comp=Z,48nm,0.2s						
CLWO	**Collingwood**	**3.67**	**20**	PN	**Pn**	**15 36 18.8**	**+0.5**
CLWO				PG	**Pb**	**15 36 26.5**	**+0.5**
CLWO				SN	**Sn**	**15 37 01.6**	**-0.7**
CLWO				LG	Lg	15 37 14.0	
CLWO				Trac		15 37 21.8	
	comp=Z,50nm,0.2s						
PKRO	**Pickering**	**3.69**	**36**	PG	**Pb**	**15 36 27.0**	**+0.9**
PKRO				SN	**Sn**	**15 37 00.1**	**-2.3**
PKRO				LG	Lg	15 37 12.6	
PKRO				Trac		15 37 22.0	
	comp=Z,126nm,0.2s						
DRWO	**Darlington Wes**	**3.77**	**39**	SN	**Sn**	**15 37 01.1**	**-3.5**
DRWO				LG	Lg	15 37 21.1	
DRWO				Trac		15 37 24.2	
	comp=Z,70nm,0.1s						
SFIN	**Lafayette**	**3.89**	**262**	Pb	**Pb**	**15 36 30.2**	**+0.5**
	baz=79						
SFIN				S	**Sn**	**15 37 07.0**	**-0.6**
	baz=79						
SFIN	**Lafayette**	**3.89**	**262**	Pn	**Pn**	**15 36 21.4**	**+0.2**
SFIN				*e*Sn	**Sn**	**15 37 05.7**	**-1.9**
SFIN				*e*Sg	**Sb**	**15 37 18.4**	**+1.0**
WLVO	**Wesleyville**	**3.97**	**42**	PN	**Pn**	**15 36 23.9**	**+1.6**
WLVO				PG	**Pb**	**15 36 32.8**	**+1.7**
WLVO				SN	**Sn**	**15 37 06.4**	**-2.9**
WLVO				LG	Lg	15 37 24.4	
WLVO				Trac		15 37 30.6	
	comp=Z,58nm,0.1s						
BLA	**Blacksburg**	**3.99**	**161**	*e*Pn	**Pn**	**15 36 24.4**	**+1.8**
BLA				*e*Sg	**Sb**	**15 37 20.7**	**+0.5**
TOBO	**Tobermory, Bru**	**4.24**	**5**	PN	**Pn**	**15 36 26.6**	**+0.6**
TOBO				PG	**Pb**	**15 36 37.0**	**+1.4**
TOBO				SN	**Sn**	**15 37 16.1**	**0.0**
TOBO				LG	Lg	15 37 30.8	
TOBO				Trac		15 37 31.7	
	comp=Z,58nm,0.4s						
WCI	**Wyandotte Cave**	**4.30**	**231**	Pn	**Pn**	**15 36 25.2**	**-1.6**
WCI				*e*Sg	**Sb**	**15 37 31.7**	**+2.7**
SADO	**Sadowa**	**4.32**	**29**	PN	**Pn**	**15 36 28.4**	**-0.7**
SADO				PG	**Pb**	**15 36 37.5**	**+0.5**
SADO				SN	**Sn**	**15 37 15.9**	**-2.3**
SADO				LG	Lg	15 37 33.2	
SADO				Trac		15 37 35.9	
	comp=Z,20nm,0.1s						
SADO	**Sadowa**	**4.32**	**29**	*e*Pn	**Pn**	**15 36 28.1**	**+1.0**
SADO				*e*Sn	**Sn**	**15 37 18.1**	**-0.1**
SADO				*e*Sg	**Sb**	**15 37 30.5**	**+0.8**
KLBO	**Killbear Provi**	**4.55**	**16**	PN	**Pn**	**15 36 31.2**	**+1.0**
KLBO				SN	**Sn**	**15 37 21.3**	**-2.5**
KLBO				LG	Lg	15 37 40.3	
KLBO				Trac		15 37 47.2	
	comp=Z,29nm,0.2s						
TZTN	**Tazewell**	**4.61**	**195**	*e*Pn	Pb	15 36 36.9	-5.0
BINY	**Binghamton**	**4.70**	**73**	PN	**Pn**	**15 36 34.0**	**+1.7**
BINY				SN	**Sn**	**15 37 24.8**	**-2.6**
BINY				LG	Lg	15 37 45.9	
BINY				Trac		15 37 49.6	
	comp=Z,17nm,0.4s						
BINY	**Binghamton**	**4.70**	**73**	*e*Pn	**Pn**	**15 36 34.0**	**+1.7**
BINY				*e*Sn	**Sn**	**15 37 27.4**	**0.0**
PECO	**Prince Edward**	**4.75**	**50**	PN	**Pn**	**15 36 32.4**	**-0.5**
PECO				PG	**Pb**	**15 36 43.7**	**-0.5**
PECO				SN	**Sn**	**15 37 27.3**	**-1.2**
PECO				LG	Lg	15 37 43.3	
PECO				Trac		15 37 58.2	
	comp=Z,5.3nm,0.1s						
N59A	**State Game Lan**	**4.75**	**89**	Pb	**Pb**	**15 36 43.3**	**-1.0**
	baz=273						
N59A				Sb	**Sb**	**15 37 44.6**	**+2.6**
	baz=273						
DELO	**Deloro Mine**	**4.79**	**41**	PN	**Pn**	**15 36 33.2**	**-0.3**
DELO				PG	**Pb**	**15 36 45.4**	**+0.4**
DELO				SN	**Sn**	**15 37 25.3**	**-4.3**
DELO				LG	Lg	15 37 46.4	
DELO				Trac		15 37 54.0	
	comp=Z,11nm,0.2s						
BUKO	**Buck Lake**	**4.84**	**23**	PN	**Pn**	**15 36 34.2**	**0.0**
BUKO				SN	**Sn**	**15 37 27.4**	**-3.5**
BUKO				LG	Lg	15 37 49.1	
BUKO				Trac		15 37 57.4	
	comp=Z,7.0nm,0.1s						
PLVO	**Plevna**	**5.43**	**40**	PN	**Pn**	**15 36 40.9**	**-1.4**
PLVO				PG	**Pb**	**15 36 57.2**	**+1.2**
PLVO				SN	**Sn**	**15 37 40.5**	**-5.0**
PLVO				LG	Lg	15 38 07.6	
PLVO				Trac		15 38 16.2	
	comp=Z,11nm,0.1s						
HDIL	**Hopedale**	**5.52**	**268**	Sb	**Sb**	**15 38 09.0**	**+4.8**
	baz=83						
KMSC	**Kings Mountain**	**5.88**	**174**	Pb	**Pb**	**15 37 00.2**	**-3.3**
	baz=354						
R44A	**Waltonville**	**6.09**	**245**	S	**Sn**	**15 37 60.0**	**-1.8**
	baz=60						
Q43A	**New Douglas**	**6.23**	**253**	S	**Sn**	**15 38 03.4**	**-1.8**
	baz=68						
JFWS	**Jewell Farm**	**6.41**	**290**	*e*Pn	**Pn**	**15 36 53.2**	**-2.6**
COWI	**Conover**	**7.24**	**317**	*e*Pn	**Pn**	**15 37 06.0**	**-1.3**

*IDC **05** 15:43:44.7±1.1,38°.93N×144°.69E,h0km,mb3.6/6,*

mb1 3.7/9,mb1mx3.4/34,mbtmp3.6/9,ML3.2/3,Error ellipse: s-maj=31.6km s-min=20.5km az=83.0

*ISCJB **05** 15:43:47.6±0.8,39°.00N±0°.05×144°.31E±0°.07,h19km, mb3.6/6,Error ellipse: s-maj=7.9km s-min=6.8km az=30.9*

*JMA **05** 15:43:50.0±0.2,39°.04N×143°.95E,h0km,M3.5*

ISC 05 15:43:48.5±1.0, 38°97N±0°.07×144°34E±0°.08, h19km, n19, σ1§46/26, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.05**	**288**	P	**Pn**	**15 44 21.8**	**-0.2**
MIYJ				*e*S	**Sn**	**15 44 45.0**	**-2.0**
OFUJ	**Ofunato**	**2.09**	**274**	P	**Pn**	**15 44 22.4**	**-0.1**
OFUJ				*e*S	**Sn**	**15 44 45.9**	**-2.0**
JTH	**Tanohata**	**2.15**	**298**	P	**Pn**	**15 44 23.3**	**0.0**
JTH				*e*S	**Sn**	**15 44 48.9**	**-0.6**
JOM	**Ohasama**	**2.42**	**283**	P	**Pn**	**15 44 27.4**	**+0.3**
JMK	**Ichinoseki**	**2.44**	**271**	P	**Pn**	**15 44 28.1**	**+0.9**
JTM	**Tenmabayashi**	**3.11**	**307**	P	**Pn**	**15 44 38.2**	**+1.7**
JTM				*e*S	**Sn**	**15 45 11.6**	**-1.4**
JYK	**Kaneyama**	**3.11**	**270**	P	**Pn**	**15 44 38.1**	**+1.6**
JAH	**Hinai**	**3.11**	**294**	P	**Pn**	**15 44 37.4**	**+0.8**
JAH				S	**Sn**	**15 45 12.6**	**-0.6**
JFT	**Otama**	**3.47**	**247**	S	**Sn**	**15 45 22.3**	**+0.2**
ASAJ	**Asahikawa**	**5.31**	**346**	Pn	**Pn**	**15 45 07.9**	**+1.2**
	0.9nm,0.3s,baz=184,slow=8.4,SNR=14						
ASAJ				Sn	**Sn**	**15 46 07.0**	**-0.3**
	0.2nm,0.3s,baz=180,slow=20,SNR=3.0						
MJAR	**Matsushiro Arr**	**5.43**	**245**	Pn	**Pn**	**15 45 09.9**	**+1.4**
	2.2nm,0.3s,baz=60,slow=11,SNR=34						
MAT	**Matsushiro**	**5.43**	**245**	P	**Pn**	**15 45 10.1**	**+1.6**
MAT				*e*S	**Sn**	**15 46 11.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**10.62**	**303**	Pn	**Pn**	**15 46 23.6**	**+4.0**
	0.3nm,0.3s,baz=97,slow=16,SNR=4.9						
MKAR	**Makanchi Array**	**45.08**	**301**	P	**P**	**15 52 03.3**	**+0.1**
	0.4nm,0.6s,baz=80,slow=8.9,SNR=3.4						
ILAR	**Eielson Array**	**46.62**	**33**	P	**P**	**15 52 12.9**	**-2.1**
	0.2nm,0.7s,baz=257,slow=6.7,SNR=4.2						
WRA	**Warramunga Arr**	**59.35**	**191**	P	**P**	**15 53 47.8**	**-1.5**
	0.5nm,0.6s,baz=9.0,slow=7.1,SNR=8.3						
ASAR	**Alice Springs**	**63.07**	**191**	P	**P**	**15 54 15.1**	**+0.5**
	0.4nm,0.9s,baz=9.3,slow=13,SNR=3.3						
GEYT	**Alibeck**	**64.92**	**299**	P	**P**	**15 54 27.2**	**+0.5**
	0.8nm,0.4s,baz=25,slow=4.8,SNR=3.2						
AKASG	**Malin Array Be**	**74.16**	**323**	P	**P**	**15 55 24.5**	**+1.0**
	0.6nm,0.6s,baz=47,slow=6.2,SNR=3.9						

*CSEM **05** 15:53:40.9,39°.54N×29°.75W,h15km,ML3.2*

PDA 05 15:53:40.9±1.1, 39°54N×29°75W, h15km±10km, MD3.9, ML3.2, 6C, Error ellipse: s-maj=7.6km s-min=6.5km az=9.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.07**	**279**	*e*P	Pb	15 53 57.4	-3.7
H07N1				*e*T	T	15 54 52.2	
H07S1	**FLORES T-PHASE**	**1.14**	**262**	*e*P	Pb	15 53 57.6	-4.7
H07S1				*e*T	T	15 54 54.3	
PCED	**Cedros**	**1.22**	**138**⇑	*i*P	Pn	15 53 58.9	-4.6
PCED				*e*S	Sb	15 54 12.2	-7.2
PCED				A	A	15 54 14.8	
	238nm,0.4s						
PCED				*e*T	T	15 54 49.2	
PCED	**Cedros**	**1.22**	**138**⇑	*i*P	Pn	15 53 58.9	-4.6
PCED				*e*S	Sb	15 54 12.2	-7.2
CALA	**Caldeira**	**1.26**	**139**	*e*P	Pn	15 54 00.0	-4.1
CALA				*e*S	Sb	15 54 14.2	-6.3
CALA				*e*T	T	15 54 57.5	
CALA	**Caldeira**	**1.26**	**139**	*e*P	Pn	15 54 00.0	-4.1
CALA				*e*S	Sb	15 54 14.2	-6.3
HOR	**Horta**	**1.34**	**139**	*e*P	Pn	15 54 00.6	-4.4
HOR				*e*S	Sn	15 54 15.6	-7.0
HOR				A	A	15 54 16.9	
	358nm,0.3s						
HOR	**Horta**	**1.34**	**139**	*e*P	Pn	15 54 00.6	-4.4
HOR				*e*S	Sn	15 54 15.6	-7.0
ROSA	**Rosais**	**1.43**	**124**	*e*P	Pn	15 54 02.4	-4.0
ROSA				*e*S	Sn	15 54 18.1	-6.9
ROSA				A	A	15 54 20.7	
	88nm,0.3s						
ROSA	**Rosais**	**1.43**	**124**	*e*P	Pn	15 54 02.4	-4.0
ROSA				*e*S	Sn	15 54 18.1	-6.9
PCAN	**Candelaria**	**1.46**	**137**⇑	*i*P	Pn	15 54 02.4	-4.4
PCAN				*e*S	Sn	15 54 18.6	-7.0
PCAN				A	A	15 54 20.3	
	310nm,0.3s						
PCAN	**Candelaria**	**1.46**	**137**⇑	*i*P	Pn	15 54 02.4	-4.4
PCAN				*e*S	Sn	15 54 18.6	-7.0
PGRA	**Graciosa**	**1.47**	**110**	*e*S	Sn	15 54 18.4	-7.4
PGRA				A	A	15 54 20.1	
	158nm,0.4s						
PGRA	**Graciosa**	**1.47**	**110**	*e*S	Sn	15 54 18.4	-7.4
PPNO	**Prainha do Nor**	**1.58**	**132**⇑	*i*P	Pn	15 54 04.2	-4.2
PPNO				*e*S	Sn	15 54 21.5	-7.1
PPNO				A	A	15 54 23.9	
	95nm,0.3s						
PPNO	**Prainha do Nor**	**1.58**	**132**⇑	*i*P	Pn	15 54 04.2	-4.2
PPNO				*e*S	Sn	15 54 21.5	-7.1
PMAN	**Manadas**	**1.58**	**124**	*e*P	Pn	15 54 04.1	-4.3
PMAN				*e*S	Sn	15 54 21.5	-7.1
PMAN				A	A	15 54 24.4	
	162nm,0.4s						
PMAN	**Manadas**	**1.58**	**124**	*e*P	Pn	15 54 04.1	-4.3
PMAN				*e*S	Sn	15 54 21.5	-7.1
PSET	**Sete Cidades**	**3.59**	**117**	*e*P	Pn	15 54 31.9	-4.2
PSET	**Sete Cidades**	**3.59**	**117**	*e*P	Pn	15 54 31.9	-4.2
CMLA	**Cha da Macela**	**3.75**	**117**	*e*P	Pn	15 54 34.3	-4.0
CMLA	**Cha da Macela**	**3.75**	**117**	*e*P	Pn	15 54 34.3	-4.0
PSMA	**Santa Maria**	**4.44**	**123**	*e*P	Pn	15 54 43.9	-3.8

I56US	**NEWPORT INFRAS**	**6.48**	**277** *i*	16 39 40.0
	baz=90,slow=318,SNR=2.5			
I10CA	**LAC DU BONNET**	**7.87**	**69** *i*	16 49 05.0
	baz=260,slow=328,SNR=7.3			
I53US	**FAIRBANKS INFR**	**27.42**	**323** *i*	18 55 20.0
	baz=111,slow=324,SNR=0.3			

ISCJB ***05*** *16:19:10.5±1.5,22.1S±0.4×171.5E±0.1,h105km,mb3.7/8, Error ellipse: s-maj=52.3km s-min=11.6km az=166.7*

IDC ***05*** *16:19:12.3±5.0,22.17S×171.43E,h112km±36km,mb3.5/8, mb1 3.8/9,mb1mx3.5/32,mbtmp3.9/9, Error ellipse: s-maj=53.9km s-min=27.1km az=150.0*

ISC 05 16:19:12.2±1.8, 22.0S±0.4×171.5E±0.1, h105km, n10, σ1§04/11, mb3.8/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.64**	**269**	P		**Pn**		**16 20 20.8**	**+0.6**
	10nm,0.3s,baz=127,slow=16,SNR=432								
DZM				S		**Sn**		**16 21 12.9**	**-0.2**
	17nm,0.3s,baz=90,slow=17,SNR=19								
CTA	**Charters Tower**	**23.58**	**270**	P		**P**		**16 24 14.4**	**+0.9**
	1.2nm,0.3s,baz=72,slow=13,SNR=5.0								
ASAR	**Alice Springs**	**34.57**	**260**	P		**P**		**16 25 50.1**	**-0.9**
	0.9nm,0.5s,baz=95,slow=10,SNR=46								
WRA	**Warramunga Arr**	**34.66**	**266**	P		**P**		**16 25 50.1**	**-1.7**
	0.5nm,0.3s,baz=97,slow=8.6,SNR=60								
MJAR	**Matsushiro Arr**	**66.18**	**331**	P		**P**		**16 29 47.8**	**-0.8**
	1.3nm,0.9s,baz=169,slow=6.7,SNR=3.7								
KSRS	**Korea Array**	**71.97**	**325**	P		**P**		**16 30 25.4**	**+1.2**
	1.0nm,0.9s,baz=136,slow=4.8,SNR=6.6								
NVAR	**Mina Array Bea**	**89.12**	**48**	P		**P**		**16 31 56.3**	**+0.2**
	0.8nm,0.7s,baz=235,slow=8.5,SNR=6.2								
SONM	**Songino Array**	**90.68**	**322**	P		**P**		**16 32 03.3**	**+0.3**
	0.3nm,0.5s,baz=130,slow=6.2,SNR=3.3								
ILAR	**Eielson Array**	**92.29**	**17**	P		**P**		**16 32 09.1**	**-0.8**
	0.3nm,0.8s,baz=220,slow=5.4,SNR=3.2								
GERES	**GERESS Array B**	**147.92**	**332**	PKPbc		**PKPdf**		**16 38 43.1**	**+1.1**
	0.5nm,0.9s,baz=0.0,slow=2.9,SNR=3.2								

NIED ***05*** *16:21:00,29.40N×130.00E,h56km,Mw4.3 Best double couple: M0 3.75000×10^15 NP1:φ219.00000°,δ1.00000°, λ105.00000°. NP2:φ23.00000°,δ89.00000°,λ90.00000°.*

JMA ***05*** *16:21:17.5±0.1,29.37N×129.96E,h57km±3km,M3.7*

IDC ***05*** *16:21:21.2±3.0,29.34N×130.07E,h81km±32km,mb3.3/5, mb1 3.6/8,mb1mx3.3/44,mbtmp3.8/8,MS2.9/4,Ms1 2.9/4, ms1mx2.6/34,Error ellipse: s-maj=34.0km s-min=17.5km az=72.0*

ISC 05 16:21:16.6±1.4, 29.34N±0.03×129.97E±0.06, h28km±11km, n25, σ1§70/33, mb3.5/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.51**	**351**	P		**Pn**		**16 21 28.9**	**+0.8**
JNN				S		**Sn**		**16 21 37.4**	**+1.5**
JTAJ	**Takarajima**	**0.69**	**255**	P		**Pn**		**16 21 31.7**	**+1.2**
JTAJ				S	*e*	**Sn**		**16 21 42.2**	**+1.9**
JAM	**Amami Oshima**	**0.97**	**199**	P		**Pn**		**16 21 34.9**	**+0.5**
JAM				S		**Sn**		**16 21 47.6**	**+0.3**
JYAK	**Yakushimahirau**	**1.02**	**28**	P		**Pn**		**16 21 35.4**	**+0.4**
JYAK				S		**Sn**		**16 21 48.6**	**+0.2**
JZK	**Kikaishima**	**1.02**	**180**	P		**Pn**		**16 21 37.3**	**+2.3**
JZK				S		**Sn**		**16 21 51.8**	**+3.4**
JKC	**Kuchinoerabu**	**1.14**	**10**	P		**Pb**		**16 21 37.5**	**-0.1**
JKC				S		**Sn**		**16 21 51.7**	**+0.3**
JAMN	**Amaminishikomi**	**1.29**	**213**	P		**Pb**		**16 21 39.3**	**-0.9**
JAMN				S		**Sb**		**16 21 55.9**	**-0.5**
JTN	**Tanegashima 3**	**1.58**	**34**	P		**Pb**		**16 21 43.6**	**-1.6**
JTK	**Tokunoshima**	**1.78**	**210**	P		**Pn**		**16 21 46.5**	**+0.9**
JTK				S		**Sn**		**16 22 08.4**	**+1.1**
JOKE	**Okinoerabujima**	**2.32**	**212**	P		**Pn**		**16 21 54.8**	**+1.9**
JIH	**Iheya**	**2.89**	**218**	S		**Sn**		**16 22 35.5**	**+0.8**
JOW	**Kunigami**	**2.91**	**211**	P		**Pn**		**16 22 02.7**	**+1.7**
JOW				S		**Sn**		**16 22 36.1**	**+1.0**
JNTH	**Nagotoyohara**	**3.29**	**212**	P		**Pn**		**16 22 07.8**	**+1.5**
JNTH				S		**Sn**		**16 22 45.3**	**+0.8**
JNU	**Nakatsue**	**3.85**	**11**	P		**Pn**		**16 22 17.6**	**+3.5**
	1.9nm,0.3s,baz=189,slow=13,SNR=24								
JNU				S		**Sn**		**16 23 02.0**	**+3.6**
	1.3nm,0.3s,baz=68,slow=19,SNR=3.0								
JKE	**Kume jima 2**	**4.11**	**224**	P		**Pn**		**16 22 19.3**	**+1.7**
KSRS	**Korea Array**	**8.28**	**349**	P		Pn		16 23 20.4	+5.7
	0.1nm,0.3s,baz=173,slow=14,SNR=9.3								
KSRS				LR		LR		16 26 35.8	
	comp=Z,81nm,20.4s,baz=192,slow=38								
JHJ	**Hachijo jima 2**	**9.21**	**63**	P		**Pn**		**16 23 30.2**	**+2.6**
	5.7nm,0.3s,baz=67,slow=22,SNR=6.1								
MJAR	**Matsushiro Arr**	**9.99**	**42**	LR		LR		16 27 34.4	
	comp=Z,46nm,19.8s,baz=220,slow=38								
GUMO	**Guam**	**20.89**	**135**	LR		LR		16 32 28.0	
	comp=Z,36nm,20.8s,baz=0.0,slow=32								
SONM	**Songino Array**	**25.92**	**322**	P		**P**		**16 26 46.4**	**0.0**
	1.0nm,0.7s,baz=130,slow=8.3,SNR=8.4								
SONM				LR		LR		16 37 33.7	
	comp=Z,57nm,21.7s,baz=120,slow=37								
CMAR	**Chiang Mai Arr**	**30.27**	**256**	PcP		**PcP**		**16 30 24.7**	**-1.0**
	0.5nm,0.9s,baz=54,slow=2.5,SNR=4.4								
MKAR	**Makanchi Array**	**30.70**	**309**	P		**P**		**16 28 53.7**	**-1.0**
	0.3nm,0.8s,baz=108,slow=12,SNR=3.5								
WRA	**Warramunga Arr**	**49.17**	**175**	P		**P**		**16 30 00.8**	**-1.5**
	1.7nm,0.7s,baz=354,slow=8.2,SNR=23								
ASAR	**Alice Springs**	**52.83**	**175**	P		**P**		**16 30 28.7**	**-1.0**
	0.8nm,0.8s,baz=7.1,slow=14,SNR=33								
YKA	**Yellowknife Ar**	**75.07**	**26**	P		**P**		**16 32 54.1**	**-1.4**
	0.4nm,0.8s,baz=301,slow=5.6,SNR=4.7								

IDC 05 16:23:59.3±1.0, 32.94N×139.93E, h72km±20km, mb3.1/2, mb1 3.2/3, mb1mx2.8/43, mbtmp3.2/3, MS2.6/1, Ms1 2.6/1, ms1mx2.0/16, Error ellipse: s-maj=45.3km s-min=8.9km az=150.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.21**	**325**	P		Pn		16 24 11.0	+0.8
	31nm,0.3s,baz=151,slow=23,SNR=23								
JHJ				S		Sn		16 24 25.0	+6.9
	24nm,0.3s,baz=95,slow=21,SNR=16								
MJAR	**Matsushiro Arr**	**3.86**	**339**	P		Pn		16 24 55.9	-0.3
	baz=155,slow=12,SNR=2.3								
JCJ	**Chichijima**	**6.15**	**161**	LR		LR		16 27 45.4	
	comp=Z,53nm,19.3s,baz=138,slow=37								
H11N2	**WAKE ISLAND Hy**	**27.43**	**112**	T		T		16 58 14.3	
	baz=313,slow=75,SNR=11								
H11N1	**WAKE ISLAND Hy**	**27.43**	**112**	T		T		16 58 12.4	
	baz=313,slow=75,SNR=15								
H11N3	**WAKE ISLAND Hy**	**27.44**	**112**	T		T		16 58 14.1	
	baz=313,slow=75,SNR=9.6								
H11S3	**WAKE ISLAND Hy**	**27.97**	**114**	T		T		16 59 06.3	
	baz=315,slow=76,SNR=3.6								
H11S1	**WAKE ISLAND Hy**	**27.98**	**114**	T		T		16 59 06.0	
	baz=315,slow=76,SNR=3.7								
H11S2	**WAKE ISLAND Hy**	**27.99**	**114**	T		T		16 59 07.9	
	baz=315,slow=76,SNR=4.6								
WRA	**Warramunga Arr**	**52.86**	**187**	P		P		16 33 07.6	-0.1
	0.2nm,0.4s,baz=5.3,slow=7.4,SNR=5.7								
ASAR	**Alice Springs**	**56.59**	**187**	P		P		16 33 34.6	0.0
	0.4nm,1.0s,baz=359,slow=6.5,SNR=4.2								

MEX 05 16:32:33.0±0.6, 17.16N×101.14W, h16km±18km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.54**	**326**	*i* P		Pg		16 32 41.8	-1.9
ZIIG				*i* S		Sg		16 32 48.3	-2.8
CAIG	**El Cayaco**	**0.85**	**97**	*i* P		Pb		16 32 45.9	-3.4
CAIG				*e* S		Sb		16 32 56.1	-4.3
ARIG	**Puente Sto Nin**	**1.35**	**34**	*e* P		Pn		16 32 53.6	-3.6
ARIG				*i* S		Sn		16 33 08.7	-6.1
MEIG	**Mezcala**	**1.64**	**62**	*e* P		Pn		16 32 58.4	-2.9
MEIG				*e* S		Sn		16 33 17.3	-4.9
PLIG	**Platanillo**	**1.99**	**52**	*e* P		Pn		16 33 02.9	-3.2
PLIG				*i* S		Sn		16 33 26.1	-4.6
TLIG	**Tlapa**	**2.49**	**80**	*e* P		Pn		16 33 10.1	-2.9
TLIG				*i* S		Sn		16 33 39.4	-3.8
PNIG	**Pinotepa**	**2.99**	**104**	*e* P		Pn		16 33 16.8	-3.0
PNIG				*i* S		Sn		16 33 50.8	-4.5

BJI ***05*** *16:35:03.9,14.62S×177.49W,h10km,mb5.1/56, mB5.6/51,Ms5.9/64,Ms7 5.6/62*

NEIC ***05*** *16:35:03.0±0.0,15.08S×177.93W,h11km,Moment Tensor Solution. s17 Moment tensor: Scale 10^17Nm; Mrr=0.11; Mθθ=0.45; Mφφ=0.56; Mrθ=0.08; Mrφ=7.68; Mθφ=-1.10; Best double couple: M0 7.80000×10^17 NP1:φ358.00000°, δ89.00000°,λ-171.00000°. NP2:φ268.00000°, δ82.00000°,λ0.00000°. Principal axes: T 7.8200, Plg5.0000°, Azm132.0000°; N -0.1000, Plg81.0000°, Azm1.0000°; P -7.7200, Plg6.0000°, Azm223.0000°;*

IDC ***05*** *16:35:03.4±0.5,15.11S×177.87W,h0km, mb4.9/29, mb1 5.0/31,mb1mx4.9/41,mbtmp4.9/31,ML3.3/2,MS5.6/40, Ms1 5.6/40,ms1mx5.6/43 Error ellipse: s-maj=15.4km s-min=12.1km az=122.0*

GCMT ***05*** *16:35:04.3±0.1,14.96S×177.84W,h15km,MW5.9/139, Moment Tensor Solution. s128,c271; s139,c442; Duration: 2s3 Moment tensor: Scale 10^18Nm; Mrr=0.04±.01; Mθθ=0.18±.01; Mφφ=0.22±.01; Mrθ=0.03±.02; Mθφ=0.97±.01; Mφr=0.10±.02; Best double couple: M0 0.99500×10^18 NP1:φ174.00000°,δ88.00000°, λ174.00000°. NP2:φ264.00000°,δ84.00000°,λ2.00000°. Principal axes: T 1.0210, Plg5.0000°, Azm129.0000°; N -0.0510, Plg84.0000°, Azm337.0000°; P -0.9700, Plg3.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***05*** *16:35:04.34.0,15.12S×177.89W,h13km±24km, mb5.5/206,MS5.8/32,MW5.9,MW5.8 Error ellipse: s-maj=6.7km s-min=4.6km az=154.0,Moment Tensor Solution. s42 Moment tensor: Scale 10^17Nm; Mrr=1.75; Mθθ=2.64; Mφφ=-0.89; Mrθ=0.43; Mθφ=4.57; Mφr=2.43; Best double couple: M0 5.70000×10^17 NP1:φ98.00000°, δ59.00000°,λ-13.00000°. NP2:φ195.00000°,δ79.00000°, λ-149.00000°. Principal axes: T 6.1600, Plg13.0000°, Azm323.0000°; N -1.1100, Plg57.0000°, Azm213.0000°; P -5.0500, Plg30.0000°, Azm61.0000°;*

ISCJB ***05*** *16:35:06.40.1,15.13S±0.03×177.92W±0.02,h33km, mb5.4/250,MS5.7/88 Error ellipse: s-maj=5.2km s-min=2.7km az=152.0*

MOS ***05*** *16:35:06.91.4,15.05S×177.92W,h33km,mb5.6/67, MS5.7/23,Error ellipse: s-maj=8.7km s-min=6.6km az=54.1*

ISC 05 16:35:07.2±0.5, 15.22S±0.05×177.76W±0.04, h28km±2km, h28km:pP-P,n1130,σ1§62/1122, mb5.5/251, MS5.8/90, 21C-33D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.73**	**237**	‖*e*P		**Pn**		**16 36 15.1**	**-1.7**
MSVF	**Nonsavu**	**4.73**	**237**	*e*Pn		**Pn**		**16 36 15.3**	**-1.5**
AFI	**Afiamalu**	**5.94**	**78**	Pn		**Pn**		**16 36 29.5**	**-3.9**
	13nm,0.3s,baz=77,slow=0.4,SNR=15								
AFI				Sn		**Sn**		**16 37 37.8**	**-2.8**
	5.1nm,0.3s,baz=307,slow=20,SNR=1.9								
AFI				LR		LR		16 38 05.2	
	comp=Z,28μm,18.5s,baz=256,slow=30								
FUNA	**Funafuti**	**7.28**	**336**	*e*Pn		Pn		16 36 44.5	-7.4
NIUE	**Niue**	**8.42**	**118**	P		**Pn**		**16 37 07.6**	**+0.2**
	baz=8.6,SNR=4.2								
RAO	**Raoul Island**	**13.97**	**181**	LR		LR		16 43 12.1	
	comp=Z,19μm,18.9s,baz=322,slow=35								
DZM	**Mont Dzumac**	**16.44**	**243**	*e*P		**Pn**		**16 38 56.5**	**+0.4**
	371nm,1.5s								
DZM				*e*LQ		LQ		16 42 03.2	
	104μm,28.4s								
DZM				*e*LR		LR		16 42 45.2	
	62μm,24.6s								
DZM	**Mont Dzumac**	**16.44**	**243**	Pn		**Pn**		**16 38 56.6**	**+0.4**
	0.2nm,0.3s,baz=65,slow=11,SNR=23								
DZM				LR		LR		16 44 19.1	
	comp=Z,41μm,18.6s,baz=70,slow=34								
RAR	**Rarotonga**	**18.09**	**112**	P		**P**		**16 39 17.8**	**+1.0**
	0.5nm,0.3s,baz=247,slow=7.9,SNR=3.9								
RAR				LR		LR		16 44 41.6	
	comp=Z,21μm,21.1s,baz=273,slow=32								
OUZ	**Omahuta**	**21.38**	**200**	*e*P		**P**		**16 39 54.4**	**+1.9**
HNR	**Honiara**	**22.51**	**282**	P		**P**		**16 40 05.2**	**+0.3**
	199nm,1.1s,baz=71,slow=16,SNR=5.7								
HNR				LR		LR		16 47 23.7	
	comp=Z,44μm,21.2s,baz=120,slow=33								
HNR	**Honiara**	**22.51**	**282**	*e*P		**P**		**16 40 08.0**	**+3.1**
HNR	**Honiara**	**22.51**	**282**	*e*P		**P**		**16 40 02.1**	**-2.8**
HNR				pmax		pmax			
	comp=Z,469nm,1.2s								
HNR	**Honiara**	**22.51**	**282**	*e*P		**P**		**16 40 02.1**	**-2.8**
	comp=Z,469nm,1.2s								
URZ	**Urewera**	**23.39**	**190**	P		**P**		**16 40 13.0**	**-0.7**
	comp=Z,80nm,1.2s,baz=353,slow=4.1,SNR=9.8								
URZ				LR		LR		16 47 53.4	
	comp=Z,29μm,19.2s,baz=38,slow=33								
URZ	**Urewera**	**23.39**	**190**	*e*P		**P**		**16 40 11.4**	**-2.3**
	comp=Z,201nm,1.2s								
HIZ	**Hauiti**	**24.10**	**194**	*e*P		**P**		**16 40 21.1**	**+0.6**
	comp=Z,654nm,1.6s								
BKZ	**Black Stump Fm**	**24.39**	**191**	*e*P		**P**		**16 40 21.1**	**-2.0**
	comp=Z,95nm,1.5s								
PAE	**Paea**	**27.13**	**99**	*e*T		T		17 08 43.7	
	comp=Z,4.4nm,0.3s								
PPT	**Papeete**	**27.13**	**99**	LR		LR		16 48 47.9	
	comp=Z,5μm,21.6s,baz=268,slow=30								
PPT2	**Papeete2**	**27.13**	**99**	*e*LQ		LQ		16 46 23.3	
	comp=Z,48μm,27.8s								
PPT2				*e*LR		LR		16 47 41.9	
	comp=Z,23μm,27.2s,baz=265								
PPT2	**Papeete2**	**27.13**	**99**	*e*T		T		17 08 44.8	
	comp=Z,4.3nm,0.2s								
THZ	**Tophouse**	**27.66**	**195**	*e*P		**P**		**16 40 51.7**	**-1.0**
	comp=Z,76nm,1.1s								
LTZ	**Lake Taylor**	**28.77**	**195**	*e*P		**P**		**16 41 01.3**	**-1.3**
	comp=Z,52nm,0.9s								
OXZ	**Oxford**	**29.34**	**195**	*e*P		**P**		**16 41 05.6**	**-2.0**
	comp=Z,143nm,1.3s								
RPZ	**Rata Peaks**	**29.96**	**196**	P		**P**		**16 41 14.2**	**+1.1**
	comp=Z,8.8nm,0.8s,baz=349,slow=5.2,SNR=4.2								
RPZ				LR		LR		16 52 17.4	
	comp=Z,15μm,21.8s,baz=23,slow=34								
RPZ	**Rata Peaks**	**29.96**	**196**	*e*P		**P**		**16 41 12.3**	**-0.8**
	comp=Z,92nm,1.3s								
FOZ	**Fox Glacier**	**30.15**	**198**	*e*P		**P**		**16 41 13.1**	**-1.7**
	comp=Z,67nm,1.0s								
LBZ	**Lake Benmore**	**30.82**	**197**	*e*P		**P**		**16 41 21.7**	**+1.0**
	comp=Z,126nm,1.6s								
EIDS	**Eidsvold**	**30.85**	**246**	P		**P**		**16 41 21.0**	**-0.1**
	baz=31,SNR=11								
EIDS	**Eidsvold**	**30.85**	**246**	*e*P		**P**		**16 41 19.6**	**-1.6**
	comp=Z,35nm,1.1s								
ARMA	**Armidale**	**31.88**	**236**	P		**P**		**16 41 30.9**	**+0.6**
	baz=32,SNR=19								
ARMA	**Armidale**	**31.88**	**236**	*e*P		**P**		**16 41 29.8**	**-0.5**
	comp=Z,58nm,0.9s								
MLZ	**Mavora Lakes**	**32.33**	**199**	*e*P		**P**		**16 41 33.6**	**-0.4**
	comp=Z,220nm,1.6s								
WHZ	**Wether Hill Ro**	**32.85**	**199**	*e*P		**P**		**16 41 38.1**	**-0.4**
	comp=Z,80nm,1.0s								
RMQ	**Roma**	**33.14**	**245**	P		**P**		**16 41 41.4**	**+0.1**
	baz=33,SNR=35								
MGCD	**Mangrove Creek**	**33.38**	**232**	P		**P**		**16 41 45.2**	**+1.9**
	baz=34,SNR=4.6								
CTA	**Charters Tower**	**34.58**	**257**	P		**P**		**16 41 52.4**	**-1.5**
	comp=Z,12nm,0.7s,baz=98,slow=10.0,SNR=18								
CTAO	**Charters Tower**	**34.58**	**257**	*e*P		**P**		**16 41 52.2**	**-1.7**
CTAO				pmax		pmax			
	comp=Z,69nm,1.2s								
CTAO	**Charters Tower**	**34.58**	**257**	*e*P		**P**		**16 41 52.2**	**-1.7**
	comp=Z,69nm,1.2s								
PMG	**Port Moresby**	**34.72**	**275**	P		**P**		**16 41 54.4**	**-0.7**
	comp=Z,17nm,1.0s,baz=84,slow=16,SNR=2.4								
PMG	**Port Moresby**	**34.72**	**275**	‖*i*P		**P**		**16 41 51.2**	**-3.9**
PMG				*i* *PP		**pP**		**16 42 01.8**	**-1.8**
PMG				pmax		pmax			
	comp=Z,291nm,2.5s								
PMG	**Port Moresby**	**34.72**	**275**	*e*P		**P**		**16 41 53.5**	**-1.7**
	comp=Z,50nm,1.3s								
CNB	**Canberra Magne**	**35.59**	**230**	P		**P**		**16 42 02.8**	**+0.3**
	baz=36,SNR=11								
CAN	**Canberra**	**35.86**	**230**	*e*P		**P**		**16 42 04.6**	**-0.2**
CAN				pmax		pmax			
	comp=Z,90nm,1.5s								
CAN				MLR		MLR			
	comp=Z,11μm,20.0s								
CAN	**Canberra**	**35.86**	**230**	*e*P		**P**		**16 42 04.6**	**-0.2**
	comp=Z,90nm,1.5s								
CAN				LR		LR			
	comp=Z,11μm,20.0s								
YNG	**Young**	**35.89**	**232**	P		**P**		**16 42 05.1**	**+0.1**
	baz=36,SNR=9.1								
MTSU	**Mount Surprise**	**36.40**	**260**	P		**P**		**16 42 08.4**	**-1.2**
	baz=36,SNR=12								
H11S2	**WAKE ISLAND Hy**	**36.82**	**335**	T		T		17 20 58.2	
	baz=154,slow=76,SNR=35								
H11S3	**WAKE ISLAND Hy**	**36.84**	**335**	T		T		17 20 53.1	
	baz=154,slow=76,SNR=53								
H11S1	**WAKE ISLAND Hy**	**36.84**	**335**	T		T		17 20 59.7	
	baz=154,slow=76,SNR=59								
CMSA	**Cobar Meteorol**	**37.06**	**238**	P		**P**		**16 42 14.2**	**-0.8**
	baz=37,SNR=25								
TAOE	**Nuku Hiva Isla**	**37.29**	**85**	*e*S		**S**		**16 48 03.2**	**-0.1**
	comp=Z,3μm,27.6s								
TAOE				*e*LQ		LQ		16 50 20.4	
	comp=Z,12μm,26.7s								
TAOE				*e*LR		LR		16 52 11.1	
	comp=Z,15μm,26.6s,baz=256								
TAOE	**Nuku Hiva Isla**	**37.29**	**85**	*e*T		T		17 21 23.6	
	comp=Z,22nm,0.2s								
COEN	**Coen**	**37.79**	**267**	*e*P		**P**		**16 42 19.8**	**-1.6**
	comp=Z,32nm,1.2s								
TOO	**Toolangi**	**39.37**	**229**	P		**P**		**16 42 35.9**	**+1.4**
	baz=40,SNR=9.5								
STKA	**Stephens Creek**	**40.51**	**239**	P		**P**		**16 42 43.1**	**-0.8**
	comp=Z,77nm,1.0s,baz=77,slow=6.7,SNR=15								
STKA				LR		LR		16 57 47.7	
	comp=Z,20μm,20.6s,baz=73,slow=34								
STKA	**Stephens Creek**	**40.51**	**239**	P		**P**		**16 42 43.8**	**-0.1**
	baz=41,SNR=15								
STKA	**Stephens Creek**	**40.51**	**239**	*e*P		**P**		**16 42 43.3**	**-0.6**
STKA				pmax		pmax			
	comp=Z,26nm,1.0s								
STKA	**Stephens Creek**	**40.51**	**239**	*e*P		**P**		**16 42 43.3**	**-0.6**
	comp=Z,26nm,1.0s								
QIS	**Mount Isa**	**40.83**	**256**	P		**P**		**16 42 47.0**	**+0.2**
	baz=41,SNR=3.9								
RKT	**Rikitea**	**41.06**	**108**	*e*LQ		LQ		16 52 36.3	
	comp=Z,9μm,29.0s								
RKT				*e*LR		LR		16 54 13.7	
	comp=Z,24μm,26.5s,baz=277								
RKT	**Rikitea**	**41.06**	**108**	*e*T		T		17 26 08.3	
	comp=Z,7.0nm,0.3s								
ARPS	**Mount Arapiles**	**41.77**	**231**	P		**P**		**16 42 54.7**	**+0.4**
	baz=42,SNR=7.6								
JAY	**Jayapura**	**42.83**	**283**	LR		LR		16 59 26.0	
	comp=Z,232nm,20.2s,slow=34								
HTT	**Hallett**	**43.08**	**237**	P		**P**		**16 43 04.5**	**-0.5**
	baz=43,SNR=11								
GENI	**Genyem**	**43.31**	**283**	P		**P**		**16 43 06.6**	**-0.4**
BBOO	**Buckleboo**	**45.28**	**239**	P		**P**		**16 43 22.0**	**-0.7**
	baz=46,SNR=4.6								
BBOO	**Buckleboo**	**45.28**	**239**	*e*P		**P**		**16 43 21.2**	**-1.5**
	comp=Z,217nm,1.9s								
WR2	**Warramunga Arr**	**45.76**	**257**	P		**P**		**16 43 27.4**	**+0.8**
	baz=46								
WB2	**Warramunga Arr**	**45.77**	**257**	*e*P		**P**		**16 43 25.3**	**-1.4**
	comp=Z,74nm,1.4s								
WRAB	**Tennant Creek**	**45.77**	**257**	‖*i*P		**P**		**16 43 26.4**	**-0.3**
WRAB				pmax		pmax			
	comp=Z,52nm,1.1s								
WRAB	**Tennant Creek**	**45.77**	**257**	*e*P		**P**		**16 43 25.7**	**-1.0**
	comp=Z,80nm,1.5s								
WRA	**Warramunga Arr**	**45.78**	**257**	P		**P**		**16 43 24.7**	**-2.0**
	comp=Z,19nm,1.0s,baz=90,slow=8.0,SNR=31								
WRA				PcP		**PcP**		**16 45 06.4**	**+2.2**
	comp=Z,14nm,1.1s,baz=85,slow=4.4,SNR=6.3								
WRA				LR		LR		17 01 11.6	
	comp=Z,8μm,19.4s,baz=75,slow=34								
AS01	**Alice Springs**	**46.12**	**252**	*e*P		**P**		**16 43 28.3**	**-1.1**
AS31	**Alice Springs**	**46.16**	**252**	*e*P		**P**		**16 43 28.4**	**-1.4**
	comp=Z,6.3nm,0.8s								
ASAR	**Alice Springs**	**46.17**	**252**	P		**P**		**16 43 27.9**	**-1.8**
	comp=Z,6.2nm,0.7s,baz=84,slow=8.0,SNR=59								
ASAR				PcP		**PcP**		**16 45 07.8**	**+2.2**
	comp=Z,19nm,1.2s,baz=96,slow=3.8,SNR=6.8								
ASAR				LR		LR		17 02 22.8	
	comp=Z,4μm,20.0s,baz=86,slow=36								
GUMO	**Guam**	**46.75**	**306**	LR		LR		16 59 38.7	
	comp=Z,3μm,20.2s,baz=94,slow=32								
KDU	**Kakadu**	**48.28**	**266**	P		**P**		**16 43 47.0**	**+0.7**
	baz=48,SNR=6.5								
RKPI	**Ransiki, Papua**	**49.32**	**281**	P		**P**		**16 43 55.7**	**+1.4**
	comp=Z,95nm,1.1s								
MTN	**Manton Dam**	**49.55**	**266**	P		**P**		**16 43 56.2**	**+0.2**
	baz=50,SNR=9.5								
MTN	**Manton Dam**	**49

MJB9 Matsu-Tunnel 66.15 322 eP P 16 45 50.3 -2.0
comp=Z,7.7nm,1.4s
MYLDM Lahad Datu 66.29 283 eP P 16 45 51.1 -2.5
comp=Z,71nm,1.5s
TGY Tagaytay City 67.25 293 P P 16 45 58.7 -1.0
comp=Z,138nm,0.4s,baz=104,slow=17,SNR=2.4
TGY LR LR 17 11 29.4
comp=Z,9μm,20.6s,baz=108,slow=33
KUR Kuril'sk 67.76 334 eP P 16 45 59.7 -2.5
KUR MLR MLR
comp=N,4μm,19.0s
KUR MLR MLR
comp=E,2μm,19.0s
KUR MLR MLR
comp=Z,5μm,19.0s
JNU Nakatsue 68.65 315 P P 16 46 07.5 -0.7
comp=Z,50nm,1.1s,baz=54,slow=4.6,SNR=14
JNU Nakatsue 68.65 315 eP P 16 46 05.7 -2.5
comp=Z,71nm,1.2s
CASY Casey 68.83 204 eP P 16 46 05.9 -2.8
comp=Z,24nm,0.9s
CASY LR LR
comp=Z,804nm,21.0s
ASAJ Asahikawa 69.24 331 P P 16 46 11.7 +0.2
comp=Z,35nm,1.3s,baz=240,slow=12,SNR=7.5
ASAJ Asahikawa 69.24 331 eP P 16 46 09.3 -2.2
comp=Z,54nm,1.5s
PET Petropavlovsk 70.94 345 ciP P 16 46 19.1 -2.6
PET iS S 16 55 39.2 +3.8
PET eSS SS 17 00 05.0 -4.0
PET pmax pmax
comp=Z,400nm,5.1s
PET pmax pmax
comp=Z,23nm,1.2s
PET pmax pmax
comp=Z,200nm,10.8s
PET MLR MLR
comp=Z,2μm,21.0s
NACB Ninganchiao 70.97 303 eP P 16 46 21.2 -1.3
comp=Z,84nm,1.2s
PEA0 Petropavlovsk- 71.25 345 eP P 16 46 22.2 -1.5
PEA0B Petropavlovsk- 71.25 345 eP P 16 46 22.7 -1.0
comp=Z,75nm,1.4s
PETK Petropavlovsk- 71.25 345 P P 16 46 23.7 +0.1
comp=Z,25nm,1.2s,baz=120,slow=8.9,SNR=11
PETK LR LR 17 17 08.6
comp=Z,2μm,18.2s,baz=165,slow=36
YSS Yuzh-Sakhalins 71.31 333⇓eP P 16 46 23.3 -0.8
YSS eS S 16 55 44.5 +4.6
YSS pmax pmax
comp=Z,60nm,1.2s
YSS pmax pmax
comp=Z,400nm,4.0s
YSS smax smax
comp=N,800nm,9.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=E,3μm,16.0s
YSS Yuzh-Sakhalins 71.31 333 eP P 16 46 23.0 -1.1
comp=E,95nm,1.2s
SSLB Suanglung 71.32 302 eP P 16 46 22.5 -2.3
comp=E,17nm,1.0s
TPUB Ta-pu 71.37 301 eP P 16 46 22.4 -2.6
comp=E,37nm,1.0s
YHNB Yeheng 71.37 303 eP P 16 46 28.2 +3.1
comp=E,60nm,1.2s
KSRS Korea Array 73.13 318 P P 16 46 34.7 -0.5
comp=E,16nm,1.1s,baz=130,slow=6.3,SNR=32
KSRS LR LR 17 13 02.0
comp=E,5μm,21.6s,baz=122,slow=31
KS15 Wonju Array Si 73.15 317 eP P 16 46 37.8 +2.5
KSAR Wonju Array Be 73.15 317 P P 16 46 34.7 -0.6
KSAR Wonju Array Be 73.15 317 P P 16 46 34.7 -0.6
KS01 Wonju Array Si 73.16 318 eP P 16 46 34.0 -1.4
LEM Lembang 73.44 267 LR LR 17 20 59.2
comp=E,1μm,18.4s,baz=100,slow=38
QZH Quanzhou 73.76 302⇑iP P 16 46 31.6 -7.6
QZH S S 16 56 10.3 +1.5
QZH pmax pmax
comp=Z,1μm,5.0s
QZH LR LR
comp=N,1μm,13.4s
QZH LR LR
comp=E,3μm,17.6s
QZH LR LR
comp=Z,11μm,33.8s
SAO San Andreas Ge 74.07 44 eP P 16 46 40.9 +0.1
SAO pmax pmax
comp=Z,71nm,1.4s
SAO San Andreas Ge 74.07 44 eP P 16 46 40.9 +0.1
comp=Z,71nm,1.4s
PKM Mcpherson Peak 74.18 46 P P 16 46 42.0 +0.3
baz=238
HOPS Hopland Field 74.25 41 eP P 16 46 40.9 -0.9
comp=Z,222nm,1.7s
SMMC Simmler 74.28 46 P P 16 46 43.3 +1.2
baz=238
BLG Laguna Peak, P 74.30 47 P P 16 46 43.8 +1.6
baz=239
TYV Tymovskoe 74.35 335 eP P 16 46 41.5 -0.6
TYV eS S 16 56 13.0 -1.4
TYV pmax pmax
comp=E,40nm,1.2s
TYV pmax pmax
comp=Z,64nm,1.2s
TYV pmax pmax
comp=Z,500nm,4.0s
TYV smax smax
comp=E,2μm,10.0s
TYV MLR MLR
comp=N,3μm,15.0s
SSE Sheshan 74.53 309 P P 16 46 45.8 +2.3
SSE sP pP 16 46 51.2 -1.4
SSE S S 16 56 22.3 +5.1
SSE PMZ
comp=N,25nm,0.8s
SSE PMZ
comp=N,140nm,6.6s
SSE LN
comp=N,2μm,39.4s
SSE LE
comp=N,3μm,39.4s
SSE LZ
comp=N,4μm,36.3s
KMRM Mail Ridge 74.57 40 eP P 16 46 44.5 +0.8
comp=N,199nm,1.6s
USRK Ussuriysk Ar. 74.76 325 P P 16 46 45.2 +0.6
comp=N,26nm,1.2s,baz=122,slow=6.9,SNR=14
USRK LR LR 17 15 55.7
comp=N,2μm,18.4s,baz=122,slow=33
OSI Osito Audit: C 74.81 47 P P 16 46 45.3 +0.1
baz=239
QSPA South Pole Qui 74.82 180 eP P 16 46 44.8 -0.1
DECC Green Verdugo 74.90 48 P P 16 46 46.4 +0.7
baz=240
PASC Pasadena Art C 74.96 48 eP P 16 46 44.9 -1.2
comp=N,15nm,1.0s
ARVC Arvin 74.99 47 P P 16 46 46.9 +0.7
baz=239
MWC Mount Wilson 75.08 48 eP P 16 46 47.7 +0.8
MWC pmax pmax
comp=Z,31nm,1.1s
MWC Mount Wilson 75.08 48 eP P 16 46 47.7 +0.8
comp=Z,31nm,1.1s
109C Camp Elliot, M 75.11 49 P P 16 46 47.4 +0.5
baz=241
VES Vestal, Richgr 75.19 46 P P 16 46 47.5 +0.2
baz=239,SNR=5.5
BAR Barrett 75.32 50 eP P 16 46 51.1 +2.9
comp=Z,32nm,1.6s
BFSC Mount Baldy Ra 75.37 48 P P 16 46 48.6 0.0
baz=240
MURC Murrieta 75.39 49 P P 16 46 48.6 0.0
baz=240
EDW2 Edwards Air Fo 75.46 47 P P 16 46 49.1 +0.1
baz=240,SNR=26
CMB Columbia Colle 75.47 43 eP P 16 46 48.4 -0.5
CMB pmax pmax
comp=Z,33nm,1.1s
CMB Columbia Colle 75.47 43 eP P 16 46 48.4 -0.5
comp=Z,33nm,1.1s
WDC Whiskeytown Da 75.50 40 eP P 16 46 48.7 -0.3
WDC pmax pmax
comp=Z,131nm,1.6s

WDC Whiskeytown Da 75.50 40 eP P 16 46 48.7 -0.3
comp=Z,131nm,1.6s
ISA Isabella, Lake 75.52 46 P P 16 46 49.9 +0.6
baz=239,SNR=6.7
ISA Isabella, Lake 75.52 46 eP P 16 46 49.3 0.0
ISA pmax pmax
comp=Z,72nm,1.4s
ISA Isabella, Lake 75.52 46 eP P 16 46 49.3 0.0
comp=Z,72nm,1.4s
ORV Oroville 75.58 42 eP P 16 46 49.4 -0.1
ORV pmax pmax
comp=Z,67nm,1.6s
ORV Oroville 75.58 42 eP P 16 46 49.4 -0.1
comp=Z,67nm,1.6s
AFDM Forest Hills D 75.58 42 eP P 16 46 49.3 -0.3
comp=Z,31nm,1.1s
MONP2 Monument Peak 75.61 50 P P 16 46 50.1 +0.1
baz=241,SNR=20
N02D Trinity Center 75.62 40 P P 16 46 50.1 +0.3
baz=235,SNR=6.4
KDAK Kodiak Island 75.66 14 eP P 16 46 49.9 +0.5
KDAK pmax pmax
comp=Z,147nm,1.9s
KDAK Kodiak Island 75.66 14 eP P 16 46 49.9 +0.5
comp=Z,147nm,1.9s
IKP In-Ko-Pah, Jac 75.72 50 P P 16 46 50.8 +0.3
baz=241,SNR=14
L02D Cave Junction, 75.77 38 P P 16 46 50.9 +0.4
baz=234
M02C Callahan 75.78 39 P P 16 46 50.7 0.0
baz=235,SNR=17
O03D Paynes Creek 75.80 41 P P 16 46 50.8 -0.1
baz=236,SNR=7.5
MIR Mirnyy 75.86 204 eP P 16 46 51.0 +0.4
MIR pmax pmax
comp=Z,4.0nm,1.8s
PFO Pinyon Flats O 75.93 49 P P 16 46 51.8 0.0
baz=241
PFO Pinyon Flats O 75.93 49 eP P 16 46 51.6 -0.2
PFO pmax pmax
comp=Z,72nm,1.9s
PFO Pinyon Flats O 75.93 49 eP P 16 46 51.6 -0.2
comp=Z,72nm,1.9s
TPFO Pinon Flats 75.93 49 P P 16 46 51.6 -0.2
baz=241
LRMC Laurel Mtn Rad 75.98 47 P P 16 46 52.1 0.0
baz=240
HABR Khabarovsk 76.00 330 ceP P 16 46 50.5 -1.1
HABR e*PP pP 16 47 01.0 +0.3
HABR e 16 47 02.5
HABR e*SP sP 16 47 04.9 +0.9
HABR e 16 49 40.8
HABR ePPP PPP 16 51 27.0
HABR eS S 16 56 31.4 -1.4
HABR e*SS sS 16 56 49.2 +1.4
HABR e 16 57 02.2
HABR eSS SS 17 01 25.3 -1.1
HABR pmax pmax
comp=N,8.0nm,1.1s
HABR pmax pmax
comp=Z,30nm,1.1s
HABR pmax pmax
comp=E,6.0nm,1.1s
HABR MLR MLR
comp=Z,2μm,18.0s
YBH Yreka Blue Hor 76.06 39 eP P 16 46 52.4 +0.1
YBH pmax pmax
comp=Z,66nm,1.0s
YBH Yreka Blue Hor 76.06 39 eP P 16 46 52.4 +0.1
comp=Z,66nm,1.0s
SWSC Sam W. Stewart 76.09 50 P P 16 46 53.1 +0.6
baz=241
RRX Edison Barstow 76.16 48 P P 16 46 53.0 +0.1
baz=240
CWC Cottonwood Cre 76.19 46 P P 16 46 53.2 0.0
baz=239
MLAC Mammoth, Mammo 76.29 44 P P 16 46 54.0 +0.1
baz=238
WAKR Walker 76.35 43 eP P 16 46 53.8 -0.3
MDJ Mudanjiang 76.36 324 P P 16 46 53.1 -0.7
MDJ pP pP 16 46 55.6 -7.3
MDJ sP PcP 16 46 57.8 -7.7
MDJ S S 16 56 38.6 +1.6
MDJ PMZ
comp=Z,2.0nm,0.4s
MDJ PMZ
comp=Z,210nm,6.2s
MDJ LN
comp=Z,2μm,19.8s
MDJ LE
comp=Z,2μm,22.4s
MDJ LZ
comp=Z,3μm,25.2s
MDJ Mudanjiang 76.36 324 eP P 16 46 52.3 -1.5
comp=Z,55nm,1.4s
TIN Tinemaha, Big 76.40 45 P P 16 46 54.5 +0.1
baz=239
MPMC Manual Prospec 76.41 46 P P 16 46 54.1 -0.4
baz=240,SNR=29
HUMO Hull Mountain 76.42 38 eP P 16 46 54.7 +0.5
comp=Z,55nm,1.3s
DAC Darwin (Calif) 76.44 46 eP P 16 46 54.5 -0.3
DAC pmax pmax
comp=Z,48nm,1.5s
DAC Darwin (Calif) 76.44 46 eP P 16 46 54.5 -0.3
comp=Z,48nm,1.5s
BELC Belle Mtn. Jos 76.45 49 P P 16 46 54.4 -0.3
baz=241,SNR=6.4
GSC Goldstone, Bar 76.51 47 P P 16 46 54.6 -0.4
baz=240,SNR=15
GSC Goldstone, Bar 76.51 47 eP P 16 46 54.8 -0.2
GSC pmax pmax
comp=Z,26nm,1.1s
GSC Goldstone, Bar 76.51 47 eP P 16 46 54.8 -0.2
comp=Z,26nm,1.1s
HEC Hector,Ludlow 76.61 48 P P 16 46 55.5 0.0
baz=241,SNR=14
M04C Macdoel 76.62 40 P P 16 46 55.9 +0.3
baz=235,SNR=17
BUOR Burton Butte 76.66 39 P P 16 46 58.0 +2.2
BC3 Big Chuckawall 76.69 49 P P 16 46 56.2 +0.1
baz=242,SNR=16
NJ2 Nanjing 76.73 309 eP P 16 46 53.4 -2.7
NJ2 PMZ
comp=Z,12nm,1.1s
I03D Drain, OR 76.83 37 P P 16 46 57.3 +0.9
baz=234
GLA Glamis 76.86 50 P P 16 46 57.4 +0.4
baz=242
GLA Glamis 76.86 50 eP P 16 46 57.1 +0.1
GLA pmax pmax
comp=Z,74nm,1.6s
GLA Glamis 76.86 50 eP P 16 46 57.1 +0.1
comp=Z,74nm,1.6s
NKL Nikolayevsk 76.89 336 eP P 16 46 54.0 -2.5
NKL e 16 56 48.0
NKL pmax pmax
comp=Z,500nm,5.0s
NKL pmax pmax
comp=Z,70nm,1.2s
NKL MLR MLR
comp=N,4μm,18.0s
NKL MLR MLR
comp=E,2μm,18.0s
NKL MLR MLR
comp=Z,8μm,18.0s
GRAC Grapevine Rang 76.97 46 P P 16 46 58.2 +0.7
baz=240,SNR=6.2
PAHR Pah Rah Range 77.03 42 eP P 16 46 58.5 +0.6
comp=Z,152nm,1.9s
FURC Furnace Creek, 77.05 46 P P 16 46 58.4 +0.6
baz=240
NV01 Mina Array Sit 77.07 44 eP P 16 46 57.6 -0.6
NVAR Mina Array Bea 77.07 44 P P 16 46 58.0 -0.2
comp=Z,18nm,1.1s,baz=233,slow=8.6,SNR=25
NVAR LR LR 17 12 58.4
comp=Z,4μm,21.4s,baz=254,slow=30
GMRC Granite Mounta 77.08 48 P P 16 46 58.2 0.0
baz=241,SNR=21
IRM Iron Mountain 77.15 49 P P 16 46 58.5 -0.1
baz=242,SNR=24
K04D Chiloquin, OR 77.15 39 P P 16 46 58.3 -0.2
baz=235
NV11 Mina Array Sit 77.17 44 eP P 16 46 58.5 -0.2
comp=Z,96nm,1.3s
SHOC Shoshone, Teco 77.18 47 P P 16 46 59.0 +0.4
baz=240

TUQ Turquoise Moun 77.20 48 P P 16 46 58.9 -0.1
baz=241,SNR=19
GZH Guangzhou 77.38 298 P P 16 47 01.9 +1.9
GZH PMZ
comp=Z,580nm,6.5s
Y12C Blythe 77.41 50 P P 16 47 00.2 +0.2
baz=242
Y12C Blythe 77.41 50 eP P 16 46 59.9 -0.1
comp=Z,52nm,1.4s
I04A Tendick Farm, 77.43 38 P P 16 47 00.1 +0.2
baz=234
113A Mohawk Valley, 77.52 51 eP P 16 47 00.3 -0.3
CNPM China Poot 77.54 13 eP P 16 46 58.5 -1.6
comp=Z,50nm,1.2s
MOD Modoc Plateau 77.64 40 eP P 16 47 00.3 -1.0
comp=Z,35nm,1.0s
TPNV Topopah Spring 77.72 46 P P 16 47 01.8 0.0
baz=240,SNR=18
TPNV Topopah Spring 77.72 46 eP P 16 47 01.6 -0.2
TPNV pmax pmax
comp=Z,80nm,1.4s
TPNV Topopah Spring 77.72 46 eP P 16 47 01.6 -0.2
comp=Z,80nm,1.4s
K05A Summer Lake 77.73 39 eP P 16 47 01.3 -0.5
comp=Z,329nm,2.0s
G03D McMinnville, O 77.77 36 P P 16 47 02.1 +0.4
baz=234
NEE2 Needles Airpor 77.82 49 P P 16 47 03.8 +1.6
baz=242
BRLK Bradley Lake 77.83 14 eP P 16 47 01.5 -0.2
comp=Z,58nm,1.3s
J05D Fort Rock, OR 77.84 39 P P 16 47 02.5 +0.1
baz=236
214A Organ Pipe Nat 77.88 52 P P 16 47 02.9 +0.2
baz=244,SNR=12
214A Organ Pipe Nat 77.88 52 eP P 16 47 03.4 +0.8
comp=Z,322nm,1.7s
PDMCI Parker Dam,Lak 77.95 49 P P 16 47 02.7 -0.3
baz=242
HSIG 78.05 55 eP P 16 47 03.7 0.0
RSO Redoubt South 78.06 12 eP P 16 47 02.3 -0.9
DL2 Dalian 78.08 316⇓iP P 16 46 58.9 -4.7
DL2 S S 16 56 49.9 -6.0
DL2 pmax pmax
comp=Z,32nm,0.9s
DL2 pmax pmax
comp=Z,250nm,6.7s
DL2 LR LR
comp=N,4μm,17.3s
DL2 LR LR
comp=E,2μm,21.1s
DL2 LR LR
comp=Z,4μm,21.3s
H04A Detroit Lake 78.08 37 eP P 16 47 03.9 +0.4
comp=Z,54nm,1.3s
SVW2 Sparrevohn 78.09 11 eP P 16 47 02.9 -0.3
comp=Z,25nm,1.2s
KLR Kul'dur 78.13 329 P P 16 47 03.7 +0.1
comp=Z,17nm,1.3s,baz=125,slow=5.9,SNR=11
KLR Kul'dur 78.13 329⇑iP P 16 47 05.2 +1.6
KLR i *PP sP 16 47 14.7 -1.3
SHPR Sheep Range 78.26 47 eP P 16 47 06.6 +1.7
comp=Z,81nm,1.5s
CN2 Changchun 78.29 322 eP P 16 47 04.4 -0.2
CN2 esP pP 16 47 11.3 -2.4
CN2 eS S 16 56 57.4 -0.6
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,2μm,18.0s
CN2 LE
comp=Z,2μm,18.0s
CN2 LZ
comp=Z,2μm,19.0s
I05D Terrebonne, OR 78.38 38 P P 16 47 05.1 -0.1
baz=235
E03A Lebam 78.40 35 eP P 16 47 04.4 -0.8
comp=Z,60nm,1.0s
F04D Rainier, OR 78.43 35 P P 16 47 05.9 +0.6
baz=234
SEW Seward 78.46 14 eP P 16 47 03.5 -1.6
comp=Z,35nm,1.2s
W13A Hualapai Mount 78.51 49 eP P 16 47 05.5 -0.8
comp=Z,30nm,1.3s
Y14A Wickenburg 78.62 50 eP P 16 47 06.5 -0.3
comp=Z,270nm,1.9s
F04A Amboy 78.68 36 eP P 16 47 06.4 -0.3
comp=Z,80nm,1.4s
NLWA Neilton Lookou 78.75 34 eP P 16 47 09.5 +2.4
comp=Z,39nm,1.4s
MA2 Magadan 78.78 344 P P 16 47 07.0 +0.1
comp=Z,7.5nm,0.8s,baz=173,slow=6.4,SNR=5.4
MA2 LR LR 17 18 52.9
comp=Z,3μm,19.4s,baz=182,slow=33
MA2 Magadan 78.78 344 eP P 16 47 06.6 -0.4
MA2 pmax pmax
comp=Z,336nm,1.8s
MA2 Magadan 78.78 344 eP P 16 47 06.6 -0.4
comp=Z,336nm,1.8s
BMN Battle Mountai 78.82 43 eP P 16 47 06.7 -1.2
BMN pmax pmax
comp=Z,37nm,1.0s
BMN Battle Mountai 78.82 43 eP P 16 47 06.7 -1.2
comp=Z,37nm,1.0s
MTMW Mount Mitchell 78.85 36 P P 16 47 11.5 +3.7
SPU Mount Spurr 78.86 12 eP P 16 47 05.2 -2.3
R11A Troy Canyon, C 78.87 45 P P 16 47 08.1 -0.1
baz=240,SNR=32
R11A Troy Canyon, C 78.87 45 eP P 16 47 07.8 -0.4
comp=Z,92nm,1.8s
G05D Wamic, OR 78.91 37 P P 16 47 09.1 +1.1
baz=235
QIZ Qiongzhong 78.95 293 P P 16 47 07.6 -1.2
QIZ SS SS 17 02 11.5 -0.5
QIZ LN
comp=Z,1μm,21.9s
QIZ LE
comp=Z,3μm,21.2s
QIZ LZ
comp=Z,4μm,22.9s
CROR Criterion Ridg 78.95 37 P P 16 47 09.4 +1.0
WVOR Wild Horse Val 78.97 40 eP P 16 47 08.0 -0.6
WVOR pmax pmax
comp=Z,70nm,1.5s
WVOR Wild Horse Val 78.97 40 eP P 16 47 08.0 -0.6
comp=Z,70nm,1.5s
GULW Guler Mountain 79.14 36 P P 16 47 11.1 +1.7
RC01 Rabbit Creek A 79.27 13 eP P 16 47 08.9 -0.7
comp=Z,87nm,1.6s
G06A Carlson Farm, 79.30 37 eP P 16 47 09.5 -0.7
comp=Z,49nm,1.4s
VTHM Trough 79.31 37 P P 16 47 11.8 +1.5
SUA Susitna One 79.39 13 eP P 16 47 08.6 -1.6
comp=Z,14nm,0.8s
LON Longmire 79.50 35 eP P 16 47 11.7 +0.4
LON pmax pmax
comp=Z,25nm,1.4s
LON Longmire 79.50 35 eP P 16 47 11.7 +0.4
comp=Z,24nm,1.4s
WHN Wuhan 79.53 306 ⇓P P 16 47 14.0 +2.3
WHN pP pP 16 47 21.8 +1.0
WHN PMZ
comp=Z,170nm,1.9s
WHN LN
comp=Z,2μm,15.0s
WHN LE
comp=Z,4μm,18.2s
WHN LZ
comp=Z,8μm,21.6s
TUC Tucson 79.58 52 P P 16 47 12.6 +0.6
baz=245
TUC Tucson 79.58 52 eP P 16 47 12.7 +0.6
TUC pmax pmax
comp=Z,73nm,1.5s
TUC Tucson 79.58 52 eP P 16 47 12.7 +0.6
comp=Z,73nm,1.5s
D05A Enumclaw 79.66 35 eP P 16 47 09.9 -2.1
comp=Z,236nm,1.6s
BBB Bella Bella 79.67 28 LR LR 17 14 47.2
comp=Z,6μm,20.9s,baz=240,slow=30
TT01 Tatalina 79.71 10 eP P 16 47 10.8 -1.1
TTA Tatalina 79.73 10 eP P 16 47 11.4 -0.8
TTA pmax pmax
comp=Z,70nm,1.2s
TTA Tatalina 79.73 10 eP P 16 47 11.4 -0.8

	comp=Z,70nm,1.2s								
PGC	**Sidney**	**79.73**	**33**	*e*P		**P**	**16 47 11.0**	**-1.4**
	comp=Z,26nm,0.9s								
PMR	**Palmer**	**79.86**	**13**	*e*P		**P**	**16 47 12.1**	**-0.6**
PMR				pmax	pmax				
	comp=Z,39nm,1.2s								
PMR	**Palmer**	**79.86**	**13**	*e*P		**P**	**16 47 12.1**	**-0.6**
	comp=Z,39nm,1.3s								
LCMT	**Little Creek M**	**79.86**	**47**	*e*P		**P**	**16 47 11.8**	**-1.8**
	comp=Z,70nm,1.8s								
X16A	**Lo Mia Camp, P**	**80.00**	**50**	*e*P		**P**	**16 47 13.9**	**-0.5**
	comp=Z,38nm,1.4s								
CCUT	**Cedar City**	**80.03**	**47**	*e*P		**P**	**16 47 14.2**	**-0.4**
	comp=Z,57nm,1.5s								
KNB	**Kanab**	**80.16**	**47**	*e*P		**P**	**16 47 15.8**	**+0.5**
KNB				pmax	pmax				
	comp=Z,72nm,1.4s								
KNB	**Kanab**	**80.16**	**47**	*e*P		**P**	**16 47 15.8**	**+0.5**
	comp=Z,72nm,1.4s								
A04D	**Lummi Island**	**80.17**	**33**	P		**P**	**16 47 16.0**	**+1.3**
	baz=234								
B05A	**Bryant**	**80.23**	**34**	P		**P**	**16 47 15.7**	**+0.6**
	baz=234,SNR=8.6								
SML	**Sawmill**	**80.23**	**14**	*e*P		**P**	**16 47 13.5**	**-1.3**
SML				pmax	pmax				
	comp=Z,39nm,1.4s								
SML	**Sawmill**	**80.23**	**14**	*e*P		**P**	**16 47 13.5**	**-1.3**
	comp=Z,39nm,1.4s								
DIV	**Divide**	**80.25**	**15**	*e*P		**P**	**16 47 13.2**	**-1.8**
	comp=Z,57nm,1.5s								
U15A	**North Rim**	**80.27**	**48**	*e*P		**P**	**16 47 15.2**	**-0.8**
	comp=Z,63nm,1.4s								
ELK	**Elko**	**80.28**	**43**	*e*P		**P**	**16 47 15.2**	**-0.7**
ELK				pmax	pmax				
	comp=Z,60nm,1.5s								
ELK	**Elko**	**80.28**	**43**	*e*P		**P**	**16 47 15.2**	**-0.7**
	comp=Z,60nm,1.5s								
G08A	**Pilot Rock**	**80.32**	**38**	*e*P		**P**	**16 47 14.7**	**-1.1**
	comp=Z,58nm,1.2s								
319A	**Douglas**	**80.34**	**54**	*e*P		**P**	**16 47 15.7**	**-0.6**
	comp=Z,154nm,2.0s								
BMRM	**Bremner River**	**80.42**	**16**	*e*P		**P**	**16 47 14.1**	**-1.8**
	comp=Z,124nm,1.7s								
SCM	**Sheep Creek Mo**	**80.48**	**14**	*e*P		**P**	**16 47 14.1**	**-2.2**
SCM				pmax	pmax				
	comp=Z,84nm,1.8s								
SCM	**Sheep Creek Mo**	**80.48**	**14**	*e*P		**P**	**16 47 14.1**	**-2.2**
	comp=Z,84nm,1.8s								
KLU	**Klutina**	**80.53**	**15**	*e*P		**P**	**16 47 14.5**	**-2.1**
	comp=Z,73nm,1.9s								
WUAZ	**Wupatki**	**80.53**	**49**	P		**P**	**16 47 17.9**	**+0.6**
	baz=244								
WUAZ	**Wupatki**	**80.53**	**49**	*e*P		**P**	**16 47 15.7**	**-1.6**
	comp=Z,40nm,1.4s								
HAWA	**Hanford**	**80.59**	**37**	*e*P		P	16 47 22.4	+5.3
	comp=Z,75nm,1.4s								
CRQM	**Cirque**	**80.63**	**16**	*e*P		**P**	**16 47 18.3**	**+1.1**
	comp=Z,53nm,1.4s								
C06D	**Leavenworth**	**80.69**	**35**	P		**P**	**16 47 18.6**	**+1.0**
	baz=235								
TNA	**Tin City**	**80.88**	**4**	*e*P		**P**	**16 47 16.9**	**-1.3**
	comp=Z,81nm,1.4s								
BMO	**Blue Mountains**	**81.07**	**39**	*e*P		**P**	**16 47 21.7**	**+1.9**
	comp=Z,150nm,2.0s								
BMO				LR		LR			
	comp=Z,6µm,20.0s								
BALM	**Baldy**	**81.08**	**17**	*e*P		**P**	**16 47 17.6**	**-1.9**
BALM				pmax	pmax				
	comp=Z,23nm,1.2s								
BALM	**Baldy**	**81.08**	**17**	*e*P		**P**	**16 47 17.6**	**-1.9**
	comp=Z,22nm,1.2s								
MTPU	**Mount Pierson**	**81.08**	**47**	*e*P		**P**	**16 47 20.1**	**-0.3**
	comp=Z,94nm,1.6s								
X18A	**Snowflake**	**81.15**	**51**	*e*P		**P**	**16 47 17.9**	**-2.7**
	comp=Z,18nm,1.2s								
KTH	**Kantishna Hill**	**81.23**	**12**	*e*P		**P**	**16 47 19.1**	**-1.2**
	comp=Z,58nm,1.4s								
MFID	**Camas Ranch**	**81.24**	**41**	*e*P		**P**	**16 47 19.1**	**-1.7**
	comp=Z,47nm,1.4s								
TRF	**Thorofare Moun**	**81.27**	**12**	*e*P		**P**	**16 47 18.0**	**-2.5**
	comp=Z,104nm,1.9s								
MSU	**Marysvale**	**81.30**	**46**	*e*P		**P**	**16 47 20.4**	**-1.0**
MSU	**Marysvale**	**81.30**	**46**	*e*P		**P**	**16 47 20.4**	**-1.0**
D08A	**Wollman Farm,**	**81.31**	**36**	*e*P		**P**	**16 47 18.2**	**-2.8**
	comp=Z,161nm,1.9s								
SEY	**Seymchan**	**81.31**	**347**	P		**P**	**16 47 19.3**	**-1.3**
	comp=Z,14nm,1.0s,baz=145,slow=6.0,SNR=19								
SEY	**Seymchan**	**81.31**	**347**	*e*P		**P**	**16 47 19.9**	**-0.6**
SEY				*i* *PP		**pP**	**16 47 31.1**	**+1.4**
RND	**Reindeer**	**81.52**	**13**	*e*P		**P**	**16 47 20.1**	**-1.7**
RND				pmax	pmax				
	comp=Z,72nm,1.3s								
RND	**Reindeer**	**81.52**	**13**	*e*P		**P**	**16 47 20.1**	**-1.7**
	comp=Z,72nm,1.3s								
HPIG		**81.53**	**59**	*e*P		**P**	**16 47 22.1**	**-0.7**
	comp=Z,31nm,1.7s								
DHY	**Denali Highway**	**81.56**	**13**	*e*P		**P**	**16 47 20.3**	**-1.8**
	comp=Z,44nm,1.6s								
W18A	**Petrified Fore**	**81.56**	**50**	P		**P**	**16 47 23.1**	**+0.3**
	baz=245								
DUG	**Dugway, Tooele**	**81.64**	**45**	P		**P**	**16 47 23.6**	**+0.6**
	baz=242								
DUG	**Dugway, Tooele**	**81.64**	**45**	*e*P		**P**	**16 47 23.2**	**+0.1**
DUG				pmax	pmax				
	comp=Z,36nm,1.3s								
DUG	**Dugway, Tooele**	**81.64**	**45**	*e*P		**P**	**16 47 23.2**	**+0.1**
	comp=Z,36nm,1.3s								
F10A	**Beach Ranch, E**	**81.71**	**38**	*e*P		**P**	**16 47 21.4**	**-1.8**
	comp=Z,232nm,2.0s								
BPAW	**Bear Paw Mtn.**	**81.71**	**12**	*e*P		**P**	**16 47 20.3**	**-2.4**
	comp=Z,13nm,1.3s								
B08A	**Colville Reser**	**81.79**	**35**	*e*P		**P**	**16 47 22.3**	**-1.2**
	comp=Z,135nm,2.0s								
MCK	**McKinley**	**81.79**	**13**	*e*P		**P**	**16 47 20.9**	**-2.2**
MCK				pmax	pmax				
	comp=Z,42nm,1.1s								
MCK	**McKinley**	**81.79**	**13**	*e*P		**P**	**16 47 20.9**	**-2.2**
	comp=Z,42nm,1.1s								
BGU	**Big Grassy Mou**	**81.84**	**44**	*e*P		**P**	**16 47 23.4**	**-0.7**
	comp=Z,58nm,1.6s								
121A	**Cookes Peak, D**	**81.98**	**53**	P		**P**	**16 47 25.5**	**+0.5**
	baz=246,SNR=11								
121A	**Cookes Peak, D**	**81.98**	**53**	*e*P		**P**	**16 47 26.7**	**+1.7**
	comp=Z,44nm,1.3s								
SKAG	**Skagway**	**81.98**	**20**	*e*P		**P**	**16 47 23.7**	**-0.5**
	comp=Z,44nm,1.2s								
BWN	**Browne**	**82.08**	**12**	*e*P		**P**	**16 47 22.8**	**-1.7**
	comp=Z,100nm,1.2s								
C09A	**Chrisman Ranch**	**82.08**	**36**	*e*P		**P**	**16 47 21.1**	**-3.9**
	comp=Z,104nm,1.9s								
HLID	**Hailey**	**82.20**	**41**	P		**P**	**16 47 26.5**	**+0.5**
	baz=241								
HLID	**Hailey**	**82.20**	**41**	*e*P		**P**	**16 47 26.5**	**+0.5**
	comp=Z,44nm,1.0s								
BJT	**Baijiatuau**	**82.32**	**315**	*e*P		**P**	**16 47 21.7**	**-4.7**
BJT				pmax	pmax				
	comp=Z,71nm,1.4s								
BJT				MLR		MLR			
	comp=Z,4µm,19.0s								
BJT	**Baijiatuau**	**82.32**	**315**	*e*P		**P**	**16 47 21.7**	**-4.7**
	comp=Z,70nm,1.4s								
BJT				LR		LR			
	comp=Z,4µm,19.0s								
BJI	**Beijing**	**82.32**	**315**	P		**P**	**16 47 27.7**	**+1.3**
BJI				S		**S**	**16 57 41.6**	**+1.1**
BJI				PMZ					
	comp=Z,25nm,1.4s								
BJI				PMZ					
	comp=Z,280nm,4.6s								
BJI				LN					
	comp=Z,2µm,21.2s								
BJI				LE					
	comp=Z,3µm,22.8s								
BJI				LZ					
	comp=Z,5µm,24.9s								
MPU	**Maple Canyon**	**82.36**	**45**	*e*P		**P**	**16 47 23.9**	**-3.0**
	comp=Z,79nm,1.9s								
SPUT	**South Promonto**	**82.40**	**44**	*e*P		**P**	**16 47 24.9**	**-2.1**
	comp=Z,183nm,1.9s								
HVU	**Hansel Valley**	**82.41**	**43**	*e*P		**P**	**16 47 25.7**	**-1.3**
HVU				pmax	pmax				
	comp=Z,140nm,1.6s								
HVU	**Hansel Valley**	**82.41**	**43**	*e*P		**P**	**16 47 25.7**	**-1.3**
	comp=Z,140nm,1.6s								
MLY	**Manley**	**82.60**	**11**	*e*P		**P**	**16 47 24.5**	**-2.8**
	comp=Z,18nm,1.0s								
WRH	**Wood River Hil**	**82.62**	**12**	*e*P		**P**	**16 47 25.2**	**-2.2**
	comp=Z,83nm,1.4s								
IPM	**Ipoh**	**82.71**	**277**	*e*P		**P**	**16 47 26.3**	**-2.8**
	comp=Z,21nm,1.1s								
SRU	**San Rafael Swe**	**82.72**	**46**	*e*P		**P**	**16 47 28.0**	**-0.8**
SRU				pmax	pmax				
	comp=Z,126nm,1.7s								
SRU	**San Rafael Swe**	**82.72**	**46**	*e*P		**P**	**16 47 28.0**	**-0.8**
	comp=Z,126nm,1.7s								
P17A	**Butcher Ranch,**	**82.73**	**46**	*e*P		**P**	**16 47 26.9**	**-1.9**
	comp=Z,151nm,1.8s								
JLU	**Jordanelle**	**82.75**	**45**	*e*P		**P**	**16 47 28.5**	**-0.4**
	comp=Z,153nm,2.0s								
HDA	**Harding Lake**	**82.81**	**13**	*e*P		**P**	**16 47 26.2**	**-2.2**
	comp=Z,96nm,1.7s								
DOT	**Dot Lake**	**82.82**	**14**	*e*P		**P**	**16 47 26.8**	**-1.8**
	comp=Z,45nm,1.0s								
CCB	**Clear Creek Bu**	**82.84**	**13**	*e*P		**P**	**16 47 26.4**	**-2.1**
	comp=Z,35nm,1.1s								
NEW	**Newport**	**82.98**	**36**	P		**P**	**16 47 30.6**	**+0.9**
	baz=238								
NEW	**Newport**	**82.98**	**36**	*e*P		**P**	**16 47 34.1**	**+4.4**
NEW				pmax	pmax				
	comp=Z,54nm,1.9s								
MDM	**Murphy Dome**	**83.02**	**12**	*e*P		**P**	**16 47 27.8**	**-1.8**
	comp=Z,82nm,1.5s								
COLA	**College**	**83.03**	**12**	*e*P		**P**	**16 47 27.6**	**-1.9**
COLA				pmax	pmax				
	comp=Z,84nm,1.5s								
COLA	**College**	**83.03**	**12**	*e*P		**P**	**16 47 27.6**	**-1.9**
	comp=Z,84nm,1.5s								
DLBC	**Dease Lake**	**83.13**	**23**	LR		LR	17 17 05.3		
	comp=Z,9µm,20.8s,baz=208,slow=30								
DLBC	**Dease Lake**	**83.13**	**23**	*e*P		**P**	**16 47 27.3**	**-2.9**
	comp=Z,52nm,1.5s								
HWUT	**Hardware Ranch**	**83.13**	**44**	*e*P		**P**	**16 47 28.4**	**-2.5**
	comp=Z,47nm,1.4s								
ILAR	**Eielson Array**	**83.14**	**13**	P		**P**	**16 47 28.5**	**-1.6**
	comp=Z,15nm,1.2s,baz=231,slow=5.3,SNR=23								
ILAR				LR		LR	17 17 44.1		
	comp=Z,2µm,21.7s,baz=220,slow=31								
ILB	**Eielson Array**	**83.14**	**13**	*e*P		**P**	**16 47 28.0**	**-2.1**
IL1	**Eielson Array**	**83.14**	**13**	*e*P		**P**	**16 47 28.0**	**-2.1**
P18A	**Preston Nutter**	**83.14**	**46**	*e*P		**P**	**16 47 30.4**	**-0.7**
	comp=Z,42nm,1.4s								
LAZ	**Ladron**	**83.22**	**52**	*e*P		**P**	**16 47 32.1**	**+0.6**
PV05	**Paradox Valley**	**83.28**	**48**	*e*P		**P**	**16 47 32.0**	**+0.2**
ENH	**Enshi**	**83.29**	**304**	*e*P		**P**	**16 47 28.0**	**-3.7**
	comp=Z,47nm,1.4s								
MVCO	**Mesa Verde**	**83.35**	**49**	P		**P**	**16 47 32.5**	**+0.3**
	baz=245								
MVCO	**Mesa Verde**	**83.35**	**49**	*e*P		**P**	**16 47 34.8**	**+2.6**
	comp=Z,84nm,1.9s								
PV09	**Paradox Valley**	**83.44**	**47**	*e*P		**P**	**16 47 32.4**	**-0.3**
BNM	**Barren Site**	**83.51**	**52**	*e*P		**P**	**16 47 32.5**	**-0.5**
MNTX	**Cornudas Mount**	**83.53**	**55**	P		**P**	**16 47 33.6**	**+0.6**
	baz=248,SNR=25								
MNTX	**Cornudas Mount**	**83.53**	**55**	*e*P		**P**	**16 47 35.2**	**+2.3**
	comp=Z,76nm,1.7s								
SKNT	**Sakolnakorn**	**83.55**	**289**	P		**P**	**16 47 37.6**	**+4.3**
	comp=Z,30nm,0.8s								
PV04	**Paradox Valley**	**83.55**	**48**	*e*P		**P**	**16 47 33.1**	**0.0**
LPM	**Los Pinos Moun**	**83.57**	**52**	*e*P		**P**	**16 47 34.1**	**+0.8**
PV01	**Paradox Valley**	**83.68**	**48**	*e*P		**P**	**16 47 33.3**	**-0.5**
MCMT	**McKenzie Canyo**	**83.80**	**40**	P		**P**	**16 47 34.5**	**+0.2**
BILL	**Bilibino**	**83.83**	**354**	⇑*i*P		**P**	**16 47 33.7**	**+0.1**
BILL				*e*			16 50 44.4		
BILL				*e*S		**S**	**16 57 53.5**	**-1.2**
BILL				*e*SS		**SS**	**17 03 22.5**	**-0.5**
BILL				pmax	pmax				
	comp=Z,25nm,1.7s								
BILL				MLR		MLR			
	comp=Z,2µm,19.0s								
BILL	**Bilibino**	**83.83**	**354**	*e*P		**P**	**16 47 31.9**	**-1.7**
	comp=Z,55nm,1.8s								
BILL				LR		LR			
	comp=Z,2µm,20.0s								
TIY	**Taiyuan**	**83.95**	**312**	*e*P		**P**	**16 47 37.7**	**+2.7**
TIY				SKS		**S**	**16 57 54.4**	**-2.9**
TIY				PMZ					
	comp=Z,26nm,0.8s								
TIY				PMZ					
	comp=Z,180nm,4.8s								
TIY				LN					
	comp=Z,2µm,16.3s								
TIY				LE					
	comp=Z,2µm,20.6s								
TIY				LZ					
	comp=Z,3µm,21.7s								
ANMO	**Albuquerque**	**83.95**	**51**	P		**P**	**16 47 35.8**	**+0.6**
	baz=247								
ANMO	**Albuquerque**	**83.95**	**51**	⇑*i*P		**P**	**16 47 37.7**	**+2.5**
ANMO				pmax	pmax				
	comp=Z,48nm,1.7s								
ANMO	**Albuquerque**	**83.95**	**51**	*e*P		**P**	**16 47 36.2**	**+1.0**
	comp=Z,53nm,1.4s								
ANMO				LR		LR			
	comp=Z,7µm,20.0s								
AHID	**Auburn Hatcher**	**83.96**	**43**	*e*P		**P**	**16 47 35.6**	**+0.4**
	comp=Z,199nm,2.0s								
AHID				LR		LR			
	comp=Z,3µm,20.0s								
TX31	**Lajitas Ar. Si**	**84.04**	**58**	*e*P		**P**	**16 47 36.2**	**+0.6**
TXAR	**Lajitas Array**	**84.04**	**58**	P		**P**	**16 47 36.9**	**+1.2**
	comp=Z,6.7nm,1.0s,baz=234,slow=4.2,SNR=44								
TXAR				LR		LR	17 18 07.1		
	comp=Z,7µm,19.3s,baz=0.0,slow=31								
MSO	**Missoula**	**84.10**	**38**	P		**P**	**16 47 36.3**	**+0.7**
	baz=241,SNR=7.9								
MSO	**Missoula**	**84.10**	**38**	*e*P		**P**	**16 47 36.2**	**+0.6**
	comp=Z,42nm,1.4s								
BSMT	**Basso Peak**	**84.11**	**37**	P		**P**	**16 47 36.3**	**+0.5**
DLMT	**Dillon**	**84.21**	**40**	*e*P		**P**	**16 47 36.1**	**-0.2**
	comp=Z,51nm,1.1s								
GYA	**Guiyang**	**84.26**	**299**	P		**P**	**16 47 36.4**	**-0.5**
GYA				PP		**PP**	**16 50 52.0**	**+0.1**
GYA				SKS		**S**	**16 57 55.6**	**-5.4**
GYA				S		**SKSac**	**16 58 00.4**	**+1.4**
GYA				PMZ					
	comp=Z,30nm,0.9s								
GYA				PMZ					
	comp=Z,260nm,7.9s								
GYA				LN					
	comp=Z,6µm,22.0s								
GYA				LE					
	comp=Z,2µm,23.0s								
GYA				LZ					
	comp=Z,2µm,23.2s								
DAWY	**Dawson**	**84.34**	**16**	*e*P		**P**	**16 47 35.6**	**-0.8**
	comp=Z,31nm,1.3s								
TPAW	**Teton Pass**	**84.39**	**42**	*e*P		**P**	**16 47 37.5**	**+0.1**
	comp=Z,117nm,1.5s								
REDW	**Red Top Meadow**	**84.40**	**42**	*e*P		**P**	**16 47 37.3**	**-0.1**
	comp=Z,134nm,1.3s								
SWMT	**Swartz Lake**	**84.40**	**38**	*e*P		**P**	**16 47 37.6**	**+0.5**
FXWY	**Fox Creek**	**84.41**	**42**	*e*P		**P**	**16 47 37.7**	**+0.3**
	comp=Z,56nm,1.3s								
BLMT	**Blacktail Moun**	**84.44**	**37**	*e*P		**P**	**16 47 41.2**	**+3.8**
EGAK	**Eagle**	**84.47**	**15**	*e*P		**P**	**16 47 36.1**	**-0.8**
	comp=Z,36nm,1.3s								
SNOW	**Snow King Moun**	**84.50**	**42**	*e*P		**P**	**16 47 37.3**	**-0.7**
	comp=Z,278nm,1.8s								
LRM	**Limekiln Ridge**	**84.52**	**40**	*e*P		**P**	**16 47 37.1**	**-0.8**
CHMT	**Chamberlain Mo**	**84.56**	**38**	*e*P		**P**	**16 47 38.7**	**+0.7**
IMW	**Indian Meadow**	**84.58**	**42**	*e*P		**P**	**16 47 38.4**	**+0.1**
	comp=Z,73nm,1.4s								
NONG	**Nongkai**	**84.64**	**290**	P		P	16 47 44.6	+5.8
	comp=Z,44nm,1.4s								
MOOW	**Moose Ponds**	**84.64**	**42**	*e*P		**P**	**16 47 38.3**	**-0.2**
	comp=Z,115nm,1.9s								
COLD	**Coldfoot**	**84.67**	**10**	*e*P		**P**	**16 47 36.8**	**-1.1**
	comp=Z,54nm,1.3s								
LOHW	**Long Hollow**	**84.67**	**42**	*e*P		**P**	**16 47 38.9**	**+0.1**
	comp=Z,135nm,1.8s								
QLMT	**Earthquake Lak**	**84.69**	**41**	*e*P		**P**	**16 47 38.6**	**-0.2**
O20A	**White River Ci**	**84.75**	**46**	P		**P**	**16 47 39.9**	**+0.7**
	baz=245,SNR=13								
O20A	**White River Ci**	**84.75**	**46**	*e*P		**P**	**16 47 39.1**	**-0.1**
	comp=Z,59nm,1.4s								
S22A	**4UR Ranch, Cre**	**84.78**	**49**	P		**P**	**16 47 40.2**	**+0.7**
	baz=246,SNR=32								
S22A	**4UR Ranch, Cre**	**84.78**	**49**	*e*P		**P**	**16 47 37.6**	**-1.9**
	comp=Z,116nm,1.8s								
FLWY	**Flagg Ranch**	**84.82**	**42**	*e*P		**P**	**16 47 37.7**	**-1.8**
	comp=Z,95nm,1.4s								
YFT	**Old Faithful**	**84.90**	**41**	*e*P		**P**	**16 47 36.8**	**-3.1**
	comp=Z,104nm,1.7s								
BOZ	**Bozeman (W)**	**84.95**	**40**	P		**P**	**16 47 40.7**	**+0.7**
	baz=242,SNR=37								
BOZ	**Bozeman (W)**	**84.95**	**40**	*e*P		**P**	**16 47 40.0**	**0.0**
BOZ				pmax	pmax				
	comp=Z,130nm,1.8s								
BOZ	**Bozeman (W)**	**84.95**	**40**	*e*P		**P**	**16 47 40.0**	**0.0**
BOZ				LR	LR				
	comp=Z,8µm,20.0s								
BW06	**Boulder Array**	**84.98**	**43**	P		**P**	**16 47 41.1**	**+0.8**
	baz=244,SNR=29								
BW06	**Boulder Array**	**84.98**	**43**	*e*P		**P**	**16 47 39.3**	**-1.0**
	comp=Z,64nm,1.4s								
BW06				LR	LR				
	comp=Z,5µm,21.0s								
PD31	**Pinedale Array**	**84.98**	**43**	*e*P		**P**	**16 47 39.2**	**-1.1**
PDAR	**Pinedale Array**	**84.98**	**43**	P		**P**	**16 47 40.0**	**-0.4**
	comp=Z,8.0nm,0.9s,baz=225,slow=4.0,SNR=29								
PDAR				LR		LR	17 18 30.6		
	comp=Z,4µm,21.0s,baz=254,slow=31								
H17A	**Grant Village**	**85.04**	**42**	P		**P**	**16 47 41.3**	**+0.7**
	baz=243,SNR=9.1								
H17A	**Grant Village**	**85.04**	**42**	*e*P		**P**	**16 47 41.5**	**+0.9**
	comp=Z,34nm,1.0s								
XAN	**Xi'an**	**85.13**	**307**	P		**P**	**16 47 45.1**	**+4.1**
XAN				pP	pP		16 47 49.1	-1.1	
XAN				sP	sP		16 47 51.3	-2.2	
XAN				PP		**PP**	**16 51 02.5**	**+3.7**
XAN				SKS		**S**	**16 58 05.1**	**-4.1**
XAN				S		**SKKSac**	**16 58 12.2**	**+1.7**
XAN				sS		ScS	16 58 19.7	+0.1
XAN				PMZ					
	comp=Z,14nm,1.2s								
XAN				PMZ					
	comp=Z,150nm,5.2s								
XAN				LN					
	comp=Z,1µm,21.9s								
XAN				LE					
	comp=Z,2µm,18.7s								
XAN				LZ					
	comp=Z,2µm,20.5s								
WALA	**Waterton Lakes**	**85.22**	**36**	*e*P		**P**	**16 47 41.1**	**-0.1**
	comp=Z,44nm,1.6s								
LKWY	**Lake**	**85.23**	**41**	*e*P		**P**	**16 47 42.1**	**+0.5**
LKWY				pmax	pmax				
	comp=Z,64nm,1.2s								
LKWY	**Lake**	**85.23**	**41**	*e*P		**P**	**16 47 42.0**	**+0.5**
	comp=Z,64nm,1.2s								
SMCO	**Snowmass**	**85.25**	**47**	*e*P		**P**	**16 47 41.2**	**-0.8**
	comp=Z,30nm,1.4s								
SDCO	**Great Sand Dun**	**85.75**	**49**	P		**P**	**16 47 44.9**	**+0.5**
	baz=247,SNR=6.1								
SDCO	**Great Sand Dun**	**85.75**	**49**	*e*P		**P**	**16 47 45.9**	**+1.6**
	comp=Z,27nm,1.6s								
HHC	**Hu-ho-hao-te**	**85.85**	**314**	*e*P		**P**	**16 47 43.8**	**-0.7**
HHC				PMZ					
	comp=Z,16nm,1.0s								
HHC				PMZ					
	comp=Z,280nm,5.4s								
HHC				LN					
	comp=Z,2µm,17.2s								
HHC				LE					
	comp=Z,3µm,20.1s								
HHC				LZ					
	comp=Z,4µm,20.0s								
CLNS	**Chul'man**	**86.08**	**332**	*e*P		**P**	**16 47 45.4**	**+0.2**
CLNS				*e*			16 47 53.6		
CLNS				*e**PP		**sP**	**16 47 58.3**	**+0.6**
CLNS				*e*			16 51 04.6		
CLNS				*e*PPP		PPP	16 52 58.7		
CLNS				*e*S		S	16 58 08.3	-9.2	
CLNS				*e*SS		**SS**	**17 03 56.8**	**+0.2**
CLNS				pmax	pmax				
	comp=E,9.0nm,1.0s								
CLNS				pmax	pmax				
	comp=Z,30nm,1.3s								
CLNS				pmax	pmax				
	comp=N,18nm,1.1s								
CLNS				pmax	pmax				
	comp=Z,5.0nm,0.9s								
CLNS				pmax	pmax				
	comp=E,4.0nm,0.9s								
CLNS				pmax	pmax				
	comp=N,5.0nm,0.7s								
CLNS				smax	smax				
	comp=E,160nm,10.5s								
CLNS				smax	smax				
	comp=N,413nm,11.2s								
PBKT	**Sadao Pong**	**86.18**	**288**	P		**P**	**16 47 50.3**	**+3.8**
	comp=N,12nm,1.3s,comp=N,904nm								
LOEI	**Loei**	**86.18**	**289**	P		**P**	**16 47 48.9**	**+2.4**
	comp=N,78nm,1.6s								
RLMT	**Red Lodge**	**86.20**	**41**	P		**P**	**16 47 47.2**	**+0.9**
	baz=244,SNR=26								
RLMT	**Red Lodge**	**86.20**	**41**	*e*P		**P**	**16 47 47.3**	**+1.0**
	comp=N,32nm,1.0s								
GCMT	**Greycliff**	**86.24**	**41**	*e*P		**P**	**16 47 46.3**	**-0.1**
T25A	**Trinidad**	**86.32**	**50**	P		**P**	**16 47 47.5**	**+0.4**
	baz=248								
T25A	**Trinidad**	**86.32**	**50**	*e*P		**P**	**16 47 47.7**	**+0.6**
	comp=N,33nm,1.8s								
MSTX	**Muleshoe**	**86.41**	**54**	P		**P**	**16 47 48.0**	**+0.6**
	baz=249								
MSTX	**Muleshoe**	**86.41**	**54**	*e*P		**P**	**16 47 47.1**	**-0.4**
	comp=N,74nm,2.0s								
ISCO	**Idaho Springs**	**86.47**	**47**	P		**P**	**16 47 48.5**	**+0.6**
	baz=247,SNR=5.1								
**IS

YAK pmax pmax
comp=E,18nm,2.4s
YAK smax smax
comp=E,227nm,5.9s
YAK smax smax
comp=N,288nm,6.8s
YAK MLR MLR
comp=Z,3µm,18.0s
YAK MLR MLR
comp=N,1µm,18.0s
YAK MLR MLR
comp=E,1µm,17.0s
YAK Yakutsk 87.32 338 *e*P **P 16 47 48.3 -2.8**
comp=E,21nm,1.0s
034A Hebbronville 87.42 61 P **P 16 47 52.8 +0.4**
baz=252
733A Divot King Ran 87.43 59 P **P 16 47 54.2 +1.8**
baz=251
AMTX Amarillo 87.57 53 P **P 16 47 53.4 +0.3**
baz=250
JCT Junction City 87.58 58 P **P 16 47 53.8 +0.6**
baz=251
JCT Junction City 87.58 58 *e*P P 16 47 59.1 +5.9
JCT pmax pmax
comp=Z,38nm,1.7s
JCT Junction City 87.58 58 *e*P P 16 47 59.1 +5.9
comp=Z,38nm,1.8s
SUKH Sukhothai 87.67 289 P P 16 48 00.6 +6.9
comp=Z,2.1nm,1.1s
934A Benavides 87.73 61 P **P 16 47 55.5 +1.7**
baz=252
035Z Hargill 87.75 62 P **P 16 47 54.2 +0.2**
baz=252
633A Saathoff Ranch 87.77 59 P **P 16 47 54.4 +0.4**
baz=251
834A Tilden 87.86 60 P **P 16 47 54.7 +0.3**
baz=252
035A Encino 87.87 62 P **P 16 47 54.9 +0.3**
baz=252
533A Kerrville 88.08 58 P **P 16 47 56.1 +0.5**
baz=251
CD2 Chengdu 88.14 303 P **P 16 47 57.0 +1.2**
CD2 pP PcP 16 47 58.8 +1.2
CD2 SKS **SKSac 16 58 26.2 +3.3**
CD2 S **ScS 16 58 42.9 -1.8**
CD2 sS S 16 58 46.1 +7.5
CD2 PMZ
comp=Z,30nm,0.6s
CD2 PMZ
comp=Z,510nm,5.0s
CD2 LN
comp=Z,2µm,20.7s
CD2 LE
comp=Z,2µm,21.3s
CD2 LZ
comp=Z,2µm,19.3s
433A Art 88.25 58 P **P 16 47 56.9 +0.6**
baz=251
KSCO Kaye Shedlock' 88.31 49 P **P 16 47 57.2 +0.7**
baz=249
ABTX Abilene, Hawle 88.41 56 P **P 16 47 57.5 +0.4**
baz=251
ABTX Abilene, Hawle 88.41 56 *e*P **P 16 47 55.1 -2.0**
comp=Z,16nm,1.1s
835A Beeville 88.52 60 P **P 16 47 58.5 +1.0**
baz=252
333A Richland Sprin 88.52 57 P **P 16 47 58.1 +0.6**
baz=251
534A Blanco 88.53 58 P **P 16 47 58.2 +0.5**
baz=252
CM01 Chiang Mai Arr 88.55 289 *e*P **P 16 47 55.8 -2.1**
CMAR Chiang Mai Arr 88.57 289 P **P 16 47 58.5 +0.4**
comp=Z,1.9nm,1.0s,baz=112,slow=3.7,SNR=9.1
CMAR LR LR 17 24 19.3
comp=Z,2µm,20.3s,baz=99,slow=33
CHTO Chiang Mai 88.67 290 *e*P **P 16 48 02.5 +4.0**
CHTO pmax pmax
comp=Z,34nm,1.8s
CHTO Chiang Mai 88.67 290 *e*P **P 16 48 02.5 +4.0**
comp=Z,34nm,1.8s
CHTO LR LR
comp=Z,3µm,21.0s
735A Kenedy 88.71 60 P **P 16 48 01.0 +2.6**
baz=252
LAO LASA Array 88.78 41 P **P 16 47 59.8 +1.3**
baz=246
LAO LASA Array 88.78 41 *e*P **P 16 48 01.0 +2.5**
comp=Z,106nm,1.5s
233A Rising Star 88.81 56 P **P 16 47 59.7 +0.7**
baz=251
635A Leesville 88.91 59 P **P 16 48 00.9 +1.5**
baz=252
434A Burnet 88.94 58 P **P 16 48 00.4 +0.9**
baz=252
133A Hamilton Ranch 88.99 56 P **P 16 48 00.6 +0.9**
baz=251
334A Lometa 89.13 57 P **P 16 48 01.4 +1.0**
baz=252
INK Inuvik 89.14 15 LR LR 17 26 30.7
comp=Z,2µm,18.2s,baz=216,slow=35
RSSD Black Hills 89.21 44 P **P 16 48 01.3 +0.5**
baz=248
RSSD Black Hills 89.21 44 *e*P **P 16 47 59.5 -1.3**
RSSD pmax pmax
comp=Z,44nm,1.4s
RSSD Black Hills 89.21 44 *e*P **P 16 47 59.5 -1.3**
comp=Z,44nm,1.4s
X32A Elmer 89.28 54 P **P 16 48 01.6 +0.5**
baz=251
Z33A Whitaker Ranch 89.32 55 P **P 16 48 01.7 +0.4**
baz=252
CIT Chita 89.33 325 *e*P **P 16 48 01.6 +0.7**
CIT *e* 16 48 14.2
CIT *e* 16 51 27.2
CIT pmax pmax
comp=Z,78nm,3.0s
736A Circle Diamond 89.36 60 P **P 16 48 04.8 +3.3**
baz=252
234A Clairette 89.42 57 P **P 16 48 03.3 +1.6**
baz=252
435B Jarrell 89.49 58 P **P 16 48 03.3 +1.2**
baz=252
636A Smothers Creek 89.53 59 P **P 16 48 03.2 +0.9**
baz=252
W32A Sentinel 89.53 53 P **P 16 48 02.6 +0.4**
baz=251
134A White-Moore Ra 89.64 56 P **P 16 48 03.8 +1.0**
baz=252
H25A Fruitdale 89.68 43 P **P 16 48 04.3 +1.5**
baz=248
536A Bastrop 89.70 59 P **P 16 48 05.4 +2.3**
baz=252
LZH Lanzhou 89.75 307 *e*P **P 16 48 07.1 +3.7**
LZH *e*S **S 16 58 55.1 +1.4**
LZH PMZ
comp=Z,82nm,1.3s
LZH PMZ
comp=Z,230nm,5.8s
LZH LZ
comp=Z,3µm,19.4s
335A Moody 89.77 58 P **P 16 48 05.4 +1.9**
baz=252
V32A Arapaho 89.88 53 P **P 16 48 05.0 +1.2**
baz=251
X33A Lawton 89.93 54 P **P 16 48 04.7 +0.6**
baz=252
WHTX Lake Whitney, 89.97 57 P **P 16 48 06.6 +2.3**
baz=252
Z34A Collier Ranch, 90.02 55 P **P 16 48 07.0 +2.5**
baz=252
637A Eagle Lake 90.12 60 P **P 16 48 08.0 +2.9**
baz=253
U32A Winter Ranch, 90.13 52 P **P 16 48 05.2 +0.2**
baz=251
W33A Caddo, Fort Co 90.15 54 P **P 16 48 04.8 -0.3**
baz=252
135A Vickery Place, 90.18 56 P **P 16 48 05.2 -0.1**
baz=252
F25A Bowman 90.26 42 P **P 16 48 05.2 -0.2**
baz=248
336A Riesel 90.28 58 P **P 16 48 07.1 +1.3**
baz=252
Y34A Reagan Ranch, 90.33 55 P **P 16 48 07.3 +1.3**
baz=252
CBKS Cedar Bluff 90.36 50 PFAKE 16 48 20.0 +14
CBKS LR LR
comp=Z,5µm,20.0s
T32A Huddler Ranch, 90.44 52 P **P 16 48 07.1 +0.6**
baz=251
X34A Smith Ranch, M 90.47 54 P **P 16 48 06.4 -0.2**
baz=252
V33A Lossen Ranch, 90.50 53 P **P 16 48 07.0 +0.2**
baz=252
E25A Miller Ranch, 90.51 42 P **P 16 48 07.0 +0.5**
baz=248
738A Farr-Stevens R 90.52 60 P **P 16 48 06.7 -0.2**
baz=253
W34A Bridge Creek, 90.71 54 P **P 16 48 08.6 +0.8**
baz=252
236A Katherine and 90.72 57 P **P 16 48 07.8 0.0**
baz=253
DGMT Dagmar 90.74 40 P **P 16 48 08.0 +0.4**
baz=248
DGMT Dagmar 90.74 40 *e*P P 16 48 13.1 +5.5
comp=Z,104nm,1.5s
D25A Fairfield 90.80 41 P **P 16 48 08.1 +0.2**
baz=249
136A Ennis 90.86 57 P **P 16 48 08.6 +0.2**
baz=253
T33A Patterson Ranc 90.93 52 P **P 16 48 09.4 +0.7**
baz=252
R32A Long Quarter, 91.00 50 P **P 16 48 08.6 -0.4**
baz=252
X35A Drake 91.08 55 P **P 16 48 10.0 +0.5**
baz=252
V34A Guthrie 91.10 53 P **P 16 48 09.6 +0.1**
baz=252
E26A Carlson Angus 91.10 42 P **P 16 48 09.2 -0.1**
baz=249
O31A Woolen Ranch, 91.10 49 P **P 16 48 10.1 +0.6**
baz=251
Z36A Blue Ridge 91.17 56 P **P 16 48 10.3 +0.4**
baz=253
438A Sam Houston St 91.22 59 P **P 16 48 09.9 -0.2**
baz=253
U34A Anderson Ranch 91.27 53 P **P 16 48 11.5 +1.2**
baz=252
Q32A Meitler Ranch, 91.29 50 P **P 16 48 10.4 +0.1**
baz=252
237A Washetta, Mont 91.31 57 P **P 16 48 10.3 -0.2**
baz=253
B25A Knox Farm, Ray 91.31 40 P **P 16 48 11.9 +1.6**
baz=249
D26A Manning 91.32 41 P **P 16 48 10.6 +0.3**
baz=249
W35A Tecumseh 91.39 54 P **P 16 48 10.9 +0.1**
baz=252
P32A Huiting Farm, 91.46 49 P **P 16 48 11.2 +0.1**
baz=252
Y36A Durant 91.48 55 P **P 16 48 10.6 -0.7**
baz=253
R33A Olander Ranch, 91.50 51 P **P 16 48 10.8 -0.6**
baz=252
V35A Meyer Ranch, C 91.60 53 P **P 16 48 12.7 +0.8**
baz=253
X36A Centrahoma 91.63 55 P **P 16 48 12.1 +0.2**
baz=253
YKA Yellowknife Ar 91.64 24 P **P 16 48 11.2 -0.2**
comp=Z,0.6nm,0.7s,baz=242,slow=4.2,SNR=12
YKA LR LR 17 24 59.0
comp=Z,872nm,18.7s,baz=180,slow=33
YKB5 Yellowknife Ar 91.64 24 *e*P **P 16 48 08.8 -2.5**
E27A Carson 91.67 42 P **P 16 48 12.1 +0.2**
baz=250
YKW3 Yellowknife Ar 91.67 24 *e*P **P 16 48 09.6 -1.9**
comp=Z,32nm,2.0s
I29A Vivian Onida 91.69 45 P **P 16 48 13.2 +1.1**
baz=251
T34A McClaskey Farm 91.71 52 P **P 16 48 12.2 -0.1**
baz=252
K30A Basset 91.72 46 P **P 16 48 12.3 +0.1**
baz=251
M31A Lambtecht Ranc 91.74 48 P **P 16 48 12.4 0.0**
baz=251
Z37A Pogue Cattle C 91.80 56 P **P 16 48 14.4 +1.6**
baz=253
439A Center Grove, 91.81 59 P **P 16 48 14.9 +2.0**
baz=254
C26A Wahner Farm, P 91.82 41 P **P 16 48 12.5 0.0**
baz=250
Q33A Connelly Farm, 91.83 50 P **P 16 48 15.1 +2.3**
baz=252
238A Jacksonville 91.86 57 P **P 16 48 13.2 +0.1**
baz=253
U35A Pawnee 91.86 53 P **P 16 48 12.7 -0.3**
baz=253
W36A Wetumka 91.89 54 P **P 16 48 13.4 +0.2**
baz=253
O32A Brockman Farm, 91.90 49 P **P 16 48 12.9 -0.3**
baz=252
SYO Syowa Base 91.90 193 *e*P **P 16 48 10.4 -2.2**
SYO Syowa Base 91.90 193 *e*PcP **PcP 16 48 15.0 +1.6**
B26A Jensen Ranch, 91.92 40 P **P 16 48 13.4 +0.3**
baz=249
SONA1 Songino Array 91.93 319 *e*P **P 16 48 10.8 -2.5**
D27A Center 91.93 42 P **P 16 48 13.4 +0.2**
baz=250
SONM Songino Array 91.93 319 P **P 16 48 13.0 -0.2**
comp=Z,8.9nm,1.2s,baz=142,slow=3.9,SNR=21
SONM PP **PP 16 51 55.7 +2.7**
comp=Z,1.3nm,1.1s,baz=151,slow=9.5,SNR=3.6
SONM LR LR 17 29 13.6
comp=Z,1µm,18.5s,baz=118,slow=35
H29A Onida 91.95 44 P **P 16 48 13.7 +0.4**
baz=251
S34A Willow Spring 91.98 52 P **P 16 48 13.8 +0.3**
baz=252
J30A Dallas 92.01 46 P **P 16 48 13.8 +0.2**
baz=251
Y37A Hugo 92.03 55 P **P 16 48 13.8 -0.1**
baz=253
R34A Isabella, Hill 92.06 51 P **P 16 48 13.4 -0.5**
baz=252
138A Matatall Enter 92.08 57 P **P 16 48 13.5 -0.6**
baz=253
L31A Butterfield Fa 92.10 47 P **P 16 48 14.4 +0.3**
baz=252
339A Huntington 92.14 58 P **P 16 48 15.4 +1.0**
baz=254
NATX Nacogdoches 92.17 58 P **P 16 48 14.6 0.0**
baz=254
T35A Sooner Cattle 92.20 52 P **P 16 48 14.5 -0.1**
baz=253
A26A Wade Farm, Ken 92.23 40 P **P 16 48 14.9 +0.4**
baz=250
E28A Huff 92.28 42 P **P 16 48 14.9 +0.2**
baz=250
540A Vidor 92.30 59 P **P 16 48 14.7 -0.4**
baz=254
K31A O'Neill 92.30 46 P **P 16 48 14.8 -0.1**
baz=252
V36A Jenks 92.30 54 P **P 16 48 15.1 +0.1**
baz=253
Z38A Mt. Pleasant 92.33 56 P **P 16 48 15.7 +0.4**
baz=254
O33A Hebron 92.34 49 P **P 16 48 15.4 +0.2**
baz=252
BGNE Belgrade 92.35 48 P **P 16 48 15.4 +0.2**
baz=252
239A Gary 92.40 58 P **P 16 48 18.4 +2.8**
baz=254
X37A Clayton 92.41 55 P **P 16 48 15.7 +0.2**
baz=253
TUL1 Leonard 92.46 54 P **P 16 48 15.2 -0.6**
baz=253
440A Kirbyville 92.47 59 P **P 16 48 15.4 -0.6**
baz=254
W37B Quinton 92.52 54 P **P 16 48 15.5 -0.5**
baz=253
J31A Geddes 92.52 46 P **P 16 48 15.6 -0.4**
baz=252
B27A Peters Farms, 92.54 40 P **P 16 48 15.5 -0.4**
baz=250
D28A Regan 92.57 42 P **P 16 48 16.0 -0.1**
baz=250
S35A Otter Creek Ra 92.57 52 P **P 16 48 16.3 0.0**
baz=253
F29A Eureka 92.60 43 P **P 16 48 16.9 +0.6**
baz=251
L32A Elgin 92.63 47 P **P 16 48 17.6 +1.1**
baz=252
U36A Ologah 92.64 53 P **P 16 48 17.6 +1.0**
baz=253
340A Bronson 92.71 58 P **P 16 48 17.8 +0.8**
baz=254
T36A Boggs Farm, Ca 92.72 52 P **P 16 48 17.8 +0.8**
baz=253
Y38A Idabel 92.72 56 P **P 16 48 18.1 +1.0**
baz=254
PLCA Paso Flores 92.73 133 LR LR 17 21 24.9
comp=Z,3µm,21.0s,baz=256,slow=30
A27A Ledoux Ranch, 92.74 40 P **P 16 48 18.8 +2.0**
baz=250
P34A Walnut Farm, R 92.74 50 P **P 16 48 17.8 +0.7**
baz=253
G30A Faulkton 92.83 44 P **P 16 48 18.3 +1.0**
baz=252
R35A Emporia Munici 92.85 51 P **P 16 48 18.7 +1.2**
baz=253
X38A Whitesboro 92.86 55 P **P 16 48 18.5 +0.8**
baz=254
C28A Hausauer Farms 92.86 41 P **P 16 48 18.4 +1.0**
baz=251
V37A Hulbert 92.95 54 P **P 16 48 19.2 +1.2**
baz=254
Z39A Irene McRaven, 92.97 57 P **P 16 48 18.8 +0.6**
baz=254
240A Hunter Patters 92.98 58 P **P 16 48 18.7 +0.5**
baz=254
O34A Beatrice 93.03 49 P **P 16 48 20.2 +1.9**
baz=253
H31A Wolsey 93.08 45 P **P 16 48 19.5 +1.1**
baz=252
M33A Taylor Creek F 93.08 48 P **P 16 48 19.6 +1.0**
baz=253
B28A Dugan Ranch, T 93.12 41 P **P 16 48 18.9 +0.4**
baz=251
U37A Salina 93.12 53 P **P 16 48 19.0 +0.2**
baz=254
Q35A Mercer Eighty, 93.13 51 P **P 16 48 19.1 +0.2**
baz=253
S36A Lake Cedric, C 93.13 52 P **P 16 48 18.5 -0.4**
baz=253
F30A Leola 93.14 43 P **P 16 48 18.6 -0.1**
baz=252
J32A Parkston 93.17 46 P **P 16 48 19.9 +1.0**
baz=252
W38A Poteau 93.21 55 P **P 16 48 18.6 -0.7**
baz=254
SNAA Sanae 93.26 178 P **P 16 48 18.0 -0.9**
SNAA Sanae 93.26 178 ⇓P **P 16 48 22.0 +3.1**
SNAA Sanae 93.26 178 *e*P **P 16 48 17.9 -1.1**
comp=Z,12nm,1.1s
341A Kurthwood 93.28 59 P **P 16 48 19.6 -0.1**
baz=254
140A Cam and Jess, 93.30 57 P **P 16 48 19.9 +0.2**
baz=254
A28A Rude Farm, Bot 93.33 40 P **P 16 48 19.4 -0.2**
baz=251
P35A Duane Minner, 93.33 50 P **P 16 48 19.6 -0.2**
baz=253
N34A Lincoln 93.36 49 P **P 16 48 19.7 -0.2**
baz=253
R36A Gordon, Harris 93.37 51 P **P 16 48 20.0 0.0**
baz=254
X39A Fountain Ranch 93.38 55 P **P 16 48 19.7 -0.4**
baz=254
E30A Jud 93.42 43 P **P 16 48 19.7 -0.3**
baz=252
T37A Cheneyville 18 93.48 53 P **P 16 48 20.7 +0.3**
baz=254
G31A Conde 93.49 44 P **P 16 48 20.6 +0.3**
baz=252
V38A Canehill 93.52 54 P **P 16 48 21.2 +0.5**
baz=254
Q36A Arnold C. Orve 93.59 51 P **P 16 48 21.1 +0.2**
baz=254
Z40A Long Farm, Mag 93.61 57 P **P 16 48 20.8 -0.3**
baz=254
O35A Humboldt 93.63 49 P **P 16 48 20.6 -0.5**
baz=253
F31A Hecla 93.66 44 P **P 16 48 20.6 -0.5**
baz=252
U38A Gravette 93.70 53 P **P 16 48 21.7 +0.2**
baz=254
D30A Buchanan 93.71 42 P **P 16 48 21.0 -0.3**
baz=252
442A Mamou 93.72 59 P **P 16 48 22.1 +0.4**
baz=255
TIXI Tiksi 93.72 345 P **P 16 48 19.8 -1.0**
comp=Z,14nm,1.3s,baz=124,slow=6.1,SNR=13
TIXI LR LR 17 25 50.7
comp=Z,3µm,21.4s,baz=164,slow=33
TIXI Tiksi 93.72 345 *c i*P **P 16 48 20.5 -0.3**
TIXI pmax pmax
comp=Z,30nm,1.6s
TIXI Tiksi 93.72 345 *e*P **P 16 48 19.4 -1.3**
comp=Z,30nm,1.4s
S37A Fort Scott 93.72 52 P **P 16 48 21.8 +0.2**
baz=254
J33A Davis 93.76 46 P **P 16 48 21.9 +0.3**
baz=253
H32A Carlson Farm, 93.79 45 P **P 16 48 21.7 -0.1**
baz=253
GTA Gaotai 93.80 310 *e*P **P 16 48 23.6 +1.5**
GTA pP pP 16 48 27.2 -4.1
GTA sP sP 16 48 29.6 -5.0
GTA PP **PP 16 52 11.9 +4.0**
GTA SKS **SKSac 16 58 55.9 +0.8**
GTA S **ScS 16 59 30.8 -0.7**
GTA sS sS 16 59 40.6 -4.8
GTA PMZ
comp=Z,4.0nm,1.1s
GTA PMZ
comp=Z,110nm,6.9s
GTA LN
comp=Z,940nm,19.0s
GTA LE
comp=Z,2µm,22.3s
GTA LZ
comp=Z,4µm,26.1s
MIAR Mount Ida 93.81 55 P **P 16 48 21.4 -0.7**
baz=254
MIAR Mount Ida 93.81 55 *e*P P 16 48 27.1 +5.0
MIAR pmax pmax
comp=Z,15nm,1.4s
MIAR Mount Ida 93.81 55 *e*P P 16 48 27.1 +5.0
comp=Z,15nm,1.4s
W39A Magazine 93.83 55 P **P 16 48 22.7 +0.6**
baz=254
R37A Teagarden Farm 93.88 51 P **P 16 48 21.8 -0.5**
baz=254
Y40A Okolona 93.91 56 P **P 16 48 22.8 +0.3**
baz=254
T38A Diamond 93.93 53 P **P 16 48 23.1 +0.5**
baz=254
WLAR White Oak Lake 93.96 56 *e*P P 16 48 28.5 +5.8
comp=Z,77nm,1.7s
P36A Good Intent, A 93.96 50 P **P 16 48 22.6 0.0**
baz=254
NVL N'lazarevskaya 93.98 183 *e*P **P 16 48 18.5 -3.7**
NVL *e*S **SKSac 16 58 50.3 -4.5**
NVL MLR MLR
comp=Z,4µm,22.0s
A29A Manning Farm, 93.98 40 P **P 16 48 22.7 +0.2**
baz=252
N35A Tabor 93.99 49 P **P 16 48 23.9 +1.1**
baz=254
HHAR Hobbs 94.00 54 *e*P **P 16 48 21.4 -1.5**
comp=Z,39nm,1.9s
VNA1 Neumayer--Stat 94.04 177 P **P 16 48 23.1 +0.7**
Z41A Richland Creek 94.09 57 P **P 16 48 23.2 -0.1**
baz=255
V39A Pettigrew 94.11 54 P **P 16 48 23.5 0.0**
baz=254
E31A Nome 94.11 43 P **P 16 48 23.6 +0.4**
baz=252
ECSD EROS Data Cent 94.13 46 P **P 16 48 23.4 +0.1**
baz=253
ECSD EROS Data Cent 94.13 46 *e*P **P 16 48 24.8 +1.4**
comp=Z,61nm,1.8s
K34A Le Mars 94.19 47 P **P 16 48 23.5 -0.1**
baz=253
443A Delano Plantat 94.28 59 P **P 16 48 23.7 -0.5**
baz=255
O36A Bolckow 94.28 50 P **P 16 48 25.2 +1.1**
baz=254
H33A Prehn Over Nor 94.32 45 P **P 16 48 24.5 +0.3**
baz=253
Q37A Longview Farm, 94.32 51 P **P 16 48 25.2 +0.9**
baz=254
U39A Green Forest 94.39 54 P **P 16 48 24.8 +0.1**
baz=254
W40A Ferguson Farm, 94.39 55 P **P 16 48 24.7 0.0**

		baz=255							
X40A	**Basin Creek Fa**	**94.39**	**56**	P		**P**	**16 48 26.2**	**+1.5**	
		baz=255							
S38A	**Stockton**	**94.39**	**52**	P		**P**	**16 48 25.1**	**+0.5**	
		baz=254							
B30A	**Myrvik Farm, E**	**94.40**	**41**	P		**P**	**16 48 25.0**	**+0.6**	
		baz=252							
Y41A	**Eaglette Beard**	**94.41**	**56**	P		**P**	**16 48 24.1**	**-0.7**	
		baz=255							
L35A	**Bielow Farm, R**	**94.42**	**48**	P		**P**	**16 48 24.8**	**+0.1**	
		baz=254							
N36A	**Muff Farm, Cla**	**94.48**	**49**	P		**P**	**16 48 26.3**	**+1.3**	
		baz=254							
R38A	**Fenwick Farm,**	**94.54**	**52**	P		**P**	**16 48 24.9**	**-0.5**	
		baz=254							
P37A	**Lathrop**	**94.59**	**50**	P		**P**	**16 48 25.6**	**+0.1**	
		baz=254							
544A	**White Castle**	**94.62**	**60**	P		**P**	**16 48 25.2**	**-0.7**	
		baz=255							
T39A	**Clever**	**94.64**	**53**	P		**P**	**16 48 25.8**	**-0.1**	
		baz=255							
X41A	**Kaden, Bauxite**	**94.65**	**56**	P		**P**	**16 48 25.3**	**-0.6**	
		baz=255							
G33A	**Ortonville**	**94.67**	**45**	P		**P**	**16 48 25.8**	**0.0**	
		baz=253							
ZAK	**Zakamensk**	**94.70**	**321**	*e*P		**P**	**16 48 25.8**	**-0.1**	
ZAK					pmax	pmax			
	comp=Z,5.0nm,1.3s								
I34A	**Hadley**	**94.74**	**46**	P		**P**	**16 48 25.6**	**-0.6**	
		baz=254							
M36A	**Felix, Anita**	**94.77**	**48**	P		**P**	**16 48 25.8**	**-0.5**	
		baz=254							
Z42A	**Norrel Spur, H**	**94.79**	**57**	P		**P**	**16 48 25.7**	**-0.8**	
		baz=255							
S39A	**Bolivar**	**94.85**	**52**	P		**P**	**16 48 26.9**	**+0.1**	
		baz=255							
U40A	**Yellville**	**94.87**	**54**	P		**P**	**16 48 26.9**	**0.0**	
		baz=255							
TLY	**Talaya**	**94.89**	**322**	LR		LR	17 27 31.5		
	comp=Z,2µm,20.7s,baz=112,slow=33								
TLY	**Talaya**	**94.89**	**322**	*e*P		**P**	**16 48 28.8**	**+2.2**	
TLY				*e*			16 52 22.1		
TLY				*e*S		**SKSac**	**16 59 04.0**	**+3.8**	
TLY				*e*SS		**SS**	**17 06 05.0**	**+0.8**	
TLY					pmax	pmax			
	comp=Z,6.0nm,1.4s								
TLY					MLR	MLR			
	comp=Z,2µm,18.0s								
O37A	**Wolven Farm, M**	**94.90**	**50**	P		**P**	**16 48 27.1**	**+0.2**	
		baz=254							
X301	**Greenbrier Sit**	**94.93**	**55**	*e*P		**P**	**16 48 26.9**	**-0.2**	
	comp=Z,63nm,1.9s								
F33A	**5 Mile Ranch,**	**94.96**	**44**	P		**P**	**16 48 27.4**	**+0.4**	
		baz=254							
Q38A	**Cooks Store, C**	**94.97**	**51**	P		**P**	**16 48 26.7**	**-0.6**	
		baz=255							
H34A	**Spellman Lake,**	**94.97**	**45**	P		**P**	**16 48 27.0**	**-0.1**	
		baz=254							
X201	**Greenbrier Sit**	**94.97**	**55**	*e*P		P	16 48 32.4	+5.0	
	comp=Z,62nm,1.9s								
WHAR	**Wooly Hollow**	**95.03**	**55**	*e*P		**P**	**16 48 25.6**	**-2.0**	
	comp=Z,52nm,1.8s								
W41B	**Gary Mavity, V**	**95.03**	**55**	P		**P**	**16 48 27.3**	**-0.4**	
		baz=255							
L36A	**Harm Buss Farm**	**95.04**	**48**	P		**P**	**16 48 27.1**	**-0.5**	
		baz=254							
Y42A	**Garnett, Star**	**95.06**	**56**	P		**P**	**16 48 27.6**	**-0.2**	
		baz=255							
143A	**Socs Landing,**	**95.08**	**58**	P		**P**	**16 48 27.3**	**-0.6**	
		baz=255							
P38A	**Dawn**	**95.21**	**50**	P		**P**	**16 48 28.3**	**0.0**	
		baz=255							
R39A	**Chumby, Stover**	**95.23**	**52**	P		**P**	**16 48 29.0**	**+0.4**	
		baz=255							
V41A	**Mountainview**	**95.26**	**54**	P		**P**	**16 48 28.8**	**+0.1**	
		baz=255							
M37A	**Trindle Farm,**	**95.29**	**49**	P		**P**	**16 48 28.8**	**+0.1**	
		baz=255							
I35A	**Creekview Farm**	**95.30**	**46**	P		**P**	**16 48 28.7**	**+0.1**	
		baz=254							
344A	**Westbrook Farm**	**95.32**	**59**	P		**P**	**16 48 28.9**	**-0.1**	
		baz=256							
T40A	**Mansfield**	**95.33**	**53**	P		**P**	**16 48 29.2**	**+0.2**	
		baz=255							
E33A	**Westby DABS, E**	**95.34**	**43**	P		**P**	**16 48 29.0**	**+0.2**	
		baz=254							
K36A	**Gilmore City**	**95.34**	**47**	P		**P**	**16 48 29.0**	**+0.1**	
		baz=254							
O38A	**Galt**	**95.38**	**50**	P		**P**	**16 48 29.4**	**+0.3**	
		baz=255							
S40A	**Lebanon**	**95.46**	**53**	P		**P**	**16 48 30.0**	**+0.4**	
		baz=255							
Q39A	**Willow Grove F**	**95.47**	**51**	P		**P**	**16 48 29.7**	**+0.2**	
		baz=255							
244A	**Avery, Jackson**	**95.50**	**58**	P		**P**	**16 48 29.8**	**0.0**	
		baz=256							
B32A	**Ashes, Strandq**	**95.53**	**41**	P		**P**	**16 48 30.5**	**+0.9**	
		baz=254							
J36A	**Seneca 1, Swea**	**95.61**	**47**	P		**P**	**16 48 30.5**	**+0.4**	
		baz=255							
F34A	**Alexandria**	**95.64**	**44**	P		**P**	**16 48 30.2**	**0.0**	
		baz=254							
VBMS	**Vicksburg**	**95.69**	**58**	P		**P**	**16 48 30.8**	**+0.1**	
		baz=256							
L37A	**Phoenix Point,**	**95.70**	**48**	P		**P**	**16 48 30.6**	**0.0**	
		baz=255							
N38A	**Joes South For**	**95.73**	**49**	P		**P**	**16 48 31.0**	**+0.3**	
		baz=255							
P39B	**Salisbury**	**95.75**	**51**	P		**P**	**16 48 30.8**	**0.0**	
		baz=255							
R40A	**Maddies Statio**	**95.81**	**52**	P		**P**	**16 48 31.3**	**+0.2**	
		baz=255							
C33A	**Trail**	**95.84**	**42**	P		**P**	**16 48 31.3**	**+0.2**	
		baz=254							
V42A	**Cord**	**95.87**	**55**	P		**P**	**16 48 31.4**	**-0.1**	
		baz=256							
T41A	**Mountain View**	**95.89**	**53**	P		**P**	**16 48 31.8**	**+0.2**	
		baz=256							
M38A	**Pleasantville**	**95.92**	**49**	P		**P**	**16 48 31.7**	**+0.1**	
		baz=255							
K37A	**Belmond**	**95.95**	**47**	P		**P**	**16 48 31.9**	**+0.2**	
		baz=255							
G35A	**Watkins**	**96.01**	**45**	P		**P**	**16 48 32.4**	**+0.6**	
		baz=255							
D34A	**Park Rapids**	**96.03**	**43**	P		**P**	**16 48 32.3**	**+0.4**	
		baz=254							
B33A	**Robert and Kas**	**96.10**	**42**	P		**P**	**16 48 33.2**	**+1.0**	
		baz=254							
O39A	**Kirksville**	**96.10**	**50**	P		**P**	**16 48 32.2**	**-0.2**	
		baz=255							
F35A	**Swanville**	**96.12**	**44**	P		**P**	**16 48 33.6**	**+1.2**	
		baz=255							
Q40A	**Laux Farm, Aux**	**96.14**	**51**	P		**P**	**16 48 32.8**	**+0.1**	
		baz=256							
J37A	**Redenius Farm,**	**96.16**	**47**	P		**P**	**16 48 32.9**	**+0.3**	
		baz=255							
145A	**Houston Renfro**	**96.26**	**58**	P		**P**	**16 48 32.9**	**-0.4**	
		baz=256							
L38A	**Oak Wood Farm,**	**96.28**	**48**	P		**P**	**16 48 32.7**	**-0.5**	
		baz=255							
N39A	**Derby Farms, D**	**96.29**	**49**	P		**P**	**16 48 33.4**	**+0.1**	
		baz=256							
P40A	**Paris**	**96.29**	**51**	P		**P**	**16 48 33.0**	**-0.3**	
		baz=256							
A33A	**Warroad**	**96.41**	**41**	P		**P**	**16 48 33.5**	**-0.1**	
		baz=254							
E35A	**Pequot Lakes**	**96.42**	**44**	P		**P**	**16 48 34.5**	**+0.8**	
		baz=255							
I37A	**Lemond, Waseca**	**96.44**	**46**	P		**P**	**16 48 34.8**	**+0.9**	
		baz=255							
ULM	**Lac du Bonnet**	**96.46**	**40**	LR		LR	17 25 01.6		
	comp=Z,5µm,21.7s,baz=254,slow=31								
G36A	**St. Michael**	**96.51**	**45**	P		**P**	**16 48 33.7**	**-0.4**	
		baz=255							
K38A	**Parkersburg**	**96.54**	**48**	P		**P**	**16 48 34.1**	**-0.2**	
		baz=256							
X44A	**Crenshaw**	**96.54**	**56**	P		**P**	**16 48 34.6**	**+0.1**	
		baz=256							
O40A	**La Belle**	**96.57**	**50**	P		**P**	**16 48 34.7**	**+0.2**	
		baz=256							
B34A	**Aery, Baudette**	**96.76**	**42**	P		**P**	**16 48 34.9**	**-0.3**	
		baz=255							
F36A	**Milaca**	**96.83**	**44**	P		**P**	**16 48 35.1**	**-0.5**	
		baz=255							
Y45A	**Yeager Farm, C**	**96.88**	**57**	P		**P**	**16 48 35.9**	**-0.2**	
		baz=256							
447A	**Lucedale**	**96.89**	**60**	P		**P**	**16 48 35.6**	**-0.6**	
		baz=257							

J38A	**Wedel Dairy, R**	**96.92**	**47**	P		**P**	**16 48 36.1**	**0.0**	
		baz=256							
C35A	**Jirik Farms, M**	**96.99**	**43**	P		**P**	**16 48 37.2**	**+0.9**	
		baz=255							
SPMN	**Marine on St.**	**97.16**	**45**	P		Pdif	16 48 38.2	+1.1	
		baz=256							
E36A	**McGregor**	**97.17**	**44**	P		Pdif	16 48 37.3	+0.1	
		baz=256							
NNA	**Nana**	**97.19**	**104**	LR		LR	17 23 46.3		
	comp=Z,1µm,20.3s,baz=250,slow=30								
I38A	**Scanlan Farm,**	**97.20**	**46**	P		**P**	**16 48 37.3**	**0.0**	
		baz=256							
Z46A	**Louisville**	**97.21**	**58**	P		Pdif	16 48 38.0	+0.3	
		baz=257							
Q42A	**Golden Eagle**	**97.28**	**52**	P		Pdif	16 48 38.2	+0.3	
		baz=256							
S43A	**Fulton Ridge,**	**97.32**	**53**	P		**P**	**16 48 37.3**	**-0.8**	
		baz=257							
B35A	**Bob, Littlefor**	**97.32**	**42**	P		Pdif	16 48 38.6	+0.8	
		baz=256							
D36A	**Goodland**	**97.40**	**43**	P		Pdif	16 48 38.9	+0.7	
		baz=256							
Y46A	**Houston**	**97.44**	**57**	P		**P**	**16 48 37.6**	**-1.0**	
		baz=257							
C36A	**Pine Crest Far**	**97.75**	**43**	P		Pdif	16 48 40.0	+0.3	
		baz=256							
D37A	**Cotton**	**97.88**	**43**	P		**P**	**16 48 39.8**	**-0.5**	
		baz=256							
PLAL	**Pickwick Lake**	**98.31**	**56**	*e*P		**P**	**16 48 41.2**	**-1.3**	
	comp=Z,29nm,1.8s								
BRAL	**Brewton**	**98.32**	**60**		PFAKE		16 48 50.0	+7.4	
BRAL					LR	LR			
	comp=Z,2µm,22.0s								
JFWS	**Jewell Farm**	**98.41**	**48**	*e*P		Pdif	16 48 43.0	+0.2	
JFWS	**Jewell Farm**	**98.41**	**48**	*e*P		Pdif	16 48 43.0	+0.2	
EYMN	**Ely**	**98.68**	**43**	P		**P**	**16 48 43.6**	**-0.3**	
		baz=257							
C38A	**Sawbill Land.**	**98.77**	**43**	P		**P**	**16 48 43.7**	**-0.6**	
		baz=257							
BCIP	**Isla Barro Col**	**99.95**	**83**		PFAKE		16 49 00.0	+10	
BCIP					LR	LR			
	comp=Z,1µm,22.0s								
SFIN	**Lafayette**	**100.19**	**51**	P		**Pdif**	**16 48 50.3**	**-0.5**	
		baz=259							
CHLP	**Challavanipeta**	**102.28**	**286**	*e*Pdif		**Pdif**	**16 48 59.2**	**-1.3**	
CHLP				*e*PP		**PP**	**16 53 08.8**	**-4.4**	
CHLP				*e*SKSac		**SKSac**	**16 59 37.5**	**-1.2**	
CHLP				IVMs_BB		IVMs_BB	17 27 41.2		
	comp=Z,328nm,19.2s								
AAM	**Ann Arbor**	**103.07**	**49**		PFAKE		16 49 10.0	+6.5	
AAM					LR	LR			
	comp=Z,3µm,21.0s								
ACSO	**Alum Creek Sta**	**103.26**	**52**		PFAKE		16 49 20.0	+16	
ACSO					LR	LR			
	comp=Z,8µm,20.0s								
PVM	**Polavaram**	**104.28**	**284**	*e*Pdif		**Pdif**	**16 49 04.4**	**-5.1**	
PVM				*e*SKSac		**SKSac**	**16 59 48.3**	**+0.2**	
PVM				IVMs_BB		IVMs_BB	17 39 48.4		
	comp=Z,545nm,20.8s								
BLA	**Blacksburg**	**104.81**	**55**		PFAKE		16 49 20.0	+8.5	
BLA					LR	LR			
	comp=Z,5µm,21.0s								
SKHT	**Srikalahasti**	**105.37**	**280**	*e*Pdif		**Pdif**	**16 49 11.2**	**-3.1**	
SKHT				*e*SKSac		**SKSac**	**16 59 52.4**	**-0.7**	
SKHT				IVMs_BB		IVMs_BB	17 43 09.9		
	comp=Z,919nm,23.8s								
ADKI	**Addanki**	**105.56**	**283**	*e*Pdif		**Pdif**	**16 49 13.4**	**-1.7**	
ADKI				*e*PP		**PP**	**16 53 34.5**	**-3.3**	
ADKI				*e*SKSac		**SKSac**	**16 59 51.8**	**-2.1**	
ADKI				IVMs_BB		IVMs_BB	17 45 26.4		
	comp=Z,557nm,3.8s								
NJS	**Nagarjunasagar**	**106.32**	**283**	*e*Pdif		**Pdif**	**16 49 18.2**	**-0.4**	
NJS				*e*PP		**PP**	**16 53 38.0**	**-5.4**	
NJS				*e*SKSac		**SKSac**	**16 59 55.4**	**-1.9**	
NJS				IVMs_BB		IVMs_BB	17 44 35.6		
	comp=Z,534nm,3.7s								
RCLA	**Racherla**	**106.44**	**282**	*e*Pdif		**Pdif**	**16 49 15.4**	**-3.6**	
RCLA				*e*SKSac		**SKSac**	**17 00 00.7**	**+2.8**	
RCLA				IVMs_BB		IVMs_BB	17 48 19.8		
	comp=Z,979nm,3.8s								
CNNC	**Cliffs of the**	**106.58**	**57**		PFAKE		16 53 40.0		
CNNC					LR	LR			
	comp=Z,6µm,20.0s								
SRLM	**Srisailam**	**106.62**	**283**	*e*Pdif		**Pdif**	**16 49 17.1**	**-2.9**	
SRLM				*e*SKSac		**SKSac**	**16 59 54.8**	**-3.9**	
SRLM				IVMs_BB		IVMs_BB	17 40 24.9		
	comp=Z,883nm,3.7s								
RPR	**Rampur**	**106.77**	**285**	*e*Pdif		**Pdif**	**16 49 16.9**	**-3.6**	
RPR				*e*SKSac		**SKSac**	**16 59 57.4**	**-1.9**	
RPR				IVMs_BB		IVMs_BB	17 47 58.8		
	comp=Z,580nm,3.7s								
HYBB	**Hyderabad (bro**	**107.20**	**284**	*e*Pdif		**Pdif**	**16 49 19.2**	**-3.2**	
HYBB				*e*PP		**PP**	**16 53 42.3**	**-7.6**	
HYBB				*e*SKSac		**SKSac**	**17 00 03.5**	**+2.3**	
HYBB				IVMs_BB		IVMs_BB	17 46 48.1		
	comp=Z,564nm,5.1s								
CBN	**Corbin Frederi**	**107.33**	**54**		PFAKE		16 53 40.0		
CBN					LR	LR			
	comp=Z,6µm,21.0s								
NVS	**Novosibirsk**	**107.47**	**323**	*e*P		**Pdif**	**16 49 23.2**	**+0.5**	
SRSP	**Sriramsagar**	**107.67**	**285**	*e*Pdif		**Pdif**	**16 49 23.4**	**-1.1**	
SRSP				*e*SKSac		**SKSac**	**17 00 03.6**	**+0.4**	
SRSP				IVMs_BB		IVMs_BB	17 29 04.8		
	comp=Z,571nm,3.7s								
MK01	**Makanchi Array**	**107.69**	**315**	*e*Pdif		**Pdif**	**16 49 23.2**	**-0.9**	
MKAR	**Makanchi Array**	**107.70**	**315**	Pdif		**Pdif**	**16 49 24.9**	**+0.8**	
	comp=Z,1.8nm,1.1s,baz=72,slow=4.0,SNR=6.3								
MKAR					PKiKP	**PKiKP**	**16 53 32.4**	**+0.6**	
	comp=Z,0.3nm,0.6s,baz=166,slow=0.6,SNR=3.3								
MKAR					PKKPbc	**PKKPbc**	**17 04 50.6**	**+3.5**	
	comp=Z,0.7nm,0.8s,baz=258,slow=4.5,SNR=5.7								
BINY	**Binghamton**	**108.72**	**50**		PFAKE		16 53 50.0		
BINY					LR	LR			
	comp=Z,5µm,22.0s								
KLRI	**Killari**	**109.14**	**284**	*e*Pdif		**Pdif**	**16 49 29.5**	**-1.7**	
KLRI				*e*PP		**PP**	**16 53 57.6**	**-6.5**	
KLRI				*e*SKSac		**SKSac**	**17 00 00.5**	**-9.1**	
KLRI				*e*SKSac		**SKSac**	**17 00 09.4**	**-0.2**	
KLRI				IVMs_BB		IVMs_BB	17 31 51.7		
	comp=Z,1µm,3.6s								
KURK	**Kurchatov**	**110.23**	**319**	PKiKP		**PKiKP**	**16 53 37.2**	**+0.8**	
KURK	**Kurchatov**	**110.23**	**319**	PKiKP		**PKiKP**	**16 53 37.2**	**+0.8**	
KURBB	**Kurchatov Arra**	**110.29**	**319**	PKiKP		**PKiKP**	**16 53 37.2**	**+0.7**	
	comp=Z,0.8nm,0.2s,baz=106,slow=1.8,SNR=4.9								
KSH	**Kashi**	**111.99**	**307**	PKP		**PKiKP**	**16 53 40.8**	**+0.6**	
KSH				PP		**PP**	**16 54 31.5**	**+7.3**	
KSH				PKS		**PKSdf**	**16 57 18.2**	**+1.2**	
KSH				SKS		**SKSdf**	**17 00 52.4**	**+1.7**	
KSH				PPMZ					
	comp=Z,120nm,3.7s								
KSH				LN					
	comp=Z,1µm,18.5s								
KSH				LE					
	comp=Z,1µm,16.1s								
KSH				LZ					
	comp=Z,2µm,20.6s								
AAK	**Ala-Archa**	**113.15**	**310**		PFAKE		16 53 50.0		
AAK					LR	LR			
	comp=Z,1µm,21.0s								
BVAR	**Borovoye Array**	**115.14**	**322**	PKP		**PKPdf**	**16 53 46.7**	**+1.0**	
	comp=Z,1.6nm,0.9s,baz=100,slow=1.7,SNR=8.8								
BRVK	**Borovoye**	**115.20**	**322**	*e*PKiKP		**PKPdf**	**16 53 45.8**	**0.0**	
BRVK				MLR		MLR			
	comp=Z,1µm,21.0s								
BRVK	**Borovoye**	**115.20**	**322**	*e*PKPdf		**PKPdf**	**16 53 45.8**	**0.0**	
BRVK				LR		LR			
	comp=Z,1µm,21.0s								
ZRNK	**Zerenda**	**115.98**	**322**	*e*PKiKP		**PKPdf**	**16 53 48.3**	**+1.0**	
ZRNK	**Zerenda**	**115.98**	**322**	*e*PKPdf		**PKPdf**	**16 53 48.3**	**+1.0**	
ILULI	**Ilulissat**	**116.71**	**19**	*i* P		**PP**	**16 54 54.4**	**-1.8**	
	comp=Z,3µm,19.0s								
BBSR	**BB Station**	**117.33**	**61**		PFAKE		16 54 00.0	+10	
BBSR					LR	LR			
	comp=Z,1µm,20.0s								
DAG	**Danmarks Havn**	**117.49**	**5**	*i* P		**PP**	**16 55 00.8**	**-0.7**	
	comp=Z,2µm,20.0s								
SUMG	**Summit**	**117.98**	**13**	*i* P		**PP**	**16 54 58.5**	**-7.0**	
ANWB	**Willy Bob**	**118.81**	**78**		PFAKE		16 54 10.0	+16	
ANWB					LR	LR			
	comp=Z,802nm,22.0s								
BBGH	**Gun Hill**	**120.23**	**83**		PFAKE		16 54 10.0	+13	
BBGH					LR	LR			
	comp=Z,2µm,21.0s								
ARU	**Arti**	**120.95**	**327**	PKP		**PKPdf**	**16 53 58.5**	**+1.8**	
	comp=Z,2.5nm,0.6s,baz=62,slow=3.1,SNR=6.7								

ARU	**Arti**	**120.95**	**327**	*i* PKIKP		**PKPdf**	**16 53 57.9**	**+1.2**	
ARU							16 55 25.1		
ARU							17 01 07.1		
ARU	**Arti**	**120.95**	**327**	*e*PKPdf		**PKPdf**	**16 53 59.8**	**+3.1**	
ARU				LR		LR			
	comp=Z,4µm,22.0s								
ABKAR	**Akbulak array**	**122.34**	**319**	*e*PKPdf		**PKPdf**	**16 53 59.8**	**+0.1**	
AKTO	**Aktyubinsk**	**123.21**	**321**	PKP		**PKPdf**	**16 54 02.4**	**+1.1**	
	comp=Z,2.6nm,0.9s,baz=63,slow=7.0,SNR=6.3								
LVZ	**Lovozero**	**123.36**	**346**	*c* PKIKP		**PKPdf**	**16 54 03.9**	**+2.8**	
LVZ				pmax		pmax			
	comp=Z,43nm,2.5s								
ARCES	**ARCESS Array B**	**123.78**	**350**	PKhKP		PKPpre	16 53 56.1		
	comp=Z,4.7nm,0.9s,baz=46,slow=2.6,SNR=3.3								
ARCES				PKP		**PKiKP**	**16 54 04.5**	**+2.4**	
	comp=Z,6.1nm,0.9s,baz=66,slow=1.1,SNR=4.6								
APA	**Apatity**	**123.91**	**346**	*i* PKIKP		**PKPdf**	**16 54 03.0**	**+0.9**	
APA				pmax		pmax			
	comp=Z,6.0nm,1.4s								
APA				MLR		MLR			
	comp=Z,2µm,19.0s								
GEYT	**Alibeck**	**126.00**	**306**	PKP		**PKPdf**	**16 54 08.4**	**+1.3**	
	comp=Z,3.0nm,0.9s,baz=222,slow=2.0,SNR=8.3								
KLMR	**Klimovskoe**	**127.12**	**338**	*e*PKIKP		**PKPdf**	**16 54 08.1**	**-0.3**	
KLMR				pmax		pmax			
	comp=Z,19nm,1.3s								
BORG	**Borgarnes**	**127.97**	**13**	PFAKE			16 54 20.0	+10	
BORG				LR		LR			
	comp=Z,2µm,19.0s								
FIA1	**FINESS Array S**	**130.77**	**345**	*e*PKPdf		**PKPdf**	**16 54 20.4**	**+5.0**	
FINES	**FINESS Array B**	**130.77**	**345**	PKP		**PKPdf**	**16 54 17.6**	**+2.2**	
	comp=Z,9.2nm,1.2s,baz=159,slow=5.9,SNR=6.4								
VRH	**Novokhopyorsk**	**132.18**	**327**	*e*PKIKP		**PKPdf**	**16 54 16.7**	**-1.6**	
VRH				pmax		pmax			
	comp=Z,9.0nm,0.8s								
OBN	**Obninsk**	**132.18**	**334**	*e*PKIKP		**PKPdf**	**16 54 18.3**	**+0.1**	
OBN				*e*			16 56 40.5		
OBN				*e*SS		SS	17 14 10.4	-5.1	
OBN				pmax		pmax			
	comp=Z,5.0nm,1.1s								
OBN				MLR		MLR			
	comp=Z,3µm,18.0s								
LPSR	**Galich'ya Gora**	**132.75**	**330**	*e*PKIKP		**PKPdf**	**16 54 18.9**	**-0.5**	
LPSR				pmax		pmax			
	comp=Z,9.0nm,0.8s								
VSR	**Storozhevoye**	**133.48**	**329**	*e*PKIKP		**PKPdf**	**16 54 21.1**	**+0.3**	
VSR				pmax		pmax			
	comp=Z,3.0nm,0.4s								
NB2	**NORSAR Subarra**	**133.78**	**354**	PKP		**PKPdf**	**16 54 21.8**	**+0.7**	
	comp=Z,4.0nm,1.2s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**133.78**	**354**	PKP		**PKPdf**	**16 54 22.6**	**+1.4**	
	comp=Z,0.9nm,0.9s,baz=14,slow=4.0,SNR=3.6								
ZEI	**Tsey**	**135.03**	**316**	*i* PKIKP		**PKPdf**	**16 54 27.1**	**+2.8**	
KIV	**Kislovodsk**	**135.31**	**318**	*i* PKIKP		**PKPdf**	**16 54 25.5**	**+0.9**	
KIV				*e*			16 56 59.7		
KIV				*e*PS		**PS**	**17 07 22.4**	**-1.6**	
KIV				*e*SS		SS	17 14 54.2	-0.4	
KIV				*e*SSS		SSS	17 19 55.5		
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
ANN	**Anapa**	**138.14**	**322**	*i* PKIKP		**PKPdf**	**16 54 33.8**	**+4.1**	
ANN				*e*			16 57 15.5		
ANN				*e*PPP		PPP	17 00 19.3		
ANN				pmax		pmax			
	comp=Z,42nm,1.6s								
ANN				MLR		MLR			
	comp=N,2µm,24.0s								
ANN				MLR		MLR			
	comp=Z,2µm,24.0s								
ANN				MLR		MLR			
	comp=E,2µm,24.0s								
AKASG	**Malin Array Be**	**138.45**	**334**	PKP		**PKPdf**	**16 54 31.2**	**+1.2**	
	comp=E,0.1nm,0.3s,baz=46,slow=4.0,SNR=4.4								
AK11	**Malin Array Si**	**138.49**	**334**	*e*PKPdf		**PKPdf**	**16 54 36.0**	**+5.9**	
BSD	**Bornholm Skovb**	**138.99**	**349**	*i* P		PKPdf	16 54 47.0	+16	
	comp=Z,2µm,22.0s								
SIM	**Simferopol'**	**139.97**	**324**	*i* PKIKP		**PKPdf**	**16 54 38.7**	**+5.7**	
SIM				pmax		pmax			
	comp=Z,20nm,6.7s								
SIM				MLR		MLR			
	comp=N,1µm,19.8s								
SORM	**Soroca**	**140.74**	**332**	⇓ *i* P		**PKPdf**	**16 54 40.0**	**+5.7**	
SORM	**Soroca**	**140.74**	**332**	⇓ PKIKP		**PKPdf**	**16 54 40.0**	**+5.7**	
LVV	**L'vov**	**141.20**	**337**	*e*PKIKP		**PKPdf**	**16 54 40.2**	**+5.1**	
LVV				MLR		MLR			
	comp=N,2µm,23.0s								
LVV				MLR		MLR			
	comp=E,1µm,23.0s								
LVV				MLR		MLR			
	comp=Z,2µm,23.0s								
KIS	**Kishinev**	**141.36**	**331**	*e*PKP		**PKPdf**	**16 54 32.0**	**-3.5**	
KIS				*e*SKP			16 57 40.0		
KIS				LRM		MLR	17 55 10.0		
	comp=Z,3µm,20.0s								
KIS	**Kishinev**	**141.36**	**331**	*e*PKIKP		**PKPdf**	**16 54 32.0**	**-3.5**	
KIS				*e*			16 57 40.0		
KIS				MLR		MLR			
	comp=Z,3µm,20.0s								
KIS				MLR		MLR			
	comp=N,2µm,19.0s								
KIS				MLR		MLR			
	comp=E,2µm,20.0s								
KIS				MLR		MLR			
	comp=Z,4µ

VRI	Vrincioaia	143.17 331	⫴PKIKP	PKPdf	16 54 42.3	+3.5	
PLOR	Plostina	143.22 331	⫴*i*P	PKPdf	16 54 38.0	-0.9	
PLOR	Plostina	143.22 331	⫴PKIKP	PKPdf	16 54 38.0	-0.9	
BR131	Keskin Array S	143.27 318	*e*PKPdf	PKPbc	16 54 36.8	+0.5	
BRTR	Keskin Array B	143.27 318	PKP	PKPbc	16 54 37.7	+1.3	
	comp=Z,6.1nm,1.1s,baz=163,slow=1.3,SNR=17						
MORC	Moravsky Berou	143.34 343	⫴*i*P	PKPdf	16 54 41.2	+2.2	
MORC	Moravsky Berou	143.34 343	⫴PKIKP	PKPdf	16 54 41.2	+2.2	
MORC	Moravsky Berou	143.34 343	*e*PKPdf	PKPdf	16 54 41.9	+2.9	
TIRR	Tirgusor	143.37 328	⇑*i*P	PKPbc	16 54 37.5	+1.3	
TIRR	Tirgusor	143.37 328	⇑PKIKP	PKPbc	16 54 37.5	+1.3	
PVCC	Panska Ves	143.39 347	*e*PKP	PKPdf	16 54 41.3	+2.3	
PVCC			AMS	AMS	18 02 10.0		
	comp=Z,3μm,19.4s						
PVCC	Panska Ves	143.39 347	*e*PKIKP	PKPdf	16 54 41.3	+2.3	
PVCC			MLR	MLR			
	comp=Z,3μm,19.4s						
HARR	Harsova	143.45 329	⇑*i*P	PKPdf	16 54 42.1	+2.9	
HARR	Harsova	143.45 329	⇑PKIKP	PKPdf	16 54 42.1	+2.9	
KECS	Kecovo	143.58 339	*e*PKIKP	PKPdf	16 54 40.5	+1.1	
KECS	Kecovo	143.58 339	*e*PKP	PKPdf	16 54 40.5	+1.1	
DOPR	Dopca	143.71 332	⫴*i*P	PKPdf	16 54 44.4	+4.7	
ANTO	Ankara	143.74 319	*e*PKIKP	PKPdf	16 54 40.3	+0.3	
ANTO	Ankara	143.74 319	*e*PKPdf	PKPdf	16 54 40.3	+0.3	
ANTO			LR	LR			
	comp=Z,8.0nm,21.0s						
BR231	Keskin MP Arra	143.77 319	*e*PKPdf	PKPbc	16 54 37.7	0.0	
ISR	Istrita	143.81 330	⫴*i*P	PKPdf	16 54 39.9	-0.1	
ISR	Istrita	143.81 330	⫴PKIKP	PKPdf	16 54 39.9	-0.1	
MLR	Muntele Rosu	143.82 331	⫴*i*P	PKPdf	16 54 40.4	+0.3	
MLR	Muntele Rosu	143.82 331	*e*PKIKP	PKPbc	16 54 38.5	+0.8	
MLR	Muntele Rosu	143.82 331	*e*PKPdf	PKPbc	16 54 38.5	+0.8	
PRU	Pruhonice	143.90 346	*e*PKP	PKPdf	16 54 39.2	-0.7	
PRU			*ep*PKP	PKiKP	16 54 42.3	-1.1	
PRU			*e*SS	SS	17 16 34.1	+0.4	
PRU			AMS	AMS	17 58 20.0		
	comp=Z,3μm,22.4s						
PRU	Pruhonice	143.90 346	*e*PKIKP	PKPdf	16 54 39.2	-0.7	
PRU			*e*SS	SS	17 16 34.1	+0.4	
PRU			MLR	MLR			
	comp=Z,3μm,22.4s						
GOPC	GO Pecny, Ondr	143.92 346	*e*SS	SS	17 16 33.9	0.0	
GOPC			AMS	AMS	18 01 20.0		
	comp=Z,3μm,20.0s						
MSAB	Monastry St. A	143.93 328	⫴*i*P	PKPdf	16 54 43.5	+3.4	
VRAC	Vranov	144.03 344	⇑*i*P	PKPdf	16 54 43.4	+3.2	
VRAC	Vranov	144.03 344	⇑PKIKP	PKPdf	16 54 43.4	+3.2	
SECR		144.10 331	⫴*i*P	PKPdf	16 54 41.4	+1.0	
NKC	Novy Kostel	144.10 349	AMS	AMS	18 02 00.0		
	comp=Z,2μm,20.8s						
VYHS	Vyhne	144.11 341	*e*PKIKP	PKPdf	16 54 40.3	0.0	
VYHS	Vyhne	144.11 341	*e*PKP	PKPdf	16 54 40.3	0.0	
DRGR		144.19 336	⫴*i*P	PKPdf	16 54 39.9	-0.7	
DRGR		144.19 336	⫴PKIKP	PKPdf	16 54 39.9	-0.7	
VOIR		144.27 332	⫴*i*P	PKPdf	16 54 42.0	+1.2	
VOIR		144.27 332	⫴PKIKP	PKPdf	16 54 42.0	+1.2	
PSZ	Piszkesteto	144.27 340	⫴*i*P	PKPbc	16 54 39.6	+0.6	
PSZ	Piszkesteto	144.27 340	*e*PKPdf	PKPdf	16 54 40.1	-0.6	
PSZ	Piszkesteto	144.27 340	*e*PKIKP	PKPbc	16 54 39.1	+0.1	
PSZ	Piszkesteto	144.27 340	*e*PKPdf	PKPbc	16 54 39.1	+0.2	
TREC	Trest	144.33 345	AMS	AMS	18 03 20.0		
	comp=Z,3μm,20.1s						
BEBN	Eben Emael	144.40 356	PKP	PKPdf	16 54 41.6	+0.9	
ARR	Arges	144.51 332	⇑*i*P	PKPdf	16 54 43.0	+1.8	
MEM	Membach	144.57 356	PKP	PKPdf	16 54 42.0	+1.0	
SNF	Seneffe	144.76 358	PKP	PKPdf	16 54 42.6	+1.2	
PRD	Provadia	144.77 327	P	PKPab	16 54 38.9	-1.6	
BCLA	Clavier	144.80 357	PKP	PKPdf	16 54 42.4	+0.9	
KHC	Kasperske Hory	144.93 347	*e*PKP	PKPab	16 54 40.5	-0.4	
KHC			*ep*PKP	PKiKP	16 54 46.5	+0.9	
KHC	Kasperske Hory	144.93 347	*e*PKIKP	PKPab	16 54 40.5	-0.4	
KHC			*e*		16 54 46.5		
BUD	Budapest	144.94 340	*e*PKPbc	PKPdf	16 54 42.3	+0.5	
HUMR	Humele	144.99 331	⫴*i*P	PKPdf	16 54 42.9	+0.9	
SIRR	Siria	145.03 336	⇑*i*P	PKPdf	16 54 43.7	+1.7	
DOU	Dourbes	145.16 357	PKP	PKPdf	16 54 43.0	+1.0	
GEC2	GERESS Array S	145.17 347	*e*PKIKP	PKPdf	16 54 42.7	+0.4	
GEC2	GERESS Array S	145.17 347	*e*PKPbc	PKPdf	16 54 42.7	+0.4	
GERES	GERESS Array B	145.17 347	PKPbc	PKPbc	16 54 41.5	-0.3	
	comp=Z,16nm,1.2s,baz=46,slow=3.9,SNR=24						
GEA0	GERESS Array S	145.18 347	*e*PKPbc	PKPbc	16 54 40.3	-1.5	
ISK	Istanbul-Kandi	145.30 323	P	PKPbc	16 54 41.1	-1.2	
SZH	Strazhica	145.47 329	*i* P	PKPab	16 54 43.1	0.0	
WLF	Walferdange	145.50 356	PKP	PKPab	16 54 43.3	+0.4	
WLF	Walferdange	145.50 356	*e*PKIKP	PKPdf	16 54 41.8	-0.9	
WLF	Walferdange	145.50 356	*e*PKPbc	PKPdf	16 54 41.8	-0.9	
SOP	Sopron	145.52 343	*e*PKPbc	PKPab	16 54 44.6	+1.5	
BZS	Buzias	145.58 336	⫴*i*P	PKPab	16 54 44.5	+1.1	
BZS	Buzias	145.58 336	⫴PKIKP	PKPab	16 54 44.5	+1.1	
SRE	Strehaia	145.69 333	⫴*i*P	PKPab	16 54 46.3	+2.5	
SRE	Strehaia	145.69 333	⫴PKIKP	PKPab	16 54 46.3	+2.5	
CSS	Mathiatis	145.87 311	P	PKPab	16 54 46.3	+1.4	
CSS	Mathiatis	145.87 311	*e*PKPdf	PKPab	16 54 46.1	+1.2	
BANR	Banloc	145.97 336	⫴*i*P	PKPab	16 54 49.5	+4.7	
MOA	Molln	145.97 345	*i* pPKPdf	PKPab	16 54 45.8	+1.0	
	comp=Z,127nm,1.4s,SNR=51						
LANF	Langenberg	146.02 353	PKP	PKPab	16 54 45.8	+0.9	
EDRB	Edirne	146.06 326	P	PKPab	16 54 46.7	+1.4	
ARSA	Arzberg	146.20 344	*i* pPKPdf	PKPab	16 54 46.9	+1.2	
	comp=Z,48nm,1.4s,SNR=25						
MDVR	Moldovita	146.23 335	⫴*i*P	PKPab	16 54 46.9	+1.0	
MPEP	Malo Peshtene	146.47 331	P	PKPbc	16 54 45.7	-0.2	
BEHE	Becsehely	146.55 342	*e*PKPdf	PKPbc	16 54 46.2	+0.2	
BFO	Black Forest	146.60 353	*e*PKIKP	PKPdf	16 54 43.9	-0.7	
BFO			MLR	MLR			
	comp=Z,2μm,22.0s						
BFO	Black Forest	146.60 353	*e*PKPdf	PKPdf	16 54 43.9	-0.7	
BFO			LR	LR			
	comp=Z,2μm,22.0s						
ECH	Echery	146.84 354	PKP	PKPab	16 54 48.2	+0.1	
SOKA	Soboth	146.86 344	*i* pPKPdf	PKPab	16 54 48.1	-0.3	
	comp=Z,70nm,1.4s,SNR=41						
PGB	Panagyurishte	146.88 330	*i* P	PKPbc	16 54 47.8	+0.6	
KDZ	Kurdzhali	146.91 327	P	PKPbc	16 54 47.8	+0.6	
KBA	Koelnbreinsper	146.91 346	*i* PKiKP	PKPab	16 54 48.5	-0.1	
	comp=Z,49nm,1.2s,SNR=17						
KBA	Koelnbreinsper	146.91 346	PKP2	PKPab	16 54 48.6	-0.1	
WATA	Walderalm	147.05 348	*i* pPKPbc	PKPab	16 54 49.8	+0.6	
	comp=Z,58nm,1.1s,SNR=21						
RETA	Reutte	147.05 349	*i* pPKPbc	PKPab	16 54 50.0	+1.0	
	comp=Z,56nm,1.4s,SNR=15						
ALN	Alexandroupoli	147.10 326	P	PKPab	16 54 49.2	-0.2	
WTTA	Wattenberg	147.10 348	*i* sPKPdf	PKPab	16 54 49.6	+0.2	
	comp=Z,63nm,1.5s,SNR=14						
MOTA	Moosalm	147.13 349	*i* pPKPbc	PKPab	16 54 50.0	+0.6	
	comp=Z,61nm,1.2s,SNR=28						
KULA	Kula-Manisa	147.13 320	P	PKPab	16 54 49.8	+0.1	
OBKA	Obir	147.15 344	*i* sPKPdf	PKPab	16 54 49.6	+0.1	
	comp=Z,38nm,1.4s,SNR=17						
MOF	Molkenrain	147.21 354	PKP	PKPab	16 54 50.3	+0.6	
MYKA	Terra Mystica	147.26 345	*i* PKiKP	PKPab	16 54 49.1	-0.8	
	comp=Z,72nm,1.3s,SNR=24						
DAVA	Damuels	147.40 350	*i* sPKPdf	PKPab	16 54 50.4	-0.1	
	comp=Z,96nm,1.4s,SNR=31						
ABTA	Abfaltersbach	147.41 347	*i* PKPab	PKPbc	16 54 48.2	-0.4	
	comp=Z,49nm,1.1s,SNR=17						
PDKS	Podkum	147.44 343	*e*PKPbc	PKPab	16 54 49.6	-0.9	
DIVS	Divibare	147.49 336	P	PKPbc	16 54 48.3	-0.6	
FETA	Feichten	147.51 349	*i* PKiKP	PKPab	16 54 50.0	-0.9	
	comp=Z,54nm,1.3s,SNR=17						
LJU	Ljubljana	147.58 344	*i* PKPdf	PKPdf	16 54 47.5	+1.2	
LJU			*e*PKPbc	PKPab	16 54 50.1	-1.0	
CADS	Cadrg	147.61 345	*e*PKPbc	PKPbc	16 54 49.4	+0.3	
GADA	Gvkgeada	147.67 325	P	PKPbc	16 54 49.2	-0.2	
SMTH	Samothraki Isl	147.68 326	P	PKPbc	16 54 48.1	-1.3	
EZN	Ezine	147.68 324	P	PKPbc	16 54 49.2	-0.2	
LOMF	Lomont	147.73 354	PKP	PKPbc	16 54 49.9	+0.5	
MMB	Musomiste	147.81 329	*i* P	PKPbc	16 54 50.4	+0.6	
KAVA	Kavala	147.85 327	P	PKPbc	16 54 53.2	+0.9	
KAVA	Kavala	147.85 327	P	PKPab	16 54 53.2	+0.9	
KSL	Kastellorizon	147.91 316	P	PKPab	16 54 51.5	-1.2	
KKB	Krupnik	147.92 330	*i* P	PKPab	16 54 52.1	-0.5	
NVR	Nevrokopi	147.92 329	P	PKPbc	16 54 51.0	+0.9	
NVR	Nevrokopi	147.92 329	P	PKPbc	16 54 51.0	+0.9	
FUORN	Ofenpass-Fuorn	147.98 350	*e*PKPbc	PKPab	16 54 51.7	-1.2	
TRI	Trieste	148.09 345	*e*PKP2	PKPab	16 54 55.9	+2.8	
TRI	Trieste	148.09 345	*e*PKPab	PKPab	16 54 55.9	+2.8	
PRK	Paraskevi	148.10 323	P	PKPbc	16 54 50.3	-0.3	
YER	Yerkesik	148.20 318	P	PKPbc	16 54 56.0	+2.0	
SRS	Serrai	148.23 328	P	PKPab	16 54 54.9	+1.0	
SRS	Serrai	148.23 328	PKP2	PKPab	16 54 54.9	+1.0	
SRS	Serrai	148.23 328	P	PKPab	16 54 54.9	+1.0	
LIA	Limnos Island	148.27 325	P	PKPbc	16 54 51.3	+0.3	
LIA	Limnos Island	148.27 325	P	PKPbc	16 54 51.3	+0.3	
SIGR	SIGRI	148.36 324	P	PKPab	16 54 54.4	0.0	
SIGR	SIGRI	148.36 324	P	PKPab	16 54 54.4	0.0	
SOH	Sokhos	148.57 328	P	PKPab	16 54 58.8	+3.5	
SOH	Sokhos	148.57 328	PKP2	PKPab	16 54 58.8	+3.5	
SOH	Sokhos	148.57 328	P	PKPab	16 54 58.8	+3.5	
OUR	Ouranopolis	148.61 327	P	PKPbc	16 54 53.1	+1.3	
OUR	Ouranopolis	148.61 327	PKP2	PKPbc	16 54 53.1	+1.3	
OUR	Ouranopolis	148.61 327	P	PKPbc	16 54 53.1	+1.3	
SKO	Skopje	148.61 332	P	PKPab	16 54 54.5	-0.8	
SKO	Skopje	148.61 332	*e*PKP	PKPab	16 54 56.7	+1.4	
SKO	Skopje	148.61 332	PKP2	PKPab	16 54 54.5	-0.8	
SKO	Skopje	148.61 332	P	PKPab	16 54 54.5	-0.8	
SENIN	Lac Senin/Sane	148.66 353	*e*PKPbc	PKPbc	16 54 52.5	+0.4	
PLG	Polygyros	148.86 328	P	PKPab	16 54 55.6	-0.8	
HORT	Hortiatis	148.87 328	P	PKPab	16 54 57.4	+0.9	
GRG	Griva	148.94 330	P	PKPab	16 54 57.4	+0.6	
PAIG	Paliouri	149.06 327	P	PKPab	16 54 55.6	-1.6	
PAIG	Paliouri	149.06 327	PKP2	PKPab	16 54 55.6	-1.6	
PAIG	Paliouri	149.06 327	P	PKPab	16 54 55.6	-1.6	
PDG	Podgorica	149.18 335	P	PKPab	16 54 58.1	+0.5	
TTG	Podgorica	149.18 335	PKP2	PKPab	16 54 58.1	+0.5	
TTG	Podgorica	149.18 335	P	PKPab	16 54 58.1	+0.5	
AGO	Saint Agoulin	149.25 359	PKP	PKPab	16 54 56.6	-1.2	
PLDF	La Plantade	149.32 358	PKP	PKPab	16 54 57.1	-1.0	
RSL	Roselend	149.40 354	PKP	PKPab	16 54 58.5	-0.1	
AOS	Alonnisos	149.50 326	P	PKPbc	16 54 53.7	-0.4	
AOS	Alonnisos	149.50 326	P	PKPbc	16 54 53.7	-0.4	
LIT	Litokhoron	149.55 328	P	PKPbc	16 54 55.2	+0.9	
FNA	Florina	149.57 331	P	PKPbc	16 54 54.8	+0.4	
FNA	Florina	149.57 331	PKP2	PKPbc	16 54 54.8	+0.4	
FNA	Florina	149.57 331	P	PKPbc	16 54 54.8	+0.4	
OHR	Ohrid	149.58 332	*e*PKP	PKPbc	16 54 55.6	+1.2	
XOR	Xorichti	149.73 327	P	PKPab	16 54 57.7	-2.3	
XOR	Xorichti	149.73 327	P	PKPab	16 54 57.7	-2.3	
KZN	Kozani	149.75 329	P	PKPab	16 55 02.3	+2.2	
KZN	Kozani	149.75 329	PKP2	PKPab	16 55 02.3	+2.2	
KZN	Kozani	149.75 329	P	PKPab	16 55 02.3	+2.2	
TIR	Tirane	149.81 333	*e*PKP2	PKPab	16 55 00.5	+0.3	
TIR	Tirane	149.81 333	*e*PKPbc	PKPab	16 55 00.5	+0.3	
FRNF	Fournols	149.92 360	PKP	PKPab	16 55 01.3	+0.7	
SSB	Saint Sauveur	149.97 357	PKP	PKPab	16 55 02.2	+1.4	
SSB	Saint Sauveur	149.97 357	*e*PKP2	PKPbc	16 54 56.9	+1.7	
SSB	Saint Sauveur	149.97 357	*e*PKPbc	PKPbc	16 54 54.4	-0.8	
EREA	Eretria	150.00 324	P	PKPbc	16 54 54.7	-0.7	
BNI	Bardonecchia	150.02 354	PFAKE		16 55 00.0	-1.1	
BNI			LR	LR			
	comp=Z,3μm,21.0s						
LBL	Lubilhac	150.07 359	PKP	PKPbc	16 54 58.0	+2.6	
PENT	Pentalofos	150.14 330	P	PKPdf	16 54 51.1	+0.3	
THL	Klokotos Trika	150.19 328	P	PKPdf	16 54 50.2	-0.5	
KPRO	Kipourio	150.22 330	P	PKPbc	16 54 59.0	+3.0	
PTL	Penteli	150.29 324	P	PKPbc	16 54 55.2	-1.0	
LKR	Lokris	150.35 326	P	PKPbc	16 54 54.9	-1.3	
AGG	Agios Georgios	150.43 327	P	PKPbc	16 54 55.2	-1.3	
AGG	Agios Georgios	150.43 327	*e*PKIKP	PKPbc	16 54 54.4	-2.1	
AGG	Agios Georgios	150.43 327	*e*PKPbc	PKPbc	16 54 54.4	-2.1	
SANT	Santorini	150.46 320	*e*PKPbc	PKPab	16 55 00.3	-2.8	
JAN	Janina	150.70 330	P	PKPbc	16 54 57.4	+0.3	
JAN	Janina	150.70 330	PKIKP	PKPbc	16 54 57.4	+0.3	
JAN	Janina	150.70 330	P	PKPbc	16 54 57.4	+0.3	
DSF	Desfina	150.78 326	P	PKPbc	16 54 56.3	-1.0	
DSF	Desfina	150.78 326	P	PKPbc	16 54 56.3	-1.0	
LTK	Loutraki	150.85 325	P	PKPbc	16 54 54.8	-2.6	
LTK	Loutraki	150.85 325	P	PKPbc	16 54 54.8	-2.6	
ANX	Ano Chora	150.97 327	P	PKPbc	16 54 58.0	+0.2	
THAL	Thalero	150.97 325	P	PKPbc	16 54 57.7	0.0	
DSL	Palaion Diasel	150.98 329	P	PKPbc	16 54 58.6	+0.8	
DSL	Palaion Diasel	150.98 329	P	PKPbc	16 54 58.6	+0.8	
KALE	Kalithea	151.00 327	P	PKPbc	16 54 59.4	+1.5	
KALE	Kalithea	151.00 327	P	PKPbc	16 54 59.4	+1.5	
SERG	Sergoula	151.03 327	P	PKPbc	16 54 58.8	+0.9	
DID	Didima	151.03 324	P	PKPbc	16 54 58.5	+0.6	
DID	Didima	151.03 324	P	PKPbc	16 54 58.5	+0.6	
SGD	Sagiada	151.03 330	P	PKPbc	16 54 57.6	-0.2	
IGT	Igoumenitsa	151.05 330	P	PKPbc	16 54 59.2	+1.3	
IGT	Igoumenitsa	151.05 330	PKIKP	PKPbc	16 54 59.2	+1.3	
IGT	Igoumenitsa	151.05 330	P	PKPbc	16 54 59.2	+1.3	
PVO	Paravola	151.15 328	P	PKPab	16 55 03.4	-2.4	
KEK	Kerkira	151.16 331	P	PKPbc	16 54 59.6	+1.5	
KEK	Kerkira	151.16 331	P	PKPbc	16 54 59.6	+1.5	
KRND	KRANIDI	151.16 324	P	PKPbc	16 54 59.0	+0.8	
LAKA	Lakka	151.20 326	P	PKPbc	16 55 00.0	+1.7	
LAKA	Lakka	151.20 326	P	PKPbc	16 55 00.0	+1.7	
LAST	Lasithi	151.20 318	*e*PKPbc	PKPbc	16 55 00.9	+2.5	
KLV	Kalavryta, Ach	151.25 326	P	PKPbc	16 54 58.6	+0.1	
KLV	Kalavryta, Ach	151.25 326	P	PKPbc	16 54 58.6	+0.1	
AQU	L'Aquila	151.30 343	*e*PKIKP	PKPab	16 55 05.5	-0.9	
AQU	L'Aquila	151.30 343	*e*PKPab	PKPab	16 55 05.5	-0.9	
AQU			LR	LR			
	comp=Z,4μm,21.0s						
PDO	Prodromos	151.34 328	P	PKPbc	16 54 59.9	+1.3	
LKD2	Lefkada island	151.47 329	P	PKPbc	16 55 00.2	+1.3	
LKD2	Lefkada island	151.47 329	P	PKPbc	16 55 00.2	+1.3	
IDI	Anoyia	151.50 319	*e*PKPbc	PKPbc	16 54 59.7	+0.6	
DRO	Drossia	151.55 326	P	PKPbc	16 55 00.4	+1.3	
VLX	Vlachokerasia	151.61 325	P	PKPbc	16 54 58.0	-1.4	
VLX	Vlachokerasia	151.61 325	P	PKPbc	16 54 58.0	-1.4	
ASCN	Ascension	151.72 143	PFAKE		16 55 00.0	-0.2	
ASCN			LR	LR			
	comp=Z,2μm,20.0s						
VLI	Velïai	151.75 323	P	PKPbc	16 54 59.5	-0.1	
VLI	Velïai	151.75 323	P	PKPbc	16 54 59.5	-0.1	
PGAV	Gavieira, Arco	151.84 17	*e*LQ	LQ	17 39 30.6		
PGAV			*e*LR	LR	17 47 35.6		
	comp=Z,4μm,20.0s						
VAM	Vamos	151.86 320	P	PKPbc	16 55 00.6	+0.7	
POLO	Lamas de Olo	152.52 17	*e*PKPbc	PKPbc	16 55 01.7	+0.4	
MVO	Moncorvo	152.92 15	*e*PKPdf	PKPdf	16 54 54.5	-0.4	
MVO	Moncorvo	152.92 15	*e*PKPab	PKPab	16 55 12.0	-1.2	
MVO	Moncorvo	152.92 15	*e*SS	SS	17 18 32.3	+17	
MVO	Moncorvo	152.92 15	*e*LQ	LQ	17 38 27.3		
MVO			*e*LR	LR	17 47 53.1		
	comp=Z,4μm,20.0s						
TIP	Timpagrande	152.93 335	P	PKPdf	16 54 55.1	+0.1	
TIP	Timpagrande	152.93 335	*e*PKPbc	PKPbc	16 55 03.7	+1.5	
TIP			*e*PKPab	PKPab	16 55 16.5	+3.1	
MTE	Manteigas	153.50 17	*e*PKPab	PKPab	16 55 10.9	-4.8	
MTE	Manteigas	153.50 17	*e*LQ	LQ	17 38 32.9		
MTE			*e*LR	LR	17 46 55.3		
	comp=Z,4μm,20.0s						
CEL	Celeste	154.07 335	PFAKE		16 55 10.0	+5.3	
CEL			LR	LR			
	comp=Z,3μm,21.0s						
PMRV	Marv??o	154.44 17	*e*LQ	LQ	17 38 38.3		
PMRV			*e*LR	LR	17 46 32.2		
	comp=Z,3μm,18.0s						
ESDC	Sonseca Array	155.04 11	PKPbc	PKPdf	16 55 06.9	+9.0	
	comp=Z,0.2nm,0.4s,baz=118,slow=5.1,SNR=3.0						
ESDC			PKPab	PKPab	16 55 22.1	0.0	
	comp=Z,0.7nm,0.7s,baz=345,slow=1.9,SNR=4.8						
PMOZ	Porto Moniz, M	155.13 42	*e*LR	LR	17 48 07.8		
	comp=Z,1μm,22.0s						
PNCL	Nicolau / Gran	155.29 21	*e*PKPdf	PKPdf	16 54 54.9	-3.3	
CLTB	Caltabellotta	155.69 338	PFAKE		16 55 10.0	+11	
CLTB			LR	LR			
	comp=Z,1μm,20.0s						
PVAQ	Vaqueiros	156.20 20	*e*LQ	LQ	17 39 07.9		
PVAQ			*e*LR	LR	17 47 23.6		
	comp=Z,6μm,20.0s						
KEST	Kesra	158.60 344	PKPab	PKPab	16 55 38.8	+1.1	
	comp=Z,18nm,1.1s,baz=197,slow=3.4,SNR=9.9						
TORD	Torodi Ar. Bea	177.88 166	PKP	PKPdf	16 55 16.7	+0.7	
	comp=Z,5.4nm,1.2s,baz=298,slow=0.8,SNR=10.0						
TORD			PKPab	PKPab	16 57 05.1	+2.1	
	comp=Z,2.8nm,0.9s,baz=208,slow=3.0,SNR=7.5						

NIED ***05*** *16:36:00, 37.10N×141.20E, h14km, Mw3.4 Best double couple: M0 1.35000×10^14 NP1:φs85.00000°, δ32.00000°, λ-42.00000°. NP2:φs212.00000°, δ69.00000°, λ-115.00000°.*

IDC ***05*** *16:36:15.9±1.3, 37.15N×141.27E, h0km, mb3.3/4, mb1 3.4/7, mb1mx3.3/44, mbtmp3.3/7, ML3.1/3, MS2.3/1, Ms1 2.3/1, ms1mx2.1/34, Error ellipse: s-maj=27.7km s-min=19.8km az=113.0*

ISCJB ***05*** *16:36:16.9±1.1, 37.08N±0.04×141.31E±0.07, h20km±7km, mb3.3/4, Error ellipse: s-maj=9.3km s-min=5.7km az=21.1*

JMA ***05*** *16:36:18.9±0.1, 37.09N×141.15E, h30km±1km, M3.5*

JMA Felt I J1.

ISC 05 16:36:16.8±1.6, 37.13N±0.04×141.24E±0.05, h8km±10km, n22, σ0s95/27, mb3.2/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.35	266	P	Pb	16 36 25.9	+0.4
ONAJ				S	Sb	16 36 30.5	-0.7
JFK	Kawauchi	0.38	309	P	Pb	16 36 26.8	+1.0
JFK				S	Sb	16 36 32.0	+0.1
JHO	Hitachi	0.75	226	P	Pg	16 36 31.2	0.0
JHO				S	Sg	16 36 40.0	-0.9
JMM	Marumori	0.82	334	P	Pb	16 36 33.7	+0.4
JFT	Otama	0.82	299	P	Pb	16 36 34.0	+0.6
JFT				S	Sb	16 36 44.4	-0.2
JSB	Shiboa	1.07	262	P	Pb	16 36 38.0	+0.4
JSB				S	Sg	16 36 51.0	-0.2
JFY	Yanaizu	1.26	283	P	Pg	16 36 40.5	-0.4
JFY				S	Sg	16 36 56.6	-0.6
JOU	Okura	1.31	340	P	Pn	16 36 42.0	+0.4
JOU				S	Sb	16 36 59.3	+0.4
MJAR	Matsushiro Arr	2.50	257	Pn	Pn	16 36 58.4	+0.5
	2.2nm,0.3s,baz=83,slow=16,SNR=39						
MJAR				Sn	Sn	16 37 29.6	+1.0
	6.1nm,0.3s,baz=35,slow=26,SNR=6.1						
MJAR				LR	LR	16 38 14.8	
	comp=Z,53nm,18.2s,baz=45,slow=48						
MAT	Matsushiro	2.50	257	P	Pn	16 36 58.6	+0.7
MAT				S	Sn	16 37 29.1	+0.4
JHJ	Hachijo jima 2	4.18	197	Pn	Pn	16 37 22.6	+1.7
	6.1nm,0.3s,baz=131,slow=23,SNR=12						
JHJ				Sn	Sn	16 38 08.1	-1.9
	6.8nm,0.3s,baz=60,slow=20,SNR=3.4						
ASAJ	Asahikawa	7.05	8	Pn	Pn	16 38 00.4	0.0
	0.3nm,0.3s,baz=232,slow=26,SNR=5.2						
ASAJ				Sn	Sn	16 39 19.6	-1.2
	0.1nm,0.3s,baz=114,slow=20,SNR=2.6						
SONM	Songino Array	27.62	304	P	P	16 42 06.7	+1.8
	0.2nm,0.5s,baz=99,slow=3.6,SNR=4.7						
H11N2	WAKE ISLAND Hy 28.32	121		T	T	17 11 50.6	
	baz=314,slow=75,SNR=27						
H11N1	WAKE ISLAND Hy 28.32	121		T	T	17 11 53.3	
	baz=314,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy 28.33	121		T	T	17 11 54.3	
	baz=314,slow=75,SNR=24						
H11S1	WAKE ISLAND Hy 29.03	123		T	T	17 12 46.2	
	baz=315,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy 29.03	123		T	T	17 12 45.6	
	baz=315,slow=76,SNR=8.9						
H11S2

MTSU Mount Surprise 36.47 260 P **P** 17 02 56.6 -0.6
baz=37,SNR=9.7
H11S2 WAKE ISLAND Hy 36.67 335 T T 17 41 51.0
baz=154,slow=76,SNR=6.4
H11S3 WAKE ISLAND Hy 36.69 335 T T 17 41 54.9
baz=154,slow=76,SNR=6.4
H11S1 WAKE ISLAND Hy 36.69 335 T T 17 41 51.5
baz=154,slow=76,SNR=15
CMSA Cobar Meteorol 37.19 237 P **P** 17 03 02.6 -0.6
baz=37,SNR=9.9
TAOE Nuku Hiva Isla 37.23 85 *e*LQ LQ 17 11 05.6
comp=Z,1µm,25.5s
TAOE *e*LR LR 17 13 03.8
comp=Z,3µm,27.1s
H11N3 WAKE ISLAND Hy 37.70 336 T T 17 43 09.2
baz=155,slow=76,SNR=7.4
H11N1 WAKE ISLAND Hy 37.70 336 T T 17 43 09.8
baz=155,slow=76,SNR=17
H11N2 WAKE ISLAND Hy 37.71 336 T T 17 43 12.1
baz=155,slow=76,SNR=11
TOO Toolangi 39.52 228 P **P** 17 03 24.9 +2.1
TOO pmax pmax
comp=Z,26nm,1.2s
STKA Stephens Creek 40.64 238 P **P** 17 03 31.3 -0.8
comp=Z,36nm,1.1s,baz=59,slow=7.1,SNR=17
STKA Stephens Creek 40.64 238 P **P** 17 03 32.7 +0.5
baz=41,SNR=15
STKA Stephens Creek 40.64 238 *e*P **P** 17 03 30.4 -1.7
STKA pmax pmax
comp=Z,11nm,1.1s
STKA Stephens Creek 40.64 238 *e*P **P** 17 03 30.4 -1.7
comp=Z,11nm,1.1s
QIS Mount Isa 40.91 256 P **P** 17 03 34.9 +0.4
baz=41
RKT Rikitea 41.08 108 *e*LQ LQ 17 13 44.1
comp=Z,1µm,34.2s
RKT *e*LR LR 17 14 59.4
comp=Z,5µm,27.0s
JAY Jayapura 42.83 283 P **P** 17 03 52.0 +1.7
comp=Z,29nm,1.2s
GENI Genyem 43.31 282 P **P** 17 03 56.7 +2.5
comp=Z,88nm,1.7s
WB2 Warramunga Arr 45.85 257 *e*P **P** 17 04 12.1 -2.3
comp=Z,18nm,1.2s
WRAB Tennant Creek 45.86 257 P **P** 17 04 14.7 +0.2
WRAB pmax pmax
comp=Z,58nm,1.4s
WRAB Tennant Creek 45.86 257 *e*P **P** 17 04 13.5 -1.0
comp=Z,20nm,1.3s
WRA Warramunga Arr 45.87 257 P **P** 17 04 12.2 -2.3
comp=Z,12nm,1.2s,baz=89,slow=8.2,SNR=13
WRA PcP **PcP** 17 05 53.4 +1.5
comp=Z,8.2nm,1.2s,baz=80,slow=3.9,SNR=6.4
WRA LR LR 17 21 02.7
comp=Z,2µm,20.7s,baz=60,slow=33
AS01 Alice Springs 46.22 252 *e*P **P** 17 04 14.8 -2.5
AS31 Alice Springs 46.26 252 *e*P **P** 17 04 14.6 -3.1
comp=Z,4.0nm,0.8s
ASAR Alice Springs 46.26 252 P **P** 17 04 15.3 -2.3
comp=Z,3.5nm,0.8s,baz=85,slow=8.1,SNR=48
ASAR PcP **PcP** 17 05 54.3 +1.0
comp=Z,6.3nm,1.1s,baz=90,slow=4.4,SNR=8.0
ASAR LR LR 17 21 52.7
comp=Z,2µm,19.3s,baz=74,slow=34
RKPI Ransiki, Papua 49.32 281 P **P** 17 04 44.1 +2.6
comp=Z,119nm,1.2s
MTN Manton Dam 49.60 266 P **P** 17 04 43.0 -0.6
baz=50,SNR=5.8
MTN Manton Dam 49.60 266 *e*P **P** 17 04 41.6 -2.0
comp=Z,65nm,1.4s
FAKI Fak Fak 50.73 279 P **P** 17 04 53.9 +1.7
comp=Z,53nm,1.6s
FAKI Fak Fak 50.73 279 *e*P **P** 17 04 51.1 -1.1
comp=Z,89nm,1.3s
WRKA Warakurna 51.40 250 P **P** 17 04 56.4 -0.7
baz=52,SNR=11
SWI Sorong 52.29 281 P **P** 17 05 06.5 +2.6
comp=Z,81nm,1.3s
SWI Sorong 52.29 281 P **P** 17 05 05.7 +1.8
SWI pmax pmax
comp=Z,80nm,1.3s
FITZ Fitzroy Crossi 54.20 258 LR LR 17 26 45.3
comp=Z,1µm,18.8s,baz=90,slow=34
FITZ Fitzroy Crossi 54.20 258 P **P** 17 05 17.2 -0.7
baz=54,SNR=4.1
FITZ Fitzroy Crossi 54.20 258 *e*P **P** 17 05 16.6 -1.3
comp=Z,56nm,1.9s
LBMI Labuha 55.94 280 P **P** 17 05 33.0 +2.5
comp=Z,44nm,1.8s
SOEI Soe 56.77 268 P **P** 17 05 40.8 +4.2
SOEI Soe 56.77 268 *e*P **P** 17 05 35.1 -1.6
comp=Z,137nm,1.2s
DAV Davao City (W) 60.33 287 LR LR 17 30 29.5
comp=Z,583nm,18.2s,baz=92,slow=34
LUWI Luwuk 60.34 277 P **P** 17 06 05.3 +3.9
comp=Z,62nm,1.5s
LUWI Luwuk 60.34 277 *e*P **P** 17 06 00.1 -1.3
comp=Z,109nm,1.3s
PCI Palu 63.19 277 P **P** 17 06 24.2 +3.6
comp=Z,62nm,1.1s,comp=Z,1µm
SBA Scott Base 63.31 184 *e*P **P** 17 06 19.9 -0.4
SBA pmax pmax
comp=Z,61nm,1.6s
SBA Scott Base 63.31 184 *e*P **P** 17 06 19.9 -0.4
comp=Z,62nm,1.6s
VNDA Vanda 63.35 185 P **P** 17 06 20.1 -0.5
comp=Z,14nm,1.2s,baz=356,slow=6.5,SNR=6.8
VNDA LR LR 17 29 10.5
comp=Z,745nm,21.1s,baz=22,slow=32
VNDA Vanda 63.35 185 *e*P **P** 17 06 19.7 -0.9
VNDA pmax pmax
comp=Z,22nm,1.3s
VNDA Vanda 63.35 185 *e*P **P** 17 06 19.7 -0.9
comp=Z,22nm,1.3s
TWSI Taliwang, Sumb 64.11 267 P P 17 06 34.0 +7.3
MJAR Matsushiro Arr 66.03 322 P **P** 17 06 40.3 +1.6
comp=Z,6.8nm,1.1s,baz=160,slow=6.3,SNR=14
MAJO Matsushiro 66.03 322⇑ *e*P **P** 17 06 39.7 +1.0
MAJO pmax pmax
comp=Z,70nm,1.2s
MAJO Matsushiro 66.03 322 *e*P **P** 17 06 36.4 -2.3
comp=Z,15nm,1.2s
MAT Matsushiro 66.03 322 P **P** 17 06 40.4 +1.7
MJB9 Matsu-Tunnel 66.03 322 *e*P **P** 17 06 35.9 -2.8
comp=Z,3.9nm,1.2s
MYLDM Lahad Datu 66.29 283 *e*P **P** 17 06 37.5 -3.3
comp=Z,61nm,1.4s
BBKI Banjar Baru 67.32 273 P **P** 17 06 51.5 +4.1
JNU Nakatsue 68.55 315 LR LR 17 34 17.6
comp=Z,330nm,18.1s,baz=110,slow=34
JNU Nakatsue 68.55 315 *e*P **P** 17 06 53.0 -1.8
comp=Z,76nm,1.4s
ASAJ Asahikawa 69.10 331 *e*P **P** 17 06 58.1 +0.2
comp=Z,14nm,1.4s
NACB Ninganchiao 70.91 303 *e*P **P** 17 07 06.2 -3.2
comp=Z,63nm,1.2s
PEA0 Petropavlovsk- 71.09 345 *e*P **P** 17 07 08.4 -1.5
PEA0B Petropavlovsk- 71.09 345 *e*P **P** 17 07 08.8 -1.1
comp=Z,37nm,1.1s
PETK Petropavlovsk- 71.09 345 P **P** 17 07 08.9 -1.0
comp=Z,17nm,1.1s,baz=74,slow=5.5,SNR=4.3
YSS Yuzh-Sakhalins 71.17 333⇑ *i*P **P** 17 07 11.4 +0.9
YSS pmax pmax
comp=Z,70nm,1.3s
YSS Yuzh-Sakhalins 71.17 333 *e*P **P** 17 07 08.5 -2.1
comp=Z,68nm,1.2s
SSLB Suanglung 71.26 302 *e*P **P** 17 07 14.2 +2.5
comp=Z,19nm,1.2s
TPUB Ta-pu 71.31 301 *e*P **P** 17 07 10.1 -1.9
comp=Z,35nm,1.2s
TJN Taejon 72.78 316⇑ *i*P **P** 17 07 21.6 +1.1
KSM Kuching 73.00 276 *e*P **P** 17 07 20.7 -1.5
comp=Z,32nm,1.5s
KSRS Korea Array 73.02 317 P **P** 17 07 21.9 +0.1
comp=Z,11nm,1.1s,baz=134,slow=6.7,SNR=36
KSRS LR LR 17 33 27.5
comp=Z,624nm,21.6s,baz=140,slow=31
KS15 Wonju Array Si 73.04 317 *e*P **P** 17 07 25.4 +3.5
KSAR Wonju Array Be 73.04 317 P **P** 17 07 21.9 -0.1
KSAR Wonju Array Be 73.04 317 P **P** 17 07 21.9 -0.1
KS01 Wonju Array Si 73.05 317 *e*P **P** 17 07 22.8 +0.7
PKM Mcpherson Peak 74.03 46 P **P** 17 07 29.1 +1.0
baz=238
TYV Tymovskoe 74.20 335 *e*P **P** 17 07 28.0 -0.5
TYV pmax pmax
comp=Z,26nm,1.0s
USRK Ussuriysk Ar. 74.64 325 P **P** 17 07 30.8 -0.3
comp=Z,5.0nm,1.1s,baz=134,slow=4.2,SNR=5.1
MWC Mount Wilson 74.93 48 *e*P **P** 17 07 31.1 -2.3
MWC pmax pmax
comp=Z,15nm,1.0s
MWC Mount Wilson 74.93 48 *e*P **P** 17 07 31.1 -2.3
comp=Z,15nm,1.0s
QSPA South Pole Qui 75.00 180 *e*P **P** 17 07 31.9 -1.3
comp=Z,69nm,1.1s
VES Vestal, Richgr 75.03 46 P **P** 17 07 34.3 +0.7
baz=239
BFSC Mount Baldy Ra 75.22 48 P **P** 17 07 35.6 +0.6
baz=240
MURC Murrieta 75.24 49 P **P** 17 07 35.2 +0.2
baz=240
EDW2 Edwards Air Fo 75.30 47 P **P** 17 07 35.7 +0.3
baz=240
CMB Columbia Colle 75.31 43 *e*P **P** 17 07 35.0 -0.3
CMB pmax pmax
comp=Z,31nm,1.5s
CMB Columbia Colle 75.31 43 *e*P **P** 17 07 35.0 -0.3
comp=Z,31nm,1.5s
WDC Whiskeytown Da 75.33 40 *e*P **P** 17 07 37.9 +2.6
WDC pmax pmax
comp=Z,30nm,1.4s
WDC Whiskeytown Da 75.33 40 *e*P **P** 17 07 37.9 +2.6
comp=Z,30nm,1.4s
ISA Isabella, Lake 75.36 46 P **P** 17 07 36.3 +0.6
baz=239
ISA Isabella, Lake 75.36 46 *e*P **P** 17 07 35.1 -0.6
ISA pmax pmax
comp=Z,16nm,1.0s
ISA Isabella, Lake 75.36 46 *e*P **P** 17 07 35.1 -0.6
comp=Z,16nm,1.0s
AFDM Forest Hills D 75.42 42 *e*P **P** 17 07 35.2 -0.7
comp=Z,14nm,1.2s
N02D Trinity Center 75.46 40 P **P** 17 07 37.0 +0.9
baz=235
MONP2 Monument Peak 75.46 50 P **P** 17 07 36.6 +0.1
baz=241
IKP In-Ko-Pah, Jac 75.57 50 P **P** 17 07 37.6 +0.6
baz=241
L02D Cave Junction, 75.60 38 P **P** 17 07 40.6 +3.8
baz=234
M02C Callahan 75.61 39 P **P** 17 07 38.9 +1.9
baz=235
O03D Paynes Creek 75.64 41 P **P** 17 07 36.3 -0.9
baz=236
PFO Pinyon Flats O 75.78 49 P **P** 17 07 38.0 -0.2
baz=241
TPFO Pinon Flats 75.78 49 P **P** 17 07 38.8 +0.6
baz=241
HABR Khabarovsk 75.86 330 *e*P **P** 17 07 37.1 -1.0
HABR *e**PP **PcP** 17 07 47.7 -2.9
HABR *e* 17 07 49.7
HABR *e**SP sP 17 07 52.1 +9.5
HABR *e*SS SS 17 22 11.0 -2.2
HABR pmax pmax
comp=N,9.0nm,1.3s
HABR pmax pmax
comp=Z,19nm,1.3s
HABR pmax pmax
comp=E,17nm,1.3s
HABR MLR MLR
comp=Z,358nm,17.0s
SWSC Sam W. Stewart 75.94 50 P **P** 17 07 39.7 +0.8
baz=242
MLAC Mammoth, Mammo 76.13 44 P **P** 17 07 41.2 +1.0
baz=238
WAKR Walker 76.19 43 *e*P **P** 17 07 41.0 +0.4
MDJ Mudanjiang 76.24 324 P **P** 17 07 40.2 -0.2
MDJ PMZ
comp=Z,2.0nm,0.6s
MDJ Mudanjiang 76.24 324 P **P** 17 07 42.0 +1.6
comp=Z,21nm,1.3s
MPMC Manual Prospec 76.25 46 P **P** 17 07 41.1 +0.2
baz=240
BELC Belle Mtn. Jos 76.30 49 P **P** 17 07 41.2 0.0
baz=241
GSC Goldstone, Bar 76.36 47 P **P** 17 07 41.3 -0.1
baz=240
GSC Goldstone, Bar 76.36 47 *e*P **P** 17 07 40.9 -0.5
GSC pmax pmax
comp=Z,9.0nm,1.0s
GSC Goldstone, Bar 76.36 47 *e*P **P** 17 07 40.9 -0.5
comp=Z,9.2nm,1.0s
BC3 Big Chuckawall 76.54 49 P **P** 17 07 42.3 -0.2
baz=242
GLA Glamis 76.71 50 P **P** 17 07 44.1 +0.7
baz=242
GRAC Grapevine Rang 76.81 46 P **P** 17 07 44.7 +0.8
baz=240
PAHR Pah Rah Range 76.86 42 *e*P **P** 17 07 45.8 +1.5
comp=Z,17nm,1.3s
FURC Furnace Creek, 76.89 46 P **P** 17 07 44.7 +0.5
baz=240
NV01 Mina Array Sit 76.91 44 *e*P **P** 17 07 44.1 -0.5
NVAR Mina Array Bea 76.91 44 P **P** 17 07 45.4 +0.8
comp=Z,6.5nm,0.9s,baz=233,slow=8.4,SNR=18
GMRC Granite Mounta 76.92 48 P **P** 17 07 45.1 +0.4
baz=241
IRM Iron Mountain 77.00 49 P **P** 17 07 45.5 +0.5
baz=242
NV11 Mina Array Sit 77.01 44 *e*P **P** 17 07 44.2 -0.9
comp=Z,34nm,1.3s
TUQ Turquoise Moun 77.05 48 P **P** 17 07 44.0 -1.4
baz=241
Y12C Blythe 77.26 50 *e*P **P** 17 07 45.8 -0.7
comp=Z,11nm,1.0s
113A Mohawk Valley, 77.37 51 *e*P **P** 17 07 46.0 -1.0
comp=Z,17nm,1.3s
MOD Modoc Plateau 77.47 40 *e*P **P** 17 07 48.0 +0.4
comp=Z,22nm,1.1s
TPNV Topopah Spring 77.56 46 P **P** 17 07 47.9 -0.4
baz=240
TPNV Topopah Spring 77.56 46 *e*P **P** 17 07 47.7 -0.5
TPNV pmax pmax
comp=Z,15nm,0.9s
TPNV Topopah Spring 77.56 46 *e*P **P** 17 07 47.7 -0.5
comp=Z,15nm,0.9s
K05A Summer Lake 77.57 39 *e*P **P** 17 07 48.4 +0.2
comp=Z,46nm,1.4s
J05D Fort Rock, OR 77.67 39 P **P** 17 07 49.1 +0.4
baz=236
214A Organ Pipe Nat 77.73 52 P **P** 17 07 49.0 -0.2
baz=244
214A Organ Pipe Nat 77.73 52 *e*P **P** 17 07 48.9 -0.2
comp=Z,62nm,1.3s
PDMCI Parker Dam,Lak 77.80 49 P **P** 17 07 50.0 +0.5
baz=242
KLR Kul'dur 78.00 329 *e*P **P** 17 07 52.0 +1.8
SHPR Sheep Range 78.11 47 *e*P **P** 17 07 52.3 +1.0
comp=Z,8.8nm,0.9s
CN2 Changchun 78.17 322 *e*P **P** 17 07 52.4 +1.1
CN2 *e*SP PcP 17 07 59.0 -1.8
CN2 *e*S **S** 17 17 45.4 -0.5
CN2 PMZ
comp=Z,20nm,0.8s
CN2 PMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,800nm,16.0s
CN2 LE
comp=Z,600nm,16.0s
CN2 LZ
comp=Z,500nm,17.0s
W13A Hualapai Mount 78.36 49 *e*P **P** 17 07 52.7 -0.1
comp=Z,8.8nm,1.0s
Y14A Wickenburg 78.47 50 *e*P **P** 17 07 52.9 -0.3
comp=Z,31nm,1.0s
BMN Battle Mountai 78.66 43 *e*P **P** 17 07 53.7 -0.6
BMN pmax pmax
comp=Z,19nm,1.1s
BMN Battle Mountai 78.66 43 *e*P **P** 17 07 53.7 -0.6
comp=Z,19nm,1.1s
R11A Troy Canyon, C 78.71 45 P **P** 17 07 54.6 0.0
baz=241
R11A Troy Canyon, C 78.71 45 *e*P **P** 17 07 52.9 -1.7
comp=Z,9.0nm,1.1s
WVOR Wild Horse Val 78.80 40 *e*P **P** 17 07 53.6 -1.4
WVOR pmax pmax
comp=Z,21nm,1.1s
WVOR Wild Horse Val 78.80 40 *e*P **P** 17 07 53.6 -1.4
comp=Z,21nm,1.1s
SUA Susitna One 79.20 13 *e*P **P** 17 07 56.4 -0.3
comp=Z,9.0nm,0.8s
TUC Tucson 79.43 52 P **P** 17 07 59.1 +0.5
baz=245
TUC Tucson 79.43 52 *e*P **P** 17 07 58.8 +0.2
TUC pmax pmax
comp=Z,17nm,1.4s
TUC Tucson 79.43 52 *e*P **P** 17 07 58.8 +0.2
comp=Z,17nm,1.4s
WHN Wuhan 79.46 306⇑ P **P** 17 08 01.1 +2.5
TT01 Tatalina 79.52 10 *e*P **P** 17 07 57.5 -0.8
TTA Tatalina 79.54 10 *e*P **P** 17 07 57.9 -0.6
TTA pmax pmax
comp=Z,31nm,1.2s
TTA Tatalina 79.54 10 *e*P **P** 17 07 57.9 -0.6
comp=Z,31nm,1.2s
PMR Palmer 79.67 13 *e*P **P** 17 07 58.0 -1.0
PMR pmax pmax
comp=Z,15nm,1.2s
PMR Palmer 79.67 13 *e*P **P** 17 07 58.0 -1.0
comp=Z,15nm,1.2s
LCMT Little Creek M 79.70 47 *e*P **P** 17 07 58.8 -1.2
comp=Z,13nm,1.1s
X16A Lo Mia Camp, P 79.85 50 *e*P **P** 17 07 59.6 -1.3
comp=Z,10.0nm,1.2s
CCUT Cedar City 79.87 47 *e*P **P** 17 08 00.6 -0.4
comp=Z,14nm,1.0s
A04D Lummi Island 80.00 33 P **P** 17 08 01.8 +0.8
baz=234
KNB Kanab 80.01 47 *e*P **P** 17 08 01.6 -0.1
KNB pmax pmax
comp=Z,66nm,2.0s
KNB Kanab 80.01 47 *e*P **P** 17 08 01.6 -0.1
comp=Z,66nm,2.0s
B05A Bryant 80.05 34 P **P** 17 08 02.7 +1.3
baz=234
DIV Divide 80.07 15 *e*P **P** 17 08 00.1 -1.3
comp=Z,50nm,1.8s
U15A North Rim 80.12 48 *e*P **P** 17 08 02.0 -0.5
comp=Z,12nm,1.0s
ELK Elko 80.12 43 *e*P **P** 17 08 01.3 -1.0
ELK pmax pmax
comp=Z,11nm,1.1s
ELK Elko 80.12 43 *e*P **P** 17 08 01.3 -1.0
comp=Z,11nm,1.1s
G08A Pilot Rock 80.15 38 *e*P **P** 17 08 02.6 +0.4
comp=Z,53nm,1.5s
319A Douglas 80.20 54 *e*P **P** 17 08 02.1 -0.8
comp=Z,18nm,1.0s
BMRM Bremner River 80.23 16 *e*P **P** 17 08 01.2 -1.0
comp=Z,17nm,1.1s
WUAZ Wupatki 80.38 49 P **P** 17 08 03.8 +0.1
baz=244
WUAZ Wupatki 80.38 49 *e*P **P** 17 08 02.1 -1.7
comp=Z,25nm,1.5s
BALM Baldy 80.89 17 *e*P **P** 17 08 03.5 -2.3
BALM pmax pmax
comp=Z,36nm,1.6s
BALM Baldy 80.89 17 *e*P **P** 17 08 03.5 -2.3
comp=Z,36nm,1.6s
BMO Blue Mountains 80.90 39 *e*P **P** 17 08 04.3 -2.0
comp=Z,23nm,1.4s
MTPU Mount Pierson 80.92 47 *e*P **P** 17 08 05.5 -1.4
comp=Z,29nm,1.5s
X18A Snowflake 81.01 51 *e*P **P** 17 08 05.9 -1.3
comp=Z,8.6nm,1.3s
KTH Kantishna Hill 81.04 12 *e*P **P** 17 08 04.9 -1.6
comp=Z,14nm,1.2s
MFID Camas Ranch 81.07 41 *e*P **P** 17 08 06.9 -0.3
comp=Z,18nm,1.1s
TRF Thorofare Moun 81.08 12 *e*P **P** 17 08 05.5 -1.3
comp=Z,13nm,1.1s
SEY Seymchan 81.14 347 P **P** 17 08 06.2 -0.8
comp=Z,15nm,1.1s,baz=161,slow=5.9,SNR=16
SEY Seymchan 81.14 347⇑ *i*P **P** 17 08 06.0 -1.0
MSU Marysvale 81.14 46 *e*P **P** 17 08 07.8 0.0
MSU Marysvale 81.14 46 *e*P **P** 17 08 07.8 0.0
RND Reindeer 81.34 13 *e*P **P** 17 08 07.2 -0.9
RND pmax pmax
comp=Z,29nm,1.2s
RND Reindeer 81.34 13 *e*P **P** 17 08 07.2 -0.9
comp=Z,29nm,1.2s
DUG Dugway, Tooele 81.48 45 P **P** 17 08 10.1 +0.6
baz=242
DUG Dugway, Tooele 81.48 45 *e*P **P** 17 08 09.4 -0.1
DUG pmax pmax
comp=Z,11nm,1.1s
DUG Dugway, Tooele 81.48 45 *e*P **P** 17 08 09.4 -0.1
comp=Z,11nm,1.1s
BPAW Bear Paw Mtn. 81.52 12 *e*P **P** 17 08 09.3 +0.3
comp=Z,6.3nm,1.1s
MCK McKinley 81.61 13 *e*P **P** 17 08 08.2 -1.3
MCK pmax pmax
comp=Z,22nm,1.1s
MCK McKinley 81.61 13 *e*P **P** 17 08 08.2 -1.3
comp=Z,22nm,1.1s
BGU Big Grassy Mou 81.68 44 *e*P **P** 17 08 09.3 -1.2
comp=Z,29nm,1.9s
121A Cookes Peak, D 81.83 53 P **P** 17 08 12.9 +1.3
baz=246
121A Cookes Peak, D 81.83 53 *e*P **P** 17 08 12.5 +0.9
comp=Z,12nm,1.2s
HLID Hailey 82.04 41 P **P** 17 08 12.6 +0.2
baz=241
HLID Hailey 82.04 41 *e*P **P** 17 08 12.0 -0.4
comp=Z,19nm,1.0s
TMUT Trail Mountain 82.17 46 *e*P **P** 17 08 13.3 0.0
comp=Z,24nm,1.0s
MPU Maple Canyon 82.20 45 *e*P **P** 17 08 12.5 -0.8
comp=Z,11nm,1.0s
BJT Baijiatuao 82.22 315 *e*P **P** 17 08 12.0 -1.2
BJT pmax pmax
comp=Z,43nm,1.2s
BJT Baijiatuao 82.22 315 *e*P **P** 17 08 12.0 -1.2
comp=Z,43nm,1.2s
BJI Beijing 82.22 315 P **P** 17 08 12.5 -0.7
BJI PMZ
comp=Z,26nm,1.2s
HVU Hansel Valley 82.25 43 *e*P **P** 17 08 12.7 -0.8
HVU pmax pmax
comp=Z,25nm,1.3s
HVU Hansel Valley 82.25 43 *e*P **P** 17 08 12.7 -0.8
comp=Z,25nm,1.3s
MLY Manley 82.41 11 *e*P **P** 17 08 12.4 -1.3
comp=Z,10nm,1.0s
WRH Wood River Hil 82.44 12 *e*P **P** 17 08 12.1 -1.6
comp=Z,34nm,1.4s
SRU San Rafael Swe 82.57 46 *e*P **P** 17 08 14.8 -0.5
SRU pmax pmax
comp=Z,19nm,1.2s
SRU San Rafael Swe 82.57 46 *e*P **P** 17 08 14.8 -0.5
comp=Z,19nm,1.2s
P17A Butcher Ranch, 82.58 46 *e*P **P** 17 08 15.2 -0.1
comp=Z,26nm,1.5s
JLU Jordanelle 82.59 45 *e*P **P** 17 08 14.5 -1.0
comp=Z,13nm,0.9s
DOT Dot Lake 82.63 14 *e*P **P** 17 08 13.8 -1.1
comp=Z,23nm,1.0s
CCB Clear Creek Bu 82.65 13 *e*P **P** 17 08 13.1 -1.8
comp=Z,16nm,1.0s
MDM Murphy Dome 82.84 12 *e*P **P** 17 08 14.4 -1.5
comp=Z,26nm,1.2s
COLA College 82.84 12 *e*P **P** 17 08 14.7 -1.1
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 82.84 12 *e*P **P** 17 08 14.7 -1.1
comp=Z,15nm,0.8s
DLBC Dease Lake 82.94 23 P **P** 17 08 15.9 -0.7
comp=Z,0.5nm,0.4s,baz=193,slow=4.9,SNR=2.4
ILAR Eielson Array 82.95 13 P **P** 17 08 15.7 -0.8
comp=Z,8.4nm,1.1s,baz=225,slow=5.6,SNR=10
ILAR LR LR 17 41 15.8
comp=Z,1µm,19.5s,baz=262,slow=33
ILB Eielson Array 82.95 13 *e*P **P** 17 08 14.9 -1.5
IL1 Eielson Array 82.95 13 *e*P **P** 17 08 14.2 -2.3
HWUT Hardware Ranch 82.97 44 *e*P **P** 17 08 16.6 -0.7
comp=Z,9.8nm,1.1s
LAZ Ladron 83.07 52 *e*P **P** 17 08 18.5 +0.4
PV05 Paradox Valley 83.13 48 *e*P **P** 17 08 18.9 +0.6
MVCO Mesa Verde 83.20 49 P **P** 17 08 18.0 -0.7
baz=246
ENH Enshi 83.22 304 *e*P **P** 17 08 18.0 -0.7
comp=Z,28nm,1.2s
BNM Barren Site 83.36 52 *e*P **P** 17 08 19.3 -0.3
MNTX Cornudas Mount 83.39 55 P **P** 17 08 19.1 -0.4
baz=248
MNTX Cornudas Mount 83.39 55 *e*P **P** 17 08 19.7 +0.2
PV04 Paradox Valley 83.40 48 *e*P **P** 17 08 19.1 -0.5
LPM Los Pinos Moun 83.42 52 *e*P **P** 17 08 20.3 +0.5
SKNT Sakolnakorn 83.53 289 P **P** 17 08 24.8 +4.3
comp=Z,20nm,0.7s

PV01	Paradox Valley	83.53	48	eP		P	17 08 20.2	-0.1
MCMT	McKenzie Canyo	83.64	40	eP		P	17 08 18.7	-2.1
BILL	Bilibino	83.66	354	⇓iP		P	17 08 22.3	+2.3
BILL				e*PP		sP	17 08 32.1	+7.6
BILL				e			17 11 37.0	
BILL					pmax	pmax		
	comp=Z,9.0nm,1.2s							
BILL					MLR	MLR		
	comp=Z,808nm,17.0s							
BILL	Bilibino	83.66	354	eP		P	17 08 19.0	-1.0
	comp=Z,7.3nm,1.1s							
ANMO	Albuquerque	83.80	51	P		P	17 08 21.3	-0.5
	baz=247							
ANMO	Albuquerque	83.80	51	⇓iP		P	17 08 22.2	+0.4
ANMO					pmax	pmax		
	comp=Z,13nm,1.7s							
ANMO	Albuquerque	83.80	51	eP		P	17 08 21.2	-0.5
	comp=Z,24nm,1.6s							
TX31	Lajitas Ar. Si	83.91	58	eP		P	17 08 22.4	+0.1
TXAR	Lajitas Array	83.91	58	P		P	17 08 23.4	+1.0
	comp=Z,7.6nm,1.0s,baz=241,slow=5.2,SNR=31							
MSO	Missoula	83.93	38	P		P	17 08 23.0	+0.9
	baz=241							
DLMT	Dillon	84.05	40	eP		P	17 08 21.2	-1.5
	comp=Z,21nm,1.1s							
DAWY	Dawson	84.16	16	eP		P	17 08 20.8	-2.0
	comp=Z,25nm,1.6s							
GYA	Guiyang	84.20	299	eP		P	17 08 23.2	-0.7
GYA					PP	PP	17 11 38.9	+0.3
GYA					SKS	S	17 18 42.3	-7.3
GYA					S	SKSac	17 18 47.0	-1.0
GYA					PMZ			
	comp=Z,20nm,1.0s							
GYA					PMZ			
	comp=Z,120nm,6.9s							
TPAW	Teton Pass	84.23	42	eP		P	17 08 20.8	-3.1
	comp=Z,29nm,1.2s							
REDW	Red Top Meadow	84.23	42	eP		P	17 08 21.1	-2.7
	comp=Z,34nm,1.2s							
FXWY	Fox Creek	84.25	42	eP		P	17 08 22.3	-1.6
	comp=Z,52nm,1.8s							
EGAK	Eagle	84.28	15	eP		P	17 08 21.6	-1.7
	comp=Z,12nm,1.1s							
SNOW	Snow King Moun	84.34	42	eP		P	17 08 23.9	-0.5
	comp=Z,27nm,1.1s							
LRM	Limekiln Ridge	84.35	40	eP		P	17 08 24.1	-0.3
CHMT	Chamberlain Mo	84.39	38	eP		P	17 08 24.1	-0.4
IMW	Indian Meadow	84.42	42	eP		P	17 08 25.1	+0.3
	comp=Z,28nm,1.1s							
MOOW	Moose Ponds	84.48	42	eP		P	17 08 24.8	-0.3
	comp=Z,38nm,1.8s							
COLD	Coldfoot	84.48	10	eP		P	17 08 24.1	-0.2
	comp=Z,24nm,1.4s							
LOHW	Long Hollow	84.51	42	eP		P	17 08 24.9	-0.3
	comp=Z,39nm,1.6s							
QLMT	Earthquake Lak	84.53	41	eP		P	17 08 28.2	+2.9
O20A	White River Ci	84.60	46	P		P	17 08 25.9	+0.2
	baz=245							
O20A	White River Ci	84.60	46	eP		P	17 08 26.1	+0.4
	comp=Z,20nm,1.4s							
S22A	4UR Ranch, Cre	84.63	49	P		P	17 08 26.4	+0.4
	baz=246							
S22A	4UR Ranch, Cre	84.63	49	eP		P	17 08 25.6	-0.5
	comp=Z,14nm,1.2s							
FLWY	Flagg Ranch	84.66	42	eP		P	17 08 25.2	-0.7
	comp=Z,54nm,1.4s							
BOZ	Bozeman (W)	84.78	40	P		P	17 08 26.6	+0.2
	baz=242							
BOZ	Bozeman (W)	84.78	40	eP		P	17 08 25.4	-1.1
BOZ					pmax	pmax		
	comp=Z,38nm,1.5s							
BOZ	Bozeman (W)	84.78	40	eP		P	17 08 25.4	-1.1
	comp=Z,38nm,1.5s							
BW06	Boulder Array	84.82	43	P		P	17 08 25.8	-1.0
	baz=244							
BW06	Boulder Array	84.82	43	eP		P	17 08 25.1	-1.8
PD31	Pinedale Array	84.82	43	eP		P	17 08 25.8	-1.0
PDAR	Pinedale Array	84.82	43	P		P	17 08 26.9	+0.1
	comp=Z,2.3nm,0.8s,baz=206,slow=3.2,SNR=14							
H17A	Grant Village	84.88	42	P		P	17 08 28.7	+1.6
	baz=243							
H17A	Grant Village	84.88	42	eP		P	17 08 29.1	+2.0
	comp=Z,16nm,0.9s							
XAN	Xi'an	85.06	307	P		P	17 08 31.9	+3.9
XAN					PMZ			
	comp=Z,8.0nm,1.3s							
SMCO	Snowmass	85.10	47	eP		P	17 08 25.4	-3.1
	comp=Z,14nm,1.2s							
SDCO	Great Sand Dun	85.60	49	P		P	17 08 30.1	-0.8
	baz=247							
SDCO	Great Sand Dun	85.60	49	eP		P	17 08 31.4	+0.5
	comp=Z,4.1nm,1.1s							
HHC	Hu-ho-hao-te	85.75	314	eP		P	17 08 34.2	+2.9
HHC					PMZ			
	comp=Z,16nm,1.1s							
HHC					PMZ			
	comp=Z,480nm,7.0s							
RLMT	Red Lodge	86.03	41	P		P	17 08 33.0	+0.2
	baz=244							
RLMT	Red Lodge	86.03	41	eP		P	17 08 32.1	-0.7
	comp=Z,14nm,1.1s							
GCMT	Greycliff	86.07	41	eP		P	17 08 31.9	-1.0
LOEI	Loei	86.16	289	P		P	17 08 38.2	+4.4
	comp=Z,7.6nm,0.7s							
T25A	Trinidad	86.17	50	P		P	17 08 35.6	+2.0
	baz=248							
T25A	Trinidad	86.17	50	eP		P	17 08 32.1	-1.6
	comp=Z,4.7nm,1.2s							
N23A	Red Feather La	86.51	46	eP		P	17 08 30.9	-4.4
	comp=Z,16nm,1.4s							
BTO	Baotou	86.73	313	eP		P	17 08 38.8	+2.6
MAW	Mawson	86.77	200	P		P	17 08 35.6	-0.2
	comp=Z,5.9nm,1.0s,baz=108,slow=7.5,SNR=6.5							
MAW					LR	LR	17 45 45.1	
	comp=Z,884nm,18.0s,baz=76,slow=34							
K22A	Casper	86.80	44	eP		P	17 08 32.5	-4.0
	comp=Z,18nm,1.4s							
933A	Laredo	86.97	61	P		P	17 08 37.9	+0.4
	baz=251							
KMI	Kunming	87.12	297	P		P	17 08 41.4	+2.8
KMI					pP	sP	17 08 48.0	+4.9
KMI					PMZ			
	comp=Z,8.0nm,1.1s							
KMI					LN			
	comp=Z,890nm,18.3s							
KMI					LE			
	comp=Z,490nm,15.3s							
KMI					LZ			
	comp=Z,880nm,19.4s							
YAK	Yakutsk	87.17	338	P		P	17 08 37.6	0.0
	comp=Z,0.6nm,0.3s,baz=250,slow=17,SNR=3.6							
YAK	Yakutsk	87.17	338	eP		P	17 08 38.6	+1.0
YAK					pmax	pmax		
	comp=Z,19nm,1.1s							
YAK					pmax	pmax		
	comp=E,5.0nm,1.2s							
YAK					pmax	pmax		
	comp=N,5.0nm,1.2s							
YAK	Yakutsk	87.17	338	eP		P	17 08 34.3	-3.3
	comp=N,27nm,1.2s							
034A	Hebbronville	87.30	61	P		P	17 08 40.4	+1.3
	baz=252							
633A	Saathoff Ranch	87.64	59	P		P	17 08 40.5	-0.2
	baz=251							
834A	Tilden	87.74	60	P		P	17 08 41.8	+0.6
	baz=252							
CD2	Chengdu	88.08	303	P		P	17 08 40.8	-2.1
CD2					SKS	SKSac	17 19 09.4	-2.5
CD2					S	S	17 19 25.7	-1.5
CD2					SS	SS	17 25 14.8	-1.1
CD2					PMZ			
	comp=N,10.0nm,0.5s							
CD2					PMZ			
	comp=N,140nm,5.0s							
CD2					LN			
	comp=N,710nm,15.9s							
CD2					LE			
	comp=N,600nm,19.9s							
CD2					LZ			
	comp=N,630nm,19.4s							
433A	Art	88.12	58	P		P	17 08 42.6	-0.4
	baz=251							
534A	Blanco	88.39	58	P		P	17 08 44.5	+0.1
	baz=252							
CM01	Chiang Mai Arr	88.52	289	eP		P	17 08 43.2	-2.0
CMAR	Chiang Mai Arr	88.55	289	P		P	17 08 46.2	+1.0
	comp=N,4.0nm,1.2s,baz=122,slow=5.2,SNR=8.4							
CMAR					LR	LR	17 45 58.0	
	comp=N,265nm,20.3s,baz=145,slow=34							
CHTO	Chiang Mai	88.65	290	P		P	17 08 52.5	+6.8
	comp=N,31nm,1.1s							
434A	Burnet	88.81	58	P		P	17 08 45.5	-0.8
	baz=252							
RSSD	Black Hills	89.05	44	P		P	17 08 47.4	+0.1
	baz=248							
RSSD	Black Hills	89.05	44	eP		P	17 08 46.6	-0.7
RSSD					pmax	pmax		
	comp=Z,23nm,1.4s							
RSSD	Black Hills	89.05	44	eP		P	17 08 46.6	-0.7
	comp=Z,23nm,1.4s							
CIT	Chita	89.20	325	eP		P	17 08 48.3	+0.7
CIT				e			17 08 57.8	
CIT				e			17 09 04.8	
CIT					pmax	pmax		
	comp=Z,50nm,1.8s							
W32A	Sentinel	89.39	53	P		P	17 08 48.6	-0.3
	baz=251							
YKA	Yellowknife Ar	91.46	24	P		P	17 08 56.9	-0.9
	comp=Z,0.1nm,0.3s,baz=219,slow=4.8,SNR=2.6							
YKA					LR	LR	17 44 58.7	
	comp=Z,155nm,19.6s,baz=180,slow=32							
SONA1	Songino Array	91.81	319	eP		P	17 08 58.6	-1.5
SONM	Songino Array	91.82	319	P		P	17 08 59.7	-0.3
	comp=Z,1.1nm,1.3s,baz=133,slow=3.7,SNR=24							
SYO	Syowa Base	92.09	193	⇓eP		pP	17 09 02.6	-1.6
PLCA	Paso Flores	92.82	133	LR		LR	17 42 13.0	
	comp=Z,406nm,21.9s,baz=286,slow=30							
SNAA	Sanae	93.44	178	P		P	17 09 07.3	+0.2
TIXI	Tiksi	93.56	345	P		P	17 09 06.4	-1.0
	comp=Z,6.3nm,1.1s,baz=129,slow=6.4,SNR=6.8							
TIXI	Tiksi	93.56	345	⇑iP		P	17 09 09.2	+1.9
TIXI					pmax	pmax		
	comp=Z,7.0nm,1.1s							
TIXI	Tiksi	93.56	345	eP		P	17 09 06.1	-1.3
	comp=Z,14nm,1.4s							
GTA	Gaotai	93.72	310	eP		P	17 09 12.3	+3.3
GTA					pP	sP	17 09 15.7	+2.1
GTA					sP	pP	17 09 18.6	+6.2
GTA					PMZ			
	comp=Z,5.0nm,1.1s							
ECSD	EROS Data Cent	93.97	46	eP		P	17 09 10.9	+1.0
	comp=Z,18nm,1.5s							
VNA1	Neumayer--Stat	94.22	176	P		P	17 09 12.8	+2.2
ZAK	Zakamensk	94.59	321	eP		P	17 09 13.0	+0.3
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.2s							
MKAR	Makanchi Array	107.60	315	Pdiff		Pdif	17 10 13.0	+2.0
	comp=Z,1.1nm,1.0s,baz=85,slow=2.8,SNR=6.2							
MKAR					PKiKP	PKiKP	17 14 21.4	+2.3
	comp=Z,0.7nm,1.1s,baz=66,slow=1.7,SNR=3.3							
KURK	Kurchatov	110.12	319	PKiKP		PKiKP	17 14 23.2	-0.4
KURBB	Kurchatov Arra	110.18	319	PKiKP		PKiKP	17 14 23.2	-0.5
	comp=Z,0.5nm,0.8s,baz=83,slow=2.3,SNR=2.9							
KSH	Kashi	111.91	307	PKP		PKiKP	17 14 29.4	+1.9
KSH				PP		PP	17 15 20.4	+10
KSH				PKS		PKSdf	17 18 05.0	+0.7
KSH				SKS		SKSdf	17 21 42.3	+2.3
KSH				SS		SS	17 30 54.4	+6.0
KSH				PPMZ				
	comp=Z,110nm,7.2s							
KSH				LN				
	comp=Z,210nm,12.2s							
KSH				LE				
	comp=Z,230nm,8.9s							
KSH				LZ				
	comp=Z,1μm,27.8s							
BVAR	Borovoye Array	115.03	322	PKP		PKPdf	17 14 34.4	+1.5
	comp=Z,0.7nm,0.9s,baz=72,slow=4.7,SNR=4.0							
ARU	Arti	120.81	327	PKP		PKPdf	17 14 42.7	-1.2
	comp=Z,1.0nm,0.3s,baz=243,slow=2.3,SNR=2.7							
ARU	Arti	120.81	327	i PKIKP		PKPdf	17 14 45.6	+1.7
ARU							17 16 17.3	
ARU							17 21 54.7	
ARU					SS	SS	17 32 44.7	+1.6
GEYT	Alibeck	125.93	306	PKP		PKPdf	17 14 55.4	+1.0
	comp=Z,2.2nm,0.9s,baz=259,slow=2.3,SNR=7.6							
KLMR	Klimovskoe	126.96	338	ePKIKP		PKPdf	17 14 57.7	+2.2
KLMR					pmax	pmax		
	comp=Z,12nm,1.3s							
FINES	FINESS Array B	130.60	345	PKP		PKPdf	17 15 03.4	+0.9
	comp=Z,5.0nm,1.1s,baz=353,slow=10,SNR=3.8							
NOA	NORSAR Array B	133.61	354	PKP		PKPdf	17 15 09.9	+1.7
	comp=Z,1.0nm,0.9s,baz=28,slow=1.8,SNR=2.7							
SOC	Sochi	137.27	319	ePKIKP		PKPdf	17 15 25.1	+10
AKASG	Malin Array Be	138.30	334	PKP		PKPdf	17 15 18.6	+1.4
	comp=Z,0.2nm,0.3s,baz=331,slow=0.8,SNR=3.6							
UZH	Uzhgorod	142.67	338	ePKIKP		PKPdf	17 15 21.7	-3.5
UZH				i			17 15 30.5	
CLL	Collm	142.80	349	ePKPdf		PKPdf	17 15 25.0	-0.3
CLL	Collm	142.80	349	ePKIKP		PKPdf	17 15 25.0	-0.3
CFR	Carcaliu	142.86	329	⇓iP		PKPdf	17 15 31.8	+6.2
VRI	Vrincioaia	143.03	331	⇑iP		PKPdf	17 15 27.5	+1.5
VRI	Vrincioaia	143.03	331	⇑⇑PKIKP		PKPdf	17 15 27.5	+1.5
BR131	Keskin Array S	143.17	318	ePKPdf		PKPbc	17 15 23.3	-0.1
BR131				ePKPdf		PKPdf	17 15 27.2	+0.6
BRTR	Keskin Array B	143.17	318	PKP		PKPdf	17 15 25.8	-0.7
	comp=Z,5.4nm,1.0s,baz=153,slow=0.6,SNR=20							
PVCC	Panska Ves	143.22	347	ePKP		PKPdf	17 15 27.8	+1.7
PVCC	Panska Ves	143.22	347	ePKIKP		PKPdf	17 15 27.8	+1.7
KECS	Kecovo	143.43	340	ePKIKP		PKPdf	17 15 26.5	0.0
KECS	Kecovo	143.43	340	ePKP		PKPdf	17 15 26.5	0.0
DOPR	Dopca	143.56	333	⇑iP		PKPdf	17 15 30.3	+3.4
ANTO	Ankara	143.63	319	ePKIKP		PKPbc	17 15 25.1	+0.5
ANTO	Ankara	143.63	319	ePKPdf		PKPbc	17 15 25.1	+0.5
ANTO				ePKPdf		PKPdf	17 15 28.7	+1.4
BR231	Keskin MP Arra	143.66	319	ePKPdf		PKPab	17 15 23.6	-0.3
ISR	Istrita	143.68	331	⇑iP		PKPdf	17 15 27.2	0.0
ISR	Istrita	143.68	331	⇑⇑PKIKP		PKPdf	17 15 27.2	0.0
MLR	Muntele Rosu	143.68	332	iP		PKPdf	17 15 27.3	0.0
MLR	Muntele Rosu	143.68	332	⇑⇑PKIKP		PKPdf	17 15 27.3	0.0
MLR	Muntele Rosu	143.68	332	ePKPdf		PKPdf	17 15 28.2	+1.0
MSAB	Monastry St. A	143.79	328	⇑iP		PKPdf	17 15 29.6	+2.3
VYHS	Vyhne	143.95	341	ePKIKP		PKPdf	17 15 26.7	-0.8
VYHS				e			17 15 41.9	
VYHS	Vyhne	143.95	341	ePKP		PKPdf	17 15 26.7	-0.8
VYHS				e			17 15 41.9	
SECR		143.96	331	⇓iP		PKPdf	17 15 28.6	+1.0
DRGR		144.04	336	⇓iP		PKPdf	17 15 28.7	+0.9
DRGR		144.04	336	⇓⇓PKIKP		PKPdf	17 15 28.7	+0.9
PSZ	Piszkesteto	144.11	340	⇓iP		PKPdf	17 15 29.1	+1.2
PSZ	Piszkesteto	144.11	340	ePKPdf		PKPdf	17 15 26.8	-1.1
PSZ	Piszkesteto	144.11	340	ePKIKP		PKPdf	17 15 26.8	-1.1
PSZ	Piszkesteto	144.11	340	ePKPdf		PKPdf	17 15 26.8	-1.1
VOIR		144.12	332	⇑iP		PKPdf	17 15 28.9	+0.9
VOIR		144.12	332	⇑⇑PKIKP		PKPdf	17 15 28.9	+0.9
ARR	Arges	144.37	333	⇑iP		PKPdf	17 15 29.0	+0.6
MEM	Membach	144.39	356	PKP		PKPdf	17 15 29.6	+1.5
BCLA	Clavier	144.62	357	PKP		PKPdf	17 15 29.5	+1.0
LOT	Lotru	144.68	334	⇑iP		PKPdf	17 15 29.6	+0.6
KHC	Kasperske Hory	144.76	347	ePKP		PKPdf	17 15 30.0	+1.1
KHC				ex		x	17 15 40.0	
KHC				ex		x	17 15 45.0	
KHC	Kasperske Hory	144.76	347	ePKIKP		PKPdf	17 15 30.0	+1.1
KHC				e			17 15 40.0	
KHC				e			17 15 45.0	
HUMR	Humele	144.85	331	⇓iP		PKPdf	17 15 32.5	+3.4
SIRR	Siria	144.88	336	⇓iP		PKPdf	17 15 30.3	+1.1
DOU	Dourbes	144.98	357	PKP		PKPdf	17 15 29.9	+0.7
GEC2	GERESS Array S	145.00	347	ePKIKP		PKPdf	17 15 28.9	-0.5
GEC2	GERESS Array S	145.00	347	ePKPdf		PKPdf	17 15 28.9	-0.5
GERES	GERESS Array B	145.00	347	PKPbc		PKPdf	17 15 29.4	0.0
	comp=Z,5.6nm,1.0s,baz=69,slow=4.4,SNR=25							
GEA0	GERESS Array S	145.01	347	ePKPdf		PKPab	17 15 28.3	-0.3
GZR	Gura Zlata	145.15	334	⇓iP		PKPdf	17 15 31.0	+1.3
GZR	Gura Zlata	145.15	334	⇓PKP2		PKPdf	17 15 31.0	+1.3
ISK	Istanbul-Kandi	145.18	323	P		PKPdf	17 15 33.2	+3.4
WLF	Walferdange	145.32	356	PKP		PKPdf	17 15 29.7	-0.1
WLF	Walferdange	145.32	356	ePKIKP		PKPdf	17 15 29.6	-0.2
WLF	Walferdange	145.32	356	ePKPbc		PKPdf	17 15 29.6	-0.2
SOP	Sopron	145.36	343	ePKPbc		PKPdf	17 15 31.3	+1.4
BZS	Buzias	145.44	336	⇑iP		PKPab	17 15 31.1	+0.9
BZS	Buzias	145.44	336	⇑PKIKP		PKPab	17 15 31.1	+0.9
CSS	Mathiatis	145.78	311	P		PKPab	17 15 32.3	+0.4
CSS	Mathiatis	145.78	311	ePKPdf		PKPab	17 15 32.0	+0.1
MOA	Molln	145.80	346	i pPKPdf		PKPab	17 15 32.1	+0.5
	comp=Z,36nm,1.2s,SNR=20							
LANF	Langenberg	145.84	354	PKP		PKPab	17 15 38.0	+6.3
EDRB	Edirne	145.94	326	P		PKPab	17 15 33.5	+1.3
ARSA	Arzberg	146.04	344	i pPKPbc		PKPab	17 15 33.0	+0.6
	comp=Z,22nm,1.6s,SNR=12							
MDVR	Moldovita	146.08	335	⇑iP		PKPbc	17 15 31.8	-0.4
BEHE	Becsehely	146.39	342	ePKPdf		PKPab	17 15 37.8	+4.0
BFO	Black Forest	146.42	353	ePKP2		PKPbc	17 15 32.7	-0.3
BFO	Black Forest	146.42	353	ePKPdf		PKPbc	17 15 32.7	-0.3
ECH	Echery	146.67	354	PKP		PKPab	17 15 39.7	+4.9
SOKA	Soboth	146.70	344	i pPKPab		PKPab	17 15 36.2	+1.1
	comp=Z,24nm,1.1s,SNR=16							
PERS	Pernice	146.71	344	i PKPbc		PKPab	17 15 35.3	+0.2
KBA	Koelnbreinsper	146.75	346	i sPKPab		PKPab	17 15 37.5	+2.1
	comp=Z,32nm,1.1s,SNR=11							
WATA	Walderalm	146.88	348	i sPKPab		PKPab	17 15 37.7	+1.9
	comp=Z,20nm,1.0s,SNR=7.3							
RETA	Reutte	146.88	349	i pPKPab		PKPab	17 15 36.9	+1.1
	comp=Z,27nm,1.0s,SNR=11							
WTTA	Wattenberg	146.93	348	i pPKPab		PKPab	17 15 37.2	+1.1
	comp=Z,27nm,1.4s,SNR=6.5							
MOTA	Moosalm	146.96	349	i PKiKP		PKPab	17 15 36.3	+0.1
	comp=Z,28nm,1.1s,SNR=12							
OBKA	Obir	146.98	344	i PKiKP		PKPab	17 15 36.2	0.0
	comp=Z,16nm,1.1s,SNR=6.7							
MOF	Molkenrain	147.03	354	PKP		PKPab	17 15 40.6	+4.3
MYKA	Terra Mystica	147.10	346	i sPKPbc		PKPab	17 15 37.5	+0.9
	comp=Z,23nm,1.1s,SNR=9.2							
DAVA	Damuels	147.22	350	i pPKPab		PKPab	17 15 38.1	+0.9
	comp=Z,26nm,1.1s,SNR=9.0							
ABTA	Abfaltersbach	147.24	347	i pPKPbc		PKPab	17 15 36.8	-0.4
	comp=Z,22nm,1.2s,SNR=10							
FETA	Feichten	147.34	349	i pPKPab		PKPab	17 15 38.7	+1.1
	comp=Z,22nm,1.1s,SNR=7.6							
DIVS	Divibare	147.34	336	P		PKPab	17 15 37.6	-0.1
LJU	Ljubljana	147.42	344	i PKPbc		PKPbc	17 15 36.3	+0.4
SMTH	Samothraki Isl	147.55	326	P		PKPab	17 15 37.4	-1.1
LOMF	Lomont	147.56	354	PKP		PKPbc	17 15 41.2	+2.8
KAVA	Kavala	147.72	328	P		PKPab	17 15 39.9	+0.8
NVR	Nevrokopi	147.79	329	P		PKPab	17 15 38.1	-1.4
FUORN	Ofenpass-Fuorn	147.81	350	ePKPbc		PKPab	17 15 38.5	-1.1
TRI	Trieste	147.93	345	ePKP2		PKPbc	17 15 36.6	-0.7
TRI	Trieste	147.93	345	ePKPbc		PKPbc	17 15 36.6	-0.7
SRS	Serrai	148.10	329	P		PKPab	17 15 42.0	+1.3
LIA	Limnos Island	148.14	325	P		PKPbc	17 15 38.5	+0.5
SIGR	SIGRI	148.24	324	P		PKPab	17 15 43.6	+2.3
SOH	Sokhos	148.44	329	P		PKPab	17 15 43.0	+0.9
SKO	Skopje	148.47	332	P		PKPab	17 15 44.8	+2.7
SKO	Skopje	148.47	332	ePKP		PKPab	17 15 45.6	+3.5
AGO	Saint Agoulin	149.07	359	PKP		PKPab	17 15 44.6	+0.2
PLDF	La Plantade	149.14	358	PKP		PKPbc	17 15 44.1	-0.7
LIT	Litokhoron	149.41	329	P		PKPab	17 15 43.4	+2.0
FNA	Florina	149.43	331	P		PKPbc	17 15 43.2	+1.8
OHR	Ohrid	149.44	332	ePKP		PKPbc	17 15 41.8	+0.3
KARP	Karpathos	149.76	317	ePKPbc		PKPab	17 15 45.9	-1.8
SSB	Saint Sauveur	149.79	357	ePKP2		PKPbc	17 15 43.4	+1.2
SSB	Saint Sauveur	149.79	357	ePKPbc		PKPbc	17 15 43.4	+1.2
LBL	Lubilhac	149.89	359	PKP		PKPab	17 15 45.3	-2.5
KPRO	Kipourio	150.08	330	P		PKPab	17 15 47.7	-1.1
AGG	Agios Georgios	150.30	327	ePKIKP		PKPbc	17 15 44.8	+1.2
AGG				e			17 15 52.3	
AGG	Agios Georgios	150.30	327	ePKPbc		PKPbc	17 15 44.8	+1.2
AGG				epPKPab		pPKPab	17 15 52.3	-0.8
SANT	Santorini	150.35	320	ePKPbc		PKPbc	17 15 45.1	+1.4
DSF	Desfina	150.65	326	P		PKPbc	17 15 44.0	-0.4
EVR	Evrytania	150.65	328	P		PKPbc	17 15 44.3	-0.2
ANX	Ano Chora	150.83	327	P		PKPbc	17 15 46.1	+1.2
DSL	Palaion Diasel	150.85	329	P		PKPbc	17 15 41.8	-3.1
SGD	Sagiada	150.89	331	P		PKPbc	17 15 46.0	+1.1
DID	Didima	150.91	324	P		PKPbc	17 15 43.2	-1.8
IGT	Igoumenitsa	150.91	330	P		PKPbc	17 15 43.3	-1.7
KEK	Kerkira	151.02	331	P		PKPbc	17 15 46.3	+1.1
LAST	Lasithi	151.09	318	ePKPbc		PKPab	17 15 49.7	-3.5
KLV	Kalavryta, Ach	151.12	326	P		PKPbc	17 15 46.5	+0.9
PDO	Prodromos	151.21	328	P		PKPbc	17 15 46.0	+0.3
LKD2	Lefkada island	151.33	329	P		PKPdf	17 15 42.1	+2.1
IDI	Anoyia	151.39	319	ePKPbc		PKPbc	17 15 48.9	+2.6
TIP	Timpagrande	152.79	335	ePKPbc		PKPbc	17 15 52.0	+2.7
TIP				ePKPab		PKPab	17 16 02.5	+2.5
KEST	Kesra	158.44	344	PKPab		PKPab	17 16 26.6	+2.4
	comp=Z,15nm,1.1s,baz=248,slow=2.8,SNR=8.5							
TORD	Torodi Ar. Bea	178.04

ROC1	**El Roble**	**2.73**	**238**	*e*P		**Pn**	**17 16 54.6**	**-0.9**
ROC1				⇓*e*S		**Sn**	**17 17 27.6**	**-0.9**
VCA	**Vinchina**	**2.81**	**1**	⇓*e*P		**Pn**	**17 16 57.5**	**+1.0**
VCA				*e*S		**Sn**	**17 17 30.4**	**+0.1**
VCA				IAML			17 17 36.1	
	comp=Z,314nm,0.2s							
ANTU	**Antumapu**	**2.83**	**224**	*i* S		**Sn**	**17 17 30.4**	**-0.3**
ANTU				IAML			17 17 32.5	
	comp=E,110nm,0.5s							
RCDM	**Rinconada Maip**	**2.89**	**227**	⇓*i*P		**Pn**	**17 16 57.3**	**0.0**
RCDM				*i* S		**Sn**	**17 17 31.6**	**-0.2**
RCDM				IAML			17 17 34.2	
	comp=E,220nm,0.2s							
TCA	**Tanti**	**3.14**	**87**	*e*P		**Pn**	**17 17 01.1**	**+0.3**
TCA				*e*S		**Sn**	**17 17 37.2**	**-0.7**
TCA				IAML			17 17 40.0	
	comp=Z,80nm,0.5s							
CYA	**Choya**	**3.77**	**35**	*e*P		**Pn**	**17 17 08.7**	**-0.3**
CYA				IAML			17 17 53.9	
	comp=Z,41nm,0.3s							
FSA	**Cafayete**	**5.78**	**21**	IAML			17 18 41.9	
	comp=Z,5.2nm,0.4s							

ISCJB ***05*** *17:25:51.9±0.8, 7°.24S±0°.09×127°.3E±0°.2, h300km, mb3.5/7, Error ellipse: s-maj=23.5km s-min=8.8km az=158.9*

IDC ***05*** *17:25:55.9±3.8, 7°.46S×127°.05E, h323km±40km, mb3.2/7, mb1 3.3/10, mb1mx3.0/48, mbtmp4.0/10, Error ellipse: s-maj=35.1km s-min=16.2km az=62.0*

ISC 05 17:25:53.6±1.1, 7°.4S±0°.1×127°.3E±0°.2, h300km, n10, σ1ᵍ30/13, mb3.4/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.79**	**188**	P	**Pn**	**17 28 22.1**	**+0.6**
	0.3nm,0.3s,baz=18,slow=11,SNR=6.8						
FITZ				S	**S**	**17 30 23.7**	**+1.1**
	0.3nm,0.3s,baz=324,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**14.27**	**152**	P	**P**	**17 29 02.2**	**-0.6**
	1.1nm,0.3s,baz=328,slow=12,SNR=68						
WRA				S	**S**	**17 31 37.7**	**-2.2**
	0.3nm,0.3s,baz=323,slow=21,SNR=8.6						
ASAR	**Alice Springs**	**17.43**	**159**	P	**P**	**17 29 37.6**	**+0.4**
	2.0nm,0.3s,baz=339,slow=12,SNR=226						
ASAR				S	**S**	**17 32 41.6**	**-1.3**
	0.1nm,0.3s,baz=342,slow=24,SNR=6.4						
CTA	**Charters Tower**	**22.34**	**126**	P	**P**	**17 30 29.2**	**+2.3**
	3.5nm,1.1s,baz=301,slow=5.9,SNR=3.7						
NWAO	**Narrogin (SRO)**	**27.09**	**199**	P	**P**	**17 31 08.1**	**-1.3**
	4.6nm,0.9s,baz=359,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**27.82**	**153**	P	**P**	**17 31 16.4**	**+0.5**
	2.4nm,0.5s,baz=328,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**67.06**	**328**	P	**P**	**17 36 15.3**	**+0.2**
	0.3nm,0.6s,baz=134,slow=6.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**71.42**	**330**	P	**P**	**17 36 40.7**	**-0.8**
	0.3nm,0.6s,baz=128,slow=5.2,SNR=4.2						
VNDA	**Vanda**	**72.44**	**173**	P	**P**	**17 36 47.2**	**0.0**
	0.3nm,0.3s,baz=315,slow=8.2,SNR=6.2						
BVAR	**Borovoye Array**	**76.93**	**329**	P	**P**	**17 37 13.1**	**-0.1**
	0.2nm,0.5s,baz=144,slow=5.4,SNR=2.7						

IDC ***05*** *17:33:22.1±1.3, 38°.87N×144°.41E, h0km, mb3.2/3, mb1 3.5/6, mb1mx3.3/48, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=37.0km s-min=22.4km az=109.0*

ISCJB ***05*** *17:33:23.6±0.8, 39°.08N±0°.05×144°.32E±0°.07, h19km, mb3.4/3, Error ellipse: s-maj=8.6km s-min=4.9km az=37.2*

JMA ***05*** *17:33:26.1±0.2, 39°.04N×144°.26E, h47km, M3.3*

ISC 05 17:33:24.5±1.1, 39°.00N±0°.06×144°.32E±0°.09, h19km, n18, σ2ᵍ33/29, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.02**	**287**	P	**Pn**	**17 33 57.9**	**+0.3**
MIYJ				*e*S	**Sn**	**17 34 21.6**	**-0.8**
OFUJ	**Ofunato**	**2.06**	**273**	P	**Pn**	**17 33 58.5**	**+0.4**
JTH	**Tanohata**	**2.12**	**297**	P	**Pn**	**17 33 59.2**	**+0.3**
JOM	**Ohasama**	**2.40**	**282**	P	**Pn**	**17 34 03.6**	**+0.9**
JOM				*e*S	**Sn**	**17 34 30.8**	**-0.8**
JMK	**Ichinoseki**	**2.42**	**270**	P	**Pn**	**17 34 03.7**	**+0.7**
JMK				*e*S	**Sn**	**17 34 32.0**	**0.0**
JYK	**Kaneyama**	**3.09**	**270**	P	**Pn**	**17 34 13.3**	**+1.1**
JYK				*e*S	**Sn**	**17 34 49.7**	**+1.1**
JFT	**Otama**	**3.46**	**246**	P	**Pn**	**17 34 18.4**	**+1.0**
JFT				*e*S	**Sn**	**17 34 57.9**	**0.0**
JNBK	**Urakawa-nobuka**	**3.49**	**341**	P	**Pn**	**17 34 18.6**	**+0.9**
JNBK				*e*S	**Sn**	**17 34 57.5**	**-1.0**
JCH	**Churui**	**3.69**	**349**	P	**Pn**	**17 34 20.7**	**+0.3**
JCH				*e*S	**Sn**	**17 35 01.3**	**-2.0**
NEM2	**Nemuro 2**	**4.50**	**13**	P	**Pn**	**17 34 29.5**	**-2.0**
NEM2				*e*S	**Sn**	**17 35 17.3**	**-5.9**
JTKR	**Abashiri--Toko**	**4.98**	**357**	P	**Pn**	**17 34 37.6**	**-0.6**
JTKR				*e*S	**Sn**	**17 35 31.0**	**-4.2**
JRY	**Ryogami san**	**5.23**	**237**	P	**Pn**	**17 34 43.2**	**+1.5**
ASAJ	**Asahikawa**	**5.28**	**346**	Pn	**Pn**	**17 34 43.5**	**+1.3**
	0.7nm,0.3s,baz=162,slow=20,SNR=7.2						
ASAJ				Sn	**Sn**	**17 35 41.6**	**-1.0**
	0.4nm,0.3s,baz=140,slow=17,SNR=3.2						
MJAR	**Matsushiro Ar**	**5.42**	**245**	Pn	**Pn**	**17 34 46.2**	**+1.8**
	0.7nm,0.3s,baz=55,slow=11,SNR=11						
JHJ	**Hachijo jima 2**	**6.92**	**213**	Pn	**Pn**	**17 35 03.4**	**-1.5**
	7.5nm,0.3s,baz=79,slow=22,SNR=5.6						
JHJ				Sn	**Sn**	**17 36 15.5**	**-7.6**
	2.7nm,0.3s,baz=258,slow=20,SNR=4.3						
ILAR	**Eielson Array**	**46.60**	**33**	P	**P**	**17 41 52.4**	**+1.5**
	0.2nm,0.7s,baz=270,slow=5.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**46.63**	**307**	P	**P**	**17 41 52.5**	**+1.2**
	0.4nm,0.7s,baz=75,slow=8.2,SNR=3.7						
WRA	**Warramunga Arr**	**59.37**	**191**	P	**P**	**17 43 25.1**	**-0.4**
	0.3nm,0.7s,baz=8.8,slow=7.5,SNR=3.4						

SJA ***05*** *17:38:20.6±1.3, 32°.15S×69°.40W, h117km±7km, ML3.4, MW3.5*

GUC ***05*** *17:38:20.6±0.6, 31°.98S×69°.68W, h129km±17km, ML3.3*

ISCJB ***05*** *17:38:21.0±0.8, 32°.13S±0°.04×69°.39W±0°.05, h122km±8km, Error ellipse: s-maj=9.3km s-min=4.0km az=44.9*

ISC 05 17:38:20.7±1.6, 32°.16S±0°.05×69°.34W±0°.05, h127km±10km, n21, σ1ᵍ17/36, 1C-15D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.07**	**212**	⇓*e*P	**Pn**	**17 38 38.2**	**-0.2**
RTLS	**Leoncito**	**0.36**	**6**	*e*P	**Pn**	**17 38 38.8**	**-0.4**
ASAL	**Salagasta**	**0.61**	**135**	⇓*e*P	**Pn**	**17 38 40.9**	**+0.7**
ASAL				*e*S	**Sn**	**17 38 54.6**	**-0.4**
RTCV	**Cerro Valdivia**	**0.74**	**67**	*e*P	**Pn**	**17 38 41.4**	**+0.2**
RTCV				⇓*e*S	**Sn**	**17 38 56.4**	**-0.3**
ARCO	**CERRO ARCO**	**0.76**	**153**	*e*P	**Pn**	**17 38 42.4**	**+0.9**
ARCO				*e*S	**Sn**	**17 38 55.9**	**-1.3**
ARCO				IAML		17 38 58.8	
	comp=Z,1μm,0.3s						
SJA	**San Juan**	**0.92**	**47**	*e*P	**Pn**	**17 38 43.1**	**+0.5**
SJA				⇓*e*S	**Sn**	**17 39 00.5**	**+1.2**
AAGR	**Agrelo**	**1.02**	**155**	*e*P	**Pn**	**17 38 44.7**	**+1.1**
RTLL	**Cerro Villicun**	**1.11**	**42**	⇓*e*P	**Pn**	**17 38 44.6**	**+0.1**
RTLL				⇓*e*S	**Sn**	**17 39 02.3**	**-0.3**
FCH	**Farellones**	**1.41**	**214**	⇑*i*P	**Pn**	**17 38 49.1**	**+1.1**
FCH				*e*S	**Sn**	**17 39 10.2**	**+1.5**
FCH				IAML		17 39 10.5	
	comp=N,330nm,0.2s						
AMOG	**MOGNA**	**1.42**	**31**	*e*P	**Pn**	**17 38 48.2**	**+0.4**
AMOG				⇓*e*S	**Sn**	**17 39 07.4**	**-1.0**
PEL	**Peldehue**	**1.50**	**229**	⇓*i*P	**Pn**	**17 38 48.5**	**-0.1**
PEL				*i* S	**Sn**	**17 39 09.4**	**-0.5**
PEL				IAML		17 39 10.8	
	comp=E,447nm,0.3s						
CLCH	**Cerro Calan**	**1.59**	**219**	⇓*i*P	**Pn**	**17 38 50.3**	**+0.6**
CLCH				*i* S	**Sn**	**17 39 12.8**	**+0.9**
CLCH				IAML		17 39 13.6	
	comp=E,417nm,0.4s						
ROCH	**El Roble**	**1.62**	**240**	*e*P	**Pn**	**17 38 49.4**	**-0.9**
ROCH				*e*S	**Sn**	**17 39 11.6**	**-1.3**
ROCH				IAML		17 39 14.1	
	comp=E,479nm,0.3s						
ROC1	**El Roble**	**1.63**	**240**	⇓*e*P	**Pn**	**17 38 49.9**	**-0.5**
ROC1				⇓*e*S	**Sn**	**17 39 11.6**	**-1.3**
ANTU	**Antumapu**	**1.78**	**217**	*e*P	**Pn**	**17 38 51.9**	**+0.1**
ANTU				*e*S	**Sn**	**17 39 16.3**	**+0.6**
ANTU				IAML		17 39 17.7	
	comp=N,296nm,0.3s						
RCDM	**Rinconada Maip**	**1.81**	**223**	⇓*i*P	**Pn**	**17 38 52.3**	**0.0**
RCDM				*i* S	**Sn**	**17 39 16.4**	**+0.1**
RCDM				IAML		17 39 18.1	
	comp=E,505nm,0.2s						
ACAN	**Cantantal**	**1.83**	**94**	*e*P	**Pn**	**17 38 53.5**	**+1.0**
ACAN				*e*S	**Sn**	**17 39 17.4**	**+0.6**
AGUA	**GUANDACOL**	**2.76**	**16**	*e*P	**Pn**	**17 39 05.3**	**+1.0**
AGUA				⇓*e*S	**Sn**	**17 39 38.5**	**+0.6**
MRA	**San Martin**	**3.08**	**96**	⇓*e*P	**Pn**	**17 39 09.0**	**+0.6**
MRA				⇓*e*S	**Sn**	**17 39 40.3**	**-4.8**
MRA				IAML		17 39 50.0	
	comp=E,68nm,0.5s						
VCA	**Vinchina**	**3.55**	**16**	*e*P	**Pn**	**17 39 15.2**	**+0.5**
VCA				IAML		17 39 58.1	
	comp=E,69nm,0.5s						
TCA	**Tanti**	**4.13**	**80**	IAML		17 40 27.8	
	comp=Z,42nm,0.4s						

IDC 05 17:42:02.7±3.7, 7°.12S×147°.24E, h0km, mb3.1/1, mb1 3.4/3, mb1mx3.2/25, mbtmp3.3/3, ML2.2/2, Error ellipse: s-maj=87.2km s-min=35.0km az=85.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.28**	**182**	Pn	Pn	17 42 41.6	0.0
	11nm,0.3s,baz=36,slow=8.1,SNR=21						
PMG				Sn	Sn	17 43 10.4	+0.1
	2.0nm,0.3s,baz=223,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**17.86**	**223**	P	Pn	17 46 11.5	-1.4
	0.0nm,0.3s,baz=52,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**20.85**	**216**	P	Pn	17 46 47.6	-1.1
	1.1nm,1.1s,baz=36,slow=12,SNR=7.2						
TORD	**Torodi Ar. Bea**	**145.58**	**283**	PKPbc	PKPdf	18 01 43.0	-1.1
	0.3nm,0.6s,baz=91,slow=2.5,SNR=2.7						

IDC 05 17:45:29.1±2.0, 4°.86S×152°.82E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/32, mbtmp3.5/4, ML1.5/1, Error ellipse: s-maj=46.4km s-min=33.2km az=157.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.21**	**231**	Pn	Pn	17 47 17.9	+2.1
	0.5nm,0.3s,baz=128,slow=18,SNR=2.9						
PMG				Sn	Sn	17 48 37.6	-0.8
	0.6nm,0.3s,baz=218,slow=17,SNR=2.6						
DZM	**Mont Dzumac**	**21.61**	**144**	P	P	17 50 21.0	0.0
	6.6nm,1.1s,baz=336,slow=18,SNR=3.0						
WRA	**Warramunga Arr**	**23.42**	**229**	P	P	17 50 40.2	+0.1
	0.2nm,0.5s,baz=55,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**26.12**	**222**	P	P	17 51 04.7	-0.3
	0.1nm,0.6s,baz=56,slow=9.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**150.34**	**288**	PKPbc	PKPbc	18 05 22.9	-0.6
	0.4nm,0.7s,baz=116,slow=3.4,SNR=2.5						

ISCJB ***05*** *17:48:45.9±0.5, 37°.05N±0°.03×29°.06E±0°.03, h2km±7km, Error ellipse: s-maj=5.7km s-min=4.1km az=156.5*

ISK ***05*** *17:48:45.3, 37°.07N×29°.07E, h7km, MD2.8*

DDA ***05*** *17:48:46.4, 37°.08N×29°.06E, h7km, Md2.6*

CSEM ***05*** *17:48:46.0±0.2, 37°.07N×29°.06E, h8km, MD2.8, Error ellipse: s-maj=3.8km s-min=3.3km az=161.0*

ISC 05 17:48:45.9±1.2, 37°.08N±0°.02×29°.07E±0°.02, h0km±12km, n31, σ1ᵍ19/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLHS	**Glhisar (BURDU**	**0.35**	**78**	*e*PG	**Pg**	**17 48 52.3**	**-0.4**
GLHS				*e*SG	**Sg**	**17 48 58.6**	**+1.3**
GLHS	**Glhisar (BURDU**	**0.35**	**78**	*e*Pg	**Pg**	**17 48 52.3**	**-0.4**
GLHS				*e*Sg	**Sg**	**17 48 58.6**	**+1.3**
DALY	**Dalyan (Mu¨la**	**0.42**	**231**	*e*PG	**Pg**	**17 48 53.8**	**-0.3**
DALY				*e*SG	**Sg**	**17 48 59.9**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.42**	**231**	*e*Pg	**Pg**	**17 48 53.8**	**-0.3**
DALY				*e*Sg	**Sg**	**17 48 59.9**	**+0.4**
GOLH	**Golhisar**	**0.42**	**69**	P	**Pg**	**17 48 54.2**	**+0.2**
GOLH				S	**Sb**	**17 49 02.0**	**-1.3**
GOLH	**Golhisar**	**0.42**	**69**	*i* P	**Pg**	**17 48 54.2**	**+0.2**
GOLH				*i* S	**Sb**	**17 49 02.0**	**-1.3**
TURN	**Turunc**	**0.43**	**241**	*i* P	**Pn**	**17 49 00.4**	**+1.1**
FETY	**Fethiye**	**0.45**	**178**	*e*PG	**Pg**	**17 48 54.1**	**-0.4**
FETY	**Fethiye**	**0.45**	**178**	*e*Pg	**Pg**	**17 48 54.1**	**-0.4**
DNZL	**Cakiroluk**	**0.60**	**359**	P	**Pg**	**17 48 57.8**	**+0.3**
DNZL				S	**Sb**	**17 49 07.9**	**-0.8**
DNZL	**Cakiroluk**	**0.60**	**359**	*i* P	**Pg**	**17 48 57.8**	**+0.3**
DNZL				*i* S	**Sb**	**17 49 07.9**	**-0.8**
YER	**Yerkesik**	**0.63**	**275**	*e*PG	**Pg**	**17 48 58.1**	**+0.1**
YER				*e*SG	**Sb**	**17 49 08.0**	**-1.2**
YER	**Yerkesik**	**0.63**	**275**	*e*Pg	**Pg**	**17 48 58.1**	**+0.1**
YER				*e*Sg	**Sb**	**17 49 08.0**	**-1.2**
DENT	**Denizli**	**0.67**	**358**	*e*PG	**Pg**	**17 48 58.4**	**-0.4**
DENT	**Denizli**	**0.67**	**358**	*e*Pg	**Pg**	**17 48 58.4**	**-0.4**
ELL	**Elmali**	**0.75**	**116**	*e*PG	**Pg**	**17 49 00.2**	**-0.2**
ELL	**Elmali**	**0.75**	**116**	*e*Pg	**Pg**	**17 49 00.2**	**-0.2**
AKAS	**Kas**	**0.95**	**153**	P	**Pb**	**17 49 05.0**	**-0.4**
AKAS	**Kas**	**0.95**	**153**	*i* P	**Pb**	**17 49 05.0**	**-0.4**
AKAS				*i* S	**Sn**	**17 49 25.3**	**+4.3**
KORT	**Korkueli**	**1.03**	**94**	P	**Pn**	**17 49 06.5**	**-1.2**
KORT	**Korkueli**	**1.03**	**94**	*i* P	**Pn**	**17 49 06.5**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**313**	*e*PN	**Pn**	**17 49 09.8**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**313**	*e*Pn	**Pn**	**17 49 09.8**	**-1.3**
KHL	**Karahalli**	**1.29**	**16**	*e*PN	**Pg**	**17 49 10.6**	**-0.1**
KHL	**Karahalli**	**1.29**	**16**	*e*Pn	**Pg**	**17 49 10.6**	**-0.1**
KHAL	**Karahalli**	**1.33**	**15**	P	**Pg**	**17 49 11.5**	**+0.1**
KHAL				S	**Sg**	**17 49 31.2**	**+2.6**
KHAL	**Karahalli**	**1.33**	**15**	*i* P	**Pg**	**17 49 11.5**	**+0.1**
KHAL				*i* S	**Sg**	**17 49 31.2**	**+2.6**
BODT	**Bodrum**	**1.40**	**270**	*e*PN	**Pb**	**17 49 12.1**	**-0.9**
BODT	**Bodrum**	**1.40**	**270**	*e*Pn	**Pb**	**17 49 12.1**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.59**	**75**	*e*PN	**Pb**	**17 49 15.0**	**-1.3**
SUTC	**Sutluce-Ispart**	**1.59**	**75**	*e*Pn	**Pb**	**17 49 15.0**	**-1.3**

IDC ***05*** *17:54:48.4±2.5, 8°.76S×109°.63E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.7/4, Error ellipse: s-maj=132.1km s-min=24.8km az=50.0*

ISCJB ***05*** *17:54:52.0±0.6, 8°.94S±0°.07×109°.60E±0°.03, h33km, mb3.5/4, Error ellipse: s-maj=9.7km s-min=4.4km az=15.9*

DJA ***05*** *17:54:54.0±1.5, 9°.5S×11°.0E±°, h35km±17km, M4.0/29, mb4.1/7, MLv4.0/29*

ISC 05 17:54:53.9±1.0, 8°.9S±0°.1×109°.63E±0°.05, h35km, n29, σ0ᵍ90/28, mb3.5/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.30**	**42**	P	**Pn**	**17 55 15.5**	**-0.1**
UGM				S	**Sn**	**17 55 31.5**	**-0.4**
CMJI	**Cimerak**	**1.60**	**313**	P	**Pn**	**17 55 19.9**	**+0.2**
CMJI				S	**Sn**	**17 55 38.8**	**-0.4**
WOJI	**Wonogiri, Jawa**	**1.65**	**51**	P	**Pn**	**17 55 20.4**	**+0.1**
PCJI	**Pacitan**	**1.67**	**66**	P	**Pn**	**17 55 19.7**	**-0.9**
KPJI	**Karang Pucung**	**1.69**	**336**	P	**Pn**	**17 55 23.1**	**+2.2**
CISI	**Cisompet, Garu**	**2.23**	**306**	P	**Pn**	**17 55 28.7**	**+0.3**
CISI				S	**Sn**	**17 55 54.0**	**-0.8**
PWJI	**Pagerwojo**	**2.31**	**68**	P	**Pn**	**17 55 29.3**	**-0.1**
NGJI	**Ngawi**	**2.35**	**50**	P	**Pn**	**17 55 32.4**	**+2.4**
LEM	**Lembang**	**2.86**	**315**	Pn	Pn	17 55 46.2	+9.1
	6.3nm,0.3s,baz=56,slow=5.9,SNR=6.2						
LEM				Sn	Sn	17 56 21.4	+11
	10nm,0.3s,baz=176,slow=20,SNR=4.4						
CNJI	**Cibinong**	**2.93**	**302**	P	**Pn**	**17 55 38.2**	**+0.2**
TBJI	**Tambak Boyo**	**3.00**	**47**	P	**Pn**	**17 55 39.1**	**+0.1**
GMJI	**Gumukmas**	**3.82**	**81**	P	**Pn**	**17 55 51.9**	**+1.7**
SBJI	**Serang**	**4.43**	**308**	P	**Pn**	**17 55 58.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**4.49**	**85**	P	**Pn**	**17 56 00.5**	**+1.1**
CGJI	**Cibinong**	**4.51**	**300**	P	**Pn**	**17 55 59.7**	**0.0**
ABJI	**Asem Bagus**	**4.68**	**77**	P	**Pn**	**17 56 02.8**	**+0.8**
SRBI	**Singaraja**	**5.58**	**82**	P	**Pn**	**17 56 14.6**	**+0.2**
	28nm,1.3s,0.1nm						
KASI	**Kota Agung**	**6.09**	**303**	P	**Pn**	**17 56 20.5**	**-1.0**
	22nm,1.4s,0.2nm						
TPI	**Tanjungpandan**	**6.40**	**342**	P	**Pn**	**17 56 25.5**	**-0.2**
	2.8nm,0.8s,0.0nm						
PBKI	**Pangkalan Bun**	**6.46**	**18**	P	**Pn**	**17 56 26.7**	**+0.1**
	45nm,1.5s,0.2nm						
LWLI	**Liwa**	**6.74**	**304**	P	**Pn**	**17 56 30.4**	**0.0**
	43nm,0.9s,0.2nm						
TWSI	**Taliwang, Sumb**	**7.17**	**89**	P	**Pn**	**17 56 36.9**	**+0.7**
WRA	**Warramunga Arr**	**26.29**	**117**	P	**P**	**18 00 26.4**	**+0.1**
	0.6nm,0.7s,baz=291,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**27.48**	**125**	P	**P**	**18 00 37.2**	**+0.1**
	0.3nm,0.6s,baz=296,slow=9.6,SNR=12						
H08S2	**Diego Garcia H**	**36.77**	**269**	T	T	18 41 04.9	
	baz=95						
H08S3	**Diego Garcia H**	**36.78**	**269**	T	T	18 41 04.0	
	baz=95						
H08S1	**Diego Garcia H**	**36.78**	**269**	T	T	18 41 09.5	
	baz=95						
STKA	**Stephens Creek**	**37.45**	**132**	P	**P**	**18 02 04.8**	**+0.7**
	1.7nm,0.5s,baz=314,slow=10,SNR=6.1						
MKAR	**Makanchi Array**	**60.55**	**339**	P	**P**	**18 04 59.8**	**-1.0**
	0.3nm,0.4s,baz=149,slow=7.3,SNR=7.4						

MEX 05 17:55:12.7±0.8, 16°.89N×100°.51W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.29**	**56**	*i* P	Pg	17 55 17.2	-1.0
CAIG				*e*S	Sg	17 55 21.3	-0.8
ACP2	**Acapulco**	**0.60**	**91**	*e*P	Pg	17 55 22.8	-1.5
ACP2				*i* S	Sg	17 55 31.9	-0.2
ZIIG	**Zihuatanejo**	**1.16**	**308**	*e*P	Pg	17 55 31.3	-3.7
ZIIG				*e*S	Sg	17 55 46.5	-3.5
MEIG	**Mezcala**	**1.34**	**39**	*e*P	Pn	17 55 34.9	-3.3
MEIG				*e*S	Sg	17 55 51.6	-4.3
ARIG	**Puente Sto Nin**	**1.40**	**7**	*e*P	Pn	17 55 35.7	-3.2
ARIG				*i* S	Sb	17 55 52.3	-5.2
PLIG	**Platanillo**	**1.78**	**33**	*e*P	Pn	17 55 40.9	-3.4
PLIG				*i* S	Sn	17 56 03.2	-4.2
TLIG	**Tlapa**	**1.98**	**70**	*i* P	Pn	17 55 43.6	-3.4
TLIG				*i* S	Sn	17 56 08.3	-3.9
PNIG	**Pinotepa**	**2.34**	**102**	*e*P	Pn	17 55 49.5	-2.4
PNIG				*i* S	Sn	17 56 17.3	-3.7

DDA ***05*** *18:06:08.0, 39°.12N×29°.10E, h7km, Md3.2*

ISCJB ***05*** *18:06:08.3±0.5, 39°.13N±0°.02×29°.11E±0°.03, h1km±5km, Error ellipse: s-maj=3.9km s-min=3.5km az=152.0*

CSEM ***05*** *18:06:08.6±0.1, 39°.12N×29°.12E, h5km, MD3.2, Error ellipse: s-maj=1.9km s-min=1.7km az=121.0*

ISK ***05*** *18:06:08.1, 39°.13N×29°.12E, h5km, MD2.8*

ISC 05 18:06:08.6±1.0, 39°.13N±0°.02×29°.12E±0°.02, h8km±9km, n65, σ0ᵍ75/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.28**	**98**	P	**Pg**	**18 06 14.6**	**+0.3**
GDZ				S	**Sg**	**18 06 18.8**	**+0.7**
GDZ	**Gediz**	**0.28**	**98**	*i* P	**Pg**	**18 06 14.6**	**+0.3**
GDZ				*i* S	**Sg**	**18 06 18.8**	**+0.7**
DEMI	**Demirci**	**0.32**	**255**	P	**Pg**	**18 06 15.0**	**0.0**
DEMI				S	**Sg**	**18 06 19.4**	**+0.1**
DEMI	**Demirci**	**0.32**	**255**	*i* P	**Pg**	**18 06 15.0**	**0.0**
DEMI				*i* S	**Sg**	**18 06 19.4**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**40**	*e*PG	**Pg**	**18 06 16.8**	**+0.1**
TVSB				*e*SG	**Sg**	**18 06 22.5**	**+0.3**
TVSB	**Tavsanli**	**0.42**	**40**	*e*Pg	**Pg**	**18 06 16.8**	**+0.1**
TVSB				*e*Sg	**Sg**	**18 06 22.5**	**+0.3**
DST	**Dursunbey**	**0.61**	**321**	*e*PG	**Pg**	**18 06 20.4**	**-0.1**
DST				*e*SG	**Sb**	**18 06 29.4**	**-1.0**
DST	**Dursunbey**	**0.61**	**321**	*e*Pg	**Pg**	**18 06 20.4**	**-0.1**
DST				*e*Sg	**Sb**	**18 06 29.4**	**-1.0**
KULA	**Kula-Manisa**	**0.71**	**210**	*e*PG	**Pg**	**18 06 21.7**	**-0.6**
KULA	**Kula-Manisa**	**0.71**	**210**	*e*Pg	**Pg**	**18 06 21.7**	**-0.6**
KHAL	**Karahalli**	**0.81**	**159**	P	**Pg**	**18 06 24.0**	**-0.2**
KHAL				S	**Sg**	**18 06 34.4**	**-0.4**
KHAL	**Karahalli**	**0.81**	**159**	*i* P	**Pg**	**18 06 24.0**	**-0.2**
KHAL				*i* S	**Sg**	**18 06 34.4**	**-0.4**
KHL	**Karahalli**	**0.86**	**158**	*e*PG	**Pb**	**18 06 25.3**	**-0.7**
KHL	**Karahalli**	**0.86**	**158**	*e*Pg	**Pb**	**18 06 25.3**	**-0.7**
ORLT	**Orhaneli**	**0

KHAL	**Karahalli**	**0.81**	**159**	P	**Pb**	**18 10 14.3**	**+0.3**
KHAL				S	**Sb**	**18 10 24.8**	**0.0**
KHAL	**Karahalli**	**0.81**	**159**	*i* P	**Pb**	**18 10 14.3**	**+0.3**
KHAL				*i* S	**Sb**	**18 10 24.8**	**0.0**
KHL	**Karahalli**	**0.86**	**158**	*e*PG	**Pg**	**18 10 14.9**	**-0.1**
KHL				*e*SG	**Sg**	**18 10 26.4**	**+0.1**
KHL	**Karahalli**	**0.86**	**158**	*e*Pg	**Pg**	**18 10 14.9**	**-0.1**
KHL				*e*Sg	**Sg**	**18 10 26.4**	**+0.1**
BALB	**Balikesir**	**1.09**	**299**	*e*PN	**Pg**	**18 10 19.5**	**+0.2**
BALB	**Balikesir**	**1.09**	**299**	*e*Pn	**Pg**	**18 10 19.5**	**+0.2**
IGD	**Bursa**	**1.14**	**3**	*i* P	**Pb**	**18 10 19.1**	**-0.5**
IGD				*i* S	**Sg**	**18 10 36.1**	**+1.0**
CAVI	**Cavuskoy**	**1.21**	**27**	*e*PN	**Pg**	**18 10 21.2**	**-0.3**
CAVI	**Cavuskoy**	**1.21**	**27**	*e*Pn	**Pg**	**18 10 21.3**	**-0.3**
IZI	**Iznik**	**1.24**	**13**	*e*PN	**Pg**	**18 10 22.0**	**-0.2**
IZI	**Iznik**	**1.24**	**13**	*e*Pn	**Pg**	**18 10 22.0**	**-0.2**
BORA	**Eskisehir**	**1.28**	**53**	P	**Pg**	**18 10 22.8**	**-0.1**
BORA				S	**Sg**	**18 10 40.1**	**+0.5**
BORA	**Eskisehir**	**1.28**	**53**	*i* P	**Pg**	**18 10 22.8**	**-0.1**
BORA				*i* S	**Sg**	**18 10 40.1**	**+0.5**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*PN	**Pg**	**18 10 22.5**	**-0.5**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn	**Pg**	**18 10 22.5**	**-0.5**
ARMT	**Armutlu**	**1.45**	**352**	*e*PN	**Pb**	**18 10 25.3**	**+0.3**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn	**Pb**	**18 10 25.3**	**+0.3**

*IDC **05** 18:20:42.9±4.8, 36°.94N×71°.65E, h73km±34km, mb3.4/5, mb1 3.6/11, mb1mx3.2/53, mbtmp3.8/11, ML3.7/6, Error ellipse: s-maj=58.2km s-min=24.9km az=144.0*
*ISCJB **05** 18:20:44.6±0.5, 37°.11N±0°.04×71°.61E±0°.06, h106km, mb3.7/5, Error ellipse: s-maj=6.8km s-min=5.0km az=152.7*
*NNC **05** 18:20:49.9±2.2, 37°.46N×71°.29E, h157km±24km, mb3.2, mpv4.0, Error ellipse: s-maj=23.1km s-min=12.3km az=150.0*

ISC 05 18:20:45.1±0.7, 37°.11N±0°.06×71°.54E±0°.06, h106km, n28, σ2.58/37, mb3.6/5, 12C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.73**	**309**	⇑P	**Pn**	**18 21 29.6**	**+2.1**
	7.8nm,0.3s						
DZET				⇓S	**Sn**	**18 22 01.0**	**+0.8**
	138nm,0.4s						
MNAS	**Manas**	**5.42**	**8**	⇑P	**Pn**	**18 22 05.4**	**+1.7**
	9.3nm,0.3s						
MNAS				⇑S	**Sn**	**18 23 03.8**	**-1.0**
	20nm,0.6s						
THN	**Thein Dam**	**5.79**	**142**	*e*P	**Pn**	**18 22 08.2**	**-0.4**
THN				*e*S	**Sn**	**18 23 09.4**	**-4.3**
AAK	**Ala-Archa**	**5.96**	**21**	⇑P	**Pn**	**18 22 13.7**	**+2.6**
	9.5nm,0.3s						
AAK				⇑S	**Sn**	**18 23 18.1**	**0.0**
	14nm,0.8s						
KK31	**Karatay Array**	**6.04**	**353**	P	**Pn**	**18 22 13.9**	**+2.1**
	15nm,0.5s,baz=177,slow=12,SNR=343						
KK31				⇑S	**Sn**	**18 23 17.8**	**-1.8**
	3.4nm,0.3s,baz=176,slow=23,SNR=5.3						
TKM2	**Tokmak 2**	**6.58**	**27**	⇓P	**Pn**	**18 22 21.6**	**+2.1**
	20nm,1.1s						
TKM2				⇓S	**Sn**	**18 23 34.2**	**+1.0**
	3.6nm,0.8s						
PDGK	**Podgornoye**	**8.69**	**42**	⇑P	**Pn**	**18 22 49.4**	**+1.7**
	4.7nm,0.6s						
GEYT	**Alibeck**	**10.70**	**278**	P	**Pn**	**18 23 14.6**	**-0.6**
	1.6nm,0.3s,baz=84,slow=9.2,SNR=20						
GEYT				S	**Sn**	**18 25 09.8**	**-3.1**
	2.3nm,0.3s,baz=99,slow=18,SNR=11						
OTUK	**Ortayu**	**11.14**	**3**	⇑P	**Pn**	**18 23 21.2**	**+0.1**
	4.1nm,0.7s						
MK31	**Makanchi Array**	**12.54**	**36**	⇑P	**Pn**	**18 23 37.3**	**-2.4**
	0.6nm,0.5s,baz=204,slow=8.9,SNR=9.9						
MKAR	**Makanchi Array**	**12.54**	**36**	P	**Pn**	**18 23 40.5**	**+0.8**
	0.1nm,0.3s,baz=226,slow=14,SNR=26						
PYUN	**Piuthan**	**13.18**	**130**	*e*P	**Pn**	**18 23 47.3**	**-1.0**
	6.7nm,0.3s						
KOLN	**Koldanda**	**13.79**	**129**	*e*P	**Pn**	**18 23 55.1**	**-1.1**
	4.8nm,0.4s						
KURBB	**Kurchatov Arra**	**14.41**	**18**	P	**Pn**	**18 24 04.1**	**+0.3**
	0.1nm,0.3s,baz=206,slow=10,SNR=7.1						
KURBB	**Kurchatov Arra**	**14.41**	**18**	⇑P	**P**	**18 24 08.6**	**+1.0**
	3.9nm,0.5s						
AB31	**Akbulak array**	**14.77**	**329**	P	**Pn**	**18 24 08.3**	**-0.1**
	0.7nm,0.3s,baz=135,slow=14,SNR=55						
AB31				⇓S	Sn	18 26 40.6	-11
	1.2nm,0.5s,baz=155,slow=23,SNR=9.3						
KKN	**Kakani**	**14.85**	**125**	*e*P	**Pn**	**18 24 09.7**	**-0.1**
	3.9nm,0.5s						
DMN	**Daman**	**14.86**	**126**	*e*P	**Pn**	**18 24 09.2**	**-0.8**
	3.4nm,0.3s						
PKIN	**Phulchoki**	**15.07**	**125**	*e*P	**Pn**	**18 24 12.7**	**0.0**
	4.2nm,0.4s						
BVAR	**Borovoye Array**	**15.94**	**357**	P	**Pn**	**18 24 23.0**	**-0.1**
	0.7nm,0.3s,baz=160,slow=11,SNR=8.9						
AKTO	**Aktyubinsk**	**16.48**	**328**	P	**P**	**18 24 32.7**	**+2.1**
	0.2nm,0.3s,baz=132,slow=14,SNR=6.4						
AKTO				S	**Sn**	**18 27 26.6**	**-5.9**
	0.2nm,0.3s,baz=34,slow=23,SNR=3.6						
AKTO	**Aktyubinsk**	**16.48**	**328**	⇑P	**Pn**	**18 24 22.8**	**-7.0**
	3.5nm,0.9s						
AKTO				⇑S	**Sn**	**18 27 26.4**	**-6.1**
	2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**19.18**	**24**	P	**Pn**	**18 25 01.5**	**-0.7**
	0.9nm,0.3s,baz=220,slow=11,SNR=15						
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**18 27 48.1**	**+2.3**
	1.7nm,1.1s,baz=114,slow=6.4,SNR=2.3						
ARCES	**ARCESS Array B**	**40.75**	**337**	P	**P**	**18 28 17.9**	**+2.7**
	4.0nm,1.0s,baz=104,slow=9.5,SNR=2.9						
NOA	**NORSAR Array B**	**44.16**	**323**	P	**P**	**18 28 45.7**	**+2.8**
	0.3nm,0.6s,baz=96,slow=7.9,SNR=2.3						
ESDC	**Sonseca Array**	**57.56**	**298**	P	**P**	**18 30 26.3**	**+2.6**
	0.4nm,0.6s,baz=53,slow=7.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**66.17**	**269**	P	**P**	**18 31 23.3**	**+1.7**
	0.6nm,0.8s,baz=52,slow=6.3,SNR=6.5						

*IDC **05** 18:40:16.7±1.2, 48°.63N×155°.03E, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.4/58, mbtmp3.4/7, ML2.5/1, Error ellipse: s-maj=37.2km s-min=25.1km az=136.0*
*MOS **05** 18:40:18.6±1.1, 48°.41N×155°.51E, h22km, mb4.2/1, Error ellipse: s-maj=25.5km s-min=6.1km az=71.9*
*SKHL **05** 18:40:19.5±0.7, 48°.42N×155°.71E, h55km±3km, mb4.1/3*
*ISCJB **05** 18:40:20.9±0.7, 48°.73N±0°.08×155°.1E±0°.2, h36km, mb3.3/6, Error ellipse: s-maj=18.7km s-min=3.4km az=37.0*
*KRSC **05** 18:40:23.8±3.2, 48°.80N×156°.86E, h6km±5km, ML4.2*

ISC 05 18:40:21.9±0.9, 48°.6N±0°.1×155°.4E±0°.1, h36km, n53, σ1.97/47, mb3.3/6, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.11**	**13**	*e*PN	**Pn**	**18 40 55.2**	**+0.6**
SKR				pmax	pmax		
	comp=Z,39nm,1.0s						
SKR	**Severo-Kuril's**	**2.11**	**13**	*e*P	**Pn**	**18 40 53.7**	**-0.9**
SKR				*e*S	**Sn**	**18 41 18.6**	**-1.0**
SKR				A	A	18 41 22.6	
	comp=Z,230nm,0.7s						
SKR				A	A	18 41 22.6	
	comp=Z,250nm,0.7s						
SKR	**Severo-Kuril's**	**2.11**	**13**	*e*P	**Pn**	**18 40 54.9**	**+0.3**
SKR				*e*S	**Sn**	**18 41 18.6**	**-1.0**
PAU	**Pauzhetka**	**2.99**	**18**	PN	**Pn**	**18 41 09.4**	**+2.7**
PAU	**Pauzhetka**	**2.99**	**18**	*e*P	**Pn**	**18 41 09.4**	**+2.7**
PAU				*e*S	**Sn**	**18 41 41.4**	**+0.2**
PAU	**Pauzhetka**	**2.99**	**18**	*e*P	**Pn**	**18 41 09.4**	**+2.7**
PAU				*e*S	**Sn**	**18 41 42.8**	**+1.6**
ASAK	**Asacha**	**4.09**	**22**	PN	**Pn**	**18 41 24.4**	**+2.5**
ASAK	**Asacha**	**4.09**	**22**	*e*P	**Pn**	**18 41 24.4**	**+2.5**
MTVR	**Mutnovka**	**4.25**	**24**	S	**Sn**	**18 42 11.6**	**-1.0**
RUS	**Russkaya**	**4.30**	**27**	PN	**Pn**	**18 41 25.7**	**+0.9**
RUS	**Russkaya**	**4.30**	**27**	*e*P	**Pn**	**18 41 25.7**	**+0.9**
RUS	**Russkaya**	**4.30**	**27**	*e*P	**Pn**	**18 41 25.7**	**+0.9**
RUS				*e*S	**Sn**	**18 42 13.0**	**-0.6**
KRMR	**Karymshinskiy**	**4.55**	**22**	S	**Sn**	**18 42 21.3**	**+1.5**
PETK	**Petropavlovsk-**	**4.72**	**17**	Pn	**Pn**	**18 41 32.0**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=178,slow=12,SNR=16						
PETK				Sn	Sn	18 42 32.3	+8.3
	baz=52,slow=44,SNR=3.0						
PET	**Petropavlovsk**	**4.87**	**24**	*e*PN	Pn	18 41 40.5	+8.0
PET				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PET	**Petropavlovsk**	**4.87**	**24**	*e*P	**Pn**	**18 41 32.0**	**-0.5**
PET				AMB	AMB	18 41 40.8	
	comp=Z,10.0nm,0.5s						
PET				*e*S	**Sn**	**18 42 26.6**	**-0.9**
PET				A	A	18 42 30.2	
	comp=Z,20nm,0.6s						
PET				A	A	18 42 30.2	
	comp=Z,32nm,0.6s						
PET	**Petropavlovsk**	**4.87**	**24**	P	Pn	18 41 36.1	+3.6
DALK	**Dalny**	**4.90**	**25**	S	**Sn**	**18 42 28.8**	**+0.5**
UGLR	**Uglovaya**	**5.08**	**24**	PN	**Pn**	**18 41 37.6**	**+2.1**
UGLR	**Uglovaya**	**5.08**	**24**	*e*P	**Pn**	**18 41 37.6**	**+2.1**
UGLR				S	**Sn**	**18 42 33.0**	**+0.1**
AVH	**Avacha**	**5.11**	**23**	PN	Pn	18 41 38.9	+3.0
AVH	**Avacha**	**5.11**	**23**	*e*P	Pn	18 41 38.9	+3.0
AVH				S	**Sn**	**18 42 35.0**	**+1.5**
SMAR	**Somma**	**5.12**	**24**	PN	Pn	18 41 39.9	+3.7
SMAR	**Somma**	**5.12**	**24**	*e*P	Pn	18 41 39.9	+3.7
KRER	**Koryakskii**	**5.14**	**23**	PN	Pn	18 41 39.2	+2.7
KRER	**Koryakskii**	**5.14**	**23**	*e*P	Pn	18 41 39.2	+2.7
SDLR	**Sedlovina**	**5.16**	**24**	PN	**Pn**	**18 41 38.3**	**+1.7**
SDLR	**Sedlovina**	**5.16**	**24**	*e*P	**Pn**	**18 41 38.3**	**+1.7**
SDLR				S	**Sn**	**18 42 35.0**	**+0.2**
KRX	**Arik**	**5.17**	**22**	PN	Pn	18 41 39.7	+2.9
KRX	**Arik**	**5.17**	**22**	*e*P	Pn	18 41 39.7	+2.9
GNL	**Ganaly**	**5.32**	**17**	PN	Pn	18 41 42.9	+4.0
GNL	**Ganaly**	**5.32**	**17**	*e*P	Pn	18 41 42.9	+4.0
KUR	**Kuril'sk**	**6.15**	**239**	⇑*i*PN	**Pn**	**18 41 52.9**	**+2.7**
KUR				*e*S	**Sn**	**18 43 05.8**	**+6.6**
KUR				pmax	pmax		
	comp=Z,18nm,0.6s						
KUR	**Kuril'sk**	**6.15**	**239**	*e*P	**Pn**	**18 41 51.0**	**+0.8**
KUR				AMB	AMB	18 41 54.3	
	comp=Z,18nm,0.6s						
KUR				*e*S	**Sn**	**18 43 00.0**	**+0.8**
MKZ	**Mys Kozlova**	**7.13**	**31**	PN	**Pn**	**18 42 04.1**	**+0.5**
MKZ	**Mys Kozlova**	**7.13**	**31**	*e*P	**Pn**	**18 42 04.1**	**+0.5**
MKZ	**Mys Kozlova**	**7.13**	**31**	*e*P	**Pn**	**18 42 04.1**	**+0.5**
SHO	**Shikotan**	**7.59**	**234**	*e*PN	**Pn**	**18 42 09.0**	**-0.9**
SHO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SHO	**Shikotan**	**7.59**	**234**	*e*P	**Pn**	**18 42 09.0**	**-0.9**
SHO				AMB	AMB	18 42 15.1	
	comp=Z,9.0nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**8.02**	**239**	⇑*i*PN	**Pn**	**18 42 17.0**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**8.02**	**239**	*e*P	**Pn**	**18 42 17.1**	**+1.3**
YUK				*e*S	**Sn**	**18 43 45.4**	**+0.3**
KSRS	**Korea Array**	**22.83**	**251**	P	**P**	**18 45 20.1**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=48,slow=9.6,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**30.30**	**158**	T	T	19 18 33.8	
	baz=342,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy**	**30.32**	**158**	T	T	19 18 26.0	
	baz=342,SNR=21						
H11N3	**WAKE ISLAND Hy**	**30.32**	**158**	T	T	19 18 33.8	
	baz=342,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	**31.43**	**159**	T	T	19 19 58.0	
	baz=346,slow=76,SNR=223						
H11S3	**WAKE ISLAND Hy**	**31.44**	**159**	T	T	19 19 58.0	
	baz=346,slow=76,SNR=289						
H11S2	**WAKE ISLAND Hy**	**31.45**	**159**	T	T	19 20 04.9	
	baz=346,slow=76,SNR=200						
MKAR	**Makanchi Array**	**47.43**	**297**	P	**P**	**18 48 49.7**	**-2.9**
	comp=Z,0.1nm,0.5s,baz=57,slow=11,SNR=2.9						
CMAR	**Chiang Mai Arr**	**54.28**	**257**	P	**P**	**18 49 43.2**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=37,slow=7.5,SNR=6.4						
WRA	**Warramunga Arr**	**70.80**	**201**	P	**P**	**18 51 34.3**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=14,slow=4.3,SNR=2.7						
ASAR	**Alice Springs**	**74.49**	**200**	P	**P**	**18 51 56.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=11,slow=5.1,SNR=6.1						
TXAR	**Lajitas Array**	**75.26**	**62**	P	**P**	**18 52 02.1**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=319,slow=4.8,SNR=3.1						

IDC 05 18:45:44.7±1.9, 6°.55S×145°.51E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.2/34, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=54.6km s-min=27.4km az=83.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.27**	**150**	Pn	Pn	18 46 37.4	+0.2
	1.0nm,0.3s,baz=135,slow=1.4,SNR=5.2						
PMG				Sn	Sn	18 47 11.4	-5.4
	4.4nm,0.3s,baz=305,slow=22,SNR=17						
WRA	**Warramunga Arr**	**17.17**	**218**	P	Pn	18 49 46.9	+0.6
	0.0nm,0.3s,baz=42,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**20.35**	**212**	P	P	18 50 22.4	-0.4
	0.7nm,0.8s,baz=46,slow=8.3,SNR=9.7						
SONM	**Songino Array**	**64.18**	**332**	P	P	18 56 21.3	0.0
	0.2nm,0.5s,baz=155,slow=7.2,SNR=2.2						

WEL 05 19:00:39.2±0.1, 43°.60S×172°.50E, h10km, ML3.7/17, 4C-8D, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.09**	**73**	⇓PG	Pg	19 00 43.6	-0.1
CRLZ				SG	Sg	19 00 43.2	-0.2
CRLZ				AML	AML	19 00 43.5	
CRLZ				AML	AML	19 00 43.6	
CRLZ				AML	AML	19 00 43.6	
MQZ	**McQueen's Vall**	**0.15**	**134**	⇓PG	Pg	19 00 42.6	0.0
MQZ				SG	Sg	19 00 45.1	+0.1
MQZ				AML	AML	19 00 45.1	
OXZ	**Oxford**	**0.44**	**309**	⇓P*	Pg	19 00 47.5	-0.2
LTZ	**Lake Taylor**	**0.84**	**348**	⇑P*	Pg	19 00 55.6	+0.2
LTZ				AML	AML	19 01 07.8	
LTZ				AML	AML	19 01 09.7	
RPZ	**Rata Peaks**	**1.06**	**263**	⇓P*	Pg	19 00 58.8	-0.7
RPZ				AML	AML	19 01 18.9	
RPZ				AML	AML	19 01 21.7	
INZ	**Inchbonnie**	**1.17**	**318**	⇑P*	Pb	19 01 01.2	-0.3
WVZ	**Waitaha Valley**	**1.39**	**292**	⇑PN	Pn	19 01 03.9	-0.7
WVZ				AML	AML	19 01 31.4	
KHZ	**Kahutara**	**1.41**	**33**	PN	Pn	19 01 03.4	-1.5
LBZ	**Lake Benmore**	**1.85**	**244**	PN	Pn	19 01 10.2	-0.7
LBZ				AML	AML	19 01 43.1	
LBZ				AML	AML	19 01 43.1	
LBZ				AML	AML	19 01 43.1	
LBZ				AML	AML	19 01 43.1	
THZ	**Tophouse**	**1.86**	**9**	⇓PN	Pn	19 01 10.1	-1.0
THZ				AML	AML	19 01 39.9	
THZ				AML	AML	19 01 45.4	
DSZ	**Denniston Nort**	**1.93**	**344**	PN	Pn	19 01 11.3	-0.8
DSZ				AML	AML	19 01 44.9	
DSZ				AML	AML	19 01 45.5	
DSZ				AML	AML	19 01 45.5	
DSZ				AML	AML	19 01 46.0	
FOZ	**Fox Glacier**	**1.96**	**271**	⇓PN	Pn	19 01 12.9	+0.6
FOZ				AML	AML	19 01 47.3	
FOZ				AML	AML	19 01 49.0	
ODZ	**Otahua Downs**	**1.96**	**222**	⇑PN	Pn	19 01 11.2	-1.3
ODZ				AML	AML	19 01 41.8	
ODZ				AML	AML	19 01 41.8	
ODZ				AML	AML	19 01 43.1	
ODZ				AML	AML	19 01 50.1	
BSWZ	**Blackbirch Sta**	**2.14**	**29**	PN	Pn	19 01 13.9	-1.1
TUWZ	**Tuamarina**	**2.42**	**27**	PN	Pn	19 01 18.2	-0.5
NNZ	**Nelson**	**2.47**	**16**	PN	Pn	19 01 18.7	-0.7
HHSZ	**Highcliff Hill**	**2.66**	**210**	PN	Pn	19 01 20.7	-1.3
JCZ	**Jackson Bay**	**2.73**	**259**	PN	Pn	19 01 23.2	+0.1
JCZ				AML	AML	19 02 11.7	
JCZ				AML	AML	19 03 54.3	
QRZ	**Quartz Range**	**2.77**	**0**	PN	Pn	19 01 22.3	-1.3
QRZ				AML	AML	19 02 20.3	
QRZ				AML	AML	19 03 55.2	
WKZ	**Wanaka**	**2.79**	**243**	PN	Pn	19 01 23.1	-0.8
WKZ				AML	AML	19 02 16.3	
WKZ				AML	AML	19 02 19.4	
EAZ	**Earnscleugh**	**2.81**	**233**	⇓PN	Pn	19 01 23.0	-1.1
EAZ				AML	AML	19 02 08.8	
EAZ				AML	AML	19 02 09.2	
EAZ				AML	AML	19 02 09.3	
EAZ				AML	AML	19 02 09.3	
PLWZ	**Palliser**	**2.87**	**46**	PN	Pn	19 01 22.8	-2.3
TUZ	**Tuapeka**	**3.12**	**220**	⇓PN	Pn	19 01 27.1	-1.2
TUZ				AML	AML	19 02 24.3	
TUZ				AML	AML	19 02 24.3	
TUZ				AML	AML	19 02 28.6	
TUZ				AML	AML	19 02 28.6	
CAW	**Cannon Point**	**3.13**	**38**	PN	Pn	19 01 26.4	-2.2
KIW	**Kapiti Island**	**3.27**	**34**	PN	Pn	19 01 28.8	-1.6
SYZ	**Scrubby Hill**	**3.78**	**218**	AML	AML	19 02 55.6	
SYZ				AML	AML	19 06 47.3	
APZ	**The Paps**	**4.54**	**223**	AML	AML	19 04 19.9	

*THE **05** 19:06:19.0, 39°.34N×29°.55E, h3km±5km, ML3.3/1, Error ellipse: s-maj=7.2km s-min=1.8km az=94.0*
*ISK **05** 19:06:20.9, 39°.15N×29°.01E, h4km, ML3.4*
*DDA **05** 19:06:20.4, 39°.13N×29°.01E, h6km, Ml3.7*
*CSEM **05** 19:06:21.1±0.1, 39°.14N×29°.02E, h2km, ML3.7, Error ellipse: s-maj=2.1km s-min=1.9km az=109.0*

ISC 05 19:06:21.3±1.0, 39°.15N±0°.02×29°.00E±0°.01, h7km±8km, n132, σ0.96/175, 6C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**243**	P	**Pg**	**19 06 26.2**	**0.0**
DEMI				S	**Sg**	**19 06 29.7**	**+0.2**
DEMI	**Demirci**	**0.25**	**243**	*i* P	**Pg**	**19 06 26.2**	**0.0**
DEMI				*i* S	**Sg**	**19 06 29.7**	**+0.2**
GDZ	**Gediz**	**0.38**	**100**	P	**Pg**	**19 06 28.4**	**-0.4**
GDZ				S	**Sg**	**19 06 33.6**	**-0.2**
GDZ	**Gediz**	**0.38**	**100**	*i* P	**Pg**	**19 06 28.4**	**-0.4**
GDZ				*i* S	**Sg**	**19 06 33.6**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**50**	PG	**Pg**	**19 06 29.9**	**-0.5**
TVSB				SG	**Sg**	**19 06 36.8**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**50**	*i* Pg	**Pg**	**19 06 29.9**	**-0.5**
TVSB				*i* Sg	**Sg**	**19 06 36.8**	**+0.3**
DST	**Dursunbey**	**0.54**	**327**	*e*PG	**Pg**	**19 06 32.0**	**+0.3**
DST				*e*SG	**Sg**	**19 06 39.9**	**+1.1**
DST	**Dursunbey**	**0.54**	**327**	*e*Pg	**Pg**	**19 06 32.0**	**+0.3**
DST				*e*Sg	**Sg**	**19 06 39.9**	**+1.1**
KULA	**Kula-Manisa**	**0.69**	**203**	*e*PG	**Pg**	**19 06 33.9**	**-0.7**
KULA	**Kula-Manisa**	**0.69**	**203**	*e*Pg	**Pg**	**19 06 33.9**	**-0.7**
KHAL	**Karahalli**	**0.87**	**154**	P	**Pg**	**19 06 37.3**	**-0.8**
KHAL				S	**Sg**	**19 06 48.3**	**-1.1**
KHAL	**Karahalli**	**0.87**	**154**	*i* P	**Pg**	**19 06 37.3**	**-0.8**
KHAL				*i* S	**Sg**	**19 06 48.3**	**-1.1**
ORLT	**Orhaneli**	**0.90**	**355**	*e*PG	**Pb**	**19 06 38.9**	**-0.3**
ORLT	**Orhaneli**	**0.90**	**355**	*e*Pg	**Pb**	**19 06 38.9**	**-0.3**
KHL	**Karahalli**	**0.93**	**154**	*e*PG	**Pg**	**19 06 39.2**	**+0.1**
KHL	**Karahalli**	**0.93**	**154**	*e*Pg	**Pg**	**19 06 39.2**	**+0.1**
AKHS	**Akhisar**	**0.96**	**254**	P	**Pg**	**19 06 40.0**	**+0.2**
AKHS				S	**Sb**	**19 06 53.0**	**-0.3**
AKHS	**Akhisar**	**0.96**	**254**	*i* P	**Pg**	**19 06 40.0**	**+0.2**
AKHS				*i* S	**Sb**	**19 06 53.0**	**-0.3**
AKS	**Akhisar**	**0.96**	**254**	*e*PG	**Pb**	**19 06 40.1**	**-0.3**
AKS	**Akhisar**	**0.96**	**254**	*e*Pg	**Pb**	**19 06 40.1**	**-0.3**
BALB	**Balikesir**	**0.99**	**300**	*e*PG	**Pb**	**19 06 40.7**	**-0.2**
BALB	**Balikesir**	**0.99**	**300**	*e*Pg	**Pb**	**19 06 40.7**	**-0.2**
IGD	**Bursa**	**1.12**	**8**	*i* P	**Pg**	**19 06 41.4**	**-1.4**
IGD				*i* S	**Sb**	**19 06 58.3**	**+0.5**
KCTX	**Karacabey (Bur**	**1.22**	**336**	*e*PN	**Pb**	**19 06 44.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.22**	**336**	*e*Pn	**Pb**	**19 06 44.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.22**	**356**	*e*PN	**Pn**	**19 06 45.0**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.22**	**356**	*e*Pn	**Pn**	**19 06 45.0**	**+0.2**
BALY	**Balya**	**1.22**	**299**	P	**Pn**	**19 06 44.9**	**+0.1**
BALY				S	**Sb**	**19 07 01.4**	**+0.7**
BALY	**Balya**	**1.22**	**299**	*i* P	**Pn**	**19 06 44.9**	**+0.1**
BALY				*i* S	**Sb**	**19 07 01.4**	**+0.7**
CAVI	**Cavuskoy**	**1.23**	**32**	*e*PN	**Pg**	**19 06 44.7**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**32**	*e*Pn	**Pg**	**19 06 44.7**	**-0.3**
IZI	**Iznik**	**1.24**	**17**	*e*PN	**Pn**	**19 06 45.2**	**+0.1**
IZI	**Iznik**	**1.24**	**17**	*e*Pn	**Pn**	**19 06 45.2**	**+0.1**
GEMT	**Gemlik**	**1.29**	**6**	*e*PN	**Pg**	**19 06 46.3**	**+0.3**
GEMT	**Gemlik**	**1.29**	**6**	*e*Pn	**Pg**	**19 06 46.3**	**+0.3**
BORA	**Eskisehir**	**1.34**	**57**	P	**Pn**	**19 06 45.8**	**-0.7**
BORA				S	**Sb**	**19 07 04.3**	**+0.1**
BORA	**Eskisehir**	**1.34**	**57**	*i* P	**Pn**	**19 06 45.9**	**-0.7**
BORA				*i* S	**Sb**	**19 07 04.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.35**	**312**	*e*PN	**Pg**	**19 06 47.2**	**0.0**
GONE

ZEY				*i*	S		**Sg**	**19 07 31.1**	**+0.5**
SAHE	**Sakarya_HENDEK**	**2.21**	**39**		P		**Pn**	**19 06 58.0**	**-0.5**
SAHE	**Sakarya_HENDEK**	**2.21**	**39**	*i*	P		**Pn**	**19 06 58.0**	**-0.5**
SAHE				*i*	S		**Sg**	**19 07 33.6**	**+1.1**
KIZT	**Kizilcal**	**2.26**	**96**	*e*	PN		**Pn**	**19 07 00.6**	**+1.4**
KIZT	**Kizilcal**	**2.26**	**96**	*e*	Pn		**Pn**	**19 07 00.6**	**+1.4**
CTYL	**Yalikoy Yolu**	**2.38**	**347**	*e*	PN		**Pn**	**19 07 02.0**	**+1.2**
CTYL	**Yalikoy Yolu**	**2.38**	**347**	*e*	Pn		**Pn**	**19 07 02.0**	**+1.2**
KORT	**Korkueli**	**2.40**	**153**		P		**Pn**	**19 07 00.8**	**-0.4**
KORT	**Korkueli**	**2.40**	**153**	*i*	P		**Pn**	**19 07 00.8**	**-0.4**
KORT				*i*	S		**Sg**	**19 07 43.9**	**+5.5**
SIGR	**SIGRI**	**2.44**	**272**		P		**Pb**	**19 07 04.6**	**-1.0**
SIGR					S		**Sg**	**19 07 39.7**	**-0.1**
SIGR	**SIGRI**	**2.44**	**272**		P		**Pb**	**19 07 04.6**	**-1.0**
ALN	**Alexandroupoli**	**2.86**	**308**		P		**Pn**	**19 07 07.6**	**+0.3**
ALN	**Alexandroupoli**	**2.86**	**308**		P		**Pn**	**19 07 07.6**	**+0.3**
SMTH	**Samothraki Isl**	**2.98**	**297**		P		**Pn**	**19 07 09.3**	**+0.3**
SMTH	**Samothraki Isl**	**2.98**	**297**		P		**Pn**	**19 07 09.3**	**+0.3**
EDRB	**Edirne**	**3.19**	**328**		P		**Pn**	**19 07 10.6**	**-1.3**
EDRB					S		**Sn**	**19 07 49.9**	**-0.3**
EDRB	**Edirne**	**3.19**	**328**		P		**Pn**	**19 07 10.6**	**-1.3**
EDRB					S		**Sn**	**19 07 49.9**	**-0.3**
KDZ	**Kurdzhali**	**3.70**	**313**		P		**Sn**	**19 08 03.0**	**+0.2**
PRD	**Provadia**	**4.22**	**344**		P		**Sn**	**19 08 13.0**	**-2.5**
MSAB	**Monastry St. A**	**5.01**	**350**	⇑	*i*P		**Pn**	**19 07 37.4**	**+0.5**
TIRR	**Tirgusor**	**5.32**	**355**	⇓	*i*P		**Pn**	**19 07 41.6**	**+0.5**
MPEP	**Malo Peshtene**	**5.77**	**318**		P		**Pg**	**19 08 09.0**	**-2.9**
TLCR		**6.03**	**359**	⇑	*i*P		**Pn**	**19 07 51.7**	**+0.8**
CFR	**Carcaliu**	**6.05**	**354**	⇑	*i*P		**Pn**	**19 07 51.6**	**+0.4**
MLR	**Muntele Rosu**	**6.72**	**341**	⇑	*i*P		**Pn**	**19 08 04.6**	**+4.0**
PLOR	**Plostina**	**6.91**	**346**	⇑	*i*P		**Pn**	**19 08 01.0**	**-2.1**
VRI	**Vrincioaia**	**6.92**	**347**	⇑	*i*P		**Pn**	**19 08 03.7**	**+0.6**
VOIR		**6.93**	**336**	⇓	*i*P		**Pn**	**19 08 07.1**	**+3.8**

*IDC **05** 19:11:02.2±0.9, 7˚.19S×110˚.05E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/51, mbtmp3.8/8, ML3.9/3, MS3.0/1, Ms1 3.0/1, ms1mx2.7/33, Error ellipse: s-maj=39.1km s-min=16.7km az=40.0*

*DJA **05** 19:11:03.4±0.2, 7˚.5S±2˚×11˚.0E±˚, h10km, M4.1/29, mB4.9/2, mb4.2/10, MLv4.0/29, Mw(mB)4.2/2*

ISC 05 19:11:01.7±1.5, **7.45S**±0.06×**109.72E**±0.03, **h4**km±11km, **n33**, σ1°**54**/43, **mb3.7**/5, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.79**	**279**	P		**Pb**	**19 11 17.4**	**-0.5**
KPJI				S		**Sb**	**19 11 28.9**	**-0.1**
UGM	**Wanagama**	**0.92**	**120**	P		**Pb**	**19 11 19.1**	**-1.2**
UGM				S		**Sn**	**19 11 35.2**	**0.0**
WOJI	**Wonogiri, Jawa**	**1.26**	**108**	P		**Pn**	**19 11 24.1**	**-1.9**
CMJI	**Cimerak**	**1.30**	**255**	P		**Pn**	**19 11 24.6**	**-2.0**
CMJI				S		**Sn**	**19 11 43.8**	**-0.6**
PCJI	**Pacitan**	**1.62**	**117**	P		**Pn**	**19 11 29.7**	**-1.4**
PCJI				S		**Sb**	**19 11 54.2**	**+1.1**
JCJI	**Jatiwangi**	**1.72**	**304**	P		**Pn**	**19 11 31.2**	**-1.3**
NGJI	**Ngawi**	**1.73**	**87**	P		**Pb**	**19 11 34.6**	**+0.5**
NGJI				S		**Sg**	**19 11 57.7**	**+0.3**
CISI	**Cisompet, Garu**	**1.89**	**267**	P		**Pn**	**19 11 33.3**	**-1.5**
CISI				S		**Sn**	**19 11 58.3**	**-0.8**
PWJI	**Pagerwojo**	**2.15**	**105**	P		**Pn**	**19 11 38.3**	**0.0**
PWJI				S		**Sg**	**19 12 09.9**	**-0.8**
LEM	**Lembang**	**2.17**	**286**	Pn		**Pg**	**19 11 44.8**	**+1.4**
	64nm,0.3s,baz=104,slow=19,SNR=105							
LEM				LR		LR	19 12 54.5	
	comp=Z,322nm,20.9s,baz=223,slow=46							
TBJI	**Tambak Boyo**	**2.21**	**74**	P		**Pb**	**19 11 40.0**	**-2.2**
TBJI				S		**Sg**	**19 12 09.8**	**-2.9**
CNJI	**Cibinong**	**2.57**	**273**	P		**Pn**	**19 11 44.0**	**-0.1**
GMJI	**Gumukmas**	**3.78**	**103**	P		**Pn**	**19 12 02.4**	**+1.6**
BLJI	**Banyuglugur**	**3.86**	**95**	P		**Pn**	**19 12 03.7**	**+1.9**
CGJI	**Cibinong**	**4.08**	**282**	P		**Pn**	**19 12 05.3**	**+0.4**
ABJI	**Asem Bagus**	**4.49**	**95**	P		**Pn**	**19 12 11.9**	**+1.4**
JAGI	**Jajag, Banyuwa**	**4.51**	**103**	P		**Pn**	**19 12 13.1**	**+2.3**
TPI	**Tanjungpandan**	**5.10**	**336**	P		**Pn**	**19 12 19.7**	**+0.8**
	1.6nm,0.8s,62nm0.0nm							
PBKI	**Pangkalan Bun**	**5.10**	**23**	P		**Pn**	**19 12 20.0**	**+1.1**
	53nm,1.0s,0.5nm							
SRBI	**Singaraja**	**5.48**	**97**	P		**Pn**	**19 12 26.6**	**+2.4**
	28nm,1.5s,0.1nm							
KASI	**Kota Agung**	**5.53**	**290**	P		**Pn**	**19 12 26.9**	**+2.1**
	39nm,1.2s,0.1nm							
KLSI		**5.67**	**299**	P		**Pn**	**19 12 27.7**	**+1.0**
	394nm,0.9s,19µm3.6nm							
PPBI	**Pangkal Pinang**	**6.35**	**326**	P		**Pn**	**19 12 36.7**	**+0.6**
	28nm,1.6s,0.1nm							
BBKI	**Banjar Baru**	**6.46**	**52**	P		**Pn**	**19 12 38.8**	**+1.2**
	21nm,1.9s,0.1nm							
TWSI	**Taliwang, Sumb**	**7.21**	**101**	P		**Pn**	**19 12 50.7**	**+2.8**
	11nm,1.2s,0.1nm							
PLAI	**Plampang**	**8.10**	**100**	P		**Pn**	**19 13 02.5**	**+2.4**
KAPI	**Kappang**	**10.27**	**77**	Pn		**Pn**	**19 13 27.5**	**-2.3**
	1.6nm,0.3s,baz=204,slow=19,SNR=4.9							
FITZ	**Fitzroy Crossi**	**18.77**	**126**	P		**Pn**	**19 15 22.6**	**+0.2**
	0.1nm,0.3s,baz=297,slow=8.3,SNR=4.7							
FITZ				S		Sn	19 18 38.1	-15
	0.0nm,0.3s,baz=270,slow=17,SNR=1.6							
WRA	**Warramunga Arr**	**26.90**	**120**	P		**P**	**19 16 44.1**	**+0.1**
	0.8nm,0.5s,baz=293,slow=11,SNR=8.7							
WRA				PcP		**PcP**	**19 20 07.1**	**+0.6**
	0.2nm,0.6s,baz=315,slow=2.1,SNR=2.7							
CMAR	**Chiang Mai Arr**	**27.85**	**338**	P		**P**	**19 16 53.5**	**+0.9**
	0.7nm,0.7s,baz=178,slow=9.3,SNR=5.1							
ASAR	**Alice Springs**	**28.26**	**127**	P		**P**	**19 16 55.3**	**-0.9**
	1.0nm,0.7s,baz=303,slow=8.6,SNR=16							
ASAR				PcP		**PcP**	**19 20 12.5**	**+2.7**
	0.2nm,0.8s,baz=303,slow=2.7,SNR=2.7							
STKA	**Stephens Creek**	**38.36**	**134**	P		**P**	**19 18 23.8**	**-0.3**
	1.1nm,0.4s,baz=315,slow=11,SNR=8.2							
MKAR	**Makanchi Array**	**59.26**	**338**	P		**P**	**19 21 02.7**	**-1.6**
	0.2nm,0.6s,baz=163,slow=7.6,SNR=2.4							

*DDA **05** 19:28:28.6, 38˚.91N×28˚.59E, h11km, Md2.8*
*ISK **05** 19:28:28.2, 38˚.92N×28˚.60E, h5km, MD2.5*
*CSEM **05** 19:28:29.3±0.2, 38˚.91N×28˚.58E, h2km, MD2.8, Error ellipse: s-maj=6.6km s-min=4.2km az=169.0*

ISC 05 19:28:28.9±1.0, **38˚.91N**±0.03×**28˚.59E**±0.03, **h12**km±8km, **n18**, σ0°**33**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.17**	**37**	P		**Pg**	**19 28 32.8**	**+0.1**
DEMI				S		**Sg**	**19 28 35.3**	**-0.2**
DEMI	**Demirci**	**0.17**	**37**	*i*	P	**Pg**	**19 28 32.8**	**+0.1**
DEMI				*i*	S	**Sg**	**19 28 35.3**	**-0.2**
KULA	**Kula-Manisa**	**0.40**	**172**	*e*	PG	**Pg**	**19 28 37.0**	**+0.2**
KULA				*e*	SG	**Sg**	**19 28 42.4**	**+0.2**
KULA	**Kula-Manisa**	**0.40**	**172**	*e*	Pg	**Pg**	**19 28 37.0**	**+0.2**
AKHS	**Akhisar**	**0.61**	**267**	P		**Pg**	**19 28 40.5**	**-0.2**
AKHS				S		**Sb**	**19 28 49.4**	**-0.6**
AKHS	**Akhisar**	**0.61**	**267**	*i*	P	**Pg**	**19 28 40.5**	**-0.2**
AKHS				*i*	S	**Sb**	**19 28 49.4**	**-0.6**
AKS	**Akhisar**	**0.61**	**267**	*e*	PG	**Pg**	**19 28 40.7**	**0.0**
AKS	**Akhisar**	**0.61**	**267**	*e*	Pg	**Pg**	**19 28 40.7**	**0.0**
GDZ	**Gediz**	**0.72**	**75**	P		**Pg**	**19 28 43.3**	**-0.2**
GDZ				S		**Sg**	**19 28 52.6**	**+0.3**
GDZ	**Gediz**	**0.72**	**75**	*i*	P	**Pb**	**19 28 43.3**	**-0.2**
GDZ				*i*	S	**Sg**	**19 28 52.6**	**+0.3**
TVSB	**Tavsanli**	**0.87**	**51**	*e*	PG	**Pg**	**19 28 45.2**	**-0.5**
TVSB				*e*	SG	**Sb**	**19 28 57.3**	**-0.3**
TVSB	**Tavsanli**	**0.87**	**51**	*e*	Pg	**Pg**	**19 28 45.2**	**-0.5**
TVSB				*e*	Sg	**Sb**	**19 28 57.3**	**-0.3**
BALB	**Balikesir**	**0.91**	**323**	*e*	PG	**Pb**	**19 28 46.6**	**-0.1**
BALB				*e*	SG	**Sb**	**19 28 59.6**	**+0.7**
BALB	**Balikesir**	**0.91**	**323**	*e*	Pg	**Pb**	**19 28 46.6**	**-0.1**
BALB				*e*	Sg	**Sb**	**19 28 59.6**	**+0.7**
KCTX	**Karacabey (Bur**	**1.37**	**353**	*e*	PN	**Pb**	**19 28 54.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.37**	**353**	*e*	Pn	**Pb**	**19 28 54.6**	**+0.1**
BORA	**Eskisehir**	**1.74**	**56**	P		**Pg**	**19 29 02.5**	**+0.2**
BORA				S		**Sg**	**19 29 25.0**	**+0.1**
BORA	**Eskisehir**	**1.74**	**56**	*i*	P	**Pg**	**19 29 02.5**	**+0.2**
BORA				*i*	S	**Sg**	**19 29 25.0**	**+0.1**

*ISCJB **05** 19:49:58.0±0.3, 2˚.77N±0.03×128˚.50E±0.04, h33km, mb4.2/22, MS3.3/4, Error ellipse: s-maj=5.7km s-min=4.5km az=147.3*

*NEIC **05** 19:50:01.6±2.6, 2˚.60N×128˚.47E, h61km±25km, mb4.5/5, Error ellipse: s-maj=18.4km s-min=9.8km az=72.0*

*IDC **05** 19:50:02.3±1.9, 2˚.55N×128˚.33E, h67km±18km, mb3.8/18, mb1 4.0/20, mb1mx3.8/35, mbtmp4.1/20, MS3.1/6, Ms1 3.2/6, ms1mx2.9/35, Error ellipse: s-maj=20.5km s-min=10.5km az=74.0*

*DJA **05** 19:50:04.2±0.5, 3˚N±4˚×12˚8E±˚, h50km±6km, M4.8/32, mb4.6/32, mB5.5/3, MLv4.8/11, Mw(mB)4.9/3*

ISC 05 19:49:59.5±0.5, **2.74N**±0.06×**128.48E**±0.07, **h35**km, **n66**, σ1°**82**/62, **mb4.3**/22, **MS3.1**/4, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.09**	**288**	P		**Pn**	**19 50 47.7**	**+1.8**
SGSI				S		**Sn**	**19 51 23.3**	**+1.7**
LBMI	**Labuha**	**3.50**	**196**	P		**Pn**	**19 50 54.7**	**+3.2**
SWI	**Sorong**	**4.54**	**142**	P		**Pn**	**19 51 09.8**	**+4.1**
SWI				S		**Sn**	**19 51 58.2**	**+0.9**
SIJI	**Sorong**	**4.54**	**142**	P		**Pn**	**19 51 09.2**	**+3.4**
	baz=108,slow=20							
SIJI				S		**Sn**	**19 51 58.9**	**+1.4**
	17nm,0.3s,baz=270,slow=20,SNR=2.4							
DAV	**Davao City (W)**	**5.18**	**326**	LR		LR	19 52 53.8	
	comp=Z,67nm,18.2s,baz=185,slow=33							
SANI	**Sanana**	**5.37**	**208**	P		**Pn**	**19 51 17.8**	**+0.5**
	80nm,0.8s,0.3nm							
GTOI	**Gorontalo**	**5.85**	**249**	P		**Pn**	**19 51 25.4**	**+1.5**
	48nm,0.8s,10µm2.9nm							
FAKI	**Fak Fak**	**6.77**	**146**	P		**Pn**	**19 51 39.9**	**+3.4**
	44nm,0.9s,0.2nm							
LUWI	**Luwuk**	**6.83**	**237**	P		**Pn**	**19 51 40.3**	**+3.0**
	95nm,1.1s,0.4nm							
MRSI	**Marisa**	**6.91**	**251**	P		**Pn**	**19 51 39.9**	**+1.5**
	129nm,0.6s,2µm0.5nm							
RKPI	**Ransiki, Papua**	**7.09**	**127**	P		Pn	19 51 48.0	+7.1
	86nm,1.0s,0.5nm							
KDI	**Kendari**	**8.87**	**221**	P		**Pn**	**19 52 06.0**	**+0.7**
	43nm,0.9s							
PCI	**Palu**	**9.37**	**247**	P		**Pn**	**19 52 14.6**	**+2.4**
	23nm,0.8s							
TTSI	**Tana Toraja**	**10.39**	**236**	P		**Pn**	**19 52 25.2**	**-1.0**
	36nm,0.7s							
SPSI	**Sidrap Palu**	**10.96**	**233**	P		**Pn**	**19 52 34.8**	**+0.8**
	37nm,1.0s							
SAUI	**Saumlaki**	**11.02**	**165**	P		**Pn**	**19 52 39.4**	**+4.6**
	500nm,1.0s							
KAPI	**Kappang**	**11.64**	**229**	P		**Pn**	**19 52 42.6**	**-0.6**
	1.4nm,0.3s,baz=258,slow=0.5,SNR=7.5							
KAPI				LR		LR	19 57 35.3	
	comp=Z,63nm,19.3s,baz=32,slow=40							
MMRI	**Maumere**	**12.90**	**209**	P		**Pn**	**19 53 04.3**	**+3.7**
	30nm,1.5s							
PLAI	**Plampang**	**15.68**	**223**	P		**P**	**19 53 42.1**	**+0.4**
TWSI	**Taliwang, Sumb**	**16.24**	**225**	P		**P**	**19 53 47.7**	**-0.2**
	24nm,1.2s							
SRBI	**Singaraja**	**17.05**	**231**	P		**P**	**19 53 57.6**	**+0.7**
	34nm,1.4s							
STKI	**Sintang**	**17.20**	**261**	P		**Pn**	**19 53 57.3**	**0.0**
	14nm,1.4s							
JAGI	**Jajag, Banyuwa**	**18.12**	**232**	P		**P**	**19 54 10.1**	**+1.4**
	34nm,1.1s							
JAGI	**Jajag, Banyuwa**	**18.12**	**232**	*e*	P	**Pn**	**19 54 08.4**	**-0.2**
	35nm,1.0s							
GMJI	**Gumukmas**	**18.56**	**234**	P		**Pn**	**19 54 14.8**	**+0.8**
	45nm,1.0s,1µm							
PWJI	**Pagerwojo**	**19.77**	**237**	P		**P**	**19 54 26.8**	**-0.1**
	32nm,0.8s							
PCJI	**Pacitan**	**20.39**	**238**	P		**P**	**19 54 34.0**	**+0.4**
	44nm,0.7s							
FITZ	**Fitzroy Crossi**	**20.90**	**188**	P		**P**	**19 54 36.5**	**-2.5**
	1.6nm,0.7s,baz=2.9,slow=7.1,SNR=5.5							
LEM	**Lembang**	**22.89**	**245**	P		**P**	**19 55 02.9**	**+2.2**
	0.2nm,0.9s,baz=79,slow=16,SNR=1.7							
WRAB	**Tennant Creek**	**23.26**	**166**	*e*	P	**P**	**19 55 02.9**	**-1.2**
	10nm,0.7s							
WRA	**Warramunga Arr**	**23.27**	**166**	P		**P**	**19 55 03.2**	**-1.0**
	11nm,0.7s,baz=346,slow=10,SNR=71							
WRA				ScP		**ScP**	**20 02 22.6**	**-4.2**
	0.6nm,1.0s,baz=350,slow=2.5,SNR=3.3							
ASAR	**Alice Springs**	**26.78**	**169**	P		**P**	**19 55 35.2**	**-1.1**
	1.7nm,0.6s,baz=357,slow=8.6,SNR=29							
ASAR				PcP		**PcP**	**19 58 57.6**	**-1.4**
	0.9nm,0.7s,baz=360,slow=2.1,SNR=6.4							
JNU	**Nakatsue**	**30.30**	**4**	LR		LR	20 06 20.8	
	comp=Z,35nm,21.2s,baz=112,slow=32							
ENH	**Enshi**	**32.76**	**329**	*e*	P	**P**	**19 56 29.2**	**-0.1**
	5.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**32.87**	**300**	P		**P**	**19 56 30.6**	**+0.1**
	1.1nm,0.9s,baz=109,slow=7.0,SNR=6.4							
CMAR				LR		LR	20 11 39.5	
	comp=Z,42nm,19.1s,baz=138,slow=40							
KSAR	**Wonju Array Be**	**34.53**	**359**	P		**P**	**19 56 46.9**	**+2.2**
KSRS	**Korea Array**	**34.55**	**359**	P		**P**	**19 56 46.9**	**+2.2**
	5.7nm,0.7s,baz=175,slow=9.5,SNR=44							
KSRS				LR		LR	20 10 59.1	
	comp=Z,32nm,19.5s,baz=132,slow=36							
MJAR	**Matsushiro Arr**	**34.81**	**14**	P		**P**	**19 56 47.8**	**+0.7**
	2.8nm,0.6s,baz=183,slow=9.5,SNR=20							
STKA	**Stephens Creek**	**36.62**	**161**	P		**P**	**19 57 00.7**	**-1.9**
	4.4nm,0.7s,baz=333,slow=8.5,SNR=16							
H11S3	**WAKE ISLAND Hy**	**40.55**	**65**	T		T	20 41 08.2	
	baz=252,slow=75,SNR=36							
H11S2	**WAKE ISLAND Hy**	**40.56**	**65**	T		T	20 40 59.1	
	baz=252,slow=75,SNR=22							
H11S1	**WAKE ISLAND Hy**	**40.57**	**65**	T		T	20 40 59.3	
	baz=252,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**41.12**	**63**	T		T	20 41 36.5	
	baz=250,slow=75,SNR=62							
H11N2	**WAKE ISLAND Hy**	**41.13**	**63**	T		T	20 41 37.4	
	baz=250,slow=75,SNR=28							
H11N3	**WAKE ISLAND Hy**	**41.14**	**63**	T		T	20 41 37.6	
	baz=250,slow=75,SNR=42							
USRK	**Ussuriysk Ar.**	**41.40**	**4**	P		**P**	**19 57 43.0**	**+0.6**
	2.0nm,0.6s,baz=189,slow=5.3,SNR=3.7							
LSA	**Lhasa**	**44.40**	**311**	P		**P**	**19 58 06.3**	**-1.3**
	5.3nm,0.6s							
GUN	**Gumba**	**47.71**	**306**	*e*	P	**P**	**19 58 34.1**	**+0.5**
	25nm,0.6s							
KKN	**Kakani**	**48.15**	**305**	*e*	P	**P**	**19 58 37.2**	**+0.4**
	15nm,0.7s							
DMN	**Daman**	**48.22**	**305**	*e*	P	**P**	**19 58 37.7**	**+0.3**
	14nm,0.7s							
GKN	**Gorkha**	**48.76**	**305**	*e*	P	**P**	**19 58 41.6**	**+0.2**
	9.6nm,0.7s							
SONM	**Songino Array**	**48.80**	**340**	P		**P**	**19 58 41.4**	**0.0**
	1.3nm,0.6s,baz=152,slow=8.5,SNR=15							
KOLN	**Koldanda**	**49.52**	**305**	*e*	P	**P**	**19 58 48.0**	**+0.7**
	38nm,0.7s							
PYUN	**Piuthan**	**50.14**	**305**	*e*	P	**P**	**19 58 52.9**	**+0.8**
	49nm,0.8s							
PETK	**Petropavlovsk-**	**55.70**	**21**	P		**P**	**19 59 34.5**	**+2.1**
	10nm,0.7s,baz=178,slow=4.9,SNR=14							
MKAR	**Makanchi Array**	**59.36**	**325**	P		**P**	**19 59 58.1**	**-0.2**
	1.3nm,0.5s,baz=116,slow=7.9,SNR=14							
ZALV	**Zalesovo Beam**	**62.26**	**333**	P		**P**	**20 00 15.9**	**-1.9**
	0.3nm,0.3s,baz=132,slow=8.0,SNR=3.4							
TIXI	**Tiksi**	**68.81**	**0**	*e*	P	**P**	**20 00 59.4**	**-0.4**
	2.0nm,0.5s							
GEYT	**Alibeck**	**72.87**	**309**	P		**P**	**20 01 24.1**	**-1.1**
	0.4nm,0.5s,baz=100,slow=6.0,SNR=2.6							
VNDA	**Vanda**	**82.24**	**173**	P		**P**	**20 02 14.4**	**-2.3**
	0.8nm,1.0s,baz=299,slow=7.0,SNR=4.3							
ILAR	**Eielson Array**	**85.24**	**25**	P		**P**	**20 02 31.9**	**-0.5**
	0.3nm,0.5s,baz=238,slow=5.0,SNR=6.8							
INK	**Inuvik**	**90.43**	**22**	P		**P**	**20 02 57.0**	**-0.1**
	0.6nm,0.7s,baz=270,slow=4.0,SNR=3.1							
ARCES	**ARCESS Array B**	**91.97**	**340**	P		**P**	**20 03 05.5**	**+1.2**
	2.1nm,0.7s,baz=65,slow=7.3,SNR=3.4							
ARCES				LR		LR	20 48 16.5	
	comp=Z,47nm,19.4s,baz=293,slow=38							
FINES	**FINESS Array B**	**93.52**	**332**	P		**P**	**20 03 12.3**	**+0.8**
	1.2nm,0.9s,baz=30,slow=12,SNR=2.9							
TXAR	**Lajitas Array**	**120.80**	**53**	PKP		**PKPdf**	**20 08 47.6**	**-1.3**
	0.2nm,0.6s,baz=279,slow=1.7,SNR=3.1							
TORD	**Torodi Ar. Bea**	**124.88**	**288**	PKP		**PKPdf**	**20 08 54.5**	**-2.4**
	0.5nm,0.7s,baz=70,slow=2.5,SNR=3.6							

*JMA **05** 19:51:06.3±0.2, 23˚.52N×121˚.59E, h34km±4km, M2.8*
*ISCJB **05** 19:51:07.6±0.4, 23˚.54N±0.02×121˚.64E±0.02, h20km±5km, Error ellipse: s-maj=4.3km s-min=2.4km az=33.5*
*TAP **05** 19:51:07.8, 23˚.56N×121˚.57E, h18km, ML3.2, D*

ISC 05 19:51:05.0±1.0, **23˚.53N**±0.02×**121˚.76E**±0.02, **h18**km±8km, **n47**, σ0°**89**/85, **8C-7D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EHY	**Hungye**	**0.40**	**266**	⇑ *i*	*i*P	**Pb**	**19 51 14.2**	**+0.6**
	baz=256							
ESL	**Shilin**	**0.41**	**313**	⇑	*i*P	**Pb**	**19 51 14.8**	**+1.1**
	baz=335							
ESL				*i*	S	**Sb**	**19 51 19.7**	**0.0**
	baz=335							
TWF1	**Yuli**	**0.46**	**247**	⇓	*i*P	**Pb**	**19 51 15.4**	**+0.8**
	baz=229							
TWF1				S		**Sg**	**19 51 20.6**	**0.0**
	baz=229							
HWA	**Hwalien**	**0.46**	**343**	*e*	P	**Pn**	**19 51 17.2**	**+0.3**
	baz=5.0							
HWA				*e*	S	**Sn**	**19 51 23.8**	**-0.9**
	baz=5.0							
CHKT	**Chengkung**	**0.56**	**220**	⇑	*i*P	**Pn**	**19 51 18.3**	**+0.1**
	baz=201							
CHKT				*i*	S	**Sb**	**19 51 25.7**	**+1.6**
	baz=201							
TWD	**Chiawan**	**0.56**	**345**	*e*	P	**Pn**	**19 51 18.7**	**+0.4**
	baz=3.0							
TWD				*e*	S	**Sn**	**19 51 26.1**	**-1.1**
	baz=3.0							
WHF	**Hehuan Shan**	**0.76**	**324**	*e*	P	**Pb**	**19 51 20.3**	**+0.3**
	baz=335							
WHF				*e*	S	**Sg**	**19 51 29.4**	**-0.7**
	baz=335							
ELDTW	**Lidau**	**0.76**	**243**	⇓	P	**Pb**	**19 51 19.4**	**-0.4**
	baz=233							
SMLT	**Sun Moon Lake**	**0.86**	**294**	P		**Pb**	**19 51 21.3**	**-0.3**
	baz=297							
SMLT				S		**Sb**	**19 51 31.3**	**-1.4**
	baz=297							
ALS	**Alishan**	**0.87**	**269**	⇓	P	**Pb**	**19 51 21.7**	**-0.2**
	baz=265							
ALS				S		**Sb**	**19 51 31.4**	**-1.9**
	baz=265							
ENA	**Nanau**	**0.89**	**359**	*e*	P	**Pn**	**19 51 24.0**	**+1.2**
	baz=10.0							
ENA				*e*	S	**Sn**	**19 51 37.9**	**+2.6**
	baz=10.0							
TWT	**Tachien**	**0.89**	**324**	⇑	P	**Pn**	**19 51 23.2**	**+0.2**
	baz=331							
TWT				S		**Sb**	**19 51 33.1**	**-0.7**
	baz=331							
TYC	**Yuchr**	**0.90**	**294**	P		**Pb**	**19 51 21.8**	**-0.4**
	baz=298							
TYC				S		**Sb**	**19 51 32.2**	**-1.7**
	baz=298							
TWG	**Pinlang**	**0.95**	**222**	*e*	P	**Pn**	**19 51 24.2**	**+0.7**
	baz=211							
TTN	**Taitung**	**0.96**	**216**	*e*	P	**Pn**	**19 51 24.9**	**+1.3**
	baz=205							
STYT	**Tauyuan**	**0.99**	**248**	⇓	*e*P	**Pb**	**19 51 23.6**	**-0.1**
	baz=241							
STYT				*e*	S	**Sb**	**19 51 35.4**	**-1.1**
	baz=241							
CHN5	**Tsauling**	**0.99**	**274**	⇓	P	**Pb**	**19 51 23.9**	**+0.1**
	baz=272							
CHN5				*i*	S	**Sb**	**19 51 35.9**	**-0.7**
	baz=272							
WNT	**Mingjian**	**1.04**	**289**	P		**Pg**	**19 51 25.1**	**-0.1**
	baz=291							
WNT				S		**Sb**	**19 51 37.4**	**-0.5**
	baz=291							
CHN4	**Tsaushan**	**1.08**	**261**	P		**Pn**	**19 51 25.7**	**+0.3**
	baz=257							
CHN4				S		**Sb**	**19 51 38.5**	**-0.6**
	baz=257							
WTP	**Ta-pu**	**1.09**	**255**	⇓	P	**Pb**	**19 51 25.4**	**+0.

PANG				*e*S	Sg	19 51 53.8	+0.1	
PNIG	**Pinotepa**	**2.00**	**295**	*e*P	Pn	19 52 15.8	-4.4	
PNIG				*e*S	Sn	19 52 42.5	-3.3	

IDC ***05*** *19:52:08.9±1.1,19°.70N×109°.75W,h0km,mb3.5/6, mb1 3.9/9,mb1mx3.8/38,mbtmp3.6/9,ML3.5/3,MS3.7/19, Ms1 3.7/19,ms1mx3.7/26,Error ellipse: s-maj=43.6km s-min=20.9km az=76.0*

GCMT ***05*** *19:52:08.0±0.5, 19°.93N×109°.38W,h24km±2km,MW4.9/74, Moment Tensor Solution. s13,c13; s74,c99; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.16±.15; Mθθ-1.81±.14; Mφφ 1.65±.14; Mrθ-0.31±.15; Mθφ-1.58±.10; Mφr0.73±.17; Best double couple: M◎2.47600×10¹⁶ NP1:ϕs292.00000°,δ77.00000°,λ166.00000°. NP2: ϕs25.00000°,δ77.00000°,λ13.00000°. Principal axes: T 2.5300, Plg19.0000°, Azm249.0000°; N -0.1030, Plg71.0000°, Azm70.0000°; P -2.4230, Plg0.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***05*** *19:52:11.6±1.3, 19°.8N±0°.1×109°.8W±0°.2, h33km,mb3.5/5, MS3.7/15 Error ellipse: s-maj=29.7km s-min=17.3km az=161.4*

ISC 05 19:52:13.9±1.3, 19°.8N±0°.1×109°.9W±0°.2, h35km, n27, σ1§17/11, mb3.4/5, MS3.7/14, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**4.33**	**355**	Pn	**Pn**	**19 53 16.3**	**-1.0**
	8.3nm,0.3s,baz=210,slow=11,SNR=5.1						
LPIG				LR	LR	19 54 40.7	
	comp=Z,2μm,20.2s,baz=202,slow=34						
TXAR	**Lajitas Array**	**11.10**	**30**	Pn	**Pn**	**19 54 50.4**	**+0.2**
	0.1nm,0.3s,baz=200,slow=13,SNR=14						
CMIG	**Matias Romero**	**14.52**	**98**	LR	LR	20 00 35.4	
	comp=Z,185nm,18.4s,slow=35						
PFO	**Pinyon Flats O**	**14.97**	**338**	LR	LR	20 01 15.4	
	comp=Z,590nm,18.3s,baz=144,slow=36						
ANMO	**Albuquerque**	**15.44**	**11**	Pn	**Pn**	**19 55 48.5**	**-0.7**
	0.1nm,0.3s,baz=228,slow=12,SNR=2.2						
ANMO				LR	LR	20 00 33.3	
	comp=Z,228nm,19.0s,baz=196,slow=33						
NVAR	**Mina Array Bea**	**19.97**	**340**	P	**Pn**	**19 56 44.8**	**-0.5**
	1.6nm,1.0s,baz=160,slow=12,SNR=3.2						
NVAR				LR	LR	20 03 52.2	
	comp=Z,356nm,20.7s,baz=96,slow=35						
PDAR	**Pinedale Array**	**22.94**	**1**	P	**P**	**19 57 17.2**	**+2.0**
	0.2nm,0.3s,baz=201,slow=12,SNR=4.9						
PDAR				LR	LR	20 05 57.5	
	comp=Z,162nm,18.6s,baz=184,slow=36						
TKL	**Tuckaleechee C**	**27.93**	**50**	LR	LR	20 09 34.6	
	comp=Z,140nm,20.7s,baz=233,slow=38						
NEW	**Newport**	**29.03**	**350**	LR	LR	20 08 14.2	
	comp=Z,69nm,20.2s,baz=168,slow=33						
ULM	**Lac du Bonnet**	**32.41**	**17**	LR	LR	20 11 51.7	
	comp=Z,142nm,20.2s,baz=272,slow=36						
TAOE	**Nuku Hiva Isla**	**41.16**	**229**	*e*LR	LR	20 11 24.8	
	306nm,25.5s						
YKA	**Yellowknife Ar**	**42.82**	**357**	P	**P**	**20 00 08.3**	**+0.2**
	0.4nm,0.8s,baz=173,slow=6.8,SNR=5.3						
YKA				LR	LR	20 17 38.2	
	comp=Z,12nm,18.1s,baz=180,slow=36						
NNA	**Nana**	**45.35**	**131**	LR	LR	20 15 01.3	
	comp=Z,205nm,21.4s,baz=327,slow=30						
SCHQ	**Schefferville**	**47.78**	**32**	LR	LR	20 20 00.1	
	comp=Z,39nm,19.0s,baz=264,slow=35						
RKT	**Rikitea**	**49.13**	**211**	*e*T	T	20 54 01.4	
	3.4nm,0.3s						
INK	**Inuvik**	**50.74**	**349**	P	**P**	**20 01 09.8**	**-0.1**
	2.3nm,1.0s,baz=121,slow=9.1,SNR=4.7						
ILAR	**Eielson Array**	**51.23**	**341**	P	**P**	**20 01 13.8**	**+0.1**
	0.4nm,0.8s,baz=147,slow=7.2,SNR=3.6						
ILAR				LR	LR	20 21 01.0	
	comp=Z,84nm,21.9s,baz=178,slow=34						
PPT	**Papeete**	**53.78**	**229**	LR	LR	20 18 21.5	
	comp=Z,90nm,19.8s,baz=8.0,slow=29						
PPT2	**Papeete2**	**53.79**	**229**	*e*LR	LR	20 17 15.4	
	316nm,26.5s						
LPAZ	**La Paz**	**54.50**	**128**	P	**P**	**20 01 37.9**	**-1.3**
	1.6nm,0.7s,baz=303,slow=5.8,SNR=8.0						
LPAZ				LR	LR	20 21 30.4	
	comp=Z,176nm,21.6s,baz=307,slow=32						
CPUP	**Villa Florida**	**68.58**	**130**	LR	LR	20 30 52.6	
	comp=Z,52nm,19.9s,baz=307,slow=34						
PLCA	**Paso Flores**	**70.44**	**149**	LR	LR	20 26 54.4	
	comp=Z,161nm,21.0s,baz=336,slow=30						
NOA	**NORSAR Array B**	**86.76**	**25**	LR	LR	20 43 19.9	
	comp=Z,36nm,18.7s,baz=350,slow=35						
DZM	**Mont Dzumac**	**91.64**	**247**	*e*LR	LR	20 34 58.7	
	246nm,27.5s						
MJAR	**Matsushiro Arr**	**94.77**	**311**	LR	LR	20 40 27.7	
	comp=Z,24nm,21.9s,baz=270,slow=30						
WRA	**Warramunga Arr**	**119.91**	**258**	PKP	**PKPdf**	**20 11 02.7**	**+1.3**
	0.5nm,1.1s,baz=77,slow=2.5,SNR=2.6						
ASAR	**Alice Springs**	**121.00**	**254**	PKP	**PKPdf**	**20 11 04.7**	**+1.2**
	0.2nm,0.8s,baz=98,slow=2.6,SNR=2.8						

WEL 05 19:58:05.9±0.1, 41°.95S×172°.46E, h12km, ML3.8/39, 4C-5D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.38**	**61**	P*	Pg	19 58 12.6	-0.9
THZ				S*	Sg	19 58 18.1	-0.5
THZ				AML	AML	19 58 18.8	
DSZ	**Denniston Nort**	**0.53**	**292**	P*	Pg	19 58 16.0	-0.3
DSZ				S*	Sg	19 58 23.5	+0.1
DSZ				AML	AML	19 58 25.1	
LTZ	**Lake Taylor**	**0.84**	**190**	⇑P*	Pg	19 58 21.5	-0.8
LTZ				AML	AML	19 58 37.1	
LTZ				AML	AML	19 58 39.2	
KHZ	**Kahutara**	**0.93**	**121**	P*	Pb	19 58 23.9	0.0
NNZ	**Nelson**	**1.00**	**44**	⇓P*	Pb	19 58 23.5	-1.7
NNZ				AML	AML	19 58 46.0	
NNZ				AML	AML	19 58 46.3	
BSWZ	**Blackbirch Sta**	**1.08**	**78**	P*	Pb	19 58 25.8	-0.8
BSWZ				AML	AML	19 58 41.2	
BSWZ				AML	AML	19 58 43.9	
INZ	**Inchbonnie**	**1.08**	**224**	P*	Pb	19 58 25.7	-0.9
INZ				S*	Sb	19 58 40.0	-0.6
QRZ	**Quartz Range**	**1.12**	**3**	P*	Pb	19 58 26.2	-1.0
QRZ				S*	Sb	19 58 41.8	0.0
QRZ				AML	AML	19 58 43.2	
TUWZ	**Tuamarina**	**1.22**	**65**	P*	Pn	19 58 27.3	-1.5
TUWZ				AML	AML	19 58 50.2	
TUWZ				AML	AML	19 58 50.2	
CMWZ	**Cape Campbell**	**1.32**	**82**	PN	Pb	19 58 30.5	-0.1
CMWZ				AML	AML	19 58 54.0	
CMWZ				AML	AML	19 58 54.4	
OXZ	**Oxford**	**1.41**	**193**	PN	Pn	19 58 30.8	-0.6
TCW	**Tory Channel**	**1.55**	**62**	PN	Pn	19 58 33.0	-0.3
TCW				AML	AML	19 59 00.6	
TCW				AML	AML	19 59 01.2	
DUWZ	**D'Urville Isla**	**1.59**	**44**	⇓PN	Pn	19 58 33.4	-0.5
CRLZ	**Canterbury Las**	**1.63**	**176**	⇑PN	Pn	19 58 33.5	-0.9
CRLZ				AML	AML	19 59 08.6	
WVZ	**Waitaha Valley**	**1.70**	**228**	⇓PN	Pn	19 58 35.0	-0.3
WVZ				AML	AML	19 59 03.0	
MQZ	**McQueen's Vall**	**1.76**	**175**	PN	Pn	19 58 34.9	-1.3
MQZ				AML	AML	19 59 00.1	
MQZ				AML	AML	19 59 09.4	
WEL	**Wellington**	**1.85**	**70**	PN	Pn	19 58 38.3	+0.8
BHW	**Baring Head**	**1.88**	**74**	⇑PN	Pn	19 58 38.1	+0.3
BHW				AML	AML	19 59 09.4	
BHW				AML	AML	19 59 32.3	
RPZ	**Rata Peaks**	**2.05**	**210**	PN	Pn	19 58 39.6	-0.6
RPZ				AML	AML	19 59 11.2	
RPZ				AML	AML	19 59 15.1	
PLWZ	**Palliser**	**2.12**	**81**	PN	Pn	19 58 40.9	-0.4
KIW	**Kapiti Island**	**2.14**	**60**	PN	Pn	19 58 42.2	+0.8
KIW				AML	AML	19 58 46.2	
KIW				AML	AML	19 59 16.6	
MSWZ	**Moikau Station**	**2.15**	**77**	PN	Pn	19 58 41.3	-0.4
MSWZ				AML	AML	19 59 15.6	
MSWZ				AML	AML	19 59 22.2	
PAWZ	**Paruwai Farm**	**2.29**	**77**	PN	Pn	19 58 42.8	-0.7
PAWZ				AML	AML	19 59 15.2	
PAWZ				AML	AML	19 59 20.0	
OGWZ	**Otaki Gorge**	**2.33**	**62**	PN	Pn	19 58 44.6	+0.5
MTW	**Mount Morrison**	**2.41**	**72**	PN	Pn	19 58 44.5	-0.7
MTW				AML	AML	19 59 26.4	
MTW				AML	AML	19 59 28.1	
FOZ	**Fox Glacier**	**2.51**	**230**	PN	Pn	19 58 45.8	-0.7
FOZ				AML	AML	19 59 26.2	
FOZ				AML	AML	19 59 26.3	
FOZ				AML	AML	19 59 26.5	
FOZ				AML	AML	19 59 26.5	
HOWZ	**Holdsworth Sta**	**2.52**	**66**	PN	Pn	19 58 46.4	-0.4
MRZ	**Mangatainoka R**	**2.68**	**62**	⇑PN	Pn	19 58 48.9	+0.1
TMWZ	**Te Maipa**	**2.71**	**73**	PN	Pn	19 58 48.1	-1.2
OHWZ	**Ohakea**	**2.77**	**52**	PN	Pb	19 58 53.1	-2.2
TIWZ	**Tintock**	**2.83**	**67**	PN	Pn	19 58 50.5	-0.5
TIWZ				AML	AML	19 59 46.5	
TIWZ				AML	AML	19 59 48.4	
NWEZ	**Newall Road**	**2.88**	**22**	PN	Pn	19 58 52.4	+0.8
LREZ	**Lake Rotokare**	**2.89**	**31**	PN	Pn	19 58 54.0	+2.2
KHEZ	**Kahui Hut**	**2.90**	**25**	PN	Pn	19 58 53.7	+1.8
PREZ	**Palmer Road**	**2.91**	**27**	PN	Pn	19 58 53.4	+1.5
WAZ	**Wanganui**	**2.91**	**42**	PN	Pn	19 58 54.8	+2.8
WAZ				AML	AML	19 59 48.0	
WAZ				AML	AML	19 59 51.0	
NEZ	**North Egmont**	**2.95**	**25**	PN	Pn	19 58 54.5	+1.8
LBZ	**Lake Benmore**	**2.95**	**214**	PN	Pn	19 58 51.9	-0.7
LBZ				AML	AML	19 59 49.7	
LBZ				AML	AML	19 59 52.3	
PKE	**Pukeiti**	**2.99**	**23**	PN	Pn	19 58 54.4	+1.3
PKE				AML	AML	19 59 44.0	
PKE				AML	AML	19 59 56.0	
PRWZ	**Pori Road**	**2.99**	**63**	PN	Pn	19 58 52.8	-0.4
DREZ	**Durham Road**	**3.06**	**26**	PN	Pn	19 58 55.3	+1.3
BFZ	**Birch Farm**	**3.12**	**67**	PN	Pn	19 58 53.6	-1.3
TSZ	**Takapari Road**	**3.25**	**56**	PN	Pn	19 58 55.8	-1.0
TSZ				AML	AML	19 59 54.4	
VRZ	**Vera Road**	**3.32**	**33**	PN	Pn	19 58 59.1	+1.5
VRZ				AML	AML	20 00 04.4	
VRZ				AML	AML	20 00 07.6	
ODZ	**Otahua Downs**	**3.37**	**203**	⇓PN	Pn	19 58 57.2	-1.0
ODZ				AML	AML	20 01 26.8	
ANWZ	**Angora Road**	**3.37**	**65**	PN	Pn	19 58 56.0	-2.3
JCZ	**Jackson Bay**	**3.43**	**231**	⇓PN	Pn	19 58 58.7	-0.6
JCZ				AML	AML	20 00 03.2	
JCZ				AML	AML	20 00 05.9	
MTVZ	**Mangateitei**	**3.43**	**43**	PN	Pn	19 59 00.6	+1.3
MTVZ				AML	AML	20 00 05.3	
MTVZ				AML	AML	20 00 12.7	
PKVZ	**Pokaka**	**3.44**	**41**	PN	Pn	19 59 01.7	+2.3
PNHZ	**Pukenui**	**3.48**	**56**	PN	Pn	19 58 59.8	-0.2
TRVZ	**Turoa**	**3.54**	**43**	PN	Pn	19 59 03.2	+2.4
TRVZ				AML	AML	20 00 05.5	
WNVZ	**Wahianoa**	**3.54**	**43**	PN	Pn	19 59 02.9	+2.0
MOVZ	**Moawhango**	**3.56**	**46**	PN	Pn	19 59 02.7	+1.6
FWVZ	**Far West T-bar**	**3.57**	**42**	PN	Pn	19 59 03.8	+2.4
FWVZ				AML	AML	20 00 06.1	
FWVZ				AML	AML	20 00 10.4	
NGZ	**Ngauruhoe**	**3.66**	**42**	PN	Pn	19 59 04.6	+2.2
NGZ				AML	AML	20 00 12.9	
NGZ				AML	AML	20 00 24.5	
TWVZ	**Taurewa**	**3.66**	**39**	PN	Pn	19 59 04.3	+1.8
BHHZ	**Black Hill Sta**	**3.68**	**49**	PN	Pn	19 59 03.7	+1.1
WTVZ	**West Tongariro**	**3.70**	**41**	PN	Pn	19 59 05.1	+2.1
WTVZ				AML	AML	20 00 10.7	
WTVZ				AML	AML	20 00 18.2	
OTVZ	**Oturere**	**3.70**	**42**	PN	Pn	19 59 05.1	+2.0
OTVZ				AML	AML	20 00 16.8	
OTVZ				AML	AML	20 00 24.5	
KRVZ	**Karewarewa**	**3.74**	**41**	PN	Pn	19 59 05.7	+2.1
KRVZ				AML	AML	20 00 14.9	
KRVZ				AML	AML	20 00 16.4	
KRHZ	**Kereru**	**3.75**	**53**	PN	Pn	19 59 03.9	+0.3
KATZ	**Kakaramea**	**3.86**	**41**	PN	Pn	19 59 07.5	+2.3
KATZ				AML	AML	20 00 02.6	
HIZ	**Hauiti**	**3.89**	**29**	PN	Pn	19 59 06.0	+0.5
HIZ				AML	AML	20 00 24.0	
HIZ				AML	AML	20 00 28.1	
KWHZ	**Kaweka Forest**	**3.93**	**51**	PN	Pn	19 59 06.4	+0.4
RATZ	**Rangitukua**	**3.98**	**40**	AML	AML	20 00 34.8	
BKZ	**Black Stump Fm**	**4.14**	**49**	AML	AML	20 00 19.9	
BKZ				AML	AML	20 00 27.8	
MSZ	**Milford Sound**	**4.29**	**229**	PN	Pn	19 59 10.1	-0.8
MSZ				AML	AML	20 00 04.6	
MSZ				AML	AML	20 00 37.6	
TLZ	**Tolley Road**	**4.32**	**34**	PN	Pn	19 59 12.4	+1.0
MRHZ	**Matea Rd**	**4.33**	**45**	PN	Pn	19 59 11.8	+0.1
NMHZ	**Naumai**	**4.37**	**51**	PN	Pn	19 59 12.6	-0.1
TUZ	**Tuapeka**	**4.50**	**206**	PN	Pn	19 59 12.7	-1.0
TOZ	**Tahuroa Road**	**4.82**	**30**	PN	Pn	19 59 18.8	+0.6
URZ	**Urewera**	**5.13**	**46**	PN	Pn	19 59 21.3	-1.2
SYZ	**Scrubby Hill**	**5.17**	**206**	PN	Pn	19 59 21.8	-1.2
MKAZ	**Moumakai**	**5.27**	**24**	PN	Pn	19 59 25.1	+0.7

NIED ***05*** *19:59:00,37°.00N×143°.70E,h8km,Mw3.6 Best double couple: M◎3.22000×10¹⁴ NP1:ϕs92.00000°,δ60.00000°, λ-13.00000°. NP2:ϕs188.00000°,δ79.00000°, λ-149.00000°.*

JMA 05 19:59:28.8±0.2, 36°.98N×143°.73E, h35km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.31**	**280**	P	Pn	20 00 05.9	+1.5
JFK				S	Sn	20 00 33.4	+1.7
ONAJ	**Iwakimizuishiy**	**2.35**	**274**	S	Sn	20 00 34.2	+1.6
JIO	**Ouri**	**2.39**	**309**	P	Pn	20 00 07.1	+1.6
JMM	**Marumori**	**2.50**	**292**	S	Sn	20 00 38.4	+2.2
JFT	**Otama**	**2.76**	**282**	S	Sn	20 00 46.1	+3.4
JMK	**Ichinoseki**	**2.79**	**316**	P	Pn	20 00 12.6	+1.6
JOM	**Ohasama**	**3.14**	**323**	P	Pn	20 00 18.1	+2.3
JOM				S	Sn	20 00 53.6	+1.5
JYK	**Kaneyama**	**3.29**	**307**	P	Pn	20 00 20.7	+2.8
JAG	**Ashikaga**	**3.48**	**262**	P	Pn	20 00 22.2	+1.7
JAG				S	Sn	20 01 01.1	+0.7
JANG	**Nango**	**3.81**	**334**	P	Pn	20 00 26.4	+1.5
JRY	**Ryogami san**	**4.01**	**258**	S	Sn	20 01 13.7	+0.2

ISCJB ***05*** *20:04:13.9±0.4,4°.97N±0°.03×95°.81E±0°.04,h115km±3km, mb4.3/44, Error ellipse: s-maj=6.6km s-min=3.9km az=144.2*

BJI ***05*** *20:04:13.2,4°.80N×95°.80E,h104km, mb4.1/3,mB4.5/2*

NEIC ***05*** *20:04:14.8±0.8,4°.99N×95°.86E,h110km±7km, mb4.5/12, Error ellipse: s-maj=9.7km s-min=6.8km az=52.0*

IDC ***05*** *20:04:14.4±0.5,5°.12N×95°.95E,h100km±3km, mb3.9/25, mb1 4.0/27,mb1mx3.9/44,mbtmp4.3/27, Error ellipse: s-maj=13.1km s-min=9.9km az=49.0*

KLM ***05*** *20:04:18.0,4°.87N×95°.99E, h94km, mb4.6, ML4.5*

DJA ***05*** *20:04:18.0±0.3,5°.N±2°×9°.6E±°, h92km±3km, M4.9/47, mb4.9/47,mB5.5/19,MLv5.0/17,Mw(mB)4.9/19*

ISC 05 20:04:14.2±0.4, 4°.96N±0°.04×95°.77E±0°.04, h104km±3km, h104km:pP-P, n158, σ1§71/177, mb4.3/47, 12C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.94**	**138**	P	**Pn**	**20 04 35.2**	**+0.8**
MLSI				S	**Sn**	**20 04 49.8**	**+0.3**
LHMI	**Lhok Sumawe**	**1.20**	**77**	P	**Pn**	**20 04 38.7**	**+1.5**
LHMI	**Lhok Sumawe**	**1.20**	**77**	*e*Pn	**Pn**	**20 04 38.7**	**+1.5**
LHMI				*e*Sn	**Sn**	**20 04 53.7**	**-0.9**
TPTI		**2.20**	**140**	P	**Pn**	**20 04 50.1**	**+0.5**
KCSI	**Kotacane, Aceh**	**2.46**	**126**	P	**Pn**	**20 04 53.9**	**+0.9**
CMBY	**CAMPBELL BAY**	**2.74**	**318**	*e*P	**Pn**	**20 04 58.4**	**+1.7**
CMBY				IAmb	IAmb	20 04 59.1	
	comp=Z,2μm,0.3s						
TSI	**Tuntungan**	**3.15**	**117**	P	**Pn**	**20 05 03.0**	**+1.0**
PSI	**Prapat**	**3.81**	**124**	*e*Pn	**Pn**	**20 05 12.6**	**+1.6**
PKDT	**Phuket**	**3.87**	**41**	P	**Pn**	**20 05 12.3**	**+0.6**
GSI	**Gunungsitoli**	**4.06**	**154**	P	**Pn**	**20 05 12.9**	**-1.4**
GSI	**Gunungsitoli**	**4.06**	**154**	*e*Pn	**Pn**	**20 05 12.3**	**-2.0**
GSI				Sn	**Sn**	**20 06 01.8**	**+0.8**
KRAB	**Krabi**	**4.70**	**46**	P	**Pn**	**20 05 23.4**	**+0.5**
TRTT	**Trang**	**4.83**	**54**	P	**Pn**	**20 05 25.1**	**+0.4**
KULM	**Kulim**	**4.87**	**86**	⇑P	**Pn**	**20 05 26.1**	**+0.8**
KULM	**Kulim**	**4.87**	**86**	*e*Pn	**Pn**	**20 05 24.7**	**-0.6**
KULM				*e*Sn	**Sn**	**20 06 17.7**	**-2.9**
SURT	**Suratani**	**4.98**	**37**	P	**Pn**	**20 05 27.3**	**+0.6**
IPM	**Ipoh**	**5.26**	**95**	⇓P	**Pn**	**20 05 31.2**	**+0.6**
IPM	**Ipoh**	**5.26**	**95**	*e*Pn	**Pn**	**20 05 30.5**	**-0.1**
IPM				*e*Sn	**Sn**	**20 06 27.6**	**-2.5**
SKLT	**Songkhla**	**5.30**	**65**	P	**Pn**	**20 05 31.6**	**+0.5**
	comp=Z,135nm,1.1s						
MNSI	**Mandailing Nat**	**5.62**	**137**	P	**Pn**	**20 05 35.3**	**-0.2**
	comp=Z,295nm,0.6s,comp=Z,9μmcomp=Z,1.9nm						
SURA	**Surathani**	**5.67**	**42**	P	**Pn**	**20 05 37.1**	**+1.1**
	comp=Z,87nm,0.7s,comp=Z,11μmcomp=Z,0.3nm						
FRIM	**Kepong**	**6.09**	**106**	⇓P	**Pn**	**20 05 41.8**	**0.0**
BKNI	**Bangkinang**	**7.00**	**131**	P	**Pn**	**20 05 54.1**	**0.0**
	comp=Z,378nm,0.6s,comp=Z,6μmcomp=Z,1.8nm						
BKNI	**Bangkinang**	**7.00**	**131**	*e*Pn	**Pn**	**20 05 51.8**	**-2.4**
PPI	**Padang Panjang**	**7.10**	**139**	P	**Pn**	**20 05 55.4**	**-0.1**
	comp=Z,295nm,0.8s,comp=Z,3μmcomp=Z,1.0nm						
KTGM	**Kuala Trenggan**	**7.34**	**87**	⇑P	**Pn**	**20 05 59.3**	**+0.4**
PDSI	**Padang**	**7.49**	**141**	P	**Pn**	**20 06 00.2**	**-0.6**
	comp=Z,91nm,0.7s,comp=Z,4μmcomp=Z,0.4nm						
KGM	**Kluang**	**8.09**	**111**	⇑P	**Pn**	**20 06 09.5**	**+0.6**
SDSI	**Sungai Dareh**	**8.14**	**136**	P	**Pn**	**20 06 08.9**	**-0.8**
	comp=Z,107nm,0.7s,comp=Z,86μmcomp=Z,0.4nm						
DGPR	**DIGLIPUR**	**8.63**	**341**	*e*P	**Pn**	**20 06 15.3**	**-1.0**
DGPR				IAmb	IAmb	20 06 16.2	
	comp=Z,60nm,0.5s						
MYKOM	**Kota Tinggi**	**8.66**	**111**	*e*Pn	**Pn**	**20 06 15.6**	**-1.2**
PPSI	**Pulau Pagai**	**8.77**	**151**	P	**Pn**	**20 06 19.3**	**+1.1**
	comp=Z,220nm,1.6s						
TPRI	**Tanjung Pinang**	**9.62**	**114**	P	**Pn**	**20 06 30.3**	**+0.4**
	comp=Z,71nm,0.8s						
SRDT	**SRDT**	**9.89**	**19**	P	Pn	20 06 39.0	+5.5
	comp=Z,59nm,1.8s						
CHBT	**CHBT**	**10.09**	**40**	P	**Pn**	**20 06 39.3**	**+3.1**
	comp=Z,48nm,0.8s,comp=Z,678nm						
MASI	**Maura Aman, Be**	**10.33**	**141**	P	**Pn**	**20 06 38.6**	**-0.8**
	comp=Z,164nm,0.9s,comp=Z,7μm						
SRAK	**Srakaew**	**10.91**	**34**	P	Pn	20 06 55.8	+8.5
CHAI	**Chaiyaphum**	**12.47**	**29**	P	**Pn**	**20 07 11.2**	**+3.1**
	comp=Z,5.0nm,1.1s						
PPBI	**Pangkal Pinang**	**12.55**	**124**	P	**Pn**	**20 07 09.0**	**-0.1**
	comp=Z,42nm,1.4s						
PBKT	**Sadao Pong**	**12.61**	**23**	P	**Pn**	**20 07 12.8**	**+2.9**
	comp=Z,18nm,0.8s,comp=Z,1μm						
LWLI	**Liwa**	**12.92**	**140**	P	**Pn**	**20 07 11.8**	**-2.3**
	comp=Z,109nm,0.7s						
KHON	**Khomkaen**	**13.25**	**31**	P	**P**	**20 07 27.4**	**+3.1**
UTTA	**Uttaradit**	**13.54**	**20**	P	**P**	**20 07 26.5**	**-1.0**
	comp=Z,7.4nm,0.6s,comp=Z,66nm						
LOEI	**Loei**	**13.58**	**23**	P	**P**	**20 07 27.7**	**-0.3**
	comp=Z,65nm,0.7s						
KASI	**Kota Agung**	**13.58**	**140**	P	**Pn**	**20 07 19.1**	**-3.6**
	comp=Z,75nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.77**	**13**	P	**Pn**	**20 07 24.8**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=202,slow=11,SNR=3.1						
CMAR				ScP	**ScP**	**20 16 05.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=203,slow=3.8,SNR=4.5						
LAMP	**Lampang**	**13.99**	**15**	P	**P**	**20 07 35.3**	**+2.7**
	comp=Z,7.6nm,0.7s						
UBPT	**Khong Chiam**	**14.00**	**42**	P	**P**	**20 07 31.4**	**-1.3**
	comp=Z,16nm,1.4s						
CHTO	**Chiang Mai**	**14.11**	**12**	P	**P**	**20 07 33.5**	**-0.4**
	comp=Z,75nm,0.7s						
CHTO	**Chiang Mai**	**14.11**	**12**	*e*Pn	Pn	**20 07 31.6**	**+2.1**
	comp=Z,9.9nm,0.6s						
SKNT	**Sakolnakorn**	**14.40**	**33**	P	**P**	**20 07 35.9**	**-1.1**
	comp=Z,29nm,1.3s						
PANO	**Nakornpanom**	**14.89**	**35**	P	**P**	**20 07 44.4**	**+1.9**
	comp=Z,152nm,0.7s						
KSM	**Kuching**	**14.92**	**103**	Pn	**Pn**	**20 07 40.3**	**+0.4**
PALK	**Pallekele**	**15.15**	**279**	P	**P**	**20 07 45.6**	**0.0**
	comp=Z,4.8nm,0.3s,baz=116,slow=15,SNR=38						
PALK				S	**Sn**	**20 10 22.0**	**-8.4**
	comp=Z,5.6nm,0.3s,baz=116,slow=3.7,SNR=12						
PALK	**Pallekele**	**15.15**	**279**	*e*Pn	**Pn**	**20 07 43.0**	**+0.1**
	comp=Z,32nm,0.6s						
CGJI	**Cibinong**	**15.18**	**139**	P	**Pn**	**20 07 38.1**	**-5.0**
STKI	**Sintang**	**16.43**	**107**	P	**P**	**20 07 59.8**	**+0.2**
	comp=Z,53nm,1.0s,comp=Z,10μm						
SBUM	**Sibu**	**16.61**	**98**	⇓P	**P**	**20 08 02.1**	**+0.5**
SBUM	**Sibu**	**16.61**	**98**	*e*Pn	**Pn**	**20 08 01.1**	**+0.2**
	comp=Z,20nm,1.0s						
LEM	**Lembang**	**16.64**	**135**	P	**P**	**20 08 04.7**	**+2.5**
	comp=Z,3.2nm,0.3s,baz=312,slow=6.4,SNR=5.5						
CNJI	**Cibinong**	**16.65**	**137**	P	**Pn**	**20 07 57.3**	**-4.1**
CISI	**Cisompet, Garu**	**17.30**	**136**	P	**P**	**20 08 05.3**	**-4.0**
CISI	**Cisompet, Garu**	**17.30**	**136**	*e*

	comp=Z,1.1nm,0.8s,baz=224,slow=9.6,SNR=4.3									
SONM	**Songino Array**	**43.68**	**10**	P		**P**	**20 12 08.7**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=188,slow=8.7,SNR=23									
SONM				pP		**pP**	**20 12 34.0**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=189,slow=9.1,SNR=4.3									
SONM				PcP		**PcP**	**20 13 54.7**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=195,slow=3.3,SNR=7.7									
KKAR	**Karatay Array**	**44.07**	**333**	*eP*		**P**	**20 12 11.7**	**-0.2**
	comp=Z,3.9nm,0.7s									
WRA	**Warramunga Arr**	**45.28**	**124**	P		**P**	**20 12 21.8**	**-0.1**
	comp=Z,12nm,0.6s,baz=303,slow=9.5,SNR=285									
WRA				pP		**pP**	**20 12 45.5**	**-0.8**
	comp=Z,4.3nm,0.6s,baz=303,slow=9.2,SNR=3.2									
WRA				PcP		**PcP**	**20 14 00.8**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=311,slow=2.9,SNR=2.5									
WRA				ScP		**ScP**	**20 17 42.2**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=314,slow=3.6,SNR=5.1									
WRA				S		**S**	**20 18 52.3**	**-2.4**
	comp=Z,1.0nm,0.9s,baz=300,slow=16,SNR=5.0									
WRAB	**Tennant Creek**	**45.28**	**124**	*eP*		**P**	**20 12 21.9**	**0.0**
	comp=Z,23nm,0.6s									
ASAR	**Alice Springs**	**46.83**	**129**	P		**P**	**20 12 34.4**	**+0.4**
	comp=Z,18nm,0.7s,baz=299,slow=7.8,SNR=265									
ASAR				PcP		**PcP**	**20 14 05.9**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=304,slow=2.7,SNR=2.2									
ASAR				ScP		**ScP**	**20 17 49.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=310,slow=5.7,SNR=4.1									
ASAR				S		**S**	**20 19 13.6**	**-3.3**
	comp=Z,2.3nm,0.8s,baz=293,slow=14,SNR=23									
AS31	**Alice Springs**	**46.83**	**129**	*eP*		**P**	**20 12 33.9**	**-0.1**
	comp=Z,6.6nm,0.8s									
AS01	**Alice Springs**	**46.86**	**129**	*eP*		**P**	**20 12 34.1**	**-0.1**
GEYT	**Alibeck**	**47.44**	**319**	P		**P**	**20 12 39.6**	**+1.1**
	comp=Z,5.5nm,0.5s,baz=141,slow=8.3,SNR=29									
GEYT				pP		**pP**	**20 13 03.0**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=146,slow=8.6,SNR=4.2									
GEYT				sP		**sP**	**20 13 14.4**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=145,slow=8.7,SNR=3.7									
ZALV	**Zalesovo Beam**	**49.65**	**352**	P		**P**	**20 12 54.6**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=162,slow=7.7,SNR=13									
ZALV				pP		**pP**	**20 13 19.2**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=188,slow=6.4,SNR=2.5									
MJAR	**Matsushiro Arr**	**49.98**	**45**	P		**P**	**20 12 58.0**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=240,slow=7.4,SNR=4.8									
MJAR				pP		**pP**	**20 13 24.8**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=238,slow=7.5,SNR=4.4									
ABKAR	**Akbulak array**	**53.54**	**332**	*eP*		**P**	**20 13 23.1**	**-1.1**
	comp=Z,8.2nm,0.8s									
KLR	**Kul'dur**	**53.60**	**29**	P		**P**	**20 13 24.2**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=274,slow=5.9,SNR=7.4									
KLR				pP		**pP**	**20 13 52.2**	**+2.5**
	comp=Z,2.1nm,0.9s,baz=285,slow=4.2,SNR=3.1									
STKA	**Stephens Creek**	**56.94**	**133**	P		**P**	**20 13 48.3**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=299,slow=9.1,SNR=8.2									
KMBO	**Kilima Mbogo**	**58.77**	**266**	P		**P**	**20 14 05.5**	**+3.2**
	comp=Z,1.8nm,0.6s,baz=56,slow=9.3,SNR=6.8									
KBZ	**Khabaz**	**60.32**	**318**	P		**P**	**20 14 12.4**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=155,slow=7.4,SNR=4.4									
KBZ				sP		**sP**	**20 14 48.1**	**-1.1**
	comp=Z,4.0nm,0.8s,baz=161,slow=5.0,SNR=5.5									
BRTR	**Keskin Array B**	**65.55**	**312**	P		**P**	**20 14 46.7**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=142,slow=6.9,SNR=33									
BRTR				sP		**sP**	**20 15 22.9**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=126,slow=7.0,SNR=4.0									
TIXI	**Tiksi**	**69.76**	**11**	*eP*		**P**	**20 15 11.2**	**-1.5**
	comp=Z,2.0nm,0.5s									
LSZ	**Lusaka**	**69.87**	**252**	P		**P**	**20 15 16.9**	**+2.4**
	comp=Z,2.9nm,0.7s,baz=85,slow=5.6									
TIRR	**Tirgusor**	**70.45**	**315**	⇓*i*P		**P**	**20 15 17.4**	**0.0**
MSAB	**Monastry St. A**	**70.78**	**315**	⇓*i*P		**P**	**20 15 19.4**	**-0.1**
CFR	**Carcaliu**	**70.80**	**316**	⇑*i*P		**P**	**20 15 19.5**	**0.0**
SEY	**Seymchan**	**70.90**	**24**	P		**P**	**20 15 18.8**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=216,slow=3.7,SNR=4.8									
AKASG	**Malin Array Be**	**71.48**	**322**			**P**	**20 15 22.0**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=86,slow=5.6,SNR=9.7									
AKASG				pP		**pP**	**20 15 47.9**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=88,slow=5.4,SNR=2.7									
VRI	**Vrincioaia**	**71.91**	**317**	⇑*i*P		**P**	**20 15 27.1**	**+0.8**
PLOR	**Plostina**	**71.96**	**317**	⇑*i*P		**P**	**20 15 27.6**	**+1.0**
MLR	**Muntele Rosu**	**72.37**	**316**	⇓*i*P		**P**	**20 15 30.2**	**+1.0**
VOIR		**72.98**	**316**	⇑*i*P		**P**	**20 15 31.9**	**-0.8**
BURAR	**Bucovina Array**	**73.28**	**318**	⇓*i*P		**P**	**20 15 35.1**	**+0.6**
DRGR		**74.81**	**317**	⇑*i*P		**P**	**20 15 40.9**	**-2.5**
KWP	**Kalwaria Pacla**	**75.28**	**320**	⇑*i*P		**P**	**20 15 45.6**	**-0.3**
BOSA	**Boshof**	**75.45**	**239**	P		**P**	**20 15 49.9**	**+2.5**
	comp=Z,4.1nm,0.5s,baz=106,slow=5.1,SNR=19									
CRVS	**Cervenica-Dubn**	**75.97**	**319**	*eP*		**P**	**20 15 50.7**	**+0.8**
FINES	**FINESS Array B**	**76.02**	**332**	P		**P**	**20 15 49.1**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=102,slow=5.5,SNR=16									
FINES				pP		**pP**	**20 16 15.7**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=104,slow=6.5,SNR=3.1									
MAW	**Mawson**	**76.05**	**192**	P		**P**	**20 15 52.2**	**+2.5**
	comp=Z,1.7nm,0.6s,baz=326,slow=9.1,SNR=6.1									
STHS	**Stebnicka Huta**	**76.19**	**320**	*eP*		**P**	**20 15 52.4**	**+1.3**
KECS	**Kecovo**	**76.55**	**319**	*eP*		**P**	**20 15 53.2**	**0.0**
PSZ	**Piszkesteto**	**76.87**	**318**	⇑*i*P		**P**	**20 15 53.6**	**-1.5**
ARCES	**ARCESS Array B**	**78.53**	**340**	P		**P**	**20 16 03.5**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=100,slow=7.0,SNR=36									
SOKA	**Soboth**	**80.05**	**316**	*i*P		**P**	**20 16 11.1**	**-1.5**
	comp=Z,2.6nm,1.2s									
OBKA	**Obir**	**80.38**	**316**	*i*P		**P**	**20 16 09.8**	**-4.5**
	comp=Z,1.0nm,0.6s									
MOA	**Molln**	**80.64**	**318**	*i*P		**P**	**20 16 14.7**	**-0.9**
	comp=Z,4.7nm,1.4s									
GERES	**GERESS Array B**	**81.06**	**319**	P		**P**	**20 16 18.7**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=112,slow=4.8,SNR=18									
GERES				pP		**pP**	**20 16 45.8**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=98,slow=5.8,SNR=4.9									
KBA	**Koelnbreinsper**	**81.23**	**317**	*i*pP		pP	20 16 47.6	+1.6
	comp=Z,3.2nm,1.0s									
ABTA	**Abfaltersbach**	**81.79**	**316**	*i*PcP		**PcP**	**20 16 26.0**	**-1.3**
	comp=Z,5.4nm,1.4s									
WTTA	**Wattenberg**	**82.40**	**317**	*i*P		**P**	**20 16 24.7**	**-0.4**
	comp=Z,2.5nm,0.6s									
WATA	**Walderalm**	**82.44**	**317**	*i*P		**P**	**20 16 25.2**	**0.0**
	comp=Z,1.3nm,0.4s									
MOTA	**Moosalm**	**82.76**	**317**	*i*P		**P**	**20 16 25.0**	**-2.0**
	comp=Z,2.2nm,0.7s									
RETA	**Reutte**	**82.99**	**317**	*i*P		**P**	**20 16 27.9**	**-0.1**
	comp=Z,3.3nm,0.5s									
FETA	**Feichten**	**83.01**	**317**	*i*PcP		**PcP**	**20 16 34.9**	**+2.1**
	comp=Z,3.1nm,1.1s									
NB2	**NORSAR Subarra**	**83.04**	**331**	P		**P**	**20 16 26.4**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=96,slow=4.6									
NOA	**NORSAR Array B**	**83.04**	**331**	P		**P**	**20 16 27.0**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=94,slow=4.8,SNR=4.1									
SYO	**Syowa Base**	**83.13**	**198**	⇑*e*P		pP	20 17 00.8	+5.7
SYO	**Syowa Base**	**83.13**	**198**	⇑*e*P		sP	20 17 04.5	-1.8
DAVA	**Damuels**	**83.59**	**317**	*i*PcP		**P**	**20 16 32.6**	**+1.3**
	comp=Z,5.7nm,1.2s									
TORD	**Torodi Ar. Bea**	**92.84**	**283**	P		**P**	**20 17 17.6**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=88,slow=5.1,SNR=14									
TORD				pP		**pP**	**20 17 45.0**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=90,slow=6.0,SNR=3.4									
ESDC	**Sonseca Array**	**94.32**	**310**	P		**P**	**20 17 23.0**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=79,slow=3.6,SNR=3.5									
PDAR	**Pinedale Array**	**127.23**	**23**	PKP		**PKPdf**	**20 23 07.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=60,slow=2.2,SNR=4.9									
TXAR	**Lajitas Array**	**141.12**	**28**	PKP		**PKPdf**	**20 23 31.7**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=158,slow=2.6,SNR=1.8									
CPUP	**Villa Florida**	**146.64**	**228**	PKPbc		**PKPbc**	**20 23 44.7**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=173,slow=6.8,SNR=4.4									

*ISK **05** 20:04:36.8, 39.°11N×29.°07E, h8km, MD2.8*
*ISCJB **05** 20:04:37.5±0.5, 39.°12N±0.°03×29.°07E±0.°04, h7km±5km, Error ellipse: s-maj=4.8km s-min=4.1km az=24.4*
*DDA **05** 20:04:37.9, 39.°13N×29.°10E, h7km, Ml2.4*
*CSEM **05** 20:04:37.6±0.1, 39.°11N×29.°07E, h10km, ML2.4, Error ellipse: s-maj=2.6km s-min=2.1km az=92.0*

ISC 05 20:04:37.5±1.0, 39.°12N±0.°02×29.°05E±0.°03, h9km±10km, n33, σ0°34/48, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**254**	P		**P**	**Pb**	**20 04 44.5**	**-0.1**
DEMI				S		S	**Sb**	**20 04 48.7**	**-0.6**
DEMI	**Demirci**	**0.27**	**254**	*i*P		**P**	**Pb**	**20 04 44.5**	**-0.1**
DEMI				*i*S		S	**Sb**	**20 04 48.7**	**-0.6**
GDZ	**Gediz**	**0.34**	**95**	P		**P**	**Pg**	**20 04 44.4**	**+0.1**
GDZ				S		S	**Sg**	**20 04 48.8**	**0.0**
GDZ	**Gediz**	**0.34**	**95**	*i*P		**P**	**Pg**	**20 04 44.4**	**+0.1**
GDZ				*i*S		S	**Sg**	**20 04 48.8**	**0.0**
TVSB	**Tavsanli**	**0.46**	**44**	*e*PG		**Pg**		**20 04 46.3**	**-0.3**
TVSB				*e*SG		**Sg**		**20 04 52.4**	**-0.3**
TVSB	**Tavsanli**	**0.46**	**44**	*e*Pg		**Pg**		**20 04 46.3**	**-0.3**
TVSB				*e*Sg		**Sg**		**20 04 52.4**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**207**	*e*PG		**Pg**		**20 04 50.3**	**-0.2**
KULA				*e*SG		**Sg**		**20 05 00.1**	**+0.8**
KULA	**Kula-Manisa**	**0.67**	**207**	*e*Pg		**Pg**		**20 04 50.3**	**-0.2**
KULA				*e*Sg		**Sg**		**20 05 00.1**	**+0.8**
KHAL	**Karahalli**	**0.82**	**155**	P		**Pb**		**20 04 54.0**	**0.0**
KHAL				S		**Sg**		**20 05 04.3**	**+0.2**
KHAL	**Karahalli**	**0.82**	**155**	*i*P		**Pb**		**20 04 54.0**	**0.0**
KHAL				*i*S		**Sg**		**20 05 04.3**	**+0.2**
KHL	**Karahalli**	**0.88**	**155**	*e*PG		**Pg**		**20 04 53.9**	**-0.5**
KHL	**Karahalli**	**0.88**	**155**	*e*Pg		**Pg**		**20 04 53.9**	**-0.5**
ORLT	**Orhaneli**	**0.94**	**353**	*e*PG		**Pg**		**20 04 55.4**	**-0.1**
ORLT				*e*SG		**Sb**		**20 05 09.1**	**+0.6**
ORLT	**Orhaneli**	**0.94**	**353**	*e*Pg		**Pg**		**20 04 55.4**	**-0.1**
ORLT				*e*Sg		**Sb**		**20 05 09.1**	**+0.6**
BALB	**Balikesir**	**1.04**	**300**	*e*PG		**Pg**		**20 04 57.6**	**0.0**
BALB	**Balikesir**	**1.04**	**300**	*e*Pg		**Pg**		**20 04 57.6**	**0.0**
IGD	**Bursa**	**1.15**	**6**	*i*P		**Pg**		**20 04 59.1**	**-0.5**
IGD				*i*S		**Sb**		**20 05 15.0**	**+0.3**
IZI	**Iznik**	**1.26**	**15**	*e*PN		**Pn**		**20 05 01.0**	**-0.4**
IZI	**Iznik**	**1.26**	**15**	*e*Pn		**Pn**		**20 05 01.0**	**-0.4**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*PN		**Pn**		**20 05 01.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*Pn		**Pn**		**20 05 01.5**	**+0.1**
BORA	**Eskisehir**	**1.33**	**55**	P		**Pb**		**20 05 02.6**	**-0.1**
BORA				S		**Sn**		**20 05 20.2**	**0.0**
BORA	**Eskisehir**	**1.33**	**55**	*i*P		**Pb**		**20 05 02.6**	**-0.1**
BORA				*i*S		**Sn**		**20 05 20.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN		**Pn**		**20 05 03.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*Pn		**Pn**		**20 05 03.1**	**-0.2**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*PN		**Pn**		**20 05 03.6**	**+0.1**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*Pn		**Pn**		**20 05 03.6**	**+0.1**
ARMT	**Armutlu**	**1.45**	**354**	*e*PN		**Pn**		**20 05 04.0**	**0.0**
ARMT	**Armutlu**	**1.45**	**354**	*e*Pn		**Pn**		**20 05 04.0**	**0.0**
EDC	**Edincik**	**1.53**	**324**	*e*PN		**Pn**		**20 05 05.4**	**+0.4**
EDC	**Edincik**	**1.53**	**324**	*e*Pn		**Pn**		**20 05 05.4**	**+0.4**
GULT	**Gulveren**	**1.73**	**40**	*e*PN		**Pn**		**20 05 08.3**	**+0.4**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn		**Pn**		**20 05 08.3**	**+0.4**

*ISCJB **05** 20:06:42.8±0.7, 36.°31N±0.°04×142.°63E±0.°06, h15km, mb3.5/5, MS3.8/1, Error ellipse: s-maj=7.3km s-min=6.2km az=161.3*
*IDC **05** 20:06:42.5±1.0, 36.°19N×142.°79E, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.5/40, mbtmp3.6/9, ML3.2/4, MS3.1/2, Ms1 3.1/2, ms1mx2.5/37, Error ellipse: s-maj=27.7km s-min=19.9km az=116.0*
*JMA **05** 20:06:44.1±0.2, 36.°31N×142.°59E, h28km, M3.2*

ISC 05 20:06:43.9±1.0, 36.°30N±0.°05×142.°53E±0.°07, h15km, n23, σ1°53/28, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.48**	**247**	P		**Pb**		**20 07 10.6**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.61**	**300**	P		**Pb**		**20 07 12.1**	**-1.2**
ONAJ				S		**Sn**		**20 07 30.9**	**-1.4**
JHO	**Hitachi**	**1.61**	**282**	P		**Pn**		**20 07 12.0**	**+0.2**
JHO				S		**Sn**		**20 07 32.5**	**+0.2**
JFK	**Kawauchi**	**1.71**	**309**	P		**Pb**		**20 07 13.7**	**-1.2**
JFK				S		**Sn**		**20 07 34.1**	**-0.6**
BSO1	**Boso 1**	**2.07**	**218**	P		**Pn**		**20 07 18.5**	**+0.9**
BSO1				S		**Sb**		**20 07 44.6**	**-1.6**
JMM	**Marumori**	**2.09**	**319**	P		**Pn**		**20 07 18.8**	**+0.4**
JFT	**Otama**	**2.14**	**305**	P		**Pb**		**20 07 20.4**	**-2.0**
JFT				S		**Sb**		**20 07 47.4**	**-1.3**
JAG	**Ashikaga**	**2.49**	**274**	P		**Pn**		**20 07 24.6**	**+0.8**
JRY	**Ryogami san**	**2.95**	**266**	P		**Pn**		**20 07 30.8**	**+0.6**
JOD2	**Odawara 2**	**2.98**	**251**	P		**Pn**		**20 07 31.8**	**+1.1**
JYK	**Kaneyama**	**3.13**	**327**	P		**Pn**		**20 07 33.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.50**	**275**	Pn		**Pn**		**20 07 39.7**	**+2.0**
	2.9nm,0.3s,baz=104,slow=8.4,SNR=45								
MJAR				LR		LR		20 09 21.1	
	comp=Z,70nm,21.3s,baz=85,slow=43								
MAT	**Matsushiro**	**3.50**	**275**	P		**Pn**		**20 07 39.4**	**+1.7**
MAT				*e*S		**Sn**		**20 08 22.6**	**+3.7**
MAT	**Matsushiro**	**3.50**	**275**	P		**Pn**		**20 07 39.7**	**+2.0**
JHJ	**Hachijo jima 2**	**3.90**	**216**	Pn		**Pn**		**20 07 43.2**	**0.0**
	7.7nm,0.3s,baz=138,slow=23,SNR=7.0								
JHJ				Sn		**Sn**		**20 08 25.8**	**-2.9**
	24nm,0.3s,baz=114,slow=23,SNR=7.9								
ASAJ	**Asahikawa**	**7.81**	**0**	Pn		**Pn**		**20 08 37.1**	**+0.2**
	0.6nm,0.3s,baz=223,slow=7.6,SNR=6.4								
JNU	**Natatsue**	**10.10**	**255**	Pn		**Pn**		**20 09 10.3**	**+1.9**
	0.1nm,0.3s,baz=62,slow=5.9,SNR=3.7								
MKAR	**Makanchi Array**	**45.27**	**303**	P		P		20 15 05.0	+4.2
	1.4nm,0.7s,baz=93,slow=9.2,SNR=5.0								
ILAR	**Eielson Array**	**49.64**	**32**	P		**P**		**20 15 34.7**	**+0.3**
	0.2nm,0.8s,baz=256,slow=6.2,SNR=3.5								
WRA	**Warramunga Arr**	**56.47**	**189**	P		**P**		**20 16 24.2**	**-1.0**
	0.8nm,1.1s,baz=5.2,slow=7.8,SNR=2.8								
ASAR	**Alice Springs**	**60.19**	**189**	P		**P**		**20 16 53.0**	**+1.8**
	0.2nm,0.6s,baz=8.6,slow=9.8,SNR=2.9								
MMAI	**Mount Meron Ar**	**83.12**	**306**	LR		LR		21 00 19.1	
	comp=Z,37nm,18.5s,baz=160,slow=39								
TXAR	**Lajitas Array**	**89.85**	**53**	P		**P**		**20 19 43.4**	**+0.9**
	0.2nm,0.8s,baz=319,slow=2.6,SNR=2.7								

*IDC **05** 20:27:23.5±1.3, 44.°52N×28.°17W, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/34, mbtmp3.6/7, MS3.4/8, Ms1 3.4/8, ms1mx3.0/40, Error ellipse: s-maj=38.6km s-min=25.0km az=22.0*
*ISCJB **05** 20:27:24.6±1.0, 44.°5N±0.°2×28.°2W±0.°2, h20km, mb3.6/7, MS3.4/8, Error ellipse: s-maj=32.6km s-min=20.6km az=21.8*

ISC 05 20:27:26.5±1.2, 44.°5N±0.°2×28.°2W±0.°2, h20km, n12, σ0°76/7, mb3.6/7, MS3.4/8, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**26.75**	**307**	LR		LR		20 42 18.6	
	comp=Z,68nm,18.1s,baz=86,slow=34								
GERES	**GERESS Array B**	**28.77**	**66**	LR		LR		20 44 06.0	
	comp=Z,67nm,19.5s,baz=286,slow=35								
TORD	**Torodi Ar. Bea**	**40.32**	**131**	P		**P**		**20 35 03.0**	**+0.4**
	1.2nm,0.8s,baz=326,slow=8.7,SNR=6.7								
DBIC	**Dimbokro**	**42.83**	**145**	LR		LR		20 51 34.0	
	comp=Z,46nm,19.1s,baz=313,slow=34								
ULM	**Lac du Bonnet**	**44.78**	**303**	LR		LR		20 52 28.6	
	comp=Z,89nm,18.5s,baz=-3.5,slow=34								
BRTR	**Keskin Array B**	**45.13**	**74**	P		**P**		**20 35 40.6**	**-1.0**
	1.2nm,1.1s,baz=297,slow=5.4,SNR=4.3								
BRTR				LR		LR		20 54 58.7	
	comp=Z,41nm,21.4s,baz=324,slow=37								
YKA	**Yellowknife Ar**	**50.26**	**323**	P		**P**		**20 36 20.7**	**-0.2**
	0.3nm,0.6s,baz=59,slow=7.3,SNR=3.1								
YKA				LR		LR		20 54 14.0	
	comp=Z,5.5nm,18.4s,baz=180,slow=32								
PDAR	**Pinedale Array**	**56.53**	**299**	LR		LR		21 00 02.2	
	comp=Z,56nm,18.0s,baz=254,slow=35								
TXAR	**Lajitas Array**	**60.21**	**283**	P		**P**		**20 37 33.1**	**-0.2**
	0.3nm,0.9s,baz=110,slow=6.8,SNR=4.1								
TXAR				LR		LR		21 01 43.8	
	comp=Z,57nm,19.8s,baz=0.0,slow=34								
ZALV	**Zalesovo Beam**	**66.52**	**36**	P		**P**		**20 38 15.4**	**+0.8**
	0.5nm,0.5s,baz=318,slow=9.3,SNR=3.5								
MKAR	**Makanchi Array**	**70.37**	**43**	P		**P**		**20 38 38.6**	**-0.2**
	0.8nm,0.9s,baz=316,slow=8.5,SNR=4.4								
SONM	**Songino Array**	**79.74**	**29**	P		**P**		**20 39 33.6**	**+0.6**
	0.5nm,0.8s,baz=343,slow=4.9,SNR=4.3								

IDC 05 20:31:34.2±1.3, 16.°92N×147.°96E, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.3/53, mbtmp3.4/6, Error ellipse: s-maj=40.1km s-min=23.8km az=94.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.00**	**201**	P		P		20 39 02.9	+0.3
	0.4nm,0.7s,baz=24,slow=9.2,SNR=5.6								
ASAR	**Alice Springs**	**42.61**	**199**	P		P		20 39 32.2	-0.3
	0.4nm,0.9s,baz=10,slow=9.1,SNR=3.1								
CMAR	**Chiang Mai Arr**	**46.62**	**280**	P		P		20 40 03.9	-0.8
	0.4nm,0.6s,baz=78,slow=8.4,SNR=3.6								
MKAR	**Makanchi Array**	**61.24**	**314**	P		P		20 41 51.8	+0.5
	0.2nm,0.7s,baz=84,slow=10,SNR=2.3								
KURBB	**Kurchatov Arra**	**64.08**	**318**	P		P		20 42 10.2	+0.2
	0.3nm,0.5s,baz=91,slow=7.5,SNR=5.8								
YKA	**Yellowknife Ar**	**78.54**	**28**	P		P		20 43 37.0	-0.3
	0.3nm,0.5s,baz=282,slow=5.3,SNR=3.4								

IDC 05 20:33:59.8±61.0, 22.°55S×178.°49W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.7/3, Error ellipse: s-maj=1102.0km s-min=152.2km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.52**	**247**	P		P		20 41 06.2	-1.0
	2.5nm,1.0s,baz=84,slow=9.2,SNR=2.7								
ASAR	**Alice Springs**	**43.64**	**259**	P		P		20 42 06.3	-0.2
	0.3nm,0.5s,baz=96,slow=7.4,SNR=6.2								
WRA	**Warramunga Arr**	**43.91**	**264**	P		P		20 42 09.3	+0.7
	0.4nm,0.4s,baz=99,slow=8.4,SNR=13								

*IDC **05** 20:35:26.2±2.4, 11.°50N×143.°09E, h66km±24km, mb3.5/9, mb1 3.8/10, mb1mx3.5/54, mbtmp3.8/10, MS2.9/1, Ms1 2.9/1, ms1mx2.4/29, Error ellipse: s-maj=28.5km s-min=14.6km az=111.0*

ISC 05 20:35:22.1±1.0, 11.°6N±0.°1×143.°2E±0.°2, h32km, n11, σ1°02/11, mb3.8/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.57**	**38**	P		**P**	**Pb**	**20 36 06.0**	**-1.6**
	34nm,0.3s,baz=208,slow=4.4,SNR=12								
GUMO				S		**Sb**		**20 36 40.0**	**+1.2**
	22nm,0.3s,baz=0.0,slow=20,SNR=4.7								
KSRS	**Korea Array**	**29.23**	**334**	LR		LR		20 51 09.8	
	comp=Z,21nm,19.8s,baz=90,slow=32								
WRA	**Warramunga Arr**	**32.50**	**196**	P		**P**		**20 41 50.0**	**0.0**
	0.7nm,0.5s,baz=18,slow=9.7,SNR=17								
ASAR	**Alice Springs**	**36.17**	**195**	P		**P**		**20 42 21.9**	**0.0**
	0.6nm,0.5s,baz=21,slow=11,SNR=16								
CMAR	**Chiang Mai Arr**	**43.25**	**285**	P		**P**		**20 43 20.6**	**-0.4**
	0.5nm,0.6s,baz=99,slow=7.0,SNR=5.8								
SONM	**Songino Array**	**47.52**	**327**	P		**P**		**20 43 54.8**	**+0.3**
	0.2nm,0.5s,baz=150,slow=6.5,SNR=3.

baz=46
TKM2 Tokmak 2 5.16 40 ⇑Pn **Pn 20 42 54.2 +3.7**
comp=E,48nm,0.6s
TKM2 ⇑Sn **Sb 20 43 57.7 -8.9**
comp=E,97nm,0.8s
TKM2 Tokmak 2 5.16 40 *e*PN **Pn 20 42 54.3 +3.7**
TKM2 pmax pmax
comp=Z,65nm,0.5s
TKM2 Tokmak 2 5.16 40 *e*Pn **Pn 20 42 54.3 +3.7**
comp=Z,65nm,0.5s
CEP Cherat 5.27 172 P **Pn 20 42 54.5 +2.5**
CEP S **Sn 20 43 59.0 +7.4**
KDJ Kajisay 5.57 55⇓*e*P **Pn 20 42 59.5 +3.3**
baz=55
KDJ ⇓*e*S **Sn 20 44 04.0 +4.8**
baz=55
KNDC Almaty 6.09 45 ⇓Pn Pn 20 43 07.9 +4.7
comp=Z,34nm,0.6s
KNDC ⇑Lg Lg 20 44 50.7
comp=Z,168nm,0.8s
AAA Alma-Ata 6.12 45 *e*PN Pb 20 43 25.0 +3.8
AAA pmax pmax
comp=Z,35nm,0.5s
THW Thamme Wali 6.27 175 P **Pn 20 43 07.6 +1.9**
THN Thein Dam 7.61 149 *e*P **Pn 20 43 21.7 -2.3**
THN *e*S **Sn 20 44 48.0 -1.1**
PDGK Podgornoye 7.65 53 ⇑Pn **Pn 20 43 26.7 +2.3**
comp=Z,10.0nm,0.8s
PDGK ⇑Lg Lg 20 45 42.3
comp=Z,55nm,0.9s
PDGK Podgornoye 7.65 53 P **Pn 20 43 26.7 +2.3**
PDGK pmax pmax
comp=Z,10.0nm,0.8s
DHRM DHARAMSHALA 8.02 146 *e*P **Pn 20 43 31.2 +1.4**
DHRM *e*S **Sn 20 44 57.3 -2.2**
DHRM IAML 20 45 09.9
comp=E,234nm,0.1s
DHRM IAML 20 45 10.9
comp=N,169nm,0.5s
SDNR Sundarnagar 8.95 146 *e*S **Sn 20 45 22.0 -0.1**
OTUK Ortayu 9.23 5 ⇑Pn **Pn 20 43 47.5 +1.3**
comp=N,6.1nm,0.6s
OTUK ⇓Sn **Sn 20 45 31.4 +2.5**
comp=N,62nm,0.7s
OTUK ⇑Lg Lg 20 46 23.5
comp=N,153nm,1.4s
OTUK Ortayu 9.23 5 P **Pn 20 43 47.5 +1.3**
OTUK S **Sn 20 45 31.4 +2.5**
OTUK pmax pmax
comp=Z,6.0nm,0.6s
OTUK smax smax
comp=Z,62nm,0.7s
SMLA Simla 9.35 146 *e*P **Pn 20 43 47.4 -0.6**
SMLA *e*S **Sn 20 45 28.6 -3.3**
SMLA IAML 20 45 51.8
comp=E,91nm,0.3s
SMLA IAML 20 45 55.5
comp=N,100nm,0.8s
GEYT Alibeck 10.21 268 Pn **Pn 20 43 57.7 -2.0**
comp=N,1.2nm,0.3s,baz=82,slow=11,SNR=12
GEYT Sn **Sn 20 45 46.2 -6.9**
comp=N,1.5nm,0.3s,baz=114,slow=6.5,SNR=3.4
GEYT LR LR 20 48 27.1
comp=N,57nm,19.6s,baz=55,slow=40
DDI Dehra Dun 10.44 144 *e*P **Pn 20 44 04.2 +1.3**
DDI *e*S **Sn 20 45 55.5 -3.1**
MK31 Makanchi Array 11.28 43 Pn **Pn 20 44 16.8 +2.4**
comp=N,15nm,0.8s,baz=219,slow=12,SNR=84
MK31 ⇑Lg Lg 20 47 32.2
comp=N,7.0nm,0.8s
MKAR Makanchi Array 11.28 43 Pn **Pn 20 44 16.6 +2.3**
comp=N,0.7nm,0.3s,baz=230,slow=13,SNR=80
MKAR Makanchi Array 11.28 43 *i*P **Pn 20 44 17.1 +2.8**
MKAR pmax pmax
comp=Z,16nm,0.8s
NDI New Delhi 11.54 152 *e*S **Sn 20 46 18.0 -7.5**
KURBB Kurchatov Arra 12.71 22 Pn **Pn 20 44 33.9 +0.1**
comp=Z,0.2nm,0.3s,baz=216,slow=13,SNR=33
KURBB Lg Lg 20 48 15.6
comp=Z,0.1nm,0.3s,baz=209,slow=30,SNR=5.6
KURBB Kurchatov Arra 12.71 22 ⇓Pn **Pn 20 44 32.5 -1.3**
comp=Z,7.1nm,0.7s
KURBB ⇑Lg Lg 20 48 22.1
comp=Z,30nm,0.8s
KURK Kurchatov 12.82 22 P **Pn 20 44 33.9 -1.3**
KURK Kurchatov 12.82 22 Pn **Pn 20 44 33.9 -1.3**
AB31 Akbulak array 12.94 326 Pn **Pn 20 44 35.5 -1.3**
comp=Z,12nm,0.6s,baz=136,slow=14,SNR=251
AB31 ⇑Sn **Sn 20 46 55.1 -4.4**
comp=Z,27nm,0.6s,baz=136,slow=24,SNR=15
AB31 Akbulak array 12.94 326 P **Pn 20 44 35.5 -1.3**
AB31 S **Sn 20 46 55.1 -4.4**
AB31 pmax pmax
comp=Z,12nm,0.6s
AB31 smax smax
comp=N,27nm,0.6s
ABKAR Akbulak array 12.94 326 *e*Pn **Pn 20 44 35.0 -1.8**
comp=N,15nm,0.5s
ABKAR *e*Sn **Sn 20 46 55.5 -4.0**
ZRNK Zerenda 13.97 355 ⇓Pn **Pn 20 44 48.4 -2.5**
comp=N,7.1nm,0.6s
ZRNK ⇑Sn **Sn 20 47 25.0 +0.3**
comp=N,7.3nm,0.8s
ZRNK ⇑Lg Lg 20 48 52.1
comp=N,14nm,1.1s
ZRNK Zerenda 13.97 355 P **Pn 20 44 48.4 -2.5**
ZRNK S **Sn 20 47 25.0 +0.3**
ZRNK pmax pmax
comp=Z,7.0nm,0.6s
ZRNK smax smax
comp=N,7.0nm,0.8s
BVA0 Borovoye Array 13.98 358 Pn **Pn 20 44 50.9 -0.1**
comp=N,5.5nm,0.7s,baz=190,slow=22,SNR=33
BVA0 ⇓Sn **Sn 20 47 26.5 +1.6**
comp=N,5.2nm,0.8s,baz=166,slow=19,SNR=6.1
BVA0 ⇑Lg Lg 20 48 48.4
comp=N,24nm,1.4s,baz=175,slow=33,SNR=3.8
BVA0 Borovoye Array 13.98 358 P **Pn 20 44 50.9 -0.1**
BVA0 S **Sn 20 47 26.5 +1.6**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
BVA0 smax smax
comp=N,5.0nm,0.8s
BVAR Borovoye Array 13.98 358 Pn **Pn 20 44 50.9 -0.1**
comp=N,1.2nm,0.3s,baz=163,slow=11,SNR=30
BRVK Borovoye 14.02 358 *e*P **Pn 20 44 51.4 -0.1**
BRVK pmax pmax
comp=Z,18nm,0.5s
BRVK Borovoye 14.02 358 *e*Pn **Pn 20 44 51.4 -0.1**
comp=Z,18nm,0.5s
AKTO Aktyubinsk 14.65 325 Pn **Pn 20 44 58.8 -1.4**
comp=Z,1.0nm,0.3s,baz=126,slow=12,SNR=17
AKTO Sn **Sn 20 47 38.2 -3.1**
comp=Z,1.2nm,0.3s,baz=25,slow=19,SNR=6.2
AKTO Aktyubinsk 14.65 325 ⇓Pn **Pn 20 44 59.0 -1.2**
comp=Z,30nm,0.8s
AKTO ⇓Sn **Sn 20 47 41.4 +0.1**
comp=Z,29nm,0.7s
PYUN Piuthan 14.76 134 *e*P **Pn 20 44 57.3 -4.7**
comp=Z,32nm,0.4s
KOLN Koldanda 15.35 133 *e*P **Pn 20 45 05.6 -4.3**
comp=Z,16nm,0.5s
GKN Gorkha 15.78 130 *e*P **Pn 20 45 10.8 -4.5**
comp=Z,18nm,0.4s
KKN Kakani 16.32 129 *e*P **Pn 20 45 17.7 -4.6**
comp=Z,16nm,0.5s
PKIN Phulchoki 16.55 130 *e*P **Pn 20 45 21.0 -4.2**
comp=Z,8.6nm,0.3s
GUN Gumba 16.60 128 *e*P **Pn 20 45 21.0 -5.0**
comp=Z,20nm,0.4s
ZALV Zalesovo Beam 17.60 28 P **P 20 45 38.0 -0.7**
comp=Z,2.7nm,0.3s,baz=215,slow=9.8,SNR=41
ZALV Zalesovo Beam 17.60 28 P **P 20 45 38.0 -0.7**
NVS Novosibirsk 17.80 24⇑*i*P **P 20 45 41.5 +0.6**
NVS *e* 20 49 00.7
SVE Sverdlovsk 19.06 342⇓*e*P **Pn 20 45 56.3 +0.5**
SVE *e*S **Sn 20 49 21.7 -6.4**
SVE pmax pmax
comp=Z,11nm,0.8s
ARU Arti 19.25 339 P **Pn 20 45 58.0 0.0**
comp=Z,0.0nm,0.3s,baz=140,slow=6.1,SNR=11
ARU S **S 20 49 24.3 -8.6**
comp=Z,0.0nm,0.3s,baz=139,slow=19,SNR=1.8
ARU Arti 19.25 339*d i*P **P 20 45 57.8 +0.9**
ARU S **Sn 20 49 35.2 +2.5**
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 19.25 339 *e*P **P 20 45 57.0 +0.2**
comp=Z,11nm,0.7s
ARU *e*Sn **S 20 49 31.0 -1.9**
GNI Garni 20.29 281⇓*e*P Pn 20 46 11.3 +0.6
GNI pmax pmax
comp=Z,21nm,1.0s
GUDG Gudauri 20.40 288 P Pn 20 46 12.6 +0.7
ZEI Tsey 20.83 289 *e*P **P 20 46 15.8 +1.5**
ZEI pmax pmax
comp=Z,18nm,0.5s
NCK Nalchik 21.07 291⇑*i*P **P 20 46 21.0 +4.2**
NCK pmax pmax
comp=Z,16nm,0.6s
BGD Bogdanovka 21.08 285 P **P 20 46 20.5 +3.4**
ONI Oni 21.16 288 P **P 20 46 19.9 +2.2**
ONI Oni 21.16 288 P **P 20 46 19.9 +2.2**
KBZ Khabaz 21.59 292 P **P 20 46 23.5 +1.2**
comp=Z,0.9nm,0.3s,baz=137,slow=9.3,SNR=6.8
NEY Neytrino 21.70 290⇓*e*P **P 20 46 24.8 +1.1**
NEY pmax pmax
comp=Z,2.0nm,0.7s
KVAR Kislovodsk Arr 21.75 292 P **P 20 46 23.3 -0.9**
comp=Z,4.0nm,0.6s,baz=332,slow=4.5,SNR=5.1
KIV Kislovodsk 21.76 292 *e*P **P 20 46 26.1 +1.9**
KIV *e*S **S 20 50 26.4 +3.3**
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,35nm,14.0s
KIV Kislovodsk 21.76 292 *e*P **P 20 46 22.8 -1.4**
comp=Z,9.5nm,0.6s
CHVG Ch'k'valeri 22.16 289 P P 20 46 36.9 +8.4
GTA Gaotai 22.24 80 *e*P **P 20 46 32.3 +2.9**
GTA pP pP 20 46 35.7 -2.5
GTA sP sP 20 46 38.8 -3.6
GTA PMZ
comp=Z,8.0nm,1.0s
SOKR Solikamsk 22.47 341⇑*i*P **P 20 46 30.5 -1.0**
SOKR pmax pmax
comp=Z,18nm,1.2s
VRH Novokhopyorsk 23.83 310 *e*P **P 20 46 44.0 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
ZAK Zakamensk 25.34 53 *e*P **P 20 47 00.0 +0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 25.36 309 *e*P **P 20 46 59.4 +0.1**
VSR *e**SP **pP 20 47 11.2 +2.5**
VSR pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 25.90 50 P **P 20 47 04.0 -0.2**
comp=Z,3.8nm,0.5s,baz=241,slow=8.3,SNR=5.9
TLY Talaya 25.90 50⇑*i*P **P 20 47 06.7 +2.5**
TLY pmax pmax
comp=Z,2.0nm,0.7s
LPSR Galich'ya Gora 25.92 312 *e*P P 20 46 55.8 -8.5
LPSR *e**SP pP 20 47 09.1 -4.7
LPSR pmax pmax
comp=Z,5.0nm,0.6s
SONM Songino Array 26.91 59 P **P 20 47 14.4 +0.9**
comp=Z,0.8nm,0.5s,baz=263,slow=10.0,SNR=6.9
SONM Songino Array 26.91 59 *e*P **P 20 47 14.7 +1.2**
SONM pmax pmax
comp=Z,1.0nm,0.5s
OBN Obninsk 28.08 316⇑*i*P **P 20 47 24.3 +0.6**
OBN pmax pmax
comp=Z,8.0nm,1.2s
BRTR Keskin Array B 28.80 283 P **P 20 47 31.0 +0.5**
comp=Z,0.9nm,0.8s,baz=93,slow=8.7,SNR=5.6
BRTR Keskin Array B 28.80 283 *e*P **P 20 47 31.8 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 31.44 306 P **P 20 47 54.8 +1.3**
comp=Z,0.2nm,0.2s,baz=80,slow=7.6,SNR=7.2
AKASG Malin Array Be 31.44 306 *e*P **P 20 47 56.0 +2.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
NRIK Noril'sk 31.61 11 P **P 20 47 56.0 +1.2**
comp=Z,2.1nm,0.3s,baz=209,slow=8.0,SNR=3.7
NRIK Noril'sk 31.61 11 P **P 20 47 56.0 +1.2**
NRIK pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 31.71 122 P **P 20 47 55.4 -0.8**
comp=Z,0.3nm,0.6s,baz=316,slow=6.3,SNR=2.9
CFR Carcaliu 32.13 295⇓*i*P **P 20 47 59.9 +0.3**
CFR Carcaliu 32.13 295⇓P **P 20 47 59.9 +0.3**
VRI Vrincioaia 33.07 296⇓*i*P **P 20 48 10.1 +2.2**
VRI Vrincioaia 33.07 296⇓P **P 20 48 10.2 +2.3**
PLOR Plostina 33.12 296⇑*i*P **P 20 48 10.6 +2.2**
PLOR Plostina 33.12 296⇑P **P 20 48 10.6 +2.2**
MLR Muntele Rosu 33.65 296⇓*i*P **P 20 48 14.2 +1.1**
MLR Muntele Rosu 33.65 296⇓P **P 20 48 14.2 +1.1**
DOPR Dopca 33.99 297⇑*i*P **P 20 48 18.4 +2.5**
BURAR Bucovina Array 34.00 300⇑*i*P **P 20 48 16.4 +0.3**
BURAR Bucovina Array 34.00 300⇑P **P 20 48 16.4 +0.3**
ARR Arges 34.58 296⇑*i*P **P 20 48 21.5 +0.4**
ARCR ARCALIA 34.62 299⇑*i*P **P 20 48 23.2 +1.9**
CJR Cluj-Napoca 35.16 298⇑*i*P **P 20 48 29.8 +3.7**
CJR Cluj-Napoca 35.16 298⇑P **P 20 48 29.8 +3.7**
FINES FINESS Array B 35.42 324 P **P 20 48 28.2 +0.2**
comp=Z,1.0nm,0.3s,baz=108,slow=7.6,SNR=18
FINES LR LR 21 03 51.7
comp=Z,63nm,18.2s,baz=44,slow=38
FINES FINESS Array B 35.42 324 *e*P **P 20 48 28.8 +0.8**
FINES pmax pmax
comp=Z,1.0nm,0.3s
KWP Kalwaria Pacla 35.59 303⇓*i*P **P 20 48 33.3 +3.6**
KWP Kalwaria Pacla 35.59 303⇓P **P 20 48 33.3 +3.6**
DRGR 35.76 299⇑*i*P **P 20 48 32.3 +1.0**
DRGR 35.76 299⇑P **P 20 48 32.3 +1.0**
CRVS Cervenica-Dubn 36.44 302 *e*P **P 20 48 38.1 +1.1**
CRVS Cervenica-Dubn 36.44 302 *e*P **P 20 48 38.1 +1.1**
BZS Buzias 36.65 297⇑*i*P **P 20 48 40.2 +1.4**
BZS Buzias 36.65 297⇑P **P 20 48 40.2 +1.4**
ARCES ARCESS Array B 38.81 336 P **P 20 48 57.8 +1.1**
comp=Z,1.8nm,0.6s,baz=111,slow=7.1,SNR=9.9
ARCES LR LR 21 05 46.2
comp=Z,49nm,20.6s,baz=260,slow=37
GERES GERESS Array B 41.54 303 P **P 20 49 19.5 -0.3**
comp=Z,0.6nm,0.8s,baz=58,slow=7.3,SNR=4.3
GERES LR LR 21 09 41.9
comp=Z,39nm,18.4s,baz=319,slow=40
CLL Collm 41.67 307 *e*P **P 20 49 22.0 +1.4**
CLL *e*pP **pP 20 49 30.0 -0.3**
CLL *e*PP **PP 20 50 59.0 +2.0**
CLL *e* 20 51 03.0
CLL Collm 41.67 307 *e*P **P 20 49 22.0 +1.4**
CLL *e**PP **pP 20 49 30.0 -0.3**
YAK Yakutsk 41.88 37⇑*e*P **P 20 49 23.1 +1.0**
YAK pmax pmax
comp=Z,11nm,0.9s
NB2 NORSAR Subarra 42.40 321 P **P 20 49 26.4 0.0**
comp=Z,1.3nm,0.6s,baz=93,slow=8.6
NB2 NORSAR Subarra 42.40 321 P **P 20 49 29.0 +2.5**
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 42.40 321 P **P 20 49 26.5 0.0**
comp=Z,1.6nm,0.6s,baz=93,slow=8.1,SNR=11
NOA LR LR 21 07 47.3
comp=Z,17nm,18.7s,baz=355,slow=37
TIXI Tiksi 43.39 23*c i*P **P 20 49 35.4 +1.1**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 43.39 23 *e*P **P 20 49 35.2 +0.9**
comp=Z,7.5nm,0.6s
KLR Kul'dur 43.63 56 P **P 20 49 37.4 +0.9**
comp=Z,2.4nm,0.5s,baz=277,slow=7.2,SNR=11
KLR Kul'dur 43.63 56⇑*i*P **P 20 49 36.9 +0.3**
TJN Taejon 44.01 75⇑*i*P **P 20 49 39.5 -0.3**
KSAR Wonju Array Be 44.02 73 P **P 20 49 40.2 +0.3**
KSAR Wonju Array Be 44.02 73 P **P 20 49 40.1 +0.3**
KSRS Korea Array 44.05 73 P **P 20 49 40.1 +0.1**
comp=Z,0.4nm,0.4s,baz=264,slow=33,SNR=4.2
KEST Kesra 48.32 286 P **P 20 50 14.5 +0.7**
comp=Z,1.1nm,0.5s,baz=140,slow=7.9,SNR=3.4
MJAR Matsushiro Arr 52.01 70 P **P 20 50 41.9 +0.3**
comp=Z,1.3nm,0.7s,baz=293,slow=9.7,SNR=7.7
MJA0 Matsu Arr-Jizo 52.03 70 *e*P **P 20 50 41.9 0.0**
MJA0 pmax pmax
comp=Z,1.0nm,0.7s
DAG Danmarks Havn 52.30 343⇓*i*P **P 20 50 44.3 +1.1**
DAG pmax pmax
comp=Z,5.0nm,0.5s
DAG Danmarks Havn 52.30 343⇓*i*P **P 20 50 44.3 +1.1**
comp=Z,6.6nm,0.5s
BILL Bilibino 56.30 27 *e*P **P 20 51 13.0 +0.6**
BILL *e* 20 52 10.7
BILL *e* 20 53 20.4
BILL pmax pmax
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 56.34 296 P **P 20 51 13.3 0.0**
comp=Z,0.1nm,0.3s,baz=58,slow=7.5,SNR=4.1
PETK Petropavlovsk- 58.11 45 P **P 20 51 25.7 +0.2**
comp=Z,3.2nm,1.0s,baz=126,slow=19,SNR=2.5
SUMG Summit 58.67 341 *i*P **P 20 51 31.2 +1.7**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 58.67 341 *i*P **P 20 51 31.2 +1.7**
comp=Z,9.4nm,0.8s
SUMG Summit 58.67 341 *e*P **P 20 51 30.2 +0.7**
comp=Z,8.8nm,0.8s
TORD Torodi Ar. Bea 65.86 268 P **P 20 52 17.4 -0.6**
comp=Z,2.3nm,0.5s,baz=53,slow=6.3,SNR=70
COLD Coldfoot 69.50 16 *e*P **P 20 52 37.8 -2.4**
comp=Z,5.1nm,0.9s
INK Inuvik 71.38 9 P **P 20 52 52.9 +1.3**
comp=Z,3.2nm,0.5s,baz=351,slow=5.3,SNR=31
ILAR Eielson Array 72.31 16 P **P 20 52 57.5 +0.3**
comp=Z,1.5nm,0.9s,baz=322,slow=5.4,SNR=18
YKA Yellowknife Ar 78.69 3 P **P 20 53 34.8 +0.9**
comp=Z,2.0nm,0.5s,baz=350,slow=5.3,SNR=20
WRA Warramunga Arr 83.30 122 P **P 20 53 58.3 -0.7**
comp=Z,2.0nm,0.7s,baz=323,slow=4.8,SNR=21
ASAR Alice Springs 85.67 125 P **P 20 54 10.5 -0.5**
comp=Z,1.3nm,0.7s,baz=315,slow=5.2,SNR=18

ISCJB ***05*** *20:42:09.2±0.6, 36.97N±0.05×28.28E±0.05, h10km±7km, Error ellipse: s-maj=8.7km s-min=5.2km az=30.6*
CSEM ***05*** *20:42:09.8±0.1, 37.01N×28.26E, h15km, MD2.5, Error ellipse: s-maj=4.0km s-min=2.4km az=18.0*
ISK ***05*** *20:42:09.3, 36.99N×28.25E, h13km, MD2.5*
DDA ***05*** *20:42:09.6, 36.97N×28.27E, h7km, Ml2.5*
ISC 05 20:42:08.9±1.1, 36.94N±0.05×28.27E±0.03, h9km±10km, n15, σ0.39/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.20**	**3**	*e*PG		**Pg**		**20 42 13.2**	**+0.2**
YER				*e*SG		**Sg**		**20 42 16.3**	**+0.5**
YER	**Yerkesik**	**0.20**	**3**	*e*Pg		**Pg**		**20 42 13.2**	**+0.2**
YER				*e*Sg		**Sg**		**20 42 16.3**	**+0.5**
TURN	**Turunc**	**0.27**	**104**	*i* P		**Pg**		**20 42 13.7**	**-0.7**
TURN				*i* S		**Sg**		**20 42 17.2**	**-0.8**
DALY	**Dalyan (Mu˘la**	**0.33**	**111**	*e*PG		**Pb**		**20 42 17.3**	**+0.4**
DALY				*e*SG		**Sb**		**20 42 22.7**	**+0.4**
DALY	**Dalyan (Mu˘la**	**0.33**	**111**	*e*Pg		**Pb**		**20 42 17.3**	**+0.4**
DALY				*e*Sg		**Sb**		**20 42 22.7**	**+0.4**
BDRM	**Kayabasi**	**0.67**	**281**	P		**Pb**		**20 42 22.8**	**-0.1**
BDRM				S		**Sb**		**20 42 32.5**	**+0.2**
BDRM	**Kayabasi**	**0.67**	**281**	*i* P		**Pb**		**20 42 22.8**	**-0.1**
BDRM				*i* S		**Sb**		**20 42 32.5**	**+0.2**
BODT	**Bodrum**	**0.78**	**279**	*e*PG		**Pg**		**20 42 24.0**	**+0.1**
BODT				*e*SG		**Sb**		**20 42 35.4**	**+0.1**
BODT	**Bodrum**	**0.78**	**279**	*e*Pg		**Pg**		**20 42 24.0**	**+0.1**
BODT				*e*Sg		**Sb**		**20 42 35.4**	**+0.1**
AYDN	**Tasoluk**	**0.79**	**337**	P		**Pg**		**20 42 23.9**	**-0.2**
AYDN				S		**Sg**		**20 42 33.9**	**-0.4**
AYDN	**Tasoluk**	**0.79**	**337**	*i* P		**Pg**		**20 42 23.9**	**-0.2**
AYDN				*i* S		**Sg**		**20 42 33.9**	**-0.4**
GLHS	**Glhisar (BURDU**	**1.00**	**77**	*e*PG		**Pn**		**20 42 29.4**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.00**	**77**	*e*Pg		**Pn**		**20 42 29.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**343**	*e*PG		**Pb**		**20 42 28.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**343**	*e*Pg		**Pb**		**20 42 28.9**	**-0.5**

IDC ***05*** *20:51:17.8±3.6, 35.83N×142.12E, h0km, mb3.3/3, mb1 3.3/4, mb1mx3.2/36, mbtmp3.1/4, ML2.6/1, Error ellipse: s-maj=103.8km s-min=34.0km az=56.0*
JMA ***05*** *20:51:32.0±0.1, 36.51N×140.86E, h22km±1km*
ISC 05 20:51:33.2±2.4, 36.7N±0.3×140.8E±0.2, h24km±17km, n6, σ0.53/6, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.18**	**236**	P		**Pb**		**20 51 38.1**	**-0.4**
JHO				*e*S		**Sb**		**20 51 42.5**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.39**	**6**	P		**Pn**		**20 51 43.5**	**0.0**
MJAR	**Matsushiro Arr**	**2.05**	**266**	Pn		**Pb**		**20 52 09.5**	**-0.3**
	0.7nm,0.3s,baz=112,slow=9.2,SNR=8.5								
SONM	**Songino Array**	**27.53**	**305**	P		**P**		**20 57 17.8**	**-0.2**
	0.3nm,0.8s,baz=91,slow=10,SNR=2.2								
MKAR	**Makanchi Array**	**43.84**	**302**	P		**P**		**20 59 37.6**	**+0.2**
	0.9nm,0.7s,baz=87,slow=12,SNR=3.9								
WRA	**Warramunga Arr**	**56.67**	**187**	P		P		21 00 57.7	-17
	0.5nm,1.1s,baz=7.4,slow=7.4,SNR=2.9								

MEX 05 20:58:32.9±0.4, 14.83N×95.03W, h16km±999km, MD3.9, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**1.96**	**63**	*e*P		Pn		20 59 02.0	-3.5
PCIG				*i* S		Sn		20 59 25.4	-4.3

ISCJB ***05*** *21:09:53.0±0.5, 43.61S±0.02×172.58E±0.03, h14km±3km, mb5.0/46, MS4.2/18, Error ellipse: s-maj=5.0km s-min=2.4km az=137.4*
IDC ***05*** *21:09:53.8±0.6, 43.62S×172.43E, h0km, mb4.6/13, mb1 4.7/13, mb1mx4.6/27, mbtmp4.6/13, MS4.2/19, Ms1 4.2/19, ms1mx4.1/28, Error ellipse: s-maj=21.7km s-min=10.9km az=171.0*
WEL ***05*** *21:09:55.3±0.1, 43.59S×172.39E, h9km, ML5.5/65, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0, 7.*
WEL Felt between Nelson, Southland and Wellington, maximum reported intensity MM.
NEIC ***05*** *21:09:55.3, 43.58S×172.39E, h8km, mb5.1/26, MW5.0, ML5.5(WEL), Moment Tensor Solution. s41 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.04; $M_{\theta\theta}$1.14; $M_{\phi\phi}$-1.11; $M_{r\theta}$0.50; $M_{\theta\phi}$-3.96; $M_{\phi r}$0.35; Best double couple: $M_0$4.20000×10^{16} NP1:ϕ_s262.00000°, δ86.00000°, λ-173.00000°. NP2:ϕ_s172.00000°, δ83.00000°, λ-4.00000°. Principal axes: T 4.1400, Plg3.0000°, Azm37.0000°; N 0.0300, Plg82.0000°, Azm289.0000°; P -4.1800, Plg8.0000°, Azm127.0000°; After WEL.*
NEIC Felt [V] at Christchurch. Felt throughout Canterbury and in the Hokitika-Westport area.
GCMT ***05*** *21:09:55.3±0.2, 43.49S×172.31E, h12km, MW5.1/95, Moment Tensor Solution. s39,c45; s95,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.03±.12; $M_{\theta\theta}$2.41±.11; $M_{\phi\phi}$-2.37±.10; $M_{r\theta}$-0.30±.30; $M_{\theta\phi}$-4.15±.09; $M_{\phi r}$-0.12±.29; Best double couple: $M_0$4.80000×10^{16} NP1:ϕ_s75.00000°, δ90.00000°, λ-176.00000°. NP2: ϕ_s345.00000°, δ86.00000°, λ0.00000°. Principal axes: T 4.8170, Plg2.0000°, Azm210.0000°; N -0.0290, Plg86.0000°, Azm82.0000°; P -4.7830, Plg3.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***05*** *21:09:55.3, 43.72S×172.21E, h6km, mb5.3/17, mB5.6/10, Ms5.0/6, Ms7 4.5/9*
MOS ***05*** *21:09:56.0±2.0, 43.47S×172.19E, h10km, mb5.0/9, Error ellipse: s-maj=14.4km s-min=11.5km az=83.4*
ISC 05 21:09:55.0±0.9, 43.56S±0.02×172.43E±0.02, h1km±5km, n415, σ2.922/421, mb5.0/45, MS4.2/18, 22C-9D, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.14**	**97**	PG		**Pg**		**21 09 58.8**	**+1.0**
CRLZ				SG		**Sg**		**21 10 01.5**	**+2.0**
CRLZ				AML	AML			21 10 02.3	
CRLZ				AML	AML			21 10 02.5	
CRLZ				AML	AML			21 10 02.5	
CRLZ	**Canterbury Las**	**0.14**	**97**	*e*Pg		**Pg**		**21 09 58.9**	**+1.2**
CRLZ				Sg		**Sg**		**21 10 01.5**	**+2.0**
CRLZ				*e*Sg		Sg		21 10 01.9	+2.4
MQZ	**McQueen's Vall**	**0.22**	**132**	⇓PG		**Pg**		**21 09 59.9**	**+0.7**
MQZ				SG		**Sg**		**21 10 03.2**	**+1.1**
MQZ	**McQueen's Vall**	**0.22**	**132**	*e*Pg		**Pg**		**21 09 59.9**	**+0.7**
MQZ				Sg		**Sg**		**21 10 03.2**	**+1.1**

MQZ eSg Sg 21 10 03.5 +1.3
OXZ Oxford 0.37 309‖ ePG **Pg 21 10 02.0 0.0**
OXZ Oxford 0.37 309 ePg **Pg 21 10 02.1 +0.1**
LTZ Lake Taylor 0.78 351 ⇑P* **Pg 21 10 10.7 +0.8**
LTZ S* **Sg 21 10 22.0 +1.9**
LTZ AML AML 21 10 23.0
LTZ AML AML 21 10 24.3
LTZ AML AML 21 10 24.3
LTZ Lake Taylor 0.78 351 ePg **Pg 21 10 10.8 +0.8**
LTZ eSg **Sg 21 10 21.4 +1.3**
LTZ S* **Sg 21 10 22.0 +1.9**
RPZ Rata Peaks 1.01 261 Pg **Pg 21 10 13.8 -0.5**
7µm,0.3s,baz=119,slow=3.5,SNR=9974
RPZ Lg Lg 21 10 26.6
9µm,0.3s,baz=201,slow=17,SNR=38
RPZ Rata Peaks 1.01 261 P* **Pg 21 10 13.7 -0.7**
RPZ AML AML 21 10 38.7
RPZ Rata Peaks 1.01 261 ePg **Pg 21 10 13.8 -0.5**
RPZ eSn **Sb 21 10 28.4 -0.8**
INZ Inchbonnie 1.10 319 P* **Pg 21 10 14.7 -1.4**
WVZ Waitaha Valley 1.33 291 ⇑PN **Pn 21 10 18.4 -2.3**
WVZ AML AML 21 10 41.4
WVZ AML AML 21 10 43.4
WVZ Waitaha Valley 1.33 291 Pn **Pn 21 10 18.3 -2.3**
KHZ Kahutara 1.40 36 ⇑PN **Pn 21 10 19.1 -2.6**
KHZ Kahutara 1.40 36 ePn **Pn 21 10 19.3 -2.4**
KHZ eSn **Sn 21 10 38.3 -2.5**
LBZ Lake Benmore 1.82 242 PN **Pn 21 10 24.9 -2.6**
LBZ AML AML 21 10 55.6
LBZ AML AML 21 10 55.6
LBZ AML AML 21 10 59.5
LBZ AML AML 21 10 59.5
LBZ Lake Benmore 1.82 242 ePn **Pn 21 10 25.9 -1.5**
LBZ eSn **Sn 21 10 46.2 -5.0**
THZ Tophouse 1.83 11 ⇑PN **Pn 21 10 25.5 -2.1**
THZ AML AML 21 11 04.5
THZ AML AML 21 11 05.0
THZ Tophouse 1.83 11 ePn **Pn 21 10 25.6 -2.1**
THZ eSn **Sn 21 10 46.8 -4.7**
DSZ Denniston Nort 1.87 346 PN **Pn 21 10 26.6 -1.6**
DSZ AML AML 21 10 58.5
DSZ AML AML 21 10 59.5
DSZ AML AML 21 10 59.5
DSZ AML AML 21 11 01.5
DSZ Denniston Nort 1.87 346 Pn **Pn 21 10 26.4 -1.8**
FOZ Fox Glacier 1.90 270 ⇑PN **Pn 21 10 27.1 -1.4**
FOZ AML AML 21 11 00.4
FOZ AML AML 21 11 00.5
FOZ AML AML 21 11 00.5
FOZ AML AML 21 11 00.6
FOZ Fox Glacier 1.90 270 ePn **Pn 21 10 27.2 -1.4**
FOZ eSn **Sn 21 10 52.1 -1.1**
ODZ Otahua Downs 1.96 220 ⇑PN **Pn 21 10 26.5 -2.9**
ODZ AML AML 21 11 02.2
ODZ AML AML 21 11 02.2
ODZ AML AML 21 11 05.4
ODZ AML AML 21 11 05.4
ODZ Otahua Downs 1.96 220 ePn **Pn 21 10 26.7 -2.8**
ODZ eSn **Sn 21 10 52.9 -1.8**
BSWZ Blackbirch Sta 2.13 31⇑ ePN **Pn 21 10 29.8 -1.9**
BSWZ AML AML 21 11 15.6
BSWZ AML AML 21 11 21.4
BSWZ Blackbirch Sta 2.13 31 ePn **Pn 21 10 29.8 -1.9**
CMWZ Cape Campbell 2.24 37 ePN **Pn 21 10 31.3 -1.8**
CMWZ AML AML 21 11 37.2
CMWZ AML AML 21 11 46.3
CMWZ Cape Campbell 2.24 37 ePn **Pn 21 10 31.3 -1.8**
TUWZ Tuamarina 2.40 28 ePN **Pn 21 10 33.1 -2.3**
TUWZ AML AML 21 11 26.0
TUWZ AML AML 21 11 27.3
TUWZ Tuamarina 2.40 28 ePn **Pn 21 10 33.1 -2.3**
NNZ Nelson 2.44 17 ⇑PN **Pn 21 10 34.5 -1.5**
NNZ AML AML 21 11 20.6
NNZ AML AML 21 11 20.6
NNZ AML AML 21 11 23.3
NNZ AML AML 21 11 23.4
NNZ Nelson 2.44 17 ⇑Pn **Pn 21 10 34.5 -1.5**
HHSZ Highcliff Hill 2.67 209 PN **Pn 21 10 36.0 -3.2**
HHSZ Highcliff Hill 2.67 209 Pn **Pn 21 10 36.2 -2.9**
JCZ Jackson Bay 2.69 258 PN **Pn 21 10 37.0 -2.5**
JCZ AML AML 21 11 26.0
JCZ AML AML 21 11 30.9
JCZ Jackson Bay 2.69 258 Pn **Pn 21 10 37.1 -2.4**
TCW Tory Channel 2.71 31 PN **Pn 21 10 36.9 -2.9**
TCW AML AML 21 11 29.8
TCW AML AML 21 11 35.2
QRZ Quartz Range 2.73 2 PN **Pn 21 10 37.6 -2.4**
QRZ AML AML 21 10 50.4
QRZ AML AML 21 10 50.4
QRZ AML AML 21 11 26.0
QRZ AML AML 21 11 26.0
QRZ Quartz Range 2.73 2 Pn **Pn 21 10 37.6 -2.4**
WKZ Wanaka 2.76 241 PN **Pn 21 10 37.7 -2.8**
WKZ AML AML 21 11 28.7
WKZ AML AML 21 11 29.1
WKZ AML AML 21 11 30.3
WKZ AML AML 21 11 30.3
WKZ Wanaka 2.76 241 ePn **Pn 21 10 37.9 -2.6**
EAZ Earnscleugh 2.79 232 ‖PN **Pn 21 10 38.0 -2.8**
EAZ AML AML 21 11 27.0
EAZ AML AML 21 11 28.1
EAZ AML AML 21 11 28.1
EAZ AML AML 21 11 35.1
EAZ Earnscleugh 2.79 232 Pn **Pn 21 10 38.0 -2.8**
BHW Baring Head 2.81 41 PN **Pn 21 10 38.1 -2.9**
BHW AML AML 21 11 47.8
BHW AML AML 21 11 59.8
BHW Baring Head 2.81 41 Pn **Pn 21 10 38.1 -2.9**
SNZO South Karori 2.81 38 ePn **Pn 21 10 38.2 -2.8**
WEL Wellington 2.86 38 PN **Pn 21 10 39.5 -2.2**
WEL AML AML 21 11 19.5
WEL AML AML 21 11 50.6
WEL Wellington 2.86 38 P **Pn 21 10 39.5 -2.2**
WEL Wellington 2.86 38 Pn **Pn 21 10 39.5 -2.2**
PLWZ Palliser 2.88 47 PN **Pn 21 10 38.8 -3.4**
PLWZ Palliser 2.88 47 Pn **Pn 21 10 39.2 -3.0**
DUWZ D'Urville Isla 2.97 22 PN **Pn 21 10 40.3 -3.0**
MSWZ Moikau Station 2.99 45 PN **Pn 21 10 40.2 -3.3**
MSWZ AML AML 21 11 21.9
MSWZ AML AML 21 12 21.9
MSWZ Moikau Station 2.99 45 Pn **Pn 21 10 40.4 -3.1**
PAWZ Paruwai Farm 3.11 47 PN **Pn 21 10 41.5 -3.6**
PAWZ AML AML 21 12 07.3
PAWZ AML AML 21 12 21.3
PAWZ Paruwai Farm 3.11 47 Pn **Pn 21 10 41.9 -3.3**
TUZ Tuapeka 3.12 219 PN **Pn 21 10 42.3 -3.0**
TUZ AML AML 21 11 43.5
TUZ AML AML 21 11 43.5
TUZ AML AML 21 11 44.5
TUZ AML AML 21 11 44.6
TUZ Tuapeka 3.12 219 Pn **Pn 21 10 42.5 -2.8**
CAW Cannon Point 3.13 40 PN **Pn 21 10 42.5 -3.1**
CAW AML AML 21 11 24.1
CAW AML AML 21 11 57.8
CAW Cannon Point 3.13 40 Pn **Pn 21 10 42.5 -3.1**
TRWZ Traveller 3.23 49 PN **Pn 21 10 43.4 -3.6**
TRWZ AML AML 21 12 19.8
TRWZ AML AML 21 12 23.3
TRWZ Traveller 3.23 49 Pn **Pn 21 10 44.0 -3.0**
KIW Kapiti Island 3.26 35 PN **Pn 21 10 44.5 -2.9**
KIW AML AML 21 11 49.9
KIW AML AML 21 11 55.0
KIW Kapiti Island 3.26 35 Pn **Pn 21 10 44.9 -2.5**
MTW Mount Morrison 3.31 45 PN **Pn 21 10 44.3 -3.6**
MTW AML AML 21 12 06.5
MTW AML AML 21 12 08.9
MTW Mount Morrison 3.31 45 Pn **Pn 21 10 44.6 -3.3**
OGWZ Otaki Gorge 3.41 38 PN **Pn 21 10 46.3 -3.1**
OGWZ Otaki Gorge 3.41 38 Pn **Pn 21 10 46.3 -3.1**
MSZ Milford Sound 3.43 249 PN **Pn 21 10 46.6 -3.0**
MSZ AML AML 21 11 50.7
MSZ AML AML 21 11 50.7
MSZ AML AML 21 11 53.3
MSZ AML AML 21 11 53.3
MSZ Milford Sound 3.43 249 P **Pn 21 10 46.6 -3.0**
MSZ Milford Sound 3.43 249 Pn **Pn 21 10 46.6 -3.0**
HOWZ Holdsworth Sta 3.51 42 ePN **Pn 21 10 47.0 -3.7**
HOWZ Holdsworth Sta 3.51 42 ePn **Pn 21 10 47.1 -3.6**
TMWZ Te Maipa 3.55 48 ePN **Pn 21 10 47.8 -3.4**
TMWZ Te Maipa 3.55 48 ePn **Pn 21 10 47.9 -3.4**
MLZ Mavora Lakes 3.58 238 PN **Pn 21 10 48.5 -3.2**
MLZ AML AML 21 11 51.5
MLZ AML AML 21 11 56.5
MLZ Mavora Lakes 3.58 238 ePn **Pn 21 10 48.7 -2.9**
MRZ Mangatainoka R 3.72 40 PN **Pn 21 10 50.0 -3.6**
MRZ Mangatainoka R 3.72 40 Pn **Pn 21 10 50.4 -3.3**
SYZ Scrubby Hill 3.78 217 PN **Pn 21 10 51.4 -3.0**
SYZ AML AML 21 12 04.1
SYZ AML AML 21 12 04.1
SYZ AML AML 21 12 07.3
SYZ AML AML 21 12 07.3
SYZ Scrubby Hill 3.78 217 Pn **Pn 21 10 51.8 -2.6**
TIWZ Tintock 3.79 44 AML AML 21 11 41.1
TIWZ AML AML 21 11 41.6
WHZ Wether Hill Ro 3.96 232 PN **Pn 21 10 52.9 -3.9**
WHZ AML AML 21 12 09.5
WHZ AML AML 21 12 13.4
WHZ Wether Hill Ro 3.96 232 ePn **Pn 21 10 53.3 -3.6**
POWZ Post Office Ro 4.03 39 PN **Pn 21 10 54.9 -2.9**
POWZ Post Office Ro 4.03 39 Pn **Pn 21 10 55.3 -2.5**
BFZ Birch Farm 4.04 46 ePN **Pn 21 10 54.3 -3.7**
BFZ AML AML 21 12 36.3
BFZ AML AML 21 12 36.3
BFZ AML AML 21 12 47.4
BFZ AML AML 21 12 47.4
BFZ Birch Farm 4.04 46 ePn **Pn 21 10 54.8 -3.2**
DCZ Deep Cove 4.23 241 ePN **Pn 21 10 57.3 -3.3**
DCZ AML AML 21 12 12.1
DCZ AML AML 21 12 12.2
DCZ AML AML 21 12 16.7
DCZ AML AML 21 12 16.7
DCZ Deep Cove 4.23 241 ePn **Pn 21 10 57.7 -2.8**
DCZ eSn **Sn 21 11 47.3 -3.3**
WAZ Wanganui 4.25 28 ePN **Pn 21 10 59.9 -1.0**
WAZ AML AML 21 12 12.0
WAZ AML AML 21 12 38.8
WAZ Wanganui 4.25 28 Pn **Pn 21 11 00.1 -0.8**
DVHZ Dannevirke 4.29 42 ePN Pn 21 10 56.9 -4.5
DVHZ Dannevirke 4.29 42 Pn **Pn 21 10 57.4 -4.0**
ANWZ Angora Road 4.32 46 PN **Pn 21 10 58.5 -3.3**
LREZ Lake Rotokare 4.35 21 PN **Pn 21 11 02.3 +0.1**
TSZ Takapari Road 4.38 38 PN **Pn 21 10 59.2 -3.5**
TSZ AML AML 21 12 28.7
TSZ AML AML 21 12 33.4
TSZ Takapari Road 4.38 38 Pn **Pn 21 10 59.2 -3.5**
PREZ Palmer Road 4.41 18 PN **Pn 21 11 03.1 0.0**
PREZ Palmer Road 4.41 18 Pn **Pn 21 11 03.1 0.0**
NWEZ Newall Road 4.41 15 ePN **Pn 21 11 02.0 -0.9**
KHEZ Kahui Hut 4.42 16 PN **Pn 21 11 02.7 -0.6**
KHEZ Kahui Hut 4.42 16 Pn **Pn 21 11 02.7 -0.6**
NEZ North Egmont 4.46 17 PN **Pn 21 11 03.1 -0.8**
NEZ North Egmont 4.46 17 Pn **Pn 21 11 03.1 -0.8**
PKE Pukeiti 4.51 16 PN **Pn 21 11 03.7 -0.8**
PKE AML AML 21 11 57.6
PKE AML AML 21 11 58.8
PKE Pukeiti 4.51 16 Pn **Pn 21 11 03.8 -0.8**
APZ The Paps 4.54 222 ⇑PN **Pn 21 11 01.5 -3.3**
APZ AML AML 21 12 37.4
APZ AML AML 21 12 45.4
APZ The Paps 4.54 222 Pn **Pn 21 11 01.6 -3.3**
PRHZ Porangahau 4.54 45 PN **Pn 21 11 01.9 -3.0**
PRHZ Porangahau 4.54 45 Pn **Pn 21 11 01.9 -3.0**
DREZ Durham Road 4.56 18 PN **Pn 21 11 04.0 -1.2**
DREZ Durham Road 4.56 18 Pn **Pn 21 11 04.4 -0.8**
WPHZ Waipukurau 4.60 42 Pn **Pn 21 11 03.1 -2.6**
PNHZ Pukenui 4.61 39 PN **Pn 21 11 02.1 -3.7**
PNHZ Pukenui 4.61 39 Pn **Pn 21 11 02.1 -3.7**
MHEZ Mangahewa 4.70 18 Pn **Pn 21 11 07.0 0.0**
MTVZ Mangateitei 4.75 30 AML AML 21 12 14.7
MTVZ AML AML 21 12 51.9
MTVZ Mangateitei 4.75 30 Pn **Pn 21 11 07.2 -0.6**
VRZ Vera Road 4.76 22 PN **Pn 21 11 06.5 -1.4**
VRZ AML AML 21 12 46.4
VRZ AML AML 21 12 48.3
VRZ Vera Road 4.76 22 Pn **Pn 21 11 07.0 -0.9**
PKVZ Pokaka 4.79 28 PN **Pn 21 11 07.5 -0.9**
PKVZ AML AML 21 12 34.2
PKVZ AML AML 21 12 50.7
PKVZ Pokaka 4.79 28 Pn **Pn 21 11 07.5 -0.9**
PXZ Pawanui 4.84 45 PN **Pn 21 11 05.5 -3.4**
PXZ AML AML 21 12 55.8
PXZ AML AML 21 12 55.8
PXZ AML AML 21 13 03.9
PXZ AML AML 21 13 03.9
PXZ Pawanui 4.84 45 Pn **Pn 21 11 05.5 -3.4**
MOVZ Moawhango 4.84 32 AML AML 21 12 48.1
MOVZ AML AML 21 12 55.6
MOVZ Moawhango 4.84 32 Pn **Pn 21 11 07.1 -1.9**
PYZ Puysegur Point 4.85 235 ePn **Pn 21 11 07.0 -2.1**
PYZ eSn **Sn 21 12 03.7 -2.1**
WNVZ Wahianoa 4.85 30 PN **Pn 21 11 06.7 -2.6**
WNVZ Wahianoa 4.85 30 Pn **Pn 21 11 07.3 -2.0**
TRVZ Turoa 4.86 30 AML AML 21 12 36.9
TRVZ AML AML 21 12 50.1
TRVZ Turoa 4.86 30 Pn **Pn 21 11 07.8 -1.7**
WHVZ Whangaehu Hut 4.89 30 Pn **Pn 21 11 08.8 -1.0**
FWVZ Far West T-bar 4.90 30 PN **Pn 21 11 07.1 -2.9**
FWVZ AML AML 21 12 36.7
FWVZ AML AML 21 12 37.5
FWVZ Far West T-bar 4.90 30 Pn **Pn 21 11 08.2 -1.8**
KRHZ Kereru 4.90 38 ePN **Pn 21 11 06.0 -3.9**
TUKZ Tukino 4.92 31 PN **Pn 21 11 08.5 -1.8**
TUVZ AML AML 21 12 58.3
TUVZ AML AML 21 13 00.8
TUVZ Tukino 4.92 31 Pn **Pn 21 11 08.5 -1.8**
NGZ Ngauruhoe 4.99 30 ePN **Pn 21 11 08.9 -2.3**
NGZ AML AML 21 13 10.6
NGZ AML AML 21 13 16.9
NGZ Ngauruhoe 4.99 30 ePn **Pn 21 11 09.3 -1.9**
OTVZ Oturere 5.02 30 ePN **Pn 21 11 08.8 -2.8**
OTVZ AML AML 21 13 00.4
OTVZ AML AML 21 13 02.9
KAHZ Kahuranaki 5.02 43 ePN **Pn 21 11 07.7 -3.9**
KAHZ Kahuranaki 5.02 43 Pn **Pn 21 11 08.7 -2.9**
TWVZ Taurewa 5.02 28 ePN **Pn 21 11 09.6 -2.0**
TWVZ AML AML 21 12 37.9
TWVZ AML AML 21 12 39.2
TWVZ Taurewa 5.02 28 Pn **Pn 21 11 09.9 -1.7**
WTVZ West Tongariro 5.04 29 PN **Pn 21 11 09.4 -2.4**
WTVZ AML AML 21 12 40.0
WTVZ AML AML 21 13 01.4
WTVZ West Tongariro 5.04 29 Pn **Pn 21 11 09.7 -2.1**
KRVZ Karewarewa 5.07 30 ePN **Pn 21 11 09.4 -2.8**
KRVZ AML AML 21 12 42.7
KRVZ AML AML 21 12 59.3
KRVZ Karewarewa 5.07 30 ePn **Pn 21 11 09.9 -2.3**
KWHZ Kaweka Forest 5.10 37 PN **Pn 21 11 08.8 -3.9**
KATZ Kakaramea 5.20 29 PN **Pn 21 11 13.0 -1.0**
KATZ AML AML 21 11 46.0
KATZ AML AML 21 13 12.0
KATZ Kakaramea 5.20 29 Pn **Pn 21 11 13.0 -1.0**
RITZ Rihia Road 5.25 31 AML AML 21 11 49.4
RITZ AML AML 21 12 27.3
RATZ Rangitukua 5.32 29 AML AML 21 13 23.8
RATZ AML AML 21 13 25.6
RATZ Rangitukua 5.32 29 Pn **Pn 21 11 14.7 -0.9**
BKZ Black Stump Fm 5.35 36 ePN **Pn 21 11 11.7 -4.4**
BKZ AML AML 21 13 07.1
BKZ AML AML 21 13 11.1
BKZ Black Stump Fm 5.35 36 ePn **Pn 21 11 13.8 -2.2**
HIZ Hauiti 5.36 21 PN **Pn 21 11 13.9 -2.2**
HIZ AML AML 21 13 06.3
HIZ AML AML 21 13 34.3
HIZ Hauiti 5.36 21 ePn **Pn 21 11 14.4 -1.7**
NMHZ Naumai 5.54 38 ePN **Pn 21 11 15.3 -3.4**
MRHZ Matea Rd 5.60 34 ePN Pn 21 11 13.8 -5.6
KUTZ Kaahu Road 5.68 28 Pn **Pn 21 11 19.9 -0.6**
TLZ Tolley Road 5.73 25 ePN **Pn 21 11 18.4 -2.8**
TLZ Tolley Road 5.73 25 Pn **Pn 21 11 18.9 -2.4**
RAHZ Arahi 5.81 39 ePN **Pn 21 11 18.7 -3.7**
RAHZ Arahi 5.81 39 Pn **Pn 21 11 19.2 -3.2**
KNZ Kokohu 6.01 43 ePN **Pn 21 11 20.9 -4.2**
KNZ AML AML 21 13 42.1
KNZ AML AML 21 14 21.5
RTZ Ruatahuna 6.01 36 ePN **Pn 21 11 21.3 -3.9**
MHGZ Mahia Peninsul 6.03 45 Pn **Pn 21 11 22.8 -2.5**
SNGZ Shannon Statio 6.04 39 PN **Pn 21 11 21.1 -4.4**
SNGZ Shannon Statio 6.04 39 Pn **Pn 21 11 21.7 -3.8**
MUGZ Murupara 6.04 34 PN **Pn 21 11 21.3 -4.2**
UTU Utuhina 6.08 29 AML AML 21 12 09.5
PRGZ Paritu Road 6.19 43 ePN **Pn 21 11 23.4 -4.2**
TOZ Tahuroa Road 6.27 23 PN **Pn 21 11 26.1 -2.5**
TOZ AML AML 21 13 45.7
TOZ AML AML 21 13 46.9
TOZ Tahuroa Road 6.27 23 Pn **Pn 21 11 26.5 -2.1**
RIGZ Rimuhau 6.30 42 PN **Pn 21 11 24.9 -4.2**
RAGZ Rawiri 6.31 38 ePN **Pn 21 11 25.1 -4.1**
RAGZ Rawiri 6.31 38 Pn **Pn 21 11 25.7 -3.5**
URZ Urewera 6.37 35 Pn **Pn 21 11 26.3 -3.7**
7.8nm,0.3s,baz=257,slow=7.0,SNR=27
URZ Sn **Sn 21 12 37.4 -5.9**
17nm,0.3s,baz=90,slow=20,SNR=4.5
URZ LR LR 21 14 30.0
comp=Z,9µm,19.8s,baz=264,slow=43
URZ Urewera 6.37 35 ePN Pn 21 11 25.1 -4.9
URZ AML AML 21 13 12.6
URZ AML AML 21 13 39.4
URZ Urewera 6.37 35 ePn **Pn 21 11 26.0 -3.9**
URZ Sn **Sn 21 12 37.4 -5.9**
URZ eSn **Sn 21 12 43.6 +0.3**
MWZ Matawai 6.49 38 AML AML 21 12 56.1
MWZ AML AML 21 13 17.8
AWAZ Awhitu Peninsu 6.70 15 ePN **Pn 21 11 32.8 -1.7**
MKAZ Moumakai 6.78 19 ePN **Pn 21 11 33.3 -2.2**
MKAZ AML AML 21 13 39.9
MKAZ AML AML 21 14 05.9
WTAZ Waiatarua 6.82 15 Pn **Pn 21 11 35.8 -0.3**
TWGZ Tauwhareparae 6.82 40 ePN Pn 21 11 28.9 -7.4
ETAZ East Tamaki Re 6.87 17 ePN **Pn 21 11 34.1 -2.7**
PUZ Puketiti 7.04 41 PN Pn 21 11 34.2 -5.0
PUZ AML AML 21 13 02.1
PUZ AML AML 21 13 52.8
WIAZ Waiheke Island 7.07 18 PN **Pn 21 11 37.8 -1.8**
HAZ Te Kaha 7.08 37 PN Pn 21 11 35.2 -4.6
PKGZ Pakihiroa 7.10 39 Pn **Pn 21 11 35.8 -4.3**
KUZ Kuaotunu 7.25 21 PN **Pn 21 11 38.4 -3.8**
KUZ AML AML 21 14 04.6
KUZ AML AML 21 14 27.9
WMGZ Waiomatatini S 7.32 40 PN Pn 21 11 37.9 -5.1
CTZ Chatham Island 7.95 95 PN **Pn 21 11 48.7 -2.9**
CTZ Chatham Island 7.95 95 Pn **Pn 21 11 48.8 -2.9**
I36NZ CHATHAM INFRAS 8.04 96 *i* 21 56 00.0
baz=266,slow=305,SNR=0.2
OUZ Omahuta 8.38 7 PN **Pn 21 11 57.2 -0.3**
OUZ AML AML 21 13 41.9
OUZ AML AML 21 14 30.6
OUZ Omahuta 8.38 7 ePn **Pn 21 11 56.8 -0.7**
RAO Raoul Island 16.24 32 LR LR 21 19 47.9
comp=Z,2µm,21.2s,baz=166,slow=36
ARMA Armidale 21.09 302 *eP* **P 21 14 41.8 +0.8**
21nm,1.0s
TOO Toolangi 21.27 277 P **P 21 14 46.2 +3.4**
TOO pmax pmax
comp=Z,50nm,1.2s
DZM Mont Dzumac 22.00 345 *eP* **P 21 14 50.4 -0.3**
comp=Z,70nm,1.0s
DZM eLR LR 21 20 00.9
comp=Z,880nm,21.3s
DZM Mont Dzumac 22.00 345 P **P 21 14 50.6 -0.1**
comp=Z,24nm,0.8s,baz=290,slow=22,SNR=17
DZM LR LR 21 22 31.9
comp=Z,2µm,18.2s,baz=178,slow=34
DZM Mont Dzumac 22.00 345 *eP* **P 21 14 50.6 -0.1**
comp=Z,38nm,1.0s
EIDS Eidsvold 25.16 309 *eP* **P 21 15 22.9 +1.1**
comp=Z,24nm,1.1s
MSVF Nonsavu 26.18 12 *eP* **P 21 15 31.2 0.0**
MSVF pmax pmax
comp=Z,32nm,1.1s
MSVF Nonsavu 26.18 12 *eP* **P 21 15 31.2 0.0**
comp=Z,32nm,1.1s
MSVF *e* 21 15 42.5
STKA Stephens Creek 26.88 285 P **P 21 15 35.5 -1.9**
comp=Z,9.2nm,0.8s,baz=111,slow=11,SNR=22
STKA LR LR 21 25 35.9
comp=Z,705nm,18.1s,baz=121,slow=35
STKA Stephens Creek 26.88 285 *eP* **P 21 15 37.0 -0.4**
comp=Z,3.4nm,1.0s
RAR Rarotonga 32.11 55 LR LR 21 28 24.0
comp=Z,386nm,19.8s,baz=208,slow=34
VNDA Vanda 34.34 184 P **P 21 16 41.9 -0.9**
comp=Z,1.5nm,1.2s,baz=321,slow=9.5,SNR=3.1
VNDA LR LR 21 28 51.5
comp=Z,425nm,20.0s,baz=19,slow=33
VNDA Vanda 34.34 184 *eP* **P 21 16 43.4 +0.6**
comp=Z,13nm,1.8s
SBA Scott Base 34.48 182 *eP* **P 21 16 45.7 +1.8**
SBA pmax pmax
comp=Z,50nm,2.0s
SBA Scott Base 34.48 182 *eP* **P 21 16 45.7 +1.8**
comp=Z,50nm,2.0s
AS01 Alice Springs 37.26 290 *eP* **P 21 17 04.9 -3.5**
AS31 Alice Springs 37.29 290 *eP* **P 21 17 06.4 -2.3**
comp=Z,5.8nm,0.9s
ASAR Alice Springs 37.29 290 P **P 21 17 06.5 -2.2**
comp=Z,11nm,0.7s,baz=132,slow=9.4,SNR=100
ASAR PcP **PcP 21 19 27.8 -0.4**
comp=Z,2.3nm,0.9s,baz=146,slow=5.1,SNR=4.5
ASAR LR LR 21 31 26.0
comp=Z,604nm,20.2s,baz=131,slow=35
WB2 Warramunga Arr 39.54 294 *eP* **P 21 17 25.6 -2.0**
comp=Z,90nm,1.6s
WRA Warramunga Arr 39.55 294 P **P 21 17 25.4 -2.3**
comp=Z,13nm,0.8s,baz=136,slow=7.6,SNR=123
WRA PcP **PcP 21 19 34.0 -1.2**
comp=Z,3.9nm,0.9s,baz=134,slow=3.0,SNR=5.8
WRAB Tennant Creek 39.55 294 *eP* **P 21 17 25.5 -2.2**
WRAB pmax pmax
comp=Z,91nm,1.7s
WRAB Tennant Creek 39.55 294 *eP* **P 21 17 25.5 -2.2**
comp=Z,91nm,1.7s
CASY Casey 39.96 214 *eP* **P 21 17 33.3 +2.8**
comp=Z,12nm,0.9s
PMG Port Moresby 40.52 320 P **P 21 17 35.4 -0.2**
comp=Z,22nm,0.9s,baz=157,slow=5.1,SNR=4.3
PMG Port Moresby 40.52 320 *eP* **P 21 17 35.5 -0.2**
PMG pmax pmax
comp=Z,29nm,0.9s
PMG Port Moresby 40.52 320 *eP* **P 21 17 35.5 -0.2**
comp=Z,29nm,0.9s
PAE Paea 41.12 63 *eT* T 22 00 09.2
comp=Z,19nm,0.3s
PPT2 Papeete2 41.17 63 *eLR* LR 21 28 45.9
comp=Z,792nm,29.8s
PPT2 Papeete2 41.17 63 *eT* T 22 00 13.7
comp=Z,16nm,0.3s
PPT Papeete 41.19 63 LR LR 21 30 51.1
comp=Z,333nm,18.8s,baz=194,slow=30
TVO Taravao 41.24 64 *eT* T 22 00 18.7
comp=Z,4.1nm,0.4s
NWAO Narrogin (SRO) 43.91 265 P **P 21 18 02.9 -0.3**
comp=Z,11nm,1.1s,baz=261,slow=19,SNR=2.7
QSPA South Pole Qui 46.57 180 P **P 21 18 25.3 +1.1**
comp=Z,207nm,1.0s
FITZ Fitzroy Crossi 46.73 288 P **P 21 18 23.9 -1.8**
comp=Z,4.3nm,0.5s,baz=138,slow=9.6
FITZ Fitzroy Crossi 46.73 288 *eP* **P 21 18 23.9 -1.8**
comp=Z,12nm,0.9s
MTN Manton Dam 46.81 298 *eP* **P 21 18 25.1 -1.3**
comp=Z,24nm,0.6s
MBWA Marble Bar 48.88 280 P **P 21 18 40.6 -1.9**
comp=Z,181nm,1.3s
SOEI Soe 53.59 294 *eP* **P 21 19 18.4 +0.4**
comp=Z,84nm,1.3s
TAOE Nuku Hiva Isla 53.77 64 *eLR* LR 21 34 38.1
comp=Z,533nm,29.0s
SWI Sorong 56.12 308 P **P 21 19 34.7 -1.4**
comp=Z,32nm,0.9s
MAW Mawson 57.25 205 P **P 21 19 45.2 +1.7**
comp=Z,7.0nm,1.0s,baz=116,slow=11,SNR=7.8
MAW LR LR 21 43 01.8
comp=Z,449nm,19.6s,baz=77,slow=35
MAW Mawson 57.25 205 *eP* **P 21 19 45.7 +2.2**
comp=Z,2.9nm,1.2s
KAPI Kappang 60.08 294 *eP* **P 21 20 06.1 +2.1**
comp=Z,60nm,1.4s
TTSI Tana Toraja 61.51 295 P **P 21 20 15.8 +2.2**
comp=Z,20nm,1.4s
GUMO Guam 62.20 329 LR LR 21 45 47.7
comp=Z,104nm,20.5s,baz=156,slow=35
SYO Syowa Base 62.46 197⇑ *eP* **P 21 20 17.0 -2.3**
BBKI Banjar Baru 64.52 291 P **P 21 20 32.7 -1.0**
comp=Z,47nm,1.4s
SNAA Sanae 65.03 182 P **P 21 20 36.0 -0.4**

SNAA	**Sanae**	**65.03**	**182**	*e*P		**P**	**21**	**20**	**37.9 +1.5**
SNAA				pmax		pmax			
	comp=Z,12nm,1.2s								
SNAA	**Sanae**	**65.03**	**182**	*e*P		**P**	**21**	**20**	**37.9 +1.5**
	comp=Z,12nm,1.2s								
NVL	**N'lazarevskaya**	**65.13**	**187**	*e*P		**P**	**21**	**20**	**39.7 +2.8**
VNA1	**Neumayer--Stat**	**66.10**	**180**	P		**P**	**21**	**20**	**45.1 +1.9**
MYLDM	**Lahad Datu**	**68.61**	**300**	*e*P		**P**	**21**	**21**	**01.7 +1.8**
	comp=Z,14nm,0.9s								
STKI	**Sintang**	**69.38**	**291**	P		**P**	**21**	**21**	**06.2 +1.5**
	comp=Z,22nm,1.1s								
SBUM	**Sibu**	**70.63**	**293**	*e*P		**P**	**21**	**21**	**11.1 -1.2**
	comp=Z,62nm,2.0s								
KSM	**Kuching**	**71.20**	**291**	*e*P		**P**	**21**	**21**	**14.2 -1.6**
	comp=Z,12nm,0.9s								
PLCA	**Paso Flores**	**78.73**	**136**	LR		LR	21	50	05.9
	comp=Z,186nm,20.0s,baz=230,slow=31								
GSI	**Gunungsitoli**	**79.96**	**281**	*e*P		**P**	**21**	**22**	**06.0 -0.1**
	comp=Z,156nm,1.5s								
KULM	**Kulim**	**80.59**	**287**	*e*P		**P**	**21**	**22**	**10.2 +0.7**
	comp=Z,40nm,1.3s								
JHJ	**Hachijo jima 2**	**81.93**	**333**	P		**P**	**21**	**22**	**17.2 +1.2**
	comp=Z,62nm,0.8s,baz=78,slow=20,SNR=2.5								
TRTT	**Trang**	**83.06**	**288**	P		**P**	**21**	**22**	**23.9 +1.4**
	comp=Z,42nm,1.6s								
KRAB	**Krabi**	**83.68**	**288**	P		**P**	**21**	**22**	**27.3 +1.7**
	comp=Z,33nm,0.9s								
UBPT	**Khong Chiam**	**84.56**	**297**	P		**P**	**21**	**22**	**33.3 +3.3**
	comp=Z,12nm,1.4s,comp=Z,654nm								
QIZ	**Qiongzhong**	**84.60**	**302**	P		**P**	**21**	**22**	**32.8 +2.6**
QIZ				S		**S**	**21**	**33**	**02.7 +4.3**
QIZ				LZ					
	comp=Z,130nm,21.4s								
JNU	**Nakatsue**	**85.23**	**326**	P		**P**	**21**	**22**	**32.5 -0.5**
	comp=Z,7.2nm,0.9s,baz=160,slow=6.8,SNR=6.4								
JNU	**Nakatsue**	**85.23**	**326**	*e*P		**P**	**21**	**22**	**32.8 -0.3**
	comp=Z,18nm,1.1s								
MJAR	**Matsushiro Arr**	**85.58**	**333**	P		**P**	**21**	**22**	**34.5 -0.2**
	comp=Z,2.2nm,1.1s,baz=163,slow=5.4,SNR=5.7								
MJAR				LR		LR	21	59	52.9
	comp=Z,20nm,19.2s,baz=120,slow=35								
SRAK	**Srakaew**	**85.89**	**294**	P		**P**	**21**	**22**	**37.7 +1.0**
	comp=Z,30nm,1.4s								
PBKT	**Sadao Pong**	**88.45**	**295**	P		**P**	**21**	**22**	**50.7 +1.6**
	comp=Z,12nm,1.1s								
NJ2	**Nanjing**	**89.78**	**317**	*e*P		**P**	**21**	**22**	**57.5 +2.6**
NJ2				PMZ					
	comp=Z,18nm,0.6s								
KSRS	**Korea Array**	**90.18**	**326**	P		**P**	**21**	**22**	**56.5 -0.1**
	comp=Z,3.4nm,0.9s,baz=149,slow=5.7,SNR=18								
KSRS				LR		LR	22	03	27.0
	comp=Z,19nm,18.0s,baz=130,slow=36								
KSAR	**Wonju Array Be**	**90.19**	**326**	P		**P**	**21**	**22**	**56.6 -0.2**
KSAR	**Wonju Array Be**	**90.19**	**326**	P		**P**	**21**	**22**	**56.5 -0.2**
KS01	**Wonju Array Si**	**90.21**	**326**	*e*P		**P**	**21**	**22**	**56.7 -0.1**
CM01	**Chiang Mai Arr**	**91.11**	**294**	*e*P		**P**	**21**	**23**	**00.4 -1.1**
CMAR	**Chiang Mai Arr**	**91.14**	**294**	P		**P**	**21**	**23**	**01.8 +0.1**
	comp=Z,3.2nm,0.7s,baz=167,slow=4.1,SNR=17								
CMAR				LR		LR	22	05	06.1
	comp=Z,102nm,21.8s,baz=140,slow=36								
CHTO	**Chiang Mai**	**91.39**	**295**	P		**P**	**21**	**23**	**06.2 +3.3**
CHTO	**Chiang Mai**	**91.39**	**295**	*e*P		**P**	**21**	**23**	**04.7 +1.8**
CHTO				pmax		pmax			
	comp=Z,6.0nm,1.1s								
CHTO	**Chiang Mai**	**91.39**	**295**	*e*P		**P**	**21**	**23**	**04.7 +1.8**
	comp=Z,6.3nm,1.1s								
GYA	**Guiyang**	**92.11**	**305**	*e*P		**P**	**21**	**23**	**08.2 +2.1**
GYA				PP		**PP**	**21**	**26**	**51.4 +5.0**
GYA				SKS		**SKSac**	**21**	**33**	**41.8 +1.4**
GYA				PMZ					
	comp=Z,20nm,1.0s								
GYA				PMZ					
	comp=Z,120nm,6.0s								
KMI	**Kunming**	**93.51**	**302**	P		**P**	**21**	**23**	**11.3 -1.5**
KMI				PMZ					
	comp=Z,10.0nm,1.3s								
KMI				LN					
	comp=Z,110nm,19.3s								
KMI				LE					
	comp=Z,120nm,23.5s								
KMI				LZ					
	comp=Z,190nm,23.0s								
USRK	**Ussuriysk Ar.**	**94.54**	**332**	P		**P**	**21**	**23**	**17.0 +0.3**
	comp=Z,0.9nm,0.6s,baz=224,slow=11,SNR=4.8								
USRK				LR		LR	22	02	46.0
	comp=Z,87nm,20.6s,baz=145,slow=34								
MDJ	**Mudanjiang**	**95.73**	**331**	P		**P**	**21**	**23**	**24.6 +2.4**
MDJ				PMZ					
	comp=Z,4.0nm,1.5s								
CN2	**Changchun**	**96.57**	**328**	*e*P		**P**	**21**	**23**	**26.6 +0.6**
CN2				*e*S		**S**	**21**	**34**	**45.4 -2.2**
CN2				PMZ					
	comp=Z,10.0nm,0.6s								
CN2				PMZ					
	comp=Z,100nm,4.0s								
CN2				LN					
	comp=Z,300nm,18.0s								
CN2				LE					
	comp=Z,200nm,18.0s								
CN2				LZ					
	comp=Z,300nm,19.0s								
CPUP	**Villa Florida**	**96.81**	**136**	LR		LR	22	01	28.8
	comp=Z,131nm,18.4s,baz=213,slow=32								
CD2	**Chengdu**	**97.11**	**306**	*e*P		Pdif	21	23	29.6 +0.7
CD2				pP			21	23	32.0
CD2				SKS		**SKSac**	**21**	**34**	**07.6 +0.6**
CD2				S		**ScS**	**21**	**34**	**54.4 +1.1**
CD2				sS			21	34	58.4
CD2				SS		**SS**	**21**	**41**	**33.9 +3.4**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.0s								
PETK	**Petropavlovsk-**	**97.12**	**351**	LR		LR	22	05	16.1
	comp=Z,91nm,18.4s,baz=153,slow=34								
LPAZ	**La Paz**	**98.73**	**122**	LR		LR	21	58	10.1
	comp=Z,123nm,20.4s,baz=192,slow=29								
ATAH	**Atahualpa**	**98.76**	**108**	LR		LR	21	59	44.1
	comp=Z,71nm,19.7s,baz=224,slow=30								
BAR	**Barrett**	**99.69**	**54**	*e*Pdif		**Pdif**	**21**	**23**	**36.0 -4.3**
	comp=Z,15nm,0.6s								
HHC	**Hu-ho-hao-te**	**100.30**	**318**	*e*P		**Pdif**	**21**	**23**	**45.8 +2.8**
HHC				SKS		**SKSac**	**21**	**34**	**22.6 -0.1**
HHC				S		**Sdif**	**21**	**35**	**23.4 +3.8**
HHC				SS		**SS**	**21**	**42**	**16.7 +1.4**
HHC				PMZ					
	comp=Z,16nm,1.2s								
HHC				PMZ					
	comp=Z,62nm,4.7s								
HHC				LN					
	comp=Z,140nm,17.8s								
HHC				LE					
	comp=Z,140nm,18.6s								
HHC				LZ					
	comp=Z,150nm,18.6s								
LZH	**Lanzhou**	**100.82**	**310**	*e*P		**Pdif**	**21**	**23**	**48.0 +2.5**
LZH				pP			21	23	52.9
LZH				sP			21	23	55.4
LZH				PMZ					
	comp=Z,14nm,1.0s								
TPNV	**Topopah Spring**	**102.97**	**51**	*e*P		**Pdif**	**21**	**23**	**56.2 +1.2**
TPNV	**Topopah Spring**	**102.97**	**51**	*e*Pdif		**Pdif**	**21**	**23**	**56.2 +1.2**
BCIP	**Isla Barro Col**	**109.11**	**96**	*e*P		**Pdif**	**21**	**24**	**20.6 -2.0**
ILAR	**Eielson Array**	**112.59**	**18**	PKiKP		**PKiKP**	**21**	**28**	**30.5 -1.5**
	comp=Z,1.1nm,1.1s,baz=252,slow=3.2,SNR=3.8								
ILAR				PKKPbc		**PKKPab**	**21**	**39**	**28.0 +2.0**
	comp=Z,1.6nm,1.1s,baz=4.3,slow=4.0,SNR=9.9								
WMQ	**Urumqi**	**115.18**	**307**	PKP		**PKPdf**	**21**	**28**	**38.4 +0.7**
WMQ				LN					
	comp=Z,25nm,27.0s								
WMQ				LE					
	comp=Z,28nm,24.0s								
WMQ				LZ					
	comp=Z,35nm,21.8s								
INK	**Inuvik**	**118.60**	**20**	PKP		**PKPdf**	**21**	**28**	**40.7 -2.6**
	comp=Z,1.7nm,0.9s,baz=76,slow=1.9,SNR=3.8								
TIXI	**Tiksi**	**118.97**	**346**	*e*PKiKP		**PKPdf**	**21**	**28**	**43.3 -0.7**
TIXI	**Tiksi**	**118.97**	**346**	*e*PKPdf		**PKPdf**	**21**	**28**	**43.3 -0.7**
PLAL	**Pickwick Lake**	**119.36**	**68**	*e*PKPdf		**PKPdf**	**21**	**28**	**43.6 -2.3**
KSH	**Kashi**	**119.89**	**298**	PKP		**PKPdf**	**21**	**28**	**51.4 +4.4**
KSH				PP		**PP**	**21**	**30**	**17.3 +5.9**
KSH				PKS		**PKSdf**	**21**	**32**	**22.9 -0.8**
KSH				SKS		**SKSdf**	**21**	**36**	**00.1 +0.1**
KSH				SS		**SKKSdf**	**21**	**46**	**42.3 +1.1**
KSH				PPMZ					
	comp=Z,83nm,4.7s								

MK01	**Makanchi Array**	**119.99**	**307**	*e*PKPdf		**PKPdf**	**21**	**28**	**45.1 -1.6**
MKAR	**Makanchi Array**	**120.01**	**307**	PKP		**PKPdf**	**21**	**28**	**44.1 -2.7**
	comp=Z,1.6nm,0.9s,baz=216,slow=1.9,SNR=8.6								
WVT	**Waverly**	**120.18**	**67**	*e*PKIKP		**PKPdf**	**21**	**28**	**46.9 -0.5**
WVT	**Waverly**	**120.18**	**67**	*e*PKPdf		**PKPdf**	**21**	**28**	**46.9 -0.5**
YKA	**Yellowknife Ar**	**120.61**	**31**	PKP		**PKPdf**	**21**	**28**	**45.2 -2.1**
	comp=Z,2.2nm,1.0s,baz=219,slow=2.1,SNR=11								
YKA				PKKPab		**PKKPbc**	**21**	**38**	**52.3 -0.9**
	comp=Z,0.6nm,0.8s,baz=44,slow=5.2,SNR=6.1								
YKB5	**Yellowknife Ar**	**120.61**	**31**	*e*PKPdf		**PKPdf**	**21**	**28**	**45.0 -2.3**
FFC	**Flin Flon**	**121.80**	**43**	*e*PKIKP		**PKPdf**	**21**	**28**	**51.0 +1.1**
FFC	**Flin Flon**	**121.80**	**43**	*e*PKPdf		**PKPdf**	**21**	**28**	**51.0 +1.1**
WCI	**Wyandotte Cave**	**122.35**	**66**	*e*PKIKP		**PKPdf**	**21**	**28**	**50.2 -1.4**
WCI	**Wyandotte Cave**	**122.35**	**66**	*e*PKPdf		**PKPdf**	**21**	**28**	**50.2 -1.4**
ULM	**Lac du Bonnet**	**122.70**	**50**	PKP		**PKPdf**	**21**	**28**	**51.5 -0.3**
	comp=Z,3.2nm,0.5s,baz=259,slow=1.0,SNR=3.8								
EKS2	**Erkin-Say**	**122.98**	**300**	*e*PKIKP		**PKPdf**	**21**	**28**	**53.5 +0.7**
EKS2	**Erkin-Say**	**122.98**	**300**	*e*PKPdf		**PKPdf**	**21**	**28**	**53.5 +0.7**
EYMN	**Ely**	**124.06**	**54**	*e*PKPdf		**PKPdf**	**21**	**28**	**53.0 -1.6**
COWI	**Conover**	**124.57**	**57**	*e*PKPdf		**PKPdf**	**21**	**28**	**53.8 -1.8**
KKAR	**Karatay Array**	**125.27**	**299**	*e*PKIKP		**PKPdf**	**21**	**28**	**57.8 +0.8**
KKAR	**Karatay Array**	**125.27**	**299**	*e*PKPdf		**PKPdf**	**21**	**28**	**57.8 +0.8**
ACSO	**Alum Creek Sta**	**125.59**	**66**	*e*PKPdf		**PKPdf**	**21**	**28**	**58.6 +0.9**
BLA	**Blacksburg**	**125.78**	**70**	*e*PKIKP		**PKPdf**	**21**	**28**	**59.5 +1.3**
BLA	**Blacksburg**	**125.78**	**70**	*e*PKPdf		**PKPdf**	**21**	**28**	**59.5 +1.3**
BRVK	**Borovoye**	**129.78**	**310**	*e*PKIKP		**PKPdf**	**21**	**29**	**05.7 +0.4**
BRVK	**Borovoye**	**129.78**	**310**	*e*PKPdf		**PKPdf**	**21**	**29**	**05.7 +0.4**
ZRNK	**Zerenda**	**130.45**	**309**	*e*PKIKP		**PKPdf**	**21**	**29**	**05.4 -1.2**
ZRNK	**Zerenda**	**130.45**	**309**	*e*PKPdf		**PKPdf**	**21**	**29**	**05.4 -1.2**
GEYT	**Alibeck**	**131.07**	**287**	PKP		**PKPdf**	**21**	**29**	**07.0 -1.3**
	comp=Z,1.5nm,0.8s,baz=90,slow=1.5,SNR=7.0								
GEYT				SKPbc		**SKPbc**	**21**	**32**	**31.8 -2.0**
	comp=Z,0.5nm,0.5s,baz=217,slow=3.7,SNR=4.4								
ABKAR	**Akbulak array**	**134.50**	**302**	*e*PKPdf		**PKPdf**	**21**	**29**	**16.4 +2.1**
ARU	**Arti**	**137.25**	**312**	PKP		**PKPdf**	**21**	**29**	**17.7 -1.4**
	comp=Z,0.9nm,0.5s,baz=357,slow=4.9,SNR=3.7								
DBIC	**Dimbokro**	**143.18**	**185**	PKP		PKPbc	21	29	27.9 -0.2
	comp=Z,2.9nm,0.7s,baz=68,slow=1.2,SNR=3.7								
KBZ	**Khabaz**	**143.94**	**288**	PKP		PKPbc	21	29	28.8 -0.7
	comp=Z,3.7nm,1.0s,baz=198,slow=1.8,SNR=6.7								
VRH	**Novokhopyorsk**	**146.31**	**301**	*e*PKP2		**PKPbc**	**21**	**29**	**35.3 -1.4**
VRH				pmax		pmax			
	comp=Z,30nm,0.9s								
DAG	**Danmarks Havn**	**146.35**	**5**	*e*PKIKP		**PKPdf**	**21**	**29**	**33.0 -1.9**
DAG				pmax		pmax			
	comp=Z,6.0nm,0.8s								
DAG	**Danmarks Havn**	**146.35**	**5**	*i* P		**PKPdf**	**21**	**29**	**33.0 -1.9**
	comp=Z,8.5nm,0.8s								
LVZ	**Lovozero**	**147.07**	**332**	*e*PKP2		**PKPab**	**21**	**29**	**39.0 -1.1**
LVZ	**Lovozero**	**147.07**	**332**	*e*PKPdf		**PKPab**	**21**	**29**	**39.0 -1.1**
KLMR	**Klimovskoe**	**147.25**	**318**	*e*PKIKP		**PKPdf**	**21**	**29**	**36.4 -0.4**
KLMR				pmax		pmax			
	comp=Z,152nm,1.5s								
SUMG	**Summit**	**147.43**	**17**	PKP2		**PKPab**	**21**	**29**	**39.9 -1.9**
SUMG	**Summit**	**147.43**	**17**	*i* P		**PKPab**	**21**	**29**	**42.2 +0.4**
SUMG	**Summit**	**147.43**	**17**	P		**PKPab**	**21**	**29**	**39.9 -1.9**
CSS	**Mathiatis**	**147.46**	**269**	*e*PKPbc		**PKPab**	**21**	**29**	**41.3 -1.3**
VSR	**Storozhevoye**	**147.91**	**300**	*e*PKP2		**PKPbc**	**21**	**29**	**41.0 -0.2**
VSR				pmax		pmax			
	comp=Z,30nm,1.6s								
LPSR	**Galich'ya Gora**	**148.14**	**303**	*e*PKP2		**PKPbc**	**21**	**29**	**41.4 -0.4**
LPSR				pmax		pmax			
	comp=Z,30nm,1.5s								
TOA0	**Torodi Ar. Sit**	**148.66**	**198**	*e*PKPdf		**PKPdf**	**21**	**29**	**40.3 -0.2**
TOA0				*e*PKPdf		**PKPbc**	**21**	**29**	**43.0 -1.3**
TORD	**Torodi Ar. Bea**	**148.66**	**198**	PKPbc		**PKPbc**	**21**	**29**	**41.8 -2.5**
	comp=Z,9.6nm,0.9s,baz=166,slow=1.6,SNR=38								
MOS	**Moscow**	**148.87**	**309**	*e*PKIKP		**PKPbc**	**21**	**29**	**40.7 -2.8**
MOS				pmax		pmax			
	comp=Z,54nm,1.0s								
ARA0	**ARCESS Array S**	**148.98**	**338**	*e*PKPbc		**PKPbc**	**21**	**29**	**43.0 -0.5**
ARCES	**ARCESS Array B**	**148.98**	**338**	PKPbc		**PKPbc**	**21**	**29**	**41.8 -1.7**
	comp=Z,8.8nm,0.7s,baz=74,slow=1.1,SNR=20								
ARE0	**ARCESS Array S**	**148.98**	**338**	*e*PKPbc		**PKPbc**	**21**	**29**	**43.5 0.0**
BR131	**Keskin Array S**	**149.19**	**277**	*e*PKPdf		**PKPbc**	**21**	**29**	**43.3 -1.8**
BRTR	**Keskin Array B**	**149.19**	**277**	PKPbc		**PKPbc**	**21**	**29**	**43.2 -1.8**
	comp=Z,12nm,0.9s,baz=145,slow=5.6,SNR=44								
OBN	**Obninsk**	**149.51**	**308**	*e*PKP2		**PKPbc**	**21**	**29**	**44.1 -1.0**
OBN				*e*			21	33	19.5
OBN				pmax		pmax			
	comp=Z,41nm,1.1s								
OBN				MLR		MLR			
	comp=Z,78nm,21.0s								
OBN	**Obninsk**	**149.51**	**308**	*e*PKPbc		**PKPbc**	**21**	**29**	**44.0 -1.2**
BR231	**Keskin MP Arra**	**149.85**	**277**	*e*PKPdf		**PKPbc**	**21**	**29**	**43.9 -2.8**
SIM	**Simferopol'**	**150.34**	**287**	*d i*PKIKP		**PKPbc**	**21**	**29**	**46.4 -1.1**
SIM				pmax		pmax			
	comp=Z,28nm,1.6s								
KOWA	**Kowa**	**150.88**	**187**	*e*PKPbc		**PKPbc**	**21**	**29**	**50.3 +0.6**
SCO	**Scoresbysund**	**152.05**	**10**	*e*PKIKP		**PKPbc**	**21**	**29**	**47.3 -3.4**
SCO				pmax		pmax			
	comp=Z,87nm,2.6s								
SCO	**Scoresbysund**	**152.05**	**10**	*i* P		**PKPbc**	**21**	**29**	**47.3 -3.4**
	comp=Z,87nm,2.6s								
KARP	**Karpathos**	**152.21**	**265**	*e*PKPab		**PKPab**	**21**	**30**	**04.2 +2.2**
LAST	**Lasithi**	**153.24**	**263**	*e*PKPbc		**PKPbc**	**21**	**29**	**55.8 +1.2**
FIA1	**FINESS Array S**	**153.25**	**324**	*e*PKPbc		**PKPbc**	**21**	**29**	**53.5 -0.1**
FINES	**FINESS Array B**	**153.25**	**324**	PKPbc		**PKPbc**	**21**	**29**	**51.5 -2.2**
	comp=Z,2.1nm,0.6s,baz=94,slow=5.7,SNR=19								
FINES				PKPab		**PKPab**	**21**	**30**	**04.8 -0.8**
	comp=Z,4.1nm,0.6s,baz=88,slow=3.5,SNR=7.6								
IDI	**Anoyia**	**153.73**	**263**	*e*PKPab		**PKPab**	**21**	**30**	**09.9 +1.4**
AKASG	**Malin Array Be**	**154.18**	**299**	PKPbc		**PKPbc**	**21**	**29**	**55.1 -0.9**
	comp=Z,0.8nm,0.4s,baz=70,slow=2.7,SNR=8.8								
AKASG				PKPab		**PKPab**	**21**	**30**	**07.8 -2.0**
	comp=Z,3.0nm,0.6s,baz=76,slow=4.1,SNR=11								
AK11	**Malin Array Si**	**154.21**	**299**	*e*PKPbc		**PKPbc**	**21**	**29**	**56.7 +0.7**
SORM	**Soroca**	**154.71**	**293**	⇓*i*P		**PKPbc**	**21**	**29**	**57.6 +0.4**
VRI	**Vrincioaia**	**155.62**	**287**	⇑*i*P		**PKPab**	**21**	**30**	**17.4 +1.2**
VRI	**Vrincioaia**	**155.62**	**287**	⇑PKP2		**PKPab**	**21**	**30**	**17.4 +1.2**
MLR	**Muntele Rosu**	**156.12**	**286**	⇑*i*P		PKPdf	21	30	00.1 +9.3
MLR	**Muntele Rosu**	**156.12**	**286**	*e*PKP2		**PKPab**	**21**	**30**	**18.1 -0.4**
MLR	**Muntele Rosu**	**156.12**	**286**	*e*PKPab		**PKPab**	**21**	**30**	**18.1 -0.4**
VOIR		**156.74**	**286**	⇑*i*P		**PKPab**	**21**	**30**	**20.1 -1.0**
VOIR		**156.74**	**286**	⇑PKP2		**PKPab**	**21**	**30**	**20.1 -1.0**
BURAR	**Bucovina Array**	**156.80**	**292**	⇓*i*P		**PKPab**	**21**	**30**	**22.4 +1.1**
BURAR	**Bucovina Array**	**156.80**	**292**	⇓PKP2		**PKPab**	**21**	**30**	**22.4 +1.1**
BUR08	**Bucovina Ar. S**	**156.81**	**292**	*e*PKPab		**PKPab**	**21**	**30**	**22.2 +0.8**
ARR	**Arges**	**157.02**	**286**	⇑*i*P		**PKPab**	**21**	**30**	**24.5 +2.2**
AGG	**Agios Georgios**	**157.15**	**269**	*e*PKP2		**PKPab**	**21**	**30**	**23.4 +0.4**
AGG	**Agios Georgios**	**157.15**	**269**	*e*PKPab		**PKPab**	**21**	**30**	**23.4 +0.4**
LOT	**Lotru**	**157.64**	**286**	⇑*i*P		**PKPab**	**21**	**30**	**24.3 -0.7**
DRGR		**158.47**	**289**	⇑*i*P		**PKPab**	**21**	**30**	**28.6 0.0**
DRGR		**158.47**	**289**	⇑PKP2		**PKPab**	**21**	**30**	**28.6 0.0**
NC405	**NORSAR Array S**	**158.98**	**333**	*e*PKPab		**PKPab**	**21**	**30**	**31.5 +1.3**
BZS	**Buzias**	**159.16**	**286**	⇑*i*P		**PKPab**	**21**	**30**	**32.1 +0.6**
BZS	**Buzias**	**159.16**	**286**	⇑PKP2		**PKPab**	**21**	**30**	**32.1 +0.6**
NC204	**NORSAR Array S**	**159.16**	**335**	*e*PKPab		**PKPab**	**21**	**30**	**31.4 +0.4**
NB2	**NORSAR Subarra**	**159.20**	**334**	P		**PKPab**	**21**	**30**	**29.0 -2.2**
	comp=Z,2.1nm,0.8s,baz=54,slow=4.8								
NOA	**NORSAR Array B**	**159.20**	**334**	PKPab		**PKPab**	**21**	**30**	**29.1 -2.0**
	comp=Z,1.1nm,0.8s,baz=51,slow=4.2,SNR=8.0								
NBO02	**NORSAR Array S**	**159.30**	**334**	*e*PKPab		**PKPab**	**21**	**30**	**33.1 +1.6**
STHS	**Stebnicka Huta**	**159.39**	**297**	*e*PKIKP		**PKPdf**	**21**	**29**	**54.8 +0.2**
STHS				*e*			21	30	33.0
STHS	**Stebnicka Huta**	**159.39**	**297**	*e*PKP		**PKPdf**	**21**	**29**	**54.8 +0.2**
STHS				*e*			21	30	09.4
STHS				*e*			21	30	33.0
VYHS	**Vyhne**	**161.06**	**294**	*e*PKP2		**PKPab**	**21**	**30**	**40.8 +1.1**
VYHS	**Vyhne**	**161.06**	**294**	*e*PKP		**PKPab**	**21**	**30**	**40.8 +1.1**
DPC	**Dobruska-Polom**	**162.38**	**301**	*e*PKPAB		**PKPab**	**21**	**30**	**47.1 +1.7**
DPC	**Dobruska-Polom**	**162.38**	**301**	*e*PKP2		**PKPab**	**21**	**30**	**47.1 +1.7**
ARSA	**Arzberg**	**163.38**	**291**	*i* PKPab		**PKPab**	**21**	**30**	**49.2 -0.7**
	comp=Z,7.7nm,1.3s								
PVCC	**Panska Ves**	**163.41**	**303**	*e*PKPAB		**PKPab**	**21**	**30**	**51.8 +1.9**
PVCC	**Panska Ves**	**163.41**	**303**	*e*PKP2		**PKPab**	**21**	**30**	**51.8 +1.9**
PRU	**Pruhonice**	**163.57**	**301**	*e*PKPAB		**PKPab**	**21**	**30**	**52.3 +1.7**
PRU	**Pruhonice**	**163.57**	**301**	*e*PKP2		**PKPab**	**21**	**30**	**52.3 +1.7**
SOKA	**Soboth**	**163.75**	**289**	*i* pPKPab		**PKPab**	**21**	**30**	**52.3 +0.6**
	comp=Z,6.1nm,1.2s								
OBKA	**Obir**	**164.09**	**288**	*i* PKPab		**PKPab**	**21**	**30**	**52.4 -0.8**
	comp=Z,8.6nm,1.2s								
CLL	**Collm**	**164.10**	**306**	⇓*i*PKPab		**PKPab**	**21**	**30**	**52.4 -0.5**
	comp=Z,13nm,1.5s								
CLL				*e*SS		SS	21	55	12.0 +1.8
CLL				*e*			22	02	42.0
CLL				LmV			22	50	00.0
	comp=Z,100nm,22.0s								
CLL	**Collm**	**164.10**	**306**	⇓*i*PKP2		**PKPab**	**21**	**30**	**52.4 -0.5**
CLL				pmax		pmax			
	comp=Z,13nm,1.5s								
CLL	**Collm**	**164.10**	**306**	*e*PKPab		**PKPab**	**21**	**30**	**53.7 +0.8**
MOA	**Molln**	**164.17**	**293**	*i* PKPab		**PKPab**	**21**	**30**	**52.1 -1.3**
	comp=Z,7.3nm,1.5s								
GERES	**GERESS Array B**	**164.37**	**297**	PKPab		**PKPab**	**21**	**30**	**53.7 -0.6**
	comp=Z,1.1nm,0.8s,baz=94,slow=5.4,SNR=8.7								
GEA0	**GERESS Array S**	**164.37**	**297**	*e*PKPab		**PKPab**	**21**	**30**	**55.0 +0.6**
MYKA	**Terra Mystica**	**164.71**	**289**	*i* PKPab		**PKPab**	**21**	**30**	**54.0 -1.9**
	comp=Z,3.0nm,1.0s								
KEST	**Kesra**	**164.82**	**245**	PKPab		**PKPab**	**21**	**30**	**56.5 -0.1**
	comp=Z,13nm,1.0s,baz=26,slow=0.6,SNR=17								
KEST	**Kesra**	**164.82**	**245**	*e*PKPab		**PKPab**	**21**	**30**	**58.8 +2.2**
FUORN	**Ofenpass-Fuorn**	**167.03**	**290**	*e*PKPab		**PKPab**	**21**	**31**	**07.6 +1.2**
DAVOX	**Davos/Dischmat**	**167.27**	**291**	PKPab		**PKPab**	**21**	**31**	**06.8 -0.6**
	comp=Z,8.8nm,0.8s,baz=97,slow=11,SNR=12								

JMA ***05*** *21:12:53.1±0.1, 33.80N×137.42E, h380km, M3.1*
ISCJB ***05*** *21:12:55.9±0.8, 33.94N±0.09×137.39E±0.08, h354km±8km, mb2.7/2, Error ellipse: s-maj=15.3km s-min=10.4km az=162.7*
IDC ***05*** *21:12:57.5±0.8, 34.14N×137.51E, h363km±18km, mb2.6/2, mb1 2.6/5, mb1mx2.5/48, mbtmp3.2/5, Error ellipse: s-maj=49.3km s-min=12.4km az=63.0*

ISC 05 21:12:56.8±1.0, 34.04N±0.09×137.31E±0.07, h353km±9km, n19, σ1.05/24, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res

HRT	**Hereke**	**1.75**	**15**	*e*Pn	**Pn**	**21 29 43.5**	**-0.2**
SPNC	**Sapanca-Adapaz**	**1.82**	**31**	*e*PN	**Pn**	**21 29 44.5**	**-0.1**
SPNC	**Sapanca-Adapaz**	**1.82**	**31**	*e*Pn	**Pn**	**21 29 44.5**	**-0.1**
MRMT	**Marmara Adasi**	**1.85**	**323**	*e*PN	**Pn**	**21 29 45.6**	**+0.5**
MRMT	**Marmara Adasi**	**1.85**	**323**	*e*Pn	**Pn**	**21 29 45.6**	**+0.5**
AYVA	**Ayvalik**	**1.85**	**276**	*i* P	**Pg**	**21 29 48.1**	**-0.3**
ISK	**Istanbul-Kandi**	**1.93**	**360**	*e*PN	**Pn**	**21 29 46.1**	**+0.1**
ISK	**Istanbul-Kandi**	**1.93**	**360**	P	**Pn**	**21 29 45.1**	**-1.0**
ISK				S	**Sn**	**21 30 10.9**	**+0.3**
ISK	**Istanbul-Kandi**	**1.93**	**360**	P	**Pn**	**21 29 45.1**	**-1.0**
ISK	**Istanbul-Kandi**	**1.93**	**360**	*e*Pn	**Pn**	**21 29 46.2**	**+0.1**
ISK				S	**Sn**	**21 30 10.9**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.93**	**80**	*e*PN	**Pn**	**21 29 46.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.93**	**80**	*e*Pn	**Pn**	**21 29 46.3**	**0.0**
GLHS	**Glhisar (BURDU**	**2.01**	**170**	*e*PN	**Pn**	**21 29 47.3**	**0.0**
GLHS	**Glhisar (BURDU**	**2.01**	**170**	*e*Pn	**Pn**	**21 29 47.3**	**0.0**
DGB	**˙zmir**	**2.02**	**238**	*i* P	**Pg**	**21 29 51.5**	**-0.2**
GCAM	**G?zelcaml?**	**2.03**	**226**	*i* P	**Pg**	**21 29 52.3**	**+0.5**
BGKT	**Bogazkoy**	**2.05**	**354**	*e*PN	**Pn**	**21 29 47.0**	**-0.8**
BGKT	**Bogazkoy**	**2.05**	**354**	*e*Pn	**Pn**	**21 29 47.0**	**-0.8**
BCK	**Bucak**	**2.06**	**144**	*e*PN	**Pn**	**21 29 48.0**	**0.0**
BCK	**Bucak**	**2.06**	**144**	*e*Pn	**Pn**	**21 29 48.0**	**0.0**
SILT	**Sile**	**2.06**	**12**	*e*PN	**Pn**	**21 29 47.9**	**0.0**
SILT	**Sile**	**2.06**	**12**	*e*Pn	**Pn**	**21 29 47.9**	**0.0**
URLA	**Izmir**	**2.08**	**249**	*i* P	**Pg**	**21 29 53.2**	**+0.4**
YER	**Yerkesik**	**2.09**	**197**	*e*PN	**Pn**	**21 29 49.4**	**+0.9**
YER	**Yerkesik**	**2.09**	**197**	P	**Pn**	**21 29 48.2**	**-0.3**
YER	**Yerkesik**	**2.09**	**197**	P	**Pn**	**21 29 48.2**	**-0.3**
YER	**Yerkesik**	**2.09**	**197**	*e*Pn	**Pn**	**21 29 49.4**	**+0.9**
MDUB	**Mudurnu**	**2.12**	**50**	*e*PN	**Pn**	**21 29 48.7**	**-0.1**
MDUB	**Mudurnu**	**2.12**	**50**	*e*Pn	**Pn**	**21 29 48.7**	**-0.1**
CTKS	**Kestanelik-??a**	**2.14**	**349**	*e*PN	**Pn**	**21 29 49.0**	**0.0**
CTKS	**Kestanelik-??a**	**2.14**	**349**	*e*Pn	**Pn**	**21 29 49.0**	**0.0**
LPK	**Lapseki**	**2.16**	**306**	*e*PN	**Pn**	**21 29 50.3**	**+0.9**
LPK	**Lapseki**	**2.16**	**306**	*e*Pn	**Pn**	**21 29 50.3**	**+0.9**
PRK	**Paraskevi**	**2.17**	**274**	P	**Pn**	**21 29 49.8**	**+0.3**
PRK	**Paraskevi**	**2.17**	**274**	P	**Pn**	**21 29 49.8**	**+0.3**
TKR	**Tekirdag**	**2.19**	**328**	*e*PN	**Pn**	**21 29 50.3**	**+0.5**
TKR	**Tekirdag**	**2.19**	**328**	*e*Pn	**Pn**	**21 29 50.3**	**+0.5**
ZEY	**˙zmir**	**2.20**	**247**	*i* P	**Pg**	**21 29 55.1**	**+0.1**
KIZT	**Kizilcal**	**2.21**	**96**	*e*PN	**Pn**	**21 29 50.3**	**+0.2**
KIZT	**Kizilcal**	**2.21**	**96**	*e*Pn	**Pn**	**21 29 50.3**	**+0.2**
EZN	**Ezine**	**2.23**	**289**	*e*PN	**Pn**	**21 29 51.1**	**+0.9**
EZN	**Ezine**	**2.23**	**289**	*e*Pn	**Pn**	**21 29 51.1**	**+0.9**
CRLT	**Corlu**	**2.23**	**333**	*e*PN	**Pn**	**21 29 50.6**	**+0.3**
CRLT	**Corlu**	**2.23**	**333**	*e*Pn	**Pn**	**21 29 50.7**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.25**	**137**	*e*PN	**Pn**	**21 29 51.0**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.25**	**137**	*e*Pn	**Pn**	**21 29 51.0**	**+0.3**
SMG	**Samos**	**2.26**	**231**	P	**Pn**	**21 29 49.5**	**-1.2**
SMG	**Samos**	**2.26**	**231**	P	**Pn**	**21 29 49.5**	**-1.2**
GELI	**Tayfur-Gelibol**	**2.36**	**303**	*e*PN	**Pn**	**21 29 52.8**	**+0.7**
GELI	**Tayfur-Gelibol**	**2.36**	**303**	*e*Pn	**Pn**	**21 29 52.8**	**+0.7**
CTYL	**Yalikoy Yolu**	**2.41**	**346**	*e*PN	**Pn**	**21 29 52.4**	**-0.3**
CTYL	**Yalikoy Yolu**	**2.41**	**346**	*e*Pn	**Pn**	**21 29 52.4**	**-0.3**
CHOS	**Chios island**	**2.47**	**253**	P	**Pn**	**21 29 53.6**	**0.0**
CHOS	**Chios island**	**2.47**	**253**	P	**Pn**	**21 29 53.6**	**0.0**
BODT	**Bodrum**	**2.49**	**214**	P	**Pn**	**21 29 53.4**	**-0.5**
BODT	**Bodrum**	**2.49**	**214**	P	**Pn**	**21 29 53.4**	**-0.5**
SIGR	**SIGRI**	**2.50**	**273**	P	**Pn**	**21 29 53.8**	**-0.1**
SIGR				S	**Sn**	**21 30 23.1**	**-1.5**
SIGR	**SIGRI**	**2.50**	**273**	P	**Pn**	**21 29 53.8**	**-0.1**
SIGR				S	**Sn**	**21 30 23.1**	**-1.5**
FETY	**Fethiye**	**2.50**	**180**	P	**Pn**	**21 29 54.8**	**+0.8**
FETY	**Fethiye**	**2.50**	**180**	P	**Pn**	**21 29 54.8**	**+0.8**
GADA	**Gvkgeada**	**2.66**	**294**	P	**Pn**	**21 29 56.1**	**-0.1**
GADA	**Gvkgeada**	**2.66**	**294**	P	**Pn**	**21 29 56.1**	**-0.1**
LADK	**Ladik-KONYA**	**2.75**	**109**	*e*PN	**Pn**	**21 29 57.9**	**+0.4**
LADK	**Ladik-KONYA**	**2.75**	**109**	*e*Pn	**Pn**	**21 29 57.9**	**+0.4**
ENEZ	**Enez**	**2.75**	**306**	P	**Pn**	**21 29 58.1**	**+0.7**
ENEZ				S	**Sn**	**21 30 31.4**	**+0.5**
ENEZ	**Enez**	**2.75**	**306**	P	**Pn**	**21 29 58.1**	**+0.7**
ENEZ				S	**Sn**	**21 30 31.4**	**+0.5**
PHSR	**Pinarhisar**	**2.75**	**335**	*e*PN	**Pn**	**21 29 58.5**	**+1.0**
PHSR	**Pinarhisar**	**2.75**	**335**	*e*Pn	**Pn**	**21 29 58.5**	**+1.0**
ALN	**Alexandroupoli**	**2.91**	**308**	P	**Pn**	**21 29 59.8**	**+0.2**
ALN				S	**Sn**	**21 30 34.2**	**-0.6**
ALN	**Alexandroupoli**	**2.91**	**308**	P	**Pn**	**21 29 59.8**	**+0.2**
ALN				S	**Sn**	**21 30 34.2**	**-0.6**
SMTH	**Samothraki Isl**	**3.03**	**297**	P	**Pn**	**21 30 01.6**	**+0.3**
SMTH	**Samothraki Isl**	**3.03**	**297**	P	**Pn**	**21 30 01.6**	**+0.3**
LIA	**Limnos Island**	**3.10**	**285**	P	**Pn**	**21 30 02.2**	**0.0**
LIA	**Limnos Island**	**3.10**	**285**	P	**Pn**	**21 30 02.2**	**0.0**
EDRB	**Edirne**	**3.23**	**328**	P	**Pn**	**21 30 04.2**	**+0.1**
EDRB				S	**Sn**	**21 30 42.8**	**-0.1**
EDRB	**Edirne**	**3.23**	**328**	P	**Pn**	**21 30 04.2**	**+0.1**
EDRB				S	**Sn**	**21 30 42.8**	**-0.1**
BRTR	**Keskin Array B**	**3.59**	**79**	Pn	**Pn**	**21 30 09.3**	**+0.2**
	1.0nm,0.3s,baz=256,slow=13,SNR=18						
BRTR				Sn	**Sn**	**21 30 48.9**	**-3.0**
	2.9nm,0.3s,baz=196,slow=25,SNR=7.7						
BRTR				Lg	Lg	21 31 10.0	
	1.7nm,0.3s,baz=270,slow=20,SNR=4.7						
OUR	**Ouranopolis**	**4.10**	**289**	P	**Pn**	**21 30 15.8**	**-0.1**
OUR	**Ouranopolis**	**4.10**	**289**	P	**Pn**	**21 30 15.8**	**-0.1**
PAIG	**Paliouri**	**4.24**	**282**	P	**Pn**	**21 30 18.7**	**+0.8**
PAIG	**Paliouri**	**4.24**	**282**	P	**Pn**	**21 30 18.7**	**+0.8**
NVR	**Nevrokopi**	**4.55**	**301**	P	**Pn**	**21 30 22.8**	**+0.5**
NVR	**Nevrokopi**	**4.55**	**301**	P	**Pn**	**21 30 22.8**	**+0.5**
SRS	**Serrai**	**4.64**	**297**	P	**Pn**	**21 30 23.8**	**+0.4**
SRS	**Serrai**	**4.64**	**297**	P	**Pn**	**21 30 23.8**	**+0.4**
MSAB	**Monastry St. A**	**5.04**	**350**	⇓*i*P	**Pn**	**21 30 28.8**	**0.0**
TIRR	**Tirgusor**	**5.34**	**355**	⇓*i*P	**Pn**	**21 30 33.3**	**+0.3**
TLCR		**6.05**	**358**	⇓*i*P	**Pn**	**21 30 43.0**	**+0.3**
CFR	**Carcaliu**	**6.08**	**354**	⇓*i*P	**Pn**	**21 30 42.4**	**-0.7**
GRER		**6.43**	**347**	⇓*i*P	**Pn**	**21 30 50.3**	**+2.3**
PLOR	**Plostina**	**6.94**	**346**	⇑*i*P	**Pn**	**21 30 58.4**	**+3.3**
DOPR	**Dopca**	**7.34**	**340**	⇓*i*P	**Pn**	**21 31 01.1**	**+0.5**
GZR	**Gura Zlata**	**7.80**	**325**	⇑*i*P	**Pn**	**21 31 06.6**	**-0.2**
GERES	**GERESS Array B**	**14.69**	**316**	LR	LR	21 39 46.9	
	comp=Z,20nm,19.2s,baz=68,slow=43						
FINES	**FINESS Array B**	**22.41**	**356**	P	**P**	**21 34 14.4**	**+2.6**
	1.6nm,0.9s,baz=158,slow=15,SNR=3.3						
GEYT	**Alibeck**	**22.72**	**84**	P	**P**	**21 34 17.3**	**+1.9**
	1.4nm,0.8s,baz=280,slow=8.6,SNR=3.9						
GEYT				LR	LR	21 45 28.1	
	comp=Z,33nm,19.2s,baz=150,slow=43						
TORD	**Torodi Ar. Bea**	**35.43**	**231**	P	**P**	**21 36 09.4**	**-0.4**
	0.2nm,0.5s,baz=37,slow=8.7,SNR=4.3						

ISK ***05*** *21:33:13.8, 39˚.10N×29˚.14E, h10km, MD2.7*
ISCJB ***05*** *21:33:14.6±0.5, 39˚.12N±0˚.03×29˚.09E±0˚.04, h5km±7km, Error ellipse: s-maj=5.8km s-min=3.9km az=144.5*
CSEM ***05*** *21:33:14.8±0.1, 39˚.12N×29˚.10E, h8km, ML2.2, Error ellipse: s-maj=3.3km s-min=2.7km az=128.0*
DDA ***05*** *21:33:14.5, 39˚.15N×29˚.09E, h7km, Ml2.2*

ISC 05 21:33:14.6±1.0, 39˚.11N±0˚.02×29˚.12E±0˚.02, h9km±9km, n21, σ0°49/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.28**	**95**	P	**Pb**	**21 33 21.4**	**-0.5**
GDZ				S	**Sb**	**21 33 25.9**	**-0.8**
GDZ	**Gediz**	**0.28**	**95**	*i* P	**Pb**	**21 33 21.4**	**-0.5**
GDZ				*i* S	**Sb**	**21 33 25.9**	**-0.8**
DEMI	**Demirci**	**0.33**	**258**	P	**Pg**	**21 33 21.2**	**+0.1**
DEMI				S	**Sg**	**21 33 25.5**	**+0.1**
DEMI	**Demirci**	**0.33**	**258**	*i* P	**Pg**	**21 33 21.2**	**+0.1**
DEMI				*i* S	**Sg**	**21 33 25.5**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**38**	*e*PG	**Pg**	**21 33 22.9**	**0.0**
TVSB				*e*SG	**Sg**	**21 33 29.2**	**+0.6**
TVSB	**Tavsanli**	**0.42**	**38**	*e*Pg	**Pg**	**21 33 22.9**	**0.0**
TVSB				*e*Sg	**Sg**	**21 33 29.2**	**+0.6**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*PG	**Pg**	**21 33 27.9**	**-0.2**
KULA				*e*SG	**Sg**	**21 33 37.4**	**+0.2**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*Pg	**Pg**	**21 33 27.9**	**-0.2**
KULA				*e*Sg	**Sg**	**21 33 37.4**	**+0.2**
KHAL	**Karahalli**	**0.80**	**159**	P	**Pb**	**21 33 31.0**	**+0.3**
KHAL				S	**Sb**	**21 33 42.1**	**+0.5**
KHAL	**Karahalli**	**0.80**	**159**	*i* P	**Pb**	**21 33 31.0**	**+0.3**
KHAL				*i* S	**Sb**	**21 33 42.1**	**+0.5**
KHL	**Karahalli**	**0.85**	**158**	*e*PG	**Pg**	**21 33 30.2**	**-0.7**
KHL				*e*SG	**Sg**	**21 33 42.2**	**+0.2**
KHL	**Karahalli**	**0.85**	**158**	*e*Pg	**Pg**	**21 33 30.2**	**-0.7**
KHL				*e*Sg	**Sg**	**21 33 42.2**	**+0.2**
AKHS	**Akhisar**	**1.05**	**257**	P	**Pn**	**21 33 35.0**	**-0.5**
AKHS				S	**Sb**	**21 33 48.7**	**0.0**
AKHS	**Akhisar**	**1.05**	**257**	*i* P	**Pn**	**21 33 35.0**	**-0.5**
AKHS				*i* S	**Sb**	**21 33 48.7**	**0.0**
IGD	**Bursa**	**1.15**	**3**	*i* P	**Pg**	**21 33 35.5**	**-1.2**
IGD				*i* S	**Sg**	**21 33 51.6**	**0.0**
BORA	**Eskisehir**	**1.28**	**53**	P	**Pg**	**21 33 39.6**	**+0.4**
BORA				S	**Sn**	**21 33 56.9**	**+0.8**
BORA	**Eskisehir**	**1.28**	**53**	*i* P	**Pg**	**21 33 39.6**	**+0.4**
BORA				*i* S	**Sn**	**21 33 56.9**	**+0.8**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*PN	**Pb**	**21 33 39.0**	**-0.1**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*Pn	**Pb**	**21 33 39.0**	**-0.1**
ARMT	**Armutlu**	**1.46**	**352**	*e*PN	**Pn**	**21 33 41.2**	**0.0**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pn**	**21 33 41.2**	**0.0**

NIED ***05*** *21:37:00, 38˚.40N×142˚.20E, h68km, Mw3.8 Best double couple: M0 5.97000×10^14 NP1:φs 5.00000°, δ64.00000°, λ165.00000°. NP2:φs 101.00000°, δ77.00000°, λ27.00000°.*
IDC ***05*** *21:37:44.6±2.5, 38˚.36N×143˚.16E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/40, mbtmp3.3/5, ML2.9/1, Error ellipse: s-maj=68.5km s-min=25.9km az=60.0*
JMA ***05*** *21:37:49.9±0.1, 38˚.43N×142˚.20E, h35km±1km, M3.6*
JMA Felt I J1.

ISC 05 21:37:47.3±2.6, 38˚.34N±0˚.06×142˚.25E±0˚.10, h4km±14km, n14, σ1°75/20, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.71**	**279**	P	**Pg**	**21 38 02.7**	**+1.7**
JIO				S	**Sg**	**21 38 11.5**	**+1.3**
OFUJ	**Ofunato**	**0.86**	**329**	P	**Pg**	**21 38 04.4**	**+0.5**
OFUJ				S	**Sg**	**21 38 14.5**	**-0.6**
JMK	**Ichinoseki**	**1.01**	**307**	P	**Pg**	**21 38 06.8**	**+0.2**
JMK				*e*S	**Sg**	**21 38 18.6**	**-1.1**
JMM	**Marumori**	**1.24**	**248**	P	**Pn**	**21 38 10.6**	**-0.7**
JMM				S	**Sb**	**21 38 25.7**	**-1.8**
JOU	**Okura**	**1.24**	**272**	P	**Pb**	**21 38 10.9**	**-0.4**
JOU				S	**Sb**	**21 38 26.3**	**-1.4**
JOM	**Ohasama**	**1.35**	**327**	P	**Pn**	**21 38 11.9**	**-1.0**
JOM				S	**Sb**	**21 38 28.2**	**-2.6**
JFK	**Kawauchi**	**1.46**	**229**	P	**Pn**	**21 38 13.4**	**-1.0**
JYK	**Kaneyama**	**1.52**	**292**	P	**Pn**	**21 38 15.6**	**-0.5**
JRG	**Rokugo**	**1.64**	**310**	P	**Pn**	**21 38 16.5**	**-0.4**
MJAR	**Matsushiro Arr**	**3.68**	**242**	Pn	**Pb**	**21 38 51.3**	**-1.5**
	0.6nm,0.3s,baz=58,slow=9.7,SNR=4.4						
SONM	**Songino Array**	**27.63**	**302**	P	**P**	**21 43 40.3**	**+4.4**
	0.2nm,0.4s,baz=100,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**44.00**	**301**	P	**P**	**21 45 57.4**	**+1.8**
	0.6nm,1.0s,baz=94,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**58.45**	**189**	P	**P**	**21 47 43.1**	**-1.1**
	0.5nm,0.8s,baz=6.7,slow=7.3,SNR=6.4						
ASAR	**Alice Springs**	**62.18**	**189**	P	**P**	**21 48 08.6**	**-1.1**
	0.1nm,0.4s,baz=21,slow=4.9,SNR=3.3						

NIED ***05*** *21:39:00, 36˚.70N×141˚.40E, h26km, Mw3.7 Best double couple: M0 3.86000×10^14 NP1:φs 293.00000°, δ17.00000°, λ-167.00000°. NP2:φs 190.00000°, δ86.00000°, λ-74.00000°.*
ISCJB ***05*** *21:39:50.7±1.4, 36˚.62N±0˚.04×141˚.75E±0˚.07, h18km±9km, mb3.5/7, MS3.7/1, Error ellipse: s-maj=10.1km s-min=6.9km az=10.2*
JMA ***05*** *21:39:54.6±0.2, 36˚.68N×141˚.44E, h50km±3km, M3.6*
IDC ***05*** *21:39:55.3±4.5, 36˚.52N×141˚.75E, h38km±38km, mb3.3/7, mb1 3.5/10, mb1mx3.3/45, mbtmp3.6/10, ML3.4/3, MS3.1/2, Ms1 3.2/2, ms1mx2.5/34, Error ellipse: s-maj=30.8km s-min=18.6km az=72.0*

ISC 05 21:39:50.4±2.1, 36˚.66N±0˚.05×141˚.74E±0˚.08, h5km±12km, n29, σ1°43/28, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.87**	**301**	P	**Pb**	**21 40 07.6**	**-0.5**
ONAJ				*e*S	**Sg**	**21 40 17.4**	**-1.1**
JHO	**Hitachi**	**0.94**	**267**	P	**Pg**	**21 40 08.2**	**-0.2**
JFK	**Kawauchi**	**0.99**	**316**	P	**Pg**	**21 40 09.5**	**+0.2**
JFT	**Otama**	**1.41**	**308**	P	**Pn**	**21 40 16.6**	**-0.2**
JMM	**Marumori**	**1.42**	**328**	P	**Pn**	**21 40 16.2**	**-0.7**
JFY	**Yanaizu**	**1.79**	**295**	P	**Pn**	**21 40 21.9**	**-0.1**
JIO	**Ouri**	**1.82**	**350**	P	**Pn**	**21 40 22.3**	**-0.1**
JIO				*e*S	**Sn**	**21 40 42.6**	**-3.2**
JAG	**Ashikaga**	**1.85**	**263**	P	**Pn**	**21 40 21.7**	**-1.2**
JOU	**Okura**	**1.91**	**334**	P	**Pn**	**21 40 24.3**	**+0.7**
JOU				*e*S	**Sn**	**21 40 46.4**	**-1.6**
JKT	**Katashina**	**2.00**	**274**	P	**Pn**	**21 40 24.6**	**-0.4**
MJAR	**Matsushiro Arr**	**2.84**	**269**	Pn	**Pn**	**21 40 36.5**	**0.0**
	8.3nm,0.3s,baz=97,slow=11,SNR=38						
MJAR				Sn	**Sn**	**21 41 10.8**	**-0.3**
	6.4nm,0.3s,baz=90,slow=24,SNR=8.6						
MAT	**Matsushiro**	**2.84**	**269**	P	**Pn**	**21 40 37.0**	**+0.5**
MAT				S	**Sn**	**21 41 10.3**	**-0.8**
JHJ	**Hachijo jima 2**	**3.88**	**205**	Pn	**Pn**	**21 40 51.0**	**+0.3**
	9.3nm,0.3s,baz=352,slow=22,SNR=7.5						
JHJ				Sn	**Sn**	**21 41 34.5**	**-2.1**
	13nm,0.3s,baz=69,slow=21,SNR=5.8						
JHJ				LR	LR	21 42 17.8	
	comp=Z,56nm,18.4s,baz=328,slow=38						
USRK	**Ussuriysk Ar.**	**10.57**	**318**	Pn	Pn	21 42 28.4	+5.8
	0.2nm,0.3s,baz=132,slow=13,SNR=14						
KSRS	**Korea Array**	**11.07**	**278**	Pn	**Pn**	**21 42 33.2**	**+3.8**
	0.2nm,0.3s,baz=90,slow=14,SNR=13						
H11N2	**WAKE ISLAND Hy**	**27.73**	**121**	T	T	22 14 52.3	
	baz=312,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.74**	**121**	T	T	22 14 55.5	
	baz=312,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.75**	**121**	T	T	22 14 55.8	
	baz=312						
SONM	**Songino Array**	**28.21**	**304**	P	**P**	**21 45 46.0**	**+1.8**
	0.9nm,0.7s,baz=110,slow=9.2,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**28.44**	**123**	T	T	22 15 02.4	
	baz=318,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.44**	**123**	T	T	22 15 02.4	
	baz=318,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	22 15 03.7	
	baz=318,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**42.36**	**313**	P	**P**	**21 47 46.8**	**+1.5**
	0.4nm,0.3s,baz=79,slow=7.5,SNR=2.4						
MKAR	**Makanchi Array**	**44.54**	**302**	P	**P**	**21 48 04.3**	**+1.2**
	0.3nm,0.5s,baz=92,slow=9.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**46.44**	**308**	P	**P**	**21 48 17.1**	**-0.9**
	0.4nm,0.5s,baz=84,slow=8.2,SNR=5.8						
ILAR	**Eielson Array**	**49.67**	**3**	P	**P**	**21 48 43.5**	**+0.7**
	0.3nm,0.8s,baz=260,slow=5.4,SNR=3.9						
ILAR				LR	LR	22 09 49.4	
	comp=Z,75nm,21.6s,baz=220,slow=36						
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**21 49 33.8**	**-1.4**
	0.4nm,0.6s,baz=6.6,slow=7.4,SNR=7.4						
ASAR	**Alice Springs**	**60.45**	**188**	P	**P**	**21 50 00.3**	**-0.9**
	0.4nm,0.7s,baz=196,slow=31,SNR=4.3						
LPAZ	**La Paz**	**146.66**	**60**	PKPbc	**PKPbc**	**21 59 33.8**	**-0.6**
	0.6nm,0.5s,baz=9.2,slow=4.6,SNR=4.1						

IDC ***05*** *21:58:19.9±4.5, 16˚.44S×174˚.08W, h70km±32km, mb3.3/5, mb1 3.7/6, mb1mx3.4/43, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=111.7km s-min=21.9km az=150.0*

ISC 05 21:58:25.3±1.8, 15˚.9S±0˚.6×174˚.1W±0˚.4, h111km, n10, σ1°62/11, mb3.4/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.99**	**50**	P	**Pn**	**21 59 10.3**	**-1.0**
	24nm,0.3s,baz=58,slow=1.5,SNR=22						
AFI				S	**Sn**	**21 59 44.8**	**-1.9**
	82nm,0.3s,baz=53,slow=22,SNR=14						
WRA	**Warramunga Arr**	**49.05**	**257**	P	**P**	**22 06 59.6**	**-1.9**
	0.2nm,0.6s,baz=91,slow=6.5,SNR=4.0						
ASAR	**Alice Springs**	**49.29**	**252**	P	**P**	**22 07 00.8**	**-2.6**
	0.7nm,0.7s,baz=89,slow=7.9,SNR=8.5						
TXAR	**Lajitas Array**	**81.45**	**56**	P	**P**	**22 10 31.4**	**+0.8**
	0.5nm,0.9s,baz=193,slow=5.1,SNR=4.3						
ILAR	**Eielson Array**	**83.02**	**11**	P	**P**	**22 10 39.2**	**+1.5**
	0.5nm,0.9s,baz=247,slow=4.5,SNR=5.3						
PDAR	**Pinedale Array**	**83.08**	**42**	P	**P**	**22 10 39.9**	**+1.0**
	1.3nm,0.8s,baz=222,slow=4.0,SNR=10						
ARCES	**ARCESS Array B**	**124.95**	**352**	PKP	**PKPdf**	**22 17 12.2**	**+0.4**
	4.0nm,0.9s,baz=46,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**132.22**	**347**	PKP	**PKPdf**	**22 17 26.7**	**+1.0**
	0.4nm,0.4s,baz=15,slow=2.6,SNR=4.6						
BRTR	**Keskin Array B**	**146.05**	**320**	PKPbc	**PKPbc**	**22 17 53.7**	**+1.0**
	1.1nm,0.8s,baz=105,slow=2.0,SNR=8.0						
GERES	**GERESS Array B**	**146.47**	**351**	PKPbc	**PKPbc**	**22 17 54.4**	**+0.7**
	0.7nm,0.7s,baz=358,slow=4.0,SNR=7.3						

ISCJB ***05*** *21:58:26.5±0.7, 8˚.92S±0˚.07×74˚.52W±0˚.06, h145km, mb3.1/2, Error ellipse: s-maj=10.5km s-min=8.4km az=12.7*
IDC ***05*** *21:58:27.1±1.8, 8˚.93S×74˚.51W, h140km±24km, mb3.1/2, mb1 3.3/7, mb1mx3.2/34, mbtmp3.7/7, Error ellipse: s-maj=24.0km s-min=13.5km az=54.0*

ISC 05 21:58:27.7±0.9, 8˚.92S±0˚.08×74˚.52W±0˚.08, h145km, n8, σ1°19/10, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.81**	**217**	P	**Pn**	**21 59 26.4**	**+1.0**
	2.9nm,0.3s,baz=22,slow=11,SNR=16						
NNA				S	**Sn**	**22 00 09.3**	**-0.8**
	16nm,0.3s,baz=197,slow=18,SNR=12						
ATAH	**Atahualpa**	**4.23**	**295**	P	**Pn**	**21 59 31.6**	**+0.4**
	14nm,0.3s,baz=136,slow=14,SNR=68						
ATAH				S	**Sn**	**22 00 19.1**	**-1.4**
	4.8nm,0.3s,baz=22,slow=17,SNR=6.2						
LPAZ	**La Paz**	**9.62**	**140**	P	**Pn**	**22 00 42.1**	**-1.2**
	0.0nm,0.3s,baz=322,slow=8.4,SNR=2.8						
SIV	**San Ignacio**	**14.89**	**119**	P	**Pn**	**22 01 51.0**	**-0.1**
	0.3nm,0.3s,baz=305,slow=14,SNR=8.6						
PTGA	**Pitinga**	**16.62**	**61**	P	**Pn**	**22 02 12.9**	**+0.5**
	0.6nm,0.3s,baz=246,slow=13,SNR=7.0						
TXAR	**Lajitas Array**	**47.28**	**325**	P	**P**	**22 06 47.3**	**+0.6**
	0.5nm,0.5s,baz=150,slow=9.0,SNR=8.6						
TORD	**Torodi Ar. Bea**	**78.78**	**75**	P	**P**	**22 10 13.9**	**-1.1**
	0.2nm,0.4s,baz=260,slow=5.2,SNR=4.1						
WRA	**Warramunga Arr**	**139.63**	**225**	PKP	**PKPdf**	**22 17 40.8**	**+1.6**
	0.2nm,0.7s,baz=117,slow=2.2,SNR=6.0						

TRN 05 22:05:59.8, 18˚.65N×61˚.90W, h21km, MD3.9, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.98**	**174**	*e*P	Pn	22 06 19.9	+1.6
ANWB				*e*S	Sn	22 06 34.0	+2.5
SMRT	**St. Maarten**	**1.27**	**242**	*e*P	Pb	22 06 23.8	+0.9
SMRT				*e*S	Sb	22 06 41.7	+2.8
MLYT	**Lee's Yard**

	comp=E,3.9nm,1.2s							
SWET	**Sewanee**	**55.54**	**344**	*e*P		**P**	**22 23 46.2**	**+0.2**
	comp=E,1.5nm,1.1s							
WVT	**Waverly**	**56.92**	**342**	*e*P		**P**	**22 23 55.9**	**+0.1**
	comp=E,4.9nm,1.0s							
X301	**Greenbrier Sit**	**57.59**	**338**	*e*P		**P**	**22 24 01.0**	**+0.5**
	comp=E,8.4nm,1.5s							
LTX	**Lajitas**	**57.79**	**325**	*e*P		**P**	**22 24 03.5**	**+1.3**
TX31	**Lajitas Ar. Si**	**57.79**	**325**	*e*P		**P**	**22 24 03.2**	**+1.0**
TXAR	**Lajitas Array**	**57.79**	**325**	P		**P**	**22 24 03.5**	**+1.3**
	comp=E,0.3nm,0.7s,baz=150,slow=8.7,SNR=4.1							
PBMO	**Poplar Bluff**	**58.32**	**340**	*e*P		**P**	**22 24 06.2**	**+0.7**
	comp=E,3.7nm,0.6s							
X16A	**Lo Mia Camp, P**	**65.97**	**323**	*e*P		**P**	**22 24 59.0**	**+2.1**
	comp=E,15nm,1.6s							
PV09	**Paradox Valley**	**67.71**	**327**	*e*P		**P**	**22 25 08.2**	**+0.2**
DBIC	**Dimbokro**	**68.36**	**75**	P		**P**	**22 25 10.8**	**-1.4**
	comp=E,2.6nm,0.6s,baz=280,slow=2.6,SNR=7.4							
DBIC	**Dimbokro**	**68.36**	**75**	*e*P		**P**	**22 25 10.8**	**-1.4**
	comp=E,23nm,1.4s							
CCUT	**Cedar City**	**69.29**	**324**	*e*P		**P**	**22 25 21.6**	**+3.8**
	comp=E,3.2nm,0.8s							
ULM	**Lac du Bonnet**	**72.19**	**343**	P		**P**	**22 25 33.8**	**-0.9**
	comp=E,3.1nm,0.6s,baz=158,slow=7.8,SNR=3.2							
MFID	**Camas Ranch**	**74.76**	**327**	*e*P		**P**	**22 25 53.4**	**+3.3**
	comp=E,3.2nm,0.9s							
TOA1	**Torodi Ar. Sit**	**76.79**	**71**	*e*P		**P**	**22 26 00.9**	**-1.2**
	comp=E,4.3nm,0.9s							
TOA0	**Torodi Ar. Sit**	**76.80**	**71**	*e*P		**P**	**22 26 01.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.80**	**71**	P		**P**	**22 26 00.9**	**-1.2**
	comp=E,3.5nm,0.7s,baz=252,slow=5.2,SNR=41							
YKA	**Yellowknife Ar**	**88.08**	**341**	P		**P**	**22 27 00.9**	**+1.4**
	comp=E,1.9nm,0.5s,baz=132,slow=4.8,SNR=24							
ASAR	**Alice Springs**	**132.42**	**209**	PKP		**PKPdf**	**22 33 24.7**	**+0.7**
	comp=E,0.3nm,0.6s,baz=155,slow=2.6,SNR=3.9							
WRA	**Warramunga Arr**	**135.35**	**213**	PKP		**PKPdf**	**22 33 30.7**	**+1.1**
	comp=E,0.6nm,0.8s,baz=137,slow=1.8,SNR=7.1							
KLR	**Kul'dur**	**144.78**	**336**	PKPbc		**PKPdf**	**22 33 46.5**	**+0.8**
	comp=E,1.5nm,0.5s,baz=42,slow=4.2,SNR=7.1							
USRK	**Ussuriysk Ar.**	**148.59**	**330**	PKPbc		**PKPab**	**22 33 58.3**	**-1.5**
	comp=E,1.0nm,0.5s,baz=29,slow=6.8,SNR=3.8							
MJAR	**Matsushiro Arr**	**149.67**	**312**	PKPbc		**PKPbc**	**22 33 59.5**	**+0.4**
	comp=E,0.8nm,0.6s,baz=56,slow=0.8,SNR=4.1							
SONM	**Songino Array**	**150.41**	**6**	PKPbc		**PKPbc**	**22 34 02.2**	**+1.6**
	comp=E,0.8nm,0.5s,baz=307,slow=1.6,SNR=8.9							

MEX 05 22:15:07.6±0.3, 14°.07N×93°.43W, h13km±111km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.64**	**7**	*e*P	Pn	22 15 32.8	-3.5
PCIG				*i* S	Sn	22 15 52.4	-4.8

*IDC **05** 22:22:23.5±1.0, 35°.66N×143°.11E, h0km, mb3.6/7, mb1 3.7/11, mb1mx3.5/44, mbtmp3.6/11, ML3.6/4, MS2.6/2, Ms1 2.6/2, ms1mx2.3/33, Error ellipse: s-maj=25.9km s-min=19.1km az=71.0*

*ISCJB **05** 22:22:28.0±0.7, 35°.79N±0°.04×142°.92E±0°.05, h50km, mb3.6/7, Error ellipse: s-maj=6.3km s-min=5.5km az=30.1*

*JMA **05** 22:22:28.1±0.3, 35°.79N×142°.89E, h79km, M3.4*

ISC 05 22:22:29.9±0.9, 35°.74N±0°.05×142°.97E±0°.08, h50km, n26, σ2s 14/38, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.72**	**269**	P	**Pn**	**22 22 56.0**	**-1.4**
CHOJ				S	**Sn**	**22 23 17.0**	**-1.1**
BSO1	**Boso 1**	**1.96**	**237**	P	**Pn**	**22 22 58.7**	**-1.5**
BSO1				*e*S	**Sn**	**22 23 22.0**	**-1.3**
JHO	**Hitachi**	**2.13**	**295**	P	**Pn**	**22 23 00.9**	**-2.1**
JHO				*e*S	**Sn**	**22 23 24.7**	**-3.5**
JFT	**Otama**	**2.76**	**311**	P	**Pn**	**22 23 10.7**	**-1.0**
JFT				S	**Sn**	**22 23 41.7**	**-2.1**
JAG	**Ashikaga**	**2.93**	**284**	P	**Pn**	**22 23 12.7**	**-1.3**
JAG				S	**Sn**	**22 23 44.8**	**-3.1**
JOD2	**Odawara 2**	**3.20**	**263**	P	**Pn**	**22 23 16.3**	**-1.4**
JOD2				S	**Sn**	**22 23 52.5**	**-2.2**
JRY	**Ryogami san**	**3.31**	**276**	P	**Pn**	**22 23 18.5**	**-0.8**
JMK	**Ichinoseki**	**3.49**	**337**	P	**Pn**	**22 23 19.5**	**-2.2**
JMK				*e*S	**Sn**	**22 23 58.3**	**-3.4**
JYN	**Shimob**	**3.61**	**267**	P	**Pn**	**22 23 22.5**	**-0.9**
JYN				*e*S	**Sn**	**22 24 04.0**	**-0.9**
JHJ2	**Mitsune**	**3.70**	**226**	P	**Pn**	**22 23 23.0**	**-1.5**
JHJ2				S	**Sn**	**22 24 02.5**	**-4.4**
JHJ	**Hachijo jima 2**	**3.71**	**226**	Pn	**Pn**	**22 23 22.3**	**-2.5**
	6.3nm,0.3s,baz=86,slow=22,SNR=12						
JHJ				Sn	**Sn**	**22 24 02.7**	**-4.5**
	36nm,0.3s,baz=75,slow=23,SNR=8.7						
JYK	**Kaneyama**	**3.79**	**327**	P	**Pn**	**22 23 23.2**	**-2.6**
MJAR	**Matsushiro Arr**	**3.93**	**283**	Pn	**Pn**	**22 23 28.5**	**+0.7**
	2.4nm,0.3s,baz=100,slow=7.5,SNR=28						
MJAR				Sn	**Sn**	**22 24 14.6**	**+1.9**
	1.6nm,0.3s,baz=118,slow=16,SNR=6.3						
MAT	**Matsushiro**	**3.94**	**283**	P	**Pn**	**22 23 28.7**	**+0.9**
MAT				S	**Sn**	**22 24 12.1**	**-0.6**
MAT	**Matsushiro**	**3.94**	**283**	P	**Pn**	**22 23 27.6**	**-0.2**
JOM	**Ohasama**	**3.95**	**341**	P	**Pn**	**22 23 26.3**	**-1.7**
JOM				*e*S	**Sn**	**22 24 08.9**	**-4.2**
ASAJ	**Asahikawa**	**8.37**	**358**	Pn	**Pn**	**22 24 28.1**	**-0.4**
	1.2nm,0.3s,baz=119,slow=19,SNR=5.3						
JNU	**Nakatsue**	**10.32**	**259**	LR	LR	22 29 31.8	
	comp=Z,32nm,19.8s,baz=112,slow=41						
KSRS	**Korea Array**	**12.21**	**282**	Pn	**Pn**	**22 25 22.3**	**+1.2**
	0.2nm,0.3s,baz=97,slow=14,SNR=4.6						
KSRS				LR	LR	22 29 24.0	
	comp=Z,28nm,18.8s,baz=175,slow=34						
SONM	**Songino Array**	**29.55**	**306**	P	**P**	**22 28 32.3**	**+2.5**
	0.3nm,0.6s,baz=105,slow=9.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**43.71**	**313**	P	**P**	**22 30 30.1**	**+0.3**
	0.9nm,0.3s,baz=66,slow=8.9,SNR=2.7						
MKAR	**Makanchi Array**	**45.87**	**303**	P	**P**	**22 30 46.6**	**-0.6**
	0.3nm,0.7s,baz=90,slow=5.8,SNR=2.6						
WRA	**Warramunga Arr**	**55.98**	**190**	P	**P**	**22 32 03.2**	**-0.1**
	1.0nm,0.5s,baz=6.9,slow=7.4,SNR=17						
ASAR	**Alice Springs**	**59.71**	**190**	P	**P**	**22 32 29.7**	**+0.3**
	0.3nm,0.5s,baz=8.2,slow=7.0,SNR=4.7						
FINES	**FINESS Array B**	**70.53**	**333**	P	**P**	**22 33 41.3**	**+2.2**
	0.8nm,0.8s,baz=65,slow=7.8,SNR=2.7						
TXAR	**Lajitas Array**	**89.90**	**53**	P	**P**	**22 35 24.7**	**+0.7**
	0.1nm,0.6s,baz=305,slow=3.2,SNR=2.7						

JMA 05 22:29:00.2±0.3, 37°.43N×143°.86E, h40km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.23**	**298**	P	Pn	22 29 36.2	+1.5
JIO				*e*S	Sn	22 30 02.8	+1.8
JFK	**Kawauchi**	**2.38**	**269**	P	Pn	22 29 38.2	+1.5
JFK				*e*S	Sn	22 30 06.4	+1.7
OFUJ	**Ofunato**	**2.38**	**314**	P	Pn	22 29 37.8	+1.0
OFUJ				S	Sn	22 30 05.7	+0.9
JMK	**Ichinoseki**	**2.58**	**307**	P	Pn	22 29 41.3	+1.9
JOU	**Okura**	**2.69**	**291**	P	Pn	22 29 43.5	+2.4
JFT	**Otama**	**2.80**	**273**	P	Pn	22 29 45.2	+2.6
JFT				S	Sn	22 30 18.3	+3.2
JOM	**Ohasama**	**2.87**	**316**	P	Pn	22 29 45.0	+1.6
JOM				S	Sn	22 30 18.0	+1.3
JYK	**Kaneyama**	**3.13**	**299**	P	Pn	22 29 49.4	+2.3
JYK				*e*S	Sn	22 30 25.2	+2.0
JRG	**Rokugo**	**3.21**	**309**	P	Pn	22 29 50.5	+2.5
JRG				*e*S	Sn	22 30 27.6	+2.6
JANG	**Nango**	**3.46**	**329**	P	Pn	22 29 53.1	+1.5
JTM	**Tenmabayashi**	**3.99**	**328**	*e*S	Sn	22 30 44.1	-0.3
JRY	**Ryogami san**	**4.22**	**252**	P	Pn	22 30 03.5	+1.4
JRY				S	Sn	22 30 49.8	-0.4
JOD2	**Odawara 2**	**4.42**	**242**	P	Pn	22 30 06.5	+1.8
JOD2				*e*S	Sn	22 30 54.9	0.0
JOT	**Ohata**	**4.51**	**332**	P	Pn	22 30 08.8	+2.9
JOT				*e*S	Sn	22 30 56.6	-0.4
MAT	**Matsushiro**	**4.61**	**261**	P	Pn	22 30 11.1	+3.7
MAT				*e*S	Sn	22 31 03.5	+3.8
JCH	**Churui**	**5.19**	**356**	P	Pn	22 30 14.5	-0.8
JCH				*e*S	Sn	22 31 10.1	-3.8
NEM2	**Nemuro 2**	**6.10**	**13**	P	Pn	22 30 24.8	-3.0
NEM2				*e*S	Sn	22 31 28.4	-7.8

*ATH **05** 22:38:31.8, 36°.07N×28°.89E, h62km±3km, ML3.2/3, Error ellipse: s-maj=3.3km s-min=1.0km az=74.0*

*ISCJB **05** 22:38:31.3±0.2, 36°.03N±0°.02×28°.91E±0°.02, h75km±5km, Error ellipse: s-maj=3.7km s-min=2.5km az=9.1*

*CSEM **05** 22:38:32.8±0.1, 36°.03N×28°.91E, h60km, MD3.3, Error ellipse: s-maj=3.2km s-min=2.2km az=15.0*

*DDA **05** 22:38:33.5, 36°.32N×28°.79E, h7km, Ml3.5*

*ISK **05** 22:38:33.4, 36°.18N×28°.75E, h29km, MD3.3*

*THE **05** 22:38:34.1, 36°.09N×28°.88E, h61km±3km, ML3.2/10, Error ellipse: s-maj=3.2km s-min=0.9km az=28.0*

*NIC **05** 22:38:37.6±0.3, 35°.89N×29°.35E, h61km, mb4.2, ML3.8*

*GII **05** 22:38:38.8±0.0, 35°.53N×29°.39E, h15km, MD3.2/2*

ISC 05 22:38:32.5±1.1, 36°.04N±0°.03×28°.92E±0°.02, h57km±8km, n191, σ1s 36/249, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.55**	**78**	P	**Pn**	**22 38 46.0**	**+1.3**
KSL				S	**Sn**	**22 38 55.6**	**+1.9**
KSL	**Kastellorizon**	**0.55**	**78**	P	**Pn**	**22 38 46.0**	**+1.3**
KSL				S	**Sn**	**22 38 53.6**	**0.0**
KSL	**Kastellorizon**	**0.55**	**78**	P	**Pn**	**22 38 46.8**	**+2.0**
KSL				S	**Sn**	**22 38 53.6**	**0.0**
KSL				AML	AML	22 38 56.2	
	comp=N,2143μm,0.5s						
KSL				AML	AML	22 38 56.5	
	comp=E,3488μm,0.6s						
AKAS	**Kas**	**0.58**	**71**	P	**Pn**	**22 38 46.5**	**+1.2**
AKAS				S	**Sn**	**22 38 56.2**	**+1.5**
AKAS	**Kas**	**0.58**	**71**	*i* P	**Pn**	**22 38 46.5**	**+1.2**
AKAS				*i* S	**Sn**	**22 38 56.2**	**+1.5**
FETY	**Fethiye**	**0.61**	**12**	*e*PG	**Pn**	**22 38 45.9**	**+0.4**
FETY				*e*SG	**Sn**	**22 38 53.9**	**-1.1**
FETY	**Fethiye**	**0.61**	**12**	P	**Pn**	**22 38 46.1**	**+0.6**
FETY				S	**Sn**	**22 38 55.9**	**+0.9**
FETY	**Fethiye**	**0.61**	**12**	*e*Pg	**Pn**	**22 38 45.9**	**+0.4**
FETY				*e*Sg	**Sn**	**22 38 53.9**	**-1.1**
FETY				S	**Sn**	**22 38 55.9**	**+0.9**
ARG	**Arkhangelos**	**0.67**	**285**	P	**Pn**	**22 38 46.6**	**+0.4**
ARG				S	**Sn**	**22 38 56.7**	**+0.5**
ARG	**Arkhangelos**	**0.67**	**285**	P	**Pn**	**22 38 46.6**	**+0.4**
ARG				S	**Sn**	**22 38 56.7**	**+0.5**
DALY	**Dalyan (Mu˘la**	**0.80**	**344**	*e*PG	**Pn**	**22 38 47.1**	**-0.8**
DALY				*e*SG	**Sn**	**22 38 57.2**	**-2.0**
DALY	**Dalyan (Mu˘la**	**0.80**	**344**	*e*Pg	**Pn**	**22 38 47.1**	**-0.8**
DALY				*e*Sg	**Sn**	**22 38 57.2**	**-2.0**
TURN	**Turunc**	**0.87**	**343**	*i* P	**Pn**	**22 38 50.0**	**+1.3**
TURN				*i* S	**Sn**	**22 39 01.5**	**+0.9**
ELL	**Elmali**	**1.06**	**48**	*e*PN	**Pn**	**22 38 53.1**	**+1.7**
ELL	**Elmali**	**1.06**	**48**	*e*Pn	**Pn**	**22 38 53.1**	**+1.7**
GLHS	**Glhisar (BURDU**	**1.21**	**22**	*e*PN	**Pn**	**22 38 54.0**	**+0.7**
GLHS	**Glhisar (BURDU**	**1.21**	**22**	*e*Pn	**Pn**	**22 38 54.0**	**+0.7**
YER	**Yerkesik**	**1.21**	**335**	*e*PG	**Pn**	**22 38 52.5**	**-0.7**
YER	**Yerkesik**	**1.21**	**335**	P	**Pn**	**22 38 54.5**	**+1.2**
YER				S	**Sn**	**22 39 08.6**	**-0.1**
YER	**Yerkesik**	**1.21**	**335**	*e*Pg	**Pn**	**22 38 52.5**	**-0.7**
YER	**Yerkesik**	**1.21**	**335**	P	**Pn**	**22 38 54.5**	**+1.2**
YER				S	**Sn**	**22 39 08.6**	**-0.1**
GOLH	**Golhisar**	**1.30**	**23**	P	**Pn**	**22 38 56.6**	**+2.1**
GOLH				S	**Sn**	**22 39 13.6**	**+2.6**
GOLH	**Golhisar**	**1.30**	**23**	*i* P	**Pn**	**22 38 56.6**	**+2.1**
GOLH				*i* S	**Sn**	**22 39 13.6**	**+2.6**
KORT	**Korkueli**	**1.50**	**50**	P	**Pn**	**22 38 59.5**	**+2.3**
KORT				S	**Sn**	**22 39 18.0**	**+2.2**
KORT	**Korkueli**	**1.50**	**50**	*i* P	**Pn**	**22 38 59.5**	**+2.3**
KORT				*i* S	**Sn**	**22 39 18.0**	**+2.2**
KARP	**Karpathos**	**1.52**	**252**	*e*PN	**Pn**	**22 38 58.4**	**+1.1**
KARP	**Karpathos**	**1.52**	**252**	P	**Pn**	**22 38 58.5**	**+1.1**
KARP				S	**Sn**	**22 39 16.7**	**+0.6**
KARP	**Karpathos**	**1.52**	**252**	*e*Pn	**Pn**	**22 38 58.4**	**+1.1**
KARP				S	**Sn**	**22 39 16.7**	**+0.6**
KARP	**Karpathos**	**1.52**	**252**	P	**Pn**	**22 38 59.5**	**+2.1**
KARP				S	**Sn**	**22 39 15.0**	**-1.1**
KARP				AML	AML	22 39 18.0	
	comp=N,1438μm,0.2s						
KARP				AML	AML	22 39 20.0	
	comp=E,1101μm,0.2s						
NIS1	**Nisyros Isl.**	**1.52**	**292**	*e*PN	**Pn**	**22 38 56.7**	**-0.6**
NIS1	**Nisyros Isl.**	**1.52**	**292**	P	**Pn**	**22 38 57.8**	**+0.4**
NIS1				S	**Sn**	**22 39 15.5**	**-0.6**
NIS1	**Nisyros Isl.**	**1.52**	**292**	*e*Pn	**Pn**	**22 38 56.7**	**-0.6**
NIS1	**Nisyros Isl.**	**1.52**	**292**	P	**Pn**	**22 38 57.8**	**+0.4**
NIS1				S	**Sn**	**22 39 15.5**	**-0.6**
NIS1	**Nisyros Isl.**	**1.52**	**292**	P	**Pn**	**22 38 58.4**	**+1.0**
NIS1				AML	AML	22 39 21.6	
	comp=N,1929μm,0.5s						
NIS1				AML	AML	22 39 28.2	
	comp=E,1621μm,0.3s						
BDRM	**Kayabasi**	**1.57**	**311**	P	**Pn**	**22 38 58.5**	**+0.4**
BDRM	**Kayabasi**	**1.57**	**311**	*i* P	**Pn**	**22 38 58.5**	**+0.4**
ANTB	**Antalya**	**1.64**	**58**	*e*PN	**Pn**	**22 39 01.6**	**+2.7**
ANTB	**Antalya**	**1.64**	**58**	*e*Pn	**Pn**	**22 39 01.7**	**+2.7**
DNZL	**Cakiroluk**	**1.65**	**3**	P	**Pn**	**22 39 00.2**	**+0.9**
DNZL				S	**Sn**	**22 39 19.7**	**+0.2**
DNZL	**Cakiroluk**	**1.65**	**3**	*i* P	**Pn**	**22 39 00.2**	**+0.9**
DNZL				*i* S	**Sn**	**22 39 19.7**	**+0.2**
BODT	**Bodrum**	**1.65**	**309**	*e*PN	**Pn**	**22 38 58.4**	**-0.8**
BODT	**Bodrum**	**1.65**	**309**	P	**Pn**	**22 38 59.4**	**+0.2**
BODT				S	**Sn**	**22 39 18.5**	**-0.8**
BODT	**Bodrum**	**1.65**	**309**	*e*Pn	**Pn**	**22 38 58.4**	**-0.8**
BODT	**Bodrum**	**1.65**	**309**	P	**Pn**	**22 38 59.4**	**+0.2**
BODT				S	**Sn**	**22 39 18.5**	**-0.8**
DENT	**Denizli**	**1.71**	**3**	*e*PN	**Pn**	**22 39 00.1**	**0.0**
DENT	**Denizli**	**1.71**	**3**	*e*Pn	**Pn**	**22 39 00.0**	**0.0**
AYDN	**Tasoluk**	**1.82**	**333**	P	**Pn**	**22 39 02.4**	**+0.9**
AYDN	**Tasoluk**	**1.82**	**333**	*i* P	**Pn**	**22 39 02.4**	**+0.9**
BCK	**Bucak**	**1.95**	**43**	*e*PN	**Pn**	**22 39 05.2**	**+1.9**
BCK	**Bucak**	**1.95**	**43**	*e*Pn	**Pn**	**22 39 05.2**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**2.07**	**337**	*e*PN	**Pn**	**22 39 04.3**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**2.07**	**337**	*e*Pn	**Pn**	**22 39 04.3**	**-0.7**
GCAM	**G?zelcaml?**	**2.14**	**321**	P	**Pn**	**22 39 06.5**	**+0.7**
GCAM	**G?zelcaml?**	**2.14**	**321**	*i* P	**Pn**	**22 39 06.5**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.20**	**49**	*e*PN	**Pn**	**22 39 08.9**	**+2.1**
SUTC	**Sutluce-Ispart**	**2.20**	**49**	*e*Pn	**Pn**	**22 39 08.9**	**+2.1**
KHL	**Karahalli**	**2.33**	**12**	*e*PN	**Pn**	**22 39 09.0**	**+0.5**
KHL	**Karahalli**	**2.33**	**12**	*e*Pn	**Pn**	**22 39 09.0**	**+0.5**
SMG	**Samos**	**2.36**	**315**	P	**Pn**	**22 39 09.0**	**+0.2**
SMG	**Samos**	**2.36**	**315**	P	**Pn**	**22 39 09.0**	**+0.2**
KHAL	**Karahalli**	**2.37**	**11**	P	**Pn**	**22 39 09.2**	**+0.1**
KHAL				S	**Sn**	**22 39 34.2**	**-2.8**
KHAL	**Karahalli**	**2.37**	**11**	*i* P	**Pn**	**22 39 09.2**	**+0.1**
KHAL				*i* S	**Sn**	**22 39 34.2**	**-2.8**
ZKR	**Zakros**	**2.39**	**248**	P	**Pn**	**22 39 10.9**	**+1.6**
ZKR	**Zakros**	**2.39**	**248**	P	**Pn**	**22 39 10.8**	**+1.6**
KULA	**Kula-Manisa**	**2.48**	**355**	*e*PN	**Pn**	**22 39 10.4**	**-0.1**
KULA	**Kula-Manisa**	**2.48**	**355**	P	**Pn**	**22 39 10.6**	**+0.1**
KULA				S	**Sn**	**22 39 38.1**	**-1.5**
KULA	**Kula-Manisa**	**2.48**	**355**	P	**Pn**	**22 39 10.6**	**+0.1**
KULA				S	**Sn**	**22 39 38.1**	**-1.5**
DGB	**˙zmir**	**2.59**	**321**	*i* P	**Pn**	**22 39 11.9**	**0.0**
DGB				*i* S	**Sn**	**22 39 40.7**	**-1.5**
IZM	**Izmir**	**2.70**	**331**	*e*PN	**Pn**	**22 39 13.2**	**-0.2**
IZM	**Izmir**	**2.70**	**331**	*e*Pn	**Pn**	**22 39 13.3**	**-0.2**
GAZI	**Gazipasa**	**2.75**	**85**	P	**Pn**	**22 39 14.5**	**+0.3**
GAZI				S	**Sn**	**22 39 44.7**	**-1.6**
GAZI	**Gazipasa**	**2.75**	**85**	*i* P	**Pn**	**22 39 14.5**	**+0.3**
GAZI				*i* S	**Sn**	**22 39 44.7**	**-1.6**
NPS	**Neapolis**	**2.81**	**255**	P	**Pn**	**22 39 15.6**	**+0.7**
NPS				S	**Sn**	**22 39 46.5**	**-1.1**
NPS	**Neapolis**	**2.81**	**255**	P	**Pn**	**22 39 15.3**	**+0.4**
NPS				S	**Sn**	**22 39 46.5**	**-1.1**
NPS	**Neapolis**	**2.81**	**255**	P	**Pn**	**22 39 15.3**	**+0.4**
SANT	**Santorini**	**2.82**	**278**	P	**Pn**	**22 39 15.4**	**+0.2**
SANT	**Santorini**	**2.82**	**278**	P	**Pn**	**22 39 15.4**	**+0.2**
THR6	**Thira Island,**	**2.87**	**277**	P	**Pn**	**22 39 16.4**	**+0.6**
THR6	**Thira Island,**	**2.87**	**277**	P	**Pn**	**22 39 16.4**	**+0.6**
THR3	**Thira Island,**	**2.87**	**278**	P	**Pn**	**22 39 16.5**	**+0.7**
THR3	**Thira Island,**	**2.87**	**278**	P	**Pn**	**22 39 16.5**	**+0.7**
CMBO	**Columbo, Santo**	**2.88**	**280**	P	**Pn**	**22 39 14.4**	**-1.4**
CMBO	**Columbo, Santo**	**2.88**	**280**	P	**Pn**	**22 39 14.4**	**-1.4**
THR5	**Thira Island,**	**2.92**	**278**	*e*PN	**Pn**	**22 39 16.9**	**+0.5**
THR5	**Thira Island,**	**2.92**	**278**	*e*Pn	**Pn**	**22 39 16.9**	**+0.5**
APE	**Apeiranthos**	**2.92**	**292**	*e*PN	**Pn**	**22 39 16.1**	**-0.4**
APE	**Apeiranthos**	**2.92**	**292**	*e*Pn	**Pn**	**22 39 16.1**	**-0.4**
APE	**Apeiranthos**	**2.92**	**292**	P	**Pn**	**22 39 16.9**	**+0.4**
APE	**Apeiranthos**	**2.92**	**292**	P	**Pn**	**22 39 16.9**	**+0.4**
ZEY	**˙zmir**	**2.92**	**319**	*i* P	**Pn**	**22 39 15.8**	**-0.7**
ZEY				*i* S	**Sn**	**22 39 48.6**	**-1.8**
LAST	**Lasithi**	**2.94**	**254**	P	**Pn**	**22 39 17.7**	**+0.9**
LAST				S	**Sn**	**22 39 50.4**	**-0.6**
LAST	**Lasithi**	**2.94**	**254**	P	**Pn**	**22 39 17.8**	**+0.9**
AKMC	**Akamas**	**2.96**	**109**	P	**Pn**	**22 39 17.6**	**+0.6**
	baz=290						
AKMC	**Akamas**	**2.96**	**109**	P	**Pn**	**22 39 17.6**	**+0.6**
AKS	**Akhisar**	**2.97**	**343**	*e*PN	**Pn**	**22 39 17.0**	**-0.1**
AKS	**Akhisar**	**2.97**	**343**	*e*Pn	**Pn**	**22 39 17.0**	**-0.1**
DEMI	**Demirci**	**3.00**	**357**	P	**Pn**	**22 39 17.6**	**0.0**
DEMI				S	**Sn**	**22 39 49.9**	**-2.6**
DEMI	**Demirci**	**3.00**	**357**	*i* P	**Pn**	**22 39 17.6**	**0.0**
DEMI				*i* S	**Sn**	**22 39 49.9**	**-2.6**
PPCY	**Paphos**	**3.02**	**111**	P	**Pn**	**22 39 18.7**	**+0.8**
	baz=293						
PPCY	**Paphos**	**3.02**	**111**	P	**Pn**	**22 39 18.7**	**+0.8**
ALFC	**Alefka**	**3.12**	**105**	P	**Pn**	**22 39 19.4**	**+0.1**
	baz=286						
ALFC				S	**Sn**	**22 39 52.8**	**-2.6**
ALFC	**Alefka**	**3.12**	**105**	P	**Pn**	**22 39 19.4**	**+0.1**
ALFC				S	**Sn**	**22 39 52.8**	**-2.6**
CHOS	**Chios island**	**3.27**	**316**	*e*PN	**Pn**	**22 39 21.1**	**-0.3**
CHOS	**Chios island**	**3.27**	**316**	*e*Pn	**Pn**	**22 39 21.1**	**-0.3**
CHOS	**Chios island**	**3.27**	**316**	P	**Pn**	**22 39 22.0**	**+0.6**
CHOS	**Chios island**	**3.27**	**316**	P	**Pn**	**22 39 22.0**	**+0.6**
IDI	**Anoyia**	**3.37**	**258**	P	**Pn**	**22 39 22.9**	**+0.2**
IDI				S	**Sn**	**22 39 59.9**	**-1.6**
IDI	**Anoyia**	**3.37**	**258**	P	**Pn**	**22 39 22.9**	**+0.2**
IDI				S	**Sn**	**22 39 59.9**	**-1.6**
IDI	**Anoyia**	**3.37**	**258**	P	**Pn**	**22 39 22.2**	**-0.5**
DKL	**Dikili**	**3.42**	**333**	*e*PN	**Pn**	**22 39 23.4**	**+0.1**
DKL	**Dikili**	**3.42**	**333**	*e*Pn	**Pn**	**22 39 23.4**	**+0.1**
TVSB	**Tavsanli**	**3.43**	**7**	*e*PN	**Pn**	**22 39 23.9**	**+0.3**
TVSB	**Tavsanli**	**3.43**	**7**	*e*Pn	**Pn**	**22 39 23.9**	**+0.3**
SZAC	**Souni**	**3.48**	**110**	P	**Pn**	**22 39 24.8**	**+0.6**
	baz=292						
SZAC	**Souni**	**3.48**	**110**	P	**Pn**	**22 39 24.8**	**+0.6**
SIVA	**Sivas**	**3.51**	**254**	P	**Pn**	**22 39 25.8**	**+1.3**
SIVA				S	**Sn**	**22 40 04.6**	**-0.1**
SIVA	**Sivas**	**3.51**	**254**	P	**Pn**	**22 39 25.8**	**+1.3**
SIVA				S	**Sn**	**22 40 04.6**	**-0.1**
SIVA	**Sivas**	**3.51**	**254**	P	**Pn**	**22 39 26.2**	**+1.8**
MAMC	**Mammari**	**3.61**	**103**	P	**Pn**	**22 39 27.2**	**+1.3**
	baz=283						
MAMC	**Mammari**	**3.61**	**103**	P	**Pn**	**22 39 27.2**	**+1.3**
BALB	**Balikesir**	**3.69**	**347**	*e*PN	**Pn**	**22 39 27.0**	**+0.1**
BALB	**Balikesir**	**3.69**	**347**	*e*Pn	**Pn**	**22 39 27.0**	**+0.1**
SERI	**Serifos**	**3.74**	**289

JFK	**Kawauchi**	**2.22**	**286**	P	**Pn**	**22 45 03.3**	**-2.1**
JFK				*e*S	**Sn**	**22 45 28.4**	**-3.3**
ONAJ	**Iwakimizuishiy**	**2.23**	**279**	P	**Pn**	**22 45 03.9**	**-1.7**
JHO	**Hitachi**	**2.40**	**267**	P	**Pn**	**22 45 05.6**	**-2.3**
JFT	**Otama**	**2.67**	**287**	P	**Pn**	**22 45 10.5**	**-1.1**
JFT				*e*S	**Sn**	**22 45 41.0**	**-1.8**
JOU	**Okura**	**2.79**	**306**	P	**Pn**	**22 45 11.8**	**-1.4**
JOU				*e*S	**Sn**	**22 45 43.2**	**-2.5**
JMK	**Ichinoseki**	**2.85**	**320**	P	**Pn**	**22 45 12.3**	**-1.8**
JMK				S	**Sn**	**22 45 44.5**	**-2.7**
BSO1	**Boso 1**	**2.98**	**225**	P	**Pn**	**22 45 13.5**	**-1.8**
JOM	**Ohasama**	**3.23**	**327**	P	**Pn**	**22 45 17.7**	**-1.6**
JOM				S	**Sn**	**22 45 54.5**	**-2.0**
JYK	**Kaneyama**	**3.31**	**311**	P	**Pn**	**22 45 19.4**	**-1.0**
JAG	**Ashikaga**	**3.32**	**265**	P	**Pn**	**22 45 18.9**	**-1.5**
JAG				*e*S	**Sn**	**22 45 55.2**	**-3.4**
JRG	**Rokugo**	**3.49**	**320**	P	**Pn**	**22 45 22.1**	**-0.7**
JRY	**Ryogami san**	**3.83**	**260**	P	**Pn**	**22 45 25.5**	**-2.0**
JOD2	**Odawara 2**	**3.92**	**249**	P	**Pn**	**22 45 27.5**	**-1.2**
JOD2				*e*S	**Sn**	**22 46 10.4**	**-3.1**
JANG	**Nango**	**3.93**	**337**	P	**Pn**	**22 45 26.7**	**-2.2**
JANG				*e*S	**Sn**	**22 46 10.7**	**-3.2**
JAH	**Hinai**	**4.11**	**327**	P	**Pn**	**22 45 30.7**	**-0.6**
JAH				*e*S	**Sn**	**22 46 16.9**	**-1.2**
MJAR	**Matsushiro Arr**	**4.30**	**269**	Pn	**Pn**	**22 45 33.2**	**-0.8**
	7.4nm,0.3s,baz=114,slow=9.9,SNR=52						
MJAR				Sn	**Sn**	**22 46 28.2**	**+5.2**
	8.4nm,0.3s,baz=104,slow=9.0,SNR=6.0						
MAJO	**Matsushiro**	**4.30**	**269**	*e*Pn	**Pn**	**22 45 33.7**	**-0.3**
MAJO				*e*Sn	**Sn**	**22 46 25.7**	**+2.7**
MAT	**Matsushiro**	**4.30**	**269**	P	**Pn**	**22 45 33.7**	**-0.3**
MAT				S	**Sn**	**22 46 22.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**4.31**	**269**	*e*Pn	**Pn**	**22 45 33.8**	**-0.3**
MJB9				*e*Sn	**Sn**	**22 46 26.0**	**+2.9**
JTM	**Tenmabayashi**	**4.45**	**335**	P	**Pn**	**22 45 35.4**	**-0.7**
JTM				*e*S	**Sn**	**22 46 23.1**	**-3.5**
JHJ2	**Mitsune**	**4.77**	**221**	P	**Pn**	**22 45 37.6**	**-2.8**
JHJ2	**Mitsune**	**4.77**	**221**	*e*Pn	**Pn**	**22 45 37.6**	**-2.8**
JHJ2				*e*Sn	**Sn**	**22 46 25.7**	**-8.8**
JHJ	**Hachijo jima 2**	**4.78**	**221**	Pn	**Pn**	**22 45 37.8**	**-2.8**
	34nm,0.3s,baz=91,slow=22,SNR=19						
JHJ				Sn	**Sn**	**22 46 28.8**	**-6.0**
	58nm,0.3s,baz=74,slow=22,SNR=6.7						
JHJ				LR	LR	22 48 22.8	
	comp=Z,142nm,18.2s,baz=13,slow=50						
ERM	**Erimo**	**5.25**	**357**	*e*Pn	**Pn**	**22 45 44.6**	**-2.3**
ERM				*e*Sn	**Sn**	**22 46 39.9**	**-6.2**
JKB	**Kayabe**	**5.47**	**340**	P	**Pn**	**22 45 48.5**	**-1.5**
INU	**Inuyama**	**5.48**	**257**	*e*Pn	**Pn**	**22 45 49.8**	**-0.4**
JCH	**Churui**	**5.84**	**359**	P	**Pn**	**22 45 52.6**	**-2.4**
JCH				*e*S	**Sn**	**22 46 54.9**	**-5.8**
ASAJ	**Asahikawa**	**7.37**	**355**	Pn	**Pn**	**22 46 14.9**	**-1.2**
	3.2nm,0.3s,baz=212,slow=9.0,SNR=7.5						
USRK	**Ussuriysk Ar.**	**11.51**	**314**	Pn	**Pn**	**22 47 13.0**	**+0.3**
	0.2nm,0.3s,baz=118,slow=5.1,SNR=5.5						
KSRS	**Korea Array**	**2.50**	**278**	Pn	**Pn**	**22 47 27.7**	**+1.3**
	0.3nm,0.3s,baz=88,slow=14,SNR=5.9						
KSRS				LR	LR	22 51 55.9	
	comp=Z,78nm,19.4s,baz=88,slow=36						
KS15	**Wonju Array Si**	**12.53**	**278**	*e*Pn	**Pn**	**22 47 27.6**	**+0.9**
KSAR	**Wonju Array Be**	**12.53**	**278**	Pn	**Pn**	**22 47 27.6**	**+0.9**
KLR	**Kul'dur**	**15.13**	**329**	Pn	**Pn**	**22 48 03.5**	**+1.5**
	0.1nm,0.3s,baz=162,slow=20,SNR=3.1						
TWG	**Pinlang**	**23.88**	**241**	*e*P	**P**	**22 49 40.6**	**-0.8**
	254nm,1.8s						
H11N2	**WAKE ISLAND Hy**	**26.56**	**123**	T	T	23 17 06.5	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**26.57**	**123**	T	T	23 17 11.1	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**26.57**	**123**	T	T	23 17 07.7	
	baz=310						
SEY	**Seymchan**	**26.75**	**9**	P	**P**	**22 50 09.0**	**+1.9**
	1.1nm,0.2s,baz=0.0,slow=20,SNR=3.3						
H11S1	**WAKE ISLAND Hy**	**27.30**	**126**	T	T	23 18 00.3	
	baz=314,slow=75,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**27.30**	**126**	T	T	23 18 00.3	
	baz=314,slow=75,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**27.31**	**126**	T	T	23 18 00.3	
	baz=314,slow=75,SNR=4.1						
SONA0	**Songino Array**	**29.35**	**304**	*e*P	**P**	**22 50 32.2**	**+1.5**
	3.6nm,0.9s						
SONM	**Songino Array**	**29.35**	**304**	P	**P**	**22 50 32.2**	**+1.5**
	1.2nm,0.8s,baz=97,slow=8.5,SNR=7.3						
MK01	**Makanchi Array**	**45.70**	**303**	*e*P	P	22 52 54.3	+5.7
MK32	**Makanchi Array**	**45.71**	**303**	*e*P	**P**	**22 52 49.9**	**+1.3**
MKAR	**Makanchi Array**	**45.71**	**303**	P	**P**	**22 52 49.9**	**+1.3**
	0.7nm,0.7s,baz=98,slow=4.4,SNR=3.0						
KDAK	**Kodiak Island**	**46.15**	**42**	*e*P	**P**	**22 52 51.5**	**-0.3**
	53nm,1.8s						
MLY	**Manley**	**47.16**	**32**	*e*P	**P**	**22 52 60.0**	**+0.2**
	4.0nm,0.4s						
KURK	**Kurchatov**	**47.44**	**309**	*e*P	**P**	**22 53 03.9**	**+1.9**
KURBB	**Kurchatov Arra**	**47.51**	**308**	P	**P**	**22 53 03.9**	**+1.4**
	0.7nm,0.5s,baz=84,slow=8.4,SNR=3.9						
WRH	**Wood River Hil**	**48.28**	**33**	*e*P	**P**	**22 53 11.1**	**+2.7**
	18nm,2.0s						
IL1	**Eielson Array**	**48.80**	**32**	*e*P	**P**	**22 53 12.7**	**+0.4**
ILAR	**Eielson Array**	**48.80**	**32**	P	**P**	**22 53 13.1**	**+0.8**
	0.8nm,0.7s,baz=253,slow=6.2,SNR=11						
ILB	**Eielson Array**	**48.80**	**32**	*e*P	**P**	**22 53 13.1**	**+0.8**
DAWY	**Dawson**	**52.09**	**33**	*e*P	**P**	**22 53 37.6**	**+0.4**
	12nm,1.9s						
INK	**Inuvik**	**53.84**	**27**	P	**P**	**22 53 50.7**	**+0.7**
	0.6nm,0.4s,baz=279,slow=5.8,SNR=4.5						
INK	**Inuvik**	**53.84**	**27**	*e*P	**P**	**22 53 50.7**	**+0.7**
	8.4nm,1.5s						
WRAB	**Tennant Creek**	**57.06**	**190**	*e*P	**P**	**22 54 11.8**	**-1.9**
	35nm,1.9s						
WB2	**Warramunga Arr**	**57.07**	**190**	*e*P	**P**	**22 54 12.1**	**-1.6**
WR1	**Warramunga Arr**	**57.08**	**190**	*e*P	**P**	**22 54 12.4**	**-1.4**
	17nm,1.7s						
WRA	**Warramunga Arr**	**57.08**	**190**	P	**P**	**22 54 12.4**	**-1.4**
	1.8nm,0.6s,baz=11,slow=7.4,SNR=28						
AS31	**Alice Springs**	**60.80**	**190**	*e*P	**P**	**22 54 38.5**	**-1.1**
	0.7nm,0.7s						
ASAR	**Alice Springs**	**60.80**	**190**	P	**P**	**22 54 38.5**	**-1.1**
	0.4nm,0.4s,baz=9.8,slow=8.0,SNR=7.1						
FIA0	**FINESS Array S**	**69.83**	**333**	*e*P	**P**	**22 55 38.7**	**+1.0**
FINES	**FINESS Array B**	**69.83**	**333**	P	**P**	**22 55 38.7**	**+1.0**
	0.9nm,0.9s,baz=46,slow=4.0,SNR=2.2						
NVAR	**Mina Array Bea**	**73.76**	**54**	P	**P**	**22 56 02.2**	**+0.2**
	0.9nm,0.7s,baz=282,slow=8.9,SNR=4.8						
NV01	**Mina Array Sit**	**73.76**	**54**	*e*P	**P**	**22 56 02.2**	**+0.2**
PD31	**Pinedale Array**	**76.62**	**46**	*e*P	**P**	**22 56 18.9**	**+0.5**
PDAR	**Pinedale Array**	**76.62**	**46**	P	**P**	**22 56 18.9**	**+0.5**
	0.3nm,0.6s,baz=325,slow=2.3,SNR=3.9						
LTX	**Lajitas**	**88.91**	**54**	*e*P	**P**	**22 57 22.4**	**+0.2**
TXAR	**Lajitas Array**	**88.91**	**54**	P	**P**	**22 57 22.4**	**+0.2**
	0.3nm,0.6s,baz=313,slow=3.2,SNR=6.5						
LPAZ	**La Paz**	**145.32**	**62**	PKPbc	**PKPbc**	**23 04 05.8**	**-0.4**
	0.9nm,0.6s,baz=68,slow=5.5,SNR=4.6						

*IDC **05** 22:45:26.7±1.4,36.70N×143.15E,h0km,mb4.0/7, mb1 4.1/10,mb1mx3.8/42,mbtmp4.0/10,ML3.3/2,MS3.3/5, Ms1 3.3/5,ms1mx2.9/31,Error ellipse: s-maj=30.4km s-min=26.0km az=76.0*

*ISCJB **05** 22:45:29.3±1.1,36.7N±0.1×143.0E±0.2,h29km,mb4.0/7, MS3.3/2,Error ellipse: s-maj=20.4km s-min=17.8km az=154.1*

ISC 05 22:45:31.3±1.3,36.7N±0.1×143.1E±0.2,h29km,n14, σ0.72/10,mb4.0/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.94**	**269**			LR	LR	22 48 11.9	
	comp=Z,264nm,18.0s,baz=100,slow=42								
JNU	**Nakatsue**	**10.65**	**254**			LR	LR	22 52 19.5	
	comp=Z,167nm,18.5s,baz=358,slow=39								
USRK	**Ussuriysk Ar.**	**11.30**	**315**	Pn		**Pn**	**Pn**	**22 48 10.9**	**+0.3**
	baz=113,slow=11,SNR=2.5								
KSRS	**Korea Array**	**12.15**	**278**	Pn		**Pn**	**Pn**	**22 48 22.4**	**0.0**
	0.3nm,0.3s,baz=88,slow=14,SNR=6.3								
KLR	**Kul'dur**	**15.00**	**330**	Pn		**Pn**	**Pn**	**22 49 01.0**	**-0.2**
	0.1nm,0.3s,baz=165,slow=16,SNR=2.4								
KLR				LR		LR	LR	22 53 55.5	
	comp=Z,77nm,19.6s,baz=138,slow=34								
MA2	**Magadan**	**23.42**	**10**	LR		LR	LR	23 01 19.3	
	comp=Z,51nm,18.1s,baz=244,slow=41								
SONM	**Songino Array**	**29.09**	**304**	P		**P**	**P**	**22 51 29.7**	**+0.4**
	2.4nm,0.8s,baz=105,slow=9.0,SNR=5.1								
CMAR	**Chiang Mai Arr**	**42.73**	**257**	P		**P**	**P**	**22 53 27.0**	**+1.0**
	0.8nm,0.7s,baz=47,slow=6.6,SNR=2.5								
MKAR	**Makanchi Array**	**45.44**	**303**	P		**P**	**P**	**22 53 47.2**	**-0.2**
	2.4nm,0.7s,baz=90,slow=9.7,SNR=7.0								
KURBB	**Kurchatov Arra**	**47.27**	**308**	P		**P**	**P**	**22 54 01.1**	**-0.6**
	4.5nm,0.7s,baz=83,slow=8.0,SNR=6.7								
ILAR	**Eielson Array**	**49.05**	**32**	P		**P**	**P**	**22 54 16.0**	**+0.7**
	1.0nm,0.8s,baz=274,slow=7.1,SNR=4.8								
ASAR	**Alice Springs**	**60.67**	**190**	P		**P**	**P**	**22 55 39.5**	**-0.3**
	1.0nm,0.7s,baz=11,slow=7.3,SNR=5.7								
ARCES	**ARCESS Array B**	**64.78**	**340**	LR		LR		23 27 18.0	
	comp=Z,34nm,18.2s,baz=244,slow=39								
AKASG	**Malin Array Be**	**75.38**	**323**	P		**P**	**P**	**22 57 10.7**	**-1.2**
	0.6nm,0.5s,baz=47,slow=6.8,SNR=5.0								

JMA 05 22:46:50.1,32.84N×130.73E,h8km±1km,M0.0,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.21**	**307**			P	Pg	22 46 54.4	+0.1
JTA						*e*S	Sg	22 46 57.5	+0.3
JNU	**Nakatsue**	**0.31**	**24**			S	Sg	22 47 00.8	+0.5
JNU	**Nakatsue**	**0.31**	**24**			*e*Pn	Sg	22 47 01.1	+0.8

*ISCJB **05** 22:49:01.6±0.5,39.13N±0.03×28.99E±0.03,h6km±5km, Error ellipse: s-maj=4.8km s-min=4.2km az=41.7*

*CSEM **05** 22:49:01.8±0.1,39.14N×28.99E,h6km±1km,MD2.8,Error ellipse: s-maj=2.2km s-min=1.8km az=42.0*

*ISK **05** 22:49:01.3,39.14N×28.99E,h5km,MD2.8*

*DDA **05** 22:49:01.4,39.13N×29.00E,h7km,Md2.8*

ISC 05 22:49:02.0±0.9,39.14N±0.02×28.99E±0.02,h9km±9km, n33,σ0.42/46,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**247**			P	**Pg**	**22 49 06.8**	**0.0**
DEMI						S	**Sg**	**22 49 10.1**	**+0.1**
DEMI	**Demirci**	**0.23**	**247**		*i*	P	**Pg**	**22 49 06.8**	**0.0**
DEMI					*i*	S	**Sg**	**22 49 10.2**	**+0.1**
GDZ	**Gediz**	**0.38**	**97**			P	**Pg**	**22 49 09.4**	**-0.2**
GDZ						S	**Sg**	**22 49 14.8**	**+0.2**
GDZ	**Gediz**	**0.38**	**97**		*i*	P	**Pg**	**22 49 09.4**	**-0.2**
GDZ					*i*	S	**Sg**	**22 49 14.8**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**49**		*e*PG		**Pg**	**22 49 11.3**	**-0.1**
TVSB					*e*SG		**Sg**	**22 49 18.0**	**+0.3**
TVSB	**Tavsanli**	**0.48**	**49**		*e*Pg		**Pg**	**22 49 11.3**	**-0.1**
TVSB					*e*Sg		**Sg**	**22 49 18.0**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**203**		*e*PG		**Pg**	**22 49 14.8**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**203**		*e*Pg		**Pg**	**22 49 14.8**	**-0.1**
KHAL	**Karahalli**	**0.86**	**153**			P	**Pg**	**22 49 18.3**	**-0.2**
KHAL						S	**Sg**	**22 49 29.6**	**-0.1**
KHAL	**Karahalli**	**0.86**	**153**		*i*	P	**Pg**	**22 49 18.3**	**-0.2**
KHAL					*i*	S	**Sg**	**22 49 29.6**	**-0.1**
KHL	**Karahalli**	**0.91**	**153**		*e*PG		**Pb**	**22 49 19.3**	**-0.6**
KHL					*e*SG		**Sb**	**22 49 32.2**	**0.0**
KHL	**Karahalli**	**0.91**	**153**		*e*Pg		**Pb**	**22 49 19.3**	**-0.6**
KHL					*e*Sg		**Sb**	**22 49 32.2**	**0.0**
ORLT	**Orhaneli**	**0.91**	**355**		*e*PG		**Pg**	**22 49 19.2**	**-0.3**
ORLT	**Orhaneli**	**0.91**	**355**		*e*Pg		**Pg**	**22 49 19.2**	**-0.3**
BALB	**Balikesir**	**1.00**	**301**		*e*PG		**Pb**	**22 49 20.9**	**-0.5**
BALB					*e*SG		**Sb**	**22 49 35.4**	**+0.8**
BALB	**Balikesir**	**1.00**	**301**		*e*Pg		**Pb**	**22 49 20.9**	**-0.5**
BALB					*e*Sg		**Sb**	**22 49 35.4**	**+0.8**
IGD	**Bursa**	**1.14**	**8**		*i*	P	**Pg**	**22 49 22.8**	**-1.1**
IGD					*i*	S	**Sn**	**22 49 39.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.23**	**337**		*e*PN		**Pb**	**22 49 25.1**	**-0.2**
KCTX	**Karacabey (Bur**	**1.23**	**337**		*e*Pn		**Pb**	**22 49 25.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.23**	**356**		*e*PN		**Pg**	**22 49 25.1**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.23**	**356**		*e*Pn		**Pg**	**22 49 25.1**	**-0.5**
IZI	**Iznik**	**1.25**	**17**		*e*PN		**Pn**	**22 49 25.7**	**0.0**
IZI	**Iznik**	**1.25**	**17**		*e*Pn		**Pn**	**22 49 25.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.36**	**312**		*e*PN		**Pg**	**22 49 27.5**	**-0.5**
GONE	**Gonen-Balikesi**	**1.36**	**312**		*e*Pn		**Pg**	**22 49 27.5**	**-0.5**
ARMT	**Armutlu**	**1.43**	**356**		*e*PN		**Pb**	**22 49 28.6**	**-0.2**
ARMT	**Armutlu**	**1.43**	**356**		*e*Pn		**Pb**	**22 49 28.6**	**-0.2**
EDC	**Edincik**	**1.49**	**325**		*e*PN		**Pb**	**22 49 29.3**	**-0.5**
EDC	**Edincik**	**1.49**	**325**		*e*Pn		**Pb**	**22 49 29.3**	**-0.5**
GULT	**Gulveren**	**1.75**	**42**		*e*PN		**Pn**	**22 49 33.1**	**+0.6**
GULT	**Gulveren**	**1.75**	**42**		*e*Pn		**Pn**	**22 49 33.1**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**		*e*PN		**Pn**	**22 49 36.3**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**		*e*Pn		**Pn**	**22 49 36.3**	**+0.5**

KRSC 05 22:50:36.3±1.0,55.48N×164.36E,h49km±21km,ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.96**	**106**		*e*P		Pn	22 50 54.1	+0.7
BKI					*e*S		Sn	22 51 07.0	+1.0
KBG	**Krutoberegovo**	**1.21**	**310**		*e*P		Pn	22 50 56.9	+0.1
KBG					*e*S		Sn	22 51 11.7	-0.4
MKZ	**Mys Kozlova**	**1.78**	**240**		*e*P		Pn	22 51 06.9	+2.4
MKZ					*e*S		Sn	22 51 29.0	+3.1
SMKR	**Semkarok**	**1.96**	**305**		*e*P		Pn	22 51 09.3	+2.2
SMKR					*e*S		Sn	22 51 33.0	+2.4
BDR	**Baidarnaya**	**2.08**	**303**		*e*P		Pn	22 51 11.3	+2.6
BDR					*e*S		Sn	22 51 35.2	+1.8
ZLN	**Zelenaya**	**2.08**	**286**		*e*P		Pn	22 51 12.5	+3.7
SRKR	**Sorokina**	**2.14**	**305**		*e*P		Pn	22 51 12.3	+2.7
SRKR					*e*S		Sn	22 51 39.4	+4.5
LGNR	**Loginova**	**2.16**	**288**		*e*S		Sn	22 51 39.4	+3.7
KRSR	**Krestovskiy**	**2.26**	**291**		*e*P		Pn	22 51 14.2	+2.9
KRSR					*e*S		Sn	22 51 41.1	+3.1
KMNR	**Kamenistaya**	**2.36**	**278**		*e*P		Pn	22 51 16.4	+3.9
KPT	**Kopyto**	**2.39**	**283**		*e*P		Pn	22 51 16.4	+3.4
NLC	**Nalytchevo**	**3.74**	**234**		*e*S		Sn	22 52 16.1	+2.0
SDLR	**Sedlovina**	**3.89**	**238**		*e*P		Pn	22 51 37.5	+3.9
SDLR					*e*S		Sn	22 52 21.2	+3.1
SMAR	**Somma**	**3.94**	**238**		*e*P		Pn	22 51 38.6	+4.2
SMAR					*e*S		Sn	22 52 22.6	+3.2
KRER	**Koryakskii**	**3.94**	**239**		*e*P		Pn	22 51 39.1	+4.7
UGLR	**Uglovaya**	**3.96**	**237**		*e*P		Pn	22 51 37.8	+3.2
AVH	**Avacha**	**3.97**	**238**		*e*P		Pn	22 51 39.5	+4.9
AVH					*e*S		Sn	22 52 23.9	+4.0
KOK	**Koryaka**	**4.00**	**239**		*e*S		Sn	22 52 25.3	+4.5

*DDA **05** 22:51:51.6,35.71N×31.72E,h18km,Md3.5*

*ISK **05** 22:51:54.8,35.65N×31.80E,h34km,MD3.5*

*CSEM **05** 22:51:54.4±0.1,35.67N×31.81E,h15km,MD3.5,Error ellipse: s-maj=4.6km s-min=3.0km az=40.0*

*NIC **05** 22:51:57.5±0.1,35.74N×32.05E,h15km,ML3.5*

*GII **05** 22:51:58.7±0.0,35.33N×32.07E,h1km,MD2.7/2*

*NSSC **05** 22:52:01.5±1.2,35.45N×32.67E,h3km±3km,MD1.8, ML1.9*

ISC 05 22:51:55.1±1.2,35.67N±0.02×31.85E±0.03,h27km±12km, n122,σ1.71/159,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.67**	**34**			P	**Pb**	**22 52 08.4**	**+0.1**
GAZI	**Gazipasa**	**0.67**	**34**		*i*	P	**Pb**	**22 52 08.4**	**+0.1**
GAZI					*i*	S	**Sb**	**22 52 17.0**	**-0.3**
AKMC	**Akamas**	**0.76**	**149**			P	Pn	**22 52 12.0**	**+2.1**
	baz=342								
AKMC	**Akamas**	**0.76**	**149**			P	**Pn**	**22 52 12.0**	**+2.1**
ALFC	**Alefka**	**0.80**	**130**			P	**Pn**	**22 52 11.8**	**+1.2**
	baz=322								
ALFC						S	**Sn**	**22 52 22.4**	**+0.8**
ALFC	**Alefka**	**0.80**	**130**			P	**Pn**	**22 52 11.8**	**+1.2**
ALFC						S	**Sn**	**22 52 22.4**	**+0.8**
PPCY	**Paphos**	**0.89**	**153**			P	**Pn**	**22 52 14.3**	**+2.6**
	baz=344								
PPCY	**Paphos**	**0.89**	**153**			P	**Pn**	**22 52 14.3**	**+2.6**
LEF	**Lefka**	**1.01**	**123**		*e*PG		**Pn**	**22 52 13.1**	**-0.3**
LEF					*e*SG		**Sb**	**22 52 26.3**	**-0.6**
LEF	**Lefka**	**1.01**	**123**		*e*Pg		**Pn**	**22 52 13.1**	**-0.3**
LEF					*e*Sg		**Sb**	**22 52 26.3**	**-0.6**
MAMC	**Mammari**	**1.22**	**114**			P	**Pb**	**22 52 17.7**	**+0.2**
	baz=301								
MAMC	**Mammari**	**1.22**	**114**			P	**Pb**	**22 52 17.7**	**+0.2**
ERMK	**Ermenek**	**1.29**	**41**			P	**Pb**	**22 52 18.5**	**-0.3**
ERMK						S	**Sb**	**22 52 36.1**	**+1.0**
ERMK	**Ermenek**	**1.29**	**41**		*i*	P	**Pb**	**22 52 18.5**	**-0.3**
ERMK					*i*	S	**Sb**	**22 52 36.1**	**+1.0**
CSS	**Mathiatis**	**1.40**	**120**		Pg		**Pn**	**22 52 19.2**	**+0.4**
CSS	**Mathiatis**	**1.40**	**120**		Pg		**Pn**	**22 52 19.2**	**+0.4**
LFK	**Lefkose**	**1.43**	**106**		*e*PN		**Pn**	**22 52 19.6**	**+0.5**
LFK					*e*SN		**Sb**	**22 52 37.9**	**-0.9**
LFK	**Lefkose**	**1.43**	**106**		*e*Pn		**Pn**	**22 52 19.7**	**+0.5**
LFK					*e*Sn		**Sb**	**22 52 37.9**	**-0.9**

ANTB	**Antalya**	**1.56**	**322**	*e*PN	**Pn**	**22 52 21.1**	**+0.1**
ANTB	**Antalya**	**1.56**	**322**	*e*Pn	**Pn**	**22 52 21.1**	**+0.1**
KORT	**Korkueli**	**1.79**	**318**	P	**Pn**	**22 52 22.9**	**-1.5**
KORT	**Korkueli**	**1.79**	**318**	*i* P	**Pn**	**22 52 22.9**	**-1.5**
ELL	**Elmali**	**1.90**	**305**	*e*PN	**Pn**	**22 52 25.9**	**+0.1**
ELL	**Elmali**	**1.90**	**305**	*e*Pn	**Pn**	**22 52 25.9**	**+0.1**
AKAS	**Kas**	**1.91**	**288**	P	**Pn**	**22 52 25.0**	**-0.9**
AKAS	**Kas**	**1.91**	**288**	*i* P	**Pn**	**22 52 25.0**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.93**	**339**	*e*PN	**Pn**	**22 52 26.2**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.93**	**339**	*e*Pn	**Pn**	**22 52 26.3**	**+0.1**
KIZK	**Mersin**	**2.02**	**66**	P	**Pn**	**22 52 28.8**	**+1.4**
KIZK				S	**Sn**	**22 52 52.9**	**+1.2**
KIZK	**Mersin**	**2.02**	**66**	*i* P	**Pn**	**22 52 28.8**	**+1.4**
KIZK				*i* S	**Sn**	**22 52 52.9**	**+1.2**
BCK	**Bucak**	**2.05**	**331**	*e*PN	**Pn**	**22 52 27.9**	**0.0**
BCK	**Bucak**	**2.05**	**331**	*e*Pn	**Pn**	**22 52 27.9**	**0.0**
KONT	**Konya--Tatoy**	**2.30**	**10**	*e*PN	**Pn**	**22 52 31.9**	**+0.6**
KONT	**Konya--Tatoy**	**2.30**	**10**	*e*Pn	**Pn**	**22 52 31.9**	**+0.6**
GLHS	**Glhisar (BURDU**	**2.41**	**309**	*e*PN	**Pn**	**22 52 33.0**	**+0.3**
GLHS	**Glhisar (BURDU**	**2.41**	**309**	*e*Pn	**Pn**	**22 52 33.0**	**+0.3**
GOLH	**Golhisar**	**2.42**	**311**	*i* P	**Pb**	**22 52 36.6**	**-1.3**
FETY	**Fethiye**	**2.44**	**294**	*e*PN	**Pn**	**22 52 33.1**	**0.0**
FETY	**Fethiye**	**2.44**	**294**	*e*Pn	**Pn**	**22 52 33.1**	**0.0**
KERG	**Konya-Eregli**	**2.52**	**46**	P	**Pn**	**22 52 36.2**	**+1.8**
KERG				S	**Sn**	**22 53 06.1**	**+1.8**
KERG	**Konya-Eregli**	**2.52**	**46**	*i* P	**Pn**	**22 52 36.2**	**+1.8**
KERG				*i* S	**Sn**	**22 53 06.1**	**+1.8**
LADK	**Ladik-KONYA**	**2.56**	**9**	*e*PN	**Pn**	**22 52 35.6**	**+0.8**
LADK	**Ladik-KONYA**	**2.56**	**9**	*e*Pn	**Pn**	**22 52 35.6**	**+0.8**
DED	**Mersin**	**2.71**	**61**	*i* P	**Pn**	**22 52 37.6**	**+0.9**
DED				*i* S	**Sn**	**22 53 10.4**	**+1.8**
DALY	**Dalyan (Mu˘la**	**2.83**	**295**	*e*PN	**Pn**	**22 52 38.5**	**+0.1**
DALY	**Dalyan (Mu˘la**	**2.83**	**295**	*e*Pn	**Pn**	**22 52 38.5**	**+0.1**
KDHN	**Kadinhani**	**2.85**	**4**	P	**Pn**	**22 52 39.8**	**+0.9**
KDHN				S	**Sn**	**22 53 12.9**	**+0.6**
KDHN	**Kadinhani**	**2.85**	**4**	*i* P	**Pn**	**22 52 39.8**	**+0.9**
KDHN				*i* S	**Sn**	**22

CAIG	**El Cayaco**	**0.28**	**286**	*i* P	Pb	22 55 17.7	-1.2
CAIG				*e*S	Sb	22 55 21.3	-2.2
MEIG	**Mezcala**	**1.01**	**20**	*e*P	Pn	22 55 28.0	-2.5
MEIG				*e*S	Sn	22 55 40.1	-3.9
ARIG	**Puente Sto Nin**	**1.35**	**345**	*e*P	Pn	22 55 33.0	-2.1
ARIG				*e*S	Sn	22 55 49.4	-2.8
TLIG	**Tlapa**	**1.48**	**66**	*i* P	Pn	22 55 34.4	-2.7
TLIG				*i* S	Sn	22 55 52.6	-3.0
PLIG	**Platanillo**	**1.49**	**18**	*e*P	Pn	22 55 34.4	-2.7
PLIG				*i* S	Sn	22 55 52.2	-3.5

KRSC 05 23:04:17.9±0.8, 53°.71N×160°.79E, *h*47km±17km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.86**	**293**	*i* P	Pn	23 04 34.5	+0.8
KII				*e*S	Sn	23 04 45.4	+0.2
MKZ	**Mys Kozlova**	**1.02**	**33**	*i* P	Pn	23 04 37.7	+2.0
MKZ				*i* S	Sn	23 04 50.1	+1.3
NLC	**Nalytchevo**	**1.02**	**239**	*i* P	Pn	23 04 37.2	+1.5
NLC				*i* S	Sn	23 04 49.8	+1.0
SDLR	**Sedlovina**	**1.22**	**250**	*i* P	Pn	23 04 40.5	+2.0
SDLR				*e*S	Sn	23 04 55.6	+1.7
SMAR	**Somma**	**1.27**	**250**	*i* P	Pn	23 04 41.2	+1.9
SMAR				*e*S	Sn	23 04 56.8	+1.5
UGLR	**Uglovaya**	**1.27**	**248**	*i* P	Pn	23 04 41.5	+2.1
UGLR				*e*S	Sn	23 04 56.9	+1.5
KRER	**Koryakskii**	**1.28**	**252**	*i* P	Pn	23 04 41.7	+2.2
KRER				*e*S	Sn	23 04 57.6	+1.9
AVH	**Avacha**	**1.30**	**251**	*i* P	Pn	23 04 41.9	+2.2
AVH				*i* S	Sn	23 04 57.9	+1.9
KRX	**Arik**	**1.32**	**256**	*i* P	Pn	23 04 41.9	+1.9
KRX				*e*S	Sn	23 04 57.7	+1.1
DALK	**Dalny**	**1.39**	**242**	*i* P	Pn	23 04 42.8	+2.0
DALK				*i* S	Sn	23 04 59.5	+1.5
PET	**Petropavlovsk**	**1.45**	**243**	*i* P	Pn	23 04 43.7	+2.1
PET				*i* S	Sn	23 05 01.0	+1.6
TUMR	**Tumrok**	**1.62**	**347**	*i* P	Pn	23 04 46.5	+2.4
TUMR				*e*S	Sn	23 05 04.7	+0.8
GNL	**Ganaly**	**1.69**	**271**	*i* P	Pn	23 04 47.0	+2.0
GNL				*e*S	Sn	23 05 06.9	+1.3
KRMR	**Karymshinskiy**	**1.82**	**242**	*i* P	Pn	23 04 49.2	+2.5
KRMR				*e*S	Sn	23 05 10.8	+2.3
RUS	**Russkaya**	**1.87**	**228**	*i* P	Pn	23 04 49.1	+1.7
RUS				*e*S	Sn	23 05 10.6	+0.8
MTVR	**Mutnovka**	**1.99**	**233**	*e*P	Pn	23 04 51.6	+2.4
MTVR				*e*S	Sn	23 05 14.8	+1.8
KMNR	**Kamenistaya**	**2.08**	**351**	*e*P	Pn	23 04 53.4	+3.1
ASAK	**Asacha**	**2.19**	**234**	*i* P	Pn	23 04 54.8	+3.0
ASAK				*e*S	Sn	23 05 19.9	+2.2
BZMR	**Bezymyannaya**	**2.24**	**356**	P	Pn	23 04 55.8	+3.2
KIRR	**Kirishev**	**2.27**	**354**	P	Pn	23 04 55.6	+2.7
KPT	**Kopyto**	**2.29**	**352**	P	Pn	23 04 56.4	+3.2
ZLN	**Zelenaya**	**2.31**	**0**	*i* P	Pn	23 04 57.1	+3.5
LGNR	**Loginova**	**2.38**	**359**	*e*P	Pn	23 04 58.8	+4.1
LGNR				S	Sn	23 05 26.3	+3.5
CIRR	**Tsirk**	**2.41**	**359**	*e*P	Pn	23 04 58.6	+3.6
KOZ	**Kozyrevsk**	**2.42**	**348**	P	Pn	23 04 57.5	+2.6
KRSR	**Krestovskiy**	**2.52**	**357**	*e*P	Pn	23 04 59.6	+3.2
ESO	**Esso**	**2.53**	**332**	*i* P	Pn	23 04 58.8	+2.4
ESO				S	Sn	23 05 28.3	+2.3
KLY	**Klyuchi**	**2.61**	**358**	*e*P	Pn	23 05 00.6	+3.1
KLY				S	Sn	23 05 31.1	+3.1
KBG	**Krutoberegovo**	**2.78**	**23**	P	Pn	23 05 01.8	+1.9
BDR	**Baidarnaya**	**2.88**	**5**	*e*P	Pn	23 05 05.0	+3.7
SMKR	**Semkarok**	**2.91**	**7**	*e*P	Pn	23 05 05.0	+3.3
SRKR	**Sorokina**	**2.96**	**4**	*e*P	Pn	23 05 05.9	+3.5
PAU	**Pauzhetka**	**3.30**	**229**	P	Pn	23 05 12.1	+5.1
BKI	**Bering**	**3.38**	**62**	*i* P	Pn	23 05 11.2	+3.2
BKI				*e*S	Sn	23 05 47.8	+1.0

*ISK **05** 23:11:08.8, 39°.11N×29°.05E, h7km, MD2.6*
*ISCJB **05** 23:11:09.8±0.8, 39°.14N±0°.04×29°.01E±0°.04, h0km±12km, Error ellipse: s-maj=7.9km s-min=4.8km az=152.0*
*CSEM **05** 23:11:09.8±0.2, 39°.12N×29°.00E, h8km, MD2.4, Error ellipse: s-maj=5.0km s-min=3.4km az=132.0*
*DDA **05** 23:11:09.4, 39°.13N×29°.00E, h7km, Md2.4*

ISC 05 23:11:10.0±1.0, 39°.13N±0°.03×29°.01E±0°.03, h10km±9km, n16, σ0§83/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**248**	P	**Pg**	**23 11 15.4**	**+0.3**
DEMI				S	**Sg**	**23 11 19.1**	**+0.6**
DEMI	**Demirci**	**0.24**	**248**	*i* P	**Pg**	**23 11 15.4**	**+0.3**
DEMI				*i* S	**Sg**	**23 11 19.1**	**+0.6**
GDZ	**Gediz**	**0.37**	**97**	P	**Pg**	**23 11 17.2**	**-0.2**
GDZ				S	**Sg**	**23 11 22.7**	**+0.4**
GDZ	**Gediz**	**0.37**	**97**	*i* P	**Pg**	**23 11 17.2**	**-0.2**
GDZ				*i* S	**Sg**	**23 11 22.7**	**+0.4**
TVSB	**Tavsanli**	**0.47**	**48**	*e*PG	**Pg**	**23 11 18.7**	**-0.6**
TVSB				*e*SG	**Sg**	**23 11 24.9**	**-0.7**
TVSB	**Tavsanli**	**0.47**	**48**	*e*Pg	**Pg**	**23 11 18.7**	**-0.6**
TVSB				*e*Sg	**Sg**	**23 11 24.9**	**-0.7**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*PG	**Pg**	**23 11 22.3**	**-0.8**
KULA				*e*SG	**Sb**	**23 11 31.8**	**-1.5**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*Pg	**Pg**	**23 11 22.3**	**-0.8**
KULA				*e*Sg	**Sb**	**23 11 31.8**	**-1.5**
KHAL	**Karahalli**	**0.85**	**154**	S	**Sb**	**23 11 37.4**	**-1.0**
KHAL	**Karahalli**	**0.85**	**154**	*i* P	**Pn**	**23 11 29.5**	**+1.4**
KHAL				*i* S	**Sb**	**23 11 37.4**	**-1.0**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	**Pg**	**23 11 33.4**	**-0.4**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*Pn	**Pg**	**23 11 33.4**	**-0.4**
BORA	**Eskisehir**	**1.34**	**56**	P	**Pg**	**23 11 36.1**	**+0.3**
BORA				S	**Sn**	**23 11 53.9**	**+1.1**
BORA	**Eskisehir**	**1.34**	**56**	*i* P	**Pg**	**23 11 36.1**	**+0.3**
BORA				*i* S	**Sn**	**23 11 53.9**	**+1.1**
ARMT	**Armutlu**	**1.44**	**356**	*e*PN	**Pb**	**23 11 36.4**	**-0.4**
ARMT	**Armutlu**	**1.44**	**356**	*e*Pn	**Pb**	**23 11 36.4**	**-0.4**

*ISCJB **05** 23:31:42.2±0.5, 50°.18N±0°.03×18°.98E±0°.03, h0km, Error ellipse: s-maj=5.1km s-min=2.8km az=10.4*
*IPEC **05** 23:31:42.7±0.2, 50°.25N×19°.08E, h0km±2km, ML1.5/3, Error ellipse: s-maj=2.7km s-min=1.1km az=169.0*
*CSEM **05** 23:31:43.1±0.2, 50°.19N×19°.04E, h2km, ML2.5/5, Error ellipse: s-maj=4.9km s-min=3.0km az=13.0*
*PRU **05** 23:31:43.4, 50°.22N×19°.05E, h0km*

ISC 05 23:31:42.9±0.8, 50°.16N±0°.04×19°.06E±0°.02, h0km, n24, σ0§53/42, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**342**	*e*Pg	**Pg**	**23 31 46.1**	**+0.5**
OJC	**Ojcow**	**0.48**	**82**	*e*Pg	**Pg**	**23 31 51.7**	**-0.4**
OJC				*e*Sg	**Sg**	**23 31 58.1**	**-0.2**
OJC	**Ojcow**	**0.48**	**82**	*e*Pg	**Pg**	**23 31 51.7**	**-0.4**
OJC				*e*Sg	**Sg**	**23 31 58.1**	**-0.2**
OKC	**Ostrava-Krasne**	**0.67**	**242**	*e*PG	**Pb**	**23 31 57.7**	**+0.2**
OKC				*e*SG	**Sb**	**23 32 07.5**	**+0.2**
	11nm,0.4s						
OKC	**Ostrava-Krasne**	**0.67**	**242**	Pg	**Pb**	**23 31 57.7**	**+0.2**
LANS	**Liptovska Anna**	**1.04**	**165**	*e*Pg	**Pb**	**23 32 03.8**	**-0.1**
LANS				*e*Sg	**Sb**	**23 32 18.5**	**+0.4**
LANS	**Liptovska Anna**	**1.04**	**165**	*e*PG	**Pb**	**23 32 03.8**	**-0.1**
LANS				*e*SG	**Sb**	**23 32 18.5**	**+0.4**
MORC	**Moravsky Berou**	**1.05**	**249**	*e*Pg	**Pb**	**23 32 03.8**	**-0.2**
	baz=64						
MORC				*e*Sg	**Sg**	**23 32 17.2**	**+0.5**
	9.1nm,0.3s,baz=64						
NIE	**Niedzica**	**1.09**	**132**	*e*Pg	**Pn**	**23 32 05.0**	**-0.5**
NIE				*e*Sg	**Sb**	**23 32 19.7**	**+0.2**
NIE	**Niedzica**	**1.09**	**132**	*e*Pg	**Pn**	**23 32 05.0**	**-0.5**
NIE				*e*Sg	**Sb**	**23 32 19.7**	**+0.2**
STHS	**Stebnicka Huta**	**1.60**	**117**	*e*Pn	**Pb**	**23 32 13.2**	**-0.1**
STHS				*e*Sn	**Sg**	**23 32 35.4**	**+1.2**
STHS	**Stebnicka Huta**	**1.60**	**117**	*e*PN	**Pb**	**23 32 13.2**	**-0.1**
STHS				*e*SN	**Sg**	**23 32 35.4**	**+1.2**
STHS				*e*LG	Lg	23 32 44.8	
VYHS	**Vyhne**	**1.67**	**185**	*e*Pn	**Pn**	**23 32 13.3**	**-0.2**
VYHS				*e*Sn	**Sn**	**23 32 35.4**	**-0.2**
VYHS	**Vyhne**	**1.67**	**185**	*e*PN	**Pn**	**23 32 13.3**	**-0.2**
VYHS				*e*SN	**Sn**	**23 32 35.4**	**-0.2**
VYHS				*e*LG	Lg	23 32 43.5	
DPC	**Dobruska-Polom**	**1.77**	**277**	*e*PG	**Pn**	**23 32 14.6**	**-0.2**
DPC				*e*SG	**Sn**	**23 32 38.3**	**+0.3**
	10nm,0.5s						
DPC	**Dobruska-Polom**	**1.77**	**277**	Pg	**Pn**	**23 32 14.6**	**-0.2**
DPC				Sg	**Sn**	**23 32 38.3**	**+0.3**
	10nm,0.5s						
VRAC	**Vranov**	**1.81**	**243**	*e*Pn	**Pn**	**23 32 15.9**	**+0.5**
	baz=59						
VRAC				*e*Sg	**Sg**	**23 32 40.8**	**-0.3**
	3.4nm,0.4s,baz=59						
KSP	**Ksiaz**	**1.90**	**292**	*e*Pg	**Pg**	**23 32 19.4**	**+0.2**
KSP				*e*Sg	**Sg**	**23 32 43.8**	**+0.1**
KSP	**Ksiaz**	**1.90**	**292**	*e*Pg	**Pg**	**23 32 19.4**	**+0.2**
KSP				*e*Sg	**Sg**	**23 32 43.8**	**+0.1**
KRUC	**Moravsky**	**2.05**	**239**	*e*Pn	**Pn**	**23 32 19.1**	**+0.4**
	baz=55						
KRUC				*e*Sg	**Sg**	**23 32 48.7**	**-0.1**
	2.5nm,0.3s,baz=55						
GOPC	**GO Pecny, Ondr**	**2.77**	**267**	*e*SG	**Sg**	**23 33 11.3**	**-0.4**
GOPC	**GO Pecny, Ondr**	**2.77**	**267**	Sg	**Sg**	**23 33 11.3**	**-0.4**
PRU	**Pruhonice**	**2.92**	**268**	*e*SG	**Sg**	**23 33 15.0**	**-1.5**
	3.5nm,0.5s						
PRU	**Pruhonice**	**2.92**	**268**	Sg	**Sg**	**23 33 15.0**	**-1.5**
	3.5nm,0.5s						

MAN 05 23:31:49, 13°.71N×120°.56E, *h*91km, mb3.9, ML2.7, MS2.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**275**	*e*P	Pn	23 32 05.5	+3.0
PGP	**Puerto Galera**	**0.44**	**118**	*e*P	Pn	23 32 05.8	+2.3
PGP				*i* S	Sn	23 32 18.1	+3.9
SJMP	**San Jose**	**1.36**	**156**	*e*P	Pn	23 32 14.9	+1.9
SJMP				*e*S	Sn	23 32 33.8	+2.6
BUSP	**Coron**	**1.73**	**192**	*e*P	Pn	23 32 19.0	+1.2
BUSP				*e*S	Sn	23 32 41.2	+1.6
ENPP	**El Nido**	**2.72**	**204**	*e*P	Pn	23 32 32.7	+1.8

JMA 05 23:35:50.2±0.2, 44°.04N×148°.12E, *h*0km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.85**	**249**	P	Pn	23 36 23.7	+0.5
NEM2				*e*S	Sn	23 36 47.9	+0.7
JRA	**Rausu**	**2.17**	**268**	P	Pn	23 36 28.4	+0.9
JRA				*e*S	Sb	23 36 56.6	-1.0
JNK	**Nakash**	**2.50**	**261**	P	Pn	23 36 33.2	+1.0
JNK				*e*S	Sn	23 37 04.2	+0.8
JAK	**Akkeshi**	**2.70**	**248**	P	Pn	23 36 35.7	+0.9
JAK				*e*S	Sn	23 37 09.0	+0.8
JAR	**Ashorobuto**	**3.24**	**258**	P	Pn	23 36 44.1	+1.8
JCH	**Churui**	**3.75**	**249**	*e*S	Sn	23 37 35.4	+1.2
JNBK	**Urakawa-nobuka**	**4.30**	**248**	P	Pn	23 36 58.6	+2.0
JNBK				*e*S	Sn	23 37 49.7	+2.0
JKB	**Kayabe**	**5.63**	**250**	P	Pn	23 37 16.8	+1.7
JKB				*e*S	Sn	23 38 21.0	+0.6

*NEIC **05** 23:41:59.3, 43°.57S×172°.40E, h10km, ML3.8(WEL), After WEL.*
NEIC Felt in central Canterbury.

WEL 05 23:41:59.4±0.1, 43°.57S×172°.41E, h10km, ML3.8/16, 1C-2D, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.16**	**90**	PG	Pg	23 42 02.9	0.0
CRLZ				SG	Sg	23 42 05.4	+0.1
CRLZ				AML	AML	23 42 05.8	
CRLZ				AML	AML	23 42 05.8	
CRLZ				AML	AML	23 42 05.8	
CRLZ	**Canterbury Las**	**0.16**	**90**	Pg	Pg	23 42 02.9	0.0
CRLZ				Sg	Sg	23 42 05.5	+0.1
MQZ	**McQueen's Vall**	**0.22**	**126**	PG	Pg	23 42 04.0	0.0
MQZ				SG	Sg	23 42 07.4	+0.2
MQZ	**McQueen's Vall**	**0.22**	**126**	Pg	Pg	23 42 04.0	0.0
MQZ				Sg	Sg	23 42 07.4	+0.2
OXZ	**Oxford**	**0.36**	**313**	P*	Pg	23 42 06.3	-0.4
OXZ				SG	Sg	23 42 12.0	+0.5
OXZ	**Oxford**	**0.36**	**313**	Pg	Pg	23 42 06.3	-0.4
LTZ	**Lake Taylor**	**0.80**	**353**	P*	Pg	23 42 14.7	-0.2
LTZ				AML	AML	23 42 26.2	
LTZ				AML	AML	23 42 28.4	
LTZ	**Lake Taylor**	**0.80**	**353**	P*	Pg	23 42 14.7	-0.1
INZ	**Inchbonnie**	**1.10**	**320**	P*	Pn	23 42 23.0	-0.2
WVZ	**Waitaha Valley**	**1.32**	**292**	⇓PN	Pn	23 42 23.3	-0.5
WVZ				AML	AML	23 42 45.3	
WVZ				AML	AML	23 42 47.8	
WVZ	**Waitaha Valley**	**1.32**	**292**	Pn	Pn	23 42 23.3	-0.5
KHZ	**Kahutara**	**1.43**	**36**	PN	Pn	23 42 23.7	-1.6
KHZ	**Kahutara**	**1.43**	**36**	Pn	Pn	23 42 23.7	-1.6
LBZ	**Lake Benmore**	**1.80**	**242**	AML	AML	23 42 58.0	
LBZ				AML	AML	23 42 58.0	
LBZ				AML	AML	23 42 59.6	
LBZ				AML	AML	23 43 04.1	
LBZ	**Lake Benmore**	**1.80**	**242**	Pn	Pn	23 42 29.5	-0.9
THZ	**Tophouse**	**1.85**	**12**	⇑PN	Pn	23 42 29.8	-1.4
THZ				AML	AML	23 43 07.8	
THZ				AML	AML	23 43 08.6	
THZ	**Tophouse**	**1.85**	**12**	Pn	Pn	23 42 29.8	-1.4
DSZ	**Denniston Nort**	**1.88**	**346**	⇓PN	Pn	23 42 30.7	-0.9
DSZ				AML	AML	23 43 02.4	
DSZ				AML	AML	23 43 02.5	
DSZ				AML	AML	23 43 03.1	
DSZ				AML	AML	23 43 03.2	
DSZ	**Denniston Nort**	**1.88**	**346**	Pn	Pn	23 42 30.7	-0.9
FOZ	**Fox Glacier**	**1.88**	**270**	PN	Pn	23 42 31.7	+0.1
FOZ				AML	AML	23 43 04.1	
FOZ				AML	AML	23 43 04.1	
FOZ				AML	AML	23 43 09.3	
FOZ				AML	AML	23 43 09.4	
FOZ	**Fox Glacier**	**1.88**	**270**	Pn	Pn	23 42 31.7	+0.1
ODZ	**Otahua Downs**	**1.94**	**220**	AML	AML	23 43 06.4	
ODZ				AML	AML	23 43 06.8	
ODZ				AML	AML	23 43 07.2	
ODZ				AML	AML	23 43 08.5	
ODZ	**Otahua Downs**	**1.94**	**220**	Pn	Pn	23 42 31.1	-1.2
BSWZ	**Blackbirch Sta**	**2.15**	**31**	AML	AML	23 43 28.4	
BSWZ	**Blackbirch Sta**	**2.15**	**31**	Pn	Pn	23 42 34.1	-1.2
NNZ	**Nelson**	**2.46**	**17**	Pn	Pn	23 42 38.8	-0.8
JCZ	**Jackson Bay**	**2.67**	**258**	AML	AML	23 43 30.2	
JCZ				AML	AML	23 43 32.4	
JCZ	**Jackson Bay**	**2.67**	**258**	Pn	Pn	23 42 41.9	-0.6
WKZ	**Wanaka**	**2.74**	**242**	AML	AML	23 43 32.7	
WKZ				AML	AML	23 43 35.6	
QRZ	**Quartz Range**	**2.75**	**2**	AML	AML	23 42 54.1	
QRZ				AML	AML	23 43 29.8	
QRZ	**Quartz Range**	**2.75**	**2**	Pn	Pn	23 42 42.7	-0.8
EAZ	**Earnscleugh**	**2.77**	**232**	AML	AML	23 43 29.3	
EAZ				AML	AML	23 43 30.1	
EAZ				AML	AML	23 43 30.2	
EAZ				AML	AML	23 43 34.1	
EAZ	**Earnscleugh**	**2.77**	**232**	Pn	Pn	23 42 42.5	-1.3
TUZ	**Tuapeka**	**3.09**	**219**	PN	Pn	23 42 47.1	-1.0
TUZ				AML	AML	23 43 41.7	
TUZ				AML	AML	23 43 47.3	
TUZ	**Tuapeka**	**3.09**	**219**	Pn	Pn	23 42 47.1	-1.0
CAW	**Cannon Point**	**3.16**	**40**	PN	Pn	23 42 47.0	-2.1
CAW				AML	AML	23 43 27.1	
CAW	**Cannon Point**	**3.16**	**40**	Pn	Pn	23 42 47.0	-2.1
KIW	**Kapiti Island**	**3.29**	**35**	PN	Pn	23 42 49.9	-1.0
KIW	**Kapiti Island**	**3.29**	**35**	Pn	Pn	23 42 49.9	-1.0
SYZ	**Scrubby Hill**	**3.76**	**217**	AML	AML	23 44 02.4	
SYZ				AML	AML	23 44 13.7	

*ISCJB **05** 23:43:27.4±0.8, 24°.33S±0°.03×178°.81W±0°.04, h339km, 8km, mb4.8/111, Error ellipse: s-maj=6.0km s-min=4.1km az=20.3*
*IDC **05** 23:43:30.4±1.3, 24°.19S×178°.79W, h360km±11km, mb4.2/18, mb1 4.4/20, mb1mx4.3/33, mbtmp4.9/20, Error ellipse: s-maj=11.9km s-min=11.5km az=113.0*
*BJI **05** 23:43:31.8, 24°.30S×178°.80W, h382km, mb4.7/29, mB4.9/16*
*GCMT **05** 23:43:33.1±0.3, 24°.31S×178°.82W, h374km±1km, MW5.2/83, Moment Tensor Solution. s83,c116; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr-0.69±.02; Mθθ0.29±.04; Mφφ0.40±.04; Mrθ-0.10±.04; Mθφ-0.12±.04; Mφr-0.74±.03; Best double couple: M=0.93200×10^17 NP1:φ=359.00000°, δ72.00000°, λ-81.00000°. NP2:φ=153.00000°, δ20.00000°, λ-115.00000°. Principal axes: T 0.7830, Plg26.0000°, Azm82.0000°; N 0.2980, Plg8.0000°, Azm176.0000°; P -1.0810, Plg62.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **05** 23:43:33.1±0.7, 24°.31S×178°.86W, h386km±7km, mb4.9/92 Error ellipse: s-maj=5.7km s-min=4.7km az=125.0*
*MOS **05** 23:43:35.4±3.3, 24°.19S×179°.30W, h387km, mb5.0/15, Error ellipse: s-maj=10.4km s-min=8.2km az=109.3*

ISC 05 23:43:32.4±0.4, 24°.35S±0°.04×178°.73W±0°.05, h383km±4km, h383km:pP-P, n426, σ1§50/473, mb4.8/110, 32C-31D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.93**	**172**	P	**Pn**	**23 44 51.0**	**-1.8**
	274nm,0.3s,baz=76,slow=19,SNR=4.6						
RAO				S	S	23 45 46.5	-12
	1μm,0.3s,baz=75,slow=14,SNR=11						
RAO	**Raoul Island**	**4.93**	**172**	*e*P	**Pn**	**23 44 53.9**	**+1.1**
RAO				*e*S	**S**	**23 45 59.1**	**+1.0**
RAO	**Raoul Island**	**4.93**	**172**	*e*Pn	**Pn**	**23 44 53.9**	**+1.1**
RAO				S	S	23 45 46.5	-12
RAO				*e*S	S	23 45 59.1	+1.0
MSVF	**Nonsavu**	**7.24**	**335**	*i* P	**Pn**	**23 45 18.2**	**-0.3**
MSVF	**Nonsavu**	**7.24**	**335**	*e*Pn	**Pn**	**23 45 17.6**	**-0.9**
NIUE	**Niue**	**9.72**	**59**	P	**Pn**	**23 45 43.9**	**-3.3**
	baz=9.5,SNR=5.1						
AFI	**Afiamalu**	**12.28**	**34**	P	P	23 46 10.0	-6.0
	32nm,0.3s,baz=217,slow=2.6,SNR=27						
AFI				S	S	23 48 16.6	-15
	32nm,0.3s,baz=59,slow=15,SNR=7.7						
AFI	**Afiamalu**	**12.28**	**34**	*e*P	P	23 46 10.3	-5.7
AFI	**Afiamalu**	**12.28**	**34**	*e*P	P	23 46 10.3	-5.6
AFI				S	S	23 48 16.6	-15
OUZ	**Omahuta**	**12.71**	**210**	*e*P	**Pn**	**23 46 22.1**	**+0.1**
MXZ	**Matakaoa Point**	**13.41**	**190**	*e*P	**Pn**	**23 46 29.9**	**-0.2**
WMGZ	**Waiomatatini S**	**13.65**	**190**	PN	**P**	**23 46 28.0**	**-2.6**
WMGZ				SN	**S**	**23 48 55.3**	**-2.9**
HAZ	**Te Kaha**	**13.69**	**192**	PN	**P**	**23 46 27.8**	**-3.2**
HAZ				SN	**S**	**23 48 55.2**	**-3.8**
PKGZ	**Pakihiroa**	**13.77**	**191**	PN	**P**	**23 46 30.4**	**-1.6**
PKGZ				SN	**S**	**23 48 55.8**	**-4.9**
DZM	**Mont Dzumac**	**13.82**	**276**	*e*P	**P**	**23 46 33.5**	**+0.6**
	7.9nm,0.3s						
DZM				*e*LR	LR	23 48 55.0	
	2μm,25.1s						
DZM	**Mont Dzumac**	**13.82**	**276**	P	**Pn**	**23 46 34.7**	**-0.5**
	3.5nm,0.3s,baz=89,slow=16,SNR=33						
DZM	**Mont Dzumac**	**13.82**	**276**	*e*P	**P**	**23 46 32.9**	**0.0**
DZM				*e*S	S	23 49 12.9	+11
PUZ	**Puketiti**	**13.92**	**190**	PN	**P**	**23 46 29.6**	**-4.0**
TWGZ	**Tauwhareparae**	**14.06**	**191**	PN	**P**	**23 46 35.4**	**+0.1**
TWGZ				SN	**S**	**23 49 03.2**	**-3.4**
MWZ	**Matawai**	**14.30**	**192**	PN	**P**	**23 46 37.4**	**-0.3**
MWZ				SN	**S**	**23 49 08.5**	**-2.8**
URZ	**Urewera**	**14.31**	**193**	P	**P**	**23 46 36.6**	**-1.2**
	18nm,0.3s,baz=345,slow=3.6,SNR=53						
URZ				S	**S**	**23 49 07.4**	**-4.0**
	31nm,0.3s,baz=70,slow=21,SNR=23						
URZ	**Urewera**	**14.31**	**193**	*e*P	**P**	**23 46 37.1**	**-0.7**
URZ				S	**S**	**23 49 07.4**	**-4.0**
URZ	**Urewera**	**14.31**	**193**	PN	**P**	**23 46 33.6**	**-4.3**
RIGZ	**Rimuhau**	**14.62**	**191**	PN	**P**	**23 46 40.7**	**-0.6**
SNGZ	**Shannon Statio**	**14.77**	**192**	PN	**P**	**23 46 42.9**	**0.0**
KNZ	**Kokohu**	**14.94**	**191**	PN	**P**	**23 46 43.8**	**-0.9**
KNZ				SN	**S**	**23 49 19.7**	**-4.3**
RAHZ	**Arahi**	**14.95**	**193**	PN	**P**	**23 46 42.8**	**-2.0**
HIZ	**Hauiti**	**15.14**	**200**	*e*P	**P**	**23 46 47.7**	**+0.9**
	241nm,0.9s						
HIZ	**Hauiti**	**15.14**	**200**	*e*PN	**P**	**23 46 47.9**	**+1.1**
NMHZ	**Naumai**	**15.18**	**193**	PN	**P**	**23 46 46.1**	**-1.3**
BKZ	**Black Stump Fm**	**15.31**	**194**	*e*P	**P**	**23 46 47.9**	**-0.9**
	49nm,1.2s						
KWHZ	**Kaweka Forest**	**15.58**	**194**	PN	**P**	**23 46 49.6**	**-2.1**
KWHZ				SN	**S**	**23 49 34.4**	**-2.4**
WNVZ	**Wahianoa**	**15.68**	**196**	PN	**P**	**23 46 50.0**	**-3.0**
KAHZ	**Kaharanaki**	**15.84**	**192**	PN	**P**	**23 46 53.7**	**-0.8**
PXZ	**Pawanui**	**16.07**	**192**	*e*PN	**P**	**23 46 52.1**	**-4.8**
PXZ				SN	**S**	**23 49 41.9**	**-4.4**
BFZ	**Birch Farm**	**16.82**	**193**	*e*P	**P**	**23 47 05.5**	**+0.5**
	232nm,1.9s						
BFZ	**Birch Farm**	**16.82**	**193**	PN	**P**	**23 47 02.7**	**-2.3**
MRZ	**Mangatainoka R**	**16.95**	**195**	PN	**P**	**23 47 03.1**	**-3.3**
SNZO	**South Karori**	**17.78**	**196**	*e*P	**P**	**23 47 16.2**	**+1.1**

CTAO **Charters Tower** 32.64 270 *e*P **P** 23 49 30.6 +0.1
CTAO *e*S **S** 23 54 20.6 +2.6
CTAO pmax pmax
comp=Z,250nm,0.6s
CTAO Charters Tower 32.64 270 *e*P **P** 23 49 30.6 +0.2
comp=Z,250nm,0.6s
CTAO *e*S **S** 23 54 20.6 +2.6
TOO Toolangi 33.19 238 P **P** 23 49 35.8 +0.9
baz=33,SNR=20
XMAS Kiritimati 33.40 41 *e*P **P** 23 49 37.6 +0.6
comp=Z,95nm,1.1s
TAU Tasmania Unive 33.49 228 *e*P **P** 23 49 37.5 +0.2
TAU pmax pmax
comp=Z,343nm,2.0s
TAU Tasmania Unive 33.49 228 *e*P **P** 23 49 37.5 +0.2
comp=Z,343nm,2.0s
MTSU Mount Surprise 34.92 273 P **P** 23 49 50.1 +0.2
baz=35,SNR=137
STKA Stephens Creek 35.64 249 P **P** 23 49 55.8 0.0
comp=Z,52nm,0.6s,baz=93,slow=9.9,SNR=106
STKA Stephens Creek 35.64 249 P **P** 23 49 56.0 +0.2
baz=36,SNR=77
STKA Stephens Creek 35.64 249 *e*P **P** 23 49 55.9 +0.1
STKA pmax pmax
comp=Z,16nm,1.0s
STKA Stephens Creek 35.64 249 *e*P **P** 23 49 55.9 +0.1
comp=Z,16nm,1.0s
PMG Port Moresby 35.74 289 P **P** 23 49 56.3 -0.5
comp=Z,273nm,0.8s,baz=94,slow=5.7,SNR=64
PMG Port Moresby 35.74 289 *e*P **P** 23 49 55.7 -1.1
PMG pmax pmax
comp=Z,1μm,1.0s
PMG Port Moresby 35.74 289 *e*P **P** 23 49 56.3 -0.5
comp=Z,282nm,0.9s
ARPS Mount Arapiles 35.90 240 P **P** 23 49 58.4 +0.6
baz=36,SNR=15
COEN Coen 37.33 279 P **P** 23 50 10.1 0.0
baz=38,SNR=35
COEN Coen 37.33 279 *e*P **P** 23 50 10.1 0.0
comp=Z,103nm,0.9s
HTT Hallett 37.95 246 P **P** 23 50 14.9 -0.2
baz=38,SNR=58
QIS Mount Isa 38.59 267 P **P** 23 50 19.7 -0.8
baz=39,SNR=24
TAOE Nuku Hiva Isla 39.88 74 *e*S S 23 55 48.4 -19
comp=Z,154nm,26.3s
TAOE *e*LR LR 00 00 36.0
comp=Z,342nm,28.3s
BBOO Buckleboo 40.34 247 P **P** 23 50 33.4 -1.1
baz=40,SNR=57
BBOO Buckleboo 40.34 247 *e*P **P** 23 50 33.5 -1.1
comp=Z,114nm,0.9s
JOHN Johnston Islan 41.81 13 *e*P **P** 23 50 46.6 +0.2
comp=Z,176nm,0.9s
AS01 Alice Springs 43.07 261 *e*P **P** 23 50 55.0 -1.6
AS31 Alice Springs 43.11 261 *e*P **P** 23 50 56.4 -0.5
comp=Z,36nm,1.0s
ASAR Alice Springs 43.11 261 P **P** 23 50 56.3 -0.6
comp=Z,104nm,0.9s,baz=95,slow=8.3,SNR=235
ASAR ScP **ScP** 23 55 54.8 +2.0
comp=Z,1.3nm,0.8s,baz=99,slow=4.2,SNR=3.7
ASAR S **S** 23 56 52.5 -1.5
comp=Z,4.5nm,0.9s,baz=96,slow=15,SNR=11
WR6 Warramunga Arr 43.43 266 P **P** 23 50 58.3 -1.1
baz=44
WB2 Warramunga Arr 43.53 266 *e*P **P** 23 50 59.1 -1.1
comp=Z,148nm,0.9s
WRAB Tennant Creek 43.53 266 ⇓ *i*P **P** 23 50 58.9 -1.3
WRAB pmax pmax
comp=Z,484nm,1.2s
WRAB Tennant Creek 43.53 266 *e*P **P** 23 50 59.0 -1.2
comp=Z,129nm,0.9s
WRA Warramunga Arr 43.54 266 P **P** 23 50 58.9 -1.4
comp=Z,110nm,0.8s,baz=103,slow=8.1,SNR=351
WRA ScP **ScP** 23 55 58.4 +3.8
comp=Z,3.2nm,0.9s,baz=102,slow=3.6,SNR=4.7
WRA S **S** 23 56 57.6 -2.5
comp=Z,6.8nm,0.9s,baz=111,slow=14,SNR=14
JAY Jayapura 44.76 293 P **P** 23 51 08.9 -1.0
comp=Z,4.4nm,0.5s,baz=91,slow=23,SNR=21
JAY Jayapura 44.76 293 P **P** 23 51 08.3 -1.6
JAY Jayapura 44.76 293 P **P** 23 51 09.0 -1.0
GENI Genyem 45.17 292 P **P** 23 51 11.1 -2.0
KDU Kakadu 47.49 275 P **P** 23 51 29.6 -1.2
baz=48,SNR=7.2
WRKA Warakurna 47.88 258 P **P** 23 51 32.8 -1.0
baz=48,SNR=125
MTN Manton Dam 48.65 274 P **P** 23 51 38.5 -1.2
baz=49,SNR=5.3
MTN Manton Dam 48.65 274 *e*P **P** 23 51 38.4 -1.2
comp=Z,28nm,0.7s
KNRA Kununurra 49.85 270 P **P** 23 51 48.0 -0.6
baz=50
FAKI Fak Fak 51.83 286 *e*P **P** 23 52 02.2 -1.1
comp=Z,64nm,1.1s
GUMO Guam 51.83 313 *e*P **P** 23 52 02.9 -0.2
GUMO pmax pmax
comp=Z,442nm,1.4s
GUMO Guam 51.83 313 *e*P **P** 23 52 02.9 -0.2
comp=Z,442nm,1.4s
FITZ Fitzroy Crossi 51.95 266 P **P** 23 52 03.5 -0.5
comp=Z,99nm,0.9s,baz=107,slow=8.0,SNR=98
FITZ Fitzroy Crossi 51.95 266 *e*P **P** 23 52 03.5 -0.5
baz=52,SNR=94
FITZ Fitzroy Crossi 51.95 266 *e*P **P** 23 52 03.4 -0.7
comp=Z,132nm,1.0s
KMBL Kambalda 52.44 248 P **P** 23 52 06.4 -1.0
baz=53,SNR=14
SBA Scott Base 54.00 184 *e*P **P** 23 52 21.1 +3.2
SBA Scott Base 54.00 184 *e*P **P** 23 52 21.1 +3.2
comp=Z,36nm,1.1s
VNDA Vanda 54.03 185 P **P** 23 52 20.4 +2.3
comp=Z,7.6nm,0.7s,baz=358,slow=8.3,SNR=48
VNDA PcP **PcP** 23 53 18.5 +1.0
comp=Z,5.6nm,0.9s,baz=9.7,slow=6.2,SNR=4.2
VNDA Vanda 54.03 185 *e*P **P** 23 52 20.4 +2.3
VNDA 23 53 18.5
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 54.03 185 *e*P **P** 23 52 20.4 +2.3
comp=Z,9.1nm,0.9s
VNDA PcP **PcP** 23 53 18.5 +1.0
PALU Palau 55.44 299 P **P** 23 52 28.8 -0.3
baz=56,SNR=5.1
KLBR Kellerberrin 55.89 247 P **P** 23 52 31.1 -1.0
baz=56,SNR=58
SOEI Soe 56.04 275 *e*P **P** 23 52 34.5 +1.0
comp=Z,265nm,1.0s
RKGY Rocky Gully 56.07 244 P **P** 23 52 33.1 -0.2
baz=56,SNR=24
NWAO Narrogin (SRO) 56.11 246 P **P** 23 52 32.3 -1.3
comp=Z,31nm,0.9s,baz=349,slow=5.5,SNR=12
NWAO Narrogin (SRO) 56.11 246 P **P** 23 52 33.1 -0.4
baz=56,SNR=8.0
NWAO Narrogin (SRO) 56.11 246 *e*P **P** 23 52 33.2 -0.4
NWAO pmax pmax
comp=Z,44nm,0.9s
NWAO Narrogin (SRO) 56.11 246 *e*P **P** 23 52 33.2 -0.4
comp=Z,44nm,0.9s
MBWA Marble Bar 56.44 260 *e*P **P** 23 52 34.6 -1.5
comp=Z,368nm,1.0s
BLDU Ballidu 56.94 248 P **P** 23 52 38.3 -1.2
baz=57,SNR=83
MUN Mundaring 57.12 247 P **P** 23 52 40.2 -0.4
baz=57
MORW Morawa 57.81 250 P **P** 23 52 44.6 -0.9
baz=58,SNR=25
MMRI Maumere 58.32 275 *e*P **P** 23 52 48.5 -0.7
comp=Z,275nm,1.5s
CASY Casey 60.22 206 *e*P **P** 23 53 00.8 -0.3
comp=Z,18nm,0.9s
LUWI Luwuk 61.06 283 *e*P **P** 23 53 07.5 0.0
comp=Z,173nm,1.2s
KAPI Kappang 62.04 278 *e*P **P** 23 53 14.2 +0.2
comp=Z,38nm,1.1s
QSPA South Pole Qui 65.73 180 *e*P **P** 23 53 38.6 +1.4
comp=Z,203nm,0.9s
MIR Mirnyy 67.24 206 *i*P **P** 23 53 47.0 +0.6
MIR pmax pmax
comp=Z,3.0nm,1.0s
MYLDM Lahad Datu 67.74 287 *e*P **P** 23 53 51.5 +1.1
comp=Z,41nm,1.1s
KKM Kota Kinabalu 70.15 287 *e*P **P** 23 54 04.7 -0.5
comp=Z,34nm,0.6s
SBUM Sibu 72.04 281 *e*P **P** 23 54 16.8 +0.5
comp=Z,17nm,1.0s
MJAR Matsushiro Arr 72.93 325 P **P** 23 54 19.6 -1.4
comp=Z,6.0nm,0.8s,baz=164,slow=6.1,SNR=14
MAJO Matsushiro 72.93 325 *i*P **P** 23 54 19.5 -1.5
MAJO Matsushiro 72.93 325 *e*P **P** 23 54 20.8 -0.2
comp=Z,10nm,0.9s
MJB9 Matsu-Tunnel 72.94 325 *e*P **P** 23 54 20.8 -0.2
comp=Z,3.2nm,1.0s
KSM Kuching 73.33 279 *e*P **P** 23 54 23.3 -0.5
comp=Z,63nm,1.1s
JNU Nakatsue 74.64 318 *e*P **P** 23 54 30.8 -0.1
comp=Z,21nm,1.0s
NACB Ninganchiao 75.31 305 *e*P **P** 23 54 34.6 -0.2
comp=Z,62nm,1.2s
TPUB Ta-pu 75.53 304 *e*P **P** 23 54 35.2 -1.0
comp=Z,35nm,1.0s
SSLB Suanglung 75.57 305 *e*P **P** 23 54 34.9 -1.5
comp=Z,24nm,0.8s
YHNB Yeheng 75.76 306 *e*P **P** 23 54 37.5 0.0
comp=Z,30nm,0.8s
TATO Taipei 75.85 306 *e*P **P** 23 54 37.9 0.0
comp=Z,75nm,0.8s
ASAJ Asahikawa 76.80 332 *e*P **P** 23 54 42.4 -0.3
comp=Z,7.7nm,1.1s
MAW Mawson 77.73 200 P **P** 23 54 48.8 +1.2
comp=Z,27nm,0.6s,baz=132,slow=6.0,SNR=77
TJN Taejon 78.96 318 *e*P **P** 23 54 54.9 +0.2
YSS Yuzh-Sakhalins 79.04 334 ⇓ *e*P **P** 23 54 55.1 +0.3
YSS pmax pmax
comp=Z,30nm,1.7s
KSRS Korea Array 79.34 319 P **P** 23 54 57.0 +0.3
comp=Z,5.7nm,0.8s,baz=138,slow=5.7,SNR=24
KSAR Wonju Array Be 79.36 319 P **P** 23 54 57.0 +0.2
KSAR Wonju Array Be 79.36 319 P **P** 23 54 57.0 +0.2
KS01 Wonju Array Si 79.37 319 *e*P **P** 23 54 56.7 -0.2
PEA0 Petropavlovsk- 79.81 346 *e*P **P** 23 54 57.9 -0.9
PETK Petropavlovsk- 79.81 346 P **P** 23 54 58.3 -0.6
comp=Z,5.1nm,0.6s,baz=103,slow=7.3,SNR=13
USRK Ussuriysk Ar. 81.78 327 P **P** 23 55 09.1 -0.2
comp=Z,4.7nm,0.8s,baz=135,slow=3.6,SNR=14
TYV Tymovskoe 82.28 336 *e*P **P** 23 55 09.0 -2.7
SYO Syowa Base 82.84 193 ⇑ *e*P **P** 23 55 13.0 -1.5
IPM Ipoh 82.98 278 *e*P **P** 23 55 16.9 +0.6
comp=Z,29nm,1.2s
MDJ Mudanjiang 83.29 326 P **P** 23 55 17.3 +0.3
MDJ pP pP 23 56 43.8 -0.8
MDJ sP sP 23 57 20.4 -4.1
MDJ S **S** **00 05 08.6 +3.9**
MDJ PMZ
comp=Z,11nm,1.1s
MDJ PMZ
comp=Z,35nm,3.4s
GSC Goldstone, Bar 83.38 47 *e*P **P** 23 55 19.7 +1.8
GSC pmax pmax
comp=Z,17nm,1.7s
GSC Goldstone, Bar 83.38 47 *e*P **P** 23 55 19.7 +1.8
comp=Z,17nm,1.7s
UBPT Khong Chiam 83.77 290 P **P** 23 55 23.6 +3.5
comp=Z,8.4nm,1.4s
PSI Prapat 84.18 276 *e*P **P** 23 55 20.5 -1.9
PSI pmax pmax
comp=Z,18nm,1.0s
PSI Prapat 84.18 276 *e*P **P** 23 55 20.5 -1.9
comp=Z,18nm,1.0s
SNAA Sanae 84.19 179 P **P** 23 55 21.5 +0.1
SNAA Sanae 84.19 179 *i*P **P** 23 55 20.8 -0.6
SNAA Sanae 84.19 179 *e*P **P** 23 55 20.6 -0.8
comp=Z,14nm,1.0s
SNAA *e*pP **pP** 23 56 50.7 +1.7
WHN Wuhan 84.20 307 ⇑ P **P** 23 55 23.7 +1.8
NV01 Mina Array Sit 84.27 43 *e*P **P** 23 55 23.5 +1.1
NVAR Mina Array Bea 84.27 43 P **P** 23 55 23.2 +0.7
comp=Z,1.6nm,0.8s,baz=223,slow=7.4,SNR=5.8
NVAR PKPPKP **P'P'df** **00 21 40.2 +2.7**
comp=Z,0.3nm,0.3s,baz=132,slow=4.2,SNR=3.7
GSI Gunungsitoli 84.79 274 *e*P **P** 23 55 25.6 +0.3
comp=Z,83nm,1.5s
NVL N'lazarevskaya 84.85 183 *e*P **P** 23 55 26.7 +2.2
Y14A Wickenburg 85.19 50 *e*P **P** 23 55 28.6 +1.7
comp=Z,68nm,1.9s
PANO Nakornpanom 85.35 291 P **P** 23 55 28.9 +1.0
comp=Z,195nm,0.7s,comp=Z,7μm
KLR Kul'dur 85.50 330 *i*P **P** 23 55 27.2 -0.7
TRTT Trang 85.60 281 P **P** 23 55 32.7 +3.5
comp=Z,24nm,1.4s
SKNT Sakolnakorn 85.81 291 P **P** 23 55 30.6 +0.4
comp=Z,70nm,1.1s
TUC Tucson 85.88 52 *e*P **P** 23 55 31.3 +1.0
TUC *e*PP **pP** 23 56 57.9 -0.5
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC Tucson 85.88 52 *e*P **P** 23 55 31.3 +1.0
comp=Z,5.4nm,1.0s
TUC *e*pP **pP** 23 56 57.9 -0.5
H04A Detroit Lake 85.91 37 *e*P **P** 23 55 27.7 -2.4
comp=Z,41nm,1.7s
319A Douglas 86.48 53 *e*P **P** 23 55 35.4 +2.1
KHON Khomkaen 86.52 290 P **P** 23 55 36.9 +3.3
comp=Z,7.8nm,1.1s,comp=Z,848nm
X16A Lo Mia Camp, P 86.53 50 *e*P **P** 23 55 36.0 +2.5
CNPM China Poot 86.58 14 *e*P **P** 23 55 34.4 +1.5
comp=Z,49nm,1.5s
CCUT Cedar City 86.94 46 *e*P **P** 23 55 37.7 +2.2
comp=Z,17nm,1.8s
CHAI Chaiyaphum 87.05 289 P **P** 23 55 38.2 +2.1
comp=Z,4.5nm,1.0s,comp=Z,122nm
RSO Redoubt South 87.13 13 *e*P **P** 23 55 36.4 +0.7
ENH Enshi 87.65 305 *e*P **P** 23 55 39.1 +0.4
comp=Z,19nm,0.9s
PHET Kaeng Krachan 87.81 285 P **P** 23 55 42.8 +3.1
comp=Z,14nm,1.1s,comp=Z,152nm
SPU Mount Spurr 87.92 13 *e*P **P** 23 55 38.7 -0.6
GYA Guiyang 87.98 300 *e*P **P** 23 55 41.2 +0.8
GYA pP pP 23 57 10.3 +1.2
GYA sP sP 23 57 48.9 +0.1
GYA PP **PP** **23 59 16.4 +2.9**
GYA SKS **SKSac** **00 05 30.0 -1.9**
GYA S **S** **00 05 50.5 -0.5**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,110nm,6.9s
MTPU Mount Pierson 87.99 46 *e*P **P** 23 55 43.4 +2.8
comp=Z,5.5nm,0.9s
PBKT Sadao Pong 88.22 289 P **P** 23 55 43.5 +1.9
comp=Z,11nm,1.0s,comp=Z,2μm
RC01 Rabbit Creek A 88.32 14 *e*P **P** 23 55 41.6 +0.6
comp=Z,15nm,1.0s
LOEI Loei 88.37 290 P **P** 23 55 44.4 +2.1
comp=Z,34nm,1.6s
SUA Susitna One 88.45 13 *e*P **P** 23 55 41.7 -0.1
comp=Z,20nm,0.9s
TT01 Tatalina 88.81 10 *e*P **P** 23 55 43.2 -0.1
TTA Tatalina 88.84 10 *e*P **P** 23 55 43.9 +0.4
TTA pmax pmax
comp=Z,11nm,1.3s
TTA Tatalina 88.84 10 *e*P **P** 23 55 43.9 +0.4
comp=Z,11nm,1.3s
PMR Palmer 88.90 14 *e*P **P** 23 55 43.8 +0.1
PMR pmax pmax
comp=Z,16nm,1.1s
PMR Palmer 88.90 14 *e*P **P** 23 55 43.8 +0.1
comp=Z,16nm,1.1s
UTTA Uttaradit 89.08 290 P **P** 23 55 47.7 +2.1
comp=Z,3.4nm,1.1s
DIV Divide 89.26 15 *e*P **P** 23 55 46.0 +0.5
comp=Z,15nm,1.1s
BMRM Bremner River 89.41 16 *e*P **P** 23 55 47.1 +1.0
comp=Z,18nm,1.0s
SCM Sheep Creek Mo 89.52 14 *e*P **P** 23 55 49.3 +2.6
SCM pmax pmax
comp=Z,17nm,1.0s
SCM Sheep Creek Mo 89.52 14 *e*P **P** 23 55 49.3 +2.6
comp=Z,17nm,1.0s
MNTX Cornudas Mount 89.52 55 *e*P **P** 23 55 49.0 +1.6
MNTX *e*pP **pP** **23 57 15.1 -1.1**
CRQM Cirque 89.60 17 *e*P **P** 23 55 49.1 +1.8
comp=Z,29nm,1.4s
TX31 Lajitas Ar. Si 89.69 58 *e*P **P** 23 55 49.5 +1.2
TX31 *e*pP **pP** **23 57 16.2 -1.0**
TXAR Lajitas Array 89.69 58 P **P** 23 55 49.9 +1.5
comp=Z,2.7nm,1.0s,baz=218,slow=5.9,SNR=17
TXAR PKKPbc **PKKPbc** **00 13 20.7 +0.6**
comp=Z,0.3nm,0.6s,baz=68,slow=4.0,SNR=4.9
XAN Xi'an 89.93 308 P **P** 23 55 49.6 +0.3
XAN PMZ
comp=Z,8.0nm,0.9s
XAN PMZ
comp=Z,83nm,6.4s
SEY Seymchan 89.96 347 *c e*P **P** 23 55 47.6 -1.0
BALM Baldy 90.04 17 *e*P **P** 23 55 50.0 +0.8
BALM Baldy 90.04 17 *e*P **P** 23 55 50.0 +0.8
LAMP Lampang 90.21 290 P **P** 23 55 52.5 +1.7
comp=Z,10nm,1.0s
KTH Kantishna Hill 90.31 12 *e*P **P** 23 55 49.8 -0.5
comp=Z,12nm,0.9s
ANMO Albuquerque 90.32 51 *c e*P **P** 23 55 51.5 +0.2
ANMO pmax pmax
comp=Z,2.0nm,1.2s
ANMO Albuquerque 90.32 51 *e*P **P** 23 55 52.5 +1.3
comp=Z,10.0nm,1.7s
TRF Thorofare Moun 90.34 12 *e*P **P** 23 55 50.0 -0.6
comp=Z,15nm,0.9s
TRF *e*pP **pP** **23 57 19.5 -0.1**
KMI Kunming 90.50 297 P **P** 23 55 53.4 +1.0
KMI PMZ
comp=Z,14nm,1.2s
RND Reindeer 90.58 13 *e*P **P** 23 55 51.6 0.0
RND pmax pmax
comp=Z,15nm,1.0s
RND Reindeer 90.58 13 *e*P **P** 23 55 51.6 0.0
comp=Z,15nm,1.0s
CM01 Chiang Mai Arr 90.74 290 *e*P **P** 23 55 54.2 +0.9
CMAR Chiang Mai Arr 90.77 290 P **P** 23 55 54.8 +1.3
comp=Z,13nm,1.0s,baz=133,slow=3.4,SNR=31
CMAR PP **PP** **23 59 34.8 -0.8**
comp=Z,2.8nm,0.7s,baz=133,slow=6.8,SNR=11
MCK McKinley 90.86 13 *e*P **P** 23 55 54.3 +1.5
MCK pmax pmax
comp=Z,10.0nm,1.0s
MCK McKinley 90.86 13 *e*P **P** 23 55 54.3 +1.5
comp=Z,9.8nm,1.0s
CHTO Chiang Mai 90.92 290 P **P** 23 55 55.3 +1.1
comp=Z,66nm,1.1s
CHTO Chiang Mai 90.92 290 *e*P **P** 23 55 54.8 +0.6
CHTO pmax pmax
comp=Z,25nm,1.3s
CHTO Chiang Mai 90.92 290 *e*P **P** 23 55 54.8 +0.6
comp=Z,25nm,1.3s
S22A 4UR Ranch, Cre 91.45 49 *e*P **P** 23 55 58.3 +1.8
comp=Z,9.2nm,1.5s
HHC Hu-ho-hao-te 91.56 315 *e*P **P** 23 55 56.3 -0.4
HHC pP pP 23 57 26.1 +0.3
HHC sP sP 23 58 00.6 -4.7
HHC S **S** **00 06 17.9 -5.0**
HHC sS sS 00 09 04.3 +2.5
HHC PMZ
comp=Z,17nm,1.0s
HHC PMZ
comp=Z,67nm,5.8s
WRH Wood River Hil 91.69 13 *e*P **P** 23 55 56.2 -0.4
comp=Z,21nm,1.6s
DOT Dot Lake 91.84 15 *e*P **P** 23 55 57.9 +0.5
comp=Z,16nm,1.1s
CCB Clear Creek Bu 91.90 13 *e*P **P** 23 55 56.9 -0.6
comp=Z,4.6nm,1.0s
ILAR Eielson Array 92.20 13 P **P** 23 55 58.0 -0.9
comp=Z,1.5nm,0.9s,baz=226,slow=5.3,SNR=8.9
IL1 Eielson Array 92.20 13 *e*P **P** 23 55 57.9 -1.0
BW06 Boulder Array 92.21 44 *e*P **P** 23 56 00.3 +0.4
PDAR Pinedale Array 92.21 44 P **P** 23 56 00.0 +0.1
comp=Z,0.5nm,0.7s,baz=227,slow=5.7,SNR=4.8
PDAR PP **PP** **23 59 44.7 -2.0**
comp=Z,0.6nm,0.8s,baz=216,slow=4.8,SNR=5.3
CD2 Chengdu 92.30 303 *e*P **P** 23 56 00.2 -0.1
CD2 pP pP 23 57 28.8 -0.6
CD2 sP sP 23 58 08.5 -0.4
CD2 SKS **SKSac** **00 05 55.4 -0.9**
CD2 S **S** **00 06 29.4 -0.4**
CD2 sS sS 00 09 08.6 -0.3
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
BILL Bilibino 92.78 354 ⇓ *e*P **P** 23 56 01.0 -0.6
BILL *e* 23 59 49.2
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 92.78 354 *e*P **P** 23 56 01.5 0.0
comp=Z,9.9nm,1.1s
EGAK Eagle 93.48 15 *e*P **P** 23 56 05.1 +0.3
comp=Z,4.3nm,1.0s
COLD Coldfoot 93.77 11 *e*P **P** 23 56 07.3 +1.2
comp=Z,2.4nm,1.0s
PHWY Pilot Hill 94.12 46 *e*P **P** 23 56 07.3 -1.4
comp=Z,20nm,1.3s
EGMT Eagleton 94.83 39 *e*P **P** 23 56 12.9 +1.4
comp=Z,28nm,1.2s
SONM Songino Array 98.20 319 P Pdif 23 56 26.7 -0.1
comp=Z,0.2nm,0.3s,baz=156,slow=7.5,SNR=3.9
YKA Yellowknife Ar 100.27 25 PKKPbc PKKPbc 00 12 50.0 -3.2
comp=Z,0.4nm,0.6s,baz=46,slow=2.4,SNR=5.7
ZALV Zalesovo Beam 113.04 320 PKiKP **PKiKP** **00 01 22.3 -1.9**
comp=Z,1.9nm,0.7s,baz=171,slow=1.3,SNR=7.6
MKAR Makanchi Array 113.31 312 PKiKP **PKiKP** **00 01 23.9 -1.2**
comp=Z,1.3nm,0.5s,baz=164,slow=0.6,SNR=15
KURK Kurchatov 116.33 316 PKIKP **PKPdf** **00 01 29.4 -1.3**
KURK Kurchatov 116.33 316 PKP **PKPdf** **00 01 29.4 -1.3**
KURBB Kurchatov Arra 116.38 316 PKP **PKPdf** **00 01 29.4 -1.4**
comp=Z,2.3nm,0.6s,baz=99,slow=1.8,SNR=24
KSH Kashi 116.49 304 PKP **PKPdf** **00 01 29.6 -1.9**
KSH PP PP 00 02 09.4 -36
AAK Ala-Archa 118.10 307 PKP **PKPdf** **00 01 36.6 +2.0**
comp=Z,1.5nm,0.4s,baz=168,slow=6.8,SNR=4.0
FRB Frobisher Bay 120.48 29 PKP **PKPdf** **00 01 37.4 -0.8**
comp=Z,5.2nm,0.9s,baz=64,slow=6.7,SNR=3.3
BVAR Borovoye Array 121.55 319 PKP **PKPdf** **00 01 40.0 -0.7**
comp=Z,3.4nm,0.4s,baz=63,slow=0.7,SNR=14
BVAR Borovoye Array 121.55 319 PKIKP **PKPdf** **00 01 40.0 -0.7**
BOSA Boshof 122.50 205 PKP **PKPdf** **00 01 43.0 -0.6**
comp=Z,2.4nm,0.8s,baz=172,slow=5.7,SNR=5.1
SPITS Spitsbergen Ar 125.65 356 PKP **PKPdf** **00 01 47.5 -0.4**
comp=Z,5.2nm,0.6s,baz=101,slow=3.5,SNR=7.1
SVE Sverdlovsk 126.73 324 *e*PKIKP **PKPdf** **00 01 50.4 -0.1**
SVE pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 127.04 14 *i*PKIKP **PKPdf** **00 01 50.9 -0.3**
SUMG pmax pmax
comp=Z,12nm,1.2s
SUMG Summit 127.04 14 *i*P **PKPdf** **00 01 50.9 -0.3**
comp=Z,12nm,1.2s
ARU Arti 127.94 324 PKP **PKPdf** **00 01 51.9 -0.8**
comp=Z,6.2nm,0.5s,baz=98,slow=1.7,SNR=11
ARU Arti 127.94 324 *i*PKIKP **PKPdf** **00 01 52.5 -0.3**
ARU 00 03 58.4
ARU 00 08 24.3
ABKAR Akbulak array 128.35 314 *e*PKPdf **PKPdf** **00 01 53.7 -0.1**
AKTO Aktyubinsk 129.43 316 PKP **PKPdf** **00 01 55.4 -0.5**
comp=Z,4.2nm,0.6s,baz=82,slow=3.1,SNR=8.5
GEYT Alibeck 130.20 300 PKP **PKPdf** **00 01 57.3 -0.5**
comp=Z,4.2nm,0.8s,baz=280,slow=0.9,SNR=12
GEYT PP **PP** **00 04 18.0 +1.4**
comp=Z,1.1nm,0.8s,baz=49,slow=4.5,SNR=4.0
GEYT SKPbc **SKPab** **00 04 45.6 +1.1**
comp=Z,1.0nm,0.7s,baz=236,slow=2.7,SNR=5.1
ARCES ARCESS Array B 132.56 349 PKP **PKPdf** **00 02 00.0 -1.2**
comp=Z,4.4nm,0.5s,baz=46,slow=0.9,SNR=24
ARCES SKPbc **SKPab** **00 04 52.6 -0.9**
comp=Z,2.4nm,0.8s,baz=24,slow=6.6,SNR=4.3
KLMR Klimovskoe 135.09 335 *e*PKHKP PKPpre 00 01 57.1
KLMR pmax pmax
comp=Z,9.0nm,1.4s
VRH Novokhopyorsk 139.06 321 *e*PKIKP **PKPdf** **00 02 14.4 +0.6**
VRH *e* 00 05 11.9
VRH pmax pmax
comp=Z,10.0nm,1.3s
FINES FINESS Array B 139.24 342 PKhKP PKPpre 00 02 05.0
comp=Z,1.6nm,0.5s,baz=86,slow=3.1,SNR=8.7
FINES PKP **PKPdf** **00 02 14.7 +0.9**
comp=Z,1.5nm,0.3s,baz=94,slow=0.9,SNR=7.8
FINES SKPbc **SKiKP** **00 05 13.7 -1.4**
comp=Z,4.3nm,0.6s,baz=48,slow=3.2,SNR=17
OBN Obninsk 139.76 329 *i*PKIKP **PKPdf** **00 02 13.7 -1.2**
OBN *e* 00 05 13.5
OBN pmax pmax
comp=Z,5.0nm,1.1s
LPSR Galich'ya Gora 139.94 325 *e*PKIKP **PKPdf** **00 02 16.4 +1.1**
LPSR *e* 00 05 14.5
LPSR pmax pmax
comp=Z,10.0nm,1.9s
GNI Garni 140.42 304 PKP **PKPdf** **00 02 17.5 +0.6**
comp=Z,2.9nm,0.5s,baz=194,slow=12,SNR=3.1
GNI Garni 140.42 304 *c i*PKIKP **PKPdf** **00 02 17.1 +0.3**
GNI pmax pmax

	comp=Z,22nm,1.0s								
VSR	**Storozhevoye**	**140.49**	**323**	*e*PKIKP		**PKPdf**	**00 02 15.7**	**-0.7**
VSR				pmax	pmax				
	comp=Z,10.0nm,1.5s								
ZEI	**Tsey**	**140.49**	**308**	*i* PKIKP		**PKPdf**	**00 02 19.7**	**+2.8**
ZEI				pmax	pmax				
	comp=Z,28nm,1.3s								
KBZ	**Khabaz**	**140.96**	**310**	PKP		**PKPdf**	**00 02 18.9**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=225,slow=19,SNR=3.6								
KIV	**Kislovodsk**	**141.04**	**311**	*i* PKIKP		**PKPdf**	**00 02 18.0**	**+0.3**
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
NB2	**NORSAR Subarra1**	**142.70**	**352**	PKP		PKPpre	00 02 15.7		
	comp=Z,3.5nm,0.8s,baz=10,slow=3.2								
NOA	**NORSAR Array B**	**142.70**	**352**	PKhKP		PKPpre	00 02 16.1		
	comp=Z,1.7nm,0.6s,baz=40,slow=1.2,SNR=26								
NOA				SKPbc		**SKiKP**	**00 05 23.0**	**+0.7**	
	comp=Z,2.1nm,0.9s,baz=15,slow=4.2,SNR=4.8								
HFS	**Hagfors**	**143.21**	**350**	PKhKP		PKPpre	00 02 17.6		
	comp=Z,9.5nm,0.3s,baz=58,slow=3.7,SNR=124								
HFS				SKPbc		**SKiKP**	**00 05 24.0**	**+0.7**	
	comp=Z,2.9nm,0.8s,baz=134,slow=4.3,SNR=3.6								
YEL1	**Yell**	**143.78**	**2**	*e*P		PKPab	00 02 19.8	-0.4	
NACGM	**Naroch**	**144.11**	**335**	*e*		**PKPab**	**00 02 20.0**	**-1.6**	
LRW	**Lerwick**	**144.20**	**2**	*e*P		**PKPab**	**00 02 21.3**	**-0.5**	
MZRK	**Al-Mazaregh**	**144.28**	**298**	*e*P		**PKPdf**	**00 02 24.1**	**+0.5**	
ANN	**Anapa**	**144.31**	**314**	*e*PKHKP		PKPpre	00 02 21.5		
ANN				pmax	pmax				
	comp=Z,83nm,1.0s								
SFNV	**Sufian**	**144.63**	**299**	*e*P		PKPbc	00 02 24.1	0.0	
KSRV	**Kasrt alli**	**145.60**	**298**	*e*P		**PKPbc**	**00 02 27.3**	**+0.3**	
AKASG	**Malin Array Be**	**145.97**	**328**	PKPbc		**PKPdf**	**00 02 26.2**	**+0.3**	
	comp=Z,11nm,0.7s,baz=42,slow=3.8,SNR=41								
SUW	**Suwalki**	**146.14**	**337**	*e*PKP		**PKPdf**	**00 02 26.3**	**+0.1**	
KAC	**Achnashellach**	**146.54**	**6**	*e*P		**PKPbc**	**00 02 28.5**	**-0.4**	
KAC				*e*P		**PKPdf**	**00 02 28.7**	**+1.9**	
MCD	**Coleburn Disti**	**146.64**	**4**	*e*P		**PKPbc**	**00 02 28.4**	**-0.8**	
MCD				*e*P		**PKPbc**	**00 02 28.4**	**-0.8**	
KPL	**Plockton**	**146.66**	**7**	*e*P		**PKPbc**	**00 02 28.9**	**-0.3**	
MDO	**Dochfour**	**146.69**	**6**	*e*P		**PKPbc**	**00 02 28.8**	**-0.5**	
MDO				*e*P		**PKPbc**	**00 02 28.9**	**-0.5**	
ROOS	**tl_alroos**	**147.24**	**296**	*e*P		**PKPbc**	**00 02 31.9**	**+0.2**	
DRWC	**Darouich**	**147.32**	**300**	*e*P		**PKPbc**	**00 02 30.9**	**-0.9**	
DRUM	**Mains of Drumt**	**147.36**	**4**	*e*P		**PKPbc**	**00 02 30.3**	**-0.8**	
MUD	**Monsted U'grnd**	**147.41**	**352**	*i* PKIKP		**PKPbc**	**00 02 31.2**	**-0.1**	
MUD				pmax	pmax				
	comp=Z,39nm,1.0s								
MUD	**Monsted U'grnd**	**147.41**	**352**	*i* P		**PKPbc**	**00 02 31.2**	**-0.1**	
	comp=Z,39nm,1.0s								
BTCH	**Batrach**	**147.60**	**299**	*e*P		**PKPbc**	**00 02 31.9**	**-0.7**	
BSD	**Bornholm Skovb**	**147.66**	**345**	*i* P		**PKPdf**	**00 02 24.8**	**-3.8**	
	comp=Z,34nm,1.1s								
EDU	**Dundee**	**147.69**	**4**	*e*P		**PKPbc**	**00 02 31.8**	**-0.2**	
ASF	**Jabal al Asfar**	**147.78**	**292**	PKPbc		**PKPbc**	**00 02 32.5**	**-0.7**	
	comp=Z,10nm,0.9s,baz=311,slow=1.3,SNR=13								
EAB	**Aberfoyle**	**147.93**	**6**	*e*P		**PKPbc**	**00 02 32.5**	**-0.2**	
ARNB	**Al Arnab**	**148.02**	**299**	*e*P		**PKPbc**	**00 02 32.8**	**-0.9**	
SORM	**Soroca**	**148.04**	**325**	⇓*i*P		**PKPbc**	**00 02 32.4**	**-0.8**	
SORM	**Soroca**	**148.04**	**325**	⇓⇓PKIKP		**PKPbc**	**00 02 32.4**	**-0.8**	
TOTH	**TOTAH**	**148.05**	**294**	*e*P		**PKPbc**	**00 02 33.1**	**-0.7**	
ESY	**Stoneypath**	**148.34**	**4**	*e*P		**PKPbc**	**00 02 33.4**	**-0.3**	
TCHB	**Talchebab**	**148.51**	**293**	*e*P		**PKPbc**	**00 02 33.1**	**-1.8**	
BEL	**Belsk**	**148.76**	**336**	*e*PKP		**PKPbc**	**00 02 35.1**	**+0.3**	
BRTR	**Keskin Array B**	**148.78**	**307**	PKPbc		**PKPbc**	**00 02 34.8**	**-0.8**	
	comp=Z,4.3nm,0.7s,baz=128,slow=2.0,SNR=17								
MMAI	**Mount Meron Ar**	**148.95**	**294**	PKPbc		**PKPbc**	**00 02 36.8**	**+0.7**	
	comp=Z,16nm,0.5s,baz=68,slow=5.5,SNR=63								
LVV	**L'vov**	**149.00**	**331**	*e*PKHKP		**PKPbc**	**00 02 35.3**	**-0.3**	
LEOM	**Leova**	**149.11**	**322**	⇑*i*P		**PKPbc**	**00 02 35.5**	**-0.4**	
TLCR		**149.52**	**320**	⇓*i*P		**PKPdf**	**00 02 34.3**	**+2.3**	
EIL	**Elat**	**149.60**	**288**	PKPbc		**PKPbc**	**00 02 36.7**	**-0.9**	
	comp=Z,33nm,1.1s,baz=80,slow=3.1,SNR=5.8								
PRAR	**RASCA**	**149.64**	**325**	⇑*i*P		**PKPbc**	**00 02 37.3**	**+0.1**	
KWP	**Kalwaria Pacla**	**149.72**	**332**	*e*PKP		**PKPbc**	**00 02 37.3**	**0.0**	
KWP	**Kalwaria Pacla**	**149.72**	**332**	⇓*i*P		**PKPbc**	**00 02 37.4**	**0.0**	
CFR	**Carcaliu**	**149.92**	**320**	⇓*i*P		**PKPbc**	**00 02 37.7**	**-0.2**	
BURAR	**Bucovina Array**	**149.99**	**327**	⇓⇓*i*P		**PKPbc**	**00 02 38.5**	**+0.3**	
TIRR	**Tirgusor**	**150.16**	**319**	⇑*i*P		**PKPbc**	**00 02 38.6**	**+0.1**	
VRI	**Vrincioaia**	**150.31**	**323**	⇑*i*P		**PKPbc**	**00 02 38.5**	**-0.4**	
HARR	**Harsova**	**150.32**	**320**	⇓*i*P		**PKPbc**	**00 02 39.4**	**+0.5**	
PLOR	**Plostina**	**150.37**	**323**	⇑*i*P		**PKPbc**	**00 02 38.6**	**-0.4**	
MANR	**Mangalia**	**150.40**	**318**	⇑*i*P		**PKPbc**	**00 02 39.1**	**0.0**	
OJC	**Ojcow**	**150.43**	**336**	*e*PKP		**PKPbc**	**00 02 38.8**	**-0.2**	
OJC	**Ojcow**	**150.43**	**336**	*e*PKIKP		**PKPbc**	**00 02 38.8**	**-0.2**	
GRER		**150.47**	**322**	⇑*i*P		**PKPbc**	**00 02 39.7**	**+0.5**	
STHS	**Stebnicka Huta**	**150.50**	**333**	*e*PKIKP		**PKPbc**	**00 02 39.6**	**+0.4**	
UZH	**Uzhgorod**	**150.65**	**331**	*e*PKIKP		**PKPbc**	**00 02 39.6**	**+0.1**	
UZH				*i*			00 02 43.4		
MSAB	**Monastry St. A**	**150.72**	**319**	⇓*i*P		**PKPbc**	**00 02 39.8**	**0.0**	
ARCR	**ARCALIA**	**150.78**	**327**	⇑⇑*i*P		**PKPbc**	**00 02 40.0**	**+0.1**	
BMR	**Baia Mare**	**150.79**	**328**	⇑*i*P		**PKPbc**	**00 02 39.9**	**0.0**	
BMR	**Baia Mare**	**150.79**	**328**	⇑⇑PKIKP		**PKPbc**	**00 02 39.9**	**0.0**	
CRVS	**Cervenica-Dubn**	**150.80**	**332**	*e*PKIKP		**PKPdf**	**00 02 34.3**	**+0.4**	
CRVS				*e*			00 02 40.5		
ISR	**Istrita**	**150.87**	**322**	⇓*i*P		**PKPbc**	**00 02 39.6**	**-0.6**	
ISR	**Istrita**	**150.87**	**322**	⇓⇓PKIKP		**PKPbc**	**00 02 39.6**	**-0.6**	
NIE	**Niedzica**	**150.88**	**334**	*e*PKP		**PKPbc**	**00 02 40.6**	**+0.5**	
NIE	**Niedzica**	**150.88**	**334**	*e*PKIKP		**PKPbc**	**00 02 40.6**	**+0.5**	
MLR	**Muntele Rosu**	**150.98**	**323**	⇓*i*P		**PKPbc**	**00 02 39.3**	**-1.3**	
MLR	**Muntele Rosu**	**150.98**	**323**	⇓⇓PKIKP		**PKPbc**	**00 02 39.4**	**-1.2**	
DOPR	**Dopca**	**150.98**	**324**	⇑*i*P		**PKPbc**	**00 02 40.9**	**+0.5**	
KSP	**Ksiaz**	**151.12**	**340**	*e*PKP		**PKPbc**	**00 02 40.9**	**+0.3**	
KSP	**Ksiaz**	**151.12**	**340**	*e*PKIKP		**PKPbc**	**00 02 40.9**	**+0.3**	
SECR		**151.19**	**322**	⇑*i*P		**PKPbc**	**00 02 40.4**	**-0.5**	
OKC	**Ostrava-Krasne**	**151.35**	**337**	⇑*e*PKP		**PKPbc**	**00 02 41.2**	**+0.1**	
OKC	**Ostrava-Krasne**	**151.35**	**337**	*e*PKIKP		**PKPbc**	**00 02 41.2**	**+0.1**	
CJR	**Cluj-Napoca**	**151.41**	**327**	⇓*i*P		**PKPbc**	**00 02 41.4**	**0.0**	
CJR	**Cluj-Napoca**	**151.41**	**327**	⇓⇓PKIKP		**PKPbc**	**00 02 41.4**	**0.0**	
LANS	**Liptovska Anna**	**151.42**	**335**	*e*PKIKP		**PKPbc**	**00 02 42.4**	**+1.0**	
UPC	**Upice**	**151.50**	**340**	⇑*e*PKP		**PKPbc**	**00 02 41.7**	**+0.3**	
UPC	**Upice**	**151.50**	**340**	*e*PKIKP		**PKPbc**	**00 02 41.7**	**+0.3**	
VOIR		**151.50**	**323**	⇑*i*P		**PKPbc**	**00 02 42.1**	**+0.4**	
VOIR		**151.50**	**323**	⇑⇑PKIKP		**PKPbc**	**00 02 42.1**	**+0.4**	
DPC	**Dobruska-Polom**	**151.53**	**340**	*e*PKPDF		**PKPdf**	**00 02 36.1**	**+1.1**	
DPC				⇑*e*PKP		**PKiKP**	**00 02 42.0**	**+0.1**	
DPC				*e*pPKP		**pPKPdf**	**00 04 16.4**	**+7.0**	
DPC	**Dobruska-Polom**	**151.53**	**340**	*e*PKIKP		**PKPdf**	**00 02 36.1**	**+1.1**	
DPC				*e*			00 02 42.0		
KECS	**Kecovo**	**151.54**	**333**	*e*PKIKP		**PKPbc**	**00 02 40.8**	**-0.8**	
KECS				*e*			00 02 50.4		
CLL	**Collm**	**151.61**	**344**	⇓*i*PKPbc		**PKPbc**	**00 02 41.3**	**-0.3**	
	comp=Z,27nm,0.9s								
CLL				*i*			00 02 45.0		
	comp=Z,31nm,1.0s								
CLL				*e*pPKPbc		**pPKPbc**	**00 04 17.0**	**+1.8**	
CLL				*i* pPKPab		**pPKPab**	**00 04 24.4**	**+2.3**	
CLL	**Collm**	**151.61**	**344**	⇓*i*PKIKP		**PKPbc**	**00 02 41.3**	**-0.3**	
CLL				*i*			00 02 45.0		
CLL				*e*			00 04 17.0		
CLL				pmax	pmax				
	comp=Z,27nm,0.9s								
MORC	**Moravsky Berou**	**151.62**	**338**	⇓*i*P		**PKPbc**	**00 02 41.8**	**0.0**	
MORC	**Moravsky Berou**	**151.62**	**338**	⇓⇓PKIKP		**PKPbc**	**00 02 41.8**	**0.0**	
ARR	**Arges**	**151.77**	**324**	⇓*i*P		**PKPdf**	**00 02 36.3**	**+0.7**	
PVCC	**Panska Ves**	**151.91**	**342**	⇑⇑*e*PKP		**PKPbc**	**00 02 42.7**	**+0.4**	
PVCC				*e*PKPAB		**PKPab**	**00 02 53.2**	**0.0**	
PVCC	**Panska Ves**	**151.91**	**342**	*e*PKIKP		**PKPbc**	**00 02 42.7**	**+0.4**	
PVCC				*e*			00 02 53.2		
WTSB	**Winterswijk**	**152.10**	**353**	*i* P		**PKPbc**	**00 02 42.3**	**-0.3**	
	comp=Z,16nm,0.6s								
HUMR	**Humele**	**152.11**	**322**	⇑*i*P		**PKPbc**	**00 02 40.0**	**-3.0**	
LOT	**Lotru**	**152.18**	**325**	⇓*i*P		**PKPbc**	**00 02 42.0**	**-1.3**	
VYHS	**Vyhne**	**152.20**	**335**	*e*PKIKP		**PKPdf**	**00 02 36.7**	**+0.7**	
VYHS				*e*			00 02 43.0		
PSZ	**Piszkesteto**	**152.23**	**333**	⇓*i*P		**PKPbc**	**00 02 42.7**	**-0.5**	
PSZ	**Piszkesteto**	**152.23**	**333**	⇓⇓PKIKP		**PKPbc**	**00 02 42.7**	**-0.5**	
DEV	**Deva**	**152.33**	**326**	⇓*i*P		**PKPbc**	**00 02 43.4**	**0.0**	
DEV	**Deva**	**152.33**	**326**	⇓⇓PKIKP		**PKPbc**	**00 02 43.4**	**0.0**	
VRAC	**Vranov**	**152.34**	**338**	PKPbc		**PKPbc**	**00 02 42.2**	**-1.1**	
	comp=Z,4.3nm,0.9s,baz=182,slow=2.5,SNR=5.3								
VRAC	**Vranov**	**152.34**	**338**	⇓*i*P		**PKPbc**	**00 02 41.8**	**-1.6**	
VRAC	**Vranov**	**152.34**	**338**	⇓⇓PKIKP		**PKPbc**	**00 02 41.8**	**-1.6**	
GOPC	**GO Pecny, Ondr**	**152.39**	**341**	⇑*e*PKP		**PKPbc**	**00 02 43.5**	**0.0**	
GOPC	**GO Pecny, Ondr**	**152.39**	**341**	*e*PKIKP		**PKPbc**	**00 02 43.5**	**0.0**	
PRU	**Pruhonice**	**152.40**	**341**	⇑*e*PKP		**PKPbc**	**00 02 43.2**	**-0.2**	
PRU				*e*PKPAB		**PKPab**	**00 02 55.2**	**-0.1**	
PRU	**Pruhonice**	**152.40**	**341**	*e*PKIKP		**PKPbc**	**00 02 43.2**	**-0.2**	
PRU				*e*			00 02 55.2		
ZIMR		**152.42**	**320**	⇓*i*P		**PKPbc**	**00 02 43.8**	**+0.1**	
ZIMR		**152.42**	**320**	⇓⇓PKIKP		**PKPbc**	**00 02 43.8**	**+0.1**	
TREC	**Trest**	**152.72**	**339**	⇑*e*PKP		**PKPbc**	**00 02 44.1**	**-0.1**	
TREC	**Trest**	**152.72**	**339**	*e*PKIKP		**PKPbc**	**00 02 44.1**	**-0.1**	
BZS	**Buzias**	**153.16**	**327**	⇑*i*P		**PKPdf**	**00 02 41.0**	**+3.5**	
BZS	**Buzias**	**153.16**	**327**	⇑PKIKP		**PKPdf**	**00 02 41.0**	**+3.5**	
KHC	**Kasperske Hory**	**153.44**	**342**	*e*PKPDF		**PKPdf**	**00 02 37.0**	**-0.8**	
KHC	**Kasperske Hory**	**153.44**	**342**	*e*PKIKP		**PKPdf**	**00 02 37.0**	**-0.8**	
GERES	**GERESS Array B**	**153.67**	**341**	PKP		**PKPdf**	**00 02 36.9**	**-1.4**	
	comp=Z,1.0nm,0.8s,baz=29,slow=3.0,SNR=6.1								
GERES				PKPbc		**PKPbc**	**00 02 46.1**	**-0.2**	
	comp=Z,2.3nm,0.9s,baz=27,slow=2.0,SNR=9.0								
GERES				PKPab		**PKPab**	**00 02 59.6**	**-1.2**	
	comp=Z,1.3nm,0.8s,baz=35,slow=3.3,SNR=4.0								
MDVR	**Moldovita**	**153.70**	**326**	⇓*i*P		**PKPbc**	**00 02 45.7**	**-0.8**	
MOA	**Molln**	**154.38**	**340**	*i* PKPdf		**PKPdf**	**00 02 38.9**	**-0.3**	
	comp=Z,7.5nm,1.2s								
ARSA	**Arzberg**	**154.47**	**337**	*i* PKPdf		**PKPdf**	**00 02 38.9**	**-0.4**	
	comp=Z,4.2nm,1.4s								
SOKA	**Soboth**	**155.14**	**337**	*i* PKPdf		**PKPdf**	**00 02 39.5**	**-0.8**	
	comp=Z,5.5nm,1.2s								
KBA	**Koelnbreinsper**	**155.35**	**340**	*i* PKPdf		**PKPdf**	**00 02 40.7**	**0.0**	
	comp=Z,8.8nm,1.1s								
OBKA	**Obir**	**155.45**	**338**	*i* PKPdf		**PKPdf**	**00 02 37.8**	**-2.9**	
	comp=Z,5.3nm,1.3s								
WATA	**Walderalm**	**155.63**	**343**	*i* PKPdf		**PKPdf**	**00 02 40.3**	**-0.7**	
	comp=Z,5.8nm,1.1s								
WTTA	**Wattenberg**	**155.68**	**343**	*i* PKPdf		**PKPdf**	**00 02 41.1**	**0.0**	
	comp=Z,3.1nm,0.8s								
RETA	**Reutte**	**155.71**	**344**	*i* PKPdf		**PKPdf**	**00 02 38.7**	**-2.3**	
	comp=Z,11nm,1.3s								
MOTA	**Moosalm**	**155.75**	**344**	*i* PKPdf		**PKPdf**	**00 02 40.3**	**-0.9**	
	comp=Z,2.5nm,0.8s								
ABTA	**Abfaltersbach**	**155.90**	**341**	*i* PKPdf		**PKPdf**	**00 02 39.8**	**-1.5**	
	comp=Z,11nm,1.2s								
DAVA	**Damuels**	**156.10**	**345**	*i* PKPdf		**PKPdf**	**00 02 41.6**	**-0.1**	
	comp=Z,5.7nm,1.0s								
FETA	**Feichten**	**156.15**	**344**	*i* PKPdf		**PKPdf**	**00 02 40.4**	**-1.4**	
	comp=Z,11nm,1.4s								
DAVOX	**Davos/Dischmat**	**156.58**	**345**	PKPab		**PKPab**	**00 03 12.6**	**-0.8**	
	comp=Z,11nm,1.1s,baz=334,slow=7.8,SNR=5.7								
LIC	**Lamto**	**160.99**	**160**	*e*PKP1		**PKPab**	**00 03 34.8**	**+1.6**	
KIC	**Kosan Boka**	**161.20**	**161**	*e*PKP1		**PKPab**	**00 03 35.1**	**+1.0**	
	comp=Z,43nm,1.2s								
TIC	**Toumodi**	**161.39**	**160**	*e*PKP1		**PKPab**	**00 03 35.8**	**+0.8**	
DBIC	**Dimbokro**	**161.46**	**161**	PKPab		**PKPab**	**00 03 36.4**	**+1.2**	
	comp=Z,2.2nm,0.8s,baz=167,slow=12,SNR=3.0								
ESDC	**Sonseca Array**	**164.09**	**15**	PKPab		**PKPab**	**00 03 46.4**	**+0.1**	
	comp=Z,2.3nm,1.0s,baz=339,slow=4.8,SNR=6.6								
TORD	**Torodi Ar. Bea**	**168.85**	**182**	PKP		**PKPdf**	**00 02 54.4**	**-0.4**	
	comp=Z,4.3nm,0.8s,baz=199,slow=0.1,SNR=22								
TORD				PKPab		**PKPab**	**00 04 08.0**	**+0.2**	
	comp=Z,5.7nm,0.8s,baz=166,slow=3.8,SNR=17								

*IDC **05** 23:54:15.4±5.4, 18°.09S×176°.28W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/40, mbtmp4.2/3, Error ellipse: s-maj=264.7km s-min=43.7km az=148.0*
*ISCJB **05** 23:54:18.1±1.8, 18°.2S±0°.4×176°.2W±0°.3, h33km, mb4.5/12, Error ellipse: s-maj=60.1km s-min=13.4km az=146.3*
*NEIC **05** 23:54:19.6±1.0, 18°.26S×176°.09W, h35km, mb4.4/8, Error ellipse: s-maj=37.4km s-min=9.6km az=147.0*
ISC 05 23:54:19.9±1.8, 18°.3S±0°.4×176°.1W±0°.2, h35km, n18, σt0s95/17, mb4.4/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.99**	**44**	*e*Pn		**Pn**	**23 55 45.6**	**-0.6**
CTA	**Charters Tower**	**35.56**	**261**	P		**P**	**00 01 14.5**	**+0.3**
	3.0nm,0.3s,baz=90,slow=13,SNR=2.7							
PMG	**Pozo Moresby**	**36.69**	**279**	P		**P**	**00 01 22.9**	**-0.9**
	3.5nm,0.7s							
MIDW	**Midway**	**46.21**	**358**	P		P	00 02 46.3	+4.7
	8.7nm,0.6s							
WRAB	**Tennant Creek**	**46.73**	**260**	*e*P		**P**	**00 02 45.7**	**-0.2**
	0.5nm,0.3s							
WRA	**Warramunga Arr**	**46.73**	**260**	P		**P**	**00 02 45.0**	**-1.1**
	0.7nm,0.3s,baz=97,slow=7.6,SNR=24							
ASAR	**Alice Springs**	**46.82**	**254**	P		**P**	**00 02 46.1**	**-0.6**
	0.7nm,0.4s,baz=83,slow=8.1,SNR=12							
DAV	**Davao City (W)**	**62.80**	**288**	*e*P		**P**	**00 04 42.7**	**+0.3**
	93nm,0.3s							
MAJO	**Matsushiro**	**69.52**	**322**	*e*P		**P**	**00 05 24.5**	**-0.7**
	1.4nm,0.2s							
TATO	**Taipei**	**74.42**	**303**	P		**P**	**00 05 54.5**	**-0.2**
	4.8nm,0.3s							
KSM	**Kuching**	**74.91**	**277**	*e*P		**P**	**00 05 57.3**	**-0.5**
	1.7nm,0.4s							
MA2	**Magadan**	**82.13**	**344**	*e*P		**P**	**00 06 36.5**	**-0.1**
PMR	**Palmer**	**82.44**	**13**	*e*P		**P**	**00 06 38.4**	**+0.3**
	0.4nm,0.5s							
COCO	**West Island**	**83.52**	**259**	*e*P		**P**	**00 06 45.5**	**+0.6**
BJT	**Baijiatuan**	**85.58**	**315**	*e*P		**P**	**00 06 57.2**	**+2.5**
	0.6nm,0.3s							
BRTR	**Keskin Array B**	**146.57**	**316**	PKPbc		**PKPdf**	**00 13 57.0**	**+0.4**
	0.3nm,0.5s,baz=108,slow=3.2,SNR=3.3							
GERES	**GERESS Array B**	**148.47**	**348**	PKPbc		**PKPbc**	**00 14 03.5**	**+0.6**
	0.1nm,0.3s,baz=151,slow=2.2,SNR=3.8							
CSS	**Mathiatis**	**149.03**	**308**	*e*PKPdf		**PKPdf**	**00 13 59.3**	**-1.4**

IDC 05 23:54:42.9±2.3, 56°.40S×146°.82E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/30, mbtmp3.6/3, MS3.4/4, Ms1 3.4/4, ms1mx3.1/25, Error ellipse: s-maj=232.2km s-min=27.2km az=77.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**19.94**	**61**	LR		LR	00 05 20.7	
	comp=Z,121nm,18.8s,baz=202,slow=32							
VNDA	**Vanda**	**21.86**	**171**	P		P	23 59 36.4	-0.3
	0.7nm,0.7s,baz=341,slow=9.4,SNR=4.1							
VNDA				LR		LR	00 07 21.2	
	comp=Z,80nm,18.3s,baz=44,slow=35							
H01W1	**Cape Leeuwin H**	**30.90**	**300**	T		T	00 33 40.8	
	baz=143,slow=75,SNR=27							
H01W2	**Cape Leeuwin H**	**30.90**	**300**	T		T	00 33 41.0	
	baz=143,slow=75,SNR=25							
H01W3	**Cape Leeuwin H**	**30.91**	**300**	T		T	00 33 42.7	
	baz=143,slow=75,SNR=26							
ASAR	**Alice Springs**	**34.04**	**339**	P		P	00 01 27.9	-0.6
	0.8nm,0.9s,baz=163,slow=9.7,SNR=4.0							
DZM	**Mont Dzumac**	**37.22**	**31**	LR		LR	00 16 29.0	
	comp=Z,93nm,18.1s,baz=211,slow=35							
WRA	**Warramunga Arr**	**37.58**	**341**	P		P	00 01 58.9	0.0
	2.0nm,0.9s,baz=164,slow=7.4,SNR=7.8							
WRA				PcP		PcP	00 04 16.7	-0.1
	0.6nm,1.1s,baz=173,slow=2.0,SNR=3.7							
MAW	**Mawson**	**37.80**	**218**	LR		LR	00 15 39.0	
	comp=Z,34nm,19.9s,baz=65,slow=33							
H08S2	**Diego Garcia H**	**75.00**	**279**	T		T	01 28 51.8	
	baz=148							
H08S1	**Diego Carcia H**	**75.02**	**279**	T		T	01 28 54.3	
	baz=148							
H08S3	**Diego Garcia H**	**75.03**	**279**	T		T	01 28 56.7	
	baz=148							
FINES	**FINESS Array B**	**149.94**	**304**	PKPbc		PKPbc	00 14 34.0	+0.3
	1.4nm,0.7s,baz=170,slow=1.2,SNR=6.5							
GERES	**GERESS Array B**	**151.05**	**275**	PKPbc		PKPbc	00 14 36.3	-0.6
	0.8nm,0.9s,baz=141,slow=2.8,SNR=4.6							
ARCES	**ARCESS Array B**	**151.61**	**321**	PKPbc		PKPbc	00 14 37.0	-0.4
	3.4nm,0.8s,baz=191,slow=1.2,SNR=8.1							

*ISN **05** 23:57:36.6±0.3, 33°.62N×46°.91E, h0km, ML2.9*
*CSEM **05** 23:57:37.9±0.6, 33°.65N×47°.10E, h2km, ML2.9, Error ellipse: s-maj=13.0km s-min=5.7km az=44.0*
*ISCJB **05** 23:57:38.4±1.4, 33°.59N±0°.07×47°.07E±0°.10, h17km, Error ellipse: s-maj=13.6km s-min=6.9km az=141.9*
*TEH **05** 23:57:38.3, 33°.60N×47°.07E, h5km, ML2.9*
ISC 05 23:57:38.5±1.6, 33°.65N±0°.07×47°.10E±0°.07, h17km, n15, σt0s32/19, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IKOM	**Komasi**	**0.63**	**33**	*e*Pg		**Pg**	**23 57 50.1**	**-0.8**
IKOM				*e*Sg		**Sb**	**23 57 59.8**	**+0.1**
IKOM				*e*AMB	AMB		23 58 00.3	
	comp=Z,24μm,0.2s							
IKOM	**Komasi**	**0.63**	**33**	*e*Pg		**Pg**	**23 57 50.1**	**-0.8**
IKOM				*e*Sg		**Sb**	**23 57 59.8**	**+0.1**
IKFM	**Kafar-mosalman**	**0.63**	**101**	*e*Pg		**Pg**	**23 57 49.9**	**-1.0**
IKFM				*e*AMB	AMB		23 58 00.1	
	comp=Z,99nm,0.1s							
IKFM	**Kafar-mosalman**	**0.63**	**101**	*e*Pg		**Pg**	**23 57 49.9**	**-1.0**
IGHG	**Ghaleghazi**	**0.81**	**327**	*e*Pg		**Pb**	**23 57 53.8**	**-0.5**
IGHG				*e*AMB	AMB		23 58 15.2	
	comp=Z,5μm,0.2s							
IGHG	**Ghaleghazi**	**0.81**	**327**	*e*Pg		**Pb**	**23 57 53.8**	**-0.5**

IVIS	**Veis**	**0.90**	**347**	*e*Pg		**Pb**	**23 57 54.4**	**-1.4**	
IVIS				*e*AMB	AMB		23 58 09.7		
	comp=Z,5μm,0.2s								
IVIS	**Veis**	**0.90**	**347**	*e*Pg		**Pb**	**23 57 54.4**	**-1.4**	
IBZA	**Bozab**	**1.03**	**37**	*e*AMB	AMB		23 58 16.2		
	comp=Z,4μm,0.2s								
IKMR	**Kamar-syah**	**1.07**	**96**	*e*Pg		**Pb**	**23 57 57.9**	**-0.7**	
IKMR				*e*AMB	AMB		23 58 19.9		
	comp=Z,99nm,0.2s								
IKMR	**Kamar-syah**	**1.07**	**96**	*e*Pg		**Pb**	**23 57 57.9**	**-0.7**	
ILIN	**Lien**	**1.27**	**355**	*e*Sg		**

GNBR smax smax
comp=E,177nm,0.6s
GNBR smax smax
comp=E,168nm,1.2s
GNBR smax smax
comp=N,135nm,0.5s
DBC Dubki 0.66 51 ⇑*i*PG **Pn 00 30 50.7 +1.9**
DBC pmax pmax
comp=Z,18nm,0.3s
BUJR Buynaksk 0.75 73 PG **Pg 00 30 47.0 +0.3**
BUJR *e*S **Sb 00 30 59.0 0.0**
BUJR pmax pmax
comp=Z,54nm,0.2s
KMKR Kumukh 0.86 123 *e*PG **Pg 00 30 48.5 -0.2**
KMKR *e*S **Sb 00 31 01.0 -1.2**
KMKR pmax pmax
comp=Z,28nm,0.3s
KMGR Komgaron 1.03 296 ⇑*i*PG **Pg 00 30 52.2 +0.2**
KMGR *e*S **Sb 00 31 07.3 +0.3**
VLKR Vladikavkaz 1.16 293 *e*PG **Pn 00 30 55.5 -0.1**
VLKR *e*S **Sn 00 31 12.4 +0.4**
DUS Dusheti 1.18 244 P **Pg 00 30 54.2 -0.6**
DUS S **Sb 00 31 11.2 0.0**
DUS Dusheti 1.18 244 PG **Pg 00 30 53.1 -1.7**
DUS S **Sb 00 31 11.1 0.0**
DUS Dusheti 1.18 244 P **Pg 00 30 53.2 -1.6**
DUS S **Sb 00 31 11.2 0.0**
URKR Urkarakh 1.20 111 *e*PG **Pg 00 30 55.0 -0.2**
URKR *e*S **Sb 00 31 11.0 -0.8**
GUDG Gudauri 1.23 264 P **Pg 00 30 56.0 +0.3**
GUDG S **Sn 00 31 14.0 -0.1**
GUDG Gudauri 1.23 264 P **Pg 00 30 55.0 -0.8**
GUDG S **Sn 00 31 14.0 -0.1**
DGRG David-gareji 1.28 206 P **Pb 00 30 57.7 +0.5**
DGRG S **Sn 00 31 16.5 +1.2**
DGRG David-gareji 1.28 206 PG **Pg 00 30 56.7 -0.2**
DGRG S **Sn 00 31 16.4 +1.2**
DGRG David-gareji 1.28 206 P **Pg 00 30 56.7 -0.2**
DGRG S **Sn 00 31 16.5 +1.2**
TBLG Delisi 1.35 230 P **Pg 00 30 58.7 +0.5**
TBLG S **Sn 00 31 17.1 +0.2**
TBLG Delisi 1.35 230 PG **Pn 00 30 56.6 -1.7**
TBLG S **Sn 00 31 17.1 +0.2**
TBLG Delisi 1.35 230 P **Pn 00 30 56.7 -1.6**
TBLG S **Sn 00 31 17.1 +0.2**
LACR Lac 1.37 280 ⇑*i*PG **Pn 00 30 56.4 -2.2**
LACR *e*S **Sg 00 31 16.0 -0.2**
ARNR Ardon 1.47 294 ⇑*i*PG **Pb 00 31 00.3 -0.1**
ARNR *e*S **Sg 00 31 21.0 +1.5**
TRKR Terskaya 1.51 318 ⇑*i*PG **Pb 00 31 00.9 -0.2**
TRKR *e*S **Sg 00 31 21.8 +1.0**
KORR Kora 1.59 288 ⇑*i*PG **Pb 00 31 02.4 0.0**
KORR *e*S **Sg 00 31 24.5 +1.2**
AKT Akhty 1.64 133 *e*PG **Pn 00 31 02.1 -0.2**
AKT *e* 00 31 26.6
AKT pmax pmax
comp=Z,16nm,0.5s
AKT smax smax
comp=E,47nm,0.5s
AKT smax smax
comp=E,40nm,0.5s
AKT smax smax
comp=N,39nm,0.7s
ZEI Tsey 1.65 277 *e*PN **Pb 00 31 03.5 -0.1**
ZEI *e*S **Sg 00 31 26.5 +1.2**
STDR Stavd-Durt 1.70 297 *e*PN **Pb 00 31 03.8 -0.4**
STDR *e*S **Sg 00 31 27.3 +0.6**
PRTR Priterechnaya 1.77 311 *e*PN **Pn 00 31 04.4 +0.4**
PRTR *e*S **Sb 00 31 28.8 +0.6**
KSMR Kasumkent 1.79 123 PN **Pg 00 31 08.0 +1.4**
KSMR *e*S **Sg 00 31 30.0 +0.1**
LSNR Lesken 1.82 292 ⇑*i*PN **Pb 00 31 06.1 -0.2**
LSNR *e*S **Sg 00 31 31.4 +0.7**
DIGR Digorskoe uzhe 1.90 280 *e*PN **Pn 00 31 05.8 -0.2**
ONI Oni 1.98 270 P **Pb 00 31 08.0 -1.0**
ONI S **Sb 00 31 33.8 -0.4**
ONI Oni 1.98 270 PN **Pb 00 31 09.0 0.0**
ONI S **Sg 00 31 36.8 +1.1**
ONI Oni 1.98 270 P **Pb 00 31 09.0 0.0**
ONI S **Sg 00 31 36.8 +1.1**
NCK Nalchik 2.06 296 *e*PN **Pb 00 31 10.0 -0.4**
NCK *e*S **Sg 00 31 37.8 -0.5**
AKH Akhalkalaki 2.30 240 P **Sb 00 31 43.1 -0.5**
BGD Bogdanovka 2.32 235 P **Pn 00 31 13.1 +1.4**
BGD S **Sb 00 31 43.4 -0.7**
BGD Bogdanovka 2.32 235 P **Pn 00 31 13.1 +1.4**
BGD S **Sb 00 31 43.8 -0.3**
NEY Neytrino 2.58 286 *e*PN **Pb 00 31 17.5 -1.9**
NEY *e*S **Sb 00 31 50.8 -0.9**

*ISK **06** 00:32:24.7, 39˚.10N×29˚.04E, h5km, MD2.7*
*ISCJB **06** 00:32:25.2±0.6, 39˚.10N±0˚.04×29˚.01E±0˚.04, h1km±9km, Error ellipse: s-maj=6.2km s-min=4.6km az=159.0*
*DDA **06** 00:32:25.3, 39˚.08N×29˚.01E, h9km, Md2.7*
*CSEM **06** 00:32:25.5±0.1, 39˚.10N×29˚.01E, h5km, MD2.7, Error ellipse: s-maj=2.2km s-min=1.9km az=101.0*
ISC 06 00:32:25.6±1.0, 39˚.11N±0˚.03×29˚.01E±0˚.02, h6km±10km, n23, σ0ˢ34/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**254**	P	**Pg**	**00 32 30.6**	**+0.2**
DEMI				S	**Sg**	**00 32 33.7**	**+0.2**
DEMI	**Demirci**	**0.24**	**254**	*i* P	**Pg**	**00 32 30.6**	**+0.2**
DEMI				*i* S	**Sg**	**00 32 33.7**	**+0.2**
GDZ	**Gediz**	**0.37**	**93**	P	**Pg**	**00 32 32.9**	**+0.1**
GDZ				S	**Sg**	**00 32 38.2**	**+0.5**
GDZ	**Gediz**	**0.37**	**93**	*i* P	**Pg**	**00 32 32.9**	**+0.1**
GDZ				*i* S	**Sg**	**00 32 38.2**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**46**	*e*PG	**Pg**	**00 32 35.1**	**0.0**
TVSB				*e*SG	**Sg**	**00 32 41.1**	**-0.4**
TVSB	**Tavsanli**	**0.49**	**46**	*e*Pg	**Pg**	**00 32 35.1**	**0.0**
TVSB				*e*Sg	**Sg**	**00 32 41.1**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*PG	**Pg**	**00 32 37.7**	**-0.5**
KULA				*e*SG	**Sg**	**00 32 47.1**	**+0.3**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*Pg	**Pg**	**00 32 37.7**	**-0.5**
KULA				*e*Sg	**Sg**	**00 32 47.1**	**+0.3**
KHAL	**Karahalli**	**0.83**	**153**	P	**Pg**	**00 32 41.4**	**-0.2**
KHAL				S	**Sg**	**00 32 52.2**	**-0.1**
KHAL	**Karahalli**	**0.83**	**153**	*i* P	**Pg**	**00 32 41.4**	**-0.2**
KHAL				*i* S	**Sg**	**00 32 52.2**	**-0.1**
KHL	**Karahalli**	**0.88**	**153**	*e*PG	**Pg**	**00 32 42.1**	**-0.5**
KHL	**Karahalli**	**0.88**	**153**	*e*Pg	**Pg**	**00 32 42.1**	**-0.5**
BALB	**Balikesir**	**1.02**	**302**	*e*PG	**Pb**	**00 32 45.6**	**-0.1**
BALB	**Balikesir**	**1.02**	**302**	*e*Pg	**Pb**	**00 32 45.6**	**-0.1**
IGD	**Bursa**	**1.16**	**7**	*i* P	**Pg**	**00 32 47.5**	**-0.5**
IGD				*i* S	**Sg**	**00 33 03.2**	**+0.2**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*PN	**Pg**	**00 32 49.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*Pn	**Pg**	**00 32 49.5**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pn**	**00 32 49.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pn**	**00 32 49.8**	**0.0**
BORA	**Eskisehir**	**1.36**	**55**	P	**Pn**	**00 32 51.2**	**0.0**
BORA				S	**Sn**	**00 33 10.2**	**+0.6**
BORA	**Eskisehir**	**1.36**	**55**	*i* P	**Pn**	**00 32 51.2**	**0.0**
BORA				*i* S	**Sn**	**00 33 10.2**	**+0.6**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pb**	**00 32 53.0**	**-0.2**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pb**	**00 32 53.0**	**-0.2**

*ISCJB **06** 00:44:09.7±0.6, 39˚.13N±0˚.04×29˚.01E±0˚.04, h4km±7km, Error ellipse: s-maj=6.0km s-min=5.0km az=174.6*
*DDA **06** 00:44:09.5, 39˚.09N×29˚.01E, h7km, Md2.6*
*CSEM **06** 00:44:09.9±0.2, 39˚.12N×29˚.02E, h5km, MD2.6, Error ellipse: s-maj=4.1km s-min=3.7km az=60.0*
*ISK **06** 00:44:10.4, 39˚.18N×29˚.06E, h10km, MD2.7*
ISC 06 00:44:09.7±1.1, 39˚.11N±0˚.03×29˚.01E±0˚.03, h7km±10km, n24, σ0ˢ27/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**254**	P	**Pg**	**00 44 14.9**	**+0.4**
DEMI				S	**Sg**	**00 44 17.2**	**-0.5**
DEMI	**Demirci**	**0.24**	**254**	*i* P	**Pg**	**00 44 14.9**	**+0.4**
DEMI				*i* S	**Sg**	**00 44 17.2**	**-0.5**
GDZ	**Gediz**	**0.36**	**93**	P	**Pg**	**00 44 17.1**	**+0.3**
GDZ				S	**Sg**	**00 44 22.0**	**+0.4**
GDZ	**Gediz**	**0.36**	**93**	*i* P	**Pg**	**00 44 17.1**	**+0.3**
GDZ				*i* S	**Sg**	**00 44 22.0**	**+0.4**
TVSB	**Tavsanli**	**0.48**	**46**	*e*PG	**Pg**	**00 44 18.9**	**-0.1**
TVSB				*e*SG	**Sg**	**00 44 25.2**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**46**	*e*Pg	**Pg**	**00 44 19.0**	**-0.1**
TVSB				*e*Sg	**Sg**	**00 44 25.2**	**-0.2**
KHAL	**Karahalli**	**0.83**	**153**	P	**Pg**	**00 44 25.4**	**-0.2**
KHAL				S	**Sg**	**00 44 36.3**	**-0.1**
KHAL	**Karahalli**	**0.83**	**153**	*i* P	**Pg**	**00 44 25.4**	**-0.2**
KHAL				*i* S	**Sg**	**00 44 36.3**	**-0.1**
KHL	**Karahalli**	**0.88**	**153**	*e*PG	**Pn**	**00 44 28.5**	**-0.1**
KHL				*e*SG	**Sn**	**00 44 42.1**	**+0.4**
KHL	**Karahalli**	**0.88**	**153**	*e*Pg	**Pn**	**00 44 28.5**	**-0.1**
KHL				*e*Sg	**Sn**	**00 44 42.1**	**+0.4**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pn**	**00 44 30.3**	**-0.2**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pn**	**00 44 30.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pg**	**00 44 34.2**	**+0.3**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pg**	**00 44 34.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pg**	**00 44 34.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pg**	**00 44 34.0**	**+0.1**
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pn**	**00 44 33.9**	**-0.2**
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pn**	**00 44 33.9**	**-0.2**
BORA	**Eskisehir**	**1.35**	**55**	P	**Pg**	**00 44 35.6**	**0.0**
BORA				S	**Sb**	**00 44 52.9**	**-0.1**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pg**	**00 44 35.6**	**0.0**
BORA				*i* S	**Sb**	**00 44 52.9**	**-0.1**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pn**	**00 44 36.6**	**+0.1**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pn**	**00 44 36.6**	**+0.1**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pn**	**00 44 40.5**	**-0.2**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pn**	**00 44 40.5**	**-0.2**

*NIED **06** 00:46:00, 39˚.70N×143˚.70E, h26km, Mw4.2 Best double couple: M0ˢ2.01000×10¹⁵ NP1:φˢ190.00000°, δ31.00000°, λ62.00000°. NP2:φˢ42.00000°, δ63.00000°, λ106.00000°.*
*JMA **06** 00:46:38.3±0.2, 39˚.67N×143˚.65E, h18km, M4.4*
*ISCJB **06** 00:46:41.8±0.2, 39˚.86N±0˚.03×143˚.08E±0˚.04, h12km, mb4.6/75, MS3.5/13, Error ellipse: s-maj=4.8km s-min=3.1km az=40.9*
*IDC **06** 00:46:43.3±4.7, 39˚.61N×143˚.41E, h31km±34km, mb3.9/20, mb1 4.1/25, mb1mx3.9/42, mbtmp4.1/25, ML3.5/4, MS3.4/14, Ms1 3.4/14, ms1mx3.1/37, Error ellipse: s-maj=19.0km s-min=13.3km az=102.0*
*BJI **06** 00:46:43.2, 39˚.76N×143˚.38E, h41km, mb4.6/43, mB4.7/29, Ms4.2/17, Ms7 3.9/18*
*MOS **06** 00:46:44.4±1.2, 39˚.90N×143˚.10E, h33km, mb4.7/37, Error ellipse: s-maj=8.6km s-min=5.4km az=95.6*
*NEIC **06** 00:46:47.7±0.5, 39˚.91N×143˚.00E, h42km±5km, mb4.8/44, Error ellipse: s-maj=5.4km s-min=3.7km az=130.0*
ISC 06 00:46:43.6±0.3, 39˚.91N±0˚.04×143˚.05E±0˚.04, h12km, n192, σ1ˢ79/204, mb4.6/77, MS3.5/13, 10C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.91**	**272**	P	**Pn**	**00 47 03.0**	**+0.8**
MIYJ	**Miyakonagasawa**	**1.00**	**251**	P	**Pb**	**00 47 03.5**	**+0.6**
MIYJ				*e*S	**Sn**	**00 47 22.0**	**+4.5**
JANG	**Nango**	**1.26**	**292**	P	**Pn**	**00 47 08.3**	**+1.3**
JOM	**Ohasama**	**1.42**	**253**	P	**Pn**	**00 47 10.0**	**+0.8**
JMK	**Ichinoseki**	**1.71**	**236**	P	**Pn**	**00 47 12.2**	**-0.9**
JMK				*e*S	**Sb**	**00 47 37.6**	**+1.3**
ERM	**Erimo**	**2.10**	**2**	*c i*P	**Pn**	**00 47 19.3**	**+0.7**
ERM				pmax	pmax		
comp=Z,20nm,0.7s							
ERM	**Erimo**	**2.10**	**2**	*e*Pn	**Pn**	**00 47 19.8**	**+1.2**
JOT	**Ohata**	**2.12**	**315**	P	**Pn**	**00 47 21.2**	**+2.5**
JYK	**Kaneyama**	**2.31**	**245**	P	**Pn**	**00 47 21.6**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.38**	**355**	P	**Pn**	**00 47 23.6**	**+1.3**
JNBK				*e*S	**Sb**	**00 47 55.2**	**-0.4**
JKB	**Kayabe**	**2.50**	**323**	P	**Pn**	**00 47 27.0**	**+3.0**
JCH	**Churui**	**2.71**	**5**	P	**Pn**	**00 47 26.4**	**-0.5**
JCH				*e*S	**Sn**	**00 47 59.8**	**+0.2**
ASAJ	**Asahikawa**	**4.21**	**356**	Pn	**Pn**	**00 47 49.3**	**+1.7**
ASAJ				Sn	**Sn**	**00 48 40.2**	**+3.4**
baz=221,slow=20							
MJAR	**Matsushiro Arr**	**5.08**	**230**	Pn	**Pn**	**00 47 59.0**	**-0.6**
comp=Z,3.0nm,0.3s,baz=41,slow=12,SNR=59							
MJAR				LR	LR	00 50 11.5	
comp=Z,202nm,18.4s,baz=40,slow=41							
MJAR	**Matsushiro Arr**	**5.08**	**230**	P	**Pn**	**00 47 59.0**	**-0.6**
MJAR				pmax	pmax		
comp=Z,3.0nm,0.3s							
MJB9	**Matsu-Tunnel**	**5.08**	**230**	*e*Pn	**Pn**	**00 47 59.2**	**-0.4**
MAJO	**Matsushiro**	**5.08**	**230**	*c i*P	**Pn**	**00 47 58.8**	**-0.8**
MAJO	**Matsushiro**	**5.08**	**230**	*e*Pn	**Pn**	**00 47 59.2**	**-0.4**
MAT	**Matsushiro**	**5.08**	**230**	P	**Pn**	**00 47 59.0**	**-0.6**
MAT				*e*S	**Sn**	**00 48 59.2**	**+1.0**
KUR	**Kuril'sk**	**6.40**	**32**	*e*P	**Pn**	**00 48 15.2**	**-2.3**
KUR				*e*S	**Sn**	**00 49 23.7**	**-6.8**
KUR				smax	smax		
comp=E,94nm,0.5s							
KUR				smax	smax		
comp=N,58nm,0.3s							
INU	**Inuyama**	**6.61**	**228**	*e*Pn	**Pn**	**00 48 20.0**	**-0.5**
YSS	**Yuzh-Sakhalins**	**7.04**	**358**	*e*P	**Pn**	**00 48 27.5**	**+1.1**
YSS				MLR	MLR		
comp=Z,300nm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.04**	**358**	*e*Pn	**Pn**	**00 48 28.6**	**+2.2**
JHJ2	**Mitsune**	**7.27**	**202**	*e*Pn	**Pn**	**00 48 33.0**	**+3.5**
JHJ	**Hachijo jima 2**	**7.27**	**202**	Pn	Pn	00 48 23.9	-5.6
comp=Z,20nm,0.3s,baz=120,slow=23,SNR=7.5							
JHJ				Sn	Sn	00 49 37.5	-15
comp=Z,16nm,0.3s,baz=49,slow=20,SNR=4.9							
USRK	**Ussuriysk Ar.**	**9.27**	**301**	Pn	**Pn**	**00 49 01.2**	**+4.2**
comp=Z,0.6nm,0.3s,baz=96,slow=16,SNR=20							
USRK				LR	LR	00 52 45.0	
comp=Z,235nm,19.3s,baz=163,slow=37							
TYV	**Tymovskoe**	**10.96**	**359**	*e*P	**Pn**	**00 49 20.2**	**+0.2**
TYV				pmax	pmax		
comp=Z,11nm,0.8s							
MDJ	**Mudanjiang**	**11.02**	**300**	P	**Pn**	**00 49 21.9**	**+0.9**
MDJ				S	**Sn**	**00 51 23.5**	**-0.6**
MDJ				PMZ			
comp=Z,4.0nm,0.5s							
MDJ				PMZ			
comp=Z,54nm,5.4s							
MDJ	**Mudanjiang**	**11.02**	**300**	*e*Pn	**Pn**	**00 49 23.6**	**+2.7**
JNU	**Nakatsue**	**11.90**	**299**	*e*Pn	**Pn**	**00 49 35.1**	**+2.0**
KSRS	**Korea Array**	**12.07**	**263**	Pn	Pn	00 49 40.3	+4.9
comp=Z,0.3nm,0.3s,baz=88,slow=13,SNR=8.8							
KSRS				LR	LR	00 54 04.7	
comp=Z,160nm,18.1s,baz=76,slow=36							
KS15	**Wonju Array Si**	**12.11**	**263**	*e*Pn	**Pn**	**00 49 39.1**	**+3.2**
KSAR	**Wonju Array Be**	**12.11**	**263**	P	**Pn**	**00 49 40.3**	**+4.5**
KSAR	**Wonju Array Be**	**12.11**	**263**	Pn	**Pn**	**00 49 40.3**	**+4.5**
KLR	**Kul'dur**	**12.30**	**323**	*e*P	**Pn**	**00 49 40.7**	**+2.3**
comp=Z,0.2nm,0.3s,baz=137,slow=14,SNR=5.4							
KLR	**Kul'dur**	**12.30**	**323**	⇓*i*P	**Pn**	**00 49 39.8**	**+1.3**
CN2	**Changchun**	**13.68**	**292**	*e*P	**Pn**	**00 50 00.3**	**+3.0**
PEAO	**Petropavlovsk-**	**16.57**	**32**	*e*Pn	**Pn**	**00 50 37.1**	**+1.6**
PETK	**Petropavlovsk-**	**16.57**	**32**	LR	LR	00 56 35.6	
comp=Z,46nm,19.2s,baz=183,slow=36							
PET	**Petropavlovsk**	**16.91**	**34**	*e*P	**Pn**	**00 50 41.0**	**+1.2**
PET				pmax	pmax		
comp=Z,38nm,1.4s							
PET	**Petropavlovsk**	**16.91**	**34**	*e*Pn	**Pn**	**00 50 41.0**	**+1.2**
comp=Z,38nm,1.4s							
JOW	**Kunigami**	**17.92**	**228**	*e*Pn	**Pn**	**00 50 53.4**	**+0.7**
comp=Z,26nm,1.1s							
HIA	**Hailar**	**18.99**	**307**	*e*P	**P**	**00 51 05.7**	**+0.9**
HIA				pmax	pmax		
comp=Z,13nm,0.5s							
HIA	**Hailar**	**18.99**	**307**	*e*P	**P**	**00 51 05.7**	**+0.9**
comp=Z,13nm,0.5s							
MA2	**Magadan**	**20.28**	**11**	P	**P**	**00 51 18.5**	**-0.3**
comp=Z,16nm,0.8s,baz=196,slow=10,SNR=7.1							
MA2				LR	LR	00 59 59.9	
comp=Z,49nm,18.2s,baz=184,slow=39							
BJI	**Beijing**	**20.57**	**279**	P	**P**	**00 51 20.6**	**-1.5**
BJI				S	**S**	**00 55 08.6**	**-3.3**
BJI				PMZ			
comp=Z,6.0nm,0.7s							
BJI				LN			
comp=Z,110nm,14.1s							
BJI				LE			
comp=Z,220nm,17.6s							
TIA	**Tai'an**	**20.72**	**268**	⇑P	**P**	**00 51 22.4**	**-1.4**
TIA				PMZ			
comp=Z,20nm,0.9s							
YAK	**Yakutsk**	**23.60**	**344**	LR	LR	01 01 57.7	
comp=Z,59nm,19.0s,baz=119,slow=38							
YAK	**Yakutsk**	**23.60**	**344**	⇑*e*P	**P**	**00 51 55.0**	**+1.1**
YAK				pmax	pmax		
comp=Z,11nm,0.5s							
SEY	**Seymchan**	**23.73**	**11**	P	**P**	**00 51 54.1**	**-1.1**
comp=Z,9.2nm,0.8s,baz=196,slow=7.9,SNR=21							
HHC	**Hu-ho-hao-te**	**23.94**	**282**	*e*P	**P**	**00 51 57.3**	**-0.3**
HHC				sP	sP	00 52 14.2	+11
HHC				S	**S**	**00 56 06.3**	**-7.6**
HHC				PMZ			
comp=Z,16nm,0.9s							
HHC				PMZ			
comp=Z,94nm,8.1s							
HHC				LN			
comp=Z,100nm,7.3s							
HHC				LE			
comp=Z,200nm,9.0s							
HHC				LZ			
comp=Z,160nm,13.1s							
WHN	**Wuhan**	**25.15**	**257**	⇓P	**P**	**00 52 07.7**	**-0.8**
WHN				PMZ			
comp=Z,42nm,0.6s							
TWG	**Pinlang**	**25.24**	**234**	*e*P	**P**	**00 52 10.0**	**+0.6**
comp=Z,77nm,0.4s							
GUMO	**Guam**	**26.27**	**176**	*e*P	**P**	**00 52 19.3**	**+0.5**
GUMO	**Guam**	**26.27**	**176**	*e*P	**P**	**00 52 19.3**	**+0.5**
comp=Z,156nm,1.0s							
SONA1	**Songino Array**	**27.37**	**299**	*e*P	**P**	**00 52 29.5**	**+0.8**
SONM	**Songino Array**	**27.38**	**299**	P	**P**	**00 52 29.6**	**+0.8**
comp=Z,3.6nm,0.8s,baz=84,slow=8.0,SNR=21							
SONM				LR	LR	01 04 10.7	
comp=Z,144nm,18.9s,baz=92,slow=38							
XAN	**Xi'an**	**27.77**	**269**	P	**P**	**00 52 32.2**	**-0.1**
XAN				PMZ			
comp=Z,7.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.70**	**128**	T	T	01 23 39.7	
baz=318,slow=75,SNR=38							
H11N1	**WAKE ISLAND Hy**	**28.71**	**128**	T	T	01 23 40.4	
baz=318,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy**	**28.72**	**128**	T	T	01 23 40.9	
baz=318,slow=75,SNR=91							
ENH	**Enshi**	**28.95**	**261**	*e*P	**P**	**00 52 42.3**	**-0.5**
comp=Z,9.7nm,0.6s							
TLY	**Talaya**	**29.53**	**307**	LR	LR	01 05 30.2	
comp=Z,38nm,20.4s,baz=86,slow=38							
H11S2	**WAKE ISLAND Hy**	**29.54**	**129**	T	T	01 23 43.8	
SNR=14							
ZAK	**Zakamensk**	**29.61**	**304**	*e*P	**P**	**00 52 47.1**	**-1.4**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.3s							
BILL	**Bilibino**	**30.91**	**17**	*c e*P	**P**	**00 53 01.1**	**+1.4**
BILL				*e*		00 54 05.3	
BILL				pmax	pmax		
comp=Z,2.0nm,0.5s							
BILL				MLR	MLR		
comp=Z,51nm,17.0s							
LZH	**Lanzhou**	**30.96**	**276**	*e*P	**P**	**00 53 01.0**	**+0.3**
LZH				pP	sP	00 53 11.8	+5.9
LZH				sP	pP	00 53 16.4	+12
LZH				PMZ			
comp=Z,22nm,1.0s							
TIXI	**Tiksi**	**32.61**	**352**	*e*P	**P**	**00 53 14.2**	**-0.4**
TIXI				pmax	pmax		
comp=Z,2.0nm,1.7s							
TIXI	**Tiksi**	**32.61**	**352**	*e*P	**P**	**00 53 15.7**	**+1.1**
comp=Z,4.0nm,1.3s							
CD2	**Chengdu**	**33.04**	**267**	*e*P	**P**	**00 53 18.5**	**-0.4**
CD2				pP	sP	00 53 30.4	+6.4
CD2				sP	pP	00 53 36.0	+13
CD2				S	**S**	**00 58 34.0**	**-3.4**
CD2				sS	sS	00 58 54.6	+11
CD2				PMZ			
comp=Z,10.0nm,0.5s							
CD2				PMZ			
comp=Z,120nm,5.4s							
GYA	**Guiyang**	**33.04**	**257**	*e*P	**P**	**00 53 18.9**	**-0.1**
GYA				pP	sP	00 53 31.8	+7.6
GYA				PP	**PnPn**	**00 54 31.0**	**+2.7**
GYA				PcP	**PcP**	**00 56 02.3**	**-0.3**
GYA				S	**S**	**00 58 33.4**	**-4.2**
GYA				sS	sS	00 58 55.0	+11
GYA				ScP	**ScP**	**00 59 42.2**	**-4.3**
GYA				ScS	**ScS**	**01 03 41.8**	**-5.2**
GYA				PMZ			
comp=Z,20nm,0.8s							
GYA				PMZ			
comp=Z,120nm,4.9s							
GYA				LN			
comp=Z,460nm,16.7s							
GYA				LE			
comp=Z,420nm,17.0s							
GYA				LZ			
comp=Z,440nm,17.9s							
GTA	**Gaotai**	**33.05**	**283**	*e*P	**P**	**00 53 19.9**	**+0.9**
GTA				pP	sP	00 53 32.6	+8.5
GTA				sP	pP	00 53 37.1	+14
GTA				PcP	**PcP**	**00 56 01.2**	**-1.2**
GTA				S	**S**	**00 58 32.1**	**-5.4**
GTA				sS	sS	00 58 53.0	+9.4
GTA				SS	**SnSn**	**01 00 34.5**	**-1.0**
GTA				PMZ			
comp=Z,6.0nm,0.9s							
GTA				PMZ			
comp=Z,51nm,5.9s							
GTA				LN			
comp=Z,79nm,18.1s							
GTA				LE			
comp=Z,210nm,15.7s							
GTA				LZ			
comp=Z,210nm,18.1s							
MIDW	**Midway**	**34.54**	**97**	*e*P	**P**	**00 53 34.0**	**+2.1**
comp=Z,256nm,1.5s							
QIZ	**Qiongzhong**	**35.32**	**244**	P	**P**	**00 53 39.1**	**+0.4**
QIZ				S	**S**	**00 59 10.4**	**-2.3**
QIZ				LZ			
comp=Z,120nm,14.3s							
KMI	**Kunming**	**36.72**	**259**	P	**P**	**00 53 54.6**	**+3.7**
KMI				PMZ			
comp=Z,25nm,0.6s							
SDPT	**Sand Point**	**39.90**	**48**	*e*P	**P**	**00 54 17.3**	**+0.3**
comp=Z,127nm,1.4s							
WMQ	**Urumqi**	**40.76**	**294**	P	**P**	**00 54 25.7**	**+1.3**
WMQ				pP	sP	00 54 38.7	+9.1
WMQ				sP	pP	00 54 41.2	+13
WMQ				PMZ			
comp=Z,9.0nm,1.0s							
WMQ				PMZ			
comp=Z,35nm,4.6s							
ZAA0	**Zalesovo Array**	**40.99**	**310**	*e*P	**P**	**00 54 25.8**	**-0.3**
ZALV	**Zalesovo Beam**	**40.99**	**310**	P	**P**	**00 54 26.6**	**+0.5**
comp=Z,3.

MCK	**McKinley**	**45.54**	**35**	*e*P	**P**	**00 55 03.6**	**+0.9**
MCK				pmax	pmax		
	comp=Z,25nm,2.0s						
MCK	**McKinley**	**45.54**	**35**	*e*P	**P**	**00 55 03.6**	**+0.9**
	comp=Z,25nm,2.0s						
PMR	**Palmer**	**45.56**	**38**	*e*P	**P**	**00 55 03.3**	**+0.4**
PMR				pmax	pmax		
	comp=Z,24nm,1.9s						
PMR	**Palmer**	**45.56**	**38**	*e*P	**P**	**00 55 03.3**	**+0.4**
	comp=Z,24nm,1.9s						
RND	**Reindeer**	**45.59**	**36**	*e*P	**P**	**00 55 03.4**	**+0.2**
RND				pmax	pmax		
	comp=Z,15nm,1.8s						
RND	**Reindeer**	**45.59**	**36**	*e*P	**P**	**00 55 03.4**	**+0.2**
	comp=Z,15nm,1.8s						
IL1	**Eielson Array**	**46.39**	**34**	*e*P	**P**	**00 55 09.9**	**+0.5**
ILAR	**Eielson Array**	**46.39**	**34**	P	**P**	**00 55 07.4**	**-2.0**
	comp=Z,0.9nm,0.7s,baz=262,slow=6.5,SNR=13						
ILB	**Eielson Array**	**46.39**	**34**	*e*P	**P**	**00 55 10.3**	**+0.9**
TARA	**Tarawa**	**47.02**	**137**	*e*P	**P**	**00 55 15.4**	**+0.6**
	comp=Z,106nm,1.0s						
JOHN	**Johnston Islan**	**47.04**	**105**	*e*P	**P**	**00 55 15.7**	**+0.7**
	comp=Z,155nm,1.0s						
MID	**Middleton Isla**	**47.17**	**41**	*e*P	**P**	**00 55 16.5**	**+0.9**
MID				pmax	pmax		
	comp=Z,76nm,1.0s						
MID	**Middleton Isla**	**47.17**	**41**	*e*P	**P**	**00 55 16.5**	**+0.9**
	comp=Z,76nm,1.0s						
EYAK	**Cordova Ski Ar**	**47.31**	**40**	*e*P	**P**	**00 55 17.1**	**+0.5**
	comp=Z,12nm,1.0s						
DOT	**Dot Lake**	**47.71**	**35**	*e*P	**P**	**00 55 20.2**	**+0.5**
	comp=Z,6.0nm,0.8s						
BMRM	**Bremner River**	**47.81**	**39**	*e*P	**P**	**00 55 21.8**	**+1.2**
	comp=Z,6.1nm,0.8s						
RAGM	**Ragged Mountai**	**47.86**	**40**	*e*P	**P**	**00 55 22.2**	**+1.2**
	comp=Z,16nm,1.0s						
MENT	**Mentasta**	**47.95**	**36**	*e*P	**P**	**00 55 21.7**	**+0.1**
	comp=Z,3.4nm,0.6s						
KSM	**Kuching**	**48.47**	**226**	*e*P	**P**	**00 55 26.5**	**+0.4**
	comp=Z,28nm,1.6s						
EGAK	**Eagle**	**48.83**	**33**	*e*P	**P**	**00 55 29.8**	**+1.5**
	comp=Z,1.9nm,0.8s						
PMG	**Port Moresby**	**49.22**	**175**	*e*P	**P**	**00 55 30.9**	**-0.8**
PMG				pmax	pmax		
	comp=Z,21nm,1.1s						
PMG	**Port Moresby**	**49.22**	**175**	*e*P	**P**	**00 55 30.9**	**-0.8**
	comp=Z,21nm,1.1s						
TKM2	**Tokmak 2**	**49.44**	**297**	*e*P	**P**	**00 55 34.2**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TKM2	**Tokmak 2**	**49.44**	**297**	*e*P	**P**	**00 55 34.2**	**+0.6**
	comp=Z,9.5nm,0.7s						
BRVK	**Borovoye**	**49.68**	**311**	*e*P	**P**	**00 55 35.1**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,11nm,0.8s						
BRVK	**Borovoye**	**49.68**	**311**	*e*P	**P**	**00 55 35.1**	**+0.1**
	comp=Z,11nm,0.8s						
AAK	**Ala-Archa**	**50.30**	**297**	P	**P**	**00 55 39.7**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**50.30**	**297**	*e*P	**P**	**00 55 39.3**	**-0.8**
	comp=Z,14nm,1.9s						
KSH	**Kashi**	**50.45**	**292**	P	**P**	**00 55 45.2**	**+4.0**
KSH				pP	sP	00 55 56.8	+10
KSH				PcP	**PcP**	**00 57 03.4**	**+4.0**
KSH				PP	**PP**	**00 57 41.8**	**+5.1**
KSH				S	**S**	**01 02 53.0**	**-1.7**
KSH				ScS	**ScS**	**01 05 27.3**	**-4.9**
KSH				SS	**SS**	**01 06 25.7**	**-2.5**
KSH				PMZ			
	comp=Z,2.0nm,0.4s						
KSH				PMZ			
	comp=Z,87nm,4.2s						
KSH				LN			
	comp=Z,96nm,5.7s						
KSH				LE			
	comp=Z,73nm,6.0s						
KSH				LZ			
	comp=Z,100nm,5.8s						
ZRNK	**Zerenda**	**50.45**	**311**	*e*P	**P**	**00 55 40.4**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZRNK	**Zerenda**	**50.45**	**311**	*e*P	**P**	**00 55 40.4**	**-0.5**
	comp=Z,4.9nm,0.8s						
EKS2	**Erkin-Say**	**50.78**	**297**	*e*P	**P**	**00 55 43.9**	**+0.2**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
EKS2	**Erkin-Say**	**50.78**	**297**	*e*P	**P**	**00 55 43.9**	**+0.2**
	comp=Z,3.3nm,0.8s						
INK	**Inuvik**	**51.25**	**28**	P	**P**	**00 55 46.0**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=359,slow=4.0,SNR=3.5						
INK	**Inuvik**	**51.25**	**28**	*e*P	**P**	**00 55 46.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,14nm,1.8s						
INK	**Inuvik**	**51.25**	**28**	*e*P	**P**	**00 55 46.9**	**+0.3**
	comp=Z,14nm,1.8s						
DHAK	**Deception Hill**	**51.33**	**40**	*e*P	**P**	**00 55 48.2**	**+0.8**
	comp=Z,57nm,1.1s						
KULM	**Kulim**	**51.38**	**239**	*e*P	**P**	**00 55 48.9**	**+0.6**
	comp=Z,23nm,1.1s						
MMRI	**Maumere**	**52.00**	**206**	*e*P	**P**	**00 55 53.3**	**+0.4**
	comp=Z,60nm,1.3s						
SKAG	**Skagway**	**52.65**	**39**	*e*P	**P**	**00 55 57.5**	**+0.3**
	comp=Z,21nm,1.4s						
KKAR	**Karatay Array**	**52.83**	**299**	*e*P	**P**	**00 55 58.1**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**52.83**	**299**	*e*P	**P**	**00 55 58.1**	**-0.7**
	comp=Z,1.8nm,0.6s						
OPA	**Opana**	**52.85**	**92**	*e*P	**P**	**00 55 59.9**	**+0.7**
OPA	**Opana**	**52.85**	**92**	*e*P	**P**	**00 55 59.9**	**+0.7**
	comp=Z,304nm,1.9s						
SVE	**Sverdlovsk**	**53.87**	**318**	*e*P	**P**	**00 56 06.7**	**+0.5**
LHMI	**Lhok Sumawe**	**53.91**	**243**	*e*P	**P**	**00 56 06.9**	**-0.2**
	comp=Z,202nm,1.4s						
ARU	**Arti**	**55.08**	**318**	*e*P	**P**	**00 56 15.0**	**0.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	**Arti**	**55.08**	**318**	*e*P	**P**	**00 56 15.0**	**0.0**
	comp=Z,6.9nm,0.9s						
WRAK	**Wrangell Islan**	**55.15**	**42**	*e*P	**P**	**00 56 15.5**	**0.0**
DLBC	**Dease Lake**	**55.58**	**40**	*e*P	**P**	**00 56 19.2**	**+0.5**
	comp=Z,3.0nm,0.7s						
ABKAR	**Akbulak array**	**57.09**	**309**	*e*P	**P**	**00 56 29.3**	**-0.2**
KBL	**Kabul**	**57.61**	**290**	*e*P	**P**	**00 56 33.2**	**-0.5**
KBL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBL	**Kabul**	**57.61**	**290**	*e*P	**P**	**00 56 33.2**	**-0.5**
	comp=Z,3.1nm,0.6s						
RES	**Resolute Bay**	**59.49**	**15**	*e*P	**P**	**00 56 46.1**	**+0.2**
RES	**Resolute Bay**	**59.49**	**15**	*e*P	**P**	**00 56 46.1**	**+0.2**
WRAB	**Tennant Creek**	**60.08**	**189**	*i* P	**P**	**00 56 51.2**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,28nm,2.5s						
WB2	**Warramunga Arr**	**60.09**	**189**	*e*P	**P**	**00 56 50.7**	**+0.1**
	comp=Z,43nm,1.9s						
WRA	**Warramunga Arr**	**60.09**	**189**	P	P	00 56 45.0	-5.7
	comp=Z,1.9nm,0.3s,baz=8.7,slow=7.2,SNR=26						
WRA	**Warramunga Arr**	**60.09**	**189**	P	P	00 56 45.0	-5.7
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ARCES	**ARCESS Array B**	**61.76**	**339**	P	**P**	**00 56 59.6**	**-1.9**
	comp=Z,4.3nm,0.9s,baz=55,slow=10.0,SNR=2.6						
ARCES				LR	LR	01 27 21.4	
	comp=Z,35nm,18.1s,baz=34,slow=39						
KLMR	**Klimovskoe**	**62.02**	**327**	*e*P	**P**	**00 57 01.5**	**-1.8**
KLMR				*e*		00 57 40.2	
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.5s						
GEYT	**Alibeck**	**63.58**	**298**	P	**P**	**00 57 12.8**	**-1.4**
	comp=Z,2.9nm,1.1s,baz=5.7,slow=4.3,SNR=4.3						
AS31	**Alice Springs**	**63.82**	**189**	*e*P	**P**	**00 57 16.3**	**+0.6**
AS31				esP	PcP	00 57 38.0	-13
ASAR	**Alice Springs**	**63.82**	**189**	P	P	00 57 10.9	-4.7
	comp=Z,0.7nm,0.8s,baz=11,slow=5.9,SNR=6.4						
ASAR	**Alice Springs**	**63.82**	**189**	P	P	00 57 11.0	-4.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VRH	**Novokhopyorsk**	**66.31**	**318**	*e*P	**P**	**00 57 29.2**	**-2.4**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
OBN	**Obninsk**	**66.56**	**323**	*i* P	**P**	**00 57 31.3**	**-1.8**
OBN				*e*S	**PnS**	**01 06 42.8**	**-1.2**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,76nm,16.0s						
FINES	**FINESS Array B**	**66.87**	**332**	P	**P**	**00 57 33.6**	**-1.4**
	comp=Z,3.2nm,0.7s,baz=60,slow=7.7,SNR=12						
FINES				LR	LR	01 29 59.3	
	comp=Z,76nm,18.5s,baz=28,slow=39						
FINES	**FINESS Array B**	**66.87**	**332**	*c*e P	**P**	**00 57 34.2**	**-0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VSR	**Storozhevoye**	**67.62**	**319**	*e*P	pP	00 57 55.4	+12
VSR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KIV	**Kislovodsk**	**69.99**	**311**	*e*P	**P**	**00 57 55.6**	**+0.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,51nm,17.0s						
KIV	**Kislovodsk**	**69.99**	**311**	*e*P	**P**	**00 57 55.3**	**+0.2**
	comp=Z,9.5nm,0.9s						
KBZ	**Khabaz**	**70.00**	**311**	P	**P**	**00 57 55.5**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=75,slow=3.5,SNR=12						
NEY	**Neytrino**	**70.39**	**310**	*i* P	**P**	**00 57 58.2**	**+0.6**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NC204	**NORSAR Array S**	**71.97**	**338**	*e*P	**P**	**00 58 06.6**	**-0.1**
NB2	**NORSAR Subarra**	**72.03**	**338**	P	**P**	**00 58 05.8**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=37,slow=6.2						
NB2	**NORSAR Subarra**	**72.03**	**338**	P	**P**	**00 58 05.8**	**-1.2**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**72.03**	**338**	P	**P**	**00 58 06.4**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=38,slow=6.0,SNR=13						
NOA				LR	LR	01 35 39.0	
	comp=Z,28nm,18.3s,baz=55,slow=40						
NBO02	**NORSAR Array S**	**72.12**	**338**	*e*P	**P**	**00 58 06.9**	**-0.6**
AKASG	**Malin Array Be**	**72.80**	**322**	P	**P**	**00 58 10.7**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=42,slow=6.1,SNR=9.4						
AKASG	**Malin Array Be**	**72.80**	**322**	*c*e P	**P**	**00 58 09.8**	**-1.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PSUT	**Pine Spring**	**74.94**	**52**	*e*P	**P**	**00 58 25.2**	**+0.4**
	comp=Z,11nm,0.8s						
BUR08	**Bucovina Ar. S**	**76.83**	**322**	*e*P	**P**	**00 58 35.0**	**-0.2**
BRTR	**Keskin Array B**	**77.90**	**312**	P	**P**	**00 58 40.8**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=104,slow=5.2,SNR=6.0						
BRTR	**Keskin Array B**	**77.90**	**312**	*c*e P	**P**	**00 58 40.5**	**-0.9**
BR231	**Keskin MP Arra**	**78.31**	**312**	*e*P	**P**	**00 58 42.0**	**-1.6**
DPC	**Dobruska-Polom**	**78.69**	**328**	*e*P	**P**	**00 58 45.1**	**-0.4**
DPC	**Dobruska-Polom**	**78.69**	**328**	*e*P	**P**	**00 58 45.1**	**-0.4**
CLL	**Collm**	**79.23**	**331**	*e*P	**P**	**00 58 47.0**	**-1.3**
CLL	**Collm**	**79.23**	**331**	*e*P	**P**	**00 58 47.0**	**-1.3**
GERES	**GERESS Array B**	**80.03**	**329**	P	**P**	**00 58 56.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=27,slow=6.1,SNR=4.8						
SOKA	**Soboth**	**82.11**	**327**	*i* P	**P**	**00 59 03.2**	**-0.8**
	comp=Z,3.0nm,0.9s						
KBA	**Koelnbreinsper**	**82.49**	**328**	*i* PcP	**P**	**00 59 08.3**	**+2.2**
	comp=Z,5.2nm,1.1s						
RETA	**Reutte**	**83.19**	**330**	*i* PcP	**P**	**00 59 10.0**	**+0.4**
	comp=Z,3.4nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**84.09**	**329**	*e*P	**P**	**00 59 12.5**	**-2.0**
	comp=Z,3.4nm,0.7s						
TXAR	**Lajitas Array**	**87.36**	**53**	P	**P**	**00 59 28.0**	**-2.8**
	comp=Z,0.1nm,0.5s,baz=299,slow=4.0,SNR=2.6						

*IDC **06** 00:53:34.0±1.6, 7.°36S×128.°51E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/24, mbtmp3.9/4, ML4.1/2, Error ellipse: s-maj=188.4km s-min=29.4km az=68.0*
*ISCJB **06** 00:53:36.4±0.7, 7.°5S±0.°1×128.°4E±0.°1, h35km, mb4.4/5, Error ellipse: s-maj=23.0km s-min=9.7km az=141.3*
*NEIC **06** 00:53:38.6±0.5, 7.°46S×128.°39E, h35km, mb4.0/3, Error ellipse: s-maj=18.5km s-min=7.8km az=52.0*

ISC 06 00:53:38.4±0.8, 7.°6S±0.°1×128.°4E±0.°1, h35km, n10, σ2s 33/11, mb4.3/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**13.56**	**155**	*e*Pn	**Pn**	**00 56 49.8**	**+1.5**
WRA	**Warramunga Arr**	**13.56**	**155**	Pn	**Pn**	**00 56 49.9**	**+1.4**
	1.8nm,0.3s,baz=330,slow=14,SNR=85						
WRA				Sn	Sn	00 59 11.4	-6.6
	1.7nm,0.3s,baz=348,slow=19,SNR=9.4						
ASAR	**Alice Springs**	**16.83**	**162**	Pn	**Pn**	**00 57 33.8**	**+2.4**
	0.2nm,0.3s,baz=344,slow=8.9,SNR=6.8						
ASAR				S	**Sn**	**01 00 32.4**	**-5.0**
	0.2nm,0.3s,baz=336,slow=17,SNR=4.5						
KKM	**Kota Kinabalu**	**18.18**	**318**	*e*Pn	**Pn**	**00 57 46.4**	**-2.0**
	2.4nm,0.6s						
CTAO	**Charters Tower**	**21.32**	**127**	*e*P	**P**	**00 58 24.1**	**+1.6**
	4.9nm,0.7s						
KULM	**Kulim**	**30.46**	**294**	*e*P	**P**	**00 59 48.7**	**+0.5**
	4.8nm,0.6s						
HNR	**Honiara**	**31.30**	**96**	*e*P	**P**	**00 59 54.8**	**-0.7**
	41nm,0.4s						
COCO	**West Island**	**31.36**	**259**	*e*P	**P**	**00 59 56.6**	**+0.6**
SONM	**Songino Array**	**58.52**	**343**	P	**P**	**01 03 30.6**	**-0.8**
	0.3nm,0.4s,baz=134,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**67.85**	**328**	P	**P**	**01 04 33.8**	**+0.6**
	1.2nm,0.4s,baz=126,slow=7.7,SNR=10						

IDC 06 01:10:07.0±479.0, 41.°74S×69.°44W, h0km, Error ellipse: s-maj=207.0km s-min=186.3km az=74.0, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02AR	**USHUAIA INFRAS**	**12.93**	**174**	*i*		02 30 00.0	
	baz=355,slow=329,SNR=0.9						
I41PY	**VILLA FLORIDA**	**18.32**	**37**	*i*		03 00 00.0	
	baz=211,slow=329,SNR=3.3						
I08BO	**LAS PENAS INFR**	**25.45**	**2**	*i*		03 43 51.1	
	baz=180,slow=336,SNR=0.6						
I09BR	**BRASILIA INFRA**	**31.91**	**42**	*i*		04 29 33.1	
	baz=210,slow=329,SNR=6.5						
I27DE	**GEORG VON NEUM**	**41.78**	**154**	*i*		05 39 20.0	
	baz=297,slow=326,SNR=0.8						

*ISK **06** 01:10:06.6, 39.°12N×29.°04E, h9km, MD2.9*
*ISCJB **06** 01:10:07.3±0.4, 39.°12N±0.°03×29.°00E±0.°04, h9km, Error ellipse: s-maj=4.8km s-min=4.0km az=4.3*
*DDA **06** 01:10:07.4, 39.°14N×29.°01E, h7km, Ml2.9*
*CSEM **06** 01:10:07.4±0.2, 39.°16N×29.°00E, h5km, ML2.9, Error ellipse: s-maj=4.2km s-min=3.8km az=140.0*

ISC 06 01:10:07.4±0.9, 39.°14N±0.°03×29.°02E±0.°03, h9km, n40, σ0s 40/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**248**	*i* P	Pg	01 10 17.5	+5.0
GDZ	**Gediz**	**0.37**	**97**	P	**Pg**	**01 10 14.6**	**-0.1**
GDZ	**Gediz**	**0.37**	**97**	*i* P	**Pg**	**01 10 14.6**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**48**	*e*PG	**Pg**	**01 10 16.4**	**-0.2**
TVSB				*e*SG	**Sg**	**01 10 22.9**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**48**	*e*Pg	**Pg**	**01 10 16.4**	**-0.2**
TVSB				*e*Sg	**Sg**	**01 10 22.9**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*PG	**Pg**	**01 10 20.2**	**-0.4**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*Pg	**Pg**	**01 10 20.2**	**-0.4**
KHAL	**Karahalli**	**0.85**	**154**	P	**Pg**	**01 10 23.8**	**-0.1**
KHAL	**Karahalli**	**0.85**	**154**	*i* P	**Pg**	**01 10 23.8**	**-0.1**
KHL	**Karahalli**	**0.91**	**154**	*e*PG	**Pg**	**01 10 24.0**	**-0.8**
KHL				*e*SG	**Sg**	**01 10 36.6**	**0.0**
AKS	**Akhisar**	**0.97**	**255**	*e*PG	**Pg**	**01 10 26.1**	**0.0**
AKS	**Akhisar**	**0.97**	**255**	*e*Pg	**Pg**	**01 10 26.1**	**0.0**
BALB	**Balikesir**	**1.01**	**300**	*e*PG	**Pb**	**01 10 27.2**	**+0.1**
BALB	**Balikesir**	**1.01**	**300**	*e*Pg	**Pb**	**01 10 27.2**	**+0.1**
IGD	**Bursa**	**1.14**	**7**	*i* P	**Pb**	**01 10 28.1**	**-1.1**
IGD				*i* S	**Sn**	**01 10 45.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.23**	**355**	*e*PN	**Pn**	**01 10 29.9**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.23**	**355**	*e*Pn	**Pn**	**01 10 29.9**	**-0.9**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	**Pn**	**01 10 30.9**	**0.0**
BALY	**Balya**	**1.24**	**300**	P	**Pn**	**01 10 31.0**	**+0.1**
BALY	**Balya**	**1.24**	**300**	*i* P	**Pn**	**01 10 31.0**	**+0.1**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*PN	**Pn**	**01 10 30.7**	**-0.3**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*Pn	**Pn**	**01 10 30.7**	**-0.3**
IZI	**Iznik**	**1.25**	**16**	*e*PN	**Pn**	**01 10 30.9**	**-0.2**
IZI	**Iznik**	**1.25**	**16**	*e*Pn	**Pn**	**01 10 30.9**	**-0.2**
BORA	**Eskisehir**	**1.34**	**56**	P	**Pb**	**01 10 32.8**	**0.0**
BORA				S	**Sg**	**01 10 51.0**	**+0.5**
BORA	**Eskisehir**	**1.34**	**56**	*i* P	**Pb**	**01 10 32.8**	**0.0**
BORA				*i* S	**Sg**	**01 10 51.0**	**+0.5**
GONE	**Gonen-Balikesi**	**1.37**	**312**	*e*PN	**Pn**	**01 10 32.9**	**+0.2**
GONE	**Gonen-Balikesi**	**1.37**	**312**	*e*Pn	**Pn**	**01 10 32.9**	**+0.2**
ADVT	**Abdulvahap**	**1.41**	**23**	*e*PN	**Pn**	**01 10 33.5**	**+0.2**
ADVT	**Abdulvahap**	**1.41**	**23**	*e*Pn	**Pn**	**01 10 33.5**	**+0.2**
ARMT	**Armutlu**	**1.43**	**355**	*e*PN	**Pn**	**01 10 33.9**	**+0.3**
ARMT	**Armutlu**	**1.43**	**355**	*e*Pn	**Pn**	**01 10 33.9**	**+0.3**
DNZL	**Cakiroluk**	**1.45**	**179**	P	**Pg**	**01 10 35.7**	**+0.5**
DNZL	**Cakiroluk**	**1.45**	**179**	*i* P	**Pg**	**01 10 35.6**	**+0.5**
ESKT	**Eskisehir**	**1.47**	**74**	*i* P	**Pg**	**01 10 36.2**	**+0.5**
SEYT	**Eskypehyr**	**1.47**	**74**	P	**Pg**	**01 10 36.2**	**+0.5**
EDC	**Edincik**	**1.50**	**324**	*e*PN	**Pn**	**01 10 35.0**	**+0.5**
BOLV	**Bolvadin**	**1.57**	**105**	*i* P	Pn	01 10 29.5	-6.1
GULT	**Gulveren**	**1.73**	**41**	*e*PN	**Pn**	**01 10 37.6**	**-0.2**
GULT	**Gulveren**	**1.73**	**41**	*e*Pn	**Pn**	**01 10 37.6**	**-0.2**

TRN 06 01:25:00.3, 17.°78N×61.°57W, h29km, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.24**	**241**	*i* P	Pn	01 25 08.8	+0.9
ANWB				*e*S	Sb	01 25 13.6	+2.2
BPA	**Boggy Peak**	**0.78**	**201**	*e*P	Pb	01 25 16.6	+1.2
MLYT	**Lee's Yard**	**1.21**	**209**	*e*P	Pb	01 25 22.4	-0.3
MLYT				*e*S	Sb	01 25 39.4	+1.4
SEG	**Port Louis**	**1.38**	**177**	*e*P	Pb	01 25 24.7	-0.7
SEUS	**St. Eustatius**	**1.38**	**258**	*e*P	Pb	01 25 25.3	-0.1
SEUS				*e*S	Sb	01 25 43.8	+1.2
SMRT	**St. Maarten**	**1.46**	**281**	*e*P	Pn	01 25 24.8	+0.1
SMRT				*e*S	Sb	01 25 45.8	+0.8
SABA	**Saba**	**1.60**	**264**	*e*P	Pb	01 25 29.3	0.0
SABA				*e*S	Sn	01 25 47.7	+1.3
LZG	**Guadaloupe-1**	**1.65**	**187**	*e*P	Pn	01 25 28.4	+1.2
MGG	**Marie-Galante**	**1.87**	**173**	*e*P	Pb	01 25 32.7	-1.1
MGG				*e*S	Sb	01 25 55.2	-1.6
TBG	**Guadaloupe-3**	**1.92**	**182**	*e*P	Pb	01 25 33.3	-1.4
TBG				*e*S	Sb	01 25 56.5	-1.8
DWS	**Wesley**	**2.22**	**174**	*e*P	Pn	01 25 36.8	+1.7
DWS				*e*S	Sn	01 26 04.1	+2.6
BBL	**Barber's Block**	**2.25**	**178**	*e*P	Pb	01 25 38.3	-2.0
BBL				*e*S	Sn	01 26 03.8	+1.5

*IDC **06** 01:36:39.8±1.1, 55.°99S×26.°91W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.0/3, Error ellipse: s-maj=46.7km s-min=29.8km az=92.0*
*ISCJB **06** 01:36:46.3±1.1, 56.°1S±0.°2×26.°9W±0.°5, h63km, mb4.0/3, Error ellipse: s-maj=44.7km s-min=17.6km az=157.9*

ISC 06 01:36:48.0±1.1, 56.°1S±0.°2×27.°0W±0.°3, h63km, n6, σ1s 20/6, mb4.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.74**	**158**	P	**Pn**	**01 40 36.3**	**-1.6**
SNAA	**Sanae**	**18.68**	**156**	P	**P**	**01 41 02.0**	**+1.3**
VNDA	**Vanda**	**46.57**	**183**	P	**P**	**01 45 09.0**	**+0.3**
	1.8nm,0.6s,baz=193,slow=6.5,SNR=13						
LPAZ	**La Paz**	**50.49**	**305**	P	**P**	**01 45 40.0**	**-0.2**
	1.3nm,0.7s,baz=139,slow=7.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**73.00**	**29**	P	**P**	**01 48 10.8**	**0.0**
	0.8nm,0.4s,baz=199,slow=6.4,SNR=55						
ILAR	**Eielson Array**	**150.22**	**312**	PKPbc	**PKPbc**	**01 56 30.4**	**+0.1**
	0.8nm,0.7s,baz=129,slow=1.6,SNR=10						

MEX 06 01:49:49.2±0.9, 16.°61N×98.°87W, h17km±9km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.74**	**107**	*i* P	Pb	01 50 01.2	-2.5
PNIG				*e*S	Sg	01 50 10.5	-3.1
TLIG	**Tlapa**	**0.99**	**17**	*i* P	Pb	01 50 04.6	-3.4
TLIG				*e*S	Sb	01 50 16.0	-4.9
CAIG	**El Cayaco**	**1.41**	**288**	*e*P	Pn	01 50 10.1	-4.0
CAIG				*i* S	Sn	01 50 27.1	-5.2
MEIG	**Mezcala**	**1.49**	**331**	*e*P	Pn	01 50 12.3	-3.1
MEIG				*e*S	Sn	01 50 29.8	-4.7
PLIG	**Platanillo**	**1.87**	**341**	*e*P	Pn	01 50 17.9	-2.7
PLIG				*i* S	Sn	01 50 39.8	-4.1
ARIG	**Puente Sto Nin**	**2.18**	**320**	*e*P	Pn	01 50 22.5	-2.3
ARIG				*i* S	Sn	01 50 47.9	-3.6

*IDC **06** 01:51:37.2±1.0, 13.°63N×122.°73E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/52, mbtmp3.9/7, MS3.4/22, Ms1 3.4/22, ms1mx3.3/46, Error ellipse: s-maj=28.2km s-min=17.0km az=56.0*
*MAN **06** 01:51:37, 13.°65N×122.°

MKAR	**Makanchi Array**	**47.20**	**323**	P	**P**	**02 00 12.4**	**-0.2**
	1.0nm,0.8s,baz=118,slow=9.8,SNR=8.0						
MKAR				LR	LR	02 18 59.5	
	comp=Z,86nm,21.3s,baz=102,slow=35						
STKA	**Stephens Creek**	**48.80**	**159**	LR	LR	02 25 19.8	
	comp=Z,70nm,19.0s,baz=27,slow=42						
ZALV	**Zalesovo Beam**	**49.97**	**332**	P	**P**	**02 00 31.8**	**-1.9**
	0.9nm,0.3s,baz=102,slow=5.1,SNR=5.3						
ZALV				LR	LR	02 23 16.5	
	comp=Z,43nm,18.8s,baz=68,slow=38						
TIXI	**Tiksi**	**58.04**	**2**	LR	LR	02 26 55.6	
	comp=Z,31nm,21.6s,baz=191,slow=36						
NRIK	**Noril'sk**	**59.87**	**346**	LR	LR	02 29 37.3	
	comp=Z,33nm,19.9s,baz=146,slow=38						
ABKAR	**Akbulak array**	**62.02**	**319**	*e*P	**P**	**02 01 59.1**	**-1.1**
	0.1nm,0.3s						
AKTO	**Aktyubinsk**	**63.47**	**320**	LR	LR	02 31 28.5	
	comp=Z,72nm,20.1s,baz=100,slow=38						
KVAR	**Kislovodsk Arr**	**73.47**	**312**	LR	LR	02 39 24.9	
	comp=Z,47nm,18.1s,baz=28,slow=39						
ARCES	**ARCESS Array B**	**79.78**	**339**	P	**P**	**02 03 50.7**	**+3.0**
	3.9nm,1.0s,baz=73,slow=6.1,SNR=3.8						
ARCES				LR	LR	02 43 40.9	
	comp=Z,18nm,19.2s,baz=330,slow=39						
BRTR	**Keskin Array B**	**80.68**	**309**	LR	LR	02 44 57.0	
	comp=Z,17nm,19.1s,baz=68,slow=40						
FINES	**FINESS Array B**	**81.23**	**331**	LR	LR	02 42 41.7	
	comp=Z,64nm,18.1s,baz=59,slow=38						
AKASG	**Malin Array Be**	**81.72**	**320**	LR	LR	02 40 20.0	
	comp=Z,37nm,21.4s,baz=290,slow=36						
NOA	**NORSAR Array B**	**88.15**	**333**	LR	LR	02 47 08.6	
	comp=Z,44nm,19.0s,baz=290,slow=38						
GERES	**GERESS Array B**	**91.86**	**321**	LR	LR	02 48 49.2	
	comp=Z,23nm,18.9s,baz=64,slow=37						

MEX 06 02:18:05.2±0.4, 27°.93N×111°.98W, h16km±6km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.65**	**201**	*i* P	Pg	02 18 15.6	-2.3
SRIG				*i* S	Sg	02 18 23.4	-3.1
GUYB	**Guaymas**	**0.98**	**91**	*i* P	Pb	02 18 20.6	-3.2
GUYB				*i* S	Sb	02 18 32.1	-4.5
HSIG		**1.42**	**40**	*e*P	Pn	02 18 26.8	-3.6
HSIG				*i* S	Sn	02 18 43.0	-5.7

DDA ***06*** *02:25:21.5, 42°.30N×26°.04E, h16km, Ml3.4*
SOF ***06*** *02:25:24.9, 42°.22N×26°.24E, h5km, MD3.4*
CSEM ***06*** *02:25:24.7±0.1, 42°.23N×26°.27E, h2km, ML3.2, Error ellipse: s-maj=3.1km s-min=1.8km az=25.0*
THE ***06*** *02:25:25.0, 42°.24N×26°.32E, h8km±1km, ML3.4/4, Error ellipse: s-maj=2.1km s-min=0.8km az=29.0*
ISK ***06*** *02:25:26.6, 42°.14N×26°.41E, h10km, ML3.2*
ATH ***06*** *02:25:30.7, 41°.88N×25°.88E, h27km±1km, ML3.0/4, Error ellipse: s-maj=3.8km s-min=1.1km az=60.0*

ISC 06 02:25:25.0±1.0, 42°.20N±0°.01×26°.24E±0°.02, h7km±9km, n185, σ1§02/226, 17C-1D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMB	**Yambol**	**0.37**	**43**	*i* Pg	**Pg**	**02 25 31.9**	**-0.3**
EDRB	**Edirne**	**0.51**	**133**	*e*PG	**Pg**	**02 25 34.6**	**-0.2**
EDRB				*e*SG	**Sg**	**02 25 40.4**	**-1.2**
EDRB	**Edirne**	**0.51**	**133**	P	**Pg**	**02 25 35.0**	**+0.1**
EDRB				S	**Sg**	**02 25 41.6**	**0.0**
EDRB	**Edirne**	**0.51**	**133**	*e*Pg	**Pg**	**02 25 34.7**	**-0.2**
EDRB	**Edirne**	**0.51**	**133**	P	**Pg**	**02 25 35.0**	**+0.1**
EDRB				*e*Sg	**Sg**	**02 25 40.4**	**-1.2**
EDRB				S	**Sg**	**02 25 41.6**	**0.0**
DIM	**Dimitrovgrad**	**0.55**	**254**	*i* Pg	**Pg**	**02 25 35.9**	**+0.3**
KDZ	**Kurdzhali**	**0.82**	**229**	*i* Pg	**Pb**	**02 25 42.2**	**+0.5**
SZH	**Strazhica**	**1.09**	**348**	*i* P	**Pb**	**02 25 45.6**	**-0.6**
PHSR	**Pinarhisar**	**1.11**	**120**	*e*PG	**Pb**	**02 25 45.6**	**-1.0**
PHSR				*e*SG	**Sb**	**02 25 59.5**	**-1.8**
PHSR	**Pinarhisar**	**1.11**	**120**	*e*Pg	**Pb**	**02 25 45.6**	**-1.0**
PHSR				*e*Sg	**Sb**	**02 25 59.5**	**-1.8**
PLD	**Plovdiv**	**1.15**	**266**	*i* P	**Pb**	**02 25 46.2**	**-1.0**
PVL	**Pavlikeni**	**1.22**	**327**	*i* P	**Pn**	**02 25 48.3**	**-0.2**
ROIA	**ROIAK**	**1.23**	**43**	*i* Pg	**Pg**	**02 25 49.1**	**+0.6**
RZN	**Rozhen**	**1.25**	**246**	*i* P	**Pn**	**02 25 48.8**	**-0.3**
ALN	**Alexandroupoli**	**1.31**	**187**	*e*PN	**Pb**	**02 25 50.8**	**+0.8**
ALN				*e*SN	**Sg**	**02 26 08.4**	**+1.3**
ALN	**Alexandroupoli**	**1.31**	**187**	P	**Pn**	**02 25 49.9**	**+0.2**
ALN				S	**Sn**	**02 26 07.9**	**+0.4**
ALN	**Alexandroupoli**	**1.31**	**187**	P	**Pn**	**02 25 49.9**	**+0.2**
ALN	**Alexandroupoli**	**1.31**	**187**	*e*Pn	**Pb**	**02 25 50.8**	**+0.8**
ALN				S	**Sn**	**02 26 07.9**	**+0.4**
ALN				*e*Sn	**Sg**	**02 26 08.4**	**+1.3**
ALN	**Alexandroupoli**	**1.31**	**187**	P	**Pn**	**02 25 50.2**	**+0.5**
ALN				S	**Sb**	**02 26 03.6**	**-3.4**
ALN				AML	AML	02 26 10.4	
	comp=E,1127μm,0.9s						
ALN				AML	AML	02 26 11.5	
	comp=N,1171μm,0.5s						
PRD	**Provadia**	**1.31**	**40**	*i* P	**Pn**	**02 25 49.1**	**-0.7**
KESN	**Edirne-Kesan**	**1.41**	**166**	P	**Pn**	**02 25 51.2**	**-0.3**
KESN				S	**Sg**	**02 26 11.3**	**+0.9**
KESN	**Edirne-Kesan**	**1.41**	**166**	*i* P	**Pn**	**02 25 51.2**	**-0.3**
KESN				*i* S	**Sg**	**02 26 11.3**	**+0.9**
ENEZ	**Enez**	**1.46**	**183**	*e*PN	**Pb**	**02 25 52.8**	**+0.2**
ENEZ				*e*SN	**Sb**	**02 26 11.7**	**+0.3**
ENEZ	**Enez**	**1.46**	**183**	P	**Pn**	**02 25 51.8**	**-0.1**
ENEZ				S	**Sb**	**02 26 12.4**	**+1.0**
ENEZ	**Enez**	**1.46**	**183**	P	**Pn**	**02 25 51.8**	**-0.1**
ENEZ	**Enez**	**1.46**	**183**	*e*Pn	**Pb**	**02 25 52.8**	**+0.2**
ENEZ				*e*Sn	**Sb**	**02 26 11.7**	**+0.3**
ENEZ				S	**Sb**	**02 26 12.4**	**+1.0**
ERIK	**Erikli-Kesan**	**1.54**	**172**	*e*PN	**Pn**	**02 25 53.2**	**+0.3**
ERIK	**Erikli-Kesan**	**1.54**	**172**	*e*Pn	**Pn**	**02 25 53.2**	**+0.3**
CRLT	**Corlu**	**1.55**	**133**	*e*PN	**Pn**	**02 25 53.3**	**+0.3**
CRLT	**Corlu**	**1.55**	**133**	*e*Pn	**Pn**	**02 25 53.3**	**+0.3**
TKR	**Tekirdag**	**1.55**	**141**	*e*PN	**Pn**	**02 25 53.6**	**+0.5**
TKR	**Tekirdag**	**1.55**	**141**	*e*Pn	**Pn**	**02 25 53.6**	**+0.5**
PGB	**Panagyurishte**	**1.58**	**284**	*i* P	**Pn**	**02 25 54.1**	**+0.6**
ZIMR		**1.59**	**336**	*i* P	**Pg**	**02 25 56.4**	**+0.9**
ZIMR		**1.59**	**336**	S	**Sg**	**02 26 17.8**	**+1.6**
SART	**Tekirdag**	**1.67**	**155**	P	**Pb**	**02 25 56.1**	**0.0**
SART				S	**Sb**	**02 26 18.1**	**+0.8**
SART	**Tekirdag**	**1.67**	**155**	*i* P	**Pb**	**02 25 56.1**	**0.0**
SART				*i* S	**Sb**	**02 26 18.1**	**+0.8**
CTYL	**Yalikoy Yolu**	**1.69**	**115**	*e*PN	**Pn**	**02 25 54.6**	**-0.4**
CTYL	**Yalikoy Yolu**	**1.69**	**115**	*e*Pn	**Pn**	**02 25 54.6**	**-0.4**
KAVA	**Kavala**	**1.77**	**228**	P	**Pn**	**02 25 56.0**	**0.0**
KAVA				S	**Sb**	**02 26 20.5**	**+0.4**
KAVA	**Kavala**	**1.77**	**228**	P	**Pn**	**02 25 56.6**	**+0.6**
KAVA				S	**Sb**	**02 26 20.5**	**+0.4**
KAVA	**Kavala**	**1.77**	**228**	P	**Pn**	**02 25 56.6**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.81**	**174**	*e*PN	**Pn**	**02 25 57.0**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.81**	**174**	*e*Pn	**Pn**	**02 25 57.1**	**+0.5**
SMTH	**Samothraki Isl**	**1.81**	**197**	P	**Pn**	**02 25 56.9**	**+0.3**
SMTH				S	**Sb**	**02 26 21.3**	**0.0**
SMTH	**Samothraki Isl**	**1.81**	**197**	P	**Pn**	**02 25 56.9**	**+0.3**
SMTH				S	**Sb**	**02 26 21.3**	**0.0**
SMTH	**Samothraki Isl**	**1.81**	**197**	P	**Pn**	**02 25 57.7**	**+1.1**
SMTH				S	**Sn**	**02 26 17.2**	**-2.7**
SMTH				AML	AML	02 26 26.5	
	comp=E,834μm,0.4s						
SMTH				AML	AML	02 26 27.6	
	comp=N,776μm,0.4s						
LPK	**Lapseki**	**1.87**	**168**	*e*PN	**Pn**	**02 25 58.3**	**+0.9**
LPK	**Lapseki**	**1.87**	**168**	*e*Pn	**Pn**	**02 25 58.3**	**+0.9**
MRMT	**Marmara Adasi**	**1.89**	**147**	*e*PN	**Pn**	**02 25 58.3**	**+0.4**
MRMT	**Marmara Adasi**	**1.89**	**147**	*e*Pn	**Pn**	**02 25 58.3**	**+0.4**
CTKS	**Kestanelik-??a**	**1.95**	**119**	*e*PN	**Pn**	**02 25 58.3**	**-0.3**
CTKS	**Kestanelik-??a**	**1.95**	**119**	*e*Pn	**Pn**	**02 25 58.3**	**-0.3**
NVR	**Nevrokopi**	**1.97**	**245**	P	**Pn**	**02 25 59.1**	**+0.2**
NVR				S	**Sb**	**02 26 25.8**	**-0.3**
NVR	**Nevrokopi**	**1.97**	**245**	P	**Pn**	**02 25 59.5**	**+0.6**
NVR				S	**Sb**	**02 26 25.8**	**-0.3**
KRBG	**Karabiga-Canak**	**1.97**	**156**	*e*PN	**Pn**	**02 25 59.8**	**+1.0**
KRBG	**Karabiga-Canak**	**1.97**	**156**	*e*Pn	**Pn**	**02 25 59.8**	**+1.0**
MMB	**Musomiste**	**1.97**	**253**	P	**Pn**	**02 25 59.5**	**+0.6**
GADA	**Gvkgeada**	**2.02**	**187**	*e*PN	**Pb**	**02 26 01.4**	**-0.7**
GADA	**Gvkgeada**	**2.02**	**187**	P	**Pn**	**02 26 00.2**	**+0.6**
GADA				S	**Sn**	**02 26 26.1**	**+1.0**
GADA	**Gvkgeada**	**2.02**	**187**	P	**Pn**	**02 26 00.2**	**+0.6**
GADA	**Gvkgeada**	**2.02**	**187**	*e*Pn	**Pb**	**02 26 01.4**	**-0.7**
GADA				S	**Sn**	**02 26 26.1**	**+1.0**
BGKT	**Bogazkoy**	**2.15**	**117**	*e*PN	**Pn**	**02 26 01.1**	**-0.2**
BGKT	**Bogazkoy**	**2.15**	**117**	*e*Pn	**Pn**	**02 26 01.1**	**-0.2**
BUC1	**Bucharest**	**2.15**	**356**	S	**Sg**	**02 26 33.9**	**-0.3**
KNL	**Bal¯–kesir**	**2.16**	**153**	*i* P	**Pn**	**02 26 00.7**	**-0.7**
KNL				*i* S	**Sb**	**02 26 30.7**	**-0.7**
MSAB	**Monastry St. A**	**2.22**	**31**	*i* P	**Pn**	**02 26 02.6**	**+0.4**
MSAB	**Monastry St. A**	**2.22**	**31**	S	**Sb**	**02 26 33.3**	**+0.2**
EDC	**Edincik**	**2.22**	**146**	*e*PN	**Pn**	**02 26 02.7**	**+0.4**
EDC	**Edincik**	**2.22**	**146**	*e*Pn	**Pn**	**02 26 02.7**	**+0.4**
SRS	**Serrai**	**2.26**	**242**	P	**Pn**	**02 26 02.7**	**-0.2**
SRS				S	**Sb**	**02 26 33.5**	**-0.9**
SRS	**Serrai**	**2.26**	**242**	P	**Pn**	**02 26 03.4**	**+0.6**
SRS				S	**Sb**	**02 26 33.5**	**-0.9**
SRS	**Serrai**	**2.26**	**242**	P	**Pn**	**02 26 03.4**	**+0.6**
MANR	**Mangalia**	**2.36**	**46**	*i* P	**Pn**	**02 26 04.2**	**0.0**
MANR	**Mangalia**	**2.36**	**46**	S	**Sb**	**02 26 37.5**	**+0.3**
EZN	**Ezine**	**2.37**	**178**	*e*PN	**Pn**	**02 26 06.1**	**+1.7**
EZN	**Ezine**	**2.37**	**178**	P	**Pn**	**02 26 04.5**	**+0.1**
EZN				S	**Sn**	**02 26 34.9**	**+1.2**
EZN	**Ezine**	**2.37**	**178**	P	**Pn**	**02 26 04.5**	**+0.1**
EZN	**Ezine**	**2.37**	**178**	*e*Pn	**Pn**	**02 26 06.1**	**+1.7**
EZN				S	**Sn**	**02 26 34.9**	**+1.2**
KKB	**Krupnik**	**2.38**	**263**	*i* P	**Pn**	**02 26 04.8**	**+0.3**
ISK	**Istanbul-Kandi**	**2.40**	**117**	*e*PN	**Pn**	**02 26 05.0**	**+0.3**
ISK	**Istanbul-Kandi**	**2.40**	**117**	P	**Pn**	**02 26 03.8**	**-0.9**
ISK				S	**Sn**	**02 26 33.2**	**-1.1**
ISK	**Istanbul-Kandi**	**2.40**	**117**	P	**Pn**	**02 26 03.8**	**-0.9**
ISK	**Istanbul-Kandi**	**2.40**	**117**	*e*Pn	**Pn**	**02 26 05.0**	**+0.3**
ISK				S	**Sn**	**02 26 33.2**	**-1.1**
GONE	**Gonen-Balikesi**	**2.41**	**153**	*e*PN	**Pn**	**02 26 05.8**	**+0.9**
GONE	**Gonen-Balikesi**	**2.41**	**153**	*e*Pn	**Pn**	**02 26 05.8**	**+0.9**
LIA	**Limnos Island**	**2.44**	**200**	P	**Pn**	**02 26 05.7**	**+0.5**
LIA	**Limnos Island**	**2.44**	**200**	P	**Pn**	**02 26 05.7**	**+0.5**
SULR		**2.48**	**0**	*i* P	**Pb**	**02 26 09.5**	**-0.4**
SULR		**2.48**	**0**	S	**Sg**	**02 26 45.0**	**+0.4**
HUMR	**Humele**	**2.50**	**339**	*i* P	**Pb**	**02 26 08.9**	**-1.4**
HUMR	**Humele**	**2.50**	**339**	S	**Sg**	**02 26 45.3**	**-0.1**
CVDA	**Cernavoda**	**2.50**	**31**	*i* P	**Pb**	**02 26 10.1**	**-0.2**
CVDA	**Cernavoda**	**2.50**	**31**	S	**Sb**	**02 26 38.5**	**-2.8**
KCTX	**Karacabey (Bur**	**2.51**	**140**	*e*PN	**Pn**	**02 26 06.4**	**+0.2**
KCTX	**Karacabey (Bur**	**2.51**	**140**	*e*Pn	**Pn**	**02 26 06.4**	**+0.2**
OUR	**Ouranopolis**	**2.52**	**223**	*e*PN	**Pb**	**02 26 09.2**	**-1.5**
OUR	**Ouranopolis**	**2.52**	**223**	P	**Pn**	**02 26 06.9**	**+0.5**
OUR	**Ouranopolis**	**2.52**	**223**	P	**Pn**	**02 26 06.9**	**+0.5**
OUR	**Ouranopolis**	**2.52**	**223**	*e*Pn	**Pb**	**02 26 09.2**	**-1.5**
OUR	**Ouranopolis**	**2.52**	**223**	P	**Pn**	**02 26 05.9**	**-0.5**
AMRR	**Amara**	**2.54**	**18**	*i* P	**Pb**	**02 26 09.8**	**-1.1**
AMRR	**Amara**	**2.54**	**18**	S	**Sg**	**02 26 46.2**	**-0.3**
BUY	**Buyukada**	**2.54**	**121**	P	**Pn**	**02 26 06.4**	**-0.3**
BUY	**Buyukada**	**2.54**	**121**	*i* P	**Pn**	**02 26 06.4**	**-0.3**
BUY				*i* S	**Sg**	**02 26 47.0**	**+0.3**
ARMT	**Armutlu**	**2.56**	**129**	*e*PN	**Pn**	**02 26 07.4**	**+0.4**
ARMT	**Armutlu**	**2.56**	**129**	*e*Pn	**Pn**	**02 26 07.4**	**+0.4**
EFOR	**EFORIE**	**2.57**	**42**	*i* P	**Pn**	**02 26 05.9**	**-1.1**
EFOR	**EFORIE**	**2.57**	**42**	S	**Sb**	**02 26 44.8**	**+1.6**
SOH	**Sokhos**	**2.57**	**239**	P	**Pn**	**02 26 07.2**	**+0.1**
SOH	**Sokhos**	**2.57**	**239**	P	**Pn**	**02 26 07.5**	**+0.4**
SOH	**Sokhos**	**2.57**	**239**	P	**Pn**	**02 26 07.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.70**	**132**	*e*PN	**Pn**	**02 26 09.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.70**	**132**	*e*Pn	**Pn**	**02 26 09.2**	**+0.3**
SILT	**Sile**	**2.75**	**111**	*e*PN	**Pn**	**02 26 09.5**	**-0.1**
SILT	**Sile**	**2.75**	**111**	*e*Pn	**Pn**	**02 26 09.5**	**-0.1**
TIRR	**Tirgusor**	**2.76**	**34**	*i* P	**Pn**	**02 26 09.6**	**-0.1**
TIRR	**Tirgusor**	**2.76**	**34**	S	**Sg**	**02 26 52.6**	**-1.0**
HARR	**Harsova**	**2.78**	**26**	*i* P	**Pn**	**02 26 11.5**	**+1.6**
PLG	**Polygyros**	**2.79**	**230**	P	**Pn**	**02 26 10.4**	**+0.3**
PLG	**Polygyros**	**2.79**	**230**	P	**Pn**	**02 26 10.7**	**+0.6**
PLG	**Polygyros**	**2.79**	**230**	P	**Pn**	**02 26 10.7**	**+0.6**
PLG				S	**Sn**	**02 26 39.6**	**-4.4**
PLG				AML	AML	02 26 59.4	
	comp=E,319μm,0.6s						
PLG				AML	AML	02 26 59.4	
	comp=N,545μm,0.7s						
BALB	**Balikesir**	**2.84**	**154**	*e*PN	**Pn**	**02 26 12.1**	**+1.3**
BALB	**Balikesir**	**2.84**	**154**	*e*Pn	**Pn**	**02 26 12.1**	**+1.3**
HORT	**Hortiatis**	**2.85**	**237**	P	**Pn**	**02 26 11.5**	**+0.4**
HORT				S	**Sn**	**02 26 47.6**	**+1.8**
HORT	**Hortiatis**	**2.85**	**237**	P	**Pn**	**02 26 11.5**	**+0.4**
HORT				S	**Sn**	**02 26 47.6**	**+1.8**
HORT	**Hortiatis**	**2.85**	**237**	P	**Pn**	**02 26 12.0**	**+0.9**
HRT	**Hereke**	**2.92**	**117**	*e*PN	**Pn**	**02 26 12.1**	**+0.2**
HRT	**Hereke**	**2.92**	**117**	*e*Pn	**Pn**	**02 26 12.1**	**+0.2**
PRK	**Paraskevi**	**2.95**	**180**	P	**Pn**	**02 26 13.1**	**+0.8**
PRK	**Paraskevi**	**2.95**	**180**	P	**Pn**	**02 26 12.8**	**+0.5**
PRK				S	**Sn**	**02 26 46.1**	**-1.9**
PRK	**Paraskevi**	**2.95**	**180**	P	**Pn**	**02 26 12.8**	**+0.5**
PRK				S	**Sn**	**02 26 46.1**	**-1.9**
PRK				AML	AML	02 27 05.5	
	comp=N,617μm,1.0s						
PRK				AML	AML	02 27 11.2	
	comp=E,190μm,0.5s						
PAIG	**Paliouri**	**2.98**	**221**	P	**Pn**	**02 26 12.6**	**-0.2**
PAIG	**Paliouri**	**2.98**	**221**	P	**Pn**	**02 26 12.6**	**-0.2**
PAIG	**Paliouri**	**2.98**	**221**	P	**Pn**	**02 26 12.5**	**-0.3**
SIGR	**SIGRI**	**3.00**	**186**	*e*PN	**Pn**	**02 26 14.9**	**+1.9**
SIGR	**SIGRI**	**3.00**	**186**	P	**Pn**	**02 26 13.1**	**+0.1**
SIGR	**SIGRI**	**3.00**	**186**	*e*Pn	**Pn**	**02 26 14.9**	**+1.9**
SIGR	**SIGRI**	**3.00**	**186**	P	**Pn**	**02 26 13.1**	**+0.1**
IZI	**Iznik**	**3.06**	**126**	*e*PN	**Pn**	**02 26 14.9**	**+0.9**
IZI	**Iznik**	**3.06**	**126**	*e*Pn	**Pn**	**02 26 14.9**	**+0.9**
GRG	**Griva**	**3.14**	**248**	P	**Pn**	**02 26 14.8**	**-0.1**
GRG	**Griva**	**3.14**	**248**	P	**Pn**	**02 26 15.1**	**+0.2**
GRG	**Griva**	**3.14**	**248**	P	**Pn**	**02 26 15.1**	**+0.2**
DKL	**Dikili**	**3.17**	**171**	*e*PN	**Pn**	**02 26 16.9**	**+1.6**
DKL	**Dikili**	**3.17**	**171**	*e*Pn	**Pn**	**02 26 16.9**	**+1.6**
ADVT	**Abdulvahap**	**3.17**	**123**	*e*PN	**Pn**	**02 26 15.6**	**+0.2**
ADVT	**Abdulvahap**	**3.17**	**123**	*e*Pn	**Pn**	**02 26 15.6**	**+0.2**
CFR	**Carcaliu**	**3.28**	**24**	*i* P	**Pn**	**02 26 18.3**	**+1.5**
CFR	**Carcaliu**	**3.28**	**24**	S	**Sb**	**02 27 05.7**	**+2.1**
BARS	**Barje**	**3.33**	**282**	*e*Pn	**Pn**	**02 26 18.7**	**+1.1**
VOIR		**3.35**	**345**	*i* P	**Pn**	**02 26 19.7**	**+1.8**
VOIR		**3.35**	**345**	S	**Sg**	**02 27 12.1**	**-0.5**
ARR	**Arges**	**3.37**	**340**	*i* P	**Pn**	**02 26 20.0**	**+1.8**
ARR	**Arges**	**3.37**	**340**	S	**Sg**	**02 27 11.5**	**-0.7**
SPNC	**Sapanca-Adapaz**	**3.41**	**115**	*e*PN	**Pn**	**02 26 19.4**	**+0.7**
SPNC	**Sapanca-Adapaz**	**3.41**	**115**	*e*Pn	**Pn**	**02 26 19.4**	**+0.7**
AOS	**Alonnisos**	**3.52**	**211**	P	**Pn**	**02 26 19.7**	**-0.4**
AOS	**Alonnisos**	**3.52**	**211**	P	**Pn**	**02 26 19.7**	**-0.4**
TLCR		**3.52**	**31**	*i* P	**Pn**	**02 26 21.7**	**+1.6**
TLCR		**3.52**	**31**	S	**Sb**	**02 27 12.2**	**+1.6**
AKS	**Akhisar**	**3.53**	**160**	*e*PN	**Pn**	**02 26 21.5**	**+1.2**
AKS	**Akhisar**	**3.53**	**160**	*e*Pn	**Pn**	**02 26 21.5**	**+1.2**
BOLS	**Boljevac**	**3.54**	**299**	*e*Pn	**Pn**	**02 26 19.9**	**-0.5**
ODBI	**Odobesti**	**3.61**	**9**	*i* P	**Pb**	**02 26 30.4**	**+1.2**
BOVS	**Bovan**	**3.63**	**295**	*e*Pn	**Pn**	**02 26 22.8**	**+1.2**
XOR	**Xorichti**	**3.66**	**220**	P	**Pn**	**02 26 21.9**	**-0.2**
XOR	**Xorichti**	**3.66**	**220**	P	**Pn**	**02 26 21.9**	**-0.2**
XOR	**Xorichti**	**3.66**	**220**	P	**Pn**	**02 26 21.3**	**-0.8**
NEO	**Neokhori**	**3.69**	**219**	P	**Pn**	**02 26 21.6**	**-0.9**
NEO	**Neokhori**	**3.69**	**219**	P	**Pn**	**02 26 21.6**	**-0.9**
SKIA	**Skiathos**	**3.69**	**216**	P	**Pn**	**02 26 22.3**	**-0.2**
SKIA	**Skiathos**	**3.69**	**216**	P	**Pn**	**02 26 22.3**	**-0.2**
CHOS	**Chios island**	**3.81**	**182**	P	**Pn**	**02 26 25.1**	**+0.8**
CHOS	**Chios island**	**3.81**	**182**	P	**Pn**	**02 26 25.1**	**+0.8**
MDVR	**Moldovita**	**4.18**	**310**	*i* P	**Pn**	**02 26 29.6**	**+0.3**
OHR	**Ohrid**	**4.22**	**257**	*e*Pn	**Pb**	**02 26 40.3**	**+0.7**
GRUS	**Gruza**	**4.39**	**294**	*e*Pn	**Pn**	**02 26 32.9**	**+0.8**
IVAS	**Ivanjica**	**4.68**	**289**	*e*Pn	**Pn**	**02 26 36.0**	**-0.2**
TRUS	**Trudelj**	**4.72**	**297**	*e*Pn	**Pn**	**02 26 37.2**	**+0.6**
BZS	**Buzias**	**4.78**	**317**	*i* P	**Pn**	**02 26 37.5**	**+0.1**
BZS	**Buzias**	**4.78**	**317**	S	**Sg**	**02 27 53.0**	**-5.4**
DIVS	**Divibare**	**4.95**	**295**	P	**Pn**	**02 26 40.0**	**+0.1**
DIVS	**Divibare**	**4.95**	**295**	*e*Pn	**Pn**	**02 26 40.2**	**+0.3**
MILM	**Milestii Mici**	**5.06**	**20**	*i* P	**Pb**	**02 26 56.7**	**+2.8**
EHY				*e*S	**Sb**	**02 26 52.9**	**-0.2**
	baz=304						
CHKT	**Chengkung**	**0.29**	**215**	*i* P	**Pn**	**02 26 50.1**	**-0.2**
	baz=189						
CHKT				*e*S	**Sn**	**02 26 55.6**	**-0.1**
	baz=189						
TEGC	**Jichi Village**	**0.37**	**360**	*e*P	**Pn**	**02 26 51.1**	**-0.3**
	baz=2.0						
ESL	**Shilin**	**0.49**	**348**	*e*P	**Pb**	**02 26 51.6**	**-0.3**
	baz=347						
ELDTW	**Lidau**	**0.51**	**253**	P	**Pb**	**02 26 52.0**	**-0.3**
	baz=240						
ELDTW				*e*S	**Sb**	**02 26 58.3**	**-1.1**
	baz=240						
ESF	**Shoufeng Towns**	**0.53**	**356**	*e*P	**Pn**	**02 26 53.6**	**-0.1**
	baz=353						
WDT	**Danda**	**0.56**	**318**	*i* P	**Pb**	**02 26 53.1**	**-0.3**
	baz=320						
WDT				S	**Sb**	**02 37 00.2**	**-1.0**
	baz=320						
HWA	**Hwalien**	**0.64**	**5**	*e*P	**Pn**	**02 26 55.4**	**+0.2**
	baz=1.0						
TWG	**Pinlang**	**0.67**	**220**	*e*P	**Pb**	**02 26 54.4**	**-0.6**
	baz=213						
TTN	**Taitung**	**0.68**	**212**	*e*P	**Pn**	**02 26 56.0**	**+0.2**
	baz=205						
ALS	**Alishan**	**0.70**	**285**	*i* P	**Pb**	**02 26 55.7**	**+0.1**
	baz=283						
ALS				*i* S	**Sb**	**02 37 05.0**	**0.0**
	baz=283						
TWD	**Chiawan**	**0.74**	**4**	*e*P	**Pb**	**02 26 55.3**	**-0.9**
	baz=358						
STYT	**Tauyuan**	**0.74**	**257**	*i* P	**Pb**	**02 26 56.1**	**-0.1**
	baz=250						
STYT				S	**Sb**	**02 37 05.7**	**-0.3**
	baz=250						
SMLT	**Sun Moon Lake**	**0.80**	**313**	*i* P	**Pn**	**02 26 57.0**	**-0.5**
	baz=318						
SMLT				*e*S	**Sb**	**02 37 07.0**	**-0.8**
	baz=318						
CHN5	**Tsauling**	**0.84**	**288**	*e*P	**Pb**	**02 26 58.1**	**+0.3**
	baz=291						
CHN5				S	**Sn**	**02 37 09.8**	**+0.3**
	baz=291						
WHF	**Hehuan Shan**	**0.84**	**343**	*e*P	**Pn**	**02 26 57.0**	**-1.4**
	baz=353						
TYC	**Yuchr**	**0.85**	**312**	P	**Pn**	**02 26 57.6**	**-0.4**
	baz=319						
TYC				*e*S	**Sb**	**02 37 08.6**	**-0.3**
	baz=319						
WTP	**Ta-pu**	**0.86**	**264**	*i* P	**Pb**	**02 26 58.5**	**+0.3**
	baz=261						
WTP				*e*S	**Sn**	**02 37 09.7**	**-0.2**
	baz=261						
CHN4	**Tsaushan**	**0.87**	**271**	*i* P	**Pb**	**02 26 58.9**	**+0.5**
	baz=269						
CHN

DEMI	**Demirci**	**0.31**	**260**	P	**Pb**	**02 40 14.0**	**-0.7**
DEMI				S	**Sg**	**02 40 18.3**	**+0.8**
DEMI	**Demirci**	**0.31**	**260**	*i* P	**Pb**	**02 40 14.0**	**-0.7**
DEMI				*i* S	**Sg**	**02 40 18.3**	**+0.8**
TVSB	**Tavsanli**	**0.45**	**38**	*e*PG	**Pg**	**02 40 15.5**	**-0.4**
TVSB				*e*SG	**Sg**	**02 40 21.4**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**38**	*e*Pg	**Pg**	**02 40 15.5**	**-0.4**
TVSB				*e*Sg	**Sg**	**02 40 21.4**	**-0.4**
KULA	**Kula-Manisa**	**0.68**	**211**	*e*PG	**Pg**	**02 40 20.1**	**-0.1**
KULA				*e*SG	**Sb**	**02 40 30.1**	**-0.4**
KULA	**Kula-Manisa**	**0.68**	**211**	*e*Pg	**Pg**	**02 40 20.1**	**-0.1**
KULA				*e*Sg	**Sb**	**02 40 30.1**	**-0.4**
KHAL	**Karahalli**	**0.79**	**157**	P	**Pb**	**02 40 22.6**	**-0.3**
KHAL				S	**Sg**	**02 40 32.9**	**+0.4**
KHAL	**Karahalli**	**0.79**	**157**	*i* P	**Pb**	**02 40 22.6**	**-0.3**
KHAL				*i* S	**Sg**	**02 40 32.9**	**+0.4**
KHL	**Karahalli**	**0.84**	**157**	*e*PG	**Pg**	**02 40 22.8**	**-0.5**
KHL				*e*SG	**Sb**	**02 40 35.0**	**-0.1**
KHL	**Karahalli**	**0.84**	**157**	*e*Pg	**Pg**	**02 40 22.8**	**-0.5**
KHL				*e*Sg	**Sb**	**02 40 35.0**	**-0.1**
BALB	**Balikesir**	**1.09**	**300**	*e*PN	**Pg**	**02 40 27.9**	**-0.3**
BALB				*e*SN	**Sb**	**02 40 43.2**	**+0.8**
BALB	**Balikesir**	**1.09**	**300**	*e*Pn	**Pg**	**02 40 27.9**	**-0.3**
BALB				*e*Sn	**Sb**	**02 40 43.2**	**+0.8**
IGD	**Bursa**	**1.17**	**4**	*i* P	**Pg**	**02 40 28.6**	**-0.9**
IGD				*i* S	**Sb**	**02 40 45.0**	**+0.6**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*PN	**Pb**	**02 40 30.2**	**-0.4**
CAVI	**Cavuskoy**	**1.24**	**27**	*e*Pn	**Pb**	**02 40 30.2**	**-0.4**
IZI	**Iznik**	**1.27**	**13**	*e*PN	**Pn**	**02 40 31.0**	**+0.1**
IZI	**Iznik**	**1.27**	**13**	*e*Pn	**Pn**	**02 40 31.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*PN	**Pn**	**02 40 31.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**352**	*e*Pn	**Pn**	**02 40 31.0**	**0.0**
BORA	**Eskisehir**	**1.30**	**53**	P	**Pg**	**02 40 32.2**	**+0.1**
BORA				S	**Sn**	**02 40 49.3**	**+0.5**
BORA	**Eskisehir**	**1.30**	**53**	*i* P	**Pg**	**02 40 32.1**	**+0.1**
BORA				*i* S	**Sn**	**02 40 49.3**	**+0.5**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*PN	**Pn**	**02 40 31.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*Pn	**Pn**	**02 40 31.3**	**0.0**
ARMT	**Armutlu**	**1.48**	**353**	*e*PN	**Pn**	**02 40 33.9**	**+0.2**
ARMT	**Armutlu**	**1.48**	**353**	*e*Pn	**Pn**	**02 40 33.9**	**+0.2**
EDC	**Edincik**	**1.57**	**323**	*e*PN	**Pn**	**02 40 35.3**	**+0.3**
EDC	**Edincik**	**1.57**	**323**	*e*Pn	**Pn**	**02 40 35.3**	**+0.3**
GULT	**Gulveren**	**1.72**	**39**	*e*PN	**Pn**	**02 40 37.1**	**0.0**
GULT	**Gulveren**	**1.72**	**39**	*e*Pn	**Pn**	**02 40 37.1**	**0.0**

ISCJB ***06*** *02:45:31.5±0.8, 19°.2S±0°.2×177°.4W±0°.2, h570km, mb3.8/6, Error ellipse: s-maj=30.6km s-min=14.0km az=145.4*
IDC ***06*** *02:45:32.2±1.8, 19°.19S×177°.48W, h563km±26km, mb3.3/6, mb1 3.5/9, mb1mx3.2/32, mbtmp4.3/9, Error ellipse: s-maj=28.3km s-min=15.6km az=146.0*

ISC 06 02:45:32.5±0.9, 19°.2S±0°.2×177°.5W±0°.2, h570km, n9, σ1§12/9, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.54**	**47**	P	**P**	**02 47 26.1**	**-0.5**
	10nm,0.3s,baz=116,slow=2.4,SNR=12						
DZM	**Mont Dzumac**	**15.35**	**256**	P	**P**	**02 48 45.9**	**+0.8**
	0.4nm,0.3s,baz=94,slow=16,SNR=5.7						
URZ	**Urewera**	**19.61**	**193**	P	**P**	**02 49 22.9**	**-0.9**
	2.0nm,0.3s,baz=297,slow=6.8,SNR=9.5						
CTA	**Charters Tower**	**34.16**	**262**	P	**P**	**02 51 31.5**	**+0.2**
	3.2nm,0.6s,baz=96,slow=13,SNR=5.9						
STKA	**Stephens Creek**	**38.84**	**243**	P	**P**	**02 52 10.2**	**+0.6**
	2.6nm,0.5s,baz=90,slow=9.7,SNR=8.3						
WRA	**Warramunga Arr**	**45.31**	**261**	P	**P**	**02 52 59.3**	**-1.2**
	2.5nm,0.5s,baz=96,slow=8.2,SNR=35						
ASAR	**Alice Springs**	**45.34**	**255**	P	**P**	**02 53 00.4**	**-0.3**
	5.2nm,0.7s,baz=87,slow=8.5,SNR=52						
TXAR	**Lajitas Array**	**85.90**	**57**	P	**P**	**02 57 14.8**	**+1.7**
	1.0nm,0.7s,baz=213,slow=7.2,SNR=10						
ILAR	**Eielson Array**	**86.90**	**13**	P	**P**	**02 57 15.9**	**-0.9**
	0.3nm,0.6s,baz=224,slow=3.8,SNR=7.0						

IDC ***06*** *02:49:14.6±1.2, 14°.61S×168°.02E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.0/37, mbtmp4.2/9, ML4.7/1, MS3.1/5, Ms1 3.1/5, ms1mx2.8/32, Error ellipse: s-maj=40.0km s-min=21.8km az=142.0*
ISCJB ***06*** *02:49:17.5±0.9, 14°.78S±0°.1×168°.1E±0°.2, h30km, mb4.1/8, MS3.2/2, Error ellipse: s-maj=20.5km s-min=10.5km az=6.1*

ISC 06 02:49:19.1±1.1, 14°.7S±0°.1×168°.1E±0°.2, h30km, n11, σ1§09/10, mb4.1/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.48**	**192**	Pn	**Pn**	**02 51 06.0**	**-0.3**
	11nm,0.3s,baz=172,slow=14,SNR=77						
DZM				Sn	**Sn**	**02 52 30.0**	**-0.1**
	1.9nm,0.3s,baz=330,slow=20,SNR=2.2						
DZM				LR	LR	02 53 30.4	
	comp=Z,92nm,21.5s,baz=28,slow=34						
HNR	**Honiara**	**9.50**	**303**	LR	LR	02 54 26.6	
	comp=Z,83nm,19.9s,baz=110,slow=33						
AFI	**Afiamalu**	**19.57**	**90**	LR	LR	02 59 14.9	
	comp=Z,46nm,18.0s,baz=354,slow=31						
PMG	**Port Moresby**	**21.09**	**282**	P	**P**	**02 54 02.0**	**+0.7**
	16nm,0.8s,baz=138,slow=12,SNR=3.5						
CTA	**Charters Tower**	**21.47**	**252**	P	**P**	**02 54 06.5**	**+1.1**
	5.2nm,0.7s,baz=90,slow=12,SNR=7.1						
STKA	**Stephens Creek**	**29.58**	**230**	P	**P**	**02 55 22.4**	**+0.9**
	5.3nm,0.7s,baz=57,slow=7.7,SNR=11						
STKA				LR	LR	03 04 34.7	
	comp=Z,46nm,21.8s,baz=307,slow=31						
WRA	**Warramunga Arr**	**32.56**	**256**	P	**P**	**02 55 46.5**	**-1.5**
	0.8nm,0.5s,baz=85,slow=9.3,SNR=8.6						
ASAR	**Alice Springs**	**33.38**	**249**	P	**P**	**02 55 54.2**	**-0.9**
	4.0nm,0.7s,baz=79,slow=9.2,SNR=28						
ASAR				LR	LR	03 08 19.3	
	comp=Z,72nm,18.7s,baz=102,slow=34						
ILAR	**Eielson Array**	**86.28**	**18**	P	**P**	**03 01 56.5**	**-1.1**
	0.5nm,0.7s,baz=234,slow=5.0,SNR=10						
TXAR	**Lajitas Array**	**95.61**	**61**	P	**P**	**03 02 43.4**	**+1.2**
	0.2nm,0.6s,baz=240,slow=3.0,SNR=2.5						
MKAR	**Makanchi Array**	**97.71**	**316**	P	**P**	**03 02 51.0**	**-0.2**
	0.2nm,0.3s,baz=96,slow=7.4,SNR=4.1						

DDA ***06*** *02:52:19.5, 39°.24N×28°.86E, h7km, Ml2.0*
ISK ***06*** *02:52:19.8, 39°.08N×29°.00E, h8km, MD2.6*
ISCJB ***06*** *02:52:20.8±0.7, 39°.20N±0°.04×28°.89E±0°.06, h9km, Error ellipse: s-maj=7.6km s-min=4.6km az=25.7*
CSEM ***06*** *02:52:21.1±0.2, 39°.19N×28°.91E, h2km, MD2.6, Error ellipse: s-maj=5.2km s-min=4.0km az=90.0*

ISC 06 02:52:20.2±0.9, 39°.16N±0°.03×29°.03E±0°.05, h9km, n12, σ1§26/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**245**	P	**Pg**	**02 52 25.1**	**-0.5**
DEMI				S	**Sg**	**02 52 28.1**	**-1.2**
DEMI	**Demirci**	**0.27**	**245**	*i* P	**Pg**	**02 52 25.1**	**-0.5**
DEMI				*i* S	**Sg**	**02 52 28.1**	**-1.2**
TVSB	**Tavsanli**	**0.45**	**49**	*e*PG	**Pb**	**02 52 30.4**	**+0.1**
TVSB				*e*SG	**Sb**	**02 52 37.9**	**+0.8**
TVSB	**Tavsanli**	**0.45**	**49**	*e*Pg	**Pb**	**02 52 30.4**	**+0.1**
TVSB				*e*Sg	**Sb**	**02 52 37.9**	**+0.8**
KULA	**Kula-Manisa**	**0.70**	**204**	*e*PG	**Pg**	**02 52 32.2**	**-1.5**
KHAL	**Karahalli**	**0.87**	**155**	P	**Pn**	**02 52 39.4**	**+0.7**
KHAL				S	**Sn**	**02 52 52.3**	**+0.8**
KHAL	**Karahalli**	**0.87**	**155**	*i* P	**Pn**	**02 52 39.4**	**+0.7**
KHAL				*i* S	**Sn**	**02 52 52.3**	**+0.8**
IGD	**Bursa**	**1.11**	**7**	*i* P	**Pg**	**02 52 38.1**	**-3.5**
IGD				*i* S	**Sg**	**02 52 54.9**	**-1.2**
KCTX	**Karacabey (Bur**	**1.22**	**335**	*e*PN	**Pn**	**02 52 44.6**	**+1.1**
KCTX	**Karacabey (Bur**	**1.22**	**335**	*e*Pn	**Pn**	**02 52 44.6**	**+1.1**
ARMT	**Armutlu**	**1.41**	**355**	*e*PN	**Pg**	**02 52 47.6**	**+0.3**
ARMT	**Armutlu**	**1.41**	**355**	*e*Pn	**Pg**	**02 52 47.6**	**+0.3**

NIED ***06*** *02:54:00, 37°.30N×141°.90E, h44km, Mw3.6 Best double couple: M0 2.63000×10^14 NP1:φs261.00000°, δ39.00000°, λ-88.00000°. NP2:φs79.00000°, δ51.00000°, λ-92.00000°.*
JMA ***06*** *02:54:52.3±0.2, 37°.30N×141°.87E, h26km±3km, M3.5*
IDC ***06*** *02:54:55.0±4.0, 37°.19N×141°.99E, h52km±39km, mb3.1/3, mb1 3.4/5, mb1mx3.1/57, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=28.2km s-min=25.3km az=66.0*

ISC 06 02:54:48.5±2.8, 37°.27N±0°.05×142°.02E±0°.07, h5km±17km, n13, σ1§71/23, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.92**	**277**	P	**Pb**	**02 55 07.4**	**+0.4**
JFK				S	**Sg**	**02 55 17.4**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.99**	**261**	P	**Pb**	**02 55 08.4**	**+0.2**
ONAJ				S	**Sb**	**02 55 19.8**	**-1.7**
JMM	**Marumori**	**1.15**	**302**	P	**Pb**	**02 55 10.9**	**+0.1**
JMM				S	**Sb**	**02 55 23.8**	**-2.2**
JIO	**Ouri**	**1.30**	**336**	P	**Pb**	**02 55 13.5**	**+0.1**
JIO				S	**Sb**	**02 55 28.1**	**-2.3**
JHO	**Hitachi**	**1.33**	**241**	P	**Pn**	**02 55 13.7**	**-0.1**
JHO				*e*S	**Sb**	**02 55 31.0**	**-0.4**
JFT	**Otama**	**1.37**	**281**	P	**Pb**	**02 55 14.7**	**+0.2**
JFT				S	**Sb**	**02 55 30.4**	**-1.9**
JOU	**Okura**	**1.54**	**316**	P	**Pb**	**02 55 17.8**	**+0.3**
JOU				S	**Sn**	**02 55 35.9**	**-1.0**
MJAR	**Matsushiro Arr**	**3.14**	**258**	P	**Pn**	**02 55 41.6**	**+3.0**
	1.3nm,0.3s,baz=73,slow=16,SNR=4.2						
MJAR				S	**Sn**	**02 56 17.4**	**+0.9**
	1.5nm,0.3s,baz=96,slow=7.8,SNR=4.1						
MAT	**Matsushiro**	**3.14**	**258**	P	**Pn**	**02 55 40.5**	**+1.8**
MAT				S	**Sn**	**02 56 18.7**	**+2.2**
JHJ	**Hachijo jima 2**	**4.53**	**205**	P	**Pn**	**02 55 58.8**	**+1.2**
	baz=253,slow=19						
JHJ				S	**Sn**	**02 56 46.6**	**-4.0**
	9.8nm,0.3s,baz=49,slow=19,SNR=5.1						
KURBB	**Kurchatov Arra**	**46.24**	**308**	P	**P**	**03 03 14.5**	**0.0**
	0.6nm,0.4s,baz=82,slow=8.2,SNR=3.7						
ILAR	**Eielson Array**	**49.04**	**32**	P	**P**	**03 03 37.0**	**+1.0**
	0.2nm,0.7s,baz=270,slow=5.2,SNR=2.7						
WRA	**Warramunga Arr**	**57.36**	**189**	P	**P**	**03 04 37.4**	**-0.3**
	0.1nm,0.4s,baz=7.0,slow=7.6,SNR=3.2						

NIED ***06*** *03:00:00, 38°.30N×142°.20E, h29km, Mw4.2 Best double couple: M0 2.40000×10^15 NP1:φs331.00000°, δ39.00000°, λ-94.00000°. NP2:φs156.00000°, δ52.00000°, λ-87.00000°.*
BJI ***06*** *03:00:04.6, 38°.33N×142°.15E, h32km, mb4.5/32, mB4.7/12, Ms4.1/14, Ms7 3.7/12*
JMA ***06*** *03:00:05.0±0.1, 38°.32N×142°.22E, h40km±3km, M4.0*
JMA Felt II J1.
ISCJB ***06*** *03:00:05.2±0.5, 38°.30N±0°.03×142°.22E±0°.04, h37km±4km, mb4.6/64, MS3.2/12, Error ellipse: s-maj=5.3km s-min=3.7km az=39.1*
IDC ***06*** *03:00:06.3±0.6, 38°.25N×142°.15E, h32km±3km, mb4.0/24, mb1 4.1/27, mb1mx3.9/68, mbtmp4.2/27, ML3.8/3, MS3.3/18, Ms1 3.3/18, ms1mx3.1/48, Error ellipse: s-maj=13.6km s-min=12.8km az=78.0*
NEIC ***06*** *03:00:08.4±0.5, 38°.31N×142°.17E, h50km±4km, mb4.6/34, Error ellipse: s-maj=4.6km s-min=3.4km az=127.0*
NEIC Recorded [2 JMA] in Miyagi.

ISC 06 03:00:05.1±0.4, 38°.28N±0°.04×142°.18E±0°.04, h21km±3km, h21km:pP-P, n135, σ1§51/161, mb4.5/64, MS3.2/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.67**	**285**	P	**Pb**	**03 00 18.5**	**+0.3**
JIO				S	**Sb**	**03 00 27.5**	**+0.3**
OFUJ	**Ofunato**	**0.89**	**334**	P	**Pb**	**03 00 21.0**	**-0.9**
OFUJ				S	**Sb**	**03 00 32.3**	**-1.0**
JMK	**Ichinoseki**	**1.00**	**312**	P	**Pb**	**03 00 23.2**	**-0.6**
JMM	**Marumori**	**1.17**	**250**	P	**Pn**	**03 00 25.5**	**-0.8**
JMM				S	**Sb**	**03 00 41.0**	**-0.3**
JOU	**Okura**	**1.19**	**274**	P	**Pn**	**03 00 26.5**	**-0.1**
JOU				S	**Sn**	**03 00 42.0**	**-0.2**
JOM	**Ohasama**	**1.37**	**330**	P	**Pn**	**03 00 28.5**	**-0.6**
JFK	**Kawauchi**	**1.38**	**229**	P	**Pn**	**03 00 28.0**	**-1.2**
JFK				S	**Sn**	**03 00 44.3**	**-2.6**
JYK	**Kaneyama**	**1.56**	**295**	P	**Pn**	**03 00 31.6**	**-0.1**
JRG	**Rokugo**	**1.64**	**313**	P	**Pn**	**03 00 32.6**	**-0.2**
JFT	**Otama**	**1.65**	**243**	P	**Pn**	**03 00 32.9**	**+0.1**
JFT				*e*S	**Sn**	**03 00 53.3**	**-0.1**
JYS	**Shirataka**	**1.67**	**268**	P	**Pn**	**03 00 33.1**	**0.0**
MJAR	**Matsushiro Arr**	**3.61**	**242**	Pn	**Pn**	**03 01 00.9**	**+1.1**
	7.0nm,0.3s,baz=67,slow=10,SNR=53						
MAJO	**Matsushiro**	**3.61**	**242**	*e*Pn	**Pn**	**03 01 01.0**	**+1.1**
MAJO				*e*S	**Sn**	**03 01 43.4**	**+1.6**
MAT	**Matsushiro**	**3.61**	**242**	P	**Pn**	**03 01 00.9**	**+1.1**
MAT				S	**Sb**	**03 01 47.6**	**-3.9**
MJB9	**Matsu-Tunnel**	**3.61**	**242**	*e*Pn	**Pn**	**03 01 01.9**	**+2.0**
ERM	**Erimo**	**3.80**	**11**	*e*Pn	**Pn**	**03 01 01.4**	**-1.0**
ERM				*e*S	**Sn**	**03 01 43.5**	**-3.0**
INU	**Inuyama**	**5.07**	**236**	*e*Pn	**Pn**	**03 01 22.8**	**+2.8**
JHJ	**Hachijo jima 2**	**5.51**	**201**	Pn	**Pn**	**03 01 25.8**	**-0.1**
	22nm,0.3s,baz=298,slow=23,SNR=13						
JHJ				Sn	**Sn**	**03 02 24.9**	**-3.8**
	24nm,0.3s,baz=90,slow=20,SNR=4.9						
JHJ				LR	LR	03 03 42.2	
	comp=Z,256nm,20.6s,baz=81,slow=40						
ASAJ	**Asahikawa**	**5.84**	**3**	Pn	**Pn**	**03 01 31.4**	**+1.0**
	1.7nm,0.3s,baz=213,slow=14,SNR=6.1						
ASAJ				Sn	**Sn**	**03 02 37.3**	**+0.7**
	1.1nm,0.3s,baz=19,slow=33,SNR=3.5						
ASAJ	**Asahikawa**	**5.84**	**3**	*e*Pn	**Pn**	**03 01 31.2**	**+0.8**
ASAJ				*e*S	**Sn**	**03 02 39.7**	**+3.1**
YSS	**Yuzh-Sakhalins**	**8.68**	**3**	*e*Pn	**Pn**	**03 02 11.6**	**+2.3**
USRK	**Ussuriysk Ar.**	**9.68**	**311**	Pn	**Pn**	**03 02 26.6**	**+3.4**
	0.7nm,0.3s,baz=118,slow=13,SNR=15						
USRK				LR	LR	03 06 00.7	
	comp=Z,170nm,18.4s,baz=128,slow=37						
JNU	**Nakatsue**	**10.53**	**244**	Pn	**Pn**	**03 02 38.4**	**+3.5**
	0.4nm,0.3s,baz=50,slow=3.9,SNR=11						
JNU				LR	LR	03 07 04.9	
	comp=Z,371nm,18.9s,baz=114,slow=40						
JNU	**Nakatsue**	**10.53**	**244**	*e*Pn	**Pn**	**03 02 37.2**	**+2.4**
CBIJ	**Chichi jima**	**11.16**	**180**	*e*Pn	**Pn**	**03 02 46.1**	**+2.7**
KSRS	**Korea Array**	**11.30**	**270**	Pn	**Pn**	**03 02 49.0**	**+3.7**
	0.3nm,0.3s,baz=80,slow=14,SNR=10						
KSRS				LR	LR	03 06 51.2	
	comp=Z,142nm,20.0s,baz=67,slow=36						
KS15	**Wonju Array Si**	**11.33**	**270**	*e*Pn	**Pn**	**03 02 46.1**	**+0.3**
KSAR	**Wonju Array Be**	**11.33**	**270**	Pn	**Pn**	**03 02 49.0**	**+3.3**
KLR	**Kul'dur**	**13.27**	**329**	Pn	P	03 03 16.5	-5.4
	0.1nm,0.3s,baz=161,slow=18,SNR=3.1						
KLR				LR	LR	03 08 17.5	
	comp=Z,146nm,18.8s,baz=128,slow=37						
CN2	**Changchun**	**13.77**	**299**	*e*Pn	**Pn**	**03 03 21.2**	**+2.1**
JOW	**Kunigami**	**16.34**	**230**	*e*Pn	**Pn**	**03 03 54.5**	**+1.2**
	33nm,1.2s						
PEA0	**Petropavlovsk-**	**18.30**	**31**	*e*P	**Pn**	**03 04 17.1**	**-0.5**
PETK	**Petropavlovsk-**	**18.30**	**31**	LR	LR	03 12 35.4	
	comp=Z,44nm,18.4s,baz=208,slow=41						
NJ2	**Nanjing**	**20.03**	**259**	*e*P	**P**	**03 04 37.7**	**+1.0**
NJ2				PMZ			
	16nm,0.9s						
BJI	**Beijing**	**20.22**	**283**	P	**P**	**03 04 37.9**	**-0.8**
BJI				S	**S**	**03 08 21.6**	**-3.0**
BJI				PMZ			
	4.0nm,0.5s						
BJI				LN			
	51nm,12.1s						
BJI				LE			
	120nm,12.1s						
MA2	**Magadan**	**22.01**	**12**	LR	LR	03 13 16.7	
	comp=Z,43nm,20.3s,baz=254,slow=36						
NACB	**Ninganchiao**	**22.46**	**237**	*e*P	**P**	**03 05 03.0**	**+0.1**
	12nm,0.9s						
YULB	**Yu-li**	**23.20**	**236**	*e*P	**P**	**03 05 10.8**	**+0.2**
	9.1nm,1.0s						
HHC	**Hu-ho-hao-te**	**23.68**	**286**	*e*P	**P**	**03 05 14.5**	**-0.9**
HHC				sP	sP	03 05 27.6	+3.4
HHC				S	**S**	**03 09 23.1**	**-6.2**
HHC				PMZ			
	26nm,0.9s						
HHC				PMZ			
	64nm,7.0s						
HHC				LN			
	130nm,7.6s						
HHC				LE			
	160nm,10.0s						
HHC				LZ			
	130nm,12.0s						
YAK	**Yakutsk**	**25.00**	**346**	LR	LR	03 15 39.3	
	comp=Z,51nm,18.1s,baz=50,slow=37						
SEY	**Seymchan**	**25.45**	**11**	P	**P**	**03 05 32.2**	**+1.0**
	2.3nm,0.8s,baz=201,slow=13,SNR=6.4						
ULN	**Ulaanbaatar**	**27.18**	**302**	*e*P	**P**	**03 05 46.2**	**-1.1**
	2.0nm,0.7s						
SONA1	**Songino Array**	**27.61**	**302**	*e*P	**P**	**03 05 50.7**	**-0.5**
SONM	**Songino Array**	**27.62**	**302**	P	**P**	**03 05 51.8**	**+0.6**
	0.5nm,0.5s,baz=124,slow=8.9,SNR=3.7						
SONM				LR	LR	03 17 09.7	
	comp=Z,53nm,19.7s,baz=312,slow=37						
ENH	**Enshi**	**28.06**	**263**	*e*P	**P**	**03 05 54.7**	**-0.4**
	22nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.30**	**124**	T	T	03 36 22.1	
	SNR=551						
H11N1	**WAKE ISLAND Hy**	**28.31**	**124**	T	T	03 36 15.9	
	baz=197,slow=74,SNR=666						
H11N3	**WAKE ISLAND Hy**	**28.32**	**124**	T	T	03 35 46.8	
	baz=316,slow=74,SNR=587						
H11S1	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	03 37 11.8	
	baz=318,slow=76,SNR=314						
H11S3	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	03 37 11.9	
	baz=318,slow=76,SNR=419						
H11S2	**WAKE ISLAND Hy**	**29.08**	**126**	T	T	03 37 13.0	
	baz=318,slow=76,SNR=329						
LZH	**Lanzhou**	**30.48**	**278**	*e*P	**P**	**03 06 20.8**	**+4.1**
LZH				pP	sP	03 06 31.5	+5.9
LZH				PMZ			
	18nm,1.0s						
LZH				PMZ			
	67nm,4.8s						
LZH				LN			
	200nm,16.0s						
LZH				LE			
	180nm,14.9s						
LZH				LZ			
	130nm,15.6s						
GYA	**Guiyang**	**32.04**	**259**	*e*P	**P**	**03 06 31.2**	**+0.7**
GYA				pP	sP	03 06 41.0	+1.6
GYA				PP	**PnPn**	**03 07 37.6**	**+1.6**
GYA				PcP	**PcP**	**03 09 21.2**	**+1.3**
GYA				S	**S**	**03 11 40.8**	**-0.7**
GYA				sS	sS	03 11 55.6	+3.7
GYA				ScP	**ScP**	**03 13 01.0**	**-1.2**
GYA				ScS	**ScS**	**03 16 57.4**	**-3.7**
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	120nm,4.8s						
GYA				LN			
	420nm,16.9s						
GYA				LE			
	390nm,17.2s						
GYA				LZ			
	400nm,17.6s						
CD2	**Chengdu**	**32.30**	**269**	*e*P	**P**	**03 06 31.5**	**-1.1**
CD2				pP	sP	03 06 41.0	-0.5
CD2				sP	pP	03 06 45.3	+6.3
CD2				S	**S**	**03 11 43.1**	**-2.1**
CD2				sS	sS	03 11 59.5	+3.8
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
GTA	**Gaotai**	**32.80**	**285**	*e*P	**P**	**03 06 38.0**	**+1.0**
GTA				pP	sP	03 06 47.8	+1.8
GTA				sP	pP	03 06 51.5	+8.1
GTA				S	**S**	**03 11 51.9**	**-1.1**
GTA				sS	sS	03 12 07.8	+4.3
GTA				SS	**SnSn**	**03 13 51.1**	**+1.7**
GTA				PMZ			
	4.0nm,1.0s						
GTA				PMZ			
	28nm,5.0s						
GTA				LN			
	110nm,16.2s						
GTA				LE			
	120nm,15.2s						
GTA				LZ			
	130nm,17.6s						
QIZ	**Qiongzhong**	**34.00**	**245**	P	**P**	**03 06 47.8**	**+0.2**
QIZ				S	**S**	**03 12 12.0**	**+0.2**
TIXI	**Tiksi**	**34.13**	**353**	LR	LR	03 23 15.1	
	comp=Z,38nm,18.6s,baz=188,slow=41						
TIXI	**Tiksi**	**34.13**	**353**	*e*P	**P**	**03 06 47.6**	**-0.5**
	6.1nm,1.6s						
MIDW	**Midway**	**35.05**	**94**	*e*P	**P**	**03 06 56.9**	**+0.4**
	569nm,2.0s						
KMI	**Kunming**	**35.76**	**260**	P	**P**	**03 07 03.6**	**+0.6**
KMI				PMZ			
	15nm,0.9s						
KWAJ	**Kwajalein Atol**	**37.23**	**135**	*e*P	**P**	**03 07 15.6**	**+0.4**
	107nm,0.8s						
KKM	**Kota Kinabalu**	**39.81**	**223**	*e*P	**P**	**03 07 37.2**	**+0.2**
	17nm,1.2s						
WMQ	**Urumqi**	**40.83**	**296**	P	**P**	**03 07 45.7**	**+0.4**
WMQ				pP	sP	03 07 54.6	+0.3
WMQ				sP	pP	03 07 59.8	+8.1
WMQ				PMZ			
	7.0nm,0.6s						
WMQ				PMZ			
	46nm,4.8s						
ZAA0	**Zalesovo Array**	**41.53**	**311**	*e*P	**P**	**03 07 49.9**	**-0.9**
ZALV	**Zalesovo Beam**	**41.53**	**311**	P	**P**	**03 07 50.6**	**-0.1**
	1.5nm,0.3s,baz=69,slow=7.9,SNR=2.5						
ZALV				pP	**sP**	**03 07 59.7**	**-0.1**
	3.0nm,0.5s,baz=82,slow=8.4,SNR=2.6						
ZALV				LR	LR	03 25 43.0	
	comp=Z,30nm,19.6s,baz=66,slow=37						
CHTO	**Chiang Mai**	**42.19**	**255**	*e*P	**

KSH	**Kashi**	**50.46**	**293**	P	P	03 09 06.5	+5.0
KSH				pP	sP	03 09 17.3	+6.7
KSH				PcP	**PcP**	**03 10 23.0**	**+3.5**
KSH				PP	**PP**	**03 11 03.1**	**+6.0**
KSH				S	**S**	**03 16 16.1**	**+1.9**
KSH				ScS	**ScS**	**03 18 49.7**	**-1.8**
KSH				SS	**SS**	**03 19 46.3**	**-1.5**
KSH				PMZ			
	37nm,3.7s						
KSH				LN			
	64nm,6.2s						
KSH				LE			
	70nm,3.7s						
KSH				LZ			
	96nm,5.8s						
ZRNK	**Zerenda**	**51.02**	**312**	*e*P	**P**	**03 09 05.2**	**-0.2**
	3.2nm,0.8s						
KKAR	**Karatay Array**	**53.03**	**300**	*e*P	**P**	**03 09 20.0**	**-0.5**
	0.4nm,0.3s						
OPA	**Opana**	**53.51**	**90**	*e*P	**P**	**03 09 24.0**	**-0.2**
	136nm,1.3s						
HON	**Honolulu**	**53.71**	**90**	*e*P	**P**	**03 09 25.5**	**-0.2**
	183nm,0.8s						
SKAG	**Skagway**	**54.34**	**39**	*e*P	**P**	**03 09 29.5**	**-0.3**
	9.5nm,1.1s						
GSI	**Gunungsitoli**	**54.96**	**239**	*e*P	**P**	**03 09 34.4**	**-0.5**
	13nm,0.7s						
CISI	**Cisompet, Garu**	**55.70**	**223**	*e*P	**P**	**03 09 40.2**	**-0.1**
	79nm,1.5s						
ARU	**Arti**	**55.83**	**318**	P	**P**	**03 09 40.3**	**-0.3**
	4.9nm,0.2s,baz=95,slow=3.0,SNR=5.0						
ARU				pP	**sP**	**03 09 50.2**	**+0.4**
	4.6nm,0.2s,baz=20,slow=7.2,SNR=1.4						
ARU	**Arti**	**55.83**	**318**	*e*P	**P**	**03 09 39.7**	**-0.9**
	7.7nm,1.0s						
ARU				pP	**sP**	**03 09 50.2**	**+0.4**
MNAI	**Manna**	**55.85**	**230**	*e*P	**P**	**03 09 41.9**	**+0.6**
	354nm,1.3s						
ABKAR	**Akbulak array**	**57.60**	**310**	*e*P	**P**	**03 09 52.0**	**-1.4**
	1.7nm,0.6s						
AKTO	**Aktyubinsk**	**58.30**	**312**	P	**P**	**03 09 57.4**	**-0.8**
	2.1nm,0.7s,baz=72,slow=11,SNR=6.5						
WRAB	**Tennant Creek**	**58.37**	**189**	*e*P	**P**	**03 09 57.8**	**-1.1**
	2.8nm,0.8s						
WB2	**Warramunga Arr**	**58.38**	**189**	*e*P	**P**	**03 09 58.3**	**-0.7**
	5.7nm,0.8s						
WRA	**Warramunga Arr**	**58.38**	**189**	P	**P**	**03 09 57.8**	**-1.2**
	3.4nm,0.6s,baz=6.9,slow=7.1,SNR=19						
AS01	**Alice Springs**	**62.10**	**189**	*e*P	**P**	**03 10 23.4**	**-1.1**
ASAR	**Alice Springs**	**62.11**	**189**	P	**P**	**03 10 23.8**	**-0.8**
	2.0nm,0.8s,baz=9.7,slow=6.9,SNR=22						
ASAR				LR	LR	03 36 05.5	
	comp=Z,31nm,21.1s,baz=22,slow=35						
YKA	**Yellowknife Ar**	**62.42**	**31**	P	**P**	**03 10 25.7**	**-0.5**
	0.3nm,0.7s,baz=292,slow=6.5,SNR=4.1						
GEYT	**Alibeck**	**63.77**	**299**	P	**P**	**03 10 34.8**	**-0.8**
	1.3nm,0.4s,baz=104,slow=6.3,SNR=3.9						
MSVF	**Nonsavu**	**65.10**	**142**	*e*P	**P**	**03 10 46.8**	**+2.3**
	28nm,0.9s						
FINES	**FINESS Array B**	**67.99**	**332**	P	**P**	**03 11 01.6**	**-0.7**
	4.3nm,0.7s,baz=55,slow=7.2,SNR=15						
FINES				pP	**sP**	**03 11 11.7**	**+0.1**
	2.7nm,0.7s,baz=46,slow=8.2,SNR=4.9						
FINES				LR	LR	03 46 16.2	
	comp=Z,28nm,18.8s,baz=42,slow=41						
STKA	**Stephens Creek**	**69.80**	**181**	P	**P**	**03 11 13.3**	**-0.5**
	2.1nm,0.8s,baz=333,slow=4.5,SNR=3.5						
KVAR	**Kislovodsk Arr**	**70.54**	**311**	LR	LR	03 44 44.6	
	comp=Z,21nm,18.1s,baz=320,slow=38						
KBZ	**Khabaz**	**70.55**	**311**	P	**P**	**03 11 18.4**	**0.0**
	3.7nm,0.9s,baz=44,slow=2.1,SNR=7.9						
FFC	**Flin Flon**	**72.33**	**33**	*e*P	**P**	**03 11 28.7**	**-0.3**
	3.6nm,0.9s						
HFS	**Hagfors**	**73.20**	**336**	P	**P**	**03 11 33.4**	**-0.7**
	3.0nm,0.8s,baz=33,slow=3.5,SNR=6.5						
NB2	**NORSAR Subarra**	**73.27**	**337**	P	**P**	**03 11 33.6**	**-0.9**
	comp=Z,3.8nm,0.9s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**73.27**	**337**	P	**P**	**03 11 34.0**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=38,slow=6.0,SNR=10.0						
NOA				LR	LR	03 46 52.6	
	comp=Z,14nm,19.2s,baz=300,slow=38						
AKASG	**Malin Array Be**	**73.68**	**322**	P	**P**	**03 11 36.0**	**-1.1**
	comp=Z,2.9nm,0.7s,baz=47,slow=6.0,SNR=13						
AKASG				pP	**sP**	**03 11 46.4**	**0.0**
	comp=Z,0.7nm,0.4s,baz=43,slow=6.5,SNR=3.8						
NVAR	**Mina Array Bea**	**73.76**	**46**	P	**P**	**03 11 38.3**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=288,slow=5.9,SNR=5.1						
PDAR	**Pinedale Array**	**76.36**	**46**	P	**P**	**03 11 52.6**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=281,slow=2.4,SNR=8.0						
PDAR				pP	**PcP**	**03 12 03.8**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=275,slow=3.5,SNR=6.3						
STHS	**Stebnicka Huta**	**78.28**	**325**	*e*P	**P**	**03 12 03.9**	**+0.5**
BRTR	**Keskin Array B**	**78.48**	**312**	P	**P**	**03 12 04.3**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=121,slow=5.9,SNR=4.2						
BR231	**Keskin MP Arra**	**78.91**	**312**	*e*P	**P**	**03 12 05.2**	**-1.9**
VYHS	**Vyhne**	**80.04**	**326**	*e*P	**P**	**03 12 13.1**	**+0.1**
CLL	**Collm**	**80.31**	**330**	*i* P	**P**	**03 12 13.5**	**-0.9**
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**81.97**	**329**	P	**P**	**03 12 22.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=20,slow=4.3,SNR=5.4						
GERES				LR	LR	03 51 28.1	
	comp=Z,36nm,19.7s,baz=14,slow=38						
TX31	**Lajitas Ar. Si**	**88.88**	**53**	*e*P	**P**	**03 12 57.5**	**-0.7**
TXAR	**Lajitas Array**	**88.88**	**53**	P	**P**	**03 12 57.8**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=306,slow=3.2,SNR=12						
TXAR				pP	**sP**	**03 13 08.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=288,slow=2.9,SNR=8.3						
LPAZ	**La Paz**	**145.53**	**59**	PKPbc	**PKPdf**	**03 19 42.2**	**-0.7**
	comp=Z,2.0nm,0.6s,baz=339,slow=4.0,SNR=8.0						

*ISK **06** 03:03:16.8, 39.°11N×28.°98E, h5km, MD2.5*
*ISCJB **06** 03:03:17.9±0.6, 39.°10N±0.°04×28.°98E±0.°05, h13km±6km, Error ellipse: s-maj=7.3km s-min=5.2km az=139.6*
*CSEM **06** 03:03:17.8±0.3, 39.°13N×28.°96E, h10km, ML2.1, Error ellipse: s-maj=8.1km s-min=5.9km az=107.0*
*DDA **06** 03:03:21.4, 38.°95N×28.°72E, h7km, Ml2.1*

ISC 06 03:03:18.0±0.9, 39.°11N±0.°03×28.°98E±0.°03, h13km±9km, n14, σ0s86/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.22**	**252**	P	**Pg**	**03 03 22.6**	**-0.2**
DEMI				S	**Sg**	**03 03 26.5**	**+0.4**
DEMI	**Demirci**	**0.22**	**252**	*i* P	**Pg**	**03 03 22.6**	**-0.2**
DEMI				*i* S	**Sg**	**03 03 26.5**	**+0.4**
GDZ	**Gediz**	**0.39**	**93**	S	**Sg**	**03 03 31.5**	**+0.3**
GDZ	**Gediz**	**0.39**	**93**	*i* P	**Pb**	**03 03 28.6**	**+1.7**
GDZ				*i* S	**Sg**	**03 03 31.5**	**+0.3**
TVSB	**Tavsanli**	**0.51**	**48**	*e*PG	**Pg**	**03 03 27.2**	**-0.8**
TVSB				*e*SG	**Sg**	**03 03 34.4**	**-0.3**
TVSB	**Tavsanli**	**0.51**	**48**	*e*Pg	**Pg**	**03 03 27.2**	**-0.8**
TVSB				*e*Sg	**Sg**	**03 03 34.4**	**-0.3**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*PG	**Pg**	**03 03 30.0**	**-0.6**
KULA				*e*SG	**Sg**	**03 03 39.0**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*Pg	**Pg**	**03 03 30.0**	**-0.6**
KULA				*e*Sg	**Sg**	**03 03 39.1**	**0.0**
KHAL	**Karahalli**	**0.84**	**151**	P	**Pn**	**03 03 36.0**	**+0.4**
KHAL				S	**Sg**	**03 03 43.4**	**-1.9**
KHAL	**Karahalli**	**0.84**	**151**	*i* P	**Pn**	**03 03 36.0**	**+0.4**
KHAL				*i* S	**Sg**	**03 03 43.4**	**-1.9**
KCTX	**Karacabey (Bur**	**1.25**	**338**	*e*PN	**Pb**	**03 03 41.0**	**-0.5**
KCTX	**Karacabey (Bur**	**1.25**	**338**	*e*Pn	**Pb**	**03 03 41.0**	**-0.5**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pn**	**03 03 44.6**	**+0.6**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pn**	**03 03 44.6**	**+0.6**

IDC 06 03:04:22.9±3.0, 21.°06S×179.°96E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/33, mbtmp3.6/3, Error ellipse: s-maj=312.9km s-min=32.0km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.53**	**258**	P	P	03 12 19.6	-1.0
	0.4nm,0.6s,baz=91,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**42.63**	**263**	P	P	03 12 22.1	+0.6
	1.0nm,0.5s,baz=97,slow=8.4,SNR=14						
TXAR	**Lajitas Array**	**88.97**	**58**	P	P	03 17 19.9	0.0
	0.2nm,0.7s,baz=235,slow=6.4,SNR=3.6						

MAN 06 03:08:23, 13.°65N×122.°57E, h7km, mb3.6, ML2.3, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.28**	**335**	*i* P	Pg	03 08 29.0	+0.5
GQP				*i* S	Sb	03 08 34.0	-1.2
AUQP	**San Andres**	**0.34**	**162**	*e*P	Pb	03 08 31.1	-0.3
AUQP				*e*S	Sb	03 08 41.5	+4.3
BOAC	**Boac**	**0.73**	**255**	*e*P	Pg	03 08 25.0	-12
BOAC				*e*S	Sn	03 08 52.8	+1.7
POLP	**Polilio Island**	**1.23**	**330**	*e*P	Pb	03 08 46.2	-0.4
POLP				*e*S	Sn	03 09 04.0	+0.5

*IDC **06** 03:08:45.7±4.5, 24.°13S×177.°02W, h83km±38km, mb3.9/7, mb1 4.2/8, mb1mx3.8/28, mbtmp4.3/8, MS2.9/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=44.2km s-min=20.5km az=143.0*

ISC 06 03:08:49.5±1.1, 24.°1S±0.°2×176.°8W±0.°2, h120km, n13, σ1s69/13, mb4.2/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**11.18**	**26**	P	**Pn**	**03 11 24.2**	**-1.8**
	7.9nm,0.3s,baz=6.2,slow=3.7,SNR=9.5						
AFI				S	Sn	03 13 17.6	-12
	1.9nm,0.3s,baz=18,slow=20,SNR=2.5						
DZM	**Mont Dzumac**	**15.55**	**274**	P	**P**	**03 12 26.7**	**+2.7**
	0.3nm,0.3s,baz=89,slow=16,SNR=8.6						
RAR	**Rarotonga**	**15.98**	**83**	LR	LR	03 18 36.5	
	comp=Z,46nm,19.3s,baz=168,slow=36						
STKA	**Stephens Creek**	**37.37**	**249**	P	**P**	**03 15 50.0**	**-0.6**
	2.1nm,0.6s,baz=89,slow=7.9,SNR=4.8						
ASAR	**Alice Springs**	**44.89**	**260**	P	**P**	**03 16 50.2**	**-2.1**
	3.9nm,0.8s,baz=99,slow=8.4,SNR=30						
ASAR				PcP	**PcP**	**03 18 31.7**	**-0.3**
	0.6nm,0.6s,baz=118,slow=3.6,SNR=4.5						
WRA	**Warramunga Arr**	**45.31**	**265**	P	**P**	**03 16 53.3**	**-2.4**
	1.6nm,0.5s,baz=102,slow=8.5,SNR=22						
PETK	**Petropavlovsk-**	**80.00**	**345**	P	**P**	**03 20 45.9**	**+0.8**
	5.2nm,0.9s,baz=165,slow=12,SNR=5.5						
PDAR	**Pinedale Array**	**90.82**	**43**	P	**P**	**03 21 41.0**	**+1.5**
	0.2nm,0.3s,baz=217,slow=2.8,SNR=3.8						
ILAR	**Eielson Array**	**91.56**	**12**	P	**P**	**03 21 43.5**	**+1.4**
	0.4nm,0.8s,baz=217,slow=5.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**92.34**	**289**	P	**P**	**03 21 47.8**	**+1.0**
	0.7nm,0.4s,baz=120,slow=3.1,SNR=4.4						
AKASG	**Malin Array Be**	**146.66**	**329**	PKPbc	**PKPbc**	**03 28 16.5**	**-0.4**
	2.0nm,0.6s,baz=42,slow=4.2,SNR=9.1						
BRTR	**Keskin Array B**	**150.00**	**309**	PKPbc	**PKPbc**	**03 28 24.9**	**-1.3**
	1.5nm,0.9s,baz=141,slow=4.7,SNR=9.6						
TORD	**Torodi Ar. Bea**	**169.03**	**172**	PKPab	**PKPab**	**03 29 54.8**	**0.0**
	0.5nm,0.9s,baz=165,slow=6.0,SNR=2.7						

MAN 06 03:23:38, 13.°67N×122.°67E, h7km, mb4.3, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.32**	**318**	*i* P	Pg	03 23 45.1	+0.8
GQP				*i* S	Sb	03 23 52.3	+0.8
AUQP	**San Andres**	**0.34**	**179**	*e*P	Pb	03 23 47.0	+0.6
AUQP				*e*S	Sb	03 23 56.3	+4.3
BOAC	**Boac**	**0.83**	**256**	*e*P	Pg	03 23 54.3	+0.4
BOAC				*e*S	Sn	03 24 07.7	-0.8
POLP	**Polilio Island**	**1.27**	**326**	*e*P	Pg	03 24 02.4	0.0
POLP				*e*S	Sn	03 24 20.6	+1.1
OTRP	**Odiongan**	**1.44**	**206**	*e*P	Pg	03 24 05.5	-0.2
OTRP				*e*S	Sn	03 24 22.6	-1.1
PVCP	**Virac**	**1.45**	**93**	*e*P	Pn	03 24 04.5	-0.1
PVCP				*e*S	Sg	03 24 24.6	+0.1
SJMP	**San Jose**	**1.93**	**232**	*e*P	Pg	03 24 14.5	-0.5
SJMP				*e*S	Sg	03 24 40.6	+0.6

*ISK **06** 03:31:55.3, 39.°21N×29.°02E, h6km, MD2.6*
*ISCJB **06** 03:31:56.4±0.6, 39.°18N±0.°04×29.°08E±0.°04, h11km±6km, Error ellipse: s-maj=7.1km s-min=5.2km az=159.2*
*CSEM **06** 03:31:56.3±0.2, 39.°19N×29.°08E, h12km, MD2.7, Error ellipse: s-maj=5.6km s-min=4.6km az=141.0*
*DDA **06** 03:31:57.0, 39.°10N×29.°09E, h7km, Md2.7*

ISC 06 03:31:55.3±1.4, 39.°21N±0.°03×29.°15E±0.°05, h4km±18km, n16, σ0s41/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.28**	**115**	P	**Pb**	**03 32 03.3**	**+0.3**
GDZ				S	**Sb**	**03 32 08.1**	**-0.1**
GDZ	**Gediz**	**0.28**	**115**	*i* P	**Pb**	**03 32 03.3**	**+0.3**
GDZ				*i* S	**Sb**	**03 32 08.1**	**-0.1**
TVSB	**Tavsanli**	**0.34**	**45**	*e*PG	**Pb**	**03 32 04.3**	**+0.3**
TVSB				*e*SG	**Sb**	**03 32 10.3**	**+0.5**
TVSB	**Tavsanli**	**0.34**	**45**	*e*Pg	**Pb**	**03 32 04.3**	**+0.3**
TVSB				*e*Sg	**Sb**	**03 32 10.3**	**+0.5**
DEMI	**Demirci**	**0.38**	**244**	P	**Pg**	**03 32 03.1**	**+0.5**
DEMI				S	**Sg**	**03 32 07.4**	**-0.2**
DEMI	**Demirci**	**0.38**	**244**	*i* P	**Pg**	**03 32 03.1**	**+0.5**
DEMI				*i* S	**Sg**	**03 32 07.4**	**-0.2**
KULA	**Kula-Manisa**	**0.79**	**209**	*e*PG	**Pg**	**03 32 10.0**	**-0.5**
KULA	**Kula-Manisa**	**0.79**	**209**	*e*Pg	**Pg**	**03 32 10.0**	**-0.5**
KHAL	**Karahalli**	**0.88**	**162**	P	**Pn**	**03 32 14.4**	**-0.2**
KHAL				S	**Sg**	**03 32 23.6**	**0.0**
KHAL	**Karahalli**	**0.88**	**162**	*i* P	**Pn**	**03 32 14.3**	**-0.2**
KHAL				*i* S	**Sg**	**03 32 23.6**	**0.0**
AKHS	**Akhisar**	**1.09**	**253**	P	**Pg**	**03 32 16.9**	**+0.6**
AKHS				S	**Sg**	**03 32 29.9**	**-0.6**
AKHS	**Akhisar**	**1.09**	**253**	*i* P	**Pg**	**03 32 16.9**	**+0.6**
AKHS				*i* S	**Sg**	**03 32 29.9**	**-0.6**
KCTX	**Karacabey (Bur**	**1.22**	**330**	*e*PN	**Pg**	**03 32 18.2**	**-0.4**
KCTX	**Karacabey (Bur**	**1.22**	**330**	*e*Pn	**Pg**	**03 32 18.3**	**-0.4**
ARMT	**Armutlu**	**1.37**	**351**	*e*PN	**Pb**	**03 32 21.6**	**0.0**
ARMT	**Armutlu**	**1.37**	**351**	*e*Pn	**Pb**	**03 32 21.6**	**0.0**

*ISCJB **06** 03:35:00.0±0.5, 38.°10N±0.°02×20.°46E±0.°02, h12km±3km, mb3.3/4, MS2.8/2, Error ellipse: s-maj=4.3km s-min=2.6km az=25.3*
*NEIC **06** 03:35:00.7, 38.°12N×20.°57E, h21km, ML3.3(THE), ML3.2(ATH), After ATH.*
NEIC Felt at Argostolion.
*ATH **06** 03:35:00.7, 38.°12N×20.°57E, h22km±1km, ML3.2/5, Error ellipse: s-maj=1.9km s-min=1.2km az=57.0*
*CSEM **06** 03:35:01.1±0.2, 38.°12N×20.°56E, h10km, ML3.2, Error ellipse: s-maj=4.4km s-min=2.5km az=31.0*
*IDC **06** 03:35:01.6±1.3, 38.°31N×21.°03E, h0km, mb3.4/4, mb1 3.4/5, mb1mx3.2/35, mbtmp3.4/5, ML2.3/1, MS2.8/3, Ms1 2.8/3, ms1mx2.3/29, Error ellipse: s-maj=31.6km s-min=22.4km az=87.0*
*THE **06** 03:35:02.0, 38.°12N×20.°63E, h3km±1km, ML3.3/19, Error ellipse: s-maj=1.3km s-min=0.7km az=62.0*

ISC 06 03:35:01.3±0.8, 38.°12N±0.°02×20.°56E±0.°02, h18km±4km, n152, σ1s29/208, mb3.5/4, 2C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.06**	**25**	P	**Pg**	**03 35 04.9**	**+0.3**
VLS				S	**Sg**	**03 35 06.7**	**-0.2**
VLS	**Valsamata**	**0.06**	**25**	P	**Pg**	**03 35 04.9**	**+0.3**
VLS				S	**Sg**	**03 35 06.7**	**-0.2**
KFL	**Anninata**	**0.18**	**94**	P	**Pg**	**03 35 05.5**	**-0.5**
KFL				S	**Sg**	**03 35 07.5**	**-1.6**
KFL	**Anninata**	**0.18**	**94**	P	**Pg**	**03 35 05.5**	**-0.5**
KFL				S	**Sg**	**03 35 08.7**	**-0.4**
KFL	**Anninata**	**0.18**	**94**	P	**Pg**	**03 35 05.4**	**-0.5**
KFL				S	**Sg**	**03 35 08.7**	**-0.4**
ZKS	**Zakynthos**	**0.46**	**157**	P	**Pg**	**03 35 10.0**	**-0.6**
ZKS				S	**Sg**	**03 35 16.9**	**-0.1**
ZKS	**Zakynthos**	**0.46**	**157**	P	**Pg**	**03 35 10.1**	**-0.6**
ZKS				S	**Sg**	**03 35 16.9**	**-0.1**
ZKS	**Zakynthos**	**0.46**	**157**	P	**Pg**	**03 35 10.2**	**-0.5**
ZKS				S	**Sb**	**03 35 17.7**	**+0.1**
ZKS				AML	AML	03 35 23.3	
	comp=N,18740μm,0.4s						
ZKS				AML	AML	03 35 24.1	
	comp=E,17333μm,0.5s						
VTN	**Vitineika**	**0.54**	**112**	P	**Pg**	**03 35 11.8**	**-0.3**
VTN				S	**Sb**	**03 35 20.5**	**+0.9**
VTN	**Vitineika**	**0.54**	**112**	P	**Pg**	**03 35 11.8**	**-0.3**
VTN				S	**Sb**	**03 35 20.6**	**+0.9**
AXS	**Araxos**	**0.65**	**83**	P	**Pg**	**03 35 13.0**	**-1.1**
AXS	**Araxos**	**0.65**	**83**	P	**Pg**	**03 35 13.0**	**-1.1**
AXS	**Araxos**	**0.65**	**83**	P	**Pg**	**03 35 13.0**	**-1.1**
LKD2	**Lefkada island**	**0.67**	**7**	P	**Pg**	**03 35 13.8**	**-0.7**
LKD2				S	**Sb**	**03 35 24.8**	**+1.3**
LKD2	**Lefkada island**	**0.67**	**7**	P	**Pg**	**03 35 14.3**	**-0.2**
LKD2				S	**Sb**	**03 35 24.8**	**+1.3**
LKD2	**Lefkada island**	**0.67**	**7**	P	**Pg**	**03 35 14.3**	**-0.2**
PDO	**Prodromos**	**0.68**	**46**	P	**Pg**	**03 35 13.9**	**-0.8**
PDO				S	**Sb**	**03 35 24.3**	**+0.4**
PDO	**Prodromos**	**0.68**	**46**	P	**Pg**	**03 35 14.0**	**-0.8**
PDO				S	**Sb**	**03 35 24.3**	**+0.4**
PDO	**Prodromos**	**0.68**	**46**	P	**Pg**	**03 35 14.0**	**-0.8**
PDO				S	**Sb**	**03 35 25.9**	**+2.0**
PDO				AML	AML	03 35 29.4	
	comp=E,3592μm,0.3s						
PDO				AML	AML	03 35 34.8	
	comp=N,5556μm,0.5s						
RLS	**Riolos of Patr**	**0.72**	**95**	P	**Pg**	**03 35 14.4**	**-1.0**
RLS				S	**Sg**	**03 35 24.5**	**-0.5**
RLS	**Riolos of Patr**	**0.72**	**95**	P	**Pg**	**03 35 14.4**	**-1.0**
RLS				S	**Sg**	**03 35 24.5**	**-0.5**
RLS	**Riolos of Patr**	**0.72**	**95**	S	**Sb**	**03 35 26.0**	**+1.1**
RLS				AML	AML	03 35 30.4	
	comp=N,2141μm,0.3s						
RLS				AML	AML	03 35 33.3	
	comp=E,2226μm,0.4s						
PVO	**Paravola**	**0.91**	**57**	P	**Pg**	**03 35 18.1**	**-0.8**
PVO				S	**Sb**	**03 35 31.1**	**+0.8**
PVO	**Paravola**	**0.91**	**57**	P	**Pg**	**03 35 18.5**	**-0.4**
PVO				S	**Sb**	**03 35 31.1**	**+0.8**
PVO	**Paravola**	**0.91**	**57**	P	**Pg**	**03 35 18.6**	**-0.4**
DRO	**Drossia**	**0.93**	**100**	P	**Pg**	**03 35 18.1**	**-1.2**
DRO				S	**Sb**	**03 35 31.6**	**+0.7**
DRO	**Drossia**	**0.93**	**100**	P	**Pg**	**03 35 18.4**	**-0.9**
DRO				S	**Sb**	**03 35 31.6**	**+0.7**
DRO	**Drossia**	**0.93**	**100**	P	**Pg**	**03 35 18.4**	**-0.9**
AMT	**Artemida-Makis**	**1.09**	**123**	P	**Pg**	**03 35 21.6**	**-0.8**
AMT	**Artemida-Makis**	**1.09**	**123**	P	**Pg**	**03 35 21.6**	**-0.8**
DSL	**Palaion Diasel**	**1.09**	**23**	P	**Pg**	**03 35 21.0**	**-1.4**
DSL				S	**Sn**	**03 35 38.1**	**+1.6**
DSL	**Palaion Diasel**	**1.09**	**23**	P	**Pg**	**03 35 21.1**	**-1.4**
DSL				S	**Sn**	**03 35 38.1**	**+1.6**
DSL	**Palaion Diasel**	**1.09**	**23**	P	**Pg**	**03 35 21.1**	**-1.4**
EFP	**Efpalio**	**1.10**	**74**	P	**Pb**	**03 35 20.9**	**-1.0**
EFP	**Efpalio**	**1.10**	**74**	P	**Pb**	**03 35 20.9**	**-1.0**
EFP	**Efpalio**	**1.10**	**74**	P	**Pb**	**03 35 20.2**	**-1.6**
LAKA	**Lakka**	**1.13**	**84**	P	**Pb**	**03 35 21.5**	**-0.8**
LAKA				S	**Sg**	**03 35 36.8**	**-1.1**
LAKA	**Lakka**	**1.13**	**84**	P	**Pb**	**03 35 21.5**	**-0.8**
LAKA				S	**Sg**	**03 35 36.8**	**-1.1**
LAKA	**Lakka**	**1.13**	**84**	P	**Pb**	**03 35 21.0**	**-1.3**
LAKA				S	**Sn**	**03 35 39.2**	**+1.9**
LAKA				AML	AML	03 35 43.5	
	comp=E,1159μm,1.1s						
LAKA				AML	AML	03 35 54.4	
	comp=N,831μm,0.6s						
ANX	**Ano Chora**	**1.17**	**66**	P	**Pb**	**03 35 22.0**	**-1.1**
ANX	**Ano Chora**	**1.17**	**66**	P	**Pb**	**03 35 22.0**	**-1.1**
SERG	**Sergoula**	**1.22**	**76**	P	**Pb**	**03 35 22.5**	**-1.3**
SERG				S	**Sn**	**03 35 41.2**	**+1.7**
SERG	**Sergoula**	**1.22**	**76**	P	**Pb**	**03 35 22.5**	**-1.3**
SERG				S	**Sn**	**03 35 41.2**	**+1.7**
TRIZ	**Trizonia**	**1.22**	**78**	P	**Pn**	**03 35 22.2**	**-1.3**
KLV	**Kalavryta, Ach**	**1.26**	**93**	P	**Pn**	**03 35 23.8**	**-0.3**
KLV				S	**Sn**	**03 35 42.0**	**+1.3**
KLV	**Kalavryta, Ach**	**1.26**	**93**	P	**Pn**	**03 35 23.8**	**-0.3**
KLV				S	**Sn**	**03 35 42.0**	**+1.3**
KLV	**Kalavryta, Ach**	**1.26**	**93**	P	**Pn**	**03 35 22.8**	**-1.3**
KLV				AML	AML	03 35 47.5	
	comp=E,888μm,0.6s						
KLV				AML	AML	03 35 55.1	
	comp=N,931μm,0.9s						
EVR	**Evrytania**	**1.26**	**51**	P	**Pn**	**03 35 23.9**	**-0.3**
EVR				S	**Sn**	**03 35 42.8**	**+2.1**
EVR	**Evrytania**	**1.26**	**51**	P	**Pn**	**03 35 23.9**	**-0.3**
EVR				S	**Sn**	**03 35 42.8**	**+2.1**
KALE	**Kalithea**	**1.27**	**77**	P	**Pn**	**03 35 23.8**	**-0.5**
KALE				S	**Sn**	**03 35 42.1**	**+1.1**
KALE	**Kalithea**	**1.27**	**77**	P	**Pn**	**03 35 23.8**	**-0.5**
KALE				S	**Sn**	**03 35 42.1**	**+1.1**
KALE	**Kalithea**	**1.27**	**77**	P	**Pn**	**03 35 23.1**	**-1.2**
IGT	**Igoumenitsa**	**1.42**	**353**	P	**Pb**	**03 35 27.4**	**+0.1**
IGT				S	**Sg**	**03

BAI	Bari	4.12	318	*e*Pn		Pn	03 36 04.9	+1.6
CUC	Castrocucco	4.14	298	*e*Pn		Pn	03 36 05.2	+1.5
CUC	Castrocucco	4.14	298	*e*Pn		Pn	03 36 05.2	+1.5
DRME	Dracevica, Mon	4.19	346	*e*Pn		Pn	03 36 05.3	+0.9
PDG	Podgorica	4.42	347	*e*Pn		Pn	03 36 07.7	+0.3
CDT	Castel del Mon	4.43	313	*e*Pn		Pn	03 36 09.1	+1.4
IDI	Anoyia	4.49	128	Pn		Pn	03 36 09.1	+0.6
	comp=N,0.2nm,0.3s,baz=169,slow=5.2,SNR=3.7							
IDI				Sn		Sn	03 37 02.4	+2.1
	comp=N,1.3nm,0.3s,baz=155,slow=23,SNR=11							
IDI	Anoyia	4.49	128	*e*Pn		Pn	03 36 05.2	-3.3
IDI				*e*S		Sn	03 36 59.8	-0.5
IDI	Anoyia	4.49	128	*e*Pn		Pn	03 36 05.2	-3.3
IDI				*e*S		Sn	03 36 59.8	-0.5
HCY	Herceg Novi	4.60	341	*e*Pn		Pn	03 36 09.6	-0.4
BARS	Barje	4.78	11	*e*Pn		Pn	03 36 13.4	+0.9
TREB	Trebinje	4.89	341	*e*Pn		Pn	03 36 13.5	-0.4
BRY	Bratogost	5.01	343	*e*Pn		Pn	03 36 15.6	-0.2
MS1	Monte Sant'Ang	5.04	317	*e*Pn		Pn	03 36 17.7	+1.6
SJES	Sjenica	5.15	355	*e*Pn		Pn	03 36 18.7	+1.0
UPM	Unac-Piva	5.23	347	*e*Pn		Pn	03 36 23.1	+4.3
GRUS	Gruza	5.76	1	*e*Pn		Pn	03 36 25.4	-0.5
BBLS	Lazići	5.80	352	*e*Pn		Pn	03 36 26.7	+0.1
DIVS	Divibare	5.98	356	*e*Pn		Pn	03 36 28.9	-0.2
TRUS	Trudelj	6.09	359	*e*Pn		Pn	03 36 31.1	+0.6
TEKS	Tekeris	6.47	353	*e*Pn		Pn	03 36 35.2	-0.4
NVLJ	Novalja	7.72	328	*e*Pn		Pn	03 36 53.2	+0.3
NVLJ				Sn		Sn	03 38 16.7	-3.2
NVLJ	Novalja	7.72	328	*e*Pn		Pn	03 36 53.1	+0.3
VOIR		8.04	23	*i*P		Pn	03 36 59.3	+2.0
MLR	Muntele Rosu	8.39	27	*i*P		Pn	03 37 05.9	+3.8
CRES	Cresnjev	8.58	335	*e*Pn		Pn	03 37 04.2	-0.4
CEY	Cerknica	8.87	331	*e*Pn		Pn	03 37 09.5	+0.9
PLOR	Plostina	8.95	28	*i*P		Pn	03 37 12.1	+2.4
VRI	Vrincioaia	8.99	29	*i*P		Pn	03 37 12.8	+2.5
SOKA	Soboth	9.47	336	*e*Pn		Pn	03 37 16.5	-0.4
	comp=N,0.8nm,0.2s							
SOKA				*e*Sn		Sn	03 38 57.0	-5.9
	comp=N,0.1nm,0.1s							
SOKA	Soboth	9.47	336	Pn		Pn	03 37 16.5	-0.4
	comp=N,0.8nm,0.2s							
OBKA	Obir	9.48	334	*e*Pn		Pn	03 37 17.8	+0.7
	comp=N,1.4nm,0.4s							
OBKA				*e*Sn		Sn	03 39 00.0	-3.2
	comp=N,6.1nm,0.5s							
OBKA	Obir	9.48	334	Pn		Pn	03 37 17.8	+0.7
	comp=N,1.4nm,0.4s							
VRAC	Vranov	11.54	347	LR		LR	03 42 30.3	
	comp=N,23nm,21.0s,baz=177,slow=39							
OBN	Obninsk	20.16	27	LR		LR	03 48 36.3	
	comp=N,49nm,18.9s,baz=68,slow=41							
HFS	Hagfors	22.46	351	P		P	03 39 59.7	+0.5
	comp=N,0.9nm,0.5s,baz=147,slow=13,SNR=5.1							
FINES	FINESS Array B	23.60	7	P		P	03 40 13.2	+2.4
	comp=N,1.0nm,0.8s,baz=165,slow=12,SNR=2.9							
TORD	Torodi Ar. Bea	30.01	219	P		P	03 41 15.3	+6.2
	comp=N,0.3nm,0.9s,baz=34,slow=10,SNR=3.0							
ARCES	ARCESS Array B	31.58	3	LR		LR	03 56 31.1	
	comp=N,20nm,19.6s,baz=231,slow=41							
MKAR	Makanchi Array	45.30	58	P		P	03 43 16.6	-1.4
	comp=N,0.4nm,0.4s,baz=274,slow=9.2,SNR=3.8							

IDC 06 03:36:57.9±3.5, 29°.99S × 178°.37W, h0 km, mb4.1/2, mb1 4.4/2, mb1mx3.9/19, mbtmp4.1/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/29, Error ellipse: s-maj=237.8km s-min=51.6km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	42.82	267	P	P	03 44 57.4	-0.5
	1.5nm,0.6s,baz=108,slow=8.0,SNR=15						
WRA	Warramunga Arr	43.77	272	P	P	03 45 05.8	+0.3
	1.6nm,0.5s,baz=113,slow=7.9,SNR=20						
FITZ	Fitzroy Crossi	52.04	270	LR	LR	04 08 10.0	
	comp=Z,64nm,19.3s,baz=109,slow=36						
FINES	FINESS Array B	144.65	340	PKP	PKPdf	03 56 36.1	+0.3
	0.8nm,0.4s,baz=41,slow=4.1,SNR=16						
BRTR	Keskin Array B	152.12	299	PKPbc	PKPbc	03 56 54.9	-0.7
	0.3nm,0.5s,baz=136,slow=4.9,SNR=3.3						

IDC 06 03:39:06.2±1.1, 34°.65N × 26°.72E, h0km, mb3.8/6, mb1 3.8/11, mb1mx3.6/40, mbtmp3.7/11, ML3.4/5, Error ellipse: s-maj=22.2km s-min=16.4km az=178.0

ISCJB 06 03:39:07.7±1.1, 34°.44N±0°.05 × 26°.68E±0°.04, h23km±9km, mb3.7/6, Error ellipse: s-maj=8.4km s-min=4.8km az=173.5

THE 06 03:39:09.0, 34°.54N × 26°.64E, h6km±4km, ML3.2/3, Error ellipse: s-maj=4.7km s-min=1.8km az=286.0

ATH 06 03:39:10.2, 34°.61N × 26°.55E, h18km±4km, ML3.0/3, Error ellipse: s-maj=6.5km s-min=1.8km az=351.0

CSEM 06 03:39:10.8±0.7, 34°.66N × 26°.61E, h15km, ML3.0, Error ellipse: s-maj=15.8km s-min=7.0km az=167.0

DDA 06 03:40:05.9, 35°.01N × 27°.02E, h12km, Md3.6

ISC 06 03:39:08.5±1.5, 34°.55N±0°.06 × 26°.64E±0°.03, h17 km±9km, n76, σ1°43/94, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros	0.67	328	P	Pg	03 39 21.2	-0.3
ZKR				S	Sn	03 39 32.6	-0.7
ZKR	Zakros	0.67	328	P	Pg	03 39 21.3	-0.3
ZKR				S	Sb	03 39 29.9	-0.8
ZKR	Zakros	0.67	328	P	Pg	03 39 21.3	-0.3
ZKR				S	Sb	03 39 29.9	-0.8
ZKR				AML	AML	03 39 38.1	
	comp=E,4104μm,0.4s						
ZKR				AML	AML	03 39 40.4	
	comp=N,3939μm,0.4s						
KARP	Karpathos	1.08	23	*e*PN	Pn	03 39 29.7	+0.7
KARP	Karpathos	1.08	23	P	Pg	03 39 29.2	-0.3
KARP	Karpathos	1.08	23	P	Pn	03 39 30.6	+1.6
KARP				S	Sn	03 39 44.6	+1.0
KARP	Karpathos	1.08	23	P	Pn	03 39 30.6	+1.6
KARP				S	Sn	03 39 44.6	+1.0
KARP				AML	AML	03 39 56.9	
	comp=N,1460μm,0.8s						
KARP				AML	AML	03 39 57.3	
	comp=E,2091μm,0.9s						
NPS	Neapolis	1.11	310	P	Pb	03 39 28.5	-0.7
NPS				S	Sn	03 39 45.4	+1.2
NPS	Neapolis	1.11	310	P	Pb	03 39 29.8	+0.6
NPS				S	Sn	03 39 45.4	+1.2
NPS	Neapolis	1.11	310	P	Pb	03 39 29.8	+0.6
LAST	Lasithi	1.14	303	P	Pb	03 39 28.9	-0.9
LAST				S	Sn	03 39 46.2	+1.2
LAST	Lasithi	1.14	303	P	Pb	03 39 29.1	-0.6
LAST				S	Sb	03 39 44.2	-0.1
LAST	Lasithi	1.14	303	P	Pb	03 39 29.1	-0.6
LAST				AML	AML	03 39 54.5	
	comp=Z,779μm,0.8s						
SIVA	Sivas	1.58	288	P	Pn	03 39 35.6	-0.1
SIVA	Sivas	1.58	288	P	Pb	03 39 38.8	+1.5
SIVA	Sivas	1.58	288	P	Pb	03 39 38.8	+1.5
IDI	Anoyia	1.62	298	Pn	Pn	03 39 38.2	+1.9
	comp=Z,7.1nm,0.3s,baz=83,slow=15,SNR=14						
IDI				Sn	Sg	03 40 00.6	-0.1
	comp=Z,12nm,0.3s,baz=28,slow=21,SNR=14						
IDI	Anoyia	1.62	298	P	Pb	03 39 39.2	+1.2
IDI	Anoyia	1.62	298	P	Pn	03 39 39.2	+1.2
THR6	Thira Island,	2.07	331	P	Pn	03 39 43.3	+0.8
THR6	Thira Island,	2.07	331	P	Pn	03 39 43.3	+0.8
THT1	Athinios (Pele	2.08	332	P	Pn	03 39 43.0	+0.3
THT1	Athinios (Pele	2.08	332	P	Pn	03 39 43.0	+0.3
NIS1	Nisyros Isl.	2.10	12	*e*PN	Pn	03 39 44.5	+1.6
THR3	Thira Island,	2.12	332	P	Pn	03 39 43.5	+0.4
THR3	Thira Island,	2.12	332	P	Pn	03 39 43.5	+0.4
THR5	Thira Island,	2.15	331	*e*PN	Pn	03 39 43.2	-0.3
THR5	Thira Island,	2.15	331	P	Pn	03 39 44.1	+0.6
THR5	Thira Island,	2.15	331	P	Pn	03 39 44.1	+0.6
IMMV	Iera Moni Meta	2.37	293	P	Pn	03 39 48.9	+2.3
IMMV	Iera Moni Meta	2.37	293	P	Pn	03 39 48.9	+2.3
BODT	Bodrum	2.57	12	*e*PN	Pn	03 39 50.8	+1.5
BDRM	Kayabasi	2.59	14	*i*P	Pn	03 39 51.1	+1.3
BDRM				*i*S	Sn	03 40 20.5	-0.4
APE	Apeiranthos	2.67	341	*e*PN	Pn	03 39 51.7	+0.9
APE	Apeiranthos	2.67	341	P	Pn	03 39 51.3	+0.5
APE	Apeiranthos	2.67	341	P	Pn	03 39 51.3	+0.5
DALY	Dalyan (Mu˘la	2.79	35	*e*PN	Pn	03 39 53.8	+1.4
TURN	Turunc	2.81	34	*i*P	Pn	03 39 49.7	-3.0
TURN				*i*S	Sn	03 40 23.9	-2.4
FETY	Fethiye	2.88	43	*e*PN	Pn	03 39 54.5	+0.9
FETY	Fethiye	2.88	43	P	Pn	03 39 54.9	+1.3
FETY				S	Sn	03 40 27.9	0.0
FETY	Fethiye	2.88	43	P	Pn	03 39 54.9	+1.3
FETY				S	Sn	03 40 27.9	0.0
YER	Yerkesik	2.91	27	*e*PN	Pn	03 39 55.7	+1.8
YER	Yerkesik	2.91	27	P	Pn	03 39 55.8	+1.8
YER	Yerkesik	2.91	27	P	Pn	03 39 55.8	+1.8
AKAS	Kas	2.95	54	*i*P	Pn	03 39 55.8	+1.2
AKAS				*i*S	Sn	03 40 31.0	+1.3
AYDN	Tasoluk	3.26	17	*i*P	Pn	03 40 00.5	+1.6
KYTH	Kithira	3.40	301	P	Pn	03 40 01.2	+0.4
KYTH	Kithira	3.40	301	P	Pn	03 40 01.2	+0.4
ELL	Elmali	3.45	50	*e*PN	Pn	03 40 02.4	+0.8
GLHS	Gihisar (BURDU	3.49	41	*e*PN	Pn	03 40 03.1	+1.1
DGB	¨zmir	3.50	3	*i*P	Pn	03 40 01.5	-0.6
AYDB	Zeytinkoy-Aydi	3.54	16	*e*PN	Pn	03 40 04.9	+2.1
GOLH	Golhisar	3.58	41	*i*P	Pn	03 40 05.3	+1.9
GOLH				*i*S	Sn	03 40 49.2	+3.9
DNZL	Cakiroluk	3.69	31	*i*P	Pn	03 40 05.9	+1.0
CHOS	Chios island	3.86	353	*e*PN	Pn	03 40 09.0	+1.8
ANTB	Antalya	4.02	53	*e*PN	Pn	03 40 10.1	+0.9
KULA	Kula-Manisa	4.28	22	*e*PN	Pn	03 40 14.4	+1.5
BCK	Bucak	4.32	47	*e*PN	Pn	03 40 14.9	+1.4
KHAL	Karahalli	4.45	30	*i*P	Pn	03 40 15.8	+0.4
SUTC	Sutluce-Ispart	4.58	49	*e*PN	Pn	03 40 18.4	+1.2
SIGR	SIGRI	4.70	352	*e*PN	Pn	03 40 20.9	+2.3
GAZI	Gazipasa	4.93	68	*i*P	Pn	03 40 19.1	-2.7
GAZI				*i*S	Sn	03 41 14.6	-3.9
ERMK	Ermenek	5.52	66	*i*P	Pn	03 40 32.0	+1.9
ERMK				*i*S	Sn	03 41 35.6	+2.3
KONT	Konya--Tatoy	5.73	52	*e*PN	Pn	03 40 34.1	+1.3
KIZT	Kizilcal	6.03	43	*e*PN	Pn	03 40 38.8	+1.8
MMAI	Mount Meron Ar	7.45	99	Pn	Pn	03 40 55.8	-0.7
	comp=Z,1.4nm,0.3s,baz=300,slow=12,SNR=4.9						
BRTR	Keskin Array B	7.61	45	Pn	Pn	03 40 59.8	+1.1
	comp=Z,0.1nm,0.3s,baz=219,slow=14,SNR=7.1						
EIL	Elat	8.56	122	Pn	Pn	03 41 11.2	-0.5
	comp=Z,0.6nm,0.3s,baz=352,slow=3.8,SNR=13						
EIL				Sn	Sn	03 42 42.9	-4.9
	comp=Z,1.1nm,0.3s,baz=5.9,slow=7.4,SNR=5.2						
KBZ	Khabaz	15.57	49	Pn	Pn	03 42 49.6	+2.6
	comp=Z,0.0nm,0.3s,baz=180,slow=15,SNR=2.6						
AKASG	Malin Array Be	16.25	6	Pn	Pn	03 42 55.0	-0.9
	comp=Z,1.0nm,0.3s,baz=191,slow=12,SNR=4.6						
FINES	FINESS Array B	26.92	359	P	P	03 44 47.0	-1.4
	comp=Z,1.9nm,0.9s,baz=181,slow=13,SNR=4.5						
HFS	Hagfors	26.96	346	P	P	03 44 46.6	-2.3
	comp=Z,0.9nm,0.7s,baz=125,slow=9.6,SNR=5.3						
TORD	Torodi Ar. Bea	31.06	233	P	P	03 45 26.6	+0.8
	comp=Z,0.4nm,0.6s,baz=36,slow=9.0,SNR=13						
ARCES	ARCESS Array B	35.05	359	P	P	03 45 58.0	-2.1
	comp=Z,1.7nm,0.8s,baz=182,slow=8.5,SNR=16						
MKAR	Makanchi Array	43.10	56	P	P	03 47 08.1	+0.4
	comp=Z,0.6nm,0.6s,baz=268,slow=6.9,SNR=5.9						
SONM	Songino Array	58.93	51	P	P	03 49 06.7	-0.1
	comp=Z,0.7nm,0.4s,baz=289,slow=4.5,SNR=3.8						

MAN 06 03:47:39, 13°.65N × 122°.62E, h11 km, mb4.4, ML3.3, MS3.2, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GQP	Guinayangan	0.31	327	*i*P	Pb	03 47 46.1	-0.4
GQP				*i*S	Sb	03 47 51.1	-0.5
AUQP	San Andres	0.33	171	*e*P	Pb	03 47 48.0	+1.1
AUQP				*e*S	Sb	03 47 57.2	+5.0
BOAC	Boac	0.78	256	*e*P	Pb	03 47 55.1	+0.5
BOAC				*e*S	Sn	03 48 08.7	+1.1
LQP	Lukban	1.15	294	*e*P	Pn	03 48 02.0	+0.8
POLP	Polilio Island	1.26	329	*e*P	Pn	03 48 02.6	0.0
POLP				*e*S	Sg	03 48 21.0	+1.3
PVCP	Virac	1.49	92	*e*P	Pn	03 48 05.7	0.0
PVCP				*e*S	Sg	03 48 27.1	0.0
PGP	Puerto Galera	1.63	265	*e*P	Pb	03 48 09.3	+0.2
PGP				*i*S	Sg	03 48 32.1	+0.7
RCP	Roxas	2.08	177	*e*P	Pb	03 48 15.7	-1.1
BALP	Baler	2.31	334	*e*P	Pn	03 48 18.8	+1.7
BALP				*e*S	Sg	03 48 53.1	-0.3

IDC 06 03:51:33.0±2.1, 1°.69N × 126°.45E, h0 km, mb3.4/3, mb1 3.7/3, mb1mx3.4/44, mbtmp3.4/3, Error ellipse: s-maj=193.5km s-min=25.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.85	161	P	P	03 56 38.0	0.0
	1.1nm,0.8s,baz=339,slow=11,SNR=6.6						
ASAR	Alice Springs	26.23	164	P	P	03 57 09.9	+0.1
	0.4nm,0.6s,baz=349,slow=6.9,SNR=4.4						
MKAR	Makanchi Array	59.07	326	P	P	04 01 35.0	-0.1
	0.1nm,0.3s,baz=124,slow=8.5,SNR=2.8						

IDC 06 03:58:16.4±0.7, 22°.14N × 144°.40E, h0km, mb4.1/16, mb1 4.2/17, mb1mx4.0/52, mbtmp4.1/17, ML3.4/1, MS2.6/2, Ms1 2.7/2, ms1mx2.3/33, Error ellipse: s-maj=28.9km s-min=15.6km az=91.0

NEIC 06 03:58:21.5±0.5, 22°.13N × 144°.41E, h35km, mb4.3/5, Error ellipse: s-maj=15.4km s-min=9.6km az=82.0

ISCJB 06 03:58:23.6±0.6, 22°.09N±0°.07 × 144°.4E±0°.1, h69km, mb4.0/21, Error ellipse: s-maj=17.1km s-min=10.0km az=173.8

ISC 06 03:58:25.2±0.7, 22°.18N±0°.09 × 144°.3E±0°.1, h69 km, n37, σ1°49/30, mb4.1/21, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	5.27	339	*e*Pn	Pn	03 59 39.2	-2.3
CBIJ				*e*S	Sn	04 00 30.0	-11
MJAR	Matsushiro Arr	15.27	341	Pn	Pn	04 01 52.5	-4.3
	0.2nm,0.3s,baz=185,slow=12,SNR=2.9						
JNU	Nakatsue	16.13	315	LR	LR	04 06 19.6	
	comp=Z,9.3nm,20.1s,baz=144,slow=30						
KSRS	Korea Array	20.79	321	P	P	04 03 02.0	+1.3
	3.0nm,0.8s,baz=134,slow=12,SNR=4.8						
KSAR	Wonju Array Be	20.81	321	P	P	04 03 02.0	+1.1
H11N1	WAKE ISLAND Hy	21.21	92	T	T	04 25 45.5	
	baz=284,slow=78,SNR=3.6						
H11N2	WAKE ISLAND Hy	21.21	92	T	T	04 25 19.4	
	baz=284,slow=78,SNR=4.7						
H11N3	WAKE ISLAND Hy	21.23	92	T	T	04 25 36.8	
	baz=284,slow=78,SNR=5.1						
YULB	Yu-li	21.27	278	*e*P	P	04 03 06.0	-0.1
	3.7nm,1.0s						
H11S3	WAKE ISLAND Hy	21.28	96	T	T	04 25 17.8	
	baz=283,slow=75,SNR=12						
H11S1	WAKE ISLAND Hy	21.29	96	T	T	04 25 35.2	
	baz=283,slow=75,SNR=6.9						
H11S2	WAKE ISLAND Hy	21.30	96	T	T	04 25 36.6	
	baz=283,slow=75,SNR=8.7						
TWG	Pinlang	21.50	276	*e*P	P	04 03 05.9	-2.6
SSLB	Suanglung	21.58	279	*e*P	P	04 03 11.2	+1.8
USRK	Ussuriysk Ar.	24.21	338	P	P	04 03 36.8	+1.4
	3.5nm,0.7s,baz=160,slow=9.9,SNR=8.3						
KLR	Kul'dur	28.78	343	P	P	04 04 18.2	+1.8
	3.9nm,0.6s,baz=150,slow=8.2,SNR=18						
CTAO	Charters Tower	42.05	177	*e*P	P	04 06 07.5	-2.7
	53nm,0.8s						
CMAR	Chiang Mai Arr	42.61	274	P	P	04 06 16.4	+1.5
	2.8nm,0.3s,baz=67,slow=6.9,SNR=4.2						
CMAR				LR	LR	04 25 06.4	
	comp=Z,14nm,18.2s,baz=225,slow=38						
WRAB	Tennant Creek	42.97	194	*e*P	P	04 06 17.6	-0.1
WRA	Warramunga Arr	42.98	194	P	P	04 06 17.8	-0.1
	0.9nm,0.3s,baz=15,slow=8.9,SNR=9.8						
FITZ	Fitzroy Crossi	44.01	206	P	P	04 06 25.6	-0.5
	2.0nm,0.7s,baz=18,slow=6.4,SNR=5.1						
ASAR	Alice Springs	46.68	193	P	P	04 06 47.2	0.0
	0.2nm,0.5s,baz=15,slow=7.2,SNR=3.2						
MKAR	Makanchi Array	55.16	312	P	P	04 07 50.9	+0.2
	2.9nm,0.6s,baz=99,slow=7.7,SNR=4.3						
KURK	Kurchatov	57.85	317	*e*P	P	04 08 10.5	+0.8
	8.0nm,0.8s						
TKM2	Tokmak 2	59.89	308	*e*P	P	04 08 25.1	+0.8
	2.2nm,0.8s						
ILAR	Eielson Array	61.13	27	P	P	04 08 32.4	+0.4
	0.4nm,0.8s,baz=263,slow=5.7,SNR=4.0						
KKAR	Karatay Array	63.59	308	*e*P	P	04 08 49.9	+0.9
	1.4nm,0.6s						
ABKAR	Akbulak array	69.94	316	*e*P	P	04 09 29.4	+0.3
	1.8nm,0.5s						
YKA	Yellowknife Ar	75.53	28	P	P	04 10 03.4	+1.4
	0.1nm,0.5s,baz=293,slow=5.9,SNR=3.0						
ARCES	ARCESS Array B	78.81	342	P	P	04 10 20.2	0.0
	4.6nm,0.9s,baz=69,slow=6.6,SNR=10						
KBZ	Khabaz	82.80	314	P	P	04 10 43.0	+1.0
	3.5nm,0.8s,baz=104,slow=5.1,SNR=8.9						
FINES	FINESS Array B	83.20	335	P	P	04 10 43.9	+0.1
	3.0nm,0.4s,baz=70,slow=4.5,SNR=41						
AKASG	Malin Array Be	87.73	325	P	P	04 11 06.0	-0.4
	0.5nm,0.4s,baz=50,slow=5.3,SNR=4.0						
NOA	NORSAR Array B	88.88	339	P	P	04 11 10.9	-0.9
	0.7nm,0.8s,baz=44,slow=4.8,SNR=3.3						
BRTR	Keskin Array B	90.78	314	P	P	04 11 21.3	+0.1
	0.4nm,0.5s,baz=137,slow=2.4,SNR=4.7						
TORD	Torodi Ar. Bea	129.26	310	PKP	PKPdf	04 17 27.3	+0.7
	0.4nm,1.0s,baz=32,slow=1.9,SNR=3.8						
LPAZ	La Paz	148.84	85	PKPbc	PKPbc	04 18 07.9	+1.3
	0.5nm,0.4s,baz=222,slow=6.4,SNR=5.8						

MEX 06 03:59:36.1±0.4, 15°.13N × 92°.03W, h210 km±5km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		1.28	297	*i*P	Pn	04 00 07.8	-1.1
PCIG				*e*S	S	04 00 31.7	-2.5
PCIG				*i*S	S	04 00 32.0	-2.3
HUIG	Huatulco	3.98	280	*e*P	Pn	04 00 37.2	-0.9
HUIG				*i*S	S	04 01 24.7	-1.7

ISCJB 06 04:01:17.2±0.9, 52°.5S±0°.2 × 27°.6E±0°.4, h10km, mb3.9/7, MS3.0/5, Error ellipse: s-maj=38.6km s-min=21.1km az=44.9

IDC 06 04:01:17.3±0.9, 52°.55S × 27°.73E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/27, mbtmp3.9/7, MS3.1/5, Ms1 3.1/5, ms1mx2.8/27, Error ellipse: s-maj=44.1km s-min=23.1km az=49.0

ISC 06 04:01:19.0±1.1, 52°.6S±0°.2 × 27°.7E±0°.3, h10 km, n11, σ1°01/7, mb4.1/7, MS3.2/5, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	Sutherland	20.77	343	LR	LR	04 11 58.9	
	comp=Z,7.0nm,18.9s,baz=148,slow=31						
MAW	Mawson	22.68	145	P	P	04 06 21.5	+1.4
	2.2nm,0.9s,baz=310,slow=7.8,SNR=4.1						
BOSA	Boshof	23.98	355	LR	LR	04 14 11.1	
	comp=Z,48nm,21.2s,baz=166,slow=32						
LBTB	Lobatse	27.54	356	LR	LR	04 16 09.1	
	comp=Z,67nm,19.5s,baz=174,slow=32						
VNDA	Vanda	47.12	168	P	P	04 09 49.8	-0.8
	1.0nm,0.7s,baz=233,slow=5.3,SNR=10						
VNDA				LR	LR	04 28 45.2	
	comp=Z,26nm,19.9s,baz=240,slow=35						
CPUP	Villa Florida	66.60	257	P	P	04 12 09.5	+0.1
	1.0nm,0.7s,baz=134,slow=6.8,SNR=3.5						
TORD	Torodi Ar. Bea	69.16	333	P	P	04 12 25.8	+0.4
	1.0nm,0.7s,baz=172,slow=6.6,SNR=12						
STKA	Stephens Creek	78.14	127	P	P	04 13 18.5	+0.3
	1.7nm,0.7s,baz=188,slow=7.1,SNR=2.9						
ASAR	Alice Springs	80.81	117	P	P	04 13 32.5	-0.5
	1.0nm,0.7s,baz=215,slow=4.7,SNR=9.9						
WRA	Warramunga Arr	84.04	115	P	P	04 13 48.8	-1.0
	1.5nm,1.0s,baz=213,slow=3.7,SNR=4.8						
KAPI	Kappang	87.32	95	LR	LR	04 43 24.2	
	comp=Z,22nm,21.6s,baz=281,slow=29						

ISCJB 06 04:31:16.4±0.6, 33°.95S±0°.05 × 71°.09W±0°.09, h83km±5km, mb3.5/3, Error ellipse: s-maj=13.3km s-min=7.1km az=14.3

SJA 06 04:31:16.6±0.6, 33°.83S × 71°.22W, h87km±9km, ML3.4, MW3.6

NEIC 06 04:31:17.0, 33°.92S × 71°.14W, h68km, mb3.5/1, After GUC.

NEIC Felt [III] at Rancagua, Rengo and San Fernando; [II] at San Antonio and Villa Alemana. Also felt at Santiago.

GUC 06 04:31:17.4±0.5, 33°.92S × 71°.14W, h68km±12km, ML3.9

IDC 06 04:31:23.2±1.8.0, 33°.34S × 70°.69W, h199km±130km, mb3.4/2, mb1 3.4/4, mb1mx3.2/16, mbtmp3.9/4, Error ellipse: s-maj=143.6km s-min=57.2km az=34.0

ISC 06 04:31:16.7±1.0, 33°.93S±0°.05 × 71°.14W±0°.08, h75 km±8km, n21, σ1°07/27, mb3.6/3, Near coast of central Chile

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

KCTX	Karacabey (Bur	1.29 335	*e*PN		Pn	04 35 11.0	-0.3
KCTX	Karacabey (Bur	1.29 335	*e*Pn		Pn	04 35 11.0	-0.3
BORA	Eskisehir	1.34 53	P		Pb	04 35 12.3	-0.1
BORA			S		Sn	04 35 31.1	+1.3
BORA	Eskisehir	1.34 53	*i* P		Pb	04 35 12.3	-0.1
BORA			*i* S		Sn	04 35 31.1	+1.3
ARMT	Armutlu	1.48 354	*e*PN		Pg	04 35 15.2	-0.5
ARMT	Armutlu	1.48 354	*e*Pn		Pg	04 35 15.2	-0.5

IDC *06* 04:36:39.8±1.5, 0°12S×125°78E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/35, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=119.9km s-min=20.8km az=68.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.87**	**180**	P	P	04 40 50.9	+0.1
	0.1nm,0.3s,baz=10,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**21.41**	**157**	P	P	04 41 28.5	-0.9
	1.8nm,0.7s,baz=335,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**24.70**	**162**	P	P	04 42 03.1	+0.3
	0.6nm,0.6s,baz=345,slow=10,SNR=6.9						
MKAR	**Makanchi Array**	**60.20**	**327**	P	P	04 46 48.7	-1.0
	0.2nm,0.5s,baz=145,slow=8.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**64.49**	**329**	P	P	04 47 19.4	+1.1
	0.2nm,0.5s,baz=122,slow=6.7,SNR=4.3						

IDC 06 04:47:10.3±2.1, 3°30N×124°43E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/37, mbtmp3.5/3, Error ellipse: s-maj=222.3km s-min=27.0km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.07**	**158**	P	P	04 52 36.6	0.0
	0.6nm,0.4s,baz=336,slow=10,SNR=7.9						
ASAR	**Alice Springs**	**28.35**	**161**	P	P	04 53 06.2	-0.1
	0.3nm,0.6s,baz=344,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**56.62**	**326**	P	P	04 56 55.2	0.0
	0.4nm,0.4s,baz=121,slow=8.8,SNR=5.2						

IDC 06 04:53:37.1±1.5, 15°86N×120°18E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/47, mbtmp3.7/5, Error ellipse: s-maj=71.0km s-min=20.1km az=56.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.46**	**280**	P	P	04 58 16.7	+0.2
	0.7nm,0.4s,baz=91,slow=6.8,SNR=7.9						
WRA	**Warramunga Arr**	**38.21**	**158**	P	P	05 00 58.5	-0.3
	2.1nm,0.7s,baz=335,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**41.52**	**161**	P	P	05 01 26.4	+0.1
	0.9nm,0.5s,baz=336,slow=6.7,SNR=23						
MKAR	**Makanchi Array**	**44.01**	**323**	P	P	05 01 46.2	-0.2
	0.2nm,0.4s,baz=131,slow=7.9,SNR=3.9						
KURBB	**Kurchatov Arra**	**48.13**	**325**	P	P	05 02 18.5	-0.2
	0.3nm,0.5s,baz=121,slow=8.8,SNR=5.5						

*ISK **06** 04:56:21.9, 39°.10N×29°.13E, h5km, MD2.7*
*ISCJB **06** 04:56:22.9±0.6, 39°.11N±0°.04×29°.10E±0°.04, h6km±7km, Error ellipse: s-maj=6.7km s-min=4.6km az=144.7*
*DDA **06** 04:56:23.1, 39°.10N×29°.11E, h7km, Md2.6*
*CSEM **06** 04:56:23.0±0.1, 39°.12N×29°.10E, h8km, MD2.6, Error ellipse: s-maj=3.9km s-min=2.9km az=122.0*

ISC 06 04:56:23.2±0.9, 39°12N±0°.03×29°11E±0°.03, h11km±8km, n20, σ0°58/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.29**	**95**	P	**Pg**	**04 56 29.4**	**+0.1**
GDZ				S	**Sg**	**04 56 33.8**	**+0.5**
GDZ	**Gediz**	**0.29**	**95**	*i* P	**Pg**	**04 56 29.4**	**+0.1**
GDZ				*i* S	**Sg**	**04 56 33.8**	**+0.5**
DEMI	**Demirci**	**0.31**	**257**	P	**Pg**	**04 56 29.7**	**+0.2**
DEMI				S	**Sg**	**04 56 34.0**	**+0.3**
DEMI	**Demirci**	**0.31**	**257**	*i* P	**Pg**	**04 56 29.7**	**+0.2**
DEMI				*i* S	**Sg**	**04 56 34.0**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**40**	*e*PG	**Pg**	**04 56 30.8**	**-1.0**
TVSB				*e*SG	**Sg**	**04 56 37.3**	**-0.3**
TVSB	**Tavsanli**	**0.43**	**40**	*e*Pg	**Pg**	**04 56 30.8**	**-1.0**
TVSB				*e*Sg	**Sg**	**04 56 37.3**	**-0.3**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*PG	**Pg**	**04 56 35.7**	**-0.9**
KULA				*e*SG	**Sg**	**04 56 45.6**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg	**Pg**	**04 56 35.7**	**-0.9**
KHAL	**Karahalli**	**0.80**	**158**	P	**Pb**	**04 56 38.9**	**-0.3**
KHAL				S	**Sb**	**04 56 49.5**	**-0.6**
KHAL	**Karahalli**	**0.80**	**158**	*i* P	**Pb**	**04 56 38.9**	**-0.3**
KHAL				*i* S	**Sb**	**04 56 49.5**	**-0.6**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*PN	**Pb**	**04 56 46.0**	**-0.4**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pb**	**04 56 46.0**	**-0.4**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*PN	**Pn**	**04 56 47.5**	**+0.4**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*Pn	**Pn**	**04 56 47.5**	**+0.4**
BORA	**Eskisehir**	**1.29**	**53**	P	**Pn**	**04 56 47.6**	**+0.4**
BORA				S	**Sn**	**04 57 05.4**	**+0.8**
BORA	**Eskisehir**	**1.29**	**53**	*i* P	**Pn**	**04 56 47.6**	**+0.4**
BORA				*i* S	**Sn**	**04 57 05.4**	**+0.8**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pn**	**04 56 49.9**	**+0.4**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pn**	**04 56 49.9**	**+0.4**
GULT	**Gulveren**	**1.71**	**39**	*e*PN	**Pn**	**04 56 53.6**	**+0.7**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**04 56 53.6**	**+0.7**

*IDC **06** 04:57:23.6±1.9, 36°.39N×143°.62E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/49, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=56.6km s-min=29.4km az=70.0*
*JMA **06** 04:57:29.0±0.3, 37°.16N×142°.55E, h10km±5km, M3.4*

ISC 06 04:57:21.7±3.6, 37°00N±0°08×143°0E±0°.1, h10km±22km, n14, σ1°59/17, mb3.8/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.71**	**283**	P	**Pb**	**04 57 54.1**	**+0.8**
JFK				*e*S	**Sn**	**04 58 12.0**	**-1.6**
ONAJ	**Iwakimizuishiy**	**1.74**	**274**	P	**Pb**	**04 57 54.7**	**+0.9**
JMM	**Marumori**	**1.94**	**297**	P	**Pb**	**04 57 57.3**	**+0.2**
JMM				*e*S	**Sn**	**04 58 17.2**	**-1.8**
JIO	**Ouri**	**1.94**	**319**	P	**Pb**	**04 57 57.8**	**+0.7**
JIO				S	**Sn**	**04 58 18.4**	**-0.7**
JFT	**Otama**	**2.17**	**285**	P	**Pb**	**04 58 01.1**	**+0.1**
JFT				*e*S	**Sn**	**04 58 23.9**	**-0.8**
JOU	**Okura**	**2.28**	**307**	P	**Pb**	**04 58 03.2**	**+0.2**
JOU				S	**Sn**	**04 58 27.9**	**+0.3**
JMK	**Ichinoseki**	**2.39**	**325**	P	**Pb**	**04 58 04.5**	**-0.3**
JMK				S	**Sn**	**04 58 31.2**	**+1.0**
MJAR	**Matsushiro Arr**	**3.85**	**265**	Pn	**Pb**	**04 58 30.6**	**+0.9**
	1.4nm,0.3s,baz=75,slow=9.5,SNR=8.9						
MAT	**Matsushiro**	**3.85**	**265**	P	**Pb**	**04 58 26.7**	**-3.0**
MAT				*e*S	**Sn**	**04 59 09.9**	**+3.5**
USRK	**Ussuriysk Ar.**	**11.01**	**314**	Pn	Pn	05 00 18.6	+19
	0.1nm,0.3s,baz=134,slow=14,SNR=5.0						
MKAR	**Makanchi Array**	**45.19**	**302**	P	P	05 05 48.2	+10
	0.2nm,0.3s,baz=92,slow=7.8,SNR=4.0						
KURBB	**Kurchatov Arra**	**47.00**	**308**	P	P	05 06 02.4	+10
	0.8nm,0.5s,baz=83,slow=8.1,SNR=8.1						
WRA	**Warramunga Arr**	**57.22**	**190**	P	**P**	**05 07 09.0**	**-0.1**
	0.4nm,0.9s,baz=12,slow=7.4,SNR=2.5						
FINES	**FINESS Array B**	**69.42**	**333**	P	P	05 08 37.7	+8.3
	1.7nm,0.9s,baz=134,slow=8.1,SNR=2.7						

*IDC **06** 04:58:15.6±0.9, 15°.79N×120°.01E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.7/49, mbtmp3.8/8, MS3.0/1, Ms1 3.2/1, ms1mx2.3/41, Error ellipse: s-maj=37.6km s-min=17.5km az=68.0*
*ISCJB **06** 04:58:18.6±0.8, 15°.8N±0°.1×119°.9E±0°.2, h33km, mb3.7/7, MS2.8/1, Error ellipse: s-maj=27.3km s-min=15.8km az=154.3*

ISC 06 04:58:20.4±1.0, 15°8N±0°2×120°0E±0°2, h33km, n8, σ1°11/8, mb3.8/7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.27**	**281**	P	**P**	**05 02 53.4**	**0.0**
	2.5nm,0.8s,baz=95,slow=7.9,SNR=9.9						
CMAR					LR	LR	05 09 52.2
	comp=Z,42nm,21.1s,baz=175,slow=34						
SONM	**Songino Array**	**33.88**	**344**	P	**P**	**05 05 01.7**	**+1.5**
	0.8nm,0.7s,baz=142,slow=7.3,SNR=3.0						
KLR	**Kul'dur**	**34.73**	**14**	P	**P**	**05 05 06.1**	**-1.2**
	0.2nm,0.3s,baz=131,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**38.20**	**158**	P	**P**	**05 05 37.0**	**-0.2**
	2.4nm,0.7s,baz=336,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**41.49**	**161**	P	**P**	**05 06 04.7**	**+0.1**
	1.0nm,0.5s,baz=336,slow=7.2,SNR=13						
MKAR	**Makanchi Array**	**43.96**	**323**	P	**P**	**05 06 23.1**	**-1.3**
	0.8nm,0.9s,baz=116,slow=6.7,SNR=4.0						
KURBB	**Kurchatov Arra**	**48.09**	**325**	P	**P**	**05 06 56.6**	**-0.2**
	0.4nm,0.3s,baz=120,slow=8.8,SNR=7.1						
YKA	**Yellowknife Ar**	**91.14**	**22**	P	**P**	**05 11 22.5**	**+0.8**
	0.3nm,0.7s,baz=322,slow=3.9,SNR=3.7						

*ISCJB **06** 05:04:18.3±0.4, 43°.63S±0°.04×172°.53E±0°.06, h27km±3km, mb3.8/2, MS3.2/2, Error ellipse: s-maj=8.8km s-min=4.0km az=45.0*
*NEIC **06** 05:04:19.6, 43°.59S×172°.40E, h10km, ML4.5(WEL), After WEL.*
NEIC Felt in Canterbury.
*WEL **06** 05:04:19.8±0.1, 43°.58S×172°.40E, h9km, ML4.5/45, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*
WEL Felt from West Coast to Canterbury, maximum reported intensity MM 6.
*IDC **06** 05:04:21.1±1.3, 43°.13S×172°.02E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/24, mbtmp3.8/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/22, Error ellipse: s-maj=37.1km s-min=12.4km az=134.0*

ISC 06 05:04:19.2±0.9, 43°57S±0°.04×172°45E±0°.03, h20km±4km, n99, σ0°85/89, 6C-5D, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.12**	**91**	⇑PG	**Pg**	**05 04 23.2**	**-0.1**
CRLZ				SG	**Sg**	**05 04 25.7**	**-0.4**
CRLZ				AML	AML	05 04 26.1	
CRLZ				AML	AML	05 04 26.1	
CRLZ				AML	AML	05 04 26.1	
CRLZ	**Canterbury Las**	**0.12**	**91**	Pg	**Pg**	**05 04 23.2**	**-0.1**
MQZ	**McQueen's Vall**	**0.20**	**133**	⇓PG	**Pg**	**05 04 24.3**	**+0.1**
MQZ				SG	**Sg**	**05 04 27.6**	**-0.1**
MQZ				AML	AML	05 04 28.1	
MQZ				AML	AML	05 04 28.9	
MQZ	**McQueen's Vall**	**0.20**	**133**	⇓Pg	**Pg**	**05 04 24.3**	**+0.1**
MQZ				Sg	**Sg**	**05 04 27.6**	**-0.1**
OXZ	**Oxford**	**0.39**	**309**	⇓PG	**Pg**	**05 04 26.7**	**-0.7**
OXZ	**Oxford**	**0.39**	**309**	⇓P*	**Pg**	**05 04 26.7**	**-0.7**
LTZ	**Lake Taylor**	**0.80**	**350**	⇑P*	**Pn**	**05 04 35.2**	**-0.2**
LTZ				AML	AML	05 04 47.0	
LTZ				AML	AML	05 04 48.4	
LTZ	**Lake Taylor**	**0.80**	**350**	⇑P*	**Pn**	**05 04 35.2**	**-0.2**
RPZ	**Rata Peaks**	**1.03**	**262**	Pg	**Pn**	**05 04 38.3**	**-0.2**
	491nm,0.3s,baz=146,slow=2.5,SNR=657						
RPZ				Lg	Lg	05 04 51.6	
	1µm,0.3s,baz=3.4,slow=17,SNR=33						
RPZ	**Rata Peaks**	**1.03**	**262**	P*	**Pn**	**05 04 38.2**	**-0.2**
RPZ				AML	AML	05 04 58.0	
RPZ				AML	AML	05 05 02.0	
INZ	**Inchbonnie**	**1.12**	**319**	P*	**Pb**	**05 04 39.7**	**-0.2**
WVZ	**Waitaha Valley**	**1.35**	**291**	PN	**Pn**	**05 04 42.8**	**-0.1**
WVZ				AML	AML	05 05 04.8	
WVZ				AML	AML	05 05 07.8	
WVZ	**Waitaha Valley**	**1.35**	**291**	Pn	**Pb**	**05 04 43.1**	**-0.7**
KHZ	**Kahutara**	**1.40**	**35**	⇑PN	**Pn**	**05 04 43.9**	**+0.2**
KHZ	**Kahutara**	**1.40**	**35**	Pn	**Pn**	**05 04 43.4**	**-0.2**
LBZ	**Lake Benmore**	**1.83**	**243**	PN	**Pn**	**05 04 49.5**	**0.0**
LBZ				AML	AML	05 05 20.2	
LBZ				AML	AML	05 05 20.3	
LBZ				AML	AML	05 05 23.6	
LBZ				AML	AML	05 05 24.1	
LBZ	**Lake Benmore**	**1.83**	**243**	Pn	**Pn**	**05 04 49.7**	**+0.2**
THZ	**Tophouse**	**1.84**	**11**	⇑PN	**Pn**	**05 04 49.9**	**+0.2**
THZ				AML	AML	05 05 25.0	
THZ				AML	AML	05 05 33.0	
THZ	**Tophouse**	**1.84**	**11**	Pn	**Pn**	**05 04 49.6**	**-0.1**
DSZ	**Denniston Nort**	**1.89**	**345**	PN	**Pn**	**05 04 50.7**	**+0.4**
DSZ				AML	AML	05 05 22.5	
DSZ				AML	AML	05 05 22.6	
DSZ				AML	AML	05 05 22.7	
DSZ				AML	AML	05 05 22.7	
DSZ	**Denniston Nort**	**1.89**	**345**	Pn	**Pn**	**05 04 50.8**	**+0.4**
FOZ	**Fox Glacier**	**1.92**	**270**	PN	**Pn**	**05 04 51.6**	**+0.9**
FOZ				AML	AML	05 05 23.3	
FOZ				AML	AML	05 05 23.3	
FOZ				AML	AML	05 05 24.6	
FOZ				AML	AML	05 05 25.0	
FOZ	**Fox Glacier**	**1.92**	**270**	Pn	**Pb**	**05 04 51.9**	**-1.5**
ODZ	**Otahua Downs**	**1.96**	**221**	PN	**Pn**	**05 04 51.1**	**-0.2**
ODZ				AML	AML	05 05 29.6	
ODZ				AML	AML	05 05 32.2	
ODZ				AML	AML	05 05 32.4	
ODZ				AML	AML	05 05 33.8	
ODZ	**Otahua Downs**	**1.96**	**221**	*e*Pn	**Pn**	**05 04 51.2**	**-0.2**
ODZ				*e*Sn	**Sg**	**05 05 22.4**	**0.0**
BSWZ	**Blackbirch Sta**	**2.13**	**30**	PN	**Pn**	**05 04 54.1**	**+0.4**
BSWZ				AML	AML	05 05 48.2	
BSWZ				AML	AML	05 05 49.3	
BSWZ	**Blackbirch Sta**	**2.13**	**30**	Pn	**Pn**	**05 04 54.1**	**+0.4**
TUWZ	**Tuamarina**	**2.41**	**28**	PN	**Pn**	**05 04 57.7**	**+0.2**
TUWZ				AML	AML	05 05 55.1	
TUWZ				AML	AML	05 06 05.1	
TUWZ	**Tuamarina**	**2.41**	**28**	Pn	**Pn**	**05 04 57.7**	**+0.2**
NNZ	**Nelson**	**2.45**	**17**	PN	**Pn**	**05 04 58.7**	**+0.6**
NNZ				AML	AML	05 05 43.3	
NNZ				AML	AML	05 05 43.3	
NNZ				AML	AML	05 05 49.3	
NNZ				AML	AML	05 05 49.4	
NNZ	**Nelson**	**2.45**	**17**	Pn	**Pn**	**05 04 58.7**	**+0.6**
JCZ	**Jackson Bay**	**2.70**	**258**	AML	AML	05 05 50.6	
JCZ				AML	AML	05 05 55.4	
TCW	**Tory Channel**	**2.72**	**30**	*e*PN	**Pn**	**05 05 01.5**	**-0.3**
TCW				AML	AML	05 05 20.8	
TCW				AML	AML	05 05 46.8	
TCW	**Tory Channel**	**2.72**	**30**	Pn	**Pn**	**05 05 01.7**	**-0.1**
QRZ	**Quartz Range**	**2.75**	**1**	PN	**Pn**	**05 05 02.1**	**0.0**
QRZ				AML	AML	05 05 48.2	
QRZ				AML	AML	05 05 48.2	
QRZ				AML	AML	05 05 51.3	
QRZ				AML	AML	05 05 51.3	
QRZ	**Quartz Range**	**2.75**	**1**	Pn	**Pn**	**05 05 02.1**	**0.0**
WKZ	**Wanaka**	**2.77**	**242**	PN	**Pn**	**05 05 02.5**	**0.0**
WKZ				AML	AML	05 05 53.1	
WKZ				AML	AML	05 05 53.1	
WKZ				AML	AML	05 05 56.0	
WKZ				AML	AML	05 05 56.0	
WKZ	**Wanaka**	**2.77**	**242**	Pn	**Pn**	**05 05 02.5**	**0.0**
EAZ	**Earnscleugh**	**2.80**	**233**	⇑PN	**Pn**	**05 05 02.7**	**-0.1**
EAZ				AML	AML	05 05 51.7	
EAZ				AML	AML	05 05 51.8	
EAZ				AML	AML	05 05 52.9	
EAZ				AML	AML	05 05 52.9	
EAZ	**Earnscleugh**	**2.80**	**233**	Pn	**Pn**	**05 05 02.7**	**-0.1**
BHW	**Baring Head**	**2.81**	**40**	PN	**Pn**	**05 05 02.3**	**-0.6**
BHW				AML	AML	05 06 07.3	
BHW				AML	AML	05 06 13.9	
BHW	**Baring Head**	**2.81**	**40**	Pn	**Pn**	**05 05 02.6**	**-0.3**
SNZO	**South Karori**	**2.81**	**37**	*e*Pn	**Pn**	**05 05 02.3**	**-0.6**
SNZO				*e*Sn	**Sn**	**05 05 38.1**	**+1.9**
WEL	**Wellington**	**2.86**	**38**	AML	AML	05 05 41.2	
PLWZ	**Palliser**	**2.88**	**47**	PN	**Pn**	**05 05 03.2**	**-0.8**
PLWZ	**Palliser**	**2.88**	**47**	Pn	**Pn**	**05 05 03.4**	**-0.6**
MSWZ	**Moikau Station**	**2.99**	**45**	AML	AML	05 05 44.0	
MSWZ				AML	AML	05 06 03.8	
PAWZ	**Paruwai Farm**	**3.10**	**46**	AML	AML	05 05 50.4	
PAWZ				AML	AML	05 07 07.9	
TUZ	**Tuapeka**	**3.12**	**219**	PN	**Pn**	**05 05 07.0**	**-0.1**
TUZ				AML	AML	05 05 07.6	
TUZ				AML	AML	05 06 07.6	
TUZ				AML	AML	05 06 08.5	
TUZ				AML	AML	05 06 08.5	
TUZ	**Tuapeka**	**3.12**	**219**	Pn	**Pn**	**05 05 07.0**	**-0.1**
CAW	**Cannon Point**	**3.13**	**39**	PN	**Pn**	**05 05 06.9**	**-0.5**
CAW				AML	AML	05 05 47.1	
CAW				AML	AML	05 05 54.2	
CAW	**Cannon Point**	**3.13**	**39**	Pn	**Pn**	**05 05 06.9**	**-0.5**
TRWZ	**Traveller**	**3.23**	**49**	AML	AML	05 05 53.6	
TRWZ				AML	AML	05 05 55.9	
KIW	**Kapiti Island**	**3.27**	**35**	AML	AML	05 06 19.9	
KIW				AML	AML	05 06 24.0	
MTW	**Mount Morrison**	**3.31**	**44**	AML	AML	05 05 56.1	
MTW				AML	AML	05 05 56.3	
OGWZ	**Otaki Gorge**	**3.41**	**37**	PN	**Pn**	**05 05 10.5**	**-0.8**
OGWZ	**Otaki Gorge**	**3.41**	**37**	Pn	**Pn**	**05 05 10.9**	**-0.4**
MSZ	**Milford Sound**	**3.44**	**250**	AML	AML	05 06 07.7	
MSZ				AML	AML	05 06 12.7	
MLZ	**Mavora Lakes**	**3.58**	**238**	PN	**Pn**	**05 05 13.2**	**-0.5**
MLZ				AML	AML	05 06 18.6	
MLZ				AML	AML	05 06 20.0	
MLZ	**Mavora Lakes**	**3.58**	**238**	Pn	**Pn**	**05 05 13.2**	**-0.5**
MRZ	**Mangatainoka R**	**3.72**	**40**	PN	**Pn**	**05 05 14.2**	**-1.4**
SYZ	**Scrubby Hill**	**3.78**	**217**	PN	**Pn**	**05 05 16.2**	**-0.1**
SYZ				AML	AML	05 06 29.3	
SYZ				AML	AML	05 06 29.4	
SYZ				AML	AML	05 06 34.1	
SYZ				AML	AML	05 06 34.1	
TIWZ	**Tintock**	**3.78**	**44**	AML	AML	05 06 04.9	
TIWZ				AML	AML	05 06 04.9	
WHZ	**Wether Hill Ro**	**3.96**	**233**	⇓PN	**Pn**	**05 05 17.6**	**-1.2**
WHZ				AML	AML	05 06 34.1	
WHZ				AML	AML	05 06 36.0	
WHZ	**Wether Hill Ro**	**3.96**	**233**	Pn	**Pn**	**05 05 17.6**	**-1.2**
BFZ	**Birch Farm**	**4.04**	**46**	*e*PN	**Pn**	**05 05 18.3**	**-1.6**
BFZ				AML	AML	05 06 11.4	
BFZ				AML	AML	05 06 12.1	
BFZ				AML	AML	05 06 12.8	
BFZ				AML	AML	05 06 12.8	
BFZ	**Birch Farm**	**4.04**	**46**	Pn	**Pn**	**05 05 18.7**	**-1.2**
DCZ	**Deep Cove**	**4.24**	**242**	*e*PN	**Pn**	**05 05 21.8**	**-0.7**
DCZ				AML	AML	05 06 36.7	
DCZ				AML	AML	05 06 41.5	
DCZ	**Deep Cove**	**4.24**	**242**	Pn	**Pn**	**05 05 22.3**	**-0.3**
WAZ	**Wanganui**	**4.26**	**27**	AML	AML	05 06 43.1	
WAZ				AML	AML	05 06 59.7	
TSZ	**Takapari Road**	**4.38**	**38**	AML	AML	05 06 49.4	
TSZ				AML	AML	05 07 03.0	
KHEZ	**Kahui Hut**	**4.43**	**16**	*e*PN	**Pn**	**05 05 26.5**	**+1.1**
KHEZ	**Kahui Hut**	**4.43**	**16**	Pn	**Pn**	**05 05 27.3**	**+1.9**
PKE	**Pukeiti**	**4.53**	**15**	AML	AML	05 06 28.8	
PKE				AML	AML	05 06 28.9	
APZ	**The Paps**	**4.54**	**223**	*e*PN	**Pn**	**05 05 25.7**	**-1.0**
APZ				AML	AML	05 06 51.2	
APZ				AML	AML	05 07 02.3	
APZ	**The Paps**	**4.54**	**223**	Pn	**Pn**	**05 05 26.0**	**-0.7**
VRZ	**Vera Road**	**4.77**	**22**	*e*PN	**Pn**	**05 05 30.7**	**+0.8**
VRZ				AML	AML	05 06 33.2	
VRZ				AML	AML	05 06 43.4	
VRZ	**Vera Road**	**4.77**	**22**	Pn	**Pn**	**05 05 31.7**	**+1.8**
PXZ	**Pawanui**	**4.83**	**44**	AML	AML	05 06 28.6	
PXZ				AML	AML	05 07 27.9	
WNVZ	**Wahianoa**	**4.86**	**30**	*e*PN	**Pn**	**05 05 31.3**	**0.0**
WNVZ	**Wahianoa**	**4.86**	**30**	Pn	**Pn**	**05 05 32.4**	**+1.1**
FWVZ	**Far West T-bar**	**4.90**	**29**	AML	AML	05 07 00.7	
FWVZ				AML	AML	05 07 04.2	
WTVZ	**West Tongariro**	**5.04**	**29**	*e*PN	**Pn**	**05 05 34.5**	**+0.7**
WTVZ				AML	AML	05 06 54.9	
WTVZ				AML	AML	05 07 04.9	
WTVZ	**West Tongariro**	**5.04**	**29**	Pn	**Pn**	**05 05 34.9**	**+1.1**
KRVZ	**Karewarewa**	**5.08**	**29**	AML	AML	05 06 01.0	
KRVZ				AML	AML	05 07 19.3	
RATZ	**Rangitukua**	**5.33**	**29**	AML	AML	05 07 35.7	
RATZ				AML	AML	05 08 02.7	
HIZ	**Hauiti**	**5.37**	**21**	*e*PN	**Pn**	**05 05 38.4**	**+0.2**
HIZ				AML	AML	05 06 46.8	
HIZ				AML	AML	05 07 05.4	
HIZ	**Hauiti**	**5.37**	**21**	Pn	**Pn**	**05 05 38.5**	**+0.3**
TLZ	**Tolley Road**	**5.74**	**25**	Pn	**Pn**	**05 05 43.7**	**+0.5**
URZ	**Urewera**	**6.37**	**35**	Pn	**Pn**	**05 05 49.9**	**-2.0**
	0.9nm,0.3s,baz=139,slow=19,SNR=4.6						
URZ					Sn	**Sn**	**05 07 00.4**	**-3.7**
	3.7nm,0.3s,baz=327,slow=6.1,SNR=3.0						
URZ					LR	LR	05 09 02.8	
	comp=Z,377nm,18.3s,baz=264,slow=45						
MKAZ	**Moumakai**	**6.78**	**19**	*e*PN	**Pn**	**05 05 57.3**	**-0.3**
MKAZ	**Moumakai**	**6.78**	**19**	Pn	**Pn**	**05 05 57.5**	**-0.1**
STKA	**Stephens Creek**	**26.90**	**285**	LR	LR	05 18 48.6	
	comp=Z,60nm,21.1s,baz=202,slow=33						
ASAR	**Alice Springs**	**37.31**	**290**	P	**P**	**05 11 31.6**	**+1.5**
	1.0nm,0.8s,baz=128,slow=10.0,SNR=9.0						
WRA	**Warramunga Arr**	**39.57**	**294**	P	**P**	**05 11 49.1**	**0.0**
	0.8nm,0.4s,baz=135,slow=7.7,SNR=22						
CMAR	**Chiang Mai Arr**	**91.17**	**294**	LR	LR	06 01 26.5	
	comp=Z,9.5nm,18.8s,baz=310,slow=38						
TORD	**Torodi Ar. Bea**	**148.66**	**198**	PKP	**PKPbc**	**05 24 06.7**	**+1.5**
	0.7nm,0.4s,baz=174,slow=4.7,SNR=16						
TORD				PKPbc	**PKPab**	**05 24 09.9**	**+1.2**
	0.7nm,0.4s,baz=165,slow=2.3,SNR=16						
ARCES	**ARCESS Array B**	**149.01**	**338**	PKPbc	**PKPab**	**05 24 08.3**	**-0.4**
	2.0nm,0.8s,baz=74,slow=3.9,SNR=5.0						
BRTR	**Keskin Array B**	**149.21**	**277**	PKP	**PKPbc**	**05 24 05.5**	**-0.6**
	0.6nm,0.8s,baz=165,slow=6.0,SNR=4.0						
BRTR				PKPbc	**PKPab**	**05 24 11.1**	**+0.4**
	0.5nm,0.5s,baz=138,slow=4.7,SNR=4.3						

*IDC **06** 05:12:01.2±2.7, 54°.13N×86°.51E, h0km, mb1 3.7/2, mb1mx3.2/36, mbtmp3.7/2, ML3.3/2, Error ellipse: s-maj=23.0km s-min=13.6km az=51.0*
*NNC **06** 05:12

KHAL	**Karahalli**	**0.84**	**156**	P	**Pb**	**05**	**20**	**15.8**	**-0.3**
KHAL				S	**Sg**	**05**	**20**	**26.8**	**+0.1**
KHAL	**Karahalli**	**0.84**	**156**	*i* P	**Pb**	**05**	**20**	**15.8**	**-0.3**
KHAL				*i* S	**Sg**	**05**	**20**	**26.8**	**+0.1**
KHL	**Karahalli**	**0.89**	**156**	*e*PG	**Pg**	**05**	**20**	**16.4**	**-0.3**
KHL	**Karahalli**	**0.89**	**156**	*e*Pg	**Pg**	**05**	**20**	**16.4**	**-0.3**
ORLT	**Orhaneli**	**0.91**	**352**	*e*PG	**Pg**	**05**	**20**	**16.8**	**-0.3**
ORLT	**Orhaneli**	**0.91**	**352**	*e*Pg	**Pg**	**05**	**20**	**16.8**	**-0.3**
IGD	**Bursa**	**1.13**	**6**	*i* P	**Pg**	**05**	**20**	**20.1**	**-1.1**
IGD				*i* S	**Sb**	**05**	**20**	**35.8**	**+0.2**
CAVI	**Cavuskoy**	**1.22**	**30**	*e*PN	**Pb**	**05**	**20**	**22.5**	**-0.1**
CAVI	**Cavuskoy**	**1.22**	**30**	*e*Pn	**Pb**	**05**	**20**	**22.5**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.23**	**354**	*e*PN	**Pb**	**05**	**20**	**22.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.23**	**354**	*e*Pn	**Pb**	**05**	**20**	**22.8**	**+0.1**
IZI	**Iznik**	**1.24**	**15**	*e*PN	**Pb**	**05**	**20**	**22.9**	**0.0**
IZI	**Iznik**	**1.24**	**15**	*e*Pn	**Pb**	**05**	**20**	**22.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**Pb**	**05**	**20**	**23.2**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn	**Pb**	**05**	**20**	**23.2**	**+0.2**
BORA	**Eskisehir**	**1.31**	**55**	P	**Pb**	**05**	**20**	**23.9**	**-0.2**
BORA				S	**Sn**	**05**	**20**	**41.7**	**+0.4**
BORA	**Eskisehir**	**1.31**	**55**	*i* P	**Pb**	**05**	**20**	**23.9**	**-0.2**
BORA				*i* S	**Sn**	**05**	**20**	**41.7**	**+0.4**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*PN	**Pn**	**05**	**20**	**25.0**	**+0.2**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*Pn	**Pn**	**05**	**20**	**25.0**	**+0.2**
ARMT	**Armutlu**	**1.43**	**354**	*e*PN	**Pn**	**05**	**20**	**25.6**	**+0.3**
ARMT	**Armutlu**	**1.43**	**354**	*e*Pn	**Pn**	**05**	**20**	**25.6**	**+0.3**
GULT	**Gulveren**	**1.71**	**41**	*e*PN	**Pn**	**05**	**20**	**29.5**	**+0.2**
GULT	**Gulveren**	**1.71**	**41**	*e*Pn	**Pn**	**05**	**20**	**29.5**	**+0.2**

*IDC **06** 05:24:48.2±1.6, 40.°50N×107.°11W, h0km, mb2.9/1, mb1 3.5/3, mb1mx3.3/38, mbtmp3.1/3, ML3.8/2, Error ellipse: s-maj=57.8km s-min=13.1km az=63.0*
*ISCJB **06** 05:24:49.2±0.2, 40.°47N±0.°02×107.°08W±0.°02, h10km, mb3.1/1, Error ellipse: s-maj=2.4km s-min=2.3km az=32.4*
*NEIC **06** 05:24:49.6±0.2, 40.°42N×107.°03W, h5km, ML3.5, Error ellipse: s-maj=3.1km s-min=2.8km az=66.0*

ISC 06 05:24:49.4±0.7, 40.°43N±0.°02×107.°06W±0.°02, h10km, n85, σ1º95/137, Colorado

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
N23A	**Red Feather La**	**0.97**	**61**	*e*Pg	**Pg**	**05 25 06.9**	**-1.2**
N23A				*e*Sg	**Sb**	**05 25 21.3**	**-0.2**
SMCO	**Snowmass**	**1.25**	**177**	*e*Pg	**Pb**	**05 25 10.1**	**-3.3**
SMCO				*e*Sn	**Sb**	**05 25 29.2**	**-0.4**
ISCO	**Idaho Springs**	**1.27**	**119**	*e*Pg	**Pn**	**05 25 11.7**	**-1.9**
ISCO				*e*Sg	**Sb**	**05 25 29.6**	**-0.6**
PHWY	**Pilot Hill**	**1.50**	**54**	*e*Pn	**Pn**	**05 25 16.3**	**-0.4**
PHWY				*e*Sn	**Sg**	**05 25 37.0**	**-0.7**
Q24A	**Divide**	**2.08**	**134**	*e*Pn	**Pb**	**05 25 26.2**	**-1.2**
Q24A				*e*Sn	**Sg**	**05 25 54.4**	**-1.8**
K22A	**Casper**	**2.26**	**10**	*e*Pn	**Pb**	**05 25 29.3**	**-1.1**
K22A				*e*Sn	**Sn**	**05 25 55.5**	**+0.5**
PV09	**Paradox Valley**	**2.51**	**220**	*e*Pn	**Pn**	**05 25 31.9**	**+1.4**
PV09				*e*Sn	**Sn**	**05 26 03.0**	**+1.7**
PV10	**Paradox Valley**	**2.56**	**217**	*e*Pn	**Pn**	**05 25 33.5**	**+2.3**
PV10				*e*Sn	**Sb**	**05 26 06.0**	**-1.1**
PV01	**Paradox Valley**	**2.57**	**208**	*e*Pn	**Pn**	**05 25 32.5**	**+1.2**
PV01				*e*Sn	**Sn**	**05 26 01.4**	**-1.4**
P18A	**Preston Nutter**	**2.57**	**253**	*e*Pn	**Pn**	**05 25 32.3**	**+0.9**
P18A				*e*Sn	**Sn**	**05 26 05.1**	**+2.1**
S22A	**4UR Ranch, Cre**	**2.68**	**176**	*e*Pn	**Pn**	**05 25 33.6**	**+0.6**
S22A				*e*Sn	**Sb**	**05 26 09.9**	**-0.9**
ARGU	**Argyle Ridge**	**2.74**	**258**	*e*Pn	**Pn**	**05 25 34.7**	**+1.0**
PV05	**Paradox Valley**	**2.83**	**215**	*e*Pn	**Pn**	**05 25 34.7**	**-0.2**
PV05				*e*Sn	**Sb**	**05 26 12.7**	**-2.2**
SDCO	**Great Sand Dun**	**2.94**	**155**	*e*Pn	**Pn**	**05 25 37.2**	**+0.7**
SDCO				*e*Sn	**Sg**	**05 26 22.9**	**-1.0**
SRU	**San Rafael Swe**	**2.98**	**245**	*e*Pn	**Pn**	**05 25 37.0**	**+0.1**
SRU				*e*Pg	**Pb**	**05 25 39.7**	**-2.9**
SRU				*e*Sn	**Sb**	**05 26 17.7**	**-1.4**
P17A	**Butcher Ranch,**	**2.98**	**253**	*e*Pn	**Pn**	**05 25 37.6**	**+0.6**
P17A				*e*Sn	**Sn**	**05 26 16.4**	**+3.4**
BW06	**Boulder Array**	**3.00**	**322**	*e*Pn	**Pn**	**05 25 37.3**	**+0.1**
BW06				*e*Sn	**Sb**	**05 26 17.4**	**-2.3**
PD31	**Pinedale Array**	**3.00**	**322**	*e*PN	**Pn**	**05 25 37.5**	**+0.3**
PDAR	**Pinedale Array**	**3.00**	**322**	Pn	**Pn**	**05 25 37.5**	**+0.3**
	4.6nm,0.3s,baz=130,slow=14,SNR=82						
PDAR				Pg	**Pg**	**05 25 46.1**	**-0.7**
	4.8nm,0.3s,baz=142,slow=16,SNR=22						
PDAR				Lg	Lg	05 26 16.3	
	2.8nm,0.3s,baz=60,slow=24,SNR=5.7						
HTU	**Hoyt Peak**	**3.18**	**276**	*e*Pn	**Pn**	**05 25 41.8**	**+2.0**
HTU				*e*Pg	**Pb**	**05 25 45.2**	**-1.0**
DAU	**Daniels Canyon**	**3.20**	**271**	*e*Pn	**Pn**	**05 25 41.8**	**+1.6**
KLJ	**Keetly**	**3.32**	**275**	*e*Pn	**Pn**	**05 25 45.4**	**+3.8**
KLJ				*e*Pg	**Pb**	**05 25 47.5**	**-1.0**
JLU	**Jordanelle**	**3.35**	**274**	*e*Pn	**Pn**	**05 25 44.2**	**+2.1**
JLU				*e*Sn	**Sn**	**05 26 21.6**	**-0.5**
N16A	**Rees Ranch, Co**	**3.36**	**279**	*e*Pn	**Pn**	**05 25 46.0**	**+3.8**
TCUT	**Toone Canyon**	**3.37**	**283**	*e*Pn	**Pn**	**05 25 43.4**	**+1.0**
TCUT				*e*Sg	**Sb**	**05 26 32.8**	**+2.2**
TMUT	**Trail Mountain**	**3.39**	**252**	*e*Pn	**Pn**	**05 25 43.4**	**+0.8**
TMUT				*e*Sn	**Sn**	**05 26 25.8**	**+2.8**
MVCO	**Mesa Verde**	**3.40**	**200**	*e*Pn	**Pn**	**05 25 44.1**	**+1.3**
MVCO				*e*Sg	**Sb**	**05 26 34.3**	**+2.8**
RSUT	**Red Spur Mount**	**3.51**	**292**	*e*Pn	**Pn**	**05 25 45.4**	**+1.0**
MCU	**Monte Cristo P**	**3.52**	**289**	*e*Pn	**Pn**	**05 25 45.6**	**+1.1**
MPU	**Maple Canyon**	**3.52**	**265**	*e*Pn	**Pn**	**05 25 45.2**	**+0.8**
HWUT	**Hardware Ranch**	**3.61**	**291**	*e*Pn	**Pn**	**05 25 46.2**	**+0.7**
HWUT				*e*Sg	**Sb**	**05 26 41.2**	**+3.9**
RBU	**Red Butte Cany**	**3.63**	**277**	*e*Pn	**Pb**	**05 25 50.5**	**-3.3**
KSCO	**Kaye Shedlock**[1]	**3.70**	**111**	*e*Pn	**Pn**	**05 25 47.6**	**+0.9**
KSCO				*e*Sg	**Sg**	**05 26 51.8**	**+3.6**
SGU	**Sterling**	**3.74**	**252**	*e*Pn	**Pn**	**05 25 48.6**	**+1.1**
HDU	**Hyde Park**	**3.81**	**293**	*e*Pn	**Pn**	**05 25 49.3**	**+0.9**
AHID	**Auburn Hatcher**	**3.83**	**309**	*e*Pn	**Pn**	**05 25 50.6**	**+2.0**
AHID				*e*Sn	**Sn**	**05 26 31.8**	**-1.9**
AHID				*e*Sg	**Sg**	**05 26 51.3**	**-1.0**
GZU	**Grizzly Peak**	**3.85**	**287**	*e*Pn	**Pn**	**05 25 50.9**	**+1.8**
OGNE	**Ogallala**	**3.86**	**81**	*e*Pn	**Pn**	**05 25 50.4**	**+1.5**
OGNE				*e*Sn	**Sn**	**05 26 37.9**	**+3.6**
NLU	**North Lily Min**	**3.87**	**265**	*e*Pn	**Pn**	**05 25 47.1**	**-2.1**
T25A	**Trinidad**	**3.88**	**147**	*e*Pn	**Pn**	**05 25 52.1**	**+2.8**
T25A				*e*Sg	**Sg**	**05 26 52.6**	**-1.4**
WVUT	**Wellsville**	**3.89**	**289**	*e*Pn	**Pn**	**05 25 50.7**	**+1.3**
BEI	**Bear River Ran**	**3.94**	**297**	*e*Pn	**Pn**	**05 25 51.5**	**+1.4**
MMU	**Miners Mountai**	**3.97**	**237**	*e*Pn	**Pn**	**05 25 52.1**	**+1.5**
NAIU	**Northern Antel**	**3.97**	**280**	*e*Pn	**Pn**	**05 25 54.1**	**+3.5**
REDW	**Red Top Meadow**	**4.08**	**317**	*e*Pn	**Pn**	**05 25 52.1**	**+0.1**
REDW				*e*Sg	**Sg**	**05 27 00.1**	**-0.2**
SNOW	**Snow King Moun**	**4.10**	**319**	*e*Pn	**Pn**	**05 25 52.6**	**+0.3**
SNOW				*e*Sg	**Sg**	**05 27 02.8**	**+1.7**
LOHW	**Long Hollow**	**4.14**	**321**	*e*Pn	**Pn**	**05 25 52.9**	**0.0**
LOHW				*e*Sg	**Sg**	**05 27 01.3**	**-0.9**
SPUT	**South Promonto**	**4.18**	**284**	*e*Pn	**Pn**	**05 25 55.5**	**+2.1**
SPUT				*e*Sg	**Sg**	**05 26 59.9**	**-3.8**
SPUT				*e*Sg	Sb	05 27 06.9	+13
TPAW	**Teton Pass**	**4.22**	**318**	*e*Pn	**Pn**	**05 25 54.6**	**+0.6**
TPAW				*e*Sg	**Sg**	**05 27 02.4**	**-2.5**
MOOW	**Moose Ponds**	**4.31**	**322**	*e*Pn	**Pn**	**05 25 55.1**	**-0.1**
MOOW				*e*Sg	**Sg**	**05 27 06.9**	**-0.8**
RSSD	**Black Hills**	**4.32**	**30**	*e*Pn	**Pn**	**05 25 56.8**	**+1.4**
RSSD				*e*Sg	**Sg**	**05 27 08.3**	**+0.1**
FXWY	**Fox Creek**	**4.36**	**319**	*e*Pn	**Pn**	**05 25 55.8**	**-0.2**
FXWY				*e*Sn	**Sn**	**05 26 43.4**	**-3.5**
FXWY				*e*Sg	**Sg**	**05 27 05.8**	**-3.7**
MSU	**Marysvale**	**4.40**	**246**	*e*Pn	**Pn**	**05 25 57.1**	**+0.7**
DUG	**Dugway, Tooele**	**4.41**	**269**	*e*Pn	**Pn**	**05 25 57.5**	**+1.0**
IMW	**Indian Meadow**	**4.51**	**322**	*e*Pn	**Pn**	**05 25 58.2**	**+0.1**
IMW				*e*Sg	**Sg**	**05 27 10.4**	**-3.9**
HVU	**Hansel Valley**	**4.53**	**289**	*e*Pn	**Pn**	**05 25 58.1**	**0.0**
HVU				*e*Sg	**Sg**	**05 27 10.2**	**-4.5**
FLWY	**Flagg Ranch**	**4.54**	**325**	*e*Pn	**Pn**	**05 25 58.8**	**+0.4**
TCRU	**Three Creeks R**	**4.54**	**248**	*e*Pn	**Pn**	**05 25 59.4**	**+0.9**
BGU	**Big Grassy Mou**	**4.57**	**278**	*e*Pn	**Pn**	**05 25 59.8**	**+1.1**
MTPU	**Mount Pierson**	**4.64**	**241**	*e*Pn	**Pn**	**05 26 01.4**	**+1.5**
RLMT	**Red Lodge**	**4.97**	**342**	*e*Pn	**Pn**	**05 26 06.0**	**+1.8**
KNB	**Kanab**	**5.65**	**235**	*e*Pn	**Pn**	**05 26 15.2**	**+1.7**
CCUT	**Cedar City**	**5.69**	**242**	*e*Pn	**Pn**	**05 26 15.2**	**+1.0**
W18A	**Petrified Fore**	**5.71**	**203**	*e*Pn	**Pn**	**05 26 15.0**	**+0.6**
U15A	**North Rim**	**5.73**	**227**	*e*Pn	**Pn**	**05 26 16.1**	**+1.3**
CBKS	**Cedar Bluff**	**5.88**	**104**	*e*Pn	**Pn**	**05 26 17.3**	**+0.7**
LCMT	**Little Creek M**	**5.92**	**237**	*e*Pn	**Pn**	**05 26 18.9**	**+1.7**
LCMT				*e*Sn	**Sn**	**05 27 26.0**	**+0.8**
WUAZ	**Wupatki**	**5.97**	**216**	*e*Pn	**Pn**	**05 26 19.1**	**+1.1**
BOZ	**Bozeman (W)**	**6.20**	**329**	*e*Pn	**Pn**	**05 26 22.8**	**+1.7**
BOZ				*e*Sn	**Sn**	**05 27 31.4**	**-0.7**
LAO	**LASA Array**	**6.29**	**5**	*e*Pn	**Pn**	**05 26 24.0**	**+1.7**
LAO				*e*Sg	**Sg**	**05 28 12.3**	**+1.0**
HLID	**Hailey**	**6.31**	**302**	Pn	**Pn**	**05 26 24.4**	**+1.7**
HLID				*e*Pg	**Pb**	**05 26 43.5**	**+4.0**
HLID				*e*Sn	**Sn**	**05 27 37.3**	**+2.4**
R11A	**Troy Canyon, C**	**6.92**	**255**	*e*Pn	**Pn**	**05 26 32.4**	**+1.3**
R11A				*e*Sg	**Sg**	**05 28 28.1**	**-3.5**
X16A	**Lo Mia Camp, P**	**6.94**	**212**	*e*Pn	**Pn**	**05 26 32.2**	**+0.9**
X16A				*e*Sn	**Sn**	**05 27 52.5**	**+2.1**
SHPR	**Sheep Range**	**7.46**	**241**	*e*Pn	**Pn**	**05 26 39.7**	**+1.2**
SHPR				*e*Sn	**Sn**	**05 28 08.0**	**+4.8**
CHMT	**Chamberlain Mo**	**7.88**	**327**	*e*Pn	**Pn**	**05 26 45.9**	**+1.6**
TPNV	**Topopah Spring**	**7.98**	**247**	*e*Pn	**Pn**	**05 26 47.0**	**+1.4**
TPNV				*e*Sn	**Sn**	**05 28 18.1**	**+2.1**
MSO	**Missoula**	**8.11**	**324**	*e*Pn	**Pn**	**05 26 48.4**	**+1.0**
MSO				*e*Sn	**Sn**	**05 28 22.8**	**+3.6**
SWMT	**Swartz Lake**	**8.67**	**327**	*e*Pn	**Pn**	**05 26 57.3**	**+2.3**
BMO	**Blue Mountains**	**8.75**	**304**	*e*Pn	**Pn**	**05 26 59.8**	**+3.7**
BMO				*e*Sn	**Sn**	**05 28 35.9**	**+1.2**
DAC	**Darwin (Calif)**	**9.25**	**247**	*e*Pn	**Pn**	**05 26 60.0**	**-3.1**
E09A	**Wood Farm, Sta**	**10.09**	**311**	*e*Pn	**Pn**	**05 27 14.7**	**+0.3**
PAGB	**Antelope Grade**	**11.40**	**250**	*e*Pn	**Pn**	**05 27 31.2**	**-1.1**
LTX	**Lajitas**	**11.41**	**165**	*e*Pn	**Pn**	**05 27 35.5**	**+2.9**
TXAR	**Lajitas Array**	**11.41**	**165**	Pn	**Pn**	**05 27 35.5**	**+2.9**
	0.0nm,0.3s,baz=348,slow=12,SNR=4.8						
YKA	**Yellowknife Ar**	**22.56**	**351**	P	**P**	**05 29 49.0**	**-0.5**
	0.8nm,0.9s,baz=162,slow=8.9,SNR=4.6						

*NIED **06** 05:29:00, 38.°10N×144.°20E, h8km, Mw3.5 Best double couple: M0=1.70000×10^14 NP1:φs=16.00000°, δ=36.00000°, λ=-71.00000°. NP2:φs=173.00000°, δ=56.00000°, λ=-103.00000°.*

JMA 06 05:29:22.7±0.2, 38.°14N×144.°24E, h34km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.22**	**296**	P	Pn	05 29 58.7	+1.6
OFUJ				*e*S	Sn	05 30 25.4	+2.0
JIO	**Ouri**	**2.30**	**279**	P	Pn	05 29 59.7	+1.6
JIO				S	Sn	05 30 26.7	+1.5
MIYJ	**Miyakonagasawa**	**2.37**	**308**	P	Pn	05 30 00.2	+1.0
MIYJ				*e*S	Sn	05 30 28.0	+0.9
JMK	**Ichinoseki**	**2.50**	**290**	P	Pn	05 30 02.7	+1.7
JMK				*e*S	Sn	05 30 32.2	+1.9
JOM	**Ohasama**	**2.66**	**301**	P	Pn	05 30 05.3	+2.2
JOM				S	Sn	05 30 37.0	+2.8
JOU	**Okura**	**2.82**	**276**	P	Pn	05 30 07.8	+2.4
JOU				*e*S	Sn	05 30 40.7	+2.4
JANG	**Nango**	**3.07**	**317**	P	Pn	05 30 10.0	+1.2
JRG	**Rokugo**	**3.08**	**295**	P	Pn	05 30 11.4	+2.4
JRG				*e*S	Sn	05 30 48.0	+3.3
JYK	**Kaneyama**	**3.14**	**286**	*e*S	Sn	05 30 49.6	+3.5
JFT	**Otama**	**3.15**	**260**	S	Sn	05 30 48.5	+2.1
JAH	**Hinai**	**3.47**	**307**	*e*S	Sn	05 30 58.0	+3.9
JTM	**Tenmabayashi**	**3.61**	**318**	*e*S	Sn	05 30 57.6	+0.1
JCH	**Churui**	**4.52**	**352**	S	Sn	05 31 17.9	-2.1
JRY	**Ryogami san**	**4.76**	**245**	P	Pn	05 30 33.5	+1.4
JRY				*e*S	Sn	05 31 24.9	-1.3

GUC 06 05:31:05.7±0.5, 39.°68S×74.°95W, h20km±5km, ML3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.32**	**96**	*e*P	Pb	05 31 29.9	+0.1
VLCH				*e*S	Sb	05 31 47.8	+1.6
VLCH				IAML		05 31 53.2	
	comp=N,2μm,0.1s						
PUEL	**Puelo Alto**	**2.83**	**135**	*e*S	Sb	05 32 27.8	-1.9

*IDC **06** 05:35:03.6±1.3, 51.°63N×173.°29W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.6/54, mbtmp3.6/8, ML4.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/30, Error ellipse: s-maj=39.6km s-min=28.0km az=152.0*
*ISCJB **06** 05:35:07.3±0.7, 51.°50N±0.°08×173.°20W±0.°05, h37km, mb3.6/7, MS3.0/1, Error ellipse: s-maj=11.2km s-min=4.7km az=177.0*
*NEIC **06** 05:35:07.3, 51.°50N×173.°22W, h26km, ML3.4(AEIC), After AEIC.*

ISC 06 05:35:09.1±0.8, 51.°6N±0.°1×173.°27W±0.°04, h37km, n30, σ1º11/27, mb3.7/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.87**	**324**	P	**Pn**	**05 35 24.5**	**-0.3**
KOKL	**Mount Kliuchef**	**0.94**	**322**	P	**Pn**	**05 35 25.5**	**-0.3**
KOKV	**Korovin Volcan**	**0.96**	**325**	P	**Pn**	**05 35 25.6**	**-0.5**
KOKV				S	**Sn**	**05 35 40.6**	**+2.1**
KOWE	**Korovin West**	**0.99**	**323**	P	**Pn**	**05 35 26.4**	**-0.1**
GSMY	**Great Sitkin M**	**1.79**	**286**	P	**Pn**	**05 35 36.1**	**-1.4**
GSCK	**Great Sitkin C**	**1.85**	**285**	P	**Pn**	**05 35 36.7**	**-1.5**
GSTD	**Great Sitkin T**	**1.85**	**286**	P	**Pn**	**05 35 36.7**	**-1.6**
GSTD				S	**Sn**	**05 36 00.5**	**+0.1**
ETKA	**Kagalaska Isla**	**1.97**	**279**	P	**Pn**	**05 35 39.5**	**-0.5**
ADAG	**Mount Adagdak**	**2.11**	**282**	P	**Pn**	**05 35 42.8**	**+0.9**
KIKV	**Kanaga Island**	**2.45**	**279**	P	**Pn**	**05 35 46.6**	**+0.1**
TAPA	**Tanaga Point A**	**2.84**	**277**	P	**Pn**	**05 35 52.2**	**+0.4**
TAFP	**Tanaga Falls P**	**2.95**	**278**	P	**Pn**	**05 35 53.9**	**+0.6**
TAFP				S	**Sn**	**05 36 28.9**	**+1.4**
NIKH	**Nikolski High**	**3.05**	**61**	P	**Pn**	**05 35 54.4**	**-0.3**
NIKH				S	**Sn**	**05 36 28.8**	**-1.1**
GANE	**Gareloi Northe**	**3.44**	**276**	P	**Pn**	**05 36 00.6**	**+0.6**
OKWE	**Okmok W'ng Wal**	**3.61**	**56**	P	**Pn**	**05 36 04.6**	**+2.2**
ILAR	**Eielson Array**	**18.98**	**36**	P	**P**	**05 39 24.6**	**-2.4**
	0.8nm,0.3s,baz=228,slow=8.8,SNR=53						
INK	**Inuvik**	**25.34**	**34**	P	**P**	**05 40 31.0**	**-1.0**
	1.4nm,0.5s,baz=210,slow=11,SNR=6.2						
YKA	**Yellowknife Ar**	**32.56**	**47**	P	**P**	**05 41 36.7**	**+0.4**
	0.2nm,0.4s,baz=272,slow=7.4,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**35.40**	**213**	T	T	06 20 12.7	
	baz=21,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**35.41**	**213**	T	T	06 20 09.3	
	baz=21,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**35.41**	**213**	T	T	06 20 11.8	
	baz=21,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**36.60**	**213**	T	T	06 21 30.0	
	baz=20,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**36.61**	**213**	T	T	06 21 29.5	
	baz=20,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**36.62**	**213**	T	T	06 21 30.2	
	baz=20,slow=76,SNR=8.0						
PDAR	**Pinedale Array**	**42.93**	**76**	P	**P**	**05 43 04.7**	**+0.4**
	0.4nm,0.6s,baz=302,slow=5.2,SNR=3.3						
TXAR	**Lajitas Array**	**55.19**	**85**	P	**P**	**05 44 37.6**	**-0.5**
	0.1nm,0.3s,baz=289,slow=2.8,SNR=3.0						
ARCES	**ARCESS Array B**	**58.42**	**352**	LR	LR	06 12 05.0	
	comp=Z,11nm,19.8s,baz=250,slow=38						
GERES	**GERESS Array B**	**79.78**	**355**	P	**P**	**05 47 13.1**	**0.0**
	0.3nm,0.2s,baz=108,slow=3.0,SNR=3.5						
BRTR	**Keskin Array B**	**86.08**	**340**	P	**P**	**05 47 46.5**	**+0.5**
	0.4nm,0.5s,baz=72,slow=4.0,SNR=4.3						
ASAR	**Alice Springs**	**88.07**	**227**	P	**P**	**05 47 55.6**	**+0.2**
	0.3nm,0.6s,baz=25,slow=6.0,SNR=4.9						

*ISK **06** 05:36:29.0, 39.°00N×29.°25E, h21km, MD2.4*
*ISCJB **06** 05:36:30.4±0.5, 39.°11N±0.°03×29.°01E±0.°04, h8km±6km, Error ellipse: s-maj=6.2km s-min=4.6km az=138.4*
*DDA **06** 05:36:30.2, 39.°09N×29.°02E, h7km, Md2.7*
*CSEM **06** 05:36:30.2±0.2, 39.°14N×29.°00E, h8km, MD2.7, Error ellipse: s-maj=5.8km s-min=4.4km az=115.0*

ISC 06 05:36:30.3±0.9, 39.°10N±0.°03×29.°02E±0.°03, h13km±9km, n22, σ0º57/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**257**	P	**Pg**	**05 36 35.5**	**-0.1**
DEMI				S	**Sg**	**05 36 38.9**	**-0.2**
DEMI	**Demirci**	**0.24**	**257**	*i* P	**Pg**	**05 36 35.5**	**-0.1**
DEMI				*i* S	**Sg**	**05 36 38.9**	**-0.2**
GDZ	**Gediz**	**0.36**	**91**	P	**Pg**	**05 36 37.5**	**-0.1**
GDZ				S	**Sg**	**05 36 43.0**	**+0.5**
GDZ	**Gediz**	**0.36**	**91**	*i* P	**Pg**	**05 36 37.5**	**-0.1**
GDZ				*i* S	**Sg**	**05 36 43.0**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**44**	*e*PG	**Pg**	**05 36 39.6**	**-0.4**
TVSB				*e*SG	**Sg**	**05 36 46.4**	**-0.1**
TVSB	**Tavsanli**	**0.49**	**44**	*e*Pg	**Pg**	**05 36 39.6**	**-0.4**
TVSB				*e*Sg	**Sg**	**05 36 46.4**	**-0.1**
DST	**Dursunbey**	**0.59**	**328**	*e*PG	**Pn**	**05 36 44.6**	**0.0**
DST	**Dursunbey**	**0.59**	**328**	*e*Pg	**Pn**	**05 36 44.6**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG	**Pb**	**05 36 43.4**	**-0.2**
KULA				*e*SG	**Sg**	**05 36 51.9**	**+0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg	**Pb**	**05 36 43.4**	**-0.2**
KULA				*e*Sg	**Sg**	**05 36 51.9**	**+0.4**
KHAL	**Karahalli**	**0.81**	**153**	P	**Pn**	**05 36 47.6**	**0.0**
KHAL				S	**Sb**	**05 36 57.5**	**+0.1**
KHAL	**Karahalli**	**0.81**	**153**	*i* P	**Pn**	**05 36 47.6**	**0.0**
KHAL				*i* S	**Sb**	**05 36 57.5**	**+0.1**
ORLT	**Orhaneli**	**0.95**	**354**	*e*PN	**Pb**	**05 36 49.3**	**+0.6**
ORLT	**Orhaneli**	**0.95**	**354**	*e*Pn	**Pb**	**05 36 49.3**	**+0.6**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pn**	**05 36 52.1**	**-1.8**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pn**	**05 36 52.1**	**-1.8**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pb**	**05 36 54.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pb**	**05 36 54.5**	**+0.3**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pb**	**05 36 56.0**	**+0.4**
BORA				S	**Sg**	**05 37 14.7**	**+0.7**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pb**	**05 36 56.0**	**+0.4**
BORA				*i* S	**Sg**	**05 37 14.7**	**+0.7**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pn**	**05 36 56.9**	**+0.3**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pn**	**05 36 56.9**	**+0.3**

*ISK **06** 05:40:56.4, 37.°24N×28.°19E, h3km, MD2.5*
*ISCJB **06** 05:40:57.3±0.5, 37.°23N±0.°03×28.°19E±0.°03, h0km, Error ellipse: s-maj=4.8km s-min=3.3km az=30.5*
*CSEM **06** 05:40:57.4±0.2, 37.°23N×28.°17E, h1km, MD2.5, Error ellipse: s-maj=5.2km s-min=3.9km az=29.0, Suspected Mining explosion.*
*DDA **06** 05:40:57.2, 37.°22N×28.°18E, h7km, Md2.7, Suspected Mining explosion.*

ISC 06 05:40:55.7±0.8, 37.°22N±0.°03×28.°04E±0.°04, h0km, n17, σ0º39/30, Turkey

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

JOU	**Okura**	**1.35**	**332**	P	**Pn**	**06 21 15.9**	**-0.2**
JFY	**Yanaizu**	**1.43**	**280**	P	**Pn**	**06 21 16.6**	**-0.5**
JFY				*e*S	**Sn**	**06 21 34.0**	**-0.7**
JYS	**Shirataka**	**1.53**	**314**	P	**Pn**	**06 21 18.5**	**0.0**
JYS				S	**Sn**	**06 21 36.9**	**-0.2**
MJAR	**Matsushiro Arr**	**2.69**	**257**	P	**Pn**	**06 21 34.8**	**+0.3**
	8.8nm,0.3s,baz=80,slow=16,SNR=25						
MJAR				S	**Sn**	**06 22 08.8**	**+2.9**
	8.4nm,0.3s,baz=17,slow=41,SNR=5.7						
MJAR				LR	LR	06 22 55.2	
	comp=Z,165nm,20.1s,baz=80,slow=48						
MAT	**Matsushiro**	**2.69**	**257**	P	**Pn**	**06 21 35.1**	**+0.6**
MAT				S	**Sn**	**06 22 08.3**	**+2.4**
JHJ	**Hachijo jima 2**	**4.27**	**199**	P	**Pn**	**06 21 56.5**	**+0.2**
	13nm,0.3s,baz=340,slow=21,SNR=8.1						
JHJ				S	**Sn**	**06 22 43.3**	**-1.6**
	53nm,0.3s,baz=129,slow=22,SNR=12						
JNU	**Nakatsue**	**9.57**	**248**	LR	LR	06 27 37.8	
	comp=Z,18nm,18.9s,baz=320,slow=43						
USRK	**Ussuriysk Ar.**	**10.05**	**317**	P	**Pn**	**06 23 17.4**	**+2.0**
	0.4nm,0.3s,baz=133,slow=12,SNR=13						
USRK				LR	LR	06 26 44.1	
	comp=Z,64nm,21.5s,baz=133,slow=35						
KSRS	**Korea Array**	**10.79**	**276**	P	**Pn**	**06 23 26.0**	**+0.3**
	0.2nm,0.3s,baz=94,slow=13,SNR=3.0						
KSRS				LR	LR	06 27 19.2	
	comp=Z,39nm,19.9s,baz=94,slow=36						
KLR	**Kul'dur**	**13.96**	**333**	P	**Pn**	**06 24 10.9**	**+2.0**
	0.1nm,0.3s,baz=150,slow=20,SNR=2.2						
KLR				LR	LR	06 28 58.1	
	comp=Z,40nm,20.0s,baz=156,slow=34						
SONM	**Songino Array**	**27.75**	**304**	P	**P**	**06 26 38.3**	**-0.4**
	0.5nm,0.4s,baz=96,slow=7.6,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	06 56 45.6	
	baz=314,slow=75,SNR=55						
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	06 56 30.0	
	baz=314,slow=75,SNR=71						
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	06 56 26.7	
	baz=314,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	06 57 28.3	
	baz=316,slow=76,SNR=77						
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	06 57 15.8	
	baz=316,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**28.91**	**123**	T	T	06 57 16.6	
	baz=316,slow=76,SNR=24						
CMAR	**Chiang Mai Arr**	**41.58**	**255**	LR	LR	06 45 59.8	
	comp=Z,15nm,18.8s,baz=200,slow=36						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**06 28 39.5**	**-0.3**
	4.1nm,0.3s,baz=120,slow=8.5,SNR=2.5						
ZALV				LR	LR	06 46 35.5	
	comp=Z,19nm,18.3s,baz=74,slow=37						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**06 28 57.0**	**-0.9**
	0.6nm,0.6s,baz=88,slow=9.7,SNR=8.0						
MKAR				LR	LR	06 46 55.9	
	comp=Z,20nm,18.3s,baz=25,slow=36						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**06 29 40.0**	**+1.1**
	0.3nm,0.8s,baz=244,slow=5.9,SNR=3.7						
WRA	**Warramunga Arr**	**57.20**	**188**	P	**P**	**06 30 36.8**	**-0.3**
	0.6nm,0.6s,baz=7.1,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**60.93**	**188**	P	**P**	**06 31 03.4**	**+0.5**
	0.5nm,0.8s,baz=12,slow=8.0,SNR=4.1						
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**06 32 24.8**	**-1.6**
	0.8nm,0.5s,baz=46,slow=6.3,SNR=5.7						

ISK ***06*** *06:30:36.7,37.˚19N×28.˚26E,h20km,ML2.2*
ISCJB ***06*** *06:30:37.4±0.7,37.˚21N±0.˚05×28.˚24E±0.˚06,h17km±9km, Error ellipse: s-maj=9.3km s-min=6.7km az=33.1*
CSEM ***06*** *06:30:37.0±0.2,37.˚21N×28.˚24E,h16km±2km,ML2.2, Error ellipse: s-maj=5.0km s-min=3.6km az=26.0*
DDA ***06*** *06:30:37.6,37.˚25N×28.˚18E,h7km,Md2.6*

ISC 06 06:30:37.0±0.9, 37˚22N±0.˚04×28˚25E±0.˚04, h18km±5km, n17, σ0°44/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.09**	**162**	*e*PG		**Pg**	**06 30 40.4**	**-0.2**
YER				*e*SG		**Sg**	**06 30 43.4**	**+0.4**
YER	**Yerkesik**	**0.09**	**162**	*e*Pg		**Pg**	**06 30 40.4**	**-0.2**
YER				*e*Sg		**Sg**	**06 30 43.4**	**+0.4**
TURN	**Turunc**	**0.45**	**141**	*i* P		**Pg**	**06 30 46.0**	**0.0**
DALY	**Dalyan (Mu˘la**	**0.52**	**141**	*e*PG		**Pg**	**06 30 47.1**	**-0.2**
DALY	**Dalyan (Mu˘la**	**0.52**	**141**	*e*Pg		**Pg**	**06 30 47.1**	**-0.2**
AYDN	**Tasoluk**	**0.53**	**326**	P		**Pg**	**06 30 47.1**	**-0.5**
AYDN				S		**Sg**	**06 30 54.3**	**-0.5**
AYDN	**Tasoluk**	**0.53**	**326**	*i* P		**Pg**	**06 30 47.1**	**-0.5**
AYDN				*i* S		**Sg**	**06 30 54.3**	**-0.5**
BDRM	**Kayabasi**	**0.66**	**257**	P		**Pg**	**06 30 49.8**	**-0.2**
BDRM				S		**Sg**	**06 30 58.6**	**-0.2**
BDRM	**Kayabasi**	**0.66**	**257**	*i* P		**Pg**	**06 30 49.8**	**-0.2**
BDRM				*i* S		**Sg**	**06 30 58.6**	**-0.2**
BODT	**Bodrum**	**0.77**	**258**	*e*PG		**Pb**	**06 30 52.2**	**+0.5**
BODT	**Bodrum**	**0.77**	**258**	*e*Pg		**Pb**	**06 30 52.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**339**	*e*PG		**Pb**	**06 30 53.0**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**339**	*e*Pg		**Pb**	**06 30 53.0**	**+0.9**
DNZL	**Cakiroluk**	**0.79**	**53**	P		**Pn**	**06 30 53.4**	**0.0**
DNZL	**Cakiroluk**	**0.79**	**53**	*i* P		**Pn**	**06 30 53.4**	**0.0**
FETY	**Fethiye**	**0.89**	**131**	*e*PG		**Pb**	**06 30 53.8**	**-0.1**
FETY	**Fethiye**	**0.89**	**131**	*e*Pg		**Pb**	**06 30 53.8**	**-0.1**

IDC ***06*** *06:34:55.7±2.9,37.˚43N×142.˚06E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.3/33,mbtmp3.5/4,ML3.2/2,MS2.1/1, Ms1 2.1/1,ms1mx1.9/26,Error ellipse: s-maj=60.8km s-min=33.4km az=67.0*
ISCJB ***06*** *06:34:59.8±1.5,37.˚28N±0.˚04×141.˚77E±0.˚09,h22km±9km, mb3.5/2,Error ellipse: s-maj=12.2km s-min=7.0km az=14.6*
NIED ***06*** *06:35:00,37.˚30N×141.˚60E,h68km,Mw3.6 Best double couple: M₀3.04000×10¹⁴ NP1:φ₀212.00000°,δ27.00000°, λ110.00000°. NP2:φ₀10.00000°,δ65.00000°,λ80.00000°.*
JMA ***06*** *06:35:02.5±0.1,37.˚31N×141.˚60E,h45km±2km,M3.6*

ISC 06 06:35:00.5±1.4, 37˚31N±0.˚05×141˚74E±0.˚10, h20km±8km, n14, σ1°07/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.78**	**255**	P		**Pb**	**06 35 15.8**	**+0.5**
ONAJ				S		**Sb**	**06 35 24.5**	**-1.0**
JMM	**Marumori**	**0.93**	**307**	P		**Pn**	**06 35 18.1**	**-0.3**
JFT	**Otama**	**1.13**	**281**	P		**Pn**	**06 35 21.6**	**+0.4**
JFT				*e*S		**Sn**	**06 35 34.7**	**-1.5**
JHO	**Hitachi**	**1.17**	**234**	P		**Pn**	**06 35 20.8**	**-0.9**
JIO	**Ouri**	**1.18**	**345**	P		**Pn**	**06 35 22.3**	**+0.5**
JIO				S		**Sn**	**06 35 36.4**	**-0.9**
JOU	**Okura**	**1.35**	**321**	P		**Pn**	**06 35 24.9**	**+0.7**
JYS	**Shirataka**	**1.60**	**305**	P		**Pn**	**06 35 28.5**	**+0.8**
JYS				*e*S		**Sn**	**06 35 48.1**	**+0.3**
JFY	**Yanaizu**	**1.62**	**274**	P		**Pn**	**06 35 28.1**	**+0.2**
JMK	**Ichinoseki**	**1.69**	**346**	*e*S		**Sn**	**06 35 51.0**	**+1.2**
MJAR	**Matsushiro Arr**	**2.93**	**256**	Pn		**Pn**	**06 35 47.1**	**+1.2**
	2.4nm,0.3s,baz=76,slow=15,SNR=7.4							
MJAR				LR		LR	06 37 08.7	
	comp=Z,29nm,19.1s,baz=80,slow=42							
MAT	**Matsushiro**	**2.93**	**256**	P		**Pn**	**06 35 48.2**	**+2.3**
MAT				S		**Sn**	**06 36 21.7**	**+1.2**
JHJ	**Hachijo jima 2**	**4.48**	**201**	Pn		**Pn**	**06 36 08.0**	**+0.8**
	3.5nm,0.3s,baz=35,slow=16,SNR=5.3							
MKAR	**Makanchi Array**	**44.19**	**302**	P		**P**	**06 43 07.3**	**-0.6**
	0.4nm,0.4s,baz=86,slow=8.6,SNR=4.6							
WRA	**Warramunga Arr**	**57.37**	**188**	P		**P**	**06 44 46.9**	**-0.5**
	0.2nm,0.5s,baz=5.8,slow=7.3,SNR=6.0							

MAN 06 06:53:36, 13˚92N×122˚90E, h31km, mb4.0, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.44**	**269**	*i* P		Pn	06 53 46.6	+0.4
GQP				*i* S		Sb	06 53 51.5	-0.5
AUQP	**San Andres**	**0.63**	**200**	*e*P		Pn	06 53 49.5	+0.8
AUQP				*e*S		Sn	06 53 58.8	+1.1
BOAC	**Boac**	**1.12**	**246**	*e*P		Pn	06 53 55.7	+0.2
BOAC				*e*S		Sn	06 54 10.4	+0.5
OTRP	**Odiongan**	**1.76**	**209**	*e*S		Sn	06 54 25.7	-0.2

MEX 06 07:14:47.8±0.5, 15˚08N×92˚86W, h96km±21km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.72**	**331**	*i* P		Pn	07 15 03.4	-1.6
PCIG				*e*S		Sn	07 15 16.4	-1.5

ISCJB ***06*** *07:25:16.8±1.2,23.˚7S±0.˚1×180.˚0E±0.˚2,h518km,mb3.6/6, Error ellipse: s-maj=23.7km s-min=15.3km az=171.2*
IDC ***06*** *07:25:17.0±6.1,23.˚82S×179.˚96W,h506km±67km,mb3.2/6, mb1 3.5/7,mb1mx3.2/36,mbtmp4.2/7,Error ellipse: s-maj=38.7km s-min=23.0km az=32.0*

ISC 06 07:25:18.0±1.3, 23.˚9S±0.˚1×180.˚0W±0.˚2, h518km, n8, σ0°70/9, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.53**	**189**	P		**P**	**07 28 22.4**	**-0.4**
	1.8nm,0.3s,baz=284,slow=3.8,SNR=10.0							
URZ				S		**S**	**07 30 55.0**	**-0.3**
	0.6nm,0.3s,baz=222,slow=22,SNR=6.6							
STKA	**Stephens Creek**	**34.74**	**248**	P		**P**	**07 31 24.4**	**-0.3**
	1.0nm,0.5s,baz=89,slow=10,SNR=5.0							
ASAR	**Alice Springs**	**42.06**	**261**	P		**P**	**07 32 24.4**	**+0.1**
	2.1nm,0.4s,baz=96,slow=7.6,SNR=34							
WRA	**Warramunga Arr**	**42.43**	**266**	P		**P**	**07 32 26.7**	**-0.6**
	3.7nm,0.5s,baz=96,slow=8.5,SNR=138							
FITZ	**Fitzroy Crossi**	**50.85**	**266**	P		**P**	**07 33 31.2**	**+0.2**
	1.7nm,0.5s,baz=112,slow=7.2,SNR=8.3							
VNDA	**Vanda**	**54.38**	**185**	P		**P**	**07 33 56.6**	**+1.3**
	0.9nm,0.8s,baz=55,slow=7.1,SNR=3.0							
TXAR	**Lajitas Array**	**90.41**	**58**	P		**P**	**07 37 24.1**	**-0.3**
	0.4nm,0.7s,baz=206,slow=5.4,SNR=6.0							
TORD	**Torodi Ar. Bea**	**169.19**	**189**	PKPab		**PKPab**	**07 45 41.1**	**-0.7**
	0.4nm,0.6s,baz=173,slow=3.8,SNR=3.4							

IDC 06 07:29:32.2±1.0, 0˚53N×122˚20E, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.8/42, mbtmp4.1/6, ML4.4/1, Error ellipse: s-maj=109.8km s-min=17.3km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.82**	**170**	P		Pn	07 33 55.5	+1.4
	0.9nm,0.3s,baz=359,slow=7.2,SNR=29							
WRA	**Warramunga Arr**	**23.57**	**150**	P		P	07 34 44.6	-0.1
	3.3nm,0.5s,baz=326,slow=11,SNR=63							
ASAR	**Alice Springs**	**26.61**	**155**	P		P	07 35 12.0	-0.5
	0.9nm,0.5s,baz=343,slow=13,SNR=24							
STKA	**Stephens Creek**	**37.10**	**152**	P		P	07 36 44.0	-0.5
	1.3nm,0.6s,baz=325,slow=11,SNR=4.4							
SONM	**Songino Array**	**49.08**	**346**	P		P	07 38 22.2	+0.8
	2.6nm,0.6s,baz=162,slow=9.2,SNR=8.0							
MKAR	**Makanchi Array**	**57.74**	**329**	P		P	07 39 24.4	-0.7
	1.1nm,0.3s,baz=126,slow=8.6,SNR=22							

ISK ***06*** *07:33:50.4,39.˚21N×28.˚80E,h10km,MD2.4*
CSEM ***06*** *07:33:51.7±0.3,39.˚22N×28.˚89E,h10km,MD2.4, Error ellipse: s-maj=9.6km s-min=6.3km az=116.0*
ISCJB ***06*** *07:33:52.0±0.7,39.˚20N±0.˚04×28.˚93E±0.˚06,h9km,Error ellipse: s-maj=7.6km s-min=4.3km az=44.8*
DDA ***06*** *07:33:53.6,39.˚11N×29.˚00E,h7km,Md2.5*

ISC 06 07:33:51.9±0.9, 39˚21N±0.˚04×28˚95E±0.˚04, h9km, n16, σ0°95/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**227**	P		**Pg**	**07 33 58.4**	**+1.5**
DEMI				S		**Sg**	**07 34 01.8**	**+1.5**
DEMI	**Demirci**	**0.25**	**227**	*i* P		**Pg**	**07 33 58.4**	**+1.5**
DEMI				*i* S		**Sg**	**07 34 01.8**	**+1.5**
GDZ	**Gediz**	**0.43**	**106**	P		**Pg**	**07 34 01.0**	**+0.7**
GDZ				S		**Sg**	**07 34 06.6**	**+0.6**
GDZ	**Gediz**	**0.43**	**106**	*i* P		**Pg**	**07 34 01.0**	**+0.7**
GDZ				*i* S		**Sg**	**07 34 06.5**	**+0.6**
TVSB	**Tavsanli**	**0.46**	**59**	*e*PG		**Pb**	**07 34 02.5**	**+0.2**
TVSB				*e*SG		**Sb**	**07 34 09.7**	**+0.4**
TVSB	**Tavsanli**	**0.46**	**59**	*e*Pg		**Pb**	**07 34 02.5**	**+0.2**
TVSB				*e*Sg		**Sb**	**07 34 09.7**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**198**	*e*PG		**Pg**	**07 34 04.6**	**-1.4**
KULA				*e*SG		**Sg**	**07 34 14.7**	**-0.8**
KULA	**Kula-Manisa**	**0.73**	**198**	*e*Pg		**Pg**	**07 34 04.6**	**-1.4**
KULA				*e*Sg		**Sg**	**07 34 14.7**	**-0.8**
KHAL	**Karahalli**	**0.94**	**153**	P		**Pb**	**07 34 10.8**	**+0.4**
KHAL	**Karahalli**	**0.94**	**153**	*i* P		**Pb**	**07 34 10.8**	**+0.4**
IZI	**Iznik**	**1.19**	**20**	*e*PN		**Pb**	**07 34 14.3**	**-0.5**
IZI	**Iznik**	**1.19**	**20**	*e*Pn		**Pb**	**07 34 14.3**	**-0.5**
CAVI	**Cavuskoy**	**1.21**	**35**	*e*PN		**Pb**	**07 34 14.8**	**-0.1**
CAVI	**Cavuskoy**	**1.21**	**35**	*e*Pn		**Pb**	**07 34 14.8**	**-0.1**
ARMT	**Armutlu**	**1.35**	**357**	*e*PN		**Pn**	**07 34 16.0**	**-1.0**
ARMT	**Armutlu**	**1.35**	**357**	*e*Pn		**Pn**	**07 34 16.0**	**-1.0**

NIED ***06*** *07:50:00,36.˚40N×142.˚40E,h8km,Mw3.8 Best double couple: M₀4.98000×10¹⁴ NP1:φ₀134.00000°,δ48.00000°, λ33.00000°. NP2:φ₀20.00000°,δ66.00000°,λ133.00000°.*
BJI ***06*** *07:50:16.5,36.˚07N×142.˚75E,h15km,mb4.5/27,mB4.7/16, Ms4.2/9,Ms7 4.1/6*
IDC ***06*** *07:50:19.0±0.8,36.˚34N×142.˚42E,h0km,mb4.0/16, mb1 4.1/21,mb1mx3.9/59,mbtmp4.0/21,ML3.7/4,MS3.0/2, Ms1 3.0/2,ms1mx2.4/34,Error ellipse: s-maj=19.3km s-min=16.2km az=97.0*
ISCJB ***06*** *07:50:20.1±1.2,36.˚40N±0.˚03×142.˚37E±0.˚04,h16km±8km, mb4.1/22,MS3.3/1,Error ellipse: s-maj=6.2km s-min=4.6km az=17.1*
NEIC ***06*** *07:50:20.7±0.4,36.˚36N×142.˚42E,h10km,mb4.8/5,Error ellipse: s-maj=7.8km s-min=5.8km az=137.0*
JMA ***06*** *07:50:21.7±0.2,36.˚42N×142.˚35E,h71km,M3.7*

ISC 06 07:50:20.1±2.3, 36˚39N±0.˚05×142˚32E±0.˚07, h5km±14km, n72, σ1°34/81, mb4.2/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.36**	**240**	P		**Pb**	**07 50 45.8**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.41**	**301**	P		**Pn**	**07 50 45.9**	**-0.6**
JHO	**Hitachi**	**1.43**	**280**	P		**Pn**	**07 50 46.1**	**-0.5**
JHO				S		**Sn**	**07 51 04.4**	**-1.3**
JFK	**Kawauchi**	**1.52**	**311**	P		**Pn**	**07 50 47.0**	**-0.9**
JMM	**Marumori**	**1.92**	**321**	P		**Pn**	**07 50 52.6**	**-0.7**
JMM				*e*S		**Sn**	**07 51 15.7**	**-2.1**
JFT	**Otama**	**1.95**	**306**	P		**Pn**	**07 50 54.3**	**+0.5**
JFT				*e*S		**Sn**	**07 51 18.5**	**-0.1**
BSO1	**Boso 1**	**2.04**	**213**	P		**Pb**	**07 50 55.0**	**-2.3**
BSO1				*e*S		**Sb**	**07 51 21.0**	**-1.8**
JAG	**Ashikaga**	**2.31**	**272**	P		**Pn**	**07 50 58.7**	**-0.1**
JAG				*e*S		**Sn**	**07 51 26.4**	**-1.1**
JMK	**Ichinoseki**	**2.71**	**342**	P		**Pn**	**07 51 03.9**	**-0.3**
JMK				*e*S		**Sn**	**07 51 36.3**	**-1.0**
JRY	**Ryogami san**	**2.79**	**263**	P		**Pn**	**07 51 05.3**	**0.0**
JRY				S		**Sn**	**07 51 38.1**	**-1.2**
JYK	**Kaneyama**	**2.97**	**329**	P		**Pn**	**07 51 07.3**	**-0.5**
JOM	**Ohasama**	**3.19**	**346**	*e*S		**Sn**	**07 51 49.4**	**+0.2**
MJAR	**Matsushiro Arr**	**3.31**	**274**	Pn		**Pn**	**07 51 13.3**	**+0.7**
	8.7nm,0.3s,baz=103,slow=9.1,SNR=62							
MAJO	**Matsushiro**	**3.32**	**274**	*e*Pn		**Pn**	**07 51 14.0**	**+1.3**
MAJO				*e*Sn		**Sn**	**07 51 51.6**	**-0.8**
MAT	**Matsushiro**	**3.32**	**274**	P		**Pn**	**07 51 13.6**	**+1.0**
MAT				S		**Sn**	**07 51 52.9**	**+0.5**
MJB9	**Matsu-Tunnel**	**3.32**	**274**	*e*Pn		**Pn**	**07 51 13.9**	**+1.3**
JHJ2	**Mitsune**	**3.86**	**213**	*e*Pn		**Pn**	**07 51 20.1**	**0.0**
JHJ2				*e*Sn		**Sn**	**07 52 08.1**	**+2.3**
JHJ	**Hachijo jima 2**	**3.87**	**213**	Pn		**Pn**	**07 51 19.4**	**-0.8**
	22nm,0.3s,baz=325,slow=24,SNR=8.2							
JHJ				Sn		**Sn**	**07 52 02.3**	**-3.6**
	29nm,0.3s,baz=112,slow=23,SNR=7.5							
INU	**Inuyama**	**4.42**	**258**	*e*Pn		**Pn**	**07 51 29.7**	**+1.9**
ERM	**Erimo**	**5.66**	**6**	*e*Pn		**Pn**	**07 51 43.7**	**-1.1**
ERM				*e*Sn		**Sn**	**07 52 47.2**	**-2.9**
ASAJ	**Asahikawa**	**7.73**	**2**	Pn		**Pn**	**07 52 12.4**	**-0.7**
	baz=86,slow=0.2							
ASAJ				Sn		**Sn**	**07 53 38.9**	**-2.1**
	0.7nm,0.3s,baz=65,slow=22,SNR=3.8							
JNU	**Nakatsue**	**9.96**	**254**	LR		LR	07 56 26.8	
	comp=Z,47nm,19.8s,baz=168,slow=37							
USRK	**Ussuriysk Ar.**	**11.09**	**318**	Pn		**Pn**	**07 53 01.3**	**+2.0**
	0.3nm,0.3s,baz=122,slow=12,SNR=6.9							
KSRS	**Korea Array**	**11.57**	**280**	Pn		**Pn**	**07 53 08.9**	**+3.1**
	0.3nm,0.3s,baz=100,slow=13,SNR=6.9							
KSAR	**Wonju Array Be**	**11.60**	**280**	Pn		**Pn**	**07 53 08.9**	**+2.7**
CN2	**Changchun**	**14.87**	**305**	*e*P		**P**	**07 53 54.0**	**-2.8**
KLR	**Kul'dur**	**14.98**	**332**	Pn		**P**	**07 53 54.9**	**-3.1**
	0.2nm,0.3s,baz=123,slow=9.9,SNR=6.5							
HHC	**Hu-ho-hao-te**	**24.37**	**290**	*e*P		**P**	**07 55 38.6**	**-0.6**
HHC				PMZ				
	28nm,0.7s							
HHC				PMZ				
	88nm,7.7s							
H11N2	**WAKE ISLAND Hy**	**27.19**	**121**	T		T	08 24 33.7	
	baz=313,slow=75,SNR=23							
H11N1	**WAKE ISLAND Hy**	**27.20**	**121**	T		T	08 24 34.7	
	baz=313,slow=75,SNR=20							
H11N3	**WAKE ISLAND Hy**	**27.21**	**121**	T		T	08 24 37.5	
	baz=313,slow=75,SNR=14							
SEY	**Seymchan**	**27.29**	**10**	P		**P**	**07 56 06.0**	**+0.8**
	2.0nm,0.6s,baz=202,slow=9.5,SNR=6.5							
H11S1	**WAKE ISLAND Hy**	**27.90**	**123**	T		T	08 25 33.9	
	baz=315,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**27.90**	**123**	T		T	08 25 23.8	
	baz=315,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy**	**27.91**	**123**	T		T	08 25 29.9	
	baz=315,slow=76,SNR=9.6							
ENH	**Enshi**	**28.01**	**267**	*e*P		**P**	**07 56 12.4**	**+0.4**
	13nm,0.8s							
ULN	**Ulaanbaatar**	**28.32**	**305**	*e*P		**P**	**07 56 14.3**	**-0.5**
	5.2nm,0.8s							
GYA	**Guiyang**	**31.84**	**262**	*e*P		**P**	**07 56 45.8**	**-0.3**
GYA				PMZ				
	10.0nm,0.8s							
CD2	**Chengdu**	**32.41**	**272**	*e*P		**P**	**07 56 50.4**	**-0.5**
QIZ	**Qiongzhong**	**33.34**	**248**	P		**P**	**07 56 57.9**	**-1.2**
GTA	**Gaotai**	**33.45**	**288**	*e*P		**P**	**07 57 00.9**	**+0.8**
GTA				pP		sP	07 57 10.1	+7.7
GTA				sP		pP	07 57 14.4	+13
GTA				PMZ				
	9.0nm,1.0s							
KMI	**Kunming**	**35.59**	**263**	P		**P**	**07 57 20.4**	**+1.6**
KMI				PMZ				
	13nm,0.6s							
WMQ	**Urumqi**	**41.78**	**298**	P		**P**	**07 58 11.6**	**+1.2**
WMQ				pP		sP	07 58 17.6	+4.8
WMQ				sP		pP	07 58 20.6	+8.5
WMQ				PMZ				
	4.0nm,0.6s							
WMQ				PMZ				
	36nm,4.2s							
MK32	**Makanchi Array**	**45.08**	**303**	*e*P		**P**	**07 58 37.7**	**+0.8**
MKAR	**Makanchi Array**	**45.08**	**303**	P		**P**	**07 58 37.7**	**+0.8**
	4.5nm,0.6s,baz=90,slow=12,SNR=20							
KURK	**Kurchatov**	**46.90**	**309**	*e*P		**P**	**07 58 51.3**	**+0.1**
	5.7nm,0.7s							
KURBB	**Kurchatov Arra**	**46.97**	**309**	P		**P**	**07 58 52.2**	**+0.4**
	3.5nm,0.6s,baz=84,slow=8.1,SNR=34							
ILAR	**Eielson Array**	**49.66**	**32**	P		**P**	**07 59 10.8**	**-1.5**
	0.3nm,0.5s,baz=260,slow=5.7,SNR=8.4							
ILB	**Eielson Array**	**49.66**	**32**	*e*P		**P**	**07 59 12.9**	**+0.6**
TKM2	**Tokmak 2**	**50.58**	**299**	*e*P		**P**	**07 59 21.0**	**+1.1**
	5.5nm,0.6s							
KSH	**Kashi**	**51.33**	**295**	P		**P**	**07 59 27.5**	**+2.0**
KSH				pP		sP	07 59 33.0	+5.1
KSH				PcP		**PcP**	**08 00 41.7**	**+1.3**
KSH				PP		**PP**	**08 01 25.3**	**+3.0**
KSH				S		**S**	**08 06 44.6**	**-0.7**
KSH				ScS		**ScS**	**08 09 15.5**	**-1.3**
KSH				PMZ				
	2.0nm,0.2s							
KSH				PMZ				
	38nm,3.7s							
KSH				LN				
	380nm,14.7s							
KSH				LE				
	150nm,8.6s							
AAK	**Ala-Archa**	**51.44**	**299**	P		**P**	**07 59 25.5**	**-0.8**
	0.6nm,0.3s,baz=245,slow=6.0,SNR=2.6							
BVAR	**Borovoye Array**	**51.54**	**315**	P		**P**	**07 59 27.5**	**+0.7**
	0.6nm,0.4s,baz=54,slow=2.5,SNR=3.6							
WR1	**Warramunga Arr**	**56.53**	**189**	*e*P		**P**	**08 00 02.9**	**-0.4**
	15nm,1.6s							
WRA	**Warramunga Arr**	**56.53**	**189**	P		**P**	**08 00 02.9**	**-0.5**
	0.3nm,0.4s,baz=6.1,slow=7.0,SNR=16							
ARU	**Arti**	**57.33**	**319**	P		**P**	**08

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.46**	**286**	*eS*	**Sn**	**08 17 14.0**	**+0.2**
JFK	**Kawauchi**	**2.48**	**292**	P	**Pn**	**08 16 45.3**	**+0.1**
JFK				*eS*	**Sn**	08 17 13.5	-0.8
JHO	**Hitachi**	**2.57**	**274**	S	**Sn**	**08 17 15.2**	**-1.4**
BSO1	**Boso 1**	**2.91**	**232**	P	**Pn**	**08 16 50.7**	**0.0**
BSO1				*eS*	**Sn**	**08 17 26.1**	**+2.0**
JFT	**Otama**	**2.93**	**292**	P	**Pn**	**08 16 52.7**	**+1.2**
JMK	**Ichinoseki**	**3.18**	**322**	P	**Pn**	**08 16 54.9**	**-0.1**
JAG	**Ashikaga**	**3.47**	**270**	P	**Pn**	**08 16 59.7**	**+0.8**
JAG				S	**Sn**	**08 17 37.8**	**-1.0**
JOM	**Ohasama**	**3.57**	**328**	S	**Sn**	**08 17 40.3**	**-0.8**
JYK	**Kaneyama**	**3.63**	**313**	P	**Pn**	**08 17 01.6**	**+0.8**
JYK				S	**Sn**	**08 17 42.7**	**0.0**
JRY	**Ryogami san**	**3.95**	**265**	P	**Pn**	**08 17 06.4**	**+0.8**
JRY				*eS*	**Sn**	**08 17 49.4**	**-1.3**
JOD2	**Odawara 2**	**3.98**	**254**	P	**Pn**	**08 17 07.1**	**+1.1**
JOD2				S	**Sn**	**08 17 50.9**	**-0.5**
MJAR	**Matsushiro Arr** 1.0nm,0.3s,baz=96,slow=9.4,SNR=9.9	**4.47**	**272**	Pn	**Pn**	**08 17 14.5**	**+1.8**
MJAR				LR	LR	08 18 39.2	
	comp=Z,4.7nm,21.7s,baz=265,slow=34						
MAT	**Matsushiro**	**4.47**	**272**	P	**Pn**	**08 17 14.5**	**+1.8**
MAT				S	**Sn**	**08 18 01.5**	**-2.0**
JHJ2	**Mitsune**	**4.67**	**225**	P	**Pn**	**08 17 15.0**	**-0.4**
JHJ	**Hachijo jima 2** 18nm,0.3s,baz=333,slow=20,SNR=27	**4.68**	**225**	Pn	**Pn**	**08 17 15.1**	**-0.5**
JHJ				Sn	**Sn**	**08 18 05.7**	**-3.0**
	40nm,0.3s,baz=258,slow=23,SNR=8.6						
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=239,slow=7.3,SNR=4.6	**7.68**	**354**	Pn	**Pn**	**08 17 56.2**	**-0.5**
KLR	**Kul'dur**	**15.46**	**329**	LR	LR	08 25 48.8	
	comp=Z,19nm,19.9s,baz=148,slow=38						
H11N2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=8.9	**26.26**	**123**	T	T	08 48 47.5	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=3.9	**26.27**	**123**	T	T	08 48 57.2	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=4.8	**26.27**	**123**	T	T	08 48 56.8	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=4.8	**26.99**	**125**	T	T	08 49 53.4	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=4.8	**26.99**	**125**	T	T	08 49 49.8	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=4.5	**27.01**	**125**	T	T	08 49 52.4	
WRA	**Warrarnunga Arr** 0.7nm,0.5s,baz=9.7,slow=7.3,SNR=20	**56.82**	**191**	P	**P**	**08 25 48.6**	**+0.3**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=8.3,slow=6.6,SNR=5.8	**60.54**	**190**	P	**P**	**08 26 14.8**	**+0.6**
SPITS	**Spitsbergen Ar** comp=Z,14nm,19.7s,baz=170,slow=39	**61.42**	**349**	LR	LR	08 55 38.1	
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=318,slow=5.0,SNR=3.7	**88.95**	**54**	P	**P**	**08 28 58.5**	**-0.2**

WEL 06 08:25:20.6±0.1, 43°58S×172°39E, h10km, ML3.5/15, 4C-6D, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.17**	**89**	⇓PG	Pg	08 25 24.5	+0.1
CRLZ				SG	Sg	08 25 27.0	+0.2
CRLZ				AML	AML	08 25 27.4	
MQZ	**McQueen's Vall**	**0.23**	**124**	⇓PG	Pg	08 25 25.5	+0.1
MQZ				SG	Sg	08 25 28.7	+0.1
MQZ				SG		08 25 28.8	
MQZ				AML	AML	08 25 29.5	
OXZ	**Oxford**	**0.36**	**314**	⇓PG	Pg	08 25 27.6	-0.1
OXZ				SG	Sg	08 25 33.5	+1.0
LTZ	**Lake Taylor**	**0.80**	**354**	⇓P*	Pg	08 25 36.3	+0.2
LTZ				S*	Sb	08 25 47.3	-0.2
LTZ				AML	AML	08 25 48.3	
RPZ	**Rata Peaks**	**0.98**	**261**	⇓P*	Pg	08 25 39.2	-0.3
RPZ				AML	AML	08 25 58.6	
RPZ				AML	AML	08 26 02.6	
INZ	**Inchbonnie**	**1.10**	**321**	P*	Pb	08 25 40.5	-1.2
WVZ	**Waitaha Valley**	**1.31**	**292**	⇑PN	Pn	08 25 44.1	-0.8
WVZ				AML	AML	08 26 08.0	
WVZ				AML	AML	08 26 09.0	
KHZ	**Kahutara**	**1.43**	**36**	⇑PN	Pn	08 25 45.1	-1.6
LBZ	**Lake Benmore**	**1.79**	**242**	PN	Pn	08 25 59.6	-1.0
LBZ				AML	AML	08 26 20.8	
LBZ				AML	AML	08 26 20.9	
LBZ				AML	AML	08 26 22.3	
LBZ				AML	AML	08 26 24.7	
THZ	**Tophouse**	**1.85**	**12**	⇑PN	Pn	08 25 51.1	-1.4
THZ				AML	AML	08 26 23.1	
THZ				AML	AML	08 26 31.2	
FOZ	**Fox Glacier**	**1.87**	**270**	PN	Pn	08 25 52.9	+0.2
FOZ				AML	AML	08 26 25.7	
DSZ	**Denniston Nort**	**1.88**	**347**	*e*PN	Pn	08 25 51.5	-1.4
DSZ				AML	AML	08 26 23.6	
DSZ				AML	AML	08 26 23.7	
DSZ				AML	AML	08 26 24.6	
DSZ				AML	AML	08 26 25.1	
ODZ	**Otahua Downs**	**1.93**	**220**	*e*PN	Pn	08 25 52.1	-1.4
ODZ				AML	AML	08 26 23.2	
ODZ				AML	AML	08 26 23.2	
ODZ				AML	AML	08 26 31.3	
ODZ				AML	AML	08 26 31.3	
BSWZ	**Blackbirch Sta**	**2.16**	**31**	*e*PN	Pn	08 25 55.3	-1.4
NNZ	**Nelson**	**2.47**	**18**	⇑PN	Pn	08 26 00.1	-0.8
JCZ	**Jackson Bay**	**2.66**	**258**	*e*PN	Pn	08 26 02.6	-1.0
JCZ				AML	AML	08 26 51.1	
WKZ	**Wanaka**	**2.73**	**242**	AML	AML	08 26 53.9	
QRZ	**Quartz Range**	**2.75**	**2**	*e*PN	Pn	08 26 02.3	-2.5
EAZ	**Earnscleugh**	**2.76**	**232**	⇓PN	Pn	08 26 03.6	-1.4
EAZ				AML	AML	08 26 48.6	
EAZ				AML	AML	08 26 48.6	
EAZ				AML	AML	08 26 49.7	
EAZ				AML	AML	08 26 56.5	
PLWZ	**Palliser**	**2.92**	**47**	PN	Pn	08 26 04.6	-2.5
TUZ	**Tuapeka**	**3.08**	**219**	PN	Pn	08 26 08.1	-1.3
TUZ				AML	AML	08 27 03.7	
TUZ				AML	AML	08 27 07.8	
MSZ	**Milford Sound**	**3.40**	**250**	AML	AML	08 27 12.3	
MSZ				AML	AML	08 27 38.9	
OGWZ	**Otaki Gorge**	**3.44**	**38**	*e*PN	Pn	08 26 12.0	-2.4
SYZ	**Scrubby Hill**	**3.75**	**217**	*e*PN	Pn	08 26 17.3	-1.2
MRZ	**Mangatainoka R**	**3.76**	**40**	*e*PN	Pn	08 26 15.4	-3.2
VRZ	**Vera Road**	**4.79**	**23**	*e*PN	Pn	08 26 32.4	-0.4
HIZ	**Hauiti**	**5.39**	**21**	PN	Pn	08 26 39.5	-1.6

TAP 06 08:25:32.7, 24°.78N×122°.51E, h15km±1km, ML2.8, D
JMA 06 08:25:33.5±0.1, 24°.72N×122°.47E, h9km±3km, M2.2
ISC 06 08:25:33.1±1.2, 24°.76N±0°.06×122°.49E±0°.02, h10km±10km, n18, σ0s47/34, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.52**	**126**	P	**Pg**	**08 25 43.3**	**0.0**
JYNG				S	**Sg**	**08 25 50.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.56**	**122**	P	**Pg**	**08 25 44.2**	**+0.1**
YOJ				S	**Sg**	**08 25 51.3**	**-0.2**
TWC	**Suao** baz=263	**0.60**	**255**	P	**Pg**	**08 25 44.5**	**-0.2**
TWC				*e*S	**Sb**	**08 25 53.9**	**-0.2**
	baz=263						
NWF	**Wu-fen Shan** baz=294	**0.71**	**296**	*e*P	**Pb**	**08 25 47.7**	**+0.1**
NWF				*e*S	**Sb**	**08 25 57.4**	**0.0**
	baz=294						
TWE	**Neicheng** baz=265	**0.74**	**267**	*e*P	**Pb**	**08 25 47.9**	**-0.2**
TWE				*e*S	**Sb**	**08 25 58.2**	**-0.2**
	baz=265						
ENA	**Nanau** baz=243	**0.75**	**244**	*e*P	**Pg**	**08 25 47.8**	**+0.1**
ENA				*e*S	**Sb**	**08 25 58.2**	**-0.4**
	baz=243						
ENTT	**Nioudou** baz=260	**0.84**	**262**	*e*P	**Pb**	**08 25 50.1**	**+0.2**
ENTT				*e*S	**Sn**	**08 26 02.3**	**-1.2**
	baz=260						
NSK	**Sanguang** baz=264	**1.03**	**266**	*e*P	**Pg**	**08 25 52.9**	**0.0**
NSK				*e*S	**Sg**	**08 26 06.4**	**+0.1**
	baz=264						
TWD	**Chiawan** baz=229	**1.06**	**230**	*e*P	**Pb**	**08 25 53.2**	**-0.3**
NNS	**Nan Shan** baz=251	**1.06**	**253**	*e*P	**Pn**	**08 25 54.5**	**+0.4**
NNS				*e*S	**Sn**	**08 26 09.2**	**+0.2**
	baz=251						
IRIF	**Iriomote-Funau**	**1.21**	**110**	P	**Pg**	**08 25 56.3**	**-0.1**
IRIF				*e*S	**Sb**	**08 26 11.4**	**-0.4**
WHF	**Hehuan Shan** baz=251	**1.27**	**241**	*e*P	**Pg**	**08 25 57.5**	**-0.1**
WHF				*e*S	**Sg**	**08 26 13.9**	**-0.2**
	baz=251						
NSTT	**Nanjuang** baz=263	**1.36**	**265**	*e*P	**Pg**	**08 25 59.9**	**+0.7**
NSTT				*e*S	**Sn**	**08 26 16.2**	**+0.1**
	baz=263						
JKRS	**Kuro-shima**	**1.48**	**110**	S	**Sn**	**08 26 19.1**	**-0.1**
WDT	**Danda** baz=214	**1.59**	**231**	*e*P	**Pb**	**08 26 02.4**	**-0.3**
WDT				*e*S	**Sg**	**08 26 23.8**	**-0.5**
	baz=214						
ALS	**Alishan** baz=213	**1.98**	**231**	*e*P	**Pb**	**08 26 10.0**	**+0.7**
ALS				*e*S	**Sb**	**08 26 34.7**	**+0.6**
	baz=213						
CHN5	**Tsauling** baz=217	**2.02**	**235**	*e*P	**Pb**	**08 26 10.7**	**+0.8**
CHN5				*e*S	**Sg**	**08 26 36.9**	**-1.1**
	baz=217						
CHN4	**Tsaushan** baz=214	**2.23**	**231**	*e*P	**Pn**	**08 26 10.1**	**0.0**
CHN4				*e*S	**Sb**	**08 26 42.0**	**+0.9**
	baz=214						

IDC 06 08:28:58.6±3.0, 15°.12S×70°.02W, h198km±71km, mb3.0/2, mb1 3.1/3, mb1mx2.9/21, mbtmp3.3/3, Error ellipse: s-maj=309.8km s-min=44.7km az=21.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.7nm,0.3s,baz=295,slow=10,SNR=29	**2.16**	**123**	P	Pn	08 29 40.5	+1.2
LPAZ				S	Sn	08 30 11.1	+0.2
	1.0nm,0.3s,baz=9.2,slow=24,SNR=18						
TORD	**Torodi Ar. Bea** 0.5nm,1.1s,baz=259,slow=6.9,SNR=3.0	**76.32**	**72**	P	P	08 40 26.6	+0.2
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=138,slow=4.7,SNR=4.5	**84.85**	**341**	P	P	08 41 10.0	-0.5

MAN 06 08:40:22.8±46N×124°.60E, h33km, mb4.3, ML3.1, MS2.9, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.10**	**94**	⇑*i*P	Pb	08 40 29.1	+1.3
CGP				*i* S	Sb	08 40 32.2	+0.5
BUKP	**Musuan**	**0.74**	**141**	*e*P	Pb	08 40 37.0	+0.5
BUKP				*e*S	Sb	08 40 47.5	+1.1
DCPH	**Dipolog City**	**1.24**	**276**	⇑*e*P	Pn	08 40 43.5	+0.6
DCPH				*i* S	Sn	08 40 58.6	+0.1
CTBH	**Cotabato--PC H**	**1.28**	**196**	*e*P	Pb	08 40 44.6	-1.0
CTBH				*i* S	Sn	08 41 00.7	+1.0
TBP	**Tagbilaran**	**1.42**	**329**	⇓*i*P	Pb	08 40 52.8	+4.9
TBP				*i* S	Sb	08 41 12.0	+6.3
SNPH	**Sibulan**	**1.60**	**303**	⇑*i*P	Pn	08 40 49.0	+0.9
SNPH				*i* S	Sb	08 41 10.7	-0.3

CSEM 06 08:54:58.5, 39°.70N×29°.45E, h7km, MD2.5
DDA 06 08:54:58.5, 39°.70N×29°.45E, h7km, Md2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGD	**Bursa**	**0.59**	**341**	*i* P	Pg	08 55 10.0	+0.1
IGD				*i* S	Sb	08 55 18.8	-0.9
GDZ	**Gediz**	**0.61**	**178**	P	Pg	08 55 10.2	-0.1
GDZ				S	Sb	08 55 19.6	-0.9
GDZ	**Gediz**	**0.61**	**178**	*i* P	Pg	08 55 10.2	-0.1
GDZ				*i* S	Sb	08 55 19.6	-0.9
BORA	**Eskisehir**	**0.80**	**77**	P	Pg	08 55 13.8	0.0
BORA				S	Sb	08 55 25.6	-0.1
BORA	**Eskisehir**	**0.80**	**77**	*i* P	Pg	08 55 13.8	0.0
BORA				*i* S	Sb	08 55 25.6	-0.1
DEMI	**Demirci**	**0.87**	**221**	P	Pg	08 55 15.4	+0.2
DEMI				S	Sn	08 55 32.7	+2.6
DEMI	**Demirci**	**0.87**	**221**	*i* P	Pg	08 55 15.4	+0.3
DEMI				*i* S	Sn	08 55 32.6	+2.5
ESKT	**Eskisehir**	**1.10**	**99**	*i* P	Pg	08 55 19.4	-0.1
ESKT				*i* S	Sn	08 55 38.9	+3.0
SEYT	**Eskypehyr**	**1.10**	**99**	P	Pg	08 55 19.4	-0.2
SEYT				S	Sn	08 55 38.9	+3.0

ISCJB 06 08:58:06.4±0.6, 50°.28N±0°.04×18°.76E±0°.03, h0km, Error ellipse: s-maj=6.1km s-min=3.2km az=178.8
PRU 06 08:58:07.6, 50°.28N×18°.79E, h0km
CSEM 06 08:58:07.2±0.2, 50°.28N×18°.79E, h2km, ML0.2
WAR 06 08:58:08.2, 50°.24N×18°.83E, h1km, Mw2.0
ISC 06 08:58:07.5±0.9, 50°.27N±0°.04×18°.81E±0°.02, h0km, n16, σ0s41/30, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.12**	**81**	*e*Pg	**Pg**	**08 58 09.8**	**0.0**
CHZP				*e*Sg	**Sg**	**08 58 11.8**	**+0.4**
CHZP	**Chorzow**	**0.12**	**81**	*e*Pg	**Pg**	**08 58 09.8**	**0.0**
CHZP				*e*Sg	**Sg**	**08 58 11.8**	**+0.4**
OKC	**Ostrava-Krasne**	**0.61**	**225**	*e*SG	**Sg**	**08 58 28.2**	**+1.3**
OKC	**Ostrava-Krasne**	**0.61**	**225**	Sg	**Sg**	**08 58 28.2**	**+1.3**
OJC	**Ojcow**	**0.64**	**94**	*e*Pg	**Pg**	**08 58 20.0**	**+0.3**
OJC				*e*Sg	**Sg**	**08 58 28.0**	**0.0**
OJC	**Ojcow**	**0.64**	**94**	*e*Pg	**Pg**	**08 58 20.0**	**+0.3**
OJC				*e*Sg	**Sg**	**08 58 28.0**	**0.0**
OJC	**Ojcow**	**0.64**	**94**	*e*Pg	**Pg**	**08 58 20.0**	**+0.3**
OJC				*e*Sg	**Sg**	**08 58 28.0**	**0.0**
MORC	**Moravsky Berou**	**0.95**	**239**	*e*Pg	**Pg**	**08 58 25.6**	**-0.1**
MORC				*e*SG	**Sg**	**08 58 37.8**	**-0.3**
LANS	**Liptovska Anna**	**1.20**	**159**	*e*Pg	**Pg**	**08 58 30.3**	**-0.2**
LANS				*e*SG	**Sg**	**08 58 46.1**	**+0.1**
LANS	**Liptovska Anna**	**1.20**	**159**	*e*PG	**Pg**	**08 58 30.3**	**-0.2**
LANS				*e*SG	**Sg**	**08 58 46.1**	**+0.1**
DPC	**Dobruska-Polom** 3.7nm,0.2s	**1.59**	**274**	*e*PG	**Pn**	**08 58 37.1**	**+0.1**
DPC				*e*SG	**Sn**	**08 58 58.0**	**-0.3**
DPC	**Dobruska-Polom** 3.7nm,0.2s	**1.59**	**274**	Pg	**Pn**	**08 58 37.1**	**+0.1**
DPC				Sg	**Sn**	**08 58 58.0**	**-0.3**
KSP	**Ksiaz**	**1.70**	**291**	*e*Pg	**Pb**	**08 58 39.5**	**-0.1**
KSP				*e*Sg	**Sg**	**08 59 02.3**	**+0.2**
KSP	**Ksiaz**	**1.70**	**291**	*e*Pg	**Pb**	**08 58 39.5**	**-0.1**
KSP				*e*Sg	**Sg**	**08 59 02.3**	**+0.2**
KSP	**Ksiaz**	**1.70**	**291**	*e*Pg	**Pb**	**08 58 39.5**	**-0.1**
KSP				*e*Sg	**Sg**	**08 59 02.3**	**+0.2**
VRAC	**Vranov**	**1.73**	**237**	*e*Pn	**Pn**	**08 58 38.7**	**-0.1**
VRAC				*e*Sg	**Sn**	**08 59 01.0**	**-0.5**

ISK 06 09:10:24.3, 39°.07N×29°.10E, h12km, MD2.6
ISCJB 06 09:10:25.4±0.6, 39°.13N±0°.04×29°.01E±0°.04, h9km±5km, Error ellipse: s-maj=6.4km s-min=5.3km az=138.5
DDA 06 09:10:25.8, 39°.10N×29°.02E, h7km, Md2.3
CSEM 06 09:10:25.3±0.2, 39°.12N×29°.01E, h10km, MD2.3, Error ellipse: s-maj=5.2km s-min=3.9km az=99.0
ISC 06 09:10:25.5±0.9, 39°.12N±0°.03×29°.02E±0°.03, h15km±8km, n20, σ0s52/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**253**	P	**Pg**	**09 10 31.1**	**+0.2**
DEMI				S	**Sg**	**09 10 34.4**	**-0.2**
DEMI	**Demirci**	**0.24**	**253**	*i* P	**Pg**	**09 10 31.1**	**+0.2**
DEMI				*i* S	**Sg**	**09 10 34.4**	**-0.2**
GDZ	**Gediz**	**0.36**	**94**	P	**Pg**	**09 10 33.1**	**+0.1**
GDZ				S	**Sg**	**09 10 38.4**	**+0.3**
GDZ	**Gediz**	**0.36**	**94**	*i* P	**Pg**	**09 10 33.1**	**+0.1**
GDZ				*i* S	**Sg**	**09 10 38.4**	**+0.3**
TVSB	**Tavsanli**	**0.48**	**46**	*e*PG	**Pg**	**09 10 34.1**	**-0.9**
TVSB				*e*SG	**Sg**	**09 10 41.3**	**-0.3**
TVSB	**Tavsanli**	**0.48**	**46**	*e*Pg	**Pg**	**09 10 34.2**	**-0.9**
TVSB				*e*Sg	**Sg**	**09 10 41.3**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*PG	**Pg**	**09 10 37.4**	**-1.1**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*Pg	**Pg**	**09 10 37.4**	**-1.1**
KHAL	**Karahalli**	**0.83**	**153**	P	**Pb**	**09 10 42.2**	**+0.5**
KHAL				S	**Sb**	**09 10 53.4**	**+0.6**
KHAL	**Karahalli**	**0.83**	**153**	*i* P	**Pb**	**09 10 42.2**	**+0.5**
KHAL				*i* S	**Sb**	**09 10 53.4**	**+0.6**
ORLT	**Orhaneli**	**0.93**	**354**	*e*PG	**Pg**	**09 10 43.8**	**+0.2**
ORLT	**Orhaneli**	**0.93**	**354**	*e*Pg	**Pg**	**09 10 43.8**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pb**	**09 10 49.2**	**+0.3**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pb**	**09 10 49.2**	**+0.3**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pn**	**09 10 47.9**	**-0.7**
CAVI				*e*SN	**Sg**	**09 11 06.2**	**0.0**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pn**	**09 10 47.9**	**-0.7**
CAVI				*e*Sn	**Sg**	**09 11 06.2**	**0.0**
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pn**	**09 10 48.9**	**+0.1**
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pn**	**09 10 48.9**	**+0.1**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pb**	**09 10 52.4**	**+0.1**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pb**	**09 10 52.4**	**+0.1**

IDC 06 09:18:04.3±50.0, 16°.61S×178°.67W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/20, mbtmp3.7/3, Error ellipse: s-maj=922.7km s-min=149.9km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.1nm,0.7s,baz=77,slow=11,SNR=7.3	**39.05**	**240**	P	P	09 25 33.6	+0.5
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=96,slow=7.9,SNR=11	**44.63**	**258**	P	P	09 26 18.2	-0.8
ASAR	**Alice Springs** 1.1nm,0.4s,baz=87,slow=8.1,SNR=32	**44.91**	**253**	P	P	09 26 21.1	-0.1

IDC 06 09:20:32.5±3.8, 35°.79N×141°.71E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/34, mbtmp3.2/4, ML3.0/1, MS2.6/2, Ms1 2.6/2, ms1mx2.4/18, Error ellipse: s-maj=111.9km s-min=27.2km az=55.0
ISCJB 06 09:20:37.4±1.4, 35°.61N±0°.09×141°.3E±0°.1, h33km, mb3.2/3, Error ellipse: s-maj=19.9km s-min=7.5km az=142.4
JMA 06 09:20:39.6±0.1, 35°.55N×141°.04E, h36km±1km, M2.7
ISC 06 09:20:39.0±1.6, 35°.55N±0°.09×141°.2E±0°.2, h33km, n11, σ1s25/13, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.30**	**300**	P	**Pb**	**09 20 46.6**	**-0.1**
CHOJ				S	**Sb**	**09 20 51.3**	**-0.7**
BSO4	**Boso 4**	**0.89**	**231**	P	**Pn**	**09 20 54.7**	**-0.3**
BSO1	**Boso 1**	**0.91**	**190**	P	**Pn**	**09 20 55.2**	**+0.2**
BSO1				*e*X		09 21 07.7	
BSO3	**Boso 3**	**0.93**	**216**	P	**Pn**	**09 20 55.2**	**-0.2**
BSO3				*e*X		09 21 06.9	
JYT	**Yasato**	**1.04**	**311**	P	**Pn**	**09 20 56.8**	**-0.5**
JYT				*e*S	**Sn**	**09 21 08.2**	**-2.6**
MJAR	**Matsushiro Arr** 2.0nm,0.3s,baz=90,slow=8.7,SNR=16	**2.60**	**293**	Pn	**Pn**	**09 21 20.1**	**+1.4**
MJAR				LR	LR	09 22 25.1	
	comp=Z,74nm,20.0s,baz=115,slow=39						
MAT	**Matsushiro**	**2.60**	**293**	P	**Pn**	**09 21 20.7**	**+1.9**
MAT				S	**Sn**	**09 21 50.2**	**+1.0**
KSRS	**Korea Array** comp=Z,43nm,20.1s,baz=136,slow=36	**10.84**	**284**	LR	LR	09 27 21.5	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=83,slow=12,SNR=3.1	**44.76**	**303**	P	**P**	**09 28 49.1**	**-0.1**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=7.0,slow=8.6,SNR=6.1	**55.57**	**188**	P	**P**	**09 30 11.1**	**-0.2**
ASAR	**Alice Springs** 0.1nm,0.7s,baz=12,slow=9.0,SNR=2.8	**59.30**	**188**	P	**P**	**09 30 38.7**	**+1.2**

ISCJB 06 09:27:58.4±0.9, 37°.71N±0°.06×144°.10E±0°.07, h33km, mb3.3/2, Error ellipse: s-maj=8.3km s-min=7.8km az=20.7
JMA 06 09:28:00.9±0.2, 37°.78N×143°.93E, h32km, M3.1
IDC 06 09:28:05.8±8.1, 36°.31N×143°.39E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/35, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=179.1km s-min=45.4km az=34.0
ISC 06 09:27:59.6±1.3, 37°.70N±0°.07×144°.13E±0°.08, h35km, n12, σ1s75/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.38**	**306**	P	**Pn**	**09 28 36.7**	**+0.6**
OFUJ				*e*S	**Sn**	**09 29 02.9**	**-1.1**
JMK	**Ichinoseki**	**2.61**	**300**	P	**Pn**	**09 28 39.9**	**+0.6**
JMK				*e*S	**Sn**	**09 29 08.9**	**-0.9**
JOM	**Ohasama**	**2.85**	**309**	P	**Pn**	**09 28 43.8**	**+1.3**
JOM				*e*S	**Sn**	**09 29 15.4**	**-0.2**
JFT	**Otama**	**3.02**	**268**	S	**Sn**	**09 29 18.5**	**-1.4**
JYK	**Kaneyama**	**3.21**	**294**	P	**Pn**	**09 28 48.9**	**+1.4**
JYK				*e*S	**Sn**	**09 29 24.5**	**0.0**
JRY	**Ryogami san**	**4.52**	**250**	P	**Pn**	**09 29 05.2**	**-0.3**
JRY				*e*S	**Sn**	**09 29 52.8**	**-4.0**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=91,slow=16,SNR=6.8	**4.87**	**258**	Pn	**Pn**	**09 29 10.8**	**+0.4**
JCH	**Churui**	**4.95**	**353**	P	**Pn**	**09 29 12.5**	**+1.1**
JCH				*e*S	**Sn**	**09 30 05.5**	**-1.9**
NEM2	**Nemuro 2**	**5.79**	**12**	P	**Pn**	**09 29 23.2**	**+0.2**
NEM2				*e*S	**Sn**	**09 30 24.8**	**-3.4**
JTKR	**Abashiri--Toko**	**6.27**	**359**	P	**Pn**	**09 29 31.1**	**+1.6**
JTKR				*e*S	**Sn**	**09 30 37.6**	**-2.3**
WRA	**Warramunga Arr** 0.2nm,1.1s,baz=10.0,slow=7.1,SNR=6.3	**58.07**	**191**	P	**P**	**09 37 50.5**	**+1.2**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=12,slow=9.5,SNR=4.4	**61.79**	**191**	P	**P**	**09 38 16.1**	**+1.3**

IDC 06 09:31:27.1±3.4, 20°.99S×179°.67E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/32, mbtmp3.8/4, ML4.3/1, Error ellipse: s-maj=69.0km s-min=52.5km az=89.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 1.0nm,0.3s,baz=354,slow=5.4,SNR=4.1	**17

FITZ	**Fitzroy Crossi**	**15.21 198**	Pn	Pn	09 47 23.3	+0.6
	0.1nm,0.3s,baz=30,slow=11,SNR=4.7					
WRA	**Warramunga Arr**	**16.72 167**	Pn	Pn	09 47 40.3	-2.0
	0.1nm,0.3s,baz=349,slow=13,SNR=9.0					
WRA			Sn	Sn	09 50 38.4	-10
	0.2nm,0.3s,baz=356,slow=23,SNR=6.3					
ASAR	**Alice Springs**	**20.27 171**	P	P	09 48 24.4	+0.6
	1.6nm,0.5s,baz=351,slow=10,SNR=29					
MKAR	**Makanchi Array**	**65.63 326**	P	P	09 54 32.5	0.0
	0.3nm,0.6s,baz=120,slow=5.8,SNR=3.0					

IDC 06 09:44:12.9±2.8, 54°19'N×87°26'E, h0km, mb1 3.1/2, mb1mx2.9/57, mbtmp3.1/2, ML2.7/2, 3C-2D, Error ellipse: s-maj=22.7km s-min=16.2km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**261**	*i*		09 53 15.0	
	baz=80,slow=316,SNR=9.0						
ZALV	**Zalesovo Beam**	**1.46**	**261**	Pg	Pn	09 44 38.9	-1.6
	3.0nm,0.3s,baz=80,slow=17,SNR=5.0						
ZALV				Lg	Lg	09 44 58.9	
	2.0nm,0.3s,baz=75,slow=26,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.43**	**240**	Pn	Pn	09 45 49.9	+1.2
	0.1nm,0.3s,baz=57,slow=14,SNR=17						
KURBB				Sn	Sn	09 47 02.2	-0.5
	0.0nm,0.3s,baz=58,slow=32,SNR=3.9						
KURBB				Lg	Lg	09 47 36.8	
	0.1nm,0.3s,baz=55,slow=33,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.43**	**240**	⇑Pn	Pn	09 45 49.1	+0.4
	4.6nm,0.8s,baz=58,slow=14						
KURBB				⇓Sn	Sn	09 47 02.1	-0.6
	5.6nm,0.7s,baz=52,slow=20						
KURBB				⇓Lg	Lg	09 47 35.6	
	18nm,0.8s,baz=60,slow=31						
MK31	**Makanchi Array**	**8.05**	**205**	⇑Pn	Pn	09 46 08.1	-3.0
	0.9nm,0.7s,baz=30,slow=16,SNR=6.4						
MK31				⇑Lg	Lg	09 48 19.5	
	6.3nm,0.9s,baz=28,slow=35,SNR=6.1						
MKAR	**Makanchi Array**	**8.05**	**205**	Pn	Pn	09 46 11.8	+0.7
	0.2nm,0.3s,baz=23,slow=15,SNR=5.7						
MKAR				Sn	Sn	09 47 42.5	-0.4
	0.1nm,0.3s,baz=21,slow=28,SNR=4.1						
MKAR				Lg	Lg	09 48 27.6	
	0.1nm,0.3s,baz=32,slow=32,SNR=8.5						

IDC 06 09:48:13.5±3.0, 59°00'S×148°31'E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/28, mbtmp3.4/3, ML3.0/1, MS3.2/1, Ms1 3.1/1, ms1mx2.7/13, Error ellipse: s-maj=305.9km s-min=29.9km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**19.11**	**171**	P	P	09 52 37.5	0.0
	0.0nm,0.3s,baz=340,slow=12,SNR=5.9						
H01W1	**Cape Leeuwin H**	**33.19**	**301**	T	T	10 30 18.6	
	baz=147,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**33.20**	**301**	T	T	10 30 15.4	
	baz=147,slow=76,SNR=11						
H01W3	**Cape Leeuwin H**	**33.21**	**301**	T	T	10 30 19.8	
	baz=147,slow=76,SNR=10						
MAW	**Mawson**	**36.48**	**220**	LR	LR	10 09 29.8	
	comp=Z,35nm,18.8s,baz=54,slow=35						
ASAR	**Alice Springs**	**36.88**	**337**	P	P	09 55 24.2	+0.6
	0.4nm,0.5s,baz=161,slow=9.2,SNR=8.0						
WRA	**Warramunga Arr**	**40.41**	**339**	P	P	09 55 52.4	-0.9
	0.5nm,0.8s,baz=168,slow=7.9,SNR=5.9						
H08S2	**Diego Garcia H**	**76.49**	**278**	T	T	11 24 26.7	
	baz=148,slow=76,SNR=5.5						
H08S1	**Diego Garcia H**	**76.50**	**278**	T	T	11 24 23.1	
	baz=148,slow=76,SNR=6.0						
H08S3	**Diego Garcia H**	**76.51**	**278**	T	T	11 24 26.1	
	baz=148,slow=76,SNR=5.6						

*ISCJB **06** 09:54:56.0±0.5, 39°10N×103°29'12E±0'04, h6km±6km, Error ellipse: s-maj=5.8km s-min=4.5km az=136.0*
*ISK **06** 09:54:55.3, 39°08N×29°16E, h5km, MD2.8*
*DDA **06** 09:54:56.0, 39°12N×29°13E, h7km, Md2.6*
*CSEM **06** 09:54:56.1±0.2, 39°11N×29°13E, h6km±1km, MD2.6, Error ellipse: s-maj=4.2km s-min=3.3km az=126.0*
ISC 06 09:54:56.2±0.9, 39°11N±0'02×29°13E±0'03, h13km±9km, n29, σ0'39/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.28**	**95**	P	**Pg**	**09 55 02.2**	**+0.2**
GDZ				S	**Sg**	**09 55 06.2**	**+0.2**
GDZ	**Gediz**	**0.28**	**95**	*i* P	**Pg**	**09 55 02.2**	**+0.2**
GDZ				*i* S	**Sg**	**09 55 06.2**	**+0.2**
DEMI	**Demirci**	**0.33**	**258**	*i* P	**Pg**	**09 55 02.9**	**0.0**
DEMI				*i* S	**Sg**	**09 55 07.3**	**-0.1**
DEMI	**Demirci**	**0.33**	**258**	*i* P	**Pg**	**09 55 02.9**	**0.0**
DEMI				*i* S	**Sg**	**09 55 07.3**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**38**	*e*PG	**Pg**	**09 55 04.4**	**-0.3**
TVSB				*e*SG	**Sg**	**09 55 10.4**	**0.0**
TVSB	**Tavsanli**	**0.42**	**38**	*e*Pg	**Pg**	**09 55 04.4**	**-0.3**
TVSB				*e*Sg	**Sg**	**09 55 10.4**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*PG	**Pg**	**09 55 09.6**	**-0.2**
KULA				*e*SG	**Sg**	**09 55 18.4**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*Pg	**Pg**	**09 55 09.6**	**-0.2**
KULA				*e*Sg	**Sg**	**09 55 18.4**	**-0.7**
KHAL	**Karahalli**	**0.80**	**159**	P	**Pg**	**09 55 11.6**	**0.0**
KHAL				S	**Sg**	**09 55 22.2**	**+0.1**
KHAL	**Karahalli**	**0.80**	**159**	*i* P	**Pg**	**09 55 11.6**	**0.0**
KHAL				*i* S	**Sg**	**09 55 22.2**	**+0.1**
ORLT	**Orhaneli**	**0.95**	**349**	*e*PG	**Pg**	**09 55 13.9**	**-0.6**
ORLT	**Orhaneli**	**0.95**	**349**	*e*Pg	**Pg**	**09 55 13.9**	**-0.6**
BALB	**Balikesir**	**1.10**	**299**	*e*PN	**Pn**	**09 55 17.9**	**+0.6**
BALB	**Balikesir**	**1.10**	**299**	*e*Pn	**Pn**	**09 55 17.9**	**+0.6**
IGD	**Bursa**	**1.15**	**3**	*i* P	**Pg**	**09 55 17.4**	**-0.9**
IGD				*i* S	**Sb**	**09 55 33.5**	**+0.7**
CAVI	**Cavuskoy**	**1.22**	**27**	*e*PN	**Pg**	**09 55 19.4**	**-0.3**
CAVI	**Cavuskoy**	**1.22**	**27**	*e*Pn	**Pg**	**09 55 19.4**	**-0.3**
IZI	**Iznik**	**1.25**	**12**	*e*PN	**Pn**	**09 55 20.1**	**+0.6**
IZI	**Iznik**	**1.25**	**12**	*e*Pn	**Pn**	**09 55 20.1**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**352**	*e*PN	**Pg**	**09 55 20.5**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**352**	*e*Pn	**Pg**	**09 55 20.5**	**-0.1**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*Pn	**Pg**	**09 55 21.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*Pn	**Pg**	**09 55 21.1**	**0.0**
ESKT	**Eskisehir**	**1.40**	**73**	*e*PN	**Pn**	**09 55 21.1**	**-0.4**
ESKT	**Eskisehir**	**1.40**	**73**	*e*Pn	**Pn**	**09 55 21.1**	**-0.4**
ARMT	**Armutlu**	**1.46**	**352**	*e*PN	**Pg**	**09 55 24.3**	**0.0**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pg**	**09 55 24.3**	**0.0**
GULT	**Gulveren**	**1.70**	**39**	*e*PN	**Pb**	**09 55 27.1**	**-0.3**
GULT	**Gulveren**	**1.70**	**39**	*e*Pn	**Pb**	**09 55 27.1**	**-0.3**

IDC 06 09:59:29.3±1.2, 3°11S×139°57E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/25, mbtmp3.8/5, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/30, Error ellipse: s-maj=26.1km s-min=13.2km az=144.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.28**	**62**	Pg	Pg	09 59 53.3	-0.6
	3.6nm,0.3s,baz=242,slow=20,SNR=77						
JAY				Lg	Lg	10 00 11.2	
	16nm,0.3s,baz=268,slow=24,SNR=19						
WRA	**Warramunga Arr**	**17.49**	**197**	P	Pn	10 03 34.9	0.0
	0.6nm,0.3s,baz=18,slow=12,SNR=8.3						
FITZ	**Fitzroy Crossi**	**20.21**	**222**	P	P	10 04 05.7	-0.2
	1.3nm,0.5s,baz=31,slow=14,SNR=3.5						
FITZ				LR	LR	10 13 40.9	
	comp=Z,72nm,18.7s,baz=177,slow=42						
ASAR	**Alice Springs**	**21.16**	**195**	P	P	10 04 16.4	+0.1
	1.6nm,0.7s,baz=17,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**70.63**	**322**	P	P	10 10 47.5	+0.7
	0.4nm,0.4s,baz=106,slow=7.6,SNR=4.6						
ILAR	**Eielson Array**	**85.84**	**24**	P	P	10 12 09.8	-0.8
	0.5nm,0.8s,baz=242,slow=5.2,SNR=5.2						

*SOME **06** 10:01:55.8, 40°12N×72°03E, h5km*
*KRNET **06** 10:01:56.3±0.1, 40°14N×71°71E, h18km, mb3.1*
*NNC **06** 10:01:57.9±2.1, 40°14N×71°75E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=21.9km s-min=11.9km az=128.0*
ISC 06 10:01:56.6±1.3, 40°18N±0'04×71°70E±0'03, h11km±11km, n19, σ1'9/77/36, 21C-10D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.69**	**260**	⇑*e*P	**Pb**	**10 02 09.4**	**-1.3**
	baz=264						
BTK				⇑*i*S	**Sg**	**10 02 19.5**	**+0.6**
	baz=264						
OHH	**Osh**	**0.90**	**67**	⇑*e*P	**Pg**	**10 02 14.0**	**0.0**
	baz=64						
OHH				⇑*e*S	**Sn**	**10 02 26.6**	**-1.9**
	baz=64						
ARSB	**Arslanbob**	**1.50**	**40**	⇑*e*P	**Pb**	**10 02 24.1**	**-0.6**
	baz=38						
ARSB				⇑*i*S	**Sg**	**10 02 45.9**	**+0.8**
	baz=38						
ARK	**Arkit**	**1.63**	**7**	⇑*i*P	**Pb**	**10 02 26.9**	**0.0**
	baz=7.0						
ARK				⇑*e*S	**Sg**	**10 02 49.1**	**-0.1**
	baz=7.0						
IUG	**Iuzhnay**	**2.34**	**328**	*e*P	**Pg**	**10 02 42.1**	**+0.7**
	211nm,0.4s						
IUG				*e*S	**Sg**	**10 03 14.8**	**+3.1**
	282nm,0.4s						
MNAS	**Manas**	**2.39**	**14**	⇑*e*P	**Pn**	**10 02 37.0**	**+1.1**
	baz=14						
MNAS				⇑*e*S	**Sb**	**10 03 07.8**	**-1.5**
	baz=14						
MNAS	**Manas**	**2.39**	**14**	⇑Pn	**Pb**	**10 02 40.1**	**+0.3**
	15nm,0.3s						
MNAS				⇓Sn	**Sg**	**10 03 12.1**	**-1.3**
	59nm,0.4s						
AML	**Almayashu**	**2.47**	**37**	⇑*i*P	**Pb**	**10 02 39.5**	**-1.8**
	baz=36						
AML				⇑*i*S	**Sb**	**10 03 11.8**	**0.0**
	baz=36						
DZET	**Dzherino**	**2.61**	**239**	⇑Pg	**Pg**	**10 02 46.6**	**0.0**
	41nm,0.6s						
DZET				⇑Lg	Lg	10 03 20.8	
	90nm,0.5s						
DZA	**Taraz**	**2.73**	**354**	*e*P	**Pb**	**10 02 47.0**	**+1.5**
	305nm,0.1s						
DZA				*e*S	**Sg**	**10 03 23.3**	**-1.0**
	554nm,0.3s						
MRKS	**Merke**	**2.81**	**24**	*e*P	**Pb**	**10 02 47.1**	**+0.1**
	28nm,0.5s						
MRKS				*e*S	**Sb**	**10 03 23.6**	**+2.2**
	100nm,0.6s						
EKS2	**Erkin-Say**	**2.93**	**32**	⇑*i*P	**Pn**	**10 02 45.4**	**+2.0**
	baz=31						
EKS2				⇑*i*S	**Sb**	**10 03 23.5**	**-1.5**
	baz=31						
UCH	**Uchtor**	**2.95**	**45**	⇓*i*P	**Pn**	**10 02 44.9**	**+1.0**
	baz=44						
UCH				⇓*i*S	**Sb**	**10 03 22.5**	**-3.3**
	baz=44						
KK31	**Karatay Array**	**3.06**	**343**	⇑Pn	**Pb**	**10 02 47.6**	**-3.5**
	1.6nm,0.5s,baz=162,slow=11,SNR=94						
KK31				Pg	**Pg**	**10 02 55.3**	**+0.1**
	9.6nm,0.6s,baz=157,slow=16,SNR=30						
KK31				⇓Sn	**Sb**	**10 03 25.5**	**-2.9**
	21nm,0.6s,baz=147,slow=25,SNR=4.9						
KK31				⇑Lg	Lg	10 03 33.6	
	12nm,0.3s,baz=161,slow=29,SNR=8.1						
AAK	**Ala-Archa**	**3.23**	**40**	⇓Pg	**Pb**	**10 02 54.2**	**+0.1**
	8.9nm,0.5s						
AAK				⇑Lg	Lg	10 03 40.1	
	55nm,0.7s						
NRN	**Naryn**	**3.50**	**68**	⇓*e*P	**Pn**	**10 02 52.4**	**+1.1**
	baz=67						
NRN				⇓*e*S	**Sn**	**10 03 34.3**	**+1.4**
	baz=67						
TKM2	**Tokmak 2**	**4.01**	**46**	⇓Pn	**Pn**	**10 02 59.1**	**+0.8**
	3.4nm,0.3s						
TKM2				⇑Lg	Lg	10 04 01.3	
	22nm,0.7s						
KST	**Kastek**	**4.29**	**47**	*e*P	**Pb**	**10 03 14.8**	**+2.6**
	1.9nm,0.3s						
KST				*e*S	**Sg**	**10 04 10.6**	**-3.9**
	26nm,0.6s						
KDJ	**Kajisay**	**4.58**	**63**	⇓*e*P	**Pn**	**10 03 07.1**	**+1.1**
	baz=63						
KDJ				⇓*e*S	**Sn**	**10 04 00.8**	**+1.5**
	baz=63						

*SCB **06** 10:08:01.8±0.9, 22°17S×68°52W, h124km, Ml4.0/1, Error ellipse: s-maj=24.1km s-min=4.9km az=31.0*
*ISCJB **06** 10:08:02.5±0.7, 22°21S±0'06×68°67W±0'09, h115km, mb4.5/7, Error ellipse: s-maj=11.8km s-min=8.7km az=158.2*
*SJA **06** 10:08:02.7±0.6, 22°16S×68°42W, h203km±72km, ML3.2, MW3.8*
*IDC **06** 10:08:03.3±0.5, 22°24S×68°40W, h111km±8km, mb4.4/6, mb1 4.2/10, mb1mx3.9/24, mbtmp4.6/10, Error ellipse: s-maj=21.2km s-min=18.9km az=154.0*
ISC 06 10:08:03.4±0.8, 22°14S±0'07×68°55W±0'07, h115km, n30, σ2'9/92/32, mb4.7/7, 2C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.57**	**216**	LR	LR	10 08 10.7	
	comp=Z,161nm,19.7s,baz=271,slow=12						
LVC				P	**Pn**	**10 08 22.9**	**+1.1**
	58µm,0.3s,baz=43,slow=6.8						
LVC				S	**Sn**	**10 08 36.1**	**+0.5**
	67µm,0.3s,baz=36,slow=22,SNR=14						
YJA	**Yavi**	**2.81**	**91**	*e*P	**Pn**	**10 08 50.6**	**+3.1**
YJA				*e*S	**Sn**	**10 09 26.1**	**+4.7**
YJA				IAML		10 09 30.4	
	comp=Z,60nm,0.6s						
MOCB	**Mochara**	**2.85**	**72**	⇑*i*Pn	**Pn**	**10 08 51.2**	**+3.2**
MOCB				*e*Sn	**Sn**	**10 09 26.9**	**+4.6**
	comp=Z,271nm,0.6s						
HJA	**Humahuaca**	**3.09**	**111**	*e*P	**Pn**	**10 08 53.9**	**+2.8**
AZAP	**Zapla**	**3.82**	**124**	*e*P	**Pn**	**10 09 01.8**	**+1.2**
FSA	**Cafayete**	**4.59**	**150**	*e*P	**Pn**	**10 09 12.1**	**+1.1**
BBOJ	**La Paz, Jacaqu**	**5.15**	**4**	*e*Pn	**Pn**	**10 09 22.8**	**+3.9**
BBOE	**La Paz, Chanca**	**5.33**	**325**	⇓*i*Pn	**Pn**	**10 09 25.4**	**+4.1**
AHML	**Horca Molle**	**5.47**	**148**	*e*P	**Pn**	**10 09 23.4**	**+0.7**
BBOD	**La Paz, Gloria**	**5.48**	**360**	⇓*i*Pn	**Pn**	**10 09 27.0**	**+3.7**
LPAZ	**La Paz**	**5.84**	**4**	P	**Pn**	**10 09 31.1**	**+2.9**
	comp=Z,5.9nm,0.3s,baz=191,slow=5.0,SNR=119						
LPAZ	**La Paz**	**5.84**	**4**	⇑*e*Pn	**Pn**	**10 09 31.9**	**+3.6**
BBOB	**La Paz, Bander**	**5.98**	**4**	*e*Pn	**Pn**	**10 09 33.8**	**+3.7**
SIV	**San Ignacio**	**9.35**	**50**	P	**Pn**	**10 10 13.5**	**-1.7**
	comp=Z,7.3nm,0.3s,baz=265,slow=9.7,SNR=85						
SIV				S	**Sn**	**10 11 50.6**	**-8.0**
	comp=Z,0.9nm,0.3s,baz=211,slow=18,SNR=3.3						
SIV	**San Ignacio**	**9.35**	**50**	*e*P	**Pn**	**10 10 12.7**	**-2.6**
CPUP	**Villa Florida**	**11.05**	**114**	P	**Pn**	**10 10 35.8**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=281,slow=12,SNR=4.4						
PLCA	**Paso Flores**	**18.61**	**185**	P	**P**	**10 12 09.8**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=35,slow=4.6,SNR=3.3						
BDFB	**Brasilia**	**20.47**	**75**	P	**P**	**10 12 30.5**	**-1.8**
	comp=Z,14nm,0.6s,baz=255,slow=12,SNR=16						
PTGA	**Pitinga**	**22.86**	**23**	P	**P**	**10 12 56.2**	**-1.0**
	comp=Z,11nm,0.3s,baz=26,slow=24,SNR=37						
RCBR	**Riachuelo**	**35.47**	**68**	P	**P**	**10 14 48.6**	**-0.5**
	comp=Z,22nm,0.8s,baz=241,slow=11,SNR=12						
TXAR	**Lajitas Array**	**61.34**	**325**	P	**P**	**10 18 08.0**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=155,slow=9.7,SNR=4.1						
LIC	**Lamto**	**68.25**	**73**	*e*PKIKP	**P**	**10 18 53.6**	**+1.3**
TIC	**Toumodi**	**68.44**	**73**	*e*PKIKP	**P**	**10 18 53.2**	**-0.3**
KIC	**Kosan Boka**	**68.56**	**73**	*e*PKIKP	**P**	**10 18 54.0**	**-0.3**
	comp=Z,18nm,0.7s						
DBIC	**Dimbokro**	**68.60**	**73**	P	**P**	**10 18 54.6**	**+0.2**
	comp=Z,11nm,0.8s,baz=217,slow=6.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**77.26**	**70**	P	**P**	**10 19 45.5**	**-0.1**
	comp=Z,7.1nm,0.5s,baz=256,slow=5.4,SNR=56						
YKA	**Yellowknife Ar**	**91.90**	**340**	P	**P**	**10 20 59.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=141,slow=4.8,SNR=6.0						
ASAR	**Alice Springs**	**129.50**	**207**	pP	pPKiKP	**10 27 32.6**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=144,slow=2.2,SNR=4.0						
WRA	**Warramunga Arr**	**132.57**	**210**	pP	pPKiKP	10 27 39.2	+1.7
	comp=Z,0.2nm,0.6s,baz=155,slow=1.8,SNR=5.6						
MKAR	**Makanchi Array**	**145.95**	**37**	PKPbc	**PKPab**	**10 27 30.1**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=333,slow=3.0,SNR=21						

IDC 06 10:14:34.0±2.6, 53°72N×86°74E, h0km, mb1 2.9/2, mb1mx2.8/41, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=23.4km s-min=14.3km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.16**	**282**	*i*		10 22 20.0	

	baz=101,slow=317,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.16**	**282**	Pg	Pg	10 14 55.1	-1.1
	2.2nm,0.3s,baz=104,slow=11,SNR=8.7						
ZALV				Lg	Lg	10 15 12.0	
	1.3nm,0.3s,baz=101,slow=31,SNR=5.7						
ZALV				Rg	Rg	10 15 17.8	
	3.0nm,0.4s,baz=96,slow=27,SNR=8.5						
KURBB	**Kurchatov Arra**	**5.93**	**242**	Pn	Pn	10 16 04.1	+1.1
	0.1nm,0.3s,baz=58,slow=14,SNR=6.3						
KURBB				Lg	Lg	10 17 42.9	
	0.0nm,0.3s,baz=60,slow=33,SNR=4.5						
MKAR	**Makanchi Array**	**7.50**	**204**	Pn	Pn	10 16 25.7	+1.1
	0.2nm,0.3s,baz=27,slow=13,SNR=5.9						

*NIED **06** 10:24:00, 36°10N×137°50E, h8km, Mw4.0 Best double couple: M0 1.06000×10^15 NP1:φ8 10.00000°, δ56.00000°, λ26.00000°. NP2:φ8 265.00000°, δ68.00000°, λ143.00000°.*
*ISCJB **06** 10:24:15.2±1.2, 36°11N±0'1×137°44E±0'08, h19km±13km, mb3.5/2, MS2.8/7, Error ellipse: s-maj=17.9km s-min=9.4km az=164.3*
*JMA **06** 10:24:16.3, 36°10N×137°47E, h8km, M4.1 Broadband fault plane solution: P waves. NP1:φ8 2.00000°, δ74.00000°, λ41.00000°. NP2:φ8 259.00000°, δ51.00000°, λ159.00000°. Principal axes: T Plg40.0000°, Azm228.0000°; N Plg47.0000°, Azm21.0000°; P Plg14.0000°, Azm126.0000°;*
JMA Felt III J1.
*IDC **06** 10:24:18.0±2.7, 36°19N×137°59E, h34km±32km, mb3.2/2, mb1 3.6/3, mb1mx3.1/57, mbtmp3.6/3, ML3.6/1, MS2.9/11, Ms1 2.9/11, ms1mx2.8/20 Error ellipse: s-maj=36.9km s-min=11.9km az=56.0*
ISC 06 10:24:15.8±1.1, 36°27N±0'09×137°51E±0'06, h16km±8km, n18, σ0'91/12, MS2.8/7, 2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.16**	**254**	⇓P	**Pg**	**10 24 20.1**	**0.0**
JGN				S	**Sg**	**10 24 22.7**	**-0.2**
JTT	**Ttatey**	**0.36**	**338**	⇓P	**Pn**	**10 24 26.5**	**0.0**
JTT				S	**Sn**	**10 24 33.8**	**+0.5**
MAT	**Matsushiro**	**0.63**	**64**	P	**Pn**	**10 24 30.7**	**+0.6**
MAT				S	**Sn**	**10 24 40.0**	**+0.1**
MAT	**Matsushiro**	**0.63**	**64**	P	**Pn**	**10 24 30.7**	**+0.6**
MAT				S	**Sn**	**10 24 39.9**	**+0.1**
MJAR	**Matsushiro Arr**	**0.63**	**64**	Pg	**Pn**	**10 24 31.1**	**+0.9**
	51nm,0.3s,baz=236,slow=18,SNR=177						
MJAR				Lg	Lg	10 24 39.3	
	52nm,0.3s,baz=239,slow=31,SNR=31						
JHJ	**Hachijo jima 2**	**3.66**	**148**	LR	LR	10 26 41.1	
	comp=Z,178nm,19.1s,baz=358,slow=40						
JNU	**Nakatsue**	**6.30**	**242**	Pn	**Pn**	**10 25 49.4**	**+1.3**
	1.3nm,0.3s,baz=62,slow=7.1,SNR=15						
JNU				LR	LR	10 28 20.5	
	comp=Z,144nm,19.5s,baz=300,slow=38						
KSRS	**Korea Array**	**7.77**	**282**	LR	LR	10 28 55.1	
	comp=Z,47nm,20.8s,baz=114,slow=35						
KLR	**Kul'dur**	**13.62**	**344**	LR	LR	10 32 48.5	
	comp=Z,40nm,19.5s,baz=153,slow=37						
PETK	**Petropavlovsk-**	**22.00**	**34**	LR	LR	10 38 23.7	
	comp=Z,35nm,19.2s,baz=226,slow=38						
GUMO	**Guam**	**23.53**	**162**	LR	LR	10 37 07.8	
	comp=Z,46nm,18.8s,baz=98,slow=33						
MA2	**Magadan**	**24.86**	**16**	LR	LR	10 39 43.0	
	comp=Z,31nm,21.1s,baz=306,slow=37						
TLY	**Talaya**	**28.51**	**313**	LR	LR	10 41 15.3	
	comp=Z,17nm,18.3s,baz=133,slow=36						
CMAR	**Chiang Mai Arr**	**38.27**	**253**	LR	LR	10 46 19.8	
	comp=Z,8.6nm,20.2s,baz=190,slow=34						
ZALV	**Zalesovo Beam**	**40.13**	**313**	LR	LR	10 47 35.4	
	comp=Z,15nm,18.1s,baz=70,slow=35						
NRIK	**Noril'sk**	**42.68**	**336**	LR	LR	10 50 53.8	
	comp=Z,21nm,21.7s,baz=114,slow=37						
WRA	**Warramunga Arr**	**55.98**	**184**	P	**P**	**10 33 51.9**	**-1.6**
	0.6nm,0.8s,baz=358,slow=7.6,SNR=6.8						
ASAR	**Alice Springs**	**59.71**	**184**	P	**P**	**10 34 19.0**	**-0.6**
	0.3nm,0.8s,baz=16,slow=12,SNR=5.1						

*IDC **06** 10:33:51.0±15.0, 39°85N×144°78E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/50, mbtmp3.3/3, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.1/31, Error ellipse: s-maj=340.7km s-min=65.3km az=179.0*
*ISCJB **06** 10:33:58.8±0.9, 38°91N±0'05×144°45E±0'07, h23km, mb3.5/2, Error ellipse: s-maj=8.7km s-min=6.4km az=35.4*
*JMA **06** 10:33:58.9±0.2, 38°69N×144°43E, h41km, M3.4*
ISC 06 10:34:00.4±1.3, 38°87N±0'06×144°24E±0'08, h23km, n15, σ2'9/07/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.01**	**291**	P	**Pn**	**10 34 34.4**	**+1.5**
MIYJ				*e*S	**Sb**	**10 35 00.5**	**-0.4**
OFUJ	**Ofunato**	**2.02**	**277**	P	**Pn**	**10 34 34.2**	**+1.2**
OFUJ				*e*S	**Sb**	**10 34 59.8**	**-1.2**
JMK	**Ichinoseki**	**2.36**	**273**	P	**Pn**	**

UPR	**University Cam**	**0.16**	**189**	P	**Pg**	11 06 06.5	**+0.8**		
UPR				S	**Sg**	11 06 09.4	**+1.1**		
ANX	**Ano Chora**	**0.17**	**28**	P	**Pg**	11 06 06.1	**+0.1**		
ANX				S	**Sg**	11 06 08.8	**+0.1**		
ANX	**Ano Chora**	**0.17**	**28**	P	**Pg**	11 06 06.1	**+0.1**		
ANX				S	**Sg**	11 06 09.0	**+0.3**		
SERG	**Sergoula**	**0.19**	**99**	P	**Pg**	11 06 06.1	**-0.2**		
SERG				S	**Sg**	11 06 09.5	**+0.4**		
SERG	**Sergoula**	**0.19**	**99**	P	**Pg**	11 06 06.3	**0.0**		
SERG				S	**Sg**	11 06 08.8	**-0.3**		
TRIZ	**Trizonia**	**0.21**	**111**	S	**Sg**	11 06 10.8	**+1.1**		
TRIZ	**Trizonia**	**0.21**	**111**	S	**Sg**	11 06 10.8	**+1.1**		
LAKA	**Lakka**	**0.24**	**148**	P	**Pg**	11 06 06.8	**-0.3**		
LAKA				S	**Sg**	11 06 10.5	**0.0**		
LAKA	**Lakka**	**0.24**	**148**	P	**Pg**	11 06 06.9	**-0.2**		
LAKA				S	**Sg**	11 06 10.4	**0.0**		
LAKA	**Lakka**	**0.24**	**148**	P	**Pg**	11 06 06.9	**-0.2**		
LAKA				S	**Sg**	11 06 10.0	**-0.4**		
LAKA				AML	AML	11 06 11.0			
	comp=E,15594µm,0.2s								
LAKA				AML	AML	11 06 11.4			
	comp=N,17958µm,0.3s								
KALE	**Kalithea**	**0.26**	**101**	P	**Pg**	11 06 07.2	**-0.2**		
KALE				S	**Sg**	11 06 11.0	**0.0**		
KALE	**Kalithea**	**0.26**	**101**	P	**Pg**	11 06 07.3	**-0.2**		
KALE				S	**Sg**	11 06 11.0	**0.0**		
KALE	**Kalithea**	**0.26**	**101**	P	**Pg**	11 06 07.3	**-0.2**		
KALE				S	**Sb**	11 06 12.3	**-1.0**		
KALE				AML	AML	11 06 12.7			
	comp=N,12316µm,0.3s								
KALE				AML	AML	11 06 15.0			
	comp=E,10229µm,0.4s								
PVO	**Paravola**	**0.29**	**307**	P	**Pg**	11 06 07.9	**-0.1**		
PVO	**Paravola**	**0.29**	**307**	P	**Pg**	11 06 08.0	**-0.1**		
PVO	**Paravola**	**0.29**	**307**	P	**Pg**	11 06 08.0	**-0.1**		
AXS	**Araxos**	**0.43**	**235**	P	**Pg**	11 06 10.0	**-0.6**		
AXS				S	**Sg**	11 06 16.3	**+0.1**		
AXS	**Araxos**	**0.43**	**235**	P	**Pg**	11 06 10.6	**0.0**		
AXS				S	**Sg**	11 06 16.5	**+0.3**		
AXS	**Araxos**	**0.43**	**235**	P	**Pg**	11 06 10.8	**+0.2**		
AXS				S	**Sb**	11 06 18.3	**+0.2**		
EVR	**Evrytania**	**0.47**	**359**	P	**Pg**	11 06 11.2	**-0.3**		
EVR				S	**Sg**	11 06 18.4	**+0.6**		
EVR	**Evrytania**	**0.47**	**359**	P	**Pg**	11 06 11.4	**-0.1**		
EVR				S	**Sg**	11 06 18.4	**+0.6**		
EVR	**Evrytania**	**0.47**	**359**	P	**Pg**	11 06 11.4	**-0.1**		
EVR				S	**Sb**	11 06 20.5	**+0.8**		
EVR				AML	AML	11 06 30.2			
	comp=N,3160µm,0.6s								
RLS	**Riolos of Patr**	**0.47**	**216**	P	**Pg**	11 06 11.3	**-0.1**		
RLS				S	**Sb**	11 06 18.8	**-0.7**		
RLS	**Riolos of Patr**	**0.47**	**216**	P	**Pg**	11 06 11.5	**+0.1**		
RLS				S	**Sb**	11 06 18.8	**-0.7**		
RLS	**Riolos of Patr**	**0.47**	**216**	S	**Sb**	11 06 19.9	**+0.5**		
KLV	**Kalavryta, Ach**	**0.47**	**147**	P	**Pg**	11 06 10.8	**-0.7**		
KLV				S	**Sg**	11 06 18.0	**+0.2**		
KLV	**Kalavryta, Ach**	**0.47**	**147**	P	**Pg**	11 06 10.9	**-0.6**		
KLV				S	**Sg**	11 06 17.3	**-0.5**		
KLV	**Kalavryta, Ach**	**0.47**	**147**	P	**Pg**	11 06 10.7	**-0.8**		
KLV				AML	AML	11 06 19.3			
	comp=N,6578µm,0.3s								
KLV				AML	AML	11 06 19.6			
	comp=E,8827µm,0.2s								
KLV				S	**Sb**	11 06 19.7	**+0.1**		
DRO	**Drossia**	**0.50**	**190**	P	**Pg**	11 06 11.2	**-0.6**		
DRO				S	**Sg**	11 06 19.1	**+0.7**		
DRO	**Drossia**	**0.50**	**190**	P	**Pg**	11 06 11.3	**-0.6**		
DRO				S	**Sg**	11 06 18.3	**-0.1**		
DRO	**Drossia**	**0.50**	**190**	P	**Pg**	11 06 12.2	**+0.4**		
DRO				S	**Sb**	11 06 19.7	**-0.4**		
PDO	**Prodromos**	**0.52**	**288**	P	**Pg**	11 06 11.7	**-0.6**		
PDO				S	**Sb**	11 06 20.1	**-0.8**		
PDO	**Prodromos**	**0.52**	**288**	S	**Pg**	11 06 11.8	**-0.6**		
PDO				S	**Sb**	11 06 20.1	**-0.8**		
DSF	**Desfina**	**0.56**	**93**	P	**Pg**	11 06 12.1	**-0.9**		
DSF				S	**Sb**	11 06 21.3	**-0.6**		
DSF	**Desfina**	**0.56**	**93**	P	**Pg**	11 06 12.2	**-0.9**		
DSF				S	**Sg**	11 06 20.8	**+0.4**		
DSF	**Desfina**	**0.56**	**93**	P	**Pg**	11 06 12.2	**-0.9**		
AGG	**Agios Georgios**	**0.70**	**34**	P	**Pg**	11 06 15.1	**-0.7**		
AGG				S	**Sb**	11 06 25.7	**-0.5**		
AGG	**Agios Georgios**	**0.70**	**34**	P	**Pg**	11 06 15.1	**-0.7**		
AGG				S	**Sb**	11 06 25.7	**-0.5**		
AGG	**Agios Georgios**	**0.70**	**34**	P	**Pg**	11 06 15.0	**-0.8**		
THAL	**Thalero**	**0.78**	**121**	P	**Pg**	11 06 16.5	**-0.7**		
THAL				S	**Sb**	11 06 28.3	**+0.1**		
THAL	**Thalero**	**0.78**	**121**	P	**Pg**	11 06 16.5	**-0.7**		
THAL				S	**Sg**	11 06 27.7	**+0.4**		
THAL	**Thalero**	**0.78**	**121**	P	**Pb**	11 06 17.6	**-0.1**		
THAL				S	**Sg**	11 06 27.7	**+0.4**		
THAL				AML	AML	11 06 32.4			
	comp=N,9215µm,0.3s								
THAL				AML	AML	11 06 34.1			
	comp=E,8987µm,0.3s								
PROD	**Prodromos**	**0.87**	**102**	P	**Pg**	11 06 18.6	**-0.3**		
PROD				S	**Sn**	11 06 32.7	**-0.3**		
PROD	**Prodromos**	**0.87**	**102**	P	**Pg**	11 06 18.6	**-0.3**		
PROD				S	**Sn**	11 06 32.7	**-0.3**		
PROD				AML	AML	11 06 34.9			
	comp=E,8180µm,0.6s								
PROD				AML	AML	11 06 34.9			
	comp=N,4570µm,0.6s								
KFL	**Anninata**	**0.88**	**248**	P	**Pg**	11 06 18.1	**-1.0**		
KFL				S	**Sb**	11 06 31.9	**+0.8**		
DSL	**Palaion Diasel**	**0.89**	**321**	P	**Pg**	11 06 18.0	**-1.4**		
AMT	**Artemida-Makis**	**0.91**	**186**	P	**Pg**	11 06 19.2	**-0.5**		
AMT				S	**Sb**	11 06 32.9	**+0.7**		
AMT	**Artemida-Makis**	**0.91**	**186**	P	**Pg**	11 06 19.2	**-0.5**		
AMT				S	**Sb**	11 06 32.9	**+0.7**		
AMT	**Artemida-Makis**	**0.91**	**186**	P	**Pg**	11 06 19.7	**0.0**		
AMT				S	**Sn**	11 06 34.9	**+0.8**		
LKR	**Lokris**	**0.95**	**77**	P	**Pg**	11 06 19.6	**-0.8**		
LKR	**Lokris**	**0.95**	**77**	P	**Pg**	11 06 19.6	**-0.8**		
LKR				S	**Sn**	11 06 34.9	**0.0**		
LKR	**Lokris**	**0.95**	**77**	P	**Pg**	11 06 19.3	**-1.1**		
LKR				S	**Sn**	11 06 34.9	**0.0**		
LKD2	**Lefkada island**	**0.97**	**291**	P	**Pg**	11 06 20.5	**-0.4**		
LTK	**Loutraki**	**1.00**	**114**	P	**Pg**	11 06 20.4	**-0.9**		
LTK				S	**Sb**	11 06 35.3	**+0.8**		
LTK	**Loutraki**	**1.00**	**114**	S	**Pg**	11 06 20.4	**-0.9**		
LTK				S	**Sb**	11 06 35.3	**+0.8**		
LTK	**Loutraki**	**1.00**	**114**	P	**Pn**	11 06 21.9	**-0.2**		
LTK				S	**Sn**	11 06 35.9	**-0.2**		
VLS	**Valsamata**	**1.00**	**255**	P	**Pg**	11 06 20.0	**-1.5**		
VLS				S	**Sb**	11 06 35.2	**+0.4**		
VLS	**Valsamata**	**1.00**	**255**	P	**Pg**	11 06 20.0	**-1.5**		
VLS				S	**Sb**	11 06 35.2	**+0.4**		
ZKS	**Zakynthos**	**1.10**	**228**	P	**Pb**	11 06 22.1	**-1.2**		
ZKS				S	**Sn**	11 06 39.1	**+0.3**		
ZKS	**Zakynthos**	**1.10**	**228**	P	**Pb**	11 06 22.1	**-1.2**		
ZKS				S	**Sn**	11 06 39.1	**+0.3**		
THL	**Klokotos Trika**	**1.13**	**8**	P	**Pb**	11 06 23.1	**-0.6**		
THL				S	**Sn**	11 06 39.7	**+0.3**		
THL	**Klokotos Trika**	**1.13**	**8**	P	**Pb**	11 06 23.1	**-0.6**		
THL				S	**Sn**	11 06 39.7	**+0.3**		
VLX	**Vlachokerasia**	**1.16**	**157**	P	**Pb**	11 06 22.8	**-1.4**		
VLX				S	**Sn**	11 06 40.4	**+0.2**		
VLX	**Vlachokerasia**	**1.16**	**157**	P	**Pb**	11 06 22.8	**-1.4**		
VLX				S	**Sn**	11 06 40.4	**+0.2**		
VIL2	**Platees**	**1.16**	**101**	P	**Pn**	11 06 25.7	**+1.4**		
VIL2				S	**Sn**	11 06 43.1	**+2.9**		
VIL2				AML	AML	11 06 45.7			
	comp=E,2941µm,0.8s								
VIL2				AML	AML	11 06 47.2			
	comp=N,2802µm,0.9s								
VILL	**Villia**	**1.21**	**103**	P	**Pb**	11 06 23.8	**-1.2**		
VILL				S	**Sn**	11 06 42.1	**+0.7**		
VILL	**Villia**	**1.21**	**103**	P	**Pb**	11 06 23.8	**-1.2**		
VILL				S	**Sn**	11 06 42.1	**+0.7**		
ITM	**Ithomi**	**1.26**	**176**	P	**Pn**	11 06 25.0	**-0.8**		
ITM				S	**Sb**	11 06 42.1	**-0.1**		
ITM	**Ithomi**	**1.26**	**176**	P	**Pn**	11 06 25.3	**-0.5**		
ITM				S	**Sb**	11 06 42.1	**-0.1**		
ITM	**Ithomi**	**1.26**	**176**	P	**Pn**	11 06 25.3	**-0.5**		
ITM				S	**Sn**	11 06 45.5	**+2.8**		
ITM				AML	AML	11 06 47.4			
	comp=E,1108µm,0.2s								
ITM				AML	AML	11 06 50.8			
	comp=N,1012µm,0.3s								
FYTO	**Fytoko, Volos**	**1.30**	**42**	P	**Pn**	11 06 26.3	**0.0**		
FYTO	**Fytoko, Volos**	**1.30**	**42**	P	**Pn**	11 06 26.3	**0.0**		

XOR	**Xorichti**	**1.41**	**49**	P	**Pn**	11 06 26.6	**-1.2**		
XOR	**Xorichti**	**1.41**	**49**	P	**Pn**	11 06 26.6	**-1.2**		
DID	**Didima**	**1.46**	**129**	P	**Pn**	11 06 27.5	**-1.0**		
DID				S	**Sb**	11 06 48.3	**+0.4**		
DID	**Didima**	**1.46**	**129**	P	**Pn**	11 06 27.5	**-1.0**		
DID				S	**Sb**	11 06 48.3	**+0.4**		
KRND	**KRANIDI**	**1.49**	**135**	P	**Pn**	11 06 28.7	**-0.2**		
KRND				S	**Sn**	11 06 48.1	**-0.2**		
KRND	**KRANIDI**	**1.49**	**135**	P	**Pn**	11 06 28.7	**-0.2**		
KRND				S	**Sn**	11 06 48.1	**-0.2**		
PYL	**PYLOS**	**1.54**	**182**	P	**Pn**	11 06 28.9	**-0.7**		
PYL	**PYLOS**	**1.54**	**182**	P	**Pn**	11 06 28.9	**-0.7**		
KPRO	**Kipourio**	**1.55**	**347**	P	**Pg**	11 06 31.4	**-0.6**		
KPRO	**Kipourio**	**1.55**	**347**	P	**Pg**	11 06 31.4	**-0.6**		
EREA	**Eretria**	**1.66**	**90**	P	**Pn**	11 06 30.6	**-0.6**		
EREA	**Eretria**	**1.66**	**90**	P	**Pn**	11 06 30.6	**-0.6**		
EREA	**Eretria**	**1.66**	**90**	P	**Pb**	11 06 32.6	**-0.1**		
EREA				S	**Sn**	11 06 53.0	**+0.5**		
LIT	**Litokhoron**	**1.74**	**17**	P	**Pn**	11 06 32.1	**-0.2**		
LIT	**Litokhoron**	**1.74**	**17**	P	**Pn**	11 06 32.1	**-0.2**		
VLI	**Veliai**	**1.94**	**152**	P	**Pn**	11 06 34.6	**-0.4**		
VLI				S	**Sn**	11 06 59.6	**+0.3**		
VLI	**Veliai**	**1.94**	**152**	P	**Pn**	11 06 34.6	**-0.4**		
VLI	**Veliai**	**1.94**	**152**	P	**Pn**	11 06 34.9	**-0.1**		
OHR	**Ohrid**	**2.78**	**344**	*i* Pn	**Pg**	11 06 55.2	**-0.2**		
BRTR	**Keskin Array B**	**9.28**	**78**	Pn	**Pn**	11 08 18.8	**+2.7**		
	comp=N,0.1nm,0.3s,baz=267,slow=9.8,SNR=2.9								
GERES	**GERESS Array B**	**11.94**	**333**	LR	LR	11 14 23.4			
	comp=N,36nm,18.8s,baz=291,slow=43								
TORD	**Torodi Ar. Bea**	**30.89**	**221**	P	**P**	**11 12 20.5**	**+1.7**		
	comp=N,0.9nm,0.6s,baz=28,slow=9.4,SNR=5.1								
MKAR	**Makanchi Array**	**44.29**	**59**	P	**P**	**11 14 12.3**	**+0.5**		
	comp=N,0.9nm,0.6s,baz=287,slow=6.6,SNR=9.5								
ZALV	**Zalesovo Beam**	**44.75**	**48**	P	**P**	**11 14 14.9**	**-0.5**		
	comp=N,1.3nm,0.4s,baz=286,slow=12,SNR=2.4								

*ISCJB **06** 11:26:39.7±0.6, 38°.35N±0°.04×28°.10E±0°.05, h10km, Error ellipse: s-maj=6.7km s-min=4.5km az=140.4*
*CSEM **06** 11:26:39.8±0.1, 38°.34N×28°.11E, h10km, MD2.5, Error ellipse: s-maj=3.4km s-min=2.7km az=146.0*
*ISK **06** 11:26:39.2, 38°.33N×28°.13E, h13km, MD2.5*
*DDA **06** 11:26:40.1, 38°.38N×28°.12E, h7km, Md2.6*
ISC 06 11:26:39.8±0.9, 38°.34N±0°.03×28°.12E±0°.03, h10km, n16, σ0§42/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AYDB	**Zeytinkoy-Aydi**	**0.43**	**205**	*e*PG		**Pg**		**11 26 48.2**	**-0.2**
AYDB				*e*SG		**Sg**		**11 26 54.5**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.43**	**205**	*e*Pg		**Pg**		**11 26 48.2**	**-0.2**
AYDB				*e*Sg		**Sg**		**11 26 54.5**	**+0.4**
KULA	**Kula-Manisa**	**0.46**	**67**	*e*PG		**Pg**		**11 26 48.6**	**-0.2**
KULA				*e*SG		**Sg**		**11 26 55.6**	**+0.8**
KULA	**Kula-Manisa**	**0.46**	**67**	*e*Pg		**Pg**		**11 26 48.6**	**-0.2**
KULA				*e*Sg		**Sg**		**11 26 55.6**	**+0.8**
AKS	**Akhisar**	**0.59**	**336**	*e*PG		**Pg**		**11 26 51.4**	**+0.1**
AKS	**Akhisar**	**0.59**	**336**	*e*Pg		**Pg**		**11 26 51.4**	**+0.1**
IZM	**Izmir**	**0.68**	**275**	*e*PG		**Pg**		**11 26 53.2**	**+0.2**
IZM	**Izmir**	**0.68**	**275**	*e*Pg		**Pg**		**11 26 53.2**	**+0.2**
DEMI	**Demirci**	**0.84**	**33**	P		**Pb**		**11 26 56.4**	**-0.2**
DEMI				S		**Sg**		**11 27 06.4**	**-0.6**
DEMI	**Demirci**	**0.84**	**33**	*i* P		**Pb**		**11 26 56.4**	**-0.2**
DEMI				*i* S		**Sg**		**11 27 06.4**	**-0.6**
KHAL	**Karahalli**	**1.08**	**88**	P		**Pn**		**11 27 01.3**	**+0.3**
KHAL				S		**Sb**		**11 27 15.1**	**+0.3**
KHAL	**Karahalli**	**1.08**	**88**	*i* P		**Pn**		**11 27 01.3**	**+0.3**
KHAL				*i* S		**Sb**		**11 27 15.1**	**+0.3**
DKL	**Dikili**	**1.20**	**308**	*e*PN		**Pb**		**11 27 02.4**	**-0.2**
DKL	**Dikili**	**1.20**	**308**	*e*Pn		**Pb**		**11 27 02.4**	**-0.2**
DALY	**Dalyan (Mu˘la**	**1.58**	**164**	*e*PN		**Pn**		**11 27 07.2**	**-0.5**
DALY	**Dalyan (Mu˘la**	**1.58**	**164**	*e*Pn		**Pn**		**11 27 07.3**	**-0.5**

*ISCJB **06** 11:26:43.5±0.2, 43°.86N±0°.02×11°.92E±0°.02, h22km±2km, Error ellipse: s-maj=3.3km s-min=2.4km az=13.9*
*ROM **06** 11:26:43.2±0.1, 43°.88N×11°.99E, h8km±1km, Ml2.8/27, Error ellipse: s-maj=1.5km s-min=0.9km az=14.0*
*GEN **06** 11:26:43.2, 44°.04N×12°.03E, h7km, ML2.6*
*CSEM **06** 11:26:43.3±0.1, 43°.88N×11°.94E, h5km, ML3.2/26, Error ellipse: s-maj=2.8km s-min=2.0km az=37.0*
*LDG **06** 11:26:44.1±0.1, 43°.85N×11°.97E, h2km, Ml3.0/14, Error ellipse: s-maj=2.9km s-min=1.9km az=56.0*
ISC 06 11:26:43.4±0.8, 43°.86N±0°.02×11°.95E±0°.01, h14km±4km, n121, σ1§17/185, 4C, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.09**	**299**	Pg		**Pg**		**11 26 46.0**	**-0.4**
SFI				Sg		**Sg**		**11 26 48.2**	**-0.3**
	3µm,0.3s								
SFI	**Santa Sofia**	**0.09**	**299**	Pg		**Pg**		**11 26 46.0**	**-0.4**
SFI				Sg		**Sg**		**11 26 48.2**	**-0.3**
	3µm,0.3s								
ASQU	**Asqua**	**0.14**	**241**	⇑ *i* Pg		**Pg**		**11 26 47.4**	**+0.4**
ASQU				Sg		**Sg**		**11 26 50.5**	**+1.0**
	5µm,0.2s								
ASQU	**Asqua**	**0.14**	**241**	⇑ *i* Pg		**Pg**		**11 26 47.4**	**+0.4**
ASQU				Sg		**Sg**		**11 26 50.5**	**+1.0**
	5µm,0.2s								
T0502	**Localit˘ San**	**0.14**	**74**	Pg		**Pg**		**11 26 46.1**	**-1.0**
T0502				Sg		**Sg**		**11 26 48.3**	**-1.2**
	7µm,0.4s								
CPGN	**Carpegna, Ital**	**0.27**	**103**	Pg		**Pg**		**11 26 49.5**	**+0.2**
	2µm,0.5s								
CPGN	**Carpegna, Ital**	**0.27**	**103**	Pg		**Pg**		**11 26 49.5**	**+0.2**
	2µm,0.5s								
PARC	**Parchiule**	**0.30**	**136**	⇑ *i* Pg		**Pg**		**11 26 49.6**	**0.0**
PARC				Sg		**Sb**		**11 26 54.9**	**-0.5**
	2µm,0.3s								
PARC	**Parchiule**	**0.30**	**136**	⇑ *i* Pg		**Pg**		**11 26 49.6**	**0.0**
PARC				Sg		**Sb**		**11 26 54.9**	**-0.5**
	2µm,0.3s								
VMG	**Vicchio**	**0.31**	**289**	Pg		**Pg**		**11 26 50.4**	**+0.5**
	136nm,0.1s								
VMG	**Vicchio**	**0.31**	**289**	Pg		**Pg**		**11 26 50.4**	**+0.5**
	136nm,0.1s								
BADI	**Badiali**	**0.41**	**149**	Pg		**Pg**		**11 26 51.6**	**0.0**
BADI				Sg		**Sb**		**11 26 58.7**	**+0.1**
	1µm,0.4s								
BADI	**Badiali**	**0.41**	**149**	Pg		**Pg**		**11 26 51.6**	**0.0**
BADI				Sg		**Sb**		**11 26 58.7**	**+0.1**
	1µm,0.4s								
BLLA	**Bellaria**	**0.47**	**53**	Pg		**Pb**		**11 26 53.4**	**0.0**
BLLA	**Bellaria**	**0.47**	**53**	Pg		**Pb**		**11 26 53.4**	**0.0**
SEI	**Scarperia**	**0.47**	**294**	Pg		**Pg**		**11 26 52.6**	**-0.2**
SEI				Sg		**Sb**		**11 27 01.0**	**+0.6**
SEI	**Scarperia**	**0.47**	**294**	Pg		**Pg**		**11 26 52.6**	**-0.2**
SEI				Sg		**Sb**		**11 27 01.0**	**+0.6**
IMOL	**Imola, Italy**	**0.52**	**343**	Pg		**Pb**		**11 26 54.6**	**+0.3**
	213nm,0.4s								
IMOL	**Imola, Italy**	**0.52**	**343**	Pg		**Pb**		**11 26 54.6**	**+0.3**
	213nm,0.4s								
ATPC	**Poggio Castell**	**0.53**	**136**	Pg		**Pg**		**11 26 53.6**	**-0.2**
ATPC				Sg		**Sb**		**11 27 02.8**	**+0.8**
	857nm,0.3s								
ATPC	**Poggio Castell**	**0.53**	**136**	Pg		**Pg**		**11 26 53.6**	**-0.2**
ATPC				Sg		**Sb**		**11 27 02.8**	**+0.8**
	857nm,0.3s								
CAFI	**Castiglion Fio**	**0.53**	**179**	Pg		**Pg**		**11 26 54.3**	**+0.4**
CAFI				Sg		**Sb**		**11 27 02.7**	**+0.6**
	743nm,0.7s								
CAFI	**Castiglion Fio**	**0.53**	**179**	Pg		**Pg**		**11 26 54.3**	**+0.4**
CAFI				Sg		**Sb**		**11 27 02.7**	**+0.6**
	743nm,0.7s								
PIEI	**Pieia**	**0.53**	**127**	Pg		**Pg**		**11 26 53.3**	**-0.6**
PIEI				Sg		**Sb**		**11 27 01.7**	**-0.5**
	238nm,0.2s								
PIEI	**Pieia**	**0.53**	**127**	Pg		**Pg**		**11 26 53.3**	**-0.6**
PIEI				Sg		**Sb**		**11 27 01.7**	**-0.5**
	238nm,0.2s								
ATVO	**AVT- Monte Val**	**0.58**	**145**	Pg		**Pg**		**11 26 54.6**	**-0.2**
ATVO				Sg		**Sb**		**11 27 04.4**	**+0.8**
	568nm,0.5s								
ATVO	**AVT- Monte Val**	**0.58**	**145**	Pg		**Pg**		**11 26 54.6**	**-0.2**
ATVO				Sg		**Sb**		**11 27 04.4**	**+0.8**
	568nm,0.5s								
MTRZ	**Monterenzio**	**0.62**	**326**	Pg		**Pg**		**11 26 55.7**	**+0.1**
	1µm,0.4s								
MTRZ	**Monterenzio**	**0.62**	**326**	Pg		**Pg**		**11 26 55.7**	**+0.1**
	1µm,0.4s								
FSSB	**Fossombrone**	**0.62**	**106**	Pg		**Pg**		**11 26 54.9**	**-0.7**
FSSB				Sg		**Sb**		**11 27 04.4**	**-0.3**
	949nm,0.4s								
FSSB	**Fossombrone**	**0.62**	**106**	Pg		**Pg**		**11 26 54.9**	**-0.7**
FSSB				Sg		**Sb**		**11 27 04.4**	**-0.3**
	949nm,0.4s								
PESA	**Pesaro**	**0.65**	**83**	Pg		**Pg**		**11 26 55.5**	**-0.5**
	364nm,0.4s								
PESA	**Pesaro**	**0.65**	**83**	Pg		**Pg**		**11 26 55.5**	**-0.5**
	364nm,0.4s								
FRON	**Frontone**	**0.66**	**121**	Pg		**Pg**		**11 26 55.5**	**-0.8**
FRON				Sg		**Sb**		**11 27 05.8**	**+0.1**
	293nm,0.6s								
FRON	**Frontone**	**0.66**	**121**	Pg		**Pg**		**11 26 55.5**	**-0.8**
FRON				Sg		**Sb**		**11 27 05.8**	**+0.1**
	293nm,0.6s								
FNVD	**Fontana Vidola**	**0.67**	**297**	Pg		**Pg**		**11 26 56.7**	**+0.2**
	564nm,0.7s								
FNVD	**Fontana Vidola**	**0.67**	**297**	Pg		**Pg**		**11 26 56.7**	**+0.2**
	564nm,0.7s								
CRMI	**Carmignano**	**0.71**	**264**	Pg		**Pg**		**11 26 58.0**	**+0.7**
	207nm,0.3s								
CRMI	**Carmignano**	**0.71**	**264**	Pg		**Pg**		**11 26 58.0**	**+0.7**
	207nm,0.3s								
ATTE	**AVT- Monte Tez**	**0.73**	**156**	Pg		**Pg**		**11 26 57.6**	**+0.1**
	436nm,0.7s								
ATTE	**AVT- Monte Tez**	**0.73**	**156**	Pg		**Pg**		**11 26 57.6**	**+0.1**
	436nm,0.7s								
MURB	**Monte Urbino**	**0.73**	**145**	Pg		**Pb**		**11 26 58.5**	**+0.6**
	729nm,0.4s								
MURB	**Monte Urbino**	**0.73**	**145**	Pg		**Pb**		**11 26 58.5**	**+0.6**
	729nm,0.4s								
SSFR	**Montelago di S**	**0.74**	**125**	Pg		**Pg**		**11 26 56.9**	**-0.9**
	457nm,0.2s								
SSFR	**Montelago di S**	**0.74**	**125**	Pg		**Pg**		**11 26 56.9**	**-0.9**
	457nm,0.2s								
ARVD	**Arcevia**	**0.81**	**117**	Pg		**Pg**		**11 26 58.4**	**-0.6**
	145nm,0.5s								
ARVD	**Arcevia**	**0.81**	**117**	Pg		**Pg**		**11 26 58.4**	**-0.6**
	145nm,0.5s								
FROS	**Frosini**	**0.87**	**222**	Pg		**Pg**		**11 27 01.3**	**+1.0**
	517nm,0.8s								
FROS	**Frosini**	**0.87**	**222**	Pg		**Pb**		**11 27 01.3**	**+1.0**
	517nm,0.8s								
POPM	**Popiglio**	**0.88**	**282**	P		**Pg**		**11 27 00.7**	**+0.2**
POPM				S		**Sg**		**11 27 11.7**	**-0.3**
MGAB	**Montegabbione**	**0.96**	**173**	Pg		**Pg**		**11 27 01.7**	**-0.2**
	304nm,0.5s								
MGAB	**Montegabbione**	**0.96**	**173**	Pg		**Pg**		**11 27 01.7**	**-0.2**
	304nm,0.5s								
SACS	**San Casciano d**	**1.01**	**182**	Pg		**Pg**		**11 27 03.1**	**+0.1**
	168nm,0.5s								
MAIM	**Mastiano**	**1.06**	**273**	P		**Pg**		**11 27 03.2**	**-0.6**
MAIM				S		**Sg**		**11 27 17.6**	**0.0**
ARCI	**Arcidosso**	**1.07**	**199**	Pg		**Pg**		**11 27 04.0**	**0.0**
	139nm,0.8s								
ARCI	**Arcidosso**	**1.07**	**199**	Pg		**Pg**		**11 27 04.0**	**0.0**
	139nm,0.8s								
TRIF	**Trifonti**	**1.07**	**226**	Pg		**Pg**	

LPL				*e*Sn		**Sn**	**11 28 31.4 -1.6**
	7.9nm,0.4s						
LPL	**La Plagne**	**4.07**	**296**	*e*P		**Pn**	**11 27 49.5 +4.0**
LPL				*e*Sn		**Sn**	**11 28 31.4 -1.6**
	4.0nm,0.4s						
MOA	**Molln**	**4.30**	**21**	*i* Pn		**Pn**	**11 27 49.3 +0.8**
	0.9nm,0.2s						
MOA				*i* Sn		**Sn**	**11 28 39.6 +1.2**
	9.0nm,0.5s						
MOA	**Molln**	**4.30**	**21**	Pn		**Pn**	**11 27 49.3 +0.8**
	0.9nm,0.2s						
MOA				Sn		**Sn**	**11 28 39.6 +1.2**
	9.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.48**	**286**	*e*Pn		**Pn**	**11 27 52.1 +1.2**
ORIF				*e*Sn		**Sn**	**11 28 41.1 -1.8**
	6.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.48**	**286**	*e*Pn		**Pn**	**11 27 52.1 +1.2**
ORIF				*e*Sn		**Sn**	**11 28 41.1 -1.8**
	3.0nm,0.5s						
SMRF	**Simiane la Rot**	**4.61**	**274**	*e*Pn		**Pn**	**11 27 53.0 +0.3**
SMRF				*e*Sn		**Sn**	**11 28 44.3 -1.7**
	1.6nm,0.3s						
SMRF	**Simiane la Rot**	**4.61**	**274**	*e*Pn		**Pn**	**11 27 53.0 +0.3**
SMRF				*e*Sn		**Sn**	**11 28 44.3 -1.7**
	0.8nm,0.3s						
CABF	**La Chapelle**	**4.97**	**306**	*e*Pn		**Pn**	**11 27 59.2 +1.5**
CABF	**La Chapelle**	**4.97**	**306**	*e*Pn		**Pn**	**11 27 59.2 +1.5**
VIVF	**Saint-Julien-l**	**5.31**	**283**	*e*Pn		**Pn**	**11 28 02.6 +0.3**
VIVF	**Saint-Julien-l**	**5.31**	**283**	*e*Pn		**Pn**	**11 28 02.6 +0.3**
HINF	**Hinteralfeld**	**5.32**	**320**	*e*Pn		**Pn**	**11 28 02.5 0.0**
HINF				*e*Sn		**Sn**	**11 29 01.3 -2.3**
	9.7nm,0.4s						
HINF	**Hinteralfeld**	**5.32**	**320**	*e*Pn		**Pn**	**11 28 02.5 0.0**
HINF				*e*Sn		**Sn**	**11 29 01.3 -2.3**
	4.8nm,0.4s						
CDF	**Champ du Feu**	**5.59**	**326**	*e*Pn		**Pn**	**11 28 06.8 +0.6**
CDF				*e*Sn		**Sn**	**11 29 07.7 -2.5**
	6.6nm,0.4s						
CDF	**Champ du Feu**	**5.59**	**326**	*e*Pn		**Pn**	**11 28 06.8 +0.6**
HAU	**Haudompre**	**5.70**	**319**	*e*Pn		**Pn**	**11 28 08.4 +0.8**
HAU				*e*Sn		**Sn**	**11 29 10.2 -2.5**
	16nm,0.4s						
HAU	**Haudompre**	**5.70**	**319**	*e*Pn		**Pn**	**11 28 08.4 +0.8**
SMF	**Signal de Mont**	**6.37**	**299**	*e*Pn		**Pn**	**11 28 16.3 -0.5**
SMF				*e*Sn		**Sn**	**11 29 26.4 -2.8**
	2.7nm,0.3s						
SMF	**Signal de Mont**	**6.37**	**299**	*e*Pn		**Pn**	**11 28 16.3 -0.5**
LOR	**Lormes**	**6.62**	**304**	*e*Pn		**Pn**	**11 28 21.6 +1.3**
LOR				*e*Sn		**Sn**	**11 29 32.6 -3.0**
	7.8nm,0.4s						
LOR	**Lormes**	**6.62**	**304**	*e*Pn		**Pn**	**11 28 21.6 +1.3**

*CSEM **06** 11:26:54.0, 42°.44N×13°.26E, h14km, MD1.6/4*
ROM 06 11:26:54.0±0.1, **42°.44N×13°.26E, h14**km±1km**, Md1.6**/4**, Error ellipse: s-maj=1.1km s-min=0.7km az=95.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM32	**Poggio Cancell**	**0.13**	**10**	Pg	Pg	11 26 57.9	+0.2
RM32				Sg	Sg	11 27 00.6	+0.5
RM32	**Poggio Cancell**	**0.13**	**10**	Pg	Pg	11 26 57.9	+0.2
RM32				Sg	Sg	11 27 00.6	+0.5
AQU	**L'Aquila**	**0.14**	**130**	Pg	Pb	11 26 58.1	-0.3
AQU				Sg	Sb	11 27 00.8	-0.5
AQU	**L'Aquila**	**0.14**	**130**	Pg	Pb	11 26 58.1	-0.3
AQU				Sg	Sb	11 27 00.8	-0.5
CAMP	**Campotosto**	**0.14**	**49**	Pg	Pg	11 26 58.0	+0.2
CAMP				Sg	Sg	11 27 00.8	+0.4
CAMP	**Campotosto**	**0.14**	**49**	Pg	Pg	11 26 58.0	+0.2
CAMP				Sg	Sg	11 27 00.8	+0.4
FIAM	**Fiamignano**	**0.20**	**212**	Pg	Pg	11 26 59.1	+0.5
FIAM				Sg	Sg	11 27 02.3	+0.5
FIAM	**Fiamignano**	**0.20**	**212**	Pg	Pg	11 26 59.1	+0.5
FIAM				Sg	Sg	11 27 02.3	+0.5
FAGN	**Fagnano**	**0.30**	**126**	Pg	Pg	11 27 00.4	+0.2
FAGN				Sg	Sb	11 27 05.5	-0.5
FAGN	**Fagnano**	**0.30**	**126**	Pg	Pg	11 27 00.4	+0.2
FAGN				Sg	Sb	11 27 05.5	-0.5
VCEL	**Villa Celiera**	**0.43**	**96**	Pg	Pg	11 27 02.7	+0.1
VCEL	**Villa Celiera**	**0.43**	**96**	Pg	Pg	11 27 02.7	+0.1

*CSEM **06** 11:27:33.8±0.2, 43°.91N×12°.00E, h15km, ML3.1/5, Error ellipse: s-maj=6.5km s-min=2.0km az=30.0*
*GEN **06** 11:27:34.3, 44°.15N×12°.02E, h13km, ML2.6*
ROM 06 11:27:33.8±0.1**, 43°.90N×11°.99E, h9**km±1km**, Ml2.7**/11**, Error ellipse: s-maj=2.0km s-min=0.9km az=8.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0502	**Localit˙ San**	**0.10**	**87**	Pg	Pg	11 27 36.8	+0.5
T0502				Sg	Sg	11 27 39.0	+0.9
SFI	**Santa Sofia**	**0.11**	**275**	Pg	Pg	11 27 36.8	+0.4
SFI				Sg	Sg	11 27 38.9	+0.7
	2µm,0.3s						
SFI	**Santa Sofia**	**0.11**	**275**	Pg	Pg	11 27 36.8	+0.4
SFI				Sg	Sg	11 27 38.9	+0.7
	2µm,0.3s						
ASQU	**Asqua**	**0.18**	**237**	Pg	Pg	11 27 38.2	+0.6
ASQU				Sg	Sg	11 27 41.3	+1.2
ASQU	**Asqua**	**0.18**	**237**	Pg	Pg	11 27 38.2	+0.6
ASQU				Sg	Sg	11 27 41.3	+1.2
CPGN	**Carpegna, Ital**	**0.25**	**112**	Pg	Pb	11 27 40.2	-0.5
	2µm,0.5s						
CPGN	**Carpegna, Ital**	**0.25**	**112**	Pg	Pb	11 27 40.2	-0.5
	2µm,0.5s						
PARC	**Parchiule**	**0.30**	**144**	Pg	Pg	11 27 40.3	+0.5
PARC				Sg	Sb	11 27 46.0	-0.6
	929nm,0.3s						
PARC	**Parchiule**	**0.30**	**144**	Pg	Pg	11 27 40.3	+0.5
PARC				Sg	Sb	11 27 46.0	-0.6
	929nm,0.3s						
VMG	**Vicchio**	**0.33**	**282**	Pg	Pb	11 27 41.2	-0.7
	136nm,0.1s						
VMG	**Vicchio**	**0.33**	**282**	Pg	Pb	11 27 41.2	-0.7
	136nm,0.1s						
BADI	**Badiali**	**0.43**	**155**	Pg	Pg	11 27 42.7	+0.6
BADI				Sg	Sb	11 27 49.8	-0.3
	465nm,0.4s						
BADI	**Badiali**	**0.43**	**155**	Pg	Pg	11 27 42.7	+0.6
BADI				Sg	Sb	11 27 49.8	-0.3
	465nm,0.4s						
SEI	**Scarperia**	**0.49**	**289**	Pg	Pb	11 27 44.0	-0.6
SEI				Sg	Sb	11 27 51.7	-0.2
SEI	**Scarperia**	**0.49**	**289**	Pg	Pb	11 27 44.0	-0.6
SEI				Sg	Sb	11 27 51.7	-0.2
PIEI	**Pieia**	**0.53**	**132**	Pg	Pg	11 27 44.2	+0.1
PIEI				Sg	Sb	11 27 52.7	-0.4
	238nm,0.2s						
PIEI	**Pieia**	**0.53**	**132**	Pg	Pg	11 27 44.2	+0.1
PIEI				Sg	Sb	11 27 52.7	-0.4
	238nm,0.2s						
ATPC	**Poggio Castell**	**0.53**	**141**	Pg	Pg	11 27 44.6	+0.5
ATPC				Sg	Sb	11 27 53.7	+0.5
	298nm,0.3s						
ATPC	**Poggio Castell**	**0.53**	**141**	Pg	Pg	11 27 44.6	+0.5
ATPC				Sg	Sb	11 27 53.7	+0.5
	298nm,0.3s						
CAFI	**Castiglion Fio**	**0.57**	**182**	Pg	Pg	11 27 45.1	+0.3
	743nm,0.7s						
CAFI	**Castiglion Fio**	**0.57**	**182**	Pg	Pg	11 27 45.1	+0.3
	743nm,0.7s						
ATVO	**AVT- Monte Val**	**0.59**	**150**	Pg	Pg	11 27 45.6	+0.3
	568nm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**150**	Pg	Pg	11 27 45.6	+0.3
	568nm,0.5s						
FRON	**Frontone**	**0.65**	**125**	Pg	Pg	11 27 46.0	-0.4
	293nm,0.6s						
FRON	**Frontone**	**0.65**	**125**	Pg	Pg	11 27 46.0	-0.4
	293nm,0.6s						
SSFR	**Montelago di S**	**0.73**	**128**	Pg	Pg	11 27 47.9	0.0
	457nm,0.2s						
SSFR	**Montelago di S**	**0.73**	**128**	Pg	Pg	11 27 47.9	0.0
	457nm,0.2s						
ATTE	**AVT- Monte Tez**	**0.74**	**159**	Pg	Pg	11 27 48.3	+0.2
	436nm,0.7s						
ATTE	**AVT- Monte Tez**	**0.74**	**159**	Pg	Pg	11 27 48.3	+0.2
	436nm,0.7s						
POPM	**Popiglio**	**0.91**	**280**	P	Pg	11 27 51.3	+0.1
MAIM	**Mastiano**	**1.09**	**272**	P	Pg	11 27 54.2	-0.5
SARO	**Sassorosso**	**1.18**	**285**	P	Pb	11 27 56.0	-0.5

JMA 06 11:28:23.3, 35°.19N×135°.43E, h14km±1km**, M1.0, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.10**	**346**	P	Pg	11 28 26.4	0.0
JWT				S	Sg	11 28 28.3	-0.2
JKY	**Yasaka**	**0.51**	**329**	P	Pg	11 28 33.4	0.0
JKY				S	Sg	11 28 40.2	-0.1
JKS	**Kasai**	**0.52**	**247**	P	Pg	11 28 33.4	-0.2
JKS				S	Sg	11 28 40.3	-0.3
JKSM	**Kasumi**	**0.74**	**303**	P	Pg	11 28 37.2	-0.5
JKSM				S	Sg	11 28 46.9	-0.6

JMA 06 11:28:56.7±0.2**, 36°.54N×137°.69E, h1**km±2km**, M0.6, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.36**	**112**	P	Pg	11 29 04.0	+0.5
JNG				S	Sg	11 29 08.9	+0.7
MAT	**Matsushiro**	**0.42**	**89**	P	Pg	11 29 05.1	+0.4
MAT				S	Sg	11 29 10.7	+0.6
MAT	**Matsushiro**	**0.42**	**89**	S	Sg	11 29 10.7	+0.6
JGN	**Niukaw**	**0.44**	**224**	S	Sg	11 29 11.4	+0.7

*IDC **06** 11:38:51.3±0.8, 35°.17N×142°.20E, h0km, mb3.7/9, mb1 3.8/12, mb1mx3.6/50, mbtmp3.7/12, ML3.5/3, MS2.8/5, Ms1 2.8/5, ms1mx2.5/46, Error ellipse: s-maj=23.2km s-min=17.5km az=105.0*
*ISCJB **06** 11:38:52.9±0.6, 35°.25N±0°.05×142°.26E±0°.06, h22km, mb3.6/9, MS2.9/1, Error ellipse: s-maj=7.6km s-min=7.0km az=140.7*
*JMA **06** 11:38:53.5±0.4, 35°.28N×142°.35E, h63km, M3.4*
ISC 06 11:38:54.8±0.8**, 35°.25N**±0°.06**×142°.19E**±0°.08**, h22**km**, n23, σ0s90/23, mb3.8/9, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.15**	**240**	P	**Pn**	**11 39 15.3**	**+0.2**
CHOJ	**Chosi**	**1.18**	**293**	P	**Pn**	**11 39 16.1**	**+0.2**
CHOJ				S	**Sn**	**11 39 32.3**	**+1.1**
BSO3	**Boso 3**	**1.44**	**253**	P	**Pn**	**11 39 20.2**	**+0.8**
BSO4	**Boso 4**	**1.54**	**261**	P	**Pb**	**11 39 21.8**	**-0.7**
JAG	**Ashikaga**	**2.51**	**299**	P	**Pn**	**11 39 34.5**	**+0.2**
JOD2	**Odawara 2**	**2.54**	**271**	P	**Pn**	**11 39 34.8**	**+0.2**
JOD2				S	**Sn**	**11 40 04.8**	**0.0**
JFT	**Otama**	**2.71**	**327**	P	**Pn**	**11 39 36.4**	**-0.7**
JFT				S	**Sn**	**11 40 07.3**	**-2.0**
JHJ	**Hachijo jima 2**	**2.91**	**224**	Pn	**Pn**	**11 39 39.9**	**+0.2**
	4.8nm,0.3s,baz=161,slow=23,SNR=9.0						
JHJ				Sn	**Sn**	**11 40 12.6**	**-1.4**
	32nm,0.3s,baz=259,slow=22,SNR=9.4						
MJAR	**Matsushiro Arr**	**3.48**	**293**	Pn	**Pn**	**11 39 48.0**	**+0.4**
	2.0nm,0.3s,baz=115,slow=9.9,SNR=13						
MJAR				LR	LR	11 41 28.8	
	comp=Z,82nm,18.1s,baz=115,slow=45						
ASAJ	**Asahikawa**	**8.87**	**2**	Pn	**Pn**	**11 41 00.8**	**-0.7**
	1.6nm,0.3s,baz=229,slow=8.7,SNR=22						
JNU	**Nakatsue**	**9.60**	**260**	LR	LR	11 45 35.4	
	comp=Z,67nm,18.5s,baz=123,slow=42						
KSRS	**Korea Array**	**11.71**	**285**	LR	LR	11 45 51.7	
	comp=Z,39nm,20.4s,baz=174,slow=36						
KLR	**Kul'dur**	**15.95**	**334**	LR	LR	11 48 35.3	
	comp=Z,31nm,18.5s,baz=117,slow=36						
SEY	**Seymchan**	**28.43**	**10**	P	**P**	**11 44 47.6**	**+0.1**
	1.3nm,0.7s,baz=222,slow=2.6,SNR=4.0						
MKAR	**Makanchi Array**	**45.61**	**304**	P	**P**	**11 47 13.0**	**-0.3**
	0.1nm,0.3s,baz=89,slow=9.1,SNR=2.5						
KURBB	**Kurchatov Array**	**47.60**	**309**	P	**P**	**11 47 28.6**	**-0.3**
	0.9nm,0.5s,baz=85,slow=7.8,SNR=2.2						
WRA	**Warramunga Arr**	**55.39**	**189**	P	**P**	**11 48 25.7**	**-1.6**
	0.6nm,0.6s,baz=8.5,slow=7.6,SNR=8.6						
ASAR	**Alice Springs**	**59.11**	**189**	P	**P**	**11 48 53.2**	**-0.4**
	0.2nm,0.6s,baz=358,slow=5.9,SNR=5.6						
NVAR	**Mina Array Bea**	**75.56**	**53**	P	**P**	**11 50 39.2**	**+1.2**
	0.4nm,0.7s,baz=291,slow=7.6,SNR=3.3						
NOA	**NORSAR Array B**	**76.08**	**338**	LR	LR	12 26 59.6	
	comp=Z,6.4nm,21.0s,baz=190,slow=38						
AKASG	**Malin Array Be**	**76.09**	**323**	P	**P**	**11 50 40.8**	**+0.2**
	0.7nm,0.4s,baz=42,slow=5.8,SNR=5.6						
BRTR	**Keskin Array B**	**80.51**	**312**	P	**P**	**11 51 06.8**	**+1.5**
	0.6nm,0.7s,baz=79,slow=6.4,SNR=3.7						
TXAR	**Lajitas Array**	**90.71**	**53**	P	**P**	**11 51 56.5**	**+0.2**
	0.3nm,0.9s,baz=282,slow=4.4,SNR=3.4						

*BYKL **06** 11:50:54.9±0.5, 56°.66N×121°.62E*
*YARS **06** 11:50:54.7±0.2, 56°.65N±0°.01×121°.59E±0°.01, h10km*
*MOS **06** 11:50:55.0±1.2, 56°.58N×121°.36E, h13km, mb4.2/3, Error ellipse: s-maj=12.8km s-min=9.4km az=85.3*
*IDC **06** 11:50:55.9±1.4, 56°.67N×121°.54E, h0km, mb3.4/3, mb1 3.7/7, mb1mx3.4/58, mbtmp3.7/7, ML3.4/4, MS2.8/5, Ms1 2.8/5, ms1mx2.5/36, Error ellipse: s-maj=30.4km s-min=15.9km az=139.0*
ISC 06 11:50:54.2±0.5**, 56°.61N**±0°.02**×121°.52E**±0°.02**, h10**km**, n81, σ2s98/106, mb3.5/5, MS2.6/3, 3C-1D, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.91**	**291**	*e*Pg	**Pn**	**11 51 12.0**	**-1.1**
KHNR				*e*Pb	**Pb**	**11 51 14.3**	**+2.3**
KHNR				*e*Sg	**Sn**	**11 51 24.2**	**-2.0**
KHNR				*e*Sb	**Sb**	**11 51 27.5**	**+3.3**
KHN	**Khani**	**1.00**	**289**	*e*P	**Pg**	**11 51 12.2**	**-1.3**
KHN				*e*S	**Sg**	**11 51 23.9**	**-2.7**
CRS	**Chara**	**1.82**	**281**	*e*Pg	**Pg**	**11 51 28.1**	**-0.9**
CRS				Pmax		11 51 35.8	
	883nm,1.1s						
CRS				*e*Sg	**Sg**	**11 51 52.5**	**0.0**
CRS				Smax		11 51 55.1	
	4µm,1.7s						
CRS	**Chara**	**1.82**	**281**	*e*P	**Pg**	**11 51 29.0**	**0.0**
CRS				*e*		11 51 52.9	
CRS				pmax	pmax		
	comp=Z,721nm,0.5s						
CRS				smax	smax		
	comp=N,3µm,0.7s						
CRS	**Chara**	**1.82**	**281**	*e*P	**Pg**	**11 51 28.1**	**-0.9**
CRS				*e*S	**Sg**	**11 51 52.5**	**0.0**
CLNS	**Chul'man**	**1.87**	**81**	*e*Pg	**Pg**	**11 51 28.8**	**-1.3**
CLNS				*e*Sg	**Sg**	**11 51 52.7**	**-1.7**
CLNS	**Chul'man**	**1.87**	**81**	*e*P	**Pg**	**11 51 29.0**	**-1.1**
CLNS				*e*		11 51 52.6	
CLNS				pmax	pmax		
	comp=Z,106nm,0.2s						
CLNS				pmax	pmax		
	comp=N,67nm,0.2s						
CLNS				pmax	pmax		
	comp=E,78nm,0.2s						
CLNS				smax	smax		
	comp=E,761nm,0.2s						
CLNS				smax	smax		
	comp=Z,419nm,0.3s						
CLNS				smax	smax		
	comp=N,1µm,0.3s						
CLNS	**Chul'man**	**1.87**	**81**	*e*P	**Pg**	**11 51 28.2**	**-1.9**
CLNS				*e*S	**Sg**	**11 51 52.0**	**-2.4**
IENR	**Iengra**	**1.89**	**100**	*i* Pg	**Pg**	**11 51 28.5**	**-2.0**
IENR				*e*		11 51 29.9	
IENR				*e*Sg	**Sg**	**11 51 52.8**	**-2.2**
IENR	**Iengra**	**1.89**	**100**	*i* P	**Pg**	**11 51 28.3**	**-2.2**
IENR				*e*S	**Sb**	**11 51 52.1**	**-0.5**
TNDR	**Tynda**	**2.32**	**128**	*e*Pn	**Pb**	**11 51 34.5**	**-1.6**
TNDR				*e*Pg	**Pg**	**11 51 36.2**	**-2.5**
TNDR				*e*Sg	**Sg**	**11 52 07.1**	**-1.7**
TNDR	**Tynda**	**2.32**	**128**	*e*P	**Pb**	**11 51 34.3**	**-1.8**
TNDR				*e*P	**Pg**	**11 51 36.4**	**-2.3**
TNDR				*e*S	**Sg**	**11 52 07.0**	**-1.7**
TUP	**Tupik**	**2.36**	**203**	*i* Pn	**Pb**	**11 51 34.5**	**-2.4**
TUP				*e*Pg	**Pg**	**11 51 37.4**	**-2.0**
TUP				Pmax		11 51 40.0	
	comp=N,153nm,0.4s						
TUP				*e*Sn	**Sb**	**11 52 04.4**	**-1.6**
TUP				*e*Sg	**Sg**	**11 52 09.2**	**-0.8**
TUP				Smax		11 52 10.6	
	comp=N,5µm,0.9s						
TUP	**Tupik**	**2.36**	**203**	*e*P	**Pb**	**11 51 34.4**	**-2.4**
TUP				*e*S	**Sb**	**11 52 04.1**	**-1.9**
TUP				smax	smax		
	comp=E,5µm,0.6s						
TUP	**Tupik**	**2.36**	**203**	*e*P	**Pb**	**11 51 34.4**	**-2.4**
TUP				*e*P	**Pg**	**11 51 37.7**	**-1.7**
TUP				*e*S	**Sb**	**11 52 04.1**	**-1.9**
TUP				*e*S	**Sg**	**11 52 08.9**	**-1.1**
ALDR	**Aldan**	**2.90**	**45**	*e*P	**Pb**	**11 51 45.5**	**-0.5**
ALDR				*e*S	**Sg**	**11 52 22.8**	**-4.5**
OLMR	**Olekminsk**	**3.82**	**352**	*e*P	**Pn**	**11 51 54.4**	**+1.4**
OLMR				*e*P	**Pg**	**11 52 03.5**	**-3.9**
OLMR				*e*S	**Sg**	**11 52 50.9**	**-5.9**
BOD	**Bodaibo**	**4.26**	**290**	*e*Pg	**Pb**	**11 52 10.0**	**+0.8**
BOD				Pmax		11 52 22.8	
	comp=E,28nm,0.6s						
BOD				*e*Sg	**Sg**	**11 53 05.2**	**-5.8**
BOD				Smax		11 53 09.9	
	comp=E,555nm,1.2s						
BOD	**Bodaibo**	**4.26**	**290**	*e*P	**Pn**	**11 51 59.8**	**+0.7**
BOD	**Bodaibo**	**4.26**	**290**	*e*P	**Pb**	**11 52 10.0**	**+0.8**
BOD				*e*S	**Sg**	**11 53 05.2**	**-5.8**
SVKR	**Severomuysk**	**4.46**	**267**	*e*	**Pb**	**11 52 14.1**	**+1.6**
SVKR				max		11 52 21.4	
	comp=E,100nm,0.5s						
SVKR				*e*Sg	**Sg**	**11 53 14.4**	**-2.8**
SVKR				Smax		11 53 26.5	
	comp=E,909nm,1.1s						
SVKR	**Severomuysk**	**4.46**	**267**	*e*P	**Pb**	**11 52 14.1**	**+1.6**
SVKR				*e*S	**Sg**	**11 53 14.4**	**-2.8**
BMKR	**Bomnak**	**4.56**	**112**	*e*P	**Pn**	**11 52 04.4**	**+1.2**
BMKR				*e*P	**Pg**	**11 52 17.0**	**-4.5**
BMKR				*e*S	**Sn**	**11 52 55.0**	**-1.2**
BMKR				*e*S	**Sg**	**11 53 16.0**	**-4.5**
UKT	**Uakit**	**4.57**	**259**	*e*Pn	**Pn**	**11 52 05.7**	**+2.3**
UKT				*e*Pg	**Pb**	**11 52 16.7**	**+2.3**
UKT				Pmax		11 52 24.7	
	comp=E,54nm,0.8s						
UKT				*e*Sg	**Sg**	**11 53 17.3**	**-3.4**
UKT				Smax		11 53 22.8	
	comp=E,383nm,0.9s						
UKT	**Uakit**	**4.57**	**259**	*e*P	**Pb**	**11 52 16.4**	**+2.0**
UKT				pmax	pmax		
	comp=Z,54nm,0.8s						
UKT	**Uakit**	**4.57**	**259**	*e*P	**Pn**	**11 52 05.7**	**+2.3**
UKT				*e*P	**Pb**	**11 52 16.7**	**+2.3**
UKT				*e*S	**Sg**	**11 53 17.3**	**-3.4**
YOA	**Uoyan**	**5.47**	**269**	*e*	Pg	11 53 04.2	+25
YOA				*e*Sg	**Sg**	**11 53 45.3**	**-4.3**
YOA				Smax		11 54 26.1	
	comp=Z,2µm,1.0s						
YOA	**Uoyan**	**5.47**	**269**	*e*P	**Pb**	**11 52 32.1**	**+2.4**
YOA				pmax	pmax		
	comp=Z,72nm,0.5s						
YOA	**Uoyan**	**5.47**	**269**	*e*S	**Sg**	**11 53 45.3**	**-4.3**
VTMR	**Vitim**	**5.55**	**305**	*e*Sg	**Sg**	**11 53 47.6**	**-4.6**
VTMR	**Vitim**	**5.55**	**305**	*e*P	**Pn**	**11 52 18.3**	**+1.5**
VTMR				*e*S	**Sg**	**11 53 47.5**	**-4.6**
KMO	**Kumora**	**5.80**	**267**	Pg	Pg	11 52 39.6	-5.6
KMO				Pmax		11 52 44.3	
	comp=Z,24nm,0.9s						
KMO				*e*		11 53 20.6	
KMO				*e*Sg	**Sg**	**11 53 55.5**	**-4.8**
KMO				*e*		11 54 02.4	
KMO				max		11 54 11.8	
	comp=Z,472nm,1.2s						
KMO	**Kumora**	**5.80**	**267**	*e*P	**Pn**	**11 52 20.5**	**+0.3**
KMO				*e*S	**Sn**	**11 53 24.7**	**-2.1**
YLYR	**Ulyunkhan**	**6.10**	**258**	*e*Pn	**Pn**	**11 52 26.6**	**+2.2**
YLYR				Pg	Pb	11 52 44.8	+4.3
YLYR				Pmax		11 52 49.4	
	comp=Z,14nm,1.4s						
YLYR				*e*Sg	**Sg**	**11 54 05.7**	**-4.3**
YLYR				Smax		11 54 12.5	
	comp=Z,356nm,1.7s						
YLYR	**Ulyunkhan**	**6.10**	**258**	*e*P	**Pn**	**11 52 27.2**	**+2.8**
CIT	**Chita**	**6.54**	**229**	*e*	**Sn**	**11 53 52.6**	**+7.5**
CIT				*e*Sg	**Sg**	**11 54 19.2**	**-4.9**
CIT				Smax		11 54 23.6	
	comp=Z,547nm,1.4s						
TBGR	**Tabaga**	**6.68**	**35**	*e*P	**Pn**	**11 52 33.7**	**+1.4**
TBGR				*e*S	**Sn**	**11 53 44.6**	**-3.8**
TBGR				*e*S	Sg	11 54 18.8	-10
NIZ	**Nizh Angarsk**	**6.74**	**268**	Pg	Pb	11 52 55.8	+4.4
NIZ				*e*		11 53 28.8	
NIZ				*e*Sg	**Sg**	**11 54 24.7**	**-5.7**
NIZ				Smax		11 54 36.8	
	comp=Z,211nm,1.6s						
NBS	**Nizhniy Bestya**	**6.85**	**35**	*e*P	**Pn**	**11 52 35.9**	**+1.4**
NBS				*e*P	Pg	11 52 57.1	-8.1
NBS				*e*S	**Sn**	**11 53 48.8**	**-3.6**
NBS				*e*S	Sg	11 54 23.6	-10
YAK	**Yakutsk**	**6.86**	**34**	Pn	**Pn**	**11 52 35.3**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=216,slow=19,SNR=3.3						
YAK				Sn	**Sn**	**11 53 49.9**	**-2.6**
	comp=Z,0.0nm,0.3s,baz=106,slow=23,SNR=9.7						
YAK				Lg	Lg	11 54 21.6	
	comp=Z,0.0nm,0.3s,baz=150,slow=24,SNR=21						
YAK	**Yakutsk**	**6.86**	**34**	*e*P	**Pn**	**11 52 37.3**	**+2.7**
YAK				*e*		11 53 51.3	
YAK				pmax	pmax		
	comp=N,4.0nm,0.3s						
YAK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.4s						
YAK				smax	smax		
	comp=N,71nm,0.4s						
YAK				smax	smax		
	comp=E,500nm,0.8s						
YAK				MLR	MLR		
	comp=Z,73nm,0.6s						
YAK	**Yakutsk**	**6.86**	**34**	*e*P	**Pn**	**11 52 35.3**	**+0.7**
YAK				*e*P	Pb	11 52 56.0	+2.7
YAK				*e*S	**Sn**	**

HABR	**Khabarovsk**	**11.56**	**129**	*e*P		Pn	11 53 43.3	+4.1
HABR				*e*S		**Sn**	**11 55 52.2**	**+3.9**
HABR				pmax	pmax			
	comp=N,4.0nm,0.9s							
HABR				pmax	pmax			
	comp=E,8.0nm,0.9s							
HABR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
HABR				MLR	MLR			
	comp=Z,39nm,17.0s							
TLY	**Talaya**	**11.57**	**252**	Lg	Lg		11 56 59.3	
	comp=Z,0.0nm,0.3s,baz=148,slow=22,SNR=5.4							
TLY	**Talaya**	**11.57**	**252**	*e*Sg			11 56 57.2	
TLY				Smax			11 57 33.6	
	comp=Z,17nm,2.0s							
ARS	**Arshan**	**12.10**	**255**	*e*			11 55 47.0	
ARS				*e*			11 55 51.2	
ARS				max			11 55 55.3	
	comp=Z,8.0nm,0.1s							
ARS				*e*Sg			11 57 10.0	
ARS				Smax			11 57 29.1	
	comp=Z,115nm,1.0s							
ULN	**Ulaanbaatar**	**12.44**	**231**	*e*			11 56 23.8	
ULN				*e*Sg			11 57 20.6	
ULN				*e*			11 57 25.3	
ULN				*e*			11 57 30.3	
ULN	**Ulaanbaatar**	**12.44**	**231**	*i* P		**Pn**	**11 53 55.0**	**+3.7**
ZAK	**Zakamensk**	**12.50**	**248**	*e*Sg			11 57 25.4	
ZAK				Smax			11 57 55.2	
	comp=Z,70nm,1.8s							
BTGS	**Batagay**	**12.63**	**23**	*e*S			11 57 22.8	
SONM	**Songino Array**	**12.75**	**233**	Lg	Lg		11 57 36.5	
	comp=Z,2.3nm,0.3s,baz=43,slow=22,SNR=7.5							
MOY	**Mondy**	**12.99**	**256**	*e*			11 54 30.0	
MOY				*e*Sg			11 57 39.3	
MOY				Smax			11 58 02.2	
	comp=Z,89nm,1.8s							
ORL	**Orlik**	**13.22**	**261**	*e*Sg	S		11 57 45.7	+52
ORL				*e*			11 57 52.5	
ORL				max			11 58 04.2	
	comp=Z,48nm,1.8s							
UGL	**Uglegorsk**	**14.48**	**113**	*e*P		**P**	**11 54 23.7**	**-2.1**
UGL				*e*S		**Sn**	**11 57 04.2**	**+4.8**
DEPR	**Deputatskiy**	**15.20**	**25**	*e*S	S		11 58 43.6	+70
TIXI	**Tiksi**	**15.42**	**9**	*i* P		**P**	**11 54 35.5**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,10.0nm,0.5s							
SEY	**Seymchan**	**16.65**	**55**	Pn		**P**	**11 54 48.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=4.3							
SEY	**Seymchan**	**16.65**	**55**	*i* P		**P**	**11 54 51.9**	**+2.1**
KSRS	**Korea Array**	**19.63**	**165**	LR	LR		12 04 13.3	
	comp=Z,21nm,18.3s,baz=28,slow=40							
NRIK	**Noril'sk**	**19.66**	**324**	P		**Pn**	**11 55 24.2**	**0.0**
	comp=Z,0.5nm,0.3s,baz=108,slow=10,SNR=2.5							
NRIK				LR		LR	12 03 35.3	
	comp=Z,46nm,20.8s,baz=108,slow=39							
ZALV	**Zalesovo Beam**	**20.91**	**278**	LR		LR	12 04 25.5	
	comp=Z,17nm,19.2s,baz=74,slow=39							
PETK	**Petropavlovsk-**	**20.96**	**84**	LR		LR	12 04 11.9	
	comp=Z,24nm,18.6s,baz=4.6,slow=38							
BILL	**Bilibino**	**23.11**	**42**⇓	*e*P		**P**	**11 56 03.6**	**+3.7**
BILL				*e*			11 56 30.3	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.3s							
MKAR	**Makanchi Array**	**25.88**	**265**	P		**P**	**11 56 29.8**	**+3.9**
	comp=Z,0.8nm,0.7s,baz=59,slow=7.7,SNR=8.2							
ILAR	**Eielson Array**	**41.74**	**40**	P		P	11 58 46.0	+3.1
	comp=Z,0.4nm,0.5s,baz=285,slow=5.0,SNR=14							
OBN	**Obninsk**	**44.77**	**306**⇑	*e*P		**P**	**11 59 08.9**	**+1.5**
OBN				*e*			12 00 54.7	
OBN				pmax	pmax			
	comp=Z,32nm,0.3s							
OBN				MLR	MLR			
	comp=Z,29nm,16.0s							
YKA	**Yellowknife Ar**	**53.50**	**29**	P		**P**	**12 00 16.0**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=330,slow=6.6,SNR=3.0							
CLL	**Collm**	**57.43**	**315**	*e*P		**P**	**12 00 44.0**	**+1.4**
CLL	**Collm**	**57.43**	**315**	*e*P		**P**	**12 00 44.0**	**+1.4**

IDC 06 11:55:23.6±2.4, 22°80′N×12°28′W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/42, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=68.1km s-min=40.5km az=71.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.39**	**123**	Pn	Pn	11 59 13.7	-1.5
	0.1nm,0.3s,baz=310,slow=12,SNR=5.4						
TORD				Sn	Sn	12 02 18.5	+0.8
	0.1nm,0.3s,baz=311,slow=24,SNR=4.1						
I42PT	**GRACIOSA ISLAN**	**21.02**	**324**	*i*		14 03 20.0	
	baz=138,slow=317,SNR=1.2						
GERES	**GERESS Array B**	**33.15**	**32**	P	P	12 02 01.1	-0.7
	0.2nm,0.3s,baz=220,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**76.74**	**45**	P	P	12 07 16.8	-0.2
	0.3nm,0.5s,baz=290,slow=4.1,SNR=4.1						
WRA	**Warramunga Arr**	**148.82**	**91**	PKPbc	PKPbc	12 15 13.5	-0.5
	0.5nm,0.7s,baz=294,slow=3.0,SNR=5.6						
ASAR	**Alice Springs**	**148.96**	**98**	PKPbc	PKPbc	12 15 14.6	+0.3
	0.4nm,0.7s,baz=281,slow=1.9,SNR=8.6						

*IDC **06** 11:57:51.5±7.2, 11°69N×87°41W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/36, mbtmp3.8/5, MS3.4/2, Ms1 3.4/2, ms1mx2.7/32, Error ellipse: s-maj=133.2km s-min=70.5km az=170.0*
*CASC **06** 11:57:59.6±1.4, 11°94N×88°06W, h26km±11km, MD4.0, ML3.4*
ISC 06 11:57:55.3±2.0, 11°55N±0°06×87°99W±0°09, h31km±17km, n28, σ1°36/35, mb3.8/5, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.51**	**65**	*e*P	**Pb**	**11 58 24.1**	**+1.4**
COPN				⇓*e*P	**Pb**	**11 58 24.1**	**+1.4**
CNGN	**Cerro Negro**	**1.58**	**53**	*e*P	**Pb**	**11 58 23.6**	**-0.3**
CNGN				*e*S	**Sb**	**11 58 42.5**	**-1.0**
CNGN				AML	AML	11 58 49.0	
	comp=E,613nm,0.5s						
MOMN	**Momotombo**	**1.66**	**59**	*e*P	**Pb**	**11 58 25.2**	**0.0**
CNCH	**Conchagua**	**1.72**	**5**	*e*P	**Pn**	**11 58 22.0**	**-1.3**
CNCH				*e*S	**Sn**	**11 58 41.9**	**-2.4**
XAVN	**Gruta Xavier**	**1.73**	**70**	*e*P	**Pb**	**11 58 27.5**	**+1.0**
APYN	**Apoyeque**	**1.74**	**67**	*e*P	**Pb**	**11 58 27.3**	**+0.6**
MGAN	**Managua**	**1.81**	**71**	*e*P	**Pb**	**11 58 28.6**	**+0.9**
MGAN				*e*S	**Sb**	**11 58 51.2**	**+1.1**
LCY	**Lacayo**	**1.88**	**351**	*e*P	**Pn**	**11 58 24.5**	**-1.0**
VSM	**San Miguel**	**1.88**	**352**	*e*P	**Pn**	**11 58 25.1**	**-0.6**
PACA	**Pacayal**	**1.93**	**350**	*e*P	**Pn**	**11 58 25.1**	**-1.1**
CAHU	**Cacacuatique**	**2.21**	**355**	*e*P	**Pn**	**11 58 29.7**	**-0.5**
LFRS	**El Faro**	**2.31**	**333**	*e*P	**Pn**	**11 58 30.2**	**-1.2**
LFRS				*e*S	**Sn**	**11 58 55.9**	**-2.9**
LBRS	**Las Brisas**	**2.40**	**335**	*e*P	**Pn**	**11 58 32.2**	**-0.4**
LFU	**La Fuente**	**2.44**	**333**	*e*P	**Pn**	**11 58 32.4**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.59**	**16**	*e*P	**Pn**	**11 58 35.4**	**+0.3**
SBLS	**San Blas**	**2.77**	**325**	*e*P	**Pn**	**11 58 38.3**	**+0.4**
MONT	**Ecomontaæa**	**2.80**	**325**	*e*P	**Pn**	**11 58 38.6**	**+0.3**
MONT				*e*S	**Sn**	**11 59 08.7**	**-2.5**
RBDL	**Robledal**	**3.03**	**327**	*e*P	**Pn**	**11 58 41.0**	**-0.4**
JCR	**Jicaral**	**3.30**	**121**	*e*P	**Pb**	**11 58 54.5**	**+1.3**
JCR				*e*S	**Sb**	**11 59 32.9**	**-0.1**
CGA2	**Cerro Gallo 2**	**3.79**	**113**	*e*P	**Pb**	**11 58 59.5**	**-2.1**
CGA2				*e*S	**Sb**	**11 59 46.1**	**-1.0**
QCR	**Quepos**	**4.32**	**119**	*e*P	**Pb**	**11 59 09.1**	**-1.5**
URSC	**Urasca**	**4.48**	**112**	*e*P	**Pb**	**11 59 13.0**	**-0.4**
TXAR	**Lajitas Array**	**22.94**	**323**	P	**P**	**12 02 60.0**	**+2.7**
	comp=E,1.8nm,0.6s,baz=136,slow=10,SNR=26						
TKL	**Tuckaleechee C**	**24.30**	**8**	P	**P**	**12 03 09.4**	**-0.8**
	comp=E,2.3nm,0.6s,baz=202,slow=5.4,SNR=4.0						
TKL				LR	LR	12 11 24.7	
	comp=E,26nm,21.7s,baz=272,slow=34						
ULM	**Lac du Bonnet**	**39.12**	**352**	P	**P**	**12 05 19.5**	**-0.4**
	comp=E,3.3nm,0.5s,baz=156,slow=7.4,SNR=3.5						
YKA	**Yellowknife Ar**	**54.34**	**345**	P	**P**	**12 07 19.4**	**+0.7**
	comp=E,0.7nm,0.7s,baz=138,slow=7.6,SNR=9.4						
ILAR	**Eielson Array**	**66.62**	**336**	P	**P**	**12 08 44.5**	**+1.9**
	comp=E,0.2nm,0.7s,baz=128,slow=5.8,SNR=4.8						
PPT	**Papeete**	**67.34**	**245**	LR	LR	12 29 42.1	
	comp=E,114nm,19.0s,baz=40,slow=28						

*ISCJB **06** 12:01:26.7±0.6, 42°21N±0°03×26°24E±0°04, h0km±6km, Error ellipse: s-maj=5.5km s-min=3.9km az=37.2*
*CSEM **06** 12:01:26.3±0.3, 42°28N×26°30E, h2km, MD3.0, Error ellipse: s-maj=10.5km s-min=4.5km az=34.0*
*SOF **06** 12:01:27.8, 42°22N×26°24E, h8km, MD2.7*
*ISK **06** 12:01:28.7, 42°18N×26°46E, h21km, MD3.0*
*BEO **06** 12:01:28.7±2.5, 42°42N×26°14E, h0km, M2.2/3*
ISC 06 12:01:26.5±1.3, 42°23N±0°03×26°26E±0°02, h5km±14km, n46, σ0°82/58, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.34**	**45**	P	**Pb**	**12 01 34.8**	**-0.2**
EDRB	**Edirne**	**0.52**	**136**	PG	**Pb**	**12 01 37.7**	**-0.5**
EDRB				*e*SG	**Sg**	**12 01 44.1**	**+0.7**
EDRB	**Edirne**	**0.52**	**136**	*i* Pg	**Pb**	**12 01 37.7**	**-0.5**
EDRB				*e*Sg	**Sg**	**12 01 44.1**	**+0.7**
DIM	**Dimitrovgrad**	**0.57**	**252**	P	**Pb**	**12 01 38.7**	**-0.2**
KDZ	**Kurdzhali**	**0.85**	**228**	P	**Pn**	**12 01 45.0**	**-0.1**
SZH	**Strazhica**	**1.07**	**347**	P	**Pn**	**12 01 49.0**	**+0.9**
PHSR	**Pinarhisar**	**1.12**	**122**	*e*PG	**Pg**	**12 01 47.8**	**-0.1**
PHSR				*e*SG	**Sg**	**12 02 01.0**	**-1.4**
PHSR	**Pinarhisar**	**1.12**	**122**	*e*Pg	**Pg**	**12 01 47.8**	**-0.1**
PHSR				*e*Sg	**Sg**	**12 02 01.0**	**-1.4**
PLD	**Plovdiv**	**1.16**	**265**	*e*Pg	**Pg**	**12 01 48.2**	**-0.6**
PLD				*e*Sg	**Sb**	**12 02 04.1**	**-0.3**
PLD	**Plovdiv**	**1.16**	**265**	P	**Pb**	**12 01 48.6**	**-0.4**
PLD	**Plovdiv**	**1.16**	**265**	*e*Pg	**Pg**	**12 01 48.2**	**-0.6**
PLD				*e*Sg	**Sb**	**12 02 04.1**	**-0.3**
ROIA	**ROIAK**	**1.20**	**43**	P	**Pn**	**12 01 51.7**	**+1.8**
PVL	**Pavlikeni**	**1.20**	**326**	P	**Pn**	**12 01 51.3**	**+1.4**
RZN	**Rozhen**	**1.27**	**245**	P	**Pn**	**12 01 51.5**	**+0.5**
PRD	**Provadia**	**1.29**	**40**	P	**Pn**	**12 01 52.0**	**+0.9**
ALN	**Alexandroupoli**	**1.34**	**187**	*e*PN	**Pb**	**12 01 52.7**	**+0.7**
ALN				*e*SN	**Sg**	**12 02 10.1**	**+0.7**
ALN	**Alexandroupoli**	**1.34**	**187**	*e*Pn	**Pb**	**12 01 52.7**	**+0.7**
ALN				*e*Sn	**Sg**	**12 02 10.1**	**+0.7**
KESN	**Edirne-Kesan**	**1.43**	**167**	P	**Pg**	**12 01 54.0**	**0.0**
KESN				S	**Sg**	**12 02 13.0**	**+0.4**
KESN	**Edirne-Kesan**	**1.43**	**167**	*i* P	**Pg**	**12 01 54.0**	**0.0**
KESN				*i* S	**Sg**	**12 02 13.0**	**+0.4**
ENEZ	**Enez**	**1.49**	**183**	*e*PN	**Pn**	**12 01 54.6**	**+0.7**
ENEZ	**Enez**	**1.49**	**183**	*e*Pn	**Pn**	**12 01 54.6**	**+0.7**
ERIK	**Erikli-Kesan**	**1.57**	**173**	*e*PN	**Pn**	**12 01 54.8**	**-0.1**
ERIK	**Erikli-Kesan**	**1.57**	**173**	*e*Pn	**Pn**	**12 01 54.8**	**-0.1**
SART	**Tekirdag**	**1.69**	**155**	P	**Pg**	**12 01 59.2**	**+0.4**
SART				S	**Sg**	**12 02 21.1**	**+0.5**
SART	**Tekirdag**	**1.69**	**155**	*i* P	**Pg**	**12 01 59.2**	**+0.4**
SART				*i* S	**Sg**	**12 02 21.1**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.83**	**175**	*e*PN	**Pn**	**12 01 59.2**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.83**	**175**	*e*Pn	**Pn**	**12 01 59.2**	**+0.6**
LPK	**Lapseki**	**1.89**	**168**	*e*PN	**Pn**	**12 01 59.5**	**+0.1**
LPK	**Lapseki**	**1.89**	**168**	*e*Pn	**Pn**	**12 01 59.5**	**+0.1**
CTKS	**Kestanelik-??a**	**1.95**	**120**	*e*PN	**Pn**	**12 01 59.8**	**-0.4**
CTKS	**Kestanelik-??a**	**1.95**	**120**	*e*Pn	**Pn**	**12 01 59.8**	**-0.4**
MMB	**Musomiste**	**1.99**	**252**	P	**Pg**	**12 02 05.3**	**+0.6**
MPEP	**Malo Peshtene**	**2.17**	**302**	P	**Pb**	**12 02 05.2**	**-1.0**
ISK	**Istanbul-Kandi**	**2.40**	**118**	*e*PN	**Pn**	**12 02 06.3**	**-0.1**
ISK	**Istanbul-Kandi**	**2.40**	**118**	*e*Pn	**Pn**	**12 02 06.3**	**-0.1**
OUR	**Ouranopolis**	**2.55**	**223**	*e*PN	**Pb**	**12 02 11.3**	**-1.4**
OUR	**Ouranopolis**	**2.55**	**223**	*e*Pn	**Pb**	**12 02 11.3**	**-1.4**
ZAPS	**Zavoj**	**2.87**	**293**	*e*Pn	**Pn**	**12 02 13.8**	**+0.9**
BARS	**Barje**	**3.34**	**282**	*e*PN	**Pn**	**12 02 20.8**	**+1.5**
BARS	**Barje**	**3.34**	**282**	*e*Pn	**Pn**	**12 02 20.8**	**+1.5**
KUBS	**Kucevo**	**4.00**	**305**	*e*Pn	**Pn**	**12 02 27.2**	**-1.1**
KUBS	**Kucevo**	**4.00**	**305**	*e*Pn	**Pn**	**12 02 27.2**	**-1.1**
GRUS	**Gruza**	**4.39**	**294**	*e*PN	**Pn**	**12 02 35.2**	**+1.5**
GRUS	**Gruza**	**4.39**	**294**	*e*Pn	**Pn**	**12 02 35.2**	**+1.5**
DIVS	**Divibare**	**4.95**	**294**	*e*PN	**Pn**	**12 02 41.4**	**-0.1**
DIVS	**Divibare**	**4.95**	**294**	*e*Pn	**Pn**	**12 02 41.4**	**-0.1**

*IDC **06** 12:09:01.9±2.3, 6°95N×126°05E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/36, mbtmp3.4/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/23, Error ellipse: s-maj=178.2km s-min=27.3km az=65.0*
*MAN **06** 12:09:02, 7°15N×127°16E, h31km, mb4.8, ML3.7, MS3.7*
ISC 06 12:09:07.0±1.4, 7°27N±0°08×127°0E±0°1, h60km, n8, σ3°12/11, mb3.2/3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.79**	**246**	*e*P	**Pn**	**12 09 18.8**	**-3.5**
MATI				*e*S	**Sn**	**12 09 28.4**	**-5.2**
BIPH	**Bislig**	**1.09**	**326**⇑	*e*P	**Pn**	**12 09 25.6**	**-0.7**
BIPH				*e*S	**Sn**	**12 09 37.5**	**-3.1**
DMPH	**Davao City--Mi**	**1.48**	**263**⇑	*e*P	**Pn**	**12 09 33.7**	**+2.3**
DMPH				*e*S	**Sn**	**12 09 52.9**	**+3.2**
BUKP	**Musuan**	**2.00**	**288**	*e*P	**Pn**	**12 09 37.0**	**-1.4**
BUKP				*e*S	**Sn**	**12 10 03.5**	**+1.1**
WRA	**Warramunga Arr**	**28.00**	**165**	P	**P**	**12 14 55.3**	**+3.0**
	0.3nm,0.4s,baz=344,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**31.48**	**168**	P	**P**	**12 15 23.7**	**+0.5**
	0.2nm,0.4s,baz=342,slow=7.1,SNR=9.6						
HNR	**Honiara**	**36.80**	**116**	LR	LR	12 30 08.9	
	comp=Z,39nm,21.4s,baz=83,slow=34						
MKAR	**Makanchi Array**	**54.84**	**324**	P	**P**	**12 18 31.9**	**+0.8**
	0.5nm,0.5s,baz=131,slow=8.5,SNR=4.8						

*ISCJB **06** 12:12:17.6±0.5, 39°10N±0°03×29°13E±0°04, h6km±7km, Error ellipse: s-maj=5.5km s-min=5.0km az=150.1*
*DDA **06** 12:12:17.6, 39°09N×29°12E, h7km, Md2.6*
*ISK **06** 12:12:17.3, 39°10N×29°16E, h6km, MD2.6*
*CSEM **06** 12:12:17.7±0.1, 39°11N×29°13E, h5km, MD2.6, Error ellipse: s-maj=2.1km s-min=1.7km az=103.0*
ISC 06 12:12:17.8±0.9, 39°10N±0°03×29°12E±0°03, h10km±10km, n26, σ0°21/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.28**	**93**	P	**Pg**	**12 12 23.6**	**+0.1**
GDZ				S	**Sg**	**12 12 27.6**	**+0.2**
GDZ	**Gediz**	**0.28**	**93**	*i* P	**Pg**	**12 12 23.6**	**+0.1**
GDZ				*i* S	**Sg**	**12 12 27.6**	**+0.2**
DEMI	**Demirci**	**0.32**	**259**	P	**Pg**	**12 12 24.3**	**0.0**
DEMI				S	**Sg**	**12 12 28.6**	**0.0**
DEMI	**Demirci**	**0.32**	**259**	*i* P	**Pg**	**12 12 24.3**	**0.0**
DEMI				*i* S	**Sg**	**12 12 28.6**	**0.0**
TVSB	**Tavsanli**	**0.43**	**37**	*e*PG	**Pg**	**12 12 26.3**	**-0.1**
TVSB				*e*SG	**Sg**	**12 12 31.8**	**-0.4**
TVSB	**Tavsanli**	**0.43**	**37**	*e*Pg	**Pg**	**12 12 26.3**	**-0.1**
TVSB				*e*Sg	**Sg**	**12 12 31.8**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*PG	**Pg**	**12 12 31.0**	**-0.2**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg	**Pg**	**12 12 31.0**	**-0.2**
KHAL	**Karahalli**	**0.79**	**158**	P	**Pg**	**12 12 33.1**	**+0.1**
KHAL				S	**Sg**	**12 12 43.4**	**+0.1**
KHAL	**Karahalli**	**0.79**	**158**	*i* P	**Pg**	**12 12 33.1**	**+0.1**
KHAL				*i* S	**Sg**	**12 12 43.4**	**+0.1**
KHL	**Karahalli**	**0.84**	**158**	*e*PG	**Pg**	**12 12 33.7**	**-0.3**
KHL				*e*SG	**Sg**	**12 12 45.8**	**-0.1**
KHL	**Karahalli**	**0.84**	**158**	*e*Pg	**Pg**	**12 12 33.7**	**-0.3**
KHL				*e*Sg	**Sb**	**12 12 45.8**	**-0.1**
AKS	**Akhisar**	**1.04**	**258**	*e*PG	**Pn**	**12 12 38.5**	**0.0**
AKS	**Akhisar**	**1.04**	**258**	*e*Pg	**Pn**	**12 12 38.5**	**0.0**
BALB	**Balikesir**	**1.10**	**300**	*e*PN	**Pn**	**12 12 39.7**	**+0.4**
BALB	**Balikesir**	**1.10**	**300**	*e*Pn	**Pn**	**12 12 39.7**	**+0.4**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*PN	**Pn**	**12 12 41.0**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pn**	**12 12 41.0**	**-0.1**
IZI	**Iznik**	**1.26**	**12**	*e*PN	**Pb**	**12 12 41.8**	**+0.1**
IZI	**Iznik**	**1.26**	**12**	*e*Pn	**Pb**	**12 12 41.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*PN	**Pg**	**12 12 43.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*Pn	**Pg**	**12 12 43.0**	**+0.1**
ARMT	**Armutlu**	**1.48**	**352**	*e*PN	**Pb**	**12 12 45.2**	**-0.2**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pb**	**12 12 45.2**	**-0.2**
GULT	**Gulveren**	**1.71**	**38**	*e*PN	**Pn**	**12 12 48.0**	**+0.3**
GULT	**Gulveren**	**1.71**	**38**	*e*Pn	**Pn**	**12 12 48.0**	**+0.3**

*ISCJB **06** 12:17:43.3±0.2, 15°18S±0°06×178°12W±0°05, h379km, mb4.3/66, Error ellipse: s-maj=9.6km s-min=5.4km az=149.2*
*IDC **06** 12:17:44.4±1.9, 15°21S×177°95W, h385km±20km, mb3.8/19, mb1 4.0/21, mb1mx3.9/34, mbtmp4.6/21, Error ellipse: s-maj=13.5km s-min=10.3km az=139.0*
*NEIC **06** 12:17:45.8±0.7, 15°20S×178°04W, h395km±7km, mb4.4/48, Error ellipse: s-maj=9.4km s-min=5.4km az=145.0*
ISC 06 12:17:44.0±0.4, 15°22S±0°08×178°01W±0°07, h379km, n96, σ1°43/102, mb4.3/66, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.53**	**236**	*e*Pn	Pn	12 19 05.8	+5.6
AFI	**Afiamalu**	**6.17**	**79**	P	**Pn**	**12 19 18.1**	**+0.2**
	88nm,0.3s,baz=127,slow=1.3,SNR=109						
AFI	**Afiamalu**	**6.17**	**79**	*e*Pn	**Pn**	**12 19 17.6**	**-0.3**
FUNA	**Funafuti**	**7.19**	**337**	*e*Pn	**P**	**12 19 30.4**	**+0.1**
DZM	**Mont Dzumac**	**16.23**	**243**	P	**P**	**12 21 12.6**	**+1.9**
	1.4nm,0.3s,baz=164,slow=23,SNR=32						
DZM	**Mont Dzumac**	**16.23**	**243**	*e*P	**Pn**	**12 21 12.8**	**-1.5**
	22nm,1.0s						
OUZ	**Omahuta**	**21.29**	**199**	*e*P	**P**	**12 22 02.5**	**+0.9**
	137nm,1.6s						
URZ	**Urewera**	**23.35**	**190**	P	**P**	**12 22 18.8**	**-1.3**
	9.7nm,0.3s,baz=244,slow=3.0,SNR=22						
URZ	**Urewera**	**23.35**	**190**	*e*P	**P**	**12 22 18.1**	**-2.1**
	31nm,0.9s						
RPZ	**Rata Peaks**	**29.89**	**196**	P	**P**	**12 23 16.4**	**-1.8**
	11nm,0.6s,baz=5.4,slow=3.8,SNR=7.4						
CTA	**Charters Tower**	**34.35**	**257**	P	**P**	**12 23 57.7**	**+0.7**
	11nm,0.4s,baz=83,slow=10,SNR=43						
CTAO	**Charters Tower**	**34.35**	**257**	*e*P	**P**	**12 23 57.7**	**+0.7**
	17nm,0.6s						
PMG	**Port Moresby**	**34.49**	**276**	P	**P**	**12 23 58.8**	**+0.7**
	16nm,0.7s,baz=238,slow=12,SNR=3.5						
COEN	**Coen**	**37.55**	**267**	*e*P	**P**	**12 24 25.4**	**+1.5**
	24nm,0.8s						
STKA	**Stephens Creek**	**40.30**	**238**	P	**P**	**12 24 47.9**	**+1.7**
	2.8nm,0.5s,baz=74,slow=11,SNR=9.9						
JAY	**Jayapura**	**42.60**	**283**	P	**P**	**12 25 05.2**	**+0.3**
	2.4nm,0.6s,baz=86,slow=23,SNR=6.3						
WB2	**Warramunga Arr**	**45.54**	**257**	*e*P	**P**	**12 25 27.8**	**-0.1**
	9.3nm,0.9s						
WRAB	**Tennant Creek**	**45.54**	**257**	*e*P	**P**	**12 25 27.7**	**-0.2**
	9.5nm,0.9s						
WRA	**Warramunga Arr**	**45.55**	**257**	P	**P**	**12 25 27.3**	**-0.7**
	6.3nm,0.7s,baz=96,slow=7.2,SNR=50						
WRA				S	**S**	**12 31 37.1**	**-4.1**
	1.1nm,0.8s,baz=93,slow=14,SNR=4.6						
AS01	**Alice Springs**	**45.90**	**252**	*e*P	**P**	**12 25 30.0**	**-0.7**
AS31	**Alice Springs**	**45.94**	**252**	*e*P	**P**	**12 25 31.3**	**+0.3**
	33nm,0.6s						
ASAR	**Alice Springs**	**45.94**	**252**	P	**P**	**12 25 31.4**	**+0.4**
	69nm,0.5s,baz=85,slow=8.5,SNR=1782						
ASAR				S	**S**	**12 31 43.1**	**-3.6**
	3.0nm,0.7s,baz=83,slow=16,SNR=20						
FITZ	**Fitzroy Crossi**	**53.89**	**259**	P	**P**	**12 26 30.7**	**+0.6**
	3.7nm,0.7s,baz=168,slow=3.5,SNR=10						
FITZ	**Fitzroy Crossi**	**53.89**	**259**	*e*P	**P**	**12 26 31.0**	**+0.9**
	5.4nm,0.8s						
SOEI	**Soe**	**56.49**	**268**	*e*P	**P**	**12 26 48.5**	**-0.2**
	38nm,0.8s						
MBWA	**Marble Bar**	**59.13**	**254**	*e*P	**P**	**12 27 06.7**	**+0.1**
SBA	**Scott Base**	**63.11**	**184**	*e*P	**P**	**12 27 34.3**	**+2.3**
	47nm,1.3s						
VNDA	**Vanda**	**63.14**	**185**	P	**P**	**12 27 33.0**	**+0.8**
	4.2nm,0.9s,baz=0.1,slow=7.2,SNR=21						
VNDA	**Vanda**	**63.14**	**185**	*e*P	**P**	**12 27 33.9**	**+1.7**
	24nm,1.4s						
MJAR	**Matsushiro Arr**	**66.01**	**322**	P	**P**	**12 27 49.8**	**-1.5**
	2.5nm,0.7s,baz=159,slow=6.6,SNR=10						
MAJO	**Matsushiro**	**66.01**	**322**	*e*P	**P**	**12 27 50.4**	**-0.9**
	11nm,0.9s						
MAT	**Matsushiro**	**66.01**	**322**	P	**P**	**12 27 50.3**	**-0.9**
MAT				S	**S**	**12 36 12.6**	**+4.5**
MJB9	**Matsu-Tunnel**	**66.01**	**322**	*e*P	**P**	**12 27 50.0**	**-1.2**
	2.8nm,

HHC				pmax	pmax		
	comp=Z,57nm,4.5s						
RLMT	**Red Lodge**	**86.36**	**41**	*eP*	**P**	**12 29 45.5**	**+0.8**
	comp=Z,8.7nm,1.3s						
MAW	**Mawson**	**86.51**	**200**	P	**P**	**12 29 45.5**	**+0.8**
	comp=Z,8.7nm,0.6s,baz=141,slow=4.2,SNR=37						
MAW	**Mawson**	**86.51**	**200**	*eP*	**P**	**12 29 45.1**	**+0.5**
	comp=Z,2.5nm,0.7s						
KMI	**Kunming**	**86.96**	**297**	P	P	**12 29 45.6**	**-2.3**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CM01	**Chiang Mai Arr**	**88.32**	**289**	*eP*	**P**	**12 29 55.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**88.35**	**290**	P	**P**	**12 29 54.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=315,slow=0.8,SNR=5.8						
YKA	**Yellowknife Ar**	**91.74**	**25**	P	**P**	**12 30 08.2**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=226,slow=4.8,SNR=3.7						
SNAA	**Sanae**	**93.26**	**178**	P	**P**	**12 30 15.2**	**-0.9**
SNAA	**Sanae**	**93.26**	**178**	*eP*	**P**	**12 30 16.0**	**-0.2**
	comp=Z,10nm,1.3s						
ARCES	**ARCESS Array B**	**123.75**	**350**	PKP	**PKPdf**	**12 35 54.8**	**-1.9**
	comp=Z,3.3nm,1.0s,baz=119,slow=1.5,SNR=4.3						
BRTR	**Keskin Array B**	**143.12**	**318**	PKP	PKPab	12 36 31.1	+0.4
	comp=Z,1.7nm,0.9s,baz=118,slow=2.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**177.92**	**172**	PKP	**PKPdf**	**12 37 08.6**	**-1.9**
	comp=Z,1.1nm,1.0s,baz=251,slow=3.8,SNR=4.6						
TORD				PKPab	PKPab	12 39 01.4	+1.3
	comp=Z,1.7nm,0.9s,baz=224,slow=2.7,SNR=6.9						

MEX 06 12:35:41.9±0.3, 14.75N×92.84W, h16km±28km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.02**	**339**	*eP*	Pb	12 35 57.8	-3.4
PCIG				*i* S	Sb	12 36 09.7	-4.6

*NIED **06** 12:36:00, 36°.20N×140°.00E, h71km, Mw3.9 Best double couple: M₀8.37000×10¹⁴ NP1:φs182.00000°, δ26.00000°, λ91.00000°. NP2:φs0.00000°, δ64.00000°, λ89.00000°.*

*ISCJB **06** 12:36:09.4±0.5, 36°.11N±0°.03×140°.01E±0°.06, h83km±3km, mb3.9/9, Error ellipse: s-maj=7.9km s-min=5.5km az=178.7*

*IDC **06** 12:36:10.5±1.3, 36°.14N×139°.97E, h77km±11km, mb3.7/9, mb1 3.7/14, mb1mx3.5/40, mbtmp3.9/14, MS2.4/2, Ms1 2.4/2, ms1mx2.2/46, Error ellipse: s-maj=16.5km s-min=7.9km az=69.0*

*JMA **06** 12:36:11.1±0.1, 36°.11N×139°.99E, h68km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs0.00000°, δ61.00000°, λ87.00000°. NP2:φs186.00000°, δ29.00000°, λ96.00000°. Principal axes: T Plg74.0000°, Azm261.0000°; N Plg3.0000°, Azm1.0000°; P Plg16.0000°, Azm92.0000°;*

JMA Felt I J1.

ISC 06 12:36:10.4±0.8, 36°.12N±0°.05×140°.01E±0°.06, h76km±6km, n30, σ0s81/40, mb4.0/9, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.18**	**56**	↑P	**Pn**	**12 36 21.6**	**-0.1**
JYT				S	**Sn**	**12 36 29.4**	**-0.6**
JAG	**Ashikaga**	**0.54**	**304**	↓P	**Pn**	**12 36 24.2**	**0.0**
JAG				S	**Sn**	**12 36 33.8**	**-0.5**
JKT	**Katashina**	**0.89**	**317**	↓P	**Pn**	**12 36 28.0**	**0.0**
JKT				S	**Sn**	**12 36 41.1**	**+0.1**
JRY	**Ryogami san**	**0.90**	**263**	↓P	**Pn**	**12 36 28.3**	**+0.2**
JRY				S	**Sn**	**12 36 41.3**	**0.0**
JOD2	**Odawara 2**	**1.14**	**221**	↓P	**Pn**	**12 36 31.0**	**0.0**
JOD2				S	**Sn**	**12 36 45.6**	**-0.8**
JFY	**Yanaizu**	**1.30**	**349**	P	**Pn**	**12 36 33.6**	**+0.5**
JFY				S	**Sn**	**12 36 51.1**	**+1.0**
JYN	**Shimob**	**1.34**	**243**	↓P	**Pn**	**12 36 34.2**	**+0.6**
JYN				S	**Sn**	**12 36 51.6**	**+0.5**
JHK	**Hiroka**	**1.38**	**325**	↓P	**Pn**	**12 36 34.5**	**+0.5**
JHK				*e*S	**Sn**	**12 36 52.7**	**+1.0**
BSO3	**Boso 3**	**1.38**	**163**	↑P	**Pn**	**12 36 33.8**	**0.0**
MJAR	**Matsushiro Arr**	**1.51**	**287**	P	**Pn**	**12 36 35.6**	**-0.1**
	95nm,0.3s,baz=124,slow=8.0,SNR=827						
MJAR				S	**Sn**	**12 36 53.1**	**-1.7**
	27nm,0.3s,baz=111,slow=24,SNR=11						
MAT	**Matsushiro**	**1.51**	**287**	P	**Pn**	**12 36 36.4**	**+0.7**
MAT				S	**Sn**	**12 36 54.8**	**-0.1**
MAT	**Matsushiro**	**1.51**	**287**	P	**Pn**	**12 36 36.5**	**+0.7**
JHJ	**Hachijo jima 2**	**3.00**	**184**	P	**Pn**	**12 36 55.9**	**+0.2**
	71nm,0.3s,baz=328,slow=22,SNR=49						
JHJ				S	**Sn**	**12 37 32.1**	**+1.5**
	45nm,0.3s,baz=237,slow=23,SNR=7.9						
JNU	**Nakatsue**	**8.10**	**251**	P	**Pn**	**12 38 04.3**	**-0.9**
	0.2nm,0.3s,baz=23,slow=7.7,SNR=5.1						
JNU				LR	LR	12 41 24.5	
	comp=Z,33nm,20.5s,baz=322,slow=39						
ASAJ	**Asahikawa**	**8.22**	**13**	P	**Pn**	**12 38 07.7**	**+0.8**
	0.7nm,0.3s,baz=207,slow=11,SNR=8.5						
ASAJ				S	**Sn**	**12 39 35.8**	**-2.4**
	0.3nm,0.3s,baz=257,slow=18,SNR=4.9						
KSRS	**Korea Array**	**9.78**	**281**	P	**Pn**	**12 38 29.2**	**+1.0**
	0.2nm,0.3s,baz=95,slow=14,SNR=10						
KSRS				LR	LR	12 41 30.8	
	comp=Z,24nm,21.3s,baz=90,slow=33						
USRK	**Ussuriysk Ar.**	**10.13**	**325**	P	**Pn**	**12 38 34.6**	**+1.7**
	0.1nm,0.3s,baz=148,slow=12,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.70**	**117**	T	T	13 12 00.3	
	baz=309,slow=75,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**28.70**	**117**	T	T	13 12 10.7	
	baz=309,slow=75,SNR=2.5						
H11N3	**WAKE ISLAND Hy**	**28.71**	**117**	T	T	13 12 16.6	
	baz=309,slow=75,SNR=2.5						
ZALV	**Zalesovo Beam**	**41.70**	**313**	P	**P**	**12 43 51.6**	**+0.2**
	1.7nm,0.7s,baz=95,slow=6.7,SNR=8.6						
ZALV				PcP	**PcP**	**12 45 46.5**	**-0.1**
	1.6nm,0.5s,baz=131,slow=2.8,SNR=6.3						
MKAR	**Makanchi Array**	**43.65**	**303**	P	**P**	**12 44 07.7**	**+0.4**
	3.0nm,0.7s,baz=89,slow=10,SNR=24						
ILAR	**Eielson Array**	**50.87**	**32**	P	**P**	**12 45 03.1**	**+0.1**
	0.6nm,0.8s,baz=261,slow=6.4,SNR=8.1						
WRA	**Warramunga Arr**	**56.02**	**186**	P	**P**	**12 45 40.7**	**-0.5**
	2.6nm,0.5s,baz=2.0,slow=7.6,SNR=122						
ASAR	**Alice Springs**	**59.75**	**186**	P	**P**	**12 46 06.5**	**-0.8**
	0.4nm,0.5s,baz=18,slow=13,SNR=14						
FINES	**FINESS Array B**	**69.09**	**332**	P	**P**	**12 47 08.0**	**+0.2**
	1.6nm,0.8s,baz=42,slow=5.9,SNR=4.3						
KBZ	**Khabaz**	**70.63**	**310**	P	**P**	**12 47 17.5**	**0.0**
	0.7nm,0.5s,baz=306,slow=2.6,SNR=3.8						
AKASG	**Malin Array Be**	**74.32**	**322**	P	**P**	**12 47 38.5**	**-0.8**
	0.2nm,0.3s,baz=43,slow=6.3,SNR=4.8						
NB2	**NORSAR Subarra**	**74.58**	**337**	P	**P**	**12 47 41.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.58**	**337**	P	**P**	**12 47 41.0**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=41,slow=5.8,SNR=6.2						

*IDC **06** 12:40:25.6±1.9, 35°.36N×142°.31E, h0km, mb3.2/2, mb1 3.3/5, mb1mx3.2/37, mbtmp3.3/5, ML2.7/2, Error ellipse: s-maj=46.1km s-min=28.8km az=83.0*

*ISCJB **06** 12:40:27.7±1.3, 35°.37N±0°.05×142°.43E±0°.09, h35km±16km, mb3.3/2, Error ellipse: s-maj=12.6km s-min=7.6km az=11.2*

*JMA **06** 12:40:28.5±0.3, 35°.30N×142°.37E, h57km, M3.0*

ISC 06 12:40:28.1±3.6, 35°.32N±0°.06×142°.37E±0°.10, h23km±25km, n14, σ1s39/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.29**	**288**	P	**Pn**	**12 40 51.2**	**+0.4**
CHOJ				*e*S	**Sn**	**12 41 07.4**	**0.0**
BSO1	**Boso 1**	**1.32**	**240**	P	**Pn**	**12 40 50.5**	**-0.2**
BSO1				*e*S	**Sn**	**12 41 07.5**	**+0.1**
BSO3	**Boso 3**	**1.61**	**252**	P	**Pn**	**12 40 55.3**	**+0.4**
BSO3				S	**Sn**	**12 41 15.7**	**+0.8**
BSO4	**Boso 4**	**1.70**	**259**	*e*S	**Sb**	**12 41 19.7**	**+0.2**
JFK	**Kawauchi**	**2.38**	**330**	P	**Pn**	**12 41 05.3**	**-0.4**
JFK				S	**Sn**	**12 41 32.0**	**-2.2**
JAG	**Ashikaga**	**2.62**	**296**	P	**Pn**	**12 41 09.4**	**+0.4**
JAG				S	**Sn**	**12 41 39.1**	**-0.9**
JOD2	**Odawara 2**	**2.69**	**270**	P	**Pn**	**12 41 10.0**	**0.0**
JOD2				S	**Sn**	**12 41 40.1**	**-1.7**
JFT	**Otama**	**2.74**	**324**	P	**Pn**	**12 41 11.5**	**+0.8**
JFT				S	**Sn**	**12 41 42.6**	**-0.6**
JRY	**Ryogami san**	**2.91**	**285**	P	**Pn**	**12 41 14.3**	**+1.2**
JHJ	**Hachijo jima 2**	**3.07**	**225**	Pn	**Pn**	**12 41 14.2**	**-1.0**
	2.1nm,0.3s,baz=253,slow=19,SNR=7.4						
JHJ				Sn	**Sn**	**12 41 47.1**	**-4.1**
	20nm,0.3s,baz=245,slow=23,SNR=9.1						
MJAR	**Matsushiro Arr**	**3.59**	**291**	Pn	**Pn**	**12 41 21.8**	**-0.7**
	0.9nm,0.3s,baz=104,slow=8.4,SNR=9.3						
ASAJ	**Asahikawa**	**8.79**	**1**	Pn	**Pn**	**12 42 32.8**	**-0.9**
	baz=165,slow=16						
WRA	**Warramunga Arr**	**55.48**	**189**	P	**P**	**12 50 01.8**	**+0.5**
	0.2nm,0.4s,baz=6.8,slow=7.4,SNR=4.6						
ASAR	**Alice Springs**	**59.21**	**189**	P	**P**	**12 50 29.4**	**+1.9**
	0.2nm,0.9s,baz=4.8,slow=6.0,SNR=3.0						

*ISCJB **06** 12:46:52.5±0.6, 36°.10N±0°.04×140°.02E±0°.07, h83km±5km, mb3.5/3, Error ellipse: s-maj=9.0km s-min=6.4km az=171.7*

*IDC **06** 12:46:54.5±4.2, 36°.04N×139°.93E, h85km±25km, mb3.2/3, mb1 3.3/4, mb1mx3.1/34, mbtmp3.6/4, Error ellipse: s-maj=61.6km s-min=9.0km az=61.0*

*JMA **06** 12:46:54.3±0.1, 36°.11N×139°.99E, h68km±1km, M3.0*

JMA Felt I J1.

ISC 06 12:46:53.3±1.0, 36°.11N±0°.04×140°.01E±0°.06, h76km±8km, n15, σ0s77/25, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.19**	**51**	P	**Pn**	**12 47 04.8**	**+0.2**
JYT				S	**Sn**	**12 47 12.5**	**-0.4**
JAG	**Ashikaga**	**0.55**	**305**	P	**Pn**	**12 47 07.4**	**+0.2**
JAG				S	**Sn**	**12 47 16.9**	**-0.5**
JKT	**Katashina**	**0.90**	**317**	P	**Pn**	**12 47 11.2**	**+0.1**
JKT				S	**Sn**	**12 47 24.5**	**+0.3**
JRY	**Ryogami san**	**0.90**	**265**	P	**Pn**	**12 47 11.5**	**+0.5**
JRY				S	**Sn**	**12 47 24.5**	**+0.3**
JOD2	**Odawara 2**	**1.13**	**222**	P	**Pn**	**12 47 14.2**	**+0.5**
JOD2				S	**Sn**	**12 47 28.7**	**-0.3**
JFY	**Yanaizu**	**1.32**	**349**	P	**Pn**	**12 47 16.8**	**+0.6**
JFY				S	**Sn**	**12 47 34.8**	**+1.4**
JYN	**Shimob**	**1.34**	**243**	P	**Pn**	**12 47 17.4**	**+1.0**
JYN				S	**Sn**	**12 47 34.8**	**+1.0**
BSO3	**Boso 3**	**1.36**	**162**	P	**Pn**	**12 47 17.0**	**+0.5**
JHK	**Hiroka**	**1.39**	**325**	P	**Pn**	**12 47 17.7**	**+0.6**
MJAR	**Matsushiro Arr**	**1.52**	**287**	P	**Pn**	**12 47 19.1**	**+0.3**
	18nm,0.3s,baz=102,slow=9.3,SNR=146						
MJAR				S	**Sn**	**12 47 38.1**	**+0.1**
	5.6nm,0.3s,baz=80,slow=20,SNR=9.3						
MAT	**Matsushiro**	**1.52**	**287**	P	**Pn**	**12 47 19.4**	**+0.7**
MAT				S	**Sn**	**12 47 35.8**	**-2.2**
JHJ	**Hachijo jima 2**	**2.99**	**184**	P	**Pn**	**12 47 38.6**	**+0.2**
	12nm,0.3s,baz=142,slow=21,SNR=11						
JHJ				S	**Sn**	**12 48 13.3**	**+0.2**
	6.6nm,0.3s,baz=321,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**43.66**	**303**	P	**P**	**12 54 49.8**	**-0.5**
	0.5nm,0.6s,baz=88,slow=9.5,SNR=4.4						
WRA	**Warramunga Arr**	**56.00**	**186**	P	**P**	**12 56 23.4**	**-0.7**
	0.3nm,0.4s,baz=2.1,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**59.73**	**186**	P	**P**	**12 56 50.4**	**+0.3**
	0.4nm,1.1s,baz=356,slow=5.6,SNR=3.5						

*NEIC **06** 12:57:30.6, 38°.33S×175°.81E, h202km, MG4.0(WEL), After WEL.*

WEL 06 12:57:30.3±0.3, 38°.32S×175°.82E, h204km±2km, ML4.0/19, 34C-17D, Error ellipse: s-maj=1.8km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRRZ	**Plateau Road**	**0.48**	**111**	PN	Pn	12 57 57.8	0.0
PRRZ				SN	S	12 58 18.6	-0.6
PRRZ	**Plateau Road**	**0.48**	**111**	Pn	Pn	12 57 57.8	0.0
PRRZ				Sn	S	12 58 18.6	-0.6
KMRZ	**Kaimai**	**0.49**	**12**	↓PN	Pn	12 57 58.0	0.0
KMRZ				SN	S	12 58 19.4	+0.1
RATZ	**Rangitukua**	**0.54**	**184**	↑PN	Pn	12 57 58.0	-0.1
RATZ	**Rangitukua**	**0.54**	**184**	Pn	Pn	12 57 58.0	-0.1
RRRZ	**Republican Roa**	**0.55**	**92**	↑PN	Pn	12 57 58.0	0.0
RRRZ				SN	S	12 58 19.0	-0.6
RRRZ	**Republican Roa**	**0.55**	**92**	Pn	Pn	12 57 58.0	0.0
TARZ	**Mount Tarawera**	**0.55**	**81**	PN	Pn	12 57 58.0	-0.1
TARZ	**Mount Tarawera**	**0.55**	**81**	Pn	Pn	12 57 58.0	-0.1
TOZ	**Tahuroa Road**	**0.64**	**337**	↑PN	Pn	12 57 58.6	+0.1
TOZ				SN	S	12 58 20.6	+0.3
TOZ	**Tahuroa Road**	**0.64**	**337**	Pn	Pn	12 57 58.6	+0.1
TOZ				Sn	S	12 58 20.6	+0.3
RITZ	**Rihia Road**	**0.65**	**177**	↓PN	Pn	12 57 58.8	+0.3
RITZ	**Rihia Road**	**0.65**	**177**	Pn	Pn	12 57 58.8	+0.3
KATZ	**Kakaramea**	**0.66**	**188**	PN	Pn	12 57 58.5	-0.1
KATZ	**Kakaramea**	**0.66**	**188**	Pn	Pn	12 57 58.5	-0.1
TGRZ	**Tauranga**	**0.69**	**31**	↓PN	Pn	12 57 58.6	-0.1
TGRZ	**Tauranga**	**0.69**	**31**	Pn	Pn	12 57 58.6	-0.1
MRHZ	**Matea Rd**	**0.69**	**137**	↑PN	Pn	12 57 58.5	-0.3
MRHZ				SN	S	12 58 18.8	-2.1
EDRZ	**Edgecumbe**	**0.76**	**74**	↓PN	Pn	12 57 58.8	-0.3
EDRZ	**Edgecumbe**	**0.76**	**74**	Pn	Pn	12 57 58.9	-0.3
MUGZ	**Murupara**	**0.77**	**102**	↓PN	Pn	12 57 58.6	-0.4
MUGZ				SN	S	12 58 17.7	-3.6
HIZ	**Hauiti**	**0.78**	**256**	PN	Pn	12 57 59.2	+0.1
HIZ				SN	S	12 58 22.1	+0.7
HIZ	**Hauiti**	**0.78**	**256**	Pn	Pn	12 57 59.2	+0.1
KRVZ	**Karewarewa**	**0.78**	**190**	PN	Pn	12 57 59.2	-0.1
KRVZ	**Karewarewa**	**0.78**	**190**	Pn	Pn	12 57 59.2	-0.1
TWVZ	**Taurewa**	**0.80**	**202**	PN	Pn	12 57 59.2	-0.2
TWVZ	**Taurewa**	**0.80**	**202**	Pn	Pn	12 57 59.2	-0.2
WTVZ	**West Tongariro**	**0.81**	**193**	↑PN	Pn	12 57 59.4	-0.1
WTVZ				SN	S	12 58 21.5	-0.7
WTVZ	**West Tongariro**	**0.81**	**193**	Pn	Pn	12 57 59.4	-0.1
OTVZ	**Oturere**	**0.85**	**188**	PN	Pn	12 57 59.6	-0.1
OTVZ	**Oturere**	**0.85**	**188**	Pn	Pn	12 57 59.6	-0.1
NGZ	**Ngauruhoe**	**0.87**	**191**	PN	Pn	12 57 59.7	-0.1
NGZ	**Ngauruhoe**	**0.87**	**191**	Pn	Pn	12 57 59.7	-0.1
TUVZ	**Tukino**	**0.95**	**188**	↑PN	Pn	12 58 00.3	0.0
TUVZ	**Tukino**	**0.95**	**188**	Pn	Pn	12 58 00.3	0.0
FWVZ	**Far West T-bar**	**0.95**	**192**	PN	Pn	12 58 00.1	-0.3
FWVZ	**Far West T-bar**	**0.95**	**192**	Pn	Pn	12 58 00.1	-0.3
RTZ	**Ruatahuna**	**0.96**	**108**	PN	Pn	12 58 00.0	-0.2
WHVZ	**Whangaehu Hut**	**0.97**	**190**	PN	Pn	12 58 00.5	-0.1
WHVZ	**Whangaehu Hut**	**0.97**	**190**	Pn	Pn	12 58 00.3	-0.2
BKZ	**Black Stump Fm**	**0.99**	**148**	↑PN	Pn	12 58 00.3	-0.2
BKZ				AML	AML	12 58 24.6	
BKZ				AML	AML	12 58 26.1	
BKZ	**Black Stump Fm**	**0.99**	**148**	Pn	Pn	12 58 00.3	-0.2
WNVZ	**Wahianoa**	**1.02**	**190**	↑PN	Pn	12 58 00.6	-0.1
WNVZ	**Wahianoa**	**1.02**	**190**	Pn	Pn	12 58 00.7	-0.1
URZ	**Urewera**	**1.02**	**87**	↓PN	Pn	12 57 60.0	-0.6
URZ				AML	AML	12 58 23.6	
URZ				AML	AML	12 58 24.4	
URZ	**Urewera**	**1.02**	**87**	Pn	Pn	12 57 60.0	-0.6
MOVZ	**Moawhango**	**1.08**	**183**	↑PN	Pn	12 58 00.7	-0.4
MOVZ	**Moawhango**	**1.08**	**183**	Pn	Pn	12 58 00.7	-0.4
MTVZ	**Mangateitei**	**1.09**	**194**	↓PN	Pn	12 58 01.1	0.0
MTVZ	**Mangateitei**	**1.09**	**194**	Pn	Pn	12 58 01.1	0.0
NMHZ	**Naumai**	**1.09**	**135**	PN	Pn	12 58 02.0	+0.9
NMHZ	**Naumai**	**1.09**	**135**	Pn	Pn	12 58 02.0	+0.9
VRZ	**Vera Road**	**1.15**	**226**	↑PN	Pn	12 58 01.4	-0.1
VRZ	**Vera Road**	**1.15**	**226**	Pn	Pn	12 58 01.4	-0.1
RAHZ	**Arahi**	**1.16**	**121**	PN	Pn	12 58 02.0	+0.5
RAHZ	**Arahi**	**1.16**	**121**	Pn	Pn	12 58 02.0	+0.5
BHHZ	**Black Hill Sta**	**1.18**	**171**	↑PN	Pn	12 58 01.5	-0.3
BHHZ	**Black Hill Sta**	**1.18**	**171**	Pn	Pn	12 58 01.5	-0.3
KWHZ	**Kaweka Forest**	**1.20**	**157**	↑PN	Pn	12 58 02.1	+0.1
RAGZ	**Rawiri**	**1.27**	**98**	PN	Pn	12 58 02.3	-0.2
RAGZ	**Rawiri**	**1.27**	**98**	Pn	Pn	12 58 02.4	-0.1
SNGZ	**Shannon Statio**	**1.28**	**111**	↓PN	Pn	12 58 02.8	+0.3
SNGZ	**Shannon Statio**	**1.28**	**111**	Pn	Pn	12 58 02.8	+0.3
MCHZ	**McNeill Hill**	**1.31**	**149**	↓PN	Pn	12 58 03.5	+0.8
MCHZ	**McNeill Hill**	**1.31**	**149**	Pn	Pn	12 58 03.5	+0.8
ARHZ	**Aropaoanui**	**1.31**	**136**	PN	Pn	12 58 03.3	+0.5
ARHZ	**Aropaoanui**	**1.31**	**136**	Pn	Pn	12 58 03.2	+0.5
MKAZ	**Moumakai**	**1.32**	**337**	PN	Pn	12 58 02.5	-0.4
MKAZ	**Moumakai**	**1.32**	**337**	Pn	Pn	12 58 02.5	-0.4
WHHZ	**Waihua**	**1.34**	**125**	PN	Pn	12 58 03.4	+0.4
MWZ	**Matawai**	**1.35**	**91**	↓PN	Pn	12 58 02.7	-0.4
MWZ				AML	AML	12 58 28.1	
MWZ				AML	AML	12 58 28.2	
MWZ	**Matawai**	**1.35**	**91**	Pn	Pn	12 58 02.7	-0.4
KRHZ	**Kereru**	**1.39**	**162**	↑PN	Pn	12 58 03.3	-0.1
WAZ	**Wanganui**	**1.57**	**204**	↑PN	Pn	12 58 04.6	-0.4
WAZ	**Wanganui**	**1.57**	**204**	Pn	Pn	12 58 04.6	-0.4

RIGZ	**Rimuhau**	**1.57**	**105**	↓PN	Pn	12 58 05.2	+0.2
LREZ	**Lake Rotokare**	**1.58**	**224**	PN	Pn	12 58 05.0	0.0
TKGZ	**Te Karaka**	**1.60**	**95**	PN	Pn	12 58 05.2	0.0
TKGZ	**Te Karaka**	**1.60**	**95**	Pn	Pn	12 58 05.2	0.0
KNZ	**Kokohu**	**1.61**	**116**	↓PN	Pn	12 58 05.4	+0.1
KNZ				AML	AML	12 58 33.1	
KNZ				AML	AML	12 58 33.7	
KNZ	**Kokohu**	**1.61**	**116**	Pn	Pn	12 58 05.4	+0.1
PNHZ	**Pukenui**	**1.61**	**169**	PN	Pn	12 58 04.9	-0.4
PNHZ	**Pukenui**	**1.61**	**169**	Pn	Pn	12 58 05.0	-0.4
NEZ	**North Egmont**	**1.64**	**234**	PN	Pn	12 58 05.7	0.0
NEZ	**North Egmont**	**1.64**	**234**	Pn	Pn	12 58 05.7	0.0
HAZ	**Te Kaha**	**1.65**	**71**	PN	Pn	12 58 04.5	-1.2
CKHZ	**Cape Kidnapper**	**1.66**	**144**	PN	Pn	12 58 06.0	+0.3
CKHZ	**Cape Kidnapper**	**1.66**	**144**	Pn	Pn	12 58 06.0	+0.3
PKE	**Pukeiti**	**1.67**	**238**	PN	Pn	12 58 05.9	0.0
PKE	**Pukeiti**	**1.67**	**238**	Pn	Pn	12 58 05.9	0.0
KAHZ	**Kahuranaki**	**1.68**	**151**	↑PN	Pn	12 58 06.3	+0.3
KAHZ	**Kahuranaki**	**1.68**	**151**	Pn	Pn	12 58 06.3	+0.3
KHEZ	**Kahui Hut**	**1.71**	**235**	PN	Pn	12 58 06.3	0.0
KHEZ	**Kahui Hut**	**1.71**	**235**	Pn	Pn	12 58 06.3	0.0
TWGZ	**Tauwhareparae**	**1.71**	**86**	PN	Pn	12 58 06.3	0.0
TWGZ	**Tauwhareparae**	**1.71**	**86**	Pn	Pn	12 58 06.3	0.0
PRGZ	**Paritu Road**	**1.73**	**111**	PN	Pn	12 58 06.5	+0.1
PRGZ	**Paritu Road**	**1.73**	**111**	Pn	Pn	12 58 06.5	+0.1
TSZ	**Takapari Road**	**1.74**	**176**	↑PN	Pn	12 58 05.9	-0.5
TSZ				AML	AML	12 58 35.5	
TSZ				AML	AML	12 58 35.7	
TSZ	**Takapari Road**	**1.74**	**176**	Pn	Pn	12 58 06.0	-0.5
WPHZ	**Waipukurau**	**1.80**	**165**	↑PN	Pn	12 58 06.7	-0.4
WPHZ	**Waipukurau**	**1.80**	**165**	Pn	Pn	12 58 06.8	-0.4
MHGZ	**Mahia Peninsul**	**1.83**	**117**	↑PN	Pn	12 58 07.7	+0.3
MHGZ	**Mahia Peninsul**	**1.83**	**117**	Pn	Pn	12 58 07.7	+0.3
PKGZ	**Pakihiroa**	**1.84**	**77**	PN	Pn	12 58 07.1	-0.5
CNGZ	**Carnagh Statio**	**1.89**	**96**	PN	Pn	12 58 08.4	+0.5
CNGZ	**Carnagh Statio**	**1.89**	**96**	Pn	Pn	12 58 08.4	+0.5
PXZ	**Pawanui**	**1.89**	**155**	↑PN	Pn	12 58 07.5	-0.4
PXZ				AML	AML	12 58 37.2	
PXZ				AML	AML	12 58 37.3	
PXZ				AML	AML	12 58 38.8	
PXZ				AML	AML	12 58 38.8	
PXZ	**Pawanui**	**1.89**	**155**	Pn	Pn	12 58 07.5	-0.4
OHWZ	**Ohakea**	**1.92**	**192**	↑PN	Pn	12 58 08.0	-0.2
PUZ	**Puketiti**	**1.94**	**83**	PN	Pn	12 58 07.8	-0.7
PUZ				AML	AML	12 58 39.6	
PUZ				AML	AML	12 58 40.3	
PUZ	**Puketiti**	**1.94**	**83**	Pn	Pn	12 58 07.8	-0.7
DVHZ	**Dannevirke**	**1.99**	**172**	↑PN	Pn	12 58 08.1	-0.9
DVHZ	**Dannevirke**	**1.99**	**172**	Pn	Pn	12 58 08.1	-0.9
PRHZ	**Porangahau**	**2.04**	**162**	↑PN	Pn	12 58 08.9	-0.6
PRHZ	**Porangahau**	**2.04**	**162**	Pn	Pn	12 58 08.9	-0.6
POWZ	**Post Office Ro**	**2.06**	**181**	↑PN	Pn	12 58 08.7	-1.0
POWZ	**Post Office Ro**	**2.06**	**181**	Pn	Pn	12 58 08.7	-1.0
MXZ	**Matakaoa Point**	**2.11**	**70**	PN	Pn	12 58 10.2	0.0
MXZ				AML	AML	12 58 42.6	
MXZ				AML	AML	12 58 45.9	
MXZ	**Matakaoa Point**	**2.11**	**70

*ISK **06** 13:10:31.0, 39°21'N × 28°.96E, h6km, MD2.5*
*CSEM **06** 13:10:31.7±0.2, 39°.23N × 28°.89E, h10km, MD2.5, Error ellipse: s-maj=6.2km s-min=4.5km az=102.0*
*DDA **06** 13:10:32.7, 39°.15N × 28°.95E, h7km, Md2.5*
ISC 06 13:10:31.7±1.0, **39°.23N**±0°.03 × **28°.92E**±0°.03, **h11**km±11km, **n18**, σ0**31**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**219**	P	**Pg**	**13 10 36.8**	**0.0**
DEMI				S	**Sg**	**13 10 40.5**	**+0.2**
DEMI	**Demirci**	**0.25**	**219**	*i* P	**Pg**	**13 10 36.9**	**0.0**
DEMI				*i* S	**Sg**	**13 10 40.5**	**+0.2**
GDZ	**Gediz**	**0.46**	**108**	P	**Pb**	**13 10 42.9**	**+0.9**
GDZ				S	**Sg**	**13 10 47.0**	**+0.1**
GDZ	**Gediz**	**0.46**	**108**	*i* P	**Pb**	**13 10 42.9**	**+0.9**
GDZ				*i* S	**Sg**	**13 10 47.0**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**63**	*e*PG	**Pg**	**13 10 40.6**	**-0.4**
TVSB				*e*SG	**Sg**	**13 10 47.2**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**63**	*e*Pg	**Pg**	**13 10 40.7**	**-0.4**
TVSB				*e*Sg	**Sg**	**13 10 47.2**	**-0.1**
KULA	**Kula-Manisa**	**0.75**	**196**	*e*PG	**Pg**	**13 10 46.0**	**-0.2**
KULA				*e*SG	**Sg**	**13 10 55.9**	**-0.1**
KULA	**Kula-Manisa**	**0.75**	**196**	*e*Pg	**Pg**	**13 10 46.0**	**-0.2**
KULA				*e*Sg	**Sg**	**13 10 55.9**	**-0.1**
KHAL	**Karahalli**	**0.97**	**152**	P	**Pb**	**13 10 50.5**	**-0.2**
KHAL				S	**Sg**	**13 11 02.8**	**-0.3**
KHAL	**Karahalli**	**0.97**	**152**	*i* P	**Pb**	**13 10 50.5**	**-0.2**
KHAL				*i* S	**Sg**	**13 11 02.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.12**	**337**	*e*PN	**Pb**	**13 10 53.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.12**	**337**	*e*Pn	**Pb**	**13 10 53.2**	**+0.1**
IZI	**Iznik**	**1.18**	**21**	*e*PN	**Pb**	**13 10 54.3**	**+0.1**
IZI	**Iznik**	**1.18**	**21**	*e*Pn	**Pb**	**13 10 54.3**	**+0.1**
CAVI	**Cavuskoy**	**1.20**	**36**	*e*PN	**Pn**	**13 10 54.5**	**-0.1**
CAVI	**Cavuskoy**	**1.20**	**36**	*e*Pn	**Pn**	**13 10 54.5**	**-0.1**
ARMT	**Armutlu**	**1.33**	**358**	*e*PN	**Pg**	**13 10 57.4**	**+0.1**
ARMT	**Armutlu**	**1.33**	**358**	*e*Pn	**Pg**	**13 10 57.4**	**+0.1**

*ISCJB **06** 13:11:02.5±0.6, 13°.16S±0°.08 × 167°.2E±0°.1, h200km, mb3.9/15, Error ellipse: s-maj=19.5km s-min=11.2km az=12.3*
*IDC **06** 13:11:06.5±2.6, 13°.17S × 167°.15E, h220km±22km, mb3.6/13, mb1 3.7/14, mb1mx3.6/32, mbtmp4.1/14, MS4.1/1, Ms1 4.1/1, ms1mx2.7/18, Error ellipse: s-maj=21.8km s-min=14.7km az=105.0*
*NEIC **06** 13:11:09.4±4.0, 13°.21S × 167°.11E, h249km±35km, mb4.3/4, Error ellipse: s-maj=21.2km s-min=11.5km az=83.0*
ISC 06 13:11:04.8±0.6, **13°.10S**±0°.09 × **167°.1E**±0°.1, **h200**km, **n31**, σ1**49**/32, **mb4.0**/15, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.94**	**184**	P	**Pn**	**13 13 12.8**	**+2.4**
	0.5nm,0.3s,baz=330,slow=24,SNR=9.2						
DZM	**Mont Dzumac**	**8.94**	**184**	*e*Pn	**Pn**	**13 13 08.1**	**-2.3**
MSVF	**Nonsavu**	**11.57**	**115**	*e*P	**P**	**13 13 51.7**	**+2.0**
EIDS	**Eidsvold**	**19.37**	**229**	*e*P	**P**	**13 15 16.7**	**+1.2**
	2.1nm,0.4s						
CTA	**Charters Tower**	**21.09**	**248**	P	**P**	**13 15 36.0**	**+2.0**
	2.2nm,0.6s,baz=68,slow=14,SNR=4.6						
CTAO	**Charters Tower**	**21.09**	**248**	*e*P	**P**	**13 15 35.8**	**+1.9**
	16nm,0.7s						
STKA	**Stephens Creek**	**29.91**	**227**	P	**P**	**13 16 54.5**	**+0.5**
	1.6nm,0.6s,baz=51,slow=9.5,SNR=9.6						
WRAB	**Tennant Creek**	**32.03**	**253**	*e*P	**P**	**13 17 12.8**	**-0.1**
WRA	**Warramunga Arr**	**32.05**	**253**	P	**P**	**13 17 11.8**	**-1.2**
	0.5nm,0.5s,baz=86,slow=9.3,SNR=15						
ASAR	**Alice Springs**	**33.08**	**247**	P	**P**	**13 17 21.4**	**-0.5**
	1.8nm,0.6s,baz=77,slow=9.0,SNR=68						
ASAR				PcP	**PcP**	**13 19 59.5**	**-1.2**
	0.6nm,0.6s,baz=68,slow=2.3,SNR=8.9						
ASAR				ScP	**ScP**	**13 23 24.7**	**-1.3**
	0.9nm,0.8s,baz=78,slow=3.0,SNR=8.8						
SIJI	**Sorong**	**37.46**	**286**	LR	LR	13 34 10.2	
	comp=Z,274nm,19.6s,baz=157,slow=37						
MJAR	**Matsushiro Arr**	**56.37**	**332**	P	**P**	**13 20 25.5**	**+0.2**
	1.4nm,0.7s,baz=165,slow=8.4,SNR=6.1						
KSRS	**Korea Array**	**62.28**	**325**	P	**P**	**13 21 05.1**	**-0.6**
	0.3nm,0.5s,baz=136,slow=6.9,SNR=3.2						
KSAR	**Wonju Array Be**	**62.29**	**325**	P	**P**	**13 21 05.1**	**-0.7**
VNDA	**Vanda**	**64.48**	**181**	P	**P**	**13 21 18.4**	**-1.2**
	0.8nm,0.6s,baz=3.8,slow=8.1,SNR=8.5						
SBA	**Scott Base**	**64.76**	**180**	*e*P	**P**	**13 21 20.7**	**-0.6**
	1.7nm,0.7s						
PETK	**Petropavlovsk-**	**66.43**	**354**	P	**P**	**13 21 33.4**	**+1.0**
	2.3nm,0.8s,baz=142,slow=7.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**74.10**	**294**	P	**P**	**13 22 21.1**	**+1.5**
	1.6nm,0.7s,baz=129,slow=5.0,SNR=11						
QSPA	**South Pole Qui**	**76.92**	**180**	*e*P	**P**	**13 22 33.2**	**-1.7**
	22nm,0.9s						
ULN	**Ulaanbaatar**	**80.70**	**324**	*e*P	**P**	**13 22 55.5**	**-0.3**
SONM	**Songino Array**	**81.06**	**324**	P	**P**	**13 22 58.4**	**+0.7**
	0.7nm,0.6s,baz=114,slow=3.6,SNR=3.1						
COLA	**College**	**84.84**	**18**	*e*P	**P**	**13 23 15.8**	**-0.6**
ILAR	**Eielson Array**	**85.05**	**18**	P	**P**	**13 23 16.1**	**-1.4**
	2.4nm,0.6s,baz=240,slow=5.1,SNR=56						
MKAR	**Makanchi Array**	**95.88**	**317**	P	**P**	**13 24 08.7**	**0.0**
	1.2nm,0.5s,baz=89,slow=6.2,SNR=15						
ZALV	**Zalesovo Beam**	**95.95**	**324**	P	**P**	**13 24 08.5**	**-0.3**
	0.6nm,0.5s,baz=137,slow=7.2,SNR=4.4						
ARCES	**ARCESS Array B**	**118.63**	**346**	PKP	**PKPdf**	**13 29 27.1**	**-1.3**
	1.3nm,0.4s,baz=75,slow=2.3,SNR=13						
FINES	**FINESS Array B**	**124.14**	**339**	PKP	**PKPdf**	**13 29 37.9**	**-1.3**
	1.7nm,0.7s,baz=46,slow=5.5,SNR=6.2						
GERES	**GERESS Array B**	**138.10**	**334**	PKP	**PKPdf**	**13 30 05.0**	**-1.0**
	0.2nm,0.2s,baz=29,slow=3.0,SNR=3.9						
KEST	**Kesra**	**149.81**	**322**	PKPbc	**PKPdf**	**13 30 30.9**	**+4.2**
	6.0nm,0.6s,baz=192,slow=3.3,SNR=6.2						
ESDC	**Sonseca Array**	**152.37**	**345**	PKPbc	**PKPbc**	**13 30 36.1**	**-1.3**
	0.3nm,0.4s,baz=19,slow=2.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**165.73**	**272**	PKPab	**PKPab**	**13 31 46.5**	**-0.4**
	0.4nm,0.7s,baz=100,slow=5.8,SNR=2.7						

*IDC **06** 13:21:01.1±1.6, 38°.17N × 21°.32E, h0km, mb3.7/4, mb1 3.5/6, mb1mx3.3/52, mbtmp3.5/6, ML2.6/2, Error ellipse: s-maj=36.4km s-min=25.0km az=132.0*
*ATH **06** 13:21:04.8, 38°.11N × 21°.55E, h24km, ML3.3/8, Error ellipse: s-maj=1.1km s-min=0.7km az=224.0*
*ISCJB **06** 13:21:05.5±0.2, 38°.11N±0°.02 × 21°.55E±0°.02, h22km±2km, mb3.6/4, Error ellipse: s-maj=3.1km s-min=2.8km az=150.8*
*IASPEI **06** 13:21:05.1±0.8, 38°.11N±0°.02 × 21°.56E±0°.01, h18km±5km, mb3.6/4, Error ellipse: s-maj=2.3km s-min=2.0km az=177.8, GT5 selection from ISC bulletin GT5 identified by Bond¨ir and McLaughlin (2009) selection criteria Bond¨ir and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*THE **06** 13:21:05.5, 38°.11N × 21°.56E, h14km, ML3.3/15, Error ellipse: s-maj=0.5km s-min=0.3km az=279.0*
*CSEM **06** 13:21:05.1±0.1, 38°.11N × 21°.55E, h15km, ML3.3, Error ellipse: s-maj=1.7km s-min=1.5km az=163.0*
ISC 06 13:21:05.0±0.7, **38°.11N**±0°.01 × **21°.56E**±0°.01, **h18**km±3km, **n126**, σ0**79**/178, **mb3.6**/4, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.09**	**236**	P	**Pg**	**13 21 08.7**	**+0.2**
RLS				S	**Sg**	**13 21 11.0**	**+0.2**
RLS	**Riolos of Patr**	**0.09**	**236**	P	**Pg**	**13 21 08.6**	**+0.1**
RLS				S	**Sg**	**13 21 11.0**	**+0.2**
RLS	**Riolos of Patr**	**0.09**	**236**	S	**Sg**	**13 21 10.9**	**+0.2**
RLS				AML	AML	13 21 12.0	
	comp=N,90976μm,0.3s						
RLS				AML	AML	13 21 12.2	
	comp=E,27157μm,0.1s						
AXS	**Araxos**	**0.17**	**303**	P	**Pg**	**13 21 09.5**	**+0.1**
AXS				S	**Sg**	**13 21 13.0**	**+0.6**
AXS	**Araxos**	**0.17**	**303**	P	**Pg**	**13 21 09.6**	**+0.1**
AXS				S	**Sg**	**13 21 13.0**	**+0.6**
AXS	**Araxos**	**0.17**	**303**	P	**Pg**	**13 21 09.7**	**+0.2**
AXS				S	**Sg**	**13 21 12.8**	**+0.3**
DRO	**Drossia**	**0.20**	**141**	P	**Pb**	**13 21 10.0**	**0.0**
DRO				S	**Sb**	**13 21 13.5**	**+0.2**
DRO	**Drossia**	**0.20**	**141**	P	**Pg**	**13 21 10.4**	**+0.5**
DRO				S	**Sg**	**13 21 14.2**	**+1.1**
DRO	**Drossia**	**0.20**	**141**	P	**Pg**	**13 21 10.4**	**+0.5**
DRO				S	**Sg**	**13 21 14.2**	**+1.1**
DRO				AML	AML	13 21 14.7	
	comp=N,95814μm,0.2s						
DRO				AML	AML	13 21 14.8	
UPR	**University Cam**	**0.25**	**46**	P	**Pb**	**13 21 11.1**	**0.0**
UPR				S	**Sb**	**13 21 15.4**	**+0.3**
UPR	**University Cam**	**0.25**	**46**	P	**Pb**	**13 21 11.3**	**+0.2**
UPR				S	**Sb**	**13 21 15.4**	**+0.3**
UPR	**University Cam**	**0.25**	**46**	P	**Pb**	**13 21 11.9**	**+0.9**
RODI	**Rodini**	**0.34**	**51**	P	**Pg**	**13 21 12.5**	**+0.2**
RODI				S	**Sb**	**13 21 18.5**	**+0.7**
RODI	**Rodini**	**0.34**	**51**	P	**Pg**	**13 21 12.5**	**+0.2**
RODI				S	**Sb**	**13 21 18.5**	**+0.7**
RODI				AML	AML	13 21 18.6	
	comp=E,18015μm,0.6s						
RODI				AML	AML	13 21 19.3	
	comp=N,21999μm,0.2s						
VTN	**Vitineika**	**0.35**	**237**	P	**Pb**	**13 21 13.0**	**+0.3**
VTN				S	**Sb**	**13 21 19.2**	**+1.3**
VTN	**Vitineika**	**0.35**	**237**	P	**Pb**	**13 21 14.1**	**+1.4**
LAKA	**Lakka**	**0.36**	**68**	P	**Pg**	**13 21 12.7**	**+0.1**
LAKA				S	**Sg**	**13 21 17.8**	**+0.1**
LAKA	**Lakka**	**0.36**	**68**	P	**Pg**	**13 21 12.7**	**+0.1**
LAKA				S	**Sg**	**13 21 17.8**	**+0.1**
LAKA	**Lakka**	**0.36**	**68**	P	**Pb**	**13 21 13.1**	**+0.2**
LAKA				S	**Sb**	**13 21 18.5**	**+0.2**
LAKA				AML	AML	13 21 19.4	
	comp=N,4836μm,0.3s						
LAKA				AML	AML	13 21 19.6	
	comp=E,13753μm,0.7s						
KLV	**Kalavryta, Ach**	**0.47**	**97**	P	**Pg**	**13 21 14.4**	**-0.2**
KLV				S	**Sg**	**13 21 21.5**	**+0.4**
KLV	**Kalavryta, Ach**	**0.47**	**97**	P	**Pg**	**13 21 14.7**	**+0.1**
KLV				S	**Sg**	**13 21 21.5**	**+0.4**
KLV	**Kalavryta, Ach**	**0.47**	**97**	P	**Pg**	**13 21 14.7**	**+0.1**
KLV				S	**Sb**	**13 21 23.1**	**+1.5**
KLV				AML	AML	13 21 24.6	
	comp=N,4098μm,0.3s						
KLV				AML	AML	13 21 24.7	
	comp=E,2905μm,0.3s						
TRIZ	**Trizonia**	**0.48**	**57**	P	**Pg**	**13 21 14.9**	**+0.2**
SERG	**Sergoula**	**0.50**	**52**	P	**Pg**	**13 21 14.9**	**-0.2**
SERG				S	**Sb**	**13 21 23.1**	**+0.8**
SERG	**Sergoula**	**0.50**	**52**	P	**Pg**	**13 21 14.9**	**-0.2**
SERG				S	**Sb**	**13 21 22.7**	**+0.4**
PVO	**Paravola**	**0.51**	**357**	P	**Pg**	**13 21 15.3**	**0.0**
PVO				S	**Sb**	**13 21 23.4**	**+0.8**
PVO	**Paravola**	**0.51**	**357**	P	**Pg**	**13 21 15.3**	**0.0**
PVO				S	**Sb**	**13 21 22.9**	**+0.3**
PVO	**Paravola**	**0.51**	**357**	P	**Pb**	**13 21 15.8**	**+0.3**
PVO				S	**Sb**	**13 21 22.9**	**+0.3**
KALE	**Kalithea**	**0.54**	**58**	P	**Pg**	**13 21 15.6**	**-0.2**
KALE				S	**Sb**	**13 21 23.6**	**+0.1**
KALE	**Kalithea**	**0.54**	**58**	P	**Pg**	**13 21 15.8**	**-0.1**
KALE				S	**Sb**	**13 21 23.6**	**+0.1**
KALE	**Kalithea**	**0.54**	**58**	P	**Pg**	**13 21 15.8**	**-0.1**
KALE				S	**Sb**	**13 21 25.1**	**+1.6**
KALE				AML	AML	13 21 25.6	
	comp=E,6180μm,0.6s						
KALE				AML	AML	13 21 26.9	
	comp=N,7033μm,0.4s						
ANX	**Ano Chora**	**0.56**	**30**	P	**Pg**	**13 21 16.0**	**-0.3**
ANX				S	**Sb**	**13 21 25.1**	**+0.9**
ANX	**Ano Chora**	**0.56**	**30**	P	**Pg**	**13 21 16.0**	**-0.3**
ANX				S	**Sb**	**13 21 25.1**	**+0.9**
PDO	**Prodromos**	**0.57**	**329**	P	**Pg**	**13 21 16.4**	**0.0**
PDO				S	**Sb**	**13 21 25.2**	**+0.8**
PDO	**Prodromos**	**0.57**	**329**	P	**Pg**	**13 21 16.4**	**0.0**
PDO				S	**Sb**	**13 21 25.2**	**+0.8**
PDO	**Prodromos**	**0.57**	**329**	P	**Pb**	**13 21 16.9**	**+0.4**
PDO				S	**Sb**	**13 21 25.7**	**+1.3**
PDO				AML	AML	13 21 28.2	
	comp=N,9329μm,0.3s						
PDO				AML	AML	13 21 28.2	
	comp=E,6653μm,0.3s						
AMT	**Artemida-Makis**	**0.58**	**168**	P	**Pg**	**13 21 16.9**	**+0.3**
AMT				S	**Sb**	**13 21 25.4**	**+0.7**
AMT	**Artemida-Makis**	**0.58**	**168**	P	**Pg**	**13 21 16.9**	**+0.3**
AMT				S	**Sb**	**13 21 25.3**	**+0.6**
AMT	**Artemida-Makis**	**0.58**	**168**	P	**Pb**	**13 21 17.4**	**+0.6**
KFL	**Anninata**	**0.61**	**271**	P	**Pb**	**13 21 16.8**	**-0.2**
KFL				S	**Sb**	**13 21 26.7**	**+1.4**
KFL	**Anninata**	**0.61**	**271**	P	**Pg**	**13 21 16.8**	**-0.2**
KFL				S	**Sb**	**13 21 26.1**	**+0.8**
KFL	**Anninata**	**0.61**	**271**	P	**Pb**	**13 21 17.0**	**0.0**
ZKS	**Zakynthos**	**0.73**	**236**	P	**Pb**	**13 21 19.1**	**-0.2**
ZKS	**Zakynthos**	**0.73**	**236**	P	**Pb**	**13 21 19.1**	**-0.2**
ZKS				S	**Sg**	**13 21 29.6**	**+0.5**
ZKS	**Zakynthos**	**0.73**	**236**	P	**Pb**	**13 21 19.1**	**-0.2**
VLS	**Valsamata**	**0.77**	**276**	P	**Pb**	**13 21 19.2**	**-0.6**
VLS				S	**Sn**	**13 21 31.5**	**-0.6**
VLS	**Valsamata**	**0.77**	**276**	P	**Pb**	**13 21 19.2**	**-0.6**
VLS				S	**Sn**	**13 21 31.5**	**-0.6**
TRIP	**Tripoli**	**0.81**	**135**	P	**Pb**	**13 21 19.5**	**-1.1**
TRIP	**Tripoli**	**0.81**	**135**	P	**Pb**	**13 21 19.4**	**-1.1**
TRIP				AML	AML	13 21 35.4	
	comp=N,1546μm,0.5s						
TRIP				S	**Sn**	**13 21 35.6**	**+2.4**
TRIP				AML	AML	13 21 36.2	
	comp=E,1495μm,0.4s						
DSF	**Desfina**	**0.82**	**68**	P	**Pb**	**13 21 20.4**	**-0.4**
DSF				S	**Sg**	**13 21 33.0**	**+1.0**
DSF	**Desfina**	**0.82**	**68**	P	**Pb**	**13 21 20.4**	**-0.4**
DSF				S	**Sg**	**13 21 33.0**	**+1.0**
DSF	**Desfina**	**0.82**	**68**	P	**Pb**	**13 21 19.6**	**-1.2**
EVR	**Evrytania**	**0.83**	**14**	P	**Pb**	**13 21 20.9**	**-0.1**
EVR	**Evrytania**	**0.83**	**14**	P	**Pb**	**13 21 20.9**	**-0.1**
EVR	**Evrytania**	**0.83**	**14**	P	**Pb**	**13 21 20.6**	**-0.5**
THAL	**Thalero**	**0.88**	**94**	P	**Pb**	**13 21 21.9**	**+0.2**
THAL	**Thalero**	**0.88**	**94**	P	**Pb**	**13 21 22.1**	**+0.4**
THAL	**Thalero**	**0.88**	**94**	P	**Pb**	**13 21 22.1**	**+0.4**
ITM	**Ithomi**	**0.97**	**162**	P	**Pb**	**13 21 23.4**	**+0.1**
ITM				S	**Sn**	**13 21 38.0**	**+0.9**
ITM	**Ithomi**	**0.97**	**162**	P	**Pb**	**13 21 23.5**	**+0.1**
ITM				S	**Sn**	**13 21 38.0**	**+0.9**
ITM	**Ithomi**	**0.97**	**162**	P	**Pb**	**13 21 23.5**	**+0.2**
LKD2	**Lefkada island**	**0.98**	**314**	P	**Pb**	**13 21 23.1**	**-0.4**
LKD2	**Lefkada island**	**0.98**	**314**	P	**Pb**	**13 21 23.1**	**-0.4**
LKD2	**Lefkada island**	**0.98**	**314**	P	**Pb**	**13 21 22.8**	**-0.8**
VLX	**Vlachokerasia**	**0.98**	**138**	P	**Pb**	**13 21 23.6**	**0.0**
VLX				S	**Sn**	**13 21 37.8**	**+0.2**
VLX	**Vlachokerasia**	**0.98**	**138**	P	**Pb**	**13 21 23.6**	**0.0**
VLX				S	**Sn**	**13 21 37.8**	**+0.2**
PROD	**Prodromos**	**1.07**	**81**	P	**Pg**	**13 21 25.8**	**+0.1**
PROD	**Prodromos**	**1.07**	**81**	P	**Pg**	**13 21 25.8**	**+0.1**
DSL	**Palaion Diasel**	**1.09**	**341**	P	**Pb**	**13 21 25.3**	**0.0**
DSL	**Palaion Diasel**	**1.09**	**341**	P	**Pb**	**13 21 25.3**	**0.0**
DSL	**Palaion Diasel**	**1.09**	**341**	P	**Pb**	**13 21 25.1**	**-0.2**
AGG	**Agios Georgios**	**1.10**	**33**	P	**Pb**	**13 21 25.0**	**-0.5**
AGG				S	**Sg**	**13 21 41.1**	**+0.4**
AGG	**Agios Georgios**	**1.10**	**33**	P	**Pb**	**13 21 25.0**	**-0.5**
AGG				S	**Sg**	**13 21 41.1**	**+0.4**
AGG	**Agios Georgios**	**1.10**	**33**	P	**Pb**	**13 21 24.0**	**-1.5**
LTK	**Loutraki**	**1.12**	**94**	P	**Pb**	**13 21 26.1**	**+0.3**
LTK	**Loutraki**	**1.12**	**94**	P	**Pb**	**13 21 26.1**	**+0.3**
LTK	**Loutraki**	**1.12**	**94**	P	**Pb**	**13 21 26.4**	**+0.6**
PYL	**PYLOS**	**1.22**	**173**	P	**Pn**	**13 21 27.4**	**+0.2**
PYL	**PYLOS**	**1.22**	**173**	P	**Pn**	**13 21 27.4**	**+0.2**
LKR	**Lokris**	**1.26**	**64**	P	**Pn**	**13 21 28.1**	**+0.4**
LKR	**Lokris**	**1.26**	**64**	P	**Pn**	**13 21 28.1**	**+0.4**
LKR	**Lokris**	**1.26**	**64**	P	**Pn**	**13 21 27.9**	**+0.2**
VIL2	**Platees**	**1.35**	**85**	P	**Pn**	**13 21 29.4**	**+0.3**
VILL	**Villia**	**1.39**	**87**	P	**Pn**	**13 21 29.9**	**+0.4**
VILL				S	**Sb**	**13 21 48.2**	**+0.4**
VILL	**Villia**	**1.39**	**87**	P	**Pn**	**13 21 29.9**	**+0.4**
VILL				S	**Sb**	**13 21 48.2**	**+0.4**
KRND	**KRANIDI**	**1.46**	**119**	P	**Pn**	**13 21 31.1**	**+0.7**
KRND	**KRANIDI**	**1.46**	**119**	P	**Pn**	**13 21 31.1**	**+0.7**
KRND	**KRANIDI**	**1.46**	**119**	P	**Pb**	**13 21 32.1**	**+0.5**
DID	**Didima**	**1.46**	**114**	P	**Pn**	**13 21 30.9**	**+0.4**
DID	**Didima**	**1.46**	**114**	P	**Pn**	**13 21 30.9**	**+0.4**
DID	**Didima**	**1.46**	**114**	P	**Pb**	**13 21 31.9**	**+0.3**
THL	**Klokotos Trika**	**1.50**	**14**	P	**Pn**	**13 21 30.9**	**-0.1**
THL	**Klokotos Trika**	**1.50**	**14**	P	**Pn**	**13 21 30.9**	**-0.1**
FYTO	**Fytoko, Volos**	**1.69**	**39**	P	**Pn**	**13 21 34.5**	**+0.8**
FYTO	**Fytoko, Volos**	**1.69**	**39**	P	**Pn**	**13 21 34.5**	**+0.8**
FYTO	**Fytoko, Volos**	**1.69**	**39**	P	**Pb**	**13 21 35.0**	**-0.6**
IGT	**Igoumenitsa**	**1.71**	**327**	P	**Pn**	**13 21 34.5**	**+0.5**
IGT	**Igoumenitsa**	**1.71**	**327**	P	**Pn**	**13 21 34.5**	**+0.5**
ATHU	**Athens Univers**	**1.77**	**94**	P	**Pn**	**13 21 35.4**	**+0.7**
ATHU	**Athens Univers**	**1.77**	**94**	P	**Pn**	**13 21 35.4**	**+0.7**
VLI	**Veliai**	**1.77**	**141**	P	**Pb**	**13 21 36.3**	**-0.6**
VLI	**Veliai**	**1.77**	**141**	P	**Pb**	**13 21 36.3**	**-0.6**
VLY	**Voula,Athens**	**1.79**	**97**	P	**Pn**	**13 21 35.7**	**+0.7**
VLY	**Voula,Athens**	**1.79**	**97**	P	**Pn**	**13 21 35.7**	**+0.7**
VLY	**Voula,Athens**	**1.79**	**97**	P	**Pn**	**13 21 35.8**	**+0.8**
XOR	**Xorichti**	**1.79**	**45**	P	**Pn**	**13 21 35.4**	**+0.3**
XOR	**Xorichti**	**1.79**	**45**	P	**Pn**	**13 21 35.4**	**+0.3**
XOR	**Xorichti**	**1.79**	**45**	P	**Pb**	**13 21 36.5**	**-0.9**
SKIA	**Skiathos**	**1.83**	**54**	P	**Pn**	**13 21 36.4**	**+0.8**
SKIA	**Skiathos**	**1.83**	**54**	P	**Pn**	**13 21 36.4**	**+0.8**
KPRO	**Kipourio**	**1.85**	**355**	P	**Pg**	**13 21 40.1**	**-0.5**
EREA	**Eretria**	**1.90**	**80**	P	**Pn**	**13 21 36.9**	**+0.4**
EREA	**Eretria**	**1.90**	**80**	P	**Pn**	**13 21 36.9**	**+0.4**
EREA	**Eretria**	**1.90**	**80**	P	**Pb**	**13 21 38.3**	**-0.8**
AOS	**Alonnisos**	**2.11**	**59**	P	**Pn**	**13 21 40.0**	**+0.6**
AOS	**Alonnisos**	**2.11**	**59**	P	**Pn**	**13 21 40.0**	**+0.6**
LIT	**Litokhoron**	**2.12**	**20**	P	**Pn**	**13 21 40.2**	**+0.6**
LIT	**Litokhoron**	**2.12**	**20**	P	**Pn**	**13 21 40.2**	**+0.6**
OHR	**Ohrid**	**3.06**	**349**	*i* Pn	**Pg**	**13 22 04.0**	**+0.4**
OHR				*i* Sn	**Sg**	**13 22 46.5**	**+3.3**
IDI	**Anoyia**	**3.88**	**135**	Pn	**Pn**	**13 22 04.4**	**+0.5**
	comp=E,0.3nm,0.3s,baz=8.1,slow=7.1,SNR=3.4						
IDI				Sn	**Sb**	**13 22 54.8**	**-4.9**
	comp=E,1.0nm,0.3s,baz=54,slow=19,SNR=3.3						
BRTR	**Keskin Array B**	**9.56**	**77**	Pn	**Pn**	**13 23 24.9**	**+3.1**
	comp=E,0.1nm,0.3s,baz=257,slow=13,SNR=2.4						
EZM	**Erzurum**	**15.50**	**77**	*e*PG	**Pn**	**13 24 43.5**	**+0.5**
EZM				*e*SG		13 24 51.6	
TORD	**Torodi Ar. Bea**	**30.50**	**221**	P	**P**	**13 27 15.2**	**-1.9**
	comp=E,0.6nm,0.8s,baz=40,slow=8.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**41.62**	**54**	P	**P**	**13 28 51.5**	**-0.4**
	comp=E,0.6nm,0.7s,baz=281,slow=8.9,SNR=6.5						
MKAR	**Makanchi Array**	**44.64**	**59**	P	**P**	**13 29 16.4**	**-0.1**
	comp=E,0.7nm,0.7s,baz=272,slow=6.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**45.13**	**48**	P	**P**	**13 29 19.8**	**-0.4**
	comp=E,1.7nm,0.6s,baz=290,slow=9.2,SNR=5.7						

*DDA **06** 13:24:24.6, 40°.35N × 41°.03E, h7km, Md3.1*
*ISK **06** 13:24:30.9, 39°.79N × 40°.53E, h14km, MD2.7*
*ISCJB **06** 13:24:31.4±0.6, 39°.79N±0°.03 × 40°.55E±0°.05, h11km, Error ellipse: s-maj=6.0km s-min=4.8km az=169.7*
*CSEM **06** 13:24:31.0±0.3, 39°.77N × 40°.50E, h12km, MD2.7, Error ellipse: s-maj=7.2km s-min=6.9km az=9.0*
ISC 06 13:24:31.6±0.9, **39°.80N**±0°.03 × **40°.58E**±0°.03, **h11**km, **n20**, σ2**10**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOPT	**Kop Dagi**	**0.23**	**344**	P	**Pb**	**13 24 36.3**	**-1.7**
KOPT				S	**Sg**	**13 24 41.3**	**+1.4**
KOPT	**Kop Dagi**	**0.23**	**344**	*i* P	**Pb**	**13 24 36.3**	**-1.7**
KOPT				*i* S	**Sg**	**13 24 41.3**	**+1.4**
YEDI	**Yedisu-Bingol**	**0.36**	**184**	*e*PG	**Pg**	**13 24 38.2**	**-0.6**
YEDI				*e*SG	**Sb**	**13 24 44.1**	**-1.7**
YEDI	**Yedisu-Bingol**	**0.36**	**184**	*e*Pg	**Pg**	**13 24 38.3**	**-0.6**
YEDI				*e*Sg	**Sb**	**13 24 44.1**	**-1.7**
ERZM	**Erzurum**	**0.61**	**80**	P	**Pb**	**13 24 44.2**	**-0.

comp=Z,51nm,19.1s,baz=296,slow=32
WSAR Wadi Sarin 20.07 345 LR LR 13 56 59.6
comp=Z,51nm,18.5s,baz=205,slow=33
CMAR Chiang Mai Arr 37.03 64 LR LR 14 08 27.3
comp=Z,30nm,18.2s,baz=215,slow=36
BRTR Keskin Array B 45.20 327 P **P** **13 54 16.0 +0.5**
0.3nm,0.4s,baz=155,slow=18,SNR=3.7
ABKAR Akbulak array 45.46 356 *eP* **P** **13 54 18.5 +1.4**
2.5nm,1.0s
MKAR Makanchi Array 45.65 17 P **P** **13 54 18.0 -0.8**
0.9nm,1.1s,baz=199,slow=7.2,SNR=3.8
AKTO Aktyubinsk 46.78 355 P **P** **13 54 27.1 -0.5**
2.3nm,0.7s,baz=167,slow=8.7,SNR=11
ZALV Zalesovo Beam 52.80 15 P **P** **13 55 12.5 -0.8**
0.6nm,0.4s,baz=197,slow=4.5,SNR=2.7
SONM Songino Array 56.91 33 P **P** **13 55 44.0 +0.6**
0.4nm,0.3s,baz=223,slow=7.6,SNR=4.1
KSRS Korea Array 67.02 51 LR LR 14 27 26.8
comp=Z,17nm,18.5s,baz=242,slow=37
WRA Warramunga Arr 72.79 112 P **P** **13 57 27.7 +0.3**
3.1nm,0.7s,baz=290,slow=5.2,SNR=24
WRAB Tennant Creek 72.80 112 *eP* **P** **13 57 27.4 0.0**
4.5nm,0.8s
ASAR Alice Springs 73.12 116 P **P** **13 57 29.6 +0.3**
1.5nm,0.7s,baz=288,slow=5.6,SNR=28
PETK Petropavlovsk- 89.15 37 LR LR 14 40 08.1
comp=Z,19nm,19.8s,baz=158,slow=36
TXAR Lajitas Array 145.06 341 PKPbc **PKPbc** **14 05 34.5 -1.4**
0.7nm,0.8s,baz=60,slow=3.0,SNR=7.2

*ISCJB **06** 13:57:23.2±0.5,49°.81N±0°.04×18°.44E±0°.03, h0km, Error ellipse: s-maj=5.5km s-min=3.0km az=11.6*
*IPEC **06** 13:57:24.6±0.2,49°.82N×18°.51E, h0km, ML1.4/3, Error ellipse: s-maj=3.7km s-min=1.1km az=159.0*
*CSEM **06** 13:57:24.1±0.2,49°.80N×18°.48E, h1km, ML2.5/6, Error ellipse: s-maj=4.9km s-min=2.9km az=7.0*
ISC 06 13:57:24.4±0.8, 49.79N±0.04×18.48E±0.02, h0km, n24, σ0s 84/38, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.22**	**283**	*i* PG	**Pg**	**13 57 29.7**	**+1.0**
OKC				*e*SG	**Sg**	**13 57 33.3**	**+1.8**
	19nm,0.3s						
OKC	**Ostrava-Krasne**	**0.22**	**283**	Pg	**Pg**	**13 57 29.7**	**+1.0**
OKC				Sg	**Sg**	**13 57 33.3**	**+1.8**
	19nm,0.3s						
MORC	**Moravsky Berou**	**0.61**	**269**	*e*Pg	**Pg**	**13 57 36.8**	**+0.7**
	baz=86						
MORC				*e*Sg	**Sg**	**13 57 43.9**	**-0.1**
	6.6nm,0.1s,baz=86						
LANS	**Liptovska Anna**	**0.91**	**134**	*e*Sg	**Sb**	**13 57 54.8**	**-0.8**
LANS	**Liptovska Anna**	**0.91**	**134**	*e*SG	**Sb**	**13 57 54.8**	**-0.8**
OJC	**Ojcow**	**0.95**	**63**	*e*Pg	**Pg**	**13 57 42.2**	**-0.4**
OJC				*e*Sg	**Sg**	**13 57 54.9**	**-0.1**
OJC	**Ojcow**	**0.95**	**63**	*e*Pg	**Pg**	**13 57 42.2**	**-0.4**
OJC				*e*Sg	**Sg**	**13 57 54.9**	**-0.1**
VYHS	**Vyhne**	**1.32**	**170**	*e*Pn	**Pb**	**13 57 49.8**	**-0.2**
VYHS				*e*Sn	**Sb**	**13 58 07.4**	**0.0**
VYHS	**Vyhne**	**1.32**	**170**	*e*PN	**Pb**	**13 57 49.8**	**-0.2**
VYHS				*e*SN	**Sb**	**13 58 07.4**	**0.0**
VYHS				*e*LG	Lg	13 58 12.2	
VRAC	**Vranov**	**1.32**	**249**	*e*Pg	**Pg**	**13 57 49.7**	**0.0**
	baz=67						
VRAC				*e*Sg	**Sg**	**13 58 07.0**	**+0.2**
	5.9nm,0.2s,baz=67						
DPC	**Dobruska-Polom**	**1.50**	**293**	*e*PG	**Pn**	**13 57 52.2**	**-0.4**
DPC				*e*SG	**Sg**	**13 58 12.3**	**-0.3**
	4.7nm,0.3s						
DPC	**Dobruska-Polom**	**1.50**	**293**	Pg	**Pn**	**13 57 52.2**	**-0.4**
DPC				Sg	**Sg**	**13 58 12.3**	**-0.3**
	4.7nm,0.3s						
KRUC	**Moravsky**	**1.54**	**243**	*e*Pg	**Pn**	**13 57 53.1**	**-0.1**
	baz=60						
KRUC				*e*Sg	**Sg**	**13 58 13.9**	**-0.1**
	4.2nm,0.3s,baz=60						
UPC	**Upice**	**1.75**	**295**	*e*PG	**Pn**	**13 57 56.4**	**+0.5**
UPC				*e*SG	**Sg**	**13 58 20.3**	**-0.1**
	3.8nm,0.2s						
UPC	**Upice**	**1.75**	**295**	Pg	**Pn**	**13 57 56.4**	**+0.5**
UPC				Sg	**Sg**	**13 58 20.3**	**-0.1**
	3.8nm,0.2s						
STHS	**Stebnicka Huta**	**1.83**	**101**	*e*Pn	**Pg**	**13 58 00.0**	**+0.5**
STHS	**Stebnicka Huta**	**1.83**	**101**	*e*PN	**Pg**	**13 58 00.0**	**+0.5**
STHS				*e*SN	**Sg**	**13 58 25.9**	**+2.7**
STHS				*e*LG	Lg	13 58 33.3	
KECS	**Kecovo**	**1.85**	**134**	*e*Sn	**Sn**	**13 58 21.4**	**-0.1**
KECS	**Kecovo**	**1.85**	**134**	*e*SN	**Sn**	**13 58 21.4**	**-0.1**
GOPC	**GO Pecny, Ondr**	**2.40**	**274**	*e*SG	**Sg**	**13 58 40.3**	**-1.0**
GOPC	**GO Pecny, Ondr**	**2.40**	**274**	Sg	**Sg**	**13 58 40.3**	**-1.0**
PRU	**Pruhonice**	**2.56**	**276**	*e*SG	**Sg**	**13 58 45.9**	**-0.6**
KHC	**Kasperske Hory**	**3.27**	**260**	*e*SG	**Sg**	**13 59 08.0**	**-1.3**
	2.4nm,0.3s						
KHC	**Kasperske Hory**	**3.27**	**260**	Sg	**Sg**	**13 59 08.0**	**-1.3**
	2.4nm,0.3s						

*ISCJB **06** 14:05:27.9±0.5,39°.12N±0°.03×29°.10E±0°.04, h6km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=33.7*
*ISK **06** 14:05:27.1,39°.12N×29°.11E, h6km, MD2.5*
*CSEM **06** 14:05:28.0±0.1,39°.12N×29°.11E, h8km, ML2.4, Error ellipse: s-maj=1.9km s-min=1.4km az=110.0*
*DDA **06** 14:05:28.1,39°.09N×29°.12E, h7km, Ml2.4*
ISC 06 14:05:28.2±1.0, 39.12N±0.02×29.12E±0.03, h10km±9km, n22, σ0s 31/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.29**	**96**	P	**Pg**	**14 05 34.1**	**+0.1**
GDZ				S	**Sg**	**14 05 38.1**	**+0.2**
GDZ	**Gediz**	**0.29**	**96**	*i* P	**Pg**	**14 05 34.1**	**+0.1**
GDZ				*i* S	**Sg**	**14 05 38.1**	**+0.2**
DEMI	**Demirci**	**0.32**	**256**	P	**Pg**	**14 05 34.9**	**+0.2**
DEMI				S	**Sg**	**14 05 39.2**	**+0.2**
DEMI	**Demirci**	**0.32**	**256**	*i* P	**Pg**	**14 05 34.9**	**+0.2**
DEMI				*i* S	**Sg**	**14 05 39.2**	**+0.2**
TVSB	**Tavsanli**	**0.42**	**39**	*e*PG	**Pg**	**14 05 36.5**	**-0.1**
TVSB				*e*SG	**Sg**	**14 05 41.9**	**-0.3**
TVSB	**Tavsanli**	**0.42**	**39**	*e*Pg	**Pg**	**14 05 36.5**	**-0.1**
TVSB				*e*Sg	**Sg**	**14 05 41.9**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*PG	**Pg**	**14 05 41.2**	**-0.6**
KULA				*e*SG	**Sg**	**14 05 50.8**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*Pg	**Pg**	**14 05 41.2**	**-0.6**
KULA				*e*Sg	**Sg**	**14 05 50.8**	**-0.2**
KHAL	**Karahalli**	**0.81**	**158**	P	**Pg**	**14 05 43.7**	**0.0**
KHAL				S	**Sg**	**14 05 54.2**	**0.0**
KHAL	**Karahalli**	**0.81**	**158**	*i* P	**Pg**	**14 05 43.7**	**0.0**
KHAL				*i* S	**Sg**	**14 05 54.2**	**0.0**
ORLT	**Orhaneli**	**0.94**	**350**	*e*PG	**Pg**	**14 05 46.2**	**-0.1**
ORLT				*e*SG	**Sg**	**14 05 58.8**	**+0.2**
ORLT	**Orhaneli**	**0.94**	**350**	*e*Pg	**Pg**	**14 05 46.2**	**-0.1**
ORLT				*e*Sg	**Sg**	**14 05 58.8**	**+0.2**
CAVI	**Cavuskoy**	**1.22**	**27**	*e*PN	**Pg**	**14 05 51.0**	**-0.6**
CAVI	**Cavuskoy**	**1.22**	**27**	*e*Pn	**Pg**	**14 05 51.0**	**-0.6**
IZI	**Iznik**	**1.25**	**13**	*e*PN	**Pb**	**14 05 51.5**	**-0.3**
IZI	**Iznik**	**1.25**	**13**	*e*Pn	**Pb**	**14 05 51.5**	**-0.3**
BORA	**Eskisehir**	**1.28**	**53**	P	**Pn**	**14 05 52.5**	**+0.3**
BORA				S	**Sn**	**14 06 10.0**	**+0.5**
BORA	**Eskisehir**	**1.28**	**53**	*i* P	**Pn**	**14 05 52.5**	**+0.3**
BORA				*i* S	**Sn**	**14 06 10.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*PN	**Pn**	**14 05 52.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn	**Pn**	**14 05 52.2**	**0.0**
ARMT	**Armutlu**	**1.46**	**352**	*e*PN	**Pn**	**14 05 54.8**	**+0.2**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pn**	**14 05 54.8**	**+0.2**

MAN 06 14:23:47, 8°.38N×124°.61E, h20km, mb4.4, ML3.3, MS3.1, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.12**	**48**	*i* P	Pb	14 23 52.7	+1.5
CGP				*i* S	Sb	14 23 56.5	+2.6
BUKP	**Musuan**	**0.67**	**138**	*e*P	Pn	14 24 01.1	-0.4
BUKP				*e*S	Sn	14 24 11.5	+0.2
CTBH	**Cotabato--PC H**	**1.20**	**197**	*e*P	Pb	14 24 09.1	0.0
CTBH				*i* S	Sn	14 24 24.9	+0.4
DCPH	**Dipolog City**	**1.26**	**279**	*e*P	Pn	14 24 07.7	-1.7
PAGZ	**Pagadian**	**1.32**	**247**	*e*P	Pn	14 24 09.0	-1.3
PAGZ				*e*S	Sb	14 24 28.7	+1.0
KCP	**Kidapawan**	**1.44**	**161**	*e*P	Pb	14 24 13.5	+0.3
KCP				*i* S	Sb	14 24 34.2	+3.0
TBP	**Tagbilaran**	**1.50**	**331**	*i* P	Pb	14 24 18.1	+4.0
TBP				*i* S	Sb	14 24 39.2	+6.5
DMPH	**Davao City--Mi**	**1.56**	**145**	*e*P	Pb	14 24 19.5	+4.2
DMPH				*e*S	Sb	14 24 44.3	+10
SNPH	**Sibulan**	**1.66**	**305**	*i* P	Pn	14 24 13.1	-1.9
SNPH				*i* S	Sn	14 24 36.6	+0.8
IPIL	**Ipil**	**2.10**	**254**	*e*P	Pn	14 24 21.3	+0.2
IPIL				*e*S	Sb	14 24 49.5	-0.6
MATI	**Mati**	**2.17**	**131**	*e*P	Pb	14 24 26.1	+0.6
MATI				*e*S	Sb	14 25 04.5	+12
OCLP	**Ormoc**	**2.66**	**0**	*e*P	Pn	14 24 30.9	+2.1
OCLP				*e*S	Sb	14 25 09.7	+3.5
GUIM	**Jordan**	**2.99**	**318**	*e*P	Pn	14 24 33.3	0.0
GUIM				*e*S	Sb	14 25 12.8	-3.0

*IDC **06** 14:27:10.6±1.4,34°.15N×26°.27E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.3/42, mbtmp3.6/5, ML3.8/3, Error ellipse: s-maj=26.1km s-min=19.6km az=22.0*
*ATH **06** 14:27:10.2,34°.10N×26°.29E, h11km±5km, ML2.9/3, Error ellipse: s-maj=6.9km s-min=2.5km az=2.0*
*ISCJB **06** 14:27:10.6±1.5,34°.13N±0°.03×26°.31E±0°.04, h11km±11km, mb3.5/2, Error ellipse: s-maj=5.4km s-min=4.3km az=148.3*
*CSEM **06** 14:27:11.3±0.2,34°.17N×26°.24E, h2km, ML2.9, Error ellipse: s-maj=4.9km s-min=3.5km az=60.0*
*HLW **06** 14:27:12.7,34°.34N×26°.34E, h31km±20km, Md2.9, Ml2.8*
*THE **06** 14:27:14.8,34°.36N×26°.15E, h0km±2km, ML2.9/4, Error ellipse: s-maj=5.2km s-min=1.4km az=164.0*
ISC 06 14:27:11.3±1.4, 34°.17N±0°.04×26°.26E±0°.03, h8km±10km, n55, σ1s 35/78, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.94**	**358**	P	**Pg**	**14 27 29.0**	**-0.4**
ZKR				S	**Sg**	**14 27 41.8**	**+0.2**
ZKR	**Zakros**	**0.94**	**358**	P	**Pg**	**14 27 29.0**	**-0.4**
ZKR				S	**Sg**	**14 27 41.8**	**+0.2**
ZKR	**Zakros**	**0.94**	**358**	P	**Pg**	**14 27 28.6**	**-0.8**
ZKR				S	**Sg**	**14 27 41.4**	**-0.2**
ZKR				AML	AML	14 27 52.9	
	comp=E,2042μm,0.6s						
ZKR				AML	AML	14 27 53.8	
	comp=N,1452μm,0.3s						
LAST	**Lasithi**	**1.18**	**327**	P	**Pg**	**14 27 32.9**	**-1.0**
LAST				S	**Sg**	**14 27 48.2**	**-1.1**
LAST	**Lasithi**	**1.18**	**327**	P	**Pg**	**14 27 32.9**	**-1.0**
LAST				S	**Sg**	**14 27 48.2**	**-1.1**
LAST	**Lasithi**	**1.18**	**327**	P	**Pg**	**14 27 32.5**	**-1.5**
NPS	**Neapolis**	**1.21**	**334**	P	**Pb**	**14 27 34.3**	**-0.2**
NPS				S	**Sg**	**14 27 50.5**	**+0.2**
NPS	**Neapolis**	**1.21**	**334**	P	**Pb**	**14 27 34.5**	**0.0**
NPS				S	**Sg**	**14 27 50.5**	**+0.2**
NPS	**Neapolis**	**1.21**	**334**	P	**Pb**	**14 27 34.5**	**0.0**
NPS				S	**Sn**	**14 27 53.9**	**+2.6**
NPS				AML	AML	14 27 57.6	
	comp=E,759μm,1.2s						
NPS				AML	AML	14 28 03.9	
	comp=N,681μm,0.7s						
SIVA	**Sivas**	**1.47**	**306**	P	**Pg**	**14 27 39.4**	**0.0**
SIVA				S	**Sn**	**14 27 56.4**	**-1.1**
SIVA	**Sivas**	**1.47**	**306**	P	**Pg**	**14 27 39.4**	**0.0**
SIVA				S	**Sn**	**14 27 56.4**	**-1.1**
SIVA	**Sivas**	**1.47**	**306**	P	**Pg**	**14 27 40.7**	**+1.3**
KARP	**Karpathos**	**1.56**	**28**	P	**Pg**	**14 27 41.5**	**+0.3**
KARP				S	**Sg**	**14 28 01.0**	**-0.4**
KARP	**Karpathos**	**1.56**	**28**	P	**Pg**	**14 27 41.5**	**+0.3**
KARP				S	**Sg**	**14 28 01.0**	**-0.4**
KARP	**Karpathos**	**1.56**	**28**	P	**Pg**	**14 27 42.2**	**+1.0**
KARP				S	**Sg**	**14 28 03.4**	**+2.0**
KARP				AML	AML	14 28 07.9	
	comp=E,417μm,0.4s						
KARP				AML	AML	14 28 09.0	
	comp=N,461μm,0.4s						
IDI	**Anoyia**	**1.59**	**315**	Pn	**Pn**	**14 27 40.5**	**+0.7**
	comp=N,5.1nm,0.3s,baz=129,slow=16,SNR=22						
IDI				Sn	**Sb**	**14 28 01.3**	**+0.1**
	comp=N,12nm,0.3s,baz=351,slow=18,SNR=10						
IDI	**Anoyia**	**1.59**	**315**	P	**Pb**	**14 27 41.1**	**+0.2**
IDI	**Anoyia**	**1.59**	**315**	P	**Pb**	**14 27 41.1**	**+0.2**
IDI	**Anoyia**	**1.59**	**315**	P	**Pb**	**14 27 41.4**	**+0.4**
VAM	**Vamos**	**2.10**	**307**	P	**Pn**	**14 27 47.5**	**+0.7**
VAM	**Vamos**	**2.10**	**307**	P	**Pn**	**14 27 47.5**	**+0.7**
IMMV	**Iera Moni Meta**	**2.28**	**305**	P	**Pn**	**14 27 50.0**	**+0.8**
IMMV	**Iera Moni Meta**	**2.28**	**305**	P	**Pn**	**14 27 50.0**	**+0.8**
IMMV	**Iera Moni Meta**	**2.28**	**305**	P	**Pn**	**14 27 50.5**	**+1.3**
THR5	**Thira Island,**	**2.36**	**342**	P	**Pn**	**14 27 50.3**	**-0.1**
THR5	**Thira Island,**	**2.36**	**342**	P	**Pn**	**14 27 50.3**	**-0.1**
SLUM	**Salum**	**2.82**	**199**	P	**Pn**	**14 27 57.9**	**+1.3**
	baz=199						
SLUM				AMP		14 28 00.0	
	comp=E,40μm,0.2s,logA/T=5.2,baz=199						
SLUM				S	**Sn**	**14 28 30.6**	**-0.2**
	baz=199						
SLUM	**Salum**	**2.82**	**199**	P	**Pn**	**14 27 57.9**	**+1.3**
SLUM				S	**Sn**	**14 28 30.6**	**-0.2**
ANKY	**Antikythira Is**	**2.96**	**306**	P	**Pn**	**14 27 59.2**	**+0.6**
ANKY	**Antikythira Is**	**2.96**	**306**	P	**Pn**	**14 27 59.2**	**+0.6**
ANKY	**Antikythira Is**	**2.96**	**306**	P	**Pb**	**14 28 02.0**	**-2.3**
TURN	**Turunc**	**3.30**	**35**	*i* P	**Pn**	**14 28 02.0**	**-1.3**
TURN				*i* S	**Sn**	**14 28 36.4**	**-6.3**
AKAS	**Kas**	**3.42**	**52**	P	**Pn**	**14 28 06.5**	**+1.4**
AKAS				S	**Sn**	**14 28 46.0**	**+0.1**
AKAS	**Kas**	**3.42**	**52**	*i* P	**Pn**	**14 28 06.5**	**+1.4**
AKAS				*i* S	**Sn**	**14 28 46.0**	**+0.1**
VLI	**Veliai**	**3.72**	**314**	P	**Pn**	**14 28 08.9**	**-0.1**
VLI	**Veliai**	**3.72**	**314**	P	**Pn**	**14 28 08.9**	**-0.1**
GOLH	**Golhisar**	**4.07**	**40**	P	**Pn**	**14 28 16.0**	**+2.0**
GOLH				S	**Sn**	**14 29 02.9**	**+1.1**
GOLH	**Golhisar**	**4.07**	**40**	*i* P	**Pn**	**14 28 16.0**	**+2.0**
GOLH				*i* S	**Sn**	**14 29 02.9**	**+1.1**
DID	**Didima**	**4.14**	**324**	P	**Pn**	**14 28 14.5**	**-0.3**
DID	**Didima**	**4.14**	**324**	P	**Pn**	**14 28 14.5**	**-0.3**
KHAL	**Karahalli**	**4.93**	**31**	P	**Pn**	**14 28 27.2**	**+1.4**
KHAL	**Karahalli**	**4.93**	**31**	*i* P	**Pn**	**14 28 27.2**	**+1.4**
SWA2		**4.96**	**188**	P	**Pn**	**14 28 27.1**	**+1.0**
	baz=189						
SWA2		**4.96**	**188**	P	**Pn**	**14 28 27.1**	**+1.0**
KOT	**Kottamia**	**6.34**	**130**	P	**Pn**	**14 28 45.4**	**+0.2**
	baz=131						
KOT	**Kottamia**	**6.34**	**130**	P	**Pn**	**14 28 45.4**	**+0.2**
GLL	**Jalalah**	**6.51**	**133**	P	**Pn**	**14 28 47.6**	**+0.1**
	baz=134						
GLL	**Jalalah**	**6.51**	**133**	P	**Pn**	**14 28 47.6**	**+0.1**
MMAI	**Mount Meron Ar**	**7.71**	**96**	Pn	**Pn**	**14 29 03.1**	**-0.8**
	comp=E,2.0nm,0.3s,baz=272,slow=13,SNR=6.0						
MMAI				Sn	**Sn**	**14 30 28.8**	**-2.8**
	comp=E,2.3nm,0.3s,baz=304,slow=21,SNR=4.2						
HNKL	**Nakhl**	**7.79**	**121**	P	**Pn**	**14 29 05.1**	**0.0**
	baz=122						
HNKL	**Nakhl**	**7.79**	**121**	P	**Pn**	**14 29 05.1**	**0.0**
EIL	**Elat**	**8.64**	**119**	Pn	**Pn**	**14 29 17.0**	**+0.4**
	comp=E,1.2nm,0.3s,baz=340,slow=3.1,SNR=6.5						
EIL				Sn	**Sn**	**14 30 49.3**	**-5.0**
	comp=E,1.1nm,0.3s,baz=234,slow=19,SNR=4.5						
AKASG	**Malin Array Be**	**16.66**	**7**	Pn	**Pn**	**14 31 06.0**	**+1.0**
	comp=E,0.2nm,0.3s,baz=195,slow=11,SNR=2.3						
TORD	**Torodi Ar. Bea**	**30.58**	**233**	P	**P**	**14 33 26.1**	**+0.3**
	comp=E,0.5nm,0.7s,baz=31,slow=8.6,SNR=4.9						
MKAR	**Makanchi Array**	**43.57**	**56**	P	**P**	**14 35 16.2**	**+0.5**
	comp=E,0.6nm,0.6s,baz=270,slow=7.5,SNR=7.3						

*ISCJB **06** 14:31:45.1±1.5, 15°.7N±0°.2×93°.28W±0°.10, h100km, mb3.5/2, Error ellipse: s-maj=24.0km s-min=11.8km az=162.5*
*MEX **06** 14:31:46.7±0.4, 15°.68N×93°.56W, h90km, MD3.9*
*IDC **06** 14:31:50.6±5.3, 16°.15N×93°.45W, h85km±24km, mb3.2/2, mb1 3.7/4, mb1mx3.3/35, mbtmp3.7/4, Error ellipse: s-maj=65.9km s-min=14.7km az=177.0*
ISC 06 14:31:46.6±1.5, 15°.7N±0°.1×93°.43W±0°.08, h100km, n6, σ2s 76/9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.20**	**84**	*e*P	**Pn**	**14 31 59.1**	**-1.7**
PCIG				*e*S	**Sn**	**14 32 08.5**	**-2.8**
CMIG	**Matias Romero**	**1.98**	**315**	P	**Pn**	**14 32 18.1**	**-0.8**
	8.3nm,0.3s,baz=158,slow=14,SNR=64						
CMIG				S	**Sn**	**14 32 39.4**	**-4.1**
	52nm,0.3s,baz=143,slow=14,SNR=19						
TEIG	**Tepich**	**6.67**	**47**	P	**Pn**	**14 33 21.9**	**0.0**
	7.2nm,0.3s,baz=88,slow=24,SNR=26						
TEIG				S	**Sn**	**14 34 34.3**	**-2.1**
	8.9nm,0.3s,baz=180,slow=23,SNR=6.6						
TXAR	**Lajitas Array**	**16.54**	**327**	P	**P**	**14 35 33.9**	**+0.4**
	0.0nm,0.3s,baz=146,slow=15,SNR=6.7						
NVAR	**Mina Array Bea**	**31.50**	**321**	P	**P**	**14 38 02.8**	**+3.5**
	0.5nm,0.7s,baz=135,slow=9.0,SNR=4.4						
YKA	**Yellowknife Ar**	**49.08**	**347**	P	**P**	**14 40 24.0**	**+0.6**
	0.4nm,0.5s,baz=151,slow=7.2,SNR=3.6						

IDC 06 14:49:11.0±2.1, 2°.32N×127°.25E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/48, mbtmp3.0/3, Error ellipse: s-maj=161.1km s-min=25.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.20**	**163**	P	P	14 54 18.2	-1.5
	0.5nm,0.7s,baz=342,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**26.63**	**166**	P	P	14 54 52.4	+0.8
	0.1nm,0.3s,baz=342,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**59.00**	**326**	P	P	14 59 12.9	+0.2
	0.1nm,0.3s,baz=126,slow=7.3,SNR=2.5						

MAN 06 14:51:45, 13°.67N×122°.55E, h5km, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.26**	**336**	*i* P	Pg	14 51 50.8	+0.7
GQP				*i* S	Sb	14 51 56.1	-0.9
AUQP	**San Andres**	**0.36**	**161**	*e*P	Pg	14 51 52.9	+0.9
AUQP				*e*S	Sb	14 52 01.3	+1.5
BOAC	**Boac**	**0.72**	**254**	*e*P	Pb	14 52 00.1	0.0
BOAC				*e*S	Sn	14 52 13.4	+0.1
POLP	**Polilio Island**	**1.21**	**331**	*e*P	Pg	14 52 07.6	-0.7
POLP				*e*S	Sn	14 52 25.9	+0.4
OTRP	**Odiongan**	**1.40**	**202**	*e*P	Pn	14 52 11.4	+0.2
OTRP				*e*S	Sn	14 52 29.9	0.0
SJMP	**San Jose**	**1.84**	**230**	*e*P	Pb	14 52 18.8	-0.3
BALP	**Baler**	**2.27**	**335**	*e*P	Pn	14 52 24.6	+1.4
BALP				*e*S	Sg	14 52 56.8	-1.3

*ISCJB **06** 15:04:40.2±0.5,39°.11N±0°.03×29°.11E±0°.03, h0km±6km, Error ellipse: s-maj=4.4km s-min=3.7km az=175.5*
*DDA **06** 15:04:40.4,39°.11N×29°.13E, h7km, Md2.8*
*CSEM **06** 15:04:40.6±0.1,39°.11N×29°.11E, h5km, MD2.8, Error ellipse: s-maj=2.1km s-min=1.9km az=136.0*
*ISK **06** 15:04:40.0,39°.11N×29°.08E, h5km, MD2.9*
ISC 06 15:04:40.7±1.0, 39.11N±0.02×29.12E±0.02, h9km±9km, n56, σ0s 48/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.28**	**95**	P	**Pg**	**15 04 46.5**	**+0.1**
GDZ				S	**Sg**	**15 04 50.8**	**+0.5**
GDZ	**Gediz**	**0.28**	**95**	*i* P	**Pg**	**15 04 46.5**	**+0.1**
GDZ				*i* S	**Sg**	**15 04 50.8**	**+0.5**
DEMI	**Demirci**	**0.32**	**257**	P	**Pg**	**15 04 47.3**	**+0.2**
DEMI				S	**Sg**	**15 04 51.6**	**+0.3**
DEMI	**Demirci**	**0.32**	**257**	*i* P	**Pg**	**15 04 47.3**	**+0.2**
DEMI				*i* S	**Sg**	**15 04 51.6**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**39**	*e*PG	**Pg**	**15 04 49.1**	**0.0**
TVSB				*e*SG	**Sg**	**15 04 54.0**	**-0.8**
TVSB	**Tavsanli**	**0.43**	**39**	*e*Pg	**Pg**	**15 04 49.1**	**0.0**
TVSB				*e*Sg	**Sg**	**15 04 54.0**	**-0.8**
DST	**Dursunbey**	**0.62**	**322**	*e*PG	**Pg**	**15 04 53.2**	**+0.4**
DST				*e*SG	**Sg**	**15 05 01.5**	**+0.6**
DST	**Dursunbey**	**0.62**	**322**	*e*Pg	**Pg**	**15 04 53.2**	**+0.4**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*PG	**Pg**	**15 04 53.9**	**-0.3**
KULA				*e*SG	**Sg**	**15 05 02.7**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**211**	*e*Pg	**Pg**	**15 04 53.9**	**-0.3**
KULA				*e*Sg	**Sg**	**15 05 02.7**	**-0.6**
KHAL	**Karahalli**	**0.80**	**158**	P	**Pg**	**15 04 56.1**	**0.0**
KHAL				S	**Sg**	**15 05 06.5**	**0.0**
KHAL	**Karahalli**	**0.80**	**158**	*i* P	**Pg**	**15 04 56.1**	**0.0**
KHAL				*i* S	**Sg**	**15 05 06.5**	**0.0**
KHL	**Karahalli**	**0.85**	**158**	*e*PG	**Pg**	**15 04 57.2**	**+0.1**
KHL	**Karahalli**	**0.85**	**158**	*e*Pg	**Pg**	**15 04 57.2**	**+0.1**
ORLT	**Orhaneli**	**0.95**	**350**	*e*PG	**Pg**	**15 04 58.4**	**-0.5**
ORLT	**Orhaneli**	**0.95**	**350**	*e*Pg	**Pg**	**15 04 58.4**	**-0.5**
AKS	**Akhisar**	**1.04**	**257**	*e*PG	**Pg**	**15 04 60.0**	**-0.7**
AKS	**Akh

MARH					AML	AML	15 15 28.4	
	comp=E,65nm,0.3s							
MARH					AML	AML	15 15 28.7	
	comp=N,40nm,0.3s							
SALA	**Sala**	**1.35**	**143**	*i* P	**Pn**	**15 15 24.7**	**-0.1**	
SALA				*e*S	**Sg**	**15 15 43.7**	**-0.3**	
SALA				AML	AML	15 15 48.7		
	comp=E,2.0nm,0.3s							
SALA				AML	AML	15 15 48.7		
	comp=N,16nm,0.3s							
ZALF	**Zalf**	**1.57**	**123**	*i* P	**Pb**	**15 15 29.2**	**+0.1**	
ZALF				*e*S	**Sb**	**15 15 49.4**	**+0.7**	
ZALF				AML	AML	15 15 56.4		
	comp=N,3.6nm,0.3s							
ZALF				AML	AML	15 15 56.8		
	comp=E,9.4nm,0.4s							
ARNB	**Al Arnab**	**2.06**	**4**	*i* P	**Pb**	**15 15 36.9**	**-0.7**	
ARNB				*e*S	**Sn**	**15 16 01.2**	**+1.2**	
ARNB				AML	AML	15 16 11.9		
	comp=N,12nm,0.3s							
ARNB				AML	AML	15 16 15.4		
	comp=E,12nm,0.3s							

*ISCJB **06** 15:17:11.9±0.8, 39.°96N±0.°04×32.°32E±0.°04, h5km±8km, Error ellipse: s-maj=7.4km s-min=4.7km az=26.4*
*ISK **06** 15:17:11.9, 39.°94N×32.°32E, h14km, MD2.7*
*CSEM **06** 15:17:12.0±0.1, 39.°96N×32.°32E, h10km, MD2.7, Error ellipse: s-maj=4.4km s-min=3.2km az=14.0*
*DDA **06** 15:17:12.1, 40.°00N×32.°30E, h7km, Md2.6*

ISC 06 15:17:11.5±1.5, 39.°97N±0.°03×32.°35E±0.°02, h3km±12km, n26, σ0°88/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Afˇar-Bala (A**	**0.76**	**133**	*e*PG	**Pg**	**15 17 26.8**	**+0.6**
AFSR				*e*SG	**Sb**	**15 17 38.2**	**-0.1**
AFSR	**Afˇar-Bala (A**	**0.76**	**133**	*e*Pg	**Pg**	**15 17 26.8**	**+0.6**
AFSR				*e*Sg	**Sb**	**15 17 38.2**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.82**	**231**	*e*PG	**Pg**	**15 17 27.4**	**+0.1**
SVRH	**Sivrihisar-ESK**	**0.82**	**231**	*e*Pg	**Pg**	**15 17 27.4**	**+0.1**
BCAM	**Yenicaga**	**0.87**	**346**	P	**Pg**	**15 17 28.2**	**-0.1**
BCAM				S	**Sn**	**15 17 45.9**	**+1.8**
BCAM	**Yenicaga**	**0.87**	**346**	*i* P	**Pg**	**15 17 28.2**	**-0.1**
BCAM				*i* S	**Sn**	**15 17 45.9**	**+1.8**
KKUL	**Konya-Kulu**	**0.91**	**151**	P	**Pb**	**15 17 29.8**	**-0.2**
KKUL				S	**Sn**	**15 17 44.6**	**-0.3**
KKUL	**Konya-Kulu**	**0.91**	**151**	*i* P	**Pb**	**15 17 29.8**	**-0.2**
KKUL				*i* S	**Sn**	**15 17 44.6**	**-0.3**
ELDT	**Eldivan**	**0.97**	**57**	P	**Pg**	**15 17 30.7**	**+0.4**
ELDT				S	**Sn**	**15 17 46.0**	**-0.6**
ELDT	**Eldivan**	**0.97**	**57**	*i* P	**Pg**	**15 17 30.7**	**+0.4**
ELDT				*i* S	**Sn**	**15 17 46.0**	**-0.6**
MDUB	**Mudurnu**	**1.01**	**300**	*e*PG	**Pb**	**15 17 31.7**	**-0.1**
MDUB				*e*SG	**Sn**	**15 17 46.5**	**-1.1**
MDUB	**Mudurnu**	**1.01**	**300**	*e*Pg	**Pb**	**15 17 31.7**	**-0.1**
MDUB				*e*Sg	**Sn**	**15 17 46.5**	**-1.1**
KIZT	**Kizilcal**	**1.15**	**199**	*e*PN	**Pg**	**15 17 33.8**	**+0.3**
KIZT	**Kizilcal**	**1.15**	**199**	*e*Pn	**Pg**	**15 17 33.8**	**+0.3**
KAMT	**Kaman**	**1.21**	**119**	*e*PN	**Pn**	**15 17 34.9**	**-0.5**
KAMT	**Kaman**	**1.21**	**119**	*e*Pn	**Pn**	**15 17 34.9**	**-0.5**
ESKT	**Eskisehir**	**1.24**	**249**	*e*PN	**Pb**	**15 17 35.0**	**-0.6**
ESKT	**Eskisehir**	**1.24**	**249**	*e*Pn	**Pb**	**15 17 35.0**	**-0.6**
ESKT	**Eskisehir**	**1.24**	**249**	*i* P	**Pg**	**15 17 35.5**	**+0.2**
ESKT				*i* S	**Sn**	**15 17 56.9**	**+3.7**
SEYT	**Eskypehyr**	**1.24**	**249**	P	**Pg**	**15 17 35.5**	**+0.2**
GULT	**Gulveren**	**1.48**	**289**	*e*PN	**Pn**	**15 17 38.7**	**-0.4**
GULT	**Gulveren**	**1.48**	**289**	*e*Pn	**Pn**	**15 17 38.7**	**-0.4**
CDAG	**Cicekdag**	**1.60**	**102**	P	**Pb**	**15 17 41.5**	**-0.2**
CDAG				S	**Sb**	**15 18 02.1**	**-0.2**
CDAG	**Cicekdag**	**1.60**	**102**	*i* P	**Pb**	**15 17 41.5**	**-0.2**
CDAG				*i* S	**Sb**	**15 18 02.1**	**-0.2**
CORM	**Corum**	**1.76**	**82**	*e*PN	**Pb**	**15 17 43.2**	**+0.2**
CORM	**Corum**	**1.76**	**82**	*e*Pn	**Pn**	**15 17 43.2**	**+0.2**

*IDC **06** 15:20:10.4±1.1, 14.°97N×97.°04W, h0km, mb3.8/7, mb1 4.2/10, mb1mx3.9/35, mbtmp3.9/10, ML4.2/3, Error ellipse: s-maj=23.6km s-min=22.7km az=61.0*
*ISCJB **06** 15:20:14.4±0.7, 15.°04N±0.°07×97.°03W±0.°04, h33km, mb4.0/17, Error ellipse: s-maj=9.4km s-min=5.5km az=171.6*
*NEIC **06** 15:20:15.4, 15.°01N×97.°14W, h20km, mb4.2/12, MD4.6(MEX), After MEX.*
*MEX **06** 15:20:15.4±0.6, 15.°01N×97.°14W, h20km±21km, MD4.6*

ISC 06 15:20:16.3±0.9, 15.°07N±0.°08×97.°02W±0.°06, h35km, n39, σ1°23/47, mb4.1/17, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.12**	**52**	*e*P	**Pn**	**15 20 34.0**	**-1.5**
HUIG				*i* S	**Sn**	**15 20 48.8**	**-1.0**
HUIG	**Huatulco**	**1.12**	**52**	*e*P	**Pn**	**15 20 34.0**	**-1.5**
HUIG				*i* S	**Sn**	**15 20 48.8**	**-1.0**
VHO	**Vista Hermosa**	**2.01**	**8**	*e*P	**Pn**	**15 20 46.9**	**-1.1**
VHO				*e*S	**Sn**	**15 21 11.6**	**-0.4**
VHO	**Vista Hermosa**	**2.01**	**8**	*e*P	**Pn**	**15 20 46.9**	**-1.1**
VHO				*e*S	**Sn**	**15 21 11.6**	**-0.4**
CMIG	**Matias Romero**	**2.87**	**45**	Pn	**Pn**	**15 20 58.9**	**-0.7**
	58nm,0.3s,baz=213,slow=12,SNR=479						
CMIG				Sn	**Sn**	**15 21 35.9**	**+2.9**
	20nm,0.3s,baz=211,slow=21,SNR=7.5						
TLIG	**Tlapa**	**2.89**	**329**	*e*Pn	Pn	15 20 56.4	-3.5
PCIG		**3.72**	**80**	*e*P	**Pn**	**15 21 11.3**	**0.0**
PCIG				*i* S	**Sn**	**15 21 54.7**	**+0.8**
PCIG		**3.72**	**80**	*e*P	**Pn**	**15 21 11.3**	**0.0**
PCIG				*i* S	**Sn**	**15 21 54.7**	**+0.8**
TUIG	**Tuzandepetl**	**3.86**	**40**	*e*P	**Pn**	**15 21 13.5**	**+0.4**
TUIG				*i* S	**Sn**	**15 21 57.8**	**+0.5**
TUIG	**Tuzandepetl**	**3.86**	**40**	*e*P	**Pn**	**15 21 13.5**	**+0.4**
TUIG				*i* S	**Sn**	**15 21 57.8**	**+0.5**
MOIG	**Morelia**	**6.07**	**320**	*e*Pn	**Pn**	**15 21 43.6**	**-0.1**
TEIG	**Tepich**	**9.79**	**57**	Pn	**Pn**	**15 22 32.4**	**-2.2**
	5.7nm,0.3s,baz=269,slow=24,SNR=20						
TEIG				Sn	**Sn**	**15 24 23.9**	**+0.6**
	1.6nm,0.3s,baz=348,slow=21,SNR=5.2						
TXAR	**Lajitas Array**	**15.46**	**338**	Pn	**Pn**	**15 23 54.0**	**+2.0**
	0.1nm,0.3s,baz=157,slow=13,SNR=6.9						
ABTX	**Abilene, Hawle**	**17.64**	**353**	*e*Pn	**Pn**	**15 24 18.8**	**-0.6**
	13nm,1.0s						
MNTX	**Cornudas Mount**	**18.23**	**337**	*e*Pn	**Pn**	**15 24 28.9**	**+2.3**
	4.7nm,1.4s						
PLAL	**Pickwick Lake**	**21.40**	**20**	*e*P	**P**	**15 25 01.8**	**+0.8**
	8.4nm,0.8s						
ANMO	**Albuquerque**	**21.54**	**338**	P	**P**	**15 25 03.7**	**+1.0**
	0.9nm,0.7s,baz=149,slow=5.9,SNR=3.3						
SWET	**Sewanee**	**22.40**	**24**	*e*P	**P**	**15 25 12.1**	**+0.3**
	14nm,1.8s						
WVT	**Waverly**	**22.53**	**20**	*e*P	**P**	**15 25 10.8**	**-2.3**
	27nm,1.4s						
CPCT	**Cooper Cave**	**23.19**	**27**	*e*P	**P**	**15 25 22.7**	**+2.7**
	7.0nm,1.0s						
X16A	**Lo Mia Camp, P**	**23.24**	**329**	*e*P	**P**	**15 25 21.6**	**+0.8**
	4.2nm,0.9s						
TKL	**Tuckaleechee C**	**23.69**	**28**	P	**P**	**15 25 25.9**	**+1.1**
	4.4nm,0.8s,baz=176,slow=9.5,SNR=4.7						
TZTN	**Tazewell**	**24.53**	**27**	*e*P	**P**	**15 25 35.2**	**+2.6**
	14nm,1.1s						
TZTN				*e*Sn	S	15 30 14.3	+23
Q24A	**Divide**	**24.85**	**345**	*e*P	**P**	**15 25 37.0**	**+1.2**
	9.4nm,0.8s						
ISCO	**Idaho Springs**	**25.76**	**345**	*e*P	**P**	**15 25 45.4**	**+1.3**
	5.5nm,1.1s						
NV01	**Mina Array Sit**	**29.90**	**325**	*e*P	**P**	**15 26 20.9**	**-0.1**
NVAR	**Mina Array Bea**	**29.90**	**325**	P	**P**	**15 26 21.0**	**0.0**
	0.9nm,0.8s,baz=170,slow=9.0,SNR=5.3						
PAHR	**Pah Rah Range**	**31.39**	**326**	*e*PP	PP	15 27 42.9	-2.5
RLMT	**Red Lodge**	**31.70**	**343**	*e*P	**P**	**15 26 36.5**	**-0.3**
	5.7nm,1.2s						
BOZ	**Bozeman (W)**	**32.87**	**341**	*e*P	**P**	**15 26 46.4**	**-0.7**
	7.5nm,1.8s						
DLMT	**Dillon**	**32.93**	**340**	*e*P	**P**	**15 26 48.5**	**+0.9**
DLMT				*e*pP	pP	15 26 51.3	-6.4
LPAZ	**La Paz**	**42.25**	**136**	P	**P**	**15 28 06.9**	**-0.2**
	0.6nm,0.4s,baz=317,slow=6.9,SNR=3.7						
YKA	**Yellowknife Ar**	**48.97**	**349**	P	**P**	**15 28 58.2**	**-0.8**
	0.9nm,0.7s,baz=155,slow=7.7,SNR=5.5						
INK	**Inuvik**	**58.09**	**345**	P	**P**	**15 30 05.4**	**-0.4**
	1.4nm,0.4s,baz=143,slow=5.1,SNR=3.5						
ILAR	**Eielson Array**	**59.98**	**338**	P	**P**	**15 30 19.2**	**+0.3**
	1.6nm,1.1s,baz=136,slow=4.8,SNR=12						
TRF	**Thorofare Moun**	**60.63**	**336**	*e*P	**P**	**15 30 24.0**	**+0.4**

MKAR	**Makanchi Array**	**118.42**	**1**	PKP	**PKPdf**	**15 38 59.2**	**-1.2**	
	0.1nm,0.2s,baz=7.6,slow=2.2,SNR=2.8							
WRA	**Warramunga Arr**	**130.93**	**257**	PKP	**PKPdf**	**15 39 23.8**	**-1.2**	
	0.3nm,0.5s,baz=85,slow=2.9,SNR=8.2							
ASAR	**Alice Springs**	**131.41**	**252**	PKP	**PKPdf**	**15 39 24.9**	**-0.9**	
	0.3nm,0.7s,baz=93,slow=1.9,SNR=4.7							

*ISCJB **06** 15:24:09.5±1.0, 37.°25N±0.°04×28.°21E±0.°05, h15km±39km, Error ellipse: s-maj=8.0km s-min=5.3km az=38.1*
*ISK **06** 15:24:09.4, 37.°22N×28.°16E, h6km, MD2.4*
*DDA **06** 15:24:09.2, 37.°20N×28.°05E, h7km, Md2.6*
*CSEM **06** 15:24:10.1±0.3, 37.°26N×28.°21E, h5km, MD2.4, Error ellipse: s-maj=7.0km s-min=4.2km az=49.0*

ISC 06 15:24:09.4±1.0, 37.°23N±0.°05×28.°19E±0.°05, h12km±7km, n13, σ0°59/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**141**	*e*PG	**Pg**	**15 24 12.7**	**+0.1**
YER				*e*SG	**Sg**	**15 24 15.0**	**+0.1**
YER	**Yerkesik**	**0.12**	**141**	*e*Pg	**Pg**	**15 24 12.7**	**+0.1**
YER				*e*Sg	**Sg**	**15 24 15.0**	**+0.1**
TURN	**Turunc**	**0.48**	**137**	*i* P	**Pg**	**15 24 19.0**	**+0.1**
AYDN	**Tasoluk**	**0.50**	**330**	P	**Pg**	**15 24 19.6**	**+0.3**
AYDN				S	**Sg**	**15 24 26.0**	**+0.1**
AYDN	**Tasoluk**	**0.50**	**330**	*i* P	**Pg**	**15 24 19.6**	**+0.3**
AYDN				*i* S	**Sg**	**15 24 26.0**	**+0.1**
DALY	**Dalyan (Muˇla**	**0.55**	**138**	*e*PG	**Pg**	**15 24 20.8**	**+0.6**
DALY				*e*SG	**Sb**	**15 24 29.1**	**+0.3**
DALY	**Dalyan (Muˇla**	**0.55**	**138**	*e*Pg	**Pg**	**15 24 20.8**	**+0.6**
DALY				*e*Sg	**Sb**	**15 24 29.1**	**+0.3**
BDRM	**Kayabasi**	**0.62**	**255**	P	**Pn**	**15 24 23.6**	**-0.4**
BDRM				S	**Sb**	**15 24 32.2**	**+1.5**
BDRM	**Kayabasi**	**0.62**	**255**	*i* P	**Pn**	**15 24 23.6**	**-0.4**
BDRM				*i* S	**Sb**	**15 24 32.2**	**+1.5**
BODT	**Bodrum**	**0.72**	**257**	*e*PG	**Pb**	**15 24 23.4**	**-0.5**
BODT				*e*SG	**Sb**	**15 24 33.4**	**-0.3**
BODT	**Bodrum**	**0.72**	**257**	*e*Pg	**Pb**	**15 24 23.4**	**-0.5**
BODT				*e*Sg	**Sb**	**15 24 33.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**342**	*e*PG	**Pg**	**15 24 24.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**342**	*e*Pg	**Pg**	**15 24 24.4**	**+0.2**

MAN 06 15:25:34, 13.°68N×122.°64E, h7km, mb4.7, ML3.6, MS3.6, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.29**	**319**	*i* P	Pb	15 25 41.0	-0.6
GQP				*i* S	Sb	15 25 46.2	-0.5
AUQP	**San Andres**	**0.36**	**175**	*e*P	Pb	15 25 42.6	-0.2
AUQP				*e*S	Sb	15 25 55.2	+6.6
LQP	**Lukban**	**1.15**	**292**	*e*P	Pb	15 25 57.0	+0.2
POLP	**Polilio Island**	**1.24**	**327**	*e*P	Pb	15 25 57.5	-0.3
POLP				*e*S	Sn	15 26 16.1	+1.3
OTRP	**Odiongan**	**1.45**	**205**	*e*P	Pn	15 25 59.4	-1.2
OTRP				*e*S	Sn	15 26 18.3	-1.5
PVCP	**Virac**	**1.47**	**93**	*e*P	Pn	15 26 00.9	-0.1
PVCP				*e*S	Sg	15 26 21.9	+0.5
PGP	**Puerto Galera**	**1.65**	**264**	*e*P	Pb	15 26 04.1	-0.7
PGP				*i* S	Sg	15 26 28.2	+1.1
BALP	**Baler**	**2.29**	**333**	*e*P	Pn	15 26 13.3	+1.0
BALP				*e*S	Sg	15 26 50.2	+2.5
LUBP	**Lubang**	**2.33**	**272**	*e*P	Pn	15 26 14.0	+1.2
LUBP				*e*S	Sb	15 26 46.0	+0.7
PCPH	**Palayan**	**2.39**	**322**	*e*P	Pn	15 26 15.2	+1.6
PCPH				*e*S	Sb	15 26 47.9	+0.8
BUSP	**Coron**	**2.91**	**235**	*e*P	Pn	15 26 20.9	+0.1
BUSP				*e*S	Sb	15 26 59.2	-2.8
CAUP	**Cauayan**	**3.34**	**346**	*e*P	Pn	15 26 28.1	+1.4
CAUP				*e*S	Sb	15 27 11.3	-3.1
ENPP	**El Nido**	**3.99**	**232**	*e*P	Pn	15 26 37.2	+1.6
ABRA	**Dolores**	**4.36**	**335**	*e*P	Pn	15 26 43.8	+3.1
ABRA				*e*S	Sb	15 27 39.1	-4.7
APYP	**Conner**	**4.37**	**342**	*e*P	Pn	15 26 41.3	+0.5
APYP				*e*S	Sn	15 27 36.4	+4.5

*ISK **06** 15:41:22.8, 40.°73N×37.°07E, h2km, MD3.0*
*CSEM **06** 15:41:23.7±0.2, 40.°73N×37.°08E, h2km, MD2.9, Error ellipse: s-maj=4.5km s-min=3.2km az=1.0*
*DDA **06** 15:41:23.6, 40.°68N×37.°07E, h7km, Md2.9*

ISC 06 15:41:24.0±1.1, 40.°74N±0.°03×37.°08E±0.°02, h4km±10km, n40, σ0°71/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBA	**Erbaa**	**0.26**	**258**	P	**Pg**	**15 41 28.5**	**-0.4**
ERBA				S	**Sg**	**15 41 32.5**	**+0.2**
ERBA	**Erbaa**	**0.26**	**258**	*i* P	**Pg**	**15 41 28.5**	**-0.4**
ERBA				*i* S	**Sg**	**15 41 32.5**	**+0.2**
RSDY	**Resadiye-TOKAT**	**0.39**	**151**	*e*PG	**Pg**	**15 41 31.4**	**0.0**
RSDY				*e*SG	**Sg**	**15 41 37.7**	**+1.2**
RSDY	**Resadiye-TOKAT**	**0.39**	**151**	*e*Pg	**Pg**	**15 41 31.4**	**0.0**
RSDY				*e*Sg	**Sg**	**15 41 37.7**	**+1.2**
TOKT	**Tokat**	**0.58**	**225**	*e*PG	**Pg**	**15 41 35.0**	**-0.2**
TOKT				*e*SG	**Sg**	**15 41 43.4**	**+0.6**
TOKT	**Tokat**	**0.58**	**225**	*e*Pg	**Pg**	**15 41 35.0**	**-0.2**
TOKT				*e*Sg	**Sg**	**15 41 43.4**	**+0.6**
ORDU	**Ordu-Boztepe**	**0.64**	**66**	P	**Pg**	**15 41 36.6**	**+0.3**
ORDU				S	**Sb**	**15 41 46.3**	**-0.8**
ORDU	**Ordu-Boztepe**	**0.64**	**66**	*i* P	**Pg**	**15 41 36.6**	**+0.3**
ORDU				*i* S	**Sb**	**15 41 46.3**	**-0.8**
SVSK	**Karacayir**	**0.82**	**185**	*e*PG	**Pg**	**15 41 39.0**	**-0.7**
SVSK	**Karacayir**	**0.82**	**185**	*e*Pg	**Pg**	**15 41 39.0**	**-0.7**
KVT	**Kavak**	**0.86**	**294**	*e*PG	**Pg**	**15 41 40.3**	**-0.1**
KVT	**Kavak**	**0.86**	**294**	*e*Pg	**Pg**	**15 41 40.3**	**-0.1**
GRSN	**GIRESUNGRSN**	**0.92**	**78**	P	**Pg**	**15 41 40.3**	**-1.3**
GRSN				S	**Sg**	**15 41 54.1**	**+0.6**
GRSN	**GIRESUNGRSN**	**0.92**	**78**	*i* P	**Pg**	**15 41 40.3**	**-1.3**
GRSN				*i* S	**Sg**	**15 41 54.1**	**+0.6**
CUZAR	**Zara_SIVAS**	**1.00**	**148**	P	**Pg**	**15 41 41.4**	**-1.7**
CUZAR				S	**Sg**	**15 41 55.9**	**-0.1**
CUZAR	**Zara_SIVAS**	**1.00**	**148**	*i* P	**Pg**	**15 41 41.4**	**-1.7**
CUZAR				*i* S	**Sg**	**15 41 55.9**	**-0.1**
SUSE	**Susehri**	**1.00**	**121**	P	**Pg**	**15 41 42.9**	**-0.3**
SUSE				S	**Sb**	**15 41 57.4**	**-0.3**
SUSE	**Susehri**	**1.00**	**121**	*i* P	**Pg**	**15 41 42.9**	**-0.3**
SUSE				*i* S	**Sb**	**15 41 57.4**	**-0.3**
HAVZ	**Havza**	**1.09**	**288**	P	**Pb**	**15 41 45.4**	**0.0**
HAVZ	**Havza**	**1.09**	**288**	*i* P	**Pb**	**15 41 45.4**	**0.0**
HAVZ				*i* S	**Sn**	**15 42 01.7**	**0.0**
ESPY	**Espiye-Giresun**	**1.26**	**81**	*e*PN	**Pg**	**15 41 47.2**	**-0.9**
ESPY	**Espiye-Giresun**	**1.26**	**81**	*e*Pn	**Pg**	**15 41 47.2**	**-0.9**
CUSAR	**Sarkisla-SIVAS**	**1.47**	**206**	P	**Pn**	**15 41 49.9**	**-1.5**
CUSAR				S	**Sn**	**15 42 12.1**	**+1.0**
CUSAR	**Sarkisla-SIVAS**	**1.47**	**206**	*i* P	**Pn**	**15 41 49.9**	**-1.5**
CUSAR				*i* S	**Sn**	**15 42 12.1**	**+1.0**
DIKM	**Dikmen**	**1.65**	**304**	*e*PN	**Pn**	**15 41 53.7**	**-0.1**
DIKM	**Dikmen**	**1.65**	**304**	*e*Pn	**Pn**	**15 41 53.7**	**-0.1**
YOZ	**Yozgat**	**1.74**	**232**	*e*PN	**Pn**	**15 41 54.9**	**-0.3**
YOZ	**Yozgat**	**1.74**	**232**	*e*Pn	**Pn**	**15 41 54.9**	**-0.3**
KELT	**Kelkit**	**1.76**	**109**	P	**Pn**	**15 41 55.4**	**-0.1**
KELT				S	**Sb**	**15 42 19.5**	**0.0**
KELT	**Kelkit**	**1.76**	**109**	*i* P	**Pn**	**15 41 55.4**	**-0.1**
KELT				*i* S	**Sb**	**15 42 19.5**	**0.0**
GUMT	**Gumushane**	**1.85**	**98**	*e*PN	**Pn**	**15 41 57.0**	**+0.4**
GUMT	**Gumushane**	**1.85**	**98**	*e*Pn	**Pn**	**15 41 57.0**	**+0.4**
BYBT	**Boyabat**	**1.90**	**293**	*e*PN	**Pn**	**15 41 57.0**	**-0.2**
SNOP	**Sinop**	**1.91**	**313**	*e*PN	**Pn**	**15 41 57.3**	**0.0**
CORM	**Corum**	**1.95**	**254**	*e*PN	**Pn**	**15 41 58.1**	**0.0**
DARE	**Darende-Malaty**	**2.19**	**172**	*e*PN	**Pn**	**15 42 01.8**	**+0.5**
DARE	**Darende-Malaty**	**2.19**	**172**	*e*Pn	**Pn**	**15 42 01.8**	**+0.5**
SARI	**SarD1z-Kayseri**	**2.38**	**193**	*e*PN	**Pn**	**15 42 04.7**	**+0.6**
PTK	**Pertek**	**2.56**	**135**	*e*PN	**Pn**	**15 42 07.1**	**+0.6**
PTK	**Pertek**	**2.56**	**135**	*e*Pn	**Pn**	**15 42 07.1**	**+0.6**

PGC 06 15:42:44.0±0.0, 65.°88N×134.°75W, h20km, ML3.5/9, 174km Ssw of Fort McPherson, Nt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**2.49**	**11**	Pn	Pn	15 43 22.5	-0.8
INK				Sn	Sn	15 43 51.5	-1.5
DAWY	**Dawson**	**2.69**	**229**	Pn	Pn	15 43 25.5	-0.6
DAWY				Sn	Sn	15 43 56.1	-1.9
CLVN	**Colville Lake**	**3.67**	**68**	Pn	Pn	15 43 38.6	-0.9

SMPN	**Simpson Lake**	**3.94**	**50**	Pn	Pn	15 43 43.0	-0.3	
BVCY	**Beaver Creek**	**4.39**	**220**	Pn	Pn	15 43 48.5	-0.9	
YUK3	**Moose Creek**	**4.83**	**214**	Pn	Pn	15 43 55.6	-0.1	
YUK2	**White River**	**4.91**	**216**	Pn	Pn	15 43 55.9	-0.8	
YUK5	**Granite Creek**	**4.96**	**198**	Pn	Pn	15 43 57.5	+0.1	
YUK5				Sg	Sb	15 45 15.1	+5.6	
HYT	**Haines Junctio**	**5.22**	**195**	Pn	Pn	15 44 00.5	-0.5	
HYT				Sg	Sb	15 45 21.6	+4.8	
WHY	**Whitehorse**	**5.24**	**181**	Pn	Pn	15 44 01.0	-0.2	
WHY				Sg	Sb	15 45 24.5	+7.2	
PAX	**Paxson**	**5.48**	**243**	Sn	Sn	15 45 03.1	-3.8	
YUK7	**Dusty Glacier**	**5.58**	**198**	Sg	Sb	15 45 37.0	+10	
COLD	**Coldfoot**	**6.31**	**289**	Pn	Pn	15 44 15.9	+0.1	
COLD				Sn	Sn	15 45 23.4	-3.9	
PLBC	**Pleasant Camp**	**6.49**	**187**	Sg	Sb	15 46 04.1	+11	
KUKN	**Kugluktuk,NWT**	**7.98**	**67**	Pn	Pn	15 44 36.8	-1.8	
KUKN				Sn	Sn	15 45 59.9	-8.1	
YKR1	**Yellowknife Ar**	**9.26**	**102**	Pn	Pn	15 44 54.7	-1.5	
YKR1				Sn	Sn	15 46 31.2	-8.5	
YKR2	**Yellowknife Ar**	**9.28**	**102**	Pn	Pn	15 44 54.8	-1.7	
YKR3	**Yellowknife Ar**	**9.30**	**102**	Pn	Pn	15 44 55.4	-1.3	
YKR4	**Yellowknife Ar**	**9.32**	**102**	Pn	Pn	15 44 55.6	-1.4	
YKR5	**Yellowknife Ar**	**9.34**	**102**	Pn	Pn	15 44 56.0	-1.2	
YKB9	**Yellowknife Ar**	**9.36**	**101**	Pn	Pn	15 44 55.9	-1.6	
YKR6	**Yellowknife Ar**	**9.36**	**102**	Pn	Pn	15 44 56.2	-1.4	
YKW3	**Yellowknife Ar**	**9.36**	**101**	Pn	Pn	15 44 56.5	-1.0	
YKW3				Sn	Sn	15 46 34.1	-8.0	
YKB8	**Yellowknife Ar**	**9.37**	**101**	Pn	Pn	15 44 56.6	-1.0	
YKB7	**Yellowknife Ar**	**9.38**	**102**	Pn	Pn	15 44 56.7	-1.1	
YKR7	**Yellowknife Ar**	**9.38**	**102**	Pn	Pn	15 44 56.6	-1.2	
YKR7				Sn	Sn	15 46 34.4	-8.2	
YKB6	**Yellowknife Ar**	**9.39**	**102**	Pn	Pn	15 44 56.8	-1.1	
YKR8	**Yellowknife Ar**	**9.40**	**102**	Pn	Pn	15 44 56.9	-1.1	
YKB4	**Yellowknife Ar**	**9.41**	**102**	Sn	Sn	15 46 34.1	-9.2	
YKB3	**Yellowknife Ar**	**9.42**	**102**	Pn	Pn	15 44 57.2	-1.2	
YKB2	**Yellowknife Ar**	**9.43**	**102**	Sn	Sn	15 46 35.7	-8.2	
YKB1	**Yellowknife Ar**	**9.45**	**102**	Pn	Pn	15 44 57.0	-1.6	

*DDA **06** 15:48:39.8, 39.°15N×29.°04E, h7km, Md2.7*
*ISK **06** 15:48:39.2, 39.°08N×29.°08E, h9km, MD2.7*
*ISCJB **06** 15:48:40.0±0.5, 39.°11N±0.°03×29.°04E±0.°04, h7km±6km, Error ellipse: s-maj=6.3km s-min=4.8km az=43.5*
*CSEM **06** 15:48:40.1±0.1, 39.°11N×29.°03E, h8km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.6km az=111.0*

ISC 06 15:48:40.0±0.9, 39.°10N±0.°03×29.°04E±0.°03, h16km±9km, n20, σ0°29/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**257**	P	**Pg**	**15 48 45.9**	**+0.1**
DEMI				S	**Sg**	**15 48 49.7**	**0.0**
DEMI	**Demirci**	**0.26**	**257**	*i* P	**Pg**	**15 48 45.9**	**+0.1**
DEMI				*i* S	**Sg**	**15 48 49.7**	**0.0**
GDZ	**Gediz**	**0.34**	**92**	P	**Pg**	**15 48 47.0**	**-0.2**
GDZ				S	**Sg**	**15 48 52.2**	**+0.1**
GDZ	**Gediz**	**0.34**	**

KARP	Karpathos	0.39	243	ePG	Pg	16 17 57.2	0.0
KARP	Karpathos	0.39	243	P	Pg	16 17 57.1	-0.1
KARP				S	Sg	16 18 02.7	+0.1
KARP	Karpathos	0.39	243	P	Pg	16 17 57.1	-0.1
KARP				S	Sg	16 18 02.6	0.0
KARP	Karpathos	0.39	243	P	Pg	16 17 57.1	-0.1
KARP				S	Sg	16 18 02.6	0.0
KARP				AML	AML	16 18 03.6	
	comp=N,15829µm,0.2s						
KARP				AML	AML	16 18 04.2	
	comp=E,23408µm,0.2s						
ARG	Arkhangelos	0.66	42	P	Pb	16 18 03.1	+0.6
ARG				S	Sn	16 18 13.6	-0.5
ARG	Arkhangelos	0.66	42	P	Pb	16 18 03.1	+0.6
ARG				S	Sn	16 18 13.6	-0.5
NIS1	Nisyros Isl.	0.94	340	ePG	Pn	16 18 09.2	+1.3
NIS1	Nisyros Isl.	0.94	340	P	Pb	16 18 07.7	+0.5
NIS1				S	Sn	16 18 21.6	+0.6
NIS1	Nisyros Isl.	0.94	340	ePg	Pn	16 18 09.2	+1.3
NIS1				S	Sn	16 18 21.6	+0.6
NIS1	Nisyros Isl.	0.94	340	P	Pn	16 18 09.0	+1.1
ZKR	Zakros	1.27	242	P	Pn	16 18 12.4	0.0
ZKR				S	Sb	16 18 29.6	+0.6
ZKR	Zakros	1.27	242	P	Pn	16 18 12.4	0.0
ZKR				S	Sb	16 18 29.6	+0.6
ZKR	Zakros	1.27	242	P	Pn	16 18 12.7	+0.3
BDRM	Kayabasi	1.34	355	P	Pn	16 18 13.0	-0.5
BDRM				S	Sb	16 18 30.7	-0.5
BDRM	Kayabasi	1.34	355	*i* P	Pn	16 18 13.0	-0.5
BDRM				*i* S	Sb	16 18 30.7	-0.5
BODT	Bodrum	1.35	351	ePN	Pg	16 18 15.2	-0.2
BODT	Bodrum	1.35	351	P	Pn	16 18 13.7	+0.1
BODT				S	Sg	16 18 33.1	0.0
BODT	Bodrum	1.35	351	P	Pn	16 18 13.7	+0.1
BODT	Bodrum	1.35	351	ePn	Pg	16 18 15.2	-0.2
BODT				S	Sg	16 18 33.1	0.0
DALY	Dalyan (Mu˘la	1.39	38	ePN	Pg	16 18 16.5	+0.4
DALY				eSN	Sg	16 18 35.7	+1.4
DALY	Dalyan (Mu˘la	1.39	38	ePn	Pg	16 18 16.5	+0.4
DALY				eSn	Sg	16 18 35.7	+1.4
TURN	Turunc	1.41	35	*i* P	Pn	16 18 11.8	-2.6
TURN				*i* S	Sn	16 18 31.1	-1.6
FETY	Fethiye	1.52	53	ePN	Pg	16 18 18.1	-0.4
FETY	Fethiye	1.52	53	P	Pb	16 18 17.1	0.0
FETY	Fethiye	1.52	53	P	Pb	16 18 17.1	0.0
FETY	Fethiye	1.52	53	ePn	Pg	16 18 18.1	-0.4
YER	Yerkesik	1.52	22	ePN	Pg	16 18 17.6	-1.0
YER	Yerkesik	1.52	22	P	Pb	16 18 16.8	-0.4
YER	Yerkesik	1.52	22	P	Pb	16 18 16.8	-0.4
YER	Yerkesik	1.52	22	ePn	Pg	16 18 17.6	-1.0
NPS	Neapolis	1.67	255	P	Pn	16 18 17.6	-0.4
NPS	Neapolis	1.67	255	P	Pn	16 18 17.6	-0.4
NPS	Neapolis	1.67	255	P	Pn	16 18 18.7	+0.7
KSL	Kastellorizon	1.68	75	P	Pg	16 18 20.9	-0.7
KSL	Kastellorizon	1.68	75	P	Pg	16 18 20.9	-0.7
AKAS	Kas	1.72	72	P	Pb	16 18 20.9	+0.3
AKAS				S	Sg	16 18 45.0	+0.3
AKAS	Kas	1.72	72	*i* P	Pb	16 18 20.9	+0.3
AKAS				*i* S	Sg	16 18 45.0	+0.3
LAST	Lasithi	1.81	253	P	Pn	16 18 20.1	+0.2
LAST	Lasithi	1.81	253	P	Pn	16 18 20.1	+0.2
LAST	Lasithi	1.81	253	P	Pn	16 18 21.2	+1.3
SANT	Santorini	1.84	291	P	Pn	16 18 20.1	-0.2
SANT	Santorini	1.84	291	P	Pn	16 18 20.1	-0.2
SANT	Santorini	1.84	291	P	Pn	16 18 19.7	+0.6
THT1	Athinios (Pele	1.87	291	P	Pn	16 18 20.3	-0.3
THT1	Athinios (Pele	1.87	291	P	Pn	16 18 20.3	-0.3
THR3	Thira Island,	1.90	292	P	Pn	16 18 20.9	-0.1
THR3	Thira Island,	1.90	292	P	Pn	16 18 20.9	-0.1
CMBO	Columbo, Santo	1.92	294	P	Pn	16 18 20.9	-0.4
CMBO	Columbo, Santo	1.92	294	P	Pn	16 18 20.9	-0.4
THR5	Thira Island,	1.94	292	ePN	Pn	16 18 22.3	+0.7
THR5	Thira Island,	1.94	292	P	Pn	16 18 21.6	0.0
THR5	Thira Island,	1.94	292	P	Pn	16 18 21.6	0.0
THR5	Thira Island,	1.94	292	ePn	Pn	16 18 22.3	+0.7
AYDN	Tasoluk	1.95	7	P	Pb	16 18 23.3	-1.2
AYDN				S	Sg	16 18 52.9	+0.8
AYDN	Tasoluk	1.95	7	*i* P	Pb	16 18 23.3	-1.2
AYDN				*i* S	Sg	16 18 52.9	+0.8
GLHS	Glhisar (BURDU	2.10	47	ePN	Pb	16 18 26.9	-0.3
GLHS	Glhisar (BURDU	2.10	47	ePn	Pb	16 18 26.9	-0.3
APE	Apeiranthos	2.13	310	ePN	Pn	16 18 25.8	+1.4
APE	Apeiranthos	2.13	310	P	Pn	16 18 24.2	-0.1
APE	Apeiranthos	2.13	310	P	Pn	16 18 24.2	-0.1
APE	Apeiranthos	2.13	310	ePn	Pn	16 18 25.8	+1.4
APE	Apeiranthos	2.13	310	P	Pn	16 18 23.4	-1.0
ELL	Elmali	2.14	61	ePN	Pb	16 18 26.9	-0.9
ELL	Elmali	2.14	61	ePn	Pb	16 18 26.9	-0.9
GOLH	Golhisar	2.20	46	P	Pb	16 18 29.0	+0.3
GOLH				S	Sg	16 18 58.8	-1.2
GOLH	Golhisar	2.20	46	*i* P	Pb	16 18 29.0	+0.3
GOLH				*i* S	Sg	16 18 58.8	-1.2
AYDB	Zeytinkoy-Aydi	2.23	6	ePN	Pb	16 18 28.2	-1.2
AYDB	Zeytinkoy-Aydi	2.23	6	ePn	Pb	16 18 28.2	-1.2
IDI	Anoyia	2.24	260	P	Pn	16 18 25.8	0.0
IDI	Anoyia	2.24	260	P	Pn	16 18 25.8	0.0
IDI	Anoyia	2.24	260	P	Pn	16 18 25.6	-0.2
DNZL	Cakiroluk	2.29	30	P	Pb	16 18 29.9	-0.5
DNZL				S	Sg	16 18 29.0	-0.8
DNZL	Cakiroluk	2.29	30	*i* P	Pb	16 18 29.9	-0.5
DNZL				*i* S	Sg	16 19 02.2	-0.8
DENT	Denizli	2.34	29	ePN	Pb	16 18 29.6	-1.6
DENT	Denizli	2.34	29	ePn	Pb	16 18 29.6	-1.6
SIVA	Sivas	2.37	254	P	Pn	16 18 28.3	+0.7
SIVA	Sivas	2.37	254	P	Pn	16 18 28.3	+0.7
KORT	Korkueli	2.57	59	P	Pb	16 18 34.7	-0.5
KORT				S	Sb	16 19 04.6	-2.0
KORT	Korkueli	2.57	59	*i* P	Pb	16 18 34.7	-0.5
KORT				*i* S	Sb	16 19 04.6	-2.0
IZM	Izmir	2.68	355	ePN	Pn	16 18 34.1	+2.2
IZM	Izmir	2.68	355	ePn	Pn	16 18 34.1	+2.2
KULA	Kula-Manisa	2.92	17	ePN	Pn	16 18 38.0	+2.8
KULA	Kula-Manisa	2.92	17	ePn	Pn	16 18 38.0	+2.8
CHOS	Chios island	2.93	336	ePN	Pn	16 18 37.6	+2.3
CHOS	Chios island	2.93	336	ePn	Pn	16 18 37.6	+2.3
IMMV	Iera Moni Meta	2.95	266	P	Pn	16 18 35.7	+0.2
IMMV	Iera Moni Meta	2.95	266	P	Pn	16 18 35.7	+0.2
KHAL	Karahalli	3.05	29	P	Pn	16 18 39.0	+1.9
KHAL				S	Sb	16 19 19.2	-1.2
KHAL	Karahalli	3.05	29	*i* P	Pn	16 18 39.0	+1.9
KHAL				*i* S	Sb	16 19 19.2	-1.2
AKS	Akhisar	3.16	3	ePN	Pn	16 18 41.2	+2.8
AKS	Akhisar	3.16	3	ePn	Pn	16 18 41.2	+2.8
SUTC	Sutluce-Ispart	3.26	57	ePN	Pn	16 18 43.1	+3.2
SUTC	Sutluce-Ispart	3.26	57	ePn	Pn	16 18 43.1	+3.2
KYTH	Kithira	3.72	280	P	Pn	16 18 46.5	+0.4
KYTH	Kithira	3.72	280	P	Pn	16 18 46.5	+0.4
GAZI	Gazipasa	3.87	81	P	Pn	16 18 48.7	+0.4
GAZI				S	Sn	16 19 34.0	+0.6
GAZI	Gazipasa	3.87	81	*i* P	Pn	16 18 48.7	+0.4
GAZI				*i* S	Sn	16 19 34.0	+0.6
KIZT	Kizilcal	4.66	46	ePN	Pn	16 19 02.1	+3.0
KIZT	Kizilcal	4.66	46	ePn	Pn	16 19 02.1	+3.0

*ISCJB **06** 16:34:34.1±0.5, 39˚13N±0˚03×29˚02E±0˚03, h3km±5km, Error ellipse: s-maj=4.6km s-min=3.5km az=172.7*
*DDA **06** 16:34:34.4, 39˚12N×29˚04E, h9km, Ml2.9*
*CSEM **06** 16:34:34.4±0.1, 39˚14N×29˚02E, h5km, ML2.9, Error ellipse: s-maj=1.2km s-min=1.1km az=1.0*
*ISK **06** 16:34:34.1, 39˚14N×29˚00E, h8km, MD2.8*

ISC 06 16:34:34.6±0.9, 39˚14N±0˚02×29˚02E±0˚02, h9km±9km, n55, σ0s30/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.26	249	P	Pg	16 34 39.7	0.0
DEMI				S	Sg	16 34 43.4	+0.2
DEMI	Demirci	0.26	249	*i* P	Pg	16 34 39.7	0.0
DEMI				*i* S	Sg	16 34 43.4	+0.2
GDZ	Gediz	0.36	97	P	Pg	16 34 41.6	-0.1
GDZ				S	Sg	16 34 46.7	+0.2
GDZ	Gediz	0.36	97	*i* P	Pg	16 34 41.6	-0.1
GDZ				*i* S	Sg	16 34 46.7	+0.2
TVSB	Tavsanli	0.46	47	ePG	Pg	16 34 43.7	+0.1
TVSB				eSG	Sg	16 34 49.8	0.0
TVSB	Tavsanli	0.46	47	ePg	Pg	16 34 43.7	+0.1
TVSB				eSg	Sg	16 34 49.8	0.0
DST	Dursunbey	0.56	326	ePG	Pg	16 34 45.3	-0.2
DST				eSG	Sg	16 34 53.0	+0.1
DST	Dursunbey	0.56	326	ePg	Pg	16 34 45.3	-0.2
DST				eSg	Sg	16 34 53.0	+0.1
KULA	Kula-Manisa	0.68	205	ePG	Pg	16 34 47.5	-0.2
KULA	Kula-Manisa	0.68	205	ePg	Pg	16 34 47.5	-0.2
KHAL	Karahalli	0.85	154	P	Pg	16 34 50.8	-0.1
KHAL				S	Sg	16 35 01.5	-0.4
KHAL	Karahalli	0.85	154	*i* P	Pg	16 34 50.9	-0.1
KHAL				*i* S	Sg	16 35 01.6	-0.4
KHL	Karahalli	0.90	154	ePG	Pb	16 34 52.2	-0.2
KHL	Karahalli	0.90	154	ePg	Pb	16 34 52.2	-0.2
ORLT	Orhaneli	0.92	354	ePG	Pg	16 34 51.6	-0.6
ORLT	Orhaneli	0.92	354	ePg	Pg	16 34 51.6	-0.6
AKHS	Akhisar	0.97	255	P	Pb	16 34 53.6	0.0
AKHS				S	Sg	16 35 06.1	+0.1
AKHS	Akhisar	0.97	255	*i* P	Pb	16 34 53.6	0.0
AKHS				*i* S	Sg	16 35 06.1	+0.1
AKS	Akhisar	0.98	255	ePG	Pg	16 34 53.0	-0.2
AKS	Akhisar	0.98	255	ePg	Pg	16 34 53.1	-0.2
BALB	Balikesir	1.02	300	ePG	Pb	16 34 54.2	-0.2
BALB	Balikesir	1.02	300	ePg	Pb	16 34 54.2	-0.2
IGD	Bursa	1.14	7	*i* P	Pg	16 34 55.5	-0.9
IGD				*i* S	Sn	16 35 12.1	-0.3
MDNY	Mudanya-Bursa	1.24	355	ePN	Pg	16 34 58.5	+0.2
MDNY	Mudanya-Bursa	1.24	355	ePn	Pg	16 34 58.5	+0.2
CAVI	Cavuskoy	1.24	30	ePN	Pb	16 34 58.1	-0.1
CAVI	Cavuskoy	1.24	30	ePn	Pb	16 34 58.1	-0.1
KCTX	Karacabey (Bur	1.24	336	ePN	Pg	16 34 58.1	-0.2
KCTX	Karacabey (Bur	1.24	336	ePn	Pg	16 34 58.2	-0.2
BALY	Balya	1.24	300	P	Pg	16 34 58.9	+0.5
BALY				S	Sg	16 35 14.5	-0.1
BALY	Balya	1.24	300	*i* P	Pg	16 34 58.9	+0.5
BALY				*i* S	Sg	16 35 14.5	-0.1
IZI	Iznik	1.25	16	ePN	Pg	16 34 58.5	-0.1
IZI	Iznik	1.25	16	ePn	Pg	16 34 58.5	-0.1
BORA	Eskisehir	1.33	56	P	Pb	16 34 59.8	0.0
BORA				S	Sn	16 35 17.4	0.0
BORA	Eskisehir	1.33	56	*i* P	Pb	16 34 59.8	0.0
BORA				*i* S	Sn	16 35 17.4	0.0
GONE	Gonen-Balikesi	1.38	312	ePN	Pn	16 34 59.8	-0.1
GONE	Gonen-Balikesi	1.38	312	ePn	Pn	16 34 59.8	-0.1
ADVT	Abdulvahap	1.41	23	ePN	Pn	16 35 00.6	+0.2
ADVT	Abdulvahap	1.41	23	ePn	Pn	16 35 00.6	+0.2
ARMT	Armutlu	1.44	355	ePN	Pn	16 35 00.9	+0.1
ARMT	Armutlu	1.44	355	ePn	Pn	16 35 00.9	+0.1
ESKT	Eskisehir	1.47	74	ePN	Pb	16 35 01.7	-0.5
ESKT	Eskisehir	1.47	74	ePn	Pb	16 35 01.7	-0.5
EDC	Edincik	1.50	324	ePN	Pn	16 35 01.9	+0.1
EDC	Edincik	1.50	324	ePn	Pn	16 35 01.9	+0.1
GULT	Gulveren	1.73	41	ePN	Pn	16 35 05.4	+0.4
GULT	Gulveren	1.73	41	ePn	Pn	16 35 05.4	+0.4
HRT	Hereke	1.76	16	ePN	Pn	16 35 05.7	+0.4
HRT	Hereke	1.76	16	ePn	Pn	16 35 05.7	+0.4
MRMT	Marmara Adasi	1.83	324	ePN	Pn	16 35 06.5	+0.2
MRMT	Marmara Adasi	1.83	324	ePn	Pn	16 35 06.5	+0.2
SVRH	Sivrihisar-ESK	1.97	80	ePN	Pn	16 35 08.8	+0.7
SVRH	Sivrihisar-ESK	1.97	80	ePn	Pn	16 35 08.8	+0.7
CTKS	Kestanelik-??a	2.14	350	ePN	Pn	16 35 10.9	+0.5
CTKS	Kestanelik-??a	2.14	350	ePn	Pn	16 35 10.9	+0.5

IDC 06 16:38:57.2±6.6, 3˚33S×134˚37E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/38, mbtmpb3.4/3, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/19, Error ellipse: s-maj=361.8km s-min=29.4km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.51	180	Pn	Pn	16 42 48.3	-2.1
	0.1nm,0.3s,baz=358,slow=14,SNR=4.8						
WRA				Sn	Sn	16 45 45.4	-9.0
	0.0nm,0.3s,baz=352,slow=25,SNR=3.3						
ASAR	Alice Springs	20.22	181	P	P	16 43 34.9	+0.8
	1.0nm,0.6s,baz=6.8,slow=11,SNR=18						
DZM	Mont Dzumac	36.27	124	LR	LR	16 59 03.3	
	comp=Z,25nm,21.2s,baz=356,slow=33						
MKAR	Makanchi Array	67.69	324	P	P	16 49 56.4	0.0
	0.3nm,0.7s,baz=107,slow=6.8,SNR=3.7						

*NIED **06** 16:39:00, 37˚90N×143˚30E, h5km, Mw3.6 Best double couple: M♂3.31000×10^14 NP1:φs329.00000°, δ43.00000°, λ-41.00000°. NP2:φs91.00000°, δ63.00000°, λ-125.00000°.*
*IDC **06** 16:39:40.3±1.5, 37˚84N×143˚45E, h0km, mb3.7/6, mb1 3.7/11, mb1mx3.5/55, mbtmpb3.7/11, ML3.4/4, MS2.6/2, Ms1 2.6/2, ms1mx2.2/39, Error ellipse: s-maj=36.8km s-min=19.3km az=79.0*
*ISCJB **06** 16:39:41.0±0.9, 37˚85N±0˚06×143˚34E±0˚10, h19km, mb3.6/6, Error ellipse: s-maj=11.1km s-min=8.3km az=21.2*
*JMA **06** 16:39:41.5±0.2, 37˚86N×143˚27E, h26km, M3.8*

ISC 06 16:39:42.7±1.3, 37˚84N±0˚07×143˚4E±0˚1, h19km, n31, σ1s98/26, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.70	292	P	Pn	16 40 09.3	-2.1
OFUJ	Ofunato	1.82	314	P	Pn	16 40 10.9	-2.1
JMK	Ichinoseki	2.03	304	P	Pn	16 40 13.9	-1.9
JFK	Kawauchi	2.03	257	P	Pn	16 40 13.9	-2.0
JMM	Marumori	2.03	272	P	Pn	16 40 14.0	-1.9
JOU	Okura	2.19	285	P	Pn	16 40 16.8	-1.3
JOM	Ohasama	2.30	316	P	Pn	16 40 18.2	-1.4
JFT	Otama	2.42	263	P	Pn	16 40 20.2	-1.1
JYK	Kaneyama	2.59	296	P	Pn	16 40 22.6	-1.0
JAW	Awa shima	3.30	282	P	Pn	16 40 32.7	-0.6
JAG	Ashikaga	3.42	247	P	Pn	16 40 34.1	-1.0
MJAR	Matsushiro Arr	4.31	254	Pn	Pn	16 40 47.8	+0.5
	1.4nm,0.3s,baz=74,slow=14,SNR=8.0						
MAT	Matsushiro	4.31	254	P	Pn	16 40 48.1	+0.8
MAT				S	Sn	16 41 38.1	+1.0
JHJ	Hachijo jima 2	5.54	213	Pn	Pn	16 41 03.6	-0.5
	10nm,0.3s,baz=357,slow=23,SNR=12						
JHJ				Sn	Sn	16 42 01.0	-6.3
	16nm,0.3s,baz=53,slow=20,SNR=7.1						
ASAJ	Asahikawa	6.30	355	Pn	Pn	16 41 15.0	+0.4
	0.6nm,0.3s,baz=204,slow=10,SNR=5.2						
ASAJ				Sn	Sn	16 42 22.8	-3.2
	baz=180,slow=19						
USRK	Ussuriysk Ar.	10.68	310	Pn	Pn	16 42 15.4	+0.7
	0.1nm,0.3s,baz=142,slow=11,SNR=2.6						
JNU	Nakatsue	11.21	249	LR	LR	16 46 46.5	
	comp=Z,29nm,20.5s,baz=296,slow=38						
KSRS	Korea Array	12.24	273	Pn	Pn	16 42 38.1	+2.1
	0.2nm,0.3s,baz=93,slow=14,SNR=5.6						
PETK	Petropavlovsk-	18.23	29	LR	LR	16 50 39.2	
	comp=Z,28nm,19.7s,baz=119,slow=36						
H11N2	WAKE ISLAND Hy	27.28	125	T	T	17 14 22.6	
	baz=317,slow=75,SNR=51						
H11N1	WAKE ISLAND Hy	27.29	125	T	T	17 14 17.4	
	baz=317,slow=75,SNR=7.9						
H11N3	WAKE ISLAND Hy	27.30	125	T	T	17 14 16.5	
	baz=317,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy	28.05	127	T	T	17 15 08.4	
	baz=318,slow=76,SNR=7.6						
H11S3	WAKE ISLAND Hy	28.05	127	T	T	17 15 09.5	
	baz=318,slow=76,SNR=8.7						
H11S2	WAKE ISLAND Hy	28.06	127	T	T	17 15 12.0	
	baz=318,slow=76,SNR=9.1						
SONM	Songino Array	28.64	302	P	P	16 45 40.2	+2.1
	0.6nm,0.5s,baz=95,slow=7.8,SNR=3.3						
ZALV	Zalesovo Beam	42.53	312	P	P	16 47 37.0	+0.3
	0.6nm,0.5s,baz=77,slow=6.4,SNR=3.0						
MKAR	Makanchi Array	45.01	302	P	P	16 47 57.0	+0.1
	1.2nm,0.7s,baz=86,slow=9.9,SNR=13						
WRA	Warramunga Arr	58.09	190	P	P	16 49 35.5	+0.6
	0.5nm,0.7s,baz=8.5,slow=7.1,SNR=5.6						
ASAR	Alice Springs	61.82	190	P	P	16 50 01.6	+1.2
	0.3nm,0.9s,baz=8.4,slow=7.2,SNR=4.3						
FINES	FINESS Array B	68.82	333	P	P	16 50 46.1	+0.8
	0.8nm,0.7s,baz=50,slow=9.3,SNR=2.7						

WEL 06 16:50:02.5±0.3, 40˚02S×173˚83E, h173km±2km, ML3.5/12, 9C-7D, Error ellipse: s-maj=2.3km s-min=1.0km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	Lake Rotokare	0.71	39	PN	Pn	16 50 27.6	0.0
LREZ				SN	Sn	16 50 45.9	-0.9
KHEZ	Kahui Hut	0.73	11	PN	Pn	16 50 27.9	0.0
KHEZ				SN	Sn	16 50 46.1	-1.3
DUWZ	D'Urville Isla	0.79	175	PN	Pn	16 50 28.0	-0.1
DREZ	Durham Road	0.87	19	PN	Pn	16 50 28.1	-0.6
DREZ				SN	Sn	16 50 48.6	-0.2
WAZ	Wanganui	0.93	74	⇑PN	Pn	16 50 29.6	+0.6
VRZ	Vera Road	1.14	39	⇓PN	Pn	16 50 30.2	-0.5
OHWZ	Ohakea	1.15	100	PN	Pn	16 50 31.4	+0.7
KIW	Kapiti Island	1.18	136	PN	Pn	16 50 31.0	0.0
KIW				AML	AML	16 50 51.7	
KIW				AML	AML	16 50 52.3	
TCW	Tory Channel	1.24	164	PN	Pn	16 50 31.8	+0.3
TCW				SN	Sn	16 50 52.5	-1.5
TCW				AML	AML	16 50 54.1	
NNZ	Nelson	1.25	196	⇑PN	Pn	16 50 31.5	0.0
NNZ				SN	Sn	16 50 51.5	-2.6
OGWZ	Otaki Gorge	1.30	128	PN	Pn	16 50 32.1	+0.1
MTVZ	Mangateitei	1.41	64	PN	Pn	16 50 33.0	-0.2
TUWZ	Tuamarina	1.41	177	PN	Pn	16 50 33.0	-0.1
CAW	Cannon Point	1.44	140	PN	Pn	16 50 33.4	+0.1
WEL	Wellington	1.45	151	PN	Pn	16 50 33.5	+0.1
MRZ	Mangatainoka R	1.48	116	PN	Pn	16 50 33.7	0.0
WNVZ	Wahianoa	1.53	64	PN	Pn	16 50 34.1	-0.3
FWVZ	Far West T-bar	1.53	61	⇓PN	Pn	16 50 34.1	-0.4
HOWZ	Holdsworth Sta	1.56	125	⇑PN	Pn	16 50 34.4	0.0
BHW	Baring Head	1.60	151	PN	Pn	16 50 34.8	0.0
WTVZ	West Tongariro	1.63	57	⇑PN	Pn	16 50 35.0	-0.3
TSZ	Takapari Road	1.64	92	PN	Pn	16 50 35.2	-0.1
OTVZ	Oturere	1.65	60	PN	Pn	16 50 35.4	-0.3
KRVZ	Karewarewa	1.68	57	PN	Pn	16 50 35.3	-0.5
BSWZ	Blackbirch Sta	1.70	179	PN	Pn	16 50 36.3	+0.4
HIZ	Hauiti	1.70	28	⇓PN	Pn	16 50 36.3	-0.6
MTW	Mount Morrison	1.71	132	⇑PN	Pn	16 50 36.0	0.0
MTW				AML	AML	16 51 00.2	
PRWZ	Pori Road	1.72	109	PN	Pn	16 50 36.5	+0.3
MSWZ	Moikau Station	1.77	143	⇑PN	Pn	16 50 36.5	-0.1
KATZ	Kakaramea	1.78	55	PN	Pn	16 50 36.7	-0.2
BHHZ	Black Hill Sta	1.80	74	PN	Pn	16 50 36.2	-0.8
DVHZ	Dannevirke	1.81	100	PN	Pn	16 50 36.9	-0.2
PNHZ	Pukenui	1.82	88	⇓PN	Pn	16 50 37.2	-0.1
PAWZ	Paruwai Farm	1.82	139	⇓PN	Pn	16 50 37.2	0.0
THZ	Tophouse	1.88	202	⇑PN	Pn	16 50 37.6	-0.2
PLWZ	Palliser	1.89	146	PN	Pn	16 50 37.7	-0.2
RATZ	Rangitukua	1.89	53	⇓PN	Pn	16 50 38.1	+0.1
TMWZ	Te Maipa	1.91	125	PN	Pn	16 50 38.2	0.0
BFZ	Birch Farm	1.96	111	PN	Pn	16 50 38.5	-0.1
BFZ				SN	Sn	16 51 03.2	-3.5
TRWZ	Traveller	1.97	135	PN	Pn	16 50 38.8	0.0
KRHZ	Kereru	1.99	80	PN	Pn	16 50 39.3	+0.3
CPWZ	Castlepoint	2.02	117	PN	Pn	16 50 39.8	+0.5
ANWZ	Angora Road	2.07	103	PN	Pn	16 50 39.9	+0.1
KWHZ	Kaweka Forest	2.08	74	⇑PN	Pn	16 50 40.3	+0.2
PRHZ	Porangahau	2.16	98	PN	Pn	16 50 40.9	0.0
BKZ	Black Stump Fm	2.23	68	⇓PN	Pn	16 50 41.0	-0.8
MCHZ	McNeill Hill	2.28	76	PN	Pn	16 50 43.3	+1.0
MRHZ	Matea Rd	2.33	60	⇑PN	Pn	16 50 41.7	-1.1
PXZ	Pawanui	2.33	91	PN	Pn	16 50 42.6	-0.1
KAHZ	Kahuranaki	2.35	86	ePN	Pn	16 50 43.3	+0.2
KHZ	Kahutara	2.41	185	PN	Pn	16 50 43.6	0.0
KNZ	Kokohu	3.13	73	PN	Pn	16 50 51.6	-0.9
MQZ	McQueen's Vall	3.79	193	PN	Pn	16 50 58.6	-2.0
MQZ				SN	Sn	16 51 39.4	-6.7

IDC 06 16:51:01.8±9.5, 61˚08S×24˚28W, h0km, mb3.9/2, mb1 3.9/2, mb1mx3.6/20, mbtmpb3.8/2, Error ellipse: s-maj=612.6km s-min=52.7km az=95.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	11.57

TWQ1	**Liyutan**	**1.10**	**265**	*e*P		**Pg**	**16**	**51**	**55.2 +0.1**
	baz=263								
NSY	**Sanyi**	**1.11**	**269**	*e*P		**Pn**	**16**	**51**	**54.6 -0.6**
	baz=267								
EHY	**Hungye**	**1.11**	**213**	*e*P		**Pg**	**16**	**51**	**55.6 +0.4**
	baz=209								
EHY				*e*S		**Sg**	**16**	**52**	**12.8 +3.1**
	baz=209								
TYC	**Yuchr**	**1.16**	**242**	*e*P		**Pg**	**16**	**51**	**56.0 -0.1**
	baz=239								
TWF1	**Yuli**	**1.25**	**210**	*e*P		**Pg**	**16**	**51**	**57.9 0.0**
	baz=206								
TWF1				*e*S		**Sg**	**16**	**52**	**15.4 +1.2**
	baz=206								
ALS	**Alishan**	**1.42**	**229**	*e*P		**Pb**	**16**	**52**	**00.5 +0.1**
	baz=226								
ALS				*e*S		**Sb**	**16**	**52**	**18.6 +0.1**
	baz=226								
CHN5	**Tsauling**	**1.46**	**235**	*e*P		**Pg**	**16**	**52**	**02.2 +0.4**
	baz=232								
CHN5				*e*S		**Sg**	**16**	**52**	**22.4 +1.6**
	baz=232								
ELDTW	**Lidau**	**1.53**	**215**	*e*P		**Pb**	**16**	**52**	**02.1 -0.1**
	baz=212								
ELDTW				*e*S		**Sg**	**16**	**52**	**22.2 -0.8**
	baz=212								
CHN4	**Tsaushan**	**1.67**	**230**	*e*P		**Pg**	**16**	**52**	**06.1 +0.2**
	baz=227								
CHN4				*e*S		**Sb**	**16**	**52**	**25.2 -0.2**
	baz=227								
STYT	**Tauyuan**	**1.69**	**221**	*e*P		**Pb**	**16**	**52**	**04.0 -0.9**
	baz=218								
STYT				*e*S		**Sb**	**16**	**52**	**26.4 +0.1**
	baz=218								
HATJ	**Hateruma jima**	**1.71**	**103**	P		**Pb**	**16**	**52**	**05.0 -0.2**
WTP	**Ta-pu**	**1.73**	**227**	*e*P		**Pb**	**16**	**52**	**05.2 -0.3**
	baz=224								
CHN1	**Nanshi**	**1.82**	**227**	*e*P		**Pb**	**16**	**52**	**06.6 -0.5**
	baz=224								
CHN1				*e*S		**Sb**	**16**	**52**	**29.7 -0.2**
	baz=224								
JKRS	**Kuro-shima**	**1.87**	**96**	P		**Pn**	**16**	**52**	**05.6 +0.1**
JKRS				S		**Sn**	**16**	**52**	**28.6 -0.4**
JIJ	**Ishigaki jima**	**1.98**	**92**	P		**Pn**	**16**	**52**	**06.7 -0.4**
JIJ				S		**Sn**	**16**	**52**	**30.1 -1.7**
JISG	**Ishigakijimahi**	**2.13**	**86**	P		**Pn**	**16**	**52**	**09.5 +0.3**
JISG				*e*S		**Sn**	**16**	**52**	**36.1 +0.5**

ROM 06 16:55:09.0±0.3, 43.90N×11.99E, h8km±3km, Md1.8/4, Ml1.3/3, Error ellipse: s-maj=2.8km s-min=0.8km az=173.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**273**	Pg	Pg	16 55 11.8	+0.4
SFI				Sg	Sg	16 55 13.9	+0.8
	36nm,0.1s						
T0502	**Localit` San**	**0.11**	**90**	Pg	Pg	16 55 11.7	+0.3
T0502				Sg	Sg	16 55 13.9	+0.8
	1234µm,51.0s						
ASQU	**Asqua**	**0.18**	**235**	Pg	Pg	16 55 13.1	+0.4
ASQU				Sg	Sg	16 55 16.4	+1.2
	64nm,0.2s						
CPGN	**Carpegna, Ital**	**0.26**	**112**	Pg	Pb	16 55 15.2	-0.8

*ISCJB **06** 16:58:49.2±1.0, 37.17N±0.04×33.31E±0.04, h3km±8km, Error ellipse: s-maj=7.3km s-min=5.1km az=168.3*
*DDA **06** 16:58:49.1, 37.18N×33.29E, h7km, Md3.0*
*CSEM **06** 16:58:49.5±0.2, 37.17N×33.33E, h8km, MD3.0, Error ellipse: s-maj=4.1km s-min=3.5km az=161.0*
*ISK **06** 16:58:49.2, 37.15N×33.36E, h10km, MD2.8*
ISC 06 16:58:49.5±1.2, 37.16N±0.04×33.36E±0.03, h7km±10km, n18, σ0.39/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERMK	**Ermenek**	**0.63**	**215**	P	**Pg**	**16 59 01.3**	**-0.3**
ERMK				S	**Sg**	**16 59 10.1**	**+0.3**
ERMK	**Ermenek**	**0.63**	**215**	*i* P	**Pg**	**16 59 01.3**	**-0.3**
ERMK				*i* S	**Sg**	**16 59 10.1**	**+0.3**
KERG	**Konya-Eregli**	**0.67**	**67**	P	**Pg**	**16 59 02.2**	**-0.1**
KERG				S	**Sb**	**16 59 12.8**	**-0.3**
KERG	**Konya-Eregli**	**0.67**	**67**	*i* P	**Pg**	**16 59 02.2**	**-0.1**
KERG				*i* S	**Sb**	**16 59 12.8**	**-0.3**
KIZK	**Mersin**	**0.93**	**137**	P	**Pb**	**16 59 07.8**	**-0.1**
KIZK				S	**Sn**	**16 59 21.8**	**-0.7**
KIZK	**Mersin**	**0.93**	**137**	*i* P	**Pb**	**16 59 07.8**	**-0.1**
KIZK				*i* S	**Sn**	**16 59 21.8**	**-0.7**
IKL	**Isikli**	**0.96**	**164**	*e*PG	**Pg**	**16 59 07.8**	**0.0**
IKL				*e*SG	**Sb**	**16 59 21.5**	**+0.3**
IKL	**Isikli**	**0.96**	**164**	*e*Pg	**Pg**	**16 59 07.8**	**0.0**
IKL				*e*Sg	**Sb**	**16 59 21.5**	**+0.3**
KONT	**Konya--Tatoy**	**1.11**	**315**	*e*PN	**Pn**	**16 59 11.4**	**-0.2**
KONT				*e*SN	**Sn**	**16 59 27.2**	**0.0**
KONT	**Konya--Tatoy**	**1.11**	**315**	*e*Pn	**Pn**	**16 59 11.4**	**-0.2**
KONT				*e*Sn	**Sn**	**16 59 27.2**	**0.0**
GULE	**Gulek**	**1.14**	**83**	P	**Pn**	**16 59 11.9**	**-0.2**
GULE				S	**Sn**	**16 59 29.1**	**+1.0**
GULE	**Gulek**	**1.14**	**83**	*i* P	**Pn**	**16 59 11.9**	**-0.2**
GULE				*i* S	**Sn**	**16 59 29.1**	**+1.0**
KARA	**Karaisali**	**1.36**	**85**	*e*PN	**Pn**	**16 59 14.7**	**-0.2**
KARA				*e*SN	**Sg**	**16 59 33.5**	**+0.3**
KARA	**Karaisali**	**1.36**	**85**	*e*Pn	**Pn**	**16 59 14.7**	**-0.2**
KARA				*e*Sn	**Sg**	**16 59 33.5**	**+0.3**
NIG	**Nigde**	**1.38**	**46**	*e*PN	**Pn**	**16 59 15.2**	**-0.2**
NIG	**Nigde**	**1.38**	**46**	*e*Pn	**Pn**	**16 59 15.2**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.91**	**280**	*e*PN	**Pn**	**16 59 22.7**	**+0.2**
SUTC	**Sutluce-Ispart**	**1.91**	**280**	*e*Pn	**Pn**	**16 59 22.7**	**+0.2**

*NIED **06** 17:00:00, 37.70N×142.00E, h38km, Mw3.5 Best double couple: M0 1.86000×10^14 NP1:φs205.00000°, δ69.00000°, λ4.00000°. NP2:φs114.00000°, δ87.00000°, λ159.00000°.*
*IDC **06** 17:00:04.8±1.8, 37.51N×142.30E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.3/36, mbtmp3.5/5, ML3.1/3, MS2.2/1, Ms1 2.2/1, ms1mx1.9/44, Error ellipse: s-maj=36.8km s-min=28.8km az=99.0*
*JMA **06** 17:00:07.5±0.1, 37.69N×142.01E, h31km±3km, M3.7*
ISC 06 17:00:04.1±1.9, 37.69N±0.04×142.14E±0.07, h8km±11km, n25, σ1.95/34, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.98**	**321**	P	**Pn**	**17 00 24.4**	**+0.2**
JIO				*e*S	**Sg**	**17 00 35.7**	**-0.1**
JFK	**Kawauchi**	**1.06**	**253**	P	**Pg**	**17 00 24.8**	**+0.5**
JMM	**Marumori**	**1.08**	**280**	P	**Pg**	**17 00 25.3**	**+0.5**
JMM				*e*S	**Sg**	**17 00 37.4**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.22**	**242**	P	**Pn**	**17 00 27.2**	**-0.3**
ONAJ				*e*S	**Sb**	**17 00 41.2**	**-2.1**
JOU	**Okura**	**1.35**	**300**	P	**Pn**	**17 00 29.9**	**+0.7**
JOU				*e*S	**Sb**	**17 00 45.8**	**-1.2**
JFT	**Otama**	**1.44**	**264**	P	**Pn**	**17 00 31.3**	**+0.8**
JFT				*e*S	**Sn**	**17 00 48.0**	**-1.6**
JMK	**Ichinoseki**	**1.45**	**330**	P	**Pb**	**17 00 31.5**	**+0.2**
JMK				*e*S	**Sb**	**17 00 48.7**	**-1.3**
JYS	**Shirataka**	**1.72**	**289**	P	**Pn**	**17 00 35.3**	**+0.9**
JYS				*e*S	**Sn**	**17 00 55.9**	**-0.7**
JYK	**Kaneyama**	**1.86**	**312**	P	**Pn**	**17 00 37.2**	**+0.9**
JOM	**Ohasama**	**1.90**	**340**	P	**Pb**	**17 00 38.4**	**-0.6**
JOM				*e*S	**Sn**	**17 01 01.1**	**+0.2**
JFY	**Yanaizu**	**1.96**	**262**	P	**Pn**	**17 00 38.7**	**+1.1**
JFY				*e*S	**Sn**	**17 01 01.4**	**-0.9**
JRG	**Rokugo**	**2.07**	**326**	P	**Pb**	**17 00 40.9**	**-1.0**
JRG				*e*S	**Sn**	**17 01 05.3**	**+0.1**
JYA	**Atsumi**	**2.11**	**296**	P	**Pn**	**17 00 40.7**	**+1.0**
JYA				*e*S	**Sn**	**17 01 04.9**	**-1.3**
MJAR	**Matsushiro Arr**	**3.34**	**251**	Pn	**Pn**	**17 00 58.8**	**+2.1**
	1.7nm,0.3s,baz=74,slow=16,SNR=18						
MJAR				Sn	**Sn**	**17 01 39.6**	**+3.0**
	1.3nm,0.3s,baz=76,slow=26,SNR=2.8						
MAT	**Matsushiro**	**3.35**	**251**	P	**Pn**	**17 00 58.7**	**+2.0**
MAT				S	**Sn**	**17 01 38.9**	**+2.3**
JHJ	**Hachijo jima 2**	**4.95**	**204**	Pn	**Pn**	**17 01 20.1**	**+1.4**
	6.6nm,0.3s,baz=158,slow=23,SNR=7.9						
JHJ				Sn	**Sn**	**17 02 13.7**	**-2.5**
	11nm,0.3s,baz=90,slow=20,SNR=4.6						
JHJ				LR	LR	17 03 30.8	
	comp=Z,30nm,20.9s,baz=121,slow=43						
ASAJ	**Asahikawa**	**6.43**	**3**	Pn	**Pn**	**17 01 43.0**	**+3.9**
	0.2nm,0.3s,baz=227,slow=18,SNR=6.8						
ASAJ				Sn	**Sn**	**17 02 51.1**	**-1.5**
	baz=270,slow=19						
H11N2	**WAKE ISLAND Hy**	**28.00**	**123**	T	T	17 35 20.5	
	baz=315,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**28.01**	**123**	T	T	17 35 28.5	
	baz=315,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.02**	**123**	T	T	17 35 18.5	
	baz=315,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	17 36 15.9	
	baz=317,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	17 36 16.0	
	baz=317,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**28.76**	**125**	T	T	17 36 12.7	
	baz=317,slow=76,SNR=32						
WRA	**Warramunga Arr**	**57.79**	**189**	P	**P**	**17 09 56.9**	**+1.0**
	0.7nm,0.7s,baz=6.0,slow=7.0,SNR=12						
ASAR	**Alice Springs**	**61.52**	**189**	P	**P**	**17 10 21.9**	**+0.3**
	0.2nm,0.7s,baz=1.0,slow=5.6,SNR=4.3						

*ISCJB **06** 17:10:06.8±0.5, 37.22N±0.04×141.97E±0.05, h24km, mb3.8/11, MS3.9/1, Error ellipse: s-maj=5.3km s-min=5.1km az=141.3*
*JMA **06** 17:10:09.3±0.2, 37.28N×141.87E, h39km±3km, M4.1*
*IDC **06** 17:10:11.4±2.0, 37.25N×141.84E, h46km±20km, mb3.6/11, mb1 3.8/16, mb1mx3.6/45, mbtmp3.8/16, ML3.5/3, MS3.1/5, Ms1 3.1/5, ms1mx2.7/42, Error ellipse: s-maj=21.0km s-min=15.2km az=97.0*
ISC 06 17:10:08.5±0.7, 37.26N±0.04×141.88E±0.05, h24km, n35, σ1.15/37, mb3.9/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.81**	**278**	P	**Pn**	**17 10 24.2**	**-0.3**
JFK				*e*S	**Sb**	**17 10 34.3**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.88**	**260**	P	**Pn**	**17 10 25.2**	**-0.3**
ONAJ				*e*S	**Sn**	**17 10 36.5**	**-1.1**
JMM	**Marumori**	**1.05**	**305**	P	**Pn**	**17 10 27.5**	**-0.3**
JMM				*e*S	**Sb**	**17 10 40.9**	**-0.6**
JHO	**Hitachi**	**1.24**	**239**	P	**Pn**	**17 10 30.0**	**-0.3**
JHO				*e*S	**Sn**	**17 10 45.2**	**-1.1**
JFT	**Otama**	**1.26**	**282**	P	**Pb**	**17 10 31.4**	**-0.2**
JFT				*e*S	**Sb**	**17 10 46.9**	**-0.4**
JIO	**Ouri**	**1.26**	**341**	P	**Pn**	**17 10 30.3**	**-0.4**
JIO				*e*S	**Sn**	**17 10 45.1**	**-1.8**
JOU	**Okura**	**1.46**	**319**	P	**Pb**	**17 10 34.0**	**-1.1**
JOU				*e*S	**Sn**	**17 10 52.0**	**+0.1**
JYS	**Shirataka**	**1.73**	**304**	P	**Pb**	**17 10 38.7**	**-0.9**
JYS				*e*S	**Sb**	**17 11 00.4**	**-0.5**
JFY	**Yanaizu**	**1.74**	**275**	P	**Pb**	**17 10 38.2**	**-1.6**
JMK	**Ichinoseki**	**1.77**	**343**	P	**Pn**	**17 10 37.9**	**+0.3**
MJAR	**Matsushiro Arr**	**3.03**	**257**	P	**Pn**	**17 10 56.4**	**+1.4**
	3.1nm,0.3s,baz=91,slow=16,SNR=22						
MJAR				LR	LR	17 12 27.2	
	comp=Z,254nm,18.1s,baz=65,slow=46						
JHJ	**Hachijo jima 2**	**4.48**	**203**	P	**Pn**	**17 11 14.9**	**0.0**
	22nm,0.3s,baz=344,slow=23,SNR=26						
JHJ				S	**Sn**	**17 12 04.3**	**-2.0**
	34nm,0.3s,baz=49,slow=19,SNR=8.8						
JHJ				LR	LR	17 13 25.1	
	comp=Z,215nm,19.4s,baz=76,slow=44						
ASAJ	**Asahikawa**	**6.87**	**4**	P	**Pn**	**17 11 48.0**	**+0.3**
	0.8nm,0.3s,baz=217,slow=18,SNR=16						
ASAJ				S	**Sn**	**17 13 03.2**	**-1.8**
	1.0nm,0.3s,baz=130,slow=32,SNR=7.6						
JNU	**Nakatsue**	**9.91**	**249**	LR	LR	17 16 39.0	
	comp=Z,49nm,20.8s,baz=135,slow=39						
USRK	**Ussuriysk Ar.**	**10.21**	**316**	P	**Pn**	**17 12 36.9**	**+3.4**
	0.0nm,0.3s,baz=126,slow=16,SNR=2.9						
KSRS	**Korea Array**	**11.12**	**275**	P	**Pn**	**17 12 49.0**	**+3.1**
	baz=85,slow=15,SNR=4.3						
KSRS				LR	LR	17 16 27.7	
	comp=Z,49nm,21.5s,baz=73,slow=34						
SEY	**Seymchan**	**26.49**	**11**	P	**P**	**17 15 44.5**	**+0.8**
	2.7nm,1.0s,baz=215,slow=13,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**27.95**	**122**	T	T	17 45 28.1	
	baz=315,slow=75,SNR=81						
H11N1	**WAKE ISLAND Hy**	**27.95**	**122**	T	T	17 45 30.8	
	baz=315,slow=75,SNR=77						
H11N3	**WAKE ISLAND Hy**	**27.96**	**122**	T	T	17 45 31.4	
	baz=315,slow=75,SNR=58						
SONM	**Songino Array**	**27.97**	**303**	P	**P**	**17 15 57.5**	**+0.2**
	1.1nm,0.7s,baz=102,slow=10,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**28.67**	**124**	T	T	17 46 25.1	
	baz=316,slow=76,SNR=59						
H11S3	**WAKE ISLAND Hy**	**28.67**	**124**	T	T	17 46 25.6	
	baz=316,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**28.69**	**124**	T	T	17 46 27.3	
	baz=316,slow=76,SNR=51						
ZALV	**Zalesovo Beam**	**42.04**	**312**	P	**P**	**17 17 57.9**	**0.0**
	1.3nm,0.7s,baz=92,slow=6.6,SNR=6.6						
MKAR	**Makanchi Array**	**44.31**	**302**	P	**P**	**17 18 16.2**	**-0.2**
	2.0nm,0.7s,baz=87,slow=9.2,SNR=19						
ILAR	**Eielson Array**	**49.10**	**32**	P	**P**	**17 18 53.6**	**0.0**
	1.4nm,0.7s,baz=265,slow=6.6,SNR=17						
WRA	**Warramunga Arr**	**57.34**	**188**	P	**P**	**17 19 54.3**	**-0.4**
	0.8nm,0.6s,baz=7.5,slow=7.1,SNR=18						
ASAR	**Alice Springs**	**61.07**	**188**	P	**P**	**17 20 20.6**	**+0.2**
	0.4nm,0.7s,baz=10,slow=5.5,SNR=6.3						
AKASG	**Malin Array Be**	**74.34**	**322**	P	**P**	**17 21 43.3**	**-0.6**
	0.9nm,0.5s,baz=46,slow=6.7,SNR=5.0						
NVAR	**Mina Array Bea**	**74.55**	**53**	P	**P**	**17 21 46.8**	**+1.1**
	0.5nm,0.5s,baz=46,slow=5.6,SNR=4.3						
GERES	**GERESS Array B**	**82.71**	**328**	P	**P**	**17 22 29.5**	**-0.7**
	0.4nm,0.8s,baz=298,slow=2.7,SNR=4.4						
TXAR	**Lajitas Array**	**89.68**	**53**	P	**P**	**17 23 05.0**	**+0.1**
	comp=Z,46nm,18.6s,baz=115,slow=38						
VAE	**Valgurnera**	**91.19**	**321**	LR	LR	18 08 02.9	
	1.6nm,0.9s,baz=358,slow=3.3,SNR=5.2						
LPAZ	**La Paz**	**146.25**	**60**	PKPbc	**PKPbc**	**17 29 48.1**	**-0.1**

MEX 06 17:10:15.7±0.3, 13.61N×91.58W, h41km±239km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.62**	**323**	*i* P	Pn	17 10 54.1	-1.4
PCIG				*i* S	Sn	17 11 24.2	-1.9

*NIED **06** 17:15:00, 46.80N×153.90E, h11km, Mw4.3 Best double couple: M0 3.56000×10^15 NP1:φs199.00000°, δ41.00000°, λ5.00000°. NP2:φs106.00000°, δ87.00000°, λ131.00000°.*
*ISCJB **06** 17:15:11.9±0.3, 46.85N±0.04×153.52E±0.04, h31km, mb4.2/39, MS3.4/18, Error ellipse: s-maj=6.2km s-min=2.7km az=142.6*
*JMA **06** 17:15:11.5±0.9, 46.78N×153.87E, h30km, M5.0*
*MOS **06** 17:15:13.7±1.4, 46.94N×153.45E, h44km, mb4.5/26, Error ellipse: s-maj=8.8km s-min=6.2km az=77.9*
*SKHL **06** 17:15:13.9±0.4, 46.81N×153.73E, h50km±4km, mb4.6/12, msh5.4/2*
*NEIC **06** 17:15:17.1±1.0, 47.04N×153.40E, h54km±8km, mb4.4/10, Error ellipse: s-maj=13.0km s-min=5.9km az=140.0*
*IDC **06** 17:15:17.0±2.4, 47.07N×153.34E, h55km±21km, mb3.9/24, mb1 4.1/28, mb1mx4.0/51, mbtmp4.2/28, ML5.3/1, MS3.4/20, Ms1 3.4/20, ms1mx3.3/42, Error ellipse: s-maj=16.2km s-min=10.9km az=140.0*
ISC 06 17:15:13.3±0.5, 46.82N±0.06×153.59E±0.06, h31km, n171, σ1.94/184, mb4.2/39, MS3.5/18, 5C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.21**	**22**	*e*PN	**Pn**	**17 16 15.5**	**+0.3**
SKR				*i* S	**Sn**	**17 17 01.8**	**-1.5**
SKR				pmax	pmax		
	comp=Z,513nm,0.9s						
SKR				smax	smax		
	comp=E,613nm,1.0s						
SKR				smax	smax		
	comp=N,713nm,0.7s						
SKR				MLR	MLR		
	comp=Z,700nm,12.0s						
SKR	**Severo-Kuril's**	**4.21**	**22**	*i* P	**Pn**	**17 16 15.5**	**+0.3**
SKR				AMB	AMB	17 16 25.4	
	comp=Z,51nm,0.9s						
SKR				*i* S	**Sn**	**17 17 02.0**	**-1.3**
SKR				A	A	17 17 13.4	
	comp=Z,710nm,0.8s						
SKR				A	A	17 17 13.4	
	comp=Z,610nm,0.8s						
KUR	**Kuril'sk**	**4.29**	**250**	*c i*PN	**Pn**	**17 16 18.1**	**+1.7**
KUR				*i* S	**Sn**	**17 17 05.9**	**+0.6**
KUR				pmax	pmax		
	comp=N,31nm,0.5s						
KUR				pmax	pmax		
	comp=E,19nm,0.5s						
KUR				pmax	pmax		
	comp=Z,189nm,0.5s						
KUR				smax	smax		
	comp=N,337nm,0.6s						
KUR				smax	smax		
	comp=E,156nm,0.8s						
KUR				smax	smax		
	comp=N,1µm,1.9s						
KUR				smax	smax		
	comp=E,1µm,1.9s						
KUR	**Kuril'sk**	**4.29**	**250**	*e*P	**Pn**	**17 16 18.0**	**+1.7**
KUR				AMB	AMB	17 16 23.8	
	comp=E,31nm,0.5s						
KUR				AMB	AMB	17 16 23.8	
	comp=E,19nm,0.5s						
KUR				*i* S	**Sn**	**17 17 05.8**	**+0.5**
KUR				A	A	17 17 12.1	
	comp=E,340nm,0.7s						
KUR				A	A	17 17 12.1	
	comp=E,156nm,0.7s						
KUR				A	A	17 17 12.3	
	comp=E,1µm,2.0s						
KUR				A	A	17 17 12.3	
	comp=E,1µm,2.0s						
PAU	**Pauzhetka**	**5.11**	**23**	*i* P	**Pn**	**17 16 27.5**	**-0.1**
PAU				AMB	AMB	17 16 31.3	
	comp=E,17nm,0.6s						
PAU				*i* S	**Sn**	**17 17 22.0**	**-3.4**
PAU				A	A	17 17 25.4	
	comp=E,264nm,0.3s						
SHO	**Shikotan**	**5.60**	**241**	*c i*PN	**Pn**	**17 16 34.4**	**0.0**
SHO				pmax	pmax		
	comp=E,320nm,0.6s						
SHO				pmax	pmax		
	comp=Z,421nm,0.6s						
SHO				pmax	pmax		
	comp=N,161nm,0.4s						
SHO	**Shikotan**	**5.60**	**241**	*e*P	**Pn**	**17 16 34.6**	**+0.2**
SHO				AMB	AMB	17 16 47.3	
	comp=N,42nm,0.6s						
SHO				*e*S	**Sn**	**17 17 37.8**	**+0.1**
SHO				A	A	17 17 44.1	
	comp=N,310nm,0.7s						
SHO				A	A	17 17 44.1	
	comp=N,640nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.11**	**246**	*c i*PN	**Pn**	**17 16 43.6**	**+2.2**
YUK				pmax	pmax		
	comp=E,133nm,0.5s						
YUK				pmax	pmax		
	comp=Z,315nm,0.5s						
YUK				pmax	pmax		
	comp=N,177nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.11**	**246**	*e*P	**Pn**	**17 16 43.6**	**+2.2**
YUK				AMB	AMB	17 16 58.4	
	comp=N,177nm,0.6s						
YUK				AMB	AMB	17 16 58.4	
	comp=N,134nm,0.6s						
YUK				AMB	AMB	17 16 58.4	
	comp=N,32nm,0.6s						
YUK				*i* S	**Sn**	**17 17 50.9**	**+0.7**
YUK				A	A	17 18 06.2	
	comp=N,1µm,2.0s						
YUK				A	A	17 18 06.2	
	comp=N,1µm,2.0s						
YUK				A	A	17 18 07.0	
	comp=N,322nm,0.7s						
YUK				A	A	17 18 07.0	
	comp=N,490nm,0.7s						
NEM2	**Nemuro 2**	**6.54**	**241**	P	**Pn**	**17 16 47.1**	**-0.2**
NEM2				*e*S	**Sn**	**17 17 57.5**	**-3.3**
JRA	**Rausu**	**6.62**	**247**	P	**Pn**	**17 16 50.9**	**+2.5**
PETK	**Petropavlovsk-**	**6.83**	**21**	P	**Pn**	**17 16 51.8**	**+0.6**
	comp=N,4.1nm,0.3s,baz=173,slow=12,SNR=80						
PETK				S	**Sn**	**17 18 04.0**	**-3.8**
	baz=230,slow=28,SNR=1.5						
PETK				LR	LR	17 19 33.4	
	comp=N,395nm,21.0s,baz=212,slow=38						
PET	**Petropavlovsk**	**7.01**	**26**	*e*PN	**Pn**	**17 16 55.0**	**+1.3**
PET				pmax	pmax		
	comp=Z,200nm,1.4s						
PET				pmax	pmax		
	comp=Z,111nm,0.9s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET	**Petropavlovsk**	**7.01**	**26**	*i* P	**Pn**	**17 16 54.6**	**+0.9**
PET				AMB	AMB	17 17 02.4	
	comp=Z,220nm,1.0s						
PET				AMB	AMB	17 17 04.1	
	comp=Z,89nm,0.8s						
PET				*i* S	**Sn**	**17 18 09.6**	**-2.7**
PET				A	A	17 18 10.5	
	comp=Z,77nm,0.5s						
PET	**Petropavlovsk**	**7.01**	**26**	*e*Pn	**Pn**	**17 16 53.3**	**-0.4**
	comp=Z,72nm,0.9s						
JNK	**Nakash**	**7.05**	**246**	P	**Pn**	**17 16 55.8**	**+1.5**
JAK	**Akkeshi**	**7.38**	**242**	P	**Pn**	**17 16 58.6**	**-0.2**
JTKR	**Abashiri--Toko**	**7.39**	**251**	P	**Pn**	**17 17 01.3**	**+2.4**
YSS	**Yuzh-Sakhalins**	**7.43**	**275**	*e*PN	**Pn**	**17 17 03.9**	**+4.5**
YSS				*e*S	**Sn**	**17 18 24.6**	**+2.1**
YSS				pmax	pmax		
	comp=Z,50nm,0.7s						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
YSS				MLR	MLR		
	comp=E,200nm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.43**	**275**	*i* P	**Pn**	**17 17 03.1**	**+3.7**
YSS				AMB	AMB	17 17 06.2	
	comp=E,53nm,0.7s						
YSS				*i* S	**Sn**	**17 18 23.9**	**+1.4**
YSS	**Yuzh-Sakhalins**	**7.43**	**275**	*e*Pn	**Pn**	**17 17 02.6**	**+3.1**
	comp=E,47nm,0.6s						
JMP	**Maruseppu**	**7.73**	**252**	P	**Pn**	**17 17 06.5**	**+2.9**
JAR	**Ashorobuto**	**7.79**	**247**	P	**Pn**	**17 17 06.2**	**+1.7**
JAR				*e*S	**Sn**	**17 18 31.7**	**+0.1**
JSE	**Soyaes**	**7.90**	**260**	P	**Pn**	**17 17 10.4**	**+4.4**
JOB	**Onbets**	**7.96**	**244**	P	**Pn**	**17 17 07.5**	**+0.7**
JOB				*e*S	**Sn**	**17 18 32.4**	**-3.3**
UGL	**Uglegorsk**	**8

JNBK eS **Sn** 17 18 56.5 -4.0
JEW Eniwo 9.50 250 eS **Sn** 17 19 18.2 +4.7
JNB Noboribetsu 9.95 249 P **Pn** 17 17 33.5 -0.5
JNB eS **Sn** 17 19 20.2 -4.2
JKB Kayabe 10.25 246 P **Pn** 17 17 37.3 -0.9
JKB eS **Sn** 17 19 25.0 -7.0
JSH Shimam 10.50 251 P **Pn** 17 17 42.6 +1.0
JYM2 Yakumo 2 10.55 248 P **Pn** 17 17 42.3 0.0
JANG Nango 10.87 238 P **Pn** 17 17 44.0 -2.6
JANG eS Sn 17 19 36.7 -10
JTM Tenmabayashi 10.87 241 P **Pn** 17 17 45.3 -1.3
JTH Tanohata 10.95 235 P **Pn** 17 17 44.7 -3.1
JTH eS Sn 17 19 38.1 -11
OFUJ Ofunato 11.66 233 P **Pn** 17 17 54.9 -2.5
TEY Ternei 11.97 268 eP **Pn** 17 18 04.0 +2.4
GRNR Gornyy 11.99 296 eP **Pn** 17 18 03.2 +1.3
GRNR AMB AMB 17 18 08.8
comp=Z,16nm,1.0s
JRG Rokugo 12.02 237 P **Pn** 17 17 59.8 -2.6
JIO Ouri 12.28 231 P **Pn** 17 18 03.4 -2.6
HABR Khabarovsk 12.61 284 ePN **Pn** 17 18 09.1 -1.3
HABR eSS Sn 17 20 42.1 +12
HABR pmax pmax
comp=N,9.0nm,1.1s
HABR pmax pmax
comp=E,6.0nm,1.1s
HABR pmax pmax
comp=Z,8.0nm,1.1s
HABR MLR MLR
comp=Z,84nm,12.0s
MA2 Magadan 12.88 354 P **Pn** 17 18 13.7 -0.4
comp=Z,1.8nm,0.3s,baz=191,slow=10,SNR=12
MA2 LR LR 17 23 31.3
comp=Z,208nm,18.1s,baz=166,slow=39
MA2 Magadan 12.88 354 eP **Pn** 17 18 14.3 +0.2
JYA Atsumi 13.09 236 P **Pn** 17 18 15.4 -1.6
EKMR Ekimchan 14.66 303 eP **Pn** 17 18 38.5 +0.2
EKMR AMB AMB 17 18 48.7
comp=Z,4.0nm,0.5s
KLR Kul'dur 14.80 287 P **P** 17 18 45.7 -0.1
comp=Z,0.3nm,0.3s,baz=100,slow=12,SNR=10
KLR Kul'dur 14.80 287 *i* P **P** 17 18 44.8 -1.0
USRK Ussuriysk Ar. 15.36 268 P **Pn** 17 18 48.2 +0.5
comp=Z,1.3nm,0.3s,baz=75,slow=12,SNR=17
USRK LR LR 17 24 46.0
comp=Z,176nm,18.1s,baz=80,slow=37
MJAR Matsushiro Arr 15.38 234 P **Pn** 17 18 46.0 -2.0
comp=Z,0.4nm,0.3s,baz=28,slow=14,SNR=30
MAJO Matsushiro 15.39 234 eP **Pn** 17 18 45.5 -2.6
MAJO pmax pmax
comp=Z,36nm,0.6s
MAJO Matsushiro 15.39 234 ePn **Pn** 17 18 45.5 -2.6
comp=Z,36nm,0.6s
MAT Matsushiro 15.39 234 P **Pn** 17 18 45.7 -2.4
MAT S **Sn** 17 21 41.8 +4.4
JNG Nsakai 15.54 234 P **Pn** 17 18 48.8 -1.4
SEY Seymchan 16.16 358 P **P** 17 19 00.2 -0.5
comp=Z,0.5nm,0.3s,baz=167,slow=18,SNR=9.7
JHJ Hachijo jima 2 17.26 222 LR LR 17 25 20.2
comp=Z,45nm,21.7s,baz=70,slow=35
BMKR Bomnak 17.46 306 eP **Pn** 17 19 14.4 +0.1
BMKR AMB AMB 17 19 20.4
comp=Z,5.0nm,0.5s
ZEA Zeya 18.13 302 eP **P** 17 19 24.2 +1.6
ZEA AMB AMB 17 19 37.2
comp=Z,11nm,0.9s
KROS Kirovskiy 18.44 304 eP **Pn** 17 19 27.3 +1.0
KROS AMB AMB 17 19 30.7
comp=Z,4.0nm,0.6s
YAK Yakutsk 20.44 327 P **P** 17 19 47.0 -0.7
comp=Z,0.7nm,0.3s,baz=127,slow=20,SNR=3.0
YAK Yakutsk 20.44 327 eP Pn 17 19 51.0 +1.0
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK MLR MLR
comp=Z,146nm,24.0s
YAK MLR MLR
comp=E,61nm,20.0s
YAK MLR MLR
comp=N,83nm,18.0s
KSRS Korea Array 21.13 253 P **P** 17 19 57.0 +1.6
comp=N,6.1nm,0.7s,baz=59,slow=10,SNR=39
KSRS Korea Array 21.13 253 eP **P** 17 19 57.3 +1.9
KSAR Wonju Array Be 21.16 253 P **P** 17 19 57.0 +1.2
KSAR Wonju Array Be 21.16 253 eP **P** 17 19 57.0 +1.2
KSAR Wonju Array Be 21.16 253 P **P** 17 19 57.0 +1.2
JCJ Chichijima 21.65 209 LR LR 17 27 34.9
comp=N,44nm,21.7s,baz=126,slow=34
JNU Nakatsue 22.04 240 P **P** 17 20 06.0 +0.7
comp=N,8.6nm,0.9s,baz=27,slow=5.8,SNR=6.5
JNU LR LR 17 29 13.6
comp=N,44nm,21.3s,baz=113,slow=38
JNU Nakatsue 22.04 240 eP **P** 17 20 07.2 +2.0
comp=N,4.1nm,0.8s
TJN Taejon 22.12 251 *i* P **P** 17 20 07.8 +1.8
BILL Bilibino 22.25 13 eP **P** 17 20 05.3 -1.9
BILL *e* 17 20 33.1
BILL eS S 17 23 55.6 -14
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,182nm,21.0s
BILL Bilibino 22.25 13 eP **P** 17 20 06.4 -0.8
BILL Bilibino 22.25 13 eP **P** 17 20 05.8 -1.3
comp=Z,4.3nm,0.7s
TIK Tiksi 27.48 343 eP **P** 17 20 57.7 +1.5
TIXI Tiksi 27.49 343 P **P** 17 20 53.7 -2.7
comp=Z,0.6nm,0.3s,baz=137,slow=1.8,SNR=5.2
TIXI PcP **PcP** 17 24 14.1 +0.4
comp=Z,0.9nm,0.6s,baz=94,slow=4.3,SNR=3.3
TIXI Tiksi 27.49 343 *i* P **P** 17 20 57.7 +1.4
TIXI pmax pmax
comp=Z,2.0nm,1.3s
TIXI Tiksi 27.49 343 eP **P** 17 20 58.9 +2.6
TIXI PcP **PcP** 17 24 14.1 +0.4
H11N2 WAKE ISLAND Hy 29.14 154 T T 17 52 40.8
baz=341,slow=76,SNR=1268
H11N1 WAKE ISLAND Hy 29.15 154 T T 17 52 40.8
baz=341,slow=76,SNR=1410
H11N3 WAKE ISLAND Hy 29.15 154 T T 17 52 40.8
baz=341,slow=76,SNR=783
H11S1 WAKE ISLAND Hy 30.23 155 T T 17 54 09.1
baz=341,slow=76,SNR=2374
H11S3 WAKE ISLAND Hy 30.24 155 T T 17 53 58.9
baz=341,slow=76,SNR=1872
H11S2 WAKE ISLAND Hy 30.25 155 T T 17 54 00.7
baz=341,slow=76,SNR=2133
ULN Ulaanbaatar 31.18 289 eP **P** 17 21 29.9 +0.4
ULN pmax pmax
comp=Z,2.0nm,1.4s
ULN Ulaanbaatar 31.18 289 eP **P** 17 21 29.9 +0.4
BPAW Bear Paw Mtn. 34.49 40 eP **P** 17 21 59.4 +1.3
comp=Z,0.6nm,0.7s
KTH Kantishna Hill 34.49 41 eP **P** 17 21 59.9 +1.8
comp=Z,10.0nm,1.0s
RC01 Rabbit Creek A 35.05 45 eP P 17 22 11.5 +8.6
COLD Coldfoot 35.09 34 eP **P** 17 22 04.4 +1.3
comp=Z,3.5nm,0.7s
SML Sawmill 35.69 44 eP **P** 17 22 09.5 +1.0
SML pmax pmax
comp=Z,4.0nm,0.7s
SML Sawmill 35.69 44 eP **P** 17 22 09.5 +1.0
comp=Z,4.4nm,0.7s
COLA College 35.88 38 eP **P** 17 22 12.2 +2.3
COLA pmax pmax
comp=Z,3.0nm,0.6s
COLA College 35.88 38 eP **P** 17 22 10.7 +0.8
COLA College 35.88 38 eP **P** 17 22 12.2 +2.3
comp=Z,2.8nm,0.6s
ILAR Eielson Array 36.29 39 P **P** 17 22 14.2 +0.7
comp=Z,0.8nm,0.6s,baz=260,slow=6.2,SNR=12
ILAR LR LR 17 39 39.0
comp=Z,51nm,19.4s,baz=296,slow=40
ILAR Eielson Array 36.29 39 eP **P** 17 22 14.1 +0.6
EGAK Eagle 38.74 38 eP **P** 17 22 35.1 +0.9
comp=Z,5.2nm,0.7s
NRIK Noril'sk 38.87 329 LR LR 17 39 40.6
comp=Z,56nm,18.1s,baz=100,slow=38
INK Inuvik 41.41 32 P **P** 17 22 55.5 -0.8
comp=Z,2.6nm,0.5s,baz=310,slow=8.9,SNR=7.3
ZALV Zalesovo Beam 42.83 306 P **P** 17 23 06.0 -2.0
comp=Z,0.2nm,0.3s,baz=72,slow=6.2,SNR=2.5
ZALV PcP **PcP** 17 24 58.9 +0.2
comp=Z,0.5nm,0.4s,baz=48,slow=2.1,SNR=4.4
ZALV LR LR 17 42 03.0
comp=Z,117nm,18.5s,baz=70,slow=38
DLBC Dease Lake 45.31 46 P **P** 17 23 30.3 +2.3
comp=Z,0.9nm,0.5s,baz=165,slow=3.7,SNR=3.1
KMI Kunming 45.58 260 P **P** 17 23 29.3 -1.4
KMI pP pP 17 23 37.5 -2.4
KMI pmax pmax
comp=Z,6.0nm,1.3s
MKAR Makanchi Array 47.20 298 P **P** 17 23 41.5 -1.4
comp=Z,0.5nm,0.6s,baz=67,slow=7.0,SNR=7.6
MKAR PcP **PcP** 17 25 14.0 +0.1
comp=Z,0.5nm,0.4s,baz=71,slow=2.3,SNR=3.7
MKAR LR LR 17 44 28.9
comp=Z,69nm,18.8s,baz=57,slow=37
LSA Lhasa 50.60 273 eP **P** 17 24 11.3 +1.6
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 50.60 273 eP **P** 17 24 11.3 +1.6
comp=Z,3.8nm,0.6s
YKA Yellowknife Ar 50.67 37 P **P** 17 24 10.8 +1.6
comp=Z,1.5nm,0.6s,baz=299,slow=7.4,SNR=8.1
YKA Yellowknife Ar 50.67 37 eP **P** 17 24 10.6 +1.4
CMAR Chiang Mai Arr 52.70 257 P **P** 17 24 26.8 +1.8
comp=Z,2.8nm,0.7s,baz=36,slow=7.5,SNR=26
CMAR LR LR 17 48 55.7
comp=Z,50nm,18.6s,baz=60,slow=38
ARU Arti 55.18 318 *d* *i* P **P** 17 24 42.0 -0.6
ARU 17 25 42.3
ARU 17 26 42.5
ARU S **S** 17 32 24.1 +0.7
ARU SS **SS** 17 36 07.5 +0.6
ARU pmax pmax
comp=Z,7.0nm,1.7s
ARU Arti 55.18 318 eP **P** 17 24 42.0 -0.6
GUN Gumba 55.32 275 eP **P** 17 24 44.7 +0.3
KKN Kakani 55.81 276 eP **P** 17 24 48.6 +0.8
comp=Z,9.7nm,0.7s
PKIN Phulchoki 55.86 275 eP **P** 17 24 49.7 +1.5
comp=Z,5.6nm,0.7s
DMN Daman 56.04 276 eP **P** 17 24 50.2 +0.7
comp=Z,21nm,0.9s
GKN Gorkha 56.11 276 eP **P** 17 24 49.8 -0.1
comp=Z,8.1nm,0.5s
HNR Honiara 56.29 172 LR LR 17 48 54.3
comp=Z,15nm,18.9s,baz=154,slow=36
KOLN Koldanda 56.97 277 eP **P** 17 24 56.6 +0.6
comp=Z,13nm,0.8s
PYUN Piuthan 57.17 277 eP **P** 17 24 58.1 +0.6
ARCES ARCESS Array B 57.89 341 P **P** 17 25 00.1 -1.6
comp=Z,2.0nm,0.8s,baz=25,slow=7.2,SNR=5.0
ARCES ARCESS Array B 57.89 341 eP **P** 17 25 01.5 -0.2
KLMR Klimovskoe 60.21 329 eP **P** 17 25 15.1 -2.7
KLMR *e* 17 26 00.6
KLMR *e* 17 27 28.9
KLMR pmax pmax
comp=Z,8.0nm,1.5s
NVAR Mina Array Bea 62.11 63 P **P** 17 25 31.8 +0.4
comp=Z,0.6nm,0.6s,baz=312,slow=8.4,SNR=3.2
FINES FINESS Array B 64.11 335 P **P** 17 25 42.8 -1.2
comp=Z,2.6nm,0.4s,baz=34,slow=7.7,SNR=31
FINES LR LR 17 57 23.0
comp=Z,85nm,19.2s,baz=26,slow=40
PDAR Pinedale Array 64.44 54 P **P** 17 25 47.8 +1.0
comp=Z,0.2nm,0.4s,baz=331,slow=1.1,SNR=3.6
FRB Frobisher Bay 64.87 19 P **P** 17 25 48.5 -0.3
comp=Z,3.0nm,0.7s,baz=332,slow=9.1,SNR=4.7
GEYT Alibeck 66.85 301 LR LR 17 57 35.7
comp=Z,48nm,18.6s,baz=220,slow=38
AFI Afiamalu 67.97 143 LR LR 17 50 41.9
comp=Z,17nm,21.1s,baz=8.5,slow=31
NB2 NORSAR Subarra 68.26 341 P **P** 17 26 09.8 -0.9
comp=Z,1.5nm,0.7s,baz=27,slow=6.5
NB2 NORSAR Subarra 68.26 341 P **P** 17 26 09.7 -0.9
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 68.26 341 P **P** 17 26 09.9 -0.7
comp=Z,2.0nm,0.7s,baz=26,slow=6.3,SNR=11
NOA NORSAR Array B 68.26 341 P **P** 17 26 10.0 -0.7
NOA pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 68.50 340 P **P** 17 26 11.4 -0.7
comp=Z,5.6nm,0.7s,baz=55,slow=5.6,SNR=20
WRA Warramunga Arr 68.69 199 P **P** 17 26 14.4 +0.8
comp=Z,1.5nm,0.8s,baz=17,slow=6.7,SNR=9.1
DZM Mont Dzumac 69.55 167 LR LR 17 51 37.3
comp=Z,36nm,21.9s,baz=38,slow=31
KBZ Khabaz 71.05 314 P **P** 17 26 27.7 -0.3
comp=Z,3.6nm,1.1s,baz=74,slow=6.5,SNR=5.0
KBZ LR LR 17 59 59.8
comp=Z,42nm,19.2s,baz=49,slow=38
AKASG Malin Array Be 71.67 326 P **P** 17 26 30.3 -1.4
comp=Z,4.3nm,0.5s,baz=33,slow=6.3,SNR=18
AKASG LR LR 18 00 28.9
comp=Z,43nm,18.9s,baz=250,slow=38
ASAR Alice Springs 72.38 199 P **P** 17 26 38.1 +2.0
comp=Z,3.7nm,0.6s,baz=10,slow=5.6,SNR=75
ASAR LR LR 17 57 12.1
comp=Z,18nm,21.5s,baz=12,slow=35
KOLS Kolonicke sedl 75.67 329 eP **P** 17 26 54.8 -0.4
KOLS pmax pmax
comp=Z,9.0nm,1.8s
KOLS Kolonicke sedl 75.67 329 eP **P** 17 26 54.8 -0.4
DPC Dobruska-Polom 76.41 333 eP **P** 17 26 59.6 +0.2
DPC Dobruska-Polom 76.41 333 eP **P** 17 26 59.6 +0.2
CLL Collm 76.53 336 eP **P** 17 27 00.0 0.0
comp=Z,3.0nm,0.7s
CLL Collm 76.53 336 eP **P** 17 27 00.0 0.0
CLL pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 76.53 336 eP **P** 17 27 00.0 0.0
KECS Kecovo 76.67 330 eP **P** 17 27 00.3 -0.6
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 76.67 330 eP **P** 17 27 00.3 -0.6
TXAR Lajitas Array 77.17 61 P **P** 17 27 05.8 +1.6
comp=Z,1.7nm,0.5s,baz=299,slow=4.6,SNR=35
VYHS Vyhne 77.22 331 eP **P** 17 27 04.0 0.0
VYHS Vyhne 77.22 331 eP **P** 17 27 04.0 0.0
KHC Kasperske Hory 78.31 334 eP **P** 17 27 11.2 +1.1
KHC epP **sP** 17 27 21.9 -1.6
KHC Kasperske Hory 78.31 334 eP **P** 17 27 11.2 +1.1
KHC *e* 17 27 21.9
KHC Kasperske Hory 78.31 334 eP **P** 17 27 11.2 +1.1
GERES GERESS Array B 78.53 334 P **P** 17 27 10.4 -1.0
comp=Z,0.8nm,0.6s,baz=33,slow=5.1,SNR=6.5
GERES GERESS Array B 78.53 334 eP **P** 17 27 11.9 +0.5
GERES GERESS Array B 78.53 334 eP **P** 17 27 11.9 +0.5
BRTR Keskin Array B 78.56 317 P **P** 17 27 11.3 -0.5
comp=Z,1.5nm,0.8s,baz=74,slow=4.4,SNR=7.8
BRTR LR LR 18 07 37.4
comp=Z,13nm,18.3s,baz=7.5,slow=40

*ISCJB **06** 17:26:25.4±0.6,36°.96N±0°.05×28°.27E±0°.06,h9km±7km, Error ellipse: s-maj=10.1km s-min=4.9km az=41.8*
*DDA **06** 17:26:25.9,36°.98N×28°.22E,h7km,Ml2.6*
*ISK **06** 17:26:25.9,36°.99N×28°.31E,h8km,MD2.5*
*CSEM **06** 17:26:26.2±0.3,36°.96N×28°.24E,h2km,MD2.5,Error ellipse: s-maj=7.3km s-min=4.1km az=24.0*
ISC 06 17:26:25.6±1.1,**36°.96N**±0°.04×**28°.24E**±0°.03,**h3**km±11km, **n17**,σ0**§71**/30,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.18**	**12**	*e*PG		**Pg**	**17 26 29.2**	**+0.1**
YER				*e*SG		**Sg**	**17 26 32.1**	**+0.5**
YER	**Yerkesik**	**0.18**	**12**	*e*Pg		**Pg**	**17 26 29.3**	**+0.1**
YER				*e*Sg		**Sg**	**17 26 32.1**	**+0.5**
TURN	**Turunc**	**0.30**	**105**	*i* P		**Pg**	**17 26 29.9**	**-1.5**
TURN				*i* S		**Sg**	**17 26 33.4**	**-2.0**
DALY	**Dalyan (Mu˘la**	**0.36**	**112**	*e*PG		**Pg**	**17 26 33.1**	**+0.6**
DALY				*e*SG		**Sg**	**17 26 38.2**	**+1.0**
DALY	**Dalyan (Mu˘la**	**0.36**	**112**	*e*Pg		**Pg**	**17 26 33.1**	**+0.6**
DALY				*e*Sg		**Sg**	**17 26 38.2**	**+1.0**
BDRM	**Kayabasi**	**0.64**	**280**	P		**Pg**	**17 26 38.1**	**+0.2**
BDRM				S		**Sb**	**17 26 48.3**	**-0.5**
BDRM	**Kayabasi**	**0.64**	**280**	*i* P		**Pg**	**17 26 38.1**	**+0.2**
BDRM				*i* S		**Sb**	**17 26 48.3**	**-0.5**
BODT	**Bodrum**	**0.75**	**279**	*e*PG		**Pb**	**17 26 41.7**	**+0.5**
BODT	**Bodrum**	**0.75**	**279**	*e*Pg		**Pb**	**17 26 41.7**	**+0.5**
FETY	**Fethiye**	**0.75**	**115**	*e*PG		**Pg**	**17 26 39.6**	**-0.3**
FETY				*e*SG		**Sg**	**17 26 49.8**	**+0.1**
FETY	**Fethiye**	**0.75**	**115**	*e*Pg		**Pg**	**17 26 39.6**	**-0.3**
FETY				*e*Sg		**Sg**	**17 26 49.8**	**+0.1**
AYDN	**Tasoluk**	**0.76**	**338**	P		**Pg**	**17 26 40.1**	**0.0**
AYDN				S		**Sg**	**17 26 49.7**	**-0.3**
AYDN	**Tasoluk**	**0.76**	**338**	*i* P		**Pg**	**17 26 40.1**	**0.0**
AYDN				*i* S		**Sg**	**17 26 49.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**345**	*e*PG		**Pn**	**17 26 46.2**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**345**	*e*Pg		**Pn**	**17 26 46.2**	**-0.8**
GOLH	**Golhisar**	**1.10**	**75**	P		**Pn**	**17 26 47.8**	**-0.1**
GOLH				S		**Sn**	**17 27 04.2**	**+0.6**
GOLH	**Golhisar**	**1.10**	**75**	*e*P		**Pn**	**17 26 47.8**	**-0.1**
GOLH				*e*S		**Sn**	**17 27 04.2**	**+0.6**

*ISCJB **06** 17:28:41.1±0.8,34°.73N±0°.06×71°.2E±0°.1,h50km,mb3.5/6, Error ellipse: s-maj=13.6km s-min=6.7km az=153.2*
*IDC **06** 17:28:46.6±6.5,34°.91N×71°.17E,h80km±58km,mb3.2/6, mb1 3.3/9,mb1mx3.1/51,mbtmp3.5/9,ML3.3/3,Error ellipse: s-maj=40.3km s-min=22.3km az=12.0*
ISC 06 17:28:42.9±1.0,**34°.72N**±0°.09×**71°.2E**±0°.1,**h50**km,**n16**, σ1**§28**/18,**mb3.5/6**,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THN	**Thein Dam**	**4.42**	**120**	*e*P		**Pn**	**17 29 46.5**	**-0.9**
THN				*e*S		**Sn**	**17 30 39.0**	**+1.4**
AAK	**Ala-Archa**	**8.32**	**17**	P		**Pn**	**17 30 42.0**	**+1.0**
	0.8nm,0.3s,baz=207,slow=6.8,SNR=8.9							
AAK				S		**Sn**	**17 32 13.1**	**-0.6**
	0.3nm,0.3s,baz=204,slow=18,SNR=3.8							
PYUN	**Piuthan**	**12.05**	**120**	*e*P		**Pn**	**17 31 31.9**	**-0.2**
KOLN	**Koldanda**	**12.68**	**120**	*e*P		**Pn**	**17 31 39.8**	**-0.9**
	3.7nm,0.4s							
GKN	**Gorkha**	**13.30**	**117**	*e*P		**Pn**	**17 31 48.4**	**-0.8**
	3.0nm,0.4s							
DMN	**Daman**	**13.86**	**117**	*e*P		**Pn**	**17 31 54.5**	**-2.4**
KKN	**Kakani**	**13.89**	**116**	*e*P		**Pn**	**17 31 55.4**	**-1.9**
	7.5nm,0.5s							
PKIN	**Phulchoki**	**14.09**	**116**	*e*P		**Pn**	**17 31 57.7**	**-2.4**
	5.5nm,0.4s							
MKAR	**Makanchi Array**	**14.69**	**31**	P		**Pn**	**17 32 08.5**	**+0.8**
	0.2nm,0.3s,baz=217,slow=14,SNR=7.6							
KURBB	**Kurchatov Arra**	**16.77**	**16**	P		**Pn**	**17 32 34.2**	**+0.1**
	0.0nm,0.3s,baz=205,slow=10,SNR=4.8							
ZALV	**Zalesovo Beam**	**21.49**	**22**	P		**P**	**17 33 26.8**	**-0.4**
	1.2nm,0.6s,baz=214,slow=11,SNR=6.3							
NOA	**NORSAR Array B**	**45.90**	**324**	P		**P**	**17 36 60.0**	**-0.2**
	0.5nm,0.5s,baz=97,slow=7.9,SNR=3.1							
MJAR	**Matsushiro Arr**	**53.49**	**67**	P		**P**	**17 37 57.8**	**-0.5**
	0.5nm,0.6s,baz=294,slow=6.5,SNR=2.5							
TORD	**Torodi Ar. Bea**	**65.84**	**270**	P		**P**	**17 39 23.3**	**-0.1**
	0.3nm,0.7s,baz=57,slow=6.7,SNR=2.3							
WRA	**Warramunga Arr**	**80.93**	**122**	P		**P**	**17 40 53.5**	**+1.3**
	0.2nm,0.7s,baz=321,slow=5.3,SNR=3.2							
ASAR	**Alice Springs**	**83.12**	**125**	P		**P**	**17 41 04.7**	**+1.1**
	0.3nm,0.7s,baz=307,slow=5.3,SNR=8.8							

*ISCJB **06** 17:28:54.4±0.4,40°.53N±0°.02×43°.05E±0°.03,h5km±5km, Error ellipse: s-maj=4.9km s-min=3.6km az=40.1*
*DDA **06** 17:28:54.2,40°.51N×43°.04E,h7km,Ml3.0*
*CSEM **06** 17:28:54.0±0.2,40°.52N×43°.04E,h8km,MD2.9,Error ellipse: s-maj=3.8km s-min=3.1km az=147.0*
*TIF **06** 17:28:54.2,40°.57N×43°.06E,h17km±1km*
*ISK **06** 17:28:54.0,40°.56N×43°.02E,h10km,MD2.9*
ISC 06 17:28:54.4±0.9,**40°.55N**±0°.02×**43°.06E**±0°.02,**h7**km±6km, **n30**,σ1**§29**/54,**Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KARS	**Kars**	**0.08**	**9**	*e*PG		**Pg**	**17 28 56.5**	**-0.1**
KARS				*e*SG		**Sg**	**17 28 58.6**	**+0.4**
KARS	**Kars**	**0.08**	**9**	*e*Pg		**Pg**	**17 28 56.5**	**-0.1**
KARS				*e*Sg		**Sg**	**17 28 58.6**	**+0.4**
DIGO	**Kars**	**0.27**	**119**	P		**Pg**	**17 28 59.5**	**-0.4**
DIGO				S		**Sg**	**17 29 04.1**	**+0.6**
DIGO	**Kars**	**0.27**	**119**	*i* P		**Pg**	**17 28 59.5**	**-0.4**
DIGO				*i* S		**Sg**	**17 29 04.1**	**+0.6**
EAK	**Akyaka**	**0.44**	**71**	P		**Pg**	**17 29 03.5**	**+0.5**
EAK				S		**Sb**	**17 29 11.1**	**-0.3**
EAK	**Akyaka**	**0.44**	**71**	*i* P		**Pg**	**17 29 03.5**	**+0.5**
EAK				*i* S		**Sb**	**17 29 11.1**	**-0.3**
SENK	**Senkaya-Erzuru**	**0.54**	**272**	*e*PG		**Pg**	**17 29 04.4**	**-0.5**
SENK				*e*SG		**Sg**	**17 29 12.0**	**0.0**
SENK	**Senkaya-Erzuru**	**0.54**	**272**	*e*Pg		**Pg**	**17 29 04.4**	**-0.5**
SENK				*e*Sg		**Sg**	**17 29 12.0**	**0.0**
EATA	**Eleskirt**	**0.81**	**213**	S		**Sb**	**17 29 21.8**	**-0.5**
EATA	**Eleskirt**	**0.81**	**213**	*i* P		**Pg**	**17 29 08.6**	**-1.4**
EATA				*i* S		**Sb**	**17 29 21.8**	**-0.5**
BGD	**Bogdanovka**	**0.83**	**29**	P		**Pb**	**17 29 10.7**	**-0.5**
BGD				S		**Sb**	**17 29 22.7**	**+0.1**
BGD	**Bogdanovka**	**0.83**	**29**	P		**Pb**	**17 29 10.7**	**-0.5**
BGD				S		**Sb**	**17 29 22.7**	**+0.1**
AKH	**Akhalkalaki**	**0.92**	**21**	P		**Pg**	**17 29 11.9**	**-0.3**
AKH				S		**Sg**	**17 29 24.1**	**-0.2**
AKH	**Akhalkalaki**	**0.92**	**21**	P		**Pb**	**17 29 12.1**	**-0.8**
AKH				S		**Sb**	**17 29 25.6**	**+0.2**
AGRB	**Hanur-Agry**	**0.97**	**183**	*e*PG		**Pg**	**17 29 12.5**	**-0.5**
AGRB				*e*SG		**Sn**	**17 29 27.8**	**-1.0**
AGRB	**Hanur-Agry**	**0.97**	**183**	*e*Pg		**Pg**	**17 29 12.5**	**-0.5**
EPOS	**Posof**	**0.99**	**345**	P		**Pb**	**17 29 13.6**	**-0.4**
EPOS				S		**Sn**	**17 29 28.5**	**-0.7**
EPOS	**Posof**	**0.99**	**345**	*i* P		**Pb**	**17 29 13.6**	**-0.4**
EPOS				*i* S		**Sn**	**17 29 28.5**	**-0.7**
DAGI	**Agillar**	**1.02**	**302**	*i* P		**Pg**	**17 29 13.5**	**-0.6**
DAGI				*i* S		**Sn**	**17 29 29.1**	**-0.8**
DDEM	**Demirkent**	**1.05**	**290**	P		**Pg**	**17 29 13.9**	**-0.8**
DDEM				S		**Sb**	**17 29 28.6**	**-0.5**
DDEM	**Demirkent**	**1.05**	**290**	*i* P		**Pg**	**17 29 13.9**	**-0.8**
DDEM				*i* S		**Sb**	**17 29 28.6**	**-0.5**
ARTV	**Artvin**	**1.07**	**307**	P		**Pb**	**17 29 14.8**	**-0.6**
ARTV				S		**Sn**	**17 29 31.4**	**+0.1**
ARTV	**Artvin**	**1.07**	**307**	*i* P		**Pb**	**17 29 14.8**	**-0.6**
ARTV				*i* S		**Sn**	**17 29 31.4**	**+0.1**
DBAD	**Bademkaya**	**1.14**	**295**	P		**Pb**	**17 29 15.1**	**-1.4**
DBAD				S		**Sn**	**17 29 34.4**	**+1.6**
DBAD	**Bademkaya**	**1.14**	**295**	*i* P		**Pb**	**17 29 15.1**	**-1.4**
DBAD				*i* S		**Sn**	**17 29 34.4**	**+1.6**
ERZM	**Erzurum**	**1.45**	**244**	P		**Pb**	**17 29 21.1**	**-0.7**
ERZM	**Erzurum**	**1.45**	**244**	*i* P		**Pb**	**17 29 21.1**	**-0.7**
ERZM				*i* S		**Sg**	**17 29 48.7**	**+7.7**
EZM	**Erzurum**	**1.45**	**244**	*e*PN		**Pb**	**17 29 21.1**	**-0.7**
CHVG	**Ch'k'valeri**	**2.29**	**342**	*e*PN		**Pn**	**17 29 33.1**	**+0.5**
CHVG	**Ch'k'valeri**	**2.29**	**342**	*e*Pn		**Pn**	**17 29 33.1**	**+0.5**

*ISCJB **06** 17:33:06.8±0.5,39°.10N±0°.03×29°.08E±0°.04,h6km±6km, Error ellipse: s-maj=6.1km s-min=4.5km az=136.7*
*CSEM **06** 17:33:06.9±0.1,39°.10N×29°.09E,h8km,ML2.6,Error ellipse: s-maj=2.7km s-min=1.9km az=109.0*
*DDA **06** 17:33:06.8,39°.10N×29°.08E,h7km,Ml2.6*
*ISK **06** 17:33:06.1,39°.09N×29°.10E,h8km,MD2.7*
ISC 06 17:33:06.6±1.0,**39°.12N**±0°.04×**29°.09E**±0°.03,**h14**km±10km, **n22**,σ0**§58**/34,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.30**	**256**	P		**Pb**	**17 33 13.2**	**-0.6**
DEMI				S		**Sg**	**17 33 17.6**	**+0.7**
DEMI	**Demirci**	**0.30**	**256**	*i* P		**Pb**	**17 33 13.2**	**-0.6**
DEMI				*i* S		**Sg**	**17 33 17.6**	**+0.7**
GDZ	**Gediz**	**0.31**	**95**	P		**Pb**	**17 33 13.4**	**-0.6**
GDZ				S		**Sb**	**17 33 18.0**	**-1.0**
GDZ	**Gediz**	**0.31**	**95**	*i* P		**Pb**	**17 33 13.4**	**-0.6**
GDZ				*i* S		**Sb**	**17 33 17.9**	**-1.0**
TVSB	**Tavsanli**	**0.44**	**41**	*e*PG		**Pg**	**17 33 15.6**	**+0.1**
TVSB				*e*SG		**Sg**	**17 33 21.6**	**+0.1**
TVSB	**Tavsanli**	**0.44**	**41**	*e*Pg		**Pg**	**17 33 15.6**	**+0.1**
TVSB				*e*Sg

CAVI	**Cavuskoy**	**1.23 28**	*e*Pn	**Pg**	**17 33 30.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26 353**	*e*PN	**Pg**	**17 33 30.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.26 353**	*e*Pn	**Pg**	**17 33 30.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28 334**	*e*PN	**Pg**	**17 33 31.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28 334**	*e*Pn	**Pg**	**17 33 31.1**	**-0.1**
BORA	**Eskisehir**	**1.31 54**	P	**Pg**	**17 33 31.8**	**+0.1**
BORA			S	**Sn**	**17 33 49.1**	**+1.3**
BORA	**Eskisehir**	**1.31 54**	*i* P	**Pg**	**17 33 31.8**	**+0.1**
BORA			*i* S	**Sn**	**17 33 49.1**	**+1.3**
ARMT	**Armutlu**	**1.46 353**	*e*PN	**Pg**	**17 33 34.2**	**-0.4**
ARMT	**Armutlu**	**1.46 353**	*e*Pn	**Pg**	**17 33 34.3**	**-0.4**

*ISK **06** 17:36:42.7, 39.°11N×29.°10E, h9km, MD2.6*
*ISCJB **06** 17:36:43.7±0.6, 39.°12N±0.°03×29.°08E±0.°04, h10km±5km, Error ellipse: s-maj=6.7km s-min=4.7km az=44.0*
*DDA **06** 17:36:43.9, 39.°14N×29.°08E, h7km, Md2.5*
*CSEM **06** 17:36:43.6±0.1, 39.°13N×29.°08E, h10km, MD2.5, Error ellipse: s-maj=2.5km s-min=1.8km az=114.0*

ISC 06 17:36:43.8±0.9, 39.°12N±0.°03×29.°10E±0.°03, h13km±8km, n16, σ0§47/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.30**	**96**	P	**Pb**	**17 36 50.7**	**-0.5**
GDZ				S	**Sg**	**17 36 55.1**	**+0.8**
GDZ	**Gediz**	**0.30**	**96**	*i* P	**Pb**	**17 36 50.7**	**-0.5**
GDZ				*i* S	**Sg**	**17 36 55.1**	**+0.8**
DEMI	**Demirci**	**0.31**	**256**	P	**Pg**	**17 36 50.3**	**+0.2**
DEMI				S	**Sg**	**17 36 54.7**	**+0.3**
DEMI	**Demirci**	**0.31**	**256**	*i* P	**Pg**	**17 36 50.3**	**+0.2**
DEMI				*i* S	**Sg**	**17 36 54.7**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**41**	*e*PG	**Pg**	**17 36 51.9**	**-0.6**
TVSB				*e*SG	**Sg**	**17 36 58.2**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**41**	*e*Pg	**Pg**	**17 36 51.9**	**-0.6**
TVSB				*e*Sg	**Sg**	**17 36 58.2**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*PG	**Pg**	**17 36 56.8**	**-0.6**
KULA				*e*SG	**Sg**	**17 37 06.0**	**-0.5**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg	**Pg**	**17 36 56.8**	**-0.6**
KULA				*e*Sg	**Sg**	**17 37 06.0**	**-0.5**
KHAL	**Karahalli**	**0.81**	**157**	P	**Pg**	**17 36 59.7**	**+0.2**
KHAL				S	**Sg**	**17 37 10.2**	**+0.1**
KHAL	**Karahalli**	**0.81**	**157**	*i* P	**Pg**	**17 36 59.7**	**+0.2**
KHAL				*i* S	**Sg**	**17 37 10.2**	**+0.1**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*PN	**Pn**	**17 37 06.6**	**-0.1**
CAVI				*e*SN	**Sn**	**17 37 23.9**	**+0.8**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*Pn	**Pn**	**17 37 06.6**	**-0.1**
CAVI				*e*Sn	**Sn**	**17 37 23.9**	**+0.8**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*PN	**Pn**	**17 37 07.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*Pn	**Pn**	**17 37 07.6**	**+0.2**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pn**	**17 37 10.1**	**+0.2**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pn**	**17 37 10.1**	**+0.2**

IDC 06 17:42:42.0±16.0, 20.°79S×176.°85W, h391km±142km, mb3.1/5, mb1 3.3/5, mb1mx3.0/37, mbtmp3.8/5, Error ellipse: s-maj=133.6km s-min=34.0km az=126.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.51**	**257**	P	P	17 50 25.0	+0.4
	0.6nm,0.6s,baz=90,slow=7.9,SNR=21						
ASAR				PcP	PcP	17 51 56.1	+0.2
	0.2nm,0.7s,baz=101,slow=4.0,SNR=4.8						
WRA	**Warramunga Arr**	**45.63**	**262**	P	P	17 50 24.9	-0.8
	0.4nm,0.5s,baz=97,slow=7.8,SNR=16						
PETK	**Petropavlovsk-**	**76.83**	**345**	P	P	17 53 51.6	0.0
	1.9nm,0.7s,baz=141,slow=9.3,SNR=3.2						
ILAR	**Eielson Array**	**88.36**	**12**	P	P	17 54 50.3	+0.3
	0.3nm,0.5s,baz=210,slow=5.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**91.23**	**289**	P	P	17 55 04.6	+0.1
	0.5nm,0.7s,baz=142,slow=3.2,SNR=3.9						
AKASG	**Malin Array Be**	**143.78**	**332**	PKP	PKPab	18 01 28.5	-0.9
	0.3nm,0.4s,baz=40,slow=4.0,SNR=4.7						
BRTR	**Keskin Array B**	**147.83**	**313**	PKPbc	PKPbc	18 01 41.7	-0.3
	0.4nm,0.6s,baz=86,slow=1.9,SNR=3.1						

*SKHL **06** 17:57:59.8±0.4, 43.°74N×147.°54E, h33km±3km, mb3.9/3*
*JMA **06** 17:58:00.1±0.4, 43.°56N×147.°35E, h24km, M3.2*

ISC 06 17:57:58.4±2.6, 43.°6N±0.°1×147.°6E±0.°1, h45km, n10, σ1§13/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.61**	**292**	*e*P	**Pn**	**17 58 10.4**	**-0.4**
SHO				AMB	AMB	17 58 12.0	
	190nm,0.4s						
SHO				*e*S	**Sn**	**17 58 18.7**	**-0.9**
SHO				A	A	17 58 19.3	
	3μm,0.4s						
SHO				A	A	17 58 19.3	
	840nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.32**	**288**	*e*P	**Pn**	**17 58 20.6**	**+0.2**
YUK				AMB	AMB	17 58 22.8	
	114nm,0.3s						
YUK				AMB	AMB	17 58 22.8	
	122nm,0.3s						
YUK				AMB	AMB	17 58 22.8	
	35nm,0.3s						
YUK				*i* S	**Sn**	**17 58 36.0**	**-0.9**
YUK				A	A	17 58 37.0	
	500nm,0.3s						
YUK				A	A	17 58 37.0	
	550nm,0.3s						
NEM2	**Nemuro 2**	**1.39**	**259**	P	**Pn**	**17 58 21.3**	**0.0**
NEM2				*e*S	**Sn**	**17 58 36.4**	**-2.0**
KUR	**Kuril'sk**	**1.60**	**6**	*e*P	**Pn**	**17 58 24.4**	**+0.2**
KUR				AMB	AMB	17 58 27.7	
	15nm,0.3s						
KUR				AMB	AMB	17 58 27.7	
	13nm,0.3s						
KUR				AMB	AMB	17 58 27.7	
	16nm,0.3s						
KUR				*e*S	**Sn**	**17 58 42.6**	**-1.1**
KUR				A	A	17 58 45.0	
	114nm,0.2s						
KUR				A	A	17 58 45.0	
	24nm,0.2s						
JRA	**Rausu**	**1.83**	**280**	P	**Pn**	**17 58 28.1**	**+0.8**
JNK	**Nakash**	**2.10**	**269**	P	**Pn**	**17 58 31.6**	**+0.5**
JAK	**Akkeshi**	**2.22**	**254**	P	**Pn**	**17 58 33.4**	**+0.7**
JTKR	**Abashiri--Toko**	**2.70**	**278**	P	**Pn**	**17 58 41.0**	**+1.7**
JCH	**Churui**	**3.27**	**253**	*e*S	**Sn**	**17 59 25.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.76**	**316**	*e*P	**Pn**	**17 59 09.3**	**+1.7**

*NIED **06** 18:10:00, 36.°70N×143.°80E, h8km, Mw3.5 Best double couple: M0 1.76000×10^14 NP1:φs338.00000°, δ48.00000°, λ-161.00000°. NP2:φs235.00000°, δ76.00000°, λ-44.00000°.*
*IDC **06** 18:10:55.8±0.9, 36.°68N×143.°79E, h0km, mb3.4/7, mb1 3.6/10, mb1mx3.4/43, mbtmp3.5/10, ML3.4/3, MS2.4/1, Ms1 2.4/1, ms1mx1.9/31, Error ellipse: s-maj=26.7km s-min=19.1km az=100.0*
*JMA **06** 18:10:57.7±0.6, 36.°71N×143.°83E, h71km, M3.6*
*ISCJB **06** 18:10:59.4±0.7, 36.°70N±0.°05×143.°61E±0.°06, h33km, mb3.5/7, Error ellipse: s-maj=7.3km s-min=6.1km az=36.8*

ISC 06 18:11:00.8±0.9, 36.°69N±0.°05×143.°66E±0.°08, h35km, n27, σ1§63/31, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.33**	**288**	P	**Pn**	**18 11 36.1**	**-0.5**
ONAJ	**Iwakimizuishiy**	**2.33**	**281**	P	**Pn**	**18 11 36.6**	**0.0**
CHOJ	**Chosi**	**2.47**	**247**	P	**Pn**	**18 11 38.7**	**+0.2**
JHO	**Hitachi**	**2.49**	**269**	P	**Pn**	**18 11 38.6**	**-0.1**
JFT	**Otama**	**2.78**	**288**	P	**Pn**	**18 11 43.2**	**+0.4**
JMK	**Ichinoseki**	**2.97**	**320**	P	**Pn**	**18 11 44.5**	**-0.8**
BSO1	**Boso 1**	**2.98**	**228**	P	**Pn**	**18 11 44.6**	**-0.5**
BSO1				S	**Sn**	**18 12 20.6**	**+1.2**
JOM	**Ohasama**	**3.34**	**327**	P	**Pn**	**18 11 50.0**	**-0.5**
JOM				S	**Sn**	**18 12 26.5**	**-2.5**
JAG	**Ashikaga**	**3.40**	**267**	P	**Pn**	**18 11 51.5**	**+0.3**
JYK	**Kaneyama**	**3.43**	**311**	P	**Pn**	**18 11 51.7**	**0.0**
JYK				S	**Sn**	**18 12 30.4**	**-0.7**
JRY	**Ryogami san**	**3.90**	**261**	P	**Pn**	**18 11 58.0**	**-0.2**
JRY				S	**Sn**	**18 12 40.3**	**-2.4**
JOD2	**Odawara 2**	**3.97**	**250**	P	**Pn**	**18 11 58.7**	**-0.5**
JOD2				S	**Sn**	**18 12 43.5**	**-1.0**
MJAR	**Matsushiro Arr**	**4.39**	**270**	Pn	**Pn**	**18 12 05.6**	**+0.7**
	1.1nm,0.3s,baz=90,slow=15,SNR=10						
MJAR				Sn	**Sn**	**18 12 53.8**	**-1.0**
	0.7nm,0.3s,baz=91,slow=26,SNR=3.1						
MAT	**Matsushiro**	**4.39**	**270**	P	**Pn**	**18 12 06.3**	**+1.4**
MAT				S	**Sn**	**18 12 56.2**	**+1.4**
JHJ	**Hachijo jima 2**	**4.78**	**223**	Pn	**Pn**	**18 12 08.8**	**-1.5**
	4.9nm,0.3s,baz=54,slow=21,SNR=14						
JHJ				Sn	**Sn**	**18 12 58.5**	**-6.0**
	11nm,0.3s,baz=73,slow=19,SNR=4.0						
ASAJ	**Asahikawa**	**7.46**	**354**	Pn	**Pn**	**18 12 44.1**	**-2.9**
	0.6nm,0.3s,baz=189,slow=7.4,SNR=9.6						
KSRS	**Korea Array**	**12.59**	**278**	LR	LR	18 18 59.3	
	comp=Z,14nm,18.2s,baz=92,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.44**	**123**	T	T	18 43 34.6	
	baz=317,slow=74,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**26.45**	**123**	T	T	18 43 37.0	
	baz=317,slow=74,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**26.46**	**123**	T	T	18 43 37.5	
	baz=317,slow=74,SNR=6.5						
MKAR	**Makanchi Array**	**45.82**	**303**	P	**P**	**18 19 20.0**	**+0.8**
	0.2nm,0.7s,baz=81,slow=8.8,SNR=2.7						
KURBB	**Kurchatov Arra**	**47.62**	**309**	P	**P**	**18 19 34.2**	**+1.0**
	0.5nm,0.6s,baz=82,slow=7.8,SNR=6.6						
ILAR	**Eielson Array**	**48.82**	**32**	P	**P**	**18 19 41.9**	**-0.3**
	0.6nm,0.6s,baz=263,slow=6.1,SNR=6.7						
WRA	**Warramunga Arr**	**57.01**	**190**	P	**P**	**18 20 42.4**	**-0.6**
	0.2nm,0.6s,baz=10,slow=7.2,SNR=3.9						
ASAR	**Alice Springs**	**60.74**	**190**	P	**P**	**18 21 09.8**	**+0.9**
	0.2nm,0.9s,baz=3.8,slow=7.2,SNR=3.4						
NOA	**NORSAR Array B**	**75.18**	**338**	P	**P**	**18 22 40.5**	**+1.2**
	0.3nm,0.6s,baz=45,slow=7.0,SNR=2.9						
TXAR	**Lajitas Array**	**88.89**	**54**	P	**P**	**18 23 52.4**	**+0.6**
	0.2nm,0.6s,baz=307,slow=7.8,SNR=3.0						

*NIED **06** 18:12:00, 38.°20N×141.°90E, h32km, Mw3.7 Best double couple: M0 3.67000×10^14 NP1:φs221.00000°, δ45.00000°, λ32.00000°. NP2:φs107.00000°, δ68.00000°, λ130.00000°.*
*ISCJB **06** 18:12:30.0±0.6, 38.°21N±0.°04×142.°11E±0.°06, h30km, mb3.7/10, Error ellipse: s-maj=6.4km s-min=5.2km az=19.6*
*JMA **06** 18:12:32.8±0.1, 38.°24N×141.°94E, h44km±1km, M3.8*
*IDC **06** 18:12:33.4±0.8, 38.°19N×141.°95E, h47km±8km, mb3.4/10, mb1 3.7/14, mb1mx3.4/51, mbtmp3.7/14, ML3.6/3, MS2.7/3, Ms1 2.7/3, ms1mx2.4/29, Error ellipse: s-maj=21.7km s-min=13.9km az=102.0*

ISC 06 18:12:31.6±0.7, 38.°21N±0.°04×142.°01E±0.°06, h30km, n30, σ1§05/33, mb3.8/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.57**	**296**	P	**Pn**	**18 12 44.0**	**+0.4**
JIO				S	**Sn**	**18 12 51.5**	**-0.6**
OFUJ	**Ofunato**	**0.91**	**343**	P	**Pb**	**18 12 48.6**	**-0.2**
OFUJ				*e*S	**Sn**	**18 12 59.3**	**-1.1**
JMK	**Ichinoseki**	**0.96**	**321**	P	**Pb**	**18 12 49.6**	**-0.1**
JMK				S	**Sb**	**18 13 01.5**	**-0.6**
JMM	**Marumori**	**1.02**	**251**	P	**Pb**	**18 12 49.8**	**-0.8**
JOU	**Okura**	**1.07**	**279**	P	**Pb**	**18 12 51.1**	**-0.4**
JOU				S	**Sb**	**18 13 04.2**	**-0.9**
JFK	**Kawauchi**	**1.23**	**227**	P	**Pn**	**18 12 52.9**	**+0.2**
JOM	**Ohasama**	**1.38**	**336**	P	**Pb**	**18 12 55.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.45**	**242**	P	**Pn**	**18 13 25.3**	**+2.0**
	3.0nm,0.3s,baz=64,slow=11,SNR=18						
MJAR				LR	LR	18 15 00.4	
	comp=Z,99nm,20.4s,baz=70,slow=44						
MAT	**Matsushiro**	**3.45**	**242**	P	**Pn**	**18 13 25.9**	**+2.6**
MAT				*e*S	**Sn**	**18 14 03.9**	**+0.7**
JHJ	**Hachijo jima 2**	**5.39**	**200**	P	**Pn**	**18 13 51.2**	**+1.3**
	16nm,0.3s,baz=295,slow=22,SNR=6.3						
JHJ				S	**Sn**	**18 14 48.8**	**-2.2**
	12nm,0.3s,baz=37,slow=20,SNR=4.2						
JHJ				LR	LR	18 16 11.2	
	comp=Z,76nm,19.4s,baz=360,slow=41						
ASAJ	**Asahikawa**	**5.92**	**4**	P	**Pn**	**18 13 58.1**	**+1.0**
	1.4nm,0.3s,baz=196,slow=12,SNR=5.8						
ASAJ				S	**Sn**	**18 15 04.1**	**+0.2**
	baz=167,slow=18						
USRK	**Ussuriysk Ar.**	**9.63**	**312**	P	**Pn**	**18 14 49.8**	**+1.8**
	0.2nm,0.3s,baz=113,slow=13,SNR=5.5						
PETK	**Petropavlovsk-**	**18.44**	**31**	LR	LR	18 24 55.1	
	comp=Z,26nm,18.9s,baz=185,slow=40						
SEY	**Seymchan**	**25.55**	**11**	P	**P**	**18 17 58.8**	**+1.4**
	3.0nm,0.8s,baz=159,slow=5.2,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**28.37**	**123**	T	T	18 48 42.7	
	baz=316,slow=75,SNR=97						
H11N1	**WAKE ISLAND Hy**	**28.38**	**123**	T	T	18 48 43.5	
	baz=316,slow=75,SNR=124						
H11N3	**WAKE ISLAND Hy**	**28.39**	**123**	T	T	18 48 44.2	
	baz=316,slow=75,SNR=91						
H11S1	**WAKE ISLAND Hy**	**29.13**	**125**	T	T	18 49 35.0	
	baz=318,slow=76,SNR=116						
H11S3	**WAKE ISLAND Hy**	**29.13**	**126**	T	T	18 49 32.4	
	baz=318,slow=76,SNR=108						
H11S2	**WAKE ISLAND Hy**	**29.14**	**125**	T	T	18 49 39.0	
	baz=318,slow=76,SNR=74						
MKAR	**Makanchi Array**	**43.90**	**301**	P	**P**	**18 20 34.8**	**-0.6**
	0.3nm,0.6s,baz=88,slow=9.5,SNR=2.5						
KURBB	**Kurchatov Arra**	**45.66**	**307**	P	**P**	**18 20 48.1**	**-1.1**
	0.7nm,0.6s,baz=81,slow=8.1,SNR=5.0						
ILAR	**Eielson Array**	**48.25**	**33**	P	**P**	**18 21 09.3**	**0.0**
	0.5nm,0.7s,baz=260,slow=5.7,SNR=6.3						
ILAR				pP	**sP**	**18 21 22.1**	**+0.1**
	0.3nm,0.6s,baz=282,slow=6.7,SNR=2.8						
WRA	**Warramunga Arr**	**58.29**	**188**	P	**P**	**18 22 22.8**	**-0.7**
	0.5nm,0.5s,baz=6.7,slow=7.2,SNR=7.6						
WRA				pP	**sP**	**18 22 35.6**	**-0.6**
	0.9nm,0.5s,baz=4.6,slow=7.2,SNR=7.3						
ASAR	**Alice Springs**	**62.02**	**188**	P	**P**	**18 22 48.6**	**-0.4**
	0.7nm,0.9s,baz=12,slow=10.0,SNR=9.5						
ASAR				pP	**sP**	**18 23 02.1**	**+0.3**
	0.4nm,0.7s,baz=14,slow=6.4,SNR=4.4						
FINES	**FINESS Array B**	**68.00**	**332**	P	**P**	**18 23 27.0**	**-0.5**
	0.8nm,0.7s,baz=54,slow=4.9,SNR=3.5						
NB2	**NORSAR Subarra**	**73.29**	**337**	P	**P**	**18 23 59.4**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**73.29**	**337**	P	**P**	**18 23 59.3**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=41,slow=6.2,SNR=3.8						
PDAR	**Pinedale Array**	**76.51**	**46**	P	**P**	**18 24 19.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=247,slow=1.9,SNR=3.5						
TXAR	**Lajitas Array**	**89.03**	**53**	P	**P**	**18 25 23.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=305,slow=4.4,SNR=3.4						

*JMA **06** 18:13:12.3±0.2, 24.°71N×122.°49E, h115km±2km, M2.5*
*TAP **06** 18:13:12.7, 24.°77N×122.°51E, h112km, ML3.5, C*
*ISCJB **06** 18:13:13.2±0.9, 24.°74N±0.°05×122.°54E±0.°02, h106km±7km, Error ellipse: s-maj=7.8km s-min=3.2km az=172.0*

ISC 06 18:13:13.8±1.8, 24.°71N±0.°08×122.°53E±0.°03, h105km±11km, n35, σ0§92/55, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.46**	**125**	P	**Pn**	**18 13 29.8**	**0.0**
JYNG				S	**Sn**	**18 13 42.8**	**+1.0**
YOJ	**Yonaguni jima**	**0.51**	**120**	P	**Pn**	**18 13 30.1**	**0.0**
YOJ				*e*S	**Sn**	**18 13 43.3**	**+1.0**
TWC	**Suao**	**0.63**	**261**	P	**Pn**	**18 13 30.6**	**-0.4**
	baz=250						
TWC				S	**Sn**	**18 13 43.3**	**-0.6**
	baz=250						
ILA	**Ilan**	**0.71**	**274**	*e*P	**Pn**	**18 13 31.7**	**0.0**
	baz=263						
ILA				*e*S	**Sn**	**18 13 45.5**	**+0.3**
	baz=263						
NWF	**Wu-fen Shan**	**0.77**	**298**	P	**Pn**	**18 13 32.3**	**-0.1**
	baz=288						
NWF				*e*S	**Sn**	**18 13 46.2**	**0.0**
	baz=288						
ENA	**Nanau**	**0.77**	**249**	P	**Pn**	**18 13 32.3**	**0.0**
	baz=241						
ENA				S	**Sn**	**18 13 46.6**	**+0.4**
	baz=241						
TWE	**Neicheng**	**0.78**	**271**	P	**Pn**	**18 13 32.1**	**-0.2**
	baz=265						
TWE				S	**Sn**	**18 13 46.2**	**-0.2**
	baz=265						
ENTT	**Nioudou**	**0.88**	**265**	⇑*i* P	**Pn**	**18 13 33.5**	**+0.2**
	baz=264						
ENTT				*e*S	**Sn**	**18 13 48.5**	**+0.5**
	baz=264						
TWD	**Chiawan**	**1.06**	**234**	*e*P	**Pn**	**18 13 34.4**	**-0.8**
	baz=230						
TWD				*e*S	**Sn**	**18 13 51.1**	**-0.2**
	baz=230						
NSK	**Sanguang**	**1.07**	**268**	⇓*i* P	**Pn**	**18 13 35.2**	**-0.2**
	baz=269						
NSK				S	**Sn**	**18 13 51.3**	**-0.3**
	baz=269						
IRIF	**Iriomote-Funau**	**1.16**	**109**	P	**Pn**	**18 13 36.0**	**-0.2**
IRIF				*e*S	**Sn**	**18 13 53.5**	**+0.3**
WHF	**Hehuan Shan**	**1.28**	**244**	*e*P	**Pn**	**18 13 39.6**	**+1.4**
	baz=241						
WHF				*e*S	**Sn**	**18 13 56.2**	**-0.4**
	baz=241						
TWT	**Tachien**	**1.32**	**250**	P	**Pn**	**18 13 38.7**	**+0.4**
	baz=241						
TWT				S	**Sn**	**18 13 57.2**	**+0.4**
	baz=241						
HATJ	**Hateruma jima**	**1.33**	**119**	*e*S	**Sn**	**18 13 57.6**	**+0.7**
ESL	**Shilin**	**1.34**	**228**	*e*P	**Pn**	**18 13 37.5**	**-1.0**
	baz=233						
ESL				*e*S	**Sn**	**18 13 55.0**	**-2.1**
	baz=233						
NSTT	**Nanjuang**	**1.39**	**267**	*e*P	**Pn**	**18 13 38.5**	**-0.5**
	baz=263						
NSTT				*e*S	**Sn**	**18 13 56.9**	**-1.2**
	baz=263						
JKRS	**Kuro-shima**	**1.43**	**109**	P	**Pn**	**18 13 39.5**	**+0.1**
JKRS				S	**Sn**	**18 13 59.3**	**+0.4**
JIJ	**Ishigaki jima**	**1.51**	**103**	P	**Pn**	**18 13 40.1**	**-0.3**
JIJ				S	**Sn**	**18 13 59.8**	**-0.8**
JISG	**Ishigakijimahi**	**1.63**	**94**	P	**Pn**	**18 13 41.7**	**-0.1**
JISG				*e*S	**Sn**	**18 14 02.7**	**-0.4**
TWQ1	**Liyutan**	**1.64**	**258**	*e*P	**Pn**	**18 13 41.6**	**-0.4**
	baz=254						
TWQ1				*e*S	**Sn**	**18 14 03.1**	**-0.4**
	baz=254						
TYC	**Yuchr**	**1.73**	**243**	*e*P	**Pn**	**18 13 43.2**	**+0.2**
	baz=240						
TYC				*e*S	**Sn**	**18 14 06.0**	**+0.7**
	baz=240						
TWF1	**Yuli**	**1.76**	**220**	*e*S	**Sn**	**18 14 04.6**	**-1.7**
	baz=225						
JTJ	**Tarama**	**1.98**	**92**	*e*S	**Sn**	**18 14 10.9**	**-0.1**
ALS	**Alishan**	**1.98**	**233**	*e*S	**Sn**	**18 14 12.5**	**+0.9**
	baz=226						
CHN5	**Tsauling**	**2.02**	**237**	*e*S	**Sn**	**18 14 13.3**	**+1.1**
	baz=244						
ELDTW	**Lidau**	**2.05**	**223**	*e*S	**Sn**	**18 14 11.2**	**-1.7**
	baz=219						
WGK	**Gukeng**	**2.07**	**241**	*e*S	**Sn**	**18 14 14.4**	**+1.3**
	baz=247						
CHN4	**Tsaushan**	**2.23**	**233**	*e*S	**Sn**	**18 14 18.2**	**+1.3**
	baz=231						
STYT	**Tauyuan**	**2.24**	**227**	S	**Sn**	**18 14 18.7**	**+1.5**
	baz=219						
WTP	**Ta-pu**	**2.28**	**231**	*e*S	**Sn**	**18 14 20.4**	**+2.3**
	baz=229						
TWG	**Pinlang**	**2.31**	**216**	*e*S	**Sn**	**18 14 16.4**	**-2.4**
	baz=218						
TWK	**Hsinying**	**2.36**	**233**	*e*S	**Sn**	**18 14 20.8**	**+0.8**
	baz=231						
CHN1	**Nanshi**	**2.38**	**231**	*e*S	**Sn**	**18 14 20.6**	**+0.2**
	baz=229						
SGST	**Jiashian**	**2.41**	**228**	*e*S	**Sn**	**18 14 22.5**	**+1.4**
	baz=226						
SSD	**Sandimen**	**2.62**	**222**	*e*S	**Sn**	**18 14 26.7**	**+0.7**
	baz=220						

*IDC **06** 18:23:29.9±0.7, 2.°88S×129.°57E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/39, mbtmp4.1/14, ML4.0/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/30, Error ellipse: s-maj=26.3km s-min=14.4km az=76.0*
*ISCJB **06** 18:23:32.2±0.3, 2.°89S±0.°03×129.°62E±0.°04, h28km, mb4.1/15, MS3.4/1, Error ellipse: s-maj=5.8km s-min=4.7km az=21.4*
*DJA **06** 18:23:34.9±0.3, 3°S±3°×13°0E±°, h100km, M4.3/8, mB5.2/1, mb4.5/2, MLv4.2/8, Mw(mB)4.6/1*
*NEIC **06** 18:23:37.3±1.0, 2.°91S×129.°68E, h57km±10km, mb4.1/5, Error ellipse: s-maj=9.7km s-min=8.4km az=48.0*

ISC 06 18:23:34.1±0.5, 2.°84S±0.°04×129.°61E±0.°05, h28km, n36, σ2§25/43, mb4.2/15, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.84**	**234**	P	**Pn**	**18 23 49.5**	**-0.6**
MSAI				S	**Sn**	**18 24 09.1**	**+7.5**
BNDI	**Bandanaira**	**1.69**	**170**	P	**Pb**	**18 24 04.8**	**+0.1**
SIJI	**Sorong**	**2.57**	**40**	Pn	**Pn**	**18 24 13.9**	**-0.1**
	22nm,0.3s,baz=270,slow=24,SNR=43						
SIJI				Sn	**Sn**	**18 24 44.0**	**-0.3**
	12nm,0.3s,baz=271,slow=24,SNR=12						
SWI	**Sorong**	**2.57**	**40**	P	**Pn**	**18 24 13.8**	**-0.1**
SWI				S	**Sn**	**18 24 43.8**	**-0.5**
FAKI	**Fak Fak**	**2.64**	**92**	P	**Pn**	**18 24 15.3**	**+0.4**
FAKI				S	**Sb**	**18 25 00.4**	**+7.5**
FAKI	**Fak Fak**	**2.64**	**92**	*e*Pn	**Pn**	**18 24 15.2**	**+0.3**
LBMI	**Labuha**	**3.04**	**316**	P	**Pn**	**18 24 19.3**	**-1.1**
LBMI				S	**Sn**	**18 24 57.4**	**+1.5**
SANI	**Sanana**	**3.70**	**282**	P	**Pn**	**18 24 30.0**	**+0.5**
MRSI	**Marisa**	**8.34**	**293**	P	**Pn**	**18 25 33.4**	**+0.1**
	31nm,0.8s,2μm					

couple: $M_0$2.18000×10^16 NP1:ϕ_s17.00000°, δ39.00000°, λ-107.00000°. NP2:ϕ_s217.00000°, δ53.00000°, λ-77.00000°.
*IDC **06** 18:52:18.2±0.4, 37°.53N×143°.73E, h0km, mb4.7/30, mb1 4.8/37, mb1mx4.7/47, mbtmp4.7/37, ML3.7/6, MS4.1/39, Ms1 4.1/39, ms1mx4.0/50, Error ellipse: s-maj=13.5km s-min=10.3km az=108.0*
*JMA **06** 18:52:20.8±0.2, 37°.59N×143°.64E, h45km, M4.9*
JMA Felt I J1.
*ISCJB **06** 18:52:23.6±0.1, 37°.60N±0°.02×143°.52E±0°.02, h42km, mb4.9/200, MS4.4/49, Error ellipse: s-maj=3.6km s-min=2.3km az=165.1*
*MOS **06** 18:52:23.9±0.9, 37°.89N×143°.52E, h33km, mb5.2/90, MS4.3/27, Error ellipse: s-maj=6.5km s-min=3.9km az=109.3*
*NEIC **06** 18:52:24.2±0.5, 37°.55N×143°.60E, h37km±4km, mb4.9/100, Error ellipse: s-maj=4.7km s-min=2.9km az=145.0*
NEIC Recorded [1 JMA] in Miyagi.
*BJI **06** 18:52:25.6, 37°.71N×143°.28E, h51km, mb4.8/76, mB5.0/53, Ms4.7/75, Ms7 4.6/70*
ISC 06 18:52:23.0±0.4, 37°.59N±0°.04×143°.71E±0°.04, h32km±1km, h32km:pP-P, n525, σ1$80/593, mb5.0/204, MS4.4/51, 30C-30D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.05**	**296**	P	**Pn**	**18 52 53.4**	**-1.8**
JIO				S	**Sn**	**18 53 17.5**	**-2.2**
OFUJ	**Ofunato**	**2.19**	**313**	P	**Pn**	**18 52 55.1**	**-2.0**
OFUJ				S	**Sn**	**18 53 20.2**	**-2.8**
JMK	**Ichinoseki**	**2.38**	**305**	P	**Pn**	**18 52 58.2**	**-1.6**
JMK				*e*S	**Sn**	**18 53 25.9**	**-2.0**
JOM	**Ohasama**	**2.67**	**315**	P	**Pn**	**18 53 02.2**	**-1.5**
JOM				S	**Sn**	**18 53 33.0**	**-1.9**
JFT	**Otama**	**2.68**	**269**	P	**Pn**	**18 53 03.0**	**-0.9**
JFT				S	**Sn**	**18 53 33.7**	**-1.6**
JYK	**Kaneyama**	**2.95**	**298**	P	**Pn**	**18 53 06.6**	**-1.0**
JYK				S	**Sn**	**18 53 40.4**	**-1.5**
JANG	**Nango**	**3.26**	**329**	P	**Pn**	**18 53 10.7**	**-1.2**
JANG				*e*S	**Sn**	**18 53 45.8**	**-3.8**
JNS	**Sasagawa**	**3.49**	**275**	P	**Pn**	**18 53 13.9**	**-1.1**
JAG	**Ashikaga**	**3.60**	**252**	P	**Pn**	**18 53 14.7**	**-1.8**
JAG				S	**Sn**	**18 53 54.8**	**-3.1**
JAW	**Awa shima**	**3.63**	**285**	P	**Pn**	**18 53 16.1**	**-0.8**
BSO1	**Boso 1**	**3.67**	**218**	P	**Pn**	**18 53 15.1**	**-1.9**
JRY	**Ryogami san**	**4.17**	**249**	P	**Pn**	**18 53 22.5**	**-1.8**
JRY				*e*S	**Sn**	**18 54 07.2**	**-4.7**
JOT	**Ohata**	**4.31**	**332**	P	**Pn**	**18 53 26.3**	**+0.1**
JOT				S	**Sn**	**18 54 12.2**	**-3.1**
JOD2	**Odawara 2**	**4.39**	**239**	P	**Pn**	**18 53 25.3**	**-2.1**
JOD2				*e*S	**Sn**	**18 54 13.0**	**-4.5**
ERM	**Erimo**	**4.44**	**355**	*ce*P	**Pn**	**18 53 26.6**	**-1.4**
ERM				pmax	pmax		
	comp=Z,143nm,1.0s						
ERM	**Erimo**	**4.44**	**355**	*e*Pn	**Pn**	**18 53 26.4**	**-1.6**
MJAR	**Matsushiro Arr**	**4.52**	**258**	Pn	**Pn**	**18 53 28.3**	**-0.9**
	comp=Z,26nm,0.3s,baz=84,slow=15,SNR=423						
MJAR				Sn	**Sn**	**18 54 18.1**	**-2.6**
	comp=Z,17nm,0.3s,baz=98,slow=24,SNR=5.9						
MJAR				LR	LR	18 55 24.6	
	comp=Z,3μm,20.5s,baz=75,slow=41						
MAJO	**Matsushiro**	**4.52**	**258**	*d*iP	**Pn**	**18 53 29.3**	**+0.1**
MAJO	**Matsushiro**	**4.52**	**258**	*e*Pn	**Pn**	**18 53 29.0**	**-0.2**
MAT	**Matsushiro**	**4.52**	**258**	P	**Pn**	**18 53 28.9**	**-0.3**
MAT				S	**Sn**	**18 54 21.2**	**+0.5**
MJB9	**Matsu-Tunnel**	**4.53**	**258**	*e*Pn	**Pn**	**18 53 29.0**	**-0.2**
JKB	**Kayabe**	**4.76**	**335**	P	**Pn**	**18 53 31.6**	**-0.8**
JKB				S	**Sn**	**18 54 21.9**	**-4.6**
JCH	**Churui**	**5.02**	**357**	P	**Pn**	**18 53 33.8**	**-2.2**
JCH				S	**Sn**	**18 54 27.2**	**-5.8**
JHJ2	**Mitsune**	**5.49**	**217**	P	**Pn**	**18 53 39.8**	**-2.6**
JHJ2				*e*S	**Sn**	**18 54 38.1**	**-6.3**
JHJ2	**Mitsune**	**5.49**	**217**	*e*Pn	**Pn**	**18 53 39.3**	**-3.1**
JHJ	**Hachijo jima 2**	**5.50**	**217**	Pn	**Pn**	**18 53 39.3**	**-3.2**
	comp=Z,60nm,0.3s,baz=307,slow=16,SNR=122						
JHJ				Sn	**Sn**	**18 54 38.5**	**-6.2**
	comp=Z,104nm,0.3s,baz=94,slow=24,SNR=5.8						
JHJ				LR	LR	18 55 41.1	
	comp=Z,446nm,20.6s,baz=69,slow=37						
JOSM	**Okushiri--Mats**	**5.54**	**325**	P	**Pn**	**18 53 43.1**	**-0.1**
INU	**Inuyama**	**5.84**	**249**	*e*Pn	**Pn**	**18 53 46.7**	**-0.6**
ASAJ	**Asahikawa**	**6.57**	**353**	Pn	**Pn**	**18 53 56.6**	**-0.7**
	comp=Z,45nm,0.3s,baz=202,slow=8.3,SNR=234						
ASAJ				Sn	**Sn**	**18 55 06.4**	**-4.7**
	baz=233,slow=20,SNR=3.3						
YUK	**Yuzh-Kuril'sk**	**6.64**	**14**	*i* P	**Pn**	**18 53 55.2**	**-3.0**
KUR	**Kuril'sk**	**8.25**	**21**	*e*P	**Pn**	**18 54 17.6**	**-2.7**
KUR				*e*S	**Sn**	**18 55 44.2**	**-8.1**
KUR				pmax	pmax		
	comp=Z,61nm,0.6s						
KUR				pmax	pmax		
	comp=N,27nm,0.5s						
KUR				pmax	pmax		
	comp=E,24nm,0.5s						
KUR				smax	smax		
	comp=N,207nm,0.4s						
KUR				smax	smax		
	comp=E,139nm,0.4s						
KUR				smax	smax		
	comp=E,496nm,4.7s						
KUR				smax	smax		
	comp=N,318nm,1.8s						
YSS	**Yuzh-Sakhalins**	**9.38**	**356**	⇑*e*P	**Pn**	**18 54 34.5**	**-1.3**
YSS				*e*S	**Sn**	**18 56 14.5**	**-5.6**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.38**	**356**	*e*Pn	**Pn**	**18 54 33.5**	**-2.4**
CBIJ	**Chichi jima**	**10.54**	**187**	*e*P	Pn	18 54 45.8	-6.1
CBIJ				Sn	Sn	18 56 36.9	-12
JCJ	**Chichijima**	**10.54**	**187**	Pn	Pn	18 54 46.8	-5.1
	comp=Z,7.8nm,0.3s,baz=18,slow=20,SNR=4.1						
JCJ				Sn	Sn	18 56 36.9	-12
	comp=Z,12nm,0.3s,baz=90,slow=24,SNR=4.1						
JCJ				LR	LR	18 59 29.1	
	comp=Z,208nm,21.0s,baz=189,slow=41						
VLA	**Vladivostok**	**10.57**	**305**	⇓*e*P	**Pn**	**18 54 52.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.05**	**310**	Pn	**Pn**	**18 54 59.6**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=124,slow=14,SNR=19						
USRK				LR	LR	18 59 09.3	
	comp=Z,2μm,18.2s,baz=115,slow=37						
JNU	**Nakatsue**	**11.38**	**251**	Pn	**Pn**	**18 55 02.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=191,slow=6.7,SNR=14						
JNU	**Nakatsue**	**11.38**	**251**	*e*Pn	**Pn**	**18 54 59.4**	**-3.9**
KSRS	**Korea Array**	**12.54**	**274**	Pn	**Pn**	**18 55 20.2**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=88,slow=13,SNR=46						
KSRS				LR	LR	19 00 03.9	
	comp=Z,1μm,18.3s,baz=80,slow=37						
KSRS				PcP	**PcP**	**19 00 57.4**	**+0.7**
	baz=126,slow=1.7,SNR=5.4						
KS01	**Wonju Array Si**	**12.56**	**274**	*e*Pn	**Pn**	**18 55 18.4**	**-1.0**
KSAR	**Wonju Array Be**	**12.57**	**274**	P	**Pn**	**18 55 20.2**	**+0.7**
KSAR	**Wonju Array Be**	**12.57**	**274**	Pn	**Pn**	**18 55 20.2**	**+0.7**
KSAR				PcP	**PcP**	**19 00 57.4**	**+0.6**
HABR	**Khabarovsk**	**12.57**	**333**	*e*P	**Pn**	**18 55 15.6**	**-3.9**
HABR				*e*S	**Sn**	**18 57 32.3**	**-6.0**
HABR				pmax	pmax		
	comp=N,10.0nm,1.3s						
HABR				pmax	pmax		
	comp=E,11nm,1.3s						
HABR				pmax	pmax		
	comp=Z,20nm,1.3s						
HABR				MLR	MLR		
	comp=Z,540nm,12.0s						
MDJ	**Mudanjiang**	**12.74**	**308**	P	**Pn**	**18 55 23.9**	**+2.1**
MDJ				S	**Sn**	**18 57 44.3**	**+1.8**
MDJ				PMZ			
	comp=Z,14nm,1.2s						
MDJ				PMZ			
	comp=Z,250nm,6.6s						
MDJ				LN			
	comp=Z,1μm,16.1s						
MDJ				LE			
	comp=Z,850nm,19.7s						
MDJ				LZ			
	comp=Z,2μm,18.1s						
MDJ	**Mudanjiang**	**12.74**	**308**	*e*P	**Pn**	**18 55 22.9**	**+1.1**
	comp=Z,41nm,1.1s						
TJN	**Taejon**	**13.13**	**270**	*ce*P	**Pn**	**18 55 27.9**	**+0.8**
TYV	**Tymovskoe**	**13.29**	**357**	*e*P	**Pn**	**18 55 27.0**	**-2.2**
TYV				pmax	pmax		
	comp=Z,35nm,1.0s						
TYV				MLR	MLR		
	comp=E,2μm,16.0s						
INCN	**Inchon**	**13.56**	**275**	*e*P	**Pn**	**18 55 33.5**	**+0.5**
	comp=E,21nm,0.7s						
KLR	**Kul'dur**	**14.50**	**327**	Pn	**Pn**	**18 55 42.6**	**-3.1**
	comp=E,0.5nm,0.3s,baz=130,slow=13,SNR=32						
KLR				LR	LR	19 01 12.9	
	comp=E,799nm,19.0s,baz=144,slow=37						
CN2	**Changchun**	**15.16**	**300**	*e*P	**Pn**	**18 55 55.5**	**+0.8**
CN2				*ep*P	pP	18 56 03.9	-4.0
CN2				sP	sP	18 56 13.7	+1.6
CN2				*e*S	**Sn**	**18 58 41.9**	**+0.4**
CN2				PMZ			
	comp=E,20nm,0.6s						
CN2				PMZ			
	comp=E,200nm,5.0s						
CN2				LN			
	comp=E,1μm,16.0s						
CN2				LE			
	comp=E,1μm,16.0s						
CN2				LZ			
	comp=E,1μm,18.0s						
NKL	**Nikolayevsk**	**15.70**	**353**	*e*P	**Pn**	**18 56 00.5**	**-1.1**
NKL				pmax	pmax		
	comp=Z,100nm,1.4s						
SNY	**Shenyang**	**16.05**	**292**	⇑P	**Pn**	**18 56 05.4**	**-0.8**
SNY				PMZ			
	comp=Z,13nm,0.5s						
SNY				PMZ			
	comp=Z,230nm,6.4s						
SNY				LN			
	comp=Z,1μm,12.1s						
SNY				LE			
	comp=Z,2μm,14.2s						
SNY				LZ			
	comp=Z,3μm,15.0s						
PEA0	**Petropavlovsk-**	**18.32**	**28**	*e*P	**Pn**	**18 56 34.8**	**+0.5**
PETK	**Petropavlovsk-**	**18.32**	**28**	P	**Pn**	**18 56 35.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=191,slow=6.8,SNR=8.5						
PETK				LR	LR	19 06 06.7	
	comp=Z,352nm,18.1s,baz=209,slow=45						
PET	**Petropavlovsk**	**18.61**	**29**	*e*P	**P**	**18 56 36.1**	**-1.3**
PET				*e*S	**Sn**	**18 59 58.7**	**-6.1**
PET				pmax	pmax		
	comp=Z,200nm,13.5s						
PET				pmax	pmax		
	comp=Z,33nm,1.3s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
SSE	**Sheshan**	**19.67**	**257**	P	**P**	**18 56 49.1**	**-0.1**
SSE				S	**S**	**19 00 27.9**	**-1.5**
SSE				PMZ			
	comp=Z,12nm,0.8s						
SSE				PMZ			
	comp=Z,150nm,5.2s						
SSE				LN			
	comp=Z,1μm,21.0s						
SSE				LE			
	comp=Z,820nm,21.0s						
SSE				LZ			
	comp=Z,800nm,14.4s						
HIA	**Hailar**	**20.86**	**312**	*e*P	**P**	**18 57 01.1**	**-1.0**
HIA				pmax	pmax		
	comp=Z,14nm,0.6s						
HIA	**Hailar**	**20.86**	**312**	*e*P	**P**	**18 57 01.1**	**-1.0**
	comp=Z,14nm,0.6s						
NJ2	**Nanjing**	**21.11**	**262**	*e*P	**P**	**18 57 04.9**	**0.0**
NJ2				*ep*P	**sP**	**18 57 19.3**	**+1.7**
NJ2				PMZ			
	comp=Z,10.0nm,0.8s						
NJ2				LN			
	comp=Z,2μm,13.0s						
NJ2				LE			
	comp=Z,1μm,14.1s						
NJ2				LZ			
	comp=Z,800nm,14.1s						
TIA	**Tai'an**	**21.29**	**274**	⇑P	**P**	**18 57 05.3**	**-1.4**
TIA				PMZ			
	comp=Z,40nm,0.9s						
TIA				LN			
	comp=Z,520nm,13.5s						
TIA				LE			
	comp=Z,1μm,15.2s						
TIA				LZ			
	comp=Z,2μm,14.3s						
BJI	**Beijing**	**21.56**	**285**	P	**P**	**18 57 08.7**	**-0.9**
BJI				S	**S**	**19 01 03.4**	**-3.4**
BJI				PMZ			
	comp=Z,7.0nm,0.5s						
BJI				LN			
	comp=Z,670nm,12.8s						
BJI				LE			
	comp=Z,980nm,13.9s						
BJI				LZ			
	comp=Z,560nm,34.5s						
BJT	**Baijiatuau**	**21.57**	**285**	*e*P	**P**	**18 57 10.0**	**+0.3**
BJT				pmax	pmax		
	comp=Z,61nm,1.0s						
BJT	**Baijiatuau**	**21.57**	**285**	*e*P	**P**	**18 57 10.0**	**+0.3**
	comp=Z,61nm,1.0s						
MA2	**Magadan**	**22.46**	**9**	P	**P**	**18 57 19.9**	**+0.7**
	comp=Z,7.4nm,0.6s,baz=158,slow=19,SNR=3.9						
CLNS	**Chul'man**	**22.97**	**333**	*e*P	**P**	**18 57 24.0**	**-0.5**
CLNS				*e**PP	**pP**	**18 57 34.4**	**+1.2**
CLNS				*e*		18 57 51.7	
CLNS				*e*SS	Sn	19 02 10.1	+21
CLNS				*e*		19 08 34.2	
CLNS				pmax	pmax		
	comp=Z,14nm,1.1s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,16nm,1.4s						
CLNS				pmax	pmax		
	comp=Z,26nm,1.0s						
CLNS				pmax	pmax		
	comp=N,26nm,1.4s						
CLNS				pmax	pmax		
	comp=E,21nm,1.1s						
CLNS				MLR	MLR		
	comp=N,814nm,14.0s						
CLNS				MLR	MLR		
	comp=Z,847nm,16.0s						
CLNS				MLR	MLR		
	comp=E,432nm,14.0s						
SSLB	**Suanglung**	**23.84**	**241**	*e*P	**P**	**18 57 30.1**	**-3.3**
	comp=E,33nm,1.2s						
YULB	**Yu-li**	**23.86**	**240**	*e*P	**P**	**18 57 30.9**	**-2.6**
	comp=E,19nm,0.9s						
GUMO	**Guam**	**23.93**	**177**	LR	LR	19 05 17.4	
	comp=E,236nm,20.4s,baz=20,slow=33						
TPUB	**Ta-pu**	**24.39**	**241**	*e*P	**P**	**18 57 36.9**	**-1.4**
	comp=E,61nm,0.9s						
QZH	**Quanzhou**	**24.81**	**247**	⇑*i*P	**P**	**18 57 36.3**	**-5.9**
QZH				S	S	19 01 49.9	-13
HHC	**Hu-ho-hao-te**	**25.04**	**288**	*e*P	**P**	**18 57 44.4**	**+0.1**
HHC				sP	sP	18 58 02.2	+4.7
HHC				S	**S**	**19 02 04.1**	**-2.3**
HHC				sS	sS	19 02 22.3	+0.5
HHC				PMZ			
	comp=E,32nm,1.2s						
HHC				PMZ			
	comp=E,230nm,4.6s						
HHC				LN			
	comp=E,550nm,14.8s						
HHC				LE			
	comp=E,990nm,14.8s						
HHC				LZ			
	comp=E,1μm,13.6s						
WHN	**Wuhan**	**25.25**	**263**	⇑*i*P	**P**	**18 57 46.4**	**+0.3**
WHN				pP	**sP**	**18 57 57.9**	**-1.4**
WHN				LN			
	comp=E,2μm,13.5s						
WHN				LE			
	comp=E,990nm,14.2s						
WHN				LZ			
	comp=E,2μm,11.8s						
CIT	**Chita**	**25.58**	**314**	*e*P	**P**	**18 57 49.4**	**+0.5**
CIT				*e*		18 58 01.8	
CIT				*e*		18 58 37.4	
CIT				pmax	pmax		
	comp=Z,81nm,1.3s						
SEY	**Seymchan**	**25.92**	**9**	P	**P**	**18 57 53.2**	**+1.4**
	comp=Z,17nm,0.9s,baz=188,slow=9.2,SNR=27						
YAK	**Yakutsk**	**25.97**	**345**	P	**P**	**18 57 52.0**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=307,slow=17,SNR=13						
YAK				S	**S**	**19 02 28.6**	**+8.2**
	comp=Z,0.7nm,0.3s,baz=180,slow=20,SNR=3.9						
YAK				LR	LR	19 08 46.6	
	comp=Z,569nm,18.4s,baz=102,slow=38						
YAK	**Yakutsk**	**25.97**	**345**	*e*P	**P**	**18 57 52.1**	**-0.2**
YAK				*e**PP	**pP**	**18 57 57.9**	**-3.7**
YAK				*e*		18 58 30.0	
YAK				*e*		19 01 21.1	
YAK				pmax	pmax		
	comp=Z,42nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,22nm,0.7s						
YAK				MLR	MLR		
	comp=Z,535nm,15.0s						
YAK				MLR	MLR		
	comp=N,555nm,15.0s						
YAK				MLR	MLR		
	comp=E,281nm,17.0s						
YAK	**Yakutsk**	**25.97**	**345**	*e*P	**P**	**18 57 52.2**	**0.0**
YAK	comp=E,50nm,0.8s			S	**S**	**19 02 28.6**	**+8.2**
H11N2	**WAKE ISLAND Hy**	**26.91**	**125**	T	T	19 26 19.9	
	baz=317,slow=74,SNR=119						
H11N1	**WAKE ISLAND Hy**	**26.92**	**125**	T	T	19 26 06.6	
	baz=317,slow=74,SNR=87						
H11N3	**WAKE ISLAND Hy**	**26.93**	**125**	T	T	19 26 07.2	
	baz=317,slow=74,SNR=107						
H11S1	**WAKE ISLAND Hy**	**27.68**	**127**	T	T	19 27 19.3	
	baz=318,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**27.68**	**127**	T	T	19 27 18.1	
	baz=318,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.69**	**127**	T	T	19 27 19.5	
	baz=318,slow=76,SNR=14						
BOD	**Bodaibo**	**28.07**	**326**	*e*P	P	18 58 05.1	-6.1
BOD				*e*		18 58 17.2	
BOD				pmax	pmax		
	comp=Z,40nm,1.5s						
ULN	**Ulaanbaatar**	**28.57**	**303**	*d*iP	**P**	**18 58 17.0**	**+0.9**
ULN				pmax	pmax		
	comp=Z,18nm,1.2s						
ULN	**Ulaanbaatar**	**28.57**	**303**	*e*P	**P**	**18 58 17.1**	**+1.1**
	comp=Z,40nm,1.3s						
ULN				*e*PcP	**PcP**	**19 01 26.3**	**-0.4**
SONA1	**Songino Array**	**29.01**	**303**	*e*P	**P**	**18 58 20.9**	**+1.1**
SONM	**Songino Array**	**29.01**	**303**	P	**P**	**18 58 20.4**	**+0.5**
	comp=Z,6.2nm,0.9s,baz=102,slow=9.5,SNR=21						
SONM				PcP	**PcP**	**19 01 28.6**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=129,slow=2.4,SNR=3.9						
SONM				LR	LR	19 10 18.7	
	comp=Z,601nm,18.4s,baz=94,slow=37						
ENH	**Enshi**	**29.20**	**266**	*e*P	**P**	**18 58 21.5**	**-0.2**
	comp=Z,58nm,0.8s						
TGY	**Tagaytay City**	**30.94**	**227**	LR	LR	19 09 24.4	
	comp=Z,95nm,21.4s,baz=276,slow=33						
TLY	**Talaya**	**31.37**	**310**	*e*P	**P**	**18 58 42.8**	**+2.3**
TLY				*e*		18 59 44.3	
TLY				*e*S	**S**	**19 03 43.2**	**-2.4**
TLY				pmax	pmax		
	comp=Z,18nm,1.2s						
TLY				MLR	MLR		
	comp=Z,917nm,14.0s						
TLY	**Talaya**	**31.37**	**310**	*e*P	**P**	**18 58 42.0**	**+1.5**
	comp=Z,17nm,1.0s						
ZAK	**Zakamensk**	**31.38**	**307**	*e*P	**P**	**18 58 40.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,15nm,1.2s						
LZH	**Lanzhou**	**31.78**	**280**	*e*P	**P**	**18 58 45.8**	**+1.3**
LZH				pP	pP	18 58 52.8	-1.1
LZH				PP	**PnPn**	**18 59 52.3**	**+3.1**
LZH				*e*S	**S**	**19 03 54.0**	**+1.4**
LZH				sS	sS	19 04 09.3	+1.2
LZH				PMZ			
	comp=Z,22nm,1.0s						
LZH				PMZ			
	comp=Z,82nm,4.4s						
LZH				LN			
	comp=Z,970nm,15.7s						
LZH				LE			
	comp=Z,930nm,14.1s						
LZH				LZ			
	comp=Z,1μm,16.1s						
BILL	**Bilibino**	**32.99**	**15**	*de*P	**P**	**18 58 54.5**	**0.0**
BILL				*e*		19 00 02.7	
BILL				*e*S	**S**	**19 04 05.6**	**-4.9**
BILL				pmax	pmax		
	comp=Z,14nm,1.2s						
BILL				MLR	MLR		
	comp=Z,248nm,17.0s						
BILL	**Bilibino**	**32.99**	**15**	*e*P	**P**	**18 58 54.6**	**+0.1**
	comp=Z,15nm,1.1s						
MOY	**Mondy**	**32.99**	**309**	*e*P	**P**	**18 58 59.1**	**+4.2**
MOY				pmax	pmax		
	comp=Z,38nm,2.9s						
GYA	**Guiyang**	**33.12**	**261**	⇑*i*P	**P**	**18 58 55.8**	**-0.5**
GYA				pP	sP	18 59 11.6	+2.0
GYA				sP	pP	18 59 18.0	+12
GYA				PP	**PP**	**19 00 09.2**	**-2.2**
GYA				PcP	**PcP**	**19 01 41.0**	**+2.0**
GYA				S	**S**	**19 04 12.9**	**-0.6**
GYA				sS	sS	19 04 35.0	+5.9
GYA				ScP	**ScP**	**19 05 19.8**	**-1.0**
GYA				SS	**SnSn**	**19 06 13.4**	**-0.4**
GYA				PMZ			
	comp=Z,20nm,0.9s						
GYA				PMZ			
	comp=Z,120nm,5.0s						
GYA				LN			
	comp=Z,270nm,13.9s						
GYA				LE			
	comp=Z,430nm,16.5s						
GYA				LZ			
	comp=Z,800nm,16.5s						
CD2	**Chengdu**	**33.50**	**271**	*e*P	**P**	**18 58 58.8**	**-0.7**
CD2				pP	sP	18 59 12.1	-0.7
CD2				sP	pP	18 59 18.4	+10
CD2				S	**S**	**19 04 17.0**	**-2.3**
CD2				sS	sS	19 04 40.0	+5.2
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,140nm,5.2s						
CD2				LN			
	comp=Z,1μm,16.7s						
CD2				LE			
	comp=Z,1μm,17.3s						
CD2				LZ			
	comp=Z,980nm,18.2s						
GTA	**Gaotai**	**34.15**	**287**	⇓P	**P**	**18 59 06.3**	**+1.1**
GTA				pP	sP	18 59 18.4	-0.1
GTA				sP	pP	18 59 23.6	+9.0
GTA				PcP	**PcP**	**19 01 42.9**	**+1.2**
GTA				S	**S**	**19 04 28.7**	**-0.7**
GTA				sS	sS	19 04 48.6	+3.7
GTA				PMZ			
	comp=Z,16nm,1.0s						
GTA				PMZ			
	comp=Z,220nm,5.0s						
GTA				LN			
	comp=Z,440nm,17.1s						
GTA				LE			
	comp=Z,750nm,18.1s						
GTA				LZ			
	comp=Z,940nm,18.1s						
QIZ	**Qiongzhong**	**34.83**	**247**	P	**P**	**18 59 11.7**	**+0.7**
QIZ				sS	S	19 05 01.5	+22
QIZ				PMZ			
	comp=Z,14nm,1.9s						
QIZ				LN			
	comp=Z,350nm,24.6s						
QIZ				LE			
	comp=Z,290nm,21.0s						
QIZ				LZ			
	comp=Z,410nm,15.6s						
TIXI	**Tiksi**	**34.98**	**352**	⇓*i*P	**P**	**18 59 10.3**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	**Tiksi**	**34.98**	**352**	*e*P	**P**	**18 59 10.4**	**-1.3**
	comp=Z,4.7nm,0.9s						
KMI	**Kunming**	**36.85**	**262**	P	**P**	**18 59 28.0**	**-0.6**
KMI				pP	sP	18 59 40.6	-1.4
KMI				sP	pP	18 59 45.9	+7.8
KMI				PP	**PnPn**	**19 00 54.6**	**+1.6**
KMI				S	**S**	**19 05 14.1**	**+2.8**

KMI PMZ
comp=Z,16nm,1.2s
KMI PMZ
comp=Z,160nm,5.1s
KMI LN
comp=Z,410nm,14.4s
KMI LE
comp=Z,500nm,13.7s
KMI LZ
comp=Z,670nm,14.4s
MANU Manus Island 39.58 174 *e*PP PP 19 01 25.5 +2.8
NONG Nongkai 40.42 253 P **P** **18 59 59.7 +1.4**
comp=Z,20nm,1.0s,comp=Z,4µm
UBPT Khong Chiam 40.43 247 P P 19 00 03.8 +5.4
SKNT Sakolnakorn 40.46 250 P **P** **19 00 00.2 +1.6**
comp=Z,19nm,1.3s
MRSI Marisa 42.04 214 P **P** **19 00 11.7 +0.1**
comp=Z,31nm,1.2s,comp=Z,863nm
LOEI Loei 42.18 254 P **P** **19 00 10.9 -1.9**
comp=Z,15nm,1.4s
WMQ Urumqi 42.22 297 P **P** **19 00 13.5 +0.5**
WMQ pP sP 19 00 27.3 +0.9
WMQ sP pP 19 00 36.0 +13
WMQ PP **PP** **19 01 55.2 +4.3**
WMQ S **S** **19 06 27.7 -3.5**
WMQ ScS **ScS** **19 10 07.6 -5.0**
WMQ PMZ
comp=Z,18nm,0.6s
WMQ PMZ
comp=Z,120nm,4.8s
WMQ LN
comp=Z,240nm,12.8s
WMQ LE
comp=Z,210nm,14.0s
WMQ LZ
comp=Z,130nm,25.6s
UTTA Uttaradit 42.59 254 P **P** **19 00 16.8 +0.7**
comp=Z,6.6nm,0.9s,comp=Z,56nm
CHAI Chaiyaphum 42.62 251 P **P** **19 00 17.3 +0.9**
comp=Z,6.6nm,1.0s
LAMP Lampang 42.84 256 P **P** **19 00 19.3 +1.2**
comp=Z,13nm,0.9s
ZAA0 Zalesovo Array 42.90 312 *e*P **P** **19 00 18.2 0.0**
ZAA0 *e*PcP **PcP** **19 02 08.6 +0.1**
ZALV Zalesovo Beam 42.90 312 P **P** **19 00 18.5 +0.3**
comp=Z,10nm,0.8s,baz=90,slow=7.4,SNR=40
ZALV PcP **PcP** **19 02 09.0 +0.5**
comp=Z,9.2nm,0.6s,baz=90,slow=2.9,SNR=8.6
ZALV LR LR 19 18 50.7
comp=Z,577nm,18.7s,baz=68,slow=37
ZALV Zalesovo Beam 42.90 312 P **P** **19 00 18.5 +0.3**
ZALV 19 02 09.0
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV MLR MLR
comp=Z,577nm,18.7s
PBKT Sadao Pong 42.98 253 P **P** **19 00 20.0 +0.8**
comp=Z,23nm,1.0s
CHTO Chiang Mai 43.20 257 P **P** **19 00 21.7 +0.6**
comp=Z,99nm,1.1s
CHTO Chiang Mai 43.20 257 *e*P **P** **19 00 21.7 +0.6**
CHTO pmax pmax
comp=Z,24nm,1.0s
CHTO Chiang Mai 43.20 257 *e*P **P** **19 00 21.7 +0.6**
comp=Z,24nm,1.0s
CM31 Chiang Mai Arr 43.41 257 *e*P **P** **19 00 23.8 +1.0**
CMAR Chiang Mai Arr 43.41 257 P **P** **19 00 23.6 +0.8**
comp=Z,8.6nm,0.8s,baz=47,slow=6.4,SNR=52
CMAR PcP **PcP** **19 02 11.8 +1.0**
comp=Z,3.0nm,0.9s,baz=22,slow=3.6,SNR=6.2
CMAR LR LR 19 20 46.5
comp=Z,302nm,18.8s,baz=46,slow=39
CM01 Chiang Mai Arr 43.42 257 *e*P **P** **19 00 23.3 +0.5**
SUKH Sukhothai 43.45 255 P **P** **19 00 24.1 +1.0**
comp=Z,9.4nm,0.9s,comp=Z,76nm
NRIK Noril'sk 43.54 335 P **P** **19 00 23.5 +0.3**
comp=Z,4.4nm,0.4s,baz=125,slow=6.7,SNR=8.0
NRIK PcP **PcP** **19 02 11.4 +1.0**
comp=Z,8.2nm,0.8s,baz=112,slow=3.2,SNR=4.7
NRIK LR LR 19 19 28.6
comp=Z,518nm,19.0s,baz=106,slow=37
NVS Novosibirsk 43.78 313 *e*P **P** **19 00 25.4 +0.1**
NVS pmax pmax
comp=Z,24nm,1.4s
NVS pmax pmax
comp=E,19nm,1.3s
TT01 Tatalina 43.91 35 *e*P **P** **19 00 27.9 +1.6**
TT01 *e*pP **sP** **19 00 40.1 +0.4**
TTA Tatalina 43.92 35 *e*P **P** **19 00 28.2 +1.8**
TTA *e**PP **sP** **19 00 40.4 +0.5**
TTA pmax pmax
comp=Z,11nm,1.2s
TTA Tatalina 43.92 35 *e*P **P** **19 00 28.2 +1.8**
comp=Z,11nm,1.2s
TTA *e*pP **sP** **19 00 40.4 +0.5**
SVW2 Sparrevohn 43.97 38 *e*P **P** **19 00 28.9 +2.2**
comp=Z,18nm,0.8s
LSA Lhasa 43.98 276 P **P** **19 00 29.7 +1.9**
LSA PMZ
comp=Z,4.0nm,1.5s
LSA Lhasa 43.98 276 *e*P **P** **19 00 25.1 -2.7**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 43.98 276 *e*P **P** **19 00 25.1 -2.7**
comp=Z,4.8nm,0.6s
MHMT Maesarieng 44.35 257 P **P** **19 00 31.7 +1.4**
comp=Z,19nm,0.9s
CHBT CHBT 44.38 247 P **P** **19 00 31.8 +1.3**
comp=Z,33nm,1.0s
SHL Shillong 45.24 270 *e*P **P** **19 00 35.0 -2.6**
RSO Redoubt South 45.33 39 *e*P **P** **19 00 40.1 +2.3**
MK01 Makanchi Array 45.37 302 *e*P **P** **19 00 37.9 -0.3**
MK31 Makanchi Array 45.38 302 *i*P **P** **19 00 38.7 +0.5**
MK31 pmax pmax
comp=Z,15nm,0.7s
MK31 Makanchi Array 45.38 302 *e*P **P** **19 00 38.8 +0.5**
MKAR Makanchi Array 45.38 302 P **P** **19 00 38.7 +0.5**
comp=Z,14nm,0.8s,baz=86,slow=9.6,SNR=139
MKAR LR LR 19 20 06.6
comp=Z,301nm,18.2s,baz=74,slow=37
KDAK Kodiak Island 45.46 42 *e*P **P** **19 00 39.6 +1.0**
KDAK pmax pmax
comp=Z,31nm,0.7s
KDAK Kodiak Island 45.46 42 *e*P **P** **19 00 39.6 +1.0**
comp=Z,31nm,0.7s
MAKZ Makanchi 45.58 302 *e*P **P** **19 00 40.5 +0.6**
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 45.58 302 *e*P **P** **19 00 40.5 +0.6**
comp=Z,19nm,1.0s
PPLA Purkeypile 45.66 35 *e*P **P** **19 00 38.0 -2.4**
comp=Z,29nm,1.2s
SPU Mount Spurr 45.68 38 *e*P **P** **19 00 42.5 +2.1**
SRDT SRDT 45.74 252 P **P** **19 00 43.4 +2.0**
comp=Z,89nm,0.9s
BPAW Bear Paw Mtn. 46.25 34 *e*P **P** **19 00 46.9 +2.0**
comp=Z,40nm,1.9s
KTH Kantishna Hill 46.26 34 *e*P **P** **19 00 46.7 +1.7**
comp=Z,63nm,1.5s
PHET Kaeng Krachan 46.27 250 P **P** **19 00 47.1 +1.5**
comp=Z,16nm,0.9s,comp=Z,157nm
SUA Susitna One 46.31 37 *e*P **P** **19 00 46.5 +1.0**
comp=Z,16nm,0.8s
MLY Manley 46.40 32 *e*P **P** **19 00 48.4 +2.3**
comp=Z,25nm,1.1s
MLY *e*pP **sP** **19 01 00.4 +0.8**
TRF Thorofare Moun 46.54 34 *e*P **P** **19 00 48.9 +1.6**
comp=Z,29nm,1.6s
COLD Coldfoot 46.77 29 *e*P **P** **19 00 50.7 +1.8**
comp=Z,4.7nm,0.9s
RC01 Rabbit Creek A 46.80 38 *e*P **P** **19 00 50.2 +1.1**
comp=Z,22nm,1.0s
PMR Palmer 47.08 37 *e*P **P** **19 00 52.4 +1.1**
PMR pmax pmax
comp=Z,21nm,1.0s
PMR Palmer 47.08 37 *e*P **P** **19 00 52.4 +1.1**
comp=Z,21nm,1.0s
MCK McKinley 47.15 34 *e*P **P** **19 00 53.3 +1.4**
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 47.15 34 *e*P **P** **19 00 53.3 +1.4**
comp=Z,15nm,1.0s
RND Reindeer 47.19 35 *e*P **P** **19 00 53.3 +1.1**
RND pmax pmax
comp=Z,32nm,1.2s
RND Reindeer 47.19 35 *e*P **P** **19 00 53.3 +1.1**
comp=Z,32nm,1.2s
KSM Kuching 47.28 229 *e*P **P** **19 00 54.7 +1.3**
comp=Z,13nm,1.0s
SML Sawmill 47.45 37 *e*P **P** **19 00 54.6 +0.3**
SML pmax pmax
comp=Z,24nm,0.9s
SML Sawmill 47.45 37 *e*P **P** **19 00 54.6 +0.3**
comp=Z,24nm,0.9s
MDM Murphy Dome 47.47 32 *e*P **P** **19 00 56.0 +1.7**
comp=Z,34nm,1.0s
WRH Wood River Hil 47.52 33 *e*P **P** **19 00 55.3 +0.6**
comp=Z,10nm,1.0s
COLA College 47.63 33 *e*P **P** **19 00 57.9 +2.4**
COLA pmax pmax
comp=Z,18nm,1.0s
COLA College 47.63 33 *e*P **P** **19 00 57.9 +2.4**
comp=Z,18nm,1.0s
CCB Clear Creek Bu 47.65 33 *e*P **P** **19 00 56.9 +1.2**
comp=Z,8.5nm,1.1s
STKI Sintang 47.73 226 P **P** **19 00 57.8 +0.9**
comp=Z,30nm,0.9s,comp=Z,11µm
DHY Denali Highway 47.86 35 *e*P **P** **19 00 58.7 +1.1**
comp=Z,16nm,1.4s
KAPI Kappang 47.90 213 P **P** **19 00 58.2 +0.1**
comp=Z,3.1nm,0.5s,baz=3.8,slow=12,SNR=4.2
SCM Sheep Creek Mo 47.93 37 *e*P **P** **19 00 59.5 +1.4**
SCM pmax pmax
comp=Z,31nm,1.0s
SCM Sheep Creek Mo 47.93 37 *e*P **P** **19 00 59.5 +1.4**
comp=Z,31nm,1.0s
HDA Harding Lake 48.02 33 *e*P **P** **19 00 59.5 +0.9**
comp=Z,15nm,0.8s
IL1 Eielson Array 48.04 33 *e*P **P** **19 00 59.1 +0.3**
ILAR Eielson Array 48.04 33 P **P** **19 00 59.5 +0.7**
comp=Z,13nm,0.9s,baz=265,slow=6.3,SNR=106
ILB Eielson Array 48.04 33 *e*P **P** **19 00 59.7 +0.9**
KLU Klutina 48.62 37 *e*P **P** **19 01 05.2 +1.8**
comp=Z,28nm,1.2s
FYU Fort Yukon 48.71 30 *e*P **P** **19 01 06.2 +2.4**
comp=Z,44nm,1.2s
DIV Divide 48.72 38 *e*P **P** **19 01 06.2 +2.0**
comp=Z,33nm,1.1s
BBKI Banjar Baru 48.86 220 P **P** **19 01 05.1 -0.5**
comp=Z,45nm,1.9s
GUN Gumba 48.92 276 *e*P **P** **19 01 06.9 +0.4**
comp=Z,61nm,0.8s
BMRM Bremner River 49.30 38 *e*P **P** **19 01 10.6 +2.0**
comp=Z,24nm,1.1s
SKLT Songkhla 49.39 243 P **P** **19 01 11.9 +2.2**
comp=Z,32nm,1.1s
KKN Kakani 49.45 277 *e*P **P** **19 01 10.7 +0.4**
comp=Z,20nm,0.5s
PKIN Phulchoki 49.45 276 *e*P **P** **19 01 10.7 +0.3**
comp=Z,3.4nm,0.4s
TRTT Trang 49.59 245 P **P** **19 01 12.9 +1.6**
comp=Z,21nm,1.0s
DMN Danan 49.66 276 *e*P **P** **19 01 12.3 +0.2**
comp=Z,29nm,1.0s
GKN Gorkha 49.86 277 *e*P **P** **19 01 13.7 +0.3**
comp=Z,38nm,0.6s
CRQM Cirque 50.04 38 *e*P **P** **19 01 16.6 +2.2**
comp=Z,73nm,1.4s
BALM Baldy 50.39 37 *e*P **P** **19 01 18.7 +1.8**
BALM pmax pmax
comp=Z,14nm,1.0s
BALM Baldy 50.39 37 *e*P **P** **19 01 18.7 +1.8**
comp=Z,14nm,1.0s
EGAK Eagle 50.49 32 *e*P **P** **19 01 18.2 +0.7**
EGAK *e*pP **sP** **19 01 30.3 -0.8**
PKDT Phuket 50.53 246 P **P** **19 01 20.5 +2.1**
comp=Z,70nm,1.2s
KULM Kulim 50.69 241 *e*P **P** **19 01 20.4 +0.8**
comp=Z,25nm,1.2s
KOLN Koldanda 50.78 277 *e*P **P** **19 01 20.5 +0.1**
comp=Z,7.5nm,0.6s
TKM2 Tokmak 2 50.97 299 *e*P **P** **19 01 23.0 +1.3**
TKM2 pmax pmax
comp=Z,38nm,1.0s
TKM2 Tokmak 2 50.97 299 *e*P **P** **19 01 23.0 +1.3**
comp=Z,38nm,1.0s
IPM Ipoh 51.00 240 *e*P **P** **19 01 22.1 +0.1**
comp=Z,34nm,1.1s
MYKOM Kota Tinggi 51.08 235 *e*P **P** **19 01 23.6 +1.1**
comp=Z,13nm,1.2s
PYUN Piuthan 51.11 278 *e*P **P** **19 01 23.3 +0.4**
MTN Manton Dam 51.54 196 *e*P **P** **19 01 25.0 -0.8**
comp=Z,50nm,1.2s
BVA0 Borovoye Array 51.55 312 *i*P **P** **19 01 25.9 +0.3**
BVA0 pmax pmax
comp=Z,14nm,0.8s
OTUK Ortayu 51.58 306 P **P** **19 01 26.3 +0.3**
OTUK pmax pmax
comp=Z,17nm,1.0s
BRVK Borovoye 51.60 312 *e*P **P** **19 01 26.8 +0.8**
BRVK pmax pmax
comp=Z,51nm,0.9s
BRVK Borovoye 51.60 312 *e*P **P** **19 01 26.8 +0.8**
comp=Z,51nm,0.9s
FRU Bishkek 51.68 299 *i*P **P** **19 01 27.5 +0.7**
FRU *e* 19 03 30.0
FRU pmax pmax
comp=Z,32nm,1.8s
FRU MLR MLR
comp=E,600nm,14.5s
AAK Ala-Archa 51.83 299 LR LR 19 24 23.2
comp=E,232nm,20.1s,baz=60,slow=37
AAK Ala-Archa 51.83 299 *i*P **P** **19 01 28.6 +0.5**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 51.83 299 *e*P **P** **19 01 28.9 +0.8**
comp=Z,14nm,1.2s
KSH Kashi 51.85 294 P **P** **19 01 32.5 +4.3**
KSH pP sP 19 01 44.9 +3.1
KSH PcP **PcP** **19 02 44.7 +3.9**
KSH PP **PP** **19 03 32.4 +6.4**
KSH S **S** **19 08 49.5 +0.9**
KSH ScS **ScS** **19 11 11.8 -4.2**
KSH SS **SS** **19 12 22.2 -2.9**
KSH PMZ
comp=Z,7.0nm,0.5s
KSH PMZ
comp=Z,180nm,5.0s
KSH LN
comp=Z,310nm,13.9s
KSH LE
comp=Z,340nm,14.3s
KSH LZ
comp=Z,590nm,14.2s
EKS2 Erkin-Say 52.32 299 *e*P **P** **19 01 32.5 +0.8**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 52.32 299 *e*P **P** **19 01 32.5 +0.8**
comp=Z,9.9nm,0.8s
ZRNK Zerenda 52.38 313 *e*P **P** **19 01 32.5 +0.7**
ZRNK pmax pmax
comp=Z,30nm,1.1s
ZRNK Zerenda 52.38 313 *e*P **P** **19 01 32.5 +0.7**
comp=Z,30nm,1.1s
INK Inuvik 53.05 27 LR LR 19 26 46.2
comp=Z,71nm,20.7s,baz=266,slow=39
INK Inuvik 53.05 27 *e*P **P** **19 01 37.8 +1.3**
INK Inuvik 53.05 27 *e*P **P** **19 01 37.8 +1.3**
MNAS Manas 53.27 299 *i*P **P** **19 01 39.3 +0.6**
MNAS pmax pmax
comp=Z,31nm,0.9s
PSI Prapat 53.66 241 *e*P **P** **19 01 42.4 +0.6**
PSI pmax pmax
comp=Z,12nm,0.8s
PSI Prapat 53.66 241 *e*P **P** **19 01 42.4 +0.6**
comp=Z,12nm,0.8s
SKAG Skagway 54.13 38 *e*P **P** **19 01 47.1 +2.7**
comp=Z,8.2nm,0.9s
KK31 Karatay Array 54.42 300 *i*P **P** **19 01 46.5 -0.5**
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 54.42 300 *e*P **P** **19 01 47.4 +0.4**
KKAR Karatay Array 54.42 300 *e*P **P** **19 01 47.4 +0.4**
LEM Lembang 55.55 225 P **P** **19 02 00.6 +5.0**
comp=Z,32nm,1.0s,baz=28,slow=11,SNR=8.1
LEM Lembang 55.55 225 P P 19 02 00.6 +5.1
LEM pmax pmax
comp=Z,36nm,1.0s
GSI Gunungsitoli 55.66 241 *e*P **P** **19 01 56.8 +0.5**
comp=Z,62nm,1.2s
SVE Sverdlovsk 55.94 319 *e*P **P** **19 01 58.8 +1.2**
SVE pmax pmax
comp=Z,56nm,1.0s
SVE MLR MLR
comp=Z,984nm,17.0s
SOKR Solikamsk 56.99 323 *d*P **P** **19 02 03.8 -1.2**
SOKR pmax pmax
comp=Z,30nm,1.1s
SOKR MLR MLR
comp=Z,263nm,15.0s
DLBC Dease Lake 57.05 39 *e*P **P** **19 02 08.4 +2.8**
comp=Z,9.8nm,0.9s
DLBC *e*pP **sP** **19 02 20.4 +1.1**
ARU Arti 57.15 319 LR LR 19 28 57.3
comp=Z,626nm,19.8s,baz=65,slow=38
ARU Arti 57.15 319 *d*P **P** **19 02 06.8 +0.5**
ARU *PP **sP** **19 02 18.7 -1.3**
ARU 19 03 00.3
ARU 19 04 13.6
ARU S **S** **19 10 00.9 +1.7**
ARU SS **SS** **19 13 45.5 -2.2**
ARU pmax pmax
comp=Z,62nm,1.2s
ARU MLR MLR
comp=Z,831nm,18.0s
ARU Arti 57.15 319 *e*P **P** **19 02 06.9 +0.7**
comp=Z,40nm,0.9s
DZET Dzherino 57.25 296 P **P** **19 02 07.6 +0.2**
DZET pmax pmax
comp=Z,28nm,0.7s
WRAB Tennant Creek 57.89 190 *ce*P **P** **19 02 09.7 -2.1**
WRAB pmax pmax
comp=Z,73nm,0.8s
WRAB Tennant Creek 57.89 190 *e*P **P** **19 02 10.7 -1.1**
comp=Z,31nm,0.9s
WB2 Warramunga Arr 57.90 190 *e*P **P** **19 02 10.7 -1.2**
comp=Z,32nm,0.9s
WRA Warramunga Arr 57.90 190 P **P** **19 02 10.7 -1.2**
comp=Z,28nm,0.9s,baz=8.2,slow=7.0,SNR=127
FITZ Fitzroy Crossi 57.95 200 P **P** **19 02 12.3 +0.1**
comp=Z,12nm,1.0s,baz=19,slow=7.4,SNR=25
FITZ Fitzroy Crossi 57.95 200 *e*P **P** **19 02 12.4 +0.2**
comp=Z,16nm,1.0s
KBL Kabul 58.92 292 *e*P **P** **19 02 19.5 +0.2**
KBL *e**PP **sP** **19 02 32.0 -1.0**
KBL Kabul 58.92 292 *e*P **P** **19 02 19.5 +0.2**
KBL *e*pP **sP** **19 02 32.0 -1.0**
AB31 Akbulak array 58.98 311 *i*P **P** **19 02 19.2 0.0**
AB31 pmax pmax
comp=Z,9.0nm,0.6s
ABKAR Akbulak array 58.98 311 *e*P **P** **19 02 19.4 +0.3**
AKTO Aktyubinsk 59.66 312 LR LR 19 29 17.0
comp=Z,250nm,18.6s,slow=37
AKTO Aktyubinsk 59.66 312 *i*P **P** **19 02 22.9 -1.0**
AKTO pmax pmax
comp=Z,21nm,1.0s
BBB Bella Bella 60.38 45 LR LR 19 26 41.7
comp=Z,71nm,18.8s,baz=36,slow=34
AS01 Alice Springs 61.62 190 *e*P **P** **19 02 36.5 -0.9**
AS31 Alice Springs 61.62 190 *e*P **P** **19 02 36.8 -0.7**
comp=Z,3.3nm,0.8s
ASAR Alice Springs 61.63 190 P **P** **19 02 36.8 -0.7**
comp=Z,12nm,0.9s,baz=10.0,slow=5.8,SNR=72
LVZ Lovozero 62.35 336 *ce*P **P** **19 02 43.4 +1.5**
LVZ pmax pmax
comp=Z,29nm,2.5s
YKW3 Yellowknife Ar 62.36 31 *e*P **P** **19 02 42.6 +0.6**
YKA Yellowknife Ar 62.40 31 P **P** **19 02 42.2 0.0**
comp=Z,3.8nm,0.8s,baz=300,slow=6.8,SNR=21
YKB5 Yellowknife Ar 62.40 31 *e*P **P** **19 02 42.7 +0.5**
MBWA Marble Bar 62.65 205 *e*P **P** **19 02 43.6 -0.7**
ARCES ARCESS Array B 64.11 340 P **P** **19 02 54.0 +0.5**
comp=Z,5.3nm,0.9s,baz=50,slow=8.1,SNR=10
ARCES LR LR 19 35 17.7
comp=Z,143nm,18.4s,baz=60,slow=40
ARCES ARCESS Array B 64.11 340 P **P** **19 02 54.0 +0.5**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,143nm,18.4s
KLMR Klimovskoe 64.26 328 *e*P **P** **19 02 53.4 -1.1**
KLMR *e* 19 05 14.7
KLMR pmax pmax
comp=Z,16nm,1.1s
GEYT Alibeck 65.16 300 P **P** **19 03 01.4 +0.5**
comp=Z,11nm,0.9s,baz=29,slow=3.4,SNR=30
GEYT LR LR 19 33 05.7
comp=Z,178nm,21.1s,baz=55,slow=38
DAG Danmarks Havn 65.37 356 ⇓ *i*P **P** **19 03 01.7 +0.1**
DAG *i* 19 03 14.0
DAG Danmarks Havn 65.37 356 ⇓ *i*P **P** **19 03 01.7 +0.1**
DAG *i* 19 03 14.0
MOS Moscow 67.88 324 *e*P P 19 03 32.1 +14
MOS pmax pmax
comp=Z,27nm,0.7s
VRH Novokhopyorsk 68.39 319 *e*P **P** **19 03 20.6 -0.5**
VRH pmax pmax
comp=Z,40nm,1.1s
NEW Newport 68.45 45 LR LR 19 28 54.8
comp=Z,47nm,19.9s,baz=347,slow=32
OBN Obninsk 68.73 324 LR LR 19 38 37.4
comp=Z,194nm,18.1s,baz=85,slow=40
OBN Obninsk 68.73 324 *de*P **P** **19 03 23.4 +0.2**
OBN *e* 19 06 00.7
OBN *e*S **SKiKP** **19 13 09.5 -3.3**
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,330nm,15.0s
LPSR Galich'ya Gora 69.04 321 *e*P **P** **19 03 25.7 +0.5**
LPSR pmax pmax
comp=Z,40nm,1.3s
STKA Stephens Creek 69.14 182 P **P** **19 03 25.6 -0.3**
comp=Z,3.2nm,0.5s,baz=5.2,slow=5.7,SNR=20
FIA1 FINESS Array S 69.16 333 *e*P **P** **19 03 26.2 +0.4**
FINES FINESS Array B 69.16 333 P **P** **19 03 26.2 +0.4**
comp=Z,14nm,0.8s,baz=53,slow=7.6,SNR=44
FINES LR LR 19 37 08.9
comp=Z,313nm,18.5s,baz=38,slow=39
K05A Summer Lake 69.17 52 *e*P **P** **19 03 28.8 +2.3**
K05A *e*pP **sP** **19 03 42.2 +1.9**
VSR Storozhevoye 69.71 320 *e*P **P** **19 03 29.5 +0.1**
VSR pmax pmax
comp=Z,40nm,1.4s
WALA Waterton Lakes 69.79 43 *e*P **P** **19 03 31.5 +1.4**
comp=Z,17nm,1.4s
SUMG Summit 70.12 1 *e*P **P** **19 03 33.2 +1.2**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 70.12 1 *i*P **P** **19 03 32.9 +0.9**
comp=Z,23nm,1.1s
SUMG *i* 19 03 45.6
SUMG Summit 70.12 1 *e*P **P** **19 03 33.2 +1.2**
comp=Z,18nm,0.9s
BMO Blue Mountains 70.20 48 *e*P **P** **19 03 34.2 +1.6**
comp=Z,5.6nm,1.0s
WVOR Wild Horse Val 70.73 51 *e*P **P** **19 03 38.2 +2.3**
WVOR pmax pmax
comp=Z,14nm,1.6s
WVOR Wild Horse Val 70.73 51 *e*P **P** **19 03 38.2 +2.3**
comp=Z,14nm,1.6s
VSU Vasula 70.89 330 *d*P **P** **19 03 37.0 +0.6**
VSU pmax pmax
comp=Z,73nm,1.0s
MSO Missoula 71.03 45 *e*P **P** **19 03 38.5 +0.8**
comp=Z,13nm,1.5s
GOF Gofitskoye 71.08 313 ⇑ *e*P **P** **19 03 38.6 +0.7**
GOF pmax pmax
comp=Z,49nm,0.9s
NCK Nalchik 71.63 311 ⇑ *i*P **P** **19 03 42.5 +1.2**
NCK pmax pmax
comp=Z,22nm,1.0s
GUDG Gudauri 71.68 310 P **P** **19 03 43.7 +1.9**
SCO Scoresbysund 71.73 355 *i*P **P** **19 03 41.7 +0.4**
SCO *i* 19 03 55.0
SCO pmax pmax
comp=Z,9.0nm,1.1s
SCO Scoresbysund 71.73 355 *i*P **P** **19 03 41.7 +0.4**
comp=Z,8.5nm,1.1s
SCO *i* 19 03 55.0
ZEI Tsey 71.85 310 *e*P **P** **19 03 42.4 -0.4**
ZEI pmax pmax
comp=Z,19nm,0.4s
KIV Kislovodsk 71.91 312 *e*P **P** **19 03 44.2 +1.1**
KIV pmax pmax
comp=Z,69nm,0.9s
KIV Kislovodsk 71.91 312 *e*P **P** **19 03 44.1 +1.1**
comp=Z,55nm,0.8s

KBZ Khabaz 71.92 311 P **P 19 03 44.2 +1.3**
comp=Z,27nm,0.9s,baz=41,slow=2.9,SNR=54
KBZ LR LR 19 39 28.4
comp=Z,138nm,18.6s,baz=44,slow=39
TBLG Delisi 71.94 309 P P 19 03 49.2 +6.1
TBLG Delisi 71.94 309 P P 19 03 49.1 +6.0
FFC Flin Flon 72.24 34 *eP* **P 19 03 45.5 +0.8**
FFC *e**PP **sP 19 03 57.8 -0.7**
FFC pmax pmax
comp=Z,23nm,1.0s
FFC Flin Flon 72.24 34 *eP* **P 19 03 45.5 +0.8**
comp=Z,22nm,1.0s
FFC *ep*P **sP 19 03 57.8 -0.7**
WSAR Wadi Sarin 72.48 286 LR LR 19 38 50.8
comp=Z,89nm,18.7s,slow=38
HLID Hailey 72.64 48 *eP* **P 19 03 49.1 +1.6**
comp=Z,3.6nm,1.1s
DLMT Dillon 72.65 46 *eP* **P 19 03 49.1 +1.6**
comp=Z,18nm,1.3s
GNI Garni 72.83 308⇑ *eP* **P 19 03 49.8 +1.1**
GNI pmax pmax
comp=Z,46nm,1.2s
GNI Garni 72.83 308 *eP* **P 19 03 50.5 +1.9**
comp=Z,12nm,0.8s
AKH Akhalkalaki 72.89 309 P **P 19 03 51.1 +2.0**
AKH Akhalkalaki 72.89 309 P **P 19 03 51.0 +2.0**
BGD Bogdanovka 72.90 309 P **P 19 03 51.0 +1.8**
BOZ Bozeman (W) 73.03 45 *eP* **P 19 03 51.0 +1.3**
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ Bozeman (W) 73.03 45 *eP* **P 19 03 51.0 +1.3**
comp=Z,8.8nm,1.0s
NV01 Mina Array Sit 73.18 54 *eP* **P 19 03 51.5 +0.7**
NVAR Mina Array Bea 73.18 54 P **P 19 03 52.2 +1.3**
comp=Z,2.0nm,0.8s,baz=289,slow=6.5,SNR=14
NVAR LR LR 19 30 05.1
comp=Z,28nm,21.9s,baz=244,slow=31
NACGM Naroch 73.25 327 *e* **P 19 03 51.0 +0.3**
NACGM *e*LR LR 19 38 14.0
UOSS Minazif 73.37 289 *eP* **P 19 03 52.4 +0.5**
comp=Z,0.8nm,1.0s
SOC Sochi 73.88 313 *eP* **P 19 03 54.0 -0.5**
SOC *e**SP **sP 19 04 08.0 -0.4**
SOC *e* 19 06 41.9
SOC *eS* **SKiKP 19 13 19.3 -1.5**
SOC *e* 19 14 00.9
SOC pmax pmax
comp=Z,21nm,0.8s
SOC MLR MLR
comp=Z,124nm,13.0s
NC405 NORSAR Array S 74.16 338 *eP* **P 19 03 56.6 +0.7**
YFT Old Faithful 74.20 46 *eP* **P 19 04 00.3 +3.5**
comp=Z,12nm,1.0s
NB201 NORSAR Array S 74.33 338 *eP* **P 19 03 57.9 +0.9**
NB2 NORSAR Subarra 74.37 338 P **P 19 03 57.5 +0.3**
comp=Z,6.2nm,0.8s,baz=41,slow=6.2
NOA NORSAR Array B 74.37 338 P **P 19 03 57.5 +0.3**
comp=Z,5.3nm,0.8s,baz=43,slow=5.4,SNR=20
NOA LR LR 19 41 38.5
comp=Z,192nm,18.9s,baz=25,slow=40
H17A Grant Village 74.38 46 *eP* **P 19 04 00.9 +3.1**
comp=Z,15nm,1.0s
ANN Anapa 74.45 315 *eP* **P 19 03 58.4 +0.6**
ANN *e**PP **pP 19 04 07.4 -0.6**
ANN *e* 19 06 42.9
ANN *eS* **S 19 13 30.7 +0.4**
ANN pmax pmax
comp=Z,23nm,0.9s
ANN MLR MLR
comp=Z,191nm,15.0s
NBO02 NORSAR Array S 74.46 338 *eP* **P 19 03 58.2 +0.5**
IMW Indian Meadow 74.47 46 *eP* **P 19 04 00.3 +1.9**
comp=Z,7.6nm,0.8s
FLWY Flagg Ranch 74.50 46 *eP* **P 19 04 01.1 +2.6**
comp=Z,16nm,1.4s
FXWY Fox Creek 74.58 47 *eP* **P 19 04 00.8 +1.8**
comp=Z,7.0nm,0.9s
RLMT Red Lodge 74.67 45 *eP* **P 19 04 01.1 +1.6**
comp=Z,6.1nm,1.1s
MOOW Moose Ponds 74.67 46 *eP* **P 19 04 01.2 +1.7**
comp=Z,6.8nm,0.9s
MOOW *ep*P **PcP 19 04 13.6 -0.1**
DAC Darwin (Calif) 74.88 56 *eP* **P 19 04 00.1 -0.7**
DAC pmax pmax
comp=Z,2.0nm,0.8s
DAC Darwin (Calif) 74.88 56 *eP* **P 19 04 00.1 -0.7**
comp=Z,2.3nm,0.8s
AKASG Malin Array Be 74.96 323 P **P 19 04 01.0 +0.3**
comp=Z,18nm,0.7s,baz=45,slow=6.1,SNR=62
AKASG LR LR 19 39 54.4
comp=Z,263nm,18.1s,baz=65,slow=38
AKBB Malin Array Si 74.96 323 *eP* **P 19 04 01.1 +0.4**
AKBB *e**PP **PcP 19 04 13.6 -0.8**
AKBB pmax pmax
comp=Z,20nm,0.8s
AKBB Malin Array Si 74.96 323 *eP* **P 19 04 01.1 +0.4**
comp=Z,20nm,0.8s
AKBB *ep*P **PcP 19 04 13.6 -0.8**
R11A Troy Canyon, C 74.97 53 *eP* **P 19 04 02.7 +1.4**
comp=Z,4.5nm,1.1s
KIEV Kiev 74.97 323 *d iP* **P 19 04 00.9 +0.2**
KIEV pmax pmax
comp=Z,21nm,0.8s
KIEV Kiev 74.97 323 *eP* **P 19 04 01.0 +0.2**
comp=Z,20nm,0.8s
AK11 Malin Array Si 75.00 323 *eP* **P 19 04 01.5 +0.5**
AK11 *ep*P **PcP 19 04 13.6 -1.0**
SFJD Kangerlussuaq 75.16 6 *eP* **P 19 04 02.5 +1.0**
SFJD pmax pmax
comp=Z,11nm,0.9s
SFJD Kangerlussuaq 75.16 6 *i P* **P 19 04 02.1 +0.5**
comp=Z,11nm,0.9s
SFJD *i* 19 04 14.6
SFJD Kangerlussuaq 75.16 6 *eP* **P 19 04 02.5 +1.0**
comp=Z,11nm,0.9s
HWUT Hardware Ranch 75.50 49 *eP* **P 19 04 06.1 +1.8**
comp=Z,5.9nm,1.0s
BW06 Boulder Array 75.96 47 *eP* **P 19 04 06.7 -0.3**
PD31 Pinedale Array 75.96 47 *eP* **P 19 04 07.9 +0.9**
PDAR Pinedale Array 75.96 47 P **P 19 04 07.7 +0.7**
comp=Z,2.2nm,0.8s,baz=267,slow=3.0,SNR=17
SIM Simferopol' 76.20 316 *eP* **P 19 04 07.9 0.0**
SIM *e* 19 04 21.0
SIM S **S 19 13 44.0 -5.8**
SIM pmax pmax
comp=Z,16nm,0.8s
SIM MLR MLR
comp=N,160nm,16.4s
SORM Soroca 77.11 322⇑ *iP* **P 19 04 13.5 +0.5**
SORM Soroca 77.11 322⇑ P **P 19 04 13.5 +0.5**
PFO Pinyon Flats O 77.20 57 LR LR 19 30 06.8
comp=N,62nm,20.1s,baz=290,slow=29
KIS Kishinev 77.64 321 *eP* **P 19 04 16.0 0.0**
KIS *eL* L 19 36 54.0
KIS LRM MLR 19 41 18.0
comp=N,500nm,16.0s
KIS Kishinev 77.64 321 *eP* **P 19 04 16.0 0.0**
KIS MLR MLR
comp=N,500nm,16.0s
KIS MLR MLR
comp=Z,500nm,16.0s
KIS MLR MLR
comp=Z,500nm,16.0s
BSD Bornholm Skovb 77.81 333 *eP* **P 19 04 17.2 +0.5**
BSD pmax pmax
comp=Z,25nm,1.1s
BSD Bornholm Skovb 77.81 333 *i P* **P 19 04 17.2 +0.5**
comp=Z,25nm,1.1s
LVV L'vov 77.99 325 *eP* **P 19 04 18.1 +0.2**
ULM Lac du Bonnet 78.02 34 P **P 19 04 17.8 -0.3**
comp=Z,6.0nm,0.8s,baz=305,slow=7.1,SNR=4.8
ULM Lac du Bonnet 78.02 34 *eP* **P 19 04 18.5 +0.5**
ULM pmax pmax
comp=Z,11nm,1.0s
ULM Lac du Bonnet 78.02 34 *eP* **P 19 04 18.5 +0.5**
comp=Z,11nm,1.0s
RSSD Black Hills 78.18 43 *eP* **P 19 04 19.9 +0.5**
RSSD pmax pmax
comp=Z,7.0nm,0.5s
RSSD Black Hills 78.18 43 *eP* **P 19 04 19.9 +0.5**
comp=Z,7.1nm,0.5s
KWP Kalwaria Pacla 78.73 325 *eP* **P 19 04 23.5 +1.5**
KWP Kalwaria Pacla 78.73 325 *eP* **P 19 04 23.5 +1.5**
BUR08 Bucovina Ar. S 78.98 323 *eP* **P 19 04 24.7 +1.2**
BURAR Bucovina Array 78.99 323⇑ *iP* **P 19 04 24.5 +0.9**
BURAR Bucovina Array 78.99 323⇑ P **P 19 04 24.5 +0.9**
CFR Carcaliu 79.23 320⇓ *iP* **P 19 04 25.5 +0.8**
CFR Carcaliu 79.23 320⇓ P **P 19 04 25.6 +0.8**
N23A Red Feather La 79.23 46 *eP* **P 19 04 26.9 +1.7**
comp=Z,10nm,1.0s
PETR Petresti 79.32 320⇓ *iP* P 19 04 37.3 +12
KOLS Kolonicke sedl 79.43 325 *eP* **P 19 04 26.7 +0.8**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 79.43 325 *eP* **P 19 04 26.7 +0.8**
PV01 Paradox Valley 79.46 50 *eP* **P 19 04 29.5 +3.0**
VRI Vrincioaia 79.47 321⇓ *iP* **P 19 04 27.2 +1.1**
VRI Vrincioaia 79.47 321⇓ P **P 19 04 27.2 +1.1**
TIRR Tirgusor 79.58 319⇑ *iP* **P 19 04 27.7 +1.0**
TIRR Tirgusor 79.58 319⇑ P **P 19 04 27.7 +1.0**
OJC Ojcow 79.58 327 *eP* **P 19 04 27.9 +1.3**
OJC Ojcow 79.58 327 *eP* **P 19 04 27.6 +0.9**
OJC *e**PP **sP 19 04 40.0 -0.6**
OJC pmax pmax
comp=Z,39nm,1.1s
OJC Ojcow 79.58 327 *eP* **P 19 04 27.6 +0.9**
comp=Z,39nm,1.1s
OJC *ep*P **sP 19 04 40.0 -0.6**
UZH Uzhgorod 79.64 325 *eP* **P 19 04 27.7 +0.7**
UZH *e* 19 04 36.1
CRVS Cervenica-Dubn 79.82 325 *eP* **P 19 04 29.2 +1.2**
CRVS Cervenica-Dubn 79.82 325 *eP* **P 19 04 29.2 +1.2**
BR131 Keskin Array S 79.84 313 *eP* **P 19 04 29.5 +1.1**
BRTR Keskin Array B 79.84 313 P **P 19 04 29.1 +0.7**
comp=Z,3.6nm,0.9s,baz=105,slow=4.3,SNR=19
BRTR LR LR 19 44 18.6
comp=Z,107nm,18.2s,baz=46,slow=39
BRTR Keskin Array B 79.84 313 P **P 19 04 29.1 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR MLR MLR
comp=Z,107nm,18.2s
TRPA Tarpa 79.89 324⇓ *eP* **P 19 04 29.6 +1.3**
NIE Niedzica 79.96 326 *eP* **P 19 04 30.2 +1.5**
NIE Niedzica 79.96 326 *eP* **P 19 04 30.2 +1.5**
DOPR Dopca 80.07 321⇑ *iP* **P 19 04 31.3 +1.9**
ISR Istrita 80.08 320⇓ *iP* **P 19 04 31.4 +1.9**
ISR Istrita 80.08 320⇓ P **P 19 04 31.4 +1.9**
MLR Muntele Rosu 80.13 321⇑ *iP* **P 19 04 30.9 +1.0**
MLR Muntele Rosu 80.13 321⇑ P **P 19 04 30.9 +1.0**
MSAB Monastry St. A 80.14 319⇓ *iP* **P 19 04 31.1 +1.4**
BR231 Keskin MP Arra 80.26 313 *eP* **P 19 04 29.7 -0.9**
LANS Liptovska Anna 80.52 327 *eP* **P 19 04 33.9 +2.1**
LANS Liptovska Anna 80.52 327 *eP* **P 19 04 33.9 +2.1**
KECS Kecovo 80.57 326 *eP* **P 19 04 33.2 +1.2**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 80.57 326 *eP* **P 19 04 33.2 +1.2**
OKC Ostrava-Krasne 80.57 328 *eP* **P 19 04 33.3 +1.3**
OKC AMS AMS 19 43 30.0
comp=Z,400nm,15.7s
OKC Ostrava-Krasne 80.57 328 *eP* **P 19 04 33.3 +1.3**
OKC MLR MLR
comp=Z,400nm,15.7s
KSP Ksiaz 80.58 329 *eP* **P 19 04 33.4 +1.4**
KSP Ksiaz 80.58 329 *eP* **P 19 04 33.4 +1.4**
VOIR 80.61 321⇑ *iP* **P 19 04 34.2 +1.8**
VOIR 80.61 321⇑ P **P 19 04 34.2 +1.8**
DRGR 80.78 323⇓ *iP* **P 19 04 34.2 +0.9**
DRGR 80.78 323⇓ P **P 19 04 34.2 +0.9**
MORC Moravsky Berou 80.87 328 *eP* **P 19 04 34.9 +1.2**
MORC *e**PP **sP 19 04 46.9 -0.8**
MORC pmax pmax
comp=Z,74nm,0.9s
MORC Moravsky Berou 80.87 328 *eP* **P 19 04 34.9 +1.2**
comp=Z,74nm,0.9s
MORC *ep*P **sP 19 04 46.9 -0.8**
DPC Dobruska-Polom 80.94 329 *eP* **P 19 04 35.6 +1.6**
DPC *ep*P **sP 19 04 48.3 +0.3**
DPC *ex* x 19 04 57.4
DPC *eP*P **PP 19 07 38.6 +0.5**
DPC AMS AMS 19 45 00.0
comp=Z,300nm,14.3s
DPC Dobruska-Polom 80.94 329 *eP* **P 19 04 35.6 +1.6**
DPC *e* 19 04 48.3
DPC *e* 19 07 38.6
DPC MLR MLR
comp=Z,300nm,14.3s
UPC Upice 80.95 329 *eP* **P 19 04 35.2 +1.2**
UPC AMS AMS 19 43 40.0
comp=Z,300nm,15.1s
UPC Upice 80.95 329 *eP* **P 19 04 35.2 +1.2**
UPC MLR MLR
comp=Z,300nm,15.1s
PSZ Piszkesteto 81.25 326⇓ *eP* **P 19 04 37.0 +1.3**
PSZ Piszkesteto 81.25 326⇓ *eP* **P 19 04 37.1 +1.3**
PSZ pmax pmax
comp=Z,31nm,1.1s
PSZ Piszkesteto 81.25 326 *eP* **P 19 04 37.1 +1.3**
comp=Z,31nm,1.1s
VYHS Vyhne 81.29 326 *eP* **P 19 04 37.2 +1.3**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 81.29 326 *eP* **P 19 04 37.2 +1.3**
BRG Berggiesshubel 81.49 330 *i P* **P 19 04 37.7 +0.9**
comp=Z,17nm,1.0s
BRG *e* 19 04 50.1
comp=Z,6.1nm,1.0s
BRG Berggiesshubel 81.49 330 *i P* **P 19 04 37.7 +0.9**
BRG *e* 19 04 50.1
BRG pmax pmax
comp=Z,1.0nm,1.0s
BRG MLR MLR
comp=Z,6μm,13.7s
BRG MLR MLR
comp=N,437nm,15.6s
BRG MLR MLR
comp=E,246nm,15.6s
CLL Collm 81.51 331⇓ *iP* **P 19 04 37.4 +0.5**
comp=Z,28nm,1.1s
CLL *i* 19 04 41.5
CLL *e* 19 04 49.0
CLL *i* 19 04 58.5
CLL *eS* **S 19 14 41.0 -5.2**
CLL *ePS* **PnS 19 15 40.0 +4.0**
CLL *eSS* **SS 19 20 12.0 +10**
CLL *eSSS* SSS 19 23 36.0
CLL *e* 19 24 42.0
CLL LmH 19 38 00.0
comp=N,300nm,18.3s
CLL LmH 19 38 00.0
comp=E,300nm,20.2s
CLL Collm 81.51 331 *eP* **P 19 04 37.6 +0.7**
CLL pmax pmax
comp=Z,22nm,1.0s
CLL Collm 81.51 331 *eP* **P 19 04 37.6 +0.7**
comp=Z,22nm,1.0s
PVCC Panska Ves 81.51 330 *eP* **P 19 04 38.4 +1.4**
PVCC *ep*P **sP 19 04 51.2 +0.2**
PVCC AMS AMS 19 44 10.0
comp=Z,400nm,14.4s
PVCC Panska Ves 81.51 330 *eP* **P 19 04 38.4 +1.4**
PVCC *e* 19 04 51.2
PVCC MLR MLR
comp=Z,400nm,14.4s
SDCO Great Sand Dun 81.56 49 *eP* **P 19 04 38.6 +0.7**
SDCO *ep*P **sP 19 04 52.8 +1.0**
EYMN Ely 81.67 34 *eP* **P 19 04 38.3 +0.4**
comp=Z,9.1nm,0.9s
SZH Strazhica 81.69 319 *eP* **P 19 04 38.7 +0.6**
GZR Gura Zlata 81.76 322⇓ *iP* **P 19 04 39.1 +0.6**
GZR Gura Zlata 81.76 322⇓ P **P 19 04 39.1 +0.6**
GOPC GO Pecny, Ondr 81.91 329 *eP* **P 19 04 40.5 +1.4**
GOPC *ep*P **sP 19 04 53.1 0.0**
GOPC AMS AMS 19 44 20.0
comp=Z,300nm,14.1s
GOPC GO Pecny, Ondr 81.91 329 *eP* **P 19 04 40.5 +1.4**
GOPC *e* 19 04 53.1
GOPC MLR MLR
comp=Z,300nm,14.1s
PRU Pruhonice 81.94 330 *eP* **P 19 04 40.8 +1.5**
PRU *ep*P **sP 19 04 52.2 -1.1**
PRU AMS AMS 19 44 30.0
comp=Z,300nm,14.0s
PRU Pruhonice 81.94 330 *eP* **P 19 04 40.8 +1.5**
PRU *e* 19 04 52.2
PRU MLR MLR
comp=Z,300nm,14.0s
TREC Trest 82.10 329 *eP* **P 19 04 41.5 +1.3**
TREC *ep*P **sP 19 04 54.1 0.0**
TREC AMS AMS 19 46 20.0
comp=Z,300nm,12.9s
TREC Trest 82.10 329 *eP* **P 19 04 41.5 +1.3**
TREC *e* 19 04 54.1
TREC MLR MLR
comp=Z,300nm,12.9s
ECSD EROS Data Cent 82.33 39 *eP* **P 19 04 42.0 +0.5**
comp=Z,7.6nm,1.0s
NKC Novy Kostel 82.58 331 *eP* **P 19 04 43.9 +1.3**
NKC *ep*P **sP 19 04 56.4 -0.2**
NKC AMS AMS 19 44 40.0
comp=Z,300nm,15.7s
NKC Novy Kostel 82.58 331 *eP* **P 19 04 43.9 +1.3**
NKC *e* 19 04 56.4
NKC MLR MLR
comp=Z,300nm,15.7s
T25A Trinidad 82.61 48 *eP* **P 19 04 44.8 +1.5**
comp=Z,5.5nm,0.9s
MDVR Moldovita 82.72 322⇓ *iP* **P 19 04 44.2 +0.7**
ANMO Albuquerque 82.82 51 *ceP* **P 19 04 46.5 +2.1**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 82.82 51 *eP* **P 19 04 46.0 +1.6**
comp=Z,9.7nm,1.4s
SOP Sopron 82.90 327⇓ *eP* **P 19 04 45.8 +1.5**
CONA Conrad Observa 83.01 328 *i P* **P 19 04 46.2 +1.2**
comp=Z,22nm,1.0s,SNR=10
KHC Kasperske Hory 83.01 330 *eP* **P 19 04 46.5 +1.6**
KHC *ep*P **sP 19 04 59.0 +0.1**
KHC Kasperske Hory 83.01 330 *eP* **P 19 04 46.5 +1.6**
KHC *e* 19 04 59.0
KDZ Kurdzhali 83.11 318 *eP* **P 19 04 46.7 +1.2**
CSS Mathiatis 83.15 309 *epP* pP 19 04 58.7 +2.6
GEC2 GERESS Array S 83.18 329 *eP* **P 19 04 46.9 +1.0**
GEC2 GERESS Array S 83.18 329 *eP* **P 19 04 46.9 +1.0**
GERES GERESS Array S 83.18 329 P **P 19 04 46.3 +0.4**
comp=Z,6.4nm,0.8s,baz=35,slow=4.9,SNR=17
GERES LR LR 19 44 13.7
comp=Z,176nm,19.8s,baz=36,slow=37
GEA0 GERESS Array S 83.19 329 *eP* **P 19 04 46.4 +0.5**
GEA0 *ep*P **sP 19 04 58.6 -1.3**
PPT Papeete 83.26 118 LR LR 19 38 59.0
comp=Z,90nm,19.5s,baz=330,slow=34
RZN Rozhen 83.45 319 *eP* **P 19 04 48.0 +0.5**
121A Cookes Peak, D 83.56 54 *eP* **P 19 04 49.7 +1.5**
comp=Z,9.3nm,1.0s
ARSA Arzberg 83.68 327 *i P* **P 19 04 49.3 +1.0**
comp=Z,8.0nm,0.8s,SNR=5.8
MOA Molln 83.74 328 *i P* **P 19 04 49.5 +0.8**
comp=Z,14nm,1.2s,SNR=6.8
SCHQ Schefferville 84.28 17 P **P 19 04 51.7 +0.5**
comp=Z,3.2nm,0.8s,baz=8.7,slow=6.1,SNR=4.8
SCHQ LR LR 19 46 10.5
comp=Z,66nm,19.7s,baz=36,slow=38
PERS Pernice 84.33 327 *i P* **P 19 04 52.4 +0.6**
PERS *i* 19 05 04.5
SOKA Soboth 84.33 327 *i P* **P 19 04 52.5 +0.7**
comp=Z,17nm,0.8s,SNR=12
MEM Membach 84.62 334 P **P 19 04 54.0 +1.0**
comp=Z,10.0nm,1.1s
KBA Koelnbreinsper 84.73 328 *i P* **P 19 04 54.4 +0.4**
comp=Z,10nm,0.8s,SNR=6.2
KBA Koelnbreinsper 84.73 328 P **P 19 04 55.7 +1.8**
MYKA Terra Mystica 84.96 328 *i P* **P 19 04 54.9 -0.1**
comp=Z,9.0nm,0.8s,SNR=5.3
BCLA Clavier 85.02 335 P **P 19 04 55.9 +0.9**
comp=Z,16nm,1.3s
VISS Visnje 85.10 327 *i P* **P 19 04 55.9 +0.3**
VISS *i* 19 05 08.2
BOJS Bojanci 85.16 326 *eP* **P 19 04 56.6 +0.7**
BOJS *i* 19 05 08.7
WTTA Wattenberg 85.28 330 *i PcP* **P 19 04 57.4 +0.7**
comp=Z,9.0nm,0.9s
ABTA Abfaltersbach 85.34 329 *i P* **P 19 04 56.5 -0.4**
comp=Z,11nm,1.0s
LANF Langenberg 85.35 333⇑ *eP* **P 19 04 58.1 +1.3**
WLF Walferdange 85.36 334 P **P 19 04 58.2 +1.4**
comp=Z,21nm,2.0s
JAVS Javornik 85.37 327 *i P* **P 19 04 56.7 -0.3**
JAVS *i* 19 05 09.2
MOTA Moosalm 85.43 330 *i PcP* **P 19 04 57.9 +0.6**
comp=Z,14nm,0.9s,SNR=10
GIVF Givet 85.45 335 *eP* **P 19 04 57.3 +0.1**
GIVF pmax pmax
comp=Z,6.0nm,0.6s
RETA Reutte 85.45 330 *i PcP* **P 19 04 58.3 +0.9**
comp=Z,35nm,1.0s,SNR=13
DOU Dourbes 85.53 335 P **P 19 04 58.4 +0.8**
MNTX Cornudas Mount 85.64 53 *eP* **P 19 04 59.6 +1.0**
comp=Z,3.6nm,1.1s
BAIF Baives 85.69 335 *eP* **P 19 04 59.6 +1.2**
BAIF pmax pmax
comp=Z,11nm,1.2s
BFO Black Forest 85.69 332 *i P* **P 19 04 59.5 +1.0**
BFO Black Forest 85.69 332 *eP* **P 19 04 59.2 +0.7**
FETA Feichten 85.84 330 *i PcP* **P 19 04 60.0 +0.5**
comp=Z,14nm,1.1s,SNR=8.0
OHR Ohrid 85.89 321 *i P* **P 19 05 00.3 +0.7**
DAVA Damuels 85.96 331 *i PcP* **P 19 05 00.7 +0.7**
comp=Z,38nm,1.1s,SNR=13
ECH Echery 86.22 333⇑ *eP* **P 19 05 02.0 +0.9**
FUORN Ofenpass-Fuorn 86.35 330 *eP* **P 19 05 03.0 +0.9**
comp=Z,35nm,1.0s
MOF Molkenrain 86.54 332⇑ *eP* **P 19 05 03.5 +0.7**
LOMF Lomont 87.07 332⇑ *eP* **P 19 05 06.3 +0.9**
WMOK Wichita Mounta 87.57 47 *eP* **P 19 05 09.5 +1.5**
WMOK pmax pmax
comp=Z,6.0nm,1.0s
WMOK Wichita Mounta 87.57 47 *eP* **P 19 05 09.4 +1.5**
comp=Z,5.5nm,1.0s
LAST Lasithi 87.69 314 *eP* **P 19 05 09.1 +0.5**
SENIN Lac Senin/Sane 87.72 331 *eP* **P 19 05 09.6 +0.9**
IDI Anoyia 87.93 314 *eP* **P 19 05 09.5 -0.2**
TX31 Lajitas Ar. Si 88.32 54 *eP* **P 19 05 12.2 +0.5**
TXAR Lajitas Array 88.32 54 P **P 19 05 12.1 +0.4**
comp=Z,1.7nm,0.8s,baz=294,slow=4.0,SNR=15
TXAR LR LR 19 44 09.8
comp=Z,85nm,18.2s,baz=0.0,slow=35
LPL La Plagne 88.65 331 *eP* **P 19 05 14.5 +1.4**
LPL pmax pmax
comp=Z,8.0nm,0.9s
LPG La Plagne 88.65 331 *eP* **P 19 05 12.2 -1.0**
LPG pmax pmax
comp=Z,8.0nm,0.8s
AVF Avril sur Loir 88.79 334 *eP* **P 19 05 13.8 +0.3**
AVF pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 89.06 331 *eP* **P 19 05 13.8 -1.1**
BNI Bardonecchia 89.06 331 *eP* **P 19 05 13.8 -1.1**
TIP Timpagrande 89.37 322 *eP* **P 19 05 17.2 +0.8**
PLDF La Plantade 89.41 333 *eP* **P 19 05 18.2 +1.7**
AGO Saint Agoulin 89.51 334 *eP* **P 19 05 19.3 +2.4**
TRQ Mont Tremblant 89.76 25 *eP* **P 19 05 18.5 +0.4**
PYM Petit Puy Mans 89.81 334 *eP* **P 19 05 20.5 +2.1**
LMQ La Malbaie 89.95 22 *eP* **P 19 05 19.6 +0.7**
VIVF Saint-Julien-l 89.98 332 *eP* **P 19 05 19.3 +0.2**
VIVF pmax pmax
comp=Z,5.0nm,0.9s
LBL Lubilhac 90.17 333 *eP* **P 19 05 22.5 +2.4**
MIAR Mount Ida 90.66 44 *eP* **P 19 05 23.3 +0.9**
MIAR Mount Ida 90.66 44 *eP* **P 19 05 23.3 +0.9**
X201 Greenbrier Sit 90.76 43 *eP* **P 19 05 23.9 +1.0**
X301 Greenbrier Sit 90.78 43 *eP* **P 19 05 24.6 +1.6**
WHAR Wooly Hollow 90.80 43 *eP* **P 19 05 23.6 +0.5**
CAF Calviac 90.86 334 *eP* **P 19 05 24.1 +0.9**
CAF pmax pmax
comp=Z,15nm,1.1s
ATD Arta Tunnel 91.50 286 LR LR 19 51 43.9
comp=Z,47nm,18.7s,baz=346,slow=39
SWET Sewanee 94.16 39 *eP* **P 19 05 39.2 +0.5**
BLA Blacksburg 95.13 34 *eP* **P 19 05 39.6 -3.5**
BLA Blacksburg 95.13 34 *eP* **P 19 05 39.6 -3.5**
KEST Kesra 95.67 324 P **P 19 05 45.6 0.0**
comp=Z,3.6nm,0.9s,baz=45,slow=1.4,SNR=2.8
KEST LR LR 19 53 32.9
comp=Z,148nm,19.1s,baz=282,slow=38
ESDC Sonseca Array 97.57 335 P Pdif 19 05 54.6 +0.4
comp=Z,0.4nm,0.7s,baz=2.9,slow=3.0,SNR=4.0
ESDC LR LR 19 55 31.5
comp=Z,88nm,18.0s,baz=60,slow=39
TORD Torodi Ar. Bea 118.20 317 PKP **PKPdf 19 11 06.2 -1.1**
comp=Z,0.6nm,0.7s,baz=9.4,slow=1.2,SNR=7.1

TORD				PP	**PP**	19 12 20.1	**-1.9**
	comp=Z,2.4nm,1.1s,baz=39,slow=5.6,SNR=6.2							
SNAA	**Sanae**	**141.81**	**196**	PKP	PKPpre	19 11 45.0		
SNAA	**Sanae**	**141.81**	**196**	*e*PKHKP	PKPpre	19 11 44.6		
SNAA	**Sanae**	**141.81**	**196**	*e*PKPpre	PKPpre	19 11 44.6		
SAML	**Samuel**	**142.54**	**47**	*e*PKPpre	PKPpre	19 11 50.4		
VNA1	**Neumayer--Stat**	**143.75**	**195**	PKP	PKPbc	19 11 51.5	+0.4	
LPAZ	**La Paz**	**144.82**	**62**	PKP	**PKPab**	**19 11 56.6**	**-0.2**	
	comp=Z,1.0nm,0.4s,baz=24,slow=3.2,SNR=4.9							
PLCA	**Paso Flores**	**153.35**	**107**	PKPbc	**PKPbc**	**19 12 20.4**	**+2.7**	
	comp=Z,2.5nm,0.5s,baz=338,slow=5.4,SNR=3.5							

*NEIC **06** 18:52:36.6±11.0, 7.5°S×155.3°E, h4km±65km, mb4.1/1, Error ellipse: s-maj=33.3km s-min=19.5km az=107.0*
*IDC **06** 18:52:36.0±1.2, 7.49°S×155.34°E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/32, mbtmp3.8/8, ML1.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/31, Error ellipse: s-maj=45.9km s-min=21.7km az=126.0*
*ISCJB **06** 18:52:39.2±0.9, 7.5°S±0.2°×155.2°E±0.1, h29km, mb3.7/8, MS3.2/2, Error ellipse: s-maj=25.4km s-min=11.3km az=152.5*

ISC 06 18:52:40.6±1.1, 7.5°S±0.2°×155.3°E±0.1, h29km, n12, σ0s75/12, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.24**	**256**	Pn	**Pn**	**18 54 38.3**	**0.0**
	0.5nm,0.3s,baz=51,slow=19,SNR=2.6						
PMG				Sn	**Sn**	**18 56 10.6**	**0.0**
	1.0nm,0.3s,baz=143,slow=17,SNR=4.5						
WRAB	**Tennant Creek**	**23.74**	**237**	*e*P	**P**	**18 57 49.4**	**-1.3**
	7.3nm,1.2s						
WRA	**Warramunga Arr**	**23.76**	**237**	P	**P**	**18 57 50.3**	**-0.4**
	0.9nm,0.8s,baz=58,slow=9.2,SNR=9.5						
ASAR	**Alice Springs**	**26.04**	**230**	P	**P**	**18 58 12.6**	**+1.0**
	0.3nm,0.7s,baz=59,slow=9.3,SNR=7.4						
ASAR				LR	LR	19 07 26.6	
	comp=Z,38nm,18.8s,baz=104,slow=34						
STKA	**Stephens Creek**	**27.39**	**206**	P	**P**	**18 58 23.2**	**-0.4**
	1.2nm,0.8s,baz=38,slow=8.4,SNR=1.9						
DAV	**Davao City (W)**	**32.97**	**295**	LR	LR	19 10 56.0	
	comp=Z,81nm,21.9s,baz=54,slow=33						
CMAR	**Chiang Mai Arr**	**61.26**	**296**	P	**P**	**19 02 53.6**	**0.0**
	0.8nm,0.8s,baz=127,slow=5.7,SNR=4.3						
ILAR	**Eielson Array**	**83.75**	**21**	P	**P**	**19 05 05.9**	**-0.8**
	0.8nm,0.5s,baz=252,slow=4.8,SNR=7.5						
MKAR	**Makanchi Array**	**83.97**	**319**	P	**P**	**19 05 08.1**	**-0.1**
	0.7nm,0.7s,baz=106,slow=4.7,SNR=3.9						
YKA	**Yellowknife Ar**	**96.66**	**28**	P	**P**	**19 06 08.1**	**+0.4**
	0.4nm,0.6s,baz=263,slow=4.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**153.43**	**284**	PKPbc	**PKPbc**	**19 12 37.7**	**+0.5**
	3.5nm,1.2s,baz=60,slow=3.1,SNR=4.9						
DBIC	**Dimbokro**	**160.26**	**269**	PKPab	**PKPab**	**19 13 20.1**	**+1.1**
	5.9nm,0.9s,baz=144,slow=3.0,SNR=4.1						

*IDC **06** 19:01:47.5±1.2, 2.93°S×129.61°E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.5/31, mbtmp3.6/6, ML3.3/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/39, Error ellipse: s-maj=43.7km s-min=21.5km az=92.0*
*ISCJB **06** 19:01:49.4±0.9, 2.97°S±0.09°×129.7°E±0.2°, h28km, mb3.7/2, MS3.7/1, Error ellipse: s-maj=26.9km s-min=8.8km az=22.2*

ISC 06 19:01:51.5±1.1, 3.0°S±0.1°×129.8°E±0.2°, h28km, n7, σ0s98/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.57**	**36**	Pn	**Pn**	**19 02 31.4**	**+0.1**
	12nm,0.3s,baz=270,slow=20,SNR=14						
SIJI				Sn	**Sn**	**19 03 01.6**	**-0.1**
	6.6nm,0.3s,baz=270,slow=20,SNR=4.2						
FITZ	**Fitzroy Crossi**	**15.58**	**195**	Pn	**Pn**	**19 05 29.1**	**-0.2**
	0.1nm,0.3s,baz=10,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**17.46**	**165**	P	**Pn**	**19 05 51.8**	**-1.4**
	0.1nm,0.3s,baz=349,slow=13,SNR=7.0						
ASAR	**Alice Springs**	**20.97**	**169**	P	**P**	**19 06 33.9**	**+1.2**
	1.7nm,0.5s,baz=348,slow=9.7,SNR=28						
CTA	**Charters Tower**	**23.43**	**138**	LR	LR	19 18 00.1	
	comp=Z,272nm,19.9s,baz=18,slow=41						
PETK	**Petropavlovsk-**	**60.60**	**19**	P	**P**	**19 11 60.0**	**+0.4**
	2.0nm,0.8s,baz=206,slow=9.6,SNR=2.7						
MKAR	**Makanchi Array**	**64.75**	**326**	P	**P**	**19 12 27.0**	**-0.5**
	0.1nm,0.4s,baz=134,slow=6.2,SNR=3.0						

*ISCJB **06** 19:03:18.5±0.4, 39.14°N±0.03°×29.09°E±0.03, h9km, Error ellipse: s-maj=4.2km s-min=3.8km az=166.6*
*DDA **06** 19:03:18.5, 39.12°N×29.10°E, h7km, Ml2.8*
*ISK **06** 19:03:18.2, 39.15°N×29.09°E, h6km, MD2.8*
*CSEM **06** 19:03:18.6±0.1, 39.15°N×29.10°E, h5km, ML2.8, Error ellipse: s-maj=1.5km s-min=1.5km az=102.0*

ISC 06 19:03:18.9±0.9, 39.15°N±0.03°×29.10°E±0.02, h9km, n47, σ0s52/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.30**	**102**	P	**Pg**	**19 03 25.0**	**0.0**
GDZ				S	**Sg**	**19 03 29.0**	**0.0**
GDZ	**Gediz**	**0.30**	**102**	*i* P	**Pg**	**19 03 25.0**	**0.0**
GDZ				*i* S	**Sg**	**19 03 29.0**	**0.0**
DEMI	**Demirci**	**0.32**	**250**	P	**Pg**	**19 03 25.2**	**0.0**
DEMI				S	**Sg**	**19 03 29.6**	**+0.1**
DEMI	**Demirci**	**0.32**	**250**	*i* P	**Pg**	**19 03 25.2**	**0.0**
DEMI				*i* S	**Sg**	**19 03 29.6**	**+0.1**
TVSB	**Tavsanli**	**0.41**	**43**	*e*PG	**Sg**	**19 03 27.0**	**+0.1**
TVSB				*e*SG	**Sg**	**19 03 32.5**	**+0.1**
TVSB	**Tavsanli**	**0.41**	**43**	*e*Pg	**Pg**	**19 03 27.0**	**+0.1**
TVSB				*e*Sg	**Sg**	**19 03 32.5**	**+0.1**
DST	**Dursunbey**	**0.59**	**321**	*e*PG	**Pg**	**19 03 30.0**	**-0.3**
DST	**Dursunbey**	**0.59**	**321**	*e*Pg	**Pg**	**19 03 30.0**	**-0.3**
KULA	**Kula-Manisa**	**0.72**	**209**	*e*PG	**Pg**	**19 03 32.3**	**-0.5**
KULA	**Kula-Manisa**	**0.72**	**209**	*e*Pg	**Pg**	**19 03 32.3**	**-0.5**
KHAL	**Karahalli**	**0.84**	**158**	P	**Pg**	**19 03 34.8**	**-0.2**
KHAL				S	**Sg**	**19 03 45.6**	**-0.3**
KHAL	**Karahalli**	**0.84**	**158**	*i* P	**Pg**	**19 03 34.8**	**-0.2**
KHAL				*i* S	**Sg**	**19 03 45.6**	**-0.3**
KHL	**Karahalli**	**0.89**	**158**	*e*PG	**Pg**	**19 03 36.2**	**+0.2**
KHL	**Karahalli**	**0.89**	**158**	*e*Pg	**Pg**	**19 03 36.2**	**+0.2**
AKS	**Akhisar**	**1.04**	**255**	*e*PG	**Pg**	**19 03 38.2**	**-0.7**
AKS	**Akhisar**	**1.04**	**255**	*e*Pg	**Pg**	**19 03 38.2**	**-0.7**
BALB	**Balikesir**	**1.06**	**298**	*e*PG	**Pg**	**19 03 38.9**	**-0.5**
BALB	**Balikesir**	**1.06**	**298**	*e*Pg	**Pg**	**19 03 38.9**	**-0.5**
IGD	**Bursa**	**1.11**	**4**	*i* P	**Pg**	**19 03 38.9**	**-1.4**
CAVI	**Cavuskoy**	**1.20**	**28**	*e*PN	**Pb**	**19 03 41.5**	**-0.2**
CAVI	**Cavuskoy**	**1.20**	**28**	*e*Pn	**Pb**	**19 03 41.5**	**-0.2**
IZI	**Iznik**	**1.22**	**13**	*e*PN	**Pn**	**19 03 42.2**	**0.0**
IZI	**Iznik**	**1.22**	**13**	*e*Pn	**Pn**	**19 03 42.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.23**	**352**	*e*PN	**Pb**	**19 03 42.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.23**	**352**	*e*Pn	**Pb**	**19 03 42.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**333**	*e*PN	**Pb**	**19 03 42.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**333**	*e*Pn	**Pb**	**19 03 42.7**	**0.0**
BORA	**Eskisehir**	**1.27**	**55**	P	**Pn**	**19 03 42.9**	**-0.1**
BORA	**Eskisehir**	**1.27**	**55**	*i* P	**Pn**	**19 03 42.9**	**-0.1**
BALY	**Balya**	**1.29**	**298**	P	**Pn**	**19 03 43.1**	**0.0**
BALY	**Balya**	**1.29**	**298**	*i* P	**Pn**	**19 03 43.1**	**0.0**
ADVT	**Abdulvahap**	**1.37**	**21**	*e*PN	**Pn**	**19 03 44.2**	**0.0**
ADVT	**Abdulvahap**	**1.37**	**21**	*e*Pn	**Pn**	**19 03 44.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**310**	*e*PN	**Pb**	**19 03 45.0**	**+0.2**
GONE	**Gonen-Balikesi**	**1.41**	**310**	*e*Pn	**Pb**	**19 03 45.0**	**+0.2**
ARMT	**Armutlu**	**1.43**	**353**	*e*PN	**Pb**	**19 03 45.5**	**-0.1**
ARMT	**Armutlu**	**1.43**	**353**	*e*Pn	**Pb**	**19 03 45.5**	**-0.1**
EDC	**Edincik**	**1.53**	**322**	*e*PN	**Pn**	**19 03 46.8**	**+0.4**
EDC	**Edincik**	**1.53**	**322**	*e*Pn	**Pn**	**19 03 46.8**	**+0.4**
GULT	**Gulveren**	**1.68**	**40**	*e*PN	**Pn**	**19 03 48.7**	**+0.1**
GULT	**Gulveren**	**1.68**	**40**	*e*Pn	**Pn**	**19 03 48.7**	**+0.1**
ISK	**Istanbul-Kandi**	**1.91**	**359**	*e*PN	**Pn**	**19 03 52.6**	**+1.0**
ISK	**Istanbul-Kandi**	**1.91**	**359**	*e*Pn	**Pn**	**19 03 52.6**	**+1.0**
MMB	**Musomiste**	**4.77**	**302**	*e*P	**Pg**	**19 04 51.2**	**+0.9**
KKB	**Krupnik**	**5.33**	**303**	*e*P	**Pb**	**19 04 51.5**	**-0.7**
MPEP	**Malo Peshtene**	**5.83**	**318**	*e*P	**Pn**	**19 04 44.4**	**-1.0**
SKO	**Skopje**	**6.48**	**298**	*i* P	**Pn**	**19 04 56.6**	**+2.2**

*ISK **06** 19:08:56.8, 39.08°N×29.10°E, h20km, MD2.6*
*ISCJB **06** 19:08:57.8±0.6, 39.14°N±0.03°×29.01°E±0.04, h11km±5km, Error ellipse: s-maj=6.3km s-min=5.0km az=137.4*
*CSEM **06** 19:08:57.7±0.1, 39.14°N×29.00°E, h12km, MD2.6, Error ellipse: s-maj=3.6km s-min=2.9km az=107.0*

*DDA **06** 19:08:58.4, 39.08°N×29.03°E, h7km, Md2.6*

ISC 06 19:08:57.6±0.9, 39.11°N±0.03°×29.03°E±0.03, h14km±9km, n14, σ0s43/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**255**	P	**Pb**	**19 09 03.8**	**-0.3**
DEMI				S	**Sg**	**19 09 07.4**	**+0.5**
DEMI	**Demirci**	**0.26**	**255**	*i* P	**Pb**	**19 09 03.8**	**-0.3**
DEMI				*i* S	**Sg**	**19 09 07.5**	**+0.5**
GDZ	**Gediz**	**0.35**	**93**	P	**Pb**	**19 09 05.6**	**-0.1**
GDZ				S	**Sb**	**19 09 10.9**	**-0.2**
GDZ	**Gediz**	**0.35**	**93**	*i* P	**Pb**	**19 09 05.6**	**-0.1**
GDZ				*i* S	**Sb**	**19 09 10.9**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**44**	*e*PG	**Pg**	**19 09 06.7**	**-0.4**
TVSB				*e*SG	**Sg**	**19 09 13.8**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**44**	*e*Pg	**Pg**	**19 09 06.7**	**-0.4**
TVSB				*e*Sg	**Sg**	**19 09 13.8**	**+0.3**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**19 09 10.2**	**-0.4**
KULA				*e*SG	**Sb**	**19 09 20.0**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**19 09 10.2**	**-0.4**
KULA				*e*Sg	**Sb**	**19 09 20.0**	**-0.1**
KHAL	**Karahalli**	**0.82**	**154**	P	**Pn**	**19 09 15.0**	**+0.1**
KHAL				S	**Sb**	**19 09 25.5**	**+0.8**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pn**	**19 09 15.0**	**+0.1**
KHAL				*i* S	**Sb**	**19 09 25.5**	**+0.8**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pn**	**19 09 20.9**	**0.0**
KCTX				*e*SN	**Sb**	**19 09 38.2**	**+0.7**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pn**	**19 09 20.9**	**0.0**
KCTX				*e*Sn	**Sb**	**19 09 38.2**	**+0.7**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pn**	**19 09 23.4**	**-0.2**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pn**	**19 09 23.4**	**-0.2**

IDC 06 19:11:30.6±1.9, 2.04°N×128.18°E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/57, mbtmp3.6/4, Error ellipse: s-maj=202.8km s-min=21.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.67**	**165**	P	P	19 16 33.6	-0.1
	0.4nm,0.7s,baz=344,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**36.05**	**160**	P	P	19 18 33.8	-0.2
	1.9nm,1.0s,baz=338,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**59.76**	**325**	P	P	19 21 38.0	+0.5
	0.5nm,0.4s,baz=119,slow=7.8,SNR=11						
KURBB	**Kurchatov Arra**	**63.93**	**327**	P	P	19 22 05.1	-0.4
	0.6nm,0.6s,baz=127,slow=6.0,SNR=14						

*NSSC **06** 19:25:41.9±6.2, 35.53°N×44.95°E, h211km±278km, ML3.8*
*ISN **06** 19:25:47.8±0.7, 36.69°N×44.17°E, h0km±5km, ML3.9*
*ISCJB **06** 19:25:53.8±0.3, 36.36°N±0.03°×44.20°E±0.03, h10km, mb3.7/15, MS3.6/2, Error ellipse: s-maj=4.5km s-min=3.4km az=28.4*
*THR **06** 19:25:53.5±0.7, 36.48°N×43.78°E, h15km, ML3.7*
*IDC **06** 19:25:54.3±0.9, 36.41°N×44.23°E, h0km, mb3.7/12, mb1 3.8/22, mb1mx3.7/43, mbtmp3.7/22, ML3.2/7, MS3.7/2, Ms1 3.7/2, ms1mx2.6/52, Error ellipse: s-maj=15.8km s-min=12.9km az=1.0*
*ISK **06** 19:25:54.8, 36.41°N×43.97°E, h8km, ML3.8*
*DDA **06** 19:25:54.7, 36.46°N×44.03°E, h8km, Ml3.9*
*CSEM **06** 19:25:56.9±0.3, 36.48°N×43.98°E, h10km, ML3.8, Ms3.1, Error ellipse: s-maj=8.2km s-min=5.1km az=29.0*
*DSN **06** 19:25:58.3±3.1, 36.39°N×44.62°E, h15km, Ms3.1, Error ellipse: s-maj=86.8km s-min=6.0km az=68.0*

ISC 06 19:25:55.4±0.5, 36.47°N±0.03°×44.18°E±0.03, h10km, n116, σ1s68/114, mb3.8/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.91**	**329**	*e*PG	**Pb**	**19 26 12.3**	**-0.9**
CUKT				*e*SG	**Sb**	**19 26 25.1**	**-0.4**
CUKT	**Cukurca**	**0.91**	**329**	*e*Pg	**Pb**	**19 26 12.4**	**-0.9**
CUKT				*e*Sg	**Sb**	**19 26 25.1**	**-0.4**
HAKT	**HAKKARI**	**1.15**	**341**	P	**Pn**	**19 26 16.8**	**-1.0**
HAKT	**HAKKARI**	**1.15**	**341**	*i* P	**Pn**	**19 26 16.8**	**-1.0**
HKR	**Hakkari**	**1.16**	**342**	*e*PN	**Pn**	**19 26 16.9**	**-1.1**
HKR	**Hakkari**	**1.16**	**342**	*e*Pn	**Pn**	**19 26 16.9**	**-1.1**
SIRT	**Sirnak**	**1.74**	**307**	*e*PN	**Pn**	**19 26 24.7**	**-1.0**
SIRT				*e*SN	**Sn**	**19 26 46.0**	**-2.0**
SIRT	**Sirnak**	**1.74**	**307**	*e*Pn	**Pn**	**19 26 24.7**	**-1.0**
SIRT				*e*Sn	**Sn**	**19 26 46.0**	**-2.0**
SIRN	**S¨¨rnak**	**1.75**	**306**	P	**Pb**	**19 26 25.6**	**-2.1**
SIRN				S	**Sg**	**19 26 49.5**	**-2.2**
SIRN	**S¨¨rnak**	**1.75**	**306**	*i* P	**Pb**	**19 26 25.6**	**-2.1**
SIRN				*i* S	**Sg**	**19 26 49.5**	**-2.2**
GEVA	**Gevas**	**2.05**	**334**	P	**Pb**	**19 26 31.1**	**-1.7**
GEVA				S	**Sg**	**19 26 59.7**	**-1.5**
GEVA	**Gevas**	**2.05**	**334**	*i* P	**Pb**	**19 26 31.1**	**-1.7**
GEVA				*i* S	**Sg**	**19 26 59.7**	**-1.5**
TVAN	**Van**	**2.15**	**343**	P	**Pb**	**19 26 33.6**	**-0.9**
TVAN	**Van**	**2.15**	**343**	*i* P	**Pb**	**19 26 33.6**	**-0.9**
VANB	**Van**	**2.21**	**344**	*e*PN	**Pn**	**19 26 32.6**	**+0.3**
VANB	**Van**	**2.21**	**344**	*e*Pn	**Pn**	**19 26 32.6**	**+0.3**
VMUR	**Van-Muradiye**	**2.56**	**349**	P	**Pb**	**19 26 39.1**	**-2.5**
VMUR	**Van-Muradiye**	**2.56**	**349**	*i* P	**Pb**	**19 26 39.1**	**-2.5**
CLDR	**Caldiran**	**2.68**	**356**	*e*PN	**Pn**	**19 26 40.0**	**+1.3**
CLDR	**Caldiran**	**2.68**	**356**	*e*Pn	**Pn**	**19 26 40.1**	**+1.3**
BTMN	**Batman**	**2.73**	**302**	P	**Pn**	**19 26 38.5**	**-0.8**
BTMN	**Batman**	**2.73**	**302**	*i* P	**Pn**	**19 26 38.5**	**-0.8**
MARD	**Mardin**	**2.86**	**288**	*i* P	**Pn**	**19 26 40.9**	**-0.3**
MAKU	**Maku**	**2.91**	**8**	*e*Pn	**Pn**	**19 26 42.1**	**+0.2**
MAKU	**Maku**	**2.91**	**8**	*e*Pn	**Pn**	**19 26 42.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**2.91**	**306**	*e*PN	**Pn**	**19 26 41.6**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.91**	**306**	*e*Pn	**Pn**	**19 26 41.6**	**-0.3**
SNGE	**Sanandaj**	**2.92**	**117**	*e*Pn	**Pb**	**19 26 46.0**	**-1.6**
SNGE				AML	AML	19 27 25.4	
	comp=N,379nm,0.5s						
SNGE				AML	AML	19 27 25.6	
	comp=E,543nm,0.5s						
SNGE	**Sanandaj**	**2.92**	**117**	*e*Pn	**Pb**	**19 26 46.0**	**-1.6**
MZRK	**Al-Mazaregh**	**2.93**	**258**	*e*P	**Pb**	**19 26 44.3**	**-3.4**
MZRK				*e*S	**Sn**	**19 27 18.5**	**+1.2**
MZRK				AML	AML	19 27 43.5	
	comp=Z,779nm,0.6s						
TUTA	**Tutak**	**3.12**	**340**	P	**Pn**	**19 26 45.9**	**+1.0**
TUTA	**Tutak**	**3.12**	**340**	*i* P	**Pn**	**19 26 45.9**	**+1.0**
MAZI	**Mazidag**	**3.15**	**289**	*e*PN	**Pn**	**19 26 44.8**	**-0.4**
MAZI	**Mazidag**	**3.15**	**289**	*e*Pn	**Pn**	**19 26 44.8**	**-0.4**
AGRB	**Hanur-Agry**	**3.24**	**343**	*e*PN	**Pn**	**19 26 47.3**	**+0.8**
AGRB	**Hanur-Agry**	**3.24**	**343**	*e*Pn	**Pn**	**19 26 47.3**	**+0.8**
SFNV	**Sufian**	**3.28**	**270**	*e*P	**Pn**	**19 26 46.7**	**-0.2**
SFNV				*e*S	**Sb**	**19 27 33.0**	**-0.8**
SFNV				AML	AML	19 27 44.6	
	comp=Z,340nm,0.5s						
BNGL	**BINGOL**	**3.46**	**317**	*i* P	**Pb**	**19 26 56.5**	**-0.3**
DIY	**Diyarbakir**	**3.47**	**295**	*e*PN	**Pn**	**19 26 50.2**	**+0.7**
DYBB	**Diyarbakir**	**3.55**	**296**	*e*PN	**Pn**	**19 26 50.1**	**-0.5**
DIYA	**Diyarbakir**	**3.55**	**295**	*i* P	**Pb**	**19 26 58.4**	**0.0**
EATA	**Eleskirt**	**3.64**	**339**	*i* P	**Pb**	**19 26 59.4**	**-0.7**
GNI	**Garni**	**3.70**	**7**	Pn	**Pn**	**19 26 55.3**	**+2.5**
	comp=Z,2.4nm,0.3s,baz=234,slow=7.6,SNR=10						
GNI				Lg	Lg	19 27 57.3	
	comp=Z,1.3nm,0.3s,baz=100,slow=19,SNR=1.5						
GNI	**Garni**	**3.70**	**7**	*i* P	Pb	19 26 56.0	-5.0
	SNR=12						
GNI	**Garni**	**3.70**	**7**	P	Pb	19 26 56.0	-5.0
	SNR=12						
BNGB	**Bing¨¶l**	**3.75**	**313**	*e*PN	**Pn**	**19 26 53.6**	**+0.1**
BGOL	**Bingol**	**3.75**	**313**	*i* P	**Pb**	**19 27 01.1**	**-0.7**
GRMI	**Germi**	**3.76**	**50**	*e*Pn	**Pn**	**19 26 56.5**	**+3.0**
GRMI				AML	AML	19 28 05.5	
	comp=N,38nm,0.5s						
GRMI				AML	AML	19 28 08.2	
	comp=E,48nm,0.6s						
GRMI	**Germi**	**3.76**	**50**	*e*Pn	**Pn**	**19 26 56.5**	**+3.0**
BINT	**Bingol**	**3.79**	**310**	*e*Pn	**Pn**	**19 26 53.6**	**-0.4**
DIGO	**Kars**	**3.99**	**351**	P	**Pn**	**19 26 59.4**	**+2.5**
DIGO	**Kars**	**3.99**	**351**	*i* P	**Pn**	**19 26 59.4**	**+2.5**
HOMI	**Horasan**	**4.00**	**334**	*i* P	**Pb**	**19 27 07.2**	**+1.1**
MNKR	**ALMNKUR**	**4.01**	**264**	*e*P	Pn	19 26 51.3	-5.6
MNKR				*e*S	**Sn**	**19 27 47.4**	**+3.5**
MNKR				AML	AML	19 28 05.8	
	comp=Z,452nm,0.7s						
ECAT	**Cat-ERZURUM**	**4.03**	**322**	*i* P	**Sn**	**19 27 49.8**	**+5.1**
ERZM	**Erzurum**	**4.09**	**328**	*i* P	**Pg**	**19 27 11.9**	**-1.8**
EZM	**Erzurum**	**4.09**	**328**	*e*PN	**Pn**	**19 26 59.5**	**+1.3**
YEDI	**Yedisu-Bingol**	**4.13**	**317**	*e*PN	**Pn**	**19 26 59.3**	**+0.6**
YEDI	**Yedisu-Bingol**	**4.13**	**317**	*e*Pn	**Pn**	**19 26 59.3**	**+0.6**
KSRV	**Kasrt alli**	**4.24**	**263**	*e*P	Pn	19 26 54.9	-5.1
KSRV				*e*S	**Sn**	**19 27 52.8**	**+3.3**
KSRV				AML	AML	19 28 08.9	
	comp=Z,135nm,0.5s						
SVRC	**Sivrice-ELAZID**	**4.33**	**298**	*e*PN	**Pn**	**19 27 00.2**	**-1.2**
SVRC	**Sivrice-ELAZID**	**4.33**	**298**	*e*Pn	**Pn**	**19 27 00.2**	**-1.2**
SENK	**Senkaya-Erzuru**	**4.33**	**341**	*e*PN	**Pn**	**19 27 02.9**	**+1.4**
SENK	**Senkaya-Erzuru**	**4.33**	**341**	*e*Pn	**Pn**	**19 27 02.9**	**+1.4**
PTK	**Pertek**	**4.51**	**304**	*e*PN	**Pn**	**19 27 02.8**	**-1.1**
PTK	**Pertek**	**4.51**	**304**	*e*Pn	**Pn**	**19 27 02.8**	**-1.1**
TNCL	**Tunceli-Merkez**	**4.53**	**307**	P	**Pn**	**19 27 03.4**	**-0.7**
TNCL	**Tunceli-Merkez**	**4.53**	**307**	*i* P	**Pn**	**19 27 03.4**	**-0.7**
ELZG	**Elazig**	**4.61**	**298**	P	**Pn**	**19 27 04.3**	**-0.9**
ELZG	**Elazig**	**4.61**	**298**	*i* P	**Pn**	**19 27 04.3**	**-0.9**
BGD	**Bogdanovka**	**4.81**	**355**	P	**Pn**	**19 27 12.1**	**+4.0**
AKH	**Akhalkalaki**	**4.96**	**354**	P	**Pg**	**19 27 27.8**	**-2.7**
ASAO	**Ashtian**	**5.13**	**110**	*e*PN	**Pn**	**19 27 16.6**	**+4.0**
ASAO	**Ashtian**	**5.13**	**110**	*e*Pn	**Pn**	**19 27 16.6**	**+4.0**
GZT	**Gaziantep**	**5.38**	**281**	*i* P	**Pb**	**19 27 32.4**	**+2.9**
KHMZ	**Khomeyn**	**5.46**	**118**	*e*PN	**Pn**	**19 27 20.3**	**+3.2**
KHMZ	**Khomeyn**	**5.46**	**118**	*e*Pn	**Pn**	**19 27 20.3**	**+3.2**
GUDG	**Gudauri**	**5.99**	**2**	P	Pn	19 27 29.8	+5.5
ONI	**Oni**	**6.14**	**355**	P	Pn	19 27 30.4	+4.2
KBZ	**Khabaz**	**7.32**	**353**	Pn	Pn	19 27 46.9	+4.6
	comp=Z,0.1nm,0.3s,baz=154,slow=9.8,SNR=4.8						
ASF	**Jabal al Asfar**	**7.39**	**237**	Pn	**Pn**	**19 27 45.0**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=21,slow=8.6,SNR=4.2						
ASF				Lg	Lg	19 29 45.7	
	comp=Z,0.8nm,0.3s,baz=26,slow=20,SNR=5.6						
KVAR	**Kislovodsk Arr**	**7.56**	**352**	Pn	Pn	19 27 50.4	+4.6
	baz=216,slow=4.5,SNR=2.6						
MMAI	**Mount Meron Ar**	**8.01**	**247**	Pn	**Pn**	**19 27 54.1**	**+2.2**
	comp=Z,0.7nm,0.3s,baz=76,slow=14,SNR=6.2						
MMAI				Lg	Lg	19 30 02.6	
	comp=Z,2.1nm,0.3s,baz=69,slow=28,SNR=5.1						
BRTR	**Keskin Array B**	**8.93**	**295**	Pn	**Pn**	**19 28 07.5**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=113,slow=13,SNR=6.8						
BRTR				Lg	Lg	19 30 27.8	
	comp=Z,0.0nm,0.3s,baz=128,slow=32,SNR=2.5						
EIL	**Elat**	**10.29**	**231**	Lg	Lg	19 31 08.9	
	comp=Z,0.3nm,0.3s,baz=50,slow=18,SNR=2.9						
GEYT	**Alibeck**	**11.21**	**78**	Pn	**Pn**	**19 28 37.2**	**+1.5**
	baz=283,slow=14,SNR=8.4						
BANOM	**Banah**	**14.75**	**132**	P	**Pn**	**19 29 22.4**	**-1.8**
NAZ	**Nazwa, Dubai**	**15.10**	**136**	*i* P	**Pn**	**19 29 26.7**	**-2.1**
	SNR=6.3						
**F

SONM Songino Array 58.44 350 P **P 20 11 09.0 -2.0**
1.1nm,0.5s,baz=174,slow=9.3,SNR=6.1
MKAR Makanchi Array 65.31 333 P **P 20 11 55.1 -2.0**
1.2nm,0.4s,baz=146,slow=7.6,SNR=23
WSAR Wadi Sarin 67.97 300 P **P 20 12 13.2 -1.4**
4.0nm,0.8s,baz=135,slow=8.6,SNR=3.4
ZALV Zalesovo Beam 69.86 339 P **P 20 12 23.1 -2.6**
0.8nm,0.3s,baz=154,slow=5.1,SNR=5.3
GEYT Alibeck 74.31 314 P **P 20 12 51.4 -1.3**
0.6nm,0.4s,baz=146,slow=11,SNR=3.7
TORD Torodi Ar. Bea 119.12 280 PKP **PKPdf 20 20 04.5 -0.1**
0.6nm,1.1s,baz=62,slow=1.9,SNR=4.7

ISN ***06*** *20:06:15.4±0.5, 37.˚78N×42.˚89E, h0km±3km, ML3.2*
TEH ***06*** *20:06:20.6, 37.˚83N×43.˚47E, h10km, ML2.5*
ISK ***06*** *20:06:21.8, 37.˚69N×43.˚80E, h8km, MD3.2*
CSEM ***06*** *20:06:21.7±0.4, 37.˚72N×43.˚82E, h2km, MD3.2, Error ellipse: s-maj=8.7km s-min=5.9km az=105.0*
DDA ***06*** *20:06:22.0, 37.˚71N×43.˚78E, h7km, Ml3.2*
ISC 06 20:06:22.2±0.9, 37.˚71N±0.˚03×43.˚78E±0.˚03, h9km±8km, n42, σ1§06/55, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.14**	**192**	P	G	**Pg**	**20 06 25.0**	**-0.3**
HKR	**Hakkari**	**0.14**	**192**	*i* Pg		**Pg**	**20 06 25.0**	**-0.3**
HAKT	**HAKKARI**	**0.16**	**200**	P		**Pg**	**20 06 25.5**	**-0.2**
HAKT				S		**Sg**	**20 06 28.6**	**+0.4**
HAKT	**HAKKARI**	**0.16**	**200**	*i* P		**Pg**	**20 06 25.5**	**-0.2**
HAKT				*i* S		**Sg**	**20 06 28.6**	**+0.4**
CUKT	**Cukurca**	**0.48**	**196**	PG		**Pg**	**20 06 31.1**	**-0.4**
CUKT				SG		**Sg**	**20 06 38.5**	**+0.6**
CUKT	**Cukurca**	**0.48**	**196**	*i* Pg		**Pg**	**20 06 31.1**	**-0.4**
CUKT				*i* Sg		**Sg**	**20 06 38.5**	**+0.6**
GEVA	**Gevas**	**0.83**	**317**	P		**Pg**	**20 06 37.6**	**-0.5**
GEVA				S		**Sb**	**20 06 50.1**	**-0.1**
GEVA	**Gevas**	**0.83**	**317**	*i* P		**Pg**	**20 06 37.6**	**-0.5**
GEVA				*i* S		**Sb**	**20 06 50.1**	**-0.1**
TVAN	**Van**	**0.87**	**340**	P		**Pg**	**20 06 38.8**	**-0.1**
TVAN	**Van**	**0.87**	**340**	*i* P		**Pg**	**20 06 38.8**	**-0.1**
VANB	**Van**	**0.93**	**341**	*e*PG		**Pg**	**20 06 38.7**	**-1.4**
VANB				*e*SG		**Sg**	**20 06 52.5**	**+0.2**
VANB	**Van**	**0.93**	**341**	*e*Pg		**Pg**	**20 06 38.7**	**-1.4**
VANB				*e*Sg		**Sg**	**20 06 52.5**	**+0.2**
SIRT	**Sirnak**	**1.08**	**259**	*e*PN		**Pn**	**20 06 43.5**	**-0.1**
SIRT				*e*SN		**Sn**	**20 06 58.1**	**-0.7**
SIRT	**Sirnak**	**1.08**	**259**	*e*Pn		**Pn**	**20 06 43.5**	**-0.1**
SIRT				*e*Sn		**Sn**	**20 06 58.1**	**-0.7**
SIRN	**S¨–rnak**	**1.10**	**259**	P		**Pb**	**20 06 43.5**	**0.0**
SIRN				S		**Sn**	**20 06 59.0**	**-0.4**
SIRN	**S¨–rnak**	**1.10**	**259**	*i* P		**Pb**	**20 06 43.5**	**0.0**
SIRN				*i* S		**Sn**	**20 06 59.0**	**-0.4**
VMUR	**Van-Muradiye**	**1.29**	**353**	P		**Pg**	**20 06 49.5**	**+2.6**
VMUR	**Van-Muradiye**	**1.29**	**353**	*i* P		**Pg**	**20 06 49.5**	**+2.6**
CLDR	**Caldiran**	**1.43**	**4**	*e*PN		**Pn**	**20 06 47.2**	**-1.4**
CLDR	**Caldiran**	**1.43**	**4**	*e*Pn		**Pn**	**20 06 47.2**	**-1.4**
ISHB	**Shabestar**	**1.56**	**68**	*e*Pn		**Pb**	**20 06 50.9**	**-0.5**
ISHB				*e*AMB		AMB	20 06 55.7	
	comp=Z,523nm,0.2s							
IMRD	**Marand**	**1.82**	**56**	*e*Pn		**Pn**	**20 06 54.3**	**+0.5**
IMRD				*e*Sg		**Sg**	**20 07 22.1**	**+1.5**
IMRD				*e*AMB		AMB	20 07 30.9	
	comp=Z,751nm,0.2s							
IMRD	**Marand**	**1.82**	**56**	*e*Pn		**Pn**	**20 06 54.3**	**+0.5**
IMRD				*e*Sg		**Sg**	**20 07 22.1**	**+1.5**
TUTA	**Tutak**	**1.85**	**336**	P		**Pg**	**20 06 57.1**	**-0.5**
TUTA	**Tutak**	**1.85**	**336**	*i* P		**Pg**	**20 06 57.1**	**-0.5**
AGRB	**Hanur-Agry**	**1.96**	**342**	*e*PN		**Pn**	**20 06 55.4**	**-0.4**
AGRB	**Hanur-Agry**	**1.96**	**342**	*e*Pn		**Pn**	**20 06 55.4**	**-0.4**
BTMN	**Batman**	**1.99**	**276**	P		**Pb**	**20 06 58.7**	**0.0**
BTMN	**Batman**	**1.99**	**276**	*i* P		**Pb**	**20 06 58.7**	**0.0**
MARD	**Mardin**	**2.42**	**261**	*i* P		**Pb**	**20 07 06.0**	**+0.1**
IBST	**Bostanabad**	**2.47**	**89**	*e*AMB		AMB	20 07 15.1	
	comp=Z,98nm,0.2s							
IHRS	**Heris**	**2.65**	**76**	*e*AMB		AMB	20 07 14.4	
	comp=Z,133nm,0.2s							
IHRS				*e*Pn		**Pb**	**20 07 08.7**	**-1.3**
MAZI	**Mazidag**	**2.66**	**266**	*e*PN		**Pn**	**20 07 06.3**	**+1.0**
MAZI	**Mazidag**	**2.66**	**266**	*e*Pn		**Pn**	**20 07 06.3**	**+1.0**
BNGB	**Bing¨¶l**	**2.75**	**299**	*e*PN		**Pn**	**20 07 07.6**	**+1.0**
DIY	**Diyarbakir**	**2.82**	**275**	*e*Pn		**Pb**	**20 07 10.2**	**-2.5**
BINT	**Bingol**	**2.84**	**295**	*e*Pn		**Pn**	**20 07 07.6**	**-0.2**
DYBB	**Diyarbakir**	**2.89**	**276**	*e*PN		**Pn**	**20 07 10.2**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.59**	**282**	*e*PN		**Pn**	**20 07 20.1**	**+1.9**
SVRC	**Sivrice-ELAZID**	**3.59**	**282**	*e*Pn		**Pn**	**20 07 20.1**	**+1.9**
PTK	**Pertek**	**3.65**	**290**	*e*PN		**Pn**	**20 07 20.6**	**+1.6**
PTK	**Pertek**	**3.65**	**290**	*e*Pn		**Pn**	**20 07 20.6**	**+1.6**

NIED ***06*** *20:10:00, 37.˚80N×141.˚60E, h50km, Mw4.6 Best double couple: M0 8.56000×10^15 NP1: φ=202.00000°, δ=15.00000°, λ=88.00000°. NP2: φ=24.00000°, δ=75.00000°, λ=91.00000°.*
BJI ***06*** *20:10:23.3, 37.˚70N×141.˚76E, h44km, mb4.9/72, mB4.8/44, Ms4.0/51, Ms7 3.8/46*
MOS ***06*** *20:10:25.5±0.9, 37.˚82N×141.˚63E, h46km, mb5.1/69, Error ellipse: s-maj=7.0km s-min=4.1km az=112.7*
ISCJB ***06*** *20:10:26.5±0.4, 37.˚80N±0.˚02×141.˚59E±0.˚04, h53km±2km, mb4.8/129, MS3.6/20, Error ellipse: s-maj=5.1km s-min=3.3km az=32.3*
JMA ***06*** *20:10:27.1±0.1, 37.˚77N×141.˚60E, h48km±2km, M4.6*
JMA Felt III J1.
IDC ***06*** *20:10:28.5±1.8, 37.˚80N×141.˚51E, h57km±15km, mb4.3/29, mb1 4.4/36, mb1mx4.4/47, mbtmp4.6/36, MS3.6/24, Ms1 3.6/24, ms1mx3.4/44, Error ellipse: s-maj=13.8km s-min=10.4km az=110.0*
NEIC ***06*** *20:10:28.8±0.5, 37.˚82N×141.˚52E, h59km±4km, mb4.9/48, Error ellipse: s-maj=5.5km s-min=3.5km az=127.0*
NEIC Felt at Ichinoseki. Recorded [3 JMA] in Fukushima and Miyagi.
ISC 06 20:10:27.2±0.6, 37.˚81N±0.˚04×141.˚63E±0.˚04, h47km±4km, n402, σ1§40/438, mb4.9/132, MS3.6/21, 37C-32D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.66**	**276**	P		**Pn**	**20 10 40.2**	**-0.1**
JMM				S		**Sn**	**20 10 49.1**	**-0.7**
JIO	**Ouri**	**0.69**	**341**	P		**Pn**	**20 10 40.7**	**+0.1**
JIO				S		**Sn**	**20 10 50.4**	**+0.1**
JFK	**Kawauchi**	**0.74**	**234**	P		**Pn**	**20 10 40.8**	**-0.6**
JOU	**Okura**	**0.94**	**307**	P		**Pn**	**20 10 44.3**	**+0.2**
JOU				S		**Sn**	**20 10 56.9**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.96**	**223**	P		**Pn**	**20 10 43.7**	**-0.7**
ONAJ				S		**Sn**	**20 10 55.5**	**-1.5**
JFT	**Otama**	**1.06**	**255**	P		**Pn**	**20 10 46.0**	**+0.3**
JFT				S		**Sn**	**20 10 59.7**	**+0.4**
JMK	**Ichinoseki**	**1.19**	**345**	P		**Pn**	**20 10 48.1**	**+0.7**
JMK				S		**Sn**	**20 11 02.9**	**+0.5**
JYS	**Shirataka**	**1.30**	**289**	P		**Pn**	**20 10 49.1**	**+0.2**
JYK	**Kaneyama**	**1.49**	**319**	P		**Pn**	**20 10 52.2**	**+0.7**
JFY	**Yanaizu**	**1.58**	**256**	P		**Pn**	**20 10 52.9**	**+0.2**
JFY				S		**Sn**	**20 11 11.4**	**-0.5**
MJAR	**Matsushiro Arr**	**3.01**	**246**	P		**Pn**	**20 11 13.1**	**+0.8**
	48nm,0.3s,baz=55,slow=11,SNR=346							
MJAR				S		**Sn**	**20 11 47.9**	**+0.8**
	40nm,0.3s,baz=72,slow=20,SNR=6.0							
MJAR				LR		LR	20 12 38.6	
	comp=Z,1μm,21.6s,baz=65,slow=45							
MAJO	**Matsushiro**	**3.01**	**246**	*d* P		**Pn**	**20 11 13.6**	**+1.3**
MAJO	**Matsushiro**	**3.01**	**246**	*e*Pn		**Pn**	**20 11 13.7**	**+1.3**
MAT	**Matsushiro**	**3.01**	**246**	P		**Pn**	**20 11 13.4**	**+1.1**
MAT				S		**Sn**	**20 11 53.1**	**+6.0**
MJB9	**Matsu-Tunnel**	**3.01**	**246**	*e*Pn		**Pn**	**20 11 13.7**	**+1.3**
ERM	**Erimo**	**4.37**	**15**	*ce*P		**Pn**	**20 11 31.9**	**+1.0**
ERM				pmax	pmax			
	comp=Z,164nm,2.5s							
ERM	**Erimo**	**4.37**	**15**	*e*Pn		**Pn**	**20 11 31.4**	**+0.5**
INU	**Inuyama**	**4.45**	**238**	*e*Pn		**Pn**	**20 11 33.3**	**+1.2**
JHJ2	**Mitsune**	**4.91**	**198**	*e*Pn		**Pn**	**20 11 38.1**	**-0.3**
JHJ	**Hachijo jima 2**	**4.91**	**198**	P		**Pn**	**20 11 38.0**	**-0.5**
	comp=Z,38nm,0.3s,baz=337,slow=23,SNR=27							
JHJ				S		**Sn**	**20 12 32.2**	**-1.7**
	comp=Z,89nm,0.3s,baz=73,slow=19,SNR=8.4							
JHJ				LR		LR	20 13 55.1	
	comp=Z,318nm,20.8s,baz=26,slow=42							
ASAJ	**Asahikawa**	**6.35**	**6**	P		**Pn**	**20 11 58.0**	**-0.1**
	comp=Z,11nm,0.3s,baz=215,slow=8.9,SNR=80							
ASAJ				S		**Sn**	**20 13 10.8**	**+1.6**
	comp=Z,7.4nm,0.3s,baz=270,slow=20,SNR=4.1							
YUK	**Yuzh-Kuril'sk**	**7.00**	**26**	*e*P		**Pn**	**20 12 05.5**	**-1.5**
KUR	**Kuril'sk**	**8.77**	**30**	*d* P		**Pn**	**20 12 31.9**	**+0.6**
KUR				*e*S		**Sn**	**20 14 04.3**	**-4.4**
KUR				pmax	pmax			
	comp=Z,70nm,2.9s							
KUR				pmax	pmax			
	comp=Z,22nm,0.5s							
KUR				pmax	pmax			
	comp=N,9.0nm,0.2s							
KUR				pmax	pmax			
	comp=E,7.0nm,0.2s							
KUR				smax	smax			
	comp=N,60nm,0.7s							
KUR				smax	smax			
	comp=E,83nm,0.7s							
KUR				smax	smax			
	comp=N,268nm,4.1s							
KUR				smax	smax			
	comp=E,266nm,4.1s							
VLA	**Vladivostok**	**9.12**	**309**	*i* P		**Pn**	**20 12 38.7**	**+2.6**
YSS	**Yuzh-Sakhalins**	**9.18**	**5**	*e*P		**Pn**	**20 12 36.8**	**-0.1**
YSS				MLR	MLR			
	comp=Z,200nm,15.0s							
YSS	**Yuzh-Sakhalins**	**9.18**	**5**	*e*Pn		**Pn**	**20 12 36.9**	**0.0**
MSHR	**Mys Shultsa**	**9.32**	**304**	*ce*P		**Pn**	**20 12 41.1**	**+2.3**
USRK	**Ussuriysk Ar.**	**9.69**	**314**	P		**Pn**	**20 12 45.1**	**+1.3**
	comp=Z,7.1nm,0.3s,baz=128,slow=13,SNR=72							
USRK				LR		LR	20 16 16.3	
	comp=Z,524nm,18.8s,baz=137,slow=36							
JNU	**Nakatsue**	**9.93**	**245**	P		**Pn**	**20 12 49.1**	**+1.8**
	comp=Z,2.0nm,0.3s,baz=72,slow=2.8,SNR=23							
JNU				LR		LR	20 17 00.2	
	comp=Z,601nm,20.2s,baz=107,slow=40							
JNU	**Nakatsue**	**9.93**	**245**	*e*Pn		**Pn**	**20 12 48.2**	**+1.0**
KSRS	**Korea Array**	**10.88**	**272**	P		**Pn**	**20 13 03.6**	**+3.5**
	comp=Z,1.8nm,0.3s,baz=84,slow=14,SNR=62							
KSRS				LR		LR	20 16 53.7	
	comp=Z,331nm,20.7s,baz=0.0,slow=36							
KS01	**Wonju Array Si**	**10.90**	**272**	*e*Pn		**Pn**	**20 13 03.2**	**+2.8**
KSAR	**Wonju Array Be**	**10.91**	**272**	P		**Pn**	**20 13 03.7**	**+3.1**
KSAR	**Wonju Array Be**	**10.91**	**272**	P		**Pn**	**20 13 03.6**	**+3.1**
MDJ	**Mudanjiang**	**11.33**	**311**	P		**Pn**	**20 13 09.8**	**+3.5**
MDJ				S		**Sn**	**20 15 13.3**	**+2.0**
MDJ				PMZ				
	comp=Z,32nm,0.7s							
MDJ				PMZ				
	comp=Z,72nm,4.9s							
MDJ				LN				
	comp=Z,170nm,20.1s							
MDJ				LE				
	comp=Z,230nm,21.0s							
MDJ	**Mudanjiang**	**11.33**	**311**	*e*Pn		**Pn**	**20 13 10.6**	**+4.3**
TJN	**Taejon**	**11.48**	**267**	*i* P		**Pn**	**20 13 12.4**	**+4.0**
HABR	**Khabarovsk**	**11.69**	**338**	*e*P		**Pn**	**20 13 09.2**	**-1.9**
HABR				*e*S		**Sn**	**20 15 18.7**	**-1.4**
HABR				pmax	pmax			
	comp=Z,9.0nm,1.5s							
HABR				MLR	MLR			
	comp=Z,134nm,13.0s							
INCN	**Inchon**	**11.89**	**273**	*e*Pn		Pn	20 13 19.0	+4.9
TYV	**Tymovskoe**	**13.08**	**3**	*e*P		**Pn**	**20 13 30.2**	**+0.1**
TYV				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KLR	**Kul'dur**	**13.47**	**331**	P		**Pn**	**20 13 35.5**	**0.0**
	comp=Z,0.8nm,0.3s,baz=158,slow=12,SNR=17							
KLR				LR		LR	20 18 39.6	
	comp=Z,278nm,19.9s,baz=135,slow=36							
KLR	**Kul'dur**	**13.47**	**331**	*i* P		**Pn**	**20 13 36.1**	**+0.6**
CN2	**Changchun**	**13.63**	**301**	*e*P		**Pn**	**20 13 38.0**	**+0.3**
CN2				sP		P	20 13 53.2	+7.8
CN2				*e*S		**Sn**	**20 16 07.4**	**-0.2**
CN2				PMZ				
	comp=Z,10.0nm,1.2s							
CN2				PMZ				
	comp=Z,100nm,5.0s							
CN2				LN				
	comp=Z,200nm,19.0s							
CN2				LE				
	comp=Z,200nm,19.0s							
SNY	**Shenyang**	**14.44**	**292**	⇓P		**Pn**	**20 13 49.8**	**+1.2**
SNY				S		**Sn**	**20 16 32.0**	**+4.8**
SNY				PMZ				
	comp=Z,9.0nm,0.5s							
SNY				PMZ				
	comp=Z,160nm,5.0s							
SNY				LN				
	comp=Z,150nm,17.1s							
SNY				LE				
	comp=Z,380nm,17.8s							
SNY				LZ				
	comp=Z,510nm,16.0s							
PETK	**Petropavlovsk-**	**18.94**	**31**	P		**Pn**	**20 14 46.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=206,slow=9.9,SNR=4.2							
PETK				LR		LR	20 23 15.1	
	comp=Z,55nm,18.3s,baz=222,slow=40							
NJ2	**Nanjing**	**19.51**	**260**	*e*P		**P**	**20 14 50.3**	**-0.2**
NJ2				S		**S**	**20 18 27.6**	**-0.8**
NJ2				PMZ				
	comp=Z,14nm,0.8s							
NJ2				LZ				
	comp=Z,190nm,13.6s							
TIA	**Tai'an**	**19.62**	**273**	⇑P		**P**	**20 14 50.9**	**-0.8**
TIA				PMZ				
	comp=Z,30nm,0.7s							
TIA				LN				
	comp=Z,130nm,14.3s							
TIA				LE				
	comp=Z,360nm,24.4s							
TIA				LZ				
	comp=Z,200nm,16.0s							
BJI	**Beijing**	**19.91**	**284**	P		**P**	**20 14 53.5**	**-1.2**
BJI				S		**S**	**20 18 33.8**	**-2.4**
BJI				PMZ				
	comp=Z,16nm,0.5s							
BJI				LN				
	comp=Z,53nm,6.0s							
BJI				LE				
	comp=Z,93nm,15.0s							
BJT	**Baijiatuau**	**19.92**	**284**	*e*P		**P**	**20 14 53.5**	**-1.3**
BJT				pmax	pmax			
	comp=Z,58nm,0.6s							
BJT	**Baijiatuau**	**19.92**	**284**	*e*P		**P**	**20 14 53.5**	**-1.3**
	comp=Z,58nm,0.6s							
SSLB	**Suanglung**	**22.53**	**238**	*e*P		**P**	**20 15 19.7**	**-3.4**
	comp=Z,22nm,0.9s							
MA2	**Magadan**	**22.57**	**12**	P		**P**	**20 15 23.0**	**-0.2**
	comp=Z,11nm,0.6s,baz=211,slow=9.9,SNR=7.1							
MA2	**Magadan**	**22.57**	**12**	P		**P**	**20 15 23.0**	**-0.2**
MA2				pmax	pmax			
	comp=Z,11nm,0.6s							
YULB	**Yu-li**	**22.57**	**236**	*e*P		**P**	**20 15 18.5**	**-5.0**
	comp=Z,9.6nm,0.8s							
HHC	**Hu-ho-hao-te**	**23.40**	**287**	*e*P		**P**	**20 15 29.9**	**-2.0**
HHC				sP		sP	20 15 47.3	-2.0
HHC				S		**S**	**20 19 33.7**	**-7.9**
HHC				PMZ				
	comp=Z,27nm,1.0s							
HHC				PMZ				
	comp=Z,100nm,5.3s							
WHN	**Wuhan**	**23.65**	**260**	⇓*i* P		**P**	**20 15 33.3**	**-0.9**
WHN				S		**S**	**20 19 42.0**	**-3.5**
WHN				LZ				
	comp=Z,490nm,16.0s							
CIT	**Chita**	**24.25**	**315**	*e*P		**P**	**20 15 39.4**	**-0.2**
CIT				*e*			20 16 15.8	
CIT				pmax	pmax			
	comp=Z,80nm,1.1s							
GUMO	**Guam**	**24.29**	**172**	LR		LR	20 25 24.2	
	comp=Z,34nm,21.4s,baz=18,slow=37							
YAK	**Yakutsk**	**25.36**	**347**	P		**P**	**20 15 49.0**	**-0.4**
	comp=Z,3.3nm,0.3s,baz=336,slow=23,SNR=8.5							
YAK	**Yakutsk**	**25.36**	**347**	*e*P		**P**	**20 15 48.7**	**-0.7**
YAK				*e**PP		**pP**	**20 16 01.7**	**+0.1**
YAK				*e*S		**S**	**20 20 08.5**	**-3.8**
YAK				*e**SS		**sS**	**20 20 29.5**	**-3.4**
YAK				pmax	pmax			
	comp=E,5.0nm,0.8s							
YAK				pmax	pmax			
	comp=Z,25nm,0.7s							
YAK				pmax	pmax			
	comp=N,14nm,1.1s							
YAK				smax	smax			
	comp=E,31nm,1.5s							
YAK				smax	smax			
	comp=N,77nm,2.2s							
YAK	**Yakutsk**	**25.36**	**347**	*e*P		**P**	**20 15 49.1**	**-0.4**
	comp=N,33nm,0.7s							
SEY	**Seymchan**	**26.00**	**11**	P		**P**	**20 15 56.6**	**+1.3**
	comp=N,13nm,0.6s,baz=197,slow=9.1,SNR=27							
XAN	**Xi'an**	**26.67**	**272**	P		**P**	**20 16 00.7**	**-1.1**
XAN				PMZ				
	comp=N,44nm,0.6s							
ULN	**Ulaanbaatar**	**27.07**	**303**	⇓*i* P		**P**	**20 16 05.0**	**-0.3**
ULN				pmax	pmax			
	comp=Z,7.0nm,0.6s							
ULN	**Ulaanbaatar**	**27.07**	**303**	*e*P		**P**	**20 16 04.5**	**-0.8**
	comp=Z,11nm,0.5s							
SONA1	**Songino Array**	**27.50**	**303**	*e*P		**P**	**20 16 08.3**	**-0.8**
SONM	**Songino Array**	**27.50**	**303**	P		**P**	**20 16 09.0**	**-0.2**
	comp=Z,9.9nm,0.6s,baz=93,slow=9.1,SNR=44							
SONM				LR		LR	20 27 21.1	
	comp=Z,106nm,18.8s,baz=80,slow=37							
ENH	**Enshi**	**27.57**	**264**	*e*P		**P**	**20 16 08.9**	**-1.0**
	comp=Z,86nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.41**	**122**	T		T	20 46 35.7	
	baz=315,slow=75,SNR=1511							
H11N1	**WAKE ISLAND Hy**	**28.41**	**122**	T		T	20 46 33.6	
	baz=315,slow=75,SNR=2448							
H11N3	**WAKE ISLAND Hy**	**28.42**	**122**	T		T	20 46 34.4	
	baz=315,slow=75,SNR=2218							
H11S1	**WAKE ISLAND Hy**	**29.14**	**124**	T		T	20 47 29.0	
	baz=317,slow=76,SNR=470							
H11S3	**WAKE ISLAND Hy**	**29.15**	**124**	T		T	20 47 36.5	
	baz=317,slow=76,SNR=1091							
H11S2	**WAKE ISLAND Hy**	**29.16**	**124**	T		T	20 47 31.6	
	baz=317,slow=76,SNR=624							
ZAK	**Zakamensk**	**29.93**	**307**	*e*P		**P**	**20 16 29.6**	**-1.1**
ZAK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TLY	**Talaya**	**29.96**	**310**	P		**P**	**20 16 30.8**	**0.0**
	comp=Z,5.7nm,0.7s,baz=120,slow=5.2,SNR=5.5							
TLY				LR		LR	20 29 01.3	
	comp=Z,158nm,18.4s,baz=114,slow=37							
TLY	**Talaya**	**29.96**	**310**	*e*P		**P**	**20 16 30.5**	**-0.3**
TLY				pmax	pmax			
	comp=Z,8.0nm,0.9s							
TLY				MLR	MLR			
	comp=Z,141nm,17.0s							
LZH	**Lanzhou**	**30.11**	**278**	*e*P		**P**	**20 16 32.4**	**-0.1**
LZH				pP		pP	20 16 46.3	+1.5
LZH				sP		sP	20 16 50.6	+0.2
LZH				PMZ				
	comp=Z,24nm,1.0s							
LZH				PMZ				
	comp=Z,100nm,4.7s							
LZH				LN				
	comp=Z,180nm,16.0s							
LZH				LE				
	comp=Z,170nm,13.2s							
LZH				LZ				
	comp=Z,220nm,15.4s							
GYA	**Guiyang**	**31.52**	**259**	⇑*i* P		**P**	**20 16 43.4**	**-1.6**
GYA				pP		pP	20 16 57.2	-0.1
GYA				sP		sP	20 17 04.4	+1.5
GYA				PP		**PnPn**	**20 17 50.0**	**+0.6**
GYA				PcP		**PcP**	**20 19 38.7**	**+1.8**
GYA				S		**S**	**20 21 48.0**	**-2.2**
GYA				sS		sS	20 22 08.4	-2.6
GYA				ScP		**ScP**	**20 23 15.6**	**-0.6**
GYA				PMZ				
	comp=Z,90nm,0.9s							
GYA				PMZ				
	comp=Z,140nm,5.2s							
GYA				LN				
	comp=Z,470nm,16.9s							
GYA				LE				
	comp=Z,430nm,17.2s							
GYA				LZ				
	comp=Z,400nm,17.4s							
MOY	**Mondy**	**31.58**	**309**	*e*P		**P**	**20 16 45.2**	**0.0**
CD2	**Chengdu**	**31.85**	**269**	*e*P		**P**	**20 16 46.4**	**-1.3**
CD2				pP		pP	20 16 58.5	-1.6
CD2				sP		sP	20 17 04.3	-1.4
CD2				S		**S**	**20 21 53.3**	**-1.8**
CD2				sS		sS	20 22 14.4	-1.5
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.6s							
CD2				LN				
	comp=Z,200nm,15.7s							
CD2				LE				
	comp=Z,250nm,16.2s							
CD2				LZ				
	comp=Z,130nm,17.7s							
GTA	**Gaotai**	**32.51**	**286**	*e*P		**P**	**20 16 52.1**	**-1.4**
GTA				pP		pP	20 17 02.0	-3.9
GTA				sP		sP	20 17 05.9	-5.6
GTA				PcP		**PcP**	**20 19 39.6**	**+0.2**
GTA				S		**S**	**20 22 04.7**	**-0.7**
GTA				SS		**SnSn**	**20 24 01.6**	**-0.4**
GTA				PMZ				
	comp=Z,8.0nm,1.0s							
GTA				PMZ				
	comp=Z,77nm,5.5s							
GTA				LN				
	comp=Z,110nm,20.0s							
GTA				LE				
	comp=Z,140nm,19.5s							
GTA				LZ				
	comp=Z,170nm,20.4s							
BILL	**Bilibino**	**33.24**	**17**	⇓*e*P		**P**	**20 16 59.8**	**+0.4**
BILL				*e*			20 18 10.8	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,63nm,19.0s							
QIZ	**Qiongzhong**	**33.40**	**245**	P		**P**	**20 17 00.8**	**-0.6**
QIZ				S		**S**	**20 22 19.4**	**0.0**
QIZ				PMZ				
	comp=Z,16nm,1.4s							
QIZ				LE				
	comp=Z,110nm,22.2s							
QIZ				LZ				
	comp=Z,110nm,15.5s							
DAV	**Davao City (W)**	**33.89**	**209**	LR		LR	20 29 43.6	
	comp=Z,50nm,19.1s,baz=22,

CHAI Chaiyaphum 41.14 249 P **P** **20 18 06.8 -0.1**
comp=Z,7.6nm,0.9s,comp=Z,56nm

LAMP Lampang 41.30 254 P **P** **20 18 09.0 +0.8**
comp=Z,6.4nm,0.8s

PBKT Sadao Pong 41.47 251 P **P** **20 18 10.0 +0.4**
comp=Z,12nm,0.9s

ZAA0 Zalesovo Array 41.52 312 *e*P **P** **20 18 09.1 -0.6**

ZALV Zalesovo Beam 41.52 312 P **P** **20 18 09.8 +0.1**
comp=Z,28nm,0.7s,baz=92,slow=7.4,SNR=108

ZALV PcP **PcP** **20 20 06.0 -0.3**
comp=Z,3.4nm,0.6s,baz=94,slow=3.2,SNR=5.1

ZALV LR LR 20 36 06.5
comp=Z,127nm,18.2s,baz=70,slow=37

CHTO Chiang Mai 41.65 255 P **P** **20 18 11.8 +0.7**
comp=Z,43nm,0.7s

CHTO Chiang Mai 41.65 255 *e*P **P** **20 18 10.7 -0.4**

CHTO pmax pmax
comp=Z,7.0nm,0.6s

CHTO Chiang Mai 41.65 255 *e*P **P** **20 18 10.7 -0.4**
comp=Z,6.9nm,0.6s

CM31 Chiang Mai Arr 41.86 255 *e*P **P** **20 18 13.1 +0.3**

CMAR Chiang Mai Arr 41.86 255 P **P** **20 18 12.3 -0.5**
comp=Z,4.7nm,0.6s,baz=46,slow=7.4,SNR=36

CM01 Chiang Mai Arr 41.87 255 *e*P **P** **20 18 12.4 -0.5**

SUKH Sukhothai 41.92 253 P **P** **20 18 14.6 +1.3**
comp=Z,4.4nm,0.7s

LSA Lhasa 42.31 274 P **P** **20 18 17.5 +0.5**

LSA PMZ
comp=Z,4.0nm,1.0s

LSA Lhasa 42.31 274 *e*P **P** **20 18 18.0 +1.0**

LSA pmax pmax
comp=Z,11nm,0.6s

LSA Lhasa 42.31 274 *e*P **P** **20 18 18.0 +1.0**
comp=Z,11nm,0.6s

SRAK Srakaew 42.32 247 P **P** **20 18 15.8 -0.8**
comp=Z,37nm,0.7s,comp=Z,382nm

NVS Novosibirsk 42.43 313⇑ *i*P **P** **20 18 17.0 0.0**

NVS pmax pmax
comp=Z,27nm,1.0s

NVS pmax pmax
comp=E,22nm,1.1s

NRIK Noril'sk 42.64 335 P **P** **20 18 18.0 -0.5**
comp=E,2.9nm,0.3s,baz=116,slow=8.0,SNR=4.5

NRIK LR LR 20 37 35.9
comp=E,81nm,18.5s,baz=138,slow=38

NRIK Noril'sk 42.64 335 P **P** **20 18 18.0 -0.5**

NRIK pmax pmax
comp=Z,3.0nm,0.3s

NRIK MLR MLR
comp=Z,81nm,18.5s

SHL Shillong 43.59 269 *e*P **P** **20 18 25.0 -2.0**

SHL *e*P **P** **20 18 25.0 -2.0**

MK01 Makanchi Array 43.85 301 *e*P **P** **20 18 27.9 -0.7**

MK31 Makanchi Array 43.86 301 *e*P **P** **20 18 28.6 -0.1**

MK31 Makanchi Array 43.86 301 *e*P **P** **20 18 28.6 -0.1**

MKAR Makanchi Array 43.86 301 P **P** **20 18 28.6 -0.1**
comp=Z,24nm,0.9s,baz=88,slow=8.8,SNR=128

MKAR LR LR 20 37 59.0
comp=Z,35nm,18.6s,baz=73,slow=38

MAKZ Makanchi 44.07 302 *e*P **P** **20 18 29.9 -0.5**

MAKZ pmax pmax
comp=Z,23nm,0.9s

MAKZ Makanchi 44.07 302 *e*P **P** **20 18 29.9 -0.5**
comp=Z,22nm,0.9s

PHET Kaeng Krachan 44.81 248 P **P** **20 18 39.3 +2.7**
comp=Z,14nm,0.7s,comp=Z,152nm

KSM Kuching 46.21 226⇓ P **P** **20 18 49.8 +2.2**

PDGK Podgornoye 46.57 297 P **P** **20 18 50.0 -0.2**

PDGK pmax pmax
comp=Z,26nm,0.9s

KAPI Kappang 47.21 210 *e*P **P** **20 18 59.1 +3.7**
comp=Z,20nm,0.9s

GUN Gumba 47.25 275 *e*P **P** **20 18 56.1 -0.1**
comp=Z,122nm,0.6s

COLD Coldfoot 47.40 29 *e*P **P** **20 18 58.7 +2.4**
comp=Z,3.5nm,1.0s

KKN Kakani 47.78 275 *e*P **P** **20 18 59.9 -0.2**
comp=Z,50nm,0.7s

PKIN Phulchoki 47.78 275 *e*P **P** **20 19 00.2 0.0**
comp=Z,7.8nm,0.3s

DMN Daman 48.00 275 *e*P **P** **20 19 01.5 -0.4**
comp=Z,16nm,0.4s

MDM Murphy Dome 48.17 32 *e*P **P** **20 19 04.6 +2.1**
comp=Z,8.9nm,1.2s

GKN Gorkha 48.19 276 *e*P **P** **20 19 03.0 -0.2**
comp=Z,104nm,0.9s

KRAB Krabi 48.28 243 P **P** **20 19 05.7 +1.9**
comp=Z,30nm,0.7s,comp=Z,300nm

IL1 Eielson Array 48.76 33 *e*P **P** **20 19 07.4 +0.5**

ILAR Eielson Array 48.76 33 P **P** **20 19 07.6 +0.8**
comp=Z,1.1nm,0.6s,baz=264,slow=6.0,SNR=20

ILB Eielson Array 48.76 33 *e*P **P** **20 19 07.9 +1.1**

KOLN Koldanda 49.11 276 *e*P **P** **20 19 10.3 -0.1**
comp=Z,15nm,0.3s

KULM Kulim 49.35 239⇓ P **P** **20 19 13.8 +1.8**

KULM Kulim 49.35 239 *e*P **P** **20 19 12.2 +0.2**
comp=Z,14nm,1.3s

PYUN Piuthan 49.44 277 *e*P **P** **20 19 12.9 0.0**
comp=Z,41nm,0.5s

IPM Ipoh 49.69 238 *e*P **P** **20 19 13.9 -0.7**
comp=Z,8.3nm,0.6s

KGM Kluang 50.02 234⇑ P **P** **20 19 18.4 +1.3**

OTUK Ortayu 50.12 305 P **P** **20 19 17.3 -0.2**

OTUK pmax pmax
comp=Z,13nm,1.0s

FRU Bishkek 50.13 298 *i* P **P** **20 19 17.5 -0.2**

FRU pmax pmax
comp=Z,25nm,1.0s

BRVK Borovoye 50.24 312 *e*P **P** **20 19 17.8 -0.5**

BRVK pmax pmax
comp=Z,22nm,1.0s

BRVK Borovoye 50.24 312 *e*P **P** **20 19 17.8 -0.5**
comp=Z,22nm,1.0s

KSH Kashi 50.25 294 P **P** **20 19 22.6 +3.8**

KSH pP pP 20 19 34.2 +2.5

KSH PcP **PcP** **20 20 40.0 +2.8**

KSH PP **PP** **20 21 20.8 +6.6**

KSH S **S** **20 26 30.8 +2.9**

KSH ScS **ScS** **20 29 06.2 +0.2**

KSH SS **SS** **20 30 01.0 -0.4**

KSH PMZ
comp=Z,28nm,1.2s

KSH LN
comp=Z,150nm,8.7s

KSH LE
comp=Z,92nm,10.5s

KSH LZ
comp=Z,140nm,8.3s

AAK Ala-Archa 50.28 298 *e*P **P** **20 19 19.0 0.0**

AAK pmax pmax
comp=Z,15nm,0.7s

AAK Ala-Archa 50.28 298 *e*P **P** **20 19 19.0 0.0**
comp=Z,15nm,0.7s

EKS2 Erkin-Say 50.77 298 *e*P **P** **20 19 22.6 0.0**

EKS2 pmax pmax
comp=Z,13nm,0.7s

EKS2 Erkin-Say 50.77 298 *e*P **P** **20 19 22.6 0.0**
comp=Z,13nm,0.7s

ZRNK Zerenda 51.01 312 *e*P **P** **20 19 24.0 -0.2**

ZRNK pmax pmax
comp=Z,9.0nm,0.6s

ZRNK Zerenda 51.01 312 *e*P **P** **20 19 24.0 -0.2**
comp=Z,8.7nm,0.6s

MNAS Manas 51.72 298 P **P** **20 19 30.0 +0.2**

MNAS pmax pmax
comp=Z,34nm,0.6s

PSI Prapat 52.34 239 *e*P **P** **20 19 34.3 -0.3**

PSI pmax pmax
comp=Z,8.0nm,0.8s

PSI Prapat 52.34 239 *e*P **P** **20 19 34.3 -0.3**
comp=Z,7.7nm,0.8s

KKAR Karatay Array 52.89 300 *e*P **P** **20 19 38.1 -0.2**

KKAR Karatay Array 52.89 300 *e*P **P** **20 19 38.1 -0.2**

THN Thein Dam 53.19 285 *e*P **P** **20 19 36.0 -4.6**

PWJI Pagerwojo 53.42 218 P **P** **20 19 40.6 -1.8**
comp=Z,35nm,0.8s

INK Inuvik 53.63 27 P **P** **20 19 44.5 +1.3**
comp=Z,3.4nm,0.6s,baz=299,slow=6.6,SNR=5.0

INK Inuvik 53.63 27 *e*P **P** **20 19 44.5 +1.3**
comp=Z,4.3nm,0.7s

GSI Gunungsitoli 54.34 239 P **P** **20 19 49.6 +0.4**
comp=Z,36nm,1.0s

GSI Gunungsitoli 54.34 239 *e*P **P** **20 19 49.3 +0.1**
comp=Z,27nm,0.9s

LEM Lembang 54.55 223 LR LR 20 46 14.2
comp=Z,82nm,18.4s,baz=230,slow=39

SVE Sverdlovsk 54.68 318⇓ *e*P **P** **20 19 51.6 +0.5**

SVE pmax pmax
comp=Z,34nm,0.9s

DZET Dzherino 55.67 295 P **P** **20 19 58.5 -0.2**

DZET pmax pmax
comp=Z,36nm,0.6s

ARU Arti 55.90 318 *c i*P **P** **20 19 59.7 -0.2**

ARU *PP **pP** **20 20 13.3 +0.3**

ARU 20 20 57.2

ARU 20 22 01.0

ARU S **S** **20 27 45.5 +1.6**

ARU SS **SS** **20 31 26.4 -3.2**

ARU pmax pmax
comp=Z,33nm,1.0s

ARU Arti 55.90 318 *e*P **P** **20 19 59.1 -0.7**
comp=Z,23nm,0.7s

KBL Kabul 57.30 291 *e*P **P** **20 20 10.2 -0.3**

KBL pmax pmax
comp=Z,15nm,0.8s

KBL Kabul 57.30 291 *e*P **P** **20 20 10.2 -0.3**
comp=Z,15nm,0.8s

ABKAR Akbulak array 57.58 310 *e*P **P** **20 20 11.6 -0.3**

WRAB Tennant Creek 57.84 188 *e*P **P** **20 20 13.8 -0.2**

WRAB pmax pmax
comp=Z,9.0nm,0.9s

WRAB Tennant Creek 57.84 188 *e*P **P** **20 20 13.8 -0.2**
comp=Z,9.4nm,0.9s

WB2 Warramunga Arr 57.84 188 *e*P **P** **20 20 13.8 -0.2**
comp=Z,8.2nm,0.8s

WRA Warramunga Arr 57.85 188 P **P** **20 20 13.5 -0.5**
comp=Z,8.7nm,0.8s,baz=5.2,slow=7.2,SNR=48

HYB Hyderabad 58.40 268 *i* P **P** **20 20 18.0 -0.1**

AS01 Alice Springs 61.57 188 *e*P **P** **20 20 39.3 -0.3**

ASAR Alice Springs 61.57 188 P **P** **20 20 39.5 -0.2**
comp=Z,2.8nm,0.7s,baz=10,slow=6.1,SNR=15

RES Resolute Bay 61.81 15 P **P** **20 20 40.7 +0.1**
comp=Z,5.9nm,0.9s,baz=298,slow=6.7,SNR=4.3

YKA Yellowknife Ar 63.06 30 P **P** **20 20 49.5 +0.4**
comp=Z,1.3nm,0.8s,baz=293,slow=6.8,SNR=7.0

KLMR Klimovskoe 63.20 328 *e*P **P** **20 20 48.5 -1.6**

KLMR *e*SP **sP** **20 21 08.5 -0.3**

KLMR pmax pmax
comp=Z,11nm,0.6s

ARCES ARCESS Array B 63.34 339 P **P** **20 20 51.1 +0.2**
comp=Z,4.7nm,0.6s,baz=60,slow=7.8,SNR=35

ARCES LR LR 20 51 34.0
comp=Z,21nm,19.2s,baz=60,slow=39

GEYT Alibeck 63.61 299 P **P** **20 20 53.2 0.0**
comp=Z,7.9nm,0.6s,baz=29,slow=3.4,SNR=26

GEYT LR LR 20 51 21.8
comp=Z,41nm,18.1s,baz=15,slow=39

VRH Novokhopyorsk 67.12 318 *e*P **P** **20 21 15.2 -0.5**

VRH pmax pmax
comp=Z,30nm,0.8s

OBN Obninsk 67.58 323 *ce*P **P** **20 21 18.1 -0.4**

OBN *i* 20 23 49.2

OBN *i* S **PnS** **20 30 35.4 -3.5**

OBN pmax pmax
comp=Z,14nm,0.6s

OBN MLR MLR
comp=Z,35nm,17.0s

LPSR Galich'ya Gora 67.82 320 *e*P **P** **20 21 20.0 0.0**

LPSR pmax pmax
comp=Z,30nm,0.9s

FIA1 FINESS Array S 68.21 332 *e*P **P** **20 21 22.4 0.0**
comp=Z,27nm,0.7s

FINES FINESS Array B 68.21 332 P **P** **20 21 22.3 -0.1**
comp=Z,16nm,0.6s,baz=36,slow=9.3,SNR=92

FINES LR LR 20 53 34.4
comp=Z,68nm,18.3s,baz=38,slow=38

FINES FINESS Array B 68.21 332 P **P** **20 21 22.3 -0.1**

FINES pmax pmax
comp=Z,17nm,0.6s

FINES MLR MLR
comp=Z,68nm,18.3s

VSR Storozhevoye 68.47 319 *e*P **P** **20 21 24.0 -0.1**

VSR pmax pmax
comp=Z,20nm,0.6s

STKA Stephens Creek 69.32 180 P **P** **20 21 30.0 +0.5**
comp=Z,0.8nm,0.4s,baz=346,slow=5.3,SNR=3.5

GOF Gofitskoye 69.71 312 *ce*P **P** **20 21 31.3 -0.7**

VSU Vasula 69.88 329⇑ *i*P **P** **20 21 32.8 +0.1**

VSU pmax pmax
comp=Z,30nm,1.0s

SUMG Summit 69.92 0 *e*P **P** **20 21 33.9 +0.6**

SUMG pmax pmax
comp=Z,10.0nm,1.1s

SUMG Summit 69.92 0 *i* P **P** **20 21 34.4 +1.1**

SUMG Summit 69.92 0 *e*P **P** **20 21 33.9 +0.6**
comp=Z,10nm,1.1s

GUDG Gudauri 70.27 309 P **P** **20 21 37.2 +1.5**

ZEI Tsey 70.44 309 *e*P **P** **20 21 35.4 -1.4**

ZEI pmax pmax
comp=Z,18nm,0.4s

TBLG Delisi 70.51 308 P **P** **20 21 36.9 -0.1**

TBLG Delisi 70.51 308 P **P** **20 21 36.8 -0.1**

KBZ Khabaz 70.53 311 P **P** **20 21 37.0 +0.1**
comp=Z,16nm,0.8s,baz=61,slow=2.8,SNR=38

KBZ LR LR 20 55 27.0
comp=Z,35nm,19.1s,baz=74,slow=38

KIV Kislovodsk 70.53 311 *i* P **P** **20 21 38.4 +1.3**
SNR=6.1

KIV *i* P **P** **20 21 38.7 +1.6**
SNR=22

KIV Kislovodsk 70.53 311 *e*P **P** **20 21 37.5 +0.4**

KIV pmax pmax
comp=Z,52nm,0.9s

KIV MLR MLR
comp=Z,32nm,17.0s

KIV Kislovodsk 70.53 311 *e*P **P** **20 21 37.3 +0.2**
comp=Z,42nm,0.8s

ONI Oni 70.83 309 P **P** **20 21 38.8 -0.2**

ONI Oni 70.83 309 P **P** **20 21 38.7 -0.2**

BANOM Banah 71.12 288 P **P** **20 21 41.2 +0.3**

GNI Garni 71.38 307 P **P** **20 21 43.5 +1.1**

GNI Garni 71.38 307⇑ *e*P **P** **20 21 43.5 +1.1**

GNI pmax pmax
comp=Z,49nm,1.3s

GNI Garni 71.38 307 *e*P **P** **20 21 43.1 +0.7**
comp=Z,12nm,0.9s

AKH Akhalkalaki 71.46 308 P **P** **20 21 38.8 -4.2**

AKH Akhalkalaki 71.46 308 P **P** **20 21 38.7 -4.2**

BGD Bogdanovka 71.48 308 P **P** **20 21 43.3 +0.2**

UOSS Minazif 71.73 288 *e*P **P** **20 21 44.2 -0.5**
comp=Z,0.7nm,0.6s

HATD Hatta, Dubai 71.86 288 *i* P **P** **20 21 45.6 +0.2**
SNR=8.5

ASHO Ashiyiah 71.99 288 *i* P **P** **20 21 46.7 +0.5**
SNR=7.0

NACGM Naroch 72.17 327 *e* **P** **20 21 42.0 -4.7**

NC405 NORSAR Array S 73.33 337 *e*P **P** **20 21 53.9 +0.3**

NC303 NORSAR Array S 73.35 337 *e*P **P** **20 21 53.7 +0.1**

NC204 NORSAR Array S 73.50 338 *e*P **P** **20 21 54.5 0.0**

NB201 NORSAR Array S 73.51 337 *e*P **P** **20 21 54.8 +0.2**

NB2 NORSAR Subarra 73.54 337 P **P** **20 21 54.8 0.0**
comp=Z,7.2nm,0.5s,baz=40,slow=6.2

NB2 NORSAR Subarra 73.54 337 P **P** **20 21 54.6 -0.2**

NB2 pmax pmax
comp=Z,31nm,1.3s

NOA NORSAR Array B 73.54 337 P **P** **20 21 54.9 +0.1**
comp=Z,11nm,0.8s,baz=39,slow=5.9,SNR=42

NBO02 NORSAR Array S 73.64 337 *e*P **P** **20 21 55.5 +0.1**

NC602 NORSAR Array S 73.68 337 *e*P **P** **20 21 56.2 +0.7**

NBO00 NORSAR Array S 73.68 337 *e*P **P** **20 21 56.1 +0.5**

AKASG Malin Array Be 73.79 322 P **P** **20 21 56.1 -0.2**
comp=Z,13nm,0.4s,baz=46,slow=6.2,SNR=67

AKASG LR LR 20 57 45.5
comp=Z,46nm,18.4s,baz=60,slow=38

AKASG Malin Array Be 73.79 322 P **P** **20 21 56.1 -0.2**

AKASG pmax pmax
comp=Z,12nm,0.4s

AKASG MLR MLR
comp=Z,46nm,18.4s

AKBB Malin Array Si 73.79 322 *e*P **P** **20 21 56.1 -0.3**

AKBB pmax pmax
comp=Z,19nm,0.7s

AKBB Malin Array Si 73.79 322 *e*P **P** **20 21 56.1 -0.3**
comp=Z,19nm,0.7s

NAO01 NORSAR Array S 73.80 337 *e*P **P** **20 21 56.9 +0.6**

KIEV Kiev 73.80 322 *c i*P **P** **20 21 55.8 -0.6**

KIEV pmax pmax
comp=Z,13nm,0.5s

AK11 Malin Array Si 73.83 322 *e*P **P** **20 21 56.5 -0.2**

NVAR Mina Array Bea 74.39 53 P **P** **20 22 02.0 +1.6**
comp=Z,0.7nm,0.6s,baz=310,slow=6.4,SNR=6.2

SIM Simferopol' 74.90 315 *e*P **P** **20 22 01.9 -1.0**

SIM pmax pmax
comp=Z,22nm,0.9s

SIM MLR MLR
comp=N,30nm,14.8s

IMW Indian Meadow 75.51 45 *e*P **P** **20 22 08.8 +2.0**
comp=N,13nm,1.5s

MOOW Moose Ponds 75.71 45 *e*P **P** **20 22 09.5 +1.6**
comp=N,13nm,1.6s

SORM Soroca 75.90 321⇑ *i*P **P** **20 22 08.2 -0.4**

SORM Soroca 75.90 321⇑ P **P** **20 22 08.2 -0.4**

SFNV Sufian 76.51 306 *e*P **P** **20 22 12.4 0.0**

HWUT Hardware Ranch 76.58 48 *e*P **P** **20 22 15.4 +2.5**
comp=N,16nm,1.6s

BSD Bornholm Skovb 76.85 332 *i* P **P** **20 22 14.0 +0.2**

BSD pmax pmax
comp=Z,1.0nm,0.3s

BSD Bornholm Skovb 76.85 332 *i* P **P** **20 22 14.0 +0.2**
comp=Z,0.9nm,0.3s

IAS Iasi 76.93 320⇑ *i*P **P** **20 22 13.3 -1.1**

IAS Iasi 76.93 320⇑ P **P** **20 22 13.3 -1.1**

BW06 Boulder Array 77.01 46 *e*P **P** **20 22 16.1 +0.8**

PDAR Pinedale Array 77.01 46 P **P** **20 22 16.2 +0.9**
comp=Z,1.1nm,0.6s,baz=284,slow=2.4,SNR=7.7

KSRV Kasrt alli 77.56 306 *e*P **P** **20 22 18.7 +0.5**

KWP Kalwaria Pacla 77.60 324 *e*P **P** **20 22 19.0 +0.8**

KWP Kalwaria Pacla 77.60 324 *e*P **P** **20 22 19.0 +0.8**

TLCR 77.62 318⇓ *i*P **P** **20 22 18.5 +0.2**

TLCR 77.62 318⇓ P **P** **20 22 18.5 +0.2**

BUR08 Bucovina Ar. S 77.80 322 *e*P **P** **20 22 19.8 +0.4**

BURAR Bucovina Array 77.81 322⇓ *i*P **P** **20 22 19.7 +0.2**

BURAR Bucovina Array 77.81 322⇓ P **P** **20 22 19.7 +0.2**

CFR Carcaliu 77.98 318⇓ *i*P **P** **20 22 19.9 -0.4**

CFR Carcaliu 77.98 318⇓ P **P** **20 22 19.9 -0.4**

ODBI Odobesti 78.15 319⇓ *i*P **P** **20 22 23.3 +2.0**

VRI Vrincioaia 78.25 320⇑ *i*P **P** **20 22 22.2 +0.3**

VRI Vrincioaia 78.25 320⇑ P **P** **20 22 22.2 +0.3**

KOLS Kolonicke sedl 78.30 324 *e*P **P** **20 22 22.5 +0.4**

KOLS pmax pmax
comp=Z,6.0nm,1.0s

KOLS Kolonicke sedl 78.30 324 *e*P **P** **20 22 22.5 +0.4**

TIRR Tirgusor 78.32 318⇓ *i*P **P** **20 22 22.4 +0.2**

TIRR Tirgusor 78.32 318⇓ P **P** **20 22 22.4 +0.2**

HARR Harsova 78.42 318⇓ *i*P **P** **20 22 22.8 0.0**

HARR Harsova 78.42 318⇓ P **P** **20 22 22.8 0.0**

STHS Stebnicka Huta 78.43 325 *e*P **P** **20 22 23.4 +0.6**

STHS pmax pmax
comp=Z,6.0nm,1.0s

STHS Stebnicka Huta 78.43 325 *e*P **P** **20 22 23.4 +0.6**

BR131 Keskin Array S 78.47 312 *e*P **P** **20 22 23.8 +0.4**

BRTR Keskin Array B 78.47 312 P **P** **20 22 23.1 -0.2**
comp=Z,4.0nm,0.6s,baz=81,slow=4.0,SNR=29

BRTR LR LR 20 59 57.1
comp=Z,24nm,20.6s,baz=52,slow=38

OJC Ojcow 78.50 326 *e*P **P** **20 22 23.8 +0.7**

OJC Ojcow 78.50 326 *e*P **P** **20 22 23.8 +0.7**

UZH Uzhgorod 78.50 324 *e*P **P** **20 22 23.0 -0.2**

UZH *e* 20 22 31.9

DRWC Darouich 78.58 308 *e*P **P** **20 22 24.0 +0.1**

ARCR ARCALIA 78.60 322⇓ *i*P **P** **20 22 25.2 +1.4**

CRVS Cervenica-Dubn 78.70 324 *e*P **P** **20 22 24.7 +0.4**

CRVS Cervenica-Dubn 78.70 324 *e*P **P** **20 22 24.7 +0.4**

TRPA Tarpa 78.74 323⇓ *e*P **P** **20 22 25.2 +0.7**

PGOR Pogoanele 78.77 319⇓ *i*P **P** **20 22 26.1 +1.4**

AMRR Amara 78.79 318⇑ *i*P **P** **20 22 25.3 +0.5**

AMRR Amara 78.79 318⇑ P **P** **20 22 25.3 +0.5**

NIE Niedzica 78.85 325 *e*P **P** **20 22 26.1 +0.9**

NIE Niedzica 78.85 325 *e*P **P** **20 22 26.1 +0.9**

ISR Istrita 78.85 319⇓ *i*P **P** **20 22 26.1 +0.8**

ISR Istrita 78.85 319⇓ P **P** **20 22 26.1 +0.8**

DOPR Dopca 78.86 320⇑ *i*P **P** **20 22 25.9 +0.6**

ANTO Ankara 78.88 312 *e*P **P** **20 22 25.7 +0.2**

ANTO pmax pmax
comp=Z,13nm,0.7s

ANTO Ankara 78.88 312 *e*P **P** **20 22 25.7 +0.2**
comp=Z,13nm,0.7s

MSAB Monastry St. A 78.88 318⇑ *i*P **P** **20 22 26.1 +0.8**

BR231 Keskin MP Arra 78.90 312 *e*P **P** **20 22 24.0 -1.7**

MLR Muntele Rosu 78.91 320⇑ *i*P **P** **20 22 26.1 +0.5**

MLR Muntele Rosu 78.91 320⇑ P **P** **20 22 26.1 +0.5**

PSN Preselentsi 78.96 317 *e*P **P** **20 22 26.4 +0.6**

SECR 79.16 319⇓ *i*P **P** **20 22 28.2 +1.3**

VOIR 79.40 320⇑ *i*P **P** **20 22 28.3 0.0**

VOIR 79.40 320⇑ P **P** **20 22 28.3 0.0**

LANS Liptovska Anna 79.42 326 *e*P **P** **20 22 29.4 +1.1**

LANS Liptovska Anna 79.42 326 *e*P **P** **20 22 29.4 +1.1**

KECS Kecovo 79.45 325 *e*P **P** **20 22 28.6 +0.2**

KECS pmax pmax
comp=Z,3.0nm,1.2s

KECS Kecovo 79.45 325 *e*P **P** **20 22 28.6 +0.2**

ARNB Al Arnab 79.49 307 *e*P **P** **20 22 29.1 +0.2**

OKC Ostrava-Krasne 79.50 327 *e*P **P** **20 22 30.0 +1.4**

OKC Ostrava-Krasne 79.50 327 *e*P **P** **20 22 30.0 +1.4**

KSP Ksiaz 79.54 328 *e*P **P** **20 22 29.5 +0.7**

KSP Ksiaz 79.54 328 *e*P **P** **20 22 29.5 +0.7**

MTUR Matau 79.54 320⇑ *i*P **P** **20 22 27.1 -1.9**

MTUR Matau 79.54 320⇑ P **P** **20 22 27.1 -1.9**

DRGR 79.61 322⇓ *i*P **P** **20 22 29.1 -0.3**

DRGR 79.61 322⇓ P **P** **20 22 29.1 -0.3**

ARR Arges 79.66 320⇑ *i*P **P** **20 22 31.1 +1.4**

MORC Moravsky Berou 79.81 327 *e*P **P** **20 22 30.8 +0.4**

MORC pmax pmax
comp=Z,49nm,1.0s

MORC Moravsky Berou 79.81 327 *e*P **P** **20 22 30.8 +0.4**
comp=Z,49nm,1.0s

DPC Dobruska-Polom 79.90 328 *e*P **P** **20 22 31.7 +0.9**

DPC *e*PCP **PcP** **20 22 41.1 +2.8**

DPC *ex* x 20 22 59.6

DPC Dobruska-Polom 79.90 328 *e*P **P** **20 22 31.7 +0.9**

DPC *e* 20 22 41.1

HUMR Humele 80.07 320⇑ *i*P **P** **20 22 31.9 +0.1**

PSZ Piszkesteto 80.13 324⇑ *e*P **P** **20 22 32.8 +0.6**

PSZ Piszkesteto 80.13 324 *e*P **P** **20 22 32.9 +0.8**

PSZ pmax pmax
comp=Z,18nm,1.0s

PSZ Piszkesteto 80.13 324 *e*P **P** **20 22 32.9 +0.8**
comp=Z,18nm,1.0s

DEV Deva 80.16 322⇓ *i*P **P** **20 22 33.2 +0.9**

DEV Deva 80.16 322⇓ P **P** **20 22 33.2 +0.9**

VYHS Vyhne 80.19 325 *e*P **P** **20 22 32.6 +0.2**

VYHS pmax pmax
comp=Z,5.0nm,1.1s

VYHS Vyhne 80.19 325 *e*P **P** **20 22 32.6 +0.2**

MARH Ras Al Marh 80.32 306 *e*P **P** **20 22 35.3 +1.5**

SZH Strazhica 80.44 318 *e*P **P** **20 22 33.9 0.0**

BRG Berggiesshubel 80.48 329 *i* P **P** **20 22 34.1 +0.2**
comp=Z,9.6nm,1.2s

BRG Berggiesshubel 80.48 329 *i* P **P** **20 22 34.1 +0.2**

PVCC Panska Ves 80.49 329 *e*P **P** **20 22 34.8 +0.9**

PVCC Panska Ves 80.49 329 *e*P **P** **20 22 34.8 +0.9**

CLL Collm 80.51 330⇑ *i*P **P** **20 22 34.0 0.0**
comp=Z,19nm,1.1s

CLL *e* 20 22 48.0

CLL LmV 21 01 00.0
comp=Z,100nm,18.0s

CLL Collm 80.51 330⇑ *i*P **P** **20 22 34.0 0.0**

CLL pmax pmax
comp=Z,19nm,1.1s

CLL Collm 80.51 330 *e*P **P** **20 22 33.5 -0.5**
comp=Z,18nm,1.0s

GZR Gura Zlata 80.57 321⇑ *i*P **P** **20 22 34.8 +0.2**

GZR Gura Zlata 80.57 321⇑ P **P** **20 22 34.8 +0.2**

TOTH TOTAH 80.78 305 *e*P **P** **20 22 36.4 +0.5**

GOPC GO Pecny, Ondr 80.87 328 *e*P **P** **20 22 36.7 +0.7**

GOPC GO Pecny, Ondr 80.87 328 *e*P **P** **20 22 36.7 +0.7**

PRU Pruhonice 80.91 329 *e*P **P** **20 22 36.9 +0.7**

PRU Pruhonice 80.91 329 *e*P **P** **20 22 36.9 +0.7**

SALA Sala 80.99 304 *e*P **P** **20 22 37.4 +0.2**

TREC Trest 81.05 328 *e*P **P** **20 22 37.6 +0.6**

TREC Trest 81.05 328 *e*P **P** **20 22 37.6 +0.6**

TCHB Talchebab 81.51 305 *e*P **P** **20 22 39.9 +0.1**

MPEP Malo Peshtene 81.53 319 *e*P **P** **20 22 40.0 +0.4**

MDVR Moldovita 81.53 321⇓ *i*P **P** **20 22 39.6 -0.1**

NKC Novy Kostel 81.57 330 *e*P **P** **20 22 40.1 +0.3**

NKC Novy Kostel 81.57 330 *e*P **P** **20 22 40.1 +0.3**

CSS Mathiatis 81.72 308 *e*P **P** **20 22 40.8 0.0**
comp=Z,2.9nm,0.6s

SOP Sopron 81.81 326⇑ *e*P **P** **20 22 41.9 +0.9**

CONA Conrad Observa 81.93 327 *i* P **P** **20 22 42.6 +0.8**
comp=Z,9.6nm,1.2s,SNR=6.2

KHC Kasperske Hory 81.97 329 *e*P **P** **20 22 42.5 +0.6**

KHC Kasperske Hory 81.97 329 *e*P **P** **20 22 42.5 +0.6**

GEC2	**GERESS Array S**	**82.15**	**328**	*e*P		**P**	**20 22 43.1**	**+0.2**
GEC2	comp=Z,5.0nm,0.7s			pmax	pmax			
GEC2	**GERESS Array S**	**82.15**	**328**	*e*P		**P**	**20 22 43.1**	**+0.2**
	comp=Z,5.0nm,0.7s							
GERES	**GERESS Array B**	**82.15**	**328**	P		**P**	**20 22 42.8**	**-0.1**
GERES	comp=Z,2.6nm,0.4s,baz=34,slow=5.3,SNR=27			LR	LR		21 01 20.1	
	comp=Z,36nm,20.7s,baz=20,slow=37							
GEA0	**GERESS Array S**	**82.15**	**328**	*e*P		**P**	**20 22 42.7**	**-0.2**
ARSA	**Arzberg**	**82.59**	**326**	*e*P		**P**	**20 22 45.6**	**+0.4**
	comp=Z,6.6nm,1.1s							
SDCO	**Great Sand Dun**	**82.64**	**47**	*e*P		**P**	**20 22 46.0**	**0.0**
	comp=Z,12nm,1.5s							
KKB	**Krupnik**	**82.92**	**319**	*e*P		**P**	**20 22 47.4**	**+0.4**
SOKA	**Soboth**	**83.25**	**326**	*e*P		**P**	**20 22 48.8**	**+0.1**
	comp=Z,10nm,0.7s,SNR=11							
OBKA	**Obir**	**83.59**	**326**	*i* P		**P**	**20 22 50.3**	**-0.1**
	comp=Z,5.4nm,0.8s							
MEM	**Membach**	**83.70**	**333**	P		**P**	**20 22 51.0**	**+0.2**
SKO	**Skopje**	**83.70**	**320**	*i* P		**P**	**20 22 51.9**	**+0.9**
MYKA	**Terra Mystica**	**83.89**	**327**	*i* P		**P**	**20 22 51.4**	**-0.5**
	comp=Z,5.0nm,0.5s							
ANMO	**Albuquerque**	**83.96**	**50**	*e*P		**P**	**20 22 53.6**	**+0.9**
ANMO				pmax	pmax			
	comp=Z,7.0nm,1.3s							
ANMO	**Albuquerque**	**83.96**	**50**	*e*P		**P**	**20 22 53.6**	**+0.9**
	comp=Z,6.6nm,1.3s							
BCLA	**Clavier**	**84.11**	**334**	P		**P**	**20 22 52.7**	**-0.1**
MOTA	**Moosalm**	**84.40**	**329**	*i* P		**P**	**20 22 54.5**	**-0.1**
	comp=Z,3.9nm,0.5s,SNR=5.9							
RETA	**Reutte**	**84.43**	**329**	*i* PcP		**P**	**20 22 55.0**	**+0.3**
	comp=Z,11nm,0.6s,SNR=6.5							
SCHQ	**Schefferville**	**84.55**	**16**	LR	LR		21 02 36.1	
	comp=Z,36nm,20.5s,baz=308,slow=37							
FNA	**Florina**	**84.60**	**319**	P		**P**	**20 22 56.2**	**+0.6**
BFO	**Black Forest**	**84.72**	**331**	*e*P		**P**	**20 22 55.8**	**-0.2**
BFO				pmax	pmax			
	comp=Z,15nm,0.9s							
BFO	**Black Forest**	**84.72**	**331**	*e*P		**P**	**20 22 55.8**	**-0.2**
	comp=Z,15nm,0.9s							
BAIF	**Baives**	**84.79**	**334**	*e*P		**P**	**20 22 56.2**	**-0.1**
BAIF				pmax	pmax			
	comp=Z,8.0nm,1.0s							
FETA	**Feichten**	**84.81**	**329**	*i* PcP		**P**	**20 22 56.7**	**0.0**
	comp=Z,6.5nm,0.7s,SNR=5.5							
DAVA	**Damuels**	**84.95**	**329**	*i* PcP		**P**	**20 22 57.5**	**+0.1**
	comp=Z,20nm,1.1s,SNR=6.6							
CDF	**Champ du Feu**	**85.05**	**331**	*e*P		**P**	**20 22 57.5**	**-0.3**
CDF				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KARP	**Karpathos**	**85.08**	**312**	*e*P		**P**	**20 22 57.5**	**-0.6**
	comp=Z,13nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**85.33**	**329**	*e*P		**P**	**20 23 00.1**	**+0.7**
	comp=Z,19nm,0.8s							
AGG	**Agios Georgios**	**85.36**	**317**	*e*P		**P**	**20 22 57.8**	**-1.7**
AGG				pmax	pmax			
	comp=Z,31nm,1.4s							
AGG	**Agios Georgios**	**85.36**	**317**	*e*P		**P**	**20 22 57.8**	**-1.7**
	comp=Z,31nm,1.4s							
HINF	**Hinteralfeld**	**85.70**	**331**	*e*P		**P**	**20 23 00.6**	**-0.4**
HINF				pmax	pmax			
	comp=Z,7.0nm,1.1s							
LAST	**Lasithi**	**86.33**	**313**	*e*P		**P**	**20 23 03.8**	**-0.6**
	comp=Z,23nm,0.9s							
IDI	**Anoyia**	**86.59**	**313**	*e*P		**P**	**20 23 04.3**	**-1.3**
	comp=Z,13nm,0.7s							
CABF	**La Chapelle**	**86.99**	**331**	*e*P		**P**	**20 23 06.9**	**-0.5**
CABF				pmax	pmax			
	comp=Z,27nm,1.7s							
FLN	**La Foliniere**	**87.47**	**336**	*e*P		**P**	**20 23 09.2**	**-0.4**
FLN				pmax	pmax			
	comp=Z,5.0nm,0.5s							
LPL	**La Plagne**	**87.65**	**330**	*e*P		**P**	**20 23 10.8**	**0.0**
LPL				pmax	pmax			
	comp=Z,4.0nm,0.6s							
LPG	**La Plagne**	**87.66**	**330**	*e*P		**P**	**20 23 11.0**	**+0.1**
LPG				pmax	pmax			
	comp=Z,5.0nm,0.6s							
AVF	**Avril sur Loir**	**87.86**	**333**	*e*P		**P**	**20 23 11.3**	**-0.1**
AVF				pmax	pmax			
	comp=Z,10.0nm,0.6s							
GRR	**Gorron**	**87.92**	**336**	*e*P		**P**	**20 23 11.6**	**-0.1**
GRR				pmax	pmax			
	comp=Z,13nm,0.8s							
ROSF	**Rostrenen**	**88.73**	**337**	*e*P		**P**	**20 23 15.7**	**+0.2**
ROSF				pmax	pmax			
	comp=Z,41nm,1.5s							
QUIF	**Quistinic**	**89.07**	**337**	*e*P		**P**	**20 23 17.3**	**+0.2**
QUIF				pmax	pmax			
	comp=Z,32nm,1.4s							
TXAR	**Lajitas Array**	**89.52**	**52**	P		**P**	**20 23 20.5**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=299,slow=3.1,SNR=8.0							
CAF	**Calviac**	**89.92**	**333**	*e*P		**P**	**20 23 21.5**	**+0.2**
CAF				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ESDC	**Sonseca Array**	**96.67**	**334**	P		**P**	**20 23 51.9**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=11,slow=4.9,SNR=4.2							
ESDC				LR	LR		21 12 04.1	
	comp=Z,52nm,20.2s,baz=100,slow=38							
TORD	**Torodi Ar. Bea**	**116.91**	**315**	PKP		**PKPdf**	**20 29 06.0**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=65,slow=2.0,SNR=5.9							
TORD				PP	PP		20 30 07.3	-8.2
	comp=Z,0.8nm,0.8s,baz=28,slow=6.7,SNR=4.9							
SNAA	**Sanae**	**141.53**	**197**	PKP		**PKPdf**	**20 29 45.7**	**-6.3**
LPAZ	**La Paz**	**146.15**	**59**	PKPbc		**PKPbc**	**20 30 03.4**	**0.0**
	comp=Z,2.9nm,0.9s,baz=249,slow=2.1,SNR=8.3							
LPAZ	**La Paz**	**146.15**	**59**	*e*PKPdf		**PKPbc**	**20 30 03.5**	**+0.2**

*SOME **06** 20:10:58.8, 41˚.18N×72˚.13E, h5km*
*KRNET **06** 20:10:58.4±0.1, 41˚.22N×72˚.04E, h10km, mb2.0*
*NNC **06** 20:10:60.0±4.3, 41˚.14N×72˚.04E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=30.0km s-min=20.2km az=158.0*

ISC 06 20:10:59.6±1.4**, 41˚.22N**±0˚.04×**72˚.10E**±0˚.03**, h5**km±11km**, n16**, σ1°55/31**, 21C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.59**	**350**	⇓*e*P	**Pg**	**20 11 09.9**	**-1.1**
ARK	baz=355			⇓*i*S	**Sg**	**20 11 17.3**	**-1.4**
	baz=355						
ARSB	**Arslanbob**	**0.67**	**81**	⇑*e*P	**Pg**	**20 11 12.1**	**-0.5**
ARSB	baz=81			⇑*i*S	**Sb**	**20 11 22.3**	**-1.3**
	baz=81						
OHH	**Osh**	**0.86**	**143**	⇑*i*P	**Pn**	**20 11 20.8**	**+2.3**
OHH	baz=138			⇑*i*S	**Sn**	**20 11 34.6**	**+3.0**
	baz=138						
MNAS	**Manas**	**1.30**	**13**	⇑*e*P	**Pn**	**20 11 24.0**	**-0.7**
MNAS	baz=15			⇑*e*S	**Sn**	**20 11 41.9**	**-0.7**
	baz=15						
MNAS	**Manas**	**1.30**	**13**	⇑*i*P	**Pb**	**20 11 24.5**	**-0.2**
MNAS	baz=21			⇑*i*S	**Sn**	**20 11 41.8**	**-0.8**
	baz=21						
MNAS	**Manas**	**1.30**	**13**	⇓P	**Pg**	**20 11 26.0**	**+1.4**
MNAS	2.2nm,0.2s			⇓S	**Sg**	**20 11 45.6**	**+4.1**
	11nm,0.4s						
AML	**Almayashu**	**1.50**	**52**	⇑*i*P	**Pg**	**20 11 28.8**	**+0.4**
AML	baz=58			⇑*i*S	**Sg**	**20 11 48.9**	**+0.9**
	baz=58						
BTK	**Batken**	**1.51**	**221**	⇑*i*P	**Pn**	**20 11 26.7**	**-0.7**
BTK	baz=219			⇑*i*S	**Sn**	**20 11 47.0**	**-0.6**
	baz=219						
BTK	**Batken**	**1.51**	**221**	⇑*i*P	**Pn**	**20 11 27.0**	**-0.4**
BTK	baz=213			⇑*i*S	**Sn**	**20 11 46.4**	**-1.2**
	baz=213						
IUG	**Iuzhnay**	**1.81**	**302**	*e*P	**Pn**	**20 11 32.4**	**+0.8**
IUG	24nm,0.2s			*e*S	**Sb**	**20 11 56.5**	**+0.3**
	89nm,0.2s						
EKS2	**Erkin-Say**	**1.91**	**40**	⇑*i*P	**Pb**	**20 11 35.2**	**+0.2**
EKS2	baz=45			⇑*i*S	**Sg**	**20 11 59.8**	**-1.2**
	baz=45						
UCH	**Uchtor**	**2.07**	**60**	⇑*i*P	**Pb**	**20 11 37.6**	**-0.3**
UCH	baz=64			⇑*i*S	**Sg**	**20 12 05.0**	**-1.1**
	baz=64						
KK31	**Karatay Array**	**2.23**	**328**	⇑Pn	**Pn**	**20 11 38.3**	**+1.2**
	1.1nm,0.2s,baz=135,slow=13,SNR=27						
KK31				Sn	**Sb**	**20 12 07.9**	**-0.3**
	3.0nm,0.2s,baz=147,slow=25,SNR=16						
AAK	**Ala-Archa**	**2.28**	**51**	⇑Pg	**Pg**	**20 11 43.4**	**+0.1**
	2.9nm,0.7s						
AAK				⇑Lg	Lg	20 12 14.2	
	4.3nm,0.4s						
BRLS	**Borolday**	**2.39**	**312**	*e*P	**Pb**	**20 11 42.6**	**-0.5**
	3.5nm,0.2s						
BRLS				*e*S	**Sb**	**20 12 14.0**	**+1.1**
	15nm,0.2s						
NRN	**Naryn**	**2.94**	**85**	⇓*e*P	**Pn**	**20 11 48.6**	**+1.2**
	baz=85						
NRN				⇓*e*S	**Sb**	**20 12 25.5**	**-3.7**
	baz=85						

*ISK **06** 20:13:56.6, 37˚.69N×43˚.84E, h11km, MD3.3*
*CSEM **06** 20:13:57.6±0.3, 37˚.74N×43˚.72E, h2km, MD3.3, Error ellipse: s-maj=7.5km s-min=7.3km az=30.0*
*TEH **06** 20:13:58.9, 37˚.92N×43˚.70E, h10km, ML2.9*
*ISN **06** 20:13:59.1±0.5, 37˚.76N×43˚.89E, h0km±1km, ML3.9*

ISC 06 20:13:56.9±1.3**, 37˚.76N**±0˚.03×**43˚.75E**±0˚.03**, h1**km±13km**, n37**, σ0°88/44**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HKR	**Hakkari**	**0.18**	**183**	*e*PG	**Pg**	**20 13 60.0**	**-0.4**
HKR	**Hakkari**	**0.18**	**183**	*e*Pg	**Pg**	**20 14 00.0**	**-0.4**
CUKT	**Cukurca**	**0.52**	**193**	*e*PG	**Pg**	**20 14 06.1**	**-0.8**
CUKT				*e*SG	**Sg**	**20 14 14.7**	**+1.0**
CUKT	**Cukurca**	**0.52**	**193**	*e*Pg	**Pg**	**20 14 06.1**	**-0.8**
CUKT				*e*Sg	**Sg**	**20 14 14.7**	**+1.0**
VANB	**Van**	**0.88**	**341**	*e*PG	**Pg**	**20 14 14.1**	**+0.2**
VANB				*e*SG	**Sb**	**20 14 27.8**	**+0.3**
VANB	**Van**	**0.88**	**341**	*e*Pg	**Pg**	**20 14 14.1**	**+0.2**
VANB				*e*Sg	**Sb**	**20 14 27.8**	**+0.3**
SIRT	**Sirnak**	**1.07**	**257**	*e*PN	**Pb**	**20 14 18.1**	**-0.3**
SIRT				*e*SN	**Sn**	**20 14 34.2**	**-0.6**
SIRT	**Sirnak**	**1.07**	**257**	*e*Pn	**Pb**	**20 14 18.1**	**-0.3**
SIRT				*e*Sn	**Sn**	**20 14 34.2**	**-0.6**
CLDR	**Caldiran**	**1.39**	**5**	*e*PN	**Pn**	**20 14 23.1**	**-0.5**
CLDR	**Caldiran**	**1.39**	**5**	*e*Pn	**Pn**	**20 14 23.2**	**-0.5**
ISHB	**Shabestar**	**1.56**	**70**	*e*Pn	**Pn**	**20 14 25.2**	**-0.9**
ISHB				*e*AMB	AMB	20 14 30.7	
	comp=Z,1μm,0.2s						
IMRD	**Marand**	**1.81**	**58**	*e*Pn	**Pn**	**20 14 30.0**	**+0.6**
IMRD				*e*AMB	AMB	20 15 06.0	
	comp=Z,2μm,0.4s						
IMRD	**Marand**	**1.81**	**58**	*e*Pn	**Pn**	**20 14 30.0**	**+0.6**
AGRB	**Hanur-Agry**	**1.91**	**342**	*e*PN	**Pn**	**20 14 30.8**	**0.0**
AGRB	**Hanur-Agry**	**1.91**	**342**	*e*Pn	**Pn**	**20 14 30.8**	**0.0**
ITBZ	**Tabriz**	**1.95**	**75**	*e*Pn	**Pn**	**20 14 31.4**	**+0.1**
ITBZ				*e*AMB	AMB	20 14 35.2	
	comp=Z,417nm,0.3s						
ITBZ	**Tabriz**	**1.95**	**75**	*e*Pn	**Pn**	**20 14 31.4**	**+0.1**
IBST	**Bostanabad**	**2.49**	**90**	*e*AMB	AMB	20 14 52.4	
	comp=Z,362nm,0.3s						
MAZI	**Mazidag**	**2.64**	**265**	*e*PN	**Pn**	**20 14 41.9**	**+1.1**
MAZI	**Mazidag**	**2.64**	**265**	*e*Pn	**Pn**	**20 14 41.9**	**+1.1**
IHRS	**Heris**	**2.66**	**77**	*e*Pn	**Pb**	**20 14 45.3**	**-0.1**
IHRS				*e*AMB	AMB	20 14 49.5	
	comp=Z,435nm,0.2s						
IHRS	**Heris**	**2.66**	**77**	*e*Pn	**Pb**	**20 14 45.3**	**-0.1**
BNGB	**Bing˜¶‖**	**2.71**	**298**	*e*PN	**Pn**	**20 14 42.7**	**+1.0**
DIY	**Diyarbakir**	**2.79**	**274**	*e*Pn	**Pb**	**20 14 45.1**	**-2.6**
BINT	**Bingol**	**2.80**	**295**	*e*Pn	**Pn**	**20 14 42.7**	**-0.3**
EZM	**Erzurum**	**2.84**	**320**	*e*PN	**Pn**	**20 14 44.3**	**+0.6**
DYBB	**Diyarbakir**	**2.87**	**275**	*e*PN	**Pn**	**20 14 45.1**	**+1.3**
SENK	**Senkaya-Erzuru**	**3.00**	**339**	*e*PN	**Pn**	**20 14 46.4**	**+0.5**
SENK	**Senkaya-Erzuru**	**3.00**	**339**	*e*Pn	**Pn**	**20 14 46.4**	**+0.5**
YEDI	**Yedisu-Bingol**	**3.02**	**305**	*e*PN	**Pn**	**20 14 47.2**	**+1.1**
YEDI	**Yedisu-Bingol**	**3.02**	**305**	*e*Pn	**Pn**	**20 14 47.2**	**+1.1**
ISRB	**Sarab**	**3.10**	**88**	*e*Pn	**Pn**	**20 14 48.5**	**+1.3**
ISRB				*e*AMB	AMB	20 15 01.0	
	comp=Z,272nm,0.2s						
ISRB				*e*Sg	**Sg**	**20 15 36.8**	**+0.2**
ISRB	**Sarab**	**3.10**	**88**	*e*Pn	**Pn**	**20 14 48.5**	**+1.3**
ISRB				*e*Sg	**Sg**	**20 15 36.8**	**+0.2**
SVRC	**Sivrice-ELAZID**	**3.56**	**281**	*e*PN	**Pn**	**20 14 54.6**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.56**	**281**	*e*Pn	**Pn**	**20 14 54.6**	**+1.1**
PTK	**Pertek**	**3.61**	**290**	*e*PN	**Pn**	**20 14 55.4**	**+1.2**
PTK	**Pertek**	**3.61**	**290**	*e*Pn	**Pn**	**20 14 55.4**	**+1.2**

PRU 06 20:21:06.8, 50˚.26N×19˚.01E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.51**	**94**	*e*Pg	Pg	20 21 15.5	-1.0
OJC				*e*Sg	Sg	20 21 21.9	-1.2
OKC	**Ostrava-Krasne**	**0.70**	**233**	*e*SG	Sb	20 21 31.0	-1.0
	3.7nm,0.2s						
LANS	**Liptovska Anna**	**1.15**	**165**	*e*PG	Pg	20 21 27.8	-1.0
LANS				*e*SG	Sg	20 21 42.4	-1.3
NIE	**Niedzica**	**1.19**	**135**	*e*Pg	Pg	20 21 29.0	-0.5
NIE				*e*Sg	Sg	20 21 45.3	+0.4
STHS	**Stebnicka Huta**	**1.68**	**119**	*e*PN	Pn	20 21 37.5	+0.1
STHS				*e*SN	Sg	20 22 00.8	+0.2
DPC	**Dobruska-Polom**	**1.73**	**274**	*e*PG	Pn	20 21 38.1	0.0
DPC				*e*SG	Sb	20 22 01.7	+0.1
	2.1nm,0.2s						
VYHS	**Vyhne**	**1.77**	**184**	*e*PN	Pn	20 21 36.8	-1.9
VYHS				*e*SN	Sn	20 21 59.5	-2.4
VYHS				*e*LG	Lg	20 22 01.6	

*ISCJB **06** 20:25:41.6±0.7, 2˚.31S±0˚.07×128˚.28E±0˚.08, h33km, mb3.8/5, MS3.1/4, Error ellipse: s-maj=12.4km s-min=8.7km az=38.1*
*IDC **06** 20:25:45.8±2.6, 2˚.42S×128˚.45E, h66km±29km, mb3.5/5, mb1 3.8/9, mb1mx3.5/37, mbtmp3.9/9, ML3.7/4, MS3.1/4, Ms1 3.1/4, ms1mx2.6/32, Error ellipse: s-maj=28.8km s-min=18.4km az=95.0*

ISC 06 20:25:43.5±0.8**, 2˚.43S**±0˚.10×**128˚.39E**±0˚.10**, h35**km**, n12, σ1°56/11, mb3.8/5, MS3.1/4, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.27**	**62**	P	**Pn**	**20 26 33.2**	**+0.9**
	18nm,0.3s,baz=171,slow=13,SNR=2.9						
SIJI				S	**Sn**	**20 27 11.6**	**+1.6**
	10nm,0.3s,baz=90,slow=20,SNR=5.1						
KAPI	**Kappang**	**8.99**	**253**	P	**Pn**	**20 27 53.7**	**+2.7**
	2.2nm,0.3s,baz=98,slow=8.7,SNR=10.0						
FITZ	**Fitzroy Crossi**	**15.81**	**190**	P	**P**	**20 29 26.1**	**-1.0**
	0.1nm,0.3s,baz=22,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**19.35**	**162**	P	**P**	**20 29 54.8**	**-0.4**
	0.3nm,0.3s,baz=342,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.78**	**166**	P	**P**	**20 30 32.5**	**0.0**
	10nm,0.9s,baz=346,slow=12,SNR=56						
ASAR				S	**S**	**20 34 30.6**	**-1.0**
	0.3nm,0.7s,baz=350,slow=20,SNR=3.7						
JCJ	**Chichijima**	**32.23**	**23**	LR	LR	20 44 49.7	
	comp=Z,59nm,19.6s,baz=139,slow=36						
CMAR	**Chiang Mai Arr**	**35.65**	**307**	LR	LR	20 47 25.3	
	comp=Z,11nm,20.3s,baz=190,slow=36						
KSRS	**Korea Array**	**39.68**	**359**	P	**P**	**20 33 11.5**	**-0.8**
	0.6nm,0.6s,baz=173,slow=9.8,SNR=5.7						
KSRS				LR	LR	20 48 22.2	
	comp=Z,18nm,19.6s,baz=180,slow=34						
USRK	**Ussuriysk Ar.**	**46.53**	**4**	P	**P**	**20 34 07.3**	**-0.3**
	1.3nm,0.6s,baz=182,slow=5.2,SNR=4.3						
KLR	**Kul'dur**	**51.53**	**3**	P	**P**	**20 34 44.9**	**-1.0**
	0.7nm,0.6s,baz=158,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**63.55**	**326**	P	**P**	**20 36 08.4**	**-2.2**
	0.3nm,0.5s,baz=113,slow=8.4,SNR=4.0						
NRIK	**Noril'sk**	**76.77**	**346**	LR	LR	21 13 01.4	
	comp=Z,20nm,19.0s,baz=94,slow=37						

*JMA **06** 20:29:51.8±0.5, 34˚.87N×142˚.18E, h55km, M2.9*
*IDC **06** 20:29:51.3±1.7, 34˚.96N×142˚.02E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/43, mbtmp3.5/6, ML3.5/3, MS2.3/2, Ms1 2.3/2, ms1mx2.1/38, Error ellipse: s-maj=44.0km s-min=22.7km az=76.0*
*ISCJB **06** 20:29:52.2±1.0, 34˚.97N±0˚.06×142˚.12E±0˚.08, h29km, mb3.8/3, Error ellipse: s-maj=10.0km s-min=7.9km az=179.1*

ISC 06 20:29:54.8±1.3**, 34˚.96N**±0˚.07×**142˚.02E**±0˚.09**, h29**km**, n14, σ1°28/17, mb3.9/3, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.91**	**251**	P	**Pn**	**20 30 10.0**	**-1.2**
CHOJ	**Chosi**	**1.21**	**308**	P	**Pn**	**20 30 15.8**	**+0.1**
CHOJ				*e*S	**Sb**	**20 30 32.8**	**+0.6**
BSO3	**Boso 3**	**1.25**	**263**	P	**Pn**	**20 30 15.4**	**-0.7**
BSO4	**Boso 4**	**1.38**	**272**	P	**Pn**	**20 30 17.6**	**-0.5**
JOD2	**Odawara 2**	**2.42**	**278**	P	**Pn**	**20 30 31.4**	**-1.1**
JHJ	**Hachijo jima 2**	**2.61**	**226**	Pn	**Pn**	**20 30 33.6**	**-1.5**
	13nm,0.3s,baz=73,slow=19,SNR=13						
JHJ				Sn	**Sn**	**20 31 04.3**	**-1.5**
	17nm,0.3s,baz=70,slow=22,SNR=4.7						
JHJ				LR	LR	20 31 37.4	
	comp=Z,45nm,21.2s,baz=200,slow=41						
JYN	**Shimob**	**2.90**	**282**	*e*S	**Sn**	**20 31 14.3**	**+1.3**
MJAR	**Matsushiro Arr**	**3.48**	**298**	Pn	**Pn**	**20 30 46.3**	**-0.8**
	1.2nm,0.3s,baz=112,slow=8.5,SNR=16						
MAT	**Matsushiro**	**3.48**	**298**	P	**Pn**	**20 30 47.0**	**-0.1**
MAT				*e*S	**Sn**	**20 31 25.6**	**-1.7**
ASAJ	**Asahikawa**	**9.16**	**3**	Pn	**Pn**	**20 32 03.3**	**-1.7**
	1.0nm,0.3s,baz=195,slow=11,SNR=11						
ASAJ				Sn	**Sn**	**20 33 45.3**	**-1.7**
	0.1nm,0.3s,baz=252,slow=20,SNR=2.2						
KSRS	**Korea Array**	**11.66**	**286**	LR	LR	20 36 60.0	
	comp=Z,21nm,18.3s,baz=125,slow=37						
MKAR	**Makanchi Array**	**45.66**	**304**	P	**P**	**20 38 14.0**	**+1.2**
	0.3nm,0.6s,baz=85,slow=9.4,SNR=3.9						
WRA	**Warramunga Arr**	**55.08**	**189**	P	**P**	**20 39 24.8**	**+0.6**
	0.8nm,0.6s,baz=6.8,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**58.81**	**189**	P	**P**	**20 39 51.9**	**+1.4**
	1.9nm,1.3s,baz=7.0,slow=8.4,SNR=4.0						

*IDC **06** 20:34:17.1±3.0, 36˚.43N×140˚.91E, h0km, mb3.1/2, mb1 3.2/4, mb1mx3.1/41, mbtmp3.1/4, ML2.8/1, Error ellipse: s-maj=66.0km s-min=28.5km az=59.0*
*ISCJB **06** 20:34:19.5±0.9, 36˚.34N±0˚.05×140˚.88E±0˚.08, h32km, mb3.0/2, Error ellipse: s-maj=9.1km s-min=6.5km az=156.7*
*JMA **06** 20:34:19.1±0.1, 36˚.32N×140˚.91E, h37km±1km, M3.0*

ISC 06 20:34:20.4±1.2**, 36˚.36N**±0˚.05×**140˚.89E**±0˚.08**, h32**km**, n12, σ1°35/14, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.36**	**314**	P	**Pb**	**20 34 28.1**	**-0.8**
JHO				S	**Sb**	**20 34 33.8**	**-0.8**
JYT	**Yasato**	**0.58**	**257**	P	**Pb**	**20 34 30.8**	**-1.4**
JYT				S	**Sb**	**20 34 38.8**	**-1.5**
CHOJ	**Chosi**	**0.66**	**182**	P	**Pn**	**20 34 31.0**	**-2.5**
JFK	**Kawauchi**	**1.00**	**359**	P	**Pn**	**20 34 37.1**	**-1.2**
MJAR	**Matsushiro Arr**	**2.17**	**276**	Pn	**Pn**	**20 34 54.3**	**-0.1**
	2.8nm,0.3s,baz=106,slow=8.8,SNR=31						
MJAR				Sn	**Sn**	**20 35 19.9**	**-0.2**
	2.0nm,0.3s,baz=78,slow=17,SNR=6.3						
MAT	**Matsushiro**	**2.17**	**276**	P	**Pn**	**20 34 54.9**	**+0.5**
MAT				S	**Sn**	**20 35 20.1**	**-0.1**
JHJ	**Hachijo jima 2**	**3.36**	**196**	Pn	**Pn**	**20 35 11.8**	**+1.1**
	baz=77,slow=18,SNR=2.8						
JHJ				Sn	**Sn**	**20 35 49.4**	**-0.1**
	1.6nm,0.3s,baz=72,slow=20,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**28.86**	**121**	T	T	21 10 21.8	
	baz=314,slow=76,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**28.86**	**121**	T	T	21 10 22.4	
	baz=314,slow=76,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**28.88**	**121**	T	T	21 10 24.4	
	baz=314,slow=76,SNR=8.8						
MKAR	**Makanchi Array**	**44.12**	**303**	P	**P**	**20 42 26.8**	**+1.1**
	0.1nm,0.6s,baz=79,slow=7.5,SNR=2.3						
WRA	**Warramunga Arr**	**56.34**	**187**	P	**P**	**20 44 00.4**	**+2.1**
	0.3nm,0.9s,baz=5.3,slow=7.4,SNR=2.3						

*IDC **06** 20:34:36.4±1.1, 14˚.55N×118˚.97E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/38, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=33.4km s-min=20.3km az=54.0*
*ISCJB **06** 20:34:37.4±0.9, 14˚.5N±0˚.1×118˚.9E±0˚.1, h18km, mb3.4/4, Error ellipse: s-maj=23.4km s-min=14.7km az=33.8*

ISC 06 20:34:38.6±1.1**, 14˚.6N**±0˚.2×**119˚.0E**±0˚.1**, h18**km**, n6, σ1°22/6, mb3.4/4, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.90**	**104**	Pn	**Pb**	**20 35 12.3**	**-0.5**
	60nm,0.3s,baz=270,slow=5.1,SNR=2.3						
CMAR	**Chiang Mai Arr**	**19.65**	**284**	P	**Pn**	**20 39 06.5**	**-1.5**

TKM2	**Tokmak 2**	**7.24**	**25**	⇑P		**Pn**	**21 21 00.3**	**+1.0**
	5.1nm,0.5s							
TKM2				⇑S		**Sn**	**21 22 17.9**	**-2.1**
	2.0nm,0.5s							
GEYT	**Alibeck**	**10.69**	**282**	P		**Pn**	**21 21 47.4**	**+1.4**
	0.8nm,0.3s,baz=98,slow=9.4,SNR=6.2							
GEYT				S		**Sn**	**21 23 37.8**	**-6.0**
	0.6nm,0.3s,baz=236,slow=1.6,SNR=3.6							
MKAR	**Makanchi Array**	**13.15**	**35**	P		**Pn**	**21 22 18.0**	**-0.4**
	0.1nm,0.3s,baz=222,slow=14,SNR=5.4							
KURBB	**Kurchatov Arra**	**15.08**	**18**	P		**Pn**	**21 22 40.7**	**-2.2**
	0.0nm,0.3s,baz=209,slow=11,SNR=3.9							
KURBB	**Kurchatov Arra**	**15.08**	**18**	⇑P		**Pn**	**21 22 42.1**	**-0.8**
	2.7nm,1.1s							
AB31	**Akbulak array**	**15.29**	**330**	P		**Pn**	**21 22 44.1**	**-1.4**
	0.8nm,0.5s,baz=143,slow=12,SNR=34							
AKTO	**Aktyubinsk**	**16.99**	**330**	P		**P**	**21 23 07.5**	**+0.9**
	0.6nm,0.3s,baz=149,slow=13,SNR=5.6							
ZALV	**Zalesovo Beam**	**19.84**	**24**	P		**P**	**21 23 38.9**	**+1.2**
	0.8nm,0.3s,baz=207,slow=9.9,SNR=3.1							
AKASG	**Malin Array Be**	**33.23**	**309**	P		**P**	**21 25 43.0**	**+1.0**
	0.2nm,0.3s,baz=105,slow=8.8,SNR=2.5							
FINES	**FINESS Array B**	**37.71**	**326**	P		**P**	**21 26 22.4**	**+2.3**
	0.5nm,0.3s,baz=123,slow=9.4,SNR=11							
ARCES	**ARCESS Array B**	**41.32**	**338**	P		**P**	**21 26 52.1**	**+2.2**
	1.2nm,0.8s,baz=114,slow=9.0,SNR=3.6							
NB2	**NORSAR Subarra**	**44.61**	**323**	P		**P**	**21 27 18.4**	**+1.7**
	comp=Z,1.4nm,0.5s,baz=99,slow=8.6							
NOA	**NORSAR Array B**	**44.61**	**323**	P		**P**	**21 27 18.4**	**+1.7**
	comp=Z,1.3nm,0.4s,baz=96,slow=7.7,SNR=9.3							
DAV	**Davao City (W)**	**57.28**	**107**	LR		LR	21 56 39.5	
	comp=Z,95nm,18.4s,baz=302,slow=39							
TORD	**Torodi Ar. Bea**	**66.03**	**269**	P		**P**	**21 29 52.0**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=57,slow=5.7,SNR=5.7							
GUMO	**Guam**	**68.83**	**88**	LR		LR	21 58 47.6	
	comp=Z,44nm,20.9s,baz=119,slow=34							

*SCB **06** 21:22:46.2±1.0,24°.17S×67°.32W,h150km,Ml3.7/1, Error ellipse: s-maj=23.0km s-min=14.3km az=26.0*
*ISCJB **06** 21:22:48.7±0.3,24°.25S±0°.03×67°.20W±0°.03,h188km±2km, mb4.4/27, Error ellipse: s-maj=5.3km s-min=3.6km az=135.0*
*SJA **06** 21:22:48.9±0.7,24°.25S×67°.16W,h190km±6km,ML3.3, MW4.0*
*NEIC **06** 21:22:49.0±0.6,24°.21S×67°.01W,h173km±5km,mb4.7/20, Error ellipse: s-maj=9.3km s-min=6.5km az=72.0*
*IDC **06** 21:22:49.8±1.0,24°.11S×66°.97W,h173km±8km,mb3.8/9, mb1 4.0/14,mb1mx3.8/31,mbtmp4.3/14,MS3.6/2, Ms1 3.6/2,ms1mx2.9/20,Error ellipse: s-maj=15.0km s-min=11.7km az=35.0*
*GUC **06** 21:22:51.9±0.5,24°.00S×67°.69W,h226km±14km,ML5.1*

ISC 06 21:22:49.5±0.7,24°20S±0°.04×67°.19W±0°.04,h179km±6km, n83,σ1°40/109,mb4.5/27,9C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.62**	**109**	*i* P		**Pn**	**21 23 23.5**	**+0.7**
SLA				*i* S		**Sn**	**21 23 48.6**	**+0.1**
SLA				IAML			21 23 50.2	
	comp=Z,277nm,0.6s							
AZAP	**Zapla**	**1.94**	**91**	*i* P		**Pn**	**21 23 26.6**	**+0.5**
AZAP				*i* S		**Sn**	**21 23 55.1**	**+0.6**
FSA	**Cafayete**	**2.20**	**150**	*i* P		**Pn**	**21 23 29.3**	**+0.4**
FSA				*i* S		**Sn**	**21 23 58.4**	**-1.2**
LVC	**Limon Verde**	**2.24**	**315**	*i* P		**Pn**	**21 23 30.8**	**+1.1**
LVC				*i* S		**Sn**	**21 24 01.9**	**+1.2**
LVC	**Limon Verde**	**2.24**	**315**	P		**Pn**	**21 23 31.4**	**+1.8**
	comp=Z,6μm,0.3s,baz=140,slow=7.8,SNR=1234							
LVC				S		**Sn**	**21 24 01.8**	**+1.2**
	comp=Z,12μm,0.3s,baz=314,slow=19,SNR=68							
LVC				LR		LR	21 24 27.0	
	comp=Z,706nm,21.4s,baz=253,slow=42							
ASTB	**Santa Barbara**	**2.51**	**85**	*i* P		**Pn**	**21 23 32.8**	**+0.3**
ASTB				*i* S		**Sn**	**21 24 05.4**	**-0.4**
YJA	**Yavi**	**2.53**	**38**	*i* P		**Pn**	**21 23 34.2**	**+1.2**
YJA				*i* S		**Sn**	**21 24 08.4**	**+1.5**
PB06	**IPOC Station P**	**2.65**	**304**	⇑*i* P		**Pn**	**21 23 35.6**	**+1.5**
PB06				*i* S		**Sn**	**21 24 09.0**	**+0.3**
PB14	**IPOC Station P**	**2.96**	**261**	⇑*i* P		**Pn**	**21 23 38.5**	**+0.5**
PB14				*e*S		**Sn**	**21 24 14.8**	**-0.9**
PB09	**IPOC Station P**	**3.05**	**321**	⇑*i* P		**Pn**	**21 23 40.7**	**+1.7**
PB09				*e*S		**Sn**	**21 24 18.2**	**+0.7**
PB09				IAML			21 24 23.6	
	comp=E,6μm,0.4s							
AHML	**Horco Molle**	**3.07**	**147**	*i* P		**Pn**	**21 23 38.9**	**-0.2**
AHML				*i* S		**Sn**	**21 24 16.3**	**-1.5**
AHML				IAML			21 24 18.0	
	comp=Z,44nm,0.8s							
PB10	**IPOC Station P**	**3.16**	**282**	⇑*i* P		**Pn**	**21 23 41.1**	**+1.0**
PB10				*e*S		**Sn**	**21 24 18.5**	**-1.0**
PB10	**IPOC Station P**	**3.16**	**282**	*e*Pn		**Pn**	**21 23 41.2**	**+1.0**
PB10				*e*Sn		**Sn**	**21 24 18.6**	**-0.9**
MOCB	**Mochara**	**3.26**	**26**	⇓*i* Pn		**Pn**	**21 23 43.2**	**+1.3**
MOCB				*e*Sn		**Sn**	**21 24 24.3**	**+1.7**
	comp=Z,162nm,0.9s							
PB04	**IPOC Station P**	**3.30**	**304**	⇑*i* P		**Pn**	**21 23 42.8**	**+0.8**
PB04				*i* S		**Sn**	**21 24 21.9**	**-1.0**
PB04				IAML			21 24 24.7	
	comp=N,3μm,0.3s							
PB04	**IPOC Station P**	**3.30**	**304**	*e*Pn		**Pn**	**21 23 42.8**	**+0.8**
PB04				*e*Sn		**Sn**	**21 24 22.4**	**-0.5**
PB07	**IPOC Station P**	**3.50**	**314**	⇑*i* P		**Pn**	**21 23 45.4**	**+0.9**
PB07				*i* S		**Sn**	**21 24 26.3**	**-1.1**
PB07				IAML			21 24 27.9	
	comp=N,3μm,0.3s							
PB01	**IPOC Station P**	**3.79**	**325**	*e*P		**Pn**	**21 23 48.6**	**+0.4**
PB01				*i* S		**Sn**	**21 24 33.1**	**-0.8**
PB01				IAML			21 24 38.2	
	comp=E,1μm,0.2s							
PB01	**IPOC Station P**	**3.79**	**325**	*e*Pn		**Pn**	**21 23 48.6**	**+0.4**
PB01				*e*Sn		**Sn**	**21 24 32.0**	**-1.9**
PB08	**IPOC Station P**	**4.43**	**335**	⇑*i* P		**Pn**	**21 23 57.6**	**+1.1**
PB08				*e*S		**Sn**	**21 24 48.8**	**-0.2**
PB08				IAML			21 24 54.8	
	comp=E,418nm,0.3s							
PB11	**IPOC Station P**	**4.97**	**332**	⇑*i* P		**Pn**	**21 24 02.6**	**-0.7**
PB11				*i* S		**Sn**	**21 24 58.7**	**-2.6**
PB11	**IPOC Station P**	**4.97**	**332**	*e*Pn		**Pn**	**21 24 02.5**	**-0.8**
PB11				*e*Sn		**Sn**	**21 24 58.0**	**-3.3**
BBOJ	**La Paz, Jacaqu**	**7.25**	**352**	⇑*i*Pn		**Pn**	**21 24 35.9**	**+2.4**
BBOE	**La Paz, Chanca**	**7.39**	**354**	*e*Pn		**Pn**	**21 24 37.4**	**+2.0**
BBOD	**La Paz, Gloria**	**7.64**	**350**	*e*Pn		**Pn**	**21 24 40.5**	**+1.8**
LPAZ	**La Paz**	**7.92**	**353**	P		**Pn**	**21 24 43.6**	**+1.2**
	comp=E,5.1nm,0.3s,baz=164,slow=8.1,SNR=91							
LPAZ				S		**Sn**	**21 26 07.5**	**-4.2**
	comp=E,0.4nm,0.3s,baz=18,slow=2.8,SNR=2.1							
LPAZ	**La Paz**	**7.92**	**353**	*e*Pn		**Pn**	**21 24 43.6**	**+1.2**
LPAZ				*e*Sn		**Sn**	**21 26 10.1**	**-1.6**
LPAZ	**La Paz**	**7.92**	**353**	*e*Pn		**Pn**	**21 24 44.0**	**+1.6**
LPAZ				*e*Sn		**Sn**	**21 26 09.4**	**-2.3**
BBOB	**La Paz, Bander**	**8.06**	**354**	*e*Pn		**Pn**	**21 24 45.5**	**+1.2**
BBOB				*e*Sn		**Sn**	**21 26 14.5**	**-0.5**
CPUP	**Villa Florida**	**9.17**	**105**	P		**Pn**	**21 24 56.1**	**-2.1**
	comp=E,0.5nm,0.3s,baz=283,slow=12,SNR=14							
SIV	**San Ignacio**	**9.98**	**36**	P		**Pn**	**21 25 07.1**	**-1.9**
	comp=E,1.4nm,0.3s,baz=224,slow=14,SNR=16							
SIV				S		Sn	21 26 45.9	-14
	comp=E,0.3nm,0.3s,baz=244,slow=14,SNR=4.6							
SIV	**San Ignacio**	**9.98**	**36**	*e*P		**Pn**	**21 25 07.0**	**-1.9**
TRQA	**Tornquist**	**14.51**	**163**	*e*Pn		**Pn**	**21 26 04.0**	**-2.5**
SAML	**Samuel**	**15.64**	**15**	*e*Pn		**P**	**21 26 20.8**	**-0.2**
	comp=E,2.0nm,0.8s							
PLCA	**Paso Flores**	**16.73**	**189**	P		**Pn**	**21 26 34.7**	**+1.1**
	comp=E,0.4nm,0.3s,baz=26,slow=15,SNR=2.8							
PLCA	**Paso Flores**	**16.73**	**189**	*e*P		**P**	**21 26 33.0**	**+0.2**
	comp=E,9.8nm,0.6s							
BDFB	**Brasilia**	**19.92**	**68**	P		**P**	**21 27 06.9**	**-0.9**
	comp=E,2.9nm,0.3s,baz=244,slow=10,SNR=35							
BDFB	**Brasilia**	**19.92**	**68**	*e*P		**P**	**21 27 06.9**	**-0.9**
	comp=E,63nm,1.0s							
CHRN	**Cochrane**	**23.41**	**189**	*e*P		**P**	**21 27 40.4**	**-1.8**
	comp=E,7.4nm,0.9s							
PTGA	**Pitinga**	**24.36**	**18**	*e*P		**P**	**21 27 49.3**	**-1.8**
	comp=E,2.7nm,0.9s							
PAYG	**Puerto Ayora**	**32.37**	**313**	*e*P		**P**	**21 29 00.3**	**-2.0**
	comp=E,96nm,1.4s							
PMSA	**Palmer Station**	**40.62**	**178**	*e*P		**P**	**21 30 09.7**	**-1.8**
	comp=E,236nm,2.0s							
SABA	**Saba**	**41.74**	**6**	*e*P		**P**	**21 30 18.5**	**-2.7**
	comp=E,48nm,0.8s							
CELP	**Cerrillos**	**42.02**	**1**	*e*P		**P**	**21 30 23.2**	**-0.2**
SNAA	**Sanae**	**59.22**	**161**	*e*P		**P**	**21 32 31.8**	**+0.3**
	comp=E,21nm,1.7s							
SWET	**Sewanee**	**61.70**	**343**	*e*P		**P**	**21 32 48.8**	**+0.1**
	comp=E,4.9nm,0.6s							
WVT	**Waverly**	**63.09**	**341**	*e*P		**P**	**21 32 58.2**	**+0.3**
	comp=E,5.2nm,0.7s							
SLBS	**Sierra La Lagu**	**63.14**	**316**	*e*P		**P**	**21 32 57.3**	**-1.2**
	comp=E,39nm,1.8s							
TXAR	**Lajitas Array**	**63.74**	**325**	P		**P**	**21 33 03.9**	**+1.6**
	comp=E,0.4nm,0.5s,baz=155,slow=8.9,SNR=10							
LTX	**Lajitas**	**63.74**	**325**	*e*P		**P**	**21 33 03.9**	**+1.6**
TX31	**Lajitas Ar. Si**	**63.74**	**325**	*e*P		**P**	**21 33 03.3**	**+1.0**
WCI	**Wyandotte Cave**	**64.64**	**343**	*e*P		**P**	**21 33 06.6**	**-1.3**
	comp=E,11nm,0.6s							
QSPA	**South Pole Qui**	**66.01**	**180**	*e*P		**P**	**21 33 17.3**	**+0.7**
	comp=E,17nm,0.5s							
GDL2	**Guadalupe Moun**	**66.38**	**326**	*e*P		**P**	**21 33 18.4**	**-0.9**
HRV	**Adam Dziewonsk**	**66.49**	**356**	*e*P		**P**	**21 33 19.7**	**+0.1**
	comp=E,47nm,1.9s							
MSTX	**Muleshoe**	**67.02**	**328**	*e*P		**P**	**21 33 22.2**	**-1.1**
	comp=E,9.2nm,0.9s							
SADO	**Sadowa**	**69.50**	**351**	*e*P		**P**	**21 33 38.6**	**+0.3**
	comp=E,18nm,1.8s							
ANMO	**Albuquerque**	**69.61**	**326**	*e*P		**P**	**21 33 37.0**	**-2.6**
	comp=E,5.2nm,1.0s							
LMN	**Caledonia Moun**	**69.75**	**2**	*e*P		**P**	**21 33 40.2**	**+0.3**
	comp=E,58nm,2.0s							
VNDA	**Vanda**	**74.48**	**190**	P		**P**	**21 34 09.7**	**+2.1**
	comp=E,1.7nm,0.9s,baz=127,slow=3.7,SNR=9.4							
TPNV	**Topopah Spring**	**76.39**	**321**	*e*P		**P**	**21 34 22.3**	**+3.0**
	comp=E,3.0nm,0.8s							
TOA0	**Torodi Ar. Sit**	**76.80**	**69**	*e*P		**P**	**21 34 21.5**	**-0.3**
TOA1	**Torodi Ar. Sit**	**76.80**	**69**	*e*P		**P**	**21 34 21.5**	**-0.4**
	comp=E,18nm,1.8s							
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P		**P**	**21 34 21.5**	**-0.4**
	comp=E,1.7nm,0.5s,baz=255,slow=5.7,SNR=24							
PD31	**Pinedale Array**	**77.23**	**329**	*e*P		**P**	**21 34 25.4**	**+1.4**
PDAR	**Pinedale Array**	**77.23**	**329**	P		**P**	**21 34 25.4**	**+1.4**
	comp=E,0.7nm,0.7s,baz=112,slow=6.9,SNR=5.0							
ULM	**Lac du Bonnet**	**78.36**	**342**	P		**P**	**21 34 30.6**	**+0.9**
	comp=E,3.9nm,0.6s,baz=204,slow=7.4,SNR=3.2							
NV01	**Mina Array Sit**	**78.59**	**321**	*e*P		**P**	**21 34 33.6**	**+2.1**
NVAR	**Mina Array Bea**	**78.59**	**321**	P		**P**	**21 34 33.6**	**+2.1**
	comp=E,0.7nm,0.6s,baz=168,slow=6.2,SNR=5.9							
BOSA	**Boshof**	**80.79**	**117**	P		**P**	**21 34 43.6**	**-0.1**
	comp=E,2.1nm,0.5s,baz=271,slow=5.4,SNR=6.0							
MAW	**Mawson**	**81.30**	**163**	P		**P**	**21 34 46.4**	**+1.0**
	comp=E,4.5nm,0.8s,baz=203,slow=5.5,SNR=13							
MAW	**Mawson**	**81.30**	**163**	*e*P		**P**	**21 34 46.4**	**+1.0**
	comp=E,1.0nm,0.8s							
URZ	**Urewera**	**93.46**	**225**	LR		LR	22 09 53.1	
	comp=E,55nm,18.2s,baz=19,slow=30							
YKA	**Yellowknife Ar**	**94.25**	**340**	P		**P**	**21 35 48.9**	**+1.2**
	comp=E,1.1nm,0.5s,baz=129,slow=4.6,SNR=8.4							
YKB5	**Yellowknife Ar**	**94.25**	**340**	*e*P		**P**	**21 35 48.9**	**+1.2**
ASAR	**Alice Springs**	**128.21**	**205**	PKP		**PKPdf**	**21 41 35.7**	**+0.5**
	comp=E,1.9nm,0.7s,baz=127,slow=1.7,SNR=24							
WRA	**Warrumunga Arr**	**131.37**	**207**	PKP		**PKPdf**	**21 41 42.1**	**+0.8**
	comp=E,1.6nm,0.5s,baz=156,slow=1.8,SNR=46							
WRA				SKPbc		**SKPbc**	**21 44 49.9**	**+0.2**
	comp=E,0.3nm,0.5s,baz=150,slow=3.4,SNR=4.6							
PETK	**Petropavlovsk-**	**135.66**	**322**	PKP		**PKPdf**	**21 41 50.0**	**+1.8**
	comp=E,1.1nm,0.6s,baz=69,slow=4.9,SNR=3.1							
ZALV	**Zalesovo Beam**	**143.65**	**28**	PKP		**PKPdf**	**21 42 01.7**	**-0.9**
	comp=E,3.0nm,0.6s,baz=296,slow=5.2,SNR=15							
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc		**PKPbc**	**21 42 09.7**	**-0.7**
	comp=E,4.7nm,0.6s,baz=340,slow=1.6,SNR=49							
KLR	**Kul'dur**	**150.93**	**334**	PKPbc		**PKPbc**	**21 42 21.4**	**+0.7**
	comp=E,3.9nm,0.6s,baz=44,slow=3.8,SNR=17							
MJAR	**Matsushiro Arr**	**154.95**	**305**	PKPab		**PKPab**	**21 42 47.7**	**+1.5**
	comp=E,1.9nm,0.8s,baz=77,slow=2.3,SNR=5.7							
SONM	**Songino Array**	**155.87**	**11**	PKPab		**PKPab**	**21 42 49.1**	**-0.7**
	comp=E,0.6nm,0.7s,baz=321,slow=3.7,SNR=2.8							

JMA 06 21:38:30.0,37°.17N×140°.70E,h7km±2km,M2.6,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.10**	**131**	P		Pg	21 38 32.4	0.0
JFK	**Kawauchi**	**0.24**	**35**	P		Pg	21 38 34.9	+0.1
JFK				S		Sg	21 38 38.5	+0.5
JFT	**Otama**	**0.45**	**320**	P		Pg	21 38 39.1	+0.3
JHO	**Hitachi**	**0.57**	**191**	P		Pg	21 38 40.7	-0.2
JHO				S		Sg	21 38 48.4	0.0
MAT	**Matsushiro**	**2.10**	**253**	P		Pb	21 39 07.7	-0.6
MAT				S		Sb	21 39 35.4	+0.8

*ISK **06** 21:39:00.7,36°.18N×29°.51E,h17km,MD3.0*
*ATH **06** 21:39:01.3,35°.85N×29°.39E,h15km±4km,ML2.0/1,Error ellipse: s-maj=7.9km s-min=1.3km az=348.0*
*DDA **06** 21:39:01.6,36°.25N×29°.30E,h24km,Ml3.1*
*ISCJB **06** 21:39:02.1±0.6,36°.17N±0°.04×29°.53E±0°.04,h40km±6km, Error ellipse: s-maj=7.5km s-min=4.7km az=159.4*
*CSEM **06** 21:39:02.1±0.2,36°.22N×29°.52E,h20km,ML3.1,Error ellipse: s-maj=6.4km s-min=4.4km az=161.0*

ISC 06 21:39:02.7±1.0,36°.20N±0°.04×29°.54E±0°.03,h33km±3km, n56,σ1°10/78,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.06**	**143**	P		**Pb**	**21 39 08.1**	**-0.2**
KSL				S		**Sb**	**21 39 13.9**	**+1.8**
KSL				AML		AML	21 39 14.4	
	comp=N,615μm,0.2s							
KSL				AML		AML	21 39 15.5	
	comp=E,1346μm,0.4s							
AKAS	**Kas**	**0.06**	**60**	P		**Pb**	**21 39 08.0**	**-0.5**
AKAS				S		**Sb**	**21 39 12.8**	**+0.3**
AKAS	**Kas**	**0.06**	**60**	*i* P		**Pb**	**21 39 08.0**	**-0.5**
AKAS				*i* S		**Sb**	**21 39 12.8**	**+0.3**
FETY	**Fethiye**	**0.57**	**320**	*e*PG		**Pb**	**21 39 13.3**	**-1.1**
FETY				*e*SG		**Sb**	**21 39 21.5**	**-1.0**
FETY	**Fethiye**	**0.57**	**320**	*e*Pg		**Pb**	**21 39 13.3**	**-1.1**
FETY				*e*Sg		**Sb**	**21 39 21.5**	**-1.0**
ELL	**Elmali**	**0.62**	**29**	*e*PG		**Pb**	**21 39 14.2**	**-1.2**
ELL				*e*SG		**Sb**	**21 39 23.8**	**-0.3**
ELL	**Elmali**	**0.62**	**29**	*e*Pg		**Pb**	**21 39 14.2**	**-1.2**
ELL				*e*Sg		**Sb**	**21 39 23.8**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.94**	**311**	*e*PG		**Pn**	**21 39 18.8**	**-0.8**
DALY				*e*SG		**Sn**	**21 39 32.2**	**+0.3**
DALY	**Dalyan (Mu˘la**	**0.94**	**311**	*e*Pg		**Pn**	**21 39 18.8**	**-0.8**
DALY				*e*Sg		**Sn**	**21 39 32.2**	**+0.3**
GLHS	**Glhisar (BURDU**	**0.95**	**358**	*e*PG		**Pn**	**21 39 19.2**	**-0.7**
GLHS	**Glhisar (BURDU**	**0.95**	**358**	*e*Pg		**Pn**	**21 39 19.2**	**-0.7**
TURN	**Turunc**	**1.01**	**312**	*i* P		**Pb**	**21 39 22.8**	**+1.1**
TURN				*i* S		**Sb**	**21 39 38.6**	**+4.0**
KORT	**Korkueli**	**1.03**	**39**	P		**Pn**	**21 39 20.4**	**-0.6**
KORT				S		**Sn**	**21 39 35.4**	**+1.0**
KORT	**Korkueli**	**1.03**	**39**	*i* P		**Pn**	**21 39 20.4**	**-0.6**
KORT				*i* S		**Sn**	**21 39 35.4**	**+1.0**
GOLH	**Golhisar**	**1.03**	**1**	P		**Pn**	**21 39 20.7**	**-0.3**
GOLH				S		**Sn**	**21 39 34.9**	**+0.5**
GOLH	**Golhisar**	**1.03**	**1**	*i* P		**Pn**	**21 39 20.7**	**-0.3**
GOLH				*i* S		**Sn**	**21 39 34.9**	**+0.5**
ANTB	**Antalya**	**1.14**	**52**	*e*PN		**Pn**	**21 39 22.5**	**+0.2**
ANTB	**Antalya**	**1.14**	**52**	*e*Pn		**Pn**	**21 39 22.5**	**+0.2**
ARG	**Arkhangelos**	**1.14**	**271**	P		**Pn**	**21 39 21.6**	**-0.7**
ARG				S		**Sn**	**21 39 38.0**	**+1.2**
YER	**Yerkesik**	**1.37**	**313**	*e*PN		**Pn**	**21 39 25.9**	**+0.3**
YER	**Yerkesik**	**1.37**	**313**	*e*Pn		**Pn**	**21 39 25.9**	**+0.3**
DNZL	**Cakiroluk**	**1.54**	**345**	P		**Pn**	**21 39 28.8**	**+0.8**
DNZL				S		**Sn**	**21 39 49.0**	**+2.1**
DNZL	**Cakiroluk**	**1.54**	**345**	*i* P		**Pn**	**21 39 28.8**	**+0.8**
DNZL				*i* S		**Sn**	**21 39 49.0**	**+2.1**
DENT	**Denizli**	**1.60**	**346**	*e*PN		**Pn**	**21 39 29.0**	**+0.2**
DENT	**Denizli**	**1.60**	**346**	*e*Pn		**Pn**	**21 39 29.0**	**+0.2**
SUTC	**Sutluce-Ispart**	**1.73**	**42**	*e*PN		**Pn**	**21 39 31.3**	**+0.7**
SUTC	**Sutluce-Ispart**	**1.73**	**42**	*e*Pn		**Pn**	**21 39 31.3**	**+0.7**
BDRM	**Kayabasi**	**1.89**	**298**	P		**Pn**	**21 39 32.5**	**-0.2**
BDRM				S		**Sn**	**21 39 53.7**	**-1.7**
BDRM	**Kayabasi**	**1.89**	**298**	*i* P		**Pn**	**21 39 32.5**	**-0.2**
BDRM				*i* S		**Sn**	**21 39 53.7**	**-1.7**
NIS1	**Nisyros Isl.**	**1.94**	**283**	*e*PN		**Pn**	**21 39 34.2**	**+0.9**
NIS1	**Nisyros Isl.**	**1.94**	**283**	*e*Pn		**Pn**	**21 39 34.3**	**+0.9**
NIS1	**Nisyros Isl.**	**1.94**	**283**	P		**Pn**	**21 39 35.7**	**+2.3**
NIS1	**Nisyros Isl.**	**1.94**	**283**	P		**Pn**	**21 39 35.6**	**+2.3**
AYDN	**Tasoluk**	**1.97**	**318**	P		**Pn**	**21 39 33.4**	**-0.4**
AYDN	**Tasoluk**	**1.97**	**318**	*i* P		**Pn**	**21 39 33.4**	**-0.4**
BODT	**Bodrum**	**1.99**	**296**	*e*PN		**Pn**	**21 39 34.1**	**+0.1**
BODT	**Bodrum**	**1.99**	**296**	*e*Pn		**Pn**	**21 39 34.1**	**+0.1**
KARP	**Karpathos**	**2.04**	**252**	*e*PN		**Pn**	**21 39 35.1**	**+0.4**
KARP	**Karpathos**	**2.04**	**252**	*e*Pn		**Pn**	**21 39 35.1**	**+0.4**
KARP	**Karpathos**	**2.04**	**252**	P		**Pn**	**21 39 35.4**	**+0.7**
KARP				S		**Sn**	**21 39 58.1**	**-0.9**
KARP	**Karpathos**	**2.04**	**252**	P		**Pn**	**21 39 35.4**	**+0.7**
KARP				S		**Sn**	**21 39 58.1**	**-0.9**
KHL	**Karahalli**	**2.12**	**360**	*e*PN		**Pn**	**21 39 36.4**	**+0.5**
KHL	**Karahalli**	**2.12**	**360**	*e*Pn		**Pn**	**21 39 36.4**	**+0.5**
KHAL	**Karahalli**	**2.17**	**359**	P		**Pn**	**21 39 37.7**	**+1.1**
KHAL	**Karahalli**	**2.17**	**359**	*i* P		**Pn**	**21 39 37.7**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.18**	**323**	*e*PN		**Pn**	**21 39 36.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**2.18**	**323**	*e*Pn		**Pn**	**21 39 36.5**	**-0.3**
GAZI	**Gazipasa**	**2.25**	**88**	P		**Pn**	**21 39 36.0**	**-1.6**
GAZI	**Gazipasa**	**2.25**	**88**	*i* P		**Pn**	**21 39 36.0**	**-1.6**
ERMK	**Ermenek**	**2.76**	**80**	P		**Pn**	**21 39 46.1**	**+1.3**
ERMK	**Ermenek**	**2.76**	**80**	*i* P		**Pn**	**21 39 46.1**	**+1.3**
DGB	**˘zmir**	**2.81**	**312**	*i* P		**Pn**	**21 39 44.4**	**-1.0**
DGB				*i* S		**Sn**	**21 40 15.1**	**-3.0**
ZKR	**Zakros**	**2.91**	**249**	P		**Pn**	**21 39 46.5**	**-0.2**
ZKR	**Zakros**	**2.91**	**249**	P		**Pn**	**21 39 46.5**	**-0.2**
KDHN	**Kadinhani**	**3.10**	**41**	P		**Pn**	**21 39 49.3**	**-0.1**
KDHN	**Kadinhani**	**3.10**	**41**	*i* P		**Pn**	**21 39 49.3**	**-0.1**

KRSC 06 21:42:26.8±1.2,49°.94N×157°.15E,h24km±26km,ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.99**	**319**	*e*P		Pb	21 42 45.4	0.0
SKR				*e*S		Sn	21 42 58.3	-0.2
PAU	**Pauzhetka**	**1.54**	**352**	*e*P		Pn	21 42 52.9	+0.1
PAU				*e*S		Sb	21 43 14.8	+1.0
RUS	**Russkaya**	**2.64**	**18**	*e*P		Pn	21 43 10.4	+2.5
RUS				*e*S		Sn	21 43 42.0	+2.9
UGLR	**Uglovaya**	**3.44**	**17**	*e*P		Pn	21 43 22.9	+4.0
AVH	**Avacha**	**3.47**	**16**	*e*P		Pb	21 43 23.8	-3.8
SMAR	**Somma**	**3.48**	**17**	*e*P		Pn	21 43 23.5	+3.8
KRER	**Koryakskii**	**3.51**	**16**	*e*P		Pn	21 43

*MAN **06** 21:55:13, 8˚.57N × 127˚.02E, h30 km, mb4.9, ML3.8, MS3.9*
*IDC **06** 21:55:24.0±4.1, 8˚.33N × 125˚.97E, h110 km ± 31 km, mb3.5/5, mb1 3.7/5, mb1mx3.3/39, mbtmp3.8/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/31, Error ellipse: s-maj=110.2km s-min=21.0km az=70.0*

ISC 06 21:55:10.3±2.4, 8˚.74N±0˚.05 × 126˚.79E±0˚.09, h3 km ± 15 km, n14, σ0°76/20, mb4.0/5, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.69**	**217**	*eP*	**Pn**	**21 55 29.0**	**+1.9**
BIPH				*eS*	**Sb**	**21 55 34.6**	**-0.5**
MATI	**Mati**	**1.86**	**196**	*eP*	**Pn**	**21 55 42.4**	**-0.7**
MATI				*eS*	**Sg**	**21 56 10.7**	**+0.7**
BUKP	**Musuan**	**1.91**	**243**	*eP*	**Pb**	**21 55 45.7**	**-0.1**
BUKP				*eS*	**Sg**	**21 56 11.6**	**-0.1**
DAV	**Davao City (W)**	**2.05**	**216**	P	**Pb**	**21 55 48.2**	**+0.1**
	35nm,0.3s,baz=34,slow=12,SNR=6.3						
DAV				S	**Sb**	**21 56 13.8**	**-0.2**
	64nm,0.3s,baz=30,slow=16,SNR=3.8						
DMPH	**Davao City--Mi**	**2.08**	**218**	*iP*	**Pg**	**21 55 49.9**	**-0.3**
DMPH				*i* S	**Sg**	**21 56 17.2**	**+0.1**
CGP	**Cagayan de Oro**	**2.09**	**262**	*eP*	**Pb**	**21 55 49.2**	**+0.3**
CGP				*eS*	**Sb**	**21 56 15.1**	**-0.2**
PLP	**Palo**	**3.00**	**324**	*eP*	**Pb**	**21 56 04.4**	**+0.1**
PLP				*eS*	**Sb**	**21 56 41.6**	**+0.2**
TBP	**Tagbilaran**	**3.04**	**288**	*eP*	**Pb**	**21 56 04.1**	**-1.0**
TGY	**Tagaytay City**	**7.83**	**313**	LR	LR	22 00 26.0	
	comp=Z,93nm,18.6s,baz=129,slow=40						
FITZ	**Fitzroy Crossi**	**26.70**	**182**	P	**P**	**22 00 49.2**	**-1.7**
	1.6nm,0.5s,baz=2.8,slow=9.2,SNR=7.5						
WRA	**Warramunga Arr**	**29.46**	**165**	P	**P**	**22 01 15.9**	**+0.3**
	0.1nm,0.3s,baz=341,slow=8.6,SNR=3.4						
MKAR	**Makanchi Array**	**53.55**	**323**	P	**P**	**22 04 32.7**	**+0.2**
	0.3nm,0.6s,baz=119,slow=9.0,SNR=4.8						
ARCES	**ARCESS Array B**	**85.80**	**340**	P	**P**	**22 07 51.0**	**+0.2**
	1.6nm,0.9s,baz=82,slow=8.3,SNR=4.0						
FINES	**FINESS Array B**	**87.47**	**332**	P	**P**	**22 07 58.8**	**-0.3**
	0.5nm,0.4s,baz=82,slow=4.3,SNR=10						

*DDA **06** 22:01:16.3, 36˚.28N × 29˚.00E, h31 km, Ml3.1*
*ISK **06** 22:01:16.4, 36˚.30N × 29˚.01E, h17 km, MD3.2*
*ISCJB **06** 22:01:17.8±0.4, 36˚.30N±0˚.03 × 29˚.01E±0˚.03, h27 km ± 4 km, Error ellipse: s-maj=4.6km s-min=3.7km az=173.5*
*THE **06** 22:01:17.6, 36˚.32N × 29˚.02E, h8 km ± 1 km, ML2.3/3, Error ellipse: s-maj=1.6km s-min=0.5km az=73.0*
*CSEM **06** 22:01:17.2±0.1, 36˚.32N × 29˚.02E, h15 km, ML2.3, Error ellipse: s-maj=3.0km s-min=2.1km az=166.0*
*ATH **06** 22:01:17.3, 35˚.90N × 29˚.03E, h11 km ± 3 km, ML2.0/1, Error ellipse: s-maj=5.0km s-min=1.1km az=351.0*

ISC 06 22:01:17.4±1.0, 36˚.32N±0˚.03 × 29˚.01E±0˚.02, h17 km ± 7 km, n68, σ0°61/107, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.32**	**10**	PG	**Pg**	**22 01 24.0**	**-0.3**
FETY				*e*SG	**Sb**	**22 01 29.7**	**-0.1**
FETY	**Fethiye**	**0.32**	**10**	P	**Pg**	**22 01 24.5**	**+0.2**
FETY				S	**Sg**	**22 01 29.4**	**+0.4**
FETY	**Fethiye**	**0.32**	**10**	*i* Pg	**Pg**	**22 01 24.0**	**-0.3**
FETY	**Fethiye**	**0.32**	**10**	P	**Pg**	**22 01 24.5**	**+0.2**
FETY				S	**Sg**	**22 01 29.4**	**+0.4**
AKAS	**Kas**	**0.49**	**100**	P	**Pb**	**22 01 27.2**	**-0.4**
AKAS				S	**Sb**	**22 01 35.4**	**+0.9**
AKAS	**Kas**	**0.49**	**100**	*i* P	**Pb**	**22 01 27.2**	**-0.4**
AKAS				*i* S	**Sb**	**22 01 35.4**	**+0.9**
KSL	**Kastellorizon**	**0.49**	**110**	P	**Pb**	**22 01 27.3**	**-0.3**
KSL				S	**Sb**	**22 01 34.9**	**+0.4**
KSL	**Kastellorizon**	**0.49**	**110**	P	**Pb**	**22 01 27.1**	**-0.5**
KSL				S	**Sb**	**22 01 35.2**	**+0.7**
KSL				AML	AML	22 01 37.0	
	comp=N,310μm,0.3s						
KSL				AML	AML	22 01 37.8	
	comp=E,642μm,0.3s						
DALY	**Dalyan (Mu˘la**	**0.58**	**330**	*e*PG	**Pg**	**22 01 28.5**	**-0.4**
DALY				*e*SG	**Sb**	**22 01 37.5**	**+0.5**
DALY	**Dalyan (Mu˘la**	**0.58**	**330**	*e*Pg	**Pg**	**22 01 28.5**	**-0.4**
DALY				*e*Sg	**Sb**	**22 01 37.5**	**+0.5**
TURN	**Turunc**	**0.65**	**329**	*i* P	**Pn**	**22 01 32.3**	**+0.5**
TURN				*i* S	**Sn**	**22 01 43.8**	**+2.1**
ARG	**Arkhangelos**	**0.72**	**262**	P	**Pn**	**22 01 32.2**	**-0.7**
ARG				S	**Sb**	**22 01 42.4**	**+1.2**
ARG	**Arkhangelos**	**0.72**	**262**	P	**Pn**	**22 01 32.2**	**-0.7**
ARG				S	**Sb**	**22 01 42.4**	**+1.2**
ELL	**Elmali**	**0.84**	**59**	*e*PG	**Pg**	**22 01 33.3**	**-0.5**
ELL				*e*SG	**Sb**	**22 01 45.9**	**+1.2**
ELL	**Elmali**	**0.84**	**59**	*e*Pg	**Pg**	**22 01 33.3**	**-0.5**
ELL				*e*Sg	**Sb**	**22 01 45.9**	**+1.2**
GLHS	**Glhisar (BURDU**	**0.92**	**25**	*e*PG	**Pb**	**22 01 34.6**	**-1.1**
GLHS				*e*SG	**Sg**	**22 01 47.8**	**+0.2**
GLHS	**Glhisar (BURDU**	**0.92**	**25**	*e*Pg	**Pb**	**22 01 34.0**	**-1.1**
GLHS				*e*Sg	**Sg**	**22 01 47.8**	**+0.2**
YER	**Yerkesik**	**1.00**	**324**	*e*PG	**Pb**	**22 01 36.5**	**0.0**
YER	**Yerkesik**	**1.00**	**324**	P	**Pb**	**22 01 36.1**	**-0.3**
YER				S	**Sg**	**22 01 50.4**	**+0.3**
YER	**Yerkesik**	**1.00**	**324**	P	**Pb**	**22 01 36.1**	**-0.3**
YER	**Yerkesik**	**1.00**	**324**	*e*Pg	**Pb**	**22 01 36.5**	**0.0**
YER				S	**Sg**	**22 01 50.4**	**+0.3**
GOLH	**Golhisar**	**1.02**	**25**	P	**Pb**	**22 01 36.0**	**-0.7**
GOLH				S	**Sn**	**22 01 51.5**	**+0.5**
GOLH	**Golhisar**	**1.02**	**25**	*i* P	**Pb**	**22 01 36.0**	**-0.7**
GOLH				*i* S	**Sn**	**22 01 51.5**	**+0.5**
KORT	**Korkueli**	**1.27**	**57**	P	**Pn**	**22 01 40.3**	**-0.3**
KORT				S	**Sg**	**22 01 58.9**	**+0.2**
KORT	**Korkueli**	**1.27**	**57**	*i* P	**Pn**	**22 01 40.3**	**-0.3**
KORT				*i* S	**Sg**	**22 01 58.9**	**+0.2**
DNZL	**Cakiroluk**	**1.37**	**1**	P	**Pn**	**22 01 41.8**	**-0.2**
DNZL				S	**Sn**	**22 01 58.2**	**-1.7**
DNZL	**Cakiroluk**	**1.37**	**1**	*i* P	**Pn**	**22 01 41.8**	**-0.2**
DNZL				*i* S	**Sn**	**22 01 58.2**	**-1.7**
DENT	**Denizli**	**1.43**	**1**	*e*PN	**Pn**	**22 01 42.5**	**-0.2**
DENT	**Denizli**	**1.43**	**1**	*e*Pn	**Pn**	**22 01 42.5**	**-0.2**
ANTB	**Antalya**	**1.44**	**66**	*e*PN	**Pn**	**22 01 42.7**	**-0.1**
ANTB	**Antalya**	**1.44**	**66**	*e*Pn	**Pn**	**22 01 42.7**	**-0.1**
BDRM	**Kayabasi**	**1.47**	**301**	P	**Pn**	**22 01 42.7**	**-0.4**
BDRM				S	**Sg**	**22 02 03.9**	**-0.9**
BDRM	**Kayabasi**	**1.47**	**301**	*i* P	**Pn**	**22 01 42.7**	**-0.4**
BDRM				*i* S	**Sg**	**22 02 03.9**	**-0.9**
NIS1	**Nisyros Isl.**	**1.51**	**281**	*e*PN	**Pn**	**22 01 43.4**	**-0.3**
NIS1	**Nisyros Isl.**	**1.51**	**281**	P	**Pn**	**22 01 43.0**	**-0.7**
NIS1	**Nisyros Isl.**	**1.51**	**281**	P	**Pn**	**22 01 43.0**	**-0.7**
NIS1	**Nisyros Isl.**	**1.51**	**281**	*e*Pn	**Pn**	**22 01 43.4**	**-0.3**
BODT	**Bodrum**	**1.56**	**299**	*e*PN	**Pn**	**22 01 44.3**	**-0.1**
BODT	**Bodrum**	**1.56**	**299**	P	**Pn**	**22 01 44.0**	**-0.4**
BODT				S	**Sn**	**22 02 04.4**	**+0.2**
BODT	**Bodrum**	**1.56**	**299**	P	**Pn**	**22 01 44.0**	**-0.4**
BODT	**Bodrum**	**1.56**	**299**	*e*Pn	**Pn**	**22 01 44.3**	**-0.1**
BODT				S	**Sn**	**22 02 04.4**	**+0.2**
AYDN	**Tasoluk**	**1.62**	**326**	P	**Pn**	**22 01 46.2**	**+0.9**
AYDN				S	**Sb**	**22 02 07.8**	**+0.7**
AYDN	**Tasoluk**	**1.62**	**326**	*i* P	**Pn**	**22 01 46.2**	**+0.9**
AYDN				*i* S	**Sb**	**22 02 07.8**	**+0.7**
KARP	**Karpathos**	**1.69**	**243**	*e*PN	**Pn**	**22 01 45.9**	**-0.3**
KARP	**Karpathos**	**1.69**	**243**	P	**Pn**	**22 01 46.2**	**0.0**
KARP				S	**Sn**	**22 02 07.5**	**0.0**
KARP	**Karpathos**	**1.69**	**243**	*e*Pn	**Pn**	**22 01 45.9**	**-0.3**
KARP	**Karpathos**	**1.69**	**243**	P	**Pn**	**22 01 46.2**	**0.0**
KARP				S	**Sn**	**22 02 07.5**	**0.0**
KARP	**Karpathos**	**1.69**	**243**	P	**Pn**	**22 01 46.6**	**+0.4**
KARP				S	**Sn**	**22 02 07.6**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.86**	**331**	*e*PN	**Pn**	**22 01 48.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.86**	**331**	*e*Pn	**Pn**	**22 01 48.5**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.97**	**53**	*e*PN	**Pn**	**22 01 50.2**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.97**	**53**	*e*Pn	**Pn**	**22 01 50.2**	**+0.1**
GCAM	**G?zelcaml?**	**1.98**	**315**	P	**Pn**	**22 01 50.5**	**+0.3**
GCAM				S	**Sn**	**22 02 14.6**	**-0.1**
GCAM	**G?zelcaml?**	**1.98**	**315**	*i* P	**Pn**	**22 01 50.5**	**+0.3**
GCAM				*i* S	**Sn**	**22 02 14.6**	**-0.1**
KULA	**Kula-Manisa**	**2.21**	**353**	*e*PN	**Pn**	**22 01 53.8**	**+0.4**
KULA	**Kula-Manisa**	**2.21**	**353**	*e*Pn	**Pn**	**22 01 53.8**	**+0.4**
SMG	**Samos**	**2.23**	**309**	P	**Pn**	**22 01 53.3**	**-0.3**
SMG	**Samos**	**2.23**	**309**	P	**Pn**	**22 01 53.3**	**-0.3**
DGB	**˘zmir**	**2.43**	**316**	*i* P	**Pn**	**22 01 55.7**	**-0.6**
DGB				*i* S	**Sn**	**22 02 25.9**	**+0.3**
ZKR	**Zakros**	**2.57**	**243**	P	**Pn**	**22 01 59.5**	**+1.2**
ZKR				S	**Sn**	**22 02 29.0**	**-0.3**
ZKR	**Zakros**	**2.57**	**243**	P	**Pn**	**22 01 59.5**	**+1.2**
ZKR				S	**Sn**	**22 02 29.0**	**-0.3**
ZEY	**˘zmir**	**2.77**	**315**	*i* P	**Pn**	**22 02 00.9**	**-0.2**
ZEY				*i* S	**Sn**	**22 02 34.2**	**+0.1**
CHOS	**Chios island**	**3.13**	**312**	*e*PN	**Pn**	**22 02 06.9**	**+0.8**
CHOS	**Chios island**	**3.13**	**312**	*e*Pn	**Pn**	**22 02 06.9**	**+0.8**
IDI	**Anoyia**	**3.50**	**254**	P	**Pn**	**22 02 11.0**	**-0.2**
IDI	**Anoyia**	**3.50**	**254**	P	**Pn**	**22 02 11.0**	**-0.2**
IMMV	**Iera Moni Meta**	**4.17**	**260**	P	**Pn**	**22 02 20.0**	**-0.4**
IMMV	**Iera Moni Meta**	**4.17**	**260**	P	**Pn**	**22 02 20.0**	**-0.4**

GUC 06 22:02:33.7±0.6, 34˚.81S × 71˚.86W, h46 km ± 5 km, ML3.8, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.43**	**344**	*i* P	Pn	22 02 43.4	-0.5
CHPI				*i* S	Sn	22 02 50.9	-0.1
TALC	**Talca**	**0.62**	**163**	*i* P	Pn	22 02 46.1	-0.1
TALC				*i* S	Sn	22 02 55.3	+0.1
RCDM	**Rinconada Maip**	**1.58**	**34**	*e*P	Pn	22 02 59.2	0.0
RCDM				*i* S	Sn	22 03 19.2	+0.7
RCDM				IAML		22 03 24.7	
	comp=E,2μm,0.1s						
ANTU	**Antumapu**	**1.60**	**40**	*e*P	Pn	22 02 59.6	0.0
CLCH	**Cerro Calan**	**1.78**	**38**	*i* P	Pn	22 03 02.5	+0.4
CLCH				*i* S	Sn	22 03 24.4	+0.8
CLCH				IAML		22 03 28.8	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**1.92**	**31**	*e*P	Pn	22 03 04.8	+0.7
PEL				*e*S	Sn	22 03 27.3	+0.2
PEL				IAML		22 03 32.5	
	comp=N,984nm,0.5s						
ROCH	**El Roble**	**1.96**	**21**	*i* P	Pn	22 03 05.3	+0.6
ROCH				*i* S	Sn	22 03 30.5	+2.3
ROCH				IAML		22 03 35.3	
	comp=E,858nm,0.4s						
FCH	**Farellones**	**1.97**	**42**	*i* P	Pn	22 03 05.3	+0.4
FCH				*e*S	Sn	22 03 29.4	+0.9
FCH				IAML		22 03 33.3	
	comp=N,1μm,0.3s						

WEL 06 22:16:27.4±0.9, 46˚.15S × 165˚.89E, h20 km, ML3.6/10, 1D, Error ellipse: s-maj=8.7km s-min=4.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.55**	**92**	*i*P*	Pb	22 16 38.2	-0.2
PYZ				S*	Sb	22 16 45.8	-0.1
DCZ	**Deep Cove**	**1.12**	**53**	PN	Pn	22 16 46.9	-1.0
DCZ				SN	Sb	22 17 01.7	-0.4
DCZ				AML	AML	22 17 04.1	
DCZ				AML	AML	22 17 08.5	
DCZ				AML	AML	22 17 19.7	
WHZ	**Wether Hill Ro**	**1.46**	**81**	PN	Pn	22 16 52.3	-0.2
WHZ				SN	Sn	22 17 11.1	0.0
WHZ				AML	AML	22 17 22.6	
APZ	**The Paps**	**1.60**	**116**	PN	Pn	22 16 52.9	-1.7
APZ				SN	Sn	22 17 13.0	-1.8
APZ				AML	AML	22 17 19.4	
MLZ	**Mavora Lakes**	**1.75**	**64**	PN	Pb	22 16 57.8	-1.0
MLZ				AML	AML	22 17 33.8	
MLZ				AML	AML	22 17 37.3	
SYZ	**Scrubby Hill**	**2.29**	**101**	PN	Pn	22 17 03.1	-0.8
SYZ				AML	AML	22 17 43.4	
SYZ				AML	AML	22 17 43.4	
SYZ				AML	AML	22 17 50.0	
SYZ				AML	AML	22 17 50.0	
EAZ	**Earnscleugh**	**2.57**	**70**	PN	Pn	22 17 09.0	+1.2
EAZ				AML	AML	22 17 48.2	
EAZ				AML	AML	22 18 00.2	
WKZ	**Wanaka**	**2.57**	**60**	*e*PN	Pn	22 17 10.0	+2.1
WKZ				AML	AML	22 17 51.8	
WKZ				AML	AML	22 17 58.1	
TUZ	**Tuapeka**	**2.61**	**87**	*e*PN	Pn	22 17 08.1	-0.4
TUZ				AML	AML	22 17 46.9	
TUZ				AML	AML	22 17 49.8	
JCZ	**Jackson Bay**	**2.92**	**46**	*e*PN	Pn	22 17 14.6	+1.9
JCZ				AML	AML	22 18 10.0	
JCZ				AML	AML	22 18 12.2	
LBZ	**Lake Benmore**	**3.51**	**61**	*e*PN	Pn	22 17 21.3	+0.5
LBZ				AML	AML	22 18 06.8	
ODZ	**Otahua Downs**	**3.52**	**73**	*e*PN	Pn	22 17 19.3	-1.6

*IDC **06** 22:17:24.4±2.5, 35˚.40N × 143˚.03E, h0 km, mb3.5/3, mb1 3.6/5, mb1mx3.4/35, mbtmp3.5/5, ML3.3/2, MS2.8/3, Ms1 2.9/3, ms1mx2.3/34, Error ellipse: s-maj=60.6km s-min=27.4km az=59.0*
*ISCJB **06** 22:17:26.3±0.8, 35˚.77N±0˚.04 × 142˚.90E±0˚.06, h50 km, mb3.5/3, MS3.1/2, Error ellipse: s-maj=7.3km s-min=6.4km az=5.4*
*JMA **06** 22:17:26.7±0.3, 35˚.82N × 142˚.84E, h83 km, M3.3*

ISC 06 22:17:26.6±1.3, 35˚.78N±0˚.04 × 143˚.01E±0˚.08, h50 km, n21, σ2°20/31, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.75**	**268**	P	**Pn**	**22 17 54.3**	**-0.2**
CHOJ				*e*S	**Sn**	**22 18 15.3**	**-0.3**
BSO1	**Boso 1**	**2.01**	**237**	P	**Pn**	**22 17 57.0**	**-0.5**
BSO1				*e*S	**Sn**	**22 18 21.0**	**-0.2**
JHO	**Hitachi**	**2.14**	**293**	P	**Pn**	**22 17 58.7**	**-1.1**
JHO				*e*S	**Sn**	**22 18 22.8**	**-2.4**
JFT	**Otama**	**2.76**	**310**	P	**Pn**	**22 18 08.7**	**+0.3**
JFT				*e*S	**Sn**	**22 18 39.7**	**-0.8**
JAG	**Ashikaga**	**2.95**	**284**	P	**Pn**	**22 18 10.6**	**-0.3**
JAG				*e*S	**Sn**	**22 18 42.0**	**-3.1**
JOD2	**Odawara 2**	**3.24**	**262**	P	**Pn**	**22 18 14.4**	**-0.5**
JOD2				S	**Sn**	**22 18 51.0**	**-1.3**
JRY	**Ryogami san**	**3.34**	**275**	*e*S	**Sn**	**22 18 53.6**	**-1.2**
JMK	**Ichinoseki**	**3.47**	**336**	P	**Pn**	**22 18 17.1**	**-1.0**
JMK				*e*S	**Sn**	**22 18 53.0**	**-4.9**
JYN	**Shimob**	**3.65**	**267**	P	**Pn**	**22 18 21.0**	**+0.4**
JHJ2	**Mitsune**	**3.75**	**226**	P	**Pn**	**22 18 22.3**	**+0.4**
JHJ2				S	**Sn**	**22 19 01.4**	**-3.3**
JHJ	**Hachijo jima 2**	**3.76**	**226**	Pn	**Pn**	**22 18 21.0**	**-1.1**
	6.0nm,0.3s,baz=96,slow=19,SNR=7.8						
JHJ				Sn	**Sn**	**22 19 00.4**	**-4.7**
	57nm,0.3s,baz=89,slow=23,SNR=11						
JYK	**Kaneyama**	**3.78**	**327**	P	**Pn**	**22 18 22.9**	**+0.6**
JOM	**Ohasama**	**3.93**	**340**	P	**Pn**	**22 18 26.5**	**+2.1**
JOM				*e*S	**Sn**	**22 19 06.2**	**-3.0**
MJAR	**Matsushiro Arr**	**3.96**	**282**	Pn	**Pn**	**22 18 25.9**	**+1.2**
	2.1nm,0.3s,baz=100,slow=8.7,SNR=10.0						
MJAR				Sn	**Sn**	**22 19 10.5**	**+0.6**
	1.3nm,0.3s,baz=113,slow=12,SNR=4.6						
MJAR				LR	LR	22 20 09.7	
	comp=Z,23nm,21.0s,baz=140,slow=41						
MAT	**Matsushiro**	**3.96**	**282**	P	**Pn**	**22 18 26.5**	**+1.7**
MAT				S	**Sn**	**22 19 13.5**	**+3.5**
JANG	**Nango**	**4.74**	**346**	P	**Pn**	**22 18 37.1**	**+1.7**
JANG				S	**Sn**	**22 19 25.4**	**-3.6**
TGY	**Tagaytay City**	**29.30**	**228**	LR	LR	22 34 48.2	
	comp=Z,55nm,19.2s,baz=178,slow=36						
CMAR	**Chiang Mai Arr**	**42.46**	**258**	LR	LR	22 45 06.0	
	comp=Z,17nm,18.2s,baz=255,slow=39						
MKAR	**Makanchi Array**	**45.88**	**303**	P	P	22 25 50.6	+6.7
	0.1nm,0.2s,baz=64,slow=9.8,SNR=2.5						
WRA	**Warramunga Arr**	**56.02**	**190**	P	**P**	**22 27 02.0**	**+1.8**
	0.2nm,0.2s,baz=13,slow=7.7,SNR=18						
ASAR	**Alice Springs**	**59.75**	**190**	P	**P**	**22 27 28.4**	**+2.0**
	0.2nm,0.4s,baz=7.6,slow=8.4,SNR=2.9						

MEX 06 22:20:20.7±0.4, 16˚.24N × 96˚.29W, h25 km ± 35 km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.51**	**159**	*e*P	Pb	22 20 29.2	-1.8
HUIG				*i* S	Sb	22 20 36.2	-1.8
VHO	**Vista Hermosa**	**0.93**	**333**	*i* P	Pb	22 20 35.1	-3.2
VHO				*e*S	Sb	22 20 47.2	-3.0
PNIG	**Pinotepa**	**1.77**	**275**	*e*P	Pn	22 20 47.5	-2.3
PNIG				*i* S	Sn	22 21 08.0	-3.6

*DDA **06** 22:24:10.3, 39˚.13N × 29˚.04E, h8 km, Ml3.5*
*CSEM **06** 22:24:10.8±0.1, 39˚.11N × 29˚.05E, h2 km, ML3.5, Error ellipse: s-maj=2.1km s-min=1.9km az=135.0*
*ISK **06** 22:24:10.4, 39˚.12N × 29˚.03E, h5 km, MD3.0*

ISC 06 22:24:11.0±1.0, 39˚.13N±0˚.02 × 29˚.04E±0˚.02, h7 km ± 8 km, n96, σ0°57/123, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**252**	P	**Pg**	**22 24 16.2**	**0.0**
DEMI				S	**Sg**	**22 24 20.0**	**+0.2**
DEMI	**Demirci**	**0.26**	**252**	*i* P	**Pg**	**22 24 16.2**	**0.0**
DEMI				*i* S	**Sg**	**22 24 20.0**	**+0.2**
GDZ	**Gediz**	**0.35**	**96**	P	**Pg**	**22 24 17.4**	**-0.4**
GDZ				S	**Sg**	**22 24 22.4**	**0.0**
GDZ	**Gediz**	**0.35**	**96**	*i* P	**Pg**	**22 24 17.4**	**-0.4**
GDZ				*i* S	**Sg**	**22 24 22.4**	**0.0**
TVSB	**Tavsanli**	**0.46**	**45**	*e*PG	**Pg**	**22 24 19.6**	**-0.3**
TVSB				*e*SG	**Sg**	**22 24 26.5**	**+0.5**
TVSB	**Tavsanli**	**0.46**	**45**	*e*Pg	**Pg**	**22 24 19.6**	**-0.3**
TVSB				*e*Sg	**Sg**	**22 24 26.5**	**+0.5**
DST	**Dursunbey**	**0.58**	**326**	*e*PG	**Pg**	**22 24 22.1**	**-0.1**
DST	**Dursunbey**	**0.58**	**326**	*e*Pg	**Pg**	**22 24 22.1**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*PG	**Pg**	**22 24 23.4**	**-0.6**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*Pg	**Pg**	**22 24 23.4**	**-0.6**
KHAL	**Karahalli**	**0.83**	**155**	P	**Pg**	**22 24 26.7**	**-0.3**
KHAL				S	**Sg**	**22 24 37.4**	**-0.4**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pg**	**22 24 26.7**	**-0.3**
KHAL				*i* S	**Sg**	**22 24 37.4**	**-0.4**
KHL	**Karahalli**	**0.89**	**155**	*e*PG	**Pg**	**22 24 27.9**	**-0.1**
KHL	**Karahalli**	**0.89**	**155**	*e*Pg	**Pg**	**22 24 27.9**	**-0.1**
ORLT	**Orhaneli**	**0.93**	**353**	*e*PG	**Pg**	**22 24 28.5**	**-0.3**
ORLT	**Orhaneli**	**0.93**	**353**	*e*Pg	**Pg**	**22 24 28.5**	**-0.3**
AKHS	**Akhisar**	**0.99**	**256**	P	**Pg**	**22 24 29.6**	**-0.3**
AKHS				S	**Sb**	**22 24 43.2**	**-0.3**
AKHS	**Akhisar**	**0.99**	**256**	*i* P	**Pg**	**22 24 29.6**	**-0.3**
AKHS				*i* S	**Sb**	**22 24 43.2**	**-0.3**
AKS	**Akhisar**	**0.99**	**256**	*e*PG	**Pg**	**22 24 30.0**	**+0.1**
AKS				*e*SG	**Sb**	**22 24 43.4**	**-0.2**
AKS	**Akhisar**	**0.99**	**256**	*e*Pg	**Pg**	**22 24 30.0**	**+0.1**
AKS				*e*Sg	**Sb**	**22 24 43.4**	**-0.2**
BALB	**Balikesir**	**1.03**	**300**	*e*PG	**Pg**	**22 24 30.7**	**-0.1**
BALB				*e*SG	**Sn**	**22 24 45.8**	**-0.8**
BALB	**Balikesir**	**1.03**	**300**	*e*Pg	**Pg**	**22 24 30.7**	**-0.1**
BALB				*e*Sg	**Sn**	**22 24 45.8**	**-0.8**
IGD	**Bursa**	**1.14**	**6**	*i* P	**Pg**	**22 24 31.6**	**-1.4**
IGD				*i* S	**Sn**	**22 24 48.8**	**-0.5**
CAVI	**Cavuskoy**	**1.24**	**30**	*e*PN	**Pg**	**22 24 34.6**	**-0.2**
CAVI	**Cavuskoy**	**1.24**	**30**	*e*Pn	**Pg**	**22 24 34.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN	**Pb**	**22 24 34.3**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pb**	**22 24 34.3**	**-0.5**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**Pn**	**22 24 35.1**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn	**Pn**	**22 24 35.1**	**+0.2**
IZI	**Iznik**	**1.25**	**15**	*e*PN	**Pn**	**22 24 35.1**	**+0.1**
IZI	**Iznik**	**1.25**	**15**	*e*Pn	**Pn**	**22 24 35.1**	**+0.1**
BALY	**Balya**	**1.26**	**300**	P	**Pg**	**22 24 34.8**	**-0.3**
BALY				S	**Sn**	**22 24 52.0**	**-0.1**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pg**	**22 24 34.8**	**-0.3**
BALY				*i* S	**Sn**	**22 24 52.0**	**-0.1**
GEMT	**Gemlik**	**1.31**	**5**	*e*PN	**Pg**	**22 24 36.2**	**+0.3**
GEMT	**Gemlik**	**1.31**	**5**	*e*Pn	**Pg**	**22 24 36.5**	**+0.3**
BORA	**Eskisehir**	**1.33**	**55**	P	**Pn**	**22 24 35.2**	**-0.8**
BORA				S	**Sn**	**22 24 54.4**	**+0.5**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pn**	**22 24 35.2**	**-0.8**
BORA				*i* S	**Sn**	**22 24 54.4**	**+0.5**
DENT	**Denizli**	**1.37**	**180**	*e*PN	**Pb**	**22 24

JRG	**Rokugo**	**3.04 308**	P	**Pn**	**22 55 23.3 +0.5**	
JRG			S	**Sn**	**22 55 57.2 -0.7**	
JANG	**Nango**	**3.28 329**	P	**Pn**	**22 55 27.0 +0.8**	
JAG	**Ashikaga**	**3.62 253**	P	**Pn**	**22 55 30.8 -0.1**	
JAG			S	**Sn**	**22 56 11.3 -1.1**	
BSO1	**Boso 1**	**3.68 218**	P	**Pn**	**22 55 30.4 -0.8**	
BSO1			*e*S	**Sn**	**22 56 12.9 -0.2**	
JRY	**Ryogami san**	**4.19 250**	P	**Pn**	**22 55 38.3 -0.4**	
JRY			S	**Sn**	**22 56 23.4 -3.0**	
MJAR	**Matsushiro Arr**	**4.55 258**	Pn	**Pn**	**22 55 45.1 +1.5**	
	2.6nm,0.3s,baz=86,slow=15,SNR=38					
MAT	**Matsushiro**	**4.55 258**	P	**Pn**	**22 55 45.3 +1.7**	
MAT			S	**Sn**	**22 56 31.0 -4.3**	
JCH	**Churui**	**5.03 357**	P	**Pn**	**22 55 50.2 0.0**	
JCH			*e*S	**Sn**	**22 56 43.3 -3.8**	
MKAR	**Makanchi Array**	**45.40 302**	P	**P**	**23 02 54.1 +1.8**	
	0.2nm,0.2s,baz=81,slow=9.5,SNR=3.7					
WRA	**Warramunga Arr**	**57.90 190**	P	**P**	**23 04 26.2 +0.4**	
	0.6nm,0.7s,baz=8.2,slow=7.1,SNR=6.6					

IDC ***06*** *23:02:33.1±0.8,2˚18.S×128˚49.E, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.9/31, mbtmp4.0/10, ML3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/27, Error ellipse: s-maj=37.2km s-min=12.0km az=80.0*

ISCJB ***06*** *23:02:36.0±0.4, 2˚.24S±0˚.04×128˚.39E±0˚.04, h34km, mb4.1/10, Error ellipse: s-maj=6.8km s-min=4.6km az=146.8*

DJA ***06*** *23:02:37.9±1.0, 2˚.S±3˚×12˚.8E±˚, h23km±14km, M3.7/5, MLv3.7/5*

NEIC ***06*** *23:02:38.0±1.1, 2˚.25S×128˚.45E, h39km±12km, mb4.1/7, Error ellipse: s-maj=10.9km s-min=6.6km az=223.0*

ISC 06 23:02:37.7±0.6**, 2˚.21S**±0˚.05×**128˚.32E**±0˚.05**, h34**km**, n34,** σ**2**s**70/43, mb4.1**/10**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.29 152**		P	**Pb**	**23 03 02.2**	**+0.8**
MSAI				S	**Sb**	**23 03 23.9**	**+6.2**
LBMI	**Labuha**	**1.76 332**		P	**Pn**	**23 03 05.9**	**+0.1**
LBMI				S	**Sn**	**23 03 28.5**	**+1.5**
SANI	**Sanana**	**2.33 274**		P	**Pn**	**23 03 10.2**	**-3.5**
SANI				S	**Sn**	**23 03 33.7**	**-7.5**
FAKI	**Fak Fak**	**3.99 100**		P	**Pn**	**23 03 38.1**	**+1.6**
FAKI				S	**Sb**	**23 04 38.0**	**+2.8**
FAKI	**Fak Fak**	**3.99 100**		*e*Pn	**Pn**	**23 03 36.0**	**-0.5**
FAKI				*e*Sn	**Sn**	**23 04 20.0**	**-2.1**
LUWI	**Luwuk**	**5.66 282**		*e*Sn	**Sn**	**23 05 07.8**	**+4.4**
SGSI	**Sangihe**	**6.48 335**		P	Pn	23 04 17.7	+6.9
KAPI	**Kappang**	**8.99 252**		Pn	**Pn**	**23 04 48.5**	**+3.2**
	4.7nm,0.3s,baz=104,slow=4.1,SNR=14						
KAPI				Sn	**Sn**	**23 06 28.9**	**+3.5**
	baz=261,slow=18,SNR=2.3						
KAPI	**Kappang**	**8.99 252**		*e*Pn	**Pn**	**23 04 45.0**	**-0.3**
KAPI				*e*Sn	**Sn**	**23 06 28.9**	**+3.5**
MTN	**Manton Dam**	**10.93 165**		*e*Pn	**Pn**	**23 05 11.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**16.02 189**		Pn	**Pn**	**23 06 20.5**	**+0.1**
	0.1nm,0.3s,baz=0.0,slow=13,SNR=3.9						
FITZ	**Fitzroy Crossi**	**16.02 189**		*e*Pn	**Pn**	**23 06 20.5**	**+0.1**
	5.5nm,1.0s						
TGY	**Tagaytay City**	**17.78 336**		LR	LR	23 13 58.8	
	comp=Z,103nm,21.6s,baz=156,slow=38						
WRAB	**Tennant Creek**	**18.58 162**		*e*P	**P**	**23 06 47.1**	**-4.9**
	30nm,1.7s						
WR1	**Warramunga Arr**	**18.59 162**		*e*P	**P**	**23 06 51.1**	**-1.0**
	10nm,1.1s						
WR1				*e*Sn	**Sn**	**23 10 16.0**	**-3.4**
WRA	**Warramunga Arr**	**18.59 162**		P	**P**	**23 06 51.1**	**-1.0**
	0.1nm,0.3s,baz=341,slow=12,SNR=6.6						
WRA				S	**Sn**	**23 10 16.0**	**-3.4**
	0.1nm,0.3s,baz=334,slow=21,SNR=3.2						
COEN	**Coen**	**18.76 129**		*e*P	**P**	**23 06 50.2**	**-3.8**
	34nm,1.4s						
AS31	**Alice Springs**	**22.01 166**		*e*P	**P**	**23 07 28.8**	**-0.5**
	10nm,1.4s						
AS31				*e*S	**S**	**23 11 34.2**	**+3.8**
ASAR	**Alice Springs**	**22.01 166**		P	**P**	**23 07 28.8**	**-0.5**
	9.5nm,0.7s,baz=345,slow=11,SNR=60						
ASAR				S	**S**	**23 11 34.2**	**+3.8**
	0.7nm,0.8s,baz=351,slow=22,SNR=4.2						
AS01	**Alice Springs**	**22.02 166**		*e*P	**P**	**23 07 28.6**	**-0.8**
STKA	**Stephens Creek**	**32.06 158**		P	**P**	**23 09 01.5**	**+0.1**
	1.9nm,0.7s,baz=323,slow=5.1,SNR=2.4						
STKA	**Stephens Creek**	**32.06 158**		*e*P	**P**	**23 09 01.5**	**+0.1**
	3.9nm,1.4s						
KS15	**Wonju Array Si**	**39.45 359**		*e*P	**P**	**23 10 06.0**	**+1.4**
KSAR	**Wonju Array Be**	**39.45 359**		P	**P**	**23 10 06.0**	**+1.4**
KSRS	**Korea Array**	**39.46 360**		P	**P**	**23 10 06.0**	**+1.3**
	0.5nm,0.3s,baz=185,slow=9.8,SNR=4.8						
MJAR	**Matsushiro Arr**	**39.64 13**		P	**P**	**23 10 05.5**	**-0.7**
	0.4nm,0.3s,baz=188,slow=9.6,SNR=3.1						
USRK	**Ussuriysk Ar.**	**46.32 4**		P	**P**	**23 11 01.5**	**+1.3**
	1.1nm,0.5s,baz=190,slow=6.4,SNR=3.8						
FUNA	**Funafuti**	**51.01 99**		*e*P	**P**	**23 11 34.0**	**-2.8**
	170nm,1.2s						
SONA0	**Songino Array**	**53.39 342**		*e*P	**P**	**23 11 54.1**	**0.0**
	2.5nm,1.3s						
SONM	**Songino Array**	**53.39 342**		P	**P**	**23 11 54.1**	**0.0**
	0.2nm,0.4s,baz=152,slow=4.6,SNR=2.3						
MK32	**Makanchi Array**	**63.33 326**		*e*P	**P**	**23 13 03.3**	**-0.1**
MKAR	**Makanchi Array**	**63.33 326**		P	**P**	**23 13 03.3**	**-0.1**
	0.8nm,1.0s,baz=125,slow=8.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**126.11 285**		PKP	**PKPdf**	**23 21 38.6**	**+1.0**
	0.5nm,0.9s,baz=90,slow=2.0,SNR=3.2						
TOA1	**Torodi Ar. Sit**	**126.11 285**		*e*PKPdf	**PKPdf**	**23 21 38.6**	**+1.0**

ISK ***06*** *23:06:15.8, 39˚.11N×29˚.01E, h14km, MD2.6*

ISCJB ***06*** *23:06:16.6±0.6, 39˚.14N±0˚.04×29˚.02E±0˚.04, h9km, Error ellipse: s-maj=6.4km s-min=4.6km az=158.4*

CSEM ***06*** *23:06:16.4±0.1, 39˚.12N×29˚.02E, h15km, MD2.6, Error ellipse: s-maj=3.0km s-min=2.6km az=89.0*

DDA ***06*** *23:06:17.3, 39˚.07N×29˚.05E, h7km, Md2.6*

ISC 06 23:06:16.2±0.9**, 39˚.12N**±0˚.04×**29˚.05E**±0˚.03**, h9**km**, n18,** σ**0**s**59/24, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27 254**		P	**Pb**	**23 06 22.9**	**-0.4**
DEMI				S	**Sg**	**23 06 26.8**	**+1.5**
DEMI	**Demirci**	**0.27 254**		*i* P	**Pg**	**23 06 22.9**	**-0.4**
DEMI				*i* S	**Sg**	**23 06 26.8**	**+1.5**
GDZ	**Gediz**	**0.34 95**		P	**Pb**	**23 06 24.4**	**-0.1**
GDZ				S	**Sb**	**23 06 29.2**	**-0.8**
GDZ	**Gediz**	**0.34 95**		*i* P	**Pb**	**23 06 24.4**	**-0.1**
GDZ				*i* S	**Sb**	**23 06 29.2**	**-0.8**
TVSB	**Tavsanli**	**0.46 44**		*e*PG	**Pg**	**23 06 25.6**	**+0.4**
TVSB				*e*SG	**Sb**	**23 06 33.3**	**-0.3**
TVSB	**Tavsanli**	**0.46 44**		*e*Pg	**Pg**	**23 06 25.6**	**+0.4**
TVSB				*e*Sg	**Sb**	**23 06 33.3**	**-0.3**
DST	**Dursunbey**	**0.59 326**		*e*PG	**Pg**	**23 06 27.6**	**0.0**
DST	**Dursunbey**	**0.59 326**		*e*Pg	**Pg**	**23 06 27.6**	**0.0**
KULA	**Kula-Manisa**	**0.67 207**		*e*PG	**Pg**	**23 06 29.1**	**-0.1**
KULA	**Kula-Manisa**	**0.67 207**		*e*Pg	**Pg**	**23 06 29.1**	**-0.1**
KHAL	**Karahalli**	**0.82 155**		P	**Pb**	**23 06 32.9**	**+0.2**
KHAL	**Karahalli**	**0.82 155**		*i* P	**Pb**	**23 06 32.9**	**+0.2**
ORLT	**Orhaneli**	**0.94 353**		*e*PG	**Pg**	**23 06 34.3**	**+0.1**
ORLT	**Orhaneli**	**0.94 353**		*e*Pg	**Pg**	**23 06 34.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27 335**		*e*PN	**Pn**	**23 06 39.7**	**-0.4**
KCTX	**Karacabey (Bur**	**1.27 335**		*e*Pn	**Pn**	**23 06 39.7**	**-0.4**
ARMT	**Armutlu**	**1.45 354**		*e*PN	**Pn**	**23 06 42.3**	**-0.4**
ARMT	**Armutlu**	**1.45 354**		*e*Pn	**Pn**	**23 06 42.3**	**-0.4**

MAN ***06*** *23:07:06, 5˚.47N×126˚.47E, h10km, mb4.9, ML3.9, MS3.9*

BJI ***06*** *23:07:07.3, 5˚.27N×126˚.69E, h95km, mb4.6/28, mB4.7/17*

ISCJB ***06*** *23:07:07.9±0.5, 5˚.48N±0˚.02×126˚.58E±0˚.04, h86km±4km, mb4.5/70, Error ellipse: s-maj=6.5km s-min=3.7km az=170.1*

IDC ***06*** *23:07:07.3±1.7, 5˚.48N×126˚.55E, h65km±14km, mb4.0/25, mb1 4.1/26, mb1mx4.1/39, mbtmp4.3/26, Error ellipse: s-maj=20.0km s-min=9.5km az=81.0*

DJA ***06*** *23:07:08.3±0.8, 5˚N±4˚×12˚7E±˚, h48km±10km, M4.8/9, mB5.3/2, mb4.6/9, MLv5.0/5, Mw(mB)4.8/2*

NEIC ***06*** *23:07:09.3±0.8, 5˚.52N×126˚.58E, h83km±7km, mb4.6/46, Error ellipse: s-maj=6.9km s-min=4.4km az=72.0*

ISC 06 23:07:09.1±0.8**, 5˚.52N**±0˚.03×**126˚.60E**±0˚.05**, h80**km±7km**, n143,** σ1s**48**/173**, mb4.6**/70**, 3C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.46 346**		*e*P	**Pn**	**23 07 32.4**	**-1.5**
MATI				*e*S	Sn	23 08 02.0	+9.5
DAV	**Davao City (W)**	**1.84 327**		P	**Pn**	**23 07 37.7**	**-1.3**
	205nm,0.3s,baz=140,slow=1.9,SNR=26						
DAV				S	**Sn**	**23 08 03.4**	**+1.8**
	171nm,0.3s,baz=288,slow=19,SNR=5.4						
DAV	**Davao City (W)**	**1.84 327**		*e*Pn	**Pn**	**23 07 37.5**	**-1.4**
DAV				*e*Sn	**Sn**	**23 08 01.0**	**-0.6**
KCP	**Kidapawan**	**2.11 315**	⇑	*i* P	**Pn**	**23 07 41.6**	**-0.8**
KCP				*i* S	**Sn**	**23 08 08.7**	**+0.8**
SGSI	**Sangihe**	**2.11 210**		P	**Pn**	**23 07 40.4**	**-2.1**
SGSI				S	**Sn**	**23 08 07.2**	**-0.8**
BIPH	**Bislig**	**2.66 355**	⇑	*i* P	**Pn**	**23 07 51.3**	**+1.5**
BIPH				*i* S	Sn	23 08 31.4	+10
BUKP	**Musuan**	**2.80 327**		*e*P	**Pn**	**23 07 52.3**	**+0.6**
BUKP				*e*S	**Sn**	**23 08 26.0**	**+1.4**
CTBH	**Cotabato--PC H**	**2.88 306**	⇑	*e*P	**Pn**	**23 07 52.3**	**-0.6**
CTBH				*i* S	**Sn**	**23 08 26.6**	**0.0**
CGP	**Cagayan de Oro**	**3.47 327**	⇓	*e*P	**Pn**	**23 08 01.9**	**+1.0**
LBMI	**Labuha**	**6.18 172**		P	**Pn**	**23 08 36.4**	**-1.5**
	81nm,0.8s,0.3nm						
MRSI	**Marisa**	**6.84 223**		P	**Pn**	**23 08 46.1**	**-0.7**
	185nm,0.5s,2µm0.7nm						
LUWI	**Luwuk**	**7.56 210**		P	**Pn**	**23 08 59.6**	**+2.9**
	157nm,0.7s,2µm0.6nm						
LUWI	**Luwuk**	**7.56 210**		*e*Pn	**Pn**	**23 08 59.5**	**+2.9**
LUWI				*e*Sn	**Sn**	**23 10 22.2**	**+1.4**
MYLDM	**Lahad Datu**	**8.07 268**		*e*Pn	**Pn**	**23 09 05.1**	**+1.5**
MYLDM				*e*Sn	**Sn**	**23 10 34.7**	**+1.3**
FAKI	**Fak Fak**	**10.11 146**		*e*Pn	**Pn**	**23 09 29.6**	**-1.8**
KKM	**Kota Kinabalu**	**10.35 273**		*e*Pn	**Pn**	**23 09 34.7**	**-0.1**
TTSI	**Tana Toraja**	**10.88 219**		P	**Pn**	**23 09 43.4**	**+1.5**
	19nm,1.0s						
KAPI	**Kappang**	**12.50 213**		P	**Pn**	**23 10 02.3**	**-1.7**
	2.1nm,0.3s,baz=73,slow=14,SNR=6.2						
SBUM	**Sibu**	**14.66 259**		*e*P	**P**	**23 10 38.8**	**+2.1**
KSM	**Kuching**	**16.75 257**		*e*Pn	**Pn**	**23 10 58.6**	**-0.2**
	9.5nm,0.5s						
JAGI	**Jajag, Banyuwa**	**18.64 222**		*e*P	**Pn**	**23 11 22.4**	**+0.6**
	18nm,0.9s						
MTN	**Manton Dam**	**18.79 166**		*e*P	**P**	**23 11 21.0**	**-1.3**
	23nm,1.2s						
QIZ	**Qiongzhong**	**21.14 311**		P	**P**	**23 11 47.4**	**-0.4**
QIZ				S	**S**	**23 15 36.7**	**-2.0**
QIZ				LZ			
	88nm,16.4s						
LEM	**Lembang**	**22.57 237**		P	P	23 12 10.4	+7.2
	12nm,0.5s,baz=155,slow=21,SNR=4.7						
FITZ	**Fitzroy Crossi**	**23.49 182**		P	**P**	**23 12 11.1**	**-0.9**
	3.4nm,0.5s,baz=6.7,slow=8.3,SNR=12						
FITZ				PcP	**PcP**	**23 15 55.9**	**+0.2**
	1.2nm,0.7s,baz=11,slow=5.2,SNR=4.2						
FITZ	**Fitzroy Crossi**	**23.49 182**		*e*P	**P**	**23 12 11.1**	**-0.9**
	6.0nm,0.8s						
FITZ				*e*PcP	**PcP**	**23 15 55.9**	**+0.2**
COEN	**Coen**	**25.40 140**		*e*P	**P**	**23 12 32.7**	**+3.4**
	71nm,2.0s						
IPM	**Ipoh**	**25.50 269**		*e*P	**P**	**23 12 31.1**	**+0.8**
	8.6nm,1.1s						
KSI	**Kapahiang**	**25.65 250**		P	**P**	**23 12 36.0**	**+4.3**
WRAB	**Tennant Creek**	**26.42 163**		*e*P	**P**	**23 12 40.1**	**+1.6**
	9.0nm,0.6s						
WR1	**Warramunga Arr**	**26.43 163**		*e*P	**P**	**23 12 38.1**	**-0.5**
	8.1nm,0.6s						
WR1				*e*PcP	**PcP**	**23 16 02.5**	**+0.2**
WRA	**Warramunga Arr**	**26.43 163**		P	**P**	**23 12 38.1**	**-0.5**
	1.5nm,0.3s,baz=343,slow=10,SNR=17						
WRA				PcP	**PcP**	**23 16 02.5**	**+0.2**
	0.9nm,0.4s,baz=352,slow=2.3,SNR=5.1						
WRA				ScP	**ScP**	**23 19 37.2**	**+1.9**
	0.7nm,0.7s,baz=342,slow=3.2,SNR=4.7						
WB2	**Warramunga Arr**	**26.43 163**		*e*P	**P**	**23 12 38.5**	**-0.1**
MBWA	**Marble Bar**	**27.36 194**		*e*P	**P**	**23 12 45.6**	**-1.3**
	60nm,1.8s						
GYA	**Guiyang**	**28.21 320**		*e*P	**P**	**23 12 55.8**	**+1.2**
GYA				PMZ			
	10.0nm,0.8s						
GSI	**Gunungsitoli**	**29.27 263**		*e*P	**P**	**23 13 02.0**	**-2.1**
	23nm,1.0s						
AS31	**Alice Springs**	**29.87 166**		*e*P	**P**	**23 13 08.2**	**-1.1**
	1.0nm,0.8s						
AS31				*e*PcP	**PcP**	**23 16 11.2**	**+0.4**
ASAR	**Alice Springs**	**29.87 166**		P	**P**	**23 13 08.2**	**-1.1**
	1.2nm,0.6s,baz=343,slow=6.7,SNR=13						
ASAR				PcP	**PcP**	**23 16 11.2**	**+0.4**
	2.0nm,0.5s,baz=346,slow=2.4,SNR=16						
ASAR				ScP	**ScP**	**23 19 48.3**	**+2.4**
	0.5nm,0.5s,baz=340,slow=3.3,SNR=4.1						
AS01	**Alice Springs**	**29.88 166**		*e*P	**P**	**23 13 08.7**	**-0.6**
AS01				*e*PcP	**PcP**	**23 16 11.1**	**+0.3**
CM31	**Chiang Mai Arr**	**29.89 298**		*e*P	**P**	**23 13 09.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**29.89 298**		P	**P**	**23 13 09.8**	**+0.2**
	1.7nm,0.5s,baz=108,slow=7.5,SNR=9.4						
CHTO	**Chiang Mai**	**30.02 299**		*e*P	**P**	**23 13 11.1**	**+0.4**
	4.3nm,0.6s						
KMI	**Kunming**	**30.05 313**		P	**P**	**23 13 11.9**	**+0.8**
KMI				PMZ			
	13nm,1.0s						
KMI				LN			
	96nm,20.9s						
KMI				LE			
	76nm,23.3s						
KMI				LZ			
	78nm,18.8s						
INU	**Inuyama**	**31.20 17**		*e*P	**P**	**23 13 20.6**	**-0.2**
	9.3nm,0.6s						
MJAR	**Matsushiro Arr**	**32.66 17**		P	**P**	**23 13 31.8**	**-1.9**
	1.2nm,0.5s,baz=187,slow=8.7,SNR=6.6						
XAN	**Xi'an**	**32.77 332**		P	**P**	**23 13 34.1**	**-0.6**
XAN				PMZ			
	18nm,1.0s						
BJI	**Beijing**	**35.63 346**		P	**P**	**23 14 00.2**	**+1.0**
BJI				PP	**PP**	**23 15 23.1**	**+1.5**
BJI				S	**S**	**23 19 30.6**	**+0.9**
BJI				PMZ			
	18nm,1.0s						
BJI				LN			
	190nm,16.4s						
BJI				LE			
	97nm,14.3s						
BJI				LZ			
	59nm,32.3s						
LZH	**Lanzhou**	**36.91 329**		*e*P	**P**	**23 14 14.1**	**+3.6**
LZH				pP	pP	23 14 34.0	+4.6
LZH				sP	sP	23 14 46.9	+8.3
LZH				PMZ			
	14nm,1.0s						
LZH				PMZ			
	62nm,4.4s						
HHC	**Hu-ho-hao-te**	**37.67 341**		*e*P	**P**	**23 14 18.5**	**+1.8**
HHC				pP	sP	23 14 41.3	-3.7
HHC				sP	pP	23 14 53.2	+17
HHC				S	**S**	**23 20 01.5**	**+0.4**
HHC				PMZ			
	11nm,1.1s						
HHC				PMZ			
	53nm,6.3s						
HHC				LN			
	110nm,14.8s						
HHC				LE			
	160nm,14.6s						
HHC				LZ			
	120nm,14.0s						
SHL	**Shillong**	**38.74 305**		*e*P	**P**	**23 14 25.0**	**-1.0**
USRK	**Ussuriysk Ar.**	**38.81 6**		P	**P**	**23 14 26.9**	**+0.8**
	2.9nm,0.5s,baz=192,slow=7.0,SNR=9.4						
BBOO	**Buckleboo**	**39.17 167**		*e*P	**P**	**23 14 29.0**	**-0.2**
	47nm,1.5s						
ERM	**Erim**	**39.22 20**		*e*PcP	**PcP**	**23 16 34.1**	**-3.2**
NWAO	**Narrogin (SRO)**	**39.26 192**		*e*P	**P**	**23 14 29.8**	**-0.2**
STKA	**Stephens Creek**	**39.84 160**		P	**P**	**23 14 34.1**	**-0.7**
	4.3nm,0.7s,baz=338,slow=10,SNR=7.9						
STKA				PcP	**PcP**	**23 16 39.6**	**+0.2**
	1.8nm,0.6s,baz=347,slow=5.8,SNR=2.8						
STKA	**Stephens Creek**	**39.84 160**		*e*P	**P**	**23 14 34.7**	**-0.2**
	5.1nm,1.5s						
STKA				*e*PcP	**PcP**	**23 16 39.6**	**+0.2**
ASAJ	**Asahikawa**	**40.93 18**		P	**P**	**23 14 44.3**	**+0.6**
	5.3nm,0.4s,baz=239,slow=5.9						
ASAJ	**Asahikawa**	**40.93 18**		*e*P	**P**	**23 14 42.8**	**-0.9**
	7.7nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**41.16 68**		T	T	23 58 42.3	
	baz=257,slow=75,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**41.18 68**		T	T	23 58 46.4	
	baz=257,slow=75,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**41.18 68**		T	T	23 58 43.9	
	baz=257,slow=75,SNR=13						
LSA	**Lhasa**	**41.18 310**		*e*PcP	**PcP**	**23 16 46.4**	**+1.9**
GTA	**Gaotai**	**41.51 328**		*e*P	**P**	**23 14 48.2**	**-0.5**
GTA				pP	pP	23 15 08.8	+0.9
GTA				sP	sP	23 15 20.8	+3.7
GTA				PcP	**PcP**	**23 16 44.8**	**-0.2**
GTA				S	**S**	**23 20 55.9**	**-2.8**
GTA				sS	sS	23 21 33.4	+1.8
GTA				SS	**SS**	**23 23 58.8**	**-7.4**
GTA				PMZ			
	4.0nm,1.2s						
GTA				PMZ			
	74nm,4.5s						
GTA				LN			
	130nm,17.1s						
GTA				LE			
	94nm,17.1s						
GTA				LZ			
	120nm,14.7s						
H11N1	**WAKE ISLAND Hy**	**41.64 66**		T	T	23 59 20.6	
	baz=255,slow=75,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**41.65 66**		T	T	23 59 19.9	
	baz=255,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**41.66 66**		T	T	23 59 21.6	
	baz=255,slow=75,SNR=9.0						
ARMA	**Armidale**	**43.03 148**		*e*P	**P**	**23 15 03.1**	**+1.9**
	30nm,1.5s						
KLR	**Kul'dur**	**43.77 5**		P	**P**	**23 15 06.8**	**+0.1**
	3.2nm,0.7s,baz=194,slow=4.0,SNR=13						
ULN	**Ulaanbaatar**	**45.39 342**		*e*P	**P**	**23 15 20.0**	**+0.2**
	9.5nm,1.0s						
SONA0	**Songino Array**	**45.57 341**		*e*P	**P**	**23 15 21.2**	**0.0**
	6.6nm,1.2s						
SONA0				*e*PcP	**PcP**	**23 16 58.8**	**+0.2**
SONM	**Songino Array**	**45.57 341**		P	**P**	**23 15 21.2**	**0.0**
	1.2nm,0.5s,baz=163,slow=8.8,SNR=14						
SONM				PcP	**PcP**	**23 16 58.8**	**+0.2**
	0.7nm,0.3s,baz=160,slow=4.2,SNR=4.4						
SONA1	**Songino Array**	**45.58 341**		*e*P	**P**	**23 15 22.7**	**+1.4**
TARA	**Tarawa**	**46.41 93**		*e*P	**P**	**23 15 29.8**	**+1.6**
	179nm,1.1s						
LHI	**Lord Howe Isla**	**48.12 142**		*e*P	**P**	**23 15 42.8**	**+1.6**
	144nm,1.2s						
WMQ	**Urumqi**	**51.20 324**		P	**P**	**23 16 05.7**	**+1.2**
WMQ				LN			
	38nm,23.4s						
WMQ				LE			
	17nm,24.4s						
WMQ				LZ			
	24nm,27.8s						
PEA0	**Petropavlovsk-**	**53.83 23**		*e*P	**P**	**23 16 25.1**	**+1.4**
PEA0B	**Petropavlovsk-**	**53.83 23**		*e*P	**P**	**23 16 25.1**	**+1.4**
	11nm,0.8s						
PETK	**Petropavlovsk-**	**53.83 23**		P	**P**	**23 16 24.9**	**+1.3**
	10nm,0.7s,baz=177,slow=6.0,SNR=17						
PEA1	**Petropavlovsk-**	**53.84 23**		*e*P	**P**	**23 16 24.9**	**+1.2**
MSVF	**Nonsavu**	**55.78 116**		*e*P	**P**	**23 16 37.9**	**-0.5**
	11nm,1.0s						
MK01	**Makanchi Array**	**56.01 325**		*e*P	**P**	**23 16 39.2**	**-0.4**
MK01				*e*PcP	**PcP**	**23 17 37.3**	**+0.2**
MK31	**Makanchi Array**	**56.02 325**		*e*P	**P**	**23 16 39.4**	**-0.3**
MK32	**Makanchi Array**	**56.02 325**		*e*P	**P**	**23 16 39.6**	**0.0**
MK32				*e*PcP	**PcP**	**23 17 37.3**	**+0.2**
MKAR	**Makanchi Array**	**56.02 325**		P	**P**	**23 16 39.6**	**0.0**
	4.0nm,0.5s,baz=120,slow=8.3,SNR=64						
MKAR				PcP	**PcP**	**23 17 37.3**	**+0.2**
	5.3nm,0.7s,baz=113,slow=3.9,SNR=16						
MKAR	**Makanchi Array**	**56.02 325**		*e*P	**P**	**23 16 39.4**	**-0.3**
MAKZ	**Makanchi**	**56.21 325**		*e*P	**P**	**23 16 41.0**	**0.0**
MAKZ				*e*PcP	**PcP**	**23 17 38.4**	**+0.6**
KSH	**Kashi**	**56.70 314**		P	P	23 16 50.5	+5.8
KSH				pP	sP	23 17 12.4	-1.4
KSH				PcP	**PcP**	**23 17 42.3**	**+2.3**
KSH				PP	**PP**	**23 18 58.8**	**+7.2**
KSH				S	**S**	**23 24 32.1**	**+0.6**
KSH				ScS	**ScS**	**23 26 25.2**	**-1.7**
KSH				SS	**SS**	**23 28 23.6**	**+3.1**
KSH				PMZ			
	3.0nm,0.4s						
KSH				PMZ			
	35nm,4.3s						
KSH				LN			
	200nm,9.7s						
KSH				LE			
	74nm,4.9s						
ZAA0	**Zalesovo Array**	**58.95 333**		*e*P	**P**	**23 17 00.5**	**+0.5**
ZALV	**Zalesovo Beam**	**58.95 333**		P	**P**	**23 16 59.3**	**-0.7**
	2.5nm,0.6s,baz=118,slow=5.5,SNR=12						
ZAA1	**Zalesovo Array**	**58.95 333**		*e*P	**P**	**23 16 59.3**	**-0.7**
EKS2	**Erkin-Say**	**59.45 317**		*e*P	**P**	**23 17 03.2**	**-0.7**
	4.6nm,0.6s						
SEY	**Seymchan**	**60.33 13**		P	**P**	**23 17 10.2**	**+0.8**
	2.5nm,0.8s,baz=233,

ARA0	**ARCESS Array S**	**88.73 340**	*e*P		**P**	**23 19 52.8**	**-0.7**
ARCES	**ARCESS Array B**	**88.73 340**	P		**P**	**23 19 52.8**	**-0.7**
	2.9nm,0.5s,baz=84,slow=6.2,SNR=40						
BR101	**Keskin Array S**	**88.79 310**	*e*P		**P**	**23 19 53.1**	**-1.5**
BRTR	**Keskin Array B**	**88.79 310**	P		**P**	**23 19 53.1**	**-1.5**
	0.7nm,0.4s,baz=133,slow=3.9,SNR=8.3						
BR231	**Keskin MP Arra**	**89.43 310**	*e*P		**P**	**23 19 53.9**	**-3.7**
FIA0	**FINESS Array S**	**90.20 332**	*e*P		**P**	**23 20 00.3**	**-0.2**
FINES	**FINESS Array B**	**90.20 332**	P		**P**	**23 20 00.3**	**-0.2**
	2.8nm,0.5s,baz=69,slow=4.4,SNR=49						
AKASG	**Malin Array Be**	**90.43 321**	P		**P**	**23 20 00.4**	**-1.4**
	0.5nm,0.4s,baz=69,slow=4.6,SNR=3.4						
AKBB	**Malin Array Si**	**90.43 321**	*e*P		**P**	**23 20 00.4**	**-1.4**
	3.7nm,0.9s						
NB2	**NORSAR Subarra**	**97.13 334**	P		**P**	**23 20 31.7**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=66,slow=4.8						
NB200	**NORSAR Array S**	**97.13 334**	*e*P		**P**	**23 20 31.6**	**-0.8**
NOA	**NORSAR Array B**	**97.13 334**	P		**P**	**23 20 31.6**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=67,slow=4.6,SNR=7.3						
TORD	**Torodi Ar. Bea**	**122.23 289**	PKP		**PKPdf**	**23 25 55.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=74,slow=1.8,SNR=16						
TOA1	**Torodi Ar. Sit**	**122.23 289**	*e*PKPdf		**PKPdf**	**23 25 55.8**	**0.0**
DBIC	**Dimbokro**	**130.06 283**	PKP		**PKPdf**	**23 26 10.2**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=124,slow=3.6,SNR=2.7						

NIED ***06*** *23:15:00,38.˚50N×143.˚40E,h5km,Mw4.1 Best double couple: M₀1.53000×10¹⁵ NP1:φs36.00000°,δ59.00000°, λ-31.00000°. NP2:φs144.00000°,δ63.00000°, λ-145.00000°.*

ISCJB ***06*** *23:15:37.6±0.5,38.˚50N±0.˚04×143.˚51E±0.˚05,h15km, mb4.1/21,MS3.1/6,Error ellipse: s-maj=6.4km s-min=5.8km az=173.3*

IDC ***06*** *23:15:37.1±0.7,38.˚43N×143.˚43E,h0km,mb3.9/14, mb1 4.0/20,mb1mx3.9/43,mbtmp3.9/20,ML3.6/5,MS3.1/8, Ms1 3.1/8,ms1mx2.9/29,Error ellipse: s-maj=19.0km s-min=16.1km az=100.0*

JMA ***06*** *23:15:38.1±0.2,38.˚53N×143.˚44E,h12km,M4.4*

NEIC ***06*** *23:15:42.4±0.4,38.˚50N×143.˚39E,h35km,mb4.5/7,Error ellipse: s-maj=10.0km s-min=7.8km az=130.0*

ISC 06 23:15:39.3±0.6,38.˚54N±0.˚05×143.˚39E±0.˚06,h15km,n58, σ2.˚04/55,mb4.1/21,MS3.0/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OFUJ	**Ofunato**	**1.45**	**292**	P		**Pb**	**23 16 04.9**	**-1.1**
OFUJ				*e*S		**Sb**	**23 16 24.1**	**-0.1**
JIO	**Ouri**	**1.60**	**268**	P		**Pn**	**23 16 07.0**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.60**	**311**	P		**Pn**	**23 16 06.6**	**-0.5**
MIYJ				*e*S		**Sb**	**23 16 28.1**	**-0.6**
JMK	**Ichinoseki**	**1.75**	**284**	P		**Pn**	**23 16 09.5**	**+0.5**
JOM	**Ohasama**	**1.88**	**300**	P		**Pb**	**23 16 11.5**	**-1.9**
JOM				*e*S		**Sb**	**23 16 36.0**	**-0.7**
JOU	**Okura**	**2.15**	**266**	P		**Pn**	**23 16 15.1**	**+0.5**
JMM	**Marumori**	**2.15**	**253**	P		**Pn**	**23 16 14.6**	**0.0**
JFK	**Kawauchi**	**2.31**	**240**	P		**Pn**	**23 16 16.3**	**-0.5**
JRG	**Rokugo**	**2.31**	**293**	P		**Pb**	**23 16 18.2**	**-2.5**
JANG	**Nango**	**2.34**	**322**	P		**Pn**	**23 16 17.0**	**-0.2**
JYK	**Kaneyama**	**2.40**	**280**	P		**Pn**	**23 16 19.4**	**+1.3**
JFT	**Otama**	**2.62**	**248**	P		**Pn**	**23 16 22.0**	**+0.9**
JTM	**Tenmabayashi**	**2.87**	**322**	P		**Pn**	**23 16 25.8**	**+1.3**
JAW	**Awa shima**	**3.25**	**270**	P		**Pn**	**23 16 31.6**	**+1.9**
MJAR	**Matsushiro Arr**	**4.58**	**246**	Pn		**Pn**	**23 16 49.2**	**+1.2**
	3.0nm,0.3s,baz=66,slow=12,SNR=17							
MJAR				Sn		**Sn**	**23 17 45.7**	**+4.8**
	0.9nm,0.3s,baz=27,slow=28,SNR=2.5							
MJAR				LR		LR	23 18 35.2	
	comp=Z,217nm,21.7s,baz=80,slow=39							
MAJO	**Matsushiro**	**4.58**	**246**	*e*Pn		**Pn**	**23 16 48.3**	**+0.4**
MAT	**Matsushiro**	**4.58**	**246**	P		**Pn**	**23 16 50.1**	**+2.1**
MAT				S		**Sb**	**23 17 48.7**	**-5.5**
ASAJ	**Asahikawa**	**5.61**	**354**	Pn		**Pn**	**23 17 02.3**	**+0.2**
	2.4nm,0.3s,baz=192,slow=10,SNR=9.9							
ASAJ				Sn		**Sn**	**23 18 01.4**	**-4.8**
	0.8nm,0.3s,baz=216,slow=14,SNR=1.7							
ASAJ	**Asahikawa**	**5.61**	**354**	*e*Pn		**Pn**	**23 17 01.6**	**-0.5**
	18nm,1.1s							
ASAJ				Sn		**Sn**	**23 18 01.4**	**-4.8**
JHJ	**Hachijo jima 2**	**6.15**	**210**	Pn		**Pn**	**23 17 07.5**	**-2.1**
	8.4nm,0.3s,baz=323,slow=23,SNR=8.7							
JHJ				Sn		**Sn**	**23 18 11.9**	**-7.8**
	10nm,0.3s,baz=89,slow=17,SNR=2.9							
USRK	**Ussuriysk Ar.**	**10.26**	**307**	Pn		**Pn**	**23 18 06.8**	**+0.8**
	0.3nm,0.3s,baz=109,slow=14,SNR=5.7							
KSRS	**Korea Array**	**12.25**	**270**	Pn		**Pn**	**23 18 35.1**	**+1.9**
	0.2nm,0.3s,baz=83,slow=3.3,SNR=3.2							
KSAR	**Wonju Array Be**	**12.29**	**270**	Pn		**Pn**	**23 18 35.1**	**+1.5**
KLR	**Kul'dur**	**13.57**	**326**	Pn		**Pn**	**23 18 51.2**	**+0.1**
	0.1nm,0.3s,baz=133,slow=11,SNR=6.1							
PETK	**Petropavlovsk-**	**17.61**	**30**	LR		LR	23 27 16.8	
	comp=Z,39nm,19.9s,baz=193,slow=40							
GUMO	**Guam**	**24.88**	**177**	LR		LR	23 28 26.9	
	comp=Z,46nm,20.6s,baz=115,slow=31							
YAK	**Yakutsk**	**24.99**	**345**	LR		LR	23 33 01.4	
	comp=Z,38nm,18.1s,baz=133,slow=42							
SEY	**Seymchan**	**25.03**	**1**	P		**P**	**23 21 04.3**	**+1.9**
	3.7nm,0.6s,baz=186,slow=23,SNR=6.0							
H11N2	**WAKE ISLAND Hy**	**27.66**	**126**	T		T	23 50 10.5	
	baz=318,slow=74,SNR=54							
H11N1	**WAKE ISLAND Hy**	**27.68**	**126**	T		T	23 50 15.8	
	baz=318,slow=74,SNR=40							
H11N3	**WAKE ISLAND Hy**	**27.68**	**126**	T		T	23 50 14.4	
	baz=318,slow=74,SNR=56							
SONM	**Songino Array**	**28.30**	**301**	P		**P**	**23 21 33.9**	**+1.7**
	1.1nm,0.6s,baz=96,slow=9.0,SNR=9.2							
H11S1	**WAKE ISLAND Hy**	**28.45**	**128**	T		T	23 51 17.4	
	baz=311,slow=75							
H11S3	**WAKE ISLAND Hy**	**28.45**	**128**	T		T	23 51 15.2	
	baz=311,slow=75							
H11S2	**WAKE ISLAND Hy**	**28.47**	**128**	T		T	23 51 14.6	
	baz=311,slow=75							
ENH	**Enshi**	**29.04**	**264**	*e*P		**P**	**23 21 39.5**	**+0.7**
	17nm,0.9s							
TLY	**Talaya**	**30.58**	**308**	LR		LR	23 33 34.6	
	comp=Z,36nm,20.0s,baz=111,slow=35							
ZALV	**Zalesovo Beam**	**42.08**	**311**	P		**P**	**23 23 30.8**	**+0.5**
	0.5nm,0.3s,baz=72,slow=9.3,SNR=5.3							
ZALV				PcP		**PcP**	**23 25 25.2**	**+0.4**
	1.1nm,0.5s,baz=112,slow=4.4,SNR=3.6							
CMAR	**Chiang Mai Arr**	**43.39**	**255**	LR		LR	23 44 13.1	
	comp=Z,18nm,18.9s,baz=90,slow=40							
MKAR	**Makanchi Array**	**44.66**	**301**	P		**P**	**23 23 52.1**	**+0.8**
	1.2nm,0.7s,baz=82,slow=9.2,SNR=8.2							
ILAR	**Eielson Array**	**47.38**	**33**	P		**P**	**23 24 12.7**	**+0.2**
	0.6nm,0.6s,baz=267,slow=6.2,SNR=7.4							
TKM2	**Tokmak 2**	**50.30**	**298**	*e*P		**P**	**23 24 35.6**	**+0.2**
	2.6nm,0.8s							
ARU	**Arti**	**56.28**	**318**	*e*P		**P**	**23 25 19.6**	**+0.7**
	5.2nm,1.1s							
ABKAR	**Akbulak array**	**58.17**	**310**	*e*P		**P**	**23 25 32.9**	**+0.5**
	1.1nm,0.5s							
WRAB	**Tennant Creek**	**58.78**	**190**	*e*P		**P**	**23 25 35.8**	**-1.0**
	3.3nm,0.8s							
WRA	**Warramunga Arr**	**58.79**	**190**	P		**P**	**23 25 36.0**	**-0.9**
	2.3nm,0.7s,baz=10,slow=7.3,SNR=20							
ASAR	**Alice Springs**	**62.51**	**190**	P		**P**	**23 26 01.9**	**-0.3**
	0.6nm,0.8s,baz=11,slow=6.1,SNR=5.1							
GEYT	**Alibeck**	**64.47**	**299**	P		**P**	**23 26 15.4**	**+0.1**
	0.5nm,0.4s,baz=19,slow=6.6,SNR=3.7							
GEYT				LR		LR	23 57 07.4	
	comp=Z,30nm,18.4s,baz=295,slow=39							
FINES	**FINESS Array B**	**68.21**	**333**	P		**P**	**23 26 39.4**	**+0.6**
	0.9nm,0.9s,baz=72,slow=9.1,SNR=3.3							
KIV	**Kislovodsk**	**71.10**	**311**	*e*P		**P**	**23 26 57.4**	**+0.4**
	6.3nm,1.0s							
KBZ	**Khabaz**	**71.10**	**311**	P		**P**	**23 26 58.3**	**+1.4**
	2.1nm,0.8s,baz=69,slow=6.7,SNR=4.1							
NVAR	**Mina Array Bea**	**72.84**	**54**	P		**P**	**23 27 09.3**	**+1.6**
	0.5nm,0.5s,baz=285,slow=7.2,SNR=3.2							
LKWY	**Lake**	**73.89**	**46**	*e*P		**P**	**23 27 13.8**	**-0.1**
	40nm,1.0s							
AKASG	**Malin Array Be**	**74.06**	**323**	P		**P**	**23 27 15.1**	**+0.7**
	0.6nm,0.4s,baz=43,slow=5.9,SNR=4.6							
BRTR	**Keskin Array B**	**79.01**	**312**	LR		LR	00 06 44.2	
	comp=Z,11nm,20.4s,baz=72,slow=39							
GERES	**GERESS Array B**	**82.24**	**329**	P		**P**	**23 28 00.4**	**+0.5**
	0.2nm,0.4s,baz=35,slow=7.2,SNR=3.3							
TXAR	**Lajitas Array**	**87.97**	**54**	P		**P**	**23 28 29.8**	**+0.8**
	0.2nm,0.6s,baz=328,slow=3.3,SNR=3.8							
TORD	**Torodi Ar. Bea**	**117.34**	**317**	PKP		**PKPdf**	**23 34 23.2**	**-1.5**
	0.3nm,0.8s,baz=44,slow=2.1,SNR=2.4							

ISCJB ***06*** *23:16:25.3±0.5,43.˚63N±0.˚02×77.˚68E±0.˚02,h5km±3km,*

Error ellipse: s-maj=4.0km s-min=2.6km az=171.8

NNC ***06*** *23:16:25.1±0.6,43.˚61N×77.˚69E,h6km±2km,mb3.5, mpv3.0,Error ellipse: s-maj=8.5km s-min=1.7km az=169.0*

SOME ***06*** *23:16:25.9,43.˚63N×77.˚67E,h15km*

KRNET ***06*** *23:16:26.1±0.1,43.˚68N×77.˚69E,h35km,mb2.6*

ISC 06 23:16:25.5±1.0,43.˚63N±0.˚03×77.˚68E±0.˚02,h9km±10km, n30,σ0.˚61/50,22C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHKK	**Chushkaly**	**0.55**	**296**	*e*P		**Pg**	**23 16 36.3**	**+0.2**
	25nm,0.1s							
CHKK				*e*S		**Sg**	**23 16 43.6**	**+0.3**
	206nm,0.3s							
AAA	**Alma-Ata**	**0.64**	**236**	*e*P		**Pb**	**23 16 39.1**	**+0.2**
	42nm,0.1s							
AAA				*e*S		**Sb**	**23 16 48.5**	**+0.5**
	289nm,0.2s							
MDOK	**Medeo**	**0.66**	**225**	*e*P		**Pg**	**23 16 38.0**	**-0.2**
	24nm,0.1s							
MDOK				*e*S		**Sg**	**23 16 46.7**	**-0.1**
	104nm,0.3s							
KNDC	**Almaty**	**0.66**	**232**	⇑P		**Pg**	**23 16 38.5**	**+0.2**
	4.5nm,0.2s							
KNDC				⇑S		**Sg**	**23 16 47.8**	**+0.8**
	244nm,0.7s							
ZHN	**Zhinishke**	**0.72**	**130**	*e*P		**Pg**	**23 16 39.3**	**-0.1**
	33nm,0.1s							
ZHN				*e*S		**Sg**	**23 16 48.8**	**0.0**
	160nm,0.2s							
KPKS	**Kokpek**	**0.75**	**102**	*e*P		**Pg**	**23 16 40.0**	**+0.1**
	27nm,0.1s							
KPKS				*e*S		**Sg**	**23 16 50.3**	**+0.6**
	159nm,0.3s							
SATY	**Saty**	**0.78**	**137**	*e*P		**Pg**	**23 16 40.4**	**-0.1**
	144nm,0.1s							
SATY				*e*S		**Sg**	**23 16 50.7**	**+0.1**
	740nm,0.1s							
TNSS	**Tian-Shan**	**0.80**	**223**	*e*P		**Pg**	**23 16 40.6**	**-0.3**
	16nm,0.2s							
TNSS				*e*S		**Sg**	**23 16 51.0**	**-0.3**
	115nm,0.3s							
KUU	**Kurty**	**1.01**	**286**	*e*P		**Pb**	**23 16 44.0**	**-1.1**
	13nm,0.1s							
KUU				*e*S		**Sb**	**23 16 57.3**	**-1.1**
	53nm,0.2s							
UZB	**Uzynbulak**	**1.09**	**116**	*e*P		**Pb**	**23 16 45.9**	**-0.7**
	12nm,0.1s							
UZB				*e*S		**Sb**	**23 17 00.0**	**-0.9**
	66nm,0.1s							
PRZ	**Przheval'sk**	**1.26**	**155**	⇑*i*P		**Pg**	**23 16 49.9**	**+0.2**
	baz=156							
PRZ				⇑*i*S		**Sg**	**23 17 06.8**	**+0.7**
	baz=156							
PDGK	**Podgornoye**	**1.35**	**102**	⇑*i*P		**Pn**	**23 16 50.1**	**-0.3**
	baz=104							
PDGK				⇑*i*S		**Sb**	**23 17 07.7**	**-0.5**
	baz=104							
PDGK	**Podgornoye**	**1.35**	**102**	⇓P		**Pn**	**23 16 50.0**	**-0.3**
	13nm,0.5s							
PDGK				⇑S		**Sb**	**23 17 08.0**	**-0.2**
	18nm,0.4s							
TDK	**Taldyqorghan**	**1.47**	**20**	*e*P		**Pn**	**23 16 52.3**	**+0.1**
	38nm,0.2s							
TDK				*e*S		**Sb**	**23 17 11.1**	**-0.7**
	72nm,0.3s							
KDJ	**Kajisay**	**1.54**	**194**	⇑*i*P		**Pb**	**23 16 53.8**	**-0.5**
	baz=194							
KDJ				⇑*i*S		**Sb**	**23 17 13.6**	**-0.4**
	baz=194							
SHLS	**Shalkode**	**1.67**	**106**	*e*P		**Pb**	**23 16 56.0**	**-0.6**
	5.0nm,0.1s							
SHLS				*e*S		**Sb**	**23 17 18.0**	**+0.2**
	37nm,0.3s							
DJR	**Jarkent**	**1.68**	**65**	*e*P		**Pn**	**23 16 55.5**	**+0.5**
	10nm,0.2s							
DJR				*e*S		**Sb**	**23 17 17.0**	**-0.8**
	30nm,0.2s							
TKM2	**Tokmak 2**	**1.68**	**246**	⇑*i*P		**Pn**	**23 16 55.3**	**+0.1**
	baz=244							
TKM2				⇑*i*S		**Sb**	**23 17 17.2**	**-0.7**
	baz=244							
TKM2	**Tokmak 2**	**1.68**	**246**	⇑S		**Sb**	**23 17 17.6**	**-0.3**
	8.5nm,0.3s							
TKM2	**Tokmak 2**	**1.68**	**246**	*e*P		**Pn**	**23 16 55.5**	**+0.4**
	16nm,0.5s							
BOOM	**Boomskoye usch**	**1.71**	**229**	⇓*e*P		**Pn**	**23 16 56.3**	**+0.7**
	baz=228							
BOOM				⇓*i*S		**Sb**	**23 17 18.1**	**-0.7**
	baz=228							
ULHL	**Ulahol**	**1.74**	**218**	⇑*i*P		**Pn**	**23 16 56.4**	**+0.4**
	baz=217							
ULHL				⇑*i*S		**Sb**	**23 17 20.0**	**+0.3**
	baz=217							
KAPS	**Kapalarasan**	**2.04**	**35**	*e*P		**Pb**	**23 17 02.9**	**+0.1**
	5.8nm,0.2s							
KAPS				*e*S		**Sb**	**23 17 29.3**	**+1.0**
	52nm,0.3s							
KBK	**Karagaybulak**	**2.22**	**245**	⇑*i*P		**Pn**	**23 17 03.1**	**+0.5**
	baz=244							
KBK				⇑*i*S		**Sb**	**23 17 31.8**	**-1.8**
	baz=244							
CHMS	**Chumysh**	**2.23**	**255**	⇑*i*P		**Pn**	**23 17 03.0**	**+0.4**
	baz=253							
CHMS				⇑*i*S		**Sn**	**23 17 30.9**	**+0.7**
	baz=253							
NRN	**Naryn**	**2.52**	**210**	⇑*e*P		**Pn**	**23 17 07.9**	**+1.0**
	baz=210							
NRN				⇑*i*S		**Sn**	**23 17 38.2**	**+0.3**
	baz=210							
AAK	**Ala-Archa**	**2.54**	**248**	⇓Lg		Lg	23 17 44.7	
	3.9nm,0.5s							
MAKZ	**Makanchi**	**4.39**	**42**	⇓Lg		Lg	23 18 43.5	
	0.8nm,0.6s							
MK31	**Makanchi Array**	**4.54**	**44**	⇑Lg		Lg	23 18 47.5	
	0.2nm,0.3s,baz=228,slow=27,SNR=6.1							
OTUK	**Ortayu**	**5.93**	**323**	⇑Lg		Lg	23 19 33.8	
	2.8nm,0.7s							

MEX 06 23:17:14.0±0.3,15.˚32N×93.˚74W,h16km±149km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**0.63**	**53**	*i* P		Pg	23 17 24.3	-2.1
PCIG				*i* S		Sg	23 17 32.3	-2.6

NIED ***06*** *23:19:00,37.˚60N×143.˚60E,h5km,Mw3.6 Best double couple: M₀2.54000×10¹⁴ NP1:φs219.00000°,δ47.00000°, λ-66.00000°. NP2:φs7.00000°,δ48.00000°,λ-113.00000°.*

JMA 06 23:19:21.6±0.2,37.˚60N×143.˚60E,h46km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIO	**Ouri**	**1.97**	**296**	P		Pn	23 19 53.8	+1.3
JIO				*e*S		Sn	23 20 17.2	+1.2
OFUJ	**Ofunato**	**2.12**	**315**	P		Pn	23 19 55.3	+0.8
OFUJ				*e*S		Sn	23 20 20.9	+1.3
JMK	**Ichinoseki**	**2.31**	**307**	P		Pn	23 19 58.4	+1.3
JMK				S		Sn	23 20 26.3	+2.0
JFT	**Otama**	**2.59**	**269**	P		Pn	23 20 03.0	+1.9
JFT				*e*S		Sn	23 20 33.4	+2.0
JOM	**Ohasama**	**2.60**	**317**	P		Pn	23 20 02.7	+1.5
JOM				S		Sn	23 20 33.3	+1.8
JYK	**Kaneyama**	**2.87**	**298**	P		Pn	23 20 06.9	+2.1
JYK				*e*S		Sn	23 20 40.1	+2.0
JANG	**Nango**	**3.21**	**330**	*e*S		Sn	23 20 47.6	+1.1
JAG	**Ashikaga**	**3.52**	**252**	P		Pn	23 20 15.3	+1.5
JAG				S		Sn	23 20 55.7	+1.5
JRY	**Ryogami san**	**4.09**	**249**	P		Pn	23 20 22.8	+1.2
JRY				*e*S		Sn	23 21 07.7	-0.5
JOD2	**Odawara 2**	**4.32**	**239**	S		Sn	23 21 12.5	-1.4
MAT	**Matsushiro**	**4.44**	**258**	P		Pn	23 20 30.3	+3.9
MAT				S		Sn	23 21 21.9	+5.1
JCH	**Churui**	**5.01**	**358**	P		Pn	23 20 34.7	+0.5
JCH				*e*S		Sn	23 21 29.1	-1.7

ISK ***06*** *23:21:44.3,39.˚11N×29.˚04E,h8km,MD2.8*

ISCJB ***06*** *23:21:45.1±0.5,39.˚12N±0.˚03×29.˚01E±0.˚04,h6km±5km, Error ellipse: s-maj=4.7km s-min=4.3km az=23.5*

CSEM ***06*** *23:21:45.2±0.1,39.˚12N×29.˚00E,h8km,MD2.6,Error ellipse: s-maj=2.8km s-min=2.5km az=77.0*

DDA ***06*** *23:21:45.1,39.˚13N×29.˚03E,h7km,Md2.6*

ISC 06 23:21:45.4±0.9,39.˚13N±0.˚03×29.˚02E±0.˚02,h13km±8km, n27,σ0.˚47/42,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DEMI	**Demirci**	**0.25**	**251**	P		**Pg**	**23 21 51.0**	**+0.3**
DEMI				S		**Sg**	**23 21 54.6**	**+0.3**
DEMI	**Demirci**	**0.25**	**251**	*i* P		**Pg**	**23 21 51.0**	**+0.3**
DEMI				*i* S		**Sg**	**23 21 54.6**	**+0.3**
GDZ	**Gediz**	**0.36**	**96**	P		**Pg**	**23 21 52.7**	**-0.1**
GDZ				S		**Sg**	**23 21 57.8**	**0.0**
GDZ	**Gediz**	**0.36**	**96**	*i* P		**Pg**	**23 21 52.7**	**-0.1**
GDZ				*i* S		**Sg**	**23 21 57.9**	**0.0**
TVSB	**Tavsanli**	**0.47**	**47**	*e*PG		**Pg**	**23 21 54.1**	**-0.8**
TVSB				*e*SG		**Sg**	**23 22 00.8**	**-0.4**
TVSB	**Tavsanli**	**0.47**	**47**	*e*Pg		**Pg**	**23 21 54.1**	**-0.8**
TVSB				*e*Sg		**Sg**	**23 22 00.8**	**-0.4**
DST	**Dursunbey**	**0.57**	**327**	*e*PG		**Pg**	**23 21 56.2**	**-0.4**
DST				*e*SG		**Sb**	**23 22 04.9**	**-0.5**
DST	**Dursunbey**	**0.57**	**327**	*e*Pg		**Pg**	**23 21 56.2**	**-0.4**
DST				*e*Sg		**Sb**	**23 22 04.9**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG		**Pg**	**23 21 57.6**	**-0.9**
KULA				*e*SG		**Sg**	**23 22 07.2**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg		**Pg**	**23 21 57.6**	**-0.9**
KULA				*e*Sg		**Sg**	**23 22 07.2**	**-0.1**
KHAL	**Karahalli**	**0.84**	**154**	P		**Pb**	**23 22 01.8**	**-0.2**
KHAL				S		**Sg**	**23 22 12.6**	**-0.1**
KHAL	**Karahalli**	**0.84**	**154**	*i* P		**Pb**	**23 22 01.8**	**-0.2**
KHAL				*i* S		**Sg**	**23 22 12.7**	**-0.1**
ORLT	**Orhaneli**	**0.93**	**354**	*e*PG		**Pg**	**23 22 02.9**	**-0.4**
ORLT	**Orhaneli**	**0.93**	**354**	*e*Pg		**Pg**	**23 22 02.9**	**-0.4**
BALB	**Balikesir**	**1.02**	**301**	*e*PG		**Pg**	**23 22 04.5**	**-0.6**
BALB	**Balikesir**	**1.02**	**301**	*e*Pg		**Pg**	**23 22 04.5**	**-0.6**
IGD	**Bursa**	**1.15**	**7**	*i* P		**Pg**	**23 22 06.7**	**-0.8**
IGD				*i* S		**Sb**	**23 22 22.4**	**+0.5**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN		**Pb**	**23 22 09.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn		**Pb**	**23 22 09.0**	**+0.1**
IZI	**Iznik**	**1.26**	**16**	*e*PN		**Pn**	**23 22 08.8**	**-0.1**
IZI	**Iznik**	**1.26**	**16**	*e*Pn		**Pn**	**23 22 08.8**	**-0.1**
BORA	**Eskisehir**	**1.34**	**55**	P		**Pg**	**23 22 11.6**	**+0.3**
BORA				S		**Sn**	**23 22 28.7**	**+0.9**
BORA	**Eskisehir**	**1.34**	**55**	*i* P		**Pg**	**23 22 11.6**	**+0.3**
BORA				*i* S		**Sn**	**23 22 28.7**	**+0.9**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN		**Pn**	**23 22 11.6**	**+0.3**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn		**Pn**	**23 22 11.6**	**+0.3**
EDC	**Edincik**	**1.51**	**324**	*e*PN		**Pn**	**23 22 12.6**	**+0.4**
EDC	**Edincik**	**1.51**	**324**	*e*Pn		**Pn**	**23 22 12.6**	**+0.4**

CSEM ***06*** *23:22:47.1±0.4,67.˚78N×20.˚32E,h5km,ML0.8,Error ellipse: s-maj=8.7km s-min=7.3km az=3.0,Mining explosion.*

UPP ***06*** *23:22:48.2,67.˚83N×20.˚21E,h0km,ML0.8,Mining explosion.*

HEL 06 23:22:46.0,67.˚77N×19.˚89E,h0km,ML1.6,Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUA	**Kurravaara**	**0.25**	**42**	*i* P		Pg	23 22 51.1	+0.3
KUA				*i* S		Sg	23 22 52.9	-1.1
KUA	**Kurravaara**	**0.25**	**42**	P		Pg	23 22 51.1	+0.3
KUA				S		Sg	23 22 52.9	-1.2
NIKU	**Nikkaluokta**	**0.34**	**287**	*i* P		Pn	23 22 56.7	-1.5
NIKU	**Nikkaluokta**	**0.34**	**287**	P		Pn	23 22 56.7	-1.5
SALU	**Saltoluokta**	**0.66**	**234**	*i* P		Pn	23 23 03.1	+0.5
SALU	**Saltoluokta**	**0.66**	**234**	P		Pn	23 23 03.1	+0.5
LANU	**Lannavaara**	**0.84**	**69**	*e*P		Pg	23 23 01.4	-0.7
LANU				*e*S		Sg	23 23 11.5	-1.4
LANU	**Lannavaara**	**0.84**	**69**	Pg		Pg	23 23 01.4	-0.7
LANU				Sg		Sg	23 23 11.5	-1.5
KIF	**Kilpisjarvi**	**1.29**	**15**	*e*PB		Pn	23 23 11.3	+0.2
KIF				*e*SB		Sg	23 23 27.3

BORA	**Eskisehir**	**1.30**	**54**	P		**Pb**	**23 46 33.4**	**+0.1**
BORA				S		**Sn**	**23 46 51.1**	**+0.5**
BORA	**Eskisehir**	**1.30**	**54**	*i* P		**Pb**	**23 46 33.4**	**+0.1**
BORA				*i* S		**Sn**	**23 46 51.1**	**+0.5**
ADVT	**Abdulvahap**	**1.40**	**21**	*e*PN		**Pb**	**23 46 34.9**	**0.0**
ADVT	**Abdulvahap**	**1.40**	**21**	*e*Pn		**Pb**	**23 46 34.9**	**0.0**
ARMT	**Armutlu**	**1.45**	**353**	*e*PN		**Pb**	**23 46 35.7**	**-0.1**
ARMT	**Armutlu**	**1.45**	**353**	*e*Pn		**Pb**	**23 46 35.7**	**-0.1**
EDC	**Edincik**	**1.54**	**323**	*e*PN		**Pn**	**23 46 36.1**	**-0.1**
EDC	**Edincik**	**1.54**	**323**	*e*Pn		**Pn**	**23 46 36.1**	**-0.1**
GULT	**Gulveren**	**1.71**	**40**	*e*PN		**Pn**	**23 46 39.2**	**+0.6**
GULT	**Gulveren**	**1.71**	**40**	*e*Pn		**Pn**	**23 46 39.2**	**+0.6**

IDC 06 23:54:34.5±8.9, 5°.18S×154°.00E, h152km±59km, mb3.4/5, mb1 3.7/6, mb1mx3.3/39, mbtmp4.0/6, MS2.8/2, Ms1 2.8/2, ms1mx2.4/22, Error ellipse: s-maj=90.1km s-min=32.2km az=97.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.98**	**238**	P	Pn	23 56 27.5	-0.1
	5.4nm,0.3s,baz=40,slow=4.6,SNR=12						
PMG				S	Sn	23 57 53.6	-2.9
	0.7nm,0.3s,baz=57,slow=18,SNR=2.3						
PMG				LR	LR	23 59 31.8	
	comp=Z,49nm,18.5s,baz=194,slow=37						
DZM	**Mont Dzumac**	**20.67**	**145**	LR	LR	00 05 10.3	
	comp=Z,35nm,19.9s,baz=22,slow=31						
WRA	**Warramunga Arr**	**24.11**	**231**	P	P	23 59 36.6	+0.3
	1.9nm,0.5s,baz=56,slow=9.6,SNR=47						
WRA				pP	pP	00 00 06.8	+0.1
	2.0nm,0.8s,baz=54,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**26.70**	**225**	P	P	23 59 60.0	+0.2
	1.3nm,0.8s,baz=56,slow=8.7,SNR=12						
FITZ	**Fitzroy Crossi**	**30.54**	**243**	P	P	00 00 33.2	-0.6
	1.3nm,0.5s,baz=62,slow=9.6,SNR=6.6						
CMAR	**Chiang Mai Arr**	**59.12**	**295**	P	P	00 04 19.4	-0.1
	1.2nm,0.8s,baz=139,slow=5.6,SNR=5.2						
MKAR	**Makanchi Array**	**81.39**	**319**	P	P	00 06 34.7	+0.3
	0.3nm,0.5s,baz=98,slow=6.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**151.56**	**288**	PKPbc	PKPbc	00 14 10.9	-0.8
	0.2nm,0.4s,baz=73,slow=1.8,SNR=6.8						
TORD				PKPab	PKPab	00 14 20.9	+0.1
	0.3nm,0.5s,baz=76,slow=4.1,SNR=6.0						

*ISK **06** 23:57:13.9, 39°.13N×29°.04E, h10km, MD2.7*
*ISCJB **06** 23:57:14.7±0.5, 39°.13N±0°.03×29°.04E±0°.04, h7km±5km, Error ellipse: s-maj=5.0km s-min=4.7km az=161.1*
*CSEM **06** 23:57:14.7±0.1, 39°.13N×29°.03E, h10km, MD2.6, Error ellipse: s-maj=3.3km s-min=2.5km az=82.0*
*DDA **06** 23:57:14.9, 39°.14N×29°.07E, h7km, Md2.6*

ISC 06 23:57:14.5±1.0, 39°.13N±0°.02×29°.03E±0°.03, h11km±10km, n31, σ0s33/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**251**	P	**Pb**	**23 57 21.3**	**+0.1**
DEMI				S	**Sb**	**23 57 25.5**	**-0.2**
DEMI	**Demirci**	**0.25**	**251**	*i* P	**Pb**	**23 57 21.3**	**+0.1**
DEMI				*i* S	**Sb**	**23 57 25.4**	**-0.2**
GDZ	**Gediz**	**0.36**	**96**	P	**Pg**	**23 57 21.8**	**+0.1**
GDZ				S	**Sg**	**23 57 26.7**	**+0.2**
GDZ	**Gediz**	**0.36**	**96**	*i* P	**Pg**	**23 57 21.8**	**+0.1**
GDZ				*i* S	**Sg**	**23 57 26.7**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**46**	*e*PG	**Pg**	**23 57 23.6**	**-0.1**
TVSB				*e*SG	**Sg**	**23 57 29.6**	**-0.4**
TVSB	**Tavsanli**	**0.47**	**46**	*e*Pg	**Pg**	**23 57 23.6**	**-0.1**
TVSB				*e*Sg	**Sg**	**23 57 29.6**	**-0.4**
DST	**Dursunbey**	**0.57**	**327**	*e*PG	**Pg**	**23 57 26.1**	**+0.4**
DST				*e*SG	**Sg**	**23 57 33.5**	**+0.2**
DST	**Dursunbey**	**0.57**	**327**	*e*Pg	**Pg**	**23 57 26.1**	**+0.4**
DST				*e*Sg	**Sg**	**23 57 33.5**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**23 57 27.0**	**-0.6**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**23 57 27.0**	**-0.6**
KHAL	**Karahalli**	**0.84**	**154**	P	**Pb**	**23 57 31.3**	**+0.1**
KHAL				S	**Sg**	**23 57 42.0**	**+0.4**
KHAL	**Karahalli**	**0.84**	**154**	*i* P	**Pb**	**23 57 31.3**	**+0.1**
KHAL				*i* S	**Sg**	**23 57 42.0**	**+0.4**
KHL	**Karahalli**	**0.89**	**154**	*e*PG	**Pb**	**23 57 32.2**	**+0.1**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg	**Pb**	**23 57 32.2**	**+0.1**
ORLT	**Orhaneli**	**0.93**	**354**	*e*PG	**Pg**	**23 57 32.5**	**+0.1**
ORLT	**Orhaneli**	**0.93**	**354**	*e*Pg	**Pg**	**23 57 32.5**	**+0.1**
IGD	**Bursa**	**1.15**	**7**	*i* P	**Pb**	**23 57 35.7**	**-0.6**
IGD				*i* S	**Sn**	**23 57 52.9**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN	**Pg**	**23 57 38.5**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pg**	**23 57 38.5**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pn**	**23 57 37.8**	**-0.2**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pn**	**23 57 37.8**	**-0.2**
IZI	**Iznik**	**1.26**	**16**	*e*PN	**Pn**	**23 57 37.5**	**-0.7**
IZI	**Iznik**	**1.26**	**16**	*e*Pn	**Pn**	**23 57 37.5**	**-0.7**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pg**	**23 57 40.0**	**-0.2**
BORA				S	**Sg**	**23 57 57.8**	**+0.2**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pg**	**23 57 40.0**	**-0.2**
BORA				*i* S	**Sg**	**23 57 57.8**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pn**	**23 57 40.5**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pn**	**23 57 40.5**	**+0.2**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pn**	**23 57 40.7**	**0.0**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pn**	**23 57 40.7**	**0.0**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pn**	**23 57 44.9**	**+0.1**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	**23 57 44.9**	**+0.1**

*NIED **06** 23:58:00, 36°.70N×142°.50E, h20km, Mw3.6 Best double couple: M◎2.60000×10^14 NP1:φs195.00000°, δ25.00000°, λ78.00000°. NP2:φs29.00000°, δ65.00000°, λ96.00000°.*
*IDC **06** 23:58:22.0±3.1, 36°.67N×142°.59E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/40, mbtmp3.7/4, ML3.6/2, MS2.5/3, Ms1 2.5/3, ms1mx2.2/40, Error ellipse: s-maj=62.6km s-min=32.9km az=61.0*
*ISCJB **06** 23:58:22.6±1.0, 36°.67N±0°.04×142°.53E±0°.09, h15km, mb3.5/2, Error ellipse: s-maj=10.8km s-min=5.9km az=0.2*
*JMA **06** 23:58:22.6±0.4, 36°.68N×142°.48E, h13km, M3.6*

ISC 06 23:58:24.7±1.3, 36°.66N±0°.04×142°.38E±0°.08, h15km, n20, σ1s10/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.34**	**289**	P	**Pn**	**23 58 47.6**	**-1.3**
ONAJ				*e*S	**Sg**	**23 59 07.8**	**-0.2**
JFK	**Kawauchi**	**1.40**	**301**	P	**Pn**	**23 58 48.8**	**-0.8**
JHO	**Hitachi**	**1.46**	**268**	P	**Pn**	**23 58 49.8**	**-0.7**
JMM	**Marumori**	**1.75**	**314**	P	**Pn**	**23 58 53.9**	**-0.5**
JFT	**Otama**	**1.84**	**298**	P	**Pn**	**23 58 56.1**	**+0.3**
JFT				S	**Sn**	**23 59 18.8**	**-0.1**
BSO1	**Boso 1**	**2.31**	**210**	S	**Sn**	**23 59 31.0**	**+1.5**
JAG	**Ashikaga**	**2.37**	**265**	P	**Pn**	**23 59 03.2**	**+0.2**
JMK	**Ichinoseki**	**2.46**	**338**	P	**Pn**	**23 59 04.6**	**+0.3**
JMK				*e*S	**Sn**	**23 59 33.5**	**-0.6**
JYK	**Kaneyama**	**2.76**	**325**	P	**Pn**	**23 59 08.5**	**+0.1**
JOM	**Ohasama**	**2.93**	**343**	P	**Pn**	**23 59 10.8**	**0.0**
JOM				S	**Sn**	**23 59 45.3**	**-0.4**
MJAR	**Matsushiro Arr**	**3.36**	**269**	Pn	**Pn**	**23 59 18.0**	**+1.4**
	5.8nm,0.3s,baz=97,slow=12,SNR=29						
MJAR				Sn	**Sb**	**00 00 05.0**	**+0.4**
	1.5nm,0.3s,baz=227,slow=21,SNR=4.9						
MJAR				LR	LR	00 00 47.6	
	comp=Z,59nm,18.7s,baz=115,slow=42						
MAT	**Matsushiro**	**3.36**	**269**	P	**Pn**	**23 59 18.2**	**+1.5**
JHJ	**Hachijo jima 2**	**4.13**	**212**	Pn	**Pn**	**23 59 27.4**	**+0.1**
	8.4nm,0.3s,baz=333,slow=23,SNR=9.7						
JHJ				Sn	**Sn**	**00 00 12.0**	**-3.3**
	17nm,0.3s,baz=70,slow=22,SNR=7.2						
JNU	**Nakatsue**	**10.09**	**253**	LR	LR	00 05 07.2	
	comp=Z,18nm,19.5s,baz=280,slow=40						
KSRS	**Korea Array**	**11.58**	**278**	LR	LR	00 05 25.9	
	comp=Z,43nm,18.7s,baz=97,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.29**	**122**	T	T	00 32 49.7	
	baz=313,slow=75,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**27.30**	**122**	T	T	00 32 48.6	
	baz=313,slow=75,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**27.31**	**122**	T	T	00 32 49.2	
	baz=313,slow=75,SNR=5.4						
SONM	**Songino Array**	**28.64**	**304**	P	**P**	**00 04 21.3**	**+0.6**
	0.3nm,0.5s,baz=115,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**56.81**	**189**	P	**P**	**00 08 08.3**	**-0.1**
	0.7nm,1.1s,baz=5.0,slow=7.3,SNR=4.0						

JMA 07 00:06:17.3, 37°.02N×140°.58E, h7km±1km, M1.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.19**	**65**	P	Pg	00 06 21.5	+0.3
ONAJ				S	Sg	00 06 24.5	+0.6
JHO	**Hitachi**	**0.41**	**181**	P	Pg	00 06 25.3	+0.1
JHO				S	Sg	00 06 31.0	+0.4
JFK	**Kawauchi**	**0.42**	**34**	P	Pg	00 06 25.5	0.0
JFT	**Otama**	**0.53**	**339**	P	Pg	00 06 27.9	+0.3
JFT				*e*S	Sg	00 06 34.8	+0.2

*IDC **07** 00:06:24.0±1.6, 6°.16N×50°.22W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.7/38, mbtmp3.8/6, ML5.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/36, Error ellipse: s-maj=52.3km s-min=27.0km az=2.0*

ISC 07 00:06:26.9±1.0, 6°.5N±0°.2×50°.1W±0°.2, h10km, n11, σ0s56/8, mb4.0/7, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGA	**Pitinga**	**12.20**	**234**	Pn	Pn	00 09 13.9	-7.1
	20nm,0.3s,baz=40,slow=18,SNR=131						
PTGA				Sn	Sn	00 11 18.1	-19
	6.4nm,0.3s,baz=142,slow=19,SNR=7.4						
SIV	**San Ignacio**	**24.88**	**206**	P	**P**	**00 11 49.8**	**-0.3**
	1.2nm,0.6s,baz=5.4,slow=3.9,SNR=2.6						
SIV				S	**S**	**00 16 13.3**	**0.0**
	0.3nm,0.3s,baz=233,slow=20,SNR=2.2						
H10N3	**ASCENSION HYDR**	**38.28**	**111**	T	T	00 54 32.0	
	baz=286						
H10N2	**ASCENSION HYDR**	**38.28**	**111**	T	T	00 54 45.8	
	baz=286						
H10N1	**ASCENSION HYDR**	**38.30**	**111**	T	T	00 54 30.0	
	baz=286						
TORD	**Torodi Ar. Bea**	**51.39**	**78**	P	**P**	**00 15 32.6**	**+0.1**
	1.0nm,0.6s,baz=270,slow=8.0,SNR=18						
TORD				LR	LR	00 35 52.3	
	comp=Z,17nm,19.8s,baz=310,slow=34						
TXAR	**Lajitas Array**	**55.22**	**301**	P	**P**	**00 16 01.0**	**+0.4**
	0.3nm,0.6s,baz=134,slow=6.4,SNR=4.1						
PDAR	**Pinedale Array**	**63.36**	**315**	P	**P**	**00 16 56.5**	**-0.4**
	0.5nm,0.4s,baz=108,slow=4.8,SNR=2.8						
NVAR	**Mina Array Bea**	**68.91**	**309**	P	**P**	**00 17 33.1**	**+0.5**
	0.5nm,0.5s,baz=114,slow=6.0,SNR=3.3						
YKA	**Yellowknife Ar**	**72.62**	**334**	P	**P**	**00 17 53.5**	**-0.9**
	0.6nm,0.4s,baz=114,slow=6.1,SNR=7.7						
ILAR	**Eielson Array**	**87.02**	**335**	P	**P**	**00 19 12.8**	**+0.4**
	0.6nm,0.6s,baz=87,slow=3.6,SNR=7.4						

MEX 07 00:06:41.2±0.3, 15°.62N×94°.19W, h33km±22km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.94**	**84**	*i* P	Pn	00 06 56.3	-1.8
PCIG				*i* S	Sn	00 07 07.5	-2.8
CCIG	**Comitan**	**2.08**	**71**	*e*P	Pn	00 07 12.2	-1.7
CCIG				*i* S	Sn	00 07 36.5	-2.4

*NIED **07** 00:06:00, 36°.70N×142°.40E, h14km, Mw3.5 Best double couple: M◎1.82000×10^14 NP1:φs195.00000°, δ28.00000°, λ81.00000°. NP2:φs26.00000°, δ62.00000°, λ95.00000°.*
*ISCJB **07** 00:06:49.1±1.1, 36°.66N±0°.04×142°.49E±0°.08, h10km, mb3.4/3, Error ellipse: s-maj=10.1km s-min=5.4km az=16.4*
*JMA **07** 00:06:49.4±0.5, 36°.69N×142°.42E, h9km±5km, M3.6*
*IDC **07** 00:06:54.0±2.7, 37°.28N×142°.06E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/40, mbtmp3.4/4, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/32, Error ellipse: s-maj=67.4km s-min=30.3km az=58.0*

ISC 07 00:06:50.9±1.5, 36°.71N±0°.05×142°.35E±0°.09, h10km, n21, σ1s13/26, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.31**	**288**	P	**Pn**	**00 07 14.6**	**-0.7**
JFK	**Kawauchi**	**1.35**	**299**	P	**Pn**	**00 07 15.2**	**-0.7**
JHO	**Hitachi**	**1.44**	**267**	P	**Pn**	**00 07 16.3**	**-0.8**
JHO				*e*S	**Sb**	**00 07 36.8**	**+0.6**
CHOJ	**Chosi**	**1.57**	**231**	P	**Pb**	**00 07 19.0**	**-1.1**
JMM	**Marumori**	**1.70**	**313**	P	**Pn**	**00 07 20.0**	**-0.6**
JFT	**Otama**	**1.80**	**297**	P	**Pn**	**00 07 22.4**	**+0.3**
JFT				*e*S	**Sn**	**00 07 45.5**	**+0.5**
JIO	**Ouri**	**1.92**	**336**	P	**Pn**	**00 07 23.6**	**0.0**
JOU	**Okura**	**2.13**	**321**	P	**Pb**	**00 07 27.7**	**-1.9**
JOU				*e*S	**Sb**	**00 07 55.8**	**-0.3**
BSO1	**Boso 1**	**2.34**	**209**	*e*S	**Sn**	**00 07 57.5**	**+0.1**
JAG	**Ashikaga**	**2.35**	**264**	P	**Pn**	**00 07 29.8**	**+0.2**
JMK	**Ichinoseki**	**2.41**	**338**	P	**Pn**	**00 07 31.1**	**+0.7**
JMK				*e*S	**Sn**	**00 08 01.3**	**+1.3**
JYK	**Kaneyama**	**2.71**	**325**	P	**Pn**	**00 07 35.4**	**+0.9**
JRY	**Ryogami san**	**2.87**	**257**	P	**Pn**	**00 07 36.7**	**-0.1**
JRY				*e*S	**Sn**	**00 08 13.1**	**+1.7**
JOM	**Ohasama**	**2.88**	**343**	S	**Sn**	**00 08 12.5**	**+0.9**
JOD2	**Odawara 2**	**3.02**	**242**	P	**Pn**	**00 07 39.2**	**+0.4**
MJAR	**Matsushiro Arr**	**3.34**	**268**	Pn	**Pn**	**00 07 43.5**	**+0.3**
	5.0nm,0.3s,baz=96,slow=8.8,SNR=21						
MJAR				Sn	**Sb**	**00 08 28.9**	**-2.0**
	1.3nm,0.3s,baz=222,slow=18,SNR=6.3						
MAT	**Matsushiro**	**3.34**	**268**	P	**Pn**	**00 07 44.8**	**+1.6**
MAT				S	**Sn**	**00 08 25.8**	**+2.8**
KLR	**Kul'dur**	**14.70**	**332**	LR	LR	00 16 02.2	
	comp=Z,38nm,18.3s,baz=232,slow=39						
SONM	**Songino Array**	**28.59**	**304**	P	**P**	**00 12 47.9**	**+0.7**
	0.6nm,0.6s,baz=96,slow=8.5,SNR=5.5						
MKAR	**Makanchi Array**	**44.93**	**303**	P	**P**	**00 15 05.8**	**0.0**
	0.1nm,0.5s,baz=72,slow=8.5,SNR=2.0						
WRA	**Warramunga Arr**	**56.85**	**189**	P	P	00 16 44.3	+8.5
	0.3nm,0.3s,baz=21,slow=7.1,SNR=14						

MAN 07 00:10:23, 18°.82N×120°.17E, h91km, mb4.2, ML3.0, MS2.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.66**	**139**	*i* P	Pn	00 10 41.8	+2.6
PIP				*e*S	Sn	00 10 54.6	+3.4
ABRA	**Dolores**	**1.28**	**156**	*e*P	Pn	00 10 47.3	+1.2
APYP	**Conner**	**1.40**	**133**	*e*P	Pn	00 10 48.9	+1.4
APYP				*e*S	Sn	00 11 08.1	+2.0

*CSEM **07** 00:10:43.9±0.2, 51°.51N×6°.46E, h1km, ML2.6/16, Error ellipse: s-maj=4.2km s-min=3.3km az=144.0*
*ISCJB **07** 00:10:43.5±0.3, 51°.48N±0°.02×6°.47E±0°.03, h0km, Error ellipse: s-maj=2.8km s-min=2.2km az=148.1*
*LDG **07** 00:10:43.9±0.2, 51°.57N×6°.49E, h1km, Md3.0/2, Ml2.5/12, Error ellipse: s-maj=3.7km s-min=2.6km az=7.0, Suspected Mining induced.*
*BUG **07** 00:10:44.8, 51°.59N×6°.61E, h1km, ML1.8*
BUG Felt III EMS.
*BNS **07** 00:10:44.9±1.0, 51°.52N×6°.51E, h1km, ML1.4*
*UCC **07** 00:10:45.6, 51°.45N×6°.60E, h10km, ML2.0*
*BGR **07** 00:10:45.2±0.2, 51°.49N×6°.57E, h1km, ML2.1/9, Error ellipse: s-maj=3.3km s-min=2.2km az=123.0*

ISC 07 00:10:42.7±0.7, 51°.52N±0°.02×6°.48E±0°.02, h0km, n108, σ0s94/182, 1C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.33**	**120**	*e*Pg	**Pb**	**00 10 50.8**	**-0.7**
LAUG				*e*Sg	**Sg**	**00 10 55.5**	**+2.2**
	74nm,0.6s						
LAUG	**Laupendahl**	**0.33**	**120**	Pg	**Pb**	**00 10 50.8**	**-0.7**
LAUG				Sg	**Sg**	**00 10 55.5**	**+2.2**
	74nm,0.6s						
HES	**Velbert-Hesper**	**0.38**	**113**	*e*Pg	**Pg**	**00 10 51.0**	**+1.1**
HES	**Velbert-Hesper**	**0.38**	**113**	Pg	**Pg**	**00 10 51.0**	**+1.1**
OPLO	**Oploo**	**0.42**	**280**	*e*Pg	**Pb**	**00 10 53.6**	**+0.6**
OPLO				*e*Sg	**Sb**	**00 11 00.6**	**+0.6**
OPLO	**Oploo**	**0.42**	**280**	Pg	**Pb**	**00 10 53.6**	**+0.6**
OPLO				Sg	**Sb**	**00 11 00.6**	**+0.6**
RWB	**Wassenberg**	**0.47**	**206**	*e*Pg	**Pb**	**00 10 53.6**	**-0.1**
RWB				*e*Sg	**Sb**	**00 11 00.6**	**-0.6**
	48nm,0.2s						
RWB	**Wassenberg**	**0.47**	**206**	Pg	**Pb**	**00 10 53.6**	**-0.1**
RWB				Sg	**Sb**	**00 11 00.6**	**-0.6**
	48nm,0.2s						
WTSB	**Winterswijk**	**0.49**	**23**	*e*Pg	**Pb**	**00 10 54.8**	**+0.7**
WTSB				*e*Sg	**Sb**	**00 11 00.8**	**-1.0**
WTSB	**Winterswijk**	**0.49**	**23**	*e*Pg	**Pb**	**00 10 54.6**	**+0.5**
WTSB				*e*Sg	**Sb**	**00 11 00.6**	**-1.3**
WTSB	**Winterswijk**	**0.49**	**23**	Pg	**Pb**	**00 10 54.6**	**+0.5**
WTSB				Sg	**Sb**	**00 11 00.6**	**-1.3**
BUG	**Bochum--Univer**	**0.50**	**99**	*i* Pg	**Pb**	**00 10 54.0**	**-0.3**
BUG				Sg	**Sb**	**00 11 00.7**	**-1.4**
ENTS	**Ennepetalsperr**	**0.64**	**115**	*e*Sg	**Sg**	**00 11 05.0**	**+1.7**
ENTS	**Ennepetalsperr**	**0.64**	**115**	Sg	**Sg**	**00 11 05.0**	**+1.7**
BNS	**Bensberg**	**0.71**	**142**	*e*Pg	**Pb**	**00 10 58.4**	**+0.6**
BNS	**Bensberg**	**0.71**	**142**	Pg	**Pb**	**00 10 58.4**	**+0.6**
HOBG	**Hohbusch**	**0.76**	**135**	*e*Pg	**Pb**	**00 10 59.2**	**+0.5**
HOBG	**Hohbusch**	**0.76**	**135**	Pg	**Pb**	**00 10 59.2**	**+0.5**
GSH	**Grosshau**	**0.79**	**185**	*e*Pg	**Pb**	**00 10 59.7**	**+0.5**
GSH				*e*Sg	**Sb**	**00 11 10.6**	**+0.2**
	21nm,0.1s						
GSH	**Grosshau**	**0.79**	**185**	Pg	**Pb**	**00 10 59.7**	**+0.5**
GSH				Sg	**Sb**	**00 11 10.6**	**+0.2**
	21nm,0.1s						
HGN	**Heimansgroeve**	**0.83**	**205**	*e*Pn	**Pn**	**00 11 01.5**	**-0.1**
HGN				*e*Pg	**Pb**	**00 11 01.8**	**+1.9**
	23nm,0.3s						
HGN				*e*Sn	**Sb**	**00 11 12.6**	**+0.9**
HGN				*e*Sg	**Sn**	**00 11 14.3**	**-0.3**
HGN	**Heimansgroeve**	**0.83**	**205**	*e*Pg	**Pb**	**00 11 00.5**	**+0.5**
HGN				*e*Sg	**Sb**	**00 11 11.8**	**+0.1**
HGN	**Heimansgroeve**	**0.83**	**205**	Pg	**Pb**	**00 11 00.5**	**+0.5**
HGN	**Heimansgroeve**	**0.83**	**205**	*e*Pn	**Pn**	**00 11 01.5**	**-0.1**
HGN				Sg	**Sb**	**00 11 11.8**	**+0.1**
HGN				*e*Sn	**Sb**	**00 11 12.6**	**+0.9**
DREG	**Dreilaegerbach**	**0.87**	**191**	*e*Pg	**Pb**	**00 11 01.1**	**+0.4**
DREG	**Dreilaegerbach**	**0.87**	**191**	Pg	**Pb**	**00 11 01.1**	**+0.4**
WBS	**Wahnbachtalspe**	**0.87**	**145**	*e*Pg	**Pb**	**00 11 00.7**	**0.0**
WBS				*e*Sg	**Sb**	**00 11 12.6**	**-0.3**
	22nm,0.1s						
WBS	**Wahnbachtalspe**	**0.87**	**145**	Pg	**Pb**	**00 11 00.7**	**0.0**
WBS				Sg	**Sb**	**00 11 12.6**	**-0.3**
	22nm,0.1s						
KLL	**Kalltalsperre**	**0.88**	**187**	*e*Pg	**Pb**	**00 11 01.2**	**+0.4**
KLL	**Kalltalsperre**	**0.88**	**187**	Pg	**Pb**	**00 11 01.2**	**+0.4**
BEBN	**Eben Emael**	**0.88**	**215**	P	**Pn**	**00 11 02.2**	**-0.1**
BEBN				S	**Sb**	**00 11 13.0**	**-0.2**
	comp=E,33nm,0.1s						
BEBN	**Eben Emael**	**0.88**	**215**	P	**Pn**	**00 11 02.2**	**-0.1**
BEBN				S	**Sb**	**00 11 13.0**	**-0.2**
	comp=E,33nm,0.1s						
BMOL	**Mol**	**0.93**	**251**	⇓P	**Pn**	**00 11 03.6**	**+0.7**
BMOL				S	**Sn**	**00 11 16.3**	**-0.7**
BMOL	**Mol**	**0.93**	**251**	P	**Pn**	**00 11 03.6**	**+0.7**
BMOL				S	**Sn**	**00 11 16.2**	**-0.7**
STB	**Steinbach**	**0.95**	**166**	*e*Pg	**Pn**	**00 11 03.4**	**+0.1**
STB				*e*Sg	**Sb**	**00 11 16.0**	**+0.8**
STB	**Steinbach**	**0.95**	**166**	Pg	**Pn**	**00 11 03.4**	**+0.1**
STB				Sg	**Sb**	**00 11 16.0**	**+0.8**
MEM	**Membach**	**0.96**	**198**	P	**Pb**	**00 11 02.2**	**+0.1**
MEM	**Membach**	**0.96**	**198**	⇓P	**Pb**	**00 11 02.3**	**+0.1**
	comp=Z,20nm,0.0s						
MEM				S	**Sb**	**00 11 15.3**	**-0.1**
	comp=N,36nm,0.0s						
MEM	**Membach**	**0.96**	**198**	*e*Pg	**Pb**	**00 11 02.6**	**+0.4**
MEM				*e*Sg	**Sb**	**00 11 15.5**	**+0.1**
MEM	**Membach**	**0.96**	**198**	P	**Pb**	**00 11 02.2**	**+0.1**
MEM	**Membach**	**0.96**	**198**	Pg	**Pb**	**00 11 02.6**	**+0.4**
MEM				S	**Sb**	**00 11 15.5**	**-0.1**
TDN	**Todenfeld**	**0.99**	**163**	*e*Pg	**Pb**	**00 11 03.2**	**+0.5**
TDN				*e*Sg	**Sb**	**00 11 16.7**	**+0.5**
	comp=N,8.6nm,0.1s						
TDN	**Todenfeld**	**0.99**	**163**	Pg	**Pb**	**00 11 03.2**	**+0.5**
TDN				Sg	**Sb**	**00 11 16.7**	**+0.5**
	comp=N,8.6nm,0.1s						
AHRW	**Bad Neuenahr-A**	**1.05**	**159**	*e*Pg	**Pn**	**00 11 04.5**	**0.0**
AHRW				*e*Sg	**Sg**	**00 11 17.4**	**+1.1**
BSTI	**Sart Tilman**	**1.10**	**212**	⇑P	**Pn**	**00 11 06.0**	**+0.7**
BSTI	**Sart Tilman**	**1.10**	**212**	P	**Pn**	**00 11 06.0**	**+0.7**
IBBN	**Ibbenburen

	comp=Z,1.9nm,0.3s						
SFTF	**Sexfontaines**	**3.45**	**196**	*e*Pn	**Pn**	**00 11 37.1**	**-0.5**
SFTF	**Sexfontaines**	**3.45**	**196**	*e*Pg	**Pg**	**00 11 48.2**	**-0.5**
SFTF				*e*Sg	**Sg**	**00 12 33.6**	**+0.3**
	comp=Z,3.7nm,0.3s						
SFTF	**Sexfontaines**	**3.45**	**196**	*e*Pn	**Pn**	**00 11 37.1**	**-0.5**
SFTF	**Sexfontaines**	**3.45**	**196**	*e*Pg	**Pg**	**00 11 48.2**	**-0.5**
SFTF				*e*Sg	**Sg**	**00 12 33.6**	**+0.3**
	comp=Z,1.9nm,0.3s						
HAU	**Haudompre**	**3.52**	**181**	*e*Sg	**Sg**	**00 12 35.5**	**-0.1**
	comp=Z,2.8nm,0.3s						
HAU	**Haudompre**	**3.52**	**181**	*e*Sg	**Sg**	**00 12 35.5**	**-0.1**
	comp=Z,1.4nm,0.3s						
LOR	**Lormes**	**4.59**	**203**	*e*Pn	**Pn**	**00 11 53.3**	**0.0**
	baz=34						
LOR				*e*Sn	**Sn**	**00 12 44.6**	**-2.6**
LOR				*e*Sg	**Sg**	**00 13 09.2**	**-0.7**
	comp=Z,1.6nm,0.2s						
LOR	**Lormes**	**4.59**	**203**	*e*Pn	**Pn**	**00 11 53.3**	**0.0**
LOR				*e*Sn	**Sn**	**00 12 44.6**	**-2.6**
LOR				*e*Sg	**Sg**	**00 13 09.2**	**-0.7**
	comp=Z,0.8nm,0.2s						
SSF	**Saint Saulge**	**4.87**	**205**	*e*Pn	**Pn**	**00 11 57.3**	**+0.2**
SSF				*e*Sn	**Sn**	**00 12 51.1**	**-3.0**
SSF				*e*Sg	**Sg**	**00 13 18.3**	**-0.7**
	comp=Z,0.6nm,0.2s						
SSF	**Saint Saulge**	**4.87**	**205**	*e*Pn	**Pn**	**00 11 57.3**	**+0.2**
SSF				*e*Sn	**Sn**	**00 12 51.1**	**-3.0**
SSF				*e*Sg	**Sg**	**00 13 18.3**	**-0.7**
	comp=Z,0.3nm,0.2s						
AVF	**Avril sur Loir**	**5.16**	**205**	*e*Pn	**Pn**	**00 12 00.8**	**-0.3**
AVF	**Avril sur Loir**	**5.16**	**205**	*e*Pn	**Pn**	**00 12 00.8**	**-0.3**
LDF	**La Druitiere**	**5.17**	**238**	*e*Pn	**Pn**	**00 12 00.1**	**-1.1**
LDF	**La Druitiere**	**5.17**	**238**	*e*Pn	**Pn**	**00 12 00.1**	**-1.1**
SMF	**Signal de Mont**	**5.18**	**201**	*e*Pn	**Pn**	**00 12 01.3**	**-0.1**
SMF				*e*Sg	**Sg**	**00 13 27.4**	**-1.5**
	comp=Z,1.3nm,0.3s						
SMF	**Signal de Mont**	**5.18**	**201**	*e*Pn	**Pn**	**00 12 01.3**	**-0.1**
SMF				*e*Sg	**Sg**	**00 13 27.4**	**-1.5**
	comp=Z,0.6nm,0.3s						
FLN	**La Foliniere**	**5.26**	**241**	*e*Pn	**Pn**	**00 12 01.7**	**-0.8**
FLN	**La Foliniere**	**5.26**	**241**	*e*Pn	**Pn**	**00 12 01.7**	**-0.8**
BGF	**Bois d'Agland**	**5.51**	**207**	*e*Pn	**Pn**	**00 12 05.5**	**-0.4**
BGF	**Bois d'Agland**	**5.51**	**207**	*e*Pn	**Pn**	**00 12 05.5**	**-0.4**
TCF	**Toulx Ste Croi**	**5.94**	**210**	*e*Pn	**Pn**	**00 12 11.1**	**-0.8**
TCF	**Toulx Ste Croi**	**5.94**	**210**	*e*Pn	**Pn**	**00 12 11.1**	**-0.8**

IDC ***07*** *00:39:22.1±0.7, 3˚.48S×145˚.69E, h0km, mb4.3/15, mb1 4.5/17, mb1mx4.4/28, mbtmp4.3/17, ML2.0/2, MS3.8/19, Ms1 3.9/19, ms1mx3.7/36, Error ellipse: s-maj=19.2km s-min=9.5km az=104.0*

ISCJB ***07*** *00:39:25.5±0.3, 3˚.69S±0˚.04×145˚.90E±0˚.05, h25km, mb4.9/52, MS3.9/18, Error ellipse: s-maj=7.9km s-min=5.2km az=6.9*

BJI ***07*** *00:39:26.6, 3˚.25S×146˚.32E, h31km, mb4.7/36, mB4.9/23, Ms4.6/19, Ms7 4.2/17*

GCMT ***07*** *00:39:30.3±0.4, 3˚.36S×145˚.61E, h28km±1km, MW4.9/58, Moment Tensor Solution. s18,c21; s58,c81; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.42±.21; Mθθ0.19±.16; Mϕϕ-0.60±.19; Mrθ-0.88±.27; Mrϕ2.96±.12; Mθϕ0.72±.26; Best double couple: M₀3.15500×10¹⁶ NP1:ϕs93.00000°, δ82.00000°, λ-15.00000°. NP2: ϕs185.00000°, δ75.00000°, λ-172.00000°. Principal axes: T 2.7930, Plg5.0000°, Azm140.0000°; N 0.7250, Plg73.0000°, Azm246.0000°; P -3.5180, Plg16.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***07*** *00:39:30.3±1.9, 3˚.56S×145˚.50E, h50km±18km, mb5.0/35 Error ellipse: s-maj=10.2km s-min=7.5km az=79.0*

DJA ***07*** *00:39:41.4±1.4, 4˚S±11˚×14˚6E±1˚1, h107km±12km, M4.5/11, mb4.7/11, mB5.4/4, MLv4.3/1, Mw(mB)4.8/4*

ISC 07 00:39:27.4±0.4, 3˚.67S±0˚.04×145˚.94E±0˚.06, h25km, n117, σ2ş54/119, mb4.9/52, MS4.0/18, 1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MANU	**Manus Island**	**2.15**	**41**	*e*Pn	**Pn**		**00 40 00.5**	**-1.2**
JAY	**Jayapura**	**5.36**	**282**	Pn	Pn		00 40 38.4	-7.4
	0.1nm,0.3s,baz=90,slow=20,SNR=3.0							
JAY				LR	LR		00 42 32.0	
	comp=Z,53nm,19.4s,baz=358,slow=38							
PMG	**Port Moresby**	**5.83**	**168**	Pn	**Pn**		**00 40 51.7**	**-0.5**
	1.5nm,0.3s,baz=311,slow=11,SNR=2.6							
PMG				Sn	**Sb**		**00 42 12.8**	**-4.9**
	2.2nm,0.3s,baz=330,slow=14,SNR=3.1							
PMG	**Port Moresby**	**5.83**	**168**	*e*Pn	**Pn**		**00 40 52.4**	**+0.2**
COEN	**Coen**	**10.58**	**195**	*e*Pn	**Pn**		**00 41 59.1**	**+1.6**
SWI	**Sorong**	**14.93**	**280**	P	**P**		**00 43 03.3**	**+0.9**
	51nm,1.0s							
HNR	**Honiara**	**15.04**	**113**	LR	LR		00 48 53.7	
	comp=Z,291nm,18.2s,baz=314,slow=37							
CTA	**Charters Tower**	**16.32**	**179**	Pn	**P**		**00 43 19.6**	**+1.8**
	0.4nm,0.3s,baz=352,slow=11,SNR=5.3							
MTN	**Manton Dam**	**17.25**	**237**	*e*Pn	**Pn**		**00 43 23.9**	**-2.8**
	71nm,1.0s							
WRAB	**Tennant Creek**	**19.73**	**214**	*e*P	**P**		**00 43 54.5**	**-0.9**
	69nm,0.9s							
WB2	**Warramunga Arr**	**19.73**	**214**	*e*P	**P**		**00 43 54.5**	**-0.9**
WR1	**Warramunga Arr**	**19.74**	**214**	*e*P	**P**		**00 43 54.7**	**-0.8**
	63nm,1.0s							
WR1				*e*S	**Sn**		**00 47 37.7**	**-0.6**
WRA	**Warramunga Arr**	**19.74**	**214**	P	**P**		**00 43 54.7**	**-0.8**
	0.7nm,0.3s,baz=37,slow=12,SNR=100							
WRA				S	**Sn**		**00 47 37.7**	**-0.7**
	baz=14,slow=24,SNR=4.0							
WRA				LR	LR		00 51 58.4	
	comp=Z,284nm,21.2s,baz=40,slow=38							
SANI	**Sanana**	**19.99**	**274**	P	**Pn**		**00 44 04.7**	**+4.6**
	29nm,1.3s							
EIDS	**Eidsvold**	**22.14**	**168**	*e*P	**P**		**00 44 24.5**	**+3.3**
	12nm,0.9s							
SOEI	**Soe**	**22.35**	**253**	P	**P**		**00 44 23.0**	**-0.9**
SOEI	**Soe**	**22.35**	**253**	*e*P	**P**		**00 44 19.9**	**-4.0**
	166nm,1.0s							
DAV	**Davao City (W)**	**22.95**	**298**	LR	LR		00 53 02.4	
	comp=Z,96nm,19.3s,baz=78,slow=36							
AS01	**Alice Springs**	**23.01**	**209**	*e*P	**P**		**00 44 29.1**	**-1.5**
AS31	**Alice Springs**	**23.03**	**209**	*e*P	**P**		**00 44 31.0**	**+0.2**
	5.8nm,0.8s							
AS31				*e*S	**S**		**00 48 43.0**	**+2.7**
ASAR	**Alice Springs**	**23.03**	**209**	P	**P**		**00 44 30.0**	**-0.9**
	9.4nm,1.0s,baz=36,slow=8.7,SNR=40							
ASAR				S	**S**		**00 48 43.0**	**+2.7**
	1.6nm,1.0s,baz=28,slow=22,SNR=4.2							
ASAR				LR	LR		00 54 37.7	
	comp=Z,320nm,19.7s,baz=40,slow=40							
LUWI	**Luwuk**	**23.30**	**276**	P	**P**		**00 44 36.2**	**+2.6**
	129nm,1.3s,2μm							
LUWI	**Luwuk**	**23.30**	**276**	*e*P	**P**		**00 44 29.7**	**-3.9**
	280nm,1.5s							
MRSI	**Marisa**	**24.34**	**279**	P	**P**		**00 44 45.1**	**+1.6**
FITZ	**Fitzroy Crossi**	**24.52**	**233**	P	**P**		**00 44 42.8**	**-2.2**
	13nm,0.9s,baz=65,slow=9.5,SNR=20							
FITZ				LR	LR		00 55 04.2	
	comp=Z,485nm,18.4s,baz=53,slow=39							
FITZ	**Fitzroy Crossi**	**24.52**	**233**	*e*P	**P**		**00 44 42.8**	**-2.2**
	40nm,0.8s							
BSSI	**Bau Bau, Buton**	**25.48**	**263**	P	**P**		**00 44 55.4**	**+1.6**
	57nm,1.3s,2μm							
TTSI	**Tana Toraja**	**26.09**	**271**	P	**P**		**00 45 01.3**	**+1.9**
	54nm,1.4s,759nm							
KAPI	**Kappang**	**26.15**	**266**	P	**P**		**00 44 56.8**	**-3.1**
	10nm,0.9s,baz=207,slow=5.0,SNR=4.5							
KAPI				LR	LR		00 56 53.0	
	comp=Z,82nm,21.5s,baz=99,slow=41							
KAPI	**Kappang**	**26.15**	**266**	*e*P	**P**		**00 44 56.1**	**-3.9**
	73nm,1.4s							
PCI	**Palu**	**26.23**	**275**	P	**P**		**00 45 05.6**	**+4.9**
DZM	**Mont Dzumac**	**27.02**	**134**	P	**P**		**00 45 10.1**	**+2.3**
	7.5nm,1.0s,baz=10,slow=11,SNR=4.6							
DZM				LR	LR		00 54 29.3	
	comp=Z,370nm,19.9s,baz=288,slow=33							
DZM	**Mont Dzumac**	**27.02**	**134**	*e*P	**P**		**00 45 10.1**	**+2.3**
	25nm,1.6s							
STKA	**Stephens Creek**	**28.36**	**188**	P	**P**		**00 45 21.2**	**+1.7**
	3.0nm,0.7s,baz=5.5,slow=11,SNR=3.7							
STKA				LR	LR		00 57 10.6	
	comp=Z,283nm,18.8s,baz=9.7,slow=38							
STKA	**Stephens Creek**	**28.36**	**188**	*e*P	**P**		**00 45 21.2**	**+1.7**
	2.4nm,1.0s							
LHI	**Lord Howe Isla**	**30.33**	**157**	*e*P	**P**		**00 45 36.6**	**-0.5**
	126nm,1.2s							
BBOO	**Buckleboo**	**30.43**	**197**	*e*P	**P**		**00 45 40.0**	**+2.0**
	120nm,2.0s							
YHNB	**Yeheng**	**36.93**	**321**	*e*P	**P**		**00 46 33.5**	**-1.1**
	160nm,1.8s							
JHJ2	**Mitsune**	**37.04**	**351**	*e*P	**P**		**00 46 33.4**	**-1.9**
	154nm,1.0s							
NWAO	**Narrogin (SRO)**	**39.60**	**219**	LR	LR		01 03 42.4	
	comp=Z,379nm,20.8s,baz=294,slow=37							
MJAR	**Matsushiro Arr**	**40.65**	**350**	P	**P**		**00 47 03.4**	**-2.2**
	0.6nm,0.4s,baz=181,slow=7.7,SNR=4.3							
QIZ	**Qiongzhong**	**42.08**	**304**	P	**P**		**00 47 19.0**	**+1.4**
QIZ				S	**S**		**00 53 37.3**	**+1.5**
QIZ				LN				
	110nm,19.2s							
QIZ				LE				
	100nm,20.6s							
QIZ				LZ				
	140nm,23.2s							
KSRS	**Korea Array**	**44.21**	**339**	P	**P**		**00 47 29.8**	**-4.7**
	4.7nm,0.9s,baz=158,slow=9.5,SNR=15							
KS15	**Wonju Array Si**	**44.22**	**339**	*e*P	**P**		**00 47 31.6**	**-2.9**
KSAR	**Wonju Array Be**	**44.22**	**339**	P	**P**		**00 47 29.8**	**-4.8**
KS01	**Wonju Array Si**	**44.24**	**339**	*e*P	**P**		**00 47 30.8**	**-4.0**
THZ	**Tophouse**	**44.96**	**151**	*e*P	**P**		**00 47 40.3**	**-0.2**
	75nm,1.6s							
BKNI	**Bangkinang**	**45.05**	**274**	*e*P	P		00 47 35.9	-5.7
	117nm,0.4s							
MLZ	**Maora Lakes**	**45.85**	**158**	*e*P	**P**		**00 47 47.1**	**-0.4**
	122nm,1.7s							
NONG	**Nongkai**	**47.39**	**299**	P	**P**		**00 48 01.9**	**+2.0**
	21nm,1.5s,10μm							
MIDW	**Midway**	**47.44**	**46**	*e*P	**P**		**00 48 02.3**	**+2.1**
	99nm,1.1s							
ASAJ	**Asahikawa**	**47.66**	**357**	*e*P	**P**		**00 48 00.8**	**-0.9**
	17nm,1.2s							
GYA	**Guiyang**	**48.37**	**311**	*e*P	**P**		**00 48 10.2**	**+2.6**
GYA				PMZ				
	10.0nm,1.0s							
PBKT	**Sadao Pong**	**48.77**	**296**	P	P		**00 48 14.3**	**+3.6**
	9.7nm,1.2s							
LOEI	**Loei**	**48.84**	**297**	P	P		00 48 19.6	+8.4
	44nm,0.7s,2μm							
USRK	**Ussuriysk Ar.**	**49.27**	**347**	P	**P**		**00 48 11.2**	**-2.8**
	5.2nm,0.7s,baz=177,slow=5.8,SNR=11							
UTTA	**Uttaradit**	**49.56**	**297**	P	**P**		**00 48 19.0**	**+2.3**
	3.0nm,1.1s,56nm							
LHMI	**Lhok Sumawe**	**49.73**	**280**	*e*P	**P**		**00 48 15.0**	**-3.1**
	44nm,0.7s							
CN2	**Changchun**	**50.73**	**341**	*e*P	**P**		**00 48 26.0**	**+0.9**
CN2				PMZ				
	10.0nm,0.5s							
KMI	**Kunming**	**50.76**	**307**	P	**P**		**00 48 29.5**	**+3.5**
KMI				PMZ				
	18nm,0.5s							
CM01	**Chiang Mai Arr**	**51.22**	**297**	*e*P	**P**		**00 48 26.2**	**-3.0**
CM31	**Chiang Mai Arr**	**51.24**	**297**	*e*P	**P**		**00 48 26.9**	**-2.5**
CMAR	**Chiang Mai Arr**	**51.24**	**297**	P	**P**		**00 48 26.9**	**-2.5**
	2.7nm,0.5s,baz=120,slow=6.2,SNR=11							
CMAR				LR	LR		01 09 06.1	
	comp=Z,50nm,20.9s,baz=129,slow=35							
BJI	**Beijing**	**51.37**	**331**	P	**P**		**00 48 30.9**	**+0.9**
BJI				S	**S**		**00 55 48.0**	**0.0**
BJI				PMZ				
	7.0nm,1.5s							
BJI				PMZ				
	140nm,4.0s							
BJI				LN				
	95nm,22.4s							
BJI				LE				
	160nm,21.9s							
BJI				LZ				
	160nm,24.8s							
CHTO	**Chiang Mai**	**51.37**	**298**	P	**P**		**00 48 32.8**	**+2.4**
	35nm,1.3s							
CHTO	**Chiang Mai**	**51.37**	**298**	*e*P	**P**		**00 48 33.1**	**+2.7**
	14nm,1.3s							
CD2	**Chengdu**	**52.91**	**314**	*e*P	**P**		**00 48 42.2**	**+0.5**
CD2				sP	sP		00 48 57.1	+4.6
CD2				PP	**PP**		**00 50 42.1**	**+0.6**
CD2				PcS	**PcS**		**00 53 49.4**	**0.0**
CD2				S	**S**		**00 56 09.7**	**+0.1**
CD2				sS	sS		00 56 27.7	+5.3
CD2				SS	**SS**		**00 59 50.5**	**+1.5**
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	140nm,5.2s							
HHC	**Hu-ho-hao-te**	**54.31**	**328**	*e*P	P		00 48 57.6	+5.7
HHC				sP	sP		00 49 14.4	+12
HHC				S	**S**		**00 56 35.6**	**+7.2**
HHC				sS	sS		00 56 50.7	+9.5
HHC				pmax	pmax			
	comp=Z,16nm,1.0s							
HHC				pmax	pmax			
	comp=Z,82nm,6.2s							
HHC				LR	LR			
	comp=N,120nm,10.2s							
HHC				LR	LR			
	comp=E,120nm,15.7s							
HHC				LR	LR			
	comp=Z,140nm,12.6s							
LZH	**Lanzhou**	**55.77**	**319**	*e*P	**P**		**00 49 05.6**	**+3.0**
LZH				pP	sP		00 49 15.5	+2.1
LZH				sP	pP		00 49 19.2	+8.8
LZH				PMZ				
	comp=Z,44nm,1.3s							
LZH				PMZ				
	comp=Z,150nm,4.2s							
LZH				LN				
	comp=Z,130nm,14.7s							
LZH				LE				
	comp=Z,190nm,16.4s							
LZH				LZ				
	comp=Z,170nm,17.8s							
PEA0	**Petropavlovsk-**	**57.43**	**8**	*e*P	**P**		**00 49 15.3**	**+1.4**
PEA0B	**Petropavlovsk-**	**57.43**	**8**	*e*P	**P**		**00 49 13.7**	**-0.1**
	comp=Z,28nm,1.3s							
PETK	**Petropavlovsk-**	**57.43**	**8**	P	**P**		**00 49 12.4**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=171,slow=7.2,SNR=3.4							
PETK				LR	LR		01 08 57.3	
	comp=Z,47nm,22.0s,baz=198,slow=31							
PEA1	**Petropavlovsk-**	**57.44**	**8**	*e*P	**P**		**00 49 12.4**	**-1.5**
GTA	**Gaotai**	**60.29**	**320**	*e*P	**P**		**00 49 31.0**	**-3.2**
GTA				pP	pP		00 49 41.5	-0.5
GTA				sP	sP		00 49 45.7	+0.7
GTA				PcP	**PcP**		**00 50 14.6**	**-4.7**
GTA				S	**S**		**00 57 42.5**	**-4.7**
GTA				sS	sS		00 57 58.9	-1.3
GTA				SS	**SS**		**01 01 42.4**	**-2.7**
GTA				PMZ				
	comp=Z,5.0nm,1.2s							
GTA				PMZ				
	comp=Z,31nm,5.5s							
GTA				LN				
	comp=Z,130nm,20.0s							
GTA				LE				
	comp=Z,97nm,21.4s							
GTA				LZ				
	comp=Z,110nm,18.5s							
SMY	**Shemya**	**61.01**	**19**	*e*P	**P**		**00 49 40.3**	**+1.7**
	comp=Z,252nm,2.0s							
ULN	**Ulaanbaatar**	**61.57**	**331**	*e*P	**P**		**00 49 40.7**	**-2.0**
	comp=Z,13nm,1.4s							
SONA0	**Songino Array**	**61.87**	**331**	*e*P	**P**		**00 49 41.1**	**-3.6**
	comp=Z,15nm,1.7s							
SONM	**Songino Array**	**61.87**	**331**	P	**P**		**00 49 41.1**	**-3.6**
	comp=Z,0.5nm,0.6s,baz=152,slow=6.5,SNR=5.7							
SONM				LR	LR		01 14 51.4	
	comp=Z,117nm,20.6s,baz=121,slow=35							
MA2	**Magadan**	**63.17**	**3**	LR	LR		01 14 28.1	
	comp=Z,26nm,20.4s,baz=150,slow=33							
AKUT	**Akutan**	**70.16**	**28**	*e*P	**P**		**00 50 38.8**	**+1.1**
	comp=Z,242nm,1.5s							
WMQ	**Urumqi**	**70.35**	**319**	P	**P**		**00 50 41.0**	**+1.8**
WMQ				pP	sP		00 50 50.5	+0.3
WMQ				sP	PcP		00 50 55.3	-5.4
WMQ				PMZ				
	comp=Z,5.0nm,1.2s							
WMQ				PMZ				
	comp=Z,61nm,5.0s							
WMQ				LN				
	comp=Z,28nm,21.2s							
WMQ				LE				
	comp=Z,19nm,24.6s							
VNDA	**Vanda**	**74.29**	**176**	P	**P**		**00 51 00.9**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=320,slow=8.0,SNR=6.8							
VNDA				LR	LR		01 22 57.5	
	comp=Z,95nm,18.4s,baz=319,slow=35							
VNDA	**Vanda**	**74.29**	**176**	*e*P	**P**		**00 51 00.9**	**-1.1**
VNDA				*e*PcP	pP		00 51 01.5	-8.5
MK31	**Makanchi Array**	**75.04**	**320**	*e*P	**P**		**00 51 03.9**	**-3.1**
MK32	**Makanchi Array**	**75.04**	**320**	*e*P	**P**		**00 51 03.2**	**-3.8**
MKAR	**Makanchi Array**	**75.04**	**320**	P	**P**		**00 51 03.2**	**-3.8**
	comp=Z,1.5nm,1.0s,baz=104,slow=7.6,SNR=9.4							
MKAR	**Makanchi Array**	**75.04**	**320**	*e*P	**P**		**00 51 03.9**	**-3.1**
MAKZ	**Makanchi**	**75.25**	**320**	*e*P	**P**		**00 51 05.0**	**-3.2**
	comp=Z,16nm,1.4s							
ZALV	**Zalesovo Beam**	**76.49**	**328**	LR	LR		01 23 24.2	
	comp=Z,119nm,21.2s,baz=70,slow=35							
KSH	**Kashi**	**77.05**	**312**	P	**P**		**00 51 21.8**	**+3.1**
KSH				pP	sP		00 51 33.1	+3.4
KSH				PP	**PP**		**00 54 17.5**	**+5.0**
KSH				S	**S**		**01 01 07.5**	**+1.3**
KSH				ScS	**SKKSac**		**01 01 31.4**	**+0.8**
KSH				SS	**SS**		**01 06 05.7**	**+1.9**
KSH				PMZ				
	comp=Z,2.0nm,0.2s							
KSH				PMZ				
	comp=Z,36nm,3.0s							
KSH				LN				
	comp=Z,61nm,4.6s							
KSH				LE				
	comp=Z,66nm,4.9s							
KSH				LZ				
	comp=Z,76nm,7.1s							
PAF	**Port-aux-Franc**	**77.94**	**220**	*e*P	**P**		**00 51 20.8**	**-2.5**
	comp=Z,409nm,1.4s							
MLY	**Manley**	**82.38**	**22**	*e*P	**P**		**00 51 48.6**	**+1.6**
	comp=Z,3.4nm,1.0s							
NRIK	**Noril'sk**	**82.75**	**342**	P	**P**		**00 51 45.3**	**-3.5**
	comp=Z,1.3nm,0.4s,baz=116,slow=4.8,SNR=3.4							
WRH	**Wood River Hil**	**83.17**	**23**	*e*P	**P**		**00 51 52.0**	**+0.9**
	comp=Z,16nm,1.6s							
CCB	**Clear Creek Bu**	**83.36**	**23**	*e*P	**P**		**00 51 53.3**	**+1.3**
	comp=Z,5.9nm,1.2s							
PAX	**Paxson**	**83.69**	**25**	*e*P	**P**		**00 51 55.0**	**+1.1**
	comp=Z,6.9nm,0.5s							
IL1	**Eielson Array**	**83.77**	**23**	*e*P	**P**		**00 51 54.0**	**-0.2**
ILAR	**Eielson Array**	**83.77**	**23**	P	**P**		**00 51 51.5**	**-2.7**
	comp=Z,2.0nm,1.0s,baz=235,slow=3.2,SNR=6.0							
ILAR				LR	LR		01 24 05.6	
	comp=Z,45nm,20.8s,baz=258,slow=32							
ILB	**Eielson Array**	**83.77**	**23**	*e*P	**P**		**00 51 56.0**	**+1.8**
VOSK	**Vostochnaya**	**83.86**	**324**	*e*P	**P**		**00 51 55.2**	**+0.3**
	comp=Z,10.0nm,1.4s							
BRVK	**Borovoye**	**84.35**	**324**	*e*P	**P**		**00 51 55.0**	**-2.3**
	comp=Z,27nm,1.9s							
DOT	**Dot Lake**	**84.52**	**25**	*e*P	**P**		**00 52 01.3**	**+3.3**
	comp=Z,21nm,1.2s							
ZRNK	**Zerenda**	**85.08**	**324**	*e*P	**P**		**00 52 02.8**	**+1.8**
	comp=Z,14nm,1.7s							
QSPA	**South Pole Qui**	**86.28**	**180**	*e*P	**P**		**00 52 09.2**	**+2.3**
ABKAR	**Akbulak array**	**90.14**	**319**	*e*P	**P**		**00 52 23.6**	**-1.8**
GEYT	**Alibeck**	**90.51**	**308**	LR	LR		01 34 41.2	
	comp=Z,76nm,21.7s,baz=295,slow=37							
AKTO	**Aktyubinsk**	**91.48**	**320**	LR	LR		01 32 22.4	
	comp=Z,55nm,21.7s,baz=96,slow=35							
SYO	**Syowa Base**	**92.40**	**200**	‖*e*pP	pP		00 52 48.4	+4.7
NVAR	**Mina Array Bea**	**96.77**	**52**	LR	LR		01 28 24.6	
	comp=Z,72nm,21.6s,baz=266,slow=30							
MMNY	**Mt. Morris Dam**	**124.98**	**39**	*e*PKPdf	**PKPdf**		**00 58 27.2**	**+1.5**
NCB	**Newcomb**	**126.48**	**35**	*e*PKPpre	PKPpre		00 58 18.3	
TOA0	**Torodi Ar. Sit**	**143.45**	**287**	*e*PKPpre	PKPpre		00 58 54.5	
TORD	**Torodi Ar. Bea**	**143.45**	**287**	PKhKP	PKPpre		00 58 55.6	
	comp=Z,2.2nm,1.2s,baz=108,slow=4.7,SNR=6.4							
TOA1	**Torodi Ar. Sit**	**143.45**	**287**	*e*PKPpre	PKPpre		00 58 55.6	
SIV	**San Ignacio**	**146.90**	**127**	PKPbc	**PKPdf**		**00 59 07.4**	**+0.6**
	comp=Z,6.5nm,0.8s,baz=239,slow=3.0,SNR=7.8							
SAML	**Samuel**	**148.37**	**113**	*e*PKPbc	**PKPbc**		**00 59 13.0**	**+0.2**
DBIC	**Dimbokro**	**150.77**	**277**	PKPbc	**PKPdf**		**00 59 15.7**	**+2.6**
	comp=Z,8.0nm,1.1s,baz=92,slow=7.4,SNR=2.1							

NIED ***07*** *01:06:00, 36˚.70N×142˚.20E, h26km, Mw4.3 Best double couple: M₀3.58000×10¹⁵ NP1:ϕs200.00000°, δ23.00000°, λ77.00000°. NP2:ϕs35.00000°, δ68.00000°, λ95.00000°.*

IDC ***07*** *01:06:34.5±0.6, 36˚.67N×142˚.10E, h0km, mb4.2/28, mb1 4.3/33, mb1mx4.3/48, mbtmp4.2/33, ML3.6/5, MS3.7/11, Ms1 3.7/11, ms1mx3.4/39, Error ellipse: s-maj=15.4km s-min=13.6km az=122.0*

JMA ***07*** *01:06:37.0±0.4, 36˚.74N×142˚.21E, h34km, M4.4*

ISCJB ***07*** *01:06:38.3±1.0, 36˚.88N±0˚.03×142˚.12E±0˚.03, h28km±7km, mb4.7/83, MS3.8/7, Error ellipse: s-maj=5.4km s-min=3.3km az=152.0*

BJI ***07*** *01:06:39.3, 36˚.83N×142˚.02E, h39km, mb4.6/49, mB4.7/31, Ms4.1/37, Ms7 4.0/33*

NEIC ***07*** *01:06:41.6±0.5, 36˚.94N×142˚.05E, h38km±4km, mb4.7/51, Error ellipse: s-maj=4.3km s-min=2.6km az=140.0*

ISC 07 01:06:42.0±1.4, 36.78N±0˚.04×142˚14E±0˚.05, h38km±4km, n181, σ1ş89/197, mb4.5/83, MS3.8/7, Off east coast of Honshu

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time | Res |
|

MDJ LR LR
comp=N,250nm,16.9s
MDJ LR LR
comp=E,150nm,17.6s
MDJ LR LR
comp=Z,410nm,18.2s
CN2 Changchun 14.53 304 *eP* **Pn 01 10 06.2 +1.4**
CN2 *eS* **Sn 01 12 43.1 -1.4**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,200nm,18.0s
CN2 LE
comp=Z,400nm,18.0s
CN2 LZ
comp=Z,300nm,17.0s
KLR Kul'dur 14.56 332 Pn **Pn 01 10 02.0 -3.2**
comp=Z,0.3nm,0.3s,baz=161,slow=15,SNR=3.8
PEA0 Petropavlovsk- 19.62 29 *eP* **P 01 11 06.2 -0.7**
PEA0B Petropavlovsk- 19.62 29 *eP* **P 01 11 06.0 -0.9**
comp=Z,34nm,1.4s
PETK Petropavlovsk- 19.62 29 P **P 01 11 05.7 -1.3**
PETK LR LR 01 19 18.9
comp=Z,68nm,18.9s,baz=210,slow=39
PET Petropavlovsk 19.93 30 *eP* **P 01 11 08.7 -1.6**
comp=Z,16nm,1.0s
BJI Beijing 20.58 287 P **P 01 11 15.2 -2.3**
BJI S **S 01 15 01.2 -4.3**
BJI PMZ
comp=Z,6.0nm,0.6s
BJI LN
comp=Z,150nm,13.6s
BJI LE
comp=Z,220nm,13.3s
BJT Baijiatuau 20.59 287 *eP* **P 01 11 16.5 -1.1**
comp=Z,11nm,0.4s
NACB Ninganchiao 21.66 240 *eP* **P 01 11 29.6 +0.4**
comp=Z,81nm,1.8s
SSLB Suanglung 22.36 241 *eP* **P 01 11 37.2 +0.5**
comp=Z,16nm,1.2s
YULB Yu-li 22.38 239 *eP* **P 01 11 36.9 0.0**
comp=Z,26nm,1.4s
TPUB Ta-pu 22.90 240 *eP* **P 01 11 42.9 +0.5**
comp=Z,17nm,1.0s
WHN Wuhan 23.91 263 *eP* **P 01 11 50.1 -2.1**
WHN LN
comp=Z,500nm,11.9s
WHN LE
comp=Z,240nm,9.8s
WHN LZ
comp=Z,600nm,15.3s
HHC Hu-ho-hao-te 24.11 289 *eP* **P 01 11 52.7 -1.4**
HHC sP sP 01 12 12.2 +2.8
HHC S **S 01 16 06.6 -2.7**
HHC PMZ
comp=Z,10.0nm,0.9s
HHC PMZ
comp=Z,130nm,9.1s
HHC LN
comp=Z,190nm,9.2s
HHC LE
comp=Z,130nm,9.8s
HHC LZ
comp=Z,110nm,10.3s
YAK Yakutsk 26.45 347 P **P 01 12 12.5 -2.4**
YAK Yakutsk 26.45 347 *eP* **P 01 12 13.1 -1.9**
comp=Z,30nm,0.7s
SEY Seymchan 26.93 10 P **P 01 12 19.2 -0.1**
comp=Z,5.6nm,0.7s,baz=166,slow=4.3,SNR=9.1
XAN Xi'an 27.14 274 P **P 01 12 19.5 -2.1**
XAN pP pP 01 12 27.1 -5.1
SMY Shemya 27.44 44 *eP* **P 01 12 23.7 -0.3**
comp=Z,212nm,2.0s
H11N2 WAKE ISLAND Hy 27.52 121 T T 01 41 01.4
baz=314,slow=75,SNR=23
H11N1 WAKE ISLAND Hy 27.52 121 T T 01 41 02.1
baz=314,slow=75,SNR=30
H11N3 WAKE ISLAND Hy 27.53 121 T T 01 41 15.3
baz=314,slow=75,SNR=26
ENH Enshi 27.90 266 *eP* **P 01 12 26.0 -2.4**
comp=Z,28nm,0.8s
ULN Ulaanbaatar 27.98 304 *eP* **P 01 12 27.7 -1.4**
comp=Z,9.2nm,1.0s
H11S1 WAKE ISLAND Hy 28.23 124 T T 01 42 16.9
baz=314,slow=75
H11S3 WAKE ISLAND Hy 28.23 124 T T 01 42 20.3
baz=314,slow=75
H11S2 WAKE ISLAND Hy 28.25 124 T T 01 42 24.1
baz=314,slow=75
SONM Songino Array 28.41 304 P **P 01 12 31.7 -1.2**
comp=Z,909nm,0.7s,baz=96,slow=8.7,SNR=52
SONM LR LR 01 24 04.8
comp=Z,115nm,18.2s,baz=96,slow=37
TLY Talaya 30.94 311 LR LR 01 26 03.7
comp=Z,244nm,18.0s,baz=117,slow=38
GYA Guiyang 31.76 261 P **P 01 13 02.8 +0.1**
GYA pP pP 01 13 14.4 +1.0
GYA PP **PnPn 01 14 08.8 +1.2**
GYA PcP **PcP 01 15 53.2 -0.3**
GYA S **S 01 18 08.0 -2.2**
GYA sS sS 01 18 28.6 +0.6
GYA ScP **ScP 01 19 32.3 -1.4**
GYA SS **SnSn 01 19 58.5 -0.7**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,110nm,5.2s
GYA LN
comp=Z,490nm,16.9s
GYA LE
comp=Z,450nm,17.2s
GYA LZ
comp=Z,460nm,17.4s
CD2 Chengdu 32.26 271 *eP* **P 01 13 05.4 -1.6**
CD2 pP pP 01 13 17.2 -0.5
CD2 sP sP 01 13 22.7 +0.4
CD2 S **S 01 18 15.4 -2.5**
CD2 sS sS 01 18 35.9 +0.2
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
GTA Gaotai 33.20 288 *eP* **P 01 13 14.0 -1.2**
GTA pP pP 01 13 25.3 -0.6
GTA sP sP 01 13 30.3 -0.2
GTA PcP **PcP 01 16 00.4 +3.2**
GTA S **S 01 18 29.7 -2.7**
GTA sS sS 01 18 48.5 -1.8
GTA SS **SnSn 01 20 32.8 -1.1**
GTA PMZ
comp=Z,7.0nm,0.9s
GTA PMZ
comp=Z,56nm,5.7s
GTA LN
comp=Z,130nm,18.1s
GTA LE
comp=Z,200nm,17.6s
GTA LZ
comp=Z,130nm,16.2s
QIZ Qiongzhong 33.36 247 P **P 01 13 16.4 -0.2**
QIZ S **S 01 18 35.3 +0.2**
QIZ LN
comp=Z,130nm,15.3s
QIZ LE
comp=Z,120nm,16.9s
QIZ LZ
comp=Z,120nm,14.5s
BILL Bilibino 34.10 16 *eP* **P 01 13 21.0 -1.6**
comp=Z,10nm,1.5s
MIDW Midway 34.99 92 *eP* **P 01 13 31.0 +0.4**
comp=Z,65nm,0.8s
KMI Kunming 35.51 262 P **P 01 13 37.1 +1.7**
KMI PMZ
comp=Z,18nm,0.5s
KWAJ Kwajalein Atol 36.19 134 *eP* **P 01 13 42.9 +1.8**
comp=Z,230nm,1.2s
MANU Manus Island 38.93 172 *eP* **P 01 14 06.2 +2.0**
comp=Z,7μm,0.8s
WMQ Urumqi 41.48 297 P **P 01 14 24.7 -0.5**
WMQ pP pP 01 14 36.3 +0.2
WMQ sP sP 01 14 43.5 +2.8
WMQ PMZ
comp=Z,4.0nm,0.8s
WMQ PMZ
comp=Z,42nm,4.6s
WMQ LN
comp=Z,64nm,15.2s
WMQ LE
comp=Z,79nm,13.8s
WMQ LZ
comp=Z,46nm,18.4s
LUWI Luwuk 41.71 210 *eP* **P 01 14 28.3 +1.1**
comp=Z,34nm,0.4s
CHTO Chiang Mai 41.80 257 *eP* **P 01 14 26.7 -1.3**
comp=Z,4.7nm,1.0s
CMAR Chiang Mai Arr 42.00 256 P **P 01 14 26.8 -2.8**
comp=Z,0.7nm,0.4s,baz=38,slow=6.1,SNR=3.7
ZAA0 Zalesovo Array 42.52 313 *eP* **P 01 14 31.8 -1.6**
ZALV Zalesovo Beam 42.52 313 P **P 01 14 32.0 -1.4**
comp=Z,5.5nm,0.8s,baz=90,slow=7.4,SNR=20
ZALV PcP **PcP 01 16 24.1 -1.3**
comp=Z,1.5nm,0.6s,baz=105,slow=3.0,SNR=4.4
SDPT Sand Point 42.56 45 *eP* **P 01 14 33.7 0.0**
comp=Z,104nm,1.0s
LSA Lhasa 42.82 276 *eP* **P 01 14 35.8 -0.9**
comp=Z,7.5nm,1.1s
CHGN Chignik 43.74 44 *eP* **P 01 14 42.8 -0.4**
NRIK Noril'sk 43.74 335 P **P 01 14 41.5 -1.5**
comp=Z,1.8nm,0.5s,baz=140,slow=8.8,SNR=3.7
SBUM Sibu 43.90 226 *eP* **P 01 14 45.7 +0.7**
comp=Z,10nm,1.3s
MK01 Makanchi Array 44.74 302 *eP* **P 01 14 50.0 -1.5**
MK31 Makanchi Array 44.75 302 *eP* **P 01 14 50.1 -1.4**
MKAR Makanchi Array 44.75 302 P **P 01 14 50.2 -1.3**
comp=Z,3.6nm,0.7s,baz=86,slow=10,SNR=33
MKAR LR LR 01 33 51.8
comp=Z,50nm,21.8s,baz=75,slow=37
MAKZ Makanchi 44.96 303 *eP* **P 01 14 51.8 -1.3**
comp=Z,3.8nm,0.7s
TARA Tarawa 45.28 134 *eP* **P 01 14 57.8 +1.7**
comp=Z,165nm,1.1s
TT01 Tatalina 45.29 35 *eP* **P 01 14 54.0 -1.6**
SAUI Saumlaki 45.68 195 *eP* **P 01 15 00.3 +1.2**
comp=Z,386nm,1.0s
PMG Port Moresby 46.18 173 *eP* **P 01 15 04.3 +1.3**
comp=Z,34nm,1.1s
OHAK Old Harbor 46.54 43 *eP* **P 01 15 04.8 -0.6**
comp=Z,97nm,1.7s
KAPI Kappang 46.55 212 *eP* **P 01 15 06.4 +0.5**
comp=Z,17nm,1.0s
KURK Kurchatov 46.55 308 P **P 01 15 04.5 -1.1**
KURBB Kurchatov Arra 46.62 308 P **P 01 15 04.5 -1.6**
comp=Z,5.6nm,0.7s,baz=82,slow=8.0,SNR=69
RSO Redoubt South 46.74 38 *eP* **P 01 15 06.8 -0.4**
SPU Mount Spurr 47.08 37 *eP* **P 01 15 08.7 -1.0**
HOM Homer 47.31 39 *eP* **P 01 15 10.0 -1.5**
comp=Z,62nm,0.6s
CNPM China Poot 47.52 39 *eP* **P 01 15 12.4 -0.7**
comp=Z,12nm,1.2s
SUA Susitna One 47.71 37 *eP* **P 01 15 14.2 -0.5**
comp=Z,18nm,1.8s
MLY Manley 47.75 32 *eP* **P 01 15 14.0 -0.9**
comp=Z,4.8nm,0.9s
GUN Gumba 47.76 276 *eP* **P 01 15 14.9 -0.9**
comp=Z,7.9nm,0.4s
TRF Thorofare Moun 47.91 34 *eP* **P 01 15 15.5 -0.8**
comp=Z,3.8nm,0.8s
BWN Browne 48.28 33 *eP* **P 01 15 19.7 +0.7**
comp=Z,19nm,0.6s
KKN Kakani 48.29 276 *eP* **P 01 15 19.5 -0.3**
comp=Z,19nm,0.6s
PKIN Phulchoki 48.29 276 *eP* **P 01 15 19.2 -0.7**
comp=Z,13nm,0.8s
PKIN Phulchoki 48.29 276 *eP* **P 01 15 20.5 +0.6**
comp=Z,6.3nm,0.7s
SEW Seward 48.40 39 *eP* **P 01 15 18.9 -0.9**
comp=Z,24nm,1.0s
MCK McKinley 48.52 34 *eP* **P 01 15 20.5 -0.2**
comp=Z,3.3nm,0.6s
RND Reindeer 48.56 34 *eP* **P 01 15 20.5 -0.7**
comp=Z,5.0nm,0.9s
GKN Gorkha 48.72 277 *eP* **P 01 15 22.0 -1.0**
comp=Z,37nm,0.7s
MDM Murphy Dome 48.82 32 *eP* **P 01 15 22.1 -1.0**
comp=Z,7.4nm,0.8s
SML Sawmill 48.85 36 *eP* **P 01 15 22.7 -0.6**
comp=Z,7.7nm,1.0s
WRH Wood River Hil 48.88 33 *eP* **P 01 15 22.6 -1.0**
comp=Z,2.5nm,0.8s
MMRI Maumere 48.89 207 *eP* **P 01 15 24.5 +0.4**
comp=Z,94nm,1.4s
IL1 Eielson Array 49.39 32 *eP* **P 01 15 25.2 -2.2**
ILAR Eielson Array 49.39 32 P **P 01 15 26.1 -1.3**
comp=Z,2.5nm,0.7s,baz=265,slow=6.4,SNR=32
ILB Eielson Array 49.39 32 *eP* **P 01 15 26.2 -1.2**
KOLN Koldanda 49.64 277 *eP* **P 01 15 29.6 -0.5**
comp=Z,8.4nm,0.6s
PYUN Piuthan 49.98 278 *eP* **P 01 15 32.0 -0.7**
comp=Z,42nm,0.9s
TKM2 Tokmak 2 50.26 299 *eP* **P 01 15 33.7 -1.0**
comp=Z,26nm,1.6s
VOSK Vostochnaya 50.88 312 *eP* **P 01 15 37.3 -1.6**
comp=Z,5.1nm,0.9s
KSH Kashi 51.04 295 P **P 01 15 43.6 +3.1**
KSH pP sP 01 15 56.3 +0.2
KSH PcP **PcP 01 16 58.0 +2.0**
KSH ScP **ScP 01 20 48.7 -0.6**
KSH S **S 01 22 57.8 +2.5**
KSH ScS **ScS 01 25 27.8 -0.3**
KSH SS **SS 01 26 30.8 +0.5**
KSH PMZ
comp=Z,5.0nm,0.2s
KSH PMZ
comp=Z,77nm,4.3s
KSH LN
comp=Z,160nm,14.0s
KSH LE
comp=Z,95nm,11.4s
KSH LZ
comp=Z,280nm,16.4s
AAK Ala-Archa 51.12 299 P **P 01 15 39.0 -2.0**
comp=Z,0.8nm,0.3s,baz=27,slow=6.8,SNR=3.5
BVAR Borovoye Array 51.17 313 P **P 01 15 39.3 -1.8**
comp=Z,1.3nm,0.6s,baz=91,slow=6.4,SNR=9.8
BVAR PcP **PcP 01 16 54.7 -1.4**
comp=Z,1.2nm,0.6s,baz=109,slow=4.1,SNR=3.6
BRVK Borovoye 51.23 313 *eP* **P 01 15 40.6 -0.8**
comp=Z,11nm,1.1s
CRQM Cirque 51.44 37 *eP* **P 01 15 42.6 -0.6**
comp=Z,10nm,1.2s
EGAK Eagle 51.84 32 *eP* **P 01 15 45.5 -0.4**
comp=Z,6.3nm,1.4s
LHMI Lhok Sumawe 51.87 244 *eP* **P 01 15 46.3 -0.5**
comp=Z,77nm,1.1s
ZRNK Zerenda 52.01 313 *eP* **P 01 15 46.1 -1.2**
comp=Z,8.8nm,1.4s
PSI Prapat 52.17 240 *eP* **P 01 15 49.2 0.0**
comp=Z,4.1nm,0.7s
DAWY Dawson 52.70 33 *eP* **P 01 15 51.7 -0.6**
comp=Z,13nm,1.8s
YKU2 Yakutat 53.37 38 *eP* **P 01 15 56.8 -0.4**
HON Honolulu 53.74 89 *eP* **P 01 16 00.8 +0.3**
comp=Z,127nm,0.8s
KKAR Karatay Array 53.76 300 *eP* **P 01 15 59.6 -0.8**
GSI Gunungsitoli 54.18 240 *eP* **P 01 16 02.8 -1.0**
comp=Z,85nm,1.8s
INK Inuvik 54.34 27 P **P 01 16 03.4 -0.8**
comp=Z,1.8nm,0.6s,baz=293,slow=3.9,SNR=3.6
INK Inuvik 54.34 27 *eP* **P 01 16 03.5 -0.7**
comp=Z,2.7nm,0.8s
MNAI Manna 54.87 230 *eP* **P 01 16 09.2 +0.4**
comp=Z,112nm,1.0s
HLK Haleakala 55.44 89 *eP* **P 01 16 12.5 -0.6**
comp=Z,240nm,1.3s
SKAG Skagway 55.53 38 *eP* **P 01 16 12.5 -0.4**
WRA Warramunga Arr 56.90 189 P **P 01 16 19.8 -3.3**
comp=Z,0.8nm,0.6s,baz=5.4,slow=7.0,SNR=22
ARU Arti 56.94 319 P **P 01 16 21.6 -1.4**
comp=Z,2.6nm,0.5s,baz=79,slow=5.6,SNR=7.4
ARU Arti 56.94 319 *eP* **P 01 16 21.7 -1.4**
comp=Z,7.5nm,0.9s
ABKAR Akbulak array 58.55 310 *eP* **P 01 16 32.8 -1.7**
AKTO Aktyubinsk 59.28 312 P **P 01 16 37.5 -2.0**
comp=Z,3.1nm,0.7s,baz=74,slow=9.5,SNR=10
AS01 Alice Springs 60.62 189 *eP* **P 01 16 46.7 -2.2**
ASAR Alice Springs 60.62 189 P **P 01 16 46.0 -2.9**
comp=Z,0.8nm,0.7s,baz=9.5,slow=7.3,SNR=8.9
YKA Yellowknife Ar 63.73 30 P **P 01 17 07.9 -1.4**
comp=Z,0.7nm,0.6s,baz=300,slow=6.5,SNR=4.9
ARCES ARCESS Array B 64.44 340 P **P 01 17 14.1 +0.2**
comp=Z,1.0nm,0.7s,baz=52,slow=5.8,SNR=4.0
ARCES LR LR 01 47 37.8
comp=Z,54nm,20.8s,baz=65,slow=38
GEYT Alibeck 64.47 299 P **P 01 17 13.6 -1.1**
comp=Z,2.4nm,0.7s,baz=56,slow=2.7,SNR=8.9
FINES FINESS Array B 69.31 333 P **P 01 17 43.6 -1.3**
comp=Z,3.1nm,0.7s,baz=43,slow=8.6,SNR=11
KVAR Kislovodsk Arr 71.51 311 P **P 01 17 57.3 -1.6**
comp=Z,5.1nm,0.7s,baz=87,slow=3.4,SNR=5.2
KBZ Khabaz 71.51 311 P **P 01 17 57.9 -0.8**
comp=Z,4.1nm,0.8s,baz=65,slow=2.7,SNR=10
LRM Limekiln Ridge 73.92 45 *eP* **P 01 18 12.8 -0.6**
NB2 NORSAR Subarra 74.64 338 P **P 01 18 15.4 -1.6**
comp=Z,0.8nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 74.64 338 P **P 01 18 16.0 -1.0**
comp=Z,2.1nm,0.8s,baz=43,slow=5.4,SNR=6.3
NVAR Mina Array Bea 74.67 53 P **P 01 18 17.3 -0.5**
comp=Z,0.8nm,0.7s,baz=289,slow=4.5,SNR=3.6
AKASG Malin Array Be 74.85 323 P **P 01 18 16.8 -1.5**
comp=Z,2.3nm,0.5s,baz=45,slow=6.2,SNR=12
YFT Old Faithful 75.65 45 *eP* **P 01 18 22.6 -0.8**
comp=Z,7.5nm,0.6s
BW06 Boulder Array 77.42 46 *eP* **P 01 18 31.4 -2.1**
comp=Z,5.4nm,0.9s
PDAR Pinedale Array 77.42 46 P **P 01 18 32.5 -1.0**
comp=Z,0.7nm,0.6s,baz=224,slow=4.1,SNR=5.1
MSU Marysvale 78.49 50 *eP* **P 01 18 37.2 -2.2**
BRTR Keskin Array B 79.46 312 P **P 01 18 43.8 -0.8**
comp=Z,1.8nm,0.9s,baz=85,slow=3.0,SNR=10
STHS Stebnicka Huta 79.50 325 *eP* **P 01 18 44.5 0.0**
BR231 Keskin MP Arra 79.89 312 *eP* **P 01 18 44.1 -2.8**
DPC Dobruska-Polom 80.98 328 *eP* **P 01 18 52.1 -0.4**
DPC *e*PCP **PcP 01 18 57.5 -1.4**
DPC AMS AMS 01 58 00.0
BRG Berggiesshubel 81.57 330 *eP* **P 01 18 54.3 -1.2**
comp=Z,4.2nm,1.1s
PVCC Panska Ves 81.58 329 AMS AMS 01 58 10.0
CLL Collm 81.61 331 *i* P **P 01 18 54.4 -1.3**
comp=Z,9.0nm,1.3s
CLL *i* 01 19 04.9
CLL LmV 01 48 00.0
comp=Z,100nm,21.7s
CLL Collm 81.61 331 *eP* **P 01 18 54.7 -1.0**
comp=Z,7.7nm,1.2s
GOPC GO Pecny, Ondr 81.96 329 AMS AMS 01 58 20.0
PRU Pruhonice 82.00 329 AMS AMS 01 58 20.0
TREC Trest 82.13 328 *eP* **P 01 18 57.8 -0.8**
TREC AMS AMS 01 58 10.0
comp=Z,100nm,14.4s
MMAI Mount Meron Ar 82.59 306 P **P 01 19 00.3 -1.0**
comp=Z,0.4nm,0.4s,baz=46,slow=8.3,SNR=3.0
KHC Kasperske Hory 83.06 329 *eP* **P 01 19 02.5 -0.9**
GERES GERESS Array B 83.23 329 P **P 01 19 03.0 -1.4**
comp=Z,0.9nm,0.6s,baz=28,slow=6.0,SNR=12
GEA0 GERESS Array S 83.24 329 *eP* **P 01 19 02.9 -1.5**
PPT Papeete 84.00 117 LR LR 01 50 32.2
comp=Z,63nm,20.3s,baz=340,slow=31
BFO Black Forest 85.81 331 *eP* **P 01 19 15.6 -1.7**
comp=Z,4.1nm,0.8s
TXAR Lajitas Array 89.81 53 P **P 01 19 36.2 -0.8**
comp=Z,0.4nm,0.7s,baz=308,slow=3.2,SNR=4.7
ATD Arta Tunnel 90.50 285 LR LR 02 04 10.2
comp=Z,31nm,18.4s,slow=38
ESDC Sonseca Array 97.77 334 LR LR 02 09 00.7
comp=Z,62nm,19.5s,baz=215,slow=38
LPAZ La Paz 146.31 61 PKPbc **PKPdf 01 26 18.5 -0.1**
comp=Z,2.0nm,0.8s,baz=18,slow=7.4,SNR=7.5

---

*IDC **07** 01:07:03.7±0.6,34.52S×71.97W,h0km,mb4.3/12, mb1 4.4/15,mb1mx4.3/25,mbtmp4.3/15,ML4.4/3,MS3.4/5, Ms1 3.3/5,ms1mx3.0/21,Error ellipse: s-maj=25.8km s-min=15.3km az=89.0*
*ISCJB **07** 01:07:05.1±0.6,34.54S±0.03×72.04W±0.05,h19km±4km, mb4.4/36,MS3.3/3,Error ellipse: s-maj=7.4km s-min=4.2km az=11.3*
*NEIC **07** 01:07:05.0,34.55S×71.96W,h20km,mb4.6/27, ML4.6(GUC),After GUC.*
NEIC Felt [IV] at Pichilemu; [III] at Lolol and Paredones; [II] at Cauquenes, Constitucion, Iloca, Navidad, Pencahue, Rancagua, Rio Claro and Talca. Also felt at Santiago and Vina del Mar.
*GUC **07** 01:07:05.0±0.5,34.55S×71.96W,h20km±3km,ML4.6*
ISC 07 01:07:05.7±0.9,**34.55S**±0.03×**71.99W**±0.06,**h13**km±5km, **n82**,σ1s**26**/95,**mb4.5**/36,**MS3.2**/3,**1D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.16**	**355**	*i* P		**Pg**	**01 07 09.3**	**-0.2**
CHPI				*i* S		**Sg**	**01 07 12.0**	**-0.2**
TALC	**Talca**	**0.89**	**161**	*i* P		**Pg**	**01 07 21.6**	**-1.4**
TALC				*i* S		**Sg**	**01 07 33.5**	**-1.2**
TALC				IAML			01 07 34.2	
	comp=E,32μm,0.6s							
STL	**Santa Lucia**	**1.58**	**46**	*i* P		**Pn**	**01 07 31.9**	**-1.6**
STL				*i* S		**Sn**	**01 07 52.4**	**-1.4**
SJCH	**San Jose de Ma**	**1.63**	**57**	*i* P		**Pn**	**01 07 32.9**	**-1.4**
SJCH				*i* S		**Sn**	**01 07 53.9**	**-1.4**
ROC1	**El Roble**	**1.77**	**28**	*i* P		**Pn**	**01 07 37.0**	**+0.6**
ROC1				*i* S		**Sg**	**01 08 05.5**	**+2.8**
ROC1	**El Roble**	**1.77**	**28**	*e*Pn		**Pb**	**01 07 37.6**	**-0.6**
ROC1				*e*Sn		**Sg**	**01 08 02.8**	**+0.1**
ROCH	**El Roble**	**1.77**	**28**	*i* P		**Pn**	**01 07 35.7**	**-0.7**
ROCH				*i* S		**Sn**	**01 07 59.0**	**0.0**
PEL	**Peldehue**	**1.77**	**38**	*i* P		**Pn**	**01 07 35.3**	**-0.9**
PEL				*i* S		**Sn**	**01 07 57.9**	**-0.8**
CCHI	**Chillan**	**2.05**	**182**	*i* P		**Pn**	**01 07 39.6**	**-0.3**
CCHI				*i* S		**Sn**	**01 08 06.1**	**+0.7**
CCHI				IAML			01 08 13.3	
	comp=N,8μm,0.7s							
AAGR	**Agrelo**	**3.01**	**62**	*i* P		**Pb**	**01 07 59.7**	**+0.4**
ARCO	**CERRO ARCO**	**3.07**	**57**	*i* P		**Pb**	**01 07 59.9**	**-0.4**
ARCO				IAML			01 08 05.8	
	comp=Z,573nm,0.6s							
ARCO				*i* S		**Sg**	**01 08 43.5**	**-0.7**
AVIZ	**Vizcacheras**	**3.08**	**70**	*i* P		**Pb**	**01 08 01.9**	**+1.5**
AUSP	**Uspallata**	**3.18**	**44**	*i* P		**Pb**	**01 07 59.8**	**-2.5**
ASAL	**Salagasta**	**3.28**	**54**	*i* P		**Pb**	**01 08 02.4**	**-1.5**
CANA	**Caviahue**	**3.41**	**168**	*i* P		**Pn**	**01 08 01.0**	**+2.1**
CANA				*i* P		Pb	01 08 01.1	-5.0
RTLS	**Leoncito**	**3.55**	**40**	*i* P		**Pn**	**01 08 04.5**	**+3.6**
RTCV	**Cerro Valdivia**	**3.94**	**48**	*i* P		**Pn**	**01 08 09.9**	**+3.9**
RTLL	**Cerro Villicun**	**4.37**	**44**	*i* P		**Pn**	**01 08 14.5**	**+2.7**
AMOG	**MOGNA**	**4.65**	**40**	*i* P		**Pn**	**01 08 17.9**	**+2.1**
PLCA	**Paso Flores**	**6.27**	**170**	Pn		**Pn**	**01 08 39.3**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=360,slow=14,SNR=8.9							
PLCA				Lg		Lg	01 10 15.1	
	comp=Z,2.8nm,0.3s,baz=106,slow=22,SNR=4.8							
PLCA				LR		LR	01 11 24.6	
	comp=Z,178nm,19.3s,baz=27,slow=41							
PLCA	**Paso Flores**	**6.27**	**170**	*e*Pn		**Pn**	**01 08 39.7**	**+1.6**
PLCA				Lg		Lg	01 10 15.1	
TRQA	**Tornquist**	**8.80**	**116**	*e*Pn		**Pn**	**01 09 15.2**	**+2.4**
LVC	**Limon Verde**	**12.20**	**14**	Pn		**Pn**	**01 10 00.4**	**+0.8**
	comp=Z,13nm,0.3s,baz=165,slow=14,SNR=4.8							
LVC				LR		LR	01 15 24.9	
	comp=Z,277nm,20.6s,baz=222,slow=41							
CPUP	**Villa Florida**	**15.05**	**61**	Pn		**Pn**	**01 10 40.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=224,slow=18,SNR=2.8							
LPAZ	**La Paz**	**18.52**	**12**	P		**Pn**	**01 11 23.6**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=186,slow=7.4,SNR=18							
LPAZ	**La Paz**	**18.52**	**12**	*e*P		**Pn**	**01 11 24.1**	**+1.4**
	comp=Z,9.6nm,1.0s							
USHA	**Ushuaia**	**20.43**	**174**	P		Pn	01 11 43.6	-1.1
	comp=Z,42nm,1.0s,baz=86,slow=6.1,SNR=2.9							
SIV	**San Ignacio**	**20.92**	**31**	P		**P**	**01 11 48.0**	**-0.3**
	comp=Z,4.0nm,0.8s,baz=227,slow=12,SNR=12							
SIV				LR		LR	01 21 19.5	
	comp=Z,69nm,20.5s,baz=262,slow=41							
NNA	**Nana**	**22.89**	**348**	P		**P**	**01 12 09.2**	**-0.2**
	comp=Z,13nm,0.9s,baz=200,slow=11,SNR=4.1							
SAML	**Samuel**	**26.73**	**20**	*e*P		**P**	**01 12 45.1**	**0.0**
	comp=Z,13nm,1.9s							
BDFB	**Brasilia**	**28.61**	**55**	P		**P**	**01 13 01.4**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=49,slow=20,SNR=2.5							
BDFB				LR		LR	01 25 11.5	
	comp=Z,61nm,19.1s,baz=216,slow=38							
SNAA	**Sanae**	**51.06**	**158**	*e*P		**P**	**01 16 07.2**	**-0.2**
	comp=Z,7.0nm,1.2s							
QSPA	**South Pole Qui**	**55.69**	**180**	*e*P		**P**	**01 16 41.7**	**+0.1**
	comp=Z,38nm,0.9s							
VNDA	**Vanda**	**63.57**	**191**	P		**P**	**01 17 36.5**	**+1.0**

comp=Z,1.5nm,1.0s,baz=130,slow=7.7,SNR=7.0
SYO Syowa Base 65.34 158‖ *e*P P 01 17 45.0 -2.2
JCT Junction City 69.80 335 *e*P P 01 18 16.4 +0.5
comp=Z,4.5nm,0.8s
TXAR Lajitas Array 70.24 331 P P 01 18 19.2 +0.6
comp=Z,1.1nm,0.7s,baz=151,slow=8.6,SNR=16
TX31 Lajitas Ar. Si 70.24 331 *e*P P 01 18 19.1 +0.5
SWET Sewanee 70.62 348 *e*P P 01 18 21.1 +0.3
comp=Z,2.5nm,0.8s
PLAL Pickwick Lake 70.79 346 *e*P P 01 18 21.4 -0.3
comp=Z,4.1nm,0.7s
WVT Waverly 71.86 347 *e*P P 01 18 28.2 0.0
comp=Z,16nm,0.8s
X301 Greenbrier Sit 72.01 343 *e*P P 01 18 29.5 +0.4
comp=Z,9.3nm,0.9s
X201 Greenbrier Sit 72.05 343 *e*P P 01 18 29.7 +0.4
comp=Z,7.8nm,1.0s
MAW Mawson 72.64 163 P P 01 18 32.7 +0.1
comp=Z,2.0nm,0.8s,baz=265,slow=7.5,SNR=3.4
MNTX Cornudas Mount 73.01 331 *e*P P 01 18 34.2 -1.0
comp=Z,2.8nm,0.8s
121A Cookes Peak, D 74.73 329 *e*P P 01 18 45.8 +0.3
comp=Z,8.6nm,1.1s
DBIC Dimbokro 75.32 71 P P 01 18 48.0 -1.0
comp=Z,3.6nm,0.7s,baz=176,slow=15,SNR=3.3
ANMO Albuquerque 76.29 331 *e*P P 01 18 54.3 -0.1
comp=Z,3.0nm,0.9s
T25A Trinidad 77.45 334 *e*P P 01 19 02.4 +1.5
comp=Z,8.4nm,1.0s
X16A Lo Mia Camp, P 77.92 328 *e*P P 01 19 02.6 -1.0
comp=Z,4.1nm,0.9s
TSUM Tsumeb 79.02 106 LR LR 01 52 57.6
comp=Z,26nm,19.0s,baz=153,slow=35
W13A Hualapai Mount 79.60 326 *e*P P 01 19 11.3 -1.5
comp=Z,2.3nm,0.8s
BOSA Boshof 79.78 118 P P 01 19 14.2 +0.2
comp=Z,8.0nm,0.9s,baz=228,slow=5.6,SNR=9.8
U15A North Rim 79.99 328 *e*P P 01 19 11.3 -3.7
comp=Z,3.7nm,0.8s
TRQ Mont Tremblant 80.44 358 *e*P P 01 19 17.0 +0.1
KNB Kanab 80.71 328 *e*P P 01 19 20.6 +1.8
comp=Z,7.2nm,1.0s
ECSD EROS Data Cent 81.09 342 *e*P P 01 19 19.5 -0.8
comp=Z,8.7nm,0.9s
SHPR Sheep Range 81.34 326 *e*P P 01 19 21.9 -0.1
comp=Z,5.6nm,1.1s
CCUT Cedar City 81.39 328 *e*P P 01 19 23.2 +0.7
comp=Z,4.3nm,1.0s
DAC Darwin (Calif) 82.30 324 *e*P P 01 19 26.3 -0.9
comp=Z,4.0nm,1.0s
R11A Troy Canyon, C 83.04 327 *e*P P 01 19 29.4 -1.6
comp=Z,2.5nm,0.9s
HWUT Hardware Ranch 84.05 331 *e*P P 01 19 34.6 -1.5
comp=Z,5.9nm,1.1s
PDAR Pinedale Array 84.27 333 P P 01 19 36.7 -0.6
comp=Z,9.9nm,0.6s,baz=152,slow=4.1,SNR=5.4
TOA0 Torodi Ar. Sit 84.36 70 *e*P P 01 19 37.8 -0.3
comp=Z,6.1nm,0.8s
TORD Torodi Ar. Bea 84.36 70 P P 01 19 37.8 -0.3
comp=Z,2.9nm,0.7s,baz=282,slow=6.5,SNR=14
NV01 Mina Array Sit 84.36 325 *e*P P 01 19 36.9 -0.9
NVAR Mina Array Bea 84.36 325 P P 01 19 36.8 -1.0
comp=Z,1.4nm,0.8s,baz=160,slow=5.5,SNR=5.9
RLMT Red Lodge 86.20 335 *e*P P 01 19 46.5 -0.3
comp=Z,3.1nm,0.6s
HLID Hailey 86.84 331 *e*P P 01 19 50.4 +0.4
comp=Z,5.6nm,1.3s
ASAR Alice Springs 117.09 207 PKP **PKPdf** 01 25 49.5 -1.6
comp=Z,0.5nm,0.7s,baz=155,slow=2.9,SNR=4.1
WRA Warramunga Arr 120.30 209 PKP **PKPdf** 01 25 56.2 -1.1
comp=Z,0.8nm,0.6s,baz=155,slow=1.7,SNR=13
BR231 Keskin MP Arra 121.48 61 *e*PKPdf **PKPdf** 01 25 59.6 +0.6
BRTR Keskin Array B 122.06 61 PKP **PKPdf** 01 25 59.8 -0.4
comp=Z,0.8nm,0.8s,baz=174,slow=2.9,SNR=6.2
ZRNK Zerenda 146.88 44 *e*PKPdf **PKPdf** 01 26 45.6 +0.2
BVAR Borovoye Array 147.65 44 PKPbc **PKPdf** 01 26 47.3 +0.6
comp=Z,2.9nm,0.8s,baz=290,slow=4.3,SNR=9.5
KKAR Karatay Array 149.77 62 *e*PKPbc **PKPdf** 01 26 50.6 +0.1
EKS2 Erkin-Say 152.19 63 *e*PKPbc **PKPbc** 01 27 02.0 +0.9
AAK Ala-Archa 152.72 63 PKPbc **PKPbc** 01 27 03.1 +0.7
comp=Z,1.8nm,0.4s,baz=158,slow=5.4,SNR=5.8
KURBB Kurchatov Arra 153.24 44 PKP **PKPdf** 01 26 55.7 +0.2
comp=Z,0.4nm,0.6s,baz=300,slow=1.9,SNR=2.6
KURBB PKPbc **PKiKP** 01 27 03.3 +0.1
comp=Z,2.0nm,0.7s,baz=302,slow=2.9,SNR=13
KURK Kurchatov 153.25 44 PKP **PKPdf** 01 26 55.7 +0.2
KURK PKPbc **PKiKP** 01 27 03.2 +0.1
ZALV Zalesovo Beam 154.67 33 PKP **PKPdf** 01 26 56.7 -0.7
comp=Z,0.7nm,0.6s,baz=259,slow=5.1,SNR=3.1
ZALV PKPbc **PKPbc** 01 27 05.8 -0.2
comp=Z,1.8nm,0.7s,baz=336,slow=3.3,SNR=6.3
ZALV PKPab **PKPab** 01 27 20.5 -0.2
comp=Z,1.2nm,0.6s,baz=305,slow=5.1,SNR=3.8
MKAR Makanchi Array 157.09 50 PKP **PKPdf** 01 27 01.6 +0.7
comp=Z,0.4nm,0.7s,baz=247,slow=1.1,SNR=2.7
MKAR PKPab **PKPab** 01 27 31.1 -0.4
comp=Z,0.9nm,0.9s,baz=270,slow=2.9,SNR=2.9

*ISCJB **07** 01:16:04.9±0.3,37.16N±0.03×71.97E±0.05,h142km, mb3.9/21, Error ellipse: s-maj=6.3km s-min=3.3km az=164.2*
*IDC **07** 01:16:05.6±0.9,37.05N×71.69E,h122km±7km, mb3.7/19, mb1 3.8/22, mb1mx3.7/41, mbtmp4.1/22, MS3.4/2, Ms1 3.4/2, ms1mx2.5/48, Error ellipse: s-maj=16.7km s-min=11.0km az=9.0*
*NNC **07** 01:16:06.7±1.4,37.42N×71.45E, h119km±21km, mb3.9, mpv4.4, Error ellipse: s-maj=14.9km s-min=7.6km az=149.0*

ISC 07 01:16:06.6±0.5,37.17N±0.05×71.90E±0.06,h142km,n63, σ2s42/70,mb3.9/21,8C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.92**	**305**	⇓P		Pn	01 16 45.9	-6.8
	269nm,0.4s							
DZET				⇓S		Sn	01 17 17.6	-11
	212nm,0.3s							
CEP	**Cherat**	**3.34**	**180**	P		**Pn**	**01 16 57.5**	**-0.6**
CEP				S		**Sn**	**01 17 37.0**	**-1.0**
CHCP	**Chirah Chowk**	**3.68**	**162**	P		**Pn**	**01 17 03.0**	**+0.6**
THW	**Thamme Wali**	**4.37**	**182**	P		**Pn**	**01 17 10.1**	**-1.4**
SARP	**Sargodha**	**5.28**	**173**	P		**Pn**	**01 17 22.4**	**-1.1**
MNAS	**Manas**	**5.33**	**5**	⇑P		**Pn**	**01 17 22.7**	**-1.6**
	13nm,0.4s							
MNAS				⇓S		**Sn**	**01 18 20.5**	**-4.5**
	116nm,0.5s							
THN	**Thein Dam**	**5.68**	**145**	*e*P		Pn	01 17 25.0	-3.8
THN				*ex*		x	01 18 25.2	
AAK	**Ala-Archa**	**5.81**	**19**	P		**Pn**	**01 17 30.9**	**+0.1**
	12nm,0.3s,baz=170,slow=5.8,SNR=53							
AAK				S		**Sn**	**01 18 34.5**	**-2.0**
	16nm,0.3s,baz=117,slow=23,SNR=18							
AAK	**Ala-Archa**	**5.81**	**19**	⇑P		**Pn**	**01 17 30.8**	**+0.1**
	13nm,0.3s							
AAK				⇓S		**Sn**	**01 18 32.8**	**-3.7**
	42nm,0.5s							
KK31	**Karatay Array**	**6.02**	**350**	⇑P		**Pn**	**01 17 30.8**	**-2.6**
	21nm,0.5s,baz=192,slow=18,SNR=104							
KK31				⇓S		**Sn**	**01 18 34.4**	**-6.8**
	43nm,0.5s,baz=165,slow=17,SNR=9.8							
DHRM	**DHARAMSHALA**	**6.10**	**142**	*e*P		**Pn**	**01 17 34.1**	**-0.7**
DHRM				*e*S		**Sn**	**01 18 40.8**	**-2.9**
DHRM				IAML			01 18 46.0	
	comp=E,883nm,0.2s							
DHRM				IAML			01 18 46.3	
	comp=N,558nm,0.3s							
TKM2	**Tokmak 2**	**6.41**	**25**	⇓P		**Pn**	**01 17 38.3**	**-0.5**
	comp=N,13nm,0.5s							
TKM2				⇓S		**Sn**	**01 18 49.5**	**-1.3**
	comp=N,17nm,0.6s							
SDNR	**Sundarnagar**	**7.04**	**142**	*e*P		**Pn**	**01 17 46.0**	**-1.2**
SDNR				*e*S		**Sn**	**01 19 02.0**	**-4.0**
SMLA	**Simla**	**7.44**	**143**	*e*P		**Pn**	**01 17 51.0**	**-1.5**
SMLA				*e*S		**Sn**	**01 19 10.1**	**-5.5**
SMLA				IAML			01 19 16.3	
	comp=N,349nm,0.1s							
SMLA				IAML			01 19 16.4	
	comp=E,324nm,0.3s							
PDGK	**Podgornoye**	**8.45**	**41**	⇑P		**Pn**	**01 18 06.1**	**+0.2**
	comp=E,11nm,0.7s							
DDI	**Dehra Dun**	**8.54**	**141**	*e*P		**Pn**	**01 18 07.0**	**-0.2**
JOSI	**Joshimath**	**9.17**	**134**	*e*P		**Pn**	**01 18 15.0**	**-0.8**
JOSI				*e*S		**Sn**	**01 19 51.7**	**-5.8**
NDI	**New Delhi**	**9.57**	**151**	*e*P		Pn	01 18 13.5	-7.5
NDI				*e*S		Sn	01 19 57.0	-10
KUDL	**Kundal**	**9.80**	**155**	*e*P		Pn	01 18 18.3	-5.6
KUDL				*e*S		Sn	01 20 02.0	-10
GEYT	**Alibeck**	**10.97**	**278**	P		Pn	01 18 31.7	-7.8
	comp=E,6.5nm,0.3s,baz=85,slow=10,SNR=54							
GEYT				S		Sn	01 20 24.1	-17
	comp=E,2.5nm,0.3s,baz=108,slow=18,SNR=5.8							
MK31	**Makanchi Array**	**12.33**	**35**	P		**Pn**	**01 18 57.3**	**+0.1**
	comp=E,3.2nm,0.5s,baz=223,slow=13,SNR=36							
MKAR	**Makanchi Array**	**12.33**	**35**	P		**Pn**	**01 18 57.8**	**+0.6**
	comp=E,0.5nm,0.3s,baz=224,slow=14,SNR=35							
PYUN	**Piuthan**	**13.00**	**131**	*e*P		**Pn**	**01 19 03.9**	**-2.3**
	comp=E,157nm,0.6s							
KOLN	**Koldanda**	**13.61**	**130**	*e*P		**Pn**	**01 19 11.8**	**-2.2**
	comp=E,59nm,0.3s							
GKN	**Gorkha**	**14.09**	**127**	*e*P		**Pn**	**01 19 18.1**	**-2.0**
	comp=E,121nm,0.5s							
KURBB	**Kurchatov Arra**	**14.26**	**17**	P		**Pn**	**01 19 18.9**	**-3.0**
	comp=E,0.1nm,0.3s,baz=207,slow=12,SNR=8.6							
KURBB	**Kurchatov Arra**	**14.26**	**17**	⇓P		**Pn**	**01 19 20.1**	**-1.8**
	comp=E,17nm,0.8s							
KKN	**Kakani**	**14.65**	**126**	*e*P		**Pn**	**01 19 24.7**	**-2.5**
	comp=E,76nm,0.5s							
DMN	**Daman**	**14.66**	**127**	*e*P		**Pn**	**01 19 25.5**	**-1.9**
	comp=E,44nm,0.4s							
BHPL	**Bhopal**	**14.68**	**160**	*e*P		**Pn**	**01 19 26.2**	**-1.1**
BHPL				IAmb		IAmb	01 19 36.4	
	comp=Z,17nm,0.7s							
AB31	**Akbulak array**	**14.87**	**328**	P		Pn	01 19 25.1	-4.5
	comp=Z,4.3nm,0.3s,baz=145,slow=12,SNR=197							
AB31				S		Sn	01 21 55.7	-19
	comp=Z,5.7nm,0.5s,baz=150,slow=23,SNR=10							
PKIN	**Phulchoki**	**14.87**	**126**	*e*P		**Pn**	**01 19 27.7**	**-2.3**
	comp=Z,42nm,0.3s							
GUN	**Gumba**	**14.96**	**124**	*e*P		**Pn**	**01 19 28.6**	**-2.6**
	comp=Z,144nm,0.7s							
BVA0	**Borovoye Array**	**15.89**	**357**	⇑P		**Pn**	**01 19 40.2**	**-1.9**
	comp=Z,5.6nm,0.6s,baz=162,slow=13,SNR=48							
BVAR	**Borovoye Array**	**15.89**	**357**	P		**Pn**	**01 19 40.5**	**-1.7**
	comp=Z,2.0nm,0.3s,baz=163,slow=12,SNR=20							
BVAR				S		Sn	01 22 27.8	-11
	comp=Z,0.4nm,0.3s,baz=167,slow=27,SNR=7.0							
ZRNK	**Zerenda**	**15.91**	**354**	⇑P		**Pn**	**01 19 40.2**	**-2.1**
	comp=Z,7.5nm,0.6s							
AKTO	**Aktyubinsk**	**16.58**	**327**	P		**Pn**	**01 19 48.0**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=131,slow=12,SNR=19							
AKTO				S		S	01 22 37.0	-18
	comp=Z,0.2nm,0.3s,baz=236,slow=17,SNR=3.5							
AKTO	**Aktyubinsk**	**16.58**	**327**	⇑P		**Pn**	**01 19 47.6**	**-2.9**
	comp=Z,14nm,0.8s							
AKTO				⇑S		S	01 22 39.3	-16
	comp=Z,12nm,1.1s							
ZALV	**Zalesovo Beam**	**19.01**	**24**	P		**P**	**01 20 18.8**	**+1.7**
	comp=Z,2.5nm,0.3s,baz=223,slow=11,SNR=45							
ZALV				S		**S**	**01 23 48.2**	**+3.0**
	baz=211,slow=17,SNR=1.9							
ARU	**Arti**	**21.25**	**339**	P		**P**	**01 20 41.5**	**+0.4**
	comp=Z,2.5nm,0.4s,baz=158,slow=5.2,SNR=8.6							
GNI	**Garni**	**21.38**	**286**	P		**P**	**01 20 42.6**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=85,slow=15,SNR=2.8							
KBZ	**Khabaz**	**22.95**	**296**	P		**P**	**01 20 57.9**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=94,slow=16,SNR=2.7							
KVAR	**Kislovodsk Arr**	**23.12**	**296**	P		**P**	**01 21 03.4**	**+3.4**
	comp=Z,2.4nm,0.5s,baz=108,slow=3.2,SNR=3.8							
SONM	**Songino Array**	**27.36**	**56**	P		**P**	**01 21 41.3**	**+2.9**
	comp=Z,6.8nm,0.7s,baz=267,slow=10.0,SNR=8.6							
BRTR	**Keskin Array B**	**29.92**	**287**	P		**P**	**01 22 01.9**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=90,slow=9.3,SNR=4.5							
CMAR	**Chiang Mai Arr**	**30.16**	**121**	P		**P**	**01 22 06.6**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=313,slow=9.3,SNR=5.0							
EIL	**Elat**	**31.58**	**267**	LR		LR	01 35 42.3	
	comp=Z,29nm,19.0s,baz=51,slow=38							
AKASG	**Malin Array Be**	**33.09**	**308**	P		**P**	**01 22 28.5**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=84,slow=7.3,SNR=3.5							
NRIK	**Noril'sk**	**33.34**	**10**	P		**P**	**01 22 32.8**	**+2.3**
	comp=Z,3.2nm,0.6s,baz=190,slow=4.7,SNR=5.6							
FINES	**FINESS Array B**	**37.33**	**325**	P		**P**	**01 23 06.0**	**+1.2**
	comp=Z,3.8nm,0.7s,baz=110,slow=11,SNR=12							
ARCES	**ARCESS Array B**	**40.80**	**337**	P		**P**	**01 23 35.2**	**+1.7**
	comp=Z,6.3nm,0.7s,baz=114,slow=8.4,SNR=43							
ARCES				pP		**pP**	**01 24 03.3**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=104,slow=10,SNR=1.7							
GERES	**GERESS Array B**	**43.13**	**305**	P		**P**	**01 23 54.2**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=90,slow=8.8,SNR=2.9							
KSRS	**Korea Array**	**43.99**	**72**	P		**P**	**01 24 03.2**	**+3.6**
	comp=Z,6.1nm,0.4s,baz=292,slow=6.4,SNR=5.0							
NB2	**NORSAR Subarra**	**44.28**	**323**	P		**P**	**01 24 02.4**	**+0.7**
	comp=Z,4.3nm,0.6s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**44.28**	**323**	P		**P**	**01 24 02.6**	**+0.9**
	comp=Z,4.8nm,0.6s,baz=94,slow=7.8,SNR=25							
NOA				pP		**pP**	**01 24 30.0**	**-3.6**
	comp=Z,0.7nm,0.7s,baz=103,slow=7.3,SNR=1.8							
MJAR	**Matsushiro Arr**	**52.04**	**69**	P		**P**	**01 25 04.0**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=300,slow=8.9,SNR=3.7							
ESDC	**Sonseca Array**	**57.78**	**298**	P		**P**	**01 25 43.8**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=54,slow=7.6,SNR=9.8							
ESDC				pP		**pP**	**01 26 11.7**	**-4.5**
	comp=Z,1.0nm,0.8s,baz=61,slow=6.7,SNR=2.6							
JCJ	**Chichijima**	**59.15**	**78**	LR		LR	01 54 31.0	
	comp=Z,54nm,18.9s,baz=7.5,slow=39							
TORD	**Torodi Ar. Bea**	**65.46**	**69**	P		**P**	**01 26 40.4**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=55,slow=6.0,SNR=14							
ILAR	**Eielson Array**	**73.94**	**16**	P		**P**	**01 27 27.6**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=316,slow=4.3,SNR=16							
ILAR				pP		**pP**	**01 27 58.8**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=331,slow=4.5,SNR=3.1							
YKA	**Yellowknife Ar**	**80.54**	**3**	P		**P**	**01 28 04.8**	**+2.3**
	comp=Z,3.1nm,0.5s,baz=351,slow=5.5,SNR=33							
WRA	**Warramunga Arr**	**81.74**	**123**	P		**P**	**01 28 10.7**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=323,slow=5.2,SNR=7.1							
ASAR	**Alice Springs**	**84.05**	**126**	P		**P**	**01 28 21.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=313,slow=5.1,SNR=4.7							
	SNR=62							
BANOM	**Banah**	**2.07**	**189**	P		**Pn**	**01 23 23.0**	**+1.7**
	SNR=62							
BANOM				S		**Sb**	**01 23 50.4**	**-0.2**
BANOM	**Banah**	**2.07**	**189**	P		**Pn**	**01 23 23.0**	**+1.7**
	SNR=62							
BANOM				S		**Sb**	**01 23 50.4**	**-0.2**
KHGB	**Koh Gabri**	**2.39**	**356**	*e*Pn		**Pb**	**01 23 29.3**	**-1.5**
KHGB	**Koh Gabri**	**2.39**	**356**	*e*Pn		**Pb**	**01 23 29.3**	**-1.5**
UOSS	**Minazif**	**3.05**	**188**	P		**Pn**	**01 23 36.9**	**+2.2**
NAZ	**Nazwa, Dubai**	**3.11**	**197**	*i* P		**Pn**	**01 23 38.0**	**+2.5**
	SNR=6.2							
NAZ	**Nazwa, Dubai**	**3.11**	**197**	P		**Pn**	**01 23 38.0**	**+2.5**
	SNR=6.2							
HATD	**Hatta, Dubai**	**3.18**	**189**	*i* P		**Pn**	**01 23 39.0**	**+2.6**
	SNR=18							
HATD	**Hatta, Dubai**	**3.18**	**189**	P		**Pn**	**01 23 39.0**	**+2.6**
	SNR=18							
GHIR	**Ghir-Karzin**	**3.26**	**276**	*e*Pn		**Pn**	**01 23 39.4**	**+1.7**
GHIR				AML		AML	01 24 48.3	
	comp=N,153nm,0.4s							
GHIR				AML		AML	01 25 10.3	
	comp=E,127nm,0.7s							
GHIR	**Ghir-Karzin**	**3.26**	**276**	*e*Pn		**Pn**	**01 23 39.4**	**+1.7**
ASHO	**Ashiyiah**	**3.33**	**190**	*i* P		**Pn**	**01 23 40.7**	**+2.2**
	SNR=26							
ASHO	**Ashiyiah**	**3.33**	**190**	P		**Pn**	**01 23 40.4**	**+1.9**
	SNR=26							
ASHO	**Ashiyiah**	**3.33**	**190**	P		**Pn**	**01 23 40.7**	**+2.2**
	SNR=26							
FAQ	**Al Faqa, Dubai**	**3.36**	**197**	*i* P		**Pn**	**01 23 41.4**	**+2.4**
	SNR=23							
FAQ	**Al Faqa, Dubai**	**3.36**	**197**	P		**Pn**	**01 23 41.4**	**+2.4**
	SNR=23							
IBAF	**Bafgh**	**3.72**	**345**	*e*Pn		**Pn**	**01 23 46.0**	**+2.0**
IBAF				*e*AMB		AMB	01 24 51.5	
	comp=Z,2μm,0.2s							
IBAF	**Bafgh**	**3.72**	**345**	*e*Pn		**Pn**	**01 23 46.0**	**+2.0**
IMEH	**Mehriz**	**3.84**	**333**	*e*Pn		**Pn**	**01 23 48.1**	**+2.4**
IMEH				*e*AMB		AMB	01 25 01.9	
	comp=Z,1μm,0.2s							
IMEH	**Mehriz**	**3.84**	**333**	*e*Pn		**Pn**	**01 23 48.1**	**+2.4**
ICHK	**Chekchek**	**4.68**	**336**	*e*Pn		**Pn**	**01 23 59.2**	**+1.9**
ICHK				*e*AMB		AMB	01 25 34.1	
	comp=Z,1μm,0.4s							
ICHK	**Chekchek**	**4.68**	**336**	*e*Pn		**Pn**	**01 23 59.2**	**+1.9**
ISAD	**Sadrabad**	**4.70**	**327**	*e*Pn		**Pn**	**01 24 00.3**	**+2.8**
ISAD				*e*AMB		AMB	01 25 34.3	
	comp=Z,861nm,0.4s							
ISAD	**Sadrabad**	**4.70**	**327**	*e*Pn		**Pn**	**01 24 00.3**	**+2.8**
IKOO	**Kooshah**	**4.87**	**24**	*e*AMB		AMB	01 24 19.3	
	comp=Z,1μm,0.2s							
IKOO				*e*Pn		**Pn**	**01 24 02.5**	**+2.6**
WSAR	**Wadi Sarin**	**5.04**	**159**	P		**Pn**	**01 24 02.6**	**+0.5**
	comp=Z,4.9nm,0.3s,baz=355,slow=12,SNR=48							
WSAR				S		**Sn**	**01 24 55.9**	**-3.6**
	comp=Z,16nm,0.3s,baz=111,slow=13,SNR=9.4							
ITEG	**Tejag**	**5.22**	**20**	*e*Pn		**Pn**	**01 24 07.1**	**+2.4**
ITEG				*e*AMB		AMB	01 25 45.8	
	comp=Z,975nm,0.3s							
ITEG	**Tejag**	**5.22**	**20**	*e*Pn		**Pn**	**01 24 07.1**	**+2.4**
IRAM	**Ramesheh**	**5.33**	**317**	*e*Pn		**Pn**	**01 24 07.7**	**+1.5**
IRAM				*e*AMB		AMB	01 25 50.0	
	comp=Z,432nm,0.3s							
IRAM	**Ramesheh**	**5.33**	**317**	*e*Pn		**Pn**	**01 24 07.7**	**+1.5**
IDAH	**Dahanechah**	**5.49**	**29**	*e*Pn		**Pn**	**01 24 10.8**	**+2.4**
IDAH				*e*AMB		AMB	01 24 33.3	
	comp=Z,1μm,0.3s							
IDAH	**Dahanechah**	**5.49**	**29**	*e*Pn		**Pn**	**01 24 10.8**	**+2.4**
TABS	**Tabas**	**5.67**	**4**	*e*Pn		**Pn**	**01 24 13.8**	**+3.1**
TABS				AML		AML	01 25 59.2	
	comp=N,34nm,0.6s							
TABS				AML		AML	01 26 21.0	
	comp=E,18nm,0.7s							
TABS	**Tabas**	**5.67**	**4**	*e*Pn		**Pn**	**01 24 13.8**	**+3.1**
NASN	**Na'in**	**5.85**	**326**	*e*Pn		**Pn**	**01 24 15.0**	**+1.7**
IZEF	**Zefreh**	**6.17**	**324**	*e*Pn		**Pn**	**01 24 18.9**	**+1.2**
IZEF				*e*AMB		AMB	01 24 19.8	
	comp=Z,230nm,0.2s							
IZEF	**Zefreh**	**6.17**	**324**	*e*Pn		**Pn**	**01 24 18.9**	**+1.2**
SLWS		**6.26**	**241**	S		**Sn**	**01 25 30.4**	**+1.0**
SLWS				P		**Pn**	**01 24 21.9**	**+3.1**
SHRT	**Shahrakht**	**6.45**	**28**	*e*Pn		**Pn**	**01 24 25.6**	**+4.2**
BTHS		**6.54**	**235**	S		**Sn**	**01 25 35.2**	**-1.1**
BTHS				P		**Pn**	**01 24 23.5**	**+0.9**
BOQSS		**6.84**	**254**	S		**Sn**	**01 25 43.3**	**-0.4**
BOQSS				P		**Pn**	**01 24 28.2**	**+1.4**
IPIR	**Pirpir**	**6.85**	**315**	*e*Pn		**Pn**	**01 24 29.0**	**+1.9**
IPIR				*e*AMB		AMB	01 26 03.6	
	comp=Z,208nm,0.2s							
IPIR	**Pirpir**	**6.85**	**315**	*e*Pn		**Pn**	**01 24 29.0**	**+1.9**
KHMZ	**Khomeyn**	**8.13**	**317**	*e*Pn		**Pn**	**01 24 46.4**	**+1.7**
GEYT	**Alibeck**	**10.00**	**7**	P		**Pn**	**01 25 13.4**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=173,slow=14,SNR=3.0							
GNI	**Garni**	**15.63**	**324**	P		**P**	**01 26 29.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=131,slow=19,SNR=1.7							
ASF	**Jabal al Asfar**	**17.61**	**289**	P		**Pn**	**01 26 51.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=72,slow=12,SNR=5.6							
MMAI	**Mount Meron Ar**	**18.99**	**291**	P		**Pn**	**01 27 09.3**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=97,slow=13,SNR=5.8							
AAK	**Ala-Archa**	**20.57**	**40**	P		**P**	**01 27 25.6**	**+0.6**
	comp=Z,3.9nm,0.4s,baz=218,slow=12,SNR=8.5							
BRTR	**Keskin Array B**	**22.36**	**308**	P		**P**	**01 27 45.0**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=132,slow=11,SNR=14							
AKTO	**Aktyubinsk**	**22.45**	**2**	P		**P**	**01 27 45.3**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=169,slow=11,SNR=9.5							
BVAR	**Borovoye Array**	**27.01**	**18**	P		**P**	**01 28 27.7**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=203,slow=8.7,SNR=16							
MKAR	**Makanchi Array**	**27.50**	**40**	P		**P**	**01 28 32.0**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=218,slow=7.6,SNR=7.4							
IDI	**Anoyia**	**27.93**	**293**	P		**P**	**01 28 36.9**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=59,slow=9.1,SNR=8.0							
KURBB	**Kurchatov Arra**	**28.04**	**30**	P		**P**	**01 28 37.3**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=227,slow=8.4,SNR=15							
OBN	**Obninsk**	**30.78**	**337**	P		**P**	**01 29 01.5**	**+0.4**
	comp=Z,10nm,0.6s,baz=175,slow=24,SNR=4.4							
ZALV	**Zalesovo Beam**	**33.14**	**31**	P		**P**	**01 29 21.4**	**-0.4**
	comp=Z,5.9nm,0.5s,baz=240,slow=9.4,SNR=23							
DPC	**Dobruska-Polom**	**37.80**	**317**	*e*P		**P**	**01 30 01.4**	**-0.7**
GERES	**GERESS Array B**	**38.93**	**314**	P		**P**	**01 30 11.2**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=118,slow=7.7,SNR=9.2							
KHC	**Kasperske Hory**	**39.09**	**315**	*e*P		**P**	**01 30 13.0**	**0.0**
FINES	**FINES

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	**Matea Rd**	**0.72**	**134**	⇑PN	Pn	01 24 49.0	+0.3
MRHZ				SN	Sn	01 25 07.3	-0.8
BKZ	**Black Stump Fm**	**1.01**	**145**	⇑PN	Pn	01 24 50.7	+0.1
BKZ				SN	Sn	01 25 10.4	-1.2
BKZ				AML	AML	01 27 21.4	
URZ	**Urewera**	**1.07**	**86**	⇓PN	Pn	01 24 51.1	+0.1
URZ				SN	Sn	01 25 11.4	-0.8
BHHZ	**Black Hill Sta**	**1.18**	**168**	⇑PN	Pn	01 24 51.8	-0.1
KWHZ	**Kaweka Forest**	**1.21**	**155**	PN	Pn	01 24 52.5	+0.3
MCHZ	**McNeill Hill**	**1.33**	**147**	PN	Pn	01 24 53.9	+0.7
ARHZ	**Aropaoanui**	**1.34**	**134**	PN	Pn	01 24 53.7	+0.4
WHHZ	**Waihua**	**1.38**	**123**	PN	Pn	01 24 53.9	+0.3
KRHZ	**Kereru**	**1.39**	**160**	⇑PN	Pn	01 24 53.7	-0.1
MWZ	**Matawai**	**1.40**	**91**	⇓PN	Pn	01 24 53.9	+0.1
MWZ				AML	AML	01 25 17.2	
WAZ	**Wanganui**	**1.54**	**203**	PN	Pn	01 24 55.3	+0.1
PNHZ	**Pukenui**	**1.61**	**168**	PN	Pn	01 24 55.4	-0.5
RIGZ	**Rimuhau**	**1.62**	**104**	PN	Pn	01 24 56.2	+0.1
KNZ	**Kokohu**	**1.65**	**115**	PN	Pn	01 24 56.3	+0.1
CKHZ	**Cape Kidnapper**	**1.68**	**142**	PN	Pn	01 24 56.6	+0.1
KAHZ	**Kahuranaki**	**1.70**	**149**	⇑PN	Pn	01 24 56.8	0.0
HAZ	**Te Kaha**	**1.70**	**71**	PN	Pn	01 24 56.4	-0.4
TSZ	**Takapari Road**	**1.73**	**175**	⇑PN	Pn	01 24 56.5	-0.6
WPHZ	**Waipukurau**	**1.81**	**163**	⇑PN	Pn	01 24 57.3	-0.6
MHGZ	**Mahia Peninsul**	**1.87**	**117**	PN	Pn	01 24 58.7	+0.1
PXZ	**Pawanui**	**1.90**	**153**	PN	Pn	01 24 58.1	-0.7
DVHZ	**Dannevirke**	**1.99**	**171**	⇑PN	Pn	01 24 58.6	-1.2
PRHZ	**Porangahau**	**2.05**	**161**	⇓PN	Pn	01 24 59.5	-1.0
ANWZ	**Angora Road**	**2.19**	**165**	PN	Pn	01 25 01.0	-1.1
PRWZ	**Pori Road**	**2.22**	**176**	⇓PN	Pn	01 25 01.3	-1.2
MRZ	**Mangatainoka R**	**2.33**	**183**	PN	Pn	01 25 01.9	-1.8
OGWZ	**Otaki Gorge**	**2.52**	**190**	PN	Pn	01 25 04.2	-1.7
HOWZ	**Holdsworth Sta**	**2.57**	**184**	PN	Pn	01 25 04.3	-2.2
KIW	**Kapiti Island**	**2.61**	**194**	PN	Pn	01 25 04.9	-2.1
CAW	**Cannon Point**	**2.82**	**191**	PN	Pn	01 25 07.3	-2.2
MTW	**Mount Morrison**	**2.83**	**184**	PN	Pn	01 25 07.0	-2.6
DUWZ	**D'Urville Isla**	**2.84**	**209**	⇓PN	Pn	01 25 07.7	-2.1
TCW	**Tory Channel**	**3.09**	**201**	PN	Pn	01 25 10.5	-2.3
MSWZ	**Moikau Station**	**3.10**	**187**	PN	Pn	01 25 10.0	-3.0
PLWZ	**Palliser**	**3.25**	**187**	PN	Pn	01 25 11.6	-3.2
TUWZ	**Tuamarina**	**3.39**	**204**	PN	Pn	01 25 13.8	-2.8
NNZ	**Nelson**	**3.41**	**212**	PN	Pn	01 25 14.4	-2.4
THZ	**Tophouse**	**4.06**	**212**	PN	Pn	01 25 22.2	-2.9

*IDC **07** 02:43:09.5±2.0, 3°29S×127°18E, h0km, **mb3.2**/2, **mb1 3.8**/4, **mb1mx3.5**/51, **mbtmp3.6**/4, **ML3.6/2, MS2.8**/1, **Ms1 2.8**/1, **ms1mx2.3**/14, **Error ellipse: s-maj=55.8km s-min=28.1km az=59.0, Seram***

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.60**	**257**	Pn	Pn	01 45 00.7	-0.9
	2.7nm,0.3s,baz=87,slow=17,SNR=4.6						
WRA	**Warramunga Arr**	**17.97**	**158**	P	Pn	01 47 21.1	+0.1
	0.1nm,0.3s,baz=339,slow=12,SNR=12						
PMG	**Port Moresby**	**20.76**	**108**	LR	LR	01 58 44.9	
	comp=Z,24nm,20.1s,baz=172,slow=45						
ASAR	**Alice Springs**	**21.28**	**163**	P	P	01 47 57.0	-0.7
	2.1nm,0.7s,baz=342,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**63.60**	**327**	P	P	01 53 42.9	+0.7
	0.4nm,0.6s,baz=124,slow=7.8,SNR=2.5						

*MOS **07** 02:03:42.2±2.5, 47°.93N×157°.09E, h17km, mb4.6/1, Error ellipse: s-maj=75.3km s-min=7.4km az=84.9*
KRSC 07 02:03:42.3±1.4, 47°.93N×157°.09E, h17km±55km, ML4.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.83**	**347**	PN	Pn	02 04 28.2	+1.6
SKR	**Severo-Kuril's**	**2.83**	**347**	*eP*	Pn	02 04 28.2	+1.6
PAU	**Pauzhetka**	**3.55**	**357**	PN	Pn	02 04 38.8	+2.3
PAU				S	Sn	02 05 22.6	+4.6
PAU	**Pauzhetka**	**3.55**	**357**	*eP*	Pn	02 04 38.8	+2.3
PAU				*eS*	Sn	02 05 22.6	+4.6
ASAK	**Asacha**	**4.49**	**6**	PN	Pn	02 04 54.0	+4.4
ASAK	**Asacha**	**4.49**	**6**	*eP*	Pn	02 04 54.0	+4.4
RUS	**Russkaya**	**4.61**	**11**	PN	Pn	02 04 55.3	+4.3
RUS				S	Sn	02 05 50.5	+6.5
RUS	**Russkaya**	**4.61**	**11**	*eP*	Pn	02 04 55.3	+4.3
RUS				*eS*	Sn	02 05 50.5	+6.5
UGLR	**Uglovaya**	**5.41**	**11**	PN	Pn	02 05 06.8	+4.7
UGLR	**Uglovaya**	**5.41**	**11**	*eP*	Pn	02 05 06.8	+4.7
NLC	**Nalytchevo**	**5.45**	**14**	*eS*	Sn	02 06 08.6	+3.9
AVH	**Avacha**	**5.45**	**10**	PN	Pn	02 05 07.8	+5.1
AVH	**Avacha**	**5.45**	**10**	*eP*	Pn	02 05 07.8	+5.1
SMAR	**Somma**	**5.46**	**11**	PN	Pn	02 05 07.2	+4.3
SMAR	**Somma**	**5.46**	**11**	*eP*	Pn	02 05 07.2	+4.3
SDLR	**Sedlovina**	**5.48**	**11**	PN	Pn	02 05 07.3	+4.2
SDLR	**Sedlovina**	**5.48**	**11**	*eP*	Pn	02 05 07.3	+4.2
KRER	**Koryakskii**	**5.49**	**10**	PN	Pn	02 05 08.1	+4.8
KRER	**Koryakskii**	**5.49**	**10**	*eP*	Pn	02 05 08.1	+4.8
KRX	**Arik**	**5.53**	**10**	PN	Pn	02 05 08.4	+4.5
KRX	**Arik**	**5.53**	**10**	*eP*	Pn	02 05 08.4	+4.5
GNL	**Ganaly**	**5.80**	**5**	PN	Pn	02 05 11.9	+4.3
GNL	**Ganaly**	**5.80**	**5**	*eP*	Pn	02 05 11.9	+4.3
MKZ	**Mys Kozlova**	**7.25**	**22**	PN	Pn	02 05 32.1	+4.8
MKZ	**Mys Kozlova**	**7.25**	**22**	*eP*	Pn	02 05 32.1	+4.8

*ISK **07** 02:08:44.5, 39°.07N×29°.08E, h10km, MD2.5*
*ISCJB **07** 02:08:45.2±0.6, 39°.08N±0°.03×29°.05E±0°.04, h7km±6km, Error ellipse: s-maj=6.0km s-min=4.9km az=153.2*
*DDA **07** 02:08:45.0, 39°.08N×29°.05E, h7km, Md2.6*
*CSEM **07** 02:08:45.1±0.1, 39°.09N×29°.04E, h7km±1km, MD2.6, Error ellipse: s-maj=2.6km s-min=2.0km az=133.0*
ISC 07 02:08:45.3±1.0, 39°.07N±0°.04×29°.05E±0°.03, h10km±8km, n16, σ0°.38/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**263**	P	**Pg**	**02 08 50.6**	**-0.1**
DEMI				S	**Sg**	**02 08 54.5**	**+0.3**
DEMI	**Demirci**	**0.26**	**263**	*iP*	**Pg**	**02 08 50.6**	**-0.1**
DEMI				*iS*	**Sg**	**02 08 54.5**	**+0.3**
GDZ	**Gediz**	**0.34**	**87**	P	**Pg**	**02 08 52.2**	**+0.1**
GDZ				S	**Sg**	**02 08 57.1**	**+0.4**
GDZ	**Gediz**	**0.34**	**87**	*i* P	**Pg**	**02 08 52.2**	**+0.1**
GDZ				*i* S	**Sg**	**02 08 57.1**	**+0.4**
TVSB	**Tavsanli**	**0.49**	**40**	*e*PG	**Pg**	**02 08 54.5**	**-0.5**
TVSB				*e*SG	**Sg**	**02 09 01.5**	**-0.1**
TVSB	**Tavsanli**	**0.49**	**40**	*e*Pg	**Pg**	**02 08 54.5**	**-0.5**
TVSB				*e*Sg	**Sg**	**02 09 01.5**	**-0.1**
KULA	**Kula-Manisa**	**0.64**	**209**	*e*PG	**Pg**	**02 08 57.3**	**-0.3**
KULA				*e*SG	**Sb**	**02 09 06.8**	**-0.7**
KULA	**Kula-Manisa**	**0.64**	**209**	*e*Pg	**Pg**	**02 08 57.3**	**-0.3**
KULA				*e*Sg	**Sb**	**02 09 06.8**	**-0.7**
KHAL	**Karahalli**	**0.78**	**153**	P	**Pg**	**02 09 00.3**	**-0.2**
KHAL				S	**Sb**	**02 09 11.7**	**-0.1**
KHAL	**Karahalli**	**0.78**	**153**	*i* P	**Pg**	**02 09 00.3**	**-0.2**
KHAL				*i* S	**Sb**	**02 09 11.7**	**-0.1**
BALB	**Balikesir**	**1.07**	**302**	*e*PN	**Pn**	**02 09 06.3**	**0.0**
BALB				*e*SN	**Sn**	**02 09 21.9**	**+0.7**
BALB	**Balikesir**	**1.07**	**302**	*e*Pn	**Pn**	**02 09 06.3**	**0.0**
BALB				*e*Sn	**Sn**	**02 09 21.9**	**+0.7**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*PN	**Pn**	**02 09 09.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*Pn	**Pn**	**02 09 09.6**	**0.0**
ARMT	**Armutlu**	**1.50**	**355**	*e*PN	**Pn**	**02 09 12.2**	**0.0**
ARMT	**Armutlu**	**1.50**	**355**	*e*Pn	**Pn**	**02 09 12.2**	**0.0**

*ISK **07** 02:12:38.6, 39°.06N×29°.10E, h10km, MD2.6*
*ISCJB **07** 02:12:39.5±0.6, 39°.10N±0°.04×29°.03E±0°.04, h9km, Error ellipse: s-maj=6.1km s-min=4.7km az=157.3*
*DDA **07** 02:12:39.2, 39°.14N×29°.02E, h7km, Md2.6*
*CSEM **07** 02:12:39.4±0.2, 39°.11N×29°.01E, h5km, MD2.6, Error ellipse: s-maj=4.4km s-min=4.0km az=97.0*
ISC 07 02:12:39.5±1.0, 39°.10N±0°.03×29°.03E±0°.03, h9km, n14, σ0°.53/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**257**	P	**Pg**	**02 12 44.4**	**-0.1**
DEMI				S	**Sg**	**02 12 48.9**	**+1.0**
DEMI	**Demirci**	**0.25**	**257**	*i* P	**Pg**	**02 12 44.4**	**-0.1**
DEMI				*i* S	**Sg**	**02 12 48.9**	**+1.0**
GDZ	**Gediz**	**0.35**	**91**	P	**Pg**	**02 12 46.6**	**0.0**
GDZ				S	**Sg**	**02 12 52.0**	**+0.7**
GDZ	**Gediz**	**0.35**	**91**	*i* P	**Pg**	**02 12 46.6**	**0.0**
GDZ				*i* S	**Sg**	**02 12 52.0**	**+0.7**
TVSB	**Tavsanli**	**0.49**	**44**	*e*PG	**Pg**	**02 12 48.6**	**-0.4**
TVSB				*e*SG	**Sg**	**02 12 55.8**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**44**	*e*Pg	**Pg**	**02 12 48.6**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG	**Pg**	**02 12 51.4**	**-0.7**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg	**Pg**	**02 12 51.4**	**-0.7**
KHAL	**Karahalli**	**0.81**	**153**	P	**Pb**	**02 12 56.0**	**+0.1**
KHAL				S	**Sb**	**02 13 06.6**	**-0.4**
KHAL	**Karahalli**	**0.81**	**153**	*i* P	**Pb**	**02 12 56.0**	**+0.1**
KHAL				*i* S	**Sb**	**02 13 06.6**	**-0.4**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pg**	**02 13 04.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pg**	**02 13 04.1**	**+0.1**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pb**	**02 13 06.6**	**-0.4**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pb**	**02 13 06.6**	**-0.4**

*IDC **07** 02:13:05.5±2.6, 47°.25S×165°.90E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/26, mbtmp3.6/3, ML3.2/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/16, Error ellipse: s-maj=65.2km s-min=31.0km az=160.0*
*ISCJB **07** 02:13:06.1±0.9, 47°.42S±0°.08×165°.70E±0°.08, h14km, mb3.6/3, Error ellipse: s-maj=11.5km s-min=7.3km az=155.8*
*NEIC **07** 02:13:06.3, 47°.53S×165°.38E, h33km, mb3.8/1, ML4.2(WEL), After WEL.*
*WEL **07** 02:13:08.1±0.7, 47°.48S×165°.52E, h33km, ML4.2/11, Error ellipse: s-maj=7.6km s-min=3.6km az=90.0*
ISC 07 02:13:07.2±1.2, 47°.41S±0°.09×165°.73E±0°.08, h14km, n40, σ1°33/47, mb3.7/3, 2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.41**	**28**	PN	**Pn**	**02 13 31.6**	**-0.8**
PYZ				SN	**Sn**	**02 13 50.7**	**-0.1**
PYZ	**Puysegur Point**	**1.41**	**28**	Pn	**Pn**	**02 13 31.1**	**-1.3**
APZ	**The Paps**	**1.65**	**70**	PN	**Pn**	**02 13 35.7**	**0.0**
APZ				SN	**Sn**	**02 13 56.1**	**-0.6**
APZ				AML	AML	02 14 04.2	
APZ	**The Paps**	**1.65**	**70**	Pn	**Pn**	**02 13 35.8**	**0.0**
APZ				Sn	**Sn**	**02 13 56.2**	**-0.6**
WHZ	**Wether Hill Ro**	**2.15**	**46**	PN	**Pn**	**02 13 42.8**	**+0.1**
WHZ				SN	**Sn**	**02 14 09.1**	**-0.1**
WHZ	**Wether Hill Ro**	**2.15**	**46**	*e*Pn	**Pn**	**02 13 42.8**	**+0.1**
WHZ				*e*S	**Sn**	**02 14 09.7**	**+0.5**
DCZ	**Deep Cove**	**2.18**	**27**	*e*PN	**Pn**	**02 13 42.7**	**-0.4**
DCZ				SN	**Sn**	**02 14 09.9**	**+0.1**
DCZ				AML	AML	02 14 32.8	
DCZ	**Deep Cove**	**2.18**	**27**	Pn	**Pn**	**02 13 41.8**	**-1.2**
SYZ	**Scrubby Hill**	**2.49**	**71**	⇓PN	**Pn**	**02 13 48.4**	**+1.1**
SYZ				AML	AML	02 14 23.1	
SYZ				AML	AML	02 14 23.1	
SYZ				AML	AML	02 14 31.2	
SYZ				AML	AML	02 14 31.2	
SYZ	**Scrubby Hill**	**2.49**	**71**	Pn	**Pn**	**02 13 48.7**	**+1.4**
MLZ	**Mavora Lakes**	**2.63**	**40**	PN	**Pn**	**02 13 49.8**	**+0.5**
MLZ				SN	**Sn**	**02 14 22.6**	**+1.7**
MLZ				AML	AML	02 14 28.5	
MLZ	**Mavora Lakes**	**2.63**	**40**	Pn	**Pn**	**02 13 49.8**	**+0.5**
MLZ				Sn	**Sn**	**02 14 22.6**	**+1.7**
TUZ	**Tuapeka**	**3.06**	**63**	PN	**Pn**	**02 13 55.7**	**+0.6**
TUZ				AML	AML	02 14 34.3	
TUZ				AML	AML	02 14 38.1	
TUZ				AML	AML	02 14 39.4	
TUZ	**Tuapeka**	**3.06**	**63**	Pn	**Pn**	**02 13 55.7**	**+0.6**
MSZ	**Milford Sound**	**3.14**	**30**	*e*PN	**Pn**	**02 13 56.3**	**+0.1**
MSZ				AML	AML	02 14 49.7	
MSZ				AML	AML	02 14 51.6	
MSZ	**Milford Sound**	**3.14**	**30**	Pn	**Pn**	**02 13 59.7**	**+3.5**
EAZ	**Earnscleugh**	**3.30**	**50**	PN	**Pn**	**02 13 58.5**	**0.0**
EAZ				SN	**Sn**	**02 14 38.3**	**+0.8**
EAZ				AML	AML	02 14 44.6	
EAZ	**Earnscleugh**	**3.30**	**50**	Pn	**Pn**	**02 13 58.5**	**0.0**
WKZ	**Wanaka**	**3.45**	**43**	PN	**Pn**	**02 14 01.7**	**+1.2**
WKZ				SN	**Sn**	**02 14 40.5**	**-0.7**
WKZ				AML	AML	02 15 55.1	
WKZ	**Wanaka**	**3.45**	**43**	Pn	**Pn**	**02 14 01.4**	**+0.9**
HHSZ	**Highcliff Hill**	**3.69**	**67**	PN	**Pn**	**02 14 04.6**	**+0.9**
HHSZ				SN	**Sn**	**02 14 47.4**	**+0.5**
HHSZ	**Highcliff Hill**	**3.69**	**67**	Pn	**Pn**	**02 14 04.7**	**+1.0**
JCZ	**Jackson Bay**	**3.96**	**34**	PN	**Pn**	**02 14 07.7**	**+0.1**
JCZ				AML	AML	02 15 08.7	
JCZ				AML	AML	02 15 11.4	
JCZ	**Jackson Bay**	**3.96**	**34**	Pn	**Pn**	**02 14 09.6**	**+2.0**
ODZ	**Otahua Downs**	**4.15**	**57**	⇓PN	**Pn**	**02 14 08.9**	**-1.2**
ODZ				AML	AML	02 15 27.9	
ODZ				AML	AML	02 15 45.0	
ODZ	**Otahua Downs**	**4.15**	**57**	Pn	**Pn**	**02 14 08.9**	**-1.2**
LBZ	**Lake Benmore**	**4.34**	**47**	PN	**Pn**	**02 14 11.0**	**-1.7**
LBZ				AML	AML	02 15 20.7	
LBZ				AML	AML	02 15 23.6	
FOZ	**Fox Glacier**	**4.83**	**38**	PN	**Pn**	**02 14 20.4**	**+1.0**
FOZ	**Fox Glacier**	**4.83**	**38**	Pn	**Pn**	**02 14 21.0**	**+1.6**
RPZ	**Rata Peaks**	**5.26**	**47**	Pn	**Pn**	**02 14 23.1**	**-2.3**
	0.8nm,0.3s,baz=11,slow=16,SNR=4.5						
RPZ				Sn	**Sn**	**02 15 22.4**	**-3.4**
	5.4nm,0.3s,baz=106,slow=18,SNR=4.1						
RPZ				LR	LR	02 16 38.6	
	comp=Z,165nm,18.9s,baz=236,slow=42						
PNHZ	**Pukenui**	**10.65**	**49**	Pn	**Pn**	**02 15 42.8**	**+3.4**
URZ	**Urewera**	**12.37**	**46**	LR	LR	02 21 35.5	
	comp=Z,190nm,18.3s,baz=231,slow=42						
EIDS	**Eidsvold**	**24.88**	**327**	*eP*	P	02 18 19.9	-10
	2.5nm,0.8s						
ASAR	**Alice Springs**	**34.70**	**302**	P	**P**	**02 19 57.3**	**+0.6**
	0.6nm,0.6s,baz=132,slow=8.1,SNR=7.9						
WRA	**Warramunga Arr**	**37.41**	**306**	P	**P**	**02 20 19.8**	**0.0**
	0.4nm,0.6s,baz=139,slow=7.6,SNR=5.9						
H01W1	**Cape Leeuwin H**	**40.10**	**269**	T	T	03 03 03.0	
	baz=123,slow=75,SNR=140						
H01W2	**Cape Leeuwin H**	**40.11**	**269**	T	T	03 03 03.8	
	baz=123,slow=75,SNR=120						
H01W3	**Cape Leeuwin H**	**40.12**	**269**	T	T	03 03 04.4	
	baz=123,slow=75,SNR=98						
TORD	**Torodi Ar. Bea**	**143.32**	**207**	PKP	**PKPdf**	**02 32 39.6**	**-1.7**
	0.4nm,0.9s,baz=170,slow=2.5,SNR=5.5						
BRTR	**Keskin Array B**	**144.92**	**275**	PKPbc	**PKPdf**	**02 32 43.9**	**+0.4**
	0.6nm,0.7s,baz=130,slow=5.0,SNR=3.9						

*ISCJB **07** 02:14:03.8±0.6, 39°.15N±0°.04×28°.99E±0°.04, h11km±7km, Error ellipse: s-maj=6.4km s-min=4.9km az=164.0*
*ISK **07** 02:14:03.0, 39°.15N×28°.96E, h10km, MD2.5*
*CSEM **07** 02:14:03.7±0.2, 39°.15N×28°.98E, h15km, MD2.5, Error ellipse: s-maj=3.9km s-min=3.7km az=9.0*
*DDA **07** 02:14:04.5, 39°.09N×29°.03E, h7km, Md2.6*
ISC 07 02:14:03.7±1.0, 39°.17N±0°.04×29°.00E±0°.03, h12km±9km, n14, σ0°68/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**240**	P	**Pb**	**02 14 10.2**	**-0.1**
DEMI				S	**Sg**	**02 14 13.5**	**+0.8**
DEMI	**Demirci**	**0.25**	**240**	*i* P	**Pb**	**02 14 10.2**	**-0.1**
DEMI				*i* S	**Sg**	**02 14 13.5**	**+0.8**
GDZ	**Gediz**	**0.38**	**102**	P	**Pg**	**02 14 11.4**	**0.0**
GDZ				S	**Sg**	**02 14 17.2**	**+0.6**
GDZ	**Gediz**	**0.38**	**102**	*i* P	**Pg**	**02 14 11.4**	**0.0**
GDZ				*i* S	**Sg**	**02 14 17.2**	**+0.6**
TVSB	**Tavsanli**	**0.46**	**52**	*e*PG	**Pb**	**02 14 13.4**	**-0.4**
TVSB				*e*SG	**Sb**	**02 14 20.1**	**-0.5**
TVSB	**Tavsanli**	**0.46**	**52**	*e*Pg	**Pb**	**02 14 13.4**	**-0.4**
TVSB				*e*Sg	**Sb**	**02 14 20.1**	**-0.5**
KULA	**Kula-Manisa**	**0.71**	**202**	*e*PG	**Pg**	**02 14 16.9**	**-0.5**
KULA				*e*SG	**Sg**	**02 14 26.2**	**-0.5**
KULA	**Kula-Manisa**	**0.71**	**202**	*e*Pg	**Pg**	**02 14 16.9**	**-0.5**
KULA				*e*Sg	**Sg**	**02 14 26.2**	**-0.5**
KHAL	**Karahalli**	**0.89**	**154**	P	**Pb**	**02 14 21.1**	**0.0**
KHAL	**Karahalli**	**0.89**	**154**	*i* P	**Pb**	**02 14 21.1**	**0.0**
BALB	**Balikesir**	**0.99**	**299**	*e*PG	**Pg**	**02 14 21.9**	**-0.9**
BALB				*e*SG	**Sb**	**02 14 36.6**	**+0.8**
BALB	**Balikesir**	**0.99**	**299**	*e*Pg	**Pg**	**02 14 21.9**	**-0.9**
BALB				*e*Sg	**Sb**	**02 14 36.6**	**+0.8**
KCTX	**Karacabey (Bur**	**1.20**	**336**	*e*PN	**Pn**	**02 14 26.0**	**-0.4**
KCTX				*e*SN	**Sn**	**02 14 43.9**	**+1.2**
KCTX	**Karacabey (Bur**	**1.20**	**336**	*e*Pn	**Pn**	**02 14 26.0**	**-0.4**
KCTX				*e*Sn	**Sn**	**02 14 43.9**	**+1.2**

*IDC **07** 02:14:57.5±1.1, 18°.50N×120°.77E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/50, mbtmp3.6/6, ML3.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/41, Error ellipse: s-maj=40.3km s-min=20.3km az=63.0*
*MAN **07** 02:15:01, 18°.55N×120°.67E, h5km, mb4.6, ML3.5, MS3.4*
MAN INTENSITY II - PASUQUIN ILOCOS NORTE.
ISC 07 02:15:02.1±1.4, 18°.55N±0°.07×120°.62E±0°.07, h32km±9km, n21, σ1°82/20, mb3.3/4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.23**	**181**	⇓*iP*	**Pb**	**02 15 07.3**	**-1.6**
PIP				*eS*	**Sn**	**02 15 13.6**	**-0.2**
ABRA	**Dolores**	**0.90**	**175**	*eP*	**Pn**	**02 15 17.5**	**-1.1**
ABRA				*eS*	**Sb**	**02 15 33.6**	**+2.5**
APYP	**Conner**	**0.91**	**139**	*eP*	**Pn**	**02 15 18.8**	**+0.2**
APYP				*eS*	**Sb**	**02 15 33.8**	**+2.7**
SGCP	**Mt. Cagua**	**1.39**	**103**	*eP*	**Pn**	**02 15 25.6**	**+0.4**
SGCP				*eS*	**Sb**	**02 15 46.3**	**+1.4**
CVP	**Callao Caves**	**1.42**	**126**	*eP*	**Pn**	**02 15 26.2**	**+0.5**
CVP				*eS*	**Sb**	**02 15 45.9**	**+0.2**
BOLP	**Bolinao**	**2.26**	**198**	*eP*	**Pb**	**02 15 40.4**	**-2.0**
BOLP				*eS*	**Sb**	**02 16 13.6**	**+3.6**
BALP	**Baler**	**2.94**	**162**	*eP*	**Pb**	**02 15 51.5**	**-2.4**
BALP				*eS*	**Sb**	**02 16 31.8**	**+2.4**
DAV	**Davao City (W)**	**12.39**	**156**	LR	LR	02 23 55.4	
	comp=Z,53nm,18.8s,baz=74,slow=44						
KSRS	**Korea Array**	**19.89**	**17**	P	**P**	**02 19 31.4**	**+0.6**
	0.3nm,0.3s,baz=196,slow=12,SNR=5.9						
CMAR	**Chiang Mai Ar**	**20.56**	**273**	P	Pn	02 19 40.5	-0.2
	0.8nm,0.3s,baz=72,slow=8.6,SNR=4.0						
LEM	**Lembang**	**28.30**	**208**	LR	LR	02 33 55.0	
	comp=Z,52nm,18.1s,baz=226,slow=40						
WRA	**Warramunga Arr**	**40.55**	**160**	P	**P**	**02 22 37.3**	**-1.4**
	0.2nm,0.3s,baz=342,slow=9.1,SNR=6.4						
WRA				PcP	**PcP**	**02 24 41.8**	**+1.0**
	0.3nm,0.6s,baz=346,slow=3.2,SNR=7.8						
MKAR	**Makanchi Array**	**42.18**	**321**	P	**P**	**02 22 52.1**	**+0.3**
	0.5nm,0.6s,baz=116,slow=10,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**43.58**	**82**	T	T	03 08 25.1	
	baz=287						
H11S1	**WAKE ISLAND Hy**	**43.59**	**82**	T	T	03 08 25.2	
	baz=287						
H11S2	**WAKE ISLAND Hy**	**43.60**	**82**	T	T	03 08 25.8	
	baz=287						
H11N1	**WAKE ISLAND Hy**	**43.62**	**81**	T	T	03 08 50.5	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**43.63**	**81**	T	T	03 08 48.6	
	baz=283,slow=76						
H11N3	**WAKE ISLAND Hy**	**43.64**	**81**	T	T	03 08 51.1	
	baz=283,slow=76						
ASAR	**Alice Springs**	**43.92**	**162**	P	**P**	**02 23 05.2**	**-0.9**
	0.2nm,0.4s,baz=342,slow=7.1,SNR=3.3						
KURBB	**Kurchatov Arra**	**46.20**	**324**	P	**P**	**02 23 24.6**	**+0.8**
	1.3nm,0.6s,baz=122,slow=8.2,SNR=10.0						

MEX 07 02:27:34.8±0.6, 16°.62N×98°.81W, h16km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.69**	**109**	*i* P	Pg	02 27 46.3	-2.0
PNIG				*i* S	Sg	02 27 54.0	-3.5
TLIG	**Tlapa**	**0.97**	**14**	*i* P	Pg	02 27 49.9	-3.4
TLIG				*e*S	Sb	02 28 01.7	-4.2
CAIG	**El Cayaco**	**1.47**	**287**	*eP*	Pn	02 27 56.9	-3.7
CAIG				*i* S	Sn	02 28 14.1	-5.3
PLIG	**Platanillo**	**1.89**	**339**	*eP*	Pn	02 28 03.8	-2.7

*GCMT **07** 02:54:23.2±0.3,1.20N×96.76E,h13km≈1km,MW4.9/82, Moment Tensor Solution. s31,c36; s82,c115; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.97±.11; Mθθ0.70±.07; Mφφ1.27±.08; Mrθ1.67±.24; Mφλ-0.54±.05; Mλr-1.33±.22; Best double couple: Mo2.77200×10¹⁶ NP1:λ0=314.00000°,δ70.00000°,λ-97.00000°. NP2: φs155.00000°,δ21.00000°,λ-70.00000°. Principal axes: T 2.5410, Plg25.0000°, Azm50.0000°; N 0.4630, Plg7.0000°, Azm316.0000°; P -3.0040, Plg64.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 02:54:23.2±1.6,1.14N×96.75E,h34km≈11km,mb5.0/43 Error ellipse: s-maj=6.4km s-min=3.7km az=56.0*

ISC 07 02:54:23.7±0.3,1.14N±0.03×96.74E±0.04,h35km, h36km:pP-P,n354,σ1§60/391,mb4.9/104,MS4.1/30, 22C-17D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.86**	**79**	P	**Pn**	**02 54 38.2**	**-1.1**
GSI				S	**Sn**	**02 54 50.5**	**-0.1**
GSI	**Gunungsitoli**	**0.86**	**79**	*e*Pn	**Pn**	**02 54 38.1**	**-1.1**
GSI				*e*Sn	**Sn**	**02 54 44.2**	**-6.4**
TPTI		**2.15**	**12**	P	**Pn**	**02 54 54.2**	**-2.9**
KCSI	**Kotacane, Aceh**	**2.58**	**24**	P	**Pn**	**02 55 01.9**	**-1.2**
PSI	**Prapat**	**2.74**	**53**	*e*P	**Pn**	**02 55 03.6**	**-1.7**
PSI	**Prapat**	**2.74**	**53**	*e*Pn	**Pn**	**02 55 03.6**	**-1.7**
MNSI	**Mandailing Nat**	**2.87**	**97**	P	**Pn**	**02 55 06.1**	**-0.8**
TSI	**Tuntungan**	**2.97**	**38**	P	**Pn**	**02 55 07.7**	**-0.7**
TSI				S	**Sn**	**02 55 43.1**	**+0.2**
MLSI	**Meulaboh, Aceh**	**3.12**	**354**	P	**Pn**	**02 55 07.9**	**-2.6**
MLSI				S	**Sn**	**02 55 44.7**	**-1.9**
PPI	**Padang Panjang**	**3.99**	**113**	P	**Pn**	**02 55 21.9**	**-0.5**
PPI				S	**Sn**	**02 56 06.2**	**-1.8**
LHMI	**Lhok Sumawe**	**4.07**	**3**	P	**Pn**	**02 55 21.5**	**-2.0**
LHMI				S	**Sn**	**02 56 06.5**	**-3.4**
LHMI	**Lhok Sumawe**	**4.07**	**3**	*e*Pn	**Pn**	**02 55 21.3**	**-2.2**
LHMI				*e*S	Sn	02 55 56.4	-14
PDSI	**Padang**	**4.25**	**119**	P	**Pn**	**02 55 24.7**	**-1.3**
BKNI	**Bangkinang**	**4.38**	**101**	P	**Pn**	**02 55 27.3**	**-0.5**
BKNI	**Bangkinang**	**4.38**	**101**	*e*Pn	**Pn**	**02 55 27.5**	**-0.3**
BKNI				*e*S	**Sn**	**02 56 15.6**	**-2.0**
PPSI	**Pulau Pagai** 347nm,1.3s,6μm2.2nm	**5.08**	**140**	P	**Pn**	**02 55 35.3**	**-2.0**
SDSI	**Sungai Dareh** 114nm,1.1s,45μm0.9nm	**5.12**	**114**	P	**Pn**	**02 55 37.5**	**-0.5**
FRIM	**Kepong**	**5.31**	**67**	⇑P	**Pn**	**02 55 40.1**	**-0.4**
IPM	**Ipoh**	**5.42**	**52**	⇑P	**Pn**	**02 55 42.0**	**-0.1**
IPM	**Ipoh**	**5.42**	**52**	*e*Pn	**Pn**	**02 55 41.6**	**-0.4**
KULM	**Kulim**	**5.68**	**43**	⇓P	**Pn**	**02 55 44.5**	**-1.2**
KULM	**Kulim**	**5.68**	**43**	*e*Pn	**Pn**	**02 55 44.5**	**-1.2**
RGRI	**Rengat** 247nm,0.8s,123μm8.1nm	**5.79**	**105**	P	**Pn**	**02 55 46.8**	**-0.4**
RGRI				S	**Sn**	**02 56 54.5**	**+2.1**
	247nm,0.8s,123μm8.1nm						
KGM	**Kluang**	**6.64**	**82**	⇓P	**Pn**	**02 55 59.0**	**+0.2**
SKLT	**Songkhla** 146nm,1.2s,2μm0.6nm	**7.13**	**33**	P	**Pn**	**02 56 03.8**	**-1.8**
MYKOM	**Kota Tinggi**	**7.14**	**85**	⇓P	**Pn**	**02 56 06.1**	**+0.4**
MYKOM	**Kota Tinggi**	**7.14**	**85**	*e*Pn	**Pn**	**02 56 05.5**	**-0.3**
TRTT	**Trang** 134nm,0.6s,2μm0.6nm	**7.27**	**24**	P	**Pn**	**02 56 04.9**	**-2.7**
KRAB	**Krabi** 218nm,0.7s,2μm0.7nm	**7.45**	**19**	P	**Pn**	**02 56 07.0**	**-3.0**
KSI	**Kapahiang** 435nm,0.8s,5μm1.5nm	**7.55**	**129**	P	**Pn**	**02 56 11.0**	**-0.4**
KTGM	**Kuala Trenggan**	**7.62**	**57**	⇑P	**Pn**	**02 56 11.8**	**-0.5**
SURT	**Suratani**	**8.03**	**15**	P	Pn	02 56 24.2	+6.2
MNAI	**Manna** 490nm,0.5s,6μm	**8.28**	**131**	P	**Pn**	**02 56 19.9**	**-1.4**
MNAI	**Manna**	**8.28**	**131**	*e*Pn	**Pn**	**02 56 19.9**	**-1.4**
MNAI				*e*Sn	**Sn**	**02 57 47.4**	**-6.3**
LWLI	**Liwa** 293nm,0.8s	**9.54**	**130**	P	**Pn**	**02 56 36.5**	**-2.2**
PPBI	**Pangkal Pinang** 27nm,1.2s,45μm	**9.96**	**109**	P	**Pn**	**02 56 42.1**	**-2.3**
KLI	**Kotabumi** 114nm,1.0s	**10.07**	**126**	P	**Pn**	**02 56 43.7**	**-2.2**
BLSI	**Bandar Lampung**	**10.68**	**127**	P	Pn	02 56 47.1	-7.2
CHBT	**CHBT**	**12.80**	**25**	P	**P**	**02 57 34.4**	**+0.6**
CNJI	**Cibinong**	**13.34**	**129**	P	Pn	02 57 25.5	-5.2
LEM	**Lembang** 1.8nm,0.3s,baz=307,slow=20,SNR=2.4	**13.44**	**126**	Pn	**P**	**02 57 36.9**	**-4.2**
LEM				LR	LR	03 03 25.2	
	comp=Z,1μm,19.7s,baz=252,slow=41						
LEM	**Lembang** 374nm,1.1s	**13.44**	**126**	P	**Pn**	**02 57 32.4**	**+0.2**
KSM	**Kuching**	**13.57**	**88**	⇑P	**Pn**	**02 57 33.9**	**0.0**
KSM	**Kuching**	**13.57**	**88**	*e*Pn	**Pn**	**02 57 34.2**	**+0.3**
CISI	**Cisompet, Garu**	**14.03**	**128**	*e*Pn	**Pn**	**02 57 39.0**	**-1.2**
STKI	**Sintang** 54nm,0.6s,16μm	**14.78**	**94**	P	**Pn**	**02 57 48.2**	**-2.1**
PBKI	**Pangkalan Bun** 180nm,1.5s	**15.41**	**104**	P	**Pn**	**02 57 57.1**	**-1.6**
SBUM	**Sibu**	**15.53**	**85**	⇑P	**Pn**	**02 58 00.8**	**+0.6**
SBUM	**Sibu** 116nm,1.5s	**15.53**	**85**	*e*Pn	**Pn**	**02 58 00.2**	**0.0**
PBKT	**Sadao Pong** 62nm,0.8s,821nm	**15.89**	**15**	P	**Pn**	**02 58 05.7**	**+0.9**
KHON	**Khomkaen** 26nm,0.6s	**16.25**	**21**	P	**P**	**02 58 11.8**	**-0.3**
UBPT	**Khong Chiam** 85nm,1.2s	**16.48**	**31**	P	**P**	**02 58 13.8**	**-1.0**
SUKH	**Sukhothai** 15nm,0.7s,122nm	**16.49**	**10**	P	**P**	**02 58 14.3**	**-0.5**
LOEI	**Loei** 20nm,0.7s,587nm	**16.86**	**15**	P	**P**	**02 58 19.7**	**+0.7**
UTTA	**Uttaradit** 9.0nm,0.8s,91nm	**16.92**	**13**	P	**P**	**02 58 20.1**	**+0.5**
PALK	**Pallekele** 1.4nm,0.3s,baz=115,slow=4,SNR=5.8	**17.10**	**291**	P	**Pn**	**02 58 19.4**	**-0.8**
PALK				S	Sn	03 01 14.4	-15
	0.8nm,0.3s,baz=295,slow=17,SNR=3.4						
PALK	**Pallekele**	**17.10**	**291**	*e*P	**Pn**	**02 58 20.1**	**-0.2**
PALK				pmax	pmax		
	comp=Z,23nm,0.9s						
PALK	**Pallekele**	**17.10**	**291**	*e*Pn	**Pn**	**02 58 20.1**	**-0.2**
	comp=Z,23nm,0.9s						
PALK				*e*S	Sn	03 01 13.4	-16
SKNT	**Sakolnakorn** comp=Z,55nm,1.0s	**17.27**	**24**	P	**P**	**02 58 23.2**	**-0.3**
CM01	**Chiang Mai Arr**	**17.31**	**7**	*e*Pn	**P**	**02 58 23.5**	**-0.4**
CM31	**Chiang Mai Arr**	**17.34**	**7**	*e*Pn	**P**	**02 58 24.3**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.3s,baz=199,slow=12,SNR=44	**17.34**	**7**	P	**Pn**	**02 58 21.6**	**-1.6**
CMAR				LR	LR	03 05 41.8	
	comp=Z,720nm,18.6s,baz=201,slow=39						
LAMP	**Lampang** comp=Z,7.3nm,0.8s	**17.51**	**9**	P	**P**	**02 58 27.0**	**+0.9**
CHTO	**Chiang Mai** comp=Z,70nm,1.3s,comp=Z,2μm	**17.70**	**7**	P	**P**	**02 58 28.8**	**+0.6**
CHTO	**Chiang Mai**	**17.70**	**7**	*e*P	**Pn**	**02 58 27.6**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,67nm,1.8s						
CHTO	**Chiang Mai** comp=Z,67nm,1.8s	**17.70**	**7**	*e*Pn	**Pn**	**02 58 27.6**	**+0.1**
NONG	**Nongkai** comp=Z,39nm,0.8s	**17.96**	**20**	P	**Pn**	**02 58 28.5**	**-2.2**
JAGI	**Jajag, Banyuwa** comp=Z,142nm,0.2s	**19.81**	**119**	*e*P	**Pn**	**02 58 56.3**	**+3.1**
KKM	**Kota Kinabalu**	**20.04**	**75**	⇑P	**P**	**02 58 53.9**	**-0.1**
KKM	**Kota Kinabalu** comp=Z,140nm,1.4s	**20.04**	**75**	*e*Pn	**P**	**02 58 53.7**	**-0.3**
MDRS	**Chennai**	**20.18**	**307**	*e*P	Pn	02 58 56.8	-0.7
MDRS				IAmb	IAmb	02 58 57.8	
	comp=Z,62nm,1.4s						
KDM	**Kudat**	**20.84**	**73**	⇓P	**P**	**02 59 02.3**	**-0.4**
SDKM	**Sandakan**	**20.90**	**77**	⇓P	**P**	**02 59 02.9**	**-0.4**
VIS	**Vishakhapatnam**	**21.10**	**322**	*e*P	**P**	**02 59 07.9**	**+2.5**
VIS				IAmb	IAmb	02 59 13.9	
	comp=Z,60nm,1.4s						
TSM	**Tawau**	**21.34**	**81**	⇓P	**P**	**02 59 07.7**	**-0.3**
BWNR	**Bhubaneshwar**	**21.83**	**331**	*e*P	**P**	**02 59 13.2**	**+0.1**
QIZ	**Qiongzhong**	**21.94**	**35**	P	**P**	**02 59 14.2**	**-0.2**
QIZ				S	**S**	**03 03 14.5**	**-0.3**
QIZ				sS	**sS**	**03 03 31.8**	**+2.1**
QIZ				PMZ			
	comp=Z,330nm,14.4s						
QIZ				LN			
	comp=Z,1μm,13.2s						
QIZ				LE			
	comp=Z,2μm,13.6s						
QIZ				LZ			
	comp=Z,2μm,13.3s						
QIZ	**Qiongzhong**	**21.94**	**35**	*e*P	**P**	**02 59 14.1**	**-0.2**
MYLDM	**Lahad Datu** comp=Z,147nm,1.3s	**22.09**	**79**	*e*P	**P**	**02 59 17.1**	**+1.0**
KAPI	**Kappang** comp=Z,6.6nm,0.5s,baz=279,slow=8.6,SNR=2.5	**23.79**	**105**	P	**P**	**02 59 31.5**	**-2.0**
KAPI	**Kappang** comp=Z,44nm,1.1s	**23.79**	**105**	*e*P	**P**	**02 59 31.1**	**-2.4**
HYB	**Hyderabad**	**24.11**	**313**	*i*P	**P**	**02 59 38.0**	**+1.6**
HYB	**Hyderabad**	**24.11**	**313**	*e*P	**P**	**02 59 35.5**	**-0.9**
HYB				IAmb	IAmb	02 59 43.4	
	comp=Z,14nm,0.5s						
KMI	**Kunming**	**24.54**	**13**	P	**P**	**02 59 41.1**	**+0.6**
KMI				pP	pP	02 59 49.0	-1.5
KMI				sP	sP	02 59 53.3	-1.4
KMI				S	**S**	**03 04 01.3**	**+2.2**
KMI				sS	sS	03 04 17.0	+1.4
KMI				PMZ			
	comp=Z,34nm,0.6s						
KMI				PMZ			
	comp=Z,360nm,3.5s						
KMI				LN			
	comp=Z,3μm,12.2s						
KMI				LE			
	comp=Z,2μm,12.2s						
KMI				LZ			
	comp=Z,3μm,11.8s						
SHL	**Shillong**	**24.73**	**349**	*e*P	**P**	**02 59 41.5**	**-0.6**
SHL				IAmb	IAmb	02 59 43.9	
	comp=Z,77nm,0.7s						
BOK	**Bokaro**	**24.86**	**336**	*e*P	**P**	**02 59 44.7**	**+1.6**
BOK				IAmb	IAmb	02 59 46.6	
	comp=Z,56nm,0.8s						
H08S2	**Diego Garcia H** baz=70,slow=75,SNR=7831	**25.71**	**250**	T	T	03 26 36.0	
H08S3	**Diego Garcia H** baz=70,slow=75,SNR=6949	**25.71**	**250**	T	T	03 26 49.5	
H08S1	**Diego Garcia H** baz=70,slow=75,SNR=7912	**25.72**	**250**	T	T	03 26 50.6	
LUWI	**Luwuk** comp=Z,63nm,0.8s	**26.12**	**95**	*e*P	**P**	**02 59 54.7**	**-0.1**
NGP	**Nagpur**	**26.33**	**320**	*e*P	**P**	**02 59 57.0**	**+0.5**
NGP				IAmb	IAmb	03 00 07.1	
	comp=Z,14nm,0.5s						
GYA	**Guiyang**	**26.92**	**20**	⇑*i*P	**P**	**03 00 03.6**	**+1.7**
GYA				pP	sP	03 00 16.2	0.0
GYA				PP	**PnPn**	**03 00 50.4**	**+5.5**
GYA				PcP	**PcP**	**03 03 25.5**	**+1.9**
GYA				S	**S**	**03 04 30.7**	**-6.1**
GYA				sS	sS	03 04 55.8	+2.4
GYA				SS	**SnSn**	**03 05 51.0**	**+7.0**
GYA				ScP	**ScP**	**03 07 00.6**	**-0.8**
GYA				ScS	**ScS**	**03 10 50.1**	**-2.4**
GYA				PMZ			
	comp=Z,50nm,0.6s						
GYA				PMZ			
	comp=Z,190nm,7.8s						
GYA				LN			
	comp=Z,2μm,13.7s						
GYA				LE			
	comp=Z,910nm,12.7s						
GYA				LZ			
	comp=Z,2μm,14.4s						
PKIN	**Phulchoki**	**28.45**	**339**	*e*P	**P**	**03 00 17.2**	**+1.5**
GUN	**Gumba** comp=Z,95nm,0.6s	**28.58**	**340**	*e*P	**P**	**03 00 17.9**	**+0.9**
DMN	**Daman** comp=Z,54nm,0.8s	**28.58**	**338**	*e*P	**P**	**03 00 17.5**	**+0.6**
KKN	**Kakani** comp=Z,55nm,0.8s	**28.68**	**338**	*e*P	**P**	**03 00 18.4**	**+0.6**
LSA	**Lhasa**	**28.89**	**350**	P	**P**	**03 00 20.9**	**+1.0**
LSA				PMZ			
	comp=Z,8.0nm,0.8s						
LSA	**Lhasa**	**28.89**	**350**	*e*P	**P**	**03 00 21.0**	**+1.0**
LSA	**Lhasa**	**28.89**	**350**	*e*P	**P**	**03 00 21.0**	**+1.0**
GKN	**Gorkha** comp=Z,74nm,0.7s	**29.11**	**338**	*e*P	**P**	**03 00 22.6**	**+1.1**
KOLN	**Koldanda** comp=Z,74nm,0.7s	**29.32**	**336**	*e*P	**P**	**03 00 24.1**	**+0.7**
PYUN	**Piuthan** comp=Z,17nm,0.4s	**29.86**	**335**	*e*P	**P**	**03 00 28.7**	**+0.5**
CD2	**Chengdu**	**30.35**	**12**	P	**P**	**03 00 32.6**	**+0.3**
CD2				pP	pP	03 00 44.1	+1.7
CD2				sP	sP	03 00 49.5	+2.9
CD2				S	**S**	**03 05 31.4**	**+0.9**
CD2				sS	sS	03 05 51.3	+4.2
CD2				PMZ			
	comp=Z,20nm,0.6s						
CD2				PMZ			
	comp=Z,270nm,7.6s						
CD2				LN			
	comp=Z,2μm,12.2s						
CD2				LE			
	comp=Z,2μm,12.0s						
CD2				LZ			
	comp=Z,2μm,12.4s						
MBWA	**Marble Bar**	**31.57**	**136**	*e*P	**P**	**03 00 43.5**	**+0.3**
QZH	**Quanzhou**	**31.71**	**40**	P	P	03 00 38.3	-6.0
QZH				S	**S**	**03 05 44.0**	**-7.9**
QZH				LR	LR		
	comp=N,2μm,10.8s						
QZH				LR	LR		
	comp=E,3μm,12.1s						
QZH				LR	LR		
	comp=Z,4μm,12.1s						
YULB	**Yu-li** comp=Z,28nm,0.9s	**32.51**	**45**	*e*P	**P**	**03 00 51.7**	**+0.3**
SSLB	**Suanglung** comp=Z,22nm,1.0s	**32.52**	**44**	*e*P	**P**	**03 00 52.1**	**+0.6**
NACB	**Ninganchiao** comp=Z,27nm,0.7s	**33.22**	**44**	*e*P	**P**	**03 00 58.7**	**+1.1**
WHN	**Wuhan**	**33.68**	**28**	*e*P	**P**	**03 01 05.3**	**+3.8**
WHN				S	**S**	**03 06 23.1**	**+0.7**
WHN				LN			
	comp=Z,2μm,8.6s						
WHN				LE			
	comp=Z,2μm,11.2s						
WHN				LZ			
	comp=Z,4μm,11.9s						
FITZ	**Fitzroy Crossi** baz=34,SNR=13	**34.27**	**125**	P	**P**	**03 01 06.3**	**-0.5**
FITZ	**Fitzroy Crossi** comp=Z,12nm,0.9s	**34.27**	**125**	*e*P	**P**	**03 01 06.0**	**-0.8**
XAN	**Xi'an**	**34.66**	**18**	P	**P**	**03 01 08.9**	**-1.1**
XAN				pP	sP	03 01 25.1	+0.7
XAN				S	**S**	**03 06 35.2**	**-2.3**
XAN				PMZ			
	comp=Z,15nm,0.8s						
XAN				PMZ			
	comp=Z,120nm,9.7s						
XAN				LN			
	comp=Z,1μm,11.5s						
XAN				LE			
	comp=Z,4μm,13.6s						
XAN				LZ			
	comp=Z,1μm,13.6s						
SMLA	**Simla**	**35.11**	**330**	*e*P	**P**	**03 01 13.9**	**0.0**
SMLA				IAmb	IAmb	03 01 24.1	
	comp=Z,20nm,1.1s						
MORW	**Morawa** baz=36	**35.27**	**150**	P	**P**	**03 01 16.7**	**+1.4**
LZH	**Lanzhou**	**35.39**	**10**	*e*P	**P**	**03 01 18.0**	**+1.6**
LZH				pP	sP	03 01 30.3	-0.5
LZH				sP	pP	03 01 35.1	+8.5
LZH				PP	**PP**	**03 02 38.2**	**+1.0**
LZH				*e*S	**S**	**03 06 48.0**	**-1.0**
LZH				sS	sS	03 07 06.0	+0.3
LZH				SS	**SnSn**	**03 09 08.1**	**-1.6**
LZH				PMZ			
	comp=Z,59nm,1.4s						
LZH				PMZ			
	comp=Z,170nm,4.0s						
LZH				LN			
	comp=Z,730nm,11.0s						
LZH				LE			
	comp=Z,1μm,13.1s						
LZH				LZ			
	comp=Z,580nm,13.6s						
DHRM	**DHARAMSHALA**	**36.45**	**330**	*e*P	**P**	**03 01 26.4**	**+0.8**
DHRM				IAmb	IAmb	03 01 28.3	
	comp=Z,10nm,0.7s						
NJ2	**Nanjing**	**37.16**	**32**	*e*P	**P**	**03 01 33.5**	**+2.1**
NJ2				S	**S**	**03 07 17.3**	**+1.6**
NJ2				PMZ			
	comp=Z,16nm,0.5s						
NJ2				LN			
	comp=Z,1μm,13.0s						
NJ2				LE			
	comp=Z,1μm,12.5s						
NJ2				LZ			
	comp=Z,2μm,13.0s						
SSE	**Sheshan**	**37.73**	**35**	P	**P**	**03 01 34.6**	**-1.6**
SSE				pP	**pP**	**03 01 43.4**	**-3.0**
SSE				S	**S**	**03 07 26.0**	**+1.6**
SSE				PMZ			
	comp=Z,21nm,0.8s						
SSE				PMZ			
	comp=Z,42nm,3.1s						
SSE				LN			
	comp=Z,710nm,13.1s						
SSE				LE			
	comp=Z,600nm,13.1s						
SSE				LZ			
	comp=Z,1μm,12.4s						
GTA	**Gaotai**	**38.19**	**4**	⇑P	**P**	**03 01 40.0**	**-0.2**
GTA				pP	pP	03 01 51.2	+0.8
GTA				sP	sP	03 01 56.0	+1.4
GTA				PP	**PnPn**	**03 03 10.0**	**+0.3**
GTA				PcP	**PcP**	**03 03 55.4**	**+1.0**
GTA				S	**S**	**03 07 30.1**	**-1.4**
GTA				sS	sS	03 07 49.1	+0.7
GTA				SS	**SnSn**	**03 10 11.6**	**-5.8**
GTA				PMZ			
	comp=Z,11nm,1.0s						
GTA				PMZ			
	comp=Z,160nm,5.9s						
GTA				LN			
	comp=Z,850nm,11.9s						
GTA				LE			
	comp=Z,460nm,12.4s						
GTA				LZ			
	comp=Z,960nm,11.4s						
H01W3	**Cape Leeuwin H** baz=333,slow=76,SNR=332	**39.37**	**157**	T	T	03 43 34.7	
H01W2	**Cape Leeuwin H** baz=333,slow=76,SNR=306	**39.38**	**157**	T	T	03 43 35.7	
H01W1	**Cape Leeuwin H** baz=333,slow=76,SNR=268	**39.38**	**157**	T	T	03 43 41.3	
WRKA	**Warakurna** baz=40,SNR=8.5	**40.14**	**133**	P	**P**	**03 01 56.9**	**+0.3**
HHC	**Hu-ho-hao-te**	**41.75**	**17**	*e*P	**P**	**03 02 11.4**	**+1.7**
HHC				sP	sP	03 02 26.9	+2.7
HHC				PP	**PnPn**	**03 03 53.6**	**+1.8**
HHC				S	**S**	**03 08 28.4**	**+3.7**
HHC				PMZ			
	comp=Z,24nm,1.2s						
HHC				PMZ			
	comp=Z,150nm,6.4s						
HHC				LN			
	comp=Z,1μm,12.4s						
HHC				LE			
	comp=Z,1μm,13.1s						
HHC				LZ			
	comp=Z,1μm,12.6s						
WB0	**Warramunga Arr** baz=42	**42.37**	**121**	P	**P**	**03 02 14.8**	**-0.2**
WRA	**Warramunga Arr** comp=Z,19nm,0.5s,baz=301,slow=9.0,SNR=202	**42.40**	**122**	P	**P**	**03 02 15.1**	**-0.1**
WRA				LR	LR	03 24 00.9	
	comp=Z,186nm,18.2s,baz=290,slow=42						
WRA	**Warramunga Arr**	**42.40**	**122**	P	**P**	**03 02 15.1**	**-0.1**
WRA				pmax	pmax		
	comp=Z,12nm,0.5s						
WRA				MLR	MLR		
	comp=Z,186nm,18.2s						
WRAB	**Tennant Creek**	**42.40**	**122**	*ce*P	**P**	**03 02 14.8**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,75nm,1.7s						
WRAB	**Tennant Creek** comp=Z,22nm,0.6s	**42.40**	**122**	*e*P	**P**	**03 02 14.9**	**-0.4**
WB2	**Warramunga Arr** comp=Z,20nm,0.6s	**42.41**	**122**	*e*P	**P**	**03 02 15.1**	**-0.2**
BJT	**Baijiatuao**	**42.55**	**22**	*e*P	**P**	**03 02 16.8**	**+0.8**
BJT	**Baijiatuao**	**42.55**	**22**	*e*P	**P**	**03 02 16.8**	**+0.8**
BJI	**Beijing**	**42.57**	**22**	P	**P**	**03 02 16.5**	**+0.3**
BJI				sP	**sP**	**03 02 32.9**	**+2.2**
BJI				PP	**PP**	**03 03 56.5**	**+1.1**
BJI				S	**S**	**03 08 40.2**	**+3.7**
BJI				sS	**sS**	**03 08 55.3**	**+1.8**
BJI				PMZ			
	comp=Z,20nm,0.7s						
BJI				PMZ			
	comp=Z,220nm,7.0s						
BJI				LN			
	comp=Z,610nm,14.5s						
BJI				LE			
	comp=Z,440nm,16.1s						
BJI				LZ			
	comp=Z,210nm,16.9s						
KSH	**Kashi**	**42.63**	**336**	P	**P**	**03 02 17.8**	**+0.8**
KSH				pP	sP	03 02 30.8	-0.7
KSH				PP	**PP**	**03 04 01.7**	**+5.4**
KSH				PcP	**PcP**	**03 04 10.8**	**+2.1**
KSH				S	**S**	**03 08 36.1**	**-1.7**
KSH				SS	**SS**	**03 11 43.7**	**-5.2**
KSH				PMZ			
	comp=Z,6.0nm,0.5s						
KSH				PMZ			
	comp=Z,69nm,3.1s						
KSH				LN			
	comp=Z,380nm,14.3s						
KSH				LE			
	comp=Z,140nm,8.9s						
KSH				LZ			
	comp=Z,230nm,12.7s						
WSAR	**Wadi Sarin** comp=Z,60nm,18.1s,slow=34	**42.99**	**304**	LR	LR	03 18 54.1	
WMQ	**Urumqi**	**43.25**	**350**	P	**P**	**03 02 24.1**	**+2.3**
WMQ				pP	pP	03 02 32.4	+0.3
WMQ				sP	sP	03 02 40.9	+4.6
WMQ				PcP	**PcP**	**03 04 11.6**	**+1.0**
WMQ				S	**S**	**03 08 45.4**	**-1.3**
WMQ				ScS	**ScS**	**03 12 16.1**	**-3.3**
WMQ				PMZ			
	comp=Z,9.0nm,1.2s						
WMQ				PMZ			
	comp=Z,87nm,4.0s						
WMQ				LN			
	comp=Z,200nm,12.0s						
WMQ				LE			
	comp=Z,110nm,12.8s						
ASAR	**Alice Springs** comp=Z,3.4nm,0.6s,baz=302,slow=8.1,SNR=48	**43.73**	**127**	P	**P**	**03 02 25.9**	**-0.1**
ASAR				PcP	**PcP**	**03 04 12.7**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=305,slow=3.3,SNR=3.1						
ASAR				LR	LR	03 22 56.5	
	comp=Z,267nm,19.1s,baz=306,slow=39						
AS31	**Alice Springs** comp=Z,2.9nm,0.9s	**43.73**	**127**	*e*P	**P**	**03 02 25.9**	**0.0**
AS01	**Alice Springs**	**43.77**	**127**	*e*P	**P**	**03 02 25.9**	**-0.4**
PDGK	**Podgornoye**	**44.74**	**342**	P	**P**	**03 02 34.4**	**+0.8**
PDGK				pmax	pmax		
	comp=Z,17nm,1.1s						
TJN	**Taejon**	**45.09**	**35**	*ce*P	**P**	**03 02 36.3**	**-0.3**
JNU	**Nakatsue** comp=Z,10nm,0.6s,baz=250,slow=3.9,SNR=10	**45.16**	**42**	P	**P**	**03 02 37.1**	**-0.2**
JNU				LR	LR	03 21 48.7	
	comp=Z,259nm,21.1s,baz=258,slow=36						
JNU	**Nakatsue** comp=Z,98nm,1.7s	**45.16**	**42**	*e*P	**P**	**03 02 37.1**	**-0.2**
TKM2	**Tokmak 2**	**45.70**	**338**	*i*P	**P**	**03 02 41.8**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,19nm,1.1s						
TKM2	**Tokmak 2** comp=Z,68nm,1.8s	**45.70**	**338**	*e*P	**P**	**03 02 42.2**	**+0.6**
AAK	**Ala-Archa** comp=Z,3.5nm,0.6s,baz=150,slow=8.6,SNR=8.2	**45.87**	**337**	P	**P**	**03 02 43.8**	**+0.9**
AAK				LR	LR	03 21 48.3	
	comp=Z,19nm,21.5s,baz=166,slow=36						
AAK	**Ala-Archa**	**45.87**	**337**	*i*P	**P**	**03 02 44.1**	**+1.2**
AAK				pmax	pmax		
	comp=Z,26nm,1.6s						
AAK	**Ala-Archa** comp=Z,22nm,1.2s	**45.87**	**337**	*e*P	**P**	**03 02 44.0**	**+1.1**
FRU	**Bishkek**	**45.99**	**337**	*e*P	**P**	**03 02 44.5**	**+0.8**
FRU				*e*		03 04 27.0

KS01 **Wonju Array Si** 46.16 35 *e*P P 03 02 44.6 -0.4
KSRS **Korea Array** 46.16 35 P P 03 02 44.5 -0.5
comp=Z,14nm,0.7s,baz=223,slow=8.9,SNR=61
EKS2 **Erkin-Say** 46.18 336 *e*P P 03 02 45.6 +0.4
EKS2 pmax pmax
comp=Z,14nm,0.6s
EKS2 **Erkin-Say** 46.18 336 *e*P P 03 02 45.6 +0.4
comp=Z,14nm,0.6s
MNAS **Manas** 46.55 335 P P 03 02 49.4 +1.2
MNAS pmax pmax
comp=Z,5.0nm,0.6s
MK01 **Makanchi Array** 47.16 346 *e*P P 03 02 51.8 -0.9
SNY **Shenyang** 47.17 27 *e*P P 03 02 51.5 -1.3
SNY S S 03 09 36.5 -6.6
SNY LN
comp=Z,470nm,18.9s
SNY LE
comp=Z,850nm,13.5s
SNY LZ
comp=Z,1µm,15.3s
QIS **Mount Isa** 47.17 120 P P 03 02 53.3 0.0
baz=47,SNR=7.7
MK31 **Makanchi Array** 47.19 346 *e*P P 03 02 53.5 +0.5
MK31 **Makanchi Array** 47.19 346 *e*P P 03 02 53.5 +0.5
MKAR **Makanchi Array** 47.19 346 P P 03 02 53.2 +0.3
comp=Z,21nm,0.6s,baz=160,slow=7.8,SNR=195
MKAR LR LR 03 25 58.9
comp=Z,65nm,19.5s,baz=167,slow=40
MKAR **Makanchi Array** 47.19 346 *e*P P 03 02 53.5 +0.5
MKAR **Makanchi Array** 47.19 346 *e*P P 03 02 53.5 +0.5
SONM **Songino Array** 47.26 9 P P 03 02 53.8 +0.2
comp=Z,2.6nm,0.4s,baz=190,slow=9.6,SNR=14
SONM PcP PcP 03 04 24.8 +0.3
comp=Z,2.0nm,0.5s,baz=208,slow=3.4,SNR=5.1
SONM LR LR 03 24 39.7
comp=Z,214nm,18.1s,baz=270,slow=38
SONA1 **Songino Array** 47.27 9 *e*P P 03 02 53.8 +0.1
MAKZ **Makanchi** 47.28 346 *e*P P 03 02 54.0 +0.4
MAKZ pmax pmax
comp=Z,14nm,0.8s
MAKZ **Makanchi** 47.28 346 *e*P P 03 02 54.0 +0.4
comp=Z,14nm,0.8s
ULN **Ulaanbaatar** 47.39 9 *ce*P P 03 02 54.2 -0.5
ULN pmax pmax
comp=Z,13nm,1.7s
ULN **Ulaanbaatar** 47.39 9 *e*P P 03 02 54.4 -0.3
comp=Z,12nm,0.9s
KKAR **Karatay Array** 47.91 334 *e*P P 03 02 59.1 +0.5
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR **Karatay Array** 47.91 334 *e*P P 03 02 59.1 +0.5
comp=Z,1.1nm,0.4s
COEN **Coen** 48.38 110 P P 03 03 02.5 -0.2
baz=48,SNR=6.4
ZAK **Zakamensk** 49.38 6 *e*P P 03 03 09.3 -0.6
ZAK pmax pmax
comp=Z,6.0nm,2.2s
CN2 **Changchun** 49.57 27 *e*P P 03 03 10.5 -0.8
CN2 *e*S S 03 10 16.6 -0.4
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,700nm,12.0s
CN2 LE
comp=Z,600nm,12.0s
CN2 LZ
comp=Z,800nm,12.0s
MOY **Mondy** 50.47 3 *e*P P 03 03 20.2 +2.0
MTSU **Mount Surprise** 50.56 115 P P 03 03 19.8 +0.5
baz=51,SNR=5.5
TLY **Talaya** 50.70 6 *e*S S 03 10 41.7 +9.2
GEYT **Alibeck** 50.96 321 P P 03 03 21.2 -0.8
comp=Z,5.0nm,0.6s,baz=148,slow=8.7,SNR=9.9
GEYT LR LR 03 28 53.9
comp=Z,96nm,18.1s,baz=110,slow=41
OTUK **Ortayu** 51.44 339 P P 03 03 25.8 +0.4
OTUK pmax pmax
comp=Z,33nm,0.7s
KURBB **Kurchatov Arra** 51.67 345 P P 03 03 27.1 +0.1
comp=Z,14nm,0.6s,baz=163,slow=6.8,SNR=100
KURK **Kurchatov** 51.73 345 P P 03 03 27.1 -0.4
KURK pmax pmax
comp=Z,14nm,0.6s
KURK **Kurchatov** 51.73 345 P P 03 03 27.1 -0.4
MJAR **Matsushiro Arr** 52.05 43 P P 03 03 30.1 0.0
comp=Z,1.8nm,0.7s,baz=233,slow=6.5,SNR=5.9
MJAR LR LR 03 26 20.3
comp=Z,177nm,19.8s,baz=230,slow=37
MDJ **Mudanjiang** 52.15 29 P P 03 03 32.0 +1.3
MDJ pP sP 03 03 43.6 -1.8
MDJ sP pP 03 03 48.1 +6.9
MDJ PcP PcP 03 04 42.9 +0.7
MDJ PP PP 03 05 32.0 +2.7
MDJ ScP ScP 03 08 36.4 -0.4
MDJ PcS PcS 03 08 40.8 +0.5
MDJ S S 03 10 54.8 +2.1
MDJ PMZ
comp=Z,15nm,0.8s
MDJ PMZ
comp=Z,82nm,5.7s
MDJ LN
comp=Z,360nm,11.8s
MDJ LE
comp=Z,320nm,14.5s
MDJ LZ
comp=Z,490nm,11.8s
CTAO **Charters Tower** 52.89 116 *e*P P 03 03 37.2 +0.5
CTAO **Charters Tower** 52.89 116 *e*P P 03 03 37.2 +0.5
comp=Z,237nm,1.5s
USRK **Ussuriysk Ar.** 53.06 31 P P 03 03 37.7 +0.2
comp=Z,17nm,0.7s,baz=237,slow=5.5,SNR=45
USRK LR LR 03 29 16.7
comp=Z,618nm,18.1s,baz=205,slow=40
DAMY **Dhamar** 53.39 287 *e*P P 03 03 41.7 +0.9
comp=Z,29nm,1.1s
ZAA0 **Zalesovo Array** 53.54 351 *e*P P 03 03 41.2 +0.4
ZALV **Zalesovo Beam** 53.54 351 P P 03 03 41.1 +0.3
comp=Z,38nm,0.5s,baz=182,slow=7.5,SNR=47
ZALV LR LR 03 31 59.6
comp=Z,89nm,18.3s,baz=250,slow=42
STKA **Stephens Creek** 53.66 132 P P 03 03 42.3 +0.2
comp=Z,5.9nm,0.6s,baz=308,slow=6.6,SNR=13
STKA LR LR 03 29 40.5
comp=Z,170nm,19.2s,baz=259,slow=40
STKA **Stephens Creek** 53.66 132 P P 03 03 42.6 +0.5
baz=54,SNR=9.2
STKA **Stephens Creek** 53.66 132 *e*P P 03 03 42.7 +0.5
STKA pmax pmax
comp=Z,6.0nm,1.4s
STKA **Stephens Creek** 53.66 132 *e*P P 03 03 42.7 +0.5
comp=Z,5.8nm,1.4s
ATD **Arta Tunnel** 54.45 283 LR LR 03 24 38.9
comp=Z,68nm,18.7s,baz=30,slow=34
NVS **Novosibirsk** 54.66 350 *e*P P 03 03 48.0 -0.9
NVS pmax pmax
comp=Z,17nm,0.9s
NVS pmax pmax
comp=N,11nm,0.6s
VOSK **Vostochnaya** 55.71 341 *i* P P 03 03 55.7 -0.9
VOSK pmax pmax
comp=Z,22nm,0.6s
VOSK **Vostochnaya** 55.71 341 *e*P P 03 03 55.8 -0.8
comp=Z,25nm,0.6s
BVA0 **Borovoye Array** 56.15 341 *i* P P 03 03 59.3 -0.5
BVA0 pmax pmax
comp=Z,10.0nm,0.8s
BVAR **Borovoye Array** 56.15 341 P P 03 03 59.1 -0.7
comp=Z,10nm,0.6s,baz=144,slow=8.7,SNR=71
BRVK **Borovoye** 56.22 341 *e*P P 03 03 59.5 -0.7
BRVK pmax pmax
comp=Z,35nm,0.5s
BRVK **Borovoye** 56.22 341 *e*P P 03 03 59.5 -0.7
comp=Z,35nm,0.5s
KLR **Kul'dur** 56.52 27 P P 03 04 02.9 +0.5
comp=Z,8.3nm,0.7s,baz=240,slow=7.5,SNR=29
ZRNK **Zerenda** 56.55 340 *i* P P 03 04 01.7 -0.9
ZRNK pmax pmax
comp=Z,12nm,0.6s
ZRNK **Zerenda** 56.55 340 *e*P P 03 04 01.8 -0.8
comp=Z,15nm,0.6s
CMSA **Cobar Meteorol** 56.62 130 P P 03 04 04.3 +0.8
baz=57,SNR=16
CHKZ **Chkalovo** 56.63 342 *i* P P 03 04 02.8 -0.4
CHKZ pmax pmax
comp=Z,24nm,0.6s
AB31 **Akbulak array** 57.35 332 *i* P P 03 04 07.5 -0.8
AB31 pmax pmax
comp=Z,19nm,0.8s
ABKAR **Akbulak array** 57.35 332 *e*P P 03 04 07.6 -0.8
EIDS **Eidsvold** 58.75 121 P P 03 04 19.5 +0.9
baz=59,SNR=3.2
EIDS **Eidsvold** 58.75 121 *e*P P 03 04 19.2 +0.6
comp=Z,58nm,1.8s
AKTO **Aktyubinsk** 59.07 332 P P 03 04 19.4 -0.9
comp=Z,3.7nm,0.7s,baz=145,slow=4.1,SNR=14
AKTO **Aktyubinsk** 59.07 332 P P 03 04 18.3 -2.0
AKTO pmax pmax
comp=Z,10.0nm,0.8s
KMBO **Kilima Mbogo** 59.52 268 P P 03 04 24.0 -0.5
comp=Z,2.7nm,0.7s,baz=67,slow=9.7,SNR=9.4
KMBO LR LR 03 25 20.9
comp=Z,119nm,20.3s,baz=105,slow=31
KMBO **Kilima Mbogo** 59.52 268 P P 03 04 24.0 -0.5
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO **Kilima Mbogo** 59.52 268 *e*P P 03 04 24.3 -0.2
comp=Z,1.9nm,0.6s
YSS **Yuzh-Sakhalins** 60.66 34 *e*P P 03 04 31.5 +0.2
YSS *e* 03 04 40.8
YSS pmax pmax
comp=Z,13nm,0.9s
GNI **Garni** 61.02 316 *i* P P 03 04 34.5 +0.4
GNI pmax pmax
comp=Z,19nm,1.0s
TBLG **Delisi** 61.71 318 P P 03 04 38.0 -0.6
TBLG **Delisi** 61.71 318 P P 03 04 38.0 -0.6
GUDG **Gudauri** 62.22 319 P P 03 04 42.5 +0.3
BGD **Bogdanovka** 62.28 317 P P 03 04 39.8 -2.9
SVE **Sverdlovsk** 62.57 339 *e*P P 03 04 43.6 -0.4
SVE pmax pmax
comp=Z,22nm,0.7s
ZEI **Tsey** 62.74 319 *e*P P 03 04 44.5 -1.2
ZEI pmax pmax
comp=Z,18nm,0.5s
ARU **Arti** 63.06 337 P P 03 04 44.9 -2.4
comp=Z,4.8nm,0.2s,baz=119,slow=6.6,SNR=8.2
ARU **Arti** 63.06 337 *d i* P P 03 04 46.0 -1.3
ARU 03 05 23.0
ARU 03 07 08.4
ARU S S 03 13 15.4 0.0
ARU 03 14 34.0
ARU SS SS 03 17 20.9 -0.8
ARU pmax pmax
comp=Z,18nm,1.7s
ARU **Arti** 63.06 337 *e*P P 03 04 46.6 -0.6
comp=Z,9.6nm,0.8s
KBZ **Khabaz** 63.81 319 P P 03 04 52.0 -0.5
comp=Z,3.8nm,0.8s,baz=116,slow=8.2,SNR=9.0
KIV **Kislovodsk** 64.05 319 *e*P P 03 04 54.8 +0.6
KIV *e*S S 03 13 29.5 +1.0
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV **Kislovodsk** 64.05 319 *e*P P 03 04 53.0 -1.2
comp=Z,2.3nm,0.4s
EIL **Elat** 65.09 302 P P 03 05 01.1 -0.1
comp=Z,5.1nm,0.8s,baz=101,slow=5.2
MMAI **Mount Meron Ar** 65.56 306 P P 03 05 04.8 +0.6
comp=Z,1.5nm,0.5s,baz=94,slow=10
YAK **Yakutsk** 65.61 16 P P 03 05 03.2 -0.6
comp=Z,2.1nm,0.3s,baz=225,slow=19,SNR=2.5
YAK **Yakutsk** 65.61 16 *e*P P 03 05 03.6 -0.2
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,11nm,1.4s
YAK MLR MLR
comp=E,413nm,12.0s
YAK MLR MLR
comp=Z,691nm,11.0s
YAK MLR MLR
comp=N,381nm,11.0s
SOKR **Solikamsk** 65.99 339 *i* P P 03 05 03.8 -2.5
SOKR pmax pmax
comp=Z,9.0nm,0.8s
SOKR MLR MLR
comp=Z,164nm,15.0s
VRH **Novokhopyorsk** 67.91 326 *e*P P 03 05 16.4 -2.3
VRH pmax pmax
comp=Z,10.0nm,0.7s
CASY **Casey** 67.99 174 *e*P P 03 05 20.4 +1.4
comp=Z,18nm,1.3s
NRIK **Noril'sk** 68.36 357 P P 03 05 21.7 +0.5
comp=Z,5.2nm,0.6s,baz=180,slow=4.7,SNR=8.6
NRIK LR LR 03 41 13.5
comp=Z,115nm,18.5s,baz=136,slow=41
BR131 **Keskin Array S** 68.81 312 *e*P P 03 05 23.8 -1.1
BRTR **Keskin Array B** 68.81 312 P P 03 05 23.4 -1.4
comp=Z,1.3nm,0.7s,baz=128,slow=6.1,SNR=10
BRTR LR LR 03 36 02.1
comp=Z,46nm,21.8s,baz=100,slow=36
VSR **Storozhevoye** 69.35 325 *e*P P 03 05 25.1 -2.7
VSR pmax pmax
comp=Z,5.0nm,0.6s
BR231 **Keskin MP Arra** 69.48 312 *e*P P 03 05 24.4 -4.5
LSZ **Lusaka** 69.65 253 *e*P P 03 05 30.2 -0.2
LSZ pmax pmax
comp=Z,8.0nm,1.1s
LSZ **Lusaka** 69.65 253 *e*P P 03 05 30.2 -0.2
comp=Z,8.4nm,1.1s
LPSR **Galich'ya Gora** 70.09 327 *e*P P 03 05 29.6 -2.6
LPSR pmax pmax
comp=Z,7.0nm,0.7s
SIM **Simferopol'** 70.10 318 P P 03 05 42.6 +10
SIM *e*S S 03 14 39.0 -2.1
SIM pmax pmax
comp=Z,6.0nm,0.9s
SIM pmax pmax
comp=Z,40nm,10.0s
MA2 **Magadan** 71.59 26 P P 03 05 41.6 +0.4
baz=159,slow=14
PETK **Petropavlovsk-** 72.04 34 P P 03 05 43.8 -0.3
comp=Z,3.1nm,0.7s,baz=212,slow=5.3,SNR=5.4
PETK LR LR 03 42 27.3
comp=Z,79nm,18.1s,baz=225,slow=40
PETK **Petropavlovsk-** 72.04 34 P P 03 05 43.8 -0.3
PETK pmax pmax
comp=Z,4.0nm,0.8s
PETK MLR MLR
comp=Z,79nm,18.1s
OBN **Obninsk** 72.42 328 P P 03 05 46.2 -0.1
comp=Z,7.7nm,0.3s,baz=135,slow=14,SNR=3.2
OBN **Obninsk** 72.42 328 *e*P P 03 05 45.8 -0.5
OBN pmax pmax
comp=Z,7.0nm,1.2s
PET **Petropavlovsk** 72.54 34 *e*P P 03 05 46.2 -0.8
PET *e*S S 03 15 07.0 -2.0
PET *e*SS SS 03 19 50.7 +2.3
PET pmax pmax
comp=Z,25nm,0.6s
PET MLR MLR
comp=Z,200nm,16.0s
MAW **Mawson** 72.55 193 P P 03 05 47.7 +0.9
comp=Z,3.8nm,0.5s,baz=21,slow=9.2,SNR=22
MAW LR LR 03 31 00.4
comp=Z,133nm,19.9s,baz=62,slow=30
MAW **Mawson** 72.55 193 P P 03 05 47.9 +1.1
baz=73,SNR=16
TIXI **Tiksi** 73.33 10 P P 03 05 50.6 -0.7
comp=Z,8.3nm,0.5s,baz=234,slow=3.6,SNR=25
TIXI **Tiksi** 73.33 10 *ce*P P 03 05 50.9 -0.4
TIXI pmax pmax
comp=Z,25nm,1.7s
TIXI **Tiksi** 73.33 10 *e*P P 03 05 50.5 -0.9
comp=Z,32nm,1.4s
KLMR **Klimovskoe** 73.61 335 *e*P P 03 05 52.2 -1.0
KLMR pmax pmax
comp=Z,5.0nm,0.9s
TIRR **Tirgusor** 73.84 316 *i* P P 03 05 53.7 -1.2
TIRR **Tirgusor** 73.84 316 P P 03 05 53.7 -1.2
BOSA **Boshof** 74.35 240 P P 03 05 58.0 -0.3
comp=Z,7.5nm,0.6s,baz=90,slow=5.3,SNR=26
BOSA LR LR 03 33 06.0
comp=Z,132nm,18.3s,baz=50,slow=31
BOSA **Boshof** 74.35 240 *e*P P 03 05 58.5 +0.1
comp=Z,15nm,0.9s
SORM **Soroca** 74.85 320 *i* P P 03 05 59.5 -1.2
SORM **Soroca** 74.85 320 P P 03 05 59.5 -1.2
AKASG **Malin Array Be** 75.02 323 P P 03 05 59.7 -2.0
comp=Z,0.7nm,0.4s,baz=90,slow=4.8,SNR=12
KIEV **Kiev** 75.03 323 *i* P P 03 06 00.2 -1.5
KIEV pmax pmax
comp=Z,2.0nm,1.0s
VRI **Vrincioaia** 75.34 317 *i* P P 03 06 03.5 -0.2
VRI **Vrincioaia** 75.34 317 P P 03 06 03.5 -0.2
PLOR **Plostina** 75.39 317 P P 03 06 05.0 +1.0
PLOR **Plostina** 75.39 317 P P 03 06 05.0 +1.0
MLR **Muntele Rosu** 75.79 317 P P 03 06 05.2 -1.2
MLR **Muntele Rosu** 75.79 317 P P 03 06 05.2 -1.2
ARR **Arges** 76.67 316 P P 03 06 22.5 +11
BURAR **Bucovina Array** 76.76 319 P P 03 06 12.3 +0.5
BURAR **Bucovina Array** 76.76 319 P P 03 06 12.3 +0.5
BUR08 **Bucovina Ar. S** 76.78 319 *e*P P 03 06 12.3 +0.4
DRGR 78.26 318 P P 03 06 19.7 -0.5
DRGR 78.26 318 P P 03 06 19.7 -0.5
UZH **Uzhgorod** 78.89 319 *e*P P 03 06 23.2 -0.3
UZH *e* 03 06 30.4
KOLS **Kolonicke sedl** 78.96 320 *e*P P 03 06 25.2 +1.3
KOLS pmax pmax
comp=Z,11nm,1.5s
KOLS **Kolonicke sedl** 78.96 320 *e*P P 03 06 25.2 +1.3
APA **Apatity** 79.02 340 P P 03 06 35.0 +11
APA pmax pmax
comp=Z,5.0nm,1.1s
APA MLR MLR
comp=Z,200nm,18.0s
CRVS **Cervenica-Dubn** 79.48 320 *e*P P 03 06 29.0 +2.2
CRVS **Cervenica-Dubn** 79.48 320 *e*P P 03 06 28.9 +2.2
RPZ **Rata Peaks** 79.50 135 P P 03 06 27.0 +0.1
comp=Z,15nm,0.6s,baz=248,slow=3.8,SNR=17
STHS **Stebnicka Huta** 79.71 320 *e*P P 03 06 28.2 +0.2
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS **Stebnicka Huta** 79.71 320 *e*P P 03 06 28.2 +0.2
SYO **Syowa Base** 79.81 198 *e*P P 03 06 27.4 -0.6
SYO **Syowa Base** 79.81 198 *e*PcP PcP 03 06 35.5 -0.1
SYO **Syowa Base** 79.81 198 *e*pP pP 03 06 42.2 +3.2
FINES **FINESS Array B** 79.84 333 P P 03 06 27.7 -0.7
comp=Z,2.0nm,0.5s,baz=80,slow=4.8,SNR=16
FINES LR LR 03 46 03.2
comp=Z,77nm,19.7s,baz=66,slow=39
KECS **Kecovo** 80.05 319 *e*P P 03 06 30.4 +0.6
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS **Kecovo** 80.05 319 *e*P P 03 06 30.4 +0.6
OXZ **Oxford** 80.12 134 *e*P P 03 06 31.1 +0.8
comp=Z,97nm,1.7s
VYHS **Vyhne** 81.13 319 *e*P P 03 06 35.8 +0.2
VYHS pmax pmax
comp=Z,19nm,2.5s
VYHS **Vyhne** 81.13 319 *e*P P 03 06 35.8 +0.2
BILL **Bilibino** 81.38 21 *e*P P 03 06 35.7 -0.9
BILL pmax pmax
comp=Z,3.0nm,1.6s
BILL MLR MLR
comp=Z,383nm,15.0s
OKC **Ostrava-Krasne** 81.77 320 *e*S S 03 16 50.9 +1.3
ARCES **ARCESS Array B** 82.43 340 P P 03 06 42.0 0.0
comp=Z,2.6nm,0.5s,baz=99,slow=4.4,SNR=24
ARCES PP PP 03 09 54.5 +3.2
comp=Z,1.4nm,0.7s,baz=83,slow=7.6,SNR=3.2
ARCES LR LR 03 47 45.1
comp=Z,116nm,18.2s,baz=95,slow=39
DPC **Dobruska-Polom** 83.00 320 *e*P P 03 06 45.9 +0.4
DPC *e*pP pP 03 06 54.9 -1.6
DPC **Dobruska-Polom** 83.00 320 *e*P P 03 06 45.9 +0.4
DPC *e* 03 06 54.9
URZ **Urewera** 83.14 129 P P 03 06 45.4 -0.9
comp=Z,2.9nm,0.5s,baz=285,slow=20,SNR=2.8
UPC **Upice** 83.22 321 *e*S S 03 17 06.4 +2.0
TREC **Trest** 83.42 319 *e*S S 03 17 08.8 +2.2
GOPC **GO Pecny, Ondr** 83.94 320 *e*S S 03 17 11.6 -0.1
PRU **Pruhonice** 84.10 320 *e*S S 03 17 15.7 +2.4
GEA0 **GERESS Array S** 84.55 319 *e*P P 03 06 53.0 -0.5
GEC2 **GERESS Array S** 84.55 319 *e*P P 03 06 53.6 +0.1
GEC2 pmax pmax
comp=Z,9.0nm,1.3s
GEC2 **GERESS Array S** 84.55 319 *e*P P 03 06 53.6 +0.1
comp=Z,9.2nm,1.3s
GERES **GERESS Array B** 84.55 319 P P 03 06 52.8 -0.8
comp=Z,2.4nm,1.1s,baz=123,slow=4.9,SNR=15
BRG **Berggiesshubel** 84.56 321 *e*P P 03 06 54.1 +0.8
comp=Z,9.8nm,1.5s
BRG **Berggiesshubel** 84.56 321 *e*P P 03 06 54.1 +0.8
BRG pmax pmax
comp=Z,10.0nm,1.5s
CLL **Collm** 85.19 321 *e*(P) P 03 07 02.0 +5.5
CLL *e* 03 07 08.0
CLL LmV 03 53 00.0
comp=Z,100nm,19.8s
CLL **Collm** 85.19 321 *e*P P 03 07 02.0 +5.5
CLL *e* 03 07 08.0
VNDA **Vanda** 85.86 169 P P 03 06 59.0 -0.3
comp=Z,1.4nm,0.7s,baz=291,slow=5.1,SNR=14
VNDA **Vanda** 85.86 169 *e*P P 03 06 59.3 0.0
VNDA pmax pmax
comp=Z,10.0nm,1.4s
VNDA **Vanda** 85.86 169 *e*P P 03 06 59.2 0.0
comp=Z,10nm,1.4s
FUORN **Ofenpass-Fuorn** 86.75 316 *e*P P 03 07 05.9 +1.2
comp=Z,8.6nm,1.3s
NB2 **NORSAR Subarra** 86.83 331 P P 03 07 03.5 -0.9
comp=Z,2.6nm,0.8s,baz=92,slow=5.3
NOA **NORSAR Array B** 86.83 331 P P 03 07 03.6 -0.9
comp=Z,0.8nm,0.6s,baz=96,slow=5.3,SNR=4.7
NOA LR LR 03 50 13.8
comp=Z,55nm,19.9s,baz=80,slow=39
NOA **NORSAR Array B** 86.83 331 P P 03 07 03.6 -0.9
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA MLR MLR
comp=Z,55nm,19.9s
SBA **Scott Base** 86.96 169 *e*P P 03 07 06.1 +1.4
SBA pmax pmax
comp=Z,30nm,1.8s
SBA **Scott Base** 86.96 169 *e*P P 03 07 06.1 +1.4
comp=Z,30nm,1.8s
KEST **Kesra** 87.22 306 P P 03 07 07.7 +0.7
comp=Z,4.8nm,1.1s,baz=242,slow=9.5,SNR=3.8
TAM **Tamanrasset** 90.68 293 *e*P P 03 07 24.2 +0.5
TAM pmax pmax
comp=Z,4.0nm,1.1s
TAM **Tamanrasset** 90.68 293 *e*P P 03 07 24.2 +0.5
comp=Z,4.0nm,1.1s
QSPA **South Pole Qui** 91.08 180 *e*P P 03 07 24.2 -0.3
comp=Z,3.3nm,0.5s
SNAA **Sanae** 94.09 198 P P 03 07 39.3 +0.9
SNAA **Sanae** 94.09 198 *e*P P 03 07 39.2 +0.9
SNAA **Sanae** 94.09 198 *e*P P 03 07 39.2 +0.9
comp=Z,144nm,1.1s
TORD **Torodi Ar. Bea** 94.65 283 P P 03 07 41.4 -0.6
comp=Z,0.7nm,0.6s,baz=87,slow=5.4,SNR=15
TORD PP PP 03 11 34.5 +4.0
comp=Z,0.8nm,1.0s,baz=82,slow=11,SNR=4.0
TORD LR LR 03 49 37.8
comp=Z,77nm,18.2s,baz=90,slow=35
ILAR **Eielson Array** 99.93 23 P Pdif 03 08 03.5 -1.3
comp=Z,0.1nm,0.5s,baz=323,slow=30,SNR=3.1
ILAR PP PP 03 12 10.4 +0.8
comp=Z,0.5nm,0.8s,baz=283,slow=8.2,SNR=4.9
ILAR PKKPbc PKKPbc 03 24 23.4 -3.3
comp=Z,0.5nm,0.5s,baz=137,slow=2.6,SNR=16
ILAR LR LR 03 59 11.6
comp=Z,80nm,18.4s,baz=324,slow=39
YKA **Yellowknife Ar** 112.27 15 PKKPbc PKKPbc 03 23 45.7 -2.9
comp=Z,0.4nm,0.5s,baz=138,slow=3.2,SNR=7.2
SCHQ **Schefferville** 122.59 349 PKP PKPdf 03 13 15.2 -0.5
comp=Z,1.5nm,0.7s,baz=192,slow=4.1,SNR=3.6
NVAR **Mina Array Bea** 129.10 36 PKP PKPdf 03 13 27.5 -1.4
comp=Z,0.5nm,0.5s,baz=350,slow=4.6,SNR=3.8
PDAR **Pinedale Array** 130.29 25 PKP PKPdf 03 13 30.7 -0.3
comp=Z,0.4nm,0.4s,baz=216,slow=4.8,SNR=4.1
R11A **Troy Canyon, C** 130.70 34 *e*PKPdf PKPdf 03 13 33.2 +1.3
MIAR **Mount Ida** 143.21 14 *e*PKIKP PKPbc 03 13 51.9 +0.2
MIAR **Mount Ida** 143.21 14 *e*PKPdf PKPbc 03 13 51.9 +0.2
PLAL **Pickwick Lake** 143.78 7 *e*PKPdf PKPbc 03 13 53.0 -0.3
TX31 **Lajitas Ar. Si** 143.96 31 *e*PKPdf PKPbc 03 13 54.4 +0.2
TXAR **Lajitas Array** 143.96 31 PKP PKPbc 03 13 54.5 +0.3
comp=Z,1.2nm,0.5s,baz=200,slow=1.3,SNR=30
CPUP **Villa Florida** 144.65 223 PKP PKPbc 03 13 56.3 0.0
comp=Z,13nm,0.8s,baz=109,slow=2.1,SNR=26
HPIG 144.72 36 *e*PKPdf PKPbc 03 13 57.1 +0.3
JCT **Junction City** 144.83 25 *e*PKIKP PKPbc 03 13 57.0 +0.2
JCT **Junction City** 144.83 25 *e*PKPdf PKPbc 03 13 57.0 +0.2

GOGA	**Godfrey**	**145.63**	**0**	*e*PKP2	**PKPdf**	**03 13 58.9**	**-0.1**
GOGA	**Godfrey**	**145.63**	**0**	*e*PKPdf	**PKPdf**	**03 13 58.9**	**-0.1**
LRAL	**Lakeview Retre**	**145.82**	**6**	*e*PKPdf	**PKPdf**	**03 13 59.2**	**-0.1**
LVC	**Limon Verde**	**154.50 212**		PKPbc	**PKPbc**	**03 14 22.1**	**0.0**
	comp=Z,11nm,0.6s,baz=79,slow=5.2,SNR=6.3						
SAML	**Samuel**	**158.56 248**		*e*PKPab	**PKPab**	**03 14 53.6**	**-0.1**
LPAZ	**La Paz**	**158.81 224**		PKP	**PKPdf**	**03 14 18.8**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=210,slow=2.6,SNR=5.0						
LPAZ				PKPab	**PKPab**	**03 14 54.9**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=85,slow=5.9,SNR=5.5						

*ISCJB **07** 02:57:28.3±0.6,45°.37N±0°.05×148°.77E±0°.09, h138km±6km, mb3.6/6, Error ellipse: s-maj=10.3km s-min=7.0km az=21.6*

*SKHL **07** 02:57:28.8±0.5,45°.27N×148°.88E, h143km±7km, mb4.9/5, msh5.5/3*

*MOS **07** 02:57:28.4±1.2,45°.43N×148°.74E, h138km, mb4.2/2, Error ellipse: s-maj=14.9km s-min=11.3km az=69.0*

*IDC **07** 02:57:29.3±0.8,45°.48N×148°.83E, h131km±8km, mb3.2/5, mb1 3.6/10, mb1mx3.4/44, mbtmp3.9/10, Error ellipse: s-maj=27.0km s-min=10.9km az=153.0*

*JMA **07** 02:57:31.3±0.6,45°.04N×148°.76E, h137km, M3.9*

ISC 07 02:57:29.0±0.6, 45°.39N±0°.06×148°.82E±0°.07, h130km±5km, n73, σ1§59/79, mb3.5/6, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.69**	**258**	*c i* PN	**Pn**	**02 57 49.3**	**+0.1**
KUR				*i* S	**Sn**	**02 58 05.0**	**+0.4**
KUR	comp=E,49nm,0.4s			pmax	pmax		
KUR	comp=Z,303nm,0.4s			pmax	pmax		
KUR	comp=N,103nm,0.3s			pmax	pmax		
KUR	comp=N,389nm,0.8s			smax	smax		
KUR	comp=E,246nm,0.8s			smax	smax		
KUR	**Kuril'sk**	**0.69**	**258**	*e*P	**Pn**	**02 57 49.3**	**+0.1**
KUR	comp=E,340nm,0.5s			AMB	AMB	02 57 53.8	
KUR				*e*S	**Sn**	**02 58 04.9**	**+0.4**
KUR	comp=E,780nm,0.7s			A	A	02 58 09.0	
KUR	comp=E,650nm,0.7s			A	A	02 58 09.0	
SHO	**Shikotan**	**2.08**	**224**	*c i* PN	**Pn**	**02 58 03.8**	**-0.1**
SHO				*i* S	**Sn**	**02 58 29.7**	**-0.9**
SHO	comp=Z,184nm,0.5s			pmax	pmax		
SHO	comp=E,57nm,0.3s			pmax	pmax		
SHO	comp=N,52nm,0.2s			pmax	pmax		
SHO	comp=E,867nm,0.5s			smax	smax		
SHO	comp=N,560nm,0.4s			smax	smax		
SHO	**Shikotan**	**2.08**	**224**	*e*P	**Pn**	**02 58 03.8**	**-0.1**
SHO	comp=N,117nm,0.3s			AMB	AMB	02 58 05.1	
SHO	comp=N,141nm,0.2s			*e*S	**Sn**	**02 58 29.6**	**-1.0**
SHO	comp=Z,232nm,0.2s			A	A	02 58 35.8	
SHO	comp=E,106nm,0.1s			pmax	pmax		
SHO	comp=N,439nm,0.4s			smax	smax		
SHO	comp=E,427nm,0.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**2.50**	**238**	*c i* PN	**Pn**	**02 58 10.5**	**+1.3**
YUK				*i* S	**Sn**	**02 58 42.8**	**+2.7**
YUK	comp=N,141nm,0.2s			pmax	pmax		
YUK	comp=Z,232nm,0.2s			pmax	pmax		
YUK	comp=E,106nm,0.1s			pmax	pmax		
YUK	comp=N,439nm,0.4s			smax	smax		
YUK	comp=E,427nm,0.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**2.50**	**238**	*e*P	**Pn**	**02 58 10.5**	**+1.3**
YUK	comp=E,141nm,0.5s			AMB	AMB	02 58 14.0	
YUK	comp=E,106nm,0.5s			AMB	AMB	02 58 14.0	
YUK	comp=E,233nm,0.5s			AMB	AMB	02 58 14.0	
YUK				*e*S	**Sn**	**02 58 42.0**	**+1.9**
YUK	comp=E,430nm,0.4s			A	A	02 58 51.2	
YUK	comp=E,440nm,0.4s			A	A	02 58 51.2	
NEM2	**Nemuro 2**	**2.99**	**229**	P	**Pn**	**02 58 15.1**	**-0.4**
NEM2				*e*S	**Sn**	**02 58 48.8**	**-2.5**
JRA	**Rausu**	**3.01**	**243**	P	**Pn**	**02 58 16.7**	**+1.0**
JNA	**Nakash**	**3.44**	**240**	P	**Pn**	**02 58 22.4**	**+1.0**
JTKR	**Abashiri--Toko**	**3.78**	**250**	P	**Pn**	**02 58 26.4**	**+0.6**
JAK	**Akkeshi**	**3.81**	**233**	P	**Pn**	**02 58 25.9**	**-0.3**
JMP	**Maruseppu**	**4.13**	**252**	P	**Pn**	**02 58 31.4**	**+0.9**
JAR	**Ashorobuto**	**4.18**	**242**	P	**Pn**	**02 58 32.3**	**+1.1**
JOB	**Onbets**	**4.36**	**237**	P	**Pn**	**02 58 34.1**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.50**	**293**	*e*PN	Pn	02 58 43.0	+7.7
YSS	**Yuzh-Sakhalins**	**4.50**	**293**	*e*P	**Pn**	**02 58 37.6**	**+2.3**
HRK	**Horoka**	**4.51**	**247**	*e*P	**Pn**	**02 58 37.0**	**+1.5**
JKK2	**Kamakawa 2**	**4.59**	**253**	P	**Pn**	**02 58 37.8**	**+1.2**
JKA	**Kamikawa-asahi**	**4.61**	**256**	*e*P	**Pn**	**02 58 38.5**	**+1.7**
ASAJ	**Asahikawa**	**4.61**	**256**	P	**Pn**	**02 58 38.5**	**+1.6**
ASAJ	comp=E,6.8nm,0.3s,baz=79,slow=15,SNR=68			S	**Sn**	**02 59 32.1**	**+2.6**
	comp=E,1.0nm,0.3s,baz=207,slow=14,SNR=7.0						
ASAJ	**Asahikawa**	**4.61**	**256**	P	**Pn**	**02 58 38.4**	**+1.6**
JCH	**Churui**	**4.81**	**237**	P	**Pn**	**02 58 39.3**	**-0.3**
JCH				*e*S	**Sn**	**02 59 32.1**	**-2.3**
JFR	**Furan**	**4.99**	**246**	P	**Pn**	**02 58 44.3**	**+2.3**
MYR	**Moyori**	**5.06**	**234**	*e*P	**Pn**	**02 58 42.3**	**-0.6**
JEM	**Erimo**	**5.31**	**233**	P	**Pn**	**02 58 46.1**	**-0.1**
ERM	**Erimo**	**5.31**	**233**	*i* PN	**Pn**	**02 58 46.2**	**0.0**
ERM	**Erimo**	**5.31**	**233**	*e*P	**Pn**	**02 58 46.2**	**0.0**
JBT2	**Biratori 2**	**5.33**	**243**	P	**Pn**	**02 58 46.5**	**0.0**
JNBK	**Urakawa-nobuka**	**5.38**	**237**	P	**Pn**	**02 58 46.0**	**-1.1**
JNBK				*e*S	**Sn**	**02 59 43.8**	**-4.1**
UGL	**Uglegorsk**	**5.90**	**311**	*e*PN	**Pn**	**02 58 52.2**	**-1.8**
UGL				*e*S	**Sn**	**02 59 58.7**	**-1.7**
UGL	**Uglegorsk**	**5.90**	**311**	*e*P	**Pn**	**02 58 55.4**	**+1.4**
UGL	comp=E,73nm,0.5s			AMB	AMB	02 58 57.1	
JNB	**Noboribetsu**	**6.33**	**245**	P	**Pn**	**02 58 59.5**	**-0.4**
JKB	**Kayabe**	**6.64**	**241**	P	**Pn**	**02 59 02.8**	**-1.3**
TYV	**Tymovskoe**	**6.86**	**325**	*e*PN	**Pn**	**02 59 09.2**	**+2.3**
TYV	**Tymovskoe**	**6.86**	**325**	*e*P	**Pn**	**02 59 09.2**	**+2.3**
JSH	**Shimam**	**6.89**	**250**	P	**Pn**	**02 59 08.0**	**+0.5**
JYM2	**Yakumo 2**	**6.94**	**245**	P	**Pn**	**02 59 07.5**	**-0.6**
JSR	**Shiriuchi**	**7.23**	**241**	P	**Pn**	**02 59 10.3**	**-1.7**
JTM	**Tenmabayashi**	**7.30**	**234**	P	**Pn**	**02 59 10.7**	**-2.3**
JANG	**Nango**	**7.34**	**230**	P	**Pn**	**02 59 10.4**	**-3.1**
JOSM	**Okushiri--Mats**	**7.53**	**247**	P	**Pn**	**02 59 15.3**	**-0.8**
JRG	**Rokugo**	**8.51**	**228**	P	**Pn**	**02 59 27.2**	**-2.1**
PETK	**Petropavlovsk-** comp=E,0.9nm,0.3s,baz=184,slow=10,SNR=14	**9.66**	**34**	P	**Pn**	**02 59 44.0**	**-0.6**
MJA0	**Matsu Arr-Jizo**	**11.90**	**226**	*e*PN	**P**	**03 00 26.9**	**+4.7**
MJAR	**Matsushiro Arr**	**11.92**	**226**	*e*PN	**P**	**03 00 26.9**	**+4.5**
USRK	**Usuriysk Ar.** comp=E,0.8nm,0.3s,baz=85,slow=12,SNR=10	**12.02**	**270**	P	**Pn**	**03 00 15.8**	**-0.2**
KLR	**Kul'dur** comp=E,0.1nm,0.3s,baz=99,slow=16,SNR=7.3	**12.21**	**294**	P	**Pn**	**03 00 18.1**	**-0.3**
KLR	**Kul'dur**	**12.21**	**294**	*e*P	**Pn**	**03 00 18.9**	**+0.4**
EKMR	**Ekimchan**	**12.89**	**312**	*e*P	**Pn**	**03 00 26.1**	**-1.3**
KROS	**Kirovskiy**	**16.67**	**311**	*e*P	**Pn**	**03 01 12.6**	**-2.2**
KROS	comp=E,7.0nm,0.8s			AMB	AMB	03 01 14.1	
KSRS	**Korea Array** comp=E,0.3nm,0.3s,baz=57,slow=12,SNR=16	**17.53**	**250**	P	**P**	**03 01 23.8**	**-0.6**
KSRS	**Korea Array**	**17.53**	**250**	*e*P	**P**	**03 01 23.7**	**-0.8**
KSRS	**Korea Array**	**17.53**	**250**	*e*P	**P**	**03 01 23.7**	**-0.8**
YAK	**Yakutsk**	**20.02**	**333**	*e*P	**P**	**03 01 50.2**	**-1.1**
YAK	**Yakutsk**	**20.02**	**333**	*e*P	Pn	03 01 54.0	-0.3
H11N2	**WAKE ISLAND Hy** baz=332	**29.64**	**144**	T	T	03 34 32.7	
H11N1	**WAKE ISLAND Hy** baz=332	**29.65**	**144**	T	T	03 34 38.4	
H11N3	**WAKE ISLAND Hy** baz=332	**29.65**	**144**	T	T	03 34 33.0	
TLY	**Talaya**	**30.18**	**299**	*e*P	**P**	**03 03 25.3**	**-1.4**
TLY	comp=Z,9.0nm,0.7s			pmax	pmax		
TLY	comp=Z,334nm,12.0s			MLR	MLR		
TLY	**Talaya**	**30.18**	**299**	*e*P	**P**	**03 03 25.3**	**-1.4**
TLY				*e*		03 04 46.5	
TLY				*e*PPP	PPP	03 06 29.1	
TLY	comp=Z,9.0nm,0.7s			pmax	pmax		
TLY	**Talaya**	**30.18**	**299**	*e*P	**P**	**03 03 25.3**	**-1.4**
H11S1	**WAKE ISLAND Hy** baz=335,slow=76,SNR=63	**30.65**	**145**	T	T	03 35 50.0	
H11S3	**WAKE ISLAND Hy** baz=335,slow=76,SNR=60	**30.66**	**145**	T	T	03 35 52.2	
H11S2	**WAKE ISLAND Hy** baz=335,slow=76,SNR=48	**30.67**	**145**	T	T	03 35 57.0	
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,baz=266,slow=6.6,SNR=5.6	**39.46**	**37**	P	**P**	**03 04 45.4**	**-0.7**
ILAR				pP	**pP**	**03 05 15.2**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=267,slow=7.0,SNR=2.3						
ILAR	**Eielson Array**	**39.46**	**37**	*e*P	**P**	**03 04 47.5**	**+1.3**
ILAR	**Eielson Array**	**39.46**	**37**	*e*P	**P**	**03 04 47.5**	**+1.3**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.5s,baz=304,slow=8.2,SNR=4.9	**65.71**	**59**	P	**P**	**03 08 00.3**	**+0.4**
NVAR				pP	**pP**	**03 08 31.0**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=284,slow=4.5,SNR=2.5						
WRA	**Warramunga Arr** comp=Z,0.4nm,0.5s,baz=8.7,slow=6.6,SNR=7.2	**66.34**	**195**	P	**P**	**03 08 03.9**	**+0.2**
ASAR	**Alice Springs** comp=Z,0.3nm,0.4s,baz=8.1,slow=6.2,SNR=4.8	**70.05**	**195**	P	**P**	**03 08 28.4**	**+1.6**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.5s,baz=293,slow=4.1,SNR=8.0	**80.76**	**58**	P	**P**	**03 09 28.5**	**+0.3**
TXAR				pP	**pP**	**03 10 00.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=293,slow=4.6,SNR=5.1						
TXAR	**Lajitas Array**	**80.76**	**58**	P	**P**	**03 09 28.5**	**+0.3**
TXAR				*PP	**pP**	**03 10 00.3**	**-0.5**
TXAR	comp=Z,1.0nm,0.8s			pmax	pmax		
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.9s,baz=48,slow=2.1,SNR=2.5	**114.59**	**324**	PKP	PKPdf	03 15 52.1	-2.0

DJA 07 03:05:19.3±1.3, 1°.1N±5°.3×9°.7E±°, h19km±9km, M3.5/8, MLv3.5/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.76**	**95**	P	Pb	03 05 33.5	-0.4
GSI				S	Sg	03 05 44.7	+0.4
TPTI		**1.91**	**11**	P	Pn	03 05 50.2	-0.7
TPTI				S	Sn	03 06 15.4	+1.0
KCSI	**Kotacane, Aceh**	**2.34**	**24**	P	Pn	03 05 56.8	0.0
MNSI	**Mandailing Nat**	**2.82**	**102**	P	Pn	03 06 01.2	-2.1
MLSI	**Meulaboh, Aceh**	**2.91**	**352**	P	Pn	03 06 04.9	+0.3
MLSI				S	Sn	03 06 40.8	+1.8
PPI	**Padang Panjang**	**4.01**	**117**	P	Pn	03 06 20.7	+0.9

*ISK **07** 03:15:18.4, 39°.13N×29°.00E, h8km, MD2.7*

*ISCJB **07** 03:15:19.2±0.6, 39°.15N±0°.04×28°.99E±0°.04, h11km±6km, Error ellipse: s-maj=6.8km s-min=4.9km az=138.3*

*CSEM **07** 03:15:19.3±0.1, 39°.15N×28°.99E, h10km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.8km az=116.0*

*DDA **07** 03:15:20.0, 39°.09N×29°.02E, h7km, Md2.6*

ISC 07 03:15:19.6±0.9, 39°.14N±0°.04×29°.00E±0°.03, h17km±8km, n18, σ0§61/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**246**	P	**Pg**	**03 15 25.2**	**+0.1**
DEMI				S	**Sg**	**03 15 28.7**	**-0.1**
DEMI	**Demirci**	**0.24**	**246**	*i* P	**Pg**	**03 15 25.2**	**+0.1**
DEMI				*i* S	**Sg**	**03 15 28.7**	**-0.1**
GDZ	**Gediz**	**0.38**	**98**	P	**Pg**	**03 15 27.5**	**0.0**
GDZ				S	**Sg**	**03 15 32.9**	**+0.1**
GDZ	**Gediz**	**0.38**	**98**	*i* P	**Pg**	**03 15 27.5**	**0.0**
GDZ				*i* S	**Sg**	**03 15 32.9**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**49**	*e*PG	**Pg**	**03 15 28.1**	**-1.1**
TVSB				*e*SG	**Sg**	**03 15 35.2**	**-0.4**
TVSB	**Tavsanli**	**0.47**	**49**	*e*Pg	**Pg**	**03 15 28.1**	**-1.1**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*PG	**Pg**	**03 15 31.9**	**-1.0**
KULA				*e*SG	**Sg**	**03 15 41.6**	**-0.4**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*Pg	**Pg**	**03 15 31.9**	**-1.0**
KULA				*e*Sg	**Sg**	**03 15 41.6**	**-0.4**
KHAL	**Karahalli**	**0.86**	**153**	P	**Pb**	**03 15 36.6**	**+0.4**
KHAL				S	**Sg**	**03 15 47.1**	**-0.6**
KHAL	**Karahalli**	**0.86**	**153**	*i* P	**Pb**	**03 15 36.6**	**+0.4**
KHAL				*i* S	**Sg**	**03 15 47.1**	**-0.6**
BALB	**Balikesir**	**1.00**	**300**	*e*PG	**Pg**	**03 15 38.3**	**-0.6**
BALB	**Balikesir**	**1.00**	**300**	*e*Pg	**Pg**	**03 15 38.3**	**-0.6**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*PN	**Pn**	**03 15 42.7**	**+0.4**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*Pn	**Pn**	**03 15 42.7**	**+0.4**
ARMT	**Armutlu**	**1.43**	**356**	*e*PN	**Pn**	**03 15 45.3**	**+0.5**
ARMT	**Armutlu**	**1.43**	**356**	*e*Pn	**Pn**	**03 15 45.3**	**+0.5**
GULT	**Gulveren**	**1.74**	**42**	*e*PN	**Pn**	**03 15 49.7**	**+0.5**
GULT	**Gulveren**	**1.74**	**42**	*e*Pn	**Pn**	**03 15 49.7**	**+0.5**

WEL 07 03:16:14.5±0.6, 37°.65S×179°.91W, h33km, ML3.7/4, 1C, Error ellipse: s-maj=6.2km s-min=3.5km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.34**	**262**	PN	Pn	03 16 36.1	-0.7
WMGZ				SN	Sn	03 16 53.1	-0.4
MXZ	**Matakaoa Point**	**1.42**	**273**	PN	Pn	03 16 37.5	-0.5
MXZ				SN	Sn	03 16 53.9	-1.6
MXZ				AML	AML	03 17 02.3	
MXZ				AML	AML	03 17 05.3	
PUZ	**Puketiti**	**1.51**	**253**	PN	Pn	03 16 38.5	-0.8
PUZ				SN	Sn	03 16 57.3	-0.5
PUZ				AML	AML	03 16 58.0	
PKGZ	**Pakihiroa**	**1.61**	**261**	⇑PN	Pn	03 16 39.7	-1.0
CNGZ	**Carnagh Statio**	**1.70**	**240**	PN	Pn	03 16 41.6	-0.3
TWGZ	**Tauwhareparae**	**1.75**	**252**	PN	Pn	03 16 41.9	-0.6
HAZ	**Te Kaha**	**1.83**	**266**	PN	Pn	03 16 43.0	-0.6
RIGZ	**Rimuhau**	**2.12**	**239**	PN	Pn	03 16 46.7	-0.8
MWZ	**Matawai**	**2.14**	**251**	PN	Pn	03 16 46.8	-1.1
MWZ				AML	AML	03 17 12.9	
MWZ				AML	AML	03 17 12.9	
MWZ				AML	AML	03 17 13.0	
PRGZ	**Paritu Road**	**2.15**	**233**	PN	Pn	03 16 47.4	-0.7
MHGZ	**Mahia Peninsul**	**2.28**	**228**	PN	Pn	03 16 48.5	-1.3
KNZ	**Kokohu**	**2.34**	**234**	PN	Pn	03 16 49.3	-1.4
KNZ				SN	Sn	03 17 16.5	-1.7
URZ	**Urewera**	**2.43**	**255**	PN	Pn	03 16 51.9	0.0
URZ				AML	AML	03 17 20.3	
URZ				AML	AML	03 17 20.9	
RTZ	**Ruatahuna**	**2.63**	**248**	PN	Pn	03 16 54.5	-0.2
MUGZ	**Murupara**	**2.75**	**252**	PN	Pn	03 16 55.0	-1.3
TARZ	**Mount Tarawera**	**2.89**	**257**	PN	Pn	03 16 57.8	-0.5
ARHZ	**Aropaoanui**	**2.91**	**236**	PN	Pn	03 16 58.2	-0.3
BKZ	**Black Stump Fm**	**3.21**	**241**	PN	Pn	03 17 02.0	-0.6
KAHZ	**Kahuranaki**	**3.30**	**229**	PN	Pn	03 17 02.5	-1.4
KWHZ	**Kaweka Forest**	**3.38**	**237**	PN	Pn	03 17 03.7	-1.3
PXZ	**Pawanui**	**3.46**	**226**	*e*PN	Pn	03 17 03.6	-2.5
PXZ				SN	Sn	03 17 41.9	-4.0
PRHZ	**Porangahau**	**3.75**	**225**	PN	Pn	03 17 07.7	-2.4
PNHZ	**Pukenui**	**3.79**	**232**	*e*PN	Pn	03 17 08.5	-2.1
OTVZ	**Oturere**	**3.79**	**245**	PN	Pn	03 17 08.2	-2.9
MRZ	**Mangatainoka R**	**4.62**	**228**	PN	Pn	03 17 19.0	-3.0

SJA 07 03:16:56.7±0.4, 24°.18S×66°.95W, h246km±16km, ML2.6, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.72**	**92**	*i* P	Pn	03 17 37.2	+0.6
AZAP				IAML		03 17 38.0	
AZAP	comp=Z,66nm,0.3s			*i* S	S	03 18 07.0	-1.0
FSA	**Cafayete**	**2.12**	**156**	*i* P	Pn	03 17 40.6	+0.5
YJA	**Yavi**	**2.39**	**34**	*i* P	Pn	03 17 43.9	+0.7
YJA				IAML		03 17 45.2	
YJA	comp=Z,5.3nm,0.3s			*i* S	S	03 18 19.0	-0.6

*IDC **07** 03:27:33.6±0.5, 1°.06N×96°.61E, h0km, mb4.3/23, mb1 4.4/24, mb1mx4.3/36, mbtmp4.2/24, ML4.5/1, MS3.6/5, Ms1 3.6/5, ms1mx3.0/44, Error ellipse: s-maj=18.7km s-min=12.2km az=59.0*

*ISCJB **07** 03:27:36.5±1.4, 1°.11N±0°.03×96°.77E±0°.05, h29km±10km, mb4.4/39, MS4.0/3, Error ellipse: s-maj=7.9km s-min=5.0km az=160.1*

*DJA **07** 03:27:36.8±1.5, 1°.1N±3°.×9°.7E±°, h34km±17km, M4.7/18, mb5.0/8, mB5.3/3, MLv4.6/2, MLv4.8/18, Mw(mB)4.7/3*

*NEIC **07** 03:27:37.2±2.6, 1°.08N×96°.75E, h24km±18km, mb4.5/16, Error ellipse: s-maj=11.1km s-min=5.3km az=60.0*

*KLM **07** 03:27:38.7, 1°.09N×96°.70E, h43km, mb4.7, ML4.6, MS5.6*

*BJI **07** 03:27:38.5, 0°.91N×96°.85E, h60km, mb4.5/33, mB4.8/15, Ms4.3/15, Ms7 4.1/12*

ISC 07 03:27:40.5±0.9, 1°.11N±0°.05×96°.80E±0°.06, h48km±7km, n124, σ1§85/123, mb4.4/39, MS4.1/3, 4C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.80**	**76**	P	**Pn**	**03 27 53.9**	**-1.6**
GSI	**Gunungsitoli**	**0.80**	**76**	*e*Pn	**Pn**	**03 27 53.8**	**-1.7**
GSI				*e*Sn	**Sn**	**03 28 00.5**	**-5.9**
TPTI		**2.17**	**10**	P	**Pn**	**03 28 10.0**	**-4.1**
TPTI				S	**Sn**	**03 28 37.5**	**-2.3**
KCSI	**Kotacane, Aceh**	**2.58**	**22**	P	**Pn**	**03 28 17.8**	**-2.0**
KCSI				S	**Sn**	**03 28 49.1**	**-0.9**
PSI	**Prapat**	**2.71**	**52**	*e*Pn	**Pn**	**03 28 19.3**	**-2.3**
MNSI	**Mandailing Nat**	**2.80**	**96**	P	**Pn**	**03 28 22.2**	**-0.6**
TSI	**Tuntungan**	**2.96**	**37**	P	**Pn**	**03 28 23.4**	**-1.5**
MLSI	**Meulaboh, Aceh**	**3.16**	**353**	P	**Pn**	**03 28 23.7**	**-4.0**
MLSI				S	**Sn**	**03 29 01.2**	**-3.0**
PPI	**Padang Panjang**	**3.92**	**113**	P	**Pn**	**03 28 37.7**	**-0.5**
LHMI	**Lhok Sumawe**	**4.09**	**2**	P	**Pn**	**03 28 37.3**	**-3.2**
LHMI	**Lhok Sumawe**	**4.09**	**2**	*e*Pn	**Pn**	**03 28 37.5**	**-3.1**
PDSI	**Padang**	**4.18**	**119**	P	**Pn**	**03 28 37.5**	**-4.3**
BKNI	**Bangkinang**	**4.31**	**100**	P	**Pn**	**03 28 43.3**	**-0.3**
BKNI	**Bangkinang**	**4.31**	**100**	*e*Pn	**Pn**	**03 28 43.2**	**-0.3**
FRIM	**Kepong**	**5.26**	**66**	⇑P	**Pn**	**03 28 56.5**	**-0.1**
IPM	**Ipoh**	**5.39**	**52**	⇑P	**Pn**	**03 28 58.2**	**-0.1**
IPM	**Ipoh**	**5.39**	**52**	*e*Pn	**Pn**	**03 28 57.6**	**-0.7**
KULM	**Kulim**	**5.66**	**43**	⇓P	**Pn**	**03 29 01.0**	**-1.1**
KULM	**Kulim**	**5.66**	**43**	*e*Pn	**Pn**	**03 29 00.3**	**-1.7**
KGM	**Kluang**	**6.58**	**82**	⇓P	**Pn**	**03 29 14.2**	**-0.5**
MYKOM	**Kota Tinggi**	**7.08**	**84**	⇑P	**Pn**	**03 29 20.9**	**-0.7**
MYKOM	**Kota Tinggi**	**7.08**	**84**	*e*Pn	**Pn**	**03 29 21.0**	**-0.7**
SKLT	**Songkhla** 44nm,0.8s	**7.12**	**32**	P	**Pn**	**03 29 21.1**	**-1.0**
KSI	**Kapahiang** 220nm,0.7s,0.8nm	**7.48**	**129**	P	**Pn**	**03 29 26.4**	**-0.7**
KTGM	**Kuala Trenggan**	**7.58**	**56**	⇓P	**Pn**	**03 29 27.6**	**-0.9**
MNAI	**Manna**	**8.21**	**132**	P	**Pn**	**03 29 35.9**	**-1.2**
MNAI	**Manna**	**8.21**	**132**	*e*Pn	**Pn**	**03 29 34.3**	**-2.8**
MNAI				*e*Sn	**Sn**	**03 31 02.9**	**-5.7**
LWLI	**Liwa**	**9.47**	**130**	P	Pn	03 29 49.0	-5.4
SRAK	**Srakaew** 63nm,0.7s,535nm	**13.83**	**22**	P	**P**	**03 31 04.3**	**+3.3**
SBUM	**Sibu** 15nm,1.0s	**15.47**	**85**	*e*Pn	**Pn**	**03 31 12.7**	**-2.9**
CHAI	**Chaiyaphum** 5.4nm,0.9s	**15.56**	**19**	P	**P**	**03 31 24.8**	**+4.5**
PBKT	**Sadao Pong**	**15.90**	**15**	P	**P**	**03 31 23.6**	**-0.4**
SUKH	**Sukhothai**	**16.50**	**10**	P	**P**	**03 31 31.6**	**+0.9**
PALK	**Pallekele** comp=Z,48nm,21.1s,baz=116,slow=34	**17.17**	**291**	LR	LR	03 37 14.2	
SKNT	**Sakolnakorn** 19nm,1.1s	**17.27**	**24**	P	**P**	**03 31 42.8**	**+3.5**
CM01	**Chiang Mai Arr**	**17.33**	**7**	*e*Pn	**Pn**	**03 31 37.9**	**-1.1**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=199,slow=12,SNR=14	**17.36**	**7**	P	**Pn**	**03 31 39.6**	**+0.1**
CMAR	comp=Z,141nm,21.8s,baz=200,slow=38			LR	LR	03 38 36.6	
SDKM	**Sandakan**	**20.85**	**77**	⇑P	**P**	**03 32 18.6**	**0.0**
QIZ	**Qiongzhong**	**21.92**	**35**	P	**P**	**03 32 28.9**	**-1.0**
QIZ				pP	**pP**	**03 32 40.2**	**-1.1**
QIZ				sP	**sP**	**03 32 51.4**	**+4.1**
QIZ				S	**S**	**03 36 27.4**	**-2.2**
QIZ	18nm,1.4s			PMZ			
QIZ	200nm,11.7s			PMZ			
QIZ	200nm,12.1s			LN			
QIZ	320nm,14.5s			LE			
QIZ	260nm,13.2s			LZ			
MYLDM	**Lahad Datu**	**22.04**	**79**	⇓P	**P**	**03 32 29.7**	**-1.5**
MYLDM	**Lahad Datu** 43nm,1.1s	**22.04**	**79**	*e*P	**P**	**03 32 32.7**	**+1.4**
KMI	**Kunming**	**24.55**	**13**	P	P	03 33 05.9	+10
H08S2	**Diego Garcia H** baz=70,slow=75,SNR=692	**25.76**	**250**	T	T	03 59 42.1	
H08S3	**Diego Garcia H** baz=70,slow=75,SNR=575	**25.76**	**250**	T	T	03 59 59.1	
H08S1	**Diego Carcia H** baz=70,slow=75,SNR=965	**25.77**	**250**	T	T	03 59 45.0	
H08N1	**Diego Carcia H** baz=213,slow=15,SNR=11	**26.78**	**254**	T	T	04 01 56.3	
H08N2	**Diego Garcia H** baz=213,slow=15,SNR=14	**26.79**	**254**	T	T	04 01 56.3	
H08N3	**Diego Garcia H** baz=213,slow=15,SNR=13	**26.80**	**254**	T	T	04 01 56.3	
GYA	**Guiyang** 10.0nm,1.0s	**26.93**	**20**	*e*P	**P**	**03 33 18.2**	**+0.7**
GYA				PMZ			
GUN	**Gumba** 31nm,

KSH				LN				
	160nm,10.1s							
KSH				LE				
	140nm,11.8s							
WMQ	**Urumqi**	**43.29**	**350**	P	**P**	**03 35 39.4**	**+1.8**
WMQ				pP	sP	03 35 53.6	-2.6
WMQ				sP	pP	03 36 00.2	+10
WMQ				PMZ			
	7.0nm,1.2s						
WMQ				PMZ			
	30nm,3.6s						
ASAR	**Alice Springs**	**43.66**	**127**	P	**P**	**03 35 41.5**	**+0.6**
	2.5nm,0.7s,baz=309,slow=8.0,SNR=20						
ASAR				PcP	**PcP**	**03 37 26.9**	**-0.6**
	1.1nm,0.9s,baz=311,slow=3.7,SNR=4.4						
AS01	**Alice Springs**	**43.70**	**127**	*eP*	**P**	**03 35 41.1**	**0.0**
TKM2	**Tokmak 2**	**45.75**	**338**	*eP*	**P**	**03 35 57.8**	**+0.4**
	6.0nm,1.0s						
AAK	**Ala-Archa**	**45.92**	**337**	*eP*	**P**	**03 35 59.7**	**+1.0**
	0.5nm,0.3s						
KSAR	**Wonju Array Be**	**46.12**	**35**	P	**P**	**03 36 00.6**	**+0.5**
KS01	**Wonju Array Si**	**46.15**	**35**	*eP*	**P**	**03 35 59.2**	**-1.1**
KSRS	**Korea Array**	**46.15**	**35**	P	**P**	**03 36 00.6**	**+0.3**
	4.2nm,0.8s,baz=225,slow=8.5,SNR=21						
EKS2	**Erkin-Say**	**46.23**	**336**	*eP*	**P**	**03 36 00.6**	**-0.5**
	4.4nm,0.8s						
MK01	**Makanchi Array**	**47.21**	**346**	*eP*	**P**	**03 36 07.7**	**-0.8**
MK31	**Makanchi Array**	**47.23**	**346**	*eP*	**P**	**03 36 09.2**	**+0.5**
MKAR	**Makanchi Array**	**47.23**	**346**	P	**P**	**03 36 09.2**	**+0.5**
	4.8nm,0.7s,baz=162,slow=8.1,SNR=47						
SONM	**Songino Array**	**47.28**	**9**	P	**P**	**03 36 09.8**	**+0.6**
	1.2nm,0.7s,baz=193,slow=6.1,SNR=5.7						
SONM				PcP	**PcP**	**03 37 40.4**	**+0.7**
	2.3nm,0.9s,baz=192,slow=3.0,SNR=2.9						
SONA1	**Songino Array**	**47.29**	**9**	*eP*	**P**	**03 36 09.9**	**+0.6**
MAKZ	**Makanchi**	**47.32**	**346**	*eP*	**P**	**03 36 09.8**	**+0.5**
	4.4nm,0.8s						
ULN	**Ulaanbaatar**	**47.41**	**9**	*eP*	**P**	**03 36 11.7**	**+1.4**
	4.2nm,0.8s						
KKAR	**Karatay Array**	**47.96**	**334**	*eP*	**P**	**03 36 14.2**	**-0.2**
	2.0nm,0.6s						
GEYT	**Alibeck**	**51.02**	**321**	P	**P**	**03 36 37.7**	**-0.2**
	1.8nm,0.4s,baz=178,slow=13,SNR=4.5						
MJAR	**Matsushiro Arr**	**52.03**	**43**	P	**P**	**03 36 47.1**	**+1.8**
	0.8nm,0.7s,baz=298,slow=8.1,SNR=3.4						
USRK	**Ussuriysk Ar.**	**53.05**	**31**	P	**P**	**03 36 54.2**	**+1.4**
	2.7nm,0.6s,baz=232,slow=9.4,SNR=10.0						
DAMY	**Dhamar**	**53.46**	**287**	*eP*	**P**	**03 36 58.1**	**+1.5**
	23nm,1.1s						
ZAA0	**Zalesovo Array**	**53.58**	**351**	*eP*	**P**	**03 36 57.1**	**+0.7**
ZALV	**Zalesovo Beam**	**53.58**	**351**	P	**P**	**03 36 57.1**	**+0.7**
	4.9nm,0.3s,baz=179,slow=5.9,SNR=9.8						
STKA	**Stephens Creek**	**53.60**	**132**	P	**P**	**03 36 57.8**	**+0.7**
	5.3nm,0.8s,baz=271,slow=6.0,SNR=6.1						
VOSK	**Vostochnaya**	**55.76**	**341**	*eP*	**P**	**03 37 12.1**	**-0.2**
BRVK	**Borovoye**	**56.26**	**341**	*eP*	**P**	**03 37 15.2**	**-0.8**
	15nm,0.7s						
ZRNK	**Zerenda**	**56.60**	**340**	*eP*	**P**	**03 37 17.7**	**-0.6**
	5.4nm,0.9s						
ABKAR	**Akbulak array**	**57.40**	**332**	*eP*	**P**	**03 37 23.6**	**-0.5**
	3.5nm,0.8s						
KBZ	**Khabaz**	**63.88**	**319**	P	**P**	**03 38 07.6**	**-0.7**
	3.8nm,0.9s,baz=120,slow=7.2,SNR=7.2						
NRIK	**Noril'sk**	**68.39**	**356**	P	**P**	**03 38 35.2**	**-1.5**
	1.7nm,0.5s,baz=171,slow=18,SNR=3.2						
BRTR	**Keskin Array B**	**68.87**	**312**	P	**P**	**03 38 39.4**	**-1.2**
	1.3nm,0.9s,baz=117,slow=7.1,SNR=6.6						
MAW	**Mawson**	**72.54**	**193**	P	**P**	**03 39 02.6**	**+0.6**
	2.7nm,0.8s,baz=5.9,slow=7.9,SNR=6.7						
MAW				LR	LR	04 06 25.2	
	comp=Z,102nm,20.0s,baz=62,slow=32						
TIXI	**Tiksi**	**73.34**	**10**	*eP*	**P**	**03 39 06.0**	**-0.7**
	4.7nm,0.7s						
BOSA	**Boshof**	**74.39**	**240**	P	**P**	**03 39 13.1**	**-0.9**
	4.4nm,0.8s,baz=79,slow=6.0,SNR=7.7						
BOSA				LR	LR	04 06 24.1	
	comp=Z,43nm,20.7s,baz=145,slow=31						
AKASG	**Malin Array Be**	**75.08**	**323**	P	**P**	**03 39 15.7**	**-1.6**
	0.5nm,0.4s,baz=88,slow=5.2,SNR=6.0						
KOLS	**Kolonicke sedl**	**79.02**	**320**	*eP*	**P**	**03 39 40.3**	**+0.8**
FINES	**FINESS Array B**	**79.89**	**333**	P	**P**	**03 39 43.4**	**-0.5**
	1.5nm,0.7s,baz=93,slow=4.0,SNR=5.5						
ARCES	**ARCESS Array B**	**82.48**	**340**	P	**P**	**03 39 57.7**	**+0.1**
	0.7nm,0.4s,baz=104,slow=3.9,SNR=11						
GEA0	**GERESS Array S**	**84.61**	**319**	*eP*	**P**	**03 40 08.7**	**-0.3**
GERES	**GERESS Array B**	**84.61**	**319**	P	**P**	**03 40 09.1**	**0.0**
	1.2nm,0.9s,baz=97,slow=6.9,SNR=13						
VNDA	**Vanda**	**85.82**	**169**	P	**P**	**03 40 14.9**	**+0.6**
	1.1nm,0.8s,baz=285,slow=6.0,SNR=5.7						
RAO	**Raoul Island**	**86.42**	**119**	LR	LR	04 18 48.0	
	comp=Z,102nm,19.7s,baz=66,slow=36						
NOA	**NORSAR Array B**	**86.89**	**331**	P	**P**	**03 40 19.8**	**-0.2**
	1.3nm,0.9s,baz=140,slow=24,SNR=4.0						
TAM	**Tamanrasset**	**90.75**	**293**	*eP*	**P**	**03 40 38.8**	**-0.4**
	4.0nm,1.2s						
SNAA	**Sanae**	**94.09**	**198**	P	**P**	**03 40 53.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**94.72**	**283**	P	**P**	**03 40 57.3**	**-0.2**
	1.1nm,1.0s,baz=74,slow=3.5,SNR=6.4						
VNA1	**Neumayer--Stat**	**96.01**	**199**	P	**P**	**03 41 01.8**	**-0.3**
TX31	**Lajitas Ar. Si**	**143.95**	**31**	*e*PKPdf	PKPbc	03 47 10.1	+0.7
TXAR	**Lajitas Array**	**143.95**	**31**	PKP	PKPbc	03 47 09.6	+0.2
	0.6nm,0.8s,baz=187,slow=1.6,SNR=8.4						
CPUP	**Villa Florida**	**144.67**	**223**	PKP	PKPbc	03 47 12.0	+0.5
	11nm,0.8s,baz=125,slow=3.6,SNR=21						
CPUP	**Villa Florida**	**144.67**	**223**	*e*PKPdf	PKPbc	03 47 11.9	+0.3
JCT	**Junction City**	**144.83**	**25**	*e*PKPdf	**PKPdf**	**03 47 12.6**	**-0.4**
GOGA	**Godfrey**	**145.66**	**0**	*e*PKPdf	**PKPdf**	**03 47 14.0**	**-0.2**
LRAL	**Lakeview Retre**	**145.85**	**6**	*e*PKPdf	**PKPdf**	**03 47 14.8**	**+0.3**
ZAIG	**Zacatecas**	**149.68**	**37**	*e*PKPbc	**PKPbc**	**03 47 24.5**	**-1.7**

SJA ***07*** *03:46:15.7±0.9,32.97S×69.45W,h10km±4km, ML3.7, MW3.9*

IDC ***07*** *03:46:15.5±1.9,32.97S×69.31W,h0km,mb3.7/3, mb1 4.0/5,mb1mx3.8/23,mbtmp3.9/5,ML4.4/2,MS2.7/1, Ms1 2.7/1,ms1mx2.5/25,Error ellipse: s-maj=68.6km s-min=34.1km az=58.0*

ISCJB ***07*** *03:46:17.6±1.1,33.10S±0.08×69.5W±0.1,h33km,mb3.6/3, Error ellipse: s-maj=15.3km s-min=10.7km az=15.5*

ISC 07 03:46:19.9±1.2,33.04S±0.09×69.42W±0.10,h35km,n17, σ2§41/18,mb3.9/3,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.45**	**65**	*i* P	Pn	03 46 24.6	-5.4
ARCO				*i* S	**Sn**	**03 46 31.9**	**-5.0**
ARCO				IAML		03 46 33.9	
	comp=Z,6μm,0.2s						
AAGR	**Agrelo**	**0.50**	**96**	*i* P	**Pn**	**03 46 26.8**	**-3.8**
AUSP	**Uspallata**	**0.81**	**2**	*i* P	**Pn**	**03 46 30.5**	**-4.6**
RTLS	**Leoncito**	**1.24**	**5**	*i* P	**Pn**	**03 46 38.1**	**-2.9**
RTCV	**Cerro Valdivia**	**1.39**	**33**	*i* P	**Pn**	**03 46 41.6**	**-1.2**
SJA	**San Juan**	**1.67**	**26**	*i* P	**Pn**	**03 46 46.4**	**-0.3**
SJA				*i* S	**Sn**	**03 47 08.5**	**+1.6**
RTLL	**Cerro Villicun**	**1.88**	**25**	*i* P	**Pn**	**03 46 49.5**	**0.0**
ACAN	**Cantantal**	**2.03**	**69**	*i* P	**Pn**	**03 46 51.9**	**+0.4**
AVFE	**Valle Fertil**	**2.90**	**36**	*i* P	**Pn**	**03 47 04.1**	**+0.5**
AVFE				*i* S	**Sn**	**03 47 39.6**	**+2.4**
LVC	**Limon Verde**	**10.39**	**3**	Pn	**Pn**	**03 48 44.7**	**-2.1**
	comp=Z,11nm,0.3s,baz=163,slow=11,SNR=4.5						
CPUP	**Villa Florida**	**12.45**	**61**	LR	LR	03 54 24.3	
	comp=Z,36nm,21.4s,baz=286,slow=40						
LPAZ	**La Paz**	**16.72**	**4**	Pn	**Pn**	**03 50 11.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=185,slow=9.4,SNR=10.0						
TXAR	**Lajitas Array**	**70.01**	**328**	P	**P**	**03 57 29.0**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=153,slow=8.1,SNR=2.7						
BOSA	**Boshof**	**78.56**	**117**	P	**P**	**03 58 19.2**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=256,slow=4.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**81.82**	**69**	P	**P**	**03 58 36.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=251,slow=4.0,SNR=14						
ZALV	**Zalesovo Beam**	**152.23**	**33**	PKPbc	**PKPbc**	**04 06 12.4**	**+1.2**
	comp=Z,1.9nm,0.3s,baz=282,slow=2.8,SNR=2.7						
MKAR	**Makanchi Array**	**154.48**	**49**	PKPab	**PKPab**	**04 06 31.4**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=271,slow=3.0,SNR=2.9						

NIED ***07*** *03:52:00,40.30N×143.40E,h20km,Mw4.2 Best double couple: M0 2.46000×10^15 NP1:φs 179.00000°,δ29.00000°, λ59.00000°. NP2:φs 34.00000°,δ65.00000°,λ106.00000°.*

IDC ***07*** *03:52:26.3±0.7,40.21N×143.45E,h0km,mb4.2/23, mb1 4.3/29,mb1mx4.1/46,mbtmp4.2/29,ML3.5/6,MS3.5/14, Ms1 3.5/14,ms1mx3.2/41,Error ellipse: s-maj=17.9km s-min=12.9km az=109.0*

JMA ***07*** *03:52:27.3±0.3,40.26N×143.41E,h5km±3km, M4.4*

ISCJB ***07*** *03:52:27.5±1.2,40.19N±0.03×143.50E±0.05,h19km±8km, mb4.3/37,MS3.5/10,Error ellipse: s-maj=7.6km s-min=4.3km az=31.2*

BJI ***07*** *03:52:28.5,40.24N×143.37E,h26km,mb4.6/40,mB4.7/19, Ms4.0/16,Ms7 3.9/16*

NEIC ***07*** *03:52:30.2±1.4,40.21N×143.47E,h26km±9km,mb4.5/12, Error ellipse: s-maj=7.3km s-min=4.2km az=109.0*

ISC 07 03:52:28.7±1.6,40.20N±0.04×143.43E±0.06,h16km±8km, n104,σ1§31/114,mb4.3/37,MS3.6/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.23**	**258**	P	**Pg**	**03 52 50.5**	**-1.9**
MIYJ	**Miyakonagasawa**	**1.39**	**244**	P	**Pn**	**03 52 53.1**	**-0.3**
MIYJ				*e*S	**Sb**	**03 53 11.1**	**-0.6**
JANG	**Nango**	**1.48**	**277**	P	**Pn**	**03 52 54.1**	**-0.5**
JOM	**Ohasama**	**1.80**	**247**	P	**Pn**	**03 52 59.6**	**+0.6**
JOM				*e*S	**Sb**	**03 53 23.4**	**-0.1**
ERM	**Erimo**	**1.83**	**354**	*e*Pn	**Pn**	**03 52 58.8**	**-0.6**
ERM				*e*S	**Sg**	**03 53 26.1**	**-1.4**
JEM	**Erimo**	**1.83**	**354**	P	**Pn**	**03 52 58.6**	**-0.8**
JTM	**Tenmabayashi**	**1.90**	**289**	P	**Pn**	**03 53 00.6**	**+0.3**
JTM				*e*S	**Sn**	**03 53 24.0**	**+0.1**
JMK	**Ichinoseki**	**2.12**	**235**	P	**Pn**	**03 53 04.1**	**+0.7**
JAH	**Hinai**	**2.14**	**271**	P	**Pn**	**03 53 04.5**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.14**	**346**	P	**Pn**	**03 53 03.8**	**+0.1**
JOT	**Ohata**	**2.16**	**304**	P	**Pn**	**03 53 03.9**	**-0.1**
JCH	**Churui**	**2.41**	**359**	P	**Pn**	**03 53 06.9**	**-0.6**
JCH				*e*S	**Sn**	**03 53 34.0**	**-2.7**
JKB	**Kayabe**	**2.48**	**314**	P	**Pn**	**03 53 08.6**	**+0.3**
ASAJ	**Asahikawa**	**3.96**	**351**	Pn	**Pn**	**03 53 29.2**	**+0.5**
	3.5nm,0.3s,baz=196,slow=12,SNR=18						
ASAJ				Sn	**Sn**	**03 54 14.8**	**-0.1**
	3.4nm,0.3s,baz=350,slow=18,SNR=4.6						
ASAJ	**Asahikawa**	**3.96**	**351**	*e*Pn	**Pn**	**03 53 28.9**	**+0.1**
ASAJ				Sn	**Sn**	**03 54 14.8**	**-0.1**
ASAJ				*e*S	**Sn**	**03 54 15.6**	**+0.7**
MJAR	**Matsushiro Arr**	**5.49**	**230**	Pn	**Pn**	**03 53 51.4**	**+1.6**
	3.0nm,0.3s,baz=38,slow=12,SNR=77						
MJAR				LR	LR	03 56 10.4	
	comp=Z,222nm,20.3s,baz=35,slow=41						
MAJO	**Matsushiro**	**5.49**	**230**	*e*Pn	**Pn**	**03 53 51.7**	**+1.8**
MAT	**Matsushiro**	**5.49**	**230**	P	**Pn**	**03 53 51.8**	**+2.0**
MAT				S	**Sn**	**03 54 54.3**	**+1.6**
MJB9	**Matsu-Tunnel**	**5.49**	**230**	*e*Pn	**Pn**	**03 53 52.0**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.77**	**356**	*e*Pn	**Pn**	**03 54 08.4**	**+1.1**
JHJ2	**Mitsune**	**7.65**	**203**	*e*Pn	**Pn**	**03 54 18.7**	**-0.6**
JHJ2				*e*Sn	**Sn**	**03 55 43.1**	**-2.5**
JHJ	**Hachijo jima 2**	**7.65**	**204**	Pn	**Pn**	**03 54 18.6**	**-0.9**
	6.1nm,0.3s,baz=184,slow=15,SNR=5.0						
JHJ				Sn	**Sn**	**03 55 39.0**	**-6.8**
	2.7nm,0.3s,baz=220,slow=16,SNR=2.9						
USRK	**Ussuriysk Ar.**	**9.38**	**299**	Pn	**Pn**	**03 54 45.7**	**+2.6**
	0.6nm,0.3s,baz=102,slow=14,SNR=23						
USRK				LR	LR	03 58 22.0	
	comp=Z,307nm,18.4s,baz=142,slow=38						
MDJ	**Mudanjiang**	**11.14**	**298**	P	**Pn**	**03 55 07.3**	**+0.1**
MDJ				PMZ			
	13nm,1.1s						
MDJ				PMZ			
	63nm,5.5s						
MDJ				LN			
	210nm,14.4s						
MDJ				LE			
	270nm,15.1s						
MDJ				LZ			
	400nm,14.4s						
MDJ	**Mudanjiang**	**11.14**	**298**	*e*Pn	**Pn**	**03 55 08.5**	**+1.2**
KLR	**Kul'dur**	**12.26**	**321**	Pn	**Pn**	**03 55 23.7**	**+1.3**
	0.1nm,0.3s,baz=134,slow=11,SNR=6.7						
KLR				LR	LR	04 00 28.9	
	comp=Z,170nm,19.3s,baz=142,slow=39						
JNU	**Nakatsue**	**12.30**	**239**	Pn	**Pn**	**03 55 23.4**	**+0.3**
	0.3nm,0.3s,baz=41,slow=8.8,SNR=3.8						
JNU				LR	LR	04 00 24.9	
	comp=Z,205nm,18.3s,baz=86,slow=39						
KSRS	**Korea Array**	**12.40**	**262**	Pn	**Pn**	**03 55 26.4**	**+1.9**
	0.2nm,0.3s,baz=60,slow=16,SNR=3.1						
KSAR	**Wonju Array Be**	**12.44**	**262**	Pn	**Pn**	**03 55 26.4**	**+1.4**
BJI	**Beijing**	**20.82**	**278**	P	**P**	**03 57 08.3**	**-1.0**
BJI				S	**S**	**04 01 00.2**	**-0.8**
BJI				PMZ			
	8.0nm,0.8s						
BJI				LN			
	120nm,10.7s						
BJI				LE			
	150nm,17.0s						
SEY	**Seymchan**	**23.39**	**10**	P	**P**	**03 57 35.5**	**-0.9**
	8.6nm,0.9s,baz=182,slow=7.8,SNR=9.1						
HHC	**Hu-ho-hao-te**	**24.17**	**282**	*e*P	**P**	**03 57 44.5**	**+0.3**
HHC				sP	sP	03 57 56.6	+5.5
HHC				PP	**PnPn**	**03 58 14.0**	**+0.4**
HHC				S	**S**	**04 01 56.9**	**-4.8**
HHC				PMZ			
	21nm,1.1s						
HHC				PMZ			
	110nm,6.2s						
HHC				LN			
	120nm,9.2s						
HHC				LE			
	190nm,9.4s						
HHC				LZ			
	150nm,10.4s						
WHN	**Wuhan**	**25.50**	**257**	P	**P**	**03 57 56.7**	**+0.5**
WHN				LZ			
	470nm,17.2s						
ULN	**Ulaanbaatar**	**27.06**	**299**	*e*P	**P**	**03 58 10.3**	**-0.1**
	13nm,1.4s						
SONA1	**Songino Array**	**27.49**	**299**	*e*P	**P**	**03 58 13.7**	**-0.6**
SONM	**Songino Array**	**27.50**	**298**	P	**P**	**03 58 14.3**	**0.0**
	3.5nm,0.9s,baz=101,slow=8.5,SNR=11						
SONM				LR	LR	04 09 49.7	
	comp=Z,154nm,19.5s,baz=80,slow=38						
XAN	**Xi'an**	**28.08**	**268**	P	**P**	**03 58 18.6**	**-0.9**
XAN				PMZ			
	6.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.64**	**129**	T	T	04 28 25.6	
	baz=321,slow=74,SNR=70						
H11N1	**WAKE ISLAND Hy**	**28.66**	**129**	T	T	04 28 32.5	
	baz=321,slow=74,SNR=37						
H11N3	**WAKE ISLAND Hy**	**28.66**	**129**	T	T	04 28 34.9	
	baz=321,slow=74,SNR=42						
H11S1	**WAKE ISLAND Hy**	**29.48**	**130**	T	T	04 29 34.9	
	baz=322,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.48**	**130**	T	T	04 29 39.0	
	baz=322,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.50**	**130**	T	T	04 29 30.6	
	baz=322,slow=76,SNR=18						
TLY	**Talaya**	**29.59**	**306**	LR	LR	04 09 59.8	
	comp=Z,58nm,18.7s,baz=95,slow=36						
LZH	**Lanzhou**	**31.22**	**275**	*e*P	**P**	**03 58 51.1**	**+3.6**
LZH				pP	sP	03 58 57.4	+3.0
LZH				sP	pP	03 59 00.4	+8.0
LZH				PMZ			
	15nm,1.0s						
TIXI	**Tiksi**	**32.37**	**351**	P	**P**	**03 58 56.3**	**-0.7**
	0.8nm,0.3s,baz=160,slow=5.9,SNR=4.9						
TIXI				LR	LR	04 13 29.4	
	comp=Z,47nm,19.1s,baz=194,slow=39						
TIXI	**Tiksi**	**32.37**	**351**	*e*P	**P**	**03 58 56.5**	**-0.5**
	2.2nm,0.6s						
GTA	**Gaotai**	**33.27**	**283**	*e*P	**P**	**03 59 05.4**	**0.0**
GTA				pP	sP	03 59 12.7	+0.4
GTA				sP	pP	03 59 16.1	+5.8
GTA				S	**S**	**04 04 22.6**	**-2.4**
GTA				sS	sS	04 04 34.0	+0.9
GTA				SS	**SnSn**	**04 06 24.9**	**-0.4**
GTA				PMZ			
	6.0nm,1.1s						
GTA				PMZ			
	22nm,5.5s						
GTA				LN			
	120nm,19.5s						
GTA				LE			
	160nm,20.0s						
GTA				LZ			
	210nm,16.6s						
CD2	**Chengdu**	**33.35**	**266**	*e*P	**P**	**03 59 06.0**	**-0.1**
KMI	**Kunming**	**37.07**	**259**	P	**P**	**03 59 38.8**	**+0.4**
KMI				PMZ			
	9.0nm,0.9s						
WMQ	**Urumqi**	**40.91**	**294**	P	**P**	**04 00 12.0**	**+1.8**
WMQ				pP	sP	04 00 18.4	+1.3
WMQ				sP	pP	04 00 23.0	+7.9
WMQ				PMZ			
	6.0nm,0.6s						
WMQ				PMZ			
	36nm,5.2s						
WMQ				LN			
	18nm,21.2s						
WMQ				LE			
	36nm,29.4s						
WMQ				LZ			
	24nm,18.0s						
ZAA0	**Zalesovo Array**	**41.03**	**310**	*e*P	**P**	**04 00 11.2**	**+0.3**
ZALV	**Zalesovo Beam**	**41.03**	**310**	P	**P**	**04 00 10.8**	**-0.1**
	2.9nm,0.4s,baz=93,slow=8.9,SNR=5.3						
ZALV				PcP	**PcP**	**04 02 11.3**	**+0.8**
	3.4nm,0.3s,baz=32,slow=3.6,SNR=3.1						
NRIK	**Noril'sk**	**41.10**	**333**	P	**P**	**04 00 12.1**	**+0.8**
	3.4nm,0.5s,baz=108,slow=8.0,SNR=3.8						
NRIK				LR	LR	04 18 56.7	
	comp=Z,78nm,18.1s,baz=106,slow=39						
MK01	**Makanchi Array**	**43.85**	**300**	*e*P	**P**	**04 00 33.2**	**-0.8**
MK31	**Makanchi Array**	**43.85**	**300**	*e*P	**P**	**04 00 34.4**	**+0.4**
MKAR	**Makanchi Array**	**43.85**	**300**	P	**P**	**04 00 34.2**	**+0.2**
	2.6nm,0.6s,baz=82,slow=9.9,SNR=19						
MKAR				PcP	**PcP**	**04 02 20.2**	**+0.1**
	0.8nm,0.8s,baz=121,slow=3.9,SNR=2.4						
CMAR	**Chiang Mai Arr**	**43.87**	**254**	P	**P**	**04 00 35.0**	**+0.6**
	1.0nm,0.3s,baz=49,slow=7.4,SNR=4.5						
CMAR				LR	LR	04 18 11.3	
	comp=Z,22nm,19.6s,baz=110,slow=35						
MAKZ	**Makanchi**	**44.06**	**300**	*e*P	**P**	**04 00 36.0**	**+0.3**
	3.6nm,0.7s						
KURK	**Kurchatov**	**45.29**	**306**	P	**P**	**04 00 46.0**	**+0.6**
KURBB	**Kurchatov Arra**	**45.37**	**306**	P	**P**	**04 00 46.0**	**0.0**
	19nm,0.7s,baz=79,slow=8.5,SNR=118						
COLA	**College**	**45.57**	**34**	*e*P	**P**	**04 00 47.2**	**-0.2**
	1.0nm,0.5s						
ILAR	**Eielson Array**	**45.98**	**34**	P	**P**	**04 00 51.4**	**+0.7**
	1.0nm,0.9s,baz=264,slow=6.9,SNR=16						
TKM2	**Tokmak 2**	**49.57**	**297**	*e*P	**P**	**04 01 19.5**	**+0.4**
	9.7nm,0.8s						
BVAR	**Borovoye Array**	**49.66**	**311**	P	**P**	**04 01 19.7**	**+0.4**
	2.1nm,0.4s,baz=79,slow=8.3,SNR=19						
BRVK	**Borovoye**	**49.71**	**311**	*e*P	**P**	**04 01 20.3**	**+0.5**
	13nm,0.8s						
ZRNK	**Zerenda**	**50.48**	**311**	*e*P	**P**	**04 01 25.9**	**+0.3**
	6.8nm,0.9s						
KSH	**Kashi**	**50.61**	**292**	*e*P	**P**	**04 01 29.5**	**+2.6**
KSH				PMZ			
	2.0nm,0.2s						
INK	**Inuvik**	**50.85**	**28**	P	**P**	**04 01 28.2**	**+0.1**
	1.4nm,0.5s,baz=275,slow=4.2,SNR=3.7						
EKS2	**Erkin-Say**	**50.91**	**297**	*e*P	**P**	**04 01 29.5**	**+0.4**
	4.1nm,0.7s						
KKAR	**Karatay Array**	**52.95**	**299**	*e*P	**P**	**04 01 43.9**	**-0.3**
	0.9nm,0.4s						
ABKAR	**Akbulak array**	**57.14**	**309**	*e*P	**P**	**04 02 14.5**	**+0.2**
	2.1nm,0.5s						
YKA	**Yellowknife Ar**	**60.28**	**32**	P	**P**	**04 02 36.4**	**+0.4**
	0.5nm,0.8s,baz=300,slow=6.1,SNR=4.8						
WRAB	**Tennant Creek**	**60.42**	**190**	*e*P	**P**	**04 02 36.2**	**-1.1**
WRA	**Warramunga Arr**	**60.43**	**190**	P	**P**	**04 02 37.0**	**-0.4**
	0.5nm,0.5s,baz=7.6,slow=6.9,SNR=12						
ARCES	**ARCESS Array B**	**61.60**	**339**	P	**P**	**04 02 46.0**	**+1.1**
	2.5nm,0.9s,baz=60,slow=9.5,SNR=4.2						
GEYT	**Alibeck**	**63.70**	**298**	P	**P**	**04 02 59.6**	**+0.1**
	1.4nm,0.4s,baz=23,slow=7.8,SNR=3.8						
ASAR	**Alice Springs**	**64.15**	**190**	P	**P**	**04 03 02.5**	**+0.2**
	0.5nm,0.7s,baz=19,slow=5.9,SNR=3.8						
FINES	**FINESS Array B**	**66.75**	**332**	P	**P**	**04 03 18.6**	**-0.1**
	4.9nm,0.7s,baz=58,slow=7.2,SNR=18						
FINES				LR	LR	04 35 43.0	
	comp=Z,65nm,18.6s,baz=44,slow=39						
SUMG	**Summit**	**67.52**	**1**	*e*P	**P**	**04 03 25.0**	**+1.1**
	4.9nm,0.8s						
AFI	**Afiamalu**	**68.02**	**132**	LR	LR	04 25 58.9	
	comp=Z,27nm,21.9s,baz=150,slow=30						
KBZ	**Khabaz**	**70.04**	**311**	P	**P**	**04 03 39.1**	**-0.5**
	4.5nm,0.7s,baz=72,slow=3.6,SNR=12						
KBZ				LR	LR	04 39 57.9	
	comp=Z,46nm,18.5s,baz=36,slow=41						
NACGM	**Naroch**	**70.95**	**327**	*e*	**P**	**04 03 45.0**	**+0.1**
NB2	**NORSAR Subarra**	**71.87**	**338**	P	**P**	**04 03 50.5**	**0.0**
	comp=Z,3.6nm,0.9s,baz=44,slow=6.2						
NOA	**NORSAR Array B**	**71.87**	**338**	P	**P**	**04 03 49.4**	**-1.1**
	comp=Z,3.1

H11N1	**WAKE ISLAND Hy**	**29.58**	**127**	T	T	04 39 22.2	
	baz=318,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy**	**29.59**	**127**	T	T	04 39 26.0	
	baz=318,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy**	**30.39**	**129**	T	T	04 41 14.5	
	baz=322,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**30.39**	**129**	T	T	04 41 12.0	
	baz=322,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**30.41**	**129**	T	T	04 41 10.2	
	baz=322,slow=76,SNR=15						
MKAR	**Makanchi Array**	**42.86**	**299**	P	**P**	**04 10 24.5**	**-0.3**
	0.9nm,0.5s,baz=86,slow=9.0,SNR=8.4						
FINES	**FINESS Array B**	**66.11**	**332**	P	**P**	**04 13 12.8**	**-0.4**
	1.4nm,0.7s,baz=35,slow=5.1,SNR=3.9						
AKASG	**Malin Array Be**	**71.98**	**322**	P	**P**	**04 13 49.2**	**-0.5**
	0.5nm,0.4s,baz=47,slow=5.8,SNR=4.5						

IDC 07 04:02:48.8±1.6, 7°.26S×127°.76E, h0km, mb4.0/2, mb1 4.6/5, mb1mx3.9/34, mbtmp4.5/5, ML4.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/38, Error ellipse: s-maj=63.7km s-min=24.9km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.25**	**29**	Pn	Pn	04 04 36.4	+0.2
	24nm,0.3s,baz=4.4,slow=4.1,SNR=3.6						
SIJI				Sn	Sn	04 05 41.5	-18
	18nm,0.3s,baz=0.0,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**14.13**	**154**	Pn	Pn	04 06 09.6	-0.8
	3.2nm,0.3s,baz=331,slow=12,SNR=112						
WRA				Sn	Sn	04 08 32.2	-16
	4.2nm,0.3s,baz=329,slow=23,SNR=9.5						
ASAR	**Alice Springs**	**17.34**	**161**	P	P	04 06 53.7	-0.3
	2.4nm,0.3s,baz=339,slow=10,SNR=64						
ASAR				S	Sn	04 09 54.2	-12
	0.3nm,0.3s,baz=354,slow=26,SNR=4.0						
ASAR				LR	LR	04 13 24.3	
	comp=Z,58nm,18.2s,baz=357,slow=37						
STKA	**Stephens Creek**	**27.68**	**154**	P	P	04 08 38.4	-0.3
	2.3nm,0.7s,baz=342,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**67.25**	**328**	P	P	04 13 45.1	0.0
	0.3nm,0.3s,baz=126,slow=7.3,SNR=4.5						

*ISCJB **07** 04:05:14.4±0.5, 39°.11N±0°.02×29°.03E±0°.03, h1km±5km, Error ellipse: s-maj=4.0km s-min=3.6km az=39.5*
*CSEM **07** 04:05:14.8±0.1, 39°.10N×29°.03E, h5km, ML3.2, Error ellipse: s-maj=1.5km s-min=1.4km az=73.0*
*ISK **07** 04:05:14.2, 39°.11N×29°.03E, h6km, ML3.2*
*DDA **07** 04:05:14.2, 39°.10N×29°.03E, h7km, Ml3.2*

ISC 07 04:05:14.7±1.0, 39°.11N±0°.02×29°.03E±0°.02, h6km±9km, n85, σ0°60/99, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**255**	P	**Pg**	**04 05 19.9**	**+0.2**
DEMI				S	**Sg**	**04 05 23.6**	**+0.4**
DEMI	**Demirci**	**0.26**	**255**	*i* P	**Pg**	**04 05 19.9**	**+0.2**
DEMI				*i* S	**Sg**	**04 05 23.6**	**+0.4**
GDZ	**Gediz**	**0.35**	**93**	P	**Pg**	**04 05 21.5**	**0.0**
GDZ				S	**Sg**	**04 05 26.6**	**+0.4**
GDZ	**Gediz**	**0.35**	**93**	*i* P	**Pg**	**04 05 21.5**	**0.0**
GDZ				*i* S	**Sg**	**04 05 26.6**	**+0.4**
TVSB	**Tavsanli**	**0.47**	**44**	*e*PG	**Pg**	**04 05 23.9**	**0.0**
TVSB	**Tavsanli**	**0.47**	**44**	*e*Pg	**Pg**	**04 05 23.9**	**0.0**
DST	**Dursunbey**	**0.59**	**327**	*e*PG	**Pg**	**04 05 26.1**	**+0.1**
DST	**Dursunbey**	**0.59**	**327**	*e*Pg	**Pg**	**04 05 26.1**	**+0.1**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**04 05 27.2**	**-0.2**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**04 05 27.2**	**-0.2**
KHAL	**Karahalli**	**0.82**	**154**	P	**Pg**	**04 05 30.3**	**-0.2**
KHAL				S	**Sb**	**04 05 42.0**	**-0.8**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pg**	**04 05 30.3**	**-0.2**
KHAL				*i* S	**Sb**	**04 05 42.0**	**-0.8**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pg**	**04 05 31.2**	**-0.3**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pg**	**04 05 31.2**	**-0.3**
ORLT	**Orhaneli**	**0.94**	**354**	*e*PG	**Pg**	**04 05 32.7**	**-0.1**
ORLT				*e*SG	**Sb**	**04 05 46.6**	**+0.4**
ORLT	**Orhaneli**	**0.94**	**354**	*e*Pg	**Pg**	**04 05 32.7**	**-0.1**
ORLT				*e*Sg	**Sb**	**04 05 46.6**	**+0.4**
AKS	**Akhisar**	**0.98**	**257**	*e*PG	**Pb**	**04 05 33.8**	**-0.3**
AKS	**Akhisar**	**0.98**	**257**	*e*Pg	**Pb**	**04 05 33.8**	**-0.3**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pb**	**04 05 34.6**	**-0.5**
BALB				*e*SG	**Sb**	**04 05 48.4**	**-0.5**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pb**	**04 05 34.6**	**-0.5**
BALB				*e*Sg	**Sb**	**04 05 48.4**	**-0.5**
IGD	**Bursa**	**1.16**	**6**	*i* P	**Pg**	**04 05 35.8**	**-1.2**
IGD				*i* S	**Sn**	**04 05 53.0**	**-0.7**
BALY	**Balya**	**1.26**	**300**	P	**Pn**	**04 05 39.0**	**+0.1**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**04 05 39.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pb**	**04 05 38.5**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pb**	**04 05 38.5**	**-0.4**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pg**	**04 05 39.0**	**0.0**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pg**	**04 05 39.0**	**0.0**
IZI	**Iznik**	**1.27**	**15**	*e*PN	**Pb**	**04 05 39.1**	**0.0**
IZI	**Iznik**	**1.27**	**15**	*e*Pn	**Pb**	**04 05 39.1**	**0.0**
GEMT	**Gemlik**	**1.33**	**5**	*e*PN	**Pg**	**04 05 39.8**	**-0.4**
GEMT	**Gemlik**	**1.33**	**5**	*e*Pn	**Pg**	**04 05 39.8**	**-0.4**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pn**	**04 05 39.5**	**-0.6**
BORA				S	**Sn**	**04 05 58.3**	**+0.1**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**04 05 39.5**	**-0.6**
BORA				*i* S	**Sn**	**04 05 58.4**	**+0.1**
DENT	**Denizli**	**1.35**	**180**	*e*PN	**Pg**	**04 05 40.9**	**+0.2**
DENT	**Denizli**	**1.35**	**180**	*e*Pn	**Pg**	**04 05 40.9**	**+0.2**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pb**	**04 05 40.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*Pn	**Pb**	**04 05 40.9**	**-0.4**
DNZL	**Cakiroluk**	**1.42**	**180**	P	**Pg**	**04 05 41.8**	**-0.1**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pg**	**04 05 41.9**	**-0.1**
DNZL				*i* S	**Sn**	**04 06 03.5**	**+3.2**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pb**	**04 05 41.5**	**-0.3**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pb**	**04 05 41.5**	**-0.3**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pb**	**04 05 42.0**	**-0.3**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pb**	**04 05 42.0**	**-0.3**
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN	**Pg**	**04 05 42.8**	**0.0**
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn	**Pg**	**04 05 42.8**	**0.0**
ESKT	**Eskisehir**	**1.47**	**73**	*i* P	**Pb**	**04 05 41.8**	**-0.7**
SEYT	**Eskypehyr**	**1.47**	**73**	P	**Pb**	**04 05 41.8**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**218**	*e*PN	**Pb**	**04 05 42.0**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**218**	*e*Pn	**Pb**	**04 05 42.0**	**-0.5**
EDC	**Edincik**	**1.53**	**324**	*e*PN	**Pb**	**04 05 43.1**	**-0.4**
EDC	**Edincik**	**1.53**	**324**	*e*Pn	**Pb**	**04 05 43.1**	**-0.4**
GPA	**Golpazari**	**1.53**	**40**	*e*PN	**Pb**	**04 05 43.0**	**-0.5**
GPA	**Golpazari**	**1.53**	**40**	*e*Pn	**Pb**	**04 05 43.0**	**-0.5**
BOLV	**Bolvadin**	**1.55**	**104**	P	**Pg**	**04 05 43.8**	**-0.5**
BOLV	**Bolvadin**	**1.55**	**104**	*i* P	**Pg**	**04 05 43.8**	**-0.5**
IZM	**Izmir**	**1.56**	**243**	*e*PN	**Pn**	**04 05 42.4**	**-0.6**
IZM	**Izmir**	**1.56**	**243**	*e*Pn	**Pn**	**04 05 42.4**	**-0.6**
DKL	**Dikili**	**1.66**	**269**	*e*PN	**Pb**	**04 05 44.4**	**-1.2**
DKL	**Dikili**	**1.66**	**269**	*e*Pn	**Pb**	**04 05 44.4**	**-1.2**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**04 05 45.9**	**+0.3**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**	**04 05 45.9**	**+0.3**
HRT	**Hereke**	**1.78**	**16**	*e*PN	**Pn**	**04 05 46.1**	**+0.1**
HRT	**Hereke**	**1.78**	**16**	*e*Pn	**Pn**	**04 05 46.1**	**+0.1**
SPNC	**Sapanca-Adapaz**	**1.85**	**32**	*e*PN	**Pn**	**04 05 47.4**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.85**	**32**	*e*Pn	**Pn**	**04 05 47.4**	**+0.4**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*PN	**Pb**	**04 05 47.7**	**-1.4**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*Pn	**Pb**	**04 05 47.7**	**-1.4**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*PN	**Pn**	**04 05 49.0**	**+0.6**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*Pn	**Pn**	**04 05 49.0**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*PN	**Pn**	**04 05 49.1**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*Pn	**Pn**	**04 05 49.2**	**+0.6**
BGKT	**Bogazkoy**	**2.08**	**355**	*e*PN	**Pn**	**04 05 50.6**	**+0.5**
BGKT	**Bogazkoy**	**2.08**	**355**	*e*Pn	**Pn**	**04 05 50.6**	**+0.5**
SILT	**Sile**	**2.09**	**13**	*e*PN	**Pn**	**04 05 51.0**	**+0.7**
SILT	**Sile**	**2.09**	**13**	*e*Pn	**Pn**	**04 05 51.0**	**+0.7**
KLYT	**Kilyos**	**2.14**	**0**	*e*PN	**Pn**	**04 05 51.1**	**+0.2**
KLYT	**Kilyos**	**2.14**	**0**	*e*Pn	**Pn**	**04 05 51.1**	**+0.2**
MDUB	**Mudurnu**	**2.15**	**50**	*e*PN	**Pn**	**04 05 51.7**	**+0.5**
MDUB	**Mudurnu**	**2.15**	**50**	*e*Pn	**Pn**	**04 05 51.7**	**+0.5**
CTKS	**Kestanelik-??a**	**2.16**	**349**	*e*PN	**Pn**	**04 05 51.9**	**+0.7**
CTKS	**Kestanelik-??a**	**2.16**	**349**	*e*Pn	**Pn**	**04 05 51.9**	**+0.7**
KIZT	**Kizilcal**	**2.23**	**95**	*e*PN	**Pn**	**04 05 52.7**	**+0.4**
KIZT	**Kizilcal**	**2.23**	**95**	*e*Pn	**Pn**	**04 05 52.7**	**+0.4**
CTYL	**Yalikoy Yolu**	**2.43**	**347**	*e*PN	**Pn**	**04 05 55.5**	**+0.6**
CTYL	**Yalikoy Yolu**	**2.43**	**347**	*e*Pn	**Pn**	**04 05 55.5**	**+0.6**

*ISCJB **07** 04:12:14.0±0.7, 34°.57S±0°.03×72°.00W±0°.08, h13km±5km, mb3.6/3, MS3.2/1, Error ellipse: s-maj=11.8km s-min=4.1km az=17.1*
*NEIC **07** 04:12:14.0, 34°.56S×71°.96W, h17km, ML3.8(GUC), After GUC.*
NEIC Felt [III] at Lolol, Paredones and Pichilemu; [II] at Curico, Ilioca, Pencahue, Rancagua and Talca.
*GUC **07** 04:12:14.2±0.6, 34°.56S×71°.96W, h17km±4km, ML3.8*
*IDC **07** 04:12:17.8±5.8, 34°.62S×71°.81W, h35km±47km, mb3.4/4, mb1 3.7/6, mb1mx3.5/27, mbtmp3.6/6, ML3.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/13, Error ellipse: s-maj=44.1km s-min=27.3km az=94.0*

ISC 07 04:12:14.5±1.0, 34°.55S±0°.03×71°.96W±0°.06, h13km±7km, n33, σ1°28/40, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.16**	**346**	*i* P	**Pg**	**04 12 18.2**	**0.0**
CHPI				*i* S	**Sg**	**04 12 21.4**	**+0.4**
TALC	**Talca**	**0.89**	**163**	*i* P	**Pb**	**04 12 30.5**	**-1.2**
TALC				*i* S	**Sb**	**04 12 42.4**	**-1.1**
TALC				IAML		04 12 44.2	
	comp=N,11μm,0.1s						
RCDM	**Rinconada Maip**	**1.43**	**42**	*i* P	**Pn**	**04 12 39.6**	**-0.5**
RCDM				*i* S	**Sb**	**04 12 58.6**	**-0.4**
ANTU	**Antumapu**	**1.47**	**49**	*i* P	**Pn**	**04 12 40.2**	**-0.5**
ANTU				*i* S	**Sb**	**04 12 60.0**	**-0.3**
STL	**Santa Lucia**	**1.56**	**45**	*i* P	**Pn**	**04 12 41.6**	**-0.3**
STL				*i* S	**Sb**	**04 13 02.4**	**-0.4**
FSR	**Penalolen**	**1.60**	**48**	*i* P	**Pn**	**04 12 42.3**	**-0.1**
FSR				*i* S	**Sb**	**04 13 03.6**	**-0.4**
CLCH	**Cerro Calan**	**1.65**	**46**	*i* P	**Pb**	**04 12 43.5**	**-1.2**
CLCH				*i* S	**Sb**	**04 13 05.2**	**-0.2**
CLCH				IAML		04 13 15.0	
	comp=E,2μm,0.3s						
ROC1	**El Roble**	**1.75**	**27**	*i* P	**Pn**	**04 12 45.2**	**+0.4**
ROC1				*i* S	**Sg**	**04 13 14.1**	**+3.2**
PEL	**Peldehue**	**1.76**	**37**	*i* P	**Pn**	**04 12 45.1**	**+0.4**
PEL				*i* S	**Sb**	**04 13 08.3**	**-0.3**
PEL				IAML		04 13 14.4	
	comp=E,1μm,0.6s						
ROCH	**El Roble**	**1.76**	**27**	*i* P	**Pn**	**04 12 45.3**	**+0.4**
ROCH				*i* S	**Sb**	**04 13 08.8**	**0.0**
ROCH				IAML		04 13 17.4	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**1.84**	**49**	*i* P	**Pb**	**04 12 47.2**	**-1.1**
FCH				*i* S	**Sb**	**04 13 11.2**	**-0.1**
CCHI	**Chillan**	**2.05**	**183**	*i* P	**Pn**	**04 12 49.0**	**+0.3**
CCHI				*i* S	**Sb**	**04 13 15.4**	**-1.6**
AAGR	**Agrelo**	**2.98**	**62**	*i* P	**Pb**	**04 13 07.8**	**+0.3**
ARCO	**CERRO ARCO**	**3.04**	**57**	*i* P	**Pb**	**04 13 08.5**	**-0.1**
ARCO				IAML		04 13 14.6	
	comp=Z,354nm,0.5s						
ARCO				*i* S	**Sg**	**04 13 54.4**	**+2.1**
AUSP	**Uspallata**	**3.16**	**44**	*i* P	**Pb**	**04 13 08.5**	**-2.2**
AUSP				*i* S	**Sg**	**04 13 54.6**	**-1.5**
ASAL	**Salagasta**	**3.26**	**54**	*i* P	**Pb**	**04 13 10.9**	**-1.3**
CANA	**Caviahue**	**3.41**	**168**	*i* P	**Pn**	**04 13 09.5**	**+2.0**
RTLS	**Leoncito**	**3.54**	**40**	*i* P	**Pb**	**04 13 12.8**	**-4.3**
PLCA	**Paso Flores**	**6.27**	**170**	Pn	**Pn**	**04 13 46.9**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=12,slow=11,SNR=5.5						
PLCA				Lg	Lg	04 15 23.9	
	comp=Z,0.5nm,0.3s,baz=203,slow=7,SNR=3.4						
TRQA	**Tornquist**	**8.78**	**116**	*e*Pn	**Pn**	**04 14 21.1**	**0.0**
LPAZ	**La Paz**	**18.51**	**12**	P	**Pn**	**04 16 31.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=188,slow=5.7,SNR=4.9						
SIV	**San Ignacio**	**20.91**	**31**	P	**P**	**04 16 57.2**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=218,slow=3.9,SNR=4.6						
PMSA	**Palmer Station**	**30.64**	**173**	LR	LR	04 31 24.0	
	comp=Z,45nm,18.3s,baz=32,slow=38						
TXAR	**Lajitas Array**	**70.25**	**331**	P	**P**	**04 23 28.0**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=155,slow=8.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**04 24 46.3**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=229,slow=4.7,SNR=7.7						
NVAR	**Mina Array Bea**	**84.37**	**325**	P	**P**	**04 24 47.8**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=147,slow=2.2,SNR=3.8						
WRA	**Warramunga Arr**	**120.31**	**209**	PKP	**PKPdf**	**04 31 05.0**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=156,slow=1.8,SNR=11						
H11S2	**WAKE ISLAND Hy**	**125.83**	**269**	T	T	06 49 33.3	
	baz=119,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**125.84**	**269**	T	T	06 49 29.3	
	baz=119,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hy**	**125.85**	**269**	T	T	06 49 31.1	
	baz=119,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**126.25**	**270**	T	T	06 50 03.8	
	baz=115,slow=78,SNR=59						
H11N1	**WAKE ISLAND Hy**	**126.27**	**270**	T	T	06 50 03.4	
	baz=115,slow=78,SNR=116						
H11N2	**WAKE ISLAND Hy**	**126.27**	**270**	T	T	06 50 01.3	
	baz=115,slow=78,SNR=71						

*NSSC **07** 04:16:53.7±1.1, 33°.03N×35°.76E, h103km±9km, ML1.6*
*CSEM **07** 04:16:57.3, 33°.36N×35°.44E, h6km, ML2.9*
*GRAL **07** 04:16:57.3±0.3, 33°.36N×35°.44E, h6km±3km, MD2.9*

ISC 07 04:16:50.7±2.8, 33°.13N±0°.08×35°.3E±0°.1, h29km±13km, n13, σ2°00/22, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.59**	**51**	*e*P	**Pn**	**04 17 03.8**	**+0.5**
RCY				*e*S	**Sb**	**04 17 08.7**	**-2.2**
DQCL	**Deir Qamar**	**0.62**	**23**	*e*P	**Pn**	**04 17 03.9**	**+0.2**
DQRL				*e*S	**Sb**	**04 17 08.9**	**-2.9**
DQRL	**Deir Qamar**	**0.62**	**23**	*e*P	**Pn**	**04 17 03.9**	**+0.2**
DQRL				*e*S	**Sb**	**04 17 08.9**	**-2.9**
BHL	**Bhannes**	**0.83**	**22**	*e*P	**Pn**	**04 17 07.7**	**+1.1**
BHL	**Bhannes**	**0.83**	**22**	*e*P	**Pn**	**04 17 07.7**	**+1.1**
TOTH	**TOTAH**	**0.99**	**76**	*e*P	**Pb**	**04 17 12.2**	**+2.9**
TOTH				*e*S	**Sn**	**04 17 24.0**	**+2.2**
TOTH				AML	AML	04 17 24.6	
	comp=N,13nm,0.2s						
TOTH				AML	AML	04 17 33.4	
	comp=E,15nm,0.4s						
HWQ	**Hawqa**	**1.27**	**26**	*e*P	**Pb**	**04 17 15.3**	**+1.1**
HWQ	**Hawqa**	**1.27**	**26**	*e*P	**Pb**	**04 17 15.3**	**+1.1**
SALA	**Sala**	**1.29**	**108**	*e*P	**Pn**	**04 17 13.2**	**+0.2**
SALA				*e*S	**Sn**	**04 17 27.1**	**-2.2**
SALA				AML	AML	04 17 32.0	
	comp=E,2.3nm,0.5s						
SALA				AML	AML	04 17 37.5	
	comp=N,24nm,0.4s						
MARH	**Ras Al Marh**	**1.34**	**48**	*e*P	**Pb**	**04 17 17.2**	**+1.7**
MARH				*e*S	**Sb**	**04 17 32.6**	**+0.2**
MARH				AML	AML	04 17 40.1	
	comp=E,26nm,0.6s						
MARH				AML	AML	04 17 42.8	
	comp=N,13nm,0.3s						
ZALF	**Zalf**	**1.73**	**96**	*e*P	**Pn**	**04 17 18.5**	**-0.4**
ZALF				*e*S	**Sn**	**04 17 36.4**	**-3.8**
ZALF				AML	AML	04 17 53.4	
	comp=E,6.3nm,0.4s						
ZALF				AML	AML	04 17 54.8	
	comp=N,8.4nm,0.7s						
ROOS	**tl_alroos**	**1.97**	**58**	*e*P	**Pn**	**04 17 23.8**	**+1.5**
ROOS				*e*S	**Sn**	**04 17 44.5**	**-1.5**
ROOS				AML	AML	04 17 53.8	
	comp=E,17nm,0.5s						
ROOS				AML	AML	04 17 54.5	
	comp=N,16nm,0.3s						
RABH	**Abou Rabah**	**2.06**	**50**	*e*P	**Pn**	**04 17 25.1**	**+1.5**
RABH				*e*S	**Sn**	**04 17 46.9**	**-1.4**
RABH				AML	AML	04 17 55.1	
	comp=N,9.6nm,0.7s						
RABH				AML	AML	04 17 56.5	
	comp=E,11nm,0.4s						

*NIED **07** 04:41:00, 37°.60N×143°.60E, h5km, Mw3.7 Best double couple: M₀3.82000×10¹⁴ NP1:φs9.00000°, δ36.00000°, λ-81.00000°. NP2:φs179.00000°, δ54.00000°, λ-96.00000°.*
*IDC **07** 04:41:29.1±0.9, 37°.53N×143°.87E, h0km, mb3.7/7, mb1 3.9/11, mb1mx3.7/38, mbtmp3.7/11, ML3.7/2, MS2.8/4, Ms1 2.9/4, ms1mx2.5/36, Error ellipse: s-maj=25.4km s-min=18.7km az=109.0*
*ISCJB **07** 04:41:32.4±0.6, 37°.54N±0°.05×143°.64E±0°.05, h33km, mb3.7/7, MS3.2/1, Error ellipse: s-maj=6.6km s-min=6.0km az=164.3*
*JMA **07** 04:41:33.0±0.3, 37°.64N×143°.60E, h41km, M3.7*

ISC 07 04:41:34.1±0.9, 37°.54N±0°.05×143°.70E±0°.08, h35km, n25, σ1°69/30, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.07**	**297**	P	**Pn**	**04 42 05.0**	**-1.3**
JIO				*e*S	**Sn**	**04 42 28.2**	**-2.6**
OFUJ	**Ofunato**	**2.22**	**315**	P	**Pn**	**04 42 06.6**	**-1.8**
JMK	**Ichinoseki**	**2.41**	**307**	P	**Pn**	**04 42 09.9**	**-1.1**
JMK				*e*S	**Sn**	**04 42 38.1**	**-1.1**
JFT	**Otama**	**2.67**	**271**	P	**Pn**	**04 42 14.9**	**+0.3**
JFT				S	**Sn**	**04 42 45.1**	**-0.7**
JOM	**Ohasama**	**2.70**	**316**	P	**Pn**	**04 42 13.9**	**-1.1**
JOM				S	**Sn**	**04 42 44.2**	**-2.3**
JYK	**Kaneyama**	**2.97**	**299**	P	**Pn**	**04 42 18.2**	**-0.5**
JYK				*e*S	**Sn**	**04 42 51.4**	**-1.6**
JAG	**Ashikaga**	**3.57**	**253**	P	**Pn**	**04 42 26.6**	**-0.4**
JAG				S	**Sn**	**04 43 06.1**	**-1.9**
JRY	**Ryogami san**	**4.14**	**250**	P	**Pn**	**04 42 34.1**	**-0.7**
JRY				S	**Sn**	**04 43 19.7**	**-2.3**
MJAR	**Matsushiro Arr**	**4.50**	**259**	Pn	**Pn**	**04 42 40.9**	**+1.1**
	2.9nm,0.3s,baz=89,slow=15,SNR=15						
MJAR				Sn	**Sn**	**04 43 34.0**	**+3.1**
	1.4nm,0.3s,baz=95,slow=9.9,SNR=4.4						
MJAR				LR	LR	04 44 45.4	
	comp=Z,58nm,18.4s,baz=85,slow=43						
MAT	**Matsushiro**	**4.50**	**259**	P	**Pn**	**04 42 40.6**	**+0.8**
MAT				S	**Sn**	**04 43 30.2**	**-0.7**
JHJ	**Hachijo jima 2**	**5.45**	**217**	Pn	**Pn**	**04 42 51.8**	**-0.9**
	7.7nm,0.3s,baz=121,slow=24,SNR=7.6						
JHJ				Sn	**Sn**	**04 43 49.5**	**-4.7**
	10nm,0.3s,baz=270,slow=20,SNR=3.9						
ASAJ	**Asahikawa**	**6.62**	**353**	Pn	**Pn**	**04 43 09.1**	**+0.2**
	baz=217,slow=15						
JNU	**Nakatsue**	**11.36**	**251**	LR	LR	04 48 33.7	
	comp=Z,30nm,18.1s,baz=117,slow=37						
KSRS	**Korea Array**	**12.53**	**274**	Pn	**Pn**	**04 44 31.9**	**+2.0**
	baz=86,slow=15,SNR=2.4						
KSRS				LR	LR	04 48 31.2	
	comp=Z,25nm,18.6s,baz=164,slow=33						
H11N2	**WAKE ISLAND Hy**	**26.89**	**125**	T	T	05 15 28.3	
	baz=315						
H11N1	**WAKE ISLAND Hy**	**26.90**	**125**	T	T	05 15 29.9	
	baz=315						
H11N3	**WAKE ISLAND Hy**	**26.91**	**125**	T	T	05 15 26.1	
	baz=315						
CMAR	**Chiang Mai Arr**	**43.38**	**257**	LR	LR	05 09 57.8	
	comp=Z,33nm,19.2s,baz=170,slow=39						
MKAR	**Makanchi Array**	**45.39**	**302**	P	**P**	**04 49 50.5**	**+1.4**
	0.3nm,0.4s,baz=88,slow=10,SNR=5.3						
ILAR	**Eielson Array**	**48.09**	**33**	P	**P**	**04 50 09.7**	**-0.2**
	0.4nm,0.8s,baz=262,slow=6.6,SNR=5.6						
WRA	**Warramunga Arr**	**57.85**	**190**	P	**P**	**04 51 22.5**	**+0.3**
	1.4nm,0.7s,baz=8.3,slow=7.0,SNR=15						
ASAR	**Alice Springs**	**61.57**	**190**	P	**P**	**04 51 48.6**	**+0.7**
	0.4nm,0.6s,baz=6.7,slow=8.8,SNR=4.6						
ARCES	**ARCESS Array B**	**64.16**	**340**	P	**P**	**04 52 05.8**	**+1.3**
	2.0nm,1.0s,baz=50,slow=8.4,SNR=3.2						
AKASG	**Malin Array Be**	**75.00**	**323**	P	**P**	**04 53 11.2**	**-0.5**
	0.4nm,0.4s,baz=43,slow=6.1,SNR=6.0						
TXAR	**Lajitas Array**	**88.36**	**54**	P	**P**	**04 54 22.4**	**-0.2**
	0.3nm,0.9s,baz=279,slow=7.0,SNR=2.8						

MEX 07 04:42:19.5±0.3, 14°.36N×91°.75W, h80km±22km, MD3.6, Guatemala

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

GURV	**El Guri**	**3.31**	**195**	*e*P		**Pn**	**05 00 39.5**	**+1.0**
GURV				*e*S		**Sn**	**05 01 15.1**	**-2.3**
CUPV	**Cœpira**	**3.61**	**256**	*e*P		**Pn**	**05 00 44.9**	**+2.3**
CUPV				*e*S		**Sn**	**05 01 24.8**	**+0.1**
BIRV	**Birongo**	**4.00**	**263**	*e*P		**Pn**	**05 00 50.6**	**+2.9**
BIRV				*e*S		**Sn**	**05 01 33.5**	**-0.3**
MERV	**Las Mercedes**	**4.35**	**247**	*e*P		**Pn**	**05 00 53.8**	**+1.2**
MERV				*e*S		**Sn**	**05 01 41.5**	**-0.9**
TURV	**Turiamo**	**5.54**	**265**	*e*P		**Pn**	**05 01 10.2**	**+1.8**
TURV				*e*S		**Sn**	**05 02 08.7**	**-2.2**
BAUV	**El Baul**	**6.07**	**251**	*e*P		**Pn**	**05 01 16.1**	**+0.4**
BAUV				*e*S		**Sn**	**05 02 20.3**	**-3.6**
MAPV	**Macapo**	**6.23**	**260**	*e*P		**Pn**	**05 01 19.1**	**+1.2**
TEPV	**Terepaima**	**6.92**	**262**	*e*P		**Pn**	**05 01 28.6**	**+1.4**
TEPV				*e*S		**Sn**	**05 02 40.6**	**-4.0**

IDC 07 05:07:31.4±7.9, 43°.75S×17°.62W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.4/25, mbtmp3.8/1, Error ellipse: s-maj=424.4km s-min=73.3km az=134.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR** baz=178	**34.76**	**5**	T	T	05 51 36.8	
H10S3	**ASCENSION HYDR** baz=178	**34.76**	**5**	T	T	05 51 41.3	
H10S1	**ASCENSION HYDR** baz=178	**34.77**	**5**	T	T	05 51 35.9	
TORD	**Torodi Ar. Bea** 1.5nm,1.1s,baz=200,slow=5.2,SNR=4.6	**59.31**	**22**	P	P	05 17 34.9	-0.1
YKA	**Yellowknife Ar** 0.4nm,0.9s,baz=96,slow=1.7,SNR=3.9	**130.63**	**323**	PKP	PKPdf	05 26 44.5	+1.4
ILAR	**Eielson Array** 0.7nm,99.9s,baz=70,slow=1.3,SNR=9.3	**145.00**	**325**	PKPbc	PKPbc	05 27 06.8	-2.0

IDC 07 05:10:57.6±3.9, 43°.80S×15°.94W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/25, mbtmp3.9/2, Error ellipse: s-maj=137.5km s-min=44.9km az=156.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida** 2.9nm,0.9s,baz=114,slow=8.5,SNR=3.2	**37.65**	**284**	P	P	05 18 14.5	+0.2
TORD	**Torodi Ar. Bea** 0.7nm,0.9s,baz=203,slow=5.7,SNR=5.2	**58.92**	**20**	P	P	05 20 58.6	+0.1
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=101,slow=2.1,SNR=4.3	**131.42**	**322**	PKP	PKPdf	05 30 11.3	+0.5
ILAR	**Eielson Array** 0.8nm,0.9s,baz=77,slow=2.2,SNR=7.9	**145.75**	**325**	PKPbc	PKPdf	05 30 35.4	-1.5

*NEIC **07** 05:11:11.9±0.3, 44°.44S×15°.82W, h10km, mb5.0/17, MS5.3/153, Error ellipse: s-maj=14.8km s-min=8.1km az=173.0*

*GCMT **07** 05:11:11.9±0.2, 44°.44S×15°.73W, h12km, MW5.3/125, Moment Tensor Solution. s78,c119; s125,c227; Duration: 1↑1 Moment tensor: Scale 10^17 Nm; Mrr-1.34±.02; Mθθ 0.18±.03; Mϕϕ 1.17±.02; Mrθ-0.14±.07; Mθϕ-0.32±.02; Mϕr-0.04±.06; Best double couple: M0 1.31000×10^17 NP1:ϕs 158.00000°, δ 45.00000°, λ-98.00000°. NP2:ϕs 349.00000°, δ 45.00000°, λ-82.00000°. Principal axes: T 1.2660, Plg 0.0000°, Azm 253.0000°; N 0.0970, Plg 6.0000°, Azm 163.0000°; P -1.3540, Plg 84.0000°, Azm 345.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=40s.*

*IDC **07** 05:11:11.0±0.6, 44°.14S×15°.92W, h0km, mb4.4/19, mb1 4.4/19, mb1mx4.4/25, mbtmp4.4/19 Error ellipse: s-maj=22.0km s-min=13.6km az=3.0*

*BJI **07** 05:11:13.6, 44°.10S×15°.90W, h10km, mB5.4/4, Ms5.4/4, Ms7 5.2/4*

ISC 07 05:11:14.2±0.4, 44°.2S±0°.1×15°.97W±0°.07, h16km, n272, σ1↑55/102, mb4.7/32, MS5.3/153, 1C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**28.85**	**240**	PFAKE		05 17 20.0	+8.4
EFI				LR	LR		
	comp=Z,5μm,21.0s						
SHEL	**Horse Pasture**	**29.44**	**20**	PFAKE		05 17 30.0	+13
SHEL				LR	LR		
	comp=Z,3μm,22.0s						
SUR	**Sutherland**	**30.93**	**80**	PFAKE		05 17 40.0	+10
SUR				LR	LR		
	comp=Z,11μm,21.0s						
SPB	**Sao Paulo**	**32.92**	**298**	PFAKE		05 18 00.0	+12
SPB				LR	LR		
	comp=Z,6μm,20.0s						
PMSA	**Palmer Station**	**33.54**	**215**	PFAKE		05 18 00.0	+7.3
PMSA				LR	LR		
	comp=Z,2μm,21.0s						
TRQA	**Tornquist**	**34.84**	**264**	*e*P	P	**05 18 05.8**	**+1.5**
	comp=Z,36nm,1.5s						
TRQA				LR	LR		
	comp=Z,8μm,21.0s						
H10S2	**ASCENSION HYDR** baz=181,slow=75,SNR=25	**35.10**	**2**	T	T	05 55 22.3	
H10S3	**ASCENSION HYDR** baz=181,slow=75,SNR=33	**35.11**	**2**	T	T	05 55 22.9	
H10S1	**ASCENSION HYDR** baz=181,slow=75,SNR=24	**35.12**	**2**	T	T	05 55 23.0	
ASCN	**Ascension**	**36.13**	**3**	PFAKE		05 18 30.0	+14
ASCN				LR	LR		
	comp=Z,2μm,19.0s						
H10N1	**ASCENSION HYDR** baz=188,slow=78,SNR=4.5	**36.22**	**2**	T	T	05 56 59.5	
H10N3	**ASCENSION HYDR** baz=188,slow=78,SNR=36	**36.22**	**2**	T	T	05 56 46.5	
BOSA	**Boshof** comp=Z,2.1nm,0.9s,baz=275,slow=14,SNR=2.5	**36.23**	**79**	P	P	**05 18 13.8**	**-2.7**
H10N2	**ASCENSION HYDR** baz=188,slow=78,SNR=9.7	**36.23**	**2**	T	T	05 56 47.6	
SYO	**Syowa Base**	**37.40**	**151↑**	*ep*P	P	**05 18 22.0**	**-3.8**
SYO	**Syowa Base**	**37.40**	**151↓**	*es*P	P	**05 18 24.0**	**-1.8**
TSUM	**Tsumeb** comp=Z,1.1nm,0.3s,baz=198,slow=12,SNR=3.5	**37.47**	**59**	P	P	**05 18 26.9**	**-0.2**
TSUM	**Tsumeb**	**37.47**	**59**	P	P	**05 18 26.9**	**-0.2**
TSUM				LR	LR		
	comp=Z,5μm,20.0s						
CPUP	**Villa Florida** comp=Z,14nm,0.9s,baz=127,slow=8.1,SNR=21	**37.72**	**284**	P	P	**05 18 28.2**	**-0.8**
CPUP	**Villa Florida**	**37.72**	**284**	*e*P	P	**05 18 28.9**	**-0.1**
LBTB	**Lobatse** comp=Z,7.4nm,0.8s,baz=240,slow=8.2,SNR=8.4	**38.70**	**74**	P	P	**05 18 36.0**	**-1.4**
LBTB	**Lobatse** comp=Z,12nm,0.9s	**38.70**	**74**	*e*P	P	**05 18 37.0**	**-0.4**
BDFB	**Brasilia** comp=Z,3.9nm,1.0s,baz=112,slow=7.9,SNR=3.1	**39.32**	**306**	P	P	**05 18 40.7**	**-1.9**
BDFB	**Brasilia** comp=Z,101nm,1.8s	**39.32**	**306**	*e*P	P	**05 18 43.6**	**+0.9**
RCBR	**Riachuelo** comp=Z,17nm,1.3s,baz=170,slow=12,SNR=3.3	**42.01**	**330**	P	P	**05 19 04.2**	**-0.7**
RCBR	**Riachuelo**	**42.01**	**330**	P	P	**05 19 04.2**	**-0.7**
RCBR				LR	LR		
	comp=Z,2μm,21.0s						
MATP	**Matopo** comp=Z,6.4nm,0.7s,baz=226,slow=8.5,SNR=11	**43.74**	**72**	P	P	**05 19 18.0**	**-0.8**
MAW	**Mawson** comp=Z,2.4nm,0.9s,baz=269,slow=10,SNR=3.1	**45.98**	**148**	P	P	**05 19 35.9**	**-0.1**
MAW	**Mawson** comp=Z,4.1nm,1.2s	**45.98**	**148**	*e*P	P	**05 19 37.1**	**+1.0**
QSPA	**South Pole Qui** comp=Z,59nm,1.2s	**46.08**	**180**	*e*P	P	05 19 30.1	-7.0
QSPA				LR	LR		
	comp=Z,2μm,22.0s						
LSZ	**Lusaka** comp=Z,22nm,1.3s	**47.15**	**66**	*e*P	P	**05 19 44.6**	**-1.4**
LSZ				LR	LR		
	comp=Z,5μm,21.0s						
SIV	**San Ignacio** comp=Z,4.9nm,0.8s,baz=140,slow=7.4,SNR=9.9	**47.27**	**292**	P	P	**05 19 47.1**	**+0.3**
LVC	**Limon Verde** comp=Z,12nm,0.9s,baz=241,slow=10,SNR=2.9	**48.23**	**279**	P	P	**05 19 54.5**	**-0.1**
LVC	**Limon Verde** comp=Z,9.5nm,0.9s	**48.23**	**279**	*e*P	P	**05 19 55.2**	**+0.6**
LVC				LR	LR		
	comp=Z,3μm,22.0s						
PB01	**IPOC Station P** comp=Z,48nm,1.1s	**49.65**	**280**	*e*P	P	**05 20 04.8**	**-0.3**
PB11	**IPOC Station P** comp=Z,35nm,1.1s	**50.60**	**281**	*e*P	P	**05 20 12.1**	**-0.4**
LIC	**Lamto** comp=Z,81nm,1.4s	**51.13**	**14**	*e*PKP2	P	**05 20 16.6**	**+0.4**
KIC	**Kosan Boka** comp=Z,86nm,1.3s	**51.32**	**14**	*e*PKP2	P	**05 20 16.6**	**-1.0**
TIC	**Tororodi**	**51.55**	**14**	*e*PKP2	P	**05 20 18.1**	**-1.2**
DBIC	**Dimbokro** comp=Z,3.4nm,0.7s,baz=129,slow=7.4,SNR=4.2	**51.60**	**14**	P	P	**05 20 18.4**	**-1.3**
LPAZ	**La Paz** comp=Z,3.0nm,1.0s,baz=76,slow=7.1,SNR=5.5	**51.87**	**285**	P	P	**05 20 20.6**	**-2.0**
LPAZ	**La Paz** comp=Z,17nm,1.6s	**51.87**	**285**	*e*P	P	**05 20 21.0**	**-1.6**
SAML	**Samuel** comp=Z,19nm,1.0s	**53.83**	**296**	*e*P	P	**05 20 35.6**	**-0.7**
SAML				LR	LR		
	comp=Z,5μm,19.0s						
SBA	**Scott Base**	**58.23**	**181**	PFAKE		05 21 20.0	+13
SBA				LR	LR		
	comp=Z,1μm,19.0s						
PTGA	**Pitinga** comp=Z,9.2nm,0.8s	**58.24**	**305**	*e*P	P	**05 21 08.4**	**+0.5**
VNDA	**Vanda** comp=Z,3.7nm,1.2s,baz=196,slow=7.2,SNR=4.4	**58.57**	**179**	P	P	**05 21 10.4**	**+1.1**
VNDA	**Vanda** comp=Z,16nm,1.4s	**58.57**	**179**	*e*P	P	**05 21 10.9**	**+1.5**
TOA0	**Torodi Ar. Sit**	**59.28**	**20**	*e*P	P	**05 21 12.8**	**-2.2**
TORD	**Torodi Ar. Bea** comp=Z,6.4nm,0.9s,baz=208,slow=3.8,SNR=5.4	**59.28**	**20**	P	P	**05 21 13.5**	**-1.4**
KOWA	**Kowa** comp=Z,13nm,1.4s	**59.40**	**13**	*e*P	P	**05 21 15.7**	**-0.1**
NNA	**Nana**	**60.92**	**282**	PFAKE		05 21 40.0	+14
NNA				LR	LR		
	comp=Z,2μm,21.0s						
CASY	**Casey**	**62.49**	**158**	PFAKE		05 21 50.0	+14
CASY				LR	LR		
	comp=Z,474nm,20.0s						
RER	**Riviere de l'E**	**62.62**	**94**	PFAKE		05 21 50.0	+12
RER				LR	LR		
	comp=Z,3μm,19.0s						
KMBO	**Kilima Mbogo** comp=Z,0.6nm,0.2s,baz=261,slow=3.9,SNR=4.9	**63.62**	**63**	P	P	**05 21 44.8**	**0.0**
KMBO	**Kilima Mbogo**	**63.62**	**63**	P	P	**05 21 44.8**	**0.0**
KMBO				LR	LR		
	comp=Z,5μm,22.0s						
BBGH	**Gun Hill**	**69.47**	**314**	PFAKE		05 22 30.0	+8.3
BBGH				LR	LR		
	comp=Z,2μm,22.0s						
TAM	**Tamanrasset** comp=Z,10nm,1.2s	**69.49**	**21**	*e*P	P	**05 22 21.7**	**-0.2**
TAM				LR	LR		
	comp=Z,1μm,20.0s						
GRGR	**Grenville**	**69.72**	**312**	PFAKE		05 22 40.0	+17
GRGR				LR	LR		
	comp=Z,805nm,19.0s						
OTAV	**Otavalo** comp=Z,22nm,1.5s	**70.76**	**290**	*e*P	P	**05 22 30.4**	**+0.1**
OTAV				LR	LR		
	comp=Z,3μm,20.0s						
PRAC	**Prado** comp=Z,14nm,1.0s	**70.97**	**295**	*e*P	P	**05 22 31.1**	**-0.1**
ROSC	**El Rosal** comp=Z,3.2nm,0.5s,baz=92,slow=6.3,SNR=8.7	**71.46**	**297**	P	P	**05 22 34.8**	**+0.3**
FDF	**Fort de France**	**71.63**	**314**	PFAKE		05 22 50.0	+15
FDF				LR	LR		
	comp=Z,668nm,22.0s						
SDV	**Santo Domingo**	**72.27**	**302**	PFAKE		05 22 50.0	+11
SDV				LR	LR		
	comp=Z,2μm,19.0s						
RPN	**Rapa Nui**	**73.90**	**248**	PFAKE		05 23 00.0	+12
RPN				LR	LR		
	comp=Z,408nm,21.0s						
ANWB	**Willy Bob**	**74.42**	**315**	PFAKE		05 23 00.0	+8.6
ANWB				LR	LR		
	comp=Z,740nm,22.0s						
MOTC	**Monteria, Cord**	**75.31**	**298**	*e*P	P	05 22 51.5	-5.2
SJG	**San Juan**	**77.08**	**311**	PFAKE		05 23 20.0	+13
SJG				LR	LR		
	comp=Z,1μm,20.0s						
RTC	**Rabat Centre**	**78.24**	**8**	PFAKE		05 23 20.0	+7.3
RTC				LR	LR		
	comp=Z,8μm,20.0s						
BCIP	**Isla Barro Col**	**78.29**	**295**	PFAKE		05 23 20.0	+6.5
BCIP				LR	LR		
	comp=Z,1μm,22.0s						
PAYG	**Puerto Ayora**	**78.31**	**281**	PFAKE		05 23 20.0	+6.3
PAYG				LR	LR		
	comp=Z,2μm,20.0s						
SDDR	**Presa de Saban**	**80.63**	**308**	PFAKE		05 23 40.0	+14
SDDR				LR	LR		
	comp=Z,1μm,22.0s						
PFVI	**Vila Bisbo**	**81.19**	**6**	*e*P	P	05 23 44.7	+16
PBDV	**Barranco-do-Ve**	**81.37**	**6**	*e*P	P	05 23 46.0	+16
MORF	**Marmelete**	**81.38**	**6**	*e*P	P	05 23 44.6	+15
PVAQ	**Vaqueiros**	**81.55**	**7**	*e*P	P	05 23 43.0	+12
PTEO	**Sao Teotonio**	**81.61**	**6**	*e*P	P	05 23 44.6	+14
MESJ	**Messejana**	**81.94**	**6**	*e*P	P	05 23 49.5	+17
CMLA	**Cha da Macela**	**82.02**	**352**	PFAKE		05 23 40.0	+6.9
CMLA				LR	LR		
	comp=Z,859nm,20.0s						
PNCL	**Nicolau / Gran**	**82.19**	**6**	*e*P	P	05 23 48.5	+15
PBAR	**Barrancos**	**82.37**	**7**	*e*P	P	05 23 46.5	+12
GRTK	**Grand Turk**	**82.56**	**310**	PFAKE		05 23 50.0	+14
GRTK				LR	LR		
	comp=Z,926nm,19.0s						
EVO	**Evora**	**82.64**	**6**	*e*P	P	05 23 53.2	+17
KEST	**Kesra** comp=Z,2.5nm,0.7s,baz=58,slow=8.4,SNR=2.9	**82.80**	**21**	P	P	**05 23 37.1**	**-0.2**
PMAFR	**Mafra**	**82.97**	**5**	*e*P	P	05 23 53.6	+16
PESTR	**Estremoz**	**83.01**	**7**	*e*P	P	05 23 50.5	+12
PMTG	**Montargil**	**83.16**	**6**	*e*P	P	05 23 53.9	+15
GTBY	**Guantanamo Bay**	**83.57**	**306**	PFAKE		05 23 50.0	+8.5
GTBY				LR	LR		
	comp=Z,887nm,21.0s						
PMRV	**Marv??o**	**83.59**	**7**	*e*P	P	05 23 56.3	+15
MTDJ	**Mount Denham**	**83.70**	**303**	PFAKE		05 23 50.0	+7.7
MTDJ				LR	LR		
	comp=Z,2μm,20.0s						
DGAR	**Diego Garcia**	**83.76**	**94**	PFAKE		05 23 50.0	+7.3
DGAR				LR	LR		
	comp=Z,2μm,19.0s						
PAB	**San Pablo**	**84.00**	**9**	PFAKE		05 23 50.0	+6.6
PAB				LR	LR		
	comp=Z,612nm,22.0s						
PCAS	**Casmilo, Conde**	**84.12**	**6**	*e*P	P	05 23 59.6	+16
ESDC	**Sonseca Array** comp=Z,0.3nm,0.3s,baz=193,slow=5.5,SNR=6.0	**84.17**	**9**	P	P	**05 23 45.2**	**+1.0**
ES19	**SONSECA Array**	**84.20**	**9**	*e*P	P	**05 23 45.2**	**+0.9**
MTE	**Manteigas**	**84.54**	**6**	*e*P	P	05 23 58.5	+12
MTE	**Manteigas**	**84.54**	**6**	PFAKE		05 24 00.0	+14
MTE				LR	LR		
	comp=Z,762nm,22.0s						
MVO	**Moncorvo**	**85.34**	**7**	*e*P	P	**05 23 53.9**	**+3.8**
POLO	**Lamas de Olo**	**85.49**	**6**	*e*P	P	05 24 02.0	+11
CLTB	**Caltabellotta**	**85.56**	**23**	PFAKE		05 24 00.0	+8.7
CLTB				LR	LR		
	comp=Z,501nm,19.0s						
PBRG	**Braganca**	**86.00**	**7**	*e*P	P	05 24 06.0	+13
PGAV	**Gaviera, Arco**	**86.04**	**6**	*e*P	P	05 23 58.1	+4.6
VSL	**Villasalto**	**86.38**	**19**	PFAKE		05 24 10.0	+15
VSL				LR	LR		
	comp=Z,1μm,20.0s						
TIP	**Timpagrande**	**88.08**	**25**	PFAKE		05 24 10.0	+6.5
TIP				LR	LR		
	comp=Z,857nm,20.0s						
BBSR	**BB Station**	**88.19**	**320**	PFAKE		05 24 20.0	+16
BBSR				LR	LR		
	comp=Z,623nm,19.0s						
CUC	**Castrocucco**	**88.55**	**24**	PFAKE		05 24 20.0	+14
CUC				LR	LR		
	comp=Z,348nm,20.0s						
AQU	**L'Aquila**	**90.08**	**21**	PFAKE		05 24 20.0	+7.2
AQU				LR	LR		
	comp=Z,1μm,22.0s						
CSS	**Mathiatis**	**90.62**	**39**	PFAKE		05 24 30.0	+15
CSS				LR	LR		
	comp=Z,824nm,21.0s						
SSB	**Saint Sauveur**	**90.92**	**14**	PFAKE		05 24 30.0	+13
SSB				LR	LR		
	comp=Z,666nm,20.0s						
TIR	**Tirane**	**91.02**	**26**	PFAKE		05 24 30.0	+13
TIR				LR	LR		
	comp=Z,675nm,19.0s						
VLC	**Villacollemand**	**91.04**	**19**	PFAKE		05 24 30.0	+13
VLC				LR	LR		
	comp=Z,505nm,22.0s						
BNI	**Bardonecchia**	**91.10**	**16**	PFAKE		05 24 30.0	+12
BNI				LR	LR		
	comp=Z,2μm,19.0s						
ISP	**Isparta**	**91.82**	**35**	PFAKE		05 24 30.0	+8.9
ISP				LR	LR		
	comp=Z,1μm,21.0s						
TEIG	**Tepich**	**91.91**	**296**	PFAKE		05 24 30.0	+8.2
TEIG				LR	LR		
	comp=Z,647nm,20.0s						
NWAO	**Narrogin (SRO)**	**92.21**	**142**	PFAKE		05 24 30.0	+6.8
NWAO				LR	LR		
	comp=Z,1μm,21.0s						
RKT	**Rikitea** comp=Z,872nm,29.8s	**92.87**	**234**	*e*LR	LR	05 54 17.3	
SNZO	**South Karori**	**94.36**	**188**	PFAKE		05 24 40.0	+7.1
SNZO				LR	LR		
	comp=Z,962nm,19.0s						
BR231	**Keskin MP Arra**	**94.47**	**35**	*e*P	P	**05 24 36.4**	**+3.2**
BFO	**Black Forest**	**94.57**	**16**	PFAKE		05 24 40.0	+6.6
BFO				LR	LR		
	comp=Z,1μm,19.0s						
BR131	**Keskin Array S**	**94.73**	**36**	*e*P	P	**05 24 36.2**	**+1.7**
BRTR	**Keskin Array B** comp=Z,1.4nm,0.7s,baz=190,slow=6.1,SNR=9.9	**94.73**	**36**	P	P	**05 24 35.2**	**+0.7**
WLF	**Walferdange**	**95.44**	**14**	PFAKE		05 24 50.0	+13
WLF				LR	LR		
	comp=Z,1μm,19.0s						
NHSC	**New Hope**	**96.59**	**310**	PFAKE		05 24 50.0	+7.1
NHSC				LR	LR		
	comp=Z,924nm,22.0s						
PSZ	**Piszkesteto**	**96.99**	**23**	PFAKE		05 25 00.0	+16
PSZ				LR	LR		
	comp=Z,675nm,22.0s						
CNNC	**Cliffs of the**	**96.99**	**313**	PFAKE		05 25 00.0	+15
CNNC				LR	LR		
	comp=Z,768nm,22.0s						
GOGA	**Godfrey**	**98.64**	**309**	PFAKE		05 25 00.0	+7.8
GOGA				LR	LR		
	comp=Z,865nm,19.0s						
CBN	**Corbin Frederi**	**99.00**	**316**	PFAKE		05 25 00.0	+6.3
CBN				LR	LR		
	comp=Z,596nm,20.0s						
BRAL	**Brewton**	**99.08**	**305**	PFAKE		05 25 00.0	+5.8
BRAL				LR	LR		
	comp=Z,1μm,20.0s						
CAN	**Canberra**	**99.70**	**168**	PFAKE		05 25 10.0	+13
CAN				LR	LR		
	comp=Z,1μm,19.0s						
ESK	**Eskdalemuir**	**99.71**	**7**	PFAKE		05 25 10.0	+14
ESK				LR	LR		
	comp=Z,808nm,22.0s						
BLA	**Blacksburg**	**99.82**	**313**	PFAKE		05 25 10.0	+13
BLA				LR	LR		
	comp=Z,866nm,21.0s						
GNI	**Garni**	**100.15**	**43**	PFAKE		05 25 10.0	+11
GNI				LR	LR		
	comp=Z,2μm,20.0s						
PKME	**Peaks-Kenny Pk**	**100.85**	**325**	PFAKE		05 25 10.0	+8.3
PKME				LR	LR		
	comp=Z,374nm,20.0s						
BINY	**Binghamton**	**101.40**	**319**	PFAKE		05 25 20.0	+16
BINY				LR	LR		
	comp=Z,790nm,22.0s						
KIV	**Kislovodsk**	**102.12**	**39**	PFAKE		05 25 20.0	+12
KIV				LR	LR		
	comp=Z,950nm,19.0s						
KIEV	**Kiev**	**102.32**	**27**	PFAKE		05 25 20.0	+12
KIEV				LR	LR		
	comp=Z,422nm,22.0s						
LONY	**Lake Ozonia**	**102.62**	**321**	PFAKE		05 25 20.0	+10
LONY				LR	LR		
	comp=Z,627nm,21.0s						
MBWA	**Marble Bar**	**103.38**	**138**	PFAKE		05 25 20.0	+6.2
MBWA				LR	LR		
	comp=Z,1μm,21.0s						
ACSO	**Alum Creek Sta**	**103.40**	**314**	PFAKE		05 25 20.0	+6.8
ACSO				LR	LR		
	comp=Z,696nm,21.0s						
NATX	**Nacogdoches**	**104.10**	**301**	PFAKE		05 25 30.0	+13
NATX				LR	LR		
	comp=Z,468nm,20.0s						
AAM	**Ann Arbor**	**105.25**	**315**	PFAKE		05 29 50.0	
AAM				LR	LR		
	comp=Z,663nm,20.0s						
MIAR	**Mount Ida**	**105.34**	**303**	PFAKE		05 29 50.0	
MIAR				LR	LR		
	comp=Z,718nm,22.0s						
PPT2	**Papeete2** comp=Z,1μm,28.5s	**105.35**	**226**	*e*LR	LR	06 00 03.0	
KONO	**Kongsberg**	**105.58**	**13**	PFAKE		05 29 50.0	
KONO				LR	LR		
	comp=Z,549nm,20.0s						
JCT	**Junction City**	**106.49**	**296**	PFAKE		05 29 50.0	
JCT				LR	LR		
	comp=Z,457nm,21.0s						
HDIL	**Hopedale**	**107.01**	**310**	PFAKE		05 29 50.0	
HDIL				LR	LR		
	comp=Z,866nm,21.0s						
TAOE	**Nuku Hiva Isla** comp=Z,816nm,31.4s	**107.05**	**239**	*e*LR	LR	06 00 54.7	
OBN	**Obninsk**	**108.48**	**29**	PFAKE		05 29 50.0	
OBN				LR	LR		
	comp=Z,523nm,20.0s						
WMOK	**Wichita Mounta**	**108.65**	**300**	PFAKE		05 29 50.0	
WMOK				LR	LR		
	comp=Z,875nm,20.0s						
JFWS	**Jewell Farm**	**109.14**	**312**	PFAKE		05 29 50.0	
JFWS				LR	LR		
	comp=Z,885nm,20.0s						
SCIA	**State Center**	**110.09**	**309**	PFAKE		05 30 00.0	
SCIA				LR	LR		
	comp=Z,1μm,21.0s						
KSU1	**Kansas State U**	**110.19**	**305**	PFAKE		05 30 00.0	
KSU1				LR	LR		
	comp=Z,561nm,19.0s						
WRA	**Warramunga Arr** comp=Z,1.0nm,1.1s,baz=29,slow=5.0,SNR=5.7	**110.64**	**150**	PKKPbc	PKKPbc	05 40 53.1	+9.4
WRAB	**Tennant Creek**	**110.66**	**150**	PFAKE		05 30 00.0	
WRAB				LR	LR		
	comp=Z,835nm,22.0s						
COWI	**Conover**	**110.72**	**315**	PFAKE		05 30 00.0	
COWI				LR	LR		
	comp=Z,951nm,20.0s						
MNTX	**Cornudas Mount**	**110.91**	**294**	PFAKE		05 30 00.0	
MNTX				LR	LR		
	comp=Z,486nm,20.0s						
CBKS	**Cedar Bluff**	**111.87**	**303**	PFAKE		05 30 00.0	
CBKS				LR	LR		
	comp=Z,1μm,22.0s						
KULM	**Kulim**	**112.62**	**105**	PFAKE		05 30 00.0	
KULM				LR	LR		
	comp=Z,788nm,19.0s						
EYMN	**Ely**	**113.16**	**315**	PFAKE		05 30 00.0	
EYMN				LR	LR		
	comp=Z,735nm,22.0s						
ECSD	**EROS Data Cent**	**113.18**	**309**	PFAKE		05 30 00.0	
ECSD				LR	LR		
	comp=Z,957nm,22.0s						
ANMO	**Albuquerque**	**113.64**	**296**	PFAKE		05 30 00.0	
ANMO				LR	LR		
	comp=Z,661nm,20.0s						
SFJD	**Kangerlussuaq**	**113.95**	**346**	PFAKE		05 30 00.0	
SFJD				LR	LR		
	comp=Z,373nm,19.0s						
CTAO	**Charters Tower**	**114.01**	**162**	PFAKE		05 30 00.0	+7.3
CTAO				LR	LR		
	comp=Z,1μm,19.0s						
DZM	**Mont Dzumac** comp=Z,594nm,23.1s	**114.04**	**182**	*e*LR	LR	06 04 04.5	
OGNE	**Ogallala**	**114.58**	**304**	PFAKE		05 30 00.0	+6.9
OGNE				LR	LR		
	comp=Z,1μm,22.0s						
SDCO	**Great Sand Dun**	**114.75**	**299**	PFAKE		05 30 00.0	+6.2
SDCO				LR	LR		
	comp=Z,744nm,20.0s						
TUC	**Tucson**	**114.87**	**292**	PFAKE		05 30 00.0	+

comp=Z,701nm,21.0s
MVCO Mesa Verde 116.33 297 PFAKE 05 30 10.0 +13
MVCO LR LR
comp=Z,612nm,20.0s
SMCO Snowmass 116.54 300 *e*PKPdf **PKPdf 05 29 52.1 -5.3**
KAPI Kappang 116.93 129 PFAKE 05 30 10.0 +12
KAPI LR LR
comp=Z,420nm,20.0s
MSVF Nonsavu 117.07 195 PFAKE 05 30 10.0 +11
MSVF LR LR
comp=Z,705nm,21.0s
WUAZ Wupatki 117.19 294 PFAKE 05 30 10.0 +12
WUAZ LR LR
comp=Z,754nm,21.0s
EKS2 Erkin-Say 117.81 57 PFAKE 05 30 10.0 +11
EKS2 LR LR
comp=Z,872nm,21.0s
KEV Kevo 117.89 16 PFAKE 05 30 10.0 +12
KEV LR LR
comp=Z,664nm,19.0s
LVZ Lovozero 118.04 19 PFAKE 05 30 10.0 +11
LVZ LR LR
comp=Z,792nm,19.0s
ARU Arti 118.09 37 PFAKE 05 30 10.0 +11
ARU LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 118.23 57 PFAKE 05 30 10.0 +10
AAK LR LR
comp=Z,2μm,21.0s
TKM2 Tokmak 2 119.06 57 PFAKE 05 30 10.0 +8.1
TKM2 LR LR
comp=Z,728nm,22.0s
MSU Marysvale 119.45 296 *e*PKPdf **PKPdf 05 30 03.0 +0.2**
PFO Pinyon Flats O 119.47 290 PFAKE 05 30 10.0 +7.2
PFO LR LR
comp=Z,683nm,21.0s
BW06 Boulder Array 120.20 302 PFAKE 05 30 10.0 +5.9
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 120.20 302 PKP **PKPdf 05 30 01.8 -2.3**
comp=Z,0.4nm,0.5s,baz=64,slow=2.1,SNR=3.3
PDAR PP **PP 05 31 34.5 +4.1**
comp=Z,0.3nm,0.5s,baz=177,slow=2.8,SNR=3.9
DGMT Dagmar 120.24 310 PFAKE 05 30 10.0 +6.3
DGMT LR LR
comp=Z,648nm,20.0s
LAO LASA Array 120.39 307 PFAKE 05 30 10.0 +5.9
LAO LR LR
comp=Z,643nm,19.0s
CMAR Chiang Mai Arr 120.41 93 PKP **PKPdf 05 30 03.3 -1.6**
comp=Z,0.8nm,0.3s,baz=254,slow=3.4,SNR=4.3
CHTO Chiang Mai 120.64 93 PFAKE 05 30 20.0 +15
CHTO LR LR
comp=Z,730nm,21.0s
HWUT Hardware Ranch 120.80 300 PFAKE 05 30 20.0 +15
HWUT LR LR
comp=Z,825nm,19.0s
DUG Dugway, Tooele 120.81 298 PFAKE 05 30 20.0 +15
DUG LR LR
comp=Z,643nm,21.0s
AHID Auburn Hatcher 121.15 301 PFAKE 05 30 20.0 +14
AHID LR LR
comp=Z,1μm,21.0s
RLMT Red Lodge 121.32 304 PFAKE 05 30 20.0 +14
RLMT LR LR
comp=Z,1μm,22.0s
FXWY Fox Creek 121.58 302 *e*PKPdf **PKPdf 05 30 06.3 -0.5**
BRVK Borovoye 121.69 45 PFAKE 05 30 20.0 +14
BRVK LR LR
comp=Z,660nm,20.0s
LKWY Lake 121.70 303 PFAKE 05 30 20.0 +13
LKWY LR LR
comp=Z,1μm,20.0s
BVAR Borovoye Array 121.73 45 PKP **PKPdf 05 30 05.5 -0.9**
comp=Z,1.5nm,0.7s,baz=230,slow=38,SNR=3.0
LSA Lhasa 121.78 78 PFAKE 05 30 20.0 +12
LSA LR LR
comp=Z,1μm,22.0s
FFC Flin Flon 122.46 317 PFAKE 05 30 20.0 +12
FFC LR LR
comp=Z,569nm,22.0s
ELK Elko 122.66 297 *e*PKPdf **PKPdf 05 30 08.3 -0.6**
BOZ Bozeman (W) 123.01 304 PFAKE 05 30 20.0 +11
BOZ LR LR
comp=Z,796nm,22.0s
EGMT Eagleton 123.14 307 PFAKE 05 30 20.0 +11
EGMT LR LR
comp=Z,622nm,21.0s
NV01 Mina Array Sit 123.41 293 *e*PKPdf **PKPdf 05 30 10.2 -0.1**
NVAR Mina Array Bea 123.41 293 PKP **PKPdf 05 30 10.9 +0.6**
comp=Z,0.6nm,0.7s,baz=148,slow=1.9,SNR=4.8
KKM Kota Kinabalu 123.58 118 PFAKE 05 30 20.0 +8.7
KKM LR LR
comp=Z,648nm,20.0s
HLID Hailey 123.62 300 PFAKE 05 30 20.0 +9.4
HLID LR LR
comp=Z,1μm,21.0s
KBS Kingsbay 123.95 6 PFAKE 05 30 20.0 +10
KBS LR LR
comp=Z,460nm,19.0s
PMG Port Moresby 124.52 160 PFAKE 05 30 20.0 +7.0
PMG LR LR
comp=Z,740nm,21.0s
MKAR Makanchi Array 125.14 56 PKP **PKPdf 05 30 10.8 -2.4**
comp=Z,0.2nm,0.3s,baz=122,slow=1.9,SNR=2.9
WVOR Wild Horse Val 125.71 297 PFAKE 05 30 30.0 +15
WVOR LR LR
comp=Z,680nm,21.0s
BMO Blue Mountains 126.07 300 PFAKE 05 30 30.0 +15
BMO LR LR
comp=Z,1μm,20.0s
HNR Honiara 126.52 175 PFAKE 05 30 30.0 +13
HNR LR LR
comp=Z,773nm,21.0s
WMQ Urumqi 127.03 62 PKP **PKPdf 05 30 17.4 +0.5**
WMQ LN
comp=Z,250nm,24.6s
WMQ LE
comp=Z,270nm,21.4s
WMQ LZ
comp=Z,390nm,24.6s
NEW Newport 127.57 304 PFAKE 05 30 30.0 +12
NEW LR LR
comp=Z,521nm,20.0s
HAWA Hanford 128.17 301 PFAKE 05 30 30.0 +11
HAWA LR LR
comp=Z,808nm,21.0s
QIZ Qiongzhong 128.56 101 PFAKE 05 30 30.0 +9.5
QIZ LR LR
comp=Z,1μm,20.0s
DAV Davao City (W) 130.10 126 PFAKE 05 30 30.0 +6.4
DAV LR LR
comp=Z,427nm,19.0s
GYA Guiyang 130.96 91 *e*Pdif **Pdif 05 27 17.0 +0.7**
GYA PKP **PKiKP 05 30 25.4 -0.6**
GYA PP **PP 05 32 47.3 +5.3**
GYA PPMZ
comp=Z,120nm,7.8s
NLWA Neilton Lookou 131.29 301 PFAKE 05 30 40.0 +15
NLWA LR LR
comp=Z,924nm,21.0s
CD2 Chengdu 131.42 85 PKP **PKPdf 05 30 25.6 -0.1**
CD2 sPKP 05 30 30.3
CD2 PP **PP 05 32 44.8 -0.1**
CD2 SKS **SKSdf 05 37 37.0 +0.5**
CD2 SS **SS 05 50 20.1 +2.1**
CD2 PPMZ
comp=Z,120nm,6.2s
YKA Yellowknife Ar 131.70 322 PKP **PKPdf 05 30 24.5 -0.6**
comp=Z,1.2nm,0.8s,baz=110,slow=2.4,SNR=18
YKB5 Yellowknife Ar 131.70 322 *e*PKPdf **PKPdf 05 30 23.4 -1.7**
ENH Enshi 135.19 89 PFAKE 05 30 40.0 +7.2
ENH LR LR
comp=Z,612nm,20.0s
POHA Pohakuloa 138.52 247 PFAKE 05 30 50.0 +11
POHA LR LR
comp=Z,862nm,19.0s
WRAK Wrangell Islan 139.03 311 PFAKE 05 30 50.0 +11
WRAK LR LR
comp=Z,586nm,19.0s
TLY Talaya 139.89 57 PFAKE 05 30 50.0 +9.3
TLY LR LR
comp=Z,770nm,19.0s
INK Inuvik 140.21 329 PKP **PKPdf 05 30 40.4 -0.4**
comp=Z,6.0nm,0.8s,baz=102,slow=5.3,SNR=9.1

INK Inuvik 140.21 329 *e*PKPpre PKPpre 05 30 35.3
INK PKP **PKPdf 05 30 40.4 -0.4**
YHNB Yeheng 140.32 105 PFAKE 05 30 50.0 +7.5
YHNB LR LR
comp=Z,629nm,20.0s
TATO Taipei 140.60 105 PFAKE 05 30 50.0 +7.2
TATO LR LR
comp=Z,588nm,20.0s
ULN Ulaanbaatar 141.03 64 PFAKE 05 30 50.0 +6.9
ULN LR LR
comp=Z,614nm,20.0s
HHC Hu-ho-hao-te 141.72 76 *e*PKP **PKPdf 05 30 47.1 +2.6**
HHC PP **PP 05 33 53.4 +3.9**
HHC PPMZ
comp=Z,56nm,8.0s
HHC LN
comp=Z,310nm,19.4s
HHC LE
comp=Z,730nm,20.0s
HHC LZ
comp=Z,500nm,19.4s
DAWY Dawson 142.94 322 *e*PKPdf **PKPdf 05 30 45.3 -0.5**
EGAK Eagle 143.63 324 *e*PKPpre PKPpre 05 30 44.2
EGAK LR LR
comp=Z,674nm,22.0s
BALM Baldy 144.53 318 *e*PKPdf **PKPdf 05 30 48.4 -0.4**
BJT Baijiatuau 144.64 80 PFAKE 05 31 00.0 +10
BJT LR LR
comp=Z,1μm,19.0s
CRQM Cirque 144.93 317 *e*PKPdf **PKPdf 05 30 48.9 -0.7**
FYU Fort Yukon 144.95 327 *e*PKPdf **PKPdf 05 30 49.8 +0.6**
DOT Dot Lake 145.04 322 *e*PKPdf **PKPab 05 30 48.7 -0.3**
BMRM Bremner River 145.63 319 *e*PKPdf **PKPab 05 30 51.3 0.0**
ILAR Eielson Array 146.04 325 PKPbc **PKPdf 05 30 50.9 -0.3**
comp=Z,8.2nm,0.7s,baz=62,slow=1.4,SNR=42
DIV Divide 146.18 318 *e*PKPdf **PKPdf 05 30 51.0 -0.6**
EYAK Cordova Ski Ar 146.23 317 *e*PKPdf **PKPab 05 30 53.2 -0.3**
COLA College 146.42 325 *e*PKPdf **PKPdf 05 30 51.4 -0.3**
COLA LR LR
comp=Z,597nm,22.0s
DHY Denali Highway 146.61 322 *e*PKPdf **PKPbc 05 30 54.0 0.0**
COLD Coldfoot 146.63 330 *e*PKPbc **PKPbc 05 30 53.0 -0.7**
SCM Sheep Creek Mo 146.82 319 *e*PKPdf **PKPbc 05 30 54.2 -0.3**
SML Sawmill 147.29 320 *e*PKPdf **PKPdf 05 30 52.7 -0.7**
MLY Manley 147.56 326 *e*PKPdf **PKPbc 05 30 54.7 -1.8**
TIXI Tiksi 147.68 20 PKPbc **PKPdf 05 30 54.3 +0.6**
comp=Z,1.4nm,0.5s,baz=308,slow=2.8,SNR=3.9
TIXI Tiksi 147.68 20 PFAKE 05 31 00.0 +1.2
TIXI LR LR
comp=Z,859nm,21.0s
TRF Thorofare Moun 147.81 323 *e*PKPbc **PKPbc 05 30 56.3 -1.0**
RC01 Rabbit Creek A 148.09 318 *e*PKPdf **PKPdf 05 30 53.4 -1.3**
SEW Seward 148.11 317 *e*PKPbc **PKPbc 05 30 58.1 +0.2**
PPLA Purkeypile 148.79 322 *e*PKPbc **PKPbc 05 30 58.2 -1.6**
BRLK Bradley Lake 148.88 316 *e*PKPdf **PKPdf 05 30 57.2 +1.1**
CNPM China Poot 149.10 316 *e*PKPdf **PKPbc 05 30 60.0 -0.6**
SPU Mount Spurr 149.17 319 *e*PKPbc **PKPbc 05 31 01.0 +0.2**
HIA Hailar 149.56 65 PFAKE 05 31 10.0 +2.8
HIA LR LR
comp=Z,632nm,19.0s
KDAK Kodiak Island 150.06 312 PFAKE 05 31 10.0 +1.1
KDAK LR LR
comp=Z,630nm,19.0s
TTA Tatalina 150.44 323 *e*PKPdf **PKPdf 05 30 57.6 -0.9**
TT01 Tatalina 150.46 323 *e*PKPdf **PKPdf 05 30 58.0 -0.4**
INCN Inchon 151.11 90 PFAKE 05 31 10.0 +3.9
INCN LR LR
comp=Z,644nm,20.0s
KSAR Wonju Array Be 151.99 91 PKPbc **PKPbc 05 31 05.7 -2.4**
KS01 Wonju Array Si 152.01 91 *e*PKPbc **PKPbc 05 31 07.1 -1.1**
KSRS Korea Array 152.02 91 PKPbc **PKPbc 05 31 05.7 -2.5**
comp=Z,2.6nm,0.8s,baz=271,slow=2.8,SNR=11
YAK Yakutsk 153.19 36 PFAKE 05 31 10.0 0.0
YAK LR LR
comp=Z,471nm,19.0s
MDJ Mudanjiang 155.49 77 PFAKE 05 31 20.0 -12
MDJ LR LR
comp=Z,666nm,21.0s
BILL Bilibino 156.05 358 PFAKE 05 31 20.0 +14
BILL LR LR
comp=Z,769nm,19.0s
MAJO Matsushiro 158.95 102 PFAKE 05 31 20.0 +9.0
MAJO LR LR
comp=Z,664nm,21.0s
MA2 Magadan 162.60 23 PFAKE 05 31 20.0 +5.8
MA2 LR LR
comp=Z,582nm,20.0s
ERM Erimo 164.60 91 PFAKE 05 31 30.0 +13
ERM LR LR
comp=Z,716nm,20.0s
YSS Yuzh-Sakhalins 164.85 72 PFAKE 05 31 30.0 +13
YSS LR LR
comp=Z,216nm,22.0s
PET Petropavlovsk 170.46 20 PFAKE 05 31 30.0 +10
PET LR LR
comp=Z,704nm,22.0s

IDC 07 05:13:19.3±3.8, 43.75S×16.55W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/26, mbtmp3.9/2, Error ellipse: s-maj=131.2km s-min=39.5km az=158.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**37.21**	**284**	P		05 20 32.1	-0.2
	2.4nm,0.9s,baz=131,slow=9.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**59.02**	**21**	P	P	05 23 20.8	-0.1
	1.0nm,0.9s,baz=194,slow=6.9,SNR=3.9						
YKA	**Yellowknife Ar**	**131.11**	**322**	PKP	PKPdf	05 32 31.1	-0.8
	0.3nm,0.8s,baz=101,slow=2.9,SNR=4.6						
ILAR	**Eielson Array**	**145.45**	**325**	PKPbc	PKPdf	05 32 57.9	-0.2
	1.7nm,0.7s,baz=93,slow=0.9,SNR=5.8						

IDC 07 05:17:24.6±1.1, 44.14S×15.92W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/25, mbtmp4.0/5, Error ellipse: s-maj=33.6km s-min=31.8km az=76.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**37.74**	**284**	P	P	05 24 41.8	-0.3
	2.2nm,0.8s,baz=115,slow=7.9,SNR=5.1						
BDFB	**Brasilia**	**39.32**	**306**	P	P	05 24 55.9	+0.3
	3.2nm,1.0s,baz=229,slow=19,SNR=1.8						
VNDA	**Vanda**	**58.61**	**179**	P	P	05 27 22.6	-0.1
	1.2nm,1.0s,baz=260,slow=5.6,SNR=4.6						
TORD	**Torodi Ar. Bea**	**59.23**	**20**	P	P	05 27 27.3	-0.3
	1.7nm,1.0s,baz=210,slow=8.3,SNR=7.3						
BRTR	**Keskin Array B**	**94.68**	**36**	P	P	05 30 47.7	+0.3
	0.2nm,0.4s,baz=186,slow=4.3,SNR=3.1						
YKA	**Yellowknife Ar**	**131.69**	**322**	PKP	PKPdf	05 36 38.0	-0.3
	0.4nm,0.8s,baz=113,slow=2.5,SNR=5.5						
ILAR	**Eielson Array**	**146.03**	**325**	PKPbc	PKPdf	05 37 04.1	-0.2
	2.2nm,0.7s,baz=66,slow=1.6,SNR=17						

*IDC **07** 05:18:30.2±0.5, 44.17S×15.92W, h0km, mb4.9/20, mb1 4.9/20, mb1mx4.8/25, mbtmp4.9/20, MS5.4/5, Ms1 5.4/5, ms1mx5.3/6, Error ellipse: s-maj=17.8km s-min=12.3km az=0.0*

*ISCJB **07** 05:18:31.9±0.3, 44.33S±0.06×16.24W±0.07, h16km, mb5.2/66, MS5.4/6, Error ellipse: s-maj=8.7km s-min=7.6km az=171.1*

*MOS **07** 05:18:31.7±1.2, 44.33S×15.74W, h10km, mb5.2/18, Error ellipse: s-maj=19.6km s-min=10.1km az=83.2*

*GCMT **07** 05:18:32.4±0.1, 44.39S×15.75W, h12km, MW5.6/131, Moment Tensor Solution. s92,c144; s131,c356; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.24±.03; $M_{\theta\theta}$0.32±.03; $M_{\phi\phi}$2.92±.03; $M_{r\theta}$-0.12±.12; $M_{\theta\phi}$-0.60±.03; $M_{r\phi}$0.04±.10; Best double couple: M_o3.14800×10^{17} NP1:ϕ_s166.00000°, δ46.00000°, λ-92.00000°. NP2:ϕ_s349.00000°, δ44.00000°, λ-87.00000°. Principal axes: T 3.0520, Plg1.0000°, Azm258.0000°; N 0.1930, Plg2.0000°, Azm168.0000°; P -3.2440, Plg88.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **07** 05:18:32.4±0.2, 44.18S×16.04W, h10km, mb5.3/36 Error ellipse: s-maj=9.4km s-min=7.2km az=174.0*

*BJI **07** 05:18:32.5, 44.20S×16.10W, h10km, mB5.5/23, Ms5.6/27, Ms7 5.4/28*

ISC 07 05:18:33.6±0.3, 44.24S±0.07×16.11W±0.06, h16km, n339, σ1s78/290, mb5.2/66, MS5.3/6, 12C-10D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**28.25**	**171**	*e*P	P	**05 24 26.4**	**+0.8**
SNAA	**Sanae**	**28.25**	**171**	*e*P	P	**05 24 26.5**	**+0.9**
	80nm,2.0s						
NVL	**N'lazarevskaya**	**29.96**	**162**	*e*P	P	**05 24 38.3**	**-2.3**
TRQA	**Tornquist**	**34.73**	**264**	*e*P	P	**05 25 22.8**	**0.0**
	64nm,1.6s						
USHA	**Ushuaia**	**34.79**	**233**	P	P	**05 25 25.0**	**+2.0**
	110nm,1.1s,baz=146,slow=12,SNR=3.3						
H10S2	**ASCENSION HYDR**	**35.17**	**3**	T	T	06 02 37.7	
	baz=181,slow=75,SNR=30						
H10S3	**ASCENSION HYDR**	**35.17**	**2**	T	T	06 02 45.4	
	baz=181,slow=75,SNR=26						
H10S1	**ASCENSION HYDR**	**35.19**	**3**	T	T	06 02 46.2	
	baz=181,slow=75,SNR=29						
H10N1	**ASCENSION HYDR**	**36.28**	**3**	T	T	06 04 17.4	
	baz=188,slow=78,SNR=7.4						
H10N3	**ASCENSION HYDR**	**36.28**	**3**	T	T	06 04 03.2	
	baz=188,slow=78,SNR=19						
H10N2	**ASCENSION HYDR**	**36.30**	**3**	T	T	06 04 15.6	
	baz=188,slow=78,SNR=15						
BOSA	**Boshof**	**36.34**	**79**	P	P	**05 25 35.1**	**-1.7**
	9.9nm,1.0s,baz=242,slow=7.6,SNR=7.1						
BOSA				LR	LR	05 36 59.4	
	comp=Z,3μm,21.3s,baz=227,slow=31						
BOSA	**Boshof**	**36.34**	**79**	*e*P	P	**05 25 36.7**	**-0.1**
	32nm,1.3s						
SYO	**Syowa Base**	**37.40**	**151**	*e*P	P	**05 25 41.6**	**-3.6**
SYO	**Syowa Base**	**37.40**	**151**	*e*X	P	05 25 51.4	+6.2
TSUM	**Tsumeb**	**37.59**	**59**	P	P	**05 25 44.9**	**-2.6**
	5.3nm,0.7s,baz=246,slow=13,SNR=4.5						
TSUM	**Tsumeb**	**37.59**	**59**	*e*P	P	**05 25 48.4**	**+0.9**
	101nm,1.9s						
CPUP	**Villa Florida**	**37.63**	**284**	P	P	**05 25 47.2**	**-0.5**
	48nm,1.2s,baz=126,slow=7.7,SNR=18						
CPUP	**Villa Florida**	**37.63**	**284**	*e*P	P	**05 25 47.4**	**-0.3**
LBTB	**Lobatse**	**38.81**	**74**	P	P	**05 25 54.9**	**-2.9**
	27nm,0.8s,baz=247,slow=7.3,SNR=25						
LBTB	**Lobatse**	**38.81**	**74**	*e*P	P	**05 25 56.6**	**-1.2**
LBTB				pmax	pmax		
	comp=Z,29nm,0.8s						
LBTB	**Lobatse**	**38.81**	**74**	*e*P	P	**05 25 56.6**	**-1.2**
	comp=Z,29nm,0.8s						
BDFB	**Brasilia**	**39.27**	**306**	P	P	**05 26 02.1**	**+0.4**
	comp=Z,32nm,1.2s,baz=131,slow=8.1,SNR=15						
BDFB	**Brasilia**	**39.27**	**306**	*e*P	P	**05 26 01.9**	**+0.3**
	comp=Z,164nm,1.5s						
RCBR	**Riachuelo**	**42.01**	**330**	P	P	**05 26 23.3**	**-0.9**
	comp=Z,24nm,1.0s,baz=80,slow=17,SNR=4.0						
MATP	**Matopo**	**43.85**	**72**	P	P	**05 26 36.3**	**-3.0**
	comp=Z,26nm,0.9s,baz=226,slow=7.9,SNR=18						
MAW	**Mawson**	**45.99**	**148**	P	P	**05 26 53.9**	**-1.6**
	comp=Z,5.6nm,0.9s,baz=257,slow=9.3,SNR=6.4						
MAW				LR	LR	05 42 39.5	
	comp=Z,2μm,19.8s,baz=266,slow=32						
MAW	**Mawson**	**45.99**	**148**	*e*P	P	**05 26 54.7**	**-0.8**
MAW				pmax	pmax		
	comp=Z,33nm,1.9s						
MAW	**Mawson**	**45.99**	**148**	*e*P	P	**05 26 54.7**	**-0.8**
	comp=Z,33nm,1.9s						
QSPA	**South Pole Qui**	**46.02**	**180**	*e*P	P	**05 26 55.6**	**-0.4**
	comp=Z,110nm,1.6s						
SIV	**San Ignacio**	**47.19**	**292**	P	P	**05 27 05.2**	**-0.4**
	comp=Z,15nm,1.1s,baz=140,slow=7.0,SNR=14						
LSZ	**Lusaka**	**47.27**	**67**	*e*P	P	**05 27 04.2**	**-2.2**
LSZ				pmax	pmax		
	comp=Z,32nm,0.9s						
LSZ	**Lusaka**	**47.27**	**67**	*e*P	P	**05 27 04.2**	**-2.2**
	comp=Z,32nm,0.9s						
LVC	**Limon Verde**	**48.14**	**279**	P	P	**05 27 12.6**	**-0.6**
	comp=Z,23nm,0.9s,baz=129,slow=6.3,SNR=5.6						
LVC	**Limon Verde**	**48.14**	**279**	*e*P	P	**05 27 12.9**	**-0.4**
	comp=Z,29nm,1.3s						
PB04	**IPOC Station P**	**49.19**	**278**	*e*P	P	**05 27 21.1**	**-0.1**
	comp=Z,90nm,0.9s						
PB01	**IPOC Station P**	**49.55**	**280**	*e*P	P	**05 27 22.9**	**-1.0**
	comp=Z,86nm,1.1s						
LIC	**Lamto**	**51.22**	**14**	*e*P	P	**05 27 34.0**	**-2.3**
	comp=Z,191nm,2.0s						
KIC	**Kosan Boka**	**51.40**	**15**	*e*P	P	**05 27 35.5**	**-2.1**
	comp=Z,110nm,1.1s						
TIC	**Toumodi**	**51.63**	**14**	*e*P	P	**05 27 37.0**	**-2.4**
DBIC	**Dimbokro**	**51.68**	**14**	P	P	**05 27 37.4**	**-2.4**
	comp=Z,29nm,1.2s,baz=181,slow=9.2,SNR=5.5						
DBIC	**Dimbokro**	**51.68**	**14**	*e*P	P	**05 27 38.0**	**-1.8**
DBIC				pmax	pmax		
	comp=Z,53nm,1.4s						
DBIC	**Dimbokro**	**51.68**	**14**	*e*P	P	**05 27 38.0**	**-1.8**
	comp=Z,53nm,1.4s						
LPAZ	**La Paz**	**51.78**	**286**	P	P	**05 27 39.5**	**-1.9**
	comp=Z,16nm,1.3s,baz=128,slow=6.3,SNR=12						
LPAZ				LR	LR	05 49 44.4	
	comp=Z,8μm,18.5s,baz=123,slow=36						
LPAZ	**La Paz**	**51.78**	**286**	*e*P	P	**05 27 39.3**	**-2.0**
	comp=Z,32nm,1.4s						
SAML	**Samuel**	**53.76**	**296**	*e*P	P	**05 27 54.6**	**-0.7**
	comp=Z,77nm,1.3s						
MIR	**Mirnyy**	**57.12**	**153**	*e*P	P	**05 28 20.0**	**+1.3**
MIR				pmax	pmax		
	comp=Z,5.0nm,1.8s						
SBA	**Scott Base**	**58.17**	**181**	*e*P	P	**05 28 26.1**	**+0.1**
SBA				pmax	pmax		
	comp=Z,88nm,1.6s						
SBA	**Scott Base**	**58.17**	**181**	*e*P	P	**05 28 26.1**	**+0.1**
	comp=Z,88nm,1.6s						
PTGA	**Pitinga**	**58.19**	**305**	*e*P	P	**05 28 27.0**	**+0.1**
	comp=Z,94nm,1.7s						
VNDA	**Vanda**	**58.51**	**179**	P	P	**05 28 28.0**	**-0.3**
	comp=Z,34nm,1.3s,baz=188,slow=5.1,SNR=11						
VNDA	**Vanda**	**58.51**	**179**	*e*P	P	**05 28 28.1**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,80nm,1.5s						
VNDA	**Vanda**	**58.51**	**179**	*e*P	P	**05 28 28.1**	**-0.3**
	comp=Z,80nm,1.5s						
TOA0	**Torodi Ar. Sit**	**59.37**	**20**	*e*P	P	**05 28 32.3**	**-2.7**
TOA0				*e*P	P	**05 28 32.8**	**-2.2**
TORD	**Torodi Ar. Bea**	**59.37**	**20**	P	P	**05 28 32.4**	**-2.6**
	comp=Z,31nm,1.2s,baz=199,slow=5.7,SNR=32						
KOWA	**Kowa**	**59.48**	**14**	*e*P	P	**05 28 34.2**	**-1.6**
	comp=Z,10nm,1.1s						
KMBO	**Kilima Mbogo**	**63.74**	**63**	P	P	**05 29 04.7**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=219,slow=10,SNR=2.8						
KMBO				LR	LR	05 53 41.4	
	comp=Z,5μm,22.0s,baz=180,slow=33						
KMBO	**Kilima Mbogo**	**63.74**	**63**	*e*P	P	**05 29 04.6**	**-0.3**
	comp=Z,14nm,1.3s						
TAM	**Tamanrasset**	**69.58**	**21**	*e*P	P	**05 29 40.6**	**-1.3**
TAM				pmax	pmax		
	comp=Z,12nm,1.1s						
TAM	**Tamanrasset**	**69.58**	**21**	*e*P	P	**05 29 40.6**	**-1.3**
	comp=Z,12nm,1.1s						
OTAV	**Otavalo**	**70.68**	**290**	*e*P	P	**05 29 48.6**	**-0.6**
OTAV	**Otavalo**	**70.68**	**290**	*e*P	P	**05 29 49.2**	**-0.1**
	comp=Z,45nm,1.4s						
CHIC	**Chingaza**	**70.85**	**297**	*e*P	P	**05 29 47.1**	**-3.2**
PRAC	**Prado**	**70.90**	**295**	*e*P	P	**05 29 48.4**	**-1.7**
PRAC	**Prado**	**70.90**	**295**	*e*P	P	**05 29 48.2**	**-1.9**
	comp=Z,77nm,1.5s						
ROSC	**El Rosal**	**71.39**	**297**	P	P	**05 29 54.6**	**+1.1**
	comp=Z,5.0nm,0.7s,baz=287,slow=3.3,SNR=10						
ROSC				LR	LR	06 00 08.6	
	comp=Z,3μm,19.0s,baz=166,slow=35						
ROSC	**El Rosal**	**71.39**	**297**	*e*P	P	**05 29 52.7**	**-0.8**
	comp=Z,68nm,1.9s						
RUSC	**La Rusia**	**71.41**	**298**	*e*P	P	05 29 48.6	-5.0
FDF	**Fort de France**	**71.59**	**314**	*e*P	P	**05 29 54.9**	**+0.7**
FDF				pmax	pmax		
	comp=Z,62nm,1.1s						
FDF	**Fort de France**	**71.59**	**314**	*e*P	P	**05 29 54.9**	**+0.7**
	comp=Z,62nm,1.1s						
BARC	**Barichara**	**72.01**	**299**	*e*P	P	**05 29 53.4**	**-3.6**
PAMC	**Pamplona, Colo**	**72.28**	**300**	*e*P	P	**05 29 58.7**	**-0.2**
NORC	**Norcasia**	**72.29**	**297**	*e*P	P	**05 29 53.8**	**-4.7**
GDHS	**Morne Mazeau,**	**73.20**	**314**	*e*P	P	**05 30 03.4**	**-0.4**
	comp=Z,160nm,1.2s						
MOTC	**Monteria, Cord**	**75.25**	**298**	*e*P	P	**05 30 13.8**	**-1.9**
SJCC	**San Jacinto, C**	**75.80**	**299**	*e*P	P	**05 30 20.3**	**+1.3**
FUL	**Funchal**	**76.52**	**359**	*e*P	P	05 30 35.5	+13
PMAR	**Madeira**	**76.60**	**359**	*e*P	P	05 30 39.5	+16
PMOZ	**Porto Moniz, M**	**76.70**	**359**	*e*P	P	05 30 39.5	+16

PMPS	Porto Santo	76.93	360	*e*P		P		05 30 44.3	+20	
	comp=Z,391nm,1.7s									
DAMY	Dhamar	80.28	59	*e*P		**P**		**05 30 45.0**	**+0.9**	
	comp=Z,61nm,1.4s									
SDDR	Presa de Saban	80.58	308	*e*P		**P**		**05 30 44.8**	**-0.5**	
	comp=Z,34nm,1.5s									
PFVI	Vila Bisbo	81.26	6	*e*P		P		05 30 58.0	+10	
PSMN	Pico do Norte,	81.27	353	*e*P		**P**		**05 30 52.7**	**+4.2**	
	comp=Z,88nm,0.9s									
PSMN	Pico do Norte,	81.27	353	*e*LR		LR		05 56 23.9		
	comp=Z,551nm,18.9s									
PBDV	Barranco-do-Ve	81.44	7	*e*P		P		05 30 59.9	+10	
	comp=Z,64nm,1.7s									
MORF	Marmelete	81.45	6	*e*P		P		05 31 00.7	+11	
	comp=Z,69nm,1.8s									
PVAQ	Vaqueiros	81.62	7	*e*P		P		05 30 59.2	+8.9	
PTEO	Sao Teotonio	81.68	6	*e*P		P		05 31 01.1	+10	
PCVE	Castro Verde	81.82	6	*e*P		P		05 31 00.3	+8.9	
MESJ	Messejana	82.01	6	*e*P		P		05 31 03.2	+11	
	comp=Z,46nm,1.5s									
PSET	Sete Cidades	82.14	352	*e*P		**P**		**05 30 57.3**	**+4.2**	
	comp=Z,95nm,1.0s									
PSET	Sete Cidades	82.14	352	*e*LR		LR		05 56 41.1		
	comp=Z,562nm,22.3s									
PBEJ	Beja	82.22	7	*e*P		P		05 31 05.5	+12	
	comp=Z,40nm,1.9s									
PNCL	Nicolau / Gran	82.26	6	*e*P		P		05 31 02.7	+9.1	
PBAR	Barrancos	82.44	7	*e*P		P		05 31 05.7	+11	
EVO	Evora	82.71	6	*e*P		P		05 31 07.5	+11	
	comp=Z,37nm,1.8s									
KEST	Kesra	82.89	21	P		**P**		**05 30 56.9**	**-0.3**	
	comp=Z,27nm,1.1s,baz=168,slow=3.9,SNR=11									
KEST	Kesra	82.89	21	*e*P		**P**		**05 30 57.1**	**-0.1**	
	comp=Z,42nm,1.1s									
PMAFR	Mafra	83.04	5	*e*P		P		05 31 08.1	+10	
PESTR	Estremoz	83.08	7	*e*P		P		05 31 08.2	+10	
PMTG	Montargil	83.23	6	*e*P		P		05 31 05.8	+7.1	
ROSA	Rosais	83.30	350	*e*P		**P**		**05 31 00.3**	**+1.2**	
	comp=Z,38nm,1.2s									
ROSA	Rosais	83.30	350	*e*LR		LR		05 57 17.9		
	comp=Z,250nm,21.1s									
PGRA	Graciosa	83.58	351	*e*P		P		05 31 05.9	+5.4	
	comp=Z,11nm,0.5s									
PGRA	Graciosa	83.58	351	*e*LR		LR		05 57 12.9		
	comp=Z,283nm,18.9s									
PMRV	Marv??o	83.66	7	*e*P		P		05 31 12.1	+11	
H08S1	Diego Carcia H	83.72	95	T		T		07 03 02.4		
	baz=226,slow=76,SNR=6.2									
H08S2	Diego Garcia H	83.73	95	T		T		07 03 01.3		
	baz=226,slow=76,SNR=4.1									
H08S3	Diego Garcia H	83.74	94	T		T		07 03 09.4		
	baz=226,slow=76,SNR=5.0									
PAB	San Pablo	84.08	9	*e*P		**P**		**05 31 03.6**	**+0.4**	
PAB				pmax		pmax				
	comp=Z,10.0nm,1.0s									
PAB	San Pablo	84.08	9	*e*P		**P**		**05 31 03.6**	**+0.4**	
	comp=Z,10nm,1.0s									
PCAS	Casmilo, Conde	84.19	6	*e*P		P		05 31 14.1	+10	
ESDC	Sonseca Array	84.25	9	P		**P**		**05 31 03.4**	**-0.6**	
	comp=Z,0.9nm,0.3s,baz=182,slow=4.8,SNR=17									
ESLA	Sonseca Array	84.25	9	*e*P		**P**		**05 31 03.8**	**-0.2**	
	comp=Z,23nm,1.4s									
ES19	SONSECA Array	84.28	9	*e*P		**P**		**05 31 03.6**	**-0.5**	
MTE	Manteigas	84.61	7	*e*P		P		05 31 16.5	+11	
MVO	Moncorvo	85.41	7	*e*P		**P**		**05 31 10.4**	**+0.6**	
	comp=Z,43nm,1.6s									
POLO	Lamas de Olo	85.56	6	*e*P		**P**		**05 31 14.3**	**+3.7**	
PBRG	Braganca	86.07	7	*e*P		P		05 31 24.2	+11	
PGAV	Gavieira, Arco	86.11	6	*e*P		P		05 31 24.0	+11	
IDI	Anoyia	87.48	32	*e*P		**P**		**05 31 21.2**	**+1.0**	
	comp=Z,20nm,1.2s									
LAST	Lasithi	87.60	33	*e*P		**P**		**05 31 20.2**	**-0.5**	
	comp=Z,35nm,1.2s									
TIP	Timpagrande	88.18	25	*e*P		**P**		**05 31 23.9**	**+0.5**	
	comp=Z,16nm,1.0s									
KARP	Karpathos	88.60	34	*e*P		**P**		**05 31 24.9**	**-0.5**	
	comp=Z,27nm,1.2s									
H01W2	Cape Leeuwin H	89.19	141	T		T		07 11 21.4		
	baz=216,slow=75,SNR=4.7									
H01W1	Cape Leeuwin H	89.20	141	T		T		07 11 21.6		
	baz=216,slow=75,SNR=6.5									
H01W3	Cape Leeuwin H	89.20	141	T		T		07 11 24.1		
	baz=216,slow=75,SNR=5.2									
CSS	Mathiatis	90.73	39	*e*P		**P**		**05 31 35.9**	**+0.5**	
	comp=Z,15nm,1.3s									
FNA	Florina	91.11	28	P		**P**		**05 31 37.3**	**+0.3**	
PAIG	Paliouri	91.13	29	P		**P**		**05 31 38.1**	**+1.0**	
OHR	Ohrid	91.21	27	*i* P		**P**		**05 31 37.0**	**-0.5**	
GRG	Griva	91.60	28	P		**P**		**05 31 38.6**	**-0.7**	
SOH	Sokhos	91.81	29	P		**P**		**05 31 40.8**	**+0.5**	
SKO	Skopje	92.19	27	*i* P		**P**		**05 31 41.9**	**-0.1**	
RKT	Rikitea	92.75	234	*e*SS		SS		05 48 58.6	-3.0	
	comp=Z,517nm,29.5s									
RKT	Rikitea	92.75	234	*e*LR		LR		06 01 38.8		
	comp=Z,2μm,30.5s									
DAVA	Damuels	93.98	17	*i* P		**P**		**05 31 49.0**	**-1.3**	
	comp=Z,13nm,1.7s									
ABTA	Abfaltersbach	94.06	19	*i* P		**P**		**05 31 50.4**	**-0.2**	
	comp=Z,5.8nm,1.0s									
BR231	Keskin MP Arra	94.58	36	*e*P		**P**		**05 31 54.8**	**+1.6**	
SOKA	Soboth	94.62	21	*i* P		**P**		**05 31 54.2**	**+1.1**	
	comp=Z,7.9nm,1.4s									
BR131	Keskin Array S	94.84	36	*e*P		**P**		**05 31 54.7**	**+0.3**	
BRTR	Keskin Array B	94.84	36	P		**P**		**05 31 54.0**	**-0.4**	
	comp=Z,7.2nm,1.0s,baz=206,slow=2.6,SNR=28									
BRTR	Keskin Array B	94.84	36	P		**P**		**05 31 54.0**	**-0.4**	
BRTR				pmax		pmax				
	comp=Z,9.0nm,1.1s									
ARSA	Arzberg	95.28	21	*i* P		**P**		**05 31 57.1**	**+1.1**	
	comp=Z,7.2nm,1.4s									
GZR	Gura Zlata	95.69	26⇑	*i* P		**P**		**05 31 59.4**	**+1.4**	
GZR	Gura Zlata	95.69	26	⇑P		**P**		**05 31 59.4**	**+1.4**	
ARR	Arges	96.27	26	⇑P		**P**		**05 32 03.4**	**+2.7**	
GEA0	GERESS Array S	96.30	19	*e*PP		PP		05 35 55.3	+0.4	
GERES	GERESS Array B	96.31	19	PP		PP		05 35 50.7	-4.3	
	comp=Z,0.3nm,0.2s,baz=188,slow=6.0,SNR=3.9									
VOIR		96.47	28	⇑ *i* P		**P**		**05 32 01.5**	**-0.1**	
VOIR		96.47	28	⇑P		**P**		**05 32 01.5**	**-0.1**	
TIRR	Tirgusor	96.79	30	⇑ *i* P		**P**		**05 32 03.0**	**0.0**	
TIRR	Tirgusor	96.79	30	⇑P		**P**		**05 32 03.0**	**0.0**	
MLR	Muntele Rosu	96.82	28	⇓ *i* P		**P**		**05 32 04.0**	**+0.7**	
MLR	Muntele Rosu	96.82	28	⇓P		**P**		**05 32 04.0**	**+0.7**	
DRGR		96.91	26	⇓ *i* P		**P**		**05 32 03.9**	**+0.3**	
DRGR		96.91	26	⇓P		**P**		**05 32 03.9**	**+0.3**	
TREC	Trest	97.16	20	AMS		AMS		06 10 50.0		
	comp=Z,800nm,19.8s									
VYHS	Vyhne	97.31	23	*e*P		Pdif		05 32 06.9	+1.6	
VYHS				pmax		pmax				
	comp=Z,6.0nm,1.5s									
VYHS	Vyhne	97.31	23	*e*P		Pdif		05 32 06.9	+1.6	
NKC	Novy Kostel	97.32	18	AMS		AMS		06 13 30.0		
	comp=Z,800nm,16.9s									
PLOR	Plostina	97.38	29⇑	*i* P		**P**		**05 32 05.4**	**-0.2**	
PLOR	Plostina	97.38	29	⇑P		**P**		**05 32 05.4**	**-0.2**	
VRI	Vrincioaia	97.42	29	⇓ *i* P		**P**		**05 32 05.3**	**-0.5**	
VRI	Vrincioaia	97.42	29	⇓P		**P**		**05 32 05.3**	**-0.5**	
GOPC	GO Pecny, Ondr	97.57	20	AMS		AMS		06 10 10.0		
	comp=Z,800nm,21.7s									
PRU	Pruhonice	97.58	19	*e*SKS		**SKSac**		**05 42 47.5**	**+5.0**	
PRU				*e*PS		PS		05 44 57.1	+1.8	
PRU				AMS		AMS		06 10 10.0		
	comp=Z,900nm,21.6s									
KECS	Kecovo	97.76	24	*e*P		Pdif		05 32 07.5	+0.2	
KECS				pmax		pmax				
	comp=Z,4.0nm,1.2s									
KECS	Kecovo	97.76	24	*e*P		Pdif		05 32 07.5	+0.2	
LANS	Liptovska Anna	98.08	23	*e*P		Pdif		05 32 10.8	+2.0	
LANS	Liptovska Anna	98.08	23	*e*P		Pdif		05 32 10.8	+2.0	
PVCC	Panska Ves	98.09	19	AMS		AMS		06 11 30.0		
	comp=Z,900nm,21.5s									
BRG	Berggiesshubel	98.26	19	*e*(P)		Pdif		05 32 16.0	+6.5	
BRG	Berggiesshubel	98.26	19	*e*P		Pdif		05 32 16.0	+6.5	
OKC	Ostrava-Krasne	98.35	22	*e*PP		PP		05 36 10.8	+0.3	
OKC				AMS		AMS		06 11 50.0		
	comp=Z,500nm,23.5s									
DPC	Dobruska-Polom	98.35	20	*e*PP		PP		05 36 12.9	+2.3	
DPC				*e*SKS		**SKSac**		**05 42 50.3**	**+3.8**	
DPC				*e*PS		**PS**		**05 45 07.6**	**+3.8**	
DPC				AMS		AMS		06 14 30.0		
	comp=Z,900nm,17.3s									
UPC	Upice	98.42	20	*e*PP		PP		05 36 10.1	-1.0	
UPC				*e*SKS		**SKSac**		**05 42 44.7**	**-2.1**	
UPC				*e*PS		**PS**		**05 45 07.0**	**+2.5**	
UPC				AMS		AMS		06 14 20.0		
	comp=Z,600nm,18.2s									
CRVS	Cervenica-Dubn	98.42	24	*e*P		Pdif		05 32 11.9	+1.6	
CRVS	Cervenica-Dubn	98.42	24	*e*P		Pdif		05 32 11.9	+1.6	
UZH	Uzhgorod	98.43	25	*e*P		Pdif		05 32 12.0	+1.8	
UZH				*e*				05 32 19.8		
BURAR	Bucovina Array	98.44	27	⇓ *i* P		Pdif		05 32 11.2	+0.7	
BURAR	Bucovina Array	98.44	27	⇓P		Pdif		05 32 11.2	+0.7	
CLL	Collm	98.45	18	*e*Pdif		Pdif		05 32 12.0	+1.7	
CLL				*e*PP		**PP**		**05 36 11.0**	**-0.3**	
CLL				*e*				05 40 34.0		
CLL				*e*SKSac		SKSac		05 42 34.0	-13	
CLL				*e*Sdif		**S**		**05 43 32.0**	**-5.6**	
CLL				*e*PS		**PS**		**05 45 06.0**	**+1.2**	
CLL				*e*PPS		PPS		05 45 54.0		
CLL				*e*				05 47 24.0		
CLL				*e*SS		**SS**		**05 50 23.0**	**-0.3**	
CLL				*e*SSS		SSS		05 54 12.0		
CLL				*e*SSSS				05 57 48.0		
CLL				LmV				06 25 00.0		
	comp=Z,500nm,18.0s									
CLL	Collm	98.45	18	*e*P		Pdif		05 32 12.0	+1.7	
CLL				*e*				05 36 11.0		
CLL				MLR		MLR				
	comp=Z,500nm,18.0s									
BUR08	Bucovina Ar. S	98.46	27	*e*P		Pdif		05 32 11.4	+0.8	
KOLS	Kolonicke sedl	98.69	24	*e*P		Pdif		05 32 13.9	+2.5	
KOLS				pmax		pmax				
	comp=Z,6.0nm,1.5s									
KOLS	Kolonicke sedl	98.69	24	*e*P		Pdif		05 32 13.9	+2.5	
STHS	Stebnicka Huta	98.82	24	*e*P		Pdif		05 32 14.5	+2.5	
STHS				pmax		pmax				
	comp=Z,2.0nm,1.2s									
STHS	Stebnicka Huta	98.82	24	*e*P		Pdif		05 32 14.5	+2.5	
SIM	Simferopol'	99.38	34	*e*P		**Pdif**		**05 32 23.5**	**+8.9**	
SIM				*e*				05 36 25.0		
SIM				pmax		pmax				
	comp=Z,80nm,10.6s									
AK11	Malin Array Si	102.39	28	*e*Pdif		**Pdif**		**05 32 31.1**	**+3.3**	
AKASG	Malin Array Be	102.43	28	P		**Pdif**		**05 32 27.1**	**-0.9**	
	comp=Z,0.4nm,0.4s,baz=214,slow=4.8,SNR=3.7									
OXF	Oxford	102.80	306	*e*PP		PP		05 36 45.6	+1.1	
WVT	Waverly	103.04	308	*e*PP		PP		05 36 49.8	+3.5	
WHAR	Wooly Hollow	105.03	305	*e*PP		PP		05 37 01.0	-0.2	
PPT2	Papeete2	105.24	226	*e*SS		SS		05 51 58.2	+1.7	
	comp=Z,513nm,26.2s									
PPT2	Papeete2	105.24	226	*e*LR		LR		06 07 21.2		
	comp=Z,3μm,27.8s									
HHAR	Hobbs	106.69	304	*e*PP		PP		05 37 17.1	+3.6	
TAOE	Nuku Hiva Isla	106.93	239	*e*SS		SS		05 52 16.3	-4.0	
	comp=Z,410nm,26.8s									
TAOE	Nuku Hiva Isla	106.93	239	*e*LR		LR		06 08 15.5		
	comp=Z,2μm,31.7s									
TXAR	Lajitas Array	108.18	293	PP		PP		05 37 24.0	-0.6	
	comp=Z,0.7nm,1.0s,baz=120,slow=7.5,SNR=5.0									
TX31	Lajitas Ar. Si	108.18	293	*e*PP		PP		05 37 25.1	+0.5	
WRA	Warramunga Arr	110.64	150	PKiKP		**PKiKP**		**05 37 04.6**	**-1.2**	
	comp=Z,0.5nm,0.8s,baz=223,slow=1.8,SNR=4.4									
WRA				PKKPbc		**PKKPbc**		**05 48 08.8**	**+5.7**	
	comp=Z,1.0nm,1.0s,baz=28,slow=3.8,SNR=3.8									
BNM	Barren Site	113.19	296	*e*PP		PP		05 38 01.0	+0.2	
ANMO	Albuquerque	113.58	296	*e*PP		PP		05 38 03.4	-0.1	
DZM	Mont Dzumac	113.98	183	*e*LR		LR		06 11 34.9		
	comp=Z,1μm,22.9s									
SDCO	Great Sand Dun	114.69	299	*e*PP		PP		05 38 13.3	+1.8	
PHWY	Pilot Hill	116.80	302	*e*PKPdf		**PKPdf**		**05 37 12.1**	**-5.0**	
PHWY				*e*PP		**PP**		**05 38 25.5**	**-0.8**	
KSH	Kashi	117.44	61	PKP		**PKPdf**		**05 37 20.7**	**+2.5**	
KSH				PP		**PP**		**05 38 36.2**	**+5.7**	
KSH				PKS		**PKSdf**		**05 40 57.4**	**+2.5**	
KSH				SKS		**SKSdf**		**05 44 31.7**	**+2.2**	
KSH				PPMZ						
	comp=Z,53nm,4.2s									
KSH				LN						
	comp=Z,530nm,15.8s									
KSH				LE						
	comp=Z,620nm,19.8s									
KSH				LZ						
	comp=Z,1μm,22.4s									
AAK	Ala-Archa	118.35	57⇑	*i* PKIKP		**PKPdf**		**05 37 19.4**	**-0.5**	
MSU	Marysvale	119.39	296	*e*PKIKP		**PKPdf**		**05 37 21.4**	**-0.7**	
MSU				*e*				05 38 45.7		
MSU	Marysvale	119.39	296	*e*PKPdf		**PKPdf**		**05 37 21.4**	**-0.7**	
MSU				*e*PP		**PP**		**05 38 45.7**	**+1.6**	
CCUT	Cedar City	119.61	295	*e*PKPdf		**PKPdf**		**05 37 24.1**	**+1.6**	
BW06	Boulder Array	120.14	302	*e*PKPdf		**PKPdf**		**05 37 22.4**	**-1.0**	
PDAR	Pinedale Array	120.14	302	PKP		**PKPdf**		**05 37 21.2**	**-2.2**	
	comp=Z,0.8nm,0.7s,baz=80,slow=1.7,SNR=6.0									
PDAR				PP		**PP**		**05 38 46.3**	**-3.0**	
	comp=Z,3.1nm,1.1s,baz=144,slow=3.5,SNR=7.9									
SHPR	Sheep Range	120.19	293	*e*PKPdf		**PKPdf**		**05 37 24.6**	**+1.0**	
CMAR	Chiang Mai Arr	120.51	94	PKP		**PKPdf**		**05 37 23.3**	**-1.3**	
	comp=Z,1.1nm,0.5s,baz=248,slow=4.8,SNR=4.3									
HWUT	Hardware Ranch	120.74	300	*e*PKPdf		**PKPdf**		**05 37 24.3**	**-0.3**	
DUG	Dugway, Tooele	120.74	298	*e*PKIKP		**PKPdf**		**05 37 25.6**	**+1.1**	
DUG	Dugway, Tooele	120.74	298	*e*PKPdf		**PKPdf**		**05 37 25.6**	**+1.1**	
TPNV	Topopah Spring	121.16	293	*e*PKIKP		**PKPdf**		**05 37 26.7**	**+1.2**	
TPNV	Topopah Spring	121.16	293	*e*PKPdf		**PKPdf**		**05 37 26.7**	**+1.2**	
LOHW	Long Hollow	121.25	302	*e*PKPdf		**PKPdf**		**05 37 26.5**	**+1.1**	
TPAW	Teton Pass	121.39	302	*e*PKPdf		**PKPdf**		**05 37 26.4**	**+0.6**	
MOOW	Moose Ponds	121.41	302	*e*PKPdf		**PKPdf**		**05 37 26.8**	**+1.0**	
MOOW				*e*PP		**PP**		**05 38 58.3**	**+0.3**	
R11A	Troy Canyon, C	121.50	295	*e*PKPdf		**PKPdf**		**05 37 26.1**	**0.0**	
FXWY	Fox Creek	121.52	302	*e*PKPdf		**PKPdf**		**05 37 24.7**	**-1.4**	
DAC	Darwin (Calif)	121.68	291	*e*PKIKP		**PKPdf**		**05 37 27.3**	**+0.8**	
DAC	Darwin (Calif)	121.68	291	*e*PKPdf		**PKPdf**		**05 37 27.3**	**+0.8**	
BVAR	Borovoye Array	121.84	45	PKP		**PKPdf**		**05 37 24.0**	**-2.0**	
	comp=Z,0.6nm,0.7s,baz=237,slow=4.5,SNR=3.2									
FFC	Flin Flon	122.43	317	*e*PKIKP		**PKPdf**		**05 37 27.3**	**+0.2**	
FFC	Flin Flon	122.43	317	*e*PKPdf		**PKPdf**		**05 37 27.3**	**+0.2**	
ELK	Elko	122.59	297	*e*PKIKP		**PKPdf**		**05 37 27.6**	**-0.6**	
ELK	Elko	122.59	297	*e*PKPdf		**PKPdf**		**05 37 27.6**	**-0.6**	
NVAR	Mina Array Bea	123.34	293	PKP		**PKPdf**		**05 37 28.9**	**-0.8**	
	comp=Z,1.3nm,0.7s,baz=128,slow=2.7,SNR=9.0									
NVAR				PKKPbc		**PKKPbc**		**05 47 20.1**	**+1.7**	
	comp=Z,0.6nm,0.7s,baz=289,slow=5.6,SNR=3.9									
DLMT	Dillon	123.39	303	*e*PKPdf		**PKPdf**		**05 37 29.4**	**-0.1**	
LRM	Limekiln Ridge	123.54	304	*e*PKPdf		**PKPdf**		**05 37 30.6**	**+0.8**	
HLID	Hailey	123.56	300	*e*PKPdf		**PKPdf**		**05 37 32.5**	**+2.7**	
HLID				*e*PP		**PP**		**05 39 14.8**	**+2.3**	
WAKR	Walker	124.13	293	*e*PKPdf		**PKPdf**		**05 37 32.9**	**+1.8**	
MFID	Camas Ranch	124.37	300	*e*PKPdf		**PKPdf**		**05 37 32.7**	**+1.3**	
CHMT	Chamberlain Mo	124.57	304	*e*PKPdf		**PKPdf**		**05 37 30.9**	**-0.8**	
MSO	Missoula	124.94	304	*e*PKPdf		**PKPdf**		**05 37 30.9**	**-1.4**	
MAKZ	Makanchi	125.08	56	*e*PKIKP		**PKPdf**		**05 37 31.6**	**-0.9**	
MAKZ				*e*				05 39 21.3		
MAKZ	Makanchi	125.08	56	*e*PKPdf		**PKPdf**		**05 37 31.6**	**-0.9**	
MAKZ				*e*PP		**PP**		**05 39 21.3**	**-1.1**	
MK01	Makanchi Array	125.26	56	*e*PKPdf		**PKPdf**		**05 37 30.8**	**-2.0**	
MKAR	Makanchi Array	125.26	56	PKP		**PKPdf**		**05 37 32.0**	**-0.9**	
	comp=Z,0.3nm,0.5s,baz=318,slow=1.6,SNR=6.9									
MKAR				PP		**PP**		**05 39 23.5**	**-0.2**	
	comp=Z,1.2nm,0.9s,baz=231,slow=3.9,SNR=6.0									
AFDM	Forest Hills D	125.38	292	*e*PKPdf		**PKPdf**		**05 37 32.8**	**-0.5**	
WALA	Waterton Lakes	126.00	306	*e*PKPdf		**PKPdf**		**05 37 32.5**	**-1.8**	
BMO	Blue Mountains	126.01	300	*e*PKIKP		**PKPdf**		**05 37 33.3**	**-1.1**	
BMO	Blue Mountains	126.01	300	*e*PKPdf		**PKPdf**		**05 37 33.3**	**-1.1**	
WMQ	Urumqi	127.15	62	PKP		**PKPdf**		**05 37 36.7**	**+0.1**	
WMQ				PP		**PP**		**05 39 39.0**	**+2.7**	
WMQ				PKS		**PKSdf**		**05 41 11.9**	**-1.2**	
WMQ				SS		SS		05 56 41.8	-2.6	
WMQ				PPMZ						
	comp=Z,89nm,5.4s									
WMQ				LN						
	comp=Z,290nm,20.2s									
WMQ				LE						
	comp=Z,270nm,23.0s									
WMQ				LZ						
	comp=Z,390nm,23.0s									
K05A	Summer Lake	127.24	296	*e*PKPdf		**PKPdf**		**05 37 39.2**	**+2.2**	
G08A	Pilot Rock	127.25	300	*e*PKPdf		**PKPdf**		**05 37 36.2**	**-0.6**	
WDC	Whiskeytown Da	127.25	293	*e*PKIKP		**PKPdf**		**05 37 38.8**	**+2.0**	
WDC	Whiskeytown Da	127.25	293	*e*PKPdf		**PKPdf**		**05 37 38.8**	**+2.0**	
QIZ	Qiongzhong	128.65	101	PKP		**PKPdf**		**05 37 40.0**	**-0.1**	
QIZ				PP		**PP**		**05 39 46.5**	**+0.3**	
QIZ				SS		SS		05 57 06.1	+3.0	
QIZ				LN						
	comp=Z,610nm,19.1s									
QIZ				LE						
	comp=Z,530nm,19.1s									
QIZ				LZ						
	comp=Z,1μm,18.6s									
B08A	Colville Reser	128.88	303	*e*PKPdf		**PKPdf**		**05 37 40.3**	**+0.6**	
RES	Resolute Bay	129.28	340	PKP		**PKPdf**		**05 37 39.7**	**+0.1**	
	comp=Z,5.0nm,0.8s,baz=23,slow=3.0,SNR=4.3									
NVS	Novosibirsk	129.39	48	*e*PKIKP		**PKPdf**		**05 37 37.1**	**-3.3**	
LON	Longmire	129.68	301	*e*PKIKP		**PKPdf**		**05 37 42.0**	**+0.7**	
LON	Longmire	129.68	301	*e*PKPdf		**PKPdf**		**05 37 42.0**	**+0.7**	
ZALV	Zalesovo Beam	129.89	49	PP		PP		05 39 49.2	-4.7	
	comp=Z,2.6nm,0.3s,baz=253,slow=7.4,SNR=3.7									
D05A	Enumclaw	129.98	301	*e*PKPdf		**PKPdf**		**05 37 43.5**	**+1.8**	
GYA	Guiyang	131.07	91	*e*Pdif		**Pdif**		**05 34 37.6**	**+1.4**	
GYA				PKP		**PKPdf**		**05 37 45.0**	**+0.4**	
GYA				PP		**PP**		**05 40 06.8**	**+4.7**	
GYA				PPMZ						
	comp=Z,140nm,7.8s									
NLWA	Neilton Lookou	131.23	301	*e*PKPdf		**PKPdf**		**05 37 47.4**	**+3.2**	
CD2	Chengdu	131.53	85	PKP		**PKPdf**		**05 37 45.0**	**-0.3**	
CD2				sPKP				05 37 49.8		
CD2				PP		**PP**		**05 40 04.8**	**-0.3**	
CD2				SKS		**SKSdf**		**05 44 56.3**	**+0.2**	
CD2				SS		**SS**		**05 57 40.9**	**+2.1**	
CD2				PPMZ						
	comp=Z,160nm,5.8s									
CD2				LN						
	comp=Z,690nm,24.5s									
CD2				LE						
	comp=Z,670nm,26.5s									
CD2				LZ						
	comp=Z,880nm,25.5s									
YKA	Yellowknife Ar	131.68	322	PKP		**PKPdf**		**05 37 42.2**	**-2.2**	
	comp=Z,6.9nm,1.1s,baz=103,slow=2.0,SNR=24									
YKA				PP		**PP**		**05 40 09.8**	**+4.5**	
	comp=Z,0.5nm,1.0s,baz=99,slow=6.9,SNR=5.4									
GTA	Gaotai	133.09	73	*e*PKP		**PKPdf**		**05 37 47.6**	**-0.5**	
GTA				PP		**PP**		**05 40 16.7**	**+1.6**	
GTA				SKS		**SKSdf**		**05 44 56.6**	**-2.0**	
GTA				SKKS		**SKKSac**		**05 47 08.9**	**-0.8**	
GTA				SS		**SS**		**05 57 57.9**	**+0.2**	
GTA				PPMZ						
	comp=Z,130nm,6.9s									
GTA				LN						
	comp=Z,470nm,21.9s									
GTA				LE						
	comp=Z,430nm,20.9s									
GTA				LZ

	comp=Z,110nm,7.2s						
MDJ				LN			
	comp=Z,110nm,26.9s						
MDJ				LE			
	comp=Z,460nm,17.3s						
MDJ				LZ			
	comp=Z,620nm,19.2s						
BILL	**Bilibino**	**156.11 358**	*i* PKIKP	**PKPdf**	**05 38 23.2**	**-2.6**	
BILL			pmax	pmax			
	comp=Z,12nm,1.3s						
MJAR	**Matsushiro Arr**	**159.04 103**	PKP	**PKPdf**	**05 38 31.2**	**+0.7**	
	comp=Z,0.8nm,0.3s,baz=238,slow=2.9,SNR=6.2						
MJAR			PKPab	**PKPab**	**05 39 06.1**	**-1.2**	
	comp=Z,2.6nm,0.7s,baz=246,slow=2.6,SNR=4.8						

*NEIC **07** 05:36:53.3, 36°.86S×177°.01E, h247km, MG4.5(WEL), After WEL.*

WEL 07 05:36:52.5±0.4, 36°.80S×177°.07E, h251km±3km, ML4.5/20, 13C-10D, Error ellipse: s-maj=5.9km s-min=4.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.11**	**150**	⇑PN	Pn	05 37 28.0	-0.3
HAZ				SN	S	05 37 55.8	-0.7
MXZ	**Matakaoa Point**	**1.25**	**128**	PN	Pn	05 37 29.3	+0.2
MXZ				SN	S	05 37 57.4	-0.6
MXZ				AML	AML	05 38 05.5	
MXZ	**Matakaoa Point**	**1.25**	**128**	Pn	Pn	05 37 29.3	+0.2
PKGZ	**Pakihiroa**	**1.35**	**144**	PN	Pn	05 37 30.3	+0.4
PKGZ				SN	S	05 37 58.1	-1.3
URZ	**Urewera**	**1.46**	**179**	PN	Pn	05 37 30.3	-0.3
URZ				SN	S	05 37 59.9	-0.8
URZ				AML	AML	05 38 02.6	
URZ	**Urewera**	**1.46**	**179**	Pn	Pn	05 37 30.3	-0.3
WMGZ	**Waiomatatini S**	**1.48**	**134**	PN	Pn	05 37 31.2	+0.5
WMGZ				SN	S	05 38 00.5	-0.5
WMGZ	**Waiomatatini S**	**1.48**	**134**	Pn	Pn	05 37 31.2	+0.5
TARZ	**Mount Tarawera**	**1.51**	**197**	PN	Pn	05 37 31.8	+0.7
TARZ	**Mount Tarawera**	**1.51**	**197**	Pn	Pn	05 37 31.8	+0.7
TWGZ	**Tauwhareparae**	**1.56**	**153**	⇑PN	Pn	05 37 32.2	+0.8
TWGZ	**Tauwhareparae**	**1.56**	**153**	Pn	Pn	05 37 32.2	+0.8
WIAZ	**Waiheke Island**	**1.56**	**270**	⇓PN	Pn	05 37 31.8	+0.4
MWZ	**Matawai**	**1.58**	**167**	PN	Pn	05 37 31.7	+0.1
MWZ				AML	AML	05 38 07.2	
MWZ				AML	AML	05 38 09.8	
MWZ				AML	AML	05 38 09.8	
MWZ				AML	AML	05 38 13.4	
MWZ	**Matawai**	**1.58**	**167**	Pn	Pn	05 37 31.7	+0.1
PUZ	**Puketiti**	**1.58**	**144**	PN	Pn	05 37 31.8	+0.2
PUZ				AML	AML	05 38 01.4	
PUZ				AML	AML	05 38 03.9	
PUZ	**Puketiti**	**1.58**	**144**	Pn	Pn	05 37 31.8	+0.2
RRRZ	**Republican Roa**	**1.60**	**196**	PN	Pn	05 37 32.0	+0.2
RRRZ	**Republican Roa**	**1.60**	**196**	Pn	Pn	05 37 31.9	+0.2
MUGZ	**Murupara**	**1.70**	**188**	⇑PN	Pn	05 37 32.2	-0.3
RAGZ	**Rawiri**	**1.72**	**171**	PN	Pn	05 37 32.9	+0.1
RAGZ	**Rawiri**	**1.72**	**171**	Pn	Pn	05 37 32.9	+0.1
TKGZ	**Te Karaka**	**1.75**	**160**	⇑PN	Pn	05 37 33.2	+0.3
TKGZ				SN	S	05 38 03.9	-0.9
TKGZ	**Te Karaka**	**1.75**	**160**	Pn	Pn	05 37 33.2	+0.3
PRRZ	**Plateau Road**	**1.78**	**197**	PN	Pn	05 37 33.3	+0.1
PRRZ	**Plateau Road**	**1.78**	**197**	Pn	Pn	05 37 33.4	+0.2
RTZ	**Ruatahuna**	**1.82**	**182**	PN	Pn	05 37 33.3	-0.3
CNGZ	**Carnagh Statio**	**1.91**	**152**	PN	Pn	05 37 34.9	+0.6
CNGZ	**Carnagh Statio**	**1.91**	**152**	Pn	Pn	05 37 34.9	+0.7
RICZ	**Rimuhau**	**1.98**	**164**	⇑PN	Pn	05 37 35.3	+0.4
SNGZ	**Shannon Statio**	**1.99**	**174**	PN	Pn	05 37 35.1	+0.1
SNGZ	**Shannon Statio**	**1.99**	**174**	Pn	Pn	05 37 35.1	+0.1
MRHZ	**Matea Rd**	**2.10**	**194**	PN	Pn	05 37 35.7	-0.4
RAHZ	**Arahi**	**2.12**	**180**	PN	Pn	05 37 36.4	+0.3
RAHZ	**Arahi**	**2.12**	**180**	Pn	Pn	05 37 36.5	+0.3
PRGZ	**Paritu Road**	**2.22**	**163**	PN	Pn	05 37 37.5	+0.4
PRGZ	**Paritu Road**	**2.22**	**163**	Pn	Pn	05 37 37.5	+0.4
KNZ	**Kokohu**	**2.27**	**168**	⇑PN	Pn	05 37 37.3	-0.2
KNZ				AML	AML	05 38 12.5	
KNZ				AML	AML	05 38 17.8	
KNZ	**Kokohu**	**2.27**	**168**	Pn	Pn	05 37 37.3	-0.2
WHHZ	**Waihua**	**2.28**	**177**	PN	Pn	05 37 37.7	+0.1
NMHZ	**Naumai**	**2.31**	**185**	⇓PN	Pn	05 37 38.5	+0.4
NMHZ	**Naumai**	**2.31**	**185**	Pn	Pn	05 37 38.5	+0.4
RATZ	**Rangitukua**	**2.31**	**206**	PN	Pn	05 37 38.2	+0.2
RATZ	**Rangitukua**	**2.31**	**206**	Pn	Pn	05 37 38.1	+0.1
RITZ	**Rihia Road**	**2.38**	**203**	PN	Pn	05 37 38.8	+0.2
RITZ	**Rihia Road**	**2.38**	**203**	Pn	Pn	05 37 38.8	+0.2
BKZ	**Black Stump Fm**	**2.41**	**191**	⇑PN	Pn	05 37 38.2	-0.8
BKZ				AML	AML	05 38 16.2	
BKZ				AML	AML	05 38 19.5	
BKZ	**Black Stump Fm**	**2.41**	**191**	Pn	Pn	05 37 38.2	-0.8
MHGZ	**Mahia Peninsul**	**2.44**	**165**	PN	Pn	05 37 39.4	+0.1
MHGZ	**Mahia Peninsul**	**2.44**	**165**	Pn	Pn	05 37 39.4	+0.1
HIZ	**Hauiti**	**2.46**	**225**	PN	Pn	05 37 40.6	+1.2
HIZ	**Hauiti**	**2.46**	**225**	Pn	Pn	05 37 40.6	+1.2
ARHZ	**Aropaoanui**	**2.46**	**181**	⇓PN	Pn	05 37 39.6	+0.1
ARHZ	**Aropaoanui**	**2.46**	**181**	Pn	Pn	05 37 39.6	+0.1
KRVZ	**Karewarewa**	**2.56**	**206**	PN	Pn	05 37 40.5	0.0
KRVZ	**Karewarewa**	**2.56**	**206**	Pn	Pn	05 37 40.5	0.0
WTVZ	**West Tongariro**	**2.60**	**206**	PN	Pn	05 37 40.8	-0.1
WTVZ	**West Tongariro**	**2.60**	**206**	Pn	Pn	05 37 40.8	-0.1
OTVZ	**Oturere**	**2.61**	**205**	Pn	Pn	05 37 41.2	+0.1
TWVZ	**Taurewa**	**2.61**	**209**	PN	Pn	05 37 41.1	+0.1
TWVZ	**Taurewa**	**2.61**	**209**	Pn	Pn	05 37 41.1	+0.1
NGZ	**Ngauruhoe**	**2.65**	**206**	PN	Pn	05 37 41.4	-0.1
NGZ	**Ngauruhoe**	**2.65**	**206**	Pn	Pn	05 37 41.4	-0.1
MCHZ	**McNeill Hill**	**2.66**	**186**	PN	Pn	05 37 41.4	0.0
MCHZ	**McNeill Hill**	**2.66**	**186**	Pn	Pn	05 37 41.6	+0.1
KWHZ	**Kaweka Forest**	**2.67**	**191**	PN	Pn	05 37 41.1	-0.5
FWVZ	**Far West T-bar**	**2.73**	**206**	⇓PN	Pn	05 37 42.1	-0.3
FWVZ	**Far West T-bar**	**2.73**	**206**	Pn	Pn	05 37 42.1	-0.3
WHVZ	**Whangaehu Hut**	**2.75**	**205**	PN	Pn	05 37 42.3	-0.3
WHVZ	**Whangaehu Hut**	**2.75**	**205**	Pn	Pn	05 37 42.3	-0.3
WNVZ	**Wahianoa**	**2.78**	**204**	⇓PN	Pn	05 37 42.5	-0.4
WNVZ	**Wahianoa**	**2.78**	**204**	Pn	Pn	05 37 42.5	-0.4
BHHZ	**Black Hill Sta**	**2.81**	**196**	⇑PN	Pn	05 37 42.1	-0.9
BHHZ	**Black Hill Sta**	**2.81**	**196**	Pn	Pn	05 37 42.1	-0.9
PKVZ	**Pokaka**	**2.84**	**208**	PN	Pn	05 37 43.3	-0.1
PKVZ	**Pokaka**	**2.84**	**208**	Pn	Pn	05 37 43.3	-0.1
CKHZ	**Cape Kidnapper**	**2.86**	**180**	⇓PN	Pn	05 37 43.1	-0.4
CKHZ	**Cape Kidnapper**	**2.86**	**180**	Pn	Pn	05 37 43.1	-0.4
MTVZ	**Mangateitei**	**2.88**	**206**	PN	Pn	05 37 43.4	-0.4
MTVZ	**Mangateitei**	**2.88**	**206**	Pn	Pn	05 37 43.4	-0.4
KRHZ	**Kereru**	**2.90**	**191**	PN	Pn	05 37 43.0	-0.9
VRZ	**Vera Road**	**2.96**	**218**	⇑PN	Pn	05 37 45.4	+0.9
VRZ	**Vera Road**	**2.96**	**218**	Pn	Pn	05 37 45.4	+0.9
KAHZ	**Kahuranaki**	**3.00**	**183**	⇑PN	Pn	05 37 44.6	-0.5
KAHZ	**Kahuranaki**	**3.00**	**183**	Pn	Pn	05 37 44.6	-0.5
PNHZ	**Pukenui**	**3.19**	**192**	⇑PN	Pn	05 37 45.8	-1.3
PNHZ	**Pukenui**	**3.19**	**192**	Pn	Pn	05 37 45.8	-1.3
PXZ	**Pawanui**	**3.23**	**183**	⇑PN	Pn	05 37 46.4	-1.1
PXZ				SN	S	05 38 26.4	-4.8
PXZ				AML	AML	05 38 32.1	
PXZ				AML	AML	05 38 32.1	
PXZ				AML	AML	05 38 32.5	
PXZ	**Pawanui**	**3.23**	**183**	Pn	Pn	05 37 46.5	-1.1
WPHZ	**Waipukurau**	**3.30**	**188**	PN	Pn	05 37 47.0	-1.3
WPHZ	**Waipukurau**	**3.30**	**188**	Pn	Pn	05 37 47.2	-1.2
TSZ	**Takapari Road**	**3.37**	**195**	⇑PN	Pn	05 37 47.7	-1.4
TSZ				AML	AML	05 38 37.8	
TSZ				AML	AML	05 38 40.2	
TSZ	**Takapari Road**	**3.37**	**195**	Pn	Pn	05 37 47.7	-1.4
WAZ	**Wanganui**	**3.38**	**208**	PN	Pn	05 37 48.9	-0.4
WAZ	**Wanganui**	**3.38**	**208**	Pn	Pn	05 37 48.9	-0.3
NEZ	**North Egmont**	**3.41**	**223**	PN	Pn	05 37 50.9	+1.3
NEZ	**North Egmont**	**3.41**	**223**	Pn	Pn	05 37 51.0	+1.3
PRHZ	**Porangahau**	**3.48**	**186**	⇓PN	Pn	05 37 49.1	-1.2
PRHZ	**Porangahau**	**3.48**	**186**	Pn	Pn	05 37 49.1	-1.2
DVHZ	**Dannevirke**	**3.57**	**191**	⇓PN	Pn	05 37 49.7	-1.6
DVHZ	**Dannevirke**	**3.57**	**191**	Pn	Pn	05 37 49.8	-1.6
OHWZ	**Ohakea**	**3.67**	**202**	PN	Pn	05 37 51.8	-0.7
ANWZ	**Angora Road**	**3.69**	**187**	⇓PN	Pn	05 37 51.3	-1.4
POWZ	**Post Office Ro**	**3.73**	**196**	PN	Pn	05 37 51.6	-1.6
POWZ	**Post Office Ro**	**3.73**	**196**	Pn	Pn	05 37 51.6	-1.6
PRWZ	**Pori Road**	**3.85**	**193**	PN	Pn	05 37 53.4	-1.2
PRWZ	**Pori Road**	**3.85**	**193**	Pn	Pn	05 37 53.4	-1.2
BFZ	**Birch Farm**	**3.93**	**189**	PN	Pn	05 37 53.6	-2.0
BFZ				AML	AML	05 38 44.7	
BFZ				AML	AML	05 38 47.9	
BFZ				AML	AML	05 38 48.5	
BFZ				AML	AML	05 38 48.6	
BFZ	**Birch Farm**	**3.93**	**189**	Pn	Pn	05 37 53.6	-2.0
MRZ	**Mangatainoka R**	**4.03**	**196**	PN	Pn	05 37 54.4	-2.3
MRZ	**Mangatainoka R**	**4.03**	**196**	Pn	Pn	05 37 54.4	-2.3
TIWZ	**Tintock**	**4.08**	**193**	PN	Pn	05 37 55.5	-1.8
TIWZ				AML	AML	05 38 51.0	
TIWZ				AML	AML	05 38 51.5	
TIWZ	**Tintock**	**4.08**	**193**	Pn	Pn	05 37 55.5	-1.8
CPWZ	**Castlepoint**	**4.16**	**189**	PN	Pn	05 37 57.0	-1.2
CPWZ	**Castlepoint**	**4.16**	**189**	Pn	Pn	05 37 57.0	-1.2
HOWZ	**Holdsworth Sta**	**4.27**	**196**	PN	Pn	05 37 57.2	-2.4
HOWZ	**Holdsworth Sta**	**4.27**	**196**	Pn	Pn	05 37 57.2	-2.4
OGWZ	**Otaki Gorge**	**4.28**	**200**	PN	Pn	05 37 57.4	-2.2
OGWZ	**Otaki Gorge**	**4.28**	**200**	Pn	Pn	05 37 57.4	-2.2
KIWZ	**Kapiti Island**	**4.40**	**202**	PN	Pn	05 37 58.6	-2.4
KIWZ				AML	AML	05 38 54.9	
KIWZ				AML	AML	05 38 56.3	
KIWZ	**Kapiti Island**	**4.40**	**202**	Pn	Pn	05 37 58.6	-2.4
TMWZ	**Te Maipa**	**4.40**	**192**	PN	Pn	05 37 59.2	-1.9
TMWZ	**Te Maipa**	**4.40**	**192**	Pn	Pn	05 37 59.2	-1.9
MTWZ	**Mount Morrison**	**4.53**	**195**	PN	Pn	05 38 00.2	-2.4
MTWZ				AML	AML	05 38 56.7	
MTWZ				AML	AML	05 38 59.1	
MTWZ	**Mount Morrison**	**4.53**	**195**	Pn	Pn	05 38 00.2	-2.4
CAWZ	**Cannon Point**	**4.58**	**199**	PN	Pn	05 38 00.7	-2.5
CAWZ				AML	AML	05 38 59.2	
CAWZ				AML	AML	05 39 00.7	
CAWZ	**Cannon Point**	**4.58**	**199**	Pn	Pn	05 38 00.7	-2.5
DUWZ	**D'Urville Isla**	**4.70**	**211**	PN	Pn	05 38 02.0	-2.6
DUWZ	**D'Urville Isla**	**4.70**	**211**	Pn	Pn	05 38 02.0	-2.6
TRWZ	**Traveller**	**4.72**	**193**	PN	Pn	05 38 02.8	-2.1
TRWZ				AML	AML	05 39 04.0	
TRWZ				AML	AML	05 39 04.8	
TRWZ	**Traveller**	**4.72**	**193**	Pn	Pn	05 38 02.8	-2.1
PAWZ	**Paruwai Farm**	**4.75**	**195**	PN	Pn	05 38 02.7	-2.6
PAWZ				AML	AML	05 39 01.5	
PAWZ				AML	AML	05 39 02.1	
PAWZ	**Paruwai Farm**	**4.75**	**195**	Pn	Pn	05 38 02.7	-2.6
MSWZ	**Moikau Station**	**4.83**	**197**	PN	Pn	05 38 03.3	-2.9
MSWZ				AML	AML	05 39 03.7	
MSWZ				AML	AML	05 39 04.3	
MSWZ	**Moikau Station**	**4.83**	**197**	Pn	Pn	05 38 03.3	-2.9
WELZ	**Wellington**	**4.83**	**201**	PN	Pn	05 38 03.8	-2.3
WELZ	**Wellington**	**4.83**	**201**	Pn	Pn	05 38 03.9	-2.3
BHWZ	**Baring Head**	**4.91**	**200**	PN	Pn	05 38 04.3	-2.9
BHWZ				AML	AML	05 39 06.0	
BHWZ				AML	AML	05 39 07.2	
BHWZ	**Baring Head**	**4.91**	**200**	Pn	Pn	05 38 04.3	-2.9
TCWZ	**Tory Channel**	**4.92**	**205**	PN	Pn	05 38 04.6	-2.7
TCWZ				AML	AML	05 39 06.7	
TCWZ				AML	AML	05 39 07.1	
TCWZ	**Tory Channel**	**4.92**	**205**	Pn	Pn	05 38 04.6	-2.7
PLWZ	**Palliser**	**4.97**	**196**	PN	Pn	05 38 05.3	-2.6
PLWZ	**Palliser**	**4.97**	**196**	Pn	Pn	05 38 05.3	-2.6
TUWZ	**Tuamarina**	**5.23**	**207**	PN	Pn	05 38 08.1	-2.9
TUWZ				AML	AML	05 39 12.2	
TUWZ				AML	AML	05 39 14.6	
TUWZ	**Tuamarina**	**5.23**	**207**	Pn	Pn	05 38 08.1	-2.9
NNZ	**Nelson**	**5.27**	**212**	PN	Pn	05 38 08.6	-2.9
NNZ	**Nelson**	**5.27**	**212**	Pn	Pn	05 38 08.6	-2.9
QRZ	**Quartz Range**	**5.37**	**220**	⇓PN	Pn	05 38 09.8	-2.9
QRZ	**Quartz Range**	**5.37**	**220**	Pn	Pn	05 38 09.8	-2.9
BSWZ	**Blackbirch Sta**	**5.50**	**206**	PN	Pn	05 38 12.5	-1.9
BSWZ				AML	AML	05 39 21.0	
BSWZ	**Blackbirch Sta**	**5.50**	**206**	Pn	Pn	05 38 12.5	-1.9
THZ	**Tophouse**	**5.92**	**212**	PN	Pn	05 38 17.1	-2.5
THZ	**Tophouse**	**5.92**	**212**	Pn	Pn	05 38 17.1	-2.5
KHZ	**Kahutara**	**6.24**	**205**	PN	Pn	05 38 20.6	-3.0
KHZ	**Kahutara**	**6.24**	**205**	Pn	Pn	05 38 20.6	-3.0
DSZ	**Denniston Nort**	**6.41**	**218**	PN	Pn	05 38 22.0	-3.8
DSZ	**Denniston Nort**	**6.41**	**218**	Pn	Pn	05 38 22.1	-3.8
LTZ	**Lake Taylor**	**7.03**	**210**	PN	Pn	05 38 30.1	-3.4
LTZ	**Lake Taylor**	**7.03**	**210**	Pn	Pn	05 38 30.1	-3.4
OXZ	**Oxford**	**7.58**	**209**	PN	Pn	05 38 36.4	-4.0
OXZ	**Oxford**	**7.58**	**209**	Pn	Pn	05 38 36.4	-4.0
MQZ	**McQueen's Vall**	**7.68**	**205**	PN	Pn	05 38 37.5	-4.2
MQZ	**McQueen's Vall**	**7.68**	**205**	Pn	Pn	05 38 37.5	-4.2
WVZ	**Waitaha Valley**	**7.94**	**216**	PN	Pn	05 38 41.2	-3.7
RPZ	**Rata Peaks**	**8.30**	**212**	PN	Pn	05 38 46.1	-3.4
RPZ	**Rata Peaks**	**8.30**	**212**	Pn	Pn	05 38 46.1	-3.4
FOZ	**Fox Glacier**	**8.72**	**217**	PN	Pn	05 38 51.2	-3.6
FOZ	**Fox Glacier**	**8.72**	**217**	Pn	Pn	05 38 51.2	-3.6
LBZ	**Lake Benmore**	**9.21**	**212**	PN	Pn	05 38 57.3	-3.8
LBZ	**Lake Benmore**	**9.21**	**212**	Pn	Pn	05 38 57.3	-3.7
ODZ	**Otahua Downs**	**9.56**	**209**	PN	Pn	05 39 02.7	-2.8
ODZ	**Otahua Downs**	**9.56**	**209**	Pn	Pn	05 39 02.7	-2.8
JCZ	**Jackson Bay**	**9.63**	**218**	Pn	Pn	05 39 02.5	-3.8

*IDC **07** 05:45:17.3±1.6, 58°.21N×133°.51W, h0km, mb2.7/1, mb1 3.4/4, mb1mx3.2/36, mbtmp3.1/4, ML2.7/3, Error ellipse: s-maj=21.1km s-min=11.8km az=21.0*

*PGC **07** 05:45:19.4±0.4, 58°.32N×133°.51W, h1km, ML3.3/8, 53km east of Juneau, Ak Southeastern Alaska*

*NEIC **07** 05:45:19.0, 58°.32N×133°.51W, h1km, ML3.3(OTT), ML3.0(AEIC), After OTT.*

ISC 07 05:45:17.6±1.3, 58°.37N±0°.05×133°.42W±0°.03, h3km±11km, n29, σ1s80/49, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESE	**Bessie Mountai**	**0.78**	**286**	P	**Pg**	**05 45 32.8**	**+0.2**
SKAG	**Skagway**	**1.48**	**319**	P	**Pn**	**05 45 44.9**	**-0.1**
SKAG				S	**Sb**	**05 46 04.9**	**+0.2**
DLBC	**Dease Lake**	**1.79**	**86**	Pn	**Pn**	**05 45 49.9**	**+0.5**
	12nm,0.3s,baz=259,slow=13,SNR=7.6						
DLBC				Lg	Lg	05 46 17.1	
	32nm,0.3s,baz=16,slow=25,SNR=21						
DLBC	**Dease Lake**	**1.79**	**86**	Pn	**Pb**	**05 45 50.3**	**-0.7**
DLBC				Pg	**Pg**	**05 45 51.9**	**+0.1**
DLBC				Sn	**Sb**	**05 46 14.5**	**+0.6**
DLBC				Sg	**Sg**	**05 46 17.1**	**+2.1**
DLBC	**Dease Lake**	**1.79**	**86**	P	**Pb**	**05 45 50.5**	**-0.5**
DLBC				S	**Sg**	**05 46 16.7**	**+1.7**
PLBC	**Pleasant Camp**	**1.88**	**307**	Pn	**Pb**	**05 45 51.7**	**-0.8**
PLBC				Sn	**Sb**	**05 46 16.0**	**-0.3**
PLBC				Sg	**Sg**	**05 46 17.6**	**-0.2**
PLBC	**Pleasant Camp**	**1.88**	**307**	P	**Pb**	**05 45 51.7**	**-0.8**
PLBC				S	**Sb**	**05 46 15.9**	**-0.3**
WRAK	**Wrangell Islan**	**2.04**	**163**	P	**Pn**	**05 45 52.8**	**0.0**
WRAK				S	**Sg**	**05 46 20.7**	**-0.8**
WHY	**Whitehorse**	**2.42**	**343**	Pn	**Pn**	**05 45 58.7**	**+0.6**
WHY				Sg	**Sb**	**05 46 30.8**	**-1.2**
WHY	**Whitehorse**	**2.42**	**343**	P	**Pn**	**05 45 58.4**	**+0.4**
DHAK	**Deception Hill**	**2.60**	**288**	P	**Pn**	**05 46 01.5**	**+1.0**
DHAK				S	**Sn**	**05 46 33.4**	**+0.8**
CRAG	**Craig**	**2.91**	**177**	P	**Pn**	**05 46 04.8**	**+0.1**
HYT	**Haines Junctio**	**3.22**	**322**	Pn	**Pn**	**05 46 10.8**	**+1.7**
HYT				Pg	**Pb**	**05 46 17.2**	**+1.7**
HYT				Sg	**Sg**	**05 46 58.8**	**-2.2**
HYT	**Haines Junctio**	**3.22**	**322**	P	**Pn**	**05 46 10.3**	**+1.1**
YUK7	**Dusty Glacier**	**3.24**	**314**	Pg	**Pb**	**05 46 17.4**	**+1.5**
YUK7				Sg	**Sg**	**05 47 00.3**	**-1.4**
YUK6	**Outpost Mounta**	**3.60**	**318**	Sg	**Sg**	**05 47 12.1**	**-1.0**
YUK3	**Moose Creek**	**4.91**	**317**	Pg	**Pb**	**05 46 47.2**	**+3.0**
YUK3				Sg	**Sg**	**05 47 52.3**	**-2.8**
YUK2	**White River**	**5.05**	**316**	Pg	**Pb**	**05 46 49.0**	**+2.3**
YUK2				Sg	**Sg**	**05 47 58.9**	**-0.9**
YUK1	**Sand Pete Hill**	**5.19**	**320**	Pg	**Pb**	**05 46 53.0**	**+4.1**
YUK1				Sg	**Sg**	**05 48 02.1**	**-1.9**
BALM	**Baldy**	**5.25**	**304**	Pg	**Pb**	**05 46 52.0**	**+2.0**
FNBB	**Fort Nelson**	**5.46**	**80**	Pn	**Pn**	**05 46 40.8**	**+0.9**
FNBB				Sg	**Sg**	**05 48 10.5**	**-2.4**
BVCY	**Beaver Creek**	**5.48**	**321**	Pg	**Pb**	**05 46 57.9**	**+4.0**
DAWY	**Dawson**	**6.40**	**336**	Pn	**Pn**	**05 46 54.0**	**+1.4**
DAWY				Sn	**Sn**	**05 48 03.2**	**-2.9**
DAWY				Sg	**Sg**	**05 48 38.5**	**-4.4**
EGAK	**Eagle**	**7.41**	**333**	*e*Pn	**Pn**	**05 47 07.8**	**+1.4**
	8.0nm,0.7s						
ILAR	**Eielson Array**	**9.07**	**321**	Pn	**Pn**	**05 47 31.0**	**+1.9**
	0.0nm,0.3s,baz=132,slow=12,SNR=5.1						
ILAR				Pg	Pg	05 48 03.8	
	0.1nm,0.3s,baz=136,slow=16,SNR=6.2						
ILAR				Sn	Sn	05 49 20.4	+8.8
	0.0nm,0.3s,baz=112,slow=28,SNR=2.9						
ILAR				Lg	Lg	05 50 05.6	
	0.1nm,0.3s,baz=121,slow=28,SNR=8.8						
INK	**Inuvik**	**9.98**	**360**	Pn	**Pn**	**05 47 43.3**	**+1.7**
	0.2nm,0.3s,baz=174,slow=8.4,SNR=7.2						
INK				Lg	Lg	05 50 40.9	
	0.1nm,0.3s,baz=106,slow=30,SNR=3.1						
INK	**Inuvik**	**9.98**	**360**	*e*Pn	**Pn**	**05 47 43.0**	**+1.5**
	5.2nm,1.0s						
YKA	**Yellowknife Ar**	**10.16**	**58**	Pn	**Pn**	**05 47 42.2**	**-2.0**
	0.0nm,0.3s,baz=260,slow=14,SNR=3.3						
YKA				Lg	Lg	05 50 37.7	
	0.0nm,0.3s,baz=256,slow=29,SNR=3.8						
NVAR	**Mina Array Bea**	**22.23**	**147**	P	**P**	**05 50 15.4**	**0.0**
	0.1nm,0.4s,baz=330,slow=9.8,SNR=2.2						

MAN 07 05:49:09, 13°.44N×120°.80E, h1km, mb4.1, ML2.9, MS2.7, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.17**	**69**	⇑*e*P	Pg	05 49 12.7	+0.5
PGP				*i* S	Sg	05 49 19.9	+5.6
LUBP	**Lubang**	**0.61**	**299**	*e*P	Pg	05 49 21.2	+0.6
LUBP				*e*S	Sb	05 49 31.2	-0.3
SJMP	**San Jose**	**1.02**	**162**	*e*P	Pn	05 49 30.6	+0.1
SJMP				*e*S	Sn	05 49 46.2	+0.7

IDC 07 05:49:18.9±9.5, 44°.90S×14°.95W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/15, mbtmp3.8/1, Error ellipse: s-maj=550.3km s-min=74.3km az=129.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**59.71**	**19**	P	P	05 59 25.2	-0.1
	1.3nm,1.0s,baz=191,slow=6.3,SNR=4.4						
YKA	**Yellowknife Ar**	**132.72**	**321**	PKP	PKPdf	06 08 34.3	-0.2
	0.1nm,0.6s,baz=123,slow=3.1,SNR=2.7						
ILAR	**Eielson Array**	**147.05**	**324**	PKPbc	PKPbc	06 09 01.5	-0.9
	1.1nm,0.8s,baz=91,slow=1.3,SNR=12						

*ISK **07** 06:02:39.8, 37°.23N×28°.16E, h2km, ML2.0*

*DDA **07** 06:02:40.7, 37°.24N×28°.13E, h7km, Md2.8*

*CSEM **07** 06:02:41.1±0.3, 37°.26N×28°.16E, h2km, ML2.0, Error ellipse: s-maj=6.5km s-min=4.6km az=29.0*

ISC 07 06:02:40.1±1.1, 37°.26N±0°.05×28°.16E±0°.03, h7km±10km, n18, σ1s13/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.16**	**144**	*e*PG	**Pg**	**06 02 43.3**	**-0.1**
YER				*e*SG	**Sg**	**06 02 45.4**	**-0.2**
YER	**Yerkesik**	**0.16**	**144**	*e*Pg	**Pg**	**06 02 43.3**	**-0.1**
YER				*e*Sg	**Sg**	**06 02 45.4**	**-0.2**
AYDN	**Tasoluk**	**0.46**	**330**	P	**Pb**	**06 02 50.5**	**0.0**

KBS				Sn		Sn	06 19 02.4	-1.3
KBS	**Kingsbay**	**9.22**	**29**	*i* P		Pn	06 17 20.0	-0.2
	SNR=51							
KBS				Sn		Sn	06 19 02.4	-1.3
	SNR=50							
KBS	**Kingsbay**	**9.22**	**29**	*e*Pn		Pn	06 17 20.6	+0.5
	comp=Z,15nm,0.5s							
BJO	**Bjornoya**	**9.27**	**59**	*e*Pn		Pn	06 17 23.1	+2.2
BJO	**Bjornoya**	**9.27**	**59**	*e*Pn		Pn	06 17 23.1	+2.2
	SNR=50							
SPA0	**Spitsbergen Ar**	**9.55**	**36**	Pn		Pn	06 17 25.8	+1.0
	baz=231,slow=12							
SPA0	**Spitsbergen Ar**	**9.55**	**36**	Pn		Pn	06 17 25.8	+1.0
	baz=231,slow=12,SNR=50							
SPITS	**Spitsbergen Ar**	**9.55**	**36**	Pn		Pn	06 17 26.0	+1.2
	baz=226,slow=17,SNR=105							
TRO	**Tromso**	**10.25**	**87**	*e*Pn		Pn	06 17 33.7	-0.6
TRO	**Tromso**	**10.25**	**87**	*e*Pn		Pn	06 17 33.7	-0.6
	SNR=50							
HOPEN	**Hopen**	**10.89**	**48**	*e*Pn		Pn	06 17 44.0	+1.0
HOPEN	**Hopen**	**10.89**	**48**	*e*Pn		Pn	06 17 44.0	+1.0
	SNR=50							
ARA0	**ARCESS Array S**	**12.36**	**82**	Pn		Pn	06 18 03.5	+0.4
	baz=284,slow=11							
ARA0	**ARCESS Array S**	**12.36**	**82**	Pn		Pn	06 18 03.5	+0.4
	baz=284,slow=11,SNR=50							
ARCES	**ARCESS Array B**	**12.36**	**82**	Pn		Pn	06 18 03.9	+0.8
	comp=Z,0.4nm,0.3s,baz=292,slow=12,SNR=11							
NB2	**NORSAR Subarra**	**13.99**	**129**	Pn		Pn	06 18 27.9	+2.5
NB2	**NORSAR Subarra**	**13.99**	**129**	Pn		Pn	06 18 27.9	+2.5
	SNR=50							
NOA	**NORSAR Array B**	**13.99**	**129**	LR		LR	06 22 36.8	
	comp=Z,244nm,19.7s,baz=185,slow=32							
HFS	**Hagfors**	**15.39**	**126**	Pn		Pn	06 18 46.9	+2.6
	comp=Z,0.2nm,0.3s,baz=340,slow=8.3,SNR=11							
HFS	**Hagfors**	**15.39**	**126**	Pn		Pn	06 18 47.1	+2.8
	baz=338,slow=11							
APA0	**Apatity Array**	**15.71**	**83**	Pn		Pn	06 18 48.8	+0.3
APA0	**Apatity Array**	**15.71**	**83**	Pn		Pn	06 18 48.8	+0.3
	SNR=50							
EKA	**Eskdalemuir Ar**	**16.90**	**163**	Pn		Pn	06 19 04.5	+0.8
	baz=352,slow=12,SNR=8.5							
FIA0	**FINESS Array S**	**17.80**	**106**	Pn		P	06 19 17.6	+2.0
	baz=311,slow=16							
FIA0	**FINESS Array S**	**17.80**	**106**	Pn		P	06 19 17.6	+2.0
	baz=311,slow=15,SNR=50							
FINES	**FINESS Array B**	**17.80**	**106**	P		P	06 19 17.2	+1.5
	comp=Z,0.2nm,0.3s,baz=347,slow=16,SNR=8.1							
CLL	**Collm**	**23.30**	**139**	*i* PKP		P	06 20 14.0	-1.0
	comp=Z,10.0nm,1.1s							
CLL				*i*			06 20 20.7	
	comp=Z,16nm,1.5s							
CLL				*i*			06 20 26.8	
	comp=Z,18nm,1.6s							
BRG	**Berggiesshubel**	**23.91**	**138**	*e*P		P	06 20 20.3	-0.6
	comp=Z,8.2nm,1.5s							
BRG				*e*			06 20 32.5	
	comp=Z,9.0nm,1.3s							
NKC	**Novy Kostel**	**24.20**	**140**	*e*P		P	06 20 25.9	+2.1
NKC				*ep*P		sP	06 20 29.4	+1.4
NKC	**Novy Kostel**	**24.20**	**140**	P		P	06 20 25.9	+2.1
PRU	**Pruhonice**	**24.87**	**137**	*e*P		P	06 20 30.0	+0.2
PRU				*ep*P		sP	06 20 36.7	+2.7
PRU	**Pruhonice**	**24.87**	**137**	P		P	06 20 30.0	+0.2
DPC	**Dobruska-Polom**	**24.92**	**135**	*e*P		P	06 20 30.5	+0.3
DPC				*ep*P		pP	06 20 34.4	+1.1
DPC				*es*P		sP	06 20 37.2	+2.7
DPC	**Dobruska-Polom**	**24.92**	**135**	P		P	06 20 30.5	+0.3
KHC	**Kasperske Hory**	**25.48**	**139**	*e*P		P	06 20 36.0	+0.7
KHC				*ep*P		sP	06 20 43.5	+3.9
KHC	**Kasperske Hory**	**25.48**	**139**	P		P	06 20 36.0	+0.7
GERES	**GERESS Array B**	**25.78**	**140**	P		P	06 20 37.1	-1.0
	comp=Z,1.4nm,0.8s,baz=353,slow=9.4,SNR=8.0							
VRAC	**Vranov**	**25.95**	**135**	P		P	06 20 40.0	+0.4
	comp=Z,4.4nm,0.7s,baz=320,slow=7.1,SNR=3.7							
LANS	**Liptovska Anna**	**26.76**	**131**	*e*P		P	06 20 48.3	+1.3
LANS	**Liptovska Anna**	**26.76**	**131**	*e*P		P	06 20 48.3	+1.3
STHS	**Stebnicka Huta**	**26.94**	**129**	*e*P		P	06 20 50.1	+1.5
	comp=Z,3.3nm,0.9s							
STHS	**Stebnicka Huta**	**26.94**	**129**	*e*P		P	06 20 50.1	+1.5
VYHS	**Vyhne**	**27.23**	**133**	*e*P		P	06 20 51.2	+0.1
	comp=Z,5.0nm,1.3s							
VYHS	**Vyhne**	**27.23**	**133**	*e*P		P	06 20 51.2	+0.1
CRVS	**Cervenica-Dubn**	**27.48**	**129**	*e*P		P	06 20 55.0	+1.7
CRVS	**Cervenica-Dubn**	**27.48**	**129**	*e*P		P	06 20 55.0	+1.7
KECS	**Kecovo**	**27.63**	**130**	*e*P		P	06 20 54.8	+0.1
	comp=Z,6.7nm,1.0s							
KECS	**Kecovo**	**27.63**	**130**	*e*P		P	06 20 54.8	+0.1
KOLS	**Kolonicke sedl**	**27.65**	**128**	*e*P		P	06 20 53.8	-1.1
	comp=Z,9.6nm,1.7s							
KOLS	**Kolonicke sedl**	**27.65**	**128**	*e*P		P	06 20 53.8	-1.1
AKASG	**Malin Array Be**	**27.88**	**117**	P		P	06 20 55.9	-1.0
	comp=Z,0.4nm,0.3s,baz=333,slow=9.6,SNR=7.8							
AKASG				LR		LR	06 30 45.4	
	comp=Z,150nm,18.2s,baz=140,slow=34							
BURAR	**Bucovina Array**	**29.61**	**125**	*i* P		P	06 21 13.7	+1.2
SORM	**Soroca**	**29.96**	**121**	*i* P		P	06 21 15.1	-0.3
TESR	**Tescani**	**31.01**	**124**	*i* P		P	06 21 25.4	+0.7
GZR	**Gura Zlata**	**31.07**	**130**	*i* P		P	06 21 26.0	+0.7
VOIR		**31.60**	**127**	*i* P		P	06 21 32.4	+2.5
PLOR	**Plostina**	**31.62**	**124**	*i* P		P	06 21 31.3	+1.2
VRI	**Vrincioaia**	**31.63**	**124**	*i* P		P	06 21 31.4	+1.3
MLR	**Muntele Rosu**	**31.77**	**126**	*i* P		P	06 21 32.8	+1.2
CFR	**Carcaliu**	**32.63**	**123**	*i* P		P	06 21 38.8	-0.1
TIRR	**Tirgusor**	**33.38**	**123**	*i* P		P	06 21 45.2	-0.2
YKA	**Yellowknife Ar**	**36.11**	**310**	P		P	06 22 08.5	-0.4
	comp=Z,1.0nm,0.7s,baz=28,slow=8.2,SNR=13							
ABKAR	**Akbulak array**	**38.52**	**86**	*e*P		P	06 22 30.1	+0.6
	comp=Z,4.4nm,1.0s							
ABKAR	**Akbulak array**	**38.52**	**86**	*e*P		P	06 22 30.1	+0.6
	comp=Z,4.4nm,1.0s							
BRTR	**Keskin Array B**	**39.19**	**120**	P		P	06 22 34.2	-1.1
	comp=Z,2.1nm,0.9s,baz=325,slow=6.2,SNR=8.8							
FFC	**Flin Flon**	**39.47**	**294**	*e*P		P	06 22 36.6	-0.7
	comp=Z,12nm,1.1s							
FFC	**Flin Flon**	**39.47**	**294**	*e*P		P	06 22 36.6	-0.7
	comp=Z,12nm,1.1s							
ILAR	**Eielson Array**	**40.37**	**332**	P		P	06 22 46.0	+1.3
	comp=Z,2.0nm,1.0s,baz=8.7,slow=6.9,SNR=16							
ILAR	**Eielson Array**	**40.37**	**332**	P		P	06 22 46.0	+1.3
KKAR	**Karatay Array**	**47.32**	**81**	*e*P		P	06 23 41.9	+1.1
	comp=Z,2.3nm,0.8s							
KKAR	**Karatay Array**	**47.32**	**81**	*e*P		P	06 23 41.9	+1.1
	comp=Z,2.3nm,0.8s							
MKAR	**Makanchi Array**	**47.54**	**68**	P		P	06 23 43.1	+0.7
	comp=Z,1.2nm,0.7s,baz=336,slow=8.0,SNR=9.7							
GEYT	**Allbeck**	**48.14**	**95**	P		P	06 23 48.4	+1.2
	comp=Z,1.5nm,0.3s,baz=305,slow=10,SNR=2.2							
PDAR	**Pinedale Array**	**52.40**	**293**	P		P	06 24 19.6	-0.1
	comp=Z,1.1nm,1.0s,baz=39,slow=7.6,SNR=5.2							
O20A	**White River Ci**	**54.44**	**291**	*e*P		P	06 24 35.0	+0.4
	comp=Z,9.3nm,1.0s							
O20A	**White River Ci**	**54.44**	**291**	*e*P		P	06 24 35.0	+0.4
	comp=Z,9.3nm,1.0s							
MVCO	**Mesa Verde**	**57.22**	**289**	*e*P		P	06 24 54.6	0.0
	comp=Z,7.4nm,1.1s							
MVCO	**Mesa Verde**	**57.22**	**289**	*e*P		P	06 24 54.6	0.0
	comp=Z,7.4nm,1.1s							
NVAR	**Mina Array Bea**	**58.90**	**299**	P		P	06 25 07.2	+0.9
	comp=Z,0.2nm,0.4s,baz=17,slow=6.6,SNR=2.5							
TORD	**Torodi Ar. Bea**	**59.15**	**165**	P		P	06 25 05.8	-2.2
	comp=Z,1.1nm,0.7s,baz=346,slow=6.5,SNR=8.3							
TXAR	**Lajitas Array**	**63.08**	**282**	P		P	06 25 33.3	-1.4
	comp=Z,0.2nm,0.7s,baz=34,slow=5.5,SNR=3.3							
KSRS	**Korea Array**	**67.39**	**34**	LR		LR	06 58 40.1	
	comp=Z,255nm,21.5s,baz=0.0,slow=39							
CMIG	**Matias Romero**	**71.79**	**269**	LR		LR	07 00 25.2	
	comp=Z,75nm,18.5s,baz=133,slow=38							
CMAR	**Chiang Mai Arr**	**78.82**	**65**	P		P	06 27 10.6	+0.4
	comp=Z,1.4nm,0.3s,baz=316,slow=10,SNR=7.8							
JCJ	**Chichijima**	**79.72**	**24**	LR		LR	07 02 53.6	
	comp=Z,204nm,21.8s,baz=356,slow=36							
GUMO	**Guam**	**93.37**	**23**	LR		LR	07 12 10.6	
	comp=Z,127nm,21.3s,baz=60,slow=37							

*IDC **07** 06:16:34.0±1.2,55.°73N×163.°82E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.6/49,mbtmp3.7/8,ML2.4/1,Error ellipse: s-maj=35.7km s-min=21.3km az=147.0*
*KRSC **07** 06:16:34.3±1.1,55.°42N×164.°06E,h72km±21km,ML4.2*
*ISCJB **07** 06:16:36.6±0.5,55.°37N±0.°03×163.°98E±0.°05,h39km±8km, mb3.7/7,Error ellipse: s-maj=4.9km s-min=4.5km az=13.7*
*MOS **07** 06:16:36.3±0.6,55.°43N×164.°02E,h54km,mb4.1/5,Error ellipse: s-maj=7.9km s-min=6.4km az=58.8*

ISC 07 06:16:37.1±0.9,55.°43N±0.°03×164.°04E±0.°03,h35km±10km, n81,σ1°21/113,mb3.6/7,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**1.11**	**318**	PN		**Pn**	**06 16 54.5**	**-1.7**
KBG				S		**Sn**	**06 17 10.0**	**-0.3**
KBG	**Krutoberegovo**	**1.11**	**318**	*e*P		**Pn**	**06 16 54.5**	**-1.7**
KBG				*e*S		**Sn**	**06 17 10.0**	**-0.3**
BKI	**Bering**	**1.13**	**101**	PN		**Pn**	**06 16 56.4**	**0.0**
BKI				S		**Sn**	**06 17 12.2**	**+1.5**
BKI	**Bering**	**1.13**	**101**	*e*P		**Pn**	**06 16 56.4**	**0.0**
BKI				*e*S		**Sn**	**06 17 12.2**	**+1.5**
MKZ	**Mys Kozlova**	**1.59**	**237**	PN		**Pn**	**06 17 01.2**	**-1.5**
MKZ				S		**Sn**	**06 17 19.6**	**-2.4**
MKZ	**Mys Kozlova**	**1.59**	**237**	*e*P		**Pn**	**06 17 01.2**	**-1.5**
MKZ				*e*S		**Sn**	**06 17 19.6**	**-2.4**
SMKR	**Semkarok**	**1.85**	**310**	PN		**Pn**	**06 17 05.4**	**-0.9**
SMKR				S		**Sn**	**06 17 28.1**	**-0.4**
SMKR	**Semkarok**	**1.85**	**310**	*i* P		**Pn**	**06 17 05.4**	**-0.9**
SMKR				*e*S		**Sn**	**06 17 28.1**	**-0.4**
ZLN	**Zelenaya**	**1.92**	**289**	PN		**Pn**	**06 17 07.9**	**+0.5**
ZLN				S		**Sn**	**06 17 32.5**	**+2.2**
ZLN	**Zelenaya**	**1.92**	**289**	*i* P		**Pn**	**06 17 07.9**	**+0.5**
ZLN				*e*S		**Sn**	**06 17 32.5**	**+2.2**
BDR	**Baidarnaya**	**1.95**	**307**	PN		**Pn**	**06 17 07.4**	**-0.4**
BDR				S		**Sn**	**06 17 31.2**	**0.0**
BDR	**Baidarnaya**	**1.95**	**307**	*e*P		**Pn**	**06 17 07.4**	**-0.4**
BDR				*e*S		**Sn**	**06 17 31.2**	**0.0**
CIRR	**Tsirk**	**1.98**	**292**	PN		**Pn**	**06 17 08.1**	**-0.1**
CIRR	**Tsirk**	**1.98**	**292**	*e*P		**Pn**	**06 17 08.1**	**-0.1**
LGNR	**Loginova**	**2.00**	**290**	PN		**Pn**	**06 17 09.3**	**+0.6**
LGNR				S		**Sn**	**06 17 34.2**	**+1.6**
LGNR	**Loginova**	**2.00**	**290**	*e*P		**Pn**	**06 17 09.3**	**+0.6**
LGNR				*e*S		**Sn**	**06 17 34.2**	**+1.6**
SRKR	**Sorokina**	**2.02**	**308**	PN		**Pn**	**06 17 08.9**	**+0.1**
SRKR	**Sorokina**	**2.02**	**308**	*i* P		**Pn**	**06 17 08.9**	**+0.1**
BZMR	**Bezymyannaya**	**2.07**	**286**	PN		**Pn**	**06 17 09.8**	**+0.3**
BZMR	**Bezymyannaya**	**2.07**	**286**	*e*P		**Pn**	**06 17 09.8**	**+0.3**
KLY	**Klyuchi**	**2.10**	**296**	PN		**Pn**	**06 17 08.9**	**-0.9**
KLY				S		**Sn**	**06 17 33.3**	**-1.3**
KLY	**Klyuchi**	**2.10**	**296**	*e*P		**Pn**	**06 17 08.9**	**-0.9**
KLY				*e*S		**Sn**	**06 17 33.3**	**-1.3**
KRSR	**Krestovskiy**	**2.11**	**293**	PN		**Pn**	**06 17 10.1**	**+0.1**
KRSR				S		**Sn**	**06 17 36.8**	**+1.8**
KRSR	**Krestovskiy**	**2.11**	**293**	*e*P		**Pn**	**06 17 10.1**	**+0.1**
KRSR				*e*S		**Sn**	**06 17 36.8**	**+1.8**
KIRR	**Kirishev**	**2.15**	**286**	PN		**Pn**	**06 17 10.6**	**-0.1**
KIRR				S		**Sn**	**06 17 37.6**	**+1.4**
KIRR	**Kirishev**	**2.15**	**286**	*e*P		**Pn**	**06 17 10.6**	**-0.1**
KIRR				*e*S		**Sn**	**06 17 37.6**	**+1.4**
KMNR	**Kamenistaya**	**2.18**	**280**	PN		**Pn**	**06 17 11.8**	**+0.8**
KMNR	**Kamenistaya**	**2.18**	**280**	*e*P		**Pn**	**06 17 11.8**	**+0.8**
KPT	**Kopyto**	**2.22**	**286**	PN		**Pn**	**06 17 05.2**	**+0.5**
KPT				S		**Sn**	**06 17 39.4**	**+1.6**
KPT	**Kopyto**	**2.22**	**286**	*e*P		**Pn**	**06 17 12.0**	**+0.5**
KPT				*e*S		**Sn**	**06 17 39.4**	**+1.6**
TUMR	**Tumrok**	**2.23**	**268**	PN		**Pn**	**06 17 11.8**	**+0.2**
TUMR	**Tumrok**	**2.23**	**268**	*e*P		**Pn**	**06 17 11.8**	**+0.2**
KOZ	**Kozyrevsk**	**2.44**	**287**	PN		**Pn**	**06 17 15.7**	**+1.3**
KOZ				S		**Sn**	**06 17 46.0**	**+3.1**
KOZ	**Kozyrevsk**	**2.44**	**287**	*e*P		**Pn**	**06 17 15.7**	**+1.3**
KOZ				*e*S		**Sn**	**06 17 46.0**	**+3.1**
KII	**Karymskiy**	**3.00**	**244**	PN		**Pn**	**06 17 22.3**	**0.0**
KII	**Karymskiy**	**3.00**	**244**	*e*P		**Pn**	**06 17 22.3**	**0.0**
NLC	**Nalytchevo**	**3.56**	**232**	PN		**Pn**	**06 17 29.2**	**-0.6**
NLC				S		**Sn**	**06 18 09.3**	**-1.3**
NLC	**Nalytchevo**	**3.56**	**232**	*e*P		**Pn**	**06 17 29.2**	**-0.6**
NLC				*e*S		**Sn**	**06 18 09.3**	**-1.3**
SDLR	**Sedlovina**	**3.71**	**237**	PN		**Pn**	**06 17 32.2**	**+0.3**
SDLR	**Sedlovina**	**3.71**	**237**	*e*P		**Pn**	**06 17 32.2**	**+0.3**
SMAR	**Somma**	**3.75**	**237**	PN		**Pn**	**06 17 32.9**	**+0.2**
SMAR				S		**Sn**	**06 18 14.4**	**-1.3**
SMAR	**Somma**	**3.75**	**237**	*e*P		**Pn**	**06 17 32.9**	**+0.2**
SMAR				*e*S		**Sn**	**06 18 14.4**	**-1.3**
KRER	**Koryakskii**	**3.76**	**238**	PN		**Pn**	**06 17 33.3**	**+0.6**
KRER				S		**Sn**	**06 18 15.7**	**0.0**
KRER	**Koryakskii**	**3.76**	**238**	*e*P		**Pn**	**06 17 33.3**	**+0.6**
KRER				*e*S		**Sn**	**06 18 15.7**	**0.0**
KRX	**Arik**	**3.77**	**239**	PN		**Pn**	**06 17 33.7**	**+0.8**
KRX	**Arik**	**3.77**	**239**	*e*P		**Pn**	**06 17 33.7**	**+0.8**
UGLR	**Uglovaya**	**3.78**	**236**	PN		**Pn**	**06 17 33.3**	**+0.4**
UGLR	**Uglovaya**	**3.78**	**236**	*e*P		**Pn**	**06 17 33.3**	**+0.4**
AVH	**Avacha**	**3.78**	**237**	PN		**Pn**	**06 17 33.9**	**+0.9**
AVH	**Avacha**	**3.78**	**237**	*e*P		**Pn**	**06 17 33.9**	**+0.9**
KOK	**Koryaka**	**3.82**	**238**	PN		**Pn**	**06 17 34.8**	**+1.4**
KOK	**Koryaka**	**3.82**	**238**	*e*P		**Pn**	**06 17 34.8**	**+1.4**
OSSR	**Ossora**	**3.87**	**353**	PN		**Pn**	**06 17 33.8**	**-0.2**
OSSR				S		**Sn**	**06 18 16.2**	**-1.9**
OSSR	**Ossora**	**3.87**	**353**	*e*P		**Pn**	**06 17 33.8**	**-0.2**
OSSR				*e*S		**Sn**	**06 18 16.2**	**-1.9**
DALK	**Dalny**	**3.92**	**234**	PN		**Pn**	**06 17 35.2**	**+0.4**
DALK				S		**Sn**	**06 18 17.2**	**-2.3**
DALK	**Dalny**	**3.92**	**234**	*e*P		**Pn**	**06 17 35.2**	**+0.4**
DALK				*e*S		**Sn**	**06 18 17.2**	**-2.3**
GNL	**Ganaly**	**3.95**	**246**	PN		**Pn**	**06 17 36.2**	**+0.9**
GNL	**Ganaly**	**3.95**	**246**	*e*P		**Pn**	**06 17 36.2**	**+0.9**
PET	**Petropavlovsk**	**3.97**	**235**	*e*PN		Pn	06 17 37.6	+2.1
PET				*e*S		**Sn**	**06 18 19.0**	**-1.8**
PET				pmax	pmax			
	comp=Z,25nm,0.6s							
PET				smax	smax			
	comp=N,131nm,0.7s							
PET				smax	smax			
	comp=E,89nm,0.8s							
PET				MLR	MLR			
	comp=Z,200nm,16.0s							
PET	**Petropavlovsk**	**3.97**	**235**	*e*P		**Pn**	**06 17 35.8**	**+0.3**
PET				*e*S		**Sn**	**06 18 18.9**	**-1.8**
KRMR	**Karymshinskiy**	**4.34**	**236**	PN		**Pn**	**06 17 42.4**	**+1.9**
KRMR				S		**Sn**	**06 18 30.9**	**+1.0**
KRMR	**Karymshinskiy**	**4.34**	**236**	*e*P		**Pn**	**06 17 42.4**	**+1.9**
KRMR				*e*S		**Sn**	**06 18 30.9**	**+1.0**
PETK	**Petropavlovsk-**	**4.38**	**241**	Pn		**Pn**	**06 17 42.4**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=74,slow=18,SNR=8.6							
PETK				Sn		**Sn**	**06 18 30.8**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=85,slow=22,SNR=5.7							
RUS	**Russkaya**	**4.43**	**230**	PN		**Pn**	**06 17 41.6**	**-0.2**
RUS				S		**Sn**	**06 18 31.3**	**-0.9**
RUS	**Russkaya**	**4.43**	**230**	*e*P		**Pn**	**06 17 41.6**	**-0.2**
RUS				*e*S		**Sn**	**06 18 31.3**	**-0.9**
ASAK	**Asacha**	**4.74**	**232**	PN		**Pn**	**06 17 47.2**	**+1.1**
ASAK	**Asacha**	**4.74**	**232**	*e*P		**Pn**	**06 17 47.2**	**+1.1**
SKR	**Severo-Kuril's**	**6.74**	**228**	PN		**Pn**	**06 18 14.4**	**+1.0**
SKR	**Severo-Kuril's**	**6.74**	**228**	*e*P		**Pn**	**06 18 14.4**	**+1.0**
TIXI	**Tiksi**	**22.04**	**331**	P		**P**	**06 21 26.4**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=120,slow=8.2,SNR=2.5							
ILAR	**Eielson Array**	**25.53**	**49**	P		**P**	**06 22 02.6**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=267,slow=8.1,SNR=6.0							
MJAR	**Matsushiro Arr**	**25.81**	**234**	P		**P**	**06 22 07.1**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=22,slow=9.9,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**35.71**	**175**	T		T	07 02 19.2	
	baz=357,slow=76,SNR=61							
H11N3	**WAKE ISLAND Hy**	**35.72**	**175**	T		T	07 02 20.9	
	baz=357,slow=76,SNR=36							
H11N1	**WAKE ISLAND Hy**	**35.73**	**175**	T		T	07 02 19.2	
	baz=357,slow=76,SNR=37							
YKA	**Yellowknife Ar**	**39.87**	**46**	pP		pP	06 24 20.4	+3.3
	comp=Z,0.4nm,0.6s,baz=300,slow=8.1,SNR=5.3							
FINES	**FINESS Array B**	**58.85**	**338**	P		**P**	**06 26 30.6**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=350,slow=7.1,SNR=2.3							
CMAR	**Chiang Mai Arr**	**60.89**	**260**	P		P	06 26 48.0	+1.8
	comp=Z,1.0nm,0.3s,baz=22,slow=7.4,SNR=4.9							
CMAR	**Chiang Mai Arr**	**60.89**	**260**	P		P	06 26 48.0	+1.8
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
TXAR	**Lajitas Array**	**67.63**	**71**	P		P	06 27 33.0	+2.6
	comp=Z,0.2nm,0.7s,baz=305,slow=3.2,SNR=3.8							
KBZ	**Khabaz**	**69.37**	**318**	P		P	06 27 41.9	+1.1
	comp=Z,1.8nm,0.7s,baz=90,slow=1.0,SNR=4.7							

*IDC **07** 06:16:44.4±0.8,11.°14S×113.°57E,h0km,mb4.2/13, mb1 4.3/13,mb1mx4.1/46,mbtmp4.2/13,Error ellipse: s-maj=33.3km s-min=15.1km az=59.0*
*ISCJB **07** 06:16:45.5±0.4,11.°25S±0.°04×113.°43E±0.°03,h25km, mb4.2/18,Error ellipse: s-maj=6.1km s-min=4.6km az=24.8*
*DJA **07** 06:16:46.1±1.5,11.°5S°×11.°4E±.°,h37km±20km,M5.0/20, mb4.8/7,mB5.6/4,MLv5.0/20,Mw(mB)5.0/4*
*NEIC **07** 06:16:49.6±0.4,11.°13S×113.°74E,h35km,mb4.5/5,Error ellipse: s-maj=12.3km s-min=6.3km az=56.0*

ISC 07 06:16:47.7±0.5,11.°18S±0.°06×113.°54E±0.°05,h25km,n87, σ2°04/87,mb4.2/18,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.76**	**13**	P		**Pn**	**06 17 31.2**	**+0.8**
JAGI				S		**Sn**	**06 18 04.1**	**+1.2**
JAGI	**Jajag, Banyuwa**	**2.76**	**13**	*e*Pn		**Pn**	**06 17 29.9**	**-0.5**
GMJI	**Gumukmas**	**2.89**	**358**	P		**Pn**	**06 17 33.0**	**+0.9**
DNP	**Denpasar**	**2.98**	**34**	P		**Pn**	**06 17 33.1**	**-0.3**
DNP				S		**Sn**	**06 18 11.3**	**+2.9**
BLJI	**Banyuglugur**	**3.41**	**1**	P		**Pn**	**06 17 40.6**	**+1.3**
SRBI	**Singaraja**	**3.49**	**28**	P		**Pn**	**06 17 41.9**	**+1.5**
PWJI	**Pagerwojo**	**3.57**	**331**	P		**Pn**	**06 17 39.9**	**-1.6**
PWJI				S		**Sn**	**06 18 22.2**	**-0.8**
PCJI	**Pacitan**	**3.77**	**322**	P		**Pn**	**06 17 44.4**	**+0.2**
TWSI	**Taliwang, Sumb**	**4.09**	**54**	P		**Pn**	**06 17 49.6**	**+0.9**
NGJI	**Ngawi**	**4.30**	**331**	S		**Sb**	**06 18 50.2**	**-4.0**
UGM	**Wanagama**	**4.40**	**317**	P		**Pn**	**06 17 51.6**	**-1.4**
PLAI	**Plampang**	**4.78**	**61**	P		**Pn**	**06 17 58.4**	**+0.2**
KPJI	**Karang Pucung**	**5.94**	**310**	P		**Pn**	**06 18 13.6**	**-0.5**
	40nm,0.6s,0.6nm							
KPJI				S		**Sn**	**06 19 27.2**	**+5.8**
	40nm,0.6s,0.6nm							
CMJI	**Cimerak**	**6.05**	**303**	P		**Pn**	**06 18 13.9**	**-1.7**
	50nm,0.7s,1μm0.4nm							
CISI	**Cisompet, Garu**	**6.70**	**302**	P		**Pn**	**06 18 23.3**	**-1.3**
	61nm,0.5s,3μm0.9nm							
CISI				S		**Sn**	**06 19 35.5**	**-4.6**
	61nm,0.5s,3μm0.9nm							
WSI	**Waingapu**	**6.82**	**78**	P		**Pn**	**06 18 23.7**	**-2.5**
	470nm,0.5s,52μm13nm							
WSI				S		**Sn**	**06 19 47.5**	**+4.5**
	470nm,0.5s,52μm13nm							
CNJI	**Cibinong**	**7.40**	**301**	P		**Pn**	**06 18 32.6**	**-1.6**
	50nm,1.3s,0.3nm							
CNJI				S		**Sn**	**06 19 58.5**	**+1.1**
	50nm,1.3s,0.3nm							
KAPI	**Kappang**	**8.68**	**46**	Sn		**Sn**	**06 20 24.8**	**-4.1**
	2.1nm,0.3s,baz=221,slow=20,SNR=11							
KAPI	**Kappang**	**8.68**	**46**	Pn		**Pn**	**06 18 49.7**	**-2.1**
KAPI				Sn		**Sn**	**06 20 24.8**	**-4.1**
CGJI	**Cibinong**	**8.98**	**300**	P		**Pn**	**06 18 54.8**

baz=306,SNR=5.5
934A **Benavides** 145.77 57 P PKPab 06 36 28.8 +3.1
baz=292
034A **Hebbronville** 145.84 58 P PKPab 06 36 28.3 +2.4
baz=291
MIAR **Mount Ida** 146.07 42 P PKPab 06 36 27.0 +0.4
baz=307
835A **Beeville** 146.07 55 P PKPab 06 36 29.7 +2.9
baz=294
V41A **Mountainview** 146.21 39 P PKPbc 06 36 26.8 +0.3
baz=310
035A **Encino** 146.37 58 P PKPab 06 36 31.2 +3.2
baz=292
V42A **Cord** 146.67 39 P PKPab 06 36 28.5 -0.3
baz=311
BDFB **Brasilia** 147.69 215 PKPbc PKPbc 06 36 32.0 +0.7
5.1nm,1.1s,baz=115,slow=3.8,SNR=4.1

---

*IDC **07** 06:29:12.4±2.5, 35°.21N×142°.10E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/36, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=47.7km s-min=29.0km az=77.0*
*JMA **07** 06:29:14.4±0.4, 35°.29N×142°.31E, h52km, M3.2*
ISC 07 06:29:13.9±2.5, 35°.21N±0°.06×142°.3E±0°.1, h25km±15km, n11, σ1§78/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.23**	**243**	P	**Pb**	**06 29 35.9**	**-0.2**
BSO1				eS	**Sb**	**06 29 53.5**	**+2.1**
CHOJ	**Chosi**	**1.28**	**293**	P	**Pb**	**06 29 36.1**	**-1.3**
CHOJ				eS	**Sn**	**06 29 50.5**	**-2.2**
JAG	**Ashikaga**	**2.62**	**298**	P	**Pn**	**06 29 55.1**	**+0.5**
JOD2	**Odawara 2**	**2.64**	**272**	P	**Pn**	**06 29 55.3**	**+0.4**
JOD2				eS	**Sn**	**06 30 25.8**	**-0.4**
JFT	**Otama**	**2.80**	**326**	P	**Pn**	**06 29 56.8**	**-0.3**
JFT				eS	**Sn**	**06 30 26.9**	**-3.2**
JKT	**Katashina**	**2.93**	**303**	P	**Pn**	**06 29 59.1**	**+0.1**
JKT				eS	**Sn**	**06 30 31.6**	**-1.8**
JHJ	**Hachijo jima 2**	**2.96**	**226**	Pn	**Pn**	**06 29 56.2**	**-3.1**
	11nm,0.3s,baz=29,slow=24,SNR=6.2						
JHJ				Sn	**Sn**	**06 30 32.5**	**-1.5**
	21nm,0.3s,baz=113,slow=23,SNR=6.9						
MJAR	**Matsushiro Arr**	**3.59**	**293**	Pn	**Pn**	**06 30 08.6**	**+0.7**
	1.4nm,0.3s,baz=102,slow=11,SNR=6.1						
MAT	**Matsushiro**	**3.59**	**293**	P	**Pn**	**06 30 09.3**	**+1.3**
MAT				eS	**Sn**	**06 30 48.4**	**-1.2**
MKAR	**Makanchi Array**	**45.72**	**304**	P	**P**	**06 37 34.0**	**+1.1**
	0.1nm,0.3s,baz=80,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**55.37**	**189**	P	**P**	**06 38 47.4**	**+1.5**
	0.8nm,0.8s,baz=9.0,slow=7.6,SNR=6.6						

---

*IDC **07** 06:46:01.9±0.9, 7°.01N×77°.89W, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.6/25, mbtmp3.5/8, ML2.6/2, Error ellipse: s-maj=47.8km s-min=18.7km az=42.0*
*RSNC **07** 06:46:02.2±0.6, 6°.93N×78°.08W, h1km±6km, ML3.2*
*ISCJB **07** 06:46:03.0±0.6, 6°.91N±0°.05×78°.06W±0°.06, h23km, mb3.5/6, Error ellipse: s-maj=10.1km s-min=4.5km az=140.6*
ISC 07 06:46:04.8±0.6, 6°.93N±0°.06×78°.02W±0°.07, h23km, n20, σ1§13/26, mb3.6/6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.92**	**139**	*eP*	**Pb**	**06 46 19.3**	**-2.9**
SOLC				eS	**Sb**	**06 46 33.6**	**-0.4**
SOLC				*i*		06 46 38.8	
	comp=Z,572nm,0.7s						
DBBC	**Dabeiba**	**1.80**	**87**	*eP*	**Pn**	**06 46 33.4**	**-1.2**
CAPC	**Capurgana**	**1.82**	**21**	*eP*	**Pn**	**06 46 33.6**	**-1.2**
CAPC				eS	**Sn**	**06 46 58.6**	**+1.4**
CAPC				*i*		06 47 01.5	
	comp=Z,409nm,0.6s						
BCIP	**Isla Barro Col**	**2.86**	**321**	*eP*	**Pn**	**06 46 47.6**	**-1.5**
BCIP				eS	**Sn**	**06 47 21.8**	**-1.0**
BCIP				*i*		06 47 48.3	
	comp=Z,100nm,0.3s						
MOTC	**Monteria, Cord**	**2.97**	**52**	*eP*	**Pn**	**06 46 49.8**	**-0.8**
MOTC				*i*		06 47 34.8	
	comp=Z,41nm,0.5s						
GUYC	**Guyana, Colomb**	**3.12**	**123**	*eP*	**Pn**	**06 46 52.7**	**-0.3**
GUYC				*i*		06 47 42.0	
	comp=Z,209nm,0.7s						
NORC	**Norcasia**	**3.41**	**113**	*eP*	**Pn**	**06 46 56.1**	**-0.7**
NORC				eS	**Sn**	**06 47 38.0**	**+1.5**
TOLC	**Tolima**	**3.55**	**131**	*eP*	**Pn**	**06 46 58.6**	**-0.3**
SJCC	**San Jacinto, C**	**4.08**	**43**	*eP*	**Pn**	**06 47 04.9**	**-1.0**
SJCC				*i*		06 48 02.1	
	comp=Z,18nm,0.5s						
ROSC	**El Rosal**	**4.22**	**119**	Pn	**Pn**	**06 47 08.9**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=109,slow=21,SNR=6.6						
ROSC				Lg	Lg	06 48 08.8	
	comp=Z,0.6nm,0.3s,baz=253,slow=19,SNR=3.3						
CHIC	**Chingaza**	**4.84**	**118**	*eP*	**Pn**	**06 47 16.6**	**-0.1**
CHIC				*i*		06 48 26.4	
	comp=Z,13nm,0.4s						
PTGA	**Pitinga**	**19.55**	**112**	P	**P**	**06 50 31.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=302,slow=19,SNR=3.8						
SIV	**San Ignacio**	**28.29**	**144**	P	**P**	**06 51 56.9**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=330,slow=12,SNR=4.0						
TXAR	**Lajitas Array**	**32.87**	**316**	P	**P**	**06 52 38.8**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=134,slow=11,SNR=2.5						
TXAR				pP	**sP**	**06 52 47.6**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=125,slow=8.3,SNR=5.3						
NVAR	**Mina Array Bea**	**48.01**	**317**	P	**P**	**06 54 44.2**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=106,slow=8.6,SNR=5.2						
NVAR				pP	**sP**	**06 54 53.3**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=129,slow=5.8,SNR=7.2						
YKA	**Yellowknife Ar**	**61.56**	**342**	P	**P**	**06 56 19.6**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=128,slow=6.8,SNR=5.5						
ILAR	**Eielson Array**	**74.83**	**336**	P	**P**	**06 57 44.1**	**+0.9**
	comp=Z,0.3nm,1.0s,baz=96,slow=4.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**78.48**	**78**	P	**P**	**06 58 04.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=282,slow=5.9,SNR=4.1						
ASAR	**Alice Springs**	**145.12**	**238**	PKPbc	**PKPbc**	**07 05 40.1**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=123,slow=3.6,SNR=3.0						
WRA	**Warramunga Arr**	**146.05**	**244**	PKPbc	**PKPab**	**07 05 45.0**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=98,slow=3.3,SNR=3.5						

---

*ISCJB **07** 06:52:28.3±0.7, 39°.32N±0°.04×143°.76E±0°.05, h11km, mb3.6/6, Error ellipse: s-maj=6.9km s-min=4.3km az=35.7*
*JMA **07** 06:52:29.7±0.2, 39°.25N×143°.79E, h33km, M3.8*
*IDC **07** 06:52:33.6±4.4, 39°.28N×143°.69E, h38km±34km, mb3.4/6, mb1 3.7/9, mb1mx3.4/45, mbtmp3.7/9, ML3.0/2, Error ellipse: s-maj=42.7km s-min=25.7km az=147.0*
ISC 07 06:52:29.6±1.0, 39°.28N±0°.06×143°.72E±0°.08, h11km, n27, σ1§77/37, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.50**	**282**	P	**Pn**	**06 52 56.1**	**-0.3**
MIYJ				eS	**Sn**	**06 53 15.0**	**-0.9**
JTH	**Tanohata**	**1.57**	**295**	P	**Pn**	**06 52 57.6**	**+0.2**
JTH				eS	**Sn**	**06 53 17.6**	**-0.2**
OFUJ	**Ofunato**	**1.60**	**263**	P	**Pn**	**06 52 57.4**	**-0.4**
JOM	**Ohasama**	**1.89**	**277**	P	**Pn**	**06 53 01.9**	**+0.1**
JMK	**Ichinoseki**	**1.97**	**261**	P	**Pn**	**06 53 02.8**	**0.0**
JANG	**Nango**	**2.02**	**303**	P	**Pn**	**06 53 02.9**	**-0.6**
JRG	**Rokugo**	**2.39**	**274**	P	**Pn**	**06 53 09.2**	**+0.5**
JTM	**Tenmabayashi**	**2.53**	**307**	P	**Pn**	**06 53 10.5**	**-0.1**
JTM				eS	**Sn**	**06 53 41.3**	**-0.1**
JAH	**Hinai**	**2.54**	**292**	P	**Pn**	**06 53 11.3**	**+0.6**
JOU	**Okura**	**2.55**	**250**	P	**Pn**	**06 53 10.7**	**-0.2**
JOU				eS	**Sn**	**06 53 41.5**	**-0.5**
JYK	**Kaneyama**	**2.64**	**263**	P	**Pn**	**06 53 12.5**	**+0.5**
JYK				eS	**Sn**	**06 53 43.8**	**-0.2**
JOT	**Ohata**	**2.93**	**317**	eS	**Sn**	**06 53 50.4**	**-0.7**
JNBK	**Urakawa-nobuka**	**3.08**	**347**	P	**Pn**	**06 53 18.9**	**+0.7**
JNBK				eS	**Sn**	**06 53 55.3**	**+0.3**
JCH	**Churui**	**3.34**	**356**	P	**Pn**	**06 53 21.4**	**-0.3**
JCH				eS	**Sn**	**06 53 58.4**	**-3.0**
JAK	**Akkeshi**	**3.79**	**11**	P	**Pn**	**06 53 27.0**	**-0.8**
JAK				eS	**Sn**	**06 54 08.6**	**-3.7**
JEW	**Eniwo**	**3.95**	**335**	eS	**Sn**	**06 54 14.9**	**-1.4**
ASAJ	**Asahikawa**	**4.91**	**351**	Pn	**Pn**	**06 53 43.6**	**+0.4**
	baz=202,slow=6.4						
ASAJ				Sn	**Sn**	**06 54 41.2**	**+1.3**
MJAR	**Matsushiro Arr**	**5.14**	**240**	Pn	**Pn**	**06 53 47.1**	**+0.6**
	2.9nm,0.3s,baz=59,slow=11,SNR=35						
MAT	**Matsushiro**	**5.14**	**240**	P	**Pn**	**06 53 47.6**	**+1.1**
MAT				S	**Sn**	**06 54 49.0**	**+3.1**
JHJ	**Hachijo jima 2**	**6.92**	**209**	Sn	**Sn**	**06 55 22.5**	**-7.2**
	5.0nm,0.3s,baz=72,slow=20,SNR=3.0						
USRK	**Ussuriysk Ar.**	**10.05**	**303**	Pn	**Pn**	**06 54 56.5**	**+2.8**
	0.2nm,0.3s,baz=95,slow=13,SNR=6.2						
SONM	**Songino Array**	**28.14**	**300**	P	**P**	**06 58 21.9**	**+0.2**
	0.7nm,0.7s,baz=98,slow=8.9,SNR=2.0						
MKAR	**Makanchi Array**	**44.50**	**301**	P	**P**	**07 00 41.5**	**+0.5**
	0.9nm,0.9s,baz=76,slow=10,SNR=7.2						
ILAR	**Eielson Array**	**46.62**	**33**	P	**P**	**07 00 57.8**	**+0.3**
	0.7nm,0.7s,baz=262,slow=6.3,SNR=10						
YKA	**Yellowknife Ar**	**60.95**	**31**	P	**P**	**07 02 43.0**	**+0.7**
	0.2nm,0.7s,baz=284,slow=5.7,SNR=3.8						
FINES	**FINESS Array B**	**67.67**	**333**	P	**P**	**07 03 26.6**	**+0.4**
	1.6nm,0.8s,baz=94,slow=13,SNR=3.1						
NOA	**NORSAR Array B**	**72.80**	**338**	P	**P**	**07 03 56.1**	**-1.7**
	0.5nm,0.7s,baz=40,slow=6.1,SNR=2.8						

---

*IDC **07** 06:54:13.5±1.2, 7°.57S×129°.07E, h0km, mb4.0/3, mb1 4.2/6, mb1mx3.8/33, mbtmp4.0/6, ML4.1/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/47, Error ellipse: s-maj=55.8km s-min=21.1km az=80.0*
ISC 07 06:54:24.6±1.1, 8°.24S±0°.08×129°.4E±0°.2, h131km, n7, σ2§97/8, mb3.7/3, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.44**	**200**	Pn	**Pn**	**06 56 52.5**	**+1.5**
	0.7nm,0.3s,baz=24,slow=11,SNR=32						
FITZ				Sn	**Sn**	**06 58 43.3**	**-2.9**
	0.3nm,0.3s,baz=100,slow=19,SNR=5.5						
WRA	**Warramunga Arr**	**12.59**	**158**	Pn	**P**	**06 57 23.2**	**-2.3**
	1.9nm,0.3s,baz=341,slow=12,SNR=75						
WRA				Sn	**Sn**	**06 59 37.5**	**-0.8**
	2.2nm,0.3s,baz=338,slow=23,SNR=10.0						
ASAR	**Alice Springs**	**15.95**	**165**	Pn	**P**	**06 58 07.8**	**+5.1**
	0.4nm,0.3s,baz=342,slow=9.4,SNR=21						
ASAR				Sn	**Sn**	**07 00 59.8**	**+0.8**
	0.2nm,0.3s,baz=331,slow=15,SNR=4.4						
TGY	**Tagaytay City**	**23.72**	**339**	LR	LR	07 09 28.0	
	comp=Z,156nm,21.5s,baz=121,slow=40						
STKA	**Stephens Creek**	**26.13**	**156**	P	P	06 59 56.5	+10
	1.6nm,0.4s,baz=331,slow=10,SNR=3.0						
MJAR	**Matsushiro Arr**	**45.32**	**10**	P	**P**	**07 02 28.8**	**-0.8**
	0.8nm,0.5s,baz=181,slow=8.5,SNR=3.5						
MKAR	**Makanchi Array**	**68.91**	**327**	P	**P**	**07 05 15.6**	**+0.2**
	0.5nm,0.4s,baz=127,slow=7.7,SNR=8.9						

---

*NIED **07** 07:09:00, 37°.60N×143°.90E, h5km, Mw4.2 Best double couple: M₀1.92000×10¹⁵ NP1:ϕs13.00000°, δ20.00000°, λ-82.00000°. NP2:ϕs185.00000°, δ70.00000°, λ-93.00000°.*
*IDC **07** 07:09:44.0±0.6, 37°.43N×144°.08E, h0km, mb3.9/12, mb1 4.1/18, mb1mx4.0/43, mbtmp4.0/18, ML4.1/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/46, Error ellipse: s-maj=17.7km s-min=14.3km az=105.0*
*NEIC **07** 07:09:45.5±0.4, 37°.46N×144°.05E, h10km, mb4.4/5, Error ellipse: s-maj=9.5km s-min=7.1km az=119.0*
*JMA **07** 07:09:46.4±0.3, 37°.58N×143°.92E, h43km, M4.2*
*ISCJB **07** 07:09:47.1±0.4, 37°.52N±0°.03×143°.86E±0°.04, h33km, mb4.0/17, Error ellipse: s-maj=4.7km s-min=4.1km az=43.6*
ISC 07 07:09:49.0±0.6, 37°.57N±0°.04×143°.93E±0°.06, h35km, n55, σ2§17/72, mb4.1/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.22**	**294**	P	**Pn**	**07 10 22.0**	**-1.4**
JIO				S	**Sn**	**07 10 47.8**	**-1.8**
OFUJ	**Ofunato**	**2.33**	**311**	P	**Pn**	**07 10 23.2**	**-1.7**
OFUJ				S	**Sn**	**07 10 50.1**	**-2.2**
JFK	**Kawauchi**	**2.44**	**266**	P	**Pn**	**07 10 24.7**	**-1.7**
JFK				S	**Sn**	**07 10 53.0**	**-2.0**
JMK	**Ichinoseki**	**2.54**	**304**	P	**Pn**	**07 10 26.5**	**-1.3**
JMK				S	**Sn**	**07 10 56.2**	**-1.3**
JOM	**Ohasama**	**2.81**	**313**	P	**Pn**	**07 10 30.3**	**-1.2**
JOM				S	**Sn**	**07 11 02.6**	**-1.5**
JFT	**Otama**	**2.85**	**270**	P	**Pn**	**07 10 32.3**	**+0.2**
JFT				eS	**Sn**	**07 11 04.2**	**-1.1**
JYK	**Kaneyama**	**3.12**	**297**	P	**Pn**	**07 10 35.1**	**-0.6**
JYK				eS	**Sn**	**07 11 11.8**	**+0.1**
JANG	**Nango**	**3.38**	**327**	P	**Pn**	**07 10 37.9**	**-1.3**
JANG				eS	**Sn**	**07 11 15.0**	**-3.1**
JAG	**Ashikaga**	**3.76**	**254**	P	**Pn**	**07 10 43.8**	**-0.7**
BSO1	**Boso 1**	**3.76**	**220**	P	**Pn**	**07 10 42.5**	**-1.5**
BSO1				S	**Sn**	**07 11 26.2**	**-0.6**
JAW	**Awa shima**	**3.80**	**285**	P	**Pn**	**07 10 45.3**	**+0.2**
JRY	**Ryogami san**	**4.32**	**251**	P	**Pn**	**07 10 51.1**	**-1.2**
JRY				S	**Sn**	**07 11 38.4**	**-3.0**
JOT	**Ohata**	**4.42**	**331**	P	**Pn**	**07 10 53.5**	**0.0**
JOT				eS	**Sn**	**07 11 40.5**	**-3.1**
ERM	**Erimo**	**4.48**	**353**	*e*Pn	**Pn**	**07 10 53.4**	**-1.0**
ERM				*e*Sn	**Sn**	**07 11 41.4**	**-3.9**
JOD2	**Odawara 2**	**4.53**	**241**	P	**Pn**	**07 10 54.2**	**-0.9**
JOD2				eS	**Sn**	**07 11 42.8**	**-3.8**
MJAR	**Matsushiro Arr**	**4.69**	**259**	Pn	**Pn**	**07 10 57.9**	**+0.6**
	7.1nm,0.3s,baz=89,slow=16,SNR=80						
MJAR				LR	LR	07 12 58.7	
	comp=Z,344nm,20.7s,baz=50,slow=41						
MAJO	**Matsushiro**	**4.69**	**259**	*e*Pn	**Pn**	**07 10 57.9**	**+0.6**
MAT	**Matsushiro**	**4.69**	**259**	P	**Pn**	**07 10 57.3**	**0.0**
MAT				S	**Sn**	**07 11 52.5**	**+2.0**
JKB	**Kayabe**	**4.86**	**334**	P	**Pn**	**07 10 59.4**	**-0.2**
JKB				S	**Sn**	**07 11 50.3**	**-4.3**
JCH	**Churui**	**5.06**	**355**	P	**Pn**	**07 10 59.9**	**-2.5**
JCH				S	**Sn**	**07 11 54.4**	**-5.2**
JHJ2	**Mitsune**	**5.57**	**218**	*e*Pn	**Pn**	**07 11 08.1**	**-1.3**
JHJ2				*e*Sn	**Sn**	**07 12 09.0**	**-3.2**
JHJ	**Hachijo jima 2**	**5.58**	**219**	Pn	**Pn**	**07 11 07.1**	**-2.4**
	5.7nm,0.3s,baz=38,slow=19,SNR=5.2						
JHJ				Sn	**Sn**	**07 12 05.3**	**-7.2**
	23nm,0.3s,baz=68,slow=19,SNR=7.0						
ASAJ	**Asahikawa**	**6.62**	**352**	Pn	**Pn**	**07 11 23.2**	**-0.6**
	4.1nm,0.3s,baz=201,slow=12,SNR=11						
ASAJ				Sn	**Sn**	**07 12 34.1**	**-3.9**
	baz=108,slow=20						
ASAJ	**Asahikawa**	**6.62**	**352**	*e*Pn	**Pn**	**07 11 23.0**	**-0.8**
	4.1nm,0.6s						
ASAJ				*e*Sn	**Sn**	**07 12 35.3**	**-2.7**
CBIJ	**Chichi jima**	**10.54**	**189**	Pn	**Pn**	**07 12 13.0**	**-4.7**
CBIJ				Sn	Sn	07 14 01.1	-13
JCJ	**Chichijima**	**10.54**	**189**	Pn	**Pn**	**07 12 13.0**	**-4.7**
	3.1nm,0.3s,baz=86,slow=14,SNR=2.4						
JCJ				Sn	Sn	07 14 01.1	-13
	1.9nm,0.3s,baz=5.5,slow=15,SNR=2.3						
USRK	**Ussuriysk Ar.**	**11.20**	**310**	Pn	**Pn**	**07 12 28.0**	**+1.5**
	0.2nm,0.3s,baz=125,slow=17,SNR=7.3						
KSRS	**Korea Array**	**12.71**	**274**	Pn	**Pn**	**07 12 49.4**	**+2.1**
	baz=88,slow=14,SNR=17						
KSAR	**Wonju Array Be**	**12.74**	**274**	Pn	**Pn**	**07 12 49.4**	**+1.7**
KLR	**Kul'dur**	**14.62**	**327**	Pn	**Pn**	**07 13 11.6**	**-1.6**
	0.2nm,0.3s,baz=132,slow=14,SNR=4.0						
SEY	**Senchan**	**25.92**	**9**	P	**P**	**07 15 19.1**	**+1.6**
	2.4nm,0.9s,baz=231,slow=11,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**26.75**	**125**	T	T	07 43 12.6	
	baz=317,slow=74,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**26.76**	**125**	T	T	07 43 12.1	
	baz=317,slow=74,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**26.77**	**125**	T	T	07 43 12.1	
	baz=317,slow=74,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**27.52**	**127**	T	T	07 44 09.8	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**27.53**	**127**	T	T	07 44 10.9	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**27.54**	**127**	T	T	07 44 10.0	
	baz=318						
SONM	**Songino Array**	**29.17**	**303**	P	**P**	**07 15 48.7**	**+1.7**
	0.4nm,0.3s,baz=92,slow=7.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**43.04**	**312**	P	**P**	**07 17 47.3**	**+2.2**
	0.7nm,0.3s,baz=101,slow=7.5,SNR=2.9						
ZALV				PcP	**PcP**	**07 19 34.8**	**+0.2**
	0.7nm,0.4s,baz=90,slow=2.9,SNR=3.1						
CMAR	**Chiang Mai Arr**	**43.57**	**257**	P	**P**	**07 17 50.6**	**+0.9**
	1.2nm,0.3s,baz=46,slow=6.5,SNR=6.7						
MKAR	**Makanchi Array**	**45.54**	**302**	P	**P**	**07 18 06.2**	**+1.0**
	1.5nm,0.8s,baz=86,slow=10.0,SNR=12						
KURK	**Kurchatov**	**47.18**	**308**	P	**P**	**07 18 19.6**	**+1.7**
KURBB	**Kurchatov Arra**	**47.26**	**308**	P	**P**	**07 18 19.7**	**+1.1**
	0.9nm,0.4s,baz=82,slow=8.0,SNR=5.4						
ILAR	**Eielson Array**	**47.97**	**33**	P	**P**	**07 18 24.4**	**+0.4**
	2.0nm,0.8s,baz=266,slow=6.6,SNR=34						
DIV	**Divide**	**48.64**	**38**	*e*P	**P**	**07 18 31.0**	**+1.8**
	7.9nm,0.8s						
INK	**Inuvik**	**53.00**	**27**	*e*P	**P**	**07 19 02.3**	**+0.6**
	2.1nm,1.0s						
WRAB	**Tennant Creek**	**57.90**	**191**	*e*P	**P**	**07 19 36.7**	**-0.8**
	7.9nm,1.2s						
WRA	**Warramunga Arr**	**57.91**	**191**	P	**P**	**07 19 36.7**	**-0.9**
	2.8nm,0.8s,baz=12,slow=7.5,SNR=20						
WRA				PcP	**PcP**	**07 20 30.3**	**+0.6**
	0.5nm,0.8s,baz=2.5,slow=4.4,SNR=5.9						
ABKAR	**Akbulak array**	**59.12**	**311**	*e*P	**P**	**07 19 47.4**	**+1.6**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**61.63**	**190**	P	**P**	**07 20 03.0**	**-0.3**
	1.3nm,0.8s,baz=10,slow=6.0,SNR=13						
ASAR				PcP	**PcP**	**07 20 44.8**	**+0.3**
	0.6nm,0.8s,baz=0.0,slow=3.7,SNR=2.7						
YKA	**Yellowknife Ar**	**62.33**	**31**	P	**P**	**07 20 07.8**	**+0.4**
	0.3nm,0.7s,baz=301,slow=7.0,SNR=5.4						
FFC	**Flin Flon**	**72.16**	**34**	*e*P	**P**	**07 21 10.3**	**+0.4**
	2.9nm,0.9s						
NVAR	**Mina Array Bea**	**73.06**	**54**	P	**P**	**07 21 16.7**	**+0.9**
	0.3nm,0.7s,baz=283,slow=6.9,SNR=4.5						
WUAZ	**Wupatki**	**79.24**	**53**	*e*P	**P**	**07 21 52.0**	**+1.1**
TXAR	**Lajitas Array**	**88.20**	**54**	P	**P**	**07 22 37.2**	**+0.5**
	0.3nm,0.8s,baz=277,slow=2.1,SNR=3.5						

---

*GCMT **07** 07:14:48.0±0.4, 61°.30S×154°.07E, h17km±2km, MW4.9/70, Moment Tensor Solution. s18,c20; s70,c95; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.43±.19; Mθθ2.47±.13; Mϕϕ-2.03±.13; Mrθ0.16±.33; Mϕθ-1.97±.12; Mϕr0.80±.39; Best double couple: Mo3.12000×10¹⁶ NP1:ϕs154.00000°, δ79.00000°, λ-14.00000°. NP2: ϕs247.00000°, δ76.00000°, λ-169.00000°. Principal axes: T 3.2150, Plg2.0000°, Azm201.0000°; N -0.1870, Plg72.0000°, Azm298.0000°; P -3.0240, Plg17.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC 07 07:14:40.1±5.1, 61°.39S×155°.05E, h0km, mb3.9/3, mb1 4.1/4, mb1mx4.0/22, mbtmp3.9/4, ML3.8/1, MS3.9/10, Ms1 3.9/10, ms1mx3.8/21 Error ellipse: s-maj=285.9km s-min=38.9km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.36**	**175**	Pn	Pn	07 18 30.8	+0.1
	0.3nm,0.3s,baz=346,slow=13,SNR=17						
VNDA				LR	LR	07 24 07.9	
	comp=Z,850nm,19.4s,baz=353,slow=35						
RPZ	**Rata Peaks**	**20.10**	**36**	LR	LR	07 25 24.5	
	comp=Z,616nm,20.6s,baz=186,slow=32						
STKA	**Stephens Creek**	**30.81**	**337**	LR	LR	07 31 56.2	
	comp=Z,175nm,20.1s,baz=97,slow=34						
MAW	**Mawson**	**36.62**	**220**	LR	LR	07 36 54.0	
	comp=Z,393nm,18.3s,baz=80,slow=36						
H01W1	**Cape Leeuwin H**	**37.04**	**297**	T	T	08 00 50.5	
	baz=148,slow=75,SNR=118						
H01W2	**Cape Leeuwin H**	**37.04**	**297**	T	T	08 00 48.2	
	baz=148,slow=75,SNR=92						
H01W3	**Cape Leeuwin H**	**37.04**	**297**	T	T	08 00 48.8	
	baz=148,slow=75,SNR=84						
ASAR	**Alice Springs**	**40.41**	**329**	P	P	07 22 19.8	0.0
	1.1nm,0.9s,baz=170,slow=9.4,SNR=6.1						
WRA	**Warramunga Arr**	**43.88**	**331**	P	P	07 22 47.6	-0.6
	1.1nm,0.8s,baz=163,slow=6.8,SNR=5.3						
FITZ	**Fitzroy Crossi**	**47.97**	**321**	P	P	07 23 20.7	+0.3
	2.3nm,0.8s,baz=153,slow=8.6,SNR=3.9						
PPT	**Papeete**	**58.41**	**67**	LR	LR	07 45 23.5	
	comp=Z,118nm,18.1s,baz=320,slow=32						
PLCA	**Paso Flores**	**71.71**	**145**	LR	LR	07 52 07.8	
	comp=Z,67nm,18.7s,baz=284,slow=31						
GUMO	**Guam**	**75.17**	**350**	LR	LR	07 55 11.9	
	comp=Z,37nm,21.9s,baz=120,slow=32						
H08S2	**Diego Garcia H**	**79.77**	**273**	T	T	08 54 18.3	
	baz=149,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**79.77**	**273**	T	T	08 54 18.6	
	baz=149,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**79.78**	**273**	T	T	08 54 19.4	
	baz=149,slow=76,SNR=15						
BOSA	**Boshof**	**81.56**	**223**	LR	LR	08 01 33.3	
	comp=Z,46nm,19.4s,baz=78,slow=34						
H08N1	**Diego Carcia H**	**81.61**	**272**	T	T	08 56 45.4	
	baz=157						
H08N3	**Diego Garcia H**	**81.62**	**272**	T	T

JFK	**Kawauchi**	**1.12**	**317**	P	**Pg**	**07 26 20.5**	**-0.1**
JFT	**Otama**	**1.54**	**309**	P	**Pg**	**07 26 27.5**	**-1.1**
JFT				S	**Sg**	**07 26 47.0**	**-1.7**
JMM	**Marumori**	**1.56**	**328**	P	**Pb**	**07 26 26.8**	**-0.3**
JMM				S	**Sb**	**07 26 45.4**	**-1.0**
JAG	**Ashikaga**	**1.92**	**267**	P	**Pb**	**07 26 31.7**	**-1.6**
JAG				*e*S	**Sn**	**07 26 54.1**	**-0.1**
JIO	**Ouri**	**1.94**	**349**	*e*S	**Sb**	**07 26 55.4**	**-2.1**
JOU	**Okura**	**2.04**	**333**	*e*S	**Sb**	**07 26 59.5**	**-0.8**
MJAR	**Matsushiro Arr**	**2.92**	**271**	Pn	**Pn**	**07 26 46.4**	**+2.2**
	19nm,0.3s,baz=85,slow=9.0,SNR=80						
MJAR				Sn	**Sn**	**07 27 21.6**	**+2.7**
	5.7nm,0.3s,baz=110,slow=12,SNR=8.5						
MAT	**Matsushiro**	**2.92**	**271**	P	**Pn**	**07 26 46.6**	**+2.3**
MAT				*e*S	**Sn**	**07 27 17.5**	**-1.4**
JHJ	**Hachijo jima 2**	**3.81**	**207**	Pn	**Pn**	**07 26 57.4**	**+0.9**
	16nm,0.3s,baz=27,slow=21,SNR=10						
JHJ				Sn	**Sn**	**07 27 37.6**	**-3.2**
	63nm,0.3s,baz=113,slow=22,SNR=12						
H11N2	**WAKE ISLAND Hy**	**27.61**	**121**	T	T	08 00 50.3	
	baz=313,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.61**	**121**	T	T	08 00 50.9	
	baz=313,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**27.62**	**121**	T	T	08 00 53.2	
	baz=313,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**28.31**	**123**	T	T	08 01 47.3	
	baz=314,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.31**	**123**	T	T	08 01 46.1	
	baz=314,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**28.33**	**123**	T	T	08 01 46.7	
	baz=314,slow=75,SNR=7.5						
MKAR	**Makanchi Array**	**44.67**	**303**	P	**P**	**07 34 11.1**	**+0.9**
	0.3nm,0.6s,baz=87,slow=8.1,SNR=2.4						
WRA	**Warramunga Arr**	**56.63**	**188**	P	**P**	**07 35 41.0**	**+0.3**
	1.7nm,1.0s,baz=7.1,slow=7.3,SNR=9.4						
ASAR	**Alice Springs**	**60.35**	**188**	P	**P**	**07 36 07.8**	**+1.2**
	0.8nm,0.8s,baz=14,slow=5.9,SNR=5.9						

*ISCJB **07** 07:31:59.2±1.0, 41°.97N±0°.04×125°.64W±0°.09, h12km, mb3.1/2, Error ellipse: s-maj=9.3km s-min=5.4km az=165.1*

*NEIC **07** 07:31:59.3, 41°.99N×125°.81W, h5km, MD2.9(NCEDC), After NCEDC.*

*IDC **07** 07:32:04.2±20.0, 42°.26N×124°.84W, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.3/52, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=446.4km s-min=25.6km az=65.0*

ISC 07 07:32:01.1±1.8, **41°.98N**±0°.05×**125°.6W**±0°.1, **h12**km, **n24,** σ1**§11/26, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
L02D	**Cave Junction,**	**1.51**	**83**	P	**Pn**	**07 32 27.1**	**-0.8**
	baz=265,SNR=203						
L02D				S	**Sn**	**07 32 46.7**	**-0.9**
	baz=265						
HUMO	**Hull Mountain**	**2.07**	**71**	*e*Pn	**Pn**	**07 32 34.9**	**-0.8**
HUMO				*e*Sn	**Sn**	**07 33 01.9**	**+0.4**
M02C	**Callahan**	**2.15**	**105**	P	**Pn**	**07 32 36.6**	**-0.2**
	baz=286,SNR=34						
M02C				S	**Sn**	**07 33 02.3**	**-1.2**
	baz=286						
I03D	**Drain, OR**	**2.39**	**43**	P	**Pn**	**07 32 38.7**	**-1.4**
	baz=228,SNR=50						
I03D				S	**Sn**	**07 33 07.4**	**-2.0**
	baz=228						
N02D	**Trinity Center**	**2.41**	**114**	P	**Pn**	**07 32 40.0**	**-0.4**
	baz=295,SNR=6.4						
N02D				S	**Sn**	**07 33 08.9**	**-0.9**
	baz=295						
M04C	**Macdoel**	**2.83**	**93**	P	**Pn**	**07 32 45.8**	**-0.4**
	baz=275,SNR=17						
K04D	**Chiloquin, OR**	**2.94**	**76**	P	**Pn**	**07 32 47.7**	**0.0**
	baz=260						
I04A	**Tendick Farm,**	**2.97**	**51**	P	**Pn**	**07 32 48.2**	**0.0**
	baz=236						
COR	**Corvallis**	**3.11**	**32**	*e*Pn	**Pn**	**07 32 49.5**	**-0.4**
COR				*e*Sn	**Sn**	**07 33 26.5**	**-0.4**
O03D	**Paynes Creek**	**3.34**	**119**	P	**Pn**	**07 32 53.0**	**-0.2**
	baz=301,SNR=13						
O03D				S	**Sn**	**07 33 31.5**	**-1.3**
	baz=301						
J05D	**Fort Rock, OR**	**3.49**	**67**	P	**Pn**	**07 32 54.5**	**-0.7**
	baz=251,SNR=11						
HOPS	**Hopland Field**	**3.56**	**146**	*e*Pn	**Pn**	**07 32 55.2**	**-0.8**
HOPS				*e*Sn	**Sn**	**07 33 36.0**	**-2.1**
G03D	**McMinnville, O**	**3.66**	**27**	P	**Pn**	**07 32 56.6**	**-0.9**
	baz=211,SNR=6.9						
WVOR	**Wild Horse Val**	**5.20**	**83**	*e*Pn	**Pn**	**07 33 18.3**	**-0.6**
NVAR	**Mina Array Bea**	**6.62**	**120**	Pn	**Pn**	**07 33 39.3**	**+0.9**
	0.5nm,0.3s,baz=304,slow=15,SNR=11						
B05A	**Bryant**	**6.76**	**20**	P	**Pn**	**07 33 40.4**	**+0.4**
	baz=204,SNR=13						
YKA	**Yellowknife Ar**	**21.57**	**14**	P	**P**	**07 36 50.4**	**+0.3**
	0.9nm,0.9s,baz=202,slow=10,SNR=3.5						
TXAR	**Lajitas Array**	**21.77**	**118**	P	**P**	**07 36 55.7**	**+2.9**
	0.7nm,0.9s,baz=296,slow=9.5,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**60.49**	**271**	T	T	08 47 42.5	
	baz=49						
H11N2	**WAKE ISLAND Hy**	**60.49**	**271**	T	T	08 47 42.4	
	baz=49						
H11N1	**WAKE ISLAND Hy**	**60.51**	**271**	T	T	08 47 43.6	
	baz=49						
H11S1	**WAKE ISLAND Hy**	**61.38**	**270**	T	T	08 48 50.0	
	baz=51						
H11S2	**WAKE ISLAND Hy**	**61.39**	**270**	T	T	08 48 52.4	
	baz=51						
H11S3	**WAKE ISLAND Hy**	**61.40**	**270**	T	T	08 48 51.4	
	baz=51						

*ISK **07** 07:36:24.9, 39°.09N×29°.05E, h10km, MD2.5*

*ISCJB **07** 07:36:25.6±0.5, 39°.09N±0°.03×29°.03E±0°.04, h4km±7km, Error ellipse: s-maj=6.2km s-min=4.1km az=146.5*

*DDA **07** 07:36:25.6, 39°.08N×29°.04E, h7km, Md2.6*

*CSEM **07** 07:36:25.7±0.1, 39°.09N×29°.03E, h8km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.6km az=138.0*

ISC 07 07:36:25.9±0.9, **39°.09N**±0°.03×**29°.04E**±0°.02, **h12**km±10km, **n25,** σ0**§37/38, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**260**	P	**Pg**	**07 36 31.2**	**0.0**
DEMI				S	**Sg**	**07 36 35.0**	**+0.2**
DEMI	**Demirci**	**0.26**	**260**	*i* P	**Pg**	**07 36 31.2**	**0.0**
DEMI				*i* S	**Sg**	**07 36 35.0**	**+0.2**
GDZ	**Gediz**	**0.34**	**90**	P	**Pg**	**07 36 32.7**	**-0.2**
GDZ				S	**Sg**	**07 36 37.7**	**+0.1**
GDZ	**Gediz**	**0.34**	**90**	*i* P	**Pg**	**07 36 32.7**	**-0.2**
GDZ				*i* S	**Sg**	**07 36 37.7**	**+0.1**
TVSB	**Tavsanli**	**0.49**	**42**	PG	**Pg**	**07 36 35.1**	**-0.3**
TVSB				SG	**Sg**	**07 36 41.7**	**-0.3**
TVSB	**Tavsanli**	**0.49**	**42**	*i* Pg	**Pg**	**07 36 35.1**	**-0.3**
TVSB				*i* Sg	**Sg**	**07 36 41.7**	**-0.3**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*PG	**Pg**	**07 36 37.6**	**-0.8**
KULA				*e*SG	**Sg**	**07 36 46.4**	**-0.5**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*Pg	**Pg**	**07 36 37.6**	**-0.8**
KULA				*e*Sg	**Sg**	**07 36 46.4**	**-0.5**
MANT	**Manisa**	**0.71**	**212**	P	**Pg**	**07 36 39.4**	**-0.2**
MANT				S	**Sg**	**07 36 48.9**	**0.0**
MANT	**Manisa**	**0.71**	**212**	*i* P	**Pg**	**07 36 39.4**	**-0.2**
MANT				*i* S	**Sg**	**07 36 48.9**	**0.0**
KHAL	**Karahalli**	**0.80**	**154**	P	**Pb**	**07 36 42.4**	**+0.6**
KHAL	**Karahalli**	**0.80**	**154**	*i* P	**Pb**	**07 36 42.4**	**+0.6**
KHL	**Karahalli**	**0.85**	**153**	*e*PG	**Pg**	**07 36 42.3**	**-0.1**
KHL	**Karahalli**	**0.85**	**153**	*e*Pg	**Pg**	**07 36 42.3**	**-0.1**
AKS	**Akhisar**	**0.98**	**258**	*e*PG	**Pb**	**07 36 45.1**	**+0.3**
AKS	**Akhisar**	**0.98**	**258**	*e*Pg	**Pb**	**07 36 45.1**	**+0.3**
BALB	**Balikesir**	**1.05**	**302**	*e*PG	**Pg**	**07 36 46.3**	**+0.2**
BALB	**Balikesir**	**1.05**	**302**	*e*Pg	**Pg**	**07 36 46.3**	**+0.2**
IGD	**Bursa**	**1.18**	**6**	*i* P	**Pb**	**07 36 47.8**	**-0.4**
IGD				*i* S	**Sg**	**07 37 04.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*PN	**Pn**	**07 36 49.2**	**-0.4**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*Pn	**Pn**	**07 36 49.3**	**-0.4**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pb**	**07 36 51.3**	**+0.2**
BORA				S	**Sg**	**07 37 09.9**	**+0.5**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pb**	**07 36 51.3**	**+0.2**
BORA				*i* S	**Sg**	**07 37 09.9**	**+0.5**
GONE	**Gonen-Balikesi**	**1.42**	**313**	*e*PN	**Pn**	**07 36 51.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.42**	**313**	*e*Pn	**Pn**	**07 36 51.6**	**+0.2**

*NIED **07** 07:39:00, 37°.30N×143°.70E, h5km, Mw3.6 Best double couple: M≥2.82000×10¹⁴ NP1:ϕs204.00000°, δ45.00000°, λ-94.00000°. NP2:ϕs30.00000°, δ46.00000°, λ-86.00000°.*

*IDC **07** 07:39:46.5±1.1, 37°.17N×144°.07E, h0km, mb3.5/4, mb1 3.8/9, mb1mx3.6/55, mbtmp3.7/9, ML3.3/4, MS2.9/4, Ms1 2.9/4, ms1mx2.6/37, Error ellipse: s-maj=28.3km s-min=20.1km az=99.0*

*ISCJB **07** 07:39:49.6±0.8, 37°.21N±0°.05×143°.90E±0°.06, h33km, mb3.6/4, MS3.0/2, Error ellipse: s-maj=6.8km s-min=6.5km az=176.1*

*JMA **07** 07:39:52.7±0.2, 37°.28N×143°.75E, h59km, M3.8*

ISC 07 07:39:51.7±1.2, **37°.25N**±0°.07×**143°.89E**±0°.09, **h35**km, **n30,** σ1**§06/27, mb3.7/4, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.34**	**302**	P	**Pn**	**07 40 28.0**	**+0.2**
JIO				S	**Sn**	**07 40 54.7**	**-0.6**
JFK	**Kawauchi**	**2.41**	**274**	P	**Pn**	**07 40 29.0**	**+0.3**
JFK				S	**Sn**	**07 40 56.0**	**-1.0**
ONAJ	**Iwakimizuishiy**	**2.48**	**268**	S	**Sn**	**07 40 57.7**	**-0.9**
JMM	**Marumori**	**2.54**	**285**	P	**Pn**	**07 40 30.8**	**+0.4**
JMM				*e*S	**Sn**	**07 40 59.5**	**-0.6**
JMK	**Ichinoseki**	**2.71**	**310**	P	**Pn**	**07 40 33.3**	**+0.6**
JMK				S	**Sn**	**07 41 03.7**	**-0.6**
JFT	**Otama**	**2.84**	**276**	*e*S	**Sn**	**07 41 08.3**	**+0.6**
JOM	**Ohasama**	**3.02**	**318**	S	**Sn**	**07 41 11.6**	**-0.3**
JAG	**Ashikaga**	**3.66**	**258**	P	**Pn**	**07 40 46.5**	**+0.7**
JRY	**Ryogami san**	**4.20**	**254**	P	**Pn**	**07 40 54.0**	**+0.7**
JRY				S	**Sn**	**07 41 39.3**	**-1.8**
JOD2	**Odawara 2**	**4.36**	**244**	*e*S	**Sn**	**07 41 44.6**	**-0.5**
MJAR	**Matsushiro Arr**	**4.61**	**263**	Pn	**Pn**	**07 41 00.3**	**+1.4**
	4.1nm,0.3s,baz=77,slow=8.4,SNR=4.5						
MJAR				LR	LR	07 42 42.2	
	comp=Z,38nm,20.9s,baz=70,slow=37						
MAT	**Matsushiro**	**4.61**	**263**	P	**Pn**	**07 41 00.7**	**+1.7**
MAT				S	**Sn**	**07 41 51.0**	**-0.3**
JOT	**Ohata**	**4.68**	**333**	*e*S	**Sn**	**07 41 49.8**	**-3.1**
JHJ	**Hachijo jima 2**	**5.32**	**220**	Pn	**Pn**	**07 41 07.2**	**-1.5**
	8.8nm,0.3s,baz=83,slow=19,SNR=2.9						
ASAJ	**Asahikawa**	**6.93**	**352**	Pn	**Pn**	**07 41 30.7**	**-0.1**
	baz=210,slow=14						
USRK	**Ussuriysk Ar.**	**11.38**	**311**	Pn	**Pn**	**07 42 32.7**	**+1.0**
	0.2nm,0.3s,baz=121,slow=13,SNR=4.2						
JNU	**Nakatsue**	**11.41**	**253**	Pn	**Pn**	**07 42 32.1**	**-0.2**
	0.2nm,0.3s,baz=52,slow=19,SNR=2.7						
KLR	**Kul'dur**	**14.86**	**327**	LR	LR	07 49 02.8	
	comp=Z,52nm,18.1s,baz=199,slow=37						
MA2	**Magadan**	**22.78**	**9**	LR	LR	07 54 37.8	
	comp=Z,17nm,18.8s,baz=136,slow=39						
H11N2	**WAKE ISLAND Hy**	**26.60**	**125**	T	T	08 13 04.0	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**26.61**	**125**	T	T	08 13 04.9	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**26.62**	**125**	T	T	08 13 06.5	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**27.36**	**127**	T	T	08 14 02.2	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**27.36**	**127**	T	T	08 13 59.4	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**27.37**	**127**	T	T	08 14 02.7	
	baz=316						
KURBB	**Kurchatov Arra**	**47.43**	**308**	P	**P**	**07 48 23.4**	**+0.8**
	0.7nm,0.6s,baz=80,slow=7.6,SNR=2.0						
ILAR	**Eielson Array**	**48.25**	**32**	P	**P**	**07 48 28.7**	**-0.1**
	0.2nm,0.7s,baz=276,slow=8.0,SNR=3.6						
WRA	**Warramunga Arr**	**57.59**	**191**	P	**P**	**07 49 37.7**	**-0.5**
	0.7nm,0.5s,baz=12,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**61.32**	**190**	P	**P**	**07 50 03.7**	**-0.1**
	0.4nm,0.7s,baz=12,slow=7.6,SNR=5.3						
PDAR	**Pinedale Array**	**76.09**	**47**	LR	LR	08 20 54.7	
	comp=Z,25nm,21.3s,baz=337,slow=32						

*NNC **07** 07:43:21.1±3.3, 54°.17N×86°.92E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=24.0km s-min=22.6km az=33.0*

IDC 07 07:43:21.9±2.3, **54°.21N×86°.68E, h0**km, **mb1 3.6/3, mb1mx3.2/54, mbtmp3.6/3, ML3.1/3, 5C-4D, Error ellipse: s-maj=19.8km s-min=12.9km az=61.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**257**	*i*		07 51 06.0	
	baz=71,slow=317,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.13**	**257**	Pg	Pg	07 43 41.8	-1.7
	4.8nm,0.3s,baz=75,slow=17,SNR=62						
ZALV				Lg	Lg	07 43 59.2	
	3.3nm,0.3s,baz=76,slow=29,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.14**	**237**	Pn	Pn	07 44 54.2	+0.4
	0.3nm,0.3s,baz=55,slow=14,SNR=94						
KURBB				Sn	Sn	07 46 03.9	-0.8
	0.0nm,0.3s,baz=52,slow=25,SNR=3.2						
KURBB				Lg	Lg	07 46 35.6	
	0.0nm,0.3s,baz=53,slow=32,SNR=5.0						
KURBB	**Kurchatov Arra**	**6.14**	**237**	⇑Pn	Pn	07 44 53.9	+0.1
	9.0nm,0.6s						
KURBB				⇓Sn	Sn	07 46 07.5	+2.8
	13nm,0.7s						
KURBB				⇑Lg	Lg	07 46 40.0	
	40nm,1.0s						
MK31	**Makanchi Array**	**7.93**	**202**	⇓Pn	Pn	07 45 19.0	+0.6
	3.7nm,1.0s,baz=29,slow=14,SNR=19						
MK31				⇓Sn	Sn	07 46 48.8	-0.1
	1.6nm,0.7s,baz=29,slow=27,SNR=3.8						
MK31				⇑Lg	Lg	07 47 31.9	
	15nm,0.9s,baz=30,slow=30,SNR=8.4						
MKAR	**Makanchi Array**	**7.93**	**202**	Pn	Pn	07 45 19.0	+0.6
	0.4nm,0.3s,baz=24,slow=13,SNR=18						
MKAR				Sn	Sn	07 46 49.0	+0.1
	0.3nm,0.3s,baz=18,slow=34,SNR=7.9						
MKAR				Lg	Lg	07 47 33.1	
	0.2nm,0.3s,baz=24,slow=28,SNR=8.1						
MAKZ	**Makanchi**	**7.99**	**204**	⇓Pn	Pn	07 45 18.4	-0.8
	1.4nm,0.8s						
MAKZ				⇑Sn	Sn	07 46 52.6	+2.4
	5.4nm,0.8s						
MAKZ				⇑Lg	Lg	07 47 35.8	
	16nm,1.0s						
BVAR	**Borovoye Array**	**9.75**	**270**	Pn	Pn	07 45 43.6	+0.3
	0.2nm,0.3s,baz=75,slow=17,SNR=7.7						

*NIED **07** 07:53:00, 37°.60N×143°.80E, h5km, Mw4.0 Best double couple: M≥9.65000×10¹⁴ NP1:ϕs19.00000°, δ21.00000°, λ-96.00000°. NP2:ϕs205.00000°, δ69.00000°, λ-88.00000°.*

*IDC **07** 07:53:07.7±0.8, 37°.44N×144°.07E, h0km, mb3.9/8, mb1 4.1/14, mb1mx3.9/48, mbtmp4.0/14, ML4.0/5, MS2.9/5, Ms1 2.9/5, ms1mx2.6/58, Error ellipse: s-maj=22.2km s-min=15.2km az=106.0*

*NEIC **07** 07:53:08.9±0.6, 37°.48N×144°.08E, h10km, mb4.3/2, Error ellipse: s-maj=13.8km s-min=8.8km az=105.0*

*ISCJB **07** 07:53:10.5±0.5, 37°.54N±0°.04×143°.91E±0°.05, h33km, mb4.0/10, MS3.1/2, Error ellipse: s-maj=6.1km s-min=5.4km az=38.9*

*JMA **07** 07:53:11.3±0.2, 37°.63N×143°.84E, h35km, M4.1*

ISC 07 07:53:12.3±0.7, **37°.53N**±0°.05×**143°.95E**±0°.07, **h35**km, **n33,** σ2§**15/45, mb4.0/10, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.25**	**295**	P	**Pn**	**07 53 46.0**	**-1.0**
JIO				*e*S	**Sn**	**07 54 11.6**	**-2.0**
OFUJ	**Ofunato**	**2.37**	**312**	P	**Pn**	**07 53 47.2**	**-1.5**
OFUJ				S	**Sn**	**07 54 13.9**	**-2.6**
JMK	**Ichinoseki**	**2.57**	**304**	P	**Pn**	**07 53 50.5**	**-1.0**
JMK				S	**Sn**	**07 54 19.9**	**-1.6**
JOM	**Ohasama**	**2.85**	**314**	P	**Pn**	**07 53 54.1**	**-1.1**
JOM				S	**Sn**	**07 54 26.4**	**-1.9**
JFT	**Otama**	**2.87**	**271**	P	**Pn**	**07 53 55.8**	**+0.2**
JFT				S	**Sn**	**07 54 27.8**	**-1.1**
JYK	**Kaneyama**	**3.15**	**297**	P	**Pn**	**07 53 59.0**	**-0.4**
JYK				*e*S	**Sn**	**07 54 35.3**	**-0.4**
JANG	**Nango**	**3.41**	**327**	*e*S	**Sn**	**07 54 38.5**	**-3.8**
JAG	**Ashikaga**	**3.76**	**254**	P	**Pn**	**07 54 07.5**	**-0.3**
JAW	**Awa shima**	**3.82**	**285**	P	**Pn**	**07 54 09.2**	**+0.5**
JRY	**Ryogami san**	**4.32**	**251**	P	**Pn**	**07 54 15.0**	**-0.6**
JRY				S	**Sn**	**07 55 02.3**	**-2.4**
ERM	**Erimo**	**4.52**	**353**	*e*Pn	**Pn**	**07 54 15.7**	**-2.6**
MJAR	**Matsushiro Arr**	**4.69**	**260**	Pn	**Pn**	**07 54 21.8**	**+1.1**
	7.8nm,0.3s,baz=88,slow=16,SNR=56						
MJAR				LR	LR	07 56 51.0	
	comp=Z,37nm,19.0s,baz=80,slow=47						
MAT	**Matsushiro**	**4.70**	**260**	P	**Pn**	**07 54 22.2**	**+1.5**
MAT				S	**Sn**	**07 55 16.3**	**+2.4**
JHJ2	**Mitsune**	**5.55**	**219**	*e*Pn	**Pn**	**07 54 31.6**	**-0.8**
JHJ2				*e*Sn	**Sn**	**07 55 30.3**	**-4.7**
JHJ	**Hachijo jima 2**	**5.56**	**219**	Pn	**Pn**	**07 54 31.6**	**-1.0**
	15nm,0.3s,baz=328,slow=22,SNR=14						
JHJ				Sn	**Sn**	**07 55 29.5**	**-5.8**
	18nm,0.3s,baz=53,slow=20,SNR=5.7						
ASAJ	**Asahikawa**	**6.66**	**352**	Pn	**Pn**	**07 54 46.2**	**-1.4**
	3.8nm,0.3s,baz=215,slow=14,SNR=20						
ASAJ				Sn	**Sn**	**07 55 56.5**	**-5.7**
	0.4nm,0.3s,baz=102,slow=20,SNR=3.4						
ASAJ	**Asahikawa**	**6.66**	**352**	*e*Pn	**Pn**	**07 54 46.0**	**-1.6**
	6.3nm,0.6s						
ASAJ				*e*Sn	**Sn**	**07 56 01.6**	**-0.6**
CBIJ	**Chichi jima**	**10.51**	**189**	Pn	**Pn**	**07 55 37.2**	**-3.3**
CBIJ				Sn	Sn	07 57 25.8	-11
JCJ	**Chichijima**	**10.51**	**189**	Pn	**Pn**	**07 55 37.2**	**-3.3**
	4.2nm,0.3s,baz=80,slow=18,SNR=3.1						
JCJ				Sn	Sn	07 57 25.8	-11
	4.0nm,0.3s,baz=287,slow=19,SNR=2.9						
USRK	**Ussuriysk Ar.**	**11.23**	**310**	Pn	**Pn**	**07 55 50.7**	**+0.4**
	0.3nm,0.3s,baz=92,slow=12,SNR=6.0						
USRK				LR	LR	08 00 11.9	
	comp=Z,74nm,19.8s,baz=146,slow=37						
KSRS	**Korea Array**	**12.73**	**275**	Pn	**Pn**	**07 56 12.6**	**+1.8**
	0.1nm,0.3s,baz=89,slow=14,SNR=12						
KSAR	**Wonju Array Be**	**12.76**	**274**	Pn	**Pn**	**07 56 12.6**	**+1.4**
KLR	**Kul'dur**	**14.65**	**327**	LR	LR	08 01 43.5	
	comp=Z,56nm,20.2s,baz=146,slow=35						
SEY	**Seymchan**	**25.95**	**9**	P	**P**	**07 58 41.9**	**+0.7**
	1.6nm,0.7s,baz=154,slow=21,SNR=4.1						
ZALV	**Zalesovo Beam**	**43.08**	**312**	P	**P**	**08 01 10.2**	**+1.6**
	1.1nm,0.3s,baz=110,slow=8.1,SNR=2.6						
MKAR	**Makanchi Array**	**45.57**	**302**	P	**P**	**08 01 30.1**	**+1.4**
	1.5nm,0.9s,baz=89,slow=8.7,SNR=8.3						
MKAR				LR	LR	08 22 46.1	
	comp=Z,25nm,18.1s,baz=121,slow=39						
ILAR	**Eielson Array**	**47.99**	**33**	P	**P**	**08 01 48.2**	**+0.9**
	1.1nm,0.7s,baz=266,slow=6.6,SNR=21						
ILAR				LR	LR	08 21 35.2	
	comp=Z,15nm,20.9s,baz=225,slow=36						
WRAB	**Tennant Creek**	**57.86**	**191**	*e*P	**P**	**08 03 00.8**	**+0.2**
	4.9nm,1.0s						
WRA	**Warramunga Arr**	**57.88**	**191**	P	**P**	**08 03 00.7**	**0.0**
	3.1nm,0.7s,baz=11,slow=7.4,SNR=31						
WRA				PcP	**PcP**	**08 03 53.0**	**+0.2**
	0.6nm,0.5s,baz=3.4,slow=4.5,SNR=6.3						
ABKAR	**Akbulak array**	**59.16**	**311**	*e*P	**P**	**08 03 11.6**	**+2.2**
	0.5nm,0.3s						
ASAR	**Alice Springs**	**61.60**	**190**	P	**P**	**08 03 26.4**	**+0.1**
	1.5nm,0.7s,baz=12,slow=7.6,SNR=18						
YKA	**Yellowknife Ar**	**62.36**	**31**	P	**P**	**08 03 31.6**	**+0.7**
	0.2nm,0.6s,baz=305,slow=6.3,SNR=4.1						
NVAR	**Mina Array Bea**	**73.07**	**54**	P	**P**	**08 04 40.5**	**+1.4**
	0.3nm,0.7s,baz=294,slow=6.8,SNR=3.1						

*SJA **07** 07:55:29.4±1.1, 32°.88S×72°.32W, h10km, ML3.7, MW3.8*

*GUC **07** 07:55:36.8±0.4, 32°.80S×71°.63W, h22km±5km, ML3.7*

*NEIC **07** 07:55:36.0, 32°.79S×71°.63W, h22km, mb3.5/1, ML3.7(GUC), After GUC.*

NEIC Felt [III] at Puchuncavi, Valparaiso and Vina del Mar; [II] at Pichilemu.

ISC 07 07:55:34.2±2.4, **32°.85S**±0°.05×**71°.86W**±0°.10, **h10**km±13km, **n21,** σ1**§21/33, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.72**	**100**	*i* P	**Pb**	**07 55 49.6**	**+0.5**
ROC1	**El Roble**	**0.72**	**100**	*e*Pn	**Pb**	**07 55 49.7**	**+0.6**
ROC1				*e*Sn	**Sb**	**07 55 58.5**	**-0.6**
ROCH	**El Roble**	**0.72**	**100**	*i* P	**Pg**	**07 55 48.6**	**+0.4**
ROCH				*i* S	**Sg**	**07 55 57.7**	**0.0**
PEL	**Peldehue**	**1.03**	**107**	*i* P	**Pg**	**07 55 53.7**	**-0.3**
PEL				*i* S	**Sg**	**07 56 06.3**	**-1.1**
PEL				IAML		07 56 09.1	
	comp=E,5μm,0.4s						
RCDM	**Rinconada Maip**	**1.09**	**126**	*i* P	**Pg**	**07 55 55.4**	**+0.2**
RCDM				*i* S	**Sb**	**07 56 09.1**	**-0.4**
RCDM				AML	AML	07 56 11.8	
	comp=N,3μm,0.3s						
STL	**Santa Lucia**	**1.18**	**120**	*i* P	**Pb**	**07 55 56.6**	**-0.1**
STL				*i* S	**Sg**	**07 56 12.1**	**0.0**
CLCH	**Cerro Calan**	**1.23**	**117**	*i* P	**Pn**	**07 55 57.5**	**-0.2**
CLCH				*i* S	**Sb**	**07 56

mb1 4.0/17,mb1mx3.8/54,mbtmp4.0/17,ML3.5/3,MS3.2/8, Ms1 3.3/8,ms1mx2.9/63,Error ellipse: s-maj=22.6km s-min=14.0km az=107.0

ISC 07 08:06:48.4±0.6,**38°01N**±0°04×**142°77E**±0°06,**h14**km,**n55,** σ1²**92**/60,**mb4.2**/19,**MS3.4**/5,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.21**	**292**	P	**Pn**	**08 07 08.7**	**-2.1**
JIO				S	**Sb**	**08 07 24.3**	**-2.1**
OFUJ	**Ofunato**	**1.38**	**321**	P	**Pn**	**08 07 11.1**	**-2.0**
OFUJ				S	**Sn**	**08 07 29.1**	**-2.0**
JMK	**Ichinoseki**	**1.54**	**308**	P	**Pn**	**08 07 13.7**	**-1.7**
JMK				*e*S	**Sn**	**08 07 33.6**	**-1.6**
JMM	**Marumori**	**1.57**	**265**	P	**Pn**	**08 07 14.0**	**-1.8**
JMM				S	**Sn**	**08 07 34.4**	**-1.6**
JFK	**Kawauchi**	**1.64**	**247**	P	**Pn**	**08 07 15.0**	**-1.8**
JFK				*e*S	**Sn**	**08 07 36.3**	**-1.3**
JOU	**Okura**	**1.70**	**283**	P	**Pn**	**08 07 16.6**	**-1.0**
JOU				*e*S	**Sn**	**08 07 38.8**	**-0.4**
JOM	**Ohasama**	**1.86**	**322**	P	**Pn**	**08 07 18.6**	**-1.3**
JOM				S	**Sn**	**08 07 42.9**	**-0.3**
JFT	**Otama**	**1.99**	**256**	P	**Pn**	**08 07 21.5**	**-0.1**
JFT				*e*S	**Sn**	**08 07 47.3**	**+0.9**
JYK	**Kaneyama**	**2.10**	**296**	P	**Pn**	**08 07 22.0**	**-1.1**
JYK				*e*S	**Sn**	**08 07 49.5**	**+0.5**
JYS	**Shirataka**	**2.15**	**276**	P	**Pn**	**08 07 23.3**	**-0.4**
JYS				*e*S	**Sb**	**08 07 51.9**	**-1.6**
JRG	**Rokugo**	**2.17**	**310**	P	**Pn**	**08 07 23.8**	**-0.3**
MJAR	**Matsushiro Arr**	**3.92**	**249**	Pn	**Pn**	**08 07 50.0**	**+1.8**
	2.3nm,0.3s,baz=53,slow=9.8,SNR=19						
MAJO	**Matsushiro**	**3.92**	**249**	*e*Pn	**Pn**	**08 07 51.4**	**+3.2**
MAT	**Matsushiro**	**3.92**	**249**	P	**Pn**	**08 07 50.1**	**+1.9**
MAT				*e*S	**Sn**	**08 08 35.1**	**+1.0**
ERM	**Erimo**	**4.01**	**4**	*e*Pn	**Pn**	**08 07 48.9**	**-0.5**
JHJ2	**Mitsune**	**5.45**	**207**	*e*Pn	**Pn**	**08 08 09.4**	**+0.3**
JHJ2				*e*Sn	**Sn**	**08 09 09.0**	**-2.6**
JHJ	**Hachijo jima 2**	**5.45**	**207**	Pn	**Pn**	**08 08 08.8**	**-0.4**
	30nm,0.3s,baz=341,slow=23,SNR=14						
JHJ				Sn	**Sn**	**08 09 05.7**	**-6.0**
	41nm,0.3s,baz=58,slow=22,SNR=9.9						
JHJ				LR	LR	08 10 41.0	
	comp=Z,224nm,19.2s,baz=59,slow=42						
ASAJ	**Asahikawa**	**6.10**	**359**	Pn	**Pn**	**08 08 18.8**	**+0.7**
	baz=189,slow=19						
ASAJ				Sn	**Sn**	**08 09 25.2**	**-2.4**
	baz=217,slow=20						
ASAJ	**Asahikawa**	**6.10**	**359**	*e*Pn	**Pn**	**08 08 18.8**	**+0.7**
	5.5nm,0.6s						
ASAJ				Sn	**Sn**	**08 09 25.2**	**-2.4**
USRK	**Ussuriysk Ar.**	**10.21**	**311**	Pn	**Pn**	**08 09 18.6**	**+4.2**
	0.5nm,0.3s,baz=123,slow=13,SNR=12						
JNU	**Nakatsue**	**10.84**	**247**	Pn	**Pn**	**08 09 26.1**	**+2.9**
	0.1nm,0.3s,baz=349,slow=5.2,SNR=2.2						
JNU				LR	LR	08 13 53.7	
	comp=Z,193nm,18.9s,baz=102,slow=39						
CBIJ	**Chichi jima**	**10.89**	**183**	Pn	**Pn**	**08 09 20.2**	**-3.7**
JCJ	**Chichijima**	**10.89**	**183**	Pn	**Pn**	**08 09 20.2**	**-3.7**
	6.9nm,0.3s,baz=90,slow=17,SNR=4.9						
KSRS	**Korea Array**	**11.77**	**272**	Pn	Pn	08 09 40.7	+4.9
	0.2nm,0.3s,baz=88,slow=14,SNR=4.1						
KSRS				LR	LR	08 13 55.6	
	comp=Z,90nm,18.9s,baz=115,slow=36						
KSAR	**Wonju Array Be**	**11.81**	**272**	Pn	**Pn**	**08 09 40.7**	**+4.4**
PETK	**Petropavlovsk-**	**18.30**	**30**	P	**P**	**08 11 02.5**	**+0.8**
	0.2nm,0.3s,baz=198,slow=9.2,SNR=8.3						
MA2	**Magadan**	**22.18**	**11**	P	**P**	**08 11 42.5**	**-1.3**
	11nm,0.7s,baz=181,slow=6.7,SNR=4.4						
MA2				LR	LR	08 21 27.2	
	comp=Z,49nm,19.1s,baz=318,slow=40						
GUMO	**Guam**	**24.39**	**175**	LR	LR	08 22 50.9	
	comp=Z,14nm,18.8s,baz=134,slow=39						
SEY	**Seymchan**	**25.63**	**10**	P	**P**	**08 12 17.9**	**+0.7**
	4.5nm,0.6s,baz=181,slow=23,SNR=13						
H11N2	**WAKE ISLAND Hy**	**27.76**	**124**	T	T	08 41 40.7	
	baz=316,slow=75,SNR=276						
H11N1	**WAKE ISLAND Hy**	**27.77**	**124**	T	T	08 41 41.4	
	baz=316,slow=75,SNR=206						
H11N3	**WAKE ISLAND Hy**	**27.78**	**124**	T	T	08 41 42.5	
	baz=316,slow=75,SNR=177						
SONM	**Songino Array**	**28.16**	**302**	P	**P**	**08 12 40.8**	**+0.5**
	0.9nm,0.5s,baz=94,slow=10,SNR=3.6						
ENH	**Enshi**	**28.50**	**264**	*e*P	**P**	**08 12 46.0**	**+2.7**
	10nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.52**	**126**	T	T	08 42 40.7	
	baz=316,slow=74,SNR=66						
H11S3	**WAKE ISLAND Hy**	**28.52**	**126**	T	T	08 42 39.9	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.54**	**126**	T	T	08 42 41.0	
	baz=316,slow=74,SNR=50						
ZALV	**Zalesovo Beam**	**42.07**	**312**	P	**P**	**08 14 38.2**	**-1.2**
	1.0nm,0.4s,baz=86,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**44.52**	**301**	P	**P**	**08 14 58.0**	**-1.4**
	1.0nm,0.7s,baz=88,slow=8.6,SNR=8.2						
ILAR	**Eielson Array**	**48.09**	**33**	P	**P**	**08 15 27.7**	**+0.5**
	1.6nm,0.8s,baz=265,slow=6.6,SNR=25						
TKM2	**Tokmak 2**	**50.12**	**298**	*e*P	**P**	**08 15 43.7**	**+0.4**
	1.8nm,0.6s						
ABKAR	**Akbulak array**	**58.14**	**310**	*e*P	**P**	**08 16 40.7**	**-0.7**
	0.9nm,0.5s						
WRAB	**Tennant Creek**	**58.18**	**189**	*e*P	**P**	**08 16 42.5**	**+0.7**
	4.4nm,1.0s						
WRA	**Warramunga Arr**	**58.19**	**189**	P	**P**	**08 16 41.8**	**-0.2**
	0.9nm,0.8s,baz=7.7,slow=7.1,SNR=14						
ASAR	**Alice Springs**	**61.91**	**189**	P	**P**	**08 17 08.8**	**+1.3**
	0.2nm,0.4s,baz=0.4,slow=5.1,SNR=5.2						
ARCES	**ARCESS Array B**	**63.46**	**340**	LR	LR	08 49 45.3	
	comp=Z,28nm,19.7s,baz=240,slow=41						
FINES	**FINESS Array B**	**68.45**	**333**	P	**P**	**08 17 48.5**	**-0.9**
	1.8nm,0.8s,baz=20,slow=4.4,SNR=4.4						
SUMG	**Summit**	**69.71**	**0**	*e*P	**P**	**08 17 58.2**	**+0.6**
	2.0nm,0.5s						
KVAR	**Kislovodsk Arr**	**71.07**	**311**	LR	LR	08 53 58.5	
	comp=Z,31nm,18.4s,baz=64,slow=40						
NVAR	**Mina Array Bea**	**73.54**	**54**	P	**P**	**08 18 20.9**	**-0.2**
	0.7nm,0.7s,baz=286,slow=7.6,SNR=4.3						
NOA	**NORSAR Array B**	**73.70**	**338**	P	**P**	**08 18 20.9**	**-0.5**
	0.5nm,0.6s,baz=66,slow=1.6,SNR=3.8						
NOA				LR	LR	08 56 01.0	
	comp=Z,24nm,18.5s,baz=340,slow=40						
AKASG	**Malin Array Be**	**74.18**	**323**	P	**P**	**08 18 24.1**	**-0.2**
	0.2nm,0.3s,baz=49,slow=5.2,SNR=4.2						
AHID	**Auburn Hatcher**	**75.33**	**47**	*e*P	**P**	**08 18 33.2**	**+1.8**
	19nm,0.7s						
FRB	**Frobisher Bay**	**75.57**	**14**	P	**P**	**08 18 31.7**	**-0.4**
	4.2nm,0.7s,baz=320,slow=7.1,SNR=4.5						
LPAZ	**La Paz**	**145.27**	**60**	PKPbc	**PKPbc**	**08 26 25.8**	**-0.7**
	0.7nm,0.6s,baz=341,slow=18,SNR=4.2						

*ISCJB **07** 08:10:33.1*±*0.5,38°.160N*±*0°.010×90°.96W*±*0°.01, h15*km*±*4km,mb4.3/36,MS3.7/1,Error ellipse: s-maj=1.9km s-min=1.5km az=155.3*

*IDC **07** 08:10:34.7*±*2.5,38°.17N×90°.96W,h15*km*±*19*km*,mb3.9/9, mb1 4.2/14,mb1mx3.8/55,mbtmp4.1/14,ML4.2/5,MS3.4/2, Ms1 3.3/2,ms1mx2.6/58,Error ellipse: s-maj=13.3km s-min=9.7km az=177.0*

*NEIC **07** 08:10:36.7,38°.08N×90°.90W,h21*km*,mb4.2/48,MW3.9, Moment Tensor Solution. s51 Moment tensor: Scale 10¹⁴Nm; Mrr1.41; Mθθ0.90; Mϕϕ-2.31; Mrθ3.04; Mrϕ6.71; Mθϕ1.40; Best double couple: M₀7.80000×10¹⁴ NP1: ϕs4.00000°,δ67.00000°,λ164.00000°. NP2:ϕs100.00000°, δ75.00000°,λ24.00000°. Principal axes: T 7.8500, Plg27.0000°, Azm323.0000°; N -0.1700, Plg62.0000°, Azm130.0000°; P -7.6700, Plg5.0000°, Azm230.0000°; After CERI.*

NEIC Felt [IV] at Arcadia, Fletcher, Potosi and Westphalia; [III] in the Camdenton-Louisiana-Perryville area. Also felt [III] in the Carbondale-Pittsfield area, Illinois. Felt throughout central Missouri and southwestern Illinois and in parts of northern Arkansas, eastern Kansas and western Kentucky.

ISC 07 08:10:34.2±1.0,**38°13N**±0°02×**90°91W**±0°02,**h15**km±7km, **n533,** σ1²**27**/579,**mb4.3**/36,**Missouri-Illinois border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLM	**Saint Louis**	**0.73**	**46**	*e*Pg	**Pn**	**08 10 50.6**	**+0.5**
SLM				*e*Sg	**Sn**	**08 11 00.8**	**-0.2**
Q42A	**Golden Eagle**	**0.84**	**20**	P	**Pn**	**08 10 52.5**	**+1.0**
	baz=199,SNR=1000						
Q42A				S	**Sn**	**08 11 03.9**	**+0.3**
	baz=199						
S43A	**Fulton Ridge,**	**0.86**	**130**	P	**Pn**	**08 10 51.8**	**-0.1**
	baz=308,SNR=1000						
S43A				S	**Sg**	**08 11 03.1**	**+0.9**
	baz=308						
R40A	**Maddies Statio**	**1.08**	**279**	P	**Pg**	**08 10 55.9**	**+0.7**
	baz=101,SNR=1000						
R40A				S	**Sn**	**08 11 10.1**	**+0.4**
	baz=101						
Q43A	**New Douglas**	**1.25**	**49**	P	**Pg**	**08 10 59.0**	**+0.7**
	baz=228						
Q43A				S	**Sg**	**08 11 16.0**	**+1.4**
	baz=228						
Q40A	**Laux Farm, Aux**	**1.26**	**314**	P	**Pg**	**08 10 59.2**	**+0.7**
	baz=135,SNR=870						
Q40A				S	**Sg**	**08 11 16.0**	**+1.0**
	baz=135						
T41A	**Mountain View**	**1.28**	**212**	P	**Pg**	**08 10 58.6**	**-0.2**
	baz=33,SNR=1000						
T41A				S	**Sg**	**08 11 14.9**	**-0.6**
	baz=33						
S40A	**Lebanon**	**1.37**	**248**	P	**Pg**	**08 11 00.3**	**-0.2**
	baz=69,SNR=1000						
S40A				S	**Sg**	**08 11 17.7**	**-0.7**
	baz=69						
S44A	**Carbondale**	**1.38**	**108**	P	**Pg**	**08 11 00.5**	**-0.2**
	baz=287,SNR=853						
S44A				S	**Sg**	**08 11 18.4**	**-0.2**
	baz=287						
SIUC	**Southern Illin**	**1.40**	**107**	*e*Pn	**Pg**	**08 11 00.9**	**-0.2**
SIUC				*e*Sn	**Sg**	**08 11 19.4**	**+0.1**
PBMO	**Poplar Bluff**	**1.40**	**164**	*e*Pn	**Pb**	**08 11 00.4**	**+0.4**
PBMO				*e*Sn	**Sb**	**08 11 18.5**	**+0.8**
R44A	**Waltonville**	**1.44**	**85**	P	**Pg**	**08 11 01.7**	**-0.3**
	baz=264						
R44A				S	**Sg**	**08 11 21.2**	**+0.4**
	baz=264						
T40A	**Mansfield**	**1.61**	**233**	P	**Pb**	**08 11 04.1**	**+0.4**
	baz=54,SNR=1000						
T40A				S	**Sb**	**08 11 24.3**	**+0.5**
	baz=54						
P40A	**Paris**	**1.66**	**328**	P	**Pb**	**08 11 05.3**	**+0.7**
	baz=148,SNR=1000						
P40A				S	**Sg**	**08 11 27.3**	**-0.4**
	baz=148						
R39A	**Chumby, Stover**	**1.69**	**277**	P	**Pb**	**08 11 05.1**	**+0.1**
	baz=97,SNR=798						
R39A				S	**Sb**	**08 11 26.8**	**+0.7**
	baz=97						
PARMO	**Parma**	**1.73**	**147**	*e*Pn	**Pb**	**08 11 05.2**	**-0.4**
PARMO				*e*Sn	**Sb**	**08 11 28.0**	**+0.9**
Q39A	**Willow Grove F**	**1.86**	**300**	P	**Pb**	**08 11 07.3**	**-0.6**
	baz=120,SNR=635						
S45A	**Carrier Mills**	**1.89**	**103**	P	**Pb**	**08 11 08.7**	**+0.2**
	baz=283,SNR=124						
S39A	**Bolivar**	**1.96**	**258**	P	**Pb**	**08 11 08.7**	**-0.9**
	baz=78,SNR=1000						
S39A				S	**Sb**	**08 11 32.7**	**-1.2**
	baz=78						
PVMO	**Portageville**	**1.96**	**150**	*e*Pn	**Pb**	**08 11 09.2**	**-0.4**
PVMO				*e*Sn	**Sb**	**08 11 34.7**	**+0.8**
P39B	**Salisbury**	**1.98**	**314**	P	**Pb**	**08 11 09.1**	**-0.9**
	baz=134,SNR=601						
O40A	**La Belle**	**2.13**	**340**	P	**Pb**	**08 11 11.8**	**-0.7**
	baz=159,SNR=455						
T39A	**Clever**	**2.25**	**241**	P	**Pn**	**08 11 12.8**	**+1.8**
	baz=161,SNR=521						
GLAT	**Glass**	**2.26**	**145**	*e*Pn	**Pb**	**08 11 13.6**	**-1.2**
GLAT				*e*Sn	**Sb**	**08 11 44.0**	**+1.4**
GNAR	**Gosnell**	**2.27**	**161**	*e*Pn	**Pn**	**08 11 13.1**	**+1.8**
GNAR				*e*Sn	**Sb**	**08 11 43.6**	**+0.8**
Q38A	**Cooks Store, C**	**2.28**	**292**	P	**Pn**	**08 11 12.9**	**+1.5**
	baz=112						
Q38A				S	**Sn**	**08 11 40.9**	**+1.6**
	baz=112						
OLIL	**Olney**	**2.29**	**74**	*e*Pn	**Pb**	**08 11 14.5**	**-0.7**
OLIL				*e*Sn	**Sb**	**08 11 44.7**	**+1.4**
V42A	**Cord**	**2.35**	**190**	P	**Pn**	**08 11 13.8**	**+1.5**
	baz=9.6,SNR=130						
V42A				S	**Sn**	**08 11 42.1**	**+1.2**
	baz=9.6						
U40A	**Yellville**	**2.35**	**222**	P	**Pn**	**08 11 13.8**	**+1.5**
	baz=42,SNR=1000						
R38A	**Fenwick Farm,**	**2.37**	**272**	P	**Pn**	**08 11 14.2**	**+1.6**
	baz=92,SNR=130						
UTMT	**University of**	**2.42**	**137**	*e*Pn	**Pn**	**08 11 14.6**	**+1.4**
UTMT				*e*Sn	**Sb**	**08 11 48.1**	**+1.2**
S38A	**Stockton**	**2.43**	**259**	P	**Pn**	**08 11 14.9**	**+1.5**
	baz=78,SNR=69						
S38A				S	**Sn**	**08 11 43.9**	**+1.1**
	baz=78						
V44A	**Blytheville**	**2.43**	**160**	P	**Pn**	**08 11 14.8**	**+1.4**
	baz=341,SNR=45						
V44A				S	**Sn**	**08 11 44.2**	**+1.3**
	baz=341						
O39A	**Kirksville**	**2.48**	**330**	P	**Pn**	**08 11 16.3**	**+2.2**
	baz=149,SNR=205						
P38A	**Dawn**	**2.54**	**307**	P	**Pn**	**08 11 16.6**	**+1.8**
	baz=126,SNR=460						
V41A	**Mountainview**	**2.54**	**204**	P	**Pn**	**08 11 16.4**	**+1.4**
	baz=23,SNR=345						
HALT	**Halls**	**2.54**	**150**	*e*Pn	**Pn**	**08 11 16.8**	**+1.8**
HALT				*e*Sn	**Sb**	**08 11 51.3**	**+0.6**
USIN	**University of**	**2.56**	**93**	*e*Pn	**Pb**	**08 11 17.8**	**-2.1**
USIN				*e*Sn	**Sb**	**08 11 50.3**	**-1.0**
HBAR	**Harrisburg**	**2.58**	**175**	*e*Pn	**Pn**	**08 11 17.0**	**+1.6**
HBAR				*e*Sn	**Sb**	**08 11 50.9**	**-0.7**
U39A	**Green Forest**	**2.69**	**230**	P	**Pn**	**08 11 18.7**	**+1.7**
	baz=50,SNR=751						
HDIL	**Hopedale**	**2.73**	**27**	P	**Pb**	**08 11 20.4**	**-2.3**
	baz=207,SNR=42						
HDIL	**Hopedale**	**2.73**	**27**	*e*Pn	**Pb**	**08 11 21.3**	**-1.4**
O38A	**Galt**	**2.82**	**316**	P	**Pn**	**08 11 20.5**	**+1.7**
	baz=135,SNR=103						
O38A				S	**Sn**	**08 11 54.6**	**+2.1**
	baz=135						
SFTN	**Shelby Forest**	**2.85**	**165**	*e*Pn	**Pb**	**08 11 26.2**	**+1.3**
Q37A	**Longview Farm,**	**2.88**	**286**	P	**Pn**	**08 11 21.3**	**+1.7**
	baz=105,SNR=29						
T38A	**Diamond**	**2.90**	**249**	P	**Pn**	**08 11 21.5**	**+1.6**
	baz=68,SNR=96						
N39A	**Derby Farms, D**	**3.01**	**336**	P	**Pn**	**08 11 23.5**	**+2.1**
	baz=156,SNR=117						
WHAR	**Wooly Hollow**	**3.04**	**202**	*e*Pn	**Pn**	**08 11 23.0**	**+1.2**
WHAR				*e*Sg	**Sg**	**08 12 09.7**	**-2.3**
HHAR	**Hobbs**	**3.04**	**234**	*e*Pn	**Pn**	**08 11 23.2**	**+1.3**
HHAR				*e*Sg	**Sg**	**08 12 08.8**	**-3.2**
P37A	**Lathrop**	**3.06**	**300**	P	**Pn**	**08 11 23.6**	**+1.6**
	baz=118,SNR=529						
X201	**Greenbrier Sit**	**3.06**	**203**	*e*Pn	**Pn**	**08 11 23.2**	**+1.1**
X201				*e*Sg	**Sg**	**08 12 10.6**	**-2.0**
R37A	**Teagarden Farm**	**3.10**	**275**	P	**Pn**	**08 11 24.0**	**+1.4**
	baz=93,SNR=14						
MET	**Memphis--Engin**	**3.10**	**165**	*e*Pn	**Pn**	**08 11 23.3**	**+0.7**
MET				*e*Sg	**Sg**	**08 12 11.4**	**-2.5**
W44A	**Shelby Farms P**	**3.11**	**163**	P	**Pn**	**08 11 23.5**	**+0.8**
	baz=344,SNR=13						
S37A	**Fort Scott**	**3.12**	**264**	P	**Pn**	**08 11 24.2**	**+1.3**
	baz=83,SNR=20						
X301	**Greenbrier Sit**	**3.12**	**203**	*e*Pn	**Pn**	**08 11 23.9**	**+1.0**
X301				*e*Sg	**Sg**	**08 12 11.9**	**-2.7**
W41B	**Gary Mavity, V**	**3.14**	**200**	P	**Pn**	**08 11 24.3**	**+1.2**
	baz=20,SNR=349						
WVT	**Waverly**	**3.17**	**128**	*e*Pn	**Pn**	**08 11 24.8**	**+1.3**
WVT				*e*Sn	**Sb**	**08 12 09.6**	**+1.0**
N38A	**Joes South For**	**3.21**	**327**	P	**Pn**	**08 11 26.2**	**+2.0**
	baz=146,SNR=184						
EBZ	**Ebenezer Churc**	**3.23**	**157**	*e*Pn	**Pn**	**08 11 25.5**	**+1.1**
O37A	**Wolven Farm, M**	**3.24**	**310**	P	**Pn**	**08 11 26.2**	**+1.7**
	baz=129,SNR=68						
U38A	**Gravette**	**3.25**	**240**	P	**Pn**	**08 11 26.0**	**+1.3**
	baz=58,SNR=89						
W45A	**Hickory Valley**	**3.27**	**154**	P	**Pn**	**08 11 25.4**	**+0.4**
	baz=335,SNR=75						
T37A	**Cheneyville 18**	**3.34**	**254**	P	**Pn**	**08 11 26.9**	**+1.0**
	baz=72,SNR=130						
W40A	**Ferguson Farm,**	**3.41**	**211**	P	**Pn**	**08 11 27.8**	**+1.0**
	baz=30,SNR=19						
UALR	**University of**	**3.54**	**200**	*e*Pn	**Pn**	**08 11 30.1**	**+1.4**
UALR				*e*Sg	**Sg**	**08 12 25.5**	**-2.4**
BLO	**Bloomington**	**3.59**	**72**	*e*Pn	**Pn**	**08 11 31.5**	**+2.2**
BLO				*e*Sg	**Sg**	**08 12 28.2**	**-1.2**
V38A	**Canehill**	**3.60**	**232**	P	**Pn**	**08 11 30.6**	**+1.1**
	baz=51,SNR=264						
X43A	**Marvell**	**3.60**	**180**	P	**Pn**	**08 11 30.5**	**+1.0**
	baz=360,SNR=20						
R36A	**Gordon, Harris**	**3.63**	**275**	P	**Pn**	**08 11 31.0**	**+1.2**
	baz=92,SNR=48						
WCI	**Wyandotte Cave**	**3.64**	**87**	*e*Pn	**Pn**	**08 11 32.3**	**+2.2**
N37A	**Lee Faris, Mou**	**3.67**	**317**	P	**Pn**	**08 11 32.1**	**+1.6**
	baz=135,SNR=63						
Q36A	**Arnold C. Orve**	**3.67**	**285**	P	**Pn**	**08 11 31.5**	**+1.1**
	baz=102,SNR=87						
P36A	**Good Intent, A**	**3.67**	**295**	P	**Pn**	**08 11 32.0**	**+1.5**
	baz=113,SNR=51						
X44A	**Crenshaw**	**3.67**	**170**	P	**Pn**	**08 11 31.2**	**+0.8**
	baz=351,SNR=33						
SFIN	**Lafayette**	**3.71**	**52**	P	**Pn**	**08 11 33.5**	**+2.4**
	baz=233,SNR=38						
SFIN	**Lafayette**	**3.71**	**52**	*e*Pn	**Pn**	**08 11 33.8**	**+2.7**
S36A	**Lake Cedric, C**	**3.73**	**265**	P	**Pn**	**08 11 32.4**	**+1.1**
	baz=83,SNR=60						
M38A	**Pleasantville**	**3.73**	**332**	P	**Pn**	**08 11 33.0**	**+1.7**
	baz=151,SNR=140						
W39A	**Magazine**	**3.73**	**219**	P	**Pn**	**08 11 32.3**	**+1.1**
	baz=38,SNR=180						
O36A	**Bolckow**	**3.74**	**304**	P	**Pn**	**08 11 33.0**	**+1.7**
	baz=122,SNR=116						
U37A	**Salina**	**3.77**	**244**	P	**Pn**	**08 11 32.9**	**+1.0**
	baz=62,SNR=91						
OXF	**Oxford**	**3.81**	**161**	*e*Pn	**Pn**	**08 11 33.0**	**+0.7**
X41A	**Kaden, Bauxite**	**3.85**	**200**	P	**Pn**	**08 11 34.0**	**+1.0**
	baz=20,SNR=142						
PLAL	**Pickwick Lake**	**3.88**	**143**	*e*Pn	**Pn**	**08 11 33.8**	**+0.4**
X45A	**UM Field Stati**	**3.89**	**161**	P	**Pn**	**08 11 33.9**	**+0.4**
	baz=342,SNR=110						
X40A	**Basin Creek Fa**	**3.95**	**204**	P	**Pn**	**08 11 35.4**	**+1.0**
	baz=23,SNR=170						
V37A	**Hulbert**	**4.06**	**238**	P	**Pn**	**08 11 36.6**	**+0.7**
	baz=56,SNR=129						
M37A	**Trindle Farm,**	**4.07**	**324**	P	**Pn**	**08 11 37.8**	**+1.8**
	baz=143,SNR=43						
T36A	**Boggs Farm, Ca**	**4.09**	**256**	P	**Pn**	**08 11 37.0**	**+0.8**
	baz=74,SNR=85						
Q35A	**Mercer Eighty,**	**4.09**	**282**	P	**Pn**	**08 11 37.5**	**+1.2**
	baz=99,SNR=118						
N36A	**Muff Farm, Cla**	**4.13**	**312**	P	**Pn**	**08 11 38.7**	**+1.9**
	baz=130,SNR=88						
SCIA	**State Center**	**4.17**	**336**	*e*Pn	**Pn**	**08 11 39.3**	**+1.9**
R35A	**Emporia Munici**	**4.17**	**274**	P	**Pn**	**08 11 38.6**	**+1.3**
	baz=92						
MIAR	**Mount Ida**	**4.17**	**212**	P	**Pn**	**08 11 38.2**	**+0.8**
	baz=31,SNR=353						
MIAR	**Mount Ida**	**4.17**	**212**	*e*Pn	**Pn**	**08 11 38.3**	**+0.9**
Y44A	**Strider, Charl**	**4.20**	**172**	P	**Pn**	**08 11 38.8**	**+1.2**
	baz=352,SNR=8.4						
Y43A	**Makayla and Ka**	**4.21**	**180**	P	**Pn**	**08 11 39.2**	**+1.3**
	baz=0.3,SNR=17						
W38A	**Poteau**	**4.21**	**225**	P	**Pn**	**08 11 39.1**	**+1.1**
	baz=43,SNR=757						
U36A	**Oologah**	**4.22**	**247**	P	**Pn**	**08 11 38.8**	**+0.7**
	baz=65,SNR=36						
P35A	**Duane Minner,**	**4.23**	**291**	P	**Pn**	**08 11 39.5**	**+1.3**
	baz=108,SNR=27						
CCAR	**Cane Creek**	**4.26**	**190**	*e*Pn	**Pn**	**08 11 40.3**	**+1.7**
S35A	**Otter Creek Ra**	**4.30**	**266**	P	**Pn**	**08 11 40.2**	**+1.0**
	baz=83,SNR=68						
L38A	**Oak Wood Farm,**	**4.31**	**339**	P	**Pn**	**08 11 40.8**	**+1.6**
	baz=158,SNR=50						
Y42A	**Garnett, Star**	**4.34**	**190**	P	**Pn**	**08 11 41.1**	**+1.4**
	baz=9.3,SNR=9.8						
Y45A	**Yeager Farm, C**	**4.39**	**165**	P	**Pn**	**08 11 41.3**	**+0.9**
	baz=346,SNR=59						
O35A	**Humboldt**	**4.43**	**300**	P	**Pn**	**08 11 42.1**	**+1.1**
	baz=118,SNR=48						
X39A	**Fountain Ranch**	**4.44**	**217**	P	**Pn**	**08 11 41.9**	**+0.8**
	baz=35,SNR=227						
Y41A	**Eaglette Beard**	**4.46**	**199**	P	**Pn**	**08 11 42.2**	**+0.9**
	baz=18,SNR=16						
M36A	**Felix, Anita**	**4.48**	**319**	P	**Pn**	**08 11 42.3**	**+0.8**
	baz=137						
TUL1	**Leonard**	**4.49**	**242**	P	**Pn**	**08 11 42.1**	**+0.4**
	baz=60,SNR=18						
TUL1	**Leonard**	**4.49**	**242**	*e*Pn	**Pn**	**08 11 42.4**	**+0.6**
Y40A	**Okolona**	**4.53**	**206**	P	**Pn**	**08 11 43.0**	**+0.6**
	baz=25						
L37A	**Phoenix Point,**	**4.55**	**332**	P	**Pn**	**08 11 43.8**	**+1.3**
	baz=151,SNR=57						
Y46A	**Houston**	**4.55**	**158**	P	**Pn**	**08 11 43.0**	**+0.4**
	baz=339						
N35A	**Tabor**	**4.57**	**308**	P	**Pn**	**08 11 44.3**	**+1.4**
	baz=126,SNR=75						
KSU1	**Kansas State U**	**4.57**	**284**	P	**Pn**	**08 11 43.6**	**+0.7**
	baz=101,SNR=20

baz=356
M34A **Aspy Farms, Fr** 5.52 309 P Pn 08 11 57.2 +1.3
baz=126,SNR=20
O33A **Hebron** 5.55 293 P Pn 08 11 57.4 +1.1
baz=109,SNR=111
U34A **Anderson Ranch** 5.55 254 P Pn 08 11 56.8 +0.5
baz=71,SNR=12
U34A **Anderson Ranch** 5.55 254 *e*Pn Pn 08 11 57.2 +0.9
J37A **Redenius Farm,** 5.55 340 P Pn 08 11 57.4 +1.0
baz=158
145A **Houston Renfro** 5.57 171 P Pn 08 11 57.1 +0.5
baz=352,SNR=11
R33A **Olander Ranch,** 5.58 274 P Pn 08 11 57.7 +1.0
baz=90
142A **Monroe** 5.63 189 P Pn 08 11 57.6 +0.2
baz=8.5
Y37A **Hugo** 5.63 224 P Pn 08 11 57.9 +0.5
baz=42,SNR=154
S33A **Kaszmaul Farm,** 5.64 267 P Pn 08 11 58.4 +0.9
baz=83
W35A **Tecumseh** 5.64 240 P Pn 08 11 58.1 +0.6
baz=57,SNR=41
X36A **Centrahoma** 5.65 233 P Pn 08 11 57.8 +0.2
baz=50,SNR=32
K35A **Storm Lake** 5.65 326 P Pn 08 12 00.2 +2.4
baz=143
146A **Union** 5.68 164 P Pn 08 11 57.8 -0.4
baz=345
L34A **Svendsen Farm,** 5.68 314 P Pn 08 11 59.3 +1.1
baz=131,SNR=15
N33A **J Bar K, Exete** 5.70 299 P Pn 08 11 59.6 +1.2
baz=116,SNR=39
141A **Papa Simpson,** 5.75 197 P Pn 08 11 59.1 +0.1
baz=16,SNR=14
V34A **Guthrie** 5.76 249 P Pn 08 11 59.0 -0.3
baz=65
V34A **Guthrie** 5.76 249 *e*Pn Pn 08 11 59.3 0.0
CPCT **Cooper Cave** 5.78 116 *e*Pn Pn 08 12 02.2 +2.8
J36A **Seneca 1, Swea** 5.81 334 P Pn 08 12 01.4 +1.5
baz=152,SNR=20
147A **Livingston** 5.85 158 P Pn 08 12 02.1 +1.6
baz=339
Z38A **Mt. Pleasant** 5.89 216 P Pn 08 12 00.9 -0.1
baz=33,SNR=14
140A **Cam and Jess,** 5.89 202 P Pn 08 12 01.1 +0.1
baz=21,SNR=28
VBMS **Vicksburg** 5.90 177 P Pn 08 12 02.5 +1.3
baz=357
VBMS **Vicksburg** 5.90 177 *e*Pn Pn 08 12 03.5 +2.3
T33A **Patterson Ranc** 5.92 262 P Pn 08 12 02.3 +1.0
baz=78
M33A **Taylor Creek F** 5.94 307 P Pn 08 12 02.6 +0.9
baz=124,SNR=33
U33A **Lingo Farm, Me** 5.99 256 P Pn 08 12 02.7 +0.3
baz=72,SNR=26
LRAL **Lakeview Retre** 6.00 147 *e*Pn Pn 08 12 02.2 -0.2
I38A **Scanlan Farm,** 6.00 350 P Pn 08 12 03.7 +1.2
baz=169
K34A **Le Mars** 6.03 321 P Pn 08 12 03.5 +0.6
baz=138,SNR=18
Q32A **Meitler Ranch,** 6.06 281 P Pn 08 12 04.3 +1.0
baz=96,SNR=13
Y36A **Durant** 6.07 228 P Pn 08 12 03.6 +0.2
baz=45,SNR=14
TZTN **Tazewell** 6.07 103 *e*Pn Pn 08 12 06.7 +3.2
244A **Avery, Jackson** 6.07 178 P Pn 08 12 04.1 +0.6
baz=358,SNR=15
O32A **Brockman Farm,** 6.11 293 P Pn 08 12 04.5 +0.5
baz=108,SNR=10
R32A **Long Quarter,** 6.15 275 P Pn 08 12 05.2 +0.7
baz=91,SNR=11
X35A **Drake** 6.15 235 P Pn 08 12 04.3 -0.3
baz=51,SNR=29
J35A **Milford** 6.17 329 P Pn 08 12 05.7 +0.9
baz=147
I37A **Lemond, Waseca** 6.18 343 P Pn 08 12 05.5 +0.6
baz=162
P32A **Huiting Farm,** 6.19 286 P Pn 08 12 05.6 +0.5
baz=102,SNR=21
TKL **Tuckaleechee C** 6.22 111 Pn Pn 08 12 07.9 +2.3
2.9nm,0.3s,baz=272,slow=5.2,SNR=34
TKL Pg Pb 08 12 25.2 +2.9
15nm,0.3s,baz=283,slow=8.7,SNR=19
TKL Lg Lg 08 13 46.9
52nm,0.3s,baz=196,slow=23,SNR=40
W34A **Bridge Creek,** 6.23 244 P Pn 08 12 05.9 +0.3
baz=61,SNR=6.1
W34A **Bridge Creek,** 6.23 244 *e*Pn Pn 08 12 06.0 +0.3
N32A **Stulken Farm,** 6.29 297 P Pn 08 12 07.0 +0.5
baz=113,SNR=16
L33A **Hoskins** 6.33 312 P Pn 08 12 07.6 +0.6
baz=128
I36A **Fitzsimmons Fa** 6.34 339 P Pn 08 12 07.8 +0.7
baz=157,SNR=18
V33A **Lossen Ranch,** 6.34 251 P Pn 08 12 07.5 +0.3
baz=67,SNR=17
247A **Quitman** 6.35 162 P Pn 08 12 07.8 +0.6
baz=343
S32A **Newby Ranch, P** 6.36 269 P Pn 08 12 08.3 +0.8
baz=84,SNR=11
J34A **George** 6.42 325 P Pn 08 12 08.7 +0.4
baz=142
T32A **Huddler Ranch,** 6.43 264 P Pn 08 12 09.5 +1.1
baz=80
138A **Matatall Enter** 6.43 213 P Pn 08 12 08.5 +0.1
baz=31,SNR=7.1
K33A **Hardington** 6.45 316 P Pn 08 12 08.9 +0.1
baz=132
BGNE **Belgrade** 6.47 303 P Pn 08 12 09.8 +0.9
baz=118,SNR=5.6
BGNE **Belgrade** 6.47 303 *e*Pn Pn 08 12 10.2 +1.3
I35A **Creekview Farm** 6.50 333 P Pn 08 12 10.7 +1.3
baz=151
ACSO **Alum Creek Sta** 6.50 69 *e*Pn Pn 08 12 11.5 +2.1
Y35A **Marietta** 6.51 232 P Pn 08 12 09.8 +0.3
baz=48,SNR=12
248A **Dixon Mills** 6.55 156 P Pn 08 12 11.0 +0.9
baz=338
X34A **Smith Ranch, M** 6.60 240 P Pn 08 12 11.3 +0.5
baz=56,SNR=15
Z36A **Blue Ridge** 6.61 225 P Pn 08 12 11.2 +0.4
baz=42,SNR=25
H37A **Dierke Farm, C** 6.62 347 P Pn 08 12 12.0 +1.0
baz=166,SNR=13
L32A **Elgin** 6.68 308 P Pn 08 12 12.7 +0.8
baz=124,SNR=7.4
U32A **Winter Ranch,** 6.69 257 P Pn 08 12 12.4 +0.5
baz=73
239A **Gary** 6.76 207 P Pn 08 12 12.8 -0.1
baz=25,SNR=19
W33A **Caddo, Fort Co** 6.76 246 P Pn 08 12 13.6 +0.5
baz=62,SNR=41
N31A **Bailey Ranch,** 6.78 296 P Pn 08 12 14.1 +0.9
baz=111
137A **Heron Place, G** 6.79 217 P Pn 08 12 13.8 +0.4
baz=34,SNR=5.5
346A **Big Creek Wild** 6.83 170 P Pn 08 12 15.2 +1.3
baz=350
H36A **Jessenland, He** 6.83 342 P Pn 08 12 15.5 +1.6
baz=160,SNR=25
345A **Thompson Farm,** 6.84 174 P Pn 08 12 15.7 +1.6
baz=354
O31A **Woolen Ranch,** 6.85 290 P Pn 08 12 14.3 +0.1
baz=105,SNR=10
J33A **Davis** 6.93 320 P Pn 08 12 16.4 +1.1
baz=137,SNR=8.1
Y34A **Reagan Ranch,** 6.94 235 P Pn 08 12 15.1 -0.2
baz=51,SNR=12
AAM **Ann Arbor** 6.94 51 *e*Pn Pn 08 12 18.7 +3.4
V32A **Arapaho** 6.95 252 P Pn 08 12 15.9 +0.4
baz=68
CBKS **Cedar Bluff** 6.96 278 P Pn 08 12 16.3 +0.6
baz=93,SNR=11
CBKS **Cedar Bluff** 6.96 278 *e*Pn Pn 08 12 17.5 +1.8
I34A **Hadley** 6.99 329 P Pn 08 12 16.8 +0.7
baz=146
M31A **Lambtecht Ranc** 7.00 300 P Pn 08 12 16.8 +0.6
baz=115
238A **Jacksonville** 7.02 211 P Pn 08 12 16.0 -0.5
baz=28,SNR=6.5
341A **Kurthwood** 7.03 196 P Pn 08 12 17.3 +0.7
baz=15,SNR=18
Z35A **Perchaven, San** 7.04 229 P Pn 08 12 16.3 -0.5
baz=46,SNR=8.9
K32A **Verdigre** 7.04 312 P Pn 08 12 17.7 +0.9
baz=128,SNR=9.9
NATX **Nacogdoches** 7.06 207 P Pn 08 12 16.7 -0.3
baz=25
NATX **Nacogdoches** 7.06 207 *e*Pn Pn 08 12 17.2 +0.1
ECSD **EROS Data Cent** 7.07 324 P Pn 08 12 18.0 +0.8
baz=141
ECSD **EROS Data Cent** 7.07 324 *e*Pn Pn 08 12 18.6 +1.4
X33A **Lawton** 7.10 242 P Pn 08 12 17.2 -0.4
baz=58,SNR=25
340A **Bronson** 7.13 201 P Pn 08 12 18.2 +0.2
baz=19,SNR=14
WMOK **Wichita Mounta** 7.19 244 P Pn 08 12 18.4 -0.4
baz=60,SNR=57
WMOK **Wichita Mounta** 7.19 244 *e*Pn Pn 08 12 18.9 0.0
H35A **Sunnyside Ranc** 7.20 337 P Pn 08 12 18.9 0.0
baz=155,SNR=28
SPMN **Marine on St.** 7.23 349 P Pn 08 12 19.7 +0.3
baz=168,SNR=9.4
SPMN **Marine on St.** 7.23 349 *e*Pn Pn 08 12 19.5 +0.1
136A **Ennis** 7.27 221 P Pn 08 12 19.5 -0.5
baz=38,SNR=23
L31A **Butterfield Fa** 7.30 306 P Pn 08 12 21.3 +1.0
baz=121,SNR=8.8
237A **Washetta, Mont** 7.31 215 P Pn 08 12 20.5 0.0
baz=32,SNR=25
W32A **Sentinel** 7.34 248 P Pn 08 12 21.1 +0.1
baz=64,SNR=16
I33A **Coleman** 7.40 325 P Pn 08 12 22.6 +0.9
baz=141
339A **Huntington** 7.41 205 P Pn 08 12 22.7 +0.8
baz=23
G36A **St. Michael** 7.41 344 P Pn 08 12 22.6 +0.8
baz=162
Z34A **Collier Ranch,** 7.41 232 P Pn 08 12 22.3 +0.4
baz=48
446A **Poplarville** 7.43 170 P Pn 08 12 23.5 +1.4
baz=351
J32A **Parkston** 7.43 317 P Pn 08 12 23.2 +1.1
baz=133,SNR=21
Y33A **Hilltop Ranch,** 7.48 239 P Pn 08 12 22.7 -0.1
baz=53,SNR=19
K31A **O'Neill** 7.49 309 P Pn 08 12 23.3 +0.4
baz=125,SNR=17
H34A **Spellman Lake,** 7.49 332 P Pn 08 12 23.8 +0.9
baz=149
G35A **Watkins** 7.58 340 P Pn 08 12 24.2 +0.2
baz=158,SNR=16
BRAL **Brewton** 7.63 154 *e*Pn Pn 08 12 27.1 +2.2
236A **Katherine and** 7.66 219 P Pn 08 12 24.9 -0.3
baz=36,SNR=35
GOGA **Godfrey** 7.66 126 *e*Pn Pn 08 12 27.3 +2.0
338A **Crockett** 7.66 210 P Pn 08 12 25.4 0.0
baz=27,SNR=8.5
135A **Vickery Place,** 7.69 226 P Pn 08 12 25.3 -0.4
baz=42,SNR=8.2
I32A **Karley and Nic** 7.70 322 P Pn 08 12 26.7 +0.9
baz=138
X32A **Elmer** 7.71 244 P Pn 08 12 26.2 +0.2
baz=59,SNR=30
440A **Kirbyville** 7.78 200 P Pn 08 12 27.8 +0.9
baz=18
J31A **Geddes** 7.87 313 P Pn 08 12 28.3 +0.1
baz=129,SNR=5.6
H33A **Prehn Over Nor** 7.88 328 P Pn 08 12 28.9 +0.6
baz=144
337A **Centerville** 7.93 213 P Pn 08 12 29.6 +0.6
baz=30
G34A **Benson** 7.94 335 P Pn 08 12 29.4 +0.3
baz=152,SNR=50
F36A **Milaca** 7.97 347 P Pn 08 12 30.0 +0.5
baz=165
439A **Center Grove,** 7.98 205 P Pn 08 12 30.7 +1.1
baz=23
Z33A **Whitaker Ranch** 8.01 235 P Pn 08 12 29.9 -0.2
baz=51,SNR=43
H32A **Carlson Farm,** 8.04 324 P Pn 08 12 30.4 -0.1
baz=140
K30A **Basset** 8.04 307 P Pn 08 12 30.7 +0.1
baz=122,SNR=21
134A **White-Moore Ra** 8.06 229 P Pn 08 12 29.9 -0.9
baz=45,SNR=16
COWI **Conover** 8.07 9 *e*Pn Pn 08 12 32.4 +1.4
WHTX **Lake Whitney,** 8.14 223 P Pn 08 12 31.5 -0.4
baz=40
WHTX **Lake Whitney,** 8.14 223 *e*Pn Pn 08 12 31.5 -0.4
G33A **Ortonville** 8.18 331 P Pn 08 12 32.9 +0.5
baz=148,SNR=31
F35A **Swanville** 8.19 342 P Pn 08 12 32.1 -0.5
baz=159,SNR=30
KMSC **Kings Mountain** 8.25 108 P Pn 08 12 35.3 +1.9
baz=294
KMSC **Kings Mountain** 8.25 108 *e*Pn Pn 08 12 35.2 +1.8
438A **Sam Houston St** 8.27 208 P Pn 08 12 34.2 +0.5
baz=26
336A **Riesel** 8.31 218 P Pn 08 12 33.0 -1.2
baz=34,SNR=6.6
F34A **Alexandria** 8.32 338 P Pn 08 12 33.3 -1.0
baz=156,SNR=17
J30A **Dallas** 8.33 311 P Pn 08 12 34.8 +0.3
baz=126,SNR=28
BLA **Blacksburg** 8.37 93 *e*Pn Pn 08 12 36.0 +1.0
E37A **Wrenshall** 8.51 353 P Pn 08 12 37.7 +0.9
baz=172
234A **Clairette** 8.51 226 P Pn 08 12 36.1 -0.9
baz=42
H31A **Wolsey** 8.53 320 P Pn 08 12 37.0 -0.1
baz=136
133A **Hamilton Ranch** 8.55 232 P Pn 08 12 37.2 -0.3
baz=48,SNR=8.7
E36A **McGregor** 8.56 349 P Pn 08 12 38.3 +0.6
baz=168
I30A **Oacoma** 8.65 315 P Pn 08 12 38.7 -0.1
baz=129,SNR=14
G32A **Webster** 8.66 327 P Pn 08 12 38.9 -0.1
baz=143
335A **Moody** 8.68 220 P Pn 08 12 38.8 -0.5
baz=36
F33A **5 Mile Ranch,** 8.69 334 P Pn 08 12 39.6 +0.3
baz=151,SNR=16
JSC **Jenkinsville** 8.69 113 *e*Pn Pn 08 12 40.7 +1.3
VWCC **Virginia Weste** 8.71 92 *e*Pn Pn 08 12 40.5 +0.8
SUSD **Miller** 8.74 319 P Pn 08 12 40.3 +0.1
baz=134
MCWV **Mont Chateau** 8.76 77 *e*Pn Pn 08 12 42.7 +2.3
436A **Wall Ranch, Ga** 8.80 215 P Pn 08 12 40.5 -0.5
baz=32
E35A **Pequot Lakes** 8.81 344 P Pn 08 12 41.1 +0.1
baz=162,SNR=10
N54A **Moraine State** 8.90 68 P Pn 08 12 42.6 +0.4
baz=255,SNR=14
233A **Rising Star** 8.95 229 P Pn 08 12 42.0 -0.9
baz=45
G31A **Conde** 8.95 325 P Pn 08 12 42.9 0.0
baz=140
E34A **Wadena** 8.95 341 P Pn 08 12 42.5 -0.5
baz=158,SNR=11
ALLY **Allegheny Colle** 8.99 64 *e*Pn Pn 08 12 45.0 +1.5
ABTX **Abilene, Hawle** 9.00 235 P Pn 08 12 42.6 -1.1
baz=50
ABTX **Abilene, Hawle** 9.00 235 *e*Pn Pn 08 12 42.8 -0.9
F32A **Veblen** 9.01 331 P Pn 08 12 43.7 -0.1
baz=147
OGNE **Ogallala** 9.04 292 P Pn 08 12 44.4 0.0
baz=105,SNR=25
OGNE **Ogallala** 9.04 292 *e*Pn Pn 08 12 44.4 0.0
334A **Lometa** 9.07 224 P Pn 08 12 44.0 -0.7
baz=40
HKT **Hockley** 9.12 208 *e*Pn Pn 08 12 45.9 +0.7
435B **Jarrell** 9.17 219 P Pn 08 12 45.1 -0.8
baz=35
E33A **Westby DABS, E** 9.18 337 P Pn 08 12 45.5 -0.6
baz=154,SNR=8.6
D36A **Goodland** 9.20 350 P Pn 08 12 47.7 +1.4
baz=169
I29A **Vivian Onida** 9.22 313 P Pn 08 12 46.4 -0.2
baz=127
KSCO **Kaye Shedlock'** 9.22 279 P Pn 08 12 46.7 -0.2
baz=92,SNR=25
KSCO **Kaye Shedlock'** 9.22 279 *e*Pn Pn 08 12 47.0 +0.2
D35A **Remer** 9.24 346 P Pn 08 12 46.6 -0.4
baz=164
AMTX **Amarillo** 9.26 253 P Pn 08 12 47.4 +0.1
baz=67
AMTX **Amarillo** 9.26 253 *e*Pn Pn 08 12 47.8 +0.5
ERPA **Erie** 9.26 61 *e*Pn Pn 08 12 48.0 +0.8
M54A **Oil Creek Stat** 9.29 65 P Pn 08 12 48.3 +0.8
baz=252,SNR=16
G30A **Faulkton** 9.32 321 P Pn 08 12 47.4 -0.6
baz=136
F31A **Hecla** 9.46 327 P Pn 08 12 49.4 -0.5
baz=142
434A **Burnet** 9.49 222 P Pn 08 12 49.2 -1.3
baz=38
D34A **Park Rapids** 9.49 342 P Pn 08 12 49.9 -0.4
baz=159,SNR=8.3
333A **Richland Sprin** 9.50 227 P Pn 08 12 48.9 -1.6
baz=42
H29A **Onida** 9.54 316 P Pn 08 12 51.7 +0.6
baz=130
C38A **Sawbill Land.** 9.59 359 P Pn 08 12 50.7 -1.0
baz=178
E32A **Braaten, Kindr** 9.61 334 P Pn 08 12 51.0 -0.9
baz=150,SNR=5.4
C39A **Grand Marais** 9.70 3 P Pn 08 12 52.6 -0.7
baz=184
D33A **AnnSam, Waubun** 9.71 340 P Pn 08 12 53.1 -0.2
baz=156,SNR=18
C36A **Pine Crest Far** 9.73 352 P Pn 08 12 53.3 -0.4
baz=171
G29A **Hoven** 9.76 319 P Pn 08 12 53.6 -0.5
baz=134
535A **Dale** 9.78 216 P Pn 08 12 53.2 -1.2
baz=33
F30A **Leola** 9.79 324 P Pn 08 12 54.6 +0.2
baz=139
O56A **Blue Knob Stat** 9.82 74 P Pn 08 12 55.1 +0.2
baz=261
EYMN **Ely** 9.82 358 P Pn 08 12 54.1 -0.8
baz=177
EYMN **Ely** 9.82 358 *e*Pn Pn 08 12 53.8 -1.1
E31A **Nome** 9.88 331 P Pn 08 12 54.6 -1.0
baz=146
C34A **RKJ Ranch, Bem** 9.96 344 P Pn 08 12 56.4 -0.3
baz=162
433A **Art** 9.98 225 P Pn 08 12 55.3 -1.9
baz=40
NHSC **New Hope** 10.07 117 *e*Pn Pn 08 12 58.4 +0.2
191nm,0.6s
F29A **Eureka** 10.16 322 P Pn 08 12 59.8 +0.2
baz=136
534A **Blanco** 10.22 220 P Pn 08 12 58.9 -1.6
baz=36
C33A **Trail** 10.26 341 P Pn 08 13 00.5 -0.5
baz=158
SSPA **Standing Stone** 10.39 72 *e*Pn Pn 08 13 03.1 +0.4
635A **Leesville** 10.42 215 P Pn 08 13 02.2 -0.9
baz=32
MSTX **Muleshoe** 10.46 250 P Pn 08 13 02.6 -1.2
baz=63
MSTX **Muleshoe** 10.46 250 *e*Pn Pn 08 13 02.6 -1.2
533A **Kerrville** 10.48 222 P Pn 08 13 02.8 -1.2
baz=38
C32A **Crookston** 10.53 339 P Pn 08 13 03.1 -1.4
baz=155
JCT **Junction City** 10.59 227 P Pn 08 13 03.7 -1.9
baz=42
JCT **Junction City** 10.59 227 *e*Pn Pn 08 13 04.2 -1.4
CBN **Corbin Frederi** 10.66 85 *e*Pn Pn 08 13 09.1 +2.8
378nm,0.7s
D30A **Buchanan** 10.67 330 P Pn 08 13 05.0 -1.5
baz=145
B33A **Robert and Kas** 10.70 343 P Pn 08 13 06.7 -0.2
baz=160
B34A **Aery, Baudette** 10.71 346 P Pn 08 13 05.2 -1.7
baz=164
T25A **Trinidad** 10.76 269 P Pn 08 13 07.1 -0.8
baz=81
T25A **Trinidad** 10.76 269 *e*Pn Pn 08 13 07.5 -0.5
C31A **Landman Farms,** 10.87 335 P Pn 08 13 07.0 -2.3
baz=150
SADO **Sadowa** 11.04 49 Pn Pn 08 13 10.4 -1.1
0.7nm,0.3s,baz=249,slow=14,SNR=5.2
SADO Sn Sn 08 15 08.8 -5.9
3.7nm,0.3s,baz=312,slow=8.3,SNR=3.4
SADO Lg Lg 08 16 14.1
3.4nm,0.3s,baz=156,slow=20,SNR=4.5
SADO **Sadowa** 11.04 49 *e*Pn Pn 08 13 10.8 -0.8
SADO Sn Sn 08 15 08.8 -5.9
SADO Lg Lg 08 16 14.1
633A **Saathoff Ranch** 11.04 221 P Pn 08 13 09.9 -1.8
baz=36
C30A **Mose, Pekin** 11.06 332 P Pn 08 13 09.2 -2.6
baz=147
Q24A **Divide** 11.19 279 P Pn 08 13 12.3 -1.6
baz=90,SNR=16
Q24A **Divide** 11.19 279 *e*Pn Pn 08 13 12.9 -1.0
734A **La Parita Cree** 11.24 217 P Pn 08 13 12.1 -2.2
baz=33
A33A **Warroad** 11.28 345 P Pn 08 13 13.3 -1.5
baz=162
835A **Beeville** 11.39 213 P Pn 08 13 15.9 -0.5
baz=29
MVL **Millersville** 11.47 76 *e*Pn Pn 08 13 17.2 -0.3
A32A **Rocking H Ranc** 11.52 341 P Pn 08 13 15.9 -2.2
baz=158
H25A **Fruitdale** 11.53 308 P Pn 08 13 16.5 -1.8
baz=120
SDCO **Great Sand Dun** 11.53 273 P Pn 08 13 18.2 -0.4
baz=84
SDCO **Great Sand Dun** 11.53 273 *e*Pn Pn 08 13 18.9 +0.3
RSSD **Black Hills** 11.56 305 P Pn 08 13 18.0 -1.0
baz=117
RSSD **Black Hills** 11.56 305 *e*Pn Pn 08 13 18.9 0.0
ISCO **Idaho Springs** 11.57 283 P Pn 08 13 18.1 -1.0
baz=94
ISCO **Idaho Springs** 11.57 283 *e*Pn Pn 08 13 18.5 -0.7
MDND **Maddock** 11.61 330 P Pn 08 13 17.8 -1.6
baz=144
MDND **Maddock** 11.61 330 *e*Pn Pn 08 13 18.1 -1.3
PHWY **Pilot Hill** 11.65 290 *e*Pn Pn 08 13 18.8 -1.3
F26A **Lodgepole** 11.66 315 P Pn 08 13 18.8 -1.3
baz=128
733A **Divot King Ran** 11.70 219 P Pn 08 13 18.1 -2.6
baz=35
A31A **Linda, St. Vin** 11.72 339 P Pn 08 13 18.2 -2.6
baz=155
C28A **Hausauer Farms** 11.83 327 P Pn 08 13 20.7 -1.6
baz=141
D27A **Center** 11.89 322 P Pn 08 13 22.2 -1.1
baz=135
N23A **Red Feather La** 11.94 288 P Pn 08 13 23.2 -1.0
baz=99
N23A **Red Feather La** 11.94 288 *e*Pn Pn 08 13 23.1 -1.0
N59A **State Game Lan** 12.02 72 P Pn 08 13 23.2 -1.8
baz=261
A30A **Hoffart Farm,** 12.06 336 P Pn 08 13 23.5 -2.0
baz=151
833A **Chaparral WMA,** 12.08 218 P Pn 08 13 23.8 -2.1
baz=34
BINY **Binghamton** 12.12 66 *e*Pn Pn 08 13 25.9 -0.5
KSPA **Keystone Colle** 12.13 69 *e*Pn Pn 08 13 30.3 +3.8
F25A **Bowman** 12.15 314 P Pn 08 13 25.1 -1.7
baz=126
LUPA **Lehigh Univers** 12.28 74 *e*Pn Pn 08 13 28.9 +0.4
D26A **Manning** 12.29 320 P Pn 08 13 26.5 -2.2
baz=132
A29A **Manning Farm,** 12.36 333 P Pn 08 13 27.2 -2.4
baz=148
E25A **Miller Ranch,** 12.46 316 P Pn 08 13 29.2 -1.8
baz=128
S22A **4UR Ranch, Cre** 12.58 273 *e*Pn Pn 08 13 32.7 -0.2
SMCO **Snowmass** 12.61 280 *e*Pn Pn 08 13 32.4 -1.0
ULM **Lac du Bonnet** 12.63 345 Pn Pn 08 13 30.0 -3.2
3.5nm,0.3s,baz=168,slow=12,SNR=16
ULM Sn Sn 08 15 42.4 -11
2.8nm,0.3s,baz=189,slow=14,SNR=3.9
ULM Lg Lg 08 17 06.2
baz=74,slow=20,SNR=3.9
ULM LR LR 08 18 34.6
comp=Z,104nm,18.1s,baz=124,slow=38
ULM **Lac du Bonnet** 12.63 345 *e*Pn Pn 08 13 30.6 -2.6
ULM Sn Sn 08 15 42.4 -11
ULM Lg Lg 08 17 06.2
C26A **Wahner Farm, P** 12.68 323 P Pn 08 13 32.5 -1.4
baz=136
A28A **Rude Farm, Bot** 12.73 331 P Pn 08 13 32.5 -2.1
baz=145
K22A **Casper** 12.73 296 *e*Pn Pn 08 13 33.8 -1.1
034A **Hebbronville** 12.82 213 P Pn 08 13 34.5 -1.5
baz=29
BRNJ **Basking Ridge** 12.89 73 *e*Pn Pn 08 13 36.9 0.0
ANMO **Albuquerque** 12.90 260 Lg Lg 08 17 17.4
2.3nm,0.3s,baz=351,slow=22,SNR=6.2
ODNJ **Ogdensburg** 12.91 72 *e*Pn Pn 08 13 35.9 -1.3
B26A **Jensen Ranch,** 13.14 325 P Pn 08 13 38.8 -1.5
baz=137
A27A **Ledoux Ranch,** 13.15 329 P Pn 08 13 38.9 -1.5

baz=142
MNTX Cornudas Mount 13.49 246 P Pn 08 13 42.6 -2.5
baz=58
MNTX Cornudas Mount 13.49 246 ePn Pn 08 13 42.7 -2.5
B25A Knox Farm, Ray 13.50 323 P Pn 08 13 43.0 -2.2
baz=134
O20A White River Ci 13.61 284 ePn Pn 08 13 47.2 +0.3
TXAR Lajitas Array 13.76 234 Pn Pn 08 13 46.3 -2.6
1.4nm,0.3s,baz=56,slow=13,SNR=76
TXAR Lg Lg 08 17 46.5
1.3nm,0.3s,baz=32,slow=22,SNR=3.9
TX31 Lajitas Ar. Si 13.76 234 ePn Pn 08 13 46.3 -2.6
LONY Lake Ozonia 13.86 57 ePn Pn 08 13 49.6 -0.5
PV01 Paradox Valley 13.91 275 ePn Pn 08 13 51.4 +0.4
187nm,0.8s
TRY Troy 13.91 65 ePn Pn 08 13 49.2 -1.6
ACCN Adirondack Com 14.08 63 ePn Pn 08 13 50.5 -2.5
DGMT Dagmar 14.14 321 P Pn 08 13 50.7 -3.2
baz=132
DGMT Dagmar 14.14 321 ePn Pn 08 13 51.0 -2.9
PV10 Paradox Valley 14.26 277 ePn Pn 08 13 56.4 +0.6
PV10 eP P 08 14 06.3 +3.2
TRQ Mont Tremblant 14.56 51 ePn Pn 08 13 57.0 -2.7
MDV Middlebury 14.59 61 ePn Pn 08 13 57.4 -2.7
FRNY Flat Rock 14.60 57 ePn Pn 08 13 57.7 -2.4
BW06 Boulder Array 14.93 294 P Pn 08 14 02.7 -2.3
baz=102
BW06 Boulder Array 14.93 294 ePn Pn 08 14 03.5 -1.5
BW06 eP P 08 14 11.9 +1.3
BW06 eP P 08 14 12.1 +1.5
PD31 Pinedale Array 14.93 294 ePn Pn 08 14 03.4 -1.6
PDAR Pinedale Array 14.93 294 Pn Pn 08 14 03.0 -1.9
0.4nm,0.3s,baz=101,slow=13,SNR=9.0
PDAR Lg Lg 08 18 12.4
0.7nm,0.3s,baz=96,slow=34,SNR=3.4
P18A Preston Nutter 15.14 282 ePn Pn 08 14 08.5 +0.7
P18A eP P 08 14 15.0 +2.1
RLMT Red Lodge 15.39 303 ePn Pn 08 14 08.6 -2.4
8.2nm,0.7s
LOHW Long Hollow 15.86 296 ePn P 08 14 21.9 +1.1
19nm,0.6s
Q16A Castle Valley 15.88 279 ePn Pn 08 14 18.3 +0.9
4.9nm,0.9s
TMUT Trail Mountain 15.89 281 ePn Pn 08 14 17.7 0.0
11nm,1.3s
GCMT Greycliff 15.89 305 ePn Pn 08 14 17.1 -0.4
SNOW Snow King Moun 15.94 296 ePn Pn 08 14 17.4 -0.8
SNOW eP P 08 14 22.9 +1.2
REDW Red Top Meadow 15.98 295 ePn Pn 08 14 19.2 +0.5
REDW eP P 08 14 23.5 +1.2
MOOW Moose Ponds 15.99 297 ePn Pn 08 14 18.8 -0.1
MOOW eP P 08 14 23.4 +1.1
H17A Grant Village 16.05 299 ePn Pn 08 14 20.6 +1.1
3.4nm,0.9s
TCUT Toone Canyon 16.07 287 ePn Pn 08 14 20.1 +0.2
11nm,0.8s
TPAW Teton Pass 16.08 296 ePn Pn 08 14 20.0 0.0
TPAW eP P 08 14 24.6 +1.2
IMW Indian Meadow 16.17 297 ePn Pn 08 14 20.0 -1.2
IMW eP P 08 14 26.0 +1.7
HWUT Hardware Ranch 16.23 289 ePn Pn 08 14 21.1 -0.8
8.1nm,0.6s
NLU North Lily Min 16.55 283 ePn Pn 08 14 26.4 +0.5
2.6nm,1.0s
WUAZ Wupatki 16.59 267 eP P 08 14 31.0 +2.0
8.9nm,0.9s
DUG Dugway, Tooele 17.11 284 P Pn 08 14 33.8 +0.8
baz=90
DUG Dugway, Tooele 17.11 284 ePn Pn 08 14 33.1 +0.2
8.2nm,0.9s
TUC Tucson 17.24 256 ePn Pn 08 14 34.5 0.0
2.5nm,0.8s
DLMT Dillon 17.70 301 ePn Pn 08 14 39.8 -0.4
9.8nm,1.4s
MCMT McKenzie Canyo 17.73 299 ePn P 08 14 41.2 -0.3
LRM Limekiln Ridge 17.73 303 ePn P 08 14 41.5 -0.1
LMQ La Malbaie 17.74 51 ePn Pn 08 14 38.8 -1.8
FFC Flin Flon 18.23 339 ePn Pn 08 14 45.5 -1.1
16nm,0.6s
HLID Hailey 18.57 294 eP P 08 14 50.8 0.0
3.2nm,0.7s
CHMT Chamberlain Mo 18.62 305 eP P 08 14 51.2 -0.1
MSO Missoula 19.03 305 eP Pn 08 14 56.5 0.0
R11A Troy Canyon, C 19.38 278 eP Pn 08 15 02.2 +1.4
2.1nm,0.9s
MFID Camas Ranch 19.57 294 eP Pn 08 15 03.2 +0.2
4.6nm,0.8s
WALA Waterton Lakes 19.85 311 eP Pn 08 15 06.0 -0.2
5.5nm,0.6s
FCC Fort Churchill 20.75 355 eP P 08 15 14.9 +0.7
23nm,1.1s
BMO Blue Mountains 20.83 297 eP P 08 15 16.4 +1.0
8.1nm,0.8s
F10A Beach Ranch, E 20.99 300 eP P 08 15 17.8 +0.8
19nm,0.6s
NV11 Mina Array Sit 21.37 279 eP P 08 15 22.8 +1.6
3.0nm,0.9s
NV01 Mina Array Sit 21.48 279 eP P 08 15 23.7 +1.2
NVAR Mina Array Bea 21.48 279 P P 08 15 23.8 +1.2
1.4nm,0.7s,baz=80,slow=9.1,SNR=13
NEW Newport 21.53 306 P P 08 15 22.5 -0.3
7.9nm,1.0s,baz=124,slow=6.6,SNR=6.4
NEW Newport 21.53 306 P P 08 15 22.0 -0.8
baz=108
NEW Newport 21.53 306 eP P 08 15 22.8 0.0
5.3nm,0.8s
PAHR Pah Rah Range 22.18 283 eP P 08 15 32.5 +2.6
5.5nm,1.0s
WAKR Walker 22.36 280 eP P 08 15 34.6 +2.7
MOD Modoc Plateau 22.77 289 eP P 08 15 35.9 -0.4
11nm,1.3s
SCHQ Schefferville 23.35 37 P P 08 15 42.9 +1.0
2.7nm,0.8s,baz=244,slow=13,SNR=6.0
SCHQ Schefferville 23.35 37 eP P 08 15 43.1 +1.2
14nm,0.8s
H04A Detroit Lake 24.26 296 eP P 08 15 51.5 +0.8
HUMO Hull Mountain 24.74 291 eP P 08 15 54.7 -0.4
7.8nm,1.4s
NLWA Neilton Lookou 25.75 302 eP P 08 16 05.8 +1.6
60nm,1.8s
YKA Yellowknife Ar 28.38 337 P P 08 16 26.6 -0.9
0.7nm,0.4s,baz=128,slow=8.7,SNR=19
YKB5 Yellowknife Ar 28.38 337 eP P 08 16 27.7 +0.2
FRB Frobisher Bay 28.95 20 P P 08 16 33.0 +0.4
2.3nm,0.7s,baz=233,slow=9.4,SNR=5.3
DLBC Dease Lake 32.35 322 eP P 08 17 04.0 +1.1
13nm,1.7s
DAWY Dawson 38.55 328 eP P 08 17 56.9 +0.9
14nm,1.6s
BALM Baldy 39.07 323 eP P 08 18 01.3 +0.8
12nm,1.6s
EGAK Eagle 39.50 329 eP P 08 18 04.7 +0.8
DOT Dot Lake 40.42 327 eP P 08 18 12.2 +0.6
46nm,2.0s
KLU Klutina 40.85 323 eP P 08 18 16.0 +0.8
4.7nm,1.1s
PAX Paxson 40.90 325 eP P 08 18 17.7 +2.1
16nm,2.0s
FYU Fort Yukon 41.63 331 eP P 08 18 23.0 +1.6
33nm,2.0s
DHY Denali Highway 41.77 325 eP P 08 18 24.6 +1.7
12nm,1.9s
IL1 Eielson Array 41.87 328 eP P 08 18 24.8 +1.4
ILAR Eielson Array 41.87 328 P P 08 18 24.2 +0.7
2.8nm,0.6s,baz=107,slow=7.6,SNR=47
ILB Eielson Array 41.87 328 eP P 08 18 24.4 +0.9
CCB Clear Creek Bu 42.24 328 eP P 08 18 27.1 +0.7
4.4nm,0.6s
WRH Wood River Hil 42.33 327 eP P 08 18 28.1 +0.9
7.4nm,0.6s
MDM Murphy Dome 42.47 328 eP P 08 18 29.1 +0.7
6.3nm,0.9s
RND Reindeer 42.49 326 eP P 08 18 30.3 +1.7
4.9nm,0.8s
TRF Thorofare Moun 43.13 326 eP P 08 18 35.3 +1.4
6.6nm,1.2s
KTH Kantishna Hill 43.43 326 eP P 08 18 38.0 +1.8
17nm,1.8s
BPAW Bear Paw Mtn. 43.52 326 eP P 08 18 38.3 +1.4
3.0nm,0.6s
MLY Manley 43.54 328 eP P 08 18 37.7 +0.6
3.8nm,0.7s
COLD Coldfoot 43.69 331 eP P 08 18 39.8 +1.6
2.1nm,0.6s
PPLA Purkeypile 43.93 325 eP P 08 18 41.0 +0.6
44nm,2.0s

RSO Redoubt South 44.07 321 eP P 08 18 42.4 +0.8
SVW2 Sparrevohn 45.47 322 eP P 08 18 53.6 +1.2
8.4nm,1.3s
TTA Tatalina 45.68 325 eP P 08 18 55.0 +0.8
20nm,1.8s
TT01 Tatalina 45.69 325 eP P 08 18 54.9 +0.7
ARCES ARCESS Array B 63.12 21 P P 08 21 00.2 -0.6
0.9nm,0.6s,baz=320,slow=5.4,SNR=3.6
SEY Seymchan 67.38 334 P P 08 21 28.0 -0.5
1.4nm,0.6s,baz=355,slow=23,SNR=4.4
FINES FINESS Array B 68.45 27 P P 08 21 35.7 +0.5
0.9nm,0.8s,baz=257,slow=5.6,SNR=2.7
AKASG Malin Array Be 77.13 34 LR LR 08 54 05.6
comp=Z,33nm,18.2s,baz=30,slow=34
PPT Papeete 78.07 236 eP P 08 22 33.0 +0.4
MJB9 Matsu-Tunnel 92.94 322 eP P 08 23 46.8 -0.1
3.3nm,0.8s
MAJO Matsushiro 92.94 322 eP P 08 23 47.1 +0.2
12nm,0.7s
SNAA Sanae 125.09 157 PKP PKPdf 08 29 41.1 +8.2
VNDA Vanda 130.62 196 ePKPdf PKPdf 08 29 44.8 +1.6

IDC 07 08:12:38.3±3.6, 6°44S×147°95E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/37, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=85.2km s-min=42.1km az=102.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.05	195	Pn	Pn	08 13 29.0	+1.2
	3.0nm,0.3s,baz=12,slow=19,SNR=5.8						
PMG				Sn	Sb	08 14 09.8	-1.5
	2.7nm,0.3s,baz=47,slow=18,SNR=3.3						
WRA	Warramunga Arr	18.84	223	P	P	08 16 59.6	-0.4
	0.2nm,0.3s,baz=47,slow=11,SNR=6.0						
ASAR	Alice Springs	21.81	217	P	P	08 17 31.6	-0.7
	0.6nm,0.4s,baz=55,slow=8.9,SNR=18						
FITZ	Fitzroy Crossi	24.65	240	P	P	08 18 00.4	-0.5
	1.5nm,0.4s,baz=51,slow=8.6,SNR=14						
TORD	Torodi Ar. Bea	146.11	284	PKPbc	PKPbc	08 32 21.5	0.0
	0.2nm,0.4s,baz=80,slow=1.9,SNR=4.3						

IDC 07 08:24:59.9±2.8, 44°15S×16°06W, h0km, mb4.5/2, mb1 4.5/2, mb1mx3.8/25, mbtmp4.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=229.9km s-min=30.6km az=118.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	Palmer Station	33.53	215	P	P	08 31 41.0	+0.2
	15nm,0.6s,baz=40,slow=9.0,SNR=7.9						
H10S2	ASCENSION HYDR	35.08	2	T	T	09 09 13.0	
	baz=181,slow=74,SNR=5.5						
H10S3	ASCENSION HYDR	35.08	2	T	T	09 09 13.6	
	baz=181,slow=74,SNR=9.1						
H10S1	ASCENSION HYDR	35.09	2	T	T	09 09 13.5	
	baz=181,slow=74,SNR=6.4						
CPUP	Villa Florida	37.65	284	LR	LR	08 47 44.2	
	comp=Z,39nm,18.6s,baz=130,slow=36						
TORD	Torodi Ar. Bea	59.27	20	P	P	08 35 03.5	+0.2
	1.3nm,0.9s,baz=182,slow=7.6,SNR=6.8						
YKA	Yellowknife Ar	131.64	322	PKP	PKPdf	08 44 12.1	-1.4
	0.2nm,0.7s,baz=110,slow=2.7,SNR=4.3						
ILAR	Eielson Array	145.98	325	PKPbc	PKPdf	08 44 39.6	0.0
	1.1nm,0.8s,baz=79,slow=1.4,SNR=13						

*MAN **07** 08:33:56, 10°.33N×126°.30E, h109km, mb5.1, ML4.1, MS4.6*
MAN INTENSITY IV - SAN BENITO SIARGAO SURIGAO DEL NORTE; INTENSITY III - BURGOS SIARGAO SURIGAO DEL NORTE; INTENSITY II - SURIGAO CITY; SAN JOSE DINAGAT ISLAND; DAPA SIARGAO SURIGAO DEL NORTE; INTENSITY I - LORETO DINAGAT ISLAND.
*ISCJB **07** 08:33:57.2±0.7, 10°.40N±0°.03×126°.27E±0°.05, h60km±6km, mb4.4/57, Error ellipse: s-maj=7.9km s-min=4.7km az=164.1*
*NEIC **07** 08:34:00.8±1.2, 10°.40N×126°.21E, h77km±11km, mb4.5/22, Error ellipse: s-maj=9.6km s-min=6.0km az=74.0*
NEIC Felt [IV PIVS] at San Benito, [III PIVS] at San Isidro, [II PIVS] at Dapa, San Jose and Surigao and [I PIVS] at Loreto.
*DJA **07** 08:34:02.7±1.4, 11°N±8°×12°6E±°, h44km±13km, M5.1/13, mb4.7/13, mB5.3/3, MLv5.4/1, Mw(mB)4.7/3*
*IDC **07** 08:34:02.0±2.7, 10°.31N×126°.06E, h88km±25km, mb3.9/29, mb1 4.0/30, mb1mx3.9/60, mbtmp4.3/30, MS3.7/18, Ms1 3.7/18, ms1mx3.4/48, Error ellipse: s-maj=21.7km s-min=9.8km az=77.0*

ISC 07 08:34:00.4±1.0, 10°.42N±0°.04×126°.17E±0°.06, h69km±9km, n130, σ1°79/129, mb4.4/57, 9C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	Borongan	1.38	329	eP	Pn	08 34 23.1	-0.7
BESP				eS	Sn	08 34 45.7	+4.4
PLP	Palo	1.38	303	eP	Pn	08 34 21.4	-2.5
PLP				i S	Sn	08 34 39.3	-2.2
OCLP	Ormoc	1.66	292	eP	Pn	08 34 26.8	-0.7
OCLP				eS	Sn	08 34 57.3	+9.4
LLP	Lapu-Lapu	2.17	268	eP	Pn	08 34 32.8	-1.6
LLP				i S	Sn	08 35 02.1	+1.9
BIPH	Bislig	2.23	175	i P	Pn	08 34 31.0	-4.2
BIPH				i S	Sn	08 34 56.2	-5.6
TBP	Tagbilaran	2.38	253	i P	Pn	08 34 35.9	-1.4
TBP				i S	Sn	08 35 05.5	+0.1
CGP	Cagayan de Oro	2.43	217	eP	Pn	08 34 35.5	-2.5
CGP				eS	Sn	08 35 05.5	-1.2
BUKP	Musuan	2.75	203	eP	Pn	08 34 40.1	-2.2
BUKP				eS	Sn	08 35 16.1	+1.6
SNPH	Sibulan	3.08	250	i P	Pn	08 34 43.2	-3.6
SNPH				i S	Sn	08 35 18.6	-3.9
DCPH	Dipolog City	3.32	237	eP	Pn	08 34 48.4	-1.6
DCPH				eS	Sn	08 35 22.9	-5.5
DAV	Davao City (W)	3.38	190	P	Pn	08 34 52.3	+1.5
	131nm,0.3s,baz=80,slow=15,SNR=5.0						
DAV				LR	LR	08 36 22.1	
	comp=Z,2μm,19.3s,baz=360,slow=43						
DAV	Davao City (W)	3.38	190	eP	Pn	08 34 56.0	+5.2
DAV	Davao City (W)	3.38	190	ePn	Pn	08 34 50.0	-0.9
DMPH	Davao City--Mi	3.38	191	eP	Pn	08 34 53.5	+2.7
DMPH				eS	Sn	08 35 33.8	+4.0
RCP	Roxas	3.55	289	eP	Pn	08 34 52.3	-0.8
KCP	Kidapawan	3.55	198	eP	Pn	08 34 51.2	-2.1
KCP				i S	Sn	08 35 32.8	-1.3
CTBH	Cotabato--PC H	3.70	211	eP	Pn	08 34 53.2	-2.1
CTBH				i S	Sn	08 35 42.0	+4.3
JAP	San Jose, Anti	4.16	275	eP	Pn	08 35 02.4	+0.9
TGY	Tagaytay City	6.29	306	LR	LR	08 38 18.0	
	comp=Z,1μm,18.6s,baz=53,slow=41						
MYLDM	Lahad Datu	9.21	236	ePn	Pn	08 36 11.4	+0.9
MRSI	Marisa	10.73	203	P	Pn	08 36 35.3	+3.9
	25nm,1.2s,2μm						
KKM	Kota Kinabalu	10.76	247	ePn	Pn	08 36 33.4	+1.5
SANI	Sanana	12.39	181	P	Pn	08 36 57.3	+3.3
	48nm,0.8s						
TPUB	Ta-pu	13.86	338	ePn	P	08 37 18.8	-1.0
TTSI	Tana Toraja	14.79	206	P	P	08 37 32.1	+1.9
	38nm,1.3s						
SBUM	Sibu	15.95	241	ePn	P	08 37 42.3	-0.8
	46nm,1.2s						
KAPI	Kappang	16.61	203	LR	LR	08 44 19.2	
	comp=Z,226nm,21.2s,baz=29,slow=38						
QIZ	Qiongzhong	17.95	300	P	Pn	08 38 05.7	+0.3
QIZ				S	S	08 41 27.7	+0.8
QIZ				LR	LR		
	comp=N,220nm,17.1s						
QIZ				LR	LR		
	comp=E,200nm,19.0s						
QIZ				LR	LR		
	comp=Z,360nm,19.0s						
KSM	Kuching	18.09	242	eP	P	08 38 06.5	-0.3
	comp=Z,11nm,0.9s						
GUMO	Guam	18.56	78	LR	LR	08 43 50.4	
	comp=Z,195nm,19.5s,baz=236,slow=32						
SOEI	Soe	20.13	185	P	Pn	08 38 37.8	+6.3
	comp=Z,36nm,0.8s						
SOEI	Soe	20.13	185	eP	Pn	08 38 30.4	-1.2
	comp=Z,94nm,1.2s						
UBPT	Khong Chiam	20.74	286	P	P	08 38 35.8	+0.1

comp=Z,18nm,0.9s
JAGI Jajag, Banyuwa 22.25 213 eP P 08 38 53.4 +1.5
comp=Z,27nm,0.9s
SKNT Sakolnakorn 22.50 289 P P 08 38 53.5 -1.1
comp=Z,20nm,1.2s,comp=Z,4μm
KHON Khomkaen 23.45 287 P P 08 39 04.3 +0.3
comp=Z,22nm,1.0s
MTN Manton Dam 23.63 168 eP P 08 39 05.7 +0.1
comp=Z,16nm,0.5s
DSRI Dabo 24.05 245 P P 08 39 19.6 +10
KPJI Karang Pucung 24.61 225 P P 08 39 17.9 +3.5
comp=Z,35nm,0.9s
LOEI Loei 25.15 289 P P 08 39 16.4 -3.1
comp=Z,965nm,2.1s,comp=Z,68μm
PBKT Sadao Pong 25.24 287 P P 08 39 20.2 0.0
comp=Z,20nm,1.1s
IPM Ipoh 25.61 259 eP P 08 39 24.4 +0.7
comp=Z,15nm,0.9s
JHJ Hachijo jima 2 25.84 27 LR LR 08 48 54.4
comp=Z,121nm,20.7s,baz=296,slow=34
UTTA Uttaradit 25.87 289 P P 08 39 26.2 +0.3
comp=Z,3.8nm,0.7s,comp=Z,46nm
KMI Kunming 26.61 306 P P 08 39 37.7 +4.9
KMI S S 08 44 04.5 +1.5
KMI pmax pmax
comp=Z,99nm,5.1s
KMI LR LR
comp=N,180nm,19.1s
KMI LR LR
comp=E,200nm,17.8s
KMI LR LR
comp=Z,160nm,15.7s
SUKH Sukhothai 26.67 288 P P 08 39 34.0 +0.9
comp=Z,4.3nm,0.9s
KSAR Wonju Array Be 26.95 3 P P 08 39 37.0 +1.6
KSRS Korea Array 26.96 3 P P 08 39 37.0 +1.5
comp=Z,0.8nm,0.6s,baz=181,slow=11,SNR=6.2
CM01 Chiang Mai Arr 27.50 290 eP P 08 39 40.5 0.0
CM31 Chiang Mai Arr 27.52 290 eP P 08 39 40.8 0.0
CMAR Chiang Mai Arr 27.52 290 P P 08 39 40.9 +0.1
comp=Z,8.1nm,0.8s,baz=103,slow=7.1,SNR=35
CMAR LR LR 08 50 14.1
comp=Z,109nm,21.0s,baz=114,slow=35
CHTO Chiang Mai 27.60 291 P P 08 39 41.9 +0.4
comp=Z,29nm,1.2s
CHTO Chiang Mai 27.60 291 eP P 08 39 40.9 -0.6
comp=Z,6.1nm,1.0s
MAJO Matsushiro 28.20 21 eP P 08 39 44.3 -2.4
comp=Z,10nm,0.7s
MJB9 Matsu-Tunnel 28.20 21 eP P 08 39 44.3 -2.4
comp=Z,2.6nm,0.7s
XAN Xi'an 28.33 329 P P 08 39 47.8 0.0
XAN pP pP 08 39 56.0 -8.4
XAN pmax pmax
comp=Z,7.0nm,0.7s
FITZ Fitzroy Crossi 28.34 181 P P 08 39 46.7 -1.3
comp=Z,2.6nm,0.5s,baz=14,slow=7.8,SNR=15
FITZ Fitzroy Crossi 28.34 181 eP P 08 39 47.0 -1.0
comp=Z,9.3nm,1.0s
CD2 Chengdu 29.13 318 eP P 08 39 54.4 -0.7
BJI Beijing 30.81 345 P P 08 40 10.4 +0.8
BJI S S 08 44 56.2 -12
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI LR LR
comp=N,110nm,10.2s
BJI LR LR
comp=E,80nm,8.2s
BJI LR LR
comp=Z,73nm,21.2s
WRA Warramunga Arr 31.23 165 P P 08 40 11.2 -2.4
comp=Z,1.5nm,0.6s,baz=342,slow=8.5,SNR=24
LZH Lanzhou 32.60 325 eP P 08 40 26.5 +0.8
LZH pP sP 08 40 46.4 -4.1
LZH sP pP 08 40 56.5 +14
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,93nm,4.0s
LZH LR LR
comp=N,160nm,13.3s
LZH LR LR
comp=E,240nm,16.6s
LZH LR LR
comp=Z,220nm,16.6s
HHC Hu-ho-hao-te 32.94 339 eP P 08 40 29.1 +0.6
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,82nm,4.4s
USRK Ussuriysk Ar. 34.03 7 P P 08 40 38.4 +0.6
comp=Z,1.4nm,0.8s,baz=201,slow=7.7,SNR=2.8
USRK LR LR 08 55 11.4
comp=Z,40nm,18.6s,baz=165,slow=37
AS31 Alice Springs 34.71 167 eP P 08 40 42.8 -1.2
comp=Z,1.9nm,0.4s
ASAR Alice Springs 34.71 167 P P 08 40 42.1 -1.8
comp=Z,1.4nm,0.4s,baz=350,slow=7.4,SNR=35
ASAR PcP PcP 08 43 15.8 -0.8
comp=Z,0.7nm,0.7s,baz=338,slow=2.6,SNR=3.3
ASAR LR LR 08 56 23.9
comp=Z,52nm,20.7s,baz=0.5,slow=39
AS01 Alice Springs 34.72 167 eP P 08 40 42.3 -1.7
GTA Gaotai 37.20 325 eP P 08 41 05.4 +0.2
GTA pP pP 08 41 15.0 -7.1
GTA sP sP 08 41 19.0 -11
GTA S S 08 46 46.2 -1.1
GTA sS ScP 08 47 02.3 -2.9
GTA SS SnSn 08 49 13.7 -15
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA pmax pmax
comp=Z,78nm,4.5s
GTA LR LR
comp=N,98nm,17.6s
GTA LR LR
comp=E,120nm,19.0s
GTA LR LR
comp=Z,200nm,18.1s
HNR Honiara 38.97 119 LR LR 08 55 38.1
comp=Z,53nm,21.5s,baz=274,slow=33
KLR Kul'dur 38.97 6 P P 08 41 20.8 +1.0
comp=Z,1.0nm,0.6s,baz=170,slow=6.1,SNR=3.5
H11S3 WAKE ISLAND Hy 39.98 74 T T 09 24 26.5
baz=260
H11S1 WAKE ISLAND Hy 39.99 74 T T 09 24 27.5
baz=260
H11S2 WAKE ISLAND Hy 39.99 74 T T 09 24 26.1
baz=260
H11N1 WAKE ISLAND Hy 40.30 72 T T 09 24 52.8
baz=265,slow=74,SNR=68
H11N2 WAKE ISLAND Hy 40.32 72 T T 09 24 52.8
baz=265,slow=74,SNR=81
H11N3 WAKE ISLAND Hy 40.32 72 T T 09 24 53.4
baz=265,slow=74,SNR=69
ULN Ulaanbaatar 40.65 340 eP P 08 41 34.2 +0.2
comp=Z,7.3nm,1.0s
SONM Songino Array 40.84 340 P P 08 41 34.3 -1.2
comp=Z,2.4nm,0.9s,baz=158,slow=9.0,SNR=5.5
SONM PcP PcP 08 43 35.1 -0.1
comp=Z,1.7nm,0.8s,baz=160,slow=4.6,SNR=4.0
SONM LR LR 09 01 02.7
comp=Z,116nm,18.1s,baz=145,slow=40
SONA1 Songino Array 40.85 340 eP P 08 41 35.0 -0.6
STKA Stephens Creek 44.57 161 P P 08 42 04.8 -0.9
comp=Z,2.9nm,0.7s,baz=313,slow=9.8,SNR=8.4
STKA LR LR 09 04 33.5
comp=Z,41nm,18.1s,baz=22,slow=41
TLY Talaya 45.06 340 P P 08 42 10.2 +0.8
comp=Z,6.3nm,0.7s,baz=250,slow=22,SNR=6.3
WMQ Urumqi 47.04 322 P P 08 42 26.2 +1.0
WMQ LR LR
comp=N,120nm,20.2s
WMQ LR LR
comp=E,69nm,17.4s
WMQ LR LR
comp=Z,55nm,17.4s
PETK Petropavlovsk- 49.55 24 P P 08 42 46.4 +2.2
comp=Z,4.1nm,0.7s,baz=193,slow=5.0,SNR=7.4
PETK LR LR 09 04 46.3
comp=Z,59nm,18.8s,baz=224,slow=37
DZM Mont Dzumac 51.02 130 LR LR 09 03 58.3
comp=Z,147nm,20.9s,baz=48,slow=35
MK01 Makanchi Array 51.83 323 eP P 08 43 01.1 -0.5
MK31 Makanchi Array 51.85 323 eP P 08 43 01.8 +0.1
MKAR Makanchi Array 51.85 323 P P 08 43 01.6 0.0
comp=Z,4.7nm,0.8s,baz=118,slow=7.8,SNR=23

MKAR				PcP	PcP	08 44 13.6	-0.2	
	comp=Z,2.3nm,0.8s,baz=116,slow=5.0,SNR=2.6							
MAKZ	**Makanchi**	**52.04**	**323**	*eP*	**P**	08 43 02.9	-0.3	
	comp=Z,5.3nm,1.0s							
KSH	**Kashi**	**53.06**	**312**	*eP*	**P**	08 43 12.4	+1.5	
KSH				pP	pP	08 43 31.0	+2.4	
KSH				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZAA0	**Zalesovo Array**	**54.45**	**331**	*eP*	**P**	08 43 19.9	-0.8	
ZALV	**Zalesovo Beam**	**54.45**	**331**	P	**P**	08 43 19.9	-0.7	
	comp=Z,2.0nm,0.5s,baz=115,slow=7.9,SNR=5.0							
KURK	**Kurchatov**	**55.89**	**325**	P	**P**	08 43 30.6	-0.4	
KURBB	**Kurchatov Arra**	**55.89**	**325**	P	**P**	08 43 30.6	-0.4	
	comp=Z,3.9nm,0.6s,baz=125,slow=6.9,SNR=29							
KKAR	**Karatay Array**	**58.08**	**315**	*eP*	**P**	08 43 45.8	-0.9	
TIXI	**Tiksi**	**61.21**	**1**	P	**P**	08 44 06.8	-0.9	
	comp=Z,0.6nm,0.3s,baz=175,slow=3.4,SNR=4.7							
TIXI	**Tiksi**	**61.21**	**1**	*eP*	**P**	08 44 07.7	+0.1	
	comp=Z,7.0nm,1.4s							
BVAR	**Borovoye Array**	**61.49**	**325**	P	**P**	08 44 09.7	-0.2	
	comp=Z,2.6nm,0.8s,baz=113,slow=10,SNR=9.0							
BRVK	**Borovoye**	**61.56**	**325**	*eP*	**P**	08 44 10.2	-0.2	
	comp=Z,9.8nm,0.7s							
ZRNK	**Zerenda**	**62.24**	**325**	*eP*	**P**	08 44 14.5	-0.4	
	comp=Z,4.4nm,0.9s							
NRIK	**Noril'sk**	**63.85**	**346**	P	**P**	08 44 25.5	+0.2	
	comp=Z,1.4nm,0.3s,baz=71,slow=2.9,SNR=3.6							
ABKAR	**Akbulak array**	**66.70**	**319**	*eP*	**P**	08 44 43.4	-0.7	
AKTO	**Aktyubinsk**	**68.14**	**320**	P	**P**	08 44 52.3	-0.9	
	comp=Z,1.9nm,0.7s,baz=75,slow=10.0,SNR=5.6							
AKTO				LR	LR	09 16 48.8		
	comp=Z,106nm,20.2s,baz=130,slow=38							
ARU	**Arti**	**69.05**	**327**	P	**P**	08 44 57.8	-0.9	
	comp=Z,4.0nm,0.3s,baz=54,slow=4.7,SNR=5.6							
BPAW	**Bear Paw Mtn.**	**77.57**	**27**	*eP*	**P**	08 45 48.6	-0.2	
	comp=Z,8.0nm,1.1s							
COLD	**Coldfoot**	**78.00**	**23**	*eP*	**P**	08 45 52.3	+1.3	
	comp=Z,3.0nm,0.8s							
ILAR	**Eielson Array**	**79.35**	**26**	*eP*	**P**	08 45 57.3	-1.3	
	comp=Z,0.7nm,0.7s,baz=239,slow=5.3,SNR=7.8							
IL1	**Eielson Array**	**79.35**	**26**	*eP*	**P**	08 45 59.4	+0.8	
OBN	**Obninsk**	**81.31**	**324**	LR	LR	09 22 30.1		
	comp=Z,28nm,21.0s,baz=88,slow=36							
SPITS	**Spitsbergen Ar**	**83.85**	**349**	P	**P**	08 46 22.7	+0.6	
	comp=Z,4.2nm,0.8s,baz=114,slow=7.1,SNR=2.7							
ARCES	**ARCESS Array B**	**84.02**	**340**	P	**P**	08 46 23.4	+0.4	
	comp=Z,0.9nm,0.6s,baz=79,slow=6.3,SNR=4.0							
BRTR	**Keskin Array B**	**85.36**	**309**	P	**P**	08 46 29.4	-1.2	
	comp=Z,1.2nm,0.8s,baz=116,slow=2.9,SNR=5.6							
FINES	**FINESS Array B**	**85.71**	**332**	P	**P**	08 46 31.3	-0.3	
	comp=Z,0.8nm,0.4s,baz=72,slow=6.2,SNR=8.7							
FINES				LR	LR	09 29 24.6		
	comp=Z,58nm,18.4s,baz=158,slow=39							
BR231	**Keskin MP Array**	**85.99**	**310**	*eP*	**P**	08 46 30.3	-3.4	
AKASG	**Malin Array Be**	**86.39**	**321**	P	**P**	08 46 34.0	-1.2	
	comp=Z,0.6nm,0.4s,baz=64,slow=4.7,SNR=5.8							
AKBB	**Malin Array Si**	**86.39**	**321**	*eP*	**P**	08 46 33.8	-1.4	
	comp=Z,7.8nm,1.4s							
KIEV	**Kiev**	**86.40**	**321**	*eP*	**P**	08 46 34.1	-1.1	
	comp=Z,2.5nm,0.8s							
AK11	**Malin Array Si**	**86.42**	**321**	*eP*	**P**	08 46 34.6	-0.8	
BUR08	**Bucovina Ar. S**	**89.67**	**318**	*eP*	**P**	08 46 50.6	-0.4	
MAW	**Mawson**	**89.80**	**200**	P	**P**	08 46 50.6	-0.3	
	comp=Z,4.4nm,0.7s,baz=65,slow=4.3,SNR=10							
MAW	**Mawson**	**89.80**	**200**	*eP*	**P**	08 46 50.7	-0.3	
	comp=Z,9.2nm,2.0s							
VNDA	**Vanda**	**90.09**	**173**	P	**P**	08 46 52.1	0.0	
	comp=Z,0.8nm,0.6s,baz=306,slow=6.7,SNR=6.6							
VNDA	**Vanda**	**90.09**	**173**	*eP*	**P**	08 46 53.2	+1.0	
	comp=Z,3.3nm,0.9s							
HFS	**Hagfors**	**91.87**	**332**	P	**P**	08 47 01.0	+0.1	
	comp=Z,0.6nm,0.4s,baz=61,slow=12,SNR=1.9							
KECS	**Kecovo**	**92.45**	**320**	*eP*	**P**	08 47 02.9	-1.0	
LANS	**Liptovska Anna**	**92.87**	**321**	*eP*	**P**	08 47 02.8	-3.0	
YKA	**Yellowknife Ar**	**93.66**	**24**	P	**P**	08 47 09.8	+0.7	
	comp=Z,0.7nm,0.6s,baz=302,slow=4.6,SNR=13							
GERES	**GERESS Array B**	**96.51**	**322**	LR	LR	09 35 42.8		
	comp=Z,43nm,18.6s,baz=92,slow=38							
DAVOX	**Davos/Dischmat**	**99.72**	**321**	LR	LR	09 35 42.4		
	comp=Z,33nm,19.4s,baz=78,slow=37							
TXAR	**Lajitas Array**	**117.81**	**49**	PKP	**PKPdf**	08 52 40.6	+0.8	
	comp=Z,0.4nm,0.8s,baz=222,slow=1.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**120.12**	**292**	PKP	**PKPdf**	08 52 43.5	-0.9	
	comp=Z,1.0nm,0.6s,baz=78,slow=2.1,SNR=12							

*NNC **07** 08:37:24.6±4.0, 54°.32N×86°.44E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=29.7km s-min=27.7km az=17.0*
IDC 07 08:37:18.6±2.9, 54°.64N×86°.66E, h0km, mb1 3.3/2, mb1mx3.1/62, mbtmp3.3/2, ML2.9/2, 7C-2D, Error ellipse: s-maj=23.3km s-min=16.8km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**238**	*i*		08 44 50.0	
	baz=57,slow=308,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.28**	**238**	Pg	Pg	08 37 41.9	-1.3
	1.9nm,0.3s,baz=60,slow=17,SNR=14						
ZALV				Lg	Lg	08 38 00.8	
	4.1nm,0.3s,baz=55,slow=30,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.38**	**234**	Pn	Pn	08 38 54.0	+0.3
	0.2nm,0.3s,baz=52,slow=14,SNR=34						
KURBB				Sn	Sn	08 40 05.8	-1.3
	0.0nm,0.3s,baz=46,slow=20,SNR=3.0						
KURBB				Lg	Lg	08 40 41.8	
	0.1nm,0.3s,baz=49,slow=33,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.38**	**234**	⇑Pn	Pn	08 38 54.9	+1.2
	3.1nm,0.4s						
KURBB				⇑Sn	Sn	08 40 07.0	-0.2
	8.8nm,0.8s						
KURBB				⇓Lg	Lg	08 40 40.9	
	11nm,0.8s						
MK31	**Makanchi Array**	**8.32**	**201**	⇑Pn	Pn	08 39 22.4	+1.9
	0.5nm,0.6s,baz=28,slow=14,SNR=7.8						
MK31				⇓Sn	Sn	08 40 54.2	-1.0
	0.2nm,0.4s,baz=29,slow=28,SNR=3.2						
MK31				⇑Lg	Lg	08 41 39.0	
	1.9nm,0.7s,baz=31,slow=33,SNR=4.7						
MKAR	**Makanchi Array**	**8.32**	**201**	Pn	Pn	08 39 22.1	+1.6
	0.2nm,0.3s,baz=23,slow=14,SNR=8.1						
MKAR				Sn	Sn	08 40 53.8	-1.4
	0.3nm,0.3s,baz=21,slow=24,SNR=6.7						
MKAR				Lg	Lg	08 41 43.5	
	0.1nm,0.3s,baz=21,slow=28,SNR=6.3						
MAKZ	**Makanchi**	**8.38**	**203**	⇑Pn	Pn	08 39 23.6	+2.4
	1.4nm,0.9s						
MAKZ				⇑Sn	Sn	08 40 54.7	-1.8
	1.0nm,0.8s						
MAKZ				⇑Lg	Lg	08 41 40.4	
	1.7nm,1.0s						

*NEIC **07** 08:52:09.9±0.7, 17°.84S×178°.45W, h501km±8km, mb4.7/37, Error ellipse: s-maj=8.3km s-min=5.6km az=109.0*
*IDC **07** 08:52:09.6±1.9, 17°.68S×178°.53W, h491km±23km, mb3.4/13, mb1 3.7/15, mb1mx3.6/29, mbtmp4.3/15, Error ellipse: s-maj=18.6km s-min=12.6km az=137.0*
*ISCJB **07** 08:52:14.9±0.3, 18°.05S±0°.05×178°.57W±0°.07, h579km, mb4.5/54, Error ellipse: s-maj=9.2km s-min=6.1km az=19.0*
ISC 07 08:52:16.7±0.5, 17°.94S±0°.08×178°.65W±0°.09, h579km, n89, σ1°42/88, mb4.6/54, 2C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.15**	**273**	*eP*	P	08 53 29.4	-5.7
AFI	**Afiamalu**	**7.73**	**60**	P	P	08 54 00.8	-12
	30nm,0.3s,baz=224,slow=2.9,SNR=17						
AFI				S	S	08 55 28.9	-19
	1.8nm,0.3s,baz=236,slow=18,SNR=2.2						
AFI	**Afiamalu**	**7.73**	**60**	*eP*	P	08 54 01.2	-12
FUNA	**Funafuti**	**9.59**	**347**	*eP*	P	08 54 23.7	-7.4
DZM	**Mont Dzumac**	**14.60**	**251**	P	**P**	**08 55 18.0**	**-3.8**
	0.9nm,0.3s,baz=124,slow=22,SNR=17						
DZM	**Mont Dzumac**	**14.60**	**251**	*eP*	**P**	**08 55 17.9**	**-3.8**
URZ	**Urewera**	**20.58**	**190**	P	**P**	**08 56 13.1**	**-3.4**
	20nm,0.7s,baz=64,slow=3.0,SNR=10						
URZ	**Urewera**	**20.58**	**190**	*eP*	**P**	**08 56 13.2**	**-3.2**
	28nm,0.9s						
BKZ	**Black Stump Fm**	**21.57**	**190**	*eP*	**P**	**08 56 22.2**	**-3.2**
	66nm,1.8s						
HNR	**Honiara**	**22.43**	**289**	*eP*	**P**	**08 56 31.0**	**-2.3**
	267nm,1.1s						
BFZ	**Birch Farm**	**23.09**	**190**	*eP*	**P**	**08 56 37.0**	**-1.8**
	64nm,1.5s						

SNZO	**South Karori**	**23.98**	**192**	*eP*	**P**	**08 56 45.0**	**-1.6**	
	97nm,1.2s							
THZ	**Tophouse**	**24.82**	**195**	*eP*	**P**	**08 56 53.5**	**-0.7**	
	62nm,1.5s							
KHZ	**Kahutara**	**25.29**	**194**	*eP*	**P**	**08 56 56.0**	**-2.2**	
	133nm,1.7s							
LTZ	**Lake Taylor**	**25.94**	**195**	*eP*	**P**	**08 57 02.3**	**-1.7**	
	86nm,1.6s							
OXZ	**Oxford**	**26.50**	**195**	*eP*	**P**	**08 57 07.3**	**-1.7**	
	106nm,1.8s							
FOZ	**Fox Glacier**	**27.31**	**198**	*eP*	**P**	**08 57 15.1**	**-0.9**	
	341nm,1.9s							
LBZ	**Lake Benmore**	**27.98**	**197**	*eP*	**P**	**08 57 19.8**	**-2.1**	
	87nm,1.7s							
WKZ	**Wanaka**	**28.73**	**198**	*eP*	**P**	**08 57 26.9**	**-1.5**	
	250nm,1.8s							
EIDS	**Eidsvold**	**29.04**	**250**	*eP*	**P**	**08 57 31.0**	**-0.4**	
	26nm,0.6s							
MLZ	**Mavora Lakes**	**29.49**	**199**	*eP*	**P**	**08 57 35.2**	**+0.2**	
	30nm,0.8s							
ARMA	**Armidale**	**29.73**	**240**	*eP*	**P**	**08 57 38.2**	**+0.9**	
WHZ	**Wether Hill Ro**	**30.02**	**199**	*eP*	**P**	**08 57 39.1**	**-0.4**	
	201nm,2.0s							
CTAO	**Charters Tower**	**33.22**	**261**	*eP*	**P**	**08 58 06.6**	**-0.4**	
	22nm,0.8s							
CAN	**Canberra**	**33.50**	**232**	*eP*	**P**	**08 58 10.3**	**+1.0**	
	20nm,0.8s							
COEN	**Coen**	**36.88**	**271**	*eP*	**P**	**08 58 37.5**	**0.0**	
	19nm,0.8s							
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**08 58 50.6**	**+0.9**	
	20nm,0.6s,baz=94,slow=10,SNR=59							
STKA	**Stephens Creek**	**38.41**	**241**	*eP*	**P**	**08 58 50.8**	**+1.0**	
	7.8nm,1.0s							
BBOO	**Buckleboo**	**43.19**	**241**	*eP*	**P**	**08 59 28.3**	**+0.7**	
	39nm,0.9s							
WB2	**Warramunga Arr**	**44.39**	**260**	*eP*	**P**	**08 59 36.5**	**-0.5**	
	14nm,0.7s							
WRAB	**Tennant Creek**	**44.39**	**260**	*eP*	**P**	**08 59 36.5**	**-0.6**	
	21nm,1.1s							
WRA	**Warramunga Arr**	**44.40**	**260**	P	**P**	**08 59 36.3**	**-0.8**	
	11nm,0.7s,baz=94,slow=7.0,SNR=174							
AS01	**Alice Springs**	**44.52**	**254**	*eP*	**P**	**08 59 38.0**	**0.0**	
AS31	**Alice Springs**	**44.56**	**254**	*eP*	**P**	**08 59 38.5**	**+0.1**	
	25nm,0.6s							
ASAR	**Alice Springs**	**44.56**	**254**	P	**P**	**08 59 38.5**	**+0.1**	
	96nm,0.7s,baz=89,slow=8.2,SNR=1460							
ASAR				S	**S**	**09 05 35.0**	**+2.1**	
	0.7nm,0.8s,baz=86,slow=15,SNR=4.7							
FITZ	**Fitzroy Crossi**	**52.80**	**261**	*eP*	**P**	**09 00 39.2**	**0.0**	
	18nm,1.6s							
SOEI	**Soe**	**55.84**	**270**	*eP*	**P**	**09 01 02.0**	**+1.2**	
	32nm,1.0s							
SBA	**Scott Base**	**60.37**	**184**	*eP*	**P**	**09 01 32.6**	**+2.6**	
	3.7nm,0.8s							
VNDA	**Vanda**	**60.39**	**185**	P	**P**	**09 01 31.9**	**+1.7**	
	1.5nm,0.8s,baz=0.2,slow=7.4,SNR=16							
VNDA	**Vanda**	**60.39**	**185**	*eP*	**P**	**09 01 32.1**	**+1.9**	
	8.3nm,1.8s							
MJAR	**Matsushiro Arr**	**67.80**	**324**	P	**P**	**09 02 17.0**	**-0.8**	
	4.1nm,0.5s,baz=154,slow=6.0,SNR=18							
MAJO	**Matsushiro**	**67.80**	**324**	*eP*	**P**	**09 02 17.3**	**-0.5**	
	5.0nm,0.6s							
MJB9	**Matsu-Tunnel**	**67.80**	**324**	*eP*	**P**	**09 02 17.6**	**-0.3**	
	1.4nm,0.6s							
UGM	**Wanagama**	**69.42**	**268**	*eP*	**P**	**09 02 28.3**	**+0.2**	
	268nm,1.8s							
ASAJ	**Asahikawa**	**71.20**	**332**	*eP*	**P**	**09 02 38.7**	**+0.8**	
	6.6nm,0.5s							
QSPA	**South Pole Qui**	**72.11**	**180**	*eP*	**P**	**09 02 44.4**	**+1.4**	
KSM	**Kuching**	**72.46**	**277**	*eP*	**P**	**09 02 47.1**	**+1.3**	
	11nm,0.8s							
PEA0	**Petropavlovsk-**	**73.65**	**345**	*eP*	**P**	**09 02 51.3**	**-0.5**	
PETK	**Petropavlovsk-**	**73.65**	**345**	P	**P**	**09 02 50.8**	**-1.0**	
	4.6nm,0.8s,baz=108,slow=7.2,SNR=6.1							
KSRS	**Korea Array**	**74.58**	**318**	P	**P**	**09 02 58.2**	**+0.9**	
	1.2nm,0.6s,baz=132,slow=6.3,SNR=6.8							
USRK	**Ussuriysk Ar.**	**76.51**	**326**	P	**P**	**09 03 08.3**	**+0.4**	
	1.2nm,0.6s,baz=133,slow=7.5,SNR=4.4							
NVAR	**Mina Array Bea**	**79.61**	**44**	P	**P**	**09 03 24.2**	**-0.7**	
	1.0nm,0.8s,baz=230,slow=8.8,SNR=8.1							
KLR	**Kul'dur**	**80.02**	**330**	P	**P**	**09 03 27.2**	**+0.7**	
	1.0nm,0.6s,baz=168,slow=13,SNR=3.6							
WHN	**Wuhan**	**80.44**	**306**	P	**P**	**09 03 29.5**	**+0.4**	
Y14A	**Wickenburg**	**81.01**	**50**	*eP*	**P**	**09 03 31.6**	**-0.5**	
	9.3nm,0.8s							
TIA	**Tai'an**	**81.10**	**313**	⇑P	P	09 03 42.5	+10	
TIA				pmax	pmax			
	comp=Z,10.0nm,0.4s							
TT01	**Tatalina**	**82.52**	**10**	*eP*	**P**	**09 03 38.5**	**-0.5**	
U15A	**North Rim**	**82.71**	**48**	*eP*	**P**	**09 03 40.0**	**-1.0**	
	comp=Z,2.0nm,0.8s							
SCM	**Sheep Creek Mo**	**83.32**	**14**	*eP*	**P**	**09 03 42.0**	**-1.1**	
	comp=Z,23nm,1.4s							
RND	**Reindeer**	**84.35**	**13**	*eP*	**P**	**09 03 47.1**	**-1.1**	
	comp=Z,23nm,1.8s							
GYA	**Guiyang**	**84.86**	**300**	*eP*	**P**	**09 03 52.0**	**+0.4**	
GYA				pP	pP	09 05 45.8	-10	
GYA				sP	sP	09 06 38.2	-16	
GYA				PP	**PP**	**09 07 21.0**	**+1.8**	
GYA				SKS	**SKSac**	**09 13 25.6**	**+4.1**	
GYA				S	**ScS**	**09 13 38.4**	**-1.7**	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
DOT	**Dot Lake**	**85.66**	**15**	*eP*	**P**	**09 03 53.7**	**-0.7**	
	comp=Z,26nm,1.8s							
ILAR	**Eielson Array**	**85.97**	**13**	P	**P**	**09 03 54.1**	**-1.8**	
	comp=Z,0.5nm,0.8s,baz=226,slow=5.3,SNR=7.6							
IL1	**Eielson Array**	**85.97**	**13**	*eP*	**P**	**09 03 54.8**	**-1.1**	
TX31	**Lajitas Ar. Si**	**86.21**	**58**	*eP*	**P**	**09 03 59.2**	**+1.2**	
TXAR	**Lajitas Array**	**86.21**	**58**	P	**P**	**09 03 58.8**	**+0.9**	
	comp=Z,0.6nm,0.7s,baz=220,slow=5.9,SNR=9.0							
HHC	**Hu-ho-hao-te**	**87.13**	**315**	*eP*	**P**	**09 04 03.6**	**+1.6**	
HHC				pmax	pmax			
	comp=Z,17nm,1.2s							
HHC				pmax	pmax			
	comp=Z,86nm,8.3s							
COLD	**Coldfoot**	**87.49**	**11**	*eP*	**P**	**09 04 02.4**	**-0.5**	
	comp=Z,9.3nm,1.8s							
CMAR	**Chiang Mai Arr**	**88.68**	**290**	P	**P**	**09 04 10.4**	**+0.8**	
	comp=Z,1.2nm,0.9s,baz=109,slow=2.8,SNR=4.8							
SYO	**Syowa Base**	**89.07**	**193**	⇓*eP*	**P**	**09 04 09.9**	**-0.5**	
SNAA	**Sanae**	**90.57**	**179**	*eP*	**P**	**09 04 17.5**	**+0.1**	
	comp=Z,26nm,1.9s							
LZH	**Lanzhou**	**90.73**	**308**	*eP*	**P**	**09 04 18.0**	**-0.9**	
LZH				pP	pP	09 06 14.9	-10	
LZH				pmax	pmax			
	comp=Z,19nm,1.0s							
YKA	**Yellowknife Ar**	**94.46**	**25**	P	**P**	**09 04 33.5**	**-1.7**	
	comp=Z,0.3nm,0.8s,baz=252,slow=4.0,SNR=4.6							
BUR08	**Bucovina Ar. S**	**144.52**	**332**	*e*PKPdf	**PKPab**	**09 10 49.4**	**+0.7**	
BR131	**Keskin Array S**	**144.64**	**315**	*e*PKPdf	**PKPab**	**09 10 49.5**	**-0.1**	
BRTR	**Keskin Array B**	**144.64**	**315**	PKP	**PKPab**	**09 10 49.4**	**-0.2**	
	comp=Z,3.5nm,0.9s,baz=116,slow=2.9,SNR=16							
NIE	**Niedzica**	**145.07**	**338**	*e*PKP	**PKPab**	**09 10 50.8**	**0.0**	
BR231	**Keskin MP Arra**	**145.17**	**315**	*e*PKPdf	**PKPdf**	**09 10 49.5**	**+0.2**	
CLL	**Collm**	**145.45**	**347**	⇑*i*PKPbc	**PKPab**	**09 10 51.2**	**-0.8**	
	comp=Z,6.0nm,0.7s							
UPC	**Upice**	**145.46**	**343**	*e*PKP	**PKPab**	**09 10 51.6**	**-0.6**	
DPC	**Dobruska-Polom**	**145.51**	**343**	*e*PKP	**PKPab**	**09 10 52.0**	**-0.4**	
LANS	**Liptovska Anna**	**145.59**	**339**	*e*PKP	**PKPab**	**09 10 52.7**	**-0.1**	
BRG	**Berggiesshubel**	**145.64**	**346**	*e*PKP	**PKPab**	**09 10 51.9**	**-0.9**	
	comp=Z,6.8nm,1.2s							
KECS	**Kecovo**	**145.79**	**337**	*e*PKP	**PKPab**	**09 10 52.4**	**-1.1**	
VYHS	**Vyhne**	**146.37**	**339**	*e*PKP	**PKPbc**	**09 10 54.3**	**+1.0**	
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	**PKPbc**	**09 10 57.0**	**+0.3**	
	comp=Z,1.9nm,0.5s,baz=32,slow=3.3,SNR=13							
GEA0	**GERESS Array S**	**147.59**	**345**	*e*PKPbc	**PKPbc**	**09 10 56.9**	**+0.3**	
FUORN	**Ofenpass-Fuorn**	**150.47**	**347**	*e*PKPbc	**PKPbc**	**09 11 04.9**	**+1.0**	
LAST	**Lasithi**	**152.55**	**313**	*e*PKPbc	**PKPbc**	**09 11 09.3**	**+0.6**	

*CSEM **07** 08:59:02.6, 40°.68N×16°.67E, h5km, MD1.9/5*
ROM 07 08:59:02.6±0.2, 40°.68N×16°.67E, h5km, Md1.9/5, Ml1.8/3, Error ellipse: s-maj=2.5km s-min=1.6km az=56.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATE	**Matera**	**0.04**	**139**	Pg	Pg	08 59 03.6	-0.1
MATE				Sg	Sg	08 59 04.7	+0.1
	3μm,0.4s						
MATE	**Matera**	**0.04**	**139**	Pg	Pg	08 59 03.6	-0.1
MATE				Sg	Sg	08 59 04.7	+0.1
	3μm,0.4s						
LTRZ	**Laterza**	**0.14**	**124**	Pg	Pg	08 59 06.0	+0.6
LTRZ				Sg	Sg	08 59 09.3	+2.1
	413nm,0.6s						
LTRZ	**Laterza**	**0.14**	**124**	Pg	Pg	08 59 06.0	+0.6
LTRZ				Sg	Sg	08 59 09.3	+2.1
	413nm,0.6s						
MIGL	**Miglionico**	**0.19**	**247**	Pg	Pg	08 59 07.1	+0.8
	352nm,0.6s						
MIGL	**Miglionico**	**0.19**	**247**	Pg	Pg	08 59 07.1	+0.8
	352nm,0.6s						
AMUR	**Altamura**	**0.23**	**348**	Pg	Pg	08 59 07.9	+0.7
AMUR				Sg	Sg	08 59 12.1	+1.9
	73nm,0.4s						
AMUR	**Altamura**	**0.23**	**348**	Pg	Pg	08 59 07.9	+0.7
AMUR				Sg	Sg	08 59 12.1	+1.9
	73nm,0.4s						
NOCI	**Noci**	**0.32**	**70**	Pg	Pg	08 59 09.6	+0.8
NOCI				Sg	Sb	08 59 14.8	-1.5
NOCI	**Noci**	**0.32**	**70**	Pg	Pg	08 59 09.6	+0.8
NOCI				Sg	Sb	08 59 14.8	-1.5

*ISCJB **07** 09:01:51.7±0.9, 10°.9N±0°.1×62°.40W±0°.04, h77km±11km, Error ellipse: s-maj=21.5km s-min=6.0km az=171.6*
*FUNV **07** 09:01:53.2, 10°.77N×62°.30W, h76km, MW2.9*
*TRN **07** 09:01:57.3, 11°.06N×62°.07W, h26km, MD3.0*
ISC 07 09:01:51.6±1.5, 11°.0N±0°.1×62°.40W±0°.04, h78km±14km, n9, σ1°97/18, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.35**	**150**	*eP*	**Pn**	**09 02 04.4**	**+0.4**
GUIV				*eS*	**Sn**	**09 02 12.1**	**-0.9**
TCE	**Chacachacare**	**0.69**	**112**	*eP*	**Pn**	**09 02 07.8**	**+0.9**
TCE				*eS*	**Sn**	**09 02 15.2**	**-3.2**
CRUV	**Carupano**	**0.86**	**252**	⇓*i*P	**Pn**	**09 02 10.6**	**+1.7**
CRUV				*eS*	**Sn**	**09 02 23.1**	**+1.3**
GUNV	**Guanoco**	**0.95**	**214**	*eP*	**Pn**	**09 02 10.6**	**+0.6**
GUNV				*eS*	**Sn**	**09 02 23.0**	**-0.5**
TRN	**Trinidad (W)**	**1.03**	**107**	⇑*eP*	**Pn**	**09 02 11.4**	**+0.6**
TRN				*eS*	**Sn**	**09 02 23.0**	**-2.2**
TPP	**Pointe-a-Pierr**	**1.13**	**124**	*eP*	**Pn**	**09 02 14.7**	**+2.6**
TPP				*eS*	**Sn**	**09 02 28.5**	**+1.1**
TOSP	**Speyside**	**1.86**	**79**	*eP*	**Pn**	**09 02 23.6**	**+1.9**
TOSP				*eS*	**Sn**	**09 02 42.4**	**-2.0**
CUPV	**Cœpira**	**3.45**	**255**	*eP*	**Pn**	**09 02 44.5**	**+1.4**
CUPV				*eS*	**Sn**	**09 03 22.5**	**-0.4**
BAUV	**El Baul**	**5.90**	**251**	*eP*	**Pn**	**09 03 16.4**	**-0.1**
BAUV				*eS*	**Sn**	**09 04 19.1**	**-3.8**

*NSSC **07** 09:07:51.6±1.4, 34°.45N×36°.65E, h14km±4km, ML2.3*
*ISCJB **07** 09:07:52.4±0.7, 34°.43N±0°.04×36°.66E±0°.05, h20km±8km, Error ellipse: s-maj=6.7km s-min=5.7km az=148.0*
*CSEM **07** 09:07:53.9±0.2, 34°.42N×36°.56E, h27km±1km, ML3.2, Error ellipse: s-maj=4.7km s-min=1.3km az=105.0*
*GRAL **07** 09:07:54.7±0.3, 34°.47N×36°.54E, h29km±3km, MD3.2*
ISC 07 09:07:51.3±1.2, 34°.43N±0°.03×36°.63E±0°.04, h18km±9km, n15, σ0°81/25, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.42**	**197**	*eP*	**Pb**	**09 08 00.1**	**-0.3**
MARH				*eS*	**Sb**	**09 08 07.5**	**+0.9**
MARH				AML	AML	09 08 12.3	
	comp=N,229nm,0.2s						
MARH				AML	AML	09 08 17.3	
	comp=E,340nm,0.3s						
HWQ	**Hawqa

comp=E,1µm,1.1s
KHET Khetri 5.16 143 *e*P **Pn** **09 09 43.5 -0.2**
KHET *e*S **Sn** **09 10 35.9 -6.0**
KHET *e*S **Sn** **09 10 36.8 -5.1**
KHET AML AML 09 10 39.9
comp=N,662nm,0.5s
KHET AML AML 09 10 40.1
comp=E,415nm,0.6s
DDI Dehra Dun 5.30 110 *e*P **Pn** **09 09 46.8 +1.1**
DDI *e*S **Sn** **09 10 43.7 -1.8**
JASL Jaisalmer 5.44 193 *e*P **Pn** **09 09 46.7 -0.8**
KUDL Kundal 5.48 137 *e*P **Pn** **09 09 47.6 -0.5**
KUDL *e*S **Sn** **09 10 44.3 -5.4**
KUDL *e*S **Sn** **09 10 44.3 -5.4**
KUDL AML AML 09 10 45.7
comp=E,418nm,0.2s
KUDL AML AML 09 10 47.3
comp=N,498nm,0.3s
NDI New Delhi 5.55 129 *e*PN Pn 09 09 42.0 -7.0
NDI *e*SN Sn 09 10 37.0 -15
JOSI Joshimath 6.45 103 *e*P **Pn** **09 10 03.2 +1.7**
JOSI *e*S **Sn** **09 11 12.4 -1.6**
JOSI IAML 09 11 16.2
comp=E,3µm,0.9s
JOSI IAML 09 11 16.7
comp=N,1µm,0.7s
DZET Dzherino 7.12 338 ⇓Pn **Pn** **09 10 11.4 +0.7**
comp=N,38nm,0.5s
DZET ⇑Sn **Sn** **09 11 26.6 -3.8**
comp=N,312nm,0.6s
DZET Dzherino 7.12 338 P **Pn** **09 10 11.4 +0.7**
DZET S **Sn** **09 11 25.5 -4.9**
DZET pmax pmax
comp=Z,38nm,0.5s
DZET smax smax
comp=N,312nm,0.6s
PTH Pithoragarh 7.33 109 *e*S **Sn** **09 11 32.6 -3.0**
LGTI Lohaghat 7.39 110 *ex* Pn 09 10 20.2 +5.9
KSH Kashi 7.85 21 P **Pn** **09 10 17.6 -3.1**
KSH S Sn 09 11 34.2 -14
KSH SMN
comp=N,380nm,0.4s
KSH SME
comp=N,350nm,0.2s
PYUN Piuthan 10.15 111 *e*P **Pn** **09 10 51.7 -0.6**
comp=N,240nm,0.4s
MNAS Manas 10.22 1 ⇓Pn **Pn** **09 10 53.4 +0.2**
comp=N,22nm,0.5s
MNAS ⇓Sn **Sn** **09 12 41.4 -5.1**
comp=N,119nm,0.7s
MNAS Manas 10.22 1 P **Pn** **09 10 53.4 +0.2**
MNAS S **Sn** **09 12 41.4 -5.1**
MNAS pmax pmax
comp=Z,22nm,0.5s
MNAS smax smax
comp=N,119nm,0.7s
EKS2 Erkin-Say 10.46 6 *e*P **Pn** **09 10 57.2 +0.7**
EKS2 *e* 09 12 47.0
EKS2 Erkin-Say 10.46 6 *e*Pn **Pn** **09 10 57.2 +0.7**
EKS2 *e*Sn **Sn** **09 12 47.0 -5.4**
AAK Ala-Archa 10.52 9 P **Pn** **09 10 58.0 +0.7**
comp=N,17nm,0.3s,baz=167,slow=5.5,SNR=84
AAK S **Sn** **09 12 51.3 -2.5**
comp=N,13nm,0.3s,baz=312,slow=23,SNR=11
AAK Ala-Archa 10.52 9 Pn **Pn** **09 10 58.8 +1.5**
comp=N,24nm,0.5s
AAK ⇑Sn **Sn** **09 12 49.9 -4.0**
comp=N,150nm,0.9s
AAK Ala-Archa 10.52 9 P **Pn** **09 10 58.7 +1.5**
AAK S **Sn** **09 12 49.8 -4.0**
AAK pmax pmax
comp=Z,24nm,0.5s
AAK smax smax
comp=N,150nm,1.0s
AAK Ala-Archa 10.52 9 *e*Pn **Pn** **09 10 58.2 +0.9**
AAK *e*Sn **Sn** **09 12 51.3 -2.5**
AAK *e*Sn Sn 09 12 51.4 -2.5
FRU Bishkek 10.73 9 *e*P **Pn** **09 11 00.5 +0.5**
FRU *e*S **Sn** **09 12 57.0 -1.7**
FRU pmax pmax
comp=Z,45nm,2.0s
FRU smax smax
comp=E,140nm,0.9s
KOLN Koldanda 10.78 112 *e*P **Pn** **09 11 00.0 -0.9**
comp=E,111nm,0.5s
KK31 Karatay Array 10.93 353 ⇑Pn **Pn** **09 11 02.1 -0.7**
comp=E,24nm,0.5s,baz=178,slow=13,SNR=288
KK31 ⇓Sn **Sn** **09 12 57.4 -6.2**
comp=E,32nm,0.5s,baz=177,slow=23,SNR=12
KK31 Karatay Array 10.93 353 *i* P **Pn** **09 11 02.0 -0.7**
KK31 *e*S **Sn** **09 12 57.4 -6.2**
KK31 pmax pmax
comp=Z,24nm,0.5s
KK31 smax smax
comp=N,47nm,0.6s
KKAR Karatay Array 10.93 353 *e*P **Pn** **09 11 02.5 -0.2**
KKAR *e* 09 12 58.3
KKAR Karatay Array 10.93 353 *e*Pn **Pn** **09 11 02.5 -0.2**
KKAR *e*Sn **Sn** **09 12 58.2 -5.3**
TKM2 Tokmak 2 10.97 13 ⇑Pn **Pn** **09 11 03.8 +0.2**
comp=N,48nm,0.8s
TKM2 ⇓Sn **Sn** **09 12 57.7 -7.3**
comp=N,47nm,0.7s
TKM2 Tokmak 2 10.97 13 *i* P **Pn** **09 11 03.7 +0.2**
TKM2 pmax pmax
comp=Z,49nm,0.8s
TKM2 Tokmak 2 10.97 13 *e*Pn **Pn** **09 11 04.0 +0.5**
GKN Gorkha 11.50 108 *e*P **Pn** **09 11 09.2 -1.6**
comp=Z,72nm,0.4s
DMN Daman 12.04 109 *e*P **Pn** **09 11 16.2 -2.1**
comp=Z,60nm,0.5s
KKN Kakani 12.11 108 *e*P **Pn** **09 11 16.4 -2.6**
comp=Z,147nm,0.6s
KKN Kakani 12.11 108 *e*P **Pn** **09 11 16.5 -2.6**
comp=Z,134nm,0.6s
PKIN Phulchoki 12.29 109 *e*P **Pn** **09 11 18.8 -2.8**
comp=Z,63nm,0.3s
PDGK Podgornoye 12.44 25 ⇑Pn **Pn** **09 11 23.2 -0.1**
comp=Z,84nm,1.0s
PDGK ⇓Sn **Sn** **09 13 36.9 -3.4**
comp=Z,37nm,0.9s
PDGK Podgornoye 12.44 25 P **Pn** **09 11 23.1 -0.1**
PDGK pmax pmax
comp=Z,84nm,1.0s
GUN Gumba 12.54 107 *e*P **Pn** **09 11 21.9 -3.3**
comp=Z,176nm,0.6s
GEYT Alibeck 12.91 300 P **Pn** **09 11 27.8 -2.0**
baz=126,slow=15,SNR=9.1
SRSP Sriramsagar 14.34 156 *e*Pn **Pn** **09 11 46.8 -2.5**
SRSP IVMs_BB IVMs_BB 09 13 49.5
comp=Z,472nm,3.6s
SRSP *e* 09 14 14.6
SRSP *e*Sn **Sn** **09 14 25.2 -1.9**
KLRI Killari 14.64 164 *e*Pn **Pn** **09 11 49.7 -3.8**
KLRI *e* 09 11 57.5
KLRI *e* 09 14 19.4
KLRI Sn **Sn** **09 14 35.3 +0.8**
KLRI IVMs_BB IVMs_BB 09 16 27.2
comp=Z,947nm,3.7s
RPR Rampur 14.75 153 *e*Pn **Pn** **09 11 53.0 -1.8**
RPR *e* 09 14 24.2
RPR Sn **Sn** **09 14 36.9 -0.2**
RPR IVMs_BB IVMs_BB 09 16 56.7
comp=Z,521nm,3.7s
WSAR Wadi Sarin 15.04 237 P **Pn** **09 11 57.9 -0.7**
comp=Z,0.6nm,0.3s,baz=76,slow=3.7,SNR=8.7
WSAR S Sn 09 14 28.2 -16
comp=Z,0.4nm,0.3s,baz=233,slow=20,SNR=4.7
HYBB Hyderabad (bro 15.82 157 *e*Pn **Pn** **09 12 08.4 -0.3**
HYBB *e* 09 14 46.0
HYBB Sn **Sn** **09 15 04.0 +1.1**
HYBB IVMs_BB IVMs_BB 09 16 27.6
comp=Z,680nm,3.8s
HYB Hyderabad 15.82 157 *i* P **P** **09 12 17.0 +5.1**
HYB *e*S **S** **09 15 13.0 -2.9**
MAKZ Makanchi 16.33 24 ⇑P **Pn** **09 12 13.1 -1.9**
comp=Z,33nm,0.8s
MAKZ Makanchi 16.33 24 P **Pn** **09 12 13.5 -1.6**
MAKZ pmax pmax
comp=Z,33nm,0.8s
MAKZ Makanchi 16.33 24 *e*Pn **Pn** **09 12 13.2 -1.9**
comp=Z,31nm,0.8s
LSA Lhasa 16.38 94 P **P** **09 12 22.7 +4.1**
LSA PMZ
comp=Z,7.0nm,0.9s
MK01 Makanchi Array 16.41 25 *e*Pn **Pn** **09 12 14.2 -1.9**
MK31 Makanchi Array 16.43 25 P **Pn** **09 12 14.2 -2.1**
comp=Z,10nm,0.7s,baz=209,slow=12,SNR=90
MK31 ⇓S **Sn** **09 15 12.7 -4.9**
comp=Z,5.7nm,1.0s,baz=198,slow=22,SNR=6.2
MK31 Makanchi Array 16.43 25 *i* P **Pn** **09 12 14.2 -2.1**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 16.43 25 *e*Pn **Pn** **09 12 15.1 -1.2**
MK32 Makanchi Array 16.43 25 *e*Pn **Pn** **09 12 15.4 -1.0**
MK32 *e*Sn **Sn** **09 15 13.0 -4.6**
MKAR Makanchi Array 16.43 25 P **Pn** **09 12 15.4 -1.0**
comp=Z,0.7nm,0.3s,baz=191,slow=12,SNR=31
MKAR S **Sn** **09 15 13.0 -4.6**
comp=Z,0.3nm,0.3s,baz=198,slow=22,SNR=3.7
MKAR Makanchi Array 16.43 25 *e*Pn **Pn** **09 12 15.1 -1.2**
WMQ Urumqi 16.73 42 P **P** **09 12 25.0 +3.1**
WMQ pP pP 09 12 34.4 +1.9
WMQ sP sP 09 12 40.7 +2.6
WMQ S **Sn** **09 15 27.0 +2.0**
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,33nm,3.8s
WMQ LN
comp=Z,96nm,10.6s
WMQ LE
comp=Z,82nm,11.0s
WMQ LZ
comp=Z,24nm,17.0s
NJS Nagarjunasagar 16.87 156 *e*Pn **Pn** **09 12 22.4 +0.4**
NJS *e* 09 15 12.2
NJS Sn **Sn** **09 15 30.3 +1.8**
NJS IVMs_BB IVMs_BB 09 18 55.3
comp=Z,465nm,3.7s
PVM Polavaram 17.16 148 *e*Pn **Pn** **09 12 23.1 -2.4**
PVM *e* 09 15 19.3
PVM Sn **Sn** **09 15 34.6 -0.9**
PVM IVMs_BB IVMs_BB 09 16 56.5
comp=Z,276nm,4.0s
SRLM Srisailam 17.16 158 *e*Pn **Pn** **09 12 25.0 -0.6**
SRLM *e* 09 15 20.5
SRLM Sn **Sn** **09 15 35.9 +0.3**
SRLM IVMs_BB IVMs_BB 09 18 15.3
comp=Z,614nm,3.6s
CHLP Challavanipeta 17.31 139 *e*Pn **Pn** **09 12 27.8 +0.3**
CHLP *e* 09 15 21.4
CHLP Sn **Sn** **09 15 39.7 +0.5**
CHLP IVMs_BB IVMs_BB 09 15 50.0
comp=Z,270nm,3.6s
ADKI Addanki 17.76 155 *e*Pn **Pn** **09 12 33.0 0.0**
ADKI *e* 09 15 33.7
ADKI Sn **Sn** **09 15 47.9 -2.1**
ADKI IVMs_BB IVMs_BB 09 19 10.2
comp=Z,366nm,4.3s
RCLA Racherla 17.79 158 *e*Pn **Pn** **09 12 29.5 -3.8**
RCLA *e*P **P** **09 12 36.9 +3.3**
RCLA *e* 09 15 30.9
RCLA Sn **Sn** **09 15 52.7 +2.0**
RCLA IVMs_BB IVMs_BB 09 18 06.3
comp=Z,601nm,3.7s
KURBB Kurchatov Arra 18.94 12 P **P** **09 12 45.0 -1.0**
comp=Z,0.5nm,0.3s,baz=204,slow=10,SNR=87
KURBB S **Sn** **09 16 16.4 -1.6**
baz=195,slow=18,SNR=4.9
KURK Kurchatov 19.04 12 P **P** **09 12 45.0 -2.2**
KURK S **Sn** **09 16 16.4 -4.1**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 19.04 12 *e*P **P** **09 12 45.0 -2.2**
KURK *e*Sn **Sn** **09 16 16.4 -4.1**
AB31 Akbulak array 19.35 335 P **P** **09 12 50.6 0.0**
comp=Z,8.2nm,0.8s,baz=141,slow=12,SNR=92
AB31 ⇓S S 09 16 15.0 -12
comp=Z,7.4nm,0.6s,baz=158,slow=24,SNR=9.5
AB31 Akbulak array 19.35 335 *i* P **P** **09 12 50.6 0.0**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 19.35 335 *e*P **P** **09 12 50.6 +0.1**
SKHT Srikalahasti 19.64 158 *e*Pn **Pn** **09 12 57.2 +1.6**
SKHT *e* 09 16 17.6
SKHT Sn **Sn** **09 16 34.7 -0.6**
SKHT IVMs_BB IVMs_BB 09 17 26.5
comp=Z,474nm,4.0s
BVA0 Borovoye Array 20.81 357 P **P** **09 13 06.7 +0.2**
comp=Z,14nm,0.9s,baz=168,slow=8.0,SNR=75
BVA0 Borovoye Array 20.81 357 P **P** **09 13 06.7 +0.2**
BVA0 pmax pmax
comp=Z,14nm,1.0s
BVAR Borovoye Array 20.81 357 P **P** **09 13 06.3 -0.1**
comp=Z,11nm,0.5s,baz=163,slow=11,SNR=39
BVAR S **S** **09 16 52.1 -4.0**
comp=Z,2.1nm,0.8s,baz=163,slow=20,SNR=3.9
ZRNK Zerenda 20.83 354 ⇓P **P** **09 13 06.8 +0.1**
comp=Z,14nm,0.8s
ZRNK ⇓S **S** **09 16 54.1 -2.3**
comp=Z,6.8nm,1.0s
ZRNK Zerenda 20.83 354 *i* P **P** **09 13 06.7 +0.1**
ZRNK pmax pmax
comp=Z,14nm,0.7s
ZRNK Zerenda 20.83 354 *e*P **P** **09 13 06.8 +0.1**
comp=Z,17nm,0.9s
BRVK Borovoye 20.85 357 *e*P **P** **09 13 07.0 +0.1**
BRVK pmax pmax
comp=Z,39nm,0.7s
BRVK Borovoye 20.85 357 *e*P **P** **09 13 07.0 +0.1**
comp=Z,39nm,0.7s
AKTO Aktyubinsk 21.03 334 P **P** **09 13 08.3 -0.5**
comp=Z,5.0nm,0.4s,baz=153,slow=9.3,SNR=26
AKTO S **S** **09 16 57.2 -3.2**
comp=Z,6.1nm,0.9s,baz=127,slow=20,SNR=5.3
AKTO Aktyubinsk 21.03 334 ⇑P **P** **09 13 08.4 -0.5**
comp=Z,12nm,1.0s
AKTO ⇑S **S** **09 16 57.1 -3.2**
comp=Z,16nm,0.9s
CHKZ Chkalovo 21.45 357 ⇑P **P** **09 13 13.1 -0.2**
comp=Z,7.0nm,0.8s
CHKZ Chkalovo 21.45 357 *i* P **P** **09 13 13.4 +0.1**
CHKZ pmax pmax
comp=Z,7.0nm,0.7s
GTA Gaotai 23.38 64 *e*P P 09 13 41.4 +7.5
GTA pP sP 09 13 51.4 +0.9
GTA sP pP 09 13 55.2 +10
GTA PMZ
comp=Z,9.0nm,1.1s
ZAA0 Zalesovo Array 23.48 19 *e*P **P** **09 13 33.9 -0.5**
ZALV Zalesovo Beam 23.48 19 P **P** **09 13 34.0 -0.4**
comp=Z,12nm,0.4s,baz=211,slow=9.3,SNR=10
ZALV S **S** **09 17 42.5 -2.1**
comp=Z,0.7nm,0.3s,baz=207,slow=19,SNR=2.4
ZAA1 Zalesovo Array 23.48 19 *e*P **P** **09 13 34.0 -0.5**
ZAA1 *e*S **S** **09 17 42.5 -2.2**
GNI Garni 23.52 297 P **P** **09 13 34.2 -1.0**
comp=Z,19nm,0.8s,baz=182,slow=1.9,SNR=11
GNI Garni 23.52 297 *e i*P **P** **09 13 37.6 +2.5**
GNI pmax pmax
comp=Z,67nm,0.9s
GNI Garni 23.52 297 *e*P **P** **09 13 37.7 +2.5**
comp=Z,29nm,0.9s
NVS Novosibirsk 23.88 16 *e*P **P** **09 13 37.1 -1.1**
ZEI Tsey 24.74 303 *e*P **P** **09 13 47.6 +1.1**
ZEI pmax pmax
comp=Z,22nm,0.8s
NCK Nalchik 25.15 305 ⇓P **P** **09 13 52.0 +2.0**
NCK pmax pmax
comp=Z,17nm,0.8s
NEY Neytrino 25.70 304 ⇑P **P** **09 13 57.9 +2.8**
NEY pmax pmax
comp=Z,3.0nm,0.6s
KBZ Khabaz 25.71 305 P **P** **09 13 54.0 -0.9**
comp=Z,9.1nm,0.8s,baz=131,slow=8.1,SNR=21
KVAR Kislovodsk Arr 25.91 305 P **P** **09 13 57.7 +0.8**
comp=Z,3.2nm,0.3s,baz=3.4,slow=3.4,SNR=6.5
KIV Kislovodsk 25.92 305 *e*P **P** **09 13 58.4 +1.4**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,37nm,15.0s
ARU Arti 25.99 343 P **P** **09 13 57.7 +0.3**
comp=Z,5.9nm,0.7s,baz=116,slow=3.8,SNR=7.2
ARU Arti 25.99 343 *d i*P **P** **09 13 58.0 +0.6**
ARU 09 14 34.3
ARU S **S** **09 18 22.8 -2.0**
ARU SS **SnSn** **09 19 22.1 -2.9**
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 25.99 343 *e*P **P** **09 13 58.2 +0.9**
comp=Z,5.9nm,0.7s
PALK Pallekele 26.06 161 LR LR 09 23 46.1
comp=Z,55nm,19.2s,baz=116,slow=35
CD2 Chengdu 26.80 84 *e*P P 09 14 13.4 +8.3
CHTO Chiang Mai 27.44 113 *e*P **P** **09 14 11.8 +1.0**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 27.44 113 *e*P **P** **09 14 11.8 +1.0**
comp=Z,8.2nm,0.8s
KMI Kunming 27.59 97 P P 09 14 24.1 +12
KMI PMZ
comp=Z,18nm,0.8s
CM31 Chiang Mai Arr 27.64 113 *e*P **P** **09 14 14.3 +1.7**
CM31 *e*S **S** **09 18 52.0 +0.6**
CMAR Chiang Mai Arr 27.64 113 P **P** **09 14 14.3 +1.7**
comp=Z,1.5nm,0.3s,baz=293,slow=9.7,SNR=4.6
CMAR pP **pP** **09 14 25.1 +0.7**
comp=Z,5.9nm,0.7s,baz=294,slow=10,SNR=7.6
CMAR S **S** **09 18 52.0 +0.6**
comp=Z,0.9nm,0.4s,baz=292,slow=24,SNR=2.8
CMAR LR LR 09 28 43.7
comp=Z,18nm,18.6s,baz=295,slow=44
CMAR Chiang Mai Arr 27.64 113 P **P** **09 14 14.3 +1.7**
CMAR *PP **pP** **09 14 25.1 +0.7**
CMAR S **S** **09 18 52.1 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR smax smax
comp=N,1.0nm,0.4s
CMAR MLR MLR
comp=Z,18nm,18.7s
ZAK Zakamensk 29.20 43 *e*P P 09 14 39.1 +13
ZAK pmax pmax
comp=Z,2.0nm,0.8s
VRH Novokhopyorsk 29.33 319 *e*P **P** **09 14 27.8 +0.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
SONA0 Songino Array 30.11 49 *e*P **P** **09 14 34.3 -0.2**
SONA0 *e*pP **pP** **09 14 48.4 +2.1**
SONA0 *e*sP **sP** **09 14 52.4 +0.7**
SONM Songino Array 30.11 49 P **P** **09 14 34.3 -0.2**
comp=Z,0.5nm,0.5s,baz=246,slow=11,SNR=2.4
SONM pP **pP** **09 14 48.4 +2.1**
comp=Z,3.6nm,0.7s,baz=262,slow=9.7,SNR=9.9
SONM sP **sP** **09 14 52.4 +0.7**
comp=Z,2.2nm,0.7s,baz=260,slow=8.1,SNR=5.3
GYA Guiyang 30.43 92 *e*P P 09 14 48.2 +11
GYA PMZ
comp=Z,10.0nm,1.0s
VSR Storozhevoye 30.77 318 *e*P **P** **09 14 40.0 0.0**
VSR pmax pmax
comp=Z,5.0nm,0.4s
LPSR Galich'ya Gora 31.51 320 *e*P **P** **09 14 47.1 +0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BR101 Keskin Array S 31.96 295 *e*P **P** **09 14 51.2 +0.4**
BR131 Keskin Array S 31.96 295 *e*P **P** **09 14 51.8 +1.0**
BRTR Keskin Array B 31.96 295 P **P** **09 14 51.2 +0.4**
comp=Z,6.5nm,0.7s,baz=115,slow=8.7,SNR=40
BRTR Keskin Array B 31.96 295 P **P** **09 14 51.2 +0.4**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
HHC Hu-ho-hao-te 32.49 63 *e*P P 09 15 01.9 +6.5
HHC PMZ
comp=Z,22nm,1.0s
HHC PMZ
comp=Z,89nm,5.0s
BR231 Keskin MP Arra 32.62 295 *e*P **P** **09 14 52.2 -4.4**
OBN Obninsk 33.91 323 *i* P **P** **09 15 09.0 +1.6**
OBN *i* 09 16 20.2
OBN *i* 09 17 54.0
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,59nm,19.0s
CFR Carcaliu 36.35 304 ⇑*i*P **P** **09 15 29.2 +0.6**
CFR Carcaliu 36.35 304 ⇑P **P** **09 15 29.2 +0.6**
MSAB Monastry St. A 36.48 302 ⇓*i*P **P** **09 15 31.0 +1.2**
AKASG Malin Array Be 36.53 313 P **P** **09 15 30.6 +0.5**
comp=Z,1.5nm,0.6s,baz=106,slow=8.2,SNR=13
AKBB Malin Array Si 36.53 313 *e*P **P** **09 15 31.0 +0.9**
AKBB pmax pmax
comp=Z,12nm,1.4s
AKBB Malin Array Si 36.53 313 *e*P **P** **09 15 31.0 +0.9**
comp=Z,12nm,1.4s
KIEV Kiev 36.54 313 ⇑*e*P **P** **09 15 30.5 +0.4**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
KIEV Kiev 36.54 313 *e*P **P** **09 15 30.8 +0.6**
comp=Z,6.8nm,1.2s
VRI Vrincioaia 37.39 305 ⇓*i*P **P** **09 15 39.2 +1.7**
VRI Vrincioaia 37.39 305 ⇓P **P** **09 15 39.2 +1.7**
PLOR Plostina 37.45 305 ⇑*i*P **P** **09 15 40.2 +2.2**
PLOR Plostina 37.45 305 ⇑P **P** **09 15 40.2 +2.2**
TESR Tescani 37.51 306 ⇑*i*P **P** **09 15 39.4 +0.9**
MLR Muntele Rosu 37.91 304 P **P** **09 15 42.9 +0.8**
comp=Z,3.2nm,0.7s,baz=146,slow=7.2,SNR=3.0
MLR Muntele Rosu 37.91 304 ⇓*i*P **P** **09 15 44.5 +2.5**
NRIK Noril'sk 38.14 9 P **P** **09 15 43.3 -0.2**
comp=Z,1.9nm,0.3s,baz=201,slow=8.6,SNR=2.5
DOPR Dopca 38.33 305 ⇓*i*P **P** **09 15 47.3 +1.8**
VOIR 38.54 304 ⇓*i*P **P** **09 15 48.3 +1.1**
VOIR 38.54 304 ⇓P **P** **09 15 48.3 +1.1**
BURAR Bucovina Array 38.60 307 ⇑*i*P **P** **09 15 49.4 +1.7**
BURAR Bucovina Array 38.60 307 ⇑P **P** **09 15 49.4 +1.7**
BUR08 Bucovina Ar. S 38.61 307 *e*P **P** **09 15 49.1 +1.2**
LAST Lasithi 38.77 287 *e*P **P** **09 15 50.2 +0.9**
comp=Z,6.5nm,0.7s
IDI Anoyia 39.22 288 P **P** **09 15 53.9 +0.8**
comp=Z,2.1nm,0.5s,baz=35,slow=12,SNR=4.9
IDI Anoyia 39.22 288 *e*P **P** **09 15 53.9 +0.8**
comp=Z,6.9nm,1.2s
LOT Lotru 39.44 304 ⇓*i*P **P** **09 15 54.8 0.0**
PAIG Paliouri 39.61 295 P **P** **09 15 57.0 +0.8**
PAIG pmax pmax
comp=Z,31nm,0.9s
SOH Sokhos 39.80 297 P **P** **09 15 58.5 +0.7**
SOH pmax pmax
comp=Z,4.0nm,0.7s
DRGR 40.23 306 ⇓*i*P **P** **09 16 03.4 +2.0**
DRGR 40.23 306 ⇓P **P** **09 16 03.4 +2.0**
GRG Griva 40.51 297 P **P** **09 16 04.4 +0.7**
GRG pmax pmax
comp=Z,7.0nm,0.7s
MDVR Moldovita 40.88 303 ⇓*i*P **P** **09 16 08.4 +1.7**
SIRR Siria 40.94 305 ⇓*i*P **P** **09 16 08.0 +0.9**
CRVS Cervenica-Dubn 41.22 309 *e*P **P** **09 16 11.1 +1.8**
CRVS Cervenica-Dubn 41.22 309 *e*P **P** **09 16 11.1 +1.8**
FNA Florina 41.30 297 P **P** **09 16 10.4 +0.2**
FNA pmax pmax
comp=Z,17nm,0.7s
FIA0 FINESS Array S 41.63 329 *e*P **P** **09 16 12.1 -0.4**
FIA0 FINESS Array S 41.63 329 *e*P **P** **09 16 12.1 -0.4**
FINES FINESS Array B 41.63 329 P **P** **09 16 12.1 -0.4**
comp=Z,2.8nm,0.8s,baz=81,slow=12,SNR=5.7
NIE Niedzica 42.02 310 *e*P **P** **09 16 18.4 +2.6**
NIE Niedzica 42.02 310 *e*P **P** **09 16 18.5 +2.6**
CONA Conrad Observa 44.91 307 *i* P **P** **09 16 39.3 0.0**
comp=Z,3.0nm,0.6s
KSRS Korea Array 45.40 67 P **P** **09 16 44.3 +1.1**
comp=Z,0.4nm,0.6s,baz=253,slow=36,SNR=3.4
KSRS pP **pP** **09 16 55.8 +0.3**
comp=Z,0.9nm,0.6s,baz=281,slow=7.0,SNR=3.5
ARA0 ARCESS Array S 45.48 339 *e*P **P** **09 16 43.2 -0.2**
ARCES ARCESS Array B 45.48 339 P **P** **09 16 43.2 -0.2**
comp=Z,1.4nm,0.5s,baz=116,slow=8.2,SNR=6.1
SOKA Soboth 45.51 306 *i* P **P** **09 16 45.4 +1.3**
comp=Z,6.3nm,1.3s
CUC Castrocucco 45.61 296 *e*P **P** **09 16 46.2 +1.3**
comp=Z,16nm,0.7s
PRU Pruhonice 45.77 310 *e*P **P** **09 16 47.7 +1.7**
PRU Pruhonice 45.77 310 *e*P **P** **09 16 47.7 +1.7**
MOA Molln 45.99 307 *i* P **P** **09 16 48.9 +1.1**
comp=Z,7.6nm,0.7s
BRG Berggiesshubel 46.16 312 *e*P **P** **09 16 50.7 +1.7**
comp=Z,4.3nm,0.9s
BRG Berggiesshubel 46.16 312 *e*P **P** **09 16 50.7 +1.7**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=N,328nm,17.7s
BRG MLR MLR
comp=E,415nm,23.1s

BRG					MLR	MLR		
	comp=Z,253nm,17.9s							
GEA0	**GERESS Array S**	**46.33**	**309**	*eP*		**P**	**09 16 51.8**	**+1.3**
GERES	**GERESS Array B**	**46.33**	**309**	P		**P**	**09 16 51.0**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=72,slow=4.3,SNR=7.1							
KLR	**Kul'dur**	**46.91**	**51**	pP		pP	09 17 07.5	+0.2
	comp=Z,0.7nm,0.5s,baz=292,slow=12,SNR=2.9							
HFS	**Hagfors**	**47.10**	**324**	P		**P**	**09 16 56.4**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=108,slow=5,SNR=9.5							
HFS				sP		**sP**	**09 17 14.2**	**+0.4**
	comp=Z,2.7nm,0.5s,baz=105,slow=9.3,SNR=3.7							
USRK	**Ussuriysk Ar.**	**47.44**	**57**	pP		pP	09 17 11.8	+0.3
	comp=Z,1.6nm,0.8s,baz=259,slow=8.9,SNR=3.0							
GRB1	**Grafenberg Arr**	**47.66**	**310**	P		**P**	**09 17 01.7**	**+0.9**
GRB1				pmax		pmax		
	comp=Z,17nm,1.0s							
CLZ	**Clausthal**	**48.39**	**313**	P		**P**	**09 17 07.2**	**+0.7**
CLZ				pmax		pmax		
	comp=Z,9.0nm,0.9s							
NB2	**NORSAR Subarra**	**48.44**	**325**	P		**P**	**09 17 07.1**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=102,slow=7.9							
NB200	**NORSAR Array S**	**48.44**	**325**	*eP*		**P**	**09 17 07.2**	**+0.5**
NB200				*ep*P		**pP**	**09 17 18.8**	**-0.3**
NOA	**NORSAR Array B**	**48.44**	**325**	P		**P**	**09 17 07.2**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=99,slow=7.7,SNR=6.6							
NOA				pP		**pP**	**09 17 18.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=104,slow=7.3,SNR=3.3							
DAVOX	**Davos/Dischmat**	**49.04**	**306**	P		**P**	**09 17 12.4**	**+0.7**
	comp=Z,3.2nm,0.6s,baz=5.9,slow=6.6,SNR=5.0							
TIXI	**Tiksi**	**49.35**	**20**	P		**P**	**09 17 13.8**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=289,slow=11,SNR=3.7							
BFO	**Black Forest**	**49.92**	**308**	*i* P		**P**	**09 17 19.6**	**+1.4**
SENIN	**Lac Senin/Sane**	**50.86**	**306**	*eP*		**P**	**09 17 26.0**	**+0.5**
	comp=Z,11nm,0.6s							
KEST	**Kesra**	**51.51**	**292**	P		**P**	**09 17 31.3**	**+0.9**
	comp=Z,18nm,0.8s,baz=20,slow=1.3,SNR=15							
KEST	**Kesra**	**51.51**	**292**	*eP*		**P**	**09 17 32.0**	**+1.7**
	comp=Z,17nm,0.8s							
SPITS	**Spitsbergen Ar**	**51.87**	**347**	P		**P**	**09 17 33.0**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=121,slow=11,SNR=16							
SPITS				pP		**pP**	**09 17 46.1**	**+1.3**
	comp=Z,2.0nm,0.4s,baz=120,slow=11,SNR=2.5							
MAJO	**Matsushiro**	**53.62**	**66**↑	*eP*		P	09 17 51.2	+5.3
MAJO				pmax		pmax		
	comp=Z,13nm,1.0s							
MJAR	**Matsushiro Arr**	**53.62**	**66**	P		**P**	**09 17 46.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=310,slow=3.8,SNR=3.4							
MJAR				pP		**pP**	**09 17 59.3**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=286,slow=10.0,SNR=4.7							
ESDC	**Sonseca Array**	**60.45**	**300**	P		**P**	**09 18 33.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=281,slow=26,SNR=3.3							
TOA0	**Torodi Ar. Sit**	**66.77**	**271**	*eP*		**P**	**09 19 15.7**	**-0.5**
TOA1	**Torodi Ar. Sit**	**66.77**	**271**	*eP*		**P**	**09 19 15.6**	**-0.6**
	comp=Z,3.8nm,0.7s							
TOA1				*ep*P		**pP**	**09 19 29.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**66.77**	**271**	P		**P**	**09 19 15.6**	**-0.6**
	comp=Z,4.4nm,0.7s,baz=55,slow=5.4,SNR=34							
TORD				pP		**pP**	**09 19 29.2**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=56,slow=5.5,SNR=7.7							
TORD				sP		**sP**	**09 19 34.2**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=46,slow=5.4,SNR=4.5							
FITZ	**Fitzroy Crossi**	**71.52**	**126**	pP		pP	09 19 58.2	-0.2
	comp=Z,2.2nm,0.9s,baz=247,slow=5.3,SNR=3.0							
ILAR	**Eielson Array**	**78.57**	**16**	P		**P**	**09 20 25.8**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=301,slow=5.2,SNR=3.6							
ILAR				pP		**pP**	**09 20 38.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=288,slow=5.8,SNR=2.4							
WRA	**Warramunga Arr**	**78.84**	**122**	P		**P**	**09 20 28.3**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=320,slow=5.4,SNR=18							
WRA				pP		**pP**	**09 20 40.2**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=322,slow=5.4,SNR=13							
WRAB	**Tennant Creek**	**78.84**	**122**	*eP*		**P**	**09 20 28.3**	**+0.7**
WRAB				pmax		pmax		
	comp=Z,1.0nm,0.5s							
WRAB	**Tennant Creek**	**78.84**	**122**	*eP*		**P**	**09 20 28.3**	**+0.7**
	comp=Z,1.1nm,0.5s							
ASAR	**Alice Springs**	**80.95**	**125**	P		**P**	**09 20 39.6**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=306,slow=5.0,SNR=5.0							
ASAR				pP		**pP**	**09 20 51.7**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=311,slow=5.9,SNR=15							
YKA	**Yellowknife Ar**	**85.43**	**3**	P		**P**	**09 21 01.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=350,slow=5.2,SNR=9.8							
YKA				pP		**pP**	**09 21 13.9**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=349,slow=5.2,SNR=8.4							
HNR	**Honiara**	**93.00**	**99**	LR		LR	10 03 08.8	
	comp=Z,68nm,18.6s,baz=166,slow=35							

NIED ***07*** *09:22:00,36˚.90N×140˚.70E,h5km,Mw3.4 Best double couple: M₀1.19000×10¹⁴ NP1:φs352.00000°,δ38.00000°, λ-148.00000°. NP2:φs236.00000°,δ71.00000°, λ-56.00000°.*

ISCJB ***07*** *09:22:19.9±0.7,36˚.89N±0˚.03×140˚.78E±0˚.07,h14km±4km, mb3.6/3,Error ellipse: s-maj=9.5km s-min=4.4km az=13.4*

JMA ***07*** *09:22:20.8,36˚.91N×140˚.66E,h7km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φs233.00000°,δ64.00000°,λ-63.00000°. NP2:φs4.00000°, δ37.00000°,λ-133.00000°. Principal axes: T Plg15.0000°, Azm304.0000°; N Plg24.0000°, Azm41.0000°; P Plg61.0000°, Azm185.0000°;*

JMA Felt I J1.

IDC ***07*** *09:22:29.8±1.2,35˚.49N×137˚.13E,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.4/43,mbtmp3.6/5,ML2.5/2 Error ellipse: s-maj=30.8km s-min=20.8km az=83.0*

ISC 07 09:22:20.6±1.0,36˚.91N±0˚.03×140˚.65E±0˚.06,h10km±8km, n13,σ0°89/20,mb3.6/3,2C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.23**	**31**	↓P		**Pg**	**09 22 25.3**	**+0.1**
ONAJ				S		**Sg**	**09 22 28.6**	**+0.2**
JHO	**Hitachi**	**0.31**	**193**	↓P		**Pg**	**09 22 26.7**	**0.0**
JHO				S		**Sg**	**09 22 30.6**	**-0.1**
JFK	**Kawauchi**	**0.49**	**21**	↓P		**Pg**	**09 22 30.0**	**-0.1**
JFK				S		**Sg**	**09 22 36.8**	**+0.2**
JSB	**Shiboa**	**0.59**	**276**	↑P		**Pb**	**09 22 33.1**	**+0.1**
JSB				S		**Sb**	**09 22 41.6**	**+0.1**
JFT	**Otama**	**0.66**	**338**	↑P		**Pg**	**09 22 33.6**	**+0.3**
JFT				S		**Sg**	**09 22 42.6**	**+0.7**
JYT	**Yasato**	**0.77**	**209**	↓P		**Pg**	**09 22 35.3**	**-0.2**
JYT				S		**Sg**	**09 22 45.8**	**+0.2**
MJAR	**Matsushiro Arr**	**2.00**	**260**	Pg		**Pb**	**09 22 55.8**	**-1.2**
	12nm,0.3s,baz=225,slow=12,SNR=59							
MJAR				Lg		Lg	09 23 21.4	
	45nm,0.3s,baz=85,slow=23,SNR=31							
MAT	**Matsushiro**	**2.00**	**260**	P		**Pb**	**09 22 56.1**	**-0.9**
MAT				S		**Sb**	**09 23 22.5**	**+0.5**
JHJ	**Hachijo jima 2**	**3.85**	**191**	Pn		**Pn**	**09 23 20.7**	**+0.8**
	5.0nm,0.3s,baz=81,slow=22,SNR=4.0							
JHJ				Sn		**Sn**	**09 24 07.7**	**+2.5**
	6.7nm,0.3s,baz=308,slow=19,SNR=2.5							
USRK	**Ussuriysk Ar.**	**9.82**	**321**	Pn		Pn	09 24 49.0	+7.3
	0.1nm,0.3s,baz=128,slow=13,SNR=4.2							
KURBB	**Kurchatov Arra**	**45.60**	**308**	P		**P**	**09 30 39.9**	**-0.8**
	0.2nm,0.3s,baz=82,slow=7.7,SNR=3.2							
WRA	**Warramunga Arr**	**56.86**	**187**	P		**P**	**09 32 04.2**	**-1.3**
	0.5nm,0.6s,baz=2.6,slow=7.2,SNR=20							
ASAR	**Alice Springs**	**60.59**	**187**	P		**P**	**09 32 31.2**	**-0.2**
	0.4nm,0.8s,baz=9.2,slow=8.3,SNR=4.5							

MEX 07 09:30:10.1±0.4,17˚.28N×101˚.34W,h16km±7km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.35**	**340**	*i* P		Pg	09 30 16.0	-1.3
ZIIG				*i* S		Sg	09 30 21.0	-1.2
CAIG	**El Cayaco**	**1.05**	**102**	*eP*		Pb	09 30 26.1	-3.8
CAIG				*i* S		Sb	09 30 38.9	-4.6
ARIG	**Puente Sto Nin**	**1.37**	**43**	*i* P		Pn	09 30 32.0	-2.6
ARIG				*i* S		Sn	09 30 46.9	-5.6
MEIG	**Mezcala**	**1.76**	**68**	*i* P		Pn	09 30 36.4	-3.6
MEIG				*i* S		Sn	09 30 57.1	-5.1
PLIG	**Platanillo**	**2.07**	**57**	*i* P		Pn	09 30 41.4	-2.9
PLIG				*i* S		Sn	09 31 05.3	-4.5
TLIG	**Tlapa**	**2.66**	**84**	*eP*		Pn	09 30 49.7	-2.8
TLIG				*i* S		Sn	09 31 20.1	-4.4

ISCJB ***07*** *09:32:22.3±0.3,28˚.15S±0˚.05×113˚.17W±0˚.08,h10km, mb4.8/111,MS4.3/22,Error ellipse: s-maj=9.9km s-min=6.8km az=166.6*

IDC ***07*** *09:32:22.6±0.6,28˚.03S×113˚.17W,h0km,mb4.4/13, mb1 4.6/13,mb1mx4.4/32,mbtmp4.4/13,MS4.3/22, Ms1 4.3/22,ms1mx4.2/25,Error ellipse: s-maj=22.7km s-min=16.8km az=71.0*

BJI ***07*** *09:32:24.5,28˚.20S×112˚.90W,h10km,mB5.0/4,Ms5.5/6, Ms7 5.3/6*

GCMT ***07*** *09:32:24.1±0.2,28˚.31S×113˚.14W,h17km±1km,MW5.0/92, Moment Tensor Solution. s38,c48; s92,c143; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.06±.13; Mθθ-3.96±.13; Mφφ4.02±.13; Mrθ-1.61±.33; Mθφ0.36±.12; Mφr-0.74±.30; Best double couple: M₀4.37200×10¹⁶ NP1:φs47.00000°,δ85.00000°,λ-22.00000°. NP2: φs139.00000°,δ68.00000°,λ-174.00000°. Principal axes: T 4.2040, Plg12.0000°, Azm95.0000°; N 0.3320, Plg67.0000°, Azm214.0000°; P -4.5400, Plg20.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***07*** *09:32:24.1±0.2,28˚.19S×113˚.12W,h10km,mb4.9/99 Error ellipse: s-maj=8.3km s-min=5.2km az=79.0*

ISC 07 09:32:24.4±0.4,28˚.15S±0˚.08×113˚.16W±0˚.08,h10km, n165,σ1°22/150,mb4.9/111,MS4.4/22,1C,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RKT	**Rikitea**	**20.29**	**279**	*e*LR		LR	09 41 40.1	
	2μm,27.2s							
RKT	**Rikitea**	**20.29**	**279**	*e*T		T	09 57 27.0	
	8.4nm,0.3s							
TAOE	**Nuku Hiva Isla**	**31.86**	**302**	*e*S		**S**	**09 43 58.7**	**-2.1**
	80nm,30.6s							
TAOE				*e*LQ		LQ	09 45 42.4	
	2μm,26.2s							
TAOE				*e*LR		LR	09 47 01.7	
	2μm,24.3s,baz=138							
TBI	**Tubuai**	**32.97**	**270**	*e*LR		LR	09 47 28.7	
	2μm,26.5s,baz=102							
PPT2	**Papeete2**	**35.04**	**280**	*e*S		**S**	**09 44 46.6**	**-3.6**
	63nm,28.0s							
PPT2				*e*LR		LR	09 48 26.5	
	2μm,26.5s,baz=110							
PPT	**Papeete**	**35.05**	**280**	LR		LR	09 48 55.9	
	comp=Z,672nm,21.9s,baz=115,slow=28							
PLCA	**Paso Flores**	**36.97**	**121**	P		**P**	**09 39 34.2**	**+0.2**
	11nm,0.9s,baz=276,slow=10.0,SNR=2.6							
PLCA				LR		LR	09 50 54.9	
	comp=Z,176nm,20.1s,baz=299,slow=30							
PB01	**IPOC Station P**	**40.17**	**90**	*eP*		**P**	**09 40 00.4**	**-0.6**
	25nm,1.2s							
LVC	**Limon Verde**	**40.19**	**92**	P		**P**	**09 40 01.3**	**-0.3**
	44nm,1.1s,baz=265,slow=9.8,SNR=4.8							
LVC	**Limon Verde**	**40.19**	**92**	*eP*		**P**	**09 40 01.4**	**-0.1**
	24nm,1.4s							
RAR	**Rarotonga**	**42.71**	**269**	LR		LR	09 53 13.5	
	comp=Z,481nm,18.8s,baz=84,slow=29							
LPAZ	**La Paz**	**43.10**	**84**	P		**P**	**09 40 25.3**	**-0.4**
	12nm,1.1s,baz=267,slow=7.0,SNR=22							
LPAZ				LR		LR	09 54 16.4	
	comp=Z,832nm,20.1s,baz=278,slow=30							
LPAZ	**La Paz**	**43.10**	**84**	*eP*		**P**	**09 40 25.4**	**-0.4**
	18nm,1.1s							
TRQA	**Tornquist**	**43.52**	**117**	*eP*		**P**	**09 40 26.8**	**-1.5**
	46nm,1.9s							
OTAV	**Otavalo**	**43.61**	**56**	*eP*		**P**	**09 40 29.5**	**-0.2**
	10nm,1.3s							
TLIG	**Tlapa**	**47.58**	**19**	*eP*		**P**	**09 41 02.7**	**+2.1**
	39nm,1.5s							
PMSA	**Palmer Station**	**47.80**	**154**	P		**P**	**09 41 02.5**	**+0.9**
	11nm,0.5s,baz=241,slow=10,SNR=9.8							
ROSC	**El Rosal**	**49.75**	**55**	LR		LR	09 57 56.8	
	comp=Z,177nm,20.2s,baz=190,slow=31							
SAML	**Samuel**	**50.68**	**78**	*eP*		**P**	**09 41 22.4**	**-2.0**
	10nm,1.3s							
HPIG		**55.24**	**8**	*eP*		**P**	**09 41 58.7**	**+0.8**
	14nm,1.4s							
AFI	**Afiamalu**	**56.04**	**272**	LR		LR	09 59 27.4	
	comp=Z,298nm,19.8s,baz=114,slow=29							
RAO	**Raoul Island**	**56.14**	**252**	LR		LR	09 59 56.3	
	comp=Z,162nm,21.4s,baz=103,slow=29							
RAO	**Raoul Island**	**56.14**	**252**	*eP*		**P**	**09 42 03.5**	**-0.9**
	227nm,0.2s							
TX31	**Lajitas Ar. Si**	**57.87**	**10**	*eP*		**P**	**09 42 16.1**	**-0.5**
TXAR	**Lajitas Array**	**57.87**	**10**	P		**P**	**09 42 16.0**	**-0.5**
	1.1nm,1.1s,baz=177,slow=10.0,SNR=6.4							
TXAR				LR		LR	10 02 50.4	
	comp=Z,252nm,18.4s,baz=0.0,slow=32							
URZ	**Urewera**	**57.98**	**241**	LR		LR	10 01 37.5	
	comp=Z,659nm,18.9s,baz=133,slow=30							
319A	**Douglas**	**59.31**	**4**	*eP*		**P**	**09 42 26.7**	**+0.2**
	20nm,0.9s							
JCT	**Junction City**	**59.67**	**13**	*eP*		**P**	**09 42 29.0**	**0.0**
	27nm,0.8s							
214A	**Organ Pipe Nat**	**59.77**	**0**	*eP*		**P**	**09 42 29.8**	**+0.2**
	55nm,1.1s							
MNTX	**Cornudas Mount**	**59.97**	**8**	*eP*		**P**	**09 42 30.8**	**-0.1**
	5.3nm,0.9s							
HKT	**Hockley**	**60.09**	**17**	*eP*		**P**	**09 42 32.8**	**+1.0**
	19nm,1.5s							
TUC	**Tucson**	**60.16**	**2**	*eP*		**P**	**09 42 33.2**	**+0.8**
	8.9nm,1.0s							
121A	**Cookes Peak, D**	**60.56**	**5**	*eP*		**P**	**09 42 35.7**	**+0.5**
	10nm,1.0s							
113A	**Mohawk Valley,**	**60.58**	**359**	*eP*		**P**	**09 42 36.1**	**+1.0**
	12nm,1.0s							
SBA	**Scott Base**	**60.61**	**194**	*eP*		**P**	**09 42 35.2**	**+0.4**
	44nm,2.0s							
BDFB	**Brasilia**	**61.09**	**93**	LR		LR	10 06 36.4	
	comp=Z,130nm,18.5s,baz=240,slow=34							
RPZ	**Rata Peaks**	**61.29**	**233**	LR		LR	10 02 28.5	
	comp=Z,289nm,18.6s,baz=108,slow=29							
PFO	**Pinyon Flats O**	**61.50**	**357**	P		**P**	**09 42 40.8**	**-0.7**
	2.1nm,0.9s,baz=182,slow=8.3,SNR=2.0							
Y12C	**Blythe**	**61.57**	**359**	*eP*		**P**	**09 42 42.9**	**+1.1**
	23nm,1.4s							
WHTX	**Lake Whitney,**	**61.64**	**15**	*eP*		**P**	**09 42 41.5**	**-0.8**
	7.7nm,0.8s							
VNDA	**Vanda**	**61.66**	**194**	P		**P**	**09 42 43.7**	**+1.7**
	0.9nm,0.9s,baz=132,slow=3.7,SNR=3.6							
VNDA				LR		LR	10 04 41.2	
	comp=Z,244nm,18.8s,baz=90,slow=31							
Y14A	**Wickenburg**	**61.75**	**0**	*eP*		**P**	**09 42 43.7**	**+0.6**
	147nm,1.9s							
ABTX	**Abilene, Hawle**	**61.78**	**13**	*eP*		**P**	**09 42 43.4**	**+0.1**
	36nm,1.5s							
SDDR	**Presa de Saban**	**61.93**	**46**	*eP*		**P**	**09 42 45.6**	**+1.0**
	20nm,1.1s							
QSPA	**South Pole Qui**	**62.03**	**180**	*eP*		**P**	**09 42 44.7**	**-0.1**
X16A	**Lo Mia Camp, P**	**62.24**	**2**	*eP*		**P**	**09 42 47.0**	**+0.4**
	5.2nm,0.9s							
BNM	**Barren Site**	**62.27**	**6**	*eP*		**P**	**09 42 44.7**	**-2.1**
X18A	**Snowflake**	**62.41**	**3**	*eP*		**P**	**09 42 47.8**	**+0.2**
	11nm,0.9s							
LAZ	**Ladron**	**62.47**	**6**	*eP*		**P**	**09 42 48.4**	**+0.3**
MSTX	**Muleshoe**	**62.56**	**10**	*eP*		**P**	**09 42 48.1**	**-0.5**
	26nm,1.4s							
W13A	**Hualapai Mount**	**62.91**	**359**	*eP*		**P**	**09 42 51.5**	**+0.4**
	5.7nm,1.0s							
ANMO	**Albuquerque**	**63.07**	**6**	*eP*		**P**	**09 42 51.9**	**-0.2**
	6.5nm,1.3s							
GSC	**Goldstone, Bar**	**63.20**	**357**	*eP*		**P**	**09 42 53.2**	**+0.4**
	10nm,1.0s							
WUAZ	**Wupatki**	**63.34**	**2**	*eP*		**P**	**09 42 54.2**	**+0.4**
	10nm,1.0s							
WMOK	**Wichita Mounta**	**64.00**	**13**	*eP*		**P**	**09 43 02.5**	**+4.4**
	2.5nm,0.9s							
DAC	**Darwin (Calif)**	**64.22**	**356**	*eP*		**P**	**09 42 60.0**	**+0.3**
	6.3nm,1.1s							
U15A	**North Rim**	**64.23**	**1**	*eP*		**P**	**09 43 00.2**	**+0.4**
	12nm,0.9s							
SHPR	**Sheep Range**	**64.33**	**358**	*eP*		**P**	**09 43 01.2**	**+0.9**
	16nm,1.0s							
LCMT	**Little Creek M**	**64.81**	**360**	*eP*		**P**	**09 43 04.0**	**+0.6**
	12nm,1.7s							
TPNV	**Topopah Spring**	**64.81**	**357**	*eP*		**P**	**09 43 04.3**	**+0.9**
	9.8nm,0.9s							
KNB	**Kanab**	**64.82**	**0**	*eP*		**P**	**09 43 03.8**	**+0.3**
	25nm,1.8s							
MVCO	**Mesa Verde**	**65.16**	**4**	*eP*		**P**	**09 43 05.5**	**-0.3**
	77nm,2.0s							
CCUT	**Cedar City**	**65.35**	**360**	*eP*		**P**	**09 43 07.6**	**+0.6**
	11nm,1.0s							
T25A	**Trinidad**	**65.46**	**8**	*eP*		**P**	**09 43 08.1**	**+0.4**
	5.5nm,1.0s							
LRAL	**Lakeview Retre**	**65.72**	**24**	*eP*		**P**	**09 43 10.1**	**+0.9**
	7.3nm,1.0s							
S22A	**4UR Ranch, Cre**	**65.81**	**5**	*eP*		**P**	**09 43 10.6**	**+0.5**
	7.2nm,1.1s							
MTPU	**Mount Pierson**	**65.85**	**1**	*eP*		**P**	**09 43 11.2**	**+0.8**
	8.2nm,1.2s							
SDCO	**Great Sand Dun**	**65.94**	**7**	*eP*		**P**	**09 43 10.6**	**-0.3**
	4.0nm,0.9s							
X301	**Greenbrier Sit**	**66.02**	**19**	*eP*		**P**	**09 43 11.3**	**+0.2**
	9.7nm,1.1s							
PV01	**Paradox Valley**	**66.07**	**4**	*eP*		**P**	**09 43 10.1**	**-1.6**
X201	**Greenbrier Sit**	**66.08**	**19**	*eP*		**P**	**09 43 10.7**	**-0.8**
	7.4nm,0.9s							
WHAR	**Wooly Hollow**	**66.10**	**19**	*eP*		**P**	**09 43 11.1**	**-0.5**
	31nm,1.6s							
CMB	**Columbia Colle**	**66.18**	**354**	*eP*		**P**	**09 43 12.9**	**+0.7**
	6.7nm,1.1s							
R11A	**Troy Canyon, C**	**66.19**	**358**	*eP*		**P**	**09 43 12.9**	**+0.5**
	14nm,1.4s							
PV04	**Paradox Valley**	**66.31**	**4**	*eP*		**P**	**09 43 13.0**	**-0.1**
MSU	**Marysvale**	**66.32**	**1**	*eP*		**P**	**09 43 13.3**	**+0.1**
NV11	**Mina Array Sit**	**66.39**	**356**	*eP*		**P**	**09 43 14.0**	**+0.4**
	14nm,1.0s							
NV01	**Mina Array Sit**	**66.40**	**356**	*eP*		**P**	**09 43 13.8**	**0.0**
NVAR	**Mina Array Bea**	**66.40**	**356**	P		**P**	**09 43 14.2**	**+0.4**
	6.6nm,0.9s,baz=192,slow=9.0,SNR=26							
NVAR						LR	LR	10 06 08.7
	comp=Z,410nm,19.4s,baz=172,slow=31							
PV09	**Paradox Valley**	**66.40**	**3**	*eP*		**P**	**09 43 13.9**	**0.0**
HHAR	**Hobbs**	**66.59**	**17**	*eP*		**P**	**09 43 13.9**	**-0.9**
	7.1nm,1.1s							
Q16A	**Castle Valley**	**66.74**	**2**	*eP*		**P**	**09 43 15.7**	**-0.2**
	43nm,1.9s							
SRU	**San Rafael Swe**	**66.95**	**2**	*eP*		**P**	**09 43 16.7**	**-0.5**
	10nm,0.9s							
PLAL	**Pickwick Lake**	**67.11**	**22**	*eP*		**P**	**09 43 17.4**	**-0.7**
	5.8nm,1.1s							
TMUT	**Trail Mountain**	**67.12**	**2**	*eP*		**P**	**09 43 19.0**	**+0.5**
	16nm,1.4s							
AFDM	**Forest Hills D**	**67.14**	**353**	*eP*		**P**	**09 43 18.3**	**0.0**
	4.7nm,1.0s							
SMCO	**Snowmass**	**67.22**	**5**	*eP*		**P**	**09 43 19.0**	**-0.2**
	7.6nm,1.0s							
P17A	**Butcher Ranch,**	**67.31**	**2**	*eP*		**P**	**09 43 19.2**	**-0.3**
	14nm,1.1s							
KSCO	**Kaye Shedlock'**	**67.53**	**9**	*eP*		**P**	**09 43 20.8**	**0.0**
	9.4nm,0.9s							
NLU	**North Lily Min**	**67.76**	**1**	*eP*		**P**	**09 43 23.0**	**+0.7**
	6.0nm,1.1s							
ISCO	**Idaho Springs**	**67.96**	**6**	*eP*		**P**	**09 43 24.1**	**+0.3**
	4.2nm,1.1s							
DUG	**Dugway, Tooele**	**67.99**	**0**	*eP*		**P**	**09 43 23.9**	**+0.2**
	8.2nm,1.2s							
PBMO	**Poplar Bluff**	**68.03**	**20**	*eP*		**P**	**09 43 23.7**	**-0.1**
	26nm,1.8s							
SWET	**Sewanee**	**68.06**	**24**	*eP*		**P**	**09 43 24.3**	**+0.1**
	2.3nm,0.8s							
O20A	**White River Ci**	**68.08**	**4**	*eP*		**P**	**09 43 24.7**	**+0.3**
	14nm,1.4s							
WVT	**Waverly**	**68.24**	**22**	*eP*		**P**	**09 43 24.3**	**-0.9**
	3.6nm,0.8s							
BMN	**Battle Mountai**	**68.33**	**357**	*eP*		**P**	**09 43 26.2**	**+0.3**
	13nm,1.0s							
VNA1	**Neumayer--Stat**	**68.48**	**160**	P		**P**	**09 43 25.0**	**-1.3**
ELK	**Elko**	**68.57**	**358**	*eP*		**P**	**09 43 27.3**	**-0.1**
	5.4nm,1.0s							
BGU	**Big Grassy Mou**	**68.72**	**0**	*eP*		**P**	**09 43 29.1**	**+0.7**
	15nm,1.4s							
CPCT	**Cooper Cave**	**68.78**	**25**	*eP*		**P**	**09 43 28.7**	**+0.1**
	5.5nm,1.1s							
WDC	**Whiskeytown Da**	**68.93**	**352**	*eP*		**P**	**09 43 33.0**	**+3.6**
	8.0nm,1.0s							
TCUT	**Toone Canyon**	**68.93**	**1**	*eP*		**P**	**09 43 29.9**	**+0.2**
	15nm,1.3s							
N23A	**Red Feather La**	**69.02**	**6**	*eP*		**P**	**09 43 30.7**	**+0.4**
	18nm,1.4s							
JSC	**Jenkinsville**	**69.04**	**28**	*eP*		**P**	**09 43 30.9**	**+0.7**
	11nm,1.0s							
SIUC	**Southern Illin**	**69.25**	**20**	*eP*		**P**	**09 43 32.1**	**+0.6**

0.6nm,0.9s,baz=299,slow=1.5,SNR=2.8
QIZ Qiongzhong 139.74 267 PKP **PKPdf 09 51 52.8 -0.4**
QIZ PP **PP 09 54 49.8 +0.7**
QIZ SS SS 10 13 13.3 +2.9
QIZ LZ
120nm,22.1s
HHC Hu-ho-hao-te 141.42 301 *e*PKP **PKPdf 09 51 57.4 +1.6**
SONM Songino Array 143.66 314 PKhKP PKPpre 09 51 55.5
1.1nm,0.7s,baz=132,slow=2.1,SNR=3.3
AKASG Malin Array Be 143.80 41 PKhKP PKPpre 09 51 55.6
0.2nm,0.3s,baz=281,slow=3.4,SNR=3.1
IDI Anoyia 143.81 68 *e*PKPpre PKPpre 09 51 57.4
LAST Lasithi 144.30 68 *e*PKPdf **PKPab 09 51 58.8 -0.2**
LZH Lanzhou 147.83 294 *e*PKPbc **PKPdf 09 52 06.6 -0.5**
LZH pPKP PKiKP 09 52 11.4 -0.6
LZH sPKP 09 52 13.2
CMAR Chiang Mai Arr 149.06 259 PKPbc **PKPbc 09 52 12.7 -0.8**
1.3nm,0.4s,baz=153,slow=0.8,SNR=18
BRTR Keskin Array B 150.29 58 PKPbc **PKPbc 09 52 14.1 -2.0**
4.4nm,1.0s,baz=232,slow=1.4,SNR=21
GTA Gaotai 150.53 301 *e*PKPbc **PKPbc 09 52 15.3 -1.4**
GTA PP PP 09 56 01.6 +8.5
GTA SKS **SKSdf 09 59 21.8 +2.5**
GTA SKKS **SKKSac 10 02 49.4 +5.3**
GTA PPMZ
74nm,6.2s
GTA LN
360nm,18.1s
GTA LE
230nm,20.9s
GTA LZ
370nm,22.3s
ZALV Zalesovo Beam 151.04 338 PKPbc **PKPbc 09 52 15.5 -1.7**
2.1nm,0.6s,baz=6.3,slow=3.7,SNR=7.4
WMQ Urumqi 157.09 319 PKP **PKPdf 09 52 19.8 -0.6**
WMQ LN
73nm,18.6s
WMQ LE
76nm,21.6s
WMQ LZ
120nm,23.8s
KSH Kashi 166.37 329 PKP **PKPdf 09 52 30.1 -0.1**
KSH PP **PP 09 57 22.2 +3.5**
KSH SKS **SKSdf 09 59 30.5 -3.9**
KSH SKKS **SKKSac 10 04 09.0 +2.2**
KSH PPMZ
53nm,4.7s
KSH LN
170nm,10.0s
KSH LE
96nm,5.6s

IDC 07 09:35:49.3±2.2, 20°70S×178°28E, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/38, mbtmp3.6/4, Error ellipse: s-maj=132.7km s-min=27.7km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.08**	**257**	P	P	09 43 35.2	+0.1
	0.4nm,0.5s,baz=88,slow=8.7,SNR=10						
WRA	**Warramunga Arr**	**41.12**	**263**	P	P	09 43 34.9	-0.5
	0.4nm,0.4s,baz=96,slow=7.9,SNR=14						
ILAR	**Eielson Array**	**89.32**	**14**	P	P	09 48 47.8	+0.8
	0.3nm,0.8s,baz=205,slow=4.0,SNR=3.0						
TXAR	**Lajitas Array**	**90.11**	**59**	P	P	09 48 51.0	-0.8
	0.1nm,0.5s,baz=240,slow=5.1,SNR=3.5						

MEX 07 09:44:55.3±0.4, 27°55N×111°51W, h16km±7km, MD3.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.66**	**58**	*e*P	Pg	09 45 05.9	-2.4
GUYB				*i* S	Sg	09 45 14.4	-2.6
SRIG	**Santa Rosalia**	**0.69**	**251**	*e*P	Pg	09 45 06.7	-2.2
SRIG				*e*S	Sg	09 45 14.8	-3.2
HSIG		**1.54**	**18**	*i* P	Pn	09 45 18.9	-3.2
HSIG				*i* S	Sn	09 45 36.9	-5.0

*IDC **07** 09:45:00.3±1.1, 38°40N×142°57E, h0km, mb3.4/4, mb1 3.6/8, mb1mx3.4/50, mbtmp3.5/8, ML2.9/3, MS2.7/3, Ms1 2.7/3, ms1mx2.3/30, Error ellipse: s-maj=28.5km s-min=20.7km az=110.0*
*NIED **07** 09:45:00, 38°30N×142°10E, h26km, Mw3.6 Best double couple: M₀2.90000×10¹⁴ NP1:ϕs138.00000°, δ36.00000°, λ-8.00000°. NP2:ϕs234.00000°, δ85.00000°, λ-126.00000°.*
*ISCJB **07** 09:45:03.9±1.4, 38°28N±0°05×142°17E±0°08, h26km±9km, mb3.4/4, Error ellipse: s-maj=10.8km s-min=7.0km az=21.5*
*JMA **07** 09:45:05.7±0.1, 38°33N×142°09E, h35km±1km, M3.9*
JMA Felt I J1.
ISC 07 09:45:03.0±1.8, 38°31N±0°05×142°26E±0°07, h15km±10km, n21, σ2°43/31, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.73**	**282**	P	**Pg**	**09 45 17.6**	**+0.3**
JIO				S	**Sg**	**09 45 25.6**	**-1.3**
OFUJ	**Ofunato**	**0.90**	**329**	P	**Pg**	**09 45 20.8**	**+0.4**
OFUJ				*e*S	**Sg**	**09 45 31.8**	**-0.4**
JMK	**Ichinoseki**	**1.04**	**308**	P	**Pb**	**09 45 22.6**	**0.0**
JMK				*e*S	**Sb**	**09 45 34.6**	**-1.4**
JMM	**Marumori**	**1.24**	**250**	P	**Pn**	**09 45 24.7**	**-1.0**
JMM				*e*S	**Sb**	**09 45 38.5**	**-3.3**
JOU	**Okura**	**1.26**	**273**	P	**Pn**	**09 45 25.7**	**-0.3**
JOU				S	**Sb**	**09 45 40.3**	**-2.1**
JOM	**Ohasama**	**1.39**	**327**	P	**Pn**	**09 45 28.3**	**+0.5**
JFK	**Kawauchi**	**1.45**	**230**	P	**Pn**	**09 45 27.5**	**-1.1**
JFK				S	**Sn**	**09 45 43.3**	**-4.0**
JYK	**Kaneyama**	**1.61**	**293**	P	**Pn**	**09 45 30.9**	**+0.1**
JYK				*e*S	**Sn**	**09 45 49.2**	**-2.1**
JRG	**Rokugo**	**1.67**	**311**	P	**Pn**	**09 45 32.3**	**+0.6**
JFT	**Otama**	**1.71**	**243**	P	**Pn**	**09 45 32.8**	**+0.5**
JFT				*e*S	**Sn**	**09 45 52.6**	**-1.3**
JYS	**Shirataka**	**1.73**	**268**	P	**Pn**	**09 45 32.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.68**	**243**	Pn	**Pn**	**09 46 01.6**	**+2.3**
	1.2nm,0.3s,baz=63,slow=10,SNR=10						
MJAR				Sn	**Sn**	**09 46 49.5**	**+7.1**
	1.8nm,0.3s,baz=77,slow=17,SNR=4.6						
MAT	**Matsushiro**	**3.68**	**243**	P	**Pn**	**09 46 02.6**	**+3.3**
MAT				S	**Sn**	**09 46 46.2**	**+3.8**
JHJ	**Hachijo jima 2**	**5.56**	**202**	Pn	**Pn**	**09 46 25.8**	**+0.7**
	4.6nm,0.3s,baz=60,slow=18,SNR=6.7						
JHJ				Sn	**Sn**	**09 47 25.5**	**-3.2**
	8.1nm,0.3s,baz=34,slow=10,SNR=3.0						
USRK	**Ussuriysk Ar.**	**9.71**	**311**	Pn	**Pn**	**09 47 23.1**	**+1.0**
	0.2nm,0.3s,baz=119,slow=17,SNR=2.6						
USRK				LR	LR	09 50 46.2	
	comp=Z,60nm,20.7s,baz=26,slow=35						
KSRS	**Korea Array**	**11.37**	**270**	Pn	**Pn**	**09 47 48.7**	**+4.0**
	baz=72,slow=14,SNR=2.2						
KSRS				LR	LR	09 51 43.9	
	comp=Z,32nm,19.4s,baz=88,slow=35						
KLR	**Kul'dur**	**13.28**	**329**	LR	LR	09 53 02.5	
	comp=Z,220nm,20.3s,baz=120,slow=36						
ILAR	**Eielson Array**	**48.06**	**33**	P	**P**	**09 53 39.5**	**-1.9**
	0.2nm,0.9s,baz=248,slow=4.8,SNR=2.9						
WRA	**Warramunga Arr**	**58.42**	**189**	P	**P**	**09 54 58.4**	**+0.4**
	0.2nm,0.4s,baz=7.2,slow=6.9,SNR=6.1						
ASAR	**Alice Springs**	**62.15**	**189**	P	**P**	**09 55 24.5**	**+1.0**
	0.2nm,0.7s,baz=15,slow=7.7,SNR=3.0						
AKASG	**Malin Array Be**	**73.70**	**322**	P	**P**	**09 56 35.8**	**-0.1**
	0.5nm,0.5s,baz=47,slow=6.5,SNR=2.3						

IDC 07 09:47:50.5±1.8, 1°95N×125°73E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/39, mbtmp3.5/4, Error ellipse: s-maj=187.5km s-min=23.5km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**159**	P	P	09 52 59.8	-0.8
	0.2nm,0.4s,baz=338,slow=10,SNR=9.1						
ASAR	**Alice Springs**	**26.68**	**163**	P	P	09 53 31.7	+0.2
	0.2nm,0.7s,baz=344,slow=8.5,SNR=4.2						
STKA	**Stephens Creek**	**36.86**	**157**	P	P	09 55 01.1	+0.4
	2.9nm,0.9s,baz=341,slow=9.6,SNR=4.5						
MKAR	**Makanchi Array**	**58.45**	**326**	P	P	09 57 48.2	0.0
	0.3nm,0.3s,baz=124,slow=5.9,SNR=3.3						

*IDC **07** 09:48:02.2±1.4, 16°38S×172°31W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/36, mbtmp3.8/7, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/36, Error ellipse: s-maj=56.2km s-min=22.4km az=142.0*
*ISCJB **07** 09:48:04.7±1.1, 16°35S±0°1×172°4W±0°2, h24km, mb3.7/6, MS3.2/1, Error ellipse: s-maj=34.1km s-min=11.2km az=28.0*
ISC 07 09:48:06.4±1.1, 16°3S±0°2×172°4W±0°3, h24km, n11, σ0°52/11, mb3.8/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**14**	Pn	**Pn**	**09 48 45.1**	**+0.8**
	8.1nm,0.3s,baz=214,slow=11,SNR=18						
AFI				Sn	**Sn**	**09 49 12.3**	**-0.8**
	27nm,0.3s,baz=230,slow=2.9,SNR=10						
DZM	**Mont Dzumac**	**20.80**	**251**	LR	LR	09 59 45.9	
	comp=Z,94nm,18.3s,baz=183,slow=34						
WRA	**Warramunga Arr**	**50.60**	**257**	P	**P**	**09 57 04.0**	**+0.3**
	0.3nm,0.7s,baz=94,slow=7.8,SNR=4.9						
ASAR	**Alice Springs**	**50.77**	**253**	P	**P**	**09 57 04.7**	**-0.4**
	1.6nm,0.8s,baz=86,slow=8.6,SNR=18						
PETK	**Petropavlovsk-**	**73.73**	**342**	P	**P**	**09 59 38.5**	**+0.3**
	2.6nm,0.5s,baz=136,slow=5.4,SNR=4.3						
NVAR	**Mina Array Bea**	**74.32**	**41**	P	**P**	**09 59 42.3**	**0.0**
	0.9nm,0.7s,baz=230,slow=10,SNR=8.3						
TXAR	**Lajitas Array**	**80.29**	**56**	P	**P**	**10 00 15.7**	**-0.1**
	0.3nm,0.9s,baz=224,slow=7.0,SNR=4.3						
ILAR	**Eielson Array**	**83.09**	**11**	P	**P**	**10 00 29.2**	**-0.4**
	0.4nm,0.7s,baz=206,slow=6.0,SNR=4.1						
DPC	**Dobruska-Polom**	**145.27**	**350**	*e*P	**PKPdf**	**10 07 42.5**	**+0.4**
GERES	**GERESS Array B**	**147.11**	**353**	PKPbc	**PKPbc**	**10 07 47.6**	**+0.1**
	0.8nm,0.7s,baz=29,slow=3.0,SNR=6.5						
BRTR	**Keskin Array B**	**147.42**	**321**	PKPbc	**PKPbc**	**10 07 48.0**	**-0.7**
	0.7nm,0.7s,baz=90,slow=1.2,SNR=4.5						

IDC 07 09:48:34.5±9.9, 29°95S×179°17W, h363km±101km, mb2.9/2, mb1 3.2/3, mb1mx2.9/28, mbtmp3.8/3, Error ellipse: s-maj=99.3km s-min=49.9km az=15.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.85**	**199**	P	P	09 50 39.8	-0.5
	0.4nm,0.3s,baz=8.1,slow=7.1,SNR=7.3						
URZ				S	S	09 52 18.6	-1.7
	1.3nm,0.3s,baz=8.0,slow=21,SNR=11						
ASAR	**Alice Springs**	**42.12**	**267**	P	P	09 55 53.6	+0.8
	0.3nm,0.7s,baz=106,slow=6.0,SNR=5.3						
WRA	**Warramunga Arr**	**43.06**	**272**	P	P	09 55 59.7	-0.7
	1.2nm,0.4s,baz=108,slow=8.0,SNR=24						
FINES	**FINESS Array B**	**144.37**	**339**	PKP	PKPab	10 07 26.1	-0.4
	0.8nm,0.4s,baz=50,slow=3.2,SNR=8.2						

CASC 07 09:49:08.7±1.7, 12°90N×88°57W, h47km±45km, MD3.6, ML3.6, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.59**	**27**	*e*P	Pn	09 49 21.8	+0.8
VSM	**San Miguel**	**0.60**	**28**	*e*P	Pn	09 49 22.3	+1.0
PACA	**Pacayal**	**0.62**	**23**	*e*P	Pn	09 49 22.3	+0.8
SNVI	**San Vicente**	**0.76**	**340**	*e*P	Pn	09 49 23.6	+0.3
SNVI				*e*S	Sn	09 49 34.3	+0.4
LFRS	**El Faro**	**0.87**	**326**	*i*P	Pn	09 49 24.8	+0.1
LFRS				*e*S	Sn	09 49 36.3	-0.1
LBRS	**Las Brisas**	**0.96**	**331**	*e*P	Pn	09 49 26.5	+0.6
LFU	**La Fuente**	**1.00**	**328**	*e*P	Pn	09 49 26.8	+0.4
LFU				*e*S	Sn	09 49 40.2	+0.7
SNET	**Serv Nac Est T**	**1.02**	**321**	*e*P	Pn	09 49 26.9	+0.2
SNET				*e*S	Sn	09 49 39.8	-0.2
BOQS	**Boqueron**	**1.08**	**320**	*e*P	Pn	09 49 27.9	+0.2
BOQS				*e*S	Sn	09 49 41.8	0.0
SBLS	**San Blas**	**1.39**	**313**	*e*P	Pn	09 49 32.4	+0.5
CUS1	**Cusmapa**	**1.68**	**307**	*e*P	Pn	09 49 36.4	+0.7
TGUH	**Tegucigalpa,Un**	**1.71**	**47**	*e*P	Pn	09 49 36.1	+0.1
CNGN	**Cerro Negro**	**1.87**	**102**	*e*P	Pn	09 49 38.5	+0.3
CNGN				*e*S	Sn	09 50 00.6	-0.1
MOMN	**Momotombo**	**2.04**	**104**	*e*P	Pn	09 49 40.8	+0.2
COPN	**Copaltepe**	**2.06**	**110**	*e*P	Pn	09 49 41.0	+0.2
APYN	**Apoyeque**	**2.26**	**107**	*e*P	Pn	09 49 43.9	+0.2
XAVN	**Gruta Xavier**	**2.31**	**108**	*e*P	Pn	09 49 44.5	+0.2

IDC 07 09:50:34.7±3.0, 42°38N×129°06E, h0km, mb1 2.6/2, mb1mx2.6/41, mbtmp2.6/2, ML1.8/2, Error ellipse: s-maj=45.9km s-min=15.7km az=120.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**2.80**	**48**	*i*		10 11 10.0	
	baz=228,slow=313,SNR=1.9						
USRK	**Ussuriysk Ar.**	**2.81**	**49**	Pn	Pn	09 51 21.1	+0.3
	0.2nm,0.3s,baz=230,slow=13,SNR=3.1						
USRK				Pg	Pb	09 51 26.1	+0.4
	1.1nm,0.3s,baz=236,slow=15,SNR=10						
USRK				Lg	Lg	09 52 02.9	
	1.9nm,0.3s,baz=232,slow=27,SNR=9.9						
KSRS	**Korea Array**	**5.00**	**190**	Pn	Pn	09 51 51.3	+0.5
	0.3nm,0.3s,baz=13,slow=13,SNR=4.4						
KSRS				Lg	Lg	09 53 13.7	
	0.3nm,0.3s,baz=5.8,slow=30,SNR=3.5						

*ISCJB **07** 09:58:44.7±0.6, 71°09N±0°07×67°3W±0°1, h10km, Error ellipse: s-maj=10.4km s-min=5.5km az=164.1*
*OTT **07** 09:58:49.7±0.5, 71°15N×67°23W, h18km, MN3.1/10, 91km northeast from Clyde River, Nu Baffin Bay Seismic Zone.*
ISC 07 09:58:47.0±0.8, 71°18N±0°06×67°27W±0°06, h10km, n18, σ2°60/26, 1D, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLRN	**Clyde River**	**0.84**	**212**	PG	**Pb**	**09 59 05.3**	**+1.8**
CLRN				SG	**Sg**	**09 59 15.3**	**+1.4**
CLRN				Trac		09 59 15.7	
	comp=Z,154nm,0.1s						
KULLO	**Kullorsuaq**	**4.52**	**36**	*i* P	**Pn**	**09 59 58.4**	**+3.1**
KULLO				*i* S	**Sn**	**10 00 44.8**	**-3.0**
GIFN	**Gifford Fjord,**	**4.94**	**263**	PN	**Pn**	**10 00 02.8**	**+1.8**
GIFN				SN	**Sn**	**10 00 56.5**	**-1.6**
GIFN				LG	Lg	10 01 24.9	
GIFN				Trac		10 01 33.6	
	comp=Z,21nm,0.5s						
ILON	**Igloolik, Nuna**	**5.25**	**257**	PN	**Pn**	**10 00 06.5**	**+1.1**
ILON				SN	**Sn**	**10 01 05.0**	**-0.8**
ILON				LG	Lg	10 01 35.3	
ILON				Trac		10 01 36.6	
	comp=Z,14nm,0.2s						
LAIN	**Lailor River,**	**5.91**	**257**	PN	**Pn**	**10 00 15.7**	**+1.2**
LAIN				SN	**Sn**	**10 01 20.5**	**-1.7**
LAIN				LG	Lg	10 01 53.5	
LAIN				Trac		10 02 01.5	
	comp=Z,6.8nm,0.2s						
SFJD	**Kangerlussuaq**	**7.27**	**117**	PN	**Pn**	**10 00 31.9**	**-1.2**
SFJD				Trac		10 01 50.6	
	comp=Z,3.8nm,0.3s						
SFJD	**Kangerlussuaq**	**7.27**	**117**	*i* P	**Pn**	**10 00 32.0**	**-1.1**
SFJD				*i* S	Sn	10 01 46.3	-9.2
FRB	**Frobisher Bay**	**7.49**	**184**	PN	**Pn**	**10 00 35.8**	**-0.2**
FRB				SN	Sn	10 01 52.4	-8.5
FRB				Trac		10 02 48.8	
	comp=Z,5.1nm,0.2s						
KUGN	**Kugaaruk Camp,**	**8.50**	**260**	PN	**Pn**	**10 00 50.2**	**+0.3**
KUGN				SN	**Sn**	**10 02 20.1**	**-5.5**
KUGN				LG	Lg	10 03 19.0	
KUGN				Trac		10 03 20.9	
	comp=Z,13nm,0.6s						
RES	**Resolute Bay**	**8.78**	**306**	PN	**Pn**	**10 00 58.0**	**+4.2**
RES				SN	**Sn**	**10 02 29.8**	**-2.8**
RES				Trac		10 02 41.0	
	comp=Z,57nm,2.0s						
SUMG	**Summit**	**9.03**	**68**	*i* P	**Pn**	**10 00 57.4**	**-0.2**
EUNU	**Eureka**	**10.01**	**341**	PN	**Pn**	**10 01 13.1**	**+2.5**
BULN	**Bullion Camp,**	**10.45**	**255**	PN	**Pn**	**10 01 19.1**	**+2.4**
BULN				SN	**Sn**	**10 03 06.7**	**-6.9**
BULN				Trac		10 04 16.1	
	comp=Z,8.0nm,0.8s						
SEDN	**First Sedna Si**	**12.12**	**241**	PN	**Pn**	**10 01 39.1**	**-0.3**
SEDN				SN	Sn	10 03 45.0	-9.4
SEDN				LG	Lg	10 05 12.5	
SEDN				Trac		10 05 13.7	
	comp=Z,45nm,1.8s						
MCMN	**McManaman Lake**	**12.39**	**243**	PN	**Pn**	**10 01 42.6**	**-0.5**
MCMN				SN	Sn	10 03 49.9	-11
MCMN				Trac		10 05 10.3	
	comp=Z,64nm,2.2s						
MCMN				LG	Lg	10 05 15.6	
YBKN	**Baker Lake, Hu**	**12.75**	**252**	PN	**Pn**	**10 01 48.5**	**+0.6**
YBKN				SN	Sn	10 04 00.4	-9.2
YBKN				LG	Lg	10 05 30.3	
YBKN				Trac		10 05 48.7	
	comp=Z,18nm,1.3s						
INUQ	**Inukjuak**	**13.55**	**205**	PN	**Pn**	**10 01 59.3**	**+0.4**
INUQ				SN	Sn	10 04 15.8	-14
INUQ				Trac		10 04 20.0	
	comp=Z,2.2nm,0.2s						
INUQ				LG	Lg	10 05 47.9	
DAG	**Danmarks Havn**	**14.10**	**45**	*i* P	**Pn**	**10 02 06.2**	**-0.1**

*NIED **07** 10:06:00, 36°10N×141°30E, h5km, Mw3.6 Best double couple: M₀3.00000×10¹⁴ NP1:ϕs163.00000°, δ8.00000°, λ-140.00000°. NP2:ϕs33.00000°, δ85.00000°, λ-84.00000°.*
*IDC **07** 10:06:37.9±1.2, 36°15N×141°56E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/54, mbtmp3.4/7, ML3.4/2, MS3.9/1, Ms1 3.9/1, ms1mx2.3/29, Error ellipse: s-maj=28.5km s-min=21.6km az=73.0*
*ISCJB **07** 10:06:40.4±0.8, 36°04N±0°04×141°30E±0°08, h26km, mb3.4/5, MS3.9/1, Error ellipse: s-maj=9.2km s-min=6.0km az=170.4*
*JMA **07** 10:06:41.3±0.2, 36°00N×141°20E, h35km±2km, M3.8*
JMA Felt I J1.
ISC 07 10:06:40.5±1.1, 35°99N±0°05×141°29E±0°08, h26km, n18, σ2°08/14, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.45**	**231**	P	**Pn**	**10 06 50.4**	**-0.9**
CHOJ				S	**Sb**	**10 06 56.7**	**+0.4**
JHO	**Hitachi**	**0.85**	**317**	P	**Pn**	**10 06 55.8**	**-1.0**
JHO				S	**Sn**	**10 07 07.3**	**-1.2**
JYT	**Yasato**	**0.92**	**285**	P	**Pb**	**10 06 56.7**	**-1.1**
JYT				S	**Sn**	**10 07 09.0**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.18**	**340**	P	**Pb**	**10 07 00.7**	**-1.6**
MJAR	**Matsushiro Arr**	**2.55**	**283**	Pn	**Pn**	**10 07 20.8**	**+0.5**
	11nm,0.3s,baz=95,slow=9.2,SNR=47						
MJAR				Sn	**Sb**	**10 07 57.3**	**+0.7**
	16nm,0.3s,baz=92,slow=28,SNR=8.0						
MJAR				LR	LR	10 08 42.1	
	comp=Z,22nm,19.6s,baz=100,slow=46						
JHJ	**Hachijo jima 2**	**3.12**	**204**	Pn	**Pb**	**10 07 31.0**	**-4.3**
	5.9nm,0.3s,baz=90,slow=20,SNR=5.0						
JHJ				Sn	**Sn**	**10 08 07.8**	**+3.4**
	25nm,0.3s,baz=63,slow=22,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**27.71**	**119**	T	T	10 41 28.4	
	baz=311,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.72**	**119**	T	T	10 41 30.8	
	baz=311,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**27.73**	**119**	T	T	10 41 29.7	
	baz=311,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.39**	**121**	T	T	10 42 26.1	
	baz=314,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hy**	**28.39**	**121**	T	T	10 42 19.4	
	baz=314,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.40**	**121**	T	T	10 42 17.1	
	baz=314,slow=75,SNR=18						
MKAR	**Makanchi Array**	**44.60**	**303**	P	P	10 14 53.6	+3.2
	0.2nm,0.4s,baz=97,slow=7.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**46.58**	**309**	P	**P**	**10 15 07.8**	**+1.9**
	0.6nm,0.4s,baz=83,slow=7.6,SNR=7.9						
WRA	**Warramunga Arr**	**56.01**	**188**	P	**P**	**10 16 19.0**	**+2.1**
	0.5nm,0.8s,baz=3.8,slow=7.2,SNR=7.0						
ASAR	**Alice Springs**	**59.74**	**188**	P	P	10 16 46.5	+3.5
	0.1nm,0.7s,baz=15,slow=11,SNR=2.8						
YKA	**Yellowknife Ar**	**64.76**	**30**	P	**P**	**10 17 15.6**	**-0.6**
	0.2nm,0.7s,baz=300,slow=5.6,SNR=3.1						
ARCES	**ARCESS Array B**	**64.94**	**340**	LR	LR	10 47 04.4	
	comp=Z,89nm,20.6s,baz=272,slow=37						

*ISK **07** 10:07:15.8, 37°56N×28°95E, h10km, ML2.3*
*CSEM **07** 10:07:16.4±0.3, 37°61N×28°90E, h15km, ML2.6, Error ellipse: s-maj=7.5km s-min=6.0km az=134.0*
*ISCJB **07** 10:07:17.0±0.6, 37°65N±0°05×28°84E±0°05, h8km±8km, Error ellipse: s-maj=10.4km s-min=4.7km az=144.0*
*DDA **07** 10:07:17.1, 37°70N×28°84E, h2km, Ml2.6*
ISC 07 10:07:16.7±0.9, 37°59N±0°03×28°91E±0°03, h14km±6km, n19, σ0°99/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.15**	**48**	P	**Pg**	**10 07 20.7**	**-0.1**
DNZL				S	**Sg**	**10 07 24.0**	**+0.6**
DNZL	**Cakiroluk**	**0.15**	**48**	*i* P	**Pg**	**10 07 20.7**	**-0.1**
DNZL				*i* S	**Sg**	**10 07 24.0**	**+0.6**
DENT	**Denizli**	**0.19**	**32**	*e*PG	**Pg**	**10 07 20.9**	**-0.4**
DENT				*e*SG	**Sg**	**10 07 23.6**	**-0.8**
GOLH	**Golhisar**	**0.63**	**124**	P	**Pn**	**10 07 31.3**	**0.0**
GOLH	**Golhisar**	**0.63**	**124**	*i* P	**Pn**	**10 07 31.3**	**0.0**
GOLH				*i* S	**Sn**	**10 07 44.5**	**+3.2**
YER	**Yerkesik**	**0.67**	**228**	*e*PG	**Pg**	**10 07 29.9**	**0.0**
YER				*e*SG	**Sb**	**10 07 39.5**	**+0.1**
YER	**Yerkesik**	**0.67**	**228**	*e*Pg	**Pg**	**10 07 29.9**	**0.0**
YER				*e*Sg	**Sb**	**10 07 39.5**	**+0.1**
AYDN	**Tasoluk**	**0.82**	**275**	P	**Pb**	**10 07 32.4**	**-0.4**
AYDN				S	**Sb**	**10 07 43.6**	**0.0**
AYDN	**Tasoluk**	**0.82**	**275**	*i* P	**Pb**	**10 07 32.4**	**-0.4**
AYDN				*i* S	**Sb**	**10 07 43.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**294**	*e*PG	**Pb**	**10 07 33.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**294**	*e*Pg	**Pb**	**10 07 33.6**	**-0.2**
KHL	**Karahalli**	**0.88**	**33**	*e*PG	**Pb**	**10 07 33.7**	**-0.2**
KHL	**Karahalli**	**0.88**	**33**	*e*Pg	**Pb**	**10 07 33.7**	**-0.2**
KHAL	**Karahalli**	**0.91**	**31**	P	**Pg**	**10 07 32.9**	**-1.4**
KHAL				S	**Sb**	**10 07 46.2**	**-0.1**
KHAL	**Karahalli**	**0.91**	**31**	*i* P	**Pg**	**10 07 32.9**	**-1.4**
KHAL				*i* S	**Sb**	**10 07 46.2**	**-0.1**
KULA	**Kula-Manisa**	**0.94**	**348**	*e*PG	**Pg**	**10 07 34.3**	**-0.7**
KULA	**Kula-Manisa**	**0.94**	**348**	*e*Pg	**Pg**	**10 07 34.3**	**-0.7**
FETY	**Fethiye**	**0.96**	**171**	*e*PG	**Pg**	**10 07 33.5**	**-1.9**
FETY	**Fethiye**	**0.96**	**171**	*e*Pg	**Pg**	**10 07 33.5**	**-1.9**

*RSPR **07** 10:08:24.1, 19°04N×64°29W, h64km±8km, MD3.6/11*
*NEIC **07** 10:08:24.1, 19°04N×64°29W, h64km, MD3.6(RSPR), After RSPR.*
**ISC 07 10:08:23.9±4.0, 19°1N±0°1×64°3W±0°2, h42km,

AOPR	**Arecibo Observ**	**2.44 253**	*e*P	**Pn**	**10 09 00.5**	**-0.8**
AOPR	**Arecibo Observ**	**2.44 253**	*e*P	**Pn**	**10 09 00.5**	**-0.8**
AOPR	**Arecibo Observ**	**2.44 253**	*e*P	**Pn**	**10 09 00.5**	**-0.8**
LRS	**Lares**	**2.53 252**	*e*P	**Pn**	**10 09 03.2**	**+0.6**
LRS	**Lares**	**2.53 252**	*e*P	**Pn**	**10 09 03.2**	**+0.6**
LRS	**Lares**	**2.53 252**	*e*P	**Pn**	**10 09 03.2**	**+0.6**
LSP	**Las Mesas**	**2.79 252**	*e*P	**Pn**	**10 09 06.7**	**+0.6**
LSP	**Las Mesas**	**2.79 252**	*e*P	**Pn**	**10 09 06.7**	**+0.6**
LSP	**Las Mesas**	**2.79 252**	*e*P	**Pn**	**10 09 06.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.87 249**	*e*P	**Pn**	**10 09 07.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.87 249**	*e*P	**Pn**	**10 09 07.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.87 249**	*e*P	**Pn**	**10 09 07.1**	**-0.1**
IDE	**Isla Desecheo**	**3.08 258**	*e*P	**Pn**	**10 09 09.8**	**-0.3**
IDE	**Isla Desecheo**	**3.08 258**	*e*S	**Sn**	**10 09 46.5**	**+0.7**
IDE	**Isla Desecheo**	**3.08 258**	*e*P	**Pn**	**10 09 09.8**	**-0.3**
IDE			*e*S	**Sn**	**10 09 46.5**	**+0.7**
IDE	**Isla Desecheo**	**3.08 258**	*e*P	**Pn**	**10 09 09.8**	**-0.3**
IDE			*e*S	**Sn**	**10 09 46.5**	**+0.7**
DR12	**Loma Pena Alta**	**4.82 267**	*e*P	**Pn**	**10 09 34.0**	**0.0**
DR12	**Loma Pena Alta**	**4.82 267**	*e*P	**Pn**	**10 09 34.0**	**0.0**
SDDR	**Presa de Saban**	**6.61 270**	*e*Pn	**Pn**	**10 09 58.7**	**0.0**
SDDR			*e*Sn	**Sn**	**10 11 12.5**	**-0.2**

NIED ***07*** *10:18:00, 37.°40N×141.°70E, h8km, Mw4.1 Best double couple: M₀1.41000×10¹⁵ NP1:φs14.00000°, δ30.00000°, λ-150.00000°. NP2:φs258.00000°, δ76.00000°, λ-63.00000°.*

ISCJB ***07*** *10:18:12.1±0.8, 37.°37N±0.°03×141.°75E±0.°04, h22km±5km, mb4.2/23, MS3.8/1, Error ellipse: s-maj=6.2km s-min=4.1km az=20.6*

JMA ***07*** *10:18:12.8±0.1, 37.°43N×141.°71E, h27km±2km, M4.2*
JMA Felt I J1.

NEIC ***07*** *10:18:16.3±0.8, 37.°40N×141.°69E, h40km±7km, mb4.6/6, Error ellipse: s-maj=8.9km s-min=5.8km az=104.0*

NEIC Recorded [1 JMA] in Fukushima and Miyagi.

IDC ***07*** *10:18:17.0±1.8, 37.°36N×141.°60E, h47km±18km, mb3.9/18, mb1 4.1/24, mb1mx3.9/46, mbtmp4.2/24, ML3.4/5, MS3.0/6, Ms1 3.0/6, ms1mx2.8/54, Error ellipse: s-maj=19.1km s-min=10.7km az=88.0*

ISC 07 10:18:12.1±1.6, 37.°38N±0.°04×141.°73E±0.°05, h11km±9km, n69, σ1°§62/78, mb4.3/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.68**	**269**	P	**Pg**	**10 18 25.7**	**+0.4**
JFK				S	**Sg**	**10 18 34.3**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.79**	**249**	P	**Pg**	**10 18 27.5**	**+0.1**
ONAJ				S	**Sg**	**10 18 38.0**	**+0.2**
JMM	**Marumori**	**0.89**	**303**	P	**Pg**	**10 18 28.4**	**-0.8**
JMM				S	**Sg**	**10 18 39.3**	**-1.4**
JIO	**Ouri**	**1.11**	**344**	P	**Pb**	**10 18 31.5**	**-1.8**
JIO				*e*S	**Sb**	**10 18 45.3**	**-2.5**
JFT	**Otama**	**1.11**	**277**	P	**Pb**	**10 18 33.0**	**-0.4**
JFT				S	**Sb**	**10 18 46.9**	**-1.1**
JHO	**Hitachi**	**1.21**	**231**	P	**Pn**	**10 18 33.3**	**-1.7**
JHO				S	**Sb**	**10 18 48.7**	**-1.9**
JOU	**Okura**	**1.29**	**320**	P	**Pn**	**10 18 35.3**	**-0.9**
JOU				S	**Sn**	**10 18 52.7**	**-0.8**
JYS	**Shirataka**	**1.56**	**303**	P	**Pn**	**10 18 39.6**	**-0.2**
JYS				*e*S	**Sn**	**10 18 59.3**	**-0.8**
JFY	**Yanaizu**	**1.61**	**271**	P	**Pn**	**10 18 40.6**	**0.0**
JFY				S	**Sn**	**10 19 01.1**	**-0.3**
JMK	**Ichinoseki**	**1.62**	**346**	P	**Pn**	**10 18 39.5**	**-1.1**
JMK				S	**Sn**	**10 18 59.2**	**-2.2**
MJAR	**Matsushiro Arr**	**2.94**	**254**	P	**Pn**	**10 18 59.8**	**+0.9**
	9.9nm,0.3s,baz=79,slow=16,SNR=62						
MJAR				S	**Sn**	**10 19 36.9**	**+2.8**
	14nm,0.3s,baz=85,slow=17,SNR=5.4						
MJAR				LR	LR	10 19 53.9	
	comp=Z,39nm,18.7s,baz=20,slow=34						
MAJO	**Matsushiro**	**2.94**	**254**	*e*Pn	**Pn**	**10 19 00.1**	**+1.3**
MAJO				*e*Sn	**Sn**	**10 19 30.6**	**-3.6**
MAT	**Matsushiro**	**2.94**	**254**	P	**Pn**	**10 18 59.7**	**+0.8**
MAT				*e*S	**Sn**	**10 19 35.5**	**+1.3**
MJB9	**Matsu-Tunnel**	**2.94**	**255**	*e*Pn	**Pn**	**10 18 60.0**	**+1.1**
MJB9				*e*Sn	**Sn**	**10 19 30.5**	**-3.7**
INU	**Inuyama**	**4.31**	**243**	*e*Pn	**Pn**	**10 19 19.5**	**+1.9**
JHJ2	**Mitsune**	**4.54**	**201**	*e*Pn	**Pn**	**10 19 21.2**	**+0.5**
JHJ2				*e*Sn	**Sn**	**10 20 06.4**	**-7.2**
JHJ	**Hachijo jima 2**	**4.54**	**201**	P	**Pn**	**10 19 21.2**	**+0.4**
	49nm,0.3s,baz=315,slow=14,SNR=32						
JHJ				S	**Sn**	**10 20 12.4**	**-1.2**
	44nm,0.3s,baz=253,slow=19,SNR=4.0						
ERM	**Erimo**	**4.75**	**13**	*e*Pn	**Pn**	**10 19 22.3**	**-1.4**
ERM				*e*Sn	**Sn**	**10 20 20.9**	**+2.1**
JNU	**Nakatsue**	**9.84**	**248**	P	**Pn**	**10 20 35.1**	**+1.6**
	0.2nm,0.3s,baz=78,slow=14,SNR=2.9						
JNU				LR	LR	10 24 32.0	
	comp=Z,60nm,21.7s,baz=302,slow=38						
JNU	**Nakatsue**	**9.84**	**248**	*e*Pn	**Pn**	**10 20 35.7**	**+2.2**
USRK	**Ussuriysk Ar.**	**10.04**	**316**	P	**Pn**	**10 20 39.3**	**+3.0**
	0.5nm,0.3s,baz=134,slow=13,SNR=6.1						
USRK				LR	LR	10 24 13.5	
	comp=Z,126nm,19.0s,baz=74,slow=36						
KSRS	**Korea Array**	**10.98**	**275**	P	**Pn**	**10 20 52.2**	**+3.0**
	baz=95,slow=13,SNR=7.8						
KSRS				LR	LR	10 24 44.5	
	comp=Z,34nm,20.0s,baz=51,slow=36						
KSAR	**Wonju Array Be**	**11.01**	**275**	P	**Pn**	**10 20 52.2**	**+2.6**
KLR	**Kul'dur**	**13.88**	**332**	P	**Pn**	**10 21 32.5**	**+3.9**
	0.2nm,0.3s,baz=130,slow=16,SNR=9.9						
PETK	**Petropavlovsk-**	**19.26**	**30**	LR	LR	10 31 19.2	
	comp=Z,104nm,18.8s,baz=156,slow=40						
MA2	**Magadan**	**22.96**	**12**	P	**P**	**10 23 17.9**	**+1.6**
	12nm,0.8s,baz=173,slow=7.8,SNR=4.0						
SEY	**Seymchan**	**26.40**	**11**	P	**P**	**10 23 49.1**	**+0.8**
	4.2nm,0.8s,baz=182,slow=12,SNR=6.0						
SONA0	**Songino Array**	**27.80**	**303**	*e*P	**P**	**10 24 00.7**	**-0.6**
	3.3nm,0.8s						
SONM	**Songino Array**	**27.80**	**303**	P	**P**	**10 24 00.7**	**-0.6**
	2.7nm,0.8s,baz=89,slow=9.5,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	10 53 32.1	
	baz=314,slow=75,SNR=968						
H11N1	**WAKE ISLAND Hy**	**28.12**	**122**	T	T	10 53 33.4	
	baz=314,slow=75,SNR=985						
H11N3	**WAKE ISLAND Hy**	**28.13**	**122**	T	T	10 53 35.1	
	baz=314,slow=75,SNR=948						
H11S1	**WAKE ISLAND Hy**	**28.84**	**124**	T	T	10 54 25.7	
	baz=316,slow=76,SNR=599						
H11S3	**WAKE ISLAND Hy**	**28.84**	**124**	T	T	10 54 23.2	
	baz=316,slow=76,SNR=530						
H11S2	**WAKE ISLAND Hy**	**28.86**	**124**	T	T	10 54 27.9	
	baz=316,slow=76,SNR=450						
TIXI	**Tiksi**	**34.97**	**353**	P	**P**	**10 25 02.3**	**-1.6**
	1.4nm,0.5s,baz=140,slow=5.8,SNR=5.8						
ZAA1	**Zalesovo Array**	**41.87**	**312**	*e*P	**P**	**10 26 01.4**	**-0.7**
ZAA0	**Zalesovo Array**	**41.87**	**312**	*e*P	**P**	**10 26 01.6**	**-0.5**
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**10 26 01.4**	**-0.7**
	5.7nm,0.7s,baz=96,slow=6.4,SNR=12						
MK32	**Makanchi Array**	**44.15**	**302**	*e*P	**P**	**10 26 20.8**	**+0.1**
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**10 26 20.8**	**+0.1**
	3.4nm,0.7s,baz=87,slow=9.9,SNR=26						
MKAR	**Makanchi Array**	**44.15**	**302**	*e*P	**P**	**10 26 21.0**	**+0.3**
ILAR	**Eielson Array**	**49.06**	**33**	P	**P**	**10 26 59.1**	**+0.2**
	1.3nm,0.7s,baz=266,slow=6.3,SNR=22						
ILB	**Eielson Array**	**49.06**	**33**	*e*P	**P**	**10 26 59.4**	**+0.4**
BRVK	**Borovoye**	**50.58**	**312**	*e*P	**P**	**10 27 10.0**	**-0.7**
	10nm,1.0s						
WB2	**Warramunga Arr**	**57.44**	**188**	*e*P	**P**	**10 28 00.9**	**-0.1**
	5.3nm,0.6s						
WR1	**Warramunga Arr**	**57.44**	**188**	*e*P	**P**	**10 28 00.7**	**-0.4**
	7.1nm,0.5s						
WRA	**Warramunga Arr**	**57.44**	**188**	P	**P**	**10 28 00.7**	**-0.4**
	5.8nm,0.4s,baz=6.4,slow=7.3,SNR=145						
AS01	**Alice Springs**	**61.16**	**188**	*e*P	**P**	**10 28 26.8**	**+0.1**
AS31	**Alice Springs**	**61.17**	**188**	*e*P	**P**	**10 28 26.9**	**+0.1**
	0.9nm,0.7s						
ASAR	**Alice Springs**	**61.17**	**188**	P	**P**	**10 28 26.9**	**+0.1**
	1.7nm,0.7s,baz=15,slow=6.1,SNR=27						
YKA	**Yellowknife Ar**	**63.38**	**30**	P	**P**	**10 28 41.4**	**+0.2**
	0.5nm,0.6s,baz=307,slow=6.7,SNR=12						
YKB5	**Yellowknife Ar**	**63.38**	**30**	*e*P	**P**	**10 28 41.4**	**+0.3**
DZM	**Mont Dzumac**	**63.56**	**154**	LR	LR	10 53 56.3	
	comp=Z,53nm,18.6s,baz=53,slow=34						
ARA0	**ARCESS Array S**	**63.76**	**339**	*e*P	**P**	**10 28 43.4**	**-0.2**
ARCES	**ARCESS Array B**	**63.76**	**339**	P	**P**	**10 28 43.4**	**-0.2**
	0.8nm,0.6s,baz=57,slow=6.6,SNR=6.3						
FIA0	**FINESS Array S**	**68.62**	**332**	*e*P	**P**	**10 29 14.3**	**-0.5**
FINES	**FINESS Array B**	**68.62**	**332**	P	**P**	**10 29 14.3**	**-0.5**
	2.3nm,0.4s,baz=33,slow=9.6,SNR=15						
STKA	**Stephens Creek**	**68.90**	**180**	P	**P**	**10 29 17.6**	**+0.7**
	2.1nm,0.7s,baz=0.0,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**68.90**	**180**	*e*P	**P**	**10 29 17.6**	**+0.7**
	10nm,2.0s						
NB2	**NORSAR Subarra**	**73.96**	**337**	P	**P**	**10 29 46.9**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=38,slow=6.2						
NB200	**NORSAR Array S**	**73.96**	**337**	*e*P	**P**	**10 29 46.9**	**-0.3**
NOA	**NORSAR Array B**	**73.96**	**337**	P	**P**	**10 29 46.9**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=38,slow=5.9,SNR=8.6						
AKASG	**Malin Array Be**	**74.17**	**322**	P	**P**	**10 29 47.9**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=45,slow=6.4,SNR=8.7						
NV01	**Mina Array Sit**	**74.58**	**53**	*e*P	**P**	**10 29 52.9**	**+1.4**
NVAR	**Mina Array Bea**	**74.58**	**53**	P	**P**	**10 29 52.5**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=305,slow=5.2,SNR=5.9						
GERES	**GERESS Array B**	**82.55**	**328**	P	**P**	**10 30 34.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=62,slow=6.8,SNR=3.6						
LTX	**Lajitas**	**89.71**	**53**	*e*P	**P**	**10 31 11.5**	**+0.7**
TXAR	**Lajitas Array**	**89.71**	**53**	P	**P**	**10 31 11.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=306,slow=3.3,SNR=10.0						

ISCJB ***07*** *10:25:02.4±0.4, 6.°82N±0.°04×73.°06W±0.°05, h161km±4km, mb3.1/3, Error ellipse: s-maj=9.7km s-min=3.9km az=36.3*

RSNC ***07*** *10:25:05.4±0.4, 6.°80N×73.°15W, h141km±3km, ML3.3*

IDC ***07*** *10:25:05.0±2.7, 6.°75N×73.°11W, h171km±24km, mb3.0/3, mb1 3.3/4, mb1mx3.0/29, mbtmp3.5/4, Error ellipse: s-maj=54.5km s-min=30.8km az=98.0*

FUNV ***07*** *10:25:05.3, 6.°88N×72.°94W, h186km, MW3.4*

ISC 07 10:25:02.9±0.8, 6.°83N±0.°04×72.°98W±0.°05, h159km±6km, n32, σ2°§08/53, mb3.2/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.30**	**288**	*e*P	**Pn**	**10 25 24.5**	**-0.3**
BARC	**Barichara**	**0.31**	**222**	*e*P	**Pn**	**10 25 24.4**	**-0.4**
BARC				*e*S	**Sn**	**10 25 39.2**	**-2.4**
BARC				*i*		10 25 42.5	
	comp=Z,388nm,0.5s						
GIRC	**Giron, Santand**	**0.33**	**319**	*e*P	**Pn**	**10 25 24.4**	**-0.4**
PAMC	**Pamplona, Colo**	**0.58**	**28**	*e*P	**Pn**	**10 25 27.2**	**+1.0**
PAMC				*e*S	**Sn**	**10 25 44.1**	**-0.1**
BRRC	**Barranca, Sant**	**0.78**	**291**	*e*P	**Pn**	**10 25 26.3**	**-0.6**
BRRC				*i*		10 25 46.9	
	comp=Z,265nm,0.4s						
CBRI	**Barrientos, No**	**0.90**	**11**	*e*P	**Pn**	**10 25 28.9**	**+0.9**
CBRI				*e*S	**Sn**	**10 25 47.5**	**+0.2**
CBRI				*i*		10 25 50.4	
	comp=Z,208nm,0.3s						
GRMC	**Gramalote, San**	**0.90**	**11**	*i* P	**Pn**	**10 25 30.2**	**+2.2**
GRMC				*e*S	**Sn**	**10 25 49.5**	**+2.2**
GRMC				*i*		10 25 52.5	
	comp=Z,376nm,0.4s						
RUSC	**La Rusia**	**0.93**	**187**	*e*P	**Pn**	**10 25 28.6**	**0.0**
RUSC				*e*S	**Sn**	**10 25 46.7**	**-1.5**
RUSC				*i*		10 25 49.1	
	comp=Z,404nm,0.3s						
OCAC	**Ocana**	**1.45**	**346**	*e*P	**Pn**	**10 25 32.9**	**+0.1**
OCAC				*e*S	**Sn**	**10 25 54.5**	**-1.3**
OCAC				*i*		10 25 58.0	
	comp=Z,280nm,0.2s						
NORC	**Norcasia**	**2.26**	**236**	*e*P	**Pn**	**10 25 40.5**	**-1.2**
NORC				*e*S	**Sn**	**10 26 08.6**	**-3.0**
CHIC	**Chingaza**	**2.31**	**199**	*e*P	**Pn**	**10 25 42.9**	**+0.3**
CHIC				*e*S	**Sn**	**10 26 11.9**	**-1.3**
CHIC				*i*		10 26 19.0	
	comp=Z,102nm,0.5s						
ROSC	**El Rosal**	**2.38**	**214**	P	**Pn**	**10 25 44.5**	**+1.0**
	comp=Z,34nm,0.3s,baz=285,slow=3.8,SNR=57						
ROSC				S	**Sn**	**10 26 15.8**	**+1.1**
	comp=Z,59nm,0.3s,baz=37,slow=22,SNR=17						
ROSC	**El Rosal**	**2.38**	**214**	*e*S	**Sn**	**10 26 13.1**	**-1.7**
ROSC				*i*		10 26 19.1	
	comp=Z,300nm,0.5s						
SOCV	**Socops**	**2.55**	**55**	*e*P	**Pn**	**10 25 46.8**	**+1.7**
SOCV				*e*S	**Sn**	**10 26 18.8**	**+0.9**
VILC	**Villavicencio,**	**2.79**	**195**	*e*P	**Pn**	**10 25 48.5**	**+0.4**
VILC				*e*S	**Sn**	**10 26 22.4**	**-0.9**
VILC				*i*		10 26 32.4	
	comp=Z,100nm,0.5s						
GUYC	**Guyana, Colomb**	**2.88**	**237**	*e*S	**Sn**	**10 26 22.9**	**-2.9**
GUYC				*i*		10 26 32.6	
	comp=Z,213nm,0.4s						
DBBC	**Dabeiba**	**3.22**	**274**	*e*P	**Pn**	**10 25 52.6**	**-0.8**
TOLC	**Tolima**	**3.23**	**226**	*e*P	**Pn**	**10 25 53.7**	**-0.1**
TOLC				*e*S	**Sn**	**10 26 30.7**	**-2.6**
PRAC	**Prado**	**3.63**	**212**	*e*P	**Pn**	**10 25 58.7**	**0.0**
PRAC				*e*S	**Sn**	**10 26 40.9**	**-1.2**
SANV	**Sanarito**	**4.32**	**52**	*e*P	**Pn**	**10 26 09.1**	**+1.4**
SANV				*e*S	**Sn**	**10 26 55.6**	**-2.6**
CURV	**Curarigua**	**4.35**	**43**	*e*P	**Pn**	**10 26 09.2**	**+1.2**
DABV	**Dabajuro**	**4.68**	**29**	*e*P	**Pn**	**10 26 13.5**	**+1.2**
DABV				*e*S	**Sn**	**10 27 03.2**	**-3.3**
TEPV	**Terepaima**	**4.87**	**50**	*e*P	**Pn**	**10 26 15.8**	**+1.0**
TEPV				*e*S	**Sn**	**10 27 07.6**	**-3.4**
SIQV	**Siquisique**	**4.92**	**39**	*e*P	**Pn**	**10 26 15.5**	**0.0**
SIQV				*e*S	**Sn**	**10 27 08.9**	**-3.3**
BAUV	**El Baul**	**5.32**	**66**	*e*P	**Pn**	**10 26 20.8**	**+0.1**
BAUV				*e*S	**Sn**	**10 27 16.9**	**-4.7**
MAPV	**Macapo**	**5.38**	**56**	*e*P	**Pn**	**10 26 22.3**	**+0.9**
MAPV				*e*S	**Sn**	**10 27 18.4**	**-4.6**
MONV	**Montecano**	**5.90**	**30**	*e*P	**Pn**	**10 26 28.1**	**-0.2**
MONV				*e*S	**Sn**	**10 27 29.5**	**-5.8**
TURV	**Turiamo**	**6.22**	**54**	*e*P	**Pn**	**10 26 33.3**	**+0.7**
TURV				*e*S	**Sn**	**10 27 38.3**	**-4.8**
TXAR	**Lajitas Array**	**36.57**	**312**	P	**P**	**10 31 54.3**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=130,slow=9.5,SNR=3.3						
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**10 33 28.3**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=180,slow=5.1,SNR=4.6						
YKA	**Yellowknife Ar**	**63.31**	**340**	P	**P**	**10 35 15.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=130,slow=6.6,SNR=6.8						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	**PKPbc**	**10 44 36.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=108,slow=2.6,SNR=5.3						

ISCJB ***07*** *10:25:26.2±0.5, 48.°26N±0.°06×154.°55E±0.°10, h51km, mb3.8/11, Error ellipse: s-maj=12.1km s-min=3.0km az=42.1*

SKHL ***07*** *10:25:26.3±0.5, 48.°09N×154.°85E, h59km±3km, mb4.7/8*

MOS ***07*** *10:25:26.2±1.3, 48.°24N×154.°48E, h54km, mb4.3/6, Error ellipse: s-maj=11.7km s-min=4.9km az=66.9*

KRSC ***07*** *10:25:26.2±2.1, 48.°04N×156.°49E, h18km±48km, ML4.3*

IDC ***07*** *10:25:28.5±3.5, 48.°25N×154.°35E, h58km±32km, mb3.5/10, mb1 3.8/12, mb1mx3.5/41, mbtmp3.8/12, ML3.2/2, Error ellipse: s-maj=26.7km s-min=16.4km az=128.0*

ISC 07 10:25:27.7±0.7, 48.°28N±0.°08×154.°47E±0.°09, h51km, n85, σ1°§41/95, mb3.8/11, 5C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.63**	**23**	*e*PN	**Pn**	**10 26 08.9**	**+1.2**
SKR				*e*S	**Sn**	**10 26 37.9**	**-0.5**
SKR				pmax	pmax		
	comp=Z,184nm,0.6s						
SKR				smax	smax		
	comp=N,453nm,1.1s						
SKR	**Severo-Kuril's**	**2.63**	**23**	*i* P	**Pn**	**10 26 07.9**	**+0.2**
SKR				AMB	AMB	10 26 09.1	
	comp=N,67nm,0.2s						
SKR				*i* S	**Sn**	**10 26 38.9**	**+0.6**
SKR				A	A	10 26 39.6	
	comp=N,204nm,0.2s						
SKR	**Severo-Kuril's**	**2.63**	**23**	*e*P	**Pn**	**10 26 07.7**	**0.0**
SKR				*e*S	**Sn**	**10 26 39.0**	**+0.6**
ASAK	**Asacha**	**4.66**	**27**	PN	**Pn**	**10 26 36.5**	**+1.0**
ASAK	**Asacha**	**4.66**	**27**	*e*P	**Pn**	**10 26 36.5**	**+1.0**
MTVR	**Mutnovka**	**4.83**	**28**	PN	**Pn**	**10 26 38.7**	**+0.8**
MTVR				S	**Sn**	**10 27 33.1**	**+0.5**
MTVR	**Mutnovka**	**4.83**	**28**	*e*P	**Pn**	**10 26 38.7**	**+0.8**
MTVR				*e*S	**Sn**	**10 27 33.1**	**+0.5**
RUS	**Russkaya**	**4.90**	**30**	PN	**Pn**	**10 26 38.2**	**-0.5**
RUS	**Russkaya**	**4.90**	**30**	*e*P	**Pn**	**10 26 38.2**	**-0.5**
RUS	**Russkaya**	**4.90**	**30**	*e*P	**Pn**	**10 26 38.2**	**-0.5**
RUS				*e*S	**Sn**	**10 27 32.6**	**-1.4**
PETK	**Petropavlovsk-**	**5.25**	**22**	P	**Pn**	**10 26 45.7**	**+2.2**
	comp=N,5.2nm,0.3s,baz=179,slow=12,SNR=23						
PETK				S	**Sn**	**10 27 40.5**	**-2.2**
	baz=181,slow=13,SNR=1.8						
PET	**Petropavlovsk**	**5.44**	**28**	*e*PN	**Pn**	**10 26 46.2**	**0.0**
PET				*e*S	**Sn**	**10 27 48.5**	**+1.1**
PET				pmax	pmax		
	comp=Z,17nm,0.5s						
PET				smax	smax		
	comp=E,89nm,0.6s						
PET				smax	smax		
	comp=N,95nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s						
PET	**Petropavlovsk**	**5.44**	**28**	*i* P	**Pn**	**10 26 46.5**	**+0.3**
PET				AMB	AMB	10 26 49.1	
	comp=Z,18nm,0.4s						
PET				*i* S	**Sn**	**10 27 46.7**	**-0.7**
PET				A	A	10 27 52.5	
	comp=Z,45nm,0.4s						
PET				A	A	10 27 52.5	
	comp=Z,69nm,0.4s						
KUR	**Kuril'sk**	**5.46**	**239**	*c* PN	**Pn**	**10 26 49.3**	**+2.8**
KUR				*i* S	**Sn**	**10 27 51.0**	**+3.0**
KUR				pmax	pmax		
	comp=N,19nm,0.5s						
KUR				pmax	pmax		
	comp=Z,57nm,0.5s						
KUR				pmax	pmax		
	comp=E,13nm,0.2s						
KUR				smax	smax		
	comp=N,34nm,0.6s						
KUR				smax	smax		
	comp=E,15nm,0.6s						
KUR	**Kuril'sk**	**5.46**	**239**	*i* P	**Pn**	**10 26 48.5**	**+2.0**
KUR				AMB	AMB	10 26 51.2	
	comp=E,19nm,0.4s						
KUR				AMB	AMB	10 26 51.2	
	comp=E,13nm,0.4s						
KUR				AMB	AMB	10 26 51.2	
	comp=E,57nm,0.4s						
KUR				*e*S	**Sn**	**10 27 50.6**	**+2.6**
KUR				A	A	10 28 10.8	
	comp=E,55nm,0.5s						
KUR				A	A	10 28 10.8	
	comp=E,70nm,0.5s						
UGLR	**Uglovaya**	**5.65**	**28**	PN	**Pn**	**10 26 50.4**	**+1.2**
UGLR				S	**Sn**	**10 27 53.5**	**+0.7**
UGLR	**Uglovaya**	**5.65**	**28**	*e*P	**Pn**	**10 26 50.4**	**+1.2**
UGLR				*e*S	**Sn**	**10 27 53.5**	**+0.7**
KOK	**Koryaka**	**5.67**	**26**	PN	**Pn**	**10 26 50.7**	**+1.3**
KOK	**Koryaka**	**5.67**	**26**	*e*P	**Pn**	**10 26 50.7**	**+1.3**
KOK	**Koryaka**	**5.67**	**26**	*e*P	**Pn**	**10 26 50.7**	**+1.3**
AVH	**Avacha**	**5.68**	**27**	PN	**Pn**	**10 26 51.3**	**+1.8**
AVH	**Avacha**	**5.68**	**27**	*e*P	**Pn**	**10 26 51.3**	**+1.8**
SMAR	**Somma**	**5.69**	**27**	PN	**Pn**	**10 26 51.0**	**+1.2**
SMAR	**Somma**	**5.69**	**27**	*e*P	**Pn**	**10 26 51.0**	**+1.2**
KRER	**Koryakskii**	**5.71**	**27**	PN	**Pn**	**10 26 51.5**	**+1.4**
KRER				S	**Sn**	**10 27 54.9**	**+0.5**
KRER	**Koryakskii**	**5.71**	**27**	*e*P	**Pn**	**10 26 51.5**	**+1.4**
KRER				*e*S	**Sn**	**10 27 54.9**	**+0.5**
KRX	**Arik**	**5.73**	**26**	PN	**Pn**	**10 26 52.1**	**+1.8**
KRX	**Arik**	**5.73**	**26**	*e*P	**Pn**	**10 26 52.1**	**+1.8**
SDLR	**Sedlovina**	**5.73**	**28**	PN	**Pn**	**10 26 50.7**	**+0.4**
SDLR	**Sedlovina**	**5.73**	**28**	*e*P	**Pn**	**10 26 50.7**	**+0.4**
SDLR				*e*S	**Sn**	**10 27 53.5**	**-1.2**
NLC	**Nalytchevo**	**5.79**	**30**	*e*S	**Sn**	**10 27 53.2**	**-2.8**
GNL	**Ganaly**	**5.85**	**21**	PN	**Pn**	**10 26 54.1**	**+2.3**
GNL	**Ganaly**	**5.85**	**21**	*e*P	**Pn**	**10 26 54.1**	**+2.3**
YUK	**Yuzh-Kuril'sk**	**7.33**	**238**	*e*PN	**Pn**	**10 27 13.0**	**+0.9**
YUK				pmax	pmax		
	comp=Z,87nm,0.8s						
YUK				pmax	pmax		
	comp=N,41nm,0.6s						
YUK				pmax	pmax		
	comp=E,34nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**7.33**	**238**	*i* P	**Pn**	**10 27 13.0**	**+0.9**
YUK				AMB	AMB	10 27 14.4	
	comp=E,42nm,0.7s						
YUK				AMB	AMB	10 27 14.4	
	comp=E,35nm,0.7s						
YUK				AMB	AMB	10 27 14.4	
	comp=E,88nm,0.7s						
YU

GERES	**GERESS Array B**	**77.47**	**335**	P		**P**	**10 37 17.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=32,slow=7.8,SNR=3.5							
GERES	**GERESS Array B**	**77.47**	**335**	*e*P		**P**	**10 37 17.9**	**+0.4**
GERES	**GERESS Array B**	**77.47**	**335**	*e*P		**P**	**10 37 17.9**	**+0.4**
BRTR	**Keskin Array B**	**77.89**	**317**	P		**P**	**10 37 19.9**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=55,slow=4.7,SNR=3.9							

ISCJB ***07*** *10:31:22.6±0.5, 62.61°S±0.07°×57.2°W±0.3, h10km, mb4.4/15, MS3.6/7, Error ellipse: s-maj=17.0km s-min=10.4km az=177.2*

IDC ***07*** *10:31:22.4±0.7, 62.74°S×57.07°W, h0km, mb4.3/7, mb1 4.3/8, mb1mx4.0/25, mbtmp4.1/8, ML3.8/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/19, Error ellipse: s-maj=30.1km s-min=23.9km az=96.0*

NEIC ***07*** *10:31:23.9±0.4, 62.61°S×57.15°W, h10km, mb4.4/6, Error ellipse: s-maj=17.8km s-min=11.1km az=82.0*

ISC 07 10:31:23.9±0.5, **62.59S**±0.08×**57.36W**±0.10, **h10**km, **n34,** σ1§**42/28, mb4.4**/14, **MS3.6/7, South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**3.70**	**231**	Pn		**Pn**	**Pn**	**10 32 20.4**	**-0.6**
	0.7nm,0.3s,baz=48,slow=10,SNR=4.8								
PMSA				Sn			**Sb**	**10 33 14.3**	**+0.2**
	17nm,0.3s,baz=326,slow=17,SNR=7.4								
PMSA				LR		LR	LR	10 33 48.3	
	comp=Z,320nm,20.2s,baz=80,slow=39								
PMSA	**Palmer Station**	**3.70**	**231**	*e*Pn			**Pn**	**10 32 21.4**	**+0.4**
USHA	**Ushuaia**	**9.66**	**319**	LR		LR	LR	10 36 39.0	
	comp=Z,3μm,18.9s,baz=122,slow=32								
VNA1	**Neumayer--Stat**	**20.49**	**134**	P			Pn	10 36 07.2	+3.6
SNAA	**Sanae**	**22.20**	**137**	P			**P**	**10 36 23.0**	**+3.1**
SNAA	**Sanae**	**22.20**	**137**	P			**P**	**10 36 18.4**	**-1.5**
	2μm,1.3s								
PLCA	**Paso Flores**	**23.27**	**334**	LR		LR	LR	10 45 22.2	
	comp=Z,196nm,18.7s,baz=163,slow=36								
TRQA	**Tornquist**	**24.72**	**351**	*e*P			**P**	**10 36 46.3**	**+1.2**
	6.9nm,1.0s								
QSPA	**South Pole Qui**	**27.64**	**180**	*e*P			**P**	**10 37 13.7**	**+2.2**
	85nm,1.2s								
CPUP	**Villa Florida**	**36.25**	**0**	LR		LR	LR	10 51 44.8	
	comp=Z,48nm,21.9s,baz=174,slow=34								
VNDA	**Vanda**	**38.08**	**193**	LR		LR	LR	10 55 15.7	
	comp=Z,39nm,20.6s,baz=159,slow=38								
LVC	**Limon Verde**	**40.72**	**344**	*e*P			**P**	**10 39 05.1**	**+0.1**
	2.9nm,0.8s								
MAW	**Mawson**	**43.16**	**151**	P			**P**	**10 39 26.2**	**+2.3**
	1.6nm,0.6s,baz=239,slow=5.9,SNR=2.9								
MAW				LR		LR	LR	10 57 29.2	
	comp=Z,172nm,19.1s,baz=241,slow=36								
SIV	**San Ignacio**	**46.61**	**355**	P			**P**	**10 39 52.8**	**+0.8**
	2.4nm,0.7s,baz=171,slow=9.5,SNR=4.4								
LPAZ	**La Paz**	**46.86**	**346**	P			**P**	**10 39 55.9**	**+1.3**
	1.0nm,0.7s,baz=170,slow=7.9,SNR=3.8								
LPAZ				LR		LR	LR	11 01 30.5	
	comp=Z,58nm,18.1s,baz=173,slow=38								
BDFB	**Brasilia**	**47.35**	**12**	P			**P**	**10 39 59.0**	**+1.1**
	1.4nm,0.4s,baz=112,slow=5.4,SNR=3.9								
CASY	**Casey**	**51.13**	**174**	*e*P			**P**	**10 40 24.7**	**-1.4**
	3.9nm,1.8s								
SAML	**Samuel**	**53.70**	**353**	*e*P			**P**	**10 40 46.8**	**+1.1**
	2.1nm,0.5s								
BOSA	**Boshof**	**61.66**	**98**	P			**P**	**10 41 41.1**	**-0.7**
	5.9nm,1.1s,baz=243,slow=9.0,SNR=2.9								
BOSA				LR			LR	11 04 42.8	
	comp=Z,36nm,18.4s,baz=244,slow=32								
OTAV	**Otavalo**	**64.65**	**337**	*e*P			**P**	**10 42 00.8**	**-1.3**
	14nm,1.1s								
LBTB	**Lobatse**	**64.90**	**96**	P			**P**	**10 42 02.1**	**-1.1**
	4.6nm,0.9s,baz=221,slow=9.3,SNR=4.2								
ASAR	**Alice Springs**	**93.58**	**190**	P			**P**	**10 44 39.4**	**-0.7**
	0.9nm,1.1s,baz=160,slow=5.8,SNR=4.5								
WRA	**Warramunga Arr**	**97.23**	**191**	P			Pdif	10 44 57.5	+0.7
	0.3nm,0.6s,baz=179,slow=4.1,SNR=6.1								
TXAR	**Lajitas Array**	**98.79**	**320**	LR			LR	11 21 00.3	
	comp=Z,69nm,21.9s,baz=0.0,slow=30								
YKA	**Yellowknife Ar**	**131.98**	**328**	PKP			**PKPdf**	**10 50 37.4**	**+1.6**
	0.6nm,0.6s,baz=158,slow=1.7,SNR=4.5								
ILAR	**Eielson Array**	**143.06**	**315**	PKP			**PKPdf**	**10 50 55.5**	**-0.6**
	0.9nm,0.9s,baz=202,slow=3.8,SNR=4.2								
ARCES	**ARCESS Array B**	**144.05**	**36**	PKP			**PKPdf**	**10 50 58.0**	**+0.2**
	3.6nm,0.8s,baz=248,slow=1.0,SNR=6.1								
AAK	**Ala-Archa**	**145.70**	**103**	PKPbc			**PKPab**	**10 51 02.4**	**-0.1**
	5.1nm,0.7s,baz=225,slow=2.9,SNR=3.5								
SPITS	**Spitsbergen Ar**	**147.21**	**21**	PKPbc			**PKPab**	**10 51 06.6**	**-0.5**
	10nm,1.0s,baz=208,slow=4.9,SNR=4.5								
BVAR	**Borovoye Array**	**151.35**	**85**	PKPbc			**PKPbc**	**10 51 15.8**	**-0.5**
	5.2nm,0.7s,baz=207,slow=2.9,SNR=3.8								
MJAR	**Matsushiro Arr**	**152.20**	**208**	PKPbc			**PKPbc**	**10 51 18.2**	**-0.7**
	3.3nm,0.9s,baz=166,slow=1.8,SNR=6.7								
MKAR	**Makanchi Array**	**152.43**	**106**	PKPbc			**PKPbc**	**10 51 17.0**	**-2.0**
	2.6nm,0.9s,baz=211,slow=2.5,SNR=4.5								
KURBB	**Kurchatov Arra**	**153.51**	**96**	PKP			**PKPdf**	**10 51 11.7**	**-1.9**
	1.3nm,0.8s,baz=220,slow=1.4,SNR=4.8								
KURK	**Kurchatov**	**153.62**	**96**	PKP			**PKPdf**	**10 51 11.7**	**-2.0**

NIED ***07*** *10:38:00, 48.20°N×155.30°E, h44km, Mw5.1 Best double couple: M0 4.72000×10^16 NP1:φs349.00000°, δ35.00000°, λ11.00000°. NP2:φs251.00000°, δ84.00000°, λ124.00000°.*

JMA ***07*** *10:38:22.2±0.8, 48.24°N×155.28°E, h30km, M5.8*

BJI ***07*** *10:38:27.3, 48.19°N×154.57°E, h63km, mb5.2/79, mB4.9/52, Ms4.7/69, Ms7 4.5/70*

ISCJB ***07*** *10:38:28.2±0.3, 48.27°N±0.02×154.33°E±0.02, h51km±2km, mb5.3/398, MS4.5/54, Error ellipse: s-maj=3.1km s-min=1.5km az=152.7*

KRSC ***07*** *10:38:28.5±3.6, 48.25°N×154.65°E, h120km±43km, ML5.6*

MOS ***07*** *10:38:30.7±0.9, 48.43°N×154.24°E, h74km, mb5.4/118, MS4.5/47, Error ellipse: s-maj=7.0km s-min=3.2km az=73.6*

SKHL ***07*** *10:38:30.1±0.6, 48.20°N×154.60°E, h75km±3km, mb5.8/13, mbh5.8/2, Ms4.8/7*

IDC ***07*** *10:38:31.8±1.9, 48.33°N×154.23°E, h67km±17km, mb4.8/37, mb1 5.0/42, mb1mx4.9/50, mbtmp5.1/42, MS4.4/44, Ms1 4.4/44, ms1mx4.3/51, Error ellipse: s-maj=10.8km s-min=7.9km az=140.0*

NEIC ***07*** *10:38:32.7±0.4, 48.36°N×154.20°E, h75km±3km, mb5.3/292, Error ellipse: s-maj=3.2km s-min=1.7km az=155.0*

GCMT ***07*** *10:38:32.7±0.1, 48.28°N×154.58°E, h46km, MW5.3/109, Moment Tensor Solution. s91,c152; s109,c178; Duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr0.90±.02; Mθθ-0.23±.01; Mφφ-0.67±.01; Mrθ0.09±.01; Mθφ-0.47±.01; Mrφ0.23±.01; Best double couple: M0 0.96700×10^17 NP1:φs29.00000°, δ52.00000°, λ86.00000°. NP2:φs216.00000°, δ38.00000°, λ95.00000°. Principal axes: T 0.9350, Plg82.0000°, Azm279.0000°; N 0.0630, Plg3.0000°, Azm32.0000°; P -0.9980, Plg7.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 10:38:30.0±0.4, **48.27N**±0.03×**154.35E**±0.03, **h55**km±2km, **h55**km:**pP-P, n1578,** σ1§**30**/1673, **mb5.3**/399, **MS4.6**/57, **56C-56D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.68**	**25**	*e*PN			**Pn**	**10 39 10.3**	**-0.3**
SKR				*e*S			**Sn**	**10 39 41.6**	**-0.1**
SKR				pmax		pmax			
	comp=Z,3μm,1.3s								
SKR				smax		smax			
	comp=E,7μm,0.8s								
SKR				smax		smax			
	comp=N,11μm,0.7s								
SKR	**Severo-Kuril's**	**2.68**	**25**	*i* P			**Pn**	**10 39 10.2**	**-0.3**
SKR				AMB		AMB	AMB	10 39 15.0	
	comp=N,3μm,1.0s								
SKR				*e*S			**Sn**	**10 39 39.9**	**-1.8**
SKR				A		A	A	10 39 47.5	
	comp=N,11μm,0.8s								
SKR				A		A	A	10 39 47.5	
	comp=N,7μm,0.8s								
SKR				AMS		AMS	AMS	10 40 05.0	
	comp=N,14μm,12.0s								
SKR	**Severo-Kuril's**	**2.68**	**25**	*i* P			**Pn**	**10 39 10.4**	**-0.2**
SKR				*e*S			**Sn**	**10 39 41.6**	**-0.1**
ASAK	**Asacha**	**4.70**	**28**	PN			**Pn**	**10 39 38.8**	**+0.4**
ASAK				S			**Sn**	**10 40 30.9**	**-0.8**
ASAK	**Asacha**	**4.70**	**28**	*e*P			**Pn**	**10 39 38.8**	**+0.4**
ASAK				*e*S			**Sn**	**10 40 30.9**	**-0.8**
MTVR	**Mutnovka**	**4.88**	**29**	PN			**Pn**	**10 39 40.7**	**-0.2**
MTVR				S			**Sn**	**10 40 35.8**	**-0.3**
MTVR	**Mutnovka**	**4.88**	**29**	*e*P			**Pn**	**10 39 40.7**	**-0.2**
MTVR				*e*S			**Sn**	**10 40 35.8**	**-0.3**
RUS	**Russkaya**	**4.95**	**31**	PN			**Pn**	**10 39 40.5**	**-1.2**
RUS				S			**Sn**	**10 40 34.3**	**-3.2**
RUS	**Russkaya**	**4.95**	**31**	*e*P			**Pn**	**10 39 40.5**	**-1.2**
RUS				*e*S			**Sn**	**10 40 34.3**	**-3.2**
PEA0	**Petropavlovsk-**	**5.29**	**22**	*e*Pn			**Pn**	**10 39 47.6**	**+1.2**
PEA0B	**Petropavlovsk-**	**5.29**	**22**	*e*Pn			**Pn**	**10 39 47.9**	**+1.5**
PETK	**Petropavlovsk-**	**5.29**	**22**	P			**Pn**	**10 39 47.9**	**+1.4**
	comp=N,24nm,0.3s,baz=178,slow=11,SNR=317								
PETK				S			**Sn**	**10 40 47.4**	**+1.4**
	comp=N,9.6nm,0.3s,baz=144,slow=16,SNR=2.5								
PETK				LR			LR	10 41 59.2	
	comp=N,5μm,20.3s,baz=197,slow=39								
PEA1	**Petropavlovsk-**	**5.29**	**22**	*e*Pn			**Pn**	**10 39 47.9**	**+1.4**
PEA1				*e*Sn			**Sn**	**10 40 47.4**	**+1.3**
KUR	**Kuril'sk**	**5.39**	**238**	*c* iPN			**Pn**	**10 39 50.6**	**+2.8**
KUR				*i* S			**Sn**	**10 40 54.4**	**+5.9**
KUR				pmax		pmax			
	comp=E,385nm,0.6s								
KUR				pmax		pmax			
	comp=Z,2μm,0.6s								
KUR				pmax		pmax			
	comp=N,336nm,0.3s								
KUR				smax		smax			
	comp=N,11μm,2.1s								
KUR				smax		smax			
	comp=E,15μm,2.1s								
KUR				smax		smax			
	comp=N,3μm,1.0s								
KUR				smax		smax			
	comp=E,2μm,0.9s								
KUR				MLR		MLR			
	comp=E,4μm,13.0s								
KUR				MLR		MLR			
	comp=Z,7μm,13.0s								
KUR	**Kuril'sk**	**5.39**	**238**	*e*P			**Pn**	**10 39 49.6**	**+1.8**
KUR				AMB		AMB	AMB	10 39 53.4	
	comp=Z,159nm,0.4s								
KUR				AMB		AMB	AMB	10 39 53.4	
	comp=Z,174nm,0.4s								
KUR				AMB		AMB	AMB	10 39 53.4	
	comp=Z,805nm,0.4s								
KUR				*i* S			**Sn**	**10 40 49.9**	**+1.4**
KUR				A		A	A	10 41 03.6	
	comp=E,1μm,2.0s								
KUR				A		A	A	10 41 03.6	
	comp=E,1μm,2.0s								
KUR				A		A	A	10 41 07.0	
	comp=E,1μm,0.8s								
KUR				A		A	A	10 41 07.0	
	comp=Z,753nm,0.8s								
KUR				AMS		AMS	AMS	10 41 51.0	
	comp=Z,4μm,13.0s								
KUR				AMS		AMS	AMS	10 41 51.0	
	comp=Z,7μm,13.0s								
PET	**Petropavlovsk**	**5.49**	**28**	↓*i* PN			**Pn**	**10 39 49.4**	**+0.3**
PET				*e*S			**Sn**	**10 40 50.5**	**-0.3**
PET				smax		smax			
	comp=E,2μm,3.7s								
PET				smax		smax			
	comp=E,7μm,3.9s								
PET				smax		smax			
	comp=N,2μm,0.8s								
PET				smax		smax			
	comp=N,7μm,3.6s								
PET				smax		smax			
	comp=E,2μm,0.9s								
PET				MLR		MLR			
	comp=Z,3μm,17.0s								
PET				MLR		MLR			
	comp=Z,3μm,19.0s								
PET	**Petropavlovsk**	**5.49**	**28**	*i* P			**Pn**	**10 39 49.2**	**+0.1**
PET				AMB		AMB	AMB	10 39 56.0	
	comp=Z,670nm,1.0s								
PET				AMB		AMB	AMB	10 39 56.1	
	comp=Z,400nm,1.0s								
PET				*i* S			**Sn**	**10 40 48.6**	**-2.2**
PET				A		A	A	10 40 52.8	
	comp=Z,2μm,0.8s								
PET				A		A	A	10 40 52.8	
	comp=Z,2μm,0.8s								
PET				A		A	A	10 41 02.9	
	comp=Z,7μm,4.0s								
PET				AMS		AMS	AMS	10 42 13.4	
	comp=Z,3μm,19.0s								
PET	**Petropavlovsk**	**5.49**	**28**	*e*Pn			**Pn**	**10 39 48.8**	**-0.3**
PET				*e*Sn			**Sn**	**10 40 49.9**	**-1.0**
INSR	**Institute**	**5.51**	**28**	PN			**Pn**	**10 39 51.5**	**+2.1**
INSR				S			**Sn**	**10 40 51.6**	**+0.3**
INSR	**Institute**	**5.51**	**28**	*e*P			**Pn**	**10 39 51.5**	**+2.1**
INSR				*e*S			**Sn**	**10 40 51.6**	**+0.3**
DALK	**Dalny**	**5.53**	**29**	PN			**Pn**	**10 39 49.9**	**+0.3**
DALK				S			**Sn**	**10 40 49.6**	**-2.1**
DALK	**Dalny**	**5.53**	**29**	*e*P			**Pn**	**10 39 49.9**	**+0.3**
DALK				*e*S			**Sn**	**10 40 49.6**	**-2.1**
UGLR	**Uglovaya**	**5.70**	**28**	PN			**Pn**	**10 39 52.6**	**+0.5**
UGLR				S			**Sn**	**10 40 55.3**	**-0.9**
UGLR	**Uglovaya**	**5.70**	**28**	*e*P			**Pn**	**10 39 52.6**	**+0.5**
UGLR				*e*S			**Sn**	**10 40 55.3**	**-0.9**
AVH	**Avacha**	**5.72**	**27**	PN			**Pn**	**10 39 53.6**	**+1.2**
AVH				S			**Sn**	**10 40 56.8**	**+0.1**
AVH	**Avacha**	**5.72**	**27**	*e*P			**Pn**	**10 39 53.6**	**+1.2**
AVH				*e*S			**Sn**	**10 40 56.8**	**+0.1**
SMAR	**Somma**	**5.74**	**28**	PN			**Pn**	**10 39 53.6**	**+0.8**
SMAR				S			**Sn**	**10 40 56.2**	**-1.1**
SMAR	**Somma**	**5.74**	**28**	*e*P			**Pn**	**10 39 53.6**	**+0.8**
SMAR				*e*S			**Sn**	**10 40 56.2**	**-1.1**
KRER	**Koryakskii**	**5.76**	**27**	PN			**Pn**	**10 39 53.9**	**+0.9**
KRER	**Koryakskii**	**5.76**	**27**	*e*P			**Pn**	**10 39 53.9**	**+0.9**
KRX	**Arik**	**5.78**	**27**	PN			**Pn**	**10 39 54.5**	**+1.3**
KRX	**Arik**	**5.78**	**27**	*e*P			**Pn**	**10 39 54.5**	**+1.3**
SDLR	**Sedlovina**	**5.78**	**28**	PN			**Pn**	**10 39 53.0**	**-0.2**
SDLR	**Sedlovina**	**5.78**	**28**	*i* P			**Pn**	**10 39 53.0**	**-0.2**
NLC	**Nalytchevo**	**5.84**	**31**	PN			**Pn**	**10 39 52.1**	**-1.8**
NLC	**Nalytchevo**	**5.84**	**31**	*e*P			**Pn**	**10 39 52.1**	**-1.8**
NLC				*e*S			**Sn**	**10 40 55.0**	**-4.4**
GNL	**Ganaly**	**5.88**	**21**	PN			**Pn**	**10 39 56.3**	**+1.7**
GNL	**Ganaly**	**5.88**	**21**	*i* P			**Pn**	**10 39 56.3**	**+1.7**
KII	**Karymskiy**	**6.60**	**27**	PN			**Pn**	**10 40 05.5**	**+1.1**
KII	**Karymskiy**	**6.60**	**27**	*e*P			**Pn**	**10 40 05.5**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**7.26**	**237**	*c* iPN			**Pn**	**10 40 14.5**	**+1.1**
YUK				*i* S			**Sn**	**10 41 37.5**	**+3.2**
YUK				pmax		pmax			
	comp=Z,1μm,0.6s								
YUK				pmax		pmax			
	comp=E,61nm,0.4s								
YUK				pmax		pmax			
	comp=N,90nm,0.2s								
YUK				smax		smax			
	comp=E,4μm,1.1s								
YUK				smax		smax			
	comp=N,5μm,3.0s								
YUK				MLR		MLR			
	comp=Z,6μm,13.0s								
YUK				MLR		MLR			
	comp=E,6μm,11.0s								
YUK	**Yuzh-Kuril'sk**	**7.26**	**237**	*e*P			**Pn**	**10 40 14.5**	**+1.1**
YUK				AMB		AMB	AMB	10 40 15.8	
	comp=E,1μm,0.4s								
YUK				*e*S			**Sn**	**10 41 37.5**	**+3.2**
YUK				A		A	A	10 41 55.7	
	comp=E,5μm,2.0s								
YUK				A		A	A	10 41 55.7	
	comp=E,4μm,2.0s								
YUK				AMS		AMS	AMS	10 42 58.0	
	comp=E,6μm,12.0s								
YUK				AMS		AMS	AMS	10 42 58.0	
	comp=E,6μm,12.0s								
JRA	**Rausu**	**7.74**	**239**	P			**Pn**	**10 40 21.9**	**+2.0**
NEM2	**Nemuro 2**	**7.76**	**234**	P			**Pn**	**10 40 18.7**	**-1.5**
NEM2				*e*S			**Sn**	**10 41 44.8**	**-1.8**
MKZ	**Mys Kozlova**	**7.80**	**33**	PN			**Pn**	**10 40 18.1**	**-2.6**
MKZ	**Mys Kozlova**	**7.80**	**33**	*e*P			**Pn**	**10 40 18.1**	**-2.6**
MKZ				*e*S			**Sn**	**10 41 40.8**	**-6.7**
TUMR	**Tumrok**	**7.89**	**25**	PN			**Pn**	**10 40 25.3**	**+3.3**
TUMR	**Tumrok**	**7.89**	**25**	*e*P			**Pn**	**10 40 25.3**	**+3.3**
YSS	**Yuzh-Sakhalins**	**7.95**	**265**	K iPN			**Pn**	**10 40 26.5**	**+3.8**
YSS				pmax		pmax			
	comp=Z,720nm,0.7s								
YSS				MLR		MLR			
	comp=Z,2μm,17.0s								
YSS				MLR		MLR			
	comp=N,1μm,18.0s								
YSS				MLR		MLR			
	comp=E,2μm,18.0s								
YSS	**Yuzh-Sakhalins**	**7.95**	**265**	*i* P			**Pn**	**10 40 26.6**	**+3.8**
YSS				AMB		AMB	10 40 27.3		
	comp=E,720nm,0.7s								
YSS				*i* S			**Sn**	**10 41 54.0**	**+2.8**
YSS				A		A	A	10 41 58.2	
	comp=E,360nm,0.6s								
YSS				A		A	A	10 41 58.2	
	comp=E,720nm,0.6s								
YSS				AMS		AMS	AMS	10 43 07.0	
	comp=E,1μm,17.0s								
YSS				AMS		AMS	AMS	10 43 07.0	
	comp=E,2μm,17.0s								
YSS				AMS		AMS	AMS	10 43 07.0	
	comp=E,2μm,17.0s								
YSS	**Yuzh-Sakhalins**	**7.95**	**265**	*e*Pn			**Pn**	**10 40 26.6**	**+3.9**
YSS				*e*Sn			**Sn**	**10 41 52.1**	**+0.9**
TYV	**Tymovskoe**	**8.03**	**293**	*e*PN			**Pn**	**10 40 26.0**	**+2.1**
TYV				pmax		pmax			
	comp=Z,2μm,2.0s								
TYV				pmax		pmax			
	comp=Z,288nm,0.8s								
TYV				MLR		MLR			
	comp=E,6μm,19.0s								
TYV				MLR		MLR			
	comp=Z,6μm,20.0s								
TYV	**Tymovskoe**	**8.03**	**293**	*i* P			**Pn**	**10 40 27.9**	**+4.0**
TYV				AMB		AMB	10 40 31.7		
	comp=Z,260nm,0.9s								
TYV				AMB		AMB	10 41 32.0		
	comp=Z,2μm,2.0s								
TYV				AMS		AMS	10 44 26.0		
	comp=Z,70nm,19.0s								
TYV				AMS		AMS	10 44 26.0		
	comp=Z,6μm,19.0s								
TYV				AMS		AMS	10 44 26.0		
	comp=Z,6μm,19.0s								
ESO	**Esso**	**8.12**	**18**	PN			**Pn**	**10 40 26.4**	**+1.3**
ESO	**Esso**	**8.12**	**18**	*e*P			**Pn**	**10 40 26.4**	**+1.3**
UGL	**Uglegorsk**	**8.17**	**280**	*d* iPN			**Pn**	**10 40 30.0**	**+4.1**
UGL				S			**Sn**	**10 41 59.5**	**+2.8**
UGL				pmax		pmax			
	comp=Z,2μm,1.0s								
UGL				pmax		pmax			
	comp=Z,1μm,0.8s								
UGL				smax		smax			
	comp=N,220nm,0.5s								
UGL				smax		smax			
	comp=E,100nm,0.5s								
UGL				MLR		MLR			
	comp=Z,4μm,15.0s								
UGL				MLR		MLR			
	comp=N,2μm,12.0s								
UGL				MLR		MLR			
	comp=E,3μm,16.0s								
UGL	**Uglegorsk**	**8.17**	**280**	*e*P			**Pn**	**10 40 30.0**	**+4.1**
UGL				AMB		AMB	10 40 31.0		
	comp=E,2μm,1.0s								
UGL				AMB		AMB	10 40 32.0		
	comp=E,240nm,0.7s								
UGL				AMB		AMB	10 40 32.0		
	comp=E,170nm,0.7s								
UGL				AMB		AMB	10 40 32.0		
	comp=E,142nm,0.7s								
UGL				*e*S			**Sn**	**10 41 59.5**	**+2.8**
UGL				A		A	A	10 42 05.5	
	comp=E,220nm,0.5s								
UGL				A		A	A	10 42 05.5	
	comp=E,100nm,0.5s								
UGL				A		A	A	10 42 16.0	
	comp=E,1μm,9.0s								
UGL				A		A	A	10 42 16.0	
	comp=E,500nm,9.0s								
UGL				AMS		AMS	AMS	10 44 00.0	
	comp=E,2μm,14.0s								
UGL				AMS		AMS	AMS	10 44 00.0	
	comp=E,3μm,14.0s								
UGL				AMS		AMS	AMS	10 44 00.0	
	comp=E,4μm,14.0s								
JNK	**Nakash**	**8.19**	**239**	P			**Pn**	**10 40 26.6**	**+0.5**
KMNR	**Kamenistaya**	**8.33**	**24**	PN			**Pn**	**10 40 31.7**	**+3.7**
KMNR	**Kamenistaya**	**8.33**	**24**	*e*P			**Pn**	**10 40 31.7**	**+3.7**
JTKR	**Abashiri--Toko**	**8.43**	**243**	P			**Pn**	**10 40 31.6**	**+2.2**
KOZ	**Kozyrevsk**	**8.50**	**21**	PN			**Pn**	**10 40 33.1**	**+2.7**
KOZ	**Kozyrevsk**	**8.50**	**21**	*e*P			**Pn**	**10 40 33.1**	**+2.7**
KOZ	**Kozyrevsk**	**8.50**	**21**	*e*P			**Pn**	**10 40 33.1**	**+2.7**
KPT	**Kopyto**	**8.51**	**23**	PN			**Pn**	**10 40 33.1**	**+2.6**
KPT	**Kopyto**	**8.51**	**23**	*e*P			**Pn**	**10 40 33.1**	**+2.6**
KIRR	**Kirishev**	**8.53**	**23**	PN			**Pn**	**10 40 33.5**	**+2.7**
KIRR	**Kirishev**	**8.53**	**23**	*e*P			**Pn**	**10 40 33.5**	**+2.7**
BZMR	**Bezymyannaya**	**8.55**	**24**	PN			**Pn**	**10 40 32.8**	**+1.6**
BZMR	**Bezymyannaya**	**8.55**	**24**	*e*P			**Pn**	**10 40 32.8**	**+1.6**
JAK	**Akkeshi**	**8.57**	**236**	P			**Pn**	**10 40 29.9**	**-1.5**
JAK				*e*S			**Sn**	**10 42 04.7**	**-1.9**
ZLN	**Zelenaya**	**8.71**	**25**	PN			**Pn**	**10 40 34.8**	**+1.5**
ZLN	**Zelenaya**	**8.71**	**25**	*e*P			**Pn**	**10 40 34.8**	**+1.5**
LGNR	**Loginova**	**8.74**	**24**	PN			**Pn**	**10 40 32.5**	**-1.3**
LGNR	**Loginova**	**8.74**	**24**	*e*P			**Pn**	**10 40 32.5**	**-1.3**
JMP	**Maruseppu**	**8.74**	**245**	P			**Pn**	**10 40 36.2**	**+2.5**
JSE	**Soyaes**	**8.75**	**252**	P			**Pn**	**10 40 38.0**	**+4.2**
CIRR	**Tsirk**	**8.78**	**24**	PN			**Pn**	**10 40 34.6**	**+0.3**
CIRR	**Tsirk**	**8.78**	**24**	*e*P			**Pn**	**10 40 34

NKL pmax pmax
comp=E,300nm,1.1s
NKL pmax pmax
comp=Z,440nm,1.1s
NKL smax smax
comp=E,600nm,12.0s
NKL MLR MLR
comp=N,1µm,16.0s
NKL MLR MLR
comp=E,2µm,16.0s
NKL MLR MLR
comp=Z,4µm,16.0s
NKL Nikolayevsk 9.95 305 *e*P **Pn 10 40 52.0 +1.9**
NKL AMB AMB 10 40 55.0
comp=Z,500nm,5.0s
NKL AMB AMB 10 40 55.0
comp=Z,2µm,5.0s
NKL AMB AMB 10 40 55.0
comp=Z,2µm,5.0s
NKL AMB AMB 10 40 55.5
comp=Z,220nm,1.0s
NKL AMB AMB 10 40 55.5
comp=Z,300nm,1.0s
NKL AMB AMB 10 40 55.5
comp=Z,440nm,1.0s
NKL *e*S **Sn 10 42 42.0 +1.9**
NKL A A 10 42 58.0
comp=Z,600nm,12.0s
NKL AMS AMS 10 45 14.0
comp=Z,1µm,16.0s
NKL AMS AMS 10 45 14.0
comp=Z,2µm,16.0s
NKL AMS AMS 10 45 14.0
comp=Z,4µm,16.0s
BKI Bering 10.00 42 PN **Pn 10 40 47.4 -3.4**
BKI Bering 10.00 42 *e*P **Pn 10 40 47.4 -3.4**
BKI *e*S Sn 10 42 29.3 -12
JBT2 Biratori 2 10.04 241 P **Pn 10 40 51.5 +0.1**
JEM Erimo 10.08 236 P **Pn 10 40 51.0 -0.9**
JEM *e*S **Sn 10 42 40.8 -2.6**
JNBK Urakawa-nobuka 10.13 238 P **Pn 10 40 50.4 -2.2**
JNBK *e*S **Sn 10 42 40.2 -4.5**
JEW Eniwo 10.55 244 P **Pn 10 40 59.5 +1.2**
JSK Shakotan 10.86 248 P **Pn 10 41 04.6 +2.0**
JNB Noboribetsu 11.01 243 P **Pn 10 41 04.4 -0.3**
JNB *e*S **Sn 10 43 03.2 -3.0**
JKB Kayabe 11.37 241 P **Pn 10 41 07.1 -2.4**
JKB *e*S **Sn 10 43 08.7 -6.2**
JSH Shimam 11.51 246 P **Pn 10 41 12.0 +0.5**
MA2 Magadan 11.52 351 P **Pn 10 41 12.9 +1.3**
comp=Z,8.9nm,0.3s,baz=181,slow=13,SNR=24
MA2 LR LR 10 46 18.6
comp=Z,2µm,18.2s,baz=197,slow=41
JYM2 Yakumo 2 11.62 243 P **Pn 10 41 12.0 -1.0**
GRNR Gornyy 11.92 289 *e*P **Pn 10 41 20.0 +3.0**
GRNR AMB AMB 10 41 24.4
comp=Z,80nm,1.0s
JSR Shiriuchi 11.95 241 P **Pn 10 41 15.2 -2.3**
JTM Tenmabayashi 12.06 237 P **Pn 10 41 15.2 -3.9**
JANG Nango 12.11 234 P **Pn 10 41 15.0 -4.6**
JOSM Okushiri--Mats 12.18 245 P **Pn 10 41 18.9 -1.7**
JTH Tanohata 12.23 232 P Pn 10 41 16.2 -5.2
TEY Ternei 12.62 262 *e*P **Pn 10 41 28.0 +1.5**
TEY AMB AMB 10 41 32.0
comp=Z,95nm,1.0s
HABR Khabarovsk 12.84 278 *de*PN **Pn 10 41 27.7 -1.8**
HABR pmax pmax
comp=E,118nm,1.8s
HABR pmax pmax
comp=Z,105nm,1.8s
HABR pmax pmax
comp=N,7.0nm,0.9s
HABR MLR MLR
comp=Z,1µm,13.0s
OFUJ Ofunato 12.97 230 P Pn 10 41 26.3 -5.1
JRG Rokugo 13.28 233 P **Pn 10 41 31.0 -4.6**
SMY Shemya 13.33 63 *e*PN **Pn 10 41 33.8 -2.4**
SMY Shemya 13.33 63 *e*Pn **Pn 10 41 33.8 -2.4**
JOG2 Oga 2 13.37 237 P **Pn 10 41 32.6 -4.3**
JIO Ouri 13.61 229 P Pn 10 41 34.4 -5.7
JYA Atsumi 14.35 233 P **Pn 10 41 45.7 -4.4**
EKMR Ekimchan 14.38 298 *e*P **Pn 10 41 51.5 +1.2**
EKMR AMB AMB 10 42 01.5
comp=Z,350nm,1.0s
SEY Seymchan 14.74 356 P **Pn 10 41 55.5 +0.6**
comp=Z,1.1nm,0.3s,baz=169,slow=13,SNR=15
KLR Kul'dur 14.93 282 P **P 10 42 01.8 -0.2**
comp=Z,1.0nm,0.3s,baz=85,slow=12,SNR=64
KLR LR LR 10 48 04.0
comp=Z,2µm,18.7s,baz=88,slow=38
JFY Yanaizu 15.24 230 P **Pn 10 41 57.9 -3.8**
USRK Ussuriysk Ar. 15.98 264 P **Pn 10 42 12.4 +1.3**
comp=Z,5.4nm,0.3s,baz=67,slow=7.9,SNR=104
USRK LR LR 10 47 58.2
comp=Z,779nm,20.8s,baz=69,slow=36
VLA Vladivostok 16.50 260 *ce*P **Pn 10 42 16.8 -0.7**
VLA pmax pmax
comp=Z,141nm,0.8s
VLA Vladivostok 16.50 260 *e*P **Pn 10 42 16.8 -0.7**
MJAR Matsushiro Arr 16.68 231 P **Pn 10 42 17.1 -2.7**
comp=Z,2.8nm,0.3s,baz=29,slow=13,SNR=154
MJAR S **Sn 10 45 20.1 -4.1**
comp=Z,0.3nm,0.3s,baz=103,slow=39,SNR=2.5
MJAR LR LR 10 48 52.0
comp=Z,579nm,21.7s,baz=55,slow=37
MJB9 Matsu-Tunnel 16.68 231 *e*Pn **Pn 10 42 17.1 -2.8**
comp=Z,48nm,0.9s
MAJO Matsushiro 16.68 231 *ce*P **Pn 10 42 17.5 -2.4**
MAJO pmax pmax
comp=Z,404nm,0.9s
MAJO Matsushiro 16.68 231 *e*Pn **Pn 10 42 17.0 -2.9**
comp=Z,183nm,0.8s
MAT Matsushiro 16.68 231 P **Pn 10 42 16.8 -3.1**
MAT S **Sn 10 45 25.6 +1.5**
BMKR Bomnak 17.08 302 *e*P **P 10 42 26.0 +0.2**
BMKR AMB AMB 10 42 32.5
comp=Z,60nm,0.7s
MSHR Mys Shultsa 17.22 259 *de*P **Pn 10 42 26.0 -0.5**
MDJ Mudanjiang 17.43 267 P **Pn 10 42 29.1 0.0**
MDJ pP pP 10 42 40.5 -1.3
MDJ sP sP 10 42 47.7 -1.1
MDJ S **Sn 10 45 41.8 -0.3**
MDJ PcP **PcP 10 47 07.7 +0.3**
MDJ PcS **PcS 10 50 45.0 +1.5**
MDJ PMZ
comp=Z,71nm,1.1s
MDJ PMZ
comp=Z,350nm,4.9s
MDJ LN
comp=Z,650nm,21.5s
MDJ LE
comp=Z,670nm,23.7s
MDJ LZ
comp=Z,1µm,22.6s
MDJ Mudanjiang 17.43 267 *e*Pn **P 10 42 30.2 +0.6**
comp=Z,84nm,1.0s
MDJ *e*Sn **Sn 10 45 40.7 -1.4**
ZEA Zeya 17.85 298 *e*P **P 10 42 35.0 +0.7**
ZEA AMB AMB 10 42 39.0
comp=Z,400nm,4.0s
ZEA AMB AMB 10 42 40.6
comp=Z,42nm,1.0s
ZEA AMB AMB 10 42 40.6
comp=Z,110nm,1.0s
ZEA *e*S **Sn 10 45 42.5 -10**
ZEA A A 10 46 02.0
comp=Z,400nm,8.0s
ZEA AMS AMS 10 50 19.0
comp=Z,900nm,15.0s
ZEA AMS AMS 10 50 19.0
comp=Z,2µm,15.0s
ZEA AMS AMS 10 50 19.0
comp=Z,3µm,15.0s
KROS Kirovskiy 18.11 300 *e*P **Pn 10 42 39.0 +1.7**
KROS AMB AMB 10 42 46.6
comp=Z,9.0nm,0.6s
KROS AMB AMB 10 42 46.6
comp=Z,16nm,0.6s
KROS AMB AMB 10 42 46.6
comp=Z,25nm,0.6s
INU Inuyama 18.21 231 *e*P **P 10 42 37.7 -0.6**
comp=Z,243nm,0.9s
JHJ Hachijo jima 2 18.69 221 P **Pn 10 42 44.5 0.0**
comp=Z,7.5nm,0.3s,baz=45,slow=13,SNR=4.7
JHJ LR LR 10 50 11.9
comp=Z,229nm,21.1s,baz=62,slow=38
YAK Yakutsk 19.54 324 P **Pn 10 42 53.7 -0.7**
comp=Z,0.0nm,0.3s,baz=300,slow=23,SNR=32
YAK LR LR 10 50 17.1
comp=Z,1µm,20.8s,baz=126,slow=36
YAK Yakutsk 19.54 324 *e*P **P 10 42 53.3 +0.7**
YAK *e*S **S 10 46 27.4 -2.7**
YAK pmax pmax
comp=N,153nm,1.5s
YAK pmax pmax
comp=E,198nm,1.2s
YAK pmax pmax
comp=Z,344nm,1.2s
YAK smax smax
comp=N,169nm,2.0s
YAK smax smax
comp=E,198nm,2.7s
YAK MLR MLR
comp=Z,561nm,13.0s
YAK MLR MLR
comp=E,274nm,12.0s
YAK MLR MLR
comp=N,665nm,17.0s
YAK Yakutsk 19.54 324 *e*P **P 10 42 51.8 -0.8**
comp=N,212nm,0.8s
YAK *e*S **S 10 46 28.7 -1.3**
CLNS Chul'man 19.72 307 *e*P **Pn 10 42 58.8 +2.1**
CLNS pmax pmax
comp=N,157nm,1.0s
CLNS pmax pmax
comp=E,123nm,0.8s
CLNS pmax pmax
comp=Z,333nm,0.9s
CLNS MLR MLR
comp=Z,2µm,15.0s
CLNS MLR MLR
comp=E,1µm,17.0s
CLNS MLR MLR
comp=N,734nm,16.0s
CN2 Changchun 20.50 268 *e*P **P 10 43 01.4 -1.8**
CN2 *es*P sP 10 43 22.6 +0.1
CN2 *e*S **S 10 46 45.1 -4.2**
CN2 PMZ
comp=N,60nm,1.0s
CN2 LN
comp=N,500nm,21.0s
CN2 LE
comp=N,900nm,21.0s
CN2 LZ
comp=N,900nm,21.0s
BILL Bilibino 20.72 13 *c i*P **P 10 43 02.9 -2.6**
BILL *i* 10 43 26.6
BILL *i* SS Sn 10 47 09.7 +8.7
BILL pmax pmax
comp=Z,19nm,1.0s
BILL MLR MLR
comp=Z,1µm,18.0s
BILL Bilibino 20.72 13 *e*P **P 10 43 03.5 -2.0**
comp=Z,42nm,1.1s
BILL *e*S **S 10 46 49.2 -4.2**
KSRS Korea Array 22.07 250 P **P 10 43 21.0 +0.8**
comp=Z,159nm,0.9s,baz=51,slow=9.8,SNR=322
KSRS PcP **PcP 10 47 16.4 +0.4**
comp=Z,10nm,0.9s,baz=27,slow=0.8,SNR=11
KSRS LR LR 10 51 33.2
comp=Z,1µm,18.8s,baz=49,slow=35
KS01 Wonju Array Si 22.08 251 *e*P **P 10 43 20.2 -0.1**
KS01 *e*S **S 10 47 16.9 -3.5**
KS15 Wonju Array Si 22.11 250 *e*P **P 10 43 21.3 +0.8**
SNY Shenyang 22.57 265 ⇓P **P 10 43 24.6 -0.9**
SNY S **S 10 47 28.4 -0.6**
SNY PMZ
comp=Z,76nm,0.8s
SNY LN
comp=Z,920nm,16.4s
SNY LE
comp=Z,550nm,24.2s
SNY LZ
comp=Z,1µm,23.8s
INCN Inchon 22.87 252 P **P 10 43 29.2 +0.4**
SNR=22
INCN Inchon 22.87 252 *e*P **P 10 43 29.1 +0.4**
comp=Z,171nm,0.9s
TJN Taejon 23.10 249 *c i*P **P 10 43 31.0 +0.1**
CBIJ Chichi jima 23.17 209 *e*P **P 10 43 32.5 +0.8**
comp=Z,212nm,1.1s
JCJ Chichijima 23.17 209 P **P 10 43 31.6 -0.1**
comp=Z,114nm,0.9s,baz=161,slow=2.9,SNR=5.5
JCJ LR LR 10 51 27.0
comp=Z,229nm,20.5s,baz=24,slow=33
JNU Nakatsue 23.23 238 P **P 10 43 32.4 +0.1**
comp=Z,147nm,1.1s,baz=21,slow=7.4,SNR=27
JNU LR LR 10 53 33.4
comp=Z,433nm,18.1s,baz=49,slow=39
JNU Nakatsue 23.23 238 *e*P **P 10 43 32.7 +0.3**
JNU Nakatsue 23.23 238 *e*P **P 10 43 32.6 +0.3**
comp=Z,229nm,1.2s
GAMB Gambell 24.10 37 *e*P **P 10 43 40.5 +0.5**
comp=Z,132nm,1.1s
DL2 Dalian 25.32 261 ⇓*i*P **P 10 43 51.5 +0.2**
DL2 S **S 10 48 13.3 -0.1**
DL2 PMZ
comp=Z,190nm,0.9s
DL2 LE
comp=Z,830nm,21.6s
DL2 LZ
comp=Z,890nm,27.9s
BOD Bodaibo 25.70 307 *e*P P 10 44 07.4 +13
BOD pmax pmax
comp=Z,101nm,2.1s
TIXI Tiksi 26.26 342 LR LR 10 55 30.5
comp=Z,1µm,19.0s,baz=130,slow=39
TIXI Tiksi 26.26 342 ⇑*e*P **P 10 43 57.1 -2.4**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI MLR MLR
comp=Z,1µm,19.0s
TNA Tin City 26.30 35 *e*P **P 10 44 01.0 +1.0**
comp=Z,131nm,1.1s
BJI Beijing 28.36 267 P **P 10 44 18.8 +0.2**
BJI sP **sP 10 44 37.8 -1.2**
BJI S **S 10 49 01.5 +0.2**
BJI PMZ
comp=Z,16nm,0.8s
BJI PMZ
comp=Z,240nm,8.5s
BJI LN
comp=Z,630nm,17.8s
BJI LE
comp=Z,510nm,20.4s
BJI LZ
comp=Z,640nm,18.3s
JOW Kunigami 29.51 233 *e*P **P 10 44 29.4 +0.4**
comp=Z,64nm,0.8s
TIA Tai'an 29.79 260 ⇑P **P 10 44 31.7 +0.3**
TIA PMZ
comp=Z,30nm,0.9s
H11N2 WAKE ISLAND Hy 30.23 156 T T 11 16 15.3
baz=344,slow=76,SNR=5302
H11N1 WAKE ISLAND Hy 30.24 156 T T 11 16 10.9
baz=344,slow=76
H11N3 WAKE ISLAND Hy 30.24 156 T T 11 16 16.5
baz=344,slow=76,SNR=4305
SSE Sheshan 30.44 248 P **P 10 44 35.0 -2.2**
SSE sP **sP 10 44 57.2 -0.4**
SSE S **S 10 49 33.8 -0.3**
SSE sS **sS 10 49 55.9 -1.8**
SSE PMZ
comp=Z,23nm,0.7s
SSE PMZ
comp=Z,120nm,8.9s
SSE LN
comp=Z,270nm,27.8s
SSE LE
comp=Z,410nm,27.9s
SSE LZ
comp=Z,580nm,28.4s
TT01 Tatalina 30.72 43 *e*P **P 10 44 40.1 +0.7**
TTA Tatalina 30.73 43 *e*P **P 10 44 40.6 +1.1**
TTA pmax pmax
comp=Z,42nm,1.0s
TTA Tatalina 30.73 43 *e*P **P 10 44 40.6 +1.1**
comp=Z,42nm,1.0s
SVW2 Sparrevohn 30.83 47 *e*P **P 10 44 41.5 +1.1**
comp=Z,24nm,1.0s
HHC Hu-ho-hao-te 31.05 272 *e*P **P 10 44 42.9 +0.3**
HHC S **S 10 49 39.6 -4.1**
HHC PMZ
comp=Z,39nm,0.9s
HHC PMZ
comp=Z,130nm,5.0s
HHC LN
comp=Z,540nm,13.4s
HHC LE
comp=Z,770nm,14.0s
HHC LZ
comp=Z,750nm,14.5s
ULN Ulaanbaatar 31.22 287 *de*P **P 10 44 43.4 -0.7**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 31.22 287 *e*P **P 10 44 45.1 +1.1**
comp=Z,20nm,1.2s
NJ2 Nanjing 31.26 252 *e*P **P 10 44 45.0 +0.7**
NJ2 pP **pP 10 44 58.3 0.0**
NJ2 sP **sP 10 45 03.7 -1.1**
NJ2 S **S 10 49 47.5 +0.6**
NJ2 PMZ
comp=Z,32nm,0.7s
NJ2 LN
comp=Z,670nm,16.8s
NJ2 LE
comp=Z,700nm,17.9s
NJ2 LZ
comp=Z,1µm,20.1s
H11S1 WAKE ISLAND Hy 31.34 157 T T 11 17 39.2
baz=344,slow=76
H11S3 WAKE ISLAND Hy 31.35 157 T T 11 17 34.5
baz=344,slow=76,SNR=9346
H11S2 WAKE ISLAND Hy 31.36 157 T T 11 17 41.2
baz=344,slow=76,SNR=9062
SONA1 Songino Array 31.64 288 *e*P **P 10 44 47.0 -0.8**
SONA1 *e*PcP **PcP 10 47 38.6 0.0**
SONA0 Songino Array 31.65 288 *e*P **P 10 44 47.4 -0.5**
comp=Z,9.3nm,0.8s
SONA0 *e*PcP **PcP 10 47 38.2 -0.4**
SONM Songino Array 31.65 288 P **P 10 44 47.3 -0.5**
comp=Z,6.8nm,0.9s,baz=62,slow=9.5,SNR=18
SONM PcP **PcP 10 47 38.2 -0.4**
comp=Z,11nm,0.8s,baz=63,slow=2.1,SNR=14
SONM LR LR 10 58 48.0
comp=Z,2µm,18.5s,baz=71,slow=38
IRK Irkutsk 31.74 296 *e*P **P 10 44 51.6 +3.1**
IRK pmax pmax
comp=Z,25nm,2.0s
RSO Redoubt South 32.22 48 *e*P **P 10 44 53.5 +0.7**
TLY Talaya 32.25 295 P **P 10 44 53.0 0.0**
comp=Z,11nm,0.7s,baz=166,slow=4.5,SNR=19
TLY LR LR 10 59 17.3
comp=Z,2µm,18.2s,slow=39
TLY Talaya 32.25 295 *e*P **P 10 44 55.7 +2.7**
TLY pmax pmax
comp=Z,1.0nm,0.6s
TLY MLR MLR
comp=Z,1µm,16.7s
PPLA Purkeypile 32.48 43 *e*P **P 10 44 56.4 +1.4**
comp=Z,165nm,1.4s
SPU Mount Spurr 32.54 46 *e*P **P 10 44 56.4 +1.0**
ZAK Zakamensk 32.82 293 *e*P **P 10 44 57.7 -0.4**
ZAK *e* 10 45 19.8
ZAK *e* 10 47 40.5
ZAK pmax pmax
comp=Z,8.0nm,1.1s
ZAK Zakamensk 32.82 293 *e*P **P 10 44 57.7 -0.4**
BPAW Bear Paw Mtn. 33.05 41 *e*P **P 10 45 00.8 +0.9**
comp=Z,46nm,1.0s
KTH Kantishna Hill 33.06 42 *e*P **P 10 45 01.1 +1.1**
comp=Z,151nm,1.2s
SUA Susitna One 33.16 46 *e*P **P 10 45 00.9 0.0**
comp=Z,38nm,1.0s
MLY Manley 33.20 39 *e*P **P 10 45 02.1 +1.0**
comp=Z,39nm,1.0s
MLY *e*PcP **PcP 10 47 43.3 +0.8**
TRF Thorofare Moun 33.35 42 *e*P **P 10 45 03.3 +0.7**
comp=Z,50nm,1.0s
COLD Coldfoot 33.60 35 *e*P **P 10 45 05.3 +0.8**
comp=Z,28nm,0.8s
RC01 Rabbit Creek A 33.67 47 *e*P **P 10 45 05.6 +0.5**
comp=Z,48nm,1.0s
BWN Browne 33.72 41 *e*P **P 10 45 07.4 +1.8**
comp=Z,619nm,1.5s
SEW Seward 33.88 48 *e*P **P 10 45 06.7 -0.3**
comp=Z,31nm,1.0s
PMR Palmer 33.93 46 *e*P **P 10 45 07.5 +0.1**
PMR *e* 10 47 44.8
PMR pmax pmax
comp=Z,33nm,1.0s
PMR Palmer 33.93 46 *e*P **P 10 45 07.5 +0.1**
PMR Palmer 33.93 46 *e*P **P 10 45 07.5 +0.1**
comp=Z,32nm,1.0s
PMR *e*PcP **PcP 10 47 44.8 +0.4**
MCK McKinley 33.95 42 *e*P **P 10 45 08.0 +0.4**
MCK pmax pmax
comp=Z,74nm,1.0s
MCK McKinley 33.95 42 *e*P **P 10 45 08.0 +0.4**
MCK McKinley 33.95 42 *e*P **P 10 45 08.0 +0.4**
comp=Z,74nm,1.0s
RND Reindeer 33.99 42 *e*P **P 10 45 08.1 0.0**
RND pmax pmax
comp=Z,88nm,1.0s
RND Reindeer 33.99 42 *e*P **P 10 45 08.1 0.0**
comp=Z,88nm,1.0s
MDM Murphy Dome 34.27 40 *e*P **P 10 45 11.0 +0.7**
comp=Z,58nm,0.9s
SML Sawmill 34.30 45 *e*P **P 10 45 11.1 +0.4**
SML pmax pmax
comp=Z,210nm,0.9s
SML Sawmill 34.30 45 *e*P **P 10 45 11.1 +0.4**
comp=Z,214nm,0.9s
WRH Wood River Hil 34.32 40 *e*P **P 10 45 11.5 +0.7**
comp=Z,93nm,1.3s
COLA College 34.43 40 *c i*P **P 10 45 12.4 +0.7**
COLA pmax pmax
comp=Z,120nm,1.0s
COLA College 34.43 40 *e*P **P 10 45 12.4 +0.7**
COLA College 34.43 40 *e*P **P 10 45 12.7 +1.0**
comp=Z,176nm,1.1s
CCB Clear Creek Bu 34.45 40 *e*P **P 10 45 12.3 +0.5**
comp=Z,41nm,0.9s
DHY Denali Highway 34.67 43 *e*P **P 10 45 14.2 +0.1**
comp=Z,88nm,1.2s
HDA Harding Lake 34.82 41 *e*P **P 10 45 14.8 -0.3**
comp=Z,27nm,0.6s
IL1 Eielson Array 34.84 40 *e*P **P 10 45 15.1 -0.2**
ILAR Eielson Array 34.84 40 P **P 10 45 15.3 +0.1**
comp=Z,20nm,0.9s,baz=258,slow=8.4,SNR=171
ILAR LR LR 11 00 02.4
comp=Z,327nm,21.6s,baz=274,slow=37
ILB Eielson Array 34.84 40 *e*P **P 10 45 15.3 +0.1**
WHN Wuhan 35.14 254 ⇑P **P 10 45 18.5 +0.3**
WHN S **S 10 50 45.5 -1.6**
WHN PMZ
comp=Z,130nm,0.6s
WHN LN
comp=Z,960nm,18.4s
WHN LE
comp=Z,650nm,11.8s
WHN LZ
comp=Z,760nm,20.9s
KLU Klutina 35.47 46 *e*P **P 10 45 21.2 +0.4**
comp=Z,75nm,1.1s
FYU Fort Yukon 35.52 37 *e*P **P 10 45 22.6 +1.5**
comp=Z,175nm,1.0s
PAX Paxson 35.55 43 *e*P **P 10 45 22.6 +1.2**
PAX *e* 10 47 50.1
PAX pmax pmax
comp=Z,31nm,1.1s
PAX Paxson 35.55 43 *e*P **P 10 45 22.6 +1.2**
comp=Z,31nm,1.1s
PAX *e*PcP **PcP 10 47 50.0 +0.8**
DIV Divide 35.58 46 *e*P **P 10 45 22.4 +0.6**
comp=Z,78nm,1.0s
EYAK Cordova Ski Ar 35.66 47 *e*P **P 10 45 22.6 +0.3**
comp=Z,34nm,1.0s
SSLB Suanglung 35.96 239 *e*P **P 10 45 26.0 +0.6**
comp=Z,32nm,0.9s
YULB Yu-li 36.08 238 *e*P **P 10 45 27.1 +0.8**
comp=Z,29nm,0.9s
DOT Dot Lake 36.12 42 *e*P **P 10 45 26.0 -0.3**
comp=Z,58nm,0.9s
BMRM Bremner River 36.17 46 *e*P **P 10 45 27.5 +0.8**
comp=Z,93nm,1.0s
BMRM *e*PcP **PcP 10 47 52.1 +1.0**
RAGM Ragged Mountai 36.21 47 *e*P **P 10 45 28.3 +1.1**

comp=Z,89nm,1.2s
MENT Mentasta 36.34 43 *e*P P **10 45 29.3 +1.0**
comp=Z,27nm,1.0s
QZH Quanzhou 36.46 243⇑ *i*P P 10 45 24.4 -5.2
QZH S S 10 50 58.1 -9.4
QZH PMZ
comp=Z,170nm,0.9s
QZH PMZ
comp=Z,520nm,4.9s
QZH LZ
comp=Z,1µm,26.7s
XAN Xi'an 36.49 264 P P **10 45 29.5 -0.3**
XAN SS SS 10 53 37.4 -11
XAN PMZ
comp=Z,72nm,8.5s
XAN LZ
comp=Z,770nm,21.4s
TPUB Ta-pu 36.53 239 *e*P P **10 45 30.6 +0.4**
comp=Z,76nm,0.7s
TPUB *e*PcP PcP **10 47 53.5 +0.7**
TWG Pinlang 36.65 238 *e*P P **10 45 31.3 +0.1**
comp=Z,391nm,0.9s
CRQM Cirque 36.91 46 *e*P P **10 45 34.5 +1.3**
comp=Z,216nm,1.0s
BALM Baldy 37.24 46 *e*P P **10 45 37.0 +1.0**
BALM pmax pmax
comp=Z,63nm,1.0s
BALM Baldy 37.24 46 *e*P P **10 45 37.0 +1.0**
comp=Z,63nm,1.0s
EGAK Eagle 37.29 40 *e*P P **10 45 36.3 +0.1**
comp=Z,90nm,0.9s
NRIK Noril'sk 37.90 328 P P **10 45 40.0 -1.2**
comp=Z,1.7nm,0.3s,baz=80,slow=4.7,SNR=3.8
NRIK PcP PcP **10 47 56.1 -0.1**
comp=Z,14nm,1.0s,baz=112,slow=7.2,SNR=4.2
NRIK LR LR 11 02 39.9
comp=Z,484nm,19.0s,baz=84,slow=38
DAWY Dawson 38.13 41 *e*P P **10 45 44.1 +0.7**
comp=Z,28nm,1.0s
ENH Enshi 38.48 259 *e*P P **10 45 46.6 0.0**
comp=Z,80nm,1.1s
ENH *e*PcP PcP **10 47 59.5 +0.8**
LZH Lanzhou 38.69 271 *e*P P **10 45 49.9 +1.4**
LZH pP pP 10 46 05.3 +2.6
LZH sP sP 10 46 14.0 +4.8
LZH PMZ
comp=Z,91nm,1.0s
LZH PMZ
comp=Z,120nm,5.7s
LZH LN
comp=Z,700nm,15.3s
LZH LE
comp=Z,560nm,13.9s
LZH LZ
comp=Z,860nm,16.5s
GTA Gaotai 39.58 278 *e*P P **10 45 56.9 +1.1**
GTA pP pP 10 46 13.0 +2.9
GTA sP sP 10 46 19.8 +3.3
GTA PP **PnPn** **10 47 30.9 +0.1**
GTA PcP PcP **10 48 02.8 +0.7**
GTA S S **10 51 53.4 -1.2**
GTA sS sS 10 52 20.7 +2.1
GTA SS SS **10 54 43.5 -7.4**
GTA PMZ
comp=Z,10.0nm,1.1s
GTA PMZ
comp=Z,85nm,6.4s
GTA LN
comp=Z,530nm,18.1s
GTA LE
comp=Z,920nm,18.1s
GTA LZ
comp=Z,1µm,18.5s
INK Inuvik 39.92 33 P P **10 45 59.4 +1.3**
comp=Z,25nm,0.7s,baz=277,slow=6.5,SNR=43
INK Inuvik 39.92 33 *e*P P **10 45 59.5 +1.4**
INK Inuvik 39.92 33 *e*P P **10 45 59.4 +1.3**
comp=Z,52nm,1.0s
SKAG Skagway 41.01 47 *e*P P **10 46 09.5 +2.2**
comp=Z,131nm,1.6s
CD2 Chengdu 41.85 264 P P **10 46 13.0 -1.6**
CD2 pP pP 10 46 27.9 -1.0
CD2 sP sP 10 46 34.9 -0.4
CD2 PcS PcS **10 52 00.2 -1.1**
CD2 S S **10 52 26.3 -2.2**
CD2 sS sS 10 52 52.1 -0.5
CD2 SS SS **10 55 34.9 -1.3**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,220nm,5.0s
CD2 LN
comp=Z,800nm,19.6s
CD2 LE
comp=Z,530nm,18.6s
CD2 LZ
comp=Z,740nm,21.1s
ZAA1 Zalesovo Array 42.41 305 *e*P P **10 46 17.8 -1.0**
ZAA1 *e*PcP PcP **10 48 10.8 -0.1**
ZAA0 Zalesovo Array 42.42 305 *e*P P **10 46 18.2 -0.6**
ZAA0 *e*PcP PcP **10 48 11.6 +0.6**
ZALV Zalesovo Beam 42.42 305 P P **10 46 17.8 -1.0**
comp=Z,6.0nm,0.5s,baz=66,slow=6.8,SNR=20
ZALV PcP PcP **10 48 10.8 -0.1**
comp=Z,38nm,0.8s,baz=70,slow=3.3,SNR=32
ZALV LR LR 11 04 44.9
comp=Z,862nm,21.0s,baz=70,slow=37
GYA Guiyang 42.87 257⇑ *i*P P **10 46 22.8 -0.2**
GYA pP pP 10 46 39.2 +1.9
GYA sP sP 10 46 46.4 +2.7
GYA PP PP **10 48 06.0 +2.8**
GYA PcP PcP **10 48 15.6 +2.5**
GYA ScP ScP **10 51 59.8 +0.7**
GYA S S **10 52 42.2 -1.4**
GYA sS sS 10 53 08.9 +1.0
GYA ScS ScS **10 56 17.0 -1.7**
GYA PMZ
comp=Z,110nm,1.0s
GYA PMZ
comp=Z,90nm,4.0s
WRAK Wrangell Islan 43.51 51 *e*P P **10 46 30.2 +2.7**
comp=Z,34nm,1.1s
TGY Tagaytay City 43.84 230 LR LR 11 05 45.1
comp=Z,146nm,20.4s,baz=16,slow=37
DLBC Dease Lake 43.94 47 P P **10 46 32.6 +1.5**
comp=Z,28nm,1.0s,baz=288,slow=9.1,SNR=30
DLBC Dease Lake 43.94 47 *e*P P **10 46 33.6 +2.4**
comp=Z,60nm,1.1s
WMQ Urumqi 45.17 290 P P **10 46 42.0 +0.9**
WMQ pP pP 10 46 56.7 +1.1
WMQ sP sP 10 47 04.6 +2.6
WMQ PcP PcP **10 48 22.7 +2.1**
WMQ S S **10 53 16.0 -0.7**
WMQ SS ScS **10 56 30.0 -2.7**
WMQ PMZ
comp=Z,10.0nm,0.8s
WMQ PMZ
comp=Z,76nm,5.8s
WMQ LN
comp=Z,490nm,18.4s
WMQ LE
comp=Z,370nm,17.0s
WMQ LZ
comp=Z,400nm,23.4s
QIZ Qiongzhong 46.22 247 P P **10 46 50.4 +0.8**
QIZ pP pP **10 47 02.9 -1.2**
QIZ S S **10 53 32.9 +0.8**
QIZ LN
comp=Z,290nm,16.5s
QIZ LE
comp=Z,300nm,16.7s
QIZ LZ
comp=Z,490nm,15.3s
QIZ Qiongzhong 46.22 247 *e*P P **10 46 51.5 +1.9**
comp=Z,77nm,1.2s
KMI Kunming 46.35 259 P P **10 46 51.2 +0.4**
KMI pP pP 10 47 00.9 -4.4
KMI PP PP **10 48 41.3 +1.0**
KMI S S **10 53 31.1 -3.2**
KMI PMZ
comp=Z,64nm,1.1s
KMI LN
comp=Z,350nm,17.8s
KMI LE
comp=Z,230nm,16.6s
KMI LZ
comp=Z,300nm,22.1s
MK31 Makanchi Array 47.00 297 P P **10 46 55.4 0.0**
MK31 pmax pmax
comp=Z,26nm,1.1s
MK31 Makanchi Array 47.00 297 *e*P P **10 46 54.4 -1.0**
MK32 Makanchi Array 47.00 297 *e*P P **10 46 54.1 -1.3**
MK32 *e*PcP PcP **10 48 26.2 -0.7**
MKAR Makanchi Array 47.00 297 P P **10 46 54.1 -1.3**
comp=Z,14nm,0.8s,baz=64,slow=8.7,SNR=69
MKAR PcP PcP **10 48 26.2 -0.7**
comp=Z,12nm,0.8s,baz=49,slow=3.9,SNR=6.2
MKAR LR LR 11 08 20.2
comp=Z,1µm,18.5s,baz=43,slow=38
MKAR Makanchi Array 47.00 297 *e*P P **10 46 54.4 -1.0**
MK01 Makanchi Array 47.00 297 *e*P P **10 46 54.1 -1.3**
MAKZ Makanchi 47.18 297 P P **10 46 56.3 -0.5**
MAKZ pmax pmax
comp=Z,12nm,1.0s
MAKZ Makanchi 47.18 297 *e*P P **10 46 56.7 -0.1**
comp=Z,21nm,1.3s
KURBB Kurchatov Arra 47.33 303 PcP PcP **10 48 28.5 +0.6**
comp=Z,24nm,0.9s,baz=66,slow=3.1,SNR=10
DAV Davao City (W) 47.76 220 LR LR 11 06 24.8
comp=Z,135nm,21.8s,baz=14,slow=35
RES Resolute Bay 49.12 19 P P **10 47 12.0 +0.6**
comp=Z,44nm,0.9s,baz=6.4,slow=3.8,SNR=26
RES Resolute Bay 49.12 19 *e*P P **10 47 12.0 +0.6**
comp=Z,37nm,0.8s
YKW3 Yellowknife Ar 49.17 38 *e*P P **10 47 12.9 +1.0**
comp=Z,72nm,1.0s
YKA Yellowknife Ar 49.20 38 P P **10 47 13.0 +0.8**
comp=Z,50nm,0.9s,baz=298,slow=7.5,SNR=331
YKA PcP PcP **10 48 34.8 +0.3**
comp=Z,2.5nm,0.9s,baz=306,slow=3.6,SNR=3.9
YKA Yellowknife Ar 49.20 38 P P **10 47 13.0 +0.8**
YKA 10 48 34.8
YKA pmax pmax
comp=Z,49nm,0.9s
YKA Yellowknife Ar 49.20 38 *e*P P **10 47 13.0 +0.8**
YKB5 Yellowknife Ar 49.20 38 *e*P P **10 47 12.1 -0.1**
YKB5 *e*PcP PcP **10 48 34.8 +0.3**
CHKZ Chkalovo 50.10 310 *i* P P **10 47 18.2 -0.9**
CHKZ pmax pmax
comp=Z,31nm,0.6s
PDGK Podgornoye 50.50 294 P P **10 47 22.7 +0.4**
PDGK pmax pmax
comp=Z,10.0nm,1.1s
BVA0 Borovoye Array 50.55 309 *i* P P **10 47 22.4 -0.1**
BVA0 pmax pmax
comp=Z,14nm,0.5s
BVAR Borovoye Array 50.55 309 LR LR 11 10 51.9
comp=Z,1µm,18.2s,baz=71,slow=38
BRVK Borovoye 50.59 309 P P **10 47 22.4 -0.4**
BRVK pmax pmax
comp=Z,89nm,0.6s
BRVK Borovoye 50.59 309 *e*P P **10 47 22.4 -0.4**
BRVK Borovoye 50.59 309 *e*P P **10 47 22.3 -0.5**
comp=Z,80nm,0.6s
BRVK *e*PcP PcP **10 48 40.1 +0.4**
LSA Lhasa 51.03 273 P P **10 47 30.4 +3.4**
LSA PMZ
comp=Z,14nm,0.7s
SPITS Spitsbergen Ar 51.26 350 P P **10 47 26.3 -1.3**
comp=Z,3.6nm,0.8s,baz=62,slow=5.8,SNR=9.1
SPITS PcP PcP **10 48 42.8 +1.0**
comp=Z,20nm,0.8s,baz=166,slow=4.8,SNR=8.5
SPITS LR LR 11 11 56.6
comp=Z,156nm,18.1s,baz=35,slow=39
ZRNK Zerenda 51.30 309 *i* P P **10 47 27.1 -1.1**
ZRNK pmax pmax
comp=Z,25nm,0.8s
ZRNK Zerenda 51.30 309 *e*P P **10 47 27.9 -0.3**
comp=Z,23nm,0.6s
SKNT Sakolnakorn 51.41 251 P P **10 47 30.3 +0.9**
comp=Z,84nm,1.0s
GENI Genyem 52.15 198 P P **10 47 35.2 +0.4**
comp=Z,98nm,1.1s,comp=Z,4µm
A04D Lummi Island 52.27 56 P P **10 47 36.7 +1.3**
baz=303
NLWA Neilton Lookou 52.35 58 *e*P P **10 47 37.2 +1.1**
comp=Z,40nm,1.1s
KHON Khomkaen 52.62 251 P P **10 47 39.7 +1.3**
comp=Z,33nm,1.0s
MYLDM Lahad Datu 52.69 227 *e*P P **10 47 39.4 +0.5**
comp=Z,52nm,1.2s
LOEI Loei 52.74 253 P P **10 47 37.8 -1.5**
comp=Z,27nm,1.3s
B05A Bryant 52.86 56 P P **10 47 40.5 +0.7**
baz=304,SNR=6.8
SWI Sorong 52.89 209 P P **10 47 40.0 -0.3**
comp=Z,65nm,0.9s,comp=Z,914nm
SWI Sorong 52.89 209 P P **10 47 41.2 +0.9**
SWI pmax pmax
comp=Z,65nm,0.9s
UTTA Uttaradit 53.02 254 P P **10 47 42.6 +1.3**
comp=Z,8.3nm,0.9s,comp=Z,81nm
LAMP Lampang 53.05 256 P P **10 47 43.0 +1.4**
comp=Z,26nm,0.9s,comp=Z,224nm
B06A Marblemount 53.06 56 *e*P P **10 47 42.1 +0.8**
comp=Z,29nm,1.1s
TKM2 Tokmak 2 53.09 296 *e*P P **10 47 41.6 -0.2**
TKM2 pmax pmax
comp=Z,19nm,0.9s
TKM2 Tokmak 2 53.09 296 *e*P P **10 47 41.6 -0.2**
comp=Z,19nm,0.8s
SHL Shillong 53.25 268⇑ *i*P P **10 47 44.0 +0.8**
CHTO Chiang Mai 53.29 257 P P **10 47 44.1 +0.8**
comp=Z,412nm,0.9s,comp=Z,4µm
CHTO Chiang Mai 53.29 257 *e*P P **10 47 44.4 +1.1**
CHTO pmax pmax
comp=Z,70nm,0.9s
CHTO Chiang Mai 53.29 257 P P **10 47 44.5 +1.2**
SNR=22
CHTO Chiang Mai 53.29 257 *e*P P **10 47 44.4 +1.1**
CHTO Chiang Mai 53.29 257 *e*P P **10 47 44.4 +1.1**
comp=Z,70nm,0.8s
SVE Sverdlovsk 53.29 317 *e*P P **10 47 42.7 -0.1**
SVE pmax pmax
comp=Z,17nm,0.9s
SVE Sverdlovsk 53.29 317 *e*P P **10 47 42.7 -0.1**
CHAI Chaiyaphum 53.48 251 P P **10 47 45.3 +0.6**
comp=Z,17nm,1.2s,comp=Z,238nm
CMAR Chiang Mai Arr 53.55 256 P P **10 47 46.5 +1.3**
comp=Z,38nm,0.8s,baz=33,slow=7.2,SNR=105
CMAR PcP PcP **10 48 52.2 +0.9**
comp=Z,12nm,0.8s,baz=12,slow=2.7,SNR=6.7
CMAR LR LR 11 12 18.3
comp=Z,410nm,18.3s,baz=58,slow=38
CMAR Chiang Mai Arr 53.55 256 P P **10 47 46.5 +1.3**
CMAR 10 48 52.3
CMAR pmax pmax
comp=Z,39nm,0.8s
CMAR MLR MLR
comp=Z,410nm,18.3s
CM01 Chiang Mai Arr 53.56 256 *e*P P **10 47 46.5 +1.2**
F04D Rainier, OR 53.57 59 P P **10 47 45.7 +0.7**
baz=305
PBKT Sadao Pong 53.62 253 P P **10 47 46.7 +1.0**
comp=Z,26nm,1.3s
C06D Leavenworth 53.72 56 P P **10 47 47.1 +0.9**
305
FRU Bishkek 53.73 296 *e*P P **10 47 45.0 -1.3**
FRU pmax pmax
comp=Z,25nm,1.9s
OBSR Observation Ro 53.79 58 *e*P P **10 47 48.0 +1.0**
SUKH Sukhothai 53.81 255 P P **10 47 48.7 +1.6**
comp=Z,11nm,1.0s,comp=Z,96nm
LON Longmire 53.88 58 *e*P P **10 47 48.1 +0.8**
LON pmax pmax
comp=Z,29nm,1.7s
LON Longmire 53.88 58 *e*P P **10 47 48.1 +0.8**
comp=Z,29nm,1.8s
AAK Ala-Archa 53.91 296 P P **10 47 48.1 +0.2**
comp=Z,7.1nm,0.8s,baz=79,slow=5.9,SNR=13
AAK PcP PcP **10 48 53.3 +0.6**
comp=Z,10nm,0.9s,baz=232,slow=0.8,SNR=4.8
AAK LR LR 11 12 06.2
comp=Z,534nm,21.8s,baz=30,slow=37
AAK Ala-Archa 53.91 296 *i* P P **10 47 47.4 -0.4**
AAK pmax pmax
comp=Z,21nm,0.9s
AAK Ala-Archa 53.91 296 *e*P P **10 47 47.4 -0.4**
AAK Ala-Archa 53.91 296 *e*P P **10 47 47.6 -0.2**
comp=Z,124nm,1.0s
AAK *e*PcP PcP **10 48 53.3 +0.6**
G03D McMinnville, O 53.92 60 P P **10 47 48.5 +0.9**
baz=305
F04A Amboy 53.99 59 *e*P P **10 47 49.2 +1.0**
comp=Z,28nm,0.9s
EKS2 Erkin-Say 54.33 296 *e*P P **10 47 51.9 +1.1**
EKS2 pmax pmax
comp=Z,19nm,0.8s
EKS2 Erkin-Say 54.33 296 *e*P P **10 47 51.9 +1.1**
comp=Z,19nm,0.8s
B08A Colville Reser 54.34 55 *e*P P **10 47 51.0 +0.3**
comp=Z,35nm,1.1s
ARU Arti 54.46 317 LR LR 11 12 39.1
comp=Z,462nm,21.0s,baz=44,slow=38
ARU Arti 54.46 317 *d i*P P **10 47 50.5 -0.9**
ARU *PP **pP** **10 48 06.8 +0.6**
ARU 10 48 53.4
ARU 10 49 52.1
ARU S S **10 55 26.2 +0.5**
ARU SS SS **10 59 07.5 -0.4**
ARU pmax pmax
comp=Z,30nm,1.0s
ARU MLR MLR
comp=Z,475nm,22.0s
ARU Arti 54.46 317 *e*P P **10 47 50.5 -0.9**
ARU Arti 54.46 317 *e*P P **10 47 50.7 -0.6**
comp=Z,25nm,0.9s
I03D Drain, OR 54.75 62 P P **10 47 55.1 +1.5**
baz=306
H04A Detroit Lake 54.85 60 *e*P P **10 47 55.3 +0.9**
comp=Z,102nm,1.8s
KSH Kashi 54.85 292 P P **10 47 58.9 +4.3**
KSH pP sP 10 48 14.0 -1.8
KSH PcP PcP **10 48 58.5 +2.3**
KSH PP PP **10 50 03.5 +5.9**
KSH S S **10 55 32.0 +0.3**
KSH ScS ScS **10 57 39.2 +0.3**
KSH SS SS **10 59 19.4 +4.3**
KSH PMZ
comp=Z,5.0nm,0.7s
KSH PMZ
comp=Z,67nm,4.4s
KSH LN
comp=Z,370nm,12.8s
KSH LE
comp=Z,670nm,15.1s
KSH LZ
comp=Z,1µm,18.9s
SRAK Srakaew 54.87 250 P P **10 47 53.5 -1.3**
comp=Z,123nm,1.1s,comp=Z,1µm
G05D Wamic, OR 55.03 59 P P **10 47 56.8 +1.1**
baz=306
DAG Danmarks Havn 55.16 358 *e*P P **10 47 55.0 -1.1**
DAG Danmarks Havn 55.16 358 *i* P P **10 47 55.0 -1.1**
MNAS Manas 55.19 297 P P **10 47 56.7 -0.4**
MNAS pmax pmax
comp=Z,9.0nm,0.8s
C09A Chrisman Ranch 55.24 55 *e*P P **10 47 58.0 +0.9**
comp=Z,26nm,1.0s
MRSI Marisa 55.24 221 P P **10 47 58.0 +0.6**
comp=Z,81nm,1.3s,comp=Z,1µm
I04A Tendick Farm, 55.24 61 P P **10 47 58.4 +1.1**
baz=306,SNR=11
L02D Cave Junction, 55.51 63 P P **10 48 00.6 +1.4**
baz=307,SNR=7.0
I05D Terrebonne, OR 55.54 60 P P **10 48 00.5 +1.1**
baz=306,SNR=7.2
NEW Newport 55.59 54 P P **10 47 59.7 -0.1**
comp=Z,9.6nm,0.9s,baz=294,slow=7.3,SNR=12
NEW Newport 55.59 54 P P **10 48 00.2 +0.5**
baz=306,SNR=8.5
NEW Newport 55.59 54 *e*P P **10 47 59.9 +0.2**
comp=Z,23nm,1.1s
KULLO Kullorsuaq 55.62 10 *i* P P **10 47 59.3 -0.2**
KULLO MLR MLR
comp=Z,370nm,23.0s
KULLO Kullorsuaq 55.62 10 *i* P P **10 47 59.3 -0.2**
comp=Z,360nm,23.0s
HUMO Hull Mountain 55.62 63 *e*P P **10 48 01.6 +1.6**
comp=Z,40nm,1.4s
LVZ Lovozero 55.70 337⇑ *e*P P **10 47 57.9 -2.3**
LVZ pmax pmax
comp=Z,26nm,1.7s
GUN Gumba 55.71 275 *e*P P **10 48 01.6 +0.4**
comp=Z,38nm,0.6s
KTRM Thompson Ridge 55.79 63 *e*P P **10 48 02.8 +1.5**
SANI Sanana 55.87 215 P P **10 48 01.4 -0.5**
comp=Z,90nm,0.9s,comp=Z,1µm
KKAR Karatay Array 56.00 299 *e*P P **10 48 02.8 +0.1**
KKAR Karatay Array 56.00 299 *e*P P **10 48 02.8 +0.1**
KKN Kakani 56.18 275 *e*P P **10 48 05.4 +1.0**
comp=Z,62nm,0.9s
KHMM Horse Mountain 56.20 65 *e*P P **10 48 06.4 +2.1**
comp=Z,48nm,1.1s
J05D Fort Rock, OR 56.23 61 P P **10 48 06.1 +1.6**
baz=307,SNR=24
BUOR Burton Butte 56.24 62 *e*P P **10 48 06.2 +1.6**
PKIN Phulchoki 56.25 275 *e*P P **10 48 05.8 +0.8**
comp=Z,27nm,0.7s
APA Apatity 56.27 337⇑ *i*P P **10 48 01.8 -2.4**
APA *i* 10 49 00.5
APA *i* 10 50 05.0
APA *i* S S 10 55 39.0 -11
APA pmax pmax
comp=Z,10.0nm,1.3s
APA MLR MLR
comp=Z,930nm,15.0s
YBH Yreka Blue Hor 56.30 63 *e*P P **10 48 06.6 +1.7**
YBH pmax pmax
comp=Z,39nm,1.0s
YBH Yreka Blue Hor 56.30 63 *e*P P **10 48 06.6 +1.7**
comp=Z,39nm,1.0s
K04D Chiloquin, OR 56.33 62 P P **10 48 06.4 +1.3**
baz=307
G08A Pilot Rock 56.34 58 *e*P P **10 48 05.4 +0.2**
comp=Z,27nm,1.4s
M02C Callahan 56.42 64 P P **10 48 07.5 +1.7**
baz=308
DMN Daman 56.42 275 *e*P P **10 48 07.1 +0.9**
comp=Z,66nm,0.7s
PATY Pattaya 56.43 250 P P **10 48 08.6 +2.6**
comp=Z,14nm,1.3s,comp=Z,4µm
KHLT Khaolaem Dam 56.47 254 P P **10 48 09.0 +2.7**
comp=Z,20nm,1.3s
GKN Gorkha 56.47 276 *e*P P **10 48 07.3 +0.9**
comp=Z,63nm,0.6s
ARA0 ARCESS Array S 56.69 341 *e*P P **10 48 07.6 +0.4**
ARA0 *e*PcP PcP **10 49 02.2 -0.4**
ARCES ARCESS Array B 56.69 341 P P **10 48 07.7 +0.5**
comp=Z,4.3nm,0.8s,baz=32,slow=7.4,SNR=11
ARCES PcP PcP **10 49 02.2 -0.4**
comp=Z,5.8nm,0.8s,baz=36,slow=4.9,SNR=6.3
ARCES LR LR 11 16 23.7
comp=Z,758nm,20.9s,baz=56,slow=40
N02D Trinity Center 56.76 64 P P **10 48 09.7 +1.5**
baz=308,SNR=5.4
K05A Summer Lake 56.77 61 *e*P P **10 48 10.1 +1.7**
comp=Z,71nm,1.1s
M04C Macdoel 56.78 63 P P **10 48 09.8 +1.4**
baz=308,SNR=12
WALA Waterton Lakes 56.83 52 *e*P P **10 48 09.3 +0.7**
comp=Z,23nm,0.9s
F10A Beach Ranch, E 56.90 56 *e*P P **10 48 09.7 +0.5**
comp=Z,53nm,1.8s
KCPM Cahto Peak 57.02 66 *e*P P **10 48 06.8 -3.2**
KCPM *e*pP **sP** **10 48 29.5 -1.8**
KCPM *e*S S **10 56 02.1 +1.7**
BSMT Bassoo Peak 57.10 53 *e*P P **10 48 11.6 +1.0**
WDC Whiskeytown Da 57.10 64 *e*P P **10 48 11.6 +1.1**
WDC pmax pmax
comp=Z,19nm,1.0s
WDC Whiskeytown Da 57.10 64 *e*P P **10 48 11.6 +1.1**
comp=Z,18nm,1.0s
PHET Kaeng Krachan 57.22 251 P P **10 48 13.6 +2.0**
comp=Z,22nm,1.1s
BLMT Blacktail Moun 57.23 53 *e*P P **10 48 12.7 +1.1**
KOLN Koldanda 57.31 276 *e*P P **10 48 13.3 +0.9**
comp=Z,57nm,0.7s
JTMT Jette 57.43 53 *e*P P **10 48 13.9 +1.0**
PYUN Piuthan 57.50 277 *e*P P **10 48 14.5 +0.7**
comp=Z,145nm,1.1s
YBMT Yellow Bay 57.51 53 *e*P P **10 48 14.4 +1.0**
BMO Blue Mountains 57.54 57 *e*P P **10 48 14.5 +0.8**
comp=Z,25nm,0.9s
MOD Modoc Plateau 57.62 62 *e*P P **10 48 15.5 +1.1**
comp=Z,56nm,1.4s
O03D Paynes Creek 57.72 64 P P **10 48 15.5 +0.5**

baz=308,SNR=17
SWMT **Swartz Lake** 57.73 53 *e*P P 10 48 15.9 +0.9
PMG **Port Moresby** 57.78 188 LR LR 11 10 44.2
comp=Z,194nm,20.6s,baz=1.5,slow=33
ABKAR **Akbulak array** 58.10 310 *e*P P 10 48 17.0 -0.3
MSO **Missoula** 58.18 54 P P 10 48 18.9 +0.7
baz=308,SNR=30
MSO **Missoula** 58.18 54 *e*P P 10 48 18.9 +0.7
comp=Z,42nm,1.1s
SBUM **Sibu** 58.22 232 *e*P P 10 48 19.9 +1.3
comp=Z,12nm,0.9s
WVOR **Wild Horse Val** 58.27 60 *e*P P 10 48 19.9 +1.1
WVOR pmax pmax
comp=Z,22nm,1.0s
WVOR **Wild Horse Val** 58.27 60 *e*P P 10 48 19.9 +1.1
comp=Z,22nm,0.9s
AKTO **Aktyubinsk** 58.34 312 LR LR 11 14 49.9
comp=Z,335nm,21.5s,baz=55,slow=37
AKTO **Aktyubinsk** 58.34 312 P P 10 48 17.6 -1.4
AKTO pmax pmax
comp=Z,7.0nm,0.8s
ORV **Oroville** 58.36 65 *e*P P 10 48 19.8 +0.4
ORV pmax pmax
comp=Z,13nm,0.9s
ORV **Oroville** 58.36 65 *e*P P 10 48 19.8 +0.4
comp=Z,13nm,0.8s
CHMT **Chamberlain Mo** 58.50 53 *e*P P 10 48 21.0 +0.5
FFC **Flin Flon** 59.04 41 *e*P P 10 48 24.7 +0.9
FFC pmax pmax
comp=Z,59nm,1.0s
FFC **Flin Flon** 59.04 41 *e*P P 10 48 24.7 +0.9
FFC **Flin Flon** 59.04 41 *e*P P 10 48 24.7 +0.9
comp=Z,59nm,1.0s
AFDM **Forest Hills D** 59.06 65 *e*P P 10 48 25.0 +0.7
comp=Z,14nm,1.1s
SUMG **Summit** 59.12 4 *i* P P 10 48 24.8 +0.2
SUMG pmax pmax
comp=Z,67nm,1.0s
SUMG **Summit** 59.12 4 *i* P P 10 48 24.8 +0.2
comp=Z,67nm,1.0s
SUMG **Summit** 59.12 4 *e*P P 10 48 25.5 +0.9
comp=Z,58nm,0.9s
KLMR **Klimovskoe** 59.24 329 *e*P P 10 48 22.8 -2.3
KLMR *e**PP pP 10 48 39.7 -0.4
KLMR *e**SP sP 10 48 46.6 +0.2
KLMR *e* 10 49 11.6
KLMR pmax pmax
comp=Z,18nm,0.9s
MFID **Camas Ranch** 59.26 58 *e*P P 10 48 26.8 +1.1
comp=Z,95nm,2.0s
HRY **Holter Researc** 59.38 53 *e*P P 10 48 27.7 +1.2
PAHR **Pah Rah Range** 59.53 63 *e*P P 10 48 28.6 +0.9
comp=Z,28nm,1.1s
LRM **Limekiln Ridge** 59.61 54 *e*P P 10 48 29.2 +0.9
EGMT **Eagleton** 59.64 51 P P 10 48 29.1 +0.8
baz=310,SNR=9.6
EGMT **Eagleton** 59.64 51 *e*P P 10 48 29.0 +0.8
comp=Z,59nm,1.3s
DLMT **Dillon** 59.83 55 *e*P P 10 48 30.8 +1.2
comp=Z,30nm,0.9s
HLID **Hailey** 59.97 57 P P 10 48 32.0 +1.3
baz=310,SNR=26
HLID **Hailey** 59.97 57 *e*P P 10 48 31.8 +1.2
comp=Z,76nm,1.8s
CMB **Columbia Colle** 59.99 65 *e*P P 10 48 31.6 +0.9
CMB pmax pmax
comp=Z,30nm,1.2s
CMB **Columbia Colle** 59.99 65 *e*P P 10 48 31.6 +0.9
comp=Z,30nm,1.3s
MCMT **McKenzie Canyo** 60.03 55 *e*P P 10 48 31.6 +0.5
KSM **Kuching** 60.06 233 *e*P P 10 48 32.8 +1.5
comp=Z,47nm,0.9s
YERR **Yerington** 60.08 64 *e*P P 10 48 32.5 +1.0
comp=Z,35nm,1.0s
BOZ **Bozeman (W)** 60.17 54 P P 10 48 33.4 +1.4
baz=310,SNR=38
WAKR **Walker** 60.27 64 *e*P P 10 48 33.9 +1.1
JOF **Joensuu** 60.34 334 P P 10 48 31.9 -0.7
JOF pmax pmax
comp=Z,16nm,1.6s
BMN **Battle Mountai** 60.35 61 *e*P P 10 48 34.6 +1.3
BMN pmax pmax
comp=Z,28nm,1.0s
BMN **Battle Mountai** 60.35 61 *e*P P 10 48 34.6 +1.3
comp=Z,28nm,0.9s
STKI **Sintang** 60.63 231 P P 10 48 36.9 +1.7
comp=Z,64nm,0.9s
TVH1 **TV Hill, Hawth** 60.70 64 *e*P P 10 48 36.9 +1.0
comp=Z,47nm,1.4s
TVH3 **East Aurora ar** 60.73 64 *e*P P 10 48 37.2 +1.2
comp=Z,19nm,1.1s
TVH2 **Borealis Mine** 60.76 64 *e*P P 10 48 37.1 +1.0
comp=Z,26nm,1.5s
QLMT **Earthquake Lak** 60.80 54 *e*P P 10 48 38.1 +1.8
NV01 **Mina Array Sit** 61.00 64 *e*P P 10 48 38.6 +0.8
NVAR **Mina Array Bea** 61.00 64 P P 10 48 38.7 +0.9
comp=Z,15nm,0.8s,baz=294,slow=7.9,SNR=118
TRTT **Trang** 61.07 247 P P 10 48 39.9 +1.6
comp=Z,28nm,1.5s
KRAB **Krabi** 61.08 248 P P 10 48 39.9 +1.6
comp=Z,40nm,1.0s
NV11 **Mina Array Sit** 61.08 64 *e*P P 10 48 39.2 +0.9
comp=Z,20nm,1.0s
KAPI **Kappang** 61.10 220 *e*P P 10 48 38.8 +0.5
comp=Z,51nm,1.1s
YMR **Madison River** 61.16 54 *e*P P 10 48 40.7 +1.9
comp=Z,164nm,1.8s
MLAC **Mammoth, Mammo** 61.19 65 P P 10 48 40.3 +1.2
baz=311
ELK **Elko** 61.31 60 *e*P P 10 48 41.1 +1.2
ELK pmax pmax
comp=Z,14nm,1.0s
ELK **Elko** 61.31 60 *e*P P 10 48 41.0 +1.2
comp=Z,14nm,1.0s
ILULI **Ilulissat** 61.34 10⇑ *i*P P 10 48 38.8 -0.5
ILULI pmax pmax
comp=Z,48nm,0.8s
ILULI **Ilulissat** 61.34 10⇑ *i*P P 10 48 38.8 -0.5
comp=Z,48nm,0.8s
YFT **Old Faithful** 61.37 54 *e*P P 10 48 42.9 +2.6
comp=Z,26nm,0.9s
SCO **Scoresbysund** 61.53 359 *i* P P 10 48 41.1 +0.5
SCO pmax pmax
comp=Z,19nm,1.0s
SCO **Scoresbysund** 61.53 359 *i* P P 10 48 41.1 +0.5
comp=Z,19nm,1.0s
LKWY **Lake** 61.53 54 *e*P P 10 48 44.2 +2.8
comp=Z,32nm,0.9s
H17A **Grant Village** 61.55 54 P P 10 48 44.2 +2.7
baz=311,SNR=25
H17A **Grant Village** 61.55 54 *e*P P 10 48 44.3 +2.8
comp=Z,48nm,1.0s
IMW **Indian Meadow** 61.68 55 *e*P P 10 48 44.2 +1.8
comp=Z,48nm,1.3s
FLWY **Flagg Ranch** 61.69 55 *e*P P 10 48 44.8 +2.4
comp=Z,39nm,1.1s
RLMT **Red Lodge** 61.78 53 P P 10 48 44.4 +1.5
baz=311,SNR=14
RLMT **Red Lodge** 61.78 53 *e*P P 10 48 44.5 +1.5
comp=Z,98nm,1.4s
BSSI **Bau Bau, Buton** 61.80 219 P P 10 48 43.6 +0.5
comp=Z,73nm,1.0s,comp=Z,818nm
RCTC **Rector, Farmer** 61.81 66 P P 10 48 43.3 +0.3
baz=311
MOOW **Moose Ponds** 61.88 55 *e*P P 10 48 45.3 +1.7
comp=Z,103nm,1.8s
TIN **Tinemaha, Big** 61.93 65 P P 10 48 45.0 +1.0
baz=311
TPAW **Teton Pass** 61.94 55 *e*P P 10 48 46.1 +2.0
comp=Z,44nm,1.0s
BBKI **Banjar Baru** 61.97 226 P P 10 48 44.7 +0.4
comp=Z,146nm,1.1s
SMMC **Simmler** 61.99 67 P P 10 48 45.1 +0.8
baz=311
HVU **Hansel Valley** 62.04 58 *e*P P 10 48 46.2 +1.5
HVU pmax pmax
comp=Z,15nm,1.0s
HVU **Hansel Valley** 62.04 58 *e*P P 10 48 46.2 +1.5
comp=Z,15nm,1.0s
LOHW **Long Hollow** 62.05 55 *e*P P 10 48 46.5 +1.7
comp=Z,81nm,1.4s
SNOW **Snow King Moun** 62.06 55 *e*P P 10 48 46.9 +1.9
comp=Z,145nm,1.8s
REDW **Red Top Meadow** 62.08 55 *e*P P 10 48 46.8 +1.8
comp=Z,173nm,1.8s
DGMT **Dagmar** 62.16 48 P P 10 48 46.1 +0.9
baz=312,SNR=6.3
DGMT **Dagmar** 62.16 48 *e*P P 10 48 46.3 +1.1
comp=Z,72nm,1.0s
CRGC **Crocker Grade** 62.21 67 *e*P P 10 48 49.6 +3.7
VES **Vestal, Richgr** 62.21 66 P P 10 48 45.6 -0.1
baz=311,SNR=8.2
KBL **Kabul** 62.28 292 *e*P P 10 48 46.2 -0.3
KBL pmax pmax
comp=Z,22nm,1.0s
KBL **Kabul** 62.28 292 *e*P P 10 48 46.1 -0.3
comp=Z,22nm,1.0s
LAO **LASA Array** 62.33 50 P P 10 48 47.8 +1.4
baz=312,SNR=5.0
LAO **LASA Array** 62.33 50 *e*P P 10 48 48.4 +1.9
comp=Z,102nm,1.3s
A25A **Svangstu Ranch** 62.37 47 P P 10 48 47.6 +1.0
baz=313,SNR=17
PKM **Mcpherson Peak** 62.38 68 P P 10 48 48.0 +0.8
baz=312,SNR=6.9
BGU **Big Grassy Mou** 62.46 59 *e*P P 10 48 48.5 +1.0
comp=Z,10nm,1.1s
KULM **Kulim** 62.48 245 *e*P P 10 48 49.0 +1.3
comp=Z,57nm,1.0s
GRAC **Grapevine Rang** 62.49 64 P P 10 48 48.6 +0.9
baz=311,SNR=19
SPUT **South Promonto** 62.53 58 *e*P P 10 48 49.0 +1.0
comp=Z,60nm,1.4s
R11A **Troy Canyon, C** 62.67 62 P P 10 48 49.7 +0.7
baz=312,SNR=51
R11A **Troy Canyon, C** 62.67 62 *e*P P 10 48 49.6 +0.6
comp=Z,24nm,1.0s
ISA **Isabella, Lake** 62.70 66 P P 10 48 48.8 -0.3
baz=312
SBC **Santa Barbara** 62.74 68 P P 10 48 50.4 +1.1
baz=312
COEN **Coen** 62.74 192 *e*P P 10 48 49.7 +0.4
comp=Z,31nm,1.0s
B25A **Knox Farm, Ray** 62.80 47 P P 10 48 50.6 +1.1
baz=313
DAC **Darwin (Calif)** 62.83 65 *e*P P 10 48 50.5 +0.4
DAC pmax pmax
comp=Z,32nm,1.6s
DAC **Darwin (Calif)** 62.83 65 *e*P P 10 48 50.5 +0.4
comp=Z,32nm,1.6s
ARVC **Arvin** 62.83 67 P P 10 48 49.9 +0.1
baz=312
HWUT **Hardware Ranch** 62.84 57 *e*P P 10 48 51.2 +1.2
comp=Z,103nm,1.7s
PBKI **Pangkalan Bun** 62.89 230 P P 10 48 52.7 +2.3
IPM **Ipoh** 62.90 244 *e*P P 10 48 51.2 +0.7
comp=Z,40nm,1.1s
A26A **Wade Farm, Ken** 62.92 46 P P 10 48 51.0 +0.7
baz=313
FIA1 **FINESS Array S** 63.02 335 *e*P P 10 48 49.9 -0.8
comp=Z,19nm,0.9s
FIA0 **FINESS Array S** 63.02 335 *e*P P 10 48 49.6 -1.0
FIA0 **FINESS Array S** 63.02 335 *e*P P 10 48 49.6 -1.0
FINES **FINESS Array B** 63.02 335 P P 10 48 49.6 -1.0
comp=Z,7.6nm,0.5s,baz=32,slow=8.0,SNR=38
FINES LR LR 11 18 32.6
comp=Z,794nm,21.7s,baz=30,slow=38
MPMC **Manual Prospec** 63.04 65 P P 10 48 52.0 +0.5
baz=312,SNR=18
DUG **Dugway, Tooele** 63.06 59 P P 10 48 52.6 +1.1
baz=312,SNR=51
DUG **Dugway, Tooele** 63.06 59 *e*P P 10 48 52.6 +1.1
DUG pmax pmax
comp=Z,58nm,1.2s
DUG **Dugway, Tooele** 63.06 59 *e*P P 10 48 52.6 +1.1
DUG **Dugway, Tooele** 63.06 59 *e*P P 10 48 52.6 +1.1
comp=Z,58nm,1.3s
SCZ2 **Santa Cruz Isl** 63.09 68 P P 10 48 51.9 +0.3
baz=312
C25A **Freed Ranch, W** 63.13 48 P P 10 48 52.5 +0.7
baz=313
FURC **Furnace Creek,** 63.15 65 P P 10 48 52.7 +0.8
baz=312,SNR=39
B26A **Jensen Ranch,** 63.18 47 P P 10 48 52.7 +0.7
baz=314
BW06 **Boulder Array** 63.18 55 P P 10 48 52.9 +0.5
baz=312,SNR=38
BW06 **Boulder Array** 63.18 55 *e*P P 10 48 53.2 +0.9
PD31 **Pinedale Array** 63.18 55 *e*P P 10 48 53.2 +0.8
PDAR **Pinedale Array** 63.18 55 P P 10 48 53.2 +0.8
comp=Z,18nm,0.9s,baz=302,slow=2.8,SNR=95
TPNV **Topopah Spring** 63.20 64 P P 10 48 53.2 +0.8
baz=312,SNR=32
TPNV **Topopah Spring** 63.20 64 *e*P P 10 48 53.3 +0.8
TPNV pmax pmax
comp=Z,32nm,1.0s
TPNV **Topopah Spring** 63.20 64 *e*P P 10 48 53.2 +0.8
comp=Z,32nm,1.0s
OSI **Osito Audit: C** 63.24 67 P P 10 48 53.0 +0.4
baz=312
OSI **Osito Audit: C** 63.24 67 *e*P P 10 48 53.9 +1.3
comp=Z,34nm,0.9s
A27A **Leux Ranch,** 63.26 46 P P 10 48 53.6 +1.1
baz=314
LRMC **Laurel Mtn Rad** 63.30 66 P P 10 48 53.3 +0.1
baz=312,SNR=11
MMRI **Maumere** 63.35 216 P P 10 48 53.5 +0.1
comp=Z,104nm,1.1s
MMRI **Maumere** 63.35 216 *e*P P 10 48 53.5 +0.1
comp=Z,122nm,1.1s
BLG **Laguna Peak, P** 63.36 68 P P 10 48 53.7 +0.3
baz=312
MYKOM **Kota Tinggi** 63.40 240 *e*P P 10 48 54.9 +1.1
comp=Z,43nm,1.2s
D25A **Fairfield** 63.48 48 P P 10 48 54.9 +0.8
baz=313
SFJD **Kangerlussuaq** 63.50 11 *e*P P 10 48 53.4 -0.3
SFJD pmax pmax
comp=Z,31nm,0.9s
SFJD **Kangerlussuaq** 63.50 11⇑ *i*P P 10 48 53.5 -0.3
comp=Z,29nm,0.9s
SFJD **Kangerlussuaq** 63.50 11 *e*P P 10 48 53.4 -0.3
comp=Z,31nm,0.9s
EDW2 **Edwards Air Fo** 63.51 67 P P 10 48 54.8 +0.4
baz=312,SNR=21
JLU **Jordanelle** 63.57 58 *e*P P 10 48 56.4 +1.4
comp=Z,42nm,1.4s
SOEI **Soe** 63.60 213 P P 10 48 54.9 -0.3
comp=Z,58nm,0.9s
SOEI **Soe** 63.60 213 *e*P P 10 48 54.8 -0.4
comp=Z,59nm,1.0s
C26A **Wahner Farm, P** 63.62 47 P P 10 48 55.6 +0.6
baz=314
B27A **Peters Farms,** 63.63 46 P P 10 48 56.1 +1.1
baz=314
SNCC **San Nicolas Is** 63.65 69 P P 10 48 55.2 -0.1
baz=312
MOS **Moscow** 63.66 326 *e*P P 10 48 55.8 +0.8
DECC **Green Verdugo** 63.72 67 P P 10 48 56.2 +0.4
baz=312
A28A **Rude Farm, Bot** 63.75 45 P P 10 48 56.4 +0.6
baz=314
MPU **Maple Canyon** 63.86 59 *e*P P 10 48 57.9 +1.1
comp=Z,28nm,1.0s
PASC **Pasadena Art C** 63.86 67 *e*P P 10 48 57.3 +0.5
comp=Z,23nm,0.9s
SHOC **Shoshone, Teco** 63.88 65 P P 10 48 57.2 +0.4
baz=312,SNR=6.8
E25A **Miller Ranch,** 63.89 49 P P 10 48 57.6 +0.8
baz=314
MWC **Mount Wilson** 63.91 67 *e*P P 10 48 57.9 +0.7
MWC pmax pmax
comp=Z,43nm,1.1s
MWC **Mount Wilson** 63.91 67 *e*P P 10 48 57.9 +0.7
comp=Z,43nm,1.1s
GSC **Goldstone, Bar** 63.95 66 P P 10 48 57.7 +0.3
baz=312,SNR=13
GSC **Goldstone, Bar** 63.95 66 *e*P P 10 48 58.4 +1.0
GSC pmax pmax
comp=Z,30nm,1.2s
GSC **Goldstone, Bar** 63.95 66 *e*P P 10 48 58.4 +1.0
comp=Z,30nm,1.3s
C27A **Sayler Ranch,** 63.99 47 P P 10 48 58.3 +1.0
baz=314
D26A **Manning** 64.01 48 P P 10 48 58.4 +0.9
baz=314
B28A **Dugan Ranch, T** 64.03 46 P P 10 48 58.4 +0.9
baz=314
FMP **Fort Macarthur** 64.10 68 P P 10 48 58.5 +0.2
baz=312
RRX **Edison Barstow** 64.12 66 P P 10 48 58.8 +0.4
baz=312
BFSC **Mount Baldy Ra** 64.14 67 P P 10 48 58.9 +0.2
baz=312,SNR=6.8
SHPR **Sheep Range** 64.14 64 *e*P P 10 48 59.6 +0.9
comp=Z,54nm,1.5s
A29A **Manning Farm,** 64.23 45 P P 10 48 59.8 +0.8
baz=315,SNR=18
MTN **Manton Dam** 64.25 205 *e*P P 10 48 59.2 0.0
comp=Z,72nm,1.3s
F25A **Bowman** 64.26 49 P P 10 48 59.8 +0.6
baz=314
E26A **Carlson Angus** 64.38 48 P P 10 49 00.6 +0.6
baz=314,SNR=5.3
TUQ **Turquoise Moun** 64.40 65 P P 10 49 01.1 +0.7
baz=312,SNR=19
D27A **Center** 64.40 47 P P 10 49 00.7 +0.6
baz=314
SCI2 **San Clemente I** 64.44 69 P P 10 49 01.1 +0.6
baz=313
B29A **Wagenman Farm,** 64.50 45 P P 10 49 01.5 +0.8
baz=315,SNR=6.5
CCUT **Cedar City** 64.51 62 *e*P P 10 49 02.1 +1.0
comp=Z,40nm,1.3s
OBN **Obninsk** 64.53 326⇑ *i*P P 10 48 58.9 -1.7
OBN *i* 10 49 33.6
OBN *i* S PnS 10 58 03.4 +3.7
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN MLR MLR
comp=Z,387nm,19.0s
C28A **Hausauer Farms** 64.53 46 P P 10 49 01.5 +0.6
baz=315
MSU **Marysvale** 64.55 60 *e*P P 10 49 02.7 +1.3
MSU **Marysvale** 64.55 60 *e*P P 10 49 02.7 +1.3
HEC **Hector,Ludlow** 64.56 66 P P 10 49 02.0 +0.7
baz=313,SNR=23
BBRC **Big Bear Solar** 64.58 66 P P 10 49 02.3 +0.7
baz=313,SNR=9.1
TMUT **Trail Mountain** 64.58 59 *e*P P 10 49 02.7 +1.0
comp=Z,27nm,1.0s
A30A **Hoffart Farm,** 64.66 44 P P 10 49 02.4 +0.7
baz=315,SNR=7.2
F26A **Lodgepole** 64.71 49 P P 10 49 03.0 +0.9
baz=314,SNR=8.4
P17A **Butcher Ranch,** 64.73 59 *e*P P 10 49 03.4 +0.9
comp=Z,85nm,1.5s
D28A **Regan** 64.81 47 P P 10 49 03.7 +1.0
baz=315
MDND **Maddock** 64.81 46 P P 10 49 03.8 +1.1
baz=315
ULM **Lac du Bonnet** 64.83 42 P P 10 49 03.0 +0.3
comp=Z,23nm,0.8s,baz=309,slow=7.3,SNR=19
ULM LR LR 11 18 46.8
comp=Z,202nm,20.1s,baz=324,slow=37
ULM **Lac du Bonnet** 64.83 42 *e*P P 10 49 03.0 +0.3
ULM pmax pmax
comp=Z,29nm,0.9s
ULM **Lac du Bonnet** 64.83 42 *e*P P 10 49 03.0 +0.3
comp=Z,29nm,0.9s
MURC **Murrieta** 64.86 67 P P 10 49 03.5 +0.3
baz=313,SNR=7.0
Q16A **Castle Valley** 64.86 59 *e*P P 10 49 04.6 +1.2
comp=Z,49nm,1.4s
MTPU **Mount Pierson** 64.87 61 *e*P P 10 49 05.0 +1.3
comp=Z,114nm,2.0s
K22A **Casper** 64.91 54 P P 10 49 04.2 +0.6
baz=314,SNR=6.7
LCMT **Little Creek M** 64.94 62 *e*P P 10 49 05.1 +1.2
comp=Z,37nm,1.0s
B30A **Myrvik Farm, E** 64.99 45 P P 10 49 04.7 +0.8
baz=316,SNR=28
GMRC **Granite Mounta** 65.00 65 P P 10 49 04.8 +0.5
baz=313,SNR=23
H25A **Fruitdale** 65.09 50 P P 10 49 04.7 +0.1
baz=314
SRU **San Rafael Swe** 65.10 59 *e*P P 10 49 05.8 +0.8
SRU pmax pmax
comp=Z,38nm,0.9s
SRU **San Rafael Swe** 65.10 59 *e*P P 10 49 05.8 +0.8
comp=Z,38nm,0.9s
LDFC **Landfair** 65.13 65 *e*P P 10 49 05.8 +0.7
comp=Z,122nm,1.4s
A31A **Linda, St. Vin** 65.18 44 P P 10 49 05.6 +0.6
baz=316
KNB **Kanab** 65.19 62 *e*P P 10 49 06.9 +1.4
KNB pmax pmax
comp=Z,47nm,1.0s
KNB **Kanab** 65.19 62 *e*P P 10 49 06.9 +1.4
comp=Z,47nm,1.1s
PKCU **Pink Cliffs** 65.20 61 *e*P P 10 49 07.2 +1.5
comp=Z,32nm,1.3s
RSSD **Black Hills** 65.21 51 P P 10 49 05.9 +0.3
baz=314
RSSD **Black Hills** 65.21 51 *e*P P 10 49 06.3 +0.7
RSSD pmax pmax
comp=Z,37nm,0.9s
RSSD **Black Hills** 65.21 51 *e*P P 10 49 06.3 +0.7
comp=Z,37nm,0.8s
VSU **Vasula** 65.25 333 *de*P P 10 49 04.7 -0.6
VSU pmax pmax
comp=Z,56nm,1.2s
MMU **Miners Mountai** 65.28 60 *e*P P 10 49 07.4 +1.2
PFO **Pinyon Flats O** 65.30 67 P P 10 49 06.4 +0.2
baz=313,SNR=5.6
PFO **Pinyon Flats O** 65.30 67 *e*P P 10 49 06.6 +0.3
PFO *e* 10 49 39.0
PFO **Pinyon Flats O** 65.30 67 *e*P P 10 49 06.5 +0.3
PFO *e*PcP PcP 10 49 39.0 +0.9
TPFO **Pinon Flats** 65.31 67 P P 10 49 06.5 +0.2
baz=313,SNR=5.7
BELC **Belle Mtn. Jos** 65.32 66 P P 10 49 06.3 -0.1
baz=313,SNR=14
B31A **Greenbush Farm** 65.33 44 P P 10 49 06.5 +0.5
baz=316,SNR=5.0
PLAI **Plampang** 65.36 220 P P 10 49 05.5 -1.1
comp=Z,68nm,0.9s
D29A **Pettibone, Tap** 65.37 46 P P 10 49 06.4 0.0
baz=315
VRH **Novokhopyorsk** 65.38 320 *e*P P 10 49 04.6 -1.7
VRH pmax pmax
comp=Z,10.0nm,0.6s
109C **Camp Elliot, M** 65.39 68 P P 10 49 07.2 +0.5
baz=313
C30A **Mose, Pekin** 65.45 45 P P 10 49 06.8 0.0
baz=316
PSI **Prapat** 65.49 245 *e*P P 10 49 08.6 +1.0
PSI pmax pmax
comp=Z,45nm,0.7s
PSI **Prapat** 65.49 245 *e*P P 10 49 08.6 +1.0
comp=Z,45nm,0.7s
LPSR **Galich'ya Gora** 65.50 323 *e*P P 10 49 05.7 -1.3
LPSR pmax pmax
comp=Z,10.0nm,0.7s
A32A **Rocking H Ranc** 65.51 43 P P 10 49 07.4 +0.2
baz=316,SNR=8.0
NEE2 **Needles Airpor** 65.64 65 P P 10 49 08.5 +0.3
baz=313
TWSI **Taliwang, Sumb** 65.68 221 P P 10 49 08.7 +0.1
comp=Z,33nm,1.0s,comp=Z,672nm
O20A **White River Ci** 65.69 57 P P 10 49 09.2 +0.5
baz=314,SNR=9.3
O20A **White River Ci** 65.69 57 *e*P P 10 49 09.7 +0.9
comp=Z,70nm,1.4s
E29A **Napoleon** 65.70 47 P P 10 49 08.6 +0.1
baz=315
IRM **Iron Mountain** 65.73 65 P P 10 49 09.5 +0.6
baz=313,SNR=14
C31A **Landman Farms,** 65.74 45 P P 10 49 08.9 +0.2
baz=316,SNR=6.0
D30A **Buchanan** 65.74 46 P P 10 49 09.1 +0.4
baz=316
BAR **Barrett** 65.80 68 *e*P P 10 49 10.1 +0.7
comp=Z,17nm,0.9s
MONP2 **Monument Peak** 65.81 67 P P 10 49 10.0 +0.3
baz=313
SRBI **Singaraja** 65.85 223 P P 10 49 11.0 +1.3
comp=Z,82nm,1.1s,comp=Z,809nm
W13A **Hualapai Mount** 65.86 64 *e*P P 10 49 10.5 +0.6
comp=Z,35nm,1.4s
B32A **Ashes, Strandq** 65.86 44 P P 10 49 09.7 +0.2
baz=316,SNR=8.2
MLSI **Meulaboh, Aceh** 65.88 248 P P 10 49 11.5 +1.5
comp=Z,89nm,1.0s
BC3 **Big Chuckawall** 65.89 66 P P 10 49 10.2 +0.2
baz=313,SNR=12
U15A **North Rim** 65.90 62 *e*P P 10 49 11.4 +1.1
comp=Z,41nm,1.2s
A33A **Warroad** 65.99 43 P P 10 49 10.5 +0.2
baz=317,SNR=19
ABJI **Asem Bagus** 66.05 224 P P 10 49 12.5 +1.5
comp=Z,84nm,1.2s

E30A Jud 66.10 46 P P 10 49 10.9 -0.1
baz=316
F29A Eureka 66.13 47 P P 10 49 11.5 +0.2
baz=316
IKP In-Ko-Pah, Jac 66.17 67 P P 10 49 12.2 +0.4
baz=313,SNR=5.4
BKNI Bangkinang 66.21 241 P P 10 49 13.6 +1.5
comp=Z,428nm,0.8s,comp=Z,6µm
BKNI Bangkinang 66.21 241 eP P 10 49 12.7 +0.6
comp=Z,320nm,0.5s
PDMCI Parker Dam,Lak 66.24 65 P P 10 49 12.4 +0.3
baz=313,SNR=13
C32A Crookston 66.28 44 P P 10 49 12.2 +0.1
baz=317
D31A Mcclaflin, Tow 66.28 45 P P 10 49 12.2 0.0
baz=316
PV09 Paradox Valley 66.31 58 eP P 10 49 13.7 +0.8
B33A Robert and Kas 66.39 43 P P 10 49 13.0 +0.2
baz=317,SNR=5.9
Y12C Blythe 66.39 65 P P 10 49 13.6 +0.6
baz=314,SNR=8.6
Y12C Blythe 66.39 65 eP P 10 49 13.9 +0.8
comp=Z,29nm,1.0s
PHWY Pilot Hill 66.41 54 eP P 10 49 13.8 +0.3
comp=Z,41nm,1.7s
N23A Red Feather La 66.43 55 P P 10 49 14.4 +0.8
baz=314,SNR=11
N23A Red Feather La 66.43 55 eP P 10 49 14.8 +1.2
comp=Z,108nm,1.6s
VSR Storozhevoye 66.44 322 eP P 10 49 11.3 -1.8
VSR pmax pmax
comp=Z,10.0nm,1.1s
PV10 Paradox Valley 66.45 58 eP P 10 49 14.8 +1.0
F30A Leola 66.52 47 P P 10 49 13.4 -0.4
baz=316
G29A Hoven 66.54 48 P P 10 49 13.9 0.0
baz=316
GEYT Alibeck 66.54 301 P P 10 49 14.5 +0.5
comp=Z,12nm,0.7s,baz=29,slow=3.4,SNR=13
GEYT LR LR 11 20 51.3
comp=Z,785nm,18.4s,baz=50,slow=38
D32A Dogwood Acres, 66.55 45 P P 10 49 14.0 +0.1
baz=317
E31A Nome 66.55 46 P P 10 49 14.1 +0.1
baz=316
PV05 Paradox Valley 66.62 59 eP P 10 49 15.7 +0.9
B34A Aery, Baudette 66.66 43 P P 10 49 14.4 -0.2
baz=317,SNR=20
C33A Trail 66.68 44 P P 10 49 14.9 +0.2
baz=317,SNR=5.6
GLA Glamis 66.68 66 P P 10 49 15.8 +0.7
baz=314,SNR=6.6
GLA Glamis 66.68 66 eP P 10 49 15.7 +0.7
GLA pmax pmax
comp=Z,42nm,1.1s
GLA Glamis 66.68 66 eP P 10 49 15.7 +0.7
comp=Z,42nm,1.1s
H29A Onida 66.80 48 P P 10 49 15.5 -0.1
baz=316
NC303 NORSAR Array S 66.86 342 eP P 10 49 15.7 +0.1
F31A Hecla 66.88 46 P P 10 49 15.8 -0.3
baz=316
NC405 NORSAR Array S 66.88 341 eP P 10 49 15.8 0.0
PV01 Paradox Valley 66.88 58 eP P 10 49 17.1 +0.6
E32A Braaten, Kindr 66.92 45 P P 10 49 16.4 +0.1
baz=317
NC204 NORSAR Array S 66.94 342 eP P 10 49 16.5 +0.3
G30A Faulkton 66.97 48 P P 10 49 16.5 -0.1
baz=316,SNR=6.9
NGJI Ngawi 67.00 227 P P 10 49 20.3 +3.2
NB201 NORSAR Array S 67.03 341 eP P 10 49 16.6 -0.2
NB2 NORSAR Subarra 67.06 342 P P 10 49 15.6 -1.3
comp=Z,30nm,1.2s,baz=26,slow=6.5
NB2 NORSAR Subarra 67.06 342 P P 10 49 15.6 -1.3
baz=26,slow=6.5
NB200 NORSAR Array S 67.06 342 eP P 10 49 15.7 -1.3
NOA NORSAR Array B 67.06 342 P P 10 49 15.7 -1.3
comp=Z,13nm,0.8s,baz=26,slow=6.3,SNR=22
NOA LR LR 11 23 10.3
comp=Z,268nm,19.3s,baz=20,slow=40
SMCO Snowmass 67.06 57 eP P 10 49 18.5 +0.8
comp=Z,20nm,0.9s
WUAZ Wupatki 67.06 62 P P 10 49 18.6 +1.0
baz=314,SNR=24
WUAZ Wupatki 67.06 62 eP P 10 49 18.6 +1.0
comp=Z,47nm,1.3s
D33A AnnSam, Waubun 67.10 44 P P 10 49 17.5 +0.1
baz=317
NBO02 NORSAR Array S 67.12 342 eP P 10 49 16.9 -0.4
C34A RKJ Ranch, Bem 67.15 43 P P 10 49 17.8 +0.1
baz=318
NBO00 NORSAR Array S 67.16 342 eP P 10 49 17.8 +0.3
B35A Bob, Littlefor 67.17 42 P P 10 49 17.7 -0.1
baz=318,SNR=31
Y14A Wickenburg 67.18 64 eP P 10 49 19.0 +0.8
comp=Z,192nm,1.4s
Y14A eS S 10 58 06.8 -1.7
I29A Vivian Onida 67.19 49 P P 10 49 18.1 0.0
baz=316
NC602 NORSAR Array S 67.26 341 eP P 10 49 19.0 +0.9
BORG Borgarnes 67.27 358 eP P 10 49 20.9 +2.8
BORG pmax pmax
comp=Z,50nm,1.0s
BORG Borgarnes 67.27 358 eP P 10 49 20.9 +2.8
comp=Z,50nm,1.0s
NAO01 NORSAR Array S 67.30 342 eP P 10 49 18.4 0.0
G31A Conde 67.36 47 P P 10 49 18.8 -0.2
baz=317
ISCO Idaho Springs 67.38 55 P P 10 49 20.7 +1.1
baz=315,SNR=24
ISCO Idaho Springs 67.38 55 eP P 10 49 20.8 +1.1
ISCO pmax pmax
comp=Z,37nm,1.1s
ISCO Idaho Springs 67.38 55 eP P 10 49 20.8 +1.1
comp=Z,37nm,1.1s
F32A Veblen 67.42 46 P P 10 49 19.2 -0.3
baz=317
D34A Park Rapids 67.44 44 P P 10 49 19.5 -0.1
baz=318,SNR=13
E33A Westby DABS, E 67.49 45 P P 10 49 19.8 0.0
baz=317
GSI Gunungsitoli 67.49 245 eP P 10 49 21.4 +1.1
comp=Z,64nm,0.8s
113A Mohawk Valley, 67.52 66 eP P 10 49 21.1 +0.8
comp=Z,36nm,1.4s
C35A Jirik Farms, M 67.54 43 P P 10 49 20.0 -0.2
baz=318,SNR=9.5
SUSD Miller 67.56 48 P P 10 49 20.3 -0.1
baz=316
MVCO Mesa Verde 67.56 59 P P 10 49 21.0 +0.2
baz=314,SNR=19
MVCO Mesa Verde 67.56 59 eP P 10 49 21.4 +0.6
comp=Z,90nm,1.5s
G32A Webster 67.68 47 P P 10 49 21.1 0.0
baz=317
I30A Oacoma 67.70 49 P P 10 49 21.2 -0.1
baz=316
H31A Wolsey 67.77 48 P P 10 49 21.3 -0.4
baz=317
X16A Lo Mia Camp, P 67.78 63 eP P 10 49 23.4 +1.2
comp=Z,28nm,1.1s
HYB Hyderabad 67.80 272 *i* P P 10 49 21.0 -1.2
HYB *e* 10 49 38.0
F33A 5 Mile Ranch, 67.84 45 P P 10 49 22.3 +0.3
baz=317,SNR=20
E34A Wadena 67.87 44 P P 10 49 22.2 0.0
baz=318
D35A Remer 67.97 43 P P 10 49 22.7 -0.2
baz=318,SNR=9.5
C36A Pine Crest Far 68.01 42 P P 10 49 23.1 -0.1
baz=319,SNR=19
I31A Royce, Wessing 68.07 48 P P 10 49 23.5 -0.1
baz=317
J30A Dallas 68.10 49 P P 10 49 23.8 0.0
baz=316,SNR=6.3
S22A 4UR Ranch, Cre 68.14 58 P P 10 49 25.5 +1.0
baz=315,SNR=23
S22A 4UR Ranch, Cre 68.14 58 eP P 10 49 25.8 +1.3
comp=Z,48nm,1.3s
E35A Pequot Lakes 68.19 44 P P 10 49 24.3 0.0
baz=318,SNR=5.6
Q24A Divide 68.22 56 P P 10 49 25.5 +0.6
baz=315
G33A Ortonville 68.24 46 P P 10 49 24.7 +0.1
baz=317,SNR=14
H32A Carlson Farm, 68.26 47 P P 10 49 24.2 -0.6
baz=317

D36A Goodland 68.30 43 P P 10 49 24.8 -0.2
baz=319,SNR=8.7
W18A Petrified Fore 68.30 61 P P 10 49 26.1 +0.7
baz=315
W18A Petrified Fore 68.30 61 eP P 10 49 26.9 +1.5
comp=Z,30nm,1.3s
C37A Embarrass 68.33 42 P P 10 49 25.0 -0.1
baz=319,SNR=8.9
F34A Alexandria 68.36 45 P P 10 49 25.2 -0.2
baz=318
CTAO Charters Tower 68.43 188 eP P 10 49 25.5 -0.4
CTAO pmax pmax
comp=Z,17nm,0.7s
CTAO Charters Tower 68.43 188 eP P 10 49 25.5 -0.4
comp=Z,17nm,0.7s
EYMN Ely 68.47 41 P P 10 49 25.9 -0.1
baz=319,SNR=34
EYMN Ely 68.47 41 eP P 10 49 26.1 +0.1
comp=Z,42nm,1.0s
H33A Prehn Over Nor 68.47 47 P P 10 49 26.1 0.0
baz=317,SNR=5.1
OGNE Ogallala 68.49 52 P P 10 49 27.0 +0.6
baz=316,SNR=8.5
OGNE Ogallala 68.49 52 eP P 10 49 27.4 +1.0
comp=Z,82nm,0.9s
J31A Geddes 68.50 49 P P 10 49 26.4 +0.2
baz=317,SNR=5.2
K30A Basset 68.51 50 P P 10 49 26.6 +0.3
baz=317
G34A Benson 68.59 45 P P 10 49 26.9 +0.1
baz=318
X18A Snowflake 68.59 62 eP P 10 49 27.9 +0.7
comp=Z,69nm,1.5s
I32A Karley and Nic 68.60 47 P P 10 49 26.6 -0.2
baz=317
F35A Swanville 68.64 44 P P 10 49 26.9 -0.2
baz=318
D37A Cotton 68.65 42 P P 10 49 26.8 -0.3
baz=319,SNR=16
KONO Kongsberg 68.66 342 eP P 10 49 27.6 +0.7
KONO pmax pmax
comp=Z,33nm,1.1s
KONO Kongsberg 68.66 342 eP P 10 49 27.6 +0.7
comp=Z,33nm,1.1s
214A Organ Pipe Nat 68.67 66 P P 10 49 28.1 +0.5
baz=314,SNR=17
C38A Sawbill Land, 68.74 41 P P 10 49 27.5 -0.2
baz=320,SNR=20
E36A McGregor 68.75 43 P P 10 49 27.9 +0.1
baz=319,SNR=14
LWLI Liwa 68.86 235 P P 10 49 28.8 -0.1
SDCO Great Sand Dun 68.88 57 P P 10 49 30.0 +0.9
baz=315,SNR=16
SDCO Great Sand Dun 68.88 57 eP P 10 49 29.9 +0.7
comp=Z,76nm,1.8s
J32A Parkston 68.89 48 P P 10 49 28.2 -0.5
baz=317
I33A Coleman 68.91 47 P P 10 49 28.7 -0.1
baz=318
H34A Spellman Lake, 68.95 46 P P 10 49 29.1 +0.1
baz=318
K31A O'Neill 68.98 49 P P 10 49 29.2 -0.1
baz=317
MSVF Nonsavu 69.03 156 eP P 10 49 31.2 +1.4
MSVF pmax pmax
comp=Z,26nm,1.2s
MSVF Nonsavu 69.03 156 eP P 10 49 31.2 +1.4
comp=Z,26nm,1.2s
E37A Wrenshall 69.11 43 P P 10 49 29.8 -0.2
baz=319
F36A Milaca 69.12 44 P P 10 49 29.7 -0.4
baz=319,SNR=9.5
G35A Watkins 69.15 45 P P 10 49 30.5 +0.2
baz=318
C39A Grand Marais 69.16 41 P P 10 49 29.9 -0.5
baz=320,SNR=14
ECSD EROS Data Cent 69.23 47 P P 10 49 30.7 -0.1
baz=318,SNR=40
ECSD EROS Data Cent 69.23 47 eP P 10 49 30.9 +0.1
comp=Z,41nm,0.9s
L31A Butterfield Fa 69.26 50 P P 10 49 31.3 +0.3
baz=317,SNR=7.0
K32A Verdigre 69.35 49 P P 10 49 31.2 -0.3
baz=317
J33A Davis 69.36 48 P P 10 49 31.5 -0.1
baz=318
I34A Hadley 69.37 46 P P 10 49 31.3 -0.4
baz=318
H35A Sunnyside Ranc 69.38 45 P P 10 49 32.3 +0.6
baz=318,SNR=18
G36A St. Michael 69.48 44 P P 10 49 32.3 0.0
baz=319
KSCO Kay Shedlock' 69.56 54 P P 10 49 33.5 +0.4
baz=316
KSCO Kaye Shedlock' 69.56 54 eP P 10 49 34.0 +0.9
comp=Z,78nm,1.6s
TUC Tucson 69.65 64 P P 10 49 34.3 +0.7
baz=315
TUC Tucson 69.65 64 eP P 10 49 34.2 +0.6
TUC pmax pmax
comp=Z,40nm,1.4s
TUC Tucson 69.65 64 eP P 10 49 34.2 +0.6
comp=Z,40nm,1.4s
M31A Lambtecht Ranc 69.80 50 P P 10 49 34.0 -0.3
baz=317
L32A Elgin 69.81 49 P P 10 49 34.5 0.0
baz=318
K33A Hardington 69.87 48 P P 10 49 34.7 -0.1
baz=318
J34A George 69.88 47 P P 10 49 34.9 0.0
baz=316
H36A Jessenland, He 69.89 45 P P 10 49 35.6 +0.8
baz=319,SNR=10
T25A Trinidad 69.92 57 P P 10 49 36.0 +0.6
baz=316,SNR=11
T25A Trinidad 69.92 57 eP P 10 49 36.1 +0.6
comp=Z,72nm,1.5s
I35A Creekview Farm 69.93 46 P P 10 49 35.2 +0.1
baz=318
SPMN Marine on St. 69.93 44 P P 10 49 34.9 -0.1
baz=319,SNR=9.9
SPMN Marine on St. 69.93 44 eP P 10 49 35.6 +0.5
comp=Z,39nm,0.9s
L33A Hoskins 70.06 49 P P 10 49 35.6 -0.4
baz=318
POO Poona 70.14 276 ⇓ *i* PS P 10 49 34.0 -2.8
comp=Z,200nm,1.0s
BGNE Belgrade 70.17 50 P P 10 49 36.2 -0.5
baz=318
J35A Milford 70.19 47 P P 10 49 36.6 -0.1
baz=318
N31A Bailey Ranch, 70.19 51 P P 10 49 36.6 -0.2
baz=317
WRAB Tennant Creek 70.22 200 eP P 10 49 37.0 0.0
WRAB pmax pmax
comp=Z,92nm,0.9s
WRAB Tennant Creek 70.22 200 eP P 10 49 37.0 0.0
comp=Z,92nm,0.8s
WB2 Warramunga Arr 70.22 200 eP P 10 49 37.1 +0.1
comp=Z,95nm,0.8s
WR1 Warramunga Arr 70.23 200 eP P 10 49 36.8 -0.3
comp=Z,94nm,0.8s
WRA Warramunga Arr 70.23 200 P P 10 49 36.8 -0.3
comp=Z,76nm,0.8s,baz=16,slow=6.5,SNR=229
WRA LR LR 11 19 32.1
comp=Z,73nm,20.9s,baz=15,slow=35
WRA Warramunga Arr 70.23 200 P P 10 49 36.8 -0.3
WRA pmax pmax
comp=Z,75nm,0.8s
NCK Nalchik 70.24 314 ⇑ eP P 10 49 36.5 -0.5
NCK pmax pmax
comp=Z,12nm,0.7s
K34A Le Mars 70.26 48 P P 10 49 36.9 -0.2
baz=318,SNR=5.9
I36A Fitzsimmons Fa 70.27 45 P P 10 49 37.4 +0.3
baz=319
LAZ Ladron 70.32 60 eP P 10 49 39.2 +1.3
ANMO Albuquerque 70.33 59 P P 10 49 38.7 +0.8
baz=316
ANMO Albuquerque 70.33 59 *c* iP P 10 49 38.5 +0.6
ANMO pmax pmax
comp=Z,13nm,1.2s
ANMO Albuquerque 70.33 59 eP P 10 49 38.9 +0.9
comp=Z,56nm,1.7s
KIV Kislovodsk 70.33 315 eP P 10 49 38.5 +0.8
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,409nm,17.0s
KIV Kislovodsk 70.33 315 eP P 10 49 38.5 +0.8
H37A Dierke Farm, C 70.37 44 P P 10 49 38.1 +0.4
baz=319,SNR=9.4
KBZ Khabaz 70.40 314 P P 10 49 38.4 +0.5
comp=Z,5.9nm,0.8s,baz=57,slow=4.6,SNR=17
KBZ LR LR 11 23 48.4
comp=Z,535nm,21.6s,baz=28,slow=39
KBZ Khabaz 70.40 314 P P 10 49 38.4 +0.5
KBZ pmax pmax
comp=Z,7.0nm,0.7s
KBZ MLR MLR
comp=Z,535nm,21.7s
O31A Woolen Ranch, 70.49 51 P P 10 49 38.1 -0.6
baz=317
M33A Taylor Creek F 70.54 49 P P 10 49 38.5 -0.3
baz=318
I37A Lemond, Waseca 70.57 45 P P 10 49 39.6 +0.6
baz=319,SNR=13
N32A Stulken Farm, 70.57 50 P P 10 49 38.8 -0.3
baz=318
GUDG Gudauri 70.58 312 P P 10 49 41.0 +1.7
ZEI Tsey 70.62 313 eP P 10 49 37.6 -2.0
ZEI pmax pmax
comp=Z,26nm,0.7s
J36A Seneca 1, Swea 70.64 46 P P 10 49 39.4 0.0
baz=319
L34A Svendsen Farm, 70.66 48 P P 10 49 39.1 -0.5
baz=318
K35A Storm Lake 70.66 47 P P 10 49 39.2 -0.4
baz=319
LPM Los Pinos Moun 70.68 60 eP P 10 49 41.1 +1.0
Y22D IRIS PASSCAL I 70.68 60 P P 10 49 41.7 +1.6
baz=316
AKASG Malin Array Be 70.74 327 P P 10 49 38.6 -1.3
comp=Z,11nm,0.7s,baz=34,slow=6.2,SNR=35
AKASG LR LR 11 22 49.1
comp=Z,396nm,20.4s,baz=350,slow=38
AKASG Malin Array Be 70.74 327 P P 10 49 38.6 -1.3
AKASG pmax pmax
comp=Z,12nm,0.7s
AKASG MLR MLR
comp=Z,396nm,20.4s
AKBB Malin Array Si 70.74 327 eP P 10 49 39.2 -0.7
AKBB pmax pmax
comp=Z,15nm,0.8s
AKBB Malin Array Si 70.74 327 eP P 10 49 39.2 -0.7
comp=Z,15nm,0.8s
KIEV Kiev 70.75 327 *c* iP P 10 49 39.1 -0.9
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 70.75 327 eP P 10 49 39.1 -0.9
KIEV Kiev 70.75 327 eP P 10 49 39.3 -0.7
comp=Z,15nm,0.8s
AK11 Malin Array Si 70.78 327 eP P 10 49 39.2 -0.9
BNM Barren Site 70.80 60 eP P 10 49 41.8 +1.0
NEY Neytrino 70.85 314 ⇑ eP P 10 49 41.4 +0.5
DZM Mont Dzumac 70.85 168 eP P 10 49 40.1 -0.8
comp=Z,45nm,1.1s
DZM Mont Dzumac 70.85 168 eLR LR 11 11 09.4
comp=Z,694nm,25.1s
DZM Mont Dzumac 70.85 168 P P 10 49 41.8 +0.9
comp=Z,18nm,0.9s,baz=56,slow=11,SNR=11
DZM Mont Dzumac 70.85 168 eP P 10 49 40.6 -0.3
comp=Z,17nm,0.9s
FITZ Fitzroy Crossi 70.88 209 eP P 10 49 41.9 +0.9
comp=Z,62nm,0.9s
M34A Aspy Farms, Fr 70.90 49 P P 10 49 41.0 -0.1
baz=318
COWI Conover 70.92 41 eP P 10 49 41.0 -0.2
comp=Z,32nm,1.0s
O32A Brockman Farm, 70.95 51 P P 10 49 40.8 -0.7
baz=318
L35A Bielow Farm, R 70.96 48 P P 10 49 40.7 -0.7
baz=319
TBLG Delisi 71.00 312 P P 10 49 42.1 +0.4
TBLG Delisi 71.00 312 P P 10 49 42.1 +0.4
N33A J Bar K, Exete 71.03 50 P P 10 49 41.2 -0.7
baz=318
J37A Redenius Farm, 71.03 46 P P 10 49 41.8 0.0
baz=319
I38A Scanlan Farm, 71.05 44 P P 10 49 41.5 -0.4
baz=320,SNR=8.1
K36A Gilmore City 71.10 47 P P 10 49 42.3 0.0
baz=319
319A Douglas 71.21 64 eP P 10 49 44.2 +1.0
comp=Z,76nm,1.0s
CBKS Cedar Bluff 71.25 53 P P 10 49 43.1 -0.2
baz=318
P32A Huiting Farm, 71.26 51 P P 10 49 42.5 -0.8
baz=318,SNR=5.9
121A Cookes Peak, D 71.28 62 P P 10 49 44.7 +1.0
baz=316,SNR=13
M35A Neola 71.37 48 P P 10 49 43.8 -0.1
baz=319
K37A Belmond 71.40 46 P P 10 49 43.9 -0.1
baz=319
L36A Harm Buss Farm 71.40 47 P P 10 49 44.0 -0.1
baz=319
N34A Lincoln 71.43 49 P P 10 49 43.5 -0.8
baz=318
O33A Hebron 71.45 50 P P 10 49 43.5 -0.9
baz=318
BSD Bornholm Skovb 71.49 337 *i* P P 10 49 44.5 +0.1
BSD pmax pmax
comp=Z,51nm,1.0s
BSD Bornholm Skovb 71.49 337 *i* P P 10 49 44.5 +0.1
comp=Z,51nm,1.0s
J38A Wedel Dairy, R 71.53 45 P P 10 49 44.7 -0.1
baz=320
CHVG Ch'k'valeri 71.56 314 P P 10 49 42.8 -2.2
SCHQ Schefferville 71.58 24 P P 10 49 45.5 +0.6
comp=Z,49nm,0.8s,baz=353,slow=5.8,SNR=37
SCHQ LR LR 11 25 23.0
comp=Z,127nm,19.2s,baz=323,slow=39
SCHQ Schefferville 71.58 24 eP P 10 49 45.3 +0.4
comp=Z,49nm,0.8s
COP Copenhagen 71.61 338 eP P 10 49 45.6 +0.6
COP MLR MLR
comp=Z,300nm,24.0s
COP Copenhagen 71.61 338 *i* P P 10 49 45.6 +0.6
comp=Z,300nm,24.0s
Q32A Meitler Ranch, 71.74 52 P P 10 49 45.7 -0.5
baz=318
M36A Felix, Anita 71.82 48 P P 10 49 46.5 -0.1
baz=319
O34A Beatrice 71.82 50 P P 10 49 45.7 -0.9
baz=319,SNR=12
L37A Phoenix Point, 71.83 47 P P 10 49 46.3 -0.3
baz=320,SNR=14
N35A Tabor 71.85 49 P P 10 49 46.7 -0.1
baz=319,SNR=5.7
P33A Williams Farm, 71.86 51 P P 10 49 45.9 -1.0
baz=318
HSIG 71.87 67 eP P 10 49 48.0 +0.9
comp=Z,40nm,1.3s
K38A Parkersburg 71.90 46 P P 10 49 46.7 -0.4
baz=320
SOC Sochi 72.01 316 eP P 10 49 47.4 -0.3
SOC *e**PP **pP** 10 50 01.9 -1.2
SOC *e* 10 52 32.9
SOC *e*PPP PPP 10 54 18.0
SOC *e*S **S** 10 59 05.4 +0.6
SOC pmax pmax
comp=Z,11nm,0.3s
SOC MLR MLR
comp=Z,685nm,19.0s
SOC Sochi 72.01 316 eP P 10 49 47.4 -0.3
R32A Long Quarter, 72.08 52 P P 10 49 47.5 -0.8
baz=318
ANN Anapa 72.11 318 eP P 10 49 48.7 +0.5
ANN *e**PP **PcP** 10 50 05.4 -1.0
ANN *e*S **S** 10 59 08.6 +2.7
ANN pmax pmax
comp=Z,21nm,0.7s
ANN MLR MLR
comp=Z,328nm,19.0s
Q33A Connelly Farm, 72.12 51 P P 10 49 47.4 -1.0
baz=318,SNR=14
O35A Humboldt 72.16 49 P P 10 49 47.7 -0.9
baz=319
GNI Garni 72.18 311 P P 10 49 49.5 +0.6
comp=Z,25nm,0.7s,baz=155,slow=4.8,SNR=7.4
GNI Garni 72.18 311 P P 10 49 50.0 +1.0
GNI Garni 72.18 311 P P 10 49 49.9 +0.9
SNR=5.6
L38A Oak Wood Farm, 72.20 46 P P 10 49 48.4 -0.5

baz=320,SNR=5.2
N36A **Muff Farm, Cla** 72.22 48 P P 10 49 49.0 -0.1
baz=319
M37A **Trindle Farm,** 72.22 47 P P 10 49 49.2 +0.2
baz=320
P34A **Walnut Farm, R** 72.23 50 P P 10 49 47.9 -1.2
baz=319,SNR=6.2
SCIA **State Center** 72.25 46 *eP* P 10 49 50.0 +0.8
comp=Z,85nm,0.9s
S32A **Newby Ranch, P** 72.50 53 P P 10 49 50.0 -0.8
baz=318
R33A **Olander Ranch,** 72.55 52 P P 10 49 50.3 -0.8
baz=318
M38A **Pleasantville** 72.64 47 P P 10 49 51.4 -0.1
baz=320,SNR=5.5
N37A **Lee Faris, Mou** 72.64 48 P P 10 49 51.2 -0.3
baz=320,SNR=5.3
Q34A **Chapman** 72.64 51 P P 10 49 50.6 -0.9
baz=319
P35A **Duane Minner,** 72.66 50 P P 10 49 50.7 -0.9
baz=319,SNR=7.2
KSU1 **Kansas State U** 72.67 50 P P 10 49 50.9 -0.9
baz=319
O36A **Bolckow** 72.74 49 P P 10 49 52.0 -0.1
baz=319
JFWS **Jewell Farm** 72.89 44 *eP* P 10 49 52.0 -1.0
JFWS pmax pmax
comp=Z,21nm,1.2s
JFWS **Jewell Farm** 72.89 44 *eP* P 10 49 52.0 -1.0
comp=Z,20nm,1.2s
T32A **Huddler Ranch,** 72.89 53 P P 10 49 52.6 -0.5
baz=318
R34A **Isabella, Hill** 72.94 51 P P 10 49 52.5 -0.9
baz=319,SNR=6.1
P36A **Good Intent, A** 73.00 49 P P 10 49 52.9 -0.8
baz=319
S33A **Kaszmaul Farm,** 73.08 52 P P 10 49 53.7 -0.5
baz=318
AMTX **Amarillo** 73.08 57 P P 10 49 54.6 +0.3
baz=318
AMTX **Amarillo** 73.08 57 *eP* P 10 49 55.0 +0.7
comp=Z,57nm,1.3s
N38A **Joes South For** 73.09 47 P P 10 49 54.0 -0.2
baz=320,SNR=5.1
O37A **Wolven Farm, M** 73.12 48 P P 10 49 54.3 -0.1
baz=320
MSTX **Muleshoe** 73.14 58 P P 10 49 54.7 0.0
baz=317,SNR=13
MSTX **Muleshoe** 73.14 58 *eP* P 10 49 55.4 +0.7
comp=Z,51nm,1.3s
Q35A **Mercer Eighty,** 73.15 50 P P 10 49 53.9 -0.7
baz=319
SORM **Soroca** 73.18 326 ⇓*iP* P 10 49 54.2 -0.3
SORM **Soroca** 73.18 326 ⇓P P 10 49 54.2 -0.3
MNTX **Cornudas Mount** 73.29 61 P P 10 49 55.7 +0.2
baz=317,SNR=17
MNTX **Cornudas Mount** 73.29 61 *eP* P 10 49 56.2 +0.7
comp=Z,58nm,1.6s
T33A **Patterson Ranc** 73.33 53 P P 10 49 55.7 0.0
baz=318
LVV **L'vov** 73.33 329 *eP* P 10 49 55.4 0.0
EIDS **Eidsvold** 73.36 183 *eP* P 10 49 56.4 +0.7
comp=Z,39nm,1.0s
Q36A **Arnold C. Orve** 73.37 50 P P 10 49 54.4 -1.4
baz=319
N39A **Derby Farms, D** 73.39 47 P P 10 49 55.8 -0.1
baz=320
U32A **Winter Ranch,** 73.44 54 P P 10 49 56.3 -0.1
baz=318
P37A **Lathrop** 73.46 49 P P 10 49 55.9 -0.4
baz=320,SNR=12
S34A **Willow Spring** 73.46 52 P P 10 49 55.9 -0.5
baz=319
R35A **Emporia Munici** 73.47 51 P P 10 49 56.1 -0.4
baz=319
O38A **Galt** 73.49 48 P P 10 49 56.5 -0.1
baz=320
PALK **Pallekele** 73.73 263 *i* P P 10 49 59.8 +1.5
R36A **Gordon, Harris** 73.83 50 P P 10 49 58.0 -0.5
baz=320
P38A **Dawn** 73.84 48 P P 10 49 58.4 -0.2
baz=320,SNR=14
O39A **Kirksville** 73.84 47 P P 10 49 58.7 +0.1
baz=320
U33A **Lingo Farm, Me** 73.88 53 P P 10 49 58.6 -0.3
baz=319,SNR=6.3
S35A **Otter Creek Ra** 73.89 51 P P 10 49 58.6 -0.4
baz=319
AS01 **Alice Springs** 73.91 199 *eP* P 10 49 59.8 +0.8
V32A **Arapaho** 73.91 54 P P 10 49 59.4 +0.3
baz=318
AS31 **Alice Springs** 73.92 199 *eP* P 10 49 59.8 +0.7
comp=Z,8.8nm,0.7s
ASAR **Alice Springs** 73.92 199 P P 10 49 59.9 +0.8
comp=Z,24nm,0.7s,baz=13,slow=5.2,SNR=328
ASAR LR LR 11 20 09.3
comp=Z,68nm,21.9s,baz=16,slow=34
T34A **McClaskey Farm** 73.93 52 P P 10 49 58.7 -0.5
baz=319
KIS **Kishinev** 73.94 325 ⇓*iP* P 10 49 59.0 0.0
KIS *eL* L 11 16 40.0
KIS LRM MLR 11 30 06.0
comp=Z,300nm,18.0s
KIS **Kishinev** 73.94 325 ⇓*iP* P 10 49 59.0 0.0
KWP **Kalwaria Pacla** 73.94 330 *eP* P 10 49 59.3 +0.3
KWP LMZ LR 11 18 38.6
comp=Z,400nm,31.3s
KWP **Kalwaria Pacla** 73.94 330⇑*eP* P 10 49 59.3 +0.3
Q37A **Longview Farm,** 73.95 49 P P 10 49 58.6 -0.7
baz=320
R37A **Teagarden Farm** 74.18 50 P P 10 49 59.8 -0.8
baz=320
U34A **Anderson Ranch** 74.19 53 P P 10 50 00.3 -0.3
baz=319
U34A **Anderson Ranch** 74.19 53 *eP* P 10 50 00.8 +0.1
comp=Z,102nm,1.7s
S36A **Lake Cedric, C** 74.24 51 P P 10 50 00.6 -0.4
baz=320,SNR=6.4
V33A **Lossen Ranch,** 74.25 54 P P 10 50 00.8 -0.2
baz=319,SNR=5.2
W32A **Sentinel** 74.25 55 P P 10 50 01.8 +0.7
baz=318
O40A **La Belle** 74.27 47 P P 10 50 01.3 +0.2
baz=321
Q38A **Cooks Store, C** 74.30 49 P P 10 50 00.8 -0.5
baz=320
P39B **Salisbury** 74.33 48 P P 10 50 01.4 0.0
baz=320,SNR=7.7
T35A **Sooner Cattle** 74.37 52 P P 10 50 01.6 -0.1
baz=319
OJC **Ojcow** 74.39 332 *eP* P 10 50 02.0 +0.4
OJC LMZ LR 11 22 20.5
comp=Z,600nm,25.8s
OJC **Ojcow** 74.39 332 *eP* P 10 50 02.0 +0.4
OJC pmax pmax
comp=Z,78nm,1.4s
OJC **Ojcow** 74.39 332 *eP* P 10 50 02.0 +0.4
comp=Z,78nm,1.4s
Q39A **Willow Grove F** 74.56 48 P P 10 50 02.9 +0.1
baz=320
T36A **Boggs Farm, Ca** 74.59 51 P P 10 50 02.9 -0.1
baz=320
S37A **Fort Scott** 74.60 50 P P 10 50 02.2 -0.9
baz=320,SNR=8.6
STHS **Stebnicka Huta** 74.61 330 *eP* P 10 50 04.1 +1.1
STHS pmax pmax
comp=Z,78nm,2.1s
STHS **Stebnicka Huta** 74.61 330 *eP* P 10 50 04.1 +1.1
P40A **Paris** 74.64 47 P P 10 50 03.3 +0.1
baz=321,SNR=13
V34A **Guthrie** 74.65 53 P P 10 50 03.6 +0.2
baz=319
V34A **Guthrie** 74.65 53 *eP* P 10 50 02.7 -0.7
comp=Z,42nm,0.9s
W33A **Caddo, Fort Co** 74.65 54 P P 10 50 03.8 +0.4
baz=319,SNR=7.2
U35A **Pawnee** 74.66 52 P P 10 50 03.5 0.0
baz=319,SNR=9.7
KOLS **Kolonicke sedl** 74.69 330 *eP* P 10 50 03.7 +0.3
KOLS pmax pmax
comp=Z,30nm,1.2s
KOLS **Kolonicke sedl** 74.69 330 *eP* P 10 50 03.7 +0.3
X32A **Elmer** 74.75 55 P P 10 50 04.1 +0.1
baz=319,SNR=7.9
R38A **Fenwick Farm,** 74.75 49 P P 10 50 02.9 -1.0
baz=320,SNR=14
BUR08 **Bucovina Ar. S** 74.76 327 *eP* P 10 50 04.1 +0.2
BURAR **Bucovina Array** 74.77 327 ⇓*iP* P 10 50 04.1 +0.1
BURAR **Bucovina Array** 74.77 327 ⇓P P 10 50 04.1 +0.1
WMOK **Wichita Mounta** 74.79 55 P P 10 50 04.3 +0.1
baz=319,SNR=6.8
WMOK **Wichita Mounta** 74.79 55 *eP* P 10 50 04.5 +0.3
WMOK pmax pmax
comp=Z,19nm,1.0s
WMOK **Wichita Mounta** 74.79 55 *eP* P 10 50 04.5 +0.3
comp=Z,19nm,0.9s
KSP **Ksiaz** 74.91 334 *eP* P 10 50 05.0 +0.4
KSP LMZ LR 11 23 16.2
comp=Z,300nm,24.3s
KSP **Ksiaz** 74.91 334⇓*eP* P 10 50 05.0 +0.4
KSP MLR MLR
comp=Z,300nm,24.3s
NIE **Niedzica** 74.92 331 *eP* P 10 50 05.8 +1.1
NIE LMZ LR 11 22 39.8
comp=Z,200nm,24.6s
NIE **Niedzica** 74.92 331 *eP* P 10 50 05.8 +1.1
NIE MLR MLR
comp=Z,200nm,24.6s
UZH **Uzhgorod** 74.94 329⇑*iP* P 10 50 04.6 -0.2
UZH *e* 10 50 14.6
W34A **Bridge Creek,** 74.96 54 P P 10 50 05.6 +0.4
baz=319
W34A **Bridge Creek,** 74.96 54 *eP* P 10 50 06.2 +0.9
comp=Z,106nm,1.8s
CRVS **Cervenica-Dubn** 74.99 330 *eP* P 10 50 05.6 +0.5
CRVS **Cervenica-Dubn** 74.99 330 *eP* P 10 50 05.6 +0.5
T37A **Cheneyville 18** 75.04 51 P P 10 50 05.1 -0.5
baz=320,SNR=20
Q40A **Laux Farm, Aux** 75.04 48 P P 10 50 05.0 -0.6
baz=321,SNR=6.2
V35A **Meyer Ranch, C** 75.06 53 P P 10 50 05.8 +0.1
baz=319,SNR=8.0
ESK **Eskdalemuir** 75.08 347 *eP* P 10 50 05.6 +0.1
ESK pmax pmax
comp=Z,36nm,0.8s
ESK **Eskdalemuir** 75.08 347 *eP* P 10 50 05.6 +0.1
comp=Z,36nm,0.8s
X33A **Lawton** 75.09 55 P P 10 50 06.0 +0.1
baz=319
R39A **Chumby, Stover** 75.09 49 P P 10 50 05.0 -0.9
baz=321,SNR=16
TESR **Tescani** 75.17 326⇑*iP* P 10 50 06.2 0.0
HDIL **Hopedale** 75.17 45 P P 10 50 06.4 +0.2
baz=322,SNR=8.2
HDIL **Hopedale** 75.17 45 *eP* P 10 50 06.3 +0.1
HDIL *ePcP* PcP 10 50 18.3 -1.3
S38A **Stockton** 75.17 50 P P 10 50 05.6 -0.8
baz=320,SNR=8.1
U36A **Dologah** 75.17 52 P P 10 50 06.3 -0.1
baz=320
OKC **Ostrava-Krasne** 75.24 332 *eP* P 10 50 07.3 +0.8
OKC AMS AMS 11 28 10.0
comp=Z,400nm,20.2s
OKC **Ostrava-Krasne** 75.24 332 *eP* P 10 50 07.3 +0.8
OKC MLR MLR
comp=Z,400nm,20.2s
TRPA **Tarpa** 75.28 329⇑*eP* P 10 50 07.4 +0.6
UPC **Upice** 75.29 334⇓*eP* P 10 50 07.8 +1.0
UPC AMS AMS 11 28 20.0
comp=Z,600nm,21.8s
UPC **Upice** 75.29 334 *eP* P 10 50 07.8 +1.0
UPC MLR MLR
comp=Z,600nm,21.8s
DPC **Dobruska-Polom** 75.34 334 *eP* P 10 50 08.2 +1.1
DPC *ex* x 10 50 14.8
DPC AMS AMS 11 29 00.0
comp=Z,600nm,19.4s
DPC **Dobruska-Polom** 75.34 334 *eP* P 10 50 08.2 +1.1
DPC *e* 10 50 14.8
DPC MLR MLR
comp=Z,600nm,19.4s
X34A **Smith Ranch, M** 75.41 54 P P 10 50 08.2 +0.5
baz=319,SNR=6.8
Y33A **Hilltop Ranch,** 75.42 55 P P 10 50 07.8 0.0
baz=319,SNR=8.7
CLL **Collm** 75.42 336 ⇓*iP* P 10 50 07.9 +0.4
comp=Z,73nm,1.0s
CLL *e* 10 50 48.0
CLL *e*(S) S 10 59 36.0 -7.0
CLL *e*(SS) 11 04 42.0
CLL *e* 11 08 42.0
CLL Lm MLR 11 26 00.0
comp=Z,500nm,20.7s
CLL **Collm** 75.42 336 *eP* P 10 50 07.5 0.0
CLL pmax pmax
comp=Z,58nm,0.9s
CLL **Collm** 75.42 336 *eP* P 10 50 07.5 0.0
CLL **Collm** 75.42 336 *eP* P 10 50 07.7 +0.2
comp=Z,58nm,0.9s
LANS **Liptovska Anna** 75.42 331 *eP* P 10 50 09.0 +1.3
LANS **Liptovska Anna** 75.42 331 *eP* P 10 50 09.0 +1.3
S39A **Bolivar** 75.42 49 P P 10 50 06.8 -1.0
baz=321,SNR=8.6
T38A **Diamond** 75.43 50 P P 10 50 07.6 -0.3
baz=320,SNR=39
TLCR 75.44 324⇑*iP* P 10 50 08.4 +0.7
TLCR 75.44 324⇑P P 10 50 08.4 +0.7
MORC **Moravsky Berou** 75.48 333 *eP* P 10 50 08.6 +0.6
MORC pmax pmax
comp=Z,268nm,1.1s
MORC **Moravsky Berou** 75.48 333 *eP* P 10 50 08.6 +0.6
comp=Z,268nm,1.1s
U37A **Salina** 75.48 51 P P 10 50 08.2 0.0
baz=320,SNR=20
R40A **Maddies Statio** 75.49 48 P P 10 50 07.8 -0.4
baz=321,SNR=15
W35A **Tecumseh** 75.51 53 P P 10 50 08.5 +0.2
baz=320,SNR=12
TUL1 **Leonard** 75.51 52 P P 10 50 08.4 0.0
baz=320,SNR=9.6
TUL1 **Leonard** 75.51 52 *eP* P 10 50 08.5 +0.2
comp=Z,33nm,0.9s
V36A **Jenks** 75.52 52 P P 10 50 08.3 -0.1
baz=320,SNR=15
ARCR **ARCALIA** 75.53 327 ⇓*iP* P 10 50 09.6 +1.3
KECS **Kecovo** 75.67 330 *eP* P 10 50 09.3 +0.3
KECS *e* 10 50 20.1
KECS pmax pmax
comp=Z,12nm,1.0s
KECS **Kecovo** 75.67 330 *eP* P 10 50 09.3 +0.3
KECS *e* 10 50 20.1
VRI **Vrincioaia** 75.68 325 ⇓*iP* P 10 50 12.6 +3.4
VRI **Vrincioaia** 75.68 325 ⇓P P 10 50 12.6 +3.4
PVCC **Panska Ves** 75.69 335 ⇓*eP* P 10 50 10.0 +0.9
PVCC AMS AMS 11 25 30.0
comp=Z,500nm,18.1s
PVCC **Panska Ves** 75.69 335 *eP* P 10 50 10.0 +0.9
PVCC MLR MLR
comp=Z,500nm,18.1s
CFR **Carcaliu** 75.71 324⇑*iP* P 10 50 09.3 0.0
CFR **Carcaliu** 75.71 324⇑P P 10 50 09.3 0.0
PLOR **Plostina** 75.72 325 ⇓*iP* P 10 50 10.0 +0.6
PLOR **Plostina** 75.72 325 ⇓P P 10 50 10.0 +0.6
MBWA **Marble Bar** 75.75 213 *eP* P 10 50 10.1 +0.5
comp=Z,62nm,1.1s
U38A **Gravette** 75.84 51 P P 10 50 09.7 -0.5
baz=320,SNR=9.6
W36A **Wetumka** 75.86 53 P P 10 50 10.5 +0.2
baz=320,SNR=13
Q42A **Golden Eagle** 75.86 47 P P 10 50 10.4 +0.1
baz=322,SNR=14
V37A **Hulbert** 75.87 52 P P 10 50 10.3 -0.1
baz=320,SNR=24
Z33A **Whitaker Ranch** 75.88 56 P P 10 50 10.5 0.0
baz=319,SNR=6.2
ABTX **Abilene, Hawle** 75.89 57 P P 10 50 10.8 +0.2
baz=319,SNR=5.3
ABTX **Abilene, Hawle** 75.89 57 *eP* P 10 50 11.0 +0.5
comp=Z,41nm,1.4s
T39A **Clever** 75.91 50 P P 10 50 09.9 -0.6
baz=321,SNR=6.1
S40A **Lebanon** 75.91 49 P P 10 50 09.9 -0.7
baz=321,SNR=16
Y34A **Reagan Ranch,** 75.93 55 P P 10 50 10.9 +0.1
baz=319,SNR=7.2
LTX **Lajitas** 76.02 62 *eP* P 10 50 12.0 +0.5
LTX **Lajitas** 76.02 62 *eP* P 10 50 12.0 +0.5
TX31 **Lajitas Ar. Si** 76.02 62 *eP* P 10 50 12.0 +0.5
TXAR **Lajitas Array** 76.02 62 P P 10 50 12.0 +0.5
comp=Z,18nm,0.8s,baz=298,slow=4.4,SNR=240
X35A **Drake** 76.02 54 P P 10 50 10.9 -0.4
baz=320,SNR=8.2
DOPR **Dopca** 76.10 326⇑*iP* P 10 50 13.2 +1.6
CJR **Cluj-Napoca** 76.12 328⇑*iP* P 10 50 13.2 +1.5
CJR **Cluj-Napoca** 76.12 328⇑P P 10 50 13.2 +1.5
BANOM **Banah** 76.16 293 *i* P P 10 50 12.2 +0.1
SNR=14
BANOM **Banah** 76.16 293 P P 10 50 12.3 +0.1
SNR=6.9
GOPC **GO Pecny, Ondr** 76.17 334 *eP* P 10 50 12.8 +0.9
GOPC AMS AMS 11 27 10.0
comp=Z,400nm,17.6s
GOPC **GO Pecny, Ondr** 76.17 334 *eP* P 10 50 12.8 +0.9
GOPC MLR MLR
comp=Z,400nm,17.6s
PRU **Pruhonice** 76.18 335 ⇓*iP* P 10 50 12.8 +0.9
PRU *ex* x 10 50 17.5
PRU AMS AMS 11 26 00.0
comp=Z,500nm,20.2s
PRU **Pruhonice** 76.18 335 ⇓*iP* P 10 50 12.8 +0.9
PRU *e* 10 50 17.5
PRU MLR MLR
comp=Z,500nm,20.2s
HHAR **Hobbs** 76.19 51 *eP* P 10 50 12.2 0.0
comp=Z,26nm,1.0s
VYHS **Vyhne** 76.20 331 *eP* P 10 50 12.8 +0.7
VYHS pmax pmax
comp=Z,25nm,1.2s
VYHS **Vyhne** 76.20 331 *eP* P 10 50 12.8 +0.7
X36A **Centrahoma** 76.23 53 P P 10 50 12.4 0.0
baz=320,SNR=9.2
Q43A **New Douglas** 76.25 46 P P 10 50 12.6 +0.2
baz=322
T40A **Mansfield** 76.25 49 P P 10 50 12.0 -0.5
baz=321,SNR=10
V38A **Canehill** 76.27 51 P P 10 50 12.6 -0.1
baz=320,SNR=19
W37B **Quinton** 76.28 52 P P 10 50 13.1 +0.3
baz=320,SNR=22
Z34A **Collier Ranch,** 76.29 55 P P 10 50 12.7 -0.1
baz=319,SNR=5.3
MLR **Muntele Rosu** 76.30 325 ⇓*iP* P 10 50 13.0 +0.2
MLR **Muntele Rosu** 76.30 325 ⇓P P 10 50 13.0 +0.2
133A **Hamilton Ranch** 76.31 56 P P 10 50 12.9 0.0
baz=319,SNR=7.0
SFIN **Lafayette** 76.34 44 P P 10 50 12.6 -0.4
baz=323
SFIN **Lafayette** 76.34 44 *eP* P 10 50 13.3 +0.3
comp=Z,27nm,1.0s
U39A **Green Forest** 76.35 50 P P 10 50 12.9 -0.3
baz=321,SNR=51
PSZ **Piszkesteto** 76.36 330⇑*eP* P 10 50 13.4 +0.4
PSZ **Piszkesteto** 76.36 330 *eP* P 10 50 14.0 +0.9
PSZ pmax pmax
comp=Z,41nm,1.1s
PSZ **Piszkesteto** 76.36 330 *eP* P 10 50 14.0 +0.9
comp=Z,41nm,1.1s
Y35A **Marietta** 76.36 54 P P 10 50 13.3 +0.1
baz=320
WTSB **Winterswijk** 76.36 340 *eP* P 10 50 13.0 +0.1
comp=Z,67nm,1.0s
DRGR 76.37 328 ⇓*iP* P 10 50 13.6 +0.5
DRGR 76.37 328 ⇓P P 10 50 13.6 +0.5
ISR **Istrita** 76.38 325 ⇓*iP* P 10 50 14.2 +1.0
ISR **Istrita** 76.38 325 ⇓P P 10 50 14.2 +1.0
TREC **Trest** 76.53 334 ⇓*eP* P 10 50 14.7 +0.8
TREC AMS AMS 11 29 10.0
comp=Z,600nm,19.1s
TREC **Trest** 76.53 334 *eP* P 10 50 14.7 +0.8
TREC MLR MLR
comp=Z,600nm,19.1s
NKC **Novy Kostel** 76.54 336 *eP* P 10 50 14.8 +0.8
NKC AMS AMS 11 26 50.0
comp=Z,400nm,19.6s
NKC **Novy Kostel** 76.54 336 *eP* P 10 50 14.8 +0.8
NKC MLR MLR
comp=Z,400nm,19.6s
HPIG 76.59 65 *eP* P 10 50 15.0 +0.1
comp=Z,25nm,0.9s
TRQ **Mont Tremblant** 76.67 33 *eP* P 10 50 14.6 -0.2
VOIR 76.68 326 ⇓*iP* P 10 50 15.9 +1.1
VOIR 76.68 326 ⇓P P 10 50 16.0 +1.1
Z35A **Perchaven, San** 76.68 55 P P 10 50 14.7 -0.3
baz=320
U40A **Yellville** 76.69 50 P P 10 50 14.7 -0.4
baz=321,SNR=40
T41A **Mountain View** 76.71 49 P P 10 50 14.5 -0.7
baz=321,SNR=14
X37A **Clayton** 76.74 53 P P 10 50 15.2 0.0
baz=320,SNR=5.2
MSAB **Monastry St. A** 76.74 323 ⇓*iP* P 10 50 16.2 +1.1
233A **Rising Star** 76.76 57 P P 10 50 15.5 0.0
baz=319,SNR=9.0
Y36A **Durant** 76.77 54 P P 10 50 15.5 0.0
baz=320,SNR=5.9
134A **White-Moore Ra** 76.80 56 P P 10 50 15.6 -0.1
baz=319
W38A **Poteau** 76.82 52 P P 10 50 15.9 +0.2
baz=320,SNR=6.0
SULR 76.86 325 ⇓*iP* P 10 50 16.6 +0.8
ARR **Arges** 76.89 326⇑*iP* P 10 50 18.2 +2.1
WBK **Wadi Bani Khal** 76.91 289 P P 10 50 18.2 +1.7
SNR=5.5
UOSS **Minazif** 76.93 293 *eP* P 10 50 16.9 +0.4
comp=Z,6.0nm,1.1s
PSN **Preselentsi** 76.94 323 *i* P P 10 50 16.4 +0.1
X38A **Whitesboro** 76.96 52 P P 10 50 16.8 +0.2
baz=320,SNR=15
BUD **Budapest** 77.03 331 ⇓*e*PKPdf P 10 50 17.9 +1.2
HATD **Hatta, Dubai** 77.06 293 *i* P P 10 50 17.9 +0.6
SNR=24
Y37A **Hugo** 77.07 53 P P 10 50 17.3 +0.1
baz=320
R44A **Waltonville** 77.09 46 P P 10 50 17.0 -0.2
baz=322,SNR=6.4
W39A **Magazine** 77.11 51 P P 10 50 17.2 -0.2
baz=321,SNR=15
S43A **Fulton Ridge,** 77.14 47 P P 10 50 17.2 -0.3
baz=322,SNR=7.6
LOT **Lotru** 77.14 327⇑*iP* P 10 50 17.8 +0.2
SMDO **Samad** 77.16 290 P P 10 50 17.6 -0.3
SNR=6.6
Z36A **Blue Ridge** 77.17 54 P P 10 50 17.6 -0.1
baz=320,SNR=6.4
OLIL **Olney** 77.17 45 *eP* P 10 50 18.2 +0.5
comp=Z,120nm,1.8s
135A **Vickery Place,** 77.18 55 P P 10 50 18.2 +0.4
baz=320
SIRR **Siria** 77.19 328⇑*iP* P 10 50 18.7 +1.0
234A **Clairette** 77.19 56 P P 10 50 18.2 +0.3
baz=320
ASHO **Ashiyiah** 77.21 293 *i* P P 10 50 17.7 -0.5
SNR=26
ASHO **Ashiyiah** 77.21 293 P P 10 50 18.5 +0.3
SNR=18
KHC **Kasperske Hory** 77.23 335 *eP* P 10 50 18.0 +0.1
KHC *ex* x 10 50 23.0
KHC *ex* x 10 50 28.5
KHC **Kasperske Hory** 77.23 335 *eP* P 10 50 18.0 +0.1
KHC *e* 10 50 28.5
KHC **Kasperske Hory** 77.23 335 *eP* P 10 50 18.0 +0.1
NAZ **Nazwa, Dubai** 77.23 293 *i* P P 10 50 18.5 +0.3
SNR=7.3
333A **Richland Sprin** 77.23 57 P P 10 50 18.1 -0.1
baz=319,SNR=11
CWF **Charnwood Fore** 77.25 345 *eP* P 10 50 18.1 +0.2
comp=Z,73nm,1.0s
SFNV **Sufian** 77.38 311 *eP* P 10 50 19.9 +0.9
JCT **Junction City** 77.41 58 P P 10 50 19.2 +0.1
baz=319,SNR=14
JCT **Junction City** 77.41 58 *eP* P 10 50 19.3 +0.1
JCT pmax pmax
comp=Z,48nm,1.3s
JCT **Junction City** 77.41 58 *eP* P 10 50 19.3 +0.1
comp=Z,48nm,1.3s
S44A **Carbondale** 77.44 47 P P 10 50 19.3 +0.1
baz=322
SIUC **Southern Illin** 77.44 47 *eP* P 10 50 19.7 +0.5
comp=Z,39nm,1.0s
GEC2 **GERESS Array S** 77.45 335 *eP* P 10 50 19.5 +0.3
GEC2 pmax pmax
comp=Z,28nm,0.9s
GEC2 **GERESS Array S** 77.45 335 *eP* P 10 50 19.5 +0.3
comp=Z,28nm,0.9s
GERES **GERESS Array B** 77.45 335 P P 10 50 19.4 +0.2
comp=Z,15nm,0.7s,baz=34,slow=5.0,SNR=121
GERES LR LR 11 26 59.8
comp=Z,502nm,21.4s,baz=20,slow=38

GERES **GERESS Array B** 77.45 335 P P 10 50 19.4 +0.2
FAQ **Al Faqa, Dubai** 77.45 293 *i* P P 10 50 19.5 +0.1
SNR=8.2
GEA0 **GERESS Array S** 77.46 335 *e*P P 10 50 19.1 -0.1
X39A **Fountain Ranch** 77.46 52 P P 10 50 19.7 +0.3
baz=321,SNR=15
W40A **Ferguson Farm,** 77.48 51 P P 10 50 19.5 +0.1
baz=321,SNR=6.9
V41A **Mountainview** 77.49 50 P P 10 50 19.0 -0.5
baz=321,SNR=14
DSB **Dublin** 77.54 348 *e*P P 10 50 20.1 +0.6
comp=Z,64nm,0.9s
GZR **Gura Zlata** 77.55 327 ⇓*i*P P 10 50 20.0 +0.2
GZR **Gura Zlata** 77.55 327 ⇓P P 10 50 20.0 +0.2
MZRK **Al-Mazaregh** 77.56 310 *e*P P 10 50 20.9 +0.9
WHTX **Lake Whitney,** 77.58 56 P P 10 50 20.4 +0.3
baz=320
WHTX **Lake Whitney,** 77.58 56 *e*P P 10 50 20.5 +0.3
comp=Z,28nm,0.9s
PBMO **Poplar Bluff** 77.58 48 *e*P P 10 50 20.4 +0.4
comp=Z,82nm,1.5s
433A **Art** 77.60 58 P P 10 50 20.2 -0.1
baz=319,SNR=14
JMDO **Jabal Madar** 77.63 290 P P 10 50 21.2 +0.7
SNR=9.4
CONA **Conrad Observa** 77.63 333 *i* P P 10 50 21.1 +0.9
comp=Z,61nm,1.2s,SNR=34
SOP **Sopron** 77.64 332⇑ *e*PKPdf P 10 50 21.0 +0.9
334A **Lometa** 77.65 57 P P 10 50 20.6 +0.1
baz=320,SNR=11
PRD **Provadia** 77.65 323 *i* P P 10 50 20.7 +0.5
Z37A **Pogue Cattle C** 77.66 54 P P 10 50 20.8 +0.2
baz=320
MIAR **Mount Ida** 77.72 52 P P 10 50 21.0 +0.2
baz=321,SNR=18
MIAR **Mount Ida** 77.72 52 *e*P P 10 50 21.0 +0.2
MIAR pmax pmax
comp=Z,24nm,1.0s
MIAR **Mount Ida** 77.72 52 *e*P P 10 50 21.0 +0.2
comp=Z,24nm,0.9s
136A **Ennis** 77.72 55 P P 10 50 20.9 0.0
baz=320,SNR=5.8
X201 **Greenbrier Sit** 77.77 50 *e*P P 10 50 20.9 -0.2
comp=Z,79nm,1.6s
S45A **Carrier Mills** 77.78 46 P P 10 50 21.2 +0.1
baz=323,SNR=5.2
X301 **Greenbrier Sit** 77.79 50 *e*P P 10 50 20.9 -0.3
comp=Z,34nm,1.3s
WHAR **Wooly Hollow** 77.81 50 *e*P P 10 50 21.0 -0.3
comp=Z,53nm,1.2s
MEM **Membach** 77.81 340 P P 10 50 21.2 +0.2
comp=Z,54nm,1.2s
BR101 **Keskin Array S** 77.85 317 *e*P P 10 50 22.1 +0.4
BR131 **Keskin Array S** 77.85 317 *e*P P 10 50 22.1 +0.4
BRTR **Keskin Array B** 77.85 317 P P 10 50 22.1 +0.4
comp=Z,46nm,0.9s,baz=67,slow=4.2,SNR=164
BRTR LR LR 11 30 08.6
comp=Z,158nm,18.8s,baz=48,slow=40
BRTR **Keskin Array B** 77.85 317 P P 10 50 22.1 +0.4
V42A **Cord** 77.86 49 P P 10 50 21.0 -0.6
baz=322,SNR=12
Y39A **Lockesburg** 77.91 52 P P 10 50 21.8 0.0
baz=321
W41B **Gary Mavity, V** 77.92 50 P P 10 50 21.6 -0.3
baz=321,SNR=21
BSY **Bisya** 77.92 290 P P 10 50 22.9 +0.7
SNR=12
Z38A **Mt. Pleasant** 77.97 53 P P 10 50 22.1 -0.1
baz=320
USIN **University of** 77.99 46 *e*P P 10 50 23.2 +0.9
comp=Z,54nm,0.9s
PARMO **Parma** 78.01 48 *e*P P 10 50 23.3 +0.9
434A **Burnet** 78.02 57 P P 10 50 22.5 -0.1
baz=320,SNR=7.6
LONY **Lake Ozonia** 78.03 33 *e*P P 10 50 21.8 -0.6
comp=Z,17nm,0.8s
137A **Heron Place, G** 78.05 54 P P 10 50 22.9 +0.3
baz=320
236A **Katherine and** 78.08 55 P P 10 50 23.0 +0.2
baz=320
ANTO **Ankara** 78.11 318 *e*P P 10 50 24.1 +1.1
ANTO pmax pmax
comp=Z,71nm,0.9s
ANTO **Ankara** 78.11 318 *e*P P 10 50 24.1 +1.1
comp=Z,71nm,0.8s
335A **Moody** 78.14 56 P P 10 50 23.5 +0.3
baz=320
BR231 **Keskin MP Arra** 78.14 318 *e*P P 10 50 22.5 -0.7
X40A **Basin Creek Fa** 78.15 51 P P 10 50 23.4 +0.2
baz=321,SNR=11
BCLA **Clavier** 78.15 340 P P 10 50 23.2 +0.3
comp=Z,45nm,1.3s
533A **Kerrville** 78.15 58 P P 10 50 23.5 +0.2
baz=319,SNR=14
MNKR **ALMNKUR** 78.17 311 *e*P P 10 50 17.7 -5.6
SZH **Strazhica** 78.18 324 *i* P P 10 50 22.4 -0.8
UALR **University of** 78.18 51 *e*P P 10 50 23.6 +0.2
comp=Z,24nm,1.4s
MOA **Molln** 78.18 334 *i* P P 10 50 23.8 +0.6
comp=Z,29nm,0.9s,SNR=14
FRNY **Flat Rock** 78.21 33 *e*P P 10 50 23.0 -0.3
comp=Z,12nm,0.9s
Y40A **Okolona** 78.28 52 P P 10 50 24.1 +0.2
baz=321
SNF **Seneffe** 78.29 341 P P 10 50 23.9 +0.3
X41A **Kaden, Bauxite** 78.31 51 P P 10 50 24.0 -0.1
baz=321
ACSO **Alum Creek Sta** 78.31 41 *e*P P 10 50 24.4 +0.4
comp=Z,30nm,1.0s
ARSA **Arzberg** 78.34 333 *i* P P 10 50 25.0 +0.9
comp=Z,42nm,1.2s,SNR=16
138A **Matatall Enter** 78.36 54 P P 10 50 24.6 +0.2
baz=321
KSRV **Kasrt alli** 78.36 311 *e*P P 10 50 25.0 +0.7
ARMA **Armidale** 78.37 182 *e*P P 10 50 25.5 +1.2
comp=Z,50nm,0.9s
336A **Riesel** 78.38 56 P P 10 50 24.8 +0.3
baz=320
Z39A **Irene McRaven,** 78.40 53 P P 10 50 25.2 +0.6
baz=321
GNAR **Gosnell** 78.43 48 *e*P P 10 50 26.1 +1.4
WCI **Wyandotte Cave** 78.43 44 *e*P P 10 50 24.8 +0.1
WCI pmax pmax
comp=Z,54nm,1.0s
WCI **Wyandotte Cave** 78.43 44 *e*P P 10 50 24.8 +0.1
comp=Z,54nm,1.0s
MDVR **Moldovita** 78.46 328 ⇓*i*P P 10 50 24.7 -0.1
237A **Washetta, Mont** 78.48 55 P P 10 50 24.8 -0.2
baz=320
534A **Blanco** 78.50 58 P P 10 50 25.4 +0.2
baz=320,SNR=15
633A **Saathoff Ranch** 78.53 59 P P 10 50 25.7 +0.3
baz=319
V44A **Blytheville** 78.60 48 P P 10 50 25.9 +0.3
baz=322
DOU **Dourbes** 78.61 341 P P 10 50 25.7 +0.2
comp=Z,24nm,1.5s
BEHE **Becsehely** 78.64 332⇓ *e*PKPdf P 10 50 26.6 +0.9
WLF **Walferdange** 78.66 340 P P 10 50 26.6 +0.9
M54A **Oil Creek Stat** 78.67 38 P P 10 50 25.8 -0.2
baz=327
Y41A **Eaglette Beard** 78.73 51 P P 10 50 26.7 +0.3
baz=321
Z40A **Long Farm, Mag** 78.80 52 P P 10 50 27.5 +0.7
baz=321
KOGS **Kog** 78.83 332 *e*P P 10 50 26.3 -0.4
238A **Jacksonville** 78.85 54 P P 10 50 27.8 +0.8
baz=321
436A **Wall Ranch, Ga** 78.88 56 P P 10 50 27.8 +0.6
baz=320
LANF **Langenberg** 78.90 338⇑ *e*P P 10 50 27.5 +0.4
DRWC **Darouich** 78.92 313 *e*P P 10 50 27.7 +0.2
MPEP **Malo Peshtene** 78.94 326 *i* P P 10 50 28.0 +0.6
832A **Faith Ranch, C** 78.96 60 P P 10 50 28.5 +0.8
baz=319,SNR=8.7
337A **Centerville** 78.96 55 P P 10 50 28.4 +0.7
baz=320
N54A **Moraine State** 78.99 39 P P 10 50 28.3 +0.5
baz=327
SOKA **Soboth** 79.00 333 *i* P P 10 50 28.3 +0.5
comp=Z,87nm,1.2s,SNR=50
535A **Dale** 79.01 57 P P 10 50 28.6 +0.6
baz=320
PERS **Pernice** 79.02 333 *i* P P 10 50 28.1 +0.3
733A **Divot King Ran** 79.02 59 P P 10 50 28.8 +0.8
baz=320
EDRB **Edirne** 79.05 323 P P 10 50 28.5 +0.5
EDRB **Edirne** 79.05 323 P P 10 50 28.5 +0.5
634A **China Grove, S** 79.06 58 P P 10 50 28.9 +0.6
baz=320
Z41A **Richland Creek** 79.12 52 P P 10 50 29.1 +0.6
baz=321
X43A **Marvell** 79.13 50 P P 10 50 28.9 +0.3
baz=322
CCAR **Cane Creek** 79.14 51 *e*P P 10 50 29.9 +1.2
comp=Z,84nm,1.3s
KBA **Koelnbreinsper** 79.15 334 *i* P P 10 50 29.5 +0.8
comp=Z,120nm,0.8s,SNR=67
W44A **Shelby Farms P** 79.18 49 P P 10 50 29.6 +0.8
baz=322
140A **Cam and Jess,** 79.19 53 P P 10 50 29.5 +0.6
baz=321
239A **Gary** 79.19 54 P P 10 50 29.7 +0.8
baz=321
437A **Phantom Ranch,** 79.19 56 P P 10 50 30.0 +1.1
baz=320
Y42A **Garnett, Star** 79.20 51 P P 10 50 29.5 +0.6
baz=322
338A **Crockett** 79.24 55 P P 10 50 30.3 +1.0
baz=321
536A **Bastrop** 79.25 57 P P 10 50 29.9 +0.6
baz=320
833A **Chaparral WMA,** 79.26 59 P P 10 50 30.2 +0.8
baz=320
NATX **Nacogdoches** 79.29 54 P P 10 50 30.0 +0.5
baz=321,SNR=5.2
NATX **Nacogdoches** 79.29 54 *e*P P 10 50 30.8 +1.4
comp=Z,76nm,1.1s
OBKA **Obir** 79.30 333 *i* P P 10 50 29.9 +0.4
comp=Z,27nm,0.8s,SNR=8.4
734A **La Parita Cree** 79.34 59 P P 10 50 30.8 +1.0
baz=320
BFO **Black Forest** 79.37 338 *e*P P 10 50 29.8 +0.1
BFO pmax pmax
comp=Z,59nm,1.1s
BFO **Black Forest** 79.37 338 *e*P P 10 50 29.8 +0.1
comp=Z,59nm,1.1s
WVT **Waverly** 79.38 47 *e*P P 10 50 30.2 +0.3
WVT pmax pmax
comp=Z,21nm,1.1s
WVT **Waverly** 79.38 47 *e*P P 10 50 30.2 +0.3
comp=Z,21nm,1.1s
635A **Leesville** 79.38 58 P P 10 50 30.6 +0.6
baz=320
WATA **Walderalm** 79.42 335 *i* P P 10 50 31.1 +0.9
comp=Z,45nm,0.7s,SNR=19
ACCN **Adirondack Com** 79.43 33 *e*P P 10 50 30.3 +0.2
comp=Z,25nm,1.0s
MYKA **Terra Mystica** 79.47 334 *i* P P 10 50 30.3 0.0
comp=Z,29nm,0.9s,SNR=11
PGB **Panagyurishte** 79.47 325 *i* P P 10 50 30.1 -0.3
WTTA **Wattenberg** 79.47 335 *i* P P 10 50 31.6 +1.1
comp=Z,87nm,0.8s,SNR=30
W45A **Hiory Valley** 79.48 48 P P 10 50 30.5 0.0
baz=323,SNR=5.3
BTCH **Batrach** 79.48 313 *e*P P 10 50 31.1 +0.5
RETA **Reutte** 79.51 336 *i* P P 10 50 31.3 +0.8
comp=Z,43nm,0.9s,SNR=15
X44A **Crenshaw** 79.52 49 P P 10 50 31.1 +0.4
baz=322
MOTA **Moosalm** 79.54 336 *i* P P 10 50 31.5 +0.7
comp=Z,81nm,0.9s,SNR=48
Z42A **Nowel Spur, H** 79.55 51 P P 10 50 31.5 +0.6
baz=322
240A **Hunter Patters** 79.55 53 P P 10 50 31.7 +0.7
baz=321
BINY **Binghamton** 79.57 36 *e*P P 10 50 30.9 0.0
comp=Z,17nm,1.0s
141A **Papa Simpson,** 79.57 52 P P 10 50 31.9 +0.9
baz=322
Y43A **Makayla and Ka** 79.58 50 P P 10 50 31.8 +0.8
baz=322
438A **Sam Houston St** 79.62 55 P P 10 50 32.5 +1.2
baz=321
DIVS **Divibare** 79.66 328 P P 10 50 31.0 -0.4
537A **Green Hill Far** 79.67 56 P P 10 50 32.8 +1.2
baz=320
339A **Huntington** 79.67 54 P P 10 50 32.3 +0.8
baz=321
ABTA **Abfaltersbach** 79.69 334 *i* P P 10 50 31.6 +0.1
comp=Z,36nm,0.9s,SNR=6.7
636A **Smothers Creek** 79.71 57 P P 10 50 32.8 +1.0
baz=320
735A **Kenedy** 79.77 58 P P 10 50 33.1 +1.0
baz=320
ECH **Echery** 79.77 338⇑ *e*P P 10 50 32.1 +0.2
CADS **Cadrg** 79.80 333 *i* P P 10 50 31.2 -0.9
WVL **Waterville** 79.81 30 *e*P P 10 50 32.9 +0.8
comp=Z,57nm,1.3s
ARNB **Al Arnab** 79.86 313 *e*P P 10 50 31.0 -1.7
933A **Laredo** 79.87 60 P P 10 50 34.1 +1.4
baz=320,SNR=12
OXF **Oxford** 79.88 49 *e*P P 10 50 33.1 +0.5
OXF pmax pmax
comp=Z,84nm,1.2s
OXF **Oxford** 79.88 49 *e*P P 10 50 33.1 +0.5
comp=Z,84nm,1.2s
Y44A **Strider, Charl** 79.91 50 P P 10 50 33.2 +0.4
baz=322,SNR=7.2
DYA **Yadsworthy** 79.91 346 *e*P P 10 50 33.2 +0.7
DAVA **Damuels** 79.93 336 *i* P P 10 50 33.6 +0.7
comp=Z,74nm,1.0s,SNR=15
FETA **Feichten** 79.94 336 *i* P P 10 50 33.9 +0.9
comp=Z,69nm,1.1s,SNR=24
X45A **UM Field Stati** 79.96 49 P P 10 50 33.0 -0.1
baz=323,SNR=5.8
340A **Bronson** 79.97 54 P P 10 50 33.3 +0.1
baz=321
Z43A **Armstrong Fami** 79.97 51 P P 10 50 33.2 +0.1
baz=322
439A **Center Grove,** 79.97 55 P P 10 50 34.2 +1.0
baz=321
241A **Mo Tay, Goldon** 80.02 53 P P 10 50 34.0 +0.6
baz=322
538A **Harpers Horsep** 80.02 56 P P 10 50 34.5 +1.1
baz=321
736A **Circle Diamond** 80.11 57 P P 10 50 35.3 +1.4
baz=320,SNR=5.1
MOF **Molkenrain** 80.11 338⇑ *e*P P 10 50 34.0 +0.2
142A **Monroe** 80.12 52 P P 10 50 34.9 +1.0
baz=322
ALN **Alexandroupoli** 80.13 323 P P 10 50 33.9 0.0
SSPA **Standing Stone** 80.13 38 *e*P P 10 50 34.3 +0.3
comp=Z,21nm,0.8s
637A **Eagle Lake** 80.15 57 P P 10 50 35.1 +1.0
baz=320
O56A **Blue Knob Stat** 80.17 38 P P 10 50 34.0 -0.2
baz=328
PLAL **Pickwick Lake** 80.17 48 *e*P P 10 50 34.0 -0.2
comp=Z,30nm,1.3s
835A **Bellville** 80.19 58 P P 10 50 35.8 +1.4
baz=320
LMN **Caledonia Moun** 80.21 27 *e*P P 10 50 34.9 +0.7
comp=Z,28nm,0.9s
ENEZ **Enez** 80.23 323 P P 10 50 34.1 -0.3
TRI **Trieste** 80.26 333 *e*P P 10 50 33.7 -0.8
TRI pmax pmax
comp=Z,30nm,0.8s
TRI **Trieste** 80.26 333 *e*P P 10 50 33.9 -0.6
comp=Z,30nm,0.8s
143A **Seas Landing,** 80.28 51 P P 10 50 35.7 +0.8
baz=322
934A **Benavides** 80.31 59 P P 10 50 36.7 +1.6
baz=320
Y45A **Yeager Farm, C** 80.32 49 P P 10 50 35.5 +0.4
baz=323,SNR=7.7
Z44A **Pea Ridge, Bel** 80.33 50 P P 10 50 35.9 +0.8
baz=322
242A **Grayson** 80.39 52 P P 10 50 36.2 +0.7
baz=322
EMMW **East Machias** 80.41 29 *e*P P 10 50 35.9 +0.6
comp=Z,25nm,1.0s
341A **Kurthwood** 80.42 53 P P 10 50 36.5 +0.9
baz=322
FUORN **Ofenpass-Fuorn** 80.44 336 *e*P P 10 50 36.8 +1.0
comp=Z,93nm,1.1s
440A **Kirbyville** 80.45 54 P P 10 50 36.7 +0.9
baz=321
MMB **Musomiste** 80.46 325 *i* P P 10 50 35.6 -0.1
KKB **Krupnik** 80.47 325 *i* P P 10 50 35.6 -0.1
539A **Cross D Ranch,** 80.53 55 P P 10 50 37.2 +1.1
baz=321
PLE **Pljevlja** 80.55 328 *e*P P 10 50 35.5 -0.8
ROOS **tl_alroos** 80.56 312 *e*P P 10 50 35.1 -1.3
STKA **Stephens Creek** 80.60 191 P P 10 50 36.6 +0.3
comp=Z,14nm,0.9s,baz=348,slow=6.5,SNR=14
STKA LR LR 11 26 35.6
comp=Z,107nm,20.0s,baz=22,slow=36
STKA **Stephens Creek** 80.60 191 *e*P P 10 50 36.6 +0.3
comp=Z,4.7nm,1.1s
NVR **Nevrokopi** 80.61 325 P P 10 50 36.7 +0.2
034A **Hebbronville** 80.62 60 P P 10 50 38.4 +1.7
baz=320,SNR=20
Z45A **Winona** 80.64 50 P P 10 50 37.3 +0.5
baz=323
Y46A **Houston** 80.66 49 P P 10 50 37.2 +0.4
baz=323,SNR=9.1
LOMF **Lomont** 80.66 338⇑ *e*P P 10 50 37.3 +0.6
N59A **State Game Lan** 80.75 36 P P 10 50 37.5 +0.2
baz=329
IVA **Berane** 80.77 328 ⇓*i*P P 10 50 36.5 -0.9
TAOE **Nuku Hiva Isla** 80.79 114 *e*S S 11 00 32.4 -9.4
comp=Z,78nm,27.1s
TAOE **Nuku Hiva Isla** 80.79 114 *e*LR LR 11 15 48.7
comp=Z,590nm,22.9s,baz=324
ISP **Isparta** 80.80 318 *e*P P 10 50 37.8 +0.1
ISP pmax pmax
comp=Z,21nm,0.8s
ISP **Isparta** 80.80 318 *e*P P 10 50 37.8 +0.1
comp=Z,21nm,0.8s
UPM **Unac-Piva** 80.83 329 *e*P P 10 50 36.5 -1.3
342A **Flagon Creek P** 80.84 53 P P 10 50 38.6 +0.7
baz=322
144A **Alexander Plac** 80.85 51 P P 10 50 38.6 +0.7
baz=322
540A **Vidor** 80.85 55 P P 10 50 39.4 +1.4
baz=321
441A **DeRidder** 80.86 54 P P 10 50 38.9 +0.9
baz=322
243A **Waterproof** 80.89 52 P P 10 50 39.2 +1.1
baz=322
SRS **Serrai** 80.92 325 P P 10 50 37.9 -0.2
SRS **Serrai** 80.92 325 *e*P P 10 50 37.9 -0.2
SRS **Serrai** 80.92 325 *e*P P 10 50 37.9 -0.2
HRV **Adam Dziewonsk** 80.96 33 *e*P P 10 50 39.0 +0.7
HRV pmax pmax
comp=Z,17nm,0.9s
HRV **Adam Dziewonsk** 80.96 33 *e*P P 10 50 39.0 +0.7
comp=Z,17nm,0.9s
PVY **Plav** 80.99 328 ⇓*i*P P 10 50 37.9 -0.7
SKO **Skopje** 80.99 326 ⇑*i*P P 10 50 38.8 +0.3
SWET **Sewanee** 81.03 46 *e*P P 10 50 38.7 -0.2
comp=Z,13nm,1.0s
KULA **Kula-Manisa** 81.04 320 P P 10 50 39.0 0.0
035A **Encino** 81.06 60 P P 10 50 40.5 +1.4
baz=320
TZTN **Tazewell** 81.07 44 *e*P P 10 50 39.4 +0.3
comp=Z,38nm,1.4s
MARH **Ras Al Marh** 81.08 312 *e*P P 10 50 36.7 -2.8
145A **Houston Renfro** 81.12 50 P P 10 50 40.2 +0.8
baz=323
VBMS **Vicksburg** 81.12 51 P P 10 50 40.2 +0.8
baz=322
NKY **Niksic** 81.14 328 ⇓*i*P P 10 50 38.4 -1.0
Y47A **UCPARC, Winfie** 81.14 48 P P 10 50 39.1 -0.4
baz=324,SNR=15
WES **Weston** 81.15 32 *e*P P 10 50 40.0 +0.7
WES pmax pmax
comp=Z,40nm,1.1s
WES **Weston** 81.15 32 *e*P P 10 50 40.0 +0.7
comp=Z,40nm,1.1s
Z46A **Louisville** 81.16 49 P P 10 50 40.6 +1.0
baz=323
244A **Avery, Jackson** 81.18 51 P P 10 50 40.3 +0.7
baz=322,SNR=5.9
NKME **Niksic** 81.19 328 ⇓*i*P P 10 50 38.8 -0.8
BRY **Bratogost** 81.22 329 ⇓*i*P P 10 50 38.8 -1.1
343A **Vidalia** 81.28 52 P P 10 50 41.4 +1.2
baz=322
MVL **Millersville** 81.30 37 *e*P P 10 50 40.7 +0.6
comp=Z,11nm,0.8s
442A **Mamou** 81.30 53 P P 10 50 41.2 +0.9
baz=322
LIA **Limnos Island** 81.33 323 P P 10 50 40.2 -0.1
TTG **Podgorica** 81.38 328 ⇓*i*P P 10 50 40.0 -0.5
CEME **Cevo** 81.40 328 ⇓*i*P P 10 50 39.8 -0.9
541A **Lake Charles** 81.40 54 P P 10 50 42.0 +1.2
baz=322
035Z **Hargill** 81.44 60 P P 10 50 42.0 +0.9
baz=320
SENIN **Lac Senin/Sane** 81.46 338 *e*P P 10 50 41.8 +0.6
comp=Z,40nm,1.0s
BRYW **Bryant College** 81.48 33 *e*P P 10 50 41.7 +0.6
comp=Z,31nm,0.9s
CPCT **Cooper Cave** 81.51 45 *e*P P 10 50 41.7 +0.3
comp=Z,13nm,1.0s
ZALF **Zalf** 81.53 311 *e*P P 10 50 39.8 -1.8
146A **Union** 81.55 50 P P 10 50 42.4 +0.8
baz=323,SNR=7.1
ZAIG **Zacatecas** 81.56 65 *e*P P 10 50 43.3 +1.2
comp=Z,12nm,1.0s
QASN **Qassioun** 81.58 312 *e*P P 10 50 33.1 -8.8
245A **Little AP, Sta** 81.59 51 P P 10 50 42.7 +0.8
baz=323
Z47A **Carrollton** 81.60 49 P P 10 50 42.0 +0.2
baz=324,SNR=13
443A **Delano Plantat** 81.60 53 P P 10 50 42.2 +0.3
baz=322
PLG **Polygyros** 81.61 324 P P 10 50 41.4 -0.5
344A **Westbrook Farm** 81.62 52 P P 10 50 42.9 +1.0
baz=322
DRME **Dracevica, Mon** 81.62 328 ⇓*i*P P 10 50 41.5 -0.3
BUM **Brajici-Budva** 81.62 328 ⇓*i*P P 10 50 41.2 -0.7
HCY **Herceg Novi** 81.63 329 ⇓*i*P P 10 50 40.9 -1.0
TOTH **TOTAH** 81.64 312 *e*P P 10 50 39.8 -2.3
SIGR **SIGRI** 81.64 322 P P 10 50 41.6 -0.3
SIGR **SIGRI** 81.64 322 *e*P P 10 50 41.6 -0.3
OG01 **Vacheresse** 81.64 338⇑ *e*P P 10 50 42.5 +0.5
TKL **Tuckaleechee C** 81.69 44 *e*P P 10 50 42.9 +0.5
TKL pmax pmax
comp=Z,26nm,1.1s
TKL **Tuckaleechee C** 81.69 44 *e*P P 10 50 42.9 +0.5
comp=Z,26nm,1.1s
Z48A **Northport** 81.71 48 P P 10 50 41.9 -0.5
baz=324,SNR=8.8
ULC **Ulcinj** 81.80 328 ⇓*i*P P 10 50 42.0 -0.8
BRBR **Barbar** 81.84 312 *e*P P 10 50 42.0 -1.4
CSS **Mathiatis** 81.86 315 P P 10 50 43.4 +0.2
CSS **Mathiatis** 81.86 315 *e*P P 10 50 43.4 +0.2
comp=Z,20nm,0.8s
PAIG **Paliouri** 81.90 324 P P 10 50 42.5 -0.8
PAIG **Paliouri** 81.90 324 *e*P P 10 50 42.5 -0.8
PAIG **Paliouri** 81.90 324 *e*P P 10 50 42.5 -0.8
147A **Livingston** 81.91 49 P P 10 50 43.8 +0.3
baz=323,SNR=11
OHR **Ohrid** 81.98 326 ⇑*i*P P 10 50 43.2 -0.6
246A **Jackson Lee, B** 82.00 50 P P 10 50 44.7 +0.7
baz=323
SALA **Sala** 82.00 311 *e*P P 10 50 43.1 -1.1
FNA **Florina** 82.05 326 P P 10 50 43.5 -0.7
345A **Thompson Farm,** 82.10 51 P P 10 50 45.3 +0.8
baz=323
543A **St. Martinvill** 82.10 53 P P 10 50 45.6 +1.1
baz=322
TIR **Tirane** 82.11 327 *e*P P 10 50 43.4 -1.0
TIR pmax pmax
comp=Z,90nm,0.8s
TIR **Tirane** 82.11 327 *e*P P 10 50 44.5 0.0
comp=Z,90nm,0.8s
444A **Pine Grove** 82.19 52 P P 10 50 45.5 +0.5
baz=323
247A **Quitman** 82.24 50 P P 10 50 45.8 +0.5
baz=323
CHOS **Chios island** 82.25 322 P P 10 50 45.0 -0.3
LRAL **Lakeview Retre** 82.26 48 *e*P P 10 50 45.1 -0.2
comp=Z,14nm,0.9s
346A **Big Creek Wild** 82.33 51 P P 10 50 46.7 +0.9
baz=323
BBOO **Buckleboo** 82.36 195 *e*P P 10 50 46.1 +0.5
comp=Z,40nm,0.9s
YER **Yerkesik** 82.36 319 P P 10 50 46.2 +0.3
YER **Yerkesik** 82.36 319 *e*P P 10 50 46.2 +0.3
YER **Yerkesik** 82.36 319 *e*P P 10 50 46.2 +0.3
PPT **Papeete** 82.39 127 LR LR 11 19 15.4
comp=Z,279nm,21.2s,baz=316,slow=30
445A **Amite** 82.39 52 P P 10 50 47.3 +1.2
baz=323
PPT2 **Papeete2** 82.40 127 *e*S S 11 00 50.0 -8.1
comp=Z,64nm,23.2s
PPT2 **Papeete2** 82.40 127 *e*LR LR 11 16 33.3

comp=Z,540nm,23.0s,baz=316
TCHB Talchebab 82.42 312 *e*P P **10 50 44.3 -2.0**
FETY Fethiye 82.43 319 P P **10 50 46.3 +0.1**
FETY Fethiye 82.43 319 *e*P P **10 50 46.3 +0.1**
544A White Castle 82.45 53 P P **10 50 48.2 +1.9**
baz=322
FYTO Fytoko, Volos 82.64 324 P P **10 50 46.2 -1.0**
FYTO Fytoko, Volos 82.64 324 *e*P P **10 50 46.2 -1.0**
248A Dixon Mills 82.65 49 P P **10 50 48.4 +1.0**
baz=324
PENT Pentalofos 82.65 326 P P **10 50 46.9 -0.5**
PLDF La Plantade 82.72 340⇑ *e*P P **10 50 48.5 +0.9**
AGO Saint Agoulin 82.75 340⇑ *e*P P **10 50 48.9 +1.2**
347A Saraland 82.79 50 P P **10 50 49.3 +1.2**
baz=323
GDM Grand'Maison 82.84 338⇑ *e*P P **10 50 49.5 +1.1**
446A Poplarville 82.85 51 P P **10 50 49.5 +1.1**
baz=323
GRN Grenoble 82.89 338⇑ *e*P P **10 50 49.9 +1.3**
SMIA Simia 82.99 324 P P **10 50 48.1 -1.0**
PYM Petit Puy Mans 83.06 340⇑ *e*P P **10 50 50.3 +0.9**
348A Jackson 83.11 50 P P **10 50 51.2 +1.4**
baz=324
546A Slidell 83.11 52 P P **10 50 50.4 +0.6**
baz=323
SSB Saint Sauveur 83.15 339⇑ *e*P P **10 50 50.6 +0.7**
SSB Saint Sauveur 83.15 339 *e*P P **10 50 50.5 +0.7**
SSB pmax pmax
comp=Z,100nm,1.0s
SSB Saint Sauveur 83.15 339 *e*P P **10 50 50.5 +0.7**
comp=Z,100nm,1.0s
AGG Agios Georgios 83.21 324 *e*P P **10 50 48.9 -1.3**
AGG pmax pmax
comp=Z,53nm,1.0s
AGG Agios Georgios 83.21 324 *e*P P **10 50 49.1 -1.1**
comp=Z,53nm,1.0s
447A Lucedale 83.22 51 P P **10 50 51.8 +1.5**
baz=323
KMSC Kings Mountain 83.24 43 P P **10 50 50.7 +0.3**
baz=326,SNR=6.5
KMSC Kings Mountain 83.24 43 *e*P P **10 50 50.9 +0.5**
comp=Z,20nm,1.0s
645A Chauvin 83.26 53 P P **10 50 53.0 +2.4**
baz=323
LKR Lokris 83.27 324 P P **10 50 49.1 -1.4**
LKR Lokris 83.27 324 P P **10 50 49.1 -1.4**
AQU L'Aquila 83.40 332 *e*P P **10 50 51.3 +0.1**
AQU pmax pmax
comp=Z,56nm,1.0s
AQU L'Aquila 83.40 332 *e*P P **10 50 51.3 +0.1**
comp=Z,56nm,1.0s
LBL Lubilhac 83.50 340⇑ *e*P P **10 50 52.6 +0.9**
FRNF Fournols 83.51 340⇑ *e*P P **10 50 52.6 +0.9**
448A Bay Minette 83.52 50 P P **10 50 53.5 +1.7**
baz=324
VILL Villia 83.56 323 P P **10 50 50.5 -1.6**
DSL Palaion Diasel 83.59 325 P P **10 50 51.7 -0.5**
DSL Palaion Diasel 83.59 325 *e*P P **10 50 51.7 -0.5**
OG26 St.-Nazaire-De 83.63 338⇑ *e*P P **10 50 53.6 +1.3**
DSF Desfina 83.66 324 P P **10 50 50.6 -2.0**
DSF Desfina 83.66 324 *e*P P **10 50 50.6 -2.0**
GOGA Godfrey 83.68 45 *e*P P **10 50 52.7 +0.1**
GOGA pmax pmax
comp=Z,53nm,1.8s
GOGA Godfrey 83.68 45 *e*P P **10 50 52.7 +0.1**
comp=Z,53nm,1.8s
LTK Loutraki 83.82 323 P P **10 50 51.0 -2.4**
LTK Loutraki 83.82 323 *e*P P **10 50 51.0 -2.4**
KALE Kalithea 83.83 324 P P **10 50 51.8 -1.7**
KALE Kalithea 83.83 324 *e*P P **10 50 51.8 -1.7**
SERG Sergoula 83.84 324 P P **10 50 51.8 -1.7**
JSC Jenkinsville 83.99 43 *e*P P **10 50 54.9 +0.7**
JSC pmax pmax
comp=Z,17nm,0.9s
JSC Jenkinsville 83.99 43 *e*P P **10 50 54.9 +0.7**
comp=Z,17nm,0.9s
LAKA Lakka 84.03 324 P P **10 50 53.3 -1.1**
LAKA Lakka 84.03 324 *e*P P **10 50 53.3 -1.1**
LKD2 Lefkada island 84.06 325 P P **10 50 53.5 -1.1**
LKD2 Lefkada island 84.06 325 *e*P P **10 50 53.5 -1.1**
KLV Kalavryta, Ach 84.13 324 P P **10 50 53.6 -1.4**
KLV Kalavryta, Ach 84.13 324 *e*P P **10 50 53.6 -1.4**
DID Didima 84.16 323 P P **10 50 52.4 -2.7**
DID Didima 84.16 323 *e*P P **10 50 52.4 -2.7**
KARP Karpathos 84.18 319 P P **10 50 53.8 -1.5**
ABTO Aybut 84.36 290 P P **10 50 56.7 +0.2**
SNR=5.8
DRO Drossia 84.38 324 P P **10 50 55.9 -0.3**
KFL Anninata 84.60 325 P P **10 50 56.5 -0.8**
VLS Valsamata 84.62 325 P P **10 50 56.5 -0.9**
VLS Valsamata 84.62 325 P P **10 50 56.5 -0.9**
VLS Valsamata 84.62 325 *e*P P **10 50 56.5 -0.9**
VLX Vlachokerasia 84.62 323 P P **10 50 55.8 -1.7**
VLX Vlachokerasia 84.62 323 *e*P P **10 50 55.8 -1.7**
CUC Castrocucco 84.74 329 *e*P P **10 50 57.8 -0.2**
comp=Z,21nm,1.1s
ZKR Zakros 84.96 320 P P **10 50 58.7 -0.4**
ZKR Zakros 84.96 320 *e*P P **10 50 58.7 -0.4**
VLI Veliai 84.96 323 P P **10 50 56.8 -2.3**
VLI Veliai 84.96 323 *e*P P **10 50 56.8 -2.3**
ITM Ithomi 84.97 324 P P **10 50 58.0 -1.2**
ITM Ithomi 84.97 324 P P **10 50 58.0 -1.2**
TIP Timpagrande 85.14 328 P P **10 50 59.7 -0.4**
TIP Timpagrande 85.14 328 *e*P P **10 51 00.0 0.0**
TIGA Tifton 85.23 47 P P **10 51 01.4 +0.9**
baz=326,SNR=7.5
LAST Lasithi 85.24 320 P P **10 51 00.1 -0.5**
LAST Lasithi 85.24 320 *e*P P **10 51 00.1 -0.5**
comp=Z,261nm,1.1s
PYL PYLOS 85.28 324 P P **10 50 59.1 -1.6**
PYL PYLOS 85.28 324 *e*P P **10 50 59.1 -1.6**
IDI Anoyia 85.38 321 P P **10 51 00.1 -1.3**
comp=Z,28nm,0.9s,baz=31,slow=8.9,SNR=12
IDI Anoyia 85.38 321 P P **10 50 59.2 -2.1**
IDI Anoyia 85.38 321 *e*P P **10 50 59.2 -2.1**
comp=Z,46nm,1.1s
IMMV Iera Moni Meta 85.61 321 P P **10 51 01.7 -0.7**
TBI Tubuai 87.22 130 *e*LR LR 11 18 47.9
comp=Z,686nm,25.2s,baz=331
NWAO Narrogin (SRO) 87.39 211 LR LR 11 34 34.2
comp=Z,38nm,18.9s,baz=291,slow=38
NWAO Narrogin (SRO) 87.39 211 *e*P P **10 51 11.4 +0.6**
NWAO pmax pmax
comp=Z,67nm,1.0s
NWAO Narrogin (SRO) 87.39 211 *e*P P **10 51 11.4 +0.6**
comp=Z,67nm,0.9s
URZ Urewera 88.50 162 P P **10 51 14.2 -1.7**
comp=Z,20nm,0.9s,baz=238,slow=3.9,SNR=6.3
URZ Urewera 88.50 162 *e*P P **10 51 14.7 -1.2**
BKZ Black Stump Fm 89.25 163 *e*P P **10 51 18.4 -1.1**
comp=Z,48nm,1.2s
POLO Lamas de Olo 89.35 347 *e*P P **10 51 20.5 +0.1**
comp=Z,15nm,1.9s
MVO Moncorvo 89.43 346 *e*P P **10 51 21.0 +0.3**
comp=Z,37nm,1.4s
MVO Moncorvo 89.43 346 *e*LR LR 11 29 55.8
comp=Z,127nm,18.0s
PVRL Vila Real 89.43 347 *e*P P **10 51 21.3 +0.6**
comp=Z,35nm,1.9s
PVIS Viseu 90.01 347 *e*P P **10 51 23.7 +0.3**
comp=Z,29nm,1.6s
MTE Manteigas 90.26 346 *e*P P **10 51 25.1 +0.5**
comp=Z,22nm,1.7s
MTE Manteigas 90.26 346 *e*LR LR 11 30 17.2
comp=Z,156nm,20.0s
ES19 SONSECA Array 90.31 343 *e*P P **10 51 24.3 -0.5**
ESDC Sonseca Array 90.34 343 P P **10 51 24.0 -1.0**
comp=Z,1.0nm,0.4s,baz=4.3,slow=4.3,SNR=20
ESDC LR LR 11 36 33.6
comp=Z,255nm,20.8s,baz=25,slow=39
ESLA Sonseca Array 90.34 343 *e*P P **10 51 24.6 -0.5**
comp=Z,10.0nm,1.0s
PAB San Pablo 90.54 344 *e*P P **10 51 25.3 -0.6**
PAB pmax pmax
comp=Z,32nm,1.5s
PAB San Pablo 90.54 344 *e*P P **10 51 25.3 -0.6**
comp=Z,32nm,1.5s
KEST Kesra 90.73 332 P P **10 51 26.5 -0.4**
comp=Z,17nm,0.8s,baz=300,slow=4.0,SNR=15
KEST LR LR 11 37 12.3
comp=Z,401nm,20.2s,baz=328,slow=39
KEST Kesra 90.73 332 *e*P P **10 51 27.2 +0.4**
comp=Z,24nm,0.9s
PMRV Marv??o 91.19 346 *e*P P **10 51 27.9 -1.0**
comp=Z,35nm,1.4s
PMRV Marv??o 91.19 346 *e*SKS SKSac **11 01 53.3 -3.0**
PMRV Marv??o 91.19 346 *e*LR LR 11 33 31.6
comp=Z,311nm,20.0s
DAMY Dhamar 91.99 294 *e*P P **10 51 35.1 +1.8**
comp=Z,52nm,1.4s
OXZ Oxford 92.53 167 *e*P P **10 51 34.7 +0.1**
comp=Z,144nm,1.7s
PVAQ Vaqueiros 93.22 346 *e*LR LR 11 33 53.6
comp=Z,237nm,20.0s
DBIC Dimbokro 122.31 335 PKP PKPdf **10 57 18.4 -0.6**
comp=Z,10nm,0.8s,baz=357,slow=1.5,SNR=9.4
TIC Toumodi 122.38 336 *e*PKIKP **PKPdf 10 57 18.7 -0.5**
KIC Kosan Boka 122.58 335 *e*PKIKP **PKPdf 10 57 18.9 -0.7**
comp=Z,18nm,0.8s
LIC Lamto 122.79 335 *e*PKIKP **PKPdf 10 57 18.5 -1.5**
PTGA Pitinga 124.14 43 *e*PKPdf **PKPdf 10 57 22.7 +0.1**
LSZ Lusaka 125.12 288 *e*PKIKP **PKPdf 10 57 24.9 +0.5**
LSZ Lusaka 125.12 288 *e*PKPdf **PKPdf 10 57 24.9 +0.5**
VNDA Vanda 125.60 178 PKP **PKPdf 10 57 23.1 -0.2**
comp=Z,5.3nm,0.8s,baz=327,slow=4.1,SNR=33
VNDA Vanda 125.60 178 *e*PKIKP **PKPdf 10 57 18.4 -5.0**
SBA Scott Base 126.08 177 *e*PKIKP **PKPdf 10 57 24.8 +0.5**
SBA Scott Base 126.08 177 *e*PKPdf **PKPdf 10 57 24.8 +0.5**
SAML Samuel 129.67 51 *e*PKPdf **PKPdf 10 57 32.9 -0.1**
LPAZ La Paz 132.89 62 PKP **PKPdf 10 57 40.0 +0.2**
comp=Z,2.3nm,0.9s,baz=36,slow=5.2,SNR=6.2
LPAZ La Paz 132.89 62 PKIKP **PKPdf 10 57 40.0 +0.2**
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LBTB Lobatse 133.81 281 *e*PKIKP **PKPdf 10 57 41.2 +0.5**
LBTB Lobatse 133.81 281 *e*PKPdf **PKPdf 10 57 41.1 +0.5**
MAW Mawson 133.94 212 PKP **PKPdf 10 57 39.1 -0.3**
comp=Z,6.4nm,0.7s,baz=92,slow=4.0,SNR=13
MAW Mawson 133.94 212 *e*PKPdf **PKPdf 10 57 39.4 0.0**
BOSA Boshof 136.46 278 PKhKP PKPpre 10 57 36.0
comp=Z,7.9nm,1.0s,baz=147,slow=1.3,SNR=4.9
BOSA PKP **PKPdf 10 57 45.6 +0.1**
comp=Z,4.5nm,0.8s,baz=314,slow=2.0,SNR=6.4
BDFB Brasilia 142.62 37 PKhKP PKPpre 10 57 53.1
comp=Z,7.0nm,0.7s,baz=340,slow=3.9,SNR=8.7
AMOG MOGNA 143.28 78 *e*P PKPab 10 57 54.4 +0.6
RTLS Leoncito 143.30 80 *e*P PKPbc 10 57 55.2 -0.1
AUSP Upallata 143.51 80 *e*P PKPbc 10 57 55.7 -0.2
RTLL Cerro Villicun 143.54 78 *e*P PKPab 10 57 55.1 +0.3
AVFE Valle Fertil 143.77 76 *e*P PKPab 10 57 54.9 -0.8
RTCV Cerro Valdivia 143.84 79 *e*P PKPbc 10 57 56.5 -0.1
ASAL Salagasta 144.11 80 *e*P PKPbc 10 57 57.3 -0.1
AAGR Agrelo 144.42 81 *e*P **PKPab 10 57 58.2 +0.1**
ACAN Cantantal 144.99 78 *e*P PKPbc 10 57 59.7 -0.4
TCA Tanti 146.07 74 *e*P **PKPdf 10 58 02.0 -0.6**
CPUP Villa Florida 146.98 60 PKPbc **PKPbc 10 58 06.0 -0.2**
comp=Z,22nm,0.9s,baz=324,slow=3.2,SNR=35
PLCA Paso Flores 147.49 94 PKPbc **PKPbc 10 58 07.2 -0.2**
comp=Z,32nm,0.9s,baz=300,slow=2.8,SNR=7.5
PLCA Paso Flores 147.49 94 *e*PKPbc **PKPbc 10 58 07.7 +0.4**
CHRN Cochrane 148.81 106 *e*PKPbc **PKPbc 10 58 10.4 -0.1**
NVL N'lazarevskaya 151.37 205 *e*PKIKP **PKPbc 10 58 16.9 +1.0**
TRQA Tarmuster 151.84 82 *e*PKPbc **PKPbc 10 58 17.9 -0.2**
PMSA Palmer Station 153.72 143 *e*PKPbc **PKPbc 10 58 21.4 +0.1**
PMSA *e*PKPab **PKPab 10 58 35.4 +0.9**
SNAA Sanae 154.25 196 *e*PKIKP **PKPbc 10 58 20.7 -1.7**
SNAA Sanae 154.25 196 *e*PKPbc **PKPbc 10 58 21.9 -0.5**

*IDC **07** 10:53:43.5±0.9, 1.°03N×96.°67E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.1/61, mbtmp4.3/16, MS3.2/1, Ms1 3.2/1, ms1mx2.8/37, Error ellipse: s-maj=35.6km s-min=13.3km az=64.0*
*DJA **07** 10:53:45.2±0.6, 1.°N±3.°, 9.°6E±.°, h53km±12km, M4.6/7, mB4.7/2, mb5.0/6, MLv4.4/7, Mw(mB)4.0/2*
*ISCJB **07** 10:53:46.2±0.4, 1.°15N±0.°03×96.°91E±0.°04, h25km, mb4.4/24, MS3.2/1, Error ellipse: s-maj=6.1km s-min=3.9km az=151.9*
*BJI **07** 10:53:47.9, 1.°07N×97.°07E, h37km, mb4.6/32, mB4.8/18, Ms4.2/8, Ms7 4.0/8*
*NEIC **07** 10:53:49.3±0.5, 1.°12N×96.°90E, h35km, mb4.6/10, Error ellipse: s-maj=11.3km s-min=7.1km az=49.0*
ISC 07 10:53:48.1±0.6, 1.°15N±0.°05×96.°94E±0.°06, h25km, n87, σ1§72/94, mb4.5/24, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.66**	**76**	P	**Pn**	**10 54 03.8**	**+2.0**
GSI				S	Sn	10 54 21.2	+10
GSI	**Gunungsitoli**	**0.66**	**76**	*e*Pn	**Pn**	**10 54 03.5**	**+1.7**
GSI				*e*Sn	**Sb**	**10 54 08.7**	**-1.1**
TPTI		**2.11**	**7**	P	**Pn**	**10 54 19.7**	**-2.1**
KCSI	**Kotacane, Aceh**	**2.50**	**20**	P	**Pn**	**10 54 27.4**	**+0.2**
KCSI				S	**Sn**	**10 54 55.4**	**-1.5**
PSI	**Prapat**	**2.58**	**50**	*e*Pn	**Pn**	**10 54 25.3**	**-3.0**
PSI				*e*Sn	**Sn**	**10 54 51.5**	**-7.5**
MNSI	**Mandailing Nat**	**2.67**	**98**	P	**Pb**	**10 54 31.4**	**-3.8**
TSI	**Tuntungan**	**2.85**	**35**	P	**Pn**	**10 54 33.5**	**+1.5**
MLSI	**Meulaboh, Aceh**	**3.14**	**350**	P	**Pn**	**10 54 33.3**	**-2.7**
PPI	**Padang Panjang**	**3.81**	**115**	P	**Pn**	**10 54 47.2**	**+2.0**
LHMI	**Lhok Sumawe**	**4.05**	**0**	P	**Pn**	**10 54 45.5**	**-3.0**
LHMI				S	**Sn**	**10 55 35.3**	**+0.1**
BKNI	**Bangkinang**	**4.18**	**101**	P	**Pn**	**10 54 52.0**	**+1.6**
BKNI	**Bangkinang**	**4.18**	**101**	*e*Pn	**Pn**	**10 54 48.7**	**-1.7**
BKNI				*e*Sn	**Sn**	**10 55 39.1**	**+0.6**
PPSI	**Pulau Pagai**	**4.95**	**142**	P	**Pn**	**10 54 59.5**	**-1.4**
PPSI				S	**Sn**	**10 55 56.0**	**-1.5**
IPM	**Ipoh**	**5.26**	**51**	*e*Pn	**Pn**	**10 55 07.1**	**+2.0**
IPM				*e*Sn	**Sn**	**10 56 04.5**	**-0.5**
KULM	**Kulim**	**5.54**	**42**	*e*Pn	**Pn**	**10 55 10.2**	**+1.2**
MYKOM	**Kota Tinggi**	**6.94**	**85**	*e*Pn	**Pn**	**10 55 31.0**	**+2.7**
SKLT	**Songkhla** 30nm,0.6s	**7.02**	**31**	P	**Pn**	**10 55 30.8**	**+1.5**
TRTT	**Trang** 27nm,0.8s,596nm0.1nm	**7.19**	**22**	P	**Pn**	**10 55 31.3**	**-0.4**
KRAB	**Krabi** 52nm,0.8s,670nm0.2nm	**7.38**	**18**	P	**Pn**	**10 55 33.1**	**-1.2**
KSI	**Kapahiang** 176nm,0.7s,0.8nm	**7.40**	**130**	P	**Pn**	**10 55 35.6**	**+1.0**
MNAI	**Manna** 281nm,0.6s	**8.13**	**132**	P	**Pn**	**10 55 45.2**	**+0.6**
MNAI	**Manna**	**8.13**	**132**	*e*Pn	**Pn**	**10 55 45.4**	**+0.7**
SURA	**Surathani** 20nm,0.8s	**8.40**	**19**	P	**Pn**	**10 55 47.2**	**-1.1**
KASI	**Kota Agung**	**10.05**	**131**	P	**Pn**	**10 56 09.9**	**-1.0**
SRAK	**Srakaew**	**13.74**	**21**	P	P	10 57 14.0	+4.2
CHAI	**Chaiyaphum** 4.9nm,0.9s	**15.48**	**19**	P	**P**	**10 57 30.2**	**+1.0**
PBKT	**Sadao Pong** 17nm,0.8s	**15.83**	**14**	P	**P**	**10 57 33.2**	**+0.2**
UBPT	**Khong Chiam** 27nm,1.0s	**16.38**	**31**	P	**P**	**10 57 39.8**	**+0.7**
SUKH	**Sukhothai**	**16.45**	**9**	P	**P**	**10 57 41.3**	**+1.5**
CMAR	**Chiang Mai Arr** baz=197,slow=11,SNR=18	**17.31**	**6**	P	**P**	**10 57 49.9**	**+0.4**
QIZ	**Qiongzhong**	**21.82**	**35**	P	**P**	**10 58 38.3**	**-0.3**
QIZ				S	**S**	**11 02 37.3**	**-1.5**
QIZ	280nm,16.7s			LN			
QIZ	200nm,17.4s			LE			
QIZ	490nm,15.8s			LZ			
KMI	**Kunming** 22nm,1.4s	**24.48**	**13**	P	**P**	**10 59 06.7**	**+1.0**
KMI				PMZ			
SHL	**Shillong**	**24.76**	**349**	*e*P	**P**	**10 59 08.5**	**+0.4**
SHL				*e*P	**P**	**10 59 08.5**	**+0.4**
H08S2	**Diego Garcia H** baz=70,slow=75,SNR=607	**25.90**	**250**	T	T	11 25 50.4	
H08S3	**Diego Garcia H** baz=70,slow=75,SNR=349	**25.90**	**250**	T	T	11 26 05.6	
H08S1	**Diego Garcia H** baz=70,slow=75,SNR=754	**25.91**	**250**	T	T	11 25 52.2	
GYA	**Guiyang** 20nm,0.8s	**26.85**	**20**⇓	*i*P	**P**	**10 59 26.8**	**-0.1**
GYA				pP	sP	10 59 38.4	+1.0
GYA				PP	**PnPn**	**11 00 14.2**	**+5.0**
GYA				PcP	**PcP**	**11 02 51.5**	**+2.2**
GYA				S	**S**	**11 04 00.3**	**-1.9**
GYA				sS	sS	11 04 17.0	+2.6
GYA				SS	**SnSn**	**11 05 13.9**	**+6.0**
GYA	110nm,5.2s			PMZ			
GYA				LN			
GYA	410nm,17.6s			LE			
GYA	380nm,18.0s			LZ			
CD2	**Chengdu** 370nm,17.9s	**30.30**	**12**	*e*P	**P**	**10 59 57.2**	**-0.3**
FITZ	**Fitzroy Crossi** 5.6nm,0.8s,baz=302,slow=5.4,SNR=16	**34.11**	**125**	P	**P**	**11 00 31.1**	**0.0**
FITZ	**Fitzroy Crossi** 5.5nm,0.8s	**34.11**	**125**	*e*P	**P**	**11 00 31.3**	**+0.2**
XAN	**Xi'an**	**34.59**	**18**	P	**P**	**11 00 34.5**	**-0.6**
XAN				pP	sP	11 00 44.3	-1.4
XAN	7.0nm,0.8s			PMZ			
LZH	**Lanzhou** 29nm,1.2s	**35.35**	**10**	*e*P	**P**	**11 00 43.7**	**+1.9**
LZH				pP	sP	11 00 51.9	-0.4
LZH				sP	pP	11 00 57.3	+8.0
LZH				PMZ			
H01W3	**Cape Leeuwin H** baz=333,slow=76,SNR=53	**39.30**	**157**	T	T	11 42 59.4	
H01W2	**Cape Leeuwin H** baz=333,slow=76,SNR=64	**39.31**	**157**	T	T	11 43 00.4	
H01W1	**Cape Leeuwin H** baz=333,slow=76,SNR=52	**39.31**	**157**	T	T	11 43 02.1	
HHC	**Hu-ho-hao-te** 28nm,1.0s	**41.68**	**17**	*e*P	**P**	**11 01 36.0**	**+1.1**
HHC				PMZ			
HHC	350nm,5.8s			PMZ			
WR1	**Warramunga Arr** 8.6nm,0.8s	**42.23**	**122**	*e*P	**P**	**11 01 39.8**	**+0.2**
WRA	**Warramunga Arr** 8.9nm,0.7s,baz=300,slow=9.0,SNR=86	**42.23**	**122**	P	**P**	**11 01 39.8**	**+0.2**
WRAB	**Tennant Creek** 9.3nm,0.7s	**42.24**	**122**	*e*P	**P**	**11 01 40.2**	**+0.6**
WB2	**Warramunga Arr** 9.2nm,0.7s	**42.24**	**122**	*e*P	**P**	**11 01 40.0**	**+0.4**
BJT	**Baijiatuan** 13nm,0.7s	**42.46**	**22**	*e*P	**P**	**11 01 42.7**	**+1.6**
BJI	**Beijing**	**42.48**	**22**	P	**P**	**11 01 42.3**	**+1.0**
BJI				PP	**PP**	**11 03 20.8**	**+0.8**
BJI	10.0nm,0.9s			PMZ			
KSH	**Kashi**	**42.71**	**336**	*e*P	**P**	**11 01 45.3**	**+2.0**
KSH				pP	sP	11 01 55.1	+1.2
KSH	2.0nm,0.3s			PMZ			
WMQ	**Urumqi**	**43.28**	**350**	P	**P**	**11 01 47.7**	**-0.1**
WMQ				pP	sP	11 01 57.0	-1.4
WMQ				sP	pP	11 02 01.7	+6.3
WMQ	6.0nm,0.8s			PMZ			
WMQ	75nm,5.0s			PMZ			
AS31	**Alice Springs** 1.2nm,1.0s	**43.58**	**127**	*e*P	**P**	**11 01 50.9**	**+0.4**
ASAR	**Alice Springs** 2.2nm,0.8s,baz=303,slow=8.1,SNR=29	**43.58**	**127**	P	**P**	**11 01 50.9**	**+0.4**
ASAR	0.9nm,0.9s,baz=304,slow=3.1,SNR=4.3			PcP	**PcP**	**11 03 38.1**	**+0.1**
AS01	**Alice Springs**	**43.61**	**127**	*e*P	**P**	**11 01 50.6**	**-0.1**
TKM2	**Tokmak 2** 29nm,2.0s	**45.77**	**338**	*e*P	**P**	**11 02 08.8**	**+1.0**
KS15	**Wonju Array Si**	**46.01**	**35**	*e*P	**P**	**11 02 10.4**	**+0.9**
KS01	**Wonju Array Si**	**46.04**	**35**	*e*P	**P**	**11 02 10.5**	**+0.7**
KSRS	**Korea Array** 3.5nm,0.8s,baz=225,slow=8.4,SNR=22	**46.04**	**35**	P	**P**	**11 02 10.1**	**+0.3**
KSRS				LR	LR	11 21 50.0	
MK01	comp=Z,27nm,20.1s,baz=120,slow=36 **Makanchi Array**	**47.20**	**346**	*e*P	**P**	**11 02 18.7**	**-0.1**
SONA0	**Songino Array** 4.9nm,0.8s	**47.22**	**9**	*e*P	**P**	**11 02 19.0**	**0.0**
SONM	**Songino Array** 1.0nm,0.4s,baz=201,slow=7.9,SNR=4.6	**47.22**	**9**	P	**P**	**11 02 19.0**	**0.0**
MK32	**Makanchi Array**	**47.23**	**346**	*e*P	**P**	**11 02 18.6**	**-0.4**
MKAR	**Makanchi Array** 3.8nm,0.6s,baz=162,slow=8.4,SNR=31	**47.23**	**346**	P	**P**	**11 02 18.6**	**-0.4**
MKAR	**Makanchi Array**	**47.23**	**346**	*e*P	**P**	**11 02 19.2**	**+0.2**
SONA1	**Songino Array**	**47.23**	**9**	*e*P	**P**	**11 02 19.4**	**+0.2**
TLY	**Talaya** 4.1nm,0.8s,baz=264,slow=4.9,SNR=5.6	**50.67**	**5**	P	**P**	**11 02 46.7**	**+1.4**
KURBB	**Kurchatov Arra** 1.9nm,0.5s,baz=162,slow=6.7,SNR=17	**51.71**	**345**	P	**P**	**11 02 52.9**	**-0.2**
KURK	**Kurchatov**	**51.77**	**345**	*e*P	**P**	**11 02 52.9**	**-0.7**
USRK	**Ussuriysk Ar.** 3.1nm,0.7s,baz=249,slow=6.9,SNR=8.8	**52.95**	**31**	P	**P**	**11 03 03.3**	**+0.9**
STKA	**Stephens Creek** 7.5nm,1.0s,baz=304,slow=7.5,SNR=9.1	**53.52**	**132**	P	**P**	**11 03 07.4**	**+0.6**
ZAA0	**Zalesovo Array**	**53.57**	**351**	*e*P	**P**	**11 03 06.6**	**-0.2**
ZALV	**Zalesovo Beam** 7.5nm,0.5s,baz=181,slow=7.2,SNR=16	**53.57**	**351**	P	**P**	**11 03 06.5**	**-0.2**
ZAA1	**Zalesovo Array**	**53.57**	**351**	*e*P	**P**	**11 03 06.5**	**-0.3**
VOSK	**Vostochnaya** 5.2nm,0.8s	**55.77**	**341**	*e*P	**P**	**11 03 22.2**	**-0.6**
BVAR	**Borovoye Array** 1.6nm,0.7s,baz=149,slow=6.9,SNR=6.4	**56.21**	**341**	P	**P**	**11 03 24.7**	**-1.3**
KLR	**Kul'dur** 2.9nm,0.8s,baz=273,slow=4.7,SNR=5.9	**56.42**	**27**	P	**P**	**11 03 28.2**	**+0.8**
ZRNK	**Zerenda** 3.3nm,0.9s	**56.61**	**340**	*e*P	**P**	**11 03 28.0**	**-0.8**
ARA0	**ARCESS Array S**	**82.49**	**340**	*e*P	**P**	**11 06 07.6**	**-0.6**
ARCES	**ARCESS Array B** 1.2nm,0.7s,baz=120,slow=4.6,SNR=3.8	**82.49**	**340**	P	**P**	**11 06 07.6**	**-0.6**
VNDA	**Vanda** 0.6nm,0.7s,baz=301,slow=7.0,SNR=4.2	**85.83**	**169**	P	**P**	**11 06 24.6**	**-0.4**
VNA1	**Neumayer--Stat**	**96.09**	**199**	P	P	11 07 06.3	-6.8
LTX	**Lajitas**	**143.85**	**31**	*e*PKPdf	**PKPdf**	**11 13 19.7**	**-2.4**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=336,slow=0.5,SNR=5.6	**143.85**	**31**	PKP	**PKPdf**	**11 13 19.7**	**-2.4**
CPUP	**Villa Florida** 5.8nm,0.8s,baz=146,slow=3.7,SNR=12	**144.79**	**223**	PKP	**PKPdf**	**11 13 21.5**	**-2.2**

*ATH **07** 10:59:07.6, 34.°98N×28.°92E, h32km±4km, ML3.2/12, Error ellipse: s-maj=6.5km s-min=1.5km az=139.0*
*ISK **07** 10:59:08.4, 35.°12N×28.°95E, h7km, ML3.1*
*CSEM **07** 10:59:08.9±0.5, 34.°96N×28.°95E, h20km, ML3.2, Error ellipse: s-maj=12.0km s-min=4.2km az=153.0*
*DDA **07** 10:59:31.5, 36.°76N×28.°79E, h7km, Ml3.2*
ISC 07 10:59:06.9±1.7, 34.88N±0.06×29.02E±0.05, h25km±14km, n105, σ1§57/133, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.35**	**20**	P	**Pn**	**10 59 30.6**	**+0.3**
KSL				S	**Sb**	**10 59 48.4**	**-0.1**
KSL	comp=E,454μm,0.5s			AML	AML	10 59 52.0	
KSL	comp=N,326μm,0.6s			AML	AML	10 59 54.4	
AKAS	**Kas**	**1.44**	**19**	P	**Pn**	**10 59 32.0**	**+0.5**
AKAS				S	**Sb**	**10 59 51.1**	**+0.1**
AKAS	**Kas**	**1.44**	**19**	*i* P	**Pn**	**10 59 32.0**	**+0.5**
AKAS				*i* S	**Sb**	**10 59 51.1**	**+0.1**
ARG	**Arkhangelos**	**1.52**	**332**	P	**Pb**	**10 59 34.2**	**-0.3**
ARG				S	**Sn**	**10 59 51.5**	**-0.1**
KARP	**Karpathos**	**1.66**	**294**	*e*PN	**Pb**	**10 59 36.7**	**-0.2**
KARP				*e*SN	**Sb**	**10 59 57.3**	**-0.1**
KARP	**Karpathos**	**1.66**	**294**	P	**Pb**	**10 59 36.6**	**-0.2**
KARP				S	**Sn**	**10 59 55.8**	**+0.7**
KARP				*e*Sn	**Sb**	**10 59 57.3**	**-0.1**
KARP	**Karpathos**	**1.66**	**294**	P	**Pb**	**10 59 36.6**	**-0.2**
KARP				S	**Sn**	**10 59 55.8**	**+0.7**
KARP	comp=N,391μm,0.2s			AML	AML	11 00 02.9	
KARP	comp=E,416μm,0.4s			AML	AML	11 00 04.0	
FETY	**Fethiye**	**1.76**	**2**	*e*PN	**Pn**	**10 59 36.3**	**+0.5**
FETY				*e*SN	**Sn**	**10 59 57.2**	**-0.2**
FETY	**Fethiye**	**1.76**	**2**	*e*Pn	**Pn**	**10 59 36.3**	**+0.5**
FETY				*e*Sn	**Sn**	**10 59 57.2**	**-0.2**
DALY	**Dalyan (Mu˘la**	**1.96**	**351**	*e*PN	**Pn**	**10 59 39.3**	**+0.7**
DALY	**Dalyan (Mu˘la**	**1.96**	**351**	*e*Pn	**Pn**	**10 59 39.3**	**+0.7**
ELL	**Elmali**	**2.00**	**21**	*e*PN	**Pn**	**10 59 40.6**	**+1.

	comp=E,448µm,0.8s							
ZKR				AML	AML	11 00 14.2		
	comp=N,547µm,0.6s							
YER	**Yerkesik**	**2.33**	**345**	*e*PN	**Pn**	**10 59 45.2**	**+1.5**	
YER	**Yerkesik**	**2.33**	**345**	*e*Pn	**Pn**	**10 59 45.3**	**+1.5**	
KORT	**Korkueli**	**2.38**	**27**	P	**Pn**	**10 59 45.7**	**+1.2**	
KORT	**Korkueli**	**2.38**	**27**	*i* P	**Pn**	**10 59 45.6**	**+1.2**	
GOLH	**Golhisar**	**2.40**	**10**	P	**Pn**	**10 59 46.6**	**+1.9**	
GOLH	**Golhisar**	**2.40**	**10**	*i* P	**Pn**	**10 59 46.6**	**+1.9**	
BODT	**Bodrum**	**2.58**	**328**	*e*PN	**Pn**	**10 59 47.7**	**+0.5**	
BODT	**Bodrum**	**2.58**	**328**	*e*Pn	**Pn**	**10 59 47.7**	**+0.5**	
DNZL	**Cakiroluk**	**2.81**	**1**	P	**Pn**	**10 59 51.3**	**+0.9**	
DNZL	**Cakiroluk**	**2.81**	**1**	*i* P	**Pn**	**10 59 51.3**	**+0.9**	
NPS	**Neapolis**	**2.82**	**279**	P	**Pn**	**10 59 52.9**	**+2.5**	
NPS				S	**Sn**	**11 00 24.4**	**+0.8**	
NPS	**Neapolis**	**2.82**	**279**	P	**Pn**	**10 59 52.9**	**+2.5**	
NPS				S	**Sn**	**11 00 24.4**	**+0.8**	
NPS				AML	AML	11 00 27.2		
	comp=E,395µm,0.4s							
NPS				AML	AML	11 00 28.8		
	comp=N,235µm,0.4s							
BCK	**Bucak**	**2.88**	**26**	*e*PN	**Pn**	**10 59 53.3**	**+2.0**	
BCK	**Bucak**	**2.88**	**26**	*e*Pn	**Pn**	**10 59 53.3**	**+2.0**	
LAST	**Lasithi**	**2.92**	**277**	P	**Pn**	**10 59 54.2**	**+2.4**	
LAST				S	**Sn**	**11 00 26.8**	**+0.7**	
LAST	**Lasithi**	**2.92**	**277**	P	**Pn**	**10 59 54.2**	**+2.4**	
AYDN	**Tasoluk**	**2.93**	**342**	P	**Pn**	**10 59 53.8**	**+1.9**	
AYDN	**Tasoluk**	**2.93**	**342**	*i* P	**Pn**	**10 59 53.8**	**+1.9**	
GAZI	**Gazipasa**	**3.01**	**62**	P	**Pn**	**10 59 51.3**	**-1.8**	
GAZI	**Gazipasa**	**3.01**	**62**	*i* P	**Pn**	**10 59 51.3**	**-1.8**	
SUTC	**Sutluce-Ispart**	**3.05**	**31**	*e*PN	**Pn**	**10 59 56.0**	**+2.3**	
SUTC	**Sutluce-Ispart**	**3.05**	**31**	*e*Pn	**Pn**	**10 59 56.0**	**+2.3**	
ISP	**Isparta**	**3.18**	**22**	*e*PN	**Pn**	**10 59 57.4**	**+1.9**	
ISP	**Isparta**	**3.18**	**22**	*e*Pn	**Pn**	**10 59 57.4**	**+1.9**	
AYDB	**Zeytinkoy-Aydi**	**3.19**	**344**	*e*PN	**Pn**	**10 59 56.9**	**+1.2**	
AYDB	**Zeytinkoy-Aydi**	**3.19**	**344**	*e*Pn	**Pn**	**10 59 56.9**	**+1.2**	
SMG	**Samos**	**3.33**	**329**	P	**Pn**	**10 59 58.5**	**+1.0**	
SMG				S	**Sn**	**11 00 35.8**	**-0.4**	
SMG	**Samos**	**3.33**	**329**	P	**Pn**	**10 59 58.5**	**+1.0**	
SMG				S	**Sn**	**11 00 35.8**	**-0.4**	
SMG				AML	AML	11 00 39.9		
	comp=N,146µm,0.3s							
SMG				AML	AML	11 00 44.9		
	comp=E,88µm,0.6s							
CMBO	**Columbo, Santo**	**3.34**	**299**	P	**Pn**	**10 59 57.6**	**0.0**	
CMBO	**Columbo, Santo**	**3.34**	**299**	P	**Pn**	**10 59 57.6**	**0.0**	
IDI	**Anoyia**	**3.41**	**278**	P	**Pn**	**11 00 00.1**	**+1.5**	
IDI				S	**Sn**	**11 00 38.7**	**+0.5**	
IDI	**Anoyia**	**3.41**	**278**	P	**Pn**	**11 00 00.1**	**+1.5**	
IDI				S	**Sn**	**11 00 38.7**	**+0.5**	
IDI				AML	AML	11 00 41.6		
	comp=E,282µm,0.4s							
IDI				AML	AML	11 00 42.1		
	comp=N,366µm,0.3s							
SIVA	**Sivas**	**3.46**	**274**	P	**Pn**	**11 00 01.2**	**+2.0**	
SIVA				S	**Sn**	**11 00 39.9**	**+0.6**	
SIVA	**Sivas**	**3.46**	**274**	P	**Pn**	**11 00 01.2**	**+2.0**	
SIVA				S	**Sn**	**11 00 39.9**	**+0.6**	
SIVA				AML	AML	11 00 42.3		
	comp=N,467µm,0.5s							
SIVA				AML	AML	11 00 44.9		
	comp=E,406µm,0.5s							
APE	**Apeiranthos**	**3.57**	**309**	P	**Pn**	**11 00 01.8**	**+0.9**	
APE				S	**Sn**	**11 00 41.5**	**-0.8**	
APE	**Apeiranthos**	**3.57**	**309**	P	**Pn**	**11 00 01.8**	**+0.9**	
APE				S	**Sn**	**11 00 41.5**	**-0.8**	
APE				AML	AML	11 00 45.5		
	comp=N,96µm,0.4s							
APE				AML	AML	11 00 50.9		
	comp=E,106µm,0.5s							
VAM	**Vamos**	**3.98**	**279**	P	**Pn**	**11 00 08.2**	**+1.8**	
VAM				S	**Sn**	**11 00 51.1**	**-1.2**	
MHLO	**Agia Marina, M**	**4.16**	**297**	P	**Pn**	**11 00 11.1**	**+2.2**	
MHLO				S	**Sn**	**11 00 55.4**	**-1.4**	
MHLO	**Agia Marina, M**	**4.16**	**297**	P	**Pn**	**11 00 11.1**	**+2.2**	
MHLO				S	**Sn**	**11 00 55.4**	**-1.4**	
MHLO				AML	AML	11 01 05.4		
	comp=N,397µm,0.5s							
MHLO				AML	AML	11 01 06.0		
	comp=E,767µm,0.5s							
IMMV	**Iera Moni Meta**	**4.17**	**279**	P	**Pn**	**11 00 10.6**	**+1.7**	
IMMV				S	**Sn**	**11 00 55.5**	**-1.3**	
IMMV	**Iera Moni Meta**	**4.17**	**279**	P	**Pn**	**11 00 10.6**	**+1.7**	
IMMV				S	**Sn**	**11 00 55.5**	**-1.3**	
IMMV				AML	AML	11 01 02.3		
	comp=N,257µm,0.5s							
IMMV				AML	AML	11 01 04.6		
	comp=E,321µm,0.7s							
CHOS	**Chios island**	**4.24**	**327**	P	**Pn**	**11 00 10.6**	**+0.6**	
CHOS	**Chios island**	**4.24**	**327**	P	**Pn**	**11 00 10.6**	**+0.6**	
ANKY	**Antikythira Is**	**4.77**	**284**	P	**Pn**	**11 00 16.5**	**-0.8**	
ANKY				S	**Sn**	**11 01 10.5**	**-1.3**	
ANKY	**Antikythira Is**	**4.77**	**284**	P	**Pn**	**11 00 16.5**	**-0.8**	
ANKY				S	**Sn**	**11 01 10.5**	**-1.3**	
ANKY				AML	AML	11 01 14.2		
	comp=N,285µm,0.6s							
ANKY				AML	AML	11 01 19.6		
	comp=E,209µm,0.6s							
KYTH	**Kithira**	**5.06**	**288**	P	**Pn**	**11 00 21.4**	**+0.2**	
KYTH	**Kithira**	**5.06**	**288**	P	**Pn**	**11 00 21.4**	**+0.2**	
VLI	**Veliai**	**5.27**	**292**	P	**Pn**	**11 00 23.5**	**-0.6**	
VLI	**Veliai**	**5.27**	**292**	P	**Pn**	**11 00 23.5**	**-0.6**	
VLI				S	**Sn**	**11 01 20.0**	**-4.1**	
VLI				AML	AML	11 01 23.8		
	comp=E,185µm,0.6s							
VLI				AML	AML	11 01 25.0		
	comp=N,210µm,0.4s							
DID	**Didima**	**5.36**	**301**	P	**Pn**	**11 00 27.3**	**+1.9**	
DID	**Didima**	**5.36**	**301**	P	**Pn**	**11 00 27.3**	**+1.9**	
KRND	**KRANIDI**	**5.37**	**299**	P	**Pn**	**11 00 27.5**	**+2.1**	
KRND	**KRANIDI**	**5.37**	**299**	P	**Pn**	**11 00 27.5**	**+2.1**	
VILL	**Villia**	**5.64**	**307**	P	**Pn**	**11 00 32.4**	**+3.1**	
VIL2	**Platees**	**5.70**	**307**	P	**Pn**	**11 00 32.4**	**+2.4**	
LTK	**Loutraki**	**5.80**	**305**	P	**Pn**	**11 00 34.5**	**+3.1**	
LTK	**Loutraki**	**5.80**	**305**	P	**Pn**	**11 00 34.5**	**+3.1**	
SKIA	**Skiathos**	**6.17**	**316**	P	**Pn**	**11 00 38.4**	**+2.0**	
SKIA	**Skiathos**	**6.17**	**316**	P	**Pn**	**11 00 38.4**	**+2.0**	
ITM	**Ithomi**	**6.19**	**294**	P	**Pn**	**11 00 37.2**	**+0.5**	
ITM	**Ithomi**	**6.19**	**294**	P	**Pn**	**11 00 37.2**	**+0.5**	
KLV	**Kalavryta, Ach**	**6.37**	**302**	P	**Pn**	**11 00 40.9**	**+1.6**	
KLV	**Kalavryta, Ach**	**6.37**	**302**	P	**Pn**	**11 00 40.9**	**+1.6**	
KALE	**Kalithea**	**6.55**	**304**	P	**Pn**	**11 00 41.5**	**-0.2**	
KALE	**Kalithea**	**6.55**	**304**	P	**Pn**	**11 00 41.5**	**-0.2**	
LAKA	**Lakka**	**6.58**	**303**	P	**Pn**	**11 00 43.8**	**+1.6**	
LAKA	**Lakka**	**6.58**	**303**	P	**Pn**	**11 00 43.8**	**+1.6**	
DRO	**Drossia**	**6.64**	**300**	P	**Pn**	**11 00 43.8**	**+0.8**	
DRO	**Drossia**	**6.64**	**300**	P	**Pn**	**11 00 43.8**	**+0.8**	
EFP	**Efpalio**	**6.72**	**304**	P	**Pn**	**11 00 44.2**	**+0.1**	
EFP	**Efpalio**	**6.72**	**304**	P	**Pn**	**11 00 44.1**	**+0.1**	
AGG	**Agios Georgios**	**6.76**	**310**	P	**Pn**	**11 00 48.2**	**+3.5**	
AGG	**Agios Georgios**	**6.76**	**310**	P	**Pn**	**11 00 48.2**	**+3.5**	
PDO	**Prodromos**	**7.30**	**303**	P	**Pn**	**11 00 55.3**	**+3.3**	
PDO	**Prodromos**	**7.30**	**303**	P	**Pn**	**11 00 55.3**	**+3.3**	
KFL	**Anninata**	**7.37**	**298**	P	**Pn**	**11 00 54.0**	**+1.0**	
KFL	**Anninata**	**7.37**	**298**	P	**Pn**	**11 00 54.0**	**+1.0**	
HQLS		**7.56**	**136**	P	**Pn**	**11 00 53.0**	**-2.7**	
DSL	**Palaion Diasel**	**7.63**	**306**	P	**Pn**	**11 00 57.7**	**+1.2**	
DSL	**Palaion Diasel**	**7.63**	**306**	P	**Pn**	**11 00 57.7**	**+1.2**	
HAQS	**Haql**	**7.67**	**138**	P	**Pn**	**11 00 54.6**	**-2.5**	
LKD2	**Lefkada island**	**7.75**	**303**	P	**Pn**	**11 00 58.2**	**-0.1**	
LKD2	**Lefkada island**	**7.75**	**303**	P	**Pn**	**11 00 58.2**	**-0.1**	
RSHS		**8.20**	**141**	P	Pn	11 01 01.3	-3.1	
PENT	**Pentalofos**	**8.20**	**313**	P	**Pn**	**11 01 08.2**	**+3.7**	
JLOS		**8.23**	**136**	P	Pn	11 01 01.8	-3.2	
BDAS	**Al Bad'**	**8.26**	**139**	P	Pn	11 01 02.0	-3.2	

*ISCJB **07** 11:01:10.8±0.4, 34°.79N±0°.04×29°.10E±0°.02, h94km±14km, Error ellipse: s-maj=5.8km s-min=3.1km az=3.8*
*CSEM **07** 11:01:12.7±0.2, 34°.80N×29°.10E, h60km, ML3.7, Error ellipse: s-maj=4.9km s-min=2.7km az=6.0*
*DDA **07** 11:01:13.5, 34°.99N×28°.90E, h48km, Ml3.6*
*THE **07** 11:01:14.4, 34°.86N×29°.12E, h85km±7km, ML3.7/7, Error ellipse: s-maj=7.4km s-min=1.5km az=22.0*
*NIC **07** 11:01:14.8±0.2, 34°.88N×29°.32E, h61km, mb4.0, ML3.6*
ISC 07 11:01:11.2±1.2,**34°.78N**±0°.04×**29°.08E**±0°.03,**h92**km±21km,
n66,σ1§**37**/117,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.43**	**17**	P	**Pn**	**11 01 36.1**	**-0.1**
KSL				S	**Sn**	**11 01 52.8**	**-2.3**
AKAS	**Kas**	**1.52**	**16**	P	**Pn**	**11 01 37.3**	**-0.1**
AKAS				S	**Sn**	**11 01 55.9**	**-1.3**
AKAS	**Kas**	**1.52**	**16**	*i* P	**Pn**	**11 01 37.4**	**-0.1**
AKAS				*i* S	**Sn**	**11 01 55.9**	**-1.3**
KARP	**Karpathos**	**1.75**	**297**	P	**Pn**	**11 01 41.0**	**+0.7**
KARP				S	**Sn**	**11 02 04.2**	**+1.8**
KARP	**Karpathos**	**1.75**	**297**	P	**Pn**	**11 01 41.0**	**+0.7**
KARP				S	**Sn**	**11 02 04.2**	**+1.8**
FETY	**Fethiye**	**1.85**	**0**	P	**Pn**	**11 01 41.5**	**-0.1**
FETY				S	**Sn**	**11 02 03.4**	**-1.4**
FETY	**Fethiye**	**1.85**	**0**	P	**Pn**	**11 01 41.5**	**-0.1**
FETY				S	**Sn**	**11 02 03.4**	**-1.4**
TURN	**Turunc**	**2.13**	**350**	*i* P	**Pn**	**11 01 45.6**	**+0.5**
TURN				*i* S	**Sn**	**11 02 11.2**	**+0.1**
ZKR	**Zakros**	**2.38**	**279**	P	**Pn**	**11 01 50.0**	**+1.6**
ZKR				S	**Sn**	**11 02 17.8**	**+0.8**
ZKR	**Zakros**	**2.38**	**279**	P	**Pn**	**11 01 50.0**	**+1.6**
ZKR				S	**Sn**	**11 02 17.8**	**+0.8**
YER	**Yerkesik**	**2.44**	**345**	P	**Pn**	**11 01 51.1**	**+1.8**
YER				S	**Sn**	**11 02 19.6**	**+1.0**
YER	**Yerkesik**	**2.44**	**345**	P	**Pn**	**11 01 51.1**	**+1.8**
YER				S	**Sn**	**11 02 19.6**	**+1.0**
KORT	**Korkueli**	**2.45**	**25**	P	**Pn**	**11 01 51.1**	**+1.6**
KORT				S	**Sn**	**11 02 20.9**	**+2.1**
KORT	**Korkueli**	**2.45**	**25**	*i* P	**Pn**	**11 01 51.1**	**+1.6**
KORT				*i* S	**Sn**	**11 02 20.9**	**+2.1**
GOLH	**Golhisar**	**2.49**	**9**	P	**Pn**	**11 01 52.0**	**+2.0**
GOLH				S	**Sn**	**11 02 21.5**	**+1.8**
GOLH	**Golhisar**	**2.49**	**9**	*i* P	**Pn**	**11 01 52.0**	**+2.0**
GOLH				*i* S	**Sn**	**11 02 21.5**	**+1.8**
BDRM	**Kayabasi**	**2.64**	**330**	P	**Pn**	**11 01 50.5**	**-1.5**
BDRM				S	**Sn**	**11 02 23.0**	**-0.3**
BDRM	**Kayabasi**	**2.64**	**330**	*i* P	**Pn**	**11 01 50.5**	**-1.5**
BDRM				*i* S	**Sn**	**11 02 23.0**	**-0.3**
AKMC	**Akamas** baz=267	**2.68**	**84**	P	**Pn**	**11 01 53.5**	**+1.0**
AKMC	**Akamas**	**2.68**	**84**	P	**Pn**	**11 01 53.5**	**+1.0**
PPCY	**Paphos** baz=270	**2.69**	**87**	P	**Pn**	**11 01 53.3**	**+0.8**
PPCY	**Paphos**	**2.69**	**87**	P	**Pn**	**11 01 53.3**	**+0.8**
BODT	**Bodrum**	**2.70**	**328**	P	**Pn**	**11 01 53.1**	**+0.4**
BODT				S	**Sn**	**11 02 23.9**	**-0.7**
BODT	**Bodrum**	**2.70**	**328**	P	**Pn**	**11 01 53.1**	**+0.4**
BODT				S	**Sn**	**11 02 23.9**	**-0.7**
ALFC	**Alefka** baz=265	**2.91**	**82**	P	**Pn**	**11 01 56.7**	**+1.1**
ALFC				S	**Sn**	**11 02 29.0**	**-0.9**
ALFC	**Alefka**	**2.91**	**82**	P	**Pn**	**11 01 56.7**	**+1.1**
ALFC				S	**Sn**	**11 02 29.0**	**-0.9**
LAST	**Lasithi**	**2.98**	**278**	P	**Pn**	**11 01 58.8**	**+2.2**
LAST				S	**Sn**	**11 02 31.9**	**+0.3**
LAST	**Lasithi**	**2.98**	**278**	P	**Pn**	**11 01 58.8**	**+2.2**
LAST				S	**Sn**	**11 02 31.9**	**+0.3**
GAZI	**Gazipasa**	**3.01**	**60**	P	**Pn**	**11 01 57.2**	**+0.2**
GAZI				S	**Sn**	**11 02 31.0**	**-1.2**
GAZI	**Gazipasa**	**3.01**	**60**	*i* P	**Pn**	**11 01 57.1**	**+0.2**
GAZI				*i* S	**Sn**	**11 02 31.0**	**-1.2**
AYDN	**Tasoluk**	**3.04**	**342**	P	**Pn**	**11 01 58.4**	**+1.1**
AYDN				S	**Sn**	**11 02 33.4**	**+0.5**
AYDN	**Tasoluk**	**3.04**	**342**	*i* P	**Pn**	**11 01 58.4**	**+1.1**
AYDN				*i* S	**Sn**	**11 02 33.4**	**+0.5**
SZAC	**Souni** baz=273	**3.13**	**89**	P	**Pn**	**11 01 59.6**	**+1.1**
SZAC				S	**Sn**	**11 02 34.9**	**-0.1**
SZAC	**Souni**	**3.13**	**89**	P	**Pn**	**11 01 59.6**	**+1.1**
SZAC				S	**Sn**	**11 02 34.9**	**-0.1**
ISP	**Isparta**	**3.26**	**21**	P	**Pn**	**11 02 01.9**	**+1.6**
ISP	**Isparta**	**3.26**	**21**	P	**Pn**	**11 02 01.9**	**+1.6**
THR3	**Thira Island,**	**3.41**	**300**	P	**Pn**	**11 02 03.7**	**+1.4**
THR3				S	**Sn**	**11 02 41.8**	**0.0**
THR3	**Thira Island,**	**3.41**	**300**	P	**Pn**	**11 02 03.7**	**+1.4**
THR3				S	**Sn**	**11 02 41.8**	**0.0**
CMBO	**Columbo, Santo**	**3.44**	**301**	P	**Pn**	**11 02 03.8**	**+1.2**
CMBO				S	**Sn**	**11 02 40.7**	**-1.7**
CMBO	**Columbo, Santo**	**3.44**	**301**	P	**Pn**	**11 02 03.8**	**+1.2**
THR5	**Thira Island,**	**3.45**	**299**	P	**Pn**	**11 02 04.2**	**+1.3**
THR5				S	**Sn**	**11 02 41.7**	**-1.1**
THR5	**Thira Island,**	**3.45**	**299**	P	**Pn**	**11 02 04.2**	**+1.3**
THR5				S	**Sn**	**11 02 41.7**	**-1.1**
IDI	**Anoyia**	**3.48**	**280**	P	**Pn**	**11 02 05.1**	**+1.9**
IDI				S	**Sn**	**11 02 43.4**	**0.0**
IDI	**Anoyia**	**3.48**	**280**	P	**Pn**	**11 02 05.1**	**+1.9**
IDI				S	**Sn**	**11 02 43.4**	**0.0**
CSS	**Mathiatis** baz=269	**3.50**	**86**	P	**Pn**	**11 02 04.4**	**+0.9**
CSS				S	**Sn**	**11 02 43.5**	**-0.4**
CSS	**Mathiatis**	**3.50**	**86**	P	**Pn**	**11 02 03.6**	**+0.1**
CSS				S	**Sn**	**11 02 42.7**	**-1.2**
CSS	**Mathiatis**	**3.50**	**86**	P	**Pn**	**11 02 04.4**	**+0.9**
CSS				S	**Sn**	**11 02 43.5**	**-0.4**
KHAL	**Karahalli**	**3.60**	**5**	P	**Pn**	**11 02 05.7**	**+0.7**
KHAL				S	**Sn**	**11 02 47.4**	**+0.9**
KHAL	**Karahalli**	**3.60**	**5**	*i* P	**Pn**	**11 02 05.7**	**+0.7**
KHAL				*i* S	**Sn**	**11 02 47.4**	**+0.9**
MANT	**Manisa**	**3.73**	**354**	P	**Pn**	**11 02 06.9**	**+0.1**
MANT				S	**Sn**	**11 02 48.9**	**-0.9**
MANT	**Manisa**	**3.73**	**354**	*i* P	**Pn**	**11 02 06.9**	**+0.1**
MANT				*i* S	**Sn**	**11 02 48.9**	**-0.9**
IMMV	**Iera Moni Meta**	**4.24**	**281**	P	**Pn**	**11 02 15.9**	**+2.5**
IMMV				S	**Sn**	**11 03 00.4**	**-1.3**
IMMV	**Iera Moni Meta**	**4.24**	**281**	P	**Pn**	**11 02 15.9**	**+2.5**
KIZK	**Mersin**	**4.46**	**66**	P	**Pn**	**11 02 17.2**	**+0.8**
KIZK				S	**Sn**	**11 03 07.2**	**0.0**
KIZK	**Mersin**	**4.46**	**66**	*i* P	**Pn**	**11 02 17.2**	**+0.8**
KIZK				*i* S	**Sn**	**11 03 07.2**	**0.0**
KDHN	**Kadinhani**	**4.46**	**32**	P	**Pn**	**11 02 17.9**	**+1.3**
KDHN				S	**Sn**	**11 03 08.1**	**+0.7**
KDHN	**Kadinhani**	**4.46**	**32**	*i* P	**Pn**	**11 02 17.9**	**+1.3**
KDHN				*i* S	**Sn**	**11 03 08.1**	**+0.7**
VLI	**Veliai**	**5.36**	**293**	P	**Pn**	**11 02 29.0**	**+0.3**
VLI				S	**Sn**	**11 03 26.4**	**-2.7**
VLI	**Veliai**	**5.36**	**293**	P	**Pn**	**11 02 29.0**	**+0.3**
HWQ	**Hawqa**	**5.69**	**93**	*e*P	**Pn**	**11 02 34.5**	**+1.2**
HWQ	**Hawqa**	**5.69**	**93**	*e*P	**Pn**	**11 02 34.5**	**+1.2**
RCY	**Rachaya**	**5.75**	**101**	*e*P	**Pn**	**11 02 35.2**	**+1.1**
HQLS		**7.45**	**135**	P	**Pn**	**11 02 58.0**	**+0.7**
HAQS	**Haql**	**7.56**	**137**	P	**Pn**	**11 02 59.9**	**+1.1**
JLOS		**8.13**	**136**	S	**Sn**	**11 04 29.9**	**-6.9**
JLOS				P	**Pn**	**11 03 07.6**	**+1.0**
BDAS	**Al Bad'**	**8.14**	**139**	P	**Pn**	**11 03 07.4**	**+0.6**

*IDC **07** 11:21:00.7±0.6, 62°.66S×57°.50W, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML4.3/1, MS4.0/9, Ms1 4.0/9, ms1mx3.7/23, Error ellipse: s-maj=30.3km s-min=22.2km az=90.0*
*ISCJB **07** 11:21:01.3±0.6, 62°.47S±0°.08×57°.9W±0°.3, h10km, mb4.4/13, MS4.0/7, Error ellipse: s-maj=18.4km s-min=10.9km az=178.6*
*NEIC **07** 11:21:02.2±0.5, 62°.43S×57°.97W, h10km, mb4.6/5, Error ellipse: s-maj=20.8km s-min=12.5km az=88.0*
ISC 07 11:21:02.5±0.5,**62°.45S**±0°.08×**57°.8W**±0°.1,**h10**km,**n32,**
σ1§**51**/30,**mb4.2**/13,**MS4.0**/7,**South Shetland Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**3.65**	**227**	Pn	**Pn**	**11 21 57.7**	**-1.2**
PMSA	2.7nm,0.3s,baz=163,slow=20,SNR=8.2			Sn	**Sb**	**11 22 52.2**	**+1.1**
PMSA	37nm,0.3s,baz=146,slow=23,SNR=13			LR	LR	11 23 27.9	
USHA	comp=Z,708nm,18.2s,baz=74,slow=41 **Ushuaia**	**9.43**	**319**	LR	LR	11 26 09.2	
SNAA	comp=Z,5µm,21.7s,baz=50,slow=32 **Sanae**	**22.43**	**137**	P	**P**	**11 26 02.5**	**+1.6**
SNAA	**Sanae**	**22.43**	**137**	*e*P	**P**	**11 26 02.6**	**+1.6**
PLCA	3µm,1.4s **Paso Flores**	**23.06**	**335**	P	**P**	**11 26 11.8**	**+3.9**
PLCA	2.2nm,0.3s,baz=306,slow=13,SNR=11			LR	LR	11 35 10.6	
TRQA	comp=Z,366nm,18.2s,baz=176,slow=36 **Tornquist**	**24.56**	**352**	*e*P	**P**	**11 26 23.6**	**+1.4**
QSPA	4.4nm,0.9s **South Pole Qui**	**27.78**	**180**	*e*P	**P**	**11 26 53.0**	**+1.8**
CPUP	90nm,1.2s **Villa Florida**	**36.11**	**1**	LR	LR	11 42 59.5	
SBA	comp=Z,75nm,19.2s,baz=260,slow=36 **Scott Base**	**37.34**	**194**	*e*P	**P**	**11 28 15.4**	**+1.1**
	4.5nm,1.1s						
VNDA	**Vanda**	**38.17**	**193**	P	**P**	**11 28 20.6**	**-0.7**
MAW	0.3nm,0.6s,baz=152,slow=8.1,SNR=3.3 **Mawson**	**43.37**	**151**	P	**P**	**11 29 06.8**	**+2.6**
MAW	3.9nm,1.0s,baz=226,slow=6.1,SNR=4.1			LR	LR	11 47 17.6	
LPAZ	comp=Z,283nm,18.0s,baz=236,slow=37 **La Paz**	**46.68**	**346**	P	**P**	**11 29 32.5**	**+0.7**
SAML	1.1nm,0.8s,baz=186,slow=9.2,SNR=2.4 **Samuel**	**53.55**	**353**	*e*P	**P**	**11 30 22.6**	**-0.6**
BOSA	5.9nm,1.1s **Boshof**	**61.87**	**98**	P	**P**	**11 31 21.0**	**-0.8**
OTAV	2.8nm,0.8s,baz=172,slow=7.5,SNR=4.5 **Otavalo**	**64.44**	**337**	*e*P	**P**	**11 31 40.3**	**+1.0**
ROSC	16nm,1.1s **El Rosal**	**68.29**	**342**	LR	LR	12 02 15.6	
NWAO	comp=Z,103nm,20.6s,baz=85,slow=36 **Narrogin (SRO)**	**84.87**	**176**	LR	LR	12 11 13.2	
TEIG	comp=Z,87nm,21.3s,slow=36 **Tepich**	**85.87**	**331**	*e*P	**P**	**11 33 42.0**	**0.0**
ASAR	**Alice Springs**	**93.68**	**191**	P	**P**	**11 34 16.1**	**-3.0**
WRA	0.4nm,0.9s,baz=162,slow=3.6,SNR=3.9 **Warramunga Arr**	**97.33**	**191**	P	**P**	**11 34 34.1**	**-1.6**
TXAR	0.8nm,0.9s,baz=179,slow=4.0,SNR=5.9 **Lajitas Array**	**98.56**	**321**	LR	LR	12 14 03.0	
FITZ	comp=Z,26nm,18.4s,baz=192,slow=36 **Fitzroy Crossi**	**99.67**	**183**	LR	LR	12 21 35.1	
GERES	comp=Z,86nm,18.4s,baz=192,slow=36 **GERESS Array B**	**124.54**	**50**	PKP	**PKPdf**	**11 39 59.5**	**-1.3**
YKA	0.3nm,0.2s,baz=318,slow=1.8,SNR=4.5 **Yellowknife Ar**	**131.76**	**329**	PKP	**PKPdf**	**11 40 13.2**	**-0.7**
AKASG	0.3nm,0.5s,baz=161,slow=2.0,SNR=11 **Malin Array Be**	**131.89**	**59**	PKP	**PKPdf**	**11 40 13.4**	**-1.1**
ILAR	0.2nm,0.3s,baz=242,slow=1.9,SNR=4.5 **Eielson Array**	**142.83**	**315**	PKP	**PKPdf**	**11 40 31.7**	**-2.6**
ARCES	0.8nm,0.9s,baz=175,slow=2.7,SNR=7.1 **ARCESS Array B**	**144.06**	**37**	PKP	**PKPab**	**11 40 33.9**	**-0.1**
SPITS	1.7nm,0.8s,baz=222,slow=1.6,SNR=4.8 **Spitsbergen Ar**	**147.15**	**21**	PKPbc	**PKPbc**	**11 40 43.6**	**-0.1**
BVAR	5.6nm,0.9s,baz=222,slow=1.9,SNR=4.0 **Borovoye Array**	**151.53**	**85**	PKP	**PKPdf**	**11 40 48.8**	**-0.3**
BVAR	2.4nm,0.6s,baz=289,slow=4.4,SNR=4.0			PKPbc	**PKPbc**	**11 40 54.5**	**-0.8**
MJAR	3.3nm,0.7s,baz=251,slow=2.0,SNR=12 **Matsushiro Arr**	**152.23**	**208**	PKP	**PKPdf**	**11 40 50.7**	**-0.1**
MJAR	0.4nm,0.3s,baz=180,slow=8.6,SNR=3.0			PKPbc	**PKPbc**	**11 40 57.5**	**+0.1**
MKAR	6.2nm,1.1s,baz=161,slow=3.3,SNR=9.5 **Makanchi Array**	**152.65**	**106**	PKP	**PKPdf**	**11 40 50.9**	**-0.2**
MKAR	0.3nm,0.5s,baz=221,slow=3.3,SNR=3.8			PKPbc	**PKPbc**	**11 40 57.9**	**-0.2**
SONM	2.1nm,0.7s,baz=213,slow=1.6,SNR=4.4 **Songino Array**	**162.87**	**141**	PKPab	**PKPab**	**11 41 52.9**	**-0.2**
	1.3nm,0.5s,baz=270,slow=2.9,SNR=4.4						

*IDC **07** 11:28:12.9±25.0, 4°.00S×103°.32E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/42, mbtmp3.8/4, Error ellipse: s-maj=438.1km s-min=171.6km az=133.0*
*DJA **07** 11:29:09.6±1.3, 4°.5±5°×107°.7E±°, h105km±22km, M4.5/11, mB5.7/1, mb4.7/3, MLv4.3/11, Mw(mB)5.2/1*
ISC 07 11:28:15.6±2.6,**3°.99S**±0°.09×**103°.5E**±0°.2,**h10**km,**n12,**
σ2§**60**/11,**mb3.7**/4,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**3.44**	**140**	P	**Sn**	**11 29 53.4**	**+3.3**
TPI	**Tanjungpandan**	**4.37**	**74**	P	**Pg**	**11 29 37.5**	**-1.9**
CNJI	**Cibinong**	**4.93**	**132**	P	**Pg**

mb1 4.1/17, mb1mx3.8/47, mbtmp4.3/17, MS3.5/19, Ms1 3.5/19, ms1mx3.3/48, Error ellipse: s-maj=24.8km s-min=11.6km az=83.0

ISC 07 11:40:35.1±0.6, **18°28'N**±0.06×**146°6'E**±0.1, **h66**km, **n48**, σ1°**01**/37, **mb4.4**/26, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.95**	**200**	P	**Pn**	**11 41 47.5**	**+0.5**
	19nm,0.3s,baz=159,slow=4.9,SNR=8.0						
GUMO				S	**Sn**	**11 42 45.2**	**+2.3**
	30nm,0.3s,baz=31,slow=22,SNR=6.0						
GUMO	**Guam**	**4.95**	**200**	*e*Pn	**Pn**	**11 41 47.8**	**+0.8**
GUMO				*e*Sn	**Sn**	**11 42 44.6**	**+1.7**
H11S3	**WAKE ISLAND Hy**	**19.08**	**86**	T	T	12 04 13.0	
	baz=272,slow=75,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**19.09**	**86**	T	T	12 04 14.9	
	baz=272,slow=75,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**19.10**	**86**	T	T	12 04 18.6	
	baz=272,slow=75,SNR=8.3						
MJAR	**Matsushiro Arr**	**19.63**	**340**	P	**P**	**11 44 59.0**	**+0.6**
	0.6nm,0.3s,baz=167,slow=9.9,SNR=8.8						
MJAR				LR	LR	11 52 40.0	
	comp=Z,68nm,19.2s,baz=150,slow=37						
MAJO	**Matsushiro**	**19.64**	**340**	*e*P	**P**	**11 44 59.4**	**+1.0**
	11nm,0.8s						
KSRS	**Korea Array**	**25.15**	**323**	P	**P**	**11 45 53.2**	**-0.9**
	1.6nm,0.6s,baz=144,slow=9.1,SNR=9.5						
KSRS				LR	LR	11 55 16.5	
	comp=Z,183nm,21.4s,baz=132,slow=35						
KSAR	**Wonju Array Be**	**25.17**	**323**	P	**P**	**11 45 53.2**	**-1.1**
PMG	**Port Moresby**	**27.52**	**179**	LR	LR	11 57 08.5	
	comp=Z,31nm,21.3s,baz=344,slow=36						
USRK	**Ussuriysk Ar.**	**28.60**	**338**	P	**P**	**11 46 25.7**	**+0.7**
	3.0nm,0.7s,baz=140,slow=9.6,SNR=7.7						
KLR	**Kul'dur**	**33.12**	**342**	P	**P**	**11 47 05.3**	**+0.5**
	4.8nm,0.4s,baz=147,slow=9.0,SNR=30						
KLR				LR	LR	12 03 34.2	
	comp=Z,17nm,18.5s,baz=202,slow=42						
PETK	**Petropavlovsk-**	**35.82**	**11**	LR	LR	11 59 53.7	
	comp=Z,43nm,20.2s,baz=234,slow=32						
PET	**Petropavlovsk**	**35.93**	**12**	*e*P	**P**	**11 47 29.6**	**+0.6**
	3.7nm,0.4s						
HIA	**Hailar**	**37.73**	**331**	*e*P	**P**	**11 47 44.7**	**+0.3**
	6.7nm,0.4s						
KSM	**Kuching**	**39.31**	**249**	*e*P	**P**	**11 47 55.5**	**-2.6**
	9.6nm,1.0s						
WRAB	**Tennant Creek**	**39.83**	**198**	*e*P	**P**	**11 48 01.7**	**-0.5**
	4.2nm,0.7s						
WRA	**Warramunga Arr**	**39.84**	**198**	P	**P**	**11 48 01.2**	**-1.1**
	5.2nm,1.0s,baz=20,slow=9.2,SNR=34						
MA2	**Magadan**	**41.35**	**3**	LR	LR	12 07 15.2	
	comp=Z,24nm,18.2s,baz=196,slow=39						
ASAR	**Alice Springs**	**43.49**	**197**	P	**P**	**11 48 31.2**	**-0.9**
	1.2nm,0.5s,baz=21,slow=6.4,SNR=23						
ULN	**Ulaanbaatar**	**43.62**	**322**	*e*P	**P**	**11 48 33.1**	**-0.1**
	2.1nm,0.4s						
SONM	**Songino Array**	**43.99**	**321**	P	**P**	**11 48 35.9**	**-0.2**
	1.0nm,0.4s,baz=138,slow=8.5,SNR=4.7						
SONM				LR	LR	12 08 17.4	
	comp=Z,87nm,18.3s,baz=74,slow=38						
DZM	**Mont Dzumac**	**44.56**	**153**	LR	LR	12 06 11.6	
	comp=Z,134nm,18.1s,baz=50,slow=34						
CMAR	**Chiang Mai Arr**	**45.11**	**278**	LR	LR	12 05 37.5	
	comp=Z,35nm,21.0s,baz=225,slow=33						
YAK	**Yakutsk**	**45.29**	**349**	*e*P	**P**	**11 48 47.2**	**+1.2**
	15nm,0.4s						
TLY	**Talaya**	**47.39**	**325**	LR	LR	12 09 33.7	
	comp=Z,84nm,19.1s,slow=37						
STKA	**Stephens Creek**	**50.10**	**186**	P	**P**	**11 49 23.0**	**-0.6**
	3.3nm,0.7s,baz=0.0,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**58.86**	**323**	P	**P**	**11 50 26.4**	**-0.5**
	4.1nm,0.6s,baz=108,slow=7.5,SNR=15						
ZALV				LR	LR	12 16 15.4	
	comp=Z,49nm,19.9s,baz=70,slow=36						
MKAR	**Makanchi Array**	**59.36**	**314**	P	**P**	**11 50 30.9**	**+0.4**
	2.3nm,0.6s,baz=86,slow=9.4,SNR=11						
URZ	**Urewera**	**63.12**	**153**	LR	LR	12 14 47.0	
	comp=Z,46nm,21.6s,baz=304,slow=32						
ILAR	**Eielson Array**	**63.65**	**26**	P	**P**	**11 50 57.9**	**-1.2**
	0.7nm,0.8s,baz=255,slow=5.1,SNR=11						
ILAR				LR	LR	12 17 16.0	
	comp=Z,31nm,19.9s,baz=290,slow=34						
TKM2	**Tokmak 2**	**63.97**	**309**	*e*P	**P**	**11 51 02.7**	**+0.9**
	1.6nm,0.6s						
PALK	**Pallekele**	**64.89**	**270**	LR	LR	12 16 13.9	
	comp=Z,40nm,21.0s,baz=116,slow=33						
BVAR	**Borovoye Array**	**67.33**	**321**	P	**P**	**11 51 23.4**	**+0.3**
	5.9nm,0.6s,baz=95,slow=7.9,SNR=35						
BRVK	**Borovoye**	**67.39**	**321**	*e*P	**P**	**11 51 23.9**	**+0.4**
	11nm,0.7s						
KKAR	**Karatay Array**	**67.68**	**310**	*e*P	**P**	**11 51 26.4**	**+0.9**
	0.8nm,0.2s						
PPT	**Papeete**	**72.18**	**116**	LR	LR	12 17 48.1	
	comp=Z,58nm,20.1s,baz=348,slow=31						
ARU	**Arti**	**73.89**	**325**	*e*P	**P**	**11 52 02.8**	**-0.1**
	1.5nm,0.3s						
ABKAR	**Akbulak array**	**74.22**	**317**	*e*P	**P**	**11 52 04.3**	**-0.6**
	1.7nm,0.6s						
YKA	**Yellowknife Ar**	**77.96**	**28**	P	**P**	**11 52 25.8**	**-0.2**
	1.1nm,0.8s,baz=292,slow=5.6,SNR=19						
NVAR	**Mina Array Bea**	**82.73**	**52**	P	**P**	**11 52 52.8**	**+0.5**
	0.9nm,0.7s,baz=271,slow=6.1,SNR=9.3						
NVAR				LR	LR	12 22 09.6	
	comp=Z,49nm,21.1s,baz=206,slow=30						
ARCES	**ARCESS Array B**	**83.14**	**342**	P	**P**	**11 52 54.5**	**+1.0**
	4.8nm,0.6s,baz=65,slow=6.8,SNR=20						
FINES	**FINESS Array B**	**87.61**	**336**	P	**P**	**11 53 14.4**	**-1.5**
	2.9nm,0.7s,baz=76,slow=7.3,SNR=10						
AKASG	**Malin Array Be**	**92.12**	**326**	LR	LR	12 38 26.1	
	comp=Z,39nm,20.3s,baz=55,slow=38						
ULM	**Lac du Bonnet**	**92.46**	**35**	LR	LR	12 36 58.1	
	comp=Z,17nm,18.4s,baz=306,slow=37						
NOA	**NORSAR Array B**	**93.25**	**340**	LR	LR	12 39 52.0	
	comp=Z,24nm,20.1s,baz=75,slow=38						
LPAZ	**La Paz**	**146.82**	**92**	PKPbc	**PKPbc**	**12 00 12.2**	**+0.7**
	1.9nm,1.0s,baz=0.0,slow=1.0,SNR=5.5						
SAML	**Samuel**	**149.66**	**76**	*e*PKPdf	**PKPdf**	**12 00 12.3**	**-1.3**
SAML				*e*PKPbc	**PKPbc**	**12 00 18.5**	**+0.2**
SAML				*e*PKPab	**PKPab**	**12 00 23.2**	**-0.4**

*IDC **07** 11:46:01.6±2.1, 18°.09S×177°.85W, h334km±21km, mb3.4/7, mb1 3.7/8, mb1mx3.3/33, mbtmp4.1/8, Error ellipse: s-maj=50.9km s-min=13.3km az=149.0*
*ISCJB **07** 11:46:02.1±1.1, 18°.0S±0°.3×177°.9W±0°.2, h350km, mb3.6/7, Error ellipse: s-maj=52.8km s-min=9.8km az=152.2*

ISC 07 11:46:02.9±1.1, **18°.0S**±0°.3×**177°.9W**±0°.2, **h350**km, **n10**, σ1°**36**/13, **mb3.6**/7, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.10**	**56**	P	**Pn**	**11 47 47.5**	**+0.9**
	2.8nm,0.3s,baz=18,slow=19,SNR=3.8						
AFI				S	**S**	**11 49 08.8**	**-2.1**
	18nm,0.3s,baz=215,slow=19,SNR=12						
STKA	**Stephens Creek**	**39.07**	**241**	P	**P**	**11 52 58.0**	**+0.6**
	3.2nm,0.8s,baz=100,slow=9.4,SNR=6.3						
WRA	**Warramunga Arr**	**45.14**	**260**	P	**P**	**11 53 45.3**	**-1.0**
	1.6nm,0.5s,baz=97,slow=6.7,SNR=17						
WRA				PcP	**PcP**	**11 55 19.0**	**-1.0**
	0.7nm,0.9s,baz=98,slow=4.8,SNR=4.6						
ASAR	**Alice Springs**	**45.28**	**254**	P	**P**	**11 53 47.0**	**-0.4**
	12nm,0.5s,baz=90,slow=8.3,SNR=161						
ASAR				PcP	**PcP**	**11 55 19.6**	**-0.9**
	1.2nm,0.9s,baz=108,slow=4.4,SNR=4.2						
MJAR	**Matsushiro Arr**	**68.26**	**323**	P	**P**	**11 56 27.4**	**+0.4**
	0.7nm,0.6s,baz=112,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**79.09**	**44**	P	**P**	**11 57 29.6**	**-0.1**
	0.6nm,0.6s,baz=241,slow=7.7,SNR=7.1						
TXAR	**Lajitas Array**	**85.58**	**57**	P	**P**	**11 58 03.5**	**+0.6**
	1.2nm,1.0s,baz=223,slow=6.0,SNR=11						
ILAR	**Eielson Array**	**85.82**	**13**	P	**P**	**11 58 05.4**	**+2.2**
	0.2nm,0.5s,baz=220,slow=7.1,SNR=3.6						
BRTR	**Keskin Array B**	**145.19**	**315**	PKPbc	**PKPab**	**12 05 00.2**	**-0.4**
	1.2nm,0.8s,baz=75,slow=1.6,SNR=6.6						
GERES	**GERESS Array B**	**147.79**	**346**	PKPbc	**PKPab**	**12 05 08.3**	**-2.1**
	0.6nm,0.4s,baz=30,slow=2.4,SNR=5.2						

ISC 07 11:48:49.7±1.5, **51°.56N**±0°.06×**15°.99E**±0°.03, **h2**km±13km, **n17**, σ1°**07**/35, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**165**	*e*Pg	**Pg**	**11 49 03.9**	**+0.1**
KSP				*e*Sg	**Sg**	**11 49 14.1**	**+0.8**
UPC	**Upice**	**1.05**	**179**	*e*PG	**Pb**	**11 49 09.8**	**-0.7**
UPC				*e*SG	**Sb**	**11 49 24.8**	**+0.1**
	32nm,0.3s						
DPC	**Dobruska-Polom**	**1.23**	**170**	*e*PG	**Pb**	**11 49 12.8**	**-0.8**
DPC				*e*SG	**Sb**	**11 49 28.9**	**-0.9**
	20nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**222**	*e*PG	**Pb**	**11 49 15.4**	**-0.5**
PVCC				*e*SG	**Sb**	**11 49 34.5**	**+0.7**
	59nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**243**	PG	**Pb**	**11 49 17.1**	**-0.4**
BRG				SG	**Sb**	**11 49 37.1**	**+0.7**
	36nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.81**	**205**	*e*PN	**Pb**	**11 49 22.6**	**-0.9**
GOPC				*e*PG	**Pg**	**11 49 24.0**	**-0.4**
GOPC				*e*SG	**Sb**	**11 49 48.1**	**+1.4**
	7.1nm,0.2s						
PRU	**Pruhonice**	**1.82**	**211**	*e*PN	**Pn**	**11 49 21.6**	**-0.3**
PRU				*e*PG	**Pb**	**11 49 23.3**	**-0.3**
PRU				*e*SG	**Sb**	**11 49 47.9**	**+1.1**
	14nm,0.3s						
CLL	**Collm**	**1.89**	**264**	*i* Pn	**Pn**	**11 49 21.5**	**-1.4**
CLL				*e*Pg	**Pb**	**11 49 24.0**	**-0.8**
CLL				*e*Sg	**Sg**	**11 49 50.0**	**-0.2**
	comp=Z,13nm,0.8s						
OKC	**Ostrava-Krasne**	**2.20**	**141**	*e*PG	**Pg**	**11 49 30.8**	**-1.0**
OKC				*e*SG	**Sg**	**11 49 59.6**	**-0.7**
	comp=Z,14nm,0.4s						
NKC	**Novy Kostel**	**2.60**	**241**	*e*PN	**Pn**	**11 49 32.9**	**+0.1**
NKC				*e*PG	**Pg**	**11 49 39.2**	**-0.3**
NKC				*e*SG	**Sg**	**11 50 14.2**	**+1.0**
	comp=Z,17nm,0.4s						
OJC	**Ojcow**	**2.76**	**118**	*e*Pg	**Pg**	**11 49 43.4**	**+0.9**
OJC				*e*Sg	**Sg**	**11 50 19.1**	**+0.9**
OJC	**Ojcow**	**2.76**	**118**	*e*Pg	**Pg**	**11 49 43.4**	**+0.9**
OJC				*e*Sg	**Sg**	**11 50 19.1**	**+0.9**
KHC	**Kasperske Hory**	**2.88**	**213**	*e*PG	**Pb**	**11 49 42.5**	**+0.8**
KHC				*e*SN	**Sn**	**11 50 11.5**	**-0.2**
KHC				*e*SG	**Sb**	**11 50 21.0**	**+3.7**
LANS	**Liptovska Anna**	**3.28**	**136**	*e*SG	**Sg**	**11 50 34.8**	**-0.2**
VYHS	**Vyhne**	**3.57**	**148**	*e*SG	**Sg**	**11 50 43.1**	**-1.3**
STHS	**Stebnicka Huta**	**3.98**	**120**	*e*SG	**Sg**	**11 50 59.0**	**+1.5**
STHS				*e*LG	Lg	11 51 15.5	
KECS	**Kecovo**	**4.23**	**135**	*e*SG	**Sg**	**11 51 04.4**	**-1.0**

*ISCJB **07** 11:59:44.3±0.9, 36°.79N±0°.04×28°.23E±0°.04, h61km±8km, Error ellipse: s-maj=7.8km s-min=5.3km az=26.3*
*ISK **07** 11:59:44.4, 36°.60N×28°.13E, h20km, ML2.7*
*CSEM **07** 11:59:44.8±0.1, 36°.75N×28°.22E, h60km, ML2.6, Error ellipse: s-maj=5.1km s-min=3.8km az=17.0*
*THE **07** 11:59:45.0, 36°.78N×28°.21E, h70km±3km, ML2.6/3, Error ellipse: s-maj=3.4km s-min=0.9km az=36.0*
*DDA **07** 11:59:46.6, 37°.09N×28°.27E, h7km, Md2.3*

ISC 07 11:59:44.4±1.5, **36°.80N**±0°.04×**28°.22E**±0°.03, **h63**km±9km, **n28**, σ1°**00**/47, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.32**	**76**	*i* P	**Pn**	**11 59 53.5**	**-1.4**
TURN				*i* S	**Sn**	**12 00 00.2**	**-2.4**
YER	**Yerkesik**	**0.34**	**8**	*e*PG	**Pn**	**11 59 55.9**	**+0.6**
YER				*e*SG	**Sn**	**12 00 04.2**	**+1.0**
YER	**Yerkesik**	**0.34**	**8**	P	**Pn**	**11 59 55.9**	**+0.6**
YER				S	**Sn**	**12 00 04.1**	**+1.0**
YER	**Yerkesik**	**0.34**	**8**	P	**Pn**	**11 59 55.9**	**+0.6**
YER				S	**Sn**	**12 00 04.1**	**+1.0**
DALY	**Dalyan (Mu¨la**	**0.35**	**86**	*e*PG	**Pn**	**11 59 54.7**	**-0.5**
DALY				*e*SG	**Sn**	**12 00 01.7**	**-1.3**
DALY	**Dalyan (Mu¨la**	**0.35**	**86**	*e*Pg	**Pn**	**11 59 54.7**	**-0.5**
DALY				*e*Sg	**Sn**	**12 00 01.7**	**-1.3**
ARG	**Arkhangelos**	**0.58**	**188**	P	**Pn**	**11 59 57.9**	**+0.4**
ARG				S	**Sn**	**12 00 07.4**	**+0.3**
ARG	**Arkhangelos**	**0.58**	**188**	P	**Pn**	**11 59 57.9**	**+0.4**
ARG				S	**Sn**	**12 00 07.4**	**+0.3**
BDRM	**Kayabasi**	**0.68**	**294**	P	**Pn**	**12 00 00.0**	**+1.4**
BDRM				S	**Sn**	**12 00 08.3**	**-0.7**
BDRM	**Kayabasi**	**0.68**	**294**	*i* P	**Pn**	**12 00 00.0**	**+1.4**
BDRM				*i* S	**Sn**	**12 00 08.3**	**-0.7**
FETY	**Fethiye**	**0.71**	**103**	*e*PG	**Pn**	**11 59 59.7**	**+0.7**
FETY	**Fethiye**	**0.71**	**103**	P	**Pn**	**11 59 59.7**	**+0.7**
FETY				S	**Sn**	**12 00 10.9**	**+1.2**
FETY	**Fethiye**	**0.71**	**103**	P	**Pn**	**11 59 59.7**	**+0.7**
FETY				S	**Sn**	**12 00 10.9**	**+1.2**
BODT	**Bodrum**	**0.78**	**290**	*e*PG	**Pn**	**12 00 00.7**	**+0.9**
BODT	**Bodrum**	**0.78**	**290**	P	**Pn**	**12 00 00.2**	**+0.4**
BODT				S	**Sn**	**12 00 11.4**	**+0.3**
BODT	**Bodrum**	**0.78**	**290**	P	**Pn**	**12 00 00.2**	**+0.4**
BODT	**Bodrum**	**0.78**	**290**	*e*Pg	**Pn**	**12 00 00.7**	**+0.9**
BODT				S	**Sn**	**12 00 11.4**	**+0.3**
AYDN	**Tasoluk**	**0.91**	**343**	P	**Pn**	**11 59 59.2**	**-2.3**
AYDN	**Tasoluk**	**0.91**	**343**	*i* P	**Pn**	**11 59 59.2**	**-2.3**
AYDN				*i* S	Sn	12 00 03.0	-11
GOLH	**Golhisar**	**1.16**	**67**	P	**Pn**	**12 00 05.8**	**+1.0**
GOLH	**Golhisar**	**1.16**	**67**	*i* P	**Pn**	**12 00 05.8**	**+1.0**
KSL	**Kastellorizon**	**1.27**	**120**	P	**Pn**	**12 00 05.8**	**-0.4**
KSL				S	**Sn**	**12 00 22.1**	**-0.3**
SMG	**Samos**	**1.43**	**310**	P	**Pn**	**12 00 08.7**	**+0.4**
SMG				S	**Sn**	**12 00 26.2**	**0.0**
SMG	**Samos**	**1.43**	**310**	P	**Pn**	**12 00 08.7**	**+0.4**
SMG				S	**Sn**	**12 00 26.2**	**0.0**
KARP	**Karpathos**	**1.51**	**215**	*e*PN	**Pn**	**12 00 08.2**	**-1.2**
KARP	**Karpathos**	**1.51**	**215**	P	**Pn**	**12 00 09.4**	**0.0**
KARP				S	**Sn**	**12 00 27.9**	**-0.3**
KARP	**Karpathos**	**1.51**	**215**	*e*Pn	**Pn**	**12 00 08.2**	**-1.2**
KARP	**Karpathos**	**1.51**	**215**	P	**Pn**	**12 00 09.4**	**0.0**
KARP				S	**Sn**	**12 00 27.9**	**-0.3**

*ISCJB **07** 12:01:02.2±0.6, 13°.01N±0°.09×144°.5E±0°.1, h54km, mb3.9/14, MS3.0/5, Error ellipse: s-maj=20.0km s-min=9.3km az=29.7*
*IDC **07** 12:01:03.9±0.9, 13°.08N×144°.66E, h56km±7km, mb3.7/14, mb1 3.9/14, mb1mx3.6/61, mbtmp4.0/14, MS2.9/6, Ms1 2.9/6, ms1mx2.7/43, Error ellipse: s-maj=27.0km s-min=13.3km az=102.0*

ISC 07 12:01:03.7±0.8, **13°.0N**±0°.1×**144°.6E**±0°.2, **h54**km, **n27**, σ0°**72**/18, **mb3.9**/14, **MS3.0**/5, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.62**	**25**	P	**Pn**	**12 01 17.1**	**+0.4**
	2µm,0.3s,baz=152,slow=16,SNR=1639						
GUMO				S	**Sn**	**12 01 27.2**	**+1.1**
	2µm,0.3s,baz=41,slow=19,SNR=84						
JAY	**Jayapura**	**15.91**	**194**	LR	LR	12 09 13.1	
	comp=Z,5.9nm,20.7s,baz=178,slow=31						
H11S3	**WAKE ISLAND Hy**	**21.94**	**73**	T	T	12 28 32.7	
	baz=259,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**21.95**	**73**	T	T	12 28 31.2	
	baz=259,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**21.95**	**73**	T	T	12 28 28.3	
	baz=259,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**22.39**	**70**	T	T	12 29 15.9	
	baz=256,slow=75,SNR=40						
H11N2	**WAKE ISLAND Hy**	**22.40**	**70**	T	T	12 29 01.8	
	baz=256,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**22.41**	**70**	T	T	12 29 03.4	
	baz=256,slow=75,SNR=35						
PMG	**Port Moresby**	**22.43**	**173**	LR	LR	12 12 54.1	
	comp=Z,46nm,21.5s,baz=305,slow=32						
MJAR	**Matsushiro Arr**	**24.11**	**347**	P	**P**	**12 06 14.6**	**+0.2**
	1.3nm,0.6s,baz=166,slow=9.9,SNR=6.3						
MJAR				LR	LR	12 14 46.6	
	comp=Z,26nm,20.3s,baz=175,slow=34						
KSRS	**Korea Array**	**28.53**	**331**	P	**P**	**12 06 54.4**	**+0.3**
	0.5nm,0.4s,baz=152,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**34.28**	**197**	P	**P**	**12 07 44.7**	**-0.2**
	1.9nm,0.7s,baz=21,slow=9.6,SNR=25						
FITZ	**Fitzroy Crossi**	**36.14**	**212**	P	**P**	**12 08 02.0**	**+1.0**
	0.9nm,0.7s,baz=49,slow=9.3,SNR=2.1						
FITZ				PcP	**PcP**	**12 10 27.2**	**+1.3**
	0.7nm,0.6s,baz=353,slow=3.4,SNR=5.3						
KLR	**Kul'dur**	**37.63**	**346**	LR	LR	12 22 54.2	
	comp=Z,32nm,19.8s,baz=116,slow=35						
ASAR	**Alice Springs**	**37.93**	**196**	P	**P**	**12 08 16.3**	**+0.1**
	0.5nm,0.5s,baz=19,slow=12,SNR=23						
PETK	**Petropavlovsk-**	**41.33**	**12**	LR	LR	12 22 37.0	
	comp=Z,29nm,21.6s,baz=125,slow=31						
CMAR	**Chiang Mai Arr**	**44.18**	**283**	LR	LR	12 26 46.6	
	comp=Z,19nm,18.7s,baz=175,slow=35						
MKAR	**Makanchi Array**	**61.71**	**316**	P	**P**	**12 11 16.3**	**-0.1**
	0.3nm,0.4s,baz=109,slow=7.8,SNR=2.4						
KURBB	**Kurchatov Arra**	**64.88**	**320**	P	**P**	**12 11 36.8**	**-0.5**
	0.9nm,0.5s,baz=104,slow=6.4,SNR=7.2						
ILAR	**Eielson Array**	**69.19**	**25**	P	**P**	**12 12 03.0**	**-1.4**
	2.3nm,0.5s,baz=249,slow=6.0,SNR=68						
BVAR	**Borovoye Array**	**70.20**	**322**	P	**P**	**12 12 11.2**	**+0.4**
	0.4nm,0.4s,baz=85,slow=4.8,SNR=3.7						
INK	**Inuvik**	**74.99**	**22**	P	**P**	**12 12 38.5**	**-0.5**
	1.5nm,0.7s,baz=264,slow=10,SNR=3.3						
YKA	**Yellowknife Ar**	**83.48**	**27**	P	**P**	**12 13 25.1**	**-0.3**
	0.7nm,0.6s,baz=292,slow=5.2,SNR=14						
NVAR	**Mina Array Bea**	**87.48**	**51**	P	**P**	**12 13 45.8**	**-0.3**
	0.6nm,0.7s,baz=282,slow=5.4,SNR=4.9						
ARCES	**ARCESS Array B**	**87.54**	**342**	P	**P**	**12 13 45.3**	**-0.1**
	1.6nm,0.8s,baz=52,slow=6.7,SNR=3.9						
FINES	**FINESS Array B**	**91.56**	**335**	P	**P**	**12 14 03.7**	**-0.7**
	1.5nm,0.9s,baz=90,slow=5.6,SNR=5.1						
LPAZ	**La Paz**	**148.19**	**100**	PKPbc	**PKPbc**	**12 20 45.5**	**+0.2**
	2.0nm,0.8s,baz=273,slow=3.4,SNR=8.0						

*ECX **07** 12:05:46.0±0.6, 31°.26N×115°.65W, h4km, MD3.0, ML3.1*
*MEX **07** 12:05:47.2±0.3, 31°.24N×115°.51W, h10km±18km, MD3.5*

ISC 07 12:05:44.5±1.2, **31°.27N**±0°.03×**115°.61W**±0°.04, **h8**km±12km, **n22**, σ1°**05**/38, **3C-4d, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.25**	**150**	*i* P	**Pb**	**12 05 51.2**	**-0.3**
SPIG				*i* S	**Sg**	**12 05 54.2**	**+1.1**
SPIG	**San Pedro Mart**	**0.25**	**150**	*i* P	**Pb**	**12 05 51.3**	**-0.3**
SPIG				*i* S	**Sb**	**12 05 54.8**	**-1.5**
SPX	**San Pedro Mart**	**0.26**	**150**	*i* P	**Pb**	**12 05 51.3**	**-0.3**
SPX				*e*S	**Sb**	**12 05 55.1**	**-1.2**
SPX				AML	AML	12 05 55.8	
	comp=N,3µm,0.1s						
SPX				*e*		12 05 55.8	
SPX				*e*		12 05 56.3	
SPX				AML	AML	12 05 56.3	
	comp=E,2µm,0.3s						
ECBX	**El Chinero**	**0.52**	**67**	*e*P	**Pb**	**12 05 56.1**	**+0.2**
ECBX				*e*S	**Sb**	**12 06 03.6**	**-0.1**
ECBX				AML	AML	12 06 06.9	
	comp=E,1µm,0.2s						
ZAX	**El Zacaton**	**0.62**	**294**	*e*P	**Pg**	**12 05 56.7**	**+0.3**
ZAX				*e*S	**Sg**	**12 06 05.2**	**+0.8**
ECNX	**Esteban Cantu**	**0.93**	**295**	*e*P	**Pg**	**12 06 02.3**	**0.0**
ECNX				*e*S	**Sg**	**12 06 14.3**	**0.0**
PBX	**Punta Banda**	**1.06**	**297**	*e*P	**Pg**	**12 06 04.6**	**-0.3**
CBX	**Cerro Bola**	**1.37**	**320**	*e*P	**Pn**	**12 06 10.1**	**0.0**
CBX				*i* S	**Sg**	**12 06 27.4**	**-1.3**
CBX	**Cerro Bola**	**1.37**	**320**	*e*P	**Pn**	**12 06 10.2**	**0.0**
CBX				*e*S	**Sg**	**12 06 28.2**	**-0.5**
CBX				AML	AML	12 06 34.6	
	comp=E,294nm,0.5s						
IKP	**In-Ko-Pah, Jac**	**1.44**	**343**	P	**Pg**	**12 06 12.3**	**+0.2**
	baz=168,SNR=44						
IKP				S	**Sg**	**12 06 29.9**	**-1.0**
	baz=168						
TJIG	**Tijuana**	**1.47**	**322**	*e*P	**Pn**	**12 06 11.1**	**-0.3**
TJIG				*i* S	**Sb**	**12 06 30.1**	**-1.0**
SWSC	**Sam W. Stewart**	**1.68**	**355**	P	**Pb**	**12 06 15.3**	**-0.4**
	baz=179,SNR=16						
SWSC				Sb	**Sg**	**12 06 39.1**	**+0.6**
	baz=179						
MONP2	**Monument Peak**	**1.76**	**337**	P	**Pb**	**12 06 17.0**	**-0.2**
	baz=161,SNR=29						
MONP2				Sb	**Sb**	**12 06 40.1**	**+0.5**
	baz=161						
GLA	**Glamis**	**1.90**	**20**	P	**Pb**	**12 06 18.3**	**-1.2**
	baz=204						
GLA				S	**Sb**	**12 06 42.5**	**-0.9**
	baz=204						
109C	**Camp Elliot, M**	**2.05**	**322**	P	**Pn**	**12 06 20.4**	**+1.0**
	baz=145						
109C				Sb	**Sb**	**12 06 48.0**	**+0.2**
	baz=145						
BC3	**Big Chuckawall**	**2.38**	**3**	P	**P

*IDC **07** 12:22:32.9±1.1,37.12S×96.12W,h0km,mb4.5/6, mb1 4.8/6,mb1mx4.3/26,mbtmp4.5/6,MS3.6/6,Ms1 3.6/6, ms1mx3.3/17,Error ellipse: s-maj=31.9km s-min=30.3km az=51.0*

*ISCJB **07** 12:22:33.4±0.7,37.0S±0.1×96.0W±0.2,h10km,mb4.6/23, MS3.5/6,Error ellipse: s-maj=20.5km s-min=16.3km az=161.4*

*NEIC **07** 12:22:34.8±0.4,37.09S×96.04W,h10km,mb4.6/16,Error ellipse: s-maj=14.9km s-min=11.5km az=80.0*

ISC 07 12:22:34.8±0.7,37.1S±0.1×96.0W±0.2,h10km,n37, σ0s77/31,mb4.6/23,MS3.6/6,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**20.13**	**108**	LR	LR	12 32 59.6	
	comp=Z,105nm,18.3s,baz=190,slow=31						
LVC	**Limon Verde**	**27.47**	**66**	P	**P**	**12 28 21.9**	**+0.3**
	19nm,0.9s,baz=228,slow=7.9,SNR=4.7						
LPAZ	**La Paz**	**32.20**	**57**	P	**P**	**12 29 04.2**	**+0.3**
	6.1nm,0.9s,baz=225,slow=7.1,SNR=16						
LPAZ				LR	LR	12 37 18.9	
	comp=Z,68nm,21.4s,baz=138,slow=27						
CPUP	**Villa Florida**	**34.41**	**83**	LR	LR	12 41 29.2	
	comp=Z,96nm,19.4s,baz=219,slow=33						
SAML	**Samuel**	**40.83**	**55**	*eP*	**P**	**12 30 16.1**	**-0.7**
	9.9nm,1.8s						
BDFB	**Brasilia**	**47.44**	**76**	LR	LR	12 49 56.1	
	comp=Z,84nm,19.8s,baz=248,slow=35						
PPT2	**Papeete2**	**50.69**	**277**	*e*LR	LR	12 45 58.3	
	111nm,24.2s						
PPT	**Papeete**	**50.70**	**277**	LR	LR	12 47 15.8	
	comp=Z,66nm,20.0s,baz=78,slow=29						
QSPA	**South Pole Qui**	**53.14**	**180**	*eP*	**P**	**12 31 53.7**	**+1.1**
	2.7nm,0.4s						
TXAR	**Lajitas Array**	**66.45**	**353**	P	**P**	**12 33 24.4**	**0.0**
	3.4nm,1.1s,baz=170,slow=8.4,SNR=18						
JCT	**Junction City**	**67.30**	**356**	*eP*	**P**	**12 33 30.1**	**+0.4**
	21nm,1.3s						
MNTX	**Cornudas Mount**	**68.98**	**351**	*eP*	**P**	**12 33 38.8**	**-1.4**
	6.8nm,1.3s						
TUC	**Tucson**	**70.39**	**347**	*eP*	**P**	**12 33 49.2**	**+0.2**
	8.6nm,1.3s						
MSTX	**Muleshoe**	**70.96**	**354**	*eP*	**P**	**12 33 52.1**	**-0.3**
	20nm,1.0s						
WMOK	**Wichita Mounta**	**71.50**	**358**	*eP*	**P**	**12 33 54.0**	**-1.6**
	1.3nm,0.8s						
AMTX	**Amarillo**	**71.79**	**355**	*eP*	**P**	**12 33 57.3**	**-0.1**
	14nm,0.9s						
PASC	**Pasadena Art C**	**73.83**	**341**	*eP*	**P**	**12 34 10.4**	**+0.9**
	12nm,0.4s						
MAW	**Mawson**	**74.42**	**172**	P	**P**	**12 34 12.1**	**-0.5**
	5.5nm,1.1s,baz=243,slow=3.7,SNR=4.1						
MVCO	**Mesa Verde**	**74.81**	**350**	*eP*	**P**	**12 34 15.1**	**-0.3**
	10nm,1.1s						
PV01	**Paradox Valley**	**75.73**	**350**	*eP*	**P**	**12 34 20.5**	**-0.1**
	795nm,1.1s						
PV04	**Paradox Valley**	**76.03**	**350**	*eP*	**P**	**12 34 22.5**	**+0.2**
SMCO	**Snowmass**	**76.55**	**351**	*eP*	**P**	**12 34 26.0**	**+0.5**
	5.7nm,1.0s						
R11A	**Troy Canyon, C**	**77.20**	**344**	*eP*	**P**	**12 34 29.6**	**+0.7**
	3.9nm,1.2s						
NVAR	**Mina Array Bea**	**77.90**	**342**	P	**P**	**12 34 32.9**	**0.0**
	5.0nm,1.0s,baz=171,slow=6.9,SNR=23						
DUG	**Dugway, Tooele**	**78.43**	**347**	*eP*	**P**	**12 34 36.9**	**+1.2**
	7.4nm,1.3s						
BW06	**Boulder Array**	**80.42**	**350**	*eP*	**P**	**12 34 46.3**	**-0.2**
	5.0nm,1.0s						
BW06				*e*PcP	**PcP**	**12 34 53.0**	**-0.6**
PDAR	**Pinedale Array**	**80.42**	**350**	P	**P**	**12 34 46.3**	**-0.3**
	1.4nm,0.7s,baz=165,slow=6.2,SNR=12						
RSSD	**Black Hills**	**81.15**	**354**	*eP*	**P**	**12 34 50.6**	**+0.1**
	12nm,1.6s						
RSSD				*e*PcP	**PcP**	**12 34 57.4**	**+0.7**
HLID	**Hailey**	**81.98**	**347**	*eP*	**P**	**12 34 55.2**	**+0.4**
	5.0nm,1.0s						
HLID				*e*PcP	**PcP**	**12 35 01.6**	**+1.3**
DBIC	**Dimbokro**	**94.90**	**85**	LR	LR	13 12 50.8	
	comp=Z,31nm,18.3s,baz=212,slow=32						
H01W1	**Cape Leeuwin H**	**103.09**	**205**	T	T	14 32 33.2	
	baz=154,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**103.09**	**205**	T	T	14 32 32.3	
	baz=154,slow=76,SNR=23						
H01W3	**Cape Leeuwin H**	**103.10**	**205**	T	T	14 32 33.4	
	baz=154,slow=76,SNR=21						
KULM	**Kulim**	**144.87**	**210**	*e*PKPdf	**PKPab**	**12 42 11.0**	**-0.7**
KSRS	**Korea Array**	**145.26**	**284**	PKPbc	**PKPbc**	**12 42 11.1**	**-1.2**
	0.4nm,0.3s,baz=90,slow=3.8,SNR=4.1						
KSAR	**Wonju Array Be**	**145.29**	**284**	PKPbc	**PKPbc**	**12 42 11.1**	**-1.4**
KBZ	**Khabaz**	**148.27**	**65**	PKPbc	**PKPbc**	**12 42 20.6**	**-0.2**
	1.5nm,0.8s,baz=202,slow=1.7,SNR=4.5						

IDC 07 12:22:43.8±1.2,26.70N×143.56E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.4/36,mbtmp3.4/4,Error ellipse: s-maj=26.2km s-min=21.6km az=55.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.29**	**288**	Pn	Pn	12 23 09.4	+0.2
	6.7nm,0.3s,baz=292,slow=19,SNR=8.6						
JCJ				Sn	Sn	12 23 26.6	-0.5
	86nm,0.3s,baz=282,slow=20,SNR=26						
KLR	**Kul'dur**	**24.29**	**341**	P	P	12 28 03.5	+0.8
	0.4nm,0.4s,baz=153,slow=4.5,SNR=4.9						
WRA	**Warramunga Arr**	**47.22**	**192**	P	P	12 31 18.6	-0.1
	1.3nm,0.9s,baz=13,slow=8.5,SNR=8.6						
ASAR	**Alice Springs**	**50.93**	**191**	P	P	12 31 47.1	0.0
	0.3nm,0.9s,baz=4.3,slow=6.0,SNR=4.6						
YKA	**Yellowknife Ar**	**71.91**	**29**	P	P	12 34 08.2	-0.3
	0.2nm,0.8s,baz=280,slow=7.5,SNR=2.6						

KRSC 07 12:31:25.1±1.4,49.32N×157.48E,h7km±37km,ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.62**	**328**	P	Pn	12 31 52.7	-1.4
SKR				S	Sn	12 32 14.7	-0.5
PAU	**Pauzhetka**	**2.19**	**349**	P	Pb	12 32 03.7	-1.3
PAU				S	Sb	12 32 32.4	0.0
ASAK	**Asacha**	**3.08**	**5**	P	Pn	12 32 17.1	+2.9
RUS	**Russkaya**	**3.19**	**11**	P	Pn	12 32 18.5	+2.9
RUS				S	Sn	12 32 57.2	+3.4
PET	**Petropavlovsk**	**3.78**	**11**	P	Pn	12 32 27.5	+3.8
PET				S	Sb	12 33 13.3	-4.8
UGLR	**Uglovaya**	**3.98**	**12**	P	Pb	12 32 31.2	-4.5
AVH	**Avacha**	**4.03**	**11**	P	Pn	12 32 31.4	+4.2
SMAR	**Somma**	**4.04**	**11**	P	Pn	12 32 30.9	+3.5
SDLR	**Sedlovina**	**4.06**	**12**	P	Pn	12 32 31.2	+3.5
KRER	**Koryakskii**	**4.07**	**11**	P	Pn	12 32 31.9	+4.0
KRX	**Arik**	**4.11**	**10**	P	Pn	12 32 32.6	+4.2
GNL	**Ganaly**	**4.39**	**4**	P	Pn	12 32 36.9	+4.7
MKZ	**Mys Kozlova**	**5.87**	**25**	P	Pn	12 32 56.6	+4.3

IDC 07 13:00:45.2±2.2,6.53S×130.97E,h0km,mb3.5/1, mb1 3.7/4,mb1mx3.5/38,mbtmp3.5/4,ML3.4/3,Error ellipse: s-maj=87.5km s-min=28.2km az=79.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.62**	**204**	Pn	Pn	13 03 48.0	+1.8
	0.4nm,0.3s,baz=36,slow=12,SNR=18						
FITZ				Sn	Sn	13 05 59.0	-8.6
	0.1nm,0.3s,baz=84,slow=9.2,SNR=2.6						
WRA	**Warramunga Arr**	**13.73**	**167**	Pn	Pn	13 04 00.0	-1.3
	0.1nm,0.3s,baz=348,slow=14,SNR=9.1						
WRA				Sn	Sn	13 06 26.6	-8.2
	0.1nm,0.3s,baz=339,slow=25,SNR=5.2						
ASAR	**Alice Springs**	**17.27**	**171**	P	Pn	13 04 47.6	-0.4
	0.2nm,0.3s,baz=350,slow=9.4,SNR=16						
MKAR	**Makanchi Array**	**68.36**	**326**	P	P	13 11 48.6	0.0
	0.3nm,0.5s,baz=131,slow=5.9,SNR=3.3						

*ISCJB **07** 13:02:22.3±0.7,19.93S±0.07×66.8W±0.1,h241km, mb3.6/3,Error ellipse: s-maj=13.7km s-min=9.1km az=21.0*

*IDC **07** 13:02:22.5±0.8,19.91S×66.87W,h239km±10km,mb3.4/3, mb1 3.6/7,mb1mx3.3/35,mbtmp4.0/7,Error ellipse: s-maj=19.3km s-min=10.5km az=100.0*

ISC 07 13:02:23.0±0.8,19.91S±0.07×66.9W±0.1,h241km,n8, σ0s89/10,mb3.7/3,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.30**	**215**	P	**Pn**	**13 03 19.4**	**+0.8**
	354nm,0.3s,baz=18,slow=7.7,SNR=92						
LVC				S	**S**	**13 04 01.5**	**-1.1**
	332nm,0.3s,baz=77,slow=23,SNR=17						
LPAZ	**La Paz**	**3.80**	**341**	P	**Pn**	**13 03 25.5**	**+0.7**
	1.5nm,0.3s,baz=110,slow=4.3,SNR=25						
LPAZ				S	**S**	**13 04 12.6**	**-0.9**
	1.6nm,0.3s,baz=309,slow=16,SNR=12						
SIV	**San Ignacio**	**6.74**	**56**	P	**Pn**	**13 04 00.3**	**-0.1**
	3.6nm,0.3s,baz=268,slow=9.3,SNR=36						
BDFB	**Brasilia**	**18.43**	**80**	P	**P**	**13 06 22.2**	**+1.1**
	0.7nm,0.3s,baz=257,slow=10,SNR=3.6						
TXAR	**Lajitas Array**	**60.48**	**323**	P	**P**	**13 12 07.8**	**-0.1**
	0.4nm,0.9s,baz=164,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**75.01**	**70**	P	**P**	**13 13 37.6**	**-1.0**
	2.5nm,0.4s,baz=254,slow=5.6,SNR=26						
YKA	**Yellowknife Ar**	**90.35**	**340**	P	**P**	**13 14 56.4**	**+0.1**
	0.4nm,0.4s,baz=132,slow=4.9,SNR=13						
WRA	**Warramunga Arr**	**135.28**	**209**	PKP	**PKPdf**	**13 21 15.2**	**+0.4**
	0.8nm,1.2s,baz=164,slow=1.4,SNR=4.7						

*ISCJB **07** 13:08:20.5±0.6,39.08N±0.03×29.04E±0.03,h0km±7km, Error ellipse: s-maj=5.5km s-min=3.7km az=154.7*

*CSEM **07** 13:08:20.7±0.1,39.08N×29.03E,h2km,MD2.8,Error ellipse: s-maj=2.5km s-min=1.9km az=126.0*

*ISK **07** 13:08:20.2,39.06N×29.07E,h5km,ML2.8*

*DDA **07** 13:08:20.5,39.08N×29.04E,h7km,Md2.8*

ISC 07 13:08:20.9±1.0,39.07N±0.02×29.05E±0.02,h7km±9km, n43,σ0s36/60,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**264**	P	**Pg**	**13 08 26.0**	**0.0**
DEMI				S	**Sg**	**13 08 29.7**	**+0.2**
DEMI	**Demirci**	**0.26**	**264**	*i* P	**Pg**	**13 08 26.0**	**0.0**
DEMI				*i* S	**Sg**	**13 08 29.7**	**+0.2**
GDZ	**Gediz**	**0.34**	**87**	P	**Pg**	**13 08 27.6**	**+0.1**
GDZ				S	**Sg**	**13 08 32.5**	**+0.5**
GDZ	**Gediz**	**0.34**	**87**	*i* P	**Pg**	**13 08 27.6**	**+0.1**
GDZ				*i* S	**Sg**	**13 08 32.5**	**+0.5**
TVSB	**Tavsanli**	**0.50**	**40**	*e*PG	**Pg**	**13 08 30.1**	**-0.4**
TVSB				*e*SG	**Sg**	**13 08 36.7**	**-0.3**
TVSB	**Tavsanli**	**0.50**	**40**	*e*Pg	**Pg**	**13 08 30.1**	**-0.4**
TVSB				*e*Sg	**Sg**	**13 08 36.7**	**-0.3**
KULA	**Kula-Manisa**	**0.63**	**209**	*e*PG	**Pg**	**13 08 33.1**	**0.0**
KULA				*e*SG	**Sg**	**13 08 41.5**	**+0.2**
KULA	**Kula-Manisa**	**0.63**	**209**	*e*Pg	**Pg**	**13 08 33.1**	**0.0**
KULA				*e*Sg	**Sg**	**13 08 41.5**	**+0.2**
MANT	**Manisa**	**0.69**	**214**	P	**Pg**	**13 08 34.2**	**-0.1**
MANT				S	**Sg**	**13 08 43.6**	**+0.3**
MANT	**Manisa**	**0.69**	**214**	*i* P	**Pg**	**13 08 34.1**	**-0.1**
MANT				*i* S	**Sg**	**13 08 43.6**	**+0.3**
KHAL	**Karahalli**	**0.78**	**153**	P	**Pb**	**13 08 36.3**	**-0.5**
KHAL				S	**Sb**	**13 08 47.0**	**-0.7**
KHAL	**Karahalli**	**0.78**	**153**	*i* P	**Pb**	**13 08 36.3**	**-0.5**
KHAL				*i* S	**Sb**	**13 08 47.0**	**-0.7**
KHL	**Karahalli**	**0.83**	**153**	*e*PG	**Pg**	**13 08 36.8**	**-0.1**
KHL	**Karahalli**	**0.83**	**153**	*e*Pg	**Pg**	**13 08 36.8**	**-0.1**
AKS	**Akhisar**	**0.98**	**259**	*e*PG	**Pb**	**13 08 40.2**	**0.0**
AKS	**Akhisar**	**0.98**	**259**	*e*Pg	**Pb**	**13 08 40.2**	**0.0**
BALB	**Balikesir**	**1.07**	**302**	*e*PN	**Pb**	**13 08 41.5**	**-0.2**
BALB	**Balikesir**	**1.07**	**302**	*e*Pn	**Pb**	**13 08 41.5**	**-0.2**
IGD	**Bursa**	**1.20**	**6**	*i* P	**Pg**	**13 08 42.6**	**-1.2**
IGD				*i* S	**Sb**	**13 08 59.6**	**+0.1**
CAVI	**Cavuskoy**	**1.29**	**28**	*e*PN	**Pb**	**13 08 45.2**	**-0.2**
CAVI	**Cavuskoy**	**1.29**	**28**	*e*Pn	**Pb**	**13 08 45.2**	**-0.2**
BALY	**Balya**	**1.29**	**302**	P	**Pb**	**13 08 45.7**	**+0.2**
BALY	**Balya**	**1.29**	**302**	*i* P	**Pb**	**13 08 45.7**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.30**	**355**	*e*PN	**Pb**	**13 08 45.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**355**	*e*Pn	**Pb**	**13 08 45.7**	**+0.1**
IZI	**Iznik**	**1.31**	**14**	*e*PN	**Pb**	**13 08 46.0**	**+0.2**
IZI	**Iznik**	**1.31**	**14**	*e*Pn	**Pb**	**13 08 46.0**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*PN	**Pb**	**13 08 45.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*Pn	**Pb**	**13 08 45.9**	**+0.1**
BORA	**Eskisehir**	**1.35**	**53**	P	**Pn**	**13 08 46.1**	**-0.2**
BORA				S	**Sn**	**13 09 05.0**	**+0.4**
BORA	**Eskisehir**	**1.35**	**53**	*i* P	**Pn**	**13 08 46.1**	**-0.2**
BORA				*i* S	**Sn**	**13 09 05.0**	**+0.4**
GEMT	**Gemlik**	**1.37**	**5**	*e*PN	**Pg**	**13 08 46.7**	**-0.4**
GEMT	**Gemlik**	**1.37**	**5**	*e*Pn	**Pg**	**13 08 46.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**219**	*e*PN	**Pb**	**13 08 47.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**219**	*e*Pn	**Pb**	**13 08 47.8**	**-0.3**
ESKT	**Eskisehir**	**1.47**	**72**	*i* P	**Pg**	**13 08 49.6**	**+0.6**
ESKT				*i* S	**Sb**	**13 09 07.5**	**0.0**
SEYT	**Eskypehyr**	**1.47**	**72**	*i* P	**Pg**	**13 08 49.6**	**+0.6**
SEYT				*i* S	**Sb**	**13 09 07.5**	**0.0**
ARMT	**Armutlu**	**1.50**	**355**	*e*PN	**Pb**	**13 08 48.5**	**-0.6**
ARMT	**Armutlu**	**1.50**	**355**	*e*Pn	**Pb**	**13 08 48.5**	**-0.6**
GPA	**Golpazari**	**1.56**	**38**	*e*PN	**Pn**	**13 08 49.3**	**+0.3**
GPA	**Golpazari**	**1.56**	**38**	*e*Pn	**Pn**	**13 08 49.3**	**+0.3**
HRT	**Hereke**	**1.81**	**15**	*e*PN	**Pn**	**13 08 52.8**	**+0.3**
HRT	**Hereke**	**1.81**	**15**	*e*Pn	**Pn**	**13 08 52.8**	**+0.3**

IDC 07 13:10:10.9±3.9,6.97S×156.52E,h0km,mb3.3/3, mb1 3.7/4,mb1mx3.4/31,mbtmp3.6/4,ML2.4/1,Error ellipse: s-maj=99.2km s-min=45.4km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.58**	**255**	Pn	Pn	13 12 32.4	+2.2
	1.9nm,0.3s,baz=63,slow=6.8,SNR=7.9						
WRA	**Warramunga Arr**	**25.09**	**237**	P	P	13 15 37.2	-0.3
	0.4nm,0.6s,baz=61,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**27.34**	**230**	P	P	13 15 56.9	-1.0
	0.1nm,0.4s,baz=59,slow=9.7,SNR=4.0						
MKAR	**Makanchi Array**	**84.39**	**318**	P	P	13 22 45.8	+0.5
	0.2nm,0.6s,baz=94,slow=5.9,SNR=2.5						

*IDC **07** 13:42:24.7±0.7,62.45S×57.63W,h0km,mb4.1/7, mb1 4.2/8,mb1mx4.0/24,mbtmp4.0/8,ML4.0/1,MS4.0/14, Ms1 3.9/14,ms1mx3.7/26,Error ellipse: s-maj=32.8km s-min=23.8km az=125.0*

*ISCJB **07** 13:42:25.7±0.6,62.41S±0.08×57.78W±0.2,h10km, mb4.5/10,MS4.0/12,Error ellipse: s-maj=15.7km s-min=12.1km az=3.9*

*NEIC **07** 13:42:26.1±0.4,62.38S×57.75W,h10km,mb4.7/1,Error ellipse: s-maj=16.6km s-min=12.6km az=94.0*

ISC 07 13:42:26.4±0.5,62.43S±0.09×57.85W±0.09,h10km,n53, σ1s07/41,mb4.4/10,MS3.9/12,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**3.63**	**227**	Pn	**Pn**	**13 43 24.0**	**+1.4**
	1.3nm,0.3s,baz=30,slow=11,SNR=6.8						
PMSA				Sn	**Sb**	**13 44 14.8**	**+0.1**
	11nm,0.3s,baz=94,slow=16,SNR=4.4						
PMSA				LR	LR	13 44 52.4	
	comp=Z,1μm,18.6s,baz=60,slow=40						
PMSA	**Palmer Station**	**3.63**	**227**	Pn	**Pn**	**13 43 23.7**	**+1.1**
PMSA				Sn	**Sb**	**13 44 14.8**	**+0.1**
PMSA				*e*Sg	**Sg**	**13 44 21.0**	**-1.9**
USHA	**Ushuaia**	**9.39**	**319**	LR	LR	13 47 43.6	
	comp=Z,7μm,19.6s,baz=134,slow=34						
VNA1	**Neumayer--Stat**	**20.76**	**134**	P	Pn	13 47 11.2	+1.9
SNAA	**Sanae**	**22.47**	**137**	P	**P**	**13 47 27.3**	**+2.0**
SNAA	**Sanae**	**22.47**	**137**	*eP*	**P**	**13 47 26.9**	**+1.6**
	6μm,1.6s						
PLCA	**Paso Flores**	**23.03**	**335**	LR	LR	13 56 26.7	
	comp=Z,377nm,19.3s,baz=194,slow=36						
TRQA	**Tornquist**	**24.53**	**352**	*eP*	**P**	**13 47 47.2**	**+1.3**
QSPA	**South Pole Qui**	**27.80**	**180**	*eP*	**P**	**13 48 17.7**	**+2.4**
	90nm,1.3s						
CPUP	**Villa Florida**	**36.09**	**1**	LR	LR	14 04 06.0	
	comp=Z,81nm,18.9s,baz=175,slow=36						
VNDA	**Vanda**	**38.18**	**193**	P	**P**	**13 49 45.2**	**-0.1**
	0.6nm,1.0s,baz=156,slow=4.9,SNR=2.6						
MAW	**Mawson**	**43.41**	**151**	LR	LR	14 08 42.7	
	comp=Z,386nm,18.2s,baz=240,slow=36						
LPAZ	**La Paz**	**46.65**	**346**	P	**P**	**13 50 57.5**	**+2.0**
	0.9nm,0.7s,baz=188,slow=3.5,SNR=2.9						
LPAZ				LR	LR	14 10 48.9	
	comp=Z,94nm,21.8s,baz=160,slow=36						
BDFB	**Brasilia**	**47.24**	**13**	LR	LR	14 09 25.3	
	comp=Z,41nm,21.5s,baz=165,slow=34						
H10S2	**ASCENSION HYDR**	**61.83**	**50**	T	T	15 00 14.8	
	baz=202						
H10S3	**ASCENSION HYDR**	**61.83**	**50**	T	T	15 00 10.0	
	baz=202						
H10S1	**ASCENSION HYDR**	**61.85**	**50**	T	T	15 00 03.6	
	baz=202						
BOSA	**Boshof**	**61.91**	**98**	P	**P**	**13 52 46.5**	**+0.5**
	3.9nm,0.9s,baz=203,slow=7.7,SNR=3.5						
BOSA				LR	LR	14 14 13.7	
	comp=Z,77nm,19.4s,baz=244,slow=31						
H10N3	**ASCENSION HYDR**	**62.92**	**50**	T	T	15 01 28.4	
	baz=201,slow=74,SNR=9.4						
H10N1	**ASCENSION HYDR**	**62.92**	**50**	T	T	15 01 31.3	
	baz=201,slow=74,SNR=6.7						
H10N2	**ASCENSION HYDR**	**62.94**	**50**	T	T	15 01 30.0	
	baz=201,slow=74,SNR=8.5						
OTAV	**Otavalo**	**64.41**	**337**	*eP*	**P**	**13 53 03.5**	**+0.5**
	5.1nm,1.0s						
LBTB	**Lobatse**	**65.14**	**97**	P	**P**	**13 53 07.4**	**+0.1**
	4.8nm,1.1s,baz=207,slow=4.5,SNR=4.1						
ROSC	**El Rosal**	**68.25**	**342**	LR	LR	14 23 39.9	
	comp=Z,196nm,20.1s,baz=98,slow=36						
SDV	**Santo Domingo**	**71.78**	**347**	LR	LR	14 28 17.5	
	comp=Z,126nm,18.2s,baz=266,slow=38						
PCRV	**Puerto La Cruz**	**72.57**	**353**	LR	LR	14 27 14.0	
	comp=Z,174nm,18.7s,slow=37						
PPT	**Papeete**	**75.39**	**260**	LR	LR	14 17 57.0	
	comp=Z,58nm,21.8s,baz=129,slow=28						
TORD	**Torodi Ar. Bea**	**88.30**	**57**	P	**P**	**13 55 16.5**	**-1.3**
	0.8nm,1.0s,baz=224,slow=4.0,SNR=3.6						
KMBO	**Kilima Mbogo**	**91.38**	**95**	LR	LR	14 31 27.4	
	comp=Z,97nm,21.6s,baz=115,slow=32						
ASAR	**Alice Springs**	**93.69**	**191**	P	**P**	**13 55 43.0**	**-0.1**
	1.0nm,0.9s,baz=158,slow=3.8,SNR=6.2						
ASAR				LR	LR	14 38 17.4	
	comp=Z,27nm,18.2s,baz=143,slow=36						
WRA	**Warramunga Arr**	**97.34**	**192**	P	**P**	**13 55 59.4**	**-0.3**
	0.6nm,0.8s,baz=175,slow=3.9,SNR=7.3						
GERES	**GERESS Array B**	**124.56**	**50**	PKP	**PKPdf**	**14 01 23.7**	**-1.0**
	0.4nm,0.2s,baz=208,slow=1.9,SNR=5.7						
YKA	**Yellowknife Ar**	**131.72**	**329**	PKP	**PKPdf**	**14 01 37.9**	**+0.1**
	0.2nm,0.6s,baz=158,slow=1.8,SNR=4.4						
AKASG	**Malin Array Be**	**131.91**	**59**	PKP	**PKPdf**	**14 01 38.0**	**-0.5**
	0.1nm,0.2s,baz=258,slow=0.6,SNR=5.3						
ILAR	**Eielson Array**	**142.78**	**315**	PKP	**PKPdf**	**14 01 56.4**	**-1.7**
	0.5nm,0.8s,baz=157,slow=1.5,SNR=5.7						
BPAW	**Bear Paw Mtn.**	**143.74**	**312**	*e*PKPpre	PKPpre	14 01 57.7	
ARCES	**ARCESS Array B**	**144.06**	**37**	PKP	PKPbc	14 01 57.7	-0.7
	2.9nm,1.0s,baz=242,slow=2.6,SNR=7.5						
ABKAR	**Akbulak array**	**144.18**	**82**	*e*PKPdf	**PKPab**	**14 01 58.1**	**-0.8**
KKAR	**Karatay Array**	**144.51**	**98**	*e*PKPdf	**PKPdf**	**14 02 00.9**	**-1.0**
COLD	**Coldfoot**	**145.36**	**317**	*e*PKPbc	**PKPab**	**14 02 03.3**	**+0.6**
EKS2	**Erkin-Say**	**145.66**	**102**	*e*PKPbc	**PKPab**	**14 02 04.7**	**0.0**
AAK	**Ala-Archa**	**145.96**	**103**	PKPbc	**PKPab**	**14 02 05.4**	**-0.5**
	1.3nm,0.4s,baz=172,slow=1.4,SNR=6.5						
AAK	**Ala-Archa**	**145.96**	**103**	*e*PKPbc	**PKPab**	**14 02 06.1**	**+0.2**
TKM2	**Tokmak 2**	**146.68**	**104**	*e*PKPbc	**PKPbc**	**14 02 07.2**	**-0.3**
SPITS	**Spitsbergen Ar**	**147.14**	**21**	PKPbc	**PKPbc**	**14 02 07.3**	**-0.3**
	8.3nm,1.0s,baz=153,slow=1.6,SNR=3.2						
ARU	**Arti**	**148.32**	**71**	PKPbc	**PKPbc**	**14 02 09.6**	**-1.7**
	1.1nm,0.3s,baz=223,slow=2.1,SNR=6.7						
BRVK	**Borovoye**	**151.54**	**85**	*e*PKPbc	**PKPbc**	**14 02 19.2**	**-0.1**
BVAR	**Borovoye Array**	**151.57**	**85**	PKPbc	**PKPdf**	**14 02 12.0**	**-1.1**
	0.6nm,0.8s,baz=304,slow=3.4,SNR=4.7						
BVAR				PKPbc	**PKPbc**	**14 02 18.3**	**-1.1**
	2.5nm,0.6s,baz=248,slow=1.6,SNR=19						
MJAR	**Matsushiro Arr**	**152.23**	**209**	PKPbc	**PKPbc**	**14 02 21.3**	**-0.1**
	0.6nm,0.3s,baz=209,slow=2.2,SNR=4.3						
MKAR	**Makanchi Array**	**152.69**	**106**	PKP	**PKPdf**	**14 02 14.6**	**-0.4**
	0.5nm,0.8s,baz=352,slow=2.0,SNR=4.4						
MKAR				PKPbc	**PKPbc**	**14 02 21.3**	**-0.8**
	2.5nm,0.9s,baz=250,slow=3.5,SNR=11						

*IDC **07** 14:16:47.8±3.1, 22.˚56S×66.˚19W, h133km±55km, mb3.3/2, mb1 3.4/4, mb1mx3.2/28, mbtmp3.5/4, Error ellipse: s-maj=152.5km s-min=22.9km az=20.0*

ISC 07 14:16:06.0±1.2, 28.˚13S±0.˚05×70.˚8W±0.˚2, h50km, n10, σ1§77/11, 1C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.45**	**180**	⇓*iP*	**Pn**	**14 16 15.7**	**-1.0**
VACH				*i* S	**Sn**	**14 16 23.3**	**-1.0**
CPCH	**Copiapo**	**0.85**	**25**	⇑*iP*	**Pn**	**14 16 21.7**	**0.0**
CPCH				*i* S	**Sn**	**14 16 33.4**	**+0.2**
CDCH	**Caldera**	**1.06**	**357**	*eP*	**Pn**	**14 16 23.8**	**-0.7**
CDCH				*eS*	**Sn**	**14 16 37.3**	**-0.9**
TLL	**Tololo Astrono**	**2.03**	**181**	*eP*	**Pn**	**14 16 38.1**	**+0.1**
TLL				IAML		14 17 09.7	
	comp=N,1μm,0.7s						
LVC	**Limon Verde**	**5.74**	**17**	P	**Pn**	**14 17 27.9**	**-1.2**
	comp=N,21nm,0.3s,baz=174,slow=9.2,SNR=7.3						
CPUP	**Villa Florida**	**12.09**	**85**	P	**Pn**	**14 18 54.9**	**-0.7**
	comp=N,0.2nm,0.3s,baz=263,slow=14,SNR=2.9						
TXAR	**Lajitas Array**	**65.23**	**329**	P	P	14 27 01.2	+19
	comp=N,0.7nm,0.8s,baz=146,slow=9.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**81.18**	**70**	P	**P**	**14 28 16.2**	**-0.5**
	comp=N,0.4nm,0.5s,baz=257,slow=4.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**148.61**	**28**	PKP	PKPab	14 36 02.1	+11
	comp=N,2.5nm,0.5s,baz=315,slow=4.7,SNR=6.2						
MKAR	**Makanchi Array**	**151.85**	**41**	PKP	**PKPab**	**14 36 08.8**	**+4.4**
	comp=N,1.1nm,0.8s,baz=311,slow=2.1,SNR=6.7						

*NIED **07** 14:25:00, 37.˚00N×143.˚30E, h5km, Mw3.8 Best double couple: M₀4.79000×10¹⁴ NP1:φ₅12.00000°, δ19.00000°, λ-118.00000°. NP2:φ₅222.00000°, δ74.00000°, λ-81.00000°.*

*IDC **07** 14:25:17.1±1.1, 36.˚73N×143.˚46E, h0km, mb3.7/5, mb1 3.9/10, mb1mx3.7/39, mbtmp3.8/10, ML3.1/4, MS2.6/3, Ms1 2.6/3, ms1mx2.2/45, Error ellipse: s-maj=26.7km s-min=19.3km az=78.0*

*ISCJB **07** 14:25:19.4±0.7, 36.˚95N±0.˚04×143.˚28E±0.˚06, h33km, mb3.6/5, Error ellipse: s-maj=6.8km s-min=5.3km az=4.6*

*JMA **07** 14:25:19.6±0.2, 36.˚95N×143.˚26E, h47km, M3.5*

ISC 07 14:25:21.0±0.9, 36.˚93N±0.˚05×143.˚33E±0.˚08, h35km, n28, σ1§94/38, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.01**	**283**	P	**Pn**	**14 25 51.2**	**-1.3**
JFK				*eS*	**Sn**	**14 26 14.4**	**-2.0**
ONAJ	**Iwakimizuishiy**	**2.03**	**276**	*eS*	**Sn**	**14 26 15.2**	**-1.8**
JIO	**Ouri**	**2.19**	**315**	P	**Pn**	**14 25 53.7**	**-1.2**
JIO				*eS*	**Sn**	**14 26 18.3**	**-2.5**
JMM	**Marumori**	**2.23**	**296**	P	**Pn**	**14 25 54.5**	**-0.9**
JMM				S	**Sn**	**14 26 19.8**	**-1.9**
JFT	**Otama**	**2.46**	**285**	P	**Pn**	**14 25 58.4**	**-0.3**
JFT				*eS*	**Sn**	**14 26 26.6**	**-0.9**
JMK	**Ichinoseki**	**2.62**	**321**	P	**Pn**	**14 25 59.6**	**-1.3**
BSO1	**Boso 1**	**2.96**	**221**	P	**Pn**	**14 26 05.1**	**0.0**
BSO1				S	**Sn**	**14 26 40.3**	**+1.1**
JOM	**Ohasama**	**3.01**	**328**	P	**Pn**	**14 26 05.0**	**-1.2**
JOM				S	**Sn**	**14 26 40.4**	**-0.6**
JYK	**Kaneyama**	**3.08**	**311**	P	**Pn**	**14 26 06.5**	**-0.6**
JAG	**Ashikaga**	**3.15**	**262**	P	**Pn**	**14 26 07.8**	**-0.4**
JAW	**Awa shima**	**3.58**	**297**	P	**Pn**	**14 26 15.1**	**+1.1**
JRY	**Ryogami san**	**3.68**	**257**	P	**Pn**	**14 26 14.8**	**-0.7**
JRY				S	**Sn**	**14 26 54.7**	**-3.0**
JANG	**Nango**	**3.72**	**338**	P	**Pn**	**14 26 14.3**	**-1.7**
JANG				S	**Sn**	**14 26 55.5**	**-3.2**
JOD2	**Odawara 2**	**3.81**	**245**	P	**Pn**	**14 26 16.8**	**-0.5**
MJAR	**Matsushiro Arr**	**4.13**	**266**	Pn	**Pn**	**14 26 22.1**	**+0.5**
	2.9nm,0.3s,baz=85,slow=11,SNR=32						
MJAR				LR	LR	14 28 11.3	
	comp=Z,39nm,21.1s,baz=105,slow=42						
MAT	**Matsushiro**	**4.13**	**266**	P	**Pn**	**14 26 22.2**	**+0.5**
MAT				*eS*	**Sn**	**14 27 05.7**	**-3.1**
MAT	**Matsushiro**	**4.13**	**266**	P	**Pn**	**14 26 22.2**	**+0.5**
JHJ	**Hachijo jima 2**	**4.78**	**218**	Pn	**Pn**	**14 26 28.9**	**-1.6**
	11nm,0.3s,baz=34,slow=11,SNR=5.0						
JHJ				Sn	**Sn**	**14 27 20.7**	**-4.1**
	26nm,0.3s,baz=81,slow=23,SNR=7.1						
ASAJ	**Asahikawa**	**7.21**	**356**	Pn	**Pn**	**14 27 02.7**	**-1.1**
	2.4nm,0.3s,baz=207,slow=8.1,SNR=30						
JCJ	**Chichijima**	**9.85**	**186**	Pn	**Pn**	**14 27 36.5**	**-3.7**
	baz=258,slow=19						
USRK	**Ussuriysk Ar.**	**11.27**	**314**	Pn	**Pn**	**14 28 00.8**	**+1.3**
	0.2nm,0.3s,baz=128,slow=14,SNR=3.1						
KSRS	**Korea Array**	**12.30**	**277**	Pn	**Pn**	**14 28 16.0**	**+2.3**
	0.1nm,0.3s,baz=92,slow=14,SNR=12						
KSRS				LR	LR	14 32 41.3	
	comp=Z,31nm,20.0s,baz=101,slow=36						
KLR	**Kul'dur**	**14.90**	**329**	Pn	**Pn**	**14 28 46.5**	**-2.5**
	0.2nm,0.3s,baz=123,slow=13,SNR=9.6						
KLR				LR	LR	14 34 28.0	
	comp=Z,30nm,19.0s,baz=52,slow=36						
SONM	**Songino Array**	**29.12**	**304**	P	**P**	**14 31 21.1**	**+2.5**
	1.5nm,0.8s,baz=95,slow=8.9,SNR=7.2						
MKAR	**Makanchi Array**	**45.47**	**303**	P	**P**	**14 33 40.3**	**+3.6**
	0.4nm,0.6s,baz=91,slow=9.7,SNR=5.8						
ILAR	**Eielson Array**	**48.77**	**32**	P	**P**	**14 34 03.9**	**+1.8**
	0.1nm,0.6s,baz=275,slow=5.9,SNR=3.6						
WRA	**Warramunga Arr**	**57.19**	**190**	P	**P**	**14 35 04.7**	**+0.1**
	1.4nm,0.7s,baz=7.5,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**60.92**	**190**	P	**P**	**14 35 30.7**	**+0.3**
	0.6nm,0.7s,baz=12,slow=9.0,SNR=12						

*NIED **07** 14:35:00, 38.˚60N×144.˚60E, h5km, Mw3.8 Best double couple: M₀6.29000×10¹⁴ NP1:φ₅30.00000°, δ20.00000°, λ-86.00000°. NP2:φ₅206.00000°, δ70.00000°, λ-92.00000°.*

*IDC **07** 14:35:48.1±0.8, 38.˚48N×144.˚86E, h0km, mb3.8/9, mb1 4.0/14, mb1mx3.8/43, mbtmp3.8/14, ML3.5/5, MS2.8/6, Ms1 2.8/6, ms1mx2.6/43, Error ellipse: s-maj=22.5km s-min=16.5km az=108.0*

*ISCJB **07** 14:35:50.7±0.5, 38.˚58N±0.˚04×144.˚70E±0.˚04, h29km, mb3.8/11, MS2.9/2, Error ellipse: s-maj=5.7km s-min=4.8km az=154.9*

*JMA **07** 14:35:51.8±0.2, 38.˚59N×144.˚62E, h31km, M4.0*

*NEIC **07** 14:35:53.3±3.9, 38.˚51N×144.˚72E, h33km±28km, mb4.1/2, Error ellipse: s-maj=18.6km s-min=9.2km az=122.0*

ISC 07 14:35:52.8±0.7, 38.˚57N±0.˚05×144.˚70E±0.˚07, h29km, n45, σ1§82/52, mb3.8/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.42**	**283**	P	**Pn**	**14 36 29.8**	**-0.5**
MIYJ	**Miyakonagasawa**	**2.45**	**295**	P	**Pn**	**14 36 30.1**	**-0.7**
JMK	**Ichinoseki**	**2.74**	**279**	P	**Pn**	**14 36 34.7**	**-0.1**
JMK				*eS*	**Sn**	**14 37 05.9**	**-1.1**
JOM	**Ohasama**	**2.80**	**290**	P	**Pn**	**14 36 35.6**	**0.0**
JOM				*eS*	**Sn**	**14 37 07.8**	**-0.5**
JANG	**Nango**	**3.05**	**307**	P	**Pn**	**14 36 38.0**	**-1.0**
JOU	**Okura**	**3.17**	**267**	*eS*	**Sn**	**14 37 16.6**	**-1.0**
JRG	**Rokugo**	**3.27**	**286**	P	**Pn**	**14 36 42.4**	**+0.3**
JYK	**Kaneyama**	**3.41**	**277**	*eS*	**Sn**	**14 37 24.0**	**+0.6**
JAH	**Hinai**	**3.54**	**298**	P	**Pn**	**14 36 45.9**	**+0.2**
JAH				*eS*	**Sn**	**14 37 27.5**	**+1.0**
JTM	**Tenmabayashi**	**3.57**	**309**	P	**Pn**	**14 36 45.8**	**-0.3**
JTM				*eS*	**Sn**	**14 37 26.2**	**-1.1**
JFT	**Otama**	**3.60**	**254**	P	**Pn**	**14 36 47.2**	**+0.6**
JFT				*eS*	**Sn**	**14 37 27.3**	**-0.8**
ERM	**Erimo**	**3.63**	**342**	*ePn*	**Pn**	**14 36 46.7**	**-0.3**
ERM				*eSn*	**Sn**	**14 37 24.0**	**-4.9**
JCH	**Churui**	**4.16**	**346**	P	**Pn**	**14 36 52.9**	**-1.4**
JCH				*eS*	**Sn**	**14 37 37.8**	**-4.1**
JKB	**Kayabe**	**4.34**	**321**	P	**Pn**	**14 36 57.7**	**+1.0**
JKB				*eS*	**Sn**	**14 37 45.1**	**-1.1**
JRY	**Ryogami san**	**5.28**	**243**	P	**Pn**	**14 37 08.8**	**-0.9**
JRY				*eS*	**Sn**	**14 38 06.7**	**-2.8**
JTKR	**Abashiri--Toko**	**5.42**	**354**	P	**Pn**	**14 37 09.7**	**-1.9**
JTKR				*eS*	**Sn**	**14 38 08.5**	**-4.5**
MJAR	**Matsushiro Arr**	**5.54**	**251**	Pn	**Pn**	**14 37 13.8**	**+0.5**
	2.1nm,0.3s,baz=56,slow=10,SNR=26						
MJAR				LR	LR	14 39 38.4	
	comp=Z,49nm,19.7s,baz=25,slow=41						
MAJO	**Matsushiro**	**5.54**	**251**	*ePn*	**Pn**	**14 37 13.5**	**+0.2**
	18nm,0.6s						
MAT	**Matsushiro**	**5.54**	**251**	P	**Pn**	**14 37 14.0**	**+0.7**
MAT				*eS*	**Sn**	**14 38 17.5**	**+1.5**
ASAJ	**Asahikawa**	**5.76**	**345**	Pn	**Pn**	**14 37 15.7**	**-0.6**
	1.5nm,0.3s,baz=194,slow=14,SNR=20						
ASAJ				Sn	**Sn**	**14 38 19.4**	**-1.9**
	1.0nm,0.3s,baz=180,slow=20,SNR=3.8						
ASAJ	**Asahikawa**	**5.76**	**345**	*ePn*	**Pn**	**14 37 16.8**	**+0.6**
ASAJ				Sn	**Sn**	**14 38 19.4**	**-1.9**
JHJ	**Hachijo jima 2**	**6.75**	**218**	Pn	**Pn**	**14 37 27.6**	**-2.2**
	5.4nm,0.3s,baz=270,slow=20,SNR=3.0						
JHJ				Sn	**Sn**	**14 38 39.2**	**-6.5**
	6.6nm,0.3s,baz=80,slow=19,SNR=3.8						
USRK	**Ussuriysk Ar.**	**11.07**	**305**	Pn	**Pn**	**14 38 30.1**	**+1.1**
	0.5nm,0.3s,baz=102,slow=15,SNR=7.0						
JNU	**Nakatsue**	**12.46**	**248**	LR	LR	14 43 49.5	
	comp=Z,32nm,20.4s,baz=124,slow=38						
KSRS	**Korea Array**	**13.28**	**270**	Pn	**Pn**	**14 39 00.2**	**+0.9**
	0.3nm,0.3s,baz=78,slow=14,SNR=4.4						
KSRS				LR	LR	14 43 01.8	
	comp=Z,32nm,21.9s,baz=74,slow=32						
KSAR	**Wonju Array Be**	**13.31**	**270**	Pn	**Pn**	**14 39 00.2**	**+0.5**
KLR	**Kul'dur**	**14.14**	**323**	LR	LR	14 44 00.4	
	comp=Z,56nm,19.9s,baz=88,slow=34						
PETK	**Petropavlovsk-**	**17.09**	**28**	P	**P**	**14 39 52.0**	**+1.2**
	0.1nm,0.3s,baz=211,slow=8.1,SNR=3.2						
PETK	**Petropavlovsk-**	**17.09**	**28**	P	**P**	**14 39 52.0**	**+1.2**
MA2	**Magadan**	**21.38**	**8**	LR	LR	14 49 09.1	
	comp=Z,19nm,19.3s,baz=355,slow=37						
SEY	**Seymchan**	**24.83**	**8**	P	**P**	**14 41 12.9**	**+0.7**
	1.5nm,0.7s,baz=184,slow=10,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**26.87**	**128**	T	T	15 09 18.0	
	baz=320,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**26.88**	**128**	T	T	15 09 20.2	
	baz=320,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**26.89**	**128**	T	T	15 09 20.4	
	baz=320,slow=76,SNR=12						
NRIK	**Noril'sk**	**42.99**	**334**	LR	LR	15 02 12.7	
	comp=Z,35nm,21.5s,baz=96,slow=37						
MKAR	**Makanchi Array**	**45.52**	**301**	P	**P**	**14 44 08.8**	**-0.8**
	0.4nm,0.7s,baz=80,slow=9.5,SNR=4.6						
ILAR	**Eielson Array**	**46.80**	**33**	P	**P**	**14 44 17.6**	**-1.7**
	0.5nm,0.7s,baz=261,slow=7.0,SNR=7.4						
ABKAR	**Akbulak array**	**58.93**	**310**	*eP*	**P**	**14 45 49.5**	**+0.5**
	0.3nm,0.4s						
WRAB	**Tennant Creek**	**59.00**	**191**	*eP*	**P**	**14 45 48.9**	**-0.9**
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**59.01**	**191**	P	**P**	**14 45 49.0**	**-0.9**
	2.1nm,0.7s,baz=11,slow=7.0,SNR=22						
ASAR	**Alice Springs**	**62.73**	**191**	P	**P**	**14 46 14.5**	**-0.7**
	1.1nm,0.7s,baz=13,slow=7.0,SNR=15						
FINES	**FINESS Array B**	**68.64**	**333**	P	**P**	**14 46 54.0**	**+1.1**
	1.2nm,0.8s,baz=58,slow=8.5,SNR=3.6						
KBZ	**Khabaz**	**71.85**	**312**	P	**P**	**14 47 14.8**	**+2.1**
	1.2nm,0.6s,baz=45,slow=4.3,SNR=3.5						
NVAR	**Mina Array Bea**	**71.98**	**55**	P	**P**	**14 47 14.8**	**+0.8**
	0.6nm,0.7s,baz=288,slow=6.1,SNR=5.0						
TXAR	**Lajitas Array**	**87.12**	**54**	P	**P**	**14 48 35.7**	**-0.5**
	0.2nm,0.9s,baz=326,slow=4.5,SNR=2.3						

ISK 07 14:36:56.2, 40.˚82N×29.˚68E, h20km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRT	**Hereke**	**0.01**	**297**	*ePG*	Pb	14 36 59.9	+0.1
HRT				*eSG*	Sb	14 37 02.5	+0.3
SILT	**Sile**	**0.34**	**355**	*ePG*	Pb	14 37 03.3	+0.3
SILT				*eSG*	Sb	14 37 09.4	+1.0
IZI	**Iznik**	**0.51**	**198**	*ePG*	Pb	14 37 06.9	+0.4

IDC 07 14:45:05.5±2.0, 3.˚35S×151.˚35E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/31, mbtmp3.5/3, Error ellipse: s-maj=173.4km s-min=27.5km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39**	**224**	P	P	14 50 15.7	-0.5
	1.0nm,0.8s,baz=49,slow=9.8,SNR=6.1						
ASAR	**Alice Springs**	**26.31**	**218**	P	P	14 50 43.7	+0.6
	0.9nm,0.8s,baz=52,slow=8.9,SNR=9.2						
ILAR	**Eielson Array**	**81.38**	**22**	P	P	14 57 23.7	-0.1
	0.3nm,0.8s,baz=258,slow=4.2,SNR=2.9						

*ISCJB **07** 14:55:18.8±0.1, 15.˚41N±0.˚02×93.˚18W±0.˚02, h77km, mb5.2/237, Error ellipse: s-maj=3.0km s-min=1.7km az=41.1*

*MOS **07** 14:55:19.3±1.0, 15.˚49N×93.˚03W, h76km, mb5.5/75, MS4.4/5, Error ellipse: s-maj=7.7km s-min=3.9km az=106.0*

*GCMT **07** 14:55:20.1±0.1, 15.˚31N×93.˚41W, h76km±1km, MW5.4/114, Moment Tensor Solution. s103,c179; s114,c207; Duration: 1§2 Moment tensor: Scale 10¹⁷Nm; Mrr-0.54±.02; Mθθ0.36±.02; Mϕϕ0.18±.02; Mrθ0.93±.01; Mθϕ-0.38±.02; Mϕr-0.73±.01; Best double couple: M₀1.32900×10¹⁷ NP1:φ₅308.00000°, δ77.00000°, λ-90.00000°. NP2:φ₅129.00000°, δ13.00000°, λ-89.00000°. Principal axes: T 1.3880, Plg32.0000°, Azm39.0000°; N -0.1200, Plg0.0000°, Azm308.0000°; P -1.2690, Plg58.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **07** 14:55:20.2±0.5, 15.˚48N×92.˚90W, h73km±4km, mb4.8/32, mb1 4.9/34, mb1mx4.8/40, mbtmp5.1/34, MS4.2/17, Ms1 4.2/17, ms1mx4.1/24 Error ellipse: s-maj=15.6km s-min=8.3km az=54.0*

*NEIC **07** 14:55:20.1±0.2, 15.˚36N×93.˚08W, mb5.4/225, MW5.3, MW5.5, MD5.2(MEX), Error ellipse: s-maj=4.1km s-min=2.6km az=35.0, Moment Tensor Solution. s16 Moment tensor: Scale 10¹⁷Nm; Mrr-1.55; Mθθ0.89; Mϕϕ0.65; Mrθ0.26; Mθϕ-1.52; Mϕr-0.15; Best double couple: M₀2.00000×10¹⁷ NP1:φ₅308.00000°, δ49.00000°, λ-96.00000°. NP2:φ₅138.00000°, δ41.00000°, λ-83.00000°. Principal axes: T 2.3200, Plg4.0000°, Azm43.0000°; N -0.7500, Plg5.0000°; Azm312.0000°; P -1.5700, Plg84.0000°, Azm176.0000°; Best double couple: NP1:φ₅297.00000°, δ81.00000°, λ-83.00000°. NP2:φ₅78.00000°, δ11.00000°, λ-129.00000°. Principal axes: T 1.0600, Plg36.0000°, Azm21.0000°; N 0.0300, Plg7.0000°, Azm116.0000°; P -1.0800, Plg53.0000°, Azm216.0000°;*

NEIC Felt [II] at Guatemala and Quetzaltenango, Guatemala. Also felt at Huehuetenango, Panajachel, San Antonio Huista and San Marcos La Laguna. Felt at Cayo, Belize and at Villahermosa, Mexico.

*BJI **07** 14:55:20.1, 15.˚40N×93.˚10W, h76km, mB5.1/18, Ms5.2/17, Ms7 4.7/17*

*MEX **07** 14:55:20.2±1.0, 15.˚11N×93.˚49W, h68km±16km, MD5.2*

ISC 07 14:55:19.6±0.3, 15.˚25N±0.˚04×93.˚35W±0.˚03, h80km±2km, h79km:pP-P, n1186, σ1§64/1320, mb5.3/245, 14C-5D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.47**	**16**	*iP*	**Pn**	**14 55 33.0**	**-0.1**
PCIG				*i* S	**Sn**	**14 55 43.3**	**+0.2**
PCIG		**0.47**	**16**	*iP*	**Pn**	**14 55 33.0**	**-0.1**
PCIG				*i* S	**Sn**	**14 55 43.3**	**+0.2**
TGBT	**Tuxtla Gutierr**	**1.54**	**9**	*eP*	**Pn**	**14 55 46.6**	**+1.1**
TGBT				*i* S	**Sn**	**14 56 05.5**	**+0.5**
CCIG	**Comitan**	**1.56**	**49**	*iP*	**Pn**	**14 55 47.7**	**+1.9**
CCIG	**Comitan**	**1.56**	**49**	*ePn*	**Pn**	**14 55 47.8**	**+1.9**
CMIG	**Matias Romero**	**2.35**	**321**	P	**Pn**	**14 55 56.0**	**-0.2**
	261nm,0.3s,baz=136,slow=12,SNR=1182						
CMIG				S	**Sn**	**14 56 19.8**	**-4.4**
	1μm,0.3s,baz=106,slow=16,SNR=14						
HUIG	**Huatulco**	**2.71**	**281**	*eP*	**Pn**	**14 55 58.3**	**-2.7**
HUIG				*i* S	**Sn**	**14 56 29.0**	**-3.8**
HUIG	**Huatulco**	**2.71**	**281**	*eP*	**Pn**	**14 55 58.3**	**-2.7**
HUIG				*i* S	**Sn**	**14 56 29.0**	**-3.8**
TUIG	**Tuzandepetl**	**2.96**	**340**	*iP*	**Pn**	**14 56 04.4**	**+0.1**
TUIG				*i* S	**Sn**	**14 56 40.2**	**+1.4**
TUIG	**Tuzandepetl**	**2.96**	**340**	*iP*	**Pn**	**14 56 04.4**	**+0.1**
TUIG				*i* S	**Sn**	**14 56 40.2**	**+1.4**
PANG	**Puerto Angel**	**3.04**	**278**	*eP*	**Pn**	**14 56 01.8**	**-3.6**
PANG				*eS*	Sn	14 56 31.7	-9.0
CUS1	**Cusmapa**	**3.56**	**111**	*eP*	**Pn**	**14 56 14.0**	**+1.5**
CUS1				*eS*	**Sn**	**14 56 54.5**	**+1.0**
VHO	**Vista Hermosa**	**3.72**	**300**	*iP*	**Pn**	**14 56 15.4**	**+0.5**
VHO				*eS*	**Sn**	**14 56 53.7**	**-4.0**
VHO	**Vista Hermosa**	**3.72**	**300**	*iP*	**Pn**	**14 56 15.4**	**+0.5**
VHO				*eS*	**Sn**	**14 56 53.7**	**-4.0**
RBDL	**Robledal**	**3.72**	**107**	*eP*	**Pn**	**14 56 16.3**	**+1.4**
MONT	**Ecomontaæa**	**3.85**	**111**	*eP*	**Pn**	**14 56 18.3**	**+1.6**
SBLS	**San Blas**	**3.87**	**111**	*eP*	**Pn**	**14 56 19.2**	**+2.2**
SNJE	**San Jose**	**3.88**	**110**	*eP*	**Pn**	**14 56 18.5**	**+1.4**
BOQS	**Boqueron**	**4.22**	**110**	*eP*	**Pn**	**14 56 23.4**	**+1.7**
COLS	**Colinas**	**4.23**	**111**	*eP*	**Pn**	**14 56 24.4**	**+2.6**
SCIG	**Sabancuy**	**4.24**	**29**	*iP*	**Pn**	**14 56 22.9**	**+1.1**
SCIG				*i* S	**Sn**	**14 57 14.2**	**+4.1**
SCIG	**Sabancuy**	**4.24**	**29**	*iP*	**Pn**	**14 56 22.9**	**+1.1**
SCIG				*i* S	**Sn**	**14 57 14.2**	**+4.1**
SNET	**Serv Nac Est T**	**4.28**	**111**	*eP*	**Pn**	**14 56 24.3**	**+1.8**
SNET				AML	AML	14 57 30.5	
	comp=Z,4μm,0.4s						
LBRS	**Las Brisas**	**4.44**	**109**	*eP*	**Pn**	**14 56 26.6**	**+2.0**
LFRS	**El Faro**	**4.46**	**111**	*eP*	**Pn**	**14 56 26.2**	**+1.2**
PNIG	**Pinotepa**	**4.73**	**285**	*iP*	**Pn**	**14 56 27.2**	**-1.3**
PNIG	**Pinotepa**	**4.73**	**285**	*iP*	**Pn**	**14 56 27.2**	**-1.3**
TPIG	**Tehuac#an**	**4.97**	**310**	*eP*	**Pn**	**14 56 32.1**	**+0.2**
TPIG	**Tehuac#an**	**4.97**	**310**	*eP*	**Pn**	**14 56 32.1**	**+0.2**
PACA	**Pacayal**	**5.19**	**109**	*eP*	**Pn**	**14 56 37.9**	**+3.0**
TLIG	**Tlapa**	**5.51**	**295**	*eP*	**Pn**	**14 56 39.6**	**+0.4**
TLIG				*i* S	**Sn**	**14 57 37.7**	**-3.6**
TLIG	**Tlapa**	**5.51**	**295**	*ePn*	**Pn**	**14 56 40.2**	**+1.0**
CNCH	**Conchagua**	**5.70**	**109**	*eP*	**Pn**	**14 56 44.7**	**+2.9**
TGUH	**Tegucigalpa,Un**	**6.00**	**101**	*ePn*	**Pn**	**14 56 47.4**	**+1.6**
PPM	**Popocatepetl**	**6.31**	**308**	*eP*	**Pn**	**14 56 53.9**	**+3.4**
PPM				*eS*	**Sn**	**14 58 04.8**	**+3.3**
PPM	**Popocatepetl**	**6.31**	**308**	*eP*	**Pn**	**14 56 53.9**	**+3.4**
PPM				*eS*	**Sn**	**14 58 04.8**	**+3.3**
PPM	**Popocatepetl**	**6.31**	**308**	*eP*	**Pn**	**14 56 53.9**	**+3.4**
PPM				*eS*	**Sn**	**14 58 04.8**	**+3.3**
YAIG	**Yautepec**	**6.54**	**304**	*eP*	**Pn**	**14 56 55.6**	**+2.3**
YAIG				*i* S	**Sn**	**14 58 06.2**	**-0.4**
YAIG	**Yautepec**	**6.54**	**304**	*eP*	**Pn**	**14 56 55.6**	**+2.3**
YAIG				*i* S	**Sn**	**14 58 06.2**	**-0.4**
MEIG	**Mezcala**	**6.57**	**295**	*iP*	**Pn**	**14 56 54.9**	**+1.2**
MEIG				*eS*	**Sn**	**14 58 02.2**	**-5.0**
MEIG	**Mezcala**	**6.57**	**295**	*iP*	**Pn**	**14 56 54.9**	**+1.2**
MEIG				*eS*	**Sn**	**14 58 02.2**	**-5.0**
PLIG	**Platanillo**	**6.67**	**299**	*iP*	**Pn**	**14 56 56.9**	**+1.9**
PLIG				*i* S	**Sn**	**14 58 13.1**	**+3.5**
PLIG	**Platanillo**	**6.67**	**299**	*iP*	**Pn**	**14 56 56.9**	**+1.9**
PLIG				*i* S	**Sn**	**14 58 13.1**	**+3.5**
CAIG	**El Cayaco**	**6.88**	**286**	*iP*	**Pn**	**14 56 57.3**	**-0.6**
CAIG				*eS*	**Sn**	**14 58 12.2**	**-2.5**
CAIG	**El Cayaco**	**6.88**	**286**	*iP*	**Pn**	**14 56 57.3**	**-0.6**
CAIG				*eS*	**Sn**	**14 58 12.2**	**-2.5**
UNM	**Universidad Na**	**6.89**	**307**	*eP*	**Pn**	**14 57 01.3**	**+3.1**
UNM	**Universidad Na**	**6.89**	**307**	*ePn*	**Pn**	**14 57 01.3**	**+3.1**
TEIG	**Tepich**	**6.92**	**44**	P	**Pn**	**14 56 58.1**	**-0.3**
	comp=Z,192nm,0.3s,baz=184,slow=3.5,SNR=229						
TEIG				S	**Sn**	**14 58 14.4**	**-1.3**
	comp=Z,91nm,0.3s,baz=359,slow=21,SNR=7.2						
TEIG	**Tepich**	**6.92**	**44**	*ePn*	**Pn**	**14 56 57.7**	**-0.7**
TEIG				S	**Sn**	**14 58 14.4**	**-1.3**
CNGN	**Cerro Negro**	**7.02**	**112**	*eP*	**Pn**	**14 57 00.7**	**+1.0**
CNGN				*eS*	**Sn**	**14 58 18.4**	**+0.3**
CNGN				AML	AML	14 58 23.3	
	comp=E,380nm,0.8s						
ESTN	**Estel**	**7.10**	**107**	*eP*	**Pn**	**14 57 02.1**	**+1.1**
COPN	**Copaltepe**	**7.24**	**114**	*eP*	**Pn**	**14 57 03.9**	**+1.1**
COPN				*eS*	**Sn**	**14 58 23.2**	**-0.4**
ARIG	**Puente Sto Nin**	**7.35**	**295**	*iP*	**Pn**	**14 57 06.1**	**+1.8**
ARIG				*eS*	**Sn**	**14 58 22.1**	**-4.1**
MGAN	**Managua**	**7.56**	**113**	*eP*	**Pn**	**14 57 08.2**	**+1.0**
BOAB	**BOACO BROADBAN**	**7.97**	**109**	*eP*	**Pn**	**14 57 12.7**	**0.0**
MOIG	**Morelia**	**8.68**	**302**	*ePn*	**Pn**	**14 57 25.6**	**+3.0**
CGA2	**Cerro Gallo 2**	**10.11**	**120**	*eP*	**Pn**	**14 57 44.2**	**+2.0**
CGA2				*eS*	**Sn**	**14 59 35.3**	**+1.4**
QCR	**Quepos**	**10.68**	**122**	⇑*eP*	**Pn**	**14 57 51.2**	**+1.5**

444A Pine Grove 15.58 8 P Pn 14 58 54.4 -0.2
baz=188
533A Kerrville 15.65 341 P Pn 14 58 54.9 -0.7
baz=158,SNR=61
445A Amite 15.66 10 P Pn 14 58 55.6 0.0
baz=190
437A Phantom Ranch, 15.72 351 P Pn 14 58 56.4 +0.1
baz=169
436A Wall Ranch, Ga 15.77 349 P Pn 14 58 56.6 -0.4
baz=167,SNR=19
446A Poplarville 15.90 13 P Pn 14 58 58.1 -0.5
baz=193,SNR=32
435B Jarrell 15.94 347 P Pn 14 58 58.8 -0.4
baz=164,SNR=22
341A Kurthwood 16.01 1 P Pn 14 58 60.0 -0.1
baz=180,SNR=29
343A Vidalia 16.04 5 P Pn 14 59 00.6 +0.2
baz=185,SNR=14
339A Huntington 16.05 356 P Pn 14 59 00.1 -0.4
baz=175,SNR=9.8
447A Lucedale 16.07 15 P Pn 14 59 00.2 -0.5
baz=196
342A Flagon Creek P 16.08 3 P Pn 14 59 00.9 0.0
baz=183,SNR=6.2
340A Bronson 16.10 358 P Pn 14 59 01.1 0.0
baz=177,SNR=18
338A Crockett 16.14 354 P P 14 59 02.4 -1.0
baz=172,SNR=31
434A Burnet 16.14 345 P Pn 14 59 00.5 -1.1
baz=162,SNR=75
337A Centerville 16.16 352 P Pn 14 59 01.2 -0.7
baz=170,SNR=28
345A Thompson Farm, 16.27 10 P Pn 14 59 03.5 +0.2
baz=191,SNR=22
JCT Junction City 16.28 340 P Pn 14 59 03.1 -0.3
baz=156,SNR=85
JCT Junction City 16.28 340 eP P 14 59 04.3 -0.7
JCT pmax pmax
comp=Z,172nm,0.8s
JCT Junction City 16.28 340 ePn P 14 59 04.2 -0.7
comp=Z,172nm,0.8s
433A Art 16.31 342 P Pn 14 59 03.1 -0.6
baz=159,SNR=146
344A Westbrook Farm 16.31 8 P Pn 14 59 03.4 -0.3
baz=188,SNR=23
HPIG 16.33 317 ePn P 14 59 06.2 +0.3
comp=Z,98nm,1.1s
336A Riesel 16.38 349 P Pn 14 59 03.6 -1.0
baz=167,SNR=44
335A Moody 16.39 348 P Pn 14 59 04.7 0.0
baz=165,SNR=32
448A Bay Minette 16.40 17 P Pn 14 59 04.6 -0.3
baz=198,SNR=8.4
346A Big Creek Wild 16.46 12 P Pn 14 59 04.6 -0.9
baz=192,SNR=8.7
NATX Nacogdoches 16.48 356 P Pn 14 59 05.1 -0.7
baz=175,SNR=6.9
NATX Nacogdoches 16.48 356 ePn Pn 14 59 05.2 -0.7
comp=Z,1µm,1.8s
334A Lometa 16.62 345 P Pn 14 59 07.3 -0.4
baz=162,SNR=54
243A Waterproof 16.65 6 P Pn 14 59 08.0 +0.1
baz=185,SNR=23
347A Saraland 16.67 14 P Pn 14 59 08.1 -0.1
baz=196,SNR=6.8
241A Mo Tay, Goldon 16.70 1 P Pn 14 59 08.3 -0.3
baz=181
240A Hunter Patters 16.72 359 P Pn 14 59 08.2 -0.7
baz=178,SNR=14
239A Gary 16.73 357 P Pn 14 59 08.3 -0.6
baz=175,SNR=9.7
238A Jacksonville 16.76 355 P Pn 14 59 09.1 -0.2
baz=173,SNR=18
242A Grayson 16.77 4 P P 14 59 10.1 -0.3
baz=183,SNR=28
333A Richland Sprin 16.81 343 P Pn 14 59 09.6 -0.4
baz=160,SNR=48
237A Washetta, Mont 16.83 353 P Pn 14 59 08.8 -1.3
baz=171,SNR=7.4
348A Jackson 16.85 16 P P 14 59 11.1 -0.1
baz=198,SNR=12
BRAL Brewton 16.87 19 ePn P 14 59 12.1 +0.6
comp=Z,1µm,1.1s
244A Avery, Jackson 16.90 8 P Pn 14 59 11.0 0.0
baz=188,SNR=19
DWPF Disney Wildern 16.91 39 ePn Pn 14 59 10.7 -0.5
comp=Z,509nm,1.1s
236A Katherine and 16.93 351 P Pn 14 59 10.6 -0.8
baz=168,SNR=14
TXAR Lajitas Array 16.94 328 P P 14 59 13.4 +0.9
comp=Z,2.0nm,0.3s,baz=149,slow=13,SNR=346
TX31 Lajitas Ar. Si 16.94 328 ePn P 14 59 13.2 +0.7
245A Little AP, Sta 17.00 10 P Pn 14 59 12.1 -0.3
baz=191
WHTX Lake Whitney, 17.08 348 P P 14 59 13.5 -0.4
baz=166,SNR=45
WHTX Lake Whitney, 17.08 348 ePn P 14 59 13.6 -0.2
comp=Z,753nm,1.6s
VBMS Vicksburg 17.09 8 P Pn 14 59 13.4 0.0
baz=188,SNR=15
VBMS Vicksburg 17.09 8 ePn Pn 14 59 12.8 -0.6
comp=Z,630nm,1.0s
246A Jackson Lee, B 17.13 12 P Pn 14 59 13.7 -0.2
baz=193
234A Clairette 17.24 346 P Pn 14 59 15.2 -0.1
baz=163,SNR=101
142A Monroe 17.27 4 P P 14 59 16.1 +0.2
baz=184,SNR=48
247A Quitman 17.28 14 P Pn 14 59 15.4 -0.4
baz=195,SNR=15
141A Papa Simpson, 17.29 1 P P 14 59 16.1 +0.1
baz=181,SNR=8.5
140A Cam and Jess, 17.32 359 P P 14 59 16.4 0.0
baz=178,SNR=20
136A Ennis 17.39 351 P Pn 14 59 17.0 -0.1
baz=169,SNR=14
138A Matatall Enter 17.41 355 P Pn 14 59 17.0 -0.3
baz=174,SNR=31
137A Heron Place, G 17.41 353 P P 14 59 17.6 +0.2
baz=171,SNR=17
233A Rising Star 17.45 344 P Pn 14 59 17.6 -0.2
baz=161,SNR=53
143A Socs Landing, 17.47 5 P Pn 14 59 17.5 -0.5
baz=185,SNR=13
144A Alexander Plac 17.51 8 P P 14 59 18.4 -0.2
baz=189
248A Dixon Mills 17.54 16 P P 14 59 19.0 +0.2
baz=197,SNR=16
145A Houston Renfro 17.56 10 P P 14 59 19.0 -0.1
baz=190,SNR=6.4
135A Vickery Place, 17.62 349 P P 14 59 19.4 -0.4
baz=166,SNR=6.3
SLBS Sierra La Lagu 17.74 301 eP Pn 14 59 24.0 +2.5
comp=Z,136nm,1.5s
146A Union 17.75 12 P P 14 59 20.8 -0.4
baz=193,SNR=7.7
134A White-Moore Ra 17.78 347 P Pn 14 59 21.7 0.0
baz=164,SNR=22
Z39A Irene McRaven, 17.93 358 P Pn 14 59 23.4 -0.2
baz=177,SNR=8.5
Z40A Long Farm, Mag 17.93 360 P Pn 14 59 23.3 -0.3
baz=179,SNR=21
Z41A Richland Creek 17.94 1 P Pn 14 59 23.5 -0.2
baz=181,SNR=40
147A Livingston 17.95 14 P Pn 14 59 23.5 -0.4
baz=195,SNR=47
Z38A Mt. Pleasant 17.98 356 P Pn 14 59 24.5 +0.3
baz=174,SNR=9.8
Z43A Armstrong Fami 17.99 6 P P 14 59 23.7 -0.1
baz=186
Z37A Pogue Cattle C 17.99 354 P Pn 14 59 24.0 -0.3
baz=172,SNR=11
Z42A Norrel Spur, H 17.99 4 P Pn 14 59 24.3 -0.1
baz=184,SNR=30
GTBY Guantanamo Bay 18.00 72 eP P 14 59 23.5 -0.6
comp=Z,225nm,0.8s
133A Hamilton Ranch 18.01 345 P Pn 14 59 25.2 +0.6
baz=162,SNR=44
Z44A Pea Ridge, Bel 18.15 8 P Pn 14 59 26.3 +0.1
baz=188,SNR=13
Z36A Blue Ridge 18.16 352 P Pn 14 59 26.3 -0.1
baz=170,SNR=19
LPIG La Paz 18.22 302 P Pn 14 59 30.4 +3.2
baz=130,slow=7.9,SNR=8.8
ABTX Abilene, Hawle 18.22 343 P Pn 14 59 27.8 +0.6
baz=159,SNR=47
ABTX Abilene, Hawle 18.22 343 eP Pn 14 59 27.6 +0.5
comp=Z,209nm,0.6s

Z46A Louisville 18.31 12 P Pn 14 59 27.9 -0.3
baz=193,SNR=23
Z45A Winona 18.35 10 P P 14 59 27.8 +0.1
baz=190,SNR=12
Z35A Perchaven, San 18.35 350 P Pn 14 59 28.4 -0.3
baz=167,SNR=42
WLAR White Oak Lake 18.36 1 eP Pn 14 59 29.1 +0.3
comp=Z,1µm,1.4s
TIGA Tifton 18.43 27 P P 14 59 28.8 +0.2
baz=210,SNR=26
TIGA Tifton 18.43 27 eP P 14 59 28.4 -0.2
comp=Z,381nm,0.8s
MOTC Monteria, Cord 18.45 108 eP P 14 59 28.5 -0.6
Z47A Carrollton 18.50 14 P P 14 59 29.6 +0.1
baz=196,SNR=12
Z34A Collier Ranch, 18.51 348 P Pn 14 59 30.4 -0.2
baz=165,SNR=8.9
SJCC San Jacinto, C 18.51 105 eP P 14 59 26.2 -3.6
Y42A Garnett, Star 18.56 4 P Pn 14 59 30.5 -0.7
baz=184
Y41A Eaglette Beard 18.57 2 P P 14 59 30.5 +0.3
baz=181,SNR=8.6
Z33A Whitaker Ranch 18.62 346 P Pn 14 59 32.1 +0.2
baz=163,SNR=22
Y39A Lockesburg 18.62 358 P P 14 59 30.8 0.0
baz=177,SNR=24
LRAL Lakeview Retre 18.62 17 eP P 14 59 30.5 -0.3
comp=Z,186nm,1.3s
Y38A Idabel 18.64 356 P Pn 14 59 31.5 -0.7
baz=175
CCAR Cane Creek 18.64 4 eP Pn 14 59 31.8 -0.4
comp=Z,3µm,1.7s
Y40A Okolona 18.68 0 P P 14 59 31.8 +0.4
baz=179,SNR=23
Y43A Makayla and Ka 18.71 6 P P 14 59 32.0 +0.3
baz=186
Y36A Dunn 18.76 352 P P 14 59 32.1 -0.2
baz=170,SNR=12
Y37A Hugo 18.76 354 P P 14 59 32.7 +0.4
baz=172,SNR=34
Z48A Northport 18.80 15 P P 14 59 32.5 -0.2
baz=197,SNR=34
Y44A Strider, Charl 18.85 8 P P 14 59 33.5 +0.2
baz=189,SNR=6.6
Y45A Yeager Farm, C 18.86 10 P P 14 59 33.8 +0.4
baz=191,SNR=16
Y35A Marietta 18.87 350 P Pn 14 59 34.5 -0.5
baz=168,SNR=38
Y46A Houston 19.00 12 P P 14 59 34.5 -0.3
baz=193,SNR=65
Y34A Reagan Ranch, 19.05 349 P Pn 14 59 36.2 -0.9
baz=166,SNR=64
X40A Basin Creek Fa 19.16 1 P P 14 59 36.9 +0.2
baz=181,SNR=23
X41A Kaden, Bauxite 19.18 2 P P 14 59 37.4 +0.6
baz=182,SNR=18
X39A Fountain Ranch 19.19 358 P P 14 59 37.1 +0.1
baz=177,SNR=50
MIAR Mount Ida 19.22 359 P P 14 59 37.4 +0.1
baz=179,SNR=123
MIAR Mount Ida 19.22 359 eP P 14 59 37.2 -0.1
MIAR pmax pmax
comp=Z,330nm,1.1s
MIAR Mount Ida 19.22 359 eP P 14 59 37.2 -0.1
comp=Z,330nm,1.1s
Y47A UCPARC, Winfie 19.23 14 P P 14 59 36.9 -0.5
baz=196,SNR=39
Y33A Hilltop Ranch, 19.28 347 P P 14 59 38.4 +0.5
baz=164,SNR=50
GRGC Isla de Gorgon 19.29 128 eP Pn 14 59 41.0 +1.0
X43A Marvell 19.32 6 P P 14 59 38.6 +0.3
baz=186,SNR=7.4
MALC Bahia Malaga 19.32 124 eP Pn 14 59 42.1 +1.7
X37A Clayton 19.34 355 P P 14 59 39.0 +0.3
baz=173,SNR=80
X35A Drake 19.35 351 P P 14 59 39.2 +0.4
baz=169,SNR=51
X38A Whitesboro 19.39 356 P Pn 14 59 39.9 -1.1
baz=175,SNR=84
X44A Crenshaw 19.39 8 P P 14 59 38.1 -1.0
baz=189,SNR=13
X45A UM Field Stati 19.43 10 P P 14 59 39.0 -0.6
baz=191
X36A Centrahoma 19.43 353 P P 14 59 40.0 +0.4
baz=170,SNR=35
UALR University of 19.47 2 eP P 14 59 39.9 0.0
comp=Z,322nm,1.1s
OXF Oxford 19.51 10 eP P 14 59 39.4 -1.0
OXF pmax pmax
comp=Z,750nm,1.0s
OXF Oxford 19.51 10 eP P 14 59 39.4 -1.0
comp=Z,750nm,1.0s
X34A Smith Ranch, M 19.69 349 P P 14 59 43.1 +0.7
baz=185,SNR=45
MNTX Cornudas Mount 19.72 328 P Pn 14 59 44.6 -0.4
baz=143,SNR=90
MNTX Cornudas Mount 19.72 328 eP Pn 14 59 44.0 -0.9
comp=Z,114nm,1.3s
X33A Lawton 19.76 347 P P 14 59 43.7 +0.5
baz=164,SNR=44
W38A Poteau 19.77 357 P P 14 59 43.7 +0.4
baz=176,SNR=48
X32A Elmer 19.83 345 P Pn 14 59 45.2 -1.0
baz=162,SNR=106
W40A Ferguson Farm, 19.86 1 P P 14 59 44.5 +0.2
baz=180,SNR=15
W41B Gary Mavity, V 19.87 3 P P 14 59 44.3 0.0
baz=182,SNR=40
W39A Magazine 19.87 359 P P 14 59 44.6 +0.3
baz=178,SNR=65
W37B Quinton 19.90 355 P P 14 59 44.5 -0.2
baz=173,SNR=64
X301 Greenbrier Sit 19.93 2 eP P 14 59 44.5 -0.4
comp=Z,481nm,1.5s
W36A Wetumka 19.98 353 P P 14 59 45.3 -0.2
baz=171,SNR=28
X201 Greenbrier Sit 19.98 2 eP P 14 59 45.1 -0.4
comp=Z,278nm,1.2s
WHAR Wooly Hollow 19.98 3 eP P 14 59 45.1 -0.5
comp=Z,552nm,1.4s
WMOK Wichita Mounta 20.01 347 P P 14 59 46.1 +0.1
baz=164,SNR=109
WMOK Wichita Mounta 20.01 347 eP P 14 59 45.7 -0.3
WMOK pmax pmax
comp=Z,107nm,0.9s
WMOK Wichita Mounta 20.01 347 eP P 14 59 45.7 -0.3
comp=Z,106nm,0.9s
W44A Shelby Farms P 20.06 8 P P 14 59 44.9 -1.5
baz=189
W35A Tecumseh 20.07 352 P P 14 59 46.5 -0.1
baz=169,SNR=59
W45A Hickory Valley 20.18 10 P P 14 59 45.9 -1.8
baz=191,SNR=15
GOGA Godfrey 20.18 25 eP P 14 59 46.8 -1.0
GOGA pmax pmax
comp=Z,133nm,0.8s
GOGA Godfrey 20.18 25 eP P 14 59 46.8 -1.0
comp=Z,133nm,0.8s
PLAL Pickwick Lake 20.22 13 eP P 14 59 46.4 -1.7
comp=Z,266nm,1.1s
W34A Bridge Creek, 20.30 350 P P 14 59 49.2 +0.2
baz=167,SNR=42
W34A Bridge Creek, 20.30 350 eP P 14 59 49.1 +0.2
comp=Z,355nm,0.8s
W33A Caddo, Fort Co 20.35 348 P P 14 59 50.5 +1.0
baz=165,SNR=39
HBAR Harrisburg 20.37 6 eP P 14 59 50.0 +0.2
PAPH Port-au-Prince 20.41 78 eP P 14 59 50.8 +0.5
comp=Z,566nm,0.8s
V41A Mountainview 20.48 3 P P 14 59 50.6 -0.5
baz=183,SNR=170
W32A Sentinel 20.49 346 P P 14 59 51.1 0.0
baz=163,SNR=94
MSTX Muleshoe 20.49 337 P P 14 59 51.9 +0.7
baz=152,SNR=93
MSTX Muleshoe 20.49 337 eP P 14 59 52.0 +0.7
comp=Z,237nm,0.8s
V39A Pettigrew 20.51 359 P P 14 59 51.1 -0.2
baz=178,SNR=78
V42A Coral 20.55 5 P P 14 59 50.6 -1.1
baz=185,SNR=40
NORC Norcasia 20.55 116 eP Pn 14 59 53.4 -1.5
V38A Canehill 20.55 358 P P 14 59 51.0 -0.7
baz=176,SNR=42
V36A Jenks 20.59 354 P P 14 59 51.3 -0.8
baz=172,SNR=40
V37A Hulbert 20.61 356 P P 14 59 51.6 -0.8
baz=174,SNR=66

TOLC Tolima 20.66 119 eP Pn 14 59 56.8 +0.3
V35A Meyer Ranch, C 20.67 352 P P 14 59 52.3 -0.7
baz=170,SNR=57
TUL1 Leonard 20.69 354 P P 14 59 52.3 -0.9
baz=173,SNR=45
TUL1 Leonard 20.69 354 eP P 14 59 53.1 -0.2
comp=Z,478nm,1.0s
V44A Blytheville 20.73 8 P P 14 59 52.5 -1.1
baz=189
V34A Guthrie 20.84 350 P P 14 59 54.1 -0.8
baz=168,SNR=33
V34A Guthrie 20.84 350 eP P 14 59 53.8 -1.0
comp=Z,280nm,0.7s
GNAR Gosnell 20.85 8 eP P 14 59 54.1 -0.8
GNAR epP pP 15 00 14.0 +3.0
AMTX Amarillo 20.94 341 P P 14 59 56.9 +0.9
baz=156
AMTX Amarillo 20.94 341 eP P 14 59 56.7 +0.7
comp=Z,545nm,0.7s
HHAR Hobbs 20.95 359 eP P 14 59 54.6 -1.5
comp=Z,460nm,1.7s
OTAV Otavalo 20.96 134 eP Pn 15 00 03.0 +2.9
OTAV Otavalo 20.96 134 eP Pn 14 59 58.6 -1.5
comp=Z,100nm,1.1s
V33A Lossen Ranch, 20.96 349 P P 14 59 55.7 -0.4
baz=166,SNR=82
SWET Sewanee 20.97 17 eP P 14 59 54.6 -1.7
comp=Z,179nm,1.7s
V32A Arapaho 21.02 347 P P 14 59 56.6 -0.2
baz=164,SNR=63
U40A Yellville 21.03 1 P P 14 59 56.6 -0.3
baz=181,SNR=40
U39A Green Forest 21.05 360 P P 14 59 56.1 -1.0
baz=179,SNR=51
URIC Uribia, Colomb 21.07 97 eP P 14 59 54.9 -2.6
U38A Gravette 21.13 358 P P 14 59 56.3 -1.6
baz=176,SNR=69
U37A Salina 21.13 356 P P 14 59 56.8 -1.2
baz=175,SNR=102
CRUC La Cruz 21.14 128 eP P 15 00 03.0 +4.4
U36A Oologah 21.17 355 P P 14 59 56.9 -1.4
baz=173,SNR=13
GLAT Glass 21.25 9 eP P 14 59 57.9 -1.3
U35A Pawnee 21.25 352 P P 14 59 58.0 -1.3
baz=170,SNR=33
HSIG 21.26 313 eP P 15 00 00.4 +1.0
comp=Z,124nm,1.4s
SRIG Santa Rosalia 21.27 307 eP P 15 00 04.7 +5.2
comp=Z,140nm,1.3s
WVT Waverly 21.38 12 eP P 14 59 58.1 -2.4
WVT pmax pmax
comp=Z,184nm,0.8s
WVT Waverly 21.38 12 eP P 14 59 58.1 -2.4
comp=Z,184nm,0.8s
CSU Charleston Sou 21.38 32 eP P 14 59 59.9 -0.7
ROSC El Rosal 21.38 117 P P 15 00 02.4 +1.1
comp=Z,95nm,1.1s,baz=318,slow=10.0,SNR=50
ROSC El Rosal 21.38 117 eP P 15 00 02.4 +1.1
ROSC El Rosal 21.38 117 eP P 15 00 01.9 +0.6
comp=Z,136nm,1.3s
UTMT University of 21.39 10 eP P 15 00 00.9 +0.2
UTMT epP pP 15 00 18.2 +1.3
SDDR Presa de Saban 21.41 77 eP P 15 00 00.5 -0.7
comp=Z,186nm,1.0s
NHSC New Hope 21.42 32 eP P 15 00 00.9 -0.1
comp=Z,998nm,1.4s
U34A Anderson Ranch 21.43 351 P P 14 59 59.9 -1.3
baz=168,SNR=24
U34A Anderson Ranch 21.43 351 eP P 14 59 58.7 -2.5
comp=Z,312nm,1.1s
GRMC Gramalote, San 21.47 108 eP P 14 59 59.0 -2.9
PRAC Prado 21.49 120 eP P 15 00 03.6 +1.5
PRAC Prado 21.49 120 eP P 15 00 00.6 -1.5
comp=Z,350nm,1.5s
U33A Lingo Farm, Me 21.52 349 P P 15 00 01.1 -1.0
baz=167,SNR=22
BARC Barichara 21.57 111 eP P 15 00 03.9 +0.8
PBMO Poplar Bluff 21.60 6 eP P 15 00 01.2 -1.7
comp=Z,269nm,0.8s
CPCT Cooper Cave 21.62 20 eP P 15 00 01.1 -2.1
comp=Z,58nm,0.9s
U32A Winter Ranch, 21.64 348 P P 15 00 02.8 -0.6
baz=164,SNR=24
121A Cookes Peak, D 21.64 325 P P 15 00 06.8 +3.2
baz=139,SNR=157
121A Cookes Peak, D 21.64 325 eP P 15 00 06.7 +3.0
comp=Z,583nm,1.3s
319A Douglas 21.67 321 eP P 15 00 06.5 +2.5
comp=Z,168nm,0.9s
T39A Clever 21.69 360 P P 15 00 03.2 -0.8
baz=179,SNR=87
PAMC Pamplona, Colo 21.71 109 eP P 15 00 03.0 -1.9
T38A Diamond 21.72 358 P P 15 00 03.4 -0.8
baz=177,SNR=83
T41A Mountain View 21.75 3 P P 15 00 03.8 -0.8
baz=183,SNR=150
T35A Sooner Cattle 21.76 353 P P 15 00 03.0 -1.7
baz=171,SNR=21
T40A Mansfield 21.83 2 P P 15 00 04.5 -0.9
baz=182,SNR=111
T37A Cheneyville 18 21.83 357 P P 15 00 04.2 -1.2
baz=175,SNR=66
T36A Boggs Farm, Ca 21.84 355 P P 15 00 04.1 -1.4
baz=173,SNR=72
JSC Jenkinsville 21.87 28 eP P 15 00 04.2 -1.6
JSC pmax pmax
comp=Z,132nm,1.0s
JSC Jenkinsville 21.87 28 eP P 15 00 04.2 -1.6
comp=Z,132nm,1.0s
T34A McClaskey Farm 21.95 352 P P 15 00 05.2 -1.5
baz=169,SNR=49
RUSC La Rusia 21.97 113 eP P 15 00 07.5 -0.1
GRTK Grand Turk 21.98 70 eP P 15 00 06.5 -0.7
comp=Z,795nm,1.2s
CHIC Chingaza 22.00 117 eP P 15 00 08.6 +0.8
TKL Tuckaleechee C 22.06 21 P P 15 00 05.0 -2.9
comp=Z,34nm,0.9s,baz=197,slow=12,SNR=20
TKL Tuckaleechee C 22.06 21 eP P 15 00 06.1 -1.9
TKL pmax pmax
comp=Z,258nm,1.1s
TKL Tuckaleechee C 22.06 21 eP P 15 00 06.0 -1.9
comp=Z,258nm,1.1s
T33A Patterson Ranc 22.18 350 P P 15 00 07.7 -1.4
baz=167,SNR=34
BANI BANI 22.23 79 eP P 15 00 10.6 +0.6
S40A Lebanon 22.28 2 P P 15 00 09.0 -1.2
baz=182,SNR=74
VILC Villavicencio, 22.29 118 eP P 15 00 12.6 +1.9
S38A Stockton 22.30 359 P P 15 00 09.3 -1.2
baz=178,SNR=45
BNM Barren Site 22.31 330 eP P 15 00 12.8 +2.0
S39A Bolivar 22.36 0 P P 15 00 10.0 -1.1
baz=179,SNR=121
Y22D IRIS PASSCAL I 22.39 329 P P 15 00 13.7 +2.0
baz=143
Y22D IRIS PASSCAL I 22.39 329 eP P 15 00 13.4 +1.7
comp=Z,353nm,0.9s
T32A Huddler Ranch, 22.40 348 P P 15 00 10.7 -0.9
baz=165,SNR=33
S43A Fulton Ridge, 22.43 7 P P 15 00 09.4 -2.4
baz=188,SNR=6.8
LPM Los Pinos Moun 22.44 330 eP P 15 00 14.1 +1.9
S37A Fort Scott 22.46 357 P P 15 00 10.8 -1.4
baz=176,SNR=43
S36A Lake Cedric, C 22.48 355 P P 15 00 10.3 -2.0
baz=174,SNR=154
S35A Otter Creek Ra 22.50 354 P P 15 00 10.6 -2.0
baz=173,SNR=84
SJAC San Juan de Ar 22.52 120 eP P 15 00 15.4 +2.3
KMSC Kings Mountain 22.56 26 P P 15 00 12.0 -1.3
baz=211,SNR=19
KMSC Kings Mountain 22.56 26 eP P 15 00 11.8 -1.5
comp=Z,194nm,1.1s
S34A Willow Spring 22.61 352 P P 15 00 11.6 -2.1
baz=170,SNR=22
S33A Kaszmaul Farm, 22.64 350 P P 15 00 12.2 -1.9
baz=168,SNR=8.3
S44A Carbondale 22.65 8 P P 15 00 12.5 -1.7
baz=190,SNR=20
SDD Santo Domingo 22.66 79 eP P 15 00 13.9 -0.5
comp=Z,578nm,1.4s
SIUC Southern Illin 22.68 9 eP P 15 00 12.6 -1.9
comp=Z,448nm,0.9s
S45A Carrier Mills 22.74 10 P P 15 00 12.8 -2.2
baz=191,SNR=18
LAZ Ladron 22.76 329 eP P 15 00 17.6 +2.0
R38A Fenwick Farm, 22.86 359 P P 15 00 14.8 -1.5

baz=178,SNR=93
ANMO **Albuquerque** 22.88 331 P P 15 00 18.1 +1.3
comp=Z,58nm,0.8s,baz=142,slow=12,SNR=152
ANMO **Albuquerque** 22.88 331 P P 15 00 18.3 +1.5
baz=145
ANMO **Albuquerque** 22.88 331 *c i*P P 15 00 18.1 +1.3
ANMO pmax pmax
comp=Z,49nm,0.8s
ANMO **Albuquerque** 22.88 331 *e*P P 15 00 18.0 +1.2
ANMO *e*pP **pP** 15 00 34.7 +1.5
S32A **Newby Ranch, P** 22.91 349 P P 15 00 16.2 -0.6
baz=165,SNR=8.7
TZTN **Tazewell** 22.94 21 *e*P P 15 00 15.1 -2.1
comp=Z,277nm,1.0s
R40A **Maddies Statio** 22.97 2 P P 15 00 15.8 -1.6
baz=182,SNR=61
R39A **Chumby, Stover** 22.98 1 P P 15 00 15.6 -1.9
baz=180,SNR=96
R37A **Teagarden Farm** 23.01 357 P P 15 00 15.6 -2.2
baz=176,SNR=16
R36A **Gordon, Harris** 23.07 356 P P 15 00 16.6 -1.8
baz=174,SNR=50
SDV **Santo Domingo** 23.09 103 P P 15 00 16.8 -2.3
comp=Z,36nm,0.6s,baz=297,slow=8.2,SNR=9.9
SDV **Santo Domingo** 23.09 103 *e*P P 15 00 16.0 -3.0
SDV **Santo Domingo** 23.09 103 *e*P P 15 00 16.2 -2.8
comp=Z,130nm,0.8s
SDV *e*pP **sP** 15 00 40.8 -4.8
R35A **Emporia Munici** 23.12 354 P P 15 00 17.0 -1.9
baz=172,SNR=24
USIN **University of** 23.18 11 *e*P P 15 00 16.7 -2.7
comp=Z,263nm,0.9s
USIN *e*pP **pP** 15 00 37.0 +0.8
R34A **Isabella, Hill** 23.22 352 P P 15 00 18.1 -1.8
baz=170,SNR=55
R44A **Waltonville** 23.22 9 P P 15 00 17.7 -2.1
baz=190,SNR=10
TUC **Tucson** 23.24 320 P P 15 00 22.2 +1.9
baz=132
TUC **Tucson** 23.24 320 *e*P P 15 00 22.1 +1.9
TUC pmax pmax
comp=Z,77nm,0.9s
TUC **Tucson** 23.24 320 *e*P P 15 00 22.1 +1.9
comp=Z,77nm,0.9s
R33A **Olander Ranch,** 23.33 351 P P 15 00 19.2 -1.7
baz=168,SNR=31
SLM **Saint Louis** 23.46 6 *e*P P 15 00 19.9 -2.1
SLM *e**PP **pP** 15 00 33.2 -6.0
SLM pmax pmax
comp=Z,195nm,0.6s
SLM **Saint Louis** 23.46 6 *e*P P 15 00 19.9 -2.1
comp=Z,195nm,0.6s
SLM *e*pP **pP** 15 00 33.1 -6.0
Q37A **Longview Farm,** 23.56 358 P P 15 00 21.2 -1.7
baz=177,SNR=12
R32A **Long Quarter,** 23.57 349 P P 15 00 22.1 -0.9
baz=166,SNR=63
Q38A **Cooks Store, C** 23.62 359 P P 15 00 22.5 -1.0
baz=179,SNR=81
Q35A **Mercer Eighty,** 23.64 355 P P 15 00 22.7 -0.9
baz=173,SNR=71
Q40A **Laux Farm, Aux** 23.68 2 P P 15 00 22.4 -1.6
baz=182,SNR=6.0
Q36A **Arnold C. Orve** 23.70 356 P P 15 00 22.5 -1.7
baz=174,SNR=6.1
Q42A **Golden Eagle** 23.70 5 P P 15 00 22.1 -2.1
baz=186,SNR=28
Q39A **Willow Grove F** 23.71 1 P P 15 00 22.9 -1.3
baz=180,SNR=56
WCI **Wyandotte Cave** 23.73 14 *e*P P 15 00 22.6 -1.9
WCI pmax pmax
comp=Z,196nm,0.9s
WCI **Wyandotte Cave** 23.73 14 *e*P P 15 00 22.6 -1.9
comp=Z,196nm,0.9s
Q34A **Chapman** 23.79 353 P P 15 00 23.9 -1.1
baz=171,SNR=8.4
Q43A **New Douglas** 23.82 7 P P 15 00 23.4 -1.9
baz=188,SNR=25
OLIL **Olney** 23.85 10 *e*P P 15 00 23.5 -2.0
comp=Z,577nm,1.4s
T25A **Trinidad** 23.92 338 P P 15 00 28.6 +2.2
baz=152,SNR=116
T25A **Trinidad** 23.92 338 *e*P P 15 00 28.4 +2.0
comp=Z,352nm,1.0s
KSU1 **Kansas State U** 23.93 354 P P 15 00 25.1 -1.2
baz=172,SNR=12
KSU1 **Kansas State U** 23.93 354 *e*P P 15 00 25.2 -1.1
comp=Z,232nm,0.9s
Q33A **Connelly Farm,** 23.99 351 P P 15 00 25.8 -0.9
baz=169,SNR=21
Q32A **Meitler Ranch,** 24.09 350 P P 15 00 27.4 -0.3
baz=167,SNR=18
CBKS **Cedar Bluff** 24.14 348 P P 15 00 28.2 +0.1
baz=164,SNR=19
CBKS **Cedar Bluff** 24.14 348 *e*P P 15 00 28.3 +0.1
CBKS pmax pmax
comp=Z,255nm,0.7s
CBKS **Cedar Bluff** 24.14 348 *e*P P 15 00 28.3 +0.1
comp=Z,255nm,0.7s
P39B **Salisbury** 24.16 1 P P 15 00 27.0 -1.2
baz=181,SNR=84
P40A **Paris** 24.22 2 P P 15 00 27.4 -1.4
baz=182,SNR=89
P37A **Lathrop** 24.27 358 P P 15 00 28.3 -1.0
baz=177,SNR=33
CNNC **Cliffs of the** 24.27 32 *e*P P 15 00 28.2 -1.0
comp=Z,125nm,0.9s
P38A **Dawn** 24.29 360 P P 15 00 28.5 -1.0
baz=179,SNR=28
P35A **Duane Minner,** 24.30 355 P P 15 00 29.3 -0.3
baz=173,SNR=36
214A **Organ Pipe Nat** 24.32 317 P P 15 00 31.7 +1.9
baz=128,SNR=46
214A **Organ Pipe Nat** 24.32 317 *e*P P 15 00 30.9 +1.1
comp=Z,304nm,1.0s
X18A **Snowflake** 24.33 325 *e*P P 15 00 32.4 +2.3
comp=Z,151nm,1.4s
P36A **Good Intent, A** 24.34 357 P P 15 00 29.2 -0.7
baz=175,SNR=34
P34A **Walnut Farm, R** 24.40 353 P P 15 00 30.1 -0.4
baz=171,SNR=31
BLO **Bloomington** 24.58 13 *e*P P 15 00 29.8 -2.3
BLO *e**PP **pP** 15 00 47.4 -3.0
BLO pmax pmax
comp=Z,139nm,0.9s
BLO **Bloomington** 24.58 13 *e*P P 15 00 29.8 -2.3
comp=Z,139nm,0.9s
BLO *e*pP **pP** 15 00 47.4 -3.0
W18A **Petrified Fore** 24.66 326 P P 15 00 35.2 +2.1
baz=139,SNR=11
W18A **Petrified Fore** 24.66 326 *e*P P 15 00 35.0 +1.9
comp=Z,112nm,1.3s
BLA **Blacksburg** 24.71 25 *e*P P 15 00 31.9 -1.5
BLA pmax pmax
comp=Z,208nm,1.0s
BLA **Blacksburg** 24.71 25 *e*P P 15 00 31.9 -1.5
comp=Z,208nm,1.0s
P32A **Huiting Farm,** 24.71 350 P P 15 00 33.3 -0.1
baz=167,SNR=20
O40A **La Belle** 24.82 3 P P 15 00 32.7 -1.5
baz=183,SNR=54
O36A **Bolckow** 24.83 357 P P 15 00 33.2 -1.2
baz=176,SNR=15
O37A **Wolven Farm, M** 24.84 359 P P 15 00 33.4 -1.1
baz=178,SNR=31
SDCO **Great Sand Dun** 24.86 337 P P 15 00 37.4 +2.4
baz=150,SNR=160
SDCO **Great Sand Dun** 24.86 337 *e*P P 15 00 37.0 +1.9
comp=Z,178nm,1.2s
VWCC **Virginia Weste** 24.92 26 *e*P P 15 00 33.7 -1.6
VWCC *e*pP **pP** 15 00 47.5 -6.2
O39A **Kirksville** 24.93 1 P P 15 00 34.0 -1.3
baz=181
O33A **Hebron** 25.01 352 P P 15 00 35.4 -0.7
baz=170,SNR=26
O34A **Beatrice** 25.01 354 P P 15 00 35.6 -0.5
baz=172,SNR=59
O35A **Humboldt** 25.03 355 P P 15 00 35.1 -1.1
baz=174,SNR=8.8
KSCO **Kaye Shedlock'** 25.04 343 P P 15 00 37.3 +0.9
baz=158,SNR=40
KSCO **Kaye Shedlock'** 25.04 343 *e*P P 15 00 37.4 +0.9
comp=Z,350nm,0.9s
X16A **Lo Mia Camp, P** 25.10 323 *e*P P 15 00 39.1 +2.0
comp=Z,45nm,0.8s
MPR **Mayaguez** 25.27 80 *e*P P 15 00 38.6 0.0
comp=Z,50nm,1.0s

O32A **Brockman Farm,** 25.29 351 P P 15 00 38.3 -0.3
baz=168,SNR=15
O31A **Woolen Ranch,** 25.36 349 P P 15 00 39.4 +0.2
baz=166,SNR=14
S22A **4UR Ranch, Cre** 25.39 334 P P 15 00 42.0 +2.1
baz=148,SNR=62
S22A **4UR Ranch, Cre** 25.39 334 *e*P P 15 00 41.8 +2.0
comp=Z,84nm,1.1s
N37A **Lee Faris, Mou** 25.43 358 P P 15 00 39.1 -0.7
baz=178,SNR=26
113A **Mohawk Valley,** 25.45 317 *e*P P 15 00 41.8 +1.6
comp=Z,72nm,1.0s
N38A **Joes South For** 25.45 0 P P 15 00 39.2 -0.9
baz=180,SNR=34
HDIL **Hopedale** 25.46 7 P P 15 00 38.4 -1.7
baz=188,SNR=11
HDIL **Hopedale** 25.46 7 *e*P P 15 00 38.4 -1.7
comp=Z,102nm,0.7s
N36A **Muff Farm, Cla** 25.51 357 P P 15 00 39.6 -1.0
baz=176
N39A **Derby Farms, D** 25.55 1 P P 15 00 39.3 -1.6
baz=181,SNR=38
N35A **Tabor** 25.60 356 P P 15 00 40.4 -1.0
baz=174,SNR=9.9
SFIN **Lafayette** 25.63 11 P P 15 00 39.0 -2.6
baz=194,SNR=14
SFIN **Lafayette** 25.63 11 *e*P P 15 00 39.0 -2.6
comp=Z,105nm,1.0s
N34A **Lincoln** 25.64 354 P P 15 00 40.6 -1.2
baz=172,SNR=9.3
N33A **J Bar K, Exete** 25.65 353 P P 15 00 41.9 0.0
baz=170,SNR=14
MVCO **Mesa Verde** 25.68 331 P P 15 00 44.5 +2.1
baz=144,SNR=68
MVCO **Mesa Verde** 25.68 331 *e*P P 15 00 44.5 +2.1
comp=Z,174nm,1.2s
Y14A **Wickenburg** 25.71 320 *e*P P 15 00 43.1 +0.5
comp=Z,448nm,1.4s
N32A **Stulken Farm,** 25.79 351 P P 15 00 42.6 -0.5
baz=168,SNR=6.5
CELP **Cerrillos** 25.80 80 *e*P P 15 00 42.0 -1.4
Q24A **Divide** 25.80 339 P P 15 00 45.0 +1.4
baz=152,SNR=23
Q24A **Divide** 25.80 339 *e*P P 15 00 45.0 +1.4
comp=Z,76nm,0.8s
WUAZ **Wupatki** 25.85 325 P P 15 00 45.5 +1.6
baz=136,SNR=36
WUAZ **Wupatki** 25.85 325 *e*P P 15 00 46.0 +2.1
comp=Z,86nm,1.0s
N31A **Bailey Ranch,** 25.95 350 P P 15 00 44.0 -0.6
baz=167,SNR=5.7
M37A **Trindle Farm,** 26.07 359 P P 15 00 44.8 -0.9
baz=178,SNR=21
M38A **Pleasantville** 26.08 0 P P 15 00 44.2 -1.5
baz=180,SNR=73
M36A **Felix, Anita** 26.14 358 P P 15 00 45.2 -1.1
baz=176,SNR=27
M35A **Neola** 26.20 356 P P 15 00 46.1 -0.7
baz=174,SNR=24
SJG **San Juan** 26.20 80 P P 15 00 44.6 -2.5
comp=Z,26nm,0.7s,baz=276,slow=6.9,SNR=9.3
SJG PcP **PcP** 15 04 13.7 +1.5
comp=Z,34nm,0.7s,baz=180,slow=1.0,SNR=7.5
SJG **San Juan** 26.20 80 *e*P P 15 00 43.6 -3.4
comp=Z,59nm,1.0s
SJG PcP **PcP** 15 04 13.7 +1.5
URVA **University of** 26.29 29 *e*P P 15 00 48.3 +0.7
URVA *e*pP **pP** 15 01 06.8 +0.8
M34A **Aspy Farms, Fr** 26.31 355 P P 15 00 47.4 -0.5
baz=172
GLA **Glamis** 26.33 316 P P 15 00 49.0 +0.8
baz=127,SNR=8.7
GLA **Glamis** 26.33 316 *e*P P 15 00 49.7 +1.6
GLA pmax pmax
comp=Z,80nm,1.1s
GLA **Glamis** 26.33 316 *e*P P 15 00 49.7 +1.6
comp=Z,80nm,1.1s
BGNE **Belgrade** 26.40 352 P P 15 00 48.3 -0.3
baz=169
BGNE **Belgrade** 26.40 352 *e*P P 15 00 47.9 -0.8
comp=Z,122nm,0.7s
M33A **Taylor Creek F** 26.44 354 P P 15 00 48.1 -1.0
baz=171,SNR=11
M31A **Lamchett Ranc** 26.46 350 P P 15 00 49.5 +0.3
baz=167,SNR=15
PV01 **Paradox Valley** 26.47 332 *e*P P 15 00 51.6 +2.1
ACSO **Alum Creek Sta** 26.49 18 *e*P P 15 00 47.4 -2.0
ACSO *e*pP **pP** 15 01 06.9 -0.9
CBYP **Canovanas** 26.49 80 *e*P P 15 00 46.3 -3.5
comp=Z,74nm,1.0s
HUMP **Col San Antoni** 26.49 80 *e*P P 15 00 46.6 -3.1
comp=Z,66nm,1.1s
Y12C **Blythe** 26.56 318 P P 15 00 51.4 +1.3
baz=128
Y12C **Blythe** 26.56 318 *e*P P 15 00 51.5 +1.3
comp=Z,86nm,1.8s
SCIA **State Center** 26.57 0 *e*P P 15 00 49.0 -1.1
comp=Z,197nm,0.6s
PV05 **Paradox Valley** 26.66 331 *e*P P 15 00 53.2 +1.9
PDMCI **Parker Dam,Lak** 26.66 319 P P 15 00 52.8 +1.8
baz=130,SNR=27
SMCO **Snowmass** 26.67 336 *e*P P 15 00 52.8 +1.2
comp=Z,94nm,1.1s
OGNE **Ogallala** 26.69 345 P P 15 00 52.5 +1.1
baz=160,SNR=22
OGNE **Ogallala** 26.69 345 *e*P P 15 00 52.3 +0.9
comp=Z,438nm,1.1s
ISCO **Idaho Springs** 26.71 339 P P 15 00 53.3 +1.5
baz=152,SNR=42
ISCO **Idaho Springs** 26.71 339 *e*P P 15 00 53.4 +1.6
ISCO pmax pmax
comp=Z,214nm,1.8s
ISCO **Idaho Springs** 26.71 339 *e*P P 15 00 53.4 +1.6
comp=Z,214nm,1.8s
ATAH **Atahualpa** 26.73 145 P P 15 00 54.7 +2.4
comp=Z,29nm,0.9s,baz=336,slow=6.1,SNR=15
L34A **Svendsen Farm,** 26.75 355 P P 15 00 51.2 -0.6
baz=173,SNR=10.0
L36A **Harm Buss Farm** 26.78 358 P P 15 00 51.0 -1.1
baz=177,SNR=27
L37A **Phoenix Point,** 26.79 359 P P 15 00 50.7 -1.4
baz=179
L38A **Oak Wood Farm,** 26.80 1 P P 15 00 50.6 -1.6
baz=180,SNR=22
PV04 **Paradox Valley** 26.83 332 *e*P P 15 00 55.1 +2.4
L35A **Bielow Farm, R** 26.84 356 P P 15 00 51.2 -1.3
baz=175
PV10 **Paradox Valley** 26.88 332 *e*P P 15 00 54.7 +1.5
L32A **Elgin** 26.96 352 P P 15 00 53.3 -0.5
baz=170,SNR=9.7
IKP **In-Ko-Pah, Jac** 26.97 314 P P 15 00 56.3 +2.4
baz=124,SNR=12
PV09 **Paradox Valley** 27.02 332 *e*P P 15 00 56.3 +1.8
U15A **North Rim** 27.02 325 *e*P P 15 00 56.4 +1.8
comp=Z,33nm,0.9s
W13A **Hualapai Mount** 27.03 321 *e*P P 15 00 56.8 +2.2
comp=Z,20nm,1.0s
L33A **Hoskins** 27.04 354 P P 15 00 53.8 -0.6
baz=171
BC3 **Big Chuckawall** 27.11 316 P P 15 00 57.1 +1.9
baz=127,SNR=47
IRM **Iron Mountain** 27.22 318 P P 15 00 58.1 +2.1
baz=128,SNR=22
L31A **Butterfield Fa** 27.25 351 P P 15 00 56.4 +0.2
baz=168,SNR=26
K38A **Parkersburg** 27.31 1 P P 15 00 54.8 -2.0
baz=181,SNR=13
K36A **Gilmore City** 27.31 358 P P 15 00 55.1 -1.7
baz=177,SNR=9.7
STVI **Saint Thomas** 27.35 80 *e*P P 15 00 54.6 -2.7
comp=Z,215nm,1.4s
BAR **Barrett** 27.38 313 *e*P P 15 00 57.1 -0.5
comp=Z,13nm,1.0s
K37A **Belmond** 27.43 360 P P 15 00 55.9 -1.9
baz=179,SNR=12
K35A **Storm Lake** 27.43 357 P P 15 00 56.7 -1.1
baz=176
K33A **Hardington** 27.44 354 P P 15 00 56.4 -1.6
baz=172,SNR=6.7
K34A **Le Mars** 27.45 356 P P 15 00 56.7 -1.3
baz=174,SNR=11
K32A **Verdigre** 27.61 353 P P 15 00 59.1 -0.3
baz=170,SNR=10
K31A **O'Neill** 27.67 351 P P 15 01 00.1 0.0
baz=168,SNR=12
BELC **Belle Mtn. Jos** 27.68 316 P P 15 01 01.2 +0.8
baz=126,SNR=10
JFWS **Jewell Farm** 27.70 5 *e*P P 15 00 58.5 -1.8

JFWS pmax pmax
comp=Z,148nm,0.8s
JFWS **Jewell Farm** 27.70 5 *e*P P 15 00 58.5 -1.8
comp=Z,148nm,0.8s
KNB **Kanab** 27.74 325 *e*P P 15 01 03.2 +2.3
KNB pmax pmax
comp=Z,38nm,1.1s
KNB **Kanab** 27.74 325 *e*P P 15 01 03.2 +2.3
comp=Z,38nm,1.1s
TPFO **Pinon Flats** 27.75 315 P P 15 01 03.8 +2.8
baz=125
PFO **Pinyon Flats O** 27.76 315 P P 15 01 03.8 +2.7
comp=Z,6.8nm,1.0s,baz=97,slow=8.1,SNR=5.6
PFO **Pinyon Flats O** 27.76 315 P P 15 01 04.4 +3.3
baz=125
PFO **Pinyon Flats O** 27.76 315 *e*P P 15 01 03.2 +2.1
PFO pmax pmax
comp=Z,20nm,1.1s
PFO **Pinyon Flats O** 27.76 315 *e*P P 15 01 03.2 +2.1
comp=Z,20nm,1.1s
LDFC **Landfair** 27.77 319 *e*P P 15 01 04.1 +3.0
comp=Z,70nm,1.0s
BTU **Barney Top** 27.77 327 *e*P P 15 01 04.1 +2.7
109C **Camp Elliot, M** 27.80 313 P P 15 01 03.6 +2.3
baz=123
N23A **Red Feather La** 27.80 339 P P 15 01 03.0 +1.5
baz=153
N23A **Red Feather La** 27.80 339 *e*P P 15 01 02.8 +1.3
comp=Z,44nm,0.8s
MMU **Miners Mountai** 27.81 329 *e*P P 15 01 04.0 +2.3
K30A **Basset** 27.86 350 P P 15 01 02.1 +0.4
baz=166,SNR=7.1
GMRC **Granite Mounta** 27.94 318 P P 15 01 04.8 +2.2
baz=128,SNR=18
J37A **Redenius Farm,** 27.97 360 P P 15 01 01.0 -1.6
baz=179
LCMT **Little Creek M** 27.97 325 *e*P P 15 01 04.9 +2.0
comp=Z,17nm,0.9s
J38A **Wedel Dairy, R** 27.99 1 P P 15 01 00.9 -1.9
baz=181,SNR=12
O20A **White River Ci** 28.00 335 P P 15 01 05.0 +1.8
baz=148,SNR=23
O20A **White River Ci** 28.00 335 *e*P P 15 01 04.9 +1.8
comp=Z,373nm,2.0s
J36A **Seneca 1, Swea** 28.00 358 P P 15 01 01.2 -1.7
baz=177,SNR=9.8
PHWY **Pilot Hill** 28.00 340 *e*P P 15 01 05.3 +2.0
comp=Z,110nm,1.5s
J34A **George** 28.03 356 P P 15 01 02.1 -1.1
baz=174,SNR=5.3
J35A **Milford** 28.07 357 P P 15 01 02.1 -1.5
baz=176
O56A **Blue Knob Stat** 28.07 25 P P 15 01 01.6 -2.0
baz=211,SNR=5.4
N54A **Moraine State** 28.13 22 P P 15 01 02.2 -1.9
baz=208
J33A **Davis** 28.15 354 P P 15 01 03.3 -0.9
baz=172
MTPU **Mount Pierson** 28.15 327 *e*P P 15 01 07.0 +2.2
comp=Z,45nm,1.2s
SRU **San Rafael Swe** 28.15 331 *e*P P 15 01 06.1 +1.5
SRU pmax pmax
comp=Z,48nm,1.2s
SRU **San Rafael Swe** 28.15 331 *e*P P 15 01 06.1 +1.5
comp=Z,48nm,1.2s
MURC **Murrieta** 28.26 315 P P 15 01 05.9 +0.5
baz=124
J32A **Parkston** 28.29 353 P P 15 01 05.1 -0.4
baz=170
Q16A **Castle Valley** 28.31 330 *e*P P 15 01 07.7 +1.7
comp=Z,39nm,1.1s
J31A **Geddes** 28.33 352 P P 15 01 05.7 -0.2
baz=168,SNR=10
CCUT **Cedar City** 28.42 325 *e*P P 15 01 09.5 +2.5
comp=Z,28nm,1.1s
P18A **Preston Nutter** 28.44 332 *e*P P 15 01 08.9 +1.7
comp=Z,57nm,1.2s
PCRV **Puerto La Cruz** 28.45 97 P P 15 01 07.0 -0.3
comp=Z,5.3nm,0.5s,baz=268,slow=4.2,SNR=6.0
J30A **Dallas** 28.47 351 P P 15 01 07.0 -0.2
baz=167,SNR=10
MSU **Marysvale** 28.50 328 *e*P P 15 01 09.3 +1.6
MSU **Marysvale** 28.50 328 *e*P P 15 01 09.2 +1.6
TUQ **Turquoise Moun** 28.51 319 P P 15 01 09.3 +1.6
baz=129,SNR=23
ECSD **EROS Data Cent** 28.53 355 P P 15 01 06.3 -1.3
baz=173,SNR=99
ECSD **EROS Data Cent** 28.53 355 *e*P P 15 01 06.5 -1.1
comp=Z,105nm,0.8s
P17A **Butcher Ranch,** 28.54 331 *e*P P 15 01 09.9 +1.9
comp=Z,32nm,1.0s
I35A **Creekview Farm** 28.55 358 P P 15 01 06.3 -1.5
baz=176,SNR=12
TMUT **Trail Mountain** 28.63 330 *e*P P 15 01 10.5 +1.6
comp=Z,23nm,0.8s
SSPA **Standing Stone** 28.66 25 *e*P P 15 01 06.4 -2.4
comp=Z,45nm,1.0s
I37A **Lemond, Waseca** 28.67 360 P P 15 01 07.3 -1.6
baz=179
I36A **Fitzsimmons Fa** 28.68 359 P P 15 01 07.3 -1.7
baz=178
I38A **Scanlan Farm,** 28.71 2 P P 15 01 07.9 -1.4
baz=182,SNR=18
SHPR **Sheep Range** 28.73 321 *e*P P 15 01 12.8 +3.1
I34A **Hadley** 28.78 356 P P 15 01 08.9 -1.0
baz=174
MVL **Millersville** 28.79 28 *e*P P 15 01 09.1 -0.9
MVL *e*pP **pP** 15 01 26.9 -1.6
comp=Z,35nm,1.1s
I33A **Coleman** 28.86 355 P P 15 01 09.4 -1.1
baz=173,SNR=6.5
I32A **Karley and Nic** 28.90 354 P P 15 01 09.7 -1.2
baz=171
GSC **Goldstone, Bar** 29.00 318 *e*P P 15 01 15.1 +3.1
GSC *e**PP **pP** 15 01 32.1 +1.6
GSC pmax pmax
comp=Z,12nm,1.0s
GSC **Goldstone, Bar** 29.00 318 *e*P P 15 01 15.1 +3.1
comp=Z,12nm,1.0s
GSC *e*pP **pP** 15 01 32.1 +1.6
I31A **Royce, Wessing** 29.02 352 P P 15 01 11.5 -0.6
baz=169
I30A **Oacoma** 29.04 351 P P 15 01 11.2 -0.9
baz=167,SNR=5.4
FMP **Fort Macarthur** 29.08 314 P P 15 01 11.9 -0.8
baz=123
MWC **Mount Wilson** 29.20 315 *e*P P 15 01 15.7 +1.8
MWC pmax pmax
comp=Z,28nm,1.2s
MWC **Mount Wilson** 29.20 315 *e*P P 15 01 15.7 +1.8
comp=Z,28nm,1.2s
H36A **Jessenland, He** 29.24 359 P P 15 01 12.6 -1.3
baz=178
H37A **Dierke Farm, C** 29.24 1 P P 15 01 11.9 -2.0
baz=180
I29A **Vivian Onida** 29.28 350 P P 15 01 13.9 -0.4
baz=166,SNR=20
H32A **Carlson Farm,** 29.37 354 P P 15 01 13.9 -1.2
baz=171,SNR=9.1
H35A **Sunnyside Ranc** 29.38 358 P P 15 01 13.2 -1.9
baz=177,SNR=6.0
MPU **Maple Canyon** 29.39 331 *e*P P 15 01 18.4 +2.8
comp=Z,29nm,1.1s
H34A **Spellman Lake,** 29.40 356 P P 15 01 14.1 -1.2
baz=175
PSUT **Pine Spring** 29.40 326 *e*P P 15 01 16.0 +0.3
comp=Z,24nm,1.0s
DECC **Green Verdugo** 29.41 315 P P 15 01 15.0 -0.6
baz=124
H31A **Wolsey** 29.46 353 P P 15 01 15.3 -0.5
baz=169,SNR=8.0
H33A **Prehn Over Nor** 29.48 355 P P 15 01 14.8 -1.2
baz=173,SNR=16
SUSD **Miller** 29.49 352 P P 15 01 15.7 -0.4
baz=168
K22A **Casper** 29.56 340 P P 15 01 17.8 +0.8
baz=153,SNR=11
K22A **Casper** 29.56 340 *e*P P 15 01 18.2 +1.2
comp=Z,76nm,0.8s
TPNV **Topopah Spring** 29.68 321 P P 15 01 20.6 +2.4
baz=130,SNR=23
TPNV **Topopah Spring** 29.68 321 *e*P P 15 01 20.3 +2.1
TPNV pmax pmax
comp=Z,22nm,1.0s
TPNV **Topopah Spring** 29.68 321 *e*P P 15 01 20.3 +2.1
comp=Z,22nm,1.0s
LUPA **Lehigh Univers** 29.72 28 *e*P P 15 01 14.9 -3.3
comp=Z,99nm,1.4s

LUPA ePP pP 15 01 37.1 +0.4
FURC Furnace Creek, 29.75 320 P P 15 01 20.7 +2.2
baz=129
JLU Jordanelle 29.77 332 eP P 15 01 20.5 +1.5
comp=Z,23nm,1.1s
H29A Onida 29.86 350 P P 15 01 19.0 -0.4
baz=166
SPMN Marine on St. 29.89 1 P P 15 01 18.4 -1.2
baz=180,SNR=34
SPMN Marine on St. 29.89 1 eP P 15 01 18.1 -1.5
comp=Z,132nm,0.8s
G35A Watkins 29.89 358 P P 15 01 17.8 -1.8
baz=177
G36A St. Michael 29.89 359 P P 15 01 18.5 -1.2
baz=179
MPMC Manual Prospec 29.90 318 P P 15 01 22.2 +2.1
baz=127,SNR=25
G34A Benson 29.96 357 P P 15 01 18.8 -1.4
baz=175
G33A Ortonville 29.97 356 P P 15 01 18.9 -1.4
baz=174,SNR=13
DAC Darwin (Calif) 30.10 319 eP P 15 01 23.8 +2.0
DAC pmax pmax
comp=Z,20nm,1.1s
DAC Darwin (Calif) 30.10 319 eP P 15 01 23.8 +2.0
comp=Z,20nm,1.1s
DUG Dugway, Tooele 30.10 329 P P 15 01 23.8 +2.0
baz=140,SNR=14
DUG Dugway, Tooele 30.10 329 eP P 15 01 23.3 +1.5
DUG pmax pmax
comp=Z,35nm,1.4s
DUG Dugway, Tooele 30.10 329 eP P 15 01 23.2 +1.5
comp=Z,35nm,1.4s
G32A Webster 30.12 354 P P 15 01 20.2 -1.5
baz=172
G31A Conde 30.16 353 P P 15 01 20.4 -1.7
baz=170
RSSD Black Hills 30.18 345 P P 15 01 24.1 +1.6
baz=159
RSSD Black Hills 30.18 345 eP P 15 01 23.5 +1.0
RSSD pmax pmax
comp=Z,121nm,0.7s
RSSD Black Hills 30.18 345 eP P 15 01 23.5 +1.0
comp=Z,121nm,0.7s
G30A Faulkton 30.19 352 P P 15 01 21.7 -0.6
baz=168,SNR=30
R11A Troy Canyon, C 30.23 324 P P 15 01 25.3 +2.3
baz=133,SNR=18
R11A Troy Canyon, C 30.23 324 eP P 15 01 25.3 +2.3
comp=Z,20nm,1.3s
G29A Hoven 30.36 351 P P 15 01 23.7 -0.2
baz=167,SNR=19
GRAC Grapevine Rang 30.40 320 P P 15 01 26.6 +2.3
baz=129,SNR=22
ODNJ Ogdensburg 30.45 29 epP pP 15 01 43.2 0.0
F34A Alexandria 30.50 357 P P 15 01 23.3 -1.7
baz=176
F36A Milaca 30.52 360 P P 15 01 23.7 -1.5
baz=179,SNR=24
F35A Swanville 30.53 358 P P 15 01 23.9 -1.5
baz=177,SNR=8.3
H25A Fruitdale 30.54 346 P P 15 01 26.9 +1.4
baz=160,SNR=31
F33A 5 Mile Ranch, 30.60 356 P P 15 01 24.3 -1.6
baz=174
HWUT Hardware Ranch 30.63 333 eP P 15 01 28.1 +1.7
comp=Z,51nm,1.0s
F32A Veblen 30.69 355 P P 15 01 25.3 -1.4
baz=172
BINY Binghamton 30.75 26 eP P 15 01 26.0 -1.3
PD31 Pinedale Array 30.75 336 eP P 15 01 28.4 +0.8
PDAR Pinedale Array 30.75 336 P P 15 01 28.6 +1.0
comp=Z,21nm,0.9s,baz=132,slow=8.8,SNR=81
PDAR PcP PcP 15 04 25.2 +1.7
comp=Z,4.3nm,0.8s,baz=136,slow=4.5,SNR=4.0
BW06 Boulder Array 30.75 336 P P 15 01 28.1 +0.5
baz=148,SNR=32
BW06 Boulder Array 30.75 336 eP P 15 01 28.5 +0.9
comp=Z,34nm,1.1s
BMUT Black Mountain 30.77 333 eP P 15 01 29.6 +1.8
BGU Big Grassy Mou 30.77 330 eP P 15 01 29.2 +1.6
comp=Z,18nm,1.0s
PKM Mcpherson Peak 30.77 314 P P 15 01 28.8 +0.9
baz=122
SPUT South Promonto 30.79 331 eP P 15 01 29.7 +1.8
comp=Z,34nm,1.1s
F31A Hecla 30.80 353 P P 15 01 26.1 -1.6
baz=170
F30A Leola 30.86 352 P P 15 01 27.0 -1.3
baz=169,SNR=7.7
COWI Conover 30.96 6 eP P 15 01 27.2 -1.9
comp=Z,172nm,1.8s
F29A Eureka 30.97 351 P P 15 01 28.5 -0.7
baz=167,SNR=21
BBSR BB Station 31.13 52 eP P 15 01 29.4 -1.3
comp=Z,119nm,0.8s
E36A McGregor 31.18 0 P P 15 01 29.0 -2.0
baz=180,SNR=22
E34A Wadena 31.21 358 P P 15 01 29.7 -1.6
baz=176,SNR=15
PTU Portage 31.23 332 eP P 15 01 31.6 -0.2
E35A Pequot Lakes 31.23 359 P P 15 01 30.5 -1.0
baz=178,SNR=14
E37A Wrenshall 31.23 1 P P 15 01 30.1 -1.4
baz=181
E33A Westby DABS, E 31.24 356 P P 15 01 29.6 -2.0
baz=175,SNR=9.3
HVU Hansel Valley 31.31 331 eP P 15 01 34.5 +2.1
HVU pmax pmax
comp=Z,75nm,1.1s
HVU Hansel Valley 31.31 331 eP P 15 01 34.5 +2.1
comp=Z,75nm,1.1s
AHID Auburn Hatcher 31.37 334 eP P 15 01 34.4 +1.3
comp=Z,376nm,1.8s
E32A Braaten, Kindr 31.41 355 P P 15 01 31.6 -1.4
baz=173
E31A Nome 31.45 354 P P 15 01 32.0 -1.3
baz=171,SNR=12
F26A Lodgepole 31.50 347 P P 15 01 34.3 +0.4
baz=162,SNR=15
E30A Jud 31.50 353 P P 15 01 32.7 -1.2
baz=169,SNR=5.2
NNA Nana 31.61 148 eP P 15 01 34.2 -1.0
NNA pmax pmax
comp=Z,304nm,1.3s
NNA Nana 31.61 148 eP P 15 01 34.2 -1.0
comp=Z,304nm,1.3s
E29A Napoleon 31.67 352 P P 15 01 34.0 -1.3
baz=168,SNR=9.8
ELK Elko 31.74 327 eP P 15 01 38.0 +1.7
ELK pmax pmax
comp=Z,16nm,1.0s
ELK Elko 31.74 327 eP P 15 01 38.0 +1.7
comp=Z,16nm,1.0s
F25A Bowman 31.74 347 P P 15 01 36.8 +0.7
baz=161,SNR=55
D35A Remer 31.75 359 P P 15 01 34.2 -1.7
baz=178,SNR=18
REDW Red Top Meadow 31.77 335 eP P 15 01 38.1 +1.6
comp=Z,465nm,1.3s
D34A Park Rapids 31.78 358 P P 15 01 34.7 -1.6
baz=176,SNR=6.3
NV11 Mina Array Sit 31.80 321 eP P 15 01 39.4 +2.7
comp=Z,55nm,1.0s
SADO Sadowa 31.80 19 P P 15 01 33.9 -2.6
comp=Z,6.5nm,0.6s,baz=240,slow=7.1,SNR=4.9
SNOW Snow King Moun 31.81 336 eP P 15 01 38.8 +1.8
comp=Z,439nm,1.0s
D37A Cotton 31.83 1 P P 15 01 35.2 -1.5
baz=181,SNR=74
D36A Goodland 31.84 0 P P 15 01 34.8 -2.0
baz=180,SNR=15
D33A AnnSam, Waubun 31.87 357 P P 15 01 35.3 -1.7
baz=175,SNR=12
LOHW Long Hollow 31.88 336 eP P 15 01 39.3 +1.8
comp=Z,182nm,1.1s
NV01 Mina Array Sit 31.88 321 eP P 15 01 39.8 +2.2
NVAR Mina Array Bea 31.88 321 P P 15 01 40.7 +3.1
comp=Z,42nm,0.9s,baz=136,slow=8.3,SNR=162
NVAR pP pP 15 01 58.4 +2.2
comp=Z,60nm,1.0s,baz=142,slow=7.9,SNR=11
NVAR PcP PcP 15 04 30.6 +4.1
comp=Z,1.4nm,0.5s,baz=147,slow=1.9,SNR=7.2
NVAR LR LR 15 15 43.7
comp=Z,532nm,20.1s,baz=137,slow=38
TPAW Teton Pass 31.91 335 eP P 15 01 39.6 +1.8
comp=Z,225nm,1.1s
D31A Mcclaflin, Tow 31.91 354 P P 15 01 36.0 -1.4
baz=172
D32A Dogwood Acres, 31.94 355 P P 15 01 35.9 -1.8
baz=173
MOOW Moose Ponds 32.05 336 eP P 15 01 40.5 +1.6
comp=Z,105nm,1.0s
E26A Carlson Angus 32.05 348 P P 15 01 39.1 +0.4
baz=163,SNR=34
D30A Buchman 32.08 353 P P 15 01 38.0 -1.0
baz=170,SNR=11
D29A Pettibone, Tap 32.14 352 P P 15 01 38.4 -1.1
baz=168
TRY Troy 32.19 28 eP P 15 01 38.1 -1.8
comp=Z,44nm,1.0s
IMW Indian Meadow 32.25 336 eP P 15 01 42.3 +1.5
comp=Z,55nm,0.8s
E25A Miller Ranch, 32.27 347 P P 15 01 41.4 +0.7
baz=161,SNR=91
FLWY Flagg Ranch 32.31 336 eP P 15 01 43.2 +1.9
comp=Z,73nm,0.9s
C34A RKJ Ranch, Bem 32.34 358 P P 15 01 39.8 -1.4
baz=177
C35A Jirik Farms, M 32.36 359 P P 15 01 39.6 -1.8
baz=178,SNR=30
C37A Embarrass 32.40 1 P P 15 01 39.8 -1.9
baz=182,SNR=13
D28A Regan 32.41 351 P P 15 01 41.9 0.0
baz=166,SNR=9.2
YTP The Promontory 32.41 337 eP P 15 01 44.5 +2.3
C36A Pine Crest Far 32.42 1 P P 15 01 40.0 -1.9
baz=180,SNR=44
C38A Sawbill Land. 32.42 3 P P 15 01 39.4 -2.6
baz=183,SNR=27
QUA2 Belchertown 32.44 30 eP P 15 01 42.7 +0.6
comp=Z,19nm,0.8s
D27A Center 32.49 350 P P 15 01 41.4 -1.1
baz=165,SNR=9.5
H17A Grant Village 32.53 337 P P 15 01 45.0 +1.8
baz=147,SNR=32
H17A Grant Village 32.53 337 eP P 15 01 45.4 +2.3
comp=Z,118nm,1.3s
D26A Manning 32.58 348 P P 15 01 43.5 +0.1
baz=163,SNR=26
BMN Battle Mountai 32.58 325 eP P 15 01 45.5 +1.9
BMN pmax pmax
comp=Z,34nm,1.0s
BMN Battle Mountai 32.58 325 eP P 15 01 45.5 +1.9
comp=Z,34nm,1.0s
C39A Grand Marais 32.59 4 P P 15 01 40.9 -2.4
baz=185,SNR=11
C32A Crookston 32.59 356 P P 15 01 42.0 -1.3
baz=174
LKWY Lake 32.60 337 eP P 15 01 46.4 +2.6
LKWY pmax pmax
comp=Z,69nm,0.8s
LKWY Lake 32.60 337 eP P 15 01 46.4 +2.6
comp=Z,69nm,0.8s
WAKR Walker 32.62 320 eP P 15 01 46.6 +2.6
C30A Mose, Pekin 32.64 354 P P 15 01 43.6 -0.2
baz=170,SNR=21
EYMN Ely 32.64 2 P P 15 01 41.6 -2.2
baz=183,SNR=21
EYMN Ely 32.64 2 eP P 15 01 41.6 -2.2
comp=Z,24nm,0.6s
C31A Landman Farms, 32.65 355 P P 15 01 42.8 -1.1
baz=172,SNR=16
YFT Old Faithful 32.67 337 eP P 15 01 47.0 +2.6
comp=Z,126nm,1.1s
RLMT Red Lodge 32.67 339 P P 15 01 45.8 +1.4
baz=150,SNR=64
RLMT Red Lodge 32.67 339 eP P 15 01 45.5 +1.1
comp=Z,302nm,1.6s
D25A Fairfield 32.87 347 P P 15 01 47.2 +1.2
baz=162,SNR=70
C28A Hausauer Farms 32.90 351 P P 15 01 45.3 -0.7
baz=167,SNR=5.7
MDND Maddock 32.92 352 P P 15 01 46.3 0.0
baz=168,SNR=17
MDND Maddock 32.92 352 eP P 15 01 46.0 -0.2
comp=Z,139nm,0.7s
CMB Columbia Colle 32.94 319 eP P 15 01 48.6 +2.0
CMB pmax pmax
comp=Z,19nm,1.2s
CMB Columbia Colle 32.94 319 eP P 15 01 48.6 +2.0
comp=Z,19nm,1.2s
YHH Holmes Hill 32.96 337 eP P 15 01 49.5 +2.4
B33A Robert and Kas 32.98 357 P P 15 01 45.0 -1.7
baz=176
YMC Maple Creek 33.00 337 eP P 15 01 49.8 +2.5
B35A Bob, Littlefor 33.02 360 P P 15 01 45.4 -1.8
baz=179,SNR=35
C27A Sayler Ranch, 33.07 350 P P 15 01 48.0 +0.4
baz=165
LAO LASA Array 33.14 344 P P 15 01 48.7 +0.4
baz=156,SNR=57
LAO LASA Array 33.14 344 eP P 15 01 48.7 +0.4
comp=Z,151nm,0.8s
B32A Ashes, Strandq 33.16 356 P P 15 01 47.6 -0.7
baz=174,SNR=31
B34A Aery, Baudette 33.16 358 P P 15 01 46.8 -1.5
baz=177,SNR=16
QLMT Earthquake Lak 33.22 336 eP P 15 01 51.2 +2.0
QLMT epP pP 15 02 08.6 +0.7
CRMT Chrome Mountai 33.27 338 eP P 15 01 51.3 +1.6
B31A Greenbush Farm 33.27 355 P P 15 01 48.6 -0.7
baz=172
C26A Wahner Farm, P 33.28 349 P P 15 01 49.8 +0.4
baz=164,SNR=6.1
LONY Lake Ozonia 33.32 25 eP P 15 01 47.6 -2.2
comp=Z,111nm,1.9s
PAHR Pah Rah Range 33.34 322 eP P 15 01 53.2 +2.9
comp=Z,30nm,1.0s
B30A Myrvik Farm, E 33.36 354 P P 15 01 49.6 -0.5
baz=171,SNR=65
C25A Freed Ranch, W 33.40 348 P P 15 01 51.1 +0.6
baz=162,SNR=5.9
GCMT Greycliff 33.40 339 eP P 15 01 51.9 +1.3
HLID Hailey 33.46 332 P P 15 01 53.1 +1.8
baz=141,SNR=40
HLID Hailey 33.46 332 eP P 15 01 53.0 +1.8
comp=Z,45nm,0.9s
B29A Wagenman Farm, 33.49 353 P P 15 01 51.1 -0.1
baz=169,SNR=23
B28A Dugan Ranch, T 33.61 352 P P 15 01 52.1 -0.1
baz=167,SNR=32
A33A Warroad 33.64 358 P P 15 01 51.0 -1.5
baz=176,SNR=25
A32A Rocking H Ranc 33.68 356 P P 15 01 51.3 -1.5
baz=174,SNR=15
B27A Peters Farms, 33.70 350 P P 15 01 52.9 -0.1
baz=166,SNR=5.4
A31A Linda, St. Vin 33.74 355 P P 15 01 52.2 -1.1
baz=179
MCMT McKenzie Canyo 33.79 335 eP P 15 01 57.1 +3.0
B26A Jensen Ranch, 33.84 349 P P 15 01 53.9 -0.4
baz=164
A30A Hoffart Farm, 33.84 354 P P 15 01 53.5 -0.8
baz=171,SNR=24
AFDM Forest Hills D 33.85 320 eP P 15 01 54.4 -0.1
comp=Z,9.3nm,1.1s
FRNY Flat Rock 33.91 26 eP P 15 01 53.2 -1.7
comp=Z,16nm,1.0s
B25A Knox Farm, Ray 33.91 348 P P 15 01 55.6 +0.7
baz=162,SNR=8.3
A29A Manning Farm, 33.93 353 P P 15 01 54.5 -0.5
baz=169,SNR=63
BOZ Bozeman (W) 33.98 337 P P 15 01 57.3 +1.6
baz=147,SNR=30
BOZ Bozeman (W) 33.98 337 eP P 15 01 51.3 -4.4
BOZ pmax pmax
comp=Z,159nm,1.4s
BOZ Bozeman (W) 33.98 337 eP P 15 01 51.3 -4.4
comp=Z,159nm,1.4s
MFID Camas Ranch 34.01 330 eP P 15 01 57.0 +1.1
comp=Z,62nm,1.6s
A28A Rude Farm, Bot 34.05 352 P P 15 01 55.8 -0.3
baz=168,SNR=10
DLMT Dillon 34.12 336 eP P 15 01 59.0 +2.1
comp=Z,240nm,1.3s
LCCM Lewis and Clar 34.24 337 eP P 15 02 00.3 +2.4
A26A Wade Farm, Ken 34.31 350 P P 15 01 58.7 +0.4
baz=165,SNR=9.7
DGMT Dagmar 34.31 347 P P 15 01 58.9 +0.5
baz=161,SNR=36
DGMT Dagmar 34.31 347 eP P 15 01 59.3 +0.9
comp=Z,272nm,0.8s
LRM Limekiln Ridge 34.45 336 eP P 15 02 01.8 +1.9
ORV Oroville 34.54 320 eP P 15 02 03.8 +3.4
ORV e*PP pP 15 02 22.2 +3.0
ORV Oroville 34.54 320 eP P 15 02 03.8 +3.4
ORV epP pP 15 02 22.2 +3.0
A25A Svangstu Ranch 34.54 349 P P 15 02 01.1 +0.7
baz=163,SNR=22
TRQ Mont Tremblant 34.66 23 eP P 15 01 59.6 -1.9
WVOR Wild Horse Val 34.73 326 eP P 15 02 01.9 -0.3
WVOR pmax pmax
comp=Z,62nm,1.4s
WVOR Wild Horse Val 34.73 326 eP P 15 02 01.9 -0.3
comp=Z,62nm,1.4s
HRY Holter Researc 34.96 338 eP P 15 02 04.8 +0.8
ULM Lac du Bonnet 34.97 357 P P 15 02 02.3 -1.7
comp=Z,28nm,0.6s,baz=180,slow=8.7,SNR=31
ULM PcP PcP 15 04 34.8 +0.1
comp=Z,32nm,0.9s,baz=223,slow=2.9,SNR=5.2
ULM Lac du Bonnet 34.97 357 eP P 15 02 01.9 -2.0
comp=Z,49nm,0.9s
ULM PcP PcP 15 04 34.8 +0.1
O03D Paynes Creek 35.17 321 P P 15 02 06.9 +1.0
baz=127
MOD Modoc Plateau 35.29 324 eP P 15 02 07.6 +0.6
comp=Z,36nm,1.3s
EGMT Eagleton 35.38 341 P P 15 02 09.0 +1.4
baz=152,SNR=127
EGMT Eagleton 35.38 341 eP P 15 02 09.1 +1.4
comp=Z,341nm,1.1s
WVL Waterville 35.46 30 epP pP 15 02 27.3 +0.3
CHMT Chamberlain Mo 35.66 336 eP P 15 02 11.4 +1.1
WDC Whiskeytown Da 35.79 321 eP P 15 02 10.9 -0.2
WDC pmax pmax
comp=Z,15nm,1.3s
WDC Whiskeytown Da 35.79 321 eP P 15 02 10.9 -0.2
comp=Z,15nm,1.3s
BMO Blue Mountains 35.79 330 eP P 15 02 12.0 +0.7
comp=Z,28nm,1.3s
MSO Missoula 35.86 336 P P 15 02 13.1 +1.3
baz=144,SNR=39
MSO Missoula 35.86 336 eP P 15 02 13.3 +1.5
comp=Z,88nm,1.1s
M04C Macdoel 36.10 323 P P 15 02 15.4 +1.4
baz=128,SNR=9.3
N02D Trinity Center 36.12 321 P P 15 02 14.6 +0.5
baz=126
K05A Summer Lake 36.16 325 eP P 15 02 15.4 +0.9
comp=Z,36nm,1.2s
KMRM Mail Ridge 36.31 319 eP P 15 02 16.9 +1.2
comp=Z,32nm,0.9s
KMRM epP pP 15 02 37.4 +2.8
SWMT Swartz Lake 36.44 336 eP P 15 02 17.6 +0.9
M02C Callahan 36.46 321 P P 15 02 17.5 +0.5
baz=126
K04D Chiloquin, OR 36.58 324 P P 15 02 19.5 +1.4
baz=129
YBH Yreka Blue Hor 36.58 322 eP P 15 02 18.1 +0.1
YBH pmax pmax
comp=Z,11nm,0.6s
YBH Yreka Blue Hor 36.58 322 eP P 15 02 18.1 +0.1
comp=Z,10nm,0.6s
F10A Beach Ranch, E 36.59 332 P P 15 02 19.5 +1.4
PTGA Pitinga 36.62 113 eP P 15 02 18.6 0.0
comp=Z,87nm,0.8s
KHMM Horse Mountain 36.69 320 eP P 15 02 20.6 +1.5
comp=Z,42nm,0.9s
J05D Fort Rock, OR 36.72 325 P P 15 02 19.7 +0.5
baz=131
YBMT Yellow Bay 36.74 337 eP P 15 02 20.5 +1.3
JTMT Jette 36.75 336 eP P 15 02 20.4 +1.0
BLMT Blacktail Moun 36.99 336 eP P 15 02 22.8 +1.2
BLMT epP pP 15 02 41.5 +1.0
BSMT Bassoo Peak 37.03 336 P P 15 02 23.2 +1.4
L02D Cave Junction, 37.37 322 P P 15 02 25.1 +0.5
baz=126
LMQ La Malbaie 37.44 26 eP P 15 02 23.7 -1.4
I05D Terrebonne, OR 37.47 326 P P 15 02 26.5 +1.0
baz=132
WALA Waterton Lakes 37.69 338 eP P 15 02 28.4 +1.1
comp=Z,89nm,1.2s
I04A Tendick Farm, 37.70 325 P P 15 02 27.6 +0.3
baz=130
H04A Detroit Lake 38.15 326 eP P 15 02 32.4 +1.2
comp=Z,60nm,0.9s
I03D Drain, OR 38.16 324 P P 15 02 32.8 +1.6
baz=128,SNR=5.1
NEW Newport 38.31 334 P P 15 02 33.6 +1.2
baz=141
NEW Newport 38.31 334 eP P 15 02 31.8 -0.6
NEW pmax pmax
comp=Z,86nm,1.8s
NEW Newport 38.31 334 eP P 15 02 31.8 -0.6
comp=Z,86nm,1.8s
SAML Samuel 38.37 127 eP P 15 02 31.9 -1.4
comp=Z,64nm,1.0s
C09A Chrisman Ranch 38.45 333 eP P 15 02 34.6 +1.0
comp=Z,36nm,0.7s
C09A epP pP 15 02 53.6 +1.0
COR Corvallis 38.70 325 eP P 15 02 36.4 +0.7
COR Corvallis 38.70 325 eP P 15 02 36.4 +0.7
LMN Caledonia Moun 38.78 32 epP pP 15 02 56.8 +1.4
SAW Saint Andrews 38.88 332 P P 15 02 39.0 +1.8
G03D McMinnville, O 39.08 326 P P 15 02 40.0 +1.2
baz=130
B08A Colville Reser 39.34 333 eP P 15 02 42.1 +1.1
comp=Z,19nm,1.0s
LON Longmire 39.35 329 eP P 15 02 42.5 +1.3
LON pmax pmax
comp=Z,24nm,0.8s
LON Longmire 39.35 329 eP P 15 02 42.5 +1.3
comp=Z,24nm,0.8s
F04D Rainier, OR 39.51 327 P P 15 02 44.6 +2.2
baz=131
D05A Enumclaw 39.74 329 eP P 15 02 46.0 +1.7
comp=Z,48nm,1.0s
FFC Flin Flon 39.96 352 eP P 15 02 45.9 -0.2
FFC pmax pmax
comp=Z,115nm,1.3s
FFC Flin Flon 39.96 352 eP P 15 02 45.9 -0.2
comp=Z,115nm,1.3s
LPAZ La Paz 40.02 140 P P 15 02 48.3 +0.6
comp=Z,6.4nm,0.6s,baz=329,slow=8.1,SNR=8.7
LPAZ PcP PcP 15 04 54.7 +3.2
comp=Z,5.9nm,0.8s,baz=319,slow=3.2,SNR=6.7
LPAZ LR LR 15 18 13.3
comp=Z,299nm,21.6s,baz=322,slow=34
LPAZ La Paz 40.02 140 eP P 15 02 48.0 +0.3
LPAZ e*PP pP 15 03 06.4 -0.5
LPAZ 15 04 54.7
LPAZ La Paz 40.02 140 eP P 15 02 48.0 +0.3
LPAZ epP pP 15 03 06.4 -0.5
LPAZ PcP PcP 15 04 54.7 +3.2
E03A Lebam 40.11 327 eP P 15 02 49.0 +1.6
comp=Z,46nm,0.9s
PNT Penticton 40.18 333 P P 15 02 49.9 +1.9
PNT Penticton 40.18 333 P P 15 02 49.9 +1.9
B06A Marblemount 40.43 331 eP P 15 02 50.8 +0.8
comp=Z,40nm,0.8s
B06A epP pP 15 03 09.8 +0.6
B05A Bryant 40.54 330 P P 15 02 51.3 +0.3
baz=134
NLWA Neilton Lookou 40.82 328 eP P 15 02 54.9 +1.5
NLWA epP pP 15 03 13.2 +0.7
A04D Lummi Island 41.15 330 P P 15 02 57.6 +1.7
baz=134
MCW Mount Constitu 41.18 330 P P 15 02 57.7 +1.4
MCW Mount Constitu 41.18 330 P P 15 02 57.7 +1.4
PB11 IPOC Station P 41.88 145 eP P 15 03 03.0 +0.6
PB11 epP pP 15 03 22.0 +0.4
PB01 IPOC Station P 43.01 146 eP P 15 03 12.0 +0.5
PB01 epP pP 15 03 31.4 +0.6
FCC Fort Churchill 43.44 359 eP P 15 03 13.3 -1.1
FCC pmax pmax
comp=Z,43nm,0.9s
FCC Fort Churchill 43.44 359 eP P 15 03 13.3 -1.1
comp=Z,43nm,0.9s
SCHQ Schefferville 44.53 22 P P 15 03 21.0 -2.2
comp=Z,5.0nm,0.7s,baz=247,slow=7.9,SNR=3.9
SCHQ PcP PcP 15 05 05.3 +0.2
comp=Z,17nm,0.6s,baz=208,slow=2.7,SNR=8.1
SCHQ Schefferville 44.53 22 eP P 15 03 20.8 -2.5
SCHQ epP pP 15 03 45.3 +2.6
SCHQ PcP PcP 15 05 05.3 +0.2
LVC Limon Verde 44.59 147 eP P 15 03 25.8 +1.3
LVC epP pP 15 03 44.8 +0.9
DRLN Deer Lake 44.76 33 eP P 15 03 23.6 -1.5
comp=Z,88nm,1.5s
YKA Yellowknife Ar 49.52 347 P P 15 04 02.1 +0.2
comp=Z,76nm,0.7s,baz=148,slow=7.4,SNR=775

YKA LR LR 15 30 02.9
comp=Z,14nm,18.7s,baz=180,slow=42
YKB5 Yellowknife Ar 49.52 347 *eP* **P 15 04 01.5 -0.4**
YKW3 Yellowknife Ar 49.59 347 *eP* **P 15 04 02.6 +0.2**
comp=Z,153nm,1.0s
DLBC Dease Lake 50.99 336 *eP* **P 15 04 15.8 +2.7**
DLBC *epP* **pP 15 04 34.3 +1.3**
TAOE Nuku Hiva Isla 52.19 246 *eS* **S 15 11 47.9 +6.1**
comp=Z,174nm,28.4s
TAOE *eLQ* LQ 15 17 29.5
comp=Z,252nm,27.3s
TAOE *eLR* LR 15 19 11.0
comp=Z,1µm,28.5s,baz=63
TAOE Nuku Hiva Isla 52.19 246 *eT* T 15 59 35.1
comp=Z,46nm,0.2s
ROC1 El Roble 52.49 156 *eP* **P 15 04 25.1 +0.3**
ROC1 *epP* **pP 15 04 45.1 +0.3**
SKAG Skagway 53.76 335 *eP* **P 15 04 34.4 +0.9**
comp=Z,80nm,1.4s
SKAG *epP* **pP 15 04 53.6 +0.1**
CPUP Villa Florida 54.18 139 P **P 15 04 36.0 -1.0**
comp=Z,9.1nm,0.9s,baz=324,slow=7.0,SNR=10
CPUP pP **pP 15 04 55.1 -1.9**
comp=Z,24nm,1.0s,baz=329,slow=7.7,SNR=14
CPUP LR LR 15 29 15.3
comp=Z,108nm,18.7s,baz=332,slow=38
CPUP Villa Florida 54.18 139 *eP* **P 15 04 35.8 -1.2**
CPUP *epP* **pP 15 04 55.0 -2.0**
BDFB Brasilia 54.29 122 P **P 15 04 38.4 +0.2**
comp=Z,26nm,0.8s,baz=282,slow=6.7,SNR=25
BDFB LR LR 15 29 22.4
comp=Z,261nm,21.5s,baz=304,slow=38
BDFB Brasilia 54.29 122 *eP* **P 15 04 38.3 +0.1**
comp=Z,160nm,1.5s
RKT Rikitea 55.79 228 *eLR* LR 15 21 19.4
comp=Z,2µm,28.8s,baz=43
BALM Baldy 57.55 334 *eP* **P 15 05 03.2 +2.4**
BALM pmax pmax
comp=Z,58nm,1.1s
BALM Baldy 57.55 334 *eP* **P 15 05 03.2 +2.4**
comp=Z,58nm,1.1s
CRQM Cirque 57.75 334 *eP* **P 15 05 04.7 +2.4**
comp=Z,41nm,1.0s
DAWY Dawson 58.04 338 *eP* **P 15 05 04.4 +0.3**
DAWY *epP* **pP 15 05 23.7 -0.6**
RAGM Ragged Mountai 58.24 333 *eP* **P 15 05 07.5 +1.9**
RAGM *epP* **pP 15 05 26.7 +1.0**
BMRM Bremner River 58.48 333 *eP* **P 15 05 09.1 +1.9**
BMRM *epP* **pP 15 05 27.9 +0.5**
EYAK Cordova Ski Ar 58.78 333 *eP* **P 15 05 10.6 +1.3**
EYAK *epP* **pP 15 05 30.2 +0.7**
INK Inuvik 58.88 344 *eP* **P 15 05 10.6 +0.8**
INK *e*PP* **pP 15 05 29.6 -0.4**
INK pmax pmax
comp=Z,142nm,0.9s
INK Inuvik 58.88 344 *eP* **P 15 05 10.6 +0.8**
comp=Z,142nm,0.9s
INK *epP* **pP 15 05 29.6 -0.4**
DIV Divide 59.05 333 *eP* **P 15 05 12.6 +1.4**
DIV *epP* **pP 15 05 31.7 +0.2**
EGAK Eagle 59.07 338 *eP* **P 15 05 11.5 +0.3**
EGAK *epP* **pP 15 05 30.5 -1.0**
SPB Sao Paulo 59.20 130 *eP* **P 15 05 14.7 +2.0**
comp=Z,51nm,1.0s
SPB *epP* **pP 15 05 31.0 -2.0**
KLU Klutina 59.28 334 *eP* **P 15 05 14.3 +1.5**
KLU *epP* **pP 15 05 33.6 +0.4**
HPAH Hawaii Prepara 59.32 284 *eP* **P 15 05 14.0 +0.2**
HPAH *epP* **pP 15 05 34.5 +0.5**
RES Resolute Bay 59.45 360 *eP* **P 15 05 13.1 -0.5**
RES pmax pmax
comp=Z,63nm,1.0s
RES Resolute Bay 59.45 360 *eP* **P 15 05 13.1 -0.5**
comp=Z,63nm,1.0s
DOT Dot Lake 59.56 336 *eP* **P 15 05 15.9 +1.2**
DOT *epP* **pP 15 05 34.6 -0.3**
PLCA Paso Flores 59.58 160 P **P 15 05 15.6 +0.5**
comp=Z,44nm,1.0s,baz=358,slow=7.2,SNR=7.2
PLCA pP **pP 15 05 35.7 +0.3**
comp=Z,76nm,1.1s,baz=0.5,slow=7.4,SNR=11
PLCA LR LR 15 26 10.8
comp=Z,160nm,18.9s,baz=359,slow=31
PAX Paxson 59.78 335 *eP* **P 15 05 17.3 +1.0**
PAX *e*PP* **pP 15 05 36.3 -0.3**
PAX Paxson 59.78 335 *eP* **P 15 05 17.3 +1.0**
PAX *epP* **pP 15 05 36.2 -0.3**
SCM Sheep Creek Mo 60.04 334 *eP* **P 15 05 18.6 +0.6**
SCM *e*PP* **pP 15 05 38.6 +0.3**
SCM Sheep Creek Mo 60.04 334 *eP* **P 15 05 18.6 +0.6**
SCM *epP* **pP 15 05 38.6 +0.3**
SEW Seward 60.27 331 *eP* **P 15 05 19.8 +0.3**
SEW *epP* **pP 15 05 39.7 -0.1**
SML Sawmill 60.46 333 *eP* **P 15 05 21.7 +0.9**
SML *e*PP* **pP 15 05 41.7 +0.5**
SML Sawmill 60.46 333 *eP* **P 15 05 21.7 +0.9**
SML *epP* **pP 15 05 41.6 +0.5**
DHY Denali Highway 60.60 335 *eP* **P 15 05 22.4 +0.5**
DHY *epP* **pP 15 05 41.5 -0.8**
RCBR Riachuelo 60.64 106 *eP* **P 15 05 22.2 -0.6**
comp=Z,84nm,1.0s
TRQA Tornquist 60.65 152 *eP* **P 15 05 22.2 -0.1**
TRQA *epP* **pP 15 05 41.9 -0.9**
PMR Palmer 60.72 333 *eP* **P 15 05 22.1 -0.4**
PMR *e*PP* **pP 15 05 43.0 +0.2**
PMR Palmer 60.72 333 *eP* **P 15 05 22.1 -0.4**
PMR *epP* **pP 15 05 43.0 +0.2**
RC01 Rabbit Creek A 60.78 332 *eP* **P 15 05 23.7 +0.8**
RC01 *epP* **pP 15 05 43.7 +0.4**
BRLK Bradley Lake 60.81 331 *eP* **P 15 05 24.5 +1.3**
BRLK *epP* **pP 15 05 44.1 +0.5**
CNPM China Poot 60.90 330 *eP* **P 15 05 23.7 -0.1**
CNPM *epP* **pP 15 05 43.8 -0.4**
KDAK Kodiak Island 60.97 328 *eP* **P 15 05 25.7 +1.4**
KDAK pmax pmax
comp=Z,42nm,1.0s
KDAK Kodiak Island 60.97 328 *eP* **P 15 05 25.7 +1.4**
comp=Z,42nm,1.0s
HDA Harding Lake 61.04 336 *eP* **P 15 05 25.6 +0.9**
comp=Z,73nm,1.2s
IL1 Eielson Array 61.18 337 *eP* **P 15 05 26.2 +0.5**
IL1 *epP* **pP 15 05 45.4 -0.6**
ILAR Eielson Array 61.18 337 P **P 15 05 26.4 +0.8**
comp=Z,30nm,1.0s,baz=135,slow=4.5,SNR=193
ILAR pP **pP 15 05 46.1 +0.1**
comp=Z,45nm,1.1s,baz=144,slow=4.4,SNR=14
ILAR PP **PP 15 07 40.2 -0.8**
comp=Z,6.3nm,1.1s,baz=123,slow=5.8,SNR=2.2
ILAR LR LR 15 35 18.3
comp=Z,199nm,18.9s,baz=128,slow=39
ILB Eielson Array 61.18 337 *eP* **P 15 05 26.1 +0.4**
ILB *epP* **pP 15 05 45.6 -0.4**
KIP Kipapa 61.33 286⇑ *eP* **P 15 05 28.3 +1.0**
KIP pmax pmax
comp=Z,291nm,1.4s
RND Reindeer 61.35 335 *eP* **P 15 05 28.1 +1.2**
RND *e*PP* **pP 15 05 47.4 +0.1**
RND Reindeer 61.35 335 *eP* **P 15 05 28.1 +1.2**
RND *epP* **pP 15 05 47.4 +0.1**
SUA Susitna One 61.38 333 *eP* **P 15 05 28.9 +1.7**
comp=Z,188nm,1.7s
FYU Fort Yukon 61.45 339 *eP* **P 15 05 28.3 +0.9**
FYU *epP* **pP 15 05 47.4 -0.4**
CCB Clear Creek Bu 61.48 337 *eP* **P 15 05 27.6 +0.1**
comp=Z,31nm,1.1s
WRH Wood River Hil 61.51 336 *eP* **P 15 05 27.9 +0.1**
WRH *epP* **pP 15 05 47.3 -1.0**
MCK McKinley 61.52 335 *eP* **P 15 05 28.7 +0.7**
MCK pmax pmax
comp=Z,73nm,1.0s
MCK McKinley 61.52 335 *eP* **P 15 05 28.7 +0.7**
comp=Z,73nm,1.0s
COLA College 61.60 337*c iP* **P 15 05 28.9 +0.5**
COLA pmax pmax
comp=Z,34nm,0.9s
COLA College 61.60 337 *eP* **P 15 05 28.9 +0.5**
COLA *epP* **pP 15 05 48.2 -0.6**
MDM Murphy Dome 61.78 337 *eP* **P 15 05 30.0 +0.3**
MDM *epP* **pP 15 05 49.3 -0.8**
SPU Mount Spurr 61.86 332 *eP* **P 15 05 31.3 +1.0**
SPU *epP* **pP 15 05 50.7 -0.1**
BWN Browne 61.92 336 *eP* **P 15 05 31.3 +0.7**
BWN *epP* **pP 15 05 50.4 -0.6**
RSO Redoubt South 61.94 331 *eP* **P 15 05 32.0 +1.0**

TRF Thorofare Moun 61.96 335 *eP* **P 15 05 32.0 +1.0**
TRF *epP* **pP 15 05 50.9 -0.6**
KTH Kantishna Hill 62.26 335 *eP* **P 15 05 33.6 +0.6**
KTH *epP* **pP 15 05 53.0 -0.5**
BPAW Bear Paw Mtn. 62.50 335 *eP* **P 15 05 35.0 +0.4**
BPAW *epP* **pP 15 05 54.5 -0.5**
PPLA Purkeypile 62.54 334 *eP* **P 15 05 35.3 +0.4**
PPLA *epP* **pP 15 05 54.8 -0.6**
KULLO Kullorsuaq 62.59 10⇑ *iP* **P 15 05 35.4 +0.5**
KULLO pmax pmax
comp=Z,66nm,1.1s
KULLO Kullorsuaq 62.59 10⇑ *iP* **P 15 05 35.4 +0.5**
comp=Z,66nm,1.1s
MLY Manley 62.78 336 *eP* **P 15 05 37.1 +0.7**
MLY *epP* **pP 15 05 56.4 -0.4**
SVW2 Sparrevohn 63.45 331 *eP* **P 15 05 41.2 +0.4**
SVW2 *epP* **pP 15 06 00.1 -1.3**
COLD Coldfoot 63.50 339 *eP* **P 15 05 42.6 +1.6**
COLD *epP* **pP 15 06 01.9 +0.4**
TIAR Tiarei 64.11 242 *eT* T 16 14 30.5
comp=Z,4.5nm,0.2s
TT01 Tatalina 64.20 333 *eP* **P 15 05 45.9 +0.2**
TT01 *epP* **pP 15 06 05.3 -1.0**
TTA Tatalina 64.20 333 *eP* **P 15 05 46.2 +0.4**
TTA *e*PP* **pP 15 06 05.6 -0.8**
TTA Tatalina 64.20 333 *eP* **P 15 05 46.2 +0.4**
TTA *epP* **pP 15 06 05.6 -0.8**
PPT Papeete 64.31 242 LR LR 15 26 30.1
comp=Z,125nm,21.3s,baz=44,slow=29
PPT2 Papeete2 64.32 242 *eLR* LR 15 24 50.8
comp=Z,1µm,28.5s,baz=55
CHRN Cochrane 64.94 165 *epP* pP 15 06 12.6 +1.4
SUMG Summit 65.39 16 *eP* **P 15 05 53.8 0.0**
SUMG pmax pmax
comp=Z,43nm,1.0s
SUMG Summit 65.39 16⇑ *iP* **P 15 05 54.3 +0.5**
comp=Z,40nm,1.0s
SUMG *i* 15 06 33.5
SUMG Summit 65.39 16 *eP* **P 15 05 53.8 0.0**
comp=Z,43nm,1.0s
TBI Tubuai 66.94 236 *eLR* LR 15 26 15.6
comp=Z,1µm,30.8s,baz=58
UNV Unalaska Valle 67.89 322 *eP* **P 15 06 09.0 -0.5**
comp=Z,112nm,1.2s
SCO Scoresbysund 69.54 20 *i P* **P 15 06 19.3 -0.1**
SCO pmax pmax
comp=Z,11nm,1.0s
SCO Scoresbysund 69.54 20 *i P* **P 15 06 19.3 -0.1**
comp=Z,11nm,1.0s
DAG Danmarks Havn 71.76 14 *i P* **P 15 06 32.5 -0.4**
DAG pmax pmax
comp=Z,51nm,0.8s
DAG Danmarks Havn 71.76 14 *i P* **P 15 06 32.5 -0.4**
comp=Z,69nm,0.8s
ESK Eskdalemuir 77.70 36 *eP* **P 15 07 06.4 -1.2**
ESK pmax pmax
comp=Z,30nm,0.9s
ESK Eskdalemuir 77.70 36 *eP* **P 15 07 06.4 -1.2**
comp=Z,30nm,0.9s
KBS Kingsbay 78.04 11 *eP* **P 15 07 11.2 +2.2**
KBS IAmb IAmb 15 07 12.1
comp=Z,84nm,0.9s
KBS Kingsbay 78.04 11 *eP* **P 15 07 10.6 +1.5**
KBS pmax pmax
comp=Z,83nm,0.9s
KBS Kingsbay 78.04 11 *eP* **P 15 07 10.6 +1.5**
comp=Z,83nm,0.9s
SPA0 Spitsbergen Ar 79.13 11 *eP* **P 15 07 16.0 +0.9**
SPA0 IAmb IAmb 15 07 17.1
comp=Z,108nm,1.2s
SPA0 Spitsbergen Ar 79.13 11 *eP* **P 15 07 16.0 +0.9**
HSPB Hornsund (broa 79.41 13 *eP* **P 15 07 18.6 +2.1**
HSPB IAmb IAmb 15 07 19.5
comp=Z,102nm,1.0s
PAB San Pablo 79.71 52 *eP* **P 15 07 16.6 -2.4**
PAB pmax pmax
comp=Z,13nm,1.1s
PAB San Pablo 79.71 52 *eP* **P 15 07 16.6 -2.4**
comp=Z,13nm,1.1s
BILL Bilibino 79.82 338*c iP* **P 15 07 20.2 +1.3**
BILL *i* 15 07 27.0
BILL *i* 15 07 40.0
BILL *i* 15 10 22.6
BILL pmax pmax
comp=Z,66nm,1.3s
BILL Bilibino 79.82 338 *eP* **P 15 07 19.8 +0.9**
comp=Z,59nm,1.1s
ESDC Sonseca Array 79.97 52 P **P 15 07 18.4 -2.0**
comp=Z,5.8nm,0.8s,baz=292,slow=5.6,SNR=21
ESDC pP **pP 15 07 38.2 -3.5**
comp=Z,1.0nm,0.3s,baz=304,slow=5.3,SNR=5.1
ES19 SONSECA Array 80.02 52 *eP* **P 15 07 17.9 -2.7**
BJO Bjornoya 81.24 15 *eP* **P 15 07 27.7 +1.3**
HOPEN Hopen 81.58 12 *eP* **P 15 07 29.5 +1.3**
HOPEN IAmb IAmb 15 07 30.3
comp=Z,327nm,1.4s
LOF Lofoten 82.11 21 *eP* **P 15 07 32.6 +1.5**
LOF IAmb IAmb 15 07 33.1
comp=Z,58nm,1.0s
AFI Afiamalu 82.78 254 LR LR 15 34 31.5
comp=Z,158nm,19.3s,baz=60,slow=28
TRO Tromso 83.30 19 *eP* **P 15 07 38.5 +1.3**
TRO IAmb IAmb 15 07 39.7
comp=Z,260nm,1.4s
NC204 NORSAR Array S 83.39 28 *eP* **P 15 07 37.8 -0.1**
DOU Dourbes 83.46 40 P **P 15 07 36.7 -1.8**
NBO00 NORSAR Array S 83.48 28 *eP* **P 15 07 38.7 +0.3**
NBO02 NORSAR Array S 83.51 28 *eP* **P 15 07 38.8 +0.3**
PYM Petit Puy Mans 83.59 44 *eP* **P 15 07 38.2 -1.1**
AGO Saint Agoulin 83.59 44 *eP* **P 15 07 38.1 -1.2**
NAO01 NORSAR Array S 83.59 29 *eP* **P 15 07 39.4 +0.5**
NB2 NORSAR Subarra 83.68 28 P **P 15 07 39.9 +0.5**
comp=Z,33nm,0.9s,baz=290,slow=5.3
NB2 NORSAR Subarra 83.68 28 P baz=290,slow=5.3 **P 15 07 39.9 +0.5**
NOA NORSAR Array B 83.68 28 P **P 15 07 39.7 +0.3**
comp=Z,16nm,0.8s,baz=290,slow=5.1,SNR=39
NOA LR LR 15 44 07.4
comp=Z,182nm,21.6s,baz=290,slow=35
NC303 NORSAR Array S 83.68 28 *eP* **P 15 07 39.6 +0.2**
NB201 NORSAR Array S 83.71 28 *eP* **P 15 07 39.0 -0.6**
BCLA Clavier 83.80 40 P **P 15 07 38.5 -1.7**
comp=Z,12nm,1.1s
NC405 NORSAR Array S 83.88 28 *eP* **P 15 07 40.6 +0.2**
LBL Lubilhac 83.89 45 *eP* **P 15 07 38.9 -2.0**
NC602 NORSAR Array S 83.93 29 *eP* **P 15 07 41.2 +0.5**
PLDF La Plantade 83.94 44 *eP* **P 15 07 39.6 -1.5**
MEM Membach 84.18 39 P **P 15 07 41.7 -0.4**
comp=Z,7.5nm,1.2s
HAMF Hammerfest 84.26 17 *eP* **P 15 07 42.8 +0.7**
KTK1 Kautokeino 84.94 19 *eP* **P 15 07 46.4 +0.7**
KTK1 IAmb IAmb 15 07 47.3
comp=Z,78nm,1.2s
ARA0 ARCESS Array S 85.37 18 *eP* **P 15 07 47.8 +0.1**
ARCES ARCESS Array B 85.37 18 P **P 15 07 47.6 -0.2**
comp=Z,20nm,0.5s,baz=290,slow=4.8,SNR=229
ARCES LR LR 15 46 13.9
comp=Z,205nm,21.5s,baz=294,slow=36
ARE0 ARCESS Array S 85.37 18 *eP* **P 15 07 47.8 0.0**
comp=Z,99nm,1.4s
ECH Echery 85.61 41 *eP* **P 15 07 47.7 -1.7**
KOWA Kowa 85.65 76 *eP* **P 15 07 48.8 -1.4**
comp=Z,8.9nm,1.0s
LOMF Lomont 85.66 42 *eP* **P 15 07 48.4 -1.4**
KEV Kevo 85.69 18 *eP* **P 15 07 49.4 +0.1**
KEV pmax pmax
comp=Z,40nm,0.7s
KEV Kevo 85.69 18 *eP* **P 15 07 49.4 +0.1**
comp=Z,40nm,0.7s
MOF Molkenrain 85.71 42 *eP* **P 15 07 49.3 -0.7**
LANF Langenberg 85.78 40 *eP* **P 15 07 49.1 -1.1**
SENIN Lac Senin/Sane 86.28 43 *eP* **P 15 07 51.6 -1.4**
comp=Z,19nm,1.1s
BFO Black Forest 86.32 41*c eP* **P 15 07 51.9 -1.0**
BFO Black Forest 86.32 41 *eP* **P 15 07 51.0 -1.9**
comp=Z,11nm,1.0s
TIC Toumodi 86.68 84 *eP* **P 15 07 53.4 -1.9**
LIC Lamto 86.78 84 *eP* **P 15 07 53.0 -2.8**
comp=Z,142nm,1.8s
DBIC Dimbokro 86.83 84 P **P 15 07 55.2 -0.8**
comp=Z,18nm,0.9s,baz=234,slow=5.5,SNR=12
DBIC LR LR 15 44 09.4
comp=Z,99nm,20.7s,baz=270,slow=34
DBIC Dimbokro 86.83 84 *eP* **P 15 07 53.9 -2.1**
comp=Z,19nm,0.8s

KIC Kosan Boka 87.02 84 *eP* **P 15 07 55.0 -1.9**
comp=Z,66nm,0.8s
SEY Seymchan 87.08 335 P **P 15 07 57.6 +1.4**
comp=Z,20nm,0.7s,baz=74,slow=5.5,SNR=19
DAVA Damuels 87.65 42 *i P* **P 15 07 58.7 -0.9**
comp=Z,24nm,1.2s
CLL Collm 88.12 37 *eP* **P 15 08 01.0 -0.5**
comp=Z,10.0nm,1.3s
CLL *i* pP **pP 15 08 25.3 +2.2**
CLL *i* sP **sP 15 08 35.6 +3.9**
CLL *i* 15 08 47.4
CLL *e*PP **PP 15 11 31.0 +2.2**
comp=Z,6.0nm,1.2s
CLL *e*S **SKSac 15 18 27.0 +4.0**
CLL *e* 15 19 20.0
CLL *e*PS **PnS 15 19 48.0 -2.8**
CLL *e*SS SS 15 24 42.0 +14
CLL *e*SSSS 15 31 12.0
CLL Collm 88.12 37 *eP* **P 15 08 01.0 -0.5**
CLL *i* *PP **pP 15 08 25.3 +2.2**
CLL *e*S **SKSac 15 18 27.0 +4.0**
CLL pmax pmax
comp=Z,10.0nm,1.3s
FUORN Ofenpass-Fuorn 88.13 42 *eP* **P 15 07 59.8 -2.1**
comp=Z,16nm,1.0s
RETA Reutte 88.14 41 *i* P **P 15 08 00.2 -1.6**
comp=Z,16nm,1.1s
NKC Novy Kostel 88.19 38 *eP* **P 15 08 01.6 -0.3**
NKC *epP* **pP 15 08 25.7 +2.2**
NKC *esP* **sP 15 08 32.8 +0.7**
NKC Novy Kostel 88.19 38 *eP* **P 15 08 01.6 -0.3**
NKC *e* 15 08 25.7
NKC *e* 15 08 32.8
FETA Feichten 88.29 42 *i* PcP **P 15 08 02.2 -0.4**
comp=Z,8.8nm,1.0s
PET Petropavlovsk 88.39 325⇓ *eP* **P 15 08 02.1 -0.6**
PET pmax pmax
comp=Z,18nm,2.7s
TIXI Tiksi 88.77 348 P **P 15 08 04.3 +0.2**
comp=Z,34nm,0.9s,baz=26,slow=5.3,SNR=46
TIXI PP **PP 15 11 26.8 -6.7**
comp=Z,3.3nm,1.0s,baz=77,slow=5.9,SNR=3.9
TIXI Tiksi 88.77 348*c iP* **P 15 08 04.0 -0.1**
TIXI pmax pmax
comp=Z,48nm,1.0s
TIXI Tiksi 88.77 348 *eP* **P 15 08 03.0 -1.1**
comp=Z,53nm,1.1s
TIXI PP **PP 15 11 26.8 -6.7**
BRG Berggiesshubel 88.83 37 *eP* **P 15 08 03.9 -0.9**
comp=Z,12nm,1.1s
BRG *e* 15 08 34.0
comp=Z,10nm,1.5s
BRG *e* 15 09 38.5
comp=Z,8.6nm,1.1s
BRG S **SKSac 15 18 29.0 +1.7**
BRG Berggiesshubel 88.83 37 *eP* **P 15 08 03.9 -0.9**
BRG *e* 15 08 34.0
BRG S **SKSac 15 18 29.0 +1.7**
BRG pmax pmax
comp=Z,12nm,1.1s
PETK Petropavlovsk- 88.88 325 P **P 15 08 07.6 +2.6**
comp=Z,3.1nm,0.9s,baz=57,slow=8.8,SNR=2.7
PETK LR LR 15 46 37.0
comp=Z,26nm,19.5s,baz=68,slow=35
LVZ Lovozero 89.03 17*d iP* **P 15 08 05.6 +0.1**
LVZ pmax pmax
comp=Z,47nm,1.0s
LVZ Lovozero 89.03 17 *eP* **P 15 08 05.1 -0.3**
comp=Z,36nm,0.9s
KHC Kasperske Hory 89.29 39 *eP* **P 15 08 05.5 -1.6**
KHC *esP* **sP 15 08 35.0 -2.3**
KHC Kasperske Hory 89.29 39 *eP* **P 15 08 05.5 -1.6**
KHC *e* 15 08 35.0
PVCC Panska Ves 89.33 37 AMS AMS 15 42 30.0
comp=Z,300nm,17.4s
MA2 Magadan 89.39 333 P **P 15 08 08.4 +1.1**
comp=Z,18nm,0.8s,baz=76,slow=9.1,SNR=4.4
GEC2 GERESS Array S 89.47 39 *eP* **P 15 08 06.8 -1.3**
GEC2 pmax pmax
comp=Z,10.0nm,1.1s
GEC2 GERESS Array S 89.47 39 *eP* **P 15 08 06.8 -1.3**
comp=Z,10nm,1.1s
GERES GERESS Array B 89.47 39 P **P 15 08 06.4 -1.6**
comp=Z,3.8nm,0.9s,baz=302,slow=3.0,SNR=17
GERES LR LR 15 45 21.0
comp=Z,313nm,21.8s,baz=284,slow=34
GEA0 GERESS Array S 89.48 39 *eP* **P 15 08 06.0 -2.0**
ABTA Abfaltersbach 89.53 41 *i P* **P 15 08 07.1 -1.2**
comp=Z,13nm,1.4s
PRU Pruhonice 89.53 38 *eP* **P 15 08 08.1 0.0**
PRU *e*SKS **SKSac 15 18 31.6 +0.1**
PRU AMS AMS 15 41 20.0
comp=Z,300nm,17.2s
PRU Pruhonice 89.53 38 *eP* **P 15 08 08.1 0.0**
GOPC GO Pecny, Ondr 89.71 38 *e*SKS **SKSac 15 18 31.5 -1.1**
GOPC *e*S **ScS 15 19 00.2 +1.8**
GOPC AMS AMS 15 40 50.0
comp=Z,400nm,22.8s
FIA1 FINESS Array S 89.93 25 *eP* **P 15 08 08.7 -1.0**
FINES FINESS Array B 89.93 25 P **P 15 08 09.3 -0.4**
comp=Z,22nm,0.8s,baz=307,slow=2.2,SNR=60
FINES LR LR 15 44 35.2
comp=Z,125nm,21.3s,baz=300,slow=33
UPC Upice 90.19 37 *e*SKS **SKSac 15 18 38.5 +3.2**
UPC *e*S **ScS 15 19 02.0 -0.3**
UPC AMS AMS 15 41 40.0
comp=Z,400nm,21.3s
DPC Dobruska-Polom 90.43 37 *eP* **P 15 08 12.2 -0.2**
DPC *epP* **pP 15 08 35.0 +1.0**
DPC AMS AMS 15 43 20.0
comp=Z,400nm,23.4s
DPC Dobruska-Polom 90.43 37 *eP* **P 15 08 12.2 -0.2**
DPC *e* 15 08 35.0
DPC MLR MLR
comp=Z,400nm,23.4s
CONA Conrad Observa 91.16 39 *i* PcP **P 15 08 15.9 0.0**
comp=Z,8.3nm,1.1s
KEST Kesra 91.19 53 P **P 15 08 15.4 -0.8**
comp=Z,11nm,1.0s,baz=207,slow=2.3,SNR=5.2
TOA0 Torodi Ar. Sit 91.36 76 *eP* **P 15 08 14.1 -3.2**
TORD Torodi Ar. Bea 91.36 76 P **P 15 08 14.7 -2.6**
comp=Z,2.0nm,0.9s,baz=295,slow=3.8,SNR=13
TORD PKKPbc **PKKPbc 15 25 39.0 +1.0**
comp=Z,0.9nm,0.7s,baz=92,slow=2.6,SNR=4.9
MORC Moravsky Berou 91.39 37 *eP* **P 15 08 15.3 -1.6**
MORC pmax pmax
comp=Z,26nm,1.1s
MORC Moravsky Berou 91.39 37 *eP* **P 15 08 15.3 -1.6**
comp=Z,26nm,1.1s
OKC Ostrava-Krasne 91.71 37 *e*SKS **SKSac 15 18 47.5 +3.5**
VSU Vasula 91.83 27⇓ *eP* **P 15 08 17.2 -1.4**
VSU pmax pmax
comp=Z,88nm,1.7s
TAM Tamanrasset 92.11 66 *eP* **P 15 08 19.7 -1.2**
TAM pmax pmax
comp=Z,9.0nm,1.1s
TAM Tamanrasset 92.11 66 *eP* **P 15 08 19.7 -1.2**
comp=Z,8.7nm,1.1s
OJC Ojcow 92.49 36 *eP* **P 15 08 21.7 -0.2**
OJC Ojcow 92.49 36 *eP* **P 15 08 21.7 -0.2**
SUW Suwalki 92.50 32 *eP* **P 15 08 22.1 +0.3**
SUW Suwalki 92.50 32 *eP* **P 15 08 22.1 +0.3**
VYHS Vyhne 92.72 38 *eP* **P 15 08 22.7 -0.3**
VYHS *e* 15 08 56.2
VYHS pmax pmax
comp=Z,20nm,2.1s
VYHS Vyhne 92.72 38 *eP* **P 15 08 22.7 -0.3**
VYHS *e* 15 08 56.2
LANS Liptovska Anna 92.79 37 *eP* **P 15 08 24.2 +0.8**
LANS Liptovska Anna 92.79 37 *eP* **P 15 08 24.2 +0.8**
NIE Niedzica 93.15 37 *eP* **P 15 08 25.4 +0.4**
NIE Niedzica 93.15 37 *eP* **P 15 08 25.4 +0.4**
MSVF Nonsavu 93.24 253 *eP* **P 15 08 27.4 +1.4**
MSVF pmax pmax
comp=Z,17nm,1.2s
MSVF Nonsavu 93.24 253 *eP* **P 15 08 27.4 +1.4**
comp=Z,17nm,1.2s
PSZ Piszkesteto 93.61 38 *eP* **P 15 08 26.0 -1.2**
PSZ pmax pmax
comp=Z,23nm,1.4s
PSZ Piszkesteto 93.61 38 *eP* **P 15 08 26.0 -1.2**
comp=Z,23nm,1.4s
KECS Kecovo 93.70 38 *eP* **P 15 08 28.4 +0.9**
KECS *e* 15 08 52.2
KECS pmax pmax

comp=Z,3.0nm,1.0s
KECS Kecovo 93.70 38 *e*P **P 15 08 28.4 +0.9**
KECS *e* 15 08 52.2
STHS Stebnicka Huta 93.70 37 *e*P pmax **P 15 08 28.3 +0.8**
STHS pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 93.70 37 *e*P **P 15 08 28.3 +0.8**
NACGM Naroch 93.81 30 *e* **P 15 08 27.0 -0.8**
NACGM *e*LR LR 15 42 18.0
CRVS Cervenica-Dubn 94.07 37 *e*P **P 15 08 29.7 +0.5**
CRVS *e* 15 08 53.5
CRVS Cervenica-Dubn 94.07 37 *e*P **P 15 08 29.7 +0.5**
CRVS *e* 15 08 53.5
KOLS Kolonicke sedl 94.52 37 *e*P **P 15 08 31.9 +0.6**
KOLS pmax pmax
comp=Z,16nm,1.7s
KOLS Kolonicke sedl 94.52 37 *e*P **P 15 08 31.9 +0.6**
UZH Uzhgorod 94.68 37 *e*P **P 15 08 31.2 -0.8**
LVV L'vov 95.08 35 *e*P **P 15 08 33.6 -0.2**
KLMR Klimovskoe 95.37 21 *e*P **P 15 08 30.1 -4.7**
KLMR pmax pmax
comp=Z,35nm,1.4s
NRIK Noril'sk 95.64 360 P **P 15 08 36.3 +0.4**
comp=Z,6.3nm,0.8s,baz=29,slow=3.2,SNR=13
NRIK PP **PP 15 12 25.4 -1.8**
comp=Z,2.6nm,0.7s,baz=50,slow=7.9,SNR=5.1
NRIK LR LR 15 57 18.4
comp=Z,92nm,18.4s,baz=314,slow=39
YAK Yakutsk 95.86 341 LR LR 15 58 07.4
comp=Z,101nm,19.5s,baz=86,slow=39
YAK Yakutsk 95.86 341 *e*P **P 15 08 38.1 +1.1**
YAK pmax pmax
comp=Z,12nm,1.1s
YAK Yakutsk 95.86 341 *e*P **P 15 08 37.7 +0.7**
comp=Z,14nm,0.9s
AK11 Malin Array Si 97.38 33 *e*P **P 15 08 43.3 -0.9**
KIEV Kiev 97.40 33⇑ *e*P **P 15 08 42.8 -1.4**
KIEV *i* *PP **pP 15 09 09.9 +4.0**
KIEV pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 97.40 33 P **P 15 08 42.9 -1.3**
comp=Z,1.7nm,0.6s,baz=296,slow=4.0,SNR=9.4
AKASG LR LR 15 49 46.8
comp=Z,145nm,21.9s,baz=340,slow=34
OBN Obninsk 98.16 26 *i* P **P 15 08 46.8 -0.8**
OBN pmax pmax
comp=Z,37nm,0.9s
OBN MLR MLR
comp=Z,198nm,21.0s
MOS Moscow 98.19 26 *e*P Pdif 15 08 47.7 0.0
KUR Kuril'sk 98.25 321 *e*P Pdif 15 08 51.1 +2.9
KUR pmax pmax
comp=Z,5.0nm,0.6s
LPSR Galich'ya Gora 100.89 27 *e*P **Pdif 15 08 59.8 0.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 101.95 28 *e*P **Pdif 15 09 04.0 -0.6**
VSR pmax pmax
comp=Z,7.0nm,0.5s
VRH Novokhopyorsk 103.11 27 *e*P **Pdif 15 09 09.6 -0.1**
VRH pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 104.82 16 *e*P **Pdif 15 09 17.1 -0.1**
ARU pmax pmax
comp=Z,3.0nm,0.9s
ARU Arti 104.82 16 *e*Pdif **Pdif 15 09 17.1 -0.1**
comp=Z,3.3nm,0.9s
DZM Mont Dzumac 104.85 251 *e*PS PS 15 22 57.6 +2.6
comp=Z,140nm,30.8s
DZM Mont Dzumac 104.85 251 *e*LR LR 15 44 07.4
comp=Z,471nm,23.9s
ZAA0 Zalesovo Array 111.07 1 *e*PKiKP **PKiKP 15 13 45.7 +1.9**
ZALV Zalesovo Beam 111.07 1 PKiKP **PKiKP 15 13 45.6 +1.8**
comp=Z,1.2nm,0.3s,baz=271,slow=2.9,SNR=6.0
ZALV PP **PP 15 14 16.8 -5.6**
comp=Z,2.6nm,0.7s,baz=355,slow=7.7,SNR=2.6
ABKAR Akbulak array 111.56 18 *e*Pdif **Pdif 15 09 48.0 +0.6**
GNI Garni 112.51 34⇓ *i*PKiKP **PKiKP 15 13 46.8 -0.4**
GNI pmax pmax
comp=Z,27nm,1.7s
ULN Ulaanbaatar 114.58 345⇓ *i*PKIKP PKPdf 15 13 51.4 +0.5
SONA1 Songino Array 114.76 345 *e*PKiKP PKPdf 15 13 53.5 +2.2
SONM Songino Array 114.77 345 PKP PKPdf 15 13 53.3 +2.0
comp=Z,3.4nm,0.9s,baz=347,slow=1.2,SNR=17
SONM PP **PP 15 14 43.8 -5.2**
comp=Z,2.1nm,1.0s,baz=354,slow=5.4,SNR=4.9
SONM PKKPbc **PKKPbc 15 24 28.0 -2.3**
comp=Z,0.5nm,0.5s,baz=177,slow=3.8,SNR=5.2
KS01 Wonju Array Si 114.77 325 *e*PKiKP PKPdf 15 13 55.0 +3.7
KSRS Korea Array 114.77 325 PKP PKPdf 15 13 54.2 +2.8
comp=Z,2.4nm,0.7s,baz=23,slow=2.3,SNR=11
KSAR Wonju Array Be 114.80 325 PKIKP PKPdf 15 13 54.2 +2.8
KSAR Wonju Array Be 114.80 325 PKP PKPdf 15 13 54.2 +2.8
MAKZ Makanchi 118.09 4 *e*PKIKP **PKPdf 15 13 56.6 -0.9**
MAKZ Makanchi 118.09 4 *e*PKPdf **PKPdf 15 13 56.6 -0.9**
MK31 Makanchi Array 118.12 3 *e*PKIKP **PKPdf 15 13 57.3 -0.3**
MK31 Makanchi Array 118.12 3 *e*PKPdf **PKPdf 15 13 57.3 -0.3**
MKAR Makanchi Array 118.12 3 PKP **PKPdf 15 13 57.3 -0.3**
comp=Z,3.5nm,0.7s,baz=17,slow=2.3,SNR=23
MKAR PP **PP 15 15 06.4 -5.8**
comp=Z,3.1nm,1.0s,baz=29,slow=5.5,SNR=5.6
MK01 Makanchi Array 118.15 3 *e*PKPdf **PKPdf 15 13 57.3 -0.4**
BJI Beijing 118.51 334 PKP **PKPdf 15 13 58.1 -0.4**
BJI SS SS 15 31 26.3 +0.6
BJI LZ
comp=Z,160nm,30.6s
HHC Hu-ho-hao-te 119.59 338 *e*PKP **PKPdf 15 14 00.9 +0.2**
HHC PP **PP 15 15 24.1 +1.4**
HHC PPMZ
comp=Z,47nm,9.5s
HHC LN
comp=Z,190nm,19.2s
HHC LE
comp=Z,200nm,19.6s
HHC LZ
comp=Z,160nm,17.6s
GEYT Alibeck 120.71 26 PKP **PKPdf 15 14 02.8 0.0**
comp=Z,1.8nm,0.6s,baz=297,slow=1.3,SNR=8.6
WMQ Urumqi 121.21 359 PKP **PKPdf 15 14 02.7 -1.0**
WMQ PP **PP 15 15 37.6 +4.1**
WMQ SKS **SKSdf 15 21 04.1 -4.8**
WMQ SKKS **SKKSac 15 22 19.2 -7.9**
WMQ SS **SS 15 31 59.1 -0.8**
WMQ PPMZ
comp=Z,69nm,6.2s
WMQ LN
comp=Z,110nm,26.2s
WMQ LE
comp=Z,81nm,25.2s
WMQ LZ
comp=Z,160nm,25.2s
TKM2 Tokmak 2 121.24 9 *e*PKIKP **PKPdf 15 14 04.0 +0.1**
TKM2 Tokmak 2 121.24 9 *e*PKPdf **PKPdf 15 14 04.0 +0.1**
AAK Ala-Archa 121.33 10⇑ *i*PKIKP **PKPdf 15 14 06.3 +2.2**
AAK Ala-Archa 121.33 10 *e*PKPdf **PKPdf 15 14 04.0 -0.1**
BOSA Boshof 122.06 114 PKP **PKPdf 15 14 06.7 +1.0**
comp=Z,24nm,0.9s,baz=270,slow=1.9,SNR=20
BOSA pPKP **pPKPdf 15 14 27.9 -0.4**
comp=Z,11nm,0.7s,baz=298,slow=2.2,SNR=6.4
BOSA Boshof 122.06 114 *e*PKPdf **PKPdf 15 14 07.5 +1.7**
BOSA pPKP **pPKPdf 15 14 27.9 -0.4**
LBTB Lobatse 122.26 110 *e*PKIKP **PKPdf 15 14 08.3 +2.1**
LBTB Lobatse 122.26 110 *e*PKPdf **PKPdf 15 14 08.3 +2.1**
GTA Gaotai 124.25 348⇑ PKP **PKPdf 15 14 12.1 +2.4**
GTA sPKP 15 14 37.5
GTA PP **PP 15 15 59.8 +5.6**
GTA SKS **SKSdf 15 21 12.7 -2.2**
GTA SKKS **SKKSac 15 22 41.5 -5.5**
GTA SS **SS 15 32 35.8 -3.0**
GTA PPMZ
comp=Z,69nm,6.2s
GTA LN
comp=Z,120nm,18.1s
GTA LE
comp=Z,120nm,17.1s
GTA LZ
comp=Z,180nm,20.9s
KSH Kashi 124.62 10 PKP **PKPdf 15 14 06.1 -4.3**
KSH PP **PP 15 15 58.8 +2.2**
KSH PKS **PKSdf 15 17 43.4 -3.8**
KSH LN
comp=Z,91nm,8.1s
KSH LE
comp=Z,90nm,7.2s
MAW Mawson 125.44 169 PKP **PKPdf 15 14 11.2 +0.4**
comp=Z,3.7nm,0.8s,baz=275,slow=3.3,SNR=6.1
MAW Mawson 125.44 169 PKIKP **PKPdf 15 14 11.2 +0.4**
MAW pmax pmax
comp=Z,2.0nm,0.7s
LZH Lanzhou 126.42 343 *e*PKP **PKPdf 15 14 17.0 +3.0**
LZH sPKP 15 14 46.5
LZH PP PP 15 16 17.2 +8.4
LZH SS SS 15 33 07.0 +0.8
LZH PPMZ
comp=Z,110nm,5.7s
LZH LN
comp=Z,350nm,19.9s
LZH LE
comp=Z,280nm,19.4s
LZH LZ
comp=Z,260nm,20.5s
XAN Xi'an 126.59 337 PKP **PKPdf 15 14 17.4 +3.1**
WHN Wuhan 127.24 330 *e*PKP **PKPdf 15 14 15.6 +0.1**
STKA Stephens Creek 127.52 241 PKP **PKPdf 15 14 16.3 +0.4**
comp=Z,7.7nm,0.7s,baz=88,slow=2.2,SNR=11
STKA pPKP **pPKPdf 15 14 38.5 +0.1**
comp=Z,6.1nm,0.7s,baz=325,slow=2.7,SNR=4.9
KMBO Kilima Mbogo 129.29 79 PKP **PKPdf 15 14 22.3 +2.2**
comp=Z,2.3nm,0.5s,baz=327,slow=4.3,SNR=10
ENH Enshi 129.68 334 *e*PKPdf **PKPdf 15 14 21.1 +0.9**
UOSS Minazif 130.23 37 *e*PKPdf **PKPdf 15 14 21.0 -0.4**
CD2 Chengdu 131.25 340 PKP **PKPdf 15 14 22.0 -1.2**
CD2 sPKP 15 14 53.6
CD2 SKS **SKSdf 15 21 26.0 -2.0**
CD2 SKKS **SKKSac 15 23 27.0 -4.0**
CD2 SS **SS 15 34 05.3 -0.5**
CD2 PPMZ
comp=Z,220nm,5.4s
CD2 LE
comp=Z,170nm,19.6s
CD2 LZ
comp=Z,220nm,19.6s
GYA Guiyang 134.20 335 *e*Pdif **Pdif 15 11 27.2 -1.5**
GYA PKP **PKPdf 15 14 28.8 -0.2**
GYA sPKP 15 14 58.0
GYA PP **PP 15 17 03.2 +3.7**
GYA PPMZ
comp=Z,160nm,8.2s
WRAB Tennant Creek 134.40 257⇑ *i*PKIKP **PKPdf 15 14 30.0 +0.7**
WRAB pmax pmax
comp=Z,35nm,1.7s
WRAB Tennant Creek 134.40 257 *e*PKPdf **PKPdf 15 14 29.6 +0.2**
WRA Warramunga Arr 134.41 257 PKhKP PKPpre 15 14 24.0
comp=Z,0.5nm,0.7s,baz=94,slow=3.3,SNR=9.3
WRA PKP **PKiKP 15 14 30.1 -0.6**
comp=Z,4.7nm,0.7s,baz=91,slow=3.1,SNR=34
WRA pPKP pPKPdf 15 14 52.0 +0.2
comp=Z,5.8nm,0.7s,baz=83,slow=2.2,SNR=8.1
ASAR Alice Springs 134.83 252 PKIKP PKPpre 15 14 22.0
comp=Z,0.5nm,0.6s,baz=103,slow=3.7,SNR=5.8
ASAR PKP **PKiKP 15 14 31.1 -0.4**
comp=Z,3.3nm,0.8s,baz=97,slow=2.0,SNR=19
ASAR pPKP pPKPdf 15 14 52.5 0.0
comp=Z,3.6nm,0.7s,baz=89,slow=1.9,SNR=6.1
LSA Lhasa 135.10 354 PKP **PKPdf 15 14 34.0 +3.0**
LSA Lhasa 135.10 354 PKIKP **PKPdf 15 14 32.6 +1.6**
LSA Lhasa 135.10 354 PKPdf **PKPdf 15 14 32.6 +1.6**
PYUN Piuthan 136.76 5 *e*P **PKPdf 15 14 36.2 +2.4**
comp=Z,32nm,0.6s
KMI Kunming 136.91 338 PKP **PKPdf 15 14 37.7 +3.5**
GKN Gorkha 136.96 3 *e*P **PKPdf 15 14 36.3 +2.2**
comp=Z,18nm,0.4s
GUN Gumba 137.09 1 *e*P **PKPdf 15 14 36.2 +1.6**
comp=Z,18nm,0.5s
KOLN Koldanda 137.14 4 *e*P **PKPdf 15 14 35.9 +1.4**
comp=Z,26nm,0.7s
KKN Kakani 137.20 2 *e*P **PKPdf 15 14 35.6 +0.9**
comp=Z,26nm,0.8s
DMN Daman 137.37 2 *e*P **PKPdf 15 14 36.4 +1.4**
comp=Z,30nm,0.7s
PKIN Phulchoki 137.41 2 *e*P **PKPdf 15 14 35.9 +0.8**
comp=Z,11nm,0.6s
QIZ Qiongzhong 138.99 325 PKP **PKPdf 15 14 37.8 -0.1**
QIZ PP **PP 15 17 30.8 +1.2**
QIZ SS SS 15 35 42.2 +2.7
QIZ LN
comp=Z,66nm,45.2s
QIZ LE
comp=Z,92nm,46.7s
QIZ LZ
comp=Z,120nm,30.0s
ABPO Ambohimpanom 142.20 101 *e*PKIKP **PKPdf 15 14 41.5 -2.3**
ABPO Ambohimpanom 142.20 101 *e*PKPdf **PKPdf 15 14 41.5 -2.3**
FITZ Fitzroy Crossi 142.59 260 PKhKP PKPpre 15 14 40.6
comp=Z,3.9nm,0.6s,baz=1.7,slow=6.1,SNR=34
FITZ Fitzroy Crossi 142.59 260 *e*PKPpre PKPpre 15 14 40.4
SOEI Soe 142.90 274 *e*PKPpre PKPpre 15 14 42.8
CHTO Chiang Mai 144.05 340 P PKPbc 15 14 45.6 +0.6
comp=Z,62nm,1.4s,comp=Z,1μmcomp=Z,0.4nm
CHTO Chiang Mai 144.05 340 *e*PKIKP PKPbc 15 14 45.1 +0.1
CHTO Chiang Mai 144.05 340 *e*PKPpre PKPbc 15 14 45.1 +0.1
LAMP Lampang 144.09 339 P **PKPdf 15 14 54.3 +7.3**
comp=Z,9.9nm,0.9s,comp=Z,0.0nm
CM31 Chiang Mai Arr 144.38 340 *e*PKPdf PKPbc 15 14 46.3 +0.3
CMAR Chiang Mai Arr 144.38 340 PKP PKPbc 15 14 46.5 +0.5
comp=Z,10nm,0.8s,baz=342,slow=3.8,SNR=53
CMAR Chiang Mai Arr 144.38 340 PKIKP PKPbc 15 14 46.6 +0.6
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CM01 Chiang Mai Arr 144.41 340 *e*PKPdf PKPbc 15 14 46.1 0.0
SUKH Sukhothai 145.05 338 P **PKPdf 15 14 49.0 +0.3**
TTSI Tana Toraja 145.15 287 P **PKPdf 15 14 49.6 +0.7**
PBKT Sadao Pong 145.37 335 P **PKPab 15 14 49.7 +0.4**
comp=Z,72nm,1.0s,comp=Z,958nmcomp=Z,0.2nm
SPSI Sidrap Palu 145.53 286 P **PKPdf 15 14 47.0 -2.6**
BSSI Bau Bau, Buton 145.58 282 P **PKPdf 15 14 49.8 +0.1**
KAPI Kappang 145.91 284 PKPbc **PKPab 15 14 52.2 +0.6**
comp=Z,67nm,1.1s,baz=38,slow=0.2,SNR=23
KAPI Kappang 145.91 284 *e*PKPdf **PKPab 15 14 51.8 +0.2**
HYB Hyderabad 146.58 14 *i* PKP **PKPbc 15 14 53.0 +0.1**
HYB *e* 15 15 32.5
BKB Balikpapan 147.07 292 P **PKPab 15 15 01.9 +5.8**
NWAO Narrogin (SRO) 147.16 232 *e*PKIKP **PKPbc 15 14 54.5 +0.4**
NWAO Narrogin (SRO) 147.16 232 *e*PKPdf **PKPbc 15 14 54.5 +0.4**
SRAK Srakaew 147.18 332 P **PKPab 15 14 56.2 -0.1**
comp=Z,174nm,1.0s,comp=Z,1μmcomp=Z,0.5nm
MBWA Marble Bar 148.07 254 *e*PKPbc **PKPbc 15 14 56.5 -0.3**
CHBT CHBT 148.14 330 P **PKPab 15 14 59.7 -0.4**
PLAI Plampang 148.92 278 P **PKPbc 15 14 57.7 -1.6**
SBUM Sibu 149.18 303 *e*PKPbc **PKPbc 15 15 00.5 +0.5**
TWSI Taliwang, Sumb 149.75 279 P **PKPdf 15 14 58.6 +2.1**
RER Riviere de l'E 150.10 106 *e*PKPbc **PKPab 15 15 05.3 -2.9**
KSM Kuching 151.30 303 *e*PKPbc **PKPbc 15 15 04.7 -0.4**
MRIV Mauritius Mete 151.81 105 *e*PKPbc **PKPbc 15 15 07.8 +1.7**
ABJI Asem Bagus 152.00 282 P **PKPbc 15 15 05.8 -0.8**

CSEM ***07*** *15:06:16.0, 43.48N×12.55E, h10km, MD1.6/9*
ROM 07 15:06:16.0±0.0, 43.48N×12.55E, h10km, Md1.6/9, MI1.6/6, Error ellipse: s-maj=0.6km s-min=0.4km az=167.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PIEI	**Pieia**	**0.06**	**348**		Pg	Pg	15 06 18.6	+0.4
PIEI					Sg	Sg	15 06 20.2	+0.4
	143nm,0.1s							
PIEI	**Pieia**	**0.06**	**348**		Pg	Pg	15 06 18.6	+0.4
PIEI					Sg	Sg	15 06 20.2	+0.4
	143nm,0.1s							
ATPC	**Poggio Castell**	**0.07**	**272**		Pg	Pg	15 06 18.8	+0.5
ATPC					Sg	Sg	15 06 20.7	+0.7
	376nm,0.1s							
ATPC	**Poggio Castell**	**0.07**	**272**		Pg	Pg	15 06 18.8	+0.5
ATPC					Sg	Sg	15 06 20.7	+0.7
	376nm,0.1s							
FRON	**Frontone**	**0.13**	**72**		Pg	Pg	15 06 19.7	+0.6
FRON					Sg	Sg	15 06 22.3	+0.9
	197nm,0.1s							
FRON	**Frontone**	**0.13**	**72**		Pg	Pg	15 06 19.7	+0.6
FRON					Sg	Sg	15 06 22.3	+0.9
	197nm,0.1s							
ATVO	**AVT- Monte Val**	**0.14**	**228**		Pg	Pg	15 06 19.8	+0.5
ATVO					Sg	Sg	15 06 22.6	+1.0
	67nm,0.2s							
ATVO	**AVT- Monte Val**	**0.14**	**228**		Pg	Pg	15 06 19.8	+0.5
ATVO					Sg	Sg	15 06 22.6	+1.0
	67nm,0.2s							
SSFR	**Montelago di S**	**0.17**	**104**		Pg	Pg	15 06 20.3	+0.5
SSFR					Sg	Sg	15 06 23.6	+1.2
	88nm,0.2s							
SSFR	**Montelago di S**	**0.17**	**104**		Pg	Pg	15 06 20.3	+0.5
SSFR					Sg	Sg	15 06 23.6	+1.2
	88nm,0.2s							
MURB	**Monte Urbino**	**0.22**	**185**		Pg	Pb	15 06 21.3	-0.7
MURB					Sg	Sg	15 06 25.3	+1.7
	182nm,0.2s							
MURB	**Monte Urbino**	**0.22**	**185**		Pg	Pb	15 06 21.3	-0.7
MURB					Sg	Sg	15 06 25.3	+1.7
	182nm,0.2s							
BADI	**Badiali**	**0.23**	**278**		Pg	Pg	15 06 21.3	+0.6
BADI					Sg	Sg	15 06 25.3	+1.4
	79nm,0.1s							
BADI	**Badiali**	**0.23**	**278**		Pg	Pg	15 06 21.3	+0.6
BADI					Sg	Sg	15 06 25.3	+1.4
	79nm,0.1s							
FSSB	**Fossombrone**	**0.27**	**37**		Pg	Pg	15 06 22.1	+0.6
FSSB					Sg	Sb	15 06 27.1	-0.5
	68nm,0.1s							
FSSB	**Fossombrone**	**0.27**	**37**		Pg	Pg	15 06 22.1	+0.6
FSSB					Sg	Sb	15 06 27.1	-0.5
	68nm,0.1s							
ARVD	**Arcevia**	**0.28**	**86**		Pg	Pg	15 06 22.4	+0.6
ARVD					Sg	Sb	15 06 27.2	-0.8
ARVD	**Arcevia**	**0.28**	**86**		Pg	Pg	15 06 22.4	+0.6
ARVD					Sg	Sb	15 06 27.2	-0.8

WEL 07 15:06:42.8±0.3, 36.88S×176.99E, h170km±4km, ML3.7/4, 11C-1D, Error ellipse: s-maj=4.5km s-min=4.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.08**	**144**	⇑PN	PN	Pn	15 07 10.2	+0.1
HAZ					SN	Sn	15 07 31.1	-0.2
MXZ	**Matakaoa Point**	**1.25**	**123**	PN	PN	Pn	15 07 11.6	-0.1
MXZ					SN	Sn	15 07 33.6	-0.3
MXZ					AML	AML	15 07 35.6	
PKGZ	**Pakihiroa**	**1.33**	**140**	⇑PN	PN	Pn	15 07 12.7	+0.3
URZ	**Urewera**	**1.38**	**176**	⇑PN	PN	Pn	15 07 13.1	+0.3
URZ					SN	Sn	15 07 35.9	-0.2
URZ					AML	AML	15 07 37.0	
WMGZ	**Waiomatatini S**	**1.48**	**130**	⇑PN	PN	Pn	15 07 13.6	-0.1
WMGZ					SN	Sn	15 07 37.1	-0.5
MWZ	**Matawai**	**1.52**	**164**	⇑PN	PN	Pn	15 07 14.1	0.0
MWZ					SN	Sn	15 07 38.5	0.0
MWZ					AML	AML	15 07 39.2	
MWZ					AML	AML	15 07 39.2	
TWGZ	**Tauwhareparae**	**1.52**	**149**	⇑PN	PN	Pn	15 07 14.6	+0.4
TWGZ					SN	Sn	15 07 39.0	+0.5
PUZ	**Puketiti**	**1.56**	**140**	⇑PN	PN	Pn	15 07 14.4	-0.2
PUZ					SN	Sn	15 07 37.6	-1.6
PUZ					AML	AML	15 07 40.0	
MUGZ	**Murupara**	**1.61**	**186**	PN	PN	Pn	15 07 15.5	+0.5
RAGZ	**Rawiri**	**1.65**	**168**	PN	PN	Pn	15 07 14.3	-1.2
TKGZ	**Te Karaka**	**1.70**	**157**	PN	PN	Pn	15 07 15.9	-0.1
RTZ	**Ruatahuna**	**1.73**	**180**	PN	PN	Pn	15 07 16.6	+0.2
CNGZ	**Carnagh Statio**	**1.87**	**149**	⇑PN	PN	Pn	15 07 17.8	0.0
SNGZ	**Shannon Statio**	**1.92**	**172**	PN	PN	Pn	15 07 18.3	0.0
RIGZ	**Rimuhau**	**1.93**	**162**	PN	PN	Pn	15 07 18.2	-0.2
MRHZ	**Matea Rd**	**2.00**	**193**	PN	PN	Pn	15 07 19.9	+0.6
RAHZ	**Arahi**	**2.04**	**178**	PN	PN	Pn	15 07 20.0	+0.4
PRGZ	**Maritu Road**	**2.16**	**161**	PN	PN	Pn	15 07 20.7	-0.3
WHHZ	**Waihua**	**2.20**	**175**	PN	PN	Pn	15 07 21.3	-0.2
KNZ	**Kokohu**	**2.21**	**166**	⇑PN	PN	Pn	15 07 20.8	-0.7
NMHZ	**Naumai**	**2.22**	**184**	PN	PN	Pn	15 07 22.4	+0.6
BKZ	**Black Stump Fm**	**2.32**	**190**	⇓PN	PN	Pn	15 07 22.5	-0.3
ARHZ	**Aropaoanui**	**2.38**	**180**	PN	PN	Pn	15 07 23.5	0.0
MHGZ	**Mahia Peninsul**	**2.38**	**163**	PN	PN	Pn	15 07 22.9	-0.7
OTVZ	**Oturere**	**2.51**	**204**	PN	PN	Pn	15 07 26.1	+0.9
MCHZ	**McNeill Hill**	**2.57**	**185**	PN	PN	Pn	15 07 25.6	-0.2
KWHZ	**Kaweka Forest**	**2.58**	**190**	PN	PN	Pn	15 07 25.5	-0.5
FWVZ	**Far West T-bar**	**2.63**	**205**	PN	PN	Pn	15 07 27.1	+0.4
WNVZ	**Wahianoa**	**2.68**	**204**	⇑PN	PN	Pn	15 07 27.4	+0.2
BHHZ	**Black Hill Sta**	**2.71**	**195**	PN	PN	Pn	15 07 26.7	-0.8
CKHZ	**Cape Kidnapper**	**2.78**	**179**	PN	PN	Pn	15 07 26.6	-1.6
KRHZ	**Kereru**	**2.80**	**190**	PN	PN	Pn	15 07 27.6	-1.0
KAHZ	**Kahuranaki**	**2.91**	**182**	PN	PN	Pn	15 07 28.9	-1.0
PNHZ	**Pukenui**	**3.09**	**191**	PN	PN	Pn	15 07 30.0	-1.6
PXZ	**Pawanui**	**3.15**	**182**	⇑PN	PN	Pn	15 07 31.0	-1.8
TSZ	**Takapari Road**	**3.28**	**194**	PN	PN	Pn	15 07 32.7	-1.7
PRHZ	**Porangahau**	**3.40**	**185**	PN	PN	Pn	15 07 33.8	-2.0
DVHZ	**Dannevirke**	**3.48**	**190**	PN	PN	Pn	15 07 34.4	-2.5
ANWZ	**Angora Road**	**3.60**	**186**	PN	PN	Pn	15 07 36.2	-2.2
POWZ	**Post Office Ro**	**3.64**	**195**	PN	PN	Pn	15 07 36.8	-2.1
PRWZ	**Pori Road**	**3.76**	**192**	PN	PN	Pn	15 07 38.2	-2.3
BFZ	**Birch Farm**	**3.84**	**188**	PN	PN	Pn	15 07 38.7	-2.8
MRZ	**Mangatainoka R**	**3.94**	**196**	PN	PN	Pn	15 07 39.9	-2.8
TIWZ	**Tintock**	**3.99**	**192**	PN	PN	Pn	15 07 40.6	-2.8
CPWZ	**Castlepoint**	**4.07**	**188**	PN	PN	Pn	15 07 41.9	-2.5
HOWZ	**Holdsworth Sta**	**4.17**	**196**	PN	PN	Pn	15 07 42.5	-3.3
OGWZ	**Otaki Gorge**	**4.18**	**199**	PN	PN	Pn	15 07 43.1	-2.7
KIW	**Kapiti Island**	**4.30**	**202**	PN	PN	Pn	15 07 44.5	-2.9
TMWZ	**Te Maipa**	**4.31**	**191**	PN	PN	Pn	15 07 44.2	-3.4
MTW	**Mount Morrison**	**4.43**	**195**	PN	PN	Pn	15 07 45.2	-3.8
CAW	**Cannon Point**	**4.48**	**199**	PN	PN	Pn	15 07 46.3	-3.5
WEZ	**Wellington**	**4.73**	**201**	PN	PN	Pn	15 07 49.6	-3.3
MSWZ	**Moikau Station**	**4.73**	**196**	PN	PN	Pn	15 07 49.3	-3.7
TCW	**Tory Channel**	**4.81**	**205**	PN	PN	Pn	15 07 50.9	-3.1
PLWZ	**Palliser**	**4.88**	**195**	PN	PN	Pn	15 07 51.1	-3.8
THZ	**Tophouse**	**5.81**	**212**	PN	PN	Pn	15 08 04.8	-2.5
LTZ	**Lake Taylor**	**6.92**	**210**	PN	PN	Pn	15 08 17.8	-4.0
INZ	**Inchbonnie**	**7.23**	**214**	PN	PN	Pn	15 08 23.3	-2.5
OXZ	**Oxford**	**7.47**	**209**	PN	PN	Pn	15 08 24.4	-4.7

IDC ***07*** *15:06:56.7±1.1, 38.14N×143.91E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.7/52, mbtmp3.8/12, ML3.5/3, Error ellipse: s-maj=28.2km s-min=20.2km az=111.0*
ISCJB ***07*** *15:06:58.2±0.7, 38.13N±0.06×143.71E±0.06, h19km, mb3.8/9, Error ellipse: s-maj=9.0km s-min=6.2km az=161.1*
NIED ***07*** *15:07:00, 38.30N×143.40E, h8km, Mw3.6 Best double couple: M0 2.71000×10^14 NP1:φs195.00000°, δ45.00000°, λ-100.00000°. NP2:φs29.00000°, δ46.00000°, λ-80.00000°.*
JMA ***07*** *15:07:01.0±0.2, 38.29N×143.42E, h4km±4km, M3.7*
ISC 07 15:06:59.3±0.8, 38.16N±0.06×143.79E±0.08, h19km, n25, σ2.938/30, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.90**	**300**	P	P	**Pn**	**15 07 29.9**	**-0.8**
JIO	**Ouri**	**1.94**	**280**	P	P	**Pn**	**15 07 30.6**	**-0.7**
JIO					S	**Sn**	**15 07 51.6**	**-3.6**
JMK	**Ichinoseki**	**2.17**	**292**	P	P	**Pn**	**15 07 33.8**	**-0.6**
JOM	**Ohasama**	**2.35**	**305**	P	P	**Pn**	**15 07 36.9**	**0.0**
JOM					*e*S	**Sn**	**15 08 03.0**	**-2.3**
JMM	**Marumori**	**2.39**	**264**	*e*S	S	**Sn**	**15 08 03.8**	**-2.3**
JOU	**Okura**	**2.47**	**276**	P	P	**Pn**	**15 07 38.6**	**0.0**
JOU					S	**Sn**	**15 08 06.2**	**-2.0**
JRG	**Rokugo**	**2.76**	**298**	P	P	**Pn**	**15 07 43.1**	**+0.6**
JYK	**Kaneyama**	**2.80**	**287**	P	P	**Pn**	**15 07 43.4**	**+0.4**
MJAR	**Matsushiro Arr**	**4.73**	**252**	Pn	Pn	**Pn**	**15 08 10.6**	**+1.0**
	1.1nm,0.3s,baz=81,slow=14,SNR=8.5							
MJAR					SN	**Sn**	**15 09 03.3**	**-0.7**
	1.3nm,0.3s,baz=136,slow=18,SNR=5.0							
MAT	**Matsushiro**	**4.73**	**252**	P	P	**Pn**	**15 08 11.1**	**+1.4**
MAT					S	**Sn**	**15 09 00.8**	**-3.2**
JHJ	**Hachijo jima 2**	**5.99**	**214**	Pn	Pn	**Pn**	**15 08 26.5**	**-0.5**
	5.3nm,0.3s,baz=81,slow=15,SNR=3.8							
JHJ					SN	**Sn**	**15 09 27.9**	**-7.1**
	8.4nm,0.3s,baz=49,slow=18,SNR=3.0							
ASAJ	**Asahikawa**	**6.02**	**352**	Pn	Pn

0.7nm,0.4s,baz=96,slow=5.1,SNR=2.3
ZALV PcP **PcP** 15 16 46.6 +0.8
0.8nm,0.5s,baz=64,slow=3.4,SNR=3.0
ILAR Eielson Array 47.53 33 P **P** 15 15 32.6 -0.4
0.2nm,0.6s,baz=271,slow=5.9,SNR=5.0
WRA Warramunga Arr 58.47 190 P **P** 15 16 54.3 +0.2
2.0nm,0.8s,baz=10,slow=7.1,SNR=6.5
YKA Yellowknife Ar 61.88 31 P **P** 15 17 18.4 +1.4
0.2nm,0.5s,baz=304,slow=7.0,SNR=4.5
FINES FINESS Array B 68.69 333 P **P** 15 18 02.4 +1.2
0.8nm,0.6s,baz=48,slow=6.2,SNR=2.7
KBZ Khabaz 71.59 311 P **P** 15 18 21.2 +2.0
0.8nm,0.5s,baz=48,slow=12,SNR=3.5
KEST Kesra 95.25 324 P **P** 15 20 22.1 +0.1
3.0nm,0.6s,baz=210,slow=3.8,SNR=4.3

*ISCJB **07** 15:15:06.2±0.3, 42°.37S±0'.03×173°.19E±0'.04, h15km, mb3.3/2, MS3.4/1, Error ellipse: s-maj=5.5km s-min=2.6km az=135.4*
*IDC **07** 15:15:06.3±9.5, 40°.72S×173°.52E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/28, mbtmp3.3/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/13, Error ellipse: s-maj=573.0km s-min=52.9km az=34.0*
*NEIC **07** 15:15:07.2, 42°.31S×173°.15E, h12km, ML4.0(WEL), After WEL.*
*WEL **07** 15:15:07.3±0.1, 42°.32S×173°.17E, h12km, ML4.0/43, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 4.

ISC 07 15:15:06.9±0.8, 42°.32S±0'.03×173°.16E±0'.03, h15km, n124, σ1§13/118, 10C-6D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.30**	**109**	⇓P*		**Pb**		**15 15 14.5**	**+0.5**
KHZ	**Kahutara**	**0.30**	**109**	⇓P*		**Pb**		**15 15 14.5**	**+0.5**
THZ	**Tophouse**	**0.58**	**341**	⇑P*		**Pg**		**15 15 17.3**	**-1.1**
THZ					AML	AML		15 15 24.1	
THZ					AML	AML		15 15 24.1	
THZ	**Tophouse**	**0.58**	**341**	⇑P*		**Pg**		**15 15 17.3**	**-1.1**
LTZ	**Lake Taylor**	**0.80**	**234**	⇑P*		**Pg**		**15 15 22.3**	**-0.2**
LTZ					AML	AML		15 15 35.3	
LTZ					AML	AML		15 15 39.5	
LTZ	**Lake Taylor**	**0.80**	**234**	⇑P*		**Pg**		**15 15 22.3**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.81**	**42**	P*		**Pg**		**15 15 22.1**	**-0.4**
BSWZ					AML	AML		15 15 40.0	
BSWZ					AML	AML		15 15 43.8	
BSWZ	**Blackbirch Sta**	**0.81**	**42**	P*		**Pg**		**15 15 22.1**	**-0.4**
CMWZ	**Cape Campbell**	**0.97**	**55**	P*		**Pn**		**15 15 26.5**	**+0.6**
CMWZ					AML	AML		15 15 50.0	
CMWZ					AML	AML		15 15 55.5	
CMWZ	**Cape Campbell**	**0.97**	**55**	P*		**Pn**		**15 15 26.7**	**+0.8**
TUWZ	**Tuamarina**	**1.06**	**34**	⇑P*		**Pb**		**15 15 26.2**	**-0.8**
TUWZ					AML	AML		15 15 45.8	
TUWZ					AML	AML		15 15 46.7	
TUWZ	**Tuamarina**	**1.06**	**34**	P*		**Pb**		**15 15 26.2**	**-0.8**
NNZ	**Nelson**	**1.11**	**9**	⇑P*		**Pb**		**15 15 26.2**	**-1.6**
NNZ					AML	AML		15 15 42.4	
NNZ					AML	AML		15 15 42.4	
NNZ					AML	AML		15 15 43.3	
NNZ	**Nelson**	**1.11**	**9**	P*		**Pb**		**15 15 26.2**	**-1.6**
DSZ	**Denniston Nort**	**1.16**	**299**	⇑P*		**Pn**		**15 15 28.0**	**-0.6**
DSZ				S*		**Sb**		**15 15 44.6**	**+1.1**
DSZ					AML	AML		15 15 45.8	
DSZ					AML	AML		15 15 46.1	
DSZ					AML	AML		15 15 46.8	
DSZ	**Denniston Nort**	**1.16**	**299**	P*		**Pn**		**15 15 28.0**	**-0.6**
OXZ	**Oxford**	**1.30**	**219**	PN		**Pn**		**15 15 30.5**	**0.0**
OXZ				SN		**Sn**		**15 15 48.8**	**+1.1**
OXZ	**Oxford**	**1.30**	**219**	Pn		**Pn**		**15 15 30.5**	**0.0**
CRLZ	**Canterbury Las**	**1.32**	**197**	PN		**Pn**		**15 15 30.7**	**0.0**
CRLZ					AML	AML		15 15 38.4	
CRLZ					AML	AML		15 15 50.9	
CRLZ	**Canterbury Las**	**1.32**	**197**	Pn		**Pn**		**15 15 30.7**	**0.0**
INZ	**Inchbonnie**	**1.33**	**252**	⇓PN		**Pn**		**15 15 31.0**	**+0.1**
TCW	**Tory Channel**	**1.39**	**38**	⇑PN		**Pn**		**15 15 31.4**	**-0.3**
TCW					AML	AML		15 15 55.0	
TCW					AML	AML		15 15 55.0	
TCW	**Tory Channel**	**1.39**	**38**	Pn		**Pn**		**15 15 31.4**	**-0.3**
MQZ	**McQueen's Vall**	**1.44**	**195**	PN		**Pn**		**15 15 31.9**	**-0.4**
MQZ					AML	AML		15 15 52.5	
MQZ					AML	AML		15 15 53.2	
MQZ	**McQueen's Vall**	**1.44**	**195**	Pn		**Pn**		**15 15 31.9**	**-0.4**
SNO	**South Karori**	**1.53**	**50**	ePn		**Pn**		**15 15 34.2**	**+0.5**
QRZ	**Quartz Range**	**1.56**	**342**	⇑PN		**Pn**		**15 15 34.3**	**+0.3**
QRZ					AML	AML		15 15 54.5	
QRZ					AML	AML		15 15 54.5	
QRZ					AML	AML		15 15 54.5	
QRZ					AML	AML		15 15 54.6	
QRZ	**Quartz Range**	**1.56**	**342**	Pn		**Pn**		**15 15 34.4**	**+0.3**
BHW	**Baring Head**	**1.57**	**55**	AML		AML		15 16 04.2	
BHW					AML	AML		15 16 09.3	
WEL	**Wellington**	**1.59**	**50**	PN		**Pn**		**15 15 34.9**	**+0.5**
WEL					AML	AML		15 16 03.4	
WEL	**Wellington**	**1.59**	**50**	Pn		**Pn**		**15 15 34.9**	**+0.5**
DUWZ	**D'Urville Isla**	**1.62**	**21**	PN		**Pn**		**15 15 34.8**	**-0.1**
DUWZ	**D'Urville Isla**	**1.62**	**21**	Pn		**Pn**		**15 15 34.8**	**-0.1**
PLWZ	**Palliser**	**1.73**	**65**	PN		**Pn**		**15 15 36.2**	**-0.3**
PLWZ	**Palliser**	**1.73**	**65**	Pn		**Pn**		**15 15 36.2**	**-0.3**
MSWZ	**Moikau Station**	**1.80**	**61**	Pn		**Pn**		**15 15 37.2**	**-0.2**
MSWZ					AML	AML		15 16 00.9	
MSWZ					AML	AML		15 16 39.2	
MSWZ	**Moikau Station**	**1.80**	**61**	Pn		**Pn**		**15 15 37.2**	**-0.2**
CAW	**Cannon Point**	**1.87**	**50**	PN		**Pn**		**15 15 38.6**	**+0.2**
CAW					AML	AML		15 16 15.2	
CAW					AML	AML		15 16 15.3	
CAW	**Cannon Point**	**1.87**	**50**	Pn		**Pn**		**15 15 38.6**	**+0.2**
PAWZ	**Paruwai Farm**	**1.94**	**62**	PN		**Pn**		**15 15 38.9**	**-0.3**
PAWZ					AML	AML		15 16 26.1	
PAWZ					AML	AML		15 16 27.6	
PAWZ	**Paruwai Farm**	**1.94**	**62**	Pn		**Pn**		**15 15 38.9**	**-0.3**
WVZ	**Waitaha Valley**	**1.94**	**246**	⇓PN		**Pn**		**15 15 40.4**	**+1.2**
WVZ				SN		**Sb**		**15 16 06.0**	**+0.1**
WVZ					AML	AML		15 16 08.8	
WVZ	**Waitaha Valley**	**1.94**	**246**	Pn		**Pn**		**15 15 40.4**	**+1.2**
KIW	**Kapiti Island**	**1.96**	**43**	PN		**Pn**		**15 15 40.2**	**+0.6**
KIW					AML	AML		15 16 16.8	
KIW					AML	AML		15 16 24.2	
KIW	**Kapiti Island**	**1.96**	**43**	Pn		**Pn**		**15 15 40.2**	**+0.6**
RPZ	**Rata Peaks**	**2.08**	**227**	PN		**Pn**		**15 15 40.9**	**-0.3**
RPZ					AML	AML		15 16 23.4	
RPZ					AML	AML		15 16 26.5	
RPZ	**Rata Peaks**	**2.08**	**227**	Pn		**Pn**		**15 15 40.9**	**-0.3**
MTW	**Mount Morrison**	**2.10**	**57**	PN		**Pn**		**15 15 41.1**	**-0.4**
MTW					AML	AML		15 16 26.1	
MTW					AML	AML		15 16 26.5	
MTW	**Mount Morrison**	**2.10**	**57**	Pn		**Pn**		**15 15 41.1**	**-0.4**
TRWZ	**Traveller**	**2.10**	**65**	ePN		**Pn**		**15 15 41.0**	**-0.5**
TRWZ					AML	AML		15 16 29.7	
TRWZ					AML	AML		15 16 40.2	
TRWZ	**Traveller**	**2.10**	**65**	ePn		**Pn**		**15 15 41.0**	**-0.5**
OGWZ	**Otaki Gorge**	**2.13**	**46**	PN		**Pn**		**15 15 42.1**	**+0.3**
OGWZ	**Otaki Gorge**	**2.13**	**46**	Pn		**Pn**		**15 15 42.2**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.27**	**52**	PN		**Pn**		**15 15 43.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**2.27**	**52**	Pn		**Pn**		**15 15 43.6**	**-0.2**
TMWZ	**Te Maipa**	**2.38**	**60**	ePN		**Pn**		**15 15 44.2**	**-1.1**
TMWZ	**Te Maipa**	**2.38**	**60**	ePn		**Pn**		**15 15 44.2**	**-1.1**
MRZ	**Mangatainoka R**	**2.46**	**49**	⇓PN		**Pn**		**15 15 46.1**	**-0.3**
MRZ	**Mangatainoka R**	**2.46**	**49**	Pn		**Pn**		**15 15 46.1**	**-0.3**
TIWZ	**Tintock**	**2.56**	**54**	PN		**Pn**		**15 15 47.8**	**0.0**
TIWZ					AML	AML		15 16 37.6	
TIWZ					AML	AML		15 16 42.8	
TIWZ	**Tintock**	**2.56**	**54**	Pn		**Pn**		**15 15 47.8**	**0.0**
FOZ	**Fox Glacier**	**2.74**	**243**	PN		**Pn**		**15 15 51.5**	**+1.2**
FOZ					AML	AML		15 16 39.8	
FOZ					AML	AML		15 16 39.8	
FOZ					AML	AML		15 16 44.7	
FOZ					AML	AML		15 16 44.7	
FOZ	**Fox Glacier**	**2.74**	**243**	Pn		**Pn**		**15 15 51.5**	**+1.2**
POWZ	**Post Office Ro**	**2.75**	**47**	PN		**Pn**		**15 15 50.0**	**-0.4**
POWZ	**Post Office Ro**	**2.75**	**47**	Pn		**Pn**		**15 15 50.0**	**-0.4**
BFZ	**Birch Farm**	**2.84**	**56**	AML		AML		15 16 53.7	
BFZ					AML	AML		15 16 57.4	
WAZ	**Wanganui**	**2.91**	**29**	PN		**Pn**		**15 15 54.7**	**+2.0**
WAZ					AML	AML		15 16 54.2	
WAZ					AML	AML		15 16 56.3	
WAZ	**Wanganui**	**2.91**	**29**	Pn		**Pn**		**15 15 54.7**	**+2.0**
LBZ	**Lake Benmore**	**3.00**	**225**	PN		**Pn**		**15 15 53.6**	**-0.2**
LBZ					AML	AML		15 16 36.8	
LBZ					AML	AML		15 16 41.6	
LBZ	**Lake Benmore**	**3.00**	**225**	Pn		**Pn**		**15 15 53.6**	**-0.2**
PREZ	**Palmer Road**	**3.07**	**15**	PN		**Pn**		**15 15 57.7**	**+2.9**
PREZ	**Palmer Road**	**3.07**	**15**	Pn		**Pn**		**15 15 57.7**	**+2.9**
TSZ	**Takapari Road**	**3.09**	**44**	PN		**Pn**		**15 15 54.6**	**-0.6**
TSZ					AML	AML		15 16 56.6	
TSZ					AML	AML		15 16 56.8	
TSZ	**Takapari Road**	**3.09**	**44**	Pn		**Pn**		**15 15 54.6**	**-0.6**
PKE	**Pukeiti**	**3.18**	**12**	AML		AML		15 17 03.6	
PKE					AML	AML		15 17 07.4	
ODZ	**Otahua Downs**	**3.28**	**213**	⇑Pn		**Pn**		**15 15 57.1**	**-0.6**
ODZ					AML	AML		15 16 13.5	
ODZ					AML	AML		15 18 22.0	
ODZ	**Otahua Downs**	**3.28**	**213**	Pn		**Pn**		**15 15 57.1**	**-0.6**
VRZ	**Vera Road**	**3.41**	**21**	PN		**Pn**		**15 16 02.2**	**+2.6**
VRZ					AML	AML		15 17 07.5	
VRZ					AML	AML		15 17 13.1	
VRZ	**Vera Road**	**3.41**	**21**	Pn		**Pn**		**15 16 02.2**	**+2.6**
MTVZ	**Mangateitei**	**3.41**	**32**	AML		AML		15 17 01.9	
MTVZ					AML	AML		15 17 02.4	
MTVZ	**Mangateitei**	**3.41**	**32**	Pn		**Pb**		**15 16 07.6**	**+0.5**
PKVZ	**Pokaka**	**3.45**	**30**	AML		AML		15 16 32.7	
PKVZ					AML	AML		15 16 37.8	
WNVZ	**Wahianoa**	**3.51**	**33**	PN		**Pn**		**15 16 02.2**	**+1.2**
WNVZ	**Wahianoa**	**3.51**	**33**	Pn		**Pn**		**15 16 02.2**	**+1.2**
FWVZ	**Far West T-bar**	**3.56**	**32**	PN		**Pn**		**15 16 02.8**	**+1.1**
FWVZ					AML	AML		15 17 13.6	
FWVZ					AML	AML		15 17 19.1	
FWVZ	**Far West T-bar**	**3.56**	**32**	Pn		**Pn**		**15 16 02.9**	**+1.1**
BHHZ	**Black Hill Sta**	**3.58**	**39**	PN		**Pn**		**15 16 01.8**	**-0.1**
BHHZ	**Black Hill Sta**	**3.58**	**39**	Pn		**Pn**		**15 16 01.8**	**-0.1**
JCZ	**Jackson Bay**	**3.65**	**240**	PN		**Pn**		**15 16 03.0**	**+0.1**
JCZ					AML	AML		15 16 50.1	
JCZ					AML	AML		15 16 50.4	
JCZ	**Jackson Bay**	**3.65**	**240**	Pn		**Pn**		**15 16 03.0**	**+0.1**
OTVZ	**Oturere**	**3.68**	**32**	PN		**Pn**		**15 16 04.9**	**+1.5**
OTVZ					AML	AML		15 17 12.5	
OTVZ					AML	AML		15 17 24.6	
OTVZ	**Oturere**	**3.68**	**32**	Pn		**Pn**		**15 16 04.9**	**+1.5**
WTVZ	**West Tongariro**	**3.69**	**31**	*e*PN		**Pn**		**15 16 07.4**	**+3.9**
WTVZ					AML	AML		15 17 12.1	
WTVZ					AML	AML		15 17 13.8	
WTVZ	**West Tongariro**	**3.69**	**31**	*e*Pn		**Pn**		**15 16 07.4**	**+3.9**
KRVZ	**Karewarewa**	**3.73**	**31**	AML		AML		15 16 20.2	
KRVZ					AML	AML		15 17 19.3	
KATZ	**Kakaramea**	**3.86**	**31**	AML		AML		15 16 26.1	
WKZ	**Wanaka**	**3.92**	**229**	PN		**Pn**		**15 16 05.5**	**-1.0**
WKZ					AML	AML		15 17 29.2	
WKZ					AML	AML		15 17 30.3	
WKZ	**Wanaka**	**3.92**	**229**	Pn		**Pn**		**15 16 05.5**	**-1.0**
HIZ	**Hauiti**	**4.01**	**19**	PN		**Pn**		**15 16 09.3**	**+1.5**
HIZ					AML	AML		15 17 27.6	
HIZ					AML	AML		15 17 29.7	
HIZ	**Hauiti**	**4.01**	**19**	Pn		**Pn**		**15 16 09.3**	**+1.5**
HHSZ	**Highcliff Hill**	**4.01**	**206**	⇓PN		**Pn**		**15 16 07.4**	**-0.4**
HHSZ	**Highcliff Hill**	**4.01**	**206**	Pn		**Pn**		**15 16 07.4**	**-0.4**
EAZ	**Earnscleugh**	**4.03**	**222**	PN		**Pn**		**15 16 07.1**	**-0.9**
EAZ					AML	AML		15 16 57.5	
EAZ	**Earnscleugh**	**4.03**	**222**	Pn		**Pn**		**15 16 07.1**	**-0.9**
TUZ	**Tuapeka**	**4.43**	**214**	PN		**Pn**		**15 16 14.3**	**+0.7**
TUZ					AML	AML		15 17 40.7	
TUZ					AML	AML		15 17 42.3	
TUZ	**Tuapeka**	**4.43**	**214**	Pn		**Pn**		**15 16 14.3**	**+0.7**
MSZ	**Milford Sound**	**4.47**	**236**	AML		AML		15 17 11.0	
MSZ					AML	AML		15 17 12.1	
TOZ	**Tahuroa Road**	**4.92**	**22**	PN		**Pn**		**15 16 21.5**	**+1.3**
TOZ	**Tahuroa Road**	**4.92**	**22**	Pn		**Pn**		**15 16 21.5**	**+1.3**
URZ	**Urewera** 39nm,0.7s	**5.06**	**38**	*e*Pn		**Pn**		**15 16 21.7**	**-0.4**
SYZ	**Scrubby Hill**	**5.11**	**213**	PN		**Pn**		**15 16 22.3**	**-0.4**
SYZ	**Scrubby Hill**	**5.11**	**213**	Pn		**Pn**		**15 16 22.3**	**-0.4**
WHZ	**Wether Hill Ro**	**5.18**	**225**	PN		**Pn**		**15 16 22.2**	**-1.7**
WHZ	**Wether Hill Ro**	**5.18**	**225**	Pn		**Pn**		**15 16 22.1**	**-1.7**
MKAZ	**Moumakai**	**5.43**	**17**	*e*PN		**Pn**		**15 16 29.9**	**+2.6**
MKAZ	**Moumakai**	**5.43**	**17**	*e*Pn		**Pn**		**15 16 29.9**	**+2.6**
ETAZ	**East Tamaki Re**	**5.53**	**15**	Pn		**Pn**		**15 16 30.4**	**+1.9**
APZ	**The Paps**	**5.83**	**218**	PN		**Pn**		**15 16 32.0**	**-0.8**
APZ	**The Paps**	**5.83**	**218**	Pn		**Pn**		**15 16 32.0**	**-0.8**
KUZ	**Kuaotunu**	**5.91**	**20**	Pn		**Pn**		**15 16 34.7**	**+0.9**
RAR	**Rarotonga** comp=Z,72nm,19.0s,baz=80,slow=34	**30.96**	**56**	LR		LR		15 32 17.8	
ASAR	**Alice Springs** 0.2nm,0.6s,baz=122,slow=7.1,SNR=1.2	**37.41**	**287**	P		**P**		**15 22 18.9**	**-0.5**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=128,slow=8.3,SNR=7.3	**39.55**	**292**	P		**P**		**15 22 36.9**	**-0.5**
TORD	**Torodi Ar. Bea** 0.4nm,0.4s,baz=155,slow=2.2,SNR=2.4	**150.01**	**197**	PKPbc		**PKPab**		**15 35 02.7**	**0.0**

*SOME **07** 15:28:04.3, 41°.87N×82°.30E, h20km*
*NNC **07** 15:28:07.0±3.8, 42°.03N×81°.96E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=35.0km s-min=16.5km az=175.0*

ISC 07 15:28:06.6±2.9, 41°.9N±0'.1×82°.4E±0'.1, h13km, n13, σ1§78/24, 1C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 21nm,0.4s	**2.13**	**316**	*e*P		**Pn**		**15 28 42.4**	**+0.3**
KTMS					*e*S	**Sb**		**15 29 10.1**	**-1.6**
SHLS	**Shalkode** 9.8nm,0.2s	**2.23**	**304**	*e*P		**Pn**		**15 28 44.2**	**+0.8**
SHLS					*e*S	**Sb**		**15 29 12.8**	**-1.6**
PDGK	**Podgornoye** 1.5nm,0.4s	**2.56**	**304**	⇑Pg		**Pn**		**15 28 47.4**	**-0.4**
PDGK					⇓Lg	Lg		15 29 20.7	
UZB	**Uzynbulak** 3.6nm,0.2s	**2.77**	**297**	*e*P		**Pn**		**15 28 53.6**	**+2.7**
UZB					*e*S	**Sb**		**15 29 29.0**	**-1.1**
DJR	**Jarkent** 3.5nm,0.2s	**3.06**	**322**	*e*P		**Pb**		**15 28 58.9**	**-2.2**
DJR					*e*S	**Sb**		**15 29 38.1**	**-0.2**
KPKS	**Kokpek** 7.5nm,0.4s	**3.14**	**300**	*e*P		**Pn**		**15 28 57.3**	**+1.5**
KPKS					*e*S	**Sn**		**15 29 35.5**	**+2.3**
SATY	**Saty** 4.5nm,0.4s	**3.16**	**292**	*e*P		**Pb**		**15 29 00.9**	**-1.8**
SATY					*e*S	**Sb**		**15 29 41.2**	**+0.1**
MNBS	**Baschi** 0.2nm,0.0s	**3.63**	**307**	*e*P		**Pn**		**15 29 04.9**	**+2.3**
MNBS					*e*S	**Sn**		**15 29 48.6**	**+3.1**
KAPS	**Kapalarasan** 1.9nm,0.3s	**4.01**	**328**	*e*P		**Pn**		**15 29 09.3**	**+1.5**
KAPS					*e*S	**Sn**		**15 29 55.9**	**+1.3**
MDOK	**Medeo** 1.8nm,0.6s	**4.14**	**289**	*e*P		**Pb**		**15 29 16.6**	**-2.8**
MDOK					*e*S	**Sb**		**15 30 08.8**	**-0.6**
CHKK	**Chushkaly** 0.9nm,0.2s	**4.41**	**298**	*e*P		**Pb**		**15 29 21.7**	**-2.3**
CHKK					*e*S	**Sb**		**15 30 17.7**	**+0.6**
MK31	**Makanchi Array** 0.3nm,0.6s,baz=185,slow=12,SNR=9.9	**4.86**	**359**	⇓Pn		**Pn**		**15 29 20.8**	**+1.5**
MK31					⇓Lg	Lg		15 30 37.6	
MAKZ	**Makanchi** 0.6nm,0.5s	**4.88**	**357**	⇓Pn		**Pn**		**15 29 20.3**	**+0.6**
MAKZ					⇓Sn	**Sn**		**15 30 17.2**	**+1.2**
MAKZ	0.7nm,0.7s				⇓Lg	Lg		15 30 36.3	
	1.2nm,0.9s								

*ISCJB **07** 15:43:53.1±0.6, 10°.8N±0'.1×41°.07W±0'.09, h10km, mb4.2/19, MS3.7/19, Error ellipse: s-maj=18.2km s-min=12.1km az=160.2*
*IDC **07** 15:43:53.2±0.8, 10°.83N×41°.08W, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.0/41, mbtmp4.1/12, MS3.7/19, Ms1 3.7/19, ms1mx3.6/29, Error ellipse: s-maj=27.5km s-min=16.4km az=164.0*
*NEIC **07** 15:43:54.8±0.6, 10°.79N×41°.07W, h10km, mb4.5/7, Error ellipse: s-maj=17.7km s-min=11.9km az=160.0*

ISC 07 15:43:54.7±0.7, 10°.8N±0'.2×41°.1W±0'.1, h10km, n42, σ1§12/19, mb4.3/19, MS3.7/19, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar** SNR=33	**19.61**	**283**	T		T		16 08 27.2	
H05N1	**Guadeloupe/Mar** SNR=5.3	**20.17**	**288**	T		T		16 09 13.3	
PTGA	**Pitinga** 12nm,0.7s,baz=51,slow=12,SNR=28	**22.01**	**240**	P		**P**		**15 48 48.8**	**-0.6**
BDFB	**Brasilia** comp=Z,292nm,21.5s,baz=16,slow=35	**27.17**	**195**	LR		LR		15 59 34.6	
SAML	**Samuel** 2.1nm,0.8s	**29.48**	**229**	*e*P		**P**		**15 49 58.9**	**-0.3**
H10N3	**ASCENSION HYDR** baz=304,slow=75,SNR=350	**32.30**	**124**	T		T		16 24 23.3	
H10N2	**ASCENSION HYDR** baz=304,slow=75,SNR=379	**32.30**	**124**	T		T		16 24 18.5	
H10N1	**ASCENSION HYDR** baz=304,slow=75,SNR=311	**32.32**	**124**	T		T		16 24 24.8	
H10S3	**ASCENSION HYDR** baz=306,slow=75,SNR=466	**32.81**	**126**	T		T		16 25 01.5	
H10S1	**ASCENSION HYDR** baz=306,slow=75,SNR=374	**32.81**	**126**	T		T		16 24 57.8	
H10S2	**ASCENSION HYDR** baz=306,slow=75,SNR=354	**32.81**	**126**	T		T		16 25 02.2	
ROSC	**El Rosal** comp=Z,123nm,21.7s,baz=100,slow=35	**33.44**	**262**	LR		LR		16 03 21.4	
DBIC	**Dimbokro** 5.3nm,0.8s,baz=273,slow=9.7,SNR=9.0	**36.02**	**94**	P		**P**		**15 50 56.1**	**-0.4**
LPAZ	**La Paz** 4.4nm,0.9s,baz=37,slow=6.4,SNR=7.6	**37.97**	**225**	P		**P**		**15 51 13.5**	**-0.2**
LPAZ	comp=Z,173nm,21.2s,baz=62,slow=36					LR		16 07 00.3	
CPUP	**Villa Florida** comp=Z,191nm,19.4s,baz=25,slow=36	**40.16**	**203**	LR		LR		16 08 00.5	
ATAH	**Atahualpa** 6.4nm,1.0s,baz=63,slow=2.3,SNR=3.5	**41.20**	**246**	P		**P**		**15 51 41.2**	**+0.7**
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=277,slow=7.6,SNR=30	**41.87**	**82**	P		**P**		**15 51 45.7**	**+0.1**
ESDC	**Sonseca Array** comp=Z,150nm,21.6s,baz=250,slow=31	**43.68**	**42**	LR		LR		16 06 39.7	
SCHQ	**Schefferville** comp=Z,80nm,19.6s,baz=102,slow=33	**48.39**	**340**	LR		LR		16 10 34.2	
KEST	**Kesra** comp=Z,110nm,20.5s,baz=298,slow=35	**51.85**	**53**	LR		LR		16 14 01.9	
H09N1	**TRISTAN DA CUN**	**54.76**	**152**	T		T		16 52 06.6	
WMOK	**Wichita Mounta** 3.8nm,0.9s	**57.45**	**304**	*e*P		**P**		**15 53 43.0**	**-1.1**
PLCA	**Paso Flores** comp=Z,56nm,18.4s,baz=100,slow=38	**58.08**	**206**	LR		LR		16 20 57.0	
GERES	**GERESS Array B** comp=Z,51nm,22.0s,baz=280,slow=32	**59.05**	**39**	LR		LR		16 15 07.0	
ULM	**Lac du Bonnet** comp=Z,42nm,18.1s,baz=258,slow=35	**59.56**	**323**	LR		LR		16 18 49.4	
TXAR	**Lajitas Array** 0.8nm,0.6s,baz=88,slow=4.6,SNR=7.1	**60.93**	**298**	P		**P**		**15 54 08.0**	**-0.4**
MNTX	**Cornudas Mount** 2.6nm,0.9s	**62.57**	**300**	*e*P		**P**		**15 54 17.9**	**-1.4**
NOA	**NORSAR Array B** comp=Z,37nm,21.1s,baz=60,slow=31	**62.91**	**26**	LR		LR		16 16 43.4	
SDCO	**Great Sand Dun** 3.9nm,0.8s	**63.26**	**307**	*e*P		**P**		**15 54 25.6**	**+1.4**
PDAR	**Pinedale Array** comp=Z,86nm,21.9s,baz=102,slow=33	**66.95**	**312**	LR		LR		16 20 44.4	
WUAZ	**Wupatki** 7.9nm,0.8s	**67.78**	**304**	*e*P		**P**		**15 54 55.1**	**+1.8**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=265,slow=5.5,SNR=3.6	**69.24**	**40**	P		**P**		**15 55 01.4**	**-0.5**
AKASG	comp=Z,58nm,19.4s,baz=50,slow=34					LR		16 23 44.2	
FINES	**FINESS Array B** comp=Z,42nm,19.4s,baz=256,slow=34	**69.71**	**28**	LR		LR		16 22 45.5	
HLID	**Hailey** 1.9nm,0.5s	**70.56**	**312**	P		**P**		**15 55 09.6**	**-0.8**
ELK	**Elko** 3.8nm,1.0s	**71.03**	**309**	P		**P**		**15 55 14.7**	**+1.2**
BRTR	**Keskin Array B** 1.3nm,0.8s,baz=256,slow=5.8,SNR=6.6	**71.43**	**52**	P		**P**		**15 55 16.2**	**+0.5**
BRTR	comp=Z,18nm,19.9s,baz=300,slow=36					LR		16 26 54.7	
ARCES	**ARCESS Array B** comp=Z,48nm,21.5s,baz=255,slow=31	**71.83**	**20**	LR		LR		16 21 08.5	
YKA	**Yellowknife Ar** 0.7nm,0.7s,baz=102,slow=5.4,SNR=8.4	**72.87**	**332**	P		**P**		**15 55 22.0**	**-1.7**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=68,slow=13,SNR=3.2	**73.38**	**307**	P		**P**		**15 55 28.3**	**+0.8**
NVAR	comp=Z,30nm,19.4s,baz=100,slow=35					LR		16 26 10.0	
BOSA	**Boshof** comp=Z,71nm,20.2s,baz=319,slow=29	**75.06**	**124**	LR		LR		16 20 43.5	
**INK

baz=316,slow=76,SNR=20
CMAR Chiang Mai Arr 41.66 255 P **P 15 52 06.6 0.0**
0.2nm,0.4s,baz=56,slow=6.7,SNR=2.8
ZALV Zalesovo Beam 41.92 312 P **P 15 52 07.9 -0.3**
1.3nm,0.6s,baz=99,slow=8.9,SNR=5.4
MKAR Makanchi Array 44.16 302 P **P 15 52 26.4 -0.1**
0.5nm,0.6s,baz=87,slow=9.5,SNR=6.1
BVAR Borovoye Array 50.58 312 P **P 15 53 16.3 0.0**
0.4nm,0.5s,baz=82,slow=11,SNR=4.0
WRA Warramunga Arr 57.22 188 P **P 15 54 05.0 -0.1**
0.2nm,0.4s,baz=5.4,slow=7.0,SNR=8.3
ASAR Alice Springs 60.95 188 P **P 15 54 31.2 +0.4**
0.3nm,0.9s,baz=8.9,slow=6.6,SNR=3.3
AKASG Malin Array Be 74.27 322 P **P 15 55 53.8 -1.0**
0.4nm,0.3s,baz=46,slow=6.6,SNR=3.1

*ISCJB **07** 15:49:41.4±0.4,6°.03N±0°.03×73°.66W±0°.04,h134km±4km, mb3.5/3,Error ellipse: s-maj=7.7km s-min=3.7km az=40.3*
*IDC **07** 15:49:43.0±0.8,6°.08N×73°.69W,h132km±11km,mb3.4/3, mb1 3.7/5,mb1mx3.3/27,mbtmp3.9/5,Error ellipse: s-maj=38.4km s-min=10.5km az=131.0*
*RSNC **07** 15:49:44.0±0.6,6°.02N×73°.70W,h113km±5km,ML3.6*
*FUNV **07** 15:49:44.0,5°.96N×73°.64W,h132km,MW3.7*

ISC 07 15:49:42.4±0.8,6°.06N±0°.05×73°.57W±0°.05,h133km±6km, n37,σ2s02/63,mb3.6/3,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
RUSC	**La Rusia**	**0.51**	**108**	⇓*iP*		**Pn**	**15 50 02.5**	**0.0**
RUSC				*i*			15 50 03.0	
	comp=Z,1μm,0.3s							
RUSC				*eS*		**Sn**	**15 50 16.6**	**-1.0**
BARC	**Barichara**	**0.66**	**36**	*i* P		**Pn**	**15 50 03.4**	**+0.3**
BARC				*eS*		**Sn**	**15 50 18.5**	**-0.3**
BARC				*i*			15 50 19.6	
	comp=Z,3μm,0.5s							
BRRC	**Barranca, Sant**	**1.05**	**353**	*eP*		**Pn**	**15 50 05.6**	**-0.5**
BRRC				*eS*		**Sn**	**15 50 22.6**	**-1.6**
BRRC				*i*			15 50 26.3	
	comp=Z,894nm,0.2s							
NORC	**Norcasia**	**1.38**	**249**	*eP*		**Pn**	**15 50 07.5**	**-1.9**
NORC				*eS*		**Sn**	**15 50 26.2**	**-3.7**
ROSC	**El Rosal**	**1.42**	**212**	P		**Pn**	**15 50 10.6**	**+0.3**
	comp=Z,19nm,0.3s,baz=311,slow=16,SNR=26							
ROSC				S		**Sn**	**15 50 31.1**	**-0.3**
	comp=Z,34nm,0.3s,baz=315,slow=24,SNR=6.2							
ROSC	**El Rosal**	**1.42**	**212**	*eP*		**Pn**	**15 50 09.8**	**-0.5**
ROSC				*eS*		**Sn**	**15 50 28.6**	**-2.8**
ROSC				*i*			15 50 36.4	
	comp=Z,452nm,0.4s							
CHIC	**Chingaza**	**1.42**	**186**	*eP*		**Pn**	**15 50 09.6**	**-0.8**
CHIC				*eS*		**Sn**	**15 50 29.1**	**-2.4**
CHIC				*i*			15 50 33.4	
	comp=Z,282nm,0.2s							
PAMC	**Pamplona, Colo**	**1.54**	**34**	*eP*		**Pn**	**15 50 12.8**	**+1.1**
PAMC				*eS*		**Sn**	**15 50 35.3**	**+1.3**
VILC	**Villavicencio,**	**1.93**	**184**	*eP*		**Pn**	**15 50 15.6**	**-0.3**
GUYC	**Guyana, Colomb**	**1.99**	**246**	*eP*		**Pn**	**15 50 15.7**	**-1.1**
GUYC				*eS*		**Sn**	**15 50 39.8**	**-3.3**
GUYC				*i*			15 50 43.5	
	comp=Z,606nm,0.4s							
OCAC	**Ocana**	**2.19**	**7**	*eP*		**Pn**	**15 50 20.1**	**+1.1**
OCAC				*eS*		**Sn**	**15 50 48.0**	**+1.0**
OCAC				*i*			15 50 52.8	
	comp=Z,444nm,0.5s							
CAPV	**Capacho**	**2.19**	**35**	*eP*		**Pn**	**15 50 21.2**	**+2.1**
CAPV				*eS*		**Sn**	**15 50 49.1**	**+1.8**
TOLC	**Tolima**	**2.27**	**230**	*eP*		**Pn**	**15 50 18.9**	**-1.2**
TOLC				*eS*		**Sn**	**15 50 46.2**	**-2.9**
PRAC	**Prado**	**2.67**	**209**	*eP*		**Pn**	**15 50 24.1**	**-0.8**
PRAC				*eS*		**Sn**	**15 50 55.4**	**-2.2**
DBBC	**Dabeiba**	**2.79**	**290**	*eP*		**Pn**	**15 50 25.3**	**-1.1**
DBBC				*i*			15 50 30.2	
	comp=Z,29nm,0.1s							
SOCV	**Socops**	**3.49**	**50**	*eP*		**Pn**	**15 50 36.6**	**+1.1**
SOCV				*eS*		**Sn**	**15 51 16.6**	**-0.1**
VIGV	**El Vigia**	**3.53**	**38**	*eP*		**Pn**	**15 50 38.0**	**+2.0**
SDV	**Santo Domingo**	**4.05**	**46**	P		**Pn**	**15 50 45.2**	**+2.1**
	comp=Z,5.3nm,0.3s,baz=231,slow=17,SNR=2.9							
SDV				S		**Sn**	**15 51 32.0**	**+1.8**
	comp=Z,7.6nm,0.3s,baz=232,slow=15,SNR=3.5							
ELOV	**Elorza**	**4.17**	**77**	*eP*		**Pn**	**15 50 45.4**	**+0.9**
VIRV	**Villa del Rosa**	**4.57**	**15**	*eP*		**Pn**	**15 50 50.5**	**+0.7**
VIRV				*eS*		**Sn**	**15 51 40.9**	**-1.3**
SANV	**Sanarito**	**5.27**	**49**	*eP*		**Pn**	**15 51 00.1**	**+0.8**
SANV				*eS*		**Sn**	**15 51 56.5**	**-2.6**
CURV	**Curarigua**	**5.32**	**42**	*eP*		**Pn**	**15 51 01.1**	**+1.2**
CURV				*eS*		**Sn**	**15 51 57.7**	**-2.6**
DABV	**Dabajuro**	**5.64**	**31**	*eP*		**Pn**	**15 51 05.4**	**+1.2**
DABV				*eS*		**Sn**	**15 52 05.1**	**-2.8**
TEPV	**Terepaima**	**5.82**	**48**	*eP*		**Pn**	**15 51 07.8**	**+1.2**
TEPV				*eS*		**Sn**	**15 52 09.7**	**-2.7**
PAYV	**Puerto Ayacuch**	**5.92**	**96**	*eP*		**Pn**	**15 51 08.0**	**+0.1**
BAUV	**El Baul**	**6.19**	**62**	*eP*		**Pn**	**15 51 11.6**	**0.0**
BAUV				*eS*		**Sn**	**15 52 17.0**	**-4.1**
MAPV	**Macapo**	**6.30**	**53**	*eP*		**Pn**	**15 51 14.2**	**+1.2**
MAPV				*eS*		**Sn**	**15 52 20.3**	**-3.6**
MONV	**Montecano**	**6.86**	**31**	*eP*		**Pn**	**15 51 21.4**	**+0.9**
MONV				*eS*		**Sn**	**15 52 32.7**	**-4.6**
TURV	**Turiamo**	**7.16**	**52**	*eP*		**Pn**	**15 51 25.3**	**+0.7**
BIRV	**Birongo**	**8.46**	**58**	*eP*		**Pn**	**15 51 41.8**	**-0.3**
BIRV				*eS*		**Sn**	**15 53 09.3**	**-6.6**
CUPV	**Cœpira**	**8.67**	**62**	*eP*		**Pn**	**15 51 45.1**	**+0.1**
CUPV				*eS*		Sn	15 53 14.0	-7.3
PCRV	**Puerto La Cruz**	**9.75**	**65**	P		**Pn**	**15 52 01.3**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=180,slow=7.1,SNR=1.7							
PCRV				S		**Sn**	**15 53 45.2**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=208,slow=15,SNR=1.6							
NVAR	**Mina Array Bea**	**51.70**	**315**	P		**P**	**15 58 35.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=113,slow=6.9,SNR=2.9							
YKA	**Yellowknife Ar**	**63.83**	**340**	P		**P**	**16 00 00.5**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=132,slow=6.5,SNR=13							
YKA				pP		**pP**	**16 00 33.3**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=128,slow=6.8,SNR=3.9							
NOA	**NORSAR Array B**	**82.21**	**29**	P		**P**	**16 01 51.0**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=269,slow=5.1,SNR=2.6							
ASAR	**Alice Springs**	**148.30**	**234**	PKPbc		**PKPbc**	**16 09 13.4**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=120,slow=3.6,SNR=65							
WRA	**Warramunga Arr**	**149.57**	**240**	PKPbc		**PKPbc**	**16 09 16.8**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=108,slow=2.8,SNR=36							

WEL 07 15:54:46.6±0.1,43°.50S×172°.15E,h9km,ML3.5/13,3C-5D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
OXZ	**Oxford**	**0.19**	**335**	⇓PG		Pg	15 54 50.2	-0.4
OXZ				SG		Sg	15 54 53.1	-0.1
OXZ				SG			15 54 53.3	
CRLZ	**Canterbury Las**	**0.35**	**103**	⇓PG		Pg	15 54 54.0	+0.4
CRLZ				AML		AML	15 54 59.3	
CRLZ				AML		AML	15 55 00.4	
MQZ	**McQueen's Vall**	**0.42**	**120**	⇑P*		Pg	15 54 55.0	+0.2
MQZ				SG		Sg	15 55 01.4	+1.0
MQZ				AML		AML	15 55 01.7	
LTZ	**Lake Taylor**	**0.72**	**7**	⇓P*		Pg	15 55 00.7	+0.1
LTZ				S*		Sg	15 55 10.6	+0.7
LTZ				AML		AML	15 55 12.3	
RPZ	**Rata Peaks**	**0.82**	**254**	⇓P*		Pg	15 55 02.0	-0.5
RPZ				AML		AML	15 55 14.9	
RPZ				AML		AML	15 55 17.1	
INZ	**Inchbonnie**	**0.93**	**326**	⇓P*		Pg	15 55 03.9	-0.5
WVZ	**Waitaha Valley**	**1.12**	**292**	P*		Pg	15 55 06.9	-1.1
WVZ				S*		Sn	15 55 23.4	-0.4
WVZ				AML		AML	15 55 23.7	
KHZ	**Kahutara**	**1.49**	**44**	⇑PN		Pn	15 55 11.9	-1.6
LBZ	**Lake Benmore**	**1.67**	**237**	PN		Pn	15 55 14.6	-1.5
LBZ				AML		AML	15 55 41.0	
LBZ				AML		AML	15 55 41.1	
LBZ				AML		AML	15 55 41.8	
LBZ				AML		AML	15 55 44.4	
FOZ	**Fox Glacier**	**1.70**	**268**	PN		Pn	15 55 16.3	-0.1
DSZ	**Denniston Nort**	**1.77**	**352**	PN		Pn	15 55 16.1	-1.4
DSZ				AML		AML	15 55 32.0	
DSZ				AML		AML	15 55 43.9	
THZ	**Tophouse**	**1.82**	**18**	PN		Pn	15 55 16.5	-1.7
THZ				AML		AML	15 55 43.8	
THZ				AML		AML	15 55 57.7	
ODZ	**Otahua Downs**	**1.89**	**214**	⇑PN		Pn	15 55 16.8	-2.1
ODZ				AML		AML	15 55 47.7	
ODZ				AML		AML	15 55 47.8	
ODZ				AML		AML	15 55 47.8	
ODZ				AML		AML	15 55 53.7	
BSWZ	**Blackbirch Sta**	**2.19**	**36**	PN		Pn	15 55 21.7	-1.5
NNZ	**Nelson**	**2.46**	**22**	PN		Pn	15 55 25.8	-0.9
TUWZ	**Tuamarina**	**2.46**	**33**	PN		Pn	15 55 25.4	-1.4
JCZ	**Jackson Bay**	**2.50**	**256**	PN		Pn	15 55 26.8	-0.8
JCZ				AML		AML	15 56 08.6	
WKZ	**Wanaka**	**2.62**	**238**	*e*PN		Pn	15 55 27.5	-1.5
EAZ	**Earnscleugh**	**2.67**	**229**	PN		Pn	15 55 27.9	-1.9
EAZ				AML		AML	15 56 11.5	
EAZ				AML		AML	15 56 13.9	
QRZ	**Quartz Range**	**2.69**	**6**	PN		Pn	15 55 28.6	-1.4
TCW	**Tory Channel**	**2.78**	**35**	PN		Pn	15 55 29.1	-2.1
TUZ	**Tuapeka**	**3.04**	**215**	PN		Pn	15 55 32.7	-2.1
TUZ				AML		AML	15 56 24.6	
TUZ				AML		AML	15 56 29.7	
MSZ	**Milford Sound**	**3.26**	**247**	AML		AML	15 56 36.1	
KIW	**Kapiti Island**	**3.34**	**39**	*e*PN		Pn	15 55 37.2	-1.7
SYZ	**Scrubby Hill**	**3.71**	**214**	PN		Pn	15 55 42.5	-1.6
MRZ	**Mangatainoka R**	**3.81**	**43**	PN		Pn	15 55 43.1	-2.4
WHZ	**Wether Hill Ro**	**3.83**	**230**	PN		Pn	15 55 42.8	-3.0
APZ	**The Paps**	**4.45**	**220**	PN		Pn	15 55 51.4	-2.7

GUC 07 15:59:41.2±0.5,22°.24S×67°.89W,h195km±7km,ML3.5, 4C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
PB09	**IPOC Station P**	**1.33**	**289**	*eP*		Pn	16 00 14.4	+1.2
PB09				*eS*		Sn	16 00 39.2	+1.2
PB09				IAML			16 00 41.5	
	comp=N,520nm,0.4s							
PB06	**IPOC Station P**	**1.62**	**253**	*eP*		Pn	16 00 16.9	+1.0
PB06				*i* S		Sn	16 00 43.9	+1.2
PB01	**IPOC Station P**	**1.90**	**308**	⇓*iP*		Pn	16 00 19.5	+1.0
PB01				*i* S		Sn	16 00 48.9	+1.4
PB07	**IPOC Station P**	**1.92**	**285**	⇑*iP*		Pn	16 00 20.2	+1.4
PB07				*i* S		Sn	16 00 49.5	+1.6
PB07				IAML			16 00 50.2	
	comp=N,278nm,0.3s							
PB04	**IPOC Station P**	**2.09**	**267**	*eP*		Pn	16 00 21.9	+1.4
PB04				*eS*		Sn	16 00 52.6	+1.5
PB08	**IPOC Station P**	**2.39**	**330**	⇑*iP*		Pn	16 00 25.4	+1.3
PB08				*i* S		Sn	16 00 59.7	+2.3
PB08				IAML			16 01 01.4	
	comp=E,124nm,0.7s							
PB11	**IPOC Station P**	**2.96**	**326**	⇑*iP*		Pn	16 00 30.6	+0.2
PB11				*i* S		Sn	16 01 09.4	+0.6
PSGC	**Pisagua**	**3.35**	**321**	*eP*		Pn	16 00 35.0	0.0
PSGC				*i* S		Sn	16 01 16.8	-0.3
MNMC	**Minye Minye**	**3.48**	**332**	⇑*iP*		Pn	16 00 37.5	+0.9
MNMC				*i* S		Sn	16 01 21.0	+0.9

*IDC **07** 16:13:43.8±3.1,8°.71S×110°.27E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/36,mbtmp3.3/4,ML3.4/1,Error ellipse: s-maj=157.9km s-min=26.9km az=48.0*
*ISCJB **07** 16:13:48.5±0.7,9°.19S±0°.08×110°.20E±0°.05,h33km, mb3.2/3,Error ellipse: s-maj=12.4km s-min=6.5km az=19.1*
*DJA **07** 16:13:48.0±0.6,9°.S±7°.×11°0E±°,h10km,M4.1/18,mB4.8/1, mb4.5/2,MLv4.0/18,Mw(mB)4.0/1*

ISC 07 16:13:49.6±1.1,9°.1S±0°.1×110°.21E±0°.05,h35km,n21, σ1s47/18,mb3.1/3,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
UGM	**Wanagama**	**1.19**	**15**	P		**Pn**	**16 14 09.6**	**-0.2**
PCJI	**Pacitan**	**1.29**	**48**	P		**Pn**	**16 14 10.3**	**-0.8**
PWJI	**Pagerwojo**	**1.89**	**57**	P		**Pn**	**16 14 19.3**	**0.0**
SMRI	**Semarang**	**2.02**	**6**	P		**Pn**	**16 14 22.9**	**+1.7**
NGJI	**Ngawi**	**2.10**	**36**	P		**Pn**	**16 14 25.3**	**+3.1**
KPJI	**Karang Pucung**	**2.14**	**324**	P		**Pn**	**16 14 24.4**	**+1.6**
CMJI	**Cimerak**	**2.16**	**306**	P		**Pn**	**16 14 24.1**	**+1.0**
CISI	**Cisompet, Garu**	**2.81**	**302**	P		**Pn**	**16 14 32.6**	**+0.5**
GMJI	**Gumukmas**	**3.29**	**76**	P		**Pn**	**16 14 39.8**	**+1.1**
CNJI	**Cibinong**	**3.52**	**300**	P		**Pn**	**16 14 42.8**	**+1.1**
JAGI	**Jajag, Banyuwa**	**3.94**	**82**	P		**Pn**	**16 14 48.8**	**+1.2**
ABJI	**Asem Bagus**	**4.18**	**73**	P		**Pn**	**16 14 52.1**	**+1.3**
SRBI	**Singaraja**	**5.04**	**79**	P		**Pn**	**16 15 04.0**	**+1.3**
	40nm,0.6s,850nm0.2nm							
CGJI	**Cibinong**	**5.10**	**298**	P		**Pn**	**16 15 04.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**17.47**	**123**	P		**Pn**	**16 17 50.6**	**+0.1**
	0.1nm,0.3s,baz=286,slow=7.4,SNR=2.0							
FITZ				S		Sn	16 20 51.2	-13
	0.1nm,0.3s,baz=178,slow=13,SNR=2.4							
WRA	**Warramunga Arr**	**25.70**	**118**	P		**P**	**16 19 17.2**	**+0.4**
	0.3nm,0.7s,baz=291,slow=11,SNR=6.5							
ASAR	**Alice Springs**	**26.91**	**125**	P		**P**	**16 19 28.3**	**+0.7**
	0.2nm,0.4s,baz=303,slow=10,SNR=10							
H08S2	**Diego Garcia H**	**37.33**	**269**	T		T	17 00 37.6	
	baz=94							
H08S3	**Diego Garcia H**	**37.34**	**269**	T		T	17 00 49.1	
	baz=94							
H08S1	**Diego Garcia H**	**37.35**	**269**	T		T	17 00 46.8	
	baz=94							
MKAR	**Makanchi Array**	**60.93**	**338**	P		**P**	**16 23 56.5**	**-2.6**
	0.2nm,0.4s,baz=159,slow=6.7,SNR=4.2							

IDC 07 16:33:25.9±6.4,8°.07S×129°.42E,h0km,mb3.9/1, mb1 3.4/3,mb1mx3.2/26,mbtmp3.2/3,ML3.0/2,Error ellipse: s-maj=89.3km s-min=72.1km az=88.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
WRA	**Warramunga Arr**	**12.73**	**159**	Pn		Pn	16 36 27.8	-0.5
	0.1nm,0.3s,baz=338,slow=13,SNR=6.3							
WRA				Sn		Sn	16 38 50.8	-0.1
	0.2nm,0.3s,baz=335,slow=23,SNR=8.4							
ASAR	**Alice Springs**	**16.09**	**165**	Pn		Pn	16 37 14.2	+0.4
	0.1nm,0.3s,baz=340,slow=8.9,SNR=6.3							
ASAR				Sn		Sn	16 40 15.9	+2.9
	0.1nm,0.3s,baz=339,slow=23,SNR=1.6							
STKA	**Stephens Creek**	**26.26**	**156**	P		P	16 39 03.0	0.0
	1.9nm,0.9s,baz=315,slow=8.6,SNR=2.0							

*IDC **07** 16:35:16.9±1.1,10°.34N×87°.14W,h0km,mb3.8/7, mb1 4.1/8,mb1mx3.9/37,mbtmp3.9/8,ML3.8/1,MS3.4/4, Ms1 3.3/4,ms1mx2.8/42,Error ellipse: s-maj=41.4km s-min=19.6km az=34.0*
*ISCJB **07** 16:35:18.5±0.7,10°.37N±0°.05×87°.23W±0°.04,h23km, mb3.8/7,MS3.3/4,Error ellipse: s-maj=8.4km s-min=4.1km az=35.6*
*CASC **07** 16:35:20.2±2.3,10°.40N×87°.21W,h84km±78km,MD4.1, ML3.7*

ISC 07 16:35:20.5±0.7,10°.44N±0°.06×87°.17W±0°.06,h23km,n36, σ1s14/45,mb3.9/7,MS3.4/4,2C-3D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
CRUN	**El Crucero**	**1.76**	**29**	*eP*		**Pn**	**16 35 50.4**	**+0.8**
COPN	**Copaltepe**	**1.82**	**18**	⇓*eP*		**Pn**	**16 35 51.0**	**+0.5**
COPN				*eP*		**Pn**	**16 35 51.0**	**+0.5**
COPN				*eS*		**Sn**	**16 36 13.5**	**+0.6**
XAVN	**Gruta Xavier**	**1.89**	**26**	*eP*		**Pn**	**16 35 51.8**	**+0.4**
TISN	**Laguna Tiscapa**	**1.91**	**27**	*eP*		**Pn**	**16 35 52.1**	**+0.4**
MGAN	**Managua**	**1.93**	**28**	*eP*		**Pn**	**16 35 52.4**	**+0.5**
MGAN				AML		AML	16 36 21.1	
	comp=N,666nm,0.4s							
APYN	**Apoyeque**	**1.96**	**24**	*eP*		**Pn**	**16 35 52.9**	**+0.5**
MOMN	**Momotombo**	**2.06**	**17**	*eP*		**Pn**	**16 35 53.8**	**+0.1**
CNGN	**Cerro Negro**	**2.10**	**13**	⇑*eP*		**Pn**	**16 35 54.5**	**+0.1**
CNGN				*eP*		**Pb**	**16 35 54.7**	**-3.3**
CNGN				*eS*		**Sn**	**16 36 20.5**	**+0.6**
BOAB	**BOACO BROADBAN**	**2.49**	**36**	*eP*		**Pn**	**16 35 59.7**	**+0.1**
CGA2	**Cerro Gallo 2**	**2.69**	**99**	⇑*eP*		**Pn**	**16 36 02.3**	**-0.3**
CGA2				*eS*		**Sn**	**16 36 34.2**	**-0.3**
ESTN	**Estel**	**2.76**	**16**	*eP*		**Pn**	**16 36 03.7**	**+0.3**
CNCH	**Conchagua**	**2.90**	**347**	*eP*		**Pn**	**16 36 05.4**	**0.0**
CNCH				*eS*		**Sn**	**16 36 37.6**	**-2.0**
QCR	**Quepos**	**3.13**	**108**	⇓*eP*		**Pn**	**16 36 07.3**	**-1.0**
QCR				*eS*		**Sn**	**16 36 41.6**	**-3.4**
PACA	**Pacayal**	**3.22**	**340**	*eP*		**Pn**	**16 36 09.9**	**+0.1**
URSC	**Urasca**	**3.39**	**100**	⇓*iP*		**Pn**	**16 36 13.5**	**+1.3**
URSC				*eS*		**Sn**	**16 36 52.2**	**+0.4**
BUS	**Buena Vista**	**3.47**	**104**	*eS*		**Sn**	**16 36 53.4**	**-0.8**
TGUH	**Tegucigalpa,Un**	**3.60**	**358**	*eP*		**Pn**	**16 36 16.0**	**+1.1**
LFRS	**El Faro**	**3.67**	**330**	*eP*		**Pn**	**16 36 15.3**	**-0.7**
LFRS				*eS*		**Sn**	**16 36 56.3**	**-2.3**
LBRS	**Las Brisas**	**3.76**	**331**	*eP*		**Pn**	**16 36 16.0**	**-1.2**
LFU	**La Fuente**	**3.80**	**330**	*eP*		**Pn**	**16 36 16.8**	**-1.0**
SBLS	**San Blas**	**4.15**	**325**	*eP*		**Pn**	**16 36 22.2**	**-0.5**
MONT	**Ecomontaæa**	**4.18**	**325**	*eP*		**Pn**	**16 36 23.1**	**+0.1**
RBDL	**Robledal**	**4.41**	**326**	*eP*		**Pn**	**16 36 26.1**	**0.0**
CMIG	**Matias Romero**	**9.99**	**312**	Pn		**Pn**	**16 37 43.4**	**+0.6**
	comp=N,0.8nm,0.3s,baz=119,slow=7.7,SNR=6.4							
PCRV	**Puerto La Cruz**	**22.17**	**89**	P		**P**	**16 40 14.2**	**-1.0**
	comp=N,4.0nm,0.5s,baz=256,slow=4.2,SNR=2.6							
TXAR	**Lajitas Array**	**24.32**	**323**	P		**P**	**16 40 38.3**	**+1.7**
	comp=N,0.5nm,0.5s,baz=139,slow=9.6,SNR=8.6							
TKL	**Tuckaleechee C**	**25.30**	**6**	P		**P**	**16 40 45.8**	**+0.4**
	comp=N,6.3nm,0.6s,baz=180,slow=13,SNR=4.8							
TKL				LR		LR	16 51 32.7	
	comp=N,49nm,20.7s,baz=64,slow=38							
PTGA	**Pitinga**	**29.25**	**111**	P		**P**	**16 41 22.0**	**+1.0**
	comp=N,1.2nm,0.5s,baz=317,slow=18,SNR=3.9							
PFO	**Pinyon Flats O**	**35.40**	**315**	LR		LR	16 56 24.2	
	comp=N,55nm,18.4s,baz=134,slow=36							
NVAR	**Mina Array Bea**	**39.40**	**320**	P		**P**	**16 42 51.3**	**+2.4**
	comp=N,0.6nm,0.7s,baz=130,slow=8.3,SNR=4.8							
NVAR				PcP		**PcP**	**16 44 56.4**	**-0.6**
	comp=N,0.6nm,0.6s,baz=108,slow=4.8,SNR=4.2							
SCHQ	**Schefferville**	**47.12**	**16**	LR		LR	17 03 23.0	
	comp=N,59nm,21.7s,baz=250,slow=36							
YKA	**Yellowknife Ar**	**55.62**	**345**	P		**P**	**16 44 54.0**	**-0.2**
	comp=N,1.2nm,0.8s,baz=139,slow=7.3,SNR=15							
YKA				PcP		**PcP**	**16 45 54.1**	**+0.5**
	comp=N,0.3nm,0.5s,baz=142,slow=3.8,SNR=4.7							
INK	**Inuvik**	**65.20**	**343**	LR		LR	17 16 25.9	
	comp=N,27nm,20.6s,baz=68,slow=38							
ILAR	**Eielson Array**	**67.97**	**336**	P		**P**	**16 46 17.5**	**+0.1**
	comp=N,0.5nm,0.8s,baz=123,slow=4.0,SNR=4.4							
FITZ	**Fitzroy Crossi**	**147.34**	**253**	PKPbc		**PKPdf**	**16 55 01.3**	**+0.5**
	comp=N,3.0nm,0.7s,baz=133,slow=4.0,SNR=6.5							
CMAR	**Chiang Mai Arr**	**150.66**	**348**	PKP		**PKPdf**	**16 55 06.0**	**-0.2**
	comp=N,0.5nm,0.8s,baz=18,slow=3.1,SNR=2.9							
CMAR				PKPbc		**PKPbc**	**16 55 11.9**	**+0.3**
	comp=N,1.2nm,0.9s,baz=347,slow=2.3,SNR=6.2							

*ISCJB **07** 16:43:21.0±0.4,6°.85S±0°.04×130°.06E±0°.08,h146km, mb3.7/6,Error ellipse: s-maj=11.1km s-min=5.2km az=169.7*
*IDC **07** 16:43:21.1±2.6,6°.88S×129°.84E,h132km±28km,mb3.6/6, mb1 3.9/10,mb1mx3.5/39,mbtmp4.2/10,Error ellipse: s-maj=45.5km s-min=19.9km az=89.0*
*DJA **07** 16:43:23.4±0.5,7°.S±4°.×13°.0E±°,h196km,19km,M4.6/10, mB5.3/2,mb4.6/5,MLv4.6/10,Mw(mB)4.7/2*
*NEIC **07** 16:43:23.0±1.0,6°.73S×129°.89E,h153km±17km,mb4.1/1, Error ellipse: s-maj=18.1km s-min=14.8km az=121.0*

ISC 07 16:43:21.9±0.7,6°.78S±0°.05×130°.03E±0°.09,h146km,n27, σ2s56/28,mb3.6/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
SAUI	**Saumlaki**	**1.74**	**133**	P		**Pn**	**16 43 58.4**	**+4.6**
SAUI	**Saumlaki**	**1.74**	**133**	*e*Pn		**Pn**	**16 43 58.1**	**+4.3**
SAUI				*e*Sn		**Sn**	**16 44 16.0**	**-2.2**
MSAI	**Masohi**	**3.59**	**342**	P		Pn	16 44 21.1	+4.4
FAKI	**Fak Fak**	**4.43**	**30**	P		**Pn**	**16 44 28.8**	**+1.0**
FAKI	**Fak Fak**	**4.43**	**30**	*e*Pn		**Pn**	**16 44 29.0**	**+1.1**
NLAI	**Namlea**	**4.57**	**320**	P		Pn	16 44 34.0	+4.3
SIJI	**Sorong**	**6.00**	**12**	P		**Pn**	**16 44 49.6**	**+0.9**
	baz=180,slow=20							
SIJI				S		**Sn**	**16 45 52.9**	**-3.7**
	baz=180,slow=20							
SWI	**Sorong**	**6.01**	**12**	P		**Pn**	**16 44 49.7**	**+0.9**
	42nm,0.3s,4μm0.4nm							

0.8nm,0.5s,baz=79,slow=8.3,SNR=4.7
NVAR Mina Array Bea 78.12 49 P **P 17 13 10.8 +1.8**
0.8nm,0.6s,baz=307,slow=5.8,SNR=6.5
PDAR Pinedale Array 79.55 41 P **P 17 13 17.8 +1.2**
0.2nm,0.3s,baz=336,slow=3.3,SNR=4.8

*ISCJB **07** 17:07:50.3±1.5,37°37′N±0′.06×142°.04E±0′.06,h3km±9km, mb3.6/5,Error ellipse: s-maj=9.8km s-min=7.2km az=155.8*
*JMA **07** 17:07:50.5±0.2,37°.32N×142°.09E,h17km±3km,M3.3*
*IDC **07** 17:07:53.2±1.7,37°.57N×141°.73E,h0km,mb3.7/5, mb1 3.8/6,mb1mx3.4/87,mbtmp3.6/6,ML2.5/2,Error ellipse: s-maj=37.9km s-min=24.9km az=84.0*
ISC 07 17:07:53.2±2.1,37°.47N±0′.06×141°.86E±0′.08,h6km±11km, n21,σ1§14/26,mb3.7/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.79**	**263**	P		**Pb**	**17 08 08.7**	**-0.7**
JFK				S		**Sn**	**17 08 21.4**	**-1.7**
ONAJ	**Iwakimizuishiy**	**0.92**	**247**	P		**Pg**	**17 08 10.0**	**-0.9**
ONAJ				S		**Sb**	**17 08 23.8**	**-0.3**
JMM	**Marumori**	**0.94**	**296**	P		**Pn**	**17 08 11.6**	**-1.3**
JMM				*e*S		**Sn**	**17 08 26.6**	**0.0**
JIO	**Ouri**	**1.07**	**338**	P		**Pg**	**17 08 12.8**	**-0.8**
JFT	**Otama**	**1.21**	**273**	P		**Pg**	**17 08 16.1**	**-0.3**
JFT				S		**Sn**	**17 08 34.1**	**+0.7**
JOU	**Okura**	**1.30**	**314**	P		**Pg**	**17 08 17.8**	**-0.4**
JOU				*e*S		**Sg**	**17 08 37.6**	**+2.5**
JMK	**Ichinoseki**	**1.57**	**341**	P		**Pn**	**17 08 20.9**	**-0.7**
JYS	**Shirataka**	**1.61**	**299**	P		**Pg**	**17 08 23.2**	**-0.8**
JYS				*e*S		**Sg**	**17 08 46.7**	**+1.9**
JFY	**Yanaizu**	**1.71**	**269**	P		**Pb**	**17 08 23.6**	**-1.5**
JFY				*e*S		**Sb**	**17 08 47.1**	**+0.1**
JYK	**Kaneyama**	**1.87**	**321**	P		**Pn**	**17 08 25.4**	**-0.3**
MJAR	**Matsushiro Arr**	**3.06**	**254**	Pn		**Pn**	**17 08 42.3**	**+0.1**
	1.5nm,0.3s,baz=87,slow=15,SNR=17							
MAT	**Matsushiro**	**3.06**	**254**	P		**Pn**	**17 08 42.3**	**+0.1**
MAT				*e*S		**Sn**	**17 09 20.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.05**	**315**	Pn		**Pn**	**17 10 18.3**	**+0.2**
	0.2nm,0.3s,baz=100,slow=12,SNR=2.6							
MA2	**Magadan**	**22.86**	**12**	P		**P**	**17 12 58.0**	**+1.0**
	9.1nm,0.9s,baz=177,slow=15,SNR=3.7							
H11S1	**WAKE ISLAND Hy**	**28.80**	**124**	T		T	17 43 45.1	
	baz=317,slow=76,SNR=3.4							
H11S3	**WAKE ISLAND Hy**	**28.80**	**124**	T		T	17 43 47.8	
	baz=317,slow=76,SNR=3.4							
H11S2	**WAKE ISLAND Hy**	**28.82**	**124**	T		T	17 43 45.8	
	baz=317,slow=76,SNR=4.0							
ZALV	**Zalesovo Beam**	**41.89**	**312**	P		**P**	**17 15 42.7**	**-1.4**
	0.5nm,0.4s,baz=88,slow=7.2,SNR=2.8							
MKAR	**Makanchi Array**	**44.19**	**302**	P		**P**	**17 16 03.3**	**+0.4**
	0.2nm,0.6s,baz=87,slow=5.2,SNR=2.5							
KURBB	**Kurchatov Arra**	**46.02**	**308**	P		**P**	**17 16 15.9**	**-1.3**
	0.6nm,0.7s,baz=79,slow=7.9,SNR=7.2							
WRA	**Warramunga Arr**	**57.54**	**188**	P		**P**	**17 17 45.2**	**+1.7**
	0.7nm,1.0s,baz=9.6,slow=7.2,SNR=7.4							

*ISCJB **07** 17:13:21.5±0.7,74°.9N±0′.1×131°.6E±0′.4,h10km,mb3.7/9, MS3.1/7,Error ellipse: s-maj=18.7km s-min=10.9km az=149.6*
*MOS **07** 17:13:21.9±0.4,74°.85N×131°.46E,h12km,mb4.4/3,Error ellipse: s-maj=69.8km s-min=20.5km az=86.4*
*IDC **07** 17:13:22.3±1.1,74°.73N×132°.00E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.5/54,mbtmp3.7/8,ML5.7/1,MS3.0/11, Ms1 3.0/11,ms1mx2.7/61,Error ellipse: s-maj=39.7km s-min=18.4km az=139.0*
*NEIC **07** 17:13:23.2±0.8,74°.87N×131°.57E,h10km,mb4.1/2,Error ellipse: s-maj=21.1km s-min=12.1km az=151.0*
ISC 07 17:13:23.6±0.8,74°.8N±0′.1×131°.5E±0′.1,h10km,n23, σ1§70/14,mb3.8/9,MS3.1/7,Laptev Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**3.21**	**195**	Pn		**Pn**	**17 14 14.7**	**+0.6**
	3.4nm,0.3s,baz=11,slow=11,SNR=53							
TIXI				Sn		**Sn**	**17 14 49.7**	**-2.6**
	11nm,0.3s,baz=301,slow=22,SNR=25							
TIXI				LR		LR	17 15 32.5	
	comp=Z,80nm,20.6s,baz=48,slow=40							
BILL	**Bilibino**	**12.76**	**104**	*e*P		**Pn**	**17 16 26.8**	**+2.0**
BILL				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BILL	**Bilibino**	**12.76**	**104**	*e*Pn		**Pn**	**17 16 26.6**	**+1.9**
	comp=Z,2.9nm,0.8s							
YAK	**Yakutsk**	**12.80**	**184**	LR		LR	17 22 15.8	
	comp=Z,46nm,18.2s,baz=58,slow=42							
NRIK	**Noril'sk**	**14.26**	**270**	LR		LR	17 23 37.8	
	comp=Z,68nm,19.9s,baz=153,slow=43							
MA2	**Magadan**	**16.81**	**145**	LR		LR	17 24 58.7	
	comp=Z,19nm,18.9s,baz=322,slow=42							
PETK	**Petropavlovsk-**	**24.14**	**139**	P		**P**	**17 18 38.8**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=35,slow=5.4,SNR=5.0							
COLD	**Coldfoot**	**24.61**	**66**	P		**P**	**17 18 39.8**	**-3.7**
	comp=Z,1.9nm,0.8s							
KLR	**Kul'dur**	**25.61**	**180**	LR		LR	17 30 07.9	
	comp=Z,31nm,19.1s,baz=90,slow=39							
ILAR	**Eielson Array**	**27.39**	**67**	P		**P**	**17 19 07.9**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=323,slow=9.8,SNR=5.8							
SONM	**Songino Array**	**29.07**	**216**	P		**P**	**17 19 24.7**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=10,slow=8.8,SNR=2.8							
BRVK	**Borovoye**	**32.25**	**263**	P		**P**	**17 19 51.7**	**0.0**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.7s							
BRVK	**Borovoye**	**32.25**	**263**	P		**P**	**17 19 51.7**	**0.0**
	comp=Z,3.2nm,0.7s							
ARU	**Arti**	**32.33**	**277**	LR		LR	17 35 59.4	
	comp=Z,42nm,18.2s,baz=2.5,slow=42							
MKAR	**Makanchi Array**	**34.97**	**245**	P		**P**	**17 20 16.7**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=9.8,slow=6.9,SNR=2.8							
HFS	**Hagfors**	**39.37**	**316**	LR		LR	17 42 08.1	
	comp=Z,21nm,18.6s,baz=354,slow=44							
KVAR	**Kislovodsk Arr**	**47.86**	**283**	LR		LR	17 45 29.1	
	comp=Z,22nm,18.5s,baz=332,slow=40							
VRAC	**Vranov**	**48.99**	**308**	LR		LR	17 45 58.5	
	comp=Z,20nm,19.9s,baz=10.0,slow=40							
GERES	**GERESS Array B**	**50.03**	**310**	LR		LR	17 47 02.5	
	comp=Z,20nm,19.4s,baz=22,slow=40							
DAVOX	**Davos/Dischmat**	**52.76**	**313**	LR		LR	17 48 49.1	
	comp=Z,16nm,18.4s,baz=261,slow=40							
NVAR	**Mina Array Bea**	**58.32**	**60**	P		**P**	**17 23 18.3**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=340,slow=5.3,SNR=6.2							
TXAR	**Lajitas Array**	**70.24**	**50**	P		**P**	**17 24 36.1**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=354,slow=2.5,SNR=4.7							
WRA	**Warramunga Arr**	**94.49**	**177**	P		**P**	**17 26 43.0**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=358,slow=5.7,SNR=18							

*GEN **07** 17:25:24.6,44°.04N×12°.12E,h7km,ML2.6*
*ISCJB **07** 17:25:25.5±0.2,43°.90N±0′.02×11°.97E±0′.02,h19km±3km, Error ellipse: s-maj=4.2km s-min=2.3km az=28.2*
*CSEM **07** 17:25:25.6±0.1,43°.86N×11°.98E,h12km,ML3.1/18,Error ellipse: s-maj=2.9km s-min=1.5km az=32.0*
*ROM **07** 17:25:25.3±0.1,43°.89N×12°.00E,h8km±1km,Ml2.7/30, Error ellipse: s-maj=1.8km s-min=1.0km az=21.0*
*LDG **07** 17:25:25.6±0.5,43°.76N×12°.08E,h2km,Ml2.9/10,Error ellipse: s-maj=9.2km s-min=6.7km az=112.0*
ISC 07 17:25:25.5±0.8,43°.87N±0′.02×11°.98E±0′.02,h11km±5km, n105,σ1§09/154,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.10**	**290**	Pg		**Pg**	**17 25 28.2**	**-0.2**
SFI				Sg		**Sg**	**17 25 30.6**	**+0.1**
	3µm,0.3s							
SFI	**Santa Sofia**	**0.10**	**290**	Pg		**Pg**	**17 25 28.2**	**-0.2**
SFI				Sg		**Sg**	**17 25 30.6**	**+0.1**
	3µm,0.3s							
T0502	**Localit˜ San**	**0.12**	**75**	Pg		**Pg**	**17 25 28.1**	**-0.5**
T0502				Sg		**Sg**	**17 25 30.2**	**-0.6**
	5µm,0.7s							
ASQU	**Asqua**	**0.16**	**242**	Pg		**Pg**	**17 25 29.5**	**+0.3**
ASQU				Sg		**Sg**	**17 25 32.7**	**+0.9**
	4µm,0.3s							
ASQU	**Asqua**	**0.16**	**242**	Pg		**Pg**	**17 25 29.5**	**+0.3**
ASQU				Sg		**Sg**	**17 25 32.7**	**+0.9**
	4µm,0.3s							
CPGN	**Carpegna, Ital**	**0.26**	**106**	Pg		**Pg**	**17 25 31.4**	**+0.5**
	2µm,0.5s							
CPGN	**Carpegna, Ital**	**0.26**	**106**	Pg		**Pg**	**17 25 31.4**	**+0.5**
	2µm,0.5s							
VMG	**Vicchio**	**0.33**	**286**	Pg		**Pg**	**17 25 32.5**	**+0.3**
VMG				Sg		**Sg**	**17 25 38.2**	**+1.6**
	180µm,0.1s							
VMG	**Vicchio**	**0.33**	**286**	Pg		**Pg**	**17 25 32.5**	**+0.3**
VMG				Sg		**Sg**	**17 25 38.2**	**+1.6**
	180µm,0.1s							
BADI	**Badiali**	**0.41**	**152**	Pg		**Pg**	**17 25 33.6**	**0.0**
BADI				Sg		**Sb**	**17 25 40.9**	**0.0**
	580nm,0.3s							
BADI	**Badiali**	**0.41**	**152**	Pg		**Pg**	**17 25 33.6**	**0.0**
BADI				Sg		**Sb**	**17 25 40.9**	**0.0**
	580nm,0.3s							
BRIS	**BRISIGHELLA**	**0.44**	**310**	Pg		**Pg**	**17 25 33.4**	**-0.8**
BRIS				Sg		**Sg**	**17 25 40.2**	**+0.2**
	2µm,0.4s							
BRIS	**BRISIGHELLA**	**0.44**	**310**	Pg		**Pg**	**17 25 33.4**	**-0.8**
BRIS				Sg		**Sg**	**17 25 40.2**	**+0.2**
	2µm,0.4s							
ATMC	**Monte Cedrone**	**0.45**	**160**	Pg		**Pg**	**17 25 34.4**	**0.0**
	637nm,0.5s							
ATMC	**Monte Cedrone**	**0.45**	**160**	Pg		**Pg**	**17 25 34.4**	**0.0**
	637nm,0.5s							
SEI	**Scarperia**	**0.49**	**292**	Pg		**Pg**	**17 25 35.0**	**-0.1**
SEI				Sg		**Sg**	**17 25 43.2**	**+1.6**
	192µm,0.4s							
SEI	**Scarperia**	**0.49**	**292**	Pg		**Pg**	**17 25 35.0**	**-0.1**
SEI				Sg		**Sg**	**17 25 43.2**	**+1.6**
	192µm,0.4s							
ATPC	**Poggio Castell**	**0.52**	**138**	Pg		**Pg**	**17 25 35.4**	**-0.3**
ATPC				Sg		**Sb**	**17 25 44.5**	**+0.3**
	447nm,0.5s							
ATPC	**Poggio Castell**	**0.52**	**138**	Pg		**Pg**	**17 25 35.4**	**-0.3**
ATPC				Sg		**Sb**	**17 25 44.5**	**+0.3**
	447nm,0.5s							
PIEI	**Pieia**	**0.52**	**130**	Pg		**Pg**	**17 25 35.2**	**-0.5**
PIEI				Sg		**Sb**	**17 25 44.1**	**-0.2**
	152nm,0.2s							
PIEI	**Pieia**	**0.52**	**130**	Pg		**Pg**	**17 25 35.2**	**-0.5**
PIEI				Sg		**Sb**	**17 25 44.1**	**-0.2**
	152nm,0.2s							
CAFI	**Castiglion Fio**	**0.54**	**181**	Pg		**Pg**	**17 25 36.4**	**+0.3**
CAFI				Sg		**Sb**	**17 25 46.0**	**+1.2**
	388nm,0.5s							
CAFI	**Castiglion Fio**	**0.54**	**181**	Pg		**Pg**	**17 25 36.4**	**+0.3**
ATVO	**AVT- Monte Val**	**0.58**	**148**	Pg		**Pg**	**17 25 36.6**	**-0.2**
ATVO				Sg		**Sb**	**17 25 46.9**	**+1.1**
	424nm,0.5s							
ATVO	**AVT- Monte Val**	**0.58**	**148**	Pg		**Pg**	**17 25 36.6**	**-0.2**
FSSB	**Fossombrone**	**0.60**	**107**	Pg		**Pg**	**17 25 36.7**	**-0.6**
FSSB				Sg		**Sb**	**17 25 46.9**	**+0.3**
	549nm,0.3s							
FSSB	**Fossombrone**	**0.60**	**107**	Pg		**Pg**	**17 25 36.7**	**-0.6**
FSSB				Sg		**Sb**	**17 25 46.9**	**+0.3**
	549nm,0.3s							
PESA	**Pesaro**	**0.62**	**83**	Pg		**Pb**	**17 25 38.4**	**0.0**
PESA	**Pesaro**	**0.62**	**83**	Pg		**Pb**	**17 25 38.4**	**0.0**
MTRZ	**Monterenzio**	**0.63**	**324**	Pg		**Pg**	**17 25 37.9**	**+0.2**
	888nm,0.5s							
MTRZ	**Monterenzio**	**0.63**	**324**	Pg		**Pg**	**17 25 37.9**	**+0.2**
	888nm,0.5s							
FRON	**Frontone**	**0.65**	**123**	Pg		**Pg**	**17 25 37.5**	**-0.5**
FRON				Sg		**Sb**	**17 25 48.2**	**+0.4**
	218nm,0.7s							
FRON	**Frontone**	**0.65**	**123**	Pg		**Pg**	**17 25 37.5**	**-0.5**
FRON				Sg		**Sb**	**17 25 48.2**	**+0.4**
	218nm,0.7s							
FNVD	**Fontana Vidola**	**0.69**	**296**	Pg		**Pg**	**17 25 38.9**	**0.0**
	474nm,0.6s							
FNVD	**Fontana Vidola**	**0.69**	**296**	Pg		**Pg**	**17 25 38.9**	**0.0**
	474nm,0.6s							
MURB	**Monte Urbino**	**0.72**	**147**	Pg		**Pb**	**17 25 39.7**	**-0.4**
	630nm,0.4s							
MURB	**Monte Urbino**	**0.72**	**147**	Pg		**Pb**	**17 25 39.7**	**-0.4**
	630nm,0.4s							
ATTE	**AVT- Monte Tez**	**0.72**	**158**	Pg		**Pg**	**17 25 39.2**	**-0.4**
	295nm,0.8s							
ATTE	**AVT- Monte Tez**	**0.72**	**158**	Pg		**Pg**	**17 25 39.2**	**-0.4**
	295nm,0.8s							
SSFR	**Montelago di S**	**0.73**	**126**	Pg		**Pg**	**17 25 39.0**	**-0.6**
	256nm,0.2s							
SSFR	**Montelago di S**	**0.73**	**126**	Pg		**Pg**	**17 25 39.0**	**-0.6**
	256nm,0.2s							
CRMI	**Carmignano**	**0.74**	**264**	Pg		**Pg**	**17 25 40.0**	**+0.2**
	427nm,1.0s							
CRMI	**Carmignano**	**0.74**	**264**	Pg		**Pg**	**17 25 40.0**	**+0.2**
	427nm,1.0s							
ARVD	**Arcevia**	**0.79**	**118**	Pg		**Pg**	**17 25 40.1**	**-0.7**
	149nm,0.7s							
ARVD	**Arcevia**	**0.79**	**118**	Pg		**Pg**	**17 25 40.1**	**-0.7**
	149nm,0.7s							
ATCC	**AVT- Casa Cast**	**0.84**	**145**	Pg		**Pg**	**17 25 41.4**	**-0.3**
	290nm,0.5s							
ATCC	**AVT- Casa Cast**	**0.84**	**145**	Pg		**Pg**	**17 25 41.4**	**-0.3**
	290nm,0.5s							
FROS	**Frosini**	**0.89**	**223**	Pg		**Pg**	**17 25 43.3**	**+0.6**
	482nm,1.0s							
FROS	**Frosini**	**0.89**	**223**	Pg		**Pg**	**17 25 43.3**	**+0.6**
	482nm,1.0s							
POPM	**Popiglio**	**0.90**	**282**	P		**Pg**	**17 25 42.8**	**-0.1**
POPM				S		**Sg**	**17 25 55.2**	**+0.5**
SNTG	**Esanatoglia**	**0.93**	**131**	Pg		**Pg**	**17 25 42.8**	**-0.6**
	146nm,0.6s							
SNTG	**Esanatoglia**	**0.93**	**131**	Pg		**Pg**	**17 25 42.8**	**-0.6**
	146nm,0.6s							
MGAB	**Montegabbione**	**0.96**	**174**	Pg		**Pg**	**17 25 44.1**	**0.0**
	266nm,0.6s							
MGAB	**Montegabbione**	**0.96**	**174**	Pg		**Pg**	**17 25 44.1**	**0.0**
	266nm,0.6s							
CING	**Cingoli**	**1.01**	**119**	Pg		**Pb**	**17 25 44.8**	**-0.2**
	175nm,0.8s							
CING	**Cingoli**	**1.01**	**119**	Pg		**Pb**	**17 25 44.8**	**-0.2**
	175nm,0.8s							
BDI	**Bagni Di Lucca**	**1.02**	**281**	Pg		**Pg**	**17 25 45.8**	**+0.7**
	117nm,0.4s							
BDI	**Bagni Di Lucca**	**1.02**	**281**	Pg		**Pg**	**17 25 45.8**	**+0.7**
	117nm,0.4s							
SACS	**San Casciano d**	**1.02**	**183**	Pg		**Pg**	**17 25 45.1**	**-0.1**
	227nm,0.9s							
MAIM	**Mastiano**	**1.08**	**273**	Pg		**Pg**	**17 25 45.8**	**-0.5**
	99nm,0.3s							
MAIM	**Mastiano**	**1.08**	**273**	P		**Pg**	**17 25 45.6**	**-0.7**
MAIM	**Mastiano**	**1.08**	**273**	Pg		**Pg**	**17 25 45.8**	**-0.5**
	99nm,0.3s							
ARCI	**Arcidosso**	**1.08**	**200**	Pg		**Pg**	**17 25 46.1**	**-0.3**
	123nm,0.7s							
ARCI	**Arcidosso**	**1.08**	**200**	Pg		**Pg**	**17 25 46.1**	**-0.3**
	123nm,0.7s							
TRIF	**Trifonti**	**1.09**	**226**	Pg		**Pg**	**17 25 46.5**	**0.0**
	91nm,0.8s							
TRIF	**Trifonti**	**1.09**	**226**	Pg		**Pg**	**17 25 46.5**	**0.0**
	91nm,0.8s							
SARO	**Sassorosso**	**1.18**	**286**	P		**Pb**	**17 25 47.2**	**-0.8**
NVLJ	**Novalja**	**2.19**	**71**	*e*Pn		**Pb**	**17 26 02.9**	**-2.2**
NVLJ				Sn		**Sn**	**17 26 29.0**	**+0.1**
NVLJ	**Novalja**	**2.19**	**71**	*e*Pn		**Pb**	**17 26 02.9**	**-2.2**
NVLJ				Sn		**Sn**	**17 26 28.9**	**+0.1**
PGF	**Pioggiola**	**2.55**	**240**	*e*Sn		**Sn**	**17 26 37.1**	**-0.8**
	4.7nm,0.3s							
PGF	**Pioggiola**	**2.55**	**240**	*e*Sn		**Sn**	**17 26 37.1**	**-0.8**
	2.3nm,0.3s							
ABTA	**Abfaltersbach**	**2.90**	**7**	*i* Pn		**Pn**	**17 26 12.2**	**+0.5**
	3.8nm,0.3s							
ABTA				*i* Sn		**Sn**	**17 26 47.9**	**+1.4**
	20nm,0.7s							
ABTA	**Abfaltersbach**	**2.90**	**7**	Pn		**Pn**	**17 26 12.2**	**+0.5**
	3.8nm,0.3s							
ABTA				Sn		**Sn**	**17 26 47.9**	**+1.4**
	20nm,0.7s							
FETA	**Feichten**	**3.27**	**345**	*e*Pn		**Pb**	**17 26 21.0**	**-2.6**
	2.7nm,0.4s							
FETA				*i* Sn		**Sb**	**17 27 01.8**	**-1.7**
	5.3nm,0.5s							
FETA	**Feichten**	**3.27**	**345**	Pn		**Pb**	**17 26 21.0**	**-2.6**
	2.7nm,0.4s							
SBF	**Sospel**	**3.29**	**271**	*e*Pn		**Pn**	**17 26 16.5**	**-0.4**
SBF				*e*Sn		**Sn**	**17 26 56.0**	**0.0**
	19nm,0.4s							
SBF	**Sospel**	**3.29**	**271**	*e*Pn		**Pn**	**17 26 16.5**	**-0.4**
SBF				*e*Sn		**Sn**	**17 26 56.0**	**0.0**
	9.4nm,0.4s							
DAVA	**Damuels**	**3.72**	**337**	*i* Pn		**Pn**	**17 26 26.9**	**+3.9**
	7.8nm,0.5s							
DAVA				*e*Sn		**Sn**	**17 27 11.2**	**+4.3**
	12nm,0.4s							
DAVA	**Damuels**	**3.72**	**337**	Pn		**Pn**	**17 26 26.9**	**+3.9**
	7.8nm,0.5s							
DAVA				Sn		**Sn**	**17 27 11.2**	**+4.3**
	12nm,0.4s							
MBDF	**Montbardon**	**3.84**	**285**	*e*Pn		**Pn**	**17 26 24.3**	**-0.3**
MBDF	**Montbardon**	**3.84**	**285**	*e*Pn		**Pn**	**17 26 24.3**	**-0.3**
FRF	**La Foret Royal**	**3.88**	**267**	*e*Pn		**Pn**	**17 26 25.1**	**+0.1**
FRF				*e*Sn		**Sn**	**17 27 08.7**	**-1.8**
	6.9nm,0.4s							
FRF	**La Foret Royal**	**3.88**	**267**	*e*Pn		**Pn**	**17 26 25.1**	**+0.1**
FRF				*e*Sn		**Sn**	**17 27 08.7**	**-1.8**
	3.5nm,0.4s							
LMR	**La Mourre**	**4.01**	**264**	*e*Pn		**Pn**	**17 26 26.3**	**-0.5**
LMR				*e*Sn		**Sn**	**17 27 11.7**	**-2.0**
	1.4nm,0.2s							
LMR	**La Mourre**	**4.01**	**264**	*e*Pn		**Pn**	**17 26 26.3**	**-0.5**
LMR				*e*Sn		**Sn**	**17 27 11.7**	**-2.0**
	0.7nm,0.2s							
LPG	**La Plagne**	**4.07**	**295**	*e*Pn		**Pn**	**17 26 29.2**	**+1.3**
LPG				*e*Sn		**Sn**	**17 27 16.3**	**+0.7**
	4.2nm,0.4s							
LPG	**La Plagne**	**4.07**	**295**	*e*Pn		**Pn**	**17 26 29.2**	**+1.3**
LPG				*e*Sn		**Sn**	**17 27 16.3**	**+0.7**
	2.1nm,0.4s							
LPL	**La Plagne**	**4.09**	**296**	*e*Pn		**Pn**	**17 26 29.6**	**+1.5**
LPL				*e*Sn		**Sn**	**17 27 16.6**	**+0.6**
	2.5nm,0.3s							
LPL	**La Plagne**	**4.09**	**296**	*e*Pn		**Pn**	**17 26 29.6**	**+1.5**
LPL				*e*Sn		**Sn**	**17 27 16.6**	**+0.6**
	1.2nm,0.3s							
ORIF	**Oris-en-Rattie**	**4.50**	**286**	*e*Pn		**Pn**	**17 26 35.2**	**+1.6**
ORIF	**Oris-en-Rattie**	**4.50**	**286**	*e*Pn		**Pn**	**17 26 35.2**	**+1.6**
CABF	**La Chapelle**	**4.98**	**305**	*e*Pn		**Pn**	**17 26 41.9**	**+1.6**
CABF	**La Chapelle**	**4.98**	**305**	*e*Pn		**Pn**	**17 26 41.9**	**+1.6**
HINF	**Hinteralfeld**	**5.33**	**320**	*e*Pn		**Pn**	**17 26 45.4**	**+0.4**
HINF				*e*Sn		**Sn**	**17 27 46.7**	**+0.4**
	4.5nm,0.4s							
HINF	**Hinteralfeld**	**5.33**	**320**	*e*Pn		**Pn**	**17 26 45.4**	**+0.4**
HINF				*e*Sn		**Sn**	**17 27 46.7**	**+0.4**
	2.2nm,0.4s							
VIVF	**Saint-Julien-l**	**5.33**	**283**	*e*Pn		**Pn**	**17 26 45.2**	**+0.2**
VIVF	**Saint-Julien-l**	**5.33**	**283**	*e*Pn		**Pn**	**17 26 45.2**	**+0.2**
CDF	**Champ du Feu**	**5.60**	**326**	*e*Pn		**Pn**	**17 26 49.2**	**+0.5**
CDF				*e*Sn		**Sn**	**17 27 51.3**	**-1.6**
	6.0nm,0.5s							
CDF	**Champ du Feu**	**5.60**	**326**	*e*Pn		**Pn**	**17 26 49.2**	**+0.5**
CDF				*e*Sn		**Sn**	**17 27 51.3**	**-1.6**
	3.0nm,0.5s							
HAU	**Haudompre**	**5.70**	**318**	*e*Pn		**Pn**	**17 26 50.5**	**+0.4**
HAU				*e*Sn		**Sn**	**17 27 54.6**	**-0.9**
	11nm,0.4s							
HAU	**Haudompre**	**5.70**	**318**	*e*Pn		**Pn**	**17 26 50.5**	**+0.4**
HAU				*e*Sn		**Sn**	**17 27 54.6**	**-0.9**
	5.3nm,0.4s							
LOR	**Lormes**	**6.64**	**304**	*e*Pn		**Pn**	**17 27 03.7**	**+0.8**
LOR				*e*Sn		**Sn**	**17 28 17.4**	**-1.1**
	3.9nm,0.5s							
LOR	**Lormes**	**6.64**	**304**	*e*Pn		**Pn**	**17 27 03.7**	**+0.8**
LOR				*e*Sn		**Sn**	**17 28 17.4**	**-1.1**
	2.0nm,0.5s							
MTLF	**Montolieu**	**7.11**	**269**	*e*Pn		**Pn**	**17 27 09.5**	**+0.1**
MTLF	**Montolieu**	**7.11**	**269**	*e*Pn		**Pn**	**17 27 09.5**	**+0.1**

IDC 07 17:25:28.9±2.9,61°.60S×59°.14W,h0km,mb3.9/2, mb1 3.9/3,mb1mx3.6/18,mbtmp3.6/3,ML4.0/1,MS3.5/8, Ms1 3.5/8,ms1mx3.4/15,Error ellipse: s-maj=186.0km s-min=37.5km az=131.0,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**3.89**	**213**	Pn		Pn	17 26 30.6	+0.9
	1.0nm,0.3s,baz=50,slow=11,SNR=5.5							
PMSA				Sn		Sb	17 27 22.0	-3.7
	23nm,0.3s,baz=304,slow=17,SNR=15							
PLCA	**Paso Flores**	**22.02**	**336**	LR		LR	17 39 41.7	
	comp=Z,227nm,18.4s,baz=156,slow=39							
CPUP	**Villa Florida**	**35.28**	**3**	LR		LR	17 47 01.8	
	comp=Z,44nm,18.1s,baz=184,slow=37							
VNDA	**Vanda**	**38.85**	**193**	LR		LR	17 50 01.8	
	comp=Z,61nm,19.6s,baz=140,slow=38							
MAW	**Mawson**	**44.43**	**152**	LR		LR	17 51 29.8	
	comp=Z,157nm,20.

VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	17 40 13.7	+0.1
VMG				Sg	Sb	17 40 20.2	-0.3
VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	17 40 13.7	+0.1
VMG				Sg	Sb	17 40 20.2	-0.3

*ISCJB **07** 17:40:27.2±0.6, 61.59N±0.05×15.77E±0.07, h0km, Error ellipse: s-maj=7.3km s-min=4.0km az=151.7*
*IDC **07** 17:40:28.3±0.8, 61.62N×15.62E, h0km, mb1 2.8/3, mb1mx2.7/44, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=11.1km s-min=5.5km az=143.0*
*HEL **07** 17:40:29.2±0.2, 61.57N×15.72E, h0km, ML1.9, Explosion*
ISC 07 17:40:27.5±0.9, 61.59N±0.05×15.76E±0.04, h0km, n14, σ2§45/28, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEMU	**Hemsoen**	**1.53**	**43**	**ePG**	**Pg**	**17 40 57.2**	**+0.3**
HEMU				*e*S	**Sn**	**17 41 16.9**	**+0.2**
HEMU				*e*SN	**Sb**	**17 41 19.6**	**+3.0**
HFS	**Hagfors**	**1.77**	**216**	Pn	**Pb**	**17 41 00.1**	**-0.7**
	0.5nm,0.3s,baz=30,slow=15,SNR=13						
HFS				Lg	Lg	17 41 23.4	
	1.8nm,0.3s,baz=34,slow=30,SNR=21						
HFS	**Hagfors**	**1.77**	**216**	*e*P	**Pn**	**17 40 59.6**	**+0.2**
HFS				*e*S	**Sn**	**17 41 23.1**	**+0.4**
NOA	**NORSAR Array B**	**2.26**	**258**	Pn	**Pn**	**17 41 06.4**	**+0.2**
	0.5nm,0.3s,baz=73,slow=17,SNR=10						
NOA				Sn	**Sn**	**17 41 33.9**	**-0.8**
	0.9nm,0.3s,baz=306,slow=20,SNR=9.8						
AAL	**Aland**	**2.51**	**122**	*e*PB	**Pb**	**17 41 13.2**	**-0.2**
AAL				*e*S	**Sn**	**17 41 41.9**	**+1.1**
AAL				*e*SG	**Sb**	**17 41 46.0**	**+1.2**
RAF	**Rauma**	**2.95**	**98**	*e*P	**Pn**	**17 41 17.2**	**+1.6**
RAF				*e*S	**Sn**	**17 41 53.6**	**+1.9**
VAF	**Ylistaro**	**3.54**	**63**	*e*P	**Pn**	**17 41 25.5**	**+1.8**
VAF				*e*S	**Sn**	**17 42 07.6**	**+1.4**
KEF	**Keuruu**	**4.35**	**78**	*e*P	**Pn**	**17 41 37.0**	**+2.1**
KEF				*e*S	**Sn**	**17 42 25.8**	**-0.4**
KEF				*e*SG	**Sg**	**17 42 43.1**	**-4.2**
KEF				MSG		17 42 48.8	
	comp=Z,1.3nm,0.3s						
MEF	**Metsahovi**	**4.44**	**104**	*e*SG	**Sg**	**17 42 46.3**	**-3.6**
MEF				MSG		17 42 49.6	
	comp=Z,2.0nm,0.3s						
OUFX	**Oulainen**	**4.94**	**52**	*e*S	**Sn**	**17 42 41.3**	**+0.7**
OUFX				*e*SG	**Sg**	**17 43 01.3**	**-4.7**
FIA0	**FINESS Array S**	**4.95**	**87**	*e*SG	**Sg**	**17 43 01.8**	**-4.4**
FIA0				MSG		17 43 04.3	
	comp=Z,1.5nm,0.4s						
FINES	**FINESS Array B**	**4.95**	**87**	Pn	**Pn**	**17 41 45.9**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=264,slow=24,SNR=2.6						
FINES				Pg	**Pb**	**17 41 56.0**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=280,slow=14,SNR=16						
FINES				Sn	**Sn**	**17 42 43.5**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=281,slow=21,SNR=4.3						
FINES				Lg	Lg	17 43 01.6	
	comp=Z,0.7nm,0.3s,baz=283,slow=23,SNR=13						
SUF	**Sumiainen**	**5.00**	**72**	*e*S	**Sn**	**17 42 42.9**	**+0.6**
SUF				*e*SG	**Sg**	**17 43 03.0**	**-5.2**
SUF				MSG		17 43 04.8	
	comp=Z,1.5nm,0.3s						
ARCES	**ARCESS Array B**	**8.93**	**23**	Pn	**Pn**	**17 42 35.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=209,slow=13,SNR=10.0						

*CSEM **07** 17:40:39.9, 43.89N×11.97E, h8km, MD2.1/13*
ROM 07 17:40:39.9±0.1, 43.89N×11.97E, h8km, Md2.1/13, Ml1.9/11, Error ellipse: s-maj=1.5km s-min=0.9km az=17.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.09**	**281**	Pg	Pg	17 40 42.5	+0.3
SFI				Sg	Sg	17 40 44.5	+0.8
	692nm,0.3s						
SFI	**Santa Sofia**	**0.09**	**281**	Pg	Pg	17 40 42.5	+0.3
SFI				Sg	Sg	17 40 44.5	+0.8
	692nm,0.3s						
T0502	**Localit` San**	**0.12**	**83**	Pg	Pg	17 40 42.9	+0.4
T0502				Sg	Sg	17 40 45.4	+1.0
	647nm,0.1s						
ASQU	**Asqua**	**0.16**	**236**	Pg	Pg	17 40 43.9	+0.6
ASQU				Sg	Sg	17 40 47.0	+1.4
	461nm,0.3s						
ASQU	**Asqua**	**0.16**	**236**	Pg	Pg	17 40 43.9	+0.6
ASQU				Sg	Sg	17 40 47.0	+1.4
	461nm,0.3s						
CPGN	**Carpegna, Ital**	**0.27**	**109**	Pg	Pb	17 40 46.4	-0.7
CPGN	**Carpegna, Ital**	**0.27**	**109**	Pg	Pb	17 40 46.4	-0.7
PARC	**Parchiule**	**0.31**	**141**	Pg	Pg	17 40 46.5	+0.6
PARC				Sg	Sb	17 40 52.1	-0.8
	80nm,0.3s						
PARC	**Parchiule**	**0.31**	**141**	Pg	Pg	17 40 46.5	+0.6
PARC				Sg	Sb	17 40 52.1	-0.8
	80nm,0.3s						
VMG	**Vicchio**	**0.32**	**284**	Pg	Pg	17 40 46.9	+0.7
VMG				Sg	Sb	17 40 52.5	-0.8
	182µm,0.2s						
VMG	**Vicchio**	**0.32**	**284**	Pg	Pg	17 40 46.9	+0.7
VMG				Sg	Sb	17 40 52.5	-0.8
	182µm,0.2s						
BADI	**Badiali**	**0.42**	**152**	Pg	Pg	17 40 48.5	+0.3
BADI				Sg	Sb	17 40 55.8	-0.5
	76nm,0.2s						
BADI	**Badiali**	**0.42**	**152**	Pg	Pg	17 40 48.5	+0.3
BADI				Sg	Sb	17 40 55.8	-0.5
	76nm,0.2s						
BRIS	**BRISIGHELLA**	**0.42**	**308**	Pg	Pg	17 40 47.9	-0.3
BRIS				Sg	Sg	17 40 54.5	+0.7
BRIS	**BRISIGHELLA**	**0.42**	**308**	Pg	Pg	17 40 47.9	-0.3
BRIS				Sg	Sg	17 40 54.5	+0.7
ATMC	**Monte Cedrone**	**0.47**	**160**	Pg	Pg	17 40 49.2	+0.2
ATMC				Sg	Sb	17 40 57.0	-0.6
	83nm,0.3s						
ATMC	**Monte Cedrone**	**0.47**	**160**	Pg	Pg	17 40 49.2	+0.2
ATMC				Sg	Sb	17 40 57.0	-0.6
	83nm,0.3s						
SEI	**Scarperia**	**0.48**	**291**	Pg	Pb	17 40 50.0	-0.6
SEI				Sg	Sb	17 40 57.5	-0.3
SEI	**Scarperia**	**0.48**	**291**	Pg	Pb	17 40 50.0	-0.6
SEI				Sg	Sb	17 40 57.5	-0.3
ATPC	**Poggio Castell**	**0.54**	**139**	Pg	Pg	17 40 50.5	+0.2
ATPC				Sg	Sb	17 40 59.7	+0.2
	63nm,0.3s						
ATPC	**Poggio Castell**	**0.54**	**139**	Pg	Pg	17 40 50.5	+0.2
ATPC				Sg	Sb	17 40 59.7	+0.2
	63nm,0.3s						
PIEI	**Pieia**	**0.54**	**131**	Pg	Pg	17 40 50.3	0.0
PIEI				Sg	Sb	17 40 59.1	-0.5
	21nm,0.2s						
PIEI	**Pieia**	**0.54**	**131**	Pg	Pg	17 40 50.3	0.0
PIEI				Sg	Sb	17 40 59.1	-0.5
	21nm,0.2s						
CAFI	**Castiglion Fio**	**0.56**	**181**	Pg	Pg	17 40 51.1	+0.4
CAFI				Sg	Sb	17 41 00.0	-0.1
	69nm,0.5s						
CAFI	**Castiglion Fio**	**0.56**	**181**	Pg	Pg	17 40 51.1	+0.4
CAFI				Sg	Sb	17 41 00.0	-0.1
	69nm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	17 40 51.7	+0.3
ATVO				Sg	Sb	17 41 01.6	+0.4
	64nm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**148**	Pg	Pg	17 40 51.7	+0.3
ATVO				Sg	Sb	17 41 01.6	+0.4
	64nm,0.5s						
FSSB	**Fossombrone**	**0.61**	**108**	Pg	Pg	17 40 51.8	+0.1
FSSB				Sg	Sb	17 41 02.1	+0.4
FSSB	**Fossombrone**	**0.61**	**108**	Pg	Pg	17 40 51.8	+0.1
FSSB				Sg	Sb	17 41 02.1	+0.4
ATTE	**AVT- Monte Tez**	**0.74**	**158**	Pg	Pg	17 40 54.1	-0.1
	36nm,0.4s						
ATTE	**AVT- Monte Tez**	**0.74**	**158**	Pg	Pg	17 40 54.1	-0.1
	36nm,0.4s						

*SOME **07** 17:56:13.0, 41.65N×82.10E, h25km*
*NNC **07** 17:56:15.6±1.9, 42.09N×82.07E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=15.4km s-min=8.2km az=144.0*
ISC 07 17:56:13.2±2.3, 41.8N±0.1×82.12E±0.07, h18km, n24, σ2§49/47, 11C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.12**	**323**	*e*P	**Pb**	**17 56 50.4**	**-0.7**
	146nm,0.3s						
KTMS				*e*S	**Sb**	**17 57 17.5**	**+0.4**
	133nm,0.2s						
SHLS	**Shalkode**	**2.15**	**311**	*e*P	**Pb**	**17 56 52.6**	**+0.8**
	72nm,0.2s						
SHLS				*e*S	**Sb**	**17 57 21.6**	**+3.4**
	92nm,0.2s						
PDGK	**Podgornoye**	**2.49**	**309**	⇑Pg	**Pb**	**17 56 55.7**	**-1.6**
	10nm,0.4s						
PDGK				⇑Lg	Lg	17 57 29.0	
	56nm,0.4s						
UZB	**Uzynbulak**	**2.67**	**302**	*e*P	**Pb**	**17 57 01.5**	**+1.0**
	30nm,0.2s						
UZB				*e*S	**Sb**	**17 57 36.9**	**+3.9**
	52nm,0.5s						
SATY	**Saty**	**3.03**	**296**	*e*P	**Pb**	**17 57 08.3**	**+1.6**
	42nm,0.2s						
SATY				*e*S	**Sg**	**17 57 48.5**	**-2.1**
	62nm,0.5s						
KPKS	**Kokpek**	**3.04**	**305**	*e*P	**Pb**	**17 57 05.4**	**-1.4**
	48nm,0.3s						
KPKS				*e*S	**Sb**	**17 57 43.4**	**-0.3**
	189nm,0.4s						
ZHN	**Zhinishke**	**3.06**	**298**	*e*P	**Pb**	**17 57 05.9**	**-1.2**
	11nm,0.1s						
ZHN				*e*S	**Sb**	**17 57 44.6**	**+0.4**
	136nm,0.3s						
DJR	**Jarkent**	**3.07**	**327**	*e*P	**Pb**	**17 57 07.1**	**-0.2**
	25nm,0.4s						
DJR				*e*S	**Sb**	**17 57 46.5**	**+2.1**
	34nm,0.6s						
KURS	**Kuram**	**3.38**	**302**	*e*P	**Pb**	**17 57 13.3**	**+0.8**
	6.0nm,0.4s						
KURS				*e*S	**Sb**	**17 57 56.3**	**+3.0**
	8.3nm,0.2s						
MNBS	**Baschi**	**3.57**	**311**	*e*P	**Pb**	**17 57 14.8**	**-1.0**
	2.1nm,0.4s						
MNBS				*e*S	**Sb**	**17 57 59.1**	**+0.3**
	62nm,0.2s						
KOTS	**Kotyrbulak**	**3.98**	**293**	*e*P	**Pb**	**17 57 23.9**	**+1.0**
	16nm,0.3s						
KOTS				*e*S	**Sb**	**17 58 14.4**	**+3.8**
	21nm,0.5s						
ARXS	**Arharly**	**3.98**	**309**	*e*P	**Pb**	**17 57 26.2**	**+3.4**
	12nm,0.3s						
ARXS				*e*S	**Sg**	**17 58 19.2**	**-1.7**
	24nm,0.3s						
MDOK	**Medeo**	**4.00**	**292**	*e*P	**Pb**	**17 57 24.8**	**+1.7**
	7.7nm,0.6s						
MDOK				*e*S	**Sb**	**17 58 16.2**	**+5.0**
	20nm,0.7s						
TNSS	**Tian-Shan**	**4.03**	**290**	*e*P	**Pb**	**17 57 23.7**	**-0.2**
	8.5nm,0.2s						
TNSS				*e*S	**Sb**	**17 58 15.1**	**+2.5**
	12nm,0.6s						
KAPS	**Kapalarasan**	**4.04**	**331**	*e*P	**Pn**	**17 57 17.2**	**+3.1**
	16nm,0.3s						
KAPS				*e*S	**Sn**	**17 58 03.8**	**+2.7**
	18nm,0.3s						
CHKK	**Chushkaly**	**4.31**	**301**	*e*P	**Pb**	**17 57 30.9**	**+2.6**
	7.5nm,0.3s						
CHKK				*e*S	**Sb**	**17 58 26.4**	**+6.5**
	26nm,0.2s						
MTBS	**Maitube**	**4.42**	**290**	*e*P	**Pb**	**17 57 30.2**	**-0.1**
	6.5nm,0.4s						
MTBS				*e*S	**Sb**	**17 58 26.1**	**+2.8**
	13nm,0.5s						
KST	**Kastek**	**4.73**	**288**	*e*P	**Pb**	**17 57 36.1**	**+0.5**
	1.5nm,0.2s						
KST				⇑*i*S	**Sb**	**17 58 35.8**	**+3.6**
	14nm,0.6s						
KUU	**Kurty**	**4.75**	**298**	⇑*i*P	**Pb**	**17 57 39.0**	**+3.1**
	9.6nm,0.5s						
KUU				⇑*i*S	**Sg**	**17 58 40.8**	**-4.7**
	14nm,0.2s						
DGS	**Degeres**	**4.91**	**289**	*e*P	**Pg**	**17 57 44.0**	**-3.3**
	4.6nm,0.3s						
DGS				*e*S	**Sg**	**17 58 49.4**	**-1.5**
	12nm,0.3s						
TKM2	**Tokmak 2**	**4.97**	**285**	⇑Pn	Pn	17 57 31.8	+4.8
	3.4nm,0.7s						
TKM2				⇓Pg	**Pg**	**17 57 44.4**	**-3.9**
	2.3nm,0.5s						
TKM2				⇑Lg	Lg	17 58 50.3	
	14nm,0.7s						
MK31	**Makanchi Array**	**5.01**	**1**	Pn	**Pn**	**17 57 27.7**	**+0.2**
	0.5nm,0.2s,baz=187,slow=13,SNR=113						
MK31				Pg	**Pb**	**17 57 41.5**	**+1.2**
	2.1nm,0.6s,baz=176,slow=22,SNR=7.5						
MK31				⇓Lg	Lg	17 58 44.1	
	9.5nm,0.6s,baz=181,slow=29,SNR=6.2						
MAKZ	**Makanchi**	**5.03**	**359**	⇑Pn	**Pn**	**17 57 28.0**	**+0.4**
	1.6nm,0.2s						
MAKZ				⇑Pg	**Pb**	**17 57 42.4**	**+1.8**
	2.5nm,0.5s						
MAKZ				⇑Sn	**Sn**	**17 58 25.2**	**-0.2**
	2.2nm,0.5s						
MAKZ				⇓Lg	Lg	17 58 44.1	
	3.5nm,0.7s						
KURBB	**Kurchatov Arra**	**9.19**	**346**	⇓Pn	**Pn**	**17 58 23.7**	**-1.0**
	0.4nm,0.8s						
KURBB				⇓Sn	**Sn**	**18 00 07.1**	**-0.4**
	4.9nm,0.6s						
KURBB				⇑Lg	Lg	18 01 00.4	
	9.1nm,0.7s						

*IDC **07** 18:02:57.7±0.8, 36.86N×143.36E, h0km, mb3.7/9, mb1 3.9/13, mb1mx3.7/36, mbtmp3.7/13, ML3.4/3, MS2.8/4, Ms1 2.8/4, ms1mx2.4/39, Error ellipse: s-maj=19.5km s-min=16.5km az=118.0*
*ISCJB **07** 18:03:00.8±0.6, 36.95N±0.04×143.21E±0.04, h33km, mb3.7/9, MS3.4/1, Error ellipse: s-maj=5.4km s-min=4.6km az=138.3*
*NIED **07** 18:03:00, 37.00N×143.20E, h5km, Mw3.8 Best double couple: M0=5.51000×10^14 NP1:φs=7.00000°, δ=20.00000°, λ=-126.00000°. NP2:φs=224.00000°, δ=73.00000°, λ=-78.00000°.*
*JMA **07** 18:03:01.5±0.2, 36.97N×143.18E, h60km, M3.5*
ISC 07 18:03:02.6±0.8, 36.94N±0.05×143.24E±0.07, h35km, n37, σ1§58/45, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.94**	**284**	P	**Pn**	**18 03 32.1**	**-0.9**
JFK				*e*S	**Sn**	**18 03 54.7**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.96**	**276**	P	**Pn**	**18 03 32.2**	**-1.2**
ONAJ				*e*S	**Sn**	**18 03 55.2**	**-1.6**
JIO	**Ouri**	**2.13**	**316**	P	**Pn**	**18 03 34.6**	**-1.1**
JIO				*e*S	**Sn**	**18 03 58.8**	**-2.1**
JMM	**Marumori**	**2.16**	**296**	P	**Pn**	**18 03 35.2**	**-0.8**
JMM				*e*S	**Sn**	**18 03 59.8**	**-1.7**
JHO	**Hitachi**	**2.17**	**262**	P	**Pn**	**18 03 35.5**	**-0.7**
JHO				*e*S	**Sn**	**18 03 59.2**	**-2.6**
JFT	**Otama**	**2.39**	**285**	P	**Pn**	**18 03 39.3**	**+0.1**
JFT				S	**Sn**	**18 04 07.1**	**-0.2**
JMK	**Ichinoseki**	**2.57**	**322**	P	**Pn**	**18 03 40.6**	**-1.1**
JMK				*e*S	**Sn**	**18 04 10.5**	**-1.2**
BSO1	**Boso 1**	**2.92**	**220**	P	**Pn**	**18 03 46.0**	**-0.1**
BSO1				*e*S	**Sn**	**18 04 19.4**	**-0.3**
JOM	**Ohasama**	**2.96**	**329**	P	**Pn**	**18 03 45.9**	**-1.2**
JOM				*e*S	**Sn**	**18 04 18.6**	**-2.8**
JYK	**Kaneyama**	**3.02**	**312**	P	**Pn**	**18 03 47.5**	**-0.4**
JAG	**Ashikaga**	**3.08**	**262**	P	**Pn**	**18 03 48.7**	**-0.1**
JAG				*e*S	**Sn**	**18 04 23.2**	**-1.2**
JAW	**Awa shima**	**3.51**	**297**	P	**Pn**	**18 03 54.6**	**0.0**
JRY	**Ryogami san**	**3.61**	**257**	P	**Pn**	**18 03 55.7**	**-0.4**
JRY				S	**Sn**	**18 04 35.6**	**-1.9**
JOD2	**Odawara 2**	**3.75**	**245**	P	**Pn**	**18 03 57.6**	**-0.4**
JOD2				*e*S	**Sn**	**18 04 38.7**	**-2.2**
MJAR	**Matsushiro Arr**	**4.06**	**266**	Pn	**Pn**	**18 04 03.1**	**+0.9**
	2.4nm,0.3s,baz=86,slow=9.9,SNR=31						
MJAR				Sn	**Sn**	**18 04 50.2**	**+1.7**
	1.2nm,0.3s,baz=87,slow=30,SNR=4.8						
MJAR				LR	LR	18 05 52.9	
	comp=Z,53nm,21.7s,baz=100,slow=42						
MAT	**Matsushiro**	**4.06**	**266**	P	**Pn**	**18 04 03.0**	**+0.8**
MAT				S	**Sn**	**18 04 51.1**	**+2.6**
JHJ	**Hachijo jima 2**	**4.75**	**218**	Pn	**Pn**	**18 04 08.7**	**-2.9**
	14nm,0.3s,baz=151,slow=23,SNR=14						
JHJ				Sn	**Sn**	**18 05 01.2**	**-4.2**
	26nm,0.3s,baz=84,slow=23,SNR=8.2						
ASAJ	**Asahikawa**	**7.19**	**356**	Pn	**Pn**	**18 04 44.0**	**-1.2**
	baz=186,slow=2.0						
USRK	**Ussuriysk Ar.**	**11.21**	**314**	Pn	**Pn**	**18 05 41.2**	**+1.0**
	0.1nm,0.3s,baz=107,slow=13,SNR=3.7						
KSRS	**Korea Array**	**12.23**	**277**	Pn	**Pn**	**18 05 55.4**	**+1.2**
	0.1nm,0.3s,baz=90,slow=14,SNR=8.1						
KSRS				LR	LR	18 10 42.6	
	comp=Z,24nm,19.2s,baz=78,slow=38						
KLR	**Kul'dur**	**14.86**	**329**	Pn	**Pn**	**18 06 27.4**	**-2.6**
	0.1nm,0.3s,baz=131,slow=14,SNR=8.6						
KLR				LR	LR	18 12 28.4	
	comp=Z,29nm,18.8s,baz=27,slow=38						
YAK	**Yakutsk**	**26.51**	**346**	P	**P**	**18 08 36.5**	**+0.1**
	0.3nm,0.3s,baz=240,slow=20,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**26.86**	**123**	T	T	18 36 43.4	
H11N1	**WAKE ISLAND Hy**	**26.86**	**123**	T	T	18 36 41.9	
H11N3	**WAKE ISLAND Hy**	**26.88**	**123**	T	T	18 36 48.9	
H11S1	**WAKE ISLAND Hy**	**27.59**	**125**	T	T	18 37 40.7	
H11S3	**WAKE ISLAND Hy**	**27.60**	**125**	T	T	18 37 42.1	
H11S2	**WAKE ISLAND Hy**	**27.61**	**125**	T	T	18 37 42.0	
SONM	**Songino Array**	**29.05**	**304**	P	**P**	**18 09 01.2**	**+1.7**
	1.3nm,0.7s,baz=90,slow=8.2,SNR=9.6						
MKAR	**Makanchi Array**	**45.41**	**302**	P	**P**	**18 11 19.5**	**+1.8**
	0.5nm,0.7s,baz=88,slow=9.8,SNR=5.8						
ILAR	**Eielson Array**	**48.80**	**32**	P	**P**	**18 11 44.8**	**+0.9**
	0.3nm,0.6s,baz=264,slow=6.3,SNR=3.2						
INK	**Inuvik**	**53.81**	**27**	P	**P**	**18 12 19.9**	**-1.4**
	1.9nm,0.8s,baz=164,slow=2.9,SNR=3.3						
WRA	**Warramunga Arr**	**57.19**	**190**	P	**P**	**18 12 45.8**	**-0.3**
	1.4nm,0.8s,baz=9.7,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**60.91**	**190**	P	**P**	**18 13 12.0**	**+0.1**
	0.8nm,0.7s,baz=18,slow=9.8,SNR=10						
GEYT	**Alibeck**	**65.16**	**300**	LR	LR	18 44 07.6	
	comp=Z,21nm,18.1s,baz=310,slow=38						
NVAR	**Mina Array Bea**	**73.87**	**54**	P	**P**	**18 14 35.5**	**+1.3**
	0.5nm,0.8s,baz=286,slow=6.5,SNR=3.2						
TXAR	**Lajitas Array**	**89.02**	**53**	P	**P**	**18 15 54.7**	**+0.5**
	0.2nm,0.8s,baz=305,slow=4.4,SNR=3.5						

BKK 07 18:03:46.9±1.1, 22°N±7°×10°0E±°, h10km, M3.8/5, MLv3.8/5, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**2.99**	**200**	P	Pn	18 04 35.4	+1.0
CHTO				S	Sn	18 05 12.8	+2.5
CHTO	**Chiang Mai**	**2.99**	**200**	P	Pb	18 04 40.7	+0.4
LAMP	**Lampang**	**3.12**	**187**	P	Pn	18 04 38.0	+1.8
LAMP				S	Sb	18 05 18.2	-2.5
LAMP	**Lampang**	**3.12**	**187**	P	Pb	18 04 44.4	+1.8
UTTA	**Uttaradit**	**3.91**	**173**	P	Pn	18 04 47.4	+0.4
UTTA				S	Sb	18 05 41.4	-1.9
UTTA	**Uttaradit**	**3.91**	**173**	P	Pg	18 05 02.7	+0.9
MHMT	**Maesarieng**	**3.97**	**210**	P	Pn	18 04 49.3	+1.5
MHMT	**Maesarieng**	**3.97**	**210**	P	Pg	18 05 01.2	-1.7
SUKH	**Sukhothai**	**4.15**	**185**	P	Pn	18 04 50.2	-0.2
SUKH				S	Sb	18 05 46.7	-3.7
SUKH	**Sukhothai**	**4.15**	**185**	P	Pg	18 05 05.2	-1.3
LOEI	**Loei**	**4.27**	**164**	P	Pg	18 05 07.3	-1.5
PBKT	**Sadao Pong**	**5.12**	**170**	S	Sb	18 06 19.9	+1.6
UMPA	**Umpang Tak**	**5.52**	**192**	S	Sb	18 06 34.5	+4.8

*KRNET **07** 18:12:50.0±0.1, 39.93N×75.83E, mb3.7*
*NNC **07** 18:12:52.2±1.3, 39.94N×75.74E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=11.3km s-min=7.1km az=140.0*
*SOME **07** 18:12:54.8, 40.17N×75.92E, h10km*
ISC 07 18:12:53.5±1.4, 39.91N±0.07×75.77E±0.03, h10km, n46, σ1§45/83, 35C-20D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**2.20**	**350**	⇑*i*P	**Pn**	**18 13 30.5**	**0.0**
	baz=349						
KZA				⇑*i*S	**Sb**	**18 13 59.3**	**-1.9**
	baz=349						
ULHL	**Ulahol**	**2.36**	**9**	⇑*i*P	**Pn**	**18 13 32.7**	**+0.1**
	baz=7.0						
ULHL				⇑*i*S	**Sn**	**18 14 01.7**	**0.0**
	baz=7.0						
KDJ	**Kajisay**	**2.46**	**25**	⇓*e*P	**Pn**	**18 13 33.8**	**-0.1**
	baz=24						
KDJ				⇓*e*S	**Sb**	**18 14 06.0**	**-2.4**
	baz=24						
UCH	**Uchtor**	**2.50**	**338**	⇑*i*P	**Pn**	**18 13 35.2**	**+0.5**
	baz=337						
UCH				⇑*i*S	**Sn**	**18 14 07.0**	**+1.5**
	baz=337						
ARSB	**Arslanbob**	**2.55**	**305**	⇑*e*P	**Pn**	**18 13 36.0**	**+0.9**
	baz=304						
ARSB				⇑*e*S	**Sb**	**18 14 10.4**	**-0.5**
	baz=304						
BOOM	**Boomskoye usch**	**2.58**	**3**	⇑*e*P	**Pn**	**18 13 36.1**	**+0.6**
	baz=2.0						
BOOM				⇑*e*S	**Sb**	**18 14 10.0**	**-1.9**
	baz=2.0						
AML	**Almayashu**	**2.72**	**325**	⇑*i*P	**Pn**	**18 13 38.0**	**+0.4**
	baz=324						
AML				⇑*i*S	**Sb**	**18 14 13.7**	**-2.3**
	baz=324						
KBK	**Karagaybulak**	**2.81**	**348**	⇑*i*P	**Pn**	**18 13 39.8**	**+1.1**
	baz=347						
KBK				⇑*i*S	**Sn**	**18 14 14.1**	**+1.3**
	baz=347						
AAK	**Ala-Archa**	**2.89**	**341**	⇑*i*P	**Pn**	**18 13 40.5**	**+0.8**
	baz=340						
AAK				⇑*i*S	**Sn**	**18 14 15.6**	**+1.0**
	baz=340						
AAK	**Ala-Archa**	**2.89**	**341**	⇑Pn	**Pn**	**18 13 40.3**	**+0.6**
	20nm,0.6s						
AAK				⇓Sn	**Sn**	**18 14 15.8**	**+1.2**
	164nm,0.8s						
TKM2	**Tokmak 2**	**3.01**	**358**	⇑*i*P	**Pn**	**18 13 42.4**	**+0.9**
	baz=357						
TKM2				⇑*i*S	**Sn**	**18 14 19.7**	**+2.0**
	baz=357						
TKM2	**Tokmak 2**	**

AAA	**Alma-Ata**	**3.47**	**14**	*e*P	**Pb**	**18 13 54.4**	**-0.8**
	51nm,0.2s						
AAA				*e*S	**Sb**	**18 14 36.8**	**-0.6**
	63nm,0.1s						
MNAS	**Manas**	**3.56**	**317**	⇓*e*P	**Pn**	**18 13 49.7**	**+0.7**
	baz=317						
MNAS				⇓*e*S	**Sn**	**18 14 34.4**	**+3.1**
	baz=317						
MNAS	**Manas**	**3.56**	**317**	⇑Pn	**Pn**	**18 13 49.3**	**+0.3**
	8.7nm,0.4s						
MNAS				⇑Lg	Lg	18 14 42.8	
	21nm,0.4s						
SATY	**Saty**	**3.72**	**31**	*e*P	**Pb**	**18 13 58.8**	**-0.6**
	32nm,0.5s						
SATY				*e*S	**Sb**	**18 14 44.7**	**+0.2**
	34nm,0.2s						
BTK	**Batken**	**3.81**	**274**	⇑*e*P	**Pn**	**18 13 52.4**	**+0.1**
	baz=274						
BTK				⇑*e*S	**Sn**	**18 14 39.0**	**+1.8**
	baz=274						
KUU	**Kurty**	**4.00**	**6**	*e*P	**Pb**	**18 14 04.7**	**+0.5**
	46nm,0.8s						
KUU				*e*S	**Sb**	**18 14 55.5**	**+2.9**
	45nm,0.6s						
CHKK	**Chushkaly**	**4.06**	**13**	*e*P	**Pb**	**18 14 04.6**	**-0.5**
	21nm,0.4s						
CHKK				*e*S	**Sb**	**18 14 55.2**	**+0.9**
	33nm,0.3s						
PDGK	**Podgornoye**	**4.41**	**38**	⇓*e*P	**Pn**	**18 13 59.5**	**-0.9**
	baz=38						
PDGK				⇓*e*S	**Sn**	**18 14 52.1**	**+0.4**
	baz=38						
PDGK	**Podgornoye**	**4.41**	**38**	⇑Pn	**Pn**	**18 13 59.9**	**-0.5**
	0.5nm,0.4s						
PDGK				⇓Pg	**Pb**	**18 14 12.2**	**+1.2**
	5.7nm,0.5s						
PDGK				⇓Lg	Lg	18 15 07.8	
	62nm,0.8s						
ARXS	**Arharly**	**4.56**	**19**	*e*P	**Pb**	**18 14 13.3**	**-0.4**
	19nm,0.4s						
ARXS				*e*S	**Sb**	**18 15 09.8**	**+1.0**
	23nm,0.4s						
MNBS	**Baschi**	**4.60**	**24**	*e*P	**Pb**	**18 14 13.6**	**-0.8**
	1.0nm,0.3s						
MNBS				*e*S	**Sb**	**18 15 10.4**	**+0.4**
	2.5nm,0.3s						
IUG	**Iuzhnay**	**4.88**	**299**	*e*P	**Pg**	**18 14 25.3**	**-1.7**
	21nm,0.7s						
IUG				*e*S	**Sg**	**18 15 30.3**	**0.0**
	44nm,0.7s						
KTMS	**Ketmen**	**4.92**	**43**	*e*P	**Pb**	**18 14 19.9**	**-0.1**
	5.0nm,0.4s						
KTMS				*e*S	**Sb**	**18 15 20.8**	**+1.6**
	19nm,0.6s						
KK31	**Karatay Array**	**5.08**	**311**	Pn	**Pn**	**18 14 09.1**	**-0.6**
	0.6nm,0.5s,baz=117,slow=12,SNR=12						
KK31				⇓Pg	**Pb**	**18 14 25.4**	**+3.0**
	6.2nm,0.8s,baz=130,slow=16,SNR=6.6						
KK31				⇓Lg	Lg	18 15 30.3	
	3.3nm,0.3s,baz=122,slow=29,SNR=7.1						
DJR	**Jarkent**	**5.33**	**33**	*e*P	**Pb**	**18 14 27.7**	**+0.8**
	7.0nm,0.5s						
DJR				*e*S	**Sb**	**18 15 34.4**	**+3.4**
	14nm,0.3s						
BRLS	**Borolday**	**5.41**	**304**	*e*P	**Pg**	**18 14 33.5**	**-3.6**
	2.7nm,0.6s						
BRLS				*e*S	**Sg**	**18 15 44.3**	**-2.8**
	24nm,0.6s						
TDK	**Taldyqorghan**	**5.45**	**20**	*e*P	**Pb**	**18 14 30.2**	**+1.4**
	6.2nm,0.1s						
TDK				*e*S	**Sb**	**18 15 38.7**	**+4.4**
	50nm,0.8s						
DZET	**Dzherino**	**5.49**	**261**	⇓Pn	**Pn**	**18 14 15.3**	**-0.2**
	27nm,0.5s						
DZET				⇑Sn	**Sn**	**18 15 17.7**	**-1.1**
	19nm,0.5s						
DZET				⇓Lg	Lg	18 15 46.1	
	22nm,0.6s						
KAPS	**Kapalarasan**	**5.99**	**25**	*e*P	**Pb**	**18 14 38.4**	**+0.4**
	1.8nm,0.4s						
KAPS				⇓*i*S	**Sb**	**18 15 53.0**	**+3.2**
	405nm,0.4s						
MAKZ	**Makanchi**	**8.24**	**31**	⇑Lg	Lg	18 17 14.8	
	5.1nm,1.1s						
MK31	**Makanchi Array**	**8.36**	**32**	⇑Lg	Lg	18 17 16.7	
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**10.89**	**9**	⇑Lg	Lg	18 18 35.2	
	20nm,1.4s						

NIED ***07*** *18:30:00,38.60N×141.90E,h50km,Mw3.7 Best double couple: M₀4.45000×10¹⁴ NP1:φ₀205.00000°,δ25.00000°, λ85.00000°. NP2:φ₀30.00000°,δ65.00000°,λ92.00000°.*

ISCJB ***07*** *18:30:40.3±0.9,38.59N±0.04×142.0E±0.1,h52km±8km, mb3.6/5,MS3.4/2,Error ellipse: s-maj=14.2km s-min=5.6km az=18.1*

IDC ***07*** *18:30:42.5±2.4,38.58N×142.05E,h61km±23km,mb3.4/5, mb1 3.5/10,mb1mx3.2/41,mbtmp3.7/10,ML3.4/4,MS2.8/5, Ms1 2.8/5,ms1mx2.5/28,Error ellipse: s-maj=28.6km s-min=18.0km az=105.0*

JMA ***07*** *18:30:42.1±0.1,38.62N×141.91E,h48km±1km,M3.8*

JMA Felt II J1.

ISC 07 18:30:41.4±1.1,38°59N±0.05×142°04E±0.0,h46km±10km, n26,σ1§31/30,mb3.7/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.56**	**257**	P		**Pn**	**18 30 52.9**	**-0.2**
JIO				S		**Sn**	**18 31 00.1**	**-1.4**
OFUJ	**Ofunato**	**0.57**	**330**	P		**Pn**	**18 30 53.3**	**0.0**
OFUJ				S		**Sn**	**18 31 01.0**	**-0.8**
JMK	**Ichinoseki**	**0.74**	**300**	P		**Pn**	**18 30 55.1**	**-0.4**
JMK				S		**Sn**	**18 31 04.3**	**-1.4**
JOM	**Ohasama**	**1.06**	**327**	P		**Pn**	**18 30 59.7**	**-0.1**
JOM				*e*S		**Sn**	**18 31 13.0**	**-0.5**
JOU	**Okura**	**1.10**	**259**	P		**Pn**	**18 31 00.0**	**-0.4**
JOU				S		**Sn**	**18 31 13.3**	**-1.2**
JMM	**Marumori**	**1.22**	**234**	P		**Pn**	**18 31 01.5**	**-0.5**
JMM				S		**Sn**	**18 31 15.9**	**-1.4**
JYK	**Kaneyama**	**1.36**	**285**	P		**Pn**	**18 31 03.4**	**-0.5**
JRG	**Rokugo**	**1.36**	**307**	P		**Pn**	**18 31 03.5**	**-0.5**
JFK	**Kawauchi**	**1.53**	**217**	P		**Pn**	**18 31 06.3**	**+0.1**
MJAR	**Matsushiro Arr**	**3.67**	**237**	P		**Pn**	**18 31 36.4**	**+0.8**
	2.1nm,0.3s,baz=41,slow=11,SNR=28							
MJAR				LR		LR	18 33 12.1	
	comp=Z,35nm,21.1s,baz=50,slow=41							
MAT	**Matsushiro**	**3.67**	**237**	P		**Pn**	**18 31 37.3**	**+1.7**
MAT				*e*S		**Sn**	**18 32 21.0**	**+3.4**
ASAJ	**Asahikawa**	**5.54**	**4**	P		**Pn**	**18 32 01.4**	**+0.1**
	1.2nm,0.3s,baz=208,slow=9.5,SNR=19							
ASAJ				S		**Sn**	**18 33 05.5**	**+1.8**
	0.8nm,0.3s,baz=131,slow=20,SNR=4.0							
JHJ	**Hachijo jima 2**	**5.75**	**199**	P		**Pn**	**18 32 05.1**	**+0.9**
	6.1nm,0.3s,baz=82,slow=14,SNR=3.8							
JHJ				S		**Sn**	**18 33 07.2**	**-1.8**
	12nm,0.3s,baz=90,slow=22,SNR=5.8							
USRK	**Ussuriysk Ar.**	**9.40**	**310**	P		**Pn**	**18 32 55.9**	**+1.7**
	0.2nm,0.3s,baz=133,slow=15,SNR=6.0							
KSRS	**Korea Array**	**11.20**	**269**	P		**Pn**	**18 33 21.2**	**+2.5**
	0.1nm,0.3s,baz=76,slow=14,SNR=3.2							
KSRS				LR		LR	18 37 15.4	
	comp=Z,21nm,21.2s,baz=85,slow=35							
KLR	**Kul'dur**	**12.96**	**329**	LR		LR	18 39 02.0	
	comp=Z,30nm,18.3s,baz=140,slow=38							
SEY	**Seymchan**	**25.18**	**11**	P		**P**	**18 36 03.0**	**+0.8**
	1.6nm,0.6s,baz=303,slow=7.3,SNR=4.0							
H11S1	**WAKE ISLAND Hy**	**29.33**	**126**	T		T	19 08 00.7	
	baz=318,slow=76,SNR=89							
H11S3	**WAKE ISLAND Hy**	**29.33**	**126**	T		T	19 08 01.1	
	baz=318,slow=76,SNR=105							
H11S2	**WAKE ISLAND Hy**	**29.34**	**126**	T		T	19 08 02.2	
	baz=318,slow=76,SNR=81							
ZALV	**Zalesovo Beam**	**41.25**	**311**	P		**P**	**18 38 20.4**	**-1.4**
	1.2nm,0.4s,baz=80,slow=9.2,SNR=7.1							
MKAR	**Makanchi Array**	**43.73**	**301**	P		**P**	**18 38 41.8**	**-0.3**
	0.5nm,0.5s,baz=88,slow=7.8,SNR=5.2							
ILAR	**Eielson Array**	**47.92**	**33**	P		**P**	**18 39 14.0**	**-0.8**
	0.3nm,0.7s,baz=251,slow=5.5,SNR=3.6							
WRA	**Warramunga Arr**	**58.66**	**188**	P		**P**	**18 40 33.5**	**-0.7**
	0.7nm,1.0s,baz=6.0,slow=7.1,SNR=5.0							
WRA				pP		**pP**	**18 40 47.4**	**+0.4**
	0.3nm,0.4s,baz=6.6,slow=7.3,SNR=6.9							
GEYT	**Alibeck**	**63.52**	**299**	LR		LR	19 09 05.4	
	comp=Z,32nm,19.9s,baz=230,slow=36							
AFI	**Afiamalu**	**67.76**	**131**	LR		LR	19 10 44.2	
	comp=Z,20nm,18.1s,baz=93,slow=36							

SOME ***07*** *18:31:30.2,42.20N×82.43E,h20km*

NNC ***07*** *18:31:31.3±4.1,41.99N×82.07E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=30.5km s-min=16.0km az=150.0*

ISC 07 18:31:22.6±3.1,42.1N±0.1×82.71E±0.0,h7km±16km,n19, σ2§09/37,5C-5D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.22**	**309**	*e*P		**Pg**	**18 32 08.4**	**+3.3**
	66nm,0.3s							
KTMS				*e*S		**Sg**	**18 32 35.5**	**+1.6**
	63nm,0.2s							
SHLS	**Shalkode**	**2.35**	**299**	*e*P		**Pg**	**18 32 10.1**	**+2.4**
	31nm,0.2s							
SHLS				*e*S		**Sg**	**18 32 39.1**	**+0.8**
	70nm,0.2s							
PDGK	**Podgornoye**	**2.69**	**299**	⇑Pg		**Pb**	**18 32 12.7**	**+1.7**
	4.4nm,0.3s							
PDGK				⇑Lg		Lg	18 32 47.4	
	31nm,0.4s							
UZB	**Uzynbulak**	**2.93**	**293**	*e*P		**Pg**	**18 32 19.2**	**+0.5**
	12nm,0.2s							
UZB				*e*S		**Sg**	**18 32 54.8**	**-1.8**
	27nm,0.2s							
DJR	**Jarkent**	**3.11**	**318**	*e*P		**Pg**	**18 32 24.5**	**+2.3**
	9.5nm,0.2s							
DJR				*e*S		**Sg**	**18 33 04.0**	**+1.5**
	13nm,0.3s							
KPKS	**Kokpek**	**3.28**	**297**	*e*P		**Pb**	**18 32 23.1**	**+2.0**
	24nm,0.3s							
KPKS				*e*S		**Sb**	**18 33 01.1**	**-0.1**
	107nm,0.4s							
SATY	**Saty**	**3.33**	**289**	*e*P		**Pg**	**18 32 26.4**	**0.0**
	17nm,0.3s							
SATY				*e*S		**Sg**	**18 33 07.0**	**-2.5**
	29nm,0.3s							
ZHN	**Zhinishke**	**3.34**	**291**	*e*P		**Pb**	**18 32 23.7**	**+1.5**
	3.7nm,0.2s							
ZHN				⇓*i*S		**Sb**	**18 33 03.1**	**0.0**
	21nm,0.2s							
MNBS	**Baschi**	**3.74**	**304**	*e*P		**Pb**	**18 32 30.6**	**+1.5**
	0.9nm,0.4s							
MNBS				*e*S		**Sb**	**18 33 13.9**	**-0.7**
	44nm,0.4s							
KAPS	**Kapalarasan**	**4.03**	**324**	*e*P		**Pb**	**18 32 35.2**	**+1.2**
	6.4nm,0.3s							
KAPS				⇓*i*S		**Sb**	**18 33 22.2**	**-0.7**
	9.2nm,0.5s							
ARXS	**Arharly**	**4.17**	**303**	*e*P		**Pg**	**18 32 42.6**	**+0.2**
	6.0nm,0.3s							
ARXS				*e*S		**Sg**	**18 33 33.9**	**-2.5**
	14nm,0.3s							
MDOK	**Medeo**	**4.32**	**287**	*e*P		**Pb**	**18 32 40.8**	**+1.9**
	2.7nm,0.3s							
MDOK				*e*S		**Sb**	**18 33 31.8**	**+0.6**
	9.1nm,0.7s							
TNSS	**Tian-Shan**	**4.37**	**285**	*e*P		**Pb**	**18 32 42.5**	**+2.6**
	3.7nm,0.3s							
TNSS				*e*S		**Sb**	**18 33 34.5**	**+1.6**
	8.1nm,0.5s							
CHKK	**Chushkaly**	**4.56**	**295**	*e*P		**Pg**	**18 32 48.3**	**-1.6**
	3.5nm,0.5s							
CHKK				*e*S		**Sg**	**18 33 44.6**	**-4.4**
	9.9nm,0.3s							
MK31	**Makanchi Array**	**4.74**	**357**	⇑Pn		**Pb**	**18 32 46.1**	**+0.2**
	0.3nm,0.2s,baz=188,slow=13,SNR=60							
MK31				⇓Sn		**Sb**	**18 33 41.3**	**-1.8**
	0.8nm,0.4s,baz=106,slow=54,SNR=5.3							
MK31				⇑Lg		Lg	18 34 02.1	
	3.8nm,0.6s,baz=183,slow=29,SNR=5.5							
MAKZ	**Makanchi**	**4.77**	**354**	⇓Pn		**Pb**	**18 32 45.8**	**-0.7**
	0.9nm,0.2s							
MAKZ				⇑Sn		**Sb**	**18 33 43.4**	**-0.7**
	1.0nm,0.4s							
MAKZ				⇓Lg		Lg	18 34 02.6	
	2.3nm,0.8s							
KUU	**Kurty**	**5.02**	**293**	*e*P		**Pg**	**18 32 56.4**	**-2.3**
	5.2nm,0.7s							
KUU				*e*S		**Sg**	**18 33 58.5**	**-5.2**
	8.1nm,0.6s							
KST	**Kastek**	**5.08**	**283**	*e*P		**Pb**	**18 32 53.4**	**+1.6**
	3.6nm,0.6s							
KST				*e*S		**Sb**	**18 33 53.3**	**+0.3**
	5.8nm,0.7s							
DGS	**Degeres**	**5.25**	**285**	*e*P		**Pg**	**18 33 02.1**	**-1.0**
	1.7nm,0.4s							
DGS				*e*S		**Sg**	**18 34 07.6**	**-3.5**
	8.0nm,0.5s							

NIED ***07*** *18:48:00,38.30N×141.80E,h77km,Mw3.6 Best double couple: M₀2.97000×10¹⁴ NP1:φ₀160.00000°,δ37.00000°, λ104.00000°. NP2:φ₀322.00000°,δ54.00000°,λ79.00000°.*

IDC ***07*** *18:48:45.0±2.6,38.57N×142.65E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.3/38,mbtmp3.4/4,ML3.1/1,MS2.1/1, Ms1 2.1/1,ms1mx1.9/35,Error ellipse: s-maj=68.2km s-min=31.6km az=59.0*

ISCJB ***07*** *18:48:54.8±1.0,38.26N±0.04×141.9E±0.1,h63km±8km, mb3.5/3,Error ellipse: s-maj=14.4km s-min=5.9km az=19.8*

JMA ***07*** *18:48:56.2,38.27N×141.82E,h56km±1km,M3.7*

JMA Felt I J1.

ISC 07 18:48:55.3±1.6,38°26N±0.05×141°9E±0.1,h52km±13km, n16,σ0§91/27,mb3.7/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.50**	**293**	P		**Pn**	**18 49 07.1**	**+0.4**
JIO				*e*S		**Sn**	**18 49 14.5**	**-0.3**
OFUJ	**Ofunato**	**0.84**	**346**	P		**Pn**	**18 49 11.7**	**+0.6**
OFUJ				S		**Sn**	**18 49 22.8**	**+0.2**
JMK	**Ichinoseki**	**0.89**	**321**	P		**Pn**	**18 49 12.1**	**+0.5**
JMK				S		**Sn**	**18 49 23.4**	**-0.1**
JMM	**Marumori**	**0.98**	**247**	P		**Pn**	**18 49 12.6**	**-0.2**
JMM				S		**Sn**	**18 49 24.6**	**-1.1**
JOU	**Okura**	**1.00**	**276**	P		**Pn**	**18 49 13.2**	**+0.1**
JOU				S		**Sn**	**18 49 25.9**	**-0.4**
JFK	**Kawauchi**	**1.22**	**223**	P		**Pn**	**18 49 16.5**	**+0.4**
JFK				*e*S		**Sn**	**18 49 31.3**	**-0.3**
JOM	**Ohasama**	**1.31**	**338**	P		**Pn**	**18 49 18.0**	**+0.7**
JOM				S		**Sn**	**18 49 34.2**	**+0.2**
JYK	**Kaneyama**	**1.40**	**299**	P		**Pn**	**18 49 18.6**	**+0.2**
JFT	**Otama**	**1.46**	**240**	P		**Pn**	**18 49 19.9**	**+0.6**
JFT				S		**Sn**	**18 49 37.3**	**-0.1**
JYS	**Shirataka**	**1.47**	**269**	P		**Pn**	**18 49 19.7**	**+0.3**
JYS				S		**Sn**	**18 49 37.5**	**0.0**
JRG	**Rokugo**	**1.52**	**319**	P		**Pn**	**18 49 20.8**	**+0.7**
JRG				S		**Sn**	**18 49 39.8**	**+1.0**
MJAR	**Matsushiro Arr**	**3.42**	**241**	Pn		**Pn**	**18 49 48.3**	**+2.1**
	1.2nm,0.3s,baz=62,slow=10,SNR=7.4							
MJAR				LR		LR	18 51 26.7	
	comp=Z,22nm,19.7s,baz=120,slow=40							
MAT	**Matsushiro**	**3.42**	**241**	P		**Pn**	**18 49 48.3**	**+2.1**
MAT				*e*S		**Sn**	**18 50 27.4**	**+1.9**
MKAR	**Makanchi Array**	**43.83**	**301**	P		**P**	**18 56 55.1**	**-0.9**
	0.2nm,0.6s,baz=71,slow=11,SNR=3.4							
WRA	**Warramunga Arr**	**58.33**	**188**	P		**P**	**18 58 44.2**	**-0.8**
	0.7nm,0.7s,baz=6.4,slow=7.0,SNR=13							
ASAR	**Alice Springs**	**62.06**	**188**	P		**P**	**18 59 10.3**	**-0.2**
	0.6nm,1.0s,baz=12,slow=11,SNR=3.7							

JMA 07 18:55:43.8±0.2,37.98N×144.25E,h44km,M3.8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.30**	**299**	P		Pn	**18 56 20.5**	**+1.3**
JIO	**Ouri**	**2.33**	**283**	P		Pn	**18 56 20.9**	**+1.2**
JIO				*e*S		Sn	18 56 48.1	+1.0
JMK	**Ichinoseki**	**2.57**	**293**	P		Pn	18 56 24.3	+1.4
JOM	**Ohasama**	**2.75**	**304**	P		Pn	18 56 27.2	+1.8
JFT	**Otama**	**3.14**	**263**	P		Pn	18 56 32.6	+1.9
JFT				*e*S		Sn	18 57 08.4	+1.5
JYK	**Kaneyama**	**3.19**	**288**	P		Pn	18 56 33.6	+2.1
JYK				*e*S		Sn	18 57 10.8	+2.5
JANG	**Nango**	**3.20**	**319**	P		Pn	18 56 32.6	+1.1
JOT	**Ohata**	**4.20**	**325**	P		Pn	18 56 46.9	+1.6
JKB	**Kayabe**	**4.62**	**329**	P		Pn	18 56 52.8	+1.8
JCH	**Churui**	**4.68**	**352**	P		Pn	18 56 51.6	-0.2
JCH				*e*S		Sn	18 57 42.4	-2.4
JRY	**Ryogami san**	**4.71**	**247**	P		Pn	18 56 53.2	+0.9
JRY				*e*S		Sn	18 57 44.2	-1.5
JOD2	**Odawara 2**	**4.96**	**238**	*e*S		Sn	18 57 49.9	-1.9
NEM2	**Nemuro 2**	**5.50**	**11**	P		Pn	18 57 01.0	-2.1
JTKR	**Abashiri--Toko**	**5.99**	**358**	P		Pn	18 57 09.5	-0.3
JTKR				*e*S		Sn	18 58 13.4	-3.7

IDC ***07*** *19:04:23.1±2.4,35.66N×143.10E,h0km,mb3.3/3, mb1 3.5/5,mb1mx3.2/48,mbtmp3.4/5,ML3.1/2,Error ellipse: s-maj=57.4km s-min=28.1km az=62.0*

ISCJB ***07*** *19:04:26.4±0.9,35.70N±0.06×142.90E±0.08,h33km, mb3.4/3,Error ellipse: s-maj=9.1km s-min=8.1km az=153.5*

JMA ***07*** *19:04:28.1±0.3,35.85N×142.77E,h95km,M2.9*

ISC 07 19:04:27.5±1.3,35.73N±0.06×142.97E±0.0,h35km,n14, σ1§65/20,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.72**	**270**	P		**Pn**	**19 04 55.2**	**+0.3**
CHOJ				S		**Sn**	**19 05 16.2**	**+0.6**
JHO	**Hitachi**	**2.13**	**295**	S		**Sn**	**19 05 23.1**	**-2.8**
JFT	**Otama**	**2.77**	**311**	P		**Pn**	**19 05 09.7**	**+0.3**
JFT				*e*S		**Sn**	**19 05 40.0**	**-1.6**
JAG	**Ashikaga**	**2.93**	**285**	P		**Pn**	**19 05 11.6**	**0.0**
JOD2	**Odawara 2**	**3.20**	**263**	P		**Pn**	**19 05 15.5**	**+0.2**
JOD2				S		**Sn**	**19 05 51.0**	**-1.3**
JRY	**Ryogami san**	**3.32**	**276**	P		**Pn**	**19 05 17.5**	**+0.6**
JMK	**Ichinoseki**	**3.51**	**337**	P		**Pn**	**19 05 18.1**	**-1.4**
JHJ	**Hachijo jima 2**	**3.70**	**226**	Pn		**Pn**	**19 05 21.1**	**-1.0**
	5.3nm,0.3s,baz=72,slow=20,SNR=2.8							
JHJ				S		**Sn**	**19 06 01.6**	**-3.0**
	23nm,0.3s,baz=102,slow=23,SNR=8.2							
MJAR	**Matsushiro Arr**	**3.94**	**283**	Pn		**Pn**	**19 05 27.4**	**+1.9**
	1.1nm,0.3s,baz=100,slow=8.4,SNR=9.7							
MAT	**Matsushiro**	**3.94**	**283**	P		**Pn**	**19 05 26.7**	**+1.2**
MAT				*e*S		**Sn**	**19 06 09.1**	**-1.4**
JOM	**Ohasama**	**3.97**	**341**	P		**Pn**	**19 05 27.1**	**+1.3**
JOM				S		**Sn**	**19 06 08.1**	**-3.0**
KURBB	**Kurchatov Arra**	**47.80**	**309**	P		**P**	**19 13 02.6**	**+1.4**
	0.2nm,0.7s,baz=86,slow=6.8,SNR=3.4							
WRA	**Warramunga Arr**	**55.97**	**190**	P		**P**	**19 14 02.2**	**-0.1**
	0.3nm,0.6s,baz=6.6,slow=7.5,SNR=5.6							
ASAR	**Alice Springs**	**59.69**	**190**	P		**P**	**19 14 29.8**	**+1.3**
	0.3nm,0.8s,baz=6.8,slow=10,SNR=2.8							

ISCJB ***07*** *19:23:20.2±0.8,61.9S±0.1×58.0W±0.3,h10km,mb4.5/5, MS4.2/1,Error ellipse: s-maj=23.2km s-min=16.8km az=12.1*

NEIC ***07*** *19:23:21.2±0.7,61.92S×58.65W,h10km,mb4.5/3,Error ellipse: s-maj=24.9km s-min=17.1km az=97.0*

IDC ***07*** *19:23:22.0±3.2,62.22S×57.79W,h0km,mb3.9/1, mb1 3.7/2,mb1mx3.4/26,mbtmp3.6/2,ML3.8/1,MS3.7/2, Ms1 3.7/2,ms1mx3.3/12,Error ellipse: s-maj=210.7km s-min=45.0km az=138.0*

ISC 07 19:23:21.7±0.7,61.9S±0.1×58.3W±0.2,h10km,n21, σ1§77/17,mb4.4/5,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**3.89**	**219**	P		**Pn**	**19 24 22.1**	**+0.8**
	0.7nm,0.3s,baz=53,slow=10,SNR=3.3							
PMSA				LR		LR	19 25 54.5	
	comp=Z,492nm,18.0s,baz=63,slow=40							
PMSA	**Palmer Station**	**3.89**	**219**	*e*Pn		**Pn**	**19 24 18.4**	**-3.0**
PMSA	**Palmer Station**	**3.89**	**219**	Pn		**Pn**	**19 24 22.1**	**+0.8**
SNAA	**Sanae**	**23.01**	**138**	P		**P**	**19 28 23.4**	**-2.9**
SNAA	**Sanae**	**23.01**	**138**	*e*P		**P**	**19 28 26.7**	**+0.4**
	9.6nm,1.2s							
QSPA	**South Pole Qui**	**28.34**	**180**	*e*P		**P**	**19 29 14.6**	**-0.8**
ROC1	**El Roble**	**30.07**	**338**	*e*P		**P**	**19 29 32.4**	**+1.2**
	7.9nm,0.6s							
SHEL	**Horse Pasture**	**58.82**	**63**	*e*P		**P**	**19 33 19.4**	**-0.8**
H10N3	**ASCENSION HYDR**	**62.74**	**50**	T		T	20 42 26.8	
	baz=201,slow=75,SNR=5.7							
H10N1	**ASCENSION HYDR**	**62.74**	**51**	T		T	20 42 36.5	
	baz=201,slow=75,SNR=4.6							
H10N2	**ASCENSION HYDR**	**62.75**	**50**	T		T	20 42 37.3	
	baz=201,slow=75,SNR=7.3							
OTAV	**Otavalo**	**63.83**	**337**	*e*P		**P**	**19 33 51.4**	**-3.1**
	1.8nm,0.6s							
TAU	**Tasmania Unive**	**73.52**	**199**	*e*P		**P**	**19 34 56.1**	**+1.9**
	205nm,1.5s							
ASAR	**Alice Springs**	**94.18**	**191**	P		**P**	**19 36 40.8**	**+0.2**
	0.3nm,0.9s,baz=165,slow=4.9,SNR=3.3							
FITZ	**Fitzroy Crossi**	**100.22**	**184**	LR		LR	20 24 11.5	
	comp=Z,63nm,18.2s,baz=191,slow=36							
ARA0	**ARCESS Array S**	**143.75**	**36**	*e*PKPpre		PKPpre	19 42 53.3	
ARA0				*e*PKPdf		**PKPdf**	**19 42 56.0**	**+0.9**
ARCES	**ARCESS Array B**	**143.75**	**36**	PKP		**PKPdf**	**19 42 56.0**	**+0.9**
	1.0nm,0.7s,baz=223,slow=3.7,SNR=3.8							
ABKAR	**Akbulak array**	**144.31**	**82**	*e*PKPdf		**PKPdf**	**19 42 56.2**	**-0.5**
KKAR	**Karatay Array**	**144.79**	**98**	*e*PKPdf		**PKPdf**	**19 42 58.4**	**+0.7**
AAK	**Ala-Archa**	**146.28**	**103**	*e*PKPdf		**PKPab**	**19 43 04.3**	**+1.8**
MKAR	**Makanchi Array**	**153.04**	**106**	PKPbc		**PKPbc**	**19 43 20.0**	**+1.7**
	0.6nm,0.6s,baz=239,slow=1.6,SNR=5.8							

ISCJB ***07*** *19:23:34.0±0.6,62.08S±0.10×58.1W±0.3,h10km, mb4.8/13,MS

MK32					*e*PKPab	**PKPab**	19 43 44.8	+1.8
MKAR	**Makanchi Array**	**152.90**	**106**		PKPbc	**PKPbc**	19 43 32.9	+1.1
	0.8nm,0.6s,baz=214,slow=2.8,SNR=4.5							
MKAR					PKPab	**PKPab**	19 43 44.8	+1.8
	1.5nm,0.9s,baz=238,slow=3.7,SNR=5.7							

*SOME **07** 19:26:36.5,42.02N×82.17E,h10km*
*NNC **07** 19:26:37.4±3.8,41.98N×82.07E,h0km,mb2.8,mpv2.4,*
Error ellipse: s-maj=29.9km s-min=17.3km az=158.0
ISC 07 19:26:40.0±2.7,42.0N±0.1×82.10E±0.09,h10km,n11,
σ1s68/20,5C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.93**	**319**	*e*P	**Pb**	19 27 14.3	-1.1
	22nm,0.2s						
KTMS				*e*S	**Sg**	19 27 41.4	-0.7
	23nm,0.4s						
SHLS	**Shalkode**	**2.00**	**306**	*e*P	**Pb**	19 27 15.0	-1.6
	9.4nm,0.2s						
SHLS				*e*S	**Sg**	19 27 42.7	-1.6
	60nm,0.0s						
PDGK	**Podgornoye**	**2.34**	**305**	⇑Pg	**Pn**	19 27 19.1	+0.7
	1.4nm,0.3s						
PDGK				⇓Lg	Lg	19 27 53.8	
	6.9nm,0.4s						
UZB	**Uzynbulak**	**2.54**	**298**	*e*P	**Pb**	19 27 25.3	-0.5
	4.0nm,0.1s						
UZB				*e*S	**Sg**	19 28 00.2	-1.5
	10nm,0.2s						
DJR	**Jarkent**	**2.88**	**325**	*e*P	**Pb**	19 27 30.9	-0.6
	2.7nm,0.2s						
DJR				*e*S	**Sg**	19 28 10.1	-2.2
	3.8nm,0.4s						
KPKS	**Kokpek**	**2.91**	**301**	*e*P	**Pb**	19 27 29.2	-2.8
	5.0nm,0.2s						
KPKS				*e*S	**Sb**	19 28 07.4	-0.2
	20nm,0.4s						
SATY	**Saty**	**2.92**	**292**	*e*P	**Pb**	19 27 32.4	+0.1
	6.4nm,0.3s						
SATY				*e*S	**Sg**	19 28 13.0	-0.9
	7.3nm,0.4s						
MNBS	**Baschi**	**3.41**	**309**	*e*P	**Pb**	19 27 39.1	-1.5
	0.4nm,0.1s						
MNBS				*e*S	**Sb**	19 28 23.9	+1.8
	8.0nm,0.3s						
KAPS	**Kapalarasan**	**3.84**	**330**	*e*P	**Pn**	19 27 41.3	+2.1
	2.3nm,0.3s						
KAPS				*e*S	**Sn**	19 28 28.0	+3.7
	2.7nm,0.6s						
MK31	**Makanchi Array**	**4.79**	**2**	Pn	**Pn**	19 27 51.9	-0.4
	0.1nm,0.3s,baz=188,slow=13,SNR=12						
MK31				⇑Lg	Lg	19 29 08.9	
	1.4nm,0.7s,baz=174,slow=30,SNR=3.6						
MAKZ	**Makanchi**	**4.81**	**359**	⇑Pn	**Pn**	19 27 52.4	0.0
	0.4nm,0.5s						
MAKZ				⇑Sn	**Sn**	19 28 49.0	+0.8
	0.9nm,0.9s						
MAKZ				⇑Lg	Lg	19 29 09.3	
	1.0nm,0.8s						

MEX 07 19:33:12.1±0.4,16.50N×98.58W,h16km±7km,MD3.5,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.45**	**104**	*i* P	Pg	19 33 19.9	-1.2
PNIG				*i* S	Sg	19 33 25.0	-2.2
TLIG	**Tlapa**	**1.06**	**1**	*i* P	Pb	19 33 28.6	-3.5
TLIG				*i* S	Sb	19 33 41.1	-4.6
MEIG	**Mezcala**	**1.73**	**325**	*i* P	Pn	19 33 38.0	-3.7
MEIG				*i* S	Sn	19 33 58.3	-5.2

*ISK **07** 19:36:10.8,39.05N×29.07E,h3km,ML3.6*
*DDA **07** 19:36:11.1,39.12N×29.06E,h6km,Md3.4*
*CSEM **07** 19:36:11.7±0.1,39.07N×29.06E,h2km,MD3.4,Error*
ellipse: s-maj=2.3km s-min=2.2km az=27.0
*THE **07** 19:36:11.4,39.01N×29.17E,h6km±7km,Error ellipse:*
s-maj=9.3km s-min=0.9km az=130.0
ISC 07 19:36:11.6±1.0,39.09N±0.02×29.09E±0.02,h6km±9km,
n192,σ1s02/216,9C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**262**	P	**Pg**	19 36 17.1	-0.2
DEMI				S	**Sg**	19 36 21.4	+0.1
DEMI	**Demirci**	**0.29**	**262**	*i* P	**Pg**	19 36 17.1	-0.2
DEMI				*i* S	**Sg**	19 36 21.4	+0.1
GDZ	**Gediz**	**0.31**	**89**	P	**Pg**	19 36 17.8	+0.2
GDZ				S	**Sg**	19 36 22.5	+0.7
GDZ	**Gediz**	**0.31**	**89**	*i* P	**Pg**	19 36 17.8	+0.2
GDZ				*i* S	**Sg**	19 36 22.4	+0.7
TVSB	**Tavsanli**	**0.47**	**39**	*e*PG	**Pg**	19 36 20.2	-0.4
TVSB	**Tavsanli**	**0.47**	**39**	*e*Pg	**Pg**	19 36 20.2	-0.4
DST	**Dursunbey**	**0.63**	**325**	*e*PG	**Pg**	19 36 23.3	-0.5
DST	**Dursunbey**	**0.63**	**325**	*e*Pg	**Pg**	19 36 23.3	-0.5
KULA	**Kula-Manisa**	**0.66**	**210**	*e*PG	**Pg**	19 36 23.7	-0.6
KULA				*e*SG	**Sg**	19 36 33.1	+0.2
KULA	**Kula-Manisa**	**0.66**	**210**	P	**Pg**	19 36 24.3	0.0
KULA				S	**Sg**	19 36 33.1	+0.2
KULA	**Kula-Manisa**	**0.66**	**210**	*e*Pg	**Pg**	19 36 23.7	-0.6
KULA	**Kula-Manisa**	**0.66**	**210**	P	**Pg**	19 36 24.3	0.0
KULA				S	**Sg**	19 36 33.1	+0.2
MANT	**Manisa**	**0.72**	**215**	P	**Pg**	19 36 25.4	-0.1
MANT	**Manisa**	**0.72**	**215**	*i* P	**Pg**	19 36 25.4	-0.1
KHAL	**Karahalli**	**0.78**	**156**	P	**Pb**	19 36 27.0	-0.7
KHAL				S	**Sb**	19 36 37.5	-1.1
KHAL	**Karahalli**	**0.78**	**156**	*i* P	**Pb**	19 36 27.0	-0.7
KHAL				*i* S	**Sb**	19 36 37.5	-1.1
KHL	**Karahalli**	**0.83**	**156**	*e*PG	**Pg**	19 36 27.2	-0.4
KHL				*e*SG	**Sb**	19 36 39.0	-1.1
KHL	**Karahalli**	**0.83**	**156**	*e*Pg	**Pg**	19 36 27.3	-0.4
KHL				*e*Sg	**Sb**	19 36 39.0	-1.1
ORLT	**Orhaneli**	**0.97**	**351**	*e*PG	**Pb**	19 36 30.8	-0.1
ORLT	**Orhaneli**	**0.97**	**351**	*e*Pg	**Pb**	19 36 30.8	-0.1
AKS	**Akhisar**	**1.01**	**259**	*e*PG	**Pg**	19 36 30.6	-0.5
AKS				*e*SG	**Sb**	19 36 45.0	-0.2
AKS	**Akhisar**	**1.01**	**259**	*e*Pg	**Pg**	19 36 30.6	-0.5
AKS				*e*Sg	**Sb**	19 36 45.0	-0.2
BALB	**Balikesir**	**1.09**	**301**	*e*PN	**Pb**	19 36 32.5	-0.3
BALB				*e*SN	**Sn**	19 36 48.6	-0.1
BALB	**Balikesir**	**1.09**	**301**	*e*Pn	**Pb**	19 36 32.5	-0.3
BALB				*e*Sn	**Sn**	19 36 48.6	-0.1
IGD	**Bursa**	**1.18**	**4**	*i* P	**Pg**	19 36 32.4	-1.9
IGD				*i* S	**Sg**	19 36 49.4	-0.2
CAVI	**Cavuskoy**	**1.26**	**27**	*e*PN	**Pn**	19 36 35.5	-0.3
CAVI	**Cavuskoy**	**1.26**	**27**	*e*Pn	**Pn**	19 36 35.5	-0.3
MDNY	**Mudanya-Bursa**	**1.29**	**353**	*e*PN	**Pb**	19 36 36.2	-0.1
MDNY	**Mudanya-Bursa**	**1.29**	**353**	*e*Pn	**Pb**	19 36 36.2	-0.1
KCTX	**Karacabey (Bur**	**1.31**	**335**	*e*PN	**Pg**	19 36 36.9	+0.2
KCTX	**Karacabey (Bur**	**1.31**	**335**	*e*Pn	**Pg**	19 36 36.9	+0.2
BALY	**Balya**	**1.31**	**300**	P	**Pb**	19 36 36.0	-0.5
BALY	**Balya**	**1.31**	**300**	*i* P	**Pb**	19 36 36.0	-0.5
DENT	**Denizli**	**1.33**	**182**	*e*PN	**Pn**	19 36 36.2	-0.6
DENT	**Denizli**	**1.33**	**182**	*e*Pn	**Pn**	19 36 36.2	-0.6
GEMT	**Gemlik**	**1.35**	**3**	*e*PN	**Pb**	19 36 37.3	0.0
GEMT	**Gemlik**	**1.35**	**3**	*e*Pn	**Pb**	19 36 37.3	0.0
DNZL	**Cakiroluk**	**1.39**	**181**	P	**Pb**	19 36 37.8	-0.4
DNZL	**Cakiroluk**	**1.39**	**181**	*i* P	**Pb**	19 36 37.8	-0.4
DNZL				*i* S	**Sn**	19 36 59.4	+2.8
ESKT	**Eskisehir**	**1.43**	**72**	*i* P	**Pn**	19 36 38.1	-0.2
SEYT	**Eskypehyr**	**1.43**	**72**	P	**Pn**	19 36 38.1	-0.2
ADVT	**Abdulvahap**	**1.44**	**20**	*e*PN	**Pb**	19 36 38.8	0.0
ADVT	**Abdulvahap**	**1.44**	**20**	*e*Pn	**Pb**	19 36 38.8	0.0
GONE	**Gonen-Balikesi**	**1.45**	**312**	*e*PN	**Pg**	19 36 39.2	-0.2
GONE	**Gonen-Balikesi**	**1.45**	**312**	*e*Pn	**Pg**	19 36 39.2	-0.2
AYDB	**Zeytinkoy-Aydi**	**1.48**	**220**	*e*PN	**Pn**	19 36 38.7	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.48**	**220**	*e*Pn	**Pn**	19 36 38.7	-0.1
ARMT	**Armutlu**	**1.49**	**353**	*e*PN	**Pb**	19 36 39.9	+0.2
ARMT	**Armutlu**	**1.49**	**353**	*e*Pn	**Pb**	19 36 39.9	+0.2
EDC	**Edincik**	**1.57**	**324**	*e*PN	**Pb**	19 36 40.8	-0.3
EDC	**Edincik**	**1.57**	**324**	*e*Pn	**Pb**	19 36 40.8	-0.3
IZM	**Izmir**	**1.58**	**245**	*e*PN	**Pn**	19 36 40.1	-0.1
IZM	**Izmir**	**1.58**	**245**	*e*Pn	**Pn**	19 36 40.1	-0.1
KNL	**Bal¯–kesir**	**1.69**	**315**	*i* P	**Pn**	19 36 38.4	-3.3
KNL				*i* S	**Sb**	19 37 04.6	0.0
DKL	**Dikili**	**1.70**	**270**	*e*PN	**Pn**	19 36 41.9	+0.1
DKL	**Dikili**	**1.70**	**270**	*e*Pn	**Pn**	19 36 41.9	+0.1
AYDN	**Tasoluk**	**1.71**	**214**	P	**Pb**	19 36 43.4	-0.1
AYDN	**Tasoluk**	**1.71**	**214**	*i* P	**Pb**	19 36 43.4	-0.1
AYDN				*i* S	**Sg**	19 37 09.7	+3.1
GULT	**Gulveren**	**1.74**	**39**	*e*PN	**Pn**	19 36 43.1	+0.7
GULT	**Gulveren**	**1.74**	**39**	*e*Pn	**Pn**	19 36 43.1	+0.7
BUY	**Buyukada**	**1.76**	**1**	P	**Pn**	19 36 41.4	-1.3
BUY				S	**Sn**	19 37 04.5	-0.9
BUY	**Buyukada**	**1.76**	**1**	*i* P	**Pn**	19 36 41.4	-1.3
BUY				*i* S	**Sn**	19 37 04.5	-0.9
HRT	**Hereke**	**1.79**	**14**	*e*PN	**Pn**	19 36 43.9	+0.8
HRT	**Hereke**	**1.79**	**14**	*e*Pn	**Pn**	19 36 43.9	+0.8
SPNC	**Sapanca-Adapaz**	**1.85**	**30**	*e*PN	**Pn**	19 36 44.7	+0.8
SPNC	**Sapanca-Adapaz**	**1.85**	**30**	*e*Pn	**Pn**	19 36 44.7	+0.8
AYVA	**Ayvalik**	**1.88**	**278**	P	**Pb**	19 36 46.2	0.0
AYVA	**Ayvalik**	**1.88**	**278**	*i* P	**Pb**	19 36 46.2	0.0
AYVA				*i* S	**Sg**	19 37 11.6	-0.3
KRBG	**Karabiga-Canak**	**1.90**	**314**	*e*PN	**Pb**	19 36 45.6	-1.1
KRBG	**Karabiga-Canak**	**1.90**	**314**	*e*Pn	**Pb**	19 36 45.6	-1.1
MRMT	**Marmara Adasi**	**1.90**	**323**	*e*PN	**Pb**	19 36 45.6	-1.2
MRMT	**Marmara Adasi**	**1.90**	**323**	*e*Pn	**Pb**	19 36 45.6	-1.2
SVRH	**Sivrihisar-ESK**	**1.93**	**78**	*e*PN	**Pn**	19 36 45.5	+0.5
SVRH	**Sivrihisar-ESK**	**1.93**	**78**	*e*Pn	**Pn**	19 36 45.5	+0.5
GLHS	**Glhisar (BURDU**	**1.95**	**170**	*e*PN	**Pn**	19 36 45.4	0.0
GLHS	**Glhisar (BURDU**	**1.95**	**170**	*e*Pn	**Pn**	19 36 45.4	0.0
ISK	**Istanbul-Kandi**	**1.98**	**359**	*e*PN	**Pb**	19 36 46.9	-1.1
ISK	**Istanbul-Kandi**	**1.98**	**359**	P	**Pn**	19 36 44.9	-0.7
ISK	**Istanbul-Kandi**	**1.98**	**359**	P	**Pn**	19 36 44.9	-0.7
ISK	**Istanbul-Kandi**	**1.98**	**359**	*e*Pn	**Pb**	19 36 46.9	-1.1
DGB	**¯zmir**	**2.01**	**240**	*i* P	**Pg**	19 36 49.5	-0.7
DGB				*i* S	**Sg**	19 37 15.6	-0.7
YER	**Yerkesik**	**2.05**	**198**	*e*PN	**Pn**	19 36 46.3	-0.4
YER	**Yerkesik**	**2.05**	**198**	*e*Pn	**Pn**	19 36 46.3	-0.4
BGKT	**Bogazkoy**	**2.11**	**354**	*e*PN	**Pb**	19 36 49.1	-1.1
BGKT	**Bogazkoy**	**2.11**	**354**	*e*Pn	**Pb**	19 36 49.1	-1.1
SILT	**Sile**	**2.11**	**11**	*e*PN	**Pb**	19 36 49.0	-1.1
SILT	**Sile**	**2.11**	**11**	*e*Pn	**Pb**	19 36 49.1	-1.1
MDUB	**Mudurnu**	**2.13**	**49**	*e*PN	**Pn**	19 36 49.1	+1.3
MDUB	**Mudurnu**	**2.13**	**49**	*e*Pn	**Pn**	19 36 49.2	+1.3
KLYT	**Kilyos**	**2.17**	**359**	*e*PN	**Pb**	19 36 50.0	-1.2
KLYT	**Kilyos**	**2.17**	**359**	*e*Pn	**Pb**	19 36 50.0	-1.2
SART	**Tekirdag**	**2.17**	**318**	P	**Pn**	19 36 49.2	+0.8
SART	**Tekirdag**	**2.17**	**318**	*i* P	**Pn**	19 36 49.2	+0.8
KAND	**Kocaeli-Kandir**	**2.18**	**23**	P	**Pn**	19 36 48.0	-0.3
KAND	**Kocaeli-Kandir**	**2.18**	**23**	*i* P	**Pn**	19 36 48.0	-0.3
KIZT	**Kizilcal**	**2.19**	**95**	*e*PN	**Pn**	19 36 49.5	+0.9
KIZT	**Kizilcal**	**2.19**	**95**	*e*Pn	**Pn**	19 36 49.5	+0.9
ZEY	**¯zmir**	**2.19**	**248**	*i* P	**Pg**	19 36 53.0	-0.6
ZEY				*i* S	**Sg**	19 37 23.1	+1.1
CTKS	**Kestanelik-??a**	**2.19**	**348**	*e*PN	**Pn**	19 36 49.1	+0.5
CTKS	**Kestanelik-??a**	**2.19**	**348**	*e*Pn	**Pn**	19 36 49.1	+0.5
PRK	**Paraskevi**	**2.19**	**275**	P	**Pn**	19 36 48.3	-0.3
PRK	**Paraskevi**	**2.19**	**275**	P	**Pn**	19 36 48.3	-0.3
SUTC	**Sutluce-Ispart**	**2.20**	**136**	*e*PN	**Pn**	19 36 49.0	+0.2
SUTC	**Sutluce-Ispart**	**2.20**	**136**	*e*Pn	**Pn**	19 36 49.1	+0.2
LPK	**Lapseki**	**2.21**	**306**	*e*PN	**Pn**	19 36 49.8	+1.0
LPK	**Lapseki**	**2.21**	**306**	*e*Pn	**Pn**	19 36 49.8	+1.0
SAHE	**Sakarya_HENDEK**	**2.23**	**37**	P	**Pn**	19 36 48.5	-0.5
SAHE	**Sakarya_HENDEK**	**2.23**	**37**	*i* P	**Pn**	19 36 48.5	-0.5
TKR	**Tekirdag**	**2.24**	**328**	*e*PN	**Pn**	19 36 50.4	+1.1
TKR	**Tekirdag**	**2.24**	**328**	*e*Pn	**Pn**	19 36 50.4	+1.1
EZN	**Ezine**	**2.26**	**290**	*e*PN	**Pn**	19 36 50.4	+0.9
EZN	**Ezine**	**2.26**	**290**	P	**Pn**	19 36 49.3	-0.2
EZN	**Ezine**	**2.26**	**290**	P	**Pn**	19 36 49.3	-0.2
EZN	**Ezine**	**2.26**	**290**	*e*Pn	**Pn**	19 36 50.4	+0.9
CRLT	**Corlu**	**2.29**	**334**	*e*PN	**Pn**	19 36 51.2	+1.3
CRLT	**Corlu**	**2.29**	**334**	*e*Pn	**Pn**	19 36 51.2	+1.3
DALY	**Dalyan (Mu¨la**	**2.29**	**189**	*e*PN	**Pn**	19 36 50.1	+0.2
DALY	**Dalyan (Mu¨la**	**2.29**	**189**	*e*Pn	**Pn**	19 36 50.1	+0.2
GELI	**Tayfur-Gelibol**	**2.40**	**304**	*e*PN	**Pn**	19 36 53.0	+1.5
GELI	**Tayfur-Gelibol**	**2.40**	**304**	*e*Pn	**Pn**	19 36 53.0	+1.5
KDHN	**Kadinhani**	**2.43**	**102**	P	**Pb**	19 36 54.1	-1.7
KDHN	**Kadinhani**	**2.43**	**102**	*i* P	**Pb**	19 36 54.1	-1.7
CHOS	**Chios island**	**2.47**	**255**	*e*PN	**Pn**	19 36 53.0	+0.5
CHOS	**Chios island**	**2.47**	**255**	P	**Pn**	19 36 52.0	-0.5
CHOS	**Chios island**	**2.47**	**255**	P	**Pn**	19 36 52.0	-0.5
CHOS	**Chios island**	**2.47**	**255**	*e*Pn	**Pn**	19 36 53.0	+0.5
SIGR	**SIGRI**	**2.52**	**274**	*e*PN	**Pn**	19 36 53.8	+0.8
SIGR	**SIGRI**	**2.52**	**274**	P	**Pn**	19 36 52.8	-0.2
SIGR	**SIGRI**	**2.52**	**274**	P	**Pn**	19 36 52.8	-0.2
SIGR	**SIGRI**	**2.52**	**274**	*e*Pn	**Pn**	19 36 53.8	+0.8
ERIK	**Erikli-Kesan**	**2.54**	**309**	*e*PN	**Pn**	19 36 54.6	+1.3
ERIK	**Erikli-Kesan**	**2.54**	**309**	*e*Pn	**Pn**	19 36 54.6	+1.3
KESN	**Edirne-Kesan**	**2.54**	**314**	P	**Pn**	19 36 53.0	-0.7
KESN	**Edirne-Kesan**	**2.54**	**314**	*i* P	**Pn**	19 36 53.0	-0.7
GADA	**Gvkgeada**	**2.70**	**295**	*e*PN	**Pn**	19 36 56.6	+1.1
GADA	**Gvkgeada**	**2.70**	**295**	P	**Pn**	19 36 55.2	-0.3
GADA	**Gvkgeada**	**2.70**	**295**	P	**Pn**	19 36 55.2	-0.3
GADA	**Gvkgeada**	**2.70**	**295**	*e*Pn	**Pn**	19 36 56.6	+1.1
LADK	**Ladik-KONYA**	**2.71**	**108**	*e*PN	**Pn**	19 36 56.7	+0.8
LADK	**Ladik-KONYA**	**2.71**	**108**	*e*Pn	**Pn**	19 36 56.7	+0.8
ENEZ	**Enez**	**2.79**	**307**	*e*PN	**Pn**	19 36 58.2	+1.4
ENEZ	**Enez**	**2.79**	**307**	*e*Pn	**Pn**	19 36 58.2	+1.4
KONT	**Konya--Tatoy**	**2.81**	**113**	*e*PN	**Pn**	19 36 58.0	+0.9
KONT	**Konya--Tatoy**	**2.81**	**113**	*e*Pn	**Pn**	19 36 58.0	+0.9
PHSR	**Pinarhisar**	**2.81**	**335**	*e*PN	**Pn**	19 36 58.5	+1.4
PHSR	**Pinarhisar**	**2.81**	**335**	*e*Pn	**Pn**	19 36 58.5	+1.4
KDZE	**Karadeniz Ereo**	**2.86**	**38**	*e*PN	**Pn**	19 36 59.5	+1.7
KDZE	**Karadeniz Ereo**	**2.86**	**38**	*e*Pn	**Pn**	19 36 59.5	+1.7
ALN	**Alexandroupoli**	**2.96**	**309**	*e*PN	**Pn**	19 37 00.3	+1.2
ALN	**Alexandroupoli**	**2.96**	**309**	P	**Pn**	19 36 58.7	-0.3
ALN	**Alexandroupoli**	**2.96**	**309**	P	**Pn**	19 36 58.7	-0.3
ALN	**Alexandroupoli**	**2.96**	**309**	*e*Pn	**Pn**	19 37 00.3	+1.2
LOD	**Lodumlu**	**2.96**	**73**	*e*PN	**Pn**	19 37 00.5	+1.4
LOD	**Lodumlu**	**2.96**	**73**	*e*Pn	**Pn**	19 37 00.5	+1.4
CHBY	**Cihanbeyli**	**3.01**	**98**	*e*PN	**Pn**	19 37 01.1	+1.2
CHBY	**Cihanbeyli**	**3.01**	**98**	*e*Pn	**Pn**	19 37 01.1	+1.2
SMTH	**Samothraki Isl**	**3.07**	**298**	P	**Pn**	19 37 00.4	-0.3
SMTH	**Samothraki Isl**	**3.07**	**298**	P	**Pn**	19 37 00.4	-0.3
AFSR	**Af¯ar-Bala (A**	**3.11**	**82**	*e*PN	**Pn**	19 37 02.6	+1.3
AFSR	**Af¯ar-Bala (A**	**3.11**	**82**	*e*Pn	**Pn**	19 37 02.6	+1.3
EDRB	**Edirne**	**3.29**	**328**	*e*PN	**Pn**	19 37 05.4	+1.8
EDRB	**Edirne**	**3.29**	**328**	P	**Pn**	19 37 03.4	-0.2
EDRB	**Edirne**	**3.29**	**328**	P	**Pn**	19 37 03.4	-0.2
EDRB	**Edirne**	**3.29**	**328**	*e*Pn	**Pn**	19 37 05.4	+1.8
APE	**Apeiranthos**	**3.45**	**235**	*e*PN	**Pn**	19 37 06.7	+0.7
APE	**Apeiranthos**	**3.45**	**235**	*e*Pn	**Pn**	19 37 06.7	+0.7
SAFT	**Safranbolu**	**3.50**	**51**	*e*PN	**Pn**	19 37 08.6	+2.0
SAFT	**Safranbolu**	**3.50**	**51**	*e*Pn	**Pn**	19 37 08.6	+2.0
KAMT	**Kaman**	**3.60**	**84**	*e*PN	**Pn**	19 37 10.0	+1.9
KAMT	**Kaman**	**3.60**	**84**	*e*Pn	**Pn**	19 37 10.0	+1.9
KDZ	**Kurdzhali**	**3.80**	**314**	P	**Pn**	19 37 10.0	-0.7
CANT	**Cankiri**	**3.81**	**65**	*e*PN	**Pn**	19 37 12.0	+1.8
JMB	**Yambol**	**3.88**	**331**	P	**Pn**	19 37 12.6	+0.9
DIM	**Dimitrovgrad**	**4.01**	**319**	P	**Pn**	19 37 13.2	-0.4
PRD	**Provadia**	**4.30**	**343**	P	**Pb**	19 37 29.3	+1.7
CORM	**Corum**	**4.42**	**74**	*e*PN	**Pn**	19 37 21.5	+2.2
CORM	**Corum**	**4.42**	**74**	*e*Pn	**Pn**	19 37 21.5	+2.2
MMB	**Musomiste**	**4.80**	**303**	P	**Pn**	19 37 24.0	-0.4
SZH	**Strazhica**	**4.81**	**331**	P	**Pn**	19 37 24.2	-0.3
MSAB	**Monastry St. A**	**5.09**	**350**	⇑*i* P	**Pn**	19 37 29.9	+1.5
TIRR	**Tirgusor**	**5.39**	**355**	⇑*i* P	**Pn**	19 37 32.6	+0.1
CFR	**Carcaliu**	**6.13**	**354**	⇑*i* P	**Pn**	19 37 42.3	-0.3
BARS	**Barje**	**6.65**	**306**	*e*Pn	**Pn**	19 37 50.2	+0.4
MLR	**Muntele Rosu**	**6.81**	**341**	⇑*i* P	**Pn**	19 37 55.2	+3.0
PLOR	**Plostina**	**7.00**	**346**	⇑*i* P	**Pn**	19 37 56.8	+2.2
VRI	**Vrincioaia**	**7.00**	**346**	⇑*i* P	**Pn**	19 37 56.5	+1.9
VOIR		**7.02**	**336**	⇑*i* P	**Pn**	19 37 56.5	+1.6
DOPR	**Dopca**	**7.40**	**340**	⇑*i* P	**Pn**	19 38 02.2	+2.1
LOT	**Lotru**	**7.48**	**330**	⇑*i* P	**Pn**	19 38 03.9	+2.6
TESR	**Tescani**	**7.63**	**347**	⇑*i* P	**Pn**	19 38 06.6	+0.4
GRUS	**Gruza**	**7.91**	**310**	*e*Pn	**Pn**	19 38 06.6	-0.4
IVAS	**Ivanjica**	**8.08**	**307**	*e*Pn	**Pn**	19 38 12.1	+2.6

*IDC **07** 19:36:35.1±1.9,32.27N×141.67E,h0km,mb3.6/5,*
mb1 3.7/6,mb1mx3.4/47,mbtmp3.5/6,ML3.0/1,MS3.1/1,
Ms1 3.1/1,ms1mx2.2/40,Error ellipse: s-maj=61.5km
s-min=17.4km az=62.0
ISC 07 19:36:40.4±1.5,32.2N±0.2×141.4E±0.2,h31km,n8,
σ0s99/9,mb3.6/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.61**	**305**	Pn	**Pb**	19 37 08.2	-1.3
	19nm,0.3s,baz=279,slow=21,SNR=10						
JHJ				Sn	**Sb**	19 37 30.4	+0.9
	20nm,0.3s,baz=86,slow=23,SNR=6.2						
MJAR	**Matsushiro Arr**	**5.05**	**330**	Pn	**Pn**	19 37 53.0	-1.0
	0.5nm,0.3s,baz=139,slow=12,SNR=7.2						
MJAR				Sn	**Sn**	19 38 52.1	+0.9
	0.3nm,0.3s,baz=145,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**46.78**	**306**	P	**P**	19 45 07.5	+0.6
	0.2nm,0.3s,baz=88,slow=9.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**49.05**	**311**	P	**P**	19 45 24.2	-0.1
	0.3nm,0.5s,baz=89,slow=8.7,SNR=6.6						
WRA	**Warramunga Arr**	**52.29**	**188**	P	**P**	19 45 49.5	+0.5
	1.0nm,0.5s,baz=5.7,slow=7.7,SNR=24						
BVAR	**Borovoye Array**	**53.87**	**315**	P	**P**	19 46 01.2	+0.8
	0.1nm,0.3s,baz=97,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**56.02**	**188**	P	**P**	19 46 15.7	-0.5
	0.1nm,0.4s,baz=3.3,slow=7.3,SNR=7.5						
DZM	**Mont Dzumac**	**59.07**	**153**	LR	LR	20 12 05.1	
	comp=Z,16nm,19.9s,baz=155,slow=36						

*ISCJB **07** 19:39:52.6±0.5,39.10N±0.03×29.08E±0.03,h2km±6km,*
Error ellipse: s-maj=4.7km s-min=3.6km az=148.1
*CSEM **07** 19:39:52.8±0.1,39.10N×29.10E,h2km,MD2.5,Error*
ellipse: s-maj=2.4km s-min=2.0km az=118.0
*DDA **07** 19:39:52.6,39.12N×29.06E,h7km,Md2.5*
*ISK **07** 19:39:52.3,39.08N×29.11E,h5km,MD3.2*
ISC 07 19:39:52.9±1.0,39.09N±0.02×29.10E±0.02,h9km±10km,
n68,σ0s68/82,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.29**	**91**	P	**Pg**	19 39 59.3	+0.5
GDZ				S	**Sb

*ATH **07** 20:15:32.0, 36°36N×29°27E, h30km±1km, ML2.4/5, Error ellipse: s-maj=3.9km s-min=0.9km az=190.0*
*CSEM **07** 20:15:32.8±0.2, 36°30N×29°26E, h12km, ML2.4, Error ellipse: s-maj=4.1km s-min=3.1km az=159.0*

ISC 07 20:15:32.1±1.2, 36°30N±0°03×29°24E±0°02, h9km±10km, n49, σ0991/76, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**0.30**	**103**	P	**Pb**	**20 15 39.7**	**-0.1**
AKAS				S	**Sb**	**20 15 45.2**	**+0.3**
AKAS	**Kas**	**0.30**	**103**	*i* P	**Pb**	**20 15 39.7**	**-0.1**
AKAS				*i* S	**Sb**	**20 15 45.2**	**+0.3**
KSL	**Kastellorizon**	**0.31**	**118**	P	**Pb**	**20 15 39.6**	**-0.3**
KSL				S	**Sb**	**20 15 46.1**	**+1.0**
KSL				AML	AML	20 15 48.3	
	comp=E,771μm,0.4s						
KSL				AML	AML	20 15 48.5	
	comp=N,884μm,0.4s						
FETY	**Fethiye**	**0.36**	**339**	*e*PG	**Pb**	**20 15 40.5**	**-0.3**
FETY				*e*SG	**Sb**	**20 15 46.4**	**-0.2**
FETY	**Fethiye**	**0.36**	**339**	*e*Pg	**Pb**	**20 15 40.5**	**-0.3**
FETY				*e*Sg	**Sb**	**20 15 46.4**	**-0.2**
ELL	**Elmali**	**0.70**	**50**	*e*PG	**Pg**	**20 15 45.1**	**-0.6**
ELL				*e*SG	**Sb**	**20 15 55.8**	**-0.6**
ELL	**Elmali**	**0.70**	**50**	*e*Pg	**Pg**	**20 15 45.1**	**-0.6**
ELL				*e*Sg	**Sb**	**20 15 55.8**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.70**	**318**	*e*PG	**Pb**	**20 15 46.3**	**-0.3**
DALY				*e*SG	**Sb**	**20 15 56.2**	**-0.2**
DALY	**Dalyan (Mu¨la**	**0.70**	**318**	*e*Pg	**Pb**	**20 15 46.3**	**-0.3**
DALY				*e*Sg	**Sb**	**20 15 56.2**	**-0.2**
TURN	**Turunc**	**0.77**	**318**	*i* P	**Pn**	**20 15 51.2**	**+1.9**
TURN				*i* S	**Sn**	**20 16 05.2**	**+4.3**
GLHS	**Gihisar (BURDU**	**0.88**	**13**	*e*PG	**Pg**	**20 15 48.6**	**-0.5**
GLHS	**Gihisar (BURDU**	**0.88**	**13**	*e*Pg	**Pg**	**20 15 48.6**	**-0.5**
ARG	**Arkhangelos**	**0.91**	**265**	P	**Pb**	**20 15 50.2**	**+0.1**
ARG				S	**Sn**	**20 16 03.8**	**-0.5**
GOLH	**Golhisar**	**0.97**	**15**	P	**Pb**	**20 15 50.9**	**-0.3**
GOLH				S	**Sn**	**20 16 04.7**	**-1.4**
GOLH	**Golhisar**	**0.97**	**15**	*i* P	**Pb**	**20 15 50.9**	**-0.3**
GOLH				*i* S	**Sn**	**20 16 04.7**	**-1.4**
KORT	**Korkueli**	**1.13**	**51**	P	**Pg**	**20 15 53.6**	**-0.3**
KORT				S	**Sn**	**20 16 11.9**	**+1.7**
KORT	**Korkueli**	**1.13**	**51**	*i* P	**Pg**	**20 15 53.6**	**-0.3**
KORT				*i* S	**Sn**	**20 16 11.9**	**+1.7**
YER	**Yerkesik**	**1.14**	**318**	*e*PN	**Pg**	**20 15 54.8**	**+0.8**
YER	**Yerkesik**	**1.14**	**318**	*e*Pn	**Pg**	**20 15 54.8**	**+0.8**
DNZL	**Cakiroluk**	**1.40**	**354**	P	**Pg**	**20 15 59.2**	**+0.2**
DNZL				S	**Sg**	**20 16 18.1**	**+1.0**
DNZL	**Cakiroluk**	**1.40**	**354**	*i* P	**Pg**	**20 15 59.2**	**+0.2**
DNZL				*i* S	**Sg**	**20 16 18.1**	**+1.0**
BDRM	**Kayabasi**	**1.64**	**298**	P	**Pb**	**20 16 02.4**	**-0.1**
BDRM				S	**Sb**	**20 16 23.3**	**0.0**
BDRM	**Kayabasi**	**1.64**	**298**	*i* P	**Pb**	**20 16 02.4**	**-0.1**
BDRM				*i* S	**Sb**	**20 16 23.3**	**0.0**
NIS1	**Nisyros Isl.**	**1.69**	**281**	*e*PN	**Pn**	**20 16 02.1**	**+0.2**
NIS1	**Nisyros Isl.**	**1.69**	**281**	*e*Pn	**Pn**	**20 16 02.1**	**+0.2**
NIS1	**Nisyros Isl.**	**1.69**	**281**	P	**Pb**	**20 16 02.6**	**-0.9**
NIS1				S	**Sn**	**20 16 22.3**	**-1.5**
NIS1	**Nisyros Isl.**	**1.69**	**281**	P	**Pb**	**20 16 02.6**	**-0.9**
NIS1				S	**Sn**	**20 16 22.3**	**-1.5**
NIS1				AML	AML	20 16 35.3	
	comp=N,418μm,0.8s						
NIS1				AML	AML	20 16 38.3	
	comp=E,410μm,0.6s						
BODT	**Bodrum**	**1.73**	**297**	*e*PN	**Pn**	**20 16 02.3**	**-0.2**
BODT	**Bodrum**	**1.73**	**297**	*e*Pn	**Pn**	**20 16 02.3**	**-0.2**
AYDN	**Tasoluk**	**1.74**	**322**	P	**Pb**	**20 16 03.3**	**-1.1**
AYDN				S	**Sg**	**20 16 28.5**	**+0.3**
AYDN	**Tasoluk**	**1.74**	**322**	*i* P	**Pb**	**20 16 03.3**	**-1.1**
AYDN				*i* S	**Sg**	**20 16 28.5**	**+0.3**
SUTC	**Sutluce-Ispart**	**1.83**	**50**	*e*PN	**Pn**	**20 16 04.1**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.83**	**50**	*e*Pn	**Pn**	**20 16 04.1**	**+0.1**
KARP	**Karpathos**	**1.85**	**247**	*e*PN	**Pn**	**20 16 03.6**	**-0.5**
KARP	**Karpathos**	**1.85**	**247**	*e*Pn	**Pn**	**20 16 03.6**	**-0.5**
KARP	**Karpathos**	**1.85**	**247**	P	**Pb**	**20 16 05.0**	**-1.2**
KARP				S	**Sn**	**20 16 27.7**	**0.0**
KARP	**Karpathos**	**1.85**	**247**	P	**Pb**	**20 16 05.0**	**-1.2**
KARP				S	**Sn**	**20 16 27.7**	**0.0**
KARP				AML	AML	20 16 32.8	
	comp=E,154μm,0.1s						
KARP				AML	AML	20 16 33.6	
	comp=N,260μm,0.1s						
KHAL	**Karahalli**	**2.08**	**5**	P	**Pb**	**20 16 08.8**	**-1.3**
KHAL				S	**Sb**	**20 16 35.3**	**-0.8**
KHAL	**Karahalli**	**2.08**	**5**	*i* P	**Pb**	**20 16 08.8**	**-1.3**
KHAL				*i* S	**Sb**	**20 16 35.3**	**-0.8**
SMG	**Samos**	**2.38**	**307**	P	**Pn**	**20 16 11.3**	**-0.2**
SMG	**Samos**	**2.38**	**307**	P	**Pn**	**20 16 11.3**	**-0.2**
SMG				AML	AML	20 16 42.4	
	comp=N,100μm,0.2s						
SMG				AML	AML	20 16 42.4	
	comp=E,83μm,0.2s						
ZKR	**Zakros**	**2.73**	**245**	P	**Pn**	**20 16 17.4**	**+1.2**
ZKR	**Zakros**	**2.73**	**245**	P	**Pn**	**20 16 17.4**	**+1.2**
ZKR				AML	AML	20 16 46.0	
	comp=E,47μm,0.4s						
ZKR				AML	AML	20 16 46.2	
	comp=N,52μm,0.3s						
NPS	**Neapolis**	**3.13**	**252**	P	**Pn**	**20 16 21.9**	**+0.2**
NPS	**Neapolis**	**3.13**	**252**	P	**Pn**	**20 16 21.9**	**+0.2**
LAST	**Lasithi**	**3.27**	**251**	P	**Pn**	**20 16 23.7**	**0.0**
LAST	**Lasithi**	**3.27**	**251**	P	**Pn**	**20 16 23.7**	**0.0**
CHOS	**Chios island**	**3.29**	**310**	*e*PN	**Pn**	**20 16 24.5**	**+0.6**
CHOS	**Chios island**	**3.29**	**310**	*e*Pn	**Pn**	**20 16 24.5**	**+0.6**

*ISCJB **07** 20:16:00.6±0.8, 24°79N±0°07×122°53E±0°03, h27km±7km, Error ellipse: s-maj=12.0km s-min=4.2km az=16.8*
*TAP **07** 20:16:00.7, 24°82N×122°53E, h30km±1km, ML2.5, D*
*JMA **07** 20:16:01.0±0.1, 24°75N×122°52E, h31km±4km, M1.7*

ISC 07 20:16:00.5±1.2, 24°78N±0°08×122°53E±0°04, h27km±12km, n11, σ0935/21, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.50**	**131**	P	**Pb**	**20 16 10.9**	**0.0**
JYNG				S	**Sb**	**20 16 18.0**	**+0.1**
TWB1	**Santiao Chiao**	**0.54**	**295**	P	**Pb**	**20 16 11.2**	**-0.3**
	baz=291						
TWB1				S	**Sb**	**20 16 18.7**	**-0.3**
	baz=291						
YOJ	**Yonaguni jima**	**0.54**	**126**	P	**Pb**	**20 16 11.6**	**0.0**
YOJ				S	**Sb**	**20 16 18.9**	**-0.2**
TWC	**Suao**	**0.64**	**255**	*e*P	**Pb**	**20 16 12.7**	**-0.4**
	baz=251						
TWC				S	**Sb**	**20 16 22.4**	**+0.7**
	baz=251						
NWF	**Wu-fen Shan**	**0.73**	**293**	*e*P	**Pn**	**20 16 15.3**	**+0.2**
	baz=290						
NWF				*e*S	**Sb**	**20 16 25.1**	**+0.5**
	baz=290						
TWE	**Neicheng**	**0.78**	**266**	*e*P	**Pn**	**20 16 15.8**	**0.0**
	baz=262						
TWE				*e*S	**Sb**	**20 16 25.5**	**-0.3**
	baz=262						
ENA	**Nanau**	**0.80**	**244**	*e*P	**Pn**	**20 16 15.4**	**-0.5**
	baz=241						
ENA				*e*S	**Sn**	**20 16 26.9**	**0.0**
	baz=241						
ENTT	**Nioudou**	**0.88**	**261**	*e*P	**Pb**	**20 16 17.7**	**+0.4**
	baz=258						
ENTT				*e*S	**Sn**	**20 16 28.6**	**-0.6**
	baz=258						
NSK	**Sanguang**	**1.07**	**265**	*e*P	**Pn**	**20 16 19.9**	**+0.2**
	baz=262						
NSK				*e*S	**Sn**	**20 16 33.6**	**-0.1**
	baz=262						
NNS	**Nan Shan**	**1.10**	**252**	*e*P	**Pb**	**20 16 21.4**	**+0.3**
	baz=250						
NNS				*e*S	**Sn**	**20 16 34.8**	**+0.1**
	baz=250						
IRIF	**Iriomote-Funau**	**1.18**	**112**	P	**Pn**	**20 16 21.4**	**+0.1**

IDC 07 20:19:11.6±999.0, 47°08N×62°43E, h0km, Error ellipse: s-maj=1674.0km s-min=98.0km az=140.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**4.42**	**320**	*i*		20 47 10.0	
	baz=137,slow=326,SNR=1.8						
I46RU	**ZALESOVO INFRA**	**15.77**	**56**	*i*		21 58 10.0	
	baz=263,slow=304,SNR=1.5						
I43RU	**DUBNA INFRASON**	**18.21**	**311**	*i*		22 12 50.0	
	baz=112,slow=324,SNR=0.5						

*ISCJB **07** 20:32:57.1±1.0, 0°01S±0°09×123°5E±0°1, h157km, mb3.6/4, Error ellipse: s-maj=19.1km s-min=11.7km az=21.2*
*IDC **07** 20:32:57.3±5.2, 0°03N×123°57E, h139km±48km, mb3.3/4, mb1 3.4/6, mb1mx3.2/32, mbtmp3.7/6, MS2.7/1, Ms1 2.9/1, ms1mx2.3/19, Error ellipse: s-maj=48.2km s-min=15.9km az=61.0*

ISC 07 20:32:58.9±1.0, 0°0S±0°1×123°5E±0°2, h157km, n7, σ1815/10, mb3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.21**	**217**	P	**Pn**	**20 34 29.1**	**+0.6**
	1.8nm,0.3s,baz=20,slow=6.5,SNR=4.2						
KAPI				S	**Sn**	**20 35 37.9**	**-0.8**
	0.7nm,0.3s,baz=79,slow=18,SNR=2.9						
FITZ	**Fitzroy Crossi**	**18.07**	**173**	P	**P**	**20 36 58.3**	**-0.3**
	0.2nm,0.3s,baz=358,slow=7.0,SNR=11						
WRA	**Warramunga Arr**	**22.45**	**152**	P	**P**	**20 37 43.4**	**-1.7**
	2.1nm,0.5s,baz=334,slow=10.0,SNR=25						
WRA				PcP	**PcP**	**20 41 34.3**	**+0.4**
	0.3nm,0.9s,baz=329,slow=2.1,SNR=4.7						
ASAR	**Alice Springs**	**25.56**	**157**	P	**P**	**20 38 15.2**	**+1.7**
	0.8nm,0.4s,baz=347,slow=12,SNR=18						
ASAR				PcP	**PcP**	**20 41 41.4**	**+0.8**
	0.4nm,0.4s,baz=348,slow=2.3,SNR=8.7						
CMAR	**Chiang Mai Arr**	**30.34**	**309**	LR	LR	20 52 17.7	
	comp=Z,14nm,18.4s,baz=145,slow=38						
SONM	**Songino Array**	**49.95**	**345**	P	**P**	**20 41 36.2**	**-0.7**
	0.2nm,0.4s,baz=174,slow=5.8,SNR=2.7						
MKAR	**Makanchi Array**	**58.92**	**328**	P	**P**	**20 42 42.2**	**+0.7**
	0.6nm,0.4s,baz=124,slow=8.7,SNR=12						
MKAR				PcP	**PcP**	**20 43 28.2**	**-0.9**
	0.6nm,0.5s,baz=141,slow=4.3,SNR=6.3						

*ISCJB **07** 20:51:26.6±0.6, 10°84N±0°05×86°85W±0°05, h30km, mb4.3/31, MS3.0/2, Error ellipse: s-maj=8.6km s-min=5.8km az=39.9*
*IDC **07** 20:51:27.3±1.2, 11°76N×85°98W, h0km, mb3.7/7, mb1 1.1/8, mb1mx3.9/34, mbtmp3.8/8, ML4.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/42, Error ellipse: s-maj=52.8km s-min=23.5km az=47.0*
*CASC **07** 20:51:29.5±2.5, 11°00N×86°80W, h22km±17km, MD4.3, ML3.1, mb4.4(NEIC)*
*NEIC **07** 20:51:34.1±1.1, 11°39N×86°72W, h55km±8km, mb4.4/23, Error ellipse: s-maj=18.6km s-min=9.1km az=215.0*

ISC 07 20:51:29.4±0.6, 10°98N±0°06×86°74W±0°06, h30km, n61, σ1990/64, mb4.4/31, 1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**1.08**	**23**	*e*P	**Pb**	**20 51 50.0**	**+0.4**
COPN	**Copaltepe**	**1.20**	**7**	*e*P	**Pb**	**20 51 51.1**	**-0.5**
COPN				*e*P	**Pn**	**20 51 51.2**	**+1.0**
COPN				*e*S	**Sn**	**20 52 06.8**	**+1.4**
MGAN	**Managua**	**1.25**	**23**	*e*P	**Pn**	**20 51 51.7**	**+0.8**
MGAN				AML	AML	20 52 17.4	
	comp=N,321nm,0.4s						
APYN	**Apoyeque**	**1.30**	**17**	*e*P	**Pn**	**20 51 52.5**	**+0.9**
MOMN	**Momotombo**	**1.43**	**8**	*e*P	**Pn**	**20 51 54.2**	**+0.8**
CNGN	**Cerro Negro**	**1.51**	**1**	*e*P	**Pn**	**20 51 55.2**	**+0.8**
CNGN				*e*P	**Pn**	**20 51 55.3**	**+0.8**
BOAB	**BOACO BROADBAN**	**1.79**	**36**	*e*P	**Pn**	**20 51 59.0**	**+0.7**
CGA2	**Cerro Gallo 2**	**2.43**	**113**	*e*P	**Pn**	**20 52 07.1**	**-0.2**
CNCH	**Conchagua**	**2.52**	**335**	*e*P	**Pn**	**20 52 08.8**	**+0.4**
CNCH				*e*S	**Sn**	**20 52 39.8**	**+1.6**
HDC	**Heredia**	**2.76**	**110**	*e*Pn	**Pb**	**20 52 17.5**	**-0.7**
PACA	**Pacayal**	**2.92**	**328**	*e*P	**Pn**	**20 52 14.6**	**+0.7**
PACA				*e*S	**Sn**	**20 52 48.9**	**+0.9**
QCR	**Quepos**	**2.97**	**121**	*e*P	**Pb**	**20 52 19.0**	**-2.6**
TGUH	**Tegucigalpa,Un**	**3.10**	**350**	*e*Pn	**Pn**	**20 52 16.9**	**+0.6**
URSC	**Urasca**	**3.13**	**111**	*e*P	**Pn**	**20 52 18.9**	**+2.0**
LFRS	**El Faro**	**3.47**	**319**	*e*P	**Pn**	**20 52 20.9**	**-0.6**
LFRS				*e*S	**Sn**	**20 53 02.1**	**+0.4**
BCIP	**Isla Barro Col**	**7.03**	**104**	*e*Pn	Pn	20 53 17.2	+6.9
CCIG	**Comitan**	**7.43**	**316**	*e*Pn	**Pn**	**20 53 13.8**	**-2.3**
CMIG	**Matias Romero**	**9.96**	**308**	Pn	Pn	20 53 53.0	+2.4
	comp=N,1.3nm,0.3s,baz=136,slow=6.2,SNR=10						
TLIG	**Tlapa**	**13.20**	**301**	*e*Pn	**Pn**	**20 54 36.0**	**+1.1**
ATAH	**Atahualpa**	**19.82**	**155**	LR	LR	21 02 41.5	
	comp=N,74nm,20.1s,baz=324,slow=33						
SJG	**San Juan**	**21.14**	**68**	LR	LR	21 03 50.6	
	comp=N,43nm,19.1s,baz=281,slow=37						
LRAL	**Lakeview Retre**	**21.95**	**359**	*e*P	**P**	**20 56 22.2**	**+1.6**
	comp=N,6.1nm,1.0s						
GOGA	**Godfrey**	**22.52**	**7**	*e*P	**P**	**20 56 25.2**	**-1.6**
	comp=N,13nm,1.2s						
NHSC	**New Hope**	**22.83**	**14**	*e*P	**P**	**20 56 28.0**	**-2.0**
	comp=N,66nm,1.4s						
WHTX	**Lake Whitney,**	**23.13**	**336**	*e*P	**P**	**20 56 30.4**	**-2.8**
	comp=N,14nm,1.0s						
OXF	**Oxford**	**23.55**	**354**	*e*P	**P**	**20 56 32.5**	**-4.7**
PLAL	**Pickwick Lake**	**23.92**	**357**	*e*P	**P**	**20 56 40.4**	**-0.4**
	comp=N,5.3nm,0.6s						
SWET	**Sewanee**	**24.14**	**2**	*e*P	**P**	**20 56 42.4**	**-0.5**
	comp=N,8.7nm,1.8s						
LTX	**Lajitas**	**24.15**	**322**	*e*P	**P**	**20 56 43.7**	**+0.6**
LTX				*e*PcP	**PcP**	**21 00 27.1**	**+3.4**
TXAR	**Lajitas Array**	**24.15**	**322**	P	**P**	**20 56 43.7**	**+0.6**
	comp=N,2.8nm,0.9s,baz=136,slow=8.3,SNR=17						
TXAR				PcP	**PcP**	**21 00 27.1**	**+3.4**
	comp=N,0.7nm,0.8s,baz=134,slow=5.2,SNR=6.1						
TX31	**Lajitas Ar. Si**	**24.15**	**322**	*e*P	**P**	**20 56 42.1**	**-1.0**
CPCT	**Cooper Cave**	**24.44**	**4**	*e*P	**P**	**20 56 46.0**	**+0.4**
	comp=N,7.1nm,0.7s						
X301	**Greenbrier Sit**	**24.69**	**349**	*e*P	**P**	**20 56 47.2**	**-0.6**
	comp=N,47nm,0.5s						
TKL	**Tuckaleechee C**	**24.71**	**6**	P	**P**	**20 56 43.0**	**-5.1**
	comp=N,0.7nm,0.3s,baz=225,slow=4.3,SNR=2.0						
WHAR	**Wooly Hollow**	**24.72**	**349**	*e*P	**P**	**20 56 47.1**	**-1.0**
	comp=N,68nm,0.5s						
X201	**Greenbrier Sit**	**24.73**	**349**	*e*P	**P**	**20 56 45.7**	**-2.6**
	comp=N,41nm,0.8s						
SVB	**Belmont**	**25.02**	**82**	*e*P	**P**	**20 56 50.2**	**-0.8**
	comp=N,120nm,1.4s						
PBMO	**Poplar Bluff**	**25.90**	**353**	*e*P	**P**	**20 56 56.6**	**-2.2**
	comp=N,3.7nm,0.6s						
HHAR	**Hobbs**	**26.02**	**347**	*e*P	**P**	**20 56 57.7**	**-2.2**
	comp=N,3.3nm,0.8s						
WMOK	**Wichita Mounta**	**26.07**	**337**	*e*P	**P**	**20 57 00.3**	**-0.1**
	comp=N,8.9nm,0.9s						
TUL1	**Leonard**	**26.14**	**343**	*e*P	**P**	**20 56 58.6**	**-2.4**
	comp=N,8.9nm,0.8s						
W34A	**Bridge Creek,**	**26.15**	**339**	*e*P	**P**	**20 57 00.4**	**-0.7**
	comp=N,24nm,0.9s						
MNTX	**Cornudas Mount**	**26.87**	**323**	*e*P	**P**	**20 57 10.2**	**+2.6**
	comp=N,5.8nm,0.9s						
PTGA	**Pitinga**	**29.05**	**112**	LR	LR	21 10 42.6	
	comp=N,49nm,19.5s,baz=298,slow=40						
SFIN	**Lafayette**	**29.28**	**359**	*e*P	**P**	**20 57 26.9**	**-2.2**
	comp=N,5.0nm,0.6s						
ACSO	**Alum Creek Sta**	**29.32**	**6**	*e*P	**P**	**20 57 28.7**	**-0.7**
	comp=N,17nm,0.8s						
ANMO	**Albuquerque**	**29.86**	**326**	*e*P	**P**	**20 57 34.0**	**-0.5**
	comp=N,3.3nm,0.9s						
SSPA	**Standing Stone**	**30.55**	**13**	*e*P	P	20 57 30.2	-10
	comp=N,12nm,0.9s						
ERPA	**Erie**	**31.57**	**10**	*e*P	**P**	**20 57 46.8**	**-2.5**
ECSD	**EROS Data Cent**	**33.73**	**347**	*e*P	**P**	**20 58 06.4**	**-1.9**
	comp=N,3.7nm,0.8s						
SPMN	**Marine on St.**	**34.52**	**352**	*e*P	**P**	**20 58 12.8**	**-2.1**
	comp=N,25nm,1.1s						
SRU	**San Rafael Swe**	**35.12**	**327**	*e*P	**P**	**20 58 21.2**	**+0.7**
	comp=N,2.8nm,0.6s						
PD31	**Pinedale Array**	**37.39**	**332**	*e*P	**P**	**20 58 39.3**	**-0.5**
PDAR	**Pinedale Array**	**37.39**	**332**	P	**P**	**20 58 41.0**	**+1.1**
	comp=N,0.8nm,0.5s,baz=115,slow=12,SNR=6.1						
NV01	**Mina Array Sit**	**39.26**	**319**	*e*P	**P**	**20 58 52.8**	**-2.9**
NVAR	**Mina Array Bea**	**39.26**	**319**	P	**P**	**20 58 56.4**	**+0.7**
	comp=N,0.6nm,0.7s,baz=129,slow=8.2,SNR=5.4						
NVAR				PcP	**PcP**	**21 01 08.3**	**+3.9**
	comp=N,1.1nm,0.7s,baz=144,slow=4.3,SNR=8.7						
BDFB	**Brasilia**	**46.58**	**124**	P	**P**	**20 59 55.7**	**+0.6**
	comp=N,2.8nm,0.6s,baz=320,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**55.20**	**345**	P	**P**	**21 00 57.1**	**-2.0**
	comp=N,0.4nm,0.7s,baz=137,slow=7.0,SNR=5.5						
ILAR	**Eielson Array**	**67.64**	**336**	P	**P**	**21 02 23.1**	**-0.1**
	comp=N,0.5nm,0.9s,baz=122,slow=5.9,SNR=6.2						
WRA	**Warramunga Arr**	**139.51**	**252**	PKP	**PKPdf**	**21 10 59.3**	**+4.3**
	comp=N,0.3nm,0.6s,baz=92,slow=2.4,SNR=5.6						
CMAR	**Chiang Mai Arr**	**150.21**	**349**	PKPbc	**PKPbc**	**21 11 17.8**	**-0.7**
	comp=N,1.3nm,1.0s,baz=308,slow=2.1,SNR=8.4						

*ISCJB **07** 20:55:10.9±0.6, 39°10N±0°03×29°07E±0°03, h1km±7km, Error ellipse: s-maj=5.4km s-min=3.8km az=149.9*
*ISK **07** 20:55:10.5, 39°09N×29°10E, h5km, MD2.9*
*DDA **07** 20:55:10.9, 39°11N×29°07E, h7km, Md2.8*
*CSEM **07** 20:55:11.2±0.1, 39°09N×29°07E, h5km, MD2.8, Error ellipse: s-maj=2.4km s-min=1.8km az=114.0*

ISC 07 20:55:11.3±0.9, 39°10N±0°02×29°08E±0°02, h9km±9km, n43, σ0968/60, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**259**	P	**Pg**	**20 55 17.1**	**+0.1**
DEMI				S	**Sg**	**20 55 21.2**	**+0.3**
DEMI	**Demirci**	**0.29**	**259**	*i* P	**Pg**	**20 55 17.1**	**+0.1**
DEMI				*i* S	**Sg**	**20 55 21.2**	**+0.3**
GDZ	**Gediz**	**0.32**	**91**	P	**Sg**	**20 55 17.7**	**+0.1**
GDZ				S	**Sg**	**20 55 22.2**	**+0.4**
GDZ	**Gediz**	**0.32**	**91**	*i* P	**Pg**	**20 55 17.7**	**+0.1**
GDZ				*i* S	**Sg**	**20 55 22.2**	**+0.4**
TVSB	**Tavsanli**	**0.46**	**40**	*e*PG	**Pg**	**20 55 19.9**	**-0.4**
TVSB				*e*SG	**Sg**	**20 55 26.0**	**-0.4**
TVSB	**Tavsanli**	**0.46**	**40**	*e*Pg	**Pg**	**20 55 19.9**	**-0.4**
TVSB				*e*Sg	**Sg**	**20 55 26.0**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*PG	**Pg**	**20 55 24.1**	**-0.1**
KULA				*e*SG	**Sg**	**20 55 32.6**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*Pg	**Pg**	**20 55 24.1**	**-0.1**
KULA				*e*Sg	**Sg**	**20 55 32.6**	**-0.3**
MANT	**Manisa**	**0.73**	**214**	P	**Pg**	**20 55 25.3**	**-0.1**
MANT				S	**Sg**	**20 55 34.8**	**-0.1**
MANT	**Manisa**	**0.73**	**214**	*i* P	**Pg**	**20 55 25.3**	**-0.1**
MANT				*i* S	**Sg**	**20 55 34.8**	**-0.1**
KHAL	**Karahalli**	**0.80**	**156**	P	**Pb**	**20 55 26.9**	**-0.4**
KHAL				S	**Sb**	**20 55 38.0**	**-0.2**
KHAL	**Karahalli**	**0.80**	**156**	*i* P	**Pb**	**20 55 26.9**	**-0.4**
KHAL				*i* S	**Sb**	**20 55 38.0**	**-0.2**
KHL	**Karahalli**	**0.85**	**156**	*e*PG	**Pg**	**20 55 26.9**	**-0.7**
KHL				*e*SG	**Sb**	**20 55 39.1**	**-0.6**
KHL	**Karahalli**	**0.85**	**156**	*e*Pg	**Pg**	**20 55 26.9**	**-0.7**
KHL				*e*Sg	**Sb**	**20 55 39.1**	**-0.6**
AKS	**Akhisar**	**1.01**	**258**	*e*PG	**Pb**	**20 55 30.5**	**-0.4**
AKS	**Akhisar**	**1.01**	**258**	*e*Pg	**Pb**	**20 55 30.5**	**-0.4**
BALB	**Balikesir**	**1.07**	**301**	*e*PN	**Pb**	**20 55 32.0**	**0.0**
BALB	**Balikesir**	**1.07**	**301**	*e*Pn	**Pb**	**20 55 32.0**	**0.0**
IGD	**Bursa**	**1.17**	**5**	*i* P	**Pg**	**20 55 30.0**	**-3.8**
IGD				*i* S	**Sb**	**20 55 49.2**	**+0.3**
CAVI	**Cavuskoy**	**1.25**	**28**	*e*PN	**Pg**	**20 55 35.0**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**28**	*e*Pn	**Pg**	**20 55 35.0**	**-0.3**
IZI	**Iznik**	**1.27**	**14**	*e*PN	**Pb**	**20 55 36.1**	**+0.7**
IZI	**Iznik**	**1.27**	**14**	*e*Pn	**Pb**	**20 55 36.2**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*PN	**Pn**	**20 55 35.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*Pn	**Pn**	**20 55 35.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*PN	**Pb**	**20 55 36.0**	**+0.3**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*Pn	**Pb**	**20 55 36.1**	**+0.3**
BORA	**Eskisehir**	**1.32**	**53**	P	**Pn**	**20 55 35.9**	**0.0**
BORA				S	**Sn**	**20 55 54.3**	**+0.6**
BORA	**Eskisehir**	**1.32**	**53**	*i* P	**Pn**	**20 55 35.9**	**0.0**
BORA				*i* S	**Sn**	**20 55 54.3**	**+0.6**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*PN	**Pg**	**20 55 38.2**	**-0.5**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*Pn	**Pg**	**20 55 38.2**	**-0.5**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*PN	**Pb**	**20 55 37.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*Pn	**Pb**	**20 55 37.9**	**-0.2**
ARMT	**Armutlu**	**1.48**	**354**	*e*

MAT	**Matsushiro**	**4.89**	**257**	P		**Pn**	**21 01 05.6**	**+0.6**
MAT				*e*S		**Sn**	**21 02 00.2**	**-0.2**
NEM2	**Nemuro 2**	**5.69**	**12**	P		**Pn**	**21 01 13.8**	**-2.1**
JHJ	**Hachijo jima 2**	**5.86**	**219**	Pn		**Pn**	**21 01 15.5**	**-2.7**
	5.5nm,0.3s,baz=90,slow=20,SNR=3.9							
JHJ				Sn		Sn	21 02 16.7	-7.5
	12nm,0.3s,baz=72,slow=20,SNR=4.7							
JTKR	**Abashiri--Toko**	**6.17**	**358**	P		**Pn**	**21 01 22.1**	**-0.3**
JTKR				*e*S		**Sn**	**21 02 28.7**	**-2.9**
ASAJ	**Asahikawa**	**6.42**	**350**	Pn		**Pn**	**21 01 27.4**	**+1.6**
	baz=221,slow=9.3							
ASAJ				Sn		**Sn**	**21 02 38.3**	**+0.5**
	baz=0.0,slow=20							
MKAR	**Makanchi Array**	**45.55**	**302**	P		**P**	**21 08 12.1**	**+2.0**
	0.2nm,0.2s,baz=88,slow=10,SNR=3.6							
KURBB	**Kurchatov Arra**	**47.24**	**308**	P		**P**	**21 08 25.1**	**+1.9**
	0.4nm,0.5s,baz=82,slow=8.1,SNR=5.9							
WRA	**Warramunga Arr**	**58.17**	**191**	P		**P**	**21 09 43.8**	**-0.4**
	1.3nm,0.9s,baz=12,slow=7.3,SNR=7.7							
ASAR	**Alice Springs**	**61.89**	**191**	P		**P**	**21 10 09.8**	**+0.1**
	0.3nm,0.7s,baz=8.1,slow=7.5,SNR=4.6							

IDC 07 21:03:00.9±1.0, 15°69N×119°82E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.4/47, mbtmp3.6/8, MS2.8/1, Ms1 2.8/1, ms1mx2.2/47, Error ellipse: s-maj=54.2km s-min=16.9km az=61.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.91**	**145**	LR	LR	LR	21 04 39.4	
	comp=Z,124nm,20.0s,baz=294,slow=52							
CMAR	**Chiang Mai Arr**	**20.15**	**281**	P		Pn	21 07 38.2	-0.6
	0.7nm,0.6s,baz=101,slow=7.5,SNR=6.6							
KAPI	**Kappang**	**20.57**	**180**	LR	LR	LR	21 14 48.6	
	comp=Z,31nm,20.9s,baz=33,slow=34							
SONM	**Songino Array**	**33.92**	**344**	P		P	21 09 47.0	+1.1
	0.3nm,0.5s,baz=165,slow=12,SNR=3.1							
WRA	**Warramunga Arr**	**38.17**	**158**	P		P	21 10 22.1	-0.3
	1.5nm,0.7s,baz=337,slow=9.3,SNR=10							
ASAR	**Alice Springs**	**41.46**	**160**	P		P	21 10 49.9	+0.1
	0.7nm,0.5s,baz=335,slow=6.7,SNR=15							
MKAR	**Makanchi Array**	**43.94**	**323**	P		P	21 11 08.9	-0.8
	0.3nm,0.7s,baz=126,slow=7.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**46.91**	**332**	P		P	21 11 33.3	+0.2
	0.3nm,0.3s,baz=104,slow=6.1,SNR=2.9							
KURBB	**Kurchatov Arra**	**48.08**	**326**	P		P	21 11 41.2	-1.0
	0.4nm,0.8s,baz=124,slow=8.5,SNR=5.1							
GEYT	**Alibeck**	**58.30**	**305**	P		P	21 12 57.4	-0.5
	0.5nm,0.4s,baz=123,slow=5.3,SNR=2.3							

*BJI **07** 21:15:44.7, 39°.45N×74°.54E, h7km, mb3.9/6, mB4.3/3, ML3.5/8*
*IDC **07** 21:15:44.3±0.8, 39°.25N×74°.75E, h0km, mb3.8/16, mb1 4.0/18, mb1mx3.8/52, mbtmp3.8/18, ML2.9/4, MS2.6/3, Ms1 2.6/3, ms1mx2.3/49, Error ellipse: s-maj=16.8km s-min=14.6km az=20.0*
*MOS **07** 21:15:47.8±1.2, 39°.29N×74°.78E, h33km, mb4.2/12, Error ellipse: s-maj=11.2km s-min=6.5km az=98.3*
*NNC **07** 21:15:47.5±1.8, 39°.38N×74°.70E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=15.4km s-min=10.1km az=143.0*
*KRNET **07** 21:15:47.2±0.1, 39°.46N×74°.90E, mb4.2*
*NEIC **07** 21:15:50.9±0.8, 39°.36N×74°.73E, h48km±7km, mb4.5/9, Error ellipse: s-maj=8.3km s-min=6.2km az=172.0*

ISC 07 21:15:45.6±0.5, 39°.54N±0°.03×74°.89E±0°.03, h10km, n103, σ2°27/113, mb4.0/23, 37C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.84**	**91**	⇓*i*Pg		**Pg**	**21 16 00.3**	**-1.5**
KSH				Sg		**Sg**	**21 16 11.1**	**-1.6**
KSH				SMN				
	2μm,0.7s							
KSH				SME				
	3μm,1.2s							
ARSB	**Arslanbob**	**2.30**	**321**	⇑*e*P		**Pg**	**21 16 28.4**	**-1.3**
	baz=322							
ARSB				⇑*e*S		**Sg**	**21 16 59.1**	**-0.4**
	baz=322							
KZA	**Kyzart**	**2.55**	**6**	⇑*i*P		**Pg**	**21 16 32.9**	**-1.6**
	baz=6.0							
KZA				⇑*i*S		**Sg**	**21 17 04.9**	**-2.6**
	baz=6.0							
UCH	**Uchtor**	**2.70**	**354**	⇑*i*P		**Pg**	**21 16 35.3**	**-2.0**
	baz=354							
UCH				⇑*i*S		**Sg**	**21 17 09.3**	**-3.0**
	baz=354							
AML	**Almayashu**	**2.74**	**341**	⇑*i*P		**Pb**	**21 16 35.7**	**+0.8**
	baz=341							
AML				⇑*i*S		**Sb**	**21 17 10.1**	**+1.4**
	baz=341							
ULHL	**Ulahol**	**2.89**	**20**	⇑*i*P		**Pb**	**21 16 36.5**	**-0.8**
	baz=20							
ULHL				⇑*i*S		**Sb**	**21 17 11.2**	**-1.6**
	baz=20							
BOOM	**Boomskoye usch**	**3.05**	**15**	⇑*e*P		**Pb**	**21 16 40.3**	**+0.2**
	baz=14							
BOOM				⇑*e*S		**Sg**	**21 17 19.1**	**-4.5**
	baz=14							
AAK	**Ala-Archa**	**3.10**	**355**	Pn		**Pb**	**21 16 41.3**	**+0.3**
	8.4nm,0.3s,baz=155,slow=6.7,SNR=82							
AAK				Lg		Lg	21 17 22.7	
	1.8nm,0.3s,baz=335,slow=18,SNR=3.0							
AAK				LR		LR	21 18 17.4	
	comp=Z,61nm,20.6s,baz=76,slow=45							
AAK	**Ala-Archa**	**3.10**	**355**	⇓Pn		**Pb**	**21 16 41.1**	**+0.1**
	25nm,0.6s							
AAK				⇓Sn		**Sg**	**21 17 21.4**	**-3.8**
	48nm,0.6s							
KBK	**Karagaybulak**	**3.11**	**1**	⇑*i*P		**Pb**	**21 16 41.7**	**+0.6**
	baz=1.0							
KBK				⇑*i*S		**Sb**	**21 17 18.2**	**-1.0**
	baz=1.0							
KDJ	**Kajisay**	**3.12**	**33**	⇑*e*P		**Pb**	**21 16 40.6**	**-0.6**
	baz=32							
KDJ				⇑*e*S		**Sg**	**21 17 20.7**	**-4.9**
	baz=32							
ARK	**Arkit**	**3.17**	**316**	⇑*e*P		**Pb**	**21 16 39.7**	**-2.3**
	baz=317							
ARK				⇑*e*S		**Sb**	**21 17 19.1**	**-1.6**
	baz=317							
BTK	**Batken**	**3.18**	**281**	⇑*e*P		**Pb**	**21 16 39.9**	**-2.3**
	baz=282							
BTK				⇑*e*S		**Sb**	**21 17 18.5**	**-2.5**
	baz=282							
EKS2	**Erkin-Say**	**3.23**	**345**	*e*PN		**Pb**	**21 16 42.6**	**-0.5**
EKS2	**Erkin-Say**	**3.23**	**345**	*e*Pn		**Pb**	**21 16 42.6**	**-0.5**
TKM2	**Tokmak 2**	**3.42**	**9**	⇓Pn		**Pb**	**21 16 44.9**	**-1.5**
	12nm,0.3s							
TKM2				⇓Sn		**Sg**	**21 17 30.3**	**-5.0**
	100nm,0.7s							
TKM2	**Tokmak 2**	**3.42**	**9**	*e*PN		**Pb**	**21 16 45.6**	**-0.8**
TKM2	**Tokmak 2**	**3.42**	**9**	*e*Pn		**Pb**	**21 16 45.5**	**-0.8**
MNAS	**Manas**	**3.45**	**329**	⇑*e*P		**Pb**	**21 16 44.5**	**-2.4**
	baz=330							
MNAS				⇑*e*S		**Sb**	**21 17 27.5**	**-1.4**
	baz=330							
MNAS	**Manas**	**3.45**	**329**	⇓Pn		**Pb**	**21 16 44.2**	**-2.7**
	6.8nm,0.6s							
MNAS				⇑Sn		**Sb**	**21 17 27.8**	**-1.1**
	46nm,0.6s							
MNAS	**Manas**	**3.45**	**329**	PN		**Pb**	**21 16 44.2**	**-2.7**
MNAS				S		**Sb**	**21 17 27.8**	**-1.1**
MNAS				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MNAS				smax	smax			
	comp=N,46nm,0.6s							
PRZ	**Przheval'sk**	**3.96**	**41**	⇑*e*P		**Pb**	**21 16 52.9**	**-2.7**
	baz=40							
PRZ				⇑*e*S		**Sb**	**21 17 40.9**	**-2.7**
	baz=40							
KNDC	**Almaty**	**3.99**	**22**	⇑Pg		**Pg**	**21 17 01.3**	**-0.7**
	comp=N,33nm,0.6s							
KNDC				⇑Lg		Lg	21 17 57.3	
	comp=N,186nm,0.7s							
AAA	**Alma-Ata**	**4.03**	**22**	*e*PN		**Pg**	**21 17 02.8**	**-0.1**
AAA				*i* S		**Sg**	**21 17 56.9**	**+1.8**
AAA				pmax	pmax			
	comp=E,2,51nm,0.5s							
AAA				smax	smax			
	comp=E,165nm,0.8s							
DZET	**Dzherino**	**4.77**	**263**	⇓Pn		**Pn**	**21 17 00.1**	**+2.5**
	comp=E,4.1nm,0.2s							
DZET				⇑Pg		**Pb**	**21 17 09.4**	**+0.1**
	comp=E,52nm,0.8s							
DZET				⇑Lg		Lg	21 18 16.8	
	comp=E,83nm,0.7s							
DZET	**Dzherino**	**4.77**	**263**	PN		**Pn**	**21 17 00.7**	**+3.1**
DZET				pmax	pmax			
	comp=Z,4.0nm,0.2s							
DZET				pmax	pmax			
	comp=Z,52nm,0.8s							
KK31	**Karatay Array**	**4.85**	**319**	Pn		**Pn**	**21 17 02.4**	**+3.8**
	comp=Z,1.0nm,0.2s,baz=126,slow=13,SNR=68							
KK31				⇑Pg		**Pg**	**21 17 14.4**	**-4.0**
	comp=Z,11nm,0.5s,baz=147,slow=17,SNR=14							
KK31				⇑Sn		**Sn**	**21 17 58.5**	**+3.7**
	comp=Z,7.3nm,0.5s,baz=163,slow=29,SNR=3.5							
KK31				⇑Lg		Lg	21 18 20.0	
	comp=Z,15nm,0.7s							
KK31	**Karatay Array**	**4.85**	**319**	PN		**Pn**	**21 17 02.4**	**+3.8**
KK31				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KKAR	**Karatay Array**	**4.85**	**319**	*e*PN		**Pn**	**21 17 01.7**	**+3.0**
KKAR	**Karatay Array**	**4.85**	**319**	*e*Pn		**Pn**	**21 17 01.6**	**+3.0**
KKAR				*e*Sn		**Sn**	**21 17 55.7**	**+0.8**
PDGK	**Podgornoye**	**5.12**	**41**	⇑*e*P		Pb	21 17 08.5	-6.7
	baz=40							
PDGK				⇑*e*S		**Sb**	**21 18 08.2**	**-8.6**
	baz=40							
PDGK	**Podgornoye**	**5.12**	**41**	⇑Pn		Pb	21 17 08.4	-6.8
	comp=Z,6.6nm,1.0s							
PDGK				⇓Pg		**Pg**	**21 17 22.9**	**-0.7**
	comp=Z,19nm,0.8s							
PDGK				⇑Lg		Lg	21 18 32.9	
	comp=Z,61nm,0.9s							
PDGK	**Podgornoye**	**5.12**	**41**	PN		Pb	21 17 08.4	-6.8
PDGK				P		**Pg**	**21 17 22.9**	**-0.7**
PDGK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
PDGK				pmax	pmax			
	comp=Z,19nm,0.8s							
CHCP	**Chirah Chowk**	**6.02**	**193**	P		Pn	21 17 19.8	+5.1
CEP	**Cherat**	**6.19**	**204**	P		**Pn**	**21 17 21.1**	**+3.9**
CEP				S		**Sn**	**21 18 28.0**	**-0.1**
KBL	**Kabul**	**6.84**	**225**	*e*PN		**Pn**	**21 17 25.0**	**-1.1**
KBL	**Kabul**	**6.84**	**225**	*e*Pn		**Pn**	**21 17 25.0**	**-1.1**
THW	**Thamme Wali**	**7.20**	**202**	P		**Pn**	**21 17 34.5**	**+3.6**
MK32	**Makanchi Array**	**9.04**	**34**	*e*Pn		Pn	21 18 01.7	+5.6
MKAR	**Makanchi Array**	**9.04**	**34**	Pn		Pn	21 18 01.7	+5.6
	comp=Z,0.1nm,0.3s,baz=206,slow=14,SNR=2.9							
MKAR				LR		LR	21 21 39.1	
	comp=Z,18nm,21.2s,baz=220,slow=38							
WMQ	**Urumqi**	**10.49**	**62**	P		Pn	21 18 21.3	+5.3
WMQ				PMZ				
	comp=Z,3.0nm,1.2s							
WMQ				PMZ				
	comp=Z,30nm,3.6s							
KURBB	**Kurchatov Arra**	**11.37**	**12**	Pn		Pn	21 18 33.1	+5.1
	comp=Z,0.0nm,0.3s,baz=198,slow=12,SNR=3.6							
KURBB				Lg		Lg	21 21 48.6	
	comp=Z,0.0nm,0.3s,baz=201,slow=30,SNR=6.6							
KURK	**Kurchatov**	**11.48**	**12**	P		**Pn**	**21 18 33.1**	**+3.7**
KURK	**Kurchatov**	**11.48**	**12**	*e*Pn		**Pn**	**21 18 33.1**	**+3.7**
KURK				Lg		Lg	21 21 48.6	
GEYT	**Alibeck**	**13.20**	**268**	Sn		**Sn**	**21 21 13.6**	**-6.3**
	comp=Z,0.5nm,0.3s,baz=107,slow=18,SNR=3.0							
PYUN	**Piuthan**	**13.24**	**147**	*e*P		**Pn**	**21 18 52.6**	**-1.3**
	comp=Z,9.4nm,0.3s							
KOLN	**Koldanda**	**13.79**	**146**	*e*P		Pn	21 18 56.1	-5.3
	comp=Z,5.5nm,0.5s							
BVAR	**Borovoye Array**	**13.84**	**349**	Pn		**P**	**21 19 12.7**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=150,slow=10,SNR=4.5							
GKN	**Gorkha**	**14.06**	**142**	*e*P		**Pn**	**21 19 01.9**	**-3.2**
	comp=Z,9.8nm,0.5s							
AB31	**Akbulak array**	**14.41**	**317**	Pn		**Pn**	**21 19 10.1**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=128,slow=13,SNR=8.0							
ABKAR	**Akbulak array**	**14.41**	**317**	*e*Pn		**Pn**	**21 19 09.6**	**+0.1**
KKN	**Kakani**	**14.55**	**141**	*e*P		Pn	21 19 06.3	-5.5
	comp=Z,5.2nm,0.4s							
DMN	**Daman**	**14.62**	**141**	*e*P		Pn	21 19 05.3	-7.5
	comp=Z,1.2nm,0.2s							
GUN	**Gumba**	**14.76**	**139**	*e*P		Pn	21 19 09.2	-5.5
	comp=Z,3.5nm,0.5s							
PKIN	**Phulchoki**	**14.79**	**141**	*e*P		Pn	21 19 07.0	-8.0
	comp=Z,1.9nm,0.3s							
ZALV	**Zalesovo Beam**	**15.91**	**22**	Pn		**P**	**21 19 32.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=213,slow=13,SNR=6.0							
ZAA1	**Zalesovo Array**	**15.91**	**22**	*e*Pn		**P**	**21 19 32.6**	**-0.5**
AKTO	**Aktyubinsk**	**16.12**	**318**	Pn		**P**	**21 19 34.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=123,slow=13,SNR=4.3							
AKTO	**Aktyubinsk**	**16.12**	**318**	⇑Pn		**P**	**21 19 33.4**	**-2.0**
	comp=Z,4.5nm,0.9s							
ARU	**Arti**	**20.03**	**333**	P		Pn	21 20 22.5	+2.3
	comp=Z,0.8nm,0.4s,baz=85,slow=11,SNR=3.8							
ARU	**Arti**	**20.03**	**333**	*e*P		Pn	21 20 21.1	+0.9
	comp=Z,2.6nm,0.8s							
SONA0	**Songino Array**	**24.11**	**60**	*e*P		**P**	**21 21 04.5**	**+3.0**
	comp=Z,2.2nm,1.2s							
SONM	**Songino Array**	**24.11**	**60**	P		**P**	**21 21 04.5**	**+3.0**
	comp=Z,0.2nm,0.4s,baz=261,slow=9.6,SNR=4.4							
SONM	**Songino Array**	**24.11**	**60**	P		**P**	**21 21 04.5**	**+3.0**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BR101	**Keskin Array S**	**31.57**	**284**	*e*P		**P**	**21 22 09.5**	**+1.1**
BRTR	**Keskin Array B**	**31.57**	**284**	*e*P		**P**	**21 22 09.5**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=94,slow=7.8,SNR=9.9							
BR231	**Keskin MP Arra**	**32.19**	**284**	*e*P		**P**	**21 22 10.1**	**-3.7**
AKASG	**Malin Array Be**	**33.59**	**305**	LR		LR	21 38 35.1	
	comp=Z,23nm,19.1s,baz=190,slow=41							
MLR	**Muntele Rosu**	**36.10**	**296**	P		**P**	**21 22 49.1**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=132,slow=14,SNR=3.2							
FIA1	**FINESS Array S**	**36.80**	**323**	*e*P		**P**	**21 22 54.6**	**+1.4**
FIA0	**FINESS Array S**	**36.80**	**323**	*e*P		**P**	**21 22 54.4**	**+1.2**
FIA0	**FINESS Array S**	**36.80**	**323**	*e*P		**P**	**21 22 54.4**	**+1.2**
FINES	**FINESS Array B**	**36.80**	**323**	P		**P**	**21 22 54.4**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=110,slow=10,SNR=18							
LAST	**Lasithi**	**39.13**	**280**	*e*P		**P**	**21 23 12.9**	**-0.4**
	comp=Z,9.9nm,1.2s							
ARA0	**ARCESS Array S**	**39.59**	**335**	*e*P		**P**	**21 23 18.0**	**+1.3**
ARCES	**ARCESS Array B**	**39.59**	**335**	P		**P**	**21 23 18.2**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=106,slow=7.9,SNR=13							
ARE0	**ARCESS Array S**	**39.59**	**335**	*e*P		**P**	**21 23 18.0**	**+1.3**
	comp=Z,21nm,1.4s							
TIR	**Tirane**	**41.32**	**291**	*e*P		**P**	**21 23 28.8**	**-2.5**
TIR	**Tirane**	**41.32**	**291**	*e*P		**P**	**21 23 28.8**	**-2.5**
	comp=Z,142nm,2.0s							
HFS	**Hagfors**	**42.66**	**320**	P		**P**	**21 23 42.7**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=106,slow=11,SNR=4.7							
NC405	**NORSAR Array S**	**43.63**	**321**	*e*P		**P**	**21 23 50.7**	**+0.8**
GERES	**GERESS Array B**	**43.76**	**303**	P		**P**	**21 23 52.9**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=65,slow=7.7,SNR=9.2							
GEA0	**GERESS Array S**	**43.76**	**303**	*e*P		**P**	**21 23 52.1**	**+0.9**
NC303	**NORSAR Array S**	**43.80**	**321**	*e*P		**P**	**21 23 52.2**	**+0.9**
NB2	**NORSAR Subarra**	**43.88**	**321**	P		**P**	**21 23 52.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=90,slow=8.6							
NB200	**NORSAR Array S**	**43.88**	**321**	*e*P		**P**	**21 23 52.6**	**+0.7**
NOA	**NORSAR Array B**	**43.88**	**321**	P		**P**	**21 23 52.6**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=91,slow=8.1,SNR=6.2							
TRI	**Trieste**	**44.44**	**299**	*e*P		**P**	**21 23 56.0**	**-0.5**
TRI				pmax	pmax			
	comp=Z,25nm,1.2s							
TRI	**Trieste**	**44.44**	**299**	*e*P		**P**	**21 23 56.0**	**-0.5**
	comp=Z,25nm,1.2s							
FUORN	**Ofenpass-Fuorn**	**46.54**	**301**	*e*P		**P**	**21 24 11.5**	**-2.0**
	comp=Z,2.9nm,0.7s							
DAVOX	**Davos/Dischmat**	**46.75**	**301**	P		**P**	**21 24 15.0**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=49,slow=11,SNR=4.7							
MJAR	**Matsushiro Arr**	**49.04**	**72**	P		**P**	**21 24 34.5**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=291,slow=9.6,SNR=5.2							
ESDC	**Sonseca Array**	**58.76**	**298**	P		**P**	**21 25 43.8**	**0.0**
	comp=Z,0.2nm,0.4s,baz=60,slow=7.0,SNR=4.4							
ILAR	**Eielson Array**	**70.99**	**18**	P		**P**	**21 27 03.8**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=327,slow=4.8,SNR=6.4							
ILB	**Eielson Array**	**70.99**	**18**	*e*P		**P**	**21 27 03.8**	**+0.8**
YKA	**Yellowknife Ar**	**78.02**	**4**	P		**P**	**21 27 45.0**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=347,slow=5.8,SNR=5.9							
YKA	**Yellowknife Ar**	**78.02**	**4**	P		**P**	**21 27 45.0**	**+1.1**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**78.02**	**4**	P		**P**	**21 27 45.0**	**+1.1**
YKB5	**Yellowknife Ar**	**78.02**	**4**	*e*P		**P**	**21 27 45.0**	**+1.1**
WR1	**Warramunga Arr**	**81.10**	**125**	*e*P		**P**	**21 28 01.4**	**+0.3**
	comp=Z,19nm,1.7s							
WRA	**Warramunga Arr**	**81.10**	**125**	P		**P**	**21 28 01.4**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=325,slow=5.0,SNR=15							
AS31	**Alice Springs**	**83.58**	**128**	*e*P		**P**	**21 28 14.2**	**+0.1**
	comp=Z,1.6nm,1.2s							
ASAR	**Alice Springs**	**83.58**	**128**	P		**P**	**21 28 14.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=306,slow=4.9,SNR=11							

SJA 07 21:21:59.7±0.6, 32°.43S×69°.86W, h122km±5km, ML2.5, MW3.6, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.45**	**63**	*i* P		Pn	21 22 18.8	+0.8
AUSP				*i* S		Sn	21 22 33.0	+1.3
ASAL	**Salagasta**	**0.88**	**101**	*i* P		Pn	21 22 21.7	+0.8
ASAL				*i* S		Sn	21 22 38.2	+1.4
ARCO	**CERRO ARCO**	**0.88**	**118**	*i* P		Pn	21 22 21.4	+0.5
ARCO				*i* S		Sn	21 22 37.9	+0.8
ARCO				IAML			21 22 38.2	
	comp=Z,76nm,0.2s							
ROC1	**El Roble**	**1.12**	**240**	*i* P		Pn	21 22 24.0	+0.7
ROC1				*i* S		Sn	21 22 42.5	+1.2
AMOG	**MOGNA**	**1.89**	**38**	*i* P		Pn	21 22 33.0	+1.1

MEX 07 21:33:32.6±0.3, 15°.20N×93°.55W, h31km±8km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PCIG		**0.60**	**32**	*i* P		Pb	21 33 42.6	-2.1
PCIG				*e*S		Sb	21 33 50.6	-2.3
CCIG	**Comitan**	**1.74**	**51**	*i* P		Pn	21 33 58.8	-2.0
CCIG				*i* S		Sn	21 34 19.5	-2.5

IDC 07 21:36:03.1±7.6, 16°38S×64°77E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.2/59, mbtmp3.7/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=619.3km s-min=53.3km az=32.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**11.49**	**42**	T		T	21 47 28.6	
	baz=224,slow=76,SNR=64							
H08S2	**Diego Garcia H**	**11.50**	**42**	T		T	21 47 29.5	
	baz=224,slow=76,SNR=63							
H08S3	**Diego Garcia H**	**11.51**	**42**	T		T	21 47 28.8	
	baz=224,slow=76,SNR=81							
H08N3	**Diego Garcia H**	**11.69**	**32**	T		T	21 47 40.1	
	baz=211,slow=76,SNR=175							
H08N1	**Diego Garcia H**	**11.70**	**32**	T		T	21 47 46.9	
	baz=211,slow=76,SNR=165							
H08N2	**Diego Garcia H**	**11.71**	**32**	T		T	21 47 46.1	
	baz=211,slow=76,SNR=221							
PALK	**Pallekele**	**28.30**	**35**	LR		LR	21 49 14.5	
	comp=Z,63nm,20.3s,baz=297,slow=28							
H01W2	**Cape Leeuwin H**	**47.67**	**122**	T		T	22 35 51.2	
	baz=283,slow=75,SNR=5.5							
H01W3	**Cape Leeuwin H**	**47.67**	**122**	T		T	22 35 49.1	
	baz=283,slow=75,SNR=5.8							
H01W1	**Cape Leeuwin H**	**47.68**	**122**	T		T	22 35 49.9	
	baz=283,slow=75,SNR=6.1							
ASAR	**Alice Springs**	**64.83**	**109**	P		P	21 46 44.4	0.0
	0.5nm,0.7s,baz=266,slow=6.3,SNR=5.7							
ASAR				LR		LR	22 13 05.9	
	comp=Z,26nm,18.6s,baz=14,slow=34							
WRA	**Warramunga Arr**	**65.78**	**105**	P		P	21 46 50.6	0.0
	0.6nm,0.6s,baz=265,slow=6.1,SNR=3.6							
KSRS	**Korea Array**	**79.91**	**46**	LR		LR	22 23 18.9	
	comp=Z,14nm,18.8s,baz=196,slow=36							
USRK	**Ussuriysk Ar.**	**85.83**	**42**	LR		LR	22 27 37.4	
	comp=Z,28nm,18.2s,baz=6.9,slow=36							
NRIK	**Noril'sk**	**87.01**	**8**	LR		LR	22 26 06.9	
	comp=Z,33nm,18.9s,baz=127,slow=34							
PDAR	**Pinedale Array**	**153.25**	**351**	PKPbc		PKPbc	21 56 03.5	0.0
	0.7nm,0.6s,baz=49,slow=1.7,SNR=5.5							

*NIED **07** 21:36:00, 34°.00N×133°.00E, h41km, Mw3.8 Best double couple: M0≤5.79000×10^14 NP1:φs187.00000°, δ35.00000°, λ-105.00000°. NP2:φs25.00000°, δ57.00000°, λ-80.00000°.*
*ISCJB **07** 21:36:52.4±0.3, 33°.96N±0°.03×132°.99E±0°.04, h48km±3km, mb3.8/10, MS3.0/1, Error ellipse: s-maj=5.0km s-min=4.4km az=2.0*
*JMA **07** 21:36:52.8, 33°.96N×132°.98E, h40km, M3.8 Broadband fault plane solution: P waves. NP1:φs57.00000°, δ58.00000°, λ-46.00000°. NP2:φs177.00000°,

0.8nm,0.5s,baz=60,slow=4.6,SNR=10
BRTR Keskin Array B 75.54 308 P P 21 48 34.2 +0.4
1.0nm,0.7s,baz=98,slow=6.4,SNR=7.9
BRTR pP **pP 21 48 50.0 +3.2**
1.0nm,0.9s,baz=101,slow=6.4,SNR=3.5

KRSC 07 21:41:10.5±0.7, 55.76N×162.55E, h60km±15km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.51**	**10**	*eP*	Pn	21 41 22.7	+0.1
KBG				*eS*	Sn	21 41 32.1	+0.8
ZLN	**Zelenaya**	**1.02**	**286**	*eP*	Pn	21 41 29.9	+1.0
ZLN				*eS*	Sn	21 41 43.9	+1.4
SMKR	**Semkarok**	**1.03**	**324**	*eP*	Pn	21 41 30.3	+1.3
SMKR				*eS*	Sn	21 41 44.4	+1.8
CIRR	**Tsirk**	**1.08**	**290**	*i P*	Pn	21 41 30.8	+1.1
CIRR				*eS*	Sn	21 41 45.0	+1.1
LGNR	**Loginova**	**1.10**	**288**	*eP*	Pn	21 41 31.3	+1.2
LGNR				*eS*	Sn	21 41 45.8	+1.2
BDR	**Baidarnaya**	**1.11**	**318**	*i P*	Pn	21 41 31.8	+1.8
BDR				*i S*	Sn	21 41 47.2	+2.6
BZMR	**Bezymyannaya**	**1.18**	**280**	*eP*	Pn	21 41 32.1	+1.1
SRKR	**Sorokina**	**1.19**	**320**	*eP*	Pn	21 41 32.8	+1.7
SRKR				*eS*	Sn	21 41 48.3	+1.9
KLY	**Klyuchi**	**1.20**	**298**	*eP*	Pn	21 41 30.8	-0.4
KLY				*eS*	Sn	21 41 45.8	-0.8
KRSR	**Krestovskiy**	**1.21**	**293**	*eP*	Pn	21 41 32.0	+0.6
KRSR				*eS*	Sn	21 41 47.3	+0.3
KIRR	**Kirishev**	**1.26**	**280**	*eP*	Pn	21 41 34.0	+1.9
KIRR				*eS*	Sn	21 41 50.8	+2.5
MKZ	**Mys Kozlova**	**1.29**	**202**	*eP*	Pn	21 41 33.4	+1.0
MKZ				*eS*	Sn	21 41 49.8	+1.1
KMNR	**Kamenistaya**	**1.31**	**271**	*i P*	Pn	21 41 35.3	+2.3
KMNR				*eS*	Sn	21 41 51.8	+2.5
KPT	**Kopyto**	**1.33**	**280**	*i P*	Pn	21 41 34.9	+1.9
KPT				*i S*	Sn	21 41 52.0	+2.2
TUMR	**Tumrok**	**1.45**	**252**	*eP*	Pn	21 41 37.2	+2.6
TUMR				*eS*	Sn	21 41 56.0	+3.3
KOZ	**Kozyrevsk**	**1.54**	**282**	*i P*	Pn	21 41 38.5	+2.8
KOZ				*i S*	Sn	21 41 59.0	+4.3
BKI	**Bering**	**2.02**	**104**	*eP*	Pn	21 41 44.8	+2.6
BKI				*eS*	Sn	21 42 10.2	+3.8
ESO	**Esso**	**2.18**	**276**	*eP*	Pn	21 41 47.0	+2.6
KII	**Karymskiy**	**2.49**	**227**	*eP*	Pn	21 41 51.4	+2.8
NLC	**Nalytchevo**	**3.20**	**217**	*eP*	Pn	21 42 00.8	+2.6
NLC				*eS*	Sn	21 42 36.9	+1.9
SDLR	**Sedlovina**	**3.28**	**222**	*eP*	Pn	21 42 02.3	+2.8
SDLR				*eS*	Sn	21 42 40.6	+3.4
KRX	**Arik**	**3.31**	**225**	*eP*	Pn	21 42 04.3	+4.4
KRER	**Koryakskii**	**3.31**	**224**	*eP*	Pn	21 42 03.4	+3.4
SMAR	**Somma**	**3.32**	**223**	*eP*	Pn	21 42 03.0	+2.9
AVH	**Avacha**	**3.34**	**223**	*eP*	Pn	21 42 03.8	+3.5
UGLR	**Uglovaya**	**3.35**	**222**	*eP*	Pn	21 42 03.5	+3.0
UGLR				*eS*	Sn	21 42 42.8	+3.7
KOK	**Koryaka**	**3.36**	**224**	*eP*	Pn	21 42 05.0	+4.4
GNL	**Ganaly**	**3.38**	**234**	*eP*	Pn	21 42 04.0	+3.2
OSSR	**Ossora**	**3.52**	**4**	*eP*	Pn	21 42 04.3	+1.8
DALK	**Dalny**	**3.52**	**221**	*eP*	Pn	21 42 05.2	+2.6
DALK				*eS*	Sn	21 42 45.8	+2.8
PET	**Petropavlovsk**	**3.56**	**221**	*eP*	Pn	21 42 06.0	+2.8
PET				*eS*	Sn	21 42 46.7	+2.7
KRMR	**Karymshinskiy**	**3.91**	**223**	*eP*	Pn	21 42 11.1	+3.1
KRMR				*eS*	Sn	21 42 55.6	+3.0
RUS	**Russkaya**	**4.09**	**217**	*eP*	Pn	21 42 12.9	+2.4
RUS				*eS*	Sn	21 42 58.9	+1.9
ASAK	**Asacha**	**4.35**	**221**	*eP*	Pn	21 42 17.7	+3.6

JMA 07 21:53:18.8±0.1, 37.23N×141.22E, h35km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.31**	**296**	P	Pn	21 53 26.5	-0.4
JFK				*eS*	Sn	21 53 31.8	-0.6
ONAJ	**Iwakimizuishiy**	**0.36**	**249**	P	Pn	21 53 27.3	-0.3
ONAJ				*eS*	Sn	21 53 33.0	-0.6
JMM	**Marumori**	**0.72**	**332**	P	Pn	21 53 32.1	-0.4
JMM				S	Sn	21 53 41.6	-0.7
JFT	**Otama**	**0.76**	**292**	P	Pn	21 53 33.6	+0.5
JFT				S	Sn	21 53 44.1	+0.8
JHO	**Hitachi**	**0.81**	**220**	P	Pn	21 53 33.1	-0.6
JHO				S	Sn	21 53 43.1	-1.4
JSB	**Shiboa**	**1.07**	**256**	P	Pn	21 53 38.8	+1.5
JSB				S	Sn	21 53 53.4	+2.4
JOU	**Okura**	**1.22**	**339**	P	Pn	21 53 40.2	+0.9
JOU				S	Sn	21 53 56.3	+1.7
JFY	**Yanaizu**	**1.22**	**279**	P	Pn	21 53 40.5	+1.1
JFY				S	Sn	21 53 56.9	+2.2
JIO	**Ouri**	**1.23**	**5**	P	Pn	21 53 39.3	-0.1
JIO				S	Sn	21 53 53.9	-0.9
MAT	**Matsushiro**	**2.51**	**255**	P	Pn	21 53 59.0	+1.9
MAT				*eS*	Sn	21 54 27.9	+1.4

*ISCJB **07** 22:12:58.2±0.4, 24.79N±0.03×122.55E±0.02, h16km±4km, Error ellipse: s-maj=5.5km s-min=2.7km az=5.1*
*JMA **07** 22:12:58.7, 24.73N×122.51E, h31km±2km, M2.6*
*TAP **07** 22:12:59.2, 24.76N×122.47E, h5km, ML3.2, D*
ISC 07 22:12:57.0±1.2, 24.82N±0.04×122.55E±0.02, h9km±10km, n31, σ0.978/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.51**	**135**	P	**Pb**	**22 13 08.6**	**+0.5**
JYNG				S	**Sb**	**22 13 15.7**	**0.0**
TWB1	**Santiao Chiao** baz=300	**0.54**	**291**	*i* P	**Pb**	**22 13 08.8**	**+0.1**
TWB1				*i* S	**Sb**	**22 13 15.9**	**-0.7**
YOJ	**Yonaguni jima** baz=300	**0.55**	**130**	P	**Pb**	**22 13 09.3**	**+0.5**
YOJ				S	**Sb**	**22 13 16.8**	**+0.1**
TWC	**Suao** baz=255	**0.67**	**252**	*i* P	**Pg**	**22 13 10.1**	**+0.2**
TWC				S	**Sg**	**22 13 18.5**	**-0.1**
NWF	**Wu-fen Shan** baz=296	**0.74**	**290**	P	**Pn**	**22 13 12.7**	**-0.9**
NWF				S	**Sb**	**22 13 22.4**	**0.0**
TWE	**Neicheng** baz=266	**0.81**	**264**	P	**Pb**	**22 13 13.0**	**-0.1**
TWE				S	**Sg**	**22 13 23.1**	**+0.1**
ENA	**Nanau** baz=243	**0.83**	**242**	P	**Pg**	**22 13 13.1**	**+0.2**
ENA				S	**Sg**	**22 13 23.5**	**-0.2**
TWA	**Mucha** baz=285	**0.89**	**281**	*eP*	**Pn**	**22 13 15.0**	**-0.7**
TWA				*eS*	**Sb**	**22 13 25.7**	**-0.9**
ENTT	**Nioudou** baz=261	**0.91**	**259**	P	**Pb**	**22 13 14.9**	**0.0**
ENTT				S	**Sg**	**22 13 26.4**	**+0.1**
PCYT	**Pengchaiyu** baz=337	**0.92**	**332**	*eP*	**Pn**	**22 13 17.6**	**+1.5**
PCYT				*eS*	**Sn**	**22 13 30.8**	**+1.4**
TWY	**Chenhua** baz=303	**0.97**	**298**	*eP*	**Pn**	**22 13 16.1**	**-0.7**
TWY				*eS*	**Sb**	**22 13 28.9**	**0.0**
NSK	**Sanguang** baz=265	**1.09**	**263**	P	**Pb**	**22 13 17.9**	**-0.2**
NSK				S	**Sg**	**22 13 31.4**	**-0.7**
NNS	**Nan Shan** baz=252	**1.13**	**251**	P	**Pb**	**22 13 18.7**	**-0.1**
NNS				S	**Sg**	**22 13 33.3**	**-0.2**
TWD	**Chiawan** baz=229	**1.14**	**230**	P	**Pb**	**22 13 18.6**	**-0.2**
TWD				S	**Sb**	**22 13 34.0**	**+0.5**
IRIF	**Iriomote-Funau**	**1.18**	**114**	P	**Pb**	**22 13 19.2**	**-0.3**
WHF	**Hehuan Shan** baz=240	**1.35**	**241**	*eP*	**Pn**	**22 13 22.4**	**0.0**
WHF				*eS*	**Sb**	**22 13 39.1**	**-1.0**
TWT	**Tachien** baz=246	**1.37**	**246**	*eP*	**Pg**	**22 13 23.4**	**+0.1**
TWT				*eS*	**Sb**	**22 13 40.3**	**-0.2**
HATJ	**Hateruma jima**	**1.37**	**123**	P	**Pb**	**22 13 22.8**	**0.0**
NSTT	**Nanjuang** baz=264	**1.42**	**263**	*eP*	**Pb**	**22 13 23.4**	**-0.2**
NSTT				*eS*	**Sn**	**22 13 41.2**	**-0.5**
JKRS	**Kuro-shima**	**1.45**	**113**	P	**Pn**	**22 13 23.5**	**+0.2**
JKRS				S	**Sn**	**22 13 41.8**	**-0.7**
JIJ	**Ishigaki jima**	**1.52**	**107**	P	**Pn**	**22 13 24.4**	**+0.1**
JIJ				S	**Sn**	**22 13 43.0**	**-1.2**
JISG	**Ishigakijimahi**	**1.62**	**98**	P	**Pn**	**22 13 25.5**	**-0.2**
JISG				S	**Sn**	**22 13 45.8**	**-0.9**
TWQ1	**Liyutan** baz=255	**1.68**	**254**	*eP*	**Pb**	**22 13 27.7**	**-0.4**
TWQ1				*eS*	**Sn**	**22 13 48.4**	**+0.1**
TYC	**Yuchr** baz=239	**1.79**	**240**	*eP*	**Pb**	**22 13 29.7**	**-0.2**
TYC				*eS*	**Sn**	**22 13 51.3**	**+0.4**
TWF1	**Yuli** baz=217	**1.85**	**218**	*eP*	**Pn**	**22 13 28.2**	**-0.7**
TWF1				*eS*	**Sn**	**22 13 50.3**	**-2.2**
ALS	**Alishan** baz=230	**2.05**	**231**	*eP*	**Pb**	**22 13 33.8**	**-0.8**
ALS				*eS*	**Sn**	**22 13 57.8**	**0.0**
CHN5	**Tsauling** baz=234	**2.09**	**235**	*eP*	**Pb**	**22 13 34.2**	**-1.0**
CHN5				*eS*	**Sn**	**22 13 59.9**	**+1.4**
CHN4	**Tsaushan** baz=230	**2.31**	**231**	*eP*	**Pn**	**22 13 36.6**	**+1.5**
CHN4				*eS*	**Sn**	**22 14 04.3**	**+0.7**
STYT	**Tauyuan** baz=224	**2.32**	**225**	*eP*	**Pn**	**22 13 36.9**	**+1.5**
STYT				*eS*	**Sn**	**22 14 04.7**	**+0.6**
WTP	**Ta-pu** baz=228	**2.36**	**229**	*eP*	**Pn**	**22 13 37.7**	**+1.8**
WTP				*eS*	**Sn**	**22 14 05.4**	**+0.4**
CHN1	**Nanshi** baz=228	**2.46**	**229**	*eP*	**Pn**	**22 13 38.9**	**+1.7**
CHN1				*eS*	**Sn**	**22 14 08.0**	**+0.6**

*CSEM **07** 22:37:31.3, 36.50N×5.43E, h0km, ML3.5*
CRAAG 07 22:37:31.3, 36.50N×5.43E, MI3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SET	**Setif**	**0.30**	**184**	P	Pb	22 37 39.0	-0.6
SET	**Setif**	**0.30**	**184**	P	Pb	22 37 39.0	-0.6
DFRA	**Djebel Bou Aff**	**0.36**	**83**	P	Pg	22 37 39.3	+1.0
DFRA	**Djebel Bou Aff**	**0.36**	**83**	P	Pg	22 37 39.3	+1.0
CKHR	**Kef el Ahmar**	**0.49**	**172**	P	Pb	22 37 42.0	-0.8
CKHR	**Kef el Ahmar**	**0.49**	**172**	P	Pb	22 37 42.0	-0.8
CASM	**Ain Smara**	**0.89**	**105**	P	Pg	22 37 49.0	+0.6
CASM	**Ain Smara**	**0.89**	**105**	P	Pg	22 37 49.0	+0.6
CTEI	**Djebel Teioual**	**0.90**	**119**	P	Pg	22 37 49.1	+0.5
CTEI	**Djebel Teioual**	**0.90**	**119**	P	Pg	22 37 49.1	+0.5
CKFL	**Kef-Lekhel**	**1.05**	**95**	P	Pg	22 37 51.6	+0.2
CKFL	**Kef-Lekhel**	**1.05**	**95**	P	Pg	22 37 51.6	+0.2
ATAF	**Djebel Tarf**	**1.12**	**236**	P	Pn	22 37 54.2	-0.1
ATAF	**Djebel Tarf**	**1.12**	**236**	P	Pn	22 37 54.2	-0.1
CAEH	**'Ain El Ouahch**	**1.18**	**76**	P	Pn	22 37 55.0	-0.1
CAEH	**'Ain El Ouahch**	**1.18**	**76**	P	Pn	22 37 55.0	-0.1
CMAH	**Djebel Manchou**	**1.61**	**85**	P	Pn	22 38 01.4	+0.4
CMAH	**Djebel Manchou**	**1.61**	**85**	P	Pn	22 38 01.4	+0.4
ADJB	**Djebel Djouab**	**1.64**	**259**	P	Pn	22 38 01.2	-0.3
ADJB	**Djebel Djouab**	**1.64**	**259**	P	Pn	22 38 01.2	-0.3
ABSA	**Djebel Ababsia**	**1.67**	**97**	P	Pg	22 38 04.6	+1.3
ABSA	**Djebel Ababsia**	**1.67**	**97**	P	Pg	22 38 04.6	+1.3

*IDC **07** 22:48:23.3±1.1, 37.63N×21.50E, h0km, mb3.7/10, mb1 3.7/13, mb1mx3.5/61, mbtmp3.6/13, ML4.2/1, MS2.9/5, Ms1 2.9/5, ms1mx2.5/49, Error ellipse: s-maj=24.0km s-min=17.7km az=162.0*
*ATH **07** 22:48:25.8, 37.70N×21.30E, h13km±1km, ML3.4/10, Error ellipse: s-maj=1.1km s-min=0.6km az=12.0*
*CSEM **07** 22:48:26.6±0.2, 37.70N×21.29E, h10km, ML3.4, Error ellipse: s-maj=4.4km s-min=2.9km az=50.0*
*ISCJB **07** 22:48:26.0±0.5, 37.67N±0.02×21.25E±0.02, h15km±3km, mb3.6/11, MS3.1/2, Error ellipse: s-maj=3.2km s-min=2.4km az=44.1*
*THE **07** 22:48:26.5, 37.71N×21.29E, h0km±3km, ML3.6/12, Error ellipse: s-maj=3.2km s-min=0.8km az=213.0*
*BEO **07** 22:48:29.3±1.1, 37.95N×20.57E, h0km, M3.7/4*
ISC 07 22:48:26.0±0.8, 37.70N±0.02×21.28E±0.02, h15km±6km, n263, σ1.944/312, mb3.6/11, 3C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.23**	**342**	P	**Pb**	**22 48 31.5**	**-0.4**
VTN				S	**Sg**	**22 48 35.0**	**+0.5**
VTN	**Vitineika**	**0.23**	**342**	P	**Pb**	**22 48 32.1**	**+0.2**
VTN				S	**Sg**	**22 48 35.6**	**+1.1**
AMT	**Artemida-Makis**	**0.38**	**116**	P	**Pg**	**22 48 33.1**	**-0.7**
AMT				S	**Sb**	**22 48 40.3**	**0.0**
AMT	**Artemida-Makis**	**0.38**	**116**	P	**Pg**	**22 48 33.1**	**-0.7**
AMT				S	**Sg**	**22 48 38.8**	**-0.2**
AMT	**Artemida-Makis**	**0.38**	**116**	P	**Pg**	**22 48 32.9**	**-0.9**
AMT				AML	AML	22 48 39.5	
	comp=N,20522μm,0.7s						
AMT				S	**Sg**	**22 48 39.5**	**+0.5**
AMT				AML	AML	22 48 39.8	
	comp=E,20277μm,1.0s						
RLS	**Riolos of Patr**	**0.39**	**23**	P	**Pg**	**22 48 33.4**	**-0.5**
RLS				S	**Sb**	**22 48 40.2**	**-0.2**
RLS	**Riolos of Patr**	**0.39**	**23**	P	**Pg**	**22 48 33.4**	**-0.5**
RLS				S	**Sb**	**22 48 40.2**	**-0.2**
RLS	**Riolos of Patr**	**0.39**	**23**	S	**Sb**	**22 48 40.5**	**+0.1**
RLS				AML	AML	22 48 43.9	
	comp=E,13131μm,0.4s						
RLS				AML	AML	22 48 44.4	
	comp=N,13680μm,0.5s						
ZKS	**Zakynthos**	**0.39**	**270**	P	**Pb**	**22 48 34.1**	**-0.6**
ZKS				S	**Sb**	**22 48 40.5**	**-0.1**
ZKS	**Zakynthos**	**0.39**	**270**	P	**Pb**	**22 48 34.0**	**-0.6**
ZKS				S	**Sb**	**22 48 40.4**	**-0.1**
ZKS	**Zakynthos**	**0.39**	**270**	P	**Pb**	**22 48 34.3**	**-0.4**
ZKS				S	**Sb**	**22 48 40.9**	**+0.4**
ZKS				AML	AML	22 48 42.6	
	comp=N,58458μm,0.3s						
ZKS				AML	AML	22 48 43.3	
	comp=E,84818μm,0.3s						
DRO	**Drossia**	**0.43**	**54**	P	**Pg**	**22 48 34.0**	**-0.6**
DRO				S	**Sg**	**22 48 40.8**	**+0.4**
DRO	**Drossia**	**0.43**	**54**	P	**Pg**	**22 48 34.0**	**-0.6**
DRO				S	**Sg**	**22 48 40.2**	**-0.2**
DRO	**Drossia**	**0.43**	**54**	P	**Pg**	**22 48 33.7**	**-0.9**
DRO				AML	AML	22 48 41.4	
	comp=N,34453μm,0.5s						
DRO				S	**Sb**	**22 48 41.4**	**-0.1**
DRO				AML	AML	22 48 44.2	
	comp=E,33873μm,0.6s						
AXS	**Araxos**	**0.50**	**9**	P	**Pg**	**22 48 35.6**	**-0.4**
AXS	**Araxos**	**0.50**	**9**	P	**Pg**	**22 48 35.6**	**-0.4**
AXS				S	**Sb**	**22 48 43.5**	**-0.2**
AXS	**Araxos**	**0.50**	**9**	P	**Pg**	**22 48 35.6**	**-0.4**
AXS				S	**Sb**	**22 48 44.5**	**+0.7**
KFL	**Anninata**	**0.56**	**317**	P	**Pg**	**22 48 36.8**	**-0.3**
KFL				S	**Sb**	**22 48 46.9**	**+1.4**
KFL	**Anninata**	**0.56**	**317**	P	**Pb**	**22 48 37.2**	**-0.4**
KFL				S	**Sb**	**22 48 46.8**	**+1.3**
KFL	**Anninata**	**0.56**	**317**	P	**Pb**	**22 48 37.2**	**-0.4**
UPR	**University Cam**	**0.71**	**34**	P	**Pb**	**22 48 40.1**	**0.0**
UPR	**University Cam**	**0.71**	**34**	P	**Pg**	**22 48 39.9**	**0.0**
UPR	**University Cam**	**0.71**	**34**	P	**Pb**	**22 48 40.9**	**+0.8**
VLS	**Valsamata**	**0.72**	**311**	P	**Pg**	**22 48 39.3**	**-0.8**
VLS				S	**Sb**	**22 48 50.7**	**+0.6**
VLS	**Valsamata**	**0.72**	**311**	P	**Pg**	**22 48 39.3**	**-0.8**
VLS				S	**Sb**	**22 48 50.7**	**+0.6**
ITM	**Ithomi**	**0.73**	**135**	P	**Pg**	**22 48 39.4**	**-0.9**
ITM				S	**Sb**	**22 48 51.9**	**+1.5**
ITM	**Ithomi**	**0.73**	**135**	P	**Pg**	**22 48 39.8**	**-0.5**
ITM				S	**Sg**	**22 48 50.2**	**+0.2**
ITM	**Ithomi**	**0.73**	**135**	P	**Pg**	**22 48 39.8**	**-0.5**
ITM				S	**Sb**	**22 48 51.0**	**+0.6**
ITM				AML	AML	22 48 52.8	
	comp=E,7813μm,0.4s						
ITM				AML	AML	22 48 54.2	
	comp=N,8669μm,0.5s						
KLV	**Kalavryta, Ach**	**0.77**	**63**	P	**Pg**	**22 48 40.0**	**-1.1**
KLV	**Kalavryta, Ach**	**0.77**	**63**	P	**Pg**	**22 48 40.0**	**-1.1**
KLV				S	**Sg**	**22 48 51.5**	**+0.3**
KLV	**Kalavryta, Ach**	**0.77**	**63**	P	**Pg**	**22 48 39.8**	**-1.2**
KLV				S	**Sb**	**22 48 52.3**	**+0.7**
LAKA	**Lakka**	**0.77**	**46**	P	**Pg**	**22 48 40.0**	**-1.1**
LAKA				S	**Sb**	**22 48 52.8**	**+1.2**
LAKA	**Lakka**	**0.77**	**46**	P	**Pg**	**22 48 40.0**	**-1.1**
LAKA				S	**Sg**	**22 48 50.3**	**-1.0**
LAKA	**Lakka**	**0.77**	**46**	P	**Pg**	**22 48 39.2**	**-1.9**
LAKA				S	**Sg**	**22 48 50.3**	**-1.0**
LAKA				AML	AML	22 48 54.6	
	comp=E,3819μm,0.8s						
LAKA				AML	AML	22 48 56.7	
	comp=N,3356μm,0.4s						
RODI	**Rodini**	**0.79**	**38**	P	**Pg**	**22 48 40.0**	**-1.4**
RODI				S	**Sg**	**22 48 50.7**	**-1.1**
RODI	**Rodini**	**0.79**	**38**	P	**Pg**	**22 48 40.0**	**-1.4**
RODI				S	**Sg**	**22 48 50.7**	**-1.1**
RODI				AML	AML	22 48 56.9	
	comp=N,10326μm,0.6s						
RODI				AML	AML	22 48 57.4	
	comp=E,10249μm,0.3s						
TRIP	**Tripoli**	**0.81**	**102**	P	**Pg**	**22 48 40.7**	**-1.0**
TRIP				S	**Sb**	**22 48 53.3**	**+0.7**
TRIP	**Tripoli**	**0.81**	**102**	P	**Pg**	**22 48 40.7**	**-1.0**
TRIP				S	**Sb**	**22 48 53.3**	**+0.7**
EFP	**Efpalio**	**0.88**	**34**	P	**Pg**	**22 48 42.1**	**-1.0**
EFP				S	**Sg**	**22 48 54.7**	**+0.1**
EFP	**Efpalio**	**0.88**	**34**	P	**Pg**	**22 48 42.1**	**-1.0**
EFP				S	**Sg**	**22 48 54.7**	**+0.1**
EFP	**Efpalio**	**0.88**	**34**	P	**Pg**	**22 48 41.4**	**-1.7**
EFP				S	**Sg**	**22 48 54.8**	**+0.1**
EFP				AML	AML	22 49 02.5	
	comp=N,5839μm,0.4s						
EFP				AML	AML	22 49 03.1	
	comp=E,3096μm,10.4s						
PYL	**PYLOS**	**0.88**	**155**	P	**Pg**	**22 48 41.9**	**-1.3**
PYL				S	**Sn**	**22 48 56.5**	**0.0**
PYL	**PYLOS**	**0.88**	**155**	P	**Pg**	**22 48 41.9**	**-1.3**
PYL				S	**Sg**	**22 48 55.0**	**+0.2**
PYL	**PYLOS**	**0.88**	**155**	P	**Pg**	**22 48 41.5**	**-1.7**
PYL				S	**Sb**	**22 48 55.7**	**+1.0**
PYL				AML	AML	22 49 00.7	
	comp=E,8298μm,0.6s						
PYL				AML	AML	22 49 00.9	
	comp=N,5066μm,0.6s						
PDO	**Prodromos**	**0.90**	**355**	P	**Pg**	**22 48 43.2**	**-0.3**
PDO				S	**Sn**	**22 48 56.6**	**-0.4**
PDO	**Prodromos**	**0.90**	**355**	P	**Pb**	**22 48 43.6**	**+0.2**
PDO				S	**Sn**	**22 48 56.6**	**-0.4**
PDO	**Prodromos**	**0.90**	**355**	P	**Pb**	**22 48 43.6**	**+0.2**
PDO				S	**Sg**	**22 48 54.0**	**-1.3**
TRIZ	**Trizonia**	**0.92**	**43**	P	**Pg**	**22 48 42.2**	**-1.5**
TRIZ				S	**Sg**	**22 48 55.9**	**+0.1**
VLX	**Vlachokerasia**	**0.94**	**110**	P	**Pg**	**22 48 42.8**	**-1.4**
VLX	**Vlachokerasia**	**0.94**	**110**	P	**Pg**	**22 48 42.8**	**-1.4**
VLX				S	**Sg**	**22 48 56.1**	**-0.3**
VLX	**Vlachokerasia**	**0.94**	**110**	P	**Pg**	**22 48 42.4**	**-1.8**
PVO	**Paravola**	**0.94**	**12**	P	**Pg**	**22 48 43.7**	**-0.4**
PVO				S	**Sb**	**22 48 57.2**	**+1.0**
PVO	**Paravola**	**0.94**	**12**	P	**Pg**	**22 48 43.8**	**-0.4**
PVO				S	**Sb**	**22 48 57.2**	**+1.0**
PVO	**Paravola**	**0.94**	**12**	P	**Pg**	**22 48 43.8**	**-0.4**
PVO				S	**Sn**	**22 48 57.8**	**0.0**
SERG	**Sergoula**	**0.94**	**41**	P	**Pg**	**22 48 43.0**	**-1.3**
SERG				S	**Sn**	**22 48 58.0**	**0.0**
SERG	**Sergoula**	**0.94**	**41**	P	**Pg**	**22 48 43.0**	**-1.3**
SERG				S	**Sn**	**22 48 58.0**	**0.0**
KALE	**Kalithea**	**0.97**	**44**	P	**Pg**	**22 48 43.5**	**-1.3**
KALE	**Kalithea**	**0.97**	**44**	P	**Pg**	**22 48 43.7**	**-1.1**
KALE				S	**Sn**	**22 48 58.9**	**+0.1**
KALE	**Kalithea**	**0.97**	**44**	P	**Pg**	**22 48 43.7**	**-1.1**
KALE				S	**Sn**	**22 48 58.9**	**+0.1**
KALE				AML	AML	22 49 03.2	
	comp=N,4196μm,0.3s						
KALE				AML	AML	22 49 04.7	
	comp=E,4754μm,0.5s						
ANX	**Ano Chora**	**1.03**	**29**	P	**Pg**	**22 48 44.7**	**-1.2**
ANX	**Ano Chora**	**1.03**	**29**	P	**Pg**	**22 48 44.7**	**-1.2**
THAL	**Thalero**	**1.15**	**72**	P	**Pb**	**22 48 46.5**	**-1.1**
THAL	**Thalero**	**1.15**	**72**	P	**Pb**	**22 48 46.7**	**-0.9**
THAL	**Thalero**	**1.15**	**72**	P	**Pb**	**22 48 46.7**	**-0.9**
LKD2	**Lefkada island**	**1.19**	**336**	P	**Pb**	**22 48 47.7**	**-0.7**
LKD2	**Lefkada island**	**1.19**	**336**	P	**Pb**	**22 48 47.7**	**-0.7**
LKD2	**Lefkada island**	**1.19**	**336**	P	**Pb**	**22 48 47.5**	**-0.8**
DSF	**Desfina**	**1.22**	**54**	P	**Pn**	**22 48 47.4**	**-1.2**
DSF	**Desfina**	**1.22**	**54**	P	**Pn**	**22 48 47.4**	**-1.2**
DSF	**Desfina**	**1.22**	**54**	P	**Pn**	**22 48 46.7**	**-1.9**
EVR	**Evrytania**	**1.28**	**19**	P	**Pn**	**22 48 49.4**	**-0.1**
EVR	**Evrytania**	**1.28**	**19**	P	**Pn**	**22 48 49.5**	**-0.1**
EVR	**Evrytania**	**1.28**	**19**	P	**Pn**	**22 48 49.5**	**-0.1**
LTK	**Loutraki**	**1.38**	**76**	P	**Pn**	**22 48 50.7**	**0.0**
LTK	**Loutraki**	**1.38**	**76**	P	**Pn**	**22 48 50.7**	**0.0**
LTK	**Loutraki**	**1.38**	**76**	P	**Pn**	**22 48 49.7**	**-1.1**
PROD	**Prodromos**	**1.40**	**66**	P	**Pn**	**22 48 51.5**	**+0.4**
PROD				S	**Sn**	**22 49 08.9**	**-0.4**
PROD	**Prodromos**	**1.40**	**66**	P	**Pn**	**22 48 51.5**	**+0.4**
PROD				S	**Sn**	**22 49 08.9**	**-0.4**
DSL	**Palaion Diasel**	**1.44**	**354**	P	**Pb**	**22 48 52.3**	**-0.3**
DSL	**Palaion Diasel**	**1.44**	**354**	P	**Pb**	**22 48 52.3**	**-0.3**
DSL	**Palaion Diasel**	**1.44**	**354**	P	**Pn**	**22 48 51.8**	**+0.2**
KRND	**KRANIDI**	**1.52**	**101**	P	**Pb**	**22 48 54.4**	**+0.4**
KRND	**KRANIDI**	**1.52**	**101**	P	**Pb**	**22 48 54.4**	**+0.4**
KRND	**KRANIDI**	**1.52**	**101**	P	**Pb**	**22 48 54.7**	**+0.7**
**A

EREA	Eretria	2.21	70	P	Pn	22 49 04.4	+2.1
EREA	Eretria	2.21	70	P	Pn	22 49 04.4	+2.1
EREA	Eretria	2.21	70	P	Pb	22 49 04.8	-1.0
NEO	Neokhori	2.21	43	P	Pb	22 49 04.7	-1.1
NEO	Neokhori	2.21	43	P	Pb	22 49 04.7	-1.1
NEO	Neokhori	2.21	43	P	Pb	22 49 05.1	-0.7
XOR	Xorichti	2.24	41	P	Pn	22 49 04.5	+1.8
XOR	Xorichti	2.24	41	P	Pn	22 49 04.5	+1.8
XOR	Xorichti	2.24	41	P	Pb	22 49 05.0	-1.2
SKIA	Skiathos	2.26	49	P	Pb	22 49 05.5	-1.0
SKIA	Skiathos	2.26	49	P	Pb	22 49 05.5	-1.0
SKIA	Skiathos	2.26	49	P	Pb	22 49 05.6	-0.9
KEK	Kerkira	2.32	331	P	Pn	22 49 04.4	+0.7
ANKY	Antikythira Is	2.45	138	P	Pn	22 49 08.8	-0.9
ANKY	Antikythira Is	2.45	138	P	Pb	22 49 08.8	-0.9
PENT	Pentalofos	2.50	358	P	Pn	22 49 08.4	+2.2
PENT	Pentalofos	2.50	358	P	Pn	22 49 08.4	+2.2
PENT	Pentalofos	2.50	358	P	Pb	22 49 11.9	+1.2
AOS	Alonnisos	2.52	54	P	Pn	22 49 07.8	+1.4
AOS	Alonnisos	2.52	54	P	Pn	22 49 07.8	+1.4
AOS	Alonnisos	2.52	54	P	Pn	22 49 07.1	+0.7
KARY	Karystos	2.52	81	P	Pn	22 49 08.8	+2.3
KARY	Karystos	2.52	81	P	Pn	22 49 08.8	+2.3
LIT	Litokhoron	2.58	21	P	Pn	22 49 09.6	+2.3
LIT	Litokhoron	2.58	21	P	Pn	22 49 09.6	+2.3
LIT	Litokhoron	2.58	21	P	Pb	22 49 12.7	+0.7
MHLO	Agia Marina, M	2.69	111	P	Pn	22 49 08.8	0.0
MHLO	Agia Marina, M	2.69	111	P	Pn	22 49 08.8	0.0
PAIG	Paliouri	2.91	39	P	Pn	22 49 13.4	+1.6
PAIG	Paliouri	2.91	39	P	Pn	22 49 13.4	+1.6
FNA	Florina	3.08	1	P	Pn	22 49 16.4	+2.2
FNA	Florina	3.08	1	P	Pn	22 49 16.4	+2.2
FNA	Florina	3.08	1	P	Pn	22 49 17.3	+3.1
IMMV	Iera Moni Meta	3.12	135	P	Pn	22 49 16.8	+2.1
IMMV	Iera Moni Meta	3.12	135	P	Pn	22 49 16.8	+2.1
PLG	Polygyros	3.16	32	P	Pn	22 49 16.9	+1.6
PLG	Polygyros	3.16	32	P	Pn	22 49 16.9	+1.6
THE	Thessaloniki	3.21	24	P	Pn	22 49 18.1	+2.2
THE	Thessaloniki	3.21	24	P	Pn	22 49 18.1	+2.2
HORT	Hortiatis	3.22	26	P	Pn	22 49 18.3	+2.1
HORT	Hortiatis	3.22	26	P	Pn	22 49 18.3	+2.1
VAM	Vamos	3.28	133	P	Pn	22 49 18.0	+1.1
GRG	Griva	3.37	15	P	Pn	22 49 21.4	+3.3
GRG	Griva	3.37	15	P	Pn	22 49 21.4	+3.3
OUR	Ouranopolis	3.37	38	P	Pn	22 49 20.1	+2.0
OUR	Ouranopolis	3.37	38	P	Pn	22 49 20.1	+2.0
OUR	Ouranopolis	3.37	38	P	Pn	22 49 19.6	+1.4
OHR	Ohrid	3.43	354	*i* Pn	Pn	22 49 22.4	+3.3
OHR	Ohrid	3.43	354	*i* Pn	Pn	22 49 22.3	+3.3
APE	Apeiranthos	3.45	99	P	Pn	22 49 19.6	+0.4
APE	Apeiranthos	3.45	99	P	Pn	22 49 19.6	+0.4
SOH	Sokhos	3.51	27	P	Pn	22 49 23.6	+3.5
SOH	Sokhos	3.51	27	P	Pn	22 49 23.6	+3.5
GVD	Gavdhos	3.65	141	P	Pn	22 49 22.1	+0.1
GVD	Gavdhos	3.65	141	P	Pn	22 49 22.1	+0.1
LIA	Limnos Island	3.76	53	P	Pn	22 49 24.6	+1.1
IDI	Anoyia	3.78	128	Pn	Pn	22 49 24.6	+0.8
	comp=E,1.1nm,0.3s,baz=335,slow=12,SNR=14						
IDI				Sn	Sn	22 50 06.9	-1.1
	comp=E,2.5nm,0.3s,baz=296,slow=17,SNR=5.6						
IDI				LR	LR	22 50 50.6	
	comp=E,33nm,21.5s,baz=259,slow=41						
IDI	Anoyia	3.78	128	P	Pn	22 49 23.6	-0.2
IDI	Anoyia	3.78	128	P	Pn	22 49 23.6	-0.2
CHOS	Chios island	3.83	78	P	Pn	22 49 25.8	+1.2
CHOS	Chios island	3.83	78	P	Pn	22 49 25.8	+1.2
SRS	Serrai	3.85	27	P	Pn	22 49 26.8	+2.0
SRS	Serrai	3.85	27	P	Pn	22 49 26.8	+2.0
SIGR	SIGRI	3.90	66	P	Pn	22 49 27.4	+2.0
SIGR	SIGRI	3.90	66	P	Pn	22 49 27.4	+2.0
SIVA	Sivas	3.91	132	P	Pn	22 49 29.6	+4.0
SIVA	Sivas	3.91	132	P	Pn	22 49 29.6	+4.0
NVR	Nevrokopi	4.16	28	P	Pn	22 49 31.0	+2.0
TAR1	Taranto	4.20	314	*e*Pn	Pn	22 49 31.2	+1.7
PRK	Paraskevi	4.21	67	P	Pn	22 49 33.2	+3.5
PRK	Paraskevi	4.21	67	P	Pn	22 49 33.2	+3.5
LAST	Lasithi	4.23	126	P	Pn	22 49 29.6	-0.4
LAST	Lasithi	4.23	126	P	Pn	22 49 29.6	-0.4
NPS	Neapolis	4.26	124	P	Pn	22 49 29.4	-0.9
NPS	Neapolis	4.26	124	P	Pn	22 49 29.4	-0.9
MMB	Musomiste	4.32	25	P	Pn	22 49 33.2	+2.0
SMG	Samos	4.41	88	P	Pn	22 49 34.2	+1.7
SMG	Samos	4.41	88	P	Pn	22 49 34.1	+1.7
ZKR	Zakros	4.75	121	P	Pn	22 49 37.8	+0.8
ZKR	Zakros	4.75	121	P	Pn	22 49 37.9	+0.8
SG1	Sgolgore (BA)	4.75	313	*e*Pn	Pn	22 49 37.9	+0.8
RZN	Rozhen	4.79	33	P	Pn	22 49 39.9	+2.1
ALN	Alexandroupoli	4.89	48	P	Pn	22 49 39.6	+0.7
ALN	Alexandroupoli	4.89	48	P	Pn	22 49 39.6	+0.7
KDZ	Kurdzhali	5.08	38	P	Pn	22 49 42.0	+0.4
BARS	Barje	5.13	4	*e*Pn	Pn	22 49 44.7	+2.4
BARS	Barje	5.13	4	*e*Pn	Pn	22 49 44.7	+2.4
CDT	Castel del Mon	5.14	313	*e*Pn	Pn	22 49 43.3	+0.8
KARP	Karpathos	5.20	113	P	Pn	22 49 45.5	+2.2
KARP	Karpathos	5.20	113	P	Pn	22 49 45.5	+2.2
DIM	Dimitrovgrad	5.44	36	P	Pn	22 49 42.1	-4.5
VAE	Valguarnera	5.46	270	Pn	Pn	22 49 50.7	+3.8
	comp=E,0.8nm,0.3s,baz=264,slow=19,SNR=4.4						
VAE				Sn	Sn	22 50 49.5	0.0
	comp=E,3.8nm,0.3s,baz=234,slow=2.5,SNR=6.5						
SELS	Selova	5.51	359	*e*Pn	Pn	22 49 48.1	+0.5
SJES	Sjenica	5.64	350	*e*Pn	Pn	22 49 48.7	-0.8
SJES				*e*Sn	Sn	22 50 49.5	-4.6
ZAPS	Zavoj	5.66	10	*e*Pn	Pn	22 49 53.0	+3.3
IVAS	Ivanjica	5.93	352	*e*Pn	Pn	22 49 53.9	+0.5
IVAS	Ivanjica	5.93	352	*e*Pn	Pn	22 49 53.9	+0.5
GRUS	Gruza	6.20	356	*e*Pn	Pn	22 49 57.6	+0.6
GRUS				*e*Sn	Sn	22 51 03.8	-3.8
GRUS	Gruza	6.20	356	*e*Pn	Pn	22 49 57.6	+0.6
BBLS	Lazići	6.32	348	*e*Pn	Pn	22 49 58.8	+0.1
BBLS	Lazići	6.32	348	*e*Pn	Pn	22 49 58.8	+0.1
DIVS	Divibare	6.47	352	*e*Pn	Pn	22 50 01.1	+0.4
DIVS				*e*Sn	Sn	22 51 09.7	-4.6
DIVS	Divibare	6.47	352	*e*Pn	Pn	22 50 01.1	+0.4
TRUS	Trudelj	6.55	355	*e*Pn	Pn	22 50 01.9	+0.1
TRUS	Trudelj	6.55	355	*e*Pn	Pn	22 50 01.9	+0.1
KUBS	Kucevo	6.71	2	*e*Pn	Pn	22 50 04.6	+0.5
KUBS	Kucevo	6.71	2	*e*Pn	Pn	22 50 04.6	+0.5
KSL	Kastellorizon	6.83	101	P	Pn	22 50 07.7	+2.0
KSL	Kastellorizon	6.83	101	P	Pn	22 50 07.7	+2.0
TEKS	Tekeris	6.97	350	*e*Pn	Pn	22 50 06.9	-0.7
NVLJ	Novalja	8.39	327	*i* Pn	Pn	22 50 26.8	-0.2
NVLJ				Sn	Sn	22 51 57.1	-4.3
NVLJ	Novalja	8.39	327	*i* Pn	Pn	22 50 26.8	-0.2
MLR	Muntele Rosu	8.53	23	Pn	Pn	22 50 34.5	+5.3
	comp=E,0.0nm,0.3s,baz=162,slow=20,SNR=3.4						
MLR	Muntele Rosu	8.53	23	⇑*i*P	Pn	22 50 36.5	+7.4
PLOR	Plostina	9.08	25	⇑*i*P	Pn	22 50 45.2	+8.7
VRI	Vrincioaia	9.12	25	⇓*i*P	Pn	22 50 41.3	+4.3
KEST	Kesra	9.78	262	LR	LR	22 55 29.4	
	comp=E,50nm,18.0s,baz=332,slow=43						
BURAR	Bucovina Array	10.32	15	⇑*i*P	Pn	22 51 06.3	+13
MMAI	Mount Meron Ar	12.44	108	Pn	Pn	22 51 18.6	-4.1
	baz=309,slow=16,SNR=2.1						
KBZ	Khabaz	17.44	63	LR	LR	23 01 09.7	
	comp=E,72nm,19.3s,baz=259,slow=44						
ESDC	Sonseca Array	19.79	284	P	P	22 52 56.6	+0.8
	comp=E,0.1nm,0.3s,baz=71,slow=12,SNR=5.6						
HFS	Hagfors	22.97	350	P	P	22 53 29.9	+0.2
	comp=E,0.8nm,0.4s,baz=146,slow=13,SNR=6.5						
FINES	FINESS Array B	23.96	6	P	P	22 53 38.6	-0.8
	comp=E,0.8nm,0.4s,baz=177,slow=11,SNR=12						
EKA	Eskdalemuir Ar	24.16	325	P	P	22 53 43.4	+2.0
	comp=E,0.5nm,0.5s,baz=127,slow=9.8,SNR=4.1						
NOA	NORSAR Array B	24.21	348	P	P	22 53 43.1	+1.3
	comp=E,0.4nm,0.6s,baz=158,slow=9.7,SNR=3.2						
ARCES	ARCESS Array B	31.59	3	P	P	22 54 50.2	-0.9
	comp=E,0.8nm,0.6s,baz=186,slow=9.8,SNR=10						
BVAR	Borovoye Array	36.97	49	P	P	22 55 33.5	-1.0
	comp=E,0.6nm,0.6s,baz=294,slow=4.7,SNR=4.5						
DBIC	Dimbokro	38.96	224	P	P	22 55 51.3	-0.3
	comp=E,6.1nm,1.1s,baz=5.9,slow=6.7,SNR=3.3						
KURBB	Kurchatov Arra	42.03	53	P	P	22 56 16.0	-0.8
	comp=E,0.7nm,0.5s,baz=281,slow=8.6,SNR=9.0						
MKAR	Makanchi Array	45.04	58	P	P	22 56 40.0	-1.1
	comp=E,0.6nm,0.5s,baz=275,slow=8.0,SNR=9.2						
ZALV	Zalesovo Beam	45.57	48	P	P	22 56 44.1	-0.9
	comp=E,1.0nm,0.4s,baz=276,slow=9.1,SNR=5.0						
ZALV				LR	LR	23 19 29.3	
	comp=E,16nm,18.3s,baz=72,slow=41						
NRIK	Noril'sk	46.96	26	LR	LR	23 20 41.1	
	comp=E,31nm,18.9s,baz=354,slow=41						
ILAR	Eielson Array	77.44	355	P	P	23 00 24.0	+3.7
	comp=E,0.2nm,0.7s,baz=8.9,slow=6.4,SNR=3.6						

KRSC 07 22:50:14.7±1.3, 49.15N×157.13E, h6km±18km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.67	337	P	Pn	22 50 44.2	-0.2
SKR				S	Sn	22 51 05.6	-0.4
RUS	Russkaya	3.40	14	P	Pn	22 51 10.9	+2.7
UGLR	Uglovaya	4.20	14	P	Pn	22 51 23.7	+4.4
AVH	Avacha	4.24	13	P	Pn	22 51 24.1	+4.3
AVH				S	Sn	22 52 14.7	+5.1
SMAR	Somma	4.25	14	P	Pn	22 51 24.3	+4.2
SDLR	Sedlovina	4.28	14	P	Pn	22 51 23.7	+3.3
KRER	Koryakskii	4.28	13	P	Pn	22 51 24.5	+4.0
GNL	Ganaly	4.58	6	P	Pn	22 51 29.1	+4.6
MKZ	Mys Kozlova	6.12	26	P	Pn	22 51 50.2	+4.7

NIED ***07*** *22:52:00, 37.60N×144.40E, h8km, Mw3.6 Best double couple: M₀3.22000×10¹⁴ NP1:φ₀33.00000°, δ24.00000°, λ-82.00000°. NP2:φ₀204.00000°, δ66.00000°, λ-94.00000°.*

IDC ***07*** *22:52:00.3±1.8, 37.44N×144.78E, h0km, mb4.0/3, mb1 4.1/6, mb1mx3.5/58, mbtmp4.1/6, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/47, Error ellipse: s-maj=46.9km s-min=24.5km az=76.0*

ISCJB ***07*** *22:52:04.1±0.9, 37.43N±0.06×144.53E±0.07, h33km, mb4.1/3, MS3.1/1, Error ellipse: s-maj=9.4km s-min=8.0km az=36.9*

JMA ***07*** *22:52:05.3±0.2, 37.60N×144.45E, h31km, M3.8*

ISC 07 22:52:04.2±1.4, 37.48N±0.06×144.70E±0.10, h35km, n17, σ2s14/25, mb4.0/3, Off east Coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	Ouri	2.82	291	P	Pn	22 52 47.0	+0.2
JIO				S	Sn	22 53 17.3	-2.3
OFUJ	Ofunato	2.87	305	P	Pn	22 52 47.3	-0.2
JOU	Okura	3.31	287	P	Pn	22 52 54.0	+0.4
JOU				*e*S	Sn	22 53 30.5	-1.2
JOM	Ohasama	3.34	308	P	Pn	22 52 54.7	+0.8
JOM				S	Sn	22 53 30.4	-1.9
JFT	Otama	3.47	272	P	Pn	22 52 57.1	+1.4
JFT				S	Sn	22 53 34.2	-1.4
JYK	Kaneyama	3.71	294	P	Pn	22 52 59.8	+0.8
JRG	Rokugo	3.72	302	P	Pn	22 53 00.0	+0.8
JANG	Nango	3.81	320	P	Pn	22 53 00.7	+0.3
JRY	Ryogami san	4.88	254	P	Pn	22 53 06.1	0.0
JRY				S	Sn	22 54 06.5	-3.9
MJAR	Matsushiro Arr	5.28	262	Pn	Pn	22 53 21.8	+1.2
	2.8nm,0.3s,baz=90,slow=15,SNR=29						
MJAR				Sn	Sn	22 54 20.1	-0.2
	1.2nm,0.3s,baz=154,slow=31,SNR=6.8						
MAT	Matsushiro	5.28	262	P	Pn	22 53 21.9	+1.3
MAT				*e*S	Sn	22 54 19.6	-0.6
JHJ	Hachijo jima 2	5.92	224	Pn	Pn	22 53 28.6	-0.9
	4.6nm,0.3s,baz=66,slow=12,SNR=4.5						
JHJ				Sn	Sn	22 54 29.9	-6.1
	13nm,0.3s,baz=18,slow=20,SNR=4.7						
ASAJ	Asahikawa	6.82	347	Pn	Pn	22 53 41.1	-0.6
	2.0nm,0.3s,baz=206,slow=11,SNR=7.7						
ASAJ				Sn	Sn	22 54 53.8	-4.4
	0.4nm,0.3s,baz=108,slow=20,SNR=2.1						
MKAR	Makanchi Array	46.10	302	LR	LR	23 22 17.2	
	comp=Z,23nm,20.0s,baz=348,slow=39						
KURBB	Kurchatov Arra	47.80	308	P	P	23 00 40.2	+2.3
	0.7nm,0.4s,baz=82,slow=7.9,SNR=7.0						
WRA	Warramunga Arr	57.94	192	P	P	23 01 54.0	+1.0
	2.2nm,0.5s,baz=10,slow=7.0,SNR=33						
ASAR	Alice Springs	61.66	191	P	P	23 02 19.9	+1.4
	0.6nm,0.6s,baz=8.7,slow=7.2,SNR=8.5						

DDA ***07*** *22:52:34.9, 39.11N×29.06E, h19km, Md3.7*

ISK ***07*** *22:52:34.6, 39.09N×29.06E, h5km, ML3.9*

IDC ***07*** *22:52:35.3±1.2, 39.03N×29.21E, h0km, mb3.7/9, mb1 3.7/15, mb1mx3.5/57, mbtmp3.7/15, ML3.6/6, MS3.1/8, Ms1 3.1/8, ms1mx2.7/43, Error ellipse: s-maj=20.6km s-min=14.0km az=40.0*

ISCJB ***07*** *22:52:35.4±0.4, 39.10N±0.01×29.04E±0.02, h4km, 3km, mb3.6/9, MS3.2/5, Error ellipse: s-maj=2.2km s-min=2.1km az=41.8*

CSEM ***07*** *22:52:36.0±0.1, 39.09N×29.03E, h2km, MD3.7, Error ellipse: s-maj=2.2km s-min=2.1km az=4.0*

THE ***07*** *22:52:36.9, 39.07N×28.96E, h1km±6km, Error ellipse: s-maj=6.8km s-min=1.3km az=62.0*

NSSC ***07*** *22:53:15.5±1.8, 37.55N×32.25E, h0km±98km, MD2.7, ML2.2*

ISC 07 22:52:36.1±1.0, 39.08N±0.02×29.06E±0.02, h6km±7km, n343, σ1s28/369, mb3.6/9, MS3.4/5, 17C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.27	263	P	Pg	22 52 41.1	-0.3
DEMI				S	Sg	22 52 44.8	-0.2
DEMI	Demirci	0.27	263	⇓*i*P	Pg	22 52 41.1	-0.3
DEMI				*i* S	Sg	22 52 44.8	-0.2
GDZ	Gediz	0.33	87	P	Pg	22 52 42.5	-0.1
GDZ				S	Sg	22 52 47.3	+0.4
GDZ	Gediz	0.33	87	*i* P	Pg	22 52 42.5	-0.1
GDZ				*i* S	Sg	22 52 47.3	+0.4
TVSB	Tavsanli	0.49	40	*e*PG	Pg	22 52 44.7	-0.8
TVSB	Tavsanli	0.49	40	*e*Pg	Pg	22 52 44.7	-0.8
DST	Dursunbey	0.63	327	*e*PG	Pg	22 52 47.0	-1.3
DST	Dursunbey	0.63	327	*e*Pg	Pg	22 52 47.0	-1.3
KULA	Kula-Manisa	0.64	209	*e*PG	Pg	22 52 48.3	-0.2
KULA	Kula-Manisa	0.64	209	P	Pg	22 52 48.3	-0.2
KULA				S	Sg	22 52 56.9	+0.1
KULA	Kula-Manisa	0.64	209	P	Pg	22 52 48.3	-0.2
KULA				S	Sg	22 52 56.9	+0.1
MANT	Manisa	0.70	214	P	Pg	22 52 49.4	-0.3
MANT				S	Sg	22 52 59.0	+0.2
MANT	Manisa	0.70	214	*i* P	Pg	22 52 49.4	-0.3
MANT				*i* S	Sg	22 52 59.0	+0.2
KHAL	Karahalli	0.78	154	S	Sg	22 53 02.1	+0.9
KHAL	Karahalli	0.78	154	*i* S	Sg	22 53 02.1	+0.9
KHAL				*i* P	Sn	22 53 07.8	+2.0
KHL	Karahalli	0.83	154	*e*PG	Pb	22 52 52.8	-0.3
KHL				*e*SG	Sb	22 53 04.1	-0.4
KHL	Karahalli	0.83	154	*e*Pg	Pb	22 52 52.8	-0.3
KHL				*e*Sg	Sb	22 53 04.1	-0.4
ORLT	Orhaneli	0.98	353	*e*PG	Pg	22 52 53.5	-1.4
ORLT				*e*SG	Sb	22 53 08.7	0.0
ORLT	Orhaneli	0.98	353	*e*Pg	Pg	22 52 53.5	-1.4
ORLT				*e*Sg	Sb	22 53 08.7	0.0
AKHS	Akhisar	0.99	259	P	Pg	22 52 54.8	-0.4
AKHS				S	Sg	22 53 07.9	-0.1
AKHS	Akhisar	0.99	259	*i* P	Pg	22 52 54.8	-0.4
AKHS				*i* S	Sg	22 53 07.9	-0.1
AKS	Akhisar	0.99	259	*e*PG	Pg	22 52 54.7	-0.4
AKS	Akhisar	0.99	259	*e*Pg	Pg	22 52 54.7	-0.4
BALB	Balikesir	1.07	302	*e*PG	Pg	22 52 56.1	-0.6
BALB	Balikesir	1.07	302	*e*Pg	Pg	22 52 56.1	-0.6
IGD	Bursa	1.19	5	*i* S	Sg	22 53 13.6	-0.9
IGD				*i* P	Sn	22 53 20.9	+5.0
CAVI	Cavuskoy	1.28	28	*e*PN	Pn	22 52 59.7	-0.8
CAVI	Cavuskoy	1.28	28	*e*Pn	Pn	22 52 59.7	-0.8
BALY	Balya	1.30	301	P	Pn	22 52 59.8	-1.0
BALY	Balya	1.30	301	*i* P	Pn	22 52 59.8	-1.0
IZI	Iznik	1.30	14	*e*PN	Pn	22 53 00.5	-0.4
IZI	Iznik	1.30	14	*e*Pn	Pn	22 53 00.5	-0.4
MDNY	Mudanya-Bursa	1.30	354	*e*Pn	Pn	22 53 00.4	-0.4
MDNY	Mudanya-Bursa	1.30	354	*e*Pn	Pn	22 53 00.4	-0.4
KCTX	Karacabey (Bur	1.31	336	*e*PN	Pn	22 53 00.5	-0.4
KCTX	Karacabey (Bur	1.31	336	*e*Pn	Pn	22 53 00.5	-0.4
DENT	Denizli	1.32	181	*e*PN	Pn	22 53 00.8	-0.3
DENT	Denizli	1.32	181	*e*Pn	Pn	22 53 00.8	-0.3
BORA	Eskisehir	1.34	53	P	Pn	22 53 00.1	-1.4
BORA				S	Sb	22 53 18.7	-0.6
BORA	Eskisehir	1.34	53	*i* P	Pn	22 53 00.1	-1.4
BORA				*i* S	Sb	22 53 18.7	-0.6
GEMT	Gemlik	1.36	4	*e*PN	Pn	22 53 01.4	-0.2
GEMT	Gemlik	1.36	4	*e*Pn	Pn	22 53 01.4	-0.2
ONZL	Cakiroluk	1.38	180	P	Pn	22 53 01.5	-0.6
DNZL	Cakiroluk	1.38	180	*i* P	Pn	22 53 01.5	-0.6
DNZL				*i* S	Sn	22 53 24.2	+3.4
GONE	Gonen-Balikesi	1.44	313	*e*PN	Pn	22 53 02.8	+0.1
GONE	Gonen-Balikesi	1.44	313	*e*Pn	Pn	22 53 02.8	+0.1
AYDB	Zeytinkoy-Aydi	1.45	220	*e*PN	Pn	22 53 03.2	+0.2
AYDB	Zeytinkoy-Aydi	1.45	220	*e*Pn	Pn	22 53 03.2	+0.2
ADVT	Abdulvahap	1.45	21	*e*PN	Pn	22 53 03.1	+0.2
ADVT	Abdulvahap	1.45	21	*e*Pn	Pn	22 53 03.1	+0.2
ESKT	Eskisehir	1.46	72	*e*PN	Pn	22 53 03.1	0.0
ESKT	Eskisehir	1.46	72	*e*Pn	Pn	22 53 03.1	0.0
ESKT	Eskisehir	1.46	72	*i* P	Pn	22 53 02.4	-0.7
SEYT	Eskypehyr	1.46	72	P	Pn	22 53 02.4	-0.7
ARMT	Armutlu	1.50	354	*e*PN	Pn	22 53 03.6	+0.1
ARMT	Armutlu	1.50	354	*e*Pn	Pn	22 53 03.6	+0.1
BOLV	Bolvadin	1.52	103	P	Pn	22 53 03.9	0.0
BOLV	Bolvadin	1.52	103	*i* P	Pn	22 53 03.9	0.0
GPA	Golpazari	1.55	38	*e*PN	Pb	22 53 05.0	-0.2
GPA	Golpazari	1.55	38	*e*Pn	Pb	22 53 05.0	-0.2
IZM	Izmir	1.56	245	*e*PN	Pb	22 53 04.9	-0.5
IZM	Izmir	1.56	245	*e*Pn	Pb	22 53 04.9	-0.5
EDC	Edincik	1.57	324	*e*PN	Pn	22 53 04.7	+0.2
EDC	Edincik	1.57	324	*e*Pn	Pn	22 53 04.7	+0.2
DKL	Dikili	1.68	271	*e*PN	Pn	22 53 05.8	-0.2
DKL	Dikili	1.68	271	*e*Pn	Pn	22 53 05.8	-0.2
KNL	Bal¯¯kesir	1.68	316	*i* P	Pn	22 53 03.9	-2.1
KNL				*i* S	Sb	22 53 28.5	-0.4
AYDN	Tasoluk	1.69	214	P	Pn	22 53 05.4	-0.8
AYDN				S	Sg	22 53 30.8	+0.4
AYDN	Tasoluk	1.69	214	*i* P	Pn	22 53 05.4	-0.8
AYDN				*i* S	Sg	22 53 30.8	+0.4
GULT	Gulveren	1.76	39	*e*PN	Pn	22 53 07.5	+0.3
GULT	Gulveren	1.76	39	*e*Pn	Pn	22 53 07.5	+0.3
BUY	Buyukada	1.78	1	P	Pn	22 53 05.7	-1.6
BUY				S	Sb	22 53 31.9	+0.3
BUY	Buyukada	1.78	1	*i* P	Pn	22 53 05.7	-1.6
BUY				*i* S	Sb	22 53 31.9	+0.3
HRT	Hereke	1.81	15	*e*PN	Pn	22 53 08.0	+0.2
HRT	Hereke	1.81	15	*e*Pn	Pn	22 53 08.0	+0.2
AYVA	Ayvalik	1.86	278	P	Pn	22 53 07.5	-0.9
AYVA				S	Sb	22 53 34.7	+0.8
AYVA	Ayvalik	1.86	278	*i* P	Pn	22 53 07.5	-0.9
AYVA				*i* S	Sb	22 53 34.6	+0.8
SPNC	Sapanca-Adapaz	1.87	30	*e*PN	Pn	22 53 09.4	+0.8
SPNC	Sapanca-Adapaz	1.87	30	*e*Pn	Pn	22 53 09.5	+0.8
GOLH	Golhisar	1.88	168	P	Pn	22 53 09.1	+0.3
GOLH	Golhisar	1.88	168	*i* P	Pn	22 53 09.1	+0.3
KRBG	Karabiga-Canak	1.89	315	*e*PN	Pb	22 53 09.9	-1.1
KRBG	Karabiga-Canak	1.89	315	*e*Pn	Pb	22 53 09.9	-1.1
MRMT	Marmara Adasi	1.90	324	*e*PN	Pn	22 53 09.8	+0.7
MRMT	Marmara Adasi	1.90	324	*e*Pn	Pn	22 53 09.8	+0.7
GLHS	Gihisar (BURDU	1.95	170	*e*PN	Pn	22 53 10.4	+0.6
GLHS	Gihisar (BURDU	1.95	170	*e*Pn	Pn	22 53 10.4	+0.6
SVRH	Sivrihisar-ESK	1.95	78	*e*PN	Pn	22 53 10.6	+0.8
SVRH	Sivrihisar-ESK	1.95	78	*e*Pn	Pn	22 53 10.6	+0.8
ISK	Istanbul-Kandi	1.99	360	*e*

ALN	Alexandroupoli	2.95	309	P	Pn	22 53 22.5	-0.9	
ALN	Alexandroupoli	2.95	309	P	Pn	22 53 22.5	-0.9	
ALN	Alexandroupoli	2.95	309	*e*Pn	Pn	22 53 24.2	+0.8	
ARG	Arkhangelos	2.95	195	P	Pn	22 53 23.6	+0.1	
ARG	Arkhangelos	2.95	195	P	Pn	22 53 23.6	+0.1	
KSL	Kastellorizon	2.95	172	P	Pn	22 53 24.5	+1.0	
LOD	Lodumlu	2.98	73	*e*PN	Pn	22 53 24.9	+0.9	
LOD	Lodumlu	2.98	73	*e*Pn	Pn	22 53 24.9	+0.9	
CHBY	Cihanbeyli	3.03	98	*e*PN	Pn	22 53 25.3	+0.6	
CHBY	Cihanbeyli	3.03	98	*e*Pn	Pn	22 53 25.3	+0.6	
SMTH	Samothraki Isl	3.06	298	P	Pn	22 53 24.3	-0.7	
SMTH	Samothraki Isl	3.06	298	P	Pn	22 53 24.3	-0.7	
LIA	Limnos Island	3.11	287	P	Pn	22 53 25.3	-0.4	
LIA	Limnos Island	3.11	287	P	Pn	22 53 25.3	-0.4	
AFSR	Af˙ar-Bala (A	3.13	82	*e*PN	Pn	22 53 27.0	+0.9	
AFSR	Af˙ar-Bala (A	3.13	82	*e*Pn	Pn	22 53 27.0	+0.9	
BBAL	Bala	3.19	80	P	Pn	22 53 27.1	+0.3	
BBAL	Bala	3.19	80	*i* P	Pn	22 53 27.1	+0.3	
APE	Apeiranthos	3.43	235	*e*PN	Pn	22 53 31.3	+1.2	
APE	Apeiranthos	3.43	235	P	Pn	22 53 29.0	-1.1	
APE	Apeiranthos	3.43	235	P	Pn	22 53 29.0	-1.1	
APE	Apeiranthos	3.43	235	*e*Pn	Pn	22 53 31.3	+1.2	
SERE	Sereflikochisa	3.51	91	*e*PN	Pn	22 53 32.2	+0.9	
SERE	Sereflikochisa	3.51	91	*e*Pn	Pn	22 53 32.2	+0.9	
SAFT	Safranbolu	3.52	51	*e*PN	Pn	22 53 32.6	+1.3	
SAFT	Safranbolu	3.52	51	*e*Pn	Pn	22 53 32.6	+1.3	
BRTR	Keskin Array B	3.61	78	Pn	Pn	22 53 32.4	-0.3	
	5.7nm,0.3s,baz=255,slow=14,SNR=172							
BRTR				Sn	Sn	22 54 14.8	-0.8	
	6.7nm,0.3s,baz=262,slow=16,SNR=5.9							
KAMT	Kaman	3.63	84	*e*PN	Pn	22 53 34.1	+1.2	
KAMT	Kaman	3.63	84	*e*Pn	Pn	22 53 34.1	+1.2	
AKSY	AKSARAY - Alti	3.69	95	*i* P	Pg	22 53 46.2	-0.7	
CANT	Cankiri	3.83	65	*e*PN	Pn	22 53 36.7	+1.1	
KARP	Karpathos	3.83	204	*e*PN	Pn	22 53 36.2	+0.5	
KARP	Karpathos	3.83	204	P	Pn	22 53 35.3	-0.4	
KARP	Karpathos	3.83	204	P	Pn	22 53 35.3	-0.4	
KARP	Karpathos	3.83	204	*e*Pn	Pn	22 53 36.2	+0.5	
THR5	Thira Island,	3.96	229	*e*PN	Pn	22 53 38.9	+1.5	
THR5	Thira Island,	3.96	229	*e*Pn	Pn	22 53 38.9	+1.5	
KAVA	Kavala	3.98	300	P	Pn	22 53 36.9	-0.8	
KAVA	Kavala	3.98	300	P	Pn	22 53 36.9	-0.8	
AOS	Alonnisos	4.03	273	*e*PN	Pn	22 53 39.6	+1.3	
AOS	Alonnisos	4.03	273	P	Pn	22 53 38.0	-0.3	
AOS	Alonnisos	4.03	273	P	Pn	22 53 38.0	-0.3	
AOS	Alonnisos	4.03	273	*e*Pn	Pn	22 53 39.6	+1.3	
OUR	Ouranopolis	4.11	289	*e*PN	Pn	22 53 41.5	+2.0	
OUR	Ouranopolis	4.11	289	*e*Pn	Pn	22 53 41.5	+2.0	
CORM	Corum	4.44	74	*e*PN	Pn	22 53 45.7	+1.6	
CORM	Corum	4.44	74	*e*Pn	Pn	22 53 45.7	+1.6	
NIG	Nigde	4.45	101	*e*PN	Pn	22 53 45.9	+1.5	
NIG	Nigde	4.45	101	*e*Pn	Pn	22 53 45.9	+1.5	
ZKR	Zakros	4.56	211	P	Pn	22 53 46.8	+1.2	
ZKR	Zakros	4.56	211	P	Pn	22 53 46.8	+1.2	
NVR	Nevrokopi	4.58	301	P	Pn	22 53 45.4	-0.6	
NVR	Nevrokopi	4.58	301	P	Pn	22 53 45.4	-0.6	
IKL	Isikli	4.63	126	*e*PN	Pn	22 53 48.8	+2.2	
IKL	Isikli	4.63	126	*e*Pn	Pn	22 53 48.8	+2.2	
SRS	Serrai	4.66	298	P	Pn	22 53 46.4	-0.6	
SRS	Serrai	4.66	298	P	Pn	22 53 46.4	-0.6	
NPS	Neapolis	4.70	217	P	Pn	22 53 47.8	+0.3	
NPS	Neapolis	4.70	217	P	Pn	22 53 47.8	+0.3	
BZK	Bozkurt	4.74	51	*e*PN	Pn	22 53 50.0	+1.9	
BZK	Bozkurt	4.74	51	*e*Pn	Pn	22 53 50.0	+1.9	
MANR	Mangalia	4.75	356	⇑*i* P	Pn	22 53 47.3	-0.9	
HORT	Hortiatis	4.83	290	*e*PN	Pn	22 53 51.4	+2.0	
HORT	Hortiatis	4.83	290	*e*Pn	Pn	22 53 51.4	+2.0	
LAST	Lasithi	4.84	217	P	Pn	22 53 49.7	+0.1	
LAST	Lasithi	4.84	217	P	Pn	22 53 49.7	+0.1	
YOZ	Yozgat	4.88	81	*e*PN	Pn	22 53 52.1	+1.9	
YOZ	Yozgat	4.88	81	*e*Pn	Pn	22 53 52.1	+1.9	
BYBT	Boyabat	4.98	59	*e*PN	Pn	22 53 53.3	+2.0	
BYBT	Boyabat	4.98	59	*e*Pn	Pn	22 53 53.3	+2.0	
LEF	Lefka	5.00	141	*e*PN	Pn	22 53 53.5	+1.9	
LEF	Lefka	5.00	141	*e*Pn	Pn	22 53 53.5	+1.9	
IDI	Anoyia	5.04	223	Pn	Pn	22 53 52.1	-0.1	
	3.0nm,0.3s,baz=46,slow=16,SNR=12							
MSAB	Monastry St. A	5.10	350	⇓*i* P	Pn	22 53 52.6	-0.4	
LFK	Lefkose	5.21	135	*e*PN	Pn	22 53 56.5	+2.0	
LFK	Lefkose	5.21	135	*e*Pn	Pn	22 53 56.5	+2.0	
AGG	Agios Georgios	5.24	272	*e*PN	Pn	22 53 57.3	+2.3	
AGG	Agios Georgios	5.24	272	*e*Pn	Pn	22 53 57.3	+2.3	
DIKM	Dikmen	5.39	60	*e*PN	Pn	22 53 59.5	+2.5	
DIKM	Dikmen	5.39	60	*e*Pn	Pn	22 53 59.5	+2.5	
TIRR	Tirgusor	5.40	355	⇑*i* P	Pn	22 53 56.5	-0.6	
GRG	Griva	5.45	292	*e*PN	Pn	22 54 00.2	+2.4	
GRG	Griva	5.45	292	*e*Pn	Pn	22 54 00.2	+2.4	
SNOP	Sinop	5.53	56	*e*PN	Pn	22 54 01.3	+2.4	
SNOP	Sinop	5.53	56	*e*Pn	Pn	22 54 01.3	+2.4	
KRTS	Karatas	5.59	115	*e*PN	Pn	22 54 01.7	+2.0	
KRTS	Karatas	5.59	115	*e*Pn	Pn	22 54 01.7	+2.0	
HARR	Harsova	5.67	352	⇑*i* P	Pn	22 54 01.4	+0.5	
SARI	SarD1z-Kayseri	5.79	94	*e*PN	Pn	22 54 04.6	+1.9	
PGOR	Pogoanele	6.03	346	⇑*i* P	Pn	22 54 09.1	+3.3	
TLCR		6.11	358	⇑*i* P	Pn	22 54 06.3	-0.6	
CFR	Carcaliu	6.14	354	⇑*i* P	Pn	22 54 06.3	-0.9	
FNA	Florina	6.15	289	*e*PN	Pn	22 54 09.1	+1.6	
FNA	Florina	6.15	289	*e*Pn	Pn	22 54 09.1	+1.6	
SVSK	Karacayir	6.20	80	*e*PN	Pn	22 54 10.9	+2.8	
SVSK	Karacayir	6.20	80	*e*Pn	Pn	22 54 10.9	+2.8	
TAHT	Tahtakopru-Hat	6.26	113	*e*PN	Pn	22 54 11.6	+2.7	
TAHT	Tahtakopru-Hat	6.26	113	*e*Pn	Pn	22 54 11.6	+2.7	
ISR	Istrita	6.32	344	⇑*i* P	Pn	22 54 11.6	+1.7	
ARNB	Al Arnab	6.36	118	*e*P	Pn	22 54 04.8	-5.7	
ARNB				*e*S	Sn	22 54 57.2	-26	
ARNB				AML	AML	22 55 37.0		
	comp=N,11nm,0.5s							
ARNB				AML	AML	22 55 41.5		
	comp=E,5.7nm,0.7s							
ARNB	Al Arnab	6.36	118	*e*P	Pn	22 54 11.1	+0.6	
ARNB				*e*S	Sn	22 54 50.6	-33	
ARNB				AML	AML	22 55 37.0		
	comp=N,11nm,0.5s							
ARNB				AML	AML	22 55 41.3		
	comp=E,5.7nm,0.7s							
DRWC	Darouich	6.50	110	*e*P	Pn	22 54 13.8	+1.5	
BTCH	Batrach	6.61	115	*e*P	Pn	22 54 04.4	-10	
BTCH				AML	AML	22 55 44.6		
	comp=E,9.8nm,0.5s							
BTCH				AML	AML	22 55 56.9		
	comp=N,13nm,0.6s							
BTCH	Batrach	6.61	115	*e*P	Pn	22 54 15.3	+1.4	
BTCH				*e*S	Sn	22 54 57.1	-33	
BTCH				AML	AML	22 55 16.7		
	comp=E,14nm,0.6s							
BARS	Barje	6.64	307	*e*Pn	Pn	22 54 14.1	0.0	
MLR	Muntele Rosu	6.81	341	Pn	Pn	22 54 17.1	+0.5	
	comp=E,0.2nm,0.3s,baz=297,slow=4.6,SNR=17							
MLR	Muntele Rosu	6.81	341	⇓*i* P	Pn	22 54 17.8	+1.1	
ODBI	Odobesti	6.85	348	⇑*i* P	Pn	22 54 17.6	+0.6	
PLOR	Plostina	7.00	346	⇓*i* P	Pn	22 54 21.2	+2.0	
VRI	Vrincioaia	7.00	347	*e*PN	Pn	22 54 21.4	+2.2	
VRI	Vrincioaia	7.00	347	⇓*i* P	Pn	22 54 19.2	0.0	
VRI	Vrincioaia	7.00	347	*e*Pn	Pn	22 54 21.4	+2.2	
VOIR		7.02	336	⇑*i* P	Pn	22 54 20.6	+1.2	
ARR	Arges	7.09	334	⇑*i* P	Pn	22 54 21.5	+1.0	
DOPR	Dopca	7.40	340	⇑*i* P	Pn	22 54 25.1	+0.5	
LOT	Lotru	7.48	330	⇑*i* P	Pn	22 54 26.1	+0.3	
TESR	Tescani	7.64	347	⇓*i* P	Pn	22 54 29.3	+1.4	
KUBS	Kucevo	7.67	316	*e*Pn	Pn	22 54 26.5	-1.9	
MILM	Milestii Mici	7.84	359	⇑*i* P	Pn	22 54 29.9	-0.7	
GRUS	Gruza	7.90	310	*e*Pn	Pn	22 54 31.6	+0.2	
MDVR	Moldovita	7.90	319	⇑*i* P	Pn	22 54 32.4	+0.8	
BRBR	Barbar	7.93	133	*e*P	Pn	22 54 35.0	+2.9	
BRBR				*e*S	Sn	22 55 51.5	-11	
BRBR				AML	AML	22 56 06.8		
	comp=E,8.6nm,0.5s							
BRBR				AML	AML	22 56 22.4		
	comp=N,6.2nm,0.8s							
BRBR	Barbar	7.93	133	*e*P	Pn	22 54 33.6	+1.5	
BRBR				*e*S	Sn	22 55 31.4	-31	
BRBR				AML	AML	22 56 06.8		
	comp=E,8.6nm,0.5s							
BRBR				AML	AML	22 56 22.2		
	comp=N,6.2nm,0.8s							
MMAI	Mount Meron Ar	7.93	138	Pn	Pn	22 54 31.9	-0.1	
	comp=N,2.3nm,0.3s,baz=322,slow=12,SNR=24							
MMAI				Sn	Sn	22 55 60.0	-2.1	
	comp=N,1.9nm,0.3s,baz=304,slow=28,SNR=7.3							
IVAS	Ivanjica	8.07	307	*e*Pn	Pn	22 54 33.6	-0.3	
ROOS	tl_alroos	8.23	124	*e*P	Pn	22 54 35.3	-0.7	
ROOS				*e*S	Sn	22 55 34.5	-35	
ROOS				AML	AML	22 56 19.0		
	comp=N,6.6nm,0.6s							
ROOS				AML	AML	22 56 29.8		
	comp=E,6.7nm,0.5s							
TRUS	Trudelj	8.27	311	*e*Pn	Pn	22 54 38.1	+1.6	
TCHB	Talchebab	8.50	137	*e*P	Pn	22 54 42.2	+2.5	
TCHB				*e*S	Sn	22 56 07.7	-8.3	
TCHB				AML	AML	22 56 28.2		
	comp=N,12nm,0.5s							
TCHB				AML	AML	22 56 32.9		
	comp=E,7.2nm,0.4s							
TCHB	Talchebab	8.50	137	*e*P	Pn	22 54 43.1	+3.3	
TCHB				*e*S	Sn	22 55 46.4	-30	
TCHB				AML	AML	22 56 28.2		
	comp=N,12nm,0.5s							
TCHB				AML	AML	22 56 33.0		
	comp=E,7.2nm,0.4s							
BBLS	Lazići	8.68	307	*e*Pn	Pn	22 54 43.2	+0.9	
ARCR	ARCALIA	8.71	338	⇓*i* P	Pn	22 54 44.7	+2.1	
TEKS	Tekeris	8.97	311	*e*Pn	Pn	22 54 46.5	+0.3	
BURAR	Bucovina Array	8.98	343	⇑*i* P	Pn	22 54 47.2	+0.8	
DRGR		9.01	331	⇑*i* P	Pn	22 54 48.3	+1.6	
SORM	Soroca	9.07	357	⇑*i* P	Pn	22 54 46.4	-1.1	
EIL	Elat	10.57	151	Pn	Pn	22 55 05.8	-2.2	
	comp=E,0.3nm,0.3s,baz=342,slow=16,SNR=4.5							
EIL				Sn	Sn	22 57 02.2	-4.5	
	comp=E,0.3nm,0.3s,baz=307,slow=20,SNR=3.3							
AKASG	Malin Array Be	11.63	1	Pn	Pn	22 55 22.6	+0.1	
	comp=E,0.7nm,0.3s,baz=181,slow=13,SNR=4.1							
GERES	GERESS Array B	14.73	317	LR	LR	23 01 49.8		
	comp=E,28nm,19.9s,baz=102,slow=37							
DAVOX	Davos/Dischmat	16.00	305	LR	LR	23 02 45.3		
	comp=E,41nm,20.9s,baz=104,slow=38							
OBN	Obninsk	16.82	15	LR	LR	23 03 30.7		
	comp=E,55nm,20.1s,baz=271,slow=39							
FINES	FINESS Array B	22.47	356	P	P	22 57 35.6	-0.2	
	comp=E,1.5nm,0.6s,baz=180,slow=11,SNR=3.1							
GEYT	Alibeck	22.73	84	P	P	22 57 37.9	-1.0	
	comp=E,2.7nm,0.9s,baz=297,slow=12,SNR=7.3							
AKTO	Aktyubinsk	23.34	51	P	P	22 57 44.0	-0.9	
	comp=E,0.9nm,0.5s,baz=250,slow=12,SNR=2.7							
AKTO				LR	LR	23 08 46.6		
	comp=E,16nm,20.9s,baz=312,slow=42							
NOA	NORSAR Array B	24.63	339	P	P	22 57 58.6	+1.5	
	comp=E,0.6nm,0.8s,baz=80,slow=11,SNR=2.6							
ARU	Arti	26.06	39	P	P	22 58 11.6	+1.6	
	comp=E,4.7nm,0.7s,baz=254,slow=8.5,SNR=16							
ARU				LR	LR	23 10 52.2		
	comp=E,22nm,18.8s,baz=228,slow=42							
EKA	Eskdalemuir Ar	26.94	318	P	P	22 58 20.9	+2.9	
	comp=E,1.0nm,0.6s,baz=113,slow=12,SNR=4.5							
KURBB	Kurchatov Arra	36.28	55	P	P	22 59 39.4	-0.6	
	comp=E,0.5nm,0.7s,baz=278,slow=8.7,SNR=5.6							
MKAR	Makanchi Array	39.08	61	P	P	23 00 03.7	-0.2	
	comp=E,0.2nm,0.3s,baz=264,slow=9.5,SNR=5.4							
YAK	Yakutsk	60.92	32	LR	LR	23 30 29.0		
	comp=E,29nm,20.3s,baz=134,slow=37							
SCHQ	Schefferville	62.24	319	LR	LR	23 29 05.9		
	comp=E,27nm,18.5s,baz=38,slow=35							
KSRS	Korea Array	73.46	55	P	P	23 04 07.5	-1.9	
	comp=E,1.0nm,0.8s,baz=317,slow=6.6,SNR=4.7							
NEW	Newport	88.00	338	LR	LR	23 45 49.5		
	comp=E,55nm,18.4s,baz=310,slow=36							

MEX 07 22:58:25.4±0.5, 15.56N×93.61W, h79km±6km, MD3.6,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.40	68	*i* P	Pn	22 58 36.8	-1.4
PCIG				*e*S	Sn	22 58 46.1	-1.6
CCIG	Comitan	1.59	63	*e*P	Pn	22 58 50.9	-1.1
CCIG				*i* S	Sn	22 59 10.0	-2.1

NIED ***07*** *23:09:00, 37.10N×141.20E, h59km, Mw3.5 Best double couple: M₀2.27000×10¹⁴ NP1:φ₀s211.00000°, δ37.00000°, λ132.00000°. NP2:φ₀s342.00000°, δ63.00000°, λ63.00000°.*
JMA 07 23:09:04.0±0.1, 37.10N×141.14E, h51km±1km, M3.6,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.27	270	P	Pn	23 09 13.0	-0.1
ONAJ				S	Sn	23 09 19.1	-0.4
JFK	Kawauchi	0.34	322	P	Pn	23 09 13.5	-0.2
JFK				S	Sn	23 09 19.9	-0.7
JHO	Hitachi	0.67	223	P	Pn	23 09 17.0	-0.4
JHO				S	Sn	23 09 26.3	-0.8
JFT	Otama	0.77	303	P	Pn	23 09 19.5	+0.9
JFT				S	Sn	23 09 30.1	+0.8
JMM	Marumori	0.81	340	P	Pn	23 09 19.2	-0.1
JMM				S	Sn	23 09 30.0	-0.4
JFY	Yanaizu	1.19	285	P	Pn	23 09 24.6	+0.3
JFY				*e*S	Sn	23 09 40.0	+0.7
JOU	Okura	1.32	344	P	Pn	23 09 26.5	+0.4
JOU				S	Sn	23 09 43.5	+0.9
JIO	Ouri	1.36	7	P	Pn	23 09 26.3	-0.3
JYS	Shirataka	1.41	323	P	Pn	23 09 27.8	+0.5
JYS				S	Sn	23 09 45.1	+0.4

ISCJB ***07*** *23:11:24.4±0.5, 39.13N±0.03×29.00E±0.03, h2km±6km, Error ellipse: s-maj=4.4km s-min=3.5km az=161.2*
CSEM ***07*** *23:11:24.7±0.1, 39.12N×29.01E, h5km, MD2.9, Error ellipse: s-maj=1.3km s-min=1.2km az=122.0*
ISK ***07*** *23:11:24.1, 39.11N×28.99E, h5km, MD2.9*
DDA ***07*** *23:11:24.5, 39.11N×29.01E, h7km, Md2.9*
ISC 07 23:11:24.9±0.9, 39.12N±0.02×29.01E±0.02, h10km±9km,
n53, σ0.45/72, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.24	252	P	Pg	23 11 29.9	0.0
DEMI				S	Sg	23 11 33.4	+0.2
DEMI	Demirci	0.24	252	⇑*i* P	Pg	23 11 29.9	0.0
DEMI				*i* S	Sg	23 11 33.4	+0.2
GDZ	Gediz	0.37	95	P	Pg	23 11 32.1	-0.2
GDZ				S	Sg	23 11 37.4	+0.2
GDZ	Gediz	0.37	95	*i* P	Pg	23 11 32.1	-0.2
GDZ				*i* S	Sg	23 11 37.4	+0.2
TVSB	Tavsanli	0.48	47	*e*PG	Pg	23 11 33.8	-0.5
TVSB	Tavsanli	0.48	47	*e*Pg	Pg	23 11 33.8	-0.5
DST	Dursunbey	0.57	328	*e*PG	Pg	23 11 35.6	-0.4
DST	Dursunbey	0.57	328	*e*Pg	Pg	23 11 35.6	-0.4
KULA	Kula-Manisa	0.66	204	*e*PG	Pg	23 11 37.3	-0.4
KULA				*e*SG	Sg	23 11 46.2	-0.2
KULA	Kula-Manisa	0.66	204	*e*Pg	Pg	23 11 37.3	-0.4
KULA				*e*Sg	Sg	23 11 46.2	-0.2
MANT	Manisa	0.72	209	P	Pg	23 11 38.8	0.0
MANT				S	Sg	23 11 48.2	0.0
MANT	Manisa	0.72	209	*i* P	Pg	23 11 38.8	0.0
MANT				*i* S	Sg	23 11 48.2	0.0
KHAL	Karahalli	0.84	153	P	Pb	23 11 41.3	-0.2
KHAL				S	Sb	23 11 52.3	-0.6
KHAL	Karahalli	0.84	153	*i* P	Pb	23 11 41.3	-0.2
KHAL				*i* S	Sb	23 11 52.3	-0.6
KHL	Karahalli	0.89	153	*e*PG	Pg	23 11 41.9	-0.2
KHL				*e*SG	Sb	23 11 54.3	-0.1
KHL	Karahalli	0.89	153	*e*Pg	Pg	23 11 41.9	-0.2
KHL				*e*Sg	Sb	23 11 54.3	-0.1
ORLT	Orhaneli	0.93	355	*e*PG	Pg	23 11 42.8	0.0
ORLT	Orhaneli	0.93	355	*e*Pg	Pg	23 11 42.8	0.0
AKHS	Akhisar	0.96	256	P	Pb	23 11 43.6	0.0
AKHS				S	Sb	23 11 56.5	+0.2
AKHS	Akhisar	0.96	256	*i* P	Pb	23 11 43.6	0.0
AKHS				*i* S	Sb	23 11 56.5	+0.2
AKS	Akhisar	0.96	256	*e*PG	Pg	23 11 43.1	-0.2
AKS				*e*SG	Sb	23 11 56.3	-0.1
AKS	Akhisar	0.96	256	*e*Pg	Pg	23 11 43.2	-0.2
AKS				*e*Sg	Sb	23 11 56.3	-0.1
BALB	Balikesir	1.02	301	*e*PG	Pg	23 11 44.0	-0.4
BALB	Balikesir	1.02	301	*e*Pg	Pg	23 11 44.0	-0.4
IGD	Bursa	1.15	7	*i* P	Pg	23 11 45.2	-1.8
IGD				*i* S	Sg	23 12 01.6	-0.5
BALY	Balya	1.24	300	P	Pg	23 11 48.4	-0.4
BALY	Balya	1.24	300	*i* P	Pg	23 11 48.4	-0.4
KCTX	Karacabey (Bur	1.25	337	*e*PN	Pg	23 11 48.5	-0.4
KCTX	Karacabey (Bur	1.25	337	*e*Pn	Pg	23 11 48.5	-0.4
CAVI	Cavuskoy	1.26	31	*e*PN	Pg	23 11 48.8	-0.3
CAVI	Cavuskoy	1.26	31	*e*Pn	Pg	23 11 48.8	-0.3
IZI	Iznik	1.27	16	*e*PN	Pg	23 11 48.8	-0.4
IZI	Iznik	1.27	16	*e*Pn	Pg	23 11 48.8	-0.4
BORA	Eskisehir	1.35	55	P	Pn	23 11 50.0	+0.2
BORA				S	Sb	23 12 08.2	+0.5
BORA	Eskisehir	1.35	55	*i* P	Pn	23 11 50.0	+0.2
BORA				*i* S	Sb	23 12 08.2	+0.5
GONE	Gonen-Balikesi	1.38	313	*e*PN	Pn	23 11 50.0	-0.1
GONE	Gonen-Balikesi	1.38	313	*e*Pn	Pn	23 11 50.0	-0.1
ADVT	Abdulvahap	1.43	23	*e*PN	Pn	23 11 51.3	+0.5
ADVT	Abdulvahap	1.43	23	*e*Pn	Pn	23 11 51.3	+0.5
ARMT	Armutlu	1.45	356	*e*PN	Pn	23 11 51.7	+0.6
ARMT	Armutlu	1.45	356	*e*Pn	Pn	23 11 51.7	+0.6
AYDB	Zeytinkoy-Aydi	1.46	217	*e*PN	Pn	23 11 51.6	+0.2
AYDB	Zeytinkoy-Aydi	1.46	217	*e*Pn	Pn	23 11 51.6	+0.2
ESKT	Eskisehir	1.48	74	*e*PN	Pb	23 11 52.6	0.0
ESKT	Eskisehir	1.48	74	*e*Pn	Pb	23 11 52.6	0.0
EDC	Edincik	1.51	325	*e*PN	Pb	23 11 52.8	-0.2
EDC	Edincik	1.51	325	*e*Pn	Pb	23 11 52.8	-0.2
GULT	Gulveren	1.75	41	*e*PN	Pn	23 11 56.0	+0.6
GULT	Gulveren	1.75	41	*e*Pn	Pn	23 11 56.0	+0.6
HRT	Hereke	1.77	16	*e*PN	Pn	23 11 56.4	+0.8
HRT	Hereke	1.77	16	*e*Pn	Pn	23 11 56.4	+0.8
CTKS	Kestanelik-??a	2.15	350	*e*PN	Pn	23 12 01.8	+1.1
CTKS	Kestanelik-??a	2.15	350	*e*Pn	Pn	23 12 01.8	+1.1

FUNV 07 23:15:47.0, 10.75N×65.70W, h5km, MW3.6, 3C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIRV	Birongo	0.62	244	⇓*e*P	Pg	23 15 58.7	-0.2
BIRV				*e*S	Sg	23 16 07.3	+0.3
CUPV	Cœpira	0.69	187	⇓*e*P	Pg	23 16 00.4	0.0
CUPV				*e*S	Sg	23 16 10.4	+1.1
PCRV	Puerto La Cruz	1.19	118	*e*P	Pg	23 16 09.2	-0.7
PCRV				*e*S	Sb	23 16 26.1	+0.1
MERV	Las Mercedes	1.60	202	⇓*e*P	Pn	23 16 15.7	-0.3
MERV				*e*S	Sn	23 16 36.9	-0.2
TURV	Turiamo	2.12	262	⇑*i* P	Pn	23 16 21.2	-2.0
TURV				*e*S	Sn	23 16 48.0	-2.0
PRGV	PARIAGUAN	2.23	152	⇓*e*P	Pn	23 16 23.6	-1.2
PRGV				*e*S	Sn	23 16 51.5	-1.3
CRUV	Carupano	2.42	91	*e*P	Pn	23 16 27.1	-0.3
CRUV				*e*S	Sn	23 16 57.6	+0.1
GUNV	Guanoco	2.78	102	*e*P	Pn	23 16 31.7	-0.5
GUNV				*e*S	Sn	23 17 04.0	-2.2
MAPV	Macapo	2.86	252	*e*P	Pn	23 16 33.3	-0.1
MAPV				*e*S	Sn	23 17 06.0	-2.3
BAUV	El Baul	2.92	232	*e*P	Pn	23 16 33.2	-1.0
BAUV				*e*S	Sn	23 17 07.4	-2.3
GUIV	Guiria	3.42	91	*e*P	Pn	23 16 40.8	-0.3
TEPV	Terepaima	3.52	258	*e*P	Pn	23 16 42.0	-0.5
TEPV				*e*S	Sn	23 17 21.6	-3.0
SANV	Sanarito	3.97	252	*e*P	Pn	23 16 48.2	-0.6
SANV				*e*S	Sn	23 17 31.7	-4.2
SIQV	Siquisique	4.04	269	*e*P	Pn	23 16 47.5	-2.1

MEX 07 23:26:48.7±0.5, 16.92N×99.93W, h3km±17km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.34**	**292**	*i* P	Pg	23 26 55.3	0.0
CAIG				*i* S	Sg	23 26 59.8	0.0
MEIG	**Mezcala**	**1.04**	**17**	*i* P	Pg	23 27 06.1	-2.7
MEIG				*i* S	Sg	23 27 20.5	-1.8
ARIG	**Puente Sto Nin**	**1.41**	**344**	*e*P	Pn	23 27 11.8	-3.5
ARIG				*i* S	Sg	23 27 29.2	-4.8
TLIG	**Tlapa**	**1.46**	**64**	*i* P	Pn	23 27 12.5	-3.5
TLIG				*i* S	Sb	23 27 30.5	-5.0

MAN 07 23:59:32, 9.79N×121.81E, h120km, mb4.3, ML3.2, MS3.0, 1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**0.96**	**8**	*e*P	Pn	23 59 48.6	-5.0
JAP				*e*S	Sn	00 00 11.6	+1.6
GUIM	**Jordan**	**1.13**	**43**	*e*P	Pn	23 59 56.4	+1.1
GUIM				*e*S	Sn	00 00 14.4	+1.4
CUYO	**Cuyo Island**	**1.31**	**323**	*e*P	Pn	23 59 58.4	+1.1
CUYO				*e*S	Sn	00 00 11.8	-4.7

*ISCJB **08** 00:12:03.9±0.9, 39.11N±0.06×28.98E±0.06, h12km±8km, Error ellipse: s-maj=12.1km s-min=5.0km az=147.5*
*DDA **08** 00:12:04.3, 39.07N×28.99E, h7km, Md2.7*
*CSEM **08** 00:12:04.0±0.1, 39.12N×28.96E, h10km, MD2.7, Error ellipse: s-maj=3.6km s-min=1.4km az=138.0*

ISC 08 00:12:03.9±1.3, 39.12N±0.05×28.97E±0.04, h16km±12km, n10, σ0.29/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.21**	**249**	P	**Pg**	**00 12 09.0**	**+0.1**
DEMI				S	**Sg**	**00 12 12.2**	**0.0**
DEMI	**Demirci**	**0.21**	**249**	*i* P	**Pg**	**00 12 09.0**	**+0.1**
DEMI				*i* S	**Sg**	**00 12 12.2**	**0.0**
GDZ	**Gediz**	**0.40**	**94**	P	**Pg**	**00 12 12.3**	**+0.1**
GDZ				S	**Sg**	**00 12 17.7**	**-0.1**
GDZ	**Gediz**	**0.40**	**94**	*i* P	**Pg**	**00 12 12.3**	**+0.1**
GDZ				*i* S	**Sg**	**00 12 17.7**	**-0.1**
TVSB	**Tavsanli**	**0.51**	**49**	*e*PG	**Pg**	**00 12 14.2**	**+0.1**
TVSB				*e*SG	**Sg**	**00 12 20.5**	**-0.5**
TVSB	**Tavsanli**	**0.51**	**49**	*e*Pg	**Pg**	**00 12 14.2**	**+0.1**
TVSB				*e*Sg	**Sg**	**00 12 20.5**	**-0.5**
KULA	**Kula-Manisa**	**0.65**	**202**	*e*PG	**Pb**	**00 12 17.1**	**+0.2**
KULA				*e*SG	**Sg**	**00 12 24.9**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**202**	*e*Pg	**Pb**	**00 12 17.1**	**+0.2**
KULA				*e*Sg	**Sg**	**00 12 24.9**	**-0.4**
MANT	**Manisa**	**0.70**	**207**	P	**Pg**	**00 12 17.9**	**+0.1**
MANT				S	**Sg**	**00 12 26.6**	**-0.5**
MANT	**Manisa**	**0.70**	**207**	*i* P	**Pg**	**00 12 17.9**	**+0.1**
MANT				*i* S	**Sg**	**00 12 26.6**	**-0.5**

*NIED **08** 00:17:00, 37.70N×143.90E, h5km, Mw3.6 Best double couple: M0 2.69000×10^14 NP1:φs 28.00000°, δ32.00000°, λ-104.00000°. NP2:φs 224.00000°, δ59.00000°, λ-81.00000°.*
*IDC **08** 00:17:29.1±1.5, 37.48N×144.11E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/32, mbtmp3.7/5, ML3.6/2, MS2.7/1, Ms1 2.7/1, ms1mx2.0/47, Error ellipse: s-maj=37.0km s-min=26.4km az=136.0*
*ISCJB **08** 00:17:31.5±0.9, 37.70N±0.05×143.99E±0.07, h33km, mb3.7/3, Error ellipse: s-maj=7.6km s-min=6.5km az=23.1*
*JMA **08** 00:17:33.1±0.2, 37.72N×143.87E, h40km, M3.8*

ISC 08 00:17:33.1±1.1, 37.61N±0.06×144.04E±0.08, h35km, n16, σ2.26/21, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.28**	**292**	*e*S	**Sn**	**00 18 32.5**	**-2.6**
OFUJ	**Ofunato**	**2.37**	**309**	P	**Pn**	**00 18 08.5**	**-0.9**
JMK	**Ichinoseki**	**2.59**	**302**	*e*S	**Sn**	**00 18 40.8**	**-1.8**
JOM	**Ohasama**	**2.84**	**312**	*e*S	**Sn**	**00 18 46.7**	**-2.2**
JFT	**Otama**	**2.94**	**269**	*e*S	**Sn**	**00 18 50.5**	**-0.9**
JYK	**Kaneyama**	**3.17**	**295**	P	**Pn**	**00 18 20.6**	**+0.1**
JYK				*e*S	**Sn**	**00 18 56.1**	**-1.0**
JANG	**Nango**	**3.38**	**325**	*e*S	**Sn**	**00 18 59.9**	**-2.4**
JRY	**Ryogami san**	**4.42**	**250**	P	**Pn**	**00 18 36.7**	**-0.9**
JRY				*e*S	**Sn**	**00 19 23.7**	**-4.1**
MJAR	**Matsushiro Arr** 1.6nm,0.3s,baz=89,slow=16,SNR=11	**4.78**	**259**	Pn	**Pn**	**00 18 43.8**	**+1.2**
MJAR				Sn	**Sn**	**00 19 38.1**	**+1.3**
	1.1nm,0.3s,baz=118,slow=27,SNR=2.5						
MAT	**Matsushiro**	**4.78**	**259**	P	**Pn**	**00 18 44.0**	**+1.4**
MAT				*e*S	**Sn**	**00 19 37.6**	**+0.8**
JCH	**Churui**	**5.02**	**354**	P	**Pn**	**00 18 45.1**	**-0.8**
JCH				*e*S	**Sn**	**00 19 40.1**	**-2.6**
JHJ	**Hachijo jima 2** 7.3nm,0.3s,baz=94,slow=19,SNR=1.3	**5.67**	**219**	Pn	**Pn**	**00 18 54.6**	**-0.2**
JHJ				Sn	**Sn**	**00 19 53.2**	**-5.5**
	10nm,0.3s,baz=253,slow=22,SNR=2.1						
KSRS	**Korea Array** comp=Z,30nm,19.3s,baz=106,slow=34	**12.79**	**274**	LR	LR	00 24 41.6	
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=82,slow=8.7,SNR=5.3	**45.58**	**302**	P	**P**	**00 25 51.4**	**+1.8**
ILAR	**Eielson Array** 0.4nm,0.7s,baz=263,slow=6.8,SNR=3.8	**47.88**	**33**	P	**P**	**00 26 09.3**	**+2.0**
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=11,slow=7.6,SNR=4.1	**57.97**	**191**	P	**P**	**00 27 22.2**	**+0.1**

*CSEM **08** 00:21:10.8±0.3, 39.16N×28.97E, h15km, MD2.7, Error ellipse: s-maj=7.7km s-min=4.0km az=137.0*
*ISCJB **08** 00:21:11.4±0.8, 39.12N±0.06×29.00E±0.05, h10km±8km, Error ellipse: s-maj=11.0km s-min=4.8km az=150.6*
*DDA **08** 00:21:11.5, 39.10N×29.01E, h7km, Md2.7*

ISC 08 00:21:11.0±1.0, 39.14N±0.05×28.98E±0.04, h16km±9km, n12, σ0.58/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**245**	P	**Pb**	**00 21 17.0**	**+0.3**
DEMI				S	**Sg**	**00 21 20.4**	**+0.6**
DEMI	**Demirci**	**0.22**	**245**	*i* P	**Pb**	**00 21 17.1**	**+0.3**
DEMI				*i* S	**Sg**	**00 21 20.4**	**+0.6**
GDZ	**Gediz**	**0.40**	**97**	P	**Pg**	**00 21 19.3**	**+0.1**
GDZ				S	**Sg**	**00 21 24.3**	**-0.4**
GDZ	**Gediz**	**0.40**	**97**	*i* P	**Pg**	**00 21 19.3**	**+0.1**
GDZ				*i* S	**Sg**	**00 21 24.3**	**-0.4**
TVSB	**Tavsanli**	**0.49**	**50**	*e*PG	**Pg**	**00 21 19.9**	**-1.0**
TVSB				*e*SG	**Sg**	**00 21 28.1**	**+0.6**
TVSB	**Tavsanli**	**0.49**	**50**	*e*Pg	**Pg**	**00 21 19.9**	**-1.0**
TVSB				*e*Sg	**Sg**	**00 21 28.1**	**+0.6**
KULA	**Kula-Manisa**	**0.67**	**202**	*e*PG	**Pg**	**00 21 23.2**	**-1.0**
KULA				*e*SG	**Sb**	**00 21 33.6**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**202**	*e*Pg	**Pg**	**00 21 23.2**	**-1.0**
KULA				*e*Sg	**Sb**	**00 21 33.6**	**+0.2**
MANT	**Manisa**	**0.72**	**207**	P	**Pb**	**00 21 25.9**	**+0.5**
MANT				S	**Sg**	**00 21 34.8**	**0.0**
MANT	**Manisa**	**0.72**	**207**	*i* P	**Pb**	**00 21 25.9**	**+0.5**
MANT				*i* S	**Sg**	**00 21 34.8**	**0.0**
KHAL	**Karahalli**	**0.86**	**152**	P	**Pn**	**00 21 28.6**	**0.0**
KHAL				S	**Sb**	**00 21 39.1**	**+0.1**
KHAL	**Karahalli**	**0.86**	**152**	*i* P	**Pn**	**00 21 28.6**	**0.0**
KHAL				*i* S	**Sb**	**00 21 39.1**	**+0.1**

*NIED **08** 00:28:00, 47.60N×146.70E, h560km, Mw4.6 Best double couple: M0 8.49000×10^15 NP1:φs 336.00000°, δ45.00000°, λ43.00000°. NP2:φs 212.00000°, δ61.00000°, λ126.00000°.*
*SKHL **08** 00:28:26.7±0.5, 47.97N×146.67E, h504km±4km, mb5.1/12, msh4.9/4*
*ISCJB **08** 00:28:26.2±0.2, 48.08N±0.03×146.46E±0.03, h483km±2km, mb4.1/99, Error ellipse: s-maj=4.5km s-min=3.5km az=169.3*
*MOS **08** 00:28:26.7±1.0, 48.16N×146.45E, h489km, mb4.1/47, Error ellipse: s-maj=9.8km s-min=6.0km az=102.9*
*JMA **08** 00:28:26.1±0.5, 47.62N×146.72E, h522km, M4.0*
*NEIC **08** 00:28:27.5±0.4, 48.18N×146.39E, h484km±5km, mb4.2/44, Error ellipse: s-maj=7.3km s-min=4.8km az=156.0*

*IDC **08** 00:28:27.6±1.1, 48.15N×146.43E, h487km±13km, mb3.6/26, mb1 3.8/34, mb1mx3.6/56, mbtmp4.5/34, Error ellipse: s-maj=9.1km s-min=7.5km az=144.0*

ISC 08 00:28:26.7±0.5, 48.01N±0.04×146.50E±0.05, h483km±5km, n427, σ1.9/40/466, mb4.1/99, 28C-13D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.75**	**249**	*e*PN	**P**	**00 29 36.8**	**+2.3**
YSS				*e*S	**S**	**00 30 33.4**	**+3.7**
YSS	**Yuzh-Sakhalins**	**2.75**	**249**	*e*P	**P**	**00 29 36.5**	**+2.0**
YSS				AMB	AMB	00 29 37.4	
	360nm,0.6s						
YSS				*e*S	**S**	**00 30 30.1**	**+0.4**
YSS				A	A	00 30 32.8	
	800nm,3.0s						
YSS				A	A	00 30 32.8	
	1μm,3.0s						
YSS				A	A	00 30 33.0	
	420nm,0.8s						
YSS				A	A	00 30 33.0	
	410nm,0.8s						
YSS	**Yuzh-Sakhalins**	**2.75**	**249**	*e*P	**P**	**00 29 36.8**	**+2.3**
YSS				*e*S	**S**	**00 30 33.4**	**+3.7**
KUR	**Kuril'sk**	**2.93**	**161**	*i*PN	**P**	**00 29 36.5**	**+0.7**
KUR	**Kuril'sk**	**2.93**	**161**	*e*P	**P**	**00 29 35.5**	**-0.3**
KUR				AMB	AMB	00 29 36.4	
	210nm,0.5s						
KUR				*e*S	**S**	**00 30 29.1**	**-2.8**
KUR				A	A	00 30 32.7	
	250nm,0.7s						
KUR				A	A	00 30 32.7	
	240nm,0.7s						
UGL	**Uglegorsk**	**3.14**	**292**	*i*PN	**P**	**00 29 39.5**	**+2.4**
UGL				*e*S	**S**	**00 30 36.0**	**+1.5**
UGL				pmax	pmax		
	comp=Z,119nm,0.6s						
UGL				smax	smax		
	comp=E,169nm,0.5s						
UGL				smax	smax		
	comp=N,494nm,1.0s						
UGL				smax	smax		
	comp=N,1μm,3.0s						
UGL				smax	smax		
	comp=E,2μm,3.0s						
UGL	**Uglegorsk**	**3.14**	**292**	*e*P	**P**	**00 29 39.0**	**+1.9**
UGL				AMB	AMB	00 29 39.6	
	comp=E,120nm,0.6s						
UGL				*e*S	**S**	**00 30 35.8**	**+1.3**
UGL				A	A	00 30 37.6	
	comp=E,490nm,0.5s						
UGL				A	A	00 30 37.6	
	comp=E,170nm,0.5s						
UGL				A	A	00 30 37.8	
	comp=E,1μm,3.0s						
UGL				A	A	00 30 37.8	
	comp=E,2μm,3.0s						
TYV	**Tymovskoe**	**3.81**	**320**	*e*PN	**P**	**00 29 43.5**	**+1.3**
TYV				*e*S	**S**	**00 30 43.8**	**0.0**
TYV				pmax	pmax		
	comp=Z,19nm,0.6s						
TYV				smax	smax		
	comp=N,114nm,1.0s						
TYV	**Tymovskoe**	**3.81**	**320**	*e*P	**P**	**00 29 43.4**	**+1.3**
TYV				AMB	AMB	00 29 44.2	
	comp=N,11nm,0.8s						
TYV				*e*S	**S**	**00 30 44.1**	**+0.3**
TYV				A	A	00 30 45.0	
	comp=N,85nm,0.8s						
TYV				A	A	00 30 45.0	
	comp=N,86nm,0.8s						
TYV				A	A	00 30 46.0	
	comp=N,790nm,5.0s						
TYV				A	A	00 30 46.0	
	comp=N,650nm,5.0s						
YUK	**Yuzh-Kuril'sk**	**4.00**	**187**	*e*P	**P**	**00 29 43.7**	**-0.2**
YUK				AMB	AMB	00 29 45.5	
	comp=N,400nm,0.3s						
YUK				*e*S	**S**	**00 30 46.1**	**-0.7**
YUK				A	A	00 30 53.3	
	comp=N,770nm,0.6s						
YUK				A	A	00 30 53.3	
	comp=N,750nm,0.6s						
JSE	**Soyaes**	**4.08**	**223**	P	**P**	**00 29 45.9**	**+1.3**
JSE				*e*S	**S**	**00 30 48.6**	**+0.6**
SHO	**Shikotan**	**4.14**	**177**	*e*P	**P**	**00 29 43.1**	**-2.1**
SHO				AMB	AMB	00 29 43.5	
	comp=N,300nm,0.3s						
SHO				*e*S	**S**	**00 30 44.9**	**-4.1**
SHO				A	A	00 30 49.9	
	comp=N,170nm,0.3s						
JWK2	**Keihoku**	**4.16**	**231**	*e*S	**S**	**00 30 50.8**	**+1.6**
JTKR	**Abashiri--Toko**	**4.42**	**205**	P	**P**	**00 29 48.1**	**+0.5**
JTKR				*e*S	**S**	**00 30 53.5**	**+0.1**
NEM2	**Nemuro 2**	**4.67**	**187**	P	**P**	**00 29 47.7**	**-2.1**
NEM2				*e*S	**S**	**00 30 52.6**	**-4.8**
ASAJ	**Asahikawa**	**4.75**	**216**	*e*P	**P**	**00 29 51.5**	**+1.1**
JKK2	**Kamakawa 2**	**4.89**	**214**	*e*S	**S**	**00 31 01.2**	**0.0**
JAR	**Ashorobuto**	**5.08**	**203**	P	**P**	**00 29 53.8**	**+0.3**
JAK	**Akkeshi**	**5.17**	**195**	P	**P**	**00 29 53.1**	**-1.2**
JAK				*e*S	**S**	**00 31 00.9**	**-4.9**
JCH	**Churui**	**5.83**	**203**	P	**P**	**00 29 59.5**	**-1.1**
JCH				*e*S	**S**	**00 31 11.6**	**-5.7**
JEW	**Eniwo**	**6.27**	**216**	*e*S	**S**	**00 31 22.5**	**-2.8**
JNBK	**Urakawa-nobuka**	**6.31**	**206**	P	**P**	**00 30 04.3**	**-1.1**
JNBK				*e*S	**S**	**00 31 18.0**	**-8.0**
NKL	**Nikolayevsk**	**6.34**	**326**	*i*PN	**P**	**00 30 06.5**	**+1.1**
NKL				*e*S	**S**	**00 31 25.5**	**-0.9**
NKL				pmax	pmax		
	comp=E,37nm,0.6s						
NKL				pmax	pmax		
	comp=Z,130nm,0.6s						
NKL				smax	smax		
	comp=E,250nm,1.8s						
NKL				smax	smax		
	comp=E,700nm,4.0s						
NKL	**Nikolayevsk**	**6.34**	**326**	*e*P	**P**	**00 30 06.5**	**+1.1**
NKL				AMB	AMB	00 30 07.0	
	comp=E,37nm,0.6s						
NKL				AMB	AMB	00 30 07.0	
	comp=E,130nm,0.6s						
NKL				*e*S	**S**	**00 31 25.5**	**-0.9**
NKL				A	A	00 31 29.3	
	comp=E,250nm,2.0s						
NKL				A	A	00 31 30.0	
	comp=E,700nm,4.0s						
ERM	**Erimo**	**6.44**	**203**	*e*PN	**P**	**00 30 07.1**	**+0.4**
ERM	**Erimo**	**6.44**	**203**	*e*P	**P**	**00 30 07.4**	**+0.7**
ERM				*e*S	**S**	**00 31 27.9**	**-0.5**
SKR	**Severo-Kuril's**	**6.83**	**63**	*e*PN	**P**	**00 30 10.1**	**-0.2**
SKR	**Severo-Kuril's**	**6.83**	**63**	*e*P	**P**	**00 30 11.0**	**+0.7**
SKR				AMB	AMB	00 30 11.8	
	comp=E,110nm,0.6s						
GRNR	**Gornyy**	**7.14**	**297**	*e*P	**P**	**00 30 15.5**	**+2.0**
GRNR				AMB	AMB	00 30 16.8	
	comp=E,47nm,0.5s						
GRNR				AMB	AMB	00 30 16.8	
	comp=E,78nm,0.5s						
GRNR				AMB	AMB	00 30 16.8	
	comp=E,120nm,0.5s						
JKB	**Kayabe**	**7.24**	**214**	P	**P**	**00 30 14.0**	**-0.8**
JKB				*e*S	**S**	**00 31 38.3**	**-5.1**
TEY	**Ternei**	**7.45**	**250**	*e*P	**P**	**00 30 18.0**	**+1.2**
TEY				AMB	AMB	00 30 18.2	
	comp=E,21nm,0.5s						
TEY				AMB	AMB	00 30 18.2	
	comp=E,46nm,0.5s						
TEY				AMB	AMB	00 30 18.2	
	comp=E,73nm,0.5s						
PAU	**Pauzhetka**	**7.52**	**59**	*e*P	**P**	**00 30 16.8**	**-0.7**
PAU				AMB	AMB	00 30 17.5	
	comp=E,260nm,0.7s						
JOT	**Ohata**	**7.68**	**212**	*e*S	**S**	**00 31 45.1**	**-6.5**
JOSM	**Okushiri--Mats**	**7.73**	**223**	P	**P**	**00 30 19.4**	**-0.5**
PEA0	**Petropavlovsk-**	**8.77**	**50**	*e*P	**P**	**00 30 30.7**	**+0.2**
PEA0B	**Petropavlovsk-**	**8.77**	**50**	*e*P	**P**	**00 30 31.1**	**+0.6**
PETK	**Petropavlovsk-** comp=E,1.0nm,0.3s,baz=219,slow=7.8,SNR=27	**8.77**	**50**	P	**P**	**00 30 30.8**	**+0.2**
PET	**Petropavlovsk**	**9.22**	**52**	*e*PN	**P**	**00 30 31.9**	**-3.4**
PET	**Petropavlovsk**	**9.22**	**52**	*e*P	**P**	**00 30 36.7**	**+1.4**
KLR	**Kul'dur** comp=E,3.7nm,0.3s,baz=82,slow=9.9,SNR=123	**9.85**	**283**	P	**P**	**00 30 43.6**	**+1.5**
KLR	**Kul'dur**	**9.85**	**283**	*e*P	**P**	**00 30 43.3**	**+1.2**
EKMR	**Ekimchan**	**10.00**	**305**	*e*P	**P**	**00 30 45.0**	**+1.3**
EKMR				AMB	AMB	00 30 46.0	
	comp=E,23nm,0.5s						
EKMR				AMB	AMB	00 30 46.0	
	comp=E,20nm,0.5s						
EKMR				AMB	AMB	00 30 46.0	
	comp=E,68nm,0.5s						
USRK	**Ussuriysk Ar.** comp=E,6.7nm,0.3s,baz=62,slow=12,SNR=117	**10.77**	**255**	P	**P**	**00 30 52.2**	**+0.1**
VLA	**Vladivostok**	**11.35**	**250**	*e*PN	**P**	**00 30 59.4**	**+1.2**
VLA	**Vladivostok**	**11.35**	**250**	*e*P	**P**	**00 30 59.4**	**+1.2**
MA2	**Magadan** comp=E,1.3nm,0.3s,baz=204,slow=6.1,SNR=6.0	**11.86**	**11**	P	**P**	**00 31 04.0**	**+0.6**
MA2	**Magadan**	**11.86**	**11**	PN	**P**	**00 31 04.0**	**+0.6**
MA2				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MSHR	**Mys Shultsa**	**12.09**	**249**	*e*PN	**P**	**00 31 08.3**	**+2.2**
MDJ	**Mudanjiang**	**12.17**	**260**	*e*P	**P**	**00 31 07.3**	**+0.3**
BMKR	**Bomnak**	**12.90**	**308**	*e*P	**P**	**00 31 14.5**	**-0.1**
BMKR				AMB	AMB	00 31 15.1	
	comp=Z,11nm,0.5s						
MJA0	**Matsu Arr-Jizo**	**12.97**	**211**	*e*PN	**P**	**00 31 17.5**	**+1.7**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**12.99**	**211**	*e*PN	**P**	**00 31 17.9**	**+2.0**
MAJO	**Matsushiro**	**12.99**	**211**	*e*P	**P**	**00 31 17.8**	**+2.0**
MAJO	**Matsushiro**	**12.99**	**211**	*e*P	**P**	**00 31 17.9**	**+2.0**
MAT	**Matsushiro**	**12.99**	**211**	P	**P**	**00 31 17.5**	**+1.6**
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.3s,baz=22,slow=11,SNR=32	**12.99**	**211**	P	**P**	**00 31 17.5**	**+1.6**
ZEA	**Zeya**	**13.43**	**302**	*e*P	**P**	**00 31 19.3**	**-0.9**
ZEA				AMB	AMB	00 31 19.9	
	comp=Z,10.0nm,0.8s						
KROS	**Kirovskiy**	**13.80**	**305**	*e*P	**P**	**00 31 23.8**	**-0.5**
KROS				AMB	AMB	00 31 24.9	
	comp=Z,11nm,0.9s						
KROS				AMB	AMB	00 31 24.9	
	comp=Z,16nm,0.9s						
KROS				AMB	AMB	00 31 24.9	
	comp=Z,32nm,0.9s						
CN2	**Changchun**	**15.24**	**262**	*e*P	**P**	**00 31 38.0**	**-1.5**
CN2				pmax	pmax		
	comp=Z,40nm,0.5s						
SEY	**Seymchan** comp=Z,0.4nm,0.3s,baz=181,slow=8.2,SNR=8.5	**15.32**	**10**	P	**P**	**00 31 40.6**	**+0.6**
SEY	**Seymchan**	**15.32**	**10**	*e*P	**P**	**00 31 38.1**	**-2.0**
SEY	**Seymchan**	**15.32**	**10**	*e*P	**P**	**00 31 38.1**	**-2.0**
CLNS	**Chul'man**	**15.81**	**312**	*e*P	**P**	**00 31 40.0**	**-5.4**
CLNS				pmax	pmax		
	comp=Z,28nm,1.0s						
CLNS				pmax	pmax		
	comp=E,16nm,0.9s						
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
YAK	**Yakutsk**	**16.96**	**332**	*e*P	**P**	**00 31 57.9**	**+0.6**
YAK				*e*S	**S**	**00 34 46.3**	**-4.1**
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,18nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				smax	smax		
	comp=E,79nm,2.1s						
YAK				smax	smax		
	comp=N,180nm,3.0s						
YAK	**Yakutsk**	**16.96**	**332**	*e*P	**P**	**00 31 56.5**	**-0.8**
YAK	**Yakutsk**	**16.96**	**332**	*e*P	**P**	**00 31 57.8**	**+0.5**
YAK				*e*PcP	**PcP**	**00 36 14.6**	**+0.9**
KSRS	**Korea Array** comp=N,0.5nm,0.3s,baz=43,slow=10,SNR=13	**17.20**	**239**	P	**P**	**00 32 01.4**	**+1.2**
KSRS				PcP	**PcP**	**00 36 15.7**	**+1.2**
	comp=N,0.1nm,0.3s,baz=27,slow=0.4,SNR=6.7						
KS01	**Wonju Array Si**	**17.20**	**239**	*e*PcP	**PcP**	**00 36 14.9**	**+0.4**
JNU	**Nakatsue** comp=N,0.4nm,0.3s,baz=31,slow=5.4,SNR=4.3	**18.97**	**224**	P	**P**	**00 32 18.3**	**+1.4**
JNU	**Nakatsue** comp=N,40nm,1.6s	**18.97**	**224**	*e*P	**P**	**00 32 18.9**	**+2.0**
BOD	**Bodaibo**	**21.71**	**309**	*e*P	**P**	**00 32 39.6**	**-1.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL	**Bilibino**	**22.44**	**19**	*e*P	**P**	**00 32 47.1**	**-0.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL	**Bilibino**	**22.44**	**19**	*e*P	**P**	**00 32 50.2**	**+2.4**
ULN	**Ulaanbaatar**	**26.24**	**285**	*e*P	**P**	**00 33 22.7**	**+0.7**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ULN	**Ulaanbaatar**	**26.24**	**285**	*e*P	**P**	**00 33 22.7**	**+0.7**
ULN	**Ulaanbaatar** comp=Z,6.3nm,0.8s	**26.24**	**285**	*e*P	**P**	**00 33 21.1**	**-1.0**
SONA1	**Songino Array**	**26.66**	**285**	*e*P	**P**	**00 33 31.6**	**+5.8**
SONM	**Songino Array** comp=Z,1.5nm,0.5s,baz=64,slow=8.7,SNR=4.3	**26.67**	**285**	P	**P**	**00 33 25.5**	**-0.4**
SONM				PcP	**PcP**	**00 36 34.2**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=106,slow=1.7,SNR=6.1						
TLY	**Talaya**	**27.59**	**294**	*i*P	**P**	**00 33 33.9**	**+0.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TLY	**Talaya**	**27.59**	**294**	*e*P	**P**	**00 33 33.9**	**+0.2**
GAMB	**Gambell** comp=Z,55nm,1.2s	**27.59**	**40**	*e*P	**P**	**00 33 30.8**	**-2.7**
GTA	**Gaotai**	**34.37**	**273**	*e*P	**P**	**00 34 34.0**	**+1.6**
GTA				pP	pP	00 34 38.0	-79
GTA				sP	sP	00 34 40.9	-132
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NRIK	**Noril'sk** comp=Z,1.4nm,0.5s,baz=136,slow=6.0,SNR=3.7	**35.35**	**328**	PcP	**PcP**	**00 36 57.1**	**+0.3**
PPLA	**Purkeypile** comp=Z,38nm,1.8s	**36.26**	**43**	*e*P	**P**	**00 34 47.1**	**-0.8**
BPAW	**Bear Paw Mtn.** comp=Z,19nm,2.0s	**36.70**	**41**	*e*P	**P**	**00 34 51.7**	**+0.4**
KTH	**Kantishna Hill** comp=Z,18nm,1.5s	**36.77**	**42**	*e*P	**P**	**00 34 48.9**	**-3.1**
COLD	**Coldfoot** comp=Z,3.8nm,1.1s	**36.87**	**35**	*e*P	**P**	**00 34 52.6**	**-0.1**
WRH	**Wood River Hil** comp=Z,13nm,1.7s	**37.92**	**40**	*e*P	**P**	**00 35 01.1**	**-0.2**
COLA	**College**	**37.98**	**39**	*e*P	**P**	**00 35 02.1**	**+0.4**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CCB	**Clear Creek Bu** comp=Z,8.1nm,1.8s	**38.02**	**40**	*e*P	**P**	**00 35 01.3**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.3s,baz=59,slow=7.1,SNR=4.1	**38.19**	**303**	P	**P**	**00 35 02.8**	**-0.9**
ZALV				PcP	**PcP**	**00 37 05.9**	**0.0**
	comp=Z,3.6nm,0.3s,baz=84,slow=2.4,SNR=27						
IL1	**Eielson Array**	**38.40**	**39**	*e*P	**P**	**00 35 03.8**	**-1.4**
ILAR	**Eielson Array** comp=Z,1.9nm,0.8s,baz=276,slow=7.8,SNR=22	**38.40**	**39**	P	**P**	**00 35 05.0**	**-0.2**
ILB	**

AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 49.22 292 *eP* **P 00 36 29.1 -0.9**
GUN Gumba 50.46 269 *eP* **P 00 36 40.0 +0.4**
comp=Z,8.7nm,0.3s
MNAS Manas 50.54 293 P **P 00 36 40.6 +0.9**
MNAS pmax pmax
comp=Z,4.0nm,0.6s
KKN Kakani 50.95 270 *eP* **P 00 36 43.1 +0.2**
comp=Z,13nm,0.4s
ARU Arti 50.99 314*c iP* **P 00 36 41.8 -0.7**
ARU *e* 00 37 49.7
ARU *PP **pP** 00 38 15.2 -0.8
ARU 00 38 43.6
ARU S **S** 00 43 22.6 +0.1
ARU SS **SS** 00 47 00.5 -4.2
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 50.99 314 *eP* **P 00 36 41.8 -0.7**
ARU Arti 50.99 314 *eP* **P 00 36 41.3 -1.2**
comp=Z,10.0nm,0.7s
PKIN Phulchoki 51.01 269 *eP* **P 00 36 44.2 +0.8**
comp=Z,4.1nm,0.3s
RES Resolute Bay 51.03 17 P **P 00 36 42.2 -0.4**
comp=Z,22nm,0.5s,baz=332,slow=5.5,SNR=72
RES Resolute Bay 51.03 17 *eP* **P 00 36 42.3 -0.3**
RES pmax pmax
comp=Z,22nm,0.6s
RES Resolute Bay 51.03 17 *eP* **P 00 36 42.3 -0.3**
comp=Z,22nm,0.6s
DMN Daman 51.18 270 *eP* **P 00 36 45.6 +0.9**
comp=Z,16nm,0.6s
GKN Gorkha 51.24 270 *eP* **P 00 36 45.7 +0.7**
comp=Z,20nm,0.5s
KKAR Karatay Array 51.42 295 *eP* **P 00 36 46.0 0.0**
KKAR Karatay Array 51.42 295 *eP* **P 00 36 46.0 0.0**
PYUN Piuthan 52.28 272 *eP* **P 00 36 54.5 +1.9**
YKA Yellowknife Ar 52.55 35 P **P 00 36 53.2 -0.5**
comp=Z,2.1nm,0.6s,baz=305,slow=6.9,SNR=11
YKA PcP **PcP 00 37 56.4 +0.3**
comp=Z,0.9nm,0.5s,baz=313,slow=3.8,SNR=8.5
ABKAR Akbulak array 54.11 306 *eP* **P 00 37 04.8 -0.3**
AKTO Aktyubinsk 54.48 308 P **P 00 37 07.2 -0.5**
comp=Z,1.8nm,0.5s,baz=57,slow=6.7,SNR=6.0
ARCES ARCESS Array B 55.11 338 P **P 00 37 11.1 -0.7**
comp=Z,1.4nm,0.4s,baz=48,slow=8.1,SNR=25
ARCES PcP **PcP 00 38 05.7 -0.2**
comp=Z,0.7nm,0.3s,baz=54,slow=5.2,SNR=6.3
DAG Danmarks Havn 55.14 356 *i P* **P 00 37 10.7 -1.2**
DAG pmax pmax
comp=Z,1.0nm,0.4s
DAG Danmarks Havn 55.14 356 *i P* **P 00 37 10.7 -1.2**
comp=Z,0.8nm,0.4s
DAG Danmarks Havn 55.14 356 *eP* **P 00 37 11.1 -0.8**
KLMR Klimovskoe 56.63 326 *eP* **P 00 37 19.8 -2.6**
KLMR *eS* **S 00 44 34.1 -2.6**
KLMR pmax pmax
comp=Z,8.0nm,0.9s
KAPI Kappang 57.79 212 P **P 00 37 32.3 +1.3**
comp=Z,4.9nm,0.3s,baz=341,slow=4.5,SNR=3.7
SUMG Summit 59.67 2 *i P* **P 00 37 43.4 0.0**
SUMG pmax pmax
comp=Z,5.0nm,0.3s
SUMG Summit 59.67 2 *i P* **P 00 37 43.4 0.0**
comp=Z,5.1nm,0.3s
SUMG Summit 59.67 2 *eP* **P 00 37 42.0 -1.4**
comp=Z,11nm,0.9s
I04A Tendick Farm, 59.88 57 P **P 00 37 46.3 +1.4**
baz=309
NEW Newport 59.90 50 P **P 00 37 45.2 +0.2**
baz=310
I05D Terrebonne, OR 60.14 56 P **P 00 37 48.0 +1.4**
baz=310
J05D Fort Rock, OR 60.87 57 P **P 00 37 52.9 +1.4**
baz=310
FIA1 FINESS Array S 60.89 332 *eP* **P 00 37 50.5 -0.7**
FINES FINESS Array B 60.90 332 P **P 00 37 50.4 -0.9**
comp=Z,10nm,0.5s,baz=39,slow=7.6,SNR=85
FINES PcP **PcP 00 38 28.1 -1.0**
comp=Z,1.4nm,0.5s,baz=69,slow=3.5,SNR=2.9
OBN Obninsk 61.65 322‖ *eP* **P 00 37 55.5 -0.7**
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN Obninsk 61.65 322 *eP* **P 00 37 55.5 -0.7**
KCPM Cahto Peak 61.83 61 *eP* **P 00 37 54.0 -4.0**
comp=Z,15μm,0.6s
KCPM *eP PcP **PcP 00 38 39.2 +5.7**
GEYT Alibeck 62.06 297 P **P 00 37 59.9 +0.5**
comp=Z,7.6nm,0.6s,baz=35,slow=3.0,SNR=26
VRH Novokhopyorsk 62.08 316 *eP* **P 00 37 57.8 -1.4**
VRH pmax pmax
comp=Z,7.0nm,0.6s
MTN Manton Dam 62.10 197 *eP* **P 00 38 01.0 +1.3**
comp=Z,15nm,1.0s
LPSR Galich'ya Gora 62.39 319 *eP* **P 00 37 59.7 -1.4**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
MSO Missoula 62.48 50 P **P 00 38 02.1 +0.1**
baz=312
FFC Flin Flon 62.57 37 *eP* **P 00 38 02.8 +0.5**
MGL Magalia 62.93 60 *eP* **P 00 38 06.4 +1.4**
VSR Storozhevoye 63.24 318 *eP* **P 00 38 04.9 -1.8**
VSR pmax pmax
comp=Z,10.0nm,1.1s
PAHR Pah Rah Range 64.26 59 *eP* **P 00 38 15.0 +1.4**
comp=Z,3.7nm,0.8s
HLID Hailey 64.42 53 P **P 00 38 15.8 +1.2**
baz=313
BOZ Bozeman (W) 64.46 50 P **P 00 38 15.9 +1.1**
baz=314
NC303 NORSAR Array S 65.28 338 *eP* **P 00 38 18.9 -0.6**
NC405 NORSAR Array S 65.29 338 *eP* **P 00 38 19.1 -0.6**
NB201 NORSAR Array S 65.45 338 *eP* **P 00 38 19.9 -0.7**
NB2 NORSAR Subarra 65.48 338 P **P 00 38 19.7 -1.1**
comp=Z,4.3nm,0.3s,baz=28,slow=6.5
NB2 NORSAR Subarra 65.48 338 P **P 00 38 19.9 -0.9**
NB2 pmax pmax
comp=Z,7.0nm,0.6s
NOA NORSAR Array B 65.48 338 P **P 00 38 20.1 -0.7**
comp=Z,5.6nm,0.5s,baz=31,slow=6.7,SNR=65
NOA NORSAR Array B 65.48 338 P **P 00 38 20.2 -0.7**
NOA pmax pmax
comp=Z,8.0nm,0.7s
NBO02 NORSAR Array S 65.56 338 *eP* **P 00 38 20.5 -0.8**
NAO01 NORSAR Array S 65.73 338 *eP* **P 00 38 21.6 -0.7**
NVAR Mina Array Bea 65.74 59 P **P 00 38 24.3 +1.2**
comp=Z,2.9nm,0.7s,baz=301,slow=7.1,SNR=18
NV01 Mina Array Sit 65.74 59 *eP* **P 00 38 24.3 +1.2**
H17A Grant Village 65.86 50 P **P 00 38 26.0 +2.1**
baz=314
H17A Grant Village 65.86 50 *eP* **P 00 38 26.8 +2.9**
comp=Z,5.7nm,0.9s
RLMT Red Lodge 66.02 49 P **P 00 38 25.9 +1.2**
baz=315
A25A Svangstu Ranch 66.24 42 P **P 00 38 25.5 -0.3**
baz=317
NCK Nalchik 66.48 309‖ *eP* **P 00 38 28.0 +0.6**
NCK pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 66.63 310 *eP* **P 00 38 29.4 +1.0**
KIV pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 66.63 310 *eP* **P 00 38 29.4 +1.0**
KIV Kislovodsk 66.63 310 *eP* **P 00 38 28.8 +0.4**
comp=Z,9.6nm,0.6s
KBZ Khabaz 66.68 310 P **P 00 38 28.9 +0.3**
comp=Z,6.9nm,0.9s,baz=65,slow=4.2,SNR=12
ZEI Tsey 66.82 309 *eP* **P 00 38 28.5 -1.2**
ZEI pmax pmax
comp=Z,11nm,0.5s
VES Vestal, Richgr 67.05 62 P **P 00 38 31.4 +0.4**
baz=314
NEY Neytrino 67.11 310⇑ *eP* **P 00 38 32.2 +0.7**
NEY pmax pmax
comp=Z,1.0nm,0.6s
R11A Troy Canyon, C 67.35 58 P **P 00 38 33.6 +0.6**
baz=314
ISA Isabella, Lake 67.53 61 P **P 00 38 37.6 +3.5**
baz=314
BW06 Boulder Array 67.53 51 P **P 00 38 34.2 0.0**
baz=315
BW06 Boulder Array 67.53 51 *eP* **P 00 38 34.5 +0.3**
PDAR Pinedale Array 67.53 51 P **P 00 38 34.7 +0.5**
comp=Z,3.3nm,0.6s,baz=318,slow=2.0,SNR=24
DUG Dugway, Tooele 67.61 54 P **P 00 38 35.5 +0.9**
baz=315

MPMC Manual Prospec 67.84 60 P **P 00 38 36.7 +0.6**
baz=314
C27A Sayler Ranch, 67.87 43 P **P 00 38 35.6 -0.3**
baz=318
AKASG Malin Array Be 67.91 322 P **P 00 38 35.1 -0.9**
comp=Z,3.2nm,0.4s,baz=37,slow=6.6,SNR=17
AKASG Malin Array Be 67.91 322 P **P 00 38 35.1 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
FURC Furnace Creek, 67.92 60 P **P 00 38 37.5 +1.2**
baz=314
KIEV Kiev 67.92 322‖ *eP* **P 00 38 34.7 -1.3**
KIEV pmax pmax
comp=Z,4.0nm,0.6s
TPNV Topopah Spring 67.94 59 P **P 00 38 37.6 +0.9**
baz=314,SNR=6.9
TPNV Topopah Spring 67.94 59 *eP* **P 00 38 37.6 +0.9**
TPNV pmax pmax
comp=Z,6.0nm,0.8s
TPNV Topopah Spring 67.94 59 *eP* **P 00 38 37.6 +0.9**
comp=Z,6.3nm,0.8s
A29A Manning Farm, 67.98 40 P **P 00 38 36.5 -0.1**
baz=319
SCZ2 Santa Cruz Isl 67.99 63 P **P 00 38 38.6 +1.8**
baz=314
GNI Garni 68.22 306⇑ *eP* **P 00 38 41.0 +2.6**
GNI pmax pmax
comp=Z,21nm,1.1s
WRA Warramunga Arr 68.51 192 P **P 00 38 40.7 +0.6**
comp=Z,3.4nm,0.6s,baz=7.9,slow=6.4,SNR=25
WRA PcP **PcP 00 39 02.1 +0.9**
comp=Z,0.4nm,0.3s,baz=7.5,slow=4.9,SNR=8.0
WRA Warramunga Arr 68.51 192 *eP* **P 00 38 40.6 +0.6**
WRA pmax pmax
comp=Z,4.0nm,0.7s
GSC Goldstone, Bar 68.76 61 P **P 00 38 42.2 +0.6**
baz=315
SHPR Sheep Range 68.87 59 *eP* **P 00 38 44.0 +1.6**
comp=Z,3.9nm,0.9s
TMUT Trail Mountain 69.12 54 *eP* **P 00 38 45.2 +1.3**
comp=Z,4.8nm,0.8s
D29A Pettibone, Tap 69.22 42 P **P 00 38 43.4 -0.7**
baz=319
P17A Butcher Ranch, 69.25 54 *eP* **P 00 38 41.5 -3.1**
comp=Z,4.3nm,0.8s
RSSD Black Hills 69.33 47 P **P 00 38 44.6 -0.5**
baz=318
MTPU Mount Pierson 69.47 56 *eP* **P 00 38 48.0 +1.9**
comp=Z,1.9nm,0.7s
LCMT Little Creek M 69.61 57 *eP* **P 00 38 47.4 +0.7**
comp=Z,3.7nm,0.9s
SRU San Rafael Swe 69.62 54 *eP* **P 00 38 48.1 +1.2**
SRU pmax pmax
comp=Z,4.0nm,0.6s
SRU San Rafael Swe 69.62 54 *eP* **P 00 38 48.0 +1.2**
comp=Z,3.7nm,0.6s
GMRC Granite Mounta 69.79 60 P **P 00 38 49.2 +1.3**
baz=315
O20A White River Ci 70.11 52 P **P 00 38 50.3 +0.5**
baz=317
BELC Belle Mtn. Jos 70.15 61 P **P 00 38 50.2 +0.2**
baz=315
SORM Soroca 70.25 321⇑ *iP* **P 00 38 48.0 -2.2**
SORM Soroca 70.25 321⇑ *P* **P 00 38 48.0 -2.2**
IRM Iron Mountain 70.54 60 P **P 00 38 53.5 +1.3**
baz=316
B35A Bob, Littlefor 70.75 38 P **P 00 38 52.2 -0.9**
baz=322
PV09 Paradox Valley 70.81 54 *eP* **P 00 38 55.8 +1.7**
PV10 Paradox Valley 70.95 54 *eP* **P 00 38 54.0 -0.9**
PDMCI Parker Dam,Lak 71.02 60 P **P 00 38 56.0 +1.0**
baz=316
D34A Park Rapids 71.13 39 P **P 00 38 54.8 -0.7**
baz=322
C35A Jirik Farms, M 71.16 38 P **P 00 38 54.7 -1.0**
baz=322
Y12C Blythe 71.19 60 P **P 00 38 57.1 +1.2**
baz=316
SMCO Snowmass 71.47 52 *eP* **P 00 38 58.3 +0.2**
comp=Z,2.7nm,0.8s
C36A Pine Crest Far 71.59 38 P **P 00 38 57.7 -0.5**
baz=323
ISCO Idaho Springs 71.73 51 P **P 00 39 00.2 +0.7**
baz=318
C37A Embarrass 71.88 37 P **P 00 38 58.9 -0.9**
baz=323
D36A Goodland 71.92 38 P **P 00 38 59.0 -1.0**
baz=323
Y14A Wickenburg 71.94 59 *eP* **P 00 39 01.6 +1.2**
comp=Z,24nm,1.1s
BUR08 Bucovina Ar. S 71.94 323 *eP* **P 00 39 00.1 -0.2**
BURAR Bucovina Array 71.96 323⇑ *iP* **P 00 39 00.0 -0.4**
BURAR Bucovina Array 71.96 323⇑ *P* **P 00 39 00.0 -0.4**
EYMN Ely 71.99 37 P **P 00 38 59.5 -0.9**
baz=324
STHS Stebnicka Huta 72.06 326 *eP* **P 00 39 01.4 +0.5**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 72.06 326 *eP* **P 00 39 01.4 +0.5**
G33A Ortonville 72.06 41 P **P 00 39 01.0 +0.1**
baz=321
KOLS Kolonicke sedl 72.07 325 *eP* **P 00 39 01.2 +0.3**
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 72.07 325 *eP* **P 00 39 01.2 +0.3**
MVCO Mesa Verde 72.10 54 P **P 00 39 02.3 +0.7**
baz=317
MVCO Mesa Verde 72.10 54 *eP* **P 00 39 02.7 +1.1**
comp=Z,4.9nm,0.8s
H32A Carlson Farm, 72.15 42 P **P 00 39 01.0 -0.5**
baz=321
AS01 Alice Springs 72.22 192 *eP* **P 00 39 03.7 +1.7**
AS31 Alice Springs 72.23 192 *eP* **P 00 39 03.9 +1.8**
comp=Z,2.6nm,0.6s
ASAR Alice Springs 72.23 192 P **P 00 39 03.8 +1.7**
comp=Z,5.8nm,0.6s,baz=3.6,slow=5.3,SNR=66
D37A Cotton 72.24 38 P **P 00 39 01.5 -0.4**
baz=323
TESR Tescani 72.24 321‖ *iP* **P 00 39 01.5 -0.4**
C38A Sawbill Land. 72.26 37 P **P 00 39 01.4 -0.6**
baz=324
E36A McGregor 72.40 39 P **P 00 39 02.9 0.0**
baz=323
CRVS Cervenica-Dubn 72.40 325 *eP* **P 00 39 05.7 +2.9**
CRVS Cervenica-Dubn 72.40 325 *eP* **P 00 39 05.7 +2.9**
X16A Lo Mia Camp, P 72.49 58 *eP* **P 00 39 05.6 +1.8**
comp=Z,3.7nm,0.9s
J31A Geddes 72.49 44 P **P 00 39 03.0 -0.4**
baz=320
K30A Basset 72.55 45 P **P 00 39 04.0 +0.2**
baz=320
CFR Carcaliu 72.65 319⇑ *iP* **P 00 39 01.4 -2.9**
CFR Carcaliu 72.65 319⇑ *P* **P 00 39 01.4 -2.9**
PLOR Plostina 72.76 321⇑ *iP* **P 00 39 03.7 -1.3**
PLOR Plostina 72.76 321⇑ *P* **P 00 39 03.7 -1.3**
F36A Milaca 72.81 39 P **P 00 39 03.9 -1.4**
baz=323
LANS Liptovska Anna 72.94 327 *eP* **P 00 39 07.2 +1.2**
LANS Liptovska Anna 72.94 327 *eP* **P 00 39 07.1 +1.1**
DPC Dobruska-Polom 73.06 329 *eP* **P 00 39 06.8 +0.2**
DPC Dobruska-Polom 73.06 329 *eP* **P 00 39 06.8 +0.2**
MORC Moravsky Berou 73.12 328 *eP* **P 00 39 07.1 +0.1**
MORC pmax pmax
comp=Z,19nm,0.8s
MORC Moravsky Berou 73.12 328 *eP* **P 00 39 07.1 +0.1**
comp=Z,19nm,0.8s
ECSD EROS Data Cent 73.12 43 P **P 00 39 06.7 -0.5**
baz=322
ECSD EROS Data Cent 73.12 43 *eP* **P 00 39 06.7 -0.5**
comp=Z,4.7nm,0.7s
L31A Butterfield Fa 73.30 45 P **P 00 39 08.4 +0.2**
baz=321
SDCO Great Sand Dun 73.31 52 P **P 00 39 09.1 +0.4**
baz=318
SDCO Great Sand Dun 73.31 52 *eP* **P 00 39 09.7 +1.1**
comp=Z,11nm,1.4s
CLL Collm 73.34 332⇑ *iP* **P 00 39 07.5 -0.7**
comp=Z,9.0nm,0.5s
CLL Collm 73.34 332⇑ *iP* **P 00 39 07.5 -0.7**
CLL pmax pmax
comp=Z,9.0nm,0.5s
CLL Collm 73.34 332 *eP* **P 00 39 07.5 -0.7**
CLL Collm 73.34 332 *eP* **P 00 39 07.2 -1.0**
comp=Z,8.6nm,0.5s
MLR Muntele Rosu 73.35 321⇑ *iP* **P 00 39 05.3 -3.2**
MLR Muntele Rosu 73.35 321⇑ *P* **P 00 39 05.3 -3.2**

ISR Istrita 73.39 320‖ *iP* **P 00 39 09.0 +0.3**
ISR Istrita 73.39 320‖ *P* **P 00 39 09.0 +0.3**
214A Organ Pipe Nat 73.48 61 P **P 00 39 10.7 +1.3**
baz=317
DRGR 73.64 323⇑ *iP* **P 00 39 09.9 -0.1**
DRGR 73.64 323⇑ *P* **P 00 39 09.9 -0.1**
MSAB Monastry St. A 73.65 319⇑ *iP* **P 00 39 10.6 +0.6**
VYHS Vyhne 73.72 327 *eP* **P 00 39 10.6 +0.2**
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 73.72 327 *eP* **P 00 39 10.6 +0.2**
SCHQ Schefferville 73.75 19 P **P 00 39 09.6 -0.9**
comp=Z,1.4nm,0.5s,baz=342,slow=5.8,SNR=8.0
VOIR 73.77 321⇑ *iP* **P 00 39 10.7 -0.2**
VOIR 73.77 321⇑ *P* **P 00 39 10.7 -0.2**
GOPC GO Pecny, Ondr 73.95 330 *eP* **P 00 39 11.6 -0.1**
GOPC GO Pecny, Ondr 73.95 330 *eP* **P 00 39 11.6 -0.1**
PRU Pruhonice 73.97 330 *eP* **P 00 39 11.8 0.0**
PRU Pruhonice 73.97 330 *eP* **P 00 39 11.8 0.0**
ARR Arges 74.00 321⇑ *iP* **P 00 39 12.9 +0.7**
N31A Bailey Ranch, 74.29 46 P **P 00 39 13.7 -0.1**
baz=321
BR131 Keskin Array S 74.31 312 *eP* **P 00 39 14.5 +0.4**
BRTR Keskin Array B 74.31 312 P **P 00 39 14.1 0.0**
comp=Z,1.6nm,0.7s,baz=80,slow=2.9,SNR=14
BRTR Keskin Array B 74.31 312 *eP* **P 00 39 14.2 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
T25A Trinidad 74.34 52 P **P 00 39 14.8 +0.4**
baz=319
TUC Tucson 74.39 59 P **P 00 39 16.1 +1.4**
baz=318
NKC Novy Kostel 74.45 331 *eP* **P 00 39 14.1 -0.4**
NKC Novy Kostel 74.45 331 *eP* **P 00 39 14.1 -0.4**
L34A Svendsen Farm, 74.61 44 P **P 00 39 15.1 -0.5**
baz=322
BR231 Keskin MP Arra 74.64 313 *eP* **P 00 39 14.5 -1.5**
ANMO Albuquerque 74.88 54 P **P 00 39 18.3 +0.8**
baz=319
ANMO Albuquerque 74.88 54‖ *eP* **P 00 39 18.7 +1.2**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
GERES GERESS Array B 75.23 330 P **P 00 39 18.6 -0.5**
comp=Z,1.4nm,0.5s,baz=32,slow=5.6,SNR=13
GEA0 GERESS Array S 75.24 330 *eP* **P 00 39 18.6 -0.5**
WET Wettzell 75.25 331 P **P 00 39 19.8 +0.7**
WET pmax pmax
comp=Z,10.0nm,1.3s
CONA Conrad Observa 75.27 328 *i P* **P 00 39 19.7 +0.4**
comp=Z,4.1nm,0.8s
L38A Oak Wood Farm, 76.02 41 P **P 00 39 23.0 -0.5**
baz=324
Q33A Connelly Farm, 76.25 46 P **P 00 39 24.4 -0.3**
baz=322
M38A Pleasantville 76.50 42 P **P 00 39 25.8 -0.2**
baz=324
SOKA Soboth 76.64 328 *i P* **P 00 39 25.3 -1.6**
comp=Z,1.9nm,0.6s
KBA Koelnbreinsper 76.88 329 *i P* **P 00 39 28.7 +0.4**
comp=Z,4.3nm,0.5s
KBA Koelnbreinsper 76.88 329 P **P 00 39 30.3 +2.0**
KBA pmax pmax
comp=Z,9.0nm,0.8s
WTTA Wattenberg 77.30 330 *i P* **P 00 39 30.9 +0.3**
comp=Z,2.6nm,0.4s
RETA Reute 77.39 331 *i P* **P 00 39 31.1 +0.1**
comp=Z,2.5nm,0.7s
MOTA Moosalm 77.40 331 *i P* **P 00 39 31.0 -0.2**
comp=Z,4.2nm,0.7s
P37A Lathrop 77.44 44 P **P 00 39 31.2 -0.1**
baz=323
S34A Willow Spring 77.61 47 P **P 00 39 34.0 +1.7**
baz=322
P38A Dawn 77.78 43 P **P 00 39 32.9 -0.2**
baz=324
DAVA Damuels 77.85 331 *i P* **P 00 39 33.3 -0.3**
comp=Z,2.9nm,0.5s
R36A Gordon, Harris 77.90 45 P **P 00 39 33.5 -0.3**
baz=323
MNTX Cornudas Mount 77.91 56 P **P 00 39 35.1 +1.1**
baz=320
MNTX Cornudas Mount 77.91 56 *eP* **P 00 39 35.2 +1.2**
comp=Z,2.8nm,1.0s
Q37A Longview Farm, 77.95 44 P **P 00 39 34.0 -0.2**
baz=323
S35A Otter Creek Ra 78.01 46 P **P 00 39 34.4 -0.1**
baz=323
T34A McClaskey Farm 78.11 47 P **P 00 39 35.2 +0.2**
baz=322
O40A La Belle 78.14 42 P **P 00 39 34.9 -0.2**
baz=324
P39B Salisbury 78.25 43 P **P 00 39 35.4 -0.3**
baz=324
Q38A Cooks Store, C 78.28 44 P **P 00 39 35.5 -0.3**
baz=324
U34A Anderson Ranch 78.40 48 P **P 00 39 37.2 +0.7**
baz=322
Q39A Willow Grove F 78.50 43 P **P 00 39 36.9 -0.1**
baz=324
T35A Sooner Cattle 78.53 47 P **P 00 39 37.5 +0.2**
baz=323
P40A Paris 78.54 42 P **P 00 39 37.3 +0.1**
baz=324
W32A Sentinel 78.56 50 P **P 00 39 38.1 +0.6**
baz=322
S37A Fort Scott 78.67 45 P **P 00 39 37.5 -0.4**
baz=323
T36A Boggs Farm, Ca 78.72 46 P **P 00 39 38.0 -0.2**
baz=323
R38A Fenwick Farm, 78.76 44 P **P 00 39 37.6 -0.9**
baz=324
U35A Pawnee 78.85 47 P **P 00 39 39.3 +0.3**
baz=323
Q40A Laux Farm, Aux 78.96 43 P **P 00 39 39.3 -0.2**
baz=325
R39A Chumby, Stover 79.07 44 P **P 00 39 39.9 -0.2**
baz=324
WMOK Wichita Mounta 79.10 50 P **P 00 39 41.0 +0.6**
baz=322
T37A Cheneyville 18 79.13 46 P **P 00 39 40.3 -0.1**
baz=323
W34A Bridge Creek, 79.22 49 P **P 00 39 41.8 +0.8**
baz=322
V35A Meyer Ranch, C 79.28 48 P **P 00 39 42.3 +1.1**
baz=323
S39A Bolivar 79.44 44 P **P 00 39 41.0 -1.0**
baz=324
R40A Maddies Statio 79.44 43 P **P 00 39 41.2 -0.8**
baz=325
T38A Diamond 79.50 45 P **P 00 39 41.9 -0.5**
baz=324,SNR=6.8
TRQ Mont Tremblant 79.53 28 *eP* **P 00 39 41.8 -0.7**
U37A Salina 79.61 46 P **P 00 39 43.2 +0.2**
baz=323
STKA Stephens Creek 79.64 184 P **P 00 39 44.4 +1.4**
comp=Z,5.2nm,1.1s,baz=17,slow=4.9,SNR=4.0
STKA Stephens Creek 79.64 184 *eP* **P 00 39 45.6 +2.7**
TUL1 Leonard 79.68 47 P **P 00 39 43.8 +0.4**
baz=323
V36A Jenks 79.70 47 P **P 00 39 44.0 +0.5**
baz=323
Q42A Golden Eagle 79.72 42 P **P 00 39 42.9 -0.6**
baz=325
Y33A Hilltop Ranch, 79.75 50 P **P 00 39 44.0 +0.2**
baz=322
S40A Lebanon 79.89 44 P **P 00 39 43.9 -0.6**
baz=324
U38A Gravette 79.94 46 P **P 00 39 44.8 +0.1**
baz=324
T39A Clever 79.95 45 P **P 00 39 44.8 0.0**
baz=324
SFIN Lafayette 80.00 39 P **P 00 39 44.4 -0.5**
baz=327
V37A Hulbert 80.02 47 P **P 00 39 45.1 0.0**
baz=323
W36A Wetumka 80.07 48 P **P 00 39 45.6 +0.1**
baz=323
T40A Mansfield 80.25 44 P **P 00 39 46.0 -0.3**
baz=325
HHAR Hobbs 80.28 45 *eP* **P 00 39 46.5 0.0**
comp=Z,3.7nm,0.7s
X35A Drake 80.29 49 P **P 00 39 46.9 +0.3**
baz=323
ABTX Abilene, Hawle 80.31 52 P **P 00 39 47.0 +0.2**
baz=322
U39A Green Forest 80.42 45 P **P 00 39 47.2 -0.1**
baz=324,SNR=11

W37B	**Quinton** baz=323	**80.47**	**47**	P	**P**	**00 39 48.1**	**+0.5**
Y35A	**Marietta** baz=323	**80.64**	**49**	P	**P**	**00 39 48.7**	**+0.2**
TX31	**Lajitas Ar. Si**	**80.66**	**56**	*e*P	**P**	**00 39 49.5**	**+0.8**
TXAR	**Lajitas Array** comp=Z,3.3nm,0.6s,baz=293,slow=3.8,SNR=52	**80.66**	**56**	P	**P**	**00 39 49.6**	**+0.8**
T41A	**Mountain View** baz=325,SNR=5.1	**80.69**	**44**	P	**P**	**00 39 48.1**	**-0.5**
133A	**Hamilton Ranch** baz=322	**80.70**	**51**	P	**P**	**00 39 49.0**	**+0.2**
U40A	**Yellville** baz=324,SNR=12	**80.73**	**45**	P	**P**	**00 39 48.6**	**-0.3**
V39A	**Pettigrew** baz=324	**80.78**	**46**	P	**P**	**00 39 48.7**	**-0.4**
X37A	**Clayton** baz=323	**80.94**	**47**	P	**P**	**00 39 50.4**	**+0.5**
W38A	**Poteau** baz=324	**80.97**	**47**	P	**P**	**00 39 50.5**	**+0.4**
Z35A	**Perchaven, San** baz=323	**80.99**	**49**	P	**P**	**00 39 50.6**	**+0.3**
S43A	**Fulton Ridge,** baz=326	**81.03**	**42**	P	**P**	**00 39 50.0**	**-0.4**
X38A	**Whitesboro** baz=324	**81.14**	**47**	P	**P**	**00 39 50.7**	**-0.3**
W39A	**Magazine** baz=324	**81.23**	**46**	P	**P**	**00 39 51.7**	**+0.2**
S44A	**Carbondale** baz=326	**81.29**	**42**	P	**P**	**00 39 51.5**	**-0.2**
Z36A	**Blue Ridge** baz=323	**81.45**	**49**	P	**P**	**00 39 53.0**	**+0.3**
PBMO	**Poplar Bluff** comp=Z,6.9nm,0.9s	**81.52**	**43**	*e*P	**P**	**00 39 52.9**	**0.0**
V41A	**Mountainview** baz=325	**81.53**	**45**	P	**P**	**00 39 52.3**	**-0.7**
W40A	**Fergusson Farm,** baz=324	**81.57**	**46**	P	**P**	**00 39 53.2**	**0.0**
234A	**Clairette** baz=322	**81.58**	**51**	P	**P**	**00 39 53.6**	**+0.3**
X39A	**Fountain Ranch** baz=324	**81.62**	**47**	P	**P**	**00 39 53.9**	**+0.4**
333A	**Richland Sprin** baz=322	**81.67**	**52**	P	**P**	**00 39 54.0**	**+0.2**
X201	**Greenbrier Sit** comp=Z,7.3nm,1.0s	**81.83**	**45**	*e*P	**P**	**00 39 54.4**	**-0.1**
MIAR	**Mount Ida** baz=324	**81.85**	**46**	P	**P**	**00 39 54.9**	**+0.2**
X301	**Greenbrier Sit** comp=Z,8.3nm,1.3s	**81.85**	**45**	*e*P	**P**	**00 39 54.8**	**+0.1**
WHAR	**Wooly Hollow** comp=Z,10nm,0.9s	**81.87**	**45**	*e*P	**P**	**00 39 54.9**	**+0.2**
V42A	**Cord** baz=325	**81.87**	**44**	P	**P**	**00 39 54.3**	**-0.4**
LAST	**Lasithi** comp=Z,14nm,0.8s	**81.88**	**315**	*e*P	**P**	**00 39 54.6**	**-0.3**
M54A	**Oil Creek Stat** baz=331	**81.96**	**33**	P	**P**	**00 39 54.2**	**-1.0**
W41B	**Gary Mavity, V** baz=325	**81.98**	**45**	P	**P**	**00 39 55.5**	**+0.2**
X40A	**Basin Creek Fa** baz=325	**82.26**	**46**	P	**P**	**00 39 57.1**	**+0.4**
N54A	**Moraine State** baz=331	**82.31**	**34**	P	**P**	**00 39 56.7**	**-0.3**
138A	**Matatall Enter** baz=324	**82.62**	**48**	P	**P**	**00 39 59.5**	**+0.9**
Z40A	**Long Farm, Mag** baz=324	**82.98**	**47**	P	**P**	**00 40 00.9**	**+0.6**
WVT	**Waverly**	**83.22**	**41**	*e*P	**P**	**00 40 01.5**	**-0.1**
WVT	comp=Z,5.0nm,0.5s			pmax	pmax		
WVT	**Waverly** comp=Z,5.2nm,0.5s	**83.22**	**41**	*e*P	**P**	**00 40 01.5**	**-0.1**
SSPA	**Standing Stone** comp=Z,7.2nm,0.9s	**83.37**	**32**	*e*P	**P**	**00 40 02.2**	**0.0**
O56A	**Blue Knob Stat** baz=332	**83.44**	**33**	P	**P**	**00 40 02.2**	**-0.5**
832A	**Faith Ranch, C** baz=322	**83.52**	**54**	P	**P**	**00 40 04.3**	**+1.1**
NATX	**Nacogdoches** baz=324	**83.56**	**49**	P	**P**	**00 40 04.7**	**+1.3**
N59A	**State Game Lan** baz=333	**83.86**	**31**	P	**P**	**00 40 03.9**	**-0.9**
Y44A	**Strider, Charl** baz=326	**83.93**	**44**	P	**P**	**00 40 05.6**	**+0.5**
PLAL	**Pickwick Lake** comp=Z,4.3nm,0.8s	**84.07**	**42**	*e*P	**P**	**00 40 05.6**	**-0.2**
933A	**Laredo** baz=322	**84.43**	**54**	P	**P**	**00 40 09.2**	**+1.5**
Y46A	**Houston** baz=327	**84.63**	**43**	P	**P**	**00 40 08.8**	**+0.2**
SWET	**Sewanee** comp=Z,2.3nm,0.8s	**84.83**	**41**	*e*P	**P**	**00 40 09.5**	**-0.1**
Y47A	**UCPARC, Winfie** baz=327	**85.07**	**43**	P	**P**	**00 40 10.7**	**-0.1**
TKL	**Tuckaleechee C** comp=Z,2.8nm,0.5s,baz=186,slow=1.6,SNR=5.0	**85.38**	**39**	P	**P**	**00 40 11.9**	**-0.3**
Z48A	**Northport** baz=327	**85.65**	**43**	P	**P**	**00 40 13.1**	**-0.4**
147A	**Livingston** baz=327	**85.91**	**44**	P	**P**	**00 40 15.5**	**+0.7**
444A	**Pine Grove** baz=326	**86.35**	**47**	P	**P**	**00 40 17.6**	**+0.7**
445A	**Amite** baz=326	**86.53**	**46**	P	**P**	**00 40 17.9**	**0.0**
DBIC	**Dimbokro** comp=Z,20nm,1.2s,baz=23,slow=7.0,SNR=4.6	**120.00**	**327**	PKP	**PKPdf**	**00 46 20.9**	**-1.2**
VNDA	**Vanda** comp=Z,1.0nm,0.6s,baz=196,slow=4.7,SNR=6.2	**125.62**	**176**	PKP	**PKPdf**	**00 46 30.7**	**-0.2**
MAW	**Mawson** comp=Z,1.0nm,0.6s,baz=82,slow=3.8,SNR=7.3	**130.99**	**210**	PKP	**PKPdf**	**00 46 42.8**	**+1.5**
LPAZ	**La Paz** comp=Z,0.9nm,0.7s,baz=9.1,slow=5.7,SNR=3.9	**137.49**	**54**	PKP	**PKPdf**	**00 46 56.0**	**+0.1**
LPAZ	**La Paz**	**137.49**	**54**	*e*PKIKP	**PKPdf**	**00 46 58.0**	**+2.1**
LPAZ	comp=Z,1.0nm,0.6s			pmax	pmax		
QSPA	**South Pole Qui**	**137.74**	**180**	*e*PKPpre	PKPpre	00 46 47.2	
BDFB	**Brasilia** comp=Z,5.6nm,0.6s,baz=14,slow=3.8,SNR=8.1	**145.57**	**25**	PKPbc	**PKPbc**	**00 47 11.4**	**+0.5**
CPUP	**Villa Florida** comp=Z,1.6nm,0.6s,baz=327,slow=3.2,SNR=5.2	**151.42**	**49**	PKPbc	**PKPbc**	**00 47 24.5**	**-0.7**
SNAA	**Sanae**	**152.33**	**200**	*e*PKIKP	**PKPbc**	**00 47 25.5**	**-0.5**
SNAA	**Sanae**	**152.33**	**200**	*e*PKPbc	**PKPbc**	**00 47 25.4**	**-0.5**
PLCA	**Paso Flores** comp=Z,4.7nm,0.7s,baz=285,slow=6.2,SNR=3.4	**152.74**	**88**	PKPbc	**PKPbc**	**00 47 27.6**	**-0.2**

JMA 08 00:29:24.7±0.1,**42.89N**×**143.21E,h90**km±2km**, M0.9, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.30**	**158**	P	Pn	00 29 38.1	0.0
JCH				*e*S	Sn	00 29 48.1	+0.1
JOB	**Onbets**	**0.46**	**88**	P	Pn	00 29 39.3	+0.2

*IDC **08** 00:32:12.6±2.4, 11.61N×144.39E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/54, mbtmp3.9/10, ML4.6/1, MS3.3/9, Ms1 3.4/9, ms1mx3.0/38, Error ellipse: s-maj=51.6km s-min=38.7km az=154.0*

ISC 08 00:32:19.1±1.8,**12.0N**±0.2×**144.4E**±0.3,**h29**km,**n22**, σ1**37**/11,**mb3.9**/9,**MS3.3**/9,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 195nm,0.3s,baz=140,slow=9.7,SNR=24	**1.68**	**15**	Pn	**Pn**	**00 32 46.4**	**-0.1**
GUMO				Sn	**Sn**	**00 33 06.2**	**-0.8**
PMG	**Port Moresby** comp=Z,44nm,19.2s,baz=71,slow=35	**21.40**	**173**	LR	LR	00 44 24.1	
JHJ	**Hachijo jima 2** comp=Z,107nm,21.9s,baz=165,slow=32	**21.49**	**349**	LR	LR	00 43 51.2	
H11S3	**WAKE ISLAND Hy 22.43** baz=257,slow=75,SNR=9.6	**70**		T	T	01 00 53.6	
H11S1	**WAKE ISLAND Hy 22.45** baz=257,slow=75,SNR=6.5	**70**		T	T	01 00 55.3	
H11S2	**WAKE ISLAND Hy 22.45** baz=257,slow=75,SNR=10	**70**		T	T	01 01 03.2	
H11N1	**WAKE ISLAND Hy 22.93** baz=255,slow=75,SNR=23	**68**		T	T	01 01 26.2	
H11N2	**WAKE ISLAND Hy 22.94** baz=255,slow=75,SNR=21	**67**		T	T	01 01 22.5	
H11N3	**WAKE ISLAND Hy 22.95** baz=255,slow=75,SNR=18	**68**		T	T	01 01 25.1	
MJAR	**Matsushiro Arr** 1.5nm,0.8s,baz=173,slow=12,SNR=3.9	**25.11**	**348**	P	**P**	**00 37 41.8**	**+0.3**
MJAR				LR	LR	00 46 53.3	
	comp=Z,98nm,18.1s,baz=195,slow=35						
KSRS	**Korea Array** comp=Z,31nm,21.6s,baz=153,slow=31	**29.38**	**333**	LR	LR	00 47 44.9	
USRK	**Ussuriysk Ar.** 1.0nm,0.6s,baz=159,slow=6.7,SNR=3.4	**33.86**	**344**	P	**P**	**00 39 00.8**	**+1.7**
KLR	**Kul'dur** 1.1nm,0.5s,baz=161,slow=18,SNR=4.6	**38.62**	**347**	P	**P**	**00 39 41.2**	**+1.6**
CMAR	**Chiang Mai Arr** comp=Z,32nm,21.9s,baz=225,slow=33	**44.27**	**284**	LR	LR	00 56 46.8	
SONM	**Songino Array** comp=Z,60nm,20.0s,baz=72,slow=35	**47.82**	**326**	LR	LR	01 00 27.7	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=91,slow=9.3,SNR=5.8	**62.36**	**317**	P	**P**	**00 42 38.6**	**-0.5**
MKAR				LR	LR	01 10 26.7	
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=103,slow=7.4,SNR=3.6	**62.69**	**325**	P	**P**	**00 42 41.3**	**+0.1**
NRIK	**Noril'sk** comp=Z,28nm,18.3s,baz=116,slow=36	**67.52**	**341**	LR	LR	01 13 29.5	
ILAR	**Eielson Array** 0.2nm,0.4s,baz=253,slow=5.6,SNR=3.7	**70.22**	**25**	P	**P**	**00 43 28.6**	**-0.5**
BVAR	**Borovoye Array** 1.3nm,0.4s,baz=98,slow=8.0,SNR=10	**70.93**	**322**	P	**P**	**00 43 33.0**	**-0.7**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=288,slow=5.2,SNR=5.5	**84.50**	**27**	P	**P**	**00 44 50.5**	**+1.4**
FINES	**FINESS Array B** 0.4nm,0.4s,baz=176,slow=31,SNR=5.6	**92.45**	**335**	P	**P**	**00 45 24.7**	**-2.3**
FINES				LR	LR	01 27 15.2	
	comp=Z,27nm,22.0s,baz=248,slow=36						

*DDA **08** 00:33:25.9, 39.09N×29.05E, h7km, Md2.7*
*ISK **08** 00:33:25.8, 39.08N×29.08E, h6km, MD2.5*
*ISCJB **08** 00:33:26.2±0.6, 39.08N±0.04×29.06E±0.04, h2km±9km, Error ellipse: s-maj=6.9km s-min=4.3km az=146.9*
*CSEM **08** 00:33:26.3±0.1, 39.09N×29.05E, h2km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.1km az=124.0*

ISC 08 00:33:26.2±0.9,**39.09N**±0.03×**29.05E**±0.03,**h11**km±9km**, n20**, σ0**22**/34**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**260**	P	**Pg**	**00 33 31.6**	**0.0**
DEMI				S	**Sg**	**00 33 35.3**	**0.0**
DEMI	**Demirci**	**0.26**	**260**	*i* P	**Pg**	**00 33 31.6**	**0.0**
DEMI				*i* S	**Sg**	**00 33 35.3**	**0.0**
GDZ	**Gediz**	**0.34**	**90**	P	**Pg**	**00 33 32.9**	**-0.1**
GDZ				S	**Sg**	**00 33 37.7**	**+0.1**
GDZ	**Gediz**	**0.34**	**90**	*i* P	**Pg**	**00 33 32.9**	**-0.1**
GDZ				*i* S	**Sg**	**00 33 37.7**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**41**	*e*PG	**Pg**	**00 33 35.4**	**-0.3**
TVSB				*e*SG	**Sg**	**00 33 42.2**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**41**	*e*Pg	**Pg**	**00 33 35.4**	**-0.3**
TVSB				*e*Sg	**Sg**	**00 33 42.2**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*PG	**Pg**	**00 33 39.0**	**+0.2**
KULA				*e*SG	**Sb**	**00 33 48.2**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*Pg	**Pg**	**00 33 39.0**	**+0.2**
KULA				*e*Sg	**Sb**	**00 33 48.2**	**-0.4**
MANT	**Manisa**	**0.71**	**213**	P	**Pg**	**00 33 39.9**	**0.0**
MANT				S	**Sg**	**00 33 49.2**	**-0.1**
MANT	**Manisa**	**0.71**	**213**	*i* P	**Pg**	**00 33 39.9**	**0.0**
MANT				*i* S	**Sg**	**00 33 49.2**	**-0.1**
KHAL	**Karahalli**	**0.80**	**154**	P	**Pb**	**00 33 42.2**	**+0.2**
KHAL				S	**Sb**	**00 33 52.4**	**-0.4**
KHAL	**Karahalli**	**0.80**	**154**	*i* P	**Pb**	**00 33 42.2**	**+0.2**
KHAL				*i* S	**Sb**	**00 33 52.4**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.29**	**354**	*e*PN	**Pg**	**00 33 50.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**354**	*e*Pn	**Pg**	**00 33 50.7**	**-0.2**
BORA	**Eskisehir**	**1.34**	**54**	P	**Pn**	**00 33 51.1**	**+0.1**
BORA				S	**Sb**	**00 34 09.0**	**+0.3**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pn**	**00 33 51.1**	**+0.1**
BORA				*i* S	**Sb**	**00 34 09.0**	**+0.3**
ARMT	**Armutlu**	**1.48**	**354**	*e*PN	**Pg**	**00 33 54.8**	**+0.2**
ARMT	**Armutlu**	**1.48**	**354**	*e*Pn	**Pg**	**00 33 54.8**	**+0.2**
GULT	**Gulveren**	**1.76**	**40**	*e*PN	**Pb**	**00 33 58.3**	**-0.1**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn	**Pb**	**00 33 58.3**	**-0.1**

*ISK **08** 00:45:00.9, 39.07N×29.13E, h13km, MD2.4*
*ISCJB **08** 00:45:01.6±0.5, 39.10N±0.03×29.04E±0.04, h7km±6km, Error ellipse: s-maj=6.3km s-min=4.1km az=137.1*
*DDA **08** 00:45:01.4, 39.09N×29.05E, h7km, Md2.9*
*CSEM **08** 00:45:01.6±0.1, 39.11N×29.04E, h8km, MD2.9, Error ellipse: s-maj=3.0km s-min=2.0km az=123.0*

ISC 08 00:45:01.7±0.9,**39.09N**±0.03×**29.05E**±0.03,**h11**km±8km**, n22**, σ0**47**/36**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**260**	P	**Pg**	**00 45 07.3**	**+0.1**
DEMI				S	**Sg**	**00 45 11.0**	**+0.1**
DEMI	**Demirci**	**0.27**	**260**	*i* P	**Pg**	**00 45 07.3**	**+0.1**
DEMI				*i* S	**Sg**	**00 45 11.0**	**+0.1**
GDZ	**Gediz**	**0.33**	**90**	P	**Pg**	**00 45 08.6**	**+0.2**
GDZ				S	**Sg**	**00 45 13.3**	**+0.4**
GDZ	**Gediz**	**0.33**	**90**	*i* P	**Pg**	**00 45 08.6**	**+0.2**
GDZ				*i* S	**Sg**	**00 45 13.3**	**+0.4**
TVSB	**Tavsanli**	**0.48**	**41**	*e*PG	**Pg**	**00 45 11.1**	**0.0**
TVSB				*e*SG	**Sg**	**00 45 17.0**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**41**	*e*Pg	**Pg**	**00 45 11.1**	**0.0**
TVSB				*e*Sg	**Sg**	**00 45 17.0**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*PG	**Pb**	**00 45 14.7**	**-0.5**
KULA				*e*SG	**Sb**	**00 45 23.5**	**-0.8**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*Pg	**Pb**	**00 45 14.7**	**-0.5**
KULA				*e*Sg	**Sb**	**00 45 23.5**	**-0.8**
MANT	**Manisa**	**0.71**	**213**	P	**Pg**	**00 45 15.6**	**+0.1**
MANT				S	**Sg**	**00 45 24.9**	**0.0**
MANT	**Manisa**	**0.71**	**213**	*i* P	**Pg**	**00 45 15.7**	**+0.1**
MANT				*i* S	**Sg**	**00 45 24.9**	**0.0**
KHAL	**Karahalli**	**0.80**	**154**	P	**Pb**	**00 45 17.6**	**0.0**
KHAL				S	**Sb**	**00 45 28.1**	**-0.4**
KHAL	**Karahalli**	**0.80**	**154**	*i* P	**Pb**	**00 45 17.6**	**0.0**
KHAL				*i* S	**Sb**	**00 45 28.1**	**-0.4**
BALB	**Balikesir**	**1.06**	**301**	*e*PN	**Pn**	**00 45 25.5**	**+1.0**
BALB	**Balikesir**	**1.06**	**301**	*e*Pn	**Pn**	**00 45 25.5**	**+1.0**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*PN	**Pn**	**00 45 25.1**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*Pn	**Pn**	**00 45 25.1**	**-0.5**
BORA	**Eskisehir**	**1.34**	**54**	P	**Pb**	**00 45 26.9**	**0.0**
BORA				S	**Sn**	**00 45 45.2**	**+0.9**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pb**	**00 45 26.9**	**0.0**
BORA				*i* S	**Sn**	**00 45 45.2**	**+0.9**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*PN	**Pn**	**00 45 27.3**	**-0.5**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*Pn	**Pn**	**00 45 27.3**	**-0.5**
ARMT	**Armutlu**	**1.48**	**354**	*e*PN	**Pn**	**00 45 28.2**	**-0.1**
ARMT	**Armutlu**	**1.48**	**354**	*e*Pn	**Pn**	**00 45 28.2**	**-0.1**

*ISCJB **08** 00:56:57.5±0.6, 38.39N±0.04×26.91E±0.05, h8km±10km, Error ellipse: s-maj=7.1km s-min=6.0km az=152.5*
*DDA **08** 00:56:57.2, 38.40N×26.90E, h7km, Md2.6*
*CSEM **08** 00:56:57.3±0.3, 38.38N×26.90E, h5km, MD2.4, Error ellipse: s-maj=9.7km s-min=6.6km az=37.0*
*ISK **08** 00:56:57.2, 38.44N×27.02E, h5km, MD2.4*

ISC 08 00:56:57.6±1.1,**38.40N**±0.04×**26.90E**±0.07,**h10**km±15km**, n10**, σ0**47**/20**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.24**	**262**	P	**Pg**	**00 57 02.3**	**-0.3**
URLA				S	**Sg**	**00 57 06.4**	**+0.4**
URLA	**Izmir**	**0.24**	**262**	*i* P	**Pg**	**00 57 02.3**	**-0.3**
URLA				*i* S	**Sg**	**00 57 06.4**	**+0.4**
DGB	**˜zmir**	**0.34**	**183**	*i* P	**Pg**	**00 57 04.4**	**0.0**
DGB				*i* S	**Sg**	**00 57 09.7**	**+0.7**
ZEY	**˜zmir**	**0.35**	**244**	*i* P	**Pg**	**00 57 04.1**	**-0.4**
ZEY				*i* S	**Sg**	**00 57 09.8**	**+0.6**
DKL	**Dikili**	**0.67**	**0**	*e*PG	**Pg**	**00 57 10.4**	**-0.2**
DKL				*e*SG	**Sb**	**00 57 21.1**	**+0.3**
DKL	**Dikili**	**0.67**	**0**	*e*Pg	**Pg**	**00 57 10.4**	**-0.2**
DKL				*e*Sg	**Sb**	**00 57 21.1**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**120**	*e*PG	**Pb**	**00 57 15.1**	**-0.2**
AYDB				*e*SG	**Sb**	**00 57 27.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**120**	*e*Pg	**Pb**	**00 57 15.1**	**-0.2**
AYDB				*e*Sg	**Sb**	**00 57 27.2**	**-0.2**
KULA	**Kula-Manisa**	**1.38**	**85**	*e*PN	**Pn**	**00 57 22.5**	**-0.5**
KULA				*e*SN	**Sn**	**00 57 42.1**	**+0.7**
KULA	**Kula-Manisa**	**1.38**	**85**	*e*Pn	**Pn**	**00 57 22.5**	**-0.5**
KULA				*e*Sn	**Sn**	**00 57 42.1**	**+0.7**

ROM 08 00:57:35.6±0.1,**43.91N**×**12.00E,h10**km**,Md1.7**/3,**Ml1.2**/1**, Error ellipse: s-maj=0.8km s-min=0.2km az=170.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0502	**Localit˜ San**	**0.10**	**94**	Pg	Pg	00 57 38.6	+0.4
T0502				Sg	Sg	00 57 40.8	+0.7
SFI	**Santa Sofia**	**0.11**	**269**	Pg	Pg	00 57 38.8	+0.5
SFI				Sg	Sg	00 57 41.0	+0.7
ASQU	**Asqua**	**0.19**	**234**	Pg	Pg	00 57 40.2	+0.6
ASQU	48nm,0.4s			Sg	Sg	00 57 43.6	+1.3

*CSEM **08** 00:57:55.3, 43.89N×12.00E, h8km±1km, MD1.5/3*
ROM 08 00:57:55.3±0.1,**43.89N**×**12.00E,h8**km±1km**,Md1.5**/3**, Ml1.4**/2**, Error ellipse: s-maj=1.4km s-min=0.7km az=2.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0502	**Localit˜ San**	**0.10**	**82**	Pg	Pg	00 57 58.1	+0.4
T0502				Sg	Sg	00 58 00.2	+0.8
SFI	**Santa Sofia** 604µm,38.0s	**0.11**	**280**	Pg	Pg	00 57 58.2	+0.3
SFI				Sg	Sg	00 58 00.5	+0.8
SFI	**Santa Sofia** 82nm,0.7s	**0.11**	**280**	Pg	Pg	00 57 58.2	+0.3
SFI				Sg	Sg	00 58 00.5	+0.8
ASQU	**Asqua**	**0.18**	**240**	Pg	Pg	00 57 59.7	+0.7
ASQU				Sg	Sg	00 58 02.8	+1.3
ASQU	**Asqua**	**0.18**	**240**	Pg	Pg	00 57 59.7	+0.7
ASQU				Sg	Sg	00 58 02.8	+1.3
PARC	**Parchiule**	**0.29**	**144**	Pg	Pg	00 58 01.9	+0.8
PARC				Sg	Sb	00 58 07.1	-0.8
PARC	**Parchiule**	**0.29**	**144**	Pg	Pg	00 58 01.9	+0.8
PARC				Sg	Sb	00 58 07.1	-0.8
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	00 58 05.3	+0.4
SEI				Sg	Sb	00 58 13.5	-0.2
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	00 58 05.3	+0.4
SEI				Sg	Sb	00 58 13.5	-0.2

*CSEM **08** 00:58:16.7, 43.89N×12.00E, h9km, MD1.4/3*
ROM 08 00:58:16.7±0.1,**43.89N**×**12.00E,h9**km**,Md1.4**/3**,Ml1.3**/4**, Error ellipse: s-maj=1.5km s-min=0.7km az=1.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0502	**Localit˜ San**	**0.10**	**84**	Pg	Pg	00 58 19.6	+0.4
T0502				Sg	Sg	00 58 21.8	+0.9
SFI	**Santa Sofia** 7370µm,49.0s	**0.11**	**278**	Pg	Pg	00 58 19.8	+0.4
SFI				Sg	Sg	00 58 21.9	+0.6
SFI	**Santa Sofia** 64nm,0.3s	**0.11**	**278**	Pg	Pg	00 58 19.8	+0.4
SFI				Sg	Sg	00 58 21.9	+0.6
ASQU	**Asqua**	**0.18**	**239**	Pg	Pg	00 58 21.2	+0.7
ASQU				Sg	Sg	00 58 24.4	+1.3
ASQU	**Asqua** 79nm,0.6s	**0.18**	**239**	Pg	Pg	00 58 21.2	+0.7
ASQU				Sg	Sg	00 58 24.4	+1.3
PARC	**Parchiule**	**0.30**	**144**	Pg	Pg	00 58 23.3	+0.7
PARC				Sg	Sb	00 58 28.7	-0.5
PARC	**Parchiule** 20nm,0.2s	**0.30**	**144**	Pg	Pg	00 58 23.3	+0.7
PARC				Sg	Sb	00 58 28.7	-0.5
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	00 58 26.7	+0.4
SEI				Sg	Sb	00 58 34.6	-0.4
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	00 58 26.7	+0.4
SEI				Sg	Sb	00 58 34.6	-0.4

*ISCJB **08** 01:00:12.9±0.5, 39.09N±0.03×29.03E±0.04, h8km±6km, Error ellipse: s-maj=6.9km s-min=4.0km az=44.0*
*ISK **08** 01:00:12.1, 39.13N×28.95E, h6km, MD2.3*
*CSEM **08** 01:00:12.8±0.2, 39.11N×29.02E, h10km, MD2.6, Error ellipse: s-maj=4.8km s-min=2.7km az=128.0*
*DDA **08** 01:00:12.5, 39.09N×29.05E, h7km, Md2.6*

ISC 08 01:00:12.9±0.9,**39.11N**±0.03×**29.05E**±0.03,**h12**km±9km**, n18**, σ0**28**/32**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**257**	P	**Pg**	**01 00 18.5**	**0.0**
DEMI				S	**Sg**	**01 00 22.2**	**+0.1**
DEMI	**Demirci**	**0.26**	**257**	*i* P	**Pg**	**01 00 18.5**	**0.0**
DEMI				*i* S	**Sg**	**01 00 22.2**	**+0.1**
GDZ	**Gediz**	**0.34**	**93**	P	**Pg**	**01 00 19.3**	**-0.5**
GDZ				S	**Sg**	**01 00 24.7**	**+0.2**
GDZ	**Gediz**	**0.34**	**93**	*i* P	**Pg**	**01 00 19.3**	**-0.5**
GDZ				*i* S	**Sg**	**01 00 24.7**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**43**	*e*PG	**Pg**	**01 00 22.1**	**-0.2**
TVSB				*e*SG	**Sb**	**01 00 30.2**	**0.0**
TVSB	**Tavsanli**	**0.47**	**43**	*e*Pg	**Pg**	**01 00 22.1**	**-0.2**
TVSB				*e*Sg	**Sb**	**01 00 30.2**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG	**Pg**	**01 00 25.8**	**0.0**
KULA				*e*SG	**Sg**	**01 00 34.4**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg	**Pg**	**01 00 25.8**	**0.0**
KULA				*e*Sg	**Sg**	**01 00 34.4**	**-0.1**
MANT	**Manisa**	**0.72**	**212**	P	**Pg**	**01 00 26.7**	**-0.2**
MANT				S	**Sg**	**01 00 36.3**	**-0.1**
MANT	**Manisa**	**0.72**	**212**	*i* P	**Pg**	**01 00 26.7**	**-0.2**
MANT				*i* S	**Sg**	**01 00 36.3**	**-0.1**
KHAL	**Karahalli**	**0.81**	**154**	P	**Pb**	**01 00 29.4**	**+0.4**
KHAL				S	**Sg**	**01 00 39.5**	**+0.2**
KHAL	**Karahalli**	**0.81**	**154**	*i* P	**Pb**	**01 00 29.4**	**+0.4**
KHAL				*i* S	**Sg**	**01 00 39.5**	**+0.2**
IZI	**Iznik**	**1.27**	**15**	*e*PN	**Pb**	**01 00 37.0**	**+0.2**
BORA	**Eskisehir**	**1.34**	**54**	P	**Pb**	**01 00 38.2**	**+0.2**
BORA				S	**Sg**	**01 00 56.6**	**+0.6**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pb**	**01 00 38.2**	**+0.2**
BORA				*i* S	**Sg**	**01 00 56.6**	**+0.6**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pb**	**01 00

KCTX	Karacabey (Bur	1.29	335	ePN	Pg	01 04 18.9	+1.1
KCTX	Karacabey (Bur	1.29	335	ePn	Pg	01 04 18.9	+1.1
BORA	Eskisehir	1.33	53	P	Pg	01 04 18.0	-0.6
BORA				S	Sn	01 04 36.2	+0.7
BORA	Eskisehir	1.33	53	*i* P	Pg	01 04 18.0	-0.6
BORA				*i* S	Sn	01 04 36.2	+0.7
ADVT	Abdulvahap	1.44	21	ePN	Pg	01 04 19.8	-0.8
ADVT	Abdulvahap	1.44	21	ePn	Pg	01 04 19.8	-0.8
ARMT	Armutlu	1.48	354	ePN	Pg	01 04 21.1	-0.3
ARMT	Armutlu	1.48	354	ePn	Pg	01 04 21.1	-0.3
GULT	Gulveren	1.75	39	ePN	Pn	01 04 22.9	-0.4
GULT	Gulveren	1.75	39	ePn	Pn	01 04 22.9	-0.4

DDA ***08*** *01:04:06.1,38.47N×33.85E,h10km,Md2.8*
CSEM ***08*** *01:04:06.1,38.47N×33.85E,h10km,MD2.8*

ISC 08 01:04:06.5±1.0,38.47N±0.03×33.86E±0.03,h8km±8km, n21,σ0.972/39,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKSY	AKSARAY - Alti	0.20	337	P	Pg	01 04 10.6	+0.1
AKSY				S	Sg	01 04 13.4	+0.1
AKSY	AKSARAY - Alti	0.20	337	*i* P	Pg	01 04 10.6	+0.1
AKSY				*i* S	Sg	01 04 13.3	+0.1
AVNS	Nevsehir-Avano	0.85	66	P	Pb	01 04 23.2	-0.2
AVNS				S	Sb	01 04 34.9	-0.1
AVNS	Nevsehir-Avano	0.85	66	*i* P	Pb	01 04 23.2	-0.2
AVNS				*i* S	Sb	01 04 34.9	-0.1
KERG	Konya-Eregli	1.07	169	P	Pn	01 04 27.2	-0.7
KERG				S	Sn	01 04 44.7	+1.6
KERG	Konya-Eregli	1.07	169	*i* P	Pn	01 04 27.2	-0.7
KERG				*i* S	Sn	01 04 44.6	+1.6
AFSR	Af ar-Bala (A	1.15	328	ePG	Pg	01 04 28.3	-0.3
BBAL	Bala	1.22	332	P	Pg	01 04 29.5	-0.3
BBAL				S	Sn	01 04 46.7	+0.1
BBAL	Bala	1.22	332	*i* P	Pg	01 04 29.4	-0.3
BBAL				*i* S	Sn	01 04 46.7	+0.1
CDAG	Cicekdag	1.22	19	P	Pg	01 04 29.8	-0.1
CDAG				S	Sn	01 04 46.8	+0.2
CDAG	Cicekdag	1.22	19	*i* P	Pg	01 04 29.8	-0.1
CDAG				*i* S	Sn	01 04 46.8	+0.2
YAHY	KAYSERI_Yahyal	1.24	107	P	Pn	01 04 29.0	-1.2
YAHY				S	Sn	01 04 46.9	-0.3
YAHY	KAYSERI_Yahyal	1.24	107	*i* P	Pn	01 04 29.0	-1.2
YAHY				*i* S	Sn	01 04 46.9	-0.3
KONT	Konya--Tatoy	1.29	247	ePG	Pg	01 04 31.1	-0.1
KDHN	Kadinhani	1.37	273	P	Pb	01 04 31.6	-0.7
KDHN				S	Sg	01 04 51.2	+0.8
KDHN	Kadinhani	1.37	273	*i* P	Pb	01 04 31.6	-0.7
KDHN				*i* S	Sg	01 04 51.2	+0.8
KARA	Karaisali	1.53	141	ePG	Pg	01 04 36.5	+0.6
COAL	Corum-Alaca	1.99	26	P	Pn	01 04 41.2	+0.7
COAL				S	Sg	01 05 10.6	+0.3
COAL	Corum-Alaca	1.99	26	*i* P	Pn	01 04 41.1	+0.7
COAL				*i* S	Sg	01 05 10.6	+0.3
ELDT	Eldivan	2.04	351	P	Pb	01 04 43.5	-0.5
ELDT				S	Sg	01 05 13.6	+1.4
ELDT	Eldivan	2.04	351	*i* P	Pb	01 04 43.5	-0.5
ELDT				*i* S	Sg	01 05 13.6	+1.4

IDC 08 01:05:33.5±1.6,28.13N×142.30E,h0km,mb4.0/2, mb1 4.0/3,mb1mx3.5/38,mbtmp3.8/3,ML3.0/1,MS3.1/1, Ms1 3.1/1,ms1mx2.3/44,Error ellipse: s-maj=39.1km s-min=21.2km az=80.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	1.03	186	Pn	Pn	01 05 55.7	+0.4
	66nm,0.3s,baz=4.8,slow=18,SNR=38						
JCJ				Sn	Sg	01 06 06.4	-0.4
	319nm,0.3s,baz=115,slow=23,SNR=32						
MJAR	Matsushiro Arr	9.07	339	Pn	Pn	01 07 46.9	+1.1
	0.2nm,0.3s,baz=162,slow=12,SNR=2.8						
WRA	Warramunga Arr	48.40	190	P	P	01 14 17.1	-0.4
	2.2nm,0.5s,baz=12,slow=8.4,SNR=5.7						
NRIK	Noril'sk	51.73	338	LR	LR	01 37 33.6	
	comp=Z,17nm,18.1s,baz=114,slow=37						
FINES	FINESS Array B	77.07	334	P	P	01 17 27.9	-0.4
	0.4nm,0.5s,baz=72,slow=6.2,SNR=4.4						

ISCJB ***08*** *01:08:53.7±0.7,5.80S±0.05×147.0E±0.2,h78km,mb4.0/9, Error ellipse: s-maj=22.0km s-min=7.6km az=1.3*
NEIC ***08*** *01:08:55.9±1.9,5.79S×146.97E,h83km±20km,mb4.3/3, Error ellipse: s-maj=23.7km s-min=14.1km az=108.0*
IDC ***08*** *01:08:56.4±2.4,5.91S×147.11E,h87km±24km,mb3.8/7, mb1 4.1/9,mb1mx3.8/31,mbtmp4.2/9,MS2.9/3,Ms1 2.9/3, ms1mx2.6/39,Error ellipse: s-maj=33.1km s-min=12.8km az=110.0*

ISC 08 01:08:55.4±0.7,5.83S±0.07×146.9E±0.1,h78km,n17, σ1.932/20,mb4.1/9,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.56	176	P	Pn	01 09 48.9	+0.5
	51nm,0.3s,baz=360,slow=6.8,SNR=49						
PMG				S	Sn	01 10 28.9	-0.5
	55nm,0.3s,baz=18,slow=20,SNR=4.7						
PMG				LR	LR	01 11 04.3	
	comp=Z,117nm,21.3s,baz=78,slow=37						
COEN	Coen	8.87	204	ePn	Pn	01 11 01.4	+0.5
	37nm,0.5s						
COEN				eSn	Sn	01 12 37.1	-2.2
CTA	Charters Tower	14.19	183	P	P	01 12 15.2	-2.6
	2.0nm,0.3s,baz=6.4,slow=13,SNR=7.8						
CTAO	Charters Tower	14.19	183	ePn	Pn	01 12 14.8	+2.0
WRAB	Tennant Creek	18.59	220	eP	P	01 13 07.3	+0.7
	12nm,0.8s						
WRA	Warramunga Arr	18.60	220	P	P	01 13 07.0	+0.3
	0.8nm,0.3s,baz=42,slow=12,SNR=50						
WRA				PcP	PcP	01 17 33.8	+0.8
	0.2nm,0.3s,baz=29,slow=2.0,SNR=8.6						
ASAR	Alice Springs	21.71	214	P	P	01 13 40.6	+0.4
	1.5nm,0.4s,baz=52,slow=8.7,SNR=25						
ASAR				S	S	01 17 37.7	+1.3
	0.8nm,0.8s,baz=27,slow=21,SNR=4.1						
FITZ	Fitzroy Crossi	24.08	238	P	P	01 14 05.5	+1.7
	26nm,0.8s,baz=82,slow=7.6,SNR=46						
FITZ				LR	LR	01 23 55.5	
	comp=Z,44nm,18.8s,baz=64,slow=37						
STKA	Stephens Creek	26.39	190	P	P	01 14 24.3	-0.3
	3.0nm,0.5s,baz=0.7,slow=7.9,SNR=10						
MAJO	Matsushiro	42.93	350	eP	P	01 16 44.7	-1.9
	6.6nm,0.7s						
USRK	Ussuriysk Ar.	51.58	346	LR	LR	01 39 33.8	
	comp=Z,13nm,18.1s,baz=85,slow=36						
PETK	Petropavlovsk-	59.42	8	P	P	01 18 50.5	+0.8
	1.0nm,0.6s,baz=152,slow=8.2,SNR=4.5						
ULN	Ulaanbaatar	63.91	331	eP	P	01 19 20.2	-0.1
	1.1nm,0.4s						
SONM	Songino Array	64.21	331	P	P	01 19 23.6	+1.4
	0.3nm,0.4s,baz=114,slow=7.0,SNR=3.3						
MKAR	Makanchi Array	77.31	320	P	P	01 20 42.1	+0.5
	0.4nm,0.6s,baz=109,slow=7.8,SNR=3.0						
ILAR	Eielson Array	85.36	23	P	P	01 21 22.9	-0.9
	2.2nm,0.6s,baz=252,slow=5.0,SNR=28						
SIV	San Ignacio	144.83	128	PKP	PKPab	01 28 23.3	-0.4
	1.8nm,0.5s,baz=236,slow=5.4,SNR=5.9						

ISK ***08*** *01:10:09.3,39.19N×28.95E,h7km,MD2.4*
ISCJB ***08*** *01:10:10.6±0.6,39.13N±0.04×29.09E±0.05,h13km±6km, Error ellipse: s-maj=7.9km s-min=4.9km az=145.1*
CSEM ***08*** *01:10:10.5±0.2,39.14N×29.07E,h10km,MD2.6,Error ellipse: s-maj=5.9km s-min=3.7km az=127.0*
DDA ***08*** *01:10:11.0,39.08N×29.11E,h7km,Md2.6*

ISC 08 01:10:10.7±0.9,39.12N±0.04×29.10E±0.03,h17km±8km, n14,σ0.950/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	Gediz	0.30	95	P	Pg	01 10 17.1	-0.1
GDZ				S	Sg	01 10 21.4	-0.3
GDZ	Gediz	0.30	95	*i* P	Pg	01 10 17.1	-0.1
GDZ				*i* S	Sg	01 10 21.4	-0.3
DEMI	Demirci	0.31	257	P	Pg	01 10 17.4	0.0
DEMI				S	Sg	01 10 22.2	+0.3
DEMI	Demirci	0.31	257	*i* P	Pg	01 10 17.4	0.0
DEMI				*i* S	Sg	01 10 22.2	+0.3
TVSB	Tavsanli	0.44	40	ePG	Pg	01 10 19.6	0.0
TVSB				eSG	Sg	01 10 25.6	-0.1
TVSB	Tavsanli	0.44	40	ePg	Pg	01 10 19.6	0.0
TVSB				eSg	Sg	01 10 25.6	-0.1
KULA	Kula-Manisa	0.69	210	ePG	Pg	01 10 23.5	-0.8
KULA				eSG	Sg	01 10 33.3	-0.2
KULA	Kula-Manisa	0.69	210	ePg	Pg	01 10 23.5	-0.8
KULA				eSg	Sg	01 10 33.3	-0.2
MANT	Manisa	0.75	214	P	Pg	01 10 25.6	+0.1
MANT				S	Sg	01 10 35.3	-0.3
MANT	Manisa	0.75	214	*i* P	Pg	01 10 25.6	+0.1
MANT				*i* S	Sg	01 10 35.3	-0.3
KHAL	Karahalli	0.80	158	P	Pb	01 10 27.4	+1.1
KHAL				S	Sb	01 10 36.9	+0.1
KHAL	Karahalli	0.80	158	*i* P	Pb	01 10 27.4	+1.1
KHAL				*i* S	Sb	01 10 36.9	+0.1
ARMT	Armutlu	1.46	353	ePN	Pn	01 10 35.5	-0.7
ARMT	Armutlu	1.46	353	ePn	Pn	01 10 35.6	-0.7

ISCJB ***08*** *01:18:52.1±0.3,11.40S±0.06×13.17W±0.06,h13km, mb4.4/33,MS3.9/13,Error ellipse: s-maj=10.4km s-min=6.7km az=140.2*
IDC ***08*** *01:18:52.1±0.6, 11.32S×13.22W,h0km,mb4.3/18, mb1 4.4/19,mb1mx4.1/32,mbtmp4.3/19,ML3.9/1,MS3.9/14, Ms1 3.9/14,ms1mx3.6/51,Error ellipse: s-maj=19.2km s-min=14.3km az=160.0*
NEIC ***08*** *01:18:53.5±5.8, 11.45S×13.17W,h9km±36km,mb4.7/16, Error ellipse: s-maj=10.8km s-min=7.6km az=143.0*

ISC 08 01:18:54.1±0.4,11.45S±0.08×13.19W±0.08,h13km,n74, σ0.996/60,mb4.5/33,MS3.9/13,6C-1D,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	ASCENSION HYDR	2.86	330	T	T	01 22 53.6	
	baz=148,slow=74,SNR=1822						
H10S3	ASCENSION HYDR	2.88	330	T	T	01 22 50.3	
	baz=148,slow=74,SNR=1924						
H10S1	ASCENSION HYDR	2.88	330	T	T	01 22 58.2	
	baz=148,slow=74,SNR=1531						
ASCN	Ascension	3.69	342	ePn	Pn	01 19 51.7	+0.8
H10N1	ASCENSION HYDR	3.81	340	T	T	01 23 58.8	
	baz=158,slow=73,SNR=29						
H10N3	ASCENSION HYDR	3.82	340	T	T	01 24 03.4	
	baz=158,slow=73,SNR=33						
H10N2	ASCENSION HYDR	3.82	340	T	T	01 24 06.4	
	baz=158,slow=73,SNR=28						
LIC	Lamto	19.35	25	eP	P	01 23 19.7	+0.1
	67nm,1.2s						
KIC	Kosan Boka	19.59	26	eP	P	01 23 21.8	-0.4
	70nm,1.2s						
TIC	Toumodi	19.73	25	eP	P	01 23 24.2	+0.4
DBIC	Dimbokro	19.82	25	P	P	01 23 24.8	+0.1
	0.4nm,0.3s,baz=189,slow=11,SNR=5.8						
DBIC				LR	LR	01 29 17.2	
	comp=Z,248nm,20.1s,baz=185,slow=32						
RCBR	Riachuelo	23.13	282	P	P	01 23 59.3	-1.0
	16nm,0.9s,baz=90,slow=14,SNR=3.5						
RCBR				LR	LR	01 30 37.2	
	comp=Z,429nm,21.1s,baz=74,slow=31						
BBTS	Babate	26.16	353	LR	LR	01 33 43.9	
	comp=Z,144nm,18.4s,baz=179,slow=34						
KOWA	Kowa	27.34	20	eP	P	01 24 38.3	-0.7
	6.9nm,1.2s						
TSUM	Tsumeb	30.62	108	P	P	01 25 08.9	+0.5
	2.2nm,1.0s,baz=297,slow=9.0,SNR=2.1						
TSUM	Tsumeb	30.62	108	eP	P	01 25 07.6	-0.9
	5.7nm,0.9s						
BDFB	Brasilia	34.09	259	P	P	01 25 38.3	-0.5
	13nm,1.0s,baz=70,slow=7.9,SNR=9.2						
BDFB				LR	LR	01 36 57.0	
	comp=Z,189nm,19.8s,baz=82,slow=32						
BDFB	Brasilia	34.09	259	eP	P	01 25 39.4	+0.5
	48nm,1.4s						
TAM	Tamanrasset	38.66	28	eP	P	01 26 18.1	+0.3
	2.6nm,0.9s						
BOSA	Boshof	39.73	121	P	P	01 26 26.5	-0.3
	3.7nm,0.8s,baz=268,slow=8.2,SNR=3.1						
BOSA				LR	LR	01 40 13.2	
	comp=Z,219nm,18.8s,baz=272,slow=32						
LSZ	Lusaka	40.39	100	P	P	01 26 31.7	-0.7
	2.9nm,0.9s,baz=348,slow=4.4,SNR=4.5						
LSZ	Lusaka	40.39	100	eP	P	01 26 31.4	-1.1
	2.8nm,0.7s						
CPUP	Villa Florida	44.08	244	P	P	01 27 02.0	-0.2
	3.8nm,0.9s,baz=90,slow=10.0,SNR=5.1						
CPUP				LR	LR	01 44 29.7	
	comp=Z,113nm,18.1s,baz=126,slow=35						
SAML	Samuel	49.22	268	eP	P	01 27 44.0	+1.3
	8.4nm,1.3s						
TRQA	Tornquist	50.88	230	eP	P	01 27 54.7	-0.4
	9.6nm,0.9s						
KEST	Kesra	51.54	23	P	P	01 27 59.8	-0.2
	8.8nm,1.1s,baz=190,slow=3.5,SNR=4.1						
KEST				LR	LR	01 47 56.5	
	comp=Z,127nm,21.2s,baz=198,slow=34						
KEST	Kesra	51.54	23	eP	P	01 28 01.4	+1.5
	16nm,1.1s						
ESDC	Sonseca Array	51.58	9	LR	LR	01 50 16.0	
	comp=Z,90nm,18.2s,baz=180,slow=37						
LPAZ	La Paz	53.43	258	P	P	01 28 14.1	-1.0
	2.1nm,0.8s,baz=85,slow=12,SNR=6.4						
LPAZ	La Paz	53.43	258	eP	P	01 28 15.1	+0.1
	3.7nm,0.9s						
H05S1	Guadeloupe/Mar	53.77	297	T	T	02 26 24.5	
	SNR=14						
LVC	Limon Verde	54.15	250	eP	P	01 28 19.1	-0.9
	5.1nm,0.8s						
H05N1	Guadeloupe/Mar	54.80	299	T	T	02 27 41.3	
	SNR=10						
IDI	Anoyia	58.81	36	eP	P	01 28 52.3	-0.2
	8.5nm,1.0s						
SNAA	Sanae	60.51	176	eP	P	01 29 02.1	-1.5
	13nm,1.1s						
RUSC	La Rusia	62.03	283	eP	P	01 29 15.4	0.0
SJAC	San Juan de Ar	62.17	280	eP	P	01 29 15.8	-0.1
NNA	Nana	62.20	262	LR	LR	01 54 42.8	
	comp=Z,122nm,19.0s,baz=120,slow=35						
URIC	Uribia, Colomb	62.77	290	eP	P	01 29 19.1	-0.6
ROSC	El Rosal	62.93	281	P	P	01 29 21.4	0.0
	4.4nm,0.7s,baz=8.5,slow=4.5,SNR=5.4						
SOKA	Soboth	63.15	21	*i* P	P	01 29 22.2	+0.5
	9.2nm,0.9s						
NORC	Norcasia	63.65	282	eP	P	01 29 24.9	-0.9
MOA	Molln	63.89	20	*i* P	P	01 29 25.6	-0.9
	3.8nm,0.9s						
ATAH	Atahualpa	64.38	268	LR	LR	01 56 04.4	
	comp=Z,106nm,20.4s,baz=115,slow=35						
CONA	Conrad Observa	64.51	21	*i* P	P	01 29 30.3	-0.5
	3.4nm,0.9s						
GEA0	GERESS Array S	64.56	19	eP	P	01 29 30.1	-0.9
GEC2	GERESS Array S	64.57	19	eP	P	01 29 31.2	+0.1
	8.2nm,1.4s						
GERES	GERESS Array B	64.57	19	P	P	01 29 30.5	-0.6
	0.7nm,0.7s,baz=190,slow=5.4,SNR=7.1						
SJCC	San Jacinto, C	65.17	287	eP	P	01 29 33.9	-1.8
NKC	Novy Kostel	65.40	18	eP	P	01 29 35.9	-0.5
LOT	Lotru	65.71	28	*i* P	P	01 29 39.5	+0.9
OTAV	Otavalo	65.83	275	eP	P	01 29 40.5	+0.1
	6.6nm,1.0s						
ARR	Arges	66.05	28	*i* P	P	01 29 38.6	-2.1
DRGR		66.28	26	*i* P	P	01 29 42.1	-0.1
VOIR		66.30	28	*i* P	P	01 29 41.0	-1.3
BR231	Keskin MP Arra	66.50	37	eP	P	01 29 46.3	+2.5
MLR	Muntele Rosu	66.76	29	*i* P	P	01 29 44.9	-0.5
BRTR	Keskin Array B	66.94	38	P	P	01 29 46.6	0.0
	1.6nm,0.8s,baz=212,slow=6.7,SNR=6.6						
BR131	Keskin Array S	66.94	38	eP	P	01 29 46.3	-0.4
VRI	Vrincioaia	67.40	29	*i* P	P	01 29 48.1	-1.2
BURAR	Bucovina Array	68.01	27	*i* P	P	01 29 53.7	+0.5
KIEV	Kiev	72.05	27	eP	P	01 30 16.6	-1.2
	7.1nm,0.7s						
AKASG	Malin Array Be	72.06	27	P	P	01 30 16.9	-0.9
	3.3nm,0.7s,baz=224,slow=6.5,SNR=17						
MAW	Mawson	74.17	157	P	P	01 30 32.9	+2.7
	3.3nm,0.9s,baz=269,slow=9.2,SNR=4.3						
GNI	Garni	74.20	42	eP	P	01 30 31.0	0.0
	16nm,0.6s						
KBZ	Khabaz	74.89	39	P	P	01 30 34.0	-0.7
	1.9nm,0.8s,baz=288,slow=6.4,SNR=2.9						
QSPA	South Pole Qui	78.69	180	eP	P	01 30 56.5	+0.4
	14nm,0.6s						
FINES	FINESS Array B	78.95	18	P	P	01 30 55.4	-1.8
	3.4nm,0.8s,baz=186,slow=1.9,SNR=9.6						
SADO	Sadowa	81.60	319	LR	LR	02 02 25.5	
	comp=Z,56nm,18.3s,baz=206,slow=32						
ARCES	ARCESS Array B	85.16	13	P	P	01 31 30.1	+0.5
	1.0nm,0.7s,baz=225,slow=8.5,SNR=3.8						
CMIG	Matias Romero	85.54	288	LR	LR	02 11 49.6	
	comp=Z,66nm,18.0s,baz=128,slow=37						
VNDA	Vanda	91.14	179	P	P	01 31 59.7	+1.4
	0.7nm,1.0s,baz=207,slow=6.8,SNR=2.2						
VNDA				LR	LR	02 07 50.5	
	comp=Z,82nm,18.4s,baz=186,slow=32						
JCT	Junction City	92.84	300	eP	P	01 32 07.7	+0.6
	3.4nm,0.8s						
TXAR	Lajitas Array	95.93	299	P	P	01 32 21.6	+0.2
	0.8nm,1.0s,baz=126,slow=6.4,SNR=7.1						
TXAR				LR	LR	02 15 52.2	
	comp=Z,19nm,19.0s,baz=0.0,slow=36						

ISCJB ***08*** *01:31:16.0±0.8,39.10N±0.06×29.05E±0.06,h11km±9km, Error ellipse: s-maj=11.2km s-min=5.1km az=149.2*
DDA ***08*** *01:31:16.2,39.07N×29.05E,h7km,Md2.6*
CSEM ***08*** *01:31:16.5±0.1,39.09N×29.05E,h5km,MD2.6,Error ellipse: s-maj=5.1km s-min=2.0km az=137.0*

ISC 08 01:31:16.2±1.2,39.10N±0.05×29.05E±0.04,h14km±13km, n10,σ0.941/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.26	258	P	Pg	01 31 21.9	+0.1
DEMI				S	Sg	01 31 25.6	-0.1
DEMI	Demirci	0.26	258	*i* P	Pg	01 31 21.9	+0.1
DEMI				*i* S	Sg	01 31 25.6	-0.1
GDZ	Gediz	0.34	91	P	Pg	01 31 23.1	-0.1
GDZ				S	Sg	01 31 28.1	+0.2
GDZ	Gediz	0.34	91	*i* P	Pg	01 31 23.1	-0.1
GDZ				*i* S	Sg	01 31 28.1	+0.2
TVSB	Tavsanli	0.48	42	ePG	Pg	01 31 26.3	+0.6
TVSB				eSG	Sg	01 31 31.2	-0.9
TVSB	Tavsanli	0.48	42	ePg	Pg	01 31 26.3	+0.6
TVSB				eSg	Sg	01 31 31.2	-0.9
KULA	Kula-Manisa	0.66	208	ePG	Pb	01 31 29.4	0.0
KULA				eSG	Sg	01 31 37.4	-0.2
KULA	Kula-Manisa	0.66	208	ePg	Pb	01 31 29.4	0.0
KULA				eSg	Sg	01 31 37.4	-0.2
MANT	Manisa	0.71	212	P	Pg	01 31 30.3	+0.2
MANT				S	Sg	01 31 39.5	-0.1
MANT	Manisa	0.71	212	*i* P	Pg	01 31 30.3	+0.2
MANT				*i* S	Sg	01 31 39.5	-0.1

ISCJB ***08*** *01:43:00.9±0.8,39.16N±0.06×29.13E±0.06,h13km±9km, Error ellipse: s-maj=10.8km s-min=5.5km az=148.1*
DDA ***08*** *01:43:01.4,39.11N×29.13E,h7km,Md2.6*
CSEM ***08*** *01:43:01.1±0.1,39.14N×29.14E,h10km,MD2.6,Error ellipse: s-maj=4.9km s-min=2.0km az=137.0*

ISC 08 01:43:00.9±1.2,39.15N±0.05×29.13E±0.04,h18km±9km, n10,σ0.932/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	Gediz	0.28	103	P	Pg	01 43 07.3	+0.2
GDZ				S	Sg	01 43 11.4	0.0
GDZ	Gediz	0.28	103	*i* P	Pg	01 43 07.3	+0.2
GDZ				*i* S	Sg	01 43 11.4	0.0
DEMI	Demirci	0.34	251	P	Pg	01 43 08.4	+0.2
DEMI				S	Sg	01 43 13.1	0.0
DEMI	Demirci	0.34	251	*i* P	Pg	01 43 08.4	+0.2
DEMI				*i* S	Sg	01 43 13.1	0.0
TVSB	Tavsanli	0.39	41	ePG	Pg	01 43 09.1	+0.1
TVSB				eSG	Sg	01 43 14.0	-0.6
TVSB	Tavsanli	0.39	41	ePg	Pg	01 43 09.1	+0.1
TVSB				eSg	Sg	01 43 14.0	-0.6
KULA	Kula-Manisa	0.74	210	ePG	Pg	01 43 15.2	-0.1
KULA				eSG	Sb	01 43 25.4	+0.4
KULA	Kula-Manisa	0.74	210	ePg	Pg	01 43 15.2	-0.1
KULA				eSg	Sb	01 43 25.4	+0.4
MANT	Manisa	0.80	214	P	Pg	01 43 16.1	-0.5
MANT				S	Sg	01 43 27.0	-0.2
MANT	Manisa	0.80	214	*i* P	Pg	01 43 16.1	-0.5
MANT				*i* S	Sg	01 43 27.0	-0.2

DDA ***08*** *01:46:30.6,39.10N×29.09E,h10km,Md2.7*
CSEM ***08*** *01:46:30.9±0.1,39.11N×29.11E,h2km,MD2.7,Error ellipse: s-maj=2.7km s-min=1.7km az=116.0*
ISK ***08*** *01:46:30.0,39.07N×29.19E,h6km,MD2.5*

ISC 08 01:46:31.0±1.0,39.10N±0.03×29.11E±0.03,h10km±10km, n22,σ0.945/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	Gediz	0.29	92	P	Pg	01 46 37.0	+0.2
GDZ				S	Sg	01 46 41.3	+0.6
GDZ	Gediz	0.29	92	*i* P	Pg	01 46 37.0	+0.2
GDZ				*i* S	Sg	01 46 41.3	+0.6
DEMI	Demirci	0.31	260	P	Pg	01 46 37.0	-0.2
DEMI				S	Sg	01 46 41.4	0.0
DEMI	Demirci	0.31	260	*i* P	Pg	01 46 37.0	-0.2
DEMI				*i* S	Sg	01 46 41.4	0.0
TVSB	Tavsanli	0.44	38	ePG	Pg	01 46 39.1	-0.6
TVSB				eSG	Sg	01 46 45.0	-0.5
TVSB	Tavsanli	0.44	38	ePg	Pg	01 46 39.1	-0.6
TVSB				eSg	Sg	01 46 45.1	-0.5
KULA	Kula-Manisa	0.68	211	ePG	Pg	01 46 44.0	-0.2
KULA				eSG	Sg	01 46 53.4	+0.3
KULA	Kula-Manisa	0.68	211	ePg	Pg	01 46 44.0	-0.2
KULA				eSg	Sg	01 46 53.4	+0.3
MANT	Manisa	0.75	216	P	Pg	01 46 45.3	-0.1
MANT				S	Sg	01 46 55.0	-0.1
MANT	Manisa	0.75	216	*i* P	Pg	01 46 45.3	-0.1
MANT				*i* S	Sg	01 46 55.0	-0.1
KHAL	Karahalli	0.79	158	P	Pb	01 46

MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pg**	**01 49 12.0**	**-0.1**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pb**	**01 49 15.1**	**-0.2**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pb**	**01 49 15.1**	**-0.2**

*AZER **08** 01:49:33.2±0.3,36˚.83N×48˚.60E,h5km, Error ellipse: s-maj=19.7km s-min=14.2km az=280.0*
*TEH **08** 01:49:40.0,36˚.96N×49˚.37E,h2km,ML3.0*
*CSEM **08** 01:49:41.4±0.3,37˚.10N×49˚.46E,h20km,ML2.8, Error ellipse: s-maj=11.3km s-min=6.1km az=49.0*

ISC 08 01:49:37.9±1.2,36˚.97N±0˚.03×49˚.36E±0.04,h4km±12km, n35,σ1§32/46,6C-2D,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZNJK	**Zanjan**	**0.62**	**242**	*e*Pg	**Pn**	**01 49 56.3**	**+2.6**
ISRB	**Sarab**	**1.60**	**303**	*e*Pg	**Pg**	**01 50 08.7**	**+0.1**
ISRB	**Sarab**	**1.60**	**303**	*e*Pg	**Pg**	**01 50 08.7**	**+0.1**
THKV	**Tehran--Karaj**	**1.61**	**130**	*e*Pg	**Pb**	**01 50 08.4**	**0.0**
IRAZ	**Razeghan**	**1.62**	**163**	*e*Sg	**Sg**	**01 50 31.0**	**+0.9**
IRAZ				*e*Pn	**Pg**	**01 50 08.9**	**-0.2**
IRAZ				*e*AMB	AMB	01 50 34.5	
	comp=Z,4μm,0.3s						
ASTR	**Astara**	**1.66**	**344**	⇓P	**Pn**	**01 50 07.0**	**-0.8**
ASTR				⇑S	**Sg**	**01 50 33.7**	**+2.6**
ASTR	**Astara**	**1.66**	**344**	P	**Pn**	**01 50 07.0**	**-0.8**
ASTR				S	**Sg**	**01 50 33.7**	**+2.6**
IMHD	**Mahdasht**	**1.66**	**140**	*e*Sg	**Sg**	**01 50 31.6**	**+0.4**
IMHD				*e*Pn	**Pg**	**01 50 09.3**	**-0.4**
IMHD				*e*AMB	AMB	01 50 36.2	
	comp=Z,2μm,0.1s						
CHTH	**Charan**	**1.77**	**126**	*e*Pg	**Pb**	**01 50 10.7**	**-0.5**
LKRN	**Lenkeran, Azer** SNR=2.8	**1.80**	**345**	⇑P	**Pn**	**01 50 09.0**	**-0.8**
LKRN				⇑S	**Sg**	**01 50 36.8**	**+1.0**
LKRN	**Lenkeran, Azer** SNR=2.8	**1.80**	**345**	P	**Pn**	**01 50 09.0**	**-0.8**
LKRN				S	**Sg**	**01 50 36.8**	**+1.0**
LRK	**Lerik**	**1.86**	**335**	⇑P	**Pn**	**01 50 10.5**	**-0.2**
LRK				⇑S	**Sb**	**01 50 35.8**	**-0.5**
IBST	**Bostanabad**	**2.10**	**291**	*e*Pn	**Pb**	**01 50 16.1**	**-0.6**
IBST	**Bostanabad**	**2.10**	**291**	*e*Pn	**Pb**	**01 50 16.1**	**-0.6**
IHRS	**Heris**	**2.28**	**307**	*e*Pn	**Pb**	**01 50 18.8**	**-1.0**
IHRS	**Heris**	**2.28**	**307**	*e*Pn	**Pb**	**01 50 18.8**	**-1.0**
GLBA	**Clilabad**	**2.40**	**342**	⇑P	**Pn**	**01 50 16.8**	**-1.2**
GLBA				⇓S	**Sn**	**01 50 47.8**	**0.0**
GLBA	**Clilabad**	**2.40**	**342**	P	**Pn**	**01 50 16.8**	**-1.2**
GLBA				S	**Sn**	**01 50 47.8**	**0.0**
ASAO	**Ashtian**	**2.47**	**167**	*e*Sg	**Sg**	**01 50 56.1**	**-1.3**
SNGE	**Sanandaj**	**2.48**	**222**	*e*Pn	**Pg**	**01 50 24.4**	**-1.1**
IPRN	**Peran**	**2.50**	**106**	*e*Pn	**Pb**	**01 50 21.4**	**-2.1**
IPRN				*e*AMB	AMB	01 50 58.0	
	comp=Z,786nm,0.2s						
IDMV	**Damavand**	**2.57**	**122**	*e*Pn	**Pb**	**01 50 24.0**	**-0.7**
IDMV				*e*Sg	**Sg**	**01 50 59.3**	**-1.1**
IDMV				*e*AMB	AMB	01 51 04.0	
	comp=Z,334nm,0.2s						
IDMV	**Damavand**	**2.57**	**122**	*e*Pn	**Pb**	**01 50 24.0**	**-0.7**
IDMV				*e*Sg	**Sg**	**01 50 59.3**	**-1.1**
IVRN	**Varamin**	**2.75**	**135**	*e*Pn	**Pb**	**01 50 25.1**	**-2.6**
IVRN				*e*AMB	AMB	01 51 12.6	
	comp=Z,293nm,0.1s						
IVRN	**Varamin**	**2.75**	**135**	*e*Pn	**Pb**	**01 50 25.1**	**-2.6**
IALA	**Alasht**	**2.92**	**107**	*e*Pn	**Pn**	**01 50 27.2**	**+1.8**
IALA				*e*AMB	AMB	01 51 15.0	
	comp=Z,371nm,0.2s						
IALA	**Alasht**	**2.92**	**107**	*e*Pn	**Pn**	**01 50 27.2**	**+1.8**
IFIR	**Firoozkooh**	**3.04**	**115**	*e*Pn	**Pb**	**01 50 32.1**	**-0.7**
IFIR				*e*AMB	AMB	01 51 25.4	
	comp=Z,174nm,0.2s						
IFIR	**Firoozkooh**	**3.04**	**115**	*e*Pn	**Pb**	**01 50 32.1**	**-0.7**
ISHM	**Shahmirzad**	**3.38**	**109**	*e*Pn	**Pn**	**01 50 34.2**	**+2.5**
ISHM				*e*AMB	AMB	01 51 29.4	
	comp=Z,247nm,0.2s						
IGLO	**Ghaloghah**	**3.62**	**96**	*e*Pn	**Pn**	**01 50 36.6**	**+1.6**
IGLO				*e*AMB	AMB	01 51 23.6	
	comp=Z,402nm,0.2s						
IANJ	**Anjilo**	**3.98**	**111**	*e*Pn	**Pb**	**01 50 49.5**	**+0.8**
IANJ				*e*AMB	AMB	01 51 52.6	
	comp=Z,54nm,0.2s						
IANJ	**Anjilo**	**3.98**	**111**	*e*Pn	**Pb**	**01 50 49.5**	**+0.8**
IKLH	**Kolahrood**	**4.07**	**153**	*e*Pn	**Pb**	**01 50 50.1**	**-0.2**
IKLH				*e*AMB	AMB	01 51 44.8	
	comp=Z,188nm,0.3s						
IKLH	**Kolahrood**	**4.07**	**153**	*e*Pn	**Pb**	**01 50 50.1**	**-0.2**

*BJI **08** 01:53:23.4,42˚.95N×88˚.30E,h10km,mb4.8/62,mB4.9/49, ML5.5/13,Ms5.1/72,Ms7 5.0/68*
*ISCJB **08** 01:53:24.4±0.1,43˚.02N±0˚.02×88˚.23E±0˚.02,h20km, mb5.2/268,MS5.0/63,Error ellipse: s-maj=2.7km s-min=1.7km az=15.3*
*MOS **08** 01:53:24.4±0.9,43˚.02N×88˚.28E,h23km,mb5.5/110, MS5.0/38,Error ellipse: s-maj=5.7km s-min=3.5km az=40.0*
*NNC **08** 01:53:24.5±1.9,43˚.03N×88˚.31E,h19km±10km,mb5.6, mpv5.6,Error ellipse: s-maj=13.9km s-min=11.3km az=85.0*
*OBM **08** 01:53:26.0±0.1,43˚.07N×88˚.18E,h15km,Ml4.9/4,Error ellipse: s-maj=2.2km s-min=1.1km az=177.0*
*GCMT **08** 01:53:26.1±0.2,43˚.03N×88˚.28E,h24km,MW5.1/90, Moment Tensor Solution. s60,c73; s90,c154; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.29±.16; Mθθ-4.48±.10; Mφφ0.19±.09; Mre2.23±.14; Mθφ0.07±.07; Mθr0.68±.13; Best double couple: Mo4.96800×10^16^ NP1:φ82.00000°,δ59.00000°,λ81.00000°. NP2: φ279.00000°,δ32.00000°,λ104.00000°. Principal axes: T 4.9200, Plg74.0000°, Azm328.0000°; N 0.0980, Plg8.0000°, Azm87.0000°; P -5.0160, Plg14.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 01:53:26.1±0.8,43˚.02N×88˚.25E,h21km±5km,mb5.3/132 Error ellipse: s-maj=2.8km s-min=2.1km az=189.0*
NEIC At least eight people injured, 50 homes damaged and landslides occurred in the Dabancheng area. Felt [III] at Urumqi. Also felt at Korla.
*IDC **08** 01:53:29.0±1.6,43˚.04N×88˚.34E,h45km±15km,mb4.8/64, mb1 4.8/67,mb1mx4.7/88,mbtmp5.0/67,ML3.3/2,MS4.5/8, Ms1 4.5/8,ms1mx4.0/32,Error ellipse: s-maj=8.6km s-min=6.7km az=1.0*

ISC 08 01:53:26.2±0.4,43˚.04N±0˚.03×88˚.25E±0˚.02,h22km±2km, h22km:pP-P,n953,σ1§52/1066,mb5.3/294,MS5.1/69, 149C-37D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.88**	**333**	Pg	**Pb**	**01 53 42.7**	**-0.2**
WMQ				Sg	**Sb**	**01 53 54.6**	**+0.3**
HBD	**Hovd**	**5.55**	**24**	*e*Pn	Pn	01 54 49.8	+2.3
HBD				*e*Sg	Sb	01 56 12.9	+4.4
MK01	**Makanchi Array**	**5.64**	**314**	*e*Pn	**Pn**	**01 54 50.3**	**+1.7**
MK01	**Makanchi Array**	**5.65**	**314**	*e*Pn	Pn	01 54 50.3	+1.5
MK01				*e*Sg	Sb	01 56 18.9	+7.5
	3μm,0.6s						
MK31	**Makanchi Array**	**5.66**	**314**	⇑Pn	**Pn**	**01 54 50.5**	**+1.6**
	194nm,0.4s,baz=127,slow=14,SNR=4282						
MK31				⇓Pg	**Pb**	**01 55 08.0**	**+3.8**
	327nm,0.4s,baz=130,slow=15,SNR=5.6						
MK31				⇑Sn	**Sn**	**01 55 54.7**	**+1.5**
	771nm,0.6s,baz=121,slow=24,SNR=3.7						
MK31				⇑Lg	Lg	01 56 26.2	
	2μm,0.7s,baz=120,slow=20,SNR=3.6						
MK31	**Makanchi Array**	**5.66**	**314**	P	**Pn**	**01 54 50.3**	**+1.4**
MK31						01 55 58.5	
MK31				pmax	pmax		
	comp=Z,194nm,0.4s						
MK31				smax	smax		
	comp=N,771nm,0.6s						
MK31	**Makanchi Array**	**5.66**	**314**	*e*Pn	**Pn**	**01 54 50.5**	**+1.6**
MKAR	**Makanchi Array**	**5.66**	**314**	P	**Pn**	**01 54 50.5**	**+1.7**
	comp=N,101nm,0.3s,baz=128,slow=14,SNR=1389						
MKAR				S	**Sn**	**01 55 56.7**	**+3.5**
	comp=N,264nm,0.3s,baz=121,slow=24,SNR=5.6						
MKAR				Lg	Lg	01 56 22.6	
	comp=N,312nm,0.3s,baz=141,slow=29,SNR=5.2						
MKAR				LR	LR	01 57 45.6	
	comp=N,8μm,19.5s,baz=142,slow=45						
MAKZ	**Makanchi**	**5.84**	**312**	*e*P	**Pn**	**01 54 53.0**	**+1.7**
MAKZ	**Makanchi**	**5.84**	**312**	*e*Pn	**Pn**	**01 54 53.0**	**+1.7**
BYO	**Bayan-Olgiy**	**6.08**	**11**	*e*Pn	Pn	01 54 59.0	+4.2
BYO				*e*Sn	Sn	01 56 08.7	+5.0
PDGK	**Podgornoye**	**6.42**	**276**	⇑Pn	**Pn**	**01 55 00.3**	**+1.0**
	comp=N,253nm,0.4s						
PDGK				⇑Sn	**Sn**	**01 56 12.2**	**+0.5**
	comp=N,487nm,0.5s						
PDGK				⇓Lg	Lg	01 56 49.7	
	comp=N,2μm,0.5s						
PDGK	**Podgornoye**	**6.42**	**276**	P	**Pn**	**01 55 00.2**	**+1.0**
PDGK						01 56 09.4	
PDGK				pmax	pmax		
	comp=Z,253nm,0.4s						
PDGK				smax	smax		
	comp=N,798nm,0.8s						
ULG	**Ulaangom**	**7.44**	**19**	*e*Pn	Pn	01 55 16.0	+2.6
ULG				*e*Sg	Sb	01 57 13.1	+10
	comp=N,4μm,0.9s						
KNDC	**Almaty**	**8.26**	**275**	⇑Pn	**Pn**	**01 55 25.1**	**+0.5**
KNDC				⇓Lg	Lg	01 57 46.3	
	comp=N,4μm,1.6s						
AAA	**Alma-Ata**	**8.27**	**275**	*i* P	**Pn**	**01 55 25.5**	**+0.8**
AAA				*i* S	**Sn**	**01 56 58.2**	**+0.7**
AAA				pmax	pmax		
	comp=Z,200nm,0.3s						
AAA				smax	smax		
	comp=E,1μm,0.8s						
AAA				MLR	MLR		
	comp=Z,13μm,4.0s						
TSC	**Tosontsengel**	**9.05**	**47**	*e*Pn	Pn	01 55 36.4	+0.9
TSC				*e*Sg	Sn	01 58 01.0	+44
	comp=Z,1μm,0.9s						
TKM2	**Tokmak 2**	**9.28**	**274**	⇑Pn	**Pn**	**01 55 38.9**	**+0.1**
	comp=Z,69nm,0.5s						
TKM2				⇑Lg	Lg	01 58 17.3	
	comp=Z,1μm,1.5s						
TKM2	**Tokmak 2**	**9.28**	**274**	*e*P	**Pn**	**01 55 38.8**	**+0.1**
TKM2				*e*		01 57 20.6	
TKM2	**Tokmak 2**	**9.28**	**274**	*e*Pn	**Pn**	**01 55 38.8**	**0.0**
TKM2				*e*Sn	**Sn**	**01 57 20.6**	**-1.9**
GTA	**Gaotai**	**9.44**	**109**	⇑P	**Pn**	**01 55 39.9**	**-0.9**
GTA				pP		01 55 43.3	
GTA				sP		01 55 46.3	
GTA				S	**Sn**	**01 57 22.0**	**-4.2**
GTA				PMZ			
	comp=Z,6.0nm,0.7s						
GTA				PMZ			
	comp=Z,120nm,4.8s						
GTA				LN			
	comp=Z,8μm,14.3s						
GTA				LE			
	comp=Z,7μm,10.5s						
GTA				LZ			
	comp=Z,7μm,14.7s						
KSH	**Kashi**	**9.89**	**253**	P	Pn	01 55 53.2	+6.2
KSH				pP		01 55 58.5	
KSH				PP	**PnPn**	**01 56 02.6**	**+8.1**
KSH				S	**Sn**	**01 57 44.6**	**+7.3**
KSH				sS		01 57 56.9	
KSH				SS	**SnSn**	**01 58 00.5**	**+12**
KSH				PMZ			
	comp=Z,270nm,2.1s						
KSH				LZ			
	comp=Z,5μm,10.7s						
FRU	**Bishkek**	**10.00**	**273**	⇓P	**Pn**	**01 55 47.0**	**-1.5**
FRU				*e*S	**Sn**	**01 57 40.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,130nm,1.8s						
KURBB	**Kurchatov Arra**	**10.09**	**322**	P	**Pn**	**01 55 48.6**	**-1.0**
	comp=Z,23nm,0.3s,baz=132,slow=12,SNR=902						
KURBB				S	**Sn**	**01 57 41.1**	**-0.9**
	comp=Z,13nm,0.3s,baz=120,slow=26,SNR=8.1						
KURBB				Lg	Lg	01 58 41.9	
	comp=Z,11nm,0.3s,baz=112,slow=31,SNR=5.1						
KURBB	**Kurchatov Arra**	**10.09**	**322**	⇑Pn	**Pn**	**01 55 48.8**	**-0.8**
	comp=Z,188nm,0.6s						
KURBB				⇑Sn	**Sn**	**01 57 41.0**	**-0.9**
	comp=Z,433nm,0.5s						
KURBB				⇓Lg	Lg	01 58 49.4	
	comp=Z,5μm,1.6s						
AAK	**Ala-Archa**	**10.12**	**272**	P	**Pn**	**01 55 50.7**	**+0.5**
	comp=Z,7.6nm,0.3s,baz=94,slow=7.1,SNR=37						
AAK				Lg	Lg	01 58 47.5	
	comp=Z,8.0nm,0.3s,baz=235,slow=16,SNR=2.9						
AAK	**Ala-Archa**	**10.12**	**272**	⇑Pn	**Pn**	**01 55 49.6**	**-0.6**
	comp=Z,22nm,0.5s						
AAK				⇓Lg	Lg	01 58 44.4	
	comp=Z,732nm,1.2s						
AAK	**Ala-Archa** SNR=15	**10.12**	**272**	P	**Pn**	**01 55 50.2**	**+0.1**
AAK	**Ala-Archa**	**10.12**	**272**	*e*Pn	**Pn**	**01 55 50.2**	**+0.1**
AAK				Lg	Lg	01 58 47.5	
KURK	**Kurchatov**	**10.12**	**323**	P	**Pn**	**01 55 48.6**	**-1.3**
KURK				S	**Sn**	**01 57 41.1**	**-1.5**
KURK				pmax	pmax		
	comp=Z,23nm,0.3s						
KURK				smax	smax		
	comp=N,13nm,0.3s						
KURK	**Kurchatov**	**10.12**	**323**	P	**Pn**	**01 55 48.6**	**-1.3**
KURK				S	**Sn**	**01 57 41.1**	**-1.5**
KURK				Lg	Lg	01 58 41.9	
TTS	**Tsetserleg**	**10.32**	**60**	*e*Pn	Pn	01 55 54.5	+1.5
TTS				*e*Sg	Sn	01 58 41.6	+54
	comp=N,841nm,0.9s						
EKS2	**Erkin-Say**	**10.64**	**273**	*e*P	**Pn**	**01 55 57.0**	**-0.3**
EKS2	**Erkin-Say**	**10.64**	**273**	*e*Pn	**Pn**	**01 55 57.0**	**-0.3**
EKS2				*e*Lg	Lg	01 58 51.1	
HTG	**Hatgal**	**11.06**	**44**	*e*Pn	Pn	01 56 05.1	+2.0
HTG				*e*Sg	Sn	01 59 03.9	+58
	comp=N,941nm,1.1s						
ZAA0	**Zalesovo Array**	**11.15**	**349**	*e*Pn	**Pn**	**01 56 03.2**	**-0.9**
ZALV	**Zalesovo Beam**	**11.15**	**349**	P	**Pn**	**01 56 03.2**	**-0.9**
	comp=N,9.1nm,0.3s,baz=166,slow=13,SNR=109						
ZALV				S	**Sn**	**01 58 05.2**	**-2.8**
	comp=N,46nm,0.3s,baz=170,slow=24,SNR=11						
MNAS	**Manas**	**11.59**	**273**	⇓Pn	**Pn**	**01 56 09.3**	**-1.1**
	comp=N,31nm,1.2s						
MNAS				⇑Lg	Lg	01 59 35.4	
	comp=N,529nm,1.9s						
MNAS	**Manas**	**11.59**	**273**	P	**Pn**	**01 56 11.8**	**+1.5**
MNAS				pmax	pmax		
	comp=Z,31nm,1.2s						
DZBM		**11.86**	**81**	*e*Pn	Pn	01 56 14.2	+0.2
DZBM				*e*Sg		01 59 36.1	
	comp=Z,1μm,1.9s						
BLGM	**Bulgan**	**12.11**	**56**	*e*Pn	Pn	01 56 20.0	+2.6
BLGM				*e*Sg		01 59 39.4	
	comp=Z,2μm,1.3s						
NVS	**Novosibirsk**	**12.26**	**346**	*i* P	**Pn**	**01 56 17.7**	**-1.5**
NVS				*e*S	**Sn**	**01 58 29.9**	**-5.2**
OTUK	**Ortayu**	**12.29**	**301**	⇑Pn	**Pn**	**01 56 18.3**	**-1.5**
	comp=Z,63nm,0.5s						
OTUK				⇓Lg	Lg	01 59 55.4	
	comp=Z,622nm,0.9s						
OTUK	**Ortayu**	**12.29**	**301**	P	**Pn**	**01 56 18.2**	**-1.5**
OTUK				pmax	pmax		
	comp=Z,63nm,0.5s						
ZAK	**Zakamensk**	**12.65**	**49**	*e*P	**Pn**	**01 56 26.9**	**+2.2**
ZAK				pmax	pmax		
	comp=Z,38nm,1.2s						
KK31	**Karatay Array**	**12.97**	**276**	⇓Pn	**Pn**	**01 56 28.9**	**-0.2**
	comp=Z,32nm,0.7s,baz=83,slow=13,SNR=246						
KK31				⇑Lg	Lg	02 00 15.5	
	comp=Z,69nm,0.7s,baz=77,slow=27,SNR=3.8						
KK31	**Karatay Array**	**12.97**	**276**	*e*P	**Pn**	**01 56 29.4**	**+0.3**
KK31				pmax	pmax		
	comp=Z,32nm,0.7s						
KKAR	**Karatay Array**	**12.97**	**276**	*e*P	**Pn**	**01 56 29.4**	**+0.3**
KKAR	**Karatay Array**	**12.97**	**276**	*e*Pn	**Pn**	**01 56 29.4**	**+0.3**
LSA	**Lhasa**	**13.51**	**169**	P	**Pn**	**01 56 38.9**	**+2.0**
LSA				LN			
	comp=Z,2μm,11.8s						
LSA				LE			
	comp=Z,1μm,15.2s						
LSA				LZ			
	comp=Z,4μm,12.7s						
LSA	**Lhasa**	**13.51**	**169**	*e*P	**Pn**	**01 56 36.0**	**-0.9**
LSA				pmax	pmax		
	comp=Z,40nm,0.8s						
LSA	**Lhasa**	**13.51**	**169**	*e*Pn	**Pn**	**01 56 36.0**	**-0.9**
	comp=Z,40nm,0.8s						
TLY	**Talaya**	**13.53**	**45**	P	**Pn**	**01 56 38.5**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=242,slow=8.5,SNR=5.7						
TLY				Lg	Lg	02 00 19.9	
	comp=Z,0.0nm,0.3s,baz=355,slow=14,SNR=5.1						
TLY				LR	LR	02 01 55.8	
	comp=Z,3μm,20.0s,slow=38						
TLY	**Talaya**	**13.53**	**45**	*e*P	**Pn**	**01 56 38.6**	**+2.0**
TLY				pmax	pmax		
	comp=Z,13nm,1.1s						
TLY				MLR	MLR		
	comp=Z,2μm,10.0s						
TLY	**Talaya**	**13.53**	**45**	*e*Pn	**Pn**	**01 56 36.8**	**+0.2**
TLY				*e*Lg	Lg	02 00 19.7	
SONB4	**Songino Array**	**13.61**	**63**	*e*Pn	Pn	01 56 38.3	+0.5
SONB4				*e*Sg		02 00 32.4	
	comp=Z,1μm,1.6s						
SONM	**Songino Array**	**13.61**	**63**	P	**Pn**	**01 56 38.6**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=257,slow=13,SNR=23						
SONM				Lg	Lg	02 00 29.9	
	comp=Z,1.5nm,0.3s,baz=260,slow=26,SNR=3.5						
SONA1	**Songino Array**	**13.62**	**63**	*e*Pn	**Pn**	**01 56 38.6**	**+0.7**
SONB5	**Songino Array**	**13.62**	**63**	*e*Pn	Pn	01 56 38.5	+0.6
SONB5				*e*Sg		02 00 31.8	
	comp=Z,1μm,1.5s						
SONA0	**Songino Array**	**13.63**	**63**	*e*Pn	Pn	01 56 39.4	+1.3
SONA0				*e*Sg		02 00 34.8	
	comp=Z,1μm,1.4s						
SONA2	**Songino Array**	**13.63**	**63**	*e*Pn	Pn	01 56 38.8	+0.6
SONA2				*e*Sg		02 00 31.9	
	comp=Z,1μm,1.6s						
SONA4	**Songino Array**	**13.63**	**63**	*e*Pn	Pn	01 56 38.8	+0.6
SONA4				*e*Sg		02 00 32.5	
	comp=Z,1μm,1.8s						
SONA1	**Songino Array**	**13.64**	**63**	*e*Pn	Pn	01 56 38.8	+0.6
SONA1				*e*Sg		02 00 31.1	
	comp=Z,990nm,1.5s						
SONB1	**Songino Array**	**13.64**	**63**	*e*Pn	Pn	01 56 38.6	+0.3
SONB1				*e*Sg		02 00 32.3	
	comp=Z,886nm,1.6s						
SONB3	**Songino Array**	**13.64**	**63**	*e*Pn	Pn	01 56 38.7	+0.4
SONB3				*e*Sg		02 00 32.4	
	comp=Z,2μm,1.9s						
SONA3	**Songino Array**	**13.64**	**63**	*e*Pn	Pn	01 56 38.8	+0.5
SONA3				*e*Sg		02 00 31.9	
	comp=Z,1μm,1.8s						
SONB2	**Songino Ar. Si**	**13.65**	**63**	*e*Pn	Pn	01 56 38.8	+0.4
SONB2				*e*Sg		02 00 32.8	
	comp=Z,1μm,1.7s						
UB1M		**13.78**	**63**	*e*Pn	P	01 56 49.3	+0.8
UB1M				*e*Sg		02 00 36.8	
	comp=Z,495nm,1.1s						
LZH	**Lanzhou**	**13.88**	**115**	⇑P	**Pn**	**01 56 42.4**	**+0.8**
LZH				pP	P	01 56 46.4	-3.3
LZH				sP		01 56 48.7	
LZH				PP	**PnPn**	**01 56 51.0**	**+1.6**
LZH				S	**Sn**	**01 59 18.4**	**+3.4**
LZH				sS	S	01 59 25.1	-12
LZH				SS	**SnSn**	**01 59 35.0**	**+7.8**
LZH				PMZ			
	comp=Z,180nm,1.0s						
LZH				PMZ			
	comp=Z,360nm,4.0s						
LZH				LN			
	comp=Z,4μm,9.2s						
LZH				LE			
	comp=Z,7μm,10.0s						
LZH				LZ			
	comp=Z,7μm,11.8s						
UB5M		**13.88**	**63**	*e*Pn	Pn	01 56 42.9	+1.4
UB5M				*e*Sg		02 00 39.7	
	comp=Z,1μm,1.6s						
ALFM		**13.92**	**63**	*e*Pn	Pn	01 56 43.6	+1.5
ALFM				*e*Sg		02 00 41.7	
	comp=Z,568nm,1.3s						
SEMM		**13.95**	**64**	*e*Sg		02 00 38.1	
	comp=Z,256nm,1.3s						
ULN	**Ulaanbaatar**	**14.05**	**63**	*ce*P	**Pn**	**01 56 44.3**	**+0.5**
ULN				pmax	pmax		
	comp=Z,23nm,1.2s						
ULN	**Ulaanbaatar** SNR=25	**14.05**	**63**	P	**Pn**	**01 56 45.3**	**+1.5**
ULN	**Ulaanbaatar**	**14.05**	**63**	*e*Pn	**Pn**	**01 56 45.5**	**+1.7**
ULN				*e*Lg	Lg	02 00 24.8	
IRK	**Irkutsk**	**14.17**	**44**	⇓*i*P	**Pn**	**01 56 47.6**	**+2.3**
IRK				pmax	pmax		
	comp=Z,146nm,2.5s						
ARTM		**14.22**	**63**	*e*Pn	Pn	01 56 47.3	+1.0
ARTM				*e*Sg		02 00 47.3	
	comp=Z,460nm,0.9s						
UGDM		**14.24**	**64**	*e*Pn	Pn	01 56 47.4	+0.8
UGDM				*e*Sg		02 00 51.0	
	comp=Z,2μm,2.0s						
DHRM	**DHARAMSHALA**	**14.32**	**225**	*e*P	**Pn**	**01 56 46.0**	**-1.8**
DHRM				IAmb	IAmb	01 56 48.7	
	comp=Z,142nm,0.5s						
DHRM				*e*S	**Sn**	**01 59 18.6**	**-7.3**
THN	**Thein Dam**	**14.49**	**227**	*e*P	Pn	01 56 42.0	-7.7
THN				*e*S	Sn	01 59 19.0	-11
PONG	**Pong**	**14.74**	**225**	*e*P	**Pn**	**01 56 49.0**	**-4.1**
PONG				*e*S	**Sn**	**01 59 28.0**	**-7.7**
SMLA	**Simla**	**14.80**	**220**	*e*P	**Pn**	**01 56 52.1**	**-1.9**
SMLA				IAmb	IAmb	01 56 54.2	
	comp=Z,1μm,2.3s						
SMLA				*e*S	**Sn**	**01 59 29.7**	**-7.5**
SMLA				IAML		01 59 52.0	
	comp=N,100nm,1.0s						
SMLA				IAML		01 59 57.4	
	comp=E,138nm,1.4s						
CHCP	**Chirah Chowk**	**15.01**	**236**	P	**Pn**	**01 56 54.8**	**-2.1**
VOSK	**Vostochnaya**	**15.07**	**316**	⇑Pn	**Pn**	**01 56 54.1**	**-3.4**
	comp=E,163nm,1.1s						
VOSK				⇓Sn	**Sn**	**01 59 38.3**	**-5.4**
	comp=E,364nm,1.5s						
VOSK				⇑Lg	Lg	02 01 25.9	
	comp=E,1μm,1.6s						
DZET	**Dzherino**	**15.27**	**261**	⇓Pn	**Pn**	**01 56 59.0**	**-1.5**
	comp=E,211nm,0.9s						
DZET				⇑Sn	**Sn**	**01 59 44.7**	**-4.2**
	comp=E,212nm,1.9s						
DZET	**Dzherino**	**15.27**	**261**	P	**Pn**	**01 56 58.9**	**-1.5**
DZET				pmax	pmax		
	comp=Z,211nm,0.9s						
BVA0	**Borovoye Array**	**15.53**	**316**	⇑Pn	**Pn**	**01 57 01.6**	**-2.0**
	comp=Z,225nm,0.6s,baz=124,slow=11,SNR=711						
BVA0				⇑Sn	**Sn**	**01 59 47.2**	**-7.7**

KBL pmax pmax
comp=Z,70nm,0.6s
KBL Kabul 17.18 247 *e*Pn **Pn 01 57 23.9 -1.0**
comp=Z,70nm,0.6s
CD2 Chengdu 17.29 129 ⇓P **P 01 57 27.1 -0.3**
CD2 pP sP 01 57 35.7 -0.8
CD2 sP pP 01 57 39.4 +5.8
CD2 S **Sn 02 00 40.1 +2.3**
CD2 PMZ
comp=Z,30nm,0.8s
CD2 PMZ
comp=Z,380nm,6.1s
CD2 LN
comp=Z,3μm,9.8s
CD2 LE
comp=Z,3μm,11.2s
CD2 LZ
comp=Z,4μm,9.6s
HHC Hu-ho-hao-te 17.47 89 *e*P **P 01 57 30.2 +0.7**
HHC sP sP 01 57 38.1 -0.5
HHC PP **PnPn 01 57 44.6 +6.0**
HHC S **Sn 02 00 45.2 +2.9**
HHC PMZ
comp=Z,41nm,1.1s
HHC PMZ
comp=Z,420nm,4.2s
HHC LN
comp=Z,3μm,11.0s
HHC LE
comp=Z,4μm,11.5s
HHC LZ
comp=Z,2μm,9.7s
SHL Shillong 17.68 169 *e*P **Pn 01 57 30.4 -0.7**
SHL IAmb IAmb 01 57 31.9
comp=Z,87nm,1.2s
SHL *ex* x 02 00 50.0
SHL *ex* x 02 00 50.0
XAN Xi'an 18.46 112 P **Pn 01 57 40.8 +0.3**
XAN pP pP 01 57 44.8 -1.8
XAN S **Sn 02 01 06.3 +0.2**
XAN PMZ
comp=Z,18nm,1.6s
XAN PMZ
comp=Z,310nm,9.8s
XAN LN
comp=Z,2μm,12.3s
XAN LE
comp=Z,3μm,12.7s
XAN LZ
comp=Z,2μm,12.7s
TIY Taiyuan 19.15 98 *e*P **Pn 01 57 49.0 +0.1**
TIY S **Sn 02 01 20.4 -2.4**
TIY PMZ
comp=Z,58nm,0.3s
TIY PMZ
comp=Z,370nm,4.9s
TIY LN
comp=Z,1μm,8.2s
TIY LE
comp=Z,3μm,13.5s
TIY LZ
comp=Z,3μm,15.7s
BOK Bokaro 19.29 187 *e*P **P 01 57 48.1 -1.3**
BOK IAmb IAmb 01 57 49.5
comp=Z,36nm,0.6s
AB31 Akbulak array 20.50 297 ⇑Pn **P 01 58 02.5 +0.1**
comp=Z,28nm,0.5s,baz=95,slow=11,SNR=1794
AB31 ⇑Lg Lg 02 04 17.0
comp=Z,75nm,1.3s,baz=98,slow=28,SNR=5.7
AB31 Akbulak array 20.50 297 *e*P **P 01 58 02.5 +0.1**
AB31 pmax pmax
comp=Z,28nm,0.5s
ABKAR Akbulak array 20.50 297 *e*P **P 01 58 02.4 0.0**
BJI Beijing 21.08 89 P **P 01 58 09.4 +0.7**
BJI pP **pP 01 58 14.8 -0.2**
BJI sP **sP 01 58 17.6 -0.3**
BJI S **S 02 02 03.1 +0.9**
BJI sS **sS 02 02 11.6 -0.6**
BJI PMZ
comp=Z,51nm,0.9s
BJI PMZ
comp=Z,380nm,3.6s
BJI LN
comp=Z,3μm,10.2s
BJI LE
comp=Z,2μm,13.3s
BJI LZ
comp=Z,2μm,18.6s
BJT Baijiatuau 21.08 89 *e*P **P 01 58 09.4 +0.6**
BJT pmax pmax
comp=Z,54nm,0.6s
BJT Baijiatuau 21.08 89 *e*P **P 01 58 09.4 +0.6**
comp=Z,54nm,0.6s
ENH Enshi 21.20 120 *e*P **P 01 58 09.4 -0.8**
comp=Z,94nm,1.1s
ENH *e*PcP **PcP 02 02 14.7 -0.3**
KMI Kunming 21.47 142 ⇓P **P 01 58 12.7 -0.6**
KMI pP pP 01 58 17.7 -1.9
KMI sP sP 01 58 20.0 -2.4
KMI S **S 02 02 08.6 -1.9**
KMI LN
comp=Z,2μm,13.4s
KMI LE
comp=Z,1μm,16.2s
KMI LZ
comp=Z,2μm,12.9s
BHPL Bhopal 21.69 208 *e*P **P 01 58 15.3 -0.1**
BHPL IAmb IAmb 01 58 15.8
comp=Z,294nm,0.1s
AKTO Aktyubinsk 21.89 300 P **P 01 58 16.9 -0.5**
comp=Z,46nm,0.5s,baz=92,slow=9.0,SNR=53
AKTO LR LR 02 07 26.7
comp=Z,1μm,19.0s,baz=106,slow=38
AKTO Aktyubinsk 21.89 300 ⇓Pn **P 01 58 17.2 -0.3**
comp=Z,148nm,1.2s
AKTO ⇓Sn Sn 02 02 27.7 -0.7
comp=Z,58nm,1.8s
AKTO ⇑Lg Lg 02 05 01.7
comp=Z,357nm,2.0s
BOD Bodaibo 21.90 39 *e*P **P 01 58 17.9 +0.5**
BOD pmax pmax
comp=Z,72nm,1.1s
SVE Sverdlovsk 22.30 318*d i*P **P 01 58 21.9 +0.1**
SVE *e*S **S 02 02 21.0 -4.7**
SVE pmax pmax
comp=Z,244nm,0.6s
SVE MLR MLR
comp=Z,6μm,17.0s
GYA Guiyang 22.34 132 ⇑*i*P **P 01 58 21.7 -0.8**
GYA pP sP 01 58 31.0 -0.7
GYA PP **PnPn 01 58 52.0 +6.6**
GYA PcP **PcP 02 02 19.4 +1.9**
GYA S **S 02 02 24.6 -2.4**
GYA sS sS 02 02 35.5 -1.9
GYA SS **SnSn 02 03 03.0 +7.8**
GYA ScP **ScP 02 05 54.2 +0.8**
GYA PMZ
comp=Z,100nm,0.9s
GYA PMZ
comp=Z,230nm,8.7s
GYA LN
comp=Z,470nm,16.9s
GYA LE
comp=Z,430nm,17.2s
ARU Arti 23.18 316 P **P 01 58 31.2 +0.2**
comp=Z,107nm,0.4s,baz=102,slow=8.1,SNR=140
ARU Arti 23.18 316*c i*P **P 01 58 30.5 -0.5**
ARU 01 59 57.9
ARU PPP PPP 01 59 06.0
ARU S **S 02 02 41.5 +0.3**
ARU SS **SnSn 02 03 17.7 +2.6**
ARU pmax pmax
comp=Z,450nm,1.7s
ARU MLR MLR
comp=Z,5μm,17.0s
ARU Arti 23.18 316 *e*P **P 01 58 30.9 -0.1**
comp=Z,128nm,0.7s
TIA Tai'an 23.19 97 ⇑P **P 01 58 31.3 +0.1**
TIA S **S 02 02 41.7 0.0**
TIA PMZ
comp=Z,50nm,1.0s
TIA PMZ
comp=Z,550nm,4.0s
TIA LN
comp=Z,2μm,15.0s
TIA LE
comp=Z,2μm,15.0s
TIA LZ
comp=Z,3μm,14.0s
GEYT Alibeck 23.41 268 P **P 01 58 34.2 +0.8**
comp=Z,44nm,0.5s,baz=86,slow=6.2,SNR=84
WHN Wuhan 24.23 112 ⇑P **P 01 58 41.4 +0.2**
WHN pP **pP 01 58 46.6 -1.4**
WHN sP **sP 01 58 51.7 +1.0**
WHN S **S 02 02 58.3 -0.1**
WHN LN
comp=Z,7μm,10.8s
WHN LE
comp=Z,5μm,9.8s
WHN LZ
comp=Z,10μm,12.4s
SOKR Solikamsk 25.37 322*c i*P **P 01 58 49.9 -1.3**
SOKR pmax pmax
comp=Z,149nm,1.2s
SOKR MLR MLR
comp=Z,3μm,15.0s
VIS Vishakhapatnam 25.58 191 *e*P **P 01 58 53.6 +0.1**
VIS IAmb IAmb 01 58 54.5
comp=Z,45nm,0.3s
CHTO Chiang Mai 25.78 156 P **P 01 58 56.3 +0.9**
comp=Z,151nm,1.4s,comp=Z,2μm
CHTO Chiang Mai 25.78 156 *e*P **P 01 58 55.8 +0.4**
CHTO pmax pmax
comp=Z,80nm,1.5s
CHTO Chiang Mai 25.78 156 P **P 01 58 56.2 +0.7**
SNR=12
CHTO Chiang Mai 25.78 156 *e*P **P 01 58 55.8 +0.4**
comp=Z,80nm,1.5s
SNY Shenyang 25.99 80 ⇓P **P 01 59 00.0 +2.9**
SNY S **S 02 03 32.3 +5.9**
SNY PMZ
comp=Z,250nm,7.7s
SNY LN
comp=Z,2μm,11.3s
SNY LE
comp=Z,5μm,13.2s
SNY LZ
comp=Z,7μm,14.2s
CM31 Chiang Mai Arr 26.12 156 *e*P **P 01 59 00.1 +1.7**
CMAR Chiang Mai Arr 26.12 156 P **P 01 58 58.9 +0.4**
comp=Z,16nm,0.8s,baz=336,slow=9.4,SNR=51
CM01 Chiang Mai Arr 26.16 156 *e*P **P 01 58 59.8 +1.0**
CM01 *e*S S 02 03 43.3 +14
LAMP Lampang 26.27 155 P **P 01 59 01.4 +1.6**
comp=Z,10nm,0.8s
NRIK Noril'sk 26.37 359 P **P 01 59 00.7 +0.4**
comp=Z,11nm,0.6s,baz=170,slow=6.6,SNR=68
NJ2 Nanjing 26.49 104 *e*P **P 01 59 06.7 +5.0**
NJ2 S **S 02 03 37.4 +3.0**
NJ2 PMZ
comp=Z,15nm,0.5s
NJ2 LN
comp=Z,2μm,11.9s
NJ2 LE
comp=Z,2μm,14.1s
NJ2 LZ
comp=Z,3μm,11.4s
HYB Hyderabad 26.84 201 *i*P **P 01 59 06.0 +1.0**
HYB Hyderabad 26.84 201 *e*P **P 01 59 04.2 -0.8**
HYB IAmb IAmb 01 59 06.0
comp=Z,15nm,1.2s
CN2 Changchun 26.89 75 *e*P **P 01 59 05.2 0.0**
CN2 *e*S **S 02 03 48.0 +7.4**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,200nm,8.0s
CN2 LN
comp=Z,1μm,12.0s
CN2 LE
comp=Z,4μm,12.0s
CN2 LZ
comp=Z,4μm,12.0s
CLNS Chul'man 26.95 46 *e*P **P 01 58 59.8 -5.9**
CLNS pmax pmax
comp=Z,23nm,1.2s
CLNS pmax pmax
comp=E,15nm,1.4s
CLNS pmax pmax
comp=N,11nm,1.5s
UTTA Uttaradit 27.29 154 P **P 01 59 10.5 +1.5**
comp=N,5.5nm,0.8s
LOEI Loei 27.74 153 P **P 01 59 14.9 +1.8**
comp=N,12nm,1.1s,comp=N,452nm
NONG Nongkai 27.91 149 P **P 01 59 16.0 +1.4**
comp=N,19nm,1.0s
GZH Guangzhou 28.77 126 *e*P **P 01 59 19.1 -3.1**
GZH S **S 02 04 05.6 -4.8**
GZH PMZ
comp=N,260nm,7.4s
CHAI Chaiyaphum 29.48 152 P **P 01 59 29.5 +0.9**
comp=N,6.9nm,0.8s,comp=N,112nm
QIZ Qiongzhong 30.08 136 P **P 01 59 35.1 +1.3**
QIZ sP **sP 01 59 42.9 -0.5**
QIZ S **S 02 04 35.4 +4.3**
QIZ PMZ
comp=N,9.0nm,1.0s
QIZ LN
comp=N,1μm,13.9s
QIZ LE
comp=N,560nm,12.0s
QIZ LZ
comp=N,2μm,13.9s
KLR Kul'dur 30.44 63 P **P 01 59 37.0 +0.3**
comp=N,17nm,0.8s,baz=277,slow=9.1,SNR=46
KLR PcP **PcP 02 02 35.3 -0.5**
comp=N,3.5nm,0.4s,baz=291,slow=4.5,SNR=5.5
KS01 Wonju Array Si 30.55 87 *e*P **P 01 59 37.3 -0.6**
KS15 Wonju Array Si 30.56 87 *e*P **P 01 59 38.0 +0.1**
KSAR Wonju Array Be 30.56 87 P **P 01 59 37.7 -0.3**
KSAR 02 02 35.9
KSAR Wonju Array Be 30.56 87 P **P 01 59 37.7 -0.3**
KSAR PcP **PcP 02 02 35.9 -0.4**
KSRS Korea Array 30.58 87 P **P 01 59 37.7 -0.4**
comp=N,12nm,0.5s,baz=285,slow=8.6,SNR=64
KSRS PcP **PcP 02 02 35.9 -0.5**
comp=N,2.1nm,0.7s,baz=240,slow=0.8,SNR=6.0
KSRS Korea Array 30.58 87 P **P 01 59 37.7 -0.4**
KSRS 02 02 35.9
KSRS pmax pmax
comp=Z,13nm,0.5s
TJN Taejon 30.61 89⇑*e*P **P 01 59 37.8 -0.6**
QZH Quanzhou 30.73 116 P **P 01 59 37.0 -2.5**
QZH S **S 02 04 35.1 -6.1**
QZH LN
comp=Z,1μm,9.1s
QZH LE
comp=Z,1μm,13.2s
QZH LZ
comp=Z,3μm,15.9s
YAK Yatutsk 30.81 38 P **P 01 59 39.8 -0.1**
comp=Z,12nm,0.3s,baz=252,slow=22,SNR=13
YAK Yakutsk 30.81 38 *e*P **P 01 59 39.4 -0.5**
YAK *e* 02 00 38.0
YAK *e* 02 02 35.2
YAK *e*S **S 02 04 40.1 -1.7**
YAK *e* 02 10 12.4
YAK pmax pmax
comp=Z,91nm,0.8s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,33nm,1.3s
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=N,11nm,1.4s
YAK smax smax
comp=N,83nm,1.8s
YAK smax smax
comp=E,19nm,1.6s
YAK MLR MLR
comp=Z,1μm,12.0s
YAK MLR MLR
comp=E,817nm,12.0s
YAK MLR MLR
comp=N,413nm,10.0s
YAK Yakutsk 30.81 38 *e*P **P 01 59 39.0 -0.9**
comp=N,120nm,0.7s
MSHR Mys Shultsa 31.23 76⇓*e*P **P 01 59 42.4 -1.4**
WSAR Wadi Sarin 31.45 241 P **P 01 59 47.4 +1.4**
comp=N,30nm,0.6s,baz=99,slow=3.0,SNR=44
VLA Vladivostok 31.60 75*ce*P **P 01 59 47.2 +0.1**
VLA pmax pmax
comp=Z,31nm,0.9s
TBLG Delisi 31.90 283 P **P 01 59 50.2 +0.3**
TBLG Delisi 31.90 283 P **P 01 59 50.1 +0.3**
ASHO Ashiyiah 32.13 246 *i*P **P 01 59 53.5 +1.5**
SNR=5.8
ZEI Tsey 32.20 285 *e*P **P 01 59 51.2 -1.4**
ZEI pmax pmax
comp=Z,35nm,0.5s
NCK Nalchik 32.23 286⇓*e*P **P 01 59 53.3 +0.7**
NCK pmax pmax
comp=Z,27nm,0.9s
VRH Novokhopyorsk 32.23 301 *e*P **P 01 59 52.9 +0.4**
VRH pmax pmax
comp=Z,80nm,0.6s
VRH MLR MLR
comp=Z,610nm,10.0s
GOF Gofitskoye 32.24 289⇑*e*P **P 01 59 54.4 +1.7**
GOF pmax pmax
comp=Z,194nm,1.6s
GNI Garni 32.40 280 P **P 01 59 56.2 +1.8**
comp=Z,20nm,0.7s,baz=139,slow=1.7,SNR=31
GNI Garni 32.40 280 *i*P **P 01 59 56.3 +2.0**
SNR=14
GNI Garni 32.40 280*c i*P **P 01 59 55.9 +1.6**
GNI pmax pmax
comp=Z,238nm,1.2s
GNI Garni 32.40 280 P **P 01 59 56.3 +2.0**
SNR=18
GNI Garni 32.40 280 *e*P **P 01 59 55.6 +1.3**
comp=Z,103nm,1.4s
ONI Oni 32.57 285 P **P 01 59 57.4 +1.6**
ONI Oni 32.57 285 P **P 01 59 57.3 +1.6**
KBZ Khabaz 32.66 287 P **P 01 59 56.8 +0.5**
comp=Z,13nm,0.6s,baz=94,slow=7.8,SNR=36
KVAR Kislovodsk Arr 32.74 288 P **P 01 59 58.3 +1.1**
comp=Z,12nm,0.5s,baz=255,slow=10,SNR=29
KIV Kislovodsk 32.75 288 *i*P **P 01 59 58.6 +1.3**
SNR=7.4
KIV Kislovodsk 32.75 288 *e*P **P 01 59 58.1 +0.8**
KIV *e* 02 01 06.9
KIV *e*S **S 02 05 13.4 +0.7**
KIV pmax pmax
comp=Z,34nm,0.9s
KIV MLR MLR
comp=Z,1μm,16.0s
KIV Kislovodsk 32.75 288 P **P 01 59 58.5 +1.3**
SNR=14
KIV P **P 01 59 58.5 +1.3**
SNR=14
KIV Kislovodsk 32.75 288 *e*P **P 01 59 58.7 +1.3**
comp=Z,39nm,1.0s
AKH Akhalkalaki 32.89 283 P **P 02 00 00.7 +2.0**
AKH Akhalkalaki 32.89 283 P **P 02 00 00.6 +2.0**
NEY Neytrino 32.91 286 *e*P **P 01 59 59.9 +1.1**
SSLB Suanglung 33.08 115 *e*P **P 02 00 01.2 +0.9**
comp=Z,14nm,0.8s
CHVG Ch'k'valeri 33.50 286 P **P 02 00 05.7 +1.9**
VSR Storozhevoye 33.83 301 *e*P **P 02 00 06.1 -0.4**
VSR pmax pmax
comp=Z,170nm,1.2s
VSR MLR MLR
comp=Z,770nm,10.0s
LPSR Galich'ya Gora 33.86 304 *e*P **P 02 00 07.0 +0.2**
LPSR pmax pmax
comp=Z,110nm,0.8s
LPSR MLR MLR
comp=Z,990nm,10.0s
KLMR Klimovskoe 33.93 319 *e*P **P 02 00 03.8 -3.5**
KLMR *e* 02 01 18.3
KLMR pmax pmax
comp=Z,310nm,1.3s
MOS Moscow 34.53 310α *i*P **P 02 00 13.1 +0.6**
MOS *e* 02 01 29.2
MOS *e* 02 01 48.0
MOS pmax pmax
comp=Z,367nm,1.3s
MOS pmax pmax
comp=Z,700nm,1.7s
MOS MLR MLR
comp=N,700nm,17.0s
MOS MLR MLR
comp=E,3μm,17.0s
MOS MLR MLR
comp=Z,4μm,17.0s
JNU Nakatsue 34.66 92 P **P 02 00 13.7 -0.2**
comp=Z,4.7nm,0.7s,baz=256,slow=4.2,SNR=3.7
JNU PcP **PcP 02 02 46.8 -0.9**
comp=Z,20nm,1.0s,baz=11,slow=5.3,SNR=7.1
TIXI Tiksi 34.79 21 P **P 02 00 14.7 +0.2**
comp=Z,88nm,0.8s,baz=238,slow=3.9,SNR=105
TIXI LR LR 02 15 11.1
comp=Z,920nm,19.1s,baz=242,slow=38
TIXI Tiksi 34.79 21*c i*P **P 02 00 14.5 0.0**
TIXI pmax pmax
comp=Z,85nm,0.8s
TIXI Tiksi 34.79 21 *e*P **P 02 00 14.7 +0.2**
comp=Z,93nm,1.0s
SOC Sochi 34.92 288*c i*P **P 02 00 16.3 +0.3**
SOC *e* 02 01 36.5
SOC *e* 02 02 53.2
SOC *e*S **S 02 05 47.5 +1.4**
SOC *e*SS **SnSn 02 08 00.3 -1.0**
SOC pmax pmax
comp=Z,71nm,0.6s
SOC MLR MLR
comp=Z,662nm,13.0s
OBN Obninsk 35.14 308 P **P 02 00 17.9 +0.2**
comp=Z,39nm,0.4s,baz=78,slow=3.1,SNR=43
OBN Obninsk 35.14 308*c i*P **P 02 00 17.8 +0.1**
OBN *e*SS SS 02 08 06.5 -15
OBN pmax pmax
comp=Z,301nm,1.7s
OBN MLR MLR
comp=Z,3μm,19.0s
OBN Obninsk 35.14 308 *e*P **P 02 00 18.0 +0.2**
comp=Z,140nm,1.0s
SURA Surathani 35.18 160 P **P 02 00 20.3 +1.9**
comp=Z,30nm,1.2s
NKL Nikolayevsk 35.70 55 *e*P **P 02 00 19.0 -3.6**
NKL pmax pmax
comp=Z,34nm,1.0s
NKL MLR MLR
comp=E,2μm,13.0s
NKL MLR MLR
comp=Z,2μm,13.0s
ANN Anapa 36.16 291 *e*P **P 02 00 26.4 -0.3**
ANN *e**PP **sP 02 00 35.5 -0.8**
ANN *e*S **S 02 06 06.0 +0.9**
ANN *e*SS **SnSn 02 08 28.2 -3.2**
ANN pmax pmax
comp=Z,97nm,0.7s
ANN MLR MLR
comp=E,402nm,17.0s
ANN MLR MLR
comp=Z,482nm,17.0s
ANN MLR MLR
comp=N,390nm,17.0s
PALK Pallekele 36.23 193 P **P 02 00 28.2 +0.6**
comp=N,8.8nm,0.4s,baz=296,slow=2.9,SNR=13
PALK Pallekele 36.23 193 *e*P **P 02 00 27.8 +0.2**
TRTT Trang 36.47 161 P **P 02 00 30.6 +1.1**
comp=N,36nm,1.1s
TYV Tymovskoe 37.21 58 *e*P **P 02 00 36.5 +1.0**
TYV pmax pmax
comp=Z,11nm,0.8s
TYV MLR MLR
comp=E,2μm,12.0s
TYV MLR MLR
comp=Z,3μm,10.0s
LVZ Lovozero 37.43 330*c i*P **P 02 00 37.0 -0.3**
LVZ pmax pmax
comp=Z,39nm,1.0s
LVZ Lovozero 37.43 330 *e*P **P 02 00 36.6 -0.6**
comp=Z,64nm,1.2s
APA Apatity 37.82 329⇓*i*P **P 02 00 39.5 -1.0**
APA *i* 02 02 18.0
APA *i*S **S 02 06 25.0 -4.8**
APA pmax pmax
comp=Z,15nm,1.6s
APA MLR MLR
comp=Z,3μm,13.0s
YSS Yuzh-Sakhalins 38.09 65⇑*e*P **P 02 00 42.5 -0.5**

YSS pmax pmax
comp=Z,10.0nm,1.5s
KSRV Kasrt alli 38.24 276 *e*P **P 02 00 45.5 +1.0**
SIM Simferopol' 38.39 292*c e*P **P 02 00 45.0 -0.6**
SIM S **S 02 06 41.6 +2.6**
SIM pmax pmax
comp=Z,73nm,0.9s
SIM MLR MLR
comp=Z,160nm,9.9s
PUL Pulkovo 38.42 316⇓ *e*P **P 02 00 46.1 +0.5**
PUL pmax pmax
comp=Z,99nm,0.4s
CUALT Altinyayla-SIV 38.46 282 *i* P **P 02 00 48.7 +2.3**
MAJO Matsushiro 38.46 82⇓ *e*P **P 02 00 44.6 -1.7**
MAJO pmax pmax
comp=Z,42nm,1.0s
MJAR Matsushiro Arr 38.46 82 P **P 02 00 44.9 -1.4**
comp=Z,4.7nm,0.9s,baz=290,slow=9.3,SNR=11
MJAR PcP **PcP 02 02 58.6 -0.5**
comp=Z,4.8nm,0.7s,baz=287,slow=3.6,SNR=11
JHLN Al Jahlan 38.74 276 *e*P **P 02 00 49.4 +0.8**
CUSAR Sarkisla-SIVAS 38.77 283 *i* P **P 02 00 51.1 +2.1**
ASAJ Asahikawa 38.78 69 *e*P **P 02 00 47.1 -1.7**
comp=Z,38nm,1.5s
SLMH Al Salmeh 38.87 277 *e*P **P 02 00 50.7 +1.0**
KULM Kulim 39.16 160 *e*P **P 02 00 52.2 0.0**
comp=Z,39nm,1.0s
COAL Corum-Alaca 39.35 285 *i* P **P 02 00 55.5 +1.7**
KAMA Osmaniye 39.37 279 *i* P **P 02 00 55.6 +1.7**
DRWC Darouich 39.61 279 *e*P **P 02 00 56.7 +0.8**
ERM Erimo 39.86 72⇓ *e*P **P 02 00 56.0 -1.9**
ERM pmax pmax
comp=Z,21nm,1.2s
YAHY KAYSERI_Yahyal 39.93 281 *i* P **P 02 01 00.6 +1.9**
ILGA Ilgaz 39.95 286 *i* P **P 02 01 00.5 +1.6**
BTCH Batrach 40.02 278 *e*P **P 02 00 59.4 0.0**
IPM Ipoh 40.03 160 *e*P **P 02 00 59.2 -0.3**
comp=Z,16nm,0.6s
AKASG Malin Array Be 40.12 302 P **P 02 00 59.8 -0.1**
comp=Z,15nm,0.5s,baz=66,slow=8.7,SNR=57
AKBB Malin Array Si 40.12 302 *e*P **P 02 00 59.9 0.0**
AKBB pmax pmax
comp=Z,55nm,1.0s
AKBB Malin Array Si 40.12 302 *e*P **P 02 00 59.9 0.0**
comp=Z,55nm,1.0s
KIEV Kiev 40.13 302*c i*P **P 02 00 59.7 -0.3**
KIEV pmax pmax
comp=Z,46nm,1.0s
KIEV Kiev 40.13 302 *e*P **P 02 00 59.7 -0.3**
comp=Z,56nm,1.0s
AK11 Malin Array Si 40.16 302 *e*P **P 02 01 00.2 0.0**
MICGM Minsk 40.20 308⇓ *e*P **P 02 01 01.0 +0.5**
MICGM PM 02 01 02.0
comp=Z,0.2nm,1.6s
MICGM *e*PP PP 02 02 22.0 -11
MICGM *e*PPP PPP 02 03 01.0
MICGM *e*S **S 02 07 08.0 +2.1**
MICGM *e*LQ LQ 02 14 24.0
MICGM *e*LR LR 02 17 02.0
MICGM LRM MLR 02 18 30.0
comp=Z,5.2nm,17.0s
MNK Minsk 40.20 308⇓ *e*P **P 02 01 01.0 +0.5**
MNK *e*PPP PPP 02 03 01.0
MNK *e*S **S 02 07 08.0 +2.1**
MNK pmax pmax
comp=Z,160nm,1.6s
MNK MLR MLR
comp=Z,5μm,17.0s
ROOS tl_alroos 40.27 275 *e*P **P 02 01 02.0 +0.5**
YURE YUREGIR 40.27 279 *i* P **P 02 01 04.5 +3.1**
YAYL Yayladag 40.27 278 *i* P **P 02 01 01.9 +0.3**
VSU Vasula 40.33 314*c i*P **P 02 01 01.8 +0.2**
VSU pmax pmax
comp=Z,383nm,1.2s
ARNB Al Arnab 40.45 278 *e*P **P 02 01 04.6 +1.6**
FIA1 FINESS Array S 40.46 319 *e*P **P 02 01 03.0 +0.4**
comp=Z,71nm,1.1s
FINES FINESS Array B 40.46 319 P **P 02 01 02.9 +0.3**
comp=Z,9.8nm,0.4s,baz=95,slow=8.6,SNR=89
FINES PcP **PcP 02 03 04.7 -0.3**
comp=Z,5.3nm,0.4s,baz=120,slow=5.6,SNR=4.4
BR131 Keskin Array S 40.51 285 *e*P **P 02 01 04.2 +0.8**
BRTR Keskin Array B 40.51 285 P **P 02 01 04.1 +0.6**
comp=Z,17nm,0.6s,baz=93,slow=6.6,SNR=165
KEV Kevo 40.51 332 *e*P **P 02 01 03.9 +0.9**
KEV pmax pmax
comp=Z,57nm,1.4s
KEV Kevo 40.51 332 *e*P **P 02 01 03.9 +0.9**
comp=Z,57nm,1.4s
IDID Didziasalis 40.72 310 *e*P **P 02 01 05.7 +0.9**
IDID IAmb IAmb 02 01 07.3
comp=Z,34nm,0.8s
MA2 Magadan 40.75 44 P **P 02 01 05.3 +0.3**
comp=Z,13nm,0.4s,baz=307,slow=8.9,SNR=10
MA2 PcP **PcP 02 03 04.9 -1.0**
comp=Z,13nm,1.0s,baz=201,slow=3.9,SNR=4.0
MA2 Magadan 40.75 44 *e*P **P 02 01 05.4 +0.3**
MA2 02 03 04.9
MA2 pmax pmax
comp=Z,153nm,0.9s
MA2 Magadan 40.75 44 *e*P **P 02 01 05.4 +0.3**
comp=Z,153nm,0.9s
MA2 PcP **PcP 02 03 04.9 -1.0**
NACGM Naroch 40.77 309 *e*P **P 02 01 05.0 -0.2**
NACGM PM 02 01 07.0
comp=Z,0.2nm,0.9s
NACGM *e*LQ LQ 02 11 20.0
NACGM *e*LR LR 02 13 46.0
NACGM LRM MLR 02 18 57.0
comp=Z,5.4nm,10.0s
DED Mersin 40.81 280 *i* P **P 02 01 08.0 +2.1**
ZALF Zalf 40.83 273 *e*P **P 02 01 06.7 +0.6**
MARH Ras Al Marh 40.92 275 *e*P **P 02 01 08.3 +1.1**
IZAR Zarasai 40.93 310 *e*P **P 02 01 07.6 +1.0**
IZAR IAmb IAmb 02 01 08.9
comp=Z,40nm,0.6s
BBAL Bala 40.94 285 *i* P **P 02 01 08.1 +1.0**
ARA0 ARCESS Array S 41.01 332 *e*P **P 02 01 07.7 +0.6**
ARCES ARCESS Array B 41.01 332 P **P 02 01 07.7 +0.6**
comp=Z,11nm,0.4s,baz=81,slow=7.2,SNR=167
ARCES PcP **PcP 02 03 06.3 -0.3**
comp=Z,12nm,0.4s,baz=96,slow=2.9,SNR=14
ARE0 ARCESS Array S 41.01 332 *e*P **P 02 01 07.6 +0.6**
ARE0 IAmb IAmb 02 01 08.7
comp=Z,170nm,1.8s
ARE0 IVMs_BB IVMs_BB 02 20 29.7
comp=Z,2μm,11.1s
ARE0 ARCESS Array S 41.01 332 *e*P **P 02 01 07.8 +0.8**
comp=Z,150nm,1.8s
ISAL Salakas 41.03 310 *e*P **P 02 01 08.3 +1.0**
ISAL IAmb IAmb 02 01 09.8
comp=Z,42nm,0.6s
ANTO Ankara 41.05 285 *e*P **P 02 01 09.1 +1.2**
ANTO pmax pmax
comp=Z,35nm,0.8s
ANTO Ankara 41.05 285 *e*P **P 02 01 09.1 +1.2**
comp=Z,35nm,0.8s
BR231 Keskin MP Arra 41.07 285 *e*P **P 02 01 09.6 +1.5**
BCAM Yenicaga 41.20 287 *i* P **P 02 01 10.6 +1.5**
SORM Soroca 41.30 299⇑ *i*P **P 02 01 09.5 -0.2**
SORM Soroca 41.30 299 ⇑P **P 02 01 09.5 -0.2**
SEY Seymchan 41.32 39 P **P 02 01 09.8 +0.1**
comp=Z,4.7nm,0.4s
KIS Kishinev 41.33 297 *i* P **P 02 01 10.0 +0.1**
comp=Z,400nm,1.0s
KIS Kishinev 41.33 297 *e*PP PP 02 02 46.0 +0.7
KIS *e*S **S 02 07 26.0 +3.1**
KIS *e*SS **SS 02 10 26.0 -0.5**
KIS *e*SSS SSS 02 10 52.0
KIS LRM MLR 02 21 22.0
comp=Z,700nm,10.0s
KIS Kishinev 41.33 297⇑ *i*P **P 02 01 10.2 +0.3**
KIS Kishinev 41.33 297*α i*P **P 02 01 10.0 +0.1**
KIS *e* 02 02 46.0
KIS *e*S **S 02 07 26.0 +3.1**
KIS *e*SS **SS 02 10 26.0 -0.5**
KIS pmax pmax
comp=Z,380nm,1.0s
KIS MLR MLR
comp=N,700nm,10.0s
KIS MLR MLR
comp=E,1μm,10.0s
KIS MLR MLR
comp=Z,1μm,10.0s
KIS MLR MLR
comp=Z,1μm,12.0s
SALA Sala 41.38 273 *e*P **P 02 01 11.9 +1.2**
ASF Jabal al Asfar 41.52 272 P **P 02 01 13.4 +1.6**
comp=Z,32nm,1.1s,baz=12,slow=2.2,SNR=49
ASF PP **PnPn 02 02 50.6 -2.0**
comp=Z,6.3nm,0.9s,baz=9.7,slow=4.0,SNR=4.9
BRBR Barbar 41.61 275 *e*P **P 02 01 13.0 +0.3**
HAMF Hammerfest 41.75 333 *e*P **P 02 01 14.0 +0.9**
HAMF IAmb IAmb 02 01 15.5
comp=Z,40nm,1.0s
KTK1 Kautokeino 41.76 331 *e*P **P 02 01 13.8 +0.6**
KTK1 IAmb IAmb 02 01 14.4
comp=Z,14nm,0.5s
TLCR 41.89 294⇓ *i*P **P 02 01 15.3 +0.8**
TLCR 41.89 294 ⇓P **P 02 01 15.3 +0.8**
KUR Kuril'sk 41.99 66 P **P 02 01 14.3 -1.1**
KUR *e*S **S 02 07 33.3 +0.5**
KUR MLR MLR
comp=N,561nm,16.0s
KUR MLR MLR
comp=E,696nm,16.0s
KUR MLR MLR
comp=Z,1μm,16.0s
BTAS Taskesti 42.04 287 *i* P **P 02 01 17.2 +1.3**
KDHN Kadinhani 42.08 284 *i* P **P 02 01 16.8 +0.5**
MMAI Mount Meron Ar 42.20 274 P **P 02 01 18.6 +1.3**
comp=Z,26nm,1.0s,baz=58,slow=10.0,SNR=45
MMAI PcP **PcP 02 03 12.1 +0.9**
comp=Z,2.6nm,0.5s,baz=47,slow=4.9,SNR=5.5
ERMK Ermenek 42.31 281 *i* P **P 02 01 19.0 +0.6**
CFR Carcaliu 42.34 294⇑ *i*P **P 02 01 18.5 +0.2**
CFR Carcaliu 42.34 294 ⇑P **P 02 01 18.5 +0.2**
GSI Gunungsitoli 42.38 166 P **P 02 01 20.9 +2.1**
comp=Z,51nm,0.7s
GSI Gunungsitoli 42.38 166 *e*P **P 02 01 19.4 +0.6**
comp=Z,36nm,0.6s
HOPEN Hopen 42.40 342 *e*P **P 02 01 19.6 +1.3**
HOPEN IAmb IAmb 02 01 20.9
comp=Z,43nm,0.8s
TIRR Tirgusor 42.40 293⇓ *i*P **P 02 01 19.4 +0.7**
TIRR Tirgusor 42.40 293 ⇓P **P 02 01 19.4 +0.7**
ESKT Eskisehir 42.56 286 *i* P **P 02 01 21.5 +1.2**
HARR Harsova 42.65 294⇑ *i*P **P 02 01 21.3 +0.6**
HARR Harsova 42.65 294 ⇑P **P 02 01 21.3 +0.6**
BORA Eskisehir 42.70 286 *i* P **P 02 01 21.8 +0.5**
CSS Mathiatis 42.78 278 P **P 02 01 21.6 -0.4**
CSS Mathiatis 42.78 278 *e*P **P 02 01 23.6 +1.7**
comp=Z,5.4nm,1.0s
BOLV Bolvadin 42.82 284 *i* P **P 02 01 24.1 +1.7**
PSN Preselentsi 42.83 292 P **P 02 01 22.2 0.0**
ODBI Odobesti 42.87 296⇑ *i*P **P 02 01 25.2 +2.7**
TESR Tescani 42.89 297⇑ *i*P **P 02 01 23.2 +0.4**
PRAR RASCA 42.90 298⇓ *i*P **P 02 01 23.9 +1.1**
MSAB Monastry St. A 42.92 293⇑ *i*P **P 02 01 24.1 +1.1**
GAZI Gazipasa 42.93 280 *i* P **P 02 01 23.4 +0.2**
SUW Suwalki 43.00 308 *e*P **P 02 01 23.6 +0.1**
SUW *e* 02 08 19.3
SUW LMZ LR 02 19 57.7
comp=Z,4μm,19.0s
SUW Suwalki 43.00 308 *e*P **P 02 01 23.6 +0.1**
SUW MLR MLR
comp=Z,4μm,19.0s
GRER 43.05 295⇑ *i*P **P 02 01 26.6 +2.6**
VRI Vrincioaia 43.05 296⇑ *i*P **P 02 01 25.3 +1.2**
VRI Vrincioaia 43.05 296 ⇑P **P 02 01 25.3 +1.2**
PLOR Plostina 43.11 296⇓ *i*P **P 02 01 26.1 +1.6**
PLOR Plostina 43.11 296 ⇓P **P 02 01 26.1 +1.6**
MNSI Mandailing Nat 43.26 163 P P 02 01 39.2 +13
TRO Tromso 43.31 331 *e*P **P 02 01 26.4 +0.6**
TRO IAmb IAmb 02 01 28.0
comp=Z,50nm,1.1s
ISR Istrita 43.43 295⇑ *i*P **P 02 01 29.9 +2.8**
ISR Istrita 43.43 295 ⇑P **P 02 01 29.9 +2.8**
BURAR Bucovina Array 43.47 299⇑ *i*P **P 02 01 28.2 +0.7**
BURAR Bucovina Array 43.47 299 ⇑P **P 02 01 28.2 +0.7**
BUR08 Bucovina Ar. S 43.48 299 *e*P **P 02 01 28.1 +0.6**
PRD Provadia 43.53 292 P **P 02 01 28.6 +0.7**
LVV L'vov 43.56 302 *e*P **P 02 01 28.7 +0.6**
LVV *e* 02 03 16.3
LVV *e*PPP PPP 02 03 42.5
LVV *e*S **S 02 07 55.1 -0.7**
LVV MLR MLR
comp=N,300nm,12.0s
LVV MLR MLR
comp=E,600nm,12.0s
LVV MLR MLR
comp=Z,700nm,12.0s
MLR Muntele Rosu 43.70 296 P **P 02 01 30.4 +1.1**
comp=Z,4.8nm,0.6s,baz=357,slow=5.3,SNR=54
MLR Muntele Rosu 43.70 296⇑ *i*P **P 02 01 30.6 +1.2**
GDZ Gediz 43.71 286 *i* P **P 02 01 29.9 +0.3**
SECR 43.77 295⇑ *i*P **P 02 01 31.4 +1.5**
DOPR Dopca 43.90 296⇑ *i*P **P 02 01 32.9 +2.0**
KHAL Karahalli 44.01 285 *i* P **P 02 01 32.2 +0.2**
ARCR ARCALIA 44.20 298⇑ *i*P **P 02 01 36.0 +2.7**
EIL Elat 44.25 271 P **P 02 01 35.2 +1.4**
comp=Z,47nm,1.0s,baz=54,slow=2.9,SNR=34
VOIR 44.30 296⇑ *i*P **P 02 01 35.4 +1.2**
VOIR 44.30 296 ⇑P **P 02 01 35.4 +1.2**
KKM Kota Kinabalu 44.34 138 *e*P **P 02 01 34.8 0.0**
comp=Z,14nm,0.7s
KWP Kalwaria Pacla 44.44 302 *e*P **P 02 01 36.3 +1.2**
KWP *e* 02 08 31.2
KWP LMZ LR 02 21 41.9
comp=Z,1μm,16.1s
KWP Kalwaria Pacla 44.44 302 *e*P **P 02 01 36.3 +1.2**
KWP MLR MLR
comp=Z,1μm,16.1s
GOLH Golhisar 44.45 283 *i* P **P 02 01 36.3 +0.8**
EDRB Edirne 44.50 290 P **P 02 01 36.3 +0.6**
EDRB Edirne 44.50 290 ⇑P **P 02 01 36.3 +0.6**
SZH Strazhica 44.50 293 P **P 02 01 36.4 +0.7**
KULA Kula-Manisa 44.53 285 P **P 02 01 36.7 +0.6**
KULA Kula-Manisa 44.53 285 P **P 02 01 36.7 +0.6**
KLNR Kaliningrad 44.55 310 *i* P **P 02 01 36.3 +0.4**
KLNR pmax pmax
comp=Z,211nm,0.9s
SPA0 Spitsbergen Ar 44.57 344 *e*P **P 02 01 37.2 +1.4**
SPA0 IAmb IAmb 02 01 38.7
comp=Z,63nm,1.5s
SPA0 Spitsbergen Ar 44.57 344 *e*P **P 02 01 37.0 +1.2**
SPITS Spitsbergen Ar 44.57 344 P **P 02 01 36.5 +0.6**
comp=Z,3.3nm,0.5s,baz=118,slow=8.6,SNR=25
ARR Arges 44.60 296⇑ *i*P **P 02 01 37.7 +1.1**
HUMR Humele 44.67 295⇓ *i*P **P 02 01 38.3 +1.2**
STEI Steigen 44.72 329 *e*P **P 02 01 37.4 +0.3**
STEI IAmb IAmb 02 01 38.5
comp=Z,44nm,0.7s
CJR Cluj-Napoca 44.81 298⇑ *i*P **P 02 01 40.7 +2.5**
CJR Cluj-Napoca 44.81 298 ⇑P **P 02 01 40.7 +2.5**
AKAS Kas 44.88 282 *i* P **P 02 01 38.5 -0.5**
KOLS Kolonicke sedl 44.92 301 *e*P **P 02 01 39.7 +0.7**
KOLS pmax pmax
comp=Z,22nm,1.2s
KOLS MLR MLR
comp=Z,400nm,19.5s
KOLS Kolonicke sedl 44.92 301 *e*P **P 02 01 39.7 +0.7**
KOLS *e*PP **PcP 02 03 21.0 +0.9**
KOLS *e* 02 16 33.4
KOLS *e*L L 02 21 35.0
BEL Belsk 44.96 306 *e*P **P 02 01 39.9 +0.7**
BEL LMZ LR 02 21 01.5
comp=Z,1μm,22.5s
BEL Belsk 44.96 306 *e*P **P 02 01 39.9 +0.7**
BEL MLR MLR
comp=Z,1μm,22.5s
UZH Uzhgorod 45.01 301 *e*P **P 02 01 39.2 -0.5**
UZH *e*S **S 02 08 14.4 -2.4**
UZH MLR MLR
comp=Z,2μm,10.0s
TRPA Tarpa 45.02 300⇑ *e*P **P 02 01 40.7 +1.0**
PDSI Padang 45.11 163 P **P 02 01 41.9 +1.1**
comp=Z,56nm,1.0s,comp=Z,9μm
LOT Lotru 45.14 296⇑ *i*P **P 02 01 42.0 +1.0**
DIM Dimitrovgrad 45.24 291 P **P 02 01 42.6 +1.0**
LOF Lofoten 45.34 329 *e*P **P 02 01 42.0 0.0**
LOF IAmb IAmb 02 01 42.7
comp=Z,48nm,0.9s
LOF IAMs_20 IAMs_20 02 22 34.1
comp=Z,3μm,18.3s
ALN Alexandroupoli 45.36 290 P **P 02 01 43.2 +0.7**
ALN Alexandroupoli 45.36 290 P **P 02 01 43.2 +0.7**
ALN Alexandroupoli 45.36 290 P **P 02 01 43.2 +0.7**
DRGR 45.36 298⇑ *i*P **P 02 01 43.6 +1.0**
DRGR 45.36 298 ⇑P **P 02 01 43.6 +1.0**
STHS Stebnicka Huta 45.41 302 *e*P **P 02 01 44.0 +1.0**
STHS pmax pmax
comp=Z,17nm,0.7s
STHS Stebnicka Huta 45.41 302 *e*P **P 02 01 43.9 +1.0**
CRVS Cervenica-Dubn 45.44 302 *e*P **P 02 01 43.6 +0.5**
CRVS Cervenica-Dubn 45.44 302 *e*P **P 02 01 43.6 +0.5**
CRVS *e* 02 16 46.9
AYDN Tasoluk 45.46 285 *i* P **P 02 01 43.8 +0.3**
KDZ Kurdzhali 45.48 291 P **P 02 01 44.9 +1.3**
KBS Kingsbay 45.52 345⇑ *e*P **P 02 01 43.3 0.0**
KBS pmax pmax
comp=Z,63nm,1.1s
EZN Ezine 45.61 288 P **P 02 01 45.3 +0.7**
EZN Ezine 45.61 288 P **P 02 01 45.3 +0.7**
EZN Ezine 45.61 288 P **P 02 01 45.3 +0.7**
KONS Konsvik 45.70 327 *e*P **P 02 01 45.3 +0.4**
KONS IAmb IAmb 02 01 47.0
comp=Z,26nm,0.5s
SBUM Sibu 45.71 145 *e*P **P 02 01 47.0 +1.4**
comp=Z,25nm,0.8s
PEA0 Petropavlovsk- 45.76 52 *e*P **P 02 01 45.5 -0.1**
PETK Petropavlovsk- 45.76 52 P **P 02 01 45.5 -0.1**
comp=Z,9.5nm,0.6s,baz=278,slow=2.0,SNR=15
PETK Petropavlovsk- 45.76 52 P **P 02 01 45.5 -0.1**
PETK pmax pmax
comp=Z,8.0nm,0.5s
STOK Stokkvaagen 45.77 327 *e*P **P 02 01 45.5 +0.1**
PLD Plovdiv 45.79 292 P **P 02 01 46.4 +0.5**
GZR Gura Zlata 45.81 297⇑ *i*P **P 02 01 48.2 +2.0**
GZR Gura Zlata 45.81 297 ⇑P **P 02 01 48.2 +2.0**
MPEP Malo Peshtene 45.95 294 P **P 02 01 48.2 +1.0**
RZN Rozhen 45.95 291 P **P 02 01 48.2 +0.7**
PGB Panagyurishte 45.98 292 P **P 02 01 49.0 +1.5**
NIE Niedzica 45.99 303 *e*P **P 02 01 49.0 +1.5**
NIE LMZ LR 02 24 35.5
comp=Z,300nm,20.3s
NIE Niedzica 45.99 303 *e*P **P 02 01 49.0 +1.5**
NIE MLR MLR
comp=Z,300nm,20.3s
BDRM Kayabasi 46.04 284 *i* P **P 02 01 48.6 +0.6**
OJC Ojcow 46.04 304 *e*P **P 02 01 48.5 +0.7**
OJC *e* 02 08 43.9
OJC LMZ LR 02 21 47.9
comp=Z,1μm,18.0s
OJC Ojcow 46.04 304 *e*P **P 02 01 48.5 +0.7**
OJC *e* 02 08 43.9
OJC MLR MLR
comp=Z,1μm,18.0s
OJC Ojcow 46.04 304 *e*P **P 02 01 48.6 +0.7**
comp=Z,120nm,0.6s
BODT Bodrum 46.14 284 P **P 02 01 49.2 +0.4**
BODT Bodrum 46.14 284 P **P 02 01 49.2 +0.4**
CBIJ Chichi jima 46.14 92 P **P 02 01 47.8 -1.1**
JCJ Chichijima 46.14 92 P **P 02 01 47.8 -1.1**
comp=Z,26nm,0.5s,baz=295,slow=5.1,SNR=3.5
KECS Kecovo 46.19 301 *e*P **P 02 01 50.1 +1.1**
KECS pmax pmax
comp=Z,13nm,0.7s
KECS Kecovo 46.19 301 *e*P **P 02 01 50.1 +1.1**
SIRR Siria 46.22 298⇑ *i*P **P 02 01 51.6 +2.2**
MYLDM Lahad Datu 46.23 136 *e*P **P 02 01 49.5 -0.1**
comp=Z,24nm,0.8s
PET Petropavlovsk 46.33 52 *e*P **P 02 01 49.3 -0.7**
PET *e*S **S 02 08 33.6 -2.1**
PET pmax pmax
comp=Z,30nm,1.0s
PET pmax pmax
comp=Z,100nm,16.0s
PET MLR MLR
comp=Z,500nm,16.0s
PET MLR MLR
comp=Z,700nm,16.0s
PET Petropavlovsk 46.33 52 *e*P **P 02 01 49.5 -0.6**
comp=Z,26nm,1.0s
CHOS Chios island 46.43 286 P **P 02 01 51.9 +0.8**
CHOS Chios island 46.43 286 P **P 02 01 51.9 +0.8**
NSS Namsos 46.50 325 *e*P **P 02 01 50.9 -0.3**
NSS IAmb IAmb 02 01 52.5
comp=Z,66nm,1.1s
BILL Bilibino 46.58 30⇑ *i*P **P 02 01 52.3 +0.5**
BILL *i* 02 03 26.0
BILL *e* 02 03 41.9
BILL *e*S S 02 09 00.2 +21
BILL *e*SS **SS 02 12 03.4 -1.2**
BILL pmax pmax
comp=Z,21nm,1.7s
BILL MLR MLR
comp=Z,418nm,17.0s
BILL Bilibino 46.58 30 *e*P **P 02 01 52.4 +0.6**
comp=Z,13nm,0.7s
LANS Liptovska Anna 46.60 303 *e*P **P 02 01 53.9 +1.6**
LANS Liptovska Anna 46.60 303 *e*P **P 02 01 53.9 +1.6**
HFS Hagfors 46.65 318 P **P 02 01 52.7 +0.2**
comp=Z,20nm,0.5s,baz=89,slow=8.2,SNR=168
MMB Musomiste 46.66 291 P **P 02 01 53.9 +1.0**
MDVR Moldovita 46.74 296⇓ *i*P **P 02 01 55.0 +1.5**
PSZ Piszkesteto 46.76 301⇑ *e*P **P 02 01 54.7 +1.1**
PSZ Piszkesteto 46.76 301 *e*P **P 02 01 54.6 +1.0**
PSZ pmax pmax
comp=Z,40nm,1.1s
PSZ Piszkesteto 46.76 301 *e*P **P 02 01 54.6 +1.0**
comp=Z,40nm,1.1s
KARP Karpathos 46.95 282 *e*P **P 02 01 55.1 -0.1**
comp=Z,25nm,1.0s
SRS Serrai 46.95 291 P **P 02 01 55.4 +0.2**
SRS Serrai 46.95 291 P **P 02 01 55.4 +0.2**
SRS Serrai 46.95 291 P **P 02 01 55.4 +0.2**
KKB Krupnik 46.99 292 P **P 02 01 55.7 +0.3**
DAMY Dhamar 47.01 247 *e*P **P 02 01 56.6 +0.5**
comp=Z,46nm,1.0s
OUR Ouranopolis 47.02 290 P **P 02 01 56.1 +0.5**
OUR Ouranopolis 47.02 290 P **P 02 01 56.1 +0.5**
OUR Ouranopolis 47.02 290 P **P 02 01 56.1 +0.5**
OKC Ostrava-Krasne 47.17 304⇑ *e*P **P 02 01 57.5 +0.8**
OKC *e*pP **pP 02 02 03.6 -0.1**
OKC *e*PP **PP 02 03 47.2 -0.3**
OKC *e*S S 02 08 58.7 +11
OKC AMS AMS 02 23 30.0
comp=Z,1μm,12.1s
OKC Ostrava-Krasne 47.17 304 *e*P **P 02 01 57.5 +0.8**
OKC *e**PP **pP 02 02 03.6 -0.1**
OKC *e* 02 03 47.2
OKC *e*S S 02 08 58.7 +11
OKC MLR MLR
comp=Z,1μm,12.1s
VYHS Vyhne 47.22 302 *e*P **P 02 01 58.4 +1.3**
VYHS pmax pmax
comp=Z,59nm,1.5s
VYHS Vyhne 47.22 302 *e*P **P 02 01 58.4 +1.3**
BSD Bornholm Skovb 47.36 312⇑ *i*P **P 02 01 58.1 0.0**
BSD pmax pmax
comp=Z,32nm,0.9s
BSD MLR MLR
comp=Z,4μm,16.0s
BSD Bornholm Skovb 47.36 312⇑ *i*P **P 02 01 58.1 0.0**
comp=Z,32nm,0.9s
comp=Z,5μm,16.0s
NC405 NORSAR Array S 47.36 320 *e*P **P 02 01 58.3 +0.2**
APE Apeiranthos 47.40 285*c i*P **P 02 01 58.2 -0.5**
APE pmax pmax
comp=Z,61nm,1.0s
PAIG Paliouri 47.41 289 P **P 02 01 59.0 +0.4**
PAIG Paliouri 47.41 289 P **P 02 01 59.0 +0.4**
PAIG Paliouri 47.41 289 P **P 02 01 59.0 +0.4**
BUD Budapest 47.46 301⇑ *e*P **P 02 02 00.2 +1.2**
BUD Budapest 47.46 301 P **P 02 02 00.7 +1.7**
NC303 NORSAR Array S 47.50 320 *e*P **P 02 01 59.2 +0.1**
TBLU Trondheim 47.51 323 *e*P **P 02 01 58.2 -1.0**
TBLU IAmb IAmb 02 01 59.3
comp=Z,40nm,0.7s
NC602 NORSAR Array S 47.54 320 *e*P **P 02 01 59.1 -0.3**
NC602 IVMs_BB IVMs_BB 02 23 04.4
comp=Z,1μm,12.4s
NC602 NORSAR Array S 47.54 320 *e*P **P 02 01 59.4 0.0**
MORC Moravsky Berou 47.56 304 *e*P **P 02 02 00.7 +0.9**
MORC pmax pmax
comp=Z,175nm,0.8s
MORC Moravsky Berou 47.56 304 *e*P **P 02 02 00.7 +0.9**
comp=Z,175nm,0.8s
NB201 NORSAR Array S 47.58 320 *e*P **P 02 01 59.1 -0.6**
AOS Alonnisos 47.60 288 P **P 02 02 00.6 +0.4**
AOS Alonnisos 47.60 288 P **P 02 02 00.6 +0.4**

NB2	**NORSAR Subarra**	**47.62 320**	P	**P**	**02 01 59.9**	**-0.2**		
	comp=Z,19nm,0.4s,baz=76,slow=7.9							
NB2	**NORSAR Subarra**	**47.62 320**	P	**P**	**02 01 59.9**	**-0.2**		
	baz=76,slow=7.9							
NB2	**NORSAR Subarra**	**47.62 320**	P	**P**	**02 01 59.9**	**-0.2**		
NB2			pmax	pmax				
	comp=Z,47nm,0.8s							
NOA	**NORSAR Array B**	**47.62 320**	P	**P**	**02 01 59.9**	**-0.2**		
	comp=Z,25nm,0.5s,baz=75,slow=7.9,SNR=154							
NC204	**NORSAR Array S**	**47.77 320**	*e*P	**P**	**02 02 00.8**	**-0.5**		
SANT	**Santorini**	**47.77 284**	*e*P	**P**	**02 02 00.9**	**-0.7**		
	comp=Z,23nm,0.6s							
NBO02	**NORSAR Array S**	**47.78 320**	*e*P	**P**	**02 02 00.8**	**-0.6**		
NAO01	**NORSAR Array S**	**47.82 320**	*e*P	**P**	**02 02 01.1**	**-0.5**		
THR6	**Thira Island,**	**47.82 284**	P	**P**	**02 02 01.6**	**-0.3**		
THR6	**Thira Island,**	**47.82 284**	P	**P**	**02 02 01.6**	**-0.3**		
NBO00	**NORSAR Array S**	**47.83 320**	*e*P	**P**	**02 02 01.8**	**+0.1**		
THR5	**Thira Island,**	**47.83 284**	P	**P**	**02 02 02.5**	**+0.5**		
SKIA	**Skiathos**	**47.89 289**	P	**P**	**02 02 02.5**	**+0.1**		
EREA	**Eretria**	**47.90 287**	P	**P**	**02 02 02.9**	**+0.3**		
KSP	**Ksiaz**	**47.95 306**	*e*P	**P**	**02 02 03.6**	**+0.9**		
KSP			*e*		02 08 58.9			
KSP			LMZ	LR	02 23 05.0			
	comp=Z,2μm,21.7s							
KSP	**Ksiaz**	**47.95 306**	*e*P	**P**	**02 02 03.6**	**+0.9**		
KSP			*e*		02 08 58.9			
KSP			MLR	MLR				
	comp=Z,2μm,21.7s							
XOR	**Xorichti**	**47.99 289**	P	**P**	**02 02 03.1**	**-0.1**		
XOR	**Xorichti**	**47.99 289**	P	**P**	**02 02 03.1**	**-0.1**		
SMOL	**Smolenice**	**48.08 302**	*e*P	**P**	**02 02 05.6**	**+1.8**		
SMOL	**Smolenice**	**48.08 302**	*e*P	**P**	**02 02 05.6**	**+1.8**		
DPC	**Dobruska-Polom**	**48.10 305**⇑	*e*P	**P**	**02 02 05.3**	**+1.3**		
DPC			*e*P	**pP**	**02 02 11.7**	**+0.8**		
DPC			*e*PP	**PP**	**02 03 57.1**	**+1.1**		
DPC			AMS	AMS	02 24 10.0			
	comp=Z,2μm,11.9s							
DPC	**Dobruska-Polom**	**48.10 305**⇑	*e*P	**P**	**02 02 05.3**	**+1.3**		
DPC			*e**PP	**pP**	**02 02 11.7**	**+0.8**		
DPC			*e*		02 03 57.1			
DPC			MLR	MLR				
	comp=Z,2μm,11.9s							
PTL	**Penteli**	**48.12 287**	P	**P**	**02 02 04.1**	**-0.1**		
PTL	**Penteli**	**48.12 287**	P	**P**	**02 02 04.1**	**-0.1**		
OSL	**Oslo**	**48.15 319**	*e*P	**P**	**02 02 04.3**	**+0.3**		
OSL			IAmb	IAmb	02 02 05.2			
	comp=Z,38nm,0.8s							
DIVS	**Divbare**	**48.15 296**	P	**P**	**02 02 04.9**	**+0.4**		
LIT	**Litokhoron**	**48.15 290**	P	**P**	**02 02 04.0**	**-0.5**		
LIT	**Litokhoron**	**48.15 290**	P	**P**	**02 02 04.0**	**-0.5**		
LIT	**Litokhoron**	**48.15 290**	P	**P**	**02 02 04.0**	**-0.5**		
SMIA	**Simia**	**48.20 288**	P	**P**	**02 02 04.9**	**+0.1**		
ATHU	**Athens Univers**	**48.21 287**	P	**P**	**02 02 03.8**	**-1.1**		
ATHU	**Athens Univers**	**48.21 287**	P	**P**	**02 02 03.8**	**-1.1**		
UPC	**Upice**	**48.23 305**⇑	*i*P	**P**	**02 02 06.2**	**+1.3**		
UPC			*e*pP	**pP**	**02 02 12.0**	**+0.1**		
UPC			*e*PP	**PP**	**02 03 57.3**	**+0.2**		
UPC			*e*S	S	02 09 13.7	+11		
UPC			AMS	AMS	02 23 00.0			
	comp=Z,2μm,15.7s							
UPC	**Upice**	**48.23 305**⇑	*i*P	**P**	**02 02 06.2**	**+1.3**		
UPC			*e**PP	**pP**	**02 02 12.0**	**+0.1**		
UPC			*e*		02 03 57.3			
UPC			*e*S	S	02 09 13.7	+11		
UPC			MLR	MLR				
	comp=Z,2μm,15.7s							
VLY	**Voula,Athens**	**48.26 287**	P	**P**	**02 02 05.5**	**+0.2**		
VLY	**Voula,Athens**	**48.26 287**	P	**P**	**02 02 05.5**	**+0.2**		
VRAC	**Vranov**	**48.31 304**	P	**P**	**02 02 06.2**	**+0.7**		
	comp=Z,26nm,0.6s,baz=71,slow=8.4,SNR=39							
ATAL	**Atalanti**	**48.41 288**	P	**P**	**02 02 06.2**	**-0.3**		
ATAL	**Atalanti**	**48.41 288**	P	**P**	**02 02 06.2**	**-0.3**		
RGN	**Rugen**	**48.41 311**	*e*P	**P**	**02 02 07.3**	**+1.1**		
	comp=Z,72nm,0.9s							
VILL	**Villia**	**48.45 287**	P	**P**	**02 02 06.7**	**-0.1**		
COP	**Copenhagen**	**48.53 313**	*i*P	**P**	**02 02 07.4**	**+0.3**		
COP			pmax	pmax				
	comp=Z,17nm,0.9s							
COP			MLR	MLR				
	comp=Z,2μm,14.0s							
COP	**Copenhagen**	**48.53 313**	*i*P	**P**	**02 02 07.4**	**+0.3**		
	comp=Z,17nm,0.9s							
	comp=Z,2μm,14.0s							
FNA	**Florina**	**48.61 291**	P	**P**	**02 02 07.9**	**-0.2**		
FNA	**Florina**	**48.61 291**	P	**P**	**02 02 07.9**	**-0.2**		
FNA	**Florina**	**48.61 291**	P	**P**	**02 02 07.9**	**-0.2**		
IDI	**Anoyia**	**48.70 283**	P	**P**	**02 02 08.3**	**-0.5**		
	comp=Z,33nm,0.4s,baz=33,slow=8.8,SNR=135							
IDI	**Anoyia**	**48.70 283**	*e*P	**P**	**02 02 07.8**	**-1.0**		
	comp=Z,35nm,0.4s							
AGG	**Agios Georgios**	**48.74 289**	P	**P**	**02 02 08.4**	**-0.7**		
AGG	**Agios Georgios**	**48.74 289**	*e*P	**P**	**02 02 09.0**	**-0.1**		
AGG			pmax	pmax				
	comp=Z,163nm,1.1s							
AGG	**Agios Georgios**	**48.74 289**	*e*P	**P**	**02 02 09.0**	**-0.1**		
	comp=Z,163nm,1.1s							
LTK	**Loutraki**	**48.76 287**	P	**P**	**02 02 08.0**	**-1.2**		
LTK	**Loutraki**	**48.76 287**	P	**P**	**02 02 08.0**	**-1.2**		
KONO	**Kongsberg**	**48.77 319**	*e*P	**P**	**02 02 09.2**	**+0.3**		
KONO			IAmb	IAmb	02 02 10.1			
	comp=Z,85nm,1.5s							
KONO	**Kongsberg**	**48.77 319**	*e*P	**P**	**02 02 09.0**	**+0.1**		
KONO			pmax	pmax				
	comp=Z,81nm,1.5s							
KONO	**Kongsberg**	**48.77 319**	*e*P	**P**	**02 02 09.0**	**+0.1**		
	comp=Z,81nm,1.5s							
DID	**Didima**	**48.81 287**	P	**P**	**02 02 07.6**	**-2.0**		
DID	**Didima**	**48.81 287**	P	**P**	**02 02 07.6**	**-2.0**		
DSF	**Desfina**	**48.89 288**	P	**P**	**02 02 09.1**	**-1.1**		
DSF	**Desfina**	**48.89 288**	P	**P**	**02 02 09.1**	**-1.1**		
MOL	**Molde**	**48.89 323**	*e*P	**P**	**02 02 10.4**	**+0.7**		
MOL			IAmb	IAmb	02 02 11.3			
	comp=Z,74nm,0.6s							
SOP	**Sopron**	**48.94 302**⇑	*e*P	**P**	**02 02 11.6**	**+1.2**		
SOP	**Sopron**	**48.94 302**	P	**P**	**02 02 11.5**	**+1.2**		
TREC	**Trest**	**48.98 304**⇑	*e*P	**P**	**02 02 11.9**	**+1.1**		
TREC			*e*pP	**pP**	**02 02 17.8**	**+0.1**		
TREC			*e*PP	**PP**	**02 04 05.9**	**+1.9**		
TREC			AMS	AMS	02 24 40.0			
	comp=Z,2μm,12.5s							
TREC	**Trest**	**48.98 304**	*e*P	**P**	**02 02 11.9**	**+1.1**		
TREC			*e**PP	**pP**	**02 02 17.8**	**+0.1**		
TREC			*e*		02 04 05.9			
TREC			MLR	MLR				
	comp=Z,2μm,12.5s							
PVCC	**Panska Ves**	**49.08 306**⇑	*e*P	**P**	**02 02 12.8**	**+1.4**		
PVCC			*e*PP	**PP**	**02 04 05.6**	**+0.7**		
PVCC			AMS	AMS	02 23 40.0			
	comp=Z,2μm,16.5s							
PVCC	**Panska Ves**	**49.08 306**	*e*P	**P**	**02 02 12.8**	**+1.4**		
PVCC			*e*		02 04 05.6			
PVCC			MLR	MLR				
	comp=Z,2μm,16.5s							
EVR	**Evrytania**	**49.15 289**	P	**P**	**02 02 12.1**	**-0.2**		
EVR	**Evrytania**	**49.15 289**	P	**P**	**02 02 12.1**	**-0.2**		
KALE	**Kalithea**	**49.16 288**	P	**P**	**02 02 11.4**	**-0.9**		
KALE	**Kalithea**	**49.16 288**	P	**P**	**02 02 11.4**	**-0.9**		
GOPC	**GO Pecny, Ondr**	**49.18 305**⇑	*e*P	**P**	**02 02 13.3**	**+1.1**		
GOPC			*e*pP	**pP**	**02 02 19.1**	**-0.1**		
GOPC			AMS	AMS	02 25 00.0			
	comp=Z,2μm,11.7s							
GOPC	**GO Pecny, Ondr**	**49.18 305**	*e*P	**P**	**02 02 13.3**	**+1.1**		
GOPC			*e**PP	**pP**	**02 02 19.1**	**-0.1**		
GOPC			MLR	MLR				
	comp=Z,2μm,11.7s							
SERG	**Sergoula**	**49.21 288**	P	**P**	**02 02 11.9**	**-0.8**		
ANX	**Ano Chora**	**49.22 289**	P	**P**	**02 02 12.6**	**-0.2**		
AKN	**Aaknes**	**49.24 322**	*e*P	**P**	**02 02 13.1**	**+0.5**		
AKN			IAmb	IAmb	02 02 13.9			
	comp=Z,32nm,0.7s							
AKN			IAMs_20	IAMs_20	02 23 48.8			
	comp=Z,3μm,18.3s							
BEHE	**Becsehely**	**49.27 300**⇑	*e*P	**P**	**02 02 13.9**	**+0.9**		
CONA	**Conrad Observa**	**49.27 302**	*i*P	**P**	**02 02 14.4**	**+1.4**		
	comp=Z,47nm,0.8s,SNR=57							
PRU	**Pruhonice**	**49.30 305**⇑	*e*P	**P**	**02 02 14.2**	**+1.1**		
PRU			*e*pP	**pP**	**02 02 20.0**	**-0.1**		
PRU			*e*PP	**PP**	**02 04 07.5**	**+0.7**		
PRU			*e*S	**S**	**02 09 25.1**	**+7.2**		
PRU			AMS	AMS	02 25 00.0			
	comp=Z,2μm,11.1s							
PRU	**Pruhonice**	**49.30 305**	*e*P	**P**	**02 02 14.2**	**+1.1**		
PRU			*e**PP	**pP**	**02 02 20.0**	**-0.1**		
PRU			*e*		02 04 07.5			
PRU			*e*S	**S**	**02 09 25.1**	**+7.2**		
PRU			MLR	MLR				
	comp=Z,2μm,11.1s							
EFP	**Efpalio**	**49.31 288**	P	**P**	**02 02 13.0**	**-0.4**		
BRG	**Berggiesshubel**	**49.33 306**⇑	*i*P	**P**	**02 02 14.1**	**+0.8**		
	comp=Z,37nm,0.6s							
BRG			*i*		02 02 20.4			
	comp=Z,29nm,0.9s							
BRG			*i*		02 02 28.4			
	comp=Z,21nm,0.8s							
BRG			*e*PCP	PcP	02 03 25.4	-10		
	comp=Z,15nm,0.6s							
BRG			PP	PP	02 04 17.0	+10		
BRG			S	S	02 09 30.0	+12		
	comp=N,1μm,14.9s							
	comp=E,960nm,17.7s							
	comp=Z,2μm,14.3s							
BRG	**Berggiesshubel**	**49.33 306**⇑	*i*P	**P**	**02 02 14.1**	**+0.8**		
BRG			*i*		02 02 20.4			
BRG			*i*		02 02 28.4			
BRG			S	S	02 09 30.0	+12		
BRG			pmax	pmax				
	comp=Z,37nm,0.6s							
BRG			MLR	MLR				
	comp=N,1μm,14.9s							
BRG			MLR	MLR				
	comp=E,960nm,17.7s							
BRG			MLR	MLR				
	comp=Z,2μm,14.3s							
LAKA	**Lakka**	**49.35 288**	P	**P**	**02 02 13.7**	**0.0**		
LAKA	**Lakka**	**49.35 288**	P	**P**	**02 02 13.7**	**0.0**		
PVO	**Paravola**	**49.49 289**	P	**P**	**02 02 14.5**	**-0.2**		
GVD	**Gavdhos**	**49.49 283**	P	**P**	**02 02 14.7**	**-0.1**		
GVD	**Gavdhos**	**49.49 283**	P	**P**	**02 02 14.7**	**-0.1**		
DSL	**Palaion Diasel**	**49.55 290**	P	**P**	**02 02 14.2**	**-1.0**		
DSL	**Palaion Diasel**	**49.55 290**	P	**P**	**02 02 14.2**	**-1.0**		
CLL	**Collm**	**49.72 307**⇑	*i*P	**P**	**02 02 16.8**	**+0.5**		
	comp=Z,106nm,0.7s							
CLL			*i*		02 02 22.0			
CLL			*e*PP	**PP**	**02 04 12.0**	**+1.4**		
CLL			*e*S	S	**02 09 30.0**	**+6.2**		
CLL			*e*SS	SS	02 13 12.0	+16		
CLL			Lm	MLR	02 24 00.0			
	comp=N,600nm,20.1s							
CLL			Lm	MLR	02 24 00.0			
	comp=E,1μm,21.2s							
CLL			Lm	MLR	02 24 00.0			
	comp=Z,2μm,18.7s							
CLL	**Collm**	**49.72 307**⇑	*i*P	**P**	**02 02 16.8**	**+0.5**		
CLL			*i*		02 02 22.0			
CLL			pmax	pmax				
	comp=Z,106nm,0.7s							
CLL			MLR	MLR				
	comp=Z,2μm,18.7s							
CLL	**Collm**	**49.72 307**	*e*P	**P**	**02 02 16.1**	**-0.1**		
	comp=Z,90nm,0.7s							
PDO	**Prodromos**	**49.73 289**	P	**P**	**02 02 15.8**	**-0.8**		
ARSA	**Arzberg**	**49.75 302**	*i*P	**P**	**02 02 17.4**	**+0.8**		
	comp=Z,19nm,0.6s,SNR=15							
IGT	**Igoumenitsa**	**49.89 290**	P	**P**	**02 02 16.6**	**-1.2**		
IGT	**Igoumenitsa**	**49.89 290**	P	**P**	**02 02 16.6**	**-1.2**		
IGT	**Igoumenitsa**	**49.89 290**	P	**P**	**02 02 16.6**	**-1.2**		
SGD	**Sagiada**	**49.92 291**	P	**P**	**02 02 17.1**	**-0.9**		
HYA	**Hoyanger**	**49.92 321**	*e*P	**P**	**02 02 18.1**	**+0.5**		
HYA			IAmb	IAmb	02 02 19.1			
	comp=Z,42nm,0.7s							
MUD	**Monsted U'grnd**	**50.01 315**⇑	*i*P	**P**	**02 02 19.2**	**+0.9**		
MUD			pmax	pmax				
	comp=Z,39nm,1.0s							
MUD	**Monsted U'grnd**	**50.01 315**⇑	*i*P	**P**	**02 02 19.2**	**+0.9**		
	comp=Z,39nm,1.0s							
PYL	**PYLOS**	**50.15 287**	P	**P**	**02 02 17.6**	**-2.2**		
PYL	**PYLOS**	**50.15 287**	P	**P**	**02 02 17.6**	**-2.2**		
KHC	**Kasperske Hory**	**50.20 304**⇑	*e*P	**P**	**02 02 20.5**	**+0.4**		
KHC			*e*pP	**pP**	**02 02 26.5**	**-0.6**		
KHC	**Kasperske Hory**	**50.20 304**	*e*P	**P**	**02 02 20.5**	**+0.4**		
KHC			*e**PP	**pP**	**02 02 26.5**	**-0.6**		
ATD	**Arta Tunnel**	**50.24 245**	P	**P**	**02 02 21.2**	**+0.5**		
	comp=Z,17nm,0.9s,baz=36,slow=7.1,SNR=7.3							
GEC2	**GERESS Array S**	**50.24 304**	*e*P	**P**	**02 02 21.3**	**+0.8**		
GEC2			pmax	pmax				
	comp=Z,34nm,1.1s							
GEC2	**GERESS Array S**	**50.24 304**	*e*P	**P**	**02 02 21.3**	**+0.9**		
	comp=Z,34nm,1.1s							
GERES	**GERESS Array B**	**50.24 304**	P	**P**	**02 02 21.2**	**+0.8**		
	comp=Z,6.9nm,0.5s,baz=69,slow=7.2,SNR=69							
GEA0	**GERESS Array S**	**50.25 304**	*e*P	**P**	**02 02 20.6**	**+0.1**		
SOKA	**Soboth**	**50.29 301**	*i*P	**P**	**02 02 21.5**	**+0.7**		
	comp=Z,37nm,0.5s,SNR=27							
MOA	**Molln**	**50.29 303**	*i*P	**P**	**02 02 21.9**	**+1.1**		
	comp=Z,22nm,1.0s,SNR=16							
FOO	**Floro**	**50.30 322**	*e*P	**P**	**02 02 20.8**	**+0.2**		
FOO			IAmb	IAmb	02 02 21.6			
	comp=Z,26nm,0.8s							
FOO			IAMs_20	IAMs_20	02 24 38.6			
	comp=Z,3μm,19.1s							
SNART	**Snartemo**	**50.36 317**	*e*P	**P**	**02 02 21.6**	**+0.6**		
SNART			IAmb	IAmb	02 02 22.5			
	comp=Z,36nm,1.1s							
BLS5	**Blasjo**	**50.36 319**	*e*P	**P**	**02 02 21.8**	**+0.7**		
BLS5			IAmb	IAmb	02 02 22.0			
	comp=Z,48nm,1.3s							
CRES	**Cresnjev**	**50.37 300**	*i*P	**P**	**02 02 21.9**	**+0.6**		
NKC	**Novy Kostel**	**50.45 306**⇑	*e*P	**P**	**02 02 22.7**	**+0.8**		
NKC			*e*pP	**pP**	**02 02 29.0**	**+0.1**		
NKC			*e*PP	**PP**	**02 04 18.4**	**+1.1**		
NKC			AMS	AMS	02 24 30.0			
	comp=Z,2μm,15.0s							
NKC	**Novy Kostel**	**50.45 306**	*e*P	**P**	**02 02 22.7**	**+0.8**		
NKC			*e**PP	**pP**	**02 02 29.0**	**+0.1**		
NKC			*e*		02 04 18.4			
NKC			MLR	MLR				
	comp=Z,2μm,15.0s							
BER	**Bergen**	**50.57 320**	*e*P	**P**	**02 02 23.0**	**+0.4**		
BER			IAmb	IAmb	02 02 24.1			
	comp=Z,50nm,0.7s							
BER			IAMs_20	IAMs_20	02 24 46.4			
	comp=Z,2μm,18.1s							
ASK	**Askoy**	**50.60 320**	*e*P	**P**	**02 02 23.3**	**+0.5**		
ASK			IAmb	IAmb	02 02 24.2			
	comp=Z,37nm,0.7s							
SUE	**Sulen**	**50.61 321**	*e*P	**P**	**02 02 24.1**	**+1.2**		
OBKA	**Obir**	**50.66 301**	*i*P	**P**	**02 02 24.2**	**+0.6**		
	comp=Z,54nm,1.0s,SNR=14							
UDBI	**Udbina**	**50.73 298**	P	**P**	**02 02 24.2**	**+0.1**		
LJU	**Ljubljana**	**50.87 300**	*e*P	**P**	**02 02 26.5**	**+1.4**		
STAV	**Stavanger**	**50.90 319**	*e*P	**P**	**02 02 25.2**	**+0.2**		
STAV			IAmb	IAmb	02 02 26.2			
	comp=Z,32nm,0.9s							
KMY	**Karmoy**	**51.02 319**	*e*P	**P**	**02 02 27.1**	**+1.1**		
KMY			IAmb	IAmb	02 02 27.3			
	comp=Z,11nm,0.8s							
KBA	**Koelnbreinsper**	**51.18 302**	*i*P	**P**	**02 02 28.4**	**+0.8**		
	comp=Z,32nm,0.5s,SNR=20							
MYKA	**Terra Mystica**	**51.18 301**	*i*P	**P**	**02 02 27.8**	**+0.3**		
	comp=Z,17nm,0.6s,SNR=8.6							
NVLJ	**Novalja**	**51.29 299**	P	**P**	**02 02 27.8**	**-0.4**		
GRF	**Grafenberg Arr**	**51.39 306**	P	**P**	**02 02 30.5**	**+1.5**		
TRI	**Trieste**	**51.50 300**	*e*P	**P**	**02 02 29.7**	**-0.1**		
TRI			pmax	pmax				
	comp=Z,57nm,1.0s							
TRI	**Trieste**	**51.50 300**	*e*P	**P**	**02 02 29.7**	**-0.1**		
	comp=Z,57nm,1.0s							
ABTA	**Abfaltersbach**	**51.84 302**	*i*P	**P**	**02 02 32.2**	**-0.2**		
	comp=Z,8.4nm,0.5s,SNR=8.8							
WTTA	**Wattenberg**	**52.16 303**	*i*P	**P**	**02 02 35.8**	**+0.9**		
	comp=Z,59nm,0.6s,SNR=33							
WTTA			*i* PcP	**PcP**	**02 03 47.5**	**+1.1**		
	comp=Z,62nm,1.1s							
WATA	**Walderalm**	**52.16 303**	*i*P	**P**	**02 02 35.6**	**+0.7**		
	comp=Z,42nm,0.7s,SNR=9.6							
DAG	**Danmarks Havn**	**52.22 344**⇑	*i*P	**P**	**02 02 34.8**	**+0.1**		
DAG			pmax	pmax				
	comp=Z,8.0nm,0.5s							
DAG			MLR	MLR				
	comp=Z,530nm,13.0s							
DAG	**Danmarks Havn**	**52.22 344**⇑	*i*P	**P**	**02 02 34.8**	**+0.1**		
	comp=Z,12nm,0.5s							
	comp=Z,520nm,13.0s							
MOTA	**Moosalm**	**52.45 303**	*i*P	**P**	**02 02 37.6**	**+0.5**		
	comp=Z,24nm,0.4s,SNR=43							
MOTA			*i* PcP	**PcP**	**02 03 48.9**	**+1.4**		
	comp=Z,14nm,0.5s,SNR=5.5							
TIP	**Timpagrande**	**52.50 292**	*e*P	**P**	**02 02 37.8**	**+0.4**		
	comp=Z,67nm,1.3s							
RETA	**Reutte**	**52.60 304**	*i*P	**P**	**02 02 38.9**	**+0.9**		
	comp=Z,27nm,0.5s,SNR=22							
RETA			*i* PcP	**PcP**	**02 03 50.4**	**+2.5**		
	comp=Z,15nm,0.6s,SNR=4.1							
CUC	**Castrocucco**	**52.75 293**	*e*P	**P**	**02 02 40.0**	**+0.8**		
	comp=Z,30nm,0.8s							
FETA	**Feichten**	**52.82 303**	*i*P	**P**	**02 02 40.3**	**+0.5**		
	comp=Z,73nm,1.1s,SNR=25							
WTSB	**Winterswijk**	**53.01 310**	*e*P	**P**	**02 02 41.6**	**+0.7**		
	comp=Z,90nm,1.3s							
DAVA	**Damuels**	**53.22 304**	*i*P	**P**	**02 02 43.3**	**+0.5**		
	comp=Z,12nm,0.4s,SNR=9.8							
AQU	**L'Aquila**	**53.24 297**	*e*P	**P**	**02 02 43.7**	**+0.8**		
AQU			pmax	pmax				
	comp=Z,42nm,1.0s							
AQU	**L'Aquila**	**53.24 297**	*e*P	**P**	**02 02 43.6**	**+0.8**		
	comp=Z,42nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**53.28 303**	*e*P	**P**	**02 02 43.7**	**+0.4**		
	comp=Z,82nm,1.1s							
DAVOX	**Davos/Dischmat**	**53.45 303**	P	**P**	**02 02 44.9**	**+0.4**		
	comp=Z,38nm,0.5s,baz=75,slow=3.4,SNR=116							
YEL1	**Yell**	**53.46 322**	*e*P	**P**	**02 02 45.0**	**+1.0**		
LRW	**Lerwick**	**53.67 322**⇑	*e*P	**P**	**02 02 46.4**	**+0.7**		
LRW			AMS	AMS	02 26 43.8			
	comp=Z,2μm,14.2s							
BFO	**Black Forest**	**53.70 305**	*e*P	**P**	**02 02 46.5**	**+0.4**		
BFO			pmax	pmax				
	comp=Z,34nm,0.8s							
BFO	**Black Forest**	**53.70 305**	*e*P	**P**	**02 02 46.5**	**+0.4**		
	comp=Z,34nm,0.8s							
LANF	**Langenberg**	**53.72 306**	P	**P**	**02 02 47.5**	**+1.3**		
HGN	**Heimansgroeve**	**54.02 309**	*e*P	**P**	**02 02 48.7**	**+0.4**		
	comp=Z,84nm,1.4s							
HGN			*e*S	S	02 10 55.3	+32		
HGN			*e*SS	SS	02 14 49.8	+46		
MEM	**Membach**	**54.05 309**	P	**P**	**02 02 49.2**	**+0.7**		
BEBN	**Eben Emael**	**54.15 309**	P	**P**	**02 02 49.9**	**+0.6**		
	comp=Z,16nm,1.1s							
CDF	**Champ du Feu**	**54.29 306**	P	**P**	**02 02 49.9**	**-0.6**		
VLC	**Villacollemand**	**54.34 300**	*e*P	**P**	**02 02 51.3**	**+0.5**		
	comp=Z,46nm,1.1s							
WLF	**Walferdange**	**54.38 308**	P	**P**	**02 02 52.6**	**+1.6**		
	comp=Z,23nm,1.8s							
WLF	**Walferdange**	**54.38 308**	*e*P	**P**	**02 02 49.6**	**-1.4**		
WLF			pmax	pmax				
	comp=Z,51nm,1.4s							
WLF	**Walferdange**	**54.38 308**	*e*P	**P**	**02 02 49.6**	**-1.4**		
	comp=Z,51nm,1.4s							
ECH	**Echery**	**54.45 306**⇑	*e*P	**P**	**02 02 51.8**	**+0.2**		
BCLA	**Clavier**	**54.53 309**	P	**P**	**02 02 52.7**	**+0.6**		
MOF	**Molkenrain**	**54.63 305**	*e*P	**P**	**02 02 52.9**	**-0.1**		
HINF	**Hinteralfeld**	**54.81 305**	*e*P	**P**	**02 02 53.6**	**-0.6**		
HINF			pmax	pmax				
	comp=Z,22nm,0.8s							
VAE	**Valguarnera**	**54.95 291**	P	**P**	**02 02 56.0**	**+0.6**		
	comp=Z,3.6nm,0.5s,baz=352,slow=16,SNR=3.1							
VAE			LR	LR	02 30 11.4			
	comp=Z,109nm,19.2s,baz=328,slow=40							
LOMF	**Lomont**	**55.04 305**⇑	*e*P	**P**	**02 02 56.2**	**+0.2**		
SNF	**Seneffe**	**55.07 309**	P	**P**	**02 02 57.1**	**+1.1**		
DOU	**Dourbes**	**55.08 309**	P	**P**	**02 02 56.7**	**+0.6**		
SENIN	**Lac Senin/Sane**	**55.22 304**	*e*P	**P**	**02 02 57.2**	**-0.2**		
	comp=Z,18nm,1.0s							
MLA1	**Latheron**	**55.49 320**⇑	*e*P	**P**	**02 02 59.6**	**+0.8**		
OG01	**Vacheresse**	**55.61 304**⇑	*e*P	**P**	**02 03 00.2**	**+0.1**		
BIGH	**Upper Bighouse**	**55.66 321**	*e*P	**P**	**02 03 00.8**	**+0.8**		
DRUM	**Mains of Drumt**	**55.71 318**	*e*P	**P**	**02 03 00.8**	**+0.3**		
DRUM			AMS	AMS	02 28 02.1			
	comp=Z,1μm,14.8s							
MCD	**Coleburn Disti**	**55.77 319**	*e*P	**P**	**02 03 01.6**	**+0.8**		
CABF	**La Chapelle**	**55.84 304**	*e*P	**P**	**02 03 00.9**	**-0.8**		
CABF			pmax	pmax				
	comp=Z,14nm,0.5s							
RSL	**Roselend**	**55.96 303**	*e*P	**P**	**02 03 03.3**	**+0.7**		
LPG	**La Plagne**	**55.97 303**	*e*P	**P**	**02 03 03.1**	**+0.2**		
LPG			pmax	pmax				
	comp=Z,122nm,0.5s							
LPL	**La Plagne**	**55.97 303**	*e*P	**P**	**02 03 03.1**	**+0.3**		
LPL			pmax	pmax				
	comp=Z,133nm,0.5s							
EDU	**Dundee**	**56.14 318**	*e*P	**P**	**02 03 03.5**	**-0.1**		
ESY	**Stoneypath**	**56.24

HLM1 AMS AMS 02 30 05.4
comp=Z,50nm,1.4s

PYM Petit Puy Mans 58.12 305⇑ *e*P **P 02 03 19.4 +1.5**
WIM Isle of Man 58.14 316⇑ *e*P **P 02 03 18.5 +0.7**
LBL Lubilhac 58.24 304⇑ *e*P **P 02 03 20.1 +1.4**
BATH Bath 58.28 313 *e*P **P 02 03 19.2 +0.4**
BATH AMS AMS 02 30 34.0
comp=Z,1μm,12.9s

OLDB Oldbury-Upon-S 58.29 313 *e*P **P 02 03 18.8 0.0**
OLDB AMS AMS 02 30 08.0
comp=Z,1μm,15.0s

MONM Monmouth 58.34 313 *e*P **P 02 03 19.5 +0.3**
MONM AMB AMB 02 03 19.5
comp=Z,113nm,1.8s

MONM AMS AMS 02 30 16.3
comp=Z,1μm,20.7s

MCH1 Michaelchurch 58.36 313⇑ *e*P **P 02 03 19.2 -0.1**
MCH1 AMB AMB 02 03 20.5
comp=Z,52nm,1.6s

MCH1 AMS AMS 02 30 17.9
comp=Z,2μm,15.7s

VERF Verneugheol 58.44 305⇑ *e*P **P 02 03 20.5 +0.4**
YRC Rhoscolyn 58.55 315 *e*P **P 02 03 21.0 +0.5**
FLN La Foliniere 58.63 309 *e*P **P 02 03 20.4 -0.8**
FLN pmax pmax
comp=Z,40nm,0.6s

GMM Mts of Mourne 58.74 317 *e*P **P 02 03 21.8 -0.1**
SUMG Summit 58.91 344 *i* P **P 02 03 23.7 +0.4**
SUMG MLR MLR
comp=Z,520nm,16.0s

SUMG Summit 58.91 344 *i* P **P 02 03 23.7 +0.4**
comp=Z,520nm,16.0s

SUMG Summit 58.91 344 *e*P **P 02 03 22.9 -0.4**
comp=Z,25nm,1.3s

CAF Calviac 59.12 304 *e*P **P 02 03 25.0 +0.2**
CAF pmax pmax
comp=Z,91nm,1.7s

JQE Queens East 59.28 310⇑ *e*P **P 02 03 25.9 +0.2**
JQE ⇑*e*P **P 02 03 25.9 +0.2**
JRS Jersey 59.31 310⇑ *e*P **P 02 03 26.1 +0.2**
JRS ⇑*e*P **P 02 03 26.2 +0.2**
KEST Kesra 59.33 292 P **P 02 03 26.8 +0.4**
comp=Z,6.2nm,0.6s,baz=341,slow=2.3,SNR=16

KEST Kesra 59.33 292 *e*P **P 02 03 27.0 +0.6**
comp=Z,37nm,1.4s

DYA Yadsworthy 59.67 312 *e*P **P 02 03 28.3 -0.1**
DYA AMS AMS 02 32 05.5
comp=Z,2μm,15.4s

IWEX Carrickbyrne, 60.14 315 *e*P **P 02 03 32.5 +0.9**
VALF Valcebollere 60.49 302⇑ *e*P **P 02 03 34.8 +0.4**
FAKI Fak Fak 60.50 127 *e*P **P 02 03 35.5 +0.9**
RESF Ens 61.31 303 *e*P **P 02 03 40.5 +0.6**
VIEF Viey 61.46 303⇑ *e*P **P 02 03 41.6 +0.7**
COLD Coldfoot 61.51 22 *e*P **P 02 03 41.2 +0.5**
comp=Z,27nm,0.6s

SOEI Soe 61.96 139 *e*P **P 02 03 42.8 -1.7**
comp=Z,44nm,1.0s

RES Resolute Bay 62.55 1 P **P 02 03 47.7 +0.1**
comp=Z,9.3nm,0.5s,baz=34,slow=8.3,SNR=9.8

RES Resolute Bay 62.55 1 *e*P **P 02 03 47.0 -0.6**
comp=Z,12nm,0.6s

TTA Tatalina 62.68 28 *e*P **P 02 03 49.7 +1.0**
TTA Tatalina 62.68 28 *e*P **P 02 03 49.7 +1.0**
MLY Manley 62.91 24 *e*P **P 02 03 50.8 +0.5**
comp=Z,24nm,1.0s

KMBO Kilima Mbogo 63.38 240 P **P 02 03 54.7 +0.5**
comp=Z,13nm,1.0s,baz=31,slow=10,SNR=21

KMBO Kilima Mbogo 63.38 240 *e*P **P 02 03 55.1 +0.9**
SNR=5.9

KMBO Kilima Mbogo 63.38 240 *e*P **P 02 03 55.1 +0.9**
comp=Z,39nm,1.3s

BPAW Bear Paw Mtn. **63.50 25** *e*P **P 02 03 54.4 +0.3**
comp=Z,20nm,0.8s

MDM Murphy Dome 63.70 23 *e*P **P 02 03 55.7 +0.2**
comp=Z,14nm,0.7s

COLA College 63.88 23c *i* P **P 02 03 56.6 +0.1**
COLA pmax pmax
comp=Z,25nm,0.9s

COLA College 63.88 23 *e*P **P 02 03 56.3 -0.2**
comp=Z,22nm,0.8s

KTH Kantishna Hill 63.91 25 *e*P **P 02 03 57.4 +0.5**
comp=Z,40nm,0.8s

BWN Browne 63.91 24 *e*P **P 02 03 57.9 +1.1**
comp=Z,173nm,0.8s

PPLA Purkeypile 63.97 26 *e*P **P 02 03 58.0 +0.7**
comp=Z,28nm,0.7s

CCB Clear Creek Bu 64.06 23 *e*P **P 02 03 57.4 -0.3**
comp=Z,19nm,0.9s

SVW2 Sparrevohn 64.07 29 *e*P **P 02 03 59.4 +1.5**
comp=Z,30nm,1.1s

WRH Wood River Hil 64.10 24 *e*P **P 02 03 57.7 -0.3**
comp=Z,14nm,0.7s

ILULI Ilulissat 64.11 345⇑ *i* P **P 02 03 57.9 -0.1**
ILULI pmax pmax
comp=Z,42nm,0.6s

ILULI Ilulissat 64.11 345⇑ *i* P **P 02 03 57.9 -0.1**
comp=Z,42nm,0.6s

TRF Thorofare Moun 64.18 25 *e*P **P 02 03 59.5 +0.7**
comp=Z,30nm,1.5s

IL1 Eielson Array 64.23 23 *e*P **P 02 03 58.1 -0.7**
ILAR Eielson Array 64.23 23 P **P 02 03 58.3 -0.6**
comp=Z,14nm,0.8s,baz=312,slow=5.0,SNR=128

ILAR PP **PP 02 06 18.1 -1.5**
comp=Z,3.5nm,0.8s,baz=310,slow=8.3,SNR=4.9

ILAR Eielson Array 64.23 23 P **P 02 03 58.3 -0.6**
ILAR 02 06 18.1
ILAR pmax pmax
comp=Z,13nm,0.8s

ILAR pmax pmax
comp=Z,4.0nm,0.8s

ILB Eielson Array 64.23 23 *e*P **P 02 03 58.3 -0.6**
MCK McKinley 64.39 24 *e*P **P 02 04 00.8 +0.8**
MCK pmax pmax
comp=Z,13nm,0.6s

MCK McKinley 64.39 24 *e*P **P 02 04 00.8 +0.8**
comp=Z,13nm,0.6s

RND Reindeer 64.66 25 *e*P **P 02 04 01.7 -0.1**
RND pmax pmax
comp=Z,29nm,1.4s

RND Reindeer 64.66 25 *e*P **P 02 04 01.7 -0.1**
comp=Z,29nm,1.4s

INK Inuvik 64.66 16 P **P 02 04 01.8 +0.2**
comp=Z,16nm,0.5s,baz=339,slow=4.1,SNR=40

INK Inuvik 64.66 16 *e*P **P 02 04 01.8 +0.2**
comp=Z,49nm,1.2s

DHY Denali Highway 65.36 24 *e*P **P 02 04 06.1 -0.3**
comp=Z,33nm,1.1s

ES19 SONSECA Array 65.71 302 *e*P **P 02 04 09.2 +0.2**
ESDC Sonseca Array 65.76 302 P **P 02 04 09.4 +0.1**
comp=Z,4.0nm,0.4s,baz=52,slow=6.3,SNR=84

ESLA Sonseca Array 65.76 302 *e*P **P 02 04 09.8 +0.5**
comp=Z,34nm,1.1s

EGAK Eagle 65.80 21 *e*P **P 02 04 09.0 0.0**
comp=Z,29nm,1.2s

DOT Dot Lake 65.89 23 *e*P **P 02 04 09.0 -0.7**
comp=Z,135nm,1.7s

SFJD Kangerlussuaq 65.91 344 P **P 02 04 09.5 -0.2**
comp=Z,18nm,0.6s,baz=77,slow=5.4,SNR=14

SFJD Kangerlussuaq 65.91 344 *e*P **P 02 04 09.5 -0.2**
comp=Z,22nm,0.8s

SML Sawmill 66.00 26 *e*P **P 02 04 10.8 +0.3**
SML pmax pmax
comp=Z,28nm,0.8s

SML Sawmill 66.00 26 *e*P **P 02 04 10.8 +0.3**
comp=Z,28nm,0.8s

PAB San Pablo 66.08 302 *e*P **P 02 04 11.9 +0.6**
PAB pmax pmax
comp=Z,18nm,1.0s

PAB San Pablo 66.08 302 *e*P **P 02 04 11.9 +0.6**
comp=Z,18nm,1.0s

RC01 Rabbit Creek A 66.08 27 *e*P **P 02 04 10.6 -0.3**
comp=Z,24nm,0.8s

PBRG Braganca 66.18 305 *e*P **P 02 04 12.6 +0.7**
comp=Z,22nm,1.8s

SCM Sheep Creek Mo 66.30 25 *e*P **P 02 04 12.7 +0.3**
SCM pmax pmax
comp=Z,51nm,1.0s

SCM Sheep Creek Mo 66.30 25 *e*P **P 02 04 12.7 +0.3**
comp=Z,51nm,1.0s

CNPM China Poot 66.72 29 *e*P **P 02 04 16.9 +1.9**
comp=Z,52nm,0.7s

MVO Moncorvo 66.74 305 *e*P **P 02 04 16.3 +0.8**
comp=Z,32nm,1.5s

MVO *e*S **S 02 13 05.8 -0.4**
MVO Moncorvo 66.74 305 *e*LQ LQ 02 26 49.6

MVO *e*LR LR 02 30 22.3
comp=Z,464nm,18.0s

DAWY Dawson 66.83 21 *e*P **P 02 04 15.3 -0.4**
comp=Z,18nm,0.8s

SEW Seward 66.91 27 *e*P **P 02 04 16.8 +0.6**
PGAV Gavieira, Arco 66.99 306 *e*P **P 02 04 18.3 +1.1**
comp=Z,60nm,1.7s

PGAV Gavieira, Arco 66.99 306 *e*LR LR 02 29 41.7
comp=Z,494nm,18.0s

KLU Klutina 67.00 25 *e*P **P 02 04 17.1 +0.2**
comp=Z,12nm,0.8s

DIV Divide 67.33 25 *e*P **P 02 04 19.0 +0.1**
comp=Z,9.4nm,0.8s

KDAK Kodiak Island 67.49 30 P **P 02 04 19.8 -0.1**
comp=Z,14nm,0.4s,baz=331,slow=3.6,SNR=19

KDAK Kodiak Island 67.49 30 *i* P **P 02 04 20.0 +0.1**
MTE Manteigas 67.51 305 *e*LQ LQ 02 28 25.2
MTE *e*LR LR 02 30 18.6
comp=Z,480nm,20.0s

BMRM Bremner River 67.81 25 *e*P **P 02 04 22.7 +0.7**
comp=Z,18nm,1.0s

PMRV Marv??o 68.02 304 *e*P **P 02 04 24.4 +0.8**
comp=Z,31nm,1.4s

PMRV Marv??o 68.02 304 *e*LR LR 02 32 39.8
comp=Z,284nm,20.0s

RAGM Ragged Mountai 68.24 25 *e*P **P 02 04 25.7 +1.0**
comp=Z,30nm,0.8s

CRQM Cirque 68.42 24 *e*P **P 02 04 26.7 +0.7**
comp=Z,31nm,1.2s

PESTR Estremoz 68.49 303 *e*P **P 02 04 26.9 +0.3**
comp=Z,26nm,1.4s

PBAR Barrancos 68.58 303 *e*P **P 02 04 27.8 +0.7**
comp=Z,63nm,1.6s

PMTG Montargil 68.75 304 *e*P **P 02 04 29.0 +0.8**
comp=Z,34nm,1.4s

PVAQ Vaqueiros 69.48 302 *e*LQ LQ 02 28 56.3
PVAQ *e*LR LR 02 33 31.4
comp=Z,341nm,20.0s

MESJ Messejana 69.51 303 *e*P **P 02 04 34.1 +1.2**
comp=Z,34nm,2.1s

NRS Narsarsuaq 69.56 338 *i* P **P 02 04 32.3 -0.5**
NRS pmax pmax
comp=Z,15nm,0.8s

NRS Narsarsuaq 69.56 338 *i* P **P 02 04 32.3 -0.5**
comp=Z,15nm,0.8s

TAM Tamanrasset 69.66 283 *e*P **P 02 04 33.9 -0.3**
TAM pmax pmax
comp=Z,48nm,2.0s

TAM Tamanrasset 69.66 283 *e*P **P 02 04 33.9 -0.3**
comp=Z,48nm,2.0s

FITZ Fitzroy Crossi 69.87 142 P **P 02 04 35.1 -0.1**
comp=Z,4.8nm,0.3s,baz=349,slow=8.1,SNR=56

FITZ Fitzroy Crossi 69.87 142 *e*P **P 02 04 35.2 0.0**
comp=Z,16nm,1.1s

MBWA Marble Bar 70.15 149 *e*P **P 02 04 36.8 0.0**
comp=Z,86nm,0.5s

MDT Mint 70.37 297 P **P 02 04 38.2 -0.2**
comp=Z,6.3nm,0.9s,baz=52,slow=5.3,SNR=4.5

FRB Frobisher Bay 71.98 349 P **P 02 04 46.8 -0.6**
comp=Z,7.9nm,0.8s,baz=27,slow=7.7,SNR=6.0

YKW3 Yellowknife Ar 73.16 11 *e*P **P 02 04 54.1 -0.4**
YKA Yellowknife Ar 73.23 11 P **P 02 04 54.6 -0.3**
comp=Z,6.3nm,0.4s,baz=340,slow=5.7,SNR=82

YKB5 Yellowknife Ar 73.23 11 *e*P **P 02 04 53.8 -1.1**
DLBC Dease Lake 74.00 20 P **P 02 04 59.9 +0.2**
comp=Z,5.0nm,0.9s,baz=340,slow=8.4,SNR=7.7

DLBC Dease Lake 74.00 20 *e*P **P 02 05 00.3 +0.7**
comp=Z,20nm,1.3s

WRAB Tennant Creek 75.65 136c*e*P **P 02 05 08.8 -0.7**
WRAB pmax pmax
comp=Z,103nm,1.2s

WRAB Tennant Creek 75.65 136 *e*P **P 02 05 09.5 0.0**
comp=Z,22nm,0.8s

WRA Warramunga Arr 75.65 136 P **P 02 05 09.0 -0.5**
comp=Z,25nm,1.0s,baz=334,slow=5.9,SNR=166

WB2 Warramunga Arr 75.66 136 *e*P **P 02 05 08.3 -1.2**
comp=Z,24nm,0.8s

COEN Coen 75.75 125 *e*P **P 02 05 10.0 -0.2**
comp=Z,16nm,0.8s

PMOZ Porto Moniz, M 78.32 304 *e*LR LR 02 37 58.7
comp=Z,177nm,20.0s

AS31 Alice Springs 78.55 138 *e*P **P 02 05 25.8 0.0**
comp=Z,4.3nm,0.8s

ASAR Alice Springs 78.55 138 P **P 02 05 25.4 -0.3**
comp=Z,8.7nm,0.6s,baz=330,slow=5.3,SNR=80

AS01 Alice Springs 78.57 138 *e*P **P 02 05 25.4 -0.5**
LSZ Lusaka 79.92 238 P **P 02 05 34.1 +0.6**
comp=Z,14nm,0.9s,baz=22,slow=4.8,SNR=11

LSZ Lusaka 79.92 238 *e*P **P 02 05 34.1 +0.6**
comp=Z,33nm,1.3s

SCHQ Schefferville 80.22 346 P **P 02 05 33.4 -1.2**
comp=Z,3.3nm,0.4s,baz=23,slow=6.9,SNR=16

SCHQ Schefferville 80.22 346 *e*P **P 02 05 33.8 -0.7**
comp=Z,19nm,1.4s

KOWA Kowa 81.89 282 *e*P **P 02 05 42.7 -1.3**
comp=Z,9.2nm,0.6s

FFC Flin Flon 82.22 6 *e*P **P 02 05 44.7 -0.5**
FFC pmax pmax
comp=Z,27nm,0.8s

FFC Flin Flon 82.22 6 *e*P **P 02 05 44.7 -0.5**
comp=Z,27nm,0.8s

CTA Charters Tower 82.36 126 P **P 02 05 45.6 -0.6**
comp=Z,5.3nm,0.5s,baz=328,slow=7.7,SNR=11

CTAO Charters Tower 82.36 126 *e*P **P 02 05 46.1 -0.2**
CTAO *e**PP **PcP 02 05 51.5 +0.1**
CTAO Charters Tower 82.36 126 *e*P **P 02 05 46.1 -0.2**
CTAO *e*pP **PcP 02 05 51.5 +0.1**
MATP Matopo 83.66 235 P **P 02 05 52.9 -0.2**
comp=Z,18nm,1.1s,baz=13,slow=4.9,SNR=19

PGC Sidney 84.53 20 *e*P **P 02 05 57.4 +0.2**
comp=Z,20nm,1.0s

A04D Lummi Island 84.66 20 P **P 02 05 58.8 +1.0**
baz=338

B05A Bryant 85.23 20 P **P 02 05 59.5 -1.2**
baz=338

NLWA Neilton Lookou 85.58 21 *e*P **P 02 06 03.6 +1.1**
B08A Colville Reser 85.80 18 *e*P **P 02 06 04.3 +0.7**
comp=Z,35nm,1.3s

WALA Waterton Lakes 86.25 14 *e*P **P 02 06 05.8 -0.1**
NEW Newport 86.37 17 P **P 02 06 06.1 -0.4**
comp=Z,6.0nm,0.7s,baz=325,slow=3.3,SNR=7.1

NEW Newport 86.37 17 P **P 02 06 05.6 -0.8**
baz=342

NEW Newport 86.37 17 *e*P **P 02 06 06.3 -0.1**
comp=Z,17nm,1.1s

C09A Chrisman Ranch 86.56 18 *e*P **P 02 06 08.3 +1.0**
comp=Z,47nm,1.3s

BLMT Blacktail Moun 87.17 15 *e*P **P 02 06 10.8 +0.2**
BSMT Bassoo Peak 87.24 15 *e*P **P 02 06 11.4 +0.6**
YBMT Yellow Bay 87.38 15 *e*P **P 02 06 11.9 +0.4**
JTMT Jette 87.44 15 *e*P **P 02 06 12.3 +0.6**
SWMT Swartz Lake 87.72 15 *e*P **P 02 06 13.6 +0.5**
DBIC Dimbokro 87.77 277 P **P 02 06 12.5 -1.1**
comp=Z,29nm,1.0s,baz=36,slow=5.9,SNR=29

A25A Svangstu Ranch 87.86 7 P **P 02 06 13.9 +0.2**
baz=352

KIC Kosan Boka 87.89 277 *e*P **P 02 06 13.1 -1.2**
comp=Z,63nm,1.0s

TIC Tomodi 87.90 277 *e*P **P 02 06 13.4 -0.9**
A29A Manning Farm, 88.19 5 P **P 02 06 14.5 -0.7**
baz=354

LIC Lamto 88.19 277 *e*P **P 02 06 11.9 -3.8**
comp=Z,36nm,0.7s

DGMT Dagmar 88.22 8 P **P 02 06 15.3 0.0**
baz=351

DGMT Dagmar 88.22 8 *e*P **P 02 06 16.1 +0.8**
comp=Z,61nm,1.1s

A33A Warroad 88.35 2 P **P 02 06 14.8 -1.2**
baz=357

MSO Missoula 88.38 15 P **P 02 06 15.5 -0.8**
baz=344

MSO Missoula 88.38 15 *e*P **P 02 06 15.9 -0.4**
comp=Z,25nm,1.4s

CHMT Chamberlain Mo 88.43 15 *e*P **P 02 06 15.9 -0.7**
H04A Detroit Lake 88.53 21 *e*P **P 02 06 17.7 +0.8**
comp=Z,24nm,1.2s

B28A Dugan Ranch, T 88.58 6 P **P 02 06 16.1 -0.9**
baz=354

B29A Wagenman Farm, 88.64 5 P **P 02 06 15.8 -1.4**
baz=354

B34A Aery, Baudette 88.83 2 P **P 02 06 17.0 -1.2**
baz=358

B32A Ashes, Strandq 88.86 3 P **P 02 06 17.2 -1.0**
baz=356

HRY Holter Researc 88.88 14 *e*P **P 02 06 19.1 +0.5**
B35A Bob, Littlefor 88.97 1 P **P 02 06 17.7 -1.2**
baz=359

I05D Terrebonne, OR 89.08 21 P **P 02 06 19.9 +0.5**
baz=339

I03D Drain, OR 89.13 22 P **P 02 06 21.1 +1.5**
baz=338

STKA Stephens Creek 89.14 137 P **P 02 06 18.4 -1.2**
comp=Z,4.8nm,0.5s,baz=340,slow=4.7,SNR=14

STKA LR LR 02 50 17.4
comp=Z,66nm,20.4s,baz=295,slow=38

EIDS Eidsvold 89.25 126 *e*P **P 02 06 19.9 -0.4**
comp=Z,16nm,1.5s

I04A Tendick Farm, 89.30 22 P **P 02 06 20.5 0.0**
baz=338

BMO Blue Mountains 89.57 18 *e*P **P 02 06 22.2 +0.3**
comp=Z,18nm,1.3s

C36A Pine Crest Far 89.58 1 P **P 02 06 20.7 -1.1**
baz=359

TSUM Tsumeb 89.59 243 *e*P **P 02 06 22.0 -0.2**
comp=Z,10.0nm,1.3s

D25A Fairfield 89.61 8 P **P 02 06 22.6 +0.7**
baz=352

LRM Limekiln Ridge 89.63 14 *e*P **P 02 06 22.4 +0.1**
BOZ Bozeman (W) 89.95 14 P **P 02 06 23.4 -0.2**
baz=346

BOZ Bozeman (W) 89.95 14 *e*P **P 02 06 23.7 0.0**
BOZ pmax pmax
comp=Z,36nm,1.5s

BOZ Bozeman (W) 89.95 14 *e*P **P 02 06 23.7 0.0**
comp=Z,36nm,1.5s

D30A Buchanan 90.03 5 P **P 02 06 23.4 -0.4**
baz=355

DLMT Dillon 90.05 15 *e*P **P 02 06 24.8 +0.7**
comp=Z,20nm,1.4s

J05D Fort Rock, OR 90.09 21 P **P 02 06 25.4 +1.1**
baz=339

GCMT Greycliff 90.13 12 *e*P **P 02 06 24.9 +0.4**
HUMO Hull Mountain 90.25 22 *e*P **P 02 06 26.6 +1.6**
comp=Z,26nm,1.1s

E29A Napoleon 90.51 5 P **P 02 06 26.0 -0.1**
baz=354

MCMT McKenzie Canyo 90.52 15 *e*P **P 02 06 26.9 +0.4**
E31A Nome 90.62 4 P **P 02 06 25.7 -0.9**
baz=356

K05A Summer Lake 90.70 21 *e*P **P 02 06 29.1 +1.8**
E36A McGregor 90.82 1 P **P 02 06 26.7 -0.8**
baz=359

RLMT Red Lodge 90.85 12 P **P 02 06 27.1 -0.8**
baz=347

RLMT Red Lodge 90.85 12 *e*P **P 02 06 28.0 +0.1**
comp=Z,24nm,1.4s

F26A Lodgepole 90.97 8 P **P 02 06 28.5 +0.3**
baz=352

LKWY Lake 91.21 13 *e*P **P 02 06 31.6 +1.9**
LKWY pmax pmax
comp=Z,15nm,0.8s

LKWY Lake 91.21 13 *e*P **P 02 06 31.6 +1.9**
comp=Z,15nm,0.8s

MFID Camas Ranch 91.27 17 *e*P **P 02 06 30.2 +0.4**
comp=Z,26nm,1.4s

M04C Macdoel 91.32 22 P **P 02 06 30.8 +0.7**
baz=338

H17A Grant Village 91.34 13 P **P 02 06 31.3 +1.0**
baz=346

H17A Grant Village 91.34 13 *e*P **P 02 06 32.4 +2.1**
LONY Lake Ozonia 91.39 348 *e*P **P 02 06 30.4 +0.2**
comp=Z,12nm,1.2s

M02C Callahan 91.40 23 P **P 02 06 31.6 +1.2**
baz=338

F33A 5 Mile Ranch, 91.42 3 P **P 02 06 30.2 0.0**
baz=357

HLID Hailey 91.43 16 P **P 02 06 31.1 +0.5**
baz=344

HLID Hailey 91.43 16 *e*P **P 02 06 31.3 +0.7**
comp=Z,18nm,1.8s

F36A Milaca 91.47 1 P **P 02 06 29.8 -0.7**
baz=359

WVOR Wild Horse Val 91.55 20 *e*P **P 02 06 31.9 +0.8**
WVOR pmax pmax
comp=Z,19nm,1.1s

WVOR Wild Horse Val 91.55 20 *e*P **P 02 06 31.9 +0.8**
comp=Z,20nm,1.1s

MOD Modoc Plateau 91.62 21 *e*P **P 02 06 32.9 +1.4**
comp=Z,10nm,1.1s

FLWY Flagg Ranch 91.62 14 *e*P **P 02 06 33.1 +1.5**
IMW Indian Meadow 91.76 14 *e*P **P 02 06 33.3 +1.0**
BOSA Boshof 91.79 232 P **P 02 06 32.9 +0.7**
comp=Z,4.0nm,0.8s,baz=39,slow=4.6,SNR=7.3

N02D Trinity Center 91.83 23 P **P 02 06 32.9 +0.5**
baz=338

MOOW Moose Ponds 91.94 14 *e*P **P 02 06 34.0 +0.9**
comp=Z,12nm,1.3s

G30A Faulkton 91.97 5 P **P 02 06 32.2 -0.7**
baz=355

LOHW Long Hollow 92.10 14 *e*P **P 02 06 34.5 +0.7**
comp=Z,7.0nm,1.0s

TPAW Teton Pass 92.16 14 *e*P **P 02 06 34.4 +0.3**
comp=Z,5.3nm,0.9s

REDW Red Top Meadow 92.30 14 *e*P **P 02 06 35.7 +1.0**
comp=Z,10nm,1.1s

RSSD Black Hills 92.53 9 P **P 02 06 35.5 -0.2**
baz=351

RSSD Black Hills 92.53 9 *e*P **P 02 06 35.9 +0.1**
RSSD pmax pmax
comp=Z,11nm,0.7s

RSSD Black Hills 92.53 9 *e*P **P 02 06 35.9 +0.1**
comp=Z,11nm,0.7s

H32A Carlson Farm, 92.70 4 P **P 02 06 35.2 -1.0**
baz=356

H36A Jessenland, He 92.75 2 P **P 02 06 35.9 -0.6**
baz=358

BW06 Boulder Array 93.10 13 P **P 02 06 37.3 -1.2**
baz=347

BW06 Boulder Array 93.10 13 *e*P **P 02 06 38.2 -0.2**
PDAR Pinedale Array 93.10 13 P **P 02 06 37.5 -1.0**
comp=Z,2.0nm,0.8s,baz=31,slow=3.5,SNR=11

HVU Hansel Valley 93.47 16 *e*P **P 02 06 41.0 +0.9**
HVU Hansel Valley 93.47 16 *e*P **P 02 06 41.0 +0.9**
ECSD EROS Data Cent 93.50 4 P **P 02 06 39.4 -0.6**
baz=356

ECSD EROS Data Cent 93.50 4 *e*P **P 02 06 39.6 -0.4**
comp=Z,14nm,0.9s

K22A Casper 93.67 11 P **P 02 06 39.9 -1.1**
baz=349

J30A Dallas 93.74 6 P **P 02 06 41.0 -0.1**
baz=354

HWUT Hardware Ranch 93.87 15 *e*P **P 02 06 42.5 +0.6**
comp=Z,13nm,0.7s

ELK Elko 93.95 18 *e*P **P 02 06 42.2 -0.2**
ELK pmax pmax
comp=Z,3.0nm,0.7s

ELK Elko 93.95 18 *e*P **P 02 06 42.2 -0.2**
comp=Z,3.3nm,0.7s

SPUT South Promonto 93.99 15 *e*P **P 02 06 43.2 +0.7**
BGU Big Grassy Mou 94.24 16 *e*P **P 02 06 44.6 +1.0**
DUG Dugway, Tooele 94.99 16 P **P 02 06 46.5 -0.6**
baz=345

DUG Dugway, Tooele 94.99 16 *e*P **P 02 06 47.6 +0.6**
DUG pmax pmax
comp=Z,10.0nm,1.0s

DUG Dugway, Tooele 94.99 16 *e*P **P 02 06 47.6 +0.6**
comp=Z,10.0nm,1.0s

M54A Oil Creek Stat 95.14 351 P **P 02 06 46.6 -0.9**
baz=8.8

PHWY Pilot Hill 95.14 10 *e*P **P 02 06 48.5 +0.6**
L34A Svendsen Farm, 95.28 3 P **P 02 06 47.5 -0.7**
baz=357

NV01 Mina Array Sit 95.41 21 *e*P **P 02 06 49.4 +0.3**
NVAR Mina Array Bea 95.41 21 P **P 02 06 49.0 0.0**
comp=Z,1.2nm,0.8s,baz=296,slow=4.6,SNR=6.9

NVAR LR LR 02 55 20.1
comp=Z,172nm,18.8s,baz=348,slow=39

NV11 Mina Array Sit 95.44 21 *e*P **P 02 06 50.1 +1.0**
N23A Red Feather La 95.47 11 *e*P **P 02 06 50.4 +0.9**
N54A Moraine State 95.71 351 P **P 02 06 50.0 -0.2**
baz=8.6

O20A White River Ci 95.88 13 P **P 02 06 51.1 0.0**
baz=348

O20A White River Ci 95.88 13 *e*P **P 02 06 51.9 +0.7**
M38A Pleasantville 95.92 1 P **P 02 06 50.9 -0.2**
baz=359

P18A Preston Nutter 96.03 14 *e*P **P 02 06 53.0 +1.0**
P17A Butcher Ranch, 96.09 15 *e*P **P 02 06 53.5 +1.4**
R11A Troy Canyon, C 96.15 19 P **P 02 06 52.7 +0.3**
baz=343

R11A Troy Canyon, C 96.15 19 *e*P **P 02 06 53.0 +0.6**
TMUT Trail Mountain 96.17 15 *e*P **P 02 06 54.0 +1.3**
O56A Blue Knob Stat 96.22 350 P **P 02 06 51.3 -1.3**
baz=9.7

N39A	**Derby Farms, D**	**96.47**	**1**	P		**P**	02 06 53.0	**-0.6**
	baz=359							
Q16A	**Castle Valley**	**96.55**	**15**	*e*P		**P**	02 06 55.2	**+1.0**
ISCO	**Idaho Springs**	**96.60**	**11**	P		**P**	02 06 55.0	**+0.4**
	baz=350							
ISCO	**Idaho Springs**	**96.60**	**11**	*e*P		**P**	02 06 55.2	**+0.6**
ISCO				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ISCO	**Idaho Springs**	**96.60**	**11**	*e*P		**P**	02 06 55.2	**+0.6**
	comp=Z,3.1nm,0.9s							
SMCO	**Snowmass**	**97.01**	**12**	*e*P		Pdif	02 06 57.3	+0.6
O33A	**Hebron**	**97.10**	**5**	P		**P**	02 06 56.0	**-0.5**
	baz=356							
O40A	**La Belle**	**97.22**	**0**	P		**P**	02 06 56.1	**-0.8**
	baz=360							
Q24A	**Divide**	**97.48**	**10**	*e*P		Pdif	02 06 59.3	+0.6
P38A	**Dawn**	**97.70**	**1**	P		**P**	02 06 58.8	**-0.4**
	baz=359							
P37A	**Lathrop**	**97.72**	**2**	P		**P**	02 06 58.9	**-0.4**
	baz=358							
PV01	**Paradox Valley**	**97.78**	**13**	*e*P		Pdif	02 06 60.0	+0.1
P40A	**Paris**	**97.81**	**0**	P		**P**	02 06 58.4	**-1.3**
	baz=360							
S22A	**4UR Ranch, Cre**	**98.44**	**12**	P		Pdif	02 07 03.5	+0.6
	baz=349							
R36A	**Gordon, Harris**	**98.95**	**3**	P		**P**	02 07 04.5	**-0.3**
	baz=357							
R39A	**Chumby, Stover**	**99.02**	**1**	P		**Pdif**	02 07 04.9	**-0.2**
	baz=359							
R38A	**Fenwick Farm,**	**99.13**	**2**	P		**Pdif**	02 07 04.5	**-1.1**
	baz=358							
S39A	**Bolivar**	**99.64**	**1**	P		**Pdif**	02 07 06.9	**-1.0**
	baz=359							
S40A	**Lebanon**	**99.74**	**1**	P		**Pdif**	02 07 07.5	**-0.8**
	baz=359							
WUAZ	**Wupatki**	**99.80**	**16**	P		**Pdif**	02 07 09.0	**+0.1**
	baz=346							
T37A	**Cheneyville 18**	**100.17**	**3**	P		**Pdif**	02 07 09.3	**-1.0**
	baz=358							
T39A	**Clever**	**100.30**	**1**	P		**Pdif**	02 07 10.3	**-0.6**
	baz=359							
T35A	**Sooner Cattle**	**100.31**	**4**	P		**Pdif**	02 07 10.4	**-0.5**
	baz=356							
U39A	**Green Forest**	**100.94**	**1**	P		**Pdif**	02 07 13.3	**-0.4**
	baz=359							
ANMO	**Albuquerque**	**101.24**	**12⇓**	*e*P		**Pdif**	02 07 16.1	**+0.8**
ANMO				pmax	pmax			
	comp=Z,1.0nm,1.1s							
TXAR	**Lajitas Array**	**107.16**	**11**	PKiKP		**PKiKP**	02 11 50.2	**-0.5**
	comp=Z,0.5nm,0.5s,baz=196,slow=0.7,SNR=13							
SDV	**Santo Domingo**	**124.86**	**334**	PKP		**PKPdf**	02 12 24.1	**-0.8**
	comp=Z,7.0nm,0.3s,baz=40,slow=4.3,SNR=3.9							
MOTC	**Monteria, Cord**	**126.39**	**340**	*e*P		**PKPdf**	02 12 23.2	**-4.3**
CBRI	**Barrientos, No**	**126.62**	**336**	*e*P		**PKPdf**	02 12 28.0	**-0.2**
GRMC	**Gramalote, San**	**126.62**	**336**	*e*P		**PKPdf**	02 12 24.5	**-3.7**
VNDA	**Vanda**	**128.22**	**165**	PKP		**PKPdf**	02 12 28.1	**-1.0**
	comp=Z,1.7nm,0.9s,baz=299,slow=5.1,SNR=6.5							
RUSC	**La Rusia**	**128.44**	**336**	*e*P		**PKPdf**	02 12 27.9	**-4.2**
PTGA	**Pitinga**	**129.19**	**317**	PKP		**PKPdf**	02 12 32.2	**-0.8**
	comp=Z,4.9nm,0.9s,baz=29,slow=3.9,SNR=6.2							
NORC	**Norcasia**	**129.26**	**338**	*e*P		**PKPdf**	02 12 30.3	**-2.9**
ROSC	**El Rosal**	**129.80**	**337**	PKP		**PKPdf**	02 12 35.0	**+0.3**
	comp=Z,2.6nm,0.3s,baz=212,slow=1.6,SNR=6.4							
CHIC	**Chingaza**	**129.83**	**336**	*e*P		**PKPdf**	02 12 31.5	**-3.2**
SNAA	**Sanae**	**130.50**	**205**	PKP		**PKPdf**	02 12 33.2	**-0.5**
	comp=Z,2.0nm,0.8s,baz=161,slow=3.1,SNR=7.7							
SNAA	**Sanae**	**130.50**	**205**	*e*PKPdf		**PKPdf**	02 12 32.1	**-1.6**
QSPA	**South Pole Qui**	**132.80**	**180**	*e*PKPdf		**PKPdf**	02 12 37.3	**-0.9**
OTAV	**Otavalo**	**135.30**	**341**	*e*P		**PKPdf**	02 12 45.6	**+0.5**
OTAV	**Otavalo**	**135.30**	**341**	*e*PKPdf		**PKPdf**	02 12 44.7	**-0.3**
SAML	**Samuel**	**137.84**	**315**	*e*PKPdf		**PKPdf**	02 12 49.1	**0.0**
SIV	**San Ignacio**	**142.44**	**306**	PKhKP		PKPpre	02 12 53.2	
	comp=Z,4.0nm,0.7s,baz=30,slow=3.0,SNR=7.1							
NNA	**Nana**	**146.47**	**333**	*e*PKP2		**PKPbc**	02 13 05.6	**-0.2**
NNA	**Nana**	**146.47**	**333**	*e*PKPbc		**PKPbc**	02 13 05.6	**-0.2**
LPAZ	**La Paz**	**146.59**	**316**	PKPbc		**PKPdf**	02 13 05.8	**+0.4**
	comp=Z,9.5nm,0.5s,baz=32,slow=3.0,SNR=78							
CPUP	**Villa Florida**	**147.44**	**290**	PKPbc		**PKPbc**	02 13 07.4	**-0.8**
	comp=Z,39nm,0.6s,baz=62,slow=3.5,SNR=156							
LVC	**Limon Verde**	**152.17**	**310**	PKPbc		**PKPbc**	02 13 20.9	**+0.4**
	comp=Z,38nm,0.4s,baz=43,slow=1.2,SNR=19							
LVC	**Limon Verde**	**152.17**	**310**	*e*PKPbc		**PKPbc**	02 13 20.6	**+0.2**
PMSA	**Palmer Station**	**153.20**	**206**	*e*PKPab		**PKPab**	02 13 30.9	**-1.9**

*ISCJB **08** 01:54:36.9±0.3, 43.°00N±0.°06×88.°34E±0.°06, h33km, mb4.9/63, MS4.4/1, Error ellipse: s-maj=8.4km s-min=5.7km az=12.3*
*BJI **08** 01:54:36.5, 42.°95N×88.°31E, h9km, ML4.8/3*
*NEIC **08** 01:54:38.1±2.3, 43.°01N×88.°42E, h32km±15km, mb5.0/38, Error ellipse: s-maj=6.7km s-min=5.6km az=174.0*
*IDC **08** 01:54:40.3±3.4, 43.°02N×88.°36E, h47km±30km, mb4.6/26, mb1 4.8/29, mb1mx4.4/88, mbtmp4.9/29, ML5.0/3, MS4.3/1, Ms1 4.3/1, ms1mx3.4/31, Error ellipse: s-maj=18.2km s-min=17.5km az=3.0*

ISC 08 01:54:38.6±0.4, 43.°02N±0.°08×88.°38E±0.°06, h35km, n89, σ1℘05/91, mb5.0/63, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**10.16**	**322**	P	**Pn**	**01 57 02.0**	**+0.1**
	3.4nm,0.3s,baz=133,slow=13,SNR=4.5						
KURK	**Kurchatov**	**10.19**	**322**	P	**Pn**	**01 57 02.0**	**-0.2**
AAK	**Ala-Archa**	**10.21**	**273**	P	**Pn**	**01 57 03.5**	**+0.7**
	18nm,0.3s,baz=100,slow=12,SNR=4.1						
EKS2	**Erkin-Say**	**10.73**	**273**	*e*Pn	**Pn**	01 57 09.0	**-0.9**
BVAR	**Borovoye Array**	**15.61**	**316**	P	**Pn**	**01 58 17.2**	**+1.4**
	20nm,0.3s,baz=118,slow=12,SNR=5.5						
BRVK	**Borovoye**	**15.69**	**316**	*e*Pn	**P**	01 58 20.1	**-0.4**
CD2	**Chengdu**	**17.20**	**130**	*e*P	**Pn**	01 58 36.5	**+0.4**
HHC	**Hu-ho-hao-te**	**17.38**	**89**	*e*P	**P**	01 58 40.1	**+0.7**
ENH	**Enshi**	**21.11**	**120**	*e*P	**P**	01 59 18.0	**-2.2**
	19nm,0.4s						
ARU	**Arti**	**23.26**	**316**	P	**P**	**01 59 43.3**	**+0.7**
	48nm,0.5s,baz=268,slow=3.4,SNR=3.6						
ARU	**Arti**	**23.26**	**316**	*e*P	**P**	**01 59 42.6**	**-0.1**
	90nm,0.7s						
YAK	**Yakutsk**	**30.77**	**37**	*e*P	**P**	**02 00 50.8**	**+0.5**
	47nm,0.6s						
WSAR	**Wadi Sarin**	**31.53**	**241**	P	**P**	**02 00 59.0**	**+1.5**
	14nm,0.6s,baz=97,slow=3.7,SNR=4.7						
GNI	**Garni**	**32.50**	**280**	*e*P	**P**	**02 01 07.7**	**+1.7**
	153nm,0.7s						
KVAR	**Kislovodsk Arr**	**32.84**	**288**	P	**P**	**02 01 08.1**	**-0.7**
	11nm,0.5s,baz=64,slow=2.1,SNR=4.6						
TIXI	**Tiksi**	**34.77**	**21**	P	**P**	**02 01 26.1**	**+0.9**
	9.9nm,0.3s,baz=261,slow=5.3,SNR=3.7						
OBN	**Obninsk**	**35.23**	**308**	P	**P**	**02 01 29.4**	**+0.1**
	26nm,0.6s,baz=107,slow=18,SNR=3.9						
AKASG	**Malin Array Be**	**40.21**	**302**	P	**P**	**02 02 10.8**	**-0.7**
	15nm,0.7s,baz=66,slow=9.2,SNR=4.2						
KIEV	**Kiev**	**40.22**	**302**	*e*P	**P**	**02 02 10.8**	**-0.7**
	14nm,0.7s						
FINES	**FINESS Array B**	**40.54**	**319**	P	**P**	**02 02 14.6**	**+0.5**
	13nm,0.8s,baz=94,slow=10,SNR=4.8						
BRTR	**Keskin Array B**	**40.60**	**285**	P	**P**	**02 02 15.9**	**+0.9**
	11nm,0.8s,baz=94,slow=7.9,SNR=6.6						
MA2	**Magadan**	**40.70**	**44**	*e*P	**P**	**02 02 16.0**	**+0.6**
	36nm,0.6s						
ASF	**Jabal al Asfar**	**41.62**	**273**	P	**P**	**02 02 24.1**	**+0.7**
	11nm,0.8s,baz=38,slow=3.6,SNR=4.8						
MMAI	**Mount Meron Ar**	**42.30**	**275**	P	**P**	**02 02 30.2**	**+1.3**
	8.1nm,1.0s,baz=53,slow=13,SNR=4.1						
MLR	**Muntele Rosu**	**43.79**	**296**	P	**P**	**02 02 43.0**	**+2.1**
	3.5nm,0.7s,baz=148,slow=6.6,SNR=4.6						
PSZ	**Piszkesteto**	**46.85**	**301**	*e*P	**P**	**02 03 05.8**	**+0.7**
	10nm,0.7s						
DAMY	**Dhamar**	**47.09**	**247**	*e*P	**P**	**02 03 08.6**	**+1.1**
	17nm,0.9s						
VAY	**Valandovo**	**47.66**	**292⇑**	*i*P	**P**	**02 03 11.7**	**+0.3**
NOA	**NORSAR Array B**	**47.69**	**320**	P	**P**	**02 03 11.4**	**0.0**
	9.6nm,0.5s,baz=75,slow=7.8,SNR=3.9						
DPC	**Dobruska-Polom**	**48.19**	**305**	*e*P	**P**	**02 03 16.8**	**+1.4**
DPC				*e*pP	**pP**	**02 03 21.8**	**-4.0**
UPC	**Upice**	**48.32**	**305**	*e*P	**P**	**02 03 17.6**	**+1.3**
UPC				epP	**pP**	**02 03 22.7**	**-4.0**
VRAC	**Vranov**	**48.40**	**304**	P	**P**	**02 03 16.9**	**0.0**
	15nm,0.7s,baz=74,slow=7.5,SNR=6.4						
IDI	**Anoyia**	**48.80**	**283**	P	**P**	**02 03 18.8**	**-1.5**
	14nm,0.3s,baz=40,slow=19,SNR=18						
IDI	**Anoyia**	**48.80**	**283**	*e*P	**P**	**02 03 19.1**	**-1.2**
	19nm,0.4s						
PVCC	**Panska Ves**	**49.17**	**306**	*e*P	**P**	**02 03 24.4**	**+1.5**
PVCC				epP	**pP**	**02 03 30.4**	**-2.9**
GOPC	**GO Pecny, Ondr**	**49.27**	**305**	*e*P	**P**	**02 03 24.6**	**+1.0**
PRU	**Pruhonice**	**49.39**	**305**	*e*P	**P**	**02 03 25.4**	**+0.9**
CLL	**Collm**	**49.81**	**307⇑**	*i*P	**P**	**02 03 28.3**	**+0.6**
	comp=Z,50nm,0.7s						
CLL				*e*		02 03 34.0	
KHC	**Kasperske Hory**	**50.30**	**305**	*e*P	**P**	**02 03 31.5**	**0.0**
GERES	**GERESS Array B**	**50.33**	**304**	P	**P**	**02 03 32.5**	**+0.7**
	comp=Z,6.4nm,0.7s,baz=60,slow=7.9,SNR=8.0						
BOJS	**Bojanci**	**50.73**	**300**	*i*P	**P**	**02 03 35.5**	**+0.7**
VISS	**Visnje**	**50.87**	**300**	*i*P	**P**	**02 03 36.3**	**+0.5**
VISS				*i*		02 03 43.7	
JAVS	**Javornik**	**51.32**	**301**	*i*P	**P**	**02 03 38.9**	**-0.4**
TRI	**Trieste**	**51.59**	**300**	*e*P	**P**	**02 03 40.4**	**-0.8**
	comp=Z,23nm,0.8s						
TIP	**Timpagrande**	**52.60**	**292**	*e*P	**P**	**02 03 48.3**	**-0.5**
	comp=Z,20nm,1.0s						
LEM	**Lembang**	**52.60**	**156**	LR	LR	02 30 20.2	
	comp=Z,302nm,19.0s,baz=320,slow=41						
CUC	**Castrocucco**	**52.84**	**293**	*e*P	**P**	**02 03 50.7**	**0.0**
	comp=Z,13nm,0.7s						
DAVOX	**Davos/Dischmat**	**53.54**	**303**	P	**P**	**02 03 56.0**	**+0.1**
	comp=Z,20nm,0.6s,baz=97,slow=7.6,SNR=5.5						
BFO	**Black Forest**	**53.78**	**305**	*e*P	**P**	**02 03 57.5**	**0.0**
	comp=Z,14nm,0.7s						
EKA	**Eskdalemuir Ar**	**56.87**	**317**	P	**P**	**02 04 19.6**	**+0.2**
	comp=Z,7.2nm,0.5s,baz=58,slow=7.9,SNR=4.9						
ESK	**Eskdalemuir**	**56.90**	**317**	*e*P	**P**	**02 04 19.3**	**-0.4**
	comp=Z,14nm,0.6s						
SSB	**Saint Sauveur**	**57.52**	**304**	*e*P	**P**	**02 04 23.8**	**-0.6**
	comp=Z,7.2nm,0.6s						
SOEI	**Soe**	**61.88**	**139**	*e*P	**P**	**02 04 53.9**	**-0.8**
	comp=Z,18nm,0.7s						
KMBO	**Kilima Mbogo**	**63.45**	**240**	*e*P	**P**	**02 05 04.9**	**-0.5**
	comp=Z,6.8nm,1.0s						
COLA	**College**	**63.85**	**23**	*e*P	**P**	**02 05 06.6**	**-0.4**
	comp=Z,9.4nm,0.6s						
KTH	**Kantishna Hill**	**63.89**	**25**	*e*P	**P**	**02 05 07.7**	**+0.3**
	comp=Z,8.2nm,0.6s						
ILAR	**Eielson Array**	**64.21**	**23**	P	**P**	**02 05 09.7**	**+0.3**
	comp=Z,4.8nm,0.7s,baz=312,slow=5.2,SNR=4.3						
ESDC	**Sonseca Array**	**65.85**	**302**	P	**P**	**02 05 20.6**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=53,slow=6.8,SNR=5.7						
SFJD	**Kangerlussuaq**	**65.95**	**344**	P	**P**	**02 05 20.8**	**+0.2**
	comp=Z,8.4nm,0.7s,baz=355,slow=3.8,SNR=3.8						
SFJD	**Kangerlussuaq**	**65.95**	**344**	*e*P	**P**	**02 05 20.3**	**-0.4**
	comp=Z,8.0nm,0.7s						
SML	**Sawmill**	**65.98**	**26**	*e*P	**P**	**02 05 20.9**	**-0.1**
	comp=Z,2.9nm,0.6s						
DAWY	**Dawson**	**66.81**	**21**	*e*P	**P**	**02 05 26.0**	**-0.2**
	comp=Z,6.6nm,0.7s						
MBWA	**Marble Bar**	**70.08**	**149**	*e*P	**P**	**02 05 47.3**	**+0.2**
	comp=Z,38nm,0.5s						
YKA	**Yellowknife Ar**	**73.23**	**11**	P	**P**	**02 06 06.1**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=334,slow=5.9,SNR=5.1						
WRAB	**Tennant Creek**	**75.57**	**136**	*e*P	**P**	**02 06 20.1**	**+0.4**
	comp=Z,17nm,0.6s						
WRA	**Warramunga Arr**	**75.57**	**136**	P	**P**	**02 06 19.6**	**-0.1**
	comp=Z,15nm,0.8s,baz=336,slow=5.7,SNR=6.5						
ASAR	**Alice Springs**	**78.47**	**138**	P	**P**	**02 06 36.8**	**+0.8**
	comp=Z,7.6nm,0.6s,baz=335,slow=5.6,SNR=6.1						
LSZ	**Lusaka**	**79.99**	**238**	P	**P**	**02 06 45.1**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=32,slow=6.4,SNR=4.1						
FFC	**Flin Flon**	**82.23**	**6**	*e*P	**P**	**02 06 56.0**	**+0.1**
	comp=Z,11nm,0.6s						
MATP	**Matopo**	**83.72**	**235**	P	**P**	**02 07 03.3**	**-0.8**
	comp=Z,5.4nm,0.8s,baz=33,slow=4.9,SNR=3.6						
PGC	**Sidney**	**84.52**	**21**	*e*P	**P**	**02 07 08.6**	**+0.9**
	comp=Z,11nm,0.8s						
DBIC	**Dimbokro**	**87.86**	**277**	P	**P**	**02 07 23.4**	**-1.3**
	comp=Z,8.1nm,0.7s,baz=22,slow=5.4,SNR=3.3						
BMO	**Blue Mountains**	**89.56**	**18**	*e*P	**P**	**02 07 32.4**	**0.0**
	comp=Z,2.4nm,0.5s						
TSUM	**Tsumeb**	**89.67**	**243**	*e*P	**P**	**02 07 32.7**	**-0.5**
	comp=Z,2.9nm,0.8s						
DLMT	**Dillon**	**90.04**	**15**	*e*P	**P**	**02 07 33.5**	**-1.2**
	comp=Z,4.4nm,0.8s						
LKWY	**Lake**	**91.20**	**13**	*e*P	**P**	**02 07 40.5**	**+0.3**
	comp=Z,5.5nm,0.6s						
MFID	**Camas Ranch**	**91.26**	**17**	*e*P	**P**	**02 07 40.2**	**-0.1**
	comp=Z,1.9nm,0.6s						
HLID	**Hailey**	**91.42**	**16**	*e*P	**P**	**02 07 41.5**	**+0.4**
	comp=Z,1.5nm,0.8s						
WVOR	**Wild Horse Val**	**91.53**	**20**	*e*P	**P**	**02 07 42.3**	**+0.7**
	comp=Z,12nm,1.2s						
IMW	**Indian Meadow**	**91.76**	**14**	*e*P	**P**	**02 07 43.2**	**+0.3**
TPAW	**Teton Pass**	**92.15**	**14**	*e*P	**P**	**02 07 44.7**	**+0.1**
	comp=Z,2.3nm,0.7s						
RSSD	**Black Hills**	**92.54**	**9**	*e*P	**P**	**02 07 46.9**	**+0.6**
	comp=Z,5.6nm,0.7s						
ECSD	**EROS Data Cent**	**93.52**	**4**	*e*P	**P**	**02 07 50.3**	**-0.3**
	comp=Z,4.6nm,0.8s						
HWUT	**Hardware Ranch**	**93.86**	**15**	*e*P	**P**	**02 07 51.0**	**-1.5**
	comp=Z,3.7nm,0.7s						
ELK	**Elko**	**93.93**	**18**	*e*P	**P**	**02 07 51.5**	**-1.5**
	comp=Z,2.8nm,1.0s						
DUG	**Dugway, Tooele**	**94.98**	**16**	*e*P	**P**	**02 07 58.0**	**+0.5**
	comp=Z,4.0nm,1.0s						
SAML	**Samuel**	**137.92**	**315**	*e*PKPdf	**PKPdf**	**02 13 59.8**	**0.0**
LPAZ	**La Paz**	**146.67**	**316**	PKPbc	**PKPdf**	**02 14 16.4**	**+0.5**
	comp=Z,8.8nm,0.8s,baz=38,slow=7.2,SNR=5.9						
CPUP	**Villa Florida**	**147.53**	**290**	PKPbc	**PKPbc**	02 14 18.9	**-0.1**
	comp=Z,23nm,0.7s,baz=50,slow=2.0,SNR=8.7						

*CSEM **08** 01:59:07.0, 42.°27N×13.°61E, h5km, MD1.9/5*
ROM 08 01:59:07.0±0.2, 42.°27N×13.°61E, h5km±2km, Md1.9/5, MI1.4/2, Error ellipse: s-maj=1.7km s-min=1.4km az=143.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAGN	**Fagnano**	**0.02**	**267**	Pg	Pg	01 59 08.0	0.0
FAGN				Sg	Sg	01 59 08.8	0.0
FAGN	**Fagnano**	**0.02**	**267**	Pg	Pg	01 59 08.0	0.0
AQU	**L'Aquila**	**0.18**	**300**	Pg	Pg	01 59 11.0	+0.5
AQU				Sg	Sg	01 59 14.5	+1.6
	84nm,0.7s						
AQU	**L'Aquila**	**0.18**	**300**	Pg	Pg	01 59 11.0	+0.5
AQU				Sg	Sg	01 59 14.5	+1.6
	84nm,0.7s						
VCEL	**Villa Celiera**	**0.21**	**53**	Pg	Pg	01 59 11.7	+0.5
VCEL				Sg	Sg	01 59 15.7	+1.6
	152nm,1.1s						
VCEL	**Villa Celiera**	**0.21**	**53**	Pg	Pg	01 59 11.7	+0.5
VCEL				Sg	Sg	01 59 15.7	+1.6
	152nm,1.1s						
PTQR	**Pietraquaria**	**0.29**	**212**	Pg	Pb	01 59 13.7	-1.1
PTQR				Sg	Sb	01 59 18.3	-1.6
PTQR	**Pietraquaria**	**0.29**	**212**	Pg	Pb	01 59 13.7	-1.1
PTQR				Sg	Sb	01 59 18.3	-1.6
RM33	**Pellescritta (**	**0.38**	**310**	Pg	Pg	01 59 14.9	+0.5
RM33				Sg	Sb	01 59 21.7	-0.9
RM33	**Pellescritta (**	**0.38**	**310**	Pg	Pg	01 59 14.9	+0.5
RM33				Sg	Sb	01 59 21.7	-0.9

*CSEM **08** 01:59:59.3, 43.°50N×12.°26E, h6km, MD1.5/5*
ROM 08 01:59:59.3±0.2, 43.°50N×12.°26E, h6km±1km, Md1.5/5, MI0.9/3, Error ellipse: s-maj=1.1km s-min=0.9km az=47.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BADI	**Badiali**	**0.02**	**324**	Pg	Pg	02 00 00.6	+0.1
BADI				Sg	Sg	02 00 01.5	+0.2
	436nm,0.2s						
BADI	**Badiali**	**0.02**	**324**	Pg	Pg	02 00 00.6	+0.1
BADI				Sg	Sg	02 00 01.5	+0.2
	436nm,0.2s						
ATMC	**Monte Cedrone**	**0.07**	**225**	Pg	Pg	02 00 01.5	+0.5
ATMC				Sg	Sg	02 00 02.7	+0.5
	43nm,0.1s						
ATMC	**Monte Cedrone**	**0.07**	**225**	Pg	Pg	02 00 01.5	+0.5
ATMC				Sg	Sg	02 00 02.7	+0.5
	43nm,0.1s						
ATPC	**Poggio Castell**	**0.14**	**96**	Pg	Pg	02 00 02.4	+0.1
ATPC				Sg	Sg	02 00 05.5	+1.2
	41nm,0.1s						
ATPC	**Poggio Castell**	**0.14**	**96**	Pg	Pg	02 00 02.4	+0.1
ATPC				Sg	Sg	02 00 05.5	+1.2
	41nm,0.1s						
PARC	**Parchiule**	**0.15**	**354**	Pg	Pg	02 00 02.9	+0.4
PARC				Sg	Sg	02 00 05.8	+1.2
	21nm,0.1s						
PARC	**Parchiule**	**0.15**	**354**	Pg	Pg	02 00 02.9	+0.4
PARC				Sg	Sg	02 00 05.8	+1.2
	21nm,0.1s						
ATVO	**AVT- Monte Val**	**0.16**	**136**	Pg	Pg	02 00 03.0	+0.5
ATVO				Sg	Sg	02 00 05.8	+1.2
	25nm,0.4s						
ATVO	**AVT- Monte Val**	**0.16**	**136**	Pg	Pg	02 00 03.0	+0.5
ATVO				Sg	Sg	02 00 05.8	+1.2
	25nm,0.4s						

*ISCJB **08** 02:00:17.6±0.3, 43.°05N±0.°04×88.°41E±0.°05, h10km, mb4.5/70, MS4.8/1, Error ellipse: s-maj=7.1km s-min=4.3km az=30.7*
*MOS **08** 02:00:20.7±0.9, 43.°14N×88.°34E, h29km, mb4.7/37, Error ellipse: s-maj=13.3km s-min=7.7km az=132.4*
*BJI **08** 02:00:20.3, 42.°94N×88.°28E, h8km, mb4.3/1, ML4.6/10*
*OBM **08** 02:00:21.3±0.1, 43.°09N×88.°16E, h15km, MI3.8/5, Error ellipse: s-maj=2.9km s-min=1.5km az=169.0*
*NEIC **08** 02:00:23.1±0.9, 43.°07N×88.°36E, h36km±7km, mb4.6/23, Error ellipse: s-maj=5.9km s-min=4.3km az=181.0*
*IDC **08** 02:00:24.3±2.5, 43.°08N×88.°37E, h45km±23km, mb4.2/35, mb1 4.3/38, mb1mx4.1/88, mbtmp4.5/38, ML4.5/3, Error ellipse: s-maj=13.1km s-min=10.1km az=19.0*

ISC 08 02:00:19.4±0.4, 43.°00N±0.°06×88.°32E±0.°05, h10km, n140, σ0℘97/147, mb4.6/70, 21C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.93**	**331**	Pg	**Pg**	**02 00 37.9**	**+0.5**
WMQ				Sg	**Sg**	**02 00 49.5**	**0.0**
WMQ				SMN			
	117μm,0.3s						
WMQ				SME			
	151μm,0.6s						
HBD	**Hovd**	**5.65**	**24**	*e*Pn	Pn	02 01 45.2	+1.8
HBD				*e*Sg	Sb	02 03 06.9	+1.1
MK31	**Makanchi Array**	**5.71**	**314**	Pn	**Pn**	**02 01 45.7**	**+1.4**
	41nm,0.5s,baz=131,slow=14,SNR=59						
MK31				⇑Pg	**Pg**	**02 02 08.1**	**-0.7**
	102nm,0.7s,baz=126,slow=16,SNR=4.4						
MK31				⇑Sn	**Sn**	**02 02 51.1**	**+1.2**
	157nm,0.7s,baz=124,slow=26,SNR=4.8						
MK31				Lg	Lg	02 03 24.6	
	366nm,0.8s,baz=122,slow=27,SNR=5.8						
MK31	**Makanchi Array**	**5.71**	**314**	P	**Pn**	**02 01 45.7**	**+1.4**
MK31				S	**Sn**	**02 02 51.1**	**+1.2**
MK31				pmax	pmax		
	comp=Z,41nm,0.5s						
MKAR	**Makanchi Array**	**5.71**	**314**	P	**Pn**	**02 01 45.8**	**+1.5**
	comp=Z,14nm,0.3s,baz=130,slow=13,SNR=17						
MK01	**Makanchi Array**	**5.74**	**315**	*e*Pn	Pn	02 01 45.6	+1.0
MK01				*e*Sg	Sb	02 03 14.4	+6.1
	comp=Z,381nm,0.6s						
BYO	**Bayan-Olgiy**	**6.18**	**11**	*e*Pn	Pn	02 01 54.5	+3.7
BYO				*e*Sn	Sn	02 03 04.3	+2.6
PDGK	**Podgornoye**	**6.47**	**276**	⇑Pn	**Pn**	**02 01 55.7**	**+1.2**
	comp=Z,110nm,0.8s						
PDGK				⇑Sn	**Sn**	**02 03 03.7**	**-4.7**
	comp=Z,178nm,1.0s						
PDGK				⇑Lg	Lg	02 03 40.3	
	comp=Z,413nm,0.8s						
PDGK	**Podgornoye**	**6.47**	**276**	P	**Pn**	**02 01 55.7**	**+1.2**
PDGK				S	**Sn**	**02 03 03.7**	**-4.7**
PDGK				pmax	pmax		
	comp=Z,110nm,0.8s						
PDGK				smax	smax		
	comp=Z,178nm,1.0s						
ULG	**Ulaangom**	**7.54**	**19**	*e*Pn	Pn	02 02 11.4	+2.1
ULG				*e*Sg	Sb	02 04 08.4	+8.3
	comp=Z,480nm,0.8s						
TSC	**Tosontsengel**	**9.12**

comp=Z,10.0nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,13nm,0.9s
KLR Kul'dur 30.41 63 P **P 02 06 31.4 -0.2**
comp=E,2.6nm,0.7s,baz=283,slow=9.4,SNR=4.9
KSAR Wonju Array Be 30.51 87 P **P 02 06 33.1 +0.5**
KSAR Wonju Array Be 30.51 87 P **P 02 06 33.0 +0.5**
KSRS Korea Array 30.54 87 P **P 02 06 33.0 +0.2**
comp=E,3.4nm,0.6s,baz=287,slow=8.5,SNR=12
WSAR Wadi Sarin 31.48 241 P **P 02 06 42.7 +1.4**
comp=E,8.6nm,0.7s,baz=137,slow=2.0,SNR=7.4
TIXI Tiksi 34.80 21 P **P 02 07 09.8 +0.1**
comp=E,9.1nm,0.6s,baz=245,slow=5.2,SNR=12
TIXI Tiksi 34.80 21 *eP* **P 02 07 09.5 -0.2**
comp=E,10nm,0.6s
AKASG Malin Array Be 40.17 302 P **P 02 07 55.1 -0.3**
comp=E,1.4nm,0.5s,baz=63,slow=8.5,SNR=8.6
AKASG Malin Array Be 40.17 302 P **P 02 07 55.1 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 40.18 302 *eP* **P 02 07 54.8 -0.7**
KIEV pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 40.18 302 *eP* **P 02 07 54.8 -0.7**
comp=Z,7.4nm,0.8s
FINES FINESS Array B 40.52 319 P **P 02 07 58.3 +0.1**
comp=Z,4.7nm,0.8s,baz=91,slow=8.1,SNR=7.2
FINES PcP **PcP 02 09 59.6 -0.8**
comp=Z,1.0nm,0.5s,baz=111,slow=8.4,SNR=3.5
BRTR Keskin Array B 40.56 285 P **P 02 07 59.6 +0.6**
comp=Z,3.2nm,0.6s,baz=89,slow=6.7,SNR=17
KEV Kevo 40.56 332 *eP* **P 02 07 58.0 -0.5**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 40.56 332 *eP* **P 02 07 58.0 -0.5**
comp=Z,4.8nm,0.8s
ARCES ARCESS Array B 41.05 332 P **P 02 08 03.0 +0.5**
comp=Z,2.2nm,0.6s,baz=82,slow=7.4,SNR=8.5
ARCES PcP **PcP 02 10 01.4 -0.6**
comp=Z,2.2nm,0.4s,baz=91,slow=3.7,SNR=11
SEY Seymchan 41.32 39 P **P 02 08 04.5 -0.2**
comp=Z,1.0nm,0.4s,baz=295,slow=23,SNR=2.7
SEY PcP **PcP 02 10 02.9 -0.1**
comp=Z,1.1nm,0.5s,baz=1.5,slow=4.6,SNR=3.7
ASF Jabal al Asfar 41.57 273 P **P 02 08 08.0 +0.6**
comp=Z,3.8nm,0.9s,baz=47,slow=7.3,SNR=5.7
ASF Jabal al Asfar 41.57 273 P **P 02 08 08.0 +0.6**
ASF pmax pmax
comp=Z,4.0nm,0.9s
MMAI Mount Meron Ar 42.25 275 P **P 02 08 13.9 +1.0**
comp=Z,1.7nm,0.8s,baz=59,slow=9.8,SNR=4.4
MMAI PcP **PcP 02 10 06.4 -0.3**
comp=Z,2.9nm,0.9s,baz=1.9,slow=2.5,SNR=4.0
CFR Carcaliu 42.40 294 *i*P **P 02 08 13.7 -0.1**
CFR Carcaliu 42.40 294 *i*P P 02 08 13.7 -0.1
MSAB Monastry St. A 42.98 293 *i*P P **02 08 19.3 +0.8**
PLOR Plostina 43.16 296 *i*P P 02 08 18.0 -2.1
PLOR Plostina 43.16 296 *i*P P 02 08 18.0 -2.1
BURAR Bucovina Array 43.53 299 *i*P **P 02 08 23.2 +0.1**
BURAR Bucovina Array 43.53 299 *i*P **P 02 08 23.2 +0.1**
MLR Muntele Rosu 43.75 296 P **P 02 08 25.2 +0.2**
comp=Z,1.3nm,0.8s,baz=147,slow=7.3,SNR=9.0
MLR Muntele Rosu 43.75 296 *i*P **P 02 08 25.8 +0.8**
MLR Muntele Rosu 43.75 296 *i*P **P 02 08 25.8 +0.8**
DOPR Dopca 43.96 297 *i*P **P 02 08 27.4 +0.9**
EIL Elat 44.30 271 P **P 02 08 30.6 +1.2**
comp=Z,10nm,1.1s,baz=63,slow=14,SNR=5.3
VOIR 44.36 296 *i*P **P 02 08 30.3 +0.5**
VOIR 44.36 296 *i*P **P 02 08 30.3 +0.5**
ARR Arges 44.66 296 *i*P **P 02 08 32.9 +0.7**
DRGR 45.41 299 *i*P **P 02 08 38.9 +0.8**
DRGR 45.41 299 *i*P **P 02 08 38.9 +0.8**
GZR Gura Zlata 45.87 297 *i*P **P 02 08 42.2 +0.4**
GZR Gura Zlata 45.87 297 *i*P **P 02 08 42.2 +0.4**
HFS Hagfors 46.71 318 P **P 02 08 47.8 -0.2**
comp=Z,3.6nm,0.6s,baz=93,slow=7.9,SNR=10
NB2 NORSAR Subarra 47.67 320 P **P 02 08 54.8 -0.8**
comp=Z,4.4nm,0.5s,baz=74,slow=7.9
NOA NORSAR Array B 47.67 320 P **P 02 08 55.1 -0.5**
comp=Z,5.7nm,0.7s,baz=74,slow=7.8,SNR=13
DPC Dobruska-Polom 48.16 305 *eP* **P 02 09 00.3 +0.8**
DPC *epP* **pP 02 09 06.2 +3.5**
DPC Dobruska-Polom 48.16 305 *eP* **P 02 09 00.3 +0.8**
DPC *e* 02 09 06.2
UPC Upice 48.29 305 *eP* **P 02 09 01.4 +0.9**
UPC Upice 48.29 305 *eP* **P 02 09 01.4 +0.9**
VRAC Vranov 48.36 304 P **P 02 09 01.4 +0.3**
comp=Z,6.7nm,0.7s,baz=79,slow=6.1,SNR=3.9
IDI Anoyia 48.75 283 P **P 02 09 03.6 -0.8**
comp=Z,4.6nm,0.5s,baz=42,slow=11,SNR=13
IDI Anoyia 48.75 283 *eP* **P 02 09 03.2 -1.1**
comp=Z,7.9nm,0.8s
PVCC Panska Ves 49.14 306 *eP* **P 02 09 07.9 +0.9**
PVCC *ex* x 02 09 13.6
PVCC Panska Ves 49.14 306 *eP* **P 02 09 07.9 +0.9**
PVCC *e* 02 09 13.6
PVCC MLR MLR
comp=Z,900nm,19.9s
CONA Conrad Observa 49.33 302 *i*P **P 02 09 09.7 +1.1**
comp=Z,6.7nm,0.8s
PRU Pruhonice 49.35 305 *eP* **P 02 09 09.2 +0.5**
PRU Pruhonice 49.35 305 *eP* **P 02 09 09.2 +0.5**
CLL Collm 49.77 307 *i*PKPbc **P 02 09 11.9 +0.1**
comp=Z,20nm,0.7s
CLL *e*PKPab **pP 02 09 18.0 +3.0**
comp=Z,11nm,0.7s
CLL Collm 49.77 307 *i*P **P 02 09 11.9 +0.1**
CLL *e* 02 09 18.0
CLL pmax pmax
comp=Z,20nm,0.7s
CLL pmax pmax
comp=Z,11nm,0.7s
ARSA Arzberg 49.81 302 *i*P **P 02 09 12.3 +0.1**
comp=Z,2.7nm,0.7s
KHC Kasperske Hory 50.26 305 *eP* **P 02 09 15.5 -0.1**
KHC Kasperske Hory 50.26 305 *eP* **P 02 09 15.5 -0.1**
GERES GERESS Array B 50.30 304 P **P 02 09 15.7 -0.3**
comp=Z,1.0nm,0.5s,baz=66,slow=7.7,SNR=6.5
SOKA Soboth 50.35 301 *i*P **P 02 09 16.6 +0.3**
comp=Z,3.5nm,0.5s,SNR=8.8
MOA Molln 50.35 303 *i*P **P 02 09 16.9 +0.6**
comp=Z,4.0nm,1.0s
OBKA Obir 50.72 301 *i*P **P 02 09 19.7 +0.5**
comp=Z,8.5nm,0.8s,SNR=5.7
KBA Koelnbreinsper 51.24 302 *i*P **P 02 09 23.6 +0.4**
comp=Z,5.7nm,0.6s
MYKA Terra Mystica 51.24 302 *i*P **P 02 09 23.0 -0.1**
comp=Z,2.6nm,0.4s
TRI Trieste 51.55 300 *eP* **P 02 09 24.6 -0.7**
TRI pmax pmax
comp=Z,9.0nm,0.8s
TRI Trieste 51.55 300 *eP* **P 02 09 24.6 -0.7**
comp=Z,9.3nm,0.8s
WTTA Wattenberg 52.21 303 *i*P **P 02 09 30.7 +0.3**
comp=Z,25nm,1.1s
WATA Walderalm 52.22 303 *i*P **P 02 09 31.1 +0.6**
comp=Z,7.3nm,0.6s
MOTA Moosalm 52.51 303 *i*P **P 02 09 32.8 +0.2**
comp=Z,6.1nm,0.5s
RETA Reutte 52.65 304 *i*P **P 02 09 34.0 +0.4**
comp=Z,7.8nm,0.9s
CUC Castrocucco 52.80 293 *eP* **P 02 09 35.0 +0.2**
comp=Z,7.8nm,1.1s
FETA Feichten 52.88 303 *i*P **P 02 09 35.4 0.0**
comp=Z,8.8nm,0.8s,SNR=9.3
DAVA Damuels 53.28 304 *i*P **P 02 09 38.3 -0.1**
comp=Z,7.7nm,1.0s
DAVOX Davos/Dischmat 53.51 303 P **P 02 09 40.0 -0.1**
comp=Z,6.9nm,0.6s,baz=76,slow=5.3,SNR=14
DAVOX Davos/Dischmat 53.51 303 P **P 02 09 40.0 -0.1**
DAVOX pmax pmax
comp=Z,7.0nm,0.6s
BFO Black Forest 53.75 305 *eP* **P 02 09 40.7 -0.9**
BFO pmax pmax
comp=Z,5.0nm,0.8s
BFO Black Forest 53.75 305 *eP* **P 02 09 40.7 -0.9**
comp=Z,5.3nm,0.8s
EKA Eskdalemuir Ar 56.84 317 P **P 02 10 03.5 -0.3**
comp=Z,2.4nm,0.4s,baz=61,slow=5.8,SNR=17
EKA Eskdalemuir Ar 56.84 317 P **P 02 10 03.5 -0.3**
EKA pmax pmax
comp=Z,3.0nm,0.4s
SSB Saint Sauveur 57.49 304 *eP* **P 02 10 07.9 -0.6**
SSB pmax pmax
comp=Z,4.0nm,0.6s
SSB Saint Sauveur 57.49 304 *eP* **P 02 10 07.9 -0.6**
comp=Z,3.6nm,0.6s
KEST Kesra 59.38 292 P **P 02 10 23.1 +1.2**
comp=Z,1.9nm,0.6s,baz=36,slow=1.1,SNR=3.1
COLD Coldfoot 61.52 22 *eP* **P 02 10 35.6 -0.3**
comp=Z,4.0nm,0.6s
BPAW Bear Paw Mtn. 63.51 25 *eP* **P 02 10 48.5 -0.8**
comp=Z,0.8nm,0.8s
COLA College 63.89 23 *eP* **P 02 10 51.0 -0.7**
COLA pmax pmax
comp=Z,4.0nm,0.5s
COLA College 63.89 23 *eP* **P 02 10 51.0 -0.7**
comp=Z,4.0nm,0.5s
KTH Kantishna Hill 63.92 25 *eP* **P 02 10 51.8 -0.3**
comp=Z,5.3nm,0.7s
ILAR Eielson Array 64.24 23 P **P 02 10 53.5 -0.6**
comp=Z,2.4nm,0.7s,baz=318,slow=4.8,SNR=15
ILAR PP **PP 02 13 13.2 -1.5**
comp=Z,0.6nm,0.7s,baz=310,slow=7.1,SNR=4.4
INK Inuvik 64.68 16 P **P 02 10 56.4 -0.4**
comp=Z,2.5nm,0.5s,baz=338,slow=2.7,SNR=6.4
ESDC Sonseca Array 65.82 302 P **P 02 11 04.7 -0.1**
comp=Z,0.7nm,0.4s,baz=51,slow=6.4,SNR=8.2
SFJD Kangerlussuaq 65.95 344 P **P 02 11 04.8 -0.3**
comp=Z,5.1nm,0.7s,baz=357,slow=5.5,SNR=3.9
SML Sawmill 66.01 26 *eP* **P 02 11 05.6 -0.1**
SML pmax pmax
comp=Z,2.0nm,0.7s
SML Sawmill 66.01 26 *eP* **P 02 11 05.6 -0.1**
comp=Z,1.5nm,0.7s
DAWY Dawson 66.84 21 *eP* **P 02 11 10.0 -0.9**
comp=Z,2.5nm,0.7s
FITZ Fitzroy Crossi 69.82 142 P **P 02 11 29.9 -0.2**
comp=Z,1.1nm,0.4s,baz=333,slow=6.5,SNR=5.1
MBWA Marble Bar 70.09 149 *eP* **P 02 11 31.5 -0.2**
comp=Z,24nm,0.7s
YKA Yellowknife Ar 73.25 11 P **P 02 11 49.8 -0.4**
comp=Z,3.4nm,0.9s,baz=336,slow=5.6,SNR=12
WRAB Tennant Creek 75.59 136 *eP* **P 02 12 04.1 -0.3**
WRAB pmax pmax
comp=Z,5.0nm,0.7s
WRAB Tennant Creek 75.59 136 *eP* **P 02 12 04.1 -0.3**
comp=Z,4.7nm,0.7s
WRA Warramunga Arr 75.59 136 P **P 02 12 04.4 0.0**
comp=Z,4.4nm,0.8s,baz=338,slow=5.9,SNR=20
ASAR Alice Springs 78.50 138 P **P 02 12 20.6 -0.1**
comp=Z,2.2nm,0.6s,baz=336,slow=5.8,SNR=19
FFC Flin Flon 82.25 6 *eP* **P 02 12 39.2 -1.3**
FFC pmax pmax
comp=Z,4.0nm,0.6s
FFC Flin Flon 82.25 6 *eP* **P 02 12 39.2 -1.3**
comp=Z,4.2nm,0.6s
STKA Stephens Creek 89.08 137 P P 02 13 13.3 -1.3
comp=Z,3.2nm,0.9s,baz=293,slow=11,SNR=2.9
BOZ Bozeman (W) 89.97 14 *eP* **P 02 13 18.5 -0.5**
BOZ pmax pmax
comp=Z,1.0nm,0.6s
BOZ Bozeman (W) 89.97 14 *eP* **P 02 13 18.5 -0.5**
comp=Z,0.9nm,0.6s
RSSD Black Hills 92.56 9 *eP* **P 02 13 31.2 +0.1**
RSSD pmax pmax
comp=Z,1.0nm,0.6s
RSSD Black Hills 92.56 9 *eP* **P 02 13 31.2 +0.1**
comp=Z,1.4nm,0.6s
ECSD EROS Data Cent 93.53 4 *eP* **P 02 13 34.6 -0.7**
comp=Z,1.7nm,0.6s
HWUT Hardware Ranch 93.89 15 *eP* **P 02 13 37.1 -0.1**
comp=Z,2.1nm,0.8s
DUG Dugway, Tooele 95.01 16 *eP* P 02 13 40.7 -1.7
DUG pmax pmax
comp=Z,2.0nm,1.0s
DUG Dugway, Tooele 95.01 16 *eP* P 02 13 40.7 -1.7
comp=Z,2.3nm,1.0s
SAML Samuel 137.90 315 *e*PKPdf **PKPdf 02 19 44.0 -0.5**
LPAZ La Paz 146.64 316 PKPbc **PKPdf 02 20 00.2 -0.5**
comp=Z,1.8nm,0.6s,baz=30,slow=2.8,SNR=11
CPUP Villa Florida 147.49 290 PKPbc **PKPdf 02 20 02.7 +1.6**
comp=Z,8.2nm,0.6s,baz=48,slow=3.2,SNR=27

OBM 08 02:00:24.7±0.2, 43.30N×88.22E, h2km, Ml4.1/2, Error ellipse: s-maj=3.1km s-min=1.9km az=164.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HBD	**Hovd**	**5.29**	**26**	*e*Sg	Sg	02 03 09.7	-4.7
MK01	**Makanchi Array**	**5.44**	**312**	*e*Pn	Pn	02 01 45.4	-1.4
MK01				*e*Sg	Sg	02 03 14.5	-5.0
	430nm,0.6s						
BYO	**Bayan-Olgiy**	**5.79**	**11**	*e*Pn	Pn	02 01 55.3	+3.6
BYO				*e*Sg	Sg	02 03 29.4	-1.1
	431nm,0.6s						
ULG	**Ulaangom**	**7.16**	**20**	*e*Sg	Sg	02 04 08.6	-6.0
	477nm,0.8s						
TSC	**Tosontsengel**	**8.86**	**48**	*e*Sg	Sg	02 05 01.3	-7.7
	80nm,0.5s						

*SGS **08** 02:01:59.2, 17.60N×40.25E, h25km*
*IDC **08** 02:01:59.1±2.3, 17.84N×40.33E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.6/75, mbtmp4.0/5, ML3.9/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/72, Error ellipse: s-maj=66.9km s-min=30.0km az=68.0*
*NEIC **08** 02:02:00.6±0.8, 17.82N±40.33E, h10km, mb4.3/2, Error ellipse: s-maj=23.8km s-min=13.9km az=70.0*
ISC 08 02:02:00.3±0.9, 17.91N±0.08×40.65E±0.08, h10km, n20, σ1f86/14, mb4.1/6, MS3.7/6, 1C, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRSS	**Farasan al Kab**	**1.82**	**130**	P	**Pn**	**02 02 29.1**	**-2.6**
NAMS	**An Nimas**	**1.93**	**49**	S	**Sg**	**02 03 02.0**	**-0.6**
NAMS				P	**Pg**	**02 02 37.2**	**-0.3**
BLJS	**Baljurashi**	**2.23**	**24**	P	**Pb**	**02 02 41.0**	**+0.2**
LTHS	**Al Lith**	**2.36**	**355**	P	**Pn**	**02 02 36.9**	**-2.3**
ATD	**Arta Tunnel**	**6.69**	**161**	Pn	**Pn**	**02 03 39.8**	**+1.0**
	2.3nm,0.3s,baz=59,slow=3.2,SNR=15						
ATD				LR	LR	02 05 53.0	
	comp=Z,198nm,18.8s,baz=72,slow=35						
EIL	**Elat**	**12.81**	**337**	LR	LR	02 09 06.5	
	comp=Z,118nm,20.0s,baz=212,slow=34						
KMBO	**Kilima Mbogo**	**19.21**	**190**	LR	LR	02 13 25.9	
	comp=Z,195nm,19.1s,baz=3.0,slow=36						
BRTR	**Keskin Array B**	**22.57**	**346**	P	**P**	**02 07 02.9**	**+1.9**
	3.2nm,1.0s,baz=173,slow=9.5,SNR=7.7						
VRI	**Vrincioaia**	**30.18**	**340**	*i*P	**P**	**02 08 12.3**	**+1.6**
TAM	**Tamanrasset**	**33.24**	**284**	*eP*	**P**	**02 08 35.3**	**-2.7**
	2.2nm,0.9s						
PSZ	**Piszkesteto**	**34.40**	**335**	*eP*	**P**	**02 08 48.7**	**+0.9**
	3.5nm,0.7s						
LSZ	**Lusaka**	**35.19**	**201**	LR	LR	02 23 13.3	
	comp=Z,224nm,18.9s,baz=12,slow=36						
AAK	**Ala Archa**	**37.83**	**42**	LR	LR	02 28 24.5	
	comp=Z,107nm,18.3s,baz=235,slow=42						
ARU	**Arti**	**40.76**	**15**	LR	LR	02 30 18.4	
	comp=Z,88nm,18.1s,baz=192,slow=42						
ARU	**Arti**	**40.76**	**15**	*eP*	**P**	**02 09 42.3**	**+0.9**
MKAR	**Makanchi Array**	**44.69**	**40**	LR	LR	02 31 33.9	
	comp=Z,104nm,19.0s,baz=260,slow=40						
DBIC	**Dimbokro**	**45.72**	**262**	LR	LR	02 29 12.6	
	comp=Z,68nm,19.4s,baz=38,slow=36						
NOA	**NORSAR Array B**	**47.89**	**341**	P	**P**	**02 10 37.1**	**-1.3**
	1.9nm,0.9s,baz=139,slow=8.6,SNR=3.4						
ZALV	**Zalesovo Beam**	**49.44**	**33**	P	**P**	**02 10 52.1**	**+1.7**
	3.7nm,0.7s,baz=247,slow=6.8,SNR=3.9						
ZALV				LR	LR	02 32 22.0	
	comp=Z,61nm,19.7s,baz=248,slow=37						
SONM	**Songino Array**	**60.70**	**45**	P	**P**	**02 12 14.3**	**+2.2**
	0.8nm,0.7s,baz=260,slow=8.6,SNR=2.7						

*IDC **08** 02:16:37.4±2.9, 35.92N×141.30E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/86, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=65.0km s-min=28.1km az=69.0*
*ISCJB **08** 02:16:44.6±0.7, 35.70N±0.04×140.82E±0.09, h57km±5km, mb3.4/3, Error ellipse: s-maj=11.8km s-min=6.7km az=171.6*
*JMA **08** 02:16:45.7±0.1, 35.72N×140.70E, h47km±1km, M2.9*
ISC 08 02:16:45.7±1.1, 35.72N±0.04×140.77E±0.07, h49km±8km, n21, σ0f72/20, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.07**	**100**	P	**Pn**	**02 16 53.2**	**-0.1**
CHOJ				*e*S	**Sn**	**02 16 58.7**	**0.0**
JCN	**Nagara**	**0.55**	**238**	P	**Pn**	**02 16 57.5**	**0.0**
JCN				S	**Sn**	**02 17 06.6**	**+0.7**
JYT	**Yasato**	**0.69**	**318**	P	**Pn**	**02 16 58.6**	**-0.7**
BSO4	**Boso 4**	**0.81**	**206**	P	**Pn**	**02 17 00.8**	**+0.1**
JHO	**Hitachi**	**0.91**	**350**	P	**Pn**	**02 17 02.3**	**+0.1**
JHO				*e*S	**Sn**	**02 17 14.5**	**+0.2**
BSO3	**Boso 3**	**0.94**	**193**	P	**Pn**	**02 17 02.2**	**-0.1**
BSO1	**Boso 1**	**1.07**	**171**	P	**Pn**	**02 17 04.8**	**+0.9**
JAG	**Ashikaga**	**1.28**	**304**	P	**Pn**	**02 17 06.5**	**-0.7**
JOD2	**Odawara 2**	**1.44**	**252**	P	**Pn**	**02 17 09.0**	**-0.5**
MJAR	**Matsushiro Arr**	**2.23**	**292**	Pn	**Pn**	**02 17 20.3**	**+0.1**
	3.7nm,0.3s,baz=98,slow=15,SNR=13						
MAT	**Matsushiro**	**2.23**	**292**	P	**Pn**	**02 17 21.0**	**+0.7**
MAT				*e*S	**Sn**	**02 17 48.3**	**+1.7**
JHJ	**Hachijo jima 2**	**2.71**	**198**	Pn	**Pn**	**02 17 27.0**	**+0.2**
	13nm,0.3s,baz=74,slow=15,SNR=1.4						
JHJ				Sn	**Sn**	**02 17 57.0**	**-1.4**
	20nm,0.3s,baz=40,slow=23,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**27.96**	**118**	T	T	02 51 43.0	
	baz=311,slow=75,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**27.96**	**118**	T	T	02 51 40.4	
	baz=311,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**27.98**	**118**	T	T	02 51 38.4	
	baz=311,slow=75,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	02 52 32.4	
	baz=312,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	02 52 22.5	
	baz=312,slow=75,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**28.63**	**120**	T	T	02 52 26.0	
	baz=312,slow=75,SNR=9.1						
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**02 24 50.9**	**-0.4**
	0.2nm,0.5s,baz=83,slow=12,SNR=2.1						
KURBB	**Kurchatov Arra**	**46.41**	**309**	P	**P**	**02 25 07.4**	**+0.1**
	0.2nm,0.4s,baz=80,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**55.69**	**187**	P	**P**	**02 26 17.0**	**-0.1**
	0.2nm,0.4s,baz=1.6,slow=7.6,SNR=2.5						

*MOS **08** 02:29:39.7±1.3, 17.52N×40.34E, h10km, mb4.4/19, Error ellipse: s-maj=15.4km s-min=8.2km az=78.9*
*IDC **08** 02:29:40.2±1.5, 17.59N×40.30E, h0km, mb4.0/19, mb1 4.1/20, mb1mx3.9/76, mbtmp4.0/20, ML3.2/1, MS3.6/15, Ms1 3.7/15, ms1mx3.4/65, Error ellipse: s-maj=31.7km s-min=19.5km az=178.0*
*ISCJB **08** 02:29:41.4±0.5, 17.76N±0.07×40.26E±0.06, h10km, mb4.1/32, MS3.6/12, Error ellipse: s-maj=10.9km s-min=7.6km az=34.2*
*NEIC **08** 02:29:43.2±0.6, 17.74N×40.25E, h10km, mb4.2/9, Error ellipse: s-maj=12.3km s-min=8.8km az=218.0*
ISC 08 02:29:43.4±0.7, 17.79N±0.09×40.27E±0.09, h10km, n72, σ1f22/68, mb4.2/32, MS3.6/12, 5C-3D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAMY	**Dhamar**	**5.09**	**128**	*e*Pn	**Pn**	**02 30 59.0**	**-1.1**
ATD	**Arta Tunnel**	**6.70**	**158**	Pn	**Pn**	**02 31 23.6**	**+1.6**
	1.5nm,0.3s,baz=309,slow=12,SNR=7.5						
EIL	**Elat**	**12.79**	**339**	LR	LR	02 36 48.9	
	comp=Z,280nm,19.5s,baz=216,slow=33						
ASF	**Jabal al Asfar**	**14.64**	**349**	Pn	**Pn**	**02 33 13.3**	**+2.5**
	0.1nm,0.3s,baz=130,slow=8.1,SNR=2.8						
MMAI	**Mount Meron Ar**	**15.79**	**345**	Pn	**P**	**02 33 29.1**	**-0.7**
	0.3nm,0.3s,baz=145,slow=15,SNR=4.1						
MMAI				LR	LR	02 38 59.5	
	comp=Z,162nm,18.5s,baz=115,slow=35						
UOSS	**Minazif**	**16.46**	**62**	*e*Pn	**Pn**	**02 33 35.5**	**+1.0**
	2.6nm,1.3s						
WSAR	**Wadi Sarin**	**18.03**	**69**	P	**P**	**02 33 57.0**	**+2.4**
	0.3nm,0.3s,baz=294,slow=14,SNR=4.1						
WSAR				LR	LR	02 41 27.6	
	comp=Z,288nm,20.8s,baz=265,slow=39						
KMBO	**Kilima Mbogo**	**19.03**	**189**	LR	LR	02 41 09.1	
	comp=Z,321nm,19.7s,baz=358,slow=37						
IDI	**Anoyia**	**22.16**	**325**	P	**P**	**02 34 40.9**	**+1.4**
	4.3nm,0.9s,baz=144,slow=11,SNR=3.8						
BRTR	**Keskin Array B**	**22.61**	**347**	P	**P**	**02 34 45.6**	**+1.2**
	3.3nm,1.0s,baz=165,slow=11,SNR=18						
BRTR				PcP	**PcP**	**02 38 36.0**	**-1.5**
	0.6nm,0.7s,baz=155,slow=4.4,SNR=5.4						
BRTR				LR	LR	02 42 52.2	
	comp=Z,90nm,18.2s,baz=136,slow=35						
BR131	**Keskin Array S**	**22.61**	**347**	*eP*	**P**	**02 34 46.2**	**+1.8**
GNI	**Garni**	**22.62**	**9**	P	**P**	**02 34 47.4**	**+2.8**
	4.2nm,0.6s,baz=208,slow=3.0,SNR=3.0						
GNI				LR	LR	02 43 36.7	
	comp=Z,106nm,19.5s,baz=192,slow=37						
BR231	**Keskin MP Arra**	**22.92**	**345**	*eP*	**P**	**02 34 46.2**	**-1.4**
ZEI	**Tsey**	**25.11**	**6**	*eP*	**P**	**02 35 08.8**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KBZ	**Khabaz**	**25.96**	**4**	P	**P**	**02 35 16.8**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=173,slow=10,SNR=4.1						
KBZ				LR	LR	02 46 25.5	
	comp=Z,183nm,18.3s,baz=199,slow=38						
KIV	**Kislovodsk**	**26.17**	**4**	*eP*	**P**	**02 35 18.6**	**+0.6**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,121nm,15.0s						
KIV	**Kislovodsk**	**26.17**	**4**	*eP*	**P**	**02 35 18.7**	**+0.6**
	comp=Z,4.1nm,0.7s						
KVAR	**Kislovodsk Arr**	**26.17**	**4**	P	**P**	**02 35 19.1**	**+1.0**
	comp=Z,3.4nm,0.7s,baz=199,slow=3.9,SNR=4.5						
KVAR				LR	LR	02 46 22.3	
	comp=Z,154nm,19.3s,baz=192,slow=38						
CFR	**Carcaliu**	**29.14**	**342**	*i*P	**P**	**02 35 44.5**	**0.0**
MLR	**Muntele Rosu**	**30.10**	**340**	P	**P**	**02 35 54.1**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=190,slow=8.3,SNR=8.3						
MLR	**Muntele Rosu**	**30.10**	**340**	*i*P	**P**	**02 35 54.5**	**+1.3**
VRI	**Vrincioaia**	**30.18**	**341**	*i*P	**P**	**02 35 56.0**	**+2.2**
PLOR	**Plostina**	**30.19**	**341**	*i*P	**P**	**02 35 56.1**	**+2.2**
VOIR		**30.35**	**339**	*i*P	**P**	**02 35 53.0**	**-2.4**
ARR	**Arges**	**30.44**	**338**	*i*P	**P**	**02 35 55.0**	**-1.2**
LOT	**Lotru**	**30.82**	**337**	*i*P	**P**	**02 35 56.5**	**-3.1**
DRGR		**32.35**	**337**	*i*P	**P**	**02 36 13.5**	**+0.5**
TAM	**Tamanrasset**	**32.92**	**285**	*eP*	**P**	**02 36 20.0**	**+1.6**
TAM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TAM	**Tamanrasset**	**32.92**	**285**	*eP*	**P**	**02 36 20.0**	**+1.6**
	comp=Z,4.1nm,0.9s						
PSZ	**Piszkesteto**	**34.36**	**335**	*eP*	**P**	**02 36 28.7**	**-1.8**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PSZ	**Piszkesteto**	**34.36**	**335**	*eP*	**P**	**02 36 28.7**	**-1.8**
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**35.20**	**23**	*eP*	**P**	**02 36 37.3**	**-0.3**
	comp=Z,1.4nm,0.7s						
AKTO	**Aktyubinsk**	**35.54**	**20**	P	**P**	**02 36 40.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=230,slow=15,SNR=3.6						
AKTO				LR	LR	02 53 49.7	
	comp=Z,121nm,18.5s,baz=191,slow=41						
KKAR	**Karatay Array**	**35.95**	**39**	*eP*	**P**	**02 36 44.0**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**35.95**	**39**	*eP*	**P**	**02 36 44.0**	**-0.2**
	comp=Z,3.4nm,0.8s						
EKS2	**Erkin-Say**	**37.72**	**42**	*eP*	**P**	**02 36 59.6**	**+0.2**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EKS2	**Erkin-Say**	**37.72**	**42**	*eP*	**P**	**02 36 59.6**	**+0.2**
	comp=Z,4.4nm,

comp=Z,2.3nm,0.8s,baz=238,slow=8.1,SNR=25
KURK Kurchatov 44.82 34 P P 02 37 56.4 -1.0
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 44.82 34 P P 02 37 56.4 -1.0
MAKZ Makanchi 44.83 40 eP P 02 37 57.7 0.0
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 44.83 40 eP P 02 37 57.7 0.0
comp=Z,2.6nm,0.8s
MK01 Makanchi Array 45.01 41 eP P 02 37 58.0 -1.1
MK31 Makanchi Array 45.02 41 eP P 02 37 59.3 +0.1
MK31 Makanchi Array 45.02 41 eP P 02 37 59.2 +0.1
MKAR Makanchi Array 45.02 41 P P 02 37 58.6 -0.6
comp=Z,1.7nm,0.8s,baz=233,slow=7.0,SNR=12
MKAR Makanchi Array 45.02 41 eP P 02 37 59.3 +0.1
MKAR Makanchi Array 45.02 41 eP P 02 37 59.2 +0.1
DBIC Dimbokro 45.35 262 P P 02 38 02.0 -0.2
comp=Z,11nm,1.0s,baz=68,slow=9.5,SNR=3.5
DBIC LR LR 02 56 46.3
comp=Z,187nm,19.2s,baz=50,slow=36
HFS Hagfors 46.42 342 P P 02 38 08.1 -2.0
comp=Z,2.8nm,0.8s,baz=111,slow=3.3,SNR=6.2
NAO01 NORSAR Array S 47.84 341 eP P 02 38 20.9 -0.2
NOA NORSAR Array B 47.89 341 P P 02 38 20.5 -1.0
comp=Z,1.9nm,0.8s,baz=138,slow=8.4,SNR=6.6
NOA LR LR 02 58 48.0
comp=Z,20nm,19.2s,baz=220,slow=36
ZAA0 Zalesovo Array 49.74 33 eP P 02 38 35.3 -0.5
ZALV Zalesovo Beam 49.74 33 P P 02 38 35.2 -0.6
comp=Z,6.0nm,0.8s,baz=245,slow=8.8,SNR=18
ZALV LR LR 03 03 07.7
comp=Z,51nm,18.2s,baz=251,slow=40
GTA Gaotai 55.52 54 eP P 02 39 19.0 -0.1
GTA pP sP 02 39 24.6 +1.1
GTA sP pP 02 39 27.6 +5.3
GTA pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 55.55 80 LR LR 03 07 23.5
comp=Z,39nm,18.1s,baz=301,slow=41
NRIK Noril'sk 59.12 18 LR LR 03 09 58.0
comp=Z,68nm,18.2s,baz=186,slow=41
SONM Songino Array 61.04 45 eP P 02 39 57.5 0.0
comp=Z,2.4nm,0.8s,baz=275,slow=8.0,SNR=14
SONA1 Songino Array 61.05 45 eP P 02 39 57.1 -0.4
HHC Hu-ho-hao-te 64.56 53 eP P 02 40 21.5 +0.4
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,110nm,7.3s
TIXI Tiksi 72.82 19 P P 02 41 10.9 -1.0
comp=Z,2.0nm,0.4s,baz=306,slow=5.2,SNR=8.8
KSRS Korea Array 77.59 55 LR LR 03 20 16.9
comp=Z,62nm,18.1s,baz=120,slow=39
KLR Kul'dur 77.69 42 P P 02 41 39.0 -1.4
comp=Z,1.6nm,0.8s,baz=287,slow=5.8,SNR=7.8

NIED ***08*** *02:33:00, 36.70N×141.20E, h5km, Mw3.6 Best double couple: M₀2.96000×10¹⁴ NP1:ϕs61.00000°, δ67.00000°, λ-17.00000°. NP2:ϕs158.00000°, δ74.00000°, λ-156.00000°.*

ISCJB ***08*** *02:33:33.8±1.8, 36.74N±0.04×141.23E±0.07, h13km±13km, mb3.5/6, Error ellipse: s-maj=9.3km s-min=5.8km az=9.8*

IDC ***08*** *02:33:33.9±1.2, 37.08N×141.08E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/83, mbtmp3.6/7, ML3.5/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/71, Error ellipse: s-maj=31.6km s-min=20.8km az=56.0*

JMA ***08*** *02:33:35.0±0.1, 36.74N×141.15E, h27km±1km, M3.6*

ISC 08 02:33:35.9±1.7, 36.77N±0.04×141.08E±0.08, h15km±9km, n24, σ1ˢ44/27, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.40**	**326**	P	**Pb**	**02 33 44.3**	**-0.4**
ONAJ				eS	**Sb**	**02 33 51.4**	**+0.7**
JHO	**Hitachi**	**0.44**	**249**	P	**Pg**	**02 33 44.6**	**-0.1**
JHO				S	**Sb**	**02 33 51.9**	**+0.3**
JFK	**Kawauchi**	**0.62**	**345**	P	**Pb**	**02 33 47.5**	**-0.9**
JFK				S	**Sg**	**02 33 56.8**	**+0.4**
JYT	**Yasato**	**0.89**	**233**	P	**Pb**	**02 33 51.7**	**-1.3**
JYT				S	**Sb**	**02 34 04.1**	**-0.6**
JFT	**Otama**	**0.95**	**322**	P	**Pb**	**02 33 53.8**	**-0.3**
JFT				S	**Sn**	**02 34 07.5**	**-0.6**
JMM	**Marumori**	**1.12**	**348**	P	**Pn**	**02 33 55.1**	**-1.9**
JMM				S	**Sb**	**02 34 10.5**	**-0.8**
JFY	**Yanaizu**	**1.27**	**301**	P	**Pb**	**02 33 59.2**	**-0.3**
JFY				S	**Sb**	**02 34 16.0**	**+0.4**
JAG	**Ashikaga**	**1.35**	**256**	P	**Pn**	**02 33 59.9**	**-0.3**
MJAR	**Matsushiro Arr**	**2.32**	**265**	Pn	**Pn**	**02 34 14.0**	**+0.5**
	11nm,0.3s,baz=85,slow=14,SNR=33						
MJAR					**Sb**	**02 34 44.0**	**-1.8**
	5.0nm,0.3s,baz=83,slow=25,SNR=6.6						
MJAR				LR	LR	02 35 24.9	
	comp=Z,103nm,18.8s,baz=235,slow=48						
MAT	**Matsushiro**	**2.32**	**265**	P	**Pb**	**02 34 15.8**	**-1.6**
MAT				eS	**Sb**	**02 34 45.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**10.14**	**320**	Pn	**Pn**	**02 36 04.0**	**+3.1**
	0.2nm,0.3s,baz=111,slow=16,SNR=3.1						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**02 39 23.3**	**-0.3**
	0.2nm,0.3s,baz=104,slow=9.2,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	03 08 49.9	
	baz=313,slow=75,SNR=507						
H11N1	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	03 08 52.6	
	baz=313,slow=75,SNR=565						
H11N3	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	03 08 53.4	
	baz=313,slow=75,SNR=436						
H11S1	**WAKE ISLAND Hy**	**28.95**	**122**	T	T	03 09 44.2	
	baz=315,slow=75,SNR=185						
H11S3	**WAKE ISLAND Hy**	**28.95**	**122**	T	T	03 09 45.7	
	baz=315,slow=75,SNR=283						
H11S2	**WAKE ISLAND Hy**	**28.96**	**122**	T	T	03 09 46.9	
	baz=315,slow=75,SNR=243						
ZALV	**Zalesovo Beam**	**41.90**	**313**	P	**P**	**02 41 23.1**	**-2.3**
	0.6nm,0.3s,baz=90,slow=7.2,SNR=2.8						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**02 41 41.6**	**-1.2**
	0.2nm,0.3s,baz=103,slow=6.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**45.95**	**308**	P	**P**	**02 41 57.0**	**-1.0**
	0.4nm,0.5s,baz=84,slow=8.2,SNR=5.5						
WRA	**Warramunga Arr**	**56.76**	**188**	P	**P**	**02 43 21.9**	**+2.6**
	1.0nm,0.5s,baz=5.2,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**60.49**	**188**	P	**P**	**02 43 47.5**	**+2.4**
	0.2nm,0.6s,baz=1.1,slow=6.3,SNR=5.3						
LPAZ	**La Paz**	**147.06**	**60**	PKPbc	**PKPab**	**02 53 19.1**	**-1.8**
	0.4nm,0.5s,baz=33,slow=6.4,SNR=4.6						

WEL 08 02:42:14.0±0.3, 37.55S×175.77E, h265km±3km, ML3.5/4, 1C-1D, Error ellipse: s-maj=4.9km s-min=4.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.27**	**124**	PN	Pn	02 42 52.1	-0.1
URZ				SN	S	02 43 22.0	-0.4
MRHZ	**Matea Rd**	**1.38**	**159**	PN	Pn	02 42 53.2	+0.2
RAGZ	**Rawiri**	**1.61**	**127**	⇑PN	Pn	02 42 54.8	+0.2
RAGZ				SN	S	02 43 25.8	-0.9
BKZ	**Black Stump Fm**	**1.71**	**161**	⇓PN	Pn	02 42 55.5	+0.1
RAHZ	**Arahi**	**1.71**	**143**	PN	Pn	02 42 55.0	-0.4
SNGZ	**Shannon Statio**	**1.75**	**135**	PN	Pn	02 42 55.8	+0.2
KWHZ	**Kaweka Forest**	**1.94**	**165**	PN	Pn	02 42 57.4	+0.2
KWHZ				SN	S	02 43 30.1	-1.5
RIGZ	**Rimuhau**	**1.95**	**127**	PN	Pn	02 42 57.2	0.0
RIGZ				SN	S	02 43 30.0	-1.6
BHHZ	**Black Hill Sta**	**1.95**	**173**	PN	Pn	02 42 57.3	-0.1
ARHZ	**Aropaoanui**	**1.96**	**151**	PN	Pn	02 42 57.4	+0.1
ARHZ				SN	S	02 43 30.5	-1.2
MCHZ	**McNeill Hill**	**2.03**	**159**	PN	Pn	02 42 58.0	+0.1
KNZ	**Kokohu**	**2.10**	**135**	PN	Pn	02 42 58.0	-0.5
WMGZ	**Waiomatatini S**	**2.11**	**98**	PN	Pn	02 42 58.6	-0.1
MHGZ	**Mahia Peninsul**	**2.32**	**134**	PN	Pn	02 43 00.0	-0.5
PNHZ	**Pukenui**	**2.39**	**172**	PN	Pn	02 43 00.6	-0.7
KAHZ	**Kahuranaki**	**2.41**	**159**	PN	Pn	02 43 00.9	-0.5
MRZ	**Mangatainoka R**	**3.11**	**183**	PN	Pn	02 43 06.6	-1.9
HOWZ	**Holdsworth Sta**	**3.35**	**183**	PN	Pn	02 43 08.8	-2.3
KIW	**Kapiti Island**	**3.38**	**191**	PN	Pn	02 43 09.4	-2.0
DUWZ	**D'Urville Isla**	**3.56**	**203**	PN	Pn	02 43 11.6	-1.8
TCW	**Tory Channel**	**3.84**	**197**	PN	Pn	02 43 14.4	-2.1
NNZ	**Nelson**	**4.11**	**206**	PN	Pn	02 43 17.2	-2.4
TUWZ	**Tuamarina**	**4.13**	**199**	PN	Pn	02 43 17.6	-2.2
THZ	**Tophouse**	**4.76**	**207**	PN	Pn	02 43 24.8	-2.5

MEX 08 02:59:20.8±0.3, 16.13N×96.08W, h67km±6km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.36**	**184**	eP	Pn	02 59 30.9	-1.3
HUIG				eS	Sn	02 59 38.5	-2.0
VHO	**Vista Hermosa**	**1.12**	**326**	i P	Pn	02 59 39.5	-1.5
VHO				i S	Sn	02 59 54.2	-1.7
PNIG	**Pinotepa**	**1.98**	**278**	i P	Pn	02 59 50.8	-1.4
PNIG				i S	Sn	03 00 14.3	-1.7

KRSC 08 02:59:50.9±1.1, 50.42N×157.83E, h40km±20km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.12**	**284**	eP	Pn	03 00 11.2	+1.2
SKR				eS	Sn	03 00 25.6	+1.4
PAU	**Pauzhetka**	**1.23**	**329**	eP	Pn	03 00 12.9	+1.3
PAU				eS	Sn	03 00 28.5	+1.5
ASAK	**Asacha**	**1.97**	**1**	eP	Pn	03 00 24.5	+2.7
RUS	**Russkaya**	**2.06**	**12**	eP	Pn	03 00 24.8	+1.8
RUS				eS	Sn	03 00 49.1	+1.6
MTVR	**Mutnovka**	**2.08**	**6**	eS	Sn	03 00 51.0	+2.9
KRMR	**Karymshinskiy**	**2.42**	**4**	eS	Sn	03 01 01.0	+4.7
UGLR	**Uglovaya**	**2.87**	**12**	eP	Pn	03 00 37.0	+2.9
AVH	**Avacha**	**2.91**	**11**	eP	Pn	03 00 38.6	+3.9
SMAR	**Somma**	**2.92**	**12**	eP	Pn	03 00 38.6	+3.7
KOK	**Koryaka**	**2.92**	**10**	eP	Pn	03 00 37.8	+2.9
SDLR	**Sedlovina**	**2.94**	**12**	eP	Pn	03 00 37.6	+2.5
KRER	**Koryakskii**	**2.95**	**11**	eP	Pn	03 00 39.0	+3.7
KRER				eS	Sn	03 01 13.5	+3.9
KRX	**Arik**	**2.99**	**10**	eP	Pn	03 00 39.5	+3.6
GNL	**Ganaly**	**3.29**	**1**	eP	Pn	03 00 43.6	+3.7

JMA 08 03:04:13.7±0.2, 38.00N×144.45E, h24km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.43**	**297**	P	Pn	03 04 53.3	+1.4
OFUJ				eS	Sn	03 05 22.7	+1.8
JIO	**Ouri**	**2.48**	**281**	P	Pn	03 04 54.0	+1.4
JIO				S	Sn	03 05 23.4	+1.2
MIYJ	**Miyakonagasawa**	**2.59**	**308**	P	Pn	03 04 55.2	+1.1
MIYJ				eS	Sn	03 05 26.1	+1.3
JMK	**Ichinoseki**	**2.71**	**292**	P	Pn	03 04 57.3	+1.6
JMK				eS	Sn	03 05 30.1	+2.4
JOM	**Ohasama**	**2.87**	**302**	P	Pn	03 04 59.8	+1.8
JOM				S	Sn	03 05 34.8	+3.0
JANG	**Nango**	**3.29**	**317**	P	Pn	03 05 07.3	+3.6
JFT	**Otama**	**3.29**	**263**	S	Sn	03 05 43.6	+1.4
JYK	**Kaneyama**	**3.34**	**287**	P	Pn	03 05 06.7	+2.3
JYK				S	Sn	03 05 46.6	+3.3
JOT	**Ohata**	**4.28**	**323**	P	Pn	03 05 19.4	+2.1
JOT				eS	Sn	03 06 08.8	+2.4
JCH	**Churui**	**4.68**	**350**	P	Pn	03 05 22.8	0.0
JCH				eS	Sn	03 06 13.9	-2.5
JKB	**Kayabe**	**4.69**	**327**	P	Pn	03 05 25.6	+2.7
JRY	**Ryogami san**	**4.86**	**248**	P	Pn	03 05 25.4	0.0
JRY				S	Sn	03 06 18.8	-2.1
MAT	**Matsushiro**	**5.19**	**256**	P	Pn	03 05 31.8	+2.0
MAT				eS	Sn	03 06 32.9	+4.0
NEM2	**Nemuro 2**	**5.45**	**10**	P	Pn	03 05 30.0	-3.3
NEM2				eS	Sn	03 06 27.9	-7.3
JTKR	**Abashiri--Toko**	**5.98**	**356**	P	Pn	03 05 39.7	-0.9
JTKR				eS	Sn	03 06 44.6	-3.7

IDC ***08*** *03:05:02.1±0.5, 42.98N×88.32E, h0km, mb4.1/23, mb1 4.2/27, mb1mx4.1/62, mbtmp4.1/27, ML3.7/4, MS4.1/2, Ms1 4.1/2, ms1mx3.0/61, Error ellipse: s-maj=18.0km s-min=9.9km az=42.0*

BJI ***08*** *03:05:02.6, 42.95N×88.32E, h7km, mb4.3/12, mB4.5/10, ML4.3/14, Ms3.7/7, Ms7 3.7/7*

MOS ***08*** *03:05:04.8±1.0, 43.10N×88.28E, h27km, mb4.2/23, Error ellipse: s-maj=11.1km s-min=5.6km az=130.8*

OBM ***08*** *03:05:04.9±0.1, 43.03N×88.48E, h2km, Ml3.9/1, Error ellipse: s-maj=2.6km s-min=2.1km az=125.0*

ISCJB ***08*** *03:05:04.7±0.3, 43.01N±0.04×88.33E±0.04, h33km, mb4.2/31, MS3.9/3, Error ellipse: s-maj=7.0km s-min=3.2km az=33.8*

NNC ***08*** *03:05:05.0±2.0, 43.01N×88.33E, h24km±11km, mb4.5, mpv4.5, Error ellipse: s-maj=15.5km s-min=12.8km az=66.0*

NEIC ***08*** *03:05:08.0±0.7, 43.09N×88.29E, h40km±6km, mb4.8/6, Error ellipse: s-maj=7.7km s-min=5.2km az=193.0*

ISC 08 03:05:06.6±0.4, 43.09N±0.06×88.40E±0.05, h35km, n115, σ2ˢ39/141, mb4.1/30, MS3.6/3, 15C-15D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.90**	**325**	Pg	**Pn**	**03 05 22.3**	**-0.4**
WMQ				Sg	**Sn**	**03 05 34.0**	**-0.5**
WMQ				SMN			
	11μm,0.6s						
WMQ				SME			
	14μm,0.7s						
HBD	**Hovd**	**5.59**	**24**	eSg	Sb	03 07 54.5	+6.3
MK01	**Makanchi Array**	**5.68**	**312**	ePn	**Pn**	**03 06 29.6**	**+1.2**
MK01				eSn	**Sn**	**03 07 34.6**	**+2.1**
MK31	**Makanchi Array**	**5.70**	**313**	Pn	**Pn**	**03 06 30.0**	**+1.2**
	22nm,0.6s,baz=127,slow=14,SNR=539						
MK31				⇑Pg		03 06 49.7	
	21nm,0.4s,baz=130,slow=16,SNR=4.8						
MK31				⇑Sn	**Sn**	**03 07 33.8**	**+0.8**
	14nm,0.3s,baz=124,slow=26,SNR=6.8						
MK31				⇓Lg	Lg	03 08 06.3	
	209nm,0.8s,baz=131,slow=27,SNR=5.5						
MK31	**Makanchi Array**	**5.70**	**313**	P	**Pn**	**03 06 29.9**	**+1.2**
MK31						03 07 35.5	
MK31				pmax	pmax		
	comp=Z,11nm,0.4s						
MK31				smax	smax		
	comp=N,14nm,0.3s						
MK31	**Makanchi Array**	**5.70**	**313**	ePn	**Pn**	**03 06 30.3**	**+1.5**
MK31				eSn	**Sn**	**03 07 36.4**	**+3.4**
MKAR	**Makanchi Array**	**5.70**	**313**	Pn	**Pn**	**03 06 30.2**	**+1.5**
	comp=N,11nm,0.3s,baz=127,slow=14,SNR=315						
MKAR				Lg	Lg	03 08 05.5	
	comp=N,28nm,0.3s,baz=121,slow=26,SNR=9.3						
MKAR	**Makanchi Array**	**5.70**	**313**	ePn	**Pn**	**03 06 30.3**	**+1.5**
MKAR				eSn	**Sn**	**03 07 36.0**	**+3.1**
MKAR				Lg	Lg	03 08 05.5	
MK01	**Makanchi Array**	**5.73**	**314**	ePn	Pn	03 06 30.0	+1.6
MAKZ	**Makanchi**	**5.88**	**311**	⇓Pn	**Pn**	**03 06 32.2**	**+0.9**
	comp=N,46nm,0.6s						
MAKZ				⇓Sn	**Sn**	**03 07 40.2**	**+2.8**
	comp=N,47nm,0.7s						
MAKZ				⇑Lg	Lg	03 08 11.4	
	comp=N,147nm,0.8s						
MAKZ	**Makanchi**	**5.88**	**311**	P	**Pn**	**03 06 32.1**	**+0.9**
MAKZ						03 07 40.1	
MAKZ				pmax	pmax		
	comp=Z,46nm,0.6s						
MAKZ				smax	smax		
	comp=N,47nm,0.7s						
MAKZ	**Makanchi**	**5.88**	**311**	ePn	**Pn**	**03 06 32.5**	**+1.3**
MAKZ				eSn	**Sn**	**03 07 39.1**	**+1.7**
BYO	**Bayan-Olgiy**	**6.13**	**10**	ePn	Pn	03 06 39.1	+5.1
BYO				eSg	Sb	03 08 16.9	+13
	comp=N,341nm,0.6s						
PDGK	**Podgornoye**	**6.52**	**275**	⇑Pn	**Pn**	**03 06 39.2**	**-0.7**
PDGK				⇑Sn	**Sn**	**03 07 52.3**	**-0.6**
PDGK				⇑Lg	Lg	03 08 31.6	
PDGK	**Podgornoye**	**6.52**	**275**	P	**Pn**	**03 06 41.4**	**+1.5**
PDGK						03 07 52.3	
ULG	**Ulaangom**	**7.48**	**19**	ePn	Pn	03 06 55.4	+2.9
ULG				eSg	Sb	03 08 55.7	+13
	comp=N,125nm,0.6s						
GTA	**Gaotai**	**9.35**	**109**	eP	**Pn**	**03 07 17.0**	**-1.9**
GTA				pP		03 07 21.6	
GTA				sP		03 07 24.1	
GTA				S	**Sn**	**03 09 01.8**	**-1.0**
GTA				PMZ			
	comp=N,3.0nm,1.0s						
GTA				PMZ			
	comp=N,150nm,5.9s						
GTA				LN			
	comp=N,260nm,11.9s						
GTA				LE			
	comp=N,230nm,14.7s						
GTA				LZ			
	comp=N,120nm,14.7s						
TKM2	**Tokmak 2**	**9.38**	**273**	eP	**Pn**	**03 07 19.2**	**-0.2**
TKM2	**Tokmak 2**	**9.38**	**273**	ePn	**Pn**	**03 07 19.2**	**-0.2**
KSH	**Kashi**	**10.01**	**253**	P	Pn	03 07 34.1	+6.2
KSH				pP		03 07 39.3	
KSH				PP	**PnPn**	**03 07 42.3**	**+6.9**
KSH				S	Sn	03 09 29.9	+11
KSH				SS	SnSn	03 09 49.0	+19
KSH				PMZ			
	comp=N,5.0nm,0.4s						
KSH				PMZ			
	comp=N,61nm,3.6s						
KSH				LN			
	comp=N,86nm,3.8s						
KSH				LE			
	comp=N,80nm,3.0s						
KSH				LZ			
	comp=N,180nm,5.3s						
KURBB	**Kurchatov Arra**	**10.12**	**322**	Pn	**Pn**	**03 07 28.6**	**-0.6**
	comp=N,1.7nm,0.3s,baz=130,slow=13,SNR=128						
KURBB				Sn	**Sn**	**03 09 19.5**	**-1.8**
	comp=N,1.0nm,0.3s,baz=174,slow=1.4,SNR=6.0						
KURBB				Lg	Lg	03 10 25.5	
	comp=N,0.5nm,0.3s,baz=157,slow=30,SNR=5.1						
KURBB	**Kurchatov Arra**	**10.12**	**322**	⇑Pn	**Pn**	**03 07 28.8**	**-0.4**
	comp=N,17nm,0.6s						
KURBB				⇓Sn	**Sn**	**03 09 20.5**	**-0.9**
	comp=N,45nm,0.6s						
KURBB				⇓Lg	Lg	03 10 25.4	
	comp=N,129nm,0.8s						
KURK	**Kurchatov**	**10.14**	**322**	P	**Pn**	**03 07 28.6**	**-0.9**
KURK						03 09 19.5	
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KURK				smax	smax		
	comp=N,1.0nm,0.3s						
KURK	**Kurchatov**	**10.14**	**322**	Pn	**Pn**	**03 07 28.6**	**-0.9**
KURK				Sn	**Sn**	**03 09 19.5**	**-2.4**
KURK				Lg	Lg	03 10 25.5	
AAK	**Ala-Archa**	**10.22**	**272**	Lg	Lg	03 10 33.3	
	comp=N,0.9nm,0.3s,baz=204,slow=22,SNR=3.8						
AAK	**Ala-Archa**	**10.22**	**272**	⇓Lg	Lg	03 10 27.5	
	comp=N,16nm,0.8s						
ZAA0	**Zalesovo Array**	**11.12**	**349**	ePn	**Pn**	**03 07 43.3**	**+0.4**
ZAA0				eSn	**Sn**	**03 09 44.7**	**-1.3**
ZALV	**Zalesovo Beam**	**11.12**	**349**	Pn	**Pn**	**03 07 43.2**	**+0.3**
	comp=N,1.2nm,0.3s,baz=174,slow=14,SNR=7.3						
ZALV				Sn	**Sn**	**03 09 43.8**	**-2.1**
	comp=N,2.8nm,0.3s,baz=172,slow=22,SNR=6.2						
ZALV				LR	LR	03 11 49.0	
	comp=N,25nm,20.5s,baz=66,slow=36						
MNAS	**Manas**	**11.70**	**272**	⇑Pn	**Pn**	**03 07 52.0**	**+1.0**
	comp=N,3.8nm,1.4s						
MNAS				⇑Lg	Lg	03 11 14.7	
	comp=N,9.0nm,0.9s						
OTUK	**Ortayu**	**12.36**	**300**	⇓Pn	**Pn**	**03 07 59.1**	**-0.8**
	comp=N,6.1nm,0.6s						
OTUK				⇓Sn	**Sn**	**03 10 15.7**	**-0.6**
	comp=N,4.6nm,0.7s						
OTUK				⇓Lg	Lg	03 11 35.9	
	comp=N,25nm,0.7s						
OTUK	**Ortayu**	**12.36**	**300**	P	**Pn**	**03 07 59.1**	**-0.8**
OTUK				S	**Sn**	**03 10 15.7**	**-0.6**
OTUK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
OTUK				smax	smax		
	comp=Z,5.0nm,0.7s						
ZAK	**Zakamensk**	**12.53**	**49**	eP	**Pn**	**03 08 05.8**	**+3.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KK31	**Karatay Array**	**13.08**	**276**	Pn	**Pn**	**03 08 08.9**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=71,slow=12,SNR=13						
KK31				⇓Lg	Lg	03 11 57.2	
	comp=Z,2.6nm,0.6s,baz=232,slow=45,SNR=2.8						
KK31	**Karatay Array**	**13.08**	**276**	eP	**Pn**	**03 08 08.9**	**-0.9**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KK31				pmax	pmax		
	comp=N,3.0nm,0.6s						
KKAR	**Karatay Array**	**13.08**	**276**	eP	**Pn**	**03 08 10.8**	**+1.1**
KKAR	**Karatay Array**	**13.08**	**276**	ePn	**Pn**	**03 08 10.8**	**+1.1**
TLY	**Talaya**	**13.42**	**45**	Lg	Lg	03 12 10.7	
	comp=N,0.0nm,0.3s,baz=26,slow=21,SNR=6.7						
SONM	**Songino Array**	**13.49**	**63**	Pn	**Pn**	**03 08 18.1**	**+2.7**
	comp=N,0.1nm,0.3s,baz=261,slow=9.6,SNR=2.9						
SONM				Lg	Lg	03 12 13.9	
	comp=N,0.1nm,0.3s,baz=259,slow=28,SNR=6.4						
LZH	**Lanzhou**	**13.80**	**115**	eP	**Pn**	**03 08 21.7**	**+1.9**
LZH				pP	P	03 08 25.2	-2.5
LZH				sP		03 08 28.0	
LZH				PMZ			
	comp=N,17nm,1.0s						
BVA0	**Borovoye Array**	**15.57**	**316**	Pn	**Pn**	**03 08 42.5**	**-0.8**
	comp=N,14nm,0.6s,baz=113,slow=13,SNR=97						
BVA0				⇓Sn	**Sn**	**03 11 26.7**	**-7.8**
	comp=N,4.8nm,0.8s,baz=106,slow=23,SNR=7.6						
BVA0				⇓Lg	Lg	03 13 15.5	
	comp=N,24nm,1.6s,baz=78,slow=46,SNR=4.2						
BVA0	**Borovoye Array**	**15.57**	**316**	P	**Pn**	**03 08 42.5**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,14nm,0.6s						
BVAR	**Borovoye Array**	**15.57**	**316**	Pn	**Pn**	**03 08 43.6**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=110,slow=12,SNR=21						
BVAR				Sn	**Sn**	**03 11 26.7**	**-7.8**
	comp=Z,0.7nm,0.3s,baz=113,slow=26,SNR=5.9						
BRVK	**Borovoye**	**15.64**	**316**	eP	**Pn**	**03 08 44.5**	**+0.3**
BRVK				eS	**Sn**	**03 11 29.8**	**-6.5**
BRVK				pmax	pmax		
	comp=Z,52nm,0.7s						
BRVK	**Borovoye**	**15.64**	**316**	ePn	**Pn**	**03 08 44.5**	**+0.3**
	comp=Z,52nm,0.7s						
BRVK				eS	**Sn**	**03 11 29.8**	**-6.5**
CHKZ	**Chkalovo**	**15.82**	**318**	⇑Pn	**Pn**	**03 08 45.3**	**-1.2**
	comp=Z,9.7nm,0.8s						
CHKZ				⇑Sn	**Sn**	**03 11 30.3**	**-10**
	comp=Z,6.5nm,1.1s						
CHKZ				⇓Lg	Lg	03 13 22.5	
	comp=Z,19nm,1.1s						
ZRNK	**Zerenda**	**16.25**	**314**	⇑Pn	**Pn**	**03 08 50.7**	**-1.3

	comp=Z,97nm,20.4s								
AKTO	**Aktyubinsk**	**21.96**	**300**	P		**P**	**03 09 57.1**	**0.0**
	comp=Z,4.4nm,0.7s,baz=79,slow=9.1,SNR=15								
AKTO	**Aktyubinsk**	**21.96**	**300**	⇑Pn		**P**	**03 09 57.9**	**+0.8**
	comp=Z,4.3nm,0.7s								
GYA	**Guiyang**	**22.29**	**132**	*e*P		**P**	**03 09 59.0**	**-1.9**
GYA				pP		pP	03 10 05.8	-4.4
GYA				PP		**PnPn**	**03 10 24.6**	**+0.6**
GYA				S		**S**	**03 13 55.0**	**-9.0**
GYA				sS		Sn	03 14 09.5	-7.5
GYA				SS		**SnSn**	**03 14 36.2**	**+3.5**
GYA				ScP		**ScP**	**03 17 30.4**	**-0.1**
GYA				PMZ					
	comp=Z,20nm,0.8s								
GYA				PMZ					
	comp=Z,110nm,5.2s								
GYA				LN					
	comp=Z,470nm,17.4s								
GYA				LE					
	comp=Z,430nm,17.2s								
GYA				LZ					
	comp=Z,440nm,17.8s								
ARU	**Arti**	**23.22**	**315**	P		**P**	**03 10 10.6**	**+0.4**
	comp=Z,9.4nm,0.5s,baz=113,slow=8.6,SNR=16								
ARU	**Arti**	**23.22**	**315**	*d* iP		**P**	**03 10 10.7**	**+0.4**
ARU				S		**S**	**03 14 14.1**	**-5.4**
ARU				pmax		pmax			
	comp=Z,16nm,1.0s								
ARU	**Arti**	**23.22**	**315**	*e*P		**P**	**03 10 10.6**	**+0.4**
	comp=Z,25nm,1.2s								
GEYT	**Alibeck**	**23.52**	**268**	P		**P**	**03 10 12.7**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=76,slow=7.8,SNR=3.6								
CMAR	**Chiang Mai Arr**	**26.12**	**157**	P		**P**	**03 10 39.0**	**+1.7**
	comp=Z,2.0nm,0.3s,baz=344,slow=9.4,SNR=3.0								
CMAR	**Chiang Mai Arr**	**26.12**	**157**	P		**P**	**03 10 39.0**	**+1.7**
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.3s								
NRIK	**Noril'sk**	**26.32**	**359**	P		**P**	**03 10 40.6**	**+2.0**
	comp=Z,4.8nm,0.5s,baz=177,slow=7.8,SNR=5.3								
QIZ	**Qiongzhong**	**30.04**	**136**	P		**P**	**03 11 10.7**	**-1.5**
QIZ				S		**S**	**03 16 07.8**	**-0.3**
KSAR	**Wonju Array Be**	**30.45**	**87**	P		**P**	**03 11 17.6**	**+1.9**
KSAR	**Wonju Array Be**	**30.45**	**87**	P		**P**	**03 11 17.6**	**+1.9**
KSRS	**Korea Array**	**30.47**	**87**	P		**P**	**03 11 17.6**	**+1.7**
	comp=Z,1.7nm,0.6s,baz=292,slow=8.8,SNR=5.2								
KBZ	**Khabaz**	**32.75**	**287**	P		**P**	**03 11 35.5**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=69,slow=3.5,SNR=4.1								
KLMR	**Klimovskoe**	**33.97**	**319**	*e*P		**P**	**03 11 45.1**	**-1.2**
KLMR				pmax		pmax			
	comp=Z,10.0nm,0.7s								
TIXI	**Tiksi**	**34.70**	**21**	P		**P**	**03 11 54.0**	**+1.5**
	comp=Z,4.4nm,0.5s,baz=244,slow=4.9,SNR=12								
MJAR	**Matsushiro Arr**	**38.35**	**83**	LR		LR	03 29 19.1		
	comp=Z,82nm,18.9s,baz=75,slow=38								
AKASG	**Malin Array Be**	**40.18**	**302**	P		**P**	**03 12 39.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=63,slow=8.6,SNR=4.9								
FINES	**FINESS Array B**	**40.50**	**319**	P		**P**	**03 12 42.5**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=95,slow=7.3,SNR=8.1								
BR131	**Keskin Array S**	**40.60**	**285**	*e*P		**P**	**03 12 42.6**	**-0.3**
BRTR	**Keskin Array B**	**40.60**	**285**	P		**P**	**03 12 43.9**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=90,slow=7.9,SNR=11								
ARCES	**ARCESS Array B**	**41.01**	**332**	P		**P**	**03 12 47.3**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=81,slow=7.5,SNR=12								
ARCES				PcP		**PcP**	**03 14 45.0**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=96,slow=3.8,SNR=11								
BR231	**Keskin MP Arra**	**41.16**	**285**	*e*P		**P**	**03 12 44.5**	**-3.0**
KWP	**Kalwaria Pacla**	**44.50**	**302**	*e*P		**P**	**03 13 15.6**	**+1.2**
KWP	**Kalwaria Pacla**	**44.50**	**302**	*e*P		**P**	**03 13 15.6**	**+1.2**
STHS	**Stebnicka Huta**	**45.48**	**302**	*e*P		**P**	**03 13 22.6**	**+0.5**
STHS				pmax		pmax			
	comp=Z,2.0nm,1.1s								
STHS	**Stebnicka Huta**	**45.48**	**302**	*e*P		**P**	**03 13 22.6**	**+0.5**
NIE	**Niedzica**	**46.06**	**303**	*e*P		**P**	**03 13 28.8**	**+2.1**
NIE	**Niedzica**	**46.06**	**303**	*e*P		**P**	**03 13 28.8**	**+2.1**
OJC	**Ojcow**	**46.10**	**304**	*e*P		**P**	**03 13 28.1**	**+1.0**
OJC	**Ojcow**	**46.10**	**304**	*e*P		**P**	**03 13 26.5**	**-0.5**
OJC				pmax		pmax			
	comp=Z,8.0nm,0.7s								
OJC	**Ojcow**	**46.10**	**304**	*e*P		**P**	**03 13 26.4**	**-0.5**
	comp=Z,7.7nm,0.7s								
HFS	**Hagfors**	**46.69**	**318**	P		**P**	**03 13 32.0**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=86,slow=7.4,SNR=4.7								
HFS	**Hagfors**	**46.69**	**318**	P		**P**	**03 13 32.0**	**+0.6**
HFS				pmax		pmax			
	comp=Z,2.0nm,0.6s								
VYHS	**Vyhne**	**47.28**	**302**	*e*P		**P**	**03 13 37.9**	**+1.6**
VYHS				pmax		pmax			
	comp=Z,4.0nm,1.7s								
VYHS	**Vyhne**	**47.28**	**302**	*e*P		**P**	**03 13 37.9**	**+1.6**
NB2	**NORSAR Subarra**	**47.65**	**320**	P		**P**	**03 13 39.4**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=74,slow=7.9								
NOA	**NORSAR Array B**	**47.65**	**320**	P		**P**	**03 13 39.5**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=75,slow=7.8,SNR=8.6								
NOA	**NORSAR Array B**	**47.65**	**320**	P		**P**	**03 13 39.6**	**+0.6**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
DPC	**Dobruska-Polom**	**48.16**	**305**	*e*P		**P**	**03 13 44.8**	**+1.7**
DPC				*ex*		x	03 13 50.5		
DPC				*e*pP		**pP**	**03 13 53.0**	**-0.5**
DPC	**Dobruska-Polom**	**48.16**	**305**	*e*P		**P**	**03 13 44.8**	**+1.7**
DPC				*e*			03 13 53.0		
UPC	**Upice**	**48.29**	**305**	*e*P		**P**	**03 13 45.8**	**+1.8**
UPC				*ex*		x	03 13 51.2		
UPC	**Upice**	**48.29**	**305**	*e*P		**P**	**03 13 45.8**	**+1.8**
UPC				*e*			03 13 51.2		
VRAC	**Vranov**	**48.37**	**304**	LR		LR	03 34 21.4		
	comp=Z,524nm,20.6s,baz=180,slow=36								
LAST	**Lasithi**	**48.44**	**283**	*e*P		**P**	**03 13 46.6**	**+1.1**
	comp=Z,16nm,1.4s								
PRU	**Pruhonice**	**49.36**	**305**	*e*P		**P**	**03 13 53.6**	**+1.4**
PRU	**Pruhonice**	**49.36**	**305**	*e*P		**P**	**03 13 53.6**	**+1.4**
CLL	**Collm**	**49.77**	**307**	⇑*i*PKPbc		**P**	**03 13 56.5**	**+1.1**
	comp=Z,7.0nm,0.6s								
CLL				*i*			03 14 02.3		
	comp=Z,3.0nm,0.6s								
CLL	**Collm**	**49.77**	**307**	*e*P		**P**	**03 13 55.2**	**-0.2**
CLL				pmax		pmax			
	comp=Z,7.0nm,0.6s								
CLL	**Collm**	**49.77**	**307**	*e*P		**P**	**03 13 55.2**	**-0.2**
	comp=Z,6.9nm,0.6s								
GERES	**GERESS Array B**	**50.30**	**304**	P		**P**	**03 14 00.8**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=66,slow=7.9,SNR=9.2								
DAVOX	**Davos/Dischmat**	**53.51**	**303**	P		**P**	**03 14 24.3**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=80,slow=7.3,SNR=6.5								
EKA	**Eskdalemuir Ar**	**56.83**	**317**	P		**P**	**03 14 47.9**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=54,slow=6.0,SNR=9.4								
COLA	**College**	**63.79**	**23**	*e*P		**P**	**03 15 31.4**	**-3.1**
COLA	**College**	**63.79**	**23**	*e*P		**P**	**03 15 31.4**	**-3.1**
	comp=Z,33nm,0.3s								
ILAR	**Eielson Array**	**64.14**	**23**	P		**P**	**03 15 38.0**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=317,slow=4.9,SNR=24								
ILB	**Eielson Array**	**64.14**	**23**	*e*P		**P**	**03 15 38.2**	**+1.3**
ESDC	**Sonseca Array**	**65.83**	**302**	P		**P**	**03 15 49.1**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=50,slow=6.2,SNR=5.2								
FITZ	**Fitzroy Crossi**	**69.85**	**142**	P		**P**	**03 16 13.5**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=354,slow=9.2,SNR=3.0								
YKA	**Yellowknife Ar**	**73.16**	**11**	P		**P**	**03 16 34.3**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=332,slow=5.5,SNR=8.1								
WRA	**Warramunga Arr**	**75.61**	**136**	P		**P**	**03 16 48.5**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=339,slow=5.9,SNR=14								
WRA	**Warramunga Arr**	**75.61**	**136**	P		**P**	**03 16 48.6**	**+0.7**
WRA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ASAR	**Alice Springs**	**78.52**	**138**	P		**P**	**03 17 05.3**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=338,slow=5.7,SNR=9.7								
CPUP	**Villa Florida**	**147.52**	**290**	PKPbc		**PKPbc**	**03 24 47.1**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=68,slow=2.3,SNR=8.7								

*BJI **08** 03:06:18.9, 17°.10S×65°.65W,h100km,mB5.6/47*
*ISCJB **08** 03:06:21.6±0.1, 16°.94S±0°.02×69°.64W±0°.02,h147km, mb5.7/316, Error ellipse: s-maj=3.5km s-min=2.3km az=38.7*
*GUC **08** 03:06:22.2±0.3, 17°.53S×70°.00W,h146km±2km,ML6.2*
*IDC **08** 03:06:22.8±0.3, 17°.08S×69°.78W,h144km±2km, mb5.3/25, mb1 5.4/26, mb1mx5.4/31, mbtmp5.7/26, MS5.0/17, Ms1 5.0/17, ms1mx4.7/30, Error ellipse: s-maj=9.2km s-min=7.2km az=153.0*
*GCMT **08** 03:06:22.6±0.1, 17°.37S×69°.84W,h150km,MW5.9/137, Moment Tensor Solution. s134,c272; s137,c406; Duration: 2s3 Moment tensor: Scale 10¹⁸Nm; Mrr~0.40±.01; Mθθ~0.32±.01; Mϕϕ 0.72±.01; Mrθ 0.56±.01; Mθϕ~0.12±.01; Mϕr~0.55±.01; Best double couple:*

Ms1.01000×10¹⁸ NP1:ϕs321.00000°, δ76.00000°, λ-119.00000°. NP2:ϕs208.00000°, δ32.00000°, λ-27.00000°. Principal axes: T 1.0300, Plg25.0000°, Azm73.0000°; N -0.0400, Plg28.0000°, Azm329.0000°; P -0.9890, Plg50.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
*NEIC **08** 03:06:22.6±0.1, 17°.08S×69°.52W,mb5.8/211,ME5.7, MW5.9,MW5.9 Error ellipse: s-maj=5.7km s-min=3.6km az=63.0,Moment Tensor Solution. s34 Moment tensor: Scale 10¹⁷Nm; Mrr-2.79; Mθθ-3.94; Mϕϕ 6.73; Mrθ 2.31; Mθϕ 2.65; Mϕr-4.52; Best double couple: Mo8.20000×10¹⁷ NP1:ϕs337.00000°, δ77.00000°, λ-134.00000°. NP2: ϕs234.00000°, δ45.00000°, λ-18.00000°. Principal axes: T 8.7500, Plg20.0000°, Azm98.0000°; N -1.2600, Plg43.0000°, Azm349.0000°; P -7.4900, Plg41.0000°, Azm206.0000°; Broadband fault plane solution: P waves. NP1:ϕs237.00000°, δ30.00000°, λ-4.00000°. NP2: ϕs330.00000°, δ88.00000°, λ-120.00000°. Principal axes: T Plg36.0000°, Azm86.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm213.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Tacna and Tarata. Also felt at Arequipa, Ilo, Juliaca, Moquegua and Puno. Felt [II] at La Paz, Bolivia. Also felt at Cochabamba and El Alto. Felt [IV] at Codpa, Cuya and Poconchile; [III] at Arica, Camina, Pisagua and Putre; [II] at Alto Hospicio, Huara, Iquique and Pozo Almonte, Chile. Also felt at Antofagasta.
*NEIC **08** 03:06:23.0±0.0, 17°.08S×69°.52W,h146km,Moment Tensor Solution. s12 Moment tensor: Scale 10¹⁷Nm; Mrr-4.13; Mθθ-4.43; Mϕϕ 8.57; Mrθ 3.37; Mθϕ-0.60; Mϕr-4.69; Best double couple: Mo9.40000×10¹⁷ NP1:ϕs326.00000°, δ73.00000°, λ-127.00000°. NP2:ϕs215.00000°, δ40.00000°, λ-26.00000°. Principal axes: T 10.3000, Plg19.0000°, Azm83.0000°; N -2.1000, Plg35.0000°, Azm338.0000°; P -8.2000, Plg48.0000°, Azm196.0000°;*
*SCB **08** 03:06:24.7±0.4, 17°.15S×68°.88W,h150km,Ml5.6/1 Error ellipse: s-maj=15.0km s-min=5.3km az=81.0*
*MOS **08** 03:06:24.0±0.9, 16°.74S×69°.67W,h139km,mb6.0/55, Error ellipse: s-maj=22.3km s-min=7.8km az=55.1*

ISC 08 03:06:21.8±0.2, 17°.21S±0°.03×69°.69W±0°.03, h141km±1km, h141km:pP-P,n1551,σ1s78/1872, mb5.8/311, 78C-14D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PB13	**IPOC Station P**	**1.13**	**171**	*i* P	**Pn**	**03 06 47.8**	**+0.1**
PB13				*i* S	**Sn**	**03 07 07.4**	**0.0**
BBOD	**La Paz, Gloria**	**1.19**	**61**	*e*Pn	**Pn**	**03 06 49.1**	**+1.0**
BBOJ	**La Paz, Jacaqu**	**1.45**	**81⇑**	*e*Pn	**Pn**	**03 06 50.0**	**-0.8**
PB12	**IPOC Station P**	**1.52**	**203**	*i* P	**Pn**	**03 06 48.5**	**-2.6**
PB12				*i* S	**Sn**	**03 07 08.1**	**-5.4**
I08BO	**LAS PENAS INFR**	**1.54**	**50**	P	**Pn**	**03 06 50.0**	**-1.8**
	baz=237,slow=18,SNR=4.0						
I08BO				*i*		03 10 50.0	
	baz=250,slow=330,SNR=0.9						
BBOE	**La Paz, Chanca**	**1.68**	**77⇑**	*e*Pn	**Pn**	**03 06 52.8**	**-0.5**
LPAZ	**La Paz**	**1.75**	**59**	P	**Pn**	**03 06 56.0**	**+1.8**
	2μm,0.3s,baz=246,slow=7.8						
LPAZ				S	**Sn**	**03 07 21.2**	**+2.4**
	307nm,0.3s,baz=161,slow=25,SNR=15						
LPAZ				LR	LR	03 07 40.0	
	comp=Z,93μm,19.0s,baz=151,slow=44						
LPAZ	**La Paz**	**1.75**	**59⇑**	*i*Pn	**Pn**	**03 06 55.5**	**+1.3**
LPAZ				*e*Sn	**Sn**	**03 07 17.0**	**-1.9**
BBOB	**La Paz, Bander**	**1.83**	**55⇓**	*i*Pn	**Pn**	**03 06 56.6**	**+1.6**
MNMC	**Minye Minye**	**1.91**	**177**	*i* P	**Pn**	**03 06 54.0**	**-1.7**
MNMC				*i* S	**Sn**	**03 07 18.2**	**-3.5**
MNMC				AML	AML	03 07 30.2	
	comp=E,184μm,0.4s						
PSGC	**Pisagua**	**2.41**	**190**	*i* P	**Pn**	**03 06 58.8**	**-2.7**
PSGC				*i* S	**Sn**	**03 07 26.7**	**-5.4**
PSGC				AML	AML	03 07 39.6	
	comp=N,113μm,0.8s						
PB08	**IPOC Station P**	**2.96**	**170**	*i* P	**Pn**	**03 07 07.9**	**-0.8**
PB08				*i* S	**Sn**	**03 07 42.4**	**-2.5**
PB08				AML	AML	03 07 45.8	
	comp=N,66μm,0.9s						
PB01	**IPOC Station P**	**3.82**	**177**	AML	AML	03 08 00.5	
	comp=E,38μm,0.3s						
PB01	**IPOC Station P**	**3.82**	**177**	*e*Pn	**Pn**	**03 07 17.3**	**-2.3**
PB01				*e*Sn	**Sn**	**03 07 58.1**	**-6.3**
PB04	**IPOC Station P**	**5.12**	**185**	*e*Pn	**Pn**	**03 07 33.8**	**-3.0**
PB04				*e*Sn	**Sn**	**03 08 26.8**	**-8.4**
LVC	**Limon Verde**	**5.42**	**172**	*i* P	**Pn**	**03 07 39.5**	**-1.5**
LVC				*i* S	**Sn**	**03 08 41.8**	**-1.0**
LVC	**Limon Verde**	**5.42**	**172**	P	**Pn**	**03 07 40.0**	**-1.0**
	comp=E,11μm,0.3s,baz=354,slow=8.4,SNR=1414						
LVC				S	**Sn**	**03 08 37.7**	**-5.1**
	comp=E,168μm,0.3s,baz=286,slow=23,SNR=33						
LVC				LR	LR	03 10 15.2	
	comp=E,48μm,20.4s,baz=356,slow=42						
LVC	**Limon Verde**	**5.42**	**172**	*e*Pn	**Pn**	**03 07 39.4**	**-1.7**
LVC				*e*Sn	**Sn**	**03 08 37.2**	**-5.6**
MOCB	**Mochara**	**5.55**	**137⇓**	*i*Pn	**Pn**	**03 07 45.3**	**+2.5**
MOCB				*e*Sn	**Sn**	**03 08 43.6**	**-2.4**
	comp=E,6μm,1.2s						
YJA	**Yavi**	**6.31**	**142**	*i* P	**Pn**	**03 07 53.5**	**+0.5**
YJA				*i* S	**Sn**	**03 09 09.1**	**+4.8**
PB10	**IPOC Station P**	**6.32**	**187**	*e*Pn	**Pn**	**03 07 48.4**	**-4.4**
PB10				*e*Sn	**Sn**	**03 08 55.3**	**-8.6**
HJA	**Humahuaca**	**7.19**	**147**	*i* P	**Pn**	**03 08 04.8**	**0.0**
HJA				*i* S	**Sn**	**03 09 27.2**	**+1.8**
AZAP	**Zapla**	**8.21**	**149**	*i* P	**Pn**	**03 08 16.3**	**-2.0**
ASTB	**Santa Barbara**	**8.30**	**145**	*i* P	**Pn**	**03 08 18.1**	**-1.4**
SIV	**San Ignacio**	**8.35**	**83**	*e*Pn	**Pn**	**03 08 18.2**	**-1.8**
SLA	**San Lorenzo**	**8.43**	**153**	*i* P	**Pn**	**03 08 19.9**	**-1.3**
ALOL	**LOMAS DE OLMED**	**8.47**	**142**	*i* P	**Pn**	**03 08 19.6**	**-1.9**
NNA	**Nana**	**8.65**	**306**	P	**Pn**	**03 08 20.7**	**-3.5**
	comp=E,165nm,0.3s,baz=139,slow=12,SNR=110						
NNA				S	**Sn**	**03 09 51.8**	**-8.5**
	comp=E,87nm,0.3s,baz=228,slow=20,SNR=6.9						
NNA	**Nana**	**8.65**	**306**	*e*Pn	**Pn**	**03 08 20.4**	**-3.7**
NNA				*e*Sn	**Sn**	**03 09 51.6**	**-8.7**
FSA	**Cafayete**	**9.50**	**159**	*i* P	**Pn**	**03 08 33.2**	**-2.3**
FSA				*i* S	**Sn**	**03 10 16.0**	**-4.9**
AHML	**Horco Molle**	**10.35**	**158**	*i* P	**Pn**	**03 08 43.3**	**-3.4**
AHML				*i* S	**Sn**	**03 10 34.3**	**-6.7**
AHML				IAML		03 10 39.2	
	comp=Z,114nm,0.7s						
SAML	**Samuel**	**10.37**	**38**	*e*Pn	**Pn**	**03 08 44.4**	**-2.6**
SAML				*e*Sn	**Sn**	**03 10 37.0**	**-4.6**
CYA	**Choya**	**11.74**	**163**	*i* P	**Pn**	**03 09 00.9**	**-4.1**
ATAH	**Atahualpa**	**13.14**	**319**	P	**Pn**	**03 09 21.3**	**-2.2**
	comp=Z,1.8nm,0.3s,baz=143,slow=15,SNR=8.6						
CPUP	**Villa Florida**	**14.62**	**130**	P	**Pn**	**03 09 39.7**	**-2.2**
	comp=Z,1.5nm,0.3s,baz=306,slow=12,SNR=78						
CPUP	**Villa Florida**	**14.62**	**130**	*e*Pn	**Pn**	**03 09 39.6**	**-2.4**
ROC1	**El Roble**	**15.74**	**184**	*e*Pn	**Pn**	**03 09 54.2**	**-1.9**
	comp=Z,2μm,1.4s						
PTGA	**Pitinga**	**18.97**	**31**	P	**P**	**03 10 31.5**	**-0.9**
	comp=Z,20nm,0.3s,baz=208,slow=11,SNR=134						
PTGA				LR	LR	03 17 39.6	
	comp=Z,4μm,19.2s,baz=205,slow=36						
PTGA	**Pitinga**	**18.97**	**31**	*e*P	**P**	**03 10 31.3**	**-1.1**
	comp=Z,4μm,2.0s						
PTGA				*e*S	**S**	**03 13 54.7**	**-5.8**
OTAV	**Otavalo**	**19.37**	**333**	*e*P	**Pn**	**03 10 38.5**	**-1.2**
OTAV	**Otavalo**	**19.37**	**333**	*e*P	**P**	**03 10 38.0**	**+0.8**
	comp=Z,125nm,0.8s						
CRUC	**La Cruz**	**19.99**	**338**	*e*P	**Pn**	**03 10 46.6**	**-0.4**
LPA	**La Plata**	**20.52**	**151**	*ce*P	**P**	**03 10 46.0**	**-2.9**
LPA				pPP		03 11 07.0	
LPA				sP	**pP**	**03 11 16.0**	**+1.9**
LPA				sP(2)		03 11 23.0	
LPA				S	**S**	**03 14 31.0**	**+0.3**
LPA				sS	**sS**	**03 15 06.0**	**-6.9**
LPA				sS(2)		03 15 15.0	
BDFB	**Brasilia**	**20.85**	**89**	P	**P**	**03 10 51.9**	**-0.9**
	comp=Z,281nm,0.5s,baz=261,slow=12,SNR=144						
BDFB	**Brasilia**	**20.85**	**89**	*e*P	**P**	**03 10 51.8**	**-1.0**
	comp=Z,3μm,1.6s						
PRAC	**Prado**	**21.42**	**346**	*e*P	**P**	**03 10 56.2**	**-2.5**
PRAC	**Prado**	**21.42**	**346**	*e*P	**P**	**03 10 56.5**	**-2.3**
	comp=Z,168nm,1.1s						
GRGC	**Isla de Gorgon**	**21.76**	**337**	*e*P	**P**	**03 11 02.0**	**-0.4**
SPB	**Sao Paulo**	**21.79**	**111**	*e*P	**P**	**03 11 00.5**	**-2.1**

	comp=Z,935nm,1.4s								
TRQA	**Tornquist**	**21.84**	**163**	*e*P		**P**	**03 11 02.3**	**-0.7**
	comp=Z,953nm,1.1s								
TRQA				*e*S		**S**	**03 14 54.9**	**-0.2**
CHIC	**Chingaza**	**22.07**	**349**	*i* P		**P**	**03 11 04.4**	**-1.5**
CHIC				*e*P		**P**	**03 11 04.4**	**-1.5**
TOLC	**Tolima**	**22.36**	**345**	*e*P		**P**	**03 11 09.0**	**+0.2**
ROSC	**El Rosal**	**22.38**	**348**	P		**P**	**03 11 07.6**	**-1.5**
	comp=Z,9.0nm,0.5s,baz=148,slow=8.6,SNR=8.8								
ROSC				LR		LR	03 21 30.9		
	comp=Z,3μm,19.9s,baz=201,slow=41								
ROSC	**El Rosal**	**22.38**	**348**	*e*P		**P**	**03 11 08.6**	**-0.4**
	comp=Z,108nm,1.5s								
MALC	**Bahia Malaga**	**22.40**	**340**	*e*P		**P**	**03 11 08.7**	**-0.1**
PLCA	**Paso Flores**	**23.45**	**182**	P		**P**	**03 11 18.8**	**+0.3**
	comp=Z,1μm,0.9s,baz=26,slow=9.8,SNR=132								
PLCA	**Paso Flores**	**23.45**	**182**	*e*P		**P**	**03 11 18.8**	**+0.3**
PLCA				pmax		pmax			
	comp=Z,3μm,1.1s								
PLCA	**Paso Flores**	**23.45**	**182**	*e*P		**P**	**03 11 18.8**	**+0.3**
	comp=Z,3μm,1.1s								
GRMC	**Gramalote, San**	**24.96**	**353**	*e*P		**P**	**03 11 30.4**	**-2.1**
OCAC	**Ocana**	**25.54**	**352**	*e*P		**P**	**03 11 33.2**	**-4.5**
SDV	**Santo Domingo**	**25.95**	**358**	P		**P**	**03 11 39.4**	**-2.0**
	comp=Z,18nm,0.3s,baz=183,slow=7.6,SNR=18								
SDV				pP		**pP**	**03 12 12.9**	**+1.7**
	comp=Z,19nm,0.5s,baz=184,slow=8.8,SNR=2.2								
SDV	**Santo Domingo**	**25.95**	**358**	*e*P		**P**	**03 11 38.9**	**-2.5**
	comp=Z,750nm,1.7s								
SDV				pP		**pP**	**03 12 12.9**	**+1.7**
PAYG	**Puerto Ayora**	**26.10**	**307**	*e*P		**P**	**03 11 42.2**	**-0.4**
	comp=Z,198nm,1.4s								
MOTC	**Monteria, Cord**	**26.49**	**347**	*e*P		**P**	**03 11 44.3**	**-1.8**
SJCC	**San Jacinto, C**	**27.48**	**348**	*e*P		**P**	**03 11 50.9**	**-4.1**
PCRV	**Puerto La Cruz**	**27.67**	**11**	P		**P**	**03 11 55.9**	**-0.7**
	comp=Z,40nm,0.7s,baz=194,slow=2.9,SNR=24								
PCRV				pP		**pP**	**03 12 29.0**	**+2.4**
	comp=Z,54nm,0.9s,baz=170,slow=12,SNR=1.9								
BCIP	**Isla Barro Col**	**28.06**	**338**	*e*P		**P**	**03 11 59.9**	**-0.2**
BCIP	**Isla Barro Col**	**28.06**	**338**	*e*P		**P**	**03 11 59.5**	**-0.6**
	comp=Z,293nm,1.3s								
TOSP	**Speyside**	**29.74**	**18**	*e*P		**P**	**03 12 14.6**	**-0.4**
TOSP	**Speyside**	**29.74**	**18**	*e*P		**P**	**03 12 15.0**	**+0.1**
CHRN	**Cochrane**	**30.05**	**184**	*e*P		**P**	**03 12 18.0**	**+0.6**
	comp=Z,498nm,1.5s								
GRW	**Mount Saint Ca**	**30.24**	**16**	*e*P		**P**	**03 12 19.6**	**+0.1**
GRSS	**Sisters**	**30.39**	**16**	*e*P		**P**	**03 12 21.3**	**+0.6**
HDC	**Heredia**	**30.57**	**331**	*e*P		**P**	**03 12 23.9**	**+1.4**
	comp=Z,919nm,2.0s								
HDC				*e*PcP		**PcP**	**03 15 16.7**	**-1.3**
FCV	**Fort Charlotte**	**31.31**	**16**	*e*P		**P**	**03 12 28.3**	**-0.5**
SVB	**Belmont**	**31.41**	**16**	*e*P		**P**	**03 12 27.8**	**-2.0**
SVB	**Belmont**	**31.41**	**16**	*e*P		**P**	**03 12 27.5**	**-2.2**
	comp=Z,294nm,0.9s								
SVB				*e*S		**S**	**03 17 23.2**	**-3.9**
SVV	**Soufriere Volc**	**31.47**	**16**	*e*P		**P**	**03 12 29.5**	**-0.7**
MCLT	**Moule a Chique**	**31.91**	**16**	*e*P		**P**	**03 12 31.8**	**-2.3**
TRMF	**Trois Ilets**	**32.68**	**16**	*e*P		**P**	**03 12 40.0**	**-0.8**
ZAM	**Aeronautique**	**32.72**	**16**	*e*P		**P**	**03 12 40.4**	**-0.7**
LPMF	**Morne Lapointe**	**32.74**	**16**	*e*P		**P**	**03 12 39.9**	**-1.3**
FDF	**Fort de France**	**32.84**	**15**	*e*P		**P**	**03 12 39.3**	**-3.0**
FDF	**Fort de France**	**32.84**	**15**	*e*P		**P**	**03 12 39.6**	**-2.6**
FDF				pmax		pmax			
	comp=Z,460nm,0.8s								

645A	**Chauvin**	**50.60**	**336**	P		**P**	03 15 06.6	+0.4
	baz=154								
RGRS	**Roger Stewart**	**50.84**	**349**	*eP*		**P**	03 15 07.0	-1.0
	comp=Z,1µm,0.4s								
CSU	**Charleston Sou**	**50.89**	**349**	*eP*		**P**	03 15 07.5	-0.9
BRAL	**Brewton**	**50.91**	**341**	*eP*		**P**	03 15 08.1	-0.5
	comp=Z,974nm,1.4s								
448A	**Bay Minette**	**50.95**	**340**	P		**P**	03 15 07.8	-1.1
	baz=157								
546A	**Slidell**	**50.96**	**338**	P		**P**	03 15 09.1	+0.2
	baz=155								
NHSC	**New Hope**	**51.03**	**349**	*eP*		**P**	03 15 08.5	-0.9
	comp=Z,260nm,1.2s								
447A	**Lucedale**	**51.10**	**339**	P		**P**	03 15 09.4	-0.6
	baz=156								
ZAIG	**Zacatecas**	**51.12**	**320**	*eP*		**P**	03 15 11.6	+0.9
ZAIG				*epP*		**pP**	03 15 45.7	+2.4
446A	**Poplarville**	**51.34**	**338**	P		**P**	03 15 11.0	-0.8
	baz=156,SNR=7.4								
544A	**White Castle**	**51.40**	**336**	P		**P**	03 15 13.1	+0.9
	baz=153								
348A	**Jackson**	**51.41**	**340**	P		**P**	03 15 10.9	-1.5
	baz=157,SNR=6.7								
035Z	**Hargill**	**51.43**	**327**	P		**P**	03 15 11.4	-1.1
	baz=144,SNR=16								
347A	**Saraland**	**51.62**	**339**	P		**P**	03 15 13.0	-0.8
	baz=157,SNR=27								
445A	**Amite**	**51.64**	**337**	P		**P**	03 15 13.8	-0.2
	baz=154								
543A	**St. Martinvill**	**51.65**	**335**	P		**P**	03 15 15.5	+1.4
	baz=152								
444A	**Pine Grove**	**51.78**	**337**	P		**P**	03 15 15.2	+0.2
	baz=154,SNR=6.5								
035A	**Encino**	**51.83**	**327**	P		**P**	03 15 15.4	-0.1
	baz=144,SNR=9.2								
346A	**Big Creek Wild**	**51.92**	**338**	P		**P**	03 15 15.0	-1.1
	baz=156,SNR=8.5								
542A	**Morse**	**51.96**	**335**	P		**P**	03 15 17.9	+1.4
	baz=152								
248A	**Dixon Mills**	**51.99**	**340**	P		**P**	03 15 15.1	-1.4
	baz=158,SNR=19								
GOGA	**Godfrey**	**52.03**	**345**	*eP*		**P**	03 15 15.2	-1.7
GOGA				pmax		pmax			
	comp=Z,58nm,1.1s								
GOGA	**Godfrey**	**52.03**	**345**	*eP*		**P**	03 15 15.2	-1.7
	comp=Z,58nm,1.1s								
345A	**Thompson Farm,**	**52.05**	**338**	P		**P**	03 15 16.1	-0.9
	baz=155,SNR=7.7								
541A	**Lake Charles**	**52.17**	**334**	P		**P**	03 15 18.9	+0.9
	baz=151								
443A	**Delano Plantat**	**52.22**	**336**	P		**P**	03 15 18.4	+0.1
	baz=153								
247A	**Quitman**	**52.23**	**340**	P		**P**	03 15 17.0	-1.4
	baz=157,SNR=17								
034A	**Hebbronville**	**52.24**	**327**	P		**P**	03 15 18.6	0.0
	baz=144,SNR=31								
246A	**Jackson Lee, B**	**52.37**	**339**	P		**P**	03 15 18.1	-1.3
	baz=156								
JSC	**Jenkinsville**	**52.38**	**348**	*eP*		**P**	03 15 17.6	-1.8
JSC				pmax		pmax			
	comp=Z,59nm,1.3s								
JSC	**Jenkinsville**	**52.38**	**348**	*eP*		**P**	03 15 17.6	-1.8
	comp=Z,59nm,1.3s								
442A	**Mamou**	**52.43**	**335**	P		**P**	03 15 20.3	+0.5
	baz=152								
344A	**Westbrook Farm**	**52.44**	**337**	P		**P**	03 15 19.0	-0.9
	baz=154,SNR=17								
934A	**Benavides**	**52.59**	**327**	P		**P**	03 15 20.8	-0.3
	baz=144,SNR=16								
638A	**Rosharon**	**52.61**	**331**	P		**P**	03 15 22.1	+0.9
	baz=148								
343A	**Vidalia**	**52.62**	**336**	P		**P**	03 15 21.1	-0.2
	baz=153								
LRAL	**Lakeview Retre**	**52.63**	**342**	*eP*		**P**	03 15 19.4	-1.9
	comp=Z,135nm,1.1s								
540A	**Vidor**	**52.63**	**333**	P		**P**	03 15 22.7	+1.3
	baz=150								
245A	**Little AP, Sta**	**52.66**	**338**	P		**P**	03 15 20.2	-1.3
	baz=155,SNR=23								
147A	**Livingston**	**52.69**	**340**	P		**P**	03 15 19.6	-2.2
	baz=157,SNR=8.5								
441A	**DeRidder**	**52.77**	**334**	P		**P**	03 15 23.0	+0.6
	baz=151,SNR=7.7								
835A	**Beeville**	**52.80**	**329**	P		**P**	03 15 22.7	+0.1
	baz=145,SNR=12								
539A	**Cross D Ranch,**	**52.87**	**333**	P		**P**	03 15 24.4	+1.3
	baz=149								
146A	**Union**	**52.92**	**339**	P		**P**	03 15 22.3	-1.2
	baz=156,SNR=20								
244A	**Avery, Jackson**	**52.95**	**338**	P		**P**	03 15 22.4	-1.3
	baz=154,SNR=15								
342A	**Flagon Creek P**	**52.98**	**336**	P		**P**	03 15 23.8	0.0
	baz=152,SNR=30								
736A	**Circle Diamond**	**52.98**	**330**	P		**P**	03 15 24.7	+0.8
	baz=146,SNR=41								
933A	**Laredo**	**52.99**	**327**	P		**P**	03 15 24.3	+0.3
	baz=144,SNR=33								
834A	**Tilden**	**53.03**	**328**	P		**P**	03 15 24.6	+0.3
	baz=145,SNR=34								
637A	**Eagle Lake**	**53.03**	**331**	P		**P**	03 15 24.5	+0.2
	baz=147,SNR=11								
VBMS	**Vicksburg**	**53.05**	**338**	P		**P**	03 15 22.9	-1.5
	baz=155,SNR=10								
VBMS	**Vicksburg**	**53.05**	**338**	*eP*		**P**	03 15 23.1	-1.3
	comp=Z,401nm,1.7s								
VBMS				*epP*		**pP**	03 16 00.1	+2.9
VBMS				*ePP*		PP	03 17 11.8	-14
440A	**Kirbyville**	**53.09**	**334**	P		**P**	03 15 25.7	+1.0
	baz=150								
243A	**Waterproof**	**53.10**	**337**	P		**P**	03 15 23.9	-0.9
	baz=154,SNR=10								
Z47A	**Carrollton**	**53.11**	**341**	P		**P**	03 15 23.2	-1.6
	baz=158,SNR=22								
Z48A	**Northport**	**53.12**	**341**	P		**P**	03 15 22.7	-2.1
	baz=158,SNR=26								
145A	**Houston Renfro**	**53.19**	**339**	P		**P**	03 15 24.2	-1.1
	baz=156,SNR=13								
KMSC	**Kings Mountain**	**53.23**	**348**	P		**P**	03 15 24.1	-1.6
	baz=166,SNR=17								
KMSC	**Kings Mountain**	**53.23**	**348**	*eP*		**P**	03 15 24.0	-1.6
	comp=Z,89nm,1.4s								
HKT	**Hockley**	**53.23**	**331**	*eP*		**P**	03 15 26.4	+0.7
HKT				pmax		pmax			
	comp=Z,250nm,1.5s								
HKT	**Hockley**	**53.23**	**331**	*eP*		**P**	03 15 26.4	+0.7
HKT				*epP*		**pP**	03 16 01.1	+2.6
735A	**Kenedy**	**53.26**	**329**	P		**P**	03 15 26.0	+0.1
	baz=146								
341A	**Kurthwood**	**53.28**	**335**	P		**P**	03 15 25.8	-0.3
	baz=152,SNR=20								
538A	**Harpers Horsep**	**53.31**	**332**	P		**P**	03 15 26.8	+0.5
	baz=149								
144A	**Alexander Plac**	**53.38**	**338**	P		**P**	03 15 26.1	-0.8
	baz=155								
Z46A	**Louisville**	**53.39**	**340**	P		**P**	03 15 25.5	-1.4
	baz=157,SNR=10								
636A	**Smothers Creek**	**53.41**	**330**	P		**P**	03 15 27.3	+0.2
	baz=147,SNR=42								
439A	**Center Grove,**	**53.48**	**333**	P		**P**	03 15 28.5	+1.0
	baz=150								
242A	**Grayson**	**53.52**	**336**	P		**P**	03 15 27.2	-0.6
	baz=153,SNR=18								
537A	**Green Hill Far**	**53.56**	**331**	P		**P**	03 15 28.0	-0.2
	baz=148,SNR=22								
734A	**La Parita Cree**	**53.62**	**328**	P		**P**	03 15 28.1	-0.6
	baz=145,SNR=9.6								
833A	**Chaparral WMA,**	**53.62**	**327**	P		**P**	03 15 28.7	0.0
	baz=144,SNR=52								
340A	**Bronson**	**53.65**	**334**	P		**P**	03 15 29.0	+0.2
	baz=151,SNR=12								
635A	**Leesville**	**53.68**	**329**	P		**P**	03 15 28.6	-0.4
	baz=146,SNR=14								
Y47A	**UCPARC, Winfie**	**53.70**	**341**	P		**P**	03 15 27.1	-2.0
	baz=158,SNR=15								
438A	**Sam Houston St**	**53.75**	**332**	P		**P**	03 15 29.9	+0.3
	baz=149								
241A	**Mo Tay, Goldon**	**53.78**	**335**	P		**P**	03 15 29.7	0.0
	baz=152,SNR=10								
Z45A	**Winona**	**53.80**	**339**	P		**P**	03 15 28.8	-1.1
	baz=156,SNR=7.5								
143A	**Socs Landing,**	**53.81**	**337**	P		**P**	03 15 28.7	-1.2
	baz=154,SNR=6.2								
339A	**Huntington**	**53.85**	**334**	P		**P**	03 15 30.9	+0.6
	baz=150,SNR=7.1								
142A	**Monroe**	**53.87**	**337**	P		**P**	03 15 29.5	-0.9
	baz=153,SNR=8.6								
733A	**Divot King Ran**	**53.89**	**328**	P		**P**	03 15 30.8	+0.2
	baz=144,SNR=37								
832A	**Faith Ranch, C**	**53.90**	**327**	P		**P**	03 15 30.5	-0.2
	baz=143,SNR=40								
536A	**Bastrop**	**53.91**	**330**	P		**P**	03 15 30.1	-0.7
	baz=147,SNR=6.6								
634A	**China Grove, S**	**53.96**	**329**	P		**P**	03 15 31.0	-0.1
	baz=145,SNR=7.4								
Z44A	**Pea Ridge, Bel**	**53.97**	**338**	P		**P**	03 15 30.1	-1.0
	baz=155,SNR=24								
Y46A	**Houston**	**54.00**	**340**	P		**P**	03 15 29.2	-2.1
	baz=157,SNR=15								
535A	**Dale**	**54.11**	**330**	P		**P**	03 15 32.2	0.0
	baz=146,SNR=12								
437A	**Phantom Ranch,**	**54.12**	**332**	P		**P**	03 15 33.3	+1.1
	baz=148								
240A	**Hunter Patters**	**54.14**	**335**	P		**P**	03 15 33.1	+0.7
	baz=151,SNR=14								
338A	**Crockett**	**54.20**	**333**	P		**P**	03 15 33.9	+1.1
	baz=149,SNR=15								
Z43A	**Armstrong Fami**	**54.20**	**338**	P		**P**	03 15 31.7	-1.1
	baz=154								
Y45A	**Yeager Farm, C**	**54.20**	**340**	P		**P**	03 15 31.3	-1.5
	baz=156								
CPCT	**Cooper Cave**	**54.23**	**345**	*eP*		**P**	03 15 30.6	-2.4
CPCT				*epP*		**pP**	03 16 08.9	+3.0
TKL	**Tuckaleechee C**	**54.25**	**346**	*eP*		**P**	03 15 31.0	-2.1
TKL				pmax		pmax			
	comp=Z,97nm,1.1s								
TKL	**Tuckaleechee C**	**54.25**	**346**	*eP*		**P**	03 15 31.0	-2.1
TKL				*epP*		**pP**	03 16 09.2	+3.2
NATX	**Nacogdoches**	**54.27**	**334**	P		**P**	03 15 34.3	+1.0
	baz=150,SNR=14								
NATX	**Nacogdoches**	**54.27**	**334**	*eP*		**P**	03 15 34.3	+1.0
NATX				*epP*		**pP**	03 16 10.7	+4.4
141A	**Papa Simpson,**	**54.29**	**336**	P		**P**	03 15 33.7	+0.3
	baz=152,SNR=11								
436A	**Wall Ranch, Ga**	**54.37**	**331**	P		**P**	03 15 34.5	+0.5
	baz=148,SNR=9.8								
SWET	**Sewanee**	**54.37**	**344**	*eP*		**P**	03 15 31.6	-2.4
SWET				*epP*		**pP**	03 16 10.9	+3.9
239A	**Gary**	**54.41**	**334**	P		**P**	03 15 35.3	+1.0
	baz=150,SNR=13								
337A	**Centerville**	**54.42**	**332**	P		**P**	03 15 35.7	+1.4
	baz=149								
633A	**Saathoff Ranch**	**54.43**	**328**	P		**P**	03 15 33.9	-0.7
	baz=145,SNR=161								
H10N3	**ASCENSION HYDR**	**54.52**	**87**	P		**P**	03 15 36.7	+1.5
	baz=258,slow=6.6,SNR=7.1								
Y44A	**Strider, Charl**	**54.52**	**339**	P		**P**	03 15 33.6	-1.5
	baz=156								
Z42A	**Norrel Spur, H**	**54.52**	**337**	P		**P**	03 15 34.0	-1.1
	baz=154,SNR=7.6								
H10N2	**ASCENSION HYDR**	**54.53**	**87**	P		**P**	03 15 37.1	+1.9
	baz=258,slow=6.6,SNR=4.0								
H10N1	**ASCENSION HYDR**	**54.53**	**87**	P		**P**	03 15 36.8	+1.5
	baz=258,slow=6.6,SNR=11								
534A	**Blanco**	**54.55**	**329**	P		**P**	03 15 34.1	-1.3
	baz=146,SNR=34								
140A	**Cam and Jess,**	**54.59**	**335**	P		**P**	03 15 36.3	+0.8
	baz=152,SNR=26								
ASCN	**Ascension**	**54.63**	**88**	*eP*		**P**	03 15 35.5	-0.8
	comp=Z,403nm,0.8s								
X45A	**UM Field Stati**	**54.67**	**340**	P		**P**	03 15 34.8	-1.4
	baz=157,SNR=14								
238A	**Jacksonville**	**54.67**	**333**	P		**P**	03 15 37.0	+0.8
	baz=150,SNR=22								
Y43A	**Makayla and Ka**	**54.72**	**338**	P		**P**	03 15 35.6	-1.0
	baz=155								
435B	**Jarrell**	**54.74**	**330**	P		**P**	03 15 36.8	0.0
	baz=147,SNR=22								
OXF	**Oxford**	**54.75**	**340**	*eP*		**P**	03 15 34.9	-1.8
OXF				pmax		pmax			
	comp=Z,110nm,1.1s								
OXF	**Oxford**	**54.75**	**340**	*eP*		**P**	03 15 34.9	-1.8
	comp=Z,111nm,1.1s								
PLAL	**Pickwick Lake**	**54.77**	**342**	*eP*		**P**	03 15 34.3	-2.5
	comp=Z,115nm,1.2s								
Z41A	**Richland Creek**	**54.83**	**336**	P		**P**	03 15 36.6	-0.7
	baz=152,SNR=8.2								
533A	**Kerrville**	**54.86**	**329**	P		**P**	03 15 37.3	-0.3
	baz=145,SNR=15								
336A	**Riesel**	**54.91**	**332**	P		**P**	03 15 37.9	0.0
	baz=148,SNR=21								
Y42A	**Garnett, Star**	**54.96**	**338**	P		**P**	03 15 37.5	-0.7
	baz=154,SNR=14								
237A	**Washetta, Mont**	**54.97**	**333**	P		**P**	03 15 38.9	+0.5
	baz=149,SNR=21								
X44A	**Crenshaw**	**54.99**	**339**	P		**P**	03 15 37.0	-1.5
	baz=156								
VWCC	**Virginia Weste**	**55.02**	**350**	*eP*		**P**	03 15 37.4	-1.3
CCAR	**Cane Creek**	**55.03**	**338**	*eP*		**P**	03 15 38.0	-0.7
	comp=Z,649nm,1.9s								
CCAR				*epP*		**pP**	03 16 12.9	+1.1
TZTN	**Tazewell**	**55.05**	**346**	*eP*		**P**	03 15 37.2	-1.6
	comp=Z,40nm,0.9s								
Z40A	**Long Farm, Mag**	**55.06**	**336**	P		**P**	03 15 39.4	+0.4
	baz=152,SNR=6.6								
BLA	**Blacksburg**	**55.07**	**350**	*eP*		**P**	03 15 38.1	-0.9
BLA				pmax		pmax			
	comp=Z,170nm,1.5s								
BLA	**Blacksburg**	**55.07**	**350**	*eP*		**P**	03 15 38.1	-0.9
	comp=Z,165nm,1.5s								
335A	**Moody**	**55.09**	**331**	P		**P**	03 15 39.2	0.0
	baz=147,SNR=52								
434A	**Burnet**	**55.10**	**330**	P		**P**	03 15 38.8	-0.6
	baz=146,SNR=28								
138A	**Matatall Enter**	**55.23**	**334**	P		**P**	03 15 41.2	+1.0
	baz=150,SNR=30								
X43A	**Marvell**	**55.25**	**339**	P		**P**	03 15 39.5	-0.8
	baz=155,SNR=16								
W45A	**Hickory Valley**	**55.27**	**341**	P		**P**	03 15 38.1	-2.3
	baz=157,SNR=14								
236A	**Katherine and**	**55.29**	**332**	P		**P**	03 15 41.0	+0.4
	baz=148,SNR=20								
Y41A	**Eaglette Beard**	**55.31**	**337**	P		**P**	03 15 40.2	-0.6
	baz=153,SNR=13								
WLAR	**White Oak Lake**	**55.33**	**336**	*eP*		**P**	03 15 41.1	+0.2
WLAR				*epP*		**pP**	03 16 16.5	+2.6
Z39A	**Irene McRaven,**	**55.36**	**335**	P		**P**	03 15 41.5	+0.4
	baz=151,SNR=11								
433A	**Art**	**55.45**	**329**	P		**P**	03 15 41.4	-0.4
	baz=145,SNR=111								
137A	**Heron Place, G**	**55.46**	**333**	P		**P**	03 15 43.0	+1.1
	baz=149,SNR=32								
W44A	**Shelby Farms P**	**55.46**	**340**	P		**P**	03 15 40.1	-1.7
	baz=156								
334A	**Lometa**	**55.51**	**330**	P		**P**	03 15 41.9	-0.4
	baz=146,SNR=43								
JCT	**Junction City**	**55.58**	**328**	P		**P**	03 15 42.2	-0.6
	baz=144,SNR=59								
JCT	**Junction City**	**55.58**	**328**	*eP*		**P**	03 15 42.7	-0.1
JCT				pmax		pmax			
	comp=Z,95nm,0.8s								
JCT	**Junction City**	**55.58**	**328**	*eP*		**P**	03 15 42.7	-0.1
	comp=Z,95nm,0.8s								
CBN	**Corbin Frederi**	**55.59**	**353**	*eP*		**P**	03 15 42.7	+0.1
	comp=Z,83nm,1.4s								
Y40A	**Okolona**	**55.68**	**336**	P		**P**	03 15 43.1	-0.3
	baz=152,SNR=13								
136A	**Ennis**	**55.69**	**332**	P		**P**	03 15 43.9	+0.4
	baz=148,SNR=27								
Z38A	**Mt. Pleasant**	**55.69**	**334**	P		**P**	03 15 44.1	+0.6
	baz=150,SNR=16								
WVT	**Waverly**	**55.76**	**342**	*eP*		**P**	03 15 41.5	-2.4
WVT				pmax		pmax			
	comp=Z,170nm,1.2s								
WVT	**Waverly**	**55.76**	**342**	*eP*		**P**	03 15 41.5	-2.4
WVT				*epP*		**pP**	03 16 18.9	+1.8
333A	**Richland Sprin**	**55.86**	**330**	P		**P**	03 15 43.9	-0.9
	baz=146,SNR=54								
Z37A	**Pogue Cattle C**	**55.92**	**334**	P		**P**	03 15 46.1	+1.0
	baz=150								
X40A	**Basin Creek Fa**	**55.93**	**337**	P		**P**	03 15 43.9	-1.3
	baz=153,SNR=14								
Y39A	**Lockesburg**	**55.93**	**336**	P		**P**	03 15 45.1	-0.1
	baz=151,SNR=33								
UALR	**University of**	**56.01**	**338**	*eP*		**P**	03 15 44.5	-1.2
	comp=Z,142nm,1.0s								
UALR				*epP*		**pP**	03 16 20.1	+1.2
HALT	**Halls**	**56.02**	**341**	*eP*		**P**	03 15 43.4	-2.3
HALT				*epP*		**pP**	03 16 21.0	+2.2
234A	**Clairette**	**56.02**	**331**	P		**P**	03 15 45.9	0.0
	baz=147,SNR=98								
HPIG		**56.08**	**321**	*eP*		**P**	03 15 46.8	+0.1
HPIG				*epP*		**pP**	03 16 21.4	+1.6
V44A	**Blytheville**	**56.12**	**340**	P		**P**	03 15 44.9	-1.5
	baz=156								
HBAR	**Harrisburg**	**56.12**	**339**	*eP*		**P**	03 15 45.3	-1.2
135A	**Vickery Place,**	**56.15**	**332**	P		**P**	03 15 46.7	-0.1
	baz=148,SNR=28								
Y38A	**Idabel**	**56.18**	**335**	P		**P**	03 15 46.9	-0.1
	baz=151,SNR=17								
MIAR	**Mount Ida**	**56.26**	**336**	P		**P**	03 15 46.6	-0.9
	baz=152,SNR=54								
MIAR	**Mount Ida**	**56.26**	**336**	*eP*		**P**	03 15 46.7	-0.9
MIAR				pmax		pmax			
	comp=Z,140nm,1.0s								
MIAR	**Mount Ida**	**56.26**	**336**	*eP*		**P**	03 15 46.7	-0.9
	comp=Z,142nm,1.0s								
UTMT	**University of**	**56.27**	**341**	*eP*		**P**	03 15 46.4	-1.2
UTMT				*epP*		**pP**	03 16 21.3	+0.6
GNAR	**Gosnell**	**56.28**	**340**	*eP*		**P**	03 15 46.2	-1.4
Z36A	**Blue Ridge**	**56.33**	**333**	P		**P**	03 15 48.3	+0.3
	baz=149,SNR=60								
W41B	**Gary Mavity, V**	**56.33**	**338**	P		**P**	03 15 46.7	-1.3
	baz=154,SNR=65								
233A	**Rising Star**	**56.39**	**330**	P		**P**	03 15 48.3	-0.3
	baz=146,SNR=119								
X301	**Greenbrier Sit**	**56.44**	**338**	*eP*		**P**	03 15 47.6	-1.2
	comp=Z,118nm,0.9s								
X301				*epP*		**pP**	03 16 21.0	-1.0
X39A	**Fountain Ranch**	**56.44**	**336**	P		**P**	03 15 48.3	-0.6
	baz=152,SNR=120								
WHAR	**Wooly Hollow**	**56.45**	**338**	*eP*		**P**	03 15 47.5	-1.3
	comp=Z,123nm,0.9s								
134A	**White-Moore Ra**	**56.47**	**331**	P		**P**	03 15 49.0	-0.1
	baz=147,SNR=64								
X201	**Greenbrier Sit**	**56.48**	**338**	*eP*		**P**	03 15 47.9	-1.1
	comp=Z,120nm,0.9s								
SLBS	**Sierra La Lagu**	**56.55**	**315**	*eP*		**P**	03 15 50.7	+0.8
SLBS				*epP*		**pP**	03 16 24.6	+1.5
Y37A	**Hugo**	**56.59**	**334**	P		**P**	03 15 50.7	+0.8
	baz=150								
V42A	**Cord**	**56.59**	**339**	P		**P**	03 15 48.0	-1.9
	baz=155,SNR=26								
W40A	**Ferguson Farm,**	**56.65**	**337**	P		**P**	03 15 49.7	-0.5
	baz=153,SNR=71								
SDMD	**Soldier's Deli**	**56.72**	**353**	*eP*		**P**	03 15 48.5	-2.1
	comp=Z,16nm,0.9s								
TX31	**Lajitas Ar. Si**	**56.72**	**324**	*eP*		**P**	03 15 50.9	-0.1
TX31				*epP*		**pP**	03 16 25.3	+1.1
TXAR	**Lajitas Array**	**56.72**	**324**	P		**P**	03 15 50.8	-0.2
	comp=Z,23nm,0.8s,baz=147,slow=8.7,SNR=161								
TXAR				pP		**pP**	03 16 25.0	+0.8
	comp=Z,17nm,0.8s,baz=142,slow=6.3,SNR=6.7								
TXAR				PcP		**PcP**	03 16 46.8	+1.3
	comp=Z,4.1nm,0.5s,baz=152,slow=8.3,SNR=5.4								
TXAR				PKPPKP		**P'P'df**	03 45 40.2	-1.7
	comp=Z,2.8nm,1.3s,baz=247,slow=1.0,SNR=5.4								
Z35A	**Perchaven, San**	**56.73**	**332**	P		**P**	03 15 51.2	+0.3
	baz=148,SNR=23								
Y36A	**Durant**	**56.80**	**334**	P		**P**	03 15 52.0	+0.7
	baz=149								
PARMO	**Parma**	**56.84**	**341**	*eP*		**P**	03 15 49.8	-1.7
PARMO				*epP*		**pP**	03 16 27.0	+2.3
V41A	**Mountainview**	**56.84**	**338**	P		**P**	03 15 50.0	-1.7
	baz=153,SNR=148								
X38A	**Whitesboro**	**56.86**	**335**	P		**P**	03 15 52.0	+0.2
	baz=151,SNR=100								
133A	**Hamilton Ranch**	**56.89**	**331**	P		**P**	03 15 51.9	-0.1
	baz=146,SNR=83								
W39A	**Magazine**	**56.92**	**336**	P		**P**	03 15 51.6	-0.5
	baz=152,SNR=75								
X37A	**Clayton**	**57.01**	**335**	P		**P**	03 15 53.2	+0.3
	baz=150,SNR=52								
Z34A	**Collier Ranch,**	**57.06**	**332**	P		**P**	03 15 53.5	+0.3
	baz=147,SNR=37								
W38A	**Poteau**	**57.09**	**336**	P		**P**	03 15 53.3	0.0
	baz=151,SNR=77								
Y35A	**Marietta**	**57.13**	**333**	P		**P**	03 15 54.7	+1.1
	baz=148,SNR=42								
PBMO	**Poplar Bluff**	**57.16**	**340**	*eP*		**P**	03 15 52.1	-1.7
	comp=Z,213nm,1.0s								
PBMO				*epP*		**pP**	03 16 29.1	+2.0
ABTX	**Abilene, Hawle**	**57.25**	**330**	P		**P**	03 15 54.3	-0.2
	baz=145,SNR=48								
ABTX	**Abilene, Hawle**	**57.25**	**330**	*eP*		**P**	03 15 54.6	+0.1
ABTX				*epP*		**pP**	03 16 27.3	-0.5
MVL	**Millersville**	**57.25**	**354**	*eP*		**P**	03 15 53.0	-1.4
	comp=Z,18nm,0.9s								
WCI	**Wyandotte Cave**	**57.31**	**344**	*eP*		**P**	03 15 52.8	-2.1
WCI				pmax		pmax			
	comp=Z,170nm,1.1s								
WCI	**Wyandotte Cave**	**57.31**	**344**	*eP*		**P**	03 15 52.4	-2.5
WCI				*epP*		**pP**	03 16 28.6	+0.5
Z33A	**Whitaker Ranch**	**57.38**	**331**	P		**P**	03 15 55.5	0.0
	baz=146,SNR=99								
X36A	**Centranma**	**57.40**	**334**	P		**P**	03 15 55.2	-0.4
	baz=149,SNR=23								
S45A	**Carrier Mills**	**57.42**	**342**	P		**P**	03 15 53.5	-2.1
	baz=158,SNR=19								
USIN

baz=150,SNR=31
TUL1 Leonard 58.33 335 *e*P P 03 16 01.9 -0.1
TUL1 *ep*P pP 03 16 36.2 +0.8
T39A Clever 58.39 338 P P 03 16 00.9 -1.5
baz=153,SNR=30
ACSO Alum Creek Sta 58.47 348 *e*P P 03 16 01.2 -1.8
comp=Z,136nm,1.1s
U37A Salina 58.49 336 P P 03 16 02.5 -0.6
baz=151,SNR=64
X32A Elmer 58.56 331 P P 03 16 02.8 -0.9
baz=146,SNR=36
W34A Bridge Creek, 58.58 333 P P 03 16 03.1 -0.7
baz=148,SNR=7.6
W34A Bridge Creek, 58.58 333 *e*P P 03 16 03.5 -0.3
W34A *ep*P pP 03 16 38.1 +0.9
S40A Lebanon 58.59 339 P P 03 16 02.7 -1.1
baz=154,SNR=104
WMOK Wichita Mounta 58.60 332 P P 03 16 02.8 -1.2
baz=147,SNR=22
WMOK Wichita Mounta 58.60 332 *e*P P 03 16 03.5 -0.4
WMOK pmax pmax
comp=Z,340nm,2.0s
WMOK Wichita Mounta 58.60 332 *e*P P 03 16 03.5 -0.4
WMOK *ep*P pP 03 16 36.8 -0.5
V35A Meyer Ranch, C 58.63 334 P P 03 16 03.5 -0.6
baz=149,SNR=23
N54A Moraine State 58.66 351 P P 03 16 02.8 -1.4
baz=168,SNR=14
U36A Oologah 58.73 336 P P 03 16 04.3 -0.5
baz=150,SNR=9.5
T38A Diamond 58.73 337 P P 03 16 03.7 -1.1
baz=152,SNR=114
SLM Saint Louis 58.80 341 *e*P P 03 16 04.7 -0.5
SLM pmax pmax
comp=Z,310nm,1.6s
SLM Saint Louis 58.80 341 *e*P P 03 16 03.5 -1.7
comp=Z,307nm,1.6s
W33A Caddo, Fort Co 58.81 333 P P 03 16 05.6 +0.2
baz=147,SNR=109
BRYW Bryant College 58.85 358 *e*P P 03 16 04.3 -1.2
comp=Z,195nm,0.9s
BRYW *ep*P pP 03 16 39.7 +0.7
Q43A New Douglas 58.92 342 P P 03 16 04.1 -2.0
baz=157,SNR=13
S39A Bolivar 58.96 338 P P 03 16 05.3 -1.1
baz=153,SNR=124
V34A Guthrie 58.98 334 P P 03 16 06.1 -0.4
baz=148,SNR=36
V34A Guthrie 58.98 334 *e*P P 03 16 06.2 -0.4
comp=Z,167nm,0.6s
T37A Cheneyville 18 59.05 337 P P 03 16 06.2 -0.7
baz=152,SNR=64
U35A Pawnee 59.11 335 P P 03 16 07.0 -0.4
baz=149,SNR=5.3
S38A Stockton 59.12 338 P P 03 16 06.0 -1.5
baz=153,SNR=16
W32A Sentinel 59.13 332 P P 03 16 07.5 -0.2
baz=147,SNR=206
R40A Maddies Statio 59.14 339 P P 03 16 05.7 -1.8
baz=155,SNR=116
Q42A Golden Eagle 59.14 341 P P 03 16 05.8 -1.8
baz=156,SNR=26
M54A Oil Creek Stat 59.15 351 P P 03 16 05.6 -1.9
baz=169,SNR=22
QUA2 Belchertown 59.24 358 *e*P P 03 16 06.7 -1.5
comp=Z,37nm,1.0s
BCX Boston College 59.26 359 *e*P P 03 16 06.9 -1.4
comp=Z,58nm,0.9s
V33A Lossen Ranch, 59.29 333 P P 03 16 08.7 0.0
baz=148,SNR=29
WES Weston 59.31 359 *e*P P 03 16 07.2 -1.4
WES pmax pmax
comp=Z,57nm,1.0s
WES Weston 59.31 359 *e*P P 03 16 07.2 -1.4
comp=Z,57nm,0.9s
ALLY Alegheny Colle 59.36 351 *e*P P 03 16 07.6 -1.5
comp=Z,98nm,0.8s
T36A Boggs Farm, Ca 59.36 336 P P 03 16 08.5 -0.6
baz=150,SNR=44
BINY Binghamton 59.40 355 *e*P P 03 16 08.3 -1.0
comp=Z,104nm,1.3s
R39A Chumby, Stover 59.42 339 P P 03 16 08.2 -1.3
baz=154,SNR=88
HRV Adam Dziewonsk 59.44 358 *e*P P 03 16 08.0 -1.5
HRV pmax pmax
comp=Z,78nm,0.8s
HRV Adam Dziewonsk 59.44 358 *e*P P 03 16 08.0 -1.5
comp=Z,78nm,0.8s
MNTX Cornudas Mount 59.48 325 P P 03 16 09.1 -1.0
baz=140,SNR=98
MNTX Cornudas Mount 59.48 325 *e*P P 03 16 09.2 -0.8
comp=Z,209nm,1.3s
T35A Sooner Cattle 59.49 335 P P 03 16 09.9 -0.1
baz=150,SNR=27
U34A Anderson Ranch 59.50 334 P P 03 16 10.0 -0.1
baz=149,SNR=39
U34A Anderson Ranch 59.50 334 *e*P P 03 16 10.2 +0.1
U34A *ep*P pP 03 16 44.0 +0.5
V32A Arapaho 59.54 332 P P 03 16 10.3 -0.2
baz=147,SNR=25
SFIN Lafayette 59.54 345 P P 03 16 07.5 -2.8
baz=160,SNR=20
SFIN Lafayette 59.54 345 *e*P P 03 16 07.8 -2.5
comp=Z,87nm,0.9s
S37A Fort Scott 59.57 337 P P 03 16 09.6 -1.0
baz=152,SNR=62
R38A Fenwick Farm, 59.61 338 P P 03 16 09.6 -1.2
baz=153,SNR=75
Q40A Laux Farm, Aux 59.71 340 P P 03 16 09.8 -1.7
baz=155,SNR=32
U33A Lingo Farm, Me 59.74 334 P P 03 16 11.5 -0.2
baz=148,SNR=17
TRY Troy 59.76 357 *e*P P 03 16 10.7 -1.0
comp=Z,111nm,1.0s
ERPA Erie 59.79 351 *e*P P 03 16 10.5 -1.5
comp=Z,196nm,1.3s
S36A Lake Cedric, C 59.83 336 P P 03 16 11.9 -0.5
baz=151
T34A McClaskey Farm 59.85 335 P P 03 16 12.7 +0.1
baz=149,SNR=33
MSTX Muleshoe 59.87 328 P P 03 16 12.0 -0.8
baz=143,SNR=64
MSTX Muleshoe 59.87 328 *e*P P 03 16 12.5 -0.3
MSTX *ep*P pP 03 16 45.4 -1.0
Q39A Willow Grove F 60.06 339 P P 03 16 12.5 -1.3
baz=154,SNR=75
R37A Teagarden Farm 60.06 337 P P 03 16 12.6 -1.3
baz=152,SNR=14
AMTX Amarillo 60.07 330 P P 03 16 13.6 -0.5
baz=144
AMTX Amarillo 60.07 330 *e*P P 03 16 14.4 +0.3
comp=Z,237nm,1.5s
U32A Winter Ranch, 60.07 333 P P 03 16 13.8 -0.3
baz=147,SNR=31
S35A Otter Creek Ra 60.08 336 P P 03 16 13.8 -0.2
baz=150,SNR=68
MMNY Mt. Morris Dam 60.12 353 *e*P P 03 16 12.3 -1.9
P40A Paris 60.19 340 P P 03 16 13.0 -1.7
baz=155,SNR=63
Q38A Cooks Store, C 60.20 339 P P 03 16 14.2 -0.7
baz=153
HDIL Hopedale 60.29 343 P P 03 16 12.9 -2.5
baz=158,SNR=13
HDIL Hopedale 60.29 343 *e*P P 03 16 13.3 -2.1
R36A Gordon, Harris 60.32 337 P P 03 16 14.9 -0.8
baz=151,SNR=37
T33A Patterson Ranc 60.34 334 P P 03 16 16.0 +0.1
baz=148,SNR=28
P39B Salisbury 60.38 340 P P 03 16 14.5 -1.5
baz=154,SNR=31
ACCN Adirondack Com 60.41 357 *e*P P 03 16 15.1 -1.1
comp=Z,54nm,1.3s
S34A Willow Spring 60.41 335 P P 03 16 16.1 -0.2
baz=150,SNR=11
Q37A Longview Farm, 60.42 338 P P 03 16 14.9 -1.4
baz=152,SNR=13
SRIG Santa Rosalia 60.52 316 *e*P P 03 16 17.5 +0.3
comp=Z,376nm,1.7s
R35A Emporia Munici 60.59 336 P P 03 16 17.3 -0.2
baz=151,SNR=16
HNH Hanover 60.66 358 *e*P P 03 16 17.2 -0.7
comp=Z,348nm,2.0s
O40A La Belle 60.67 341 P P 03 16 16.1 -1.9
baz=155,SNR=33
S33A Kaszmaul Farm, 60.68 334 P P 03 16 18.4 +0.3
baz=149
T32A Huddler Ranch, 60.71 333 P P 03 16 19.3 +0.9
baz=148
P38A Dawn 60.77 339 P P 03 16 17.1 -1.5
baz=154,SNR=15
HSIG 60.84 319 *e*P P 03 16 19.8 +0.5
HSIG *ep*P pP 03 16 54.5 +1.5
Q36A Arnold C. Orve 60.87 337 P P 03 16 18.3 -1.1
baz=152,SNR=8.9
R34A Isabella, Hill 60.98 335 P P 03 16 20.1 -0.1
baz=150,SNR=51
Q35A Mercer Eighty, 60.99 337 P P 03 16 19.3 -0.9
baz=151,SNR=38
MDV Middlebury 60.99 357 *e*P P 03 16 18.6 -1.5
O39A Kirksville 61.00 340 P P 03 16 19.0 -1.3
baz=155
P37A Lathrop 61.02 338 P P 03 16 18.9 -1.4
baz=153,SNR=57
SHEL Horse Pasture 61.04 99 *e*P P 03 16 22.9 +1.8
SHEL pmax pmax
comp=Z,1μm,1.6s
SHEL Horse Pasture 61.04 99 *e*P P 03 16 22.9 +1.8
comp=Z,1μm,1.6s
RKT Rikitea 61.14 253 *e*S S 03 24 34.9 +4.8
comp=Z,4μm,30.5s
RKT Rikitea 61.14 253 *e*LR LR 03 34 55.2
comp=Z,2μm,26.8s
RKT Rikitea 61.14 253 *e*T T 04 20 56.2
comp=Z,5.1nm,0.3s
S32A Newby Ranch, P 61.16 334 P P 03 16 21.5 +0.1
baz=148,SNR=29
O38A Galt 61.19 339 P P 03 16 20.0 -1.5
baz=154,SNR=20
R33A Olander Ranch, 61.28 335 P P 03 16 21.9 -0.3
baz=149,SNR=13
P36A Good Intent, A 61.35 338 P P 03 16 21.2 -1.4
baz=152,SNR=27
Q34A Chapman 61.39 336 P P 03 16 22.1 -0.8
baz=150,SNR=10
KSU1 Kansas State U 61.42 336 P P 03 16 22.3 -0.8
baz=150,SNR=9.1
KSU1 Kansas State U 61.42 336 *e*P P 03 16 23.1 0.0
comp=Z,364nm,1.5s
121A Cookes Peak, D 61.45 324 P P 03 16 24.0 +0.4
baz=138,SNR=47
O37A Wolven Farm, M 61.46 339 P P 03 16 22.2 -1.2
baz=153,SNR=12
319A Douglas 61.47 322 *e*P P 03 16 24.5 +0.8
319A *ep*P pP 03 16 59.0 +1.6
WVL Waterville 61.48 0 *e*P P 03 16 21.3 -2.0
comp=Z,335nm,2.0s
N39A Derby Farms, D 61.55 340 P P 03 16 22.0 -1.9
baz=155,SNR=24
P35A Duane Minner, 61.57 337 P P 03 16 23.3 -0.8
baz=151,SNR=17
EMMW East Machias 61.65 2 *e*P P 03 16 23.6 -0.9
comp=Z,58nm,1.1s
R32A Long Quarter, 61.68 334 P P 03 16 24.6 -0.2
baz=148,SNR=30
LONY Lake Ozonia 61.69 356 *e*P P 03 16 23.7 -1.1
comp=Z,56nm,1.0s
N38A Joes South For 61.72 340 P P 03 16 23.3 -1.8
baz=154,SNR=11
O36A Bolckow 61.72 338 P P 03 16 23.5 -1.5
baz=152,SNR=16
Q33A Connelly Farm, 61.81 335 P P 03 16 25.8 +0.1
baz=149,SNR=19
FRNY Flat Rock 61.85 357 *e*P P 03 16 24.2 -1.6
comp=Z,61nm,1.1s
P34A Walnut Farm, R 61.89 336 P P 03 16 25.8 -0.4
baz=150,SNR=42
N37A Lee Faris, Mou 62.01 339 P P 03 16 25.6 -1.4
baz=153,SNR=36
BNM Barren Site 62.02 326 *e*P P 03 16 27.8 +0.3
BNM *ep*P pP 03 17 02.3 +1.1
Q32A Meitler Ranch, 62.10 335 P P 03 16 27.7 +0.1
baz=148,SNR=24
Y22D IRIS PASSCAL I 62.12 325 P P 03 16 28.5 +0.4
baz=139
P33A Williams Farm, 62.13 336 P P 03 16 27.8 -0.1
baz=149
LPM Los Pinos Moun 62.14 326 *e*P P 03 16 28.7 +0.5
PKME Peaks-Kenny Pk 62.18 0 *e*P P 03 16 26.6 -1.3
comp=Z,66nm,1.0s
O35A Humboldt 62.18 338 P P 03 16 26.4 -1.8
baz=151,SNR=5.7
M38A Pleasantville 62.27 340 P P 03 16 26.9 -1.7
baz=154,SNR=22
SADO Sadowa 62.28 352 *e*P P 03 16 26.7 -2.0
comp=Z,42nm,1.1s
N36A Muff Farm, Cla 62.32 339 P P 03 16 28.2 -0.9
baz=152,SNR=50
O34A Beatrice 62.39 337 P P 03 16 28.9 -0.7
baz=151,SNR=11
CBKS Cedar Bluff 62.44 334 P P 03 16 30.2 +0.3
baz=147,SNR=40
CBKS Cedar Bluff 62.44 334 *e*P P 03 16 30.2 +0.3
CBKS pmax pmax
comp=Z,380nm,1.3s
CBKS Cedar Bluff 62.44 334 *e*P P 03 16 30.2 +0.3
comp=Z,378nm,1.3s
LAZ Ladron 62.48 325 *e*P P 03 16 31.3 +0.8
LAZ *ep*P pP 03 17 05.4 +1.1
ANMO Albuquerque 62.53 326 P P 03 16 31.0 +0.2
baz=140
ANMO Albuquerque 62.53 326 *ce*P P 03 16 30.6 -0.2
ANMO pmax pmax
comp=Z,90nm,2.5s
ANMO Albuquerque 62.53 326 *e*P P 03 16 31.2 +0.3
ANMO *ep*P pP 03 17 05.8 +1.1
M37A Trindle Farm, 62.54 340 P P 03 16 29.1 -1.4
baz=154,SNR=18
N35A Tabor 62.60 338 P P 03 16 29.7 -1.3
baz=152,SNR=13
O33A Hebron 62.64 336 P P 03 16 31.1 -0.2
baz=150,SNR=30
P32A Huiting Farm, 62.65 335 P P 03 16 31.2 -0.2
baz=148,SNR=18
JFWS Jewell Farm 62.75 343 *e*P P 03 16 30.0 -1.8
JFWS pmax pmax
comp=Z,370nm,1.5s
JFWS Jewell Farm 62.75 343 *e*P P 03 16 30.0 -1.8
comp=Z,371nm,1.5s
M36A Felix, Anita 62.83 339 P P 03 16 31.5 -1.0
baz=153,SNR=38
L38A Oak Wood Farm, 62.84 341 P P 03 16 31.0 -1.5
baz=155,SNR=10
N34A Lincoln 62.89 337 P P 03 16 32.0 -0.9
baz=151,SNR=28
LMN Caledonia Moun 62.92 4 *e*P P 03 16 30.9 -2.0
comp=Z,98nm,1.3s
TUC Tucson 63.03 321 P P 03 16 34.2 +0.1
baz=135
TUC Tucson 63.03 321 *e*P P 03 16 34.5 +0.4
TUC pmax pmax
comp=Z,200nm,1.6s
TUC Tucson 63.03 321 *e*P P 03 16 34.5 +0.4
TUC *ep*P pP 03 17 09.1 +1.2
O32A Brockman Farm, 63.07 336 P P 03 16 32.5 -1.5
baz=149
L37A Phoenix Point, 63.08 340 P P 03 16 32.4 -1.7
baz=154,SNR=13
M35A Neola 63.16 338 P P 03 16 33.6 -1.0
baz=152,SNR=22
N33A J Bar K, Exete 63.16 337 P P 03 16 34.5 -0.1
baz=150
T25A Trinidad 63.19 329 P P 03 16 35.0 -0.2
baz=142,SNR=24
T25A Trinidad 63.19 329 *e*P P 03 16 36.1 +0.9
comp=Z,270nm,1.4s
K38A Parkersburg 63.24 341 P P 03 16 33.4 -1.7
baz=155,SNR=12
TRQ Mont Tremblant 63.29 356 *e*P P 03 16 33.7 -1.7
L36A Harm Buss Farm 63.36 339 P P 03 16 34.8 -1.1
baz=153,SNR=50
O31A Woolen Ranch, 63.40 335 P P 03 16 36.1 -0.2
baz=148,SNR=6.3
M34A Aspy Farms, Fr 63.51 338 P P 03 16 36.2 -0.7
baz=151,SNR=18
N32A Stulken Farm, 63.51 336 P P 03 16 36.8 -0.2
baz=149,SNR=7.3
K37A Belmond 63.62 341 P P 03 16 35.5 -2.1
baz=154,SNR=6.8
L35A Bielow Farm, R 63.67 339 P P 03 16 37.0 -1.0
baz=152,SNR=30
J38A Wedel Dairy, R 63.76 342 P P 03 16 36.7 -1.8
baz=156,SNR=11
K36A Gilmore City 63.77 340 P P 03 16 37.6 -1.0
baz=153,SNR=36
M33A Taylor Creek F 63.79 337 P P 03 16 37.9 -0.9
baz=150,SNR=12
N31A Bailey Ranch, 63.82 336 P P 03 16 39.2 +0.2
baz=148,SNR=9.1
L34A Svendsen Farm, 63.84 338 P P 03 16 38.5 -0.6
baz=151,SNR=49
KSCO Kaye Shedlock' 63.86 332 P P 03 16 39.4 -0.1
baz=144,SNR=15
KSCO Kaye Shedlock' 63.86 332 *e*P P 03 16 40.3 +0.8
KSCO *ep*P PcP 03 17 15.7 +1.7
BGNE Belgrade 64.01 336 P P 03 16 40.3 +0.1
baz=149,SNR=16
BGNE Belgrade 64.01 336 *e*P P 03 16 40.4 +0.1
comp=Z,1μm,1.3s
214A Organ Pipe Nat 64.02 320 P P 03 16 41.4 +0.9
baz=133,SNR=76
J37A Redenius Farm, 64.09 341 P P 03 16 39.6 -1.1
baz=154,SNR=11
K35A Storm Lake 64.11 339 P P 03 16 40.8 0.0
baz=153,SNR=8.3
SDCO Great Sand Dun 64.20 329 P P 03 16 42.3 +0.3
baz=142,SNR=91
SDCO Great Sand Dun 64.20 329 *e*P P 03 16 42.6 +0.6
comp=Z,324nm,1.4s
M31A Lambtecht Ranc 64.27 336 P P 03 16 42.2 +0.2
baz=149,SNR=16
L33A Hoskins 64.33 338 P P 03 16 41.5 -0.9
baz=150,SNR=10.0
J36A Seneca 1, Swea 64.35 340 P P 03 16 41.2 -1.2
baz=154,SNR=19
K34A Le Mars 64.37 339 P P 03 16 41.6 -1.0
baz=152,SNR=29
I38A Scanlan Farm, 64.38 342 P P 03 16 41.3 -1.2
baz=156,SNR=41
W18A Petrified Fore 64.44 324 P P 03 16 43.2 -0.2
baz=137
W18A Petrified Fore 64.44 324 *e*P P 03 16 44.5 +1.0
comp=Z,400nm,1.5s
LMQ La Malbaie 64.46 360 *e*P P 03 16 41.4 -1.6
L32A Elgin 64.47 337 P P 03 16 42.6 -0.6
baz=150,SNR=7.5
VNA1 Neumayer--Stat 64.56 161 P P 03 16 44.9 +1.5
K33A Hardington 64.62 338 P P 03 16 43.7 -0.5
baz=151,SNR=8.4
J35A Milford 64.67 340 P P 03 16 43.1 -1.3
baz=153,SNR=26
I37A Lemond, Waseca 64.68 341 P P 03 16 43.4 -1.1
baz=155,SNR=26
J34A George 64.85 339 P P 03 16 44.8 -0.8
baz=152,SNR=13
S22A 4UR Ranch, Cre 64.87 328 P P 03 16 46.2 0.0
baz=140,SNR=68
S22A 4UR Ranch, Cre 64.87 328 *e*P P 03 16 46.7 +0.5
comp=Z,126nm,1.5s
I36A Fitzsimmons Fa 64.87 341 P P 03 16 44.5 -1.2
baz=154,SNR=20
X16A Lo Mia Camp, P 64.91 323 *e*P P 03 16 47.6 +1.1
comp=Z,241nm,1.3s
L31A Butterfield Fa 64.93 336 P P 03 16 46.8 +0.6
baz=149,SNR=28
Q24A Divide 64.99 330 P P 03 16 47.0 0.0
baz=142,SNR=16
Q24A Divide 64.99 330 *e*P P 03 16 47.8 +0.7
comp=Z,269nm,1.4s
K32A Verdigre 65.02 337 P P 03 16 46.0 -0.7
baz=150,SNR=10.0
I35A Creekview Farm 65.03 340 P P 03 16 45.9 -1.0
baz=153,SNR=54
H37A Dierke Farm, C 65.04 342 P P 03 16 45.9 -0.9
baz=155,SNR=34
113A Mohawk Valley, 65.16 320 *e*P P 03 16 48.8 +1.0
113A *ep*P pP 03 17 24.2 +2.3
OGNE Ogallala 65.19 333 P P 03 16 48.1 +0.2
baz=146,SNR=32
OGNE Ogallala 65.19 333 *e*P P 03 16 48.4 +0.5
comp=Z,267nm,1.4s
J33A Davis 65.23 338 P P 03 16 47.6 -0.5
baz=151,SNR=22
K31A O'Neill 65.28 337 P P 03 16 48.6 +0.1
baz=149,SNR=10
MVCO Mesa Verde 65.32 327 P P 03 16 49.1 0.0
baz=139,SNR=38
MVCO Mesa Verde 65.32 327 *e*P P 03 16 49.3 +0.2
comp=Z,346nm,1.5s
H36A Jessenland, He 65.35 341 P P 03 16 48.2 -0.6
baz=154,SNR=139
COWI Conover 65.42 345 *e*P P 03 16 49.3 0.0
ECSD EROS Data Cent 65.47 339 P P 03 16 49.2 -0.5
baz=152,SNR=152
ECSD EROS Data Cent 65.47 339 *e*P P 03 16 49.1 -0.6
comp=Z,474nm,1.4s
I34A Hadley 65.49 340 P P 03 16 49.0 -0.7
baz=152,SNR=8.3
Y14A Wickenburg 65.50 321 *e*P P 03 16 50.6 +0.5
comp=Z,1μm,1.6s
J32A Parkston 65.59 338 P P 03 16 50.2 -0.2
baz=150,SNR=6.1
SPMN Marine on St. 65.60 342 P P 03 16 49.1 -1.3
baz=156,SNR=51
SPMN Marine on St. 65.60 342 *e*P P 03 16 49.6 -0.8
comp=Z,191nm,1.0s
K30A Basset 65.65 336 P P 03 16 51.4 +0.5
baz=148,SNR=38
WUAZ Wupatki 65.66 323 P P 03 16 51.8 +0.6
baz=136,SNR=49
WUAZ Wupatki 65.66 323 *e*P P 03 16 52.3 +1.1
comp=Z,369nm,1.4s
H35A Sunnyside Ranc 65.74 341 P P 03 16 50.5 -0.8
baz=153,SNR=70
I33A Coleman 65.81 339 P P 03 16 51.4 -0.5
baz=151,SNR=8.0
J31A Geddes 65.85 337 P P 03 16 51.6 -0.5
baz=149,SNR=14
ISCO Idaho Springs 65.87 330 P P 03 16 53.2 +0.5
baz=142,SNR=56
ISCO Idaho Springs 65.87 330 *e*P P 03 16 53.3 +0.6
ISCO pmax pmax
comp=Z,160nm,1.4s
ISCO Idaho Springs 65.87 330 *e*P P 03 16 53.3 +0.6
comp=Z,159nm,1.4s
G36A St. Michael 65.89 342 P P 03 16 50.8 -1.4
baz=155,SNR=14
GLA Glamis 66.01 319 P P 03 16 53.2 -0.2
baz=132,SNR=6.2
GLA Glamis 66.01 319 *e*P P 03 16 54.4 +1.0
GLA pmax pmax
comp=Z,280nm,1.6s
GLA Glamis 66.01 319 *e*P P 03 16 54.4 +1.0
comp=Z,284nm,1.6s
H34A Spellman Lake, 66.02 340 P P 03 16 52.3 -0.8
baz=152,SNR=48
I32A Karley and Nic 66.03 338 P P 03 16 53.0 -0.2
baz=151,SNR=17
SMCO Snowmass 66.04 329 *e*P P 03 16 54.8 +0.9
comp=Z,71nm,0.8s
PV01 Paradox Valley 66.05 327 *e*P P 03 16 54.7 +0.9
G35A Watkins 66.10 341 P P 03 16 52.7 -0.9
baz=154,SNR=8.1
J30A Dallas 66.16 337 P P 03 16 54.0 -0.1
baz=149,SNR=62
PV05 Paradox Valley 66.29 327 *e*P P 03 16 55.9 +0.6
Y12C Blythe 66.29 320 P P 03 16 55.9 +0.8
baz=132,SNR=33
Y12C Blythe 66.29 320 *e*P P 03 16 56.3 +1.2
comp=Z,278nm,1.5s
H33A Prehn Over Nor 66.35 339 P P 03 16 54.7 -0.6
baz=152,SNR=98
F36A Milaca 66.39 342 P P 03 16 54.4 -1.0
baz=155,SNR=144
I31A Royce, Wessing 66.41 338 P P 03 16 55.7 0.0
baz=150,SNR=14
H32A Carlson Farm, 66.43 339 P P 03 16 55.3 -0.5
baz=151,SNR=33
PDMCI Parker Dam,Lak 66.43 321 P P 03 16 56.4 +0.4
baz=133,SNR=17
PV10 Paradox Valley 66.48 327 *e*P P 03 16 57.2 +0.7
G34A Benson 66.48 340 P P 03 16 55.1 -0.9
baz=153,SNR=8.5
SWSC Sam W. Stewart 66.55 319 P P 03 16 57.1 +0.4
baz=131,SNR=7.9
IKP In-Ko-Pah, Jac 66.55 318 P P 03 16 58.0 +1.1
baz=131,SNR=13
SNAA Sanae 66.56 162 P P 03 16 57.2 +0.9
SNAA Sanae 66.56 162 *d*P P 03 16 56.9 +0.6
SNAA Sanae 66.56 162 *e*P P 03 16 56.8 +0.5
comp=Z,1μm,1.6s
SNAA *e*PP PP 03 19 18.2 -6.2
PV09 Paradox Valley 66.62 327 *e*P P 03 16 58.1 +0.7
I30A Oacoma 66.64 337 P P 03 16 56.9 -0.2

baz=149,SNR=8.9
F35A Swanville 66.70 341 P P 03 16 56.6 -0.8
baz=154,SNR=45
G33A Ortonville 66.70 340 P P 03 16 56.7 -0.8
baz=152,SNR=10
E37A Wrenshall 66.71 343 P P 03 16 56.7 -0.8
baz=156
H31A Wolsey 66.78 338 P P 03 16 57.7 -0.3
baz=150,SNR=6.4
BC3 Big Chuckawall 66.80 319 P P 03 16 59.2 +0.7
baz=132,SNR=32
W13A Hualapai Mount 66.83 322 eP P 03 16 59.7 +0.9
comp=Z,193nm,1.4s
U15A North Rim 66.83 324 eP P 03 16 59.8 +1.0
comp=Z,278nm,1.4s
F34A Alexandria 66.85 341 P P 03 16 57.7 -0.7
baz=153,SNR=49
N23A Red Feather La 66.89 331 P P 03 16 58.9 -0.2
baz=142,SNR=28
N23A Red Feather La 66.89 331 eP P 03 16 59.6 +0.5
comp=Z,180nm,1.3s
E36A McGregor 66.90 343 P P 03 16 57.9 -0.8
baz=155,SNR=83
MONP2 Monument Peak 66.91 318 P P 03 16 59.8 +0.5
baz=131,SNR=18
SUSD Miller 66.92 338 P P 03 16 58.7 -0.2
baz=149,SNR=6.5
BAR Barrett 66.93 318 eP P 03 17 00.5 +1.3
BAR epP pP 03 17 34.6 +1.2
IRM Iron Mountain 66.95 320 P P 03 17 00.0 +0.7
baz=132,SNR=39
PHWY Pilot Hill 66.99 331 eP P 03 17 00.5 +0.8
PHWY epP pP 03 17 35.8 +1.9
NEE2 Needles Airpor 67.04 321 P P 03 17 00.3 +0.5
baz=133,SNR=5.5
DRLN Deer Lake 67.05 9 eP P 03 16 58.3 -1.2
comp=Z,96nm,1.0s
I29A Vivian Onida 67.06 336 P P 03 16 59.6 -0.2
baz=148,SNR=8.6
H07N1 FLORES T-PHASE 67.07 31 eP P 03 16 59.3 -0.7
G32A Webster 67.11 339 P P 03 16 59.3 -0.8
baz=151,SNR=17
F33A 5 Mile Ranch, 67.22 340 P P 03 16 59.7 -1.0
baz=152,SNR=53
D37A Cotton 67.26 343 P P 03 17 00.0 -0.9
baz=156,SNR=32
C39A Grand Marais 67.27 345 P P 03 16 59.3 -1.7
baz=159,SNR=21
E35A Pequot Lakes 67.28 342 P P 03 17 00.3 -0.8
baz=154,SNR=16
G31A Conde 67.33 339 P P 03 17 01.1 -0.3
baz=150
109C Camp Elliot, M 67.34 318 P P 03 17 01.5 -0.2
baz=130,SNR=8.9
BELC Belle Mtn. Jos 67.37 319 P P 03 17 02.7 +0.6
baz=131,SNR=20
TPFO Pinon Flats 67.39 319 P P 03 17 03.1 +0.8
baz=131,SNR=27
EKU East Kanab 67.40 324 eP P 03 17 03.9 +1.6
PFO Pinyon Flats O 67.40 319 P P 03 17 03.1 +0.8
baz=131,SNR=24
PFO Pinyon Flats O 67.40 319 eP P 03 17 03.6 +1.3
PFO Pinyon Flats O 67.40 319 eP P 03 17 03.6 +1.3
comp=Z,302nm,1.6s
O20A White River Ci 67.41 329 P P 03 17 02.4 +0.1
baz=140,SNR=48
O20A White River Ci 67.41 329 eP P 03 17 03.1 +0.8
O20A epP pP 03 17 37.9 +1.3
C38A Sawbill Land. 67.47 344 P P 03 17 00.7 -1.5
baz=158,SNR=19
E34A Wadena 67.47 341 P P 03 17 01.5 -0.8
baz=153,SNR=34
D36A Goodland 67.48 343 P P 03 17 01.2 -1.2
baz=156,SNR=19
PCAN Candelaria 67.52 34 eP P 03 17 02.6 -0.2
comp=Z,138nm,1.3s
F32A Veblen 67.53 340 P P 03 17 02.5 -0.2
baz=151
PCED Cedros 67.53 34 eP P 03 17 02.4 -0.4
comp=Z,233nm,1.9s
BTU Barney Top 67.54 325 eP P 03 17 04.3 +1.0
H29A Onida 67.54 337 P P 03 17 02.6 -0.2
baz=148,SNR=6.9
KNB Kanab 67.54 324 eP P 03 17 04.6 +1.4
KNB Kanab 67.54 324 eP P 03 17 04.6 +1.4
comp=Z,748nm,1.4s
LDFC Landfair 67.54 321 eP P 03 17 05.0 +1.8
comp=Z,236nm,1.2s
MMU Miners Mountai 67.54 326 eP P 03 17 04.0 +0.7
PKCU Pink Cliffs 67.56 324 eP P 03 17 05.1 +1.6
comp=Z,154nm,1.5s
PICO Pico 67.58 34 eP P 03 17 02.6 -0.6
comp=Z,142nm,1.5s
G30A Faulkton 67.58 338 P P 03 17 02.8 -0.2
baz=149,SNR=11
D35A Remer 67.65 342 P P 03 17 02.1 -1.3
baz=155,SNR=14
GMRC Granite Mounta 67.68 320 P P 03 17 05.1 +1.1
baz=132,SNR=72
C37A Embarrass 67.72 344 P P 03 17 02.6 -1.2
baz=157,SNR=28
E33A Westby DABS, E 67.72 341 P P 03 17 02.8 -1.0
baz=153,SNR=13
EYMN Ely 67.73 344 P P 03 17 02.6 -1.3
baz=157,SNR=23
EYMN Ely 67.73 344 eP P 03 17 03.0 -0.9
comp=Z,137nm,1.0s
LCMT Little Creek M 67.78 323 eP P 03 17 05.9 +1.3
comp=Z,311nm,1.5s
SRU San Rafael Swe 67.80 327 eP P 03 17 05.4 +0.6
SRU San Rafael Swe 67.80 327 eP P 03 17 05.3 +0.6
ROSA Rosais 67.84 34 eP P 03 17 06.4 +1.6
comp=Z,266nm,1.2s
PMAN Manadas 67.86 34 eP P 03 17 04.3 -0.6
comp=Z,198nm,1.5s
MURC Murrieta 67.86 318 P P 03 17 05.5 +0.5
baz=130,SNR=13
F31A Hecla 67.90 339 P P 03 17 04.7 -0.3
baz=150,SNR=19
G29A Hoven 67.92 337 P P 03 17 05.2 +0.1
baz=149,SNR=8.7
MTPU Mount Pierson 67.92 325 eP P 03 17 06.7 +1.0
comp=Z,234nm,1.6s
C36A Pine Crest Far 67.92 343 P P 03 17 04.0 -1.0
baz=156,SNR=70
LIC Lamto 67.97 76 eP P 03 17 04.4 -1.7
comp=Z,2µm,1.6s
D34A Park Rapids 67.99 341 P P 03 17 04.5 -1.0
baz=154,SNR=18
Q16A Castle Valley 68.00 326 eP P 03 17 06.9 +0.9
comp=Z,233nm,1.6s
P18A Preston Nutter 68.04 327 eP P 03 17 07.3 +0.9
comp=Z,157nm,1.2s
BBRC Big Bear Solar 68.12 319 P P 03 17 08.0 +1.1
baz=131
HEC Hector,Ludlow 68.13 320 P P 03 17 08.0 +1.3
baz=131,SNR=22
TIC Toumodi 68.14 75 eP P 03 17 05.2 -2.0
E32A Braaten, Kindr 68.14 340 P P 03 17 06.2 -0.3
baz=152
F30A Leola 68.15 338 P P 03 17 07.1 +0.6
baz=150,SNR=7.2
P17A Butcher Ranch, 68.18 327 eP P 03 17 08.2 +1.1
comp=Z,303nm,1.4s
C35A Jirik Farms, M 68.19 343 P P 03 17 05.6 -1.1
baz=155,SNR=45
PGRA Graciosa 68.20 34 eP P 03 17 06.6 -0.4
comp=Z,288nm,1.2s
CCUT Cedar City 68.23 324 eP P 03 17 09.3 +1.8
comp=Z,300nm,1.3s
D33A AnnSam, Waubun 68.24 341 P P 03 17 06.3 -0.8
baz=153,SNR=12
MSU Marysvale 68.25 325 eP P 03 17 08.6 +1.0
MSU Marysvale 68.25 325 eP P 03 17 08.6 +1.0
TUQ Turquoise Moun 68.28 321 P P 03 17 08.0 +0.2
baz=132,SNR=35
KIC Kosan Boka 68.29 76 eP P 03 17 05.9 -2.2
comp=Z,924nm,0.8s
DBIC Dimbokro 68.30 75 P P 03 17 07.8 -0.4
comp=Z,730nm,0.9s,baz=231,slow=7.2,SNR=460
DBIC pP pP 03 17 44.2 +1.7
comp=Z,202nm,1.1s,baz=262,slow=3.1,SNR=2.2
DBIC LR LR 03 46 54.5
comp=Z,3µm,18.1s,baz=238,slow=36
DBIC Dimbokro 68.30 75 eP P 03 17 07.7 -0.4
comp=Z,995nm,0.9s
DBIC pP pP 03 17 44.2 +1.7

TMUT Trail Mountain 68.30 326 eP P 03 17 08.4 +0.4
comp=Z,128nm,1.6s
ADH Angra Heroismo 68.33 35 eP P 03 17 08.7 +0.9
comp=Z,172nm,0.9s
SCI2 San Clemente I 68.33 317 P P 03 17 08.0 0.0
baz=129,SNR=5.6
PSMA Santa Maria 68.34 37 eP P 03 17 06.8 -1.1
comp=Z,107nm,1.0s
E31A Nome 68.38 339 P P 03 17 08.0 0.0
baz=151,SNR=20
PSMN Pico do Norte, 68.39 37 eP P 03 17 06.6 -1.6
comp=Z,155nm,1.6s
C34A RKJ Ranch, Bem 68.41 342 P P 03 17 07.6 -0.5
baz=154,SNR=13
F29A Eureka 68.43 338 P P 03 17 08.8 +0.4
baz=149,SNR=22
K22A Casper 68.54 332 P P 03 17 09.1 -0.2
baz=142,SNR=23
K22A Casper 68.54 332 eP P 03 17 09.7 +0.5
comp=Z,187nm,1.4s
SHPR Sheep Range 68.54 322 eP P 03 17 10.9 +1.5
comp=Z,301nm,1.5s
PDA Ponta Delgada 68.56 36 eP P 03 17 08.5 -0.7
comp=Z,231nm,0.8s
RRX Edison Barstow 68.56 320 P P 03 17 10.3 +0.9
baz=131,SNR=8.4
BFSC Mount Baldy Ra 68.57 319 P P 03 17 09.8 +0.2
baz=130,SNR=35
PSET Sete Cidades 68.58 36 eP P 03 17 08.7 -0.7
comp=Z,380nm,1.8s
D32A Dogwood Acres, 68.60 340 P P 03 17 08.7 -0.6
baz=152,SNR=9.3
FMP Fort Macarthur 68.63 318 P P 03 17 10.0 +0.2
baz=130
RSSD Black Hills 68.64 334 P P 03 17 10.1 +0.2
baz=144
RSSD Black Hills 68.64 334 eP P 03 17 10.7 +0.8
RSSD Black Hills 68.64 334 eP P 03 17 10.7 +0.8
comp=Z,45nm,0.8s
RSSD epP pP 03 17 44.9 +0.6
GRON Grota Negra 68.65 36 eP P 03 17 10.5 +0.6
comp=Z,57nm,0.8s
CMLA Cha da Macela 68.65 36 eP P 03 17 09.0 -0.9
comp=Z,279nm,0.9s
E30A Jud 68.68 339 P P 03 17 10.1 +0.2
baz=150,SNR=6.8
PCALD Caldeiras da R 68.70 36 eP P 03 17 10.1 0.0
comp=Z,337nm,0.7s
B35A Bob, Littlefor 68.71 343 P P 03 17 09.0 -1.0
baz=155,SNR=59
GSC Goldstone, Bar 68.73 320 P P 03 17 11.0 +0.6
baz=131,SNR=32
GSC Goldstone, Bar 68.73 320 eP P 03 17 12.0 +1.5
GSC Goldstone, Bar 68.73 320 eP P 03 17 12.0 +1.5
GSC epP pP 03 17 47.4 +2.5
D31A Mcclaflin, Tow 68.76 340 P P 03 17 10.2 -0.1
baz=151
C33A Trail 68.77 341 P P 03 17 09.7 -0.6
baz=153,SNR=19
SHOC Shoshone, Teco 68.80 321 P P 03 17 11.1 +0.3
baz=132,SNR=27
MWC Mount Wilson 68.81 318 eP P 03 17 12.5 +1.4
MWC Mount Wilson 68.81 318 eP P 03 17 12.5 +1.4
MWC epP pP 03 17 47.3 +1.8
PASC Pasadena Art C 68.86 318 eP P 03 17 12.5 +1.3
PASC epP pP 03 17 47.9 +2.3
BART Pico Bartolome 68.86 37 eP P 03 17 10.4 -0.9
comp=Z,236nm,1.1s
H25A Fruitdale 68.86 335 P P 03 17 11.6 +0.5
baz=145,SNR=12
FLU Fool Peak 68.87 326 eP P 03 17 12.6 +1.2
E29A Napoleon 69.00 338 P P 03 17 12.0 +0.2
baz=149,SNR=7.8
DECC Green Verdugo 69.00 318 P P 03 17 12.6 +0.5
baz=130,SNR=7.7
MPU Maple Canyon 69.05 327 eP P 03 17 13.7 +1.2
comp=Z,176nm,1.4s
C32A Crookston 69.06 341 P P 03 17 11.6 -0.5
baz=152
B34A Aery, Baudette 69.09 343 P P 03 17 11.2 -1.1
baz=154,SNR=49
SNCC San Nicolas Is 69.14 317 P P 03 17 13.0 0.0
baz=128
D30A Buchanan 69.16 339 P P 03 17 12.7 0.0
baz=150,SNR=21
B33A Robert and Kas 69.17 342 P P 03 17 11.9 -0.9
baz=153,SNR=19
EDW2 Edwards Air Fo 69.19 319 P P 03 17 13.9 +0.6
baz=130,SNR=35
PSUT Pine Spring 69.19 324 eP P 03 17 15.1 +1.6
comp=Z,164nm,1.4s
HTU Hoyt Peak 69.31 327 eP P 03 17 15.3 +1.0
JLU Jordanelle 69.38 327 eP P 03 17 15.5 +0.9
JLU epP pP 03 17 51.4 +2.3
BLG Laguna Peak, P 69.38 318 P P 03 17 14.9 +0.5
baz=129,SNR=6.8
LRMC Laurel Mtn Rad 69.38 320 P P 03 17 14.8 +0.2
baz=131,SNR=14
D29A Pettibone, Tap 69.40 339 P P 03 17 14.4 +0.1
baz=149
C31A Landman Farms, 69.41 340 P P 03 17 13.7 -0.6
baz=151,SNR=16
OSI Osito Audit: C 69.48 318 P P 03 17 15.6 +0.5
baz=130,SNR=7.3
OSI Osito Audit: C 69.48 318 eP P 03 17 16.5 +1.4
comp=Z,302nm,1.6s
TPNV Topopah Spring 69.48 322 P P 03 17 16.3 +1.1
baz=132,SNR=213
TPNV Topopah Spring 69.48 322 eP P 03 17 16.6 +1.4
TPNV Topopah Spring 69.48 322 eP P 03 17 16.6 +1.4
TPNV epP pP 03 17 52.3 +2.7
F26A Lodgepole 69.51 336 P P 03 17 15.6 +0.5
baz=146,SNR=28
FURC Furnace Creek, 69.53 321 P P 03 17 16.4 +1.1
baz=132,SNR=118
B32A Ashes, Strandq 69.57 341 P P 03 17 14.8 -0.5
baz=152,SNR=32
C30A Mose, Pekin 69.58 340 P P 03 17 15.5 +0.1
baz=150,SNR=14
MPMC Manual Prospec 69.64 320 P P 03 17 17.1 +0.8
baz=131,SNR=49
SCZ2 Santa Cruz Isl 69.67 317 P P 03 17 18.0 +1.7
baz=129
A33A Warroad 69.71 342 P P 03 17 15.6 -0.5
baz=154,SNR=57
TCUT Toone Canyon 69.74 328 eP P 03 17 17.9 +1.1
comp=Z,363nm,1.5s
FSU Fish Springs 69.78 325 eP P 03 17 18.5 +1.6
DUG Dugway, Tooele 69.80 326 P P 03 17 18.0 +1.0
baz=136,SNR=62
DUG Dugway, Tooele 69.80 326 eP P 03 17 18.1 +1.0
DUG Dugway, Tooele 69.80 326 eP P 03 17 18.1 +1.1
comp=Z,272nm,1.4s
DAC Darwin (Calif) 69.85 320 eP P 03 17 18.6 +1.1
DAC Darwin (Calif) 69.85 320 eP P 03 17 18.6 +1.1
comp=Z,208nm,1.4s
D28A Regan 69.86 338 P P 03 17 17.6 +0.5
baz=148
ARVC Arvin 69.88 319 P P 03 17 18.4 +0.9
baz=130
F25A Bowman 69.88 336 P P 03 17 18.1 +0.8
baz=145,SNR=32
B31A Greenbush Farm 69.94 341 P P 03 17 17.3 -0.2
baz=151
E26A Carlson Angus 69.95 337 P P 03 17 18.1 +0.4
baz=146,SNR=22
ISA Isabella, Lake 70.00 319 P P 03 17 19.0 +0.7
baz=130,SNR=26
ISA Isabella, Lake 70.00 319 eP P 03 17 19.9 +1.7
ISA Isabella, Lake 70.00 319 eP P 03 17 19.9 +1.7
ISA epP pP 03 17 55.2 +2.4
A32A Rocking H Ranc 70.02 342 P P 03 17 17.0 -1.0
baz=153,SNR=20
MCU Monte Cristo P 70.04 328 eP P 03 17 18.8 +0.1
R11A Troy Canyon, C 70.04 323 P P 03 17 19.9 +1.2
baz=133,SNR=90
R11A Troy Canyon, C 70.04 323 eP P 03 17 19.9 +1.2
R11A epP pP 03 17 55.1 +2.0
BW06 Boulder Array 70.05 330 P P 03 17 18.1 -0.5
baz=139,SNR=35
BW06 Boulder Array 70.05 330 eP P 03 17 18.7 +0.1
comp=Z,109nm,1.3s
PD31 Pinedale Array 70.05 330 eP P 03 17 18.7 +0.1
PDAR Pinedale Array 70.05 330 P P 03 17 18.9 +0.2
comp=Z,18nm,0.8s,baz=142,slow=7.4,SNR=53
PDAR pP pP 03 17 54.0 +0.9
comp=Z,44nm,1.1s,baz=142,slow=5.6,SNR=4.8

PDAR PKP2ab 03 45 20.8
comp=Z,3.2nm,1.1s,baz=270,slow=1.5,SNR=9.7
PDAR LR LR 03 52 46.8
comp=Z,222nm,18.7s,baz=161,slow=40
MDND Maddock 70.08 339 P P 03 17 18.9 +0.5
baz=149,SNR=23
MDND Maddock 70.08 339 eP P 03 17 19.3 +0.8
MDND epP pP 03 17 54.4 +1.5
RSUT Red Spur Mount 70.12 328 eP P 03 17 19.5 +0.3
D27A Center 70.13 337 P P 03 17 19.2 +0.4
baz=147,SNR=5.7
HWUT Hardware Ranch 70.17 328 eP P 03 17 19.7 +0.3
comp=Z,155nm,1.4s
B30A Myrvik Farm, E 70.18 340 P P 03 17 18.8 -0.3
baz=151,SNR=10
GRAC Grapevine Rang 70.18 321 P P 03 17 20.6 +1.3
baz=131,SNR=16
C28A Hausauer Farms 70.24 339 P P 03 17 19.9 +0.5
baz=149,SNR=8.2
A31A Linda, St. Vin 70.25 341 P P 03 17 18.9 -0.5
baz=152
GZU Grizzly Peak 70.25 327 eP P 03 17 20.4 +0.4
CWC Cottonwood Cre 70.25 320 P P 03 17 20.8 +0.8
baz=130
BMUT Black Mountain 70.27 328 eP P 03 17 20.1 +0.1
E25A Miller Ranch, 70.33 336 P P 03 17 20.5 +0.4
baz=146,SNR=15
PKM Mcpherson Peak 70.35 318 P P 03 17 21.9 +1.3
baz=129,SNR=38
D26A Manning 70.40 337 P P 03 17 21.3 +0.8
baz=147,SNR=8.1
SPUT South Promonto 70.41 327 eP P 03 17 21.6 +0.8
SPUT epP pP 03 17 57.9 +2.6
BGU Big Grassy Mou 70.44 327 eP P 03 17 21.6 +0.7
BGU epP pP 03 17 56.6 +1.1
VES Vestal, Richgr 70.49 319 P P 03 17 22.2 +1.1
baz=130,SNR=32
B29A Wagenman Farm, 70.53 340 P P 03 17 21.4 +0.2
baz=150,SNR=12
A30A Hoffart Farm, 70.60 340 P P 03 17 21.2 -0.4
baz=151,SNR=17
C27A Sayler Ranch, 70.64 338 P P 03 17 22.7 +0.8
baz=148
PMOZ Porto Moniz, M 70.65 45 eP P 03 17 22.5 +0.2
comp=Z,262nm,1.7s
PMOZ eS S 03 26 28.9 +3.7
BEI Bear River Ran 70.66 328 eP P 03 17 23.2 +0.9
MTUT Morton Thiokol 70.70 327 eP P 03 17 22.8 +0.2
SMMC Simmler 70.73 318 P P 03 17 24.2 +1.5
baz=129,SNR=20
TIN Tinemaha, Big 70.74 321 P P 03 17 23.8 +0.9
baz=131,SNR=10.0
FUL Funchal 70.75 45 eP P 03 17 22.6 -0.2
comp=Z,273nm,1.5s
PMAR Madeira 70.78 45 eP P 03 17 22.6 -0.6
comp=Z,424nm,1.8s
AHID Auburn Hatcher 70.80 329 eP P 03 17 23.6 +0.5
comp=Z,166nm,1.4s
PTU Portage 70.80 328 eP P 03 17 23.6 +0.4
D25A Fairfield 70.84 336 P P 03 17 24.2 +1.0
baz=146,SNR=37
B28A Dugan Ranch, T 70.86 339 P P 03 17 23.5 +0.4
baz=149,SNR=12
RCTC Rector, Farmer 70.89 319 P P 03 17 23.5 0.0
baz=130,SNR=14
A29A Manning Farm, 70.89 340 P P 03 17 23.4 +0.1
baz=150,SNR=24
HVU Hansel Valley 70.92 327 eP P 03 17 24.6 +0.7
HVU Hansel Valley 70.92 327 eP P 03 17 24.6 +0.7
HVU epP pP 03 17 58.6 +0.2
C26A Wahner Farm, P 70.95 338 P P 03 17 24.5 +0.8
baz=147,SNR=6.3
ULM Lac du Bonnet 71.03 343 P P 03 17 23.1 -0.9
comp=Z,126nm,0.5s,baz=154,slow=5.8,SNR=115
ULM pP pP 03 17 59.9 +1.2
comp=Z,76nm,0.8s,baz=152,slow=5.9,SNR=3.8
ULM LR LR 03 51 31.5
comp=Z,416nm,20.1s,baz=142,slow=38
ULM Lac du Bonnet 71.03 343 eP P 03 17 23.3 -0.8
ULM Lac du Bonnet 71.03 343 eP P 03 17 23.2 -0.8
comp=Z,205nm,0.8s
ULM pP pP 03 17 59.9 +1.2
NPI North Pocatell 71.06 328 eP P 03 17 24.8 +0.2
NVL N'lazarevskaya 71.08 160 /iP P 03 17 27.4 +3.2
NVL eS S 03 26 33.7 +4.8
NVL e*SS ScS 03 27 16.3 +1.4
NVL eSS SS 03 31 04.5 -0.1
NVL eSSS SSS 03 34 26.5
NVL smax smax
comp=N,774nm,7.2s
REDW Red Top Meadow 71.12 330 eP P 03 17 25.4 +0.3
REDW epP pP 03 18 01.3 +1.6
B27A Peters Farms, 71.14 338 P P 03 17 25.3 +0.5
baz=148,SNR=5.8
SNOW Snow King Moun 71.15 330 eP P 03 17 26.4 +1.0
comp=N,79nm,1.2s
LOHW Long Hollow 71.19 330 eP P 03 17 26.1 +0.6
comp=N,133nm,1.4s
A28A Rude Farm, Bot 71.22 339 P P 03 17 25.6 +0.2
baz=149
TPAW Teton Pass 71.26 330 eP P 03 17 26.7 +0.7
comp=N,89nm,1.3s
C25A Freed Ranch, W 71.28 337 P P 03 17 26.8 +1.1
baz=146,SNR=10.0
MOOW Moose Ponds 71.36 330 eP P 03 17 27.0 +0.5
comp=N,111nm,1.4s
B26A Jensen Ranch, 71.46 338 P P 03 17 27.4 +0.6
baz=147,SNR=5.5
MLAC Mammoth, Mammo 71.48 321 P P 03 17 28.5 +1.0
baz=130,SNR=12
ELK Elko 71.50 325 eP P 03 17 28.2 +0.7
ELK Elko 71.50 325 eP P 03 17 28.1 +0.7
comp=N,78nm,1.3s
IMW Indian Meadow 71.56 330 eP P 03 17 28.1 +0.3
IMW epP pP 03 18 04.0 +1.5
FLWY Flagg Ranch 71.59 330 eP P 03 17 29.1 +1.3
FLWY epP pP 03 18 04.7 +2.2
A27A Ledoux Ranch, 71.59 339 P P 03 17 28.4 +0.9
baz=148
NV11 Mina Array Sit 71.60 322 eP P 03 17 29.3 +1.3
comp=N,269nm,1.7s
LAO LASA Array 71.62 334 P P 03 17 28.5 +0.7
baz=143
LAO LASA Array 71.62 334 eP P 03 17 28.0 +0.2
comp=N,202nm,1.3s
NV01 Mina Array Sit 71.69 322 eP P 03 17 29.5 +0.9
NVAR Mina Array Bea 71.69 322 P P 03 17 29.8 +1.2
comp=N,40nm,0.8s,baz=143,slow=5.6,SNR=120
NVAR pP pP 03 18 04.8 +1.5
comp=N,29nm,1.1s,baz=137,slow=4.6,SNR=3.6
NVAR PKP2bc 03 45 17.0
comp=N,0.7nm,0.9s,baz=225,slow=2.6,SNR=4.5
RLMT Red Lodge 71.71 332 P P 03 17 29.0 +0.4
baz=140,SNR=34
RLMT Red Lodge 71.71 332 eP P 03 17 29.4 +0.8
comp=N,234nm,1.4s
B25A Knox Farm, Ray 71.71 337 P P 03 17 29.2 +1.0
baz=146
H17A Grant Village 71.76 330 P P 03 17 30.1 +1.1
baz=139,SNR=21
H17A Grant Village 71.76 330 eP P 03 17 30.6 +1.7
H17A epP pP 03 18 07.0 +3.4
SCHQ Schefferville 71.79 2 P P 03 17 27.1 -1.4
comp=N,15nm,0.8s,baz=195,slow=4.4,SNR=23
SCHQ LR LR 03 48 45.7
comp=N,454nm,21.5s,baz=204,slow=36
SCHQ Schefferville 71.79 2 eP P 03 17 27.2 -1.4
comp=N,114nm,1.6s
LKWY Lake 71.81 331 eP P 03 17 31.5 +2.2
LKWY Lake 71.81 331 eP P 03 17 31.5 +2.2
LKWY epP pP 03 18 06.7 +2.8
A26A Wade Farm, Ken 71.83 338 P P 03 17 29.3 +0.4
baz=147,SNR=8.2
YFT Old Faithful 71.93 330 eP P 03 17 32.2 +2.3
YFT epP pP 03 18 07.4 +2.8
KOWA Kowa 72.05 68 eP P 03 17 30.4 -0.6
comp=N,85nm,0.8s
YMR Madison River 72.15 330 eP P 03 17 33.1 +1.9
YMR epP pP 03 18 09.0 +3.1
YHH Holmes Hill 72.19 331 eP P 03 17 33.0 +1.4
YMC Maple Creek 72.24 330 eP P 03 17 33.1 +1.3
A25A Svangstu Ranch 72.25 338 P P 03 17 32.3 +0.9
baz=146,SNR=35
YMV Mammoth Vault 72.25 331 eP P 03 17 33.9 +2.1
YMV ePcP P 03 17 36.1 +4.3
DGMT Dagmar 72.26 337 P P 03 17 32.5 +1.0

baz=145,SNR=14
DGMT Dagmar 72.26 337 *e*P **P** **03 17 32.5 +1.0**
DGMT *ep*P **pP** **03 18 08.7 +2.4**
YHB Horse Butte 72.32 330 *e*P **P** **03 17 33.8 +1.6**
YHB *e*PcP **P** **03 17 34.0 +1.7**
CRMT Chrome Mountai 72.36 331 *e*P **P** **03 17 33.2 +0.6**
BMN Battle Mountai 72.39 324 *e*P **P** **03 17 33.7 +1.0**
BMN Battle Mountai 72.39 324 *e*P **P** **03 17 33.2 +0.5**
BMN *ep*P **pP** **03 18 08.9 +1.6**
GCMT Greycliff 72.40 332 *e*P **P** **03 17 33.4 +0.8**
GCMT *ep*P **pP** **03 18 09.0 +1.7**
WAKR Walker 72.41 321 *e*P **P** **03 17 34.5 +1.6**
QLMT Earthquake Lak 72.49 330 *e*P **P** **03 17 34.9 +1.6**
QLMT *ep*P **pP** **03 18 11.6 +3.6**
SAO San Andreas Ge 72.55 319 *e*P **P** **03 17 35.1 +1.6**
SAO San Andreas Ge 72.55 319 *e*P **P** **03 17 35.1 +1.6**
comp=N,128nm,1.4s
CMB Columbia Colle 72.69 320 *e*P **P** **03 17 35.3 +0.9**
CMB Columbia Colle 72.69 320 *e*P **P** **03 17 35.3 +0.9**
CMB *ep*P **pP** **03 18 10.7 +1.6**
QSPA South Pole Qui 72.96 180 *e*P **P** **03 17 36.6 +0.9**
HLID Hailey 73.04 328 P **P** **03 17 37.3 +0.8**
baz=135,SNR=59
HLID Hailey 73.04 328 *e*P **P** **03 17 37.7 +1.2**
comp=N,128nm,1.4s
PAHR Pah Rah Range 73.15 322 *e*P **P** **03 17 38.5 +1.3**
comp=N,391nm,1.4s
MCMT McKenzie Canyo 73.17 329 *e*P **P** **03 17 38.6 +1.3**
BOZ Bozeman (W) 73.19 331 P **P** **03 17 37.2 -0.1**
baz=138,SNR=42
BOZ Bozeman (W) 73.19 331 *e*P **P** **03 17 37.8 +0.5**
BOZ Bozeman (W) 73.19 331 *e*P **P** **03 17 37.8 +0.5**
comp=N,130nm,1.4s
DLMT Dillon 73.44 330 *e*P **P** **03 17 39.7 +1.0**
DLMT *ep*P **pP** **03 18 15.7 +2.2**
AFDM Forest Hills D 73.62 321 *e*P **P** **03 17 40.8 +1.0**
AFDM *ep*P **pP** **03 18 16.2 +1.6**
MFID Camas Ranch 73.67 327 *e*P **P** **03 17 41.3 +1.2**
MFID *ep*P **pP** **03 18 17.4 +2.5**
LRM Limekiln Ridge 73.71 330 *e*P **P** **03 17 41.4 +0.9**
LRM *ep*P **pP** **03 18 16.1 +0.8**
HRY Holter Researc 74.08 331 *e*P **P** **03 17 43.8 +1.4**
EGMT Eagleton 74.15 333 P **P** **03 17 42.5 -0.2**
baz=140,SNR=25
MCCM Marconi Confer 74.30 319 *e*P **P** **03 17 44.4 +0.8**
comp=N,270nm,1.4s
ORV Oroville 74.32 321 *e*P **P** **03 17 45.1 +1.3**
ORV Oroville 74.32 321 *e*P **P** **03 17 45.1 +1.3**
ORV *ep*P **pP** **03 18 21.2 +2.5**
VAH Vaihoa 74.36 259 *e*P **P** **03 17 46.5 +1.9**
comp=N,212nm,1.0s
WVOR Wild Horse Val 74.52 325 *e*P **P** **03 17 45.7 +0.7**
WVOR Wild Horse Val 74.52 325 *e*P **P** **03 17 45.1 +0.1**
WVOR *ep*P **pP** **03 18 20.2 +0.3**
CHMT Chamberlain Mo 74.89 331 *e*P **P** **03 17 48.5 +1.3**
HOPS Hopland Field 74.93 320 *e*P **P** **03 17 48.1 +0.7**
comp=N,130nm,1.4s
O03D Paynes Creek 74.96 321 P **P** **03 17 47.4 -0.2**
baz=128,SNR=15
MOD Modoc Plateau 75.10 323 *e*P **P** **03 17 49.8 +1.3**
MOD *ep*P **pP** **03 18 25.4 +2.0**
MSO Missoula 75.15 330 P **P** **03 17 49.3 +0.7**
baz=136,SNR=16
MSO Missoula 75.15 330 *e*P **P** **03 17 49.5 +0.9**
comp=N,213nm,1.5s
BMO Blue Mountains 75.43 327 *e*P **P** **03 17 51.0 +0.8**
comp=N,123nm,1.4s
WDC Whiskeytown Da 75.58 321 *e*P **P** **03 17 50.7 -0.3**
WDC Whiskeytown Da 75.58 321 *e*P **P** **03 17 50.7 -0.3**
comp=N,43nm,0.8s
PAE Paea 75.60 256 *e*P **P** **03 17 53.7 +2.0**
comp=N,17nm,0.9s
PPT2 Papeete2 75.62 256 *e*S **S** **03 27 28.6 +6.7**
comp=N,3µm,29.8s
PPT2 Papeete2 75.62 256 *e*LQ LQ 03 38 09.3
comp=N,4µm,38.8s
PPT2 *e*LR LR 03 41 16.5
comp=N,1µm,31.0s
PPT Papeete 75.62 256 LR LR 03 44 00.1
comp=N,539nm,18.1s,baz=100,slow=30
SWMT Swartz Lake 75.67 331 *e*P **P** **03 17 52.9 +1.4**
M04C Macdoel 75.91 322 P **P** **03 17 53.4 +0.3**
baz=129,SNR=26
N02D Trinity Center 75.92 321 P **P** **03 17 52.8 -0.2**
baz=128,SNR=13
YBMT Yellow Bay 75.94 331 *e*P **P** **03 17 54.0 +1.0**
K05A Summer Lake 75.97 324 *e*P **P** **03 17 55.1 +1.7**
comp=N,272nm,1.3s
JTMT Jette 75.98 331 *e*P **P** **03 17 54.7 +1.4**
KMRM Mail Ridge 76.07 320 *e*P **P** **03 17 55.6 +1.7**
comp=N,220nm,1.3s
F10A Beach Ranch, E 76.16 328 *e*P **P** **03 17 55.8 +1.5**
comp=N,269nm,1.8s
BLMT Blacktail Moun 76.20 331 *e*P **P** **03 17 55.9 +1.3**
BLMT *ep*P **pP** **03 18 31.9 +2.2**
M02C Callahan 76.27 322 P **P** **03 17 55.3 +0.3**
baz=128,SNR=9.8
BSMT Bassoo Peak 76.29 331 *e*P **P** **03 17 56.1 +1.0**
YBH Yreka Blue Hor 76.39 322 *e*P **P** **03 17 55.7 0.0**
YBH Yreka Blue Hor 76.39 322 *e*P **P** **03 17 55.7 0.0**
YBH *ep*P **pP** **03 18 32.1 +1.4**
K04D Chiloquin, OR 76.39 323 P **P** **03 17 56.7 +1.0**
baz=129,SNR=9.3
KHMM Horse Mountain 76.47 321 *e*P **P** **03 17 57.8 +1.5**
comp=N,177nm,1.3s
J05D Fort Rock, OR 76.52 324 P **P** **03 17 57.2 +0.7**
baz=130,SNR=24
G08A Pilot Rock 76.59 327 *e*P **P** **03 17 57.9 +1.1**
G08A *ep*P **pP** **03 18 34.6 +2.7**
TORD Torodi Ar. Bea 76.66 72 LR LR 03 51 53.1
comp=N,5µm,18.2s,baz=250,slow=36
FFC Flin Flon 76.75 341 *e*P **P** **03 17 57.5 +0.2**
FFC Flin Flon 76.75 341 *e*P **P** **03 17 57.5 +0.2**
comp=N,50nm,1.1s
WALA Waterton Lakes 76.76 332 *e*P **P** **03 17 58.3 +0.6**
comp=N,91nm,1.3s
L02D Cave Junction, 77.18 322 P **P** **03 18 01.0 +1.0**
baz=128,SNR=11
I05D Terrebonne, OR 77.25 325 P **P** **03 18 01.9 +1.5**
baz=130,SNR=31
G06A Carlson Farm, 77.44 326 *e*P **P** **03 18 03.4 +1.9**
G06A *ep*P **pP** **03 18 37.4 +0.8**
I04A Tendick Farm, 77.50 324 P **P** **03 18 02.3 +0.5**
baz=129,SNR=15
HAWA Hanford 77.62 327 *e*P **P** **03 18 04.2 +1.8**
comp=N,198nm,1.4s
NEW Newport 77.69 330 P **P** **03 18 04.4 +1.7**
baz=134
NEW Newport 77.69 330 *e*P **P** **03 18 04.0 +1.2**
NEW Newport 77.69 330 *e*P **P** **03 18 04.0 +1.2**
NEW *ep*P **pP** **03 18 40.1 +2.2**
G05D Wamic, OR 77.82 325 P **P** **03 18 04.9 +1.4**
baz=130,SNR=7.2
C09A Chrisman Ranch 77.93 329 *e*P **P** **03 18 05.1 +1.1**
comp=N,169nm,1.4s
H04A Detroit Lake 77.94 325 *e*P **P** **03 18 05.1 +0.9**
H04A *ep*P **pP** **03 18 40.7 +1.4**
I03D Drain, OR 77.97 323 P **P** **03 18 05.4 +1.0**
baz=128,SNR=9.5
FCC Fort Churchill 78.31 347 *e*P **P** **03 18 06.2 +0.4**
FCC Fort Churchill 78.31 347 *e*P **P** **03 18 05.8 0.0**
comp=N,116nm,1.0s
FCC *ep*P **pP** **03 18 43.3 +2.3**
COR Corvallis 78.50 324 *e*P **P** **03 18 08.5 +1.3**
COR *e**PP **pP** **03 18 45.8 +3.4**
COR Corvallis 78.50 324 *e*P **P** **03 18 08.5 +1.3**
COR *ep*P **pP** **03 18 45.8 +3.4**
RTC Rabat Centre 78.52 49 *e*P **P** **03 18 07.9 +0.3**
comp=N,2µm,1.0s
PFVI Vila Bisbo 78.75 45⇑*iP* **P** **03 18 09.6 +0.8**
comp=N,608nm,1.6s
PFVI *es*P **pP** **03 18 45.5 +1.5**
PFVI *e*S **S** **03 27 55.8 +1.0**
PFVI Vila Bisbo 78.75 45 *e*P **P** **03 18 09.7 +0.9**
comp=N,363nm,1.1s
B08A Colville Reser 78.83 329 *e*P **P** **03 18 09.7 +0.7**
B08A *ep*P **pP** **03 18 47.3 +3.0**
F04A Amboy 78.85 326 *e*P **P** **03 18 09.9 +0.7**
comp=N,294nm,1.4s
G03D McMinnville, O 78.86 325 P **P** **03 18 10.3 +1.1**
baz=128
MORF Marmelete 78.96 45 *e*P **P** **03 18 09.3 -0.7**
MORF AMb AMB 03 18 13.3
comp=Z,629nm,1.4s
MORF *e*S **S** **03 27 58.9 +1.7**
MORF Marmelete 78.96 45⇑*iP* **P** **03 18 10.8 +0.8**
comp=Z,630nm,1.6s
MORF *e*S **S** **03 28 00.0 +2.9**
MORF Marmelete 78.96 45 *e*P **P** **03 18 09.2 -0.7**
MORF *e*S **S** **03 27 58.8 +1.7**
PTEO Sao Teotonio 79.03 45 *e*P **P** **03 18 11.5 +1.2**
comp=Z,1µm,1.5s
PTEO *es*P **pP** **03 18 48.0 +2.5**
LON Longmire 79.05 326 *e*P **P** **03 18 11.0 +0.7**
LON Longmire 79.05 326 *e*P **P** **03 18 11.0 +0.7**
LON *ep*P **pP** **03 18 47.1 +1.6**
LON *e*PP **PP** **03 21 11.7 +0.1**
F04D Rainier, OR 79.27 325 P **P** **03 18 12.3 +0.9**
baz=129
C06D Leavenworth 79.33 328 P **P** **03 18 12.4 +0.7**
baz=131
PMST Lisbon--Monsan 79.35 44 *e*P **P** **03 18 12.4 +0.4**
comp=Z,399nm,1.8s
LIS Lisbon 79.36 44 *e*P **P** **03 18 11.5 -0.6**
LIS AMb AMB 03 18 16.2
comp=Z,426nm,2.0s
LIS *e*S **S** **03 28 03.1 +1.9**
LIS Lisbon 79.36 44 *e*P **P** **03 18 11.5 -0.6**
LIS *e*S **S** **03 28 03.1 +1.9**
PMAFR Mafra 79.40 44⇑*iP* **P** **03 18 12.8 +0.5**
comp=Z,466nm,1.7s
PBDV Barranco-do-Ve 79.41 46⇑*iP* **P** **03 18 13.6 +1.2**
comp=Z,557nm,1.5s
D05A Enumclaw 79.42 327 *e*P **P** **03 18 12.9 +0.7**
comp=Z,103nm,0.9s
PNCL Nicolau / Gran 79.46 45⇑*iP* **P** **03 18 13.4 +0.8**
comp=Z,453nm,1.4s
PNCL *es*P **pP** **03 18 49.4 +1.5**
MESJ Messejana 79.53 45 *e*P **P** **03 18 12.4 -0.6**
MESJ AMb AMB 03 18 17.1
comp=Z,368nm,1.3s
MESJ *e*S **S** **03 28 04.7 +1.7**
MESJ Messejana 79.53 45⇑*iP* **P** **03 18 13.9 +0.9**
comp=Z,365nm,1.9s
MESJ *es*P **pP** **03 18 48.1 -0.2**
MESJ Messejana 79.53 45 *e*P **P** **03 18 12.4 -0.6**
MESJ *e*S **S** **03 28 04.7 +1.7**
PCVE Castro Verde 79.54 45⇑*iP* **P** **03 18 14.1 +1.0**
comp=Z,421nm,1.8s
PCVE *es*P **pP** **03 18 50.0 +1.6**
MDT Midelt 79.60 51 P **P** **03 18 14.4 +0.8**
comp=Z,139nm,0.9s,baz=246,slow=4.4,SNR=129
MDT *p*P **pP** **03 18 49.7 +0.7**
comp=Z,39nm,1.0s,baz=210,slow=3.3,SNR=2.4
PVAQ Vaqueiros 79.64 46⇑*iP* **P** **03 18 14.2 +0.6**
comp=Z,331nm,1.7s
PVAQ *es*P **pP** **03 18 51.4 +2.5**
PVAQ *e*S **S** **03 28 06.6 +2.4**
PVAQ Vaqueiros 79.64 46 *e*LR LR 03 42 54.8
comp=Z,850nm,16.0s
E03A Lebam 79.86 326 *e*P **P** **03 18 16.2 +1.7**
comp=Z,187nm,1.1s
PBEJ Beja 79.86 45⇑*iP* **P** **03 18 15.6 +0.8**
comp=Z,347nm,1.8s
PBEJ *es*P **pP** **03 18 51.8 +1.7**
SBA Scott Base 79.89 190 *e*P **P** **03 18 16.4 +2.0**
SBA Scott Base 79.89 190 *e*P **P** **03 18 16.4 +2.0**
comp=Z,505nm,1.3s
EVO Evora 80.03 45⇑*iP* **P** **03 18 16.2 +0.5**
comp=Z,409nm,1.5s
EVO *ep*P **pP** **03 18 51.8 +0.8**
JCW Jim Creek 80.03 328 *e*P **P** **03 18 16.0 +0.4**
PMTG Montargil 80.16 44⇑*iP* **P** **03 18 16.9 +0.5**
comp=Z,653nm,1.7s
PMTG *es*P **pP** **03 18 52.9 +1.2**
B05A Bryant 80.17 327 P **P** **03 18 16.5 +0.3**
baz=130,SNR=24
PTOM Tomar 80.33 43⇑*iP* **P** **03 18 17.6 +0.3**
comp=Z,642nm,1.7s
PTOM *es*P **pP** **03 18 53.4 +0.8**
BLN Blyn Mountain 80.46 327 *e*P **P** **03 18 19.4 +1.6**
PESTR Estremoz 80.48 44⇑*iP* **P** **03 18 18.8 +0.7**
comp=Z,516nm,1.5s
PESTR *es*P **pP** **03 18 54.4 +0.9**
PBAR Barrancos 80.50 45⇑*iP* **P** **03 18 18.8 +0.6**
comp=Z,685nm,1.6s
PBAR *es*P **pP** **03 18 54.7 +1.1**
PCAS Casmilo, Conde 80.50 43⇑*iP* **P** **03 18 18.8 +0.6**
comp=Z,300nm,1.4s
PCAS *es*P **pP** **03 18 53.6 +0.1**
NLWA Neilton Lookou 80.55 326 *e*P **P** **03 18 20.0 +1.7**
NLWA *ep*P **pP** **03 18 57.5 +3.8**
SYO Syowa Base 80.76 160⇑*iP* **P** **03 18 18.4 -0.7**
SYO Syowa Base 80.76 160 *ij*PcP **PcP** **03 18 24.2 -1.1**
A04D Lummi Island 80.77 328 P **P** **03 18 20.3 +1.0**
baz=129
PMRV Marv??o 80.90 44⇑*iP* **P** **03 18 20.0 -0.4**
comp=Z,93nm,1.2s
PMRV *e*S **S** **03 28 14.5 -2.9**
PMRV Marv??o 80.90 44 *e*LR LR 03 43 18.1
comp=Z,647nm,18.0s
VNDA Vanda 80.92 190 P **P** **03 18 21.6 +1.8**
comp=Z,115nm,1.0s,baz=131,slow=4.4,SNR=195
VNDA LR LR 03 50 41.9
comp=Z,377nm,18.2s,baz=135,slow=33
VNDA Vanda 80.92 190 *e*P **P** **03 18 21.7 +1.8**
comp=Z,419nm,1.4s
PTO Porto 81.01 42 *e*P **P** **03 18 21.3 +0.5**
comp=Z,412nm,1.3s
PCBR Castelo Branco 81.06 44 *e*P **P** **03 18 21.2 +0.1**
comp=Z,229nm,1.5s
PCBR *es*P **pP** **03 18 57.8 +1.3**
PGC Sidney 81.11 327 *e*P **P** **03 18 22.2 +1.0**
PGC *ep*P **pP** **03 18 59.5 +2.9**
PVIS Viseu 81.24 43 *e*P **P** **03 18 22.1 -0.1**
comp=Z,287nm,1.7s
PVIS *es*P **pP** **03 18 58.8 +1.2**
MTE Manteigas 81.30 43⇑*iP* **P** **03 18 22.5 0.0**
comp=Z,345nm,1.1s
MTE Manteigas 81.30 43 *e*S **S** **03 28 23.8 +2.2**
MTE Manteigas 81.30 43 *e*LR LR 03 43 34.6
comp=Z,2µm,18.0s
MTE Manteigas 81.30 43 *e*P **P** **03 18 22.1 -0.4**
comp=Z,168nm,0.9s
SUR Sutherland 81.39 121 *e*P **P** **03 18 25.9 +2.5**
comp=Z,68nm,1.0s
PVRL Vila Real 81.65 42 *e*P **P** **03 18 24.2 -0.1**
comp=Z,319nm,1.6s
PVRL *es*P **pP** **03 19 00.9 +1.2**
POLO Lamas de Olo 81.65 42⇑*iP* **P** **03 18 24.6 +0.2**
comp=Z,114nm,1.6s
POLO *es*P **pP** **03 18 59.2 -0.6**
PGAV Gavieira, Arco 81.66 41 *e*P **P** **03 18 24.4 0.0**
comp=Z,365nm,1.7s
PGAV Gavieira, Arco 81.66 41 *e*S **S** **03 28 27.3 +2.1**
PGAV Gavieira, Arco 81.66 41 *e*LR LR 03 44 29.8
comp=Z,2µm,18.0s
PCAB Cabril 81.68 42⇑*e*P **P** **03 18 24.3 -0.1**
comp=Z,371nm,1.4s
PCAB *es*P **pP** **03 19 01.3 +1.4**
TSUM Tsumeb 82.00 108 *e*P **P** **03 18 27.5 +0.7**
comp=Z,112nm,0.9s
TSUM *ep*P **pP** **03 19 02.7 +0.5**
MVO Moncorvo 82.03 43⇑*iP* **P** **03 18 26.6 +0.3**
comp=Z,301nm,1.2s
MVO *es*P **pP** **03 19 02.4 +0.6**
MVO *e*S **S** **03 28 31.0 +1.9**
MVO Moncorvo 82.03 43 *e*LR LR 03 45 04.8
comp=Z,2µm,18.0s
PBRG Braganca 82.55 42⇑*iP* **P** **03 18 29.4 +0.4**
comp=Z,537nm,1.7s
PBRG *es*P **pP** **03 19 05.1 +0.6**
PAB San Pablo 83.00 45 *e*P **P** **03 18 31.7 +0.3**
PAB *p*max pmax
comp=Z,1µm,1.9s
PAB San Pablo 83.00 45 *e*P **P** **03 18 31.7 +0.3**
comp=Z,1µm,1.9s
PAB *ep*P **pP** **03 19 08.4 +1.4**
OLHC Oulhaca 83.07 50 P **P** 03 18 38.0 +6.2
ESDC Sonseca Array 83.32 45 P **P** **03 18 33.5 +0.4**
comp=Z,91nm,0.9s,baz=251,slow=5.7,SNR=168
ESDC *p*P **pP** **03 19 09.8 +1.2**
comp=Z,8.5nm,1.0s,baz=240,slow=3.4,SNR=1.0
ESDC LR LR 03 52 40.1
comp=Z,558nm,21.7s,baz=255,slow=33
ESLA Sonseca Array 83.32 45 *e*P **P** **03 18 33.5 +0.5**
comp=Z,660nm,1.5s
ES19 SONSECA Array 83.38 45 *e*P **P** **03 18 33.5 +0.2**
ES19 *ep*P **pP** **03 19 09.8 +0.9**
ES19 *e*PP **PP** **03 21 44.1 -3.4**
TAM Tamanrasset 83.58 64 *e*P **P** **03 18 35.8 +1.0**
TAM *p*max pmax
comp=Z,215nm,1.2s
TAM Tamanrasset 83.58 64 *e*P **P** **03 18 35.8 +1.0**
comp=Z,215nm,1.2s
ODJA Bouhanifia 84.04 50 P **P** **03 18 36.0 -0.8**
OJGS Djebel Guires 84.77 51 P **P** **03 18 38.0 -2.5**
SFJD Kangerlussuaq 85.15 7 P **P** **03 18 40.3 -1.2**
comp=Z,22nm,0.8s,baz=238,slow=6.4,SNR=20
SFJD Kangerlussuaq 85.15 7 *e*P **P** **03 18 40.7 -0.8**
comp=Z,238nm,1.9s
VAL Valentia 86.00 32 *e*P **P** **03 18 43.3 -2.7**
VAL Valentia 86.00 32⇓*iS* **S** **03 29 06.5 -1.4**
BOSA Boshof 86.12 119 P **P** **03 18 48.4 +0.9**
comp=Z,48nm,1.1s,baz=247,slow=4.0,SNR=23
BOSA LR LR 03 54 08.2
comp=Z,890nm,19.5s,baz=250,slow=33
BOSA Boshof 86.12 119 *e*P **P** **03 18 48.5 +0.9**
comp=Z,93nm,1.3s
BOSA *e*PP **PP** **03 22 07.3 -2.3**
OSSF Osses 86.79 43⇑*e*P **P** **03 18 50.0 -0.2**
LARF Larrau 86.87 43 *e*P **P** **03 18 52.2 +1.6**
YKA Yellowknife Ar 86.92 341 P **P** **03 18 50.2 -0.1**
comp=Z,59nm,0.8s,baz=132,slow=4.8,SNR=364
YKA *p*P **pP** **03 19 27.1 +1.0**
comp=Z,42nm,0.8s,baz=134,slow=4.7,SNR=5.1
YKA PKKP **PKKPbc** **03 36 43.7 -2.5**
comp=Z,0.8nm,0.8s,baz=318,slow=2.5,SNR=6.4
YKA LR LR 04 02 43.0
comp=Z,54nm,18.8s,baz=180,slow=39
YKA Yellowknife Ar 86.92 341 P **P** **03 18 50.2 -0.1**
YKA *p*max pmax
comp=Z,58nm,0.8s
YKB5 Yellowknife Ar 86.92 341 *e*P **P** **03 18 50.3 0.0**
YKB5 *ep*P **pP** **03 19 25.4 -0.7**
YKW3 Yellowknife Ar 86.97 341 *e*P **P** **03 18 50.7 +0.2**
YKW3 *ep*P **pP** **03 19 25.0 -1.4**
ORDF Ordiarp 86.99 43⇑*e*P **P** **03 18 50.5 -0.6**
ABA Alger-Bouzarea 87.00 50 P **P** **03 18 49.0 -2.3**
ADJB Djebel Djouab 87.03 51 P **P** **03 18 52.3 +0.6**
ATE Arette 87.08 43 *e*P **P** **03 18 51.8 +0.2**
ILULI Ilulissat 87.21 7⇑*iP* **P** **03 18 50.7 -0.8**
ILULI *p*max pmax
comp=Z,75nm,1.0s
ILULI Ilulissat 87.21 7⇑*iP* **P** **03 18 50.7 -0.8**
comp=Z,75nm,1.0s
REYF Montagne du Re 87.28 43⇑*e*P **P** **03 18 53.1 +0.5**
AKET Djebel Ketaf 87.32 51 P **P** **03 18 51.3 -1.8**
VIEF Viey 87.47 44⇑*e*P **P** **03 18 53.8 +0.3**
RESF Ens 87.64 44⇑*e*P **P** **03 18 55.0 +0.6**
MELF Melles 87.95 44 *e*P **P** **03 18 56.3 +0.5**
SALF Salau 88.19 44⇑*e*P **P** **03 18 57.5 +0.6**
CKHR Kef el Ahmar 88.52 52 P **P** **03 18 59.6 +0.8**
VALF Valcebollere 88.59 45⇑*e*P **P** **03 18 59.1 +0.1**
MAW Mawson 88.63 164 P **P** **03 18 59.6 +1.1**
comp=Z,130nm,0.8s,baz=216,slow=5.7,SNR=190
MAW Mawson 88.63 164 *e*P **P** **03 18 59.6 +1.1**
comp=Z,142nm,1.5s
DSB Dublin 88.69 32 *e*P **P** **03 18 58.6 -0.3**
comp=Z,92nm,1.1s
DFRA Djebel Bou Aff 89.00 51 P **P** **03 19 01.7 +0.7**
JRS Jersey 89.03 37 *e*P **P** **03 19 00.6 0.0**
LRDF Laroque-de-Fa 89.16 44⇑*e*P **P** **03 19 01.0 -0.4**
SJAF Saint Jean de 89.20 45⇑*e*P **P** **03 19 01.5 -0.2**
CTEI Djebel Teioual 89.21 52 P **P** **03 19 02.4 +0.4**
LPW Lampeter 89.33 34 *e*P **P** **03 19 01.0 -0.9**
LPW AMB AMB 03 19 02.7
comp=Z,116nm,1.4s
CASM Ain Smara 89.35 52 P **P** **03 19 03.2 +0.7**
GMM Mts of Mourne 89.42 32 *e*P **P** **03 19 02.0 -0.3**
CKFL Kef-Lekhel 89.57 52 P **P** **03 19 03.8 +0.1**
BORG Borgarnes 89.61 19 P **P** **03 19 03.8 +0.9**
comp=Z,75nm,1.2s,baz=154,slow=0.8,SNR=8.6
BORG Borgarnes 89.61 19 *e*P **P** **03 19 04.7 +1.7**
comp=Z,533nm,1.8s
CAF Calviac 89.68 42 *e*P **P** **03 19 03.5 -0.3**
CAF *p*max pmax
comp=Z,211nm,1.3s
FLN La Foliniere 89.77 38 *e*P **P** **03 19 03.3 -0.8**
FLN *p*max pmax
comp=Z,274nm,1.3s
CAEH 'Ain El Ouahch 89.81 51 P **P** **03 19 05.3 +0.7**
MCH1 Michaelchurch 89.85 35 *e*P **P** **03 19 03.7 -0.6**
MCH1 AMB AMB 03 19 04.2
comp=Z,89nm,1.7s
LDF La Druitiere 89.91 38 *e*P **P** **03 19 03.9 -0.9**
LDF *p*max pmax
comp=Z,238nm,1.2s
WIM Isle of Man 90.02 32 *e*P **P** **03 19 04.3 -0.8**
WRAK Wrangell Islan 90.03 330 *e*P **P** **03 19 05.4 +0.3**
comp=Z,67nm,1.2s
DLBC Dease Lake 90.08 333 *e*P **P** **03 19 06.6 +1.2**
DLBC *ep*P **pP** **03 19 43.3 +1.9**
ABSA Djebel Ababsia 90.10 52 P **P** **03 19 06.6 +0.5**
FOEL Foel Wylfa 90.17 34 *e*P **P** **03 19 04.5 -1.4**
FOEL AMB AMB 03 19 05.7
comp=Z,115nm,2.0s
CMAH Djebel Manchou 90.18 52 P **P** **03 19 07.0 +0.6**
FRNF Fournols 90.19 42 *e*P **P** **03 19 06.0 -0.2**
VERF Verneugheol 90.29 42⇑*e*P **P** **03 19 06.4 -0.3**
GAL1 Galloway 90.36 32 *e*P **P** **03 19 06.0 -0.7**
GAL1 AMB AMB 03 19 07.5
comp=Z,37nm,1.5s
LBL Lubilhac 90.57 42⇑*e*P **P** **03 19 09.3 +1.3**
PYM Petit Puy Mans 90.62 42 *e*P **P** **03 19 09.3 +1.0**
AGO Saint Agoulin 90.83 42⇑*e*P **P** **03 19 09.6 +0.5**
RRH Rhenigidale 90.98 28 *e*P **P** **03 19 09.8 +0.3**
KESW Keswick, Cumbr 91.03 32 *e*P **P** **03 19 09.1 -0.7**
KESW AMB AMB 03 19 11.0
comp=Z,204nm,1.5s
BWH Wardlaw 91.04 32 *e*P **P** **03 19 08.7 -1.2**
PLDF La Plantade 91.11 42⇑*e*P **P** **03 19 11.4 +0.9**
CWF Charnwood Fore 91.11 34 *e*P **P** **03 19 09.8 -0.4**
CWF AMB AMB 03 19 10.1
comp=Z,69nm,1.9s
CWF Charnwood Fore 91.11 34 *e*P **P** **03 19 10.2 -0.1**
comp=Z,81nm,1.3s
BHH Howats Hill 91.22 32 *e*P **P** **03 19 11.0 +0.3**
AVF Avril sur Loir 91.27 41 *e*P **P** **03 19 10.2 -0.9**
AVF *p*max pmax
comp=Z,93nm,1.4s
ECK Cauldkaine Hil 91.31 32 *e*P **P** **03 19 09.7 -1.4**
KEST Kesra 91.32 53 P **P** **03 19 11.9 +0.2**
comp=Z,53nm,1.0s,baz=216,slow=0.4,SNR=33
KEST LR LR 04 01 33.4
comp=Z,723nm,19.2s,baz=201,slow=36
KEST Kesra 91.32 53 *e*P **P** **03 19 12.0 +0.2**
comp=Z,77nm,1.0s
ESK Eskdalemuir 91.33 32 *e*P **P** **03 19 11.4 +0.2**
ESK AMB AMB 03 19 12.0
comp=Z,140nm,1.9s
ESK Eskdalemuir 91.33 32 *e*P **P** **03 19 11.2 0.0**
ESK *p*max pmax
comp=Z,258nm,1.7s
ESK Eskdalemuir 91.33 32 *e*P **P** **03 19 11.2 0.0**
comp=Z,258nm,1.7s
VIVF Saint-Julien-l 91.34 43 *e*P **P** **03 19 11.8 +0.2**
VIVF *p*max pmax
comp=Z,251nm,1.3s
EKA Eskdalemuir Ar 91.37 32 P **P** **03 19 10.3 -1.1**
comp=Z,55nm,1.2s,baz=228,slow=3.1,SNR=26
EKA *p*P **pP** **03 19 47.5 +0.1**
comp=Z,14nm,1.0s,baz=238,slow=4.8,SNR=4.1
EKA Eskdalemuir Ar 91.37 32 P **P** **03 19 10.3 -1.1**
EKA *PP **pP** **03 19 47.5 +0.1**
EKA *p*max pmax
comp=Z,39nm,1.1s
SSB Saint Sauveur 91.42 43⇑*e*P **P** **03 19 12.2 +0.2**
SSB Saint Sauveur 91.42 43 *e*P **P** **03 19 12.2 +0.2**
SSB Saint Sauveur 91.42 43 *e*P **P** **03 19 12.2 +0.2**
comp=Z,155nm,1.1s
OG26 St.-Nazaire-De 91.65 44⇑*e*P **P** **03 19 13.3 +0.2**
MDO Dochfour 91.81 29 *e*P **P** **03 19 11.7 -1.7**
ESY Stoneypath 91.92 31 *e*P **P** **03 19 14.2 +0.3**
KULLO Kullorsuaq 91.93 3⇑*iP* **P** **03 19 13.4 -0.2**
KULLO *i* 03 19 52.4
KULLO *p*max pmax
comp=Z,150nm,1.0s
KULLO Kullorsuaq 91.93 3⇑*iP* **P** **03 19 13.4 -0.2**
comp=Z,152nm,1.0s
KULLO *i* 03 19 52.4
SUMG Summit 91.96 9 *e*P **P** **03 19 14.6 +0.4**
SUMG *p*max pmax

comp=Z,131nm,1.0s
SUMG Summit 91.96 9⇑ *i*P **P 03 19 14.9 +0.6**
comp=Z,136nm,1.0s
SUMG *i* pP **pP 03 19 50.9 +0.6**
SUMG Summit 91.96 9 *e*P **P 03 19 14.6 +0.4**
comp=Z,131nm,1.0s
ORIF Oris-en-Rattie 92.16 44 *e*P **P 03 19 15.9 +0.5**
ORIF pmax pmax
comp=Z,213nm,1.1s
GRN Grenoble 92.19 43⇑ *e*P **P 03 19 15.9 +0.3**
CALN Calern 92.40 45 *e*P **P 03 19 17.2 +0.6**
GDM Grand'Maison 92.42 43⇑ *e*P **P 03 19 16.7 0.0**
MVIF Mont Vial 92.63 45⇑ *e*P **P 03 19 17.6 -0.1**
VSL Villasalto 92.64 50 *e*P **P 03 19 17.9 +0.3**
comp=Z,78nm,1.1s
VSL *e*PP **PP 03 22 55.8 -5.7**
REVF Revere 92.72 45⇑ *e*P **P 03 19 18.9 +0.9**
LUCF Luceram 92.76 45⇑ *e*P **P 03 19 18.9 +0.7**
LSZ Lusaka 92.83 107 PP PP 03 22 59.0 -4.4
comp=Z,14nm,1.3s,baz=256,slow=9.3,SNR=5.6
LSZ Lusaka 92.83 107 *e*P **P 03 19 21.9 +2.6**
LSZ Lusaka 92.83 107 *e*P **P 03 19 21.3 +2.0**
LSZ *e*PP **PP 03 23 00.0 -3.4**
RSL Roselend 92.94 43⇑ *e*P **P 03 19 18.9 -0.2**
LPL La Plagne 92.94 43 *e*P **P 03 19 19.6 +0.4**
LPL pmax pmax
comp=Z,112nm,1.1s
LPG La Plagne 92.95 43 *e*P **P 03 19 19.8 +0.5**
LPG pmax pmax
comp=Z,169nm,1.2s
SKAG Skagway 92.95 332 *e*P **P 03 19 17.5 -1.1**
SKAG *e*pP **pP 03 19 58.1 +3.5**
RES Resolute Bay 93.08 353 P **P 03 19 19.6 +0.7**
comp=Z,6.6nm,0.7s,baz=166,slow=5.1,SNR=6.9
BAIF Baives 93.09 38 *e*P **P 03 19 18.7 -0.8**
BAIF pmax pmax
comp=Z,78nm,1.4s
OG01 Vacheresse 93.21 42⇑ *e*P **P 03 19 19.8 -0.4**
SCO Scoresbysund 93.49 14⇑ *i*P **P 03 19 21.3 +0.5**
SCO pmax pmax
comp=Z,51nm,1.2s
SCO Scoresbysund 93.49 14⇑ *i*P **P 03 19 21.3 +0.5**
comp=Z,51nm,1.2s
SENIN Lac Senin/Sane 93.62 43 *e*P **P 03 19 22.6 +0.3**
comp=Z,216nm,1.8s
LOMF Lomont 93.67 41 *e*P **P 03 19 22.1 -0.2**
MOF Molkenrain 94.05 41⇑ *e*P **P 03 19 23.2 -0.9**
WLF Walferdange 94.11 39 P **P 03 19 24.3 +0.2**
comp=Z,134nm,1.8s
WLF Walferdange 94.11 39 *e*P **P 03 19 23.5 -0.6**
WLF pmax pmax
comp=Z,267nm,1.5s
WLF Walferdange 94.11 39 *e*P **P 03 19 23.5 -0.6**
comp=Z,267nm,1.5s
ECH Echery 94.20 41⇑ *e*P **P 03 19 23.9 -0.7**
BEBN Eben Emael 94.25 38 P **P 03 19 24.6 -0.1**
comp=Z,32nm,2.0s
CDF Champ du Feu 94.34 41 *e*P **P 03 19 24.6 -0.8**
CDF pmax pmax
comp=Z,159nm,1.6s
MEM Membach 94.37 38 P **P 03 19 24.8 -0.6**
HGN Heimansgroeve 94.38 38 *i*P **P 03 19 24.7 -0.6**
comp=Z,211nm,1.6s
HGN *e*pP **pP 03 20 01.4 -0.1**
KIP Kipapa 94.63 291⇑ *e*P **P 03 19 27.2 0.0**
KIP pmax pmax
comp=Z,263nm,1.1s
CLTB Caltabellotta 94.86 52 *e*P **P 03 19 28.7 +0.7**
comp=Z,189nm,1.7s
LANF Langenberg 94.87 40⇑ *e*P **P 03 19 27.3 -0.4**
LANF Langenberg 94.87 40 P **P 03 19 27.6 -0.1**
BFO Black Forest 94.97 41 *e*P **P 03 19 27.8 -0.4**
BFO *e* 03 23 16.2
BFO pmax pmax
comp=Z,65nm,1.5s
BFO Black Forest 94.97 41 *e*P **P 03 19 27.8 -0.4**
comp=Z,65nm,1.5s
BFO *e*PP **PP 03 23 16.2 -3.3**
WTSB Winterswijk 95.33 37 *i*P **P 03 19 29.0 -0.7**
comp=Z,274nm,1.6s
WTSB *e*pP **pP 03 20 06.3 +0.6**
DAVOX Davos/Dischmat 95.43 43 P **P 03 19 31.1 +0.6**
comp=Z,26nm,0.9s,baz=241,slow=3.9,SNR=37
DAVOX PP **PP 03 23 18.6 -4.8**
comp=Z,5.5nm,0.9s,baz=248,slow=5.6,SNR=6.0
DAVA Damuels 95.60 42 *i* PcP **P 03 19 31.6 +0.4**
comp=Z,93nm,1.4s,SNR=20
FUORN Ofenpass-Fuorn 95.63 43 *e*P **P 03 19 31.4 -0.2**
comp=Z,97nm,1.5s
FUORN *e*PP PP 03 23 15.8 -9.2
VAE Valguarnera 95.74 53 P **P 03 19 33.1 +1.1**
comp=Z,9.6nm,0.3s,baz=26,slow=18,SNR=6.9
FETA Feichten 96.06 43 *i* PcP **PcP 03 19 33.4 -0.1**
comp=Z,80nm,1.6s,SNR=27
RETA Reutte 96.23 42 *i* P **P 03 19 33.6 -0.4**
comp=Z,54nm,1.2s,SNR=24
MOTA Moosalm 96.41 42 *i* PcP **P 03 19 35.0 +0.1**
comp=Z,78nm,1.3s,SNR=23
AQU L'Aquila 96.44 48 *e*P **P 03 19 35.7 +0.6**
AQU pmax pmax
comp=Z,142nm,1.2s
AQU L'Aquila 96.44 48 *e*P **P 03 19 35.6 +0.6**
comp=Z,142nm,1.2s
URZ Urewera 96.61 227 LR LR 03 55 56.7
comp=Z,662nm,18.2s,baz=181,slow=31
INK Inuvik 96.68 340 P **P 03 19 35.7 +0.3**
comp=Z,11nm,0.9s,baz=82,slow=5.6,SNR=9.7
INK pP **pP 03 20 12.0 +0.4**
comp=Z,21nm,1.1s,baz=106,slow=2.3,SNR=5.1
WATA Walderalm 96.71 43 *i* PcP **P 03 19 36.9 +0.6**
comp=Z,64nm,1.2s,SNR=7.8
WTTA Wattenberg 96.73 43 *i* PcP **P 03 19 36.7 +0.3**
comp=Z,68nm,1.2s,SNR=20
CASY Casey 96.76 180 *e*P **P 03 19 37.7 +1.7**
comp=Z,158nm,1.6s
DAWY Dawson 96.80 335 *e*P **P 03 19 36.0 -0.1**
DAWY *e*pP **pP 03 20 13.9 +1.6**
ABTA Abfaltersbach 97.14 43 *i* PcP Pdif 03 19 38.5 +0.2
comp=Z,79nm,1.3s,SNR=24
KMY Karmoy 97.15 30 *e*SKSac **SKSac 03 30 03.5 +2.3**
GRF Grafenberg Arr 97.21 40 P Pdif 03 19 39.2 +0.8
GRF pmax pmax
comp=Z,58nm,1.5s
STAV Stavanger 97.26 30 *e*PP PP 03 23 34.7 -2.1
STAV *e*SKSac **SKSac 03 30 04.4 +2.6**
CUC Castrocucco 97.51 51 *e*P **P 03 19 39.6 -0.3**
comp=Z,90nm,1.5s
SUE Sulen 97.60 28 *e*SKSac **SKSac 03 30 07.0 +3.5**
TRI Trieste 97.67 45 *e*P **P 03 19 39.3 -1.1**
TRI pmax pmax
comp=Z,89nm,1.5s
TRI Trieste 97.67 45 *e*P **P 03 19 39.2 -1.1**
comp=Z,89nm,1.5s
MOX Moxa 97.75 39 P Pdif 03 19 41.4 +0.7
MOX pmax pmax
comp=Z,25nm,2.0s
KBA Koelnbreinsper 97.78 43 *i* PcP **P 03 19 41.2 0.0**
comp=Z,19nm,1.0s,SNR=7.5
KBA Koelnbreinsper 97.78 43 P Pdif 03 19 41.9 +0.7
KBA pmax pmax
comp=Z,23nm,1.4s
EGAK Eagle 97.79 336 *e*P Pdif 03 19 40.8 +0.2
comp=Z,30nm,1.5s
BLS5 Blasjo 97.80 30 *e*PP PP 03 23 39.0 -2.0
BLS5 *e*SKSac **SKSac 03 30 07.7 +3.0**
RPZ Rata Peaks 97.83 220 LR LR 03 54 50.2
comp=Z,636nm,21.6s,baz=116,slow=30
MYKA Terra Mystica 97.85 44 *i* PcP Pdif 03 19 41.5 +0.2
comp=Z,31nm,1.0s,SNR=16
JAVS Javornik 97.92 45 *i* P **P 03 19 41.2 -0.5**
JAVS *e*S **SKSac 03 30 07.5 +1.4**
JAVS *e* 03 30 54.7
FOO Floro 97.93 28 *e*SKSac **SKSac 03 30 08.9 +3.8**
TIP Timpagrande 97.99 52 *e*P **P 03 19 42.0 -0.2**
comp=Z,44nm,1.1s
TIP *e*PP **PP 03 23 36.8 -6.3**
GORS Gorjuse 98.00 44 *i* P **P 03 19 41.6 -0.4**
WET Wettzell 98.08 41 P Pdif 03 19 42.6 +0.3
WET pmax pmax
comp=Z,46nm,1.5s
NKC Novy Kostel 98.13 40 *e*P Pdif 03 19 42.7 +0.2
NKC *ex* x 03 20 26.6
NKC *e*PP **PP 03 23 38.7 -5.1**
NKC *e*SKS **SKSac 03 30 12.5 +5.7**
NKC *e*S **ScS 03 30 57.9 +0.5**
NKC *e*SP **SP 03 32 18.0 -4.1**
NKC AMS AMS 04 01 10.0
comp=Z,1μm,16.9s
NKC Novy Kostel 98.13 40 *e*P Pdif 03 19 42.7 +0.2
NKC *e* 03 20 26.6
NKC *e* 03 23 38.7
NKC *e* 03 30 57.9
NKC *e*SP SP 03 32 18.0 -4.1
NKC MLR MLR
comp=Z,1μm,16.9s
MUD Monsted U'grnd 98.17 33⇑ *i*P Pdif 03 19 42.7 +0.3
MUD pmax pmax
comp=Z,160nm,1.3s
MUD Monsted U'grnd 98.17 33⇑ *i*P Pdif 03 19 42.7 +0.3
comp=Z,165nm,1.3s
LJU Ljubljana 98.28 44 *e*P Pdif 03 19 43.5 +0.3
HOMB Homborsund 98.41 32 *e*PP PP 03 23 42.8 -2.8
HOMB *e*SKSac **SKSac 03 30 11.6 +3.9**
OBKA Obir 98.42 44 *i* Pdiff Pdif 03 19 44.4 +0.5
comp=Z,72nm,1.7s,SNR=13
VISS Visnje 98.42 45 *i* P **P 03 19 41.4 -2.4**
VISS *i* S **SKSac 03 30 10.1 +1.7**
DAG Danmarks Havn 98.50 10⇑ *i*P **P 03 19 42.8 -0.6**
DAG pmax pmax
comp=Z,19nm,1.1s
DAG Danmarks Havn 98.50 10⇑ *i*P **P 03 19 42.8 -0.6**
comp=Z,15nm,1.1s
GEA0 GERESS Array S 98.52 42 *e*P **P 03 19 43.6 -0.7**
GEC2 GERESS Array S 98.52 42 *e*P Pdif 03 19 44.3 0.0
GEC2 pmax pmax
comp=Z,27nm,1.0s
GEC2 GERESS Array S 98.52 42 *e*P Pdif 03 19 44.3 0.0
comp=Z,27nm,1.0s
GERES GERESS Array B 98.52 42 P **P 03 19 44.1 -0.2**
comp=Z,10nm,0.8s,baz=245,slow=2.8,SNR=67
GERES pP **pP 03 20 20.6 +0.1**
comp=Z,2.8nm,0.9s,baz=217,slow=3.3,SNR=1.9
GERES PKKPbc **PKKPbc 03 36 15.3 0.0**
comp=Z,0.5nm,0.8s,baz=72,slow=4.6,SNR=4.3
KHC Kasperske Hory 98.52 41 *e*PDIFF **P 03 19 43.5 -0.7**
KHC *ex* x 03 20 15.0
KHC *e*PP **PP 03 23 42.5 -4.3**
KHC Kasperske Hory 98.52 41 *e*P **P 03 19 43.5 -0.7**
KHC *e* 03 23 42.5
DOT Dot Lake 98.53 334 *e*P **P 03 19 42.8 -1.1**
comp=Z,23nm,1.1s
KLU Klutina 98.56 332 *e*P **P 03 19 43.9 -0.3**
KLU *e*pP **pP 03 20 20.3 0.0**
MOA Molln 98.60 43 *i* Pdiff Pdif 03 19 44.6 0.0
comp=Z,52nm,1.9s,SNR=15
BOJS Bojanci 98.61 45 *i* P **P 03 19 44.5 -0.2**
BOJS *i* PP PP 03 23 34.3 -13
BOJS *e*S **SKSac 03 30 11.6 +2.3**
CLL Collm 98.78 39⇑ *i*Pdif **P 03 19 45.0 -0.3**
comp=Z,78nm,1.6s
CLL *e*SP **pP 03 20 21.0 -0.4**
CLL *e*PP **PP 03 23 43.0 -5.6**
CLL *e*sPP 03 24 22.0
CLL *e*SKSac **SKSac 03 30 14.0 +4.1**
CLL *e*SKKSac **SKKSac 03 30 46.0 +5.0**
CLL *e*Sdif **Sdif 03 31 03.0 +0.3**
CLL *e*SP **SP 03 32 29.0 0.0**
CLL *e*PPS PPS 03 33 36.0
CLL *e* 03 36 48.0
CLL *e*SS **SS 03 37 48.0 -4.7**
CLL *e*sSS 03 38 39.0
CLL *e*(SSS) 03 42 30.0
CLL *e*(SSSS) 03 46 36.0
CLL LmV 04 06 00.0
comp=Z,600nm,18.9s
CLL Collm 98.78 39 *e*P **P 03 19 45.0 -0.3**
CLL *e* 03 23 43.2
CLL pmax pmax
comp=Z,34nm,1.1s
CLL Collm 98.78 39 *e*P **P 03 19 45.0 -0.3**
comp=Z,34nm,1.1s
CLL *e*PP **PP 03 23 43.2 -5.4**
SOKA Soboth 98.78 44 *i* Pdiff Pdif 03 19 45.6 +0.1
comp=Z,19nm,1.4s,SNR=8.8
AKN Aaknes 99.00 28 *e*SKSac **SKSac 03 30 11.8 +1.2**
BRG Berggiesshubel 99.23 40 *i* P **Pdif 03 19 47.5 +0.2**
comp=Z,81nm,1.5s
BRG *e* 03 19 55.9
comp=Z,17nm,1.4s
BRG *e* 03 20 24.9
comp=Z,24nm,1.5s
BRG *e*PP **PP 03 23 45.9 -6.2**
comp=Z,23nm,1.7s
BRG SKS **SKSac 03 30 18.0 +5.8**
BRG S **S 03 31 07.0 +0.5**
BRG PS PS 03 32 36.0 -16
BRG SS SS 03 38 12.0 +13
comp=N,348nm,19.3s
comp=E,532nm,19.6s
comp=Z,735nm,19.6s
BRG Berggiesshubel 99.23 40 *i* P **Pdif 03 19 47.5 +0.2**
BRG *e* 03 20 24.9
BRG S **S 03 31 07.0 +0.5**
BRG PS PS 03 32 36.0 -16
BRG pmax pmax
comp=Z,81nm,1.5s
BRG MLR MLR
comp=N,348nm,19.3s
BRG MLR MLR
comp=E,532nm,19.6s
BRG MLR MLR
comp=Z,735nm,19.6s
ARSA Arzberg 99.26 43 *i* Pdiff **Pdif 03 19 47.6 0.0**
comp=Z,26nm,1.4s,SNR=15
PRU Pruhonice 99.36 41 *e*PDIFF **Pdif 03 19 48.0 +0.1**
PRU *ex* x 03 19 56.2
PRU *e*pP **pP 03 20 24.4 +0.3**
PRU *e*PP **PP 03 23 49.4 -3.7**
PRU *e*SKS **SKSac 03 30 17.5 +4.7**
PRU *e*SDIF **ScS 03 31 05.5 -2.1**
PRU *e*SP **SP 03 32 30.2 -5.1**
PRU AMS AMS 04 01 50.0
comp=Z,800nm,20.8s
PRU Pruhonice 99.36 41 *e*P **Pdif 03 19 48.0 +0.1**
PRU *e* 03 20 24.4
PRU *e* 03 23 49.4
PRU *e* 03 30 17.5
PRU *e* 03 31 05.5
PRU *e*SP SP 03 32 30.2 -5.1
PRU MLR MLR
comp=Z,800nm,20.8s
KONO Kongsberg 99.39 30 *e*PP PP 03 23 50.0 -3.0
KONO *e*SKSac **SKSac 03 30 10.0 -2.5**
KONO *e*SS **SS 03 38 07.1 +6.3**
GOPC GO Pecny, Ondr 99.49 41 *e*PDIFF **Pdif 03 19 48.8 +0.3**
GOPC *e*PP **PP 03 23 47.9 -6.2**
GOPC *e*SKS **SKSac 03 30 18.2 +4.6**
GOPC *e*SDIF **ScS 03 31 05.4 -3.4**
GOPC *e*SP **SP 03 32 30.6 -6.2**
GOPC AMS AMS 04 01 20.0
comp=Z,700nm,18.1s
GOPC GO Pecny, Ondr 99.49 41 *e*P **Pdif 03 19 48.8 +0.3**
GOPC *e* 03 30 18.2
GOPC *e* 03 31 05.4
GOPC *e*SP SP 03 32 30.6 -6.2
GOPC MLR MLR
comp=Z,700nm,18.1s
PVCC Panska Ves 99.52 40 *e*PP PP 03 23 47.9 -6.4
PVCC *e*SP SP 03 32 34.6 -2.4
PVCC AMS AMS 04 02 00.0
comp=Z,900nm,19.9s
CONA Conrad Observa 99.66 43 *i* Pdiff **Pdif 03 19 49.7 +0.3**
comp=Z,27nm,1.3s,SNR=19
COP Copenhagen 99.68 35 *i* P **Pdif 03 19 50.2 +1.1**
COP Copenhagen 99.68 35 *i* P **Pdif 03 19 50.2 +1.1**
TREC Trest 99.77 41 *e*PDIFF **Pdif 03 19 49.9 +0.1**
TREC *e*pP **pP 03 20 26.6 +0.6**
TREC *ex* x 03 23 46.3
TREC *e*PP **PP 03 23 52.6 -3.7**
TREC *e*SKS **SKSac 03 30 19.2 +4.2**
TREC *e*SDIF **ScS 03 31 10.8 -0.3**
TREC *e*SP **SP 03 32 35.7 -4.1**
TREC AMS AMS 04 02 30.0
comp=Z,600nm,19.9s
TREC Trest 99.77 41 *e*P **Pdif 03 19 49.9 +0.1**
TREC *e* 03 20 26.6
TREC *e* 03 23 52.6
TREC *e* 03 30 19.2
TREC *e* 03 31 10.8
TREC *e*SP SP 03 32 35.7 -4.1
TREC MLR MLR
comp=Z,600nm,19.9s
RGN Rugen 99.86 36 *e*Pdif **Pdif 03 19 50.5 +0.6**
comp=Z,70nm,1.1s
FYU Fort Yukon 100.03 337 *e*Pdif **Pdif 03 19 53.8 +3.4**
SOP Sopron 100.05 43 P **Pdif 03 19 52.9 +1.9**
SOP pmax pmax
comp=Z,23nm,1.6s
IL1 Eielson Array 100.08 335 *e*Pdif **Pdif 03 19 49.8 -1.0**
ILAR Eielson Array 100.08 335 P **Pdif 03 19 50.1 -0.6**
comp=Z,1.7nm,1.0s,baz=144,slow=3.0,SNR=15
ILAR pP pP 03 20 26.9 0.0
comp=Z,1.7nm,0.9s,baz=106,slow=3.6,SNR=3.3
ILAR PP **PP 03 23 51.4 -6.8**
comp=Z,1.8nm,0.9s,baz=107,slow=7.4,SNR=6.9
ILAR PKKPbc **PKKPbc 03 36 07.9 -3.5**
comp=Z,0.5nm,0.7s,baz=287,slow=3.5,SNR=4.5
ILAR LR 04 12 00.5
comp=Z,284nm,18.3s,baz=122,slow=39
NBO02 NORSAR Array S 100.40 29 *e*Pdif **Pdif 03 19 52.7 +0.4**
UPC Upice 100.40 40 *e*PDIFF **Pdif 03 19 52.8 +0.3**
UPC *e*PP **PP 03 23 56.9 -4.1**
UPC *e*SKS **SKSac 03 30 22.5 +4.5**
UPC *e*SDIF **Sdif 03 31 14.3 -2.1**
UPC AMS AMS 04 02 30.0
comp=Z,900nm,22.3s
UPC Upice 100.40 40 *e*P **Pdif 03 19 52.8 +0.3**
UPC *e* 03 23 56.9
UPC *e* 03 30 22.5
UPC *e* 03 31 14.3
UPC MLR MLR
comp=Z,900nm,22.3s
RND Reindeer 100.47 333 *e*P **Pdif 03 19 52.4 -0.2**
RND Reindeer 100.47 333 *e*Pdif **Pdif 03 19 52.4 -0.2**
VRAC Vranov 100.47 42 P **Pdif 03 19 52.9 0.0**
comp=Z,9.7nm,1.0s,baz=270,slow=3.4,SNR=18
COLA College 100.50 335⇑ *e*P **Pdif 03 19 52.8 +0.2**
COLA pmax pmax
comp=Z,10.0nm,1.0s
DPC Dobruska-Polom 100.56 41 *e*PDIFF **Pdif 03 19 53.6 +0.3**
DPC *ex* x 03 20 03.0
DPC *e*pP pP 03 20 30.5 +1.0
DPC *ex* x 03 23 37.3
DPC *ex* x 03 23 54.3
DPC *e*PP **PP 03 23 59.2 -3.0**
DPC *e*SKS **SKSac 03 30 23.5 +4.7**
DPC *e*SP **SP 03 32 40.7 -7.5**
DPC AMS AMS 04 03 50.0
comp=Z,700nm,19.4s
DPC Dobruska-Polom 100.56 41 *e*P **Pdif 03 19 53.6 +0.3**
DPC *e* 03 23 59.2
DPC *e* 03 30 23.5
DPC *e*SP SP 03 32 40.7 -7.5
DPC MLR MLR
comp=Z,700nm,19.4s
NB2 NORSAR Subarra 100.56 29 P **Pdif 03 19 53.3 +0.2**
comp=Z,54nm,1.7s,baz=254,slow=4.3
NB2 NORSAR Subarra 100.56 29 P **Pdif 03 19 53.3 +0.2**
baz=254,slow=4.3
NOA NORSAR Array B 100.56 29 P **Pdif 03 19 53.6 +0.5**
comp=Z,7.0nm,1.1s,baz=253,slow=4.4,SNR=6.5
NOA PKKPbc **PKKPbc 03 36 07.8 -2.1**
comp=Z,0.8nm,0.7s,baz=259,slow=2.8,SNR=3.8
NC602 NORSAR Array S 100.63 30 *e*SKSac **SKSac 03 30 22.1 +3.5**
NC602 NORSAR Array S 100.63 30 *e*Pdif **Pdif 03 19 53.8 +0.5**
KSP Ksiaz 100.66 40 *e*PKP **Pdif 03 19 54.2 +0.5**
KSP *e*SKSac **SKSac 03 30 22.9 +3.7**
KSP *e*PS **SP 03 32 43.5 -5.7**
KSP Ksiaz 100.66 40 *e*P **Pdif 03 19 54.2 +0.5**
KSP *e* 03 30 22.9
KSP *e*PS **SP 03 32 43.5 -5.7**
SMOL Smolenice 100.82 43 *e*P **Pdif 03 19 56.2 +1.8**
SMOL Smolenice 100.82 43 *e*P **Pdif 03 19 56.2 +1.8**
BSD Bornholm Skovb 100.90 36 *i* P **Pdif 03 19 55.3 +0.7**
BSD pmax pmax
comp=Z,47nm,1.3s
BSD Bornholm Skovb 100.90 36 *i* P **Pdif 03 19 55.3 +0.7**
comp=Z,47nm,1.3s
TRF Thorofare Moun 101.10 333 *e*Pdif **Pdif 03 19 56.2 +0.6**
MORC Moravsky Berou 101.19 41 *e*P **Pdif 03 19 57.1 +1.0**
MORC Moravsky Berou 101.19 41 *e*Pdif **Pdif 03 19 57.1 +1.0**
OHR Ohrid 101.47 50 *i* P **Pdif 03 19 59.5 +2.0**
HFS Hagfors 101.51 30 P **Pdif 03 19 57.2 +0.1**
comp=Z,2.8nm,0.7s,baz=222,slow=2.0,SNR=7.3
HFS PP **PP 03 24 05.8 -3.2**
comp=Z,7.2nm,1.1s,baz=316,slow=4.1,SNR=7.3
BPAW Bear Paw Mtn. 101.58 334 *e*Pdif **Pdif 03 19 56.0 -1.5**
OKC Ostrava-Krasne 101.58 41 *e*PDIFF **Pdif 03 19 58.5 +0.7**
OKC *e*SKS **SKSac 03 30 27.3 +3.6**
OKC *e*SKKS **SKKSac 03 31 04.6 +3.3**
OKC *e*SDIF **Sdif 03 31 19.4 -6.8**
OKC *e*SP **SP 03 32 57.3 -1.7**
OKC AMS AMS 04 09 10.0
comp=Z,400nm,17.6s
OKC Ostrava-Krasne 101.58 41 *e*P **Pdif 03 19 58.5 +0.7**
OKC *e* 03 30 27.3
OKC *e* 03 31 19.4
OKC *e*SP SP 03 32 57.3 -1.7
OKC MLR MLR
comp=Z,400nm,17.6s
VYHS Vyhne 101.72 43 *e*P **Pdif 03 19 58.6 +0.1**
VYHS pmax pmax
comp=Z,22nm,1.5s
VYHS Vyhne 101.72 43 *e*P **Pdif 03 19 58.6 +0.1**
FNA Florina 101.82 51 P **Pdif 03 20 00.5 +1.3**
AGG Agios Georgios 102.16 53 *e*P **Pdif 03 20 01.5 +0.8**
AGG Agios Georgios 102.16 53 *e*Pdif **Pdif 03 20 01.5 +0.8**
LANS Liptovska Anna 102.27 42 *e*P **Pdif 03 20 03.3 +2.4**
LANS Liptovska Anna 102.27 42 *e*P **Pdif 03 20 03.3 +2.4**
OJC Ojcow 102.70 41 *e*PKP **Pdif 03 20 03.4 +0.6**
OJC *e*SKSac **SKSac 03 30 31.2 +2.3**
OJC Ojcow 102.70 41 *e*P **Pdif 03 20 03.0 +0.2**
OJC Ojcow 102.70 41 *e*Pdif **Pdif 03 20 03.0 +0.2**
KECS Kecovo 102.80 43 *e*P **Pdif 03 20 04.0 +0.8**
KECS pmax pmax
comp=Z,6.0nm,1.3s
KECS Kecovo 102.80 43 *e*P **Pdif 03 20 04.0 +0.8**
NIE Niedzica 102.86 42 *e*PKP **Pdif 03 20 00.2 -3.3**
NIE *e*SKSac **SKSac 03 30 33.0 +3.1**
NIE Niedzica 102.86 42 *e*P **Pdif 03 20 00.2 -3.3**
NIE *e* 03 30 33.0
SOH Sokhos 103.30 51 P **Pdif 03 20 07.6 +1.9**
IDI Anoyia 103.39 57 Pdiff **Pdif 03 20 07.3 +1.0**
comp=Z,26nm,1.1s,baz=280,slow=6.0,SNR=13
IDI PP **PP 03 24 16.6 -7.3**
comp=Z,7.4nm,1.1s,baz=261,slow=11,SNR=3.2
IDI Anoyia 103.39 57 *e*Pdif **Pdif 03 20 07.9 +1.6**
IDI PP **PP 03 24 16.6 -7.3**
STHS Stebnicka Huta 103.47 42 *e*P **Pdif 03 20 08.5 +2.3**
STHS pmax pmax
comp=Z,3.0nm,1.1s
STHS Stebnicka Huta 103.47 42 *e*P **Pdif 03 20 08.5 +2.3**
CRVS Cervenica-Dubn 103.51 43⇑ *e*P **Pdif 03 20 06.8 +0.4**
CRVS *e* 03 30 33.5
CRVS *e* 03 31 43.0
CRVS Cervenica-Dubn 103.51 43 *e*P **Pdif 03 20 06.8 +0.4**
MMB Musomiste 103.72 50 *e*P **PP 03 24 24.1 -2.1**
UZH Uzhgorod 104.00 43 *e*P **Pdif 03 20 08.8 +0.2**
MPEP Malo Peshtene 104.06 49 *e*P **PP 03 24 24.5 -4.1**
PGB Panagyurishte 104.22 50 *e*P **PP 03 24 28.1 -1.8**
KWP Kalwaria Pacla 104.44 42 *e*PKP **Pdif 03 20 11.8 +1.3**
KWP *e*SKSac **SKSac 03 30 40.3 +3.2**
KWP Kalwaria Pacla 104.44 42 *e*P **Pdif 03 20 11.8 +1.3**
KWP *e* 03 30 40.3
PLD Plovdiv 104.53 50 *e*P **PP 03 24 29.4 -2.7**
KDZ Kurdzhali 104.98 51 *e*P **PP 03 24 32.1 -3.4**
KBS Kingsbay 105.17 11 *e*PP PP 03 24 36.3 +0.5
KBS *e*SKSac **SKSac 03 30 44.4 +5.2**
LVV L'vov 105.32 42 *e*P **Pdif 03 20 14.5 +0.1**
HSPB Hornsund (broa 105.57 14 *e*SKSac **SKSac 03 30 44.1 +3.2**
SZH Strazhica 105.62 49 *e*P **PP 03 24 37.2 -2.9**
BUR08 Bucovina Ar. S 105.77 44 *e*Pdif **Pdif 03 20 17.3 +0.7**
KMBO Kiiima Mbogo 105.83 96 PP PP 03 24 43.5 +1.0
comp=Z,0.8nm,0.4s,baz=244,slow=5.8,SNR=4.9
SPA0 Spitsbergen Ar 105.92 12 *e*SKSac **SKSac 03 30 46.5 +4.0**
MLR Muntele Rosu 105.96 47 Pdiff **Pdif 03 20 17.9 +0.4**
comp=Z,0.6nm,0.7s,baz=190,slow=4.6,SNR=5.1
MLR PKKPbc **PKKPbc 03 35 52.9 -0.5**
comp=Z,0.5nm,0.6s,baz=250,slow=5.3,SNR=4.9
HAMF Hammerfest 107.22 20 *e*PP PP 03 24 49.3 -1.7
HAMF *e*SKSac **SKSac 03 30 51.8 +3.3**

PSN **Preselentsi** 107.30 49 *e*P **PP** 03 24 48.0 -4.4
FINES **FINESS Array B** 107.70 30 PP PP 03 24 46.6 -8.1
comp=Z,4.5nm,1.1s,baz=288,slow=1.8,SNR=4.4
FINES PKKPbc **PKKPbc** 03 35 44.8 -3.5
comp=Z,1.5nm,0.6s,baz=90,slow=3.8,SNR=4.3
FIA1 **FINESS Array S** 107.70 30 *e*Pdif **Pdif** 03 20 24.7 0.0
ARCES **ARCESS Array B** 107.80 22 PKKPbc PKKPbc 03 35 46.1 -2.2
comp=Z,1.9nm,0.5s,baz=90,slow=3.4,SNR=20
ARE0 **ARCESS Array S** 107.80 22 *e*PP PP 03 24 51.9 -3.4
ARE0 eSKSac **SKSac** 03 30 54.7 +3.6
KIS **Kishinev** 108.13 45 *e*PKP **PKiKP** 03 24 29.0 -3.9
KIS **Kishinev** 108.13 45 *e*PP PP 03 24 52.0 -6.4
KIS *e*SKP 03 27 50.0
KIS *e*SKS **SKSac** 03 30 52.0 -1.4
KIS *e*SKKS **SKKSac** 03 31 45.0 -2.6
KIS **Kishinev** 108.13 45 *e*PS **SP** 03 34 06.0 -1.2
MICGM **Minsk** 108.20 37 *e* **PKiKP** 03 24 34.0 +1.2
MICGM *e*LR LR 04 04 23.0
AKASG **Malin Array Be** 108.73 42 Pdiff **Pdif** 03 20 30.9 +1.4
comp=Z,0.1nm,0.3s,baz=236,slow=7.7,SNR=5.1
AKASG PKiKP **PKiKP** 03 24 33.9 -0.1
comp=Z,0.5nm,0.4s,baz=262,slow=2.6,SNR=4.2
AKASG PKKP **PKKPab** 03 35 56.0 +0.8
comp=Z,0.4nm,0.4s,baz=75,slow=4.0,SNR=8.1
BR231 **Keskin MP Arra** 110.27 53 *e*Pdif **Pdif** 03 20 39.7 +2.9
BRTR **Keskin Array B** 110.92 53 Pdiff **Pdif** 03 20 41.5 +1.7
comp=Z,0.4nm,0.7s,baz=327,slow=7.2,SNR=3.4
BRTR PKiKP **PKiKP** 03 24 39.1 +0.4
comp=Z,2.0nm,0.8s,baz=157,slow=2.3,SNR=8.7
BRTR PKKP **PKKPab** 03 35 47.2 +1.1
comp=Z,1.3nm,0.7s,baz=87,slow=3.9,SNR=6.7
DZM **Mont Dzumac** 112.59 237 *e*PP PP 03 25 33.3 +2.6
comp=Z,370nm,30.4s
DZM **Mont Dzumac** 112.59 237 *e*PS PS 03 35 05.5 -1.8
comp=Z,828nm,27.9s
DZM *e*SS SS 03 41 10.2 +9.0
comp=Z,337nm,26.6s
DZM **Mont Dzumac** 112.59 237 *e*LR LR 03 58 31.9
comp=Z,996nm,23.0s
OBN **Obninsk** 113.23 37 PKiKP **PKiKP** 03 24 43.1 +0.8
comp=Z,11nm,0.3s,baz=170,slow=5.4,SNR=3.7
OBN **Obninsk** 113.23 37 *i*PKIKP **PKiKP** 03 24 43.4 +1.1
OBN *e* 03 34 57.3
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,469nm,17.0s
ANN **Anapa** 114.01 48 *i* P **Pdif** 03 20 50.4 -2.7
ANN *e* 03 31 10.9
ANN *e*SS SS 03 41 15.8 -3.8
ANN pmax pmax
comp=Z,22nm,0.9s
KLMR **Klimovskoe** 114.23 30 *e*PKIKP PKPdf 03 24 44.2 +0.1
KLMR *e* 03 25 23.7
KLMR *e* 03 28 10.3
KLMR pmax pmax
comp=Z,19nm,1.3s
LPSR **Galich'ya Gora** 114.78 40 *e*PKIKP PKPdf 03 24 45.8 +0.4
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR **Storozhevoye** 115.02 41 *e*PKIKP **PKPdf** 03 24 45.9 0.0
VSR pmax pmax
comp=Z,9.0nm,0.8s
SOC **Sochi** 115.64 49 *i* PKIKP **PKPdf** 03 24 46.9 -0.4
SOC *e*PPP PPP 03 28 17.0
SOC *e*PS PKKPbc 03 35 10.3 -11
SOC *e*SS SS 03 41 49.7 +8.5
SOC MLR MLR
comp=Z,316nm,16.0s
VRH **Novokhopyorsk** 116.62 41 *e*PKIKP **PKPdf** 03 24 48.5 -0.5
VRH pmax pmax
comp=Z,10.0nm,0.4s
KIV **Kislovodsk** 117.79 49 *i* PKIKP **PKPdf** 03 24 52.7 +1.1
KIV *e* 03 26 03.3
KIV *e*PS **PS** 03 35 53.6 -0.7
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,259nm,21.0s
KVAR **Kislovodsk Arr** 117.79 49 PKP **PKPdf** 03 24 52.4 +0.8
comp=Z,4.9nm,0.5s,baz=25,slow=1.7,SNR=8.8
KVAR PP **PP** 03 26 03.2 -4.0
comp=Z,8.4nm,0.9s,baz=303,slow=4.0,SNR=7.0
NEY **Neytrino** 117.84 50*c* *i*PKIKP **PKPdf** 03 24 52.3 +0.4
KBZ **Khabaz** 117.95 49 PKP **PKPdf** 03 24 53.0 +1.2
comp=Z,14nm,0.8s,baz=212,slow=3.5,SNR=34
KBZ PKKP **PKKPab** 03 35 17.6 +2.8
comp=Z,1.3nm,0.7s,baz=58,slow=6.5,SNR=3.7
KBZ **Khabaz** 117.95 49 PKIKP **PKPdf** 03 24 53.0 +1.2
KBZ pmax pmax
comp=Z,14nm,0.8s
BILL **Bilibino** 118.28 339 *i* PKIKP **PKPdf** 03 24 51.2 -0.5
BILL *e* 03 26 08.6
BILL pmax pmax
comp=Z,5.0nm,1.2s
ONI **Oni** 118.40 51 P **PP** 03 26 07.2 -4.2
NCK **Nalchik** 118.47 49 ǁ*i*PKIKP **PKPdf** 03 24 54.1 +1.3
AKH **Akhalkalaki** 118.47 52 P **PP** 03 26 07.6 -4.5
ZEI **Tsey** 118.72 50 *i* PKIKP **PKPdf** 03 24 54.0 +0.4
ZEI pmax pmax
comp=Z,18nm,0.5s
TBLG **Delisi** 119.40 51 P **PP** 03 26 11.9 -6.3
GNI **Garni** 119.46 53 PKP **PKPdf** 03 24 55.0 -0.1
comp=Z,12nm,0.4s,baz=228,slow=4.4,SNR=5.7
GNI **Garni** 119.46 53*c* *i*PKIKP **PKPdf** 03 24 57.2 +2.1
GNI pmax pmax
comp=Z,53nm,0.8s
STKA **Stephens Creek** 122.71 212 PKP **PKPdf** 03 25 02.0 +0.6
comp=Z,8.6nm,0.8s,baz=105,slow=3.9,SNR=18
STKA PKKP **PKKPab** 03 35 00.8 +3.5
comp=Z,3.1nm,0.9s,baz=304,slow=6.8,SNR=3.1
STKA **Stephens Creek** 122.71 212 *e*PKPdf **PKPdf** 03 25 01.3 -0.1
STKA PKKP **PKKPab** 03 35 00.8 +3.5
TIXI **Tiksi** 124.47 353 PKP **PKPdf** 03 25 03.3 -0.2
comp=Z,1.6nm,0.4s,baz=46,slow=1.1,SNR=7.2
TIXI **Tiksi** 124.47 353 ǁ*i*PKIKP **PKPdf** 03 25 03.7 +0.2
TIXI pmax pmax
comp=Z,11nm,1.2s
TIXI **Tiksi** 124.47 353 *e*PKPdf **PKPdf** 03 25 02.4 -1.1
ARU **Arti** 124.98 32 PKP **PKPdf** 03 25 05.7 +0.9
comp=Z,13nm,0.5s,baz=287,slow=1.3,SNR=28
ARU **Arti** 124.98 32 *i* PKIKP **PKPdf** 03 25 06.6 +1.7
ARU 03 26 52.7
ARU SP SP 03 36 32.7 -7.3
ARU **Arti** 124.98 32 *e*PKPdf **PKPdf** 03 25 06.8 +1.9
SVE **Sverdlovsk** 125.85 31 *e*PKIKP **PKPdf** 03 25 08.2 +1.6
SVE pmax pmax
comp=Z,24nm,1.5s
SEY **Seymchan** 125.88 338 ǁ*i*PKIKP **PKPdf** 03 25 07.8 +1.4
NRIK **Noril'sk** 126.00 10 PKP **PKPdf** 03 25 07.6 +1.1
comp=Z,1.6nm,0.4s,baz=15,slow=3.4,SNR=4.5
NRIK pPKP **pPKPdf** 03 25 44.8 +0.6
comp=Z,14nm,1.1s,baz=115,slow=2.7,SNR=4.4
AKTO **Aktyubinsk** 126.86 39 PKP **PKPdf** 03 25 09.3 +0.6
comp=Z,11nm,0.8s,baz=267,slow=1.4,SNR=33
AKTO pPKP **pPKPdf** 03 25 48.2 +1.8
comp=Z,21nm,1.2s,baz=298,slow=2.0,SNR=4.2
AB31 **Akbulak array** 128.43 40 *i* PKIKP **PKPdf** 03 25 13.3 +1.6
AB31 pmax pmax
comp=Z,25nm,0.8s
ABKAR **Akbulak array** 128.43 40 *e*PKPdf **PKPdf** 03 25 13.5 +1.8
MA2 **Magadan** 128.56 335 PP PP 03 27 16.4 -2.2
comp=Z,7.0nm,0.8s,baz=112,slow=4.1,SNR=5.0
PEA0 **Petropavlovsk-** 128.66 325 *e*PKPdf **PKPdf** 03 25 12.9 +0.9
PETK **Petropavlovsk-** 128.66 325 PKP **PKPdf** 03 25 12.7 +0.6
comp=Z,6.8nm,0.8s,baz=74,slow=6.3,SNR=7.0
PETK pPKP **pPKPdf** 03 25 50.9 +1.1
comp=Z,6.1nm,0.7s,baz=75,slow=7.8,SNR=2.9
PETK **Petropavlovsk-** 128.66 325 PKIKP **PKPdf** 03 25 12.7 +0.6
PETK 03 25 50.9
PETK pmax pmax
comp=Z,5.0nm,0.7s
CTA **Charters Tower** 128.82 225 PKP **PKPdf** 03 25 13.9 +0.5
comp=Z,11nm,0.8s,baz=22,slow=1.8,SNR=12
CTA pPKP **pPKPdf** 03 25 51.0 0.0
comp=Z,18nm,1.1s,baz=275,slow=3.3,SNR=5.6
CTA PP **PP** 03 27 20.1 -0.8
comp=Z,39nm,1.2s,baz=128,slow=6.4,SNR=10
CTAO **Charters Tower** 128.82 225 *e*PKIKP **PKPdf** 03 25 14.3 +0.9
CTAO **Charters Tower** 128.82 225 *e*PKPdf **PKPdf** 03 25 14.3 +0.9
CTAO *e*PP **PP** 03 27 21.3 +0.4
UOSS **Minazif** 129.20 72 *e*PKPdf **PKPdf** 03 25 14.4 +0.5
NWAO **Narrogin (SRO)** 129.71 188 *e*PKIKP **PKPdf** 03 25 15.9 +1.1
NWAO **Narrogin (SRO)** 129.71 188 *e*PKPdf **PKPdf** 03 25 15.9 +1.1
GEYT **Alibeck** 130.04 55 PKP **PKPdf** 03 25 16.1 +0.9
comp=Z,6.4nm,0.4s,baz=270,slow=4.4,SNR=4.4
GEYT PKP2ab 03 40 54.1
comp=Z,3.0nm,0.4s,baz=90,slow=3.0,SNR=4.9
WSAR **Wadi Sarin** 131.34 74 PKP **PKPdf** 03 25 19.0 +0.9
comp=Z,17nm,1.0s,baz=215,slow=3.4,SNR=6.9
WSAR PP **PP** 03 27 36.7 -1.6
comp=Z,19nm,0.9s,baz=298,slow=7.9,SNR=9.3
WSAR SKPbc **SKPab** 03 28 31.5 +0.8
comp=Z,14nm,0.9s,baz=281,slow=4.0,SNR=8.0
ZRNK **Zerenda** 131.96 32 PKIKP **PKPdf** 03 25 19.6 +1.3
ZRNK pmax pmax
comp=Z,38nm,1.0s
ZRNK **Zerenda** 131.96 32 *e*PKPdf **PKPdf** 03 25 20.5 +2.2
BRVK **Borovoye** 132.55 32 *e*PKIKP **PKPdf** 03 25 21.6 +2.2
BRVK **Borovoye** 132.55 32 *e*PKPdf **PKPdf** 03 25 21.6 +2.2
BVA0 **Borovoye Array** 132.62 32 *i* PKIKP **PKPdf** 03 25 20.9 +1.3
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
BVAR **Borovoye Array** 132.62 32 PKhKP PKPpre 03 25 13.7
comp=Z,0.8nm,0.6s,baz=318,slow=2.0,SNR=4.0
BVAR PKP **PKiKP** 03 25 20.5 -0.2
comp=Z,3.4nm,0.6s,baz=270,slow=1.5,SNR=22
BVAR pPKP pPKPdf 03 25 58.5 +1.3
comp=Z,9.7nm,0.9s,baz=321,slow=1.9,SNR=5.0
BVAR SKPbc **SKPab** 03 28 35.5 +0.2
comp=Z,5.7nm,0.9s,baz=308,slow=3.6,SNR=5.5
YAK **Yakutsk** 133.19 348 *e*PKIKP **PKPdf** 03 25 21.9 +1.6
YAK *e* 03 26 02.4
YAK pmax pmax
comp=Z,19nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=N,129nm,3.0s
ASAR **Alice Springs** 133.29 210 PKP **PKPdf** 03 25 22.1 +0.3
comp=N,10nm,0.6s,baz=135,slow=2.1,SNR=37
ASAR pPKP **pPKPdf** 03 25 58.9 -0.6
comp=N,31nm,1.2s,baz=145,slow=2.7,SNR=4.8
ASAR PP **PP** 03 27 47.8 -1.4
comp=N,29nm,1.1s,baz=145,slow=6.0,SNR=20
ASAR SKPbc **SKPab** 03 28 39.4 +0.2
comp=N,3.4nm,0.8s,baz=146,slow=3.8,SNR=4.3
ASAR SKKPbc **SKKPbc** 03 37 48.1 -5.4
comp=N,1.4nm,1.0s,baz=340,slow=5.9,SNR=4.4
AS31 **Alice Springs** 133.29 210 *e*PKPdf **PKPdf** 03 25 22.1 +0.2
AS31 *e*PP **PP** 03 27 48.2 -1.0
PMG **Port Moresby** 134.99 237 *d* *i*PKIKP **PKPdf** 03 25 25.8 +0.6
WB2 **Warramunga Arr** 136.18 214 *e*PKPpre PKPpre 03 25 14.0
WB2 *e*PKPdf **PKPdf** 03 25 27.2 -0.1
WRA **Warramunga Arr** 136.18 214 PKhKP PKPpre 03 25 13.1
comp=N,3.8nm,0.9s,baz=140,slow=2.8,SNR=36
WRA PKP **PKPdf** 03 25 27.7 +0.4
comp=N,15nm,0.7s,baz=145,slow=1.8,SNR=44
WRA pPKP pPKPdf 03 26 04.2 -0.8
comp=N,22nm,0.9s,baz=146,slow=1.6,SNR=5.9
WRA PP **PP** 03 28 07.3 -0.2
comp=N,4.6nm,0.9s,baz=153,slow=5.1,SNR=5.8
WRA SKPbc **SKPbc** 03 28 48.9 +2.5
comp=N,5.3nm,0.9s,baz=136,slow=2.8,SNR=6.8
WRAB **Tennant Creek** 136.18 214 *d* *i*PKIKP **PKPdf** 03 25 27.4 +0.1
WRAB pmax pmax
comp=Z,87nm,1.2s
WRAB **Tennant Creek** 136.18 214 *e*PKPdf **PKPdf** 03 25 27.0 -0.3
OTUK **Ortayu** 136.25 36 PKIKP **PKPdf** 03 25 24.3 -2.2
NVS **Novosibirsk** 137.07 23 *e*PKIKP **PKPdf** 03 25 28.9 +1.1
KKAR **Karatay Array** 137.56 44 *e*PKIKP **PKPdf** 03 25 30.6 +1.5
KKAR **Karatay Array** 137.56 44 *e*PKPdf **PKPdf** 03 25 30.6 +1.5
TYV **Tymovskoe** 137.66 330 *e*PKIKP **PKPdf** 03 25 29.5 +0.5
TYV pmax pmax
comp=Z,11nm,0.8s
KURK **Kurchatov** 138.07 30 PKHKP PKPpre 03 25 22.7
KURK 03 25 31.4
KURK 03 28 17.1
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURK pmax pmax
comp=Z,11nm,0.8s
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURK **Kurchatov** 138.07 30 PKPpre PKPpre 03 25 22.6
KURK PKP **PKiKP** 03 25 31.4 -0.4
KURK PP **PP** 03 28 17.1 -2.2
KURBB **Kurchatov Arra** 138.09 30 PKhKP PKPpre 03 25 22.6
comp=Z,1.2nm,0.6s,baz=312,slow=2.6,SNR=12
KURBB PKP **PKiKP** 03 25 31.4 -0.5
comp=Z,11nm,0.8s,baz=304,slow=2.6,SNR=36
KURBB PP **PP** 03 28 17.1 -2.3
comp=Z,1.7nm,1.0s,baz=294,slow=3.0,SNR=4.0
ZAA0 **Zalesovo Array** 138.34 23 *e*PKPpre PKPpre 03 25 24.8
ZAA0 *e*PKPdf **PKPdf** 03 25 30.8 +0.7
ZALV **Zalesovo Beam** 138.34 23 PKhKP PKPpre 03 25 24.4
comp=Z,3.4nm,0.5s,baz=293,slow=5.5,SNR=7.7
ZALV PKP **PKPdf** 03 25 31.1 +0.9
comp=Z,74nm,1.0s,baz=303,slow=2.4,SNR=44
ZALV pPKP pPKPdf 03 26 09.4 +1.5
comp=Z,42nm,0.8s,baz=298,slow=3.2,SNR=5.9
ZALV SKPbc **SKiKP** 03 28 54.1 -1.2
comp=Z,6.7nm,0.8s,baz=316,slow=3.2,SNR=4.2
ZALV SKKPbc **SKKPbc** 03 37 28.8 -8.7
comp=Z,1.4nm,0.3s,baz=151,slow=3.4,SNR=3.5
EKS2 **Erkin-Say** 139.91 43 *e*PKPpre PKPpre 03 25 30.5
EKS2 *e*PKPdf **PKiKP** 03 25 36.5 +0.4
EKS2 *e*PP **PP** 03 28 28.1 -3.1
YSS **Yuzh-Sakhalins** 140.07 325 ǁ*e*PKHKP PKPpre 03 25 18.6
YSS MLR MLR
comp=Z,300nm,14.0s
FRU **Bishkek** 140.37 42 *e*PKHKP PKPpre 03 25 27.0
FRU *i* 03 25 36.0
FRU *i* 03 28 30.0
FRU pmax pmax
comp=Z,68nm,1.7s
AAK **Ala-Archa** 140.39 43 PKhKP PKPpre 03 25 30.2
comp=Z,4.0nm,0.8s,baz=274,slow=2.1,SNR=6.2
AAK **Ala-Archa** 140.39 43 *e*PKHKP PKPpre 03 25 29.2
AAK *e* 03 25 37.1
AAK **Ala-Archa** 140.39 43 *e*PKPpre PKPpre 03 25 29.1
AAK *e*PKPdf **PKiKP** 03 25 37.1 0.0
TKM2 **Tokmak 2** 140.96 42 PKIKP **PKPdf** 03 25 33.6 -2.0
TKM2 pmax pmax
comp=Z,21nm,1.1s
TKM2 **Tokmak 2** 140.96 42 *e*PKPpre PKPpre 03 25 29.9
TKM2 *e*PKPdf **PKiKP** 03 25 37.4 -0.9
FITZ **Fitzroy Crossi** 141.80 204 PKhKP PKPpre 03 25 32.4
comp=Z,20nm,0.6s,baz=194,slow=0.5,SNR=67
FITZ **Fitzroy Crossi** 141.80 204 *e*PKPpre PKPpre 03 25 32.4
FITZ *e*PP **PP** 03 28 35.3 -6.5
MAKZ **Makanchi** 142.33 32 *e*PKHKP PKPpre 03 25 34.3
MAKZ **Makanchi** 142.33 32 *e*PKPpre PKPpre 03 25 34.3
MK31 **Makanchi Array** 142.50 32 *e*PKHKP PKPpre 03 25 34.5
MK31 pmax pmax
comp=Z,17nm,0.9s
MKAR **Makanchi Array** 142.50 32 PKhKP PKPpre 03 25 35.0
comp=Z,7.2nm,0.7s,baz=326,slow=3.1,SNR=28
MKAR SKKPbc SKKPbc 03 37 08.3 -12
comp=Z,1.4nm,0.7s,baz=132,slow=7.5,SNR=5.3
MK01 **Makanchi Array** 142.52 32 *e*PKPpre PKPpre 03 25 34.9
ERM **Erimo** 142.61 318 *e*PKPpre PKPpre 03 25 35.3
KSH **Kashi** 142.83 46 PKP **PKPdf** 03 25 36.4 -2.5
KSH SKKS 03 35 27.1
KSH LN
comp=Z,460nm,17.2s
KSH LE
comp=Z,800nm,18.6s
KSH LZ
comp=Z,830nm,20.9s
PDGK **Podgornoye** 143.13 39 PKHKP PKPpre 03 25 35.9
PDGK pmax pmax
comp=Z,25nm,1.1s
KLR **Kul'dur** 143.64 336 PKP PKPbc 03 25 38.1 +0.4
comp=Z,5.5nm,0.4s,baz=47,slow=2.9,SNR=13
KLR pPKP pPKPdf 03 26 17.7 +0.1
comp=Z,23nm,1.1s,baz=46,slow=0.8,SNR=4.0
KLR PP **PP** 03 28 52.7 -0.3
comp=Z,11nm,1.1s,baz=29,slow=5.5,SNR=4.8
MTN **Manton Dam** 143.74 216 *e*PKPpre PKPpre 03 25 38.8
GENI **Genyem** 144.57 239 PKP **PKPdf** 03 25 42.7 +0.1
GENI PKP **PKPdf** 03 25 42.7 +0.1
IRK **Irkutsk** 144.72 6 *e*PKIKP **PKPdf** 03 25 41.9 +0.2
IRK *e* 03 26 21.1
IRK pmax pmax
comp=Z,381nm,1.5s
GOA **Goa** 144.98 87 *e*P **PKPdf** 03 25 43.1 0.0
GOA IAMs_20 IAMs_20 04 40 28.3
comp=Z,1μm,15.7s
CIT **Chita** 145.17 356 *e*PKIKP **PKPab** 03 25 44.2 +1.6
CIT *e* 03 26 21.9
TLY **Talaya** 145.20 7 *e*PKIKP **PKPab** 03 25 44.9 +2.3
TLY **Talaya** 145.20 7 *e*PKPbc **PKPab** 03 25 44.9 +2.3
POO **Poona** 145.31 82 ǁ*i*P **PKPdf** 03 25 42.0 -1.7
comp=Z,140nm,1.0s
POO *e*P **PKPab** 03 25 45.0 +0.9
THN **Thein Dam** 145.32 58 *e*P **PKPdf** 03 25 39.0 -4.3
DHRM **DHARAMSHALA** 145.84 58 *e*P **PKPab** 03 25 46.8 +0.8
ZAK **Zakamensk** 146.43 8 *e*PKP2 **PKPbc** 03 25 45.8 -0.5
ZAK pmax pmax
comp=Z,50nm,1.2s
KHET **Khetri** 146.48 65 *e*P **PKPbc** 03 25 47.0 0.0
GUMO **Guam** 146.52 269 PKPbc **PKPdf** 03 25 46.6 +0.8
comp=Z,105nm,0.7s,baz=336,slow=21,SNR=5.4
GUMO **Guam** 146.52 269 *e*PKPdf **PKPbc** 03 25 47.5 0.0
SDNR **Sundarnagar** 146.61 59 *e*P **PKPdf** 03 25 46.2 +0.6
RTK **Rohtak** 146.80 63 *e*P **PKPbc** 03 25 47.6 -0.3
SMLA **Simla** 146.88 59 *e*P **PKPbc** 03 25 47.7 -0.4
KUDL **Kundal** 147.05 65 *e*P **PKPdf** 03 25 47.4 +1.1
HIA **Hailar** 147.12 349 *e*PKIKP **PKPdf** 03 25 46.7 +0.8
HIA *e* 03 25 49.5
HIA **Hailar** 147.12 349 *e*PKPdf **PKPdf** 03 25 46.7 +0.8
HIA *e*PKPbc **PKPab** 03 25 49.5 -0.6
WMQ **Urumqi** 147.30 31 PKPbc **PKPdf** 03 25 46.5 +0.1
WMQ PKPab **PKiKP** 03 25 51.1 0.0
WMQ sPKP 03 26 23.9
WMQ PP **PP** 03 29 18.5 +3.5
WMQ SKS **SKSdf** 03 32 43.5 +1.5
WMQ SKKS **SKKSac** 03 35 56.9 +3.3
WMQ SS **SS** 03 48 10.2 +4.8
WMQ PPMZ
comp=Z,320nm,3.8s
WMQ LN
comp=Z,190nm,20.0s
WMQ LE
comp=Z,200nm,21.2s
WMQ LZ
comp=Z,240nm,22.4s
USRK **Ussuriysk Ar.** 147.47 330 PKPbc **PKPbc** 03 25 49.8 +0.5
comp=Z,34nm,0.7s,baz=40,slow=3.2,SNR=70
USRK pPKPbc **pPKPbc** 03 26 26.6 -0.1
comp=Z,34nm,0.9s,baz=27,slow=2.2,SNR=3.2
KLRI **Killari** 147.88 83 *e*PKPbc **PKPdf** 03 25 49.2 +1.1
KLRI *e*PKiKP **PKPbc** 03 25 52.0 +0.8
MDJ **Mudanjiang** 148.23 333 PKPbc **PKPdf** 03 25 48.8 +1.0
MDJ **Mudanjiang** 148.23 333 *e*PKPdf **PKPdf** 03 25 48.1 +0.3
MDJ *e*PKPbc **PKPbc** 03 25 51.7 +0.4
BHPL **Bhopal** 148.61 74 *e*P **PKPdf** 03 25 50.5 +1.4
MJAR **Matsushiro Arr** 148.72 313 PKPbc **PKPbc** 03 25 53.4 +0.5
comp=Z,54nm,0.9s,baz=88,slow=2.1,SNR=58
MJAR pPKPbc **pPKPbc** 03 26 30.9 +0.6
comp=Z,129nm,1.2s,baz=81,slow=0.6,SNR=6.3
MAJO **Matsushiro** 148.72 313 *ce*PKIKP **PKPdf** 03 25 49.6 +0.7
MAJO **Matsushiro** 148.72 313 *e*PKPdf **PKPdf** 03 25 50.4 +1.5
MAJO *e*PKPbc **PKiKP** 03 25 53.9 -0.3
MAT **Matsushiro** 148.72 313 PKP **PKPdf** 03 25 49.5 +0.6
MJB9 **Matsu-Tunnel** 148.72 313 *e*PKPbc **PKPbc** 03 25 53.9 +1.1
CBIJ **Chichi jima** 148.96 294 PKPbc **PKPbc** 03 25 53.8 +0.1
CBIJ pPKPbc **pPKPbc** 03 26 29.7 -1.4
JCJ **Chichijima** 148.96 294 PKPbc **PKPbc** 03 25 53.8 +0.1
comp=Z,60nm,0.7s,baz=291,slow=20,SNR=1.8
JCJ pPKPbc **pPKPbc** 03 26 29.7 -1.4
comp=Z,265nm,1.1s,baz=5.5,slow=6.3,SNR=4.0
JOSI **Joshimath** 149.01 59 *e*P **PKPdf** 03 25 50.3 +0.5
MSHR **Mys Shultsa** 149.09 329 ǁ*i*PKP2 **PKPbc** 03 25 53.8 +0.3
JHJ **Hachijo jima 2** 149.12 306 PKPbc **PKPbc** 03 25 52.5 -1.4
comp=Z,102nm,0.7s,baz=160,slow=9.2,SNR=3.6
SONA1 **Songino Array** 149.28 5 *e*PKPdf **PKPdf** 03 25 50.6 +1.0
SONA1 *e*PKPbc **PKiKP** 03 25 54.9 -0.3
SONM **Songino Array** 149.29 5 PKPbc **PKPbc** 03 25 53.9 -0.2
comp=Z,38nm,0.6s,baz=320,slow=1.8,SNR=39
SONM pPKPbc **pPKPbc** 03 26 32.3 +0.8
comp=Z,36nm,1.0s,baz=329,slow=1.7,SNR=14
ULN **Ulaanbaatar** 149.31 4 *e*PKIKP **PKPdf** 03 25 51.0 +1.3
ULN *e* 03 25 55.3
ULN **Ulaanbaatar** 149.31 4 *e*PKPdf **PKPdf** 03 25 51.0 +1.3
ULN *e*PKPbc **PKiKP** 03 25 55.3 +0.1
PALK **Pallekele** 149.47 105 PKPbc **PKPbc** 03 25 56.2 +0.8
comp=Z,48nm,1.2s,baz=296,slow=0.7,SNR=7.6
PALK **Pallekele** 149.47 105 *e*PKPbc **PKPbc** 03 25 54.5 -0.9
SRSP **Sriramsagar** 149.58 82 *e*PKPbc **PKPdf** 03 25 51.7 +1.0
SRSP *e*PKiKP **PKPbc** 03 25 55.6 +0.1
HYBB **Hyderabad (bro** 149.70 85 *e*PKPbc **PKPdf** 03 25 51.9 +0.9
HYBB *e*PKiKP **PKPbc** 03 25 56.2 +0.4
HYB **Hyderabad** 149.70 85 *i* PKIKP **PKPdf** 03 25 52.5 +1.5
HYB *es*PKP 03 27 19.0
HYB *e*PKS **PSdf** 03 29 25.0 -1.1
HYB **Hyderabad** 149.70 85 *e*P **PKPdf** 03 25 52.7 +1.7
SOEI **Soe** 149.86 208 *e*PKPdf **PKPdf** 03 25 53.5 +2.0
SOEI *e*PKPbc **PKiKP** 03 25 58.1 +0.8
RCLA **Racherla** 149.87 89 *e*PKPdf **PKPdf** 03 25 52.1 +0.8
RCLA *e*PKiKP **PKiKP** 03 25 57.1 0.0
SRLM **Srisailam** 149.89 87 *e*PKPbc **PKPdf** 03 25 52.2 +0.9
SRLM *e*PKiKP **PKPbc** 03 25 56.6 +0.3
LGTI **Lohaghat** 149.92 61 *ex* **PKPab** 03 26 04.5 +2.5
INU **Inuyama** 150.15 312 *e*PKPdf **PKPdf** 03 25 51.5 +0.4
INU *e*PKPbc **PKiKP** 03 25 57.6 +0.4
NGP **Nagpur** 150.24 77 *e*P **PKPdf** 03 25 52.6 +0.9
SKHT **Srikalahasti** 150.32 92 *e*PKPbc **PKPbc** 03 25 55.9 -1.4
SKHT *e*PKiKP **PKiKP** 03 25 57.2 -0.8
NJS **Nagarjunasagar** 150.34 87 *e*PKPdf **PKPdf** 03 25 52.1 +0.1
NJS *e*PKPbc **PKPbc** 03 25 57.5 +0.2
RPR **Rampur** 150.48 82 *e*PKPdf **PKPdf** 03 25 52.4 +0.3
RPR *e*PKiKP **PKiKP** 03 25 58.3 0.0
RPR *e*PKPab **PKPab** 03 26 01.8 -2.8
FAKI **Fak Fak** 150.52 229 *e*PKPdf **PKPdf** 03 25 53.2 +0.8
FAKI *e*PKPbc **PKiKP** 03 25 59.3 +0.8
CN2 **Changchun** 150.56 337 *e*PKPbc **PKPbc** 03 25 56.4 -0.7
CN2 PPMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,500nm,19.0s
CN2 LE
comp=Z,600nm,19.0s
CN2 LZ
comp=Z,600nm,21.0s
MDRS **Chennai** 150.70 94 *e*P **PKPdf** 03 25 54.5 +2.0
MMRI **Maumere** 151.74 206 *e*PKPdf **PKPdf** 03 25 54.2 0.0
MMRI *e*PKPbc **PKPbc** 03 26 00.2 -0.5
XMIS **Christmas Isla** 152.10 170 *e*PKPdf **PKPdf** 03 25 53.4 -1.4
XMIS *e*PKPbc **PKPbc** 03 25 57.0 -4.5
PVM **Polavaram** 152.61 86 *e*PKPdf **PKPdf** 03 25 55.7 +0.3
PVM *e*PKiKP **PKPbc** 03 26 01.6 -0.9
PYUN **Piuthan** 152.62 62 *e*P **PKPdf** 03 25 54.9 -0.5
comp=Z,406nm,1.2s
KOLN **Koldanda** 153.23 62 *e*P **PKPdf** 03 25 57.5 +1.2
comp=Z,59nm,1.1s
GKN **Gorkha** 154.03 61 *e*P **PKPbc** 03 26 04.1 -1.5
comp=Z,665nm,1.2s
JAGI **Jajag, Banyuwa** 154.20 189 *e*PKPdf **PKPdf** 03 25 57.1 -0.8
JAGI *e*PKPbc **PKiKP** 03 26 06.6 +0.5
DMN **Daman** 154.55 62 *e*P **PKPbc** 03 26 05.4 -1.4
comp=Z,293nm,1.2s
KS01 **Wonju Array Si** 154.56 326 *e*PKPdf **PKPdf** 03 25 58.2 +0.5
KS01 *e*PKPbc **PKiKP** 03 26 06.3 +0.2
KS01 *e*PKPab **PKPab** 03 26 22.0 +0.7
KSRS **Korea Array** 154.56 326 PKP **PKPdf** 03 25 58.9 +1.3
comp=Z,6.3nm,1.1s,baz=30,slow=1.2,SNR=12
KSRS PKPbc **PKPbc** 03 26 05.5 -0.7
comp=Z,7.3nm,0.8s,baz=83,slow=1.1,SNR=12
KSRS pPKPab **pPKPab** 03 26 58.5 +0.9
comp=Z,32nm,1.1s,baz=50,slow=3.1,SNR=5.2
KS15 **Wonju Array Si** 154.59 326 *e*PKPdf **PKPdf** 03 25 58.9 +1.2
KSAR **Wonju Array Be** 154.59 326 PKIKP **PKPdf** 03 25 58.9 +1.2
KSAR 03 26 58.5
KSAR **Wonju Array Be** 154.59 326 PKP **PKPdf** 03 25 58.9 +1.2
KSAR PKPbc **PKPbc** 03 26 05.5 -0.8
KSAR pPKPab **pPKPab** 03 26 58.5 +0.8
KKN **Kakani** 154.64 61 *e*P **PKPbc** 03 26 07.0 +0.1
comp=Z,240nm,0.8s
PKIN **Phulchoki** 154.81 61 *e*P **PKPbc** 03 26 07.3 -0.1
comp=Z,40nm,1.0s
CHLP **Challavanipeta** 154.98 83 *e*PKPdf **PKPdf** 03 25 56.7 -2.0
CHLP *e*PKPab **PKPab** 03 26 23.5 -0.1
GUN **Gumba** 155.10 60 *e*P PKPdf 03 26 10.9 +12
comp=Z,454nm,1.1s
CISI **Cisompet, Garu** 155.27 174 *e*PKPdf **PKPdf** 03 25 59.5 +0.1
JNU **Nakatsue** 155.63 314 pPKPab pPKPab 03 27 01.7 -0.7
comp=Z,15nm,1.0s,baz=81,slow=7.6,SNR=3.7
SMRI **Semarang** 155.90 180 *e*PKPdf **PKPdf** 03 25 59.9 -0.2
SMRI *e*PKPab **PKPab** 03 26 28.5 +1.2

KAPI	**Kappang**	**156.03**	**204**	PKP	**PKPdf**	**03 26 01.5**	**+1.2**
	comp=Z,22nm,1.0s,baz=280,slow=1.8,SNR=10							
KAPI				PKPab	**PKPab**	**03 26 29.5**	**+1.5**
	comp=Z,83nm,0.8s,baz=208,slow=1.4,SNR=28							
KAPI				pPKPab	**pPKPab**	**03 27 04.4**	**+0.1**
	comp=Z,226nm,1.0s,baz=194,slow=3.4,SNR=11							
GTA	**Gaotai**	**156.06**	**20**	⇑PKP	**PKPdf**	**03 26 01.5**	**+1.7**
GTA				pPKP	PKPab	03 26 27.8	+0.1
GTA				sPKP		03 26 38.6	
GTA				PP	**PP**	**03 30 07.7**	**+3.0**
GTA				SKS	**SKSdf**	**03 32 56.3**	**+3.1**
GTA				SKKS	**SKKSac**	**03 36 44.8**	**+3.2**
GTA				SS	**SS**	**03 49 45.1**	**+3.7**
GTA				PPMZ			
	comp=Z,240nm,8.1s							
GTA				LN				
	comp=Z,310nm,19.0s							
GTA				LE				
	comp=Z,220nm,20.0s							
GTA				LZ				
	comp=Z,360nm,22.3s							
BOK	**Bokaro**	**156.22**	**70**	*e*P	**PKPdf**	**03 26 01.8**	**+1.5**
BOK				IAmb	IAmb	03 26 31.2	
	comp=Z,880nm,3.7s							
HHC	**Hu-ho-hao-te**	**156.42**	**358**	*e*PKP	**PKPdf**	**03 26 01.8**	**+1.6**
HHC				pPKP	PKPab	03 26 30.0	+0.9
HHC				sPKP		03 26 41.1	
HHC				SKKS		03 36 42.7	
HHC				PPMZ			
	comp=Z,150nm,9.1s							
HHC				LN				
	comp=Z,220nm,19.3s							
HHC				LE				
	comp=Z,370nm,21.6s							
HHC				LZ				
	comp=Z,450nm,20.6s							
BJI	**Beijing**	**156.69**	**349**	PKP	**PKPdf**	**03 26 01.3**	**+0.9**
BJI				pPKP	**PKPab**	**03 26 30.5**	**+0.3**
BJI				sPKP		03 26 42.0	
BJI				PPMZ			
	comp=Z,250nm,7.0s							
BJI				LN				
	comp=Z,300nm,19.8s							
BJI				LE				
	comp=Z,200nm,21.3s							
BJI				LZ				
	comp=Z,410nm,24.2s							
LUWI	**Luwuk**	**158.09**	**215**	*e*PKPdf	**PKPdf**	**03 26 03.8**	**+0.8**
LUWI				*e*PP	**PP**	**03 30 16.0**	**-0.1**
LSA	**Lhasa**	**158.51**	**51**	PKP	**PKPdf**	**03 26 05.0**	**+1.4**
LSA	**Lhasa**	**158.51**	**51**	*e*PKP2	**PKPab**	**03 26 40.1**	**+1.0**
LSA	**Lhasa**	**158.51**	**51**	*e*PKPab	**PKPab**	**03 26 40.1**	**+1.0**
TIY	**Taiyuan**	**159.49**	**355**	PKP	**PKPdf**	**03 26 05.9**	**+1.9**
TIY				PKPab	**PKPab**	**03 26 44.0**	**+1.5**
TIY				PP	**PP**	**03 30 22.0**	**-1.1**
TIY				LZ				
	comp=Z,410nm,24.8s							
GSI	**Gunungsitoli**	**159.83**	**140**	*e*PKPdf	**PKPdf**	**03 26 04.4**	**-0.6**
GSI				*e*PKPab	**PKPab**	**03 26 43.5**	**-1.1**
TIA	**Tai'an**	**160.13**	**344**	PKP	**PKPdf**	**03 26 05.4**	**+0.7**
TIA				LN				
	comp=Z,240nm,25.0s							
TIA				LE				
	comp=Z,250nm,26.0s							
TIA				LZ				
	comp=Z,540nm,24.0s							
LZH	**Lanzhou**	**160.34**	**16**	*e*PKP	**PKPdf**	**03 26 07.6**	**+2.5**
LZH				pPKP	pPKPdf	03 26 33.3	-10
LZH				sPKP		03 26 44.1	
LZH				PP	**PP**	**03 30 29.4**	**+1.5**
LZH				SKKS		03 37 07.0	
LZH				*e*SS	**SS**	**03 50 29.1**	**+2.5**
LZH				PPMZ			
	comp=Z,380nm,6.5s							
LZH				LN				
	comp=Z,370nm,16.1s							
LZH				LE				
	comp=Z,490nm,17.0s							
LZH				LZ				
	comp=Z,570nm,19.8s							
SHL	**Shillong**	**160.95**	**61**	*e*P	**PKPdf**	**03 26 06.0**	**-0.1**
SHL				*e*P	**PKPdf**	**03 26 07.5**	**+1.4**
SHL				*ex*	x	03 30 27.0	
SHL				IAMs_20	IAMs_20	04 47 25.1	
	comp=Z,673nm,14.4s							
PSI	**Prapat**	**161.83**	**141**	*e*PKIKP	**PKPdf**	**03 26 07.6**	**+0.3**
PSI	**Prapat**	**161.83**	**141**	*e*PKPdf	**PKPdf**	**03 26 07.6**	**+0.3**
XAN	**Xi'an**	**163.19**	**4**	PKP	**PKPdf**	**03 26 08.9**	**+1.0**
XAN				LN				
	comp=Z,230nm,22.9s							
XAN				LE				
	comp=Z,470nm,38.9s							
XAN				LZ				
	comp=Z,300nm,23.0s							
NJ2	**Nanjing**	**163.32**	**334**	*e*PKP	**PKPdf**	**03 26 08.3**	**+0.3**
NJ2				PP	**PP**	**03 30 49.1**	**+5.3**
NJ2				PPMZ			
	comp=Z,470nm,10.3s							
KGM	**Kluang**	**163.41**	**155**	⇓P	**PKPdf**	**03 26 10.2**	**+1.5**
MYKOM	**Kota Tinggi**	**163.41**	**157**	*e*PKPdf	**PKPdf**	**03 26 08.9**	**+0.2**
MYKOM				*e*PP	**PP**	**03 30 40.0**	**-4.2**
KSM	**Kuching**	**164.36**	**180**	*e*PKPdf	**PKPdf**	**03 26 10.2**	**+0.6**
KSM				*e*PKPab	**PKPab**	**03 27 05.0**	**+0.8**
KSM				*e*PP	**PP**	**03 30 48.1**	**-0.7**
KULM	**Kulim**	**164.84**	**140**	*e*PKPdf	**PKPdf**	**03 26 10.1**	**+0.2**
CD2	**Chengdu**	**165.11**	**22**	PKP	**PKPdf**	**03 26 09.5**	**-0.3**
CD2				pPKP	pPKPdf	03 26 38.0	-10
CD2				sPKP		03 26 48.8	
CD2				PP	**PP**	**03 30 53.8**	**+0.6**
CD2				SKS	**SKSdf**	**03 33 05.0**	**+3.8**
CD2				SKKS	**SKKSac**	**03 37 31.3**	**+2.8**
CD2				SS	**SS**	**03 51 20.2**	**+4.2**
CD2				PPMZ			
	comp=Z,420nm,6.6s							
CD2				LN				
	comp=Z,500nm,18.1s							
CD2				LE				
	comp=Z,450nm,18.1s							
CD2				LZ				
	comp=Z,440nm,19.6s							
SBUM	**Sibu**	**165.21**	**187**	*e*PKPdf	**PKPdf**	**03 26 11.8**	**+1.5**
SBUM				*e*PKPab	**PKPab**	**03 27 09.2**	**+1.2**
SBUM				*e*PP	**PP**	**03 30 52.5**	**-0.8**
MYLDM	**Lahad Datu**	**165.60**	**215**	*e*PKPdf	**PKPdf**	**03 26 12.2**	**+1.7**
MYLDM				*e*PKPab	**PKPab**	**03 27 10.1**	**+0.3**
SURT	**Suratani**	**166.11**	**125**	PKP	**PKPdf**	**03 26 14.8**	**+3.8**
WHN	**Wuhan**	**166.23**	**345**	⇑PKP	**PKPdf**	**03 26 09.4**	**-1.2**
WHN				sPKP		03 26 46.1	
WHN				PP	**PP**	**03 30 58.5**	**-0.1**
WHN				LN				
	comp=Z,560nm,15.2s							
WHN				LE				
	comp=Z,620nm,14.7s							
WHN				LZ				
	comp=Z,1μm,16.4s							
SKLT	**Songkhla**	**166.25**	**135**	PKP	**PKPdf**	**03 26 11.9**	**+0.8**
SKLT	**Songkhla**	**166.25**	**135**	P	**PKPdf**	**03 26 11.9**	**+0.8**
	comp=Z,21nm,1.1s,comp=Z,2μm							
SDKM	**Sandakan**	**166.67**	**211**	⇑P	**PKPdf**	**03 26 11.7**	**+0.2**
SURA	**Surathani**	**166.89**	**126**	PKP	**PKPdf**	**03 26 14.5**	**+3.0**
SURA	**Surathani**	**166.89**	**126**	P	**PKPdf**	**03 26 14.5**	**+3.0**
	comp=Z,108nm,0.8s							
ENH	**Enshi**	**166.98**	**3**	*e*PKPdf	**PKPdf**	**03 26 11.5**	**+0.3**
ENH				*e*PKPab	**PKPab**	**03 27 16.2**	**+0.8**
KKM	**Kota Kinabalu**	**167.49**	**208**	*e*PKPdf	**PKPdf**	**03 26 10.3**	**-1.9**
KKM				*e*PKPab	**PKPab**	**03 27 19.1**	**+0.8**
KDM	**Kudat**	**167.95**	**213**	⇓P	**PKPdf**	**03 26 13.2**	**+0.9**
SSLB	**Suanglung**	**168.08**	**305**	*e*PKPdf	**PKPdf**	**03 26 12.2**	**0.0**
MHMT	**Maesarieng**	**168.16**	**83**	PKP	**PKPdf**	**03 26 14.5**	**+2.2**
KHLT	**Khaolaem Dam**	**168.48**	**100**	PKP	**PKPdf**	**03 26 15.3**	**+2.7**
SRDT	**SRDT**	**168.86**	**103**	PKP	**PKPdf**	**03 26 14.8**	**+1.9**
CHTO	**Chiang Mai**	**169.07**	**80**	PKP	**PKPdf**	**03 26 13.9**	**+1.0**
CHTO	**Chiang Mai**	**169.07**	**80**	*e*PKIKP	**PKPdf**	**03 26 13.6**	**+0.7**
CHTO	**Chiang Mai**	**169.07**	**80**	*e*PKPdf	**PKPdf**	**03 26 13.6**	**+0.7**
QZH	**Quanzhou**	**169.10**	**316**	*i* PKPbc	**PKPdf**	**03 26 06.4**	**-6.4**
QZH				sPKP		03 26 46.5	
QZH				PP	PP	03 31 05.6	-8.7
QZH				sPP		03 31 05.6	
CMAR	**Chiang Mai Arr**	**169.10**	**82**	PKP	**PKPdf**	**03 26 13.4**	**+0.4**
	comp=Z,2.1nm,0.4s,baz=247,slow=22,SNR=6.3							
CMAR				pPKP	**pPKPdf**	**03 26 53.0**	**+2.1**
	comp=Z,2.1nm,0.3s,baz=280,slow=2.0,SNR=3.7							
CMAR				PKPab	**PKPab**	**03 27 26.5**	**+1.0**
	comp=Z,5.4nm,0.8s,baz=282,slow=5.5,SNR=8.6							
CMAR				pPKPab	**pPKPab**	**03 28 03.0**	**+1.2**
	comp=Z,12nm,0.9s,baz=273,slow=5.6,SNR=3.4							
CMAR				PP	**PP**	**03 31 13.0**	**-2.6**
	comp=Z,2.2nm,0.3s,baz=299,slow=7.4,SNR=6.7							
CM01	**Chiang Mai Arr**	**169.12**	**82**	*e*PKPdf	**PKPdf**	**03 26 13.4**	**+0.4**
CM01				*e*PKPab	**PKPab**	**03 27 25.8**	**+0.2**
CM01				*e*PP	**PP**	**03 31 11.1**	**-4.6**
KMI	**Kunming**	**169.43**	**41**	⇓PKP	**PKPdf**	**03 26 14.1**	**+0.8**
LAMP	**Lampang**	**169.75**	**81**	PKP	**PKPdf**	**03 26 15.4**	**+2.1**
SUKH	**Sukhothai**	**169.80**	**87**	PKP	**PKPdf**	**03 26 15.5**	**+2.1**
GYA	**Guiyang**	**170.19**	**20**	*i* PKP	**PKPdf**	**03 26 13.2**	**-0.4**
GYA				pPKP	pPKPdf	03 26 41.5	-10
GYA				sPKP		03 26 52.0	
GYA				PKPab	**PKPab**	**03 27 30.6**	**+0.7**
GYA				PKS	**PKSdf**	**03 29 44.0**	**-2.2**
GYA				PP	**PP**	**03 31 21.4**	**+2.3**
GYA				SS	SS	03 52 08.4	+1.4
GYA				PPMZ			
	comp=Z,150nm,8.4s							
UTTA	**Uttaradit**	**170.67**	**85**	PKP	**PKPdf**	**03 26 15.2**	**+1.4**
PBKT	**Sadao Pong**	**171.03**	**93**	PKP	**PKPdf**	**03 26 14.5**	**+0.5**
CHAI	**Chaiyaphum**	**171.91**	**98**	PKP	**PKPdf**	**03 26 15.8**	**+1.3**
NONG	**Nongkai**	**173.12**	**82**	PKP	**PKPdf**	**03 26 15.8**	**+0.8**
GZH	**Guangzhou**	**173.50**	**335**	PKP	**PKPdf**	**03 26 15.6**	**+0.6**
SKNT	**Sakolnakorn**	**173.94**	**91**	PKP	**PKPdf**	**03 26 16.6**	**+1.3**
QIZ	**Qiongzhong**	**178.14**	**14**	*i* PKP	**PKPdf**	**03 26 16.6**	**+0.4**
QIZ				sPKP		03 26 54.9	
QIZ				PP	**PP**	**03 31 57.1**	**-0.1**
QIZ				SKS	**SKSdf**	**03 33 06.4**	**0.0**
QIZ				SS	**SS**	**03 53 25.2**	**+2.4**
QIZ	**Qiongzhong**	**178.14**	**14**	*e*PKPdf	**PKPdf**	**03 26 17.1**	**+0.8**

NIED ***08*** *03:12:00.37˚.90N×144˚.50E,h59km,Mw3.8 Best double couple: M₀6.38000×10¹⁴ NP1:φ₈137.00000°,δ38.00000°, λ96.00000°. NP2:φ₈310.00000°,δ52.00000°,λ86.00000°.*

JMA 08 03:12:26.3±0.3,37˚.94N×144˚.46E,h28km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.47**	**298**	P		Pn	03 13 06.3	+1.7
OFUJ				*e*S		Sn	03 13 35.7	+1.8
JIO	**Ouri**	**2.50**	**283**	P		Pn	03 13 06.9	+1.8
JIO				*e*S		Sn	03 13 36.0	+1.3
JMK	**Ichinoseki**	**2.74**	**293**	P		Pn	03 13 09.6	+1.3
JMK				*e*S		Sn	03 13 43.3	+2.8
JOM	**Ohasama**	**2.91**	**303**	*e*S		Sn	03 13 45.7	+0.9
JOT	**Ohata**	**4.33**	**324**	P		Pn	03 13 32.4	+2.2
JOT				*e*S		Sn	03 14 19.1	-0.6
JCH	**Churui**	**4.74**	**350**	P		Pn	03 13 35.6	-0.3
JCH				*e*S		Sn	03 14 27.2	-2.8
JRY	**Ryogami san**	**4.85**	**248**	P		Pn	03 13 38.5	+1.1
MAT	**Matsushiro**	**5.18**	**256**	P		Pn	03 13 44.8	+2.8

CSEM ***08*** *03:17:44.9,43˚.89N×11˚.99E,h8km,MD2.4/14*

ROM 08 03:17:44.9±0.1,43˚.89N×11˚.99E,h8km,Md2.4/14, Ml1.9/15,Error ellipse: s-maj=1.5km s-min=0.9km az=29.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.11**	**279**	Pg	Pg	03 17 47.8	+0.4
SFI				Sg	Sg	03 17 49.9	+0.8
	354nm,0.6s						
SFI	**Santa Sofia**	**0.11**	**279**	Pg	Pg	03 17 47.8	+0.4
SFI				Sg	Sg	03 17 49.9	+0.8
	354nm,0.6s						
T0502	**Localit˜ San**	**0.11**	**84**	Pg	Pg	03 17 47.9	+0.5
T0502				Sg	Sg	03 17 50.1	+1.0
	719nm,0.1s						
ASQU	**Asqua**	**0.17**	**238**	Pg	Pg	03 17 49.1	+0.6
ASQU				Sg	Sg	03 17 52.3	+1.3
	617nm,0.3s						
ASQU	**Asqua**	**0.17**	**238**	Pg	Pg	03 17 49.1	+0.6
ASQU				Sg	Sg	03 17 52.3	+1.3
	617nm,0.3s						
CPGN	**Carpegna, Ital**	**0.25**	**110**	Pg	Pb	03 17 51.4	-0.4
	198nm,0.4s						
CPGN	**Carpegna, Ital**	**0.25**	**110**	Pg	Pb	03 17 51.4	-0.4
	198nm,0.4s						
PARC	**Parchiule**	**0.30**	**143**	Pg	Pg	03 17 51.4	+0.6
PARC				Sg	Sb	03 17 56.9	-0.8
	155nm,0.2s						
PARC	**Parchiule**	**0.30**	**143**	Pg	Pg	03 17 51.4	+0.6
PARC				Sg	Sb	03 17 56.9	-0.8
	155nm,0.2s						
BADI	**Badiali**	**0.42**	**154**	Pg	Pg	03 17 53.5	+0.4
BADI				Sg	Sb	03 18 00.8	-0.3
	90nm,0.2s						
BADI	**Badiali**	**0.42**	**154**	Pg	Pg	03 17 53.5	+0.4
BADI				Sg	Sb	03 18 00.8	-0.3
	90nm,0.2s						
BRIS	**BRISIGHELLA**	**0.43**	**307**	Pg	Pg	03 17 53.0	-0.4
BRIS				Sg	Sg	03 17 59.8	+0.7
	189nm,0.3s						
BRIS	**BRISIGHELLA**	**0.43**	**307**	Pg	Pg	03 17 53.0	-0.4
BRIS				Sg	Sg	03 17 59.8	+0.7
	189nm,0.3s						
ATMC	**Monte Cedrone**	**0.47**	**162**	Pg	Pg	03 17 54.1	+0.2
ATMC				Sg	Sb	03 18 02.2	-0.2
	58nm,0.3s						
ATMC	**Monte Cedrone**	**0.47**	**162**	Pg	Pg	03 17 54.1	+0.2
ATMC				Sg	Sb	03 18 02.2	-0.2
	58nm,0.3s						
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	03 17 54.7	+0.3
SEI				Sg	Sb	03 18 02.6	-0.5
	182μm,0.2s						
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	03 17 54.7	+0.3
SEI				Sg	Sb	03 18 02.6	-0.5
	182μm,0.2s						
PIEI	**Pieia**	**0.53**	**132**	Pg	Pg	03 17 55.2	+0.1
PIEI				Sg	Sb	03 18 03.9	-0.4
	37nm,0.1s						
PIEI	**Pieia**	**0.53**	**132**	Pg	Pg	03 17 55.2	+0.1
PIEI				Sg	Sb	03 18 03.9	-0.4
	37nm,0.1s						
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	Pg	03 17 55.4	+0.3
ATPC				Sg	Sb	03 18 04.5	+0.2
	50nm,0.3s						
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	Pg	03 17 55.4	+0.3
ATPC				Sg	Sb	03 18 04.5	+0.2
	50nm,0.3s						
CAFI	**Castiglion Fio**	**0.56**	**182**	Pg	Pg	03 17 56.1	+0.4
CAFI				Sg	Sb	03 18 05.4	+0.3
	32nm,0.5s						
CAFI	**Castiglion Fio**	**0.56**	**182**	Pg	Pg	03 17 56.1	+0.4
CAFI				Sg	Sb	03 18 05.4	+0.3
	32nm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**149**	Pg	Pg	03 17 56.6	+0.3
	46nm,0.5s						
ATVO	**AVT- Monte Val**	**0.59**	**149**	Pg	Pg	03 17 56.6	+0.3
	46nm,0.5s						
FSSB	**Fossombrone**	**0.60**	**109**	Pg	Pg	03 17 56.7	+0.2
	99nm,0.3s						
FSSB	**Fossombrone**	**0.60**	**109**	Pg	Pg	03 17 56.7	+0.2
	99nm,0.3s						
PTF	**Prato**	**0.67**	**276**	Pg	Pg	03 17 58.2	+0.4
	9μm,0.3s						
PTF	**Prato**	**0.67**	**276**	Pg	Pg	03 17 58.2	+0.4
	9μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.74**	**159**	Pg	Pg	03 17 59.2	+0.1
	23nm,0.2s						
ATTE	**AVT- Monte Tez**	**0.74**	**159**	Pg	Pg	03 17 59.2	+0.1
	23nm,0.2s						
ARVD	**Arcevia**	**0.79**	**119**	Pg	Pg	03 18 00.2	+0.1
	42nm,1.1s						
ARVD	**Arcevia**	**0.79**	**119**	Pg	Pg	03 18 00.2	+0.1
	42nm,1.1s						

IDC 08 03:18:36.4±4.8,21˚.05S×168˚.13E,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.6/36,mbtmpg3.7/2,Error ellipse: s-maj=146.9km s-min=33.7km az=136.0,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**1.86**	**237**	Pn	Pn	03 19 10.1	+0.4
	6.8nm,0.3s,baz=116,slow=22,SNR=50						
DZM				Sn	Sb	03 19 35.2	-0.2
	51nm,0.3s,baz=294,slow=23,SNR=18						
WRA	**Warramunga Arr**	**31.63**	**266**	P	P	03 25 01.1	-0.4
	0.4nm,0.4s,baz=97,slow=8.3,SNR=7.9						
ASAR	**Alice Springs**	**31.71**	**259**	P	P	03 25 02.0	-0.1
	1.1nm,0.9s,baz=91,slow=7.7,SNR=8.3						
GERES	**GERESS Array B**	**145.55**	**330**	PKPbc	PKPdf	03 38 16.3	-0.4
	0.5nm,0.6s,baz=29,slow=3.0,SNR=3.5						

DDA ***08*** *03:24:27.8,39˚.11N×29˚.07E,h7km,Ml3.2*
ISK ***08*** *03:24:27.6,39˚.10N×29˚.07E,h5km,ML3.1*
CSEM ***08*** *03:24:28.1±0.1,39˚.11N×29˚.08E,h2km,ML3.2,Error ellipse: s-maj=2.7km s-min=2.2km az=127.0*

ISC 08 03:24:28.0±0.9,39˚.11N±0˚.02×29˚.08E±0˚.02,h9km±10km, n71,σ0s51/89,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**256**	P	**Pg**	**03 24 33.8**	**0.0**
DEMI				S	**Sg**	**03 24 37.9**	**+0.3**
DEMI	**Demirci**	**0.29**	**256**	*i* P	**Pg**	**03 24 33.8**	**0.0**
DEMI				*i* S	**Sg**	**03 24 37.9**	**+0.3**
GDZ	**Gediz**	**0.32**	**94**	P	**Pg**	**03 24 34.2**	**-0.1**
GDZ				S	**Sg**	**03 24 39.0**	**+0.4**
GDZ	**Gediz**	**0.32**	**94**	*i* P	**Pg**	**03 24 34.2**	**-0.1**
GDZ				*i* S	**Sg**	**03 24 39.0**	**+0.4**
TVSB	**Tavsanli**	**0.45**	**42**	PG	**Pg**	**03 24 36.7**	**-0.2**
TVSB				*e*SG	**Sg**	**03 24 43.5**	**+0.7**
TVSB	**Tavsanli**	**0.45**	**42**	*i* Pg	**Pg**	**03 24 36.7**	**-0.2**
TVSB				*e*Sg	**Sg**	**03 24 43.5**	**+0.7**
DST	**Dursunbey**	**0.60**	**324**	*e*PG	**Pg**	**03 24 39.4**	**-0.3**
DST	**Dursunbey**	**0.60**	**324**	*e*Pg	**Pg**	**03 24 39.4**	**-0.3**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*PG	**Pg**	**03 24 41.0**	**-0.2**
KULA				*e*SG	**Sg**	**03 24 49.6**	**-0.5**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*Pg	**Pg**	**03 24 41.0**	**-0.2**
KULA				*e*Sg	**Sg**	**03 24 49.6**	**-0.5**
MANT	**Manisa**	**0.74**	**213**	P	**Pg**	**03 24 42.0**	**-0.4**
MANT				S	**Sg**	**03 24 51.9**	**-0.1**
MANT	**Manisa**	**0.74**	**213**	*i* P	**Pg**	**03 24 42.0**	**-0.4**
MANT				*i* S	**Sg**	**03 24 51.9**	**-0.1**
KHAL	**Karahalli**	**0.81**	**156**	P	**Pg**	**03 24 43.6**	**0.0**
KHAL				S	**Sb**	**03 24 54.9**	**-0.6**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pg**	**03 24 43.6**	**0.0**
KHAL				*i* S	**Sb**	**03 24 54.9**	**-0.6**
KHL	**Karahalli**	**0.86**	**156**	*e*PG	**Pg**	**03 24 44.4**	**-0.3**
KHL	**Karahalli**	**0.86**	**156**	*e*Pg	**Pg**	**03 24 44.4**	**-0.3**
ORLT	**Orhaneli**	**0.94**	**352**	*e*PG	**Pg**	**03 24 45.6**	**-0.6**
ORLT	**Orhaneli**	**0.94**	**352**	*e*Pg	**Pg**	**03 24 45.6**	**-0.6**
AKS	**Akhisar**	**1.01**	**257**	*e*PG	**Pb**	**03 24 47.6**	**-0.1**
AKS				*e*SG	**Sb**	**03 25 01.5**	**+0.3**
AKS	**Akhisar**	**1.01**	**257**	*e*Pg	**Pb**	**03 24 47.6**	**-0.1**
AKS				*e*Sg	**Sb**	**03 25 01.5**	**+0.3**
BALB	**Balikesir**	**1.06**	**300**	*e*PG	**Pn**	**03 24 49.4**	**+0.2**
BALB	**Balikesir**	**1.06**	**300**	*e*Pg	**Pn**	**03 24 49.4**	**+0.2**
IGD	**Bursa**	**1.15**	**5**	*i* P	**Pg**	**03 24 48.8**	**-1.4**
IGD				*i* S	**Sb**	**03 25 06.1**	**+0.8**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*PN	**Pn**	**03 24 51.9**	**+0.3**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*Pn	**Pn**	**03 24 51.9**	**+0.3**
IZI	**Iznik**	**1.26**	**14**	*e*PN	**Pn**	**03 24 52.7**	**+0.7**
IZI	**Iznik**	**1.26**	**14**	*e*Pn	**Pn**	**03 24 52.7**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	*e*PN	**Pn**	**03 24 52.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	*e*Pn	**Pn**	**03 24 52.5**	**+0.6**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pg**	**03 24 52.2**	**-0.3**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pg**	**03 24 52.2**	**-0.3**
BALY	**Balya**	**1.29**	**300**	P	**Pn**	**03 24 52.5**	**+0.1**
BALY	**Balya**	**1.29**	**300**	*i* P	**Pn**	**03 24 52.5**	**+0.1**
BORA	**Eskisehir**	**1.31**	**54**	P	**Pn**	**03 24 52.5**	**-0.2**
BORA				S	**Sg**	**03 25 09.8**	**-0.5**
BORA	**Eskisehir**	**1.31**	**54**	*i* P	**Pn**	**03 24 52.5**	**-0.2**
BORA				*i* S	**Sg**	**03 25 09.8**	**-0.5**
GEMT	**Gemlik**	**1.32**	**4**	*e*PN	**Pg**	**03 24 53.5**	**+0.1**
GEMT	**Gemlik**	**1.32**	**4**	*e*Pn	**Pg**	**03 24 53.5**	**+0.1**
ADVT	**Abdulvahap**	**1.41**	**21**	*e*PN	**Pg**	**03 24 55.3**	**+0.1**
ADVT	**Abdulvahap**	**1.41**	**21**	*e*Pn	**Pg**	**03 24 55.3**	**+0.1**
ESKT	**Eskisehir**	**1.44**	**73**	*e*PN	**Pn**	**03 24 54.6**	**+0.2**
ESKT	**Eskisehir**	**1.44**	**73**	*e*Pn	**Pn**	**03 24 54.6**	**+0.2**
ESKT	**Eskisehir**	**1.44**	**73**	*i* P	**Pb**	**03 24 55.1**	**0.0**
SEYT	**Eskypehyr**	**1.44**	**73**	P	**Pb**	**03 24 55.1**	**0.0**
ARMT	**Armutlu**	**1.46**	**354**	*e*PN	**Pb**	**03 24 55.5**	**0.0**
ARMT	**Armutlu**	**1.46**	**354**	*e*Pn	**Pb**	**03 24 55.5**	**0.0**
GPA	**Golpazari**	**1.51**	**39**	*e*PN	**Pn**	**03 24 55.6**	**+0.2**
GPA	**Golpazari**	**1.51**	**39**	*e*Pn	**Pn**	**03 24 55.6**	**+0.2**
BOLV	**Bolvadin**	**1.52**	**104**	P	**Pg**	**03 24 57.4**	**+0.3**
BOLV	**Bolvadin**	**1.52**	**104**	*i* P	**Pg**	**03 24 57.4**	**+0.3**
EDC	**Edincik**	**1.55**	**323**	*e*PN	**Pb**	**03 24 56.9**	**0.0**
EDC	**Edincik**	**1.55**	**323**	*e*Pn	**Pb**	**03 24 56.9**	**0.0**
KNL	**Bal˜–kesir**	**1.66**	**315**	*i* P	**Pn**	**03 24 57.4**	**0.0**
KNL				*i* S	**Sb**	**03 25 19.9**	**0.0**
GULT	**Gulveren**	**1.72**	**40**	*e*PN	**Pb**	**03

SONM	**Songino Array**	**50.30**	**8**	P	P	03 46 05.0	+1.6
	1.4nm,0.7s,baz=193,slow=8.5,SNR=6.5						
STKA	**Stephens Creek**	**51.63**	**130**	LR	LR	04 10 10.4	
	comp=Z,188nm,18.1s,baz=148,slow=38						
TXAR	**Lajitas Array**	**146.55**	**34**	PKPbc	PKPdf	03 56 48.4	+0.6
	0.4nm,0.7s,baz=247,slow=1.8,SNR=5.1						

*ISCJB **08** 03:37:17.8±0.5, 37.84N±0.02×29.15E±0.04, h4km±6km, Error ellipse: s-maj=5.5km s-min=3.7km az=174.8*
*DDA **08** 03:37:17.3, 37.83N×29.18E, h7km, Md2.8*
*CSEM **08** 03:37:17.6±0.2, 37.84N×29.18E, h5km, MD2.8, Error ellipse: s-maj=4.7km s-min=3.3km az=80.0*
*ISK **08** 03:37:17.3, 37.86N×29.18E, h10km, MD2.8*
ISC 08 03:37:17.1±1.3, 37.86N±0.02×29.18E±0.03, h1km±12km, n26, σ0.38/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.20**	**213**	P	**Pg**	**03 37 20.9**	**0.0**
DNZL	**Cakiroluk**	**0.20**	**213**	*i* P	**Pg**	**03 37 20.9**	**0.0**
KHAL	**Karahalli**	**0.57**	**25**	P	**Pg**	**03 37 28.3**	**+0.3**
KHAL				S	**Sb**	**03 37 37.3**	**-1.3**
KHAL	**Karahalli**	**0.57**	**25**	*i* P	**Pg**	**03 37 28.3**	**+0.3**
KHAL				*i* S	**Sb**	**03 37 37.3**	**-1.3**
GOLH	**Golhisar**	**0.69**	**154**	P	**Pg**	**03 37 30.5**	**+0.2**
GOLH				S	**Sb**	**03 37 42.0**	**+0.1**
GOLH	**Golhisar**	**0.69**	**154**	*i* P	**Pg**	**03 37 30.5**	**+0.2**
GOLH				*i* S	**Sb**	**03 37 42.0**	**+0.1**
GLHS	**Glhisar (BURDU**	**0.74**	**160**	*e*PG	**Pg**	**03 37 31.5**	**+0.1**
GLHS				*e*SG	**Sb**	**03 37 43.7**	**+0.2**
GLHS	**Glhisar (BURDU**	**0.74**	**160**	*e*Pg	**Pg**	**03 37 31.5**	**+0.1**
GLHS				*e*Sg	**Sb**	**03 37 43.7**	**+0.2**
KULA	**Kula-Manisa**	**0.78**	**328**	*e*PG	**Pg**	**03 37 32.0**	**0.0**
KULA				*e*SG	**Sb**	**03 37 44.4**	**-0.1**
KULA	**Kula-Manisa**	**0.78**	**328**	*e*Pg	**Pg**	**03 37 32.0**	**0.0**
KULA				*e*Sg	**Sb**	**03 37 44.4**	**-0.1**
MANT	**Manisa**	**0.80**	**322**	P	**Pb**	**03 37 34.2**	**+0.2**
MANT				S	**Sb**	**03 37 45.7**	**+0.3**
MANT	**Manisa**	**0.80**	**322**	*i* P	**Pb**	**03 37 34.2**	**+0.2**
MANT				*i* S	**Sb**	**03 37 45.6**	**+0.3**
YER	**Yerkesik**	**1.01**	**225**	*e*PG	**Pb**	**03 37 37.3**	**-0.2**
YER				*e*SG	**Sb**	**03 37 51.4**	**+0.1**
YER	**Yerkesik**	**1.01**	**225**	*e*Pg	**Pb**	**03 37 37.3**	**-0.2**
YER				*e*Sg	**Sb**	**03 37 51.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**275**	*e*PG	**Pb**	**03 37 37.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**275**	*e*Pg	**Pb**	**03 37 37.4**	**-0.3**
AYDN	**Tasoluk**	**1.05**	**260**	P	**Pb**	**03 37 37.7**	**-0.4**
AYDN				S	**Sg**	**03 37 50.9**	**+0.1**
AYDN	**Tasoluk**	**1.05**	**260**	*i* P	**Pb**	**03 37 37.7**	**-0.4**
AYDN				*i* S	**Sg**	**03 37 50.9**	**+0.1**
DEMI	**Demirci**	**1.24**	**343**	S	**Sb**	**03 37 57.7**	**-0.2**
DEMI	**Demirci**	**1.24**	**343**	*i* S	**Sb**	**03 37 57.7**	**-0.2**
ELL	**Elmali**	**1.25**	**152**	*e*PN	**Pn**	**03 37 41.3**	**-0.4**
ELL	**Elmali**	**1.25**	**152**	*e*Pn	**Pn**	**03 37 41.3**	**-0.4**
GDZ	**Gediz**	**1.25**	**11**	P	**Pb**	**03 37 41.9**	**+0.3**
GDZ				S	**Sn**	**03 37 59.9**	**+0.5**
GDZ	**Gediz**	**1.25**	**11**	*i* P	**Pb**	**03 37 41.9**	**+0.3**
GDZ				*i* S	**Sn**	**03 37 59.9**	**+0.5**
BODT	**Bodrum**	**1.69**	**243**	*e*PN	**Pn**	**03 37 47.6**	**0.0**
BODT	**Bodrum**	**1.69**	**243**	*e*Pn	**Pn**	**03 37 47.7**	**0.0**

*NEIC **08** 03:45:23.2, 54.72N×161.17W, h28km, ML3.4(AEIC), After AEIC.*
*IDC **08** 03:45:23.5±1.7, 56.02N×161.83W, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/53, mbtmp3.7/8, Error ellipse: s-maj=52.2km s-min=23.0km az=4.0*
ISC 08 03:45:24.3±1.1, 55.3N±0.1×161.49W±0.06, h31km±10km, n44, σ1.9/46/42, mb3.9/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVV	**Pavlof Volcano**	**0.19**	**294**	P	Pn	03 45 37.4	+6.4
PS4A	**Pavlof South-4**	**0.22**	**283**	P	Pn	03 45 37.4	+5.9
HAG	**Hague Volcano**	**0.24**	**275**	P	Pn	03 45 37.4	+5.6
DOL	**Dolgoi Island**	**0.26**	**235**	P	**Pn**	**03 45 34.8**	**+2.8**
DTNA	**Dutton South F**	**0.46**	**252**	P	**Pn**	**03 45 37.4**	**+2.6**
DT1	**Dutton Round H**	**0.49**	**248**	P	**Pn**	**03 45 36.9**	**+1.7**
DRIA	**Deer Island**	**0.56**	**234**	P	**Pb**	**03 45 35.7**	**0.0**
SDPT	**Sand Point**	**0.58**	**84**	*e*Pg	**Pn**	**03 45 37.2**	**+0.8**
SDPT				*e*S	**Sn**	**03 45 47.3**	**+2.5**
BALA	**Baldy Mountain**	**0.75**	**263**	P	**Pn**	**03 45 42.4**	**+3.6**
VNWF	**Veniaminof 8**	**1.39**	**51**	P	**Pb**	**03 45 52.0**	**+2.3**
VNWF				S	Sb	03 46 15.9	+8.9
SSLN	**Shishaldin Nor**	**1.52**	**252**	P	**Pb**	**03 45 50.8**	**-1.2**
SSLS	**Shishaldin Sou**	**1.56**	**249**	P	**Pn**	**03 45 50.8**	**+0.8**
SSLS				S	**Sb**	**03 46 14.4**	**+2.4**
VNSG	**Veniaminof 6**	**1.59**	**58**	P	**Pb**	**03 45 53.3**	**+0.1**
SSLW	**Shishaldin Wes**	**1.60**	**252**	P	**Pn**	**03 45 51.8**	**+1.2**
WESN	**West Dahl Nort**	**1.93**	**249**	P	**Pn**	**03 45 55.7**	**+0.7**
CHGN	**Chignik**	**2.01**	**59**	*e*Pn	**Pb**	**03 45 58.5**	**-1.6**
CHGN				*e*S	**Sb**	**03 46 25.4**	**+0.8**
WEBT	**Westdahl Beart**	**2.01**	**251**	P	**Pn**	**03 45 56.8**	**+0.7**
WESP	**Westdahl Peak**	**2.03**	**248**	P	**Pn**	**03 45 56.7**	**+0.2**
WESP				S	**Sb**	**03 46 25.3**	**-0.3**
ANPB	**Aniakchak Plen**	**2.35**	**49**	P	**Pb**	**03 46 04.6**	**-1.4**
ANNE	**Aniakchak Nort**	**2.51**	**48**	P	**Pb**	**03 46 06.9**	**-1.9**
AKSA	**Akutan Strait**	**2.71**	**246**	P	**Pn**	**03 46 05.0**	**0.0**
AKSA				S	**Sn**	**03 46 39.2**	**+2.0**
AKUT	**Akutan**	**2.75**	**247**	*e*Pn	**Pn**	**03 46 06.0**	**-0.1**
AKUT				*e*S	**Sb**	**03 46 43.6**	**-2.2**
AHB	**Akutan Harbor**	**2.78**	**247**	P	**Pn**	**03 46 06.4**	**-0.3**
AKGG	**Akutan Green G**	**2.83**	**249**	P	**Pn**	**03 46 07.4**	**0.0**
UNV	**Unalaska Valle**	**3.26**	**246**	*e*Pn	**Pn**	**03 46 12.5**	**-0.8**
UNV				*e*S	**Sn**	**03 46 48.8**	**-2.1**
MSOM	**Makushin Julie**	**3.51**	**247**	P	**Pn**	**03 46 15.8**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**4.29**	**246**	P	**Pn**	**03 46 26.8**	**-0.6**
OHAK	**Old Harbor**	**4.96**	**64**	*e*Pn	**Pn**	**03 46 35.9**	**-0.7**
OHAK				*e*S	**Sn**	**03 47 33.1**	**+0.3**
SEW	**Seward**	**8.04**	**48**	*e*Pn	**Pn**	**03 47 20.6**	**+1.8**
ILAR	**Eielson Array**	**11.94**	**31**	Pn	**Pn**	**03 48 12.1**	**-0.1**
	0.1nm,0.3s,baz=227,slow=14,SNR=3.8						
PETK	**Petropavlovsk-**	**23.73**	**282**	P	**P**	**03 50 33.8**	**+0.4**
	1.9nm,0.4s,baz=83,slow=13,SNR=4.2						
YKA	**Yellowknife Ar**	**24.77**	**54**	P	**P**	**03 50 42.7**	**-0.1**
	0.3nm,0.6s,baz=271,slow=9.3,SNR=5.2						
KLR	**Kul'dur**	**39.88**	**290**	P	**P**	**03 52 54.2**	**-0.6**
	0.8nm,0.6s,baz=21,slow=11,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**42.77**	**227**	T	T	04 38 20.9	
	baz=27,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**42.78**	**227**	T	T	04 38 27.9	
	baz=27,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**42.79**	**227**	T	T	04 38 28.7	
	baz=27,slow=76,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**43.95**	**226**	T	T	04 39 42.6	
	baz=26,slow=76,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**43.96**	**226**	T	T	04 39 44.0	
	baz=26,slow=76,SNR=8.2						
H11S3	**WAKE ISLAND Hy**	**43.96**	**226**	T	T	04 39 44.3	
	baz=26,slow=76,SNR=6.5						
TXAR	**Lajitas Array**	**48.26**	**98**	P	P	03 54 08.8	+6.5
	0.3nm,0.7s,baz=290,slow=5.5,SNR=5.1						
FINES	**FINESS Array B**	**63.45**	**356**	P	**P**	**03 55 50.3**	**-0.1**
	0.5nm,0.4s,baz=6.3,slow=7.0,SNR=7.6						
MKAR	**Makanchi Array**	**65.01**	**317**	P	**P**	**03 56 00.8**	**-0.2**
	0.4nm,0.5s,baz=54,slow=3.8,SNR=4.8						
AKASG	**Malin Array Be**	**73.99**	**353**	P	**P**	**03 56 56.0**	**-0.2**
	1.3nm,0.4s,baz=9.0,slow=5.7,SNR=8.5						
BRTR	**Keskin Array B**	**84.47**	**348**	P	**P**	**03 57 54.2**	**+0.4**
	0.7nm,0.7s,baz=64,slow=2.9,SNR=5.3						

*SJA **08** 03:55:53.9±0.5, 21.47S×68.44W, h148km±6km, ML3.8, MW4.2*
*ISCJB **08** 03:55:54.2±0.4, 21.30S±0.04×68.14W±0.04, h125km±3km, mb4.6/93, Error ellipse: s-maj=6.9km s-min=4.9km az=139.5*
*NEIC **08** 03:55:56.8±0.2, 21.41S×68.07W, mb4.6/81, Error ellipse: s-maj=6.8km s-min=5.0km az=58.0*
*IDC **08** 03:55:56.5±0.4, 21.57S×68.25W, h134km±4km, mb4.2/15, mb1 4.2/19, mb1mx4.2/27, mbtmp4.5/19, Error ellipse: s-maj=12.8km s-min=7.9km az=105.0*
*SCB **08** 03:55:57.1±0.5, 21.14S×68.03W, h124km, Ml4.1/2, Error ellipse: s-maj=13.7km s-min=5.3km az=40.0*
ISC 08 03:55:56.4±0.5, 21.45S±0.04×68.32W±0.04, h134km±4km, h134km:pP-P, n376, σ1.9/30/401, mb4.5/93, 2C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**1.16**	**290**	*e*Pn	**Pn**	**03 56 20.3**	**-1.1**
PB01				*e*Sn	**Sn**	**03 56 39.5**	**-0.8**
LVC	**Limon Verde**	**1.28**	**205**	*i* P	**Pn**	**03 56 21.7**	**-1.2**
LVC				*i* S	**Sn**	**03 56 41.7**	**-1.2**
LVC	**Limon Verde**	**1.28**	**205**	P	**Pn**	**03 56 22.1**	**-0.8**
	6μm,0.3s,baz=1.6,slow=7.4,SNR=919						
LVC				S	**Sn**	**03 56 41.1**	**-1.8**
	15μm,0.3s,baz=213,slow=18,SNR=93						
PB04	**IPOC Station P**	**1.92**	**242**	*e*Pn	**Pn**	**03 56 28.1**	**-1.6**
PB04				*e*Sn	**Sn**	**03 56 51.4**	**-3.9**
MOCB	**Mochara**	**2.51**	**86**	*i*Pn	**Pn**	**03 56 38.6**	**+1.3**
MOCB				*e*Sn	**Sn**	**03 57 09.7**	**+1.0**
	830nm,0.7s						
YJA	**Yavi**	**2.71**	**106**	*i* P	**Pn**	**03 56 40.8**	**+1.0**
YJA				*i* S	**Sn**	**03 57 15.6**	**+2.4**
YJA				IAML		03 57 17.9	
	comp=Z,258nm,0.7s						
PB10	**IPOC Station P**	**2.92**	**225**	*e*Pn	**Pn**	**03 56 40.1**	**-1.9**
PB10				*e*Sn	Sn	03 57 08.5	-8.8
AZAP	**Zapla**	**4.08**	**133**	*i* P	**Pn**	**03 56 57.5**	**-0.1**
SLA	**San Lorenzo**	**4.16**	**142**	*i* P	**Pn**	**03 56 58.5**	**-0.1**
ASTB	**Santa Barbara**	**4.35**	**126**	*i* P	**Pn**	**03 57 00.9**	**-0.2**
BBOJ	**La Paz, Jacaqu**	**4.45**	**2**	*e*Pn	**Pn**	**03 57 04.5**	**+1.7**
BBOE	**La Paz, Chanca**	**4.62**	**4**	*e*Pn	**Pn**	**03 57 06.6**	**+1.5**
ALOL	**LOMAS DE OLMED**	**4.65**	**121**	*i* P	**Pn**	**03 57 04.3**	**-0.6**
BBOD	**La Paz, Gloria**	**4.79**	**357**	*i*Pn	**Pn**	**03 57 08.9**	**+1.5**
FSA	**Cafayete**	**5.11**	**156**	*i* P	**Pn**	**03 57 10.8**	**-0.5**
LPAZ	**La Paz**	**5.14**	**2**	P	**Pn**	**03 57 13.1**	**+1.1**
	comp=Z,8.6nm,0.3s,baz=173,slow=6.3,SNR=216						
LPAZ	**La Paz**	**5.14**	**2**	*e*Pn	**Pn**	**03 57 12.9**	**+0.9**
LPAZ	**La Paz**	**5.14**	**2**	*i*Pn	**Pn**	**03 57 12.9**	**+0.9**
BBOB	**La Paz, Bander**	**5.28**	**2**	*i*Pn	**Pn**	**03 57 14.5**	**+0.6**
BBOB				*e*Sn	**Sn**	**03 58 11.7**	**-2.4**
	comp=Z,60nm,0.5s						
SIV	**San Ignacio**	**8.75**	**53**	P	**Pn**	**03 57 56.9**	**-3.1**
	comp=Z,5.0nm,0.3s,baz=250,slow=13,SNR=58						
SIV				S	**Sn**	**03 59 29.6**	**-7.6**
	comp=Z,1.7nm,0.3s,baz=312,slow=20,SNR=9.7						
SIV	**San Ignacio**	**8.75**	**53**	*e*P	**Pn**	**03 57 56.8**	**-3.2**
SIV				*e*S	**Sn**	**03 59 29.2**	**-7.9**
CPUP	**Villa Florida**	**11.16**	**118**	P	**Pn**	**03 58 29.6**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=296,slow=11,SNR=5.8						
NNA	**Nana**	**12.45**	**318**	P	**P**	**03 58 56.5**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=154,slow=10,SNR=7.3						
NNA				S	Sn	04 00 55.7	-11
	comp=Z,1.5nm,0.3s,baz=254,slow=12,SNR=2.9						
SAML	**Samuel**	**13.38**	**22**	*e*Pn	**Pn**	**03 58 57.2**	**-3.9**
ATAH	**Atahualpa**	**17.24**	**324**	P	**Pn**	**03 59 51.6**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=154,slow=16,SNR=4.5						
TRQA	**Tornquist**	**17.43**	**163**	*e*P	**P**	**03 59 49.0**	**-1.6**
	comp=Z,53nm,0.7s						
PLCA	**Paso Flores**	**19.32**	**185**	P	**P**	**04 00 11.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=14,slow=12,SNR=5.7						
SPB	**Sao Paulo**	**19.41**	**100**	*e*P	**P**	**04 00 11.4**	**-0.8**
	comp=Z,32nm,0.8s						
BDFB	**Brasilia**	**20.09**	**77**	P	**P**	**04 00 18.4**	**-1.4**
	comp=Z,14nm,0.5s,baz=252,slow=9.8,SNR=44						
BDFB	**Brasilia**	**20.09**	**77**	*e*P	**P**	**04 00 17.6**	**-2.2**
	comp=Z,29nm,0.5s						
PTGA	**Pitinga**	**22.14**	**23**	P	**P**	**04 00 42.5**	**+1.0**
	comp=Z,2.4nm,0.3s,baz=195,slow=19,SNR=6.2						
OTAV	**Otavalo**	**23.72**	**334**	*e*P	**P**	**04 00 56.4**	**-0.4**
OTAV	**Otavalo**	**23.72**	**334**	*e*P	**P**	**04 00 57.9**	**+1.1**
	comp=Z,47nm,1.8s						
PRAC	**Prado**	**25.82**	**345**	*e*P	**P**	**04 01 15.2**	**-0.2**
PRAC	**Prado**	**25.82**	**345**	*e*P	**P**	**04 01 15.3**	**-0.1**
	comp=Z,8.4nm,0.7s						
RUSC	**La Rusia**	**27.57**	**350**	*e*P	**P**	**04 01 31.6**	**+0.1**
NORC	**Norcasia**	**27.60**	**346**	*e*P	**P**	**04 01 29.6**	**-1.8**
BARC	**Barichara**	**28.27**	**350**	*e*P	**P**	**04 01 35.0**	**-2.5**
CBRI	**Barrientos, No**	**29.32**	**351**	*e*P	**P**	**04 01 45.2**	**-1.5**
OCAC	**Ocana**	**29.91**	**350**	*e*P	**P**	**04 01 49.0**	**-2.9**
MOTC	**Monteria, Cord**	**30.89**	**346**	*e*P	**P**	**04 01 58.2**	**-2.2**
SJCC	**San Jacinto, C**	**31.87**	**347**	*e*P	**P**	**04 02 07.3**	**-1.8**
URIC	**Uribia, Colomb**	**33.14**	**353**	*e*P	**P**	**04 02 16.2**	**-3.8**
RCBR	**Riachuelo**	**35.01**	**68**	P	**P**	**04 02 35.6**	**-0.8**
	comp=Z,19nm,0.7s,baz=235,slow=8.8,SNR=11						
FDF	**Fort de France**	**36.64**	**12**	*e*P	**P**	**04 02 50.0**	**-0.2**
SJG	**San Juan**	**39.37**	**3**	*e*P	**P**	**04 03 11.0**	**-1.9**
	comp=Z,20nm,0.9s						
CMIG	**Matias Romero**	**46.31**	**324**	P	**P**	**04 04 09.9**	**+0.9**
	comp=Z,3.2nm,0.7s,baz=143,slow=0.8,SNR=4.3						
ZAIG	**Zacatecas**	**55.19**	**321**	*e*P	**P**	**04 05 17.8**	**+2.0**
	comp=Z,15nm,0.9s						
347A	**Saraland**	**56.01**	**339**	P	**P**	**04 05 21.0**	**-0.1**
	baz=157						
248A	**Dixon Mills**	**56.39**	**340**	P	**P**	**04 05 23.7**	**-0.1**
	baz=158						
GOGA	**Gendrey**	**56.44**	**345**	*e*P	**P**	**04 05 22.0**	**-2.0**
	comp=Z,12nm,1.3s						
247A	**Quitman**	**56.64**	**339**	P	**P**	**04 05 25.5**	**0.0**
	baz=157						
344A	**Westbrook Farm**	**56.82**	**337**	P	**P**	**04 05 27.1**	**+0.3**
	baz=155						
LRAL	**Lakeview Retre**	**57.04**	**341**	*e*P	**P**	**04 05 27.9**	**-0.5**
	comp=Z,8.8nm,1.0s						
245A	**Little AP, Sta**	**57.05**	**338**	P	**P**	**04 05 28.5**	**0.0**
	baz=156						
147A	**Livingston**	**57.10**	**340**	P	**P**	**04 05 28.8**	**+0.1**
	baz=158						
933A	**Laredo**	**57.23**	**327**	P	**P**	**04 05 30.8**	**+1.0**
	baz=145						
736A	**Circle Diamond**	**57.27**	**330**	P	**P**	**04 05 31.9**	**+1.8**
	baz=148						
834A	**Tilden**	**57.29**	**328**	P	**P**	**04 05 31.1**	**+0.8**
	baz=146						
244A	**Avery, Jackson**	**57.34**	**337**	P	**P**	**04 05 30.5**	**+0.1**
	baz=155						
342A	**Flagon Creek P**	**57.35**	**336**	P	**P**	**04 05 31.5**	**+0.9**
	baz=153						
Z47A	**Carrollton**	**57.52**	**340**	P	**P**	**04 05 31.5**	**-0.3**
	baz=158						
Z48A	**Northport**	**57.52**	**341**	P	**P**	**04 05 31.3**	**-0.5**
	baz=158						
HKT	**Hockley**	**57.55**	**332**	*e*P	**P**	**04 05 33.0**	**+1.1**
	comp=Z,7.4nm,1.2s						
KMSC	**Kings Mountain**	**57.62**	**347**	P	**P**	**04 05 32.5**	**+0.1**
	baz=165						
341A	**Kurthwood**	**57.64**	**335**	P	**P**	**04 05 33.7**	**+1.1**
	baz=152						
439A	**Center Grove,**	**57.82**	**333**	P	**P**	**04 05 34.6**	**+0.7**
	baz=150						
833A	**Chaparral WMA,**	**57.87**	**327**	P	**P**	**04 05 35.1**	**+0.8**
	baz=145						
537A	**Green Hill Far**	**57.88**	**331**	P	**P**	**04 05 35.3**	**+1.0**
	baz=149						
734A	**La Parita Cree**	**57.89**	**329**	P	**P**	**04 05 35.1**	**+0.7**
	baz=146						
242A	**Grayson**	**57.89**	**336**	P	**P**	**04 05 34.8**	**+0.5**
	baz=154						
635A	**Leesville**	**57.97**	**330**	P	**P**	**04 05 35.2**	**+0.3**
	baz=147						
340A	**Bronson**	**58.00**	**334**	P	**P**	**04 05 35.9**	**+0.7**
	baz=152						
Y47A	**UCPARC, Winfie**	**58.10**	**341**	P	**P**	**04 05 35.2**	**-0.6**
	baz=158,SNR=5.5						
832A	**Faith Ranch, C**	**58.13**	**327**	P	**P**	**04 05 36.8**	**+0.7**
	baz=145						
733A	**Divot King Ran**	**58.15**	**328**	P	**P**	**04 05 36.7**	**+0.5**
	baz=146						
Z45A	**Winona**	**58.20**	**339**	P	**P**	**04 05 37.1**	**+0.6**
	baz=156						
339A	**Huntington**	**58.20**	**334**	P	**P**	**04 05 37.6**	**+1.1**
	baz=151						
Y46A	**Houston**	**58.40**	**340**	P	**P**	**04 05 37.0**	**-0.8**
	baz=157						
535A	**Dale**	**58.41**	**330**	P	**P**	**04 05 38.4**	**+0.4**
	baz=148						
240A	**Hunter Patters**	**58.50**	**335**	P	**P**	**04 05 39.8**	**+1.2**
	baz=152						
338A	**Crockett**	**58.54**	**333**	P	**P**	**04 05 40.1**	**+1.2**
	baz=150						
CPCT	**Cooper Cave**	**58.64**	**345**	*e*P	**P**	**04 05 39.6**	**+0.1**
	comp=Z,6.1nm,1.0s						
633A	**Saathoff Ranch**	**58.70**	**328**	P	**P**	**04 05 40.3**	**+0.2**
	baz=146,SNR=6.1						
239A	**Gary**	**58.77**	**334**	P	**P**	**04 05 41.4**	**+1.0**
	baz=151						
SWET	**Sewanee**	**58.78**	**343**	*e*P	**P**	**04 05 40.6**	**0.0**
	comp=Z,5.6nm,0.7s						
534A	**Blanco**	**58.83**	**329**	P	**P**	**04 05 40.9**	**-0.1**
	baz=147						
238A	**Jacksonville**	**59.02**	**333**	P	**P**	**04 05 43.3**	**+1.1**
	baz=150						
X45A	**UM Field Stati**	**59.07**	**340**	P	**P**	**04 05 41.6**	**-0.9**
	baz=157						
OXF	**Oxford**	**59.16**	**340**	*e*P	**P**	**04 05 42.9**	**-0.2**
	comp=Z,21nm,1.0s						
PLAL	**Pickwick Lake**	**59.17**	**341**	*e*P	**P**	**04 05 42.4**	**-0.8**
	comp=Z,13nm,1.1s						
Z41A	**Richland Creek**	**59.21**	**336**	P	**P**	**04 05 43.9**	**+0.4**
	baz=153						
336A	**Riesel**	**59.23**	**332**	P	**P**	**04 05 44.3**	**+0.7**
	baz=149						
237A	**Washetta, Mont**	**59.31**	**333**	P	**P**	**04 05 45.2**	**+1.0**
	baz=150						
434A	**Burnet**	**59.39**	**330**	P	**P**	**04 05 45.1**	**+0.3**
	baz=147						
335A	**Moody**	**59.40**	**331**	P	**P**	**04 05 45.3**	**+0.5**
	baz=148						
Z40A	**Long Farm, Mag**	**59.43**	**336**	P	**P**	**04 05 46.0**	**+1.0**
	baz=153						
TZTN	**Tazewell**	**59.45**	**346**	*e*P	**P**	**04 05 44.7**	**-0.4**
	comp=Z,8.6nm,0.9s						
138A	**Matatall Enter**	**59.58**	**334**	P	**P**	**04 05 47.2**	**+1.1**
	baz=151						
236A	**Katherine and**	**59.62**	**332**	P	**P**	**04 05 46.9**	**+0.6**
	baz=149						
X43A	**Marvell**	**59.65**	**338**	P	**P**	**04 05 46.5**	**+0.1**
	baz=155						
W45A	**Hickory Valley**	**59.68**	**340**	P	**P**	**04 05 45.7**	**-0.9**
	baz=157						
Y41A	**Eaglette Beard**	**59.69**	**337**	P	**P**	**04 05 47.0**	**+0.2**
	baz=154						
433A	**Art**	**59.73**	**329**	P	**P**	**04 05 47.6**	**+0.4**
	baz=146,SNR=9.9						
137A	**Heron Place, G**	**59.80**	**333**	P	**P**	**04 05 48.9**	**+1.3**
	baz=150						
334A	**Lometa**	**59.81**	**330**	P	**P**	**04 05 47.9**	**+0.2**
	baz=147						
JCT	**Junction City**	**59.84**	**329**	P	**P**	**04 05 48.3**	**+0.4**
	baz=146						
JCT	**Junction City**	**59.84**	**329**	*e*P	**P**	**04 05 48.2**	**+0.2**
	comp=Z,8.1nm,0.8s						
136A	**Ennis**	**60.02**	**333**	P	**P**	**04 05 49.8**	**+0.8**
	baz=149						
Z38A	**Mt. Pleasant**	**60.05**	**334**	P	**P**	**04 05 50.0**	**+0.8**
	baz=151						
Y40A	**Okolona**	**60.06**	**336**	P	**P**	**04 05 49.7**	**+0.4**
	baz=153						
V45A	**Humboldt**	**60.15**	**341**	P	**P**	**04 05 49.9**	**0.0**
	baz=158						
333A	**Richland Sprin**	**60.15**	**330**	P	**P**	**04 05 50.1**	**+0.1**
	baz=147,SNR=5.9						
WVT	**Waverly**	**60.17**	**342**	*e*P	**P**	**04 05 49.3**	**-0.7**
	comp=Z,15nm,0.7s						
Y39A	**Lockesburg**	**60.30**	**335**	P	**P**	**04 05 51.6**	**+0.7**
	baz=152						
234A	**Clairette**	**60.33**	**331**	P	**P**	**04 05 51.5**	**+0.3**
	baz=148,SNR=11						
135A	**Vickery Place,**	**60.48**	**332**	P	**P**	**04 05 52.3**	**+0.1**
	baz=148						
MIAR	**Mount Ida**	**60.64**	**336**	P	**P**	**04 05 53.4**	**+0.1**
	baz=153,SNR=8.1						
MIAR	**Mount Ida**	**60.64**	**336**	*e*P	**P**	**04 05 52.9**	**-0.3**
	comp=Z,12nm,1.0s						
Z36A	**Blue Ridge**	**60.67**	**333**	P	**P**	**04 05 54.1**	**+0.7**
	baz=150,SNR=5.3						
233A	**Rising Star**	**60.69**	**330**	P	**P**	**04 05 54.0**	**+0.3**
	baz=147,SNR=7.1						
W41B	**Gary Mavity, V**	**60.72**	**338**	P	**P**	**04 05 53.5**	**-0.2**
	baz=154						
134A	**White-Moore Ra**	**60.79**	**331**	P	**P**	**04 05 54.5**	**+0.2**
	baz=148						
X39A	**Fountain Ranch**	**60.82**	**336**	P	**P**	**04 05 55.0**	**+0.5**
	baz=152,SNR=7.6						
X301	**Greenbrier Sit**	**60.83**	**338**	*e*P	**P**	**04 05 54.7**	**+0.2**
	comp=Z,6.9nm,0.9s						
WHAR	**Wooly Hollow**	**60.84**	**338**	*e*P	**P**	**04 05 54.6**	**+0.1**
	comp=Z,7.1nm,1.0s						
X201	**Greenbrier Sit**	**60.87**	**338**	*e*P	**P**	**04 05 54.9**	**+

T39A	Clever baz=154	62.78	338	P	P	04 06 07.8 +0.3
ACSO	Alum Creek Sta comp=Z,11nm,1.0s	62.87	347	eP	P	04 06 08.1 +0.1
U37A	Salina baz=152	62.87	336	P	P	04 06 07.3 -0.8
V35A	Meyer Ranch, C baz=150	62.99	334	P	P	04 06 08.7 -0.2
S40A	Lebanon baz=154,SNR=5.2	62.99	339	P	P	04 06 08.6 -0.3
N54A	Moraine State baz=168	63.03	350	P	P	04 06 09.5 +0.4
T38A	Diamond baz=153,SNR=5.8	63.12	337	P	P	04 06 09.8 0.0
W33A	Caddo, Fort Co baz=148,SNR=5.1	63.15	333	P	P	04 06 10.6 +0.6
V34A	Guthrie baz=149	63.33	334	P	P	04 06 11.0 -0.2
S39A	Bolivar baz=154,SNR=11	63.36	338	P	P	04 06 11.1 -0.2
T37A	Cheneyville 18 baz=152,SNR=9.1	63.43	336	P	P	04 06 11.9 +0.1
W32A	Sentinel baz=148	63.46	332	P	P	04 06 12.2 +0.1
U35A	Pawnee baz=150	63.47	335	P	P	04 06 12.5 +0.3
S38A	Stockton baz=153,SNR=5.2	63.51	337	P	P	04 06 12.0 -0.3
M54A	Oil Creek Stat baz=168	63.51	350	P	P	04 06 10.7 -1.6
R40A	Maddies Statio baz=155	63.54	339	P	P	04 06 12.2 -0.3
Q42A	Golden Eagle baz=157	63.55	341	P	P	04 06 11.9 -0.7
V33A	Lossen Ranch, baz=149	63.64	333	P	P	04 06 13.5 +0.3
MNTX	Cornudas Mount baz=141	63.67	325	P	P	04 06 13.8 +0.3
MNTX	Cornudas Mount comp=Z,3.8nm,1.0s	63.67	325	eP	P	04 06 13.7 +0.2
T36A	Boggs Farm, Ca baz=151	63.74	336	P	P	04 06 14.0 +0.2
R39A	Chumby, Stover baz=154,SNR=6.8	63.82	338	P	P	04 06 14.3 -0.1
U34A	Anderson Ranch baz=149	63.85	334	P	P	04 06 14.7 +0.1
T35A	Sooner Cattle baz=150	63.86	335	P	P	04 06 14.6 0.0
SFIN	Lafayette baz=160	63.95	344	P	P	04 06 13.2 -1.9
SFIN	Lafayette comp=Z,10nm,1.0s	63.95	344	eP	P	04 06 13.6 -1.5
S37A	Fort Scott baz=152,SNR=5.5	63.96	337	P	P	04 06 14.9 -0.3
R38A	Fenwick Farm, baz=153,SNR=7.4	64.00	338	P	P	04 06 15.4 -0.2
U33A	Lingo Farm, Me baz=149	64.09	334	P	P	04 06 15.8 -0.3
Q40A	Laux Farm, Aux baz=155	64.11	340	P	P	04 06 15.3 -0.9
MSTX	Muleshoe baz=144,SNR=8.5	64.14	328	P	P	04 06 16.7 0.0
MSTX	Muleshoe comp=Z,13nm,0.9s	64.14	328	eP	P	04 06 16.7 0.0
MSTX				ePcP	pP	04 06 48.5 -0.5
S36A	Lake Cedric, C baz=152	64.21	336	P	P	04 06 17.0 +0.1
T34A	McClaskey Farm baz=150	64.22	335	P	P	04 06 16.8 -0.2
R37A	Teagarden Farm baz=152	64.45	337	P	P	04 06 18.4 0.0
S35A	Otter Creek Ra baz=151	64.45	336	P	P	04 06 18.6 +0.1
Q39A	Willow Grove F baz=154	64.46	339	P	P	04 06 18.2 -0.3
P40A	Paris baz=155,SNR=5.0	64.59	340	P	P	04 06 18.9 -0.4
Q38A	Cooks Store, C baz=154,SNR=5.6	64.60	338	P	P	04 06 19.3 -0.1
HDIL	Hopedale baz=158	64.70	342	P	P	04 06 19.0 -1.0
R36A	Gordon, Harris baz=152	64.70	337	P	P	04 06 20.2 0.0
S34A	Willow Spring baz=150	64.77	335	P	P	04 06 20.8 +0.2
P39B	Salisbury baz=155	64.78	339	P	P	04 06 20.3 -0.3
Q37A	Longview Farm, baz=153	64.81	338	P	P	04 06 20.8 0.0
T32A	Huddler Ranch, baz=148	65.06	333	P	P	04 06 22.9 +0.3
O40A	La Belle baz=156	65.07	340	P	P	04 06 21.8 -0.6
P38A	Dawn baz=154	65.16	339	P	P	04 06 22.8 -0.3
R34A	Isabella, Hill baz=150	65.35	335	P	P	04 06 24.4 +0.1
P37A	Lathrop baz=153	65.41	338	P	P	04 06 24.1 -0.5
319A	Douglas comp=Z,12nm,0.8s	65.58	322	eP	P	04 06 27.9 +1.7
121A	Cookes Peak, D baz=139	65.61	324	P	P	04 06 27.9 +1.6
P36A	Good Intent, A baz=152	65.74	337	P	P	04 06 26.1 -0.7
Q34A	Chapman baz=151	65.77	336	P	P	04 06 26.7 -0.3
O37A	Wolven Farm, M baz=153	65.86	339	P	P	04 06 27.5 0.0
N39A	Derby Farms, D baz=155	65.96	340	P	P	04 06 28.1 -0.1
R32A	Long Quarter, baz=149	66.03	334	P	P	04 06 29.1 +0.4
P34A	Walnut Farm, R baz=151	66.27	336	P	P	04 06 30.4 +0.2
LPM	Los Pinos Moun	66.36	326	eP	P	04 06 32.6 +1.6
N37A	Lee Faris, Mou baz=154	66.41	339	P	P	04 06 31.0 0.0
M38A	Pleasantville baz=155	66.67	340	P	P	04 06 32.1 -0.5
LAZ	Ladron	66.69	326	eP	P	04 06 32.8 -0.4
ANMO	Albuquerque baz=141	66.76	326	P	P	04 06 35.0 +1.4
ANMO	Albuquerque comp=Z,3.5nm,0.8s	66.76	326	eP	P	04 06 34.3 +0.7
CBKS	Cedar Bluff baz=148	66.79	334	P	P	04 06 34.5 +1.0
CBKS	Cedar Bluff comp=Z,15nm,1.1s	66.79	334	eP	P	04 06 34.6 +1.0
M37A	Trindle Farm, baz=154	66.94	339	P	P	04 06 34.8 +0.5
O33A	Hebron baz=150	67.02	336	P	P	04 06 35.0 +0.1
TUC	Tucson baz=137	67.14	322	P	P	04 06 37.6 +1.7
TUC	Tucson comp=Z,12nm,1.5s	67.14	322	eP	P	04 06 37.8 +1.8
T25A	Trinidad baz=143	67.48	329	P	P	04 06 39.9 +1.8
LIC	Lamto comp=Z,111nm,2.0s	67.84	74	eP	P	04 06 40.5 -0.2
TIC	Toumodi	68.03	73	eP	P	04 06 40.9 -1.0
214A	Organ Pipe Nat baz=135	68.07	320	P	P	04 06 44.0 +2.2
KIC	Kosan Boka comp=Z,45nm,0.7s	68.16	74	eP	P	04 06 42.1 -0.6
DBIC	Dimbokro comp=Z,19nm,0.7s,baz=219,slow=6.6,SNR=22	68.19	73	P	P	04 06 41.9 -1.0
SDCO	Great Sand Dun baz=143	68.48	329	P	P	04 06 46.1 +1.5
SDCO	Great Sand Dun comp=Z,8.7nm,1.3s	68.48	329	eP	P	04 06 45.8 +1.3
SDCO				epP	pP	04 07 18.5 +1.2
QSPA	South Pole Qui comp=Z,50nm,1.1s	68.74	180	eP	P	04 06 46.5 +0.9
QSPA				epP	pP	04 07 22.5 +4.2
I38A	Scanlan Farm, baz=156	68.79	342	P	P	04 06 46.2 +0.3
X16A	Lo Mia Camp, P comp=Z,5.4nm,1.1s	69.05	323	eP	P	04 06 48.6 +0.7
S22A	4UR Ranch, Cre baz=142	69.13	328	P	P	04 06 49.6 +1.1
Q24A	Divide baz=143	69.29	330	P	P	04 06 50.5 +1.0
MVCO	Mesa Verde baz=140	69.55	327	P	P	04 06 52.3 +1.2
MVCO	Mesa Verde comp=Z,4.7nm,0.8s	69.55	327	eP	P	04 06 52.3 +1.2
MVCO				epP	pP	04 07 25.8 +1.9
Y14A	Wickenburg comp=Z,30nm,1.1s	69.60	321	eP	P	04 06 51.8 +0.6
J33A	Davis baz=151	69.62	338	P	P	04 06 51.2 +0.1
H36A	Jessenland, He baz=154	69.75	341	P	P	04 06 52.2 +0.4
WUAZ	Wupatki baz=137	69.81	324	P	P	04 06 54.4 +1.7
WUAZ	Wupatki comp=Z,15nm,1.2s	69.81	324	eP	P	04 06 54.3 +1.7
WUAZ				epP	pP	04 07 27.6 +2.1
ECSD	EROS Data Cent baz=152	69.87	339	P	P	04 06 52.2 -0.4
SPMN	Marine on St. baz=156	70.00	342	P	P	04 06 53.1 -0.2
GLA	Glamis baz=134	70.05	320	P	P	04 06 56.2 +2.2
H35A	Sunnyside Ranc baz=154	70.14	340	P	P	04 06 54.2 0.0
ISCO	Idaho Springs baz=143	70.17	330	P	P	04 06 55.5 +0.6
PV01	Paradox Valley	70.30	327	eP	P	04 06 57.2 +1.6
SMCO	Snowmass comp=Z,6.0nm,1.3s	70.32	329	eP	P	04 06 57.1 +1.1
SMCO				epP	pP	04 07 30.7 +1.9
Y12C	Blythe baz=134	70.36	320	P	P	04 06 57.6 +1.9
Y12C	Blythe comp=Z,8.7nm,0.9s	70.36	320	eP	P	04 06 56.7 +0.9
PDMCI	Parker Dam,Lak baz=135	70.52	321	P	P	04 06 58.3 +1.5
IKP	In-Ko-Pah, Jac baz=133	70.56	318	P	P	04 06 59.1 +2.0
H33A	Prehn Over Nor baz=152	70.75	339	P	P	04 06 58.3 +0.4
F36A	Milaca baz=155	70.80	342	P	P	04 06 58.2 0.0
H32A	Carlson Farm, baz=151	70.83	338	P	P	04 06 58.4 0.0
BC3	Big Chuckawall baz=134	70.85	320	P	P	04 07 00.5 +1.6
MONP2	Monument Peak baz=133	70.92	318	P	P	04 07 01.5 +2.0
W13A	Hualapai Mount comp=Z,3.5nm,0.8s	70.93	322	eP	P	04 07 01.9 +2.4
U15A	North Rim comp=Z,8.1nm,1.0s	70.99	324	eP	P	04 07 02.1 +2.2
IRM	Iron Mountain baz=134	71.01	320	P	P	04 07 02.0 +2.2
E36A	McGregor baz=155	71.31	342	P	P	04 07 01.5 +0.3
BELC	Belle Mtn. Jos baz=133	71.42	320	P	P	04 07 04.2 +1.8
TPFO	Pinon Flats baz=133	71.42	319	P	P	04 07 04.3 +1.9
PFO	Pinyon Flats O baz=133	71.43	319	P	P	04 07 04.2 +1.8
PFO	Pinyon Flats O comp=Z,6.0nm,0.8s	71.43	319	eP	P	04 07 03.1 +0.7
LDFC	Landfair comp=Z,7.4nm,0.8s	71.63	321	eP	P	04 07 05.2 +1.6
D37A	Cotton baz=156	71.67	343	P	P	04 07 03.6 +0.3
C39A	Grand Marais baz=158	71.68	345	P	P	04 07 03.3 -0.1
O20A	White River Ci baz=141	71.68	329	P	P	04 07 05.1 +1.3
O20A	White River Ci comp=Z,6.0nm,0.8s	71.68	329	eP	P	04 07 05.2 +1.3
KNB	Kanab comp=Z,17nm,1.0s	71.71	324	eP	P	04 07 04.8 +0.8
GMRC	Granite Mounta baz=134,SNR=5.2	71.75	320	P	P	04 07 06.4 +2.0
C38A	Sawbill Land. baz=157	71.87	344	P	P	04 07 04.8 +0.2
E34A	Wadena baz=154	71.88	341	P	P	04 07 04.6 0.0
LCMT	Little Creek M comp=Z,4.6nm,0.9s	71.94	324	eP	P	04 07 05.9 +0.5
SRU	San Rafael Swe comp=Z,7.3nm,0.7s	72.03	327	eP	P	04 07 05.5 -0.4
MTPU	Mount Pierson comp=Z,3.0nm,0.8s	72.11	325	eP	P	04 07 08.7 +2.0
C37A	Embarrass baz=156	72.12	343	P	P	04 07 06.3 +0.3
HEC	Hector,Ludlow baz=133	72.19	320	P	P	04 07 09.0 +2.1
Q16A	Castle Valley comp=Z,4.9nm,0.8s	72.22	326	eP	P	04 07 09.0 +1.9
F31A	Hecla baz=151	72.29	339	P	P	04 07 07.5 +0.4
C36A	Pine Crest Far baz=156	72.33	343	P	P	04 07 07.5 +0.3
TUQ	Turquoise Moun baz=134	72.36	321	P	P	04 07 10.3 +2.3
CCUT	Cedar City comp=Z,10nm,0.9s	72.39	324	eP	P	04 07 11.1 +2.9
P17A	Butcher Ranch, comp=Z,9.3nm,0.7s	72.42	327	eP	P	04 07 10.0 +1.8
MSU	Marysvale	72.45	325	eP	P	04 07 10.5 +2.0
TMUT	Trail Mountain comp=Z,3.3nm,0.8s	72.52	326	eP	P	04 07 09.4 +0.3
BFSC	Mount Baldy Ra baz=132	72.59	319	P	P	04 07 11.7 +2.4
C35A	Jirik Farms, M baz=155	72.59	342	P	P	04 07 09.3 +0.4
SHPR	Sheep Range comp=Z,5.0nm,0.9s	72.66	322	eP	P	04 07 09.9 +0.1
GSC	Goldstone, Bar baz=133	72.79	320	P	P	04 07 12.4 +2.0
RSSD	Black Hills baz=145	72.99	334	P	P	04 07 12.4 +0.8
B35A	Bob, Littlefor baz=155	73.12	343	P	P	04 07 12.1 +0.1
EDW2	Edwards Air Fo baz=132	73.22	319	P	P	04 07 14.7 +1.8
B34A	Aery, Baudette baz=154	73.50	342	P	P	04 07 14.6 +0.4
TPNV	Topopah Spring baz=134	73.59	322	P	P	04 07 17.5 +2.3
TPNV	Topopah Spring comp=Z,6.1nm,0.9s	73.59	322	eP	P	04 07 17.4 +2.2
FURC	Furnace Creek, baz=133	73.62	321	P	P	04 07 17.4 +2.3
MPMC	Manual Prospec baz=133	73.71	320	P	P	04 07 17.7 +1.7
F26A	Lodgepole baz=147	73.89	336	P	P	04 07 17.7 +1.2
DAC	Darwin (Calif) comp=Z,6.0nm,0.8s	73.92	320	eP	P	04 07 18.4 +1.2
DUG	Dugway, Tooele baz=137,SNR=5.3	74.02	326	P	P	04 07 19.4 +1.8
DUG	Dugway, Tooele comp=Z,6.8nm,1.1s	74.02	326	eP	P	04 07 16.9 -0.7
ISA	Isabella, Lake baz=132	74.04	319	P	P	04 07 20.0 +2.3
A33A	Warroad baz=154	74.12	342	P	P	04 07 18.1 +0.4
R11A	Troy Canyon, C baz=135,SNR=5.8	74.19	323	P	P	04 07 20.7 +2.0
R11A	Troy Canyon, C comp=Z,4.5nm,1.0s	74.19	323	eP	P	04 07 20.3 +1.6
R11A				epP	pP	04 07 53.3 +1.4
CWC	Cottonwood Cre baz=132	74.32	320	P	P	04 07 21.5 +2.0
PDAR	Pinedale Array comp=Z,0.5nm,0.5s,baz=98,slow=11,SNR=4.3	74.34	330	P	P	04 07 20.2 +0.7
PDAR				pP	pP	04 07 53.4 +0.6
PKM	Mcpherson Peak baz=131	74.35	318	P	P	04 07 21.9 +2.2
HWUT	Hardware Ranch comp=Z,3.6nm,0.8s	74.43	328	eP	P	04 07 20.5 +0.5
HWUT				epP	pP	04 07 54.3 +1.1
VES	Vestal, Richgr baz=131	74.53	319	P	P	04 07 22.5 +2.1
SMMC	Simmler baz=131	74.74	318	P	P	04 07 24.3 +2.5
HVU	Hansel Valley comp=Z,5.2nm,1.0s	75.17	327	eP	P	04 07 26.1 +1.9
REDW	Red Top Meadow comp=Z,9.4nm,1.3s	75.41	329	eP	P	04 07 26.8 +1.2
REDW				epP	pP	04 08 00.6 +1.7
ULM	Lac du Bonnet comp=Z,4.4nm,0.5s,baz=160,slow=3.9,SNR=4.5	75.44	342	P	P	04 07 24.8 -0.5
ULM				pP	pP	04 07 58.9 +0.3
	comp=Z,3.5nm,0.6s,baz=79,slow=3.2,SNR=2.3					
TPAW	Teton Pass comp=Z,5.5nm,0.9s	75.55	329	eP	P	04 07 26.7 +0.2
NV01	Mina Array Sit	75.79	322	eP	P	04 07 29.5 +1.5
NVAR	Mina Array Bea comp=Z,1.8nm,0.6s,baz=164,slow=6.6,SNR=12	75.79	322	P	P	04 07 29.4 +1.5
NVAR				pP	pP	04 08 02.8 +1.5
	comp=Z,1.5nm,0.9s,baz=157,slow=5.8,SNR=3.6					
IMW	Indian Meadow comp=Z,9.8nm,1.3s	75.86	330	eP	P	04 07 29.0 +0.8
FLWY	Flagg Ranch comp=Z,10nm,1.0s	75.88	330	eP	P	04 07 29.2 +0.9
SCHQ	Schefferville	75.98	1	P	P	04 07 28.5 +0.2
	comp=Z,3.9nm,0.7s,baz=191,slow=4.8,SNR=8.6					
SCHQ	Schefferville comp=Z,10nm,1.4s	75.98	1	eP	P	04 07 28.4 0.0
RLMT	Red Lodge comp=Z,10.0nm,1.4s	76.03	331	eP	P	04 07 30.6 +1.5
SYO	Syowa Base	76.36	159	eP	P	04 07 29.8 -0.6
SYO	Syowa Base	76.36	159	ePcP	PcP	04 07 42.2 +0.6
TORD	Torodi Ar. Bea comp=Z,14nm,0.6s,baz=249,slow=5.3,SNR=188	76.82	70	P	P	04 07 33.6 -0.3
VNDA	Vanda comp=Z,1.1nm,0.9s,baz=112,slow=5.7,SNR=5.1	77.00	190	P	P	04 07 34.8 +0.9
PAHR	Pah Rah Range comp=Z,15nm,0.8s	77.27	322	eP	P	04 07 38.3 +2.1
HLID	Hailey baz=136,SNR=6.4	77.29	328	P	P	04 07 38.1 +1.9
HLID	Hailey comp=Z,5.7nm,0.9s	77.29	328	eP	P	04 07 37.9 +1.7
HLID				epP	pP	04 08 10.4 +0.8
MCMT	McKenzie Canyo	77.46	329	eP	P	04 07 39.1 +1.9
DLMT	Dillon comp=Z,7.4nm,1.3s	77.74	330	eP	P	04 07 38.7 +0.1
MFID	Camas Ranch comp=Z,7.4nm,1.3s	77.90	327	eP	P	04 07 41.1 +1.6
ORV	Oroville comp=Z,10nm,1.0s	78.40	321	eP	P	04 07 44.4 +2.2
O03D	Paynes Creek baz=130	79.06	321	P	P	04 07 46.5 +0.6
MOD	Modoc Plateau comp=Z,7.8nm,1.0s	79.26	323	eP	P	04 07 47.9 +0.9
TSUM	Tsumeb comp=Z,9.1nm,0.8s	79.53	107	eP	P	04 07 47.7 -1.3
BMO	Blue Mountains comp=Z,6.0nm,0.9s	79.67	327	eP	P	04 07 51.3 +2.2
WDC	Whiskeytown Da comp=Z,6.0nm,0.6s	79.67	321	eP	P	04 07 49.3 +0.2
N02D	Trinity Center baz=130	80.02	321	P	P	04 07 51.9 +0.9
M04C	Macdoel baz=130	80.04	322	P	P	04 07 52.8 +1.6
K05A	Summer Lake comp=Z,14nm,0.9s	80.13	324	eP	P	04 07 54.0 +2.3
J05D	Fort Rock, OR baz=131	80.69	324	P	P	04 07 56.1 +1.4
I05D	Terrebonne, OR baz=131	81.44	325	P	P	04 08 00.1 +1.6
BOSA	Boshof comp=Z,10nm,0.7s,baz=252,slow=4.1,SNR=14	82.98	118	P	P	04 08 07.4 +0.3
MAW	Mawson comp=Z,2.6nm,0.5s,baz=225,slow=6.8,SNR=8.3	84.22	163	P	P	04 08 13.1 +0.7
YKA	Yellowknife Ar comp=Z,5.4nm,0.6s,baz=132,slow=4.4,SNR=81	91.32	340	P	P	04 08 46.8 +0.5
YKA				pP	pP	04 09 21.9 +1.2
	comp=Z,2.2nm,0.8s,baz=131,slow=4.4,SNR=5.8					
YKB5	Yellowknife Ar	91.32	340	eP	P	04 08 46.5 +0.1
YKW3	Yellowknife Ar comp=Z,7.1nm,0.6s	91.38	340	eP	P	04 08 47.2 +0.6
WRA	Warramunga Arr comp=Z,0.6nm,1.0s,baz=150,slow=1.8,SNR=6.4	133.28	210	PKP	PKPdf	04 14 57.7 +0.4
MAKZ	Makanchi	145.09	36	ePKPbc	PKPbc	04 15 17.3 -0.3
MKAR	Makanchi Array comp=Z,1.6nm,0.6s,baz=323,slow=3.0,SNR=17	145.27	36	PKPbc	PKPab	04 15 19.1 +0.7
MKAR				pPKPbc	pPKPbc	04 15 54.7 +1.0
	comp=Z,3.4nm,0.7s,baz=338,slow=2.9,SNR=7.5					
MK01	Makanchi Array	145.29	36	ePKPbc	PKPab	04 15 18.9 +0.3
ASAJ	Asahikawa comp=Z,2.7nm,0.5s,baz=251,slow=32,SNR=4.1	145.88	319	PKPbc	PKPab	04 15 21.3 +0.5
KLR	Kul'dur comp=Z,1.0nm,0.6s,baz=88,slow=3.5,SNR=4.5	148.01	335	PKPbc	PKPbc	04 15 26.2 +0.2
KLR				pPKPbc	pPKPbc	04 16 02.7 +1.1
	comp=Z,1.6nm,0.7s,baz=21,slow=4.0,SNR=4.8					

*ISCJB **08** 03:56:08.0±0.8,41°.68N±0°.04×43°.5E±0°.1,h23km±11km,*
Error ellipse: s-maj=13.6km s-min=6.5km az=7.9
*TIF **08** 03:56:07.3,41°.72N×43°.40E,h15km±3km*
*CSEM **08** 03:56:07.4±0.2,41°.69N×43°.34E,h5km,ML1.7, Error*
ellipse: s-maj=5.6km s-min=4.3km az=84.0
*DDA **08** 03:56:09.8,42°.25N×41°.97E,h7km,Md2.6*
ISC 08 03:56:07.7±1.1,41°.70N±0°.04×43°.38E±0°.07,h14km±12km,
n11,σ0°.55/21,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	Akhalkalaki	0.30	164	P	Pg	03 56 14.2	0.0
AKH				S	Sg	03 56 18.9	+0.4
AKH	Akhalkalaki	0.30	164	P	Pg	03 56 14.1	0.0
AKH				S	Sg	03 56 18.9	+0.4
BGD	Bogdanovka	0.47	159	P	Pg	03 56 16.2	-0.9
BGD				S	Sg	03 56 23.8	+0.4
BGD	Bogdanovka	0.47	159	P	Pg	03 56 16.2	-0.9
BGD				S	Sg	03 56 23.8	+0.4
ONI	Oni	0.89	3	P	Pg	03 56 24.5	-0.5
ONI				S	Sb	03 56 37.0	+0.3
ONI	Oni	0.89	3	P	Pg	03 56 24.5	-0.5
ONI				S	Sb	03 56 37.0	+0.3
ARTV	Artvin	1.21	245	P	Pb	03 56 30.4	0.0
ARTV				S	Sb	03 56 46.5	+0.5
ARTV	Artvin	1.21	245	*i* P	Pb	03 56 30.4	0.0
ARTV				*i* S	Sb	03 56 46.5	+0.5
DAGI	Agillar	1.27	241	*i* P	Pg	03 56 31.8	-0.3
DAGI				*i* S	Sn	03 56 48.4	+0.5
DBAD	Bademkaya	1.44	242	P	Pn	03 56 33.3	-0.1
DBAD	Bademkaya	1.44	242	*i* P	Pn	03 56 33.4	-0.1
DBAD				*i* S	Sb	03 56 51.4	-1.1

*ISCJB **08** 03:58:01.5±0.7,39°.10N±0°.04×29°.07E±0°.04,h1km±14km,*
Error ellipse: s-maj=7.3km s-min=4.4km az=145.2
*DDA **08** 03:58:01.4,39°.09N×29°.07E,h7km,Md2.6*
*ISK **08** 03:58:01.0,39°.06N×29°.18E,h5km,MD2.6*
*CSEM **08** 03:58:01.7±0.1,39°.10N×29°.08E,h2km,MD2.6,Error*
ellipse: s-maj=2.8km s-min=1.7km az=125.0
ISC 08 03:58:01.7±1.0,39°.09N±0°.03×29°.07E±0°.03,h9km±10km,
n16,σ0°.42/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.28	260	P	Pg	03 58 07.6	+0.2
DEMI				S	Sg	03 58 11.3	+0.1
DEMI	Demirci	0.28	260	*i* P	Pg	03 58 07.6	+0.2
DEMI				*i* S	Sg	03 58 11.3	+0.1
GDZ	Gediz	0.32	90	P	Pg	03 58 08.1	0.0
GDZ				S	Sg	03 58 12.6	+0.3
GDZ	Gediz	0.32	90	*i* P	Pg	03 58 08.1	0.0
GDZ				*i* S	Sg	03 58 12.6	+0.3
TVSB	Tavsanli	0.47	40	*e*PG	Pg	03 58 10.5	-0.4
TVSB				*e*SG	Sg	03 58 16.4	-0.7
TVSB	Tavsanli	0.47	40	*e*Pg	Pg	03 58 10.5	-0.4
TVSB				*e*Sg	Sg	03 58 16.4	-0.7
KULA	Kula-Manisa	0.66	209	*e*PG	Pb	03 58 14.9	-0.4
KULA				*e*SG	Sb	03 58 23.9	-0.8
KULA	Kula-Manisa	0.66	209	*e*Pg	Pb	03 58 15.0	-0.4
KULA				*e*Sg	Sb	03 58 23.9	-0.8
MANT	Manisa	0.72	214	P	Pg	03 58 15.8	+0.1
MANT				S	Sg	03 58 24.7	-0.4
MANT	Manisa	0.72	214	*i* P	Pg	03 58 15.8	+0.1
MANT				*i* S	Sg	03 58 24.7	-0.4
KHAL	Karahalli	0.79	155	P	Pg	03 58 17.0	+0.1
KHAL				S	Sb	03 58 28.5	0.0
KHAL	Karahalli	0.79	155	*i* P	Pg	03 58 17.0	+0.1
KHAL				*i* S	Sb	03 58 28.5	0.0
ARMT	Armutlu	1.48	354	*e*PN	Pb	03 58 29.5	+0.1
ARMT	Armutlu	1.48	354	*e*Pn	Pb	03 58 29.5	+0.1
GULT	Gulveren	1.74	39	*e*PN	Pn	03 58 32.8	+0.7
GULT	Gulveren	1.74	39	*e*Pn	Pn	03 58 32.8	+0.7

*ISCJB **08** 04:13:29.4±0.8,36°.96N±0°.05×3°.47E±0°.06,h22km±12km,*
Error ellipse: s-maj=8.8km s-min=6.7km az=44.5
*CSEM **08** 04:13:29.6±0.2,36°.86N×3°.51E,h8km,ML3.3,Error*

ellipse: s-maj=5.6km s-min=3.5km az=73.0
*CRAAG **08** 04:13:29.1,36.80N×3.48E, MI3.3*
*MDD **08** 04:13:29.9±0.6,36.88N×3.52E, h0km, mb4.0/7, Error ellipse: s-maj=7.9km s-min=4.1km az=74.0, PRXIMO*

ISC 08 04:13:28.7±1.1,36.86N±0.04×3.53E±0.04, h15km±8km, n62, σ1°80/76, 1C-1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABMS	**Boumerdes**	**0.12**	**199**	P	**Pg**	**04 13 31.6**	**-0.6**
ABMS	**Boumerdes**	**0.12**	**199**	P	**Pg**	**04 13 31.6**	**-0.6**
ABMS	**Boumerdes**	**0.12**	**199**	P	**Pg**	**04 13 31.6**	**-0.6**
ABA	**Alger-Bouzarea**	**0.40**	**262**	P	**Pb**	**04 13 37.6**	**0.0**
ABA	**Alger-Bouzarea**	**0.40**	**262**	P	**Pb**	**04 13 37.6**	**0.0**
ABA	**Alger-Bouzarea**	**0.40**	**262**	P	**Pb**	**04 13 37.6**	**0.0**
ADJB	**Djebel Djouab**	**0.71**	**186**	P	**Pb**	**04 13 43.3**	**+0.5**
ADJB	**Djebel Djouab**	**0.71**	**186**	P	**Pb**	**04 13 43.3**	**+0.5**
ADJB	**Djebel Djouab**	**0.71**	**186**	P	**Pb**	**04 13 43.3**	**+0.5**
EMHD	**Djebel Mahouad**	**0.81**	**215**	P	**Pb**	**04 13 45.2**	**+0.7**
EMHD	**Djebel Mahouad**	**0.81**	**215**	P	**Pb**	**04 13 45.2**	**+0.7**
EMHD	**Djebel Mahouad**	**0.81**	**215**	P	**Pb**	**04 13 45.2**	**+0.7**
AKET	**Djebel Ketaf**	**0.86**	**161**	P	**Pb**	**04 13 46.4**	**+0.9**
AKET	**Djebel Ketaf**	**0.86**	**161**	P	**Pb**	**04 13 46.4**	**+0.9**
AKET	**Djebel Ketaf**	**0.86**	**161**	P	**Pb**	**04 13 46.4**	**+0.9**
ATAF	**Djebel Tarf**	**1.16**	**148**	P	**Pn**	**04 13 52.3**	**+1.8**
ATAF	**Djebel Tarf**	**1.16**	**148**	P	**Pn**	**04 13 52.3**	**+1.8**
ATAF	**Djebel Tarf**	**1.16**	**148**	P	**Pn**	**04 13 52.3**	**+1.8**
EBNR	**Beni Rached**	**1.71**	**251**	P	Pn	04 13 51.0	-7.0
ECHA	**Ech Chlef**	**1.88**	**248**	P	**Pn**	**04 13 58.0**	**-2.3**
ECHF	**Ech Chlef**	**1.90**	**249**	P	**Pn**	**04 13 58.0**	**-2.6**
ECHF	**Ech Chlef**	**1.90**	**249**	P	**Pn**	**04 13 58.0**	**-2.6**
EANR	**'Ain N'Sour**	**2.16**	**246**	P	Pn	04 14 00.0	-4.3
EANR	**'Ain N'Sour**	**2.16**	**246**	P	Pn	04 14 00.0	-4.3
EIBI	**Ibiza**	**2.77**	**322**	P	**Pn**	**04 14 13.6**	**+1.1**
EIBI	3.6nm,0.1s,SNR=13			S	**Sn**	**04 14 43.7**	**-2.0**
EIBI	12nm,0.5s			P	**Pn**	**04 14 13.6**	**+1.1**
EIBI	**Ibiza**	**2.77**	**322**	S	**Sn**	**04 14 43.7**	**-2.0**
ETOS	**Mallorca**	**2.96**	**349**	⇓P	**Pn**	**04 14 16.2**	**+1.0**
ETOS	2.1nm,0.1s,SNR=18			S	**Sn**	**04 14 47.2**	**-3.2**
ETOS	**Mallorca**	**2.96**	**349**	P	**Pn**	**04 14 16.2**	**+1.0**
AFON	**Font Roja**	**3.69**	**300**	P	**Pn**	**04 14 27.3**	**+1.9**
AFON	**Font Roja**	**3.69**	**300**	P	**Pn**	**04 14 27.3**	**+1.9**
EMUR	**La Murta**	**3.92**	**286**	S	**Sn**	**04 15 14.3**	**0.0**
EMUR	**La Murta**	**3.92**	**286**	S	**Sn**	**04 15 14.3**	**0.0**
ETOB	**Tobarra**	**4.40**	**295**	P	**Pn**	**04 14 36.7**	**+1.6**
ETOB	3.5nm,0.3s,SNR=14			S	**Sn**	**04 15 24.8**	**-1.3**
ETOB	3.8nm,0.4s			P	**Pn**	**04 14 36.7**	**+1.6**
ETOB	**Tobarra**	**4.40**	**295**	S	**Sn**	**04 15 24.8**	**-1.3**
EMOS	**Mosqueruela**	**4.70**	**319**	P	**Pn**	**04 14 40.4**	**+1.2**
EMOS	1.9nm,0.2s,SNR=13			S	**Sn**	**04 15 31.2**	**-2.3**
EMOS	55nm,1.5s			P	**Pn**	**04 14 40.4**	**+1.2**
EMOS	**Mosqueruela**	**4.70**	**319**	S	**Sn**	**04 15 31.2**	**-2.3**
ERTA	**Horta de San J**	**4.79**	**330**	S	**Sn**	**04 15 33.8**	**-1.8**
ERTA	**Horta de San J**	**4.79**	**330**	S	**Sn**	**04 15 33.8**	**-1.8**
EPOB	**Poblet**	**4.87**	**338**	P	**Pn**	**04 14 42.9**	**+1.3**
EPOB	0.2nm,0.2s,SNR=7.9			S	**Sn**	**04 15 34.7**	**-3.0**
EPOB	1.3nm,1.0s,SNR=7.9			P	**Pn**	**04 14 42.9**	**+1.3**
EPOB	**Poblet**	**4.87**	**338**	S	**Sn**	**04 15 34.7**	**-3.0**
CFON	**Fontmartina**	**4.97**	**351**	⇑P	**Pn**	**04 14 43.8**	**+0.9**
CFON	2.0nm,0.3s,SNR=18			S	**Sn**	**04 15 36.5**	**-3.6**
CFON	18nm,1.1s			P	**Pn**	**04 14 43.8**	**+0.9**
CFON	**Fontmartina**	**4.97**	**351**	S	**Sn**	**04 15 36.5**	**-3.6**
SESP	**Santiago Espad**	**4.99**	**286**	P	**Pn**	**04 14 45.6**	**+2.3**
SESP	1.3nm,0.3s,SNR=7.9			S	**Sn**	**04 15 40.7**	**-0.1**
SESP	0.5nm,0.6s,SNR=4.0			P	**Pn**	**04 14 45.6**	**+2.3**
SESP	**Santiago Espad**	**4.99**	**286**	S	**Sn**	**04 15 40.7**	**-0.1**
EQES	0.5nm,0.6s,SNR=4.0			P	**Pn**	**04 14 50.4**	**+2.3**
EQES	**Quesada**	**5.34**	**282**	S	**Sn**	**04 15 50.6**	**+1.2**
EQES	0.7nm,0.2s,SNR=7.9			P	**Pn**	**04 14 50.4**	**+2.3**
EQES	**Quesada**	**5.34**	**282**	S	**Sn**	**04 15 50.6**	**+1.2**
EJON	4.1nm,0.7s,SNR=7.9			P	**Pn**	**04 14 53.5**	**+2.0**
EJON	**La Jonquera**	**5.60**	**355**	S	**Sn**	**04 15 53.0**	**-2.6**
EJON	4.4nm,0.4s,SNR=11			P	**Pn**	**04 14 53.5**	**+2.0**
EJON	**La Jonquera**	**5.60**	**355**	S	**Sn**	**04 15 57.3**	**-1.8**
CLLI	6.0nm,0.6s,SNR=7.9			P	**Pn**	**04 14 55.9**	**+2.4**
CLLI	**Llivia**	**5.74**	**348**	S	**Sn**	**04 15 59.6**	**-1.2**
CLLI	2.3nm,1.6s,SNR=7.9			P	**Pn**	**04 14 55.9**	**+2.4**
CLLI	**Llivia**	**5.74**	**348**	S	**Sn**	**04 15 57.4**	**+2.9**
CSOR	**Sort**	**5.81**	**342**	P	**Pn**	**04 14 57.4**	**+2.9**
CSOR	1.6nm,0.2s,SNR=5.8			S	**Sn**	**04 15 59.6**	**-1.2**
CSOR	**Sort**	**5.81**	**342**	P	**Pn**	**04 14 57.4**	**+2.9**
ESDC	**Sonseca Array**	**6.53**	**298**	P	**Pn**	**04 15 05.3**	**+1.0**
ESDC	0.9nm,0.1s,baz=110,slow=13,SNR=7.9			P	**Pn**	**04 15 05.3**	**+1.0**
GUD	**Guadarrama**	**7.09**	**305**	P	**Pn**	**04 15 14.3**	**+2.2**
GUD	**Guadarrama**	**7.09**	**305**	P	**Pn**	**04 15 14.3**	**+2.2**
ECAB	**El Cabril**	**7.22**	**282**	P	**Pn**	**04 15 15.4**	**+1.7**
ECAL	0.0nm,0.1s,SNR=7.9			P	**Pn**	**04 15 15.4**	**+1.7**
ECAL	**Calabor**	**9.42**	**306**	P	**Pn**	**04 15 46.2**	**+2.2**
ECAL	2.5nm,0.4s,SNR=4.8			P	**Pn**	**04 15 46.2**	**+2.2**
ECAL	**Calabor**	**9.42**	**306**				
	2.5nm,0.4s,SNR=4.8						

MEX 08 04:14:33.2±0.7,16.68N×99.41W, h16km±999km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.90**	**294**	*i* P	Pb	04 14 47.2	-3.2
CAIG				*i* S	Sb	04 14 57.8	-4.4
TLIG	**Tlapa**	**1.19**	**42**	*e*P	Pn	04 14 51.5	-3.7
TLIG				*i* S	Sb	04 15 05.7	-4.9
MEIG	**Mezcala**	**1.25**	**351**	*e*P	Pn	04 14 52.6	-3.5
MEIG				*i* S	Sb	04 15 07.3	-5.1
PNIG	**Pinotepa**	**1.26**	**103**	*i* P	Pn	04 14 52.6	-3.6
PNIG				*i* S	Sb	04 15 07.3	-5.3
PLIG	**Platanillo**	**1.70**	**357**	*e*P	Pn	04 14 59.8	-2.5
PLIG				*i* S	Sn	04 15 18.5	-5.3
ARIG	**Puente Sto Nin**	**1.82**	**331**	*e*P	Pn	04 15 01.1	-2.8
ARIG				*i* S	Sn	04 15 21.9	-4.8

*IDC **08** 04:27:44.5±0.5,20.29S×168.48E, h0km, mb4.9/22, mb1 5.1/22, mb1mx4.9/36, mbtmp4.9/22, MS4.2/16,*
Ms1 4.2/16, ms1mx3.9/35, Error ellipse: s-maj=16.0km s-min=14.3km az=111.0
*NEIC **08** 04:27:46.4±0.1,20.21S×168.37E, h10km, mb5.4/126, Error ellipse: s-maj=4.3km s-min=3.6km az=139.0*
*GCMT **08** 04:27:46.4±0.3,20.37S×168.27E, h22km, MW5.2/77, Moment Tensor Solution. s32,c35; s77,c109; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-7.25±.46; Mθθ2.00±.27; Mϕϕ5.26±.28; Mrθ-0.89±.48; Mϕθ-1.45±.14; Mrϕ0.53±.38; Best double couple: M◻6.60400×10^16 NP1:ϕs155.00000°, δ49.00000°, λ-96.00000°. NP2: ϕs343.00000°, δ42.00000°, λ-84.00000°. Principal axes: T 5.8620, Plg4.0000°, Azm249.0000°; N 1.4950, Plg4.0000°, Azm158.0000°; P -7.3470, Plg85.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **08** 04:27:47.5±0.1,20.25S±0.03×168.34E±0.03, h26km, mb5.3/166, MS4.3/20 Error ellipse: s-maj=4.4km s-min=3.2km az=152.9*
*MOS **08** 04:27:48.4±1.0,20.31S×168.36E, h33km, mb5.4/63, MS4.5/10, Error ellipse: s-maj=8.8km s-min=7.4km az=146.0*
*BJI **08** 04:27:49.7, 19.36S×167.79E, h6km, mb5.0/48, mB5.3/33, Ms5.1/19, Ms7 4.7/16*

ISC 08 04:27:48.6±0.3,20.37S±0.05×168.35E±0.05, h26km, n562, σ1°14/534, mb5.3/164, MS4.3/20, 10C-12D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.45**	**226**	*e*Pn	**Pn**	**04 28 24.3**	**-2.8**
DZM	3μm,0.9s			*e*Sn	**Sn**	**04 28 52.2**	**-4.1**
DZM	**Mont Dzumac**	**2.45**	**226**	Pn	**Pn**	**04 28 25.3**	**-1.8**
DZM	1μm,0.3s 72nm,0.3s,baz=91,slow=8.1,SNR=516			Sn	**Sn**	**04 28 48.7**	**-7.6**
DZM	204nm,0.3s,baz=54,slow=18,SNR=12			LR	LR	04 29 04.6	
DZM	**Mont Dzumac**	**2.45**	**226**	*e*Pn	**Pn**	**04 28 24.1**	**-2.9**
DZM				Sn	**Sn**	**04 28 48.7**	**-7.6**
MSVF	**Nonsavu**	**9.54**	**76**	*e*P	**Pn**	**04 30 06.8**	**+2.4**
MSVF	comp=Z,99nm,1.5s			pmax	pmax		
MSVF	**Nonsavu**	**9.54**	**76**	*e*Pn	**Pn**	**04 30 06.8**	**+2.4**
	comp=Z,99nm,1.5s						
OUZ	**Omahuta**	**15.50**	**164**	*e*Pn	**P**	**04 31 29.1**	**-0.5**
	comp=Z,66nm,1.0s						
EIDS	**Eidsvold**	**16.67**	**249**	P	**P**	**04 31 43.7**	**+1.0**
	baz=17,SNR=8.1						
EIDS	**Eidsvold**	**16.67**	**249**	*e*P	**P**	**04 31 42.3**	**-0.4**
	comp=Z,27nm,1.0s						
ARMA	**Armidale**	**18.10**	**233**	P	**P**	**04 32 01.4**	**+2.8**
	baz=18,SNR=9.6						
ARMA	**Armidale**	**18.10**	**233**	*e*P	**P**	**04 32 00.6**	**+2.0**
	comp=Z,87nm,1.3s						
RMQ	**Roma**	**18.97**	**248**	P	**Pn**	**04 32 11.6**	**+2.7**
	baz=19,SNR=7.2						
URZ	**Urewera**	**19.37**	**159**	P	**Pn**	**04 32 15.7**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=352,slow=8.3,SNR=23						
URZ				LR	LR	04 38 33.0	
	comp=Z,390nm,18.0s,baz=354,slow=33						
URZ	**Urewera**	**19.37**	**159**	*e*P	**Pn**	**04 32 14.8**	**+1.2**
	comp=Z,396nm,1.2s						
MGCD	**Mangrove Creek**	**19.97**	**227**	P	Pn	04 32 22.0	+1.3
	baz=20						
BKZ	**Black Stump Fm**	**20.00**	**161**	*e*P	Pn	04 32 22.0	+0.9
	comp=Z,148nm,1.1s						
AFI	**Afiamalu**	**20.04**	**74**	*e*P	**P**	**04 32 19.3**	**-0.6**
AFI	comp=Z,48nm,1.0s			pmax	pmax		
AFI	**Afiamalu**	**20.04**	**74**	*e*P	**P**	**04 32 19.2**	**-0.6**
	comp=Z,48nm,1.0s						
RIV	**Riverview**	**20.30**	**225**	P	Pn	04 32 27.7	+3.0
	baz=20						
CTA	**Charters Tower**	**20.74**	**267**	P	Pn	04 32 29.7	-0.2
	comp=Z,80nm,1.1s,baz=88,slow=13,SNR=18						
CTA				LR	LR	04 39 08.0	
	comp=Z,859nm,21.9s,baz=94,slow=33						
CTA	**Charters Tower**	**20.74**	**267**	*e*P	Pn	04 32 30.0	+0.1
	baz=21						
CTAO	**Charters Tower**	**20.74**	**267**	*e*P	Pn	04 32 29.7	-0.2
CTAO	comp=Z,123nm,0.9s			pmax	pmax		
CTAO	**Charters Tower**	**20.74**	**267**	*e*P	Pn	04 32 29.7	-0.2
	comp=Z,123nm,0.9s						
SNZO	**South Karori**	**21.56**	**167**	*e*P	**P**	**04 32 35.4**	**-0.6**
	comp=Z,152nm,1.0s						
THZ	**Tophouse**	**21.67**	**171**	*e*P	**P**	**04 32 39.8**	**+2.5**
	comp=Z,55nm,0.8s						
CNB	**Canberra Magne**	**22.38**	**224**	P	**P**	**04 32 47.9**	**+2.9**
	baz=23,SNR=11						
KHZ	**Kahutara**	**22.41**	**170**	*e*P	**P**	**04 32 46.3**	**+1.2**
	comp=Z,858nm,1.6s						
YNG	**Young**	**22.45**	**228**	P	**P**	**04 32 49.6**	**+3.9**
	baz=23,SNR=11						
LTZ	**Lake Taylor**	**22.58**	**172**	*e*P	**P**	**04 32 49.4**	**+2.3**
	comp=Z,142nm,1.2s						
CAN	**Canberra**	**22.62**	**225**	P	**P**	**04 32 50.6**	**+3.0**
	baz=23						
CAN	**Canberra**	**22.62**	**225**	*e*P	**P**	**04 32 51.9**	**+4.3**
CAN	comp=Z,90nm,1.1s			pmax	pmax		
CAN	**Canberra**	**22.62**	**225**	*e*P	**P**	**04 32 51.9**	**+4.3**
	comp=Z,90nm,1.1s						
MTSU	**Mount Surprise**	**22.80**	**272**	P	**P**	**04 32 50.9**	**+1.4**
	baz=23,SNR=25						
OXZ	**Oxford**	**23.09**	**173**	*e*P	**P**	**04 32 54.6**	**+2.3**
	comp=Z,381nm,1.9s						
FOZ	**Fox Glacier**	**23.12**	**177**	*e*P	**P**	**04 32 53.0**	**+0.4**
	comp=Z,242nm,1.4s						
CMSA	**Cobar Meteorol**	**23.16**	**237**	P	**P**	**04 32 54.8**	**+1.6**
	baz=23,SNR=24						
PMG	**Port Moresby**	**23.17**	**295**	LR	LR	04 40 26.5	
	comp=Z,400nm,18.3s,baz=138,slow=33						
PMG	**Port Moresby**	**23.17**	**295**	*de*P	**P**	**04 32 53.0**	**-0.4**
PMG	comp=Z,261nm,1.7s			pmax	pmax		
RPZ	**Rata Peaks**	**23.38**	**175**	P	**P**	**04 32 57.3**	**+2.1**
	comp=Z,13nm,0.8s,baz=270,slow=6.4,SNR=5.9						
RPZ				LR	LR	04 40 48.3	
	comp=Z,723nm,18.2s,baz=348,slow=33						
RPZ	**Rata Peaks**	**23.38**	**175**	*e*P	**P**	**04 32 57.4**	**+2.1**
	comp=Z,200nm,1.5s						
LBZ	**Lake Benmore**	**23.99**	**177**	*e*P	**P**	**04 33 03.2**	**+2.1**
	comp=Z,53nm,1.0s						
WKZ	**Wanaka**	**24.39**	**179**	*e*P	**P**	**04 33 07.9**	**+3.2**
	comp=Z,86nm,1.1s						
ODZ	**Otahua Downs**	**24.68**	**176**	*e*P	**P**	**04 33 08.5**	**+1.2**
	comp=Z,79nm,1.6s						
COEN	**Coen**	**24.87**	**281**	P	**P**	**04 33 10.6**	**+1.3**
	baz=25,SNR=9.7						
COEN	**Coen**	**24.87**	**281**	*e*P	**P**	**04 33 10.4**	**+1.1**
	comp=Z,50nm,0.8s						
DCZ	**Deep Cove**	**25.04**	**182**	*e*P	**P**	**04 33 12.2**	**+1.6**
	comp=Z,130nm,1.2s						
WHZ	**Wether Hill Ro**	**25.45**	**181**	*e*P	**P**	**04 33 16.0**	**+1.7**
	comp=Z,151nm,1.6s						
TOO	**Toolangi**	**26.23**	**224**	P	**P**	**04 33 23.7**	**+2.1**
	baz=26,SNR=4.3						
STKA	**Stephens Creek**	**26.54**	**239**	P	**P**	**04 33 26.0**	**+1.7**
	comp=Z,30nm,0.8s,baz=74,slow=9.7,SNR=32						
STKA				LR	LR	04 43 11.2	
	comp=Z,942nm,20.9s,baz=50,slow=35						
STKA	**Stephens Creek**	**26.54**	**239**	P	**P**	**04 33 25.7**	**+1.4**
	baz=27,SNR=18						
STKA	**Stephens Creek**	**26.54**	**239**	*e*P	**P**	**04 33 26.1**	**+1.7**
	comp=Z,16nm,0.8s						
QIS	**Mount Isa**	**26.92**	**265**	P	**P**	**04 33 29.6**	**+1.6**
	baz=27,SNR=5.0						
MANU	**Manus Island**	**27.42**	**309**	*e*P	**P**	**04 33 32.7**	**+0.3**
	comp=Z,94nm,1.0s						
ARPS	**Mount Arapiles**	**28.31**	**229**	P	**P**	**04 33 42.0**	**+1.8**
	baz=28,SNR=6.1						
HTT	**Hallett**	**29.18**	**237**	P	**P**	**04 33 49.5**	**+1.5**
	baz=29,SNR=5.9						
RAR	**Rarotonga**	**29.79**	**97**	LR	LR	04 43 24.7	
	comp=Z,211nm,22.0s,baz=263,slow=32						
BBOO	**Buckleboo**	**31.29**	**240**	P	**P**	**04 34 07.2**	**+0.5**
	baz=31,SNR=8.9						
BBOO	**Buckleboo**	**31.29**	**240**	*e*P	**P**	**04 34 09.5**	**+2.9**
	comp=Z,61nm,0.8s						
WB2	**Warramunga Arr**	**31.89**	**265**	*e*P	**P**	**04 34 11.2**	**-0.9**
	comp=Z,33nm,1.2s						
WRAB	**Tennant Creek**	**31.89**	**265**	⇑*e*P	**P**	**04 34 10.9**	**-1.2**
WRAB	comp=Z,25nm,1.1s			pmax	pmax		
WRAB	**Tennant Creek**	**31.89**	**265**	*e*P	**P**	**04 34 10.3**	**-1.8**
	comp=Z,33nm,1.2s						
WRA	**Warramunga Arr**	**31.90**	**265**	P	**P**	**04 34 11.1**	**-1.1**
	comp=Z,8.3nm,0.9s,baz=97,slow=8.3,SNR=43						
WRA				PcP	**PcP**	**04 37 02.7**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=94,slow=2.7,SNR=5.1						
WRA				PKiKP	**PKiKP**	**04 44 29.7**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=256,slow=0.3,SNR=7.0						
WRA				LR	LR	04 46 53.5	
	comp=Z,429nm,19.0s,baz=95,slow=36						
AS01	**Alice Springs**	**32.01**	**258**	*e*P	**P**	**04 34 12.2**	**-0.9**
AS31	**Alice Springs**	**32.05**	**258**	*e*P	**P**	**04 34 13.4**	**-0.1**
	comp=Z,34nm,0.8s						
ASAR	**Alice Springs**	**32.06**	**258**	P	**P**	**04 34 13.2**	**-0.4**
	comp=Z,41nm,0.9s,baz=85,slow=8.6,SNR=153						
ASAR				LR	LR	04 46 33.0	
	comp=Z,859nm,20.2s,baz=93,slow=35						
MTN	**Manton Dam**	**36.38**	**276**	P	**P**	**04 34 51.1**	**+0.1**
	baz=36						
MTN	**Manton Dam**	**36.38**	**276**	*e*P	**P**	**04 34 50.8**	**-0.2**
	comp=Z,32nm,0.8s						
WRKA	**Warakurna**	**37.15**	**255**	P	**P**	**04 34 57.2**	**-0.3**
	baz=37,SNR=14						
KNRA	**Kununurra**	**37.87**	**270**	P	**P**	**04 35 03.4**	**-0.2**
	baz=38						
PPT2	**Papeete2**	**39.81**	**93**	*e*P	**P**	**04 35 18.4**	**-1.6**
	comp=Z,125nm,1.1s						
PPT2				*e*S	**S**	**04 41 20.1**	**-3.0**
	comp=Z,265nm,27.0s						
PPT2				*e*LQ	LQ	04 44 37.4	
	comp=Z,777nm,27.8s						
PPT2				*e*LR	LR	04 46 15.1	
	comp=Z,987nm,28.8s						
PPT	**Papeete**	**39.81**	**93**	P	**P**	**04 35 18.5**	**-1.5**
	comp=Z,87nm,0.9s,baz=114,slow=3.3,SNR=4.2						
PPT				LR	LR	04 49 18.4	
	comp=Z,87nm,20.8s,baz=263,slow=33						
TIAR	**Tiarei**	**40.03**	**93**	*e*P	**P**	**04 35 20.3**	**-1.5**
	comp=Z,51nm,1.0s						
TVO	**Taravao**	**40.07**	**94**	*e*P	**P**	**04 35 21.0**	**-1.2**
	comp=Z,41nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.31**	**266**	LR	LR	04 51 07.8	
	comp=Z,470nm,22.0s,baz=90,slow=35						
FITZ	**Fitzroy Crossi**	**40.31**	**266**	P	**P**	**04 35 24.5**	**+0.4**
	baz=40,SNR=17						
FITZ	**Fitzroy Crossi**	**40.31**	**266**	*e*P	**P**	**04 35 24.6**	**+0.4**
	comp=Z,44nm,0.8s						
SWI	**Sorong**	**41.11**	**293**	P	**P**	**04 35 30.4**	**-0.3**
	comp=Z,48nm,0.9s,comp=Z,2μm						
SOEI	**Soe**	**43.73**	**277**	P	**P**	**04 35 53.5**	**+1.3**
	comp=Z,102nm,1.1s						
SOEI	**Soe**	**43.73**	**277**	*e*P	**P**	**04 35 52.4**	**+0.2**
	comp=Z,75nm,0.9s						
SANI	**Sanana**	**45.16**	**288**	P	**P**	**04 36 03.6**	**+0.1**
	comp=Z,184nm,1.2s,comp=Z,2μm						
MBWA	**Marble Bar**	**45.33**	**260**	*e*P	**P**	**04 36 04.9**	**+0.1**
MMRI	**Maumere**	**45.99**	**278**	*e*P	**P**	**04 36 10.3**	**+0.2**
	comp=Z,56nm,0.8s						
KLBR	**Kellerberrin**	**46.48**	**245**	P	**P**	**04 36 14.6**	**+0.8**
	baz=47						
NWAO	**Narrogin (SRO)**	**46.96**	**244**	P	**P**	**04 36 18.2**	**+0.7**
	baz=47,SNR=3.5						
NWAO	**Narrogin (SRO)**	**46.96**	**244**	*e*P	**P**	**04 36 18.4**	**+0.9**
NWAO	comp=Z,192nm,1.8s			pmax	pmax		
NWAO	**Narrogin (SRO)**	**46.96**	**244**	*e*P	**P**	**04 36 18.4**	**+0.9**
	comp=Z,192nm,1.8s						
LUWI	**Luwuk**	**48.48**	**288**	P	**P**	**04 36 30.4**	**+0.9**
	comp=Z,158nm,1.3s,comp=Z,2μm						
LUWI	**Luwuk**	**48.48**	**288**	*e*P	**P**	**04 36 30.0**	**+0.5**
	comp=Z,166nm,1.1s						
KAPI	**Kappang**	**49.60**	**281**	P	**P**	**04 36 38.8**	**+0.8**
	comp=Z,6.5nm,0.3s,baz=110,slow=6.7,SNR=10						
KAPI	**Kappang**	**49.60**	**281**	*e*P	**P**	**04 36 38.0**	**0.0**
	comp=Z,90nm,1.1s						
SPSI	**Sidrap Palu**	**49.99**	**282**	P	**P**	**04 36 40.6**	**-0.4**
	comp=Z,34nm,1.1s						
PLAI	**Plampang**	**50.09**	**276**	P	**P**	**04 36 42.0**	**+0.2**
	comp=Z,120nm,1.2s,comp=Z,1μm						
TAOE	**Nuku Hiva Isla**	**50.94**	**85**	*e*S	**S**	**04 44 01.4**	**-2.6**
	comp=Z,159nm,27.2s						
TAOE				*e*LR	LR	04 51 24.5	
	comp=Z,513nm,27.7s						
TWSI	**Taliwang, Sumb**	**50.95**	**275**	P	**P**	**04 36 48.8**	**+0.5**
	comp=Z,100nm,1.2s,comp=Z,1μm						
JAGI	**Jajag, Banyuwa**	**53.59**	**274**	*e*P	**P**	**04 37 07.2**	**-0.7**
	comp=Z,120nm,1.2s						
MYLDM	**Lahad Datu**	**55.15**	**292**	⇓P	P	04 37 30.6	+11
TSM	**Tawau**	**55.27**	**291**	⇑P	P	04 37 31.7	+12
PCJI	**Pacitan**	**56.46**	**274**	P	**P**	**04 37 29.5**	**+0.8**
	comp=Z,147nm,1.6s,comp=Z,2μm						
SDKM	**Sandakan**	**56.51**	**292**	⇓P	P	04 37 40.5	+11
UGM	**Wanagama**	**57.17**	**274**	*e*P	**P**	**04 37 34.3**	**+0.5**
	comp=Z,86nm,0.8s						
VNDA	**Vanda**	**57.28**	**182**	P	**P**	**04 37 34.0**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=358,slow=7.4,SNR=14						
VNDA	**Vanda**	**57.28**	**182**	P	**P**	**04 37 34.0**	**+0.4**
VNDA	comp=Z,3.0nm,0.8s			pmax	pmax		
VNDA	**Vanda**	**57.28**	**182**	*e*P	**P**	**04 37 33.9**	**+0.4**
	comp=Z,43nm,1.8s						
SBA	**Scott Base**	**57.53**	**180**	*e*P	**P**	**04 37 36.6**	**+1.3**
SBA	comp=Z,69nm,1.2s			pmax	pmax		
SBA	**Scott Base**	**57.53**	**180**	*e*P	**P**	**04 37 36.6**	**+1.3**
	comp=Z,69nm,1.2s						
KKM	**Kota Kinabalu**	**57.55**	**292**	⇓P	P	04 37 47.9	+11
KKM	**Kota Kinabalu**	**57.55**	**292**	*e*P	**P**	**04 37 37.2**	**+0.7**
	comp=Z,200nm,1.8s						
CASY	**Casey**	**58.76**	**204**	*e*P	**P**	**04 37 44.4**	**+0.3**
	comp=Z,35nm,1.0s						
SBUM	**Sibu**	**59.49**	**286**	*e*P	**P**	**04 37 51.0**	**+1.0**
	comp=Z,36nm,1.2s						
CISI	**Cisompet, Garu**	**59.82**	**273**	*e*P	**P**	**04 37 52.0**	**-0.3**
	comp=Z,150nm,1.0s						
KSM	**Kuching**	**60.82**	**284**	*e*P	**P**	**04 37 59.3**	**+0.2**
	comp=Z,76nm,1.0s						
MJAR	**Matsushiro Arr**	**63.37**	**333**	P	**P**	**04 38 15.0**	**-0.7**
	comp=Z,12nm,0.9s,baz=165,slow=7.1,SNR=18						
MAJO	**Matsushiro**	**63.37**	**333**	*d*P	**P**	**04 38 15.1**	**-0.6**
MAJO	comp=Z,100nm,1.0s			pmax	pmax		
MAJO	**Matsushiro**	**63.37**	**333**	*e*P	**P**	**04 38 14.8**	**-0.9**
	comp=Z,32nm,1.3s					

TRTT	Trang	73.06	285	P	P	04 39 18.5	+1.6		
	comp=Z,29nm,1.4s								
SKNT	Sakolnakorn	73.26	296	P	P	04 39 18.7	+0.6		
	comp=Z,51nm,0.9s								
PET	Petropavlovsk	73.57	354‖	eP	P	04 39 19.4	+0.4		
PET				pmax	pmax				
	comp=Z,26nm,1.0s								
MDJ	Mudanjiang	73.72	332	P	P	04 39 21.1	+0.9		
MDJ				PMZ					
	comp=Z,32nm,0.8s								
MDJ				PMZ					
	comp=Z,120nm,5.6s								
MDJ	Mudanjiang	73.72	332	eP	P	04 39 20.8	+0.6		
	comp=Z,20nm,0.8s								
PEA0	Petropavlovsk-	73.75	353	eP	P	04 39 20.4	+0.2		
PEA0B	Petropavlovsk-	73.75	353	eP	P	04 39 21.0	+0.8		
	comp=Z,125nm,1.7s								
PETK	Petropavlovsk-	73.75	353	P	P	04 39 20.9	+0.7		
PETK	comp=Z,13nm,0.6s,baz=137,slow=8.0,SNR=18			LR	LR	05 06 02.4			
	comp=Z,128nm,21.2s,baz=247,slow=31								
TYV	Tymovskoe	74.45	343	eP	P	04 39 25.0	+0.7		
TYV				pmax	pmax				
	comp=Z,32nm,1.2s								
CHAI	Chaiyaphum	74.47	294	P	P	04 39 26.7	+1.5		
	comp=Z,4.3nm,0.9s								
NONG	Nongkai	74.48	296	P	P	04 39 26.1	+1.0		
	comp=Z,22nm,1.1s								
CN2	Changchun	75.00	329	eP	P	04 39 27.8	+0.2		
CN2				PMZ					
	comp=Z,20nm,0.7s								
PBKT	Sadao Pong	75.64	294	P	P	04 39 33.4	+1.5		
	comp=Z,18nm,1.3s								
NIKH	Nikolski High	75.67	14	eP	P	04 39 30.1	-1.2		
	comp=Z,160nm,0.7s								
ENH	Enshi	75.75	310	eP	P	04 39 32.3	0.0		
	comp=Z,12nm,0.7s								
GYA	Guiyang	75.79	305	P	P	04 39 35.0	+2.3		
GYA				S	S	04 49 16.0	+2.5		
GYA				SKS	SKSac	04 49 40.2	-1.6		
GYA				PMZ					
	comp=Z,20nm,1.0s								
GYA				PMZ					
	comp=Z,140nm,6.4s								
GYA				LN					
	comp=Z,570nm,19.4s								
GYA				LE					
	comp=Z,530nm,20.2s								
GYA				LZ					
	comp=Z,550nm,19.8s								
LOEI	Loei	75.81	295	P	P	04 39 32.4	-0.5		
	comp=Z,11nm,1.8s								
SRDT	SRDT	76.28	291	P	P	04 39 38.4	+2.8		
	comp=Z,73nm,1.5s								
UTTA	Uttaradit	76.52	295	P	P	04 39 38.6	+1.7		
	comp=Z,4.8nm,1.0s								
KLR	Kul'dur	76.56	336	P	P	04 39 37.3	+0.9		
	comp=Z,7.7nm,0.9s,baz=152,slow=3.3,SNR=20								
UNV	Unalaska Valle	77.03	15	eP	P	04 39 37.0	-1.9		
	comp=Z,35nm,0.7s								
MAW	Mawson	77.07	202	P	P	04 39 40.3	+1.2		
	comp=Z,14nm,1.0s,baz=109,slow=7.9,SNR=14								
MAW	Mawson	77.07	202	P	P	04 39 40.2	+1.1		
	baz=77,SNR=9.5								
MAW	Mawson	77.07	202	eP	P	04 39 40.4	+1.2		
MAW				pmax	pmax				
	comp=Z,8.0nm,1.0s								
MAW	Mawson	77.07	202	eP	P	04 39 40.4	+1.2		
	comp=Z,7.7nm,1.0s								
SUKH	Sukhothai	77.19	294	P	P	04 39 42.6	+1.9		
	comp=Z,5.6nm,0.9s								
BJI	Beijing	77.30	322	P	P	04 39 40.6	-0.2		
BJI				PMZ					
	comp=Z,7.0nm,1.8s								
BJI				PMZ					
	comp=Z,110nm,4.4s								
LAMP	Lampang	77.65	295	P	P	04 39 45.0	+1.7		
	comp=Z,20nm,0.9s								
KMI	Kunming	78.17	302	P	P	04 39 59.5	+13		
KMI				pmax	pmax				
	comp=Z,33nm,1.1s								
KMI	Kunming	78.17	302	P	P	04 39 47.8	+1.5		
KMI				PMZ					
	comp=Z,29nm,1.0s								
CMAR	Chiang Mai Arr	78.21	295	P	P	04 39 48.0	+1.6		
	comp=Z,22nm,0.9s,baz=134,slow=4.6,SNR=61								
CHTO	Chiang Mai	78.37	295	P	P	04 39 48.4	+1.2		
	comp=Z,180nm,1.0s								
CHTO	Chiang Mai	78.37	295	eP	P	04 39 48.5	+1.2		
CHTO				pmax	pmax				
	comp=Z,30nm,0.8s								
CHTO	Chiang Mai	78.37	295	P	P	04 39 48.5	+1.2		
	SNR=13								
CHTO	Chiang Mai	78.37	295	eP	P	04 39 48.5	+1.2		
	comp=Z,30nm,0.8s								
CD2	Chengdu	80.27	308	eP	P	04 39 57.8	+0.4		
CD2				pP	PcP	04 40 01.2	-3.3		
CD2				PP	PP	04 43 00.3	-0.2		
CD2				S	S	04 50 04.2	+2.7		
CD2				sS	SKSac	04 50 09.9	-3.8		
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,220nm,5.4s								
CD2				LN					
	comp=Z,500nm,18.1s								
CD2				LE					
	comp=Z,450nm,18.1s								
CD2				LZ					
	comp=Z,440nm,19.6s								
HHC	Hu-ho-hao-te	80.54	320	eP	P	04 39 59.6	+0.9		
HHC				PMZ					
	comp=Z,21nm,1.3s								
HHC				PMZ					
	comp=Z,250nm,7.2s								
LZH	Lanzhou	82.87	313	eP	P	04 40 13.0	+1.8		
LZH				pP	pP	04 40 18.4	-1.2		
LZH				sP	sP	04 40 23.9	+1.2		
LZH				PP	PP	04 43 19.4	-2.6		
LZH				eS	S	04 50 31.3	+2.9		
LZH				PMZ					
	comp=Z,19nm,1.0s								
LZH				PMZ					
	comp=Z,96nm,5.6s								
LZH				LN					
	comp=Z,350nm,15.8s								
LZH				LE					
	comp=Z,460nm,17.0s								
LZH				LZ					
	comp=Z,590nm,18.3s								
SYO	Syowa Base	83.62	196‖	iP	P	04 40 13.0	-1.3		
SYO	Syowa Base	83.62	196‖	epP	P	04 40 17.6	+3.3		
OHAK	Old Harbor	83.70	20	eP	P	04 40 14.3	-0.4		
	comp=Z,118nm,1.4s								
SEY	Seymchan	83.98	353‖	eP	P	04 40 16.1	+0.1		
KDAK	Kodiak Island	84.38	20	iP	P	04 40 18.6	+0.5		
KDAK	Kodiak Island	84.38	20	eP	P	04 40 17.7	-0.4		
SVW2	Sparrevohn	86.22	17	eP	P	04 40 26.1	-1.2		
	comp=Z,19nm,1.2s								
SAO	San Andreas Ge	87.19	49	eP	P	04 40 33.2	+0.5		
SAO				pmax	pmax				
	comp=Z,45nm,1.3s								
SAO	San Andreas Ge	87.19	49	eP	P	04 40 33.2	+0.5		
	comp=Z,45nm,1.3s								
ULN	Ulaanbaatar	87.28	324	diP	P	04 40 33.1	+0.1		
ULN				pmax	pmax				
	comp=Z,35nm,1.7s								
ULN	Ulaanbaatar	87.28	324	P	P	04 40 33.5	+0.5		
	SNR=14								
ULN	Ulaanbaatar	87.28	324	eP	P	04 40 33.1	+0.1		
KMRM	Mail Ridge	87.30	45	eP	P	04 40 34.3	+1.1		
	comp=Z,57nm,0.9s								
GTA	Gaotai	87.30	314	eP	P	04 40 34.1	+0.8		
GTA				pP	sP	04 40 45.4	+0.6		
GTA				PMZ					
	comp=Z,5.0nm,1.3s								
PKM	Mcpherson Peak	87.51	51	P	P	04 40 34.6	+0.1		
	baz=243								
SMMC	Simmler	87.57	51	P	P	04 40 35.0	+0.4		
	baz=243								
KHMM	Horse Mountain	87.60	45	eP	P	04 40 35.8	+1.1		
	comp=Z,58nm,1.0s								
SONM	Songino Array	87.62	323	P	P	04 40 34.8	+0.1		
	comp=Z,6.1nm,1.0s,baz=136,slow=5.0,SNR=27								
SONA1	Songino Array	87.63	323	eP	P	04 40 34.8	+0.1		
NVL	N'lazarevskaya	87.63	188	eP	P	04 40 33.7	-0.6		
TTA	Tatalina	87.64	15	eP	P	04 40 34.1	-0.2		
TTA				pmax	pmax				
	comp=Z,28nm,1.7s								
TTA	Tatalina	87.64	15	eP	P	04 40 34.1	-0.2		
	comp=Z,28nm,1.7s								
YAK	Yakutsk	87.70	343	eP	P	04 40 34.1	-0.4		
YAK				eS	SKSac	04 50 57.3	-3.1		
YAK				e		04 51 15.6			
YAK				pmax	pmax				
	comp=Z,28nm,0.9s								
YAK				pmax	pmax				
	comp=N,7.0nm,1.2s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.1s								
YAK				smax	smax				
	comp=N,25nm,2.7s								
YAK				smax	smax				
	comp=E,38nm,3.3s								
YAK				MLR	MLR				
	comp=Z,243nm,22.0s								
YAK				MLR	MLR				
	comp=N,151nm,16.0s								
YAK				MLR	MLR				
	comp=E,109nm,19.0s								
SNAA	Sanae	88.00	183	P	P	04 40 35.9	-0.2		
SNAA	Sanae	88.00	183	eP	P	04 40 35.4	-0.7		
SNAA				pmax	pmax				
	comp=Z,30nm,1.2s								
SNAA	Sanae	88.00	183	eP	P	04 40 35.4	-0.7		
	comp=Z,30nm,1.2s								
FMP	Fort Macarthur	88.12	53	P	P	04 40 37.2	+0.1		
	baz=244								
BILL	Bilibino	88.17	359	diP	P	04 40 36.0	-0.6		
BILL				i		04 40 48.1			
BILL				e		04 44 02.1			
BILL				pmax	pmax				
	comp=Z,64nm,1.7s								
BILL				MLR	MLR				
	comp=Z,244nm,22.0s								
BILL	Bilibino	88.17	359	eP	P	04 40 36.4	-0.2		
	comp=Z,34nm,1.0s								
OSI	Osito Audit: C	88.19	52	P	P	04 40 37.6	-0.1		
	baz=244								
WDC	Whiskeytown Da	88.25	45	eP	P	04 40 37.9	+0.3		
WDC				pmax	pmax				
	comp=Z,59nm,1.3s								
WDC	Whiskeytown Da	88.25	45	eP	P	04 40 37.9	+0.3		
	comp=Z,59nm,1.3s								
L02D	Cave Junction,	88.32	44	P	P	04 40 38.4	+0.4		
	baz=240								
N02D	Trinity Center	88.33	45	P	P	04 40 38.6	+0.5		
	baz=241,SNR=9.1								
ARVC	Arvin	88.34	52	P	P	04 40 38.3	0.0		
	baz=244								
M02C	Callahan	88.43	45	P	P	04 40 39.4	+0.8		
	baz=241,SNR=8.1								
ORV	Oroville	88.46	47	eP	P	04 40 38.1	-0.6		
ORV				pmax	pmax				
	comp=Z,31nm,1.1s								
ORV	Oroville	88.46	47	eP	P	04 40 38.1	-0.6		
	comp=Z,31nm,1.1s								
PMR	Palmer	88.47	19	eP	P	04 40 37.7	-0.4		
PMR				pmax	pmax				
	comp=Z,9.0nm,1.0s								
PMR	Palmer	88.47	19	eP	P	04 40 37.7	-0.4		
	comp=Z,9.1nm,1.0s								
VES	Vestal, Richgr	88.47	51	P	P	04 40 38.7	-0.1		
	baz=244								
MWC	Mount Wilson	88.52	53	eP	P	04 40 39.3	0.0		
MWC				pmax	pmax				
	comp=Z,78nm,1.6s								
MWC	Mount Wilson	88.52	53	eP	P	04 40 39.3	0.0		
	comp=Z,78nm,1.6s								
CMB	Columbia Colle	88.53	48	eP	P	04 40 39.0	-0.1		
CMB				pmax	pmax				
	comp=Z,31nm,1.1s								
CMB	Columbia Colle	88.53	48	eP	P	04 40 39.0	-0.1		
	comp=Z,31nm,1.1s								
AFDM	Forest Hills D	88.54	47	eP	P	04 40 39.4	+0.3		
	comp=Z,52nm,1.2s								
RCTC	Rector, Farmer	88.56	50	P	P	04 40 39.4	+0.1		
	baz=244								
O03D	Paynes Creek	88.61	46	P	P	04 40 39.3	-0.2		
	baz=242,SNR=15								
109C	Camp Elliot, M	88.66	54	P	P	04 40 39.5	-0.2		
	baz=245								
YBH	Yreka Blue Hor	88.69	44	eP	P	04 40 40.7	+0.9		
YBH				pmax	pmax				
	comp=Z,47nm,1.0s								
YBH	Yreka Blue Hor	88.69	44	eP	P	04 40 40.7	+0.9		
	comp=Z,47nm,1.0s								
BFSC	Mount Baldy Ra	88.82	53	P	P	04 40 40.2	-0.5		
	baz=244,SNR=6.5								
ISA	Isabella, Lake	88.84	51	P	P	04 40 40.7	+0.1		
	baz=244,SNR=8.6								
ISA	Isabella, Lake	88.84	51	eP	P	04 40 40.9	+0.2		
ISA				pmax	pmax				
	comp=Z,42nm,1.2s								
ISA	Isabella, Lake	88.84	51	eP	P	04 40 40.9	+0.2		
	comp=Z,42nm,1.2s								
EDW2	Edwards Air Fo	88.85	52	P	P	04 40 40.7	0.0		
	baz=244,SNR=11								
MURC	Murrieta	88.90	54	P	P	04 40 40.7	-0.2		
	baz=245,SNR=5.5								
HUMO	Hull Mountain	88.95	43	eP	P	04 40 41.0	0.0		
	comp=Z,32nm,0.9s								
MONP2	Monument Peak	89.19	54	P	P	04 40 42.4	-0.1		
	baz=245,SNR=7.9								
VNA1	Neumayer--Stat	89.19	181	P	P	04 40 41.8	+0.2		
I03D	Drain, OR	89.23	42	P	P	04 40 42.4	+0.2		
	baz=241								
M04C	Macdoel	89.29	45	P	P	04 40 43.0	+0.3		
	baz=242,SNR=10								
IKP	In-Ko-Pah, Jac	89.32	55	P	P	04 40 43.1	0.0		
	baz=245								
LRMC	Laurel Mtn Rad	89.34	52	P	P	04 40 43.2	+0.1		
	baz=244								
LASM	Arnica Sink	89.37	45	P	P	04 40 43.8	+0.5		
BBRC	Big Bear Solar	89.39	53	P	P	04 40 43.2	-0.2		
	baz=245								
WAKR	Walker	89.41	48	eP	P	04 40 43.7	+0.2		
MLAC	Mammoth, Mammo	89.44	49	P	P	04 40 43.8	+0.1		
	baz=244,SNR=6.8								
PFO	Pinyon Flats O	89.46	54	P	P	04 40 43.4	-0.2		
	baz=245,SNR=5.8								
PFO	Pinyon Flats O	89.46	54	eP	P	04 40 43.0	-0.7		
PFO				pmax	pmax				
	comp=Z,37nm,1.4s								
PFO	Pinyon Flats O	89.46	54	eP	P	04 40 43.0	-0.7		
	comp=Z,37nm,1.4s								
TPFO	Pinon Flats	89.46	54	P	P	04 40 43.5	-0.2		
	baz=245,SNR=7.8								
CWC	Cottonwood Cre	89.47	51	P	P	04 40 43.8	+0.1		
	baz=244								
RRX	Edison Barstow	89.59	52	P	P	04 40 44.1	0.0		
	baz=245								
TIN	Tinemaha, Big	89.62	50	P	P	04 40 44.4	+0.1		
	baz=244								
SWSC	Sam W. Stewart	89.68	55	P	P	04 40 44.6	0.0		
	baz=246,SNR=5.7								
MPMC	Manual Prospec	89.73	51	P	P	04 40 44.9	-0.1		
	baz=244,SNR=21								
K04D	Chiloquin, OR	89.74	44	P	P	04 40 45.1	+0.3		
	baz=242								
DAC	Darwin (Calif)	89.75	51	eP	P	04 40 44.9	-0.2		
DAC				pmax	pmax				
	comp=Z,25nm,1.1s								
DAC	Darwin (Calif)	89.75	51	eP	P	04 40 44.9	-0.2		
	comp=Z,25nm,1.1s								
I04A	Tendick Farm,	89.88	43	P	P	04 40 44.6	-0.7		
	baz=241								
GSC	Goldstone, Bar	89.91	52	P	P	04 40 45.6	-0.1		
	baz=245,SNR=6.4								
GSC	Goldstone, Bar	89.91	52	eP	P	04 40 45.9	+0.2		
GSC				pmax	pmax				
	comp=Z,23nm,1.3s								
GSC	Goldstone, Bar	89.91	52	eP	P	04 40 45.9	+0.2		
	comp=Z,23nm,1.3s								
BELC	Belle Mtn. Jos	89.97	54	P	P	04 40 46.2	+0.1		
	baz=245,SNR=17								
BOD	Bodaibo	89.98	334	eP	P	04 40 45.1	-0.2		
BOD				pmax	pmax				
	comp=Z,12nm,1.6s								
PAHR	Pah Rah Range	89.99	47	eP	P	04 40 46.4	+0.4		
	comp=Z,40nm,1.2s								
G03D	McMinnville, O	90.03	41	P	P	04 40 46.3	+0.4		
	baz=241								
HEC	Hector,Ludlow	90.06	53	P	P	04 40 46.2	-0.2		
	baz=245								
NV01	Mina Array Sit	90.17	49	eP	P	04 40 46.4	-0.6		
NVAR	Mina Array Bea	90.17	49	P	P	04 40 47.1	0.0		
	comp=Z,16nm,0.8s,baz=232,slow=7.7,SNR=74								
NVAR				LR	LR	05 17 30.8			
	comp=Z,161nm,18.1s,baz=265,slow=33								
GRAC	Grapevine Rang	90.22	50	P	P	04 40 47.3	+0.2		
	baz=245,SNR=19								
BC3	Big Chuckawall	90.24	54	P	P	04 40 47.5	+0.2		
	baz=246,SNR=7.7								
NV11	Mina Array Sit	90.28	49	eP	P	04 40 47.2	-0.2		
K05A	Summer Lake	90.35	44	eP	P	04 40 48.2	+0.4		
	comp=Z,31nm,0.8s								
MOD	Modoc Plateau	90.36	45	eP	P	04 40 47.5	-0.3		
	comp=Z,26nm,0.9s								
FURC	Furnace Creek,	90.36	51	P	P	04 40 47.7	+0.1		
	baz=245,SNR=23								
J05D	Fort Rock, OR	90.39	43	P	P	04 40 48.2	+0.4		
	baz=242								
H04A	Detroit Lake	90.44	42	eP	P	04 40 47.7	-0.2		
	comp=Z,25nm,0.8s								
GLA	Glamis	90.47	55	P	P	04 40 48.8	+0.5		
	baz=246,SNR=9.5								
GLA	Glamis	90.47	55	eP	P	04 40 48.9	+0.5		
GLA				pmax	pmax				
	comp=Z,33nm,0.6s								
GLA	Glamis	90.47	55	eP	P	04 40 48.9	+0.5		
	comp=Z,33nm,0.6s								
E03A	Lebam	90.50	40	eP	P	04 40 48.9	+0.8		
	comp=Z,78nm,1.0s								
GMRC	Granite Mounta	90.55	53	P	P	04 40 48.7	-0.1		
	baz=246,SNR=11								
SHOC	Shoshone, Teco	90.56	52	P	P	04 40 48.5	-0.1		
	baz=245,SNR=5.6								
F04D	Rainier, OR	90.61	40	P	P	04 40 49.3	+0.8		
	baz=241								
TUQ	Turquoise Moun	90.62	52	P	P	04 40 48.9	-0.2		
	baz=245,SNR=6.7								
PGO	Gresham	90.65	41	P	P	04 40 49.4	+0.6		
IRM	Iron Mountain	90.68	54	P	P	04 40 49.4	+0.2		
	baz=246,SNR=9.4								
OOW	Octopus West	90.72	39	P	P	04 40 50.3	+1.2		
ZAK	Zakamensk	90.73	325	eP	P	04 40 48.6	-0.6		
ZAK				pmax	pmax				
	comp=Z,8.0nm,1.3s								
NLWA	Neilton Lookou	90.74	39	eP	P	04 40 49.6	+0.4		
	comp=Z,37nm,1.1s								
SLBS	Sierra La Lagu	90.81	65	eP	P	04 40 51.4	+1.2		
	comp=Z,60nm,1.5s								
I05D	Terrebonne, OR	90.81	43	P	P	04 40 49.8	+0.2		
	baz=242								
F04A	Amboy	90.90	41	eP	P	04 40 50.3	+0.4		
	comp=Z,49nm,1.0s								
Y12C	Blythe	90.99	54	P	P	04 40 50.9	+0.3		
	baz=246,SNR=8.4								
Y12C	Blythe	90.99	54	eP	P	04 40 51.2	+0.6		
WRH	Wood River Hil	90.99	17	eP	P	04 40 48.9	-1.1		
	comp=Z,9.4nm,1.1s								
TPNV	Topopah Spring	91.01	51	P	P	04 40 50.9	0.0		
	baz=245,SNR=34								
TPNV	Topopah Spring	91.01	51	eP	P	04 40 50.0	-0.9		
TPNV				pmax	pmax				
	comp=Z,31nm,1.0s								
TPNV	Topopah Spring	91.01	51	eP	P	04 40 50.0	-0.9		
	comp=Z,31nm,1.0s								
LDFC	Landfair	91.08	53	eP	P	04 40 51.9	+0.7		
	comp=Z,56nm,1.0s								
ERK	Elk Rock	91.12	40	P	P	04 40 51.6	+0.5		
CCB	Clear Creek Bu	91.20	17	eP	P	04 40 48.9	-2.0		
	comp=Z,5.3nm,1.0s								
TLY	Talaya	91.22	326	eP	P	04 40 51.1	-0.2		
TLY				pmax	pmax				
	comp=Z,14nm,1.0s								
TDL	Tradedollar La	91.22	40	P	P	04 40 51.9	+0.3		
WRAK	Wrangell Islan	91.24	29	eP	P	04 40 50.2	-1.0		
	comp=Z,58nm,1.4s								
G05D	Wamic, OR	91.25	42	P	P	04 40 51.8	+0.1		
	baz=242								
NEE2	Needles Airpor	91.32	53	P	P	04 40 52.4	+0.2		
	baz=246								
MDM	Murphy Dome	91.33	17	eP	P	04 40 49.5	-2.0		
	comp=Z,7.4nm,1.0s								
COLA	College	91.36	17‖	eP	P	04 40 50.3	-1.3		
COLA				pmax	pmax				
	comp=Z,5.0nm,1.1s								
PDMCI	Parker Dam,Lak	91.50	54	P	P	04 40 52.9	-0.1		
	baz=246,SNR=15								
IL1	Eielson Array	91.56	18	eP	P	04 40 50.2	-2.3		
ILAR	Eielson Array	91.56	18	P	P	04 40 50.4	-2.2		
	comp=Z,2.9nm,0.7s,baz=232,slow=5.1,SNR=27								
ILAR				LR	LR	05 22 51.3			
	comp=Z,139nm,18.0s,baz=228,slow=36								
ILB	Eielson Array	91.56	18	eP	P	04 40 52.8	+0.2		
214A	Organ Pipe Nat	91.60	57	P	P	04 40 53.7	+0.1		
	baz=247								
PGC	Sidney	91.60	38	eP	P	04 40 52.9	-0.2		
	comp=Z,22nm,0.9s								
SHPR	Sheep Range	91.63	52	eP	P	04 40 54.3	+0.6		
	comp=Z,22nm,1.2s								
LON	Longmire	91.66	40	eP	P	04 40 53.4	-0.1		
LON				pmax	pmax				
	comp=Z,44nm,1.8s								
LON	Longmire	91.66	40	eP	P	04 40 53.4	-0.1		
	comp=Z,44nm,1.8s								
WVOR	Wild Horse Val	91.70	45	eP	P	04 40 53.8	-0.2		
WVOR				pmax	pmax				
	comp=Z,34nm,1.1s								
WVOR	Wild Horse Val	91.70	45	eP	P	04 40 53.8	-0.2		
	comp=Z,34nm,1.1s								
D05A	Enumclaw	91.76	40	eP	P	04 40 54.7	+0.8		
	comp=Z,111nm,1.4s								
BMN	Battle Mountai	91.79	47	eP	P	04 40 53.9	-0.5		
BMN				pmax	pmax				
	comp=Z,18nm,0.9s								
BMN	Battle Mountai	91.79	47	eP	P	04 40 53.9	-0.5		
	comp=Z,18nm,0.9s								
FMW	Mount Fremont	91.83	40	P	P	04 40 54.7	+0.2		
HSIG		91.96	60	eP	P	04 40 55.2	-0.1		
	comp=Z,21nm,0.8s								
W13A	Hualapai Mount	92.01	53	eP	P	04 40 56.1	+0.5		
A04D	Lummi Island	92.07	38	P	P	04 40 55.5	+0.3		
	baz=241								
R11A	Troy Canyon, C	92.07	50	P	P	04 40 55.3	-0.5		
	baz=246,SNR=13								
R11A	Troy Canyon, C	92.07	50	eP	P	04 40 54.9	-0.9		
B05A	Bryant	92.21	39	P	P	04 40 56.2	+0.3		
	baz=242								
Y14A	Wickenburg	92.22	55	eP	P	04 40 56.4	-0.1		
MBW	Mount Baker	92.57	38	P	P	04 40 57.7	-0.1		
COLD	Coldfoot	92.58	15	eP	P	04 40 57.0	-0.2		
	comp=Z,7.2nm,1.0s								
G08A	Pilot Rock	92.76	42	eP	P	04 40 59.0	+0.2		
	comp=Z,13nm,0.8s								
C06D	Leavenworth	92.76	39	P	P	04 40 58.4	-0.2		
	baz=242								
LCMT	Little Creek M	93.24	52	eP	P	04 41 01.2	0.0		
	comp=Z,13nm,1.0s								
EGAK	Eagle	93.27

WUAZ	Wupatki	94.06	54	P		P	04 41 04.9	-0.1
	baz=248							
WUAZ	Wupatki	94.06	54	*e*P		P	04 41 05.6	+0.5
	comp=Z,15nm,1.1s							
PKCU	Pink Cliffs	94.09	52	*e*P		P	04 41 07.0	+1.6
	comp=Z,12nm,1.3s							
MTPU	Mount Pierson	94.41	51	*e*P		P	04 41 05.7	-1.1
	comp=Z,8.2nm,1.0s							
MSU	Marysvale	94.60	51	*e*P		P	04 41 08.2	+0.7
MSU	Marysvale	94.60	51	*e*P		P	04 41 08.2	+0.7
DUG	Dugway, Tooele	94.78	49	P		P	04 41 07.5	-0.7
	baz=248							
DUG	Dugway, Tooele	94.78	49	*e*P		P	04 41 07.3	-0.9
DUG				pmax	pmax			
	comp=Z,5.0nm,1.0s							
DUG	Dugway, Tooele	94.78	49	*e*P		P	04 41 07.3	-0.9
	comp=Z,4.5nm,1.0s							
HLID	Hailey	94.99	45	P		P	04 41 08.8	-0.4
	baz=247							
HLID	Hailey	94.99	45	*e*P		P	04 41 08.4	-0.8
	comp=Z,5.0nm,0.9s							
W18A	Petrified Fore	95.16	55	P		P	04 41 09.9	-0.3
	baz=249							
NEW	Newport	95.18	40	P		P	04 41 09.9	+0.2
	baz=245							
NEW	Newport	95.18	40	*e*P		P	04 41 09.0	-0.7
NEW	Newport	95.18	40	*e*P		P	04 41 09.0	-0.7
HVU	Hansel Valley	95.41	47	*e*P		P	04 41 11.0	-0.1
HVU				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HVU	Hansel Valley	95.41	47	*e*P		P	04 41 11.0	-0.1
	comp=Z,6.6nm,0.9s							
Q16A	Castle Valley	95.48	51	*e*P		P	04 41 11.8	+0.3
	comp=Z,9.4nm,1.2s							
TMUT	Trail Mountain	95.59	50	*e*P		P	04 41 12.5	+0.4
	comp=Z,5.5nm,0.9s							
TIXI	Tiksi	95.68	348⇑	*e*P		P	04 41 10.3	-1.0
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.7s							
121A	Cookes Peak, D	95.77	58	P		P	04 41 12.8	-0.2
	baz=250							
SRU	San Rafael Swe	96.02	51	*e*P		P	04 41 13.7	-0.2
SRU				pmax	pmax			
	comp=Z,7.0nm,0.7s							
SRU	San Rafael Swe	96.02	51	*e*P		P	04 41 13.7	-0.2
	comp=Z,6.6nm,0.7s							
TCUT	Toone Canyon	96.12	48	*e*P		P	04 41 14.3	-0.1
	comp=Z,9.3nm,1.0s							
HWUT	Hardware Ranch	96.19	48	*e*P		P	04 41 13.7	-1.0
	comp=Z,4.4nm,0.8s							
MCMT	McKenzie Canyo	96.52	45	*e*P		P	04 41 16.0	-0.1
DLMT	Dillon	96.88	44	*e*P		P	04 41 16.2	-1.4
	comp=Z,7.6nm,1.3s							
PV01	Paradox Valley	97.10	52	*e*P		P	04 41 18.2	-0.8
REDW	Red Top Meadow	97.32	47	*e*P		Pdif	04 41 20.0	+0.2
WMQ	Urumqi	97.39	314	P		P	04 41 19.8	-0.1
WMQ				pP		pP	04 41 24.8	-3.6
WMQ				sP		sP	04 41 26.8	-4.6
WMQ				PMZ				
	comp=Z,3.0nm,0.4s							
WMQ				PMZ				
	comp=Z,8.0nm,3.8s							
WMQ				LN				
	comp=Z,53nm,28.2s							
MNTX	Cornudas Mount	97.41	59	P		P	04 41 19.8	-0.3
	baz=251							
MNTX	Cornudas Mount	97.41	59	*e*P		P	04 41 19.9	-0.3
	comp=Z,2.6nm,0.9s							
IMW	Indian Meadow	97.45	46	*e*P		Pdif	04 41 20.6	+0.1
	comp=Z,0.8nm,0.4s							
BOZ	Bozeman (W)	97.62	44	P		P	04 41 20.6	-0.4
	baz=249							
BOZ	Bozeman (W)	97.62	44	*e*P		P	04 41 20.3	-0.7
BOZ				pmax	pmax			
	comp=Z,4.0nm,1.2s							
BOZ	Bozeman (W)	97.62	44	*e*P		P	04 41 20.3	-0.7
	comp=Z,4.3nm,1.2s							
ANMO	Albuquerque	97.63	56	P		P	04 41 20.6	-0.7
	baz=251							
ANMO	Albuquerque	97.63	56⇑	*e*P		P	04 41 20.7	-0.7
ANMO				pmax	pmax			
	comp=Z,3.0nm,1.2s							
ANMO	Albuquerque	97.63	56	*e*P		P	04 41 20.7	-0.7
	comp=Z,7.9nm,1.7s							
H17A	Grant Village	97.87	46	P		P	04 41 21.9	-0.4
	baz=249							
H17A	Grant Village	97.87	46	*e*P		Pdif	04 41 22.9	+0.5
	comp=Z,1.4nm,0.6s							
INK	Inuvik	97.88	19	P		P	04 41 19.9	-1.4
	comp=Z,8.5nm,1.3s,baz=289,slow=9.6,SNR=5.4							
INK				LR		LR	05 16 46.1	
	comp=Z,39nm,21.5s,baz=227,slow=30							
BW06	Boulder Array	97.99	47	P		P	04 41 22.4	-0.4
	baz=250							
BW06	Boulder Array	97.99	47	*e*P		P	04 41 20.7	-2.1
PDAR	Pinedale Array	98.00	47	P		P	04 41 21.0	-1.9
	comp=Z,0.8nm,0.7s,baz=242,slow=3.2,SNR=6.7							
PDAR				LR		LR	05 24 54.4	
	comp=Z,90nm,18.1s,baz=216,slow=35							
O20A	White River Ci	98.03	50	P		P	04 41 22.6	-0.4
	baz=250							
TX31	Lajitas Ar. Si	98.04	62	*e*P		Pdif	04 41 23.7	+0.5
TXAR	Lajitas Array	98.04	62	P		P	04 41 22.5	-0.7
	comp=Z,1.1nm,0.9s,baz=244,slow=4.9,SNR=7.8							
S22A	4UR Ranch, Cre	98.27	53	Pdiff		P	04 41 24.1	-0.2
	baz=251							
SDCO	Great Sand Dun	99.27	53	Pdiff		Pdif	04 41 28.5	-0.2
	baz=252							
N23A	Red Feather La	99.93	50	Pdiff		Pdif	04 41 31.3	-0.3
	baz=252							
MSTX	Muleshoe	100.21	58	Pdiff		Pdif	04 41 32.4	-0.4
	baz=252							
MKAR	Makanchi Array	101.96	316	P		Pdif	04 41 39.8	-0.4
	comp=Z,0.3nm,0.5s,baz=87,slow=7.4,SNR=3.6							
YKA	Yellowknife Ar	102.06	28	P		Pdif	04 41 40.7	+0.6
	comp=Z,0.8nm,0.6s,baz=258,slow=4.7,SNR=14							
RSSD	Black Hills	102.24	47	Pdiff		Pdif	04 41 41.4	-0.3
	baz=254							
433A	Art	102.25	62	Pdiff		Pdif	04 41 42.2	+0.3
	baz=254							
134A	White-Moore Ra	103.58	60	Pdiff		Pdif	04 41 47.6	0.0
	baz=254							
KURK	Kurchatov	105.33	319	PKiKP		PKiKP	04 46 08.7	-0.1
KURBB	Kurchatov Arra	105.36	319	PKiKP		PKiKP	04 46 08.7	-0.2
	comp=Z,0.3nm,0.5s,baz=93,slow=2.9,SNR=4.7							
BVAR	Borovoye Array	110.75	320	PKiKP		PKiKP	04 46 18.0	-1.0
	comp=Z,1.2nm,0.9s,baz=116,slow=3.4,SNR=5.8							
ARU	Arti	117.66	324	*i* PKiKP		PKPdf	04 46 31.8	-0.2
ARU							04 47 44.3	
ARU							04 53 43.8	
ARU				SS		SS	05 03 55.9	+0.3
BOSA	Boshof	119.65	217	PKP		PKPdf	04 46 37.3	+0.3
	comp=Z,3.7nm,0.9s,baz=288,slow=3.2,SNR=3.0							
O56A	Blue Knob Stat	120.28	55	PKiKP		PKPdf	04 46 37.6	-0.1
	baz=268							
N59A	State Game Lan	122.42	54	PKiKP		PKiKP	04 46 41.9	0.0
	baz=270							
ARCES	ARCESS Array B	125.94	345	PKP		PKPdf	04 46 47.5	-0.1
	comp=Z,9.9nm,0.8s,baz=66,slow=1.1,SNR=26							
KLMR	Klimovskoe	126.14	332	*e*PKIKP		PKPdf	04 46 46.7	-1.4
KLMR				pmax	pmax			
	comp=Z,14nm,0.9s							
KMBO	Kilima Mbogo	127.58	252	PKP		PKPdf	04 46 54.1	+1.4
	comp=Z,1.6nm,0.5s,baz=223,slow=0.2,SNR=5.3							
VRH	Novokhopyorsk	128.40	320	*e*PKIKP		PKPdf	04 46 52.8	0.0
VRH				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KIV	Kislovodsk	129.38	311	*i* PKIKP		PKPdf	04 46 56.7	+1.7
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BDFB	Brasilia	129.43	132	PKP		PKPdf	04 46 55.5	-0.5
	comp=Z,4.6nm,1.0s,baz=28,slow=12,SNR=3.1							
BDFB	Brasilia	129.43	132	PKIKP		PKPdf	04 46 55.5	-0.5
BDFB				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NEY	Neytrino	129.47	310⇓	*i* PKIKP		PKPdf	04 46 56.2	+0.9
LPSR	Galich'ya Gora	129.62	322	*e*PKIKP		PKPdf	04 46 54.6	-0.4
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VSR	Storozhevoye	129.93	321	*e*PKIKP		PKPdf	04 46 55.7	0.0
VSR				pmax	pmax			
	comp=Z,4.0nm,0.4s							
OBN	Obninsk	129.97	326⇓	*i* PKIKP		PKPdf	04 46 56.1	+0.5
OBN				*e*			04 49 07.9	
OBN				pmax	pmax			
	comp=Z,33nm,1.2s							
FINES	FINESS Array B	131.31	337	PKP		PKPdf	04 46 57.6	-0.4
	comp=Z,4.4nm,1.0s,baz=120,slow=6.8,SNR=8.7							
ANN	Anapa	132.88	313	*i* P		Pdif	04 43 54.5	-3.1
ANN				*i*			04 46 58.7	
ANN				*e*			04 47 04.2	
ANN				*e*			04 54 07.8	
ANN				pmax	pmax			
	comp=Z,20nm,0.9s							
ANN				pmax	pmax			
	comp=Z,20nm,1.0s							
AKASG	Malin Array Be	135.91	323	PKP		PKPdf	04 47 07.0	0.0
	comp=Z,1.6nm,0.7s,baz=63,slow=2.1,SNR=9.2							
KIEV	Kiev	135.92	323	*c* iPKIKP		PKPdf	04 47 06.8	-0.2
NB2	NORSAR Subarra	136.31	344	PKPdf		PKPdf	04 47 05.9	-1.6
	comp=Z,4.0nm,1.1s,baz=31,slow=1.9							
NOA	NORSAR Array B	136.31	344	PKP		PKPdf	04 47 06.5	-1.0
	comp=Z,2.0nm,0.8s,baz=30,slow=2.0,SNR=7.3							
HFS	Hagfors	136.38	342	PKP		PKPdf	04 47 06.3	-1.2
	comp=Z,2.6nm,0.8s,baz=114,slow=3.7,SNR=5.0							
BRTR	Keskin Array B	136.83	307	PKP		PKPdf	04 47 09.6	+0.4
	comp=Z,2.0nm,1.0s,baz=128,slow=2.0,SNR=8.4							
MLR	Muntele Rosu	140.25	318	PKP		PKPdf	04 47 13.2	-2.2
	comp=Z,0.3nm,0.6s,baz=328,slow=2.8,SNR=5.5							
KOLS	Kolonicke sedl	140.67	324	*e*PKIKP		PKPdf	04 47 16.8	+1.0
KOLS	Kolonicke sedl	140.67	324	*e*PKP		PKPdf	04 47 16.8	+1.0
CRVS	Cervenica-Dubn	141.13	325	*e*PKIKP		PKPdf	04 47 17.2	+0.6
CRVS	Cervenica-Dubn	141.13	325	*e*PKP		PKPdf	04 47 17.2	+0.6
OKC	Ostrava-Krasne	142.27	328	AMS		AMS	05 46 50.0	
	comp=Z,300nm,17.7s							
VYHS	Vyhne	142.77	326	*e*PKIKP		PKPdf	04 47 17.2	-2.4
VYHS	Vyhne	142.77	326	*e*PKP		PKPdf	04 47 17.2	-2.4
DPC	Dobruska-Polom	142.80	330	AMS		AMS	05 49 20.0	
UPC	Upice	142.84	331	AMS		AMS	05 58 00.0	
	comp=Z,200nm,19.9s							
NVR	Nevrokopi	143.39	313	P		PKPbc	04 47 18.0	-0.1
PVCC	Panska Ves	143.48	332	*e*PKP		PKPdf	04 47 19.7	-1.0
PVCC				AMS		AMS	05 47 40.0	
	comp=Z,200nm,22.8s							
PVCC	Panska Ves	143.48	332	*e*PKIKP		PKPdf	04 47 19.7	-1.0
PVCC				MLR		MLR		
	comp=Z,200nm,22.8s							
BRG	Berggiesshubel	143.50	333	*e*PKP		PKPbc	04 47 18.3	+0.2
	comp=Z,14nm,1.4s							
BRG				*e*			04 47 31.1	
	comp=Z,6.6nm,0.8s							
BRG	Berggiesshubel	143.50	333	*e*PKIKP		PKPbc	04 47 18.3	+0.2
BRG				*e*			04 47 31.1	
BRG				pmax	pmax			
	comp=Z,14nm,1.4s							
CLL	Collm	143.58	334	*e*PKPdf		PKPbc	04 47 18.0	-0.2
	comp=Z,11nm,1.3s							
CLL				*e*			04 47 24.0	
CLL				LmV			05 50 00.0	
	comp=Z,200nm,18.5s							
CLL	Collm	143.58	334	*e*PKIKP		PKPbc	04 47 18.0	-0.2
CLL				*e*			04 47 24.0	
CLL				pmax	pmax			
	comp=Z,11nm,1.3s							
SRS	Serrai	143.67	313	PKIKP		PKPab	04 47 18.5	+0.4
SRS	Serrai	143.67	313	P		PKPab	04 47 18.5	+0.4
GOPC	GO Pecny, Ondr	143.82	331	AMS		AMS	05 50 20.0	
PRU	Pruhonice	143.88	331	*e*PKP		PKPbc	04 47 19.4	+0.2
PRU				AMS		AMS	05 48 10.0	
	comp=Z,200nm,18.6s							
PRU	Pruhonice	143.88	331	*e*PKIKP		PKPbc	04 47 19.4	+0.2
PRU				MLR		MLR		
	comp=Z,200nm,18.6s							
TREC	Trest	143.92	330	*e*PKP		PKPbc	04 47 19.4	0.0
TREC				AMS		AMS	05 53 10.0	
	comp=Z,200nm,22.6s							
TREC	Trest	143.92	330	*e*PKIKP		PKPbc	04 47 19.4	0.0
TREC				MLR		MLR		
	comp=Z,200nm,22.6s							
EKA	Eskdalemuir Ar	144.51	352	PKP		PKPab	04 47 20.4	-0.3
	comp=Z,1.6nm,0.4s,baz=357,slow=2.7,SNR=15							
NKC	Novy Kostel	144.62	333	*e*PKP		PKPdf	04 47 22.5	-0.3
NKC				*e*pPKP		pPKPdf	04 47 29.8	-1.7
NKC				*ex*		x	04 47 34.0	
NKC	Novy Kostel	144.62	333	*e*PKIKP		PKPdf	04 47 22.5	-0.3
NKC				*e*			04 47 29.8	
NKC				*e*			04 47 34.0	
XOR	Xorichti	144.64	310	P		PKPab	04 47 20.7	-1.1
IDI	Anoyia	144.66	303	PKP		PKPbc	04 47 22.2	0.0
	comp=Z,20nm,0.9s,baz=22,slow=9.9,SNR=14							
IDI	Anoyia	144.66	303	P		PKPab	04 47 22.0	-0.1
IDI	Anoyia	144.66	303	*e*PKPdf		PKPab	04 47 21.9	-0.2
IDI				PKP		PKPbc	04 47 22.2	0.0
CONA	Conrad Observa	144.66	328	*i* PKPdf		PKPdf	04 47 22.9	-0.1
	comp=Z,49nm,1.4s,SNR=27							
SKO	Skopje	144.76	315	*e*P		PKPbc	04 47 22.8	+0.5
SKO	Skopje	144.76	315	PKIKP		PKPbc	04 47 22.7	+0.4
SKO	Skopje	144.76	315	P		PKPbc	04 47 22.7	+0.4
LIT	Litokhoron	144.85	312	P		PKPab	04 47 21.8	-0.8
LIT	Litokhoron	144.85	312	PKIKP		PKPab	04 47 21.8	-0.8
LIT	Litokhoron	144.85	312	P		PKPab	04 47 21.8	-0.8
LKR	Lokris	145.04	309	P		PKPbc	04 47 22.2	-1.1
GERES	GERESS Array B	145.08	330	PKPbc		PKPab	04 47 23.3	+0.1
	comp=Z,8.0nm,0.9s,baz=45,slow=4.0,SNR=34							
VAM	Vamos	145.17	303	P		PKPdf	04 47 24.7	+0.5
VAM	Vamos	145.17	303	PKIKP		PKPdf	04 47 24.7	+0.5
VAM	Vamos	145.17	303	P		PKPdf	04 47 24.7	+0.5
VAM	Vamos	145.17	303	P		PKPdf	04 47 24.7	+0.5
DID	Didima	145.27	307	P		PKPbc	04 47 22.9	-1.2
DID	Didima	145.27	307	P		PKPbc	04 47 22.9	-1.2
DID	Didima	145.27	307	P		PKPbc	04 47 22.9	-1.2
ARSA	Arzberg	145.28	327	*i* PKPdf		PKPdf	04 47 24.3	+0.3
	comp=Z,33nm,1.3s,SNR=13							
LTK	Loutraki	145.29	308	P		PKPbc	04 47 22.9	-1.2
LTK	Loutraki	145.29	308	P		PKPbc	04 47 22.9	-1.2
LTK	Loutraki	145.29	308	P		PKPbc	04 47 22.9	-1.2
IMMV	Iera Moni Meta	145.33	303	P		PKPdf	04 47 25.1	+0.7
IMMV	Iera Moni Meta	145.33	303	P		PKPdf	04 47 25.1	+0.7
FNA	Florina	145.34	313	PKIKP		PKPbc	04 47 23.3	-0.9
FNA	Florina	145.34	313	P		PKPbc	04 47 23.3	-0.9
WTSB	Winterswijk	145.34	340	*e*P		PKPbc	04 47 23.6	-0.1
	comp=Z,60nm,1.0s							
KOGS	Kog	145.42	325	*e*PKPbc		PKPdf	04 47 24.3	+0.1
DSF	Desfina	145.48	309	P		PKPdf	04 47 23.7	-1.0
DSF	Desfina	145.48	309	P		PKPdf	04 47 23.7	-1.0
MOA	Molln	145.51	329	*i* PKPdf		PKPab	04 47 25.0	+0.3
	comp=Z,50nm,1.1s,SNR=19							
OHR	Ohrid	145.58	314	*i* P		PKPdf	04 47 24.9	+0.1
ANKY	Antikythira Is	145.74	304	P		PKPbc	04 47 25.6	0.0
VLI	Veliai	145.76	306	P		PKPdf	04 47 24.8	-0.3
VLI	Veliai	145.76	306	P		PKPdf	04 47 24.8	-0.3
VLI	Veliai	145.76	306	P		PKPdf	04 47 24.8	-0.3
KALE	Kalithea	145.77	309	P		PKPbc	04 47 25.6	-0.1
KALE	Kalithea	145.77	309	P		PKPbc	04 47 25.6	-0.1
GUR	Goura	145.79	308	P		PKPdf	04 47 25.2	-0.1
GUR	Goura	145.79	308	P		PKPdf	04 47 25.2	-0.1
EVR	Evrytania	145.81	310	P		PKPdf	04 47 24.7	-0.6
ANX	Ano Chora	145.85	309	P		PKPbc	04 47 26.0	0.0
KLV	Kalavryta, Ach	145.89	308	P		PKPdf	04 47 25.6	+0.2
KLV	Kalavryta, Ach	145.89	308	P		PKPdf	04 47 25.6	+0.2
SOKA	Soboth	145.91	327	*i* PKPab		PKPbc	04 47 25.9	0.0
	comp=Z,34nm,1.3s,SNR=15							
LAKA	Lakka	145.94	309	P		PKPbc	04 47 26.4	+0.2
LAKA	Lakka	145.94	309	P		PKPbc	04 47 26.4	+0.2
VLX	Vlachokerasia	145.96	307	P		PKPbc	04 47 26.5	+0.2
VLX	Vlachokerasia	145.96	307	P		PKPbc	04 47 26.5	+0.2
JAN	Janina	146.19	312	PKP2		PKPab	04 47 27.6	0.0
JAN	Janina	146.19	312	P		PKPab	04 47 27.6	0.0
DSL	Palaion Diasel	146.23	311	P		PKPbc	04 47 27.2	+0.2
DSL	Palaion Diasel	146.23	311	P		PKPbc	04 47 27.2	+0.2
KBA	Koelnbreinsper	146.49	328	*i* PKPbc		PKPdf	04 47 26.3	0.0
	comp=Z,19nm,1.4s,SNR=5.8							
BOJS	Bojanci	146.56	325	*i* PKPdf		PKPbc	04 47 28.6	-0.2
VISS	Visnje	146.59	325	*i* PKPdf		PKPbc	04 47 28.2	+0.4
LJU	Ljubljana	146.59	326	*i* PKPdf		PKPab	04 47 28.6	-0.2
IGT	Igoumenitsa	146.60	312	PKP2		PKPbc	04 47 27.9	-0.1
IGT	Igoumenitsa	146.60	312	P		PKPbc	04 47 27.9	-0.1
PYL	PYLOS	146.60	307	P		PKPbc	04 47 27.5	-0.6
HGN	Heimansgroeve	146.65	340	*e*P		PKPab	04 47 29.8	+0.9
	comp=Z,47nm,1.1s							
MYKA	Terra Mystica	146.65	328	*i* PKPab		PKPbc	04 47 27.6	-0.4
	comp=Z,11nm,1.0s							
LKD2	Lefkada island	146.68	311	P		PKPbc	04 47 28.6	+0.3
MEM	Membach	146.76	339	PKP		PKPab	04 47 28.8	-0.6
JAVS	Javornik	146.94	326	*i* PKPdf		PKPbc	04 47 28.9	0.0
BCLA	Clavier	147.15	340	PKPbc		PKPbc	04 47 29.7	+0.5
BCLA				APKPbc			04 47 31.1	
WTTA	Wattenberg	147.18	330	*i* PKPbc		PKPdf	04 47 28.0	+0.6
	comp=Z,24nm,1.1s							
MOTA	Moosalm	147.36	331	*i* pPKPdf		PKPbc	04 47 30.2	0.0
	comp=Z,23nm,0.8s,SNR=9.9							
SNF	Seneffe	147.39	341	PKPbc		PKPbc	04 47 30.2	+0.4
SQTA	Sankt Quirin	147.41	331	*i* pPKPdf		PKPbc	04 47 30.4	+0.2
	comp=Z,15nm,0.9s							
RETA	Reutte	147.41	331	*i* pPKPdf		PKPbc	04 47 30.4	+0.2
	comp=Z,21nm,1.2s,SNR=6.9							
LANF	Langenberg	147.48	336	PKP		PKPbc	04 47 31.0	+0.8
WLF	Walferdange	147.51	338	PKPbc		PKPbc	04 47 31.2	+0.9
WLF	Walferdange	147.51	338	*e*PKIKP		PKPdf	04 47 27.3	-0.4
WLF				*e*			04 47 31.6	
WLF	Walferdange	147.51	338	*e*PKPdf		PKPdf	04 47 27.3	-0.4
WLF				*e*PKPab		PKPab	04 47 31.6	-0.7
DOU	Dourbes	147.66	340	PKPbc		PKPbc	04 47 31.2	+0.5
FETA	Feichten	147.78	331	*i* sPKPdf		PKPbc	04 47 31.8	+0.5
	comp=Z,28nm,0.9s,SNR=10							
BFO	Black Forest	147.80	335	*i* PKP2		PKPbc	04 47 31.6	+0.5
BFO	Black Forest	147.80	335	*e*PKPbc		PKPbc	04 47 30.6	-0.5
DAVA	Damuels	147.96	332	*i* sPKPdf		PKPbc	04 47 32.2	+0.4
	comp=Z,24nm,0.9s,SNR=10.0							
DAVOX	Davos/Dischmat	148.34	331	PKPbc		PKPbc	04 47 32.9	+0.1
	comp=Z,34nm,0.8s,baz=11,slow=0.9,SNR=35							
ECH	Echery	148.35	336	PKP		PKPbc	04 47 32.7	+0.1
MOF	Molkenrain	148.66	335	PKP		PKPbc	04 47 33.4	-0.1
LOMF	Lomont	149.19	335	PKP		PKPbc	04 47 35.3	+0.5
TIP	Timpagrande	149.22	314	*e*PKPbc		PKPbc	04 47 35.5	+0.3
AQU	L'Aquila	149.58	322	*e*PKP2		PKPbc	04 47 36.8	+0.8
AQU	L'Aquila	149.58	322	*e*PKPbc		PKPbc	04 47 36.8	+0.8
OG01	Vacheresse	150.07	334	PKP		PKPbc	04 47 37.7	+0.6
RSL	Roselend	150.61	333	PKP		PKPbc	04 47 39.0	+0.5
PLDF	La Plantade	151.55	337	PKP		PKPbc	04 47 42.2	+1.7
AGO	Saint Agoulin	151.66	338	PKP		PKPbc	04 47 42.2	+1.5
SSB	Saint Sauveur	151.79	335	PKP		PKPbc	04 47 41.5	+0.4
SSB	Saint Sauveur	151.79	335	*e*PKIKP		PKPbc	04 47 40.5	-0.5
SSB	Saint Sauveur	151.79	335	*e*PKPbc		PKPbc	04 47 40.5	-0.5
PYM	Petit Puy Mans	151.96	338	PKP		PKPbc	04 47 42.9	+1.4
LBL	Lubilhac	152.32	337	PKP		PKPbc	04 47 44.0	+1.7
PGAV	Gavieira, Arco	158.28	353	*e*LR		LR	05 30 53.1	
	comp=Z,196nm,18.0s							
POLO	Lamas de Olo	158.81	352	*e*PKPab		PKPab	04 48 20.4	+0.3
PVRL	Vila Real	158.90	352	*e*PKPab		PKPab	04 48 20.6	+0.2
MVO	Moncorvo	158.91	350	*e*LR		LR	05 30 35.8	
	comp=Z,232nm,18.0s							
PVIS	Viseu	159.47	352	*e*PKPab		PKPab	04 48 23.1	+0.2
ESDC	Sonseca Array	159.66	343	PKPab		PKPab	04 48 23.3	-0.4
	comp=Z,1.5nm,0.7s,baz=26,slow=3.2,SNR=7.7							
MTE	Manteigas	159.73	351	*e*PKPab		PKPab	04 48 24.4	+0.4
MTE	Manteigas	159.73	351	*e*LR		LR	05 28 48.7	
	comp=Z,230nm,18.0s							
PMRV	Marv??o	160.66	350	*e*LR		LR	05 34 04.1	
	comp=Z,183nm,20.0s							
PVAQ	Vaqueiros	162.69	349	*e*LR		LR	05 27 11.9	
	comp=Z,151nm,20.0s							
TORD	Torodi Ar. Bea	165.35	243	PKP		PKPdf	04 47 51.4	-0.2
	comp=Z,6.1nm,1.1s,baz=342,slow=1.9,SNR=20							
TORD				PKPab		PKPab	04 48 49.1	-0.3
	comp=Z,1.6nm,0.8s,baz=100,slow=4.5,SNR=6.3							

TRN 08 04:37:16.0, 17°.38N×62°.35W, h88km, MD3.5, 2C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.57	125	*e*P		Pn	04 37 33.3	+2.1
BPA				*e*S		Sn	04 37 44.5	+1.9
ANWB	Willy

TJIG *i* S Sn 04 41 45.5 -8.2

IDC ***08*** *04:41:29.1±0.7,34.˚05S×72.˚13W,h0km,mb4.5/12, mb1 4.6/14,mb1mx4.5/27,mbtmp4.5/14,ML4.4/2,MS4.5/11, Ms1 4.5/11,ms1mx4.3/23,Error ellipse: s-maj=23.8km s-min=19.3km az=72.0*

ISCJB ***08*** *04:41:31.2±1.1,34.˚00S±0.˚03×72.˚36W±0.˚05,h21km±8km, mb4.7/56,MS4.5/8,Error ellipse: s-maj=6.8km s-min=4.9km az=18.4*

BJI ***08*** *04:41:31.5,34.˚56S×71.˚94W,h27km,mB5.1/5,Ms5.2/6, Ms7 4.8/5*

NEIC ***08*** *04:41:31.0,34.˚03S×72.˚20W,h23km,mb4.9/46, ML4.9(GUC),After GUC.*

NEIC Felt [III] at Talca and Vina del Mar and [II] at Constitucion, Curico, Iloca, Linares, Litueche, Melipilla, Navidad, Paredones, Pencahue, Pichilemu, Rancagua, San Antonio, Santiago, Santo Domingo and Tiltil. Also felt at Los Andes, Valparaiso and Villa Alemana.

GUC ***08*** *04:41:31.3±0.6,34.˚03S×72.˚20W,h23km±3km,ML4.9*

ISC 08 04:41:33.6±1.2,34.˚02S±0.˚04×72.˚27W±0.˚06,h30km±7km, n312,σ1°36/316,mb4.8/55,MS4.5/8,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.43**	**149**	*i* P		**Pb**	**04 41 39.9**	**-3.0**
CHPI				*i* S		**Sb**	**04 41 46.5**	**-2.7**
TALC	**Talca**	**1.47**	**159**	*i* P		**Pn**	**04 41 57.6**	**-0.4**
TALC				*i* S		**Sn**	**04 42 17.5**	**+1.2**
ROC1	**El Roble**	**1.48**	**45**	*i* P		**Pn**	**04 41 58.3**	**-0.2**
ROC1	**El Roble**	**1.48**	**45**	*e*Pn		**Pn**	**04 41 58.0**	**-0.5**
ROC1				*e*Sn		**Sn**	**04 42 10.0**	**-7.0**
PEL	**Peldehue**	**1.59**	**57**	*i* P		**Pn**	**04 41 59.4**	**-0.4**
PEL				*i* S		**Sn**	**04 42 20.5**	**+1.2**
PEL				IAML			04 42 28.7	
	comp=N,28μm,0.7s							
FCH	**Farellones**	**1.79**	**68**	*i* P		**Pn**	**04 42 02.8**	**-0.1**
FCH				*i* S		**Sn**	**04 42 26.7**	**+1.9**
FCH				IAML			04 42 33.3	
	comp=E,12μm,0.3s							
COCH	**Cobquecura**	**2.15**	**191**	*e*P		**Pn**	**04 42 06.1**	**-1.3**
COCH				*i* S		**Sn**	**04 42 36.0**	**+3.0**
CCHI	**Chillan**	**2.58**	**177**	*e*P		**Pn**	**04 42 14.1**	**+0.7**
CCHI				*i* S		**Sb**	**04 42 52.1**	**+1.7**
CCHI				IAML			04 42 58.8	
	comp=E,7μm,0.4s							
AUSP	**Uspallata**	**3.01**	**54**	*i* P		**Pn**	**04 42 21.5**	**+1.9**
AAGR	**Agrelo**	**3.02**	**73**	*i* P		**Pn**	**04 42 22.8**	**+3.2**
ARCO	**CERRO ARCO**	**3.03**	**68**	*i* P		**Pn**	**04 42 23.4**	**+3.7**
ARCO				IAML			04 42 31.0	
	comp=Z,4μm,0.4s							
ARCO				*i* S		**Sb**	**04 43 10.2**	**+6.6**
ASAL	**Salagasta**	**3.21**	**65**	*i* P		**Pn**	**04 42 25.1**	**+2.9**
RTLS	**Leoncito**	**3.34**	**49**	*i* P		**Pn**	**04 42 25.5**	**+1.4**
RTCV	**Cerro Valdivia**	**3.81**	**57**	*i* P		**Pn**	**04 42 32.1**	**+1.8**
RTLL	**Cerro Villicun**	**4.18**	**51**	*i* P		**Pn**	**04 42 36.5**	**+1.1**
AMOG	**MOGNA**	**4.43**	**47**	*i* P		**Pn**	**04 42 39.8**	**+0.9**
ACAN	**Cantantal**	**4.61**	**69**	*i* P		**Pn**	**04 42 44.1**	**+2.9**
PLCA	**Paso Flores**	**6.84**	**169**	Pn		**Pn**	**04 43 15.0**	**+3.0**
	comp=Z,4.8nm,0.3s,baz=358,slow=11,SNR=22							
PLCA				Lg		Lg	04 44 56.9	
	baz=308,slow=23,SNR=1.5							
PLCA				LR		LR	04 46 11.5	
	comp=Z,3μm,18.7s,baz=14,slow=42							
PLCA	**Paso Flores**	**6.84**	**169**	*e*Pn		**Pn**	**04 43 13.6**	**+1.7**
PLCA				Lg		Lg	04 44 56.9	
TRQA	**Tornquist**	**9.25**	**119**	*e*Pn		**Pn**	**04 43 45.4**	**+0.4**
LVC	**Limon Verde**	**11.75**	**15**	Pn		Pn	04 44 14.4	-5.1
	comp=Z,52nm,0.3s,baz=177,slow=8.0,SNR=9.3							
LVC				Lg		Lg	04 47 23.4	
	comp=Z,75nm,0.3s,baz=332,slow=16,SNR=4.4							
LVC				LR		LR	04 49 05.5	
	comp=Z,9μm,20.4s,baz=206,slow=39							
LVC	**Limon Verde**	**11.75**	**15**	*e*Pn		Pn	04 44 13.4	-6.2
LVC				Lg		Lg	04 47 23.4	
PB01	**IPOC Station P**	**13.16**	**11**	*e*Pn		**Pn**	**04 44 38.9**	**+0.2**
CPUP	**Villa Florida**	**15.01**	**63**	Pn		**Pn**	**04 45 01.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=234,slow=15,SNR=4.3							
CPUP				Sn		**Sn**	**04 47 47.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=248,slow=10,SNR=1.4							
CPUP				Lg		Lg	04 49 03.8	
	comp=Z,0.6nm,0.3s,baz=315,slow=14,SNR=3.2							
CPUP				LR		LR	04 51 14.0	
	comp=Z,3μm,20.2s,baz=238,slow=39							
LPAZ	**La Paz**	**18.05**	**13**	P		**Pn**	**04 45 43.2**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=190,slow=7.1,SNR=116							
LPAZ	**La Paz**	**18.05**	**13**	*e*Pn		**Pn**	**04 45 43.1**	**+0.3**
	comp=Z,45nm,0.8s							
EFI	**East Falkland**	**20.42**	**154**	*e*P		**P**	**04 46 07.5**	**-0.7**
	comp=Z,18nm,0.8s							
SIV	**San Ignacio**	**20.59**	**32**	P		**P**	**04 46 09.7**	**-0.7**
	comp=Z,22nm,0.7s,baz=223,slow=10,SNR=65							
SIV				LR		LR	04 55 32.3	
	comp=Z,2μm,18.7s,baz=227,slow=41							
USHA	**Ushuaia**	**20.98**	**174**	P		**P**	**04 46 20.2**	**+6.0**
	comp=Z,212nm,1.1s,baz=157,slow=2.3,SNR=4.5							
NNA	**Nana**	**22.33**	**348**	P		**P**	**04 46 29.7**	**+0.7**
	comp=Z,14nm,0.8s,baz=174,slow=12,SNR=4.4							
NNA				LR		LR	04 53 11.1	
	comp=Z,257nm,19.2s,baz=160,slow=31							
SPB	**Sao Paulo**	**24.06**	**71**	*e*P		**P**	**04 46 46.3**	**-0.1**
	comp=Z,66nm,0.8s							
SAML	**Samuel**	**26.32**	**21**	*e*P		**P**	**04 47 06.4**	**-0.5**
	comp=Z,30nm,0.8s							
BDFB	**Brasilia**	**28.51**	**56**	P		**P**	**04 47 25.6**	**-1.1**
	comp=Z,13nm,0.8s,baz=221,slow=7.4,SNR=15							
BDFB				LR		LR	04 59 52.1	
	comp=Z,2μm,19.3s,baz=216,slow=39							
BDFB	**Brasilia**	**28.51**	**56**	*e*P		**P**	**04 47 24.0**	**-2.7**
	comp=Z,39nm,1.0s							
OTAV	**Otavalo**	**34.57**	**349**	*e*P		P	04 48 10.4	-10
OTAV	**Otavalo**	**34.57**	**349**	*e*P		**P**	**04 48 21.3**	**+1.0**
	comp=Z,29nm,1.8s							
PTGA	**Pitinga**	**35.07**	**22**	*e*P		**P**	**04 48 23.6**	**-0.5**
	comp=Z,37nm,1.2s							
PRAC	**Prado**	**37.62**	**356**	*e*P		**P**	**04 48 46.0**	**+0.1**
PRAC	**Prado**	**37.62**	**356**	*e*P		**P**	**04 48 46.0**	**+0.1**
	comp=Z,71nm,1.8s							
CHIC	**Chingaza**	**38.47**	**358**	*e*P		P	04 49 04.9	+11
RUSC	**La Rusia**	**39.70**	**359**	*e*P		**P**	**04 49 07.5**	**+3.6**
CBRI	**Barrientos, No**	**41.51**	**359**	*e*P		P	04 49 08.9	-10
MOTC	**Monteria, Cord**	**42.69**	**355**	*e*P		**P**	**04 49 28.8**	**+0.9**
SJCC	**San Jacinto, C**	**43.76**	**356**	*e*P		**P**	**04 49 34.1**	**-2.5**
RCBR	**Riachuelo**	**43.82**	**58**	*e*P		**P**	**04 49 36.9**	**-0.3**
	comp=Z,5.9nm,0.7s							
SNAA	**Sanae**	**51.64**	**158**	*e*P		**P**	**04 50 37.5**	**+0.3**
	comp=Z,34nm,1.3s							
TEIG	**Tepich**	**56.06**	**342**	*e*P		**P**	**04 51 09.2**	**-0.7**
	comp=Z,11nm,0.8s							
QSPA	**South Pole Qui**	**56.21**	**180**	*e*P		**P**	**04 51 11.6**	**+0.9**
	comp=Z,75nm,0.9s							
VNDA	**Vanda**	**64.04**	**191**	P		P	04 52 09.8	+5.8
	comp=Z,1.4nm,1.0s,baz=108,slow=7.0,SNR=3.6							
SYO	**Syowa Base**	**65.92**	**159**	*e*P		**P**	**04 52 13.4**	**-2.8**
SYO	**Syowa Base**	**65.92**	**159**	*e*X		**P**	**04 52 15.2**	**-1.0**
933A	**Laredo**	**66.43**	**334**	P		**P**	**04 52 21.8**	**+1.8**
	baz=156							
835A	**Beeville**	**66.53**	**335**	P		**P**	**04 52 23.2**	**+2.6**
	baz=157							
834A	**Tilden**	**66.64**	**335**	P		**P**	**04 52 23.0**	**+1.7**
	baz=156							
347A	**Saraland**	**66.86**	**345**	P		**P**	**04 52 24.3**	**+1.7**
	baz=165							
736A	**Circle Diamond**	**66.89**	**336**	P		**P**	**04 52 24.8**	**+1.9**
	baz=158							
346A	**Big Creek Wild**	**67.05**	**344**	P		**P**	**04 52 24.9**	**+1.1**
	baz=165							
833A	**Chaparral WMA,**	**67.12**	**334**	P		**P**	**04 52 25.6**	**+1.2**
	baz=156							
832A	**Faith Ranch, C**	**67.30**	**334**	P		**P**	**04 52 26.8**	**+1.3**
	baz=155							
734A	**La Parita Cree**	**67.30**	**335**	P		**P**	**04 52 26.5**	**+1.0**
	baz=157							
HKT	**Hockley**	**67.41**	**338**	*e*P		**P**	**04 52 26.3**	**+0.2**
	comp=Z,26nm,1.6s							
GOGA	**Godfrey**	**67.90**	**350**	*e*P		**P**	**04 52 28.1**	**-1.1**
	comp=Z,12nm,1.0s							
341A	**Kurthwood**	**67.93**	**341**	P		**P**	**04 52 30.6**	**+1.2**
	baz=161							
535A	**Dale**	**68.05**	**336**	P		**P**	**04 52 31.5**	**+1.2**
	baz=158							
633A	**Saathoff Ranch**	**68.07**	**335**	P		**P**	**04 52 31.9**	**+1.4**
	baz=156							
LRAL	**Lakeview Retre**	**68.13**	**347**	*e*P		**P**	**04 52 28.7**	**-1.9**
	comp=Z,11nm,1.1s							
242A	**Grayson**	**68.35**	**342**	P		**P**	**04 52 33.5**	**+1.4**
	baz=162							
HPIG		**68.40**	**328**	*e*P		**P**	**04 52 33.6**	**+0.8**
	comp=Z,6.5nm,0.8s							
Z47A	**Carrollton**	**68.50**	**346**	P		**P**	**04 52 33.7**	**+0.7**
	baz=166							
Z48A	**Northport**	**68.57**	**346**	P		**P**	**04 52 33.6**	**+0.2**
	baz=166							
533A	**Kerrville**	**68.58**	**335**	P		**P**	**04 52 34.4**	**+0.8**
	baz=156,SNR=6.8							
Z46A	**Louisville**	**68.67**	**345**	P		**P**	**04 52 34.4**	**+0.3**
	baz=165							
337A	**Centerville**	**68.70**	**338**	P		**P**	**04 52 34.6**	**+0.3**
	baz=159							
143A	**Socs Landing,**	**68.77**	**343**	P		**P**	**04 52 35.1**	**+0.5**
	baz=163							
434A	**Burnet**	**69.00**	**336**	P		**P**	**04 52 36.5**	**+0.3**
	baz=157							
Y47A	**UCPARC, Winfie**	**69.13**	**346**	P		**P**	**04 52 37.5**	**+0.6**
	baz=166							
JCT	**Junction City**	**69.22**	**335**	P		**P**	**04 52 38.3**	**+0.7**
	baz=156,SNR=6.3							
JCT	**Junction City**	**69.22**	**335**	*e*P		**P**	**04 52 38.0**	**+0.4**
	comp=Z,20nm,0.9s							
433A	**Art**	**69.22**	**335**	P		**P**	**04 52 37.9**	**+0.3**
	baz=156,SNR=8.1							
Y46A	**Houston**	**69.32**	**345**	P		**P**	**04 52 38.4**	**+0.3**
	baz=165							
KMSC	**Kings Mountain**	**69.33**	**352**	P		**P**	**04 52 38.4**	**+0.3**
	baz=172							
KMSC	**Kings Mountain**	**69.33**	**352**	*e*P		**P**	**04 52 38.5**	**+0.3**
	comp=Z,10nm,1.0s							
Y45A	**Yeager Farm, C**	**69.45**	**345**	P		**P**	**04 52 39.7**	**+0.8**
	baz=165							
334A	**Lometa**	**69.47**	**336**	P		**P**	**04 52 39.7**	**+0.6**
	baz=157,SNR=5.6							
TX31	**Lajitas Ar. Si**	**69.66**	**331**	*e*P		**P**	**04 52 41.5**	**+1.1**
TXAR	**Lajitas Array**	**69.66**	**331**	P		**P**	**04 52 41.4**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=152,slow=8.3,SNR=9.4							
333A	**Richland Sprin**	**69.71**	**336**	P		**P**	**04 52 41.1**	**+0.5**
	baz=157,SNR=6.7							
137A	**Heron Place, G**	**69.86**	**339**	P		**P**	**04 52 42.5**	**+1.1**
	baz=159							
X45A	**UM Field Stati**	**69.96**	**345**	P		**P**	**04 52 42.2**	**+0.2**
	baz=165							
136A	**Ennis**	**69.97**	**338**	P		**P**	**04 52 42.9**	**+0.8**
	baz=159							
PPT2	**Papeete2**	**70.04**	**262**	*e*S		S	05 02 03.2	+11
	comp=Z,177nm,22.5s							
PPT2	**Papeete2**	**70.04**	**262**	*e*LR		LR	05 14 09.2	
	comp=Z,432nm,26.8s							
234A	**Clairette**	**70.05**	**337**	P		**P**	**04 52 43.4**	**+0.7**
	baz=157							
PPT	**Papeete**	**70.05**	**262**	LR		LR	05 16 40.9	
	comp=Z,257nm,19.4s,baz=160,slow=30							
CPCT	**Cooper Cave**	**70.06**	**349**	*e*P		**P**	**04 52 43.0**	**+0.4**
	comp=Z,15nm,1.2s							
SWET	**Sewanee**	**70.06**	**348**	*e*P		**P**	**04 52 43.2**	**+0.6**
	comp=Z,14nm,1.4s							
Y41A	**Eaglette Beard**	**70.19**	**342**	P		**P**	**04 52 44.5**	**+1.1**
	baz=162							
PLAL	**Pickwick Lake**	**70.22**	**346**	*e*P		**P**	**04 52 43.6**	**0.0**
	comp=Z,31nm,1.4s							
Z38A	**Mt. Pleasant**	**70.24**	**340**	P		**P**	**04 52 45.3**	**+1.5**
	baz=160							
233A	**Rising Star**	**70.32**	**336**	P		**P**	**04 52 45.5**	**+1.2**
	baz=157							
Y40A	**Okolona**	**70.49**	**342**	P		**P**	**04 52 46.5**	**+1.2**
	baz=162							
134A	**White-Moore Ra**	**70.56**	**337**	P		**P**	**04 52 47.1**	**+1.4**
	baz=158							
W45A	**Hickory Valley**	**70.62**	**345**	P		**P**	**04 52 46.6**	**+0.6**
	baz=165							
Y39A	**Lockesburg**	**70.64**	**341**	P		**P**	**04 52 47.0**	**+0.8**
	baz=161							
Z36A	**Blue Ridge**	**70.69**	**339**	P		**P**	**04 52 47.7**	**+1.2**
	baz=159							
X40A	**Basin Creek Fa**	**70.83**	**342**	P		**P**	**04 52 48.5**	**+1.2**
	baz=162							
133A	**Hamilton Ranch**	**70.86**	**336**	P		**P**	**04 52 48.7**	**+1.1**
	baz=157							
TZTN	**Tazewell**	**70.99**	**350**	*e*P		**P**	**04 52 49.6**	**+1.4**
	comp=Z,30nm,1.5s							
Z35A	**Perchaven, San**	**70.99**	**338**	P		**P**	**04 52 49.1**	**+0.8**
	baz=158							
MIAR	**Mount Ida**	**71.07**	**342**	P		**P**	**04 52 49.6**	**+0.8**
	baz=161							
MIAR	**Mount Ida**	**71.07**	**342**	*e*P		**P**	**04 52 49.0**	**+0.1**
Y37A	**Hugo**	**71.11**	**340**	P		**P**	**04 52 49.7**	**+0.7**
	baz=160							
ABTX	**Abilene, Hawle**	**71.12**	**336**	P		**P**	**04 52 49.8**	**+0.6**
	baz=156							
X39A	**Fountain Ranch**	**71.19**	**341**	P		**P**	**04 52 50.1**	**+0.6**
	baz=161							
Y36A	**Durant**	**71.23**	**339**	P		**P**	**04 52 50.3**	**+0.6**
	baz=159							
Z34A	**Collier Ranch,**	**71.24**	**338**	P		**P**	**04 52 50.4**	**+0.5**
	baz=158							
WVT	**Waverly**	**71.29**	**347**	*e*P		**P**	**04 52 49.6**	**-0.4**
	comp=Z,60nm,1.3s							
W41B	**Gary Mavity, V**	**71.33**	**343**	P		**P**	**04 52 51.1**	**+0.7**
	baz=163							
V44A	**Blytheville**	**71.42**	**345**	P		**P**	**04 52 51.7**	**+0.9**
	baz=165							
X301	**Greenbrier Sit**	**71.43**	**343**	*e*P		**P**	**04 52 51.8**	**+0.8**
	comp=Z,29nm,1.2s							
Z33A	**Whitaker Ranch**	**71.43**	**337**	P		**P**	**04 52 51.8**	**+0.8**
	baz=157							
WHAR	**Wooly Hollow**	**71.45**	**343**	*e*P		**P**	**04 52 52.5**	**+1.4**
	comp=Z,22nm,1.2s							
Y35A	**Marietta**	**71.46**	**338**	P		**P**	**04 52 52.0**	**+0.8**
	baz=158							
X201	**Greenbrier Sit**	**71.47**	**343**	*e*P		**P**	**04 52 52.0**	**+0.8**
	comp=Z,33nm,1.2s							
X38A	**Whitesboro**	**71.53**	**341**	P		**P**	**04 52 52.0**	**+0.5**
	baz=160,SNR=5.5							
W40A	**Ferguson Farm,**	**71.56**	**342**	P		**P**	**04 52 52.4**	**+0.7**
	baz=162							
Y34A	**Reagan Ranch,**	**71.73**	**338**	P		**P**	**04 52 53.2**	**+0.4**
	baz=158							
V42A	**Cord**	**71.73**	**344**	P		**P**	**04 52 53.2**	**+0.5**
	baz=163							
W39A	**Magazine**	**71.74**	**342**	P		**P**	**04 52 53.8**	**+1.0**
	baz=161,SNR=12							
W38A	**Poteau**	**71.82**	**341**	P		**P**	**04 52 54.3**	**+1.0**
	baz=161							
X36A	**Centrahoma**	**71.87**	**339**	P		**P**	**04 52 54.0**	**+0.3**
	baz=159							
V41A	**Mountainview**	**71.89**	**343**	P		**P**	**04 52 53.8**	**+0.1**
	baz=163,SNR=5.8							
X35A	**Drake**	**71.90**	**339**	P		**P**	**04 52 53.7**	**-0.1**
	baz=159							
Y33A	**Hilltop Ranch,**	**72.05**	**337**	P		**P**	**04 52 54.7**	**-0.1**
	baz=157							
W37B	**Quinton**	**72.14**	**340**	P		**P**	**04 52 55.4**	**+0.2**
	baz=160							
V39A	**Pettigrew**	**72.32**	**342**	P		**P**	**04 52 56.6**	**+0.3**
	baz=162							
X34A	**Smith Ranch, M**	**72.35**	**338**	P		**P**	**04 52 56.7**	**+0.2**
	baz=158							
W36A	**Wetumka**	**72.37**	**340**	P		**P**	**04 52 56.5**	**-0.1**
	baz=159							
MNTX	**Cornudas Mount**	**72.44**	**331**	P		**P**	**04 52 56.7**	**-0.5**
	baz=152							
MNTX	**Cornudas Mount**	**72.44**	**331**	*e*P		**P**	**04 52 56.2**	**-0.9**
	comp=Z,6.6nm,0.9s							
V38A	**Canehill**	**72.54**	**341**	P		**P**	**04 52 57.4**	**-0.2**
	baz=161							
U40A	**Yellville**	**72.61**	**343**	P		**P**	**04 52 58.1**	**+0.1**
	baz=162,SNR=7.2							
X32A	**Elmer**	**72.64**	**337**	P		**P**	**04 52 58.3**	**0.0**
	baz=157							
V37A	**Hulbert**	**72.76**	**341**	P		**P**	**04 52 59.0**	**+0.1**
	baz=160							
WMOK	**Wichita Mounta**	**72.77**	**337**	P		**P**	**04 52 58.7**	**-0.4**
	baz=157							
U39A	**Green Forest**	**72.79**	**342**	P		**P**	**04 52 58.9**	**-0.2**
	baz=162,SNR=5.9							
HHAR	**Hobbs**	**72.81**	**342**	*e*P		**P**	**04 52 59.8**	**+0.5**
	comp=Z,9.3nm,1.0s							
V36A	**Jenks**	**72.89**	**340**	P		**P**	**04 52 59.3**	**-0.4**
	baz=160							
TUL1	**Leonard**	**72.96**	**340**	P		**P**	**04 53 00.3**	**+0.2**
	baz=160							
TUL1	**Leonard**	**72.96**	**340**	*e*P		**P**	**04 53 00.1**	**-0.1**
T41A	**Mountain View**	**73.00**	**344**	P		**P**	**04 53 00.5**	**+0.2**
	baz=163							
USIN	**University of**	**73.04**	**347**	*e*P		**P**	**04 53 00.4**	**-0.1**
	comp=Z,38nm,1.3s							
U38A	**Gravette**	**73.08**	**341**	P		**P**	**04 53 00.6**	**-0.2**
	baz=161							
S44A	**Carbondale**	**73.08**	**346**	P		**P**	**04 53 00.8**	**0.0**
	baz=165							
V35A	**Meyer Ranch, C**	**73.12**	**339**	P		**P**	**04 53 00.9**	**-0.2**
	baz=159							
S43A	**Fulton Ridge,**	**73.13**	**345**	P		**P**	**04 53 00.3**	**-0.8**
	baz=165,SNR=6.0							
MAW	**Mawson**	**73.21**	**164**	P		**P**	**04 53 01.7**	**+0.4**
	comp=Z,4.9nm,0.7s,baz=223,slow=8.3,SNR=16							
MAW				LR		LR	05 27 58.8	
	comp=Z,469nm,18.1s,baz=236,slow=38							
W32A	**Sentinel**	**73.28**	**337**	P		**P**	**04 53 02.0**	**0.0**
	baz=157,SNR=6.9							
T40A	**Mansfield**	**73.28**	**343**	P		**P**	**04 53 02.3**	**+0.3**
	baz=163							
T39A	**Clever**	**73.37**	**342**	P		**P**	**04 53 02.8**	**+0.3**
	baz=162							
V34A	**Guthrie**	**73.39**	**339**	P		**P**	**04 53 03.1**	**+0.4**
	baz=158							
V34A	**Guthrie**	**73.39**	**339**	*e*P		**P**	**04 53 01.9**	**-0.8**
	comp=Z,2.0nm,0.4s							
MSTX	**Muleshoe**	**73.44**	**334**	P		**P**	**04 53 03.4**	**+0.2**
	baz=154							
MSTX	**Muleshoe**	**73.44**	**334**	*e*P		**P**	**04 53 03.1**	**-0.1**
	comp=Z,3.5nm,0.8s							
T38A	**Diamond**	**73.61**	**342**	P		**P**	**04 53 04.2**	**+0.2**
	baz=161							
U35A	**Pawnee**	**73.66**	**340**	P		**P**	**04 53 04.8**	**+0.6**
	baz=159							
S40A	**Lebanon**	**73.70**	**343**	P		**P**	**04 53 05.0**	**+0.6**
	baz=163							
MVL	**Millersville**	**73.75**	**357**	*e*P		**P**	**04 53 03.3**	**-1.3**
	comp=Z,27nm,1.8s							
V32A	**Arapaho**	**73.76**	**338**	P		**P**	**04 53 05.6**	**+0.8**
	baz=157							
T37A	**Cheneyville 18**	**73.86**	**341**	P		**P**	**04 53 06.3**	**+1.0**
	baz=161							
U34A	**Anderson Ranch**	**73.96**	**339**	P		**P**	**04 53 05.9**	**-0.1**
	baz=158							
U34A	**Anderson Ranch**	**73.96**	**339**	*e*P		**P**	**04 53 06.7**	**+0.7**
S39A	**Bolivar**	**73.99**	**343**	P		**P**	**04 53 06.2**	**+0.1**
	baz=162							
T36A	**Boggs Farm, Ca**	**74.06**	**341**	P		**P**	**04 53 06.3**	**-0.3**
	baz=160							
S38A	**Stockton**	**74.08**	**342**	P		**P**	**04 53 06.1**	**-0.5**
	baz=161,SNR=6.4							
T35A	**Sooner Cattle**	**74.11**	**340**	P		**P**	**04 53 06.7**	**-0.2**
	baz=159							
U33A	**Lingo Farm, Me**	**74.13**	**339**	P		**P**	**04 53 06.9**	**-0.1**
	baz=158							
O56A	**Blue Knob Stat**	**74.15**	**355**	P		**P**	**04 53 06.6**	**-0.5**
	baz=174							
121A	**Cookes Peak, D**	**74.16**	**329**	*e*P		**P**	**04 53 06.2**	**-1.2**
	comp=Z,7.7nm,0.8s							
R40A	**Maddies Statio**	**74.31**	**344**	P		**P**	**04 53 08.0**	**0.0**
	baz=163,SNR=6.4							
Q43A	**New Douglas**	**74.38**	**346**	P		**P**	**04 53 08.7**	**+0.4**
	baz=165							
T34A	**McCluskey Farm**	**74.40**	**340**	P		**P**	**04 53 08.9**	**+0.3**
	baz=159							
S37A	**Fort Scott**	**74.44**	**342**	P		**P**	**04 53 09.3**	**+0.6**
	baz=161							
R39A	**Chumby, Stover**	**74.51**	**343**	P		**P**	**04 53 09.4**	**+0.2**
	baz=162							
Q42A	**Golden Eagle**	**74.52**	**345**	P		**P**	**04 53 09.4**	**+0.3**
	baz=164							
ACSO	**Alum Creek Sta**	**74.55**	**352**	*e*P		**P**	**04 53 08.5**	**-0.8**
	comp=Z,15nm,0.8s							
R38A	**Fenwick Farm,**	**74.60**	**342**	P		**P**	**04 53 09.9**	**+0.2**
	baz=162							
S36A	**Lake Cedric, C**	**74.61**	**341**	P		**P**	**04 53 09.8**	**+0.1**
	baz=160							
N59A	**State Game Lan**	**74.64**	**357**	P		**P**	**04 53 09.9**	**+0.1**
	baz=177							
T33A	**Patterson Ranc**	**74.77**	**339**	P		**P**	**04 53 10.7**	**+0.1**
	baz=158							
Q40A	**Laux Farm, Aux**	**74.94**	**344**	P		**P**	**04 53 11.8**	**+0.2**
	baz=163,SNR=5.5							
N54A	**Moraine State**	**74.95**	**354**	P		**P**	**04 53 11.5**	**-0.1**
	baz=173							
Q38A	**Cooks Store, C**	**75.27**	**343**	P		**P**	**04 53 13.5**	**0.0**
	baz=162							
TUC	**Tucson**	**75.28**	**327**	P		**P**	**04 53 13.6**	**-0.2**
	baz=148							
SFIN	**Lafayette**	**75.29**	**348**	P		**P**	**04 53 13.6**	**0.0**
	baz=167							
DBIC	**Dimbokro**	**75.37**	**71**	P		**P**	**04 53 13.7**	**-1.0**
	comp=Z,9.1nm,0.9s,baz=224,slow=6.9,SNR=8.6							
DBIC				LR		LR	05 24 52.6	
	comp=Z,244nm,19.1s,baz=200,slow=35							
P40A	**Paris**	**75.44**	**344**	P		**P**	**04 53 14.4**	**-0.1**
	baz=163,SNR=5.6							
M54A	**Oil Creek Stat**	**75.47**	**354**	P		**P**	**04 53 14.6**	**0.0**
	baz=174

SPMN	**Marine on St.**	**81.05**	**345**	P		**P**	**04 53 45.1**	**-0.3**
	baz=163							
MSU	**Marysvale**	**81.12**	**329**	*e*P		**P**	**04 53 48.6**	**+2.4**
P18A	**Preston Nutter**	**81.27**	**331**	*e*P		**P**	**04 53 48.8**	**+1.7**
H33A	**Prehn Over Nor**	**81.43**	**343**	P		**P**	**04 53 48.3**	**+0.8**
	baz=160							
TPNV	**Topopah Spring**	**81.64**	**326**	P		**P**	**04 53 49.3**	**+0.3**
	baz=144							
TPNV	**Topopah Spring**	**81.64**	**326**	*e*P		**P**	**04 53 51.2**	**+2.3**
DAC	**Darwin (Calif)**	**81.73**	**325**	*e*P		**P**	**04 53 51.4**	**+1.9**
F36A	**Milaca**	**81.81**	**345**	P		**P**	**04 53 49.6**	**+0.2**
	baz=162							
E36A	**McGregor**	**82.38**	**346**	P		**P**	**04 53 53.1**	**+0.7**
	baz=162							
G30A	**Faulkton**	**82.47**	**341**	P		**P**	**04 53 53.6**	**+0.7**
	baz=158							
R11A	**Troy Canyon, C**	**82.47**	**327**	*e*P		**P**	**04 53 54.5**	**+1.1**
	comp=Z,2.0nm,0.9s							
K22A	**Casper**	**82.50**	**335**	*e*P		**P**	**04 53 53.2**	**-0.2**
DUG	**Dugway, Tooele**	**82.80**	**330**	*e*P		**P**	**04 53 54.8**	**-0.1**
	comp=Z,4.9nm,1.3s							
D35A	**Remer**	**83.08**	**345**	P		**P**	**04 53 55.9**	**-0.1**
	baz=162							
C38A	**Sawbill Land.**	**83.14**	**347**	P		**P**	**04 53 56.2**	**-0.1**
	baz=164							
F29A	**Eureka**	**83.30**	**341**	P		**P**	**04 53 57.6**	**+0.4**
	baz=157							
E31A	**Nome**	**83.47**	**343**	P		**P**	**04 53 58.2**	**+0.2**
	baz=159							
HWUT	**Hardware Ranch**	**83.48**	**331**	*e*P		**P**	**04 53 58.3**	**-0.1**
	comp=Z,3.0nm,1.0s							
D33A	**AnnSam, Waubun**	**83.53**	**344**	P		**P**	**04 53 57.9**	**-0.5**
	baz=160							
C35A	**Jirik Farms, M**	**83.65**	**345**	P		**P**	**04 53 59.0**	**+0.1**
	baz=162							
BW06	**Boulder Array**	**83.70**	**333**	*e*P		**P**	**04 53 59.7**	**+0.1**
PDAR	**Pinedale Array**	**83.70**	**333**	P		**P**	**04 54 00.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=4.4							
NVAR	**Mina Array Bea**	**83.79**	**325**	P		**P**	**04 54 01.4**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=157,slow=8.0,SNR=4.5							
HVU	**Hansel Valley**	**84.11**	**331**	*e*P		**P**	**04 54 03.0**	**+1.3**
B35A	**Bob, Littlefor**	**84.23**	**346**	P		**P**	**04 54 01.5**	**-0.3**
	baz=162							
ELK	**Elko**	**84.28**	**329**	*e*P		**P**	**04 54 02.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**84.40**	**70**	P		**P**	**04 54 03.4**	**-0.2**
	comp=Z,11nm,0.8s,baz=272,slow=6.2,SNR=42							
B34A	**Aery, Baudette**	**84.54**	**345**	P		**P**	**04 54 03.4**	**-0.1**
	baz=162							
E26A	**Carlson Angus**	**84.63**	**340**	P		**P**	**04 54 04.3**	**+0.3**
	baz=155							
C30A	**Mose, Pekin**	**84.69**	**343**	P		**P**	**04 54 04.6**	**+0.4**
	baz=158							
B32A	**Ashes, Strandq**	**84.87**	**344**	P		**P**	**04 54 05.7**	**+0.7**
	baz=160							
A33A	**Warroad**	**85.13**	**345**	P		**P**	**04 54 06.8**	**+0.4**
	baz=161							
B30A	**Myrvik Farm, E**	**85.34**	**343**	P		**P**	**04 54 08.9**	**+1.4**
	baz=158							
RLMT	**Red Lodge**	**85.62**	**335**	P		**P**	**04 54 10.1**	**+0.9**
	baz=150							
RLMT	**Red Lodge**	**85.62**	**335**	*e*P		**P**	**04 54 08.0**	**-1.3**
	comp=Z,0.6nm,0.4s							
YMR	**Madison River**	**85.85**	**333**	*e*P		**P**	**04 54 12.1**	**+1.7**
B28A	**Dugan Ranch, T**	**85.86**	**342**	P		**P**	**04 54 11.9**	**+1.8**
	baz=157							
ORV	**Oroville**	**86.21**	**324**	*e*P		**P**	**04 54 14.7**	**+2.7**
HLID	**Hailey**	**86.26**	**331**	P		**P**	**04 54 13.9**	**+1.5**
	baz=146							
HLID	**Hailey**	**86.26**	**331**	*e*P		**P**	**04 54 12.7**	**+0.3**
	comp=Z,2.0nm,1.0s							
ULM	**Lac du Bonnet**	**86.47**	**345**	P		**P**	**04 54 13.1**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=187,slow=2.0,SNR=3.9							
MCMT	**McKenzie Canyo**	**86.70**	**332**	*e*P		**P**	**04 54 16.2**	**+1.6**
BOZ	**Bozeman (W)**	**86.93**	**334**	P		**P**	**04 54 16.1**	**+0.5**
	baz=148							
DGMT	**Dagmar**	**86.94**	**339**	*e*P		**P**	**04 54 13.6**	**-1.8**
	comp=Z,2.4nm,0.5s							
DLMT	**Dillon**	**87.05**	**333**	*e*P		**P**	**04 54 14.9**	**-1.2**
	comp=Z,0.4nm,0.4s							
SCHQ	**Schefferville**	**88.62**	**3**	P		**P**	**04 54 22.8**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=150,slow=2.8,SNR=3.6							
SCHQ				LR		LR	05 34 43.4	
	comp=Z,132nm,21.1s,baz=253,slow=36							
TAM	**Tamanrasset**	**93.01**	**65**	*e*P		**P**	**04 54 45.6**	**+1.0**
ESDC	**Sonseca Array**	**96.73**	**46**	LR		LR	05 37 47.9	
	comp=Z,123nm,18.9s,baz=275,slow=35							
DZM	**Mont Dzumac**	**101.07**	**234**	*e*LR		LR	05 28 28.2	
	comp=Z,241nm,24.9s							
WRA	**Warramunga Arr**	**120.65**	**209**	PKP		**PKPdf**	**05 00 22.8**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=154,slow=1.9,SNR=19							
BRTR	**Keskin Array B**	**122.01**	**61**	PKP		**PKPdf**	**05 00 24.8**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=160,slow=3.9,SNR=6.6							
AKASG	**Malin Array Be**	**122.35**	**48**	PKP		**PKPdf**	**05 00 24.8**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=267,slow=2.6,SNR=7.9							
FINES	**FINESS Array B**	**123.12**	**35**	PKP		**PKPdf**	**05 00 25.8**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=346,slow=3.9,SNR=4.4							
ARCES	**ARCESS Array B**	**124.12**	**20**	PKP		**PKPdf**	**05 00 27.9**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=246,slow=3.7,SNR=8.4							
H11S2	**WAKE ISLAND Hyl**	**125.58**	**269**	T		T	07 19 41.5	
	baz=118,slow=75,SNR=17							
H11S1	**WAKE ISLAND Hyl**	**125.59**	**269**	T		T	07 19 43.7	
	baz=118,slow=75,SNR=13							
H11S3	**WAKE ISLAND Hyl**	**125.59**	**269**	T		T	07 19 42.9	
	baz=118,slow=75,SNR=12							
ABKAR	**Akbulak array**	**141.85**	**52**	*e*PKPdf		**PKPdf**	**05 00 56.5**	**-5.5**
BRVK	**Borovoye**	**147.36**	**43**	*e*PKPbc		**PKPdf**	**05 01 11.9**	**+0.5**
BRVK				*e*PKPab		**PKPbc**	**05 01 14.9**	**+1.0**
BVAR	**Borovoye Array**	**147.43**	**43**	PKPbc		**PKPdf**	**05 01 12.4**	**+0.9**
	comp=Z,5.0nm,0.5s,baz=290,slow=4.4,SNR=36							
HYB	**Hyderabad**	**149.10**	**115**	*i* PKP		**PKPab**	**05 01 24.0**	**+0.2**
KURBB	**Kurchatov Arra**	**153.02**	**43**	PKPbc		**PKPbc**	**05 01 27.6**	**0.0**
	comp=Z,5.8nm,0.7s,baz=296,slow=2.9,SNR=18							
KURK	**Kurchatov**	**153.03**	**43**	PKPbc		**PKPbc**	**05 01 27.6**	**0.0**
KSH	**Kashi**	**154.06**	**69**	PKPbc		**PKPdf**	**05 01 21.6**	**-0.8**
KSH				pPKP		pPKPdf	05 01 32.6	+0.4
KSH				PP		**PP**	**05 05 18.8**	**-0.6**
KSH				SKS		**SKSdf**	**05 08 24.2**	**-3.0**
KSH				SKKS		**SKKSac**	**05 12 03.8**	**-3.2**
KSH				SS		**SS**	**05 24 51.3**	**-5.1**
KSH				PPMZ				
	comp=Z,55nm,3.5s							
KSH				LN				
	comp=Z,260nm,14.1s							
KSH				LE				
	comp=Z,120nm,11.0s							
ZALV	**Zalesovo Beam**	**154.35**	**32**	PKPbc		**PKPbc**	**05 01 31.0**	**+0.6**
	comp=Z,10nm,0.6s,baz=307,slow=3.1,SNR=9.3							
WMQ	**Urumqi**	**161.64**	**52**	PKP		**PKPdf**	**05 01 31.0**	**-0.5**
WMQ				LN				
	comp=Z,67nm,26.8s							
WMQ				LE				
	comp=Z,70nm,26.8s							
WMQ				LZ				
	comp=Z,52nm,24.2s							
SONM	**Songino Array**	**166.16**	**4**	PKPab		**PKPab**	**05 02 36.4**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=326,slow=3.9,SNR=4.8							
GTA	**Gaotai**	**171.68**	**47**	*e*PKP		**PKPdf**	**05 01 40.0**	**+0.6**
GTA				pPKP		pPKPdf	05 01 50.2	+1.0
GTA				sPKP			05 01 54.3	
GTA				PKPab		**PKPab**	**05 03 01.8**	**+0.7**
GYA	**Guiyang**	**172.41**	**173**	*e*PKP		**PKPdf**	**05 01 40.0**	**-0.1**
GYA				PKPab		**PKPab**	**05 03 05.2**	**+0.8**
GYA				PKS		**PKSdf**	**05 05 11.0**	**-1.6**
GYA				PP		**PP**	**05 06 58.4**	**+3.7**
GYA				PPMZ				
	comp=Z,130nm,8.0s							
HHC	**Hu-ho-hao-te**	**172.53**	**337**	*e*PKP		**PKPdf**	**05 01 39.3**	**-0.4**
CD2	**Chengdu**	**175.43**	**132**	PKP		**PKPdf**	**05 01 41.2**	**+0.3**
LZH	**Lanzhou**	**176.21**	**56**	*e*PKP		**PKPdf**	**05 01 39.0**	**-2.1**
LZH				pPKP		pPKPdf	05 01 49.0	-1.9
LZH				sPKP			05 01 52.8	
LZH				LN				
	comp=Z,170nm,18.0s							
LZH				LE				
	comp=Z,170nm,16.7s							
LZH				LZ				
	comp=Z,200nm,19.3s							

*ISCJB **08** 04:46:09.8±0.7,37.84N±0.03×29.17E±0.06, h6km±11km, Error ellipse: s-maj=7.5km s-min=4.7km az=176.5*
*DDA **08** 04:46:09.6,37.84N×29.19E, h7km, Ml2.7*
*CSEM **08** 04:46:09.8±0.5, 37.84N×29.16E, h5km, ML2.7, Error ellipse: s-maj=9.9km s-min=8.1km az=77.0*
ISC 08 04:46:10.0±1.1, 37.84N±0.03×29.15E±0.03, h7km±11km, n14, σ0965/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.17**	**210**	P	**Pg**	**04 46 13.1**	**-0.4**
DNZL				S	**Sg**	**04 46 16.5**	**+0.6**
DNZL	**Cakiroluk**	**0.17**	**210**	*i* P	**Pg**	**04 46 13.1**	**-0.4**
DNZL				*i* S	**Sg**	**04 46 16.5**	**+0.6**
KHAL	**Karahalli**	**0.60**	**27**	P	**Pg**	**04 46 21.0**	**-0.6**
KHAL				S	**Sg**	**04 46 29.2**	**-0.2**
KHAL	**Karahalli**	**0.60**	**27**	*i* P	**Pg**	**04 46 21.0**	**-0.6**
KHAL				*i* S	**Sg**	**04 46 29.2**	**-0.2**
GOLH	**Golhisar**	**0.68**	**151**	P	**Pg**	**04 46 22.7**	**-0.4**
GOLH				S	**Sb**	**04 46 34.1**	**+0.2**
GOLH	**Golhisar**	**0.68**	**151**	*i* P	**Pg**	**04 46 22.7**	**-0.4**
GOLH				*i* S	**Sb**	**04 46 34.1**	**+0.2**
KULA	**Kula-Manisa**	**0.78**	**330**	*e*PG	**Pg**	**04 46 25.2**	**+0.2**
KULA				*e*SG	**Sb**	**04 46 37.4**	**+0.6**
KULA	**Kula-Manisa**	**0.78**	**330**	*e*Pg	**Pg**	**04 46 25.2**	**+0.2**
KULA				*e*Sg	**Sb**	**04 46 37.4**	**+0.6**
MANT	**Manisa**	**0.80**	**325**	P	**Pg**	**04 46 25.1**	**-0.4**
MANT				S	**Sb**	**04 46 38.1**	**+0.5**
MANT	**Manisa**	**0.80**	**325**	*i* P	**Pg**	**04 46 25.1**	**-0.4**
MANT				*i* S	**Sb**	**04 46 38.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**277**	*e*PG	**Pg**	**04 46 27.7**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**277**	*e*Pg	**Pg**	**04 46 27.7**	**-1.6**
AYDN	**Tasoluk**	**1.02**	**261**	P	**Pb**	**04 46 30.1**	**0.0**
AYDN				S	**Sg**	**04 46 43.5**	**+0.6**
AYDN	**Tasoluk**	**1.02**	**261**	*i* P	**Pb**	**04 46 30.1**	**0.0**
AYDN				*i* S	**Sg**	**04 46 43.5**	**+0.6**

*ISCJB **08** 04:55:04.7±0.4,23.70N±0.02×122.09E±0.02, h16km±3km, Error ellipse: s-maj=3.2km s-min=2.0km az=145.9*
*JMA **08** 04:55:04.8±0.2,23.72N×122.02E, h21km±5km, M3.5*
*TAP **08** 04:55:06.2,23.74N×122.01E, h30km, ML3.9, C*
ISC 08 04:55:03.5±1.1, 23.68N±0.02×122.07E±0.02, h11km±9km, n65, σ0960/125, 8C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.48**	**273**	*e*P	**Pn**	**04 55 16.2**	**-0.2**
	baz=266						
TEGC				*e*S	**Sb**	**04 55 23.2**	**+2.1**
	baz=266						
HWA	**Hwalien**	**0.52**	**305**	*e*P	**Pb**	**04 55 15.2**	**+0.6**
	baz=297						
HWA				*e*S	**Sb**	**04 55 22.6**	**+0.5**
	baz=297						
ESF	**Shoufeng Towns**	**0.55**	**290**	*e*P	**Pn**	**04 55 16.6**	**-0.6**
	baz=291						
ESF				*e*S	**Sb**	**04 55 23.9**	**+0.9**
	baz=291						
TWD	**Chiawan**	**0.59**	**313**	⇑ *i* P	**Pb**	**04 55 16.2**	**+0.5**
	baz=312						
TWD				*i* S	**Sg**	**04 55 23.5**	**+0.9**
	baz=312						
ESL	**Shilin**	**0.60**	**283**	*i* P	**Pb**	**04 55 16.2**	**+0.3**
	baz=270						
ESL				S	**Sg**	**04 55 23.5**	**+0.5**
	baz=270						
EHY	**Hungye**	**0.71**	**256**	⇑ *i* P	**Pn**	**04 55 18.8**	**-0.7**
	baz=250						
EHY				S	**Sb**	**04 55 28.1**	**+0.6**
	baz=250						
TWF1	**Yuli**	**0.78**	**245**	*i* P	**Pn**	**04 55 20.2**	**-0.3**
	baz=230						
TWF1				S	**Sb**	**04 55 31.0**	**+1.3**
	baz=230						
ENA	**Nanau**	**0.80**	**338**	P	**Pb**	**04 55 19.8**	**+0.4**
	baz=329						
ENA				S	**Sg**	**04 55 29.8**	**+0.4**
	baz=329						
WDT	**Danda**	**0.86**	**275**	⇑ *i* P	**Pb**	**04 55 21.0**	**+0.4**
	baz=271						
WDT				S	**Sg**	**04 55 31.9**	**+0.5**
	baz=271						
CHKT	**Chengkung**	**0.87**	**228**	*e*P	**Pb**	**04 55 20.8**	**+0.2**
	baz=213						
CHKT				*e*S	**Sg**	**04 55 31.3**	**-0.3**
	baz=213						
WHF	**Hehuan Shan**	**0.87**	**302**	⇑ *i* P	**Pb**	**04 55 20.6**	**-0.2**
	baz=301						
WHF				S	**Sg**	**04 55 31.6**	**-0.1**
	baz=301						
TWC	**Suao**	**0.94**	**348**	P	**Pb**	**04 55 22.4**	**+0.5**
	baz=351						
TWC				S	**Sg**	**04 55 34.2**	**+0.2**
	baz=351						
NNS	**Nan Shan**	**0.99**	**320**	*i* P	**Pg**	**04 55 22.6**	**+0.1**
	baz=311						
NNS				S	**Sg**	**04 55 34.9**	**-0.5**
	baz=311						
TWT	**Tachien**	**0.99**	**305**	P	**Pb**	**04 55 23.2**	**+0.3**
	baz=303						
TWT				*e*S	**Sg**	**04 55 35.3**	**-0.4**
	baz=303						
YUS	**Yu-Shan**	**1.04**	**260**	⇑ *i* P	**Pn**	**04 55 24.5**	**0.0**
	baz=256						
YUS				*i* S	**Sg**	**04 55 37.2**	**-0.1**
	baz=256						
ENTT	**Nioudou**	**1.06**	**334**	P	**Pg**	**04 55 23.9**	**0.0**
	baz=336						
ENTT				S	**Sg**	**04 55 36.5**	**-1.1**
	baz=336						
ELDTW	**Lidau**	**1.08**	**243**	P	**Pg**	**04 55 24.1**	**-0.2**
	baz=239						
ELDTW				*e*S	**Sg**	**04 55 37.1**	**-1.4**
	baz=239						
SMLT	**Sun Moon Lake**	**1.09**	**281**	⇑ *i* P	**Pb**	**04 55 24.6**	**+0.2**
	baz=287						
SMLT				S	**Sg**	**04 55 38.2**	**-0.4**
	baz=287						
TWE	**Neicheng**	**1.10**	**341**	*e*P	**Pb**	**04 55 24.7**	**+0.2**
	baz=343						
TWE				*e*S	**Sg**	**04 55 38.1**	**-0.8**
	baz=343						
JYNG	**Yonagunijimaku**	**1.11**	**46**	P	**Pn**	**04 55 25.6**	**+0.6**
JYNG				*e*S	**Sb**	**04 55 39.5**	**+0.4**
TYC	**Yuchr**	**1.13**	**282**	P	**Pb**	**04 55 25.2**	**+0.1**
	baz=287						
TYC				*e*S	**Sg**	**04 55 39.5**	**-0.4**
	baz=287						
YOJ	**Yonaguni jima**	**1.16**	**48**	P	**Pn**	**04 55 26.3**	**+0.6**
YOJ				S	**Sg**	**04 55 40.9**	**+0.1**
ALS	**Alishan**	**1.17**	**262**	⇑ *i* P	**Pn**	**04 55 26.6**	**+0.5**
	baz=258						
ALS				S	**Sg**	**04 55 41.0**	**-0.4**
	baz=258						
NSK	**Sanguang**	**1.18**	**327**	P	**Pg**	**04 55 25.7**	**-0.5**
	baz=328						
NSK				*e*S	**Sg**	**04 55 39.6**	**-2.1**
	baz=328						
TTN	**Taitung**	**1.25**	**223**	*e*P	**Pg**	**04 55 27.5**	**0.0**
	baz=209						
TWG	**Pinlang**	**1.25**	**227**	*e*P	**Pn**	**04 55 26.6**	**-0.4**
	baz=223						
CHN5	**Tsauling**	**1.28**	**266**	⇑ *i* P	**Pg**	**04 55 28.3**	**+0.3**
	baz=264						
CHN5				S	**Sg**	**04 55 44.7**	**0.0**
	baz=264						
WNT	**Mingjian**	**1.28**	**279**	*e*P	**Pg**	**04 55 28.5**	**+0.4**
	baz=277						
WNT				*e*S	**Sn**	**04 55 45.0**	**+0.4**
	baz=277						
STYT	**Tauyuan**	**1.31**	**247**	P	**Pg**	**04 55 28.4**	**-0.3**
	baz=235						
STYT				*e*S	**Sb**	**04 55 44.6**	**-0.4**
	baz=235						
TWB1	**Santiao Chiao**	**1.32**	**357**	*e*P	**Pn**	**04 55 28.2**	**+0.3**
	baz=359						
TWB1				*e*S	**Sb**	**04 55 43.8**	**-1.5**
	baz=359						
TCU	**Taichung**	**1.36**	**290**	*e*P	**Pg**	**04 55 29.8**	**+0.2**
	baz=289						
TCU				*e*S	**Sg**	**04 55 47.6**	**+0.5**
	baz=289						
NSTT	**Nanjuang**	**1.36**	**314**	*e*P	**Pg**	**04 55 29.3**	**-0.2**
	baz=314						
NSTT				*e*S	**Sb**	**04 55 45.0**	**-1.4**
	baz=314						
TWQ1	**Liyutan**	**1.36**	**299**	P	**Pg**	**04 55 29.6**	**0.0**
	baz=298						
TWQ1				*e*S	**Sb**	**04 55 46.2**	**-0.1**
	baz=298						
TWA	**Mucha**	**1.37**	**341**	*e*P	**Pg**	**04 55 29.8**	**+0.1**
	baz=331						
TWA				*e*S	**Sb**	**04 55 45.7**	**-0.9**
	baz=331						
WGK	**Gukeng**	**1.38**	**270**	*e*P	**Pg**	**04 55 29.7**	**-0.3**
	baz=268						
WGK				*e*S	**Sn**	**04 55 47.6**	**+0.6**
	baz=268						
CHN4	**Tsaushan**	**1.39**	**257**	P	**Pg**	**04 55 30.4**	**+0.1**
	baz=244						
CHN4				*e*S	**Sg**	**04 55 48.9**	**+0.5**
	baz=244						
NSY	**Sanyi**	**1.40**	**302**	*e*P	**Pg**	**04 55 30.4**	**0.0**
	baz=301						
NSY				*e*S	**Sn**	**04 55 48.1**	**+0.6**
	baz=301						
WTP	**Ta-pu**	**1.41**	**252**	*e*P	**Pg**	**04 55 30.1**	**-0.3**
	baz=239						
WTP				*e*S	**Sg**	**04 55 48.6**	**-0.1**
	baz=239						
NWF	**Wu-fen Shan**	**1.41**	**349**	*e*P	**Pb**	**04 55 29.9**	**+0.1**
	baz=3.0						
NWF				*e*S	**Sb**	**04 55 47.7**	**-0.1**
	baz=3.0						
TAP1	**Taipei**	**1.44**	**340**	*e*P	**Pn**	**04 55 29.7**	**+0.2**
	baz=328						
TAP1				*e*S	**Sn**	**04 55 47.9**	**-0.6**
	baz=328						
CHN2	**Minshiung**	**1.47**	**264**	*e*P	**Pg**	**04 55 32.1**	**+0.5**
	baz=262						
CHN2				*e*S	**Sg**	**04 55 50.8**	**+0.1**
	baz=262						
SGST	**Jiashian**	**1.49**	**247**	*e*P	**Pg**	**04 55 31.8**	**-0.2**
	baz=233						
SGST				*e*S	**Sg**	**04 55 51.7**	**+0.3**
	baz=233						
CHN1	**Nanshi**	**1.50**	**251**	*e*P	**Pg**	**04 55 32.0**	**-0.2**
	baz=248						
CHN1				*e*S	**Sg**	**04 55 51.9**	**+0.2**
	baz=248						
HSN	**Hsinchu**	**1.50**	**318**	*e*P	**Pn**	**04 55 30.7**	**+0.4**
	baz=320						
HSN				*e*S	**Sb**	**04 55 50.9**	**+0.5**
	baz=320						
TWK	**Hsinying**	**1.51**	**254**	*e*P	**Pg**	**04 55 31.9**	**-0.5**
	baz=251						
TWK				*e*S	**Sg**	**04 55 51.4**	**-0.6**
	baz=251						
NCU	**National Centr**	**1.51**	**328**	*e*P	**Pb**	**04 55 31.4**	**-0.2**
	baz=329						
NCU				*e*S	**Sn**	**04 55 50.0**	**-0.3**
	baz=329						
CHY	**Chiayi**	**1.52**	**263**	*e*P	**Pg**	**04 55 32.4**	**-0.2**
	baz=261						
CHY				*e*S	**Sg**	**04 55 51.8**	**-0.6**
	baz=261						
TWS1	**Kuangyinshan**	**1.53**	**337**	*e*P	**Pb**	**04 55 32.2**	**+0.3**
	baz=338						
TWS1				*e*S	**Sn**	**04 55 50.2**	**-0.5**
	baz=338						
SSD	**Sandimen**	**1.62**	**235**	*e*P	**Pg**	**04 55 33.9**	**-0.6**
	baz=224						
HATJ	**Hateruma jima**	**1.63**	**76**	P	**Pn**	**04 55 33.0**	**+0.8**
HATJ				*e*S	**Sn**	**04 55 53.3**	**+0.1**
WTCT	**Ta-ch'eng**	**1.65**	**277**	*e*P	**Pb**	**04 55 34.0**	**+0.2**
	baz=275						
WTCT				*e*S	**Sg**	**04 55 55.7**	**-0.8**
	baz=275						
IRIF	**Iriomote-Funau**	**1.65**	**67**	P	**Pb**	**04 55 33.4**	**-0.5**
IRIF				S	**Sn**	**04 55 53.9**	**+0.2**
WSF	**Szhu**	**1.69**	**269**	*e*P	**Pb**	**04 55 34.9**	**+0.2**
	baz=267						
WSF				*e*S	**Sb**	**04 55 56.2**	**+0.2**
	baz=267						
LAY	**Lan-yu**	**1.70**	**196**	*e*P	**Pn**	**04 55 33.2**	**+0.1**
	baz=184						
EAST	**Anshuo**	**1.71**	**221**	*e*P	**Pn**	**04 55 33.6**	**+0.3**
	baz=218						
EAST				*e*S	**Sn**	**04 55 54.9**	**-0.3**
	baz=218						
CHN8	**Yiju**	**1.74**	**259**	*e*P	**Pb**	**04 55 34.7**	**-0.7**
	baz=257						
CHN8				*e*S	**Sb**	**04 55 57.2**	**0.0**
	baz=257						
TWM1	**Shoushan**	**1.74**	**241**	*e*P	**Pg**	**04 55 37.2**	**+0.4**
	baz=238						
SCLT	**Jiali**	**1.79**	**254**	*e*P	**Pn**	**04 55 34.9**	**+0.6**
	baz=252						
SCLT				*e*S	**Sb**	**04 55 59.5**	**+0.6**
	baz=252						
JKRS	**Kuro-shima**	**1.86**	**72**	P	**Pn**	**04 55 36.5**	**+1.2**
JKRS				S	**Sn**	**04 55 59.3**	**+0.5**
JIJ	**Ishigaki jima**	**2.01**	**70**	P	**Pn**	**04 55 38.0**	**+0.6**
JIJ				S	**Sn**	**04 56 01.7**	**-0.9**
TWK1	**Hengchun**	**2.09**	**214**	*e*P	**Pb**	**04 55 41.0**	**-0.3**
	baz=212						
TWK1				*e*S	**Sn**	**04 56 03.7**	**-0.7**
	baz=212						
JISG	**Ishigakijimahi**	**2.24**	**66**	P	**Pn**	**04 55 40.9**	**+0.4**
JISG				*e*S	**Sn**	**04 56 07.5**	**-0.6**
WDGT	**Dungji**	**2.25**	**260**	*e*P	**Pn**	**04 55 41.4**	**+0.7**
	baz=258						
WDGT				*e*S	**Sn**	**04 56 07.3**	**-1.2**
	baz=258						
PNG	**Penghu**	**2.31**	**268**	*e*P	**Pn**	**04 55 42.2**	**+0.8**
	baz=253						
PNG				*e*S	**Sn**	**04 56 09.0**	**-0.9**
	baz=253						
JTJ	**Tarama**	**2.59**	**68**	P	**Pn**	**04 55 45.9**	**+0.6**
JTJ				*e*S	**Sn**	**04 56 16.1**	**-0.7**

*ISCJB **08** 04:56:34.3±0.8,36.45S±0.2×52.6E±0.2, h10km, mb4.0/7, Error ellipse: s-maj=34.4km s-min=18.9km az=30.3*
*IDC **08** 04:56:34.5±0.8,36.37S×52.57E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/51, mbtmp4.0/7, Error ellipse: s-maj=42.0km s-min=21.1km az=32.0*
ISC 08 04:56:36.1±0.8, 36.45S±0.2×52.5E±0.2, h10km, n13, σ0954/10, mb4.2/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**24.22**	**281**	P	**P**	**05 01 52.6**

SHLS				*e*S	**Sg**	**04 59 06.2**	**+0.4**	
	423nm,0.7s							
PDGK	**Podgornoye**	**2.42**	**308**	⇑Pn	**Pb**	**04 58 40.3**	**-1.7**	
	19nm,0.3s							
PDGK				⇓Sn	**Sb**	**04 59 14.6**	**+2.9**	
	131nm,0.4s							
UZB	**Uzynbulak**	**2.61**	**300**	*e*P	**Pb**	**04 58 45.0**	**-0.4**	
	40nm,0.2s							
UZB				*e*S	**Sg**	**04 59 21.8**	**-0.8**	
	153nm,0.4s							
SATY	**Saty**	**2.98**	**295**	*e*P	**Pb**	**04 58 50.8**	**-0.9**	
	75nm,0.2s							
SATY				*e*S	**Sb**	**04 59 31.6**	**+3.5**	
	168nm,0.4s							
KPKS	**Kokpek**	**2.98**	**304**	*e*P	**Pb**	**04 58 52.0**	**+0.3**	
	166nm,0.3s							
KPKS				*e*S	**Sg**	**04 59 33.4**	**-1.2**	
	293nm,0.4s							
ZHN	**Zhinishke**	**3.01**	**297**	*e*P	**Pb**	**04 58 52.7**	**+0.6**	
	23nm,0.2s							
ZHN				*e*S	**Sg**	**04 59 34.9**	**-0.4**	
	227nm,0.3s							
KURS	**Kuram**	**3.32**	**301**	*e*P	**Pb**	**04 58 56.9**	**-0.6**	
KURS				*e*S	**Sb**	**04 59 42.1**	**+4.4**	
MNBS	**Baschi**	**3.50**	**310**	*e*P	**Pb**	**04 58 57.9**	**-2.7**	
	2.2nm,0.5s							
MNBS				*e*S	**Sb**	**04 59 43.9**	**+1.0**	
	157nm,0.8s							
MDOK	**Medeo**	**3.95**	**291**	*e*P	**Pb**	**04 59 09.4**	**+1.1**	
	16nm,0.4s							
MDOK				*e*S	**Sg**	**05 00 03.0**	**-2.7**	
	42nm,0.7s							
TNSS	**Tian-Shan**	**3.99**	**289**	*e*P	**Pb**	**04 59 08.5**	**-0.6**	
	20nm,0.6s							
TNSS				*e*S	**Sb**	**05 00 01.9**	**+4.6**	
	31nm,1.0s							
IZV	**Izvestkoviy**	**4.23**	**288**	*e*P	**Pb**	**04 59 14.3**	**+1.4**	
	21nm,0.5s							
IZV				*e*S	**Sg**	**05 00 12.0**	**-2.4**	
	66nm,0.9s							
CHKK	**Chushkaly**	**4.25**	**300**	*e*P	**Pb**	**04 59 14.4**	**+1.2**	
	8.9nm,0.3s							
CHKK				*e*S	**Sg**	**05 00 12.1**	**-3.0**	
	67nm,0.4s							
MK31	**Makanchi Array**	**4.93**	**2**	⇓Pn	**Pn**	**04 59 12.4**	**+0.1**	
	1.3nm,0.3s,baz=188,slow=13,SNR=109							
MK31				Pg	**Pb**	**04 59 27.9**	**+3.1**	
	2.3nm,0.3s,baz=178,slow=15,SNR=7.2							
MK31				Lg	Lg	05 00 34.2		
	16nm,0.5s,baz=176,slow=28,SNR=5.4							
MKAR	**Makanchi Array**	**4.93**	**2**	Pn	**Pn**	**04 59 12.4**	**+0.1**	
	2.2nm,0.3s,baz=187,slow=13,SNR=32							
MKAR				Sn	**Sn**	**05 00 08.2**	**-0.9**	
	1.7nm,0.3s,baz=172,slow=20,SNR=3.1							
MKAR				Lg	Lg	05 00 30.4		
	3.9nm,0.3s,baz=180,slow=23,SNR=4.1							
TKM2	**Tokmak 2**	**4.93**	**284**	⇑Pn	**Pn**	**04 59 16.1**	**+3.5**	
	2.0nm,0.3s							
TKM2				⇑Pg	**Pg**	**04 59 31.5**	**-1.6**	
	7.8nm,0.6s							
TKM2				⇓Lg	Lg	05 00 40.4		
	36nm,0.8s							
AAK	**Ala-Archa**	**5.70**	**280**	Pn	**Pn**	**04 59 25.6**	**+2.6**	
	0.7nm,0.3s,baz=74,slow=4.9,SNR=2.8							
AAK				Lg	Lg	05 01 00.0		
	0.7nm,0.3s,baz=193,slow=23,SNR=1.8							
AAK	**Ala-Archa**	**5.70**	**280**	⇓Pg	**Pg**	**04 59 44.4**	**-3.4**	
	3.2nm,0.5s							
AAK				⇑Lg	Lg	05 01 04.6		
	24nm,1.1s							
MNAS	**Manas**	**7.16**	**278**	⇑Lg	Lg	05 01 51.3		
	7.5nm,1.0s							
KURBB	**Kurchatov Arra**	**9.10**	**345**	Pn	**Pn**	**05 00 10.5**	**+1.0**	
	0.1nm,0.3s,baz=170,slow=12,SNR=6.4							
KURBB				Lg	Lg	05 02 44.7		
	0.2nm,0.3s,baz=174,slow=29,SNR=8.8							
KURBB	**Kurchatov Arra**	**9.10**	**345**	⇑Pn	**Pn**	**05 00 09.6**	**+0.1**	
	2.7nm,0.7s							
KURBB				⇓Lg	Lg	05 02 48.4		
	22nm,0.7s							
OTUK	**Ortayu**	**9.40**	**316**	⇑Lg	Lg	05 03 00.7		
	6.1nm,0.7s							
JCJ	**Chichijima**	**50.70**	**87**	LR	LR	05 30 12.2		
	comp=Z,56nm,18.8s,baz=134,slow=38							
TORD	**Torodi Ar. Bea**	**74.24**	**274**	P	**P**	**05 09 34.1**	**-1.4**	
	0.2nm,0.4s,baz=42,slow=4.9,SNR=6.9							
WRA	**Warramunga Arr**	**78.18**	**131**	P	**P**	**05 09 57.7**	**0.0**	
	0.4nm,0.8s,baz=324,slow=5.3,SNR=2.1							

IDC 08 05:09:02.2±9.5, 32°.09S×179°.79W, h342km±108km, mb3.0/2, mb1 3.2/3, mb1mx3.0/30, mbtmp3.7/3, Error ellipse: s-maj=119.6km s-min=50.0km az=1.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.66**	**202**	P	Pn	05 10 41.3	+1.2
	1.0nm,0.3s,baz=155,slow=20,SNR=1.7						
URZ				S	S	05 11 58.9	-0.9
	3.3nm,0.3s,baz=229,slow=22,SNR=3.9						
ASAR	**Alice Springs**	**41.53**	**270**	P	P	05 16 17.7	+0.2
	0.3nm,0.4s,baz=108,slow=6.9,SNR=2.4						
WRA	**Warramunga Arr**	**42.67**	**275**	P	P	05 16 26.3	-0.3
	0.7nm,0.3s,baz=110,slow=8.1,SNR=6.9						
FINES	**FINESS Array B**	**146.17**	**338**	PKPbc	PKPdf	05 28 00.9	+0.7
	1.3nm,0.4s,baz=58,slow=4.7,SNR=4.4						

*SOME **08** 05:09:18.9, 42°.22N×76°.62E, h10km*
*KRNET **08** 05:09:18.3±0.1, 42°.19N×76°.60E, h18km, mb2.3*
*NNC **08** 05:09:18.0±2.7, 43°.86N×76°.28E, h20km±24km, mb3.6, mpv2.8, Error ellipse: s-maj=24.5km s-min=18.1km az=145.0*

ISC 08 05:09:18.0±1.0, 42°.20N±0°.03×76°.60E±0°.02, h17km±8km, n31, σ0°.72/57, 18C-17D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.27**	**280**	⇓*i*P	**Pg**	**05 09 24.5**	**+0.4**
	baz=279						
ULHL				⇓*i*S	**Sb**	**05 09 29.3**	**+0.4**
	baz=279						
KDJ	**Kajisay**	**0.44**	**99**	⇓*e*P	**Pg**	**05 09 26.6**	**-0.3**
	baz=97						
KDJ				⇓*i*S	**Sg**	**05 09 32.8**	**-0.2**
	baz=97						
BOOM	**Boomskoye usch**	**0.57**	**301**	⇓*e*P	**Pg**	**05 09 29.5**	**+0.2**
	baz=302						
BOOM				⇓*i*S	**Sb**	**05 09 37.9**	**+0.4**
	baz=302						
IZV	**Izvestkoviy**	**0.84**	**1**	*e*P	**Pg**	**05 09 34.2**	**-0.1**
	29nm,0.2s						
IZV				*e*S	**Sg**	**05 09 45.3**	**-0.2**
	87nm,0.1s						
TNSS	**Tian-Shan**	**0.88**	**17**	*e*P	**Pg**	**05 09 35.1**	**-0.1**
	23nm,0.2s						
TNSS				*e*S	**Sg**	**05 09 46.6**	**-0.3**
	93nm,0.2s						
MTBS	**Maitube**	**0.94**	**352**	*e*P	**Pg**	**05 09 36.1**	**-0.2**
	19nm,0.2s						
MTBS				*e*S	**Sg**	**05 09 48.8**	**+0.2**
	87nm,0.2s						
KST	**Kastek**	**0.97**	**331**	*e*P	**Pg**	**05 09 36.7**	**-0.1**
	13nm,0.1s						
KST				*e*S	**Sg**	**05 09 49.5**	**0.0**
	56nm,0.1s						
KZA	**Kyzart**	**1.01**	**264**	⇑*i*P	**Pb**	**05 09 37.6**	**+0.3**
	baz=264						
KZA				⇑*i*S	**Sg**	**05 09 51.7**	**+0.7**
	baz=264						
MDOK	**Medeo**	**1.02**	**19**	⇓*i*P	**Pb**	**05 09 37.3**	**+0.1**
	8.2nm,0.2s						
MDOK				⇓*i*S	**Sg**	**05 09 50.8**	**-0.4**
	27nm,0.5s						
TKM2	**Tokmak 2**	**1.03**	**315**	⇓*i*P	**Pn**	**05 09 37.9**	**0.0**
	baz=315						
TKM2				⇓*i*S	**Sn**	**05 09 52.4**	**+0.2**
	baz=315						
TKM2	**Tokmak 2**	**1.03**	**315**	⇓P	**Pn**	**05 09 38.0**	**0.0**
	4.6nm,0.2s						
TKM2				⇑S	**Sn**	**05 09 52.3**	**+0.2**
	22nm,0.2s						
KOTS	**Kotyrbulak**	**1.10**	**20**	*e*P	**Pg**	**05 09 39.2**	**-0.2**
KOTS				*e*S	**Sg**	**05 09 53.7**	**-0.1**
DGS	**Degeres**	**1.21**	**330**	*e*P	**Pg**	**05 09 40.9**	**-0.4**
	8.6nm,0.2s						
DGS				*e*S	**Sg**	**05 09 56.8**	**-0.3**
	37nm,0.2s						
KBK	**Karagaybulak**	**1.30**	**291**	⇑*i*P	**Pg**	**05 09 43.1**	**-0.1**
	baz=292						
KBK				⇑*i*S	**Sg**	**05 10 01.4**	**+1.2**
	baz=292						
KTBS	**Karatobe**	**1.52**	**2**	*e*P	**Pg**	**05 09 46.6**	**-0.6**
KTBS				*e*S	**Sg**	**05 10 06.5**	**-0.4**
UCH	**Uchtor**	**1.55**	**272**	⇑*i*P	**Pb**	**05 09 47.0**	**+0.5**
	baz=272						
UCH				⇑*i*S	**Sg**	**05 10 07.5**	**-0.6**
	baz=272						
AAK	**Ala-Archa**	**1.62**	**286**	⇑*i*P	**Pg**	**05 09 48.6**	**-0.5**
	baz=287						
AAK				⇑*i*S	**Sg**	**05 10 10.1**	**-0.1**
	baz=287						
AAK	**Ala-Archa**	**1.62**	**286**	⇓Pn	**Pg**	**05 09 48.9**	**-0.2**
	1.7nm,0.3s						
AAK				⇑Sn	**Sg**	**05 10 10.2**	**0.0**
	6.3nm,0.3s						
CHKK	**Chushkaly**	**1.70**	**10**	*e*P	**Pb**	**05 09 49.0**	**+0.2**
	7.8nm,0.2s						
CHKK				*e*S	**Sb**	**05 10 10.6**	**+0.7**
	179nm,0.2s						
ARLS	**Aral**	**1.73**	**260**	⇑*e*P	**Pb**	**05 09 49.5**	**+0.1**
	baz=260						
ARLS				⇑*i*S	**Sg**	**05 10 13.2**	**-0.5**
	baz=260						
KURS	**Kuram**	**1.73**	**41**	*e*P	**Pg**	**05 09 50.3**	**-0.9**
KURS				*e*S	**Sg**	**05 10 13.0**	**-0.8**
USP	**Ospenovka**	**1.88**	**305**	⇑*i*P	**Pb**	**05 09 52.2**	**+0.3**
	baz=306						
USP				⇑*i*S	**Sg**	**05 10 17.8**	**-0.7**
	baz=306						
AML	**Almayashu**	**2.16**	**269**	⇓*i*P	**Pb**	**05 09 57.1**	**+0.2**
	baz=270						
AML				⇓*i*S	**Sb**	**05 10 25.5**	**+2.0**
	baz=270						
ARXS	**Arharly**	**2.21**	**24**	*e*P	**Pb**	**05 09 57.8**	**+0.3**
	8.6nm,0.5s						
ARXS				*e*S	**Sb**	**05 10 25.6**	**+1.1**
	18nm,0.4s						
MNBS	**Baschi**	**2.30**	**34**	*e*P	**Pb**	**05 09 58.6**	**-0.4**
	0.4nm,0.5s						
MNBS				*e*S	**Sb**	**05 10 27.2**	**+0.1**
	23nm,0.7s						
PDGK	**Podgornoye**	**2.41**	**61**	⇑*i*P	**Pb**	**05 10 00.9**	**+0.1**
	baz=61						
PDGK				⇑*i*S	**Sb**	**05 10 32.1**	**+1.9**
	baz=61						
PDGK	**Podgornoye**	**2.41**	**61**	⇓Pg	**Pb**	**05 10 00.8**	**+0.1**
	2.4nm,0.4s						
PDGK				⇑Lg	Lg	05 10 34.2	
	10nm,0.7s						
MRKS	**Merke**	**2.55**	**283**	*e*P	**Pg**	**05 10 06.0**	**-1.0**
	1.9nm,0.1s						
MRKS				*e*S	**Sg**	**05 10 39.7**	**-0.3**
	30nm,0.2s						
MNAS	**Manas**	**3.05**	**277**	⇓*e*P	**Pb**	**05 10 09.3**	**-2.6**
	baz=277						
MNAS				⇓*e*S	**Sb**	**05 10 47.2**	**-1.6**
	baz=277						
MNAS	**Manas**	**3.05**	**277**	⇑Lg	Lg	05 10 54.5	
	3.8nm,0.5s						
KK31	**Karatay Array**	**4.58**	**283**	Lg	Lg	05 11 32.3	
	1.3nm,0.5s,baz=101,slow=25,SNR=13						

IDC 08 05:17:52.7±3.0, 54°.59N×86°.38E, h0km, mb1 3.2/2, mb1mx3.0/44, mbtmp3.2/2, ML3.0/2, 4C-2D, Error ellipse: s-maj=24.1km s-min=15.4km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**236**	*i*		05 24 37.5	
	baz=54,slow=312,SNR=7.2						
ZALV	**Zalesovo Beam**	**1.12**	**236**	Pg	Pg	05 18 13.0	-1.1
	2.1nm,0.3s,baz=55,slow=16,SNR=13						
ZALV				Lg	Lg	05 18 29.6	
	12nm,0.3s,baz=53,slow=29,SNR=39						
ZALV				Rg	Rg	05 18 38.9	
	6.6nm,0.4s,baz=46,slow=28,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.21**	**234**	Pn	Pn	05 19 26.5	+1.0
	0.2nm,0.3s,baz=51,slow=14,SNR=6.2						
KURBB				Lg	Lg	05 21 11.4	
	0.1nm,0.3s,baz=56,slow=31,SNR=10						
KURBB	**Kurchatov Arra**	**6.21**	**234**	⇓Pn	Pn	05 19 26.7	+1.2
	1.0nm,0.4s						
KURBB				⇑Sn	Sn	05 20 38.6	+1.4
	2.9nm,0.6s						
KURBB				⇓Lg	Lg	05 21 10.7	
	8.5nm,0.7s						
MK31	**Makanchi Array**	**8.22**	**200**	⇑Pn	Pn	05 19 50.3	-2.8
	0.4nm,0.3s,baz=21,slow=13						
MK31				⇑Sn	Sn	05 21 20.6	-6.1
	0.3nm,0.5s,baz=20,slow=26						
MK31				⇑Lg	Lg	05 22 03.8	
	3.2nm,1.0s,baz=24,slow=26						
MKAR	**Makanchi Array**	**8.22**	**200**	Pn	Pn	05 19 53.9	+0.8
	0.3nm,0.3s,baz=22,slow=12,SNR=8.9						
MKAR				Lg	Lg	05 22 12.5	
	0.1nm,0.3s,baz=20,slow=32,SNR=6.0						

*IDC **08** 05:26:51.3±1.5, 24°.16S×70°.60W, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.6/24, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=60.7km s-min=32.6km az=133.0*
*GUC **08** 05:26:57.9±1.3, 23°.92S×70°.36W, h33km±6km, ML4.4*

ISC 08 05:26:54.8±1.8, 23°.94S±0°.04×70°.36W±0°.08, h14km±11km, n22, σ1°.55/25, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB10	**IPOC Station P**	**0.46**	**337**	*i* P	**Pn**	**05 27 07.2**	**+0.1**
PB10				*i* S	**Sb**	**05 27 13.8**	**+2.3**
PB10				AML	AML	05 27 15.6	
	comp=E,48μm,0.5s						
PB14	**IPOC Station P**	**0.69**	**184**	*i* P	**Pn**	**05 27 11.7**	**+1.2**
PB14				*i* S	**Sn**	**05 27 22.1**	**+0.8**
PB06	**IPOC Station P**	**1.42**	**31**	*i* P	**Pg**	**05 27 22.8**	**+0.6**
PB06				*i* S	**Sg**	**05 27 41.1**	**+0.5**
PB04	**IPOC Station P**	**1.60**	**7**	*i* P	**Pb**	**05 27 23.6**	**-0.8**
PB04				*i* S	**Sg**	**05 27 45.7**	**-0.9**
LVC	**Limon Verde**	**1.87**	**46**	Pn	**Pg**	**05 27 30.6**	**-0.2**
	comp=E,2μm,0.3s,baz=234,slow=11,SNR=411						
LVC				Sn	**Sg**	**05 27 54.5**	**-0.7**
	comp=E,5μm,0.3s,baz=24,slow=18,SNR=14						
LVC	**Limon Verde**	**1.87**	**46**	*i* P	**Pb**	**05 27 29.9**	**+0.8**
PB07	**IPOC Station P**	**2.24**	**11**	*i* P	**Pn**	**05 27 32.5**	**+0.8**
PB07				*i* S	**Sb**	**05 28 02.1**	**-0.9**
PB09	**IPOC Station P**	**2.36**	**26**	*i* P	**Pb**	**05 27 36.4**	**-0.9**
PB09				*i* S	**Sb**	**05 28 05.8**	**-0.7**
PB09				AML	AML	05 28 18.1	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**2.99**	**16**	*i* P	**Pn**	**05 27 42.9**	**+1.0**
PB01				*i* S	**Sb**	**05 28 21.2**	**-3.1**
MNMC	**Minye Minye**	**4.83**	**9**	*i* P	**Pn**	**05 28 08.1**	**+0.6**
MNMC				*i* S	**Sn**	**05 29 06.9**	**+3.5**
MNMC				AML	AML	05 29 43.5	
	comp=E,147nm,0.3s						
LPAZ	**La Paz**	**7.89**	**16**	Pn	**Pn**	**05 28 52.8**	**+2.9**
	comp=E,0.1nm,0.3s,baz=129,slow=3.0,SNR=8.0						
SIV	**San Ignacio**	**11.77**	**50**	Pn	**Pn**	**05 29 43.6**	**+1.1**
	comp=E,0.3nm,0.3s,baz=257,slow=7.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**79.43**	**71**	P	**P**	**05 39 00.8**	**-0.4**
	comp=E,0.5nm,0.8s,baz=244,slow=7.1,SNR=2.9						
YKA	**Yellowknife Ar**	**93.04**	**341**	P	**P**	**05 40 05.8**	**-1.7**
	comp=E,0.2nm,0.4s,baz=146,slow=5.2,SNR=4.8						
H11S2	**WAKE ISLAND Hyl**	**26.82**	**276**	T	T	08 05 32.4	
	baz=106,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hyl**	**26.83**	**276**	T	T	08 05 29.8	
	baz=106,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hyl**	**26.84**	**276**	T	T	08 05 30.4	
	baz=106,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hyl**	**26.97**	**277**	T	T	08 05 33.2	
	baz=106,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hyl**	**26.99**	**277**	T	T	08 05 38.8	
	baz=106,slow=74,SNR=9.3						
H11N1	**WAKE ISLAND Hyl**	**26.99**	**277**	T	T	08 05 37.9	
	baz=106,slow=74,SNR=11						
WRA	**Warramunga Arr**	**130.19**	**211**	PKP	**PKPdf**	**05 46 04.7**	**-0.8**
	comp=E,0.5nm,1.0s,baz=157,slow=1.8,SNR=4.8						
MKAR	**Makanchi Array**	**148.38**	**37**	PKPbc	**PKPbc**	**05 46 40.1**	**-0.7**
	comp=E,0.3nm,0.4s,baz=318,slow=1.6,SNR=4.6						

NNC 08 05:38:46.9±2.3, 36°.92N×71°.23E, h0km, mb3.8, mpv3.5, 6C-3D, Error ellipse: s-maj=19.1km s-min=10.1km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.68**	**315**	⇑P	Pn	05 39 31.7	+0.2
	3.6nm,0.3s						
DZET				⇓S	Sn	05 40 06.0	+1.3
	61nm,0.5s						
MNAS	**Manas**	**5.65**	**10**	⇑P	Pn	05 40 12.9	+0.5
	3.4nm,0.7s						
MNAS				⇓S	Sn	05 41 18.8	+0.8
	8.8nm,0.6s						
KK31	**Karatay Array**	**6.21**	**355**	⇑P	Pn	05 40 20.2	+0.4
	4.3nm,0.3s,baz=180,slow=13,SNR=120						
KK31				⇓S	Sn	05 41 32.6	+1.1
	0.9nm,0.3s,baz=187,slow=27,SNR=6.8						
AAK	**Ala-Archa**	**6.24**	**23**	⇑P	Pn	05 40 20.6	+0.2
	3.1nm,0.7s						
AAK				⇑S	Sn	05 41 34.3	+1.8
	10.0nm,1.5s						
TKM2	**Tokmak 2**	**6.87**	**28**	⇑P	Pn	05 40 28.7	-0.5
	2.5nm,0.6s						
AB31	**Akbulak array**	**14.82**	**330**	P	Pn	05 42 13.3	-4.3
	0.2nm,0.3s,baz=158,slow=11,SNR=9.3						

IDC 08 05:44:57.4±8.3, 31°.08S×179°.88W, h369km±96km, mb2.9/3, mb1 3.1/4, mb1mx3.0/27, mbtmp3.8/4, Error ellipse: s-maj=98.9km s-min=39.5km az=180.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.57**	**198**	P	P	05 46 47.4	-0.4
	1.2nm,0.3s,baz=272,slow=6.1,SNR=11						
URZ				S	S	05 48 14.6	-1.4
	1.2nm,0.3s,baz=73,slow=23,SNR=9.0						
STKA	**Stephens Creek**	**32.75**	**258**	P	P	05 50 58.6	+1.3
	1.6nm,0.5s,baz=126,slow=9.9,SNR=3.4						
ASAR	**Alice Springs**	**41.46**	**269**	P	P	05 52 09.2	-0.7
	0.3nm,0.5s,baz=103,slow=7.8,SNR=3.6						
WRA	**Warramunga Arr**	**42.51**	**274**	P	P	05 52 18.0	-0.3
	0.2nm,0.3s,baz=112,slow=7.8,SNR=8.7						
FINES	**FINESS Array B**	**145.20**	**338**	PKPbc	PKPdf	06 03 50.5	-0.3
	0.9nm,0.6s,baz=29,slow=4.4,SNR=8.1						

*IDC **08** 05:48:39.1±3.0, 1°.80N×96°.43E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/42, mbtmp4.0/6, Error ellipse: s-maj=116.8km s-min=20.7km az=60.0*
*DJA **08** 05:48:41.3±1.8, 3°.N±9°×9°.6E±1°.7, h93km±23km, M3.8/6, mb4.0/2, MLv3.7/6*
*ISCJB **08** 05:48:45.0±1.0, 2°.24N±0°.07×96°.31E±0°.08, h27km, mb3.9/5, Error ellipse: s-maj=12.0km s-min=10.5km az=4.8*

ISC 08 05:48:47.6±1.3, 2°.45N±0°.07×96°.3E±0°.1, h27km, n18, σ1°.62/12, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.18**	**47**	P	**Pn**	**05 49 06.3**	**-2.1**
TPTI				S	**Sb**	**05 49 25.7**	**+1.3**
GSI	**Gunungsitoli**	**1.71**	**132**	P	**Pn**	**05 49 15.4**	**-0.2**
MLSI	**Meulaboh, Aceh**	**1.80**	**3**	P	**Pb**	**05 49 20.1**	**+0.1**
KCSI	**Kotacane, Aceh**	**1.81**	**54**	P	**Pn**	**05 49 14.7**	**-2.3**
KCSI				S	**Sn**	**05 49 41.0**	**+1.9**
MNSI	**Mandailing Nat**	**3.66**	**117**	P	**Pn**	**05 49 40.3**	**-2.2**
PPI	**Padang Panjang**	**5.01**	**125**	P	**Pn**	**05 49 59.5**	**-1.5**
CMAR	**Chiang Mai Arr**	**16.11**	**9**	Pn	**P**	**05 52 35.5**	**-0.1**
	baz=195,slow=12,SNR=9.9						
H08S2	**Diego Garcia H**	**25.79**	**247**	T	T	06 20 56.0	
	baz=69,slow=76,SNR=573						
H08S3	**Diego Garcia H**	**25.79**	**247**	T	T	06 20 56.2	
	baz=69,slow=76,SNR=224						
H08S1	**Diego Garcia H**	**25.81**	**247**	T	T	06 20 57.3	
	baz=69,slow=76,SNR=412						
H01W3	**Cape Leeuwin H**	**40.74**	**157**	T	T	06 39 11.5	
	baz=333,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H**	**40.75**	**157**	T	T	06 39 04.6	
	baz=333,slow=76,SNR=4.6						
H01W1	**Cape Leeuwin H**	**40.75**	**157**	T	T	06 39 10.0	
	baz=333,slow=76,SNR=5.3						
WRA	**Warramunga Arr**	**43.45**	**123**	P	P	05 56 40.4	-8.4
	1.0nm,0.6s,baz=301,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**44.86**	**128**	P	P	05 56 51.7	-8.3
	0.6nm,0.9s,baz=299,slow=8.3,SNR=3.9						
MKAR	**Makanchi Array**	**45.82**	**347**	P	**P**	**05 57 08.1**	**+0.8**
	1.9nm,0.7s,baz=165,slow=6.9,SNR=16						
SONM	**Songino Array**	**46.04**	**9**	P	**P**	**05 57 09.4**	**+0.3**
	0.9nm,0.6s,baz=224,slow=4.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**52.19**	**351**	P	**P**	**05 57 56.1**	**+0.3**
	2.7nm,0.8s,baz=182,slow=5.8,SNR=11						

*IDC **08** 06:01:42.4±1.4, 37°.53N×144°.28E, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/37, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=37.4km s-min=25.6km az=125.0*
*ISCJB **08** 06:01:45.3±0.9, 37°.75N±0°.06×144°.10E±0°.07, h33km, mb3.6/3, Error ellipse: s-maj=8.7km s-min=7.9km az=28.2*
*JMA **08** 06:01:46.4±0.2, 37°.75N×143°.98E, h40km, M3.4*

ISC 08 06:01:46.2±1.2, 37°.68N±0°.06×144°.19E±0°.08, h35km, n18, σ2°.37/24, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.37**	**290**	P	**Pn**	**06 02 21.6**	**-0.9**
JIO				*e*S	**Sn**	**06 02 47.5**	**-2.9**
OFUJ	**Ofunato**	**2.42**	**306**	P	**Pn**	**06 02 22.3**	**-1.0**
JMK	**Ichinoseki**	**2.66**	**299**	P	**Pn**	**06 02 25.8**	**-0.7**
JOU	**Okura**	**2.87**	**285**	P	**Pn**	**06 02 29.1**	**-0.3**
JOM	**Ohasama**	**2.89**	**309**	P	**Pn**	**06 02 29.4**	**-0.3**
JOM				*e*S	**Sn**	**06 03 01.5**	**-1.7**
JFT	**Otama**	**

Error ellipse: s-maj=5.2km s-min=4.0km az=149.1
*CSEM **08** 06:04:51.9±0.1,39°.14N×29°.04E,h5km,MD2.5,Error ellipse: s-maj=1.7km s-min=1.3km az=120.0*
*ISK **08** 06:04:51.2,39°.13N×29°.06E,h7km,MD2.7,ML2.4*
*DDA **08** 06:04:51.5,39°.14N×29°.06E,h7km,Md2.5*

ISC 08 06:04:51.9±0.9,39°.14N±0°.02×29°.05E±0°.02,h10km±9km, n39,σ0s37/54,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**250**	P		**Pg**	**06 04 57.7**	**+0.2**
DEMI				S		**Sg**	**06 05 01.3**	**+0.1**
DEMI	**Demirci**	**0.27**	**250**	*i* P		**Pg**	**06 04 57.7**	**+0.2**
DEMI				*i* S		**Sg**	**06 05 01.3**	**+0.1**
GDZ	**Gediz**	**0.34**	**98**	P		**Pg**	**06 04 58.8**	**0.0**
GDZ				S		**Sg**	**06 05 03.7**	**+0.3**
GDZ	**Gediz**	**0.34**	**98**	*i* P		**Pg**	**06 04 58.8**	**0.0**
GDZ				*i* S		**Sg**	**06 05 03.7**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**46**	PG		**Pg**	**06 05 00.6**	**-0.2**
TVSB				*e*SG		**Sg**	**06 05 06.7**	**-0.1**
TVSB	**Tavsanli**	**0.45**	**46**	*i* Pg		**Pg**	**06 05 00.6**	**-0.2**
TVSB				*e*Sg		**Sg**	**06 05 06.7**	**-0.1**
DST	**Dursunbey**	**0.57**	**325**	PG		**Pg**	**06 05 02.4**	**-0.7**
DST	**Dursunbey**	**0.57**	**325**	*i* Pg		**Pg**	**06 05 02.4**	**-0.7**
KULA	**Kula-Manisa**	**0.69**	**206**	PG		**Pg**	**06 05 05.2**	**-0.1**
KULA				*e*SG		**Sg**	**06 05 13.9**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**206**	*i* Pg		**Pg**	**06 05 05.2**	**-0.1**
KULA				*e*Sg		**Sg**	**06 05 13.9**	**-0.4**
MANT	**Manisa**	**0.75**	**211**	P		**Pg**	**06 05 06.3**	**-0.1**
MANT				S		**Sg**	**06 05 15.8**	**-0.4**
MANT	**Manisa**	**0.75**	**211**	*i* P		**Pg**	**06 05 06.3**	**-0.1**
MANT				*i* S		**Sg**	**06 05 15.8**	**-0.4**
KHAL	**Karahalli**	**0.84**	**155**	P		**Pb**	**06 05 08.4**	**-0.2**
KHAL				S		**Sb**	**06 05 19.4**	**-0.6**
KHAL	**Karahalli**	**0.84**	**155**	*i* P		**Pb**	**06 05 08.4**	**-0.2**
KHAL				*i* S		**Sb**	**06 05 19.4**	**-0.6**
ORLT	**Orhaneli**	**0.92**	**353**	*e*PG		**Pg**	**06 05 09.2**	**-0.4**
ORLT	**Orhaneli**	**0.92**	**353**	*e*Pg		**Pg**	**06 05 09.2**	**-0.4**
AKS	**Akhisar**	**0.99**	**255**	*e*PG		**Pb**	**06 05 11.3**	**+0.1**
AKS	**Akhisar**	**0.99**	**255**	*e*Pg		**Pb**	**06 05 11.3**	**+0.1**
BALB	**Balikesir**	**1.03**	**300**	*e*PG		**Pb**	**06 05 12.0**	**+0.1**
BALB	**Balikesir**	**1.03**	**300**	*e*Pg		**Pb**	**06 05 12.0**	**+0.1**
IGD	**Bursa**	**1.13**	**6**	*i* P		**Pg**	**06 05 12.7**	**-1.1**
IGD				*i* S		**Sb**	**06 05 28.8**	**+0.4**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*PN		**Pn**	**06 05 15.7**	**+0.5**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*Pn		**Pn**	**06 05 15.7**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*PN		**Pg**	**06 05 16.0**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*Pn		**Pg**	**06 05 16.0**	**+0.3**
IZI	**Iznik**	**1.25**	**15**	*e*PN		**Pn**	**06 05 16.0**	**+0.6**
IZI	**Iznik**	**1.25**	**15**	*e*Pn		**Pn**	**06 05 16.0**	**+0.6**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN		**Pg**	**06 05 16.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn		**Pg**	**06 05 16.0**	**+0.1**
BORA	**Eskisehir**	**1.32**	**55**	P		**Pg**	**06 05 17.3**	**+0.1**
BORA				S		**Sn**	**06 05 34.4**	**+0.3**
BORA	**Eskisehir**	**1.32**	**55**	*i* P		**Pg**	**06 05 17.3**	**+0.1**
BORA				*i* S		**Sn**	**06 05 34.4**	**+0.3**
GONE	**Gonen-Balikesi**	**1.39**	**311**	*e*PN		**Pb**	**06 05 17.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.39**	**311**	*e*Pn		**Pb**	**06 05 17.8**	**-0.2**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN		**Pg**	**06 05 19.1**	**-0.4**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn		**Pg**	**06 05 19.1**	**-0.4**
EDC	**Edincik**	**1.52**	**323**	*e*PN		**Pb**	**06 05 19.6**	**-0.5**
EDC	**Edincik**	**1.52**	**323**	*e*Pn		**Pb**	**06 05 19.6**	**-0.5**
GULT	**Gulveren**	**1.72**	**41**	*e*PN		**Pn**	**06 05 22.0**	**0.0**
GULT	**Gulveren**	**1.72**	**41**	*e*Pn		**Pn**	**06 05 22.0**	**0.0**

IDC 08 06:14:58.0±4.0,30°.43S×138°.27E,h0km,mb1 3.0/3, mb1mx3.0/25,mbtmp2.7/3,ML2.6/3,Error ellipse: s-maj=83.8km s-min=16.3km az=42.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.19**	**118**	Pn		Pn	06 15 50.5	+1.0
	0.3nm,0.3s,baz=290,slow=8.4,SNR=2.8							
STKA				Sn		Sn	06 16 28.2	0.0
	1.3nm,0.3s,baz=218,slow=19,SNR=5.0							
STKA				Lg		Lg	06 16 38.8	
	2.1nm,0.3s,baz=204,slow=22,SNR=8.9							
ASAR	**Alice Springs**	**7.78**	**329**	Pn		Pn	06 16 53.3	+0.8
	0.1nm,0.3s,baz=152,slow=12,SNR=5.4							
ASAR				Sn		Sn	06 18 22.7	+1.3
	0.2nm,0.3s,baz=154,slow=21,SNR=4.6							
WRA	**Warramunga Arr**	**11.03**	**340**	Pn		Pn	06 17 36.7	-0.4
	0.1nm,0.3s,baz=159,slow=12,SNR=5.7							
WRA				Sn		Sn	06 19 39.9	-1.4
	0.1nm,0.3s,baz=163,slow=26,SNR=3.7							

*ISCJB **08** 06:18:20.2±0.6,28°.97N±0°.06×139°.9E±0°.1,h500km, mb3.2/6,Error ellipse: s-maj=16.7km s-min=6.9km az=165.0*
*JMA **08** 06:18:20.1±0.2,28°.95N×139°.82E,h499km,M3.7*
*IDC **08** 06:18:20.4±0.9,28°.88N×139°.25E,h459km±11km,mb2.9/6, mb1 3.1/10,mb1mx2.9/40,mbtmp3.8/10,Error ellipse: s-maj=30.5km s-min=13.1km az=72.0*

ISC 08 06:18:21.3±0.9,28°.96N±0°.08×139°.8E±0°.2,h500km,n20, σ1s94/23,mb3.2/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.81**	**131**	P		**P**	**06 19 30.2**	**-0.9**
CBIJ				S		**S**	**06 20 25.0**	**-2.7**
JCJ	**Chichijima**	**2.81**	**131**	P		**P**	**06 19 30.2**	**-0.9**
	baz=270,slow=19							
JCJ				S		**S**	**06 20 25.0**	**-2.8**
	42nm,0.3s,baz=307,slow=23,SNR=9.9							
JHJ	**Hachijo jima 2**	**4.15**	**360**	P		**P**	**06 19 39.4**	**-1.5**
	8.1nm,0.3s,baz=75,slow=20,SNR=3.6							
JHJ				S		**S**	**06 20 41.8**	**-4.0**
	7.6nm,0.3s,baz=66,slow=19,SNR=4.1							
BSO1	**Boso 1**	**5.77**	**10**	eS		**S**	**06 21 10.9**	**-0.3**
BSO3	**Boso 3**	**5.86**	**6**	S		**S**	**06 21 12.1**	**-1.2**
JIE	**Ise**	**6.03**	**335**	P		**P**	**06 19 58.2**	**+0.4**
BSO4	**Boso 4**	**6.03**	**4**	P		**P**	**06 20 00.3**	**+2.6**
BSO4				S		**S**	**06 21 15.8**	**-0.9**
JKN2	**Miekihoku**	**6.07**	**331**	P		**P**	**06 19 58.1**	**0.0**
HMMJ	**Hamamatsu 2**	**6.14**	**344**	P		**P**	**06 19 58.1**	**-0.8**
JOD2	**Odawara 2**	**6.32**	**355**	P		**P**	**06 20 00.6**	**0.0**
JRY	**Ryogami san**	**7.08**	**354**	P		**P**	**06 20 07.9**	**-0.3**
JAG	**Ashikaga**	**7.45**	**358**	P		**P**	**06 20 10.9**	**-1.1**
MJAR	**Matsushiro Arr**	**7.68**	**350**	P		**P**	**06 20 12.8**	**-1.5**
	0.9nm,0.3s,baz=203,slow=6.0,SNR=6.5							
KSRS	**Korea Array**	**13.06**	**314**	P		**P**	**06 21 06.7**	**-4.2**
	0.1nm,0.3s,baz=125,slow=9.6,SNR=3.2							
MKAR	**Makanchi Array**	**47.67**	**308**	P		**P**	**06 26 11.4**	**-0.3**
	0.4nm,0.5s,baz=87,slow=10,SNR=4.6							
WRA	**Warramunga Arr**	**48.90**	**187**	P		**P**	**06 26 22.4**	**+1.3**
	0.2nm,0.3s,baz=7.0,slow=8.6,SNR=5.0							
ARCES	**ARCESS Array B**	**71.09**	**340**	P		**P**	**06 28 49.3**	**+1.1**
	0.6nm,0.6s,baz=50,slow=10,SNR=4.0							
YKA	**Yellowknife Ar**	**71.51**	**28**	P		P	06 28 55.4	+4.7
	0.3nm,0.5s,baz=301,slow=6.1,SNR=4.1							
KBZ	**Khabaz**	**75.20**	**312**	P		**P**	**06 29 13.6**	**+1.4**
	0.7nm,0.6s,baz=320,slow=1.6,SNR=4.2							
FINES	**FINESS Array B**	**75.35**	**333**	P		**P**	**06 29 14.6**	**+2.0**
	0.7nm,0.4s,baz=66,slow=4.8,SNR=5.3							

*ISK **08** 06:23:20.3,39°.13N×28°.97E,h6km,ML1.9*
*ISCJB **08** 06:23:21.0±0.5,39°.12N±0°.03×29°.00E±0°.04,h3km±9km, Error ellipse: s-maj=6.1km s-min=4.3km az=150.1*
*DDA **08** 06:23:21.1,39°.10N×29°.02E,h7km,Ml2.5*
*CSEM **08** 06:23:21.1±0.1,39°.13N×28°.97E,h8km,ML2.5,Error ellipse: s-maj=2.6km s-min=2.0km az=117.0*

ISC 08 06:23:21.4±0.9,39°.13N±0°.02×28°.99E±0°.02,h12km±8km, n27,σ0s52/42,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**248**	P		**Pg**	**06 23 26.6**	**+0.3**
DEMI				S		**Sg**	**06 23 30.1**	**+0.4**
DEMI	**Demirci**	**0.23**	**248**	*i* P		**Pg**	**06 23 26.6**	**+0.3**
DEMI				*i* S		**Sg**	**06 23 30.1**	**+0.4**
GDZ	**Gediz**	**0.39**	**96**	P		**Pg**	**06 23 28.8**	**-0.4**
GDZ				S		**Sg**	**06 23 33.9**	**-0.5**
GDZ	**Gediz**	**0.39**	**96**	*i* P		**Pg**	**06 23 28.8**	**-0.4**
GDZ				*i* S		**Sg**	**06 23 33.9**	**-0.5**
TVSB	**Tavsanli**	**0.49**	**49**	PG		**Pg**	**06 23 30.6**	**-0.4**
TVSB				*e*SG		**Sg**	**06 23 37.1**	**-0.4**
TVSB	**Tavsanli**	**0.49**	**49**	*i* Pg		**Pg**	**06 23 30.6**	**-0.4**
TVSB				*e*Sg		**Sg**	**06 23 37.1**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*PG		**Pg**	**06 23 34.1**	**-0.3**
KULA				*e*SG		**Sg**	**06 23 42.6**	**-0.6**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*Pg		**Pg**	**06 23 34.1**	**-0.3**
KULA				*e*Sg		**Sg**	**06 23 42.6**	**-0.6**
MANT	**Manisa**	**0.72**	**208**	P		**Pg**	**06 23 35.3**	**-0.1**
MANT				S		**Sg**	**06 23 44.5**	**-0.4**
MANT	**Manisa**	**0.72**	**208**	*i* P		**Pg**	**06 23 35.3**	**-0.1**
MANT				*i* S		**Sg**	**06 23 44.5**	**-0.4**
KHAL	**Karahalli**	**0.85**	**152**	P		**Pb**	**06 23 38.3**	**0.0**
KHAL				S		**Sg**	**06 23 48.5**	**-0.6**
KHAL	**Karahalli**	**0.85**	**152**	*i* P		**Pb**	**06 23 38.3**	**0.0**
KHAL				*i* S		**Sg**	**06 23 48.5**	**-0.6**
KHL	**Karahalli**	**0.91**	**152**	*e*PG		**Pg**	**06 23 38.6**	**-0.3**
KHL	**Karahalli**	**0.91**	**152**	*e*Pg		**Pg**	**06 23 38.6**	**-0.3**
BALB	**Balikesir**	**1.00**	**301**	*e*PG		**Pg**	**06 23 39.6**	**-1.1**
BALB	**Balikesir**	**1.00**	**301**	*e*Pg		**Pg**	**06 23 39.6**	**-1.1**
IGD	**Bursa**	**1.15**	**8**	*i* P		**Pb**	**06 23 43.2**	**+0.1**
IGD				*i* S		**Sn**	**06 23 59.8**	**+0.9**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*PN		**Pn**	**06 23 44.0**	**-0.6**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*Pn		**Pn**	**06 23 44.0**	**-0.6**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*PN		**Pg**	**06 23 45.5**	**-0.1**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*Pn		**Pg**	**06 23 45.5**	**-0.1**
BORA	**Eskisehir**	**1.36**	**56**	P		**Pb**	**06 23 47.0**	**+0.1**
BORA				S		**Sg**	**06 24 05.0**	**-0.2**
BORA	**Eskisehir**	**1.36**	**56**	*i* P		**Pb**	**06 23 47.0**	**+0.1**
BORA				*i* S		**Sg**	**06 24 05.0**	**-0.2**
ARMT	**Armutlu**	**1.44**	**356**	*e*PN		**Pn**	**06 23 47.7**	**+0.4**
ARMT	**Armutlu**	**1.44**	**356**	*e*Pn		**Pn**	**06 23 47.7**	**+0.4**
GULT	**Gulveren**	**1.75**	**42**	*e*PN		**Pn**	**06 23 52.7**	**+1.0**
GULT	**Gulveren**	**1.75**	**42**	*e*Pn		**Pn**	**06 23 52.7**	**+1.0**

*ISCJB **08** 06:31:32.4±1.1,5°.84S±0°.08×147°.0E±0°.2,h78km,mb3.9/5, Error ellipse: s-maj=27.7km s-min=11.3km az=177.7*
*IDC **08** 06:31:33.2±5.1,5°.83S×147°.09E,h71km±48km,mb3.8/5, mb1 4.0/7,mb1mx3.6/30,mbtmp4.1/7,ML3.3/2,MS3.2/1, Ms1 3.1/1,ms1mx2.4/36,Error ellipse: s-maj=45.2km s-min=27.7km az=128.0*

ISC 08 06:31:33.9±1.1,5°.83S±0°.10×147°.0E±0°.3,h78km,n8, σ0s74/10,mb3.8/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.56**	**178**	P		**Pn**	**06 32 27.7**	**+0.9**
	21nm,0.3s,baz=305,slow=16,SNR=25							
PMG				S		**Sn**	**06 33 07.0**	**-0.8**
	15nm,0.3s,baz=20,slow=20,SNR=5.6							
WRA	**Warramunga Arr**	**18.69**	**220**	P		**P**	**06 35 45.6**	**-0.6**
	0.4nm,0.3s,baz=40,slow=12,SNR=18							
WRA				PcP		**PcP**	**06 40 12.7**	**+1.1**
	baz=33,slow=1.8,SNR=4.8							
ASAR	**Alice Springs**	**21.78**	**214**	P		**P**	**06 36 19.2**	**-0.3**
	0.6nm,0.4s,baz=54,slow=9.0,SNR=12							
FITZ	**Fitzroy Crossi**	**24.19**	**238**	P		**P**	**06 36 43.4**	**+0.2**
	9.2nm,0.8s,baz=76,slow=7.9,SNR=22							
STKA	**Stephens Creek**	**26.41**	**190**	P		**P**	**06 37 03.0**	**-0.3**
	2.6nm,0.8s,baz=16,slow=8.4,SNR=3.9							
STKA				LR		LR	06 50 12.2	
	comp=Z,52nm,18.6s,baz=235,slow=42							
NRIK	**Noril'sk**	**85.12**	**342**	P		**P**	**06 44 01.0**	**+0.1**
	2.3nm,0.5s,baz=162,slow=2.5,SNR=4.6							
ILAR	**Eielson Array**	**85.31**	**23**	P		**P**	**06 44 01.2**	**-0.8**
	0.6nm,0.6s,baz=249,slow=4.6,SNR=8.9							
TORD	**Torodi Ar. Bea**	**145.08**	**285**	PKPbc		**PKPbc**	**06 51 03.2**	**+0.2**
	0.1nm,0.3s,baz=74,slow=3.6,SNR=4.1							

*CASC **08** 06:35:12.8±2.3,5°.21N×82°.77W,h0km±42km,MD4.5, mb4.6(NEIC)*
*IDC **08** 06:35:14.8±0.7,5°.09N×82°.57W,h0km,mb4.1/12, mb1 4.4/18,mb1mx4.3/33,mbtmp4.3/18,ML3.8/5,MS4.1/31, Ms1 4.1/31,ms1mx4.1/38,Error ellipse: s-maj=21.4km s-min=13.0km az=42.0*
*ISCJB **08** 06:35:15.9±0.3,5°.07N±0°.04×82°.47W±0°.03,h12km, mb4.5/85,MS4.1/26,Error ellipse: s-maj=6.0km s-min=3.3km az=23.1*
*GCMT **08** 06:35:20.7±0.2,5°.03N×82°.63W,h24km,MW5.2/107, Moment Tensor Solution. s64,c88; s107,c180; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.45±.18; Mθθ=0.45±.14; Mφφ=0.00±.18; Mrθ=0.65±.20; Mθφ=7.19±.14; Mφr=0.28±.22; Best double couple: M0=7.22600×10^16 NP1:φs=91.00000°,δ88.00000°,λ5.00000°. NP2: φs=1.00000°,δ85.00000°,λ178.00000°. Principal axes: T 7.4720, Plg5.0000°, Azm316.0000°; N -0.4920, Plg85.0000°, Azm111.0000°; P -6.9800, Plg2.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 06:35:20.7±0.9,5°.00N×82°.50W,h36km±9km,mb4.6/82 Error ellipse: s-maj=9.1km s-min=6.3km az=46.0*

ISC 08 06:35:17.4±0.4,5°.07N±0°.05×82°.59W±0°.06,h12km,n181, σ1s95/156,mb4.5/85,MS4.1/26,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AZU	**Azuero**	**3.55**	**40**	*e*P		**Pn**	**06 36 09.8**	**-2.5**
TBS2		**3.70**	**359**	*e*P		**Pn**	**06 36 10.0**	**-4.6**
BRU2	**Volcan**	**3.71**	**358**	*e*P		Pn	06 36 08.6	-6.0
QCR	**Quepos**	**4.61**	**340**	*e*P		Pn	06 36 20.5	-6.3
QCR				*e*S		**Sn**	**06 37 14.6**	**-5.8**
BUS	**Buena Vista**	**4.61**	**345**	*e*P		**Pn**	**06 36 23.6**	**-3.7**
BUS				*e*S		**Sn**	**06 37 15.7**	**-5.4**
GRGC	**Isla de Gorgon**	**4.86**	**115**	*e*P		**Pn**	**06 36 25.9**	**-4.5**
URSC	**Urasca**	**4.88**	**346**	*e*P		**Pn**	**06 36 26.2**	**-4.7**
URSC				*e*S		**Sn**	**06 37 24.9**	**-2.5**
BCIP	**Isla Barro Col**	**4.90**	**34**	*e*P		**Pn**	**06 36 28.4**	**-2.5**
BCIP	**Isla Barro Col**	**4.90**	**34**	*e*P		**Pn**	**06 36 27.9**	**-3.0**
BCIP	**Isla Barro Col**	**4.90**	**34**	*e*Pn		**Pn**	**06 36 30.5**	**-0.5**
HDC	**Heredia**	**5.13**	**343**	*e*P		Pn	06 36 29.3	-4.9
HDC	**Heredia**	**5.13**	**343**	*e*Pn		Pn	06 36 28.5	-5.8
CGA2	**Cerro Gallo 2**	**5.26**	**339**	*e*P		Pn	06 36 30.2	-5.8
CGA2				*e*S		**Sn**	**06 37 30.0**	**-6.7**
SOLC	**Bahia Solano**	**5.28**	**77**	*e*P		**Pn**	**06 36 32.5**	**-3.6**
MALC	**Bahia Malaga**	**5.34**	**101**	*e*P		**Pn**	**06 36 34.8**	**-2.2**
UPD2	**Meteti**	**5.71**	**52**	*e*P		**Pn**	**06 36 41.4**	**-0.6**
CAPC	**Capurgana**	**6.29**	**55**	*e*P		**Pn**	**06 36 49.4**	**-0.6**
OTAV	**Otavalo**	**6.33**	**139**	*e*P		**Pn**	**06 36 48.9**	**-2.1**
OTAV	**Otavalo**	**6.33**	**139**	*e*Pn		**Pn**	**06 36 48.1**	**-2.9**
CRUC	**La Cruz**	**6.61**	**122**	*e*P		**Pn**	**06 36 53.7**	**-1.1**
DBBC	**Dabeiba**	**6.63**	**73**	*e*P		**Pn**	**06 36 53.9**	**-0.9**
TOLC	**Tolima**	**7.25**	**93**	*e*P		**Pn**	**06 37 01.4**	**-2.2**
NORC	**Norcasia**	**7.70**	**86**	*e*P		**Pn**	**06 37 09.3**	**-0.2**
PRAC	**Prado**	**7.79**	**100**	*e*P		**Pn**	**06 37 13.3**	**+2.5**
PRAC	**Prado**	**7.79**	**100**	*e*Pn		**Pn**	**06 37 11.6**	**+0.9**
MOTC	**Monteria, Cord**	**7.80**	**61**	*e*P		**Pn**	**06 37 11.6**	**+0.8**
ROSC	**El Rosal**	**8.24**	**91**	Pn		**Pn**	**06 37 15.9**	**-1.3**
	0.9nm,0.3s,baz=115,slow=18,SNR=3.2							
ROSC				Sn		**Sn**	**06 38 51.5**	**+1.1**
	baz=106,slow=23,SNR=1.5							
ROSC				LR		LR	06 40 07.5	
	comp=Z,502nm,20.1s,baz=36,slow=36							
ROSC	**El Rosal**	**8.24**	**91**	*e*Pn		**Pn**	**06 37 20.8**	**+3.6**
ROSC				Sn		**Sn**	**06 38 51.5**	**+1.1**
SJCC	**San Jacinto, C**	**8.77**	**56**	*e*P		**Pn**	**06 37 23.4**	**-0.7**
SJAC	**San Juan de Ar**	**8.79**	**101**	*e*P		**Pn**	**06 37 24.6**	**0.0**
VILC	**Villavicencio,**	**8.91**	**96**	*e*P		**Pn**	**06 37 28.0**	**+1.7**
RUSC	**La Rusia**	**9.49**	**85**	*e*P		**Pn**	**06 37 37.6**	**+3.1**
PAYG	**Puerto Ayora**	**9.57**	**234**	*e*Pn		**Pn**	**06 37 36.0**	**+0.8**
OCAC	**Ocana**	**9.73**	**71**	*e*P		**Pn**	**06 37 36.5**	**-0.9**
TGUH	**Tegucigalpa,Un**	**10.06**	**333**	*e*Pn		**Pn**	**06 37 44.6**	**+2.8**
SDV	**Santo Domingo**	**12.45**	**72**	Pn		**Pn**	**06 38 14.5**	**-0.3**
	2.8nm,0.3s,baz=248,slow=12,SNR=6.8							
SDV				Sn		**Sn**	**06 40 34.2**	**+0.5**
	1.8nm,0.3s,baz=80,slow=18,SNR=2.2							
ATAH	**Atahualpa**	**12.82**	**161**	Pn		**Pn**	**06 38 19.6**	**-0.4**
	1.3nm,0.3s,baz=21,slow=5.9,SNR=12							
ATAH				LR		LR	06 42 51.3	
	comp=Z,4μm,19.5s,baz=336,slow=36							
CCIG	**Comitan**	**14.56**	**321**	*e*Pn		**Pn**	**06 38 47.1**	**+3.5**
TEIG	**Tepich**	**16.05**	**340**	LR		LR	06 44 40.1	
	comp=Z,508nm,18.5s,baz=181,slow=35							
CMIG	**Matias Romero**	**16.97**	**316**	Pn		**Pn**	**06 39 13.0**	**-1.8**
	0.1nm,0.3s,baz=144,slow=7.3,SNR=5.0							
CMIG				LR		LR	06 44 34.6	
	comp=Z,1μm,21.9s,baz=122,slow=33							
SDDR	**Presa de Saban**	**17.68**	**38**	*e*Pn		**P**	**06 39 25.8**	**+1.1**
	23nm,0.8s							
NNA	**Nana**	**17.88**	**161**	P		**Pn**	**06 39 25.8**	**-0.4**
	1.1nm,0.3s,baz=348,slow=8.3,SNR=8.9							
NNA				LR		LR	06 45 45.0	
	comp=Z,642nm,20.1s,baz=320,slow=35							
NNA	**Nana**	**17.88**	**161**	*e*Pn		**P**	**06 39 26.6**	**-0.3**
	143nm,0.9s							
PCRV	**Puerto La Cruz**	**18.50**	**73**	P		**P**	**06 39 32.8**	**-0.9**
	0.3nm,0.3s,baz=224,slow=9.0,SNR=3.8							
PCRV				LR		LR	06 48 16.6	
	comp=Z,786nm,20.4s,baz=268,slow=42							
SJG	**San Juan**	**20.64**	**50**	P		**P**	**06 39 56.8**	**-0.3**
	7.8nm,0.4s,baz=261,slow=8.2,SNR=8.0							
SJG				LR		LR	06 46 50.7	
	comp=Z,301nm,21.2s,baz=232,slow=34							
SJG	**San Juan**	**20.64**	**50**	*e*P		**P**	**06 39 57.9**	**+0.8**
	38nm,0.9s							
HUMP	**Col San Antoni**	**20.89**	**50**	*e*P		**P**	**06 39 58.6**	**-1.1**
	35nm,0.8s							
CBYP	**Canovanas**	**20.96**	**50**	*e*P		**P**	**06 40 01.7**	**+1.1**
	68nm,1.2s							
PTGA	**Pitinga**	**23.32**	**104**	P		**P**	**06 40 24.3**	**-1.3**
	4.5nm,0.8s,baz=307,slow=9.9,SNR=5.9							
PTGA				LR		LR	06 49 36.7	
	comp=Z,600nm,18.1s,baz=282,slow=37							
PTGA	**Pitinga**	**23.32**	**104**	*e*P		**P**	**06 40 25.0**	**-0.6**
	43nm,1.6s							
SAML	**Samuel**	**23.83**	**126**	*e*P		**P**	**06 40 27.5**	**-3.2**
	39nm,1.1s							
LPAZ	**La Paz**	**25.59**	**146**	P		**P**	**06 40 46.8**	**-0.6**
	4.8nm,0.6s,baz=330,slow=7.1,SNR=26							
LPAZ				LR		LR	06 52 00.2	
	comp=Z,1μm,19.7s,baz=306,slow=39							
LPAZ	**La Paz**	**25.59**	**146**	*e*P		**P**	**06 40 46.8**	**-0.6**
	16nm,0.9s							
ZAIG	**Zacatecas**	**26.12**	**314**	*e*P		**P**	**06 40 53.0**	**+1.2**
	24nm,1.6s							
LRAL	**Lakeview Retre**	**28.13**	**352**	*e*P		**P**	**06 41 08.6**	**-0.8**
	8.9nm,0.8s							
SIV	**San Ignacio**	**29.85**	**135**	P		**P**	**06 41 22.9**	**-2.1**
	2.0nm,0.7s,baz=327,slow=9.2,SNR=4.1							
SIV				LR		LR	06 53 30.9	
	comp=Z,2μm,19.8s,baz=328,slow=37							
SWET	**Sewanee**	**30.16**	**355**	*e*P		**P**	**06 41 27.1**	**-0.4**
	3.3nm,1.2s							
PLAL	**Pickwick Lake**	**30.20**	**351**	*e*P		**P**	**06 41 26.1**	**-1.7**
	6.9nm,1.0s							
WVT	**Waverly**	**31.29**	**352**	*e*P		**P**	**06 41 35.4**	**-1.9**
	9.8nm,0.8s							
TXAR	**Lajitas Array**	**31.31**	**323**	P		**P**	**06 41 36.0**	**-1.8**
	0.7nm,0.9s,baz=134,slow=8.9,SNR=5.7							
TXAR				LR		LR	06 54 14.5	
	comp=Z,218nm,20.5s,baz=0.0,slow=36							
TX31	**Lajitas Ar. Si**	**31.31**	**323**	*e*P		**P**	**06 41 37.9**	**+0.1**
X301	**Greenbrier Sit**	**31.36**	**344**	*e*P		**P**	**06 41 37.1**	**-1.0**
	6.8nm,1.0s							
WHAR	**Wooly Hollow**	**31.38**	**345**	*e*P		**P**	**06 41 36.9**	**-1.4**
	6.6nm,0.8s							
X201	**Greenbrier Sit**	**31.41**	**345**	*e*P		**P**	**06 41 36.6**	**-1.9**
	7.4nm,0.8s							
PBMO	**Poplar Bluff**	**32.37**	**348**

NV01	Mina Array Sit	46.41 321	*eP*	P	06 43 42.7	-1.6
NVAR	Mina Array Bea	46.41 321	P	P	06 43 45.0	+0.7
	5.6nm,0.8s,baz=134,slow=7.0,SNR=19					
NVAR			LR	LR	07 03 22.0	
	comp=Z,470nm,18.6s,baz=98,slow=36					
BMN	Battle Mountai	46.98 324	*eP*	P	06 43 49.1	+0.4
	8.9nm,1.0s					
DGMT	Dagmar	47.02 340	*eP*	P	06 43 48.8	+0.1
	9.5nm,0.8s					
WAKR	Walker	47.17 320	*eP*	P	06 43 51.5	+1.3
HLID	Hailey	47.51 329	*eP*	P	06 43 52.8	0.0
	6.4nm,1.4s					
BOZ	Bozeman (W)	47.67 333	*eP*	P	06 43 53.6	-0.3
	2.8nm,0.8s					
WVOR	Wild Horse Val	49.07 325	*eP*	P	06 44 02.2	-2.5
	16nm,1.3s					
MSO	Missoula	49.62 332	*eP*	P	06 44 08.6	-0.3
	11nm,1.4s					
SCHQ	Schefferville	51.23 12	P	P	06 44 21.3	+0.5
	7.5nm,1.0s,baz=148,slow=4.9,SNR=7.3					
SCHQ			LR	LR	07 04 58.2	
	comp=Z,115nm,21.9s,baz=246,slow=35					
SCHQ	Schefferville	51.23 12	*eP*	P	06 44 21.8	+1.1
	14nm,1.1s					
NEW	Newport	52.15 331	LR	LR	07 07 32.4	
	comp=Z,186nm,19.9s,baz=131,slow=37					
RKT	Rikitea	58.30 239	*e*LR	LR	07 02 19.2	
	623nm,30.5s					
TAOE	Nuku Hiva Isla	59.03 257	*e*LR	LR	07 02 41.0	
	310nm,25.7s					
BBB	Bella Bella	60.08 330	LR	LR	07 13 45.4	
	comp=Z,126nm,19.2s,baz=148,slow=38					
YKA	Yellowknife Ar	61.98 344	P	P	06 45 34.6	-2.4
	2.4nm,0.9s,baz=138,slow=6.4,SNR=19					
YKA			LR	LR	07 14 03.6	
	comp=Z,10nm,19.4s,baz=180,slow=38					
YKB5	Yellowknife Ar	61.98 344	*eP*	P	06 45 38.9	+1.9
DLBC	Dease Lake	64.60 335	LR	LR	07 16 42.4	
	comp=Z,240nm,20.2s,baz=112,slow=38					
DLBC	Dease Lake	64.60 335	*eP*	P	06 45 57.8	+3.1
	6.8nm,0.9s					
PPT	Papeete	69.81 249	LR	LR	07 10 55.5	
	comp=Z,150nm,20.1s,baz=94,slow=31					
PPT2	Papeete2	69.82 249	*e*LR	LR	07 07 43.8	
	268nm,27.2s					
DAWY	Dawson	71.42 337	*eP*	P	06 46 37.1	-0.3
	4.6nm,0.9s					
INK	Inuvik	71.65 342	*eP*	P	06 46 41.5	+2.9
	7.2nm,0.9s					
EGAK	Eagle	72.43 337	*eP*	P	06 46 45.9	+2.5
	3.7nm,0.8s					
SUMG	Summit	72.60 13	*eP*	P	06 46 45.5	+0.8
	5.3nm,0.9s					
IL1	Eielson Array	74.67 336	*eP*	P	06 46 55.8	-0.7
ILAR	Eielson Array	74.67 336	P	P	06 46 55.2	-1.4
	2.1nm,0.7s,baz=116,slow=4.7,SNR=23					
ILAR			LR	LR	07 22 45.3	
	comp=Z,132nm,20.1s,baz=130,slow=38					
ILB	Eielson Array	74.67 336	*eP*	P	06 46 58.8	+2.2
RND	Reindeer	75.00 335	*eP*	P	06 47 00.8	+2.1
	8.8nm,0.8s					
TRF	Thorofare Moun	75.63 335	*eP*	P	06 47 04.7	+2.4
	41nm,2.0s					
BPAW	Bear Paw Mtn.	76.12 335	*eP*	P	06 47 06.0	+1.0
	5.5nm,0.8s					
PPLA	Purkeypile	76.29 334	*eP*	P	06 47 07.4	+1.3
COLD	Coldfoot	76.79 338	*eP*	P	06 47 12.3	+3.6
	5.7nm,1.0s					
ESDC	Sonseca Array	78.03 51	P	P	06 47 14.9	-1.3
	0.4nm,0.3s,baz=274,slow=5.7,SNR=4.5					
ESDC			LR	LR	07 15 54.4	
	comp=Z,36nm,21.4s,baz=285,slow=31					
TORD	Torodi Ar. Bea	83.31 77	P	P	06 47 43.0	-1.9
	0.5nm,0.9s,baz=282,slow=5.7,SNR=5.6					
TORD			LR	LR	07 23 36.4	
	comp=Z,70nm,20.8s,baz=260,slow=35					
NOA	NORSAR Array B	87.45 29	LR	LR	07 22 11.2	
	comp=Z,37nm,22.0s,baz=220,slow=32					
KEST	Kesra	88.64 54	LR	LR	07 28 43.7	
	comp=Z,63nm,18.1s,baz=232,slow=36					
GERES	GERESS Array B	90.36 41	LR	LR	07 22 33.9	
	comp=Z,60nm,20.5s,baz=269,slow=31					
AFI	Afiamalu	90.42 256	LR	LR	07 21 35.2	
	comp=Z,89nm,18.2s,baz=85,slow=31					
ARCES	ARCESS Array B	91.53 20	LR	LR	07 23 19.9	
	comp=Z,46nm,21.4s,baz=285,slow=32					
VYHS	Vyhne	93.77 41	*eP*	P	06 48 37.7	+3.2
FINES	FINESS Array B	94.37 27	LR	LR	07 28 00.8	
	comp=Z,57nm,21.1s,baz=254,slow=34					
AKASG	Malin Array Be	99.65 37	LR	LR	07 29 36.8	
	comp=Z,63nm,21.8s,baz=300,slow=33					
H11N3	WAKE ISLAND Hy	107.42 292	T	T	08 49 41.0	
	baz=79,slow=75,SNR=33					
H11N2	WAKE ISLAND Hy	107.43 292	T	T	08 49 41.2	
	baz=79,slow=75,SNR=25					
H11N1	WAKE ISLAND Hy	107.44 292	T	T	08 49 41.1	
	baz=79,slow=75,SNR=43					
H11S2	WAKE ISLAND Hy	107.86 291	T	T	08 50 15.4	
	baz=79					
H11S1	WAKE ISLAND Hy	107.86 291	T	T	08 50 11.6	
	baz=79,slow=74					
H11S3	WAKE ISLAND Hy	107.87 291	T	T	08 50 14.6	
	baz=79,slow=74					
KURK	Kurchatov	122.13 14	PKP	PKPdf	06 54 13.8	+1.7
KURBB	Kurchatov Arra	122.19 14	PKP	PKPdf	06 54 13.8	+1.5
	0.2nm,0.3s,baz=336,slow=2.3,SNR=5.5					
MKAR	Makanchi Array	126.65 13	PKP	PKPdf	06 54 20.6	-0.5
	0.3nm,0.6s,baz=1.1,slow=2.3,SNR=3.0					
SONM	Songino Array	126.73 352	PKP	PKPdf	06 54 21.4	+0.1
	1.0nm,0.6s,baz=31,slow=2.4,SNR=2.9					
ASAR	Alice Springs	140.29 239	PKP	PKPdf	06 54 44.6	-2.7
	0.7nm,0.8s,baz=140,slow=4.5,SNR=4.7					
WRA	Warramunga Arr	141.16 244	PKhKP	PKPpre	06 54 43.0	
	1.0nm,1.1s,baz=109,slow=2.8,SNR=3.6					
WRA			PKP	PKPdf	06 54 48.3	-0.6
	1.0nm,0.7s,baz=108,slow=2.2,SNR=6.5					
H01W1	Cape Leeuwin H	146.52 205	T	T	09 39 18.9	
	baz=149					
H01W2	Cape Leeuwin H	146.53 205	T	T	09 39 15.4	
	baz=149					
H01W3	Cape Leeuwin H	146.54 205	T	T	09 39 15.2	
	baz=149					
FITZ	Fitzroy Crossi	149.53 243	PKPbc	PKPbc	06 55 07.5	-0.3
	3.0nm,0.9s,baz=63,slow=4.1,SNR=4.6					

IDC 08 06:50:17.6±4.5, 35°28N×140°09E, h90km±23km, mb3.1/3, mb1 3.2/4, mb1mx3.0/54, mbtmp3.4/4, MS2.4/1, Ms1 2.4/1, ms1mx2.2/14, Error ellipse: s-maj=87.6km s-min=13.5km az=74.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	Matsushiro Arr	1.98 310		P	Pn	06 50 49.7	+0.2
	3.5nm,0.3s,baz=129,slow=9.6,SNR=11						
MAT	Matsushiro	1.98 310		P	Pn	06 50 50.0	+0.5
MAT				*e*S	Sn	06 51 23.4	+10
JHJ	Hachijo jima 2	2.17 187		P	Pn	06 50 50.1	-1.9
	8.1nm,0.3s,baz=352,slow=14,SNR=3.5						
JHJ				S	Sn	06 51 19.1	+0.8
	10nm,0.3s,baz=48,slow=14,SNR=3.7						
JHJ				LR	LR	06 51 47.0	
	comp=Z,91nm,19.6s,baz=2.5,slow=41						
H11N2	WAKE ISLAND Hy	28.26 116		T	T	07 25 02.0	
	baz=311,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	28.27 116		T	T	07 25 05.4	
	baz=311,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	28.28 116		T	T	07 25 04.6	
	baz=311,slow=75,SNR=10						
H11S3	WAKE ISLAND Hy	28.89 118		T	T	07 25 47.3	
	baz=312,slow=75,SNR=19						
H11S1	WAKE ISLAND Hy	28.89 118		T	T	07 25 48.3	
	baz=312,slow=75,SNR=24						
H11S2	WAKE ISLAND Hy	28.91 118		T	T	07 25 47.6	
	baz=312,slow=75,SNR=14						
MKAR	Makanchi Array	44.16 303		P	P	06 58 16.3	-1.0
	0.2nm,0.5s,baz=81,slow=9.2,SNR=4.9						
KURBB	Kurchatov Arra	46.25 309		P	P	06 58 34.1	+0.5
	0.3nm,0.5s,baz=86,slow=7.8,SNR=5.6						
WRA	Warramunga Arr	55.19 187		P	P	06 59 41.4	+0.3
	0.5nm,1.0s,baz=2.9,slow=7.6,SNR=5.7						

IDC 08 06:57:50.5±1.2, 35°44N×141°29E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/49, mbtmp3.4/6, ML3.2/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/27, Error ellipse: s-maj=32.6km s-min=21.2km az=91.0

ISCJB 08 06:57:53.2±0.9, 35°51N±0°05×141°24E±0°10, h33km, mb3.4/4, Error ellipse: s-maj=11.7km s-min=6.6km az=160.2

JMA 08 06:57:54.3±0.1, 35°56N×141°07E, h36km±1km, M3.3

ISC 08 06:57:54.8±1.1, 35°54N±0°06×141°1E±0°1, h33km, n19, σ1s77/15, mb3.3/4, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.25 311		⇓P	Pn	06 58 01.3	-0.7
CHOJ				*e*S	Sn	06 58 06.3	-0.4
BSO4	Boso 4	0.82 228		P	Pb	06 58 09.7	-1.0
BSO3	Boso 3	0.88 213		⇑P	Pb	06 58 10.0	-1.4
BSO1	Boso 1	0.89 186		⇓P	Pb	06 58 10.0	-1.5
JYT	Yasato	1.00 314		P	Pn	06 58 12.0	-0.5
MJAR	Matsushiro Arr	2.54 294		Pn	Pb	06 58 36.0	-3.7
	3.3nm,0.3s,baz=123,slow=8.8,SNR=27						
MAT	Matsushiro	2.54 294		P	Pn	06 58 35.6	+1.9
MAT				*e*S	Sn	06 59 06.6	+3.0
JHJ	Hachijo jima 2	2.65 204		Pn	Pn	06 58 34.5	-0.7
	16nm,0.3s,baz=176,slow=23,SNR=6.5						
JHJ				Sn	Sn	06 59 06.2	0.0
	38nm,0.3s,baz=64,slow=23,SNR=8.4						
USRK	Ussuriysk Ar.	11.11 324		LR	LR	07 03 54.2	
	comp=Z,39nm,21.1s,baz=134,slow=32						
H11N2	WAKE ISLAND Hy	27.65 118		T	T	07 32 49.9	
	baz=310,slow=75,SNR=36						
H11N1	WAKE ISLAND Hy	27.65 118		T	T	07 32 54.3	
	baz=310,slow=75,SNR=19						
H11N3	WAKE ISLAND Hy	27.66 118		T	T	07 32 44.6	
	baz=310,slow=75,SNR=35						
H11S3	WAKE ISLAND Hy	28.30 120		T	T	07 33 32.2	
	baz=312,slow=75,SNR=65						
H11S1	WAKE ISLAND Hy	28.30 120		T	T	07 33 27.9	
	baz=312,slow=75,SNR=91						
H11S2	WAKE ISLAND Hy	28.32 120		T	T	07 33 29.1	
	baz=312,slow=75,SNR=52						
MKAR	Makanchi Array	44.70 303		P	P	07 06 06.3	+1.6
	0.2nm,0.5s,baz=89,slow=9.3,SNR=3.0						
ILAR	Eielson Array	50.90 32		P	P	07 06 52.5	+0.2
	0.3nm,0.8s,baz=275,slow=5.9,SNR=4.1						
WRA	Warramunga Arr	55.55 188		P	P	07 07 26.3	-0.7
	0.6nm,0.6s,baz=2.8,slow=7.6,SNR=10						
ASAR	Alice Springs	59.28 188		P	P	07 07 54.2	+0.9
	0.2nm,0.8s,baz=10,slow=8.9,SNR=3.5						

ISK 08 07:26:55.7, 39°14N×27°50E, h11km, MD2.7

ISCJB 08 07:26:56.3±0.6, 39°14N±0°04×27°51E±0°04, h7km±5km, Error ellipse: s-maj=6.0km s-min=4.7km az=7.5

DDA 08 07:26:56.9, 39°07N×27°64E, h7km, Ml2.0

CSEM 08 07:26:56.5±0.2, 39°13N×27°51E, h10km, ML2.0, Error ellipse: s-maj=3.7km s-min=3.2km az=163.0

ISC 08 07:26:56.6±1.0, 39°13N±0°03×27°51E±0°02, h12km±8km, n30, σ0s53/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	Akhisar	0.34 136		P	Pg	07 27 03.1	-0.4
AKHS				S	Sb	07 27 09.1	-1.0
AKHS	Akhisar	0.34 136		*i* P	Pg	07 27 03.1	-0.4
AKHS				*i* S	Sb	07 27 09.1	-1.0
AKS	Akhisar	0.34 137		PG	Pg	07 27 03.2	-0.2
AKS				*e*SG	Sg	07 27 08.9	+0.9
AKS	Akhisar	0.34 137		*i* Pg	Pg	07 27 03.2	-0.2
AKS				*e*Sg	Sg	07 27 08.9	+0.9
DKL	Dikili	0.47 263		*e*PG	Pg	07 27 05.3	-0.6
DKL				*e*SG	Sg	07 27 12.3	+0.1
DKL	Dikili	0.47 263		*e*Pg	Pg	07 27 05.3	-0.6
DKL				*e*Sg	Sg	07 27 12.3	+0.1
BALB	Balikesir	0.59 29		*e*PG	Pg	07 27 07.7	-0.3
BALB	Balikesir	0.59 29		*e*Pg	Pg	07 27 07.7	-0.3
BALY	Balya	0.62 8		P	Pb	07 27 09.3	-0.1
BALY	Balya	0.62 8		*i* P	Pb	07 27 09.3	-0.1
BALY				*i* S	Sn	07 27 21.0	-0.1
IZM	Izmir	0.75 195		*e*PG	Pg	07 27 11.0	-0.2
IZM	Izmir	0.75 195		*e*Pg	Pg	07 27 11.0	-0.2
DEMI	Demirci	0.94 95		P	Pb	07 27 15.3	+0.4
DEMI				S	Sb	07 27 27.9	+0.5
DEMI	Demirci	0.94 95		*i* P	Pb	07 27 15.3	+0.4
DEMI				*i* S	Sb	07 27 27.9	+0.5
DST	Dursunbey	0.98 61		*e*PG	Pg	07 27 14.9	-0.6
DST	Dursunbey	0.98 61		*e*Pg	Pg	07 27 14.9	-0.6
URLA	Izmir	1.05 223		P	Pn	07 27 17.6	+0.4
URLA	Izmir	1.05 223		*i* P	Pn	07 27 17.6	+0.4
URLA				*i* S	Sn	07 27 33.2	+1.5
KULA	Kula-Manisa	1.09 124		*e*PN	Pg	07 27 16.6	-0.8
KULA	Kula-Manisa	1.09 124		*e*Pn	Pg	07 27 16.7	-0.8
AYDB	Zeytinkoy-Aydi	1.22 166		*e*PN	Pb	07 27 19.1	-0.5
AYDB	Zeytinkoy-Aydi	1.22 166		*e*Pn	Pb	07 27 19.1	-0.5
SIGR	SIGRI	1.29 274		*e*PN	Pn	07 27 20.7	+0.3
SIGR	SIGRI	1.29 274		*e*Pn	Pn	07 27 20.7	+0.3
AYDN	Tasoluk	1.49 169		P	Pn	07 27 23.2	-0.1
AYDN				S	Sn	07 27 42.7	-0.1
AYDN	Tasoluk	1.49 169		*i* P	Pn	07 27 23.2	-0.1
AYDN				*i* S	Sn	07 27 42.7	-0.1
TVSB	Tavsanli	1.55 77		*e*PN	Pn	07 27 23.9	-0.2
TVSB	Tavsanli	1.55 77		*e*Pn	Pn	07 27 23.9	-0.2
KHAL	Karahalli	1.72 115		P	Pn	07 27 26.8	+0.3
KHAL				S	Sb	07 27 49.9	0.0
KHAL	Karahalli	1.72 115		*i* P	Pn	07 27 26.8	+0.3
KHAL				*i* S	Sb	07 27 49.9	0.0

WEL 08 07:28:34.4±0.4, 37°08S×179°18W, h33km, ML3.7/7, Error ellipse: s-maj=5.6km s-min=4.6km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	Waiomatatini S	2.05 248		PN	Pn	07 29 05.9	-0.7
MXZ	Matakaoa Point	2.06 256		PN	Pn	07 29 05.6	-1.2
MXZ				SN	Sn	07 29 28.8	-2.4
PUZ	Puketiti	2.27 243		PN	Pn	07 29 08.6	-1.0
PUZ				SN	Sn	07 29 35.1	-1.3
PUZ				AML	AML	07 29 36.8	
PKGZ	Pakihiroa	2.33 249		PN	Pn	07 29 09.2	-1.2
TWGZ	Tauwhareparae	2.51 243		PN	Pn	07 29 12.6	-0.3
TWGZ				SN	Sn	07 29 41.4	-1.0
HAZ	Te Kaha	2.51 253		PN	Pn	07 29 12.5	-0.4
MWZ	Matawai	2.90 243		PN	Pn	07 29 17.5	-0.7
MWZ				SN	Sn	07 29 49.3	-2.7
RIGZ	Rimuhau	2.92 235		PN	Pn	07 29 17.5	-1.0
PRGZ	Paritu Road	2.96 231		PN	Pn	07 29 18.2	-0.9
RAGZ	Rawiri	3.05 241		PN	Pn	07 29 20.0	-0.3
RAGZ				SN	Sn	07 29 53.8	-2.0
MHGZ	Mahia Peninsul	3.10 227		PN	Pn	07 29 19.7	-1.2
KNZ	Kokohu	3.15 231		PN	Pn	07 29 20.3	-1.4
URZ	Urewera	3.17 247		PN	Pn	07 29 21.8	-0.2
URZ				SN	Sn	07 29 57.1	-1.5
URZ				AML	AML	07 29 58.6	
SNGZ	Shannon Statio	3.24 237		PN	Pn	07 29 22.1	-0.8
ARHZ	Aropaoanui	3.72 233		PN	Pn	07 29 28.9	-0.7
NMHZ	Naumai	3.75 236		PN	Pn	07 29 29.5	-0.6
BKZ	Black Stump Fm	4.00 237		PN	Pn	07 29 32.1	-1.3
MCHZ	McNeill Hill	4.01 233		PN	Pn	07 29 33.0	-0.6
KAHZ	Kahuranaki	4.12 228		PN	Pn	07 29 33.3	-1.7
KWHZ	Kaweka Forest	4.18 235		PN	Pn	07 29 34.6	-1.3
PXZ	Pawanui	4.28 225		PN	Pn	07 29 34.8	-2.4
BHHZ	Black Hill Sta	4.45 236		PN	Pn	07 29 38.4	-1.3
TSZ	Takapari Road	4.83 230		PN	Pn	07 29 42.1	-2.8
BFZ	Birch Farm	5.07 223		PN	Pn	07 29 44.6	-3.4
MRZ	Mangatainoka R	5.43 227		PN	Pn	07 29 49.9	-3.1

ISCJB 08 07:33:03.7±0.5, 18°1S±0°1×178°22W±0°09, h590km, mb4.2/19, Error ellipse: s-maj=17.7km s-min=7.9km az=149.7

IDC 08 07:33:04.0±1.7, 17°97S×178°30W, h572km±19km, mb3.7/17, mb1 4.0/19, mb1mx3.9/29, mbtmp4.6/19, Error ellipse: s-maj=18.2km s-min=11.2km az=142.0

ISC 08 07:33:04.4±0.5, 18°2S±0°1×178°12W±0°09, h590km, n93, σ0s98/97, mb4.3/19, 3C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.44 56		P	P	07 34 56.5	-1.7
	7.5nm,0.3s,baz=216,slow=1.8,SNR=9.7						
AFI				S	S	07 36 27.6	-3.7
	7.2nm,0.3s,baz=210,slow=17,SNR=4.5						
DZM	Mont Dzumac	15.00 253		P	P	07 36 12.7	-0.3
	1.2nm,0.3s,baz=262,slow=23,SNR=15						
URZ	Urewera	20.43 191		P	P	07 37 00.1	-2.1
	9.6nm,0.5s,baz=270,slow=0.9,SNR=7.5						
URZ				S	S	07 40 10.8	-3.5
	7.7nm,1.0s,baz=115,slow=17,SNR=3.1						
CTA	Charters Tower	33.67 261		P	P	07 38 57.4	-0.6
	8.8nm,0.6s,baz=91,slow=12,SNR=9.0						
STKA	Stephens Creek	38.73 242		P	P	07 39 39.8	+0.4
	23nm,0.9s,baz=55,slow=5.5,SNR=17						
WRA	Warramunga Arr	44.85 260		P	P	07 40 26.8	-0.8
	14nm,0.7s,baz=97,slow=7.6,SNR=219						
WRA				PcP	PcP	07 41 56.7	+0.3
	3.6nm,0.8s,baz=90,slow=3.7,SNR=8.2						
WRA				S	S	07 46 21.4	-2.0
	1.0nm,0.9s,baz=92,slow=12,SNR=5.2						
ASAR	Alice Springs	44.98 254		P	P	07 40 28.6	+0.1
	56nm,0.7s,baz=87,slow=8.6,SNR=575						
ASAR				PcP	PcP	07 41 57.2	+0.4
	7.1nm,0.9s,baz=100,slow=3.7,SNR=11						
ASAR				S	S	07 46 23.1	-1.9
	1.7nm,0.8s,baz=91,slow=15,SNR=11						
VNDA	Vanda	60.19 185		P	P	07 42 18.2	+2.5
	1.0nm,0.8s,baz=335,slow=7.8,SNR=7.3						
MJAR	Matsushiro Arr	68.29 323		P	P	07 43 06.5	-1.0
	4.8nm,0.5s,baz=155,slow=6.1,SNR=14						
PETK	Petropavlovsk-	74.02 345		P	P	07 43 40.1	-0.5
	7.0nm,0.7s,baz=126,slow=7.4,SNR=9.2						
KSRS	Korea Array	75.09 318		P	P	07 43 47.9	+0.9
	1.6nm,0.6s,baz=126,slow=6.9,SNR=6.7						
USRK	Ussuriysk Ar.	77.00 326		P	P	07 43 57.8	+0.5
	1.7nm,0.7s,baz=112,slow=3.9,SNR=4.4						
NVAR	Mina Array Bea	79.44 44		P	P	07 44 12.2	+1.4
	4.5nm,0.9s,baz=232,slow=8.7,SNR=22						
CN2	Changchun	80.41 322	*eP*		P	07 44 15.7	+0.3
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
MAW	Mawson	83.69 200		P	P	07 44 33.4	+1.8
	comp=Z,3.4nm,0.7s,baz=161,slow=6.5,SNR=7.4						
TXAR	Lajitas Array	85.92 58		P	P	07 44 45.8	+2.5
	comp=Z,5.5nm,0.8s,baz=222,slow=6.2,SNR=58						
ILAR	Eielson Array	86.10 13		P	P	07 44 42.4	-0.8
	comp=Z,2.3nm,0.5s,baz=220,slow=5.1,SNR=35						
XAN	Xi'an	86.64 307		P	P	07 44 47.5	+1.0
XAN				pP	PcP	07 44 53.6	+5.5
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,20nm,1.0s						
PDAR	Pinedale Array	87.37 43		P	P	07 44 51.1	+1.1
	comp=Z,2.1nm,0.7s,baz=238,slow=2.8,SNR=16						
CMAR	Chiang Mai Arr	89.23 290		P	P	07 44 59.0	+0.2
	comp=Z,2.8nm,0.6s,baz=107,slow=2.9,SNR=19						
INK	Inuvik	92.09 15		P	P	07 45 10.1	-0.7
	comp=Z,2.8nm,0.6s,baz=209,slow=12,SNR=3.9						
YKA	Yellowknife Ar	94.47 25		P	P	07 45 21.9	0.0
	comp=Z,0.7nm,0.6s,baz=240,slow=4.1,SNR=9.5						
MKAR	Makanchi Array	109.53 314		PKiKP	PKiKP	07 50 27.9	-0.8
	comp=Z,0.9nm,0.6s,baz=98,slow=1.3,SNR=8.9						
ARCES	ARCESS Array B	126.64 350		PKP	PKPdf	07 51 00.5	-0.3
	comp=Z,6.9nm,0.9s,baz=3.8,slow=3.6,SNR=10						
GEYT	Alibeck	127.42 304		PKP	PKPdf	07 51 04.0	+0.7
	comp=Z,1.4nm,0.4s,baz=25,slow=4.5,SNR=4.9						
FINES	FINESS Array B	133.53 344		PKP	PKPdf	07 51 13.4	-0.6
	comp=Z,1.8nm,0.6s,baz=82,slow=4.0,SNR=7.3						
NB2	NORSAR Subarra	136.69 353		PKP	PKPpre	07 51 13.2	
	comp=Z,1.2nm,0.7s,baz=23,slow=3.7						
NOA	NORSAR Array B	136.69 353		PKhKP	PKPpre	07 51 13.1	
	comp=Z,0.8nm,0.7s,baz=22,slow=3.8,SNR=5.0						
NOA				PKP	PKiKP	07 51 21.2	-0.7
	comp=Z,0.3nm,0.6s,baz=13,slow=2.5,SNR=4.6						
HFS	Hagfors	137.25 351		PKiKP	PKPpre	07 51 11.4	
	comp=Z,0.7nm,0.3s,baz=45,slow=2.5,SNR=7.0						
HFS				PKP	PKPdf	07 51 21.7	+0.7
	comp=Z,2.2nm,0.7s,baz=180,slow=0.9,SNR=4.8						
AKASG	Malin Array Be	140.93 332		PKP	PKPdf	07 51 28.7	+0.7
	comp=Z,0.5nm,0.3s,baz=43,slow=2.8,SNR=5.5						
KSRV	Kasrt alli	142.81 306	*eP*		PKPdf	07 51 29.9	-1.9
DRWC	Darouich	144.33 308	*eP*		PKPdf	07 51 35.0	+0.5
ROOS	tl_alroos	144.67 304	*eP*		PKPdf	07 51 33.8	-1.4
BTCH	Batrach	144.70 307	*eP*		PKPdf	07 51 35.0	-0.2
BURAR	Bucovina Array	144.99 332	⇓*i* P		PKPab	07 51 37.4	+0.2
ZALF	Zalf	145.00 302	*eP*		PKPbc	07 51 37.1	+0.5
ARNB	Al Arnab	145.13 307	*eP*		PKPab	07 51 38.2	0.0
TESR	Tescani	145.14 330	⇓*i* P		PKPbc	07 51 36.8	+0.3
STHS	Stebnicka Huta	145.15 338	*e*PKP		PKPab	07 51 37.5	-0.2
KOLS	Kolonicke sedl	145.17 336	*e*PKP		PKPbc	07 51 36.8	+0.2
BRTR	Keskin Array B	145.17 315	PKP		PKPbc	07 51 37.1	0.0
	comp=Z,8.9nm,0.8s,baz=134,slow=3.6,SNR=45						
CFR	Carcaliu	145.32 327	⇓*i* P		PKPbc	07 51 37.7	+0.6
MARH	Ras Al Marh	145.35 304	*e*P		PKPbc	07 51 38.6	+0.6
CRVS	Cervenica-Dubn	145.50 337	*e*PKP		PKPbc	07 51 38.3	+0.8
SALA	Sala	145.54 302	*e*P		PKPbc	07 51 38.9	+0.5
VRI	Vrincioaia	145.56 329	⇓*i* P		PKPbc	07 51 37.9	+0.1
TOTH	TOTAH	145.60

*ISK **08** 07:41:28.8, 39˚.11N×29˚.02E, h9km, MD2.4, ML2.1*
*ISCJB **08** 07:41:29.2±0.4, 39˚.11N±0˚.03×28˚.99E±0˚.04, h7km±5km, Error ellipse: s-maj=5.2km s-min=4.0km az=36.9*
*DDA **08** 07:41:29.6, 39˚.12N×29˚.00E, h7km, Ml2.9*
*CSEM **08** 07:41:29.4±0.1, 39˚.12N×29˚.00E, h9km±1km, ML2.9, Error ellipse: s-maj=1.8km s-min=1.6km az=133.0*
ISC 08 07:41:29.3±0.9, 39˚12N±0˚.02×29˚00E±0˚.02, h15km±8km, n33, σ0°28/48, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**251**		P	**Pg**	**07 41 34.5**	**0.0**
DEMI					S	**Sg**	**07 41 37.9**	**-0.1**
DEMI	**Demirci**	**0.23**	**251**	*i*	P	**Pg**	**07 41 34.5**	**0.0**
DEMI				*i*	S	**Sg**	**07 41 37.9**	**-0.1**
GDZ	**Gediz**	**0.38**	**94**		P	**Pg**	**07 41 37.1**	**+0.2**
GDZ					S	**Sg**	**07 41 42.5**	**+0.3**
GDZ	**Gediz**	**0.38**	**94**	*i*	P	**Pg**	**07 41 37.1**	**+0.2**
GDZ				*i*	S	**Sg**	**07 41 42.5**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**47**	*e*	PG	**Pg**	**07 41 38.9**	**-0.1**
TVSB				*e*	SG	**Sg**	**07 41 45.5**	**-0.1**
TVSB	**Tavsanli**	**0.49**	**47**	*e*	Pg	**Pg**	**07 41 38.9**	**-0.1**
TVSB				*e*	Sg	**Sg**	**07 41 45.5**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*	PG	**Pb**	**07 41 42.4**	**-0.1**
KULA				*e*	SG	**Sg**	**07 41 50.7**	**-0.2**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*	Pg	**Pb**	**07 41 42.4**	**-0.1**
KULA				*e*	Sg	**Sg**	**07 41 50.7**	**-0.2**
MANT	**Manisa**	**0.72**	**209**		P	**Pg**	**07 41 43.4**	**+0.1**
MANT					S	**Sg**	**07 41 52.4**	**-0.3**
MANT	**Manisa**	**0.72**	**209**	*i*	P	**Pg**	**07 41 43.4**	**+0.1**
MANT				*i*	S	**Sg**	**07 41 52.4**	**-0.3**
KHAL	**Karahalli**	**0.84**	**153**		P	**Pg**	**07 41 45.9**	**+0.3**
KHAL					S	**Sg**	**07 41 57.0**	**+0.4**
KHAL	**Karahalli**	**0.84**	**153**	*i*	P	**Pg**	**07 41 45.9**	**+0.3**
KHAL				*i*	S	**Sg**	**07 41 57.0**	**+0.4**
KHL	**Karahalli**	**0.89**	**153**	*e*	PG	**Pb**	**07 41 46.3**	**-0.2**
KHL	**Karahalli**	**0.89**	**153**	*e*	Pg	**Pb**	**07 41 46.3**	**-0.2**
ORLT	**Orhaneli**	**0.93**	**355**	*e*	PG	**Pg**	**07 41 47.3**	**0.0**
ORLT	**Orhaneli**	**0.93**	**355**	*e*	Pg	**Pg**	**07 41 47.3**	**0.0**
AKS	**Akhisar**	**0.96**	**256**	*e*	PG	**Pn**	**07 41 48.4**	**+0.2**
AKS	**Akhisar**	**0.96**	**256**	*e*	Pg	**Pn**	**07 41 48.4**	**+0.2**
BALB	**Balikesir**	**1.01**	**301**	*e*	PG	**Pg**	**07 41 49.2**	**+0.3**
BALB	**Balikesir**	**1.01**	**301**	*e*	Pg	**Pg**	**07 41 49.2**	**+0.3**
IGD	**Bursa**	**1.16**	**8**	*i*	P	**Pn**	**07 41 50.3**	**-0.7**
IGD				*i*	S	**Sg**	**07 42 06.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*	PN	**Pb**	**07 41 52.8**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*	Pn	**Pb**	**07 41 52.8**	**+0.2**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*	PN	**Pg**	**07 41 53.4**	**-0.2**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*	Pn	**Pg**	**07 41 53.4**	**-0.2**
IZI	**Iznik**	**1.27**	**16**	*e*	PN	**Pb**	**07 41 53.4**	**+0.4**
IZI	**Iznik**	**1.27**	**16**	*e*	Pn	**Pb**	**07 41 53.4**	**+0.4**
BORA	**Eskisehir**	**1.36**	**55**		P	**Pb**	**07 41 54.5**	**+0.1**
BORA					S	**Sg**	**07 42 13.6**	**+0.5**
BORA	**Eskisehir**	**1.36**	**55**	*i*	P	**Pb**	**07 41 54.5**	**+0.1**
BORA				*i*	S	**Sg**	**07 42 13.6**	**+0.5**
ARMT	**Armutlu**	**1.45**	**356**	*e*	PN	**Pb**	**07 41 55.9**	**-0.1**
ARMT	**Armutlu**	**1.45**	**356**	*e*	Pn	**Pb**	**07 41 55.9**	**-0.1**
ESKT	**Eskisehir**	**1.49**	**74**	*e*	PN	**Pb**	**07 41 56.3**	**-0.4**
ESKT	**Eskisehir**	**1.49**	**74**	*e*	Pn	**Pb**	**07 41 56.3**	**-0.4**

*NIED **08** 07:53:00, 41˚.30N×142˚.70E, h32km, Mw4.1 Best double couple: M0 1.78000×10^15 NP1:φs=238.00000°, δ22.00000°, λ124.00000°. NP2:φs=22.00000°, δ72.00000°, λ77.00000°.*
*BJI **08** 07:53:37.6, 41˚.39N×143˚.15E, h20km, mb4.6/35, mB4.6/23, Ms4.4/9, Ms7 4.0/8*
*MOS **08** 07:53:45.3±1.2, 41˚.40N×142˚.62E, h49km, mb4.6/41, Error ellipse: s-maj=8.0km s-min=5.4km az=95.8*
*JMA **08** 07:53:45.6±0.1, 41˚.31N×142˚.67E, h38km±4km, M4.1*
JMA Felt I J1.
*NEIC **08** 07:53:48.4±0.5, 41˚.41N×142˚.56E, h58km±5km, mb4.6/12, Error ellipse: s-maj=7.1km s-min=4.9km az=137.0*
NEIC Recorded [1 JMA] in southwestern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.
*IDC **08** 07:53:50.2±2.0, 41˚.35N×142˚.47E, h77km±17km, mb3.9/22, mb1 4.0/26, mb1mx3.9/58, mbtmp4.2/26, MS3.3/18, Ms1 3.3/18, ms1mx3.1/44, Error ellipse: s-maj=15.0km s-min=12.9km az=126.0*
ISC 08 07:53:44.5±1.0, 41˚30N±0˚.03×142˚65E±0˚.04, h29km±7km, n158, σ1°19/161, mb4.4/55, MS3.5/14, 9C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ERM	**Erimo**	**0.81**	**28**	*c*	eP	**Pn**	**07 54 00.2**	**+0.2**
ERM				*i*	S	**Sn**	**07 54 11.0**	**0.0**
ERM					pmax	pmax		
	comp=Z,309nm,1.0s							
ERM	**Erimo**	**0.81**	**28**	*e*	Pn	**Pn**	**07 54 00.5**	**+0.6**
ERM				*e*	Sn	**Sb**	**07 54 12.0**	**+1.3**
JEM	**Erimo**	**0.81**	**28**	⇑	P	**Pn**	**07 54 00.1**	**+0.1**
JEM					S	**Sn**	**07 54 11.5**	**+0.5**
JNBK	**Urakawa-nobuka**	**0.98**	**5**	⇓	P	**Pb**	**07 54 03.1**	**+0.1**
JNBK				*e*	S	**Sb**	**07 54 16.2**	**+0.6**
JOT	**Ohata**	**1.21**	**274**	⇓	P	**Pb**	**07 54 06.5**	**-0.2**
JOT					S	**Sb**	**07 54 22.1**	**+0.2**
JANG	**Nango**	**1.26**	**223**		P	**Pb**	**07 54 07.3**	**-0.4**
JANG					S	**Sb**	**07 54 23.6**	**0.0**
JTM	**Tenmabayashi**	**1.30**	**247**	⇓	P	**Pb**	**07 54 08.7**	**+0.4**
JTM					S	**Sb**	**07 54 25.6**	**+1.0**
JKB	**Kayabe**	**1.34**	**296**	⇓	P	**Pb**	**07 54 08.1**	**-1.0**
JKB					S	**Sb**	**07 54 24.8**	**-1.1**
JCH	**Churui**	**1.42**	**22**	⇑	P	**Pn**	**07 54 09.3**	**+1.0**
JCH					S	**Sn**	**07 54 26.3**	**+0.3**
JBT2	**Biratori 2**	**1.49**	**352**	⇓	P	**Pb**	**07 54 10.6**	**-1.0**
JBT2				*e*	S	**Sb**	**07 54 30.6**	**+0.5**
JNB	**Noboribetsu**	**1.68**	**315**	⇓	P	**Pn**	**07 54 12.6**	**+0.7**
JNB					S	**Sn**	**07 54 32.7**	**+0.4**
JSR	**Shiriuchi**	**1.69**	**279**	⇓	P	**Pb**	**07 54 13.7**	**-1.3**
JSR					S	**Sb**	**07 54 35.5**	**-0.3**
JEW	**Eniwo**	**1.78**	**330**		P	**Pb**	**07 54 14.9**	**-1.6**
JEW					S	**Sb**	**07 54 37.4**	**-0.9**
JOB	**Onbets**	**1.83**	**29**		P	**Pn**	**07 54 15.1**	**+1.1**
JOB					S	**Sn**	**07 54 37.9**	**+1.7**
JFR	**Furan**	**1.86**	**359**		P	**Pn**	**07 54 15.7**	**+1.2**
JFR				*e*	S	**Sb**	**07 54 40.9**	**+0.1**
JOM	**Ohasama**	**2.10**	**210**		P	**Pb**	**07 54 20.7**	**-1.2**
JOM					S	**Sb**	**07 54 46.6**	**-0.9**
JAR	**Ashorobuto**	**2.16**	**22**		P	**Pn**	**07 54 19.1**	**+0.5**
JAR				*e*	S	**Sn**	**07 54 44.3**	**-0.1**
ASAJ	**Asahikawa**	**2.81**	**359**		P	**Pn**	**07 54 30.8**	**+3.3**
	baz=205,slow=11							
ASAJ	**Asahikawa**	**2.81**	**359**	*e*	Pn	**Pn**	**07 54 29.3**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**3.62**	**40**	*i*	P	**Pn**	**07 54 39.6**	**+1.1**
KUR	**Kuril'sk**	**5.47**	**42**		P	**Pn**	**07 55 02.8**	**-1.3**
KUR				*e*	S	**Sn**	**07 56 05.1**	**-0.9**
KUR					pmax	pmax		
	comp=Z,44nm,0.6s							
KUR					smax	smax		
	comp=E,22nm,0.5s							
KUR					smax	smax		
	comp=N,41nm,0.4s							
YSS	**Yuzh-Sakhalins**	**5.65**	**1**	⇓	*e*P	**Pn**	**07 55 08.7**	**+2.2**
YSS				*e*	S	**Sn**	**07 56 11.8**	**+1.4**
YSS					pmax	pmax		
	comp=Z,20nm,1.3s							
YSS					MLR	MLR		
	comp=Z,200nm,12.0s							
YSS	**Yuzh-Sakhalins**	**5.65**	**1**	*e*	Pn	**Pn**	**07 55 08.2**	**+1.7**
	comp=Z,14nm,0.6s							
YSS				*e*	Pg	Pb	07 55 27.9	+5.5
MJB9	**Matsu-Tunnel**	**5.88**	**218**	*e*	Pn	Pn	07 55 14.2	+4.5
MAJO	**Matsushiro**	**5.88**	**218**	*d*	iP	Pn	07 55 13.9	+4.2
MAJO	**Matsushiro**	**5.88**	**218**	*e*	Pn	Pn	07 55 13.9	+4.2
MJAR	**Matsushiro Arr**	**5.88**	**217**		P	Pn	07 55 13.9	+4.2
	comp=Z,1.9nm,0.3s,baz=32,slow=13,SNR=26							
MJAR					S	Sb	07 56 25.2	-11
	baz=46,slow=11,SNR=2.0							
MJAR					LR	LR	07 57 53.0	
	comp=Z,126nm,20.8s,baz=30,slow=42							
UGL	**Uglegorsk**	**7.79**	**357**	*e*	P	**Pn**	**07 55 32.7**	**-3.1**
UGL				*e*			07 56 58.8	
VLA	**Vladivostok**	**8.19**	**286**	*e*	P	**Pn**	**07 55 41.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**8.36**	**294**		P	Pn	07 55 48.0	+4.4
	comp=Z,0.6nm,0.3s,baz=98,slow=14,SNR=18							
USRK					LR	LR	07 58 48.8	
	comp=Z,122nm,21.3s,baz=108,slow=36							
MSHR	**Mys Shultsa**	**8.66**	**282**	*c*	iP	**Pn**	**07 55 49.4**	**+1.6**
HABR	**Khabarovsk**	**8.97**	**326**	*e*	P	**Pn**	**07 55 48.6**	**-3.4**
HABR				*e*			07 57 27.4	
HABR					pmax	pmax		
	comp=N,19nm,1.5s							
HABR					pmax	pmax		
	comp=E,33nm,1.5s							
HABR					pmax	pmax		
	comp=Z,30nm,1.5s							
HABR					MLR	MLR		
	comp=Z,112nm,16.0s							
TYV	**Tymovskoe**	**9.56**	**0**	*e*	P	**Pn**	**07 56 02.5**	**+2.4**
TYV					pmax	pmax		
	comp=Z,22nm,1.0s							
KLR	**Kul'dur**	**11.03**	**320**		P	**Pn**	**07 56 23.5**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=132,slow=15,SNR=12							
KLR					LR	LR	08 00 47.8	
	comp=Z,100nm,20.9s,baz=120,slow=38							
KSRS	**Korea Array**	**12.02**	**256**		P	Pn	07 56 38.3	+4.4
	comp=Z,0.8nm,0.3s,baz=65,slow=14,SNR=7.3							
KSRS					LR	LR	08 00 47.5	
	comp=Z,134nm,19.0s,baz=76,slow=35							
KSAR	**Wonju Array Be**	**12.06**	**256**		P	Pn	07 56 38.3	+4.0
KSAR	**Wonju Array Be**	**12.06**	**256**		P	Pn	07 56 38.3	+4.0
SKR	**Severo-Kuril's**	**13.24**	**40**	*i*	P	**Pn**	**07 56 50.0**	**-0.3**
PETK	**Petropavlovsk-**	**15.59**	**36**		LR	LR	08 04 21.4	
	comp=Z,35nm,18.8s,baz=231,slow=40							
MA2	**Magadan**	**18.99**	**13**		LR	LR	08 06 09.1	
	comp=Z,38nm,20.7s,baz=230,slow=39							
BJI	**Beijing**	**20.10**	**275**		P	**P**	**07 58 15.4**	**-0.3**
BJI					S	**S**	**08 01 58.3**	**-1.6**
BJI					PMZ			
	comp=Z,11nm,0.8s							
BJI					PMZ			
	comp=Z,57nm,6.3s							
BJI					LN			
	comp=Z,110nm,5.9s							
BJI					LE			
	comp=Z,140nm,15.2s							
NJ2	**Nanjing**	**21.14**	**252**	*e*	P	**P**	**07 58 29.0**	**+1.9**
NJ2					PMZ			
	comp=Z,13nm,0.6s							
YAK	**Yakutsk**	**22.18**	**344**		LR	LR	08 08 35.3	
	comp=Z,52nm,18.1s,baz=190,slow=40							
YAK	**Yakutsk**	**22.18**	**344**	*i*	P	**P**	**07 58 36.2**	**-1.7**
YAK					pmax	pmax		
	comp=Z,11nm,0.5s							
SEY	**Seymchan**	**22.42**	**12**	⇑	*i*P	**P**	**07 58 37.3**	**-3.3**
HHC	**Hu-ho-hao-te**	**23.38**	**279**	*e*	P	**P**	**07 58 50.0**	**-0.8**
HHC					PMZ			
	comp=Z,26nm,0.7s							
HHC					PMZ			
	comp=Z,68nm,4.2s							
BOD	**Bodaibo**	**24.59**	**322**	*e*	P	**P**	**07 59 01.2**	**-0.6**
BOD					pmax	pmax		
	comp=Z,7.0nm,0.8s							
WHN	**Wuhan**	**25.20**	**254**		P	**P**	**07 59 08.3**	**+0.7**
ULN	**Ulaanbaatar**	**26.02**	**297**	*d*	iP	**P**	**07 59 14.4**	**-0.7**
ULN					pmax	pmax		
	comp=Z,4.0nm,0.7s							
ULN	**Ulaanbaatar**	**26.02**	**297**	*e*	P	**P**	**07 59 14.0**	**-1.0**
	comp=Z,4.1nm,0.6s							
SONA1	**Songino Array**	**26.45**	**297**	*e*	P	**P**	**07 59 17.8**	**-1.2**
SONM	**Songino Array**	**26.46**	**297**		P	**P**	**07 59 20.0**	**+0.9**
	comp=Z,3.0nm,0.5s,baz=77,slow=9.0,SNR=5.3							
TLY	**Talaya**	**28.47**	**305**	*e*	P	**P**	**07 59 36.5**	**-0.4**
TLY					pmax	pmax		
	comp=Z,3.0nm,0.9s							
TLY					MLR	MLR		
	comp=Z,75nm,19.0s							
BILL	**Bilibino**	**29.67**	**18**	*e*	P	**P**	**07 59 47.1**	**-0.2**
BILL					pmax	pmax		
	comp=Z,3.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**29.80**	**129**		T	T	08 31 22.8	
	baz=322,slow=75							
H11N1	**WAKE ISLAND Hy**	**29.81**	**129**		T	T	08 31 21.6	
	baz=322,slow=75							
H11N3	**WAKE ISLAND Hy**	**29.82**	**129**		T	T	08 31 40.9	
	baz=322,slow=75							
LZH	**Lanzhou**	**30.55**	**273**	*e*	P	**P**	**07 59 57.4**	**+1.8**
LZH					pP	pP	08 00 04.3	+0.2
LZH					sP	sP	08 00 07.7	0.0
LZH					PMZ			
	comp=Z,17nm,1.0s							
H11S1	**WAKE ISLAND Hy**	**30.64**	**131**		T	T	08 32 22.9	
	baz=325,slow=74							
H11S3	**WAKE ISLAND Hy**	**30.65**	**131**		T	T	08 32 16.1	
	baz=325,slow=74							
H11S2	**WAKE ISLAND Hy**	**30.66**	**131**		T	T	08 32 41.3	
	baz=325							
TIXI	**Tiksi**	**31.19**	**352**		LR	LR	08 14 05.0	
	comp=Z,28nm,18.7s,baz=158,slow=39							
TIXI	**Tiksi**	**31.19**	**352**	*i*	P	**P**	**08 00 01.0**	**+0.3**
TIXI					pmax	pmax		
	comp=Z,3.0nm,1.5s							
GTA	**Gaotai**	**32.45**	**281**	*e*	P	P	08 00 06.3	-6.0
GTA					pP	pP	08 00 14.4	-6.5
GTA					sP	sP	08 00 18.7	-5.7
GTA					pmax	pmax		
	comp=Z,5.0nm,1.0s							
CD2	**Chengdu**	**32.84**	**264**	*e*	P	**P**	**08 00 15.2**	**-0.5**
GYA	**Guiyang**	**33.08**	**255**	*e*	P	**P**	**08 00 19.2**	**+1.3**
GYA					PMZ			
	comp=Z,10.0nm,0.9s							
NRIK	**Noril'sk**	**39.85**	**333**		P	**P**	**08 01 14.7**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=92,slow=19,SNR=6.3							
NRIK					LR	LR	08 18 45.2	
	comp=Z,97nm,21.0s,baz=104,slow=38							
ZAA0	**Zalesovo Array**	**39.87**	**309**	*e*	P	**P**	**08 01 15.2**	**-0.2**
ZALV	**Zalesovo Beam**	**39.87**	**309**		P	**P**	**08 01 15.2**	**-0.2**
	comp=Z,4.7nm,0.3s,baz=93,slow=7.4,SNR=12							
ZALV					LR	LR	08 18 41.2	
	comp=Z,57nm,18.2s,baz=72,slow=38							
WMQ	**Urumqi**	**39.93**	**293**		P	**P**	**08 01 16.9**	**+0.9**
WMQ					pP	pP	08 01 24.4	-0.3
WMQ					sP	sP	08 01 27.7	-0.5
WMQ					PMZ			
	comp=Z,12nm,0.6s							
WMQ					PMZ			
	comp=Z,48nm,4.2s							
WMQ					LZ			
	comp=Z,21nm,18.0s							
MK01	**Makanchi Array**	**42.80**	**298**	*e*	P	**P**	**08 01 39.1**	**-0.4**
MK31	**Makanchi Array**	**42.80**	**298**		P	**P**	**08 01 38.8**	**-0.7**
MK31					pmax	pmax		
	comp=Z,3.0nm,0.6s							
MK31	**Makanchi Array**	**42.80**	**298**	*e*	P	**P**	**08 01 39.2**	**-0.2**
MKAR	**Makanchi Array**	**42.80**	**298**		P	**P**	**08 01 39.2**	**-0.3**
	comp=Z,3.6nm,0.5s,baz=84,slow=9.7,SNR=43							
MKAR					LR	LR	08 20 20.2	
	comp=Z,44nm,19.7s,baz=58,slow=37							
MKAR	**Makanchi Array**	**42.80**	**298**	*e*	P	**P**	**08 01 39.1**	**-0.3**
MKAR					pmax	pmax		
	comp=Z,5.0nm,0.6s							
MAKZ	**Makanchi**	**43.00**	**299**		P	**P**	**08 01 39.9**	**-1.2**
MAKZ					pmax	pmax		
	comp=Z,6.0nm,0.7s							
MAKZ	**Makanchi**	**43.00**	**299**	*e*	P	**P**	**08 01 40.9**	**-0.2**
	comp=Z,6.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**43.62**	**252**		P	**P**	**08 01 46.2**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=50,slow=8.2,SNR=4.3							
CMAR	**Chiang Mai Arr**	**43.62**	**252**	*e*	P	**P**	**08 01 48.6**	**+2.2**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MLY	**Manley**	**43.76**	**34**	*e*	P	**P**	**08 01 48.6**	**+1.6**
	comp=Z,3.5nm,0.9s							
COLA	**College**	**44.99**	**34**	*c*	iP	**P**	**08 01 57.5**	**+0.7**
COLA					pmax	pmax		
	comp=Z,7.0nm,1.1s							
IL1	**Eielson Array**	**45.41**	**35**	*e*	P	**P**	**08 02 00.7**	**+0.5**
ILAR	**Eielson Array**	**45.41**	**35**		P	**P**	**08 02 00.9**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=269,slow=6.1,SNR=26							
ILB	**Eielson Array**	**45.41**	**35**	*e*	P	**P**	**08 02 01.1**	**+1.0**
	comp=Z,6.1nm,0.5s							
PDGK	**Podgornoye**	**45.75**	**295**		P	**P**	**08 02 02.0**	**-1.1**
PDGK					pmax	pmax		
	comp=Z,4.0nm,0.7s							
GUN	**Gumba**	**47.81**	**272**	*e*	P	**P**	**08 02 20.1**	**+0.2**
	comp=Z,50nm,0.5s							
EGAK	**Eagle**	**47.85**	**34**	*e*	P	**P**	**08 02 18.7**	**-0.5**
KKN	**Kakani**	**48.33**	**273**	*e*	P	**P**	**08 02 23.2**	**-0.5**
	comp=Z,14nm,0.4s							
PKIN	**Phulchoki**	**48.35**	**272**	*e*	P	**P**	**08 02 24.0**	**+0.1**
	comp=Z,6.1nm,0.5s							
BVA0	**Borovoye Array**	**48.49**	**310**	*i*	P	**P**	**08 02 28.6**	**+4.2**
BVA0					pmax	pmax		
	comp=Z,3.0nm,0.5s							
TKM2	**Tokmak 2**	**48.55**	**296**	*i*	P	**P**	**08 02 25.0**	**-0.2**
TKM2					pmax	pmax		
	comp=Z,10.0nm,0.7s							
TKM2	**Tokmak 2**	**48.55**	**296**	*e*	P	**P**	**08 02 25.6**	**+0.3**
	comp=Z,14nm,0.4s							
GKN	**Gorkha**	**48.70**	**273**	*e*	P	**P**	**08 02 26.4**	**-0.1**
	comp=Z,8.3nm,0.4s							
OTUK	**Ortayu**	**48.80**	**303**		P	**P**	**08 02 26.3**	**-0.5**
OTUK					pmax	pmax		
	comp=Z,7.0nm,1.0s							
ZRNK	**Zerenda**	**49.32**	**310**	*i*	P	**P**	**08 02 29.4**	**-1.3**
ZRNK					pmax	pmax		
	comp=Z,4.0nm,0.5s							
ZRNK	**Zerenda**	**49.32**	**310**	*e*	P	**P**	**08 02 30.9**	**+0.2**
	comp=Z,7.1nm,0.6s							
AAK	**Ala-Archa**	**49.41**	**296**	*c*	iP	**P**	**08 02 31.3**	**-0.5**
AAK					pmax	pmax		
	comp=Z,6.0nm,0.7s							
KOLN	**Koldanda**	**49.60**	**274**	*e*	P	**P**	**08 02 33.6**	**+0.2**
	comp=Z,11nm,0.6s							
KSH	**Kashi**	**49.65**	**291**		P	**P**	**08 02 36.1**	**+2.5**
KSH					pP	sP	08 02 44.4	-1.5
KSH					PcP	**PcP**	**08 03 56.5**	**+1.8**
KSH					PP	**PP**	**08 04 31.5**	**+3.6**
KSH					S	**S**	**08 09 39.8**	**-0.5**
KSH					ScS	**ScS**	**08 12 20.4**	**-2.8**
KSH					PMZ			
	comp=Z,3.0nm,0.7s							
KSH					PMZ			
	comp=Z,49nm,3.5s							
KSH					LN			
	comp=Z,500nm,12.0s							
KSH					LE			
	comp=Z,290nm,13.2s							
PYUN	**Piuthan**	**49.88**	**274**	*e*	P	**P**	**08 02 35.8**	**+0.2**
	comp=Z,9.0nm,0.4s							
EKS2	**Erkin-Say**	**49.89**	**296**	*e*	P	**P**	**08 02 35.1**	**-0.3**
EKS2					pmax	pmax		
	comp=Z,4.0nm,0.6s							
EKS2	**Erkin-Say**	**49.89**	**296**	*e*	P	**P**	**08 02 35.1**	**-0.3**
	comp=Z,4.1nm,0.6s							
INK	**Inuvik**	**50.17**	**29**		P	**P**	**08 02 37.6**	**+0.7**
	comp=Z,4.9nm,0.6s,baz=306,slow=11,SNR=15							
INK					LR	LR	08 25 55.4	
	comp=Z,73nm,18.6s,baz=253,slow=38							
INK	**Inuvik**	**50.17**	**29**	*e*	P	**P**	**08 02 38.0**	**+1.1**
	comp=Z,4.9nm,0.7s							
MNAS	**Manas**	**50.82**	**296**		P	**P**	**08 02 41.9**	**-0.5**
MNAS					pmax	pmax		
	comp=Z,8.0nm,0.5s							
KK31	**Karatay Array**	**51.91**	**298**	*i*	P	**P**	**08 02 49.4**	**-1.0**
KK31					pmax	pmax		
	comp=Z,3.0nm,0.7s							
KKAR	**Karatay Array**	**51.91**	**298**	*e*	P	**P**	**08 02 50.1**	**-0.3**
KKAR	**Karatay Array**	**51.91**	**298**	*e*	P	**P**	**08 02 50.1**	**-0.3**
ARU	**Arti**	**53.85**	**317**		LR	LR	08 28 18.3	
	comp=Z,48nm,18.1s,baz=104,slow=38							
ARU	**Arti**	**53.85**	**317**	*c*	iP	**P**	**08 03 03.7**	**-0.8**
ARU							08 04 08.0	
ARU							08 05 04.5	
ARU					S	**S**	**08 10 36.7**	**-0.7**
ARU					SS	**SS**	**08 14 17.5**	**-0.5**
ARU					pmax	pmax		
	comp=Z,7.0nm,1.7s							
AB31	**Akbulak array**	**55.98**	**308**	*i*	P	**P**	**08 03 19.6**	**-0.4**
AB31					pmax	pmax		
	comp=Z,3.0nm,0.5s							
ABKAR	**Akbulak array**	**55.98**	**308**	*e*	P	**P**	**08 03 19.7**	**-0.3**
AKTO	**Aktyubinsk**	**56.59**	**310**		LR	LR	08 29 26.8	
	comp=Z,42nm,19.0s,baz=66,slow=38							
YKA	**Yellowknife Ar**	**59.66**	**32**		P	**P**	**08 03 46.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=305,slow=6.5,SNR=5.2							
ARCES	**ARCESS Array B**	**60.36**	**339**		P	**P**	**08 03 49.4**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=40,slow=7.9,SNR=14							
ARCES					LR	LR	08 35 11.7	
	comp=Z,25nm,19.1s,baz=339,slow=41							
ARCES	**ARCESS Array B**	**60.36**	**339**	*e*	P	**P**	**08 03 49.8**	**-0.5**
ARCES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KLMR	**Klimovskoe**	**60.69**	**327**	*e*	P	**P**	**08 03 50.8**	**-1.9**
KLMR					pmax	pmax		
	comp=Z,3.0nm,0.6s							
WRAB	**Tennant Creek**	**61.41**	**189**	*i*	P	**P**	**08 03 57.9**	**-0.1**
WRAB					pmax	pmax		
	comp=Z,22nm,1.5s							
WRA	**Warramunga Arr**	**61.42**	**189**		P	**P**	**08 03 57.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=6.6,slow=6.8,SNR=11							
ASAR	**Alice Springs**	**65.14**	**189**		P	**P**	**08 04 22.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=7.7,slow=6.8,SNR=6.5							
OBN	**Obninsk**	**65.27**	**323**	⇑	*i*P	**P**	**08 04 22.3**	**-0.

LAST	**Lasithi**	**84.55**	**313**	*e*P		**P**	**08 06 14.5**	**-0.5**
	comp=Z,9.0nm,0.8s								
TX31	**Lajitas Ar. Si**	**86.78**	**53**	*e*P		**P**	**08 06 27.0**	**+0.7**
TXAR	**Lajitas Array**	**86.78**	**53**	P		**P**	**08 06 27.1**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=300,slow=4.3,SNR=11								

*IDC **08** 08:03:02.6±1.8, 32°.45S×71°.98W, h0km, mb3.6/1, mb1 4.0/5, mb1mx3.7/29, mbtmp3.9/5, ML3.9/4, MS3.7/2, Ms1 3.6/2, ms1mx3.1/19, Error ellipse: s-maj=59.4km s-min=33.1km az=123.0*

*SJA **08** 08:03:04.4±0.6, 32°.44S×71°.95W, h10km, ML3.8, MW4.1*

*GUC **08** 08:03:06.9±0.5, 32°.34S×71°.64W, h28km±3km, ML3.9*

ISC 08 08:03:04.2±2.0, 32°.44S±0°.05×71°.89W±0°.08, h8km±11km, n20,σ0°93/29, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.91**	**126**	*i* P	**Pn**	**08 03 23.2**	**-0.3**
ROC1				*i* S	**Sn**	**08 03 36.3**	**-0.6**
ROCH	**El Roble**	**0.91**	**126**	*i* P	**Pn**	**08 03 23.4**	**-0.1**
ROCH				*i* S	**Sn**	**08 03 36.0**	**-1.0**
ROCH				AML	AML	08 03 39.4	
	comp=N,5μm,0.3s						
PEL	**Peldehue**	**1.23**	**125**	*i* P	**Pg**	**08 03 28.2**	**+0.3**
PEL				*i* S	**Sg**	**08 03 44.2**	**+0.3**
CLCH	**Cerro Calan**	**1.48**	**130**	*i* P	**Pg**	**08 03 32.5**	**-0.2**
CLCH				*i* S	**Sg**	**08 03 51.8**	**-0.2**
CLCH				AML	AML	08 04 02.6	
	comp=N,6μm,0.5s						
ANTU	**Antumapu**	**1.54**	**137**	*i* P	**Pg**	**08 03 33.8**	**-0.1**
ANTU				*i* S	**Sg**	**08 03 54.0**	**+0.2**
FCH	**Farellones**	**1.61**	**124**	*i* P	**Pb**	**08 03 34.3**	**0.0**
FCH				*i* S	**Sg**	**08 03 55.7**	**-0.3**
FCH				AML	AML	08 03 59.5	
	comp=E,2μm,0.2s						
SJCH	**San Jose de Ma**	**1.76**	**133**	*i* P	**Pb**	**08 03 36.9**	**+0.1**
SJCH				*i* S	**Sb**	**08 03 59.5**	**+0.4**
AUSP	**Uspallata**	**2.13**	**85**	*i* P	**Pb**	**08 03 43.4**	**+0.2**
AUSP				*i* S	**Sg**	**08 04 12.6**	**-0.1**
RTLS	**Leoncito**	**2.29**	**74**	*i* P	**Pb**	**08 03 46.1**	**+0.1**
ARCO	**CERRO ARCO**	**2.53**	**100**	*i* P	**Pb**	**08 03 48.9**	**-1.0**
ARCO				*i* S	**Sb**	**08 04 22.2**	**+1.0**
ARCO				IAML		08 04 34.8	
	comp=Z,433nm,0.4s						
AAGR	**Agrelo**	**2.66**	**105**	*i* P	**Pb**	**08 03 50.8**	**-1.4**
RTCV	**Cerro Valdivia**	**2.90**	**79**	*i* P	**Pb**	**08 03 54.0**	**-2.2**
RTLL	**Cerro Villicun**	**3.11**	**70**	*i* P	**Pn**	**08 03 56.6**	**+3.0**
LVC	**Limon Verde**	**10.14**	**16**	Pn	**Pn**	**08 05 30.0**	**-0.5**
	comp=Z,8.9nm,0.3s,baz=192,slow=9.3,SNR=4.4						
LVC				Sn	Sn	08 07 34.4	+10
	comp=Z,14nm,0.3s,baz=146,slow=15,SNR=2.4						
LVC				LR	LR	08 09 46.7	
	comp=Z,616nm,19.9s,baz=202,slow=40						
CPUP	**Villa Florida**	**14.07**	**68**	Pn	**Pn**	**08 06 23.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=232,slow=12,SNR=5.8						
CPUP				Sn	**Sn**	**08 09 00.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=207,slow=11,SNR=3.3						
LPAZ	**La Paz**	**16.44**	**13**	Pn	**Pn**	**08 06 55.2**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=176,slow=13,SNR=5.8						
SIV	**San Ignacio**	**19.10**	**33**	P	**Pn**	**08 07 28.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=234,slow=10,SNR=4.0						
BDFB	**Brasília**	**27.38**	**59**	LR	LR	08 20 25.7	
	comp=Z,118nm,21.7s,baz=258,slow=38						
TORD	**Torodi Ar. Bea**	**83.56**	**70**	P	**P**	**08 15 33.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=242,slow=4.9,SNR=4.7						
WRA	**Warramunga Arr**	**122.18**	**209**	PKP	**PKPdf**	**08 21 59.4**	**-0.8**
	comp=Z,0.5nm,1.0s,baz=160,slow=1.8,SNR=4.1						

*NIED **08** 08:05:00, 42°.40N×144°.70E, h23km, Mw3.8 Best double couple: M0 6.09000×10^14 NP1:φs227.00000°, δ33.00000°, λ98.00000°. NP2:φs38.00000°, δ57.00000°, λ85.00000°.*

*MOS **08** 08:05:26.2±1.2, 42°.16N×144°.69E, h44km, mb4.0/4, Error ellipse: s-maj=22.1km s-min=11.1km az=79.1*

*JMA **08** 08:05:27.1, 42°.36N×144°.69E, h31km±1km, M3.5*

*SKHL **08** 08:05:28.4±0.6, 42°.32N×144°.63E, h69km±7km, mb4.3/2*

*IDC **08** 08:05:29.1±2.9, 42°.28N×144°.54E, h46km±28km, mb4.3/8, mb1 3.7/10, mb1mx3.4/51, mbtmp3.6/10, ML3.1/1, MS2.8/4, Ms1 2.8/4, ms1mx2.5/37, Error ellipse: s-maj=25.0km s-min=21.0km az=116.0*

ISC 08 08:05:25.5±1.8, 42°.35N±0°.06×144°.70E±0°.05, h16km±11km, n38,σ1°07/38, mb3.6/8, 2C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.64**	**360**	⇓P	**Pn**	**08 05 39.6**	**-0.3**
JAK				*e*S	**Sn**	**08 05 49.0**	**-0.7**
JOB	**Onbets**	**0.84**	**311**	⇓P	**Pn**	**08 05 42.7**	**+0.1**
JCH	**Churui**	**1.02**	**285**	⇓P	**Pg**	**08 05 45.4**	**+0.2**
JCH				*e*S	**Sb**	**08 05 58.5**	**+0.6**
MYR	**Moyori**	**1.05**	**267**	*e*P	**Pg**	**08 05 45.9**	**+0.1**
JAR	**Ashorobuto**	**1.16**	**324**	⇓P	**Pb**	**08 05 46.9**	**-0.3**
JAR				*e*S	**Sb**	**08 06 01.4**	**-0.6**
JNK	**Nakash**	**1.23**	**1**	⇓P	**Pn**	**08 05 47.7**	**-0.3**
JNK				*e*S	**Sb**	**08 06 02.9**	**-1.1**
NEM2	**Nemuro 2**	**1.27**	**37**	P	**Pn**	**08 05 48.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.44**	**268**	P	**Pn**	**08 05 51.6**	**+0.7**
HRK	**Horoka**	**1.60**	**315**	*e*P	**Pn**	**08 05 53.5**	**+0.4**
JRA	**Rausu**	**1.61**	**11**	P	**Pn**	**08 05 53.6**	**+0.4**
JRA				*e*S	**Sn**	**08 06 14.1**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.88**	**26**	*c i*PN	**Pb**	**08 05 58.8**	**-0.7**
YUK				*i* S	**Sn**	**08 06 21.1**	**+0.8**
YUK				pmax	pmax		
	comp=Z,127nm,0.4s						
YUK				pmax	pmax		
	comp=N,53nm,0.5s						
YUK				pmax	pmax		
	comp=E,55nm,0.2s						
YUK				smax	smax		
	comp=N,709nm,0.4s						
YUK				smax	smax		
	comp=E,279nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.88**	**26**	*e*P	**Pb**	**08 05 58.8**	**-0.7**
YUK				AMB	AMB	08 06 01.3	
	comp=E,130nm,0.4s						
YUK				*i* S	**Sn**	**08 06 21.1**	**+0.8**
YUK				A	A	08 06 22.8	
	comp=E,700nm,0.4s						
YUK				A	A	08 06 22.8	
	comp=E,300nm,0.4s						
SHO	**Shikotan**	**2.18**	**45**	*c i*PN	**Pn**	**08 06 01.8**	**+0.8**
SHO				*i* S	**Sn**	**08 06 26.9**	**-0.7**
SHO				pmax	pmax		
	comp=Z,33nm,0.3s						
SHO				pmax	pmax		
	comp=N,13nm,0.2s						
SHO				pmax	pmax		
	comp=E,22nm,0.4s						
SHO				smax	smax		
	comp=N,514nm,0.4s						
SHO				smax	smax		
	comp=E,279nm,0.4s						
SHO	**Shikotan**	**2.18**	**45**	*e*P	**Pn**	**08 06 01.8**	**+0.8**
SHO				AMB	AMB	08 06 03.8	
	comp=E,33nm,0.3s						
SHO				*i* S	**Sn**	**08 06 26.9**	**-0.7**
SHO				A	A	08 06 29.8	
	comp=E,300nm,0.4s						
SHO				A	A	08 06 29.8	
	comp=E,500nm,0.4s						
JKA	**Kamikawa-asahi**	**2.33**	**320**	*e*P	**Pn**	**08 06 05.1**	**+1.9**
ASAJ	**Asahikawa**	**2.34**	**320**	P	**Pn**	**08 06 05.0**	**+1.9**
	baz=90,slow=10						
KUR	**Kuril'sk**	**3.68**	**37**	PN	**Pn**	**08 06 24.2**	**+2.6**
KUR				*e*S	**Sn**	**08 07 06.4**	**+1.7**
KUR				smax	smax		
	comp=E,66nm,0.4s						
KUR				smax	smax		
	comp=N,43nm,0.2s						
KUR	**Kuril'sk**	**3.68**	**37**	*e*P	**Pn**	**08 06 24.2**	**+2.6**
KUR				*e*S	**Sn**	**08 07 06.4**	**+1.7**
KUR				A	A	08 07 12.3	
	comp=N,66nm,0.4s						
KUR				A	A	08 07 12.3	
	comp=N,43nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.80**	**344**	*e*PN	Pn	08 06 42.8	+5.7
YSS	**Yuzh-Sakhalins**	**4.80**	**344**	*erx*	rx	08 06 42.8	
MJAR	**Matsushiro Arr**	**7.67**	**223**	P	**Pn**	**08 07 16.1**	**-0.4**
	comp=N,0.3nm,0.3s,baz=33,slow=13,SNR=5.3						
MJAR				LR	LR	08 10 37.6	
	comp=N,48nm,21.8s,baz=105,slow=41						
JHJ	**Hachijo jima 2**	**10.00**	**204**	LR	LR	08 11 49.8	
	comp=N,54nm,21.3s,baz=131,slow=38						
KLR	**Kul'dur**	**11.35**	**312**	LR	LR	08 12 53.1	
	comp=N,70nm,19.9s,baz=131,slow=39						
KSRS	**Korea Array**	**13.77**	**255**	LR	LR	08 13 47.3	
	comp=N,40nm,18.6s,baz=85,slow=36						
H11N2	**WAKE ISLAND Hy**	**29.34**	**133**	T	T	08 42 14.2	
	baz=324						
H11N1	**WAKE ISLAND Hy**	**29.35**	**133**	T	T	08 42 08.2	
	baz=324						
H11N3	**WAKE ISLAND Hy**	**29.35**	**133**	T	T	08 42 15.6	
	baz=324						
H11S1	**WAKE ISLAND Hy**	**30.24**	**135**	T	T	08 43 25.3	
	baz=327						
H11S3	**WAKE ISLAND Hy**	**30.24**	**135**	T	T	08 43 14.9	
	baz=327						
H11S2	**WAKE ISLAND Hy**	**30.26**	**135**	T	T	08 43 15.8	
	baz=327						
ZALV	**Zalesovo Beam**	**40.42**	**308**	P	**P**	**08 13 02.2**	**-0.4**
	comp=N,0.6nm,0.3s,baz=94,slow=5.8,SNR=3.5						
MKAR	**Makanchi Array**	**43.65**	**298**	P	**P**	**08 13 28.8**	**-0.3**
	comp=N,0.5nm,0.6s,baz=80,slow=8.1,SNR=4.8						
ILAR	**Eielson Array**	**43.67**	**35**	P	**P**	**08 13 29.2**	**+0.2**
	comp=N,0.9nm,0.8s,baz=278,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**62.72**	**191**	P	**P**	**08 15 48.4**	**-1.2**
	comp=N,0.4nm,0.8s,baz=8.1,slow=6.4,SNR=3.4						
FINES	**FINESS Array B**	**65.29**	**332**	P	**P**	**08 16 05.1**	**-0.9**
	comp=N,1.5nm,0.7s,baz=69,slow=10,SNR=5.1						
NVAR	**Mina Array Bea**	**69.85**	**56**	P	**P**	**08 16 36.8**	**+1.2**
	comp=N,0.3nm,0.7s,baz=306,slow=7.7,SNR=3.1						
PDAR	**Pinedale Array**	**72.18**	**48**	P	**P**	**08 16 50.1**	**+0.4**
	comp=N,0.3nm,0.6s,baz=332,slow=5.1,SNR=3.4						
TXAR	**Lajitas Array**	**84.92**	**55**	P	**P**	**08 18 00.1**	**+0.2**
	comp=N,0.4nm,0.8s,baz=270,slow=2.1,SNR=5.8						

*MOS **08** 08:12:32.9±1.0, 42°.57N×43°.32E, h7km, mb3.9/1, Error ellipse: s-maj=9.1km s-min=5.7km az=72.5*

*ISCJB **08** 08:12:33.8±0.4, 42°.56N±0°.02×43°.42E±0°.03, h4km±3km, Error ellipse: s-maj=3.5km s-min=3.1km az=169.6*

*TIF **08** 08:12:33.3, 42°.56N×43°.45E, h12km*

*CSEM **08** 08:12:34.0±0.3, 42°.53N×43°.41E, h8km, ML3.1, Error ellipse: s-maj=8.2km s-min=4.5km az=45.0*

*ISK **08** 08:12:34.3, 42°.85N×44°.11E, h16km, MD3.2*

ISC 08 08:12:33.8±0.8, 42°.57N±0°.02×43°.44E±0°.02, h10km±4km, n41,σ0°75/75, 3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.03**	**23**	P	**Pg**	**08 12 35.9**	**+0.1**
ONI				S	**Sg**	**08 12 37.5**	**+0.4**
ONI	**Oni**	**0.03**	**23**	PG	**Pg**	**08 12 35.9**	**+0.1**
ONI	**Oni**	**0.03**	**23**	P	**Pg**	**08 12 35.9**	**+0.1**
ONI				S	**Sg**	**08 12 37.5**	**+0.4**
DIGR	**Digorskoe uzhe**	**0.35**	**17**	⇓*i*PG	**Pg**	**08 12 40.7**	**-0.2**
DIGR				*i* S	**Sg**	**08 12 45.9**	**+0.3**
ZEI	**Tsey**	**0.41**	**57**	⇓*i*PG	**Pg**	**08 12 41.8**	**-0.1**
ZEI				*i* S	**Sg**	**08 12 47.7**	**+0.3**
LACR	**Lac**	**0.69**	**67**	⇓*i*PG	**Pg**	**08 12 46.8**	**-0.3**
LACR				S	**Sg**	**08 12 56.1**	**0.0**
KORR	**Kora**	**0.70**	**41**	*e*PG	**Pb**	**08 12 47.8**	**-0.3**
KORR				*e*S	**Sb**	**08 12 57.5**	**-0.3**
LSNR	**Lesken**	**0.77**	**22**	*e*PG	**Pg**	**08 12 48.9**	**+0.2**
LSNR				*e*S	**Sb**	**08 12 59.5**	**-0.4**
NEY	**Neytrino**	**0.86**	**323**	*e*PG	**Pg**	**08 12 50.0**	**-0.5**
NEY				*e*S	**Sg**	**08 13 01.6**	**-0.2**
ARNR	**Ardon**	**0.88**	**45**	*e*PG	**Pn**	**08 12 51.5**	**-0.8**
ARNR				*e*S	**Sb**	**08 13 03.4**	**+0.5**
STDR	**Stavd-Durt**	**0.93**	**30**	*e*PG	**Pn**	**08 12 53.2**	**+0.3**
STDR				*e*S	**Sn**	**08 13 05.9**	**-0.4**
NCK	**Nalchik**	**0.94**	**7**	*e*PG	**Pb**	**08 12 52.4**	**+0.2**
NCK				*e*S	**Sn**	**08 13 05.5**	**-1.1**
CHVG	**Ch'k'valeri**	**1.01**	**279**	*e*PG	**Pb**	**08 12 53.5**	**0.0**
CHVG				*e*SG	**Sn**	**08 13 10.1**	**+1.7**
CHVG	**Ch'k'valeri**	**1.01**	**279**	P	**Pb**	**08 12 53.4**	**0.0**
CHVG				S	**Sn**	**08 13 08.5**	**+0.1**
CHVG	**Ch'k'valeri**	**1.01**	**279**	P	**Pb**	**08 12 53.4**	**0.0**
CHVG				S	**Sn**	**08 13 08.5**	**+0.1**
CHVG				*e*Sg	**Sn**	**08 13 10.1**	**+1.7**
VLKR	**Vladikavkaz**	**1.03**	**62**	*e*PG	**Pn**	**08 12 54.1**	**-0.3**
VLKR				*e*S	**Sn**	**08 13 08.2**	**-0.8**
DUS	**Dusheti**	**1.05**	**116**	P	**Pn**	**08 12 55.8**	**+1.1**
DUS				S	**Sn**	**08 13 10.1**	**+0.6**
DUS	**Dusheti**	**1.05**	**116**	PG	**Pn**	**08 12 55.8**	**+1.1**
DUS				S	**Sn**	**08 13 10.0**	**+0.6**
DUS	**Dusheti**	**1.05**	**116**	P	**Pn**	**08 12 55.8**	**+1.1**
DUS				S	**Sn**	**08 13 10.1**	**+0.6**
AKH	**Akhalkalaki**	**1.15**	**178**	P	**Pb**	**08 12 55.4**	**-0.6**
AKH				S	**Sb**	**08 13 11.1**	**0.0**
AKH	**Akhalkalaki**	**1.15**	**178**	PG	**Pb**	**08 12 55.4**	**-0.6**
AKH				S	**Sg**	**08 13 11.6**	**+0.6**
AKH	**Akhalkalaki**	**1.15**	**178**	P	**Pb**	**08 12 55.4**	**-0.6**
AKH				S	**Sn**	**08 13 11.7**	**-0.5**
KMGR	**Komgaron**	**1.16**	**64**	*e*PG	**Pg**	**08 12 58.4**	**+2.3**
KMGR				*e*S	**Sn**	**08 13 14.2**	**+2.0**
TBLG	**Delisi**	**1.28**	**130**	*e*PN	**Sb**	**08 12 57.8**	**-0.1**
TBLG				*e*SN	**Sb**	**08 13 13.8**	**-0.7**
TBLG	**Delisi**	**1.28**	**130**	P	**Pb**	**08 12 58.0**	**0.0**
TBLG				S	**Sg**	**08 13 15.3**	**+0.4**
TBLG	**Delisi**	**1.28**	**130**	PG	**Pb**	**08 12 57.9**	**-0.1**
TBLG				S	**Sg**	**08 13 15.3**	**+0.4**
TBLG	**Delisi**	**1.28**	**130**	P	**Pb**	**08 12 58.0**	**0.0**
TBLG				*e*Sn	**Sb**	**08 13 13.8**	**-0.7**
TBLG				S	**Sg**	**08 13 15.3**	**+0.4**
BGD	**Bogdanovka**	**1.30**	**175**	P	**Pb**	**08 12 58.4**	**-0.2**
BGD				S	**Sg**	**08 13 16.9**	**+1.1**
BGD	**Bogdanovka**	**1.30**	**175**	P	**Pn**	**08 12 58.0**	**-0.3**
BGD				S	**Sg**	**08 13 15.9**	**+0.1**
KZR	**Kazreti**	**1.39**	**148**	P	**Pn**	**08 12 58.4**	**-1.0**
KZR				S	**Sb**	**08 13 17.6**	**-0.1**
KZR	**Kazreti**	**1.39**	**148**	P	**Pn**	**08 12 58.4**	**-1.0**
KZR				S	**Sb**	**08 13 17.6**	**-0.1**
KIV	**Kislovodsk**	**1.50**	**339**	*e*PN	**Pb**	**08 13 01.6**	**-0.2**
KIV				*e*SN	**Sb**	**08 13 21.1**	**+0.3**
KIV	**Kislovodsk**	**1.50**	**339**	*i* PG	**Pb**	**08 13 01.5**	**-0.2**
KIV	**Kislovodsk**	**1.50**	**339**	*e*Pn	**Pb**	**08 13 01.6**	**-0.2**
KIV				*e*Sn	**Sb**	**08 13 21.1**	**+0.3**
TRKR	**Terskaya**	**1.50**	**39**	*e*PG	**Pg**	**08 13 02.5**	**0.0**
TRKR				*e*S	**Sg**	**08 13 22.9**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.16**	**203**	*e*PN	**Pg**	**08 13 16.7**	**+1.4**
GNI	**Garni**	**2.60**	**157**	*i* PN	**Pb**	**08 13 18.7**	**-2.0**
SOC	**Sochi**	**2.91**	**292**	*e*PN	Pg	08 13 35.9	+6.3
SOC				*e*		08 13 58.1	
SOC				pmax	pmax		
	comp=Z,5.0nm,0.3s						
VSR	**Storozhevoye**	**9.13**	**343**	*i* P	**Pn**	**08 14 46.5**	**+0.9**
KIEV	**Kiev**	**12.70**	**315**	*i* P	**Pn**	**08 15 33.9**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,5.0nm,1.8s						
ARU	**Arti**	**16.94**	**30**	*i* P	**P**	**08 16 31.6**	**-1.2**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.1s						

*DDA **08** 08:15:20.6, 39°.16N×29°.12E, h7km, Md2.5*

*ISCJB **08** 08:15:21.4±0.5, 39°.09N±0°.04×29°.13E±0°.04, h16km±11km, Error ellipse: s-maj=6.1km s-min=5.0km az=152.4*

*ISK **08** 08:15:21.1, 39°.07N×29°.07E, h21km, ML2.3*

*CSEM **08** 08:15:21.1±0.2, 39°.09N×29°.13E, h15km, MD2.5, Error ellipse: s-maj=5.1km s-min=4.5km az=132.0*

ISC 08 08:15:21.1±0.9, 39°.09N±0°.03×29°.13E±0°.03, h16km±7km, n27,σ0°48/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.27**	**90**	P	**Pg**	**08 15 27.2**	**+0.2**
GDZ				S	**Sg**	**08 15 31.4**	**+0.3**
GDZ	**Gediz**	**0.27**	**90**	*i* P	**Pg**	**08 15 27.2**	**+0.2**
GDZ				*i* S	**Sg**	**08 15 31.4**	**+0.3**
DEMI	**Demirci**	**0.33**	**262**	P	**Pg**	**08 15 27.9**	**0.0**
DEMI				S	**Sg**	**08 15 32.3**	**-0.3**
DEMI	**Demirci**	**0.33**	**262**	*i* P	**Pg**	**08 15 27.9**	**0.0**
DEMI				*i* S	**Sg**	**08 15 32.3**	**-0.3**
DST	**Dursunbey**	**0.65**	**323**	*e*PG	**Pb**	**08 15 34.4**	**+0.3**
DST				*e*SG	**Sb**	**08 15 43.4**	**+0.4**
DST	**Dursunbey**	**0.65**	**323**	*e*Pg	**Pb**	**08 15 34.4**	**+0.3**
DST				*e*Sg	**Sb**	**08 15 43.4**	**+0.4**
KULA	**Kula-Manisa**	**0.68**	**213**	*e*PG	**Pg**	**08 15 34.2**	**-0.2**
KULA				*e*SG	**Sb**	**08 15 43.8**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**213**	*e*Pg	**Pg**	**08 15 34.2**	**-0.2**
KULA				*e*Sg	**Sb**	**08 15 43.8**	**-0.1**
KHL	**Karahalli**	**0.82**	**158**	*e*PG	**Pn**	**08 15 38.2**	**+0.1**
KHL	**Karahalli**	**0.82**	**158**	*e*Pg	**Pn**	**08 15 38.2**	**+0.1**
IGD	**Bursa**	**1.18**	**3**	*i* P	**Pn**	**08 15 43.0**	**+0.1**
IGD				*i* S	**Sb**	**08 15 57.1**	**-0.9**
CAVI	**Cavuskoy**	**1.24**	**26**	*e*PN	**Pn**	**08 15 43.9**	**+0.1**
CAVI	**Cavuskoy**	**1.24**	**26**	*e*Pn	**Pn**	**08 15 43.9**	**+0.1**
IZI	**Iznik**	**1.27**	**12**	*e*PN	**Pn**	**08 15 44.5**	**+0.2**
IZI	**Iznik**	**1.27**	**12**	*e*Pn	**Pn**	**08 15 44.5**	**+0.2**
BORA	**Eskisehir**	**1.29**	**52**	P	**Pn**	**08 15 43.2**	**-1.4**
BORA				S	**Sn**	**08 16 02.2**	**+0.5**
BORA	**Eskisehir**	**1.29**	**52**	*i* P	**Pn**	**08 15 43.2**	**-1.4**
BORA				*i* S	**Sn**	**08 16 02.1**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*PN	**Pn**	**08 15 44.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*Pn	**Pn**	**08 15 44.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*PN	**Pb**	**08 15 45.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*Pn	**Pb**	**08 15 45.7**	**+0.2**
ESKT	**Eskisehir**	**1.40**	**72**	*e*PN	**Pn**	**08 15 46.0**	**-0.1**
ESKT	**Eskisehir**	**1.40**	**72**	*e*Pn	**Pn**	**08 15 46.0**	**-0.1**
ESKT	**Eskisehir**	**1.40**	**72**	*i* P	**Pn**	**08 15 46.7**	**+0.6**
SEYT	**Eskypehyr**	**1.40**	**72**	P	**Pn**	**08 15 46.7**	**+0.6**
GULT	**Gulveren**	**1.71**	**38**	*e*PN	**Pb**	**08 15 51.8**	**-0.5**
GULT	**Gulveren**	**1.71**	**38**	*e*Pn	**Pb**	**08 15 51.8**	**-0.5**

MEX 08 08:25:58.7±0.4, 13°.88N×91°.83W, h16km±245km, MD3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.26**	**324**	*i* P	Pn	08 26 32.5	-3.0
PCIG				*i* S	Sn	08 26 58.5	-4.6
CCIG	**Comitan**	**2.41**	**353**	*i* P	Pn	08 26 35.4	-2.3
CCIG				*i* S	Sn	08 27 03.1	-3.9

*NIED **08** 08:28:00, 38°.60N×144°.20E, h5km, Mw4.1 Best double couple: M0 1.83000×10^15 NP1:φs34.00000°, δ32.00000°, λ-68.00000°. NP2:φs188.00000°, δ60.00000°, λ-103.00000°.*

*IDC **08** 08:28:46.6±0.6, 38°.48N×144°.33E, h0km, mb4.2/25, mb1 4.3/32, mb1mx4.2/54, mbtmp4.2/32, ML3.3/7, MS3.3/15, Ms1 3.3/15, ms1mx3.1/44, Error ellipse: s-maj=15.3km s-min=12.4km az=123.0*

*ISCJB **08** 08:28:49.5±1.2, 38°.64N±0°.03×144°.21E±0°.04, h28km±9km, mb4.3/29, MS3.4/10, Error ellipse: s-maj=5.1km s-min=4.6km az=145.0*

*JMA **08** 08:28:50.0±0.1, 38°.59N×144°.17E, h36km, M4.5*

*NEIC **08** 08:28:52.0±0.4, 38°.55N×144°.29E, h35km, mb4.6/5, Error ellipse: s-maj=8.8km s-min=5.8km az=130.0*

ISC 08 08:28:50.7±3.7, 38°.61N±0°.05×144°.30E±0°.06, h25km±26km, n76,σ1°74/83, mb4.4/29, MS3.4/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.11**	**284**	P	Pn	08 29 22.9	-1.5
MIYJ	**Miyakonagasawa**	**2.16**	**297**	P	Pn	08 29 23.6	-1.5
MIYJ				S	**Sn**	**08 29 48.2**	**-2.9**
JMK	**Ichinoseki**	**2.43**	**279**	P	**Pn**	**08 29 27.7**	**-1.1**
JMK				S	**Sn**	**08 29 55.1**	**-2.3**
JOM	**Ohasama**	**2.50**	**291**	P	**Pn**	**08 29 28.7**	**-1.0**
JOM				S	**Sn**	**08 29 57.8**	**-1.6**
JANG	**Nango**	**2.79**	**310**	P	Pn	08 29 32.1	-1.6
JANG				*e*S	**Sn**	**08 30 04.3**	**-2.2**
JOU	**Okura**	**2.87**	**266**	P	**Pn**	**08 29 33.5**	**-1.3**
JOU				*e*S	**Sn**	**08 30 05.6**	**-2.9**
JRG	**Rokugo**	**2.96**	**287**	P	**Pn**	**08 29 35.5**	**-0.6**
JRG				S	**Sn**	**08 30 10.3**	**-0.6**
JYK	**Kaneyama**	**3.10**	**277**	P	**Pn**	**08 29 37.1**	**-0.9**
JYK				*e*S	**Sn**	**08 30 13.3**	**-0.9**
JAH	**Hinai**	**3.25**	**300**	P	**Pn**	**08 29 39.7**	**-0.3**
JAH				*e*S	**Sn**	**08 30 17.6**	**-0.3**
JTM	**Tenmabayashi**	**3.31**	**312**	P	**Pn**	**08 29 40.0**	**-0.9**
JTM				S	**Sn**	**08 30 16.8**	**-2.6**
JFT	**Otama**	**3.31**	**252**	P	**Pn**	**08 29 40.0**	**-1.0**
JFT				S	**Sn**	**08 30 17.2**	**-2.3**
ERM	**Erimo**	**3.51**	**346**	*e*Pn	**Pn**	**08 29 42.9**	**-0.8**
ERM				*e*Sn	**Sn**	**08 30 22.7**	**-1.7**
JOT	**Ohata**	**3.73**	**319**	P	**Pn**	**08 29 46.9**	**+0.2**
JOT				S	**Sn**	**08 30 26.9**	**-2.9**
JNBK	**Urakawa-nobuka**	**3.85**	**343**	P	**Pn**	**08 29 47.5**	**-0.8**
JNBK				*e*S	**Sn**	**08 30 30.4**	**-2.4**
JCH	**Churui**	**4.07**	**350**	P	**Pn**	**08 29

KURBB	**Kurchatov Arra**	**46.85**	**307**	P		**P**	**08 37 18.5**	**+0.1**	
	2.2nm,0.6s,baz=81,slow=8.0,SNR=17								
ILAR	**Eielson Array**	**46.94**	**33**	P		**P**	**08 37 19.3**	**+0.4**	
	1.9nm,0.7s,baz=262,slow=6.6,SNR=26								
TKM2	**Tokmak 2**	**50.90**	**298**	*e*P		**P**	**08 37 50.7**	**+0.9**	
	4.9nm,0.9s								
BVAR	**Borovoye Array**	**51.22**	**312**	P		**P**	**08 37 52.7**	**+0.9**	
	0.6nm,0.4s,baz=89,slow=6.1,SNR=4.4								
AAK	**Ala-Archa**	**51.76**	**298**	LR		LR	09 02 55.5		
	comp=Z,32nm,18.1s,baz=48,slow=40								
ARU	**Arti**	**56.70**	**318**	P		**P**	**08 38 32.7**	**+0.9**	
	3.6nm,0.2s,baz=63,slow=2.8,SNR=9.2								
ARU	**Arti**	**56.70**	**318**	*e*P		**P**	**08 38 31.8**	**0.0**	
	2.5nm,0.4s								
ARU				P		**P**	**08 38 32.6**	**+0.9**	
ABKAR	**Akbulak array**	**58.67**	**310**	*e*P		**P**	**08 38 46.1**	**+0.3**	
	3.9nm,0.7s								
WRA	**Warramunga Arr**	**58.99**	**191**	P		**P**	**08 38 46.5**	**-1.7**	
	4.1nm,0.7s,baz=11,slow=7.2,SNR=12								
FITZ	**Fitzroy Crossi**	**59.06**	**201**	P		**P**	**08 38 48.4**	**-0.3**	
	2.6nm,0.9s,baz=72,slow=3.4,SNR=4.0								
AKTO	**Aktyubinsk**	**59.32**	**312**	P		**P**	**08 38 50.3**	**0.0**	
	2.8nm,0.7s,baz=70,slow=14,SNR=13								
AKTO				LR		LR	09 04 14.6		
	comp=Z,32nm,19.1s,baz=57,slow=36								
YKA	**Yellowknife Ar**	**61.29**	**31**	P		**P**	**08 39 03.7**	**+0.2**	
	1.1nm,1.0s,baz=307,slow=7.1,SNR=5.2								
ASAR	**Alice Springs**	**62.71**	**191**	P		**P**	**08 39 12.5**	**-1.0**	
	1.1nm,0.7s,baz=17,slow=6.1,SNR=11								
ARCES	**ARCESS Array B**	**63.32**	**340**	P		**P**	**08 39 16.4**	**-0.6**	
	1.3nm,0.7s,baz=60,slow=7.2,SNR=4.5								
GEYT	**Alibeck**	**65.06**	**300**	P		**P**	**08 39 29.0**	**0.0**	
	3.0nm,0.7s,baz=46,slow=4.3,SNR=4.3								
FINES	**FINESS Array B**	**68.47**	**333**	P		**P**	**08 39 50.6**	**+0.4**	
	2.9nm,0.8s,baz=57,slow=7.0,SNR=11								
FINES				LR		LR	09 11 42.4		
	comp=Z,40nm,19.3s,baz=82,slow=38								
EGMT	**Eagleton**	**71.57**	**43**	P		**P**	**08 40 09.2**	**-0.4**	
	6.9nm,1.0s								
KBZ	**Khabaz**	**71.59**	**312**	P		**P**	**08 40 11.1**	**+1.4**	
	6.1nm,0.8s,baz=72,slow=4.0,SNR=13								
NVAR	**Mina Array Bea**	**72.21**	**55**	P		**P**	**08 40 15.2**	**+1.3**	
	2.7nm,0.7s,baz=291,slow=6.7,SNR=24								
NB2	**NORSAR Subarra**	**73.60**	**338**	P		**P**	**08 40 21.8**	**+0.4**	
	comp=Z,1.2nm,0.8s,baz=38,slow=5.9								
NOA	**NORSAR Array B**	**73.60**	**338**	P		**P**	**08 40 21.9**	**+0.4**	
	comp=Z,2.2nm,0.9s,baz=40,slow=5.8,SNR=5.7								
NOA				LR		LR	09 18 13.1		
	comp=Z,11nm,18.4s,baz=220,slow=40								
AKASG	**Malin Array Be**	**74.43**	**323**	P		**P**	**08 40 26.4**	**+0.1**	
	comp=Z,2.8nm,0.6s,baz=46,slow=6.1,SNR=9.5								
PDAR	**Pinedale Array**	**74.93**	**47**	P		**P**	**08 40 30.0**	**+0.2**	
	comp=Z,1.3nm,0.6s,baz=212,slow=2.4,SNR=11								
BRTR	**Keskin Array B**	**79.49**	**313**	P		**P**	**08 40 55.9**	**+0.5**	
	comp=Z,0.8nm,0.6s,baz=54,slow=4.9,SNR=4.5								
GERES	**GERESS Array B**	**82.55**	**330**	LR		LR	09 20 52.0		
	comp=Z,22nm,19.4s,baz=68,slow=38								
TXAR	**Lajitas Array**	**87.35**	**54**	P		**P**	**08 41 36.2**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=307,slow=3.7,SNR=16								
LPAZ	**La Paz**	**143.93**	**61**	PKP		PKPab	08 48 23.6	+1.4	
	comp=Z,1.5nm,0.9s,baz=13,slow=2.2,SNR=5.9								

JMA 08 08:29:03.0±0.1, 35.65N×141.00E, h18km±1km, M1.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC	h	m s	ISC
CHOJ	**Chosi**	**0.13**	**295**	P	Pg	08	29 06.9	-0.1
CHOJ				S	Sg	08	29 09.8	+0.2

IDC 08 08:29:51.0±2.7, 53.49N×87.70E, h0km, mb1 3.4/2, mb1mx3.1/44, mbtmp3.4/2, ML3.2/2, 3C-2D, Error ellipse: s-maj=23.5km s-min=14.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC	h	m s	ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**286**	*i*		08	41 22.9	
	baz=100,slow=314,SNR=19							
ZALV	**Zalesovo Beam**	**1.77**	**286**	Pg	Pn	08	30 21.6	-1.2
	4.2nm,0.3s,baz=102,slow=15,SNR=8.0							
ZALV				Lg	Lg	08	30 47.6	
	6.4nm,0.3s,baz=108,slow=26,SNR=5.3							
KURBB	**Kurchatov Arra**	**6.34**	**247**	Pn	Pn	08	31 26.4	+0.9
	0.4nm,0.3s,baz=61,slow=14,SNR=28							
KURBB				Sn	Sn	08	32 37.4	-1.2
	0.1nm,0.3s,baz=79,slow=15,SNR=3.2							
KURBB				Lg	Lg	08	33 13.8	
	0.1nm,0.3s,baz=65,slow=31,SNR=6.0							
KURBB	**Kurchatov Arra**	**6.34**	**247**	⇓Pn	Pn	08	31 26.2	+0.7
	3.0nm,0.4s							
KURBB				⇓Sn	Sn	08	32 37.9	-0.7
	2.5nm,0.4s							
KURBB				⇑Lg	Lg	08	33 08.9	
	2.7nm,0.5s							
MK31	**Makanchi Array**	**7.55**	**210**	Pn	Pn	08	31 43.9	+1.7
	0.2nm,0.3s,baz=31,slow=13,SNR=10							
MK31				⇑Sn	Sn	08	33 10.3	+1.9
	0.5nm,0.7s,baz=211,slow=8.6,SNR=3.6							
MK31				⇑Lg	Lg	08	33 52.0	
	1.7nm,0.8s							
MKAR	**Makanchi Array**	**7.55**	**210**	Pn	Pn	08	31 43.6	+1.5
	0.5nm,0.3s,baz=30,slow=14,SNR=13							
MKAR				Sn	Sn	08	33 07.2	-1.2
	0.1nm,0.3s,baz=22,slow=27,SNR=3.1							
MKAR				Lg	Lg	08	33 50.0	
	0.2nm,0.3s,baz=38,slow=29,SNR=5.8							

JMA 08 08:40:53.8, 36.97N×140.58E, h8km±1km, M2.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC	h	m s	ISC
ONAJ	**Iwakimizuishiy**	**0.22**	**53**	P	Pg	08	40 58.6	+0.4
ONAJ				S	Sg	08	41 01.9	+0.6
JHO	**Hitachi**	**0.36**	**181**	P	Pg	08	41 00.8	0.0
JFK	**Kawauchi**	**0.46**	**31**	P	Pg	08	41 02.7	-0.1
JFT	**Otama**	**0.58**	**341**	P	Pg	08	41 05.2	+0.2
JFT				S	Sg	08	41 13.4	+0.7
JFY	**Yanaizu**	**0.82**	**302**	P	Pg	08	41 09.6	-0.1
JMM	**Marumori**	**0.91**	**11**	P	Pg	08	41 10.6	-0.7
MAT	**Matsushiro**	**1.95**	**258**	P	Pn	08	41 27.3	0.0
MAT				*e*S	Sb	08	41 53.9	-0.2

*IDC **08** 08:48:44.5±0.7, 5.05S×102.56E, h0km, mb4.5/30, mb1 4.6/30, mb1mx4.4/52, mbtmp4.5/30, MS3.5/13, Ms1 3.5/13, ms1mx3.2/51, Error ellipse: s-maj=26.7km s-min=11.2km az=46.0*

*ISCJB **08** 08:48:47.8±0.3, 5.32S±0.04×102.39E±0.03, h44km, mb4.6/51, MS3.6/15, Error ellipse: s-maj=6.2km s-min=3.7km az=41.6*

*DJA **08** 08:48:48.3±1.1, 5.4°×10.2E±°, h19km±11km, M4.8/15, mb4.9/10, mB5.2/6, MLv4.9/15, Mw(mB)4.5/6*

*NEIC **08** 08:48:49.4±0.8, 5.21S×102.41E, h38km±6km, mb4.7/17, Error ellipse: s-maj=8.7km s-min=4.8km az=50.0*

*KLM **08** 08:48:52.3, 5.32S×102.68E, h39km, mb4.7, ML4.4, MS5.8*

ISC 08 08:48:49.9±0.4, 5.26S±0.06×102.41E±0.06, h44km, n236, σ1.9 30/230, mb4.7/51, MS3.6/16, 6C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC	h	m s	ISC
MNAI	**Manna**	**1.05**	**31**	P	**Pn**	**08**	**49 06.7**	**-1.4**
MNAI				S	**Sn**	**08**	**49 20.5**	**-1.1**
MNAI	**Manna**	**1.05**	**31**	*e*Pn	**Pn**	**08**	**49 06.6**	**-1.5**
KSI	**Kapahiang**	**1.61**	**6**	P	**Pn**	**08**	**49 14.9**	**-1.0**
LWLI	**Liwa**	**1.66**	**82**	P	**Pn**	**08**	**49 15.0**	**-1.6**
KASI	**Kota Agung**	**2.09**	**97**	P	**Pn**	**08**	**49 21.5**	**-0.9**
KASI				S	**Sn**	**08**	**49 46.0**	**-1.3**
MASI	**Maura Aman, Be**	**2.11**	**355**	P	**Pn**	**08**	**49 23.1**	**+0.3**
BLSI	**Bandar Lampung**	**2.82**	**92**	P	**Pn**	**08**	**49 36.3**	**+3.8**
PPSI	**Pulau Pagai**	**3.45**	**316**	P	**Pn**	**08**	**49 41.9**	**+0.8**
CGJI	**Cibinong**	**3.53**	**113**	P	**Pn**	**08**	**49 41.6**	**-0.6**
JMBI	**JAMBI**	**3.81**	**19**	P	**Pn**	**08**	**49 47.9**	**+1.9**
PPI	**Padang Panjang**	**5.18**	**337**	P	**Pn**	**08**	**50 05.1**	**+0.2**
	79nm,0.7s,1μm0.8nm							
BKNI	**Bangkinang**	**5.72**	**346**	*e*Pn	**Pn**	**08**	**50 12.1**	**-0.2**
CISI	**Cisompet, Garu**	**5.83**	**113**	P	**Pn**	**08**	**50 13.1**	**-0.9**
	131nm,0.5s,6μm1.4nm							
CISI	**Cisompet, Garu**	**5.83**	**113**	*e*Pn	**Pn**	**08**	**50 13.1**	**-0.9**
CMJI	**Cimerak**	**6.50**	**113**	P	**Pn**	**08**	**50 22.1**	**-0.9**
	106nm,0.7s,3μm0.6nm							
MNSI	**Mandailing Nat**	**6.65**	**335**	P	**Pn**	**08**	**50 24.3**	**-0.8**
KPJI	**Karang Pucung**	**6.80**	**108**	P	**Pn**	**08**	**50 28.2**	**+1.1**
	49nm,0.5s,0.2nm							
MYKOM	**Kota Tinggi**	**7.15**	**12**	⇑P	**Pn**	**08**	**50 34.8**	**+2.8**
MYKOM	**Kota Tinggi**	**7.15**	**12**	*e*Pn	**Pn**	**08**	**50 30.6**	**-1.4**
KGM	**Kluang**	**7.29**	**7**	⇓P	**Pn**	**08**	**50 36.7**	**+2.9**
GSI	**Gunungsitoli**	**8.12**	**323**	P	**Pn**	**08**	**50 44.2**	**-1.1**
	50nm,0.8s							
FRIM	**Kepong**	**8.48**	**355**	⇑P	**Pn**	**08**	**50 54.5**	**+4.3**
COCO	**West Island**	**8.82**	**218**	*e*Pn	**Pn**	**08**	**50 54.6**	**-0.2**
PCJI	**Pacitan**	**9.18**	**109**	P	**Pn**	**08**	**50 58.9**	**-0.9**
	44nm,0.8s							
PWJI	**Pagerwojo**	**9.72**	**107**	P	**Pn**	**08**	**51 07.3**	**+0.1**
	41nm,0.8s							
IPM	**Ipoh**	**9.78**	**352**	⇑P	**Pn**	**08**	**51 12.1**	**+4.1**
KTGM	**Kuala Trenggan**	**10.54**	**4**	⇓P	**Pn**	**08**	**51 22.7**	**+4.2**
KULM	**Kulim**	**10.63**	**350**	⇑P	Pn	08	51 24.8	+5.1
JAGI	**Jajag, Banyuwa**	**12.08**	**106**	P	**Pn**	**08**	**51 38.0**	**-1.5**
	47nm,0.5s,1μm							
JAGI	**Jajag, Banyuwa**	**12.08**	**106**	*e*Pn	**Pn**	**08**	**51 38.1**	**-1.5**
KRAB	**Krabi**	**13.77**	**347**	P	**P**	**08**	**52 11.4**	**+1.3**
PLAI	**Plampang**	**15.65**	**104**	P	**Pn**	**08**	**52 22.8**	**-4.8**
KAPI	**Kappang**	**17.27**	**90**	P	**P**	**08**	**52 49.8**	**+0.8**
	1.3nm,0.3s,baz=113,slow=7.1,SNR=5.2							
KAPI				LR	LR	08	59 59.5	
	comp=Z,120nm,18.6s,baz=267,slow=39							
CHBT	**CHBT**	**17.90**	**360**	P	**Pn**	**08**	**52 55.4**	**-0.3**
	69nm,0.9s							
TSM	**Tawau**	**18.12**	**59**	⇓P	**Pn**	**08**	**53 00.4**	**+1.9**
SDKM	**Sandakan**	**18.31**	**54**	⇑P	**Pn**	**08**	**53 01.9**	**+1.2**
KDM	**Kudat**	**18.80**	**50**	⇓P	**P**	**08**	**53 06.3**	**+0.5**
MYLDM	**Lahad Datu**	**19.12**	**57**	⇓P	**Pn**	**08**	**53 11.0**	**+0.4**
MYLDM	**Lahad Datu**	**19.12**	**57**	*e*P	**Pn**	**08**	**53 11.0**	**+0.4**
	22nm,1.0s							
CHAI	**Chaiyaphum**	**21.03**	**359**	P	**P**	**08**	**53 29.6**	**-0.5**
	10nm,0.8s							
SOEI	**Soe**	**22.12**	**103**	*e*P	**P**	**08**	**53 43.1**	**+1.1**
	31nm,0.9s							
LOEI	**Loei**	**22.65**	**357**	P	**P**	**08**	**53 47.2**	**-0.3**
	9.9nm,0.8s,373nm							
SUKH	**Sukhothai**	**22.77**	**353**	P	**P**	**08**	**53 48.5**	**-0.1**
	12nm,0.8s,96nm							
NONG	**Nongkai**	**23.19**	**2**	P	**P**	**08**	**53 51.9**	**-1.1**
	15nm,0.7s							
CM01	**Chiang Mai Arr**	**23.78**	**352**	*e*P	**P**	**08**	**53 58.2**	**-0.4**
CM31	**Chiang Mai Arr**	**23.82**	**352**	*e*P	**P**	**08**	**53 58.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**23.82**	**352**	P	**P**	**08**	**53 57.7**	**-1.3**
	10nm,0.4s,baz=185,slow=8.7,SNR=22							
CMAR				LR	LR	09	03 46.4	
	comp=Z,96nm,18.9s,baz=190,slow=38							
PALK	**Pallekele**	**24.99**	**300**	LR	LR	09	03 33.0	
	comp=Z,66nm,18.6s,baz=116,slow=36							
QIZ	**Qiongzhong**	**25.22**	**17**	P	**P**	**08**	**54 12.1**	**+0.3**
QIZ				S	**S**	**08**	**58 35.0**	**+0.6**
QIZ				LR	LR			
	comp=Z,140nm,18.2s							
FITZ	**Fitzroy Crossi**	**26.03**	**121**	P	**P**	**08**	**54 19.5**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=278,slow=5.5,SNR=7.0							
FITZ	**Fitzroy Crossi**	**26.03**	**121**	*e*P	**P**	**08**	**54 21.4**	**+2.2**
	comp=Z,12nm,1.3s							
MTN	**Manton Dam**	**29.32**	**107**	*e*P	**P**	**08**	**54 48.6**	**-0.1**
	comp=Z,10nm,0.6s							
H08S2	**Diego Garcia H**	**29.82**	**264**	T	T	09	25 40.5	
	baz=87,slow=76,SNR=36							
H08S3	**Diego Garcia H**	**29.83**	**264**	T	T	09	25 39.5	
	baz=87,slow=76,SNR=38							
H08S1	**Diego Garcia H**	**29.84**	**264**	T	T	09	25 40.5	
	baz=87,slow=76,SNR=35							
H01W3	**Cape Leeuwin H**	**31.41**	**161**	T	T	09	28 41.4	
	baz=340,slow=76,SNR=17							
H01W2	**Cape Leeuwin H**	**31.42**	**161**	T	T	09	28 33.2	
	baz=340,slow=76,SNR=19							
H01W1	**Cape Leeuwin H**	**31.42**	**161**	T	T	09	28 44.2	
	baz=340,slow=76,SNR=14							
GYA	**Guiyang**	**31.80**	**7**	*e*P	**P**	**08**	**55 12.8**	**+2.3**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
WRA	**Warramunga Arr**	**34.31**	**118**	P	**P**	**08**	**55 32.3**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=290,slow=8.8,SNR=27							
WRAB	**Tennant Creek**	**34.31**	**118**	*e*P	**P**	**08**	**55 32.2**	**-0.3**
	comp=Z,8.8nm,0.9s							
AS31	**Alice Springs**	**35.42**	**124**	*e*P	**P**	**08**	**55 42.5**	**+0.5**
	comp=Z,4.5nm,0.3s							
ASAR	**Alice Springs**	**35.42**	**124**	P	**P**	**08**	**55 42.4**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=295,slow=7.5,SNR=32							
ASAR				S	S	09	01 24.5	+10
	comp=Z,0.5nm,0.9s,baz=299,slow=16,SNR=4.0							
ASAR				LR	LR	09	10 46.8	
	comp=Z,64nm,20.3s,baz=309,slow=37							
AS01	**Alice Springs**	**35.45**	**124**	*e*P	**P**	**08**	**55 42.0**	**-0.4**
CD2	**Chengdu**	**35.99**	**2**	*e*P	**P**	**08**	**55 47.8**	**+1.0**
XAN	**Xi'an**	**39.57**	**8**	P	**P**	**08**	**56 15.9**	**-1.1**
XAN				pP	pP	08	56 27.9	-1.1
XAN				pmax	pmax			
	comp=Z,13nm,0.6s							
GTA	**Gaotai**	**44.51**	**357**	*e*P	**P**	**08**	**56 58.1**	**+0.8**
GTA				pP	pP	08	57 09.3	-0.2
GTA				sP	sP	08	57 13.9	-0.8
GTA				S	**S**	**09**	**03 30.3**	**+0.5**
GTA				sS	sS	09	03 50.9	+0.8
GTA				SS	**SS**	**09**	**06 41.5**	**-9.3**
GTA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,77nm,5.5s							
GTA				LR	LR			
	comp=N,230nm,20.9s							
GTA				LR	LR			
	comp=E,410nm,18.5s							
GTA				LR	LR			
	comp=Z,150nm,19.0s							
PMG	**Port Moresby**	**44.55**	**98**	P	**P**	**08**	**56 57.4**	**-0.4**
	comp=Z,16nm,0.8s,baz=153,slow=9.0,SNR=3.2							
CTA	**Charters Tower**	**45.07**	**113**	P	**P**	**08**	**57 02.4**	**+0.4**
	comp=Z,9.8nm,0.9s,baz=278,slow=11							
CTAO	**Charters Tower**	**45.07**	**113**	*e*P	**P**	**08**	**57 02.5**	**+0.5**
	comp=Z,17nm,1.2s							
STKA	**Stephens Creek**	**45.20**	**131**	P	**P**	**08**	**57 03.8**	**+1.0**
	comp=Z,9.0nm,0.7s,baz=301,slow=8.5,SNR=27							
STKA	**Stephens Creek**	**45.20**	**131**	*e*P	**P**	**08**	**57 04.3**	**+1.5**
	comp=Z,1.8nm,0.6s							
HHC	**Hu-ho-hao-te**	**46.65**	**10**	*e*P	**P**	**08**	**57 17.5**	**+3.4**
HHC				S	**S**	**09**	**04 05.1**	**+4.6**
HHC				pmax	pmax			
	comp=Z,25nm,1.1s							
HHC				pmax	pmax			
	comp=Z,140nm,6.0s							
HHC				LR	LR			
	comp=N,120nm,15.6s							
HHC				LR	LR			
	comp=E,93nm,15.0s							
HHC				LR	LR			
	comp=Z,110nm,15.2s							
KSAR	**Wonju Array Be**	**48.67**	**27**	P	**P**	**08**	**57 29.1**	**-0.6**
KSRS	**Korea Array**	**48.69**	**27**	P	**P**	**08**	**57 29.1**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=228,slow=7.2,SNR=9.3							
KSRS				LR	LR	09	18 16.0	
	comp=Z,32nm,18.4s,baz=205,slow=37							
WMQ	**Urumqi**	**50.63**	**346**	P	**P**	**08**	**57 45.7**	**+1.0**
WMQ				pP	pP	08	57 57.8	+0.8
WMQ				sP	sP	08	58 04.2	+2.0
WMQ				pmax	pmax			
	comp=Z,26nm,0.4s							
WMQ				pmax	pmax			
	comp=Z,63nm,4.4s							
WMQ				LR	LR			
	comp=N,17nm,24.2s							
WMQ				LR	LR			
	comp=Z,13nm,15.6s							
KSH	**Kashi**	**50.80**	**334**	P	**P**	**08**	**57 45.5**	**-0.6**
KSH				pP	pP	08	57 57.6	-0.9
KSH				pmax	pmax			
	comp=Z,6.0nm,0.5s							
SONM	**Songino Array**	**52.99**	**3**	P	**P**	**08**	**58 02.7**	**+0.5**
	comp=Z,12nm,0.6s,baz=185,slow=10,SNR=22							
SONA1	**Songino Array**	**53.00**	**3**	*e*P	**P**	**08**	**58 02.4**	**+0.1**
ULN	**Ulaanbaatar**	**53.06**	**4**	*e*P	**P**	**08**	**58 02.6**	**-0.2**
	comp=Z,10nm,1.0s							
MJAR	**Matsushiro Arr**	**53.38**	**36**	P	**P**	**08**	**58 02.6**	**-2.6**
	comp=Z,1.5nm,0.6s,baz=222,slow=7.1,SNR=5.6							
TKM2	**Tokmak 2**	**53.77**	**336**	*e*P	**P**	**08**	**58 08.4**	**+0.3**
	comp=Z,10nm,0.8s							
AAK	**Ala-Archa**	**53.99**	**335**	P	**P**	**08**	**58 09.8**	**0.0**
	comp=Z,2.7nm,0.6s,baz=140,slow=3.9,SNR=5.4							
AAK				PcP	**PcP**	**08**	**59 16.1**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=189,slow=8.1,SNR=3.8							
EKS2	**Erkin-Say**	**54.32**	**334**	*e*P	**P**	**08**	**58 13.2**	**+1.0**
	comp=Z,6.9nm,0.8s							
MK01	**Makanchi Array**	**54.79**	**343**	*e*P	**P**	**08**	**58 14.9**	**-0.3**
MK31	**Makanchi Array**	**54.81**	**343**	*e*P	**P**	**08**	**58 15.4**	**-0.1**
MKAR	**Makanchi Array**	**54.81**	**343**	P	**P**	**08**	**58 15.2**	**-0.3**
	comp=Z,7.9nm,0.4s,baz=150,slow=8.2,SNR=109							
MKAR				LR	LR	09	25 55.8	
	comp=Z,31nm,19.1s,baz=106,slow=41							
MKAR	**Makanchi Array**	**54.81**	**343**	*e*P	**P**	**08**	**58 15.4**	**-0.1**
MAKZ	**Makanchi**	**54.92**	**343**	*e*P	**P**	**08**	**58 16.1**	**-0.1**
	comp=Z,5.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**55.97**	**25**	P	**P**	**08**	**58 22.9**	**-0.9**
	comp=Z,6.1nm,0.7s,baz=216,slow=6.2,SNR=17							
KKAR	**Karatay Array**	**56.14**	**332**	*e*P	**P**	**08**	**58 25.6**	**+0.5**
TLY	**Talaya**	**56.73**	**1**	P	**P**	**08**	**58 29.1**	**0.0**
	comp=Z,2.4nm,0.5s,baz=202,slow=4.7,SNR=4.6							
KURBB	**Kurchatov Arra**	**59.35**	**343**	P	**P**	**08**	**58 47.1**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=158,slow=6.5,SNR=26							
KURK	**Kurchatov**	**59.41**	**343**	P	**P**	**08**	**58 47.1**	**-0.7**
GEYT	**Alibeck**	**59.48**	**320**	P	**P**	**08**	**58 49.4**	**+0.7**
	comp=Z,4.0nm,0.5s,baz=180,slow=3.0,SNR=5.5							
KLR	**Kul'dur**	**59.98**	**22**	P	**P**	**08**	**58 50.8**	**-1.0**
	comp=Z,3.9nm,0.6s,baz=227,slow=5.0,SNR=18							
KLR				LR	LR	09	29 13.2	
	comp=Z,43nm,18.1s,baz=198,slow=41							
ZALV	**Zalesovo Beam**	**60.81**	**348**	P	**P**	**08**	**58 57.3**	**-0.1**
	comp=Z,19nm,0.5s,baz=173,slow=4.9,SNR=7.6							
ZALV				LR	LR	09	28 31.0	
	comp=Z,68nm,18.4s,baz=70,slow=39							
BVAR	**Borovoye Array**	**64.06**	**339**	P	**P**	**08**	**59 18.6**	**-0.6**
	comp=Z,4.1nm,0.3s,baz=144,slow=8.7,SNR=31							
BRVK	**Borovoye**	**64.13**	**339**	*e*P	**P**	**08**	**59 19.4**	**-0.2**
	comp=Z,16nm,0.6s							
ZRNK	**Zerenda**	**64.50**	**338**	*e*P	**P**	**08**	**59 21.4**	**-0.6**
	comp=Z,5.4nm,0.8s							
ABKAR	**Akbulak array**	**65.64**	**331**	*e*P	**P**	**08**	**59 29.5**	**+0.1**
	comp=Z,5.0nm,0.4s							
AKTO	**Aktyubinsk**	**67.36**	**331**	P	**P**	**08**	**59 40.2**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=126,slow=14,SNR=6.3							
AKTO				LR	LR	09	33 14.0	
	comp=Z,30nm,18.8s,baz=177,slow=40							
MAW	**Mawson**	**67.76**	**195**	LR	LR	09	23 58.4	
	comp=Z,68nm,21.1s,baz=52,slow=31							
ARU	**Arti**	**71.14**	**336**	*e*P	**P**	**09**	**00 03.7**	**0.0**
	comp=Z,3.1nm,0.3s,baz=100,slow=2.2,SNR=8.1							
ARU	**Arti**	**71.14**	**336**	*e*P	**P**	**09**	**00 03.9**	**+0.1**
	comp=Z,13nm,1.2s							
KBZ	**Khabaz**	**72.33**	**319**	P	**P**	**09**	**00 11.7**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=131,slow=8.7,SNR=6.1							
NRIK	**Noril'sk**	**75.14**	**355**	P	**P**	**09**	**00 26.6**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=162,slow=2.3,SNR=5.1							
NRIK				LR	LR	09	38 04.6	
	comp=Z,29nm,18.9s,baz=188,slow=40							
SYO	**Syowa Base**	**75.59**	**199**	⇓*e*PKiKP	**PKiKP**	**09**	**06 15.4**	**-2.0**
BRTR	**Keskin Array B**	**77.29**	**313**	P	**P**	**09**	**00 40.6**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=129,slow=7.2,SNR=9.2							
SEY	**Seymchan**	**77.76**	**21**	P	**P**	**09**	**00 41.5**	**-0.6**
	comp=Z,5.6nm,0.7s,baz=174,slow=24,SNR=18							
BR231	**Keskin MP Arra**	**77.96**	**312**	*e*P	**P**	**09**	**00 41.3**	**-2.5**
TIXI	**Tiksi**	**78.70**	**8**	P	**P**	**09**	**00 45.5**	**-1.5**
	comp=Z,4.3nm,0.5s,baz=220,slow=3.5,SNR=23							
TIXI	**Tiksi**	**78.70**	**8**	*e*P	**P**	**09**	**00 45.3**	**-1.7**
	comp=Z,6.1nm,0.6s							
AKASG	**Malin Array Be**	**83.52**	**322**	P	**P**	**09**	**01 13.5**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=86,slow=4.7,SNR=6.1							
BUR08	**Bucovina Ar. S**	**85.30**	**319**	*e*P	**P**	**09**	**01 23.5**	**+1.1**
KOLS	**Kolonicke sedl**	**87.48**	**319**	*e*P	**P**	**09**	**01 34.9**	**+2.0**
KOLS				*e*		09	40 41.5	
FINES	**FINESS Array B**	**88.10**	**332**

	baz=328,SNR=5.2							
R44A	**Waltonville**	**145.54**	**16**	P		**PKPdf**	**09 08 23.1**	**-0.6**
	baz=340,SNR=13							
TXAR	**Lajitas Array**	**145.63**	**43**	PKPbc		**PKPab**	**09 08 25.1**	**+0.2**
	comp=Z,8.6nm,0.7s,baz=252,slow=1.2,SNR=114							
W36A	**Wetumka**	**145.64**	**28**	P		**PKPdf**	**09 08 24.1**	**0.0**
	baz=326							
HHAR	**Hobbs**	**145.67**	**24**	*e*PKPdf		**PKPdf**	**09 08 23.8**	**-0.3**
U39A	**Green Forest**	**145.76**	**23**	P		**PKPdf**	**09 08 23.7**	**-0.5**
	baz=331,SNR=12							
T41A	**Mountain View**	**145.81**	**20**	P		**PKPdf**	**09 08 24.3**	**0.0**
	baz=334,SNR=23							
V38A	**Canehill**	**145.84**	**25**	P		**PKPdf**	**09 08 23.8**	**-0.5**
	baz=329,SNR=5.8							
Z33A	**Whitaker Ranch**	**145.85**	**33**	P		**PKPdf**	**09 08 24.4**	**0.0**
	baz=320							
Y34A	**Reagan Ranch,**	**145.85**	**31**	P		**PKPdf**	**09 08 24.3**	**-0.2**
	baz=322							
ABTX	**Abilene, Hawle**	**145.87**	**34**	P		**PKPdf**	**09 08 24.7**	**+0.1**
	baz=318							
S43A	**Fulton Ridge,**	**145.88**	**18**	P		**PKPdf**	**09 08 24.4**	**0.0**
	baz=338							
W37B	**Quinton**	**146.01**	**27**	P		**PKPdf**	**09 08 24.7**	**+0.1**
	baz=327							
S44A	**Carbondale**	**146.01**	**17**	P		**PKPdf**	**09 08 24.7**	**+0.2**
	baz=339							
U40A	**Yellville**	**146.03**	**22**	P		**PKPdf**	**09 08 24.7**	**0.0**
	baz=332,SNR=14							
V39A	**Pettigrew**	**146.17**	**24**	P		**PKPdf**	**09 08 25.0**	**0.0**
	baz=330,SNR=13							
S45A	**Carrier Mills**	**146.21**	**16**	P		**PKPdf**	**09 08 25.1**	**+0.1**
	baz=340							
133A	**Hamilton Ranch**	**146.28**	**34**	P		**PKPdf**	**09 08 25.9**	**+0.7**
	baz=320							
W38A	**Poteau**	**146.47**	**26**	P		**PKPbc**	**09 08 26.0**	**+0.6**
	baz=328							
X37A	**Clayton**	**146.49**	**27**	P		**PKPdf**	**09 08 26.3**	**+0.8**
	baz=327							
Y36A	**Durant**	**146.63**	**29**	P		**PKPdf**	**09 08 26.4**	**+0.6**
	baz=325							
W39A	**Magazine**	**146.67**	**25**	P		**PKPdf**	**09 08 26.6**	**+0.9**
	baz=330							
X38A	**Whitesboro**	**146.67**	**26**	P		**PKPbc**	**09 08 27.1**	**-0.3**
	baz=328							
233A	**Rising Star**	**146.74**	**34**	P		**PKPbc**	**09 08 27.7**	**-0.1**
	baz=319							
134A	**White-Moore Ra**	**146.76**	**33**	P		**PKPdf**	**09 08 27.2**	**+1.2**
	baz=321							
V41A	**Mountainview**	**146.79**	**22**	P		**PKPdf**	**09 08 26.9**	**+0.9**
	baz=333,SNR=11							
Y37A	**Hugo**	**146.88**	**28**	P		**PKPdf**	**09 08 27.2**	**+1.0**
	baz=326							
W40A	**Ferguson Farm,**	**146.96**	**24**	P		**PKPbc**	**09 08 27.7**	**-0.5**
	baz=331							
V42A	**Cord**	**147.05**	**21**	P		**PKPbc**	**09 08 27.8**	**-0.6**
	baz=334,SNR=5.2							
Z36A	**Blue Ridge**	**147.07**	**30**	P		**PKPbc**	**09 08 27.9**	**-0.7**
	baz=324							
X39A	**Fountain Ranch**	**147.12**	**26**	P		**PKPbc**	**09 08 28.3**	**-0.5**
	baz=329							
234A	**Clairette**	**147.17**	**33**	P		**PKPbc**	**09 08 28.7**	**-0.3**
	baz=320							
333A	**Richland Sprin**	**147.20**	**35**	P		**PKPbc**	**09 08 29.0**	**-0.1**
	baz=318							
W41B	**Gary Mavity, V**	**147.30**	**23**	P		**PKPbc**	**09 08 29.0**	**-0.2**
	baz=332							
MIAR	**Mount Ida**	**147.31**	**25**	P		**PKPbc**	**09 08 29.1**	**-0.1**
	baz=330							
MIAR	**Mount Ida**	**147.31**	**25**	*e*PKPbc		**PKPbc**	**09 08 29.5**	**+0.2**
433A	**Art**	**147.56**	**36**	P		**PKPbc**	**09 08 29.9**	**-0.2**
	baz=317							
334A	**Lometa**	**147.62**	**34**	P		**PKPbc**	**09 08 29.8**	**-0.5**
	baz=319							
WVT	**Waverly**	**147.87**	**16**	*e*PKPbc		**PKPbc**	**09 08 30.5**	**-0.2**
434A	**Burnet**	**147.99**	**35**	P		**PKPbc**	**09 08 30.7**	**-0.5**
	baz=319							
236A	**Katherine and**	**148.03**	**31**	P		**PKPbc**	**09 08 31.2**	**-0.1**
	baz=323							
533A	**Kerrville**	**148.09**	**37**	P		**PKPbc**	**09 08 31.4**	**-0.1**
	baz=317							
335A	**Moody**	**148.11**	**33**	P		**PKPbc**	**09 08 31.7**	**+0.2**
	baz=320							
Y41A	**Eaglette Beard**	**148.29**	**24**	P		**PKPbc**	**09 08 31.8**	**0.0**
	baz=331							
336A	**Riesel**	**148.34**	**33**	P		**PKPbc**	**09 08 32.1**	**0.0**
	baz=321							
W45A	**Hickory Valley**	**148.38**	**18**	P		**PKPbc**	**09 08 31.8**	**-0.2**
	baz=338							
633A	**Saathoff Ranch**	**148.44**	**38**	P		**PKPbc**	**09 08 32.6**	**+0.1**
	baz=316							
534A	**Blanco**	**148.45**	**36**	P		**PKPbc**	**09 08 32.2**	**-0.3**
	baz=318							
X44A	**Crenshaw**	**148.66**	**20**	P		**PKPbc**	**09 08 33.1**	**+0.3**
	baz=336							
832A	**Faith Ranch, C**	**148.76**	**40**	P		**PKPbc**	**09 08 33.4**	**+0.1**
	baz=313							
PLAL	**Pickwick Lake**	**148.88**	**17**	*e*PKPbc		**PKPbc**	**09 08 32.8**	**-0.6**
337A	**Centerville**	**148.91**	**31**	P		**PKPbc**	**09 08 33.7**	**+0.1**
	baz=323							
X45A	**UM Field Stati**	**148.99**	**19**	P		**PKPbc**	**09 08 33.2**	**-0.4**
	baz=337							
833A	**Chaparral WMA,**	**149.10**	**40**	P		**PKPbc**	**09 08 33.8**	**-0.4**
	baz=314							
Y44A	**Strider, Charl**	**149.13**	**21**	P		**PKPbc**	**09 08 33.6**	**-0.4**
	baz=335							
734A	**La Parita Cree**	**149.26**	**38**	P		**PKPbc**	**09 08 34.9**	**+0.4**
	baz=316							
CPCT	**Cooper Cave**	**149.28**	**11**	*e*PKPbc		**PKPbc**	**09 08 34.6**	**+0.2**
635A	**Leesville**	**149.34**	**36**	P		**PKPbc**	**09 08 35.2**	**+0.5**
	baz=318							
240A	**Hunter Patters**	**149.36**	**28**	P		**PKPbc**	**09 08 35.0**	**+0.3**
	baz=327							
Y46A	**Houston**	**149.66**	**19**	P		**PKPbc**	**09 08 35.3**	**-0.1**
	baz=338							
933A	**Laredo**	**149.67**	**40**	P		**PKPbc**	**09 08 36.0**	**+0.4**
	baz=313							
636A	**Smothers Creek**	**149.68**	**35**	P		**PKPbc**	**09 08 36.9**	**+1.4**
	baz=319							
736A	**Circle Diamond**	**150.07**	**36**	P		**PKPbc**	**09 08 37.1**	**+0.6**
	baz=318							
034A	**Hebbronville**	**150.43**	**41**	P		**PKPbc**	**09 08 37.8**	**+0.4**
	baz=314							
145A	**Houston Renfro**	**150.46**	**21**	P		**PKPbc**	**09 08 37.4**	**+0.1**
	baz=335							
Z48A	**Northport**	**150.53**	**17**	P		**PKPbc**	**09 08 36.4**	**-1.0**
	baz=340							
Z47A	**Carrollton**	**150.54**	**18**	P		**PKPbc**	**09 08 36.7**	**-0.8**
	baz=338							
244A	**Avery, Jackson**	**150.67**	**23**	P		**PKPbc**	**09 08 37.7**	**-0.1**
	baz=333							
540A	**Vidor**	**150.76**	**30**	P		**PKPbc**	**09 08 36.8**	**-1.3**
	baz=325							
347A	**Saraland**	**152.04**	**20**	P		**PKPbc**	**09 08 40.4**	**-0.6**
	baz=336							

*ISCJB **08** 08:57:11.4±0.3,3°.12N±0°.03×128°.75E±0°.05,h200km, mb4.2/27,Error ellipse: s-maj=7.6km s-min=4.3km az=7.4*
*DJA **08** 08:57:14.5±0.9,3°N±9°×12°9E±°,h207km±7km,M4.8/12, mb4.9/12,mB5.0/9,MLv5.2/9,Mw(mB)4.3/9*
*IDC **08** 08:57:15.2±1.2,3°.03N×128°.58E,h226km±12km,mb3.8/19, mb1 4.0/23,mb1mx3.8/46,mbtmp4.4/23,Error ellipse: s-maj=14.8km s-min=7.9km az=83.0*
*NEIC **08** 08:57:15.2±0.8,3°.06N×128°.59E,h228km±8km,mb4.9/13, Error ellipse: s-maj=10.6km s-min=5.8km az=85.0*

ISC 08 08:57:12.6±0.5,3°.01N±0°.04×128°.59E±0°.07,h200km,n55, σ1°98/67,mb4.2/26,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**3.13**	**282**	P	**Pn**	**08 58 05.5**	**+1.6**
LBMI	**Labuha**	**3.79**	**197**	P	**Pn**	**08 58 15.0**	**+3.2**
LBMI				S	**Sn**	**08 58 55.8**	**-2.5**
SWI	**Sorong**	**4.68**	**145**	P	Pn	08 58 28.0	+5.0
SIJI	**Sorong**	**4.69**	**145**	P	**Pn**	**08 58 27.8**	**+4.6**
	15nm,0.3s,baz=243,slow=1.0,SNR=5.3						
DAV	**Davao City (W)**	**5.03**	**323**	P	**Pn**	**08 58 30.8**	**+3.4**
	90nm,0.3s,baz=55,slow=4.2,SNR=5.2						
DAV				S	**Sn**	**08 59 29.1**	**+2.6**
	83nm,0.3s,baz=274,slow=24,SNR=6.1						
SANI	**Sanana**	**5.66**	**207**	P	**Pn**	**08 58 36.0**	**+0.4**
	603nm,0.7s,9µm2.5nm						
BUKP	**Musuan**	**5.98**	**324**	*e*P	**Pn**	**08 58 40.0**	**+0.3**
BUKP				*e*S	**Sn**	**08 59 47.5**	**-1.1**
MSAI	**Masohi**	**6.32**	**177**	P	Pn	08 58 49.3	+5.2
	78nm,0.9s,1µm						

NLAI	**Namlea**	**6.38**	**194**	P		**Pn**	**08 58 47.4**	**+2.5**
	429nm,0.6s,5µm1.4nm							
FAKI	**Fak Fak**	**6.93**	**148**	P		**Pn**	**08 58 56.1**	**+4.0**
	224nm,1.0s,2µm0.8nm							
FAKI	**Fak Fak**	**6.93**	**148**	*e*Pn		**Pn**	**08 58 55.5**	**+3.4**
	188nm,0.9s							
LUWI	**Luwuk**	**7.08**	**235**	P		**Pn**	**08 58 56.9**	**+3.0**
	281nm,0.7s,5µm3.7nm							
LUWI	**Luwuk**	**7.08**	**235**	*e*Pn		**Pn**	**08 58 56.9**	**+3.0**
	184nm,0.6s							
MRSI	**Marisa**	**7.11**	**249**	P		**Pn**	**08 58 56.8**	**+2.4**
	163nm,0.8s,3µm0.8nm							
KAPI	**Kappang**	**11.90**	**228**	P		**Pn**	**08 59 59.6**	**+3.3**
	3.0nm,0.3s,baz=116,slow=9.5,SNR=9.1							
KAPI				S		**Sn**	**09 02 08.5**	**-0.6**
	3.9nm,0.3s,baz=154,slow=21,SNR=14							
KAPI	**Kappang**	**11.90**	**228**	*e*Pn		**Pn**	**08 59 58.7**	**+2.4**
	9.4nm,0.6s							
KAPI				P		**Pn**	**08 59 59.6**	**+3.3**
KAPI				S		**Sn**	**09 02 08.5**	**-0.6**
MMRI	**Maumere**	**13.19**	**209**	*e*Pn		**P**	**09 00 15.9**	**+0.3**
	88nm,0.8s							
SOEI	**Soe**	**13.39**	**199**	P		**Pn**	**09 00 18.2**	**+2.9**
	148nm,1.2s,1µm							
SOEI	**Soe**	**13.39**	**199**	*e*Pn		**Pn**	**09 00 17.8**	**+2.5**
	99nm,0.8s							
PLAI	**Plampang**	**15.96**	**222**	P		**Pn**	**09 00 49.2**	**+2.6**
	107nm,0.7s,854nm							
TWSI	**Taliwang, Sumb**	**16.51**	**225**	P		**Pn**	**09 00 55.2**	**+2.0**
	32nm,0.8s							
GUMO	**Guam**	**19.21**	**56**	P		**P**	**09 01 21.9**	**+0.1**
	12nm,0.3s,baz=170,slow=18,SNR=6.8							
FITZ	**Fitzroy Crossi**	**21.18**	**188**	P		**P**	**09 01 42.4**	**-0.2**
	17nm,0.4s,baz=17,slow=9.5,SNR=69							
FITZ				S		**S**	**09 05 24.2**	**-1.9**
	6.5nm,1.0s,baz=165,slow=11,SNR=3.1							
FITZ	**Fitzroy Crossi**	**21.18**	**188**	*e*P		**P**	**09 01 42.4**	**-0.2**
	20nm,0.6s							
FITZ				P		**P**	**09 01 42.4**	**-0.2**
FITZ				S		**S**	**09 05 24.2**	**-1.9**
YULB	**Yu-li**	**21.46**	**341**	P		**P**	**09 01 42.6**	**-2.9**
	6.8nm,0.6s							
TPUB	**Ta-pu**	**21.59**	**340**	*e*P		**P**	**09 01 43.6**	**-3.3**
	27nm,0.8s							
SSLB	**Suanglung**	**21.94**	**341**	*e*P		**P**	**09 01 49.7**	**-0.7**
YHNB	**Yeheng**	**22.63**	**343**	*e*P		**P**	**09 01 56.5**	**-0.3**
	34nm,0.9s							
WRAB	**Tennant Creek**	**23.49**	**166**	*e*P		**P**	**09 02 05.2**	**+0.6**
	7.9nm,0.4s							
WRA	**Warramunga Arr**	**23.50**	**166**	P		**P**	**09 02 04.8**	**+0.1**
	5.7nm,0.4s,baz=345,slow=10.0,SNR=95							
WRA				S		**S**	**09 06 00.7**	**-2.9**
	6.0nm,0.8s,baz=339,slow=14,SNR=8.7							
WRA				ScP		**ScP**	**09 09 00.8**	**-3.2**
	1.1nm,0.7s,baz=342,slow=3.1,SNR=5.5							
MBWA	**Marble Bar**	**25.54**	**199**	*e*P		**P**	**09 02 23.2**	**+0.1**
	47nm,0.6s							
ASAR	**Alice Springs**	**27.02**	**169**	P		**P**	**09 02 36.7**	**+0.3**
	2.6nm,0.3s,baz=347,slow=7.5,SNR=35							
ASAR				PcP		**PcP**	**09 05 52.5**	**-0.2**
	2.4nm,0.5s,baz=0.3,slow=2.5,SNR=8.5							
ASAR				S		**S**	**09 06 56.5**	**-2.7**
	8.2nm,0.8s,baz=350,slow=18,SNR=21							
ASAR				ScP		**ScP**	**09 09 11.6**	**-2.5**
	2.4nm,0.8s,baz=358,slow=2.7,SNR=8.5							
CMAR	**Chiang Mai Arr**	**32.84**	**300**	P		**P**	**09 03 28.3**	**+0.5**
	2.5nm,0.6s,baz=109,slow=6.9,SNR=12							
KSAR	**Wonju Array Be**	**34.27**	**359**	P		**P**	**09 03 40.0**	**+0.2**
KSRS	**Korea Array**	**34.28**	**359**	P		**P**	**09 03 40.0**	**+0.1**
	3.4nm,0.7s,baz=176,slow=9.6,SNR=15							
MAJO	**Matsushiro**	**34.53**	**14**	*e*P		**P**	**09 03 41.5**	**-0.5**
	6.2nm,0.8s							
MJAR	**Matsushiro Arr**	**34.53**	**14**	P		**P**	**09 03 41.1**	**-1.0**
	2.2nm,0.4s,baz=185,slow=9.0,SNR=12							
STKA	**Stephens Creek**	**36.83**	**161**	P		**P**	**09 04 02.5**	**+0.8**
	4.2nm,0.3s,baz=345,slow=7.7,SNR=34							
USRK	**Ussuriysk Ar.**	**41.13**	**4**	P		**P**	**09 04 37.7**	**+0.6**
	0.9nm,0.5s,baz=188,slow=8.5,SNR=4.9							
ULN	**Ulaanbaatar**	**48.39**	**341**	*e*P		**P**	**09 05 34.3**	**-0.2**
	2.9nm,0.8s							
SONM	**Songino Array**	**48.59**	**340**	P		**P**	**09 05 36.0**	**0.0**
	3.0nm,0.9s,baz=152,slow=8.2,SNR=4.1							
PETK	**Petropavlovsk-**	**55.41**	**21**	P		**P**	**09 06 26.9**	**+0.7**
	3.1nm,0.5s,baz=183,slow=5.1,SNR=6.8							
MKAR	**Makanchi Array**	**59.21**	**325**	P		**P**	**09 06 52.8**	**0.0**
	1.9nm,0.7s,baz=116,slow=9.4,SNR=10							
SEY	**Seymchan**	**62.33**	**12**	P		**P**	**09 07 14.8**	**+1.3**
	1.0nm,0.3s,baz=355,slow=24,SNR=9.7							
KURK	**Kurchatov**	**63.35**	**327**	P		**P**	**09 07 19.8**	**-0.6**
KURBB	**Kurchatov Arra**	**63.35**	**327**	P		**P**	**09 07 19.8**	**-0.6**
	2.1nm,0.5s,baz=126,slow=6.1,SNR=21							
TIXI	**Tiksi**	**68.54**	**0**	P		**P**	**09 07 52.1**	**-1.0**
	1.7nm,0.4s,baz=164,slow=6.9,SNR=3.6							
BVAR	**Borovoye Array**	**68.94**	**327**	P		**P**	**09 07 54.1**	**-1.8**
	0.6nm,0.4s,baz=134,slow=6.4,SNR=3.4							
COLD	**Coldfoot**	**83.83**	**23**	P		**P**	**09 09 20.2**	**+0.8**
	5.9nm,0.6s							
ILAR	**Eielson Array**	**84.95**	**25**	P		**P**	**09 09 23.9**	**-1.1**
	0.5nm,0.4s,baz=239,slow=5.1,SNR=16							
INK	**Inuvik**	**90.14**	**22**	P		**P**	**09 09 47.6**	**-2.1**
	1.0nm,0.5s,baz=275,slow=4.0,SNR=3.5							
ARCES	**ARCESS Array B**	**91.76**	**340**	P		**P**	**09 09 55.7**	**-1.5**
	1.2nm,0.4s,baz=88,slow=6.3,SNR=15							
YKA	**Yellowknife Ar**	**99.37**	**25**	P		**Pdif**	**09 10 31.7**	**-0.2**
	0.3nm,0.5s,baz=300,slow=4.7,SNR=3.6							
TXAR	**Lajitas Array**	**120.55**	**53**	PKP		**PKPdf**	**09 15 41.2**	**-0.1**
	0.4nm,0.6s,baz=331,slow=0.4,SNR=8.0							
TORD	**Torodi Ar. Bea**	**124.91**	**288**	PKP		**PKPdf**	**09 15 49.2**	**-0.7**
	0.6nm,0.3s,baz=84,slow=1.9,SNR=16							

IDC 08 08:57:32.3±3.0,53°.57N×87°.77E,h0km,mb1 3.5/2, mb1mx3.1/44,mbtmp3.5/2,ML3.1/2,2C-4D,Error ellipse: s-maj=25.1km s-min=15.0km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**283**	*i*		09 08 50.2	
	baz=100,slow=316,SNR=25						
ZALV	**Zalesovo Beam**	**1.79**	**283**	Pg	Pn	08 58 04.3	-0.2
	8.3nm,0.3s,baz=100,slow=15,SNR=13						
ZALV				Lg	Lg	08 58 29.2	
	8.6nm,0.3s,baz=113,slow=23,SNR=14						
KURBB	**Kurchatov Arra**	**6.41**	**246**	Pn	Pn	08 59 08.7	+0.8
	0.2nm,0.3s,baz=62,slow=14,SNR=5.3						
KURBB				Sn	Sn	09 00 20.2	-1.5
	0.0nm,0.3s,baz=304,slow=20,SNR=2.5						
KURBB				Lg	Lg	09 00 55.8	
	0.1nm,0.3s,baz=64,slow=32,SNR=4.3						
KURBB	**Kurchatov Arra**	**6.41**	**246**	⇑Pn	Pn	08 59 08.3	+0.4
	3.3nm,0.4s						
KURBB				⇓Sn	Sn	09 00 19.0	-2.8
	6.4nm,0.7s						
KURBB				⇓Lg	Lg	09 00 50.8	
	13nm,0.7s						
MK31	**Makanchi Array**	**7.64**	**210**	⇓Pn	Pn	08 59 25.6	+0.8
	0.4nm,0.3s,baz=29,slow=13,SNR=8.5						
MK31				⇑Sn	Sn	09 00 51.2	-0.7
	1.8nm,0.8s						
MK31				⇓Lg	Lg	09 01 31.1	
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	08 59 26.1	+1.3
	0.5nm,0.3s,baz=28,slow=14,SNR=5.9						
MKAR				Sn	Sn	09 00 52.0	+0.1
	0.2nm,0.3s,baz=31,slow=24,SNR=4.0						
MKAR				Lg	Lg	09 01 34.4	
	0.3nm,0.3s,baz=31,slow=34,SNR=6.9						

*DDA **08** 09:00:29.0,39°.10N×28°.97E,h9km,Md2.9*
*CSEM **08** 09:00:29.6±0.1,39°.10N×28°.95E,h3km±1km,MD2.9,Error ellipse: s-maj=3.0km s-min=2.4km az=141.0*
*ISK **08** 09:00:29.0,39°.09N×28°.95E,h6km,ML2.5*

ISC 08 09:00:29.5±0.9,39°.09N±0°.02×28°.95E±0°.02,h16km±7km, n39,σ0°29/54,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.19**	**255**	P	**Pg**	**09 00 34.3**	**+0.2**
DEMI				S	**Sg**	**09 00 36.8**	**-0.4**
DEMI	**Demirci**	**0.19**	**255**	*i* P	**Pg**	**09 00 34.4**	**+0.2**
DEMI				*i* S	**Sg**	**09 00 36.8**	**-0.4**
GDZ	**Gediz**	**0.41**	**90**	P	**Pg**	**09 00 38.0**	**+0.1**
GDZ				S	**Sg**	**09 00 43.4**	**-0.2**
GDZ	**Gediz**	**0.41**	**90**	*i* P	**Pg**	**09 00 38.0**	**+0.1**
GDZ				*i* S	**Sg**	**09 00 43.4**	**-0.2**
TVSB	**Tavsanli**	**0.53**	**48**	PG	**Pg**	**09 00 40.0**	**-0.1**
TVSB				*e*SG	**Sg**	**09 00 47.0**	**-0.3**
TVSB	**Tavsanli**	**0.53**	**48**	*i* Pg	**Pg**	**09 00 40.0**	**-0.1**
TVSB				*e*Sg	**Sg**	**09 00 47.0**	**-0.3**
KULA	**Kula-Manisa**	**0.62**	**202**	PG	**Pg**	**09 00 41.7**	**0.0**
KULA				*e*SG	**Sg**	**09 00 49.8**	**-0.2**
KULA	**Kula-Manisa**	**0.62**	**202**	*i* Pg	**Pg**	**09 00 41.7**	**0.0**
KULA				*e*Sg	**Sg**	**09 00 49.8**	**-0.2**
MANT	**Manisa**	**0.67**	**207**	P	**Pg**	**09 00 43.0**	**+0.2**
MANT				S	**Sg**	**09 00 51.3**	**-0.4**
MANT	**Manisa**	**0.67**	**207**	*i* P	**Pg**	**09 00 43.0**	**+0.2**
MANT				*i* S	**Sg**	**09 00 51.3**	**-0.4**
KHAL	**Karahalli**	**0.83**	**149**	P	**Pg**	**09 00 45.7**	**0.0**
KHAL				S	**Sg**	**09 00 56.3**	**-0.4**
KHAL	**Karahalli**	**0.83**	**149**	*i* P	**Pg**	**09 00 45.7**	**0.0**
KHAL				*i* S	**Sg**	**09 00 56.3**	**-0.4**
KHL	**Karahalli**	**0.89**	**150**	*e*PG	**Pg**	**09 00 46.6**	**-0.1**
KHL	**Karahalli**	**0.89**	**150**	*e*Pg	**Pg**	**09 00 46.6**	**-0.1**
AKS	**Akhisar**	**0.91**	**257**	*e*PG	**Pg**	**09 00 46.8**	**-0.4**
AKS	**Akhisar**	**0.91**	**257**	*e*Pg	**Pg**	**09 00 46.8**	**-0.4**
BALB	**Balikesir**	**1.00**	**304**	*e*PG	**Pg**	**09 00 48.8**	**0.0**
BALB	**Balikesir**	**1.00**	**304**	*e*Pg	**Pg**	**09 00 48.8**	**0.0**
IGD	**Bursa**	**1.19**	**9**	*i* P	**Pb**	**09 00 51.2**	**-0.5**
IGD				*i* S	**Sb**	**09 01 06.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**339**	*e*PN	**Pg**	**09 00 53.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**339**	*e*Pn	**Pg**	**09 00 53.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**358**	*e*PN	**Pb**	**09 00 53.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**358**	*e*Pn	**Pb**	**09 00 53.5**	**+0.3**
CAVI	**Cavuskoy**	**1.30**	**31**	*e*PN	**Pg**	**09 00 54.6**	**-0.1**
CAVI	**Cavuskoy**	**1.30**	**31**	*e*Pn	**Pg**	**09 00 54.6**	**-0.1**
IZI	**Iznik**	**1.31**	**18**	*e*PN	**Pg**	**09 00 54.4**	**-0.3**
IZI	**Iznik**	**1.31**	**18**	*e*Pn	**Pg**	**09 00 54.4**	**-0.3**
GONE	**Gonen-Balikesi**	**1.37**	**315**	*e*PN	**Pb**	**09 00 55.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.37**	**315**	*e*Pn	**Pb**	**09 00 55.0**	**+0.3**
BORA	**Eskisehir**	**1.40**	**55**	P	**Pn**	**09 00 55.0**	**+0.4**
BORA				S	**Sg**	**09 01 15.0**	**+0.2**
BORA	**Eskisehir**	**1.40**	**55**	*i* P	**Pn**	**09 00 55.0**	**+0.4**
BORA				*i* S	**Sg**	**09 01 15.0**	**+0.2**
ADVT	**Abdulvahap**	**1.47**	**24**	*e*PN	**Pg**	**09 00 57.4**	**-0.4**
ADVT	**Abdulvahap**	**1.47**	**24**	*e*Pn	**Pg**	**09 00 57.4**	**-0.4**
ARMT	**Armutlu**	**1.47**	**357**	*e*PN	**Pb**	**09 00 57.0**	**+0.4**
ARMT	**Armutlu**	**1.47**	**357**	*e*Pn	**Pb**	**09 00 57.0**	**+0.4**
AYDN	**Tasoluk**	**1.66**	**211**	P	**Pg**	**09 01 01.1**	**-0.3**
AYDN	**Tasoluk**	**1.66**	**211**	*i* P	**Pg**	**09 01 01.1**	**-0.3**
GULT	**Gulveren**	**1.80**	**41**	*e*PN	**Pb**	**09 01 02.0**	**-0.2**
GULT	**Gulveren**	**1.80**	**41**	*e*Pn	**Pb**	**09 01 02.0**	**-0.2**

IDC 08 09:02:53.2±3.1,13°.88N×121°.48E,h140km±18km,mb3.1/3, mb1 3.3/3,mb1mx2.9/35,mbtmp3.5/3,1C,Error ellipse: s-maj=175.5km s-min=23.6km az=62.0,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.58**	**293**	P	Pn	09 03 15.1	+1.1
	344nm,0.3s,baz=228,slow=2.5,SNR=9.9						
TGY				S	Sn	09 03 30.5	+0.9
	197nm,0.3s,baz=7.5,slow=20,SNR=4.5						
TGY	**Tagaytay City**	**0.58**	**293**	⇑*i* P	Pn	09 03 15.1	+1.1
TGY				*i* S	Sn	09 03 21.1	-8.5
WRA	**Warramunga Arr**	**35.91**	**159**	P	P	09 09 39.9	-0.3
	0.4nm,0.6s,baz=341,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**39.24**	**162**	P	P	09 10 08.0	-0.2
	0.3nm,0.4s,baz=336,slow=7.8,SNR=4.8						
MKAR	**Makanchi Array**	**46.34**	**323**	P	P	09 11 05.0	-0.2
	0.4nm,0.4s,baz=123,slow=8.8,SNR=4.4						

*ISCJB **08** 09:05:52.9±0.5,39°.10N±0°.03×29°.10E±0°.04,h7km±5km, Error ellipse: s-maj=5.4km s-min=3.7km az=135.

MANT	**Manisa**	**0.75 216**	P		**Pg**	**09 13 09.3**	**-0.1**
MANT	**Manisa**	**0.75 216**	*i* P		**Pg**	**09 13 09.3**	**-0.1**
KHL	**Karahalli**	**0.83 158**	*e*PG		**Pg**	**09 13 10.7**	**-0.3**
KHL	**Karahalli**	**0.83 158**	*e*Pg		**Pg**	**09 13 10.7**	**-0.3**
KCTX	**Karacabey (Bur**	**1.31 333**	*e*PN		**Pn**	**09 13 19.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31 333**	*e*Pn		**Pn**	**09 13 19.6**	**+0.2**
ARMT	**Armutlu**	**1.48 352**	*e*PN		**Pn**	**09 13 22.1**	**+0.3**
ARMT	**Armutlu**	**1.48 352**	*e*Pn		**Pn**	**09 13 22.1**	**+0.3**

*IDC **08** 09:19:19.2±1.3, 35°.44N×141°.88E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/50, mbtmp3.5/5, ML3.1/2, MS3.9/3, Ms1 3.9/3, ms1mx2.7/44, Error ellipse: s-maj=38.3km s-min=22.5km az=116.0*

*JMA **08** 09:19:20.3±0.3, 35°.69N×141°.94E, h37km±4km, M3.2*

ISC 08 09:19:22.4±2.2, 35°.64N±0°.05×141°.79E±0°.09, h27km±15km, n17, σ1s05/22, mb3.8/3, MS3.9/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.76 275**		P	**Pb**	**09 19 36.4**	**-0.6**
CHOJ				*e*S	**Sb**	**09 19 48.1**	**+1.2**
BSO3	**Boso 3**	**1.34 232**		P	**Pn**	**09 19 45.0**	**-0.1**
BSO4	**Boso 4**	**1.35 242**		P	**Pn**	**09 19 46.1**	**+0.7**
JFK	**Kawauchi**	**1.87 337**		*e*S	**Sn**	**09 20 12.6**	**-2.9**
JAG	**Ashikaga**	**2.05 293**		P	**Pn**	**09 19 54.0**	**-1.1**
JAG				*e*S	**Sn**	**09 20 19.5**	**-0.3**
JIM2	**Oshima 3**	**2.14 245**		P	**Pn**	**09 19 56.0**	**-0.4**
JIM2				*e*S	**Sn**	**09 20 21.9**	**-0.2**
JFT	**Otama**	**2.21 328**		S	**Sn**	**09 20 23.8**	**+0.1**
JOD2	**Odawara 2**	**2.24 261**		P	**Pn**	**09 19 57.5**	**-0.2**
JOD2				*e*S	**Sn**	**09 20 24.1**	**-0.4**
JKT	**Katashina**	**2.34 299**		P	**Pn**	**09 19 59.2**	**0.0**
JKT				S	**Sn**	**09 20 27.8**	**+0.7**
JHJ	**Hachijo jima 2**	**3.02 214**		Pn	**Pn**	**09 20 08.1**	**-0.3**
	12nm,0.3s,baz=72,slow=20,SNR=11						
JHJ				Sn	**Sn**	**09 20 42.8**	**-0.9**
	48nm,0.3s,baz=295,slow=22,SNR=13						
MJAR	**Matsushiro Arr**	**3.04 288**		Pn	**Pn**	**09 20 09.1**	**+0.4**
	1.4nm,0.3s,baz=297,slow=14,SNR=9.7						
MAT	**Matsushiro**	**3.04 288**		P	**Pn**	**09 20 08.5**	**-0.2**
MAT				*e*S	**Sn**	**09 20 43.8**	**-0.4**
TGY	**Tagaytay City**	**28.48 226**		LR	LR	09 37 36.8	
	comp=Z,357nm,18.2s,baz=96,slow=39						
ILAR	**Eielson Array**	**50.51 32**		P	**P**	**09 28 20.0**	**+2.2**
	0.2nm,0.7s,baz=270,slow=7.8,SNR=2.6						
WRA	**Warramunga Arr**	**55.73 188**		P	**P**	**09 28 55.8**	**-0.9**
	0.8nm,0.7s,baz=8.4,slow=7.6,SNR=8.7						
WRA				LR	LR	09 52 29.4	
	comp=Z,110nm,21.7s,baz=170,slow=36						
ASAR	**Alice Springs**	**59.46 188**		P	**P**	**09 29 22.2**	**-0.7**
	0.7nm,0.8s,baz=12,slow=8.5,SNR=6.1						
NEW	**Newport**	**70.92 44**		LR	LR	09 59 06.0	
	comp=Z,42nm,18.4s,baz=278,slow=34						

IDC 08 09:25:31.3±3.8, 55°.78S×29°.17W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/17, mbtmp3.9/2, Error ellipse: s-maj=132.4km s-min=51.2km az=173.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**48.09**	**19**	T	T	10 25 53.8	
	baz=191,slow=75,SNR=7.3						
H10S3	**ASCENSION HYDR**	**48.09**	**19**	T	T	10 25 45.6	
	baz=191,slow=75,SNR=6.3						
H10S1	**ASCENSION HYDR**	**48.10**	**19**	T	T	10 25 53.8	
	baz=191,slow=75,SNR=6.0						
H10N1	**ASCENSION HYDR**	**49.20**	**19**	T	T	10 27 13.4	
	baz=190						
H10N3	**ASCENSION HYDR**	**49.20**	**19**	T	T	10 27 16.9	
	baz=190						
H10N2	**ASCENSION HYDR**	**49.22**	**19**	T	T	10 27 16.9	
	baz=190						
LPAZ	**La Paz**	**49.31 307**		P	P	09 34 22.6	-0.1
	0.8nm,0.5s,baz=141,slow=5.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**73.38 31**		P	P	09 37 05.0	0.0
	1.2nm,0.7s,baz=206,slow=4.3,SNR=5.8						
ILAR	**Eielson Array**	**149.10 312**		PKPbc	PKPbc	09 45 19.4	-0.5
	1.4nm,0.9s,baz=124,slow=1.7,SNR=12						

*ROM **08** 09:37:09.9±0.4, 43°.04N×14°.23E, h22km±5km, Ml2.6/19, Error ellipse: s-maj=6.8km s-min=4.2km az=52.0*

*CSEM **08** 09:37:09.9, 43°.04N×14°.23E, h22km, ML2.6/19*

*ISCJB **08** 09:37:12.6±0.7, 42°.90N±0°.05×14°.03E±0°.06, h37km±8km, Error ellipse: s-maj=8.0km s-min=6.7km az=144.7*

ISC 08 09:37:11.9±1.1, 43°.00N±0°.04×14°.10E±0°.04, h31km±7km, n42, σ1s17/52, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMA	**Gualdo di Mace**	**0.14 297**		Pg	Pb	09 37 22.5	+4.8
GUMA				Sg	Sb	09 37 32.2	+11
	412nm,0.5s						
GUMA	**Gualdo di Mace**	**0.14 297**		Pg	Pb	09 37 22.5	+4.8
GUMA				Sg	Sb	09 37 32.2	+11
	412nm,0.5s						
TRTR	**Tortoreto Alta**	**0.24 216**		Pg	**Pb**	**09 37 18.0**	**-0.7**
TRTR				Sg	**Sb**	**09 37 23.6**	**+0.4**
	1µm,0.3s						
TRTR	**Tortoreto Alta**	**0.24 216**		Pg	**Pb**	**09 37 18.0**	**-0.7**
TRTR				Sg	**Sb**	**09 37 23.6**	**+0.4**
	1µm,0.3s						
OFFI	**Offida**	**0.31 258**		Pg	**Pb**	**09 37 18.8**	**-0.8**
OFFI				Sg	**Sb**	**09 37 25.9**	**+1.0**
	228nm,0.5s						
OFFI	**Offida**	**0.31 258**		Pg	**Pb**	**09 37 18.8**	**-0.8**
OFFI				Sg	**Sb**	**09 37 25.9**	**+1.0**
	228nm,0.5s						
VCEL	**Villa Celiera**	**0.64 198**		Pg	**Pb**	**09 37 23.8**	**-0.9**
	103nm,0.5s						
VCEL	**Villa Celiera**	**0.64 198**		Pg	**Pb**	**09 37 23.8**	**-0.9**
	103nm,0.5s						
AOI	**Ancona**	**0.66 327**		Pg	**Pn**	**09 37 23.9**	**-1.3**
	121nm,0.3s						
AOI	**Ancona**	**0.66 327**		Pg	**Pn**	**09 37 23.9**	**-1.3**
	121nm,0.3s						
CAMP	**Campotosto**	**0.69 228**		Pg	**Pb**	**09 37 24.0**	**-1.6**
	78nm,0.6s						
CAMP	**Campotosto**	**0.69 228**		Pg	**Pb**	**09 37 24.0**	**-1.6**
	78nm,0.6s						
FDMO	**Fiordimonte**	**0.74 273**		Pg	**Pb**	**09 37 24.8**	**-1.7**
FDMO				Sg	**Sb**	**09 37 37.2**	**+0.9**
	109nm,0.3s						
FDMO	**Fiordimonte**	**0.74 273**		Pg	**Pb**	**09 37 24.8**	**-1.7**
FDMO				Sg	**Sb**	**09 37 37.2**	**+0.9**
	109nm,0.3s						
CING	**Cingoli**	**0.76 300**		Pg	**Pb**	**09 37 25.5**	**-1.3**
CING				Sg	**Sn**	**09 37 38.4**	**+1.3**
	143nm,0.5s						
CING	**Cingoli**	**0.76 300**		Pg	**Pb**	**09 37 25.5**	**-1.3**
CING				Sg	**Sn**	**09 37 38.4**	**+1.3**
	143nm,0.5s						
RM33	**Pellescritta (**	**0.82 233**		Pg	**Pb**	**09 37 26.4**	**-1.3**
	137nm,0.3s						
RM33	**Pellescritta (**	**0.82 233**		Pg	**Pb**	**09 37 26.4**	**-1.3**
	137nm,0.3s						
LNSS	**Leonessa**	**0.88 243**		Pg	**Pb**	**09 37 27.1**	**-1.6**
	452nm,0.3s						
LNSS	**Leonessa**	**0.88 243**		Pg	**Pb**	**09 37 27.1**	**-1.6**
	452nm,0.3s						
CESI	**CESI - Serrava**	**0.88 271**		Pg	**Pb**	**09 37 27.4**	**-1.3**
	45nm,0.6s						
CESI	**CESI - Serrava**	**0.88 271**		Pg	**Pb**	**09 37 27.4**	**-1.3**
	45nm,0.6s						
SNTG	**Esanatoglia**	**0.89 287**		Pg	**Pb**	**09 37 27.4**	**-1.5**
SNTG				Sg	**Sn**	**09 37 41.9**	**+1.7**
	137nm,0.2s						
SNTG	**Esanatoglia**	**0.89 287**		Pg	**Pb**	**09 37 27.4**	**-1.5**
SNTG				Sg	**Sn**	**09 37 41.9**	**+1.7**
	137nm,0.2s						
INTR	**Introdacqua**	**1.00 188**		Pg	**Pb**	**09 37 30.2**	**-0.5**
INTR	**Introdacqua**	**1.00 188**		Pg	**Pb**	**09 37 30.2**	**-0.5**
SSFR	**Montelago di S**	**1.06 295**		Pg	**Pb**	**09 37 30.9**	**-0.8**
	171nm,0.2s						
SSFR	**Montelago di S**	**1.06 295**		Pg	**Pb**	**09 37 30.9**	**-0.8**
	171nm,0.2s						
ATCC	**AVT- Casa Cast**	**1.09 280**		Pg	**Pn**	**09 37 31.0**	**-0.1**
	150nm,0.3s						
ATCC	**AVT- Casa Cast**	**1.09 280**		Pg	**Pn**	**09 37 31.0**	**-0.1**
	150nm,0.3s						
FRON	**Frontone**	**1.13 298**		Pg	**Pb**	**09 37 31.9**	**-1.0**
	103nm,0.4s						
FRON	**Frontone**	**1.13 298**		Pg	**Pb**	**09 37 31.9**	**-1.0**
	103nm,0.4s						
MURB	**Monte Urbino**	**1.18 283**		Pg	**Pb**	**09 37 33.1**	**-0.7**
	386nm,0.5s						
MURB	**Monte Urbino**	**1.18 283**		Pg	**Pb**	**09 37 33.1**	**-0.7**
	386nm,0.5s						
FSSB	**Fossombrone**	**1.19 306**		Pg	**Pb**	**09 37 33.6**	**-0.3**
	215nm,0.4s						
FSSB	**Fossombrone**	**1.19 306**		Pg	**Pb**	**09 37 33.6**	**-0.3**
	215nm,0.4s						
PIEI	**Pieia**	**1.26 296**		Pg	**Pb**	**09 37 34.1**	**-1.1**
	39nm,0.3s						
PIEI	**Pieia**	**1.26 296**		Pg	**Pb**	**09 37 34.1**	**-1.1**
	39nm,0.3s						
ATPC	**Poggio Castell**	**1.29 292**		Pg	**Pb**	**09 37 34.8**	**-0.9**
	86nm,0.5s						
ATPC	**Poggio Castell**	**1.29 292**		Pg	**Pb**	**09 37 34.8**	**-0.9**
	86nm,0.5s						
NVLJ	**Novalja**	**1.66 19**		*i* Pn	**Pb**	**09 37 41.0**	**-0.8**
NVLJ				Sn	**Sb**	**09 38 02.6**	**+0.2**
UDBI	**Udbina**	**1.94 38**		*e*Pn	**Pb**	**09 37 45.4**	**-1.3**
UDBI				Sn	**Sb**	**09 38 12.4**	**+1.8**

*ISCJB **08** 09:39:26.9±0.2, 51°.58N±0°.01×16°.19E±0°.02, h0km, mb3.6/1, Error ellipse: s-maj=2.1km s-min=2.0km az=23.2*

*CSEM **08** 09:39:29.2±0.1, 51°.56N×16°.15E, h2km, ML4.3/15, Ms3.7, Error ellipse: s-maj=2.6km s-min=2.3km az=74.0*

*WAR **08** 09:39:30.4, 51°.53N×16°.14E, h1km, Mw3.3*

*BGR **08** 09:39:30.5±0.5, 51°.49N×16°.14E, h1km, ML3.8/11, Error ellipse: s-maj=7.8km s-min=3.3km az=15.0*

*IDC **08** 09:39:30.3±0.6, 51°.51N×16°.00E, h0km, mb3.5/1, mb1 3.6/9, mb1mx3.4/64, mbtmp3.5/9, ML3.5/7, MS2.3/1, Ms1 2.3/1, ms1mx1.6/46, Error ellipse: s-maj=10.1km s-min=5.8km az=98.0*

*PRU **08** 09:39:30.5, 51°.51N×16°.14E, h0km*

*LDG **08** 09:39:31.2±0.2, 51°.36N×16°.06E, h1km, Ml4.2/6, Error ellipse: s-maj=4.2km s-min=2.0km az=12.0, Suspected Mining induced.*

*VIE **08** 09:39:33.0±1.1, 51°.29N×15°.98E, h0km, mb3.1/12, ML3.3/14, Ms3.7/1, Error ellipse: s-maj=6.7km s-min=5.1km az=25.0, Suspected Mining induced.*

*UPP **08** 09:39:34.0±2.8, 51°.84N×15°.71E, h0km, ML2.6, Suspected explosion*

ISC 08 09:39:28.5±0.6, 51°.60N±0°.03×16°.14E±0°.02, h0km, n149, σ1s64/242, 2C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77 173**		*e*Px	**Pg**	**09 39 43.4**	**+0.3**
KSP				*i* Pg	**Pb**	**09 39 43.6**	**-1.1**
KSP				*i* Sg	**Sg**	**09 39 52.5**	**-0.6**
KSP	**Ksiaz**	**0.77 173**		*e*Pg	**Pg**	**09 39 43.5**	**+0.3**
KSP	**Ksiaz**	**0.77 173**		Pg	**Pg**	**09 39 43.5**	**+0.3**
KSP				*i* Sg	**Sg**	**09 39 52.5**	**-0.6**
KSP	**Ksiaz**	**0.77 173**		*e*Pxd	**Pg**	**09 39 43.4**	**+0.3**
KSP				*i* Pg	**Pg**	**09 39 43.6**	**+0.3**
KSP				*i* Sg	**Sg**	**09 39 52.5**	**-0.6**
UPC	**Upice**	**1.10 184**		*e*PG	**Pg**	**09 39 49.6**	**+0.1**
UPC				*e*SG	**Sg**	**09 40 03.5**	**-0.2**
	692nm,0.3s						
UPC				AMS	AMS	09 40 30.0	
	2µm,2.2s						
UPC	**Upice**	**1.10 184**		Pg	**Pg**	**09 39 49.6**	**+0.1**
UPC				Sg	**Sg**	**09 40 03.5**	**-0.2**
	692nm,0.3s						
DPC	**Dobruska-Polom**	**1.26 175**		*i* PG	**Pg**	**09 39 52.3**	**-0.3**
DPC				*e*SG	**Sg**	**09 40 08.4**	**-0.5**
	359nm,0.3s						
DPC				AMS	AMS	09 40 30.0	
	900nm,3.0s						
DPC	**Dobruska-Polom**	**1.26 175**		*e*Pg	**Pg**	**09 39 52.3**	**-0.3**
DPC				*e*SG	**Sg**	**09 40 08.6**	**-0.3**
DPC	**Dobruska-Polom**	**1.26 175**		Pg	**Pg**	**09 39 52.3**	**-0.3**
DPC				Sg	**Sg**	**09 40 08.4**	**-0.5**
	359nm,0.3s						
PVCC	**Panska Ves**	**1.46 223**		*e*PG	**Pb**	**09 39 56.6**	**+0.1**
PVCC				*e*SG	**Sn**	**09 40 16.1**	**+0.2**
	1µm,0.3s						
PVCC				AMS	AMS	09 40 50.0	
	2µm,1.6s						
PVCC	**Panska Ves**	**1.46 223**		Pg	**Pb**	**09 39 56.6**	**+0.1**
PVCC				Sg	**Sn**	**09 40 16.1**	**+0.2**
	1µm,0.3s						
BRG	**Berggiesshubel**	**1.56 243**		PN	**Pn**	**09 39 57.2**	**-0.3**
BRG				PG	**Pg**	**09 39 59.4**	**+1.0**
BRG				SG	**Sg**	**09 40 19.7**	**+1.1**
	801nm,0.4s						
BRG	**Berggiesshubel**	**1.56 243**		*e*Pn	**Pg**	**09 39 58.4**	**0.0**
BRG				*e*Sg	**Sg**	**09 40 19.6**	**+1.0**
BRG	**Berggiesshubel**	**1.56 243**		Pn	**Pg**	**09 39 58.4**	**0.0**
BRG				Sg	**Sg**	**09 40 19.6**	**+1.0**
FBE	**Freiberg**	**1.88 250**		*e*Pg	**Pg**	**09 40 04.7**	**+0.3**
FBE				*e*Sg	**Sg**	**09 40 28.9**	**+0.2**
FBE	**Freiberg**	**1.88 250**		Pg	**Pg**	**09 40 04.7**	**+0.3**
FBE				Sg	**Sg**	**09 40 28.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.90 207**		*i*ePN	**Pn**	**09 40 02.1**	**0.0**
GOPC				*e*PG	**Pb**	**09 40 04.1**	**+0.1**
GOPC				*e*SG	**Sb**	**09 40 28.3**	**+0.1**
	129nm,0.3s						
GOPC				AMS	AMS	09 40 40.0	
	900nm,3.5s						
GOPC	**GO Pecny, Ondr**	**1.90 207**		Pn	**Pn**	**09 40 02.1**	**0.0**
PRU	**Pruhonice**	**1.91 213**		*i*ePN	**Pn**	**09 40 02.2**	**0.0**
PRU				*e*PG	**Pb**	**09 40 04.3**	**+0.2**
PRU				*ex*	x	09 40 21.3	
PRU				*e*SG	**Sb**	**09 40 28.5**	**0.0**
	557nm,0.3s						
PRU				AMS	AMS	09 40 50.0	
	1µm,3.2s						
PRU	**Pruhonice**	**1.91 213**		Pn	**Pn**	**09 40 02.2**	**0.0**
CLL	**Collm**	**1.98 263**		*e*Pn	**Pn**	**09 40 03.0**	**-0.3**
CLL				*e*Pg	**Pg**	**09 40 07.0**	**+0.5**
CLL				*e*Sg	**Sg**	**09 40 33.0**	**+0.8**
	comp=Z,292nm,0.6s						
CLL	**Collm**	**1.98 263**		*e*Pn	**Pn**	**09 40 03.4**	**+0.1**
CLL				*e*Sg	**Sg**	**09 40 33.0**	**+0.8**
CLL	**Collm**	**1.98 263**		Pn	**Pg**	**09 40 03.4**	**+0.1**
CLL				Sg	**Sg**	**09 40 33.0**	**+0.8**
RAC	**Raciborz**	**2.00 139**		*e*Pg	**Pg**	**09 40 06.7**	**-0.2**
MORC	**Moravsky Berou**	**2.03 153**		*e*Pn	**Pn**	**09 40 03.9**	**-0.2**
MORC	**Moravsky Berou**	**2.03 153**		Pn	**Pn**	**09 40 03.9**	**-0.2**
MORC				*e*Sg	**Sb**	**09 40 32.1**	**-0.1**
OKC	**Ostrava-Krasne**	**2.18 143**		*i*ePN	**Pn**	**09 40 05.3**	**-0.7**
OKC				*e*PG	**Pg**	**09 40 09.9**	**-0.4**
OKC				*e*SG	**Sb**	**09 40 36.9**	**+0.6**
	comp=Z,436nm,0.6s						
OKC	**Ostrava-Krasne**	**2.18 143**		*e*Pn	**Pn**	**09 40 05.6**	**-0.4**
OKC				*e*Sg	**Sb**	**09 40 37.2**	**+0.9**
OKC	**Ostrava-Krasne**	**2.18 143**		Pn	**Pn**	**09 40 05.6**	**-0.4**
OKC	**Ostrava-Krasne**	**2.18 143**		Pg	**Pg**	**09 40 09.9**	**-0.4**
OKC				Sg	**Sb**	**09 40 37.2**	**+0.9**
VRAC	**Vranov**	**2.31 173**		Pn	**Pn**	**09 40 08.1**	**+0.2**
	comp=Z,9.0nm,0.3s,baz=352,slow=13,SNR=34						
VRAC				Lg	Lg	09 40 40.6	
	comp=Z,63nm,0.3s,baz=72,slow=19,SNR=14						
VRAC	**Vranov**	**2.31 173**		*e*Pn	**Pn**	**09 40 08.1**	**+0.2**
VRAC				*e*Sg	**Sb**	**09 40 39.6**	**-0.6**
TREC	**Trest**	**2.35 190**		*i*ePN	**Pn**	**09 40 08.6**	**+0.3**
TREC				*e*PG	**Pb**	**09 40 12.4**	**+0.7**
TREC				*e*SG	**Sb**	**09 40 42.4**	**+1.2**
	comp=Z,157nm,0.2s						
TREC	**Trest**	**2.35 190**		Pn	**Pn**	**09 40 08.6**	**+0.3**
WERD	**Werda**	**2.68 246**		*e*Pn	**Pn**	**09 40 13.7**	**+0.8**
WERD				*e*Sg	**Sg**	**09 40 55.0**	**+0.4**
WERD	**Werda**	**2.68 246**		Pn	**Pn**	**09 40 13.7**	**+0.8**
WERD				Sg	**Sg**	**09 40 55.0**	**+0.4**
OJC	**Ojcow**	**2.70 119**		*e*Pn	**Pn**	**09 40 11.7**	**-1.5**
OJC				*e*Pg	**Pg**	**09 40 19.5**	**-0.7**
OJC				*e*Sn	**Sn**	**09 40 44.7**	**-1.8**
OJC				*e*Sg	**Sg**	**09 40 55.5**	**+0.3**
OJC	**Ojcow**	**2.70 119**		*e*Pn	**Pn**	**09 40 12.1**	**-1.1**
OJC	**Ojcow**	**2.70 119**		Pn	**Pn**	**09 40 12.1**	**-1.1**
OJC	**Ojcow**	**2.70 119**		*e*Pn	**Pn**	**09 40 11.7**	**-1.5**
OJC				*e*Pg	**Pg**	**09 40 19.5**	**-0.7**
OJC				*e*Sn	**Sn**	**09 40 44.7**	**-1.8**
OJC				*e*Sg	**Sg**	**09 40 55.5**	**+0.3**
NKC	**Novy Kostel**	**2.71 241**		*i*ePN	**Pn**	**09 40 14.3**	**+1.0**
NKC				*e*PG	**Pg**	**09 40 21.8**	**+1.4**
NKC				*e*SN	**Sn**	**09 40 47.0**	**+0.3**
NKC				*e*SG	**Sg**	**09 40 57.1**	**+1.7**
	comp=Z,525nm,0.4s						
NKC				AMS	AMS	09 41 40.0	
	comp=Z,500nm,3.7s						
NKC	**Novy Kostel**	**2.71 241**		Pn	**Pn**	**09 40 14.3**	**+1.0**
NKC	**Novy Kostel**	**2.71 241**		Pg	**Pg**	**09 40 21.8**	**+1.4**
NKC				Sn	**Sn**	**09 40 47.0**	**+0.3**
NKC				Sg	**Sg**	**09 40 57.1**	**+1.7**
	comp=Z,525nm,0.4s						
KHC	**Kasperske Hory**	**2.97 215**		*i*ePN	**Pn**	**09 40 17.0**	**+0.1**
KHC				*e*PG	**Pb**	**09 40 23.0**	**+0.8**
KHC				*e*SN	**Sn**	**09 40 48.0**	**-5.2**
KHC				*e*SG	**Sb**	**09 41 00.0**	**+1.0**
KHC	**Kasperske Hory**	**2.97 215**		Pn	**Pn**	**09 40 17.0**	**+0.1**
KHC	**Kasperske Hory**	**2.97 215**		Pg	**Pb**	**09 40 23.0**	**+0.8**
KHC				Sg	**Sb**	**09 41 00.0**	**+1.0**
MOX	**Moxa**	**3.00 253**		*e*Pn	**Pn**	**09 40 18.0**	**+0.7**
MOX				*e*Sg	**Sg**	**09 41 06.7**	**+1.7**
MOX	**Moxa**	**3.00 253**		Pn	**Pn**	**09 40 18.0**	**+0.7**
MOX				Sg	**Sg**	**09 41 06.7**	**+1.7**
ROTZ	**Rotzenmuhle**	**3.10 235**		*e*Pn	**Pn**	**09 40 19.4**	**+0.7**
ROTZ				*e*Sg	**Sg**	**09 41 07.4**	**-0.7**
ROTZ	**Rotzenmuhle**	**3.10 235**		Pn	**Pn**	**09 40 19.4**	**+0.7**
ROTZ				Sg	**Sg**	**09 41 07.4**	**-0.7**
GERES	**GERESS Array B**	**3.17 210**		Pn	**Pn**	**09 40 20.3**	**+0.6**
	comp=Z,4.9nm,0.3s,baz=29,slow=12,SNR=62						
GERES				Sn	**Sn**	**09 40 57.2**	**-1.1**
	comp=Z,14nm,0.3s,baz=33,slow=27,SNR=6.5						
GERES				Lg	Lg	09 41 07.7	
	comp=Z,17nm,0.3s,baz=21,slow=26,SNR=7.0						
GERES				LR	LR	09 41 46.6	
	comp=Z,46nm,18.3s,baz=40,slow=45						
SMOL	**Smolenice**	**3.20 164**		*e*Pg	**Pg**	**09 40 29.2**	**-0.6**
SMOL				*e*Sg	**Sg**	**09 41 09.4**	**-1.9**
SMOL	**Smolenice**	**3.20 164**		*e*	**Pn**	**09 40 20.0**	**-0.1**
SMOL	**Smolenice**	**3.20 164**		*e*PG	**Pg**	**09 40 29.2**	**-0.6**
SMOL				*e*SG	**Sg**	**09 41 09.4**	**-1.9**
LANS	**Liptovska Anna**	**3.25 138**		*e*Pg	**Pg**	**09 40 30.2**	**-0.6**
LANS				*e*Sg	**Sg**	**09 41 11.7**	**-1.2**
LANS	**Liptovska Anna**	**3.25 138**		*e*PG	**Pg**	**09 40 30.2**	**-0.6**
LANS				*e*SG	**Sg**	**09 41 11.7**	**-1.2**
NIE	**Niedzica**	**3.44 128**		*e*P	**Pg**	**09 40 34.6**	**+0.2**
NIE				*e*S	**Sg**	**09 41 20.0**	**+1.0**
NIE	**Niedzica**	**3.44 128**		*e*P	**Pg**	**09 40 34.6**	**+0.2**
NIE				*e*S	**Sg**	**09 41 20.0**	**+1.0**
VYHS	**Vyhne**	**3.56 150**		*e*Pg	**Pg**	**09 40 38.1**	**+1.3**
VYHS				*e*Sg	**Sb**	**09 41 19.2**	**+3.0**
VYHS	**Vyhne**	**3.56 150**		*e*PG	**Pg**	**09 40 38.1**	**+1.3**
VYHS				*e*SG	**Sb**	**09 41 19.2**	**+3.0**
VYHS				*e*LG	Lg	09 41 37.8	
BSD	**Bornholm Skovb**	**3.59 349**		*i* P	**Pn**	**09 40 26.0**	**+0.6**
BSD				*i* S	**Sn**	**09 41 07.3**	**-1.2**
BSD	**Bornholm Skovb**	**3.59 349**		*i* P	**Pn**	**09 40 26.0**	**+0.6**
BSD				*i* S	**Sn**	**09 41 07.3**	**-1.2**
CONA	**Conrad Observa**	**3.68 183**		*e*Pn	**Pn**	**09 40 27.2**	**+0.4**
	comp=Z,11nm,0.3s,SNR=10						
CONA	**Conrad Observa**	**3.68 183**		Pn	**Pn**	**09 40 27.2**	**+0.4**
	comp=Z,11nm,0.3s,SNR=10						
CONA	**Conrad Observa**	**3.68 183**		Pg	**Pb**	**09 40 36.0**	**+1.6**
	comp=Z,24nm,0.3s						
CONA				Sn	**Sn**	**09 41 09.7**	**-1.2**
	comp=Z,24nm,0.3s						
CONA				Sg	**Sg**	**09 41 24.4**	**-2.3**
	comp=Z,84nm,0.4s						
STHS	**Stebnicka Huta**	**3.92 122**		*e*Pg	**Pg**	**09 40 44.6**	**+0.9**
STHS				*e*Sg	**Sg**	**09 41 37.4**	**+2.9**
STHS	**Stebnicka Huta**	**3.92 122**		*e*PG	**Pg**	**09 40 44.6**	**+0.9**
STHS				*e*SG	**Sg**	**09 41 37.4**	**+2.9**
STHS				*e*LG	Lg	09 41 49.7	
SOP	**Sopron**	**3.93 176**		*e*Pn	**Pn**	**09 40 30.6**	**+0.5**
MOA	**Molln**	**3.95 199**		*i* Pn	**Pn**	**09 40 31.1**	**+0.8**
	comp=Z,8.1nm,0.3s,SNR=12						
MOA	**Molln**	**3.95 199**		Pn	**Pn**	**09 40 31.1**	**+0.8**
	comp=Z,8.1nm,0.3s,SNR=12						
MOA				Sg	**Sg**	**09 41 34.8**	**-0.4**
	comp=Z,152nm,0.5s						
KECS	**Kecovo**	**4.20 136**		*e*	**Pn**	**09 40 33.6**	**-0.1**
KECS	**Kecovo**	**4.20 136**		*e*PG	**Pg**	**09 40 48.3**	**-0.6**
KECS				*e*SG	**Sg**	**09 41 43.7**	**+0.5**
KECS				*e*LG	Lg	09 41 54.8	
CRVS	**Cervenica-Dubn**	**4.36 126**		*e*Pg	**Pg**	**09 40 54.2**	**+2.3**
CRVS				*e*Sg	**Sg**	**09 41 48.0**	**-0.4**
CRVS	**Cervenica-Dubn**	**4.36 126**		*e*	**Pn**	**09 40 36.9**	**+1.0**
**CRVS

BOJS	**Bojanci**	**6.13**	**186**	*i* Pn		**Pn**	**09 41 01.6**	**+1.3**
DAVOX	**Davos/Dischmat**	**6.33**	**223**	Pn		**Pn**	**09 41 03.7**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=358,slow=10.0,SNR=3.8							
DAVOX				Sn		**Sn**	**09 42 17.6**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=36,slow=17,SNR=2.4							
DAVOX				Lg	Lg		09 42 49.1	
	comp=Z,1.8nm,0.3s,baz=257,slow=17,SNR=3.3							
DRGR		**6.46**	**136**	ǁ *i*P		**Pn**	**09 41 04.0**	**-0.9**
CDF	**Champ du Feu**	**6.54**	**244**	*e*Pn		**Pn**	**09 41 06.0**	**0.0**
CDF				*e*Sg		**Sg**	**09 42 51.7**	**-6.8**
	comp=Z,226nm,1.2s							
CDF	**Champ du Feu**	**6.54**	**244**	*e*Pn		**Pn**	**09 41 06.0**	**0.0**
LNKU	**Linkoeping**	**6.65**	**357**	P		**Pn**	**09 41 08.2**	**+0.9**
LNKU	**Linkoeping**	**6.65**	**357**	P		**Pn**	**09 41 08.2**	**+0.9**
HINF	**Hinteralfeld**	**7.11**	**241**	*e*Pn		**Pn**	**09 41 12.1**	**-1.7**
HINF				*e*Sg		**Sg**	**09 43 08.9**	**-7.9**
	comp=Z,54nm,0.7s							
HINF	**Hinteralfeld**	**7.11**	**241**	*e*Pn		**Pn**	**09 41 12.1**	**-1.7**
BURAR	**Bucovina Array**	**7.12**	**121**	ǁ *i*P		**Pn**	**09 41 14.6**	**+0.6**
ISAL	**Salakas**	**7.15**	**52**	*e*P		**Sg**	**09 43 21.6**	**+3.6**
ISAL	**Salakas**	**7.15**	**52**	*e*P		**Sg**	**09 43 21.6**	**+3.6**
NACGM	**Naroch**	**7.19**	**58**	*e*		**Sn**	**09 42 39.0**	**+1.9**
HAU	**Haudompre**	**7.28**	**244**	*e*Sg		**Sg**	**09 43 14.0**	**-8.3**
	comp=Z,35nm,0.6s							
IZAR	**Zarasai**	**7.30**	**51**	*e*P		**Sg**	**09 43 22.8**	**+0.1**
IZAR	**Zarasai**	**7.30**	**51**	*e*P		**Sg**	**09 43 22.8**	**+0.1**
IDID	**Didziasalis**	**7.34**	**55**	*e*P		**Sg**	**09 43 24.8**	**+0.8**
IDID	**Didziasalis**	**7.34**	**55**	*e*P		**Sg**	**09 43 24.8**	**+0.8**
MICGM	**Minsk**	**7.65**	**63**	*e*		**Sg**	**09 43 32.0**	**-2.0**
CABF	**La Chapelle**	**8.27**	**237**	*e*Sg		Sg	09 43 44.5	-9.4
	comp=Z,138nm,1.2s							
AKASG	**Malin Array Be**	**8.28**	**91**	Pn		**Pn**	**09 41 29.0**	**-0.8**
	comp=Z,2.8nm,0.3s,baz=281,slow=12,SNR=6.4							
AKASG				Sn		**Sn**	**09 42 60.0**	**-4.0**
	comp=Z,4.2nm,0.3s,baz=265,slow=26,SNR=7.1							
AKASG				Lg	Lg		09 43 56.5	
	comp=Z,1.8nm,0.3s,baz=278,slow=24,SNR=4.3							
HFS	**Hagfors**	**8.66**	**352**	Pn		**Pn**	**09 41 34.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=168,slow=14,SNR=4.9							
HFS				Sn		**Sn**	**09 43 10.0**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=159,slow=24,SNR=2.6							
HFS				Lg	Lg		09 44 07.5	
	comp=Z,0.7nm,0.3s,baz=170,slow=28,SNR=2.6							
LPG	**La Plagne**	**8.72**	**229**	*e*P		**Pn**	**09 41 39.3**	**+3.3**
LPG				*e*Sg		Sg	09 43 57.5	-11
	comp=Z,72nm,1.3s							
LOR	**Lormes**	**9.10**	**246**	*e*Pn		**Pn**	**09 41 40.5**	**-0.5**
LOR				*e*Sg		Sg	09 44 11.3	
	comp=Z,18nm,0.7s							
LOR	**Lormes**	**9.10**	**246**	*e*Pn		**Pn**	**09 41 40.5**	**-0.5**
SBF	**Sospel**	**9.71**	**220**	*e*P		**Pn**	**09 41 51.8**	**+2.4**
NOA	**NORSAR Array B**	**9.85**	**346**	Pn		**Pn**	**09 41 50.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=223,slow=14,SNR=4.9							
NOA				Sn		**Sn**	**09 43 38.5**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=239,slow=22,SNR=3.0							
NOA				Lg	Lg		09 44 45.9	
	comp=Z,0.5nm,0.3s,baz=223,slow=11,SNR=3.0							
FINES	**FINESS Array B**	**11.27**	**25**	Pn		**Pn**	**09 42 10.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=209,slow=12,SNR=17							
FINES				Sn		**Sn**	**09 44 13.7**	**-3.6**
	comp=Z,1.2nm,0.3s,baz=207,slow=20,SNR=6.9							
FINES				Lg	Lg		09 45 29.9	
	comp=Z,0.3nm,0.3s,baz=210,slow=26,SNR=2.3							
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn		**Pn**	**09 42 20.5**	**-1.2**
	baz=114,slow=14,SNR=4.0							
ARCES	**ARCESS Array B**	**18.53**	**10**	Pn		**P**	**09 43 44.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=196,slow=11,SNR=8.5							
YKA	**Yellowknife Ar**	**59.78**	**336**	P		**P**	**09 49 36.5**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=228,slow=44,SNR=3.4							

IDC 08 09:41:03.9±2.9, 53°52N×87°80E, h0km, mb1 3.3/2, mb1mx3.0/62, mbtmp3.3/2, ML3.0/2, 3D, Error ellipse: s-maj=23.7km s-min=14.8km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**285**	*i*		09 52 40.9	
	baz=101,slow=314,SNR=12						
ZALV	**Zalesovo Beam**	**1.82**	**285**	Pg	Pn	09 41 36.1	-0.4
	3.3nm,0.3s,baz=99,slow=14,SNR=15						
ZALV				Lg	Lg	09 42 01.8	
	9.7nm,0.3s,baz=101,slow=26,SNR=2.2						
KURBB	**Kurchatov Arra**	**6.41**	**247**	Pn	Pn	09 42 40.5	+1.0
	0.4nm,0.3s,baz=60,slow=14,SNR=7.6						
KURBB				Sn	Sn	09 43 52.8	-0.5
	0.1nm,0.3s,baz=74,slow=23,SNR=3.6						
KURBB				Lg	Lg	09 44 28.0	
	0.1nm,0.3s,baz=64,slow=29,SNR=4.8						
MK31	**Makanchi Array**	**7.61**	**210**	ǁ Pn	Pn	09 42 59.2	+3.3
	0.4nm,0.6s,baz=30,slow=13,SNR=5.5						
MK31				ǁ Sn	Sn	09 44 25.8	+3.0
	0.8nm,0.5s,baz=32,slow=28						
MK31				ǁ Lg	Lg	09 45 05.4	
	1.4nm,0.5s,baz=27,slow=32,SNR=4.6						
MKAR	**Makanchi Array**	**7.61**	**210**	Pn	Pn	09 42 57.4	+1.4
	0.2nm,0.3s,baz=32,slow=14,SNR=5.7						
MKAR				Sn	Sn	09 44 21.6	-1.3
	0.1nm,0.3s,baz=27,slow=24,SNR=3.9						
MKAR				Lg	Lg	09 45 03.5	
	0.2nm,0.3s,baz=25,slow=32,SNR=4.6						

*ISN **08** 09:43:30.8±0.6, 31°34N×51°09E, h0km±83km, ML3.7*
*IDC **08** 09:43:40.9±0.9, 31°79N×50°08E, h0km, mb3.9/14, mb1 4.1/17, mb1mx3.8/60, mbtmp4.0/17, ML3.8/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/30, Error ellipse: s-maj=20.7km s-min=17.2km az=165.0*
*ISCJB **08** 09:43:41.8±0.5, 31°44N±0°05×50°06E±0°04, h26km, mb3.9/14, MS2.6/1, Error ellipse: s-maj=7.1km s-min=4.9km az=15.8*
*TEH **08** 09:43:42.6, 31°55N×50°21E, h5km, ML3.7*
*THR **08** 09:43:42.8±0.5, 31°54N×50°34E, h15km, ML3.5*
*CSEM **08** 09:43:43.0±0.4, 31°59N×50°24E, h10km, ML3.7, Error ellipse: s-maj=13.6km s-min=8.9km az=29.0*
ISC 08 09:43:44.0±0.6, 31°54N±0°05×50°18E±0°04, h26km, n59, σ1°30/59, mb3.9/14, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIR	**Pirpir**	**1.29**	**28**	*e*AMB	AMB	09 44 27.8	
	comp=Z,18μm,0.2s						
IPIR				*e*Pg	**Pn**	**09 44 03.8**	**-2.8**
IGAR	**Gharneh**	**1.80**	**61**	*e*Pn	**Pn**	**09 44 13.6**	**+0.1**
IGAR				*e*Sg	**Sn**	**09 44 37.9**	**+2.3**
IGAR				*e*AMB	AMB	09 44 44.0	
	comp=Z,6μm,0.3s						
IKLH	**Kolahrood**	**2.13**	**33**	*e*Pn	**Pn**	**09 44 19.1**	**+1.0**
IKLH				*e*Sg	**Sb**	**09 44 48.7**	**+0.6**
IKLH				*e*AMB	AMB	09 44 57.5	
	comp=Z,9μm,0.4s						
IKLH	**Kolahrood**	**2.13**	**33**	*e*Pn	**Pn**	**09 44 19.1**	**+1.0**
KHMZ	**Khomeyn**	**2.20**	**355**	*e*Pn	**Pn**	**09 44 21.0**	**+2.0**
KHMZ				AML	AML	09 44 54.5	
	comp=E,411nm,0.6s						
KHMZ				AML	AML	09 44 57.4	
	comp=N,230nm,0.4s						
KHMZ	**Khomeyn**	**2.20**	**355**	*e*Pn	**Pn**	**09 44 21.0**	**+2.0**
IZEF	**Zefreh**	**2.26**	**53**	*e*Pn	**Pn**	**09 44 20.3**	**+0.3**
IZEF				*e*AMB	AMB	09 44 29.0	
	comp=Z,3μm,0.2s						
IZEF	**Zefreh**	**2.26**	**53**	*e*Pn	**Pn**	**09 44 20.3**	**+0.3**
QAM	**Ghamsar**	**2.45**	**25**	*e*Pn	**Pn**	**09 44 23.5**	**+1.0**
QAM				*e*Sg	**Sb**	**09 44 58.6**	**+1.2**
QAM				*e*AMB	AMB	09 45 04.4	
	comp=Z,4μm,0.2s						
IKMR	**Kamar-syah**	**2.49**	**323**	*e*Pn	**Pn**	**09 44 23.5**	**+0.7**
IKMR				*e*AMB	AMB	09 45 12.2	
	comp=N,99nm,0.5s						
IKMR	**Kamar-syah**	**2.49**	**323**	*e*Pn	**Pn**	**09 44 23.5**	**+0.7**
NASN	**Na'in**	**2.55**	**60**	*e*Pn	**Pn**	**09 44 24.4**	**+0.4**
NASN				AML	AML	09 45 05.7	
	comp=N,314nm,0.7s						
NASN				AML	AML	09 45 16.2	
	comp=E,179nm,0.6s						
NASN	**Na'in**	**2.55**	**60**	*e*Pn	**Pn**	**09 44 24.4**	**+0.4**
AHBU	**AHRAM**	**2.84**	**160**	*e*Pn	**Pn**	**09 44 29.0**	**+1.4**
IPAR	**Pars**	**3.00**	**124**	*e*Pn	**Pn**	**09 44 31.0**	**+0.9**
IPAR				*e*AMB	AMB	09 45 31.2	
	comp=Z,2μm,0.3s						
IPAR	**Pars**	**3.00**	**124**	*e*Pn	**Pn**	**09 44 31.0**	**+0.9**
ASAO	**Ashtian**	**3.00**	**358**	*e*Pn	**Pn**	**09 44 32.4**	**+2.3**
ASAO	**Ashtian**	**3.00**	**358**	*e*Pn	**Pn**	**09 44 32.4**	**+2.3**
ISAD	**Sadrabad**	**3.01**	**82**	*e*Pn	**Pn**	**09 44 30.5**	**+0.3**
ISAD				*e*AMB	AMB	09 45 20.6	
	comp=Z,2μm,0.3s						
ISAD	**Sadrabad**	**3.01**	**82**	*e*Pn	**Pn**	**09 44 30.5**	**+0.3**
GHVR	**GHOM**	**3.07**	**17**	*e*Pn	**Pn**	**09 44 32.5**	**+1.6**
GHVR	**GHOM**	**3.07**	**17**	*e*Pn	**Pn**	**09 44 32.5**	**+1.6**
ISRV	**Sarvestan**	**3.32**	**130**	*e*Pn	**Pn**	**09 44 34.2**	**-0.4**
ISRV				*e*AMB	AMB	09 45 41.8	
	comp=Z,3μm,0.3s						
ISRV	**Sarvestan**	**3.32**	**130**	*e*Pn	**Pn**	**09 44 34.2**	**-0.4**
IKOM	**Komasi**	**3.46**	**320**	*e*Pn	**Pn**	**09 44 37.5**	**+1.2**
IKOM				*e*AMB	AMB	09 45 44.8	
	comp=Z,2μm,0.4s						
IKOM	**Komasi**	**3.46**	**320**	*e*Pn	**Pn**	**09 44 37.5**	**+1.2**
ICHK	**Chekchek**	**3.66**	**78**	*e*Pn	**Pn**	**09 44 39.6**	**+0.5**
ICHK				*e*AMB	AMB	09 44 46.3	
	comp=Z,2μm,0.4s						
ICHK	**Chekchek**	**3.66**	**78**	*e*Pn	**Pn**	**09 44 39.6**	**+0.5**
IVRN	**Varamin**	**3.68**	**20**	*e*AMB	AMB	09 44 54.3	
	comp=Z,1μm,0.3s						
IMEH	**Mehriz**	**3.79**	**91**	*e*Pn	**Pn**	**09 44 41.1**	**+0.2**
IMEH				*e*AMB	AMB	09 45 15.8	
	comp=Z,644nm,0.3s						
IMEH	**Mehriz**	**3.79**	**91**	*e*Pn	**Pn**	**09 44 41.1**	**+0.2**
IRAZ	**Razeghan**	**3.86**	**357**	*e*Pn	**Pn**	**09 44 42.9**	**+1.1**
IRAZ				*e*AMB	AMB	09 45 57.6	
	comp=Z,1μm,0.4s						
IRAZ	**Razeghan**	**3.86**	**357**	*e*Pn	**Pn**	**09 44 42.9**	**+1.1**
IVIS	**Veis**	**4.08**	**318**	*e*Pn	**Pn**	**09 44 45.1**	**+0.2**
IVIS				*e*AMB	AMB	09 46 05.8	
	comp=Z,681nm,0.4s						
IVIS	**Veis**	**4.08**	**318**	*e*Pn	**Pn**	**09 44 45.1**	**+0.2**
IDHR	**Dehrash**	**4.48**	**316**	*e*Pn	**Pn**	**09 44 50.2**	**-0.2**
IDHR				*e*AMB	AMB	09 45 47.2	
	comp=Z,1μm,0.1s						
IDHR	**Dehrash**	**4.48**	**316**	*e*Pn	**Pn**	**09 44 50.2**	**-0.2**
IBAF	**Bafgh**	**4.60**	**88**	*e*Pn	**Pn**	**09 44 52.4**	**+0.5**
IBAF				*e*AMB	AMB	09 44 57.9	
	comp=Z,481nm,0.2s						
IBAF	**Bafgh**	**4.60**	**88**	*e*Pn	**Pn**	**09 44 52.4**	**+0.5**
GEYT	**Alibeck**	**9.12**	**44**	LR	LR	09 49 31.9	
	comp=Z,47nm,20.6s,baz=220,slow=39						
WSAR	**Wadi Sarin**	**11.16**	**136**	Pn	**Pn**	**09 46 23.9**	**+1.9**
	comp=Z,2.1nm,0.3s,baz=340,slow=8.5,SNR=11						
ASF	**Jabal al Asfar**	**11.32**	**277**	Pn	**Pn**	**09 46 21.2**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=43,slow=6.4,SNR=6.6						
BRTR	**Keskin Array B**	**15.72**	**306**	Pn	**Pn**	**09 47 23.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=129,slow=12,SNR=15						
IDI	**Anoyia**	**21.42**	**287**	P	**P**	**09 48 30.6**	**+0.5**
	comp=Z,10.0nm,0.7s,baz=91,slow=11,SNR=4.3						
AAK	**Ala-Archa**	**22.25**	**53**	LR	LR	09 57 29.1	
	comp=Z,25nm,19.8s,baz=220,slow=37						
AKASG	**Malin Array Be**	**24.66**	**327**	P	**P**	**09 49 00.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=137,slow=10,SNR=5.6						
BVAR	**Borovoye Array**	**25.99**	**28**	P	**P**	**09 49 14.2**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=224,slow=8.1,SNR=3.0						
GRUS	**Gruza**	**26.22**	**306**	*e*Pn	**P**	**09 49 16.3**	**-0.4**
MKAR	**Makanchi Array**	**28.94**	**49**	P	**P**	**09 49 40.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=241,slow=5.9,SNR=3.3						
ZALV	**Zalesovo Beam**	**33.37**	**38**	P	**P**	**09 50 19.1**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=231,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**33.80**	**339**	P	**P**	**09 50 22.4**	**-1.1**
	comp=Z,3.9nm,0.6s,baz=148,slow=9.0,SNR=14						
HFS	**Hagfors**	**37.41**	**331**	P	**P**	**09 50 53.4**	**-1.2**
	comp=Z,2.5nm,0.6s,baz=144,slow=11,SNR=5.2						
NOA	**NORSAR Array B**	**38.94**	**331**	P	**P**	**09 51 05.8**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=126,slow=7.7,SNR=3.3						
ARCES	**ARCESS Array B**	**40.52**	**347**	P	**P**	**09 51 19.8**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=147,slow=9.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**48.02**	**259**	P	**P**	**09 52 20.4**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=55,slow=8.1,SNR=12						
KSRS	**Korea Array**	**62.64**	**61**	P	**P**	**09 54 07.7**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=284,slow=6.7,SNR=4.9						
BOSA	**Boshof**	**64.36**	**204**	P	**P**	**09 54 21.2**	**+3.5**
	comp=Z,3.4nm,0.8s,baz=348,slow=5.4,SNR=4.4						
ILAR	**Eielson Array**	**83.08**	**7**	P	**P**	**09 56 05.0**	**-1.9**
	comp=Z,0.5nm,0.9s,baz=288,slow=3.7,SNR=4.6						
YKA	**Yellowknife Ar**	**85.50**	**353**	P	**P**	**09 56 18.0**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=14,slow=6.4,SNR=4.3						

*ISCJB **08** 09:46:29.4±0.5, 40°73N±0°03×27°35E±0°03, h9km±5km, Error ellipse: s-maj=5.5km s-min=3.4km az=14.1*
*CSEM **08** 09:46:29.9±0.1, 40°71N×27°36E, h8km, MD2.6, Error ellipse: s-maj=2.0km s-min=1.3km az=178.0*
*ISK **08** 09:46:29.4, 40°71N×27°34E, h6km, MD2.6*
*DDA **08** 09:46:30.0, 40°68N×27°35E, h7km, Md2.7*
ISC 08 09:46:30.1±0.9, 40°70N±0°03×27°35E±0°02, h11km±6km, n35, σ0°34/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SART	**Tekirdag**	**0.13**	**264**	P	**Pg**	**09 46 33.1**	**-0.2**
SART				S	**Sg**	**09 46 35.9**	**+0.3**
SART	**Tekirdag**	**0.13**	**264**	*i* P	**Pg**	**09 46 33.1**	**-0.2**
SART				*i* S	**Sg**	**09 46 35.9**	**+0.3**
MRMT	**Marmara Adasi**	**0.21**	**118**	*e*PG	**Pg**	**09 46 34.1**	**-0.5**
MRMT				*e*SG	**Sg**	**09 46 37.6**	**-0.1**
MRMT	**Marmara Adasi**	**0.21**	**118**	*e*Pg	**Pg**	**09 46 34.1**	**-0.5**
MRMT				*e*Sg	**Sg**	**09 46 37.6**	**-0.1**
KRBG	**Karabiga-Canak**	**0.31**	**188**	*e*PG	**Pg**	**09 46 36.0**	**-0.3**
KRBG				*e*SG	**Sg**	**09 46 41.0**	**+0.5**
KRBG	**Karabiga-Canak**	**0.31**	**188**	*e*Pg	**Pg**	**09 46 36.1**	**-0.3**
KRBG				*e*Sg	**Sg**	**09 46 41.0**	**+0.5**
KNL	**Bal¯–kesir**	**0.45**	**163**	*i* P	**Pg**	**09 46 38.5**	**-0.5**
KNL				*i* S	**Sg**	**09 46 45.4**	**+0.5**
EDC	**Edincik**	**0.53**	**132**	*e*PG	**Pg**	**09 46 40.3**	**-0.1**
EDC				*e*SG	**Sg**	**09 46 47.6**	**+0.2**
EDC	**Edincik**	**0.53**	**132**	*e*Pg	**Pg**	**09 46 40.3**	**-0.1**
EDC				*e*Sg	**Sg**	**09 46 47.6**	**+0.2**
LPK	**Lapseki**	**0.56**	**234**	*e*PG	**Pg**	**09 46 40.7**	**-0.2**
LPK				*e*SG	**Sb**	**09 46 49.1**	**-0.7**
LPK	**Lapseki**	**0.56**	**234**	*e*Pg	**Pg**	**09 46 40.7**	**-0.2**
LPK				*e*Sg	**Sb**	**09 46 49.2**	**-0.7**
ERIK	**Erikli-Kesan**	**0.64**	**267**	*e*PG	**Pg**	**09 46 42.2**	**-0.2**
ERIK				*e*SG	**Sg**	**09 46 51.0**	**+0.2**
ERIK	**Erikli-Kesan**	**0.64**	**267**	*e*Pg	**Pg**	**09 46 42.2**	**-0.2**
ERIK				*e*Sg	**Sg**	**09 46 51.0**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.73**	**246**	*e*PG	**Pg**	**09 46 44.0**	**-0.2**
GELI				*e*SG	**Sb**	**09 46 54.6**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.73**	**246**	*e*Pg	**Pg**	**09 46 44.0**	**-0.2**
GELI				*e*Sg	**Sb**	**09 46 54.6**	**-0.3**
ENEZ	**Enez**	**0.91**	**272**	*e*PG	**Pg**	**09 46 47.3**	**-0.3**
ENEZ				*e*SG	**Sb**	**09 46 59.9**	**-0.1**
ENEZ	**Enez**	**0.91**	**272**	*e*Pg	**Pg**	**09 46 47.3**	**-0.3**
ENEZ				*e*Sg	**Sb**	**09 46 59.9**	**-0.1**
BALY	**Balya**	**0.98**	**168**	P	**Pg**	**09 46 48.5**	**-0.5**
BALY				S	**Sg**	**09 47 02.0**	**+0.2**
BALY	**Balya**	**0.98**	**168**	*i* P	**Pg**	**09 46 48.5**	**-0.5**
BALY				*i* S	**Sg**	**09 47 02.0**	**+0.2**
ALN	**Alexandroupoli**	**1.01**	**281**	*e*PG	**Pg**	**09 46 49.3**	**-0.2**
ALN				*e*SG	**Sg**	**09 47 02.4**	**-0.3**
ALN	**Alexandroupoli**	**1.01**	**281**	*e*Pg	**Pg**	**09 46 49.3**	**-0.2**
ALN				*e*Sg	**Sg**	**09 47 02.4**	**-0.3**
CTKS	**Kestanelik-??a**	**1.02**	**58**	*e*PG	**Pg**	**09 46 49.4**	**-0.4**
CTKS	**Kestanelik-??a**	**1.02**	**58**	*e*Pg	**Pg**	**09 46 49.4**	**-0.4**
CTYL	**Yalikoy Yolu**	**1.05**	**42**	*e*PG	**Pg**	**09 46 50.0**	**-0.2**
CTYL	**Yalikoy Yolu**	**1.05**	**42**	*e*Pg	**Pg**	**09 46 50.0**	**-0.2**
BALB	**Balikesir**	**1.14**	**159**	*e*PN	**Pg**	**09 46 51.6**	**-0.3**
BALB	**Balikesir**	**1.14**	**159**	*e*Pn	**Pg**	**09 46 51.6**	**-0.3**
ARMT	**Armutlu**	**1.16**	**96**	*e*PN	**Pg**	**09 46 52.1**	**-0.1**
ARMT	**Armutlu**	**1.16**	**96**	*e*Pn	**Pg**	**09 46 52.2**	**-0.1**
GADA	**Gvkgeada**	**1.22**	**246**	*e*PN	**Pb**	**09 46 53.0**	**-0.2**
GADA	**Gvkgeada**	**1.22**	**246**	*e*Pn	**Pb**	**09 46 53.0**	**-0.2**
KLYT	**Kilyos**	**1.39**	**66**	*e*PN	**Pb**	**09 46 56.1**	**0.0**
KLYT	**Kilyos**	**1.39**	**66**	*e*Pn	**Pb**	**09 46 56.1**	**0.0**
SIGR	**SIGRI**	**1.88**	**218**	*e*PN	**Pn**	**09 47 02.8**	**+0.7**
SIGR	**SIGRI**	**1.88**	**218**	*e*Pn	**Pn**	**09 47 02.8**	**+0.7**

*JMA **08** 09:48:39.6±0.3, 37°86N×144°73E, h54km, M3.7*
*IDC **08** 09:48:39.4±1.4, 37°73N×144°70E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/43, mbtmp3.3/4, ML3.1/1, MS2.2/1, Ms1 2.2/1, ms1mx2.0/18, Error ellipse: s-maj=38.7km s-min=28.9km az=120.0*
*ISCJB **08** 09:48:42.0±1.0, 37°75N±0°07×144°52E±0°08, h33km, mb3.5/3, Error ellipse: s-maj=10.6km s-min=8.3km az=36.3*
ISC 08 09:48:44.1±1.3, 37°88N±0°07×144°57E±0°09, h35km, n12, σ1°92/15, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.57**	**299**	*e*S	**Sn**	**09 49 53.8**	**+0.5**
JIO	**Ouri**	**2.60**	**284**	S	**Sn**	**09 49 54.1**	**+0.1**
MIYJ	**Miyakonagasawa**	**2.74**	**309**	P	**Pn**	**09 49 23.6**	**-1.9**
MIYJ				S	**Sn**	**09 49 56.7**	**-0.6**
JMK	**Ichinoseki**	**2.84**	**293**	*e*S	**Sn**	**09 50 00.6**	**+0.7**
JOM	**Ohasama**	**3.02**	**303**	*e*S	**Sn**	**09 50 04.8**	**+0.6**
JOT	**Ohata**	**4.43**	**323**	P	**Pn**	**09 49 50.2**	**+1.5**
JOT				*e*S	**Sn**	**09 50 36.2**	**-2.8**
JCH	**Churui**	**4.81**	**349**	*e*S	**Sn**	**09 50 44.4**	**-4.2**
JRY	**Ryogami san**	**4.91**	**249**	P	**Pn**	**09 49 53.6**	**-1.8**
JRY				*e*S	**Sn**	**09 50 49.4**	**-1.5**
MJAR	**Matsushiro Arr**	**5.25**	**257**	Pn	**Pn**	**09 49 59.1**	**-1.0**
	0.6nm,0.3s,baz=78,slow=16,SNR=5.5						
MJAR				LR	LR	09 52 14.3	
	comp=Z,24nm,21.9s,baz=35,slow=41						
ILAR	**Eielson Array**	**47.43**	**33**	P	**P**	**09 57 15.6**	**+0.9**
	0.3nm,0.8s,baz=264,slow=8.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**47.46**	**308**	P	**P**	**09 57 17.3**	**+2.1**
	0.4nm,0.4s,baz=82,slow=7.9,SNR=5.4						
WRA	**Warramunga Arr**	**58.32**	**191**	P	**P**	**09 58 35.3**	**-0.3**
	0.1nm,0.3s,baz=8.5,slow=7.0,SNR=2.7						

ROM 08 09:58:40.5±0.1, 43°68N×12°13E, h8km±1km, Md2.1/4, Ml1.5/2, Error ellipse: s-maj=1.4km s-min=1.1km az=9.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PARC	**Parchiule**	**0.09**	**110**	Pg	Pg	09 58 43.1	+0.5
PARC				Sg	Sg	09 58 44.0	+0.7
T0502	**Localit˜ San**	**0.22**	**2**	Pg	Pg	09 58 45.7	+0.7
T0502				Sg	Sg	09 58 49.6	+1.6
	81nm,0.3s						
ASQU	**Asqua**	**0.27**	**296**	Pg	Pg	09 58 46.7	+0.8
ASQU				Sg	Sb	09 58 51.5	-1.1
	41nm,0.1s						
VMG	**Vicchio**	**0.51**	**304**	Pg	Pg	09 58 50.9	+0.5
VMG				Sg	Sb	09 58 59.1	-0.3
	180μm,0.1s						

IDC 08 10:36:18.9±1.8, 0°67N×126°53E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.6/52, mbtmp4.0/4, ML3.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/52, Error ellipse: s-maj=113.3km s-min=23.4km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.68**	**183**	P	Pn	10 40 40.1	+1.2
	0.1nm,0.3s,baz=0.0,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**21.87**	**160**	P	P	10 41 13.1	-0.4
	2.5nm,0.5s,baz=337,slow=11,SNR=42						
ASAR	**Alice Springs**	**25.23**	**164**	P	P	10 41 46.4	-0.4
	1.8nm,0.3s,baz=345,slow=10,SNR=40						
CTA	**Charters Tower**	**28.27**	**138**	LR	LR	10 55 40.6	
	comp=Z,180nm,

JHJ **Hachijo jima 2** **3.63 210** P **Pn** **10 45 46.8 -1.2**
34nm,0.3s,baz=327,slow=20,SNR=9.1
JHJ S **Sn** **10 46 26.8 -3.5**
40nm,0.3s,baz=95,slow=22,SNR=11
ASAJ **Asahikawa** **7.83 3** P **Pn** **10 46 43.3 -2.2**
0.8nm,0.3s,baz=226,slow=16,SNR=5.6
ASAJ S **Sn** **10 48 10.6 -3.0**
0.1nm,0.3s,baz=72,slow=20,SNR=4.1
JNU **Nakatsue** **9.64 254** P **Pn** **10 47 11.3 +0.8**
0.1nm,0.3s,baz=30,slow=15,SNR=2.1
JNU LR LR 10 51 14.1
comp=Z,205nm,19.0s,baz=96,slow=40
USRK **Ussuriysk Ar.** **10.96 319** P **Pn** **10 47 30.9 +2.5**
0.2nm,0.3s,baz=129,slow=11,SNR=4.1
KSRS **Korea Array** **11.29 280** P **Pn** **10 47 34.5 +1.5**
0.2nm,0.3s,baz=88,slow=13,SNR=4.5
KSRS LR LR 10 52 02.4
comp=Z,250nm,18.2s,baz=63,slow=38
KLR **Kul'dur** **14.92 333** LR LR 10 54 13.1
comp=Z,151nm,18.4s,baz=137,slow=37
H11N2 **WAKE ISLAND Hy 27.41 120** T T 11 19 00.4
baz=313,slow=75,SNR=9.7
H11N1 **WAKE ISLAND Hy 27.41 120** T T 11 19 04.9
baz=313,slow=75,SNR=9.1
H11N3 **WAKE ISLAND Hy 27.42 120** T T 11 19 02.1
baz=313,slow=75,SNR=9.1
H11S1 **WAKE ISLAND Hy 28.10 122** T T 11 20 01.4
baz=314
H11S3 **WAKE ISLAND Hy 28.10 123** T T 11 20 00.8
baz=314
H11S2 **WAKE ISLAND Hy 28.12 123** T T 11 20 02.5
baz=314
SONM **Songino Array** **28.55 305** P **P** **10 50 47.5 +0.1**
4.7nm,0.8s,baz=101,slow=8.6,SNR=9.8
SONM LR LR 11 02 28.3
comp=Z,58nm,18.2s,baz=78,slow=37
TLY **Talaya** **31.14 312** LR LR 11 04 35.0
comp=Z,131nm,18.1s,slow=38
DAV **Davao City (W)** **32.71 211** LR LR 11 02 52.9
comp=Z,39nm,20.6s,baz=326,slow=33
ZALV **Zalesovo Beam** **42.73 313** P **P** **10 52 47.7 -0.7**
1.7nm,0.6s,baz=39,slow=7.6,SNR=4.2
ZALV LR LR 11 11 34.4
comp=Z,72nm,18.7s,baz=70,slow=37
NRIK **Noril'sk** **44.12 336** LR LR 11 12 20.0
comp=Z,56nm,19.5s,baz=112,slow=37
MKAR **Makanchi Array** **44.88 303** P **P** **10 53 05.9 +0.1**
4.4nm,0.8s,baz=83,slow=10,SNR=21
KURBB **Kurchatov Arra** **46.79 309** P **P** **10 53 20.6 -0.2**
2.4nm,0.6s,baz=82,slow=8.1,SNR=6.3
ILAR **Eielson Array** **49.89 32** P **P** **10 53 46.6 +2.0**
0.2nm,0.7s,baz=272,slow=6.4,SNR=2.8
BVAR **Borovoye Array** **51.38 313** P **P** **10 53 54.7 -1.3**
0.4nm,0.4s,baz=102,slow=6.2,SNR=4.6
WRA **Warrannunga Arr** **56.39 189** P **P** **10 54 31.1 -1.8**
0.6nm,0.8s,baz=5.4,slow=7.4,SNR=4.1
ARU **Arti** **57.20 319** P **P** **10 54 37.6 -0.7**
1.6nm,0.3s,baz=87,slow=4.6,SNR=5.1
AKTO **Aktyubinsk** **59.49 312** P **P** **10 54 53.9 -0.5**
2.2nm,0.9s,baz=71,slow=10,SNR=7.3
ASAR **Alice Springs** **60.12 189** P **P** **10 54 57.7 -1.2**
0.5nm,0.8s,baz=15,slow=7.2,SNR=4.7
YKA **Yellowknife Ar** **64.23 30** P **P** **10 55 27.6 +1.6**
0.2nm,0.6s,baz=303,slow=6.9,SNR=2.6
FINES **FINESS Array B** **69.67 333** LR LR 11 27 45.2
comp=Z,40nm,18.3s,baz=1.0,slow=37
KBZ **Khabaz** **71.71 311** P **P** **10 56 13.6 +0.3**
1.0nm,0.6s,baz=61,slow=9.5,SNR=3.9
NB2 **NORSAR Subarra** **75.03 338** P **P** **10 56 32.2 -0.5**
comp=Z,1.3nm,0.7s,baz=40,slow=5.9
NOA **NORSAR Array B** **75.03 338** P **P** **10 56 32.4 -0.4**
comp=Z,1.2nm,0.8s,baz=43,slow=5.4,SNR=3.9
NOA LR LR 11 34 05.9
comp=Z,39nm,18.8s,baz=255,slow=39
NVAR **Mina Array Bea** **75.09 53** P **P** **10 56 33.3 -0.4**
comp=Z,0.2nm,0.6s,baz=297,slow=6.0,SNR=2.7
AKASG **Malin Array Be** **75.14 323** P **P** **10 56 32.7 -0.7**
comp=Z,0.8nm,0.6s,baz=49,slow=5.9,SNR=6.1
BRTR **Keskin Array B** **79.66 312** P **P** **10 56 59.5 +0.4**
comp=Z,1.1nm,0.9s,baz=54,slow=6.3,SNR=7.0
VRAC **Vranov** **81.97 327** LR LR 11 37 54.7
comp=Z,46nm,18.5s,baz=54,slow=39
GERES **GERESS Array B** **83.56 329** LR LR 11 37 41.5
comp=Z,27nm,19.6s,baz=327,slow=38
TXAR **Lajitas Array** **90.23 53** P **P** **10 57 53.7 +1.3**
comp=Z,0.2nm,0.7s,baz=294,slow=4.6,SNR=2.9

---

*SCB **08** 10:53:02.8±1.8, 16°48S×69°82W, h166km±10km, Ml3.9/1, Error ellipse: s-maj=51.9km s-min=27.7km az=110.0*
*NEIC **08** 10:53:03.4±0.6, 16°35S×69°82W, h183km±6km, mb4.4/32, Error ellipse: s-maj=8.4km s-min=6.9km az=66.0*
*IDC **08** 10:53:06.7±0.9, 15°81S×69°54W, h194km±6km, mb4.1/10, mb1 4.1/12, mb1mx3.9/33, mbtmp4.5/12, Error ellipse: s-maj=30.5km s-min=11.9km az=24.0*

ISC 08 10:53:02.7±0.6, 16°38S±0°05×69°98W±0°05, h180km±6km, n285, σ1°38/300, mb4.2/40, 4D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOD	**La Paz, Gloria**	**1.35**	**101**	↓i	Pn	**10 53 36.4**	**+2.5**
LPAZ	**La Paz**	**1.78**	**87**	P	**Pn**	**10 53 39.9**	**+1.8**
	266nm,0.3s,baz=291,slow=7.3,SNR=5408						
LPAZ				S	**Sn**	**10 54 05.9**	**+0.6**
	62nm,0.3s,baz=346,slow=25,SNR=8.5						
LPAZ	**La Paz**	**1.78**	**87**	*e*P	**Pn**	**10 53 39.9**	**+1.8**
LPAZ				*e*S	**Sn**	**10 54 07.4**	**+2.0**
LPAZ	**La Paz**	**1.78**	**87**	*e*P	**Pn**	**10 53 39.4**	**+1.3**
LPAZ				*e*S	**Sn**	**10 54 06.1**	**+0.7**
BBOB	**La Paz, Bander**	**1.79**	**83**	*e*P	**Pn**	**10 53 39.7**	**+1.6**
BBOB				*e*S	**Sn**	**10 54 06.4**	**+1.0**
	208nm,0.3s						
BBOJ	**La Paz, Jacaqu**	**1.81**	**109**	↓i	Pn	**10 53 41.1**	**+2.7**
BBOJ				*e*S	**Sn**	**10 54 08.0**	**+2.1**
BBOE	**La Paz, Chanca**	**1.96**	**103**	↓i	Pn	**10 53 42.5**	**+2.5**
PB01	**IPOC Station P**	**4.67**	**174**	*e*P	**Pn**	**10 54 12.6**	**+0.2**
PB01				*e*S	**Sn**	**10 55 03.1**	**-4.1**
PB04	**IPOC Station P**	**5.93**	**182**	*e*P	**Pn**	**10 54 28.9**	**-0.1**
LVC	**Limon Verde**	**6.28**	**171**	P	**Pn**	**10 54 34.5**	**+0.8**
	446nm,0.3s,baz=13,slow=9.3,SNR=150						
LVC				S	**Sn**	**10 55 41.7**	**-3.9**
	2μm,0.3s,baz=180,slow=22,SNR=25						
LVC	**Limon Verde**	**6.28**	**171**	*e*Pn	**Pn**	**10 54 34.6**	**+0.8**
LVC				*e*Sn	**Sn**	**10 55 41.1**	**-4.4**
MOCB	**Mochara**	**6.36**	**140**	↓i	Pn	**10 54 37.1**	**+2.3**
PB10	**IPOC Station P**	**7.12**	**184**	*e*Pn	**Pn**	**10 54 44.0**	**-0.5**
PB10				*e*Sn	**Sn**	**10 56 00.9**	**-4.0**
NNA	**Nana**	**7.96**	**302**	P	**Pn**	**10 54 57.5**	**+1.9**
	2.3nm,0.3s,baz=138,slow=14,SNR=6.9						
NNA				S	**Sn**	**10 56 23.5**	**-1.4**
	9.2nm,0.3s,baz=108,slow=21,SNR=8.0						
NNA	**Nana**	**7.96**	**302**	*e*Pn	**Pn**	**10 54 57.6**	**+1.9**
NNA				*e*Sn	**Sn**	**10 56 19.1**	**-5.9**
SIV	**San Ignacio**	**8.56**	**89**	P	**Pn**	**10 55 02.4**	**-1.2**
	2.1nm,0.3s,baz=282,slow=12,SNR=17						
SIV				S	**Sn**	**10 56 34.2**	**-5.2**
	1.2nm,0.3s,baz=4.6,slow=15,SNR=5.5						
SIV	**San Ignacio**	**8.56**	**89**	*e*P	**Pn**	**10 55 03.3**	**-0.3**
SAML	**Samuel**	**9.92**	**43**	*e*Pn	**Pn**	**10 55 20.4**	**-0.9**
CPUP	**Villa Florida**	**15.38**	**132**	P	**P**	**10 56 33.3**	**+2.1**
	0.3nm,0.3s,baz=292,slow=4.5,SNR=4.3						
ROC1	**El Roble**	**16.55**	**183**	*e*P	**Pn**	**10 56 45.5**	**+0.6**
	12nm,0.7s						
PTGA	**Pitinga**	**18.41**	**33**	P	**P**	**10 57 04.6**	**0.0**
	3.3nm,0.3s,baz=207,slow=12,SNR=40						
PTGA	**Pitinga**	**18.41**	**33**	*e*P	**P**	**10 57 04.2**	**-0.4**
	51nm,1.4s						
OTAV	**Otavalo**	**18.50**	**332**	*e*P	**P**	**10 57 07.2**	**+1.2**
	7.6nm,0.9s						
BDFB	**Brasilia**	**21.12**	**91**	P	**P**	**10 57 31.6**	**-2.2**
	13nm,0.7s,baz=255,slow=11,SNR=14						
BDFB	**Brasilia**	**21.12**	**91**	*e*P	**P**	**10 57 32.2**	**-1.6**
	27nm,0.9s						
TRQA	**Tornquist**	**22.72**	**163**	*e*P	**P**	**10 57 48.0**	**-1.3**
	2.7nm,0.6s						
SDV	**Santo Domingo**	**25.11**	**358**	P	**P**	**10 58 11.6**	**+0.2**
	10nm,0.4s						
CBYP	**Canovanas**	**34.67**	**7**	*e*P	**P**	**10 59 33.4**	**-1.9**
	28nm,0.7s						
RCBR	**Riachuelo**	**34.98**	**76**	P	**P**	**10 59 36.9**	**-1.3**
	16nm,0.7s,baz=250,slow=8.3,SNR=12						
RCBR	**Riachuelo**	**34.98**	**76**	*e*P	**P**	**10 59 37.2**	**-1.0**
	16nm,0.8s						
347A	**Saraland**	**50.74**	**339**	P	**P**	**11 01 43.6**	**-0.7**
	baz=157						
034A	**Hebbronville**	**51.39**	**327**	P	**P**	**11 01 51.4**	**+2.1**
	baz=144						
245A	**Little AP, Sta**	**51.78**	**338**	P	**P**	**11 01 51.7**	**-0.3**
	baz=155						
736A	**Circle Diamond**	**52.12**	**330**	P	**P**	**11 01 57.0**	**+2.4**
	baz=146						
933A	**Laredo**	**52.14**	**327**	P	**P**	**11 01 57.0**	**+2.2**
	baz=144						
Z47A	**Carrollton**	**52.24**	**341**	P	**P**	**11 01 54.4**	**-1.0**
	baz=158						
Z48A	**Northport**	**52.24**	**341**	P	**P**	**11 01 54.2**	**-1.2**
	baz=158						
KMSC	**Kings Mountain**	**52.36**	**348**	P	**P**	**11 01 55.2**	**-1.0**
	baz=166						
242A	**Grayson**	**52.65**	**336**	P	**P**	**11 01 58.1**	**-0.3**
	baz=153						
833A	**Chaparral WMA,**	**52.78**	**327**	P	**P**	**11 02 00.6**	**+1.1**
	baz=144						
Y47A	**UCPARC, Winfie**	**52.82**	**341**	P	**P**	**11 01 58.4**	**-1.3**
	baz=158						
733A	**Divot King Ran**	**53.04**	**327**	P	**P**	**11 02 02.4**	**+0.9**
	baz=144						
832A	**Faith Ranch, C**	**53.05**	**327**	P	**P**	**11 02 02.5**	**+1.0**
	baz=143						
633A	**Saathoff Ranch**	**53.58**	**328**	P	**P**	**11 02 06.3**	**+0.9**
	baz=144,SNR=9.1						
534A	**Blanco**	**53.69**	**329**	P	**P**	**11 02 07.2**	**+1.0**
	baz=145						
533A	**Kerrville**	**54.01**	**329**	P	**P**	**11 02 09.5**	**+1.0**
	baz=145						
336A	**Riesel**	**54.05**	**331**	P	**P**	**11 02 09.9**	**+1.3**
	baz=148						
237A	**Washetta, Mont**	**54.10**	**333**	P	**P**	**11 02 10.7**	**+1.7**
	baz=149						
434A	**Burnet**	**54.24**	**330**	P	**P**	**11 02 11.3**	**+1.2**
	baz=146						
236A	**Katherine and**	**54.42**	**332**	P	**P**	**11 02 12.7**	**+1.3**
	baz=148						
137A	**Heron Place, G**	**54.59**	**333**	P	**P**	**11 02 14.0**	**+1.4**
	baz=149						
433A	**Art**	**54.59**	**329**	P	**P**	**11 02 13.3**	**+0.7**
	baz=145,SNR=8.0						
334A	**Lometa**	**54.65**	**330**	P	**P**	**11 02 13.8**	**+0.7**
	baz=146						
V45A	**Humboldt**	**54.86**	**341**	P	**P**	**11 02 13.7**	**-0.8**
	baz=158						
WVT	**Waverly**	**54.88**	**342**	*e*P	**P**	**11 02 12.8**	**-1.8**
	4.5nm,0.6s						
333A	**Richland Sprin**	**55.01**	**330**	P	**P**	**11 02 16.2**	**+0.6**
	baz=145						
234A	**Clairette**	**55.16**	**331**	P	**P**	**11 02 17.6**	**+0.8**
	baz=146						
MIAR	**Mount Ida**	**55.39**	**336**	P	**P**	**11 02 17.8**	**-0.5**
	baz=152						
W41B	**Gary Mavity, V**	**55.45**	**338**	P	**P**	**11 02 18.3**	**-0.4**
	baz=154						
Z36A	**Blue Ridge**	**55.46**	**333**	P	**P**	**11 02 20.0**	**+1.2**
	baz=149						
233A	**Rising Star**	**55.53**	**330**	P	**P**	**11 02 19.7**	**+0.3**
	baz=146,SNR=7.2						
X39A	**Fountain Ranch**	**55.57**	**336**	P	**P**	**11 02 20.1**	**+0.6**
	baz=152						
X201	**Grenbier Sit**	**55.60**	**338**	*e*P	**P**	**11 02 18.8**	**-1.0**
	26nm,0.0s						
134A	**White-Moore Ra**	**55.61**	**331**	P	**P**	**11 02 20.9**	**+1.0**
	baz=147						
Y37A	**Hugo**	**55.72**	**334**	P	**P**	**11 02 21.7**	**+1.1**
	baz=150,SNR=9.1						
Z35A	**Perchaven, San**	**55.87**	**332**	P	**P**	**11 02 22.5**	**+0.8**
	baz=148						
TXAR	**Lajitas Array**	**55.88**	**324**	P	**P**	**11 02 22.8**	**+0.7**
	1.0nm,0.7s,baz=149,slow=8.5,SNR=16						
TX31	**Lajitas Ar. Si**	**55.88**	**324**	*e*P	**P**	**11 02 22.8**	**+0.7**
V41A	**Mountainview**	**55.97**	**338**	P	**P**	**11 02 21.2**	**-1.2**
	baz=154,SNR=6.7						
X38A	**Whitesboro**	**55.99**	**335**	P	**P**	**11 02 23.3**	**+0.7**
	baz=151						
133A	**Hamilton Ranch**	**56.03**	**330**	P	**P**	**11 02 23.2**	**+0.3**
	baz=146,SNR=5.3						
W39A	**Magazine**	**56.05**	**337**	P	**P**	**11 02 23.5**	**+0.6**
	baz=152						
X37A	**Clayton**	**56.14**	**335**	P	**P**	**11 02 24.8**	**+1.2**
	baz=150						
Z34A	**Collier Ranch,**	**56.20**	**332**	P	**P**	**11 02 25.1**	**+1.0**
	baz=147						
W38A	**Poteau**	**56.22**	**336**	P	**P**	**11 02 24.8**	**+0.6**
	baz=151						
Y35A	**Marietta**	**56.26**	**333**	P	**P**	**11 02 25.7**	**+1.2**
	baz=148						
PBMO	**Poplar Bluff**	**56.28**	**340**	*e*P	**P**	**11 02 23.4**	**-1.2**
	12nm,0.4s						
ABTX	**Abilene, Hawle**	**56.39**	**330**	P	**P**	**11 02 26.5**	**+1.0**
	baz=145						
Z33A	**Whitaker Ranch**	**56.52**	**331**	P	**P**	**11 02 26.6**	**+0.2**
	baz=146,SNR=6.1						
S45A	**Carrier Mills**	**56.54**	**342**	P	**P**	**11 02 24.9**	**-1.4**
	baz=158,SNR=5.1						
V39A	**Pettigrew**	**56.56**	**337**	P	**P**	**11 02 25.7**	**-1.0**
	baz=152,SNR=7.1						
Y34A	**Reagan Ranch,**	**56.62**	**332**	P	**P**	**11 02 27.3**	**+0.3**
	baz=148,SNR=6.0						
W37B	**Quinton**	**56.65**	**335**	P	**P**	**11 02 27.9**	**+0.7**
	baz=150						
X35A	**Drake**	**56.65**	**333**	P	**P**	**11 02 27.5**	**+0.2**
	baz=148						
U40A	**Yellville**	**56.73**	**338**	P	**P**	**11 02 27.1**	**-0.7**
	baz=153						
S44A	**Carbondale**	**56.76**	**342**	P	**P**	**11 02 26.2**	**-1.7**
	baz=158,SNR=6.4						
SIUC	**Southern Illin**	**56.77**	**342**	*e*P	**P**	**11 02 27.1**	**-0.8**
	23nm,0.6s						
V38A	**Canehill**	**56.87**	**336**	P	**P**	**11 02 28.1**	**-0.7**
	baz=152						
S43A	**Fulton Ridge,**	**56.90**	**341**	P	**P**	**11 02 27.4**	**-1.5**
	baz=157,SNR=5.6						
O56A	**Blue Knob Stat**	**56.92**	**352**	P	**P**	**11 02 27.7**	**-1.3**
	baz=170						
T41A	**Mountain View**	**56.97**	**339**	P	**P**	**11 02 27.9**	**-1.5**
	baz=155						
W36A	**Wetumka**	**56.97**	**334**	P	**P**	**11 02 29.1**	**-0.3**
	baz=150,SNR=6.9						
U39A	**Green Forest**	**56.98**	**337**	P	**P**	**11 02 28.7**	**-0.8**
	baz=153						
Y33A	**Hilltop Ranch,**	**57.06**	**332**	P	**P**	**11 02 30.6**	**+0.5**
	baz=147						
V37A	**Hulbert**	**57.18**	**336**	P	**P**	**11 02 30.8**	**-0.1**
	baz=151						
X34A	**Smith Ranch, M**	**57.20**	**333**	P	**P**	**11 02 31.7**	**+0.6**
	baz=148,SNR=6.8						
R44A	**Waltonville**	**57.22**	**342**	P	**P**	**11 02 30.0**	**-1.1**
	baz=158						
W35A	**Tecumseh**	**57.25**	**334**	P	**P**	**11 02 31.4**	**-0.1**
	baz=149						
T40A	**Mansfield**	**57.32**	**339**	P	**P**	**11 02 30.4**	**-1.5**
	baz=154,SNR=5.4						
U38A	**Gravette**	**57.37**	**337**	P	**P**	**11 02 31.9**	**-0.3**
	baz=152						
X33A	**Lawton**	**57.45**	**332**	P	**P**	**11 02 33.7**	**+0.9**
	baz=147						
TUL1	**Leonard**	**57.46**	**335**	P	**P**	**11 02 33.4**	**+0.5**
	baz=150						
T39A	**Clever**	**57.52**	**338**	P	**P**	**11 02 32.3**	**-1.0**
	baz=153						
U37A	**Salina**	**57.62**	**336**	P	**P**	**11 02 33.9**	**-0.1**
	baz=151						
X32A	**Elmer**	**57.70**	**331**	P	**P**	**11 02 35.3**	**+0.6**
	baz=146						
S40A	**Lebanon**	**57.72**	**339**	P	**P**	**11 02 33.4**	**-1.3**
	baz=154,SNR=7.1						
WMOK	**Wichita Mounta**	**57.74**	**332**	P	**P**	**11 02 35.3**	**+0.4**
	baz=147						
V35A	**Meyer Ranch, C**	**57.76**	**334**	P	**P**	**11 02 34.7**	**-0.3**
	baz=149						
T38A	**Diamond**	**57.86**	**337**	P	**P**	**11 02 34.9**	**-0.8**
	baz=152,SNR=5.9						
W33A	**Caddo, Fort Co**	**57.94**	**333**	P	**P**	**11 02 37.0**	**+0.7**
	baz=147,SNR=7.8						
S39A	**Bolivar**	**58.09**	**338**	P	**P**	**11 02 36.2**	**-1.0**
	baz=153,SNR=9.3						
V34A	**Guthrie**	**58.11**	**334**	P	**P**	**11 02 37.7**	**+0.3**
	baz=148,SNR=5.8						
V34A	**Guthrie**	**58.11**	**334**	*e*P	**P**	**11 02 37.4**	**0.0**
	16nm,0.6s						
T37A	**Cheneyville 18**	**58.17**	**337**	P	**P**	**11 02 37.7**	**-0.2**
	baz=152						
U35A	**Pawnee**	**58.24**	**335**	P	**P**	**11 02 39.0**	**+0.7**
	baz=149						
R40A	**Maddies Statio**	**58.26**	**339**	P	**P**	**11 02 37.5**	**-0.9**
	baz=155						
Q42A	**Golden Eagle**	**58.27**	**341**	P	**P**	**11 02 37.3**	**-1.1**
	baz=157						
W32A	**Sentinel**	**58.27**	**332**	P	**P**	**11 02 38.9**	**+0.3**
	baz=146,SNR=12						
V33A	**Lossen Ranch,**	**58.43**	**333**	P	**P**	**11 02 40.5**	**+0.9**
	baz=148						
R39A	**Chumby, Stover**	**58.55**	**339**	P	**P**	**11 02 39.7**	**-0.6**
	baz=154						
U34A	**Anderson Ranch**	**58.63**	**334**	P	**P**	**11 02 41.8**	**+0.8**
	baz=149						
MNTX	**Cornudas Mount**	**58.64**	**325**	P	**P**	**11 02 42.0**	**+0.8**
	baz=139						
MNTX	**Cornudas Mount**	**58.64**	**325**	*e*P	**P**	**11 02 41.8**	**+0.6**
	2.0nm,0.8s						
V32A	**Arapaho**	**58.67**	**332**	P	**P**	**11 02 42.3**	**+1.0**
	baz=147						
S37A	**Fort Scott**	**58.70**	**337**	P	**P**	**11 02 40.9**	**-0.5**
	baz=152						
R38A	**Fenwick Farm,**	**58.74**	**338**	P	**P**	**11 02 40.6**	**-1.1**
	baz=153						
Q40A	**Laux Farm, Aux**	**58.84**	**340**	P	**P**	**11 02 41.2**	**-1.1**
	baz=155						
T34A	**McClaskey Farm**	**58.98**	**335**	P	**P**	**11 02 44.0**	**+0.5**
	baz=149						
MSTX	**Muleshoe**	**59.02**	**328**	P	**P**	**11 02 44.6**	**+0.8**
	baz=143						
Q39A	**Willow Grove F**	**59.18**	**339**	P	**P**	**11 02 43.9**	**-0.9**
	baz=154						
S35A	**Otter Creek Ra**	**59.20**	**336**	P	**P**	**11 02 44.9**	**-0.1**
	baz=150						
AMTX	**Amarillo**	**59.21**	**330**	P	**P**	**11 02 45.9**	**+0.8**
	baz=144						
P40A	**Paris**	**59.31**	**340**	P	**P**	**11 02 44.7**	**-0.9**
	baz=155						
Q38A	**Cooks Store, C**	**59.33**	**339**	P	**P**	**11 02 45.7**	**0.0**
	baz=153						
R36A	**Gordon, Harris**	**59.45**	**337**	P	**P**	**11 02 46.4**	**-0.2**
	baz=151						
T33A	**Patterson Ranc**	**59.48**	**334**	P	**P**	**11 02 47.2**	**+0.4**
	baz=148						
P39B	**Salisbury**	**59.51**	**340**	P	**P**	**11 02 45.9**	**-1.0**
	baz=154						
O40A	**La Belle**	**59.79**	**341**	P	**P**	**11 02 47.3**	**-1.6**
	baz=155,SNR=5.2						
T32A	**Huddler Ranch,**	**59.85**	**333**	P	**P**	**11 02 49.2**	**-0.2**
	baz=147						
P38A	**Dawn**	**59.89**	**339**	P	**P**	**11 02 48.6**	**-1.0**
	baz=154						
R34A	**Isabella, Hill**	**60.11**	**335**	P	**P**	**11 02 51.8**	**+0.7**
	baz=149						
P37A	**Lathrop**	**60.14**	**338**	P	**P**	**11 02 49.9**	**-1.4**
	baz=153						
S32A	**Newby Ranch, P**	**60.29**	**334**	P	**P**	**11 02 53.2**	**+0.8**
	baz=148						
R33A	**Olander Ranch,**	**60.41**	**335**	P	**P**	**11 02 53.6**	**+0.4**
	baz=149						
Q34A	**Chapman**	**60.52**	**336**	P	**P**	**11 02 53.9**	**0.0**
	baz=150						
KSU1	**Kansas State U**	**60.55**	**336**	P	**P**	**11 02 53.0**	**-1.1**
	baz=150						
121A	**Cookes Peak, D**	**60.61**	**324**	P	**P**	**11 02 56.8**	**+1.9**
	baz=138						
N39A	**Derby Farms, D**	**60.68**	**341**	P	**P**	**11 02 53.8**	**-1.1**
	baz=155						
P35A	**Duane Minner,**	**60.70**	**337**	P	**P**	**11 02 54.6**	**-0.5**
	baz=151						
R32A	**Long Quarter,**	**60.81**	**334**	P	**P**	**11 02 56.6**	**+0.7**
	baz=148						
P34A	**Walnut Farm, R**	**61.02**	**336**	P	**P**	**11 02 57.3**	**0.0**
	baz=150						
Q32A	**Meitler Ranch,**	**61.23**	**335**	P	**P**	**11 02 58.8**	**+0.2**
	baz=148						
N36A	**Muff Farm, Cla**	**61.45**	**339**	P	**P**	**11 02 59.9**	**-0.2**
	baz=152						
CBKS	**Cedar Bluff**	**61.57**	**334**	P	**P**	**11 03 01.6**	**+0.6**
	baz=147,SNR=5.1						
CBKS	**Cedar Bluff**	**61.57**	**334**	*e*P	**P**	**11 03 02.2**	**+1.2**
	16nm,0.8s						
ANMO	**Albuquerque**	**61.69**	**326**	P	**P**	**11 03 03.3**	**+1.2**
	baz=140						
ANMO	**Albuquerque**	**61.69**	**326**	*e*P	**P**	**11 03 02.8**	**+0.8**
	1.9nm,0.6s						
O33A	**Hebron**	**61.77**	**336**	P	**P**	**11 03 02.4**	**+0.1**
	baz=150						
M36A	**Felix, Anita**	**61.96**	**339**	P	**P**	**11 03 03.4**	**-0.1**
	baz=153						
O32A	**Brockman Farm,**	**62.20**	**336**	P	**P**	**11 03 05.9**	**+0.7**
	baz=149						
TUC	**Tucson**	**62.21**	**321**	P	**P**	**11 03 08.3**	**+2.8**
	baz=135						
N33A	**J Bar K, Exete**	**62.29**	**337**	P	**P**	**11 03 05.7**	**0.0**
	baz=150						
T25A	**Trinidad**	**62.34**	**329**	P	**P**	**11 03 07.5**	**+1.1**
	baz=142						
L35A	**Bielow Farm, R**	**62.80**	**339**	P	**P**	**11 03 09.0**	**-0.1**
	baz=152						
K36A	**Gilmore City**	**62.90**	**340**	P	**P**	**11 03 09.2**	**-0.4**
	baz=153						
M33A	**Taylor Creek F**	**62.92**	**337**	P	**P**	**11 03 09.8**	**-0.1**
	baz=150						
L34A	**Svendsen Farm,**	**62.96**	**338**	P	**P**	**11 03 09.9**	**-0.3**
	baz=151						
KSCO	**Kaye Shedlock'**	**63.00**	**332**	P	**P**	**11 03 12.0**	**+1.4**
	baz=144						
BGNE	**Belgrade**	**63.13**	**337**	P	**P**	**11 03 11.8**	**+0.5**
	baz=149						
SDCO	**Great Sand Dun**	**63.35**	**329**	P	**P**	**11 03 14.9**	**+1.8**
	baz=141						
SDCO	**Great Sand Dun**	**63.35**	**329**	*e*P	**P**	**11 03 14.6**	**+1.4**
	2.8nm,0.6s						
I38A	**Scanlan Farm,**	**63.50**	**342**	P	**P**	**11 03 13.0**	**-0.7**
	baz=156						
I37A	**Lemond, Waseca**	**63.80**	**341**	P	**P**	**11 03 14.7**	**-0.9**
	baz=155						
S22A	**4UR Ranch, Cre**	**64.02**	**328**	P	**P**	**11 03 19.0**	**+1.4**
	baz=140						
L31A	**Butterfield Fa**	**64.06**	**336**	P	**P**	**11 03 18.0**	**+0.6**
	baz=149						
X16A	**Lo Mia Camp, P**	**64.08**	**323**	*e*P	**P**	**11 03 19.3**	**+1.4**
	2.8nm,1.1s						
I35A	**Creekview Farm**	**64.16**	**340**	P	**P**	**11 03 17.8**	**-0.2**
	baz=153						
H37A	**Dierke Farm, C**	**64.17**	**342**	P	**P**	**11 03 17.2**	**-0.8**
	baz=155						
OGNE	**Ogallala**	**64.32**	**334**	P	**P**	**11 03 19.6**	**+0.4**
	baz=146						
J33A	**Davis**	**64.36**	**338**	P	**P**	**11 03 19.2**	**-0.1**
	baz=151						
ECSD	**EROS Data Cent**	**64.60**

MONP2	**Monument Peak** baz=130	66.11	318	P	P	11 03 33.9	+2.9
I29A	**Vivian Onida** baz=148	66.19	337	P	P	11 03 30.9	-0.2
D37A	**Cotton** baz=156	66.38	343	P	P	11 03 31.3	-0.8
C39A	**Grand Marais** baz=159	66.40	345	P	P	11 03 31.1	-1.2
E34A	**Wadena** baz=154	66.59	341	P	P	11 03 32.7	-0.8
D36A	**Goodland** baz=156	66.60	343	P	P	11 03 32.7	-0.8
KNB	**Kanab** 5.8nm,1.0s	66.71	324	*e*P	P	11 03 36.9	+2.2
C37A	**Embarrass** baz=157	66.84	344	P	P	11 03 34.5	-0.6
EYMN	**Ely** baz=157	66.86	344	P	P	11 03 34.4	-0.8
EYMN	**Ely** 2.6nm,0.3s	66.86	344	*e*P	P	11 03 34.3	-0.9
SRU	**San Rafael Swe** 2.0nm,0.7s	66.95	327	*e*P	P	11 03 37.5	+1.3
F31A	**Hecla** baz=150	67.02	339	P	P	11 03 35.9	-0.4
C36A	**Pine Crest Far** baz=156	67.04	343	P	P	11 03 35.6	-0.7
D34A	**Park Rapids** baz=154	67.11	342	P	P	11 03 36.2	-0.6
C35A	**Jirik Farms, M** baz=155	67.31	343	P	P	11 03 37.2	-0.8
CCUT	**Cedar City** 2.3nm,0.9s	67.39	324	*e*P	P	11 03 41.5	+2.4
MSU	**Marysvale**	67.41	325	*e*P	P	11 03 40.4	+1.2
C34A	**RKJ Ranch, Bem** baz=154	67.54	342	P	P	11 03 38.8	-0.6
D32A	**Dogwood Acres,** baz=152	67.73	340	P	P	11 03 40.4	-0.2
RSSD	**Black Hills** baz=144	67.77	334	P	P	11 03 42.7	+1.5
B35A	**Bob, Littlefor** baz=155	67.84	343	P	P	11 03 40.7	-0.6
GSC	**Goldstone, Bar** baz=131	67.91	320	P	P	11 03 44.7	+2.6
H25A	**Fruitdale** baz=145	68.00	335	P	P	11 03 43.4	+1.0
B34A	**Aery, Baudette** baz=154	68.21	343	P	P	11 03 43.4	-0.2
DBIC	**Dimbokro** 6.9nm,0.5s,baz=236,slow=5.0,SNR=15	68.36	76	P	P	11 03 44.0	-1.2
C31A	**Landman Farms,** baz=151	68.54	340	P	P	11 03 45.6	0.0
LRMC	**Laurel Mtn Rad** baz=130	68.57	320	P	P	11 03 48.8	+2.5
F26A	**Lodgepole** baz=146	68.64	336	P	P	11 03 47.5	+1.1
TPNV	**Topopah Spring** baz=132	68.66	322	P	P	11 03 49.4	+2.5
TPNV	**Topopah Spring** 2.3nm,0.5s	68.66	322	*e*P	P	11 03 47.9	+1.0
C30A	**Mose, Pekin** baz=150	68.70	340	P	P	11 03 47.3	+0.6
FURC	**Furnace Creek,** baz=131	68.71	321	P	P	11 03 49.5	+2.6
MPMC	**Manual Prospec** baz=131	68.83	320	P	P	11 03 50.0	+2.0
DUG	**Dugway, Tooele** baz=136	68.96	326	P	P	11 03 50.2	+1.5
D28A	**Regan** baz=148	68.98	338	P	P	11 03 48.5	0.0
F25A	**Bowman** baz=145	69.01	336	P	P	11 03 49.8	+1.1
E26A	**Carlson Angus** baz=146	69.08	337	P	P	11 03 50.3	+1.2
BW06	**Boulder Array** baz=139	69.19	330	P	P	11 03 51.5	+1.4
BW06	**Boulder Array**	69.19	330	*e*P	P	11 03 49.6	-0.5
PDAR	**Pinedale Array** 1.0nm,0.5s,baz=123,slow=8.1,SNR=9.4	69.19	330	P	P	11 03 50.4	+0.3
MDND	**Maddock** baz=149	69.21	339	P	P	11 03 49.8	-0.1
R11A	**Troy Canyon, C** baz=133	69.21	323	P	P	11 03 52.4	+2.1
HWUT	**Hardware Ranch** 2.1nm,0.6s	69.32	328	*e*P	P	11 03 51.3	+0.4
E25A	**Miller Ranch,** baz=146	69.46	336	P	P	11 03 52.4	+0.9
VES	**Vestal, Richgr** baz=129	69.68	319	P	P	11 03 55.9	+3.0
D25A	**Fairfield** baz=146	69.97	336	P	P	11 03 55.6	+1.0
A29A	**Manning Farm,** baz=150	70.01	340	P	P	11 03 54.7	-0.1
HVU	**Hansel Valley** 2.1nm,0.6s	70.07	327	*e*P	P	11 03 54.5	-0.9
ULM	**Lac du Bonnet** 14nm,0.3s,baz=150,slow=5.3,SNR=21	70.15	343	P	P	11 03 55.0	-0.5
ULM	**Lac du Bonnet** 20nm,0.4s	70.15	343	*e*P	P	11 03 54.3	-1.2
LAO	**LASA Array** baz=143	70.75	334	P	P	11 04 00.3	+1.0
LAO	**LASA Array** 13nm,1.4s	70.75	334	*e*P	P	11 03 58.7	-0.6
B25A	**Knox Farm, Ray** baz=146	70.84	337	P	P	11 04 01.5	+1.7
RLMT	**Red Lodge** baz=140	70.85	332	P	P	11 04 01.9	+1.8
NVAR	**Mina Array Bea** 0.6nm,0.6s,baz=126,slow=5.0,SNR=5.0	70.86	322	P	P	11 04 02.3	+1.9
A26A	**Wade Farm, Ken** baz=147	70.95	338	P	P	11 04 01.6	+1.1
A25A	**Svangstu Ranch** baz=146	71.38	338	P	P	11 04 03.8	+0.9
KOWA	**Kowa** 2.2nm,0.4s	72.00	68	*e*P	P	11 04 06.2	-1.1
HLID	**Hailey** baz=135	72.19	328	P	P	11 04 09.2	+1.1
PAHR	**Pah Rah Range** 4.3nm,0.8s	72.33	322	*e*P	P	11 04 10.9	+1.9
BOZ	**Bozeman (W)** baz=138	72.33	331	P	P	11 04 10.0	+1.1
MFID	**Camas Ranch** 2.8nm,0.8s	72.82	327	P	P	11 04 13.2	+1.4
M04C	**Macdoel** baz=129	75.09	323	P	P	11 04 26.3	+1.3
M02C	**Callahan** baz=128	75.44	322	P	P	11 04 28.5	+1.5
J05D	**Fort Rock, OR** baz=129	75.68	324	P	P	11 04 29.8	+1.4
I05D	**Terrebonne, OR** baz=130	76.41	325	P	P	11 04 34.6	+2.2
TOA0	**Torodi Ar. Sit**	76.66	72	*e*P	P	11 04 32.4	-2.0
TORD	**Torodi Ar. Bea** 9.8nm,0.5s,baz=266,slow=4.8,SNR=77	76.66	72	P	P	11 04 32.8	-1.5
G03D	**McMinnville, O** baz=128	78.03	325	P	P	11 04 43.4	+2.1
YKA	**Yellowknife Ar** 4.5nm,0.7s,baz=134,slow=4.9,SNR=45	86.04	341	P	P	11 05 23.1	+0.5
YKB5	**Yellowknife Ar**	86.04	341	*e*P	P	11 05 22.8	+0.3
YKW3	**Yellowknife Ar** 5.6nm,0.7s	86.09	341	*e*P	P	11 05 23.0	+0.2
BOSA	**Boshof** 3.4nm,0.9s,baz=269,slow=5.6,SNR=3.6	86.76	119	P	P	11 05 29.1	+1.9
ABKAR	**Akbulak array**	127.97	40	*e*PKPdf	PKPdf	11 11 49.0	+1.9
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=137,slow=1.8,SNR=5.4	136.72	214	PKP	PKPdf	11 12 07.5	+3.0
WRA	0.5nm,0.8s,baz=147,slow=2.4,SNR=4.8			SKPbc	SKPbc	11 15 21.2	+0.7
ZALV	**Zalesovo Beam** 4.6nm,0.5s,baz=301,slow=3.1,SNR=14	137.68	22	PKP	PKPdf	11 12 06.5	+1.3
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=348,slow=5.2,SNR=4.4	141.94	31	PKhKP	PKPpre	11 12 09.3	
MKAR	0.9nm,0.6s,baz=352,slow=5.0,SNR=6.3			PKP	PKPdf	11 12 14.1	+0.8
MKAR	0.7nm,0.7s,baz=349,slow=2.5,SNR=6.2			SKPbc	SKiKP	11 15 33.9	-1.5
USRK	**Ussuriysk Ar.** 3.9nm,0.7s,baz=59,slow=1.6,SNR=7.5	146.61	331	PKPbc	PKPab	11 12 24.6	-0.1
MJAR	**Matsushiro Arr** 2.1nm,0.8s,baz=219,slow=0.9,SNR=5.3	147.94	314	PKPbc	PKPab	11 12 28.8	-1.5
CBIJ	**Chichi jima**	148.36	295	*e*PKPbc	PKPbc	11 12 27.6	-0.9
SONM	**Songino Array** 8.6nm,0.4s,baz=326,slow=2.6,SNR=17	148.49	5	PKPbc	PKPbc	11 12 29.4	+1.1
KSRS	**Korea Array** 1.3nm,0.9s,baz=279,slow=37,SNR=3.6	153.72	326	PKPbc	PKPbc	11 12 42.3	+1.6
KSAR	**Wonju Array Be**	153.75	327	PKPbc	PKPbc	11 12 42.3	+1.6
CMAR	**Chiang Mai Arr** 1.3nm,0.6s,baz=280,slow=6.0,SNR=6.4	169.22	77	PKPab	PKPab	11 14 02.1	-0.3
QIZ	**Qiongzhong**	177.35	4	PKPbc	PKPdf	11 12 50.2	-2.2
QIZ				PP	PP	11 18 27.0	-2.9

*ISCJB **08** 10:56:13.0±0.4,39.08N±0.03×29.05E±0.03,h4km±7km, Error ellipse: s-maj=5.3km s-min=4.0km az=152.9*
*DDA **08** 10:56:12.7,39.09N×29.04E,h7km,Md2.6*
*ISK **08** 10:56:12.7,39.08N×29.06E,h5km,ML2.4*
*CSEM **08** 10:56:13.2±0.1,39.08N×29.06E,h5km,MD2.6,Error ellipse: s-maj=1.9km s-min=1.6km az=118.0*
ISC 08 10:56:13.2±0.9,39.08N±0.02×29.06E±0.02,h11km±9km, n39,σ0.936/53,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	0.27	263	P		Pg	10 56 18.6	-0.1
DEMI				S		Sg	10 56 22.4	0.0
DEMI	**Demirci**	0.27	263	*i* P		Pg	10 56 18.6	-0.1
DEMI				*i* S		Sg	10 56 22.4	0.0
GDZ	**Gediz**	0.33	88	P		Pg	10 56 19.7	-0.2
GDZ				S		Sg	10 56 25.0	+0.6
GDZ	**Gediz**	0.33	88	*i* P		Pg	10 56 19.7	-0.2
GDZ				*i* S		Sg	10 56 25.0	+0.6
TVSB	**Tavsanli**	0.49	40	PG		Pg	10 56 22.6	-0.2
TVSB				*e*SG		Sg	10 56 29.0	-0.3
TVSB	**Tavsanli**	0.49	40	*i* Pg		Pg	10 56 22.6	-0.2
TVSB				*e*Sg		Sg	10 56 29.0	-0.3
DST	**Dursunbey**	0.63	327	*e*PG		Pg	10 56 25.3	-0.1
DST	**Dursunbey**	0.63	327	*e*Pg		Pg	10 56 25.3	-0.1
KULA	**Kula-Manisa**	0.64	209	PG		Pg	10 56 25.5	-0.1
KULA				*e*SG		Sg	10 56 34.1	0.0
KULA	**Kula-Manisa**	0.64	209	*i* Pg		Pg	10 56 25.5	-0.1
KULA				*e*Sg		Sg	10 56 34.1	0.0
MANT	**Manisa**	0.70	214	P		Pg	10 56 26.7	-0.2
MANT				S		Sg	10 56 36.3	+0.2
MANT	**Manisa**	0.70	214	*i* P		Pg	10 56 26.7	-0.2
MANT				*i* S		Sg	10 56 36.3	+0.2
KHAL	**Karahalli**	0.78	154	P		Pb	10 56 28.8	-0.1
KHAL				S		Sg	10 56 39.0	+0.4
KHAL	**Karahalli**	0.78	154	*i* P		Pb	10 56 28.8	-0.1
KHAL				*i* S		Sg	10 56 39.0	+0.4
KHL	**Karahalli**	0.84	154	PG		Pb	10 56 29.8	0.0
KHL	**Karahalli**	0.84	154	*i* Pg		Pb	10 56 29.8	0.0
AKS	**Akhisar**	0.99	259	*e*PG		Pb	10 56 32.4	0.0
AKS	**Akhisar**	0.99	259	*e*Pg		Pb	10 56 32.4	0.0
BALB	**Balikesir**	1.07	302	*e*PG		Pn	10 56 34.3	+0.1
BALB	**Balikesir**	1.07	302	*e*Pg		Pn	10 56 34.3	+0.1
IGD	**Bursa**	1.19	5	*i* P		Pn	10 56 34.5	-1.4
CAVI	**Cavuskoy**	1.28	28	*e*PN		Pb	10 56 37.3	0.0
CAVI	**Cavuskoy**	1.28	28	*e*Pn		Pb	10 56 37.3	0.0
IZI	**Iznik**	1.30	14	*e*PN		Pb	10 56 37.8	0.0
IZI	**Iznik**	1.30	14	*e*Pn		Pb	10 56 37.8	0.0
KCTX	**Karacabey (Bur**	1.30	336	*e*PN		Pg	10 56 39.1	+0.8
KCTX	**Karacabey (Bur**	1.30	336	*e*Pn		Pg	10 56 39.1	+0.8
BORA	**Eskisehir**	1.35	53	P		Pn	10 56 38.1	0.0
BORA				S		Sn	10 56 55.9	-0.2
BORA	**Eskisehir**	1.35	53	*i* P		Pn	10 56 38.1	0.0
BORA				*i* S		Sn	10 56 55.9	-0.2
GONE	**Gonen-Balikesi**	1.44	313	*e*PN		Pb	10 56 40.2	+0.2
GONE	**Gonen-Balikesi**	1.44	313	*e*Pn		Pb	10 56 40.2	+0.2
ADVT	**Abdulvahap**	1.45	21	*e*PN		Pb	10 56 40.5	+0.2
ADVT	**Abdulvahap**	1.45	21	*e*Pn		Pb	10 56 40.5	+0.2
ARMT	**Armutlu**	1.50	354	*e*PN		Pb	10 56 40.8	-0.2
ARMT	**Armutlu**	1.50	354	*e*Pn		Pb	10 56 40.8	-0.2
EDC	**Edincik**	1.57	324	*e*PN		Pb	10 56 41.8	-0.5
EDC	**Edincik**	1.57	324	*e*Pn		Pb	10 56 41.8	-0.5
GULT	**Gulveren**	1.76	39	*e*PN		Pn	10 56 44.4	+0.6
GULT	**Gulveren**	1.76	39	*e*Pn		Pn	10 56 44.4	+0.6

IDC 08 11:04:15.6±3.0,11.14S×163.29E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/34,mbtmp3.6/4,ML4.1/1,MS2.3/1, Ms1 2.3/1,ms1mx2.2/17,Error ellipse: s-maj=53.1km s-min=44.4km az=76.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara** 16nm,0.3s,baz=177,slow=6.7,SNR=6.0	3.70	297	Pn		Pn	11 05 14.7	+0.8
HNR	11nm,0.3s,baz=99,slow=19,SNR=2.8			Sn		Sn	11 05 58.5	+0.2
HNR	comp=Z,41nm,21.1s,baz=16,slow=35			LR		LR	11 06 26.4	
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=77,slow=8.9,SNR=3.3	29.19	249	P		P	11 10 19.7	+0.6
ASAR	**Alice Springs** 0.3nm,0.8s,baz=65,slow=10,SNR=3.2	30.61	242	P		P	11 10 30.8	-0.8
MKAR	**Makanchi Array** 0.4nm,0.9s,baz=115,slow=6.5,SNR=2.3	91.94	317	P		P	11 17 26.1	-0.1

*ISCJB **08** 11:19:10.0±0.6,17.52N±0.07×40.37E±0.06,h10km, mb3.9/16,MS3.5/10,Error ellipse: s-maj=11.8km s-min=6.7km az=35.8*
*IDC **08** 11:19:10.0±1.2,17.49N×40.23E,h0km,mb3.9/13, mb1 4.0/14,mb1mx3.8/57,mbtmp3.9/14,ML3.0/1,MS3.5/12, Ms1 3.5/12,ms1mx3.1/56,Error ellipse: s-maj=26.0km s-min=22.7km az=163.0*
*NEIC **08** 11:19:11.5±0.5,17.50N×40.27E,h10km,mb4.1/2,Error ellipse: s-maj=13.1km s-min=7.6km az=65.0*
*SGS **08** 11:19:11.4,17.55N×40.22E,h22km*
ISC 08 11:19:11.8±0.8,17.57N±0.08×40.41E±0.08,h10km,n29, σ0.998/24,mb4.0/16,MS3.4/10,Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FRSS	**Farasan al Kab**	1.83	117	S		Sn	11 20 05.7	-0.9
FRSS				P		Pn	11 19 42.4	-0.9
NAMS	**An Nimas**	2.33	47	P		Pn	11 19 49.3	-1.3
DJNS	**Zahran al Janu**	2.99	87	S		Sn	11 20 34.7	-1.0
DJNS				P		Pn	11 19 59.6	0.0
DAMY	**Dhamar**	4.85	127	*e*Pn		Pn	11 20 25.1	-0.1
ATD	**Arta Tunnel** 0.3nm,0.3s,baz=270,slow=20,SNR=1.7	6.45	158	Pn		Pn	11 20 47.5	+0.5
ATD	comp=Z,89nm,21.8s,baz=355,slow=35			LR		LR	11 22 54.6	
WSAR	**Wadi Sarin** comp=Z,282nm,19.8s,baz=264,slow=41	17.98	69	LR		LR	11 31 39.2	
GNI	**Garni** 52nm,0.5s	22.81	9	*e*P		P	11 24 16.1	+1.0
BRTR	**Keskin Array B** 2.3nm,1.0s,baz=159,slow=10,SNR=7.8	22.85	346	P		P	11 24 17.0	+1.6
GEYT	**Alibeck** comp=Z,218nm,18.2s,baz=200,slow=39	25.55	34	LR		LR	11 35 47.7	
KBZ	**Khabaz** 1.0nm,0.5s,baz=252,slow=3.2,SNR=3.5	26.16	4	P		P	11 24 46.9	+0.6
KBZ	comp=Z,91nm,18.1s,baz=158,slow=38			LR		LR	11 35 56.3	
KIV	**Kislovodsk** 7.8nm,0.9s	26.38	4	P		P	11 24 47.6	-0.7
KVAR	**Kislovodsk Arr** comp=Z,65nm,19.4s,baz=100,slow=38	26.38	4	LR		LR	11 36 04.5	
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=171,slow=7.2,SNR=3.6	34.25	347	P		P	11 25 57.6	-0.1
ABKAR	**Akbulak array** 1.3nm,1.0s	35.35	22	*e*P		P	11 26 08.3	+1.0
AKTO	**Aktyubinsk** comp=Z,38nm,18.9s,baz=168,slow=40	35.70	19	LR		LR	11 42 45.9	
TORD	**Torodi Ar. Bea** 3.2nm,0.9s,baz=100,slow=8.0,SNR=12	37.54	269	P		P	11 26 24.4	-2.1
TORD	comp=Z,46nm,19.4s,baz=130,slow=38			LR		LR	11 42 48.2	
GERES	**GERESS Array B** 0.3nm,0.3s,baz=135,slow=9.8,SNR=3.7	37.99	331	P		P	11 26 30.0	+0.1
ARU	**Arti** comp=Z,51nm,18.2s,baz=182,slow=39	41.15	15	LR		LR	11 46 11.8	
BVAR	**Borovoye Array** 0.3nm,0.5s,baz=213,slow=10,SNR=2.2	42.42	27	P		P	11 27 07.4	+0.8
KURBB	**Kurchatov Arra** 1.1nm,0.4s,baz=234,slow=8.8,SNR=7.0	44.82	34	P		P	11 27 27.3	+1.4
KURK	**Kurchatov**	44.92	34	P		P	11 27 27.3	+0.6
FINES	**FINESS Array B** 2.9nm,1.1s,baz=145,slow=10,SNR=3.8	44.99	350	P		P	11 27 27.4	+0.4
MKAR	**Makanchi Array** 1.2nm,0.8s,baz=243,slow=8.0,SNR=6.7	45.09	40	P		P	11 27 28.8	+0.6
DBIC	**Dimbokro** comp=Z,109nm,19.4s,baz=76,slow=37	45.45	262	LR		LR	11 47 03.7	
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=138,slow=7.2,SNR=3.1	48.14	341	P		P	11 27 50.8	-1.1
BOSA	**Boshof** comp=Z,77nm,18.5s,baz=8.5,slow=37	48.19	198	LR		LR	11 48 28.5	
ZALV	**Zalesovo Beam** 2.3nm,0.5s,baz=244,slow=8.8,SNR=9.3	49.85	33	P		P	11 28 05.7	+0.7
ZALV	comp=Z,47nm,18.5s,baz=248,slow=39			LR		LR	11 51 42.8	
SONM	**Songino Array** 1.4nm,0.6s,baz=294,slow=11,SNR=4.4	61.10	45	P		P	11 29 27.2	+0.8
SONM	comp=Z,31nm,21.4s,baz=231,slow=37			LR		LR	11 56 58.7	
TIXI	**Tiksi** 0.7nm,0.2s,baz=338,slow=6.2,SNR=3.7	72.98	19	P		P	11 30 41.3	0.0

*ISCJB **08** 11:31:50.7±0.4,39.10N±0.03×28.95E±0.03,h7km±5km, Error ellipse: s-maj=4.4km s-min=3.6km az=154.9*
*CSEM **08** 11:31:50.9±0.1,39.10N×28.95E,h5km,ML3.0,Error ellipse: s-maj=1.7km s-min=1.5km az=122.0*
*DDA **08** 11:31:50.3,39.11N×28.99E,h7km,Ml3.0*
*ISK **08** 11:31:50.2,39.10N×28.95E,h6km,ML2.8*
ISC 08 11:31:51.0±0.8,39.11N±0.02×28.95E±0.02,h16km±7km, n58,σ0.979/74,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	0.19	251	P		Pg	11 31 55.6	0.0
DEMI				S		Sg	11 31 58.8	-0.1
DEMI	**Demirci**	0.19	251	*i* P		Pg	11 31 55.6	0.0
DEMI				*i* S		Sg	11 31 58.8	-0.1
GEDZ	**Gediz**	0.37	99	*e*PG		Pg	11 31 58.1	-0.4
GEDZ				*e*SG		Sg	11 32 03.3	-0.4
GEDZ	**Gediz**	0.37	99	*e*Pg		Pg	11 31 58.1	-0.4
GEDZ				*e*Sg		Sg	11 32 03.3	-0.4
GDZ	**Gediz**	0.42	92	P		Pg	11 31 58.9	-0.5
GDZ				S		Sg	11 32 04.6	-0.6
GDZ	**Gediz**	0.42	92	*i* P		Pg	11 31 58.9	-0.5
GDZ				*i* S		Sg	11 32 04.6	-0.6
TVSB	**Tavsanli**	0.53	49	PG		Pg	11 32 00.8	-0.7
TVSB				*e*SG		Sg	11 32 08.1	-0.5
TVSB	**Tavsanli**	0.53	49	*i* Pg		Pg	11 32 00.8	-0.7
TVSB				*e*Sg		Sg	11 32 08.1	-0.5
DST	**Dursunbey**	0.56	333	*e*PG		Pg	11 32 01.7	-0.4
DST	**Dursunbey**	0.56	333	*e*Pg		Pg	11 32 01.7	-0.4
KULA	**Kula-Manisa**	0.63	201	*e*PG		Pg	11 32 03.0	-0.4
KULA				*e*SG		Sg	11 32 11.1	-0.6
KULA	**Kula-Manisa**	0.63	201	*e*Pg		Pg	11 32 03.0	-0.4
KULA				*e*Sg		Sg	11 32 11.1	-0.6
MANT	**Manisa**	0.68	206	P		Pb	11 32 04.1	-0.6
MANT				S		Sg	11 32 13.1	-0.4
MANT	**Manisa**	0.68	206	*i* P		Pb	11 32 04.1	-0.6
MANT				*i* S		Sg	11 32 13.1	-0.4
KHAL	**Karahalli**	0.85	150	P		Pb	11 32 07.3	-0.1
KHAL				S		Sg	11 32 17.8	-0.8
KHAL	**Karahalli**	0.85	150	*i* P		Pb	11 32 07.3	-0.1
KHAL				*i* S		Sg	11 32 17.8	-0.8
KHL	**Karahalli**	0.90	150	*e*PG		Pg	11 32 07.6	-0.9
KHL	**Karahalli**	0.90	150	*e*Pg		Pg	11 32 07.6	-0.9
AKS	**Akhisar**	0.91	256	*e*PG		Pb	11 32 09.0	+0.6
AKS	**Akhisar**	0.91	256	*e*Pg		Pb	11 32 09.0	+0.6
BALB	**Balikesir**	0.98	303	*e*PG		Pb	11 32 09.8	+0.1
BALB	**Balikesir**	0.98	303	*e*Pg		Pb	11 32 09.8	+0.1
IGD	**Bursa**	1.18	10	*i* P		Pg	11 32 11.9	-1.7
IGD				*i* S		Sg	11 32 27.9	-1.1
BALY	**Balya**	1.21	302	P		Pg	11 32 12.1	-2.2
BALY	**Balya**	1.21	302	*i* P		Pg	11 32 12.1	-2.2
KCTX	**Karacabey (Bur**	1.25	339	*e*PN		Pn	11 32 14.4	+0.7
KCTX	**Karacabey (Bur**	1.25	339	*e*Pn		Pn	11 32 14.5	+0.7
MDNY	**Mudanya-Bursa**	1.26	358	*e*PN		Pg	11 32 14.8	-0.6
MDNY	**Mudanya-Bursa**	1.26	358	*e*Pn		Pg	11 32 14.8	-0.6
CAVI	**Cavuskoy**	1.30	32	*e*PN		Pg	11 32 15.8	-0.1
CAVI	**Cavuskoy**	1.30	32	*e*Pn		Pg	11 32 15.8	-0.1
IZI	**Iznik**	1.30	18	*e*PN		Pg	11 32 15.3	-0.6
IZI	**Iznik**	1.30	18	*e*Pn		Pg	11 32 15.4	-0.6
GONE	**Gonen-Balikesi**	1.35	314	*e*PN		Pb	11 32 16.3	+0.3
GONE	**Gonen-Balikesi**	1.35	314	*e*Pn		Pb	11 32 16.3	+0.3
BORA	**Eskisehir**	1.40	56	P		Pn	11 32 16.6	+0.6
BORA				S		Sb	11 32 34.7	+0.2
BORA	**Eskisehir**	1.40	56	*i* P		Pn	11 32 16.6	+0.6
BORA				*i* S		Sb	11 32 34.7	+0.2
ADVT	**Abdulvahap**	1.46	24	*e*PN		Pb	11 32 18.1	+0.3
ADVT	**Abdulvahap**	1.46	24	*e*Pn		Pb	11 32 18.1	+0.3
ARMT	**Armutlu**	1.46	357	*e*PN		Pb	11 32 17.9	+0.1
ARMT	**Armutlu**	1.46	357	*e*Pn		Pb	11 32 17.9	+0.1
EDC	**Edincik**	1.50	326	*e*PN		Pb	11 32 18.6	+0.2
EDC	**Edincik**	1.50	326	*e*Pn		Pb	11 32 18.6	+0.2
ESKT	**Eskisehir**	1.53	74	*e*PN		Pb	11 32 19.1	0.0
ESKT	**Eskisehir**	1.53	74	*e*Pn		Pb	11 32 19.1	0.0
GPA	**Golpazari**	1.58	41	*e*PN		Pn	11 32 19.1	+0.6
GPA	**Golpazari**	1.58	41	*e*Pn		Pn	11 32 19.1	+0.6
AYDN	**Tasoluk**	1.67	211	*i* P		Pg	11 32 28.5	+5.5
GULT	**Gulveren**	1.79	42	*e*PN		Pb	11 32 22.9	-0.6
GULT	**Gulveren**	1.79	42	*e*Pn		Pb	11 32 22.9	-0.6
HRT	**Hereke**	1.80	18	*e*PN		Pb	11 32 23.4	-0.2
HRT	**Hereke**	1.80	18	*e*Pn		Pb	11 32 23.5	-0.2
SVRH	**Sivrihisar-ESK**	2.03	79	*e*PN		Pn	11 32 26.3	+1.7
SVRH	**Sivrihisar-ESK**	2.03	79	*e*Pn		Pn	11 32 26.3	+1.7
SILT	**Sile**	2.12	14	*e*PN		Pn	11 32 27.2	+1.6
SILT	**Sile**	2.12	14	*e*Pn		Pn	11 32 27.3	+1.6
MDUB	**Mudurnu**	2.21	51	*e*PN		Pn	11 32 28.7	+1.6
MDUB	**Mudurnu**	2.21	51	*e*Pn		Pn	11 32 28.7	+1.6

*NIED **08** 11:32:00,38.40N×144.50E,h5km,Mw4.0 Best double couple: M0 1.09000×10^15 NP1:φs 17.00000°,δ21.00000°, λ-92.00000°. NP2:φs 199.00000°,δ69.00000°, λ-89.00000°.*
*NEIC **08** 11:32:54.9±0.4,38.27N×144.74E,h10km,mb4.3/5,Error ellipse: s-maj=10.3km s-min=6.9km az=122.0*
*JMA **08** 11:32:57.4±0.2,38.44N×144.45E,h21km,M4.4*
*IDC **08** 11:32:58.4±4.5,38.28N×144.69E,h33km±34km,mb3.7/17, mb1 4.0/21,mb1mx3.8/56,mbtmp4.0/21,ML4.0/2,MS3.0/7, Ms1 3.0/7,ms1mx2.7/41,Error ellipse: s-maj=18.1km s-min=14.6km az=110.0*
ISC 08 11:32:58.4±1.4,38.39N±0.04×144.64E±0.08,h29km±11km, n62,σ1.972/75,mb4.0/21,MS3.4/3,Off east coast of Honshu

| Code | Station Name |

JOD2	**Odawara 2**	**5.44 237**	P	**Pn**	**11 34 17.2**	**-0.3**
JOD2			*e*S	**Sn**	**11 35 14.1**	**-5.0**
MAJO	**Matsushiro**	**5.44 252**	*e*Pn	**Pn**	**11 34 18.2**	**+0.7**
	28nm,0.5s					
MAT	**Matsushiro**	**5.44 252**	P	**Pn**	**11 34 17.6**	**+0.1**
MAT			S	**Sn**	**11 35 19.0**	**-0.1**
JTKR	**Abashiri--Toko**	**5.60 355**	P	**Pn**	**11 34 17.5**	**-2.1**
JTKR			S	**Sn**	**11 35 17.1**	**-5.9**
JHR	**Hokuryu**	**5.78 339**	S	**Sn**	**11 35 25.0**	**-2.4**
ASAJ	**Asahikawa**	**5.92 346**	Pn	**Pn**	**11 34 23.6**	**-0.5**
	baz=204,slow=9.0					
ASAJ			Sn	**Sn**	**11 35 31.6**	**+0.7**
	1.6nm,0.3s,baz=287,slow=32,SNR=6.6					
ASAJ	**Asahikawa**	**5.92 346**	Pn	**Pn**	**11 34 23.6**	**-0.5**
	1.0nm,0.5s					
ASAJ			*e*Sn	**Sn**	**11 35 29.1**	**-1.8**
ASAJ			Sn	**Sn**	**11 35 31.6**	**+0.7**
JHJ2	**Mitsune**	**6.57 218**	*e*S	Sn	11 35 38.5	-8.3
JHJ2	**Mitsune**	**6.57 218**	*e*Pn	Pn	11 34 28.4	-4.6
JHJ2			*e*Sn	Sn	11 35 40.7	-6.1
JHJ	**Hachijo jima 2**	**6.58 218**	Pn	Pn	11 34 30.4	-2.8
	14nm,0.3s,baz=325,slow=23,SNR=6.7					
JHJ			Sn	Sn	11 35 39.6	-7.5
	54nm,0.3s,baz=284,slow=22,SNR=8.9					
JHJ			LR	LR	11 38 02.9	
	comp=Z,47nm,18.3s,baz=81,slow=47					
USRK	**Ussuriysk Ar.**	**11.14 305**	Pn	**Pn**	**11 35 37.7**	**+2.1**
	0.2nm,0.3s,baz=111,slow=14,SNR=6.7					
JNU	**Nakatsue**	**12.35 249**	LR	LR	11 40 39.3	
	comp=Z,62nm,18.8s,baz=131,slow=37					
MDJ	**Mudanjiang**	**12.87 304**	*e*Pn	**Pn**	**11 36 03.6**	**+4.4**
KSRS	**Korea Array**	**13.23 271**	LR	LR	11 40 18.4	
	comp=Z,58nm,21.8s,baz=96,slow=33					
PET	**Petropavlovsk**	**17.55 29**	*e*P	**Pn**	**11 37 00.3**	**-0.4**
	102nm,2.4s					
SEY	**Seymchan**	**25.02 8**	P	**P**	**11 38 20.8**	**+1.3**
	6.8nm,0.8s,baz=175,slow=6.5,SNR=18					
YAK	**Yakutsk**	**25.40 344**	*e*P	**P**	**11 38 24.0**	**+1.1**
	6.2nm,0.4s					
ZALV	**Zalesovo Beam**	**42.91 311**	P	**P**	**11 40 55.1**	**+0.9**
	0.8nm,0.5s,baz=107,slow=8.6,SNR=3.3					
ZALV			PcP	**PcP**	**11 42 44.2**	**-0.3**
	1.5nm,0.6s,baz=113,slow=3.4,SNR=3.8					
NRIK	**Noril'sk**	**43.13 334**	LR	LR	12 00 03.4	
	comp=Z,41nm,18.8s,baz=95,slow=38					
CMAR	**Chiang Mai Arr**	**44.31 257**	LR	LR	12 02 59.8	
	comp=Z,16nm,18.8s,baz=245,slow=41					
MKAR	**Makanchi Array**	**45.58 302**	P	**P**	**11 41 16.0**	**+0.3**
	1.6nm,0.7s,baz=78,slow=11,SNR=6.2					
ILAR	**Eielson Array**	**46.97 33**	P	**P**	**11 41 26.0**	**-0.3**
	0.6nm,0.9s,baz=265,slow=6.8,SNR=7.1					
KURK	**Kurchatov**	**47.12 308**	P	**P**	**11 41 28.3**	**+0.7**
KURBB	**Kurchatov Arra**	**47.19 307**	P	**P**	**11 41 28.3**	**+0.1**
	3.3nm,0.5s,baz=81,slow=8.1,SNR=19					
TKM2	**Tokmak 2**	**51.23 298**	*e*P	**P**	**11 41 59.6**	**+0.1**
	2.6nm,0.8s					
BVAR	**Borovoye Array**	**51.55 312**	P	**P**	**11 42 02.1**	**+0.6**
	baz=74,slow=11					
WRAB	**Tennant Creek**	**58.81 191**	*e*P	**P**	**11 42 53.1**	**-1.0**
	1.5nm,0.6s					
WRA	**Warramunga Arr**	**58.83 191**	P	**P**	**11 42 52.8**	**-1.4**
	2.3nm,0.6s,baz=12,slow=7.3,SNR=30					
ABKAR	**Akbulak array**	**59.01 310**	*e*P	**P**	**11 42 55.8**	**+0.5**
	1.1nm,0.6s					
YKA	**Yellowknife Ar**	**61.34 31**	P	**P**	**11 43 11.0**	**0.0**
	0.6nm,0.9s,baz=292,slow=6.6,SNR=3.6					
ASAR	**Alice Springs**	**62.55 191**	P	**P**	**11 43 18.3**	**-1.2**
	0.9nm,0.8s,baz=12,slow=8.1,SNR=9.8					
FINES	**FINESS Array B**	**68.78 333**	P	**P**	**11 43 58.2**	**-1.1**
	1.9nm,0.8s,baz=33,slow=11,SNR=6.0					
KBZ	**Khabaz**	**71.93 312**	P	**P**	**11 44 19.2**	**+0.3**
	2.5nm,0.8s,baz=103,slow=4.9,SNR=5.1					
NVAR	**Mina Array Bea**	**72.12 55**	P	**P**	**11 44 20.7**	**+0.3**
	0.5nm,0.8s,baz=280,slow=6.3,SNR=3.2					
HFS	**Hagfors**	**73.88 337**	P	**P**	**11 44 29.7**	**-0.4**
	0.5nm,0.4s,baz=31,slow=8.8,SNR=4.3					
NOA	**NORSAR Array B**	**73.89 338**	P	**P**	**11 44 29.7**	**-0.6**
	1.1nm,0.8s,baz=36,slow=5.8,SNR=3.1					
AKASG	**Malin Array Be**	**74.76 323**	P	**P**	**11 44 35.7**	**+0.3**
	0.2nm,0.3s,baz=42,slow=5.5,SNR=2.3					
PDAR	**Pinedale Array**	**74.88 47**	P	**P**	**11 44 35.5**	**-1.1**
	0.2nm,0.4s,baz=309,slow=5.7,SNR=2.6					
ULM	**Lac du Bonnet**	**76.94 35**	P	**P**	**11 44 48.8**	**+0.9**
	1.7nm,0.4s,baz=280,slow=3.9,SNR=3.4					
MMAI	**Mount Meron Ar**	**83.23 307**	LR	LR	12 25 02.1	
	comp=Z,15nm,18.2s,baz=75,slow=38					
TXAR	**Lajitas Array**	**87.26 54**	P	**P**	**11 45 42.5**	**0.0**
	0.3nm,0.8s,baz=301,slow=5.0,SNR=4.2					
TORD	**Torodi Ar. Bea**	**118.10 318**	PKP	**PKPdf**	**11 51 41.6**	**-1.5**
	0.2nm,0.4s,baz=325,slow=1.0,SNR=3.6					

IDC 08 11:36:52.7±2.8, 17.26N×40.50E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/50, mbtmp3.6/4, MS3.1/4, Ms1 3.1/4, ms1mx2.7/46, Error ellipse: s-maj=72.8km s-min=29.7km az=153.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**6.13**	**158**	LR	LR	11 39 51.9	
	comp=Z,46nm,21.6s,baz=254,slow=29						
BRTR	**Keskin Array B**	**23.17**	**346**	P	P	11 42 00.9	-0.1
	0.9nm,0.8s,baz=167,slow=11,SNR=5.8						
GEYT	**Alibeck**	**25.76**	**33**	LR	LR	11 53 32.8	
	comp=Z,94nm,18.1s,baz=155,slow=39						
KVAR	**Kislovodsk Arr**	**26.68**	**4**	LR	LR	11 53 48.0	
	comp=Z,28nm,22.0s,baz=120,slow=38						
TORD	**Torodi Ar. Bea**	**37.62**	**269**	P	P	11 44 09.5	-0.1
	1.3nm,0.9s,baz=88,slow=8.9,SNR=7.5						
MKAR	**Makanchi Array**	**45.27**	**40**	P	P	11 45 11.2	-0.9
	0.2nm,0.4s,baz=244,slow=9.2,SNR=3.6						
DBIC	**Dimbokro**	**45.49**	**262**	LR	LR	12 04 47.6	
	comp=Z,45nm,19.8s,baz=85,slow=37						
ZALV	**Zalesovo Beam**	**50.07**	**33**	P	P	11 45 49.8	+0.7
	2.6nm,0.9s,baz=238,slow=8.3,SNR=4.6						

NIED ***08*** *11:50:00, 39.10N×142.40E, h44km, Mw3.5 Best double couple: M0 1.75000×10^14 NP1:φs=83.00000°, δ=36.00000°, λ=-6.00000°. NP2:φs=178.00000°, δ=87.00000°, λ=-126.00000°.*

IDC ***08*** *11:50:33.3±3.2, 39.42N×142.97E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/42, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=71.3km s-min=41.2km az=66.0*

ISCJB ***08*** *11:50:38.9±1.4, 39.08N±0.04×142.50E±0.09, h20km±8km, mb3.4/2, Error ellipse: s-maj=12.1km s-min=6.9km az=6.9*

JMA ***08*** *11:50:40.9±0.1, 39.10N×142.39E, h33km±1km, M3.6*

ISC 08 11:50:36.9±2.2, 39.13N±0.04×142.55E±0.09, h6km±11km, n13, σ1°43/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.69**	**266**	P	**Pb**	**11 50 52.2**	**+0.9**
OFUJ				S	**Sg**	**11 50 59.9**	**+0.8**
MIYJ	**Miyakonagasawa**	**0.72**	**308**	P	**Pn**	**11 50 53.3**	**-0.3**
MIYJ				S	**Sb**	**11 51 01.9**	**-0.1**
JTH	**Tanohata**	**0.97**	**327**	P	**Pn**	**11 50 57.6**	**+0.6**
JOM	**Ohasama**	**1.03**	**290**	P	**Pn**	**11 50 57.9**	**0.0**
JOM				S	**Sg**	**11 51 10.1**	**-0.1**
JMK	**Ichinoseki**	**1.05**	**261**	P	**Pb**	**11 50 57.6**	**+0.1**
JMK				S	**Sg**	**11 51 09.5**	**-1.2**
JIO	**Ouri**	**1.16**	**235**	P	**Pg**	**11 50 58.6**	**-0.5**
JIO				S	**Sg**	**11 51 11.0**	**-3.1**
JKZ	**Kuzumaki**	**1.27**	**312**	P	**Pg**	**11 51 02.4**	**+1.1**
JKZ				S	**Sb**	**11 51 17.4**	**-0.5**
JANG	**Nango**	**1.48**	**328**	P	**Pb**	**11 51 05.6**	**+0.8**
JANG				*e*S	**Sn**	**11 51 23.4**	**-0.3**
JRG	**Rokugo**	**1.51**	**281**	P	**Pn**	**11 51 05.1**	**+0.6**
JRG				S	**Sn**	**11 51 23.9**	**-0.6**
JOU	**Okura**	**1.66**	**243**	P	**Pn**	**11 51 06.7**	**+0.1**
MJAR	**Matsushiro Arr**	**4.30**	**234**	Pn	**Pn**	**11 51 45.8**	**+3.0**
	0.8nm,0.3s,baz=44,slow=12,SNR=18						
MJAR				Sn	**Sn**	**11 52 36.3**	**+3.0**
	0.2nm,0.3s,baz=314,slow=50,SNR=3.1						
MKAR	**Makanchi Array**	**43.80**	**300**	P	**P**	**11 58 41.8**	**-1.6**
	0.2nm,0.4s,baz=89,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**59.26**	**189**	P	**P**	**12 00 38.7**	**-0.5**
	0.3nm,0.4s,baz=6.6,slow=7.0,SNR=5.5						

ISCJB ***08*** *11:55:30.9±0.6, 39.14N±0.03×29.08E±0.05, h5km±7km, Error ellipse: s-maj=7.8km s-min=4.7km az=30.3*

ISK ***08*** *11:55:30.4, 39.12N×29.12E, h10km, ML2.1*

CSEM ***08*** *11:55:31.2±0.1, 39.15N×29.06E, h8km, MD2.7, Error ellipse: s-maj=1.6km s-min=1.0km az=116.0*

DDA ***08*** *11:55:32.2, 39.10N×29.05E, h7km, Md2.7*

ISC 08 11:55:31.0±1.0, 39.15N±0.03×29.05E±0.03, h11km±12km, n20, σ0°41/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.28**	**247**	P	**Pb**	**11 55 37.6**	**-0.6**
DEMI				S	**Sb**	**11 55 42.0**	**-0.9**
DEMI	**Demirci**	**0.28**	**247**	*i* P	**Pb**	**11 55 37.6**	**-0.6**
DEMI				*i* S	**Sb**	**11 55 42.0**	**-0.9**
TVSB	**Tavsanli**	**0.44**	**47**	*e*Pg	**Pg**	**11 55 39.8**	**+0.1**
TVSB				*e*Sg	**Sg**	**11 55 45.0**	**-0.5**
TVSB	**Tavsanli**	**0.44**	**47**	*e*Pg	**Pg**	**11 55 39.8**	**+0.1**
TVSB				*e*Sg	**Sg**	**11 55 45.0**	**-0.5**
KULA	**Kula-Manisa**	**0.71**	**205**	*e*PG	**Pg**	**11 55 44.8**	**0.0**
KULA				*e*SG	**Sg**	**11 55 54.2**	**+0.2**
KULA	**Kula-Manisa**	**0.71**	**205**	*e*Pg	**Pg**	**11 55 44.8**	**0.0**
KULA				*e*Sg	**Sg**	**11 55 54.2**	**+0.2**
MANT	**Manisa**	**0.77**	**210**	P	**Pb**	**11 55 46.2**	**-0.3**
MANT				S	**Sg**	**11 55 56.2**	**+0.3**
MANT	**Manisa**	**0.77**	**210**	*i* P	**Pb**	**11 55 46.2**	**-0.3**
MANT				*i* S	**Sg**	**11 55 56.2**	**+0.3**
KHAL	**Karahalli**	**0.86**	**156**	P	**Pb**	**11 55 47.9**	**0.0**
KHAL				S	**Sb**	**11 55 59.1**	**-0.4**
KHAL	**Karahalli**	**0.86**	**156**	*i* P	**Pb**	**11 55 47.9**	**0.0**
KHAL				*i* S	**Sb**	**11 55 59.1**	**-0.4**
AKS	**Akhisar**	**1.00**	**254**	*e*PG	**Pg**	**11 55 50.6**	**+0.3**
AKS	**Akhisar**	**1.00**	**254**	*e*Pg	**Pg**	**11 55 50.6**	**+0.3**
BALB	**Balikesir**	**1.03**	**299**	*e*PN	**Pn**	**11 55 52.0**	**+0.7**
BALB	**Balikesir**	**1.03**	**299**	*e*Pn	**Pn**	**11 55 52.0**	**+0.7**
CAVI	**Cavuskoy**	**1.21**	**30**	*e*PN	**Pg**	**11 55 54.4**	**0.0**
CAVI	**Cavuskoy**	**1.21**	**30**	*e*Pn	**Pg**	**11 55 54.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.23**	**335**	*e*PN	**Pg**	**11 55 54.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.23**	**335**	*e*Pn	**Pg**	**11 55 54.8**	**+0.1**
ARMT	**Armutlu**	**1.42**	**354**	*e*PN	**Pb**	**11 55 57.6**	**+0.1**
ARMT	**Armutlu**	**1.42**	**354**	*e*Pn	**Pb**	**11 55 57.6**	**+0.1**

IDC ***08*** *12:02:34.6±1.0, 14.22N×145.07E, h80km±7km, mb3.4/7, mb1 3.7/7, mb1mx3.3/49, mbtmp3.7/7, Error ellipse: s-maj=50.0km s-min=17.6km az=105.0*

ISCJB ***08*** *12:02:35.1±0.8, 14.2N±0.1×144.9E±0.3, h100km, mb3.6/7, Error ellipse: s-maj=42.0km s-min=13.8km az=10.2*

ISC 08 12:02:36.5±0.8, 14.1N±0.1×145.0E±0.3, h100km, n8, σ1°31/9, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.54**	**194**	P	**Pn**	**12 02 51.6**	**-1.0**
	baz=90,slow=3.0						
GUMO				S	**Sn**	**12 03 02.6**	**-1.9**
	1µm,0.3s,baz=343,slow=19,SNR=51						
WRA	**Warramunga Arr**	**35.43**	**197**	P	**P**	**12 09 24.2**	**+1.1**
	1.7nm,0.7s,baz=19,slow=9.4,SNR=26						
ASAR	**Alice Springs**	**39.08**	**196**	P	**P**	**12 09 55.2**	**+1.2**
	0.3nm,0.4s,baz=17,slow=9.0,SNR=19						
STKA	**Stephens Creek**	**45.84**	**184**	P	**P**	**12 10 49.2**	**+0.6**
	4.7nm,0.9s,baz=359,slow=10,SNR=7.2						
MKAR	**Makanchi Array**	**61.20**	**316**	P	**P**	**12 12 41.1**	**+0.3**
	0.1nm,0.3s,baz=104,slow=6.2,SNR=2.6						
ILAR	**Eielson Array**	**68.04**	**25**	P	**P**	**12 13 23.8**	**-1.2**
	0.4nm,0.5s,baz=251,slow=5.5,SNR=12						
YKA	**Yellowknife Ar**	**82.34**	**27**	P	**P**	**12 14 46.7**	**-0.3**
	0.2nm,0.5s,baz=287,slow=5.1,SNR=3.7						
NVAR	**Mina Array Bea**	**86.50**	**51**	P	**P**	**12 15 09.9**	**+1.1**
	0.2nm,0.6s,baz=258,slow=4.5,SNR=2.3						

WAR ***08*** *12:11:19.3, 51.53N×16.14E, h1km, Mw2.2*

ISC 08 12:11:20.6±1.6, 51.44N±0.06×16.04E±0.03, h0km±12km, n16, σ0°88/32, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.62**	**165**	*e*Pg	**Pg**	**12 11 32.3**	**-0.2**
KSP				*e*Sg	**Sg**	**12 11 41.5**	**+0.9**
KSP	**Ksiaz**	**0.62**	**165**	*e*Pg	**Pg**	**12 11 32.3**	**-0.2**
KSP				*e*Sg	**Sg**	**12 11 41.5**	**+0.9**
UPC	**Upice**	**0.94**	**181**	*e*PG	**Pg**	**12 11 38.5**	**-0.1**
UPC				*e*SG	**Sb**	**12 11 52.0**	**-0.7**
	28nm,0.2s						
DPC	**Dobruska-Polom**	**1.11**	**171**	*e*PG	**Pg**	**12 11 41.2**	**-0.7**
DPC				*e*SG	**Sg**	**12 11 56.6**	**+0.4**
	9.3nm,0.3s						
PVCC	**Panska Ves**	**1.31**	**226**	*e*PG	**Pg**	**12 11 45.7**	**0.0**
PVCC				*e*SG	**Sn**	**12 12 04.1**	**-0.1**
	27nm,0.2s						
BRG	**Berggiesshubel**	**1.44**	**247**	PG	**Pn**	**12 11 48.0**	**+0.1**
BRG				SG	**Sn**	**12 12 08.4**	**+1.0**
	16nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.73**	**208**	*e*PG	**Pb**	**12 11 52.8**	**-0.4**
GOPC				*e*SG	**Sg**	**12 12 17.2**	**+1.1**
	7.2nm,0.2s						
PRU	**Pruhonice**	**1.74**	**214**	*e*PG	**Pb**	**12 11 53.2**	**-0.2**
PRU				*ex*	x	12 12 09.9	
PRU				*e*SG	**Sg**	**12 12 17.3**	**+0.8**
	12nm,0.3s						
CLL	**Collm**	**1.91**	**267**	*e*Pg	**Pb**	**12 11 56.0**	**-0.3**
CLL				*e*Sg	**Sg**	**12 12 22.0**	**0.0**
	comp=Z,6.0nm,0.7s						
OKC	**Ostrava-Krasne**	**2.09**	**139**	*e*PG	**Pg**	**12 12 00.6**	**-0.1**
TREC	**Trest**	**2.18**	**190**	*e*SG	**Sg**	**12 12 31.4**	**+0.8**
	comp=Z,7.8nm,0.2s						
NKC	**Novy Kostel**	**2.58**	**243**	*e*PG	**Pg**	**12 12 09.9**	**-0.2**
NKC				*e*SG	**Sg**	**12 12 44.4**	**+0.9**
	comp=Z,12nm,0.5s						
OJC	**Ojcow**	**2.68**	**116**	*e*Pg	**Pb**	**12 12 09.1**	**-0.2**
OJC				*e*Sg	**Sb**	**12 12 44.3**	**+1.6**
OJC	**Ojcow**	**2.68**	**116**	*e*Pg	**Pb**	**12 12 09.1**	**-0.2**
OJC				*e*Sg	**Sb**	**12 12 44.3**	**+1.6**
KHC	**Kasperske Hory**	**2.80**	**215**	*e*PN	**Pn**	**12 12 04.5**	**-2.2**
KHC				*e*PG	**Pb**	**12 12 11.5**	**0.0**
KHC				*e*SN	**Sn**	**12 12 41.5**	**+0.3**
KHC				*e*SG	**Sg**	**12 12 51.0**	**+0.4**
LANS	**Liptovska Anna**	**3.18**	**135**	*e*PG	**Pb**	**12 12 18.8**	**+0.9**
LANS				*e*SG	**Sg**	**12 13 00.7**	**-1.9**

JMA 08 12:13:28.4±0.3, 38.04N×142.65E, h19km±3km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.10**	**292**	P	Pn	12 13 48.4	-0.4
OFUJ	**Ofunato**	**1.29**	**324**	P	Pn	12 13 51.4	0.0
JMK	**Ichinoseki**	**1.45**	**309**	P	Pn	12 13 53.9	+0.4
JMM	**Marumori**	**1.48**	**264**	P	Pn	12 13 53.8	-0.2
JFK	**Kawauchi**	**1.56**	**245**	P	Pn	12 13 54.9	-0.3
JOM	**Ohasama**	**1.78**	**324**	P	Pn	12 13 59.3	+1.1
JOM				*e*S	Sb	12 14 21.4	-1.0
JFT	**Otama**	**1.91**	**255**	P	Pb	12 14 01.3	-1.3
JFT				*e*S	Sn	12 14 24.4	+1.0
JYK	**Kaneyama**	**2.00**	**297**	P	Pn	12 14 02.2	+1.0
JYS	**Shirataka**	**2.05**	**276**	P	Pb	12 14 03.9	-1.1
JRG	**Rokugo**	**2.08**	**311**	P	Pb	12 14 04.2	-1.3
JYA	**Atsumi**	**2.38**	**284**	P	Pb	12 14 08.5	-2.0
JFY	**Yanaizu**	**2.42**	**256**	P	Pb	12 14 09.7	-1.6

IDC ***08*** *12:16:10.8±0.7, 20.82N×119.81E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/62, mbtmp3.8/12, ML4.2/2, MS3.0/6, Ms1 3.1/6, ms1mx2.8/43, Error ellipse: s-maj=24.4km s-min=15.5km az=77.0*

MAN ***08*** *12:16:11, 20.84N×119.66E, h27km, mb4.7, ML3.6, MS3.5*

ISCJB ***08*** *12:16:12.6±0.5, 20.77N±0.05×119.77E±0.10, h25km, mb3.8/10, MS3.4/4, Error ellipse: s-maj=13.5km s-min=5.1km az=160.4*

ISC 08 12:16:14.6±0.6, 20.79N±0.07×119.8E±0.1, h25km, n22, σ1°57/25, mb3.7/10, MS3.1/4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**2.58**	**162**	*i* P	**Pn**	**12 16 53.3**	**-1.5**
PIP				*e*S	**Sn**	**12 17 22.7**	**-2.8**
APYP	**Conner**	**3.23**	**154**	*e*P	**Pn**	**12 17 03.2**	**-0.6**
APYP				*e*S	**Sn**	**12 17 41.8**	**+0.3**
ABRA	**Dolores**	**3.25**	**164**	*e*P	**Pn**	**12 17 02.0**	**-2.0**
ABRA				*e*S	**Sn**	**12 17 41.7**	**-0.3**
SGCP	**Mt. Cagua**	**3.33**	**139**	*e*P	**Pn**	**12 17 04.1**	**-0.9**
SGCP				*e*S	**Sn**	**12 17 42.1**	**-1.7**
CAUP	**Cauayan**	**4.30**	**153**	*e*P	**Pn**	**12 17 21.6**	**+3.2**
CAUP				*e*S	**Sn**	**12 18 12.2**	**+4.4**
JNU	**Nakatsue**	**15.77**	**37**	LR	LR	12 27 23.5	
	comp=Z,36nm,19.1s,baz=298,slow=43						
KSRS	**Korea Array**	**18.05**	**21**	P	**P**	**12 20 23.8**	**-0.1**
	0.2nm,0.3s,baz=202,slow=12,SNR=3.8						
KSRS				LR	LR	12 26 21.7	
	comp=Z,21nm,21.7s,baz=230,slow=34						
CMAR	**Chiang Mai Arr**	**19.75**	**267**	P	**P**	**12 20 42.8**	**0.0**
	0.8nm,0.3s,baz=80,slow=10,SNR=3.0						
CMAR				LR	LR	12 29 36.9	
	comp=Z,102nm,18.9s,baz=74,slow=41						
JHJ	**Hachijo jima 2**	**21.62**	**51**	LR	LR	12 29 20.6	
	comp=Z,61nm,19.6s,baz=252,slow=37						
MJAR	**Matsushiro Arr**	**22.48**	**42**	P	**P**	**12 21 11.2**	**-1.0**
	1.2nm,0.7s,baz=223,slow=9.5,SNR=4.2						
GUMO	**Guam**	**25.01**	**103**	LR	LR	12 30 54.8	
	comp=Z,36nm,20.1s,baz=202,slow=35						
USRK	**Ussuriysk Ar.**	**25.46**	**21**	P	**P**	**12 21 39.9**	**-0.6**
	2.5nm,0.7s,baz=217,slow=5.0,SNR=7.5						
MKAR	**Makanchi Array**	**39.95**	**319**	P	**P**	**12 23 47.7**	**+0.9**
	0.7nm,0.7s,baz=110,slow=9.3,SNR=6.2						
MKAR				PcP	**PcP**	**12 25 51.6**	**-0.4**
	0.5nm,0.6s,baz=104,slow=6.1,SNR=3.7						
WRA	**Warramunga Arr**	**42.92**	**160**	P	**P**	**12 24 11.0**	**-0.5**
	1.7nm,0.6s,baz=343,slow=9.0,SNR=20						
WRA				PcP	**PcP**	**12 26 02.8**	**+0.8**
	1.3nm,0.7s,baz=345,slow=3.5,SNR=7.6						
PETK	**Petropavlovsk-**	**43.41**	**33**	LR	LR	12 43 33.1	
	comp=Z,22nm,18.4s,baz=192,slow=38						
ASAR	**Alice Springs**	**46.29**	**162**	P	**P**	**12 24 37.8**	**-0.5**
	0.6nm,0.6s,baz=346,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**12 26 13.4**	**-0.1**
	0.5nm,0.7s,baz=335,slow=2.6,SNR=5.1						
CTA	**Charters Tower**	**48.20**	**146**	P	**P**	**12 24 54.5**	**+1.3**
	5.4nm,0.7s,baz=337,slow=9.9,SNR=8.6						
ILAR	**Eielson Array**	**72.82**	**27**	P	**P**	**12 27 41.0**	**+0.2**
	0.4nm,0.8s,baz=286,slow=5.6,SNR=4.4						
AKASG	**Malin Array Be**	**74.53**	**319**	P	**P**	**12 27 51.5**	**+0.4**
	0.2nm,0.3s,baz=60,slow=5.5,SNR=3.9						
INK	**Inuvik**	**76.85**	**21**	LR	LR	13 03 55.6	
	comp=Z,383nm,21.4s,baz=157,slow=37						
NOA	**NORSAR Array B**	**80.59**	**332**	P	**P**	**12 28 25.0**	**+0.2**
	0.6nm,0.7s,baz=68,slow=4.8,SNR=2.3						
YKA	**Yellowknife Ar**	**86.59**	**22**	P	**P**	**12 28 54.5**	**-0.9**
	0.7nm,0.9s,baz=324,slow=4.5,SNR=5.3						

NIED ***08*** *12:27:00, 37.30N×141.20E, h50km, Mw3.6 Best double couple: M0 2.84000×10^14 NP1:φs=234.00000°, δ=37.00000°, λ=-39.00000°. NP2:φs=358.00000°, δ=68.00000°, λ=-120.00000°.*

JMA 08 12:27:00.9±0.1, 37.26N×141.19E, h35km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.27**	**293**	P	Pn	12 27 08.3	-0.3
JFK				S	Sn	12 27 13.3	-0.5
ONAJ	**Iwakimizuishiy**	**0.35**	**243**	P	Pn	12 27 09.2	-0.3
ONAJ				S	Sn	12 27 14.9	-0.6
JMM	**Marumori**	**0.68**	**333**	P	Pn	12 27 13.8	-0.3
JMM				S	Sn	12 27 23.2	-0.3
JFT	**Otama**	**0.73**	**291**	P	Pn	12 27 15.3	+0.6
JFT				S	Sn	12 27 25.4	+0.8
JHO	**Hitachi**	**0.82**	**218**	P	Pn	12 27 15.3	-0.6
JHO				S	Sn	12 27 25.8	-1.0
JSB	**Shiboa**	**1.06**	**254**	P	Pn	12 27 20.4	+1.2
JSB				S	Sn	12 27 34.9	+2.2
JOU	**Okura**	**1.18**	**339**	P	Pn	12 27 21.6	+0.7
JOU				S	Sn	12 27 37.5	+1.7
JFY	**Yanaizu**	**1.19**	**278**	P	Pn	12 27 22.1	+1.0
JFY				S	Sn	12 27 37.7	+1.6
JIO	**Ouri**	**1.20**	**6**	P	Pn	12 27 21.2	0.0
JIO				S	Sn	12 27 35.7	-0.5

NNC 08 12:50:09.1±2.6, 37.73N×71.89E, h0km, mb3.6, mpv3.3, 4C-2D, Error ellipse: s-maj=23.2km s-min=8.7km az=154.0, Afghanistan-Tajikistan border region

| Code | Station Name | Δ° | AZ° |

BJO	**Bjornoya**	**8.42**	**134**	*e*	**Pn**	13 05 43.3	**+0.6**
SUMG	**Summit**	**11.56**	**239**	*e*Pn	Pn	13 06 23.4	-2.7
	comp=Z,9.4nm,0.6s						
SUMG	**Summit**	**11.56**	**239**	*e*Pn	Pn	13 06 23.4	-2.7
	comp=Z,9.4nm,0.6s						
KEV	**Kevo**	**13.73**	**131**	*e*Pn	**Pn**	**13 06 56.4**	**+1.1**
KEV	**Kevo**	**13.73**	**131**	*e*Pn	**Pn**	**13 06 56.4**	**+1.1**
ARA0	**ARCESS Array S**	**13.78**	**134**	P	**Pn**	**13 06 56.7**	**+0.7**
	slow=11						
ARA0	**ARCESS Array S**	**13.78**	**134**	Pn	**Pn**	**13 06 56.7**	**+0.7**
	slow=11						
ARA0	**ARCESS Array S**	**13.78**	**134**	P	**Pn**	**13 06 56.7**	**+0.7**
	SNR=0.9						
ARCES	**ARCESS Array B**	**13.78**	**134**	Pn	**Pn**	**13 06 55.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=353,slow=9.1,SNR=9.8						
ARCES				LR	LR	13 12 24.2	
	comp=Z,36nm,19.1s,baz=30,slow=38						
APA0	**Apatity Array**	**16.47**	**126**	P	**P**	**13 07 33.5**	**-0.8**
	baz=357,slow=18						
APA0	**Apatity Array**	**16.47**	**126**	P	**P**	**13 07 33.5**	**-0.8**
	SNR=5.2						
BORG	**Borgarnes**	**17.46**	**206**	LR	LR	13 14 21.3	
	comp=Z,30nm,19.4s,baz=134,slow=37						
RES	**Resolute Bay**	**17.71**	**299**	P	Pn	13 07 39.0	-8.1
	comp=Z,0.6nm,0.3s,baz=24,slow=10.0,SNR=5.2						
RES				S	Sn	13 10 44.0	-20
	comp=Z,0.2nm,0.3s,baz=283,slow=14,SNR=3.0						
RES				LR	LR	13 14 15.6	
	comp=Z,135nm,19.3s,baz=316,slow=36						
SFJD	**Kangerlussuaq**	**18.34**	**246**	P	P	13 07 48.9	-6.1
	comp=Z,0.7nm,0.3s,baz=12,slow=11,SNR=5.2						
SFJD				S	Sn	13 10 59.4	-20
	comp=Z,1.2nm,0.3s,baz=96,slow=21,SNR=6.3						
SFJD				LR	LR	13 15 04.5	
	comp=Z,142nm,19.0s,baz=12,slow=37						
NB2	**NORSAR Subarra**	**21.00**	**159**	P	**P**	**13 08 29.3**	**+5.2**
	baz=350,slow=10						
NB2	**NORSAR Subarra**	**21.00**	**159**	P	**P**	**13 08 29.3**	**+5.2**
	baz=350,slow=10						
NOA	**NORSAR Array B**	**21.00**	**159**	P	**P**	**13 08 24.8**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=358,slow=8.3,SNR=4.0						
FIA0	**FINESS Array S**	**21.71**	**140**	P	**P**	**13 08 32.9**	**+1.3**
	baz=347,slow=8.6						
FIA0	**FINESS Array S**	**21.71**	**140**	P	**P**	**13 08 32.9**	**+1.3**
	baz=347,slow=8.6						
FIA0	**FINESS Array S**	**21.71**	**140**	P	**P**	**13 08 32.9**	**+1.3**
	SNR=8.3						
FINES	**FINESS Array B**	**21.71**	**140**	P	**P**	**13 08 32.7**	**+1.1**
	comp=Z,3.2nm,0.8s,baz=357,slow=8.4,SNR=8.6						
FINES				LR	LR	13 16 29.9	
	comp=Z,53nm,21.6s,baz=16,slow=35						
HFS	**Hagfors**	**22.04**	**156**	P	**P**	**13 08 37.7**	**+2.5**
	baz=16,slow=16						
HFS	**Hagfors**	**22.04**	**156**	P	**P**	**13 08 36.5**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=7.4,slow=13,SNR=4.4						
HFS				LR	LR	13 15 37.3	
	comp=Z,19nm,21.2s,baz=326,slow=32						
HFS	**Hagfors**	**22.04**	**156**	P	**P**	**13 08 37.7**	**+2.5**
	baz=16,slow=16						
NRIK	**Noril'sk**	**22.57**	**68**	P	**P**	**13 08 42.6**	**+1.8**
	comp=Z,1.9nm,0.3s,baz=335,slow=9.6,SNR=5.8						
NRIK				LR	LR	13 19 10.1	
	comp=Z,75nm,18.1s,baz=302,slow=41						
FRB	**Frobisher Bay**	**23.96**	**262**	P	**P**	**13 08 53.7**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=38,slow=9.7,SNR=3.5						
FRB				LR	LR	13 18 48.5	
	comp=Z,70nm,21.9s,baz=46,slow=38						
TIXI	**Tiksi**	**25.00**	**33**	P	**P**	**13 09 03.8**	**-0.4**
	comp=Z,0.7nm,0.2s,baz=3.3,slow=8.5,SNR=3.9						
TIXI	**Tiksi**	**25.00**	**33**	*e*P	**P**	**13 09 02.1**	**-2.2**
	comp=Z,11nm,1.4s						
TIXI	**Tiksi**	**25.00**	**33**	*e*P	**P**	**13 09 02.1**	**-2.2**
	comp=Z,11nm,1.4s						
OBN	**Obninsk**	**29.04**	**130**	LR	LR	13 21 34.8	
	comp=Z,46nm,18.3s,baz=343,slow=37						
YKA	**Yellowknife Ar**	**31.63**	**304**	P	**P**	**13 10 03.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=11,slow=7.3,SNR=3.3						
YKA				PcP	**PcP**	**13 12 53.2**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=23,slow=2.3,SNR=3.9						
YKA				LR	LR	13 22 43.7	
	comp=Z,5.4nm,19.9s,baz=0.0,slow=36						
EGAK	**Eagle**	**32.13**	**327**	P	**P**	**13 10 07.7**	**-0.1**
EGAK	**Eagle**	**32.13**	**327**	P	**P**	**13 10 07.7**	**-0.1**
SCHQ	**Schefferville**	**32.28**	**295**	LR	LR	13 23 21.6	
	comp=Z,92nm,20.5s,baz=298,slow=37						
ILAR	**Eielson Array**	**32.57**	**331**	P	**P**	**13 10 11.0**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=2.3,slow=11,SNR=4.5						
AKASG	**Malin Array Be**	**32.62**	**140**	P	**P**	**13 10 12.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=346,slow=9.5,SNR=4.2						
AKASG				LR	LR	13 23 23.5	
	comp=Z,22nm,20.9s,baz=30,slow=36						
GERES	**GERESS Array B**	**33.30**	**159**	P	**P**	**13 10 19.6**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=26,slow=9.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**36.88**	**80**	LR	LR	13 29 01.5	
	comp=Z,47nm,19.2s,baz=253,slow=41						
KBZ	**Khabaz**	**40.98**	**126**	P	**P**	**13 11 25.6**	**+2.3**
	comp=Z,1.0nm,0.5s,baz=315,slow=1.4,SNR=3.1						
ULM	**Lac du Bonnet**	**41.00**	**282**	LR	LR	13 28 13.9	
	comp=Z,95nm,18.3s,baz=358,slow=36						
MKAR	**Makanchi Array**	**43.48**	**85**	P	**P**	**13 11 43.4**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=344,slow=7.9,SNR=3.8						
MKAR				LR	LR	13 32 49.6	
	comp=Z,40nm,19.5s,baz=338,slow=40						
BRTR	**Keskin Array B**	**43.92**	**138**	P	**P**	**13 11 48.9**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=20,slow=4.6,SNR=2.4						
SONM	**Songino Array**	**45.86**	**62**	P	**P**	**13 12 02.5**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=333,slow=4.8,SNR=2.4						
SONM				LR	LR	13 31 50.9	
	comp=Z,66nm,21.4s,baz=298,slow=37						
ULN	**Ulaanbaatar**	**45.91**	**61**	*e*P	**P**	**13 12 03.2**	**-0.1**
	comp=Z,6.7nm,0.9s						
ULN	**Ulaanbaatar**	**45.91**	**61**	*e*P	**P**	**13 12 03.2**	**-0.1**
	comp=Z,6.7nm,0.9s						
AAK	**Ala-Archa**	**46.39**	**94**	*e*P	**P**	**13 12 08.1**	**+0.9**
	comp=Z,1.1nm,0.5s						
AAK	**Ala-Archa**	**46.39**	**94**	*e*P	**P**	**13 12 08.1**	**+0.9**
	comp=Z,1.2nm,0.5s						
GEYT	**Alibeck**	**48.66**	**112**	LR	LR	13 37 06.0	
	comp=Z,25nm,18.5s,baz=100,slow=41						
PDAR	**Pinedale Array**	**50.25**	**293**	LR	LR	13 34 01.5	
	comp=Z,60nm,21.6s,baz=341,slow=36						
USRK	**Ussuriysk Ar.**	**52.35**	**39**	P	**P**	**13 12 55.0**	**+2.6**
	comp=Z,2.1nm,0.6s,baz=345,slow=7.9,SNR=5.8						
KSRS	**Korea Array**	**58.64**	**44**	LR	LR	13 39 04.1	
	comp=Z,20nm,19.0s,baz=109,slow=36						
TXAR	**Lajitas Array**	**62.63**	**284**	P	**P**	**13 14 03.9**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=77,slow=4.7,SNR=3.5						
TXAR				LR	LR	13 43 52.1	
	comp=Z,40nm,20.9s,baz=0.0,slow=39						
TORD	**Torodi Ar. Bea**	**68.46**	**174**	P	**P**	**13 14 43.2**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=11,slow=5.0,SNR=14						
CMAR	**Chiang Mai Arr**	**73.72**	**75**	LR	LR	13 49 20.5	
	comp=Z,12nm,18.9s,baz=190,slow=37						

NIED ***08*** *13:07:00,38.60N×142.10E,h47km,Mw3.5 Best double couple: M₀2.37000×10¹⁴ NP1:φs239.00000°,δ68.00000°, λ-22.00000°. NP2:φs338.00000°,δ70.00000°, λ-157.00000°.*

JMA 08 13:07:03.8±0.1,38.58N×142.11E,h38km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**0.61**	**326**	P		Pn	13 07 16.1	+0.1
OFUJ				S		Sn	13 07 24.5	-0.1
JIO	**Ouri**	**0.61**	**258**	P		Pn	13 07 15.9	-0.2
JIO				S		Sn	13 07 24.2	-0.4
JMK	**Ichinoseki**	**0.79**	**298**	P		Pn	13 07 18.7	+0.3
JMK				S		Sn	13 07 29.2	+0.2
JOM	**Ohasama**	**1.10**	**325**	P		Pn	13 07 23.5	+0.9
JOM				S		Sn	13 07 37.1	+0.6
JOU	**Okura**	**1.16**	**260**	S		Sn	13 07 38.5	+0.5
JMM	**Marumori**	**1.26**	**236**	S		Sn	13 07 39.6	-0.9
JRG	**Rokugo**	**1.41**	**306**	P		Pn	13 07 28.0	+1.1
JYK	**Kaneyama**	**1.41**	**284**	P		Pn	13 07 27.7	+0.8

DDA ***08*** *13:12:24.7,40.30N×29.17E,h4km,Md2.6*
ISCJB ***08*** *13:12:25.4±0.5,40.29N±0.03×29.14E±0.03,h0km±8km, Error ellipse: s-maj=5.5km s-min=3.6km az=24.3*
ISK ***08*** *13:12:25.2,40.30N×29.14E,h11km,ML2.2*
CSEM ***08*** *13:12:25.7±0.1,40.31N×29.14E,h10km,ML2.2, Error ellipse: s-maj=2.3km s-min=2.1km az=16.0*

ISC 08 13:12:25.2±0.9,40.28N±0.03×29.14E±0.02,h3km±8km, n39,σ0.977/54,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IGD	**Bursa**	**0.05**	**106**	*i* P		**Pg**	**13 12 25.5**	**-0.8**
IGD				*i* S		**Sg**	**13 12 26.5**	**-0.4**
GEMT	**Gemlik**	**0.16**	**13**	*e*PG		**Pg**	**13 12 29.1**	**+0.7**
GEMT				*e*SG		**Sg**	**13 12 32.3**	**+1.8**
GEMT	**Gemlik**	**0.16**	**13**	*e*Pg		**Pg**	**13 12 29.1**	**+0.7**
GEMT				*e*Sg		**Sg**	**13 12 32.3**	**+1.8**
MDNY	**Mudanya-Bursa**	**0.22**	**295**	PG		**Pg**	**13 12 29.7**	**+0.3**
MDNY				SG		**Sg**	**13 12 33.2**	**+0.9**
MDNY	**Mudanya-Bursa**	**0.22**	**295**	*i* Pg		**Pg**	**13 12 29.7**	**+0.3**
MDNY				*i* Sg		**Sg**	**13 12 33.2**	**+0.9**
IZI	**Iznik**	**0.26**	**77**	PG		**Pg**	**13 12 30.7**	**+0.5**
IZI				eSG		**Sg**	**13 12 35.1**	**+1.5**
IZI	**Iznik**	**0.26**	**77**	*i* Pg		**Pg**	**13 12 30.7**	**+0.5**
IZI				eSg		**Sg**	**13 12 35.1**	**+1.5**
ARMT	**Armutlu**	**0.36**	**323**	PG		**Pg**	**13 12 32.4**	**+0.3**
ARMT				eSG		**Sg**	**13 12 37.9**	**+1.1**
ARMT	**Armutlu**	**0.36**	**323**	*i* Pg		**Pg**	**13 12 32.4**	**+0.3**
ARMT				eSg		**Sg**	**13 12 37.9**	**+1.1**
ADVT	**Abdulvahap**	**0.48**	**71**	PG		**Pg**	**13 12 35.1**	**+0.7**
ADVT				eSG		**Sb**	**13 12 42.3**	**-1.5**
ADVT	**Abdulvahap**	**0.48**	**71**	*i* Pg		**Pg**	**13 12 35.1**	**+0.7**
ADVT				eSg		**Sb**	**13 12 42.3**	**-1.5**
CAVI	**Cavuskoy**	**0.54**	**98**	PG		**Pg**	**13 12 35.6**	**0.0**
CAVI	**Cavuskoy**	**0.54**	**98**	*i* Pg		**Pg**	**13 12 35.6**	**0.0**
DST	**Dursunbey**	**0.78**	**211**	*e*PG		**Pb**	**13 12 42.0**	**+0.5**
DST	**Dursunbey**	**0.78**	**211**	*e*Pg		**Pb**	**13 12 42.0**	**+0.5**
ISK	**Istanbul-Kandi**	**0.79**	**355**	*e*PG		**Pb**	**13 12 41.1**	**-0.5**
ISK	**Istanbul-Kandi**	**0.79**	**355**	*e*Pg		**Pb**	**13 12 41.1**	**-0.5**
TVSB	**Tavsanli**	**0.86**	**163**	*e*PG		**Pn**	**13 12 43.5**	**-0.8**
TVSB	**Tavsanli**	**0.86**	**163**	*e*Pg		**Pn**	**13 12 43.5**	**-0.8**
SILT	**Sile**	**0.95**	**23**	*e*PG		**Pg**	**13 12 43.5**	**0.0**
SILT	**Sile**	**0.95**	**23**	*e*Pg		**Pg**	**13 12 43.5**	**0.0**
KLYT	**Kilyos**	**0.98**	**356**	*e*PG		**Pg**	**13 12 44.0**	**+0.1**
KLYT	**Kilyos**	**0.98**	**356**	*e*Pg		**Pg**	**13 12 44.0**	**+0.1**
EDC	**Edincik**	**0.98**	**274**	*e*PG		**Pg**	**13 12 43.8**	**-0.2**
EDC	**Edincik**	**0.98**	**274**	*e*Pg		**Pg**	**13 12 43.8**	**-0.2**
GULT	**Gulveren**	**1.06**	**81**	*e*PG		**Pb**	**13 12 46.0**	**-0.2**
GULT	**Gulveren**	**1.06**	**81**	*e*Pg		**Pb**	**13 12 46.0**	**-0.2**
CTKS	**Kestanelik-??a**	**1.07**	**333**	*e*PG		**Pg**	**13 12 45.4**	**-0.3**
CTKS	**Kestanelik-??a**	**1.07**	**333**	*e*Pg		**Pg**	**13 12 45.4**	**-0.3**
BALB	**Balikesir**	**1.16**	**237**	*e*PN		**Pn**	**13 12 48.0**	**-0.3**
BALB	**Balikesir**	**1.16**	**237**	*e*Pn		**Pn**	**13 12 48.0**	**-0.3**
GDZ	**Gediz**	**1.22**	**167**	P		**Pn**	**13 12 49.4**	**+0.2**
GDZ				S		**Sn**	**13 13 07.1**	**+0.9**
GDZ	**Gediz**	**1.22**	**167**	*i* P		**Pn**	**13 12 49.4**	**+0.2**
GDZ				*i* S		**Sn**	**13 13 07.1**	**+0.9**
BALY	**Balya**	**1.29**	**246**	P		**Pn**	**13 12 49.9**	**-0.2**
BALY				S		**Sn**	**13 13 07.5**	**-0.4**
BALY	**Balya**	**1.29**	**246**	*i* P		**Pn**	**13 12 49.9**	**-0.2**
BALY				*i* S		**Sn**	**13 13 07.5**	**-0.4**
CTYL	**Yalikoy Yolu**	**1.36**	**332**	*e*PN		**Pn**	**13 12 50.1**	**-0.9**
CTYL	**Yalikoy Yolu**	**1.36**	**332**	*e*Pn		**Pn**	**13 12 50.2**	**-0.9**
ESKT	**Eskisehir**	**1.52**	**119**	*e*PN		**Pn**	**13 12 53.2**	**-0.1**
ESKT	**Eskisehir**	**1.52**	**119**	*e*Pn		**Pn**	**13 12 53.2**	**-0.1**

ISK ***08*** *13:18:48.4,41.07N×35.94E,h8km,ML2.0*
ISCJB ***08*** *13:18:49.0±0.7,40.99N±0.04×36.01E±0.05,h0km, Error ellipse: s-maj=6.8km s-min=5.0km az=32.7*
CSEM ***08*** *13:18:49.0±0.6,41.04N×36.00E,h1km,ML2.0, Error ellipse: s-maj=21.0km s-min=12.5km az=27.0, Suspected Mining explosion.*
DDA ***08*** *13:18:49.9,40.96N×36.02E,h7km,Md2.5, Suspected Mining explosion.*

ISC 08 13:18:49.1±0.9,41.02N±0.03×36.00E±0.03,h0km,n16, σ1.929/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KVT	**Kavak**	**0.07**	**30**	PG		**Pg**	**13 18 50.2**	**-0.1**
KVT				SG		**Sg**	**13 18 53.0**	**+1.8**
KVT	**Kavak**	**0.07**	**30**	*i* Pg		**Pg**	**13 18 50.2**	**-0.1**
KVT				*i* Sg		**Sg**	**13 18 53.0**	**+1.8**
HAVZ	**Havza**	**0.22**	**284**	P		**Pg**	**13 18 55.9**	**+2.6**
HAVZ	**Havza**	**0.22**	**284**	*i* P		**Pg**	**13 18 55.9**	**+2.6**
ERBA	**Erbaa**	**0.67**	**121**	P		**Pg**	**13 19 02.1**	**+0.3**
ERBA				S		**Sg**	**13 19 11.1**	**+0.7**
ERBA	**Erbaa**	**0.67**	**121**	*i* P		**Pg**	**13 19 02.1**	**+0.3**
ERBA				*i* S		**Sg**	**13 19 11.1**	**+0.7**
BOYT	**Boyabat**	**0.92**	**296**	P		**Pb**	**13 19 07.8**	**-0.1**
BOYT				S		**Sn**	**13 19 22.5**	**-0.7**
BOYT	**Boyabat**	**0.92**	**296**	*i* P		**Pb**	**13 19 07.8**	**-0.1**
BOYT				*i* S		**Sn**	**13 19 22.5**	**-0.7**
BYBT	**Boyabat**	**1.03**	**296**	*e*PG		**Pg**	**13 19 07.3**	**-1.5**
BYBT	**Boyabat**	**1.03**	**296**	*e*Pg		**Pg**	**13 19 07.3**	**-1.5**
SNOP	**Sinop**	**1.16**	**329**	*e*PN		**Pg**	**13 19 10.3**	**-1.0**
SNOP	**Sinop**	**1.16**	**329**	*e*Pn		**Pg**	**13 19 10.3**	**-1.0**
CORM	**Corum**	**1.34**	**232**	*e*PN		**Pg**	**13 19 13.7**	**-1.1**
CORM	**Corum**	**1.34**	**232**	*e*Pn		**Pg**	**13 19 13.7**	**-1.1**
YOZ	**Yozgat**	**1.48**	**201**	*e*PN		**Pn**	**13 19 16.9**	**-0.2**
YOZ	**Yozgat**	**1.48**	**201**	*e*Pn		**Pn**	**13 19 16.9**	**-0.2**

IDC 08 13:48:48.4±6.7,14.70S×167.45E,h121km±35km,mb3.5/5, mb1 3.7/6,mb1mx3.4/31,mbtmp4.0/6,MS3.4/1,Ms1 3.4/1, ms1mx2.5/24,Error ellipse: s-maj=68.4km s-min=26.5km az=42.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.40**	**187**	P		Pn	13 50 34.9	+1.0
	9.2nm,0.3s,baz=324,slow=13,SNR=57							
DZM				S		Sn	13 51 54.8	-1.5
	1.0nm,0.3s,baz=304,slow=23,SNR=3.1							
CTA	**Charters Tower**	**20.92**	**252**	P		P	13 53 22.8	+1.3
	3.8nm,0.8s,baz=64,slow=9.9,SNR=6.0							
URZ	**Urewera**	**24.98**	**162**	LR		LR	14 02 21.8	
	comp=Z,73nm,18.2s,baz=7.5,slow=33							
STKA	**Stephens Creek**	**29.15**	**230**	P		P	13 54 39.4	+1.2
	2.4nm,0.5s,baz=48,slow=9.5,SNR=11							
WRA	**Warramunga Arr**	**32.00**	**256**	P		P	13 55 02.2	-1.4
	0.4nm,0.6s,baz=82,slow=7.5,SNR=9.7							
ASAR	**Alice Springs**	**32.85**	**249**	P		P	13 55 10.4	-0.5
	0.7nm,0.4s,baz=77,slow=9.5,SNR=46							
ASAR				ScP		ScP	14 01 25.8	-0.4
	0.4nm,0.8s,baz=84,slow=3.8,SNR=3.5							
VNDA	**Vanda**	**62.90**	**181**	P		P	13 59 01.1	-0.1
	0.6nm,0.6s,baz=6.4,slow=8.5,SNR=4.7							

SJA 08 14:02:31.5±0.6,30.51S×64.19W,h222km±10km,ML3.2, MW3.7,Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MRA	**San Martin**	**2.31**	**214**	*i* P		Pn	14 03 15.6	+0.7
MRA				*i* S		S	14 03 47.7	-1.1
MRA				IAML			14 03 59.9	
	comp=Z,107nm,0.3s							
CYA	**Choya**	**2.50**	**325**	*i* P		Pn	14 03 17.4	+0.5
CYA				*i* S		S	14 03 51.0	-1.2
CYA				IAML			14 03 54.2	
	comp=Z,50nm,0.5s							
AVFE	**Valle Fertil**	**2.82**	**266**	*i* P		Pn	14 03 20.6	+0.1
AVFE				*i* S		S	14 03 57.8	-0.8
AVFE				IAML			14 04 10.0	
	comp=Z,30nm,0.5s							
ACAN	**Cantantal**	**3.11**	**235**	*i* P		Pn	14 03 24.1	+0.5

KRSC ***08*** *14:24:20.0±1.4,51.67N×158.14E,h119km±22km,ML3.7*
IDC ***08*** *14:24:22.9±0.9,52.10N×157.32E,h140km±8km,mb3.2/9, mb1 3.5/13,mb1mx3.2/45,mbtmp3.7/13, Error ellipse: s-maj=26.0km s-min=11.7km az=144.0*

ISC 08 14:24:21.8±0.7,51.90N±0.07×157.67E±0.08,h133km±6km, n31,σ1.943/46,mb3.5/8,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAK	**Asacha**	**0.50**	**16**	*e*P		**Pn**	**14 24 41.1**	**-0.1**
ASAK				*e*S		**Sn**	**14 24 55.2**	**-0.8**
PAU	**Pauzhetka**	**0.69**	**231**	*e*P		**Pn**	**14 24 41.8**	**-0.5**
PAU				*e*S		**Sn**	**14 24 56.5**	**-1.4**
RUS	**Russkaya**	**0.74**	**44**	*e*P		**Pn**	**14 24 42.4**	**-0.3**
RUS				*e*S		**Sn**	**14 24 57.6**	**-1.0**
KRMR	**Karymshinskiy**	**0.97**	**17**	*e*P		**Pn**	**14 24 44.3**	**-0.3**
KRMR				*e*S		**Sn**	**14 25 00.7**	**-1.3**
PETK	**Petropavlovsk-**	**1.21**	**1**	LR		LR	14 24 43.0	
	comp=Z,15nm,20.8s,baz=182,slow=20							
PETK				P		**Pn**	**14 24 46.4**	**-0.5**
	22nm,0.3s,baz=166,slow=10,SNR=552							
PETK				S		**Sn**	**14 25 05.7**	**-0.4**
	3.5nm,0.3s,baz=200,slow=12,SNR=10							
PET	**Petropavlovsk**	**1.27**	**28**	*e*P		**Pn**	**14 24 47.4**	**-0.1**
PET				*e*S		**Sn**	**14 25 06.2**	**-1.0**
DALK	**Dalny**	**1.31**	**30**	*e*P		**Pn**	**14 24 48.0**	**+0.1**
DALK				*e*S		**Sn**	**14 25 07.3**	**-0.6**
UGLR	**Uglovaya**	**1.49**	**28**	*e*P		**Pn**	**14 24 51.5**	**+1.5**
UGLR				*e*S		**Sn**	**14 25 13.2**	**+1.7**
KOK	**Koryaka**	**1.51**	**23**	*e*P		**Pn**	**14 24 51.5**	**+1.3**
AVH	**Avacha**	**1.51**	**25**	*e*P		**Pn**	**14 24 51.3**	**+1.1**
AVH				*e*S		**Sn**	**14 25 13.0**	**+1.0**
SMAR	**Somma**	**1.53**	**26**	*e*P		**Pn**	**14 24 51.9**	**+1.4**
SMAR				*e*S		**Sn**	**14 25 13.9**	**+1.4**
KRER	**Koryakskii**	**1.55**	**25**	*e*P		**Pn**	**14 24 52.0**	**+1.2**
KRER				*e*S		**Sn**	**14 25 14.3**	**+1.3**
SKR	**Severo-Kuril's**	**1.56**	**219**	*e*P		**Pn**	**14 24 50.7**	**0.0**
SKR				*e*S		**Sn**	**14 25 11.9**	**-0.8**
SDLR	**Sedlovina**	**1.56**	**28**	*e*P		**Pn**	**14 24 51.3**	**+0.5**
SDLR				*e*S		**Sn**	**14 25 12.9**	**-0.2**
KRX	**Arik**	**1.58**	**22**	*e*P		**Pn**	**14 24 51.7**	**+0.7**
GNL	**Ganaly**	**1.81**	**5**	*e*P		**Pn**	**14 24 53.4**	**-0.2**
MKZ	**Mys Kozlova**	**3.61**	**41**	*e*P		**Pn**	**14 25 15.9**	**-0.4**
MKZ				*e*S		**Sn**	**14 25 55.8**	**-2.7**
BKI	**Bering**	**5.95**	**53**	*e*P		**Pn**	**14 25 46.8**	**-0.7**
BKI				*e*S		**Sn**	**14 26 48.7**	**-5.7**
MA2	**Magadan**	**8.62**	**336**	P		Pn	**14 26 21.7**	**-1.5**
	0.2nm,0.3s,baz=176,slow=13,SNR=3.6							
ASAJ	**Asahikawa**	**12.73**	**238**	P		**Pn**	**14 27 19.6**	**+1.6**
	0.1nm,0.3s,baz=68,slow=10,SNR=3.9							
KLR	**Kul'dur**	**16.65**	**271**	P		**Pn**	**14 28 06.8**	**-0.4**
	0.1nm,0.3s,baz=27,slow=4.5,SNR=2.9							
USRK	**Ussuriysk Ar.**	**18.75**	**256**	P		**P**	**14 28 29.4**	**-0.8**
	0.2nm,0.3s,baz=74,slow=11,SNR=2.5							
MJAR	**Matsushiro Arr**	**20.64**	**230**	P		**P**	**14 28 50.0**	**-0.7**
	0.4nm,0.4s,baz=8.5,slow=14,SNR=4.6							
ILAR	**Eielson Array**	**30.70**	**44**	P		**P**	**14 30 23.9**	**+0.3**
	1.2nm,0.7s,baz=264,slow=7.9,SNR=20							
YKA	**Yellowknife Ar**	**45.04**	**41**	P		**P**	**14 32 23.6**	**0.0**
	0.6nm,0.6s,baz=299,slow=8.4,SNR=4.8							
MKAR	**Makanchi Array**	**47.33**	**295**	P		**P**	**14 32 39.1**	**-2.7**
	0.3nm,0.5s,baz=58,slow=6.5,SNR=6.9							
NVAR	**Mina Array Bea**	**57.55**	**68**	P		**P**	**14 33 58.6**	**+1.1**
	0.3nm,0.6s,baz=297,slow=8.0,SNR=3.8							
PDAR	**Pinedale Array**	**59.40**	**59**	P		**P**	**14 34 11.8**	**+1.6**
	0.7nm,0.6s,baz=328,slow=5.3,SNR=4.8							
TXAR	**Lajitas Array**	**72.48**	**65**	P		**P**	**14 35 34.9**	**+1.1**
	1.0nm,0.5s,baz=296,slow=4.4,SNR=16							
WRA	**Warramunga Arr**	**74.39**	**203**	P		**P**	**14 35 45.6**	**+0.8**
	0.3nm,0.7s,baz=18,slow=6.4,SNR=2.8							
ASAR	**Alice Springs**	**78.08**	**202**	P		**P**	**14 36 06.6**	**+1.0**
	0.2nm,0.5s,baz=13,slow=4.9,SNR=14							

WEL 08 14:24:30.7±0.4,38.58S×175.31E,h214km±3km,ML3.7/14, 17C-9D,Error ellipse: s-maj=3.0km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.57

	1.3nm,0.5s,baz=139,slow=16,SNR=3.9							
H10S2	**ASCENSION HYDR**	**48.47**	**18**	T	T	15 27 04.2		
	baz=189,slow=75,SNR=6.0							
H10S3	**ASCENSION HYDR**	**48.47**	**18**	T	T	15 27 12.5		
	baz=189,slow=75,SNR=5.6							
H10S1	**ASCENSION HYDR**	**48.49**	**18**	T	T	15 27 13.7		
	baz=189,slow=75,SNR=5.9							
H10N1	**ASCENSION HYDR**	**49.59**	**18**	T	T	15 28 15.6		
	baz=188,slow=17,SNR=3.9							
H10N3	**ASCENSION HYDR**	**49.59**	**18**	T	T	15 28 13.4		
	baz=188,slow=17,SNR=5.8							
H10N2	**ASCENSION HYDR**	**49.60**	**18**	T	T	15 28 13.4		
	baz=188,slow=17,SNR=4.3							
LPAZ	**La Paz**	**50.18**	**306**	P	P	14 34 36.2	+1.1	
	1.5nm,0.4s,baz=93,slow=5.6,SNR=7.1							
TORD	**Torodi Ar. Bea**	**73.59**	**30**	P	P	14 37 10.1	+0.2	
	0.3nm,0.4s,baz=200,slow=6.7,SNR=6.0							
ASAR	**Alice Springs**	**98.81**	**163**	P	Pdif	14 39 14.8	-0.8	
	0.2nm,0.5s,baz=182,slow=3.7,SNR=9.3							
WRA	**Warramunga Arr**	**102.53**	**163**	P	Pdif	14 39 32.5	+0.3	
	0.4nm,0.9s,baz=196,slow=4.6,SNR=2.8							
YKA	**Yellowknife Ar**	**136.10**	**318**	PKP	PKPdf	14 44 53.9	-0.1	
	0.1nm,0.5s,baz=132,slow=6.9,SNR=2.7							
ILAR	**Eielson Array**	**149.97**	**311**	PKPbc	PKPbc	14 45 22.3	-1.1	
	0.4nm,0.8s,baz=119,slow=1.3,SNR=4.3							

NIED ***08*** *14:39:00,38.40N×144.20E,h5km,Mw3.5 Best double couple: M₀2.11000×10¹⁴ NP1:φs16.00000°,δ32.00000°, λ-79.00000°. NP2:φs183.00000°,δ58.00000°, λ-97.00000°.*

JMA 08 14:39:48.9±0.1,38.41N×144.20E,h27km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.09**	**289**	P	Pn	14 40 23.5	+1.4
OFUJ				S	Sn	14 40 48.8	+1.6
MIYJ	**Miyakonagasawa**	**2.19**	**303**	P	Pn	14 40 24.7	+1.2
MIYJ				eS	Sn	14 40 51.3	+1.6
JIO	**Ouri**	**2.24**	**272**	P	Pn	14 40 25.4	+1.2
JIO				S	Sn	14 40 52.0	+1.1
JMK	**Ichinoseki**	**2.39**	**284**	P	Pn	14 40 27.9	+1.6
JMK				eS	Sn	14 40 56.6	+1.8
JOM	**Ohasama**	**2.50**	**296**	P	Pn	14 40 29.5	+1.7
JOM				S	Sn	14 41 00.3	+2.8
JANG	**Nango**	**2.86**	**314**	P	Pn	14 40 34.0	+1.3
JANG				eS	Sn	14 41 07.7	+1.5
JYK	**Kaneyama**	**3.05**	**281**	P	Pn	14 40 37.6	+2.3
JYK				eS	Sn	14 41 14.2	+3.3
JFT	**Otama**	**3.18**	**255**	S	Sn	14 41 16.3	+2.1
JOT	**Ohata**	**3.83**	**322**	P	Pn	14 40 48.5	+2.4
JOT				S	Sn	14 41 31.0	+0.8
JKB	**Kayabe**	**4.24**	**326**	P	Pn	14 40 54.3	+2.7
JKB				S	Sn	14 41 41.7	+1.5
JCH	**Churui**	**4.25**	**352**	P	Pn	14 40 51.9	+0.1
JCH				S	Sn	14 41 38.0	-2.5
JRY	**Ryogami san**	**4.86**	**242**	P	Pn	14 41 01.2	+1.0
JRY				S	Sn	14 41 54.8	-0.8
NEM2	**Nemuro 2**	**5.09**	**13**	P	Pn	14 41 00.7	-2.6
NEM2				eS	Sn	14 41 55.5	-5.6

DDA ***08*** *14:40:15.6,39.99N×40.89E,h7km,Md2.6*
ISCJB ***08*** *14:40:16.2±0.5,40.06N±0.04×40.88E±0.04,h9km,Error ellipse: s-maj=6.2km s-min=4.5km az=179.9*
ISK ***08*** *14:40:16.3,40.09N×40.78E,h9km,MD3.1*
CSEM ***08*** *14:40:16.3±0.3,40.02N×40.84E,h10km,MD3.1,Error ellipse: s-maj=9.6km s-min=6.6km az=8.0*

ISC 08 14:40:16.2±0.9,40.01N±0.04×40.88E±0.02,h9km,n27, σ0s77/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.29**	**271**	P	**Pg**	**14 40 22.3**	**+0.2**
KOPT	**Kop Dagi**	**0.29**	**271**	*i* P	**Pg**	**14 40 22.3**	**+0.2**
KOPT				*i* S	**Sb**	**14 40 30.9**	**+2.1**
EZM	**Erzurum**	**0.39**	**106**	*e*PG	**Pg**	**14 40 24.1**	**+0.2**
EZM				eSG	**Sb**	**14 40 32.7**	**+1.1**
ERZM	**Erzurum**	**0.39**	**106**	P	**Pg**	**14 40 23.9**	**-0.1**
ERZM	**Erzurum**	**0.39**	**106**	*i* P	**Pg**	**14 40 23.9**	**-0.1**
YEDI	**Yedisu-Bingol**	**0.63**	**204**	*e*PG	**Pg**	**14 40 28.7**	**+0.3**
YEDI				eSG	**Sn**	**14 40 40.4**	**-1.3**
YEDI	**Yedisu-Bingol**	**0.63**	**204**	*e*Pg	**Pg**	**14 40 28.7**	**+0.3**
HOMI	**Horasan**	**0.79**	**87**	*i* P	**Pg**	**14 40 30.1**	**-1.3**
ERZN	**Erzincan**	**0.99**	**245**	*e*PG	**Pg**	**14 40 35.2**	**+0.1**
BNGB	**Bing¨ll**	**1.03**	**189**	*e*PN	**Pn**	**14 40 37.1**	**+0.2**
GUMT	**Gumushane**	**1.16**	**293**	*e*PN	**Pg**	**14 40 37.5**	**-0.9**
GUMT	**Gumushane**	**1.16**	**293**	*e*Pn	**Pg**	**14 40 37.5**	**-0.9**
BINT	**Bingol**	**1.18**	**195**	*e*Pn	**Pb**	**14 40 37.1**	**-1.6**
KELT	**Kelkit**	**1.25**	**277**	P	**Pn**	**14 40 39.1**	**-0.9**
KELT				S	**Sn**	**14 40 57.7**	**+0.6**
KELT	**Kelkit**	**1.25**	**277**	*i* P	**Pn**	**14 40 39.1**	**-0.9**
KELT				*i* S	**Sn**	**14 40 57.7**	**+0.6**
SENK	**Senkaya-Erzuru**	**1.25**	**64**	*e*PN	**Pb**	**14 40 40.0**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.25**	**64**	*e*Pn	**Pb**	**14 40 40.0**	**-0.1**
KTUT	**Trabzon**	**1.29**	**319**	*e*PN	**Pn**	**14 40 39.9**	**-0.4**
KTUT	**Trabzon**	**1.29**	**319**	*e*Pn	**Pn**	**14 40 39.9**	**-0.4**
BCA	**Borcka**	**1.54**	**21**	*e*PN	**Pn**	**14 40 43.9**	**+0.1**
BCA	**Borcka**	**1.54**	**21**	*e*Pn	**Pn**	**14 40 43.9**	**+0.1**
PTK	**Pertek**	**1.60**	**226**	*e*PN	**Pb**	**14 40 45.7**	**-0.4**
PTK	**Pertek**	**1.60**	**226**	*e*Pn	**Pb**	**14 40 45.7**	**-0.4**
AGRB	**Hanur-Agry**	**1.69**	**104**	*e*PN	**Pb**	**14 40 47.7**	**+0.2**
AGRB	**Hanur-Agry**	**1.69**	**104**	*e*Pn	**Pb**	**14 40 47.7**	**+0.2**
ESPY	**Espiye-Giresun**	**1.87**	**300**	*e*PN	**Pn**	**14 40 48.8**	**+0.4**
ESPY	**Espiye-Giresun**	**1.87**	**300**	*e*Pn	**Pn**	**14 40 48.8**	**+0.4**

ISCJB ***08*** *14:46:19.1±0.5,39.13N±0.03×29.11E±0.03,h2km±7km, Error ellipse: s-maj=5.5km s-min=3.4km az=171.9*
DDA ***08*** *14:46:19.1,39.11N×29.14E,h7km,Md3.0*
CSEM ***08*** *14:46:19.4±0.1,39.13N×29.12E,h2km,ML3.0,Error ellipse: s-maj=2.4km s-min=2.1km az=136.0*
ISK ***08*** *14:46:19.0,39.11N×29.10E,h5km,ML3.0*

ISC 08 14:46:19.6±0.9,39.14N±0.02×29.12E±0.02,h10km±9km, n67,σ0s81/83,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.24**	**113**	*e*PG	**Pg**	**14 46 24.7**	**+0.1**
GEDZ				eSG	**Sg**	**14 46 28.4**	**+0.4**
GEDZ	**Gediz**	**0.24**	**113**	*e*Pg	**Pg**	**14 46 24.7**	**+0.1**
GEDZ				eSg	**Sg**	**14 46 28.4**	**+0.4**
GDZ	**Gediz**	**0.28**	**100**	S	**Sg**	**14 46 29.1**	**-0.2**
GDZ	**Gediz**	**0.28**	**100**	*i* P	**Pg**	**14 46 25.0**	**-0.4**
GDZ				*i* S	**Sg**	**14 46 29.1**	**-0.2**
DEMI	**Demirci**	**0.33**	**253**	P	**Pg**	**14 46 26.3**	**+0.1**
DEMI				S	**Sg**	**14 46 31.0**	**+0.4**
DEMI	**Demirci**	**0.33**	**253**	*i* P	**Pg**	**14 46 26.3**	**+0.1**
DEMI				*i* S	**Sg**	**14 46 31.0**	**+0.4**
TVSB	**Tavsanli**	**0.41**	**40**	*e*PG	**Pg**	**14 46 27.2**	**-0.5**
TVSB	**Tavsanli**	**0.41**	**40**	*e*Pg	**Pg**	**14 46 27.2**	**-0.5**
DST	**Dursunbey**	**0.61**	**320**	*e*PG	**Pg**	**14 46 31.1**	**-0.3**
DST	**Dursunbey**	**0.61**	**320**	*e*Pg	**Pg**	**14 46 31.1**	**-0.3**
KULA	**Kula-Manisa**	**0.72**	**210**	*e*PG	**Pg**	**14 46 32.9**	**-0.6**
KULA				eSG	**Sg**	**14 46 42.2**	**-0.7**
KULA	**Kula-Manisa**	**0.72**	**210**	*e*Pg	**Pg**	**14 46 32.9**	**-0.6**
KULA				eSg	**Sg**	**14 46 42.2**	**-0.7**
MANT	**Manisa**	**0.78**	**214**	P	**Pg**	**14 46 34.2**	**-0.5**
MANT				S	**Sg**	**14 46 44.2**	**-0.7**
MANT	**Manisa**	**0.78**	**214**	*i* P	**Pg**	**14 46 34.2**	**-0.5**
MANT				*i* S	**Sg**	**14 46 44.2**	**-0.7**
KHAL	**Karahalli**	**0.82**	**159**	P	**Pg**	**14 46 35.0**	**-0.4**
KHAL				S	**Sg**	**14 46 46.1**	**-0.1**
KHAL	**Karahalli**	**0.82**	**159**	*i* P	**Pg**	**14 46 35.0**	**-0.4**
KHAL				*i* S	**Sg**	**14 46 46.1**	**-0.1**
KHL	**Karahalli**	**0.87**	**159**	*e*PG	**Pg**	**14 46 35.7**	**-0.7**
KHL	**Karahalli**	**0.87**	**159**	*e*Pg	**Pg**	**14 46 35.7**	**-0.7**
AKS	**Akhisar**	**1.05**	**256**	*e*PG	**Pg**	**14 46 39.6**	**-0.2**
AKS	**Akhisar**	**1.05**	**256**	*e*Pg	**Pg**	**14 46 39.6**	**-0.2**
BALB	**Balikesir**	**1.08**	**298**	*e*PN	**Pg**	**14 46 40.3**	**-0.2**
BALB	**Balikesir**	**1.08**	**298**	*e*Pn	**Pg**	**14 46 40.3**	**-0.2**
IGD	**Bursa**	**1.12**	**3**	*i* P	**Pg**	**14 46 39.1**	**-2.2**
IGD				*i* S	**Sg**	**14 46 52.8**	**-3.0**
CAVI	**Cavuskoy**	**1.20**	**27**	*e*PN	**Pn**	**14 46 42.7**	**+0.2**
CAVI	**Cavuskoy**	**1.20**	**27**	*e*Pn	**Pn**	**14 46 42.7**	**+0.2**
IZI	**Iznik**	**1.23**	**13**	*e*PN	**Pn**	**14 46 43.5**	**+0.6**
IZI	**Iznik**	**1.23**	**13**	*e*Pn	**Pn**	**14 46 43.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.24**	**352**	*e*PN	**Pg**	**14 46 43.8**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**352**	*e*Pn	**Pg**	**14 46 43.8**	**+0.3**
BORA	**Eskisehir**	**1.27**	**54**	P	**Pn**	**14 46 43.0**	**-0.5**
BORA				S	**Sb**	**14 46 59.9**	**-0.2**
BORA	**Eskisehir**	**1.27**	**54**	*i* P	**Pn**	**14 46 43.0**	**-0.5**
BORA				*i* S	**Sb**	**14 46 59.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.27**	**333**	*e*PN	**Pn**	**14 46 43.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.27**	**333**	*e*Pn	**Pn**	**14 46 43.7**	**+0.2**
ADVT	**Abdulvahap**	**1.38**	**20**	*e*PN	**Pg**	**14 46 46.1**	**0.0**
ADVT	**Abdulvahap**	**1.38**	**20**	*e*Pn	**Pg**	**14 46 46.1**	**0.0**
ESKT	**Eskisehir**	**1.39**	**74**	*e*PN	**Pn**	**14 46 45.6**	**+0.4**
ESKT	**Eskisehir**	**1.39**	**74**	*e*Pn	**Pn**	**14 46 45.6**	**+0.4**
ESKT	**Eskisehir**	**1.39**	**74**	*i* P	**Pn**	**14 46 45.0**	**-0.2**
ESKT				*i* S	**Sg**	**14 47 04.5**	**0.0**
SEYT	**Eskypehyr**	**1.39**	**74**	P	**Pn**	**14 46 45.0**	**-0.2**
SEYT				S	**Sg**	**14 47 04.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.43**	**310**	*e*PN	**Pn**	**14 46 45.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.43**	**310**	*e*Pn	**Pn**	**14 46 45.6**	**0.0**
ARMT	**Armutlu**	**1.44**	**352**	*e*PN	**Pb**	**14 46 46.6**	**+0.1**
ARMT	**Armutlu**	**1.44**	**352**	*e*Pn	**Pb**	**14 46 46.6**	**+0.1**
GPA	**Golpazari**	**1.47**	**38**	*e*PN	**Pb**	**14 46 46.9**	**-0.1**
GPA	**Golpazari**	**1.47**	**38**	*e*Pn	**Pb**	**14 46 46.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**219**	*e*PN	**Pb**	**14 46 47.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**219**	*e*Pn	**Pb**	**14 46 47.9**	**-0.3**
EDC	**Edincik**	**1.55**	**322**	*e*PN	**Pb**	**14 46 48.2**	**-0.1**
EDC	**Edincik**	**1.55**	**322**	*e*Pn	**Pb**	**14 46 48.3**	**-0.1**
GULT	**Gulveren**	**1.68**	**39**	*e*PN	**Pb**	**14 46 51.0**	**+0.3**
GULT	**Gulveren**	**1.68**	**39**	*e*Pn	**Pb**	**14 46 51.0**	**+0.3**
DKL	**Dikili**	**1.73**	**268**	*e*PN	**Pn**	**14 46 50.5**	**+0.8**
DKL	**Dikili**	**1.73**	**268**	*e*Pn	**Pn**	**14 46 50.5**	**+0.8**
MRMT	**Marmara Adasi**	**1.88**	**322**	*e*PN	**Pb**	**14 46 53.2**	**-0.8**
MRMT	**Marmara Adasi**	**1.88**	**322**	*e*Pn	**Pb**	**14 46 53.2**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.89**	**80**	*e*PN	**Pn**	**14 46 53.0**	**+1.1**
SVRH	**Sivrihisar-ESK**	**1.89**	**80**	*e*Pn	**Pn**	**14 46 53.1**	**+1.1**
SILT	**Sile**	**2.05**	**11**	*e*PN	**Pn**	**14 46 55.8**	**+1.6**
SILT	**Sile**	**2.05**	**11**	*e*Pn	**Pn**	**14 46 55.8**	**+1.6**
MDUB	**Mudurnu**	**2.08**	**50**	*e*PN	**Pn**	**14 46 56.1**	**+1.4**
MDUB	**Mudurnu**	**2.08**	**50**	*e*Pn	**Pn**	**14 46 56.1**	**+1.4**
KLYT	**Kilyos**	**2.11**	**358**	*e*PN	**Pn**	**14 46 56.4**	**+1.4**
KLYT	**Kilyos**	**2.11**	**358**	*e*Pn	**Pn**	**14 46 56.4**	**+1.4**
CTKS	**Kestanelik-??a**	**2.15**	**348**	*e*PN	**Pn**	**14 46 57.0**	**+1.6**
CTKS	**Kestanelik-??a**	**2.15**	**348**	*e*Pn	**Pn**	**14 46 57.0**	**+1.6**
LPK	**Lapseki**	**2.20**	**305**	*e*PN	**Pn**	**14 46 57.8**	**+1.6**
LPK	**Lapseki**	**2.20**	**305**	*e*Pn	**Pn**	**14 46 57.8**	**+1.6**

CSEM ***08*** *15:00:25.4±99.0,46.39N×15.07E,h0km,Suspected Mining induced.*

LJU 08 15:00:25.4,46.39N×15.07E,h0km,ML3.0 Rockburst, Northwestern Balkan Peninsula

CSEM ***08*** *15:01:52.8±0.3,37.19N×28.12E,h2km,MD2.8,Error ellipse: s-maj=10.9km s-min=5.3km az=47.0*
ISK ***08*** *15:01:52.3,37.21N×28.17E,h5km,MD2.8*

ISC 08 15:01:52.9±1.2,37.20N±0.04×28.14E±0.04,h4km±14km, n10,σ0s59/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.13**	**119**	*e*PG	**Pg**	**15 01 54.8**	**-0.8**
YER				eSG	**Sg**	**15 01 58.1**	**+0.8**
YER	**Yerkesik**	**0.13**	**119**	*e*Pg	**Pg**	**15 01 54.8**	**-0.8**
YER				eSg	**Sg**	**15 01 58.1**	**+0.8**
AYDN	**Tasoluk**	**0.51**	**336**	P	**Pg**	**15 02 02.0**	**-0.8**
AYDN				S	**Sg**	**15 02 09.8**	**+0.5**
AYDN	**Tasoluk**	**0.51**	**336**	*i* P	**Pg**	**15 02 01.9**	**-0.8**
AYDN				*i* S	**Sg**	**15 02 09.8**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.56**	**133**	*e*PG	**Pg**	**15 02 03.9**	**+0.2**
DALY				eSG	**Sb**	**15 02 13.0**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.56**	**133**	*e*Pg	**Pg**	**15 02 03.9**	**+0.2**
DALY				eSg	**Sb**	**15 02 13.0**	**-0.6**
BDRM	**Kayabasi**	**0.57**	**257**	P	**Pg**	**15 02 03.7**	**-0.3**
BDRM	**Kayabasi**	**0.57**	**257**	*i* P	**Pg**	**15 02 03.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**345**	*e*PG	**Pg**	**15 02 07.8**	**0.0**
AYDB				eSG	**Sb**	**15 02 20.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**345**	*e*Pg	**Pg**	**15 02 07.8**	**0.0**
AYDB				eSg	**Sb**	**15 02 20.2**	**+0.2**

IDC 08 15:05:08.8±20.0,0.35N×126.89E,h413km±254km, mb2.7/4,mb1 3.0/5,mb1mx2.6/39,mbtmp3.6/5,Error ellipse: s-maj=147.8km s-min=30.8km az=49.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.38**	**184**	P	P	15 08 56.7	-0.1
	0.6nm,0.3s,baz=359,slow=8.0,SNR=23						
WRA	**Warramunga Arr**	**21.45**	**161**	P	P	15 09 25.5	-0.1
	0.5nm,0.4s,baz=340,slow=10,SNR=19						
ASAR	**Alice Springs**	**24.82**	**165**	P	P	15 09 56.2	+0.1
	0.3nm,0.5s,baz=341,slow=7.1,SNR=18						
STKA	**Stephens Creek**	**34.94**	**158**	P	P	15 11 23.9	-0.2
	1.2nm,0.8s,baz=331,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**60.42**	**326**	P	P	15 14 36.6	0.0
	0.2nm,0.3s,baz=127,slow=5.4,SNR=3.0						

IDC 08 15:22:02.9±691.0,47.05N×47.30E,h0km,Error ellipse: s-maj=224.4km s-min=189.4km az=32.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.85**	**61**	*i*		16 12 25.0	
	baz=247,slow=312,SNR=6.9						
I43RU	**DUBNA INFRASONI**	**11.50**	**331**	*i*		16 32 40.0	
	baz=143,slow=318,SNR=0.6						
I26DE	**FREYUNG INFRAS**	**22.47**	**287**	*i*		17 45 42.0	
	baz=80,slow=329,SNR=0.8						

IDC 08 15:29:22.4±2.3,5.49S×133.32E,h0km,mb3.3/1, mb1 3.4/4,mb1mx3.2/37,mbtmp3.2/4,ML3.2/3,Error ellipse: s-maj=82.2km s-min=14.6km az=82.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.40**	**176**	Pn	Pn	15 32 47.8	+0.1
	0.1nm,0.3s,baz=357,slow=13,SNR=4.6						
WRA				Sn	Sn	15 35 29.3	+1.1
	0.1nm,0.3s,baz=356,slow=23,SNR=3.1						
FITZ	**Fitzroy Crossi**	**14.61**	**210**	Pn	Pn	15 32 52.2	+1.7
	0.2nm,0.3s,baz=37,slow=13,SNR=6.9						
FITZ				Sn	Sn	15 35 32.9	-0.4
	0.0nm,0.3s,baz=155,slow=17,SNR=2.6						
ASAR	**Alice Springs**	**18.08**	**178**	P	Pn	15 33 35.1	-0.1
	0.1nm,0.3s,baz=2.2,slow=9.5,SNR=6.5						
ASAR				S	Sn	15 36 58.7	+1.0
	0.0nm,0.3s,baz=356,slow=27,SNR=2.5						
MKAR	**Makanchi Array**	**68.84**	**325**	P	P	15 40 28.7	-0.1
	0.2nm,0.5s,baz=114,slow=7.0,SNR=2.4						

ISCJB ***08*** *15:40:13.9±0.3,4.56S±0.02×149.94E±0.02,h506km±4km, mb5.2/244,Error ellipse: s-maj=3.5km s-min=3.0km az=36.6*
BJI ***08*** *15:40:13.9,4.47S×150.20E,h516km,mb5.1/78,mB4.9/42*
MOS ***08*** *15:40:14.3±0.9,4.48S×149.93E,h505km,mb5.4/70,Error ellipse: s-maj=7.0km s-min=5.1km az=103.1*
DJA ***08*** *15:40:14.7±0.6,5°S±4°×15°0E±°,h513km±7km,M4.7/46, mb5.0/46,mB5.3/24,Mw(mB)4.7/24,Mwp6.1/1*
GCMT ***08*** *15:40:15.1±0.2,4.43S×149.91E,h500km±1km, MW5.5/102,Moment Tensor Solution. s102,c174; Duration: 1s3 Moment tensor: Scale 10¹⁷Nm; Mrr-1.56±.03; Mθθ0.15±.05; Mϕϕ1.41±.05; Mrθ-0.77±.06; Mθϕ0.03±.05; Mϕr-0.24±.06; Best double couple: M₀1.97300×10¹⁷ NP1:φs48.00000°,δ58.00000°, λ-66.00000°. NP2:φs189.00000°,δ40.00000°, λ-123.00000°. Principal axes: T 2.0850, Plg9.0000°, Azm121.0000°; N -0.2250, Plg20.0000°, Azm215.0000°; P -1.8620, Plg68.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***08*** *15:40:15.1±0.1,4.57S×149.94E,mb5.3/173 Error ellipse: s-maj=2.8km s-min=2.6km az=102.0*
IDC ***08*** *15:40:15.3±0.5,4.62S×149.96E,h510km±5km,mb4.6/32, mb1 4.7/37,mb1mx4.7/41,mbtmp5.5/37,Error ellipse: s-maj=9.0km s-min=6.3km az=79.0*

ISC 08 15:40:14.6±0.3,4.56S±0.03×150.01E±0.03,h505km±2km, h506km:pP-P,n918,σ1s25/1052,mb5.2/242,22C-34D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.18**	**80**	*e*P	**P**	**15 41 20.6**	**-0.6**
MANU	**Manus Island**	**3.63**	**313**	*e*P	**P**	**15 41 31.0**	**+0.3**
PMG	**Port Moresby**	**5.59**	**210**	P	**P**	**15 41 48.4**	**+1.1**
	174nm,0.3s,baz=27,slow=4.6,SNR=653						
PMG				S	**S**	**15 43 01.2**	**-1.8**
	17nm,0.3s,baz=27,slow=11,SNR=3.2						
PMG	**Port Moresby**	**5.59**	**210**	*e*P	**P**	**15 41 48.0**	**+0.7**
PMG				S	**S**	**15 43 01.2**	**-1.8**
JAY	**Jayapura**	**9.51**	**282**	P	**P**	**15 42 26.0**	**-1.0**
	10.0nm,0.3s,baz=268,slow=24,SNR=391						
JAY				S	**S**	**15 44 13.7**	**-2.1**
	baz=272,slow=23,SNR=5.7						
GENI	**Genyem**	**10.02**	**281**	P	**P**	**15 42 32.2**	**-0.1**
GENI				S	**S**	**15 44 25.2**	**-0.3**
HNR	**Honiara**	**10.98**	**117**	P	**P**	**15 42 42.7**	**+0.2**
	554nm,0.3s,baz=216,slow=3.6,SNR=159						
HNR				PcP	**PcP**	**15 47 52.5**	**0.0**
	29nm,0.3s,baz=216,slow=6.3,SNR=5.7						
COEN	**Coen**	**11.52**	**215**	P	**P**	**15 42 49.4**	**+1.2**
	baz=12,SNR=61						
COEN	**Coen**	**11.52**	**215**	*e*P	**P**	**15 42 49.2**	**+1.1**
PATS	**Pohnpei**	**14.03**	**36**	P	**P**	**15 43 15.1**	**+0.5**
	baz=14,SNR=3.2						
PATS	**Pohnpei**	**14.03**	**36**	*e*P	**P**	**15 43 14.9**	**+0.3**
MTSU	**Mount Surprise**	**14.60**	**202**	P	**P**	**15 43 21.8**	**+1.1**
	baz=15,SNR=38						
CTA	**Charters Tower**	**15.87**	**193**	P	**P**	**15 43 34.9**	**+1.0**
	7.9nm,0.3s,baz=12,slow=11,SNR=63						
CTA				S	**S**	**15 46 19.9**	**+1.9**
	baz=189,slow=18,SNR=7.1						
CTAO	**Charters Tower**	**15.87**	**193**	*e*P	**P**	**15 43 34.2**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,69nm,0.8s						
CTAO	**Charters Tower**	**15.87**	**193**	*e*P	**P**	**15 43 34.2**	**+0.4**
	comp=Z,69nm,0.8s						
FAKI	**Fak Fak**	**17.80**	**275**	P	**P**	**15 43 52.2**	**-0.9**
FAKI	**Fak Fak**	**17.80**	**275**	*e*P	**P**	**15 43 51.9**	**-1.2**
	comp=Z,1μm,1.7s						
GUMO	**Guam**	**18.74**	**344**	P	**P**	**15 44 01.6**	**+0.1**
	comp=Z,13nm,0.3s,baz=184,slow=8.3,SNR=7.0						
GUMO				S	**S**	**15 47 06.7**	**+0.3**
	comp=Z,3.2nm,0.3s,baz=204,slow=20,SNR=3.1						
GUMO	**Guam**	**18.74**	**344**	*e*P	**P**	**15 44 01.7**	**+0.1**
GUMO				S	**S**	**15 47 06.7**	**+0.3**
GUMO				pmax	pmax		
	comp=Z,294nm,1.0s						
GUMO	**Guam**	**18.74**	**344**	*e*P	**P**	**15 44 01.7**	**+0.1**
	comp=Z,294nm,1.0s						
GUMO				S	**S**	**15 47 06.7**	**+0.3**
QIS	**Mount Isa**	**18.85**	**212**	P	**P**	**15 44 02.6**	**-0.1**
	baz=19,SNR=64						
SAUI	**Saumlaki**	**18.91**	**259**	P	**P**	**15 44 02.4**	**-0.8**
SAUI	**Saumlaki**	**18.91**	**259**	*e*P	**P**	**15 44 04.0**	**+0.8**
	comp=Z,1μm,1.0s						
SAUI				eS	**S**	**15 47 19.0**	**+10**
SWI	**Sorong**	**19.08**	**281**	P	**P**	**15 44 04.0**	**-0.8**
SWI	**Sorong**	**19.08**	**281**	P	**P**	**15 44 04.5**	**-0.3**
SWI				pmax	pmax		
	comp=Z,213nm,1.3s						
PALU	**Palau**	**19.50**	**307**	P	**P**	**15 44 08.9**	**+0.3**
	baz=20,SNR=31						
BNDI	**Bandanaira**	**20.05**	**269**	P	**P**	**15 44 12.6**	**-1.0**
MTN	**Manton Dam**	**20.38**	**245**	P	**P**	**15 44 16.1**	**-0.5**
	baz=20,SNR=111						
MTN	**Manton Dam**	**20.38**	**245**	*e*P	**P**	**15 44 15.9**	**-0.7**
	comp=Z,94nm,0.9s						
EIDS	**Eidsvold**	**20.72**	**177**	P	**P**	**15 44 20.0**	**+0.5**
	baz=21,SNR=79						
EIDS	**Eidsvold**	**20.72**	**177**	*e*P	**P**	**15 44 19.8**	**+0.2**
	comp=Z,104nm,0.6s						
MSAI	**Masohi**	**21.07**	**273**	P	**P**	**15 44 24.1**	**+1.2**
	comp=Z,28nm,0.7s						
WRAB	**Tennant Creek**	**21.59**	**224**	*d* P	**

H11N1 **WAKE ISLAND Hy** 29.28 34 P P 15 45 35.3 -0.1
baz=9.6,slow=74,SNR=8.1
H11N3 **WAKE ISLAND Hy** 29.29 34 P P 15 45 33.1 -2.3
baz=143,slow=74,SNR=4.3
H11N2 **WAKE ISLAND Hy** 29.30 34 P P 15 45 35.4 0.0
BSSI **Bau Bau, Buton** 29.43 266 P P 15 45 35.6 -1.4
YNG **Young** 29.63 183 P P 15 45 40.5 +2.1
baz=30,SNR=11
BASI **Baing, Sumba** 29.71 257 P P 15 45 43.2 +3.8
WSI **Waingapu** 29.91 259 P P 15 45 41.0 -0.1
comp=Z,418nm,1.1s,comp=Z,5µm
KAPI **Kappang** 30.16 268 P P 15 45 43.2 0.0
comp=Z,29nm,0.6s,baz=108,slow=5.2,SNR=24
KAPI S S 15 50 05.7 -0.8
comp=Z,5.7nm,0.3s,baz=281,slow=20,SNR=12
KAPI ScP ScP 15 51 24.4 +0.9
comp=Z,4.5nm,0.3s,baz=121,slow=6.3,SNR=4.2
KAPI **Kappang** 30.16 268 *e*P P 15 45 42.8 -0.5
comp=Z,61nm,0.9s
KAPI S S 15 50 05.7 -0.8
KAPI ScP ScP 15 51 24.4 +0.9
TTSI **Tana Toraja** 30.16 272 P P 15 45 42.3 -1.0
SPSI **Sidrap Palu** 30.16 270 P P 15 45 42.1 -1.2
PCI **Palu** 30.35 276 P P 15 45 46.4 +1.4
comp=Z,315nm,0.9s,comp=Z,3µmcomp=Z,24µm
PCI **Palu** 30.35 276 P P 15 45 46.4 +1.4
PCI pmax pmax
comp=Z,316nm,0.9s
MSVF **Nonsavu** 30.40 118 *e*P P 15 45 46.8 +1.3
MSVF pmax pmax
comp=Z,117nm,0.8s
MSVF **Nonsavu** 30.40 118 *e*P P 15 45 46.8 +1.3
comp=Z,117nm,0.8s
HTT **Hallett** 30.53 198 P P 15 45 46.2 -0.1
baz=31,SNR=20
CNB **Canberra Magne** 30.61 181 P P 15 45 48.4 +1.5
baz=31,SNR=17
BBOO **Buckleboo** 30.99 203 P P 15 45 49.7 -0.5
baz=31,SNR=21
PLAI **Plampang** 32.29 261 P P 15 46 00.2 -1.4
comp=Z,70nm,0.6s,comp=Z,830nm
CBIJ **Chichi jima** 32.36 347 *e*P P 15 45 58.9 -3.1
comp=Z,127nm,0.7s
CBIJ PcP PcP 15 48 34.0 -0.9
JCJ **Chichijima** 32.36 347 P P 15 45 59.3 -2.7
comp=Z,133nm,0.7s,baz=116,slow=22,SNR=7.1
JCJ PcP PcP 15 48 34.0 -0.9
baz=38,slow=18
ARPS **Mount Arapiles** 32.93 192 P P 15 46 07.3 +0.6
baz=33,SNR=14
MYLDM **Lahad Datu** 32.93 287 *e*P P 15 46 08.8 +1.7
comp=Z,145nm,1.3s
TOO **Toolangi** 33.12 187 P P 15 46 09.9 +1.6
baz=33,SNR=11
TWSI **Taliwang, Sumb** 33.16 261 P P 15 46 08.7 -0.3
comp=Z,37nm,0.9s
TSM **Tawau** 33.29 285 ⇑P P 15 46 10.1 0.0
MBWA **Marble Bar** 33.71 238 *e*P P 15 46 12.3 -1.3
comp=Z,53nm,0.5s
TGY **Tagaytay City** 34.29 303 P P 15 46 19.6 +1.0
comp=Z,331nm,0.9s,baz=147,slow=2.6,SNR=4.1
TGY **Tagaytay City** 34.29 303 P P 15 46 19.6 +1.0
TGY pmax pmax
comp=Z,195nm,0.7s
SDKM **Sandakan** 34.30 287 ⇓P P 15 46 18.0 -0.8
BBKI **Banjar Baru** 35.10 270 P P 15 46 26.5 +1.1
comp=Z,158nm,1.4s,comp=Z,2µm
KKM **Kota Kinabalu** 35.35 287 *e*P P 15 46 27.0 -0.6
comp=Z,22nm,0.9s
OUZ **Omahuta** 37.50 147 *e*P P 15 46 46.9 +2.1
comp=Z,51nm,0.8s
KMBL **Kambalda** 37.54 221 P P 15 46 44.5 -0.8
baz=38,SNR=17
JOW **Kunigami** 37.63 327 *e*P P 15 46 46.5 +0.5
comp=Z,69nm,0.8s
PWJI **Pagerwojo** 38.12 263 P P 15 46 55.3 +5.0
PBKI **Pangkalan Bun** 38.31 271 P P 15 46 53.7 +1.9
comp=Z,271nm,1.1s,comp=Z,2µm
SBUM **Sibu** 38.40 280 *e*P P 15 46 53.1 +0.5
comp=Z,41nm,1.1s
STKI **Sintang** 38.77 276 P P 15 46 56.8 +1.2
comp=Z,53nm,1.1s
AFI **Afiamalu** 38.79 106 P P 15 46 56.6 +0.8
comp=Z,38nm,0.6s,baz=86,slow=2.7,SNR=12
AFI **Afiamalu** 38.79 106 *e*P P 15 46 56.8 +1.0
AFI pmax pmax
comp=Z,212nm,1.5s
AFI **Afiamalu** 38.79 106 *e*P P 15 46 56.8 +1.0
comp=Z,212nm,1.5s
GIRL **Giralia** 38.98 239 P P 15 46 57.0 -0.1
baz=39,SNR=8.5
YULB **Yu-li** 39.46 316 *e*P P 15 47 00.8 -0.2
comp=Z,24nm,1.0s
NACB **Ninganchiao** 39.77 317 *e*P P 15 47 03.4 -0.1
comp=Z,66nm,1.1s
TPUB **Ta-pu** 39.86 315 *e*P P 15 47 04.0 -0.3
comp=Z,27nm,1.2s
TPUB ePcP PcP 15 48 57.1 -0.7
SSLB **Suanglung** 39.95 316 *e*P P 15 47 05.2 +0.3
comp=Z,31nm,1.2s
KSM **Kuching** 40.12 278 ⇑P P 15 47 07.2 +0.8
KSM **Kuching** 40.12 278 *e*P P 15 47 06.6 +0.1
comp=Z,43nm,1.1s
YHNB **Yeheng** 40.25 318 *e*P P 15 47 08.3 +0.9
comp=Z,69nm,0.9s
MORW **Morawa** 40.37 229 P P 15 47 07.2 -1.0
baz=40,SNR=11
TATO **Taipei** 40.38 318 *e*P P 15 47 08.3 -0.1
KLBR **Kellerberrin** 40.49 225 P P 15 47 08.0 -1.2
baz=40,SNR=16
BLDU **Ballidu** 40.69 227 P P 15 47 09.2 -1.6
baz=41,SNR=37
KPJI **Karang Pucung** 40.94 264 P P 15 47 14.5 +1.5
comp=Z,51nm,0.8s
RATZ **Rangitukua** 41.39 149 PN P 15 47 18.6 +2.3
INU **Inuyama** 41.53 344 *e*P P 15 47 17.3 -0.1
comp=Z,274nm,1.4s
NWAO **Narrogin (SRO)** 41.62 223 P P 15 47 16.8 -1.4
comp=Z,9.4nm,0.8s,baz=270,slow=7.0,SNR=7.8
NWAO **Narrogin (SRO)** 41.62 223 P P 15 47 17.7 -0.4
baz=42,SNR=5.3
JNU **Nakatsue** 41.63 336 P P 15 47 19.1 +0.9
comp=Z,201nm,0.8s,baz=144,slow=2.7,SNR=133
JNU PcP PcP 15 49 03.1 -0.4
comp=Z,50nm,0.9s,baz=114,slow=1.4,SNR=5.1
JNU ScP ScP 15 52 05.4 -0.1
comp=Z,14nm,0.9s,baz=64,slow=7.1,SNR=4.4
JNU S S 15 52 57.7 -0.2
comp=Z,16nm,1.1s,baz=0.9,slow=22,SNR=6.9
JNU **Nakatsue** 41.63 336 *e*P P 15 47 18.6 +0.4
comp=Z,262nm,0.9s
JNU PcP PcP 15 49 03.1 -0.4
JNU ScP ScP 15 52 05.4 -0.1
JNU S S 15 52 57.7 -0.2
URZ **Urewera** 41.64 147 P P 15 47 18.9 +0.7
comp=Z,61nm,0.5s,baz=277,slow=3.3,SNR=110
URZ **Urewera** 41.64 147 *e*P P 15 47 18.8 +0.6
comp=Z,79nm,0.6s
URZ **Urewera** 41.64 147 PN P 15 47 18.9 +0.7
RTZ **Ruatahuna** 41.83 148 PN P 15 47 21.0 +1.1
PKGZ **Pakihiroa** 41.90 146 PN P 15 47 21.6 +1.2
MWZ **Matawai** 41.92 147 PN P 15 47 21.3 +0.8
BKZ **Black Stump Fm** 41.99 149 *e*P P 15 47 21.6 +0.6
comp=Z,92nm,1.4s
BKZ **Black Stump Fm** 41.99 149 PN P 15 47 21.7 +0.7
DUWZ **D'Urville Isla** 41.99 153 PN P 15 47 22.5 +1.5
CISI **Cisompet, Garu** 42.05 264 P P 15 47 21.3 -0.7
comp=Z,206nm,0.5s,comp=Z,3µm
CISI **Cisompet, Garu** 42.05 264 *e*P P 15 47 20.8 -1.1
comp=Z,156nm,0.5s
TWGZ **Tauwhareparae** 42.06 147 PN P 15 47 22.7 +1.1
NNZ **Nelson** 42.08 153 PN P 15 47 22.9 +1.2
NMHZ **Naumai** 42.10 148 PN P 15 47 23.4 +1.5
RAHZ **Arahi** 42.11 148 PN P 15 47 23.0 +1.0
SNGZ **Shannon Statio** 42.15 148 PN P 15 47 22.9 +0.7
LEM **Lembang** 42.24 265 P P 15 47 30.6 +7.1
RIGZ **Rimuhau** 42.32 147 PN P 15 47 24.5 +0.9
THZ **Tophouse** 42.32 154 *e*P P 15 47 23.9 +0.4
comp=Z,25nm,0.8s
THZ **Tophouse** 42.32 154 PN P 15 47 24.4 +0.9
MJAR **Matsushiro Arr** 42.35 346 P P 15 47 23.6 -0.3
comp=Z,90nm,0.7s,baz=168,slow=7.8,SNR=144
MJAR PcP PcP 15 49 06.0 +0.2
comp=Z,16nm,0.8s,baz=167,slow=3.5,SNR=6.7
MJAR ScP ScP 15 52 08.9 +0.7
comp=Z,14nm,0.9s,baz=170,slow=4.8,SNR=14

MAJO **Matsushiro** 42.35 346 *d*/P P 15 47 23.7 -0.2
MAJO **Matsushiro** 42.35 346 *e*P P 15 47 23.6 -0.2
comp=Z,190nm,0.9s
MJB9 **Matsu-Tunnel** 42.35 346 *e*P P 15 47 23.6 -0.2
comp=Z,48nm,0.9s
TUWZ **Tuamarina** 42.51 153 PN P 15 47 25.6 +0.6
CNJI **Cibinong** 42.73 264 P P 15 47 26.9 -0.3
comp=Z,158nm,0.9s,comp=Z,2µm
SNZO **South Karori** 42.76 152 *e*P P 15 47 27.4 +0.5
comp=Z,52nm,0.8s
RKGY **Rocky Gully** 42.78 221 P P 15 47 27.1 -0.2
baz=43,SNR=18
LTZ **Lake Taylor** 42.89 156 *e*P P 15 47 29.0 +0.9
comp=Z,91nm,1.5s
ANWZ **Angora Road** 42.95 150 PN P 15 47 29.0 +0.5
CBJI **Citeko** 42.99 265 P P 15 47 33.8 +4.5
BFZ **Birch Farm** 43.01 150 *e*P P 15 47 29.0 0.0
comp=Z,70nm,0.9s
BFZ **Birch Farm** 43.01 150 PN P 15 47 28.9 0.0
KHZ **Kahutara** 43.12 154 *e*P P 15 47 29.2 -0.5
comp=Z,24nm,0.8s
RPZ **Rata Peaks** 43.20 158 P P 15 47 30.1 -0.3
comp=Z,54nm,0.7s,baz=296,slow=1.4,SNR=44
RPZ **Rata Peaks** 43.20 158 *e*P P 15 47 30.4 0.0
comp=Z,57nm,0.7s
OXZ **Oxford** 43.25 156 *e*P P 15 47 30.7 -0.1
comp=Z,33nm,0.5s
OXZ **Oxford** 43.25 156 PN P 15 47 30.4 -0.4
DCZ **Deep Cove** 43.41 162 *e*P P 15 47 32.9 +0.9
comp=Z,43nm,1.0s
LBZ **Lake Benmore** 43.45 159 *e*P P 15 47 32.5 +0.1
comp=Z,216nm,2.0s
MLZ **Mavora Lakes** 43.62 161 *e*P P 15 47 34.1 +0.4
comp=Z,54nm,0.8s
CRLZ **Canterbury Las** 43.69 156 *e*P P 15 47 35.1 +0.9
comp=Z,45nm,0.8s
MQZ **McQueen's Vall** 43.82 156 *e*P P 15 47 35.6 +0.5
comp=Z,68nm,1.4s
WHZ **Wether Hill Ro** 44.04 162 *e*P P 15 47 37.5 +0.6
comp=Z,29nm,0.7s
TUZ **Tuapeka** 44.63 161 PN P 15 47 41.7 +0.3
MIDW **Midway** 45.26 42 *e*P P 15 47 46.8 +0.3
comp=Z,181nm,1.1s
KASI **Kota Agung** 45.34 267 P P 15 47 47.6 +0.1
comp=Z,47nm,0.4s,comp=Z,930nm
LWLI **Liwa** 45.79 267 P P 15 47 51.4 +0.4
comp=Z,57nm,0.8s
TJN **Taejon** 45.90 334 *i*P P 15 47 51.8 +0.4
QIZ **Qiongzhong** 45.97 302 P P 15 47 52.7 +0.5
QIZ pP pP 15 49 24.9 -1.7
QIZ PP PP 15 49 50.0 +2.3
QIZ sP sP 15 50 25.6 +2.7
QIZ S S 15 54 00.2 +0.3
QIZ PMZ
comp=Z,23nm,1.2s
QIZ PMZ
comp=Z,88nm,8.6s
KSRS **Korea Array** 46.58 336 P P 15 47 57.0 +0.6
comp=Z,60nm,0.7s,baz=154,slow=8.1,SNR=160
KSRS PcP PcP 15 49 21.4 +0.9
comp=Z,13nm,0.7s,baz=176,slow=2.9,SNR=12
KSRS PP PP 15 49 56.0 +3.1
comp=Z,8.3nm,1.0s,baz=150,slow=9.6,SNR=4.5
KSRS ScP ScP 15 52 26.1 +0.4
comp=Z,5.9nm,0.8s,baz=146,slow=4.8,SNR=8.0
KS15 **Wonju Array Si** 46.59 336 *e*P P 15 47 57.5 +0.9
KS15 ePcP PcP 15 49 21.3 +0.7
KSAR **Wonju Array Be** 46.59 336 P P 15 47 57.1 +0.5
KSAR 15 49 21.4
KSAR 15 49 56.1
KSAR **Wonju Array Be** 46.59 336 P P 15 47 57.0 +0.5
KSAR pP pP 15 49 21.4 +0.9
KSAR PP PP 15 49 56.0 +3.0
KSAR ScP ScP 15 52 26.1 +0.4
KS01 **Wonju Array Si** 46.61 336 *e*P P 15 47 57.0 +0.3
KS01 ePcP PcP 15 49 21.3 +0.7
ERM **Erimo** 46.77 353 *c*/P P 15 47 58.5 +0.7
ERM pmax pmax
comp=Z,31nm,0.8s
ERM **Erimo** 46.77 353 *e*P P 15 47 58.5 +0.7
comp=Z,55nm,1.1s
NJ2 **Nanjing** 46.94 323 *e*P P 15 48 00.5 +1.2
NJ2 PMZ
comp=Z,41nm,0.8s
INCN **Inchon** 47.15 334 *e*P P 15 48 01.3 +0.5
comp=Z,194nm,1.4s
SDSI **Sungai Dareh** 48.65 273 P P 15 48 12.6 +0.1
comp=Z,127nm,1.2s,comp=Z,30µm
WHN **Wuhan** 48.79 318 ⇓/P P 15 48 14.6 +1.4
WHN S S 15 54 38.5 -0.1
WHN PMZ
comp=Z,89nm,0.9s
ASAJ **Asahikawa** 48.91 353 P P 15 48 14.8 +0.9
comp=Z,96nm,0.7s,baz=194,slow=8.2
ASAJ **Asahikawa** 48.91 353 *e*P P 15 48 14.7 +0.9
comp=Z,761nm,1.8s
FRIM **Kepong** 48.96 278 ⇓P P 15 48 11.4 -3.4
KUR **Kuril'sk** 49.60 358 *e*P P 15 48 19.3 +0.4
KUR *e*S pP 15 49 52.0 -3.4
KUR pmax pmax
comp=N,14nm,0.7s
KUR pmax pmax
comp=Z,92nm,0.7s
KUR pmax pmax
comp=E,29nm,0.6s
PDSI **Padang** 49.62 273 P P 15 48 18.6 -1.1
comp=E,47nm,0.7s
PPI **Padang Panjang** 49.72 273 P P 15 48 19.7 -0.7
comp=E,67nm,0.8s
PANO **Nakornpanom** 49.75 297 P P 15 48 21.8 +1.2
comp=E,31nm,1.2s
IPM **Ipoh** 49.75 280 ⇓P P 15 48 19.5 -1.2
IPM **Ipoh** 49.75 280 *e*P P 15 48 20.2 -0.5
IPM *e*PcP PcP 15 49 32.8 +0.1
MSHR **Mys Shultsa** 49.94 342 *e*P P 15 48 22.3 +0.8
VLA **Vladivostok** 50.21 343 *d*/P P 15 48 24.1 +0.6
VLA pmax pmax
comp=Z,123nm,1.2s
SKNT **Sakolnakorn** 50.25 296 P P 15 48 25.0 +0.7
comp=Z,33nm,1.7s
KULM **Kulim** 50.26 281 ⇑P P 15 48 22.6 -1.8
KULM **Kulim** 50.26 281 *e*P P 15 48 23.8 -0.6
comp=Z,27nm,1.1s
CHBT **CHBT** 50.40 291 P P 15 48 29.2 +3.9
comp=Z,30nm,1.2s,comp=Z,2µm
DL2 **Dalian** 50.59 331 ⇓P P 15 48 27.1 +0.8
DL2 PcP PcP 15 49 35.6 +0.4
DL2 sP sP 15 51 00.2 +1.4
DL2 S S 15 55 03.2 +0.4
DL2 PMZ
comp=Z,140nm,0.8s
DL2 PMZ
comp=Z,190nm,3.8s
MNSI **Mandailing Nat** 50.66 275 P P 15 48 26.7 -0.7
comp=Z,42nm,0.9s
TIA **Tai'an** 50.91 326 ⇓P P 15 48 28.8 +0.1
TIA S S 15 55 06.1 -1.2
TIA sS sS 15 58 01.3 -0.9
TIA PMZ
comp=Z,60nm,1.1s
KHON **Khomkaen** 51.07 295 P P 15 48 31.7 +1.5
comp=Z,9.4nm,1.1s
USRK **Ussuriysk Ar.** 51.17 343 P P 15 48 31.5 +1.0
comp=Z,68nm,0.9s,baz=172,slow=8.4,SNR=117
USRK PcP PcP 15 49 37.7 +0.4
comp=Z,5.0nm,0.9s,baz=180,slow=2.9,SNR=4.4
USRK ScP ScP 15 52 45.5 +0.4
comp=Z,6.9nm,0.8s,baz=193,slow=3.6,SNR=7.6
NONG **Nongkai** 51.39 297 P P 15 48 33.1 +0.6
comp=Z,40nm,1.0s
PSI **Prapat** 51.57 277 *e*P P 15 48 31.9 -2.2
PSI *e* 15 49 38.5
PSI **Prapat** 51.57 277 *e*P P 15 48 31.9 -2.2
PSI *e*PcP PcP 15 49 38.5 -1.1
CHAI **Chaiyaphum** 51.68 294 P P 15 48 35.2 +0.5
comp=Z,5.1nm,0.9s,comp=Z,66nm
TRTT **Trang** 51.69 284 P P 15 48 35.3 +0.5
comp=Z,29nm,1.4s
YSS **Yuzh-Sakhalins** 51.69 354 *k*/P P 15 48 34.8 +0.7
YSS *i* 15 49 40.0
YSS *e* 15 50 36.0
YSS *e**SP sP 15 51 06.0 -1.1
YSS *i*S S 15 55 13.0 -4.3
YSS *e* 15 57 29.0
YSS *e**SS sS 15 58 11.0 -1.9

YSS *e*SS SS 15 58 57.0 -5.9
YSS pmax pmax
comp=Z,100nm,0.7s
YSS pmax pmax
comp=Z,100nm,4.0s
YSS pmax pmax
comp=N,100nm,3.0s
YSS pmax pmax
comp=E,100nm,2.0s
YSS smax smax
comp=N,300nm,7.0s
YSS smax smax
comp=E,260nm,8.0s
YSS MLR MLR
comp=Z,200nm,16.0s
YSS **Yuzh-Sakhalins** 51.69 354 *e*P P 15 48 34.0 -0.2
comp=Z,86nm,0.8s
ENH **Enshi** 51.98 314 *e*P P 15 48 36.2 -0.4
ENH *e*PcP PcP 15 49 41.7 +1.0
GYA **Guiyang** 52.06 309 ⇑/P P 15 48 38.0 +0.6
GYA PcP PcP 15 49 42.2 +1.0
GYA pP pP 15 50 18.4 +3.3
GYA sP sP 15 51 12.2 +1.7
GYA ScP ScP 15 52 50.6 +0.9
GYA S S 15 55 23.4 +0.1
GYA ScS ScS 15 57 32.2 -2.0
GYA sS sS 15 58 19.0 -0.1
GYA PMZ
comp=Z,20nm,0.9s
GYA PMZ
comp=Z,130nm,5.0s
MDJ **Mudanjiang** 52.27 342 P P 15 48 39.9 +1.5
MDJ S S 15 55 27.6 +2.4
MDJ ScS ScS 15 57 32.1 -2.6
MDJ SS SKiKP 15 59 07.8 +4.2
MDJ **Mudanjiang** 52.27 342 *e*P P 15 48 38.8 +0.4
comp=Z,68nm,0.8s
GSI **Gunungsitoli** 52.71 275 P P 15 48 41.5 -0.7
comp=Z,75nm,1.2s
GSI **Gunungsitoli** 52.71 275 *e*P P 15 48 40.3 -1.9
comp=Z,33nm,0.6s
SURT **Suratani** 52.79 285 P P 15 48 43.5 +0.8
comp=Z,15nm,2.0s
KCSI **Kotacane, Aceh** 52.81 278 P P 15 48 41.5 -1.4
comp=Z,23nm,0.8s
PBKT **Sadao Pong** 52.82 295 P P 15 48 44.5 +1.6
comp=Z,17nm,2.1s
LOEI **Loei** 52.87 296 P P 15 48 41.3 -1.9
comp=Z,29nm,1.7s
PHET **Kaeng Krachan** 52.97 290 P P 15 48 45.4 +1.5
comp=Z,8.3nm,1.2s,comp=Z,152nm
CN2 **Changchun** 52.98 338 ⇓P P 15 48 43.8 +0.2
CN2 *e*S S 15 55 34.3 -0.5
CN2 PMZ
comp=Z,30nm,1.0s
CN2 PMZ
comp=Z,200nm,4.0s
UTTA **Uttaradit** 53.59 296 P P 15 48 49.2 +0.9
comp=Z,11nm,1.0s,comp=Z,117nm
SRDT **SRDT** 53.84 291 P P 15 48 51.8 +1.6
comp=Z,119nm,1.1s
BJT **Baijiatuao** 54.18 328 *e*P P 15 48 52.1 0.0
BJT pmax pmax
comp=Z,32nm,1.0s
BJT **Baijiatuao** 54.18 328 *e*P P 15 48 52.1 0.0
comp=Z,32nm,1.0s
BJI **Beijing** 54.19 328 P P 15 48 52.4 +0.2
BJI PcP PcP 15 49 49.5 +0.6
BJI pP pP 15 50 30.5 -0.5
BJI PP PP 15 51 01.9 +0.8
BJI sP sP 15 51 26.1 +0.1
BJI ScP ScP 15 52 59.2 +0.7
BJI S S 15 55 51.7 +0.9
BJI PMZ
comp=Z,23nm,1.7s
BJI PMZ
comp=Z,350nm,4.1s
SUKH **Sukhothai** 54.33 295 P P 15 48 55.1 +1.5
comp=Z,9.8nm,1.0s,comp=Z,81nm
HABR **Khabarovsk** 54.41 348 *d*/P P 15 48 52.3 -1.2
HABR *e* 15 49 48.4
HABR *e**PP pP 15 50 30.1 -2.4
HABR *e* 15 51 01.1
HABR *e**SP sP 15 51 24.8 -2.7
HABR *e*S S 15 55 52.4 -0.9
HABR *e* 15 57 48.6
HABR *e**SS sS 15 58 49.1 -2.0
HABR *e*SS SS 15 59 45.7 +0.1
HABR pmax pmax
comp=E,20nm,1.1s
HABR pmax pmax
comp=N,55nm,1.1s
HABR pmax pmax
comp=Z,192nm,1.1s
HABR MLR MLR
comp=Z,45nm,20.0s
XAN **Xi'an** 54.56 318 P P 15 48 54.9 -0.1
XAN S S 15 55 51.8 -4.2
XAN PMZ
comp=Z,74nm,1.3s
XAN PMZ
comp=Z,110nm,7.8s
KMI **Kunming** 54.56 305 P P 15 48 56.5 +1.1
KMI pP pP 15 50 37.3 +2.9
KMI sP sP 15 51 29.1 -0.3
KMI S S 15 55 53.9 -2.8
KMI sS sS 15 58 59.2 +4.7
KMI SS SS 15 59 52.9 +3.6
KMI PMZ
comp=Z,37nm,1.2s
TIY **Taiyuan** 54.66 324 *e*P P 15 48 55.9 +0.3
TIY sP sP 15 51 29.5 -0.2
TIY S S 15 55 56.6 -0.6
TIY sS sS 15 58 53.8 -1.3
TIY PMZ
comp=Z,120nm,6.8s
CM01 **Chiang Mai Arr** 55.24 296 *e*P P 15 49 00.5 +0.5
CM31 **Chiang Mai Arr** 55.27 296 *e*P P 15 49 01.2 +1.0
CMAR **Chiang Mai Arr** 55.27 296 P P 15 49 01.1 +0.9
comp=Z,18nm,1.0s,baz=116,slow=5.3,SNR=84
CMAR PcP PcP 15 49 54.4 +0.8
comp=Z,9.8nm,0.8s,baz=110,slow=2.3,SNR=12
CMAR pP pP 15 50 41.4 +1.9
comp=Z,7.9nm,1.0s,baz=109,slow=6.2,SNR=4.7
CMAR PKP2bc 16 19 11.8
comp=Z,0.9nm,1.0s,baz=295,slow=2.9,SNR=4.3
SKR **Severo-Kuril's** 55.27 5 ⇓/P P 15 49 00.3 +0.8
SKR pmax pmax
comp=Z,266nm,1.0s
CHTO **Chiang Mai** 55.38 296 P P 15 49 01.9 +0.9
comp=Z,148nm,1.4s,comp=Z,2µm
CHTO **Chiang Mai** 55.38 296 *e*P P 15 49 01.4 +0.4
CHTO pmax pmax
comp=Z,67nm,1.4s
CHTO **Chiang Mai** 55.38 296 *e*P P 15 49 01.4 +0.4
comp=Z,67nm,1.4s
TYV **Tymovskoe** 55.56 354 *e*P P 15 49 02.8 +1.2
TYV pmax pmax
comp=E,46nm,0.8s
TYV pmax pmax
comp=Z,103nm,0.8s
KLR **Kul'dur** 55.88 346 P P 15 49 04.8 +1.0
comp=Z,49nm,0.8s,baz=176,slow=4.2,SNR=148
KLR PcP PcP 15 49 55.4 +0.1
comp=Z,35nm,0.8s,baz=167,slow=2.0,SNR=10
KLR S S 15 56 13.5 +1.0
comp=Z,0.6nm,0.6s,baz=270,slow=20,SNR=3.7
CD2 **Chengdu** 56.49 312 ⇓/P P 15 49 09.0 +0.5
CD2 pP pP 15 50 47.9 -0.5
CD2 sP sP 15 51 42.3 -0.9
CD2 PcS PcS 15 53 59.9 +0.1
CD2 S S 15 56 22.5 +1.3
CD2 sS sS 15 59 20.7 +0.2
CD2 SS SS 16 00 21.3 +2.3
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,290nm,4.1s
KIP **Kipapa** 57.08 61 *i*P P 15 49 13.4 +0.8
KIP pmax pmax
comp=Z,423nm,1.0s
HHC **Hu-ho-hao-te** 57.26 326 *e*P P 15 49 14.3 +0.6
HHC pP pP 15 50 53.6 -0.4
HHC S S 15 56 31.4 +0.5
HHC sS sS 15 59 33.9 +3.1

HHC SS **SS** **16 00 29.4 -1.5**
HHC PMZ
comp=Z,56nm,1.2s
HHC PMZ
comp=Z,280nm,6.6s
PEA0 Petropavlovsk- 57.82 5 *e*P **P** **15 49 17.6 +0.5**
PEA0B Petropavlovsk- 57.82 5 *e*P **P** **15 49 17.8 +0.7**
comp=Z,543nm,1.3s
PETK Petropavlovsk- 57.82 5 P **P** **15 49 18.1 +1.0**
comp=Z,232nm,0.9s,baz=158,slow=6.4,SNR=265
PETK Petropavlovsk- 57.82 5 P **P** **15 49 18.1 +1.0**
PETK pmax pmax
comp=Z,245nm,0.9s
PET Petropavlovsk 57.83 6K *i*P **P** **15 49 17.6 +0.5**
PET *e* 15 50 02.9
PET *e*S **S** **15 56 39.9 +2.5**
PET *e*SS **SS** **16 00 39.2 +0.1**
PET *e*SSS SSS 16 03 29.5
PET pmax pmax
comp=Z,197nm,0.9s
PET pmax pmax
comp=Z,300nm,14.7s
PET MLR MLR
comp=Z,200nm,18.0s
PET Petropavlovsk 57.83 6 *e*P **P** **15 49 17.3 +0.1**
comp=Z,146nm,0.9s
NKL Nikolayevsk 58.03 353 *i* P **P** **15 49 19.0 +0.5**
NKL pmax pmax
comp=Z,170nm,1.0s
NKL pmax pmax
comp=Z,500nm,3.0s
POHA Pohakuloa 58.71 64 *e*P **P** **15 49 24.9 +0.8**
comp=Z,131nm,0.9s
LZH Lanzhou 59.14 317 ⇓P **P** **15 49 28.0 +1.4**
LZH PcP **PcP** **15 50 10.4 +1.6**
LZH pP pP 15 51 13.6 +5.8
LZH sP sP 15 52 04.3 +2.1
LZH S **S** **15 56 50.4 -4.7**
LZH SS **SS** **16 01 05.3 +4.7**
LZH PMZ
comp=Z,99nm,1.0s
LZH PMZ
comp=Z,380nm,4.0s
HIA Hailar 59.71 338 *e*P **P** **15 49 30.5 +0.5**
HIA pmax pmax
comp=Z,142nm,0.9s
HIA Hailar 59.71 338 *e*P **P** **15 49 30.5 +0.5**
comp=Z,142nm,0.9s
PPT2 Papeete2 60.45 108 *e*S **S** **15 57 08.6 -3.3**
comp=Z,343nm,26.2s
SMY Shemya 60.61 17 *e*P **P** **15 49 36.8 +1.1**
SMY pmax pmax
comp=Z,426nm,1.1s
SMY Shemya 60.61 17 *e*P **P** **15 49 36.8 +1.1**
comp=Z,426nm,1.1s
GTA Gaotai 63.61 318 *e*P **P** **15 49 56.8 +1.0**
GTA PcP **PcP** **15 50 27.7 +0.8**
GTA pP pP 15 51 41.5 +2.4
GTA PP **PP** **15 52 27.6 +3.4**
GTA sP sP 15 52 33.7 +0.9
GTA ScP 15 53 41.8
GTA S **S** **15 57 50.9 +0.6**
GTA ScS **ScS** **15 59 00.7 +1.4**
GTA sS sS 16 00 56.2 +1.5
GTA SS **SS** **16 02 12.4 +2.4**
GTA PMZ
comp=Z,45nm,1.1s
GTA PMZ
comp=Z,270nm,7.4s
SHL Shillong 63.80 301 *e*P **P** **15 49 59.0 +1.6**
SHL *e*S **S** **15 57 54.0 +0.9**
MA2 Magadan 63.94 0 *e*P **P** **15 49 57.4 +0.1**
MA2 pmax pmax
comp=Z,508nm,0.9s
MA2 Magadan 63.94 0 *e*P **P** **15 49 57.4 +0.1**
comp=Z,508nm,0.9s
CIT Chita 64.32 336 *e*P **P** **15 49 57.8 -2.2**
ULN Ulaanbaatar 64.35 329 *d i*P **P** **15 50 01.7 +1.3**
ULN pmax pmax
comp=Z,58nm,0.9s
ULN Ulaanbaatar 64.35 329 *e*P **P** **15 50 01.2 +0.8**
comp=Z,66nm,0.9s
CLNS Chul'man 64.52 345 *e*P **P** **15 50 02.0 +0.8**
CLNS *e* 15 50 31.0
CLNS *e**PP **pP** **15 51 41.9 -2.9**
CLNS *e* 15 52 33.7
CLNS *e*PPP PPP 15 54 12.2
CLNS *e*S **S** **15 58 03.1 +2.7**
CLNS *e* 15 59 03.6
CLNS pmax pmax
comp=N,38nm,0.8s
CLNS pmax pmax
comp=Z,99nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.7s
CLNS pmax pmax
comp=Z,6.0nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS smax smax
comp=E,119nm,9.6s
CLNS smax smax
comp=N,227nm,11.0s
SONM Songino Array 64.66 329 P **P** **15 50 03.6 +1.2**
comp=N,56nm,0.7s,baz=136,slow=5.4,SNR=146
SONM PKP2bc 16 18 48.1
comp=N,0.3nm,0.4s,baz=352,slow=7.5,SNR=4.2
SONM Songino Array 64.66 329 P **P** **15 50 03.6 +1.2**
SONM pmax pmax
comp=Z,54nm,0.7s
SONA1 Songino Array 64.67 329 *e*P **P** **15 50 02.8 +0.4**
LSA Lhasa 65.82 305 P **P** **15 50 11.4 +1.0**
LSA PMZ
comp=Z,63nm,1.0s
LSA Lhasa 65.82 305 *e*P **P** **15 50 11.0 +0.6**
LSA pmax pmax
comp=Z,43nm,0.8s
LSA Lhasa 65.82 305 *e*P **P** **15 50 11.0 +0.6**
comp=Z,43nm,0.8s
NIKH Nikolski High 66.97 26 *e*P **P** **15 50 16.7 +0.2**
comp=Z,361nm,0.8s
SEY Seymchan 67.33 1*d i*P **P** **15 50 19.3 +0.8**
CASY Casey 67.45 196 *e*P **P** **15 50 18.4 -0.8**
comp=Z,9.9nm,0.8s
ZAK Zakamensk 67.86 330 *e*P **P** **15 50 22.2 0.0**
ZAK *e* 15 52 10.7
ZAK pmax pmax
comp=Z,122nm,1.2s
YAK Yakutsk 68.22 350 *d i*P **P** **15 50 24.4 +0.5**
YAK *e* 15 50 44.3
YAK *e**PP **pP** **15 52 15.3 +6.3**
YAK *e* 15 53 01.9
YAK *e*S **S** **15 58 46.0 +2.3**
YAK *e* 15 59 31.5
YAK pmax pmax
comp=Z,186nm,1.4s
YAK pmax pmax
comp=N,93nm,1.4s
YAK pmax pmax
comp=E,24nm,1.3s
YAK pmax pmax
comp=Z,155nm,3.1s
YAK pmax pmax
comp=E,51nm,2.4s
YAK pmax pmax
comp=N,60nm,3.0s
YAK smax smax
comp=N,267nm,3.0s
YAK smax smax
comp=E,164nm,2.5s
TLY Talaya 68.50 331 *e*P **P** **15 50 27.1 +1.2**
TLY *e* 15 53 09.3
TLY *e*S **S** **15 58 50.8 +3.3**
TLY pmax pmax
comp=Z,67nm,1.1s
TLY Talaya 68.50 331 *e*P **P** **15 50 26.6 +0.7**
comp=Z,54nm,1.0s
IRK Irkutsk 68.56 332 *e*P **P** **15 50 26.1 -0.1**
IRK *e*S **S** **15 58 50.6 +2.5**
IRK pmax pmax
comp=Z,124nm,1.6s
UNV Unalaska Valle 68.59 26 *e*P **P** **15 50 26.5 +0.1**
comp=Z,264nm,0.7s

BOD Bodaibo 68.60 340 *e*P **P** **15 50 26.3 0.0**
BOD pmax pmax
comp=Z,55nm,1.1s
AKUT Akutan 69.11 26 *e*P **P** **15 50 29.7 +0.3**
comp=Z,392nm,0.7s
TAOE Nuku Hiva Isla 69.42 98 *e*S **S** **15 58 55.4 -4.2**
comp=Z,193nm,27.9s
SPIA Saint Paul Isl 69.44 22 *e*P **P** **15 50 32.5 +1.2**
comp=Z,685nm,1.1s
GUN Gumba 69.63 302 *e*P **P** **15 50 33.8 +0.2**
comp=Z,203nm,0.7s
PKIN Phulchoki 69.94 301 *e*P **P** **15 50 35.8 +0.4**
comp=Z,12nm,0.3s
KKN Kakani 70.10 302 *e*P **P** **15 50 36.3 0.0**
comp=Z,90nm,0.6s
DMN Daman 70.20 301 *e*P **P** **15 50 37.2 +0.3**
comp=Z,166nm,0.7s
GKN Gorkha 70.71 302 *e*P **P** **15 50 39.8 0.0**
comp=Z,129nm,0.5s
KOLN Koldanda 71.53 301 *e*P **P** **15 50 44.6 -0.1**
comp=Z,164nm,0.7s
PYUN Piuthan 72.13 301 *e*P **P** **15 50 47.9 -0.3**
comp=Z,251nm,0.8s
SDPT Sand Point 72.25 27 *e*P **P** **15 50 48.1 +0.1**
comp=Z,402nm,0.9s
MIR Mirnyy 73.16 201 *i* P **P** **15 50 54.0 +0.9**
VNDA Vanda 73.19 177 P **P** **15 50 53.8 +0.7**
comp=Z,7.0nm,0.6s,baz=334,slow=7.2,SNR=81
VNDA Vanda 73.19 177 *e*P **P** **15 50 53.2 +0.1**
comp=Z,9.6nm,0.8s
VNDA *e*pP **pP** **15 52 37.1 -3.1**
BILL Bilibino 73.33 6*d i*P **P** **15 50 54.7 +0.7**
BILL pmax pmax
comp=Z,270nm,1.1s
WMQ Urumqi 73.69 318 P **P** **15 50 56.2 -0.5**
WMQ PcP **PcP** **15 51 12.3 +2.9**
WMQ pP pP 15 52 45.0 +1.0
WMQ S **S** **15 59 45.0 -1.6**
WMQ ScS **ScS** **16 00 17.5 -1.1**
WMQ sS sS 16 03 01.8 +4.0
WMQ PMZ
comp=Z,33nm,1.4s
WMQ PMZ
comp=Z,230nm,4.0s
CHGN Chignik 73.75 27 *e*P **P** **15 50 56.8 +0.2**
SBA Scott Base 73.78 176 *e*P **P** **15 50 58.0 +1.5**
SBA pmax pmax
comp=Z,16nm,1.3s
SBA Scott Base 73.78 176 *e*P **P** **15 50 58.0 +1.5**
comp=Z,16nm,1.3s
HYB Hyderabad 73.79 290 *i* P **P** **15 50 58.0 +0.3**
HYB *e*sP **sP** **15 53 35.0 -2.7**
GAMB Gambell 73.92 17 *e*P **P** **15 50 58.4 +0.9**
comp=Z,193nm,1.6s
TNA Tin City 76.34 17 *e*P **P** **15 51 11.8 +0.8**
comp=Z,65nm,1.0s
OHAK Old Harbor 76.62 28 *e*P **P** **15 51 13.0 +0.4**
comp=Z,129nm,0.8s
KDAK Kodiak Island 77.23 28 *i* P **P** **15 51 16.6 +0.6**
KDAK Kodiak Island 77.23 28 *e*P **P** **15 51 16.6 +0.6**
comp=Z,129nm,1.0s
TIXI Tiksi 77.31 353 *d i*P **P** **15 51 15.4 -0.7**
TIXI pmax pmax
comp=Z,48nm,1.0s
TIXI Tiksi 77.31 353 *e*P **P** **15 51 15.5 -0.7**
comp=Z,45nm,0.8s
SVW2 Sparrevohn 77.71 24 *e*P **P** **15 51 19.6 +1.0**
comp=Z,150nm,1.0s
MK01 Makanchi Array 78.31 319 *e*P **P** **15 51 22.1 -0.1**
MK31 Makanchi Array 78.33 320 *e*P **P** **15 51 22.3 +0.1**
MK31 Makanchi Array 78.33 320 *e*P **P** **15 51 22.3 +0.1**
MKAR Makanchi Array 78.33 320 P **P** **15 51 22.4 +0.1**
comp=Z,37nm,0.9s,baz=107,slow=6.0,SNR=247
MKAR Makanchi Array 78.33 320 *e*P **P** **15 51 22.5 +0.2**
TT01 Tatalina 78.56 22 *e*P **P** **15 51 23.7 +0.6**
TTA Tatalina 78.58 22 *e*P **P** **15 51 24.2 +0.9**
TTA pmax pmax
comp=Z,265nm,1.5s
TTA Tatalina 78.58 22 *e*P **P** **15 51 24.2 +0.9**
comp=Z,265nm,1.5s
HOM Homer 78.60 26 *e*P **P** **15 51 24.1 +0.7**
comp=Z,808nm,0.8s
CNPM China Poot 78.72 26 *e*P **P** **15 51 24.7 +0.7**
comp=Z,696nm,0.7s
BRLK Bradley Lake 78.99 26 *e*P **P** **15 51 25.6 +0.2**
comp=Z,171nm,0.8s
PDGK Podgornoye 79.13 316 P **P** **15 51 26.8 +0.3**
PDGK pmax pmax
comp=Z,72nm,1.0s
SPU Mount Spurr 79.20 25 *e*P **P** **15 51 25.2 -1.4**
THN Thein Dam 79.28 304 *e*P **P** **15 51 23.0 -4.6**
ZAA0 Zalesovo Array 79.42 327 *e*P **P** **15 51 26.7 -1.2**
ZALV Zalesovo Beam 79.42 327 P **P** **15 51 27.3 -0.6**
comp=Z,53nm,0.7s,baz=112,slow=5.4,SNR=219
ZALV S **S** **16 00 44.5 -2.6**
comp=Z,1.3nm,0.7s,baz=98,slow=11,SNR=5.7
SEW Seward 79.79 26 *e*P **P** **15 51 29.6 0.0**
comp=Z,266nm,0.9s
SUA Susitna One 79.89 25 *e*P **P** **15 51 29.6 -0.7**
comp=Z,108nm,0.6s
PPLA Purkeypile 80.03 23 *e*P **P** **15 51 30.8 -0.3**
comp=Z,304nm,1.6s
RC01 Rabbit Creek A 80.13 25 *e*P **P** **15 51 31.5 0.0**
comp=Z,373nm,1.2s
CAST Castle Rocks 80.34 23 *e*P **P** **15 51 32.8 +0.2**
comp=Z,355nm,0.7s
NVS Novosibirsk 80.62 327 ⇑*i*P **P** **15 51 33.8 -0.3**
NVS *e* 15 53 25.5
NVS *e*S **S** **16 00 57.9 -1.4**
NVS pmax pmax
comp=N,31nm,1.4s
NVS pmax pmax
comp=E,49nm,1.4s
NVS pmax pmax
comp=Z,73nm,1.4s
NVS smax smax
comp=N,26nm,2.2s
NVS smax smax
comp=E,42nm,2.2s
PMR Palmer 80.63 25 *e*P **P** **15 51 33.6 -0.4**
PMR pmax pmax
comp=Z,154nm,1.0s
PMR Palmer 80.63 25 *e*P **P** **15 51 33.6 -0.4**
comp=Z,154nm,1.0s
KSH Kashi 80.68 311 P **P** **15 51 36.9 +1.9**
KSH pP pP 15 53 28.0 +3.3
KSH PP **PP** **15 54 51.5 +3.6**
KSH S **S** **16 00 53.8 -7.0**
KSH SS **SS** **16 06 34.2 +6.0**
KSH PMZ
comp=Z,29nm,0.9s
KTH Kantishna Hill 80.86 23 *e*P **P** **15 51 34.6 -0.7**
comp=Z,224nm,0.7s
MID Middleton Isla 80.89 28 *e*P **P** **15 51 36.3 +0.9**
MID pmax pmax
comp=Z,335nm,1.0s
MID Middleton Isla 80.89 28 *e*P **P** **15 51 36.3 +0.9**
comp=Z,335nm,1.0s
TRF Thorofare Moun 81.05 23 *e*P **P** **15 51 35.6 -0.8**
comp=Z,128nm,0.7s
SML Sawmill 81.06 25 *e*P **P** **15 51 36.3 0.0**
SML pmax pmax
comp=Z,402nm,0.7s
SML Sawmill 81.06 25 *e*P **P** **15 51 36.3 0.0**
comp=Z,402nm,0.7s
BPAW Bear Paw Mtn. 81.11 22 *e*P **P** **15 51 35.7 -0.8**
comp=Z,120nm,0.9s
SCM Sheep Creek Mo 81.50 25 *e*P **P** **15 51 38.9 +0.3**
SCM pmax pmax
comp=Z,253nm,0.9s
SCM Sheep Creek Mo 81.50 25 *e*P **P** **15 51 38.9 +0.3**
comp=Z,253nm,0.9s
RND Reindeer 81.60 23 *e*P **P** **15 51 38.4 -0.7**
RND pmax pmax
comp=Z,454nm,0.8s
RND Reindeer 81.60 23 *e*P **P** **15 51 38.4 -0.7**
comp=Z,454nm,0.8s
EYAK Cordova Ski Ar 81.63 27 *e*P **P** **15 51 39.5 +0.3**
comp=Z,102nm,1.0s
MLY Manley 81.67 22 *e*P **P** **15 51 39.4 0.0**
comp=Z,204nm,0.8s
MCK McKinley 81.72 23 *e*P **P** **15 51 38.9 -0.8**
MCK pmax pmax
comp=Z,476nm,0.9s
MCK McKinley 81.72 23 *e*P **P** **15 51 38.9 -0.8**
comp=Z,476nm,0.9s

TKM2 Tokmak 2 81.77 314 *e*P **P** **15 51 40.8 +0.2**
TKM2 pmax pmax
comp=Z,212nm,1.7s
TKM2 Tokmak 2 81.77 314 *e*P **P** **15 51 40.8 +0.2**
comp=Z,212nm,1.7s
DIV Divide 81.87 26 *e*P **P** **15 51 41.1 +0.6**
comp=Z,206nm,0.8s
KURBB Kurchatov Arra 81.90 322 S **S** **16 01 10.3 -2.2**
comp=Z,1.8nm,1.2s,baz=92,slow=7.3,SNR=8.4
KLU Klutina 81.96 26 *e*P **P** **15 51 41.6 +0.6**
comp=Z,285nm,0.9s
DHY Denali Highway 82.04 24 *e*P **P** **15 51 41.6 +0.1**
comp=Z,237nm,0.8s
RAGM Ragged Mountai 82.05 27 *e*P **P** **15 51 42.2 +0.8**
comp=Z,152nm,1.0s
BMRM Bremner River 82.32 27 *e*P **P** **15 51 43.2 +0.4**
comp=Z,242nm,1.1s
WRH Wood River Hil 82.39 23 *e*P **P** **15 51 42.4 -0.7**
comp=Z,228nm,0.9s
FRU Bishkek 82.45 314 ⇓*i*P **P** **15 51 44.0 +0.1**
FRU *e*S **S** **16 01 13.0 -5.3**
FRU pmax pmax
comp=Z,320nm,2.0s
FRU smax smax
comp=E,100nm,2.5s
AAK Ala-Archa 82.49 314 S **S** **16 01 14.9 -4.2**
comp=E,1.3nm,0.5s,baz=233,slow=23,SNR=8.3
AAK Ala-Archa 82.49 314*d i*P **P** **15 51 44.9 +0.7**
AAK pmax pmax
comp=Z,151nm,1.0s
AAK Ala-Archa 82.49 314 *e*P **P** **15 51 44.8 +0.5**
comp=Z,72nm,0.9s
AAK S **S** **16 01 14.9 -4.2**
MDM Murphy Dome 82.57 22 *e*P **P** **15 51 43.1 -0.8**
comp=Z,94nm,1.1s
CCB Clear Creek Bu 82.58 23 *e*P **P** **15 51 42.8 -1.1**
comp=Z,194nm,0.8s
COLA College 82.67 22*d i*P **P** **15 51 43.5 -0.9**
COLA pmax pmax
comp=Z,243nm,0.9s
COLA College 82.67 22 *e*P **P** **15 51 43.8 -0.6**
comp=Z,255nm,0.8s
PAX Paxson 82.78 25 *e*P **P** **15 51 45.1 0.0**
PAX pmax pmax
comp=Z,60nm,0.7s
PAX Paxson 82.78 25 *e*P **P** **15 51 45.1 0.0**
comp=Z,60nm,0.7s
CRQM Cirque 82.89 27 *e*P **P** **15 51 46.6 +0.7**
comp=Z,262nm,1.2s
COLD Coldfoot 82.96 20 *e*P **P** **15 51 46.5 +0.6**
comp=Z,171nm,1.2s
ILAR Eielson Array 82.99 23 P **P** **15 51 45.0 -1.1**
comp=Z,167nm,0.7s,baz=251,slow=5.1,SNR=964
ILB Eielson Array 82.99 23 *e*P **P** **15 51 44.8 -1.3**
IL1 Eielson Array 82.99 23 *e*P **P** **15 51 44.8 -1.2**
EKS2 Erkin-Say 83.01 314 *e*P **P** **15 51 47.4 +0.6**
EKS2 pmax pmax
comp=Z,179nm,1.1s
EKS2 Erkin-Say 83.01 314 *e*P **P** **15 51 47.4 +0.6**
comp=Z,178nm,1.1s
BALM Baldy 83.36 27 *e*P **P** **15 51 48.5 +0.4**
BALM pmax pmax
comp=Z,158nm,1.1s
BALM Baldy 83.36 27 *e*P **P** **15 51 48.5 +0.4**
comp=Z,158nm,1.1s
DOT Dot Lake 83.64 24 *e*P **P** **15 51 49.5 +0.1**
comp=Z,636nm,0.9s
MNAS Manas 83.89 313 P **P** **15 51 51.9 +0.7**
MNAS pmax pmax
comp=Z,244nm,1.0s
FYU Fort Yukon 84.39 21 *e*P **P** **15 51 53.2 +0.2**
comp=Z,168nm,0.8s
DHAK Deception Hill 84.64 30 *e*P **P** **15 51 55.6 +1.2**
comp=Z,285nm,1.7s
MAW Mawson 84.72 203 P **P** **15 51 53.6 -1.0**
comp=Z,6.0nm,0.5s,baz=91,slow=4.2,SNR=23
MAW S **SKSac** **16 01 27.3 -2.6**
comp=Z,4.8nm,0.2s,baz=276,slow=20,SNR=20
MAW PKKP **PKKPdf** **16 09 57.0 +2.8**
comp=Z,1.8nm,0.8s,baz=329,slow=7.7,SNR=3.6
MAW Mawson 84.72 203 P **P** **15 51 54.4 -0.3**
baz=85,SNR=9.2
MAW Mawson 84.72 203 *e*P **P** **15 51 54.3 -0.3**
MAW S **SKSac** **16 01 27.3 -2.6**
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 84.72 203 *e*P **P** **15 51 54.3 -0.3**
comp=Z,2.4nm,0.8s
MAW S **SKSac** **16 01 27.3 -2.6**
MAW PKKP **PKKPdf** **16 09 57.0 +2.8**
NRIK Noril'sk 84.85 342 P **P** **15 51 54.8 -0.3**
comp=Z,38nm,0.5s,baz=119,slow=4.2,SNR=95
NRIK pP **pP** **15 53 48.4 +2.2**
comp=Z,16nm,1.0s,baz=138,slow=8.8,SNR=3.2
NRIK S **SKSac** **16 01 30.5 -0.1**
comp=Z,0.6nm,0.4s,baz=350,slow=20,SNR=5.7
KBL Kabul 85.14 305 *e*P **P** **15 51 56.4 -1.2**
KBL pmax pmax
comp=Z,26nm,1.0s
KBL Kabul 85.14 305 *e*P **P** **15 51 56.4 -1.2**
comp=Z,26nm,1.0s
EGAK Eagle 85.24 24 *e*P **P** **15 51 57.6 +0.4**
comp=Z,256nm,1.0s
DAWY Dawson 85.71 25 *e*P **P** **15 52 00.3 +0.8**
comp=Z,246nm,0.9s
DZET Dzherino 85.98 309 P **P** **15 52 01.6 +0.1**
DZET pmax pmax
comp=Z,29nm,0.8s
SKAG Skagway 86.17 30 *e*P **P** **15 52 02.5 +0.8**
comp=Z,163nm,1.0s
CRAG Craig 86.32 34 *e*P **P** **15 52 03.3 +0.8**
comp=Z,96nm,1.3s
WRAK Wrangell Islan 86.97 33 *e*P **P** **15 52 06.9 +1.4**
comp=Z,162nm,1.4s
BVAR Borovoye Array 87.39 324 P **P** **15 52 06.8 -0.8**
comp=Z,28nm,0.7s,baz=102,slow=6.2,SNR=115
BVAR pP **pP** **15 54 01.6 +2.1**
comp=Z,4.3nm,0.8s,baz=97,slow=7.6,SNR=4.7
BVAR S **SKSac** **16 01 43.5 -3.3**
comp=Z,1.5nm,0.8s,baz=105,slow=3.3,SNR=4.4
BRVK Borovoye 87.46 324 *e*P **P** **15 52 06.8 -1.1**
BRVK pmax pmax
comp=Z,148nm,1.2s
BRVK Borovoye 87.46 324 *e*P **P** **15 52 06.8 -1.1**
comp=Z,148nm,1.2s
ZRNK Zerenda 88.20 323 *e*P **P** **15 52 09.9 -1.5**
ZRNK pmax pmax
comp=Z,116nm,1.8s
ZRNK Zerenda 88.20 323 *e*P **P** **15 52 09.9 -1.5**
comp=Z,116nm,1.8s
BBB Bella Bella 88.59 38 P **P** **15 52 12.7 -0.6**
comp=Z,10nm,0.7s,baz=349,slow=12,SNR=3.7
DLBC Dease Lake 88.61 31 P **P** **15 52 13.8 +0.5**
comp=Z,29nm,1.1s,baz=266,slow=4.5,SNR=29
DLBC Dease Lake 88.61 31 *e*P **P** **15 52 13.2 -0.1**
comp=Z,120nm,1.5s
INK Inuvik 89.23 21 P **P** **15 52 15.4 -0.4**
comp=Z,113nm,1.1s,baz=253,slow=4.7,SNR=77
INK Inuvik 89.23 21 *e*P **P** **15 52 15.4 -0.4**
comp=Z,116nm,1.0s
L02D Cave Junction, 90.35 48 P **P** **15 52 22.3 +0.6**
baz=264
I03D Drain, OR 90.68 46 P **P** **15 52 24.1 +1.0**
baz=264
M02C Callahan 90.83 49 P **P** **15 52 24.6 +0.6**
baz=265,SNR=12
HUMO Hull Mountain 90.87 48 *e*P **P** **15 52 25.1 +1.0**
comp=Z,37nm,1.1s
N02D Trinity Center 90.90 49 P **P** **15 52 25.0 +0.6**
baz=265,SNR=9.3
YBH Yreka Blue Hor 90.97 48 *e*P **P** **15 52 25.5 +0.8**
YBH pmax pmax
comp=Z,75nm,1.3s
YBH Yreka Blue Hor 90.97 48 *e*P **P** **15 52 25.5 +0.8**
comp=Z,75nm,1.3s
WDC Whiskeytown Da 90.99 50 *e*P **P** **15 52 25.9 +1.2**
WDC pmax pmax
comp=Z,55nm,1.4s
WDC Whiskeytown Da 90.99 50 *e*P **P** **15 52 25.9 +1.2**
comp=Z,55nm,1.4s
F04D Rainier, OR 91.15 44 P **P** **15 52 25.7 +0.5**
baz=265
I04A Tendick Farm, 91.37 46 P **P** **15 52 26.7 +0.3**
baz=265
O03D Paynes Creek 91.53 50 P **P** **15 52 27.5 +0.2**
baz=265
A04D Lummi Island 91.59 41 P **P** **15 52 28.4 +1.2**

baz=265
M04C Macdool 91.62 48 P P 15 52 27.8 +0.1
baz=265,SNR=7.3
ORV Oroville 91.70 51 eP P
ORV pmax pmax
comp=Z,35nm,1.3s
ORV Oroville 91.70 51 eP P 15 52 28.2 +0.2
comp=Z,35nm,1.3s
B05A Bryant 91.96 42 P P 15 52 29.6 +0.6
baz=265
AFDM Forest Hills D 92.07 51 eP P 15 52 30.1 +0.4
comp=Z,36nm,1.3s
J05D Fort Rock, OR 92.18 47 P P 15 52 31.2 +0.9
baz=266
I05D Terrebonne, OR 92.18 46 P P 15 52 30.7 +0.6
baz=266
K05A Summer Lake 92.39 48 eP P 15 52 31.5 +0.2
comp=Z,45nm,1.3s
CMB Columbia Colle 92.46 52 eP P 15 52 30.0 -1.6
CMB pmax pmax
comp=Z,18nm,1.2s
CMB Columbia Colle 92.46 52 eP P 15 52 30.0 -1.6
comp=Z,18nm,1.2s
SMMC Simmler 92.60 55 P P 15 52 33.2 +1.0
baz=266
PKM Mcpherson Peak 92.72 55 P P 15 52 33.8 +0.8
baz=266
MOD Modoc Plateau 92.78 48 eP P 15 52 33.6 +0.5
comp=Z,31nm,1.2s
SYO Syowa Base 92.96 200 eP P 15 52 31.4 -1.7
WAKR Walker 93.24 52 eP P 15 52 36.0 +0.7
PAHR Pah Rah Range 93.34 51 eP P 15 52 35.9 +0.2
comp=Z,32nm,1.4s
VES Vestal, Richgr 93.37 54 P P 15 52 36.0 +0.3
baz=267
SVE Sverdlovsk 93.44 327 i P P 15 52 34.3 -1.2
SVE pmax pmax
comp=Z,34nm,1.1s
ABKAR Akbulak array 93.46 319 eP P 15 52 34.0 -1.8
ARVC Arvin 93.54 55 P P 15 52 37.3 +0.8
baz=267
B08A Colville Reser 93.81 42 eP P 15 52 36.9 -0.6
comp=Z,67nm,1.8s
ISA Isabella, Lake 93.86 55 P P 15 52 37.8 -0.2
baz=267
ISA Isabella, Lake 93.86 55 eP P 15 52 38.0 -0.1
ISA pmax pmax
comp=Z,15nm,1.1s
ISA Isabella, Lake 93.86 55 eP P 15 52 38.0 -0.1
comp=Z,15nm,1.1s
PASC Pasadena Art C 94.02 56 eP P 15 52 39.4 +0.6
comp=Z,28nm,0.9s
WVOR Wild Horse Val 94.04 48 eP P 15 52 39.3 +0.5
WVOR pmax pmax
comp=Z,10.0nm,1.0s
WVOR Wild Horse Val 94.04 48 eP P 15 52 39.3 +0.5
comp=Z,9.6nm,1.0s
NV01 Mina Array Sit 94.12 52 eP P 15 52 39.7 +0.3
NVAR Mina Array Bea 94.12 52 P P 15 52 39.2 -0.2
comp=Z,11nm,1.0s,baz=263,slow=6.2,SNR=37
NVAR SKKPbc SKKPbc 16 12 30.1 -0.8
comp=Z,0.7nm,0.6s,baz=96,slow=16,SNR=6.1
MWC Mount Wilson 94.13 56 eP P 15 52 40.4 +0.9
MWC pmax pmax
comp=Z,53nm,1.1s
MWC Mount Wilson 94.13 56 eP P 15 52 40.4 +0.9
comp=Z,52nm,1.1s
EDW2 Edwards Air Fo 94.21 55 P P 15 52 40.5 +0.9
baz=267,SNR=11
NV11 Mina Array Sit 94.24 52 eP P 15 52 40.4 +0.6
comp=Z,27nm,1.3s
GEYT Alibeck 94.27 308 P P 15 52 39.1 -0.7
comp=Z,10.0nm,0.9s,baz=130,slow=2.3,SNR=21
BFSC Mount Baldy Ra 94.46 56 P P 15 52 41.2 +0.3
baz=268
LRMC Laurel Mtn Rad 94.49 55 P P 15 52 41.7 +0.7
baz=268,SNR=13
ARU Arti 94.57 326 d iP P 15 52 38.8 -1.9
ARU *PP pP 15 54 32.5 -1.1
ARU 15 56 33.3
ARU S SKSac 16 02 24.8 -2.1
ARU SS SS 16 09 43.9 -3.3
ARU pmax pmax
comp=Z,31nm,1.2s
ARU Arti 94.57 326 eP P 15 52 38.2 -2.4
comp=Z,24nm,1.0s
DAC Darwin (Calif) 94.60 54 eP P 15 52 41.9 +0.3
DAC pmax pmax
comp=Z,29nm,1.0s
DAC Darwin (Calif) 94.60 54 eP P 15 52 41.9 +0.3
comp=Z,29nm,1.0s
MPMC Manual Prospec 94.67 54 P P 15 52 42.5 +0.6
baz=268,SNR=19
AKTO Aktyubinsk 94.75 320 P P 15 52 39.6 -2.1
comp=Z,7.1nm,1.0s,baz=85,slow=6.2,SNR=19
GRAC Grapevine Rang 94.81 53 P P 15 52 43.1 +0.8
baz=268
MURC Murrieta 94.82 57 P P 15 52 43.3 +0.9
baz=268
109C Camp Elliot, M 94.87 57 P P 15 52 43.6 +1.0
baz=268
BMO Blue Mountains 95.09 46 eP P 15 52 43.6 +0.1
BMO pmax pmax
comp=Z,8.0nm,0.8s
BMO Blue Mountains 95.09 46 eP P 15 52 43.6 +0.1
comp=Z,8.2nm,0.8s
FURC Furnace Creek, 95.19 54 P P 15 52 44.7 +0.8
baz=268,SNR=8.0
GSC Goldstone, Bar 95.20 55 P P 15 52 44.7 +0.5
baz=268,SNR=5.1
GSC Goldstone, Bar 95.20 55 eP P 15 52 44.7 +0.5
GSC pmax pmax
comp=Z,15nm,1.2s
GSC Goldstone, Bar 95.20 55 eP P 15 52 44.7 +0.5
comp=Z,15nm,1.2s
NEW Newport 95.28 42 P P 15 52 44.6 +0.5
comp=Z,11nm,0.7s,baz=220,slow=3.2,SNR=8.8
NEW Newport 95.28 42 P P 15 52 44.4 +0.3
baz=269
NEW Newport 95.28 42 eP P 15 52 44.5 +0.4
comp=Z,13nm,0.8s
UOSS Minazif 95.35 295 eP P 15 52 43.0 -2.0
comp=Z,1.8nm,1.0s
PFO Pinyon Flats O 95.43 57 P P 15 52 45.7 +0.3
baz=268,SNR=6.5
PFO Pinyon Flats O 95.43 57 eP P 15 52 46.3 +1.0
PFO pmax pmax
comp=Z,11nm,1.0s
PFO Pinyon Flats O 95.43 57 eP P 15 52 46.3 +1.0
comp=Z,11nm,1.0s
TPFO Pinon Flats 95.44 57 P P 15 52 45.8 +0.5
baz=268,SNR=6.1
MONP2 Monument Peak 95.44 58 P P 15 52 46.6 +1.1
baz=268,SNR=6.4
HEC Hector,Ludlow 95.57 56 P P 15 52 46.5 +0.7
baz=268
SHOC Shoshone, Teco 95.65 55 P P 15 52 47.0 +0.9
baz=268,SNR=6.1
IKP In-Ko-Pah, Jac 95.70 58 P P 15 52 47.2 +0.7
baz=268
TPNV Topopah Spring 95.70 53 P P 15 52 46.8 +0.3
baz=269,SNR=12
TPNV Topopah Spring 95.70 53 eP P 15 52 47.2 +0.7
TPNV pmax pmax
comp=Z,18nm,1.1s
TPNV Topopah Spring 95.70 53 eP P 15 52 47.2 +0.7
comp=Z,18nm,1.1s
BELC Belle Mtn. Jos 95.83 56 P P 15 52 47.9 +0.8
baz=268,SNR=10
SWSC Sam W. Stewart 95.97 57 P P 15 52 48.5 +1.0
baz=268
GMRC Granite Mounta 96.13 56 P P 15 52 49.5 +1.1
baz=269,SNR=12
MFID Camas Ranch 96.13 47 eP P 15 52 48.7 +0.5
comp=Z,10.0nm,1.2s
R11A Troy Canyon, C 96.25 52 P P 15 52 49.8 +0.8
baz=269,SNR=7.4
R11A Troy Canyon, C 96.25 52 eP P 15 52 49.4 +0.5
comp=Z,4.9nm,1.2s
BC3 Big Chuckawall 96.27 57 P P 15 52 49.9 +0.8
baz=269,SNR=6.0
YKW3 Yellowknife Ar 96.50 28 eP P 15 52 49.3 0.0
comp=Z,23nm,1.0s
YKA Yellowknife Ar 96.51 28 P P 15 52 49.5 +0.2
comp=Z,11nm,0.8s,baz=276,slow=4.7,SNR=103
YKA pP pP 15 54 43.9 +1.5
comp=Z,4.1nm,1.1s,baz=273,slow=4.6,SNR=3.9
YKA PP PP 15 56 44.6 -7.0
comp=Z,3.2nm,0.9s,baz=272,slow=8.2,SNR=5.9
YKB5 Yellowknife Ar 96.51 28 eP P 15 52 48.5 -0.8
IRM Iron Mountain 96.54 56 Pdiff P 15 52 51.2 +1.0
baz=269
ELK Elko 96.55 50 eP P 15 52 50.9 +0.6
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 96.55 50 eP P 15 52 50.9 +0.6
comp=Z,4.1nm,0.9s
SHPR Sheep Range 96.57 54 eP P 15 52 51.5 +1.1
comp=Z,18nm,1.4s
GLA Glamis 96.78 57 Pdiff P 15 52 52.3 +1.0
baz=269
BSMT Bassoo Peak 96.85 42 eP P 15 52 51.8 +0.4
NEE2 Needles Airpor 96.98 56 Pdiff P 15 52 52.9 +0.8
baz=269
HLID Hailey 97.16 47 Pdiff Pdif 15 52 53.6 +0.7
baz=271
HLID Hailey 97.16 47 eP Pdif 15 52 53.3 +0.4
comp=Z,8.1nm,1.1s
PDMCI Parker Dam,Lak 97.37 56 Pdiff P 15 52 54.6 +0.8
baz=270
WALA Waterton Lakes 97.40 41 ePcP P 15 52 54.7 +0.9
comp=Z,12nm,0.9s
W13A Hualapai Mount 97.59 55 eP P 15 52 56.1 +1.0
comp=Z,26nm,1.8s
MCMT McKenzie Canyo 98.26 46 ePdif P 15 52 58.2 +0.3
MCMT ePKKPbc **PKKPbc** 16 09 27.7 -1.1
DUG Dugway, Tooele 98.40 50 Pdiff P 15 52 58.8 +0.3
baz=271
DUG Dugway, Tooele 98.40 50 eP P 15 52 58.8 +0.3
DUG pmax pmax
comp=Z,9.0nm,1.4s
DUG Dugway, Tooele 98.40 50 ePdif P 15 52 58.8 +0.3
comp=Z,9.2nm,1.4s
DLMT Dillon 98.42 45 ePdif P 15 52 58.7 +0.2
comp=Z,15nm,1.8s
KNB Kanab 98.44 53 eP P 15 52 59.6 +0.8
KNB pmax pmax
comp=Z,15nm,1.3s
KNB Kanab 98.44 53 ePdif P 15 52 59.6 +0.8
comp=Z,15nm,1.3s
214A Organ Pipe Nat 98.48 59 Pdiff P 15 52 59.2 +0.2
baz=270
LRM Limekiln Ridge 98.50 45 ePdif P 15 52 59.0 +0.1
U15A North Rim 98.88 54 ePdif P 15 53 02.1 +1.1
comp=Z,5.5nm,1.0s
MTPU Mount Pierson 98.93 52 ePdif P 15 53 02.0 +0.7
comp=Z,4.8nm,1.1s
BOZ Bozeman (W) 99.08 45 Pdiff Pdif 15 53 01.7 +0.3
baz=273
BOZ Bozeman (W) 99.08 45 eP Pdif 15 53 01.5 +0.1
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 99.08 45 ePdif Pdif 15 53 01.5 +0.1
comp=Z,7.2nm,1.0s
HWUT Hardware Ranch 99.31 49 ePdif Pdif 15 53 02.5 -0.1
comp=Z,5.1nm,0.9s
WUAZ Wupatki 99.64 55 Pdiff Pdif 15 53 04.7 +0.6
baz=271
TPAW Teton Pass 99.68 47 ePdif Pdif 15 53 04.7 +0.4
comp=Z,7.4nm,1.1s
MOOW Moose Ponds 99.81 47 ePdif Pdif 15 53 05.2 +0.4
comp=Z,3.8nm,1.0s
H17A Grant Village 99.90 46 Pdiff Pdif 15 53 06.3 +1.1
baz=273
PD31 Pinedale Array 100.74 47 ePdif Pdif 15 53 08.6 -0.4
PDAR Pinedale Array 100.74 47 P Pdif 15 53 08.8 -0.2
comp=Z,6.1nm,0.8s,baz=252,slow=3.0,SNR=34
PDAR PP PP 15 57 23.9 -0.5
comp=Z,1.2nm,0.8s,baz=276,slow=5.8,SNR=6.5
RLMT Red Lodge 100.78 45 Pdiff Pdif 15 53 09.8 +0.8
baz=274
W18A Petrified Fore 100.99 55 Pdiff Pdif 15 53 10.9 +0.7
baz=272
MVCO Mesa Verde 101.89 53 Pdiff Pdif 15 53 14.9 +0.7
baz=273
LAO LASA Array 102.74 43 Pdiff Pdif 15 53 18.1 +0.6
baz=277
LAO LASA Array 102.74 43 ePdif Pdif 15 53 18.3 +0.8
S22A 4UR Ranch, Cre 103.18 52 Pdiff Pdif 15 53 20.6 +0.6
baz=274
N23A Red Feather La 103.58 49 Pdiff Pdif 15 53 22.4 +0.7
baz=276
N23A Red Feather La 103.58 49 ePdif Pdif 15 53 22.4 +0.7
KLMR Klimovskoe 103.87 332 eP Pdif 15 53 17.7 -4.4
KLMR e 15 57 42.1
KLMR pmax pmax
comp=Z,7.0nm,1.0s
APA Apatity 104.14 339 i P Pdif 15 53 20.5 -2.6
APA pmax pmax
comp=Z,10.0nm,0.8s
APA MLR MLR
comp=Z,400nm,12.0s
SDCO Great Sand Dun 104.23 52 Pdiff Pdif 15 53 25.1 +0.5
baz=275
Q24A Divide 104.39 51 Pdiff Pdif 15 53 25.9 +0.6
baz=276
ZEI Tsey 104.90 313 eP Pdif 15 53 22.9 -4.5
ZEI pmax pmax
comp=Z,13nm,0.6s
ARCES ARCESS Array B 105.81 342 Pdiff Pdif 15 53 29.9 -0.6
comp=Z,2.3nm,0.6s,baz=80,slow=6.8,SNR=17
ARCES PKiKP PKiKP 15 57 39.8 -0.2
comp=Z,3.9nm,0.7s,baz=116,slow=1.5,SNR=14
ARCES ARCESS Array B 105.81 342 P Pdif 15 53 30.0 -0.6
ARCES pmax pmax
comp=Z,2.0nm,0.6s
D27A Center 105.86 42 PKiKP PKiKP 15 57 41.1 +0.3
baz=281
TXAR Lajitas Array 106.44 61 Pdiff Pdif 15 53 34.5 0.0
comp=Z,0.1nm,0.5s,baz=246,slow=3.8,SNR=2.5
TXAR PKiKP PKiKP 15 57 42.7 +0.2
comp=Z,0.5nm,0.7s,baz=321,slow=3.2,SNR=5.6
G29A Hoven 107.32 44 PKiKP PKiKP 15 57 43.8 +0.3
baz=281
C30A Mose, Pekin 107.76 41 PKiKP PKiKP 15 57 44.7 +0.5
baz=283
ULM Lac du Bonnet 108.78 38 PKiKP PKiKP 15 57 44.8 -1.2
comp=Z,4.2nm,0.6s,baz=252,slow=1.9,SNR=4.6
BGNE Belgrade 109.33 48 PKiKP PKiKP 15 57 47.7 +0.3
baz=281
A33A Warroad 109.45 39 PKiKP PKiKP 15 57 48.0 +0.7
baz=286
FIA1 FINESS Array S 109.67 335 ePdif Pdif 15 53 46.1 -1.8
FIA1 ePKiKP PKiKP 15 57 47.3 -0.1
FINES FINESS Array B 109.67 335 Pdiff Pdif 15 53 46.5 -1.4
comp=Z,2.7nm,0.3s,baz=64,slow=5.0,SNR=35
FINES PKiKP PKiKP 15 57 47.0 -0.4
comp=Z,1.3nm,0.3s,baz=88,slow=3.2,SNR=19
G33A Ortonville 109.72 44 PKiKP PKiKP 15 57 48.5 +0.5
baz=284
ECSD EROS Data Cent 109.94 45 PKiKP PKiKP 15 57 48.7 +0.2
baz=283
ECSD EROS Data Cent 109.94 45 ePKiKP PKiKP 15 57 48.4 -0.1
N33A J Bar K, Exete 109.98 48 PKiKP PKiKP 15 57 49.2 +0.5
baz=282
WMOK Wichita Mounta 109.98 55 PKiKP PKiKP 15 57 49.2 +0.4
baz=279
B34A Aery, Baudette 110.04 40 PKiKP PKiKP 15 57 48.8 +0.3
baz=287
D34A Park Rapids 110.08 41 PKiKP PKiKP 15 57 49.3 +0.7
baz=286
U33A Lingo Farm, Me 110.25 53 PKiKP PKiKP 15 57 49.6 +0.3
baz=280
433A Art 110.26 59 PKiKP PKiKP 15 57 49.6 +0.1
baz=277
333A Richland Sprin 110.28 58 PKiKP PKiKP 15 57 49.6 +0.1
baz=277
733A Divot King Ran 110.31 61 PKiKP PKiKP 15 57 49.6 0.0
baz=276
633A Saathoff Ranch 110.33 60 PKiKP PKiKP 15 57 50.0 +0.4
baz=276
P34A Walnut Farm, R 110.68 49 PKiKP PKiKP 15 57 49.9 -0.1
baz=282
X34A Smith Ranch, M 110.78 55 PKiKP PKiKP 15 57 50.3 -0.1
baz=279
534A Blanco 110.87 60 PKiKP PKiKP 15 57 50.9 +0.2
baz=277
334A Lometa 110.91 58 PKiKP PKiKP 15 57 51.0 +0.3
baz=278
434A Burnet 110.95 59 PKiKP PKiKP 15 57 50.6 -0.2
baz=278
034A Hebbronville 111.02 63 PKiKP PKiKP 15 57 51.6 +0.6
baz=276
D36A Goodland 111.38 41 PKiKP PKiKP 15 57 51.2 +0.1
baz=287
C36A Pine Crest Far 111.42 40 PKiKP PKiKP 15 57 51.4 +0.3
baz=288
T35A Sooner Cattle 111.44 52 PKiKP PKiKP 15 57 51.9 +0.3
baz=281
S35A Otter Creek Ra 111.44 51 PKiKP PKiKP 15 57 52.1 +0.6
baz=281
W35A Tecumseh 111.46 54 PKiKP PKiKP 15 57 51.7 +0.1
baz=280
F36A Milaca 111.52 42 PKiKP PKiKP 15 57 51.6 +0.2
baz=286
435B Jarrell 111.54 59 PKiKP PKiKP 15 57 52.1 +0.2
baz=278
G36A St. Michael 111.55 43 PKiKP PKiKP 15 57 51.9 +0.4
baz=286
K36A Gilmore City 111.74 46 PKiKP PKiKP 15 57 51.9 0.0
baz=285
SUMG Summit 111.86 3 ePKiKP PKiKP 15 57 52.4 +0.6
SUMG Summit 111.86 3 ePKiKP PKiKP 15 57 52.4 +0.6
D37A Cotton 111.87 41 PKiKP PKiKP 15 57 52.3 +0.3
baz=288
T36A Boggs Farm, Ca 111.91 52 PKiKP PKiKP 15 57 52.5 +0.1
baz=281
X36A Centrahoma 111.99 55 PKiKP PKiKP 15 57 52.2 -0.4
baz=280
W36A Wetumka 111.99 54 PKiKP PKiKP 15 57 52.3 -0.3
baz=280
V36A Jenks 112.10 53 PKiKP PKiKP 15 57 52.6 -0.2
baz=281
Y36A Durant 112.16 55 PKiKP PKiKP 15 57 52.6 -0.3
baz=280
236A Katherine and 112.26 57 PKiKP PKiKP 15 57 52.7 -0.5
baz=279
M37A Trindle Farm, 112.33 47 PKiKP PKiKP 15 57 52.3 -0.7
baz=284
P37A Lathrop 112.55 49 PKiKP PKiKP 15 57 53.1 -0.4
baz=283
S37A Fort Scott 112.58 51 PKiKP PKiKP 15 57 53.4 -0.2
baz=282
W37B Quinton 112.63 54 PKiKP PKiKP 15 57 53.7 -0.2
baz=281
U37A Salina 112.64 52 PKiKP PKiKP 15 57 53.4 -0.4
baz=282
T37A Cheneyville 18 112.65 52 PKiKP PKiKP 15 57 53.8 0.0
baz=282
AKASG Malin Array Be 112.67 324 Pdiff Pdif 15 54 00.1 -1.4
comp=Z,0.3nm,0.4s,baz=21,slow=2.9,SNR=3.0
AKASG PKiKP PKiKP 15 57 51.8 -1.6
comp=Z,3.4nm,0.4s,baz=62,slow=2.4,SNR=9.9
AKBB Malin Array Si 112.67 324 ePKiKP PKiKP 15 57 53.1 -0.3
AKBB Malin Array Si 112.67 324 ePKiKP PKiKP 15 57 53.0 -0.3
KIEV Kiev 112.68 324 i PKiKP PKiKP 15 57 52.7 -0.7
AK11 Malin Array Si 112.71 324 ePKiKP PKiKP 15 57 52.3 -1.2
V37A Hulbert 112.72 53 PKiKP PKiKP 15 57 53.9 0.0
baz=281
I38A Scanlan Farm, 112.85 44 PKiKP PKiKP 15 57 54.0 0.0
baz=287
L38A Oak Wood Farm, 112.93 46 PKiKP PKiKP 15 57 53.7 -0.5
baz=286
M38A Pleasantville 112.95 47 PKiKP PKiKP 15 57 53.6 -0.6
baz=285
BRTR Keskin Array B 113.06 311 PKiKP PKiKP 15 57 54.2 -0.5
comp=Z,2.7nm,0.7s,baz=116,slow=2.9,SNR=16
P38A Dawn 113.15 49 PKiKP PKiKP 15 57 54.3 -0.4
baz=284
T38A Diamond 113.15 52 PKiKP PKiKP 15 57 54.4 -0.4
baz=282
X38A Whitesboro 113.20 54 PKiKP PKiKP 15 57 54.5 -0.4
baz=281
U38A Gravette 113.21 52 PKiKP PKiKP 15 57 55.0 +0.1
baz=282
V38A Canehill 113.31 53 PKiKP PKiKP 15 57 54.6 -0.5
baz=282
W38A Poteau 113.38 54 PKiKP PKiKP 15 57 55.2 -0.1
baz=281
BR231 Keskin MP Arra 113.68 312 ePKiKP PKiKP 15 57 54.9 -1.0
Q39A Willow Grove F 113.71 49 PKiKP PKiKP 15 57 55.3 -0.4
baz=284
S39A Bolivar 113.76 51 PKiKP PKiKP 15 57 55.3 -0.6
baz=283
P39B Salisbury 113.77 49 PKiKP PKiKP 15 57 55.2 -0.7
baz=284
X39A Fountain Ranch 113.81 54 PKiKP PKiKP 15 57 55.8 -0.3
baz=281
T39A Clever 113.87 51 PKiKP PKiKP 15 57 55.4 -0.8
baz=283
V39A Pettigrew 113.92 53 PKiKP PKiKP 15 57 55.9 -0.5
baz=282
U39A Green Forest 113.93 52 PKiKP PKiKP 15 57 55.9 -0.4
baz=283
W39A Magazine 113.94 54 PKiKP PKiKP 15 57 56.0 -0.3
baz=282
SORM Soroca 114.15 321 i P PKPdf 15 57 55.6 -0.7
SORM Soroca 114.15 321 i PKiKP PKPdf 15 57 55.6 -0.7
MIAR Mount Ida 114.24 54 PKiKP PKiKP 15 57 57.0 0.0
baz=282
O40A La Belle 114.26 48 PKiKP PKPdf 15 57 56.4 -0.4
baz=285
P40A Paris 114.28 49 PKiKP PKPdf 15 57 56.6 -0.3
baz=285
Q40A Laux Farm, Aux 114.40 49 PKiKP PKPdf 15 57 56.5 -0.6
baz=285
S40A Lebanon 114.42 51 PKiKP PKPdf 15 57 56.3 -0.9
baz=284
R40A Maddies Statio 114.43 50 PKiKP PKPdf 15 57 56.7 -0.5
baz=284
U40A Yellville 114.43 52 PKiKP PKPdf 15 57 56.6 -0.7
baz=283
V41A Mountainview 115.11 53 PKiKP PKPdf 15 57 57.8 -0.8
baz=283
T41A Mountain View 115.12 51 PKiKP PKPdf 15 57 57.9 -0.7
baz=284
W41B Gary Mavity, V 115.17 53 PKiKP PKPdf 15 57 58.3 -0.4
baz=283
Q42A Golden Eagle 115.58 49 PKiKP PKiKP 15 57 59.7 +0.3
baz=286
HARR Harsova 115.66 318 i P PKPdf 15 57 59.8 +0.5
HARR Harsova 115.66 318 i PKiKP PKPdf 15 57 59.8 +0.5
V42A Cord 115.71 52 PKiKP PKPdf 15 57 59.1 -0.7
baz=284
NB2 NORSAR Subarra 115.72 339 PKPdf PKPdf 15 57 58.5 -0.5
comp=Z,2.0nm,0.7s,baz=44,slow=1.9
NB2 NORSAR Subarra 115.72 339 PKPdf PKPdf 15 57 58.5 -0.5
baz=44,slow=1.9
NOA NORSAR Array B 115.72 339 PKP PKPdf 15 57 58.5 -0.5
comp=Z,6.4nm,0.8s,baz=49,slow=1.9,SNR=24
NOA SKP 16 00 45.4
comp=Z,1.1nm,0.8s,baz=35,slow=1.9,SNR=3.9
NC602 NORSAR Array S 115.81 339 ePKPdf PKPdf 15 57 58.0 -1.1
KLNR Kaliningrad 115.81 330 ePKiKP PKPdf 15 57 59.5 +0.2
NBO02 NORSAR Array S 115.84 339 ePKPdf PKPdf 15 57 58.9 -0.3
MSAB Monastry St. A 115.94 317 i P PKPdf 15 57 59.9 0.0
VRI Vrincioaia 116.02 319 i P PKPdf 15 57 59.8 -0.3
VRI Vrincioaia 116.02 319 i PKiKP PKPdf 15 57 59.8 -0.3
BUR08 Bucovina Ar. S 116.29 322 ePKPdf PKPdf 15 58 00.7 0.0
BURAR Bucovina Array 116.30 322 i P PKPdf 15 58 01.2 +0.6
BURAR Bucovina Array 116.30 322 i PKiKP PKPdf 15 58 01.2 +0.6
AKN Aaknes 116.31 342 eP PKPdf 15 58 00.4 +0.3
MLR Muntele Rosu 116.67 319 i P PKPdf 15 58 01.3 -0.2
MLR Muntele Rosu 116.67 319 i PKiKP PKPdf 15 58 01.3 -0.2
DOPR Dopca 116.85 320 i P PKPdf 15 58 02.1 +0.5
S44A Carbondale 116.88 50 PKiKP PKPdf 15 58 01.4 -0.5
baz=286
244A Avery, Jackson 117.13 56 PKiKP PKiKP 15 58 02.6 +0.1
baz=282
344A Westbrook Farm 117.22 57 PKiKP PKPdf 15 58 02.6 -0.2
baz=282
VBMS Vicksburg 117.23 56 PKiKP PKPdf 15 58 02.6 -0.1
baz=283
VOIR 117.28 320 i P PKPdf 15 58 03.6 +1.0
VOIR 117.28 320 i PKiKP PKPdf 15 58 03.6 +1.0
HYA Hoyanger 117.33 341 eP PKPdf 15 58 02.5 +0.5
HYA IAmb IAmb 15 58 02.6
comp=Z,8.2nm,0.9s
FOO Floro 117.36 342 eP PKPdf 15 58 02.1 0.0
FOO IAmb IAmb 15 58 02.7
comp=Z,24nm,0.9s
S45A Carrier Mills 117.40 50 PKiKP PKPdf 15 58 02.3 -0.6
baz=287
KOLS Kolonicke sedl 117.50 324 ePKiKP PKPdf 15 58 03.6 +0.8
KOLS Kolonicke sedl 117.50 324 ePKP PKPdf 15 58 03.6 +0.8
SZH Strazhica 117.51 317 eP PKPdf 15 58 02.7 -0.3
BOSA Boshof 117.52 235 PKP PKPdf 15 58 02.5 -1.1
comp=Z,1.5nm,0.4s,baz=97,slow=0.7,SNR=8.1
OXF Oxford 117.60 53 ePKiKP PKPdf 15 58 03.0 -0.4
OXF Oxford 117.60 53 ePKPdf PKPdf 15 58 03.0 -0.4
145A Houston Renfro 117.63 56 PKiKP PKiKP 15 58 03.8 +0.2

	baz=283							
V45A	**Humboldt**	**117.64**	**52**	PKiKP	**PKiKP**	15 58 03.9	+0.5	
	baz=286							
Y45A	**Yeager Farm, C**	**117.65**	**54**	PKiKP	**PKiKP**	15 58 03.6	0.0	
	baz=284							
SFIN	**Lafayette**	**117.68**	**46**	PKiKP	**PKPdf**	15 58 03.2	-0.2	
	baz=289							
SFIN	**Lafayette**	**117.68**	**46**	*e*PKPdf	**PKPdf**	15 58 02.4	-0.9	
STHS	**Stebnicka Huta**	**117.87**	**325**	*e*PKiKP	**PKPdf**	15 58 03.8	+0.3	
STHS	**Stebnicka Huta**	**117.87**	**325**	*e*PKP	**PKPdf**	15 58 03.8	+0.3	
CRVS	**Cervenica-Dubn**	**117.98**	**324**	*e*PKiKP	**PKPdf**	15 58 03.7	0.0	
CRVS	**Cervenica-Dubn**	**117.98**	**324**	*e*PKP	**PKPdf**	15 58 03.7	0.0	
ODD1	**Odda**	**118.12**	**340**	*e*P	**PKPdf**	15 58 04.0	+0.3	
ASK	**Askoy**	**118.17**	**341**	*e*P	**PKPdf**	15 58 03.8	+0.1	
DRGR		**118.19**	**322**	⇑*i*P	**PKPdf**	15 58 03.7	-0.6	
DRGR		**118.19**	**322**	⇑PKiKP	**PKPdf**	15 58 03.7	-0.6	
OJC	**Ojcow**	**118.29**	**326**	*e*PKP	**PKPdf**	15 58 04.3	0.0	
OJC	**Ojcow**	**118.29**	**326**	*e*PKiKP	**PKPdf**	15 58 04.3	0.0	
OJC	**Ojcow**	**118.29**	**326**	*e*PKPdf	**PKPdf**	15 58 03.8	-0.4	
NIE	**Niedzica**	**118.41**	**325**	*e*PKP	**PKPdf**	15 58 05.0	+0.4	
NIE	**Niedzica**	**118.41**	**325**	*e*PKiKP	**PKPdf**	15 58 05.0	+0.4	
446A	**Poplarville**	**118.50**	**57**	PKiKP	**PKPdf**	15 58 05.1	-0.1	
	baz=283							
BLS5	**Blasjo**	**118.54**	**340**	*e*P	**PKPdf**	15 58 04.7	+0.2	
BLS5				IAmb	IAmb	15 58 05.5		
	comp=Z,21nm,0.9s							
HOMB	**Homborsund**	**118.64**	**338**	*e*P	**PKPdf**	15 58 04.3	-0.4	
HOMB				IAmb	IAmb	15 58 05.2		
	comp=Z,11nm,0.7s							
GZR	**Gura Zlata**	**118.75**	**320**	⇑*i*P	**PKPdf**	15 58 04.8	-0.6	
GZR	**Gura Zlata**	**118.75**	**320**	⇑PKiKP	**PKPdf**	15 58 04.8	-0.6	
247A	**Quitman**	**118.84**	**56**	PKiKP	**PKiKP**	15 58 06.0	+0.1	
	baz=284							
MPEP	**Malo Peshtene**	**118.96**	**318**	*e*P	**PKPdf**	15 58 05.7	-0.1	
Y47A	**UCPARC, Winfie**	**119.00**	**54**	PKiKP	**PKPdf**	15 58 05.9	-0.2	
	baz=285							
LANS	**Liptovska Anna**	**119.01**	**325**	*e*PKiKP	**PKPdf**	15 58 06.8	+1.1	
LANS	**Liptovska Anna**	**119.01**	**325**	*e*PKP	**PKPdf**	15 58 06.8	+1.1	
SNART	**Snartemo**	**119.07**	**339**	*e*P	**PKPdf**	15 58 05.8	+0.3	
KMY	**Karmoy**	**119.11**	**340**	*e*P	**PKPdf**	15 58 05.7	+0.2	
KMY				IAmb	IAmb	15 58 06.1		
	comp=Z,9.1nm,0.6s							
KARP	**Karpathos**	**119.12**	**308**	*e*PKPdf	**PKPdf**	15 58 05.8	-0.6	
LSZ	**Lusaka**	**119.12**	**250**	*e*PKiKP	**PKPdf**	15 58 05.5	-1.5	
LSZ	**Lusaka**	**119.12**	**250**	*e*PKPdf	**PKPdf**	15 58 05.5	-1.5	
PSZ	**Piszkesteto**	**119.37**	**324**	*e*PKiKP	**PKPdf**	15 58 05.2	-1.3	
PSZ	**Piszkesteto**	**119.37**	**324**	*e*PKPdf	**PKPdf**	15 58 05.2	-1.3	
Z48A	**Northport**	**119.38**	**54**	PKiKP	**PKPdf**	15 58 06.3	-0.5	
	baz=285							
OKC	**Ostrava-Krasne**	**119.40**	**326**	*e*PKPdf	**PKPdf**	15 58 06.7	+0.3	
OKC	**Ostrava-Krasne**	**119.40**	**326**	*e*PKiKP	**PKPdf**	15 58 06.7	+0.3	
MDVR	**Moldovita**	**119.70**	**320**	||*i*P	**PKPdf**	15 58 06.7	-0.5
VYHS	**Vyhne**	**119.70**	**325**	*e*PKiKP	**PKPdf**	15 58 06.7	-0.4
VYHS	**Vyhne**	**119.70**	**325**	*e*PKP	**PKPdf**	15 58 06.7	-0.4
MORC	**Moravsky Berou**	**119.77**	**327**	*e*PKiKP	**PKPdf**	15 58 06.9	-0.3
MORC	**Moravsky Berou**	**119.77**	**327**	*e*PKPdf	**PKPdf**	15 58 06.9	-0.3
KSP	**Ksiaz**	**119.86**	**328**	*e*PKP	**PKPdf**	15 58 07.5	+0.2
KSP	**Ksiaz**	**119.86**	**328**	*e*PKiKP	**PKPdf**	15 58 07.5	+0.2
LRAL	**Lakeview Retre**	**119.92**	**54**	*e*PKPdf	**PKPdf**	15 58 06.7	-1.2
DPC	**Dobruska-Polom**	**120.11**	**328**	*e*PKPdf	**PKPdf**	15 58 08.2	+0.4
DPC				*e*PP	**PP**	15 59 40.8	-0.3	
DPC	**Dobruska-Polom**	**120.11**	**328**	*e*PKiKP	**PKPdf**	15 58 08.2	+0.4
DPC				*e*		15 59 40.8		
SWET	**Sewanee**	**120.16**	**52**	*e*PKPdf	**PKPdf**	15 58 06.8	-1.6	
UPC	**Upice**	**120.19**	**328**	*e*PKPdf	**PKPdf**	15 58 08.2	+0.3	
UPC	**Upice**	**120.19**	**328**	*e*PKiKP	**PKPdf**	15 58 08.2	+0.3	
SANT	**Santorini**	**120.19**	**310**	*e*PKPdf	**PKPdf**	15 58 06.8	-1.6	
LRW	**Lerwick**	**120.36**	**344**	*e*P	**PKPdf**	15 58 07.6	-0.3	
LAST	**Lasithi**	**120.55**	**308**	*e*PKPdf	**PKPdf**	15 58 08.7	-0.5	
ACSO	**Alum Creek Sta**	**120.67**	**45**	*e*PKPdf	**PKPdf**	15 58 08.6	-0.5	
PVCC	**Panska Ves**	**120.94**	**329**	*e*PKPdf	**PKPdf**	15 58 09.7	+0.4	
PVCC	**Panska Ves**	**120.94**	**329**	*e*PKiKP	**PKPdf**	15 58 09.7	+0.4	
IDI	**Anoyia**	**120.97**	**309**	*e*PKPdf	**PKPdf**	15 58 09.6	-0.4	
BRG	**Berggiesshubel**	**121.06**	**329**	*i* PKP	**PKPdf**	15 58 09.4	-0.1	
	comp=Z,30nm,1.0s							
BRG				pPKP	**pPKPdf**	16 00 12.3	+3.1	
	comp=Z,11nm,1.1s							
BRG	**Berggiesshubel**	**121.06**	**329**	*i* PKiKP	**PKPdf**	15 58 09.4	-0.1	
BRG				pmax	pmax			
	comp=Z,30nm,1.0s							
TREC	**Trest**	**121.15**	**327**	*e*PKPdf	**PKPdf**	15 58 09.9	+0.1	
TREC				*ep*PKP	**pPKPdf**	16 00 13.2	+3.7	
TREC	**Trest**	**121.15**	**327**	*e*PKiKP	**PKPdf**	15 58 09.9	+0.1	
GOPC	**GO Pecny, Ondr**	**121.18**	**328**	*e*PKPdf	**PKPdf**	15 58 10.0	+0.1	
GOPC	**GO Pecny, Ondr**	**121.18**	**328**	*e*PKiKP	**PKPdf**	15 58 10.0	+0.1	
CPCT	**Cooper Cave**	**121.19**	**51**	*e*PKPdf	**PKPdf**	15 58 09.6	-0.7	
PRU	**Pruhonice**	**121.27**	**328**	*e*PKPdf	**PKPdf**	15 58 10.1	+0.1	
PRU	**Pruhonice**	**121.27**	**328**	*e*PKiKP	**PKPdf**	15 58 10.1	+0.1	
CLL	**Collm**	**121.28**	**330**	||*i*PKPdf	**PKPdf**	15 58 09.8	-0.1
	comp=Z,25nm,1.0s							
CLL				*e*PP	**PP**	15 59 50.0	+1.3	
CLL				*ep*PKPdf	**pPKPdf**	16 00 10.0	+0.3	
CLL	**Collm**	**121.28**	**330**	*e*PKiKP	**PKPdf**	15 58 09.9	0.0	
CLL	**Collm**	**121.28**	**330**	*e*PKPdf	**PKPdf**	15 58 09.9	0.0	
SADO	**Sadowa**	**121.32**	**39**	*e*PKPdf	**PKPdf**	15 58 09.7	-0.5	
TZTN	**Tazewell**	**121.58**	**50**	*e*PKPdf	**PKPdf**	15 58 10.9	-0.1	
AGG	**Agios Georgios**	**121.61**	**314**	*e*PKiKP	**PKPdf**	15 58 10.0	-1.0	
AGG	**Agios Georgios**	**121.61**	**314**	*e*PKPdf	**PKPdf**	15 58 10.0	-1.0	
CONA	**Conrad Observa**	**121.69**	**325**	*i* PKiKP	**PKPdf**	15 58 10.9	-0.1	
	comp=Z,13nm,0.8s,SNR=8.9							
TKL	**Tuckaleechee C**	**121.70**	**51**	*e*PKiKP	**PKPdf**	15 58 11.4	+0.1	
TKL	**Tuckaleechee C**	**121.70**	**51**	*e*PKPdf	**PKPdf**	15 58 11.4	+0.1	
SCHQ	**Schefferville**	**121.73**	**24**	PKP	**PKPdf**	15 58 10.6	-0.2	
	comp=Z,7.7nm,0.7s,baz=14,slow=5.8,SNR=5.9							
NKC	**Novy Kostel**	**122.21**	**329**	*e*PKPdf	**PKPdf**	15 58 12.1	+0.3	
NKC	**Novy Kostel**	**122.21**	**329**	*e*PKiKP	**PKPdf**	15 58 12.1	+0.3	
ARSA	**Arzberg**	**122.25**	**325**	*i* PKiKP	**PKPdf**	15 58 11.5	-0.5	
	comp=Z,9.0nm,1.0s,SNR=5.3							
KHC	**Kasperske Hory**	**122.27**	**328**	*e*PKPdf	**PKPdf**	15 58 12.0	0.0	
KHC				*ex*	x	15 58 32.5		
KHC				*ep*PKP	**pPKPdf**	16 00 11.5	-0.2	
KHC	**Kasperske Hory**	**122.27**	**328**	*e*PKiKP	**PKPdf**	15 58 12.0	0.0	
KHC				*e*		16 00 11.5		
GEC2	**GERESS Array S**	**122.37**	**327**	*e*PKiKP	**PKPdf**	15 58 12.2	-0.1	
GEC2	**GERESS Array S**	**122.37**	**327**	*e*PKPdf	**PKPdf**	15 58 12.2	-0.1	
GERES	**GERESS Array B**	**122.37**	**327**	PKP	**PKPdf**	15 58 12.0	-0.3	
	comp=Z,14nm,0.7s,baz=48,slow=2.0,SNR=90							
GERES				pPKP	**pPKPdf**	16 00 14.2	+2.2	
	comp=Z,3.1nm,0.8s,baz=90,slow=1.3,SNR=9.0							
GEA0	**GERESS Array S**	**122.38**	**327**	*e*PKPdf	**PKPdf**	15 58 11.7	-0.6	
M54A	**Oil Creek Stat**	**122.45**	**43**	PKiKP	**PKPdf**	15 58 12.1	-0.5	
	baz=296							
N54A	**Moraine State**	**122.47**	**43**	PKiKP	**PKPdf**	15 58 12.3	-0.3	
	baz=295							
MLA1	**Latheron**	**122.52**	**344**	*e*P	**PKPdf**	15 58 11.5	-0.6	
MOA	**Molln**	**122.63**	**326**	*i* PKiKP	**PKPdf**	15 58 12.2	-0.5	
	comp=Z,7.7nm,0.8s							
WET	**Wettzell**	**122.64**	**328**	PKiKP	**PKPdf**	15 58 12.9	+0.2	
GOGA	**Godfrey**	**122.65**	**53**	*e*PKiKP	**PKPdf**	15 58 12.2	-0.9	
GOGA	**Godfrey**	**122.65**	**53**	*e*PKPdf	**PKPdf**	15 58 12.2	-0.9	
SOKA	**Soboth**	**122.85**	**325**	*i* PKiKP	**PKPdf**	15 58 12.7	-0.5	
	comp=Z,20nm,0.9s,SNR=10							
GOLS	**Golise**	**122.86**	**324**	*i* PKPdf	**PKPdf**	15 58 13.1	-0.1	
MCD	**Coleburn Disti**	**123.10**	**343**	*e*P	**PKPdf**	15 58 12.3	-0.9	
MCD				*e*P	**PKiKP**	15 58 12.9	-0.6	
TIGA	**Tifton**	**123.13**	**55**	PKiKP	**PKiKP**	15 58 14.3	-0.1	
	baz=287							
OBKA	**Obir**	**123.22**	**325**	*i* PKiKP	**PKPdf**	15 58 13.6	-0.4	
	comp=Z,9.1nm,1.0s							
MME1	**Meikle Cairn**	**123.24**	**343**	*e*P	**PKPdf**	15 58 12.9	-0.6	
MME1				*e*P	**PKiKP**	15 58 13.1	-0.8	
BOJS	**Bojanci**	**123.35**	**323**	*i* PKPdf	**PKPdf**	15 58 14.1	0.0	
VNDS	**Vrh nad Dolski**	**123.35**	**324**	*i* PKPdf	**PKPdf**	15 58 13.9	-0.3	
VISS	**Visnje**	**123.44**	**324**	*i* PKPdf	**PKPdf**	15 58 14.1	-0.2	
MDO	**Dochfour**	**123.53**	**344**	*e*P	**PKPdf**	15 58 13.7	-0.4	
MDO				*e*P	**PKiKP**	15 58 13.9	-0.5	
KBA	**Koelnbreinsper**	**123.59**	**326**	*i* PKPdf	**PKPdf**	15 58 13.8	-1.0	
	comp=Z,18nm,1.1s,SNR=7.0							
KBA	**Koelnbreinsper**	**123.59**	**326**	PKiKP	**PKPdf**	15 58 13.7	-1.0	
MYKA	**Terra Mystica**	**123.67**	**325**	*i* PKPdf	**PKPdf**	15 58 14.0	-0.8	
	comp=Z,13nm,0.9s							
BLA	**Blacksburg**	**123.67**	**48**	*e*PKiKP	**PKPdf**	15 58 14.8	-0.3	
BLA	**Blacksburg**	**123.67**	**48**	*e*PKPdf	**PKPdf**	15 58 14.8	-0.3	
KAC	**Achnashellach**	**123.74**	**344**	*e*P	**PKPdf**	15 58 14.6	+0.1	
O56A	**Blue Knob Stat**	**123.74**	**44**	PKiKP	**PKPdf**	15 58 15.0	-0.1	
	baz=296							
KMSC	**Kings Mountain**	**123.75**	**50**	PKiKP	**PKPdf**	15 58 15.3	+0.1	
	baz=291							
KMSC	**Kings Mountain**	**123.75**	**50**	*e*PKPdf	**PKPdf**	15 58 15.1	-0.1	
JAVS	**Javornik**	**123.84**	**324**	*i* PKPdf	**PKPdf**	15 58 14.6	-0.6	
KSB	**Sheil Bridge**	**124.03**	**344**	*e*P	**PKPdf**	15 58 15.0	0.0	
SSPA	**Standing Stone**	**124.04**	**43**	*e*PKPdf	**PKPdf**	15 58 15.5	-0.1	
JSC	**Jenkinsville**	**124.10**	**51**	*e*PKiKP	**PKPdf**	15 58 16.0	+0.1	
JSC	**Jenkinsville**	**124.10**	**51**	*e*PKPdf	**PKPdf**	15 58 16.0	+0.1	
LONY	**Lake Ozonia**	**124.21**	**37**	*e*PKPdf	**PKPdf**	15 58 14.9	-0.9	
ABTA	**Abfaltersbach**	**124.24**	**326**	*i* PKPdf	**PKPdf**	15 58 15.2	-0.8	
	comp=Z,33nm,1.0s,SNR=11							
ESY	**Stoneypath**	**124.31**	**342**	*e*P	**PKPdf**	15 58 15.5	-0.1	
WATA	**Walderalm**	**124.41**	**327**	*i* PKiKP	**PKPdf**	15 58 15.8	-0.5	
	comp=Z,25nm,1.0s,SNR=7.2							
WTTA	**Wattenberg**	**124.42**	**327**	*i* PKiKP	**PKPdf**	15 58 16.3	-0.1	
	comp=Z,32nm,0.9s,SNR=11							
BINY	**Binghamton**	**124.57**	**40**	*e*PKPdf	**PKPdf**	15 58 16.5	-0.1	
MOTA	**Moosalm**	**124.67**	**327**	*i* PKiKP	**PKPdf**	15 58 16.4	-0.4	
	comp=Z,31nm,0.8s,SNR=17							
SQTA	**Sankt Quirin**	**124.68**	**327**	*e*PKiKP	**PKPdf**	15 58 16.9	+0.1	
	comp=Z,12nm,0.8s							
FRNY	**Flat Rock**	**124.69**	**37**	*e*PKPdf	**PKPdf**	15 58 16.0	-0.7	
RETA	**Reutte**	**124.76**	**327**	*i* PKiKP	**PKPdf**	15 58 16.6	-0.3	
	comp=Z,17nm,1.1s,SNR=5.0							
LMQ	**La Malbaie**	**124.95**	**32**	*e*PKPdf	**PKPdf**	15 58 16.4	-0.8	
FETA	**Feichten**	**125.06**	**327**	*i* PKiKP	**PKPdf**	15 58 17.5	0.0	
	comp=Z,39nm,1.0s,SNR=12							
MEM	**Membach**	**125.08**	**333**	PKP	**PKPdf**	15 58 17.8	+0.5	
ECK	**Cauldkaine Hil**	**125.08**	**342**	*e*P	**PKPdf**	15 58 17.2	+0.1	
BWH	**Wardlaw**	**125.25**	**342**	*e*P	**PKPdf**	15 58 17.5	+0.1	
SDMD	**Soldier's Deli**	**125.31**	**44**	*e*PKPdf	**PKPdf**	15 58 17.9	-0.2	
N59A	**State Game Lan**	**125.33**	**42**	PKiKP	**PKPdf**	15 58 18.1	0.0	
	baz=299							
LANF	**Langenberg**	**125.34**	**330**	PKP	**PKPdf**	15 58 18.2	+0.3	
DAVA	**Damuels**	**125.36**	**328**	*i* PKiKP	**PKPdf**	15 58 18.1	-0.1	
	comp=Z,31nm,0.8s,SNR=8.4							
MVL	**Millersville**	**125.38**	**43**	*e*PKPdf	**PKPdf**	15 58 18.1	0.0	
MDV	**Middlebury**	**125.39**	**37**	*e*PKPdf	**PKPdf**	15 58 17.9	-0.2	
BBO1	**Bothel**	**125.49**	**341**	*e*P	**PKPdf**	15 58 18.2	+0.3	
TIP	**Timpagrande**	**125.49**	**316**	*e*PKPdf	**PKPdf**	15 58 18.3	-0.3	
BFO	**Black Forest**	**125.50**	**329**	*e*PKiKP	**PKPdf**	15 58 17.4	-0.8	
BFO	**Black Forest**	**125.50**	**329**	*e*PKPdf	**PKPdf**	15 58 17.4	-0.8	
BCLA	**Clavier**	**125.53**	**333**	PKP	**PKPdf**	15 58 18.9	+0.8	
FUORN	**Ofenpass-Fuorn**	**125.56**	**327**	*e*PKPdf	**PKPdf**	15 58 18.7	0.0	
KESW	**Keswick, Cumbr**	**125.57**	**341**	*e*P	**PKPdf**	15 58 18.3	+0.2	
KESW				AMB	AMB	15 58 19.2		
	comp=Z,64nm,1.1s							
URVA	**University of**	**125.63**	**46**	*e*PKPdf	**PKPdf**	15 58 18.4	-0.3	
WLF	**Walferdange**	**125.67**	**332**	PKP	**PKPdf**	15 58 19.6	+1.1	
WLF	**Walferdange**	**125.67**	**332**	*e*PKiKP	**PKPdf**	15 58 18.3	-0.1	
WLF	**Walferdange**	**125.67**	**332**	*e*PKPdf	**PKPdf**	15 58 18.3	-0.1	
CUC	**Castrocucco**	**125.76**	**317**	*e*PKPdf	**PKPdf**	15 58 18.1	-0.9	
TRY	**Troy**	**125.77**	**39**	*e*PKPdf	**PKPdf**	15 58 18.4	-0.4	
SNF	**Seneffe**	**125.93**	**334**	PKP	**PKPdf**	15 58 19.6	+0.7	
CDF	**Champ du Feu**	**125.98**	**330**	*e*PKiKP	**PKPdf**	15 58 18.3	-0.9	
CDF				pmax	pmax			
	comp=Z,21nm,1.2s							
ODNJ	**Ogdensburg**	**126.02**	**41**	*e*PKPdf	**PKPdf**	15 58 19.4	0.0	
DOU	**Dourbes**	**126.08**	**333**	PKP	**PKPdf**	15 58 20.0	+0.8	
HNH	**Hanover**	**126.09**	**37**	*e*PKPdf	**PKPdf**	15 58 20.0	+0.6	
ECH	**Echery**	**126.17**	**330**	PKP	**PKPdf**	15 58 19.1	-0.4	
BRNJ	**Basking Ridge**	**126.25**	**41**	*e*PKPdf	**PKPdf**	15 58 20.0	+0.2	
BAIF	**Baives**	**126.28**	**333**	*e*PKiKP	**PKPdf**	15 58 19.6	0.0	
BAIF				pmax	pmax			
	comp=Z,19nm,1.0s							
MOF	**Molkenrain**	**126.42**	**330**	PKP	**PKPdf**	15 58 20.0	-0.1	
CWF	**Charnwood Fore**	**126.47**	**339**	*e*PKPdf	**PKPdf**	15 58 19.7	-0.2	
HINF	**Hinteralfeld**	**126.58**	**330**	*e*PKiKP	**PKPdf**	15 58 19.6	-0.7	
HINF				pmax	pmax			
	comp=Z,45nm,1.1s							
QUA2	**Belchertown**	**126.84**	**39**	*e*PKPdf	**PKPdf**	15 58 21.1	+0.2	
LOMF	**Lomont**	**126.91**	**329**	PKP	**PKPdf**	15 58 20.8	-0.2	
PKME	**Peaks-Kenny Pk**	**126.92**	**34**	*e*PKPdf	**PKPdf**	15 58 20.9	0.0	
WLF1	**Llynfaes**	**127.08**	**341**	*e*P	**PKPdf**	15 58 21.4	+0.4	
WVL	**Waterville**	**127.14**	**35**	*e*PKPdf	**PKPdf**	15 58 21.1	-0.2	
SENN	**Lac Senin/Sane**	**127.31**	**328**	*e*PKPdf	**PKPdf**	15 58 22.0	0.0	
WOL	**Wolverton**	**127.58**	**338**	*e*P	**PKPdf**	15 58 22.6	+0.6	
WOL				AMB	AMB	15 58 24.6		
	comp=Z,84nm,1.6s							
MCH1	**Michaelchurch**	**127.68**	**339**	*e*P	**PKPdf**	15 58 22.1	-0.1	
MCH1				AMB	AMB	15 58 22.4		
	comp=Z,54nm,1.5s							
MONM	**Monmouth**	**127.74**	**339**	*e*P	**PKPdf**	15 58 23.1	+0.8	
CABF	**La Chapelle**	**127.78**	**329**	*e*PKiKP	**PKPdf**	15 58 22.8	+0.1	
CABF				pmax	pmax			
	comp=Z,62nm,1.2s							
LPL	**La Plagne**	**128.17**	**328**	*e*PKiKP	**PKPdf**	15 58 23.5	-0.1	
LPL				pmax	pmax			
	comp=Z,51nm,1.5s							
LPG	**La Plagne**	**128.17**	**328**	*e*PKiKP	**PKPdf**	15 58 23.6	-0.1	
LPG				pmax	pmax			
	comp=Z,25nm,1.0s							
LOR	**Lormes**	**128.44**	**331**	*e*PKiKP	**PKPdf**	15 58 23.8	0.0	
LOR				pmax	pmax			
	comp=Z,47nm,1.6s							
LMN	**Caledonia Moun**	**128.94**	**31**	*e*PKPdf	**PKPdf**	15 58 24.3	-0.5	
AVF	**Avril sur Loir**	**129.02**	**331**	*e*PKiKP	**PKPdf**	15 58 25.3	+0.4	
AVF				pmax	pmax			
	comp=Z,50nm,2.1s							
FLN	**La Foliniere**	**129.29**	**335**	*e*PKiKP	**PKPdf**	15 58 25.2	-0.2	
FLN				pmax	pmax			
	comp=Z,51nm,1.1s							
PLDF	**La Plantade**	**129.47**	**330**	PKP	**PKPdf**	15 58 26.6	+0.7	
SSB	**Saint Sauveur**	**129.47**	**329**	*e*SKPbc	SKPbc	16 01 00.7	+0.3	
AGO	**Saint Agoulin**	**129.65**	**330**	PKP	**PKPdf**	15 58 27.3	+1.1	
VIVF	**Saint-Julien-l**	**129.69**	**328**	*e*PKiKP	**PKPdf**	15 58 26.3	0.0	
VIVF				pmax	pmax			
	comp=Z,30nm,1.2s							
DRLN	**Deer Lake**	**129.71**	**23**	*e*SKPbc	SKPbc	16 01 02.6	+1.5	
GRR	**Gorron**	**129.74**	**335**	*e*PKiKP	**PKPdf**	15 58 26.2	0.0	
GRR				pmax	pmax			
	comp=Z,71nm,1.2s							
PYM	**Petit Puy Mans**	**129.92**	**330**	PKP	**PKPdf**	15 58 28.0	+1.2	
LBL	**Lubilhac**	**130.17**	**330**	PKP	**PKPdf**	15 58 28.5	+1.2	
BCIP	**Isla Barro Col**	**130.33**	**82**	*e*PKPdf	**PKPdf**	15 58 28.3	0.0	
NNA	**Nana**	**130.60**	**110**	*i* PKiKP	**PKPdf**	15 58 31.2	+2.3	
CAF	**Calviac**	**130.98**	**330**	*e*PKiKP	**PKPdf**	15 58 28.5	-0.3	
CAF				pmax	pmax			
	comp=Z,21nm,1.3s							
QUIF	**Quistinic**	**131.06**	**336**	*e*PKiKP	**PKPdf**	15 58 29.2	+0.5	
QUIF				pmax	pmax			
	comp=Z,39nm,1.4s							
OTAV	**Otavalo**	**131.40**	**94**	*e*PKPdf	**PKPdf**	15 58 32.1	+1.1	
OTAV				*e*SKPbc	**SKPab**	16 01 13.5	+3.5	
KEST	**Kesra**	**132.32**	**316**	PKP	**PKPdf**	15 58 31.4	-0.2	
	comp=Z,15nm,0.8s,baz=295,slow=6.1,SNR=13							
KEST	**Kesra**	**132.32**	**316**	*e*PKPdf	**PKPdf**	15 58 31.6	0.0	
KEST				*e*SKPbc	**SKPbc**	16 01 11.4	+0.4	
ROSC	**El Rosal**	**135.82**	**88**	PKP	**PKPdf**	15 58 39.7	+0.5	
	comp=Z,13nm,0.7s,baz=93,slow=4.6,SNR=6.4							
LPAZ	**La Paz**	**136.97**	**120**	PKhKP	PKPpre	15 58 30.6		
	comp=Z,1.0nm,0.5s,baz=322,slow=1.7,SNR=4.5							
LPAZ				PKP	**PKPdf**	15 58 40.5	-0.9	
	comp=Z,4.8nm,0.8s,baz=346,slow=2.1,SNR=10							
LPAZ				SKP		16 01 30.1		
	comp=Z,11nm,1.1s,baz=264,slow=2.2,SNR=12							
LPAZ	**La Paz**	**136.97**	**120**	PKHKP	PKPpre	15 58 30.7		
LPAZ						15 58 40.6		
LPAZ						16 01 30.1		
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.5s							
LPAZ				pmax	pmax			
	comp=Z,23nm,1.3s							
LPAZ				pmax	pmax			
	comp=N,11nm,1.1s							
ES19	**SONSECA Array**	**137.81**	**330**	*e*SKPbc	**SKPbc**	16 01 28.1	+0.2	
ESDC	**Sonseca Array**	**137.86**	**330**	PKhKP	PKPpre	15 58 31.1		
	comp=N,0.3nm,0.4s,baz=39,slow=3.1,SNR=4.9							
ESDC				PKP	**PKPdf**	15 58 41.1	-0.7	
	comp=N,1.7nm,0.6s,baz=27,slow=2.9,SNR=9.7							
ESDC				SKPab	**SKPab**	16 01 36.2	-0.7	
	comp=N,3.7nm,0.8s,baz=29,slow=5.7,SNR=11							
PGAV	**Gavieira, Arco**	**138.01**	**336**	*e*PKPdf	**PKPdf**	15 58 41.9	-0.2	
MVO	**Moncorvo**	**138.14**	**334**	*e*PKPdf	**PKPdf**	15 58 43.0	+0.7	
POLO	**Lamas de Olo**	**138.30**	**335**	*e*PKPdf	**PKPdf**	15 58 43.3	+0.7	
PVIS	**Viseu**	**138.88**	**334**	*e*PKPdf	PKPpre	15 58 35.1		
MTE	**Manteigas**	**138.99**	**334**	*e*PKPdf	**PKPdf**	15 58 44.4	+0.5	
MTE	**Manteigas**	**138.99**	**334**	*e*PKPdf	**PKPdf**	15 58 44.4	+0.5	
PCBR	**Castelo Branco**	**139.41**	**333**	*e*PKPdf	PKPpre	15 58 36.6		
SDV	**Santo Domingo**	**139.42**	**82**	*e*PKPdf	**PKPdf**	15 58 46.0	+0.5	
CPUP	**Vila Florida**	**139.45**	**141**	PKP	**PKPdf**	15 58 45.1	+0.1	
	comp=N,5.7nm,0.9s,baz=3.2,slow=7.4,SNR=5.1							
CPUP	**Vila Florida**	**139.45**	**141**	*e*PKPdf	**PKPdf**	15 58 46.2	+1.2	
PMRV	**Marv??o**	**139.72**	**333**	*e*PKPdf	PKPpre	15 58 37.5		
PTOM	**Tomar**	**140.01**	**334**	*e*PKPdf	PKPpre	15 58 38.5		
PMTG	**Montargil**	**140.38**	**333**	*e*PKPdf	PKPpre	15 58 39.6		
PBAR	**Barrancos**	**140.54**	**331**	*e*PKPdf	**PKPdf**	15 58 47.8	+1.2	
PMAFR	**Mafra**	**140.94**

1.9nm,0.5s,baz=248,slow=2.5,SNR=11
FINES FINESS Array B 77.02 332 P **P 16 09 13.3 -0.4**
1.3nm,0.7s,baz=123,slow=7.0,SNR=3.4
ARCES ARCESS Array B 79.57 340 P **P 16 09 28.0 +0.3**
0.6nm,0.4s,baz=105,slow=7.6,SNR=6.4
SPITS Spitsbergen Ar 84.05 348 P **P 16 09 51.0 -0.2**
6.5nm,1.1s,baz=129,slow=12,SNR=5.8
KEST Kesra 84.95 305 P **P 16 09 55.6 -1.0**
3.5nm,0.7s,baz=90,slow=5.1,SNR=2.2
TXAR Lajitas Array 141.98 28 PKP **PKPdf 16 16 52.0 -1.6**
0.1nm,0.5s,baz=304,slow=2.1,SNR=2.5

*ISCJB **08** 16:06:13.5±0.3,38.15N±0.03×73.54E±0.05,h107km, mb3.6/9,Error ellipse: s-maj=6.0km s-min=3.7km az=163.9*
*IDC **08** 16:06:13.5±2.8,38.01N×73.35E,h91km±24km,mb3.5/10, mb1 3.7/16,mb1mx3.4/54,mbtmp3.9/16,MS3.1/1, Ms1 3.1/1,ms1mx2.6/37,Error ellipse: s-maj=22.3km s-min=17.3km az=24.0*
*BJI **08** 16:06:17.2,38.27N×73.74E,h138km,mb3.7/1*
*NNC **08** 16:06:19.8±1.5,38.48N×73.25E,h112km±27km,mb3.6, mpv4.3,Error ellipse: s-maj=15.2km s-min=6.0km az=141.0*

ISC 08 16:06:15.7±0.6,38.30N±0.05×73.49E±0.05,h107km,n50, σ3.910/53,mb3.7/9,7C-9D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.29**	**57**	⇓P	*i*	**Pn**	**16 06 50.6**	**-1.8**
KSH				S		**Sn**	**16 07 14.5**	**-6.0**
KSH	670nm,0.4s			SMN				
KSH	570nm,0.2s			SME				
DZET	**Dzherino**	**3.69**	**279**	⇓P		**Pn**	**16 07 11.9**	**+1.1**
DZET	11nm,0.2s			⇓S		**Sn**	**16 07 53.2**	**-0.3**
MNAS	82nm,0.4s **Manas**	**4.25**	**350**	⇓P		**Pn**	**16 07 21.0**	**+2.6**
MNAS	105nm,0.5s			⇑S		**Sn**	**16 08 07.2**	**0.0**
AAK	**Ala-Archa**	**4.40**	**10**	P		**Pn**	**16 07 23.6**	**+3.1**
AAK	14nm,0.3s,baz=169,slow=7.8,SNR=96			S		**Sn**	**16 08 13.1**	**+2.3**
AAK	3.4nm,0.3s,baz=328,slow=19,SNR=3.9 **Ala-Archa**	**4.40**	**10**	⇑P		**Pn**	**16 07 23.4**	**+2.9**
AAK	29nm,0.4s			⇑S		**Sn**	**16 08 12.1**	**+1.3**
CHCP	28nm,0.7s **Chirah Chowk**	**4.63**	**182**	P		**Pn**	**16 07 26.7**	**+3.2**
CEP	**Cherat**	**4.64**	**196**	P		**Pn**	**16 07 26.5**	**+2.8**
CEP				S		**Sn**	**16 08 17.0**	**+0.4**
TKM2	**Tokmak 2**	**4.89**	**19**	⇓P		**Pn**	**16 07 29.7**	**+2.6**
TKM2	11nm,0.5s			⇓S		**Sn**	**16 08 24.6**	**+1.9**
KK02	14nm,0.7s **Karatay Array**	**5.31**	**336**	⇓P		**Pn**	**16 07 34.5**	**+1.9**
KK02	32nm,0.5s			⇑S		**Sn**	**16 08 31.2**	**-1.3**
THW	28nm,0.8s **Thamme Wali**	**5.67**	**195**	P		**Pn**	**16 07 38.4**	**+0.9**
THN	**Thein Dam**	**6.13**	**162**	*e*P		**Pn**	**16 07 40.0**	**-3.7**
THN				*e*S		Sn	16 08 44.0	-8.3
SARP	**Sargodha**	**6.39**	**186**	P		**Pn**	**16 07 47.8**	**+0.5**
SDNR	**Sundarnagar**	**7.36**	**156**	*e*P		**Pn**	**16 07 59.2**	**-1.2**
SDNR				*e*S		Sn	16 09 12.0	-10
KKR	**Kurukshetra**	**8.76**	**161**	*e*P		Pn	16 08 14.2	-5.2
KKR				*e*S		Sn	16 09 48.0	-8.4
JOSI	**Joshimath**	**9.20**	**145**	*e*P		**Pn**	**16 08 25.5**	**-0.1**
JOSI				*e*S		Sn	16 09 58.2	-9.4
OTUK	**Ortayu** 7.5nm,0.8s	**9.98**	**356**	⇓P		**Pn**	**16 08 36.1**	**+0.1**
KHET	**Khetri**	**10.38**	**169**	*e*P		**Pn**	**16 08 39.0**	**-2.4**
KHET				*e*S		Sn	16 10 23.2	-13
KHET	comp=N,19nm,0.3s			IAML			16 10 31.8	
KHET	comp=E,15nm,0.3s			IAML			16 10 32.3	
KUDL	**Kundal**	**10.43**	**165**	*e*P		**Pn**	**16 08 39.4**	**-2.7**
KUDL				*e*S		Sn	16 10 25.5	-12
KUDL	comp=E,17nm,0.1s			IAML			16 10 30.4	
KUDL	comp=N,10nm,0.3s			IAML			16 10 32.7	
SONA	**Sohna**	**10.46**	**162**	*e*S		Sn	16 10 25.8	-12
SONA	comp=N,18nm,0.5s			IAML			16 10 39.4	
SONA	comp=E,27nm,0.2s			IAML			16 10 39.8	
MK31	**Makanchi Array**	**10.69**	**35**	P		**Pn**	**16 08 47.1**	**+1.7**
MKAR	comp=E,0.7nm,0.6s,baz=198,slow=12,SNR=10 **Makanchi Array**	**10.69**	**35**	P		**Pn**	**16 08 46.8**	**+1.3**
GEYT	comp=E,0.1nm,0.3s,baz=217,slow=13,SNR=9.7 **Alibeck**	**12.11**	**273**	P		**Pn**	**16 09 01.8**	**-2.8**
GEYT	comp=E,0.6nm,0.3s,baz=93,slow=7.2,SNR=5.2			S		**Sn**	**16 11 13.2**	**-4.7**
KURBB	comp=E,0.7nm,0.3s,baz=341,slow=40,SNR=3.6 **Kurchatov Arra**	**12.84**	**15**	P		**Pn**	**16 09 13.1**	**-0.9**
KURBB	comp=E,0.1nm,0.3s,baz=204,slow=11,SNR=7.2			S		**Sn**	**16 11 41.7**	**+6.7**
PYUN	comp=E,0.0nm,0.3s,baz=203,slow=19,SNR=2.6 **Piuthan**	**12.90**	**139**	*e*P		Pn	16 09 11.1	-4.1
KOLN	comp=E,46nm,0.3s **Koldanda**	**13.48**	**138**	*e*P		Pn	16 09 18.6	-4.2
GKN	comp=E,18nm,0.3s **Gorkha**	**13.87**	**134**	*e*P		Pn	16 09 23.5	-4.2
KKN	comp=E,16nm,0.2s **Kakani**	**14.39**	**133**	*e*P		Pn	16 09 30.4	-4.2
DMN	comp=E,15nm,0.4s **Daman**	**14.43**	**134**	*e*P		Pn	16 09 31.0	-4.1
PKIN	comp=E,10nm,0.2s **Phulchoki**	**14.62**	**133**	*e*P		Pn	16 09 33.2	-4.3
GUN	comp=E,9.9nm,0.3s **Gumba**	**14.65**	**131**	*e*P		Pn	16 09 34.3	-3.7
AB31	comp=E,13nm,0.3s **Akbulak array**	**14.66**	**323**	P		**Pn**	**16 09 37.0**	**-0.6**
AB31	comp=E,2.3nm,0.3s,baz=128,slow=14,SNR=89			S		Sn	16 12 08.1	-11
BVA0	comp=E,1.9nm,0.5s,baz=151,slow=22,SNR=6.3 **Borovoye Array**	**14.89**	**353**	⇑P		**P**	**16 09 46.0**	**+2.5**
BVAR	comp=E,4.2nm,0.6s,baz=165,slow=10.0,SNR=16 **Borovoye Array**	**14.89**	**355**	P		**Pn**	**16 09 40.8**	**+0.4**
ZRNK	comp=E,0.3nm,0.3s,baz=164,slow=13,SNR=11 **Zerenda**	**14.98**	**349**	⇓P		**Pn**	**16 09 42.0**	**+0.3**
AKTO	comp=E,3.8nm,0.7s **Aktyubinsk**	**16.38**	**323**	P		**P**	**16 09 59.2**	**-0.7**
AKTO	comp=E,0.8nm,0.3s,baz=124,slow=7.8,SNR=9.8			S		**Sn**	**16 12 51.5**	**-9.1**
AKTO	comp=E,0.3nm,0.3s,baz=125,slow=18,SNR=4.0 **Aktyubinsk**	**16.38**	**323**	⇑P		**P**	**16 09 59.6**	**-0.4**
AKTO	comp=E,3.1nm,0.5s			⇑S		**Sn**	**16 12 51.1**	**-10**
ZALV	comp=E,3.4nm,0.9s **Zalesovo Beam**	**17.48**	**23**	P		**Pn**	**16 10 13.1**	**+0.6**
ZALV	comp=E,0.7nm,0.3s,baz=218,slow=13,SNR=8.1			S		**Sn**	**16 13 21.9**	**-5.1**
GTA	baz=217,slow=19,SNR=2.2 **Gaotai**	**20.52**	**79**	*e*P		**P**	**16 10 43.4**	**-2.0**
GTA	comp=E,3.0nm,0.9s			PMZ				
ARU	**Arti**	**20.69**	**336**	P		**P**	**16 10 48.3**	**+1.5**
SONM	comp=E,1.6nm,0.3s,baz=96,slow=19,SNR=2.9 **Songino Array**	**25.70**	**58**	P		**P**	**16 11 38.0**	**+2.2**
AKASG	comp=E,0.7nm,0.4s,baz=262,slow=10.0,SNR=3.6 **Malin Array Be**	**33.42**	**306**	LR		LR	16 28 05.2	
MANT	comp=E,32nm,22.0s,baz=175,slow=39 **Manisa**	**34.95**	**285**	*i* S		**S**	**16 18 26.7**	**+5.3**
FINES	**FINESS Array B**	**37.15**	**324**	P		**P**	**16 13 17.1**	**+1.4**
ARCES	comp=E,0.6nm,0.6s,baz=115,slow=9.8,SNR=3.4 **ARCESS Array B**	**40.27**	**336**	P		**P**	**16 13 43.6**	**+1.9**
KLR	comp=E,1.7nm,0.8s,baz=103,slow=8.8,SNR=8.5 **Kul'dur**	**42.49**	**56**	P		**P**	**16 14 02.1**	**+2.0**
ILAR	comp=E,0.8nm,0.4s,baz=290,slow=10,SNR=6.4 **Eielson Array**	**72.50**	**17**	P		**P**	**16 17 30.2**	**-0.1**
FITZ	comp=E,0.3nm,0.7s,baz=310,slow=5.6,SNR=4.1 **Fitzroy Crossi**	**74.42**	**129**	P		**P**	**16 17 39.6**	**-2.5**
YKA	comp=E,4.1nm,1.0s,baz=0.0,slow=2.0,SNR=5.3 **Yellowknife Ar**	**79.34**	**4**	P		**P**	**16 18 10.9**	**+1.7**
WRA	comp=E,1.0nm,0.6s,baz=350,slow=5.6,SNR=8.7 **Warramunga Arr**	**81.30**	**124**	P		**P**	**16 18 20.4**	**+0.2**
ASAR	comp=E,0.4nm,0.4s,baz=325,slow=4.8,SNR=7.8 **Alice Springs**	**83.70**	**127**	P		**P**	**16 18 33.1**	**+0.5**
	comp=E,0.4nm,1.0s,baz=301,slow=4.7,SNR=4.9							

CASC 08 16:21:21.5±2.7,9.77N×83.11W,h19km±18km,MD3.5,1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URSC	**Urasca**	**0.66**	**276**	⇑*i*P		Pb	16 21 34.3	-0.2
URSC				*e*S		Sb	16 21 42.4	-0.9
TBS2		**1.07**	**155**	*e*P		Pb	16 21 40.9	-0.6
TBS2				*e*S		Sb	16 21 55.0	-0.1
QCR	**Quepos**	**1.10**	**252**	*e*S		Sg	16 21 57.8	+0.5
CGA2	**Cerro Gallo 2**	**1.36**	**281**	*e*P		Pb	16 21 46.5	0.0
CGA2				*e*S		Sb	16 22 03.4	-0.1

MEX 08 16:30:53.5±0.3,14.93N×92.79W,h90km±19km,MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCIG		**0.88**	**332**	*e*P		Pn	16 31 10.5	-1.3
PCIG				*i* S		Sn	16 31 24.0	-1.6

*BJI **08** 16:32:15.5,1.01N×96.78E,h20km,mb5.2/76,mB5.3/67, Ms5.5/90,Ms7 5.3/82*
*IDC **08** 16:32:15.3±0.3,1.14N×96.76E,h0km,mb5.1/43, mb1 5.1/45,mb1mx5.1/48,mbtmp5.0/45,ML4.9/2,MS4.5/20, Ms1 4.5/20,ms1mx4.3/28,Error ellipse: s-maj=11.0km s-min=8.9km az=45.0*
*KLM **08** 16:32:17.3,1.19N×96.65E,h10km,mb5.3,ML5.2,MS6.2*
*NEIC **08** 16:32:18.5±1.1,1.17N×96.78E,h21km±7km,mb5.3/94, MW5.3,Error ellipse: s-maj=4.2km s-min=2.7km az=46.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.54; $M_{\theta\theta}$2.67; $M_{\phi\phi}$2.87; $M_{r\theta}$5.78; $M_{r\phi}$-2.01; $M_{\theta\phi}$-5.42: Best double couple: $M_0$9.50000×10^{16} NP1: ϕ_s138.00000°,δ17.00000°,λ-86.00000°. NP2: ϕ_s314.00000°,δ73.00000°,λ-91.00000°. Principal axes: T 9.0600, Plg28.0000°, Azm45.0000°; N 0.7700, Plg1.0000°, Azm314.00000°; P -9.8300, Plg62.0000°, Azm222.0000°;*
NEIC Felt at Kuala Lumpur, Malaysia.
*GCMT **08** 16:32:18.5±0.2,1.22N×96.70E,h12km,MW5.3/107, Moment Tensor Solution. s71,c105; s107,c188; Duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.59±.01; $M_{\theta\theta}$0.27±.01; $M_{\phi\phi}$0.32±.01; $M_{r\theta}$0.89±.03; $M_{\theta\phi}$-0.25±.01; $M_{r\phi}$-0.32±.03; Best double couple: $M_0$1.09800×10^{17} NP1:ϕ_s295.00000°,δ75.00000°, λ-100.00000°. NP2:ϕ_s151.00000°,δ18.00000°, λ-56.00000°. Principal axes: T 1.0360, Plg29.0000°, Azm33.0000°; N 0.1230, Plg10.0000°, Azm298.0000°; P -1.1590, Plg59.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **08** 16:32:18.2±1.0,1.23N×96.75E,h28km,mb5.4/102, MS4.7/26 Error ellipse: s-maj=6.9km s-min=4.0km az=111.3*
*ISCJB **08** 16:32:18.0±0.7,1.16N±0.02×96.77E±0.02,h29km±4km, mb5.2/175,MS4.8/38,Error ellipse: s-maj=4.0km s-min=2.9km az=44.6*
*DJA **08** 16:32:19.9±0.2,1.1N±2.2°×9.7°E±°,h10km,M5.1/34,mb5.2/34, mB5.5/18,MLv5.4/6,Mw(mB)5.0/18*

ISC 08 16:32:19.0±0.3,1.17N±0.03×96.75E±0.03,h23km±1km, h23km:pP-P,n821,σ1.9s49/893,mb5.3/179,MS4.7/38, 33C-31D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.84**	**81**	P		**Pb**	**16 32 34.7**	**-0.2**
GSI	**Gunungsitoli**	**0.84**	**81**	*e*Pn		**Pb**	**16 32 34.6**	**-0.2**
TPTI		**2.12**	**12**	P		**Pn**	**16 32 51.0**	**-2.1**
KCSI	**Kotacane, Aceh**	**2.55**	**24**	P		**Pn**	**16 32 58.7**	**-0.3**
PSI	**Prapat**	**2.71**	**53**	*e*P		**Pn**	**16 33 00.4**	**-0.9**
PSI	**Prapat**	**2.71**	**53**	*e*Pn		**Pn**	**16 33 00.4**	**-0.9**
MNSI	**Mandailing Nat**	**2.85**	**97**	P		**Pn**	**16 33 03.7**	**+0.6**
TSI	**Tuntungan**	**2.94**	**38**	P		**Pn**	**16 33 05.2**	**+0.8**
MLSI	**Meulaboh, Aceh**	**3.10**	**354**	P		**Pn**	**16 33 06.8**	**+0.3**
PPI	**Padang Panjang**	**3.99**	**114**	P		**Pn**	**16 33 19.0**	**+0.2**
LHMI	**Lhok Sumawe**	**4.04**	**3**	P		**Pn**	**16 33 22.9**	**+3.5**
LHMI	**Lhok Sumawe**	**4.04**	**3**	*e*Pn		**Pn**	**16 33 18.3**	**-1.1**
PDSI	**Padang**	**4.25**	**119**	P		**Pn**	**16 33 22.1**	**-0.3**
BKNI	**Bangkinang**	**4.37**	**101**	P		**Pn**	**16 33 24.8**	**+0.8**
BKNI	**Bangkinang**	**4.37**	**101**	*e*Pn		**Pn**	**16 33 23.3**	**-0.7**
PPSI	**Pulau Pagai**	**5.09**	**140**	P		**Pn**	**16 33 31.5**	**-2.4**
SDSI	**Sungai Dareh**	**5.12**	**114**	P		**Pn**	**16 33 35.7**	**+1.3**
FRIM	**Kepong**	**5.29**	**67**	⇑P		**Pn**	**16 33 36.9**	**+0.2**
IPM	**Ipoh**	**5.39**	**52**	⇑P		**Pn**	**16 33 39.1**	**+1.1**
IPM	**Ipoh**	**5.39**	**52**	*e*Pn		**Pn**	**16 33 38.1**	**+0.1**
KULM	**Kulim**	**5.65**	**43**	⇑P		**Pn**	**16 33 42.0**	**+0.4**
KULM	**Kulim**	**5.65**	**43**	*e*Pn		**Pn**	**16 33 41.2**	**-0.4**
CMBY	**CAMPBELL BAY**	**6.45**	**334**	*e*P		**Pn**	**16 33 53.7**	**+1.1**
CMBY	comp=Z,508nm,1.3s			IAmb		IAmb	16 33 54.4	
KGM	**Kluang**	**6.62**	**83**	⇓P		**Pn**	**16 33 55.7**	**+0.7**
PKDT	**Phuket**	**6.86**	**13**	P		**Pn**	**16 33 58.9**	**+0.6**
MASI	comp=Z,137nm,0.8s,comp=Z,3μmcomp=Z,1.1nm **Maura Aman, Be**	**6.96**	**128**	P		**Pn**	**16 34 00.5**	**+0.8**
SKLT	**Songkhla**	**7.10**	**33**	P		Pb	16 34 12.2	-9.5
MYKOM	**Kota Tinggi**	**7.13**	**85**	⇓P		**Pn**	**16 34 02.9**	**+1.0**
MYKOM	**Kota Tinggi**	**7.13**	**85**	*e*Pn		**Pn**	**16 34 01.7**	**-0.2**
TRTT	**Trang**	**7.24**	**24**	P		**Pn**	**16 34 01.7**	**-1.8**
KSI	comp=Z,220nm,1.2s,comp=Z,3μmcomp=Z,1.0nm **Kapahiang**	**7.55**	**129**	P		**Pn**	**16 34 06.5**	**-1.3**
KTGM	comp=Z,1μm,0.8s,comp=Z,11μmcomp=Z,3.9nm **Kuala Trenggan**	**7.59**	**57**	⇓P		**Pn**	**16 34 09.3**	**+0.9**
TPRI	**Tanjung Pinang**	**7.78**	**92**	P		**Pn**	**16 34 13.8**	**+2.9**
SURT	**Suratani**	**8.00**	**15**	P		**Pn**	**16 34 12.3**	**-1.6**
SURA	comp=Z,36nm,0.7s,comp=Z,815nmcomp=Z,0.3nm **Surathani**	**8.45**	**20**	P		**Pn**	**16 34 18.3**	**-1.7**
LWLI	comp=Z,284nm,0.8s,comp=Z,23μmcomp=Z,1.3nm **Liwa**	**9.54**	**130**	P		**Pn**	**16 34 35.4**	**+0.2**
KLSI		**9.87**	**126**	P		**Pn**	**16 34 40.0**	**+0.4**
PPBI	**Pangkal Pinang**	**9.95**	**109**	P		**Pn**	**16 34 41.9**	**+1.2**
KLI	**Kotabumi**	**10.08**	**127**	P		**Pn**	**16 34 43.1**	**+0.7**
PBA	**Port Blair**	**11.15**	**339**	*e*P		**Pn**	**16 34 59.1**	**+2.0**
CGJI	**Cibinong**	**11.81**	**131**	P		**Pn**	**16 35 05.6**	**-0.5**
PHET	**Kaeng Krachan**	**12.01**	**14**	P		**P**	**16 35 23.8**	**+2.1**
DGPR	**DIGLIPUR**	**12.52**	**343**	*e*P		**Pn**	**16 35 19.4**	**+3.6**
CHBT	**CHBT** comp=Z,210nm,0.8s	**12.77**	**25**	P		**Pn**	**16 35 20.1**	**+0.8**
SRDT	**SRDT**	**13.30**	**10**	P		**P**	**16 35 40.4**	**+4.3**
CNJI	**Cibinong**	**13.35**	**129**	P		**Pn**	**16 35 28.0**	**+0.8**
KSM	**Kuching**	**13.56**	**89**	⇓P		**Pn**	**16 35 31.3**	**+1.2**
KSM	**Kuching**	**13.56**	**89**	*e*Pn		**Pn**	**16 35 31.3**	**+1.2**
KHLT	**Khaolaem Dam**	**13.66**	**8**	P		**P**	**16 35 43.3**	**+3.2**
CISI	**Cisompet, Garu**	**14.04**	**128**	P		Pn	16 35 30.1	-6.5
CISI	**Cisompet, Garu**	**14.04**	**128**	*e*Pn		Pn	16 35 30.6	-6.0
STKI	**Sintang**	**14.77**	**94**	P		**Pn**	**16 35 49.2**	**+2.6**
KPJI	**Karang Pucung**	**14.80**	**125**	P		**Pn**	**16 35 43.7**	**-3.3**
PBKI	**Pangkalan Bun**	**15.40**	**104**	P		**Pn**	**16 35 57.1**	**+2.0**
SBUM	**Sibu**	**15.52**	**85**	⇓P		**Pn**	**16 35 57.4**	**+0.9**
SBUM	**Sibu** comp=Z,134nm,1.3s	**15.52**	**85**	*e*Pn		**Pn**	**16 35 56.1**	**-0.4**
CHAI	**Chaiyaphum** comp=Z,43nm,1.0s,comp=Z,325nm	**15.52**	**19**	P		**Pn**	**16 35 57.8**	**+1.2**
PBKT	**Sadao Pong** comp=Z,129nm,1.1s,comp=Z,2μm	**15.86**	**15**	P		**Pn**	**16 36 02.6**	**+1.7**
SMRI	**Semarang** comp=Z,180nm,1.0s	**15.92**	**121**	P		**Pn**	**16 36 02.6**	**+0.9**
SMRI	**Semarang** comp=Z,153nm,0.9s	**15.92**	**121**	*e*Pn		**Pn**	**16 35 59.8**	**-1.9**
KHON	**Khomkaen** comp=Z,48nm,0.8s,comp=Z,1μm	**16.22**	**21**	P		**P**	**16 36 08.2**	**-0.3**
BTM	**Bintulu**	**16.45**	**83**	⇓P		**P**	**16 36 10.1**	**-0.9**
UBPT	**Khong Chiam** comp=Z,198nm,1.0s	**16.45**	**31**	P		**Pn**	**16 36 08.5**	**0.0**
SUKH	**Sukhothai** comp=Z,42nm,0.9s,comp=Z,335nm	**16.46**	**10**	P		**P**	**16 36 09.9**	**-1.2**
WOJI	**Wonogiri, Jawa**	**16.73**	**123**	P		**Pn**	**16 36 13.0**	**+0.9**
LOEI	**Loei** comp=Z,40nm,1.2s,comp=Z,1μm	**16.83**	**15**	P		**Pn**	**16 36 14.3**	**+0.9**
UTTA	**Uttaradit** comp=Z,21nm,0.9s,comp=Z,168nm	**16.89**	**13**	P		**P**	**16 36 16.8**	**+0.9**
NGJI	**Ngawi**	**16.95**	**120**	P		**P**	**16 36 16.3**	**-0.3**
PALK	**Pallekele** comp=Z,1.7nm,0.3s,baz=116,slow=13,SNR=9.8	**17.11**	**291**	P		**Pn**	**16 36 16.8**	**0.0**
PALK				S		Sn	16 39 13.8	-13
PALK	comp=Z,3.9nm,0.3s,baz=116,slow=6.4,SNR=8.2			LR		LR	16 41 27.9	
PALK	comp=Z,2μm,20.1s,baz=116,slow=32 **Pallekele**	**17.11**	**291**	*e*Pn		**Pn**	**16 36 16.7**	**-0.2**
PALK	comp=Z,124nm,1.3s			S		Sn	16 39 13.8	-13
SKNT	**Sakolnakorn** comp=Z,223nm,1.2s	**17.24**	**24**	P		**P**	**16 36 19.8**	**-0.1**
CM01	**Chiang Mai Arr**	**17.28**	**7**	*e*Pn		**Pn**	**16 36 18.8**	**-0.2**
CM01				*e*PcP		**PcP**	**16 41 01.9**	**+0.4**
CM31	**Chiang Mai Arr**	**17.32**	**7**	*e*Pn		**Pn**	**16 36 19.1**	**-0.2**
CMAR	**Chiang Mai Arr** comp=Z,2.5nm,0.3s,baz=196,slow=11,SNR=83	**17.32**	**7**	P		**Pn**	**16 36 18.6**	**-0.7**
CMAR	comp=Z,0.2nm,0.3s,baz=222,slow=3.8,SNR=6.0			PcP		**PcP**	**16 41 02.9**	**+1.3**
CMAR	comp=Z,3μm,19.0s,baz=200,slow=39			LR		LR	16 43 39.1	
PWJI	**Pagerwojo**	**17.57**	**122**	P		**P**	**16 36 25.1**	**+1.6**
PANO	**Nakornpanom** comp=Z,209nm,0.9s,comp=Z,3μm	**17.66**	**26**	P		**Pn**	**16 36 23.6**	**-0.1**
CHTO	**Chiang Mai** comp=Z,329nm,1.2s,comp=Z,6μm	**17.67**	**7**	P		**Pn**	**16 36 23.1**	**-0.6**
CHTO	**Chiang Mai**	**17.67**	**7**	*e*P		**Pn**	**16 36 22.7**	**-1.0**
CHTO	comp=Z,74nm,1.1s			pmax		pmax		
CHTO	**Chiang Mai** SNR=23	**17.67**	**7**	Pn		**Pn**	**16 36 21.9**	**-1.8**
CHTO	**Chiang Mai** SNR=23	**17.67**	**7**	P		**Pn**	**16 36 21.9**	**-1.8**
CHTO	**Chiang Mai** comp=Z,74nm,1.1s	**17.67**	**7**	*e*Pn		**Pn**	**16 36 22.7**	**-1.0**
NONG	**Nongkai** comp=Z,84nm,0.9s,comp=Z,2μm	**17.93**	**20**	P		**Pn**	**16 36 25.5**	**-1.4**
MTKI	**Muara Teweh, K**	**18.27**	**97**	P		**P**	**16 36 33.8**	**+2.6**
BBKI	**Banjar Baru**	**18.66**	**104**	P		**Pn**	**16 36 36.3**	**+0.3**
KKM	**Kota Kinabalu**	**20.02**	**76**	⇑P		Pn	16 36 51.8	-0.5
KKM	**Kota Kinabalu** comp=Z,367nm,1.4s	**20.02**	**76**	*e*P		**P**	**16 36 50.6**	**+0.1**
MDRS	**Chennai**	**20.17**	**307**	*e*P		Pn	16 36 54.1	+0.1
MDRS	comp=Z,92nm,1.2s			IAmb		IAmb	16 36 55.2	
KDM	**Kudat**	**20.82**	**74**	⇓P		**P**	**16 36 59.5**	**+0.3**
SDKM	**Sandakan**	**20.88**	**77**	⇑P		**P**	**16 37 00.4**	**+0.5**
TRD	**Trivandrum**	**21.01**	**291**	*e*P		**P**	**16 37 03.4**	**+2.2**
VIS	**Vishakhapatnam**	**21.08**	**322**	*e*P		**P**	**16 37 04.0**	**+2.1**
TSM	**Tawau**	**21.32**	**81**	⇓P		**P**	**16 37 04.2**	**-0.4**
BWNR	**Bhubaneshwar**	**21.81**	**331**	*e*P		**P**	**16 37 10.3**	**+0.6**
BWNR	comp=Z,149nm,1.3s			IAmb		IAmb	16 37 13.3	
QIZ	**Qiongzhong**	**21.91**	**35**	P		**P**	**16 37 10.9**	**+0.2**
QIZ				pP		**pP**	**16 37 14.6**	**-2.6**
QIZ				sP		**sP**	**16 37 16.6**	**-3.5**
QIZ				S		**S**	**16 41 12.9**	**+1.1**
QIZ				sS		**sS**	**16 41 20.6**	**-1.5**
QIZ	comp=Z,58nm,2.1s			PMZ				
QIZ	comp=Z,4μm,12.3s			LN				
QIZ	comp=Z,6μm,14.1s			LE				
QIZ	comp=Z,5μm,14.3s			LZ				
QIZ	**Qiongzhong** comp=Z,88nm,1.0s	**21.91**	**35**	*e*P		**P**	**16 37 09.8**	**-1.0**
MYLDM	**Lahad Datu**	**22.08**	**79**	⇑P		**P**	**16 37 14.6**	**+1.9**
MYLDM	**Lahad Datu** comp=Z,171nm,1.0s	**22.08**	**79**	*e*P		**P**	**16 37 12.8**	**+0.2**
TWSI	**Taliwang, Sumb**	**22.35**	**117**	P		**P**	**16 37 18.1**	**+2.5**
PCI	**Palu** comp=Z,81nm,1.0s,comp=Z,1μm	**23.18**	**95**	P		**P**	**16 37 26.7**	**+2.4**
PLAI	**Plampang**	**23.19**	**116**	P		**P**	**16 37 26.4**	**+2.0**
TTSI	**Tana Toraja**	**23.44**	**100**	P		**P**	**16 37 30.1**	**+3.2**
SPSI	**Sidrap Palu**	**23.56**	**103**	P		**P**	**16 37 30.8**	**+2.7**
KAPI	**Kappang** comp=Z,59nm,1.0s,baz=282,slow=8.2,SNR=19	**23.79**	**105**	P		**P**	**16 37 29.6**	**-0.6**
KAPI	**Kappang** comp=Z,78nm,1.0s	**23.79**	**105**	*e*P		**P**	**16 37 27.8**	**-2.4**
HYB	**Hyderabad**	**24.10**	**313**	*i*P		**P**	**16 37 35.0**	**+1.8**
HYB	**Hyderabad**	**24.10**	**313**	*e*P		**P**	**16 37 35.2**	**+2.0**
HYB	comp=Z,189nm,1.4s			IAmb		IAmb	16 37 37.7	
KMI	**Kunming**	**24.51**	**13**	P		**P**	**16 37 38.5**	**+1.5**
KMI				pP		pP	16 37 43.9	0.0
KMI				sP		sP	16 37 47.7	+1.0
KMI				S		**S**	**16 41 59.8**	**+3.3**
KMI	comp=Z,120nm,2.0s			PMZ				
KMI	comp=Z,1μm,4.1s			PMZ				
KMI	comp=Z,9μm,12.2s			LN				
KMI	comp=Z,6μm,12.3s			LE				
KMI	comp=Z,10μm,12.5s			LZ				
SHL	**Shillong**	**24.70**	**349**	*e*P		**P**	**16 37 38.6**	**-0.2**
SHL	comp=Z,493nm,1.5s			IAmb		IAmb	16 37 41.2	
SHL				*ex*		x	16 41 59.5	
BSSI	**Bau Bau, Buton**	**24.79**	**107**	P		**P**	**16 37 39.4**	**-0.1**
BOK	**Bokaro**	**24.83**	**336**	*e*P		**P**	**16 37 42.0**	**+2.2**
BOK	comp=Z,1μm,0.2s			IAmb		IAmb	16 37 43.4	
MRSI	**Marisa**	**25.20**	**91**	P		**P**	**16 37 43.8**	**+0.6**
H08S2	**Diego Garcia H** baz=70,slow=75,SNR=7220	**25.73**	**250**	T		T	17 04 26.0	
H08S3	**Diego

LSA pmax pmax
comp=Z,53nm,0.8s
LSA Lhasa 28.87 350 *e*P **P 16 38 17.3 +0.7**
comp=Z,53nm,0.8s
GKN Gorkha 29.09 338 *e*P **P 16 38 19.3 +1.1**
comp=Z,177nm,1.0s
KOLN Koldanda 29.30 336 *e*P **P 16 38 21.4 +1.3**
comp=Z,91nm,0.7s
DAV Davao City (W) 29.33 78 P **P 16 38 21.5 +1.1**
comp=Z,116nm,0.3s,baz=343,slow=8.5,SNR=5.5
DAV LR LR 16 50 51.3
comp=Z,1μm,21.2s,baz=252,slow=38
DAV Davao City (W) 29.33 78 P **P 16 38 22.6 +2.2**
SNR=5.9
DAV Davao City (W) 29.33 78 P **P 16 38 22.6 +2.2**
SNR=5.9
DAV P **P 16 38 22.6 +2.2**
SNR=5.9
SANI Sanana 29.41 96 P **P 16 38 24.6 +3.6**
SOEI Soe 29.47 112 P **P 16 38 23.9 +2.2**
SOEI Soe 29.47 112 *e*P **P 16 38 17.1 -4.6**
comp=Z,90nm,1.1s
PYUN Piuthan 29.84 335 *e*P **P 16 38 26.1 +1.2**
comp=Z,125nm,1.0s
CD2 Chengdu 30.32 12 ⇑P **P 16 38 30.0 +1.1**
CD2 sP pP 16 38 36.8 +1.0
CD2 S **S 16 43 28.5 +0.6**
CD2 sS sS 16 43 39.5 +0.2
CD2 PcS **PcS 16 45 12.7 0.0**
CD2 PMZ
comp=Z,50nm,0.5s
CD2 PMZ
comp=Z,450nm,4.3s
CD2 LN
comp=Z,5μm,12.3s
CD2 LE
comp=Z,6μm,12.4s
CD2 LZ
comp=Z,6μm,12.7s
LBMI Labuha 30.80 93 P **P 16 38 37.3 +3.9**
ENH Enshi 31.37 21 *e*P **P 16 38 35.8 -2.4**
comp=Z,57nm,0.8s
MBWA Marble Bar 31.59 136 *e*P **P 16 38 40.0 -0.2**
comp=Z,151nm,1.3s
QZH Quanzhou 31.68 40 ⇑*i*P P 16 38 34.8 -6.2
QZH PP **PnPn 16 39 45.0 -0.2**
QZH S S 16 43 32.1 -17
QZH pmax pmax
comp=Z,960nm,3.4s
QZH LR LR
comp=N,5μm,10.1s
QZH LR LR
comp=E,7μm,11.6s
QZH LR LR
comp=Z,11μm,12.4s
TPUB Ta-pu 31.95 45 *e*P **P 16 38 42.3 -1.1**
comp=Z,90nm,1.2s
TWG Pinlang 31.96 46 *e*P **P 16 38 41.4 -2.1**
comp=Z,180nm,1.1s
YULB Yu-li 32.48 45 *e*P **P 16 38 47.3 -0.7**
comp=Z,67nm,1.0s
SSLB Suanglung 32.49 44 *e*P **P 16 38 47.3 -0.9**
comp=Z,104nm,1.2s
NDI New Delhi 33.11 327 *ex* P 16 38 47.0 -6.5
NACB Ninganchiao 33.19 45 *e*P **P 16 38 53.8 -0.4**
comp=Z,74nm,1.3s
WHN Wuhan 33.65 28 P **P 16 38 57.1 -1.0**
WHN sP **pP 16 39 06.3 +1.3**
WHN S **S 16 44 21.8 +2.0**
WHN LN
comp=Z,8μm,11.0s
WHN LE
comp=Z,3μm,10.6s
WHN LZ
comp=Z,13μm,11.9s
FITZ Fitzroy Crossi 34.28 125 P **P 16 39 02.7 -1.0**
comp=Z,33nm,0.8s,baz=312,slow=6.8,SNR=53
FITZ LR LR 16 54 20.4
comp=Z,1μm,19.3s,baz=322,slow=39
FITZ Fitzroy Crossi 34.28 125 P **P 16 39 02.2 -1.5**
baz=34,SNR=35
FITZ Fitzroy Crossi 34.28 125 *e*P **P 16 39 02.4 -1.3**
comp=Z,38nm,0.8s
SWI Sorong 34.57 93 P **P 16 39 09.7 +3.4**
XAN Xi'an 34.63 18 P **P 16 39 05.4 -1.2**
XAN pP pP 16 39 14.5 +0.9
XAN PP **PP 16 40 28.6 +3.2**
XAN S **S 16 44 31.3 -3.7**
XAN PMZ
comp=Z,52nm,0.9s
XAN PMZ
comp=Z,360nm,8.7s
XAN LN
comp=Z,4μm,13.8s
XAN LE
comp=Z,4μm,12.9s
XAN LZ
comp=Z,5μm,10.2s
SMLA Simla 35.09 330 *e*P **P 16 39 10.9 +0.3**
SMLA IAmb IAmb 16 39 12.4
comp=Z,63nm,1.4s
LZH Lanzhou 35.36 10 *e*P **P 16 39 13.5 +0.4**
LZH pP pP 16 39 19.9 -0.1
LZH sP sP 16 39 23.5 +0.7
LZH S **S 16 44 43.0 -3.4**
LZH sS sS 16 44 56.3 -1.6
LZH SS **SnSn 16 47 09.1 +3.1**
LZH PMZ
comp=Z,78nm,1.2s
LZH PMZ
comp=Z,380nm,4.0s
LZH LN
comp=Z,2μm,11.6s
LZH LE
comp=Z,2μm,13.4s
LZH LZ
comp=Z,3μm,13.6s
SDNR Sundarnagar 35.49 330 *e*P **P 16 39 13.2 -0.9**
FAKI Fak Fak 35.72 97 *e*P **P 16 39 14.6 -1.7**
comp=Z,22nm,1.0s
DHRM DHARAMSHALA 36.43 330 *e*P **P 16 39 22.2 -0.2**
DHRM IAmb IAmb 16 39 24.1
MTN Manton Dam 36.85 113 P **P 16 39 23.9 -2.0**
baz=37,SNR=4.0
MTN Manton Dam 36.85 113 *e*P **P 16 39 23.5 -2.4**
comp=Z,50nm,1.5s
THN Thein Dam 36.87 330 *ex* **P 16 39 21.8 -4.0**
NJ2 Nanjing 37.13 32 *e*P **P 16 39 28.9 +0.9**
NJ2 S **S 16 45 15.4 +2.2**
NJ2 PMZ
comp=Z,22nm,0.7s
NJ2 PMZ
comp=Z,140nm,3.6s
NJ2 LN
comp=Z,4μm,13.0s
NJ2 LE
comp=Z,3μm,11.9s
NJ2 LZ
comp=Z,5μm,13.0s
SSE Sheshan 37.70 35 P **P 16 39 33.5 +0.6**
SSE S **S 16 45 21.4 -0.5**
SSE sS **sS 16 45 32.1 -1.3**
SSE PMZ
comp=Z,49nm,1.0s
SSE PMZ
comp=Z,350nm,9.4s
SSE LN
comp=Z,2μm,12.7s
SSE LE
comp=Z,2μm,12.7s
SSE LZ
comp=Z,4μm,12.5s
GTA Gaotai 38.16 4 ⇑P **P 16 39 36.8 0.0**
GTA pP pP 16 39 42.6 -1.2
GTA sP sP 16 39 45.7 -0.9
GTA PP **PnPn 16 41 06.1 +0.1**
GTA PcP **PcP 16 41 51.8 +0.4**
GTA S **S 16 45 29.9 +0.9**
GTA ScP **ScP 16 45 39.1 +1.1**
GTA sS sS 16 45 40.8 +0.3
GTA SS **SnSn 16 48 11.7 -1.9**
GTA ScS **ScS 16 49 45.0 -2.6**
GTA PMZ
comp=Z,26nm,1.1s
GTA PMZ
comp=Z,380nm,6.7s
GTA LN
comp=Z,3μm,11.4s
GTA LE
comp=Z,2μm,12.4s
GTA LZ
comp=Z,3μm,10.9s
KLBR Kellerberrin 38.19 150 P **P 16 39 37.3 +0.2**
baz=38,SNR=6.5
NWAO Narrogin (SRO) 39.04 152 P **P 16 39 44.2 0.0**
comp=Z,23nm,0.8s,baz=213,slow=7.9,SNR=7.9
NWAO LR LR 16 54 11.2
comp=Z,430nm,19.6s,baz=194,slow=34
NWAO Narrogin (SRO) 39.04 152 P **P 16 39 45.5 +1.3**
baz=39,SNR=6.8
NWAO Narrogin (SRO) 39.04 152 *e*P **P 16 39 44.6 +0.4**
comp=Z,31nm,0.9s
TIY Taiyuan 39.13 20 *e*P **P 16 39 44.3 -0.6**
TIY PP **PnPn 16 41 20.1 +2.6**
TIY S **S 16 45 47.1 +3.5**
TIY sS **sS 16 45 52.8 -2.3**
TIY PMZ
comp=Z,400nm,11.2s
TIY LN
comp=Z,2μm,12.8s
TIY LE
comp=Z,2μm,11.6s
TIY LZ
comp=Z,3μm,12.5s
H01W3 Cape Leeuwin H 39.39 157 T T 17 21 27.8
baz=333,slow=76,SNR=712
H01W2 Cape Leeuwin H 39.40 157 T T 17 21 31.0
baz=333,slow=76,SNR=664
H01W1 Cape Leeuwin H 39.41 157 T T 17 21 31.0
baz=333,slow=76,SNR=728
JOW Kunigami 39.59 47 *e*P **P 16 39 49.4 +0.5**
comp=Z,39nm,0.9s
TIA Tai'an 39.66 26 ⇓P **P 16 39 49.7 +0.4**
TIA S **S 16 45 53.4 +2.0**
TIA PMZ
comp=Z,10.0nm,1.5s
TIA PMZ
comp=Z,470nm,8.0s
TIA LN
comp=Z,4μm,13.0s
TIA LE
comp=Z,4μm,13.0s
TIA LZ
comp=Z,6μm,12.0s
WRKA Warakurna 40.15 133 P **P 16 39 53.6 0.0**
baz=40,SNR=7.7
KMBL Kambalda 40.20 146 P **P 16 39 54.2 +0.3**
baz=40,SNR=4.9
BTO Baotou 41.06 15 *e*P **P 16 40 01.2 +0.3**
HHC Hu-ho-hao-te 41.72 17 *e*P **P 16 40 06.8 +0.5**
HHC pP pP 16 40 12.9 -0.5
HHC PP **PnPn 16 41 46.0 -2.0**
HHC S **S 16 46 25.4 +3.2**
HHC SS **SS 16 49 24.8 -3.5**
HHC PMZ
comp=Z,19nm,1.1s
HHC PMZ
comp=Z,490nm,7.8s
HHC LN
comp=Z,3μm,13.1s
HHC LE
comp=Z,3μm,12.4s
HHC LZ
comp=Z,3μm,12.5s
WRA Warramunga Arr 42.40 122 P **P 16 40 11.0 -1.2**
comp=Z,47nm,0.6s,baz=300,slow=9.0,SNR=297
WRA PcP **PcP 16 42 05.0 -0.2**
comp=Z,4.9nm,0.8s,baz=309,slow=2.5,SNR=5.1
WRA LR LR 17 01 49.1
comp=Z,572nm,18.2s,baz=300,slow=42
WRAB Tennant Creek 42.41 122 *i* P **P 16 40 11.3 -0.9**
WRAB pmax pmax
comp=Z,347nm,1.7s
WRAB Tennant Creek 42.41 122 *e*P **P 16 40 11.1 -1.1**
comp=Z,58nm,0.7s
WB2 Warramunga Arr 42.41 122 *e*P **P 16 40 11.4 -0.9**
comp=Z,56nm,0.7s
BJT Baijiatuau 42.51 22 *e*P **P 16 40 12.4 -0.3**
BJT pmax pmax
comp=Z,83nm,0.8s
BJT Baijiatuau 42.51 22 *e*P **P 16 40 12.4 -0.3**
comp=Z,83nm,0.8s
BJI Beijing 42.54 22 P **P 16 40 13.4 +0.5**
BJI PP **PP 16 41 52.0 +0.2**
BJI S **S 16 46 33.5 -0.5**
BJI PMZ
comp=Z,29nm,1.1s
BJI PMZ
comp=Z,710nm,3.9s
BJI LN
comp=Z,2μm,13.8s
BJI LE
comp=Z,1μm,16.1s
BJI LZ
comp=Z,560nm,15.2s
KSH Kashi 42.61 336 P **P 16 40 13.3 -0.4**
KSH pP pP 16 40 20.7 0.0
KSH PP **PP 16 41 56.5 +3.7**
KSH PcP **PcP 16 42 05.7 0.0**
KSH S **S 16 46 33.3 -2.2**
KSH SS **SS 16 49 35.7 -10**
KSH ScS **ScS 16 50 11.0 -3.1**
KSH PMZ
comp=Z,21nm,0.7s
KSH LN
comp=Z,560nm,13.2s
KSH LE
comp=Z,500nm,10.1s
KSH LZ
comp=Z,660nm,12.0s
WSAR Wadi Sarin 42.99 304 P **P 16 40 18.1 +1.2**
comp=Z,22nm,1.0s,baz=139,slow=5.8,SNR=9.7
WMQ Urumqi 43.23 350 P **P 16 40 20.0 +1.5**
WMQ pP pP 16 40 25.3 -0.3
WMQ sP sP 16 40 29.7 +1.3
WMQ PcP **PcP 16 42 11.6 +4.0**
WMQ S **S 16 46 47.7 +3.4**
WMQ ScS **ScS 16 50 19.4 +1.8**
WMQ PMZ
comp=Z,33nm,1.0s
WMQ PMZ
comp=Z,260nm,4.0s
WMQ LN
comp=Z,580nm,12.0s
WMQ LE
comp=Z,410nm,16.8s
WMQ LZ
comp=Z,280nm,15.2s
SMDO Samad 43.40 303 P **P 16 40 22.0 +1.7**
SNR=6.5
SMDO Samad 43.40 303 P **P 16 40 22.0 +1.7**
SNR=6.5
BIDO Bidbid 43.53 304 P **P 16 40 23.4 +2.2**
SNR=8.4
BIDO Bidbid 43.53 304 P **P 16 40 23.4 +2.2**
SNR=8.4
GENI Genyem 43.57 95 P **P 16 40 24.2 +2.5**
ASAR Alice Springs 43.74 127 P **P 16 40 22.2 -0.7**
comp=Z,10nm,0.6s,baz=301,slow=7.9,SNR=128
ASAR PcP **PcP 16 42 09.2 -0.5**
comp=Z,9.8nm,1.1s,baz=304,slow=4.4,SNR=6.5
AS31 Alice Springs 43.74 127 *e*P **P 16 40 22.1 -0.9**
comp=Z,15nm,1.4s
AS01 Alice Springs 43.77 127 *e*P **P 16 40 22.1 -1.1**
DL2 Dalian 43.92 28 ⇑*i*P **P 16 40 24.5 +0.5**
DL2 S **S 16 46 56.8 +2.5**
DL2 PMZ
comp=Z,98nm,0.9s
DL2 PMZ
comp=Z,420nm,6.1s
DL2 LN
comp=Z,2μm,12.3s
DL2 LE
comp=Z,3μm,12.8s
DL2 LZ
comp=Z,2μm,15.2s
PDGK Podgornoye 44.72 342 P **P 16 40 31.3 +0.9**
PDGK pmax pmax
comp=Z,69nm,0.9s
TJN Taejon 45.06 35 *i* P **P 16 40 32.4 -0.8**
JNU Nakatsue 45.13 42 P **P 16 40 34.2 +0.3**
comp=Z,18nm,1.0s,baz=336,slow=2.8,SNR=11
JNU Nakatsue 45.13 42 *e*P **P 16 40 33.2 -0.7**
comp=Z,60nm,1.2s
DZET Dzherino 45.34 329 P **P 16 40 34.7 -0.9**
AAA Alma-Ata 45.50 340 *i* P **P 16 40 38.4 +1.7**
AAA *i* S **S 16 47 19.2 +1.9**
AAA smax smax
comp=E,1μm,3.7s
TKM2 Tokmak 2 45.68 338 *i* P **P 16 40 38.2 -0.1**
TKM2 pmax pmax
comp=Z,45nm,0.9s
TKM2 Tokmak 2 45.68 338 *e*P **P 16 40 39.0 +0.6**
comp=Z,42nm,0.9s
HATD Hatta, Dubai 45.73 304 *i* P **P 16 40 40.2 +1.5**
SNR=5.8
ASHO Ashiyiah 45.73 304 P **P 16 40 40.2 +1.4**
AAK Ala-Archa 45.85 337 P **P 16 40 40.3 +0.7**
comp=Z,7.5nm,0.6s,baz=153,slow=6.4,SNR=18
AAK LR LR 17 03 29.8
comp=Z,382nm,18.2s,baz=139,slow=41
AAK Ala-Archa 45.85 337 *i* P **P 16 40 40.8 +1.1**
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 45.85 337 *e*P **P 16 40 40.8 +1.1**
comp=Z,163nm,1.9s
FRU Bishkek 45.97 337 *e*P **P 16 40 42.0 +1.6**
FRU *e* 16 42 20.0
FRU *e* 16 42 33.0
FRU *e*S **S 16 47 26.0 +1.9**
FRU pmax pmax
comp=Z,200nm,2.2s
FRU smax smax
comp=E,135nm,2.8s
KS15 Wonju Array Si 46.10 35 *e*P **P 16 40 41.4 -0.1**
KSAR Wonju Array Be 46.10 35 P **P 16 40 41.6 +0.1**
KSAR Wonju Array Be 46.10 35 P **P 16 40 41.6 +0.1**
KS01 Wonju Array Si 46.13 35 *e*P **P 16 40 40.9 -0.8**
KSRS Korea Array 46.13 35 P **P 16 40 41.6 -0.1**
comp=E,28nm,0.9s,baz=224,slow=8.8,SNR=54
KSRS LR LR 17 00 41.7
comp=E,722nm,21.4s,baz=220,slow=37
FAQ Al Faqa, Dubai 46.14 304 *i* P **P 16 40 43.4 +1.4**
SNR=7.9
EKS2 Erkin-Say 46.16 336 *e*P **P 16 40 43.1 +1.1**
EKS2 pmax pmax
comp=Z,38nm,0.8s
EKS2 Erkin-Say 46.16 336 *e*P **P 16 40 43.1 +1.1**
comp=Z,38nm,0.8s
NAZ Nazwa, Dubai 46.18 304 P **P 16 40 43.3 +0.9**
MNAS Manas 46.53 335 P **P 16 40 45.1 +0.1**
MNAS pmax pmax
comp=Z,60nm,1.4s
MK01 Makanchi Array 47.14 346 *e*P **P 16 40 49.8 +0.3**
MK31 Makanchi Array 47.16 346 *i* P **P 16 40 50.0 +0.2**
MK31 pmax pmax
comp=Z,52nm,0.7s
MK31 Makanchi Array 47.16 346 *e*P **P 16 40 49.9 +0.2**
MKAR Makanchi Array 47.16 346 P **P 16 40 50.2 +0.5**
comp=Z,77nm,0.7s,baz=158,slow=7.7,SNR=633
MKAR Makanchi Array 47.16 346 *e*P **P 16 40 50.0 +0.3**
QIS Mount Isa 47.18 120 P **P 16 40 49.8 -0.4**
baz=47,SNR=12
SONM Songino Array 47.23 9 P **P 16 40 50.7 +0.4**
comp=Z,13nm,0.9s,baz=191,slow=7.6,SNR=54
SONM PcP **PcP 16 42 21.5 +0.1**
comp=Z,12nm,0.8s,baz=199,slow=3.7,SNR=8.5
SONM LR LR 17 02 16.2
comp=Z,754nm,19.0s,baz=190,slow=38
SONA1 Songino Array 47.24 9 *e*P **P 16 40 50.1 -0.3**
MAKZ Makanchi 47.25 346 *e*P **P 16 40 50.3 -0.1**
MAKZ pmax pmax
comp=Z,54nm,0.8s
MAKZ Makanchi 47.25 346 *e*P **P 16 40 50.3 -0.1**
comp=Z,54nm,0.8s
ULN Ulaanbaatar 47.36 9*c i*P **P 16 40 51.2 -0.2**
ULN pmax pmax
comp=Z,23nm,1.7s
ULN Ulaanbaatar 47.36 9 P **P 16 40 51.6 +0.2**
SNR=16
ULN Ulaanbaatar 47.36 9 P **P 16 40 51.6 +0.2**
SNR=16
ULN Ulaanbaatar 47.36 9 *e*P **P 16 40 50.8 -0.6**
comp=Z,26nm,0.8s
COEN Coen 48.38 110 P **P 16 40 59.2 -0.4**
baz=48,SNR=8.7
COEN Coen 48.38 110 *e*P **P 16 40 59.0 -0.6**
comp=Z,55nm,1.3s
GUMO Guam 49.18 73 LR LR 17 03 42.9
comp=Z,128nm,20.1s,baz=244,slow=38
ZAK Zakamensk 49.35 6 *e*P **P 16 41 06.5 -0.1**
ZAK pmax pmax
comp=Z,15nm,1.1s
CN2 Changchun 49.54 27 *e*P **P 16 41 07.7 -0.3**
CN2 PP **PP 16 43 03.4 +0.9**
CN2 *e*S **S 16 48 08.2 -6.4**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,300nm,4.0s
CN2 LN
comp=Z,2μm,14.0s
CN2 LE
comp=Z,2μm,14.0s
CN2 LZ
comp=Z,2μm,14.0s
BBOO Buckleboo 50.17 136 P **P 16 41 12.7 -0.3**
baz=50,SNR=11
MTSU Mount Surprise 50.56 115 P **P 16 41 16.6 +0.3**
baz=51,SNR=14
CBIJ Chichi jima 50.61 55 P **P 16 41 16.8 +0.3**
JCJ Chichijima 50.61 55 P **P 16 41 16.8 +0.3**
comp=Z,74nm,0.8s,baz=288,slow=16,SNR=3.3
TLY Talaya 50.67 6 P **P 16 41 17.8 +1.3**
comp=Z,13nm,0.8s,baz=246,slow=4.1,SNR=20
TLY Talaya 50.67 6 *e*P **P 16 41 17.4 +0.9**
TLY *e* 16 43 17.9
TLY *e*S **S 16 48 34.1 +3.9**
TLY *e* 16 51 01.8
TLY pmax pmax
comp=Z,18nm,0.9s
TLY MLR MLR
comp=Z,983nm,12.0s
TLY Talaya 50.67 6 *e*P **P 16 41 16.9 +0.4**
comp=Z,17nm,0.9s
MANU Manus Island 50.71 94 *e*P **P 16 41 17.1 -0.4**
comp=Z,92nm,1.2s
GEYT Alibeck 50.95 321 P **P 16 41 19.1 +0.2**
comp=Z,17nm,0.7s,baz=148,slow=8.7,SNR=43
IRK Irkutsk 51.28 6 *e*P **P 16 41 20.6 -0.5**
IRK *e*S **S 16 48 40.6 +1.9**
IRK pmax pmax
comp=Z,77nm,2.2s
PMG Port Moresby 51.29 103 P **P 16 41 21.9 +0.1**
comp=Z,35nm,0.7s,baz=7.0,slow=1.9,SNR=13
PMG LR LR 17 05 14.5
comp=Z,408nm,19.0s,baz=270,slow=39
PMG Port Moresby 51.29 103 *i* P **P 16 41 21.8 +0.1**
PMG pmax pmax
comp=Z,344nm,2.5s
PMG Port Moresby 51.29 103 *e*P **P 16 41 21.4 -0.3**
comp=Z,38nm,0.8s
OTUK Ortayu 51.42 339 P **P 16 41 22.1 -0.1**
OTUK pmax pmax
comp=Z,112nm,0.8s
MSHR Mys Shultsa 51.47 32 *e*P **P 16 41 22.5 -0.1**
HIA Hailar 51.81 19 *e*P **P 16 41 25.0 -0.1**
HIA pmax pmax
comp=Z,35nm,0.9s
HIA Hailar 51.81 19 *e*P **P 16 41 25.0 -0.1**
comp=Z,36nm,0.9s
MJB9 Matsu-Tunnel 52.02 43 *e*P **P 16 41 30.6 +3.7**
comp=Z,4.7nm,1.1s
MAJO Matsushiro 52.02 43 *e*P **P 16 41 26.8 -0.1**
MAJO pmax pmax
comp=Z,32nm,1.1s
MAJO Matsushiro 52.02 43 *e*P **P 16 41 30.6 +3.7**
comp=Z,19nm,1.1s
MAT Matsushiro 52.02 43 P **P 16 41 26.9 0.0**
MAT S **S 16 48 45.0 -4.3**
MJAR Matsushiro Arr 52.02 43 P **P 16 41 26.7 -0.1**
comp=Z,6.7nm,1.1s,baz=221,slow=7.1,SNR=12
MJAR PcP **PcP 16 42 39.7 +0.7**
comp=Z,5.3nm,1.0s,baz=254,slow=3.6,SNR=5.3
MJAR LR LR 17 04 28.0
comp=Z,609nm,19.8s,baz=235,slow=37
MDJ Mudanjiang 52.11 29 P **P 16 41 28.1 +0.7**
MDJ pP pP 16 41 34.4 -0.2

MDJ sP sP 16 41 37.4 0.0
MDJ PcP **PcP** **16 42 37.0 -2.2**
MDJ PP **PP** **16 43 31.7 +5.8**
MDJ S **S** **16 48 48.9 -1.4**
MDJ ScS **ScS** **16 51 15.7 -0.5**
MDJ PMZ
comp=Z,19nm,1.3s
MDJ PMZ
comp=Z,340nm,7.5s
MDJ LN
comp=Z,990nm,19.2s
MDJ LE
comp=Z,1μm,17.6s
MDJ LZ
comp=Z,1μm,17.6s
MDJ Mudanjiang 52.11 29 *e*P **P** **16 41 27.5 +0.1**
comp=Z,26nm,1.0s
VLA Vladivostok 52.23 32 *e*P **P** **16 41 29.1 +0.8**
VLA pmax pmax
comp=Z,48nm,1.1s
OPO Ambohidratompo 52.50 246 P **P** **16 41 31.2 +0.3**
comp=Z,17nm,0.8s,baz=78,slow=5.7,SNR=16
HTT Hallett 52.52 135 P **P** **16 41 30.9 +0.2**
baz=53,SNR=5.2
CIT Chita 52.60 13 *e*P **P** **16 41 33.3 +2.3**
CIT *e* 16 41 44.3
CTA Charters Tower 52.89 116 P **P** **16 41 33.4 -0.2**
comp=Z,26nm,1.0s,baz=285,slow=9.7,SNR=19
CTA LR LR 17 07 33.6
comp=Z,893nm,18.2s,baz=287,slow=40
CTAO Charters Tower 52.89 116 *e*P **P** **16 41 33.5 -0.2**
CTAO pmax pmax
comp=Z,59nm,1.2s
CTAO Charters Tower 52.89 116 *e*P **P** **16 41 33.5 -0.2**
comp=Z,59nm,1.2s
USRK Ussuriysk Ar. 53.03 31 P **P** **16 41 34.5 +0.3**
comp=Z,52nm,0.9s,baz=234,slow=6.0,SNR=55
DAMY Dhamar 53.40 287 *e*P **P** **16 41 39.5 +1.7**
comp=Z,136nm,1.1s
ZAA0 Zalesovo Array 53.52 351 *e*P **P** **16 41 37.7 +0.1**
ZALV Zalesovo Beam 53.52 351 P **P** **16 41 38.0 +0.4**
comp=Z,127nm,0.6s,baz=183,slow=6.3,SNR=445
ZALV Zalesovo Beam 53.52 351 P **P** **16 41 38.0 +0.4**
ZALV pmax pmax
comp=Z,128nm,0.6s
STKA Stephens Creek 53.67 132 P **P** **16 41 39.1 -0.1**
comp=Z,18nm,0.7s,baz=307,slow=6.5,SNR=45
STKA LR LR 17 07 36.9
comp=Z,482nm,19.4s,baz=292,slow=40
STKA Stephens Creek 53.67 132 P **P** **16 41 39.2 0.0**
baz=54,SNR=36
STKA Stephens Creek 53.67 132 *e*P **P** **16 41 39.0 -0.2**
comp=Z,11nm,1.1s
ATD Arta Tunnel 54.45 283 P **P** **16 41 46.3 +1.1**
comp=Z,22nm,1.0s,baz=68,slow=3.2,SNR=11
NVS Novosibirsk 54.63 350 *i*P **P** **16 41 45.8 +0.1**
NVS *e* 16 43 52.7
NVS *e*S **S** **16 49 22.3 -1.8**
NVS pmax pmax
comp=N,47nm,1.0s
NVS pmax pmax
comp=E,34nm,1.0s
NVS pmax pmax
comp=Z,72nm,1.0s
NVS pmax pmax
comp=N,11nm,1.0s
NVS pmax pmax
comp=E,15nm,1.0s
NVS pmax pmax
comp=Z,13nm,1.0s
NVS smax smax
comp=N,31nm,1.8s
NVS smax smax
comp=E,61nm,1.8s
BVA0 Borovoye Array 56.13 341 *i* P **P** **16 41 55.9 -0.7**
BVA0 pmax pmax
comp=Z,37nm,0.9s
BRVK Borovoye 56.19 341 *e*P **P** **16 41 56.5 -0.5**
BRVK pmax pmax
comp=Z,119nm,1.0s
BRVK Borovoye 56.19 341 *e*P **P** **16 41 56.5 -0.5**
comp=Z,119nm,1.0s
ARPS Mount Arapiles 56.31 137 P **P** **16 41 59.6 +1.4**
baz=56,SNR=5.7
KLR Kul'dur 56.48 27 P **P** **16 41 59.7 +0.5**
comp=Z,37nm,1.0s,baz=254,slow=6.6,SNR=56
ZRNK Zerenda 56.53 340 *i* P **P** **16 41 57.5 -1.9**
ZRNK pmax pmax
comp=Z,40nm,0.9s
ZRNK Zerenda 56.53 340 *e*P **P** **16 41 58.6 -0.8**
comp=Z,34nm,0.8s
CHKZ Chkalovo 56.61 342 *i* P **P** **16 41 59.5 -0.5**
CHKZ pmax pmax
comp=Z,70nm,0.8s
CMSA Cobar Meteorol 56.62 130 P **P** **16 42 00.6 +0.2**
baz=57,SNR=43
RMQ Roma 57.14 123 P **P** **16 42 03.8 -0.5**
baz=57,SNR=12
AB31 Akbulak array 57.33 332 *i* P **P** **16 42 04.5 -0.7**
AB31 pmax pmax
comp=Z,52nm,0.9s
ABKAR Akbulak array 57.33 332 *e*P **P** **16 42 04.4 -0.7**
HABR Khabarovsk 57.50 29 *ce*P **P** **16 42 04.2 -2.2**
HABR *e**SP **pP** **16 42 12.9 -0.7**
HABR *e* 16 42 57.4
HABR *e* 16 44 11.8
HABR *e*S **S** **16 50 01.4 -1.1**
HABR *e*S S 16 50 09.2 +6.7
HABR *e**SS **sS** **16 50 12.1 -2.3**
HABR *e* 16 51 52.4
HABR *e*SS **SS** **16 53 52.4 -0.3**
HABR pmax pmax
comp=Z,50nm,1.4s
HABR pmax pmax
comp=N,14nm,1.4s
HABR pmax pmax
comp=E,21nm,1.4s
HABR MLR MLR
comp=Z,3μm,13.0s
BOD Bodaibo 58.12 11 *e*P **P** **16 42 10.3 -0.3**
BOD pmax pmax
comp=Z,27nm,1.0s
ERM Érimo 58.18 39 *e*P **P** **16 42 12.6 +1.3**
ERM pmax pmax
comp=Z,9.0nm,1.1s
EIDS Eidsvold 58.75 121 P **P** **16 42 15.5 -0.1**
baz=59,SNR=7.7
EIDS Eidsvold 58.75 121 *e*P **P** **16 42 14.8 -0.8**
comp=Z,51nm,1.4s
ASAJ Asahikawa 58.96 37 *e*P **P** **16 42 16.5 -0.2**
comp=Z,105nm,1.8s
AKTO Aktyubinsk 59.05 332 P **P** **16 42 15.9 -1.3**
AKTO pmax pmax
comp=Z,21nm,1.0s
KMBO Kilima Mbogo 59.54 268 P **P** **16 42 22.2 +0.7**
comp=Z,6.6nm,0.7s,baz=59,slow=10,SNR=20
KMBO LR LR 17 06 30.5
comp=Z,342nm,18.4s,baz=94,slow=34
KMBO Kilima Mbogo 59.54 268 *e*P **P** **16 42 22.1 +0.6**
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KMBO Kilima Mbogo 59.54 268 *e*P **P** **16 42 22.1 +0.6**
comp=Z,9.1nm,0.8s
CLNS Chul'man 59.90 17 *e*P **P** **16 42 20.8 -2.2**
CLNS pmax pmax
comp=Z,23nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,0.8s
YSS Yuzh-Sakhalins 60.63 34 *j* *i*P **P** **16 42 28.8 +0.7**
YSS *e**PP **sP** **16 42 37.7 -0.4**
YSS *e**SP **pP** **16 42 41.3 +6.0**
YSS *e* 16 44 42.0
YSS *i* S **S** **16 50 43.1 0.0**
YSS *e*PS **PnS** **16 50 49.0 -9.1**
YSS *e*PPS PPS 16 50 59.0
YSS *e* 16 52 18.0
YSS *e*SS **SS** **16 54 45.0 +3.1**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,900nm,14.0s
YSS MLR MLR
comp=E,900nm,13.0s
YSS Yuzh-Sakhalins 60.63 34 *e*P **P** **16 42 28.6 +0.5**
comp=E,57nm,1.0s
GNI Garni 61.00 316 P **P** **16 42 31.1 +0.1**
GNI Garni 61.00 316 *e*P **P** **16 42 30.7 -0.3**
GNI pmax pmax
comp=Z,37nm,1.0s
GNI Garni 61.00 316 P **P** **16 42 30.4 -0.6**
SNR=6.3
GNI Garni 61.00 316 P **P** **16 42 30.4 -0.6**
SNR=6.3
GNI Garni 61.00 316 *e*P **P** **16 42 30.7 -0.3**
comp=Z,37nm,1.0s
TBLG Delisi 61.70 318 P **P** **16 42 35.8 +0.2**
TBLG Delisi 61.70 318 P **P** **16 42 35.7 +0.2**
BGD Bogdanovka 62.27 317 P **P** **16 42 39.9 +0.3**
AKH Akhalkalaki 62.40 317 P **P** **16 42 38.1 -2.3**
AKH Akhalkalaki 62.40 317 P **P** **16 42 38.1 -2.3**
SVE Sverdlovsk 62.55 339 *i*P **P** **16 42 41.0 +0.1**
SVE *e*S **S** **16 51 04.6 -2.6**
SVE pmax pmax
comp=Z,62nm,1.0s
ZEI Tsey 62.73 319 *e*P **P** **16 42 42.3 -0.3**
ZEI *e*S **S** **16 51 08.5 -1.9**
ZEI *e* 16 52 32.4
ZEI *e*SS **SS** **16 55 18.8 +3.4**
ZEI pmax pmax
comp=Z,37nm,0.6s
KUR Kuril'sk 62.76 38 *e*P **P** **16 42 40.4 -2.0**
KUR *e*S **S** **16 51 13.3 +3.2**
KUR pmax pmax
comp=Z,39nm,2.1s
KUR pmax pmax
comp=Z,178nm,4.6s
KUR MLR MLR
comp=N,328nm,15.0s
KUR MLR MLR
comp=E,456nm,15.0s
KUR MLR MLR
comp=Z,559nm,15.0s
TYV Tymovskoe 62.84 31 *e*P **P** **16 42 45.0 +2.1**
TYV *e*S **S** **16 51 13.0 +2.0**
TYV pmax pmax
comp=Z,22nm,1.0s
TYV smax smax
comp=E,1μm,11.0s
TYV MLR MLR
comp=Z,2μm,18.0s
ONI Oni 62.94 318 P **P** **16 42 43.3 -0.6**
ONI Oni 62.94 318 P **P** **16 42 43.2 -0.6**
ARU Arti 63.04 337 *c* *i*P **P** **16 42 43.3 -0.8**
ARU 16 43 19.6
ARU 16 45 04.5
ARU S **S** **16 51 14.7 +1.4**
ARU 16 52 33.4
ARU SS **SS** **16 55 20.8 +1.5**
ARU pmax pmax
comp=Z,35nm,1.0s
ARU MLR MLR
comp=Z,463nm,20.0s
ARU Arti 63.04 337 *e*P **P** **16 42 43.1 -1.0**
comp=Z,31nm,1.0s
NCK Nalchik 63.24 319 *e*P **P** **16 42 45.1 -0.7**
NCK pmax pmax
comp=Z,17nm,1.0s
NKL Nikolayevsk 63.27 28 *e*P **P** **16 42 45.0 -0.7**
NKL *e* 16 51 17.0
NKL pmax pmax
comp=Z,43nm,1.0s
NKL pmax pmax
comp=Z,450nm,8.0s
NKL MLR MLR
comp=N,500nm,13.0s
NKL MLR MLR
comp=E,2μm,13.0s
NKL MLR MLR
comp=Z,2μm,13.0s
KSRV Kasrt alli 63.56 310 *e*P **P** **16 42 48.7 +0.7**
NEY Neytrino 63.71 319 *e*P **P** **16 42 49.1 0.0**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 63.80 319 P **P** **16 42 49.5 +0.1**
comp=Z,19nm,0.9s,baz=121,slow=6.0,SNR=41
CHVG Ch'k'valeri 63.91 318 P **P** **16 42 49.8 -0.3**
ZALF Zalf 63.97 306 *e*P **P** **16 42 51.5 +0.6**
ROOS tl_alroos 64.37 308 *e*P **P** **16 42 54.7 +1.2**
SALA Sala 64.40 306 *e*P **P** **16 42 54.5 +0.7**
MARH Ras Al Marh 64.97 307 *e*P **P** **16 42 58.7 +1.0**
TCHB Talchebab 65.00 306 *e*P **P** **16 42 56.8 -0.8**
YAK Yakutsk 65.58 16 P **P** **16 43 00.1 -0.5**
comp=Z,2.1nm,0.4s,baz=38,slow=20,SNR=11
YAK Yakutsk 65.58 16 *c* *i*P **P** **16 42 59.9 -0.7**
YAK *e* 16 43 31.3
YAK *e* 16 45 22.4
YAK *e*S **S** **16 51 42.6 -1.9**
YAK *e* 16 52 49.4
YAK pmax pmax
comp=Z,102nm,1.0s
YAK pmax pmax
comp=E,19nm,1.1s
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=Z,41nm,1.4s
YAK pmax pmax
comp=E,21nm,1.4s
YAK pmax pmax
comp=N,22nm,1.4s
YAK smax smax
comp=N,183nm,3.0s
YAK smax smax
comp=E,215nm,3.0s
YAK MLR MLR
comp=Z,2μm,13.0s
YAK MLR MLR
comp=N,1μm,13.0s
YAK MLR MLR
comp=E,1μm,12.0s
SOC Sochi 65.84 318 *e*P **P** **16 43 00.6 -2.1**
SOC *e* 16 45 23.1
SOC *e*PPP PPP 16 47 05.4
SOC *e*S **S** **16 51 44.0 -4.4**
SOC *e* 16 52 54.0
SOC *e*SSS SSS 16 59 01.1
SOC pmax pmax
comp=Z,21nm,0.6s
ARNB Al Arnab 65.90 309 *e*P **P** **16 43 04.7 +1.3**
SOKR Solikamsk 65.97 339 *c* *i*P **P** **16 43 01.8 -1.4**
SOKR S **S** **16 51 44.2 -5.1**
SOKR pmax pmax
comp=Z,43nm,0.8s
SOKR MLR MLR
comp=Z,475nm,19.0s
CSS Mathiatis 67.73 307 *e*P **P** **16 43 14.5 -0.5**
comp=Z,8.9nm,1.2s
ANN Anapa 67.82 319 *e*P **P** **16 43 12.3 -3.0**
ANN *e**PP **pP** **16 43 19.6 -3.1**
ANN *e* 16 43 37.4
ANN *e*S **S** **16 52 08.9 -3.4**
ANN pmax pmax
comp=Z,29nm,1.1s
VRH Novokhopyorsk 67.90 326 *e*P **P** **16 43 14.3 -1.4**
VRH *e**SP **pP** **16 43 23.4 +0.4**
VRH pmax pmax
comp=Z,40nm,1.0s
CASY Casey 68.02 174 *e*P **P** **16 43 15.9 -0.2**
comp=Z,49nm,1.1s
NRIK Noril'sk 68.33 357 P **P** **16 43 17.8 -0.3**
comp=Z,26nm,0.9s,baz=163,slow=5.3,SNR=22
BR131 Keskin Array S 68.80 312 *e*P **P** **16 43 20.5 -1.2**
BRTR Keskin Array B 68.80 312 P **P** **16 43 20.9 -0.9**
comp=Z,7.8nm,0.9s,baz=126,slow=6.4,SNR=41
VSR Storozhevoye 69.34 325 *e*P **P** **16 43 22.3 -2.4**
VSR *e**SP **pP** **16 43 31.7 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.7s
ANTO Ankara 69.46 312 *e*P **P** **16 43 25.0 -0.8**
ANTO pmax pmax
comp=Z,20nm,1.0s
ANTO Ankara 69.46 312 *e*P **P** **16 43 25.0 -0.8**
comp=Z,20nm,1.0s
BR231 Keskin MP Arra 69.47 312 *e*P **P** **16 43 21.6 -4.3**
LSZ Lusaka 69.67 253 *e*P **P** **16 43 27.5 -0.1**
LSZ pmax pmax
comp=Z,19nm,1.0s
LSZ Lusaka 69.67 253 *e*P **P** **16 43 27.4 -0.1**
comp=Z,18nm,1.0s
LPSR Galich'ya Gora 70.07 327 *e*P **P** **16 43 27.7 -1.5**
LPSR *e**SP **pP** **16 43 37.0 +0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
SIM Simferopol' 70.08 318 *de*P **P** **16 43 28.2 -1.2**
SIM S **S** **16 52 35.6 -3.6**
SIM pmax pmax
comp=Z,19nm,0.8s
SKR Severo-Kuril's 70.14 36 *e*P **P** **16 43 30.0 +0.4**
SKR pmax pmax
comp=Z,48nm,0.9s
MA2 Magadan 71.56 26 P **P** **16 43 38.1 0.0**
comp=Z,15nm,0.7s,baz=248,slow=4.8,SNR=18
MA2 Magadan 71.56 26 *e*P **P** **16 43 37.5 -0.6**
MA2 pmax pmax
comp=Z,96nm,0.8s
MA2 Magadan 71.56 26 *e*P **P** **16 43 37.5 -0.6**
comp=Z,96nm,0.8s
DZM Mont Dzumac 71.69 114 *e*P **P** **16 43 38.8 -0.9**
comp=Z,56nm,1.2s
DZM Mont Dzumac 71.69 114 *e*LR LR 17 05 33.7
comp=Z,513nm,26.2s
DZM Mont Dzumac 71.69 114 *e*P **P** **16 43 39.1 -0.6**
comp=Z,31nm,1.2s
PEA0 Petropavlovsk- 72.01 34 *e*P **P** **16 43 40.3 -0.6**
PETK Petropavlovsk- 72.01 34 P **P** **16 43 40.3 -0.6**
comp=Z,5.3nm,0.9s,baz=192,slow=1.4,SNR=7.7
PETK LR LR 17 19 25.6
comp=Z,293nm,18.0s,baz=245,slow=39
PETK Petropavlovsk- 72.01 34 P **P** **16 43 40.3 -0.6**
PETK pmax pmax
comp=Z,6.0nm,0.9s
PETK MLR MLR
comp=Z,293nm,18.0s
MOS Moscow 72.13 329 *e*P **P** **16 43 40.4 -1.2**
MOS *e* 16 43 58.2
MOS pmax pmax
comp=Z,59nm,0.7s
OBN Obninsk 72.41 328 *d* *i*P **P** **16 43 42.5 -0.7**
OBN *e* 16 46 23.0
OBN *i*S **S** **16 53 00.1 -5.5**
OBN *e*SS **SS** **16 57 46.6 +2.4**
OBN pmax pmax
comp=Z,51nm,1.7s
OBN Obninsk 72.41 328 *e*P **P** **16 43 42.7 -0.6**
PET Petropavlovsk 72.51 34 *e*P **P** **16 43 43.5 -0.4**
PET *e*S **S** **16 53 05.5 -1.3**
PET *e*PS **PnS** **16 53 43.6 +4.5**
PET pmax pmax
comp=Z,36nm,0.9s
PET MLR MLR
comp=Z,800nm,14.0s
PET Petropavlovsk 72.51 34 *e*P **P** **16 43 43.3 -0.6**
comp=Z,56nm,1.3s
MAW Mawson 72.58 193 P **P** **16 43 43.8 -0.2**
comp=Z,14nm,0.9s,baz=30,slow=7.3,SNR=16
MAW LR LR 17 08 34.9
comp=Z,333nm,21.0s,baz=58,slow=30
MAW Mawson 72.58 193 P **P** **16 43 44.8 +0.8**
baz=73,SNR=8.5
MAW Mawson 72.58 193 *e*P **P** **16 43 44.6 +0.6**
comp=Z,6.8nm,1.1s
KARP Karpathos 72.78 307 *e*P **P** **16 43 45.1 -0.9**
comp=Z,16nm,0.8s
TIXI Tiksi 73.30 10 P **P** **16 43 47.3 -0.9**
comp=Z,27nm,0.9s,baz=211,slow=2.4,SNR=78
TIXI Tiksi 73.30 10 *c* *i*P **P** **16 43 47.4 -0.8**
TIXI pmax pmax
comp=Z,28nm,0.8s
TIXI Tiksi 73.30 10 *e*P **P** **16 43 47.1 -1.1**
comp=Z,40nm,0.9s
LBTB Lobatse 73.47 244 *e*P **P** **16 43 50.2 -0.1**
LBTB pmax pmax
comp=Z,44nm,0.9s
LBTB Lobatse 73.47 244 *e*P **P** **16 43 50.2 -0.1**
comp=Z,44nm,0.9s
KLMR Klimovskoe 73.58 335 *e*P **P** **16 43 48.1 -2.0**
KLMR *e**SP **pP** **16 43 56.9 -0.6**
KLMR pmax pmax
comp=Z,15nm,0.9s
TLCR 73.74 317 ⇓ *i*P **P** **16 43 51.7 +0.3**
TLCR 73.74 317 ⇓P **P** **16 43 51.7 +0.3**
TIRR Tirgusor 73.83 316 ⇑ *i*P **P** **16 43 51.7 -0.2**
TIRR Tirgusor 73.83 316 ⇑P **P** **16 43 51.7 -0.2**
SEY Seymchan 73.97 23 P **P** **16 43 52.2 -0.1**
comp=Z,20nm,0.9s,baz=240,slow=5.5,SNR=56
MSAB Monastry St. A 74.15 316 ⇓ *i*P **P** **16 43 53.7 -0.1**
CFR Carcaliu 74.20 317 ⇓ *i*P **P** **16 43 53.8 -0.3**
CFR Carcaliu 74.20 317 ⇓P **P** **16 43 53.8 -0.3**
KIS Kishinev 74.22 319 *e*P **P** **16 43 53.0 -1.1**
KIS Kishinev 74.22 319 *e*P **P** **16 43 53.0 -1.1**
KIS *e* 16 44 15.0
KIS *e* 16 46 40.0
KIS *e* 16 53 21.0
KIS *e* 16 54 17.0
KIS MLR MLR
comp=Z,300nm,15.0s
KIS MLR MLR
comp=Z,300nm,16.0s
PRD Provadia 74.24 315 *e*P **P** **16 43 53.5 -0.8**
BOSA Boshof 74.37 240 P **P** **16 43 55.2 -0.4**
comp=Z,18nm,0.8s,baz=81,slow=5.2,SNR=22
BOSA LR LR 17 11 04.6
comp=Z,388nm,20.3s,baz=59,slow=31
BOSA Boshof 74.37 240 *e*P **P** **16 43 55.1 -0.4**
comp=Z,37nm,1.0s
IDI Anoyia 74.55 306 *e*P **P** **16 43 55.9 -0.5**
comp=Z,17nm,0.8s
SORM Soroca 74.83 320 ⇓ *i*P **P** **16 43 56.7 -0.9**
SORM Soroca 74.83 320 ⇓P **P** **16 43 56.7 -0.9**
AKASG Malin Array Be 75.01 323 P **P** **16 43 57.6 -1.0**
comp=Z,11nm,0.8s,baz=88,slow=5.0,SNR=51
AKASG Malin Array Be 75.01 323 P **P** **16 43 57.6 -1.0**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 75.01 323 *e*P **P** **16 43 57.1 -1.5**
AKBB pmax pmax
comp=Z,15nm,0.9s
AKBB Malin Array Si 75.01 323 *e*P **P** **16 43 57.0 -1.5**
comp=Z,15nm,0.9s
KIEV Kiev 75.02 323 *d* *i*P **P** **16 43 57.1 -1.5**
KIEV pmax pmax
comp=Z,16nm,1.0s
KIEV Kiev 75.02 323 *e*P **P** **16 43 56.7 -1.9**
comp=Z,15nm,0.9s
AK11 Malin Array Si 75.03 322 *e*P **P** **16 43 57.5 -1.3**
VRI Vrincioaia 75.33 317 ⇓ *i*P **P** **16 44 01.0 +0.4**
VRI Vrincioaia 75.33 317 ⇓P **P** **16 44 01.1 +0.4**
PLOR Plostina 75.38 317 ⇑ *i*P **P** **16 44 01.7 +0.7**
PLOR Plostina 75.38 317 ⇑P **P** **16 44 01.7 +0.7**
TESR Tescani 75.54 316 ⇑ *i*P **P** **16 44 01.5 -0.3**
MLR Muntele Rosu 75.78 317 ⇑ *i*P **P** **16 44 03.9 +0.5**
MLR Muntele Rosu 75.78 317 ⇑P **P** **16 44 03.9 +0.5**
RZN Rozhen 75.85 313 *e*P **P** **16 44 02.5 -1.4**
DOPR Dopca 76.27 317 ⇑ *i*P **P** **16 44 05.8 -0.2**
VOIR 76.38 317 ⇑ *i*P **P** **16 44 03.3 -3.4**
VOIR 76.38 317 ⇑P **P** **16 44 03.3 -3.4**
ARR Arges 76.65 316 ⇓ *i*P **P** **16 44 07.1 -1.2**
BURAR Bucovina Array 76.75 319 ⇑ *i*P **P** **16 44 09.4 +0.6**
BURAR Bucovina Array 76.75 319 ⇑P **P** **16 44 09.4 +0.6**
BUR08 Bucovina Ar. S 76.77 319 *e*P **P** **16 44 09.0 +0.1**
MPEP Malo Peshtene 76.88 314 *e*P **P** **16 44 08.0 -1.5**
NACGM Naroch 77.62 326 *e* **P** **16 44 13.0 -0.4**
LVV L'vov 78.00 321 *i* P **P** **16 44 15.3 -0.3**
DRGR 78.25 318 ⇓ *i*P **P** **16 44 17.5 +0.3**
DRGR 78.25 318 ⇓P **P** **16 44 17.5 +0.3**
TRPA Tarpa 78.62 319 ⇓ *e*P **P** **16 44 19.4 +0.4**
VSU Vasula 78.65 330 *i* P **P** **16 44 18.5 -0.4**
VSU pmax pmax
comp=Z,23nm,1.0s
LVZ Lovozero 78.71 340 *i* P **P** **16 44 18.2 -1.0**
LVZ pmax pmax
comp=Z,11nm,0.7s
LVZ Lovozero 78.71 340 *e*P **P** **16 44 18.5 -0.7**
comp=Z,14nm,0.8s
KWP Kalwaria Pacla 78.81 320 *e*P **P** **16 44 20.4 +0.3**
KWP Kalwaria Pacla 78.81 320 *e*P **P** **16 44 20.4 +0.3**
UZH Uzhgorod 78.88 319 *e*P **P** **16 44 18.6 -1.9**
UZH *e* 16 44 23.8
UZH *e* 16 44 28.0
UZH *e*S **S** **16 54 12.0 -5.4**
KOLS Kolonicke sedl 78.95 320 *e*P **P** **16 44 22.0 +1.1**
KOLS *e* 16 44 30.7
KOLS *e*S **S** **16 54 15.7 -2.6**

KOLS pmax pmax
comp=Z,30nm,1.0s
KOLS Kolonicke sedl 78.95 320 *e*P **P 16 44 22.0 +1.1**
KOLS *e* 16 44 30.6
KOLS *e*S **S 16 54 15.7 -2.6**
APA Apatity 79.00 340↑↑ *i*P **P 16 44 20.0 -0.7**
APA *i* S **S 16 54 17.0 -1.0**
APA *i* 16 55 12.0
APA MLR MLR
comp=Z,400nm,16.0s
SUW Suwalki 79.44 325 *e*P **P 16 44 22.6 -0.8**
SUW Suwalki 79.44 325 *e*P **P 16 44 22.6 -0.8**
CRVS Cervenica-Dubn 79.47 320 *e*P **P 16 44 24.4 +0.7**
CRVS *e*S **S 16 54 23.4 -0.4**
CRVS Cervenica-Dubn 79.47 320 *e*P **P 16 44 24.4 +0.7**
CRVS *e*S **S 16 54 23.4 -0.4**
RPZ Rata Peaks 79.50 135 *e*P **P 16 44 23.4 -0.6**
comp=Z,34nm,0.8s
STHS Stebnicka Huta 79.70 320 *e*P **P 16 44 25.9 +0.9**
STHS pmax pmax
comp=Z,12nm,1.0s
STHS Stebnicka Huta 79.70 320 *e*P **P 16 44 25.9 +0.9**
FIA1 FINESS Array S 79.82 333 *e*P **P 16 44 24.5 -0.8**
comp=Z,17nm,0.9s
FINES FINESS Array B 79.82 333 P **P 16 44 24.9 -0.4**
comp=Z,10.0nm,0.7s,baz=104,slow=8.0,SNR=29
SYO Syowa Base 79.84 198↑↑ *e*X **P 16 44 22.6 -2.6**
KECS Kecovo 80.03 319 *e*P **P 16 44 27.0 +0.2**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 80.03 319 *e*P **P 16 44 27.0 +0.2**
OXZ Oxford 80.13 134 *e*P **P 16 44 26.7 -0.7**
comp=Z,83nm,1.4s
TSUM Tsumeb 80.16 250 *e*P **P 16 44 28.5 +0.3**
comp=Z,17nm,1.1s
NIE Niedzica 80.31 320 *e*P **P 16 44 28.6 +0.3**
NIE Niedzica 80.31 320 *e*P **P 16 44 28.6 +0.3**
PSZ Piszkesteto 80.33 318|| *e*P **P 16 44 28.4 -0.1**
PSZ Piszkesteto 80.33 318 *e*P **P 16 44 28.4 -0.1**
PSZ pmax pmax
comp=Z,19nm,1.0s
PSZ Piszkesteto 80.33 318 *e*P **P 16 44 28.4 -0.1**
comp=Z,20nm,1.0s
THZ Tophouse 80.47 133 *e*P **P 16 44 29.2 -0.2**
comp=Z,81nm,1.2s
CRLZ Canterbury Las 80.59 134 *e*P **P 16 44 30.2 +0.4**
comp=Z,107nm,1.3s
MQZ McQueen's Vall 80.64 135 *e*P **P 16 44 30.2 +0.1**
comp=Z,26nm,1.1s
OJC Ojcow 80.76 321 *e*P **P 16 44 30.4 -0.2**
OJC Ojcow 80.76 321 *e*P **P 16 44 30.7 0.0**
OJC pmax pmax
comp=Z,11nm,0.8s
OJC Ojcow 80.76 321 *e*P **P 16 44 30.7 0.0**
comp=Z,11nm,0.8s
LANS Liptovska Anna 80.80 320 *e*P **P 16 44 32.4 +1.4**
LANS Liptovska Anna 80.80 320 *e*P **P 16 44 32.4 +1.4**
VYHS Vyhne 81.12 319 *e*P **P 16 44 32.9 +0.3**
VYHS *e*S **S 16 54 40.9 -0.3**
VYHS pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 81.12 319 *e*P **P 16 44 32.9 +0.3**
VYHS *e* 16 44 52.8
VYHS *e*S **S 16 54 40.9 -0.3**
BILL Bilibino 81.35 21↓↓ *i*P **P 16 44 33.6 +0.2**
BILL *i* 16 44 47.2
BILL *e* 16 47 40.9
BILL *i* S **S 16 54 40.9 -1.9**
BILL *e*SS **SS 16 59 59.4 +0.5**
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,727nm,14.0s
OKC Ostrava-Krasne 81.76 320 *e*P **P 16 44 36.6 +0.7**
OKC *e*pP **pP 16 44 42.8 -0.6**
OKC *e*sP **sP 16 44 45.8 -0.3**
OKC *e*PP **PP 16 47 50.2 +7.1**
OKC *e*S **S 16 54 46.5 -1.2**
OKC AMS AMS 17 31 40.0
OKC Ostrava-Krasne 81.76 320 *e*P **P 16 44 36.6 +0.7**
OKC *e* 16 44 45.8
OKC *e* 16 47 50.2
OKC *e*S **S 16 54 46.5 -1.2**
VAF Ylistaro 81.78 334 P **P 16 44 36.2 +0.5**
VAF pmax pmax
comp=Z,28nm,1.1s
MORC Moravsky Berou 82.14 320 *e*P **P 16 44 38.0 0.0**
MORC pmax pmax
comp=Z,79nm,1.1s
MORC Moravsky Berou 82.14 320 *e*P **P 16 44 38.0 0.0**
comp=Z,79nm,1.1s
ARA0 ARCESS Array S 82.41 340 *e*P **P 16 44 39.0 0.0**
ARCES ARCESS Array B 82.41 340 P **P 16 44 39.1 +0.1**
comp=Z,6.4nm,0.5s,baz=106,slow=4.4,SNR=67
ARE0 ARCESS Array S 82.41 340 *e*P **P 16 44 39.0 0.0**
comp=Z,38nm,1.3s
BKZ Black Stump Fm 82.78 130 *e*P **P 16 44 41.3 -0.3**
comp=Z,53nm,1.1s
DPC Dobruska-Polom 82.99 320 *e*P **P 16 44 43.3 +0.8**
DPC *e*pP **pP 16 44 51.2 +1.3**
DPC *e*x x 16 45 01.0
DPC *e*S **S 16 55 00.2 -0.2**
DPC AMS AMS 17 32 30.0
DPC Dobruska-Polom 82.99 320 *e*P **P 16 44 43.3 +0.8**
DPC *e* 16 44 51.2
DPC *e*S **S 16 55 00.2 -0.2**
KSP Ksiaz 83.06 321 *e*P **P 16 44 43.1 +0.3**
KSP Ksiaz 83.06 321 *e*P **P 16 44 43.1 +0.3**
ARSA Arzberg 83.18 317 *i* P **P 16 44 44.2 +0.7**
SNR=6.4
BOJS Bojanci 83.20 316 *i* P **P 16 44 44.0 +0.4**
UPC Upice 83.20 321 *e*P **P 16 44 44.0 +0.5**
UPC *e*S **S 16 55 03.1 +0.6**
UPC *e*PS **PnS 16 55 53.7 -1.6**
UPC AMS AMS 17 32 00.0
comp=Z,200nm,15.2s
UPC Upice 83.20 321 *e*P **P 16 44 44.0 +0.5**
UPC *e*S **S 16 55 03.1 +0.6**
UPC *e* 16 55 53.7
UPC MLR MLR
comp=Z,200nm,15.2s
TREC Trest 83.41 319 *e*P **P 16 44 44.8 +0.2**
TREC AMS AMS 17 36 40.0
comp=Z,200nm,12.5s
TREC Trest 83.41 319 *e*P **P 16 44 44.8 +0.2**
TREC MLR MLR
comp=Z,200nm,12.5s
SOKA Soboth 83.46 317 *i* P **P 16 44 45.6 +0.5**
SNR=10
VISS Visnje 83.52 316 *i* P **P 16 44 45.2 0.0**
VNDS Vrh nad Dolski 83.64 316 *i* P **P 16 44 46.5 +0.7**
GOPC GO Pecny, Ondr 83.92 320 *e*P **P 16 44 47.5 +0.3**
GOPC *e*S **S 16 55 08.8 -1.0**
GOPC *e*PS **PnS 16 56 03.8 -0.4**
GOPC AMS AMS 17 34 30.0
comp=Z,200nm,14.5s
GOPC GO Pecny, Ondr 83.92 320 *e*P **P 16 44 47.5 +0.3**
GOPC *e*S **S 16 55 08.8 -1.0**
GOPC *e* 16 56 03.8
GOPC MLR MLR
comp=Z,200nm,14.5s
JAVS Javornik 84.06 316 *i* P **P 16 44 48.4 +0.3**
PRU Pruhonice 84.09 320 *e*P **P 16 44 48.6 +0.6**
PRU *e*pP **pP 16 44 56.3 +0.8**
PRU *e*S **S 16 55 11.7 +0.3**
PRU AMS AMS 17 34 40.0
comp=Z,200nm,15.0s
PRU Pruhonice 84.09 320 *e*P **P 16 44 48.6 +0.6**
PRU *e* 16 44 56.3
PRU *e*S **S 16 55 11.7 +0.3**
PRU MLR MLR
comp=Z,200nm,15.0s
PVCC Panska Ves 84.12 321 *e*P **P 16 44 48.7 +0.5**
PVCC AMS AMS 17 33 00.0
comp=Z,200nm,11.8s
PVCC Panska Ves 84.12 321 *e*P **P 16 44 48.7 +0.5**
PVCC MLR MLR
comp=Z,200nm,11.8s
AQU L'Aquila 84.29 312 *e*P **P 16 44 48.7 -0.6**
AQU pmax pmax
comp=Z,49nm,1.1s
AQU L'Aquila 84.29 312 *e*P **P 16 44 48.7 -0.6**
comp=Z,49nm,1.1s

GEA0 GERESS Array S 84.54 319 *e*P **P 16 44 50.0 -0.5**
GEC2 GERESS Array S 84.54 319 *e*P **P 16 44 50.3 -0.2**
GEC2 pmax pmax
comp=Z,27nm,1.1s
GEC2 GERESS Array S 84.54 319 *e*P **P 16 44 50.3 -0.2**
comp=Z,27nm,1.1s
GERES GERESS Array B 84.54 319 P **P 16 44 50.9 +0.4**
comp=Z,11nm,1.0s,baz=93,slow=5.3,SNR=56
BRG Berggiesshubel 84.55 321 *i* P **P 16 44 50.6 +0.3**
comp=Z,16nm,1.1s
BRG *e* 16 45 15.0
comp=Z,8.4nm,1.0s
BRG Berggiesshubel 84.55 321 *i* P **P 16 44 50.6 +0.3**
BRG pmax pmax
comp=Z,17nm,1.1s
BRG pmax pmax
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 84.64 319 *e*P **P 16 44 50.0 -0.9**
KHC *ex* x 16 45 10.0
KHC AMS AMS 17 34 20.0
comp=Z,300nm,14.4s
KHC Kasperske Hory 84.64 319 *e*P **P 16 44 50.0 -0.9**
KHC MLR MLR
comp=Z,300nm,14.4s
CLL Collm 85.17 321↓↓ *i*P **P 16 44 53.3 -0.2**
comp=Z,14nm,1.0s
CLL *i* 16 45 02.0
CLL LmV 17 29 00.0
comp=Z,100nm,19.5s
CLL Collm 85.17 321↓↓ *i*P **P 16 44 53.3 -0.2**
CLL *i* 16 45 02.0
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 85.17 321 *e*P **P 16 44 53.2 -0.2**
comp=Z,12nm,1.0s
NKC Novy Kostel 85.45 320 *e*P **P 16 44 55.5 +0.5**
NKC *e*pP **pP 16 45 03.3 +0.8**
NKC Novy Kostel 85.45 320 *e*P **P 16 44 55.5 +0.5**
NKC *e* 16 45 03.3
VNDA Vanda 85.88 169 P **P 16 44 56.1 -0.4**
comp=Z,8.4nm,1.1s,baz=298,slow=6.0,SNR=21
VNDA Vanda 85.88 169 *e*P **P 16 44 56.6 +0.1**
comp=Z,23nm,1.3s
MOX Moxa 86.01 321 P **P 16 44 58.7 +1.0**
MOX pmax pmax
comp=Z,8.0nm,1.2s
GRFO Grafenberg 86.21 320 *e*P **P 16 44 59.4 +0.7**
GRFO pmax pmax
comp=Z,15nm,1.1s
GRFO Grafenberg 86.21 320 *e*P **P 16 44 59.4 +0.7**
comp=Z,15nm,1.1s
NC405 NORSAR Array S 86.57 331 *e*P **P 16 44 59.8 -0.5**
NC602 NORSAR Array S 86.64 331 *e*P **P 16 45 00.3 -0.2**
FUORN Ofenpass-Fuorn 86.74 316 *e*P **P 16 45 01.9 +0.2**
comp=Z,25nm,1.1s
NC303 NORSAR Array S 86.75 331 *e*P **P 16 45 00.4 -0.7**
NB201 NORSAR Array S 86.78 331 *e*P **P 16 45 00.2 -1.0**
NB2 NORSAR Subarra 86.81 331 P **P 16 45 00.4 -1.1**
comp=Z,18nm,1.0s,baz=95,slow=4.8
NB2 NORSAR Subarra 86.81 331 P **P 16 45 00.4 -1.1**
baz=95,slow=4.8
NB2 NORSAR Subarra 86.81 331 P **P 16 45 00.3 -1.2**
NOA NORSAR Array B 86.81 331 P **P 16 45 01.0 -0.4**
comp=Z,10nm,0.9s,baz=94,slow=5.0,SNR=23
SPITS Spitsbergen Ar 86.89 348 P **P 16 45 01.1 -0.4**
comp=Z,6.4nm,0.7s,baz=104,slow=12,SNR=3.6
SPITS Spitsbergen Ar 86.89 348 P **P 16 45 01.1 -0.4**
SPITS pmax pmax
comp=Z,7.0nm,0.7s
NAO01 NORSAR Array S 86.96 331 *e*P **P 16 45 01.6 -0.5**
SBA Scott Base 86.98 169 *e*P **P 16 45 02.5 +0.6**
SBA Scott Base 86.98 169 *e*P **P 16 45 02.5 +0.6**
NBO02 NORSAR Array S 86.99 331 *e*P **P 16 45 02.2 -0.1**
DAVA Damuels 87.02 317 *i* P **P 16 45 02.8 -0.2**
SNR=5.2
NBO00 NORSAR Array S 87.03 331 *e*P **P 16 45 02.2 -0.2**
NC204 NORSAR Array S 87.04 331 *e*P **P 16 45 02.1 -0.5**
KEST Kesra 87.21 306 P **P 16 45 05.2 +1.2**
comp=Z,21nm,0.9s,baz=222,slow=1.5,SNR=19
KEST LR LR 17 29 03.0
comp=Z,129nm,18.4s,baz=284,slow=39
KEST Kesra 87.21 306 *e*P **P 16 45 04.8 +0.8**
comp=Z,31nm,1.0s
KONO Kongsberg 87.55 329 *e*P **P 16 45 04.9 -0.1**
KONO pmax pmax
comp=Z,23nm,1.0s
KONO Kongsberg 87.55 329 *e*P **P 16 45 04.9 -0.1**
comp=Z,23nm,1.0s
MUD Monsted U'grnd 87.69 326 *i* P **P 16 45 06.4 +0.7**
MUD pmax pmax
comp=Z,28nm,1.0s
MUD Monsted U'grnd 87.69 326 *i* P **P 16 45 06.4 +0.7**
comp=Z,28nm,1.0s
BFO Black Forest 88.08 318 *i* P **P 16 45 08.2 +0.4**
LPG La Plagne 89.17 315 *e*P **P 16 45 13.0 -0.4**
LPG pmax pmax
comp=Z,18nm,1.1s
LPL La Plagne 89.19 315 *e*P **P 16 45 13.1 -0.3**
LPL pmax pmax
comp=Z,21nm,1.0s
NVL N'lazarevskaya 89.41 199 *e*P **P 16 45 17.2 +3.7**
NVL *e**SP **sP 16 45 26.7 +2.9**
NVL *e*S **SKSac 16 55 42.0 -0.1**
WLF Walferdange 89.50 319 P **P 16 45 15.3 +0.8**
MEM Membach 89.58 320 P **P 16 45 15.1 +0.4**
CABF La Chapelle 89.61 316 *e*P **P 16 45 15.1 -0.1**
CABF pmax pmax
comp=Z,24nm,1.3s
BCLA Clavier 90.03 320 P **P 16 45 16.3 -0.6**
GIVF Givet 90.35 320 *e*P **P 16 45 18.4 0.0**
GIVF pmax pmax
comp=Z,17nm,1.0s
DOU Dourbes 90.50 320 P **P 16 45 19.8 +0.7**
VIVF Saint-Julien-l 90.66 315 *e*P **P 16 45 19.9 -0.1**
VIVF pmax pmax
comp=Z,17nm,1.1s
SNF Seneffe 90.68 320 P **P 16 45 19.1 -0.8**
TAM Tamanrasset 90.68 293 *e*P **P 16 45 21.5 +0.8**
TAM pmax pmax
comp=Z,16nm,1.0s
TAM Tamanrasset 90.68 293 *e*P **P 16 45 21.5 +0.8**
comp=Z,16nm,1.0s
SSB Saint Sauveur 90.73 315 *e*P **P 16 45 20.0 -0.4**
SSB pmax pmax
comp=Z,12nm,1.0s
SSB Saint Sauveur 90.73 315 *e*P **P 16 45 20.0 -0.4**
comp=Z,12nm,1.0s
AVF Avril sur Loir 91.49 317 *e*P **P 16 45 23.5 -0.3**
AVF pmax pmax
comp=Z,19nm,1.1s
CAF Calviac 92.51 315 *e*P **P 16 45 28.9 +0.3**
CAF pmax pmax
comp=Z,26nm,1.6s
LDF La Druitiere 93.68 319 *e*P **P 16 45 33.7 -0.2**
LDF pmax pmax
comp=Z,25nm,1.3s
MFF Saint Martin d 93.90 317 *e*P **P 16 45 34.7 -0.2**
MFF pmax pmax
comp=Z,22nm,1.2s
SNAA Sanae 94.12 198 *e*P **P 16 45 35.3 -0.2**
SNAA Sanae 94.12 198 *e*P **P 16 45 35.9 +0.4**
comp=Z,8.3nm,1.2s
DAG Danmarks Havn 94.53 348 *i* P **P 16 45 36.3 -0.9**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 94.53 348 *i* P **P 16 45 36.3 -0.9**
comp=Z,6.3nm,0.8s
ROSF Rostrenen 95.80 319 *e*P **P 16 45 40.1 -3.4**
ROSF pmax pmax
comp=Z,143nm,1.9s
TTA Tatalina 96.75 26 *e*P **P 16 45 48.4 +0.8**
TTA pmax pmax
comp=Z,9.0nm,1.1s
TTA Tatalina 96.75 26 *e*P **P 16 45 48.4 +0.8**
comp=Z,8.9nm,1.1s
TT01 Tatalina 96.75 26 *e*P **P 16 45 48.1 +0.5**
ES19 SONSECA Array 97.45 310 *e*P **P 16 45 51.2 -0.1**
ESDC Sonseca Array 97.50 310 P **P 16 45 51.3 -0.2**
comp=Z,0.4nm,0.5s,baz=68,slow=3.6,SNR=4.5
BPAW Bear Paw Mtn. 98.52 24 *e*P Pdif 16 45 55.8 +0.2
comp=Z,8.3nm,1.0s
ILAR Eielson Array 99.90 23 P **Pdif 16 46 00.5 -1.2**
comp=Z,0.7nm,1.0s,baz=300,slow=4.1,SNR=3.6
ILAR PKKPbc **PKKPbc 17 02 20.4 -3.5**
comp=Z,1.4nm,0.8s,baz=124,slow=2.3,SNR=10

YKA Yellowknife Ar 112.24 15 PKiKP **PKiKP 16 50 52.6 0.0**
comp=Z,0.5nm,0.8s,baz=326,slow=1.9,SNR=5.2
YKA PKKPbc **PKKPbc 17 01 42.3 -3.5**
comp=Z,1.1nm,0.7s,baz=144,slow=3.3,SNR=9.8
YKA SKKP 17 05 48.3
comp=Z,0.3nm,0.8s,baz=133,slow=4.3,SNR=4.1
PPT2 Papeete2 112.89 109 *e*LR LR 17 24 48.4
comp=Z,276nm,25.8s
RPW Rockport 120.50 29 *e*PKPdf **PKPdf 16 51 09.1 +0.1**
FFC Flin Flon 122.19 13 *e*PKIKP **PKPdf 16 51 11.0 -0.9**
FFC Flin Flon 122.19 13 *e*PKPdf **PKPdf 16 51 11.0 -0.9**
SCHQ Schefferville 122.57 349 PKP **PKPdf 16 51 12.2 -0.5**
comp=Z,3.5nm,0.7s,baz=97,slow=6.7,SNR=3.0
NEW Newport 122.66 26 PKP **PKPdf 16 51 13.5 +0.4**
comp=Z,3.6nm,0.7s,baz=90,slow=2.0,SNR=4.1
NEW Newport 122.66 26 P **PKPdf 16 51 13.5 +0.4**
baz=319
I03D Drain, OR 122.73 34 P **PKPdf 16 51 13.8 +0.5**
baz=310
TAOE Nuku Hiva Isla 122.87 100 *e*LR LR 17 29 19.4
comp=Z,218nm,25.2s
I05D Terrebonne, OR 123.40 32 P **PKPdf 16 51 14.9 +0.2**
baz=312
HUMO Hull Mountain 123.66 35 *e*PKPdf **PKPdf 16 51 15.1 -0.1**
J05D Fort Rock, OR 124.17 33 P **PKPdf 16 51 16.1 -0.2**
baz=312
F10A Beach Ranch, E 124.31 28 *e*PKPdf **PKPdf 16 51 16.3 -0.1**
M02C Callahan 124.49 36 P **PKPdf 16 51 17.8 +0.9**
baz=309
M04C Macdoel 124.82 35 P **PKPdf 16 51 17.2 -0.4**
baz=311
MSO Missoula 125.14 25 P **PKPdf 16 51 17.6 -0.4**
baz=321
MSO Missoula 125.14 25 *e*PKPdf **PKPdf 16 51 17.4 -0.6**
CHMT Chamberlain Mo 125.37 25 *e*PKPdf **PKPdf 16 51 17.7 -0.9**
MOD Modoc Plateau 125.60 34 *e*PKPdf **PKPdf 16 51 19.4 +0.3**
O03D Paynes Creek 125.80 36 P **PKPdf 16 51 18.9 -0.6**
baz=310
LRM Limekiln Ridge 126.57 25 *e*PKPdf **PKPdf 16 51 20.7 -0.3**
DLMT Dillon 126.87 26 *e*PKPdf **PKPdf 16 51 21.4 -0.1**
MFID Camas Ranch 126.87 29 *e*PKPdf **PKPdf 16 51 21.6 +0.1**
BOZ Bozeman (W) 127.06 25 P **PKPdf 16 51 22.2 +0.4**
baz=324
BOZ Bozeman (W) 127.06 25 *e*PKIKP **PKPdf 16 51 21.5 -0.3**
BOZ Bozeman (W) 127.06 25 *e*PKPdf **PKPdf 16 51 21.4 -0.3**
AFDM Forest Hills D 127.16 37 *e*PKPdf **PKPdf 16 51 22.2 +0.2**
MCMT McKenzie Canyo 127.18 26 *e*PKPdf **PKPdf 16 51 22.7 +0.5**
A25A Svangstu Ranch 127.21 16 P **PKPdf 16 51 22.0 +0.2**
baz=335
HLID Hailey 127.44 28 P **PKPdf 16 51 23.1 +0.4**
baz=319
HLID Hailey 127.44 28 *e*PKPdf **PKPdf 16 51 23.3 +0.6**
PAHR Pah Rah Range 127.59 35 *e*PKPdf **PKPdf 16 51 23.1 +0.1**
ULM Lac du Bonnet 127.65 10 PKP **PKPdf 16 51 22.1 -0.5**
comp=Z,9.0nm,0.8s,baz=325,slow=3.7,SNR=6.2
ULM Lac du Bonnet 127.65 10 *e*PKPdf **PKPdf 16 51 21.5 -1.0**
A29A Manning Farm, 128.22 13 P **PKPdf 16 51 23.7 0.0**
baz=340
NV01 Mina Array Sit 129.07 36 *e*PKPdf **PKPdf 16 51 26.5 +0.5**
NVAR Mina Array Bea 129.07 36 PKP **PKPdf 16 51 26.9 +0.9**
comp=Z,3.9nm,0.8s,baz=274,slow=2.1,SNR=19
ELK Elko 129.13 31 *e*PKIKP **PKPdf 16 51 26.1 +0.1**
ELK Elko 129.13 31 *e*PKPdf **PKPdf 16 51 26.1 +0.1**
REDW Red Top Meadow 129.22 26 *e*PKPdf **PKPdf 16 51 26.1 +0.1**
C30A Mose, Pekin 129.54 13 P **PKPdf 16 51 25.8 -0.5**
baz=340
HVU Hansel Valley 129.59 29 *e*PKIKP **PKPdf 16 51 26.5 -0.2**
HVU Hansel Valley 129.59 29 *e*PKPdf **PKPdf 16 51 26.5 -0.2**
B35A Bob, Littlefor 129.84 9 P **PKPdf 16 51 25.9 -0.9**
baz=346
BW06 Boulder Array 130.26 25 P **PKPdf 16 51 28.3 +0.2**
baz=325
BW06 Boulder Array 130.26 25 *e*PKPdf **PKPdf 16 51 27.2 -0.9**
PDAR Pinedale Array 130.26 25 PKP **PKPdf 16 51 27.9 -0.2**
comp=Z,1.1nm,0.6s,baz=336,slow=3.3,SNR=9.7
HWUT Hardware Ranch 130.29 28 *e*PKPdf **PKPdf 16 51 27.9 -0.2**
C36A Pine Crest Far 130.56 9 P **PKPdf 16 51 28.3 +0.1**
baz=347
EYMN Ely 130.56 7 *e*PKPdf **PKPdf 16 51 27.9 -0.3**
R11A Troy Canyon, C 130.67 34 P **PKPdf 16 51 29.6 +0.7**
baz=315
R11A Troy Canyon, C 130.67 34 *e*PKPdf **PKPdf 16 51 29.2 +0.2**
DUG Dugway, Tooele 130.78 30 P **PKPdf 16 51 29.9 +0.9**
baz=319
DUG Dugway, Tooele 130.78 30 *e*PKIKP **PKPdf 16 51 29.4 +0.4**
DUG Dugway, Tooele 130.78 30 *e*PKPdf **PKPdf 16 51 29.4 +0.4**
DAC Darwin (Calif) 130.93 37 *e*PKIKP **PKPdf 16 51 30.0 +0.5**
DAC Darwin (Calif) 130.93 37 *e*PKPdf **PKPdf 16 51 30.0 +0.5**
MPMC Manual Prospec 131.14 37 P **PKPdf 16 51 31.5 +1.6**
baz=312
RSSD Black Hills 131.23 20 P **PKPdf 16 51 30.6 +0.7**
baz=332
RSSD Black Hills 131.23 20 *e*PKIKP **PKPdf 16 51 30.4 +0.5**
RSSD Black Hills 131.23 20 *e*PKPdf **PKPdf 16 51 30.4 +0.5**
LRMC Laurel Mtn Rad 131.40 38 P **PKPdf 16 51 32.1 +1.8**
baz=311
EDW2 Edwards Air Fo 131.60 39 P **PKPdf 16 51 31.4 +0.8**
baz=310
E36A McGregor 131.70 9 P **PKPdf 16 51 29.9 -0.5**
baz=347
MTPU Mount Pierson 132.72 31 *e*PKPdf **PKPdf 16 51 34.0 +0.9**
SRU San Rafael Swe 132.74 29 *e*PKIKP **PKPdf 16 51 32.6 -0.2**
SRU San Rafael Swe 132.74 29 *e*PKPdf **PKPdf 16 51 32.6 -0.2**
LCMT Little Creek M 132.92 33 *e*PKPdf **PKPdf 16 51 34.1 +0.9**
O20A White River Ci 132.98 26 P **PKPdf 16 51 33.7 +0.4**
baz=325
GMRC Granite Mounta 133.10 37 P **PKPdf 16 51 34.9 +1.4**
baz=313
KNB Kanab 133.15 33 *e*PKIKP **PKPdf 16 51 34.6 +0.9**
KNB Kanab 133.15 33 *e*PKPdf **PKPdf 16 51 34.5 +0.9**
ECSD EROS Data Cent 133.72 13 P **PKPdf 16 51 34.2 -0.2**
baz=341
ECSD EROS Data Cent 133.72 13 *e*PKPdf **PKPdf 16 51 34.8 +0.5**
IRM Iron Mountain 133.84 37 P **PKPdf 16 51 36.5 +1.7**
baz=313
PDMCI Parker Dam,Lak 134.34 36 P **PKPdf 16 51 37.1 +1.4**
baz=314
J38A Wedel Dairy, R 134.94 10 P **PKPdf 16 51 35.8 -0.8**
baz=347
WUAZ Wupatki 135.04 33 P **PKPdf 16 51 38.2 +1.0**
baz=318
WUAZ Wupatki 135.04 33 *e*PKPdf **PKPdf 16 51 38.2 +1.0**
MVCO Mesa Verde 135.22 29 P **PKPdf 16 51 36.2 -1.4**
baz=323
MVCO Mesa Verde 135.22 29 *e*PKPdf **PKPdf 16 51 37.8 +0.2**
K36A Gilmore City 135.24 12 P **PKPdf 16 51 37.0 -0.2**
baz=344
Y14A Wickenburg 135.26 36 *e*PKPdf **PKPdf 16 51 39.0 +1.5**
S22A 4UR Ranch, Cre 135.56 27 P **PKPdf 16 51 36.6 -1.7**
baz=325
X16A Lo Mia Camp, P 135.81 34 *e*PKPdf **PKPdf 16 51 39.8 +1.1**
SDCO Great Sand Dun 136.15 26 P **PKPdf 16 51 39.2 -0.2**
baz=327
T25A Trinidad 137.13 25 P **PKPdf 16 51 40.3 -0.9**
baz=328
T25A Trinidad 137.13 25 *e*PKPdf **PKPdf 16 51 39.4 -1.7**
N39A Derby Farms, D 137.31 10 P **PKPdf 16 51 40.3 -0.7**
baz=346
M54A Oil Creek Stat 137.40 356 P **PKPdf 16 51 40.3 -0.9**
baz=5.2
P35A Duane Minner, 137.84 15 P **PKPdf 16 51 41.8 -0.3**
baz=341
ANMO Albuquerque 138.01 29 P **PKPdf 16 51 42.7 -0.1**
baz=324
ANMO Albuquerque 138.01 29 *e*PKIKP **PKPdf 16 51 43.0 +0.2**
ANMO Albuquerque 138.01 29 *e*PKPdf **PKPdf 16 51 43.0 +0.2**
O40A La Belle 138.16 10 P **PKPdf 16 51 41.8 -0.8**
baz=347
Q34A Chapman 138.16 16 P **PKPdf 16 51 42.6 -0.1**
baz=339
P37A Lathrop 138.18 13 P **PKPdf 16 51 41.6 -1.1**
baz=343
P38A Dawn 138.32 12 P **PKPdf 16 51 41.9 -1.1**
baz=344
O56A Blue Knob Stat 138.54 355 P **PKPdf 16 51 43.2 -0.2**
baz=7.0
P40A Paris 138.70 10 P **PKPdf 16 51 43.1 -0.6**
baz=347
Q38A Cooks Store, C 138.94 12 P **PKPdf 16 51 43.0 -1.1**
baz=344
Q39A Willow Grove F 138.99 12 P **PKPdf 16 51 42.8 -1.4**
baz=345
121A Cookes Peak, D 139.24 32 P **PKPdf 16 51 45.4 +0.3**
baz=321
S35A Otter Creek Ra 139.50 16 P **PKPdf 16 51 44.2 -1.0**
baz=340

Q42A	Golden Eagle	139.56	9	P		PKPdf	16 51 44.3	-0.9
	baz=349							
R38A	Fenwick Farm,	139.62	13	P		PKPdf	16 51 44.7	-0.7
	baz=343							
Q43A	New Douglas	139.65	8	P		PKPdf	16 51 44.6	-0.8
	baz=350							
R39A	Chumby, Stover	139.69	12	P		PKPdf	16 51 44.8	-0.7
	baz=345							
S37A	Fort Scott	139.81	14	P		PKPdf	16 51 45.0	-0.7
	baz=342							
R40A	Maddies Statio	139.86	11	P		PKPdf	16 51 45.4	-0.4
	baz=346							
S38A	Stockton	140.15	13	P		PKPdf	16 51 45.2	-1.2
	baz=343							
S39A	Bolivar	140.23	13	P		PKPdf	16 51 46.2	-0.3
	baz=344							
T37A	Cheneyville 18	140.39	15	P		PKPdf	16 51 48.0	+1.2
	baz=342							
S40A	Lebanon	140.49	12	P		PKPdf	16 51 47.1	+0.1
	baz=345							
MSTX	Muleshoe	140.52	26	*e*PKPdf		PKPdf	16 51 47.3	0.0
T38A	Diamond	140.63	14	P		PKPdf	16 51 46.6	-0.7
	baz=342							
U37A	Salina	141.02	15	P		PKPdf	16 51 47.4	-0.6
	baz=341							
S45A	Carrier Mills	141.03	7	P		PKPdf	16 51 47.5	-0.4
	baz=352							
MNTX	Cornudas Mount	141.15	31	*e*PKPpre		PKPpre	16 51 42.5	
T41A	Mountain View	141.17	11	P		PKPdf	16 51 47.5	-0.7
	baz=346							
V39A	Pettigrew	141.93	14	P		PKPpre	16 51 44.1	
	baz=343							
W37B	Quinton	142.12	16	P		PKPpre	16 51 44.9	
	baz=340							
V41A	Mountainview	142.31	12	P		PKPpre	16 51 44.7	
	baz=345							
X35A	Drake	142.35	19	P		PKPpre	16 51 45.4	
	baz=337							
X36A	Centrahoma	142.38	18	P		PKPpre	16 51 46.0	
	baz=338							
BDFB	Brasilia	142.39	246	PKhKP		PKPpre	16 51 46.9	
	comp=Z,3.7nm,0.5s,baz=155,slow=2.7,SNR=3.7							
W38A	Poteau	142.44	15	P		PKPpre	16 51 46.1	
	baz=341							
V42A	Cord	142.44	11	P		PKPpre	16 51 46.0	
	baz=347							
TZTN	Tazewell	142.48	0	*e*PKPdf		PKPdf	16 51 50.3	-0.3
Y34A	Reagan Ranch,	142.49	20	P		PKPpre	16 51 46.4	
	baz=336							
W39A	Magazine	142.50	14	P		PKPpre	16 51 46.1	
	baz=343							
WVT	Waverly	142.65	6	*e*PKPpre		PKPpre	16 51 46.1	
X37A	Clayton	142.66	17	P		PKPdf	16 51 47.0	-3.9
	baz=340							
X38A	Whitesboro	142.73	16	P		PKPdf	16 51 47.6	-3.5
	baz=341							
WHAR	Wooly Hollow	142.76	12	*e*PKPpre		PKPpre	16 51 46.3	
W41B	Gary Mavity, V	142.88	12	P		PKPpre	16 51 46.8	
	baz=345							
ABTX	Abilene, Hawle	142.99	23	P		PKPpre	16 51 47.7	
	baz=332							
ABTX	Abilene, Hawle	142.99	23	*e*PKPpre		PKPpre	16 51 47.5	
X39A	Fountain Ranch	143.07	15	P		PKPbc	16 51 48.3	-0.2
	baz=342							
MIAR	Mount Ida	143.18	14	P		PKPbc	16 51 48.6	-0.1
	baz=343							
MIAR	Mount Ida	143.18	14	*e*PKPpre		PKPpre	16 51 47.8	
X40A	Basin Creek Fa	143.41	13	P		PKPbc	16 51 49.3	0.0
	baz=344							
CPCT	Cooper Cave	143.55	2	*e*PKPpre		PKPpre	16 51 48.5	
Y39A	Lockesburg	143.62	15	P		PKPbc	16 51 49.9	-0.1
	baz=342							
PLAL	Pickwick Lake	143.75	7	*e*PKPpre		PKPpre	16 51 48.7	
233A	Rising Star	143.82	23	P		PKPab	16 51 50.2	+0.1
	baz=333							
KMSC	Kings Mountain	143.83	357	P		PKPab	16 51 49.9	0.0
	baz=3.2							
KMSC	Kings Mountain	143.83	357	*e*PKPpre		PKPab	16 51 49.9	-0.1
Z37A	Pogue Cattle C	143.88	18	P		PKPab	16 51 49.3	-0.9
	baz=339							
TX31	Lajitas Ar. Si	143.93	31	*e*PKPdf		PKPbc	16 51 51.3	+0.1
TX31				*e*PKPdf		PKPab	16 51 51.5	+0.8
TXAR	Lajitas Array	143.93	31	PKP		PKPbc	16 51 51.4	+0.2
	comp=Z,7.1nm,0.9s,baz=277,slow=2.0,SNR=38							
234A	Clairette	144.12	22	P		PKPab	16 51 51.3	+0.2
	baz=334							
SLBS	Sierra La Lagu	144.17	45	*e*PKPdf		PKPbc	16 51 52.3	+0.2
Z39A	Irene McRaven,	144.25	16	P		PKPbc	16 51 52.6	+0.7
	baz=341							
137A	Heron Place, G	144.40	18	P		PKPbc	16 51 52.6	+0.2
	baz=338							
333A	Richland Sprin	144.40	23	P		PKPab	16 51 52.1	-0.1
	baz=332							
Z40A	Long Farm, Mag	144.44	15	P		PKPbc	16 51 52.8	+0.2
	baz=342							
Y44A	Strider, Charl	144.45	10	P		PKPab	16 51 52.3	+0.1
	baz=348							
138A	Matatall Enter	144.54	17	P		PKPab	16 51 52.7	+0.1
	baz=339							
Z41A	Richland Creek	144.59	14	P		PKPbc	16 51 53.0	0.0
	baz=343							
Y45A	Yeager Farm, C	144.65	9	P		PKPab	16 51 53.0	0.0
	baz=349							
CPUP	Villa Florida	144.68	223	PKP		PKPab	16 51 53.1	-0.2
	comp=Z,64nm,0.9s,baz=110,slow=2.9,SNR=72							
CPUP	Villa Florida	144.68	223	*e*PKPdf		PKPab	16 51 53.2	-0.1
334A	Lometa	144.68	23	P		PKPab	16 51 52.6	-0.6
	baz=334							
HPIG		144.69	36	*e*PKPdf		PKPbc	16 51 54.3	+0.5
JSC	Jenkinsville	144.69	357	*e*PKIKP		PKPab	16 51 52.7	-0.4
JSC	Jenkinsville	144.69	357	*e*PKPdf		PKPab	16 51 52.7	-0.4
236A	Katherine and	144.69	20	P		PKPab	16 51 52.6	-0.6
	baz=337							
Y46A	Houston	144.74	8	P		PKPab	16 51 52.6	-0.7
	baz=350							
Z42A	Norrel Spur, H	144.77	13	P		PKPbc	16 51 53.7	+0.1
	baz=345							
JCT	Junction City	144.80	25	P		PKPab	16 51 53.6	-0.1
	baz=330							
JCT	Junction City	144.80	25	*e*PKIKP		PKPab	16 51 53.1	-0.6
JCT	Junction City	144.80	25	*e*PKPdf		PKPab	16 51 53.1	-0.6
Y47A	UCPARC, Winfie	144.85	7	P		PKPab	16 51 53.1	-0.7
	baz=352							
433A	Art	144.85	24	P		PKPab	16 51 53.2	-0.7
	baz=332							
237A	Washetta, Mont	144.93	19	P		PKPab	16 51 53.6	-0.5
	baz=338							
140A	Cam and Jess,	144.99	15	P		PKPab	16 51 53.9	-0.4
	baz=342							
335A	Moody	145.03	21	P		PKPbc	16 51 53.9	-0.5
	baz=335							
Z44A	Pea Ridge, Bel	145.07	11	P		PKPdf	16 51 55.0	-0.1
	baz=347							
Z45A	Winona	145.11	9	P		PKPbc	16 51 54.3	-0.4
	baz=349							
434A	Burnet	145.13	23	P		PKPbc	16 51 54.2	-0.7
	baz=333							
238A	Jacksonville	145.14	18	P		PKPab	16 51 55.1	+0.2
	baz=339							
336A	Riesel	145.14	21	P		PKPbc	16 51 54.4	-0.4
	baz=336							
141A	Papa Simpson,	145.19	14	P		PKPdf	16 51 55.5	+0.1
	baz=343							
239A	Gary	145.32	17	P		PKPbc	16 51 55.4	+0.1
	baz=340							
Z46A	Louisville	145.40	8	P		PKPab	16 51 55.9	+0.1
	baz=350							
143A	Socs Landing,	145.44	12	P		PKPab	16 51 56.0	+0.1
	baz=346							
142A	Monroe	145.47	13	P		PKPab	16 51 56.3	+0.3
	baz=345							
533A	Kerrville	145.48	25	P		PKPbc	16 51 55.5	-0.5
	baz=331							
240A	Hunter Patters	145.50	16	P		PKPab	16 51 56.3	+0.2
	baz=341							
NATX	Nacogdoches	145.51	17	P		PKPab	16 51 56.5	+0.2
	baz=340							
NATX	Nacogdoches	145.51	17	*e*PKPbc		PKPab	16 51 56.4	+0.2
Z47A	Carrollton	145.51	7	P		PKPdf	16 51 55.4	-0.6
	baz=352							
337A	Centerville	145.54	19	P		PKPab	16 51 56.8	+0.5
	baz=337							
GOGA	Godfrey	145.60	0	*e*PKP2		PKPdf	16 51 55.8	-0.3
GOGA	Godfrey	145.60	0	*e*PKPdf		PKPdf	16 51 55.8	-0.3
338A	Crockett	145.68	18	P		PKPab	16 51 56.8	-0.1
	baz=338							
436A	Wall Ranch, Ga	145.72	21	P		PKPab	16 51 57.1	0.0
	baz=336							
241A	Mo Tay, Goldon	145.74	15	P		PKPab	16 51 57.9	+0.8
	baz=343							
534A	Blanco	145.74	24	P		PKPdf	16 51 55.7	-0.8
	baz=332							
NHSC	New Hope	145.78	355	*e*PKPdf		PKPbc	16 51 56.7	-0.1
LRAL	Lakeview Retre	145.80	6	*e*PKPdf		PKPdf	16 51 56.0	-0.5
145A	Houston Renfro	145.82	10	P		PKPab	16 51 57.8	+0.5
	baz=348							
437A	Phantom Ranch,	145.90	20	P		PKPab	16 51 57.8	+0.1
	baz=337							
146A	Union	145.93	9	P		PKPab	16 51 57.8	+0.1
	baz=350							
633A	Saathoff Ranch	145.95	25	P		PKPab	16 51 58.0	0.0
	baz=331							
147A	Livingston	146.01	8	P		PKPdf	16 51 56.8	0.0
	baz=351							
340A	Bronson	146.05	16	P		PKPdf	16 51 56.8	-0.1
	baz=341							
VBMS	Vicksburg	146.09	11	P		PKPdf	16 51 57.1	+0.1
	baz=347							
535A	Dale	146.10	23	P		PKPdf	16 51 56.8	-0.3
	baz=334							
438A	Sam Houston St	146.19	19	P		PKPab	16 51 58.5	-0.3
	baz=338							
244A	Avery, Jackson	146.23	11	P		PKPbc	16 51 58.3	+0.1
	baz=347							
536A	Bastrop	146.25	22	P		PKPbc	16 51 58.5	+0.1
	baz=335							
ROC1	El Roble	146.33	199	*e*PKPdf		PKPdf	16 51 57.7	0.0
245A	Little AP, Sta	146.38	10	P		PKPbc	16 51 58.7	0.0
	baz=348							
342A	Flagon Creek P	146.51	14	P		PKPab	16 51 59.9	-0.1
	baz=343							
537A	Green Hill Far	146.52	21	P		PKPbc	16 51 58.9	-0.2
	baz=336							
247A	Quitman	146.57	8	P		PKPbc	16 51 59.1	-0.1
	baz=350							
635A	Leesville	146.59	23	P		PKPbc	16 51 59.4	0.0
	baz=333							
832A	Faith Ranch, C	146.60	27	P		PKPbc	16 51 59.4	0.0
	baz=329							
248A	Dixon Mills	146.65	7	P		PKPbc	16 51 59.4	0.0
	baz=352							
440A	Kirbyville	146.66	17	P		PKPbc	16 51 59.5	0.0
	baz=340							
734A	La Parita Cree	146.75	25	P		PKPbc	16 52 00.1	+0.2
	baz=331							
636A	Smothers Creek	146.79	22	P		PKPbc	16 52 00.3	+0.3
	baz=334							
344A	Westbrook Farm	146.79	12	P		PKPbc	16 52 00.1	+0.3
	baz=346							
HKT	Hockley	146.81	20	*e*PKP2		PKPdf	16 51 58.5	+0.4
HKT	Hockley	146.81	20	*e*PKPdf		PKPdf	16 51 58.5	+0.4
833A	Chaparral WMA,	146.84	27	P		PKPbc	16 52 00.7	+0.6
	baz=330							
441A	DeRidder	146.88	16	P		PKPbc	16 52 00.6	+0.5
	baz=342							
539A	Cross D Ranch,	147.03	18	P		PKPab	16 52 01.4	-0.6
	baz=339							
345A	Thompson Farm,	147.06	11	P		PKPbc	16 52 01.1	+0.5
	baz=348							
346A	Big Creek Wild	147.09	10	P		PKPbc	16 52 00.9	+0.2
	baz=348							
637A	Eagle Lake	147.09	21	P		PKPab	16 52 02.0	-0.3
	baz=335							
347A	Saraland	147.22	8	P		PKPbc	16 52 01.2	+0.1
	baz=350							
736A	Circle Diamond	147.25	23	P		PKPab	16 52 02.5	-0.5
	baz=334							
834A	Tilden	147.38	26	P		PKPab	16 52 02.7	-0.8
	baz=331							
638A	Rosharon	147.42	20	P		PKPbc	16 52 02.4	+0.7
	baz=337							
933A	Laredo	147.50	27	P		PKPbc	16 52 01.6	-0.4
	baz=329							
835A	Beeville	147.54	24	P		PKPab	16 52 03.2	-0.9
	baz=332							
TIGA	Tifton	147.57	1	P		PKPbc	16 52 01.9	-0.2
	baz=359							
TIGA	Tifton	147.57	1	*e*PKPbc		PKPbc	16 52 02.0	-0.1
934A	Benavides	147.85	26	P		PKPbc	16 52 03.9	+0.9
	baz=330							
034A	Hebbronville	148.24	27	P		PKPbc	16 52 05.2	+1.2
	baz=330							
035A	Encino	148.60	26	P		PKPbc	16 52 06.3	+1.4
	baz=331							
035Z	Hargill	149.03	26	P		PKPbc	16 52 07.4	+1.4
	baz=330							
PTGA	Pitinga	156.71	271	*e*PKPab		PKPab	16 52 43.1	+0.2
SDDR	Presa de Saban	156.78	330	*e*PKPab		PKPab	16 52 43.4	+0.6
PB11	IPOC Station P	157.23	215	*e*PKPab		PKPab	16 52 45.1	+0.2

*IDC **08** 16:34:22.4±0.6, 1°.11N×96°.72E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.2/51, mbtmp4.3/20, ML4.1/1, Error ellipse: s-maj=19.6km s-min=17.7km az=81.0*

*ISCJB **08** 16:34:25.8±0.5, 1°.12N±0°.08×96°.75E±0°.10, h33km, mb4.3/20, Error ellipse: s-maj=14.6km s-min=11.6km az=155.6*

*NEIC **08** 16:34:27.7±0.4, 1°.11N×96°.72E, h35km, mb4.7/2, Error ellipse: s-maj=11.8km s-min=9.1km az=65.0*

ISC 08 16:34:27.8±0.7, 1°.1N±0°.1×96°.7E±0°.1, h35km, n33, σ0s62/27, mb4.4/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	17.36	7	P	P	16 38 28.4	-0.1
	0.2nm,0.3s,baz=196,slow=11,SNR=2.6						
H08S2	Diego Garcia H	25.70	250	T	T	17 06 26.8	
	baz=71						
H08S3	Diego Garcia H	25.71	250	T	T	17 06 27.7	
	baz=71,slow=74						
H08S1	Diego Carcia H	25.72	250	T	T	17 06 29.4	
	baz=71,slow=74						
FITZ	Fitzroy Crossi	34.26	125	P	P	16 41 10.6	-0.2
	4.3nm,0.7s,baz=304,slow=5.6,SNR=2.2						
FITZ	Fitzroy Crossi	34.26	125	*e*P	P	16 41 10.6	-0.2
	6.1nm,0.8s						
H01W3	Cape Leeuwin H	39.36	157	T	T	17 23 36.0	
	baz=333,slow=76,SNR=13						
H01W2	Cape Leeuwin H	39.37	157	T	T	17 23 38.8	
	baz=333,slow=76,SNR=13						
H01W1	Cape Leeuwin H	39.37	157	T	T	17 23 38.8	
	baz=333,slow=76,SNR=12						
WRA	Warramunga Arr	42.39	122	P	P	16 42 18.9	-0.4
	5.0nm,0.7s,baz=299,slow=8.9,SNR=4.6						
WRAB	Tennant Creek	42.40	122	*e*P	P	16 42 19.8	+0.5
	14nm,0.9s						
ASAR	Alice Springs	43.72	127	P	P	16 42 30.2	+0.2
	5.6nm,1.1s,baz=296,slow=7.7,SNR=2.9						
ASAR				PcP	PcP	16 44 16.2	-0.5
	0.7nm,0.8s,baz=344,slow=3.1,SNR=2.3						
KSAR	Wonju Array Be	46.14	35	P	P	16 42 49.5	+0.5
KSRS	Korea Array	46.17	35	P	P	16 42 49.5	+0.3
	3.7nm,0.8s,baz=233,slow=7.7,SNR=5.8						
MKAR	Makanchi Array	47.20	346	P	P	16 42 57.5	+0.3
	8.2nm,0.5s,baz=162,slow=8.5,SNR=5.8						
SONM	Songino Array	47.27	9	P	P	16 42 57.7	-0.1
	2.4nm,0.7s,baz=198,slow=8.3,SNR=2.0						
SONM				PcP	PcP	16 44 29.0	+0.4
	1.2nm,0.8s,baz=192,slow=2.8,SNR=3.3						
MJAR	Matsushiro Arr	52.06	43	P	P	16 43 34.0	-0.4
	1.4nm,0.9s,baz=243,slow=9.4,SNR=2.2						
OPO	Ambohidratompo	52.47	246	P	P	16 43 38.5	+0.5
	4.8nm,0.9s,baz=60,slow=9.9,SNR=3.4						
USRK	Ussuriysk Ar.	53.07	31	P	P	16 43 42.8	+1.1
	3.2nm,0.6s,baz=240,slow=5.3,SNR=3.6						
ZALV	Zalesovo Beam	53.56	351	P	P	16 43 45.1	0.0
	27nm,0.6s,baz=172,slow=6.9,SNR=8.6						
KLR	Kul'dur	56.53	27	P	P	16 44 06.8	+0.2
	2.2nm,0.7s						
BRTR	Keskin Array B	68.82	312	P	P	16 45 29.4	+0.4
	1.6nm,0.8s,baz=146,slow=5.9,SNR=2.6						
MA2	Magadan	71.60	26	P	P	16 45 44.6	-0.9
	2.9nm,0.7s,baz=249,slow=8.6,SNR=5.0						
PETK	Petropavlovsk-	72.05	34	P	P	16 45 47.8	-0.5
	1.1nm,0.8s,baz=289,slow=4.4,SNR=2.6						
BOSA	Boshof	74.34	240	P	P	16 46 02.0	-0.5
	3.5nm,0.7s,baz=98,slow=7.5,SNR=4.1						
FINES	FINESS Array B	79.85	333	P	P	16 46 31.7	-0.9
	1.5nm,0.7s,baz=98,slow=7.6,SNR=3.3						
ARCES	ARCESS Array B	82.45	340	P	P	16 46 46.1	-0.1
	1.3nm,0.5s,baz=102,slow=5.1,SNR=5.8						
NOA	NORSAR Array B	86.84	331	P	P	16 47 08.7	0.0
	1.7nm,0.9s,baz=92,slow=4.8,SNR=2.4						
ESDC	Sonseca Array	97.52	310	P	P	16 47 57.8	-0.9
	0.1nm,0.4s,baz=86,slow=7.8,SNR=3.0						
NVAR	Mina Array Bea	129.11	36	PKP	PKPdf	16 53 34.5	+1.5
	0.5nm,0.7s,baz=321,slow=3.6,SNR=2.2						
PDAR	Pinedale Array	130.30	25	PKP	PKPdf	16 53 36.1	+1.0
	0.2nm,0.4s,baz=289,slow=2.8,SNR=2.6						
TXAR	Lajitas Array	143.97	31	PKP	PKPbc	16 53 58.4	0.0
	1.5nm,1.0s,baz=215,slow=1.1,SNR=4.9						
CPUP	Villa Florida	144.64	223	PKP	PKPbc	16 54 00.7	+0.2
	8.2nm,0.8s,baz=128,slow=2.7,SNR=3.4						

*DJA **08** 16:40:57.5±2.1, 1°.N±8°×9°.6E±°, h25km±27km, M4.3/5, MLv4.3/5*

*IDC **08** 16:41:01.2±1.6, 0°.81N×96°.41E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/53, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=53.9km s-min=16.9km az=56.0*

*ISCJB **08** 16:41:05.1±0.7, 1°.06N±0°.06×96°.67E±0°.08, h33km, mb4.1/12, Error ellipse: s-maj=12.8km s-min=8.3km az=154.3*

*NEIC **08** 16:41:07.3±0.7, 1°.08N×96°.72E, h35km, mb4.1/2, Error ellipse: s-maj=17.1km s-min=9.9km az=67.0*

ISC 08 16:41:06.7±0.9, 0°.99N±0°.08×96°.49E±0°.09, h35km, n30, σ2s13/27, mb4.0/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	1.13	74	P	Pn	16 41 22.9	-3.1
GSI				S	Sn	16 41 43.4	+3.2
TPTI		2.36	17	P	Pn	16 41 38.8	-4.1
TPTI				S	Sn	16 42 11.8	+1.1
KCSI	Kotacane, Aceh	2.82	27	P	Pn	16 41 46.2	-3.1
KCSI				S	Sn	16 42 24.1	+1.9
MNSI	Mandailing Nat	3.09	94	P	Pn	16 41 49.9	-3.1
TSI	Tuntungan	3.24	40	P	Pn	16 41 52.3	-2.8
LHMI	Lhok Sumawe	4.24	6	*e*Pn	Pn	16 42 06.3	-2.5
IPM	Ipoh	5.70	52	*e*Pn	Pn	16 42 26.1	-2.9
KULM	Kulim	5.96	44	*e*P	Pn	16 42 28.5	-3.9
CMAR	Chiang Mai Arr	17.53	8	P	P	16 45 08.8	-0.5
	0.1nm,0.3s,baz=195,slow=12,SNR=7.0						
H08S2	Diego Garcia H	25.43	250	T	T	17 13 11.3	
	baz=71,slow=75,SNR=28						
H08S3	Diego Garcia H	25.43	250	T	T	17 13 11.3	
	baz=71,slow=75,SNR=30						
H08S1	Diego Carcia H	25.45	250	T	T	17 13 11.3	
	baz=71,slow=75,SNR=38						
MBWA	Marble Bar	31.64	135	*e*P	P	16 47 27.2	+0.5
FITZ	Fitzroy Crossi	34.38	125	P	P	16 47 50.0	-0.8
	2.1nm,0.8s,baz=345,slow=5.4,SNR=3.7						
H01W3	Cape Leeuwin H	39.32	157	T	T	17 30 22.1	
	baz=333,slow=76,SNR=26						
H01W2	Cape Leeuwin H	39.34	157	T	T	17 30 20.0	
	baz=333,slow=76,SNR=24						
H01W1	Cape Leeuwin H	39.34	157	T	T	17 30 18.4	
	baz=333,slow=76,SNR=20						
WRA	Warramunga Arr	42.52	121	P	P	16 48 58.2	-1.0
	2.4nm,0.8s,baz=300,slow=9.0,SNR=13						
WRAB	Tennant Creek	42.53	121	*e*P	P	16 48 58.4	-0.9
	2.2nm,0.7s						
ASAR	Alice Springs	43.83	126	P	P	16 49 09.5	-0.3
	0.6nm,0.7s,baz=306,slow=7.7,SNR=7.0						
MKAR	Makanchi Array	47.28	347	P	P	16 49 37.9	+1.2
	0.9nm,0.5s,baz=162,slow=8.7,SNR=12						
SONM	Songino Array	47.45	9	P	P	16 49 39.3	+1.3
	0.4nm,0.4s,baz=188,slow=9.6,SNR=3.1						
GUMO	Guam	49.47	73	P	P	16 49 54.9	+0.9
	31nm,0.7s,baz=198,slow=20,SNR=2.9						
KURBB	Kurchatov Arra	51.75	346	P	P	16 50 11.8	+1.1
	0.6nm,0.6s,baz=175,slow=5.9,SNR=10.0						
KURK	Kurchatov	51.82	346	P	P	16 50 11.8	+0.7
USRK	Ussuriysk Ar.	53.32	31	P	P	16 50 23.5	+1.1
	2.1nm,0.9s,baz=255,slow=4.3,SNR=3.0						
ZALV	Zalesovo Beam	53.66	351	P	P	16 50 25.4	+0.8
	2.2nm,0.5s,baz=174,slow=6.8,SNR=8.6						
BVAR	Borovoye Array	56.22	341	P	P	16 50 43.3	+0.1
	1.3nm,0.9s,baz=152,slow=6.7,SNR=3.6						
ABKAR	Akbulak array	57.37	332	P	P	16 50 51.5	0.0
	1.7nm,0.8s						
CPUP	Villa Florida	144.37	223	PKP	PKPdf	17 00 39.3	-0.7
	2.3nm,0.8s,baz=74,slow=3.8,SNR=4.0						

MAN 08 16:45:34, 11°.21N×124°.64E, h16km, mb4.2, ML3.0, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	Ormoc	0.16	192	*e*P	Pb	16 45 39.1	+0.5
OCLP				*e*S	Sb	16 45 42.8	+1.2
PLP	Palo	0.33	97	*e*P	Pb	16 45 42.8	+1.2
PLP				*e*S	Sb	16 45 48.0	+1.3
BESP	Borongan	0.88	63	*e*P	Pb	16 45 50.2	-0.6
BESP				*e*S	Sn	16 46 04.7	+0.6
LLP	Lapu-Lapu	1.10	217	*e*P	Pb	16 45 54.4	-0.3
LLP				*e*S	Sg	16 46 10.2	+0.4
GUIM	Jordan	2.10	254	*e*P	Pg	16 46 14.3	0.0
GUIM				*e*S	Sg	16 47 00.1	+19

*ISCJB **08** 16:50:28.4±0.9, 7°.24S±0°.09×119°.52E±0°.06, h250km, mb3.4/2, Error ellipse: s-maj=13.4km s-min=6.7km az=25.8*

*DJA **08** 16:50:31.0±2.5, 7°.S±7°×11°.9E±°, h22km±34km, M4.6/2, MLv4.6/2*

*IDC **08** 16:50:32.4±2.9, 7°.20S×119°.93E, h281km±31km, mb2.9/2, mb1 2.9/4, mb1mx2.6/47, mbtmp3.5/4, Error ellipse: s-maj=89.5km s-min=13.1km az=53.0*

ISC 08 16:50:29.9±1.4, 7°.3S±0°.1×119°.6E±0°.1, h250km, n12, σ2s42/14, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	Plampang	2.35	230	P	Pn	16 51 13.1	-2.6
PLAI				S	S	16 51 45.7	-6.2
WSI	Waingapu	2.43

ECBX				*e*S		**Sb**	**16 56 33.1 +0.2**
YMD	**Yuma Desert**	**0.66**	**43**	*e*P		**Pn**	**16 56 26.3 -0.9**
EMSC	**East Mesa**	**0.67**	**6**	⇓*i*P		**Pn**	**16 56 26.9 -0.5**
COA	**Coachella**	**0.79**	**357**	*e*P		**Pn**	**16 56 28.5 -0.6**
SGL	**Mount Signal**	**0.80**	**316**	*e*P		**Pn**	**16 56 29.1 -0.1**
GLA	**Glamis**	**1.00**	**12**	*e*Pn		**Pb**	**16 56 31.3 -0.1**
RMX	**La Rumorosa**	**1.00**	**302**	*e*P		**Pg**	**16 56 31.6 -0.1**
RMX				*e*S		**Sn**	**16 56 46.2 0.0**
IKP	**In-Ko-Pah, Jac**	**1.05**	**303**	*e*P		**Pn**	**16 56 32.7 -0.1**
SPIG	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pn**	**16 56 33.5 +0.1**
SPIG				*e*S		**Sn**	**16 56 47.9 -0.5**
SPIG	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pn**	**16 56 33.2 -0.2**
SPIG	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pn**	**16 56 33.5 +0.1**
SPIG				*e*S		**Sn**	**16 56 47.9 -0.5**
SPX	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pn**	**16 56 33.5 +0.1**
SPX				AML		AML	16 56 50.1
	comp=E,486nm,0.3s						
SPX				⇓*e*			16 56 50.1
SPX	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pn**	**16 56 33.5 +0.1**
SPX				*e*S		**Sb**	**16 56 46.8 -0.3**
ZAX	**El Zacaton**	**1.17**	**242**	*e*P		**Pg**	**16 56 34.4 -0.3**
ZAX				*e*S		**Sn**	**16 56 50.2 +0.1**
ZAX				AML		AML	16 56 51.4
	comp=N,352nm,0.3s						
ZAX				*e*			16 56 51.4
113A	**Mohawk Valley,**	**1.30**	**58**	*e*Pn		**Pn**	**16 56 35.9 -0.3**
ECNX	**Esteban Cantu**	**1.36**	**253**	*e*P		**Pb**	**16 56 37.7 0.0**
CBX	**Cerro Bola**	**1.37**	**280**	*e*P		**Pb**	**16 56 37.9 0.0**
CBX				*e*S		**Sn**	**16 56 55.0 -0.3**
CBX	**Cerro Bola**	**1.37**	**280**	*e*P		**Pb**	**16 56 37.9 0.0**
CBX				*e*S		**Sg**	**16 56 57.0 +0.5**
CBX				AML		AML	16 56 58.6
	comp=N,513nm,0.2s						
CBX				⇑*e*			16 56 58.6
CBX	**Cerro Bola**	**1.37**	**280**	*e*P		**Pb**	**16 56 37.9 0.0**
CBX				*e*S		**Sn**	**16 56 55.0 -0.3**
TJIG	**Tijuana**	**1.40**	**285**	*e*P		**Pb**	**16 56 38.0 -0.4**
TJIG				*e*S		**Sn**	**16 56 55.7 -0.3**
PBX	**Punta Banda**	**1.44**	**257**	*e*P		**Pb**	**16 56 39.0 0.0**
BAR	**Barrett**	**1.48**	**294**	*e*Pn		**Pb**	**16 56 39.3 -0.4**
BAR				*e*Sn		**Sg**	**16 57 00.3 +0.3**
Y12C	**Blythe**	**1.73**	**15**	*e*Pn		**Pg**	**16 56 45.5 -0.1**
PFO	**Pinyon Flats O**	**1.93**	**323**	*e*Pn		**Pg**	**16 56 48.8 -0.5**
Y14A	**Wickenburg**	**2.54**	**43**	*e*Pn		**Pn**	**16 56 54.4 +1.0**
TUC	**Tucson**	**3.64**	**85**	*e*Sg		**Sg**	**16 58 08.7 -0.6**
X16A	**Lo Mia Camp, P**	**3.84**	**51**	*e*Pn		**Pn**	**16 57 12.5 +1.3**

PGC 08 16:59:42.1±1.8, 51°89N×131°50W, h20km, ML3.9/19, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.71**	**347**	P	Pb	16 59 56.0	+0.3
BNB				S	Sb	17 00 05.0	-0.1
MOBC	**Moresby Island**	**1.29**	**347**	P	Pn	17 00 04.8	-0.2
MOBC				S	Sb	17 00 21.9	+0.1
DIB	**Dawson Inlet,**	**1.45**	**336**	Pn	Pn	17 00 06.5	-0.6
DIB				Sg	Sb	17 00 26.9	+0.8
VIB	**Van Inlet**	**1.51**	**335**	Pn	Pn	17 00 07.5	-0.5
VIB				Sg	Sb	17 00 29.0	+0.9
BNAB	**Bonilla**	**1.69**	**18**	Pn	Pn	17 00 11.2	+0.8
BNAB				Sg	Sb	17 00 34.3	+1.0
BBB	**Bella Bella**	**2.11**	**81**	Pn	Pn	17 00 16.4	+0.2
BBB				Sg	Sb	17 00 46.4	+1.0
NDB	**Naden**	**2.25**	**338**	Pn	Pn	17 00 18.1	0.0
NDB				Sg	Sb	17 00 51.7	+2.4
HOLB	**Holberg**	**2.46**	**119**	Pn	Pn	17 00 20.8	-0.2
HOLB				Sn	Sn	17 00 49.0	-1.5
PHC	**Port Hardy**	**2.81**	**113**	Pn	Pn	17 00 25.5	-0.4
PHC				Sn	Sn	17 00 57.2	-1.9
BPBC	**Brooks Peninsu**	**2.92**	**125**	Pn	Pn	17 00 28.2	+0.8
MAYB	**Maynard**	**3.10**	**117**	Pn	Pn	17 00 30.3	+0.3
TLCB	**Telegraph Cove**	**3.23**	**113**	Pn	Pn	17 00 31.2	-0.3
FHRB	**Fair Harbour**	**3.32**	**122**	Pn	Pn	17 00 33.7	+0.9
EDB	**Eliza Dome**	**3.43**	**124**	Pn	Pn	17 00 35.0	+0.7
WOSB	**Woss**	**3.56**	**117**	Pn	Pn	17 00 37.8	+1.6
NCRB	**Newcastle Ridg**	**3.74**	**111**	Pn	Pn	17 00 40.3	+1.6
CBB	**Campbell River**	**4.30**	**113**	Pn	Pn	17 00 48.4	+2.1
CBB				Sn	Sn	17 01 37.2	+1.4
BTB	**Buttle Lake**	**4.51**	**120**	Pn	Pn	17 00 51.3	+2.0
UBRB	**Upper Baezaeko**	**4.65**	**75**	Pn	Pn	17 00 54.0	+2.8
UBRB				Sg	Sb	17 02 03.1	+4.5
OZB	**Mount Ozzard**	**4.83**	**125**	Pn	Pn	17 00 56.0	+2.4
TXB	**Texada**	**4.99**	**113**	Pn	Pn	17 00 58.5	+2.7
MGB	**Mount Grey**	**5.22**	**121**	Pn	Pn	17 01 02.6	+3.6
SHB	**Sechelt**	**5.36**	**112**	Pn	Pn	17 01 04.3	+3.4
DLBC	**Dease Lake**	**6.62**	**7**	Pn	Pn	17 01 21.6	+3.5

*ISCJB **08** 17:00:35.0±0.4, 67°.06N±0°.02×20°.94E±0°.08, h0km, Error ellipse: s-maj=4.5km s-min=3.1km az=7.6*
*CSEM **08** 17:00:35.7±0.3, 67°.09N×20°.95E, h1km, ML2.1, Error ellipse: s-maj=7.1km s-min=5.3km az=105.0, Mining explosion.*
*HEL **08** 17:00:36.6±0.1, 67°.06N×20°.91E, h0km, ML2.2, ML2.1(UPP), Explosion*
*NAO **08** 17:00:36.1±1.0, 67°.10N×20°.95E, ML2.5*
*UPP **08** 17:00:36.0±0.2, 67°.06N×20°.96E, h0km, ML2.1, Explosion*
*IDC **08** 17:00:37.1±0.9, 67°.01N×21°.11E, h0km, mb1 2.7/4, mb1mx2.7/46, mbtmp2.7/4, ML2.2/4, Error ellipse: s-maj=18.1km s-min=7.1km az=112.0*
*BER **08** 17:00:38.1±3.2, 67°.10N×20°.77E, h0km, ML2.5(NAO), Suspected explosion*

ISC 08 17:00:35.5±0.8, 67°.07N±0°.02×20°.85E±0°.03, h0km, n62, σ0s81/82, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.89**	**92**	P	**Pg**	**17 00 51.8**	**-0.7**
PAJU				S	**Sg**	**17 01 04.2**	**+0.2**
PAJU	**Pajala**	**0.89**	**92**	*i*P	**Pg**	**17 00 51.8**	**-0.7**
PAJU				*i*S	**Sg**	**17 01 04.2**	**+0.2**
HARU	**Harads**	**0.91**	**177**	P	**Pg**	**17 00 52.8**	**-0.1**
HARU	**Harads**	**0.91**	**177**	*e*P	**Pg**	**17 00 52.8**	**-0.1**
SALU	**Saltoluokta**	**0.96**	**290**	P	**Pb**	**17 00 54.8**	**-0.2**
SALU	**Saltoluokta**	**0.96**	**290**	*e*P	**Pb**	**17 00 54.8**	**-0.2**
SALU	**Saltoluokta**	**0.96**	**290**	P	**Pb**	**17 00 54.8**	**-0.2**
LANU	**Lannavaara**	**1.08**	**23**	*e*P	**Pg**	**17 00 55.4**	**-0.7**
LANU	**Lannavaara**	**1.08**	**23**	Pg	**Pg**	**17 00 55.4**	**-0.7**
SJUU	**Sjulsmark**	**1.60**	**169**	P	**Pn**	**17 01 04.8**	**-0.1**
SJUU	**Sjulsmark**	**1.60**	**169**	*e*P	**Pn**	**17 01 04.8**	**-0.1**
SJUU	**Sjulsmark**	**1.60**	**169**	P	**Pn**	**17 01 04.8**	**-0.1**
TOF	**Tornio**	**1.71**	**124**	*e*P	**Pn**	**17 01 06.3**	**-0.1**
TOF				*e*SN	**Sn**	**17 01 29.0**	**+0.1**
TOF	**Tornio**	**1.71**	**124**	Pg	**Pn**	**17 01 06.3**	**-0.1**
TOF				Sn	**Sn**	**17 01 29.0**	**+0.1**
HEF	**Hetta**	**1.72**	**37**	*e*P	**Pn**	**17 01 06.6**	**0.0**
	baz=228						
HEF				MSG		17 01 26.9	
	comp=Z,16nm,0.2s						
HEF				*e*S	**Sn**	**17 01 28.8**	**-0.4**
HEF	**Hetta**	**1.72**	**37**	Pg	**Pn**	**17 01 06.6**	**0.0**
HEF				Sg	**Sn**	**17 01 28.8**	**-0.4**
LILU	**Lilltraesk**	**1.84**	**193**	P	**Pn**	**17 01 09.0**	**+0.8**
LILU				S	**Sg**	**17 01 34.5**	**0.0**
LILU	**Lilltraesk**	**1.84**	**193**	*e*P	**Pn**	**17 01 09.0**	**+0.8**
LILU				*e*S	**Sg**	**17 01 34.5**	**0.0**
LILU	**Lilltraesk**	**1.84**	**193**	P	**Pn**	**17 01 09.0**	**+0.8**
KIF	**Kilpisjarvi**	**1.94**	**360**	Pn	**Pb**	**17 01 11.5**	**-0.2**
KIF				Lg	Lg	17 01 38.8	
KIF	**Kilpisjarvi**	**1.94**	**360**	Pn	**Pb**	**17 01 11.5**	**-0.2**
KIF				Lg	Lg	17 01 38.8	
KIF	**Kilpisjarvi**	**1.94**	**360**	*e*PB	**Pb**	**17 01 11.7**	**0.0**
KIF				MSG		17 01 35.5	
	comp=Z,24nm,0.2s						
KIF				*e*SG	**Sg**	**17 01 38.3**	**+0.5**
KIF	**Kilpisjarvi**	**1.94**	**360**	Pg	**Pb**	**17 01 11.7**	**0.0**
KIF				Sg	**Sg**	**17 01 38.3**	**+0.5**
RNF	**Rovaniemi**	**2.10**	**100**	*e*PB	**Pn**	**17 01 12.6**	**+0.9**
	baz=298						
RNF				*e*SG	**Sb**	**17 01 41.0**	**+0.2**
RNF	**Rovaniemi**	**2.10**	**100**	Pg	**Pn**	**17 01 12.6**	**+0.9**
RNF				Sg	**Sb**	**17 01 41.0**	**+0.2**
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn	**Pn**	**17 01 25.2**	**+0.7**
	baz=220,slow=14						
ARA0				Sn	**Sn**	**17 02 01.2**	**-0.1**
	baz=224,slow=22						
ARA0				Lg	Lg	17 02 07.8	
	baz=218,slow=28						
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn	**Pn**	**17 01 25.2**	**+0.7**
	SNR=50						
ARA0				Sn	**Sn**	**17 02 01.2**	**-0.1**
	SNR=50						
ARA0				Lg	Lg	17 02 07.8	
	SNR=5.9						
ARCES	**ARCESS Array B**	**3.02**	**33**	Pn	**Pn**	**17 01 25.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=210,slow=16,SNR=29						
ARCES				Sn	**Sn**	**17 02 03.1**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=224,slow=22,SNR=8.2						
ARCES				Lg	Lg	17 02 13.5	
	comp=Z,1.1nm,0.3s,baz=210,slow=28,SNR=10						
OUFX	**Oulainen**	**3.15**	**148**	*e*SB	**Sb**	**17 02 09.4**	**-1.7**
OUFX	**Oulainen**	**3.15**	**148**	Sb	**Sb**	**17 02 09.4**	**-1.7**
UMAU	**Umeaa**	**3.20**	**181**	P	**Pn**	**17 01 28.1**	**+1.1**
UMAU	**Umeaa**	**3.20**	**181**	*e*P	**Pn**	**17 01 28.0**	**+1.1**
UMAU	**Umeaa**	**3.20**	**181**	Pn	**Pn**	**17 01 27.9**	**+0.9**
BREU	**Bredtraesk**	**3.33**	**198**	P	**Pn**	**17 01 29.6**	**+0.9**
BREU	**Bredtraesk**	**3.33**	**198**	*e*P	**Pn**	**17 01 29.6**	**+0.9**
BREU	**Bredtraesk**	**3.33**	**198**	P	**Pn**	**17 01 29.6**	**+0.9**
VRF	**Varrio**	**3.45**	**75**	*e*P	**Pn**	**17 01 32.1**	**+1.7**
VRF	**Varrio**	**3.45**	**75**	Pn	**Pn**	**17 01 32.1**	**+1.7**
MSF	**Maaselka**	**3.48**	**106**	*e*P	**Pn**	**17 01 32.1**	**+1.3**
	baz=279						
MSF	**Maaselka**	**3.48**	**106**	Pn	**Pn**	**17 01 32.1**	**+1.3**
KU6	**Riekki**	**3.77**	**102**	*e*P	**Pn**	**17 01 35.8**	**+1.0**
	baz=289						
KU6	**Riekki**	**3.77**	**102**	Pn	**Pn**	**17 01 35.7**	**+1.0**
VAF	**Ylistaro**	**4.12**	**168**	*e*P	**Pn**	**17 01 41.6**	**+2.1**
	baz=338						
VAF	**Ylistaro**	**4.12**	**168**	Pn	**Pn**	**17 01 41.6**	**+2.1**
HEMU	**Hemsoen**	**4.57**	**196**	*e*P	**Pn**	**17 01 46.4**	**+0.6**
	baz=29						
HEMU	**Hemsoen**	**4.57**	**196**	Pn	**Pn**	**17 01 46.4**	**+0.6**
APA0	**Apatity Array**	**4.73**	**78**	Pn	**Pn**	**17 01 48.6**	**+0.8**
	baz=270,slow=9.3						
APA0	**Apatity Array**	**4.73**	**78**	Pn	**Pn**	**17 01 48.6**	**+0.8**
	baz=270,slow=9.3						
APA0	**Apatity Array**	**4.73**	**78**	Pn	**Pn**	**17 01 48.7**	**+0.8**
	SNR=50						
FIA0	**FINESS Array S**	**6.09**	**156**	Pn	**Pn**	**17 02 07.8**	**+1.2**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**17 03 16.7**	**-0.2**
	baz=334,slow=28						
FIA0	**FINESS Array S**	**6.09**	**156**	Pn	**Pn**	**17 02 07.8**	**+1.2**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**17 03 16.7**	**-0.2**
	baz=334,slow=28						
FIA0	**FINESS Array S**	**6.09**	**156**	Pn	**Pn**	**17 02 07.8**	**+1.2**
	SNR=50						
FIA0				Sn	**Sn**	**17 03 16.7**	**-0.2**
	SNR=50						
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**17 02 06.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=9.3						
FINES				Sn	**Sn**	**17 03 17.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=341,slow=21,SNR=8.1						
NB2	**NORSAR Subarra**	**7.37**	**219**	Pn	**Pn**	**17 02 24.3**	**0.0**
NB2	**NORSAR Subarra**	**7.37**	**219**	Pn	**Pn**	**17 02 24.3**	**0.0**
NB2	**NORSAR Subarra**	**7.37**	**219**	Pn	**Pn**	**17 02 24.3**	**0.0**
	SNR=50						
NOA	**NORSAR Array B**	**7.37**	**219**	Pn	**Pn**	**17 02 24.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=34,slow=11,SNR=2.3						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**17 02 27.7**	**-0.3**
	baz=24,slow=16						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**17 02 27.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=4.6						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**17 02 27.7**	**-0.3**
	baz=24,slow=16						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**17 02 27.7**	**-0.3**
	SNR=50						

WEL 08 17:01:57.3±0.4, 39°.40S×174°.48E, h204km±3km, ML3.7/12, 27C-1D, Error ellipse: s-maj=2.5km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.08**	**223**	PN	Pn	17 02 23.8	-0.1
LREZ				SN	S	17 02 44.7	-0.2
NEZ	**North Egmont**	**0.32**	**294**	PN	Pn	17 02 24.2	-0.3
NEZ				SN	S	17 02 45.0	-0.6
VRZ	**Vera Road**	**0.35**	**39**	⇑PN	Pn	17 02 23.5	-1.0
KHEZ	**Kahui Hut**	**0.37**	**286**	PN	Pn	17 02 24.3	-0.3
WAZ	**Wanganui**	**0.53**	**132**	⇑PN	Pn	17 02 25.3	+0.3
WAZ				SN	S	17 02 46.4	-0.3
PKVZ	**Pokaka**	**0.68**	**81**	PN	Pn	17 02 25.0	-0.5
MTVZ	**Mangateitei**	**0.77**	**89**	PN	Pn	17 02 25.8	-0.4
TRVZ	**Turoa**	**0.84**	**83**	PN	Pn	17 02 26.5	-0.3
FWVZ	**Far West T-bar**	**0.85**	**81**	⇑PN	Pn	17 02 26.4	-0.4
WHVZ	**Whangaehu Hut**	**0.87**	**83**	PN	Pn	17 02 26.9	-0.1
WNVZ	**Wahianoa**	**0.87**	**86**	PN	Pn	17 02 26.6	-0.3
WNVZ				SN	S	17 02 47.9	-1.8
NGZ	**Ngauruhoe**	**0.90**	**76**	PN	Pn	17 02 26.8	-0.3
WTVZ	**West Tongariro**	**0.91**	**72**	PN	Pn	17 02 26.7	-0.4
TUVZ	**Tukino**	**0.92**	**82**	PN	Pn	17 02 27.2	0.0
OTVZ	**Oturere**	**0.95**	**76**	PN	Pn	17 02 27.2	-0.2
KRVZ	**Karewarewa**	**0.95**	**72**	⇑PN	Pn	17 02 27.0	-0.4
MOVZ	**Moawhango**	**0.99**	**91**	⇑PN	Pn	17 02 27.1	-0.4
MOVZ				SN	S	17 02 48.2	-2.6
OHWZ	**Ohakea**	**1.03**	**142**	⇑PN	Pn	17 02 28.4	+0.7
BHHZ	**Black Hill Sta**	**1.23**	**95**	⇑PN	Pn	17 02 28.7	-0.5
TSZ	**Takapari Road**	**1.32**	**120**	⇑PN	Pn	17 02 30.0	+0.1
TSZ				AML	AML	17 02 55.1	
TSZ				AML	AML	17 02 55.8	
POWZ	**Post Office Ro**	**1.40**	**135**	⇑PN	Pn	17 02 30.5	0.0
PNHZ	**Pukenui**	**1.43**	**112**	PN	Pn	17 02 30.8	0.0
DUWZ	**D'Urville Isla**	**1.46**	**197**	⇑PN	Pn	17 02 30.6	-0.4
KRHZ	**Kereru**	**1.48**	**100**	PN	Pn	17 02 31.2	-0.1
KIW	**Kapiti Island**	**1.50**	**167**	PN	Pn	17 02 31.1	-0.2
KIW				AML	AML	17 02 58.6	
KIW				AML	AML	17 03 04.6	
KWHZ	**Kaweka Forest**	**1.51**	**92**	⇑PN	Pn	17 02 31.7	+0.2
OGWZ	**Otaki Gorge**	**1.51**	**160**	PN	Pn	17 02 31.5	+0.1
MRZ	**Mangatainoka R**	**1.52**	**146**	⇑PN	Pn	17 02 31.3	-0.1
DVHZ	**Dannevirke**	**1.58**	**125**	PN	Pn	17 02 32.1	0.0
BKZ	**Black Stump Fm**	**1.58**	**82**	⇑PN	Pn	17 02 31.6	-0.6
BKZ				AML	AML	17 02 56.7	
BKZ				AML	AML	17 02 57.8	
MRHZ	**Matea Rd**	**1.61**	**70**	⇓PN	Pn	17 02 31.4	-1.0
PRWZ	**Pori Road**	**1.63**	**136**	PN	Pn	17 02 32.7	+0.2
WPHZ	**Waipukurau**	**1.65**	**114**	⇑PN	Pn	17 02 32.9	+0.2
HOWZ	**Holdsworth Sta**	**1.69**	**152**	PN	Pn	17 02 32.8	-0.3
MCHZ	**McNeill Hill**	**1.72**	**92**	⇑PN	Pn	17 02 33.9	+0.5
TIWZ	**Tintock**	**1.75**	**142**	PN	Pn	17 02 33.5	-0.1
TIWZ				AML	AML	17 03 02.2	
TIWZ				AML	AML	17 03 03.6	
CAW	**Cannon Point**	**1.77**	**165**	⇑PN	Pn	17 02 33.5	-0.3
CAW				AML	AML	17 03 02.2	
CAW				AML	AML	17 03 02.9	
TCW	**Tory Channel**	**1.81**	**185**	⇑PN	Pn	17 02 34.2	0.0
TCW				AML	AML	17 03 02.5	
TCW				AML	AML	17 03 02.5	
NMHZ	**Naumai**	**1.83**	**81**	PN	Pn	17 02 34.7	+0.2
ANWZ	**Angora Road**	**1.87**	**125**	PN	Pn	17 02 35.0	+0.3
BFZ	**Birch Farm**	**1.87**	**134**	⇑PN	Pn	17 02 34.5	-0.2
PRHZ	**Porangahau**	**1.87**	**118**	⇑PN	Pn	17 02 35.1	+0.3
KAHZ	**Kahuranaki**	**1.90**	**103**	PN	Pn	17 02 35.5	+0.4
WEL	**Wellington**	**1.90**	**173**	PN	Pn	17 02 34.6	-0.4
WEL				AML	AML	17 03 04.3	
MTW	**Mount Morrison**	**1.92**	**156**	⇑PN	Pn	17 02 34.8	-0.5
PXZ	**Pawanui**	**1.94**	**110**	⇑PN	Pn	17 02 35.7	+0.2
PXZ				AML	AML	17 03 05.3	
PXZ				AML	AML	17 03 05.3	
PXZ				AML	AML	17 03 06.9	
PXZ				AML	AML	17 03 06.9	
ARHZ	**Aropaoanui**	**1.96**	**87**	PN	Pn	17 02 35.9	+0.2
NNZ	**Nelson**	**2.00**	**204**	⇑PN	Pn	17 02 35.2	-0.8
CPWZ	**Castlepoint**	**2.01**	**139**	⇑PN	Pn	17 02 36.4	+0.3
TMWZ	**Te Maipa**	**2.02**	**148**	⇑PN	Pn	17 02 36.0	-0.3
CKHZ	**Cape Kidnapper**	**2.03**	**98**	PN	Pn	17 02 36.7	+0.3
BHW	**Baring Head**	**2.03**	**172**	PN	Pn	17 02 35.6	-0.7
BHW				AML	AML	17 03 05.6	
BHW				AML	AML	17 03 06.5	
QRZ	**Quartz Range**	**2.06**	**226**	PN	Pn	17 02 35.3	-1.4
TUWZ	**Tuamarina**	**2.07**	**191**	PN	Pn	17 02 36.2	-0.6
TUWZ				AML	AML	17 03 06.8	
TUWZ				AML	AML	17 03 06.8	
RAHZ	**Arahi**	**2.09**	**77**	PN	Pn	17 02 37.1	+0.1
MSWZ	**Moikau Station**	**2.10**	**164**	PN	Pn	17 02 36.4	-0.7
MSWZ				AML	AML	17 03 07.9	
RTZ	**Ruatahuna**	**2.10**	**69**	⇑PN	Pn	17 02 36.3	-1.0
PAWZ	**Paruwai Farm**	**2.11**	**160**	⇑PN	Pn	17 02 36.6	-0.6
TRWZ	**Traveller**	**2.20**	**156**	⇑PN	Pn	17 02 37.7	-0.5
PLWZ	**Palliser**	**2.25**	**165**	PN	Pn	17 02 37.8	-0.9
SNGZ	**Shannon Statio**	**2.31**	**75**	PN	Pn	17 02 39.3	-0.1
URZ	**Urewera**	**2.35**	**62**	PN	Pn	17 02 38.0	-1.8
URZ				AML	AML	17 03 08.3	
URZ				AML	AML	17 03 08.7	
CMWZ	**Cape Campbell**	**2.36**	**185**	PN	Pn	17 02 39.7	-0.1
BSWZ	**Blackbirch Sta**	**2.36**	**191**	PN	Pn	17 02 39.4	-0.4
RAGZ	**Rawiri**	**2.46**	**69**	PN	Pn	17 02 40.2	-1.0
MWZ	**Matawai**	**2.61**	**67**	PN	Pn	17 02 41.2	-1.5
THZ	**Tophouse**	**2.65**	**206**	PN	Pn	17 02 42.1	-1.0
RIGZ	**Rimuhau**	**2.65**	**76**	PN	Pn	17 02 42.4	-0.8
MHGZ	**Mahia Peninsul**	**2.67**	**86**	PN	Pn	17 02 43.4	0.0
PRGZ	**Paritu Road**	**2.69**	**81**	PN	Pn	17 02 43.0	-0.6
TKGZ	**Te Karaka**	**2.80**	**71**	PN	Pn	17 02 43.7	-1.1
TWGZ	**Tauwhareparae**	**3.00**	**67**	PN	Pn	17 02 46.3	-0.8
HAZ	**Te Kaha**	**3.07**	**59**	PN	Pn	17 02 45.5	-2.4
KHZ	**Kahutara**	**3.10**	**193**	PN	Pn	17 02 47.1	-1.1
DSZ	**Denniston Nort**	**3.10**	**220**	PN	Pn	17 02 46.5	-1.9
PUZ	**Puketiti**	**3.24**	**67**	PN	Pn	17 02 48.2	-1.8
WMGZ	**Waiomatatini S**	**3.46**	**64**	PN	Pn	17 02 50.7	-1.9
LTZ	**Lake Taylor**	**3.77**	**206**	PN	Pn	17 02 54.7	-1.6
INZ	**Inchbonnie**	**4.04**	**214**	PN	Pn	17 02 57.0	-2.5
OXZ	**Oxford**	**4.33**	**204**	PN	Pn	17 03 00.7	-2.6
CRLZ	**Canterbury Las**	**4.40**	**198**	PN	Pn	17 03 01.6	-2.5
MOZ	**McQueen's Vall**	**4.51**	**197**	PN	Pn	17 03 02.5	-3.0
WVZ	**Waitaha Valley**	**4.63**	**216**	PN	Pn	17 03 05.0	-2.0
RPZ	**Rata Peaks**	**5.02**	**210**	PN	Pn	17 03 09.2	-2.8
ODZ	**Otahua Downs**	**6.32**	**206**	PN	Pn	17 03 26.5	-2.1

*ISCJB **08** 17:14:45.7±0.6, 43°.42N±0°.03×9°.12W±0°.06, h24km, Error ellipse: s-maj=6.1km s-min=3.7km az=19.8*
*CSEM **08** 17:14:46.9±0.2, 43°.37N×9°.13W, h15km, ML3.4/20, Error ellipse: s-maj=5.6km s-min=2.7km az=101.0*
*MDD **08** 17:14:48.3±1.4, 43°.34N×9°.13W, h25km±7km, mb3.8/2, mbLg2.7/12, Error ellipse: s-maj=10.8km s-min=8.4km az=105.0, PRXIMO*
*INMG **08** 17:14:49.0±1.2, 43°.34N×9°.25W, h15km±3km, ML2.7, Error ellipse: s-maj=6.1km s-min=2.5km az=93.0*
*LDG **08** 17:14:49.3±0.3, 43°.35N×9°.15W, h20km, Ml2.9/3, Error ellipse: s-maj=6.6km s-min=3.2km az=96.0*

ISC 08 17:14:47.2±1.6, 43°.45N±0°.05×9°.22W±0°.07, h24km, n121, σ2s51/187, 1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**0.53**	**160**	⇓Pg	**Pb**	**17 14 57.1**	**-0.8**
	64nm,0.1s,SNR=18						
EMAZ				Lg	Lg	17 15 02.6	
	714nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**0.53**	**160**	Pg	**Pb**	**17 14 57.1**	**-0.8**
	64nm,0.1s,SNR=18						
EMAZ				Lg	Lg	17 15 02.6	
	714nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**1.05**	**128**	Pn	**Pb**	**17 15 05.4**	**-1.3**
	0.9nm,0.1s,SNR=7.9						
EAGO				Pg	**Pn**	**17 15 06.5**	**+0.1**
	21nm,0.2s,SNR=7.9						
EAGO				Sn	**Sb**	**17 15 17.4**	**-2.6**
	51nm,0.1s,SNR=7.9						
EAGO				Lg	Lg	17 15

MVO eSg Sb 17 16 15.2 +4.8
24nm,0.4s
EARI Arriondas 2.93 92 Pn Pn 17 15 33.3 +1.1
2.8nm,0.1s,SNR=21
EARI Sn Sn 17 16 04.9 -1.7
0.5nm,0.1s,SNR=7.9
EARI Lg Lg 17 16 19.1
2.8nm,0.2s,SNR=5.1
EARI Arriondas 2.93 92 Pn Pn 17 15 33.3 +1.1
2.8nm,0.1s,SNR=21
EARI Sn Sn 17 16 04.9 -1.7
0.5nm,0.1s,SNR=7.9
EARI Lg Lg 17 16 19.1
2.8nm,0.2s,SNR=5.1
MTE Manteigas 3.29 157 eSg Sb 17 16 30.0 +5.4
MTE A A 17 16 36.7
32nm,0.5s
MTE Manteigas 3.29 157 Lg Lg 17 16 30.0
16nm,0.5s
MTE Manteigas 3.29 157 eSg Sb 17 16 30.0 +5.4
32nm,0.5s
PCAS Casmilo, Conde 3.44 171 eSn Sn 17 16 15.5 -3.7
PCAS eSg Sb 17 16 35.0 +6.4
PCAS A A 17 16 42.3
17nm,0.6s
PCAS Casmilo, Conde 3.44 171 eSn Sn 17 16 15.5 -3.7
PCAS eSg Sb 17 16 35.0 +6.4
17nm,0.6s
EPLA Plasencia 4.12 144 Pn Pn 17 15 48.6 0.0
0.3nm,0.0s,SNR=7.9
EPLA Sn Sn 17 16 33.1 -2.9
2.3nm,0.1s,SNR=7.9
EPLA Lg Lg 17 16 56.7
1.8nm,0.2s,SNR=7.9
EPLA Plasencia 4.12 144 Pn Pn 17 15 48.6 0.0
0.3nm,0.0s,SNR=7.9
EPLA Sn Sn 17 16 33.1 -2.9
2.3nm,0.1s,SNR=7.9
EPLA Lg Lg 17 16 56.7
1.8nm,0.2s,SNR=7.9
ELAN Lanestosa 4.22 91 Pn Pn 17 15 50.6 +0.5
0.7nm,0.1s,SNR=9.6
ELAN Sn Sn 17 16 37.3 -1.3
0.3nm,0.1s,SNR=4.6
ELAN Lg Lg 17 17 00.7
27nm,1.0s
ELAN Lanestosa 4.22 91 Pn Pn 17 15 50.6 +0.5
0.7nm,0.1s,SNR=9.6
ELAN Sn Sn 17 16 37.3 -1.3
0.3nm,0.1s,SNR=4.6
ELAN Lg Lg 17 17 00.7
27nm,1.0s
PMRV Marv??o 4.25 161 ePn Pn 17 15 49.8 -0.5
PMRV eSg Sb 17 16 58.2 +6.3
PMRV A A 17 17 08.9
9.9nm,0.5s
PMRV Marv??o 4.25 161 Pn Pn 17 15 49.8 -0.5
PMRV Lg Lg 17 16 58.2
9.9nm,0.5s
PMRV Marv??o 4.25 161 Pn Pn 17 15 49.8 -0.5
PMRV eSg Sb 17 16 58.2 +6.3
9.9nm,0.5s
PMTG Montargil 4.44 170 ePn Pn 17 15 52.6 -0.4
PMTG eSn Sn 17 16 39.3 -4.6
PMTG A A 17 17 14.3
4.0nm,0.9s
PMTG Montargil 4.44 170 ePn Pn 17 15 52.6 -0.4
PMTG eSn Sn 17 16 39.3 -4.6
4.0nm,0.9s
PMAFR Mafra 4.49 181 ePn Pn 17 15 53.1 -0.6
PMAFR Mafra 4.49 181 Pn Pn 17 15 52.6 -1.1
1.0nm,0.1s,SNR=4.0
PMAFR Sn Sn 17 16 39.9 -5.2
0.9nm,0.1s,SNR=7.9
PMAFR Mafra 4.49 181 ePn Pn 17 15 53.1 -0.6
GUD Guadarrama 4.70 125 Pn Pn 17 15 57.1 +0.4
2.5nm,0.2s,SNR=11
GUD Sn Sn 17 16 48.0 -2.5
0.1nm,0.3s,SNR=7.9
GUD Lg Lg 17 17 12.8
4.0nm,0.3s,SNR=7.9
GUD Guadarrama 4.70 125 Pn Pn 17 15 57.1 +0.4
2.5nm,0.2s,SNR=11
GUD Sn Sn 17 16 48.0 -2.5
0.1nm,0.3s,SNR=7.9
GUD Lg Lg 17 17 12.8
4.0nm,0.3s,SNR=7.9
PESTR Estremoz 4.74 164 ePn Pn 17 15 56.6 -0.5
PESTR eSg Sb 17 17 14.0 +7.9
PESTR A A 17 17 21.3
7.1nm,0.6s
PESTR Estremoz 4.74 164 ePn Pn 17 15 56.6 -0.5
PESTR eSg Sb 17 17 14.0 +7.9
7.1nm,0.6s
EBAD Badajoz 4.97 160 Pn Pn 17 16 00.4 0.0
0.4nm,0.1s,SNR=7.9
EBAD Sn Sn 17 16 53.5 -3.6
2.4nm,0.2s,SNR=7.9
EBAD Badajoz 4.97 160 Pn Pn 17 16 00.4 0.0
0.4nm,0.1s,SNR=7.9
EBAD Sn Sn 17 16 53.5 -3.6
2.4nm,0.2s,SNR=7.9
ESDC Sonseca Array 5.45 132 Pn Pn 17 16 07.4 +0.4
0.7nm,0.1s,baz=315,slow=12,SNR=7.9
ESDC Lg Lg 17 17 38.4
baz=309,slow=30,SNR=7.9
ESDC Sonseca Array 5.45 132 Pn Pn 17 16 07.4 +0.4
0.7nm,0.1s,SNR=7.9
ESDC Lg Lg 17 17 38.4
SNR=7.9
PBAR Barrancos 5.52 162 ePn Pn 17 16 07.4 -0.5
PBAR eSn Sn 17 17 05.5 -5.1
PBAR A A 17 17 52.5
13nm,0.6s
PBAR Barrancos 5.52 162 Pn Pn 17 16 07.4 -0.5
PBAR Sn Sn 17 17 05.5 -5.1
13nm,0.6s
PBAR Barrancos 5.52 162 Pn Pn 17 16 07.4 -0.5
EALK Alkurruntz 5.63 90 Pn Pn 17 16 10.0 +0.6
0.3nm,0.1s,SNR=7.9
EALK Sn Sn 17 17 12.0 -1.3
22nm,1.2s,SNR=7.9
EALK Alkurruntz 5.63 90 Pn Pn 17 16 10.0 +0.6
0.3nm,0.1s,SNR=7.9
EALK Sn Sn 17 17 12.0 -1.3
22nm,1.2s,SNR=7.9
MESJ Messejana 5.65 172 ePn Pn 17 16 09.2 -0.5
MESJ Messejana 5.65 172 Pn Pn 17 16 09.2 -0.5
MESJ Messejana 5.65 172 Pn Pn 17 16 09.2 -0.5
EORO Oroz-Betelu 5.81 93 Pn Pn 17 16 13.5 +1.6
0.2nm,0.1s,SNR=7.9
EORO Sn Sn 17 17 18.1 +0.3
0.2nm,0.0s,SNR=7.9
EORO Oroz-Betelu 5.81 93 Pn Pn 17 16 13.5 +1.6
0.2nm,0.1s,SNR=7.9
EORO Sn Sn 17 17 18.1 +0.3
0.2nm,0.0s,SNR=7.9
SJPF Ste Jean 5.84 91 Pn Pn 17 16 11.8 -0.5
SJPF Sn Sn 17 17 13.7 -4.8
0.6nm,0.3s
SJPF Ste Jean 5.84 91 ePn Pn 17 16 11.8 -0.5
SJPF eSn Sn 17 17 13.7 -4.8
1.3nm,0.3s
SJPF Ste Jean 5.84 91 Pn Pn 17 16 11.8 -0.5
IELO Elcoad 5.87 93 Pn Pn 17 16 13.8 +1.1
0.2nm,0.1s,SNR=7.9
IELO Sn Sn 17 17 17.5 -1.7
1.0nm,0.1s,SNR=4.0
IELO Elcoad 5.87 93 Pn Pn 17 16 13.8 +1.1
0.2nm,0.1s,SNR=7.9
IELO Sn Sn 17 17 17.5 -1.7
1.0nm,0.1s,SNR=4.0
PCVE Castro Verde 5.88 171 ePn Pn 17 16 12.2 -0.6
PCVE eSn Sn 17 17 13.2 -6.2
PCVE Castro Verde 5.88 171 Pn Pn 17 16 12.2 -0.6
PCVE Sn Sn 17 17 13.2 -6.2
PCVE Castro Verde 5.88 171 Pn Pn 17 16 12.2 -0.6
EMIN Mina Concepcio 6.00 160 Pn Pn 17 16 13.7 -0.7
0.0nm,0.1s,SNR=7.9
EMIN Sn Sn 17 17 18.6 -3.7
0.0nm,0.1s,SNR=4.0
EMIN Lg Lg 17 17 53.1
3.4nm,0.5s,SNR=7.9
EMIN Mina Concepcio 6.00 160 Pn Pn 17 16 13.7 -0.7
SNR=7.9
EMIN Sn Sn 17 17 18.6 -3.7
SNR=4.0
EMIN Lg Lg 17 17 53.1
3.4nm,0.5s,SNR=7.9
ECAB El Cabril 6.09 150 Sn Sn 17 17 22.8 -1.9
0.7nm,0.3s,SNR=4.0
ECAB Lg Lg 17 17 59.5
23nm,0.9s,SNR=7.9
ECAB El Cabril 6.09 150 Sn Sn 17 17 22.8 -1.9
0.7nm,0.3s,SNR=4.0
ECAB Lg Lg 17 17 59.5
23nm,0.9s,SNR=7.9
PVAQ Vaqueiros 6.15 169 ePn Pn 17 16 15.6 -0.8
PVAQ eSn Sn 17 17 20.4 -5.5
PVAQ Vaqueiros 6.15 169 Pn Pn 17 16 15.6 -0.8
PVAQ Sn Sn 17 17 20.4 -5.5
PVAQ Vaqueiros 6.15 169 Pn Pn 17 16 15.6 -0.8
QUIF Quistinic 6.16 41 Pn Pn 17 16 16.9 +0.3
QUIF Quistinic 6.16 41 ePn Pn 17 16 16.9 +0.3
QUIF Quistinic 6.16 41 Pn Pn 17 16 16.9 +0.3
PBDV Barranco-do-Ve 6.28 171 ePn Pn 17 16 16.5 -1.8
PBDV eSn Sn 17 17 23.6 -5.6
PBDV Barranco-do-Ve 6.28 171 Pn Pn 17 16 16.5 -1.8
PBDV Sn Sn 17 17 23.6 -5.6
PBDV Barranco-do-Ve 6.28 171 Pn Pn 17 16 16.5 -1.8
EADA Adamuz 6.34 145 Lg Lg 17 18 06.1
5.3nm,0.6s,SNR=7.9
EADA Adamuz 6.34 145 Lg Lg 17 18 06.1
5.3nm,0.6s,SNR=7.9
ETSF Etsaut 6.36 92 Pn Pn 17 16 20.5 +1.1
ETSF Sn Sn 17 17 26.6 -4.6
0.5nm,0.3s
ETSF Etsaut 6.36 92 ePn Pn 17 16 20.5 +1.1
ETSF eSn Sn 17 17 26.6 -4.6
1.0nm,0.3s
ETSF Etsaut 6.36 92 Pn Pn 17 16 20.5 +1.1
ROSF Rostrenen 6.41 38 Pn Pn 17 16 19.9 -0.1
ROSF Rostrenen 6.41 38 ePn Pn 17 16 19.9 -0.1
ROSF Rostrenen 6.41 38 Pn Pn 17 16 19.9 -0.1
SGMF Saint Gilles 6.69 42 Pn Pn 17 16 23.8 0.0
SGMF Saint Gilles 6.69 42 ePn Pn 17 16 23.8 0.0
SGMF Saint Gilles 6.69 42 Pn Pn 17 16 23.8 0.0
MFF Saint Martin d 7.16 61 Pn Pn 17 16 30.0 -0.3
MFF Sn Sn 17 17 45.7 -5.1
0.8nm,0.2s
MFF Saint Martin d 7.16 61 ePn Pn 17 16 30.0 -0.3
MFF eSn Sn 17 17 45.7 -5.1
1.6nm,0.2s
MFF Saint Martin d 7.16 61 Pn Pn 17 16 30.0 -0.3
LFF La Frestale 7.31 75 Pn Pn 17 16 32.4 0.0
LFF La Frestale 7.31 75 ePn Pn 17 16 32.4 0.0
LFF La Frestale 7.31 75 Pn Pn 17 16 32.4 0.0
FLN La Foliniere 8.06 46 Pn Pn 17 16 44.2 +1.5
FLN La Foliniere 8.06 46 ePn Pn 17 16 44.2 +1.5
baz=239
FLN La Foliniere 8.06 46 Pn Pn 17 16 44.2 +1.5
CAF Calviac 8.24 76 Pn Pn 17 16 44.1 -1.1
CAF Calviac 8.24 76 ePn Pn 17 16 44.1 -1.1
CAF Calviac 8.24 76 Pn Pn 17 16 44.1 -1.1
MTLF Montolieu 8.33 87 Pn Pn 17 16 46.3 -0.1
MTLF Montolieu 8.33 87 ePn Pn 17 16 46.3 -0.1
MTLF Montolieu 8.33 87 Pn Pn 17 16 46.3 -0.1
TCF Toulx Ste Croi 8.60 67 Pn Pn 17 16 50.4 +0.3
TCF Toulx Ste Croi 8.60 67 ePn Pn 17 16 50.4 +0.3
TCF Toulx Ste Croi 8.60 67 Pn Pn 17 16 50.4 +0.3
BGF Bois d'Agland 9.10 66 Pn Pn 17 16 57.4 +0.5
BGF Bois d'Agland 9.10 66 ePn Pn 17 16 57.4 +0.5
BGF Bois d'Agland 9.10 66 Pn Pn 17 16 57.4 +0.5
AVF Avril sur Loir 9.49 65 Pn Pn 17 17 02.2 -0.1
AVF Avril sur Loir 9.49 65 ePn Pn 17 17 02.2 -0.1
AVF Avril sur Loir 9.49 65 Pn Pn 17 17 02.2 -0.1

GUC 08 17:17:24.4±0.4, 22°.95S × 67°.08W, h262km ± 17km, ML4.0, 7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**2.30**	**299**	⇑*i*P	Pn	17 18 13.2	+2.4
PB09				*e*S	S	17 18 49.5	+1.8
PB06	**IPOC Station P**	**2.31**	**275**	⇑*i*P	Pn	17 18 12.7	+1.8
PB07	**IPOC Station P**	**2.86**	**295**	⇑*i*P	Pn	17 18 18.9	+2.5
PB07				*i* S	S	17 19 00.1	+2.4
PB07				IAML		17 19 01.1	
	comp=N,160nm,0.9s						
PB04	**IPOC Station P**	**2.90**	**282**	⇑*i*P	Pn	17 18 19.2	+2.5
PB04				*i* S	S	17 19 01.0	+2.7
PB04				IAML		17 19 04.3	
	comp=E,108nm,0.5s						
PB01	**IPOC Station P**	**2.92**	**310**	⇑*i*P	Pn	17 18 19.1	+2.1
PB01				*i* S	S	17 19 01.4	+2.6
PB10	**IPOC Station P**	**3.24**	**259**	⇑*i*P	Pn	17 18 22.8	+2.5
PB10				*i* S	S	17 19 06.9	+2.3
PB08	**IPOC Station P**	**3.39**	**325**	⇑*i*P	Pn	17 18 25.1	+2.7
PB08				*i* S	S	17 19 11.4	+3.1
PB08				IAML		17 19 12.6	
	comp=E,101nm,0.2s						
MNMC	**Minye Minye**	**4.46**	**328**	*e*P	Pn	17 18 36.7	+2.2
MNMC				*i* S	S	17 19 32.0	+1.7

*IDC **08** 17:29:22.6±1.1, 0°.78N × 96°.31E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/37, mbtmp3.8/11, ML4.1/1, Error ellipse: s-maj=31.0km s-min=14.7km az=68.0*
*ISCJB **08** 17:29:26.6±0.6, 1°.07N ± 0°.04 × 96°.59E ± 0°.06, h33km, mb3.8/12, Error ellipse: s-maj=8.6km s-min=5.3km az=167.8*
*DJA **08** 17:29:26.1±1.2, 1°.N ± 3° × 9°7E ± °, h24km ± 12km, M4.1/10, mb4.3/3, MLv4.0/10*
*NEIC **08** 17:29:30.7±0.8, 1°.09N × 96°.95E, h35km, mb4.0/2, Error ellipse: s-maj=17.1km s-min=9.4km az=63.0*

ISC 08 17:29:29.2±0.9, 1°.09N ± 0°.07 × 96°.62E ± 0°.08, h35km, n33, σ1s59/31, mb3.9/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.98**	**78**	P	Pn	17 29 44.0	-2.5
GSI				S	Sn	17 29 59.6	+0.4
GSI	**Gunungsitoli**	**0.98**	**78**	*e*Pg	Pn	17 29 43.5	-3.0
TPTI		**2.23**	**15**	P	Pn	17 30 00.5	-3.1
TPTI				S	Sn	17 30 29.5	-0.4
KCSI	**Kotacane, Aceh**	**2.67**	**25**	P	Pn	17 30 08.3	-1.6
KCSI				S	Sn	17 30 41.3	+0.2
MNSI	**Mandailing Nat**	**2.98**	**96**	P	Pn	17 30 12.4	-1.6
TSI	**Tuntungan**	**3.08**	**39**	P	Pn	17 30 14.4	-1.0
TSI				S	Sn	17 30 51.0	-0.1
MLSI	**Meulaboh, Aceh**	**3.16**	**356**	P	Pn	17 30 27.7	+11
MLSI				S	Sn	17 30 51.8	-1.3
PPI	**Padang Panjang**	**4.08**	**112**	P	Pn	17 30 28.1	-1.0
LHMI	**Lhok Sumawe**	**4.12**	**5**	P	Pn	17 30 28.0	-1.8
LHMI				S	Sn	17 31 16.2	-0.6
KULM	**Kulim**	**5.80**	**44**	*e*Pn	Pn	17 30 50.5	-2.3
	12nm,0.6s						
KSI	**Kapahiang**	**7.61**	**128**	P	Pn	17 31 17.2	-0.5
TNG	**Tangerang**	**12.34**	**126**	P	P	17 32 39.6	+5.4
CMAR	**Chiang Mai Arr**	**17.41**	**7**	P	P	17 33 31.7	+1.2
	0.3nm,0.3s,baz=198,slow=11,SNR=5.4						
CMAR				S	S	17 36 51.4	+1.6
	baz=166,slow=34,SNR=3.0						
MTKI	**Muara Teweh, K**	**18.39**	**96**	P	Pn	17 33 52.1	+11
H08S2	**Diego Garcia H**	**25.58**	**250**	T	T	18 01 35.6	
	baz=69,slow=74,SNR=114						
H08S3	**Diego Garcia H**	**25.58**	**250**	T	T	18 01 32.4	
	baz=69,slow=74,SNR=79						
H08S1	**Diego Garcia H**	**25.60**	**250**	T	T	18 01 33.9	
	baz=69,slow=74,SNR=203						
LSA	**Lhasa**	**28.92**	**350**	P	P	17 35 28.4	+2.7
	1.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**34.34**	**125**	P	P	17 36 11.7	-1.2
	0.9nm,0.7s,baz=292,slow=2.6,SNR=5.0						
H01W3	**Cape Leeuwin H**	**39.37**	**157**	T	T	18 18 38.0	
	baz=333,slow=76,SNR=64						
H01W2	**Cape Leeuwin H**	**39.38**	**157**	T	T	18 18 39.5	
	baz=333,slow=76,SNR=58						
H01W1	**Cape Leeuwin H**	**39.38**	**157**	T	T	18 18 40.4	
	baz=333,slow=76,SNR=58						
WRA	**Warramunga Arr**	**42.47**	**122**	P	P	17 37 20.7	-0.6
	2.1nm,0.7s,baz=300,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**42.48**	**122**	*e*P	P	17 37 20.8	-0.6
	2.4nm,0.7s						
ASAR	**Alice Springs**	**43.80**	**127**	P	P	17 37 31.5	-0.5
	0.5nm,0.6s,baz=305,slow=8.3,SNR=11						
KSAR	**Wonju Array Be**	**46.24**	**35**	P	P	17 37 51.8	+0.6
KSRS	**Korea Array**	**46.27**	**35**	P	P	17 37 51.8	+0.4
	1.2nm,0.8s,baz=219,slow=9.1,SNR=4.2						
MKAR	**Makanchi Array**	**47.21**	**347**	P	P	17 37 59.9	+1.2
	1.0nm,0.5s,baz=164,slow=8.4,SNR=16						
SONM	**Songino Array**	**47.33**	**9**	P	P	17 38 00.7	+1.0
	0.5nm,0.3s,baz=185,slow=9.6,SNR=3.8						
GEYT	**Alibeck**	**50.93**	**321**	P	P	17 38 26.9	-0.4
	0.6nm,0.5s,baz=101,slow=15,SNR=2.7						
USRK	**Ussuriysk Ar.**	**53.16**	**31**	P	P	17 38 45.3	+1.5
	0.8nm,0.5s,baz=266,slow=3.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**53.58**	**351**	P	P	17 38 47.6	+1.0
	1.4nm,0.3s,baz=176,slow=7.0,SNR=11						
BRTR	**Keskin Array B**	**68.75**	**313**	P	P	17 40 27.1	-2.9
	0.3nm,0.7s,baz=108,slow=4.7,SNR=2.5						

*SOME **08** 17:30:19.2, 38°.38N × 72°.17E, h20km*
*NNC **08** 17:30:24.6±2.2, 37°.77N × 71°.88E, h120km ± 35km, mb3.0, mpv3.7, Error ellipse: s-maj=25.1km s-min=10.7km az=147.0*

ISC 08 17:30:24.8±2.6, 37°.8N ± 0°.2 × 71°.81E ± 0°.09, h113km, n12, σ1s61/16, 5C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**294**	⇓P	Pn	17 31 05.3	+0.2
	9.4nm,0.4s						
DZET				⇑S	Sn	17 31 38.7	+2.6
	57nm,0.4s						
IUG	**Iuzhnay**	**4.56**	**343**	*e*P	Pn	17 31 33.7	+1.9
	7.0nm,0.2s						
IUG				*e*S	Sn	17 32 26.2	+2.4
	35nm,0.5s						
MNAS	**Manas**	**4.72**	**6**	⇓P	Pn	17 31 34.3	+0.3
	20nm,0.3s						
MNAS				⇓S	Sn	17 32 28.8	+1.0
	72nm,0.7s						
MRKS	**Merke**	**5.07**	**12**	*e*P	Pn	17 31 38.6	0.0
	17nm,0.3s						
MRKS				*e*S	Sn	17 32 36.0	-0.1
	39nm,0.6s						
AAK	**Ala-Archa**	**5.26**	**22**	⇓P	Pn	17 31 41.0	-0.3
	4.5nm,0.5s						
AAK				S	Sn	17 32 40.8	0.0
	19nm,0.6s						
JBG	**Jabagly**	**5.44**	**31**	*e*P	Pn	17 31 35.7	-8.0
	7.8nm,0.2s						
JBG				*e*S	Sn	17 32 30.3	-15
	62nm,0.5s						
TKM2	**Tokmak 2**	**5.89**	**28**	⇑P	Pn	17 31 48.8	-1.0
	3.9nm,0.8s						
DGS	**Degeres**	**6.23**	**28**	*e*P	Pn	17 32 03.1	+8.8
	6.3nm,0.6s						
DGS				*e*S	Sn	17 33 18.3	+14
	8.3nm,0.4s						
MK31	**Makanchi Array**	**11.87**	**37**	⇑P	Pn	17 33 12.4	+1.9
	0.5nm,0.3s,baz=211,slow=10,SNR=8.4						
KURBB	**Kurchatov Ara**	**13.70**	**18**	⇑P	Pn	17 33 34.4	+0.3
	2.8nm,0.9s						
AB31	**Akbulak array**	**14.31**	**327**	⇑P	Pn	17 33 41.5	-0.6
	0.1nm,0.3s,baz=144,slow=13,SNR=11						
AB31				S	Sn	17 36 16.4	-3.4
	0.5nm,0.3s,baz=148,slow=23,SNR=4.0						
BVA0	**Borovoye Array**	**15.27**	**357**	P	Pn	17 33 54.6	+0.5
	0.8nm,0.8s,baz=168,slow=12,SNR=5.6						

IDC 08 17:32:27.7±7.4, 0°.66N × 96°.43E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/38, mbtmp3.3/4, Error ellipse: s-maj=348.6km s-min=23.1km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.41**	**121**	P	P	17 40 25.1	+0.7
	0.3nm,0.7s,baz=298,slow=9.2,SNR=3.8						
ASAR	**Alice Springs**	**43.69**	**126**	P	P	17 40 33.8	-1.0
	0.3nm,0.9s,baz=300,slow=7.7,SNR=2.9						
MKAR	**Makanchi Array**	**47.59**	**347**	P	P	17 41 05.1	-0.2
	0.2nm,0.5s,baz=152,slow=9.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**53.98**	**352**	P	P	17 41 53.2	0.0
	0.5nm,0.4s,baz=169,slow=2.9,SNR=2.4						

*ISCJB **08** 17:39:50.7±0.4, 22°.86N ± 0°.02 × 121°.41E ± 0°.02, h1km ± 3km, Error ellipse: s-maj=2.9km s-min=2.8km az=13.0*
*JMA **08** 17:39:50.3±0.1, 22°.86N × 121°.41E, h2km ± 2km, M3.3*
*TAP **08** 17:39:52.6, 22°.89N × 121°.26E, h16km, ML3.3, B*

ISC 08 17:39:52.3±1.0, 22°.88N ± 0°.02 × 121°.34E ± 0°.02, h18km ± 3km, n64, σ1s14/111, 5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.21**	**235**	*i* P	Pg	17 39 57.6	+0.2
	baz=211						
TTN				S	Sg	17 40 03.8	+2.8
	baz=211						
CHKT	**Chengkung**	**0.22**	**6**	⇓*i*P	Pg	17 39 58.3	+0.7
	baz=23						
CHKT				*i* S	Sg	17 40 02.6	+1.4
	baz=23						
TWG	**Pinlang**	**0.25**	**257**	*i* P	Pg	17 39 57.6	-0.4
	baz=259						
TWG				*i* S	Sg	17 40 01.4	-0.6
	baz=259						
ELDTW	**Lidau**	**0.43**	**316**	⇓*i*P	Pg	17 40 00.2	-0.9
	baz=322						
ELDTW				*e*S	Sg	17 40 05.6	-1.5
	baz=322						
ECL	**Taimali**	**0.45**	**232**	⇓*i*P	Pg	17 40 00.8	-0.7
	baz=236						
ECL				S	Sg	17 40 06.8	-0.9
	baz=236						
TWF1	**Yuli**	**0.47**	**355**	*i* P	Pb	17 40 01.7	-0.4
	baz=349						
TWF1				S	Sb	17 40 08.5	-0.2
	baz=349						
STYT	**Tauyuan**	**0.61**	**298**	*i* P	Pg	17 40 03.3	-1.1
	baz=299						
STYT				*e*S	Sg	17 40 11.1	-1.4
	baz=299						
EHY	**Hungye**	**0.63**	**359**	P	Pg	17 40 03.9	-0.8
	baz=4.0						
TAW	**Tawu**	**0.66**	**218**	*e*P	Pb	17 40 04.6	-0.5
	baz=225						
TAW				*e*S	Sb	17 40 13.5	-0.4
	baz=225						
SSD	**Sandimen**	**0.67**	**259**	⇓*i*P	Pg	17 40 04.1	-1.3
	baz=257						
SSD				*e*S	Sg	17 40 11.6	-2.7
	baz=257						
EAST	**Anshuo**	**0.67**	**223**	*i* P	Pg	17 40 04.7	-0.8
	baz=229						
EAST				*e*S	Sg	17 40 13.7	-0.7
	baz=229						
YUS	**Yu-Shan**	**0.70**	**330**	P	Pg	17 40 05.7	-0.6
	baz=333						
YUS				*e*S	Sg	17 40 14.6	-1.2
	baz=333						
SGST	**Jiashian**	**0.72**	**286**	P	Pb	17 40 06.2	-0.2
	baz=287						
SGST				*e*S	Sg	17 40 15.6	-0.6
	baz=287						
WTP	**Ta-pu**	**0.76**	**299**	*i* P	Pb	17 40 06.6	-0.4
	baz=300						
WTP				S	Sb	17 40 17.0	0.0
	baz=300						
SGLT	**Jiouru**	**0.80**	**259**	*e*P	Pn	17 40 08.2	-0.4
	baz=258						
SGLT				*e*S	Sn	17 40 20.1	+0.1
	baz=258						
ALS	**Alishan**	**0.80**	**322**	⇓*i*P	Pb	17 40 07.5	-0.3
	baz=330						
ALS				*e*S	Sb	17 40 18.9	+0.5
	baz=330						
CHN1	**Nanshi**	**0.81**	**292**	P	Pb	17 40 07.7	-0.1
	baz=295						
CHN1				*e*S	Sb	17 40 18.7	+0.4
	baz=295						
CHN4	**Tsaushan**	**0.83**	**305**	*i* P	Pb	17 40 08.1	-0.1
	baz=313						
CHN4				*e*S	Sb	17 40 19.9	+0.8
	baz=313						
SCZT	**Fangliau**	**0.83**	**233**	*i* P	Pg	17 40 07.6	-0.9
	baz=230						
TWM1	**Shoushan**	**0.85**	**267**	*e*P	Pn	17 40 09.2	-0.1
	baz=266						

TEGC	**Jichi Village**	**0.85**	**13**	*e*S		**Sn**	**17 40 23.1**	**+1.9**
	baz=357							
LAY	**Lan-yu**	**0.86**	**167**	*e*P		**Pb**	**17 40 08.5**	**-0.1**
	baz=151							
LAY				*e*S		**Sn**	**17 40 21.7**	**+0.1**
	baz=151							
TWK	**Hsinying**	**0.87**	**297**	*e*P		**Pg**	**17 40 08.5**	**-0.8**
	baz=297							
TWK				*e*S		**Sb**	**17 40 21.1**	**+0.8**
	baz=297							
CHN3	**Shinhua**	**0.92**	**283**	*e*P		**Pn**	**17 40 10.7**	**+0.5**
	baz=283							
CHN3				*e*S		**Sn**	**17 40 26.7**	**+3.8**
	baz=283							
ESL	**Shilin**	**0.94**	**5**	*e*P		**Pg**	**17 40 09.0**	**-1.5**
	baz=4.0							
ESL				*e*S		**Sn**	**17 40 24.9**	**+1.5**
	baz=4.0							
CHN5	**Tsauling**	**0.94**	**320**	*i* P		**Pb**	**17 40 10.1**	**0.0**
	baz=320							
CHN5				*e*S		**Sb**	**17 40 22.4**	**+0.2**
	baz=320							
CHN2	**Minshiung**	**1.03**	**310**	*e*P		**Pn**	**17 40 12.5**	**+0.7**
	baz=309							
CHN2				*e*S		**Sn**	**17 40 26.9**	**+1.2**
	baz=309							
HEN	**Hengchun**	**1.03**	**213**	*e*P		**Pg**	**17 40 11.0**	**-1.3**
	baz=199							
TAI1	**Yung-k'ang**	**1.04**	**279**	*e*S		**Sn**	**17 40 28.9**	**+3.1**
	baz=280							
CHY	**Chiayi**	**1.04**	**306**	*e*P		**Pn**	**17 40 12.2**	**+0.2**
	baz=306							
CHY				*e*S		**Sn**	**17 40 26.9**	**+0.8**
	baz=306							
TWP	**Hsiaoliuchiu**	**1.04**	**240**	*e*P		**Pn**	**17 40 14.1**	**+2.1**
	baz=241							
TWK1	**Hengchun**	**1.05**	**208**	*e*P		**Pb**	**17 40 11.9**	**-0.1**
	baz=194							
WGK	**Gukeng**	**1.08**	**319**	*e*P		**Pn**	**17 40 13.1**	**+0.6**
	baz=317							
WGK				*e*S		**Sn**	**17 40 28.5**	**+1.6**
	baz=317							
SCLT	**Jiali**	**1.09**	**286**	*e*S		**Sn**	**17 40 30.2**	**+2.8**
	baz=287							
TYC	**Yuchr**	**1.11**	**337**	*e*P		**Pn**	**17 40 13.2**	**+0.3**
	baz=346							
TYC				*e*S		**Sn**	**17 40 28.7**	**+0.9**
	baz=346							
CHN8	**Yiju**	**1.14**	**294**	*e*P		**Pb**	**17 40 12.5**	**-0.9**
	baz=295							
CHN8				*e*S		**Sn**	**17 40 30.3**	**+1.9**
	baz=295							
WNT	**Mingjian**	**1.16**	**329**	*e*P		**Pn**	**17 40 14.9**	**+1.3**
	baz=327							
WNT				*e*S		**Sn**	**17 40 31.3**	**+2.2**
	baz=327							
TWD	**Chiawan**	**1.22**	**11**	*e*P		**Pn**	**17 40 14.1**	**-0.3**
	baz=356							
TWD				*e*S		**Sb**	**17 40 30.6**	**+0.4**
	baz=356							
WHF	**Hehuan Shan**	**1.26**	**357**	*e*P		**Pn**	**17 40 14.9**	**-0.5**
	baz=8.0							
WSF	**Szhu**	**1.28**	**307**	*e*P		**Pn**	**17 40 14.4**	**-0.7**
	baz=306							
WSF				*e*S		**Sn**	**17 40 33.4**	**+1.6**
	baz=306							
TWT	**Tachien**	**1.38**	**354**	*e*P		**Pg**	**17 40 17.9**	**-1.0**
	baz=4.0							
TCU	**Taichung**	**1.40**	**334**	*e*P		**Pg**	**17 40 18.9**	**-0.4**
	baz=331							
TCU				*e*S		**Sg**	**17 40 37.7**	**0.0**
	baz=331							
TWQ1	**Liyutan**	**1.55**	**341**	P		**Pg**	**17 40 21.5**	**-0.7**
	baz=336							
TWQ1				*e*S		**Sg**	**17 40 42.5**	**0.0**
	baz=336							
NNS	**Nan Shan**	**1.56**	**1**	*e*P		**Pn**	**17 40 19.8**	**+0.6**
	baz=6.0							
NNS				*e*S		**Sg**	**17 40 41.4**	**-1.2**
	baz=6.0							
ENA	**Nanau**	**1.59**	**13**	*e*P		**Pn**	**17 40 20.4**	**+0.9**
	baz=7.0							
ENA				*e*S		**Sb**	**17 40 41.3**	**+0.5**
	baz=7.0							
WDGT	**Dungji**	**1.59**	**284**	*e*P		**Pn**	**17 40 17.1**	**-2.4**
	baz=285							
NSY	**Sanyi**	**1.62**	**341**	*e*P		**Pg**	**17 40 22.3**	**-1.2**
	baz=336							
NSY				*e*S		**Sg**	**17 40 45.1**	**+0.5**
	baz=336							
ENTT	**Nioudou**	**1.77**	**7**	*e*P		**Pb**	**17 40 23.4**	**-0.8**
	baz=17							
NSTT	**Nanjuang**	**1.77**	**350**	*e*P		**Pb**	**17 40 24.2**	**-0.1**
	baz=354							
NSTT				*e*S		**Sg**	**17 40 47.8**	**-1.6**
	baz=354							
PNG	**Penghu**	**1.78**	**293**	*e*P		**Pn**	**17 40 22.3**	**+0.3**
	baz=280							
PNG				*e*S		**Sn**	**17 40 44.2**	**0.0**
	baz=280							
TWC	**Suao**	**1.79**	**15**	*e*P		**Pb**	**17 40 24.4**	**-0.1**
	baz=11							
NSK	**Sanguang**	**1.79**	**1**	*e*P		**Pb**	**17 40 23.8**	**-0.8**
	baz=9.0							
NSK				*e*S		**Sn**	**17 40 45.6**	**+1.0**
	baz=9.0							
TWE	**Neicheng**	**1.86**	**9**	*e*P		**Pb**	**17 40 25.6**	**-0.1**
	baz=6.0							
JYNG	**Yonagunijimaku**	**2.15**	**43**	P		**Pn**	**17 40 28.9**	**+1.7**
JYNG				S		**Sn**	**17 40 54.4**	**+1.0**
YOJ	**Yonaguni jima**	**2.20**	**44**	P		**Pn**	**17 40 29.2**	**+1.3**
YOJ				*e*S		**Sn**	**17 40 54.9**	**+0.3**
TWB1	**Santiao Chiao**	**2.20**	**16**	*e*P		**Pb**	**17 40 30.3**	**-1.3**
	baz=11							
NWF	**Wu-fen Shan**	**2.22**	**10**	*e*P		**Pb**	**17 40 30.4**	**-1.6**
	baz=5.0							
HATJ	**Hateruma jima**	**2.55**	**62**	P		**Pn**	**17 40 34.2**	**+1.5**
HATJ				*e*S		**Sn**	**17 41 02.9**	**-0.4**
IRIF	**Iriomote-Funau**	**2.63**	**56**	P		**Pn**	**17 40 35.2**	**+1.4**
IRIF				*e*S		**Sn**	**17 41 06.1**	**+0.9**
JKRS	**Kuro-shima**	**2.80**	**61**	P		**Pn**	**17 40 37.0**	**+0.9**
JKRS				*e*S		**Sn**	**17 41 09.8**	**+0.4**
JIJ	**Ishigaki jima**	**2.97**	**60**	P		**Pn**	**17 40 39.3**	**+0.9**
JIJ				*e*S		**Sn**	**17 41 13.0**	**-0.6**
JISG	**Ishigakijimahi**	**3.21**	**57**	P		**Pn**	**17 40 41.9**	**+0.1**
JISG				*e*S		**Sn**	**17 41 18.9**	**-0.7**
JTJ	**Tarama**	**3.55**	**60**	P		**Pn**	**17 40 47.2**	**+0.8**
JTJ				*e*S		**Sn**	**17 41 28.4**	**+0.5**
JIRB	**Irabujima**	**4.01**	**60**	P		**Pn**	**17 40 53.9**	**+1.1**
JIRB				*e*S		**Sn**	**17 41 39.1**	**-0.3**

SJA 08 17:46:33.9±0.6, 30°51'S×64°17'W, h242km±11km, ML3.0, MW3.6, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRA	**San Martin**	**2.31**	**214**	*i* P	Pn	17 47 19.5	+0.7
MRA				*i* S	S	17 47 52.5	-1.7
MRA				IAML		17 47 56.3	
	comp=Z,61nm,0.3s						
CYA	**Choya**	**2.51**	**325**	*i* P	Pn	17 47 21.1	+0.3
CYA				*i* S	S	17 47 55.9	-1.7
CYA				IAML		17 47 57.3	
	comp=Z,38nm,0.2s						
AVFE	**Valle Fertil**	**2.83**	**266**	*i* P	Pn	17 47 24.3	+0.1
AVFE				*i* S	S	17 48 02.4	-1.4
AVFE				IAML		17 48 06.7	
	comp=Z,17nm,0.3s						

CASC 08 17:57:36.6±2.5, 9°36N×82°67W, h12km±25km, MD3.5, 2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBS2		**0.56**	**178⇑**	*e*P	Pg	17 57 47.1	-0.5
TBS2				*e*S	Sg	17 57 54.9	-0.1
URSC	**Urasca**	**1.19**	**294⇑**	*e*P	Pb	17 57 57.6	-1.6
URSC				*e*S	Sb	17 58 12.9	-1.7
QCR	**Quepos**	**1.47**	**273⇓**	*i*P	Pn	17 58 03.4	+0.4
QCR				*e*S	Sb	17 58 23.2	+0.6
CGA2	**Cerro Gallo 2**	**1.89**	**291**	*e*P	Pn	17 58 09.2	+0.4
CGA2				*e*S	Sb	17 58 34.3	-0.4

IDC 08 18:00:33.8±2.0, 7°94S×127°08E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/39, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=216.3km s-min=31.7km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.85**	**150**	Pn	Pn	18 03 50.2	-1.4
	0.4nm,0.3s,baz=323,slow=13,SNR=13						
WRA				Sn	Sn	18 06 11.1	-15
	0.7nm,0.3s,baz=337,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.95**	**158**	Pn	P	18 04 33.8	-0.8
	0.2nm,0.3s,baz=337,slow=9.4,SNR=17						
ASAR				Sn	Sn	18 07 34.2	-7.6
	0.2nm,0.3s,baz=358,slow=29,SNR=6.3						
MKAR	**Makanchi Array**	**67.46**	**328**	P	P	18 11 31.5	0.0
	0.2nm,0.4s,baz=134,slow=8.3,SNR=6.8						

*MOS **08** 18:05:10.8±0.9, 53°.01N×154°.61E, h470km, mb4.2/1, Error ellipse: s-maj=32.0km s-min=23.6km az=162.2*

KRSC 08 18:05:10.8±1.8, 53°.01N×154°.61E, h470km±22km, ML4.1, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**2.06**	**138**	PN	P	18 06 15.0	+1.5
PAU	**Pauzhetka**	**2.06**	**138**	*e*P	P	18 06 15.0	+1.5
ASAK	**Asacha**	**2.10**	**106**	PN	P	18 06 15.1	+1.4
ASAK	**Asacha**	**2.10**	**106**	P	P	18 06 15.1	+1.4
GNL	**Ganaly**	**2.11**	**70**	PN	P	18 06 15.2	+1.4
GNL	**Ganaly**	**2.11**	**70**	*e*P	P	18 06 15.2	+1.4
KRMR	**Karymshinskiy**	**2.14**	**94**	PN	P	18 06 15.4	+1.6
KRMR	**Karymshinskiy**	**2.14**	**94**	*e*P	P	18 06 15.4	+1.6
PET	**Petropavlovsk**	**2.44**	**88**	PN	P	18 06 17.1	+1.5
PET	**Petropavlovsk**	**2.44**	**88**	*e*P	P	18 06 17.1	+1.5
RUS	**Russkaya**	**2.44**	**102**	PN	P	18 06 16.4	+0.8
RUS				S	S	18 07 08.4	+0.1
RUS	**Russkaya**	**2.44**	**102**	*e*P	P	18 06 16.4	+0.8
RUS				S	S	18 07 08.4	+0.1
AVH	**Avacha**	**2.50**	**83**	PN	P	18 06 17.9	+1.9
AVH	**Avacha**	**2.50**	**83**	*e*P	P	18 06 17.9	+1.9
DALK	**Dalny**	**2.50**	**88**	PN	P	18 06 17.3	+1.4
DALK				S	S	18 07 09.7	+0.7
DALK	**Dalny**	**2.50**	**88**	*e*P	P	18 06 17.3	+1.4
DALK				*e*S	S	18 07 09.7	+0.7
KRER	**Koryakskii**	**2.51**	**82**	PN	P	18 06 17.9	+1.7
KRER	**Koryakskii**	**2.51**	**82**	*e*P	P	18 06 17.9	+1.7
SKR	**Severo-Kuril's**	**2.51**	**158**	PN	P	18 06 17.0	+0.9
SKR	**Severo-Kuril's**	**2.51**	**158**	*e*P	P	18 06 17.0	+0.9
SMAR	**Somma**	**2.54**	**83**	PN	P	18 06 18.2	+1.8
SMAR	**Somma**	**2.54**	**83**	*e*P	P	18 06 18.2	+1.8
UGLR	**Uglovaya**	**2.55**	**84**	PN	P	18 06 18.6	+2.2
UGLR	**Uglovaya**	**2.55**	**84**	*e*P	P	18 06 18.6	+2.2
SDLR	**Sedlovina**	**2.59**	**82**	PN	P	18 06 18.7	+2.0
SDLR	**Sedlovina**	**2.59**	**82**	P	P	18 06 18.7	+2.0
ESO	**Esso**	**3.77**	**38**	PN	P	18 06 26.5	+1.4
ESO	**Esso**	**3.77**	**38**	*e*P	P	18 06 26.5	+1.4
MKZ	**Mys Kozlova**	**4.50**	**67**	PN	P	18 06 31.7	+0.3
MKZ				S	S	18 07 33.8	-3.4
MKZ	**Mys Kozlova**	**4.50**	**67**	P	P	18 06 31.7	+0.3
MKZ				*e*S	S	18 07 33.8	-3.4
BKI	**Bering**	**7.03**	**67**	S	S	18 08 24.1	+1.5

*MEX **08** 18:13:47.1±0.4, 31°.11N×115°.76W, h11km±27km, MD3.5*

ECX 08 18:13:46.8±0.5, 31°.28N×115°.64W, h5km, MD2.6, ML2.8, 4C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.28**	**146**	*e*P	Pg	18 13 52.2	0.0
SPIG				*i* S	Sg	18 13 55.7	-0.3
SPIG	**San Pedro Mart**	**0.28**	**146**	*e*P	Pg	18 13 52.1	-0.1
SPIG				*e*S	Sg	18 13 56.1	+0.1
SPX	**San Pedro Mart**	**0.28**	**146⇓**	*e*P	Pg	18 13 52.3	0.0
SPX				*e*S	Sg	18 13 56.0	+0.1
SPX				⇑*e*		18 13 56.9	
SPX				AML	AML	18 13 56.9	
	comp=E,1μm,0.1s						
ECBX	**El Chinero**	**0.54**	**69**	*e*P	Pg	18 13 56.8	-0.4
ECBX				*e*S	Sg	18 14 04.2	-0.2
ECBX				AML	AML	18 14 04.8	
	comp=E,424nm,0.2s						
ECBX				⇑*e*		18 14 04.8	
ZAX	**El Zacaton**	**0.59**	**294**	*e*P	Pg	18 13 56.9	-1.3
ZAX				⇑*e*		18 14 07.0	
ZAX				AML	AML	18 14 07.0	
	comp=N,409nm,0.6s						
ECNX	**Esteban Cantu**	**0.90**	**295**	*e*P	Pg	18 14 02.7	-1.4
ECNX				*e*S	Sg	18 14 14.7	-1.1
PBX	**Punta Banda**	**1.03**	**297**	*e*P	Pg	18 14 04.8	-1.9
CBX	**Cerro Bola**	**1.35**	**320**	*e*P	Pn	18 14 09.4	-3.1
CBX				*i* S	Sg	18 14 26.4	-3.9
CBX	**Cerro Bola**	**1.35**	**320**	*e*P	Pn	18 14 10.6	-1.9
CBX				*e*S	Sg	18 14 28.5	-1.8
RMX	**La Rumorosa**	**1.37**	**345**	*e*P	Pn	18 14 10.6	-2.2
RMX				*e*S	Sg	18 14 29.1	-1.9
RMX				⇑*e*		18 14 29.5	
RMX				AML	AML	18 14 29.5	
	comp=N,110nm,0.1s						

IDC 08 18:30:46.7±5.4, 7°34S×128°81E, h265km±56km, mb3.1/2, mb1 3.1/5, mb1mx2.9/34, mbtmp3.7/5, Error ellipse: s-maj=55.5km s-min=21.8km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.14**	**196**	P	Pn	18 33 19.8	+0.5
	0.2nm,0.3s,baz=24,slow=11,SNR=4.4						
FITZ				S	S	18 35 23.2	-0.8
	0.3nm,0.3s,baz=111,slow=17,SNR=3.7						
WRA	**Warramunga Arr**	**13.63**	**157**	P	Pn	18 33 49.3	-0.6
	0.4nm,0.3s,baz=336,slow=12,SNR=8.3						
WRA				S	S	18 36 12.2	-8.8
	0.4nm,0.3s,baz=49,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**16.96**	**164**	P	P	18 34 27.0	-0.2
	0.2nm,0.3s,baz=346,slow=10.0,SNR=20						
ASAR				S	S	18 37 32.7	+2.3
	baz=341,slow=35,SNR=2.0						
STKA	**Stephens Creek**	**27.17**	**156**	P	P	18 36 05.9	-0.2
	2.9nm,1.0s,baz=348,slow=14,SNR=2.5						
MKAR	**Makanchi Array**	**67.87**	**327**	P	P	18 41 16.8	+0.1
	0.1nm,0.3s,baz=120,slow=8.5,SNR=4.0						

*ISCJB **08** 18:31:31.6±0.7, 6°.59S±0°.06×148°.0E±0°.1, h51km, mb4.1/15, MS3.1/6, Error ellipse: s-maj=21.2km s-min=8.8km az=6.9*

*IDC **08** 18:31:32.9±3.2, 6°.63S×148°.08E, h48km±30km, mb3.7/12, mb1 4.0/15, mb1mx3.8/36, mbtmp4.0/15, ML3.9/2, MS3.2/7, Ms1 3.2/7, ms1mx2.9/25, Error ellipse: s-maj=33.0km s-min=16.8km az=93.0*

*NEIC **08** 18:31:34.0±1.7, 6°.61S×148°.02E, h57km±15km, mb4.8/4, Error ellipse: s-maj=18.8km s-min=11.9km az=97.0*

ISC 08 18:31:33.1±0.8, 6°.54S±0°.07×148°.1E±0°.2, h51km, n28, σ1°33/26, mb3.9/15, MS3.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.00**	**198**	P	Pn	18 32 17.2	-0.9
	15nm,0.3s,baz=41,slow=5.6,SNR=33						
PMG				S	Sn	18 32 55.8	+3.0
	15nm,0.3s,baz=8.5,slow=15,SNR=10						
PMG				LR	LR	18 33 34.2	
	comp=Z,316nm,20.6s,baz=108,slow=42						
PMG	**Port Moresby**	**3.00**	**198**	*e*Pn	Pn	18 32 16.5	-1.7
PMG				S	Sn	18 32 55.8	+3.0
CTA	**Charters Tower**	**13.59**	**187**	P	Pn	18 34 43.3	+0.1
	0.3nm,0.3s,baz=18,slow=15,SNR=5.3						
CTAO	**Charters Tower**	**13.59**	**187**	*e*P	Pn	18 34 44.5	+1.3
WRAB	**Tennant Creek**	**18.86**	**224**	*e*P	Pn	18 35 50.2	+0.1
	6.1nm,0.6s						
WRA	**Warramunga Arr**	**18.87**	**224**	P	P	18 35 48.7	-0.6
	0.5nm,0.3s,baz=49,slow=11,SNR=9.9						
GUMO	**Guam**	**20.25**	**351**	LR	LR	18 42 13.5	
	comp=Z,53nm,20.9s,baz=160,slow=32						
ASAR	**Alice Springs**	**21.82**	**217**	P	P	18 36 19.4	-1.8
	2.7nm,0.4s,baz=51,slow=8.7,SNR=32						
ASAR				S	Sn	18 40 29.1	-2.7
	0.9nm,1.1s,baz=185,slow=25,SNR=4.2						
DZM	**Mont Dzumac**	**23.50**	**133**	LR	LR	18 44 48.6	
	comp=Z,182nm,19.8s,baz=337,slow=34						
FITZ	**Fitzroy Crossi**	**24.73**	**240**	P	P	18 36 48.4	-1.5
	8.3nm,0.4s,baz=54,slow=8.2,SNR=27						
FITZ				LR	LR	18 48 16.2	
	comp=Z,82nm,19.1s,baz=68,slow=41						
STKA	**Stephens Creek**	**25.93**	**193**	P	P	18 36 59.6	-1.0
	3.7nm,0.8s,baz=351,slow=9.0,SNR=7.4						
DAV	**Davao City (W)**	**26.22**	**301**	LR	LR	18 48 41.8	
	comp=Z,20nm,19.9s,baz=224,slow=39						
KAPI	**Kappang**	**28.24**	**272**	LR	LR	18 50 17.4	
	comp=Z,44nm,19.9s,baz=103,slow=40						
MBWA	**Marble Bar**	**31.06**	**239**	*e*P	P	18 37 44.6	-2.0
	11nm,0.5s						
NWAO	**Narrogin (SRO)**	**38.88**	**223**	P	P	18 38 52.6	-1.1
	5.7nm,0.9s,baz=100,slow=19,SNR=2.7						
MJAR	**Matsushiro Art**	**43.84**	**348**	P	P	18 39 34.2	-0.1
	2.3nm,1.1s,baz=169,slow=8.8,SNR=5.6						
KSRS	**Korea Array**	**47.65**	**338**	P	P	18 40 05.1	+0.9
	1.1nm,0.8s,baz=164,slow=8.2,SNR=3.5						
KSRS				LR	LR	18 58 48.0	
	comp=Z,23nm,19.4s,baz=147,slow=34						
KSAR	**Wonju Array Be**	**47.65**	**338**	P	P	18 40 05.1	+0.8
IPM	**Ipoh**	**48.25**	**282**	*e*P	P	18 40 09.7	+0.2
	8.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**54.47**	**298**	P	P	18 40 56.9	+1.0
	0.9nm,0.7s,baz=125,slow=6.1,SNR=8.8						
SONM	**Songino Array**	**65.40**	**330**	P	P	18 42 11.6	+1.0
	1.0nm,0.9s,baz=108,slow=4.8,SNR=4.0						
VNDA	**Vanda**	**71.32**	**177**	P	P	18 42 46.6	-0.3
	1.4nm,0.9s,baz=319,slow=6.0,SNR=7.3						
MKAR	**Makanchi Array**	**78.61**	**320**	P	P	18 43 29.7	+0.2
	0.7nm,0.9s,baz=108,slow=6.7,SNR=6.6						
ZALV	**Zalesovo Beam**	**80.05**	**328**	P	P	18 43 37.2	+0.1
	0.6nm,0.5s,baz=116,slow=6.6,SNR=3.0						
QSPA	**South Pole Qui**	**83.43**	**180**	*e*P	P	18 43 55.3	+0.3
	7.3nm,0.6s						
ILAR	**Eielson Array**	**85.55**	**23**	P	P	18 44 04.7	-0.8
	0.7nm,0.8s,baz=250,slow=4.5,SNR=5.0						
GERES	**GERESS Array B**	**122.96**	**326**	PKP	**PKPdf**	18 50 24.9	+1.0
	0.5nm,0.5s,baz=79,slow=2.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**146.28**	**284**	PKPbc	**PKPbc**	18 51 09.9	+0.8
	2.1nm,0.6s,baz=76,slow=3.7,SNR=12						

CASC 08 18:34:47.1±2.7, 9°.36N×82°.67W, h9km±24km, MD3.6, 3C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBS2		**0.56**	**179⇑**	*i*P	Pg	18 34 58.0	-0.1
TBS2				*e*S	Sg	18 35 05.8	+0.3
URSC	**Urasca**	**1.19**	**293⇑**	*i*P	Pb	18 35 08.6	-1.4
URSC				*e*S	Sg	18 35 24.3	-1.3
QCR	**Quepos**	**1.48**	**273⇓**	*i*P	Pn	18 35 14.3	+0.4
QCR				*e*S	Sg	18 35 34.7	0.0
CGA2	**Cerro Gallo 2**	**1.89**	**290⇑**	*i*P	Pn	18 35 20.4	+0.6
CGA2				*e*S	Sb	18 35 45.8	+0.1

*ISK **08** 18:43:14.2, 39°.00N×29°.21E, h5km, MD2.5*
*DDA **08** 18:43:14.6, 39°.10N×29°.03E, h7km, Md2.7*
*CSEM **08** 18:43:15.4±0.2, 39°.07N×29°.08E, h2km, MD2.7, Error ellipse: s-maj=4.6km s-min=3.1km az=121.0*

ISC 08 18:43:14.5±1.0, 39°.04N±0°.03×29°.10E±0°.03, h11km±9km, n33, σ0°.70/48, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.30**	**271**	P	**Pg**	**18 43 20.4**	**-0.2**
DEMI				S	**Sg**	**18 43 24.1**	**-0.6**
DEMI	**Demirci**	**0.30**	**271**	*i* P	**Pg**	**18 43 20.4**	**-0.2**
DEMI				*i* S	**Sg**	**18 43 24.1**	**-0.6**
GDZ	**Gediz**	**0.30**	**80**	P	**Pb**	**18 43 22.0**	**0.0**
GDZ				S	**Sb**	**18 43 27.1**	**0.0**
GDZ	**Gediz**	**0.30**	**80**	*i* P	**Pb**	**18 43 22.0**	**0.0**
GDZ				*i* S	**Sb**	**18 43 27.1**	**0.0**
TVSB	**Tavsanli**	**0.50**	**34**	*e*PG	**Pg**	**18 43 24.4**	**+0.2**
TVSB				*e*SG	**Sg**	**18 43 30.8**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**34**	*e*Pg	**Pg**	**18 43 24.4**	**+0.2**
TVSB				*e*Sg	**Sg**	**18 43 30.8**	**-0.1**
KULA	**Kula-Manisa**	**0.63**	**213**	*e*PG	**Pb**	**18 43 27.7**	**+0.2**
KULA				*e*SG	**Sb**	**18 43 35.9**	**-0.4**
KULA	**Kula-Manisa**	**0.63**	**213**	*e*Pg	**Pb**	**18 43 27.7**	**+0.2**
KULA				*e*Sg	**Sb**	**18 43 35.9**	**-0.4**
MANT	**Manisa**	**0.69**	**218**	P	**Pb**	**18 43 28.7**	**0.0**
MANT				S	**Sb**	**18 43 38.0**	**-0.3**
MANT	**Manisa**	**0.69**	**218**	*i* P	**Pb**	**18 43 28.7**	**0.0**
MANT				*i* S	**Sb**	**18 43 38.0**	**-0.3**
KHAL	**Karahalli**	**0.73**	**155**	P	**Pn**	**18 43 30.7**	**-0.2**
KHAL				S	**Sn**	**18 43 42.3**	**+0.1**
KHAL	**Karahalli**	**0.73**	**155**	*i* P	**Pn**	**18 43 30.7**	**-0.2**
KHAL				*i* S	**Sn**	**18 43 42.3**	**+0.1**
BALB	**Balikesir**	**1.12**	**303**	*e*PN	**Pg**	**18 43 38.1**	**+2.1**
BALB	**Balikesir**	**1.12**	**303**	*e*Pn	**Pg**	**18 43 38.2**	**+2.1**
IGD	**Bursa**	**1.23**	**4**	*i* P	**Pn**	**18 43 36.8**	**-0.8**
IGD				*i* S	**Sn**	**18 43 53.7**	**-0.5**
CAVI	**Cavuskoy**	**1.30**	**26**	*e*PN	**Pg**	**18 43 39.7**	**+0.3**
CAVI	**Cavuskoy**	**1.30**	**26**	*e*Pn	**Pg**	**18 43 39.7**	**+0.3**
IZI	**Iznik**	**1.33**	**12**	*e*PN	**Pg**	**18 43 40.7**	**+0.7**
IZI	**Iznik**	**1.33**	**12**	*e*Pn	**Pg**	**18 43 40.7**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.34**	**353**	*e*PN	**Pg**	**18 43 40.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.34**	**353**	*e*Pn	**Pg**	**18 43 40.2**	**0.0**
BORA	**Eskisehir**	**1.34**	**51**	P	**Pg**	**18 43 40.4**	**+0.1**
BORA				S	**Sg**	**18 43 59.3**	**+1.5**
BORA	**Eskisehir**	**1.34**	**51**	*i* P	**Pg**	**18 43 40.4**	**+0.1**
BORA				*i* S	**Sg**	**18

DSI				Sg	Sn	18 52 09.9	0.0	
DSI	**Dead Sea**	**1.15**	**6**	Pg	Pn	18 51 54.3	-0.2	
DSI				Sg	Sn	18 52 09.9	0.0	
HNKL	**Nakhl**	**1.20**	**246**	P	Pn	18 51 54.6	-0.5	
	baz=244							
HNKL				AMP		18 52 00.0		
	comp=E,100μm,0.2s,logA/T=5.7,baz=244							
HNKL				S	Sg	18 52 11.1	-0.7	
	baz=244							
HNKL	**Nakhl**	**1.20**	**246**	P	Pn	18 51 54.6	-0.5	
HNKL				S	Sg	18 52 11.1	-0.7	
WALJ	**Wala**	**1.24**	**23**	*eP*	Pn	18 51 55.4	-0.3	
HAQS	**Haql**	**1.39**	**192**	P	Pn	18 51 57.0	-0.8	
RSH		**1.42**	**293**	P	Pn	18 51 57.3	-0.8	
	baz=292							
RSH		**1.42**	**293**	P	Pn	18 51 57.3	-0.8	
NUB		**1.48**	**201**	P	Pb	18 51 60.0	-0.1	
	baz=199							
JLOS		**1.69**	**173**	S	Sb	18 52 25.6	+0.6	
JLOS				P	Pb	18 52 03.4	-0.4	
SLTI	**Sal'it**	**1.82**	**355**	Pn	Pn	18 52 03.7	0.0	
SLTI	**Sal'it**	**1.82**	**355**	Pn	Pn	18 52 03.7	0.0	
HMDT	**Nahal Hemdat**	**1.84**	**8**	Pn	Pn	18 52 04.3	+0.3	
HMDT	**Nahal Hemdat**	**1.84**	**8**	Pn	Pb	18 52 04.3	+0.3	
BDAS	**Al Bad'**	**1.98**	**184**	P	Pn	18 52 05.7	-0.3	
SUZ	**Suez**	**2.17**	**255**	P	Pn	18 52 08.3	-0.1	
	baz=254							
SUZ	**Suez**	**2.17**	**255**	P	Pn	18 52 08.3	-0.1	
TR2	**Tor 2**	**2.42**	**214**	P	Pn	18 52 12.1	+0.2	
	baz=213							
TR2	**Tor 2**	**2.42**	**214**	P	Pn	18 52 12.1	+0.2	

MEX 08 19:00:24.7±0.4, 28.78N×113.26W, h16km±405km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SRIG	**Santa Rosalia**	**1.71**	**148**	*eP*		Pn	19 00 50.5	-3.3
SRIG				*i*	S	Sn	19 01 10.3	-4.9
HSIG		**2.04**	**83**	*i*	P	Pn	19 00 55.2	-3.1
HSIG				*i*	S	Sn	19 01 18.8	-4.6
GUYB	**Guaymas**	**2.27**	**112**	*eP*		Pn	19 00 58.9	-2.7
GUYB				*i*	S	Sn	19 01 24.8	-4.4

MEX 08 19:12:09.8±0.7, 15.01N×92.53W, h104km±6km, MD4.2, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PCIG		**0.95**	**316**	*i*	P	Pn	19 12 29.0	-1.0
PCIG				*e*	S	Sn	19 12 43.5	-1.8
CCIG	**Comitan**	**1.32**	**17**	*eP*		Pn	19 12 33.5	-0.8
CCIG				*e*	S	Sn	19 12 50.8	-2.1
HUIG	**Huatulco**	**3.53**	**283**	*eP*		Pn	19 13 00.9	-1.8
HUIG				*e*	S	Sn	19 13 36.7	-6.9

IDC 08 19:12:44.7±1.6, 3.75S×140.05E, h0km, mb3.1/3, mb1 3.5/4, mb1mx3.3/29, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=78.2km s-min=19.0km az=113.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JAY	**Jayapura**	**1.39**	**28**	Pn		Pg	19 13 10.9	-0.4
	1.0nm,0.3s,baz=269,slow=24,SNR=31							
JAY				Sn		Sg	19 13 26.4	-2.9
	1.6nm,0.3s,baz=272,slow=23,SNR=13							
WRA	**Warramunga Arr**	**17.04**	**199**	P		P	19 16 46.1	-0.3
	0.1nm,0.3s,baz=22,slow=13,SNR=5.7							
WRA				S		Sn	19 19 49.0	-5.6
	0.1nm,0.3s,baz=164,slow=30,SNR=3.4							
FITZ	**Fitzroy Crossi**	**20.07**	**224**	P		P	19 17 18.2	-1.6
	0.6nm,0.7s,baz=63,slow=11,SNR=4.0							
FITZ				S		S	19 20 53.6	-13
	1.6nm,0.8s,baz=175,slow=11,SNR=2.8							
ASAR	**Alice Springs**	**20.68**	**196**	P		P	19 17 26.8	+0.4
	0.3nm,0.7s,baz=26,slow=11,SNR=6.0							
MJAR	**Matsushiro Arr**	**40.12**	**358**	P		P	19 20 22.5	+0.2
	0.6nm,0.5s,baz=178,slow=6.0,SNR=2.9							

IDC 08 19:20:43.0±2.1, 0.21N×128.10E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/30, mbtmp3.3/3, Error ellipse: s-maj=140.5km s-min=28.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**20.93**	**163**	P		P	19 25 27.3	-0.2
	1.4nm,0.7s,baz=343,slow=11,SNR=10							
ASAR	**Alice Springs**	**24.39**	**167**	P		P	19 26 03.4	+0.1
	0.1nm,0.5s,baz=346,slow=12,SNR=3.7							
MKAR	**Makanchi Array**	**61.22**	**326**	P		P	19 30 59.9	0.0
	0.1nm,0.3s,baz=139,slow=9.5,SNR=3.5							

*ISCJB **08** 19:25:58.4±0.8, 6.81N±0.06×73.07W±0.07, h158km±6km, Error ellipse: s-maj=14.5km s-min=5.7km az=36.1*
*FUNV **08** 19:26:00.7, 6.90N×73.12W, h160km, MW2.5*
*RSNC **08** 19:26:01.0±0.5, 6.78N×73.12W, h143km±5km, ML2.4*

ISC 08 19:25:57.3±1.6, 6.82N±0.06×73.08W±0.07, h168km±9km, n16, σ1§68/29, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BARC	**Barichara**	**0.25**	**204**	*eP*		Pn	19 26 20.1	0.0
BARC				*e*	S	Sn	19 26 35.0	-2.7
BARC				*i*			19 26 36.1	
	comp=Z,56nm,0.3s							
PAMC	**Pamplona, Colo**	**0.64**	**36**	*eP*		Pn	19 26 23.1	+1.1
PAMC				*e*	S	Sn	19 26 40.1	-0.8
BRRC	**Barranca, Sant**	**0.69**	**295**	*eP*		Pn	19 26 22.1	+0.5
BRRC				*e*	S	Sn	19 26 39.1	-1.2
BRRC				*i*			19 26 43.1	
	comp=Z,76nm,0.1s							
RUSC	**La Rusia**	**0.92**	**180**	*eP*		Pn	19 26 24.5	+0.7
RUSC				*e*	S	Sn	19 26 42.9	-1.3
RUSC				*i*			19 26 44.8	
	comp=Z,37nm,0.3s							
GRMC	**Gramalote, San**	**0.93**	**17**	*i*	P	Pn	19 26 26.0	+2.6
GRMC				*e*	S	Sn	19 26 45.4	+1.8
GRMC				*i*			19 26 46.6	
	comp=Z,32nm,0.3s							
CBRI	**Barrientos, No**	**0.94**	**18**	*eP*		Pn	19 26 24.7	+1.3
CBRI				*e*	S	Sn	19 26 43.2	-0.5
CAPV	**Capacho**	**1.29**	**36**	*i*	P	Pn	19 26 28.2	+1.7
CAPV				*e*	S	Sn	19 26 48.4	-0.5
NORC	**Norcasia**	**2.17**	**235**	*eP*		Pn	19 26 36.7	+1.1
NORC				*e*	S	Sn	19 27 04.2	-1.0
CHIC	**Chingaza**	**2.27**	**197**	*eP*		Pn	19 26 38.8	+1.7
CHIC				*e*	S	Sn	19 27 07.0	-0.8
CHIC				*i*			19 27 10.9	
	comp=Z,9.6nm,0.4s							
VIGV	**El Vigia**	**2.63**	**40**	*eP*		Pn	19 26 42.2	+1.3
VIGV				*e*	S	Sn	19 27 13.4	-1.4
SOCV	**Socops**	**2.64**	**56**	*eP*		Pn	19 26 42.6	+1.6
SOCV				*e*	S	Sn	19 27 13.9	-1.1
VIRV	**Villa del Rosa**	**3.72**	**10**	*eP*		Pn	19 26 55.3	+0.8
VIRV				*e*	S	Sn	19 27 35.9	-3.2
CURV	**Curarigua**	**4.43**	**44**	*eP*		Pn	19 27 05.3	+1.7
BAUV	**El Baul**	**5.42**	**67**	*eP*		Pn	19 27 18.2	+1.7
BAUV				*e*	S	Sn	19 28 15.3	-3.4
MAPV	**Macapo**	**5.47**	**57**	*eP*		Pn	19 27 18.0	+0.8
MONV	**Montecano**	**5.96**	**31**	*eP*		Pn	19 27 24.4	+0.8

IDC 08 19:45:41.0±3.4, 3.82S×149.84E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/24, mbtmp3.3/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/16, Error ellipse: s-maj=96.1km s-min=30.3km az=98.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**22.02**	**222**	P		P	19 50 38.6	+1.4
	0.7nm,0.9s,baz=49,slow=10,SNR=4.6							
ASAR	**Alice Springs**	**25.02**	**217**	P		P	19 51 05.9	-1.1
	0.5nm,0.7s,baz=48,slow=8.5,SNR=8.9							
MJAR	**Matsushiro Arr**	**41.60**	**346**	LR		LR	20 09 36.4	
	comp=Z,16nm,19.0s,baz=110,slow=34							
CMAR	**Chiang Mai Arr**	**54.79**	**296**	P		P	19 55 12.6	-0.6
	0.4nm,0.9s,baz=99,slow=5.6,SNR=2.9							
MKAR	**Makanchi Array**	**77.66**	**319**	P		P	19 57 39.8	+0.3
	0.1nm,0.3s,baz=104,slow=6.6,SNR=2.9							

TORD	**Torodi Ar. Bea**	**147.20**	**288**	PKPbc		PKPbc	20 05 26.9	-0.4
	0.8nm,0.8s,baz=60,slow=3.1,SNR=4.5							

*BEO **08** 19:48:00.9±0.6, 43.29N×17.45E, h0km, M2.7/9*
*PDG **08** 19:48:01.8±0.1, 43.31N×17.66E, h2km, ML2.9/12, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*CSEM **08** 19:48:02.2±0.2, 43.29N×17.64E, h2km, ML2.9/4, Error ellipse: s-maj=6.2km s-min=2.9km az=44.0*

ISC 08 19:48:01.8±1.1, 43.31N±0.02×17.64E±0.02, h6km±9km, n73, σ1§41/134, 15C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BRY	**Bratogost**	**0.78**	**121**	*i*	Pg	Pg	19 48 15.7	-1.0
BRY				*e*	Sg	Sb	19 48 27.7	-0.9
BRY	**Bratogost**	**0.78**	**121**	*i*	Pg	Pg	19 48 15.7	-1.0
BRY				*e*	Sg	Sb	19 48 27.7	-0.9
TREB	**Trebinje**	**0.79**	**138**	*i*	Pg	Pg	19 48 16.0	-0.9
TREB				*e*	Sg	Sb	19 48 28.5	-0.3
UPM	**Unac-Piva**	**0.93**	**96**	*i*	Pg	Pg	19 48 18.7	-1.0
UPM				*e*	Sg	Sb	19 48 32.9	-0.2
UPM	**Unac-Piva**	**0.93**	**96**	*i*	Pg	Pg	19 48 18.7	-1.0
UPM	**Unac-Piva**	**0.93**	**96**	P		Pg	19 48 19.5	-0.2
UPM				*e*	Sg	Sb	19 48 32.9	-0.2
HCY	**Herceg Novi**	**1.07**	**144**	*i*	Pg	Pg	19 48 21.1	-1.1
HCY				*e*	Sg	Sn	19 48 37.9	-0.5
HCY	**Herceg Novi**	**1.07**	**144**	*i*	Pg	Pg	19 48 21.1	-1.1
HCY				*e*	Sg	Sb	19 48 36.6	-0.2
NKME	**Niksic**	**1.11**	**119**	*i*	Pg	Pb	19 48 21.8	-1.5
NKME				*e*	Sg	Sn	19 48 39.0	-0.4
NKME	**Niksic**	**1.11**	**119**	*i*	Pg	Pb	19 48 21.8	-1.5
NKME				*e*	Sg	Sn	19 48 39.0	-0.4
NKY	**Niksic**	**1.11**	**116**	*i*	Pg	Pg	19 48 22.1	-1.0
NKY				*e*	Sg	Sn	19 48 39.1	-0.5
NKY	**Niksic**	**1.11**	**116**	*i*	Pg	Pg	19 48 22.1	-1.0
NKY				*e*	Sg	Sn	19 48 39.1	-0.5
CEME	**Cevo**	**1.21**	**129**	*i*	Pg	Pb	19 48 23.8	-1.3
CEME				*e*	Sg	Sn	19 48 42.8	+0.8
CEME	**Cevo**	**1.21**	**129**	*i*	Pg	Pb	19 48 23.8	-1.3
CEME				*e*	Sg	Sn	19 48 42.8	+0.8
PLE	**Pljevlja**	**1.28**	**89**	*i*	Pg	Pn	19 48 25.0	-1.3
PLE				*e*	Sg	Sn	19 48 44.8	+1.1
PLE	**Pljevlja**	**1.28**	**89**	*i*	Pg	Pn	19 48 25.0	-1.3
PLE				*e*	Sg	Sn	19 48 44.8	+1.1
BUM	**Brajici-Budva**	**1.37**	**137**	*i*	Pg	Pn	19 48 26.9	-0.5
BUM				*e*	Sg	Sg	19 48 48.0	+2.3
BUM	**Brajici-Budva**	**1.37**	**137**	*i*	Pg	Pn	19 48 26.9	-0.5
BUM				*e*	Sg	Sg	19 48 48.0	+2.3
BBLS	**Lazići**	**1.40**	**66**	*eP*		Pn	19 48 29.4	+0.8
BBLS				*e*	Sn	Sg	19 48 49.8	+3.1
BBLS	**Lazići**	**1.40**	**66**	*i*	Pg	Pn	19 48 27.6	-0.3
BBLS	**Lazići**	**1.40**	**66**	*eP*		Pg	19 48 29.4	+0.8
BBLS				*e*	Sg	Sb	19 48 45.7	-0.7
BBLS				*e*	Sn	Sg	19 48 49.8	+3.1
DOB	**Doboj**	**1.46**	**13**	*i*	Pg	Pn	19 48 27.6	-1.1
DOB				*e*	Sg	Sn	19 48 47.2	-0.9
BLY	**Banja Luka**	**1.48**	**347**	*eP*		Pn	19 48 28.3	-0.6
BLY				*e*	Sn	Sg	19 48 50.2	+1.0
BLY	**Banja Luka**	**1.48**	**347**	*eP*		Pn	19 48 28.3	-0.6
BLY				*e*	Sg	Sg	19 48 48.9	-0.3
BLY				*e*	Sn	Sg	19 48 50.2	+1.0
PDG	**Podgorica**	**1.48**	**126**	*eP*		Pg	19 48 29.9	-0.2
PDG				*e*	Sn	Sg	19 48 51.4	+2.1
PDG	**Podgorica**	**1.48**	**126**	*i*	Pg	Pn	19 48 28.1	-0.1
PDG	**Podgorica**	**1.48**	**126**	*eP*		Pg	19 48 29.9	-0.2
PDG				*e*	Sg	Sg	19 48 49.4	+0.1
PDG				*e*	Sn	Sg	19 48 51.4	+2.1
TTG	**Podgorica**	**1.48**	**126**	*i*	Pg	Pn	19 48 28.8	-0.1
TTG				*e*	Sg	Sg	19 48 51.8	+2.5
DRME	**Dracevica, Mon**	**1.60**	**134**	*i*	Pn	Pb	19 48 31.2	-0.5
DRME				*e*	Sn	Sg	19 48 55.9	+2.7
DRME	**Dracevica, Mon**	**1.60**	**134**	*eP*		Pb	19 48 31.4	-0.3
DRME				*e*	Sn	Sg	19 48 52.6	-0.6
SJES	**Sjenica**	**1.71**	**91**	*eP*		Pb	19 48 33.6	0.0
SJES				*e*	Sn	Sg	19 48 58.5	+1.9
BEY	**Berane**	**1.71**	**104**	*eP*		Pb	19 48 33.1	-0.5
BEY	**Berane**	**1.71**	**104**	P		Pg	19 48 34.0	-0.5
IVA	**Berane**	**1.71**	**104**	*eP*		Pb	19 48 33.1	-0.5
IVA				*e*	Sn	Sg	19 48 58.7	+2.0
ULC	**Ulcinj**	**1.79**	**138**	*i*	Pn	Pb	19 48 34.5	-0.5
ULC				*e*	Sn	Sg	19 49 00.8	+1.4
ULC	**Ulcinj**	**1.79**	**138**	P		Pb	19 48 34.8	-0.7
UDBI	**Udbina**	**1.82**	**313**	*i*	Pn	Pb	19 48 35.2	-0.3
UDBI				*e*	Sn	Sg	19 49 00.5	+0.1
UDBI	**Udbina**	**1.82**	**313**	*i*	Pn	Pb	19 48 35.2	-0.3
UDBI				*e*	Sn	Sg	19 49 00.4	+0.1
TEKS	**Tekeris**	**1.84**	**47**	*eP*		Pb	19 48 35.4	-0.5
TEKS	**Tekeris**	**1.84**	**47**	*eP*		Pb	19 48 35.4	-0.5
TEKS				*e*	Sn	Sn	19 48 57.4	-0.2
PVY	**Plav**	**1.85**	**112**	*eP*		Pb	19 48 35.4	-0.6
PVY				*e*	Sn	Sg	19 49 01.9	+0.8
IVAS	**Ivanjica**	**1.85**	**81**	*eP*		Pb	19 48 35.0	-1.0
IVAS				*e*	Sn	Sg	19 49 00.9	-0.3
IVAS	**Ivanjica**	**1.85**	**81**	*eP*		Pb	19 48 35.0	-1.0
IVAS				*e*	Sn	Sg	19 49 00.9	-0.3
DIVS	**Divibare**	**1.88**	**64**	*eP*		Pb	19 48 35.4	-1.1
DIVS				*e*	Sn	Sg	19 49 02.1	-0.1
DIVS	**Divibare**	**1.88**	**64**	*eP*		Pb	19 48 35.4	-1.1
DIVS				*e*	Sn	Sg	19 49 02.1	-0.1
PEJK	**Peje**	**2.05**	**108**	P		Pb	19 48 36.9	+0.5
TRUS	**Trudelj**	**2.20**	**65**	*eP*		Pb	19 48 40.4	-1.6
TRUS				*e*	Sn	Sb	19 49 09.8	+0.3
TRUS	**Trudelj**	**2.20**	**65**	*eP*		Pb	19 48 40.4	-1.6
TRUS				*e*	Sn	Sb	19 49 09.8	+0.3
GRUS	**Gruza**	**2.31**	**74**	*eP*		Pb	19 48 41.8	-2.0
GRUS				*e*	Sn	Sb	19 49 13.3	+0.7
GRUS	**Gruza**	**2.31**	**74**	*eP*		Pb	19 48 41.8	-2.0
GRUS				*e*	Sn	Sb	19 49 13.3	+0.7
ZATK	**Zatriq**	**2.36**	**110**	P		Pb	19 48 44.5	-0.2
NVLJ	**Novalja**	**2.36**	**303**	*eP*		Pb	19 48 42.8	-1.9
NVLJ				*e*	Sn	Sb	19 49 14.4	+0.4
NVLJ	**Novalja**	**2.36**	**303**	*eP*		Pb	19 48 42.7	-1.9
NVLJ				*e*	Sn	Sb	19 49 14.4	+0.4
FGSL	**Fruska Gora**	**2.42**	**39**	*eP*		Pb	19 48 43.9	-1.8
FGSL				*e*	Sn	Sb	19 49 14.1	-1.6
FRGS	**Fruska Gora**	**2.42**	**39**	*eP*		Pb	19 48 43.9	-1.8
FRGS				*e*	Sn	Sb	19 49 14.1	-1.6
SELS	**Selova**	**2.54**	**91**	*eP*		Pn	19 48 45.2	+1.6
SELS	**Selova**	**2.54**	**91**	*eP*		Pn	19 48 45.2	+1.6
BOJS	**Bojanci**	**2.78**	**323**	*i*	Pn	Pn	19 48 48.7	+1.9
BOJS				*i*	Sn	Sb	19 49 23.2	-2.9
	comp=Z,15nm,0.4s							
BOJS	**Bojanci**	**2.78**	**323**	Pn		Pn	19 48 48.7	+1.9
BOJS				*i*	Sn	Sb	19 49 23.2	-2.9
	comp=Z,15nm,0.4s							
CRES	**Cresnjev**	**2.96**	**329**	*eP*		Pn	19 48 50.4	+1.1
CRES				*e*	Sn	Sn	19 49 25.4	+0.3
BARS	**Barje**	**3.10**	**98**	*eP*		Pn	19 48 53.3	+2.1
BARS				*e*	Sn	Sb	19 49 31.5	-3.9
BARS	**Barje**	**3.10**	**98**	*eP*		Pn	19 48 53.3	+2.1
BARS				*e*	Sn	Sb	19 49 31.5	-3.9
CEY	**Cerknica**	**3.34**	**318**	*eP*		Pn	19 48 55.8	+1.2
CEY				*e*	Sn	Sn	19 49 34.9	+0.3
ZAPS	**Zavoj**	**3.65**	**89**	*eP*		Pn	19 49 00.5	+1.7
SOKA	**Soboth**	**3.84**	**332**	*i*	Pn	Pn	19 49 03.0	+1.5
SOKA	**Soboth**	**3.84**	**332**	Pn		Pn	19 49 03.0	+1.5
ARSA	**Arzberg**	**4.21**	**340**	*eP*		Pn	19 49 06.9	+0.4
	comp=Z,3.7nm,0.3s							
ARSA				*e*	Sn	Sn	19 49 59.7	+3.7
	comp=Z,1.2nm,0.3s							
ARSA	**Arzberg**	**4.21**	**340**	Pn		Pn	19 49 06.9	+0.4
	comp=Z,3.7nm,0.3s							
ARSA				Sn		Sn	19 49 59.7	+3.7
	comp=Z,1.2nm,0.3s							
CONA	**Conrad Observa**	**4.78**	**346**	*eP*		Pn	19 49 16.0	+1.6
	comp=Z,0.7nm,0.3s							
CONA				*i*	Sn	Sn	19 50 10.1	0.0
	comp=Z,1.2nm,0.3s							
CONA	**Conrad Observa**	**4.78**	**346**	Pn		Pn	19 49 16.0	+1.6
	comp=Z,0.7nm,0.3s							
CONA				Sn		Sn	19 50 10.1	0.0
	comp=Z,1.2nm,0.3s							
MOA	**Molln**	**5.12**	**334**	*eP*		Pn	19 49 21.0	+2.1
	comp=Z,1.3nm,0.3s							
MOA				*e*	Sn	Sn	19 50 19.1	+0.8
	comp=Z,4.5nm,0.5s							
MOA	**Molln**	**5.12**	**334**	Pn		Pn	19 49 21.0	+2.1
	comp=Z,1.3nm,0.3s							
MOA				Sn		Sn	19 50 19.1	+0.8
	comp=Z,4.5nm,0.5s							

KHC	**Kasperske Hory**	**6.47**	**336**	*e*	SN	Sn	19 50 51.6	+0.1

*ISCJB **08** 20:02:30.4±2.0, 13.78S±0.1×166.9E±0.3, h250km, mb3.5/5, Error ellipse: s-maj=40.0km s-min=12.4km az=166.8*
*IDC **08** 20:02:30.4±6.5, 13.77S×167.01E, h243km±64km, mb3.2/6, mb1 3.3/7, mb1mx3.1/33, mbtmp3.8/7, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=53.0km s-min=31.9km az=177.0*

ISC 08 20:02:30.9±1.7, 13.78S±0.1×167.0E±0.3, h250km, n8, σ0§76/9, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**8.26**	**184**	P		Pn	20 04 27.0	-0.6
	0.8nm,0.3s,baz=71,slow=13,SNR=8.6							
DZM				S		S	20 06 02.5	+0.8
	0.2nm,0.3s,baz=307,slow=20,SNR=2.0							
CTA	**Charters Tower**	**20.84**	**250**	P		P	20 06 53.6	-0.4
	0.8nm,0.3s,baz=72,slow=13,SNR=2.7							
STKA	**Stephens Creek**	**29.44**	**228**	P		P	20 08 12.3	+0.6
	0.6nm,0.4s,baz=58,slow=9.5,SNR=4.4							
WRA	**Warramunga Arr**	**31.85**	**254**	P		P	20 08 32.4	-0.7
	0.7nm,1.1s,baz=86,slow=9.5,SNR=3.3							
ASAR	**Alice Springs**	**32.81**	**248**	P		P	20 08 41.0	-0.4
	0.5nm,0.5s,baz=74,slow=9.6,SNR=25							
ASAR				LR		LR	20 20 45.0	
	comp=Z,39nm,18.6s,baz=107,slow=33							
CMAR	**Chiang Mai Arr**	**74.37**	**294**	P		P	20 13 42.8	+0.9
	0.8nm,0.7s,baz=140,slow=4.3,SNR=5.7							
MKAR	**Makanchi Array**	**96.37**	**316**	P		P	20 15 31.7	+0.2
	0.3nm,0.3s,baz=90,slow=5.5,SNR=8.0							
ARCES	**ARCESS Array B**	**119.29**	**345**	PKP		**PKPdf**	**20 20 49.1**	**-0.7**
	2.4nm,0.8s,baz=25,slow=3.0,SNR=7.0							

*ISCJB **08** 20:03:48.3±0.5, 6.81N±0.04×73.06W±0.05, h154km±5km, Error ellipse: s-maj=9.5km s-min=3.8km az=33.5*
*FUNV **08** 20:03:49.9, 6.82N×73.10W, h161km, MW3.0*
*RSNC **08** 20:03:51.0±1.3, 6.78N×73.13W, h139km±6km, ML3.3*
*IDC **08** 20:03:52.6±7.3, 6.41N×75.94W, h130km±74km, mb1 3.5/2, mb1mx3.0/29, mbtmp4.1/2, Error ellipse: s-maj=108.6km s-min=32.4km az=98.0*

ISC 08 20:03:47.9±1.1, 6.82N±0.04×73.05W±0.05, h160km±6km, n34, σ1§59/56, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BTLC	**Betulia, Santa**	**0.24**	**294**	*eP*		Pn	20 04 10.5	+0.7
BARC	**Barichara**	**0.26**	**210**	*eP*		Pn	20 04 09.8	-0.1
BARC				*e*	S	Sn	20 04 24.3	-2.4
BARC				*i*			20 04 25.6	
	comp=Z,679nm,0.3s							
GIRC	**Giron, Santand**	**0.29**	**331**	*eP*		Pn	20 04 09.9	0.0
GIRC				*e*	S	Sn	20 04 24.1	-2.6
PAMC	**Pamplona, Colo**	**0.62**	**34**	*i*	P	Pn	20 04 12.8	+1.1
PAMC				*i*			20 04 13.6	
	comp=Z,83nm,0.2s							
BRRC	**Barranca, Sant**	**0.71**	**293**	*i*	P	Pn	20 04 11.8	+0.2
BRRC				*i*			20 04 12.2	
	comp=Z,420nm,0.1s							
BRRC				*e*	S	Sn	20 04 28.4	-1.3
GRMC	**Gramalote, San**	**0.92**	**15**	*eP*		Pn	20 04 15.8	+2.5
GRMC				*e*	S	Sn	20 04 34.8	+2.0
GRMC				*i*			20 04 39.3	
	comp=Z,199nm,0.4s							
CBRI	**Barrientos, No**	**0.92**	**16**	*eP*		Pn	20 04 14.6	+1.3
CBRI				*e*	S	Sn	20 04 33.4	+0.6
CBRI				*i*			20 04 34.9	
	comp=Z,289nm,0.4s							
RUSC	**La Rusia**	**0.93**	**182**	*eP*		Pn	20 04 13.8	+0.2
RUSC				*e*	S	Sn	20 04 31.5	-1.9
RUSC				*i*			20 04 33.1	
	comp=Z,313nm,0.3s							
CAPV	**Capacho**	**1.27**	**35**	*i*	P	Pn	20 04 18.0	+1.8
CAPV				*e*	S	Sn	20 04 38.5	+0.5
OCAC	**Ocana**	**1.43**	**349**	*eP*		Pn	20 04 18.5	+0.7
OCAC				*e*	S	Sn	20 04 40.2	-0.6
OCAC				*i*			20 04 44.6	
	comp=Z,222nm,0.3s							
NORC	**Norcasia**	**2.20**	**235**	*eP*		Pn	20 04 25.8	-0.2
NORC				*e*	S	Sn	20 04 53.7	-1.8
CHIC	**Chingaza**	**2.28**	**197**	*eP*		Pn	20 04 28.0	+0

s-min=17.2km az=66.0
*ISCJB **08** 20:20:58.1±1.2,26°.5N±0°.1×143°.5E±0°.2,h33km,mb3.6/4, Error ellipse: s-maj=27.5km s-min=12.0km az=139.0*

ISC 08 20:21:01.1±1.6,**26°.4N**±0°.2×**143°.3E**±0°.2,**h35**km,**n7, σ1°26'7,mb3.6/4,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.20**	**305**	Pn		**Pn**	**20 21 19.9**	**-1.5**
	13nm,0.3s,baz=274,slow=21,SNR=10							
JCJ				Sn		**Sn**	**20 21 37.5**	**+1.0**
	88nm,0.3s,baz=277,slow=23,SNR=22							
MJAR	**Matsushiro Arr**	**10.99**	**338**	Pn		**Pn**	**20 23 35.7**	**-0.1**
	0.3nm,0.3s,baz=160,slow=10,SNR=4.4							
GUMO	**Guam**	**12.85**	**173**	LR		LR	20 28 01.6	
	comp=Z,11nm,19.8s,baz=78,slow=33							
WRA	**Warramunga Arr**	**46.89**	**192**	P		**P**	**20 29 28.6**	**+0.3**
	1.2nm,0.6s,baz=12,slow=8.5,SNR=13							
ASAR	**Alice Springs**	**50.61**	**191**	P		**P**	**20 29 56.0**	**-0.7**
	0.2nm,0.6s,baz=12,slow=6.1,SNR=6.2							
MKAR	**Makanchi Array**	**51.67**	**310**	P		**P**	**20 30 04.3**	**-0.3**
	0.1nm,0.2s,baz=83,slow=8.8,SNR=2.6							
GEYT	**Alibeck**	**70.70**	**303**	P		**P**	**20 32 15.3**	**+1.6**
	0.6nm,0.5s,baz=88,slow=7.4,SNR=2.2							

*JMA **08** 20:24:56.5±0.2,38°.50N×143°.36E,h24km,M3.6*
*IDC **08** 20:25:09.2±6.6,37°.42N×143°.10E,h65km±52km,mb3.3/2, mb1 3.5/4,mb1mx3.0/42,mbtmp3.6/4,ML3.2/2,Error ellipse: s-maj=49.0km s-min=23.5km az=60.0*

ISC 08 20:24:56.5±1.9,**38°.24N**±0°.09×**143°.3E**±0°.1,**h23km,n10, σ2°.9**94'14,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**1.54**	**304**	P		**Pn**	**20 25 21.7**	**-0.9**
JIO	**Ouri**	**1.57**	**279**	S		**Sb**	**20 25 43.7**	**-0.4**
JMM	**Marumori**	**2.03**	**260**	*e*S		**Sb**	**20 25 57.1**	**-0.4**
JFK	**Kawauchi**	**2.12**	**247**	P		**Pb**	**20 25 33.1**	**-1.2**
JFK				S		**Sb**	**20 25 59.6**	**-0.6**
JFT	**Otama**	**2.47**	**254**	P		**Pb**	**20 25 38.7**	**-1.4**
JFT				*e*S		**Sb**	**20 26 09.9**	**-0.2**
MJAR	**Matsushiro Arr**	**4.41**	**249**	P		**Pn**	**20 26 06.1**	**+4.1**
	1.2nm,0.3s,baz=83,slow=15,SNR=8.0							
MJAR				S		**Sn**	**20 26 53.6**	**+1.0**
	0.3nm,0.3s,baz=143,slow=25,SNR=2.9							
MAT	**Matsushiro**	**4.41**	**249**	P		**Pn**	**20 26 06.1**	**+4.1**
MAT				*e*S		**Sn**	**20 26 52.5**	**-0.1**
JHJ	**Hachijo jima 2**	**5.86**	**210**	P		**Pn**	**20 26 23.7**	**+1.8**
	3.5nm,0.3s,baz=238,slow=19,SNR=4.0							
JHJ				S		**Sn**	**20 27 21.3**	**-7.1**
	3.0nm,0.3s,baz=90,slow=20,SNR=2.2							
MKAR	**Makanchi Array**	**44.78**	**301**	P		P	20 33 19.5	+11
	0.1nm,0.2s,baz=78,slow=7.9,SNR=3.0							
WRA	**Warramunga Arr**	**58.48**	**190**	P		**P**	**20 34 52.0**	**+1.3**
	0.6nm,0.7s,baz=12,slow=7.3,SNR=6.8							

GUC 08 20:39:45.8±0.6,**22°.51S×69°.94W,h66km±4km,ML3.7, 2C-5D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB04	**IPOC Station P**	**0.26**	**313**	⇑*i*P		Pn	20 39 57.8	+1.3
PB04				*i* S		Sn	20 40 06.1	+1.9
PB04				AML		AML	20 40 07.2	
	comp=N,6μm,0.1s							
PB06	**IPOC Station P**	**0.40**	**119**	⇓*i*P		Pn	20 39 58.4	+0.9
PB06				*i* S		Sn	20 40 07.0	+1.1
PB06				AML		AML	20 40 07.7	
	comp=N,8μm,0.3s							
PB07	**IPOC Station P**	**0.78**	**4**	⇓*i*P		Pn	20 40 02.3	+0.7
PB07				*i* S		Sn	20 40 14.1	+1.0
PB07				AML		AML	20 40 15.1	
	comp=N,4μm,0.3s							
PB09	**IPOC Station P**	**0.96**	**43**	⇑*i*P		Pn	20 40 04.1	+0.3
PB09				*i* S		Sn	20 40 18.5	+1.4
PB09				AML		AML	20 40 20.5	
	comp=E,18μm,0.5s							
PB10	**IPOC Station P**	**1.15**	**209**	⇓*i*P		Pn	20 40 06.2	+0.2
PB10				*i* S		Sn	20 40 21.3	+0.2
PB10				AML		AML	20 40 22.4	
	comp=E,4μm,0.5s							
PB01	**IPOC Station P**	**1.52**	**16**	⇓*i*P		Pn	20 40 11.9	+0.9
PB01				*i* S		Sn	20 40 30.9	+0.9
PB01				AML		AML	20 40 32.5	
	comp=E,2μm,0.2s							
PB08	**IPOC Station P**	**2.47**	**18**	⇓*i*P		Pn	20 40 24.9	+0.8
PB08				*e*S		Sn	20 40 55.8	+2.4
PB08				AML		AML	20 41 02.2	
	comp=N,156nm,0.3s							

BKK 08 20:42:32.9±1.2,**21°N**±7°×**97°E**±°,**h10**km,**MLv3.7/3, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHTO	**Chiang Mai**	**2.53**	**154**	P		Pn	20 43 14.2	+0.1
CHTO				P		Pb	20 43 15.4	-3.0
CHTO				S		Sn	20 43 41.5	-3.5
MHMT	**Maesarieng**	**2.92**	**177**	P		Pg	20 43 27.8	-1.1
MHMT				S		Sg	20 44 06.4	-0.4
LAMP	**Lampang**	**3.10**	**146**	P		Pn	20 43 24.0	+2.0
LAMP				S		Sn	20 43 59.6	+0.4
SUKH	**Sukhothai**	**4.01**	**154**	P		Pb	20 43 45.7	+2.1
SUKH				S		Sn	20 44 26.2	+4.8
UTTA	**Uttaradit**	**4.24**	**142**	P		Pn	20 43 28.8	-8.8
UTTA				S		Sn	20 44 30.8	+3.5
LOEI	**Loei**	**4.86**	**137**	P		Pb	20 43 55.5	-2.6
LOEI				S		Sb	20 44 58.1	+1.4
UMPA	**Umpang Tak**	**4.98**	**168**	P		Pg	20 44 15.9	+7.5
UMPA				S		Sb	20 45 04.5	+4.2
PBKT	**Sadao Pong**	**5.43**	**146**	P		Pb	20 44 05.1	-2.7
NONG	**Nongkai**	**5.89**	**120**	P		Pn	20 44 04.9	+4.6

IDC 08 20:48:52.5±1.2,**15°.73N×119°.92E,h0km,mb3.4/6, mb1 3.6/6,mb1mx3.4/42,mbtmp3.4/6,Error ellipse: s-maj=58.3km s-min=19.2km az=62.0,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.23**	**281**	P		P	20 53 30.1	+0.6
	1.1nm,0.8s,baz=97,slow=7.4,SNR=6.1							
SONM	**Songino Array**	**33.91**	**344**	P		P	20 55 37.8	+0.5
	0.5nm,0.7s,baz=167,slow=9.8,SNR=2.8							
WRA	**Warramunga Arr**	**38.18**	**158**	P		P	20 56 13.7	-0.4
	0.7nm,0.7s,baz=338,slow=9.1,SNR=5.7							
ASAR	**Alice Springs**	**41.48**	**160**	P		P	20 56 41.6	+0.1
	0.3nm,0.5s,baz=336,slow=6.5,SNR=8.3							
MKAR	**Makanchi Array**	**43.96**	**323**	P		P	20 57 00.7	-0.8
	0.5nm,0.8s,baz=128,slow=9.3,SNR=4.8							
KURBB	**Kurchatov Arra**	**48.09**	**326**	P		P	20 57 33.5	-0.4
	0.5nm,0.8s,baz=118,slow=8.7,SNR=5.0							

SJA 08 20:57:27.5±0.9,**30°.58S×69°.14W,h7km±13km,ML3.1, MW3.7,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGUA	**GUANDACOL**	**1.23**	**27**	*i* P		Pg	20 57 51.0	-0.1
RTCV	**Cerro Valdivia**	**1.38**	**158**	*i* P		Pg	20 57 54.2	+0.3
AVFE	**Valle Fertil**	**1.45**	**93**	*i* P		Pg	20 57 55.2	-0.1
AVFE				*i* S		Sg	20 58 15.5	+1.3
AVFE				IAML			20 58 16.1	
	comp=Z,359nm,0.3s							
AUSP	**Uspallata**	**1.65**	**187**	*i* P		Pb	20 57 58.7	+0.2
VCA	**Vinchina**	**2.01**	**24**	*i* P		Pb	20 58 04.4	0.0
ARCO	**CERRO ARCO**	**2.26**	**176**	*i* P		Pb	20 58 08.0	-0.7
ARCO				IAML			20 58 46.5	
	comp=Z,88nm,0.4s							

RSPR 08 20:57:56.3,19°.35N×68°.42W,h53km±8km,MD3.6/9,11C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.52**	**125**	⇑*e*P		Pn	20 58 20.1	-1.0
AGPR	**Aguadilla, PR**	**1.52**	**125**	*e*S		Sn	20 58 38.9	-0.9
LSP	**Las Mesas**	**1.72**	**132**	⇑*e*P		Pn	20 58 23.1	-0.8
LSP	**Las Mesas**	**1.72**	**132**	*e*S		Sn	20 58 44.1	-0.7
CRPR	**Cabo Rojo, PR**	**1.82**	**137**	⇑*e*P		Pn	20 58 24.3	-1.0
CRPR	**Cabo Rojo, PR**	**1.82**	**137**	*e*S		Sn	20 58 46.1	-1.1
LRS	**Lares**	**1.82**	**125**	⇑*e*P		Pn	20 58 24.3	-1.1
AOPR	**Arecibo Observ**	**1.87**	**122**	⇑*e*P		Pn	20 58 25.1	-0.8
AOPR	**Arecibo Observ**	**1.87**	**122**	*e*S		Sn	20 58 47.4	-1.0
GBPR	**Guanica, Bosqu**	**2.00**	**133**	⇑*e*P		Pn	20 58 27.1	-0.6
GBPR	**Guanica, Bosqu**	**2.00**	**133**	*e*S		Sn	20 58 50.5	-1.0
OBIP	**Obispado Ponce**	**2.15**	**127**	⇑*e*P		Pn	20 58 29.5	-0.3
OBIP	**Obispado Ponce**	**2.15**	**127**	*e*S		Sn	20 58 54.9	-0.4
ICMP	**Isla Caja de M**	**2.31**	**129**	⇑*e*P		Pn	20 58 31.0	-0.9
ICMP	**Isla Caja de M**	**2.31**	**129**	*e*S		Sn	20 58 58.5	-0.7
SJG	**San Juan**	**2.48**	**119**	⇑*e*P		Pn	20 58 33.4	-0.9
CBYP	**Canovanas**	**2.65**	**113**	⇑*e*P		Pn	20 58 36.0	-0.8
CBYP	**Canovanas**	**2.65**	**113**	*e*S		Sn	20 59 06.9	-0.9
HUMP	**Col San Antoni**	**2.71**	**116**	⇑*e*P		Pn	20 58 37.1	-0.4
HUMP	**Col San Antoni**	**2.71**	**116**	*e*S		Sn	20 59 08.5	-0.6

*IDC **08** 21:07:22.5±0.6,22°.94S×174°.43W,h0km,mb4.4/15, mb1 4.6/15,mb1mx4.4/34,mbtmp4.4/15,MS3.4/6, Ms1 3.4/6,ms1mx3.1/26,Error ellipse: s-maj=26.4km s-min=17.8km az=135.0*
*NEIC **08** 21:07:25.9±4.0,23°.00S×174°.50W,h21km±28km,mb4.9/53, Error ellipse: s-maj=10.2km s-min=7.7km az=149.0*
*ISCJB **08** 21:07:26.5±0.2,23°.05S±0°.05×174°.55W±0°.06,h36km, mb4.8/65,MS3.3/4, Error ellipse: s-maj=9.4km s-min=4.9km az=35.4*

ISC 08 21:07:28.5±0.4,**22°.95S**±0°.07×**174°.55W**±0°.09,**h36**km, **n143,σ1°41**'137,**mb4.8**/65,**MS3.3**/4,**9C-4D,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**6.96**	**205**	*e*Pn		**Pn**	**21 09 08.0**	**0.0**
MSVF	**Nonsavu**	**8.67**	**305**	*e*Pn		**Pn**	**21 09 29.2**	**-2.3**
AFI	**Afiamalu**	**9.37**	**17**	Pn		Pn	21 09 32.5	-8.6
	5.1nm,0.3s,baz=213,slow=16,SNR=4.4							
AFI				Sn		Sn	21 11 09.0	-16
	9.4nm,0.3s,baz=79,slow=22,SNR=4.1							
RAR	**Rarotonga**	**13.81**	**86**	Pn		Pn	21 10 30.2	-12
	13nm,0.3s,baz=268,slow=8.6,SNR=25							
RAR				Sn		Sn	21 12 45.5	-28
	4.7nm,0.3s,baz=73,slow=18,SNR=6.4							
RAR				LR		LR	21 15 39.5	
	comp=Z,193nm,18.5s,baz=207,slow=36							
RAR	**Rarotonga**	**13.81**	**86**	*e*Pn		Pn	21 10 29.9	-12
OUZ	**Omahuta**	**16.00**	**218**	*e*Pn		**Pn**	**21 11 10.1**	**-0.7**
	73nm,1.9s							
URZ	**Urewera**	**16.85**	**203**	Pn		**P**	**21 11 26.2**	**+2.9**
	1.0nm,0.3s,baz=173,slow=11,SNR=4.3							
URZ				Sn		Sn	21 14 13.0	-15
	0.7nm,0.3s,baz=204,slow=20,SNR=2.9							
URZ				LR		LR	21 18 54.8	
	comp=Z,122nm,18.7s,baz=32,slow=41							
URZ	**Urewera**	**16.85**	**203**	*e*Pn		**Pn**	**21 11 17.8**	**-3.7**
	62nm,1.6s							
URZ				*e*Sn		Sn	21 14 13.0	-15
DZM	**Mont Dzumac**	**17.58**	**269**	*e*LR		LR	21 16 02.6	
	155nm,29.8s							
DZM	**Mont Dzumac**	**17.58**	**269**	P		**P**	**21 11 35.2**	**+3.5**
	0.4nm,0.3s,baz=93,slow=18,SNR=7.1							
DZM	**Mont Dzumac**	**17.58**	**269**	*e*Pn		**P**	**21 11 32.6**	**+0.9**
	28nm,1.3s							
SNZO	**South Karori**	**20.41**	**204**	*e*P		**P**	**21 12 01.4**	**-0.9**
	26nm,0.8s							
THZ	**Tophouse**	**21.50**	**206**	*e*P		**P**	**21 12 12.5**	**-1.7**
	71nm,1.7s							
KHZ	**Kahutara**	**21.80**	**204**	*e*P		**P**	**21 12 13.9**	**-3.4**
	76nm,1.8s							
OXZ	**Oxford**	**23.16**	**205**	*e*P		**P**	**21 12 29.6**	**-2.0**
	25nm,1.2s							
RPZ	**Rata Peaks**	**23.88**	**206**	*e*P		**P**	**21 12 36.1**	**-2.6**
	65nm,1.6s							
PAE	**Paea**	**23.99**	**82**	*e*T		T	21 37 51.2	
	4.2nm,0.3s							
PPT2	**Papeete2**	**24.01**	**82**	*e*LQ		LQ	21 17 04.3	
	358nm,26.5s							
PPT2				*e*LR		LR	21 17 50.5	
	237nm,28.5s							
PPT	**Papeete**	**24.02**	**82**	LR		LR	21 20 31.0	
	comp=Z,123nm,18.9s,baz=221,slow=33							
FOZ	**Fox Glacier**	**24.26**	**208**	*e*P		**P**	**21 12 39.7**	**-2.4**
	157nm,1.7s							
LBZ	**Lake Benmore**	**24.79**	**207**	*e*P		**P**	**21 12 45.2**	**-1.7**
	41nm,1.7s							
ODZ	**Otahua Downs**	**25.14**	**205**	*e*P		**P**	**21 12 48.0**	**-2.2**
	24nm,1.3s							
WKZ	**Wanaka**	**25.64**	**208**	*e*P		**P**	**21 12 55.1**	**+0.4**
	143nm,2.0s							
MLZ	**Mavora Lakes**	**26.45**	**208**	*e*P		**P**	**21 13 00.9**	**-1.1**
	69nm,1.9s							
DCZ	**Deep Cove**	**26.95**	**209**	*e*P		**P**	**21 13 07.8**	**+1.3**
	73nm,2.0s							
PYZ	**Puysegur Point**	**27.70**	**209**	*e*P		**P**	**21 13 13.8**	**+0.5**
	42nm,1.1s							
HNR	**Honiara**	**27.87**	**295**	LR		LR	21 24 26.8	
	comp=Z,90nm,18.3s,baz=140,slow=37							
TAOE	**Nuku Hiva Isla**	**35.82**	**73**	*e*P		**P**	**21 14 25.5**	**+0.6**
	119nm,1.2s							
CTAO	**Charters Tower**	**36.50**	**267**	*e*P		**P**	**21 14 28.9**	**-1.8**
MCQ	**Macquarie Isla**	**37.23**	**205**	*e*P		**P**	**21 14 35.1**	**-1.2**
	546nm,1.8s							
STKA	**Stephens Creek**	**39.71**	**247**	P		**P**	**21 14 56.5**	**-1.0**
	1.3nm,0.4s,baz=100,slow=12,SNR=5.1							
STKA				LR		LR	21 29 19.0	
	comp=Z,39nm,20.3s,baz=20,slow=33							
STKA	**Stephens Creek**	**39.71**	**247**	*e*P		**P**	**21 14 56.5**	**-1.0**
	8.7nm,2.0s							
AS01	**Alice Springs**	**47.09**	**258**	*e*P		**P**	**21 15 56.2**	**-1.0**
AS31	**Alice Springs**	**47.13**	**258**	*e*P		**P**	**21 15 56.6**	**-0.9**
	2.3nm,1.0s							
ASAR	**Alice Springs**	**47.13**	**258**	P		**P**	**21 15 56.6**	**-0.9**
	4.4nm,0.8s,baz=97,slow=7.8,SNR=31							
WC3	**Warramunga Arr**	**47.44**	**263**	*e*P		**P**	**21 15 59.0**	**-0.9**
	7.1nm,0.9s							
WB2	**Warramunga Arr**	**47.47**	**263**	*e*P		**P**	**21 15 59.4**	**-0.7**
WRAB	**Tennant Creek**	**47.47**	**264**	*e*P		**P**	**21 15 58.9**	**-1.2**
	5.4nm,0.8s							
WR1	**Warramunga Arr**	**47.48**	**263**	*e*P		**P**	**21 15 58.6**	**-1.6**
	8.3nm,0.8s							
WRA	**Warramunga Arr**	**47.48**	**263**	P		**P**	**21 15 58.6**	**-1.6**
	6.1nm,0.8s,baz=93,slow=8.4,SNR=36							
MTN	**Manton Dam**	**52.41**	**271**	*e*P		**P**	**21 16 36.7**	**-1.0**
	20nm,1.6s							
SBA	**Scott Base**	**55.67**	**185**	*e*P		**P**	**21 17 03.4**	**+2.8**
	3.7nm,0.8s							
VNDA	**Vanda**	**55.79**	**186**	P		**P**	**21 17 01.7**	**+0.2**
	2.1nm,1.0s,baz=5.0,slow=7.0,SNR=8.0							
VNDA				LR		LR	21 35 05.4	
	comp=Z,20nm,21.9s,baz=36,slow=30							
VNDA	**Vanda**	**55.79**	**186**	*e*P		**P**	**21 17 01.6**	**+0.2**
	18nm,2.0s							
FITZ	**Fitzroy Crossi**	**55.90**	**263**	*e*P		**P**	**21 17 03.6**	**+0.4**
	24nm,1.8s							
MBWA	**Marble Bar**	**60.47**	**258**	*e*P		**P**	**21 17 35.4**	**+0.3**
	40nm,1.4s							
CASY	**Casey**	**63.15**	**206**	*e*P		**P**	**21 17 53.4**	**+1.1**
	39nm,1.9s							
QSPA	**South Pole Qui**	**67.13**	**180**	*e*P		**P**	**21 18 18.7**	**+0.3**
MJAR	**Matsushiro Arr**	**74.09**	**322**	P		**P**	**21 19 01.6**	**+0.6**
	2.0nm,0.7s,baz=156,slow=6.1,SNR=8.9							
MAT	**Matsushiro**	**74.09**	**322**	P		**P**	**21 19 03.1**	**+2.1**
UNV	**Unalaska Valle**	**76.80**	**5**	*e*P		P	21 19 11.0	-5.0
	57nm,1.5s							
KSM	**Kuching**	**76.92**	**277**	*e*P		**P**	**21 19 18.9**	**+1.2**
	11nm,0.9s							
TWG	**Pinlang**	**77.39**	**302**	*e*P		**P**	**21 19 17.6**	**-2.6**
	47nm,0.4s							
MCCM	**Marconi Confer**	**77.75**	**39**	*e*P		**P**	**21 19 18.3**	**-3.4**
	182nm,1.4s							
TPUB	**Ta-pu**	**77.99**	**302**	*e*P		**P**	**21 19 22.8**	**-0.8**
	19nm,0.8s							
PEA0	**Petropavlovsk-**	**79.49**	**343**	*e*P		**P**	**21 19 31.1**	**+0.1**
PETK	**Petropavlovsk-**	**79.49**	**343**	P		**P**	**21 19 30.5**	**-0.5**
	4.7nm,0.8s,baz=134,slow=8.4,SNR=5.2							
PEA1	**Petropavlovsk-**	**79.49**	**343**	*e*P		**P**	**21 19 30.5**	**-0.5**
MGL	**Magalia**	**79.63**	**39**	*e*P		**P**	**21 19 32.2**	**0.0**
WAKR	**Walker**	**80.02**	**41**	*e*P		**P**	**21 19 34.2**	**-0.4**
TVH3	**East Aurora ar**	**80.30**	**41**	*e*P		**P**	**21 19 36.7**	**+0.6**
	3.9nm,0.9s							
MAW	**Mawson**	**80.33**	**199**	P		**P**	**21 19 36.5**	**+0.9**
	3.5nm,0.6s,baz=140,slow=4.7,SNR=9.9							
MAW	**Mawson**	**80.33**	**199**	*e*P		**P**	**21 19 36.5**	**+0.9**
	4.5nm,1.5s							
NV01	**Mina Array Sit**	**80.66**	**41**	*e*P		**P**	**21 19 36.8**	**-1.2**
NVAR	**Mina Array Bea**	**80.66**	**41**	P		**P**	**21 19 36.8**	**-1.2**
	2.7nm,0.7s,baz=226,slow=10,SNR=11							
KSRS	**Korea Array**	**80.85**	**317**	P		**P**	**21 19 40.4**	**+1.7**
	2.9nm,1.2s,baz=134,slow=5.4,SNR=4.1							
KS15	**Wonju Array Si**	**80.87**	**317**	*e*P		**P**	**21 19 40.4**	**+1.6**
KSAR	**Wonju Array Be**	**80.87**	**317**	P		**P**	**21 19 40.4**	**+1.6**
K05A	**Summer Lake**	**81.93**	**37**	*e*P		**P**	**21 19 45.4**	**+0.8**
	41nm,2.0s							
USRK	**Ussuriysk Ar.**	**82.80**	**324**	P		**P**	**21 19 50.1**	**+1.3**
	4.6nm,0.9s,baz=172,slow=4.1,SNR=9.1							
CCUT	**Cedar City**	**83.24**	**45**	*e*P		**P**	**21 19 52.0**	**+0.4**
	7.1nm,1.3s							
KNB	**Kanab**	**83.28**	**45**	*e*P		**P**	**21 19 52.2**	**+0.5**
	5.7nm,0.9s							
U15A	**North Rim**	**83.29**	**46**	*e*P		**P**	**21 19 51.9**	**-0.1**
	14nm,1.4s							
MTPU	**Mount Pierson**	**84.28**	**45**	*e*P		**P**	**21 19 56.9**	**-0.1**
	10.0nm,1.3s							
MSU	**Marysvale**	**84.56**	**44**	*e*P		**P**	**21 19 58.3**	**0.0**
G08A	**Pilot Rock**	**84.66**	**36**	*e*P		**P**	**21 19 58.5**	**0.0**
	9.4nm,1.1s							
C05A	**Tolt Reservoir**	**84.83**	**33**	*e*P		**P**	**21 19 58.7**	**-0.5**
SYO	**Syowa Base**	**85.02**	**192**	⇓*e*PcP		**PcP**	**21 20 02.0**	**-1.1**
MNTX	**Cornudas Mount**	**85.60**	**53**	*e*P		**P**	**21 20 02.5**	**-0.9**
	7.0nm,1.4s							
TMUT	**Trail Mountain**	**85.62**	**44**	*e*P		**P**	**21 20 04.1**	**+0.4**
	7.1nm,1.1s							
LTX	**Lajitas**	**85.72**	**56**	*e*P		**P**	**21 20 02.8**	**-1.4**
TX31	**Lajitas Ar. Si**	**85.72**	**56**	*e*P		**P**	**21 20 03.2**	**-1.0**
TXAR	**Lajitas Array**	**85.72**	**56**	P		**P**	**21 20 02.8**	**-1.4**
	4.0nm,1.1s,baz=210,slow=7.2,SNR=18							
SUA	**Susitna One**	**86.28**	**11**	*e*P		**P**	**21 20 06.1**	**-0.1**
ANMO	**Albuquerque**	**86.48**	**50**	*e*P		**P**	**21 20 07.3**	**-0.6**
	6.9nm,1.3s							
TTA	**Tatalina**	**86.84**	**8**	*e*P		**P**	**21 20 09.6**	**+0.8**
RND	**Reindeer**	**88.42**	**11**	*e*P		**P**	**21 20 16.5**	**+0.1**
	16nm,1.3s							
BW06	**Boulder Array**	**88.59**	**42**	*e*P		**P**	**21 20 15.6**	**-2.3**
PD31	**Pinedale Array**	**88.59**	**42**	*e*P		**P**	**21 20 15.9**	**-2.0**
PDAR	**Pinedale Array**	**88.59**	**42**	P		**P**	**21 20 15.9**	**-2.0**
	0.4nm,0.5s,baz=197,slow=4.5,SNR=4.0							
WRH	**Wood River Hil**	**89.53**	**11**	*e*P		**P**	**21 20 21.1**	**-0.4**
	17nm,1.3s							
DOT	**Dot Lake**	**89.57**	**13**	*e*P		**P**	**21 20 21.5**	**-0.3**
	22nm,1.3s							
HDA	**Harding Lake**	**89.69**	**12**	*e*P		**P**	**21 20 21.7**	**-0.5**
	11nm,1.4s							
CCB	**Clear Creek Bu**	**89.75**	**11**	*e*P		**P**	**21 20 21.8**	**-0.7**
	9.0nm,1.2s							
AMTX	**Amarillo**	**89.86**	**52**	*e*P		**P**	**21 20 20.1**	**-3.8**
	13nm,0.8s							
BJI	**Beijing**	**89.89**	**314**	P		**P**	**21 20 26.8**	**+3.1**
BJI				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MDM	**Murphy Dome**	**89.96**	**11**	*e*P		**P**	**21 20 23.2**	**-0.4**
	comp=Z,12nm,1.3s							
IL1	**Eielson Array**	**90.03**	**11**	*e*P		**P**	**21 20 22.5**	**-1.3**
ILAR	**Eielson Array**	**90.03**	**11**	P		**P**	**21 20 22.6**	**-1.2**
	comp=Z,5.8nm,1.1s,baz=222,slow=5.3,SNR=17							
ILB	**Eielson Array**	**90.03**	**11**	*e*P		**P**	**21 20 22.6**	**-1.2**
ENH	**Enshi**	**90.06**	**303**	*e*P		**P**	**21 20 27.0**	**+2.1**
	comp=Z,12nm,1.2s							
DAWY	**Dawson**	**90.97**	**15**	*e*P		**P**	**21 20 28.6**	**+0.4**
	comp=Z,6.8nm,1.2s							
EGAK	**Eagle**	**91.18**	**14**	*e*P		**P**	**21 20 28.6**	**-0.6**
	comp=Z,11nm,0.3s							
LAO	**LASA Array**	**92.69**	**40**	*e*P		**P**	**21 20 40.5**	**+3.8**
	comp=Z,15nm,0.5s							
HHC	**Hu-ho-hao-te**	**93.36**	**313**	*e*P		**P**	**21 20 41.1**	**+1.1**
HHC				pmax		pmax		
	comp=Z,15nm,1.4s							
HHC				pmax		pmax		
	comp=Z,66nm,7.9s							
CM01	**Chiang Mai Arr**	**93.91**	**288**	*e*P		**P**	**21 20 45.0**	**+2.1**
CM31	**Chiang Mai Arr**	**93.94**	**288**	*e*P		**P**	**21 20 44.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**93.94**	**288**	P		**P**	**21 20 44.8**	**+1.7**

KRER	**Koryakskii**	**5.78**	**25**	PN	**Pn**	**21 09 12.8**	**+2.2**
KRER	**Koryakskii**	**5.78**	**25**	*e*P	**Pn**	**21 09 12.8**	**+2.2**
SDLR	**Sedlovina**	**5.80**	**25**	PN	**Pn**	**21 09 11.0**	**+0.3**
SDLR	**Sedlovina**	**5.80**	**25**	*e*P	**Pn**	**21 09 11.0**	**+0.3**
KRX	**Arik**	**5.81**	**24**	PN	**Pn**	**21 09 12.6**	**+1.8**
KRX	**Arik**	**5.81**	**24**	*e*P	**Pn**	**21 09 12.6**	**+1.8**
GNL	**Ganaly**	**5.94**	**19**	PN	**Pn**	**21 09 14.7**	**+2.1**
GNL	**Ganaly**	**5.94**	**19**	*e*P	**Pn**	**21 09 14.7**	**+2.1**
YSS	**Yuzh-Sakhalins**	**8.20**	**266**	⇑*i*PN	**Pn**	**21 09 44.4**	**+0.9**
ASAJ	**Asahikawa**	**9.34**	**249**	P	**Pn**	**21 10 01.0**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=78,slow=14,SNR=20						
MA2	**Magadan**	**11.72**	**350**	LR	LR	21 14 44.7	
	comp=Z,28nm,20.2s,baz=226,slow=36						
KLR	**Kul'dur**	**15.23**	**283**	P	**P**	**21 11 24.6**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=73,slow=9.8,SNR=6.4						
USRK	**Ussuriysk Ar.**	**16.23**	**265**	P	**Pn**	**21 11 32.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=71,slow=13,SNR=8.6						
MJAR	**Matsushiro Arr**	**16.79**	**233**	P	**P**	**21 11 39.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=28,slow=12,SNR=5.5						
KSRS	**Korea Array**	**22.27**	**251**	P	**P**	**21 12 40.0**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=58,slow=11,SNR=6.6						
KSRS	**Korea Array**	**22.27**	**251**	P	**P**	**21 12 40.0**	**-0.5**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TLY	**Talaya**	**32.56**	**296**	LR	LR	21 28 36.0	
	comp=Z,24nm,18.9s,baz=93,slow=38						
MKAR	**Makanchi Array**	**47.30**	**297**	P	**P**	**21 16 14.2**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=65,slow=7.8,SNR=4.6						
KURK	**Kurchatov**	**47.54**	**303**	P	**P**	**21 16 16.1**	**-1.8**
KURBB	**Kurchatov Arra**	**47.63**	**303**	P	**P**	**21 16 16.1**	**-2.6**
	comp=Z,0.3nm,0.5s,baz=68,slow=8.4,SNR=6.0						
WRA	**Warramunga Arr**	**70.17**	**200**	P	**P**	**21 18 54.2**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=16,slow=6.2,SNR=4.2						
ASAR	**Alice Springs**	**73.86**	**200**	P	**P**	**21 19 17.7**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=11,slow=5.1,SNR=3.5						
TXAR	**Lajitas Array**	**75.86**	**62**	P	**P**	**21 19 29.9**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=311,slow=5.9,SNR=3.3						

*ISCJB **08** 21:26:33.6±0.8, 33˚.28N±0˚.03×35˚.74E±0˚.05, h13km±4km, Error ellipse: s-maj=7.2km s-min=4.7km az=159.8*
*NSSC **08** 21:26:34.1±1.1, 33˚.26N×35˚.79E, h10km±3km, MD0.8, ML2.0*
*GRAL **08** 21:26:36.5±0.3, 33˚.39N×35˚.80E, h10km±1km, MD2.9*
*CSEM **08** 21:26:36.5, 33˚.39N×35˚.80E, h10km, ML2.9*

ISC 08 21:26:33.6±1.1, **33˚.27N**±0˚.03×**35˚.75E**±0˚.04, **h14**km±7km, **n16**, σ0**59**/30, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRBR	**Barbar**	**0.22**	**51**	*e*P		**Pg**		**21 26 39.0**	**+0.4**
BRBR				*e*S		**Sg**		**21 26 42.2**	**+0.3**
BRBR				AML	AML			21 26 42.6	
	comp=N,580nm,0.2s								
BRBR				AML	AML			21 26 42.9	
	comp=E,325nm,0.3s								
RCY	**Rachaya**	**0.23**	**18**	*e*P		**Pg**		**21 26 39.2**	**+0.4**
RCY				*e*S		**Sg**		**21 26 41.3**	**-1.1**
DQRL	**Deir Qamar**	**0.46**	**341**	*e*P		**Pg**		**21 26 43.3**	**+0.6**
DQRL				*e*S		**Sg**		**21 26 48.5**	**-0.4**
DQRL	**Deir Qamar**	**0.46**	**341**	*e*P		**Pg**		**21 26 43.3**	**+0.6**
DQRL				*e*S		**Sg**		**21 26 48.5**	**-0.4**
QASN	**Qassioun**	**0.51**	**59**	*e*P		**Pg**		**21 26 43.9**	**+0.2**
QASN				*e*S		**Sg**		**21 26 50.2**	**-0.4**
QASN				AML	AML			21 26 51.2	
	comp=N,238nm,0.4s								
QASN				AML	AML			21 26 51.4	
	comp=E,194nm,0.3s								
TOTH	**TOTAH**	**0.58**	**81**	*e*P		**Pg**		**21 26 44.7**	**-0.2**
TOTH				*e*S		**Sg**		**21 26 52.0**	**-0.6**
TOTH				AML	AML			21 26 52.6	
	comp=N,98nm,0.3s								
TOTH				AML	AML			21 26 52.7	
	comp=E,59nm,0.2s								
TCHB	**Talchebab**	**0.63**	**163**	*e*P		**Pg**		**21 26 45.7**	**-0.2**
TCHB				*e*S		**Sg**		**21 26 54.8**	**+0.5**
TCHB				AML	AML			21 26 55.3	
	comp=E,121nm,0.2s								
TCHB				AML	AML			21 26 55.5	
	comp=N,205nm,0.2s								
BHL	**Bhannes**	**0.63**	**353**	*e*P		**Pg**		**21 26 46.1**	**+0.1**
BHL				*e*S		**Sg**		**21 26 53.2**	**-1.3**
BHL	**Bhannes**	**0.63**	**353**	*e*P		**Pg**		**21 26 46.1**	**+0.1**
BHL				*e*S		**Sg**		**21 26 53.2**	**-1.3**
MARH	**Ras Al Marh**	**0.97**	**39**	*e*P		**Pb**		**21 26 52.8**	**+0.5**
MARH				*e*S		**Sb**		**21 27 05.4**	**+0.2**
MARH				AML	AML			21 27 08.7	
	comp=N,23nm,0.2s								
MARH				AML	AML			21 27 09.5	
	comp=E,37nm,0.2s								
SALA	**Sala**	**1.00**	**124**	*e*P		**Pg**		**21 26 52.7**	**-0.2**
SALA				*e*S		**Sb**		**21 27 06.0**	**+0.2**
SALA				AML	AML			21 27 07.0	
	comp=N,109nm,0.3s								
SALA				AML	AML			21 27 07.4	
	comp=E,7.9nm,0.4s								
HWQ	**Hawqa**	**1.02**	**9**	*e*P		**Pb**		**21 26 52.4**	**-0.6**
HWQ	**Hawqa**	**1.02**	**9**	*e*P		**Pb**		**21 26 52.4**	**-0.6**
ZALF	**Zalf**	**1.38**	**104**	*e*P		**Pn**		**21 26 58.4**	**+0.1**
ZALF				*e*S		**Sn**		**21 27 16.0**	**-0.4**
ZALF				AML	AML			21 27 18.7	
	comp=E,18nm,0.7s								
ZALF				AML	AML			21 27 19.1	
	comp=N,20nm,0.3s								
ROOS	**tl_alroos**	**1.56**	**55**	*e*P		**Pn**		**21 27 01.7**	**+0.7**
ROOS				*e*S		**Sn**		**21 27 21.4**	**+0.2**
ROOS				AML	AML			21 27 25.4	
	comp=N,27nm,0.2s								
ROOS				AML	AML			21 27 29.1	
	comp=E,28nm,0.6s								
RABH	**Abou Rabah**	**1.68**	**46**	*e*P		**Pn**		**21 27 03.2**	**+0.7**
RABH				*e*S		**Sb**		**21 27 25.3**	**0.0**
RABH				AML	AML			21 27 27.2	
	comp=N,32nm,0.2s								
RABH				AML	AML			21 27 27.3	
	comp=E,24nm,0.2s								

*IDC **08** 21:45:56.8±0.5, 20˚.34S×168˚.43E, h0km, mb4.8/24, mb1 4.9/25, mb1mx4.8/32, mbtmp4.7/25, ML4.0/1, MS4.5/14, Ms1 4.5/14, ms1mx4.3/30, Error ellipse: s-maj=17.5km s-min=13.3km az=115.0*
*GCMT **08** 21:45:58.9±0.1, 20˚.20S×168˚.21E, h12km, MW5.1/110, Moment Tensor Solution. s79,c103; s110,c178; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=5.52±.09; Mθθ0.01±.10; Mϕϕ5.51±.08; Mrθ0.29±.28; Mϕθ-0.55±.08; Mϕr2.04±.25; Best double couple: Mo=5.91300×10^16 NP1:ϕs179.00000°, δ55.00000°, λ-85.00000°. NP2: ϕs350.00000°, δ35.00000°, λ-98.00000°. Principal axes: T 5.9170, Plg10.0000°, Azm265.0000°; N -0.0030, Plg4.0000°, Azm356.0000°; P -5.9100, Plg79.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 21:45:58.9±0.1, 20˚.21S×168˚.38E, h10km, mb5.3/137 Error ellipse: s-maj=4.6km s-min=4.0km az=138.0*
*ISCJB **08** 21:46:01.4±1.4, 20˚.25S±0˚.04×168˚.33E±0˚.03, h36km±12km, mb5.2/171, MS4.6/15, Error ellipse: s-maj=6.4km s-min=4.7km az=9.9*
*MOS **08** 21:46:01.4±1.1, 20˚.14S×168˚.24E, h33km, mb5.6/50, Error ellipse: s-maj=8.8km s-min=8.0km az=56.6*
*BJI **08** 21:46:05.3, 19˚.57S×168˚.31E, h46km, mb4.9/53, mB5.2/39, Ms5.3/28, Ms7 5.0/27*

ISC 08 21:46:02.1±0.3, **20˚.33S**±0˚.05×**168˚.32E**±0˚.05, **h32**km±1km, **h31**km:**pP-P, n577**, σ1**29**/593, **mb5.3**/171, **MS4.5**/15, **13C-13D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.46**	**225**	*e*Pn		**Pn**		**21 46 36.5**	**-3.6**
	482nm,0.3s								
DZM				*e*Sn		**Sn**		**21 47 06.7**	**-2.4**
	493nm,0.2s								
DZM	**Mont Dzumac**	**2.46**	**225**	Pn		**Pn**		**21 46 37.2**	**-2.8**
	33nm,0.3s,baz=99,slow=8.5,SNR=374								
DZM				Sn		**Sn**		**21 47 07.4**	**-1.8**
	111nm,0.3s,baz=270,slow=20,SNR=8.3								
DZM				LR		LR		21 47 37.7	
	comp=Z,20μm,18.1s,baz=3.5,slow=40								
DZM	**Mont Dzumac**	**2.46**	**225**	*e*Pn		**Pn**		**21 46 36.3**	**-3.8**
DZM				*e*Sn		**Sn**		**21 47 07.3**	**-1.8**
MSVF	**Nonsavu**	**9.56**	**76**	*e*P		**Pn**		**21 48 20.7**	**+3.0**
MSVF	**Nonsavu**	**9.56**	**76**	*e*Pn		**Pn**		**21 48 20.7**	**+3.0**
OUZ	**Omahuta**	**15.55**	**164**	*e*Pn		**Pn**		**21 49 39.2**	**+0.3**
	63nm,1.3s								
EIDS	**Eidsvold**	**16.65**	**249**	*e*Pn		**P**		**21 49 54.8**	**-0.5**
	74nm,1.5s								
ARMA	**Armidale**	**18.10**	**233**	P		**P**		**21 50 14.1**	**+2.8**
	baz=18,SNR=5.8								
ARMA	**Armidale**	**18.10**	**233**	*e*P		**P**		**21 50 14.8**	**+3.5**
	86nm,4s								
URZ	**Urewera**	**19.43**	**159**	P		**Pn**		**21 50 28.2**	**+1.1**
	0.5nm,0.3s,baz=5.2,slow=5.9,SNR=19								
URZ	**Urewera**	**19.43**	**159**	*e*P		**Pn**		**21 50 28.2**	**+1.1**
	42nm,1.2s								
BKZ	**Black Stump Fm**	**20.05**	**161**	*e*P		Pn		21 50 34.9	+0.4
	91nm,1.1s								
AFI	**Afiamalu**	**20.06**	**75**	LR		LR		21 56 45.8	
	comp=Z,2μm,21.7s,baz=242,slow=32								
CTA	**Charters Tower**	**20.70**	**267**	P		Pn		21 50 41.9	-0.5
	13nm,0.8s,baz=88,slow=12,SNR=14								
CTAO	**Charters Tower**	**20.70**	**267**	*e*P		Pn		21 50 42.9	+0.6
CTAO				pmax		pmax			
	comp=Z,326nm,1.6s								
CTAO	**Charters Tower**	**20.70**	**267**	*e*P		Pn		21 50 42.9	+0.6
	comp=Z,326nm,1.6s								
BFZ	**Birch Farm**	**21.39**	**163**	*e*P		**P**		**21 50 47.9**	**+0.9**
	comp=Z,146nm,1.6s								
SNZO	**South Karori**	**21.61**	**167**	*e*P		**P**		**21 50 48.0**	**-1.4**
	comp=Z,105nm,1.3s								
THZ	**Tophouse**	**21.72**	**171**	*e*P		**P**		**21 50 53.4**	**+2.8**
	comp=Z,290nm,1.8s								
CNB	**Canberra Magne**	**22.39**	**224**	P		**P**		**21 51 00.6**	**+2.8**
	baz=22,SNR=4.7								
YNG	**Young**	**22.46**	**228**	P		**P**		**21 51 01.5**	**+2.9**
	baz=22,SNR=5.3								
KHZ	**Kahutara**	**22.46**	**170**	*e*P		**P**		**21 50 57.5**	**-1.0**
	comp=Z,115nm,1.5s								
CAN	**Canberra**	**22.63**	**225**	*e*P		**P**		**21 51 02.1**	**+1.7**
CAN				pmax		pmax			
	comp=Z,127nm,1.3s								
CAN	**Canberra**	**22.63**	**225**	*e*P		**P**		**21 51 02.1**	**+1.7**
	comp=Z,127nm,1.3s								
LTZ	**Lake Taylor**	**22.63**	**172**	*e*P		**P**		**21 51 02.2**	**+1.8**
	comp=Z,68nm,1.2s								
MTSU	**Mount Surprise**	**22.76**	**271**	P		**P**		**21 51 03.0**	**+1.1**
	baz=23,SNR=31								
PMG	**Port Moresby**	**23.12**	**295**	P		**P**		**21 51 07.4**	**+1.8**
	comp=Z,19nm,0.7s,baz=80,slow=8.6,SNR=5.5								
PMG	**Port Moresby**	**23.12**	**295**	*c*P		**P**		**21 51 01.7**	**-3.9**
PMG				pmax		pmax			
	comp=Z,261nm,1.7s								
PMG	**Port Moresby**	**23.12**	**295**	*e*P		**P**		**21 51 08.0**	**+2.4**
	comp=Z,182nm,1.6s								
PMG				*e*pP		**sP**		**21 51 18.7**	**+0.4**
OXZ	**Oxford**	**23.14**	**173**	*e*P		**P**		**21 51 06.7**	**+1.2**
	comp=Z,245nm,1.8s								
CMSA	**Cobar Meteorol**	**23.16**	**237**	P		**P**		**21 51 08.5**	**+2.6**
	baz=23,SNR=10								
RPZ	**Rata Peaks**	**23.43**	**175**	P		**P**		**21 51 09.1**	**+0.6**
	comp=Z,12nm,0.9s,baz=299,slow=4.0,SNR=7.3								
MQZ	**McQueen's Vall**	**23.59**	**172**	*e*P		**P**		**21 51 13.1**	**+3.2**
	comp=Z,82nm,1.4s								
LBZ	**Lake Benmore**	**24.04**	**177**	*e*P		**P**		**21 51 15.4**	**+1.2**
	comp=Z,80nm,1.6s								
ODZ	**Otahua Downs**	**24.72**	**176**	*e*P		**P**		**21 51 23.8**	**+3.4**
	comp=Z,41nm,1.4s								
COEN	**Coen**	**24.83**	**281**	P		**P**		**21 51 23.4**	**+1.8**
	baz=25,SNR=4.7								
COEN	**Coen**	**24.83**	**281**	*e*P		**P**		**21 51 23.9**	**+2.2**
	comp=Z,149nm,1.5s								
COEN				*e*pP		**sP**		**21 51 33.9**	**-0.8**
DCZ	**Deep Cove**	**25.09**	**182**	*e*P		**P**		**21 51 25.2**	**+1.5**
	comp=Z,83nm,1.3s								
STKA	**Stephens Creek**	**26.54**	**239**	P		**P**		**21 51 37.5**	**+0.5**
	comp=Z,10nm,0.9s,baz=78,slow=8.9,SNR=11								
STKA				LR		LR		22 01 33.2	
	comp=Z,2μm,19.4s,baz=60,slow=35								
STKA	**Stephens Creek**	**26.54**	**239**	P		**P**		**21 51 37.6**	**+0.5**
	baz=27,SNR=7.7								
STKA	**Stephens Creek**	**26.54**	**239**	*e*P		**P**		**21 51 37.6**	**+0.5**
STKA				pmax		pmax			
	comp=Z,46nm,1.6s								
STKA	**Stephens Creek**	**26.54**	**239**	*e*P		**P**		**21 51 37.5**	**+0.5**
	comp=Z,46nm,1.6s								
QIS	**Mount Isa**	**26.89**	**264**	P		**P**		**21 51 41.6**	**+1.3**
	baz=27,SNR=3.8								
MANU	**Manus Island**	**27.36**	**309**	*e*P		**P**		**21 51 45.9**	**+1.3**
	comp=Z,97nm,1.4s								
HTT	**Hallett**	**29.17**	**237**	P		**P**		**21 52 01.5**	**+0.8**
	baz=29,SNR=4.0								
RAR	**Rarotonga**	**29.83**	**97**	LR		LR		22 01 37.9	
	comp=Z,488nm,21.7s,baz=251,slow=32								
BBOO	**Buckleboo**	**31.29**	**240**	P		**P**		**21 52 21.0**	**+1.7**
	baz=31,SNR=5.9								
BBOO	**Buckleboo**	**31.29**	**240**	*e*pP		pP		21 52 31.1	+2.5
WB2	**Warramunga Arr**	**31.86**	**265**	*e*P		**P**		**21 52 24.6**	**+0.1**
	comp=Z,26nm,1.1s								
WRAB	**Tennant Creek**	**31.86**	**265**	*i* P		P		21 52 18.5	-6.0
WRAB				pmax		pmax			
	comp=Z,36nm,2.5s								
WR1	**Warramunga Arr**	**31.87**	**265**	*e*P		**P**		**21 52 23.3**	**-1.2**
	comp=Z,32nm,1.1s								
WR1				*e*PcP		**PcP**		**21 55 14.1**	**-0.8**
WRA	**Warramunga Arr**	**31.87**	**265**	P		**P**		**21 52 23.3**	**-1.3**
	comp=Z,2.1nm,0.5s,baz=92,slow=8.4,SNR=30								
WRA				PcP		**PcP**		**21 55 14.1**	**-0.8**
	comp=Z,3.9nm,1.0s,baz=91,slow=2.7,SNR=5.1								
WRA				LR		LR		22 05 14.7	
	comp=Z,829nm,18.5s,baz=100,slow=36								
AS01	**Alice Springs**	**31.99**	**258**	*e*P		**P**		**21 52 24.1**	**-1.5**
AS31	**Alice Springs**	**32.03**	**258**	*e*P		**P**		**21 52 24.8**	**-1.2**
	comp=Z,24nm,1.1s								
AS31				*e*PcP		**PcP**		**21 55 16.0**	**+0.6**
ASAR	**Alice Springs**	**32.03**	**258**	P		**P**		**21 52 24.8**	**-1.2**
	comp=Z,13nm,0.6s,baz=88,slow=8.9,SNR=98								
ASAR				PcP		**PcP**		**21 55 16.0**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=106,slow=4.2,SNR=5.2								
ASAR				LR		LR		22 05 26.3	
	comp=Z,2μm,18.6s,baz=108,slow=36								
GENI	**Genyem**	**32.63**	**299**	P		**P**		**21 52 32.7**	**+1.5**
	comp=Z,98nm,1.2s								
MTN	**Manton Dam**	**36.34**	**276**	P		**P**		**21 53 03.6**	**+0.2**
	baz=36,SNR=3.6								
MTN	**Manton Dam**	**36.34**	**276**	*e*P		**P**		**21 53 03.2**	**-0.1**
	comp=Z,63nm,1.6s								
WRKA	**Warakurna**	**37.13**	**255**	P		**P**		**21 53 09.7**	**-0.4**
	baz=37,SNR=7.2								
PPT2	**Papeete2**	**39.84**	**93**	*e*S		**S**		**21 59 33.8**	**-2.0**
	comp=Z,342nm,25.2s								
PPT2				*e*LQ		LQ		22 02 43.1	
	comp=Z,1μm,26.5s								
PPT2				*e*LR		LR		22 04 25.9	
	comp=Z,2μm,28.5s								
PPT	**Papeete**	**39.85**	**93**	LR		LR		22 05 53.4	
	comp=Z,683nm,18.8s,baz=226,slow=30								
FITZ	**Fitzroy Crossi**	**40.28**	**266**	P		**P**		**21 53 36.0**	**-0.5**
	baz=40,SNR=8.2								
FITZ	**Fitzroy Crossi**	**40.28**	**266**	*e*P		**P**		**21 53 37.0**	**+0.5**
	comp=Z,47nm,1.1s								
SOEI	**Soe**	**43.69**	**277**	*e*P		**P**		**21 54 06.8**	**+2.3**
	comp=Z,68nm,1.1s								
MMRI	**Maumere**	**45.95**	**278**	*e*P		**P**		**21 54 23.1**	**+0.6**
	comp=Z,40nm,0.9s								
KLBR	**Kellerberrin**	**46.47**	**245**	P		**P**		**21 54 26.8**	**+0.5**
	baz=46,SNR=5.3								
NWAO	**Narrogin (SRO)**	**46.95**	**244**	*e*pP		pP		21 54 41.0	+1.4
KAPI	**Kappang**	**49.55**	**281**	*e*P		**P**		**21 54 51.9**	**+1.5**
	comp=Z,60nm,1.3s								
TAOE	**Nuku Hiva Isla**	**50.97**	**85**	*e*S		**S**		**22 02 15.6**	**-0.9**
	comp=Z,450nm,26.9s								
TAOE				*e*LR		LR		22 09 32.8	
	comp=Z,1μm,28.4s								
RKT	**Rikitea**	**52.48**	**104**	*e*LR		LR		22 10 13.9	
	comp=Z,536nm,26.5s								
JAGI	**Jajag, Banyuwa**	**53.55**	**274**	*e*P		**P**		**21 55 20.4**	**+0.1**
	comp=Z,55nm,1.0s								
MYLDM	**Lahad Datu**	**55.10**	**292**	*e*P		**P**		**21 55 34.7**	**+3.2**
	comp=Z,58nm,1.4s								
TSM	**Tawau**	**55.23**	**291**	⇑P		**P**		**21 55 33.1**	**+0.6**
SDKM	**Sandakan**	**56.46**	**292**	⇓P		**P**		**21 55 41.8**	**+0.4**
VNDA	**Vanda**	**57.32**	**182**	P		**P**		**21 55 45.5**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=358,slow=8.6,SNR=8.7								
VNDA				LR		LR		22 19 09.2	
	comp=Z,221nm,18.3s,baz=2.0,slow=35								
KKM	**Kota Kinabalu**	**57.51**	**292**	*e*P		**P**		**21 55 48.5**	**-0.3**
	comp=Z,79nm,1.4s								
SBA	**Scott Base**	**57.57**	**180**	*e*P		**P**		**21 55 48.9**	**+0.7**
SBA				pmax		pmax			
	comp=Z,58nm,1.4s								
SBA	**Scott Base**	**57.57**	**180**	*e*P		**P**		**21 55 48.9**	**+0.7**
	comp=Z,58nm,1.4s								
CASY	**Casey**	**58.78**	**204**	*e*P		**P**		**21 55 56.8**	**0.0**
	comp=Z,26nm,1.3s								
CASY				*e*pP		**pP**		**21 56 07.5**	**+0.9**
SBUM	**Sibu**	**59.45**	**286**	⇓P		**P**		**21 56 03.1**	**+0.8**
SBUM	**Sibu**	**59.45**	**286**	*e*P		**P**		**21 56 03.1**	**+0.8**
	comp=Z,23nm,1.4s								
SBUM				*e*pP		**pP**		**21 56 11.9**	**-0.2**
KSM	**Kuching**	**60.77**	**284**	*e*P		**P**		**21 56 12.4**	**+1.0**
	comp=Z,33nm,1.1s								
CGJI	**Cibinong**	**62.08**	**273**	P		**P**		**21 56 18.6**	**-1.6**
	comp=Z,83nm,0.9s,comp=Z,750nm								
INU	**Inuyama**	**62.83**	**331**	*e*P		**P**		**21 56 24.9**	**+0.1**
	comp=Z,37nm,1.2s								
INU				*e*pP		**sP**		**21 56 36.5**	**-1.9**
MJAR	**Matsushiro Arr**	**63.31**	**333**	P		**P**		**21 56 26.6**	**-1.4**
	comp=Z,15nm,1.1s,baz=166,slow=6.9,SNR=26								
MAJO	**Matsushiro**	**63.32**	**333**	*e*P		**P**		**21 56 27.1**	**-0.9**
MAJO				pmax		pmax			
	comp=Z,101nm,1.1s								
MAJO	**Matsushiro**	**63.32**	**333**	*e*P		**P**		**21 56 27.0**	**-1.0**
	comp=Z,21nm,1.0s								
MAT	**Matsushiro**	**63.32**	**333**	P		**P**		**21 56 26.8**	**-1.2**
MAT				*e*S		**S**		**22 04 58.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**63.32**	**333**	*e*P		**P**		**21 56 27.4**	**-0.7**
	comp=Z,5.8nm,1.1s								
KASI	**Kota Agung**	**63.56**	**274**	P		**P**		**21 56 32.0**	**+1.9**
TPUB	**Ta-pu**	**63.58**	**311**	*e*P		**P**		**21 56 29.3**	**-0.7**
	comp=Z,24nm,1.0s								
YHNB	**Yeheng**	**63.92**	**312**	*e*P		**P**		**21 56 33.2**	**+0.9**
	comp=Z,33nm,1.1s								
JNU	**Nakatsue**	**64.06**	**325**	*e*P		**P**		**21 56 32.4**	**-0.6**
	comp=Z,37nm,1.2s								
JNU				*e*pP		**sP**		**21 56 44.8**	**-1.8**
LWLI	**Liwa**	**64.14**	**274**	P		**P**		**21 56 33.2**	**-0.9**
MIR	**Mirnyy**	**65.68**	**205**	*i* P		**P**		**21 56 43.0**	**0.0**
MIR				pmax		pmax			
	comp=Z,4.0nm,1.8s								
KSI	**Kapahiang**	**65.99**	**275**	P		P		21 56 57.6	+12
QZH	**Quanzhou**	**66.05**	**311**	⇑*i*P		**P**		**21 56 50.0**	**+4.0**
QZH				PP		**PP**		**21 59 10.4**	**-1.5**
QZH				S		**S**		**22 05 33.4**	**+1.2**
KUR	**Kuril'sk**	**67.85**	**345**	*e*P		**P**		**21 56 56.7**	**-0.3**
ASAJ	**Asahikawa**	**68.32**	**340**	P		**P**		**21 57 01.0**	**+0.9**
	comp=Z,18nm,0.9s,baz=236,slow=9.3,SNR=12								
ASAJ	**Asahikawa**	**68.32**	**340**	*e*P		**P**		**21 57 01.0**	**+0.9**
	comp=Z,32nm,1.1s								
TJN	**Taejon**	**68.40**	**325**	*i* P		**P**		**21 56 59.2**	**-1.5**
BKNI	**Bangkinang**	**68.86**	**279**	*e*pP		pP		21 57 15.6	+1.5
KSRS	**Korea Array**	**68.92**	**326**	P		**P**		**21 57 04.6**	**+0.7**
	comp=Z,4.9nm,1.0s,baz=144,slow=5.8,SNR=9.4								
KS15	**Wonju Array Si**	**68.93**	**326**	*e*P		**P**		**21 57 04.6**	**+0.6**
KSAR	**Wonju Array Be**	**68.93**	**326**	P		**P**		**21 57 04.6**	**+0.6**
KSAR	**Wonju Array Be**	**68.93**	**326**	P		**P**		**21 57 04.6**	**+0.6**
KS01	**Wonju Array Si**	**68.95**	**326**	*e*P		**P**		**21 57 03.5**	**-0.6**
KS01				*e*pP		**pP**		**21 57 15.3**	**+1.2**
QSPA	**South Pole Qui**	**69.73**	**180**	*e*P		**P**		**21 57 07.8**	**-1.0**
NJ2	**Nanjing**	**70.39**	**317**	*e*P		**P**		**21 57 10.0**	**-3.1**
NJ2				PMZ					
	comp=Z,14nm,0.5s								
IPM	**Ipoh**	**70.46**	**283**	*e*P		**P**		**21 57 13.3**	**-0.6**
	comp=Z,26nm,1.2s								
YSS	**Yuzh-Sakhalins**	**70.83**	**342**	*i* P		**P**		**21 57 14.6**	**-0.8**
YSS				pmax		pmax			
	comp=Z,31nm,1.3s								
KULM	**Kulim**	**71.12**	**283**	*e*P		**P**		**21 57 18.8**	**+0.8**
	comp=Z,39nm,1.4s								
PSI	**Prapat**	**71.75**	**280**	*e*P		**P**		**21 57 21.7**	**-0.3**
PS

comp=Z,11nm,1.1s,baz=101,slow=8.0,SNR=12
MAW LR LR 22 30 28.9
comp=Z,215nm,18.1s,baz=66,slow=35
MAW Mawson 77.10 202 P **P 21 57 52.0 0.0**
baz=77,SNR=7.6
MAW Mawson 77.10 202 *e*P **P 21 57 52.6 +0.7**
MAW pmax pmax
comp=Z,7.0nm,1.4s
MAW Mawson 77.10 202 *e*P **P 21 57 52.6 +0.7**
comp=Z,7.4nm,1.4s
SUKH Sukhothai 77.15 294 P **P 21 57 55.4 +2.4**
comp=Z,3.8nm,1.0s
BJI Beijing 77.24 322 P **P 21 57 54.2 +1.1**
BJI sP **sP 21 58 12.0 +5.2**
BJI S **S 22 07 43.7 +3.1**
BJI PMZ
comp=Z,5.0nm,1.0s
BJI PMZ
comp=Z,100nm,5.5s
BJI LN
comp=Z,430nm,13.9s
BJI LE
comp=Z,2μm,15.1s
BJI LZ
comp=Z,1μm,26.0s
LAMP Lampang 77.60 295 P **P 21 57 57.8 +2.2**
comp=Z,13nm,0.9s
KMI Kunming 78.11 302 P **P 21 58 00.8 +2.2**
KMI PMZ
comp=Z,26nm,1.5s
CM01 Chiang Mai Arr 78.13 295 *e*P **P 21 57 59.0 +0.5**
CM31 Chiang Mai Arr 78.16 295 *e*P **P 21 57 59.4 +0.7**
CMAR Chiang Mai Arr 78.16 295 P **P 21 57 59.4 +0.7**
comp=Z,16nm,0.9s,baz=131,slow=4.2,SNR=64
XAN Xi'an 78.21 313 P **P 21 57 58.8 +0.1**
XAN pP sP 21 58 10.8 -1.7
XAN PMZ
comp=Z,6.0nm,1.5s
CHTO Chiang Mai 78.32 295 P **P 21 58 01.0 +1.4**
comp=Z,140nm,1.2s,comp=Z,2μm
CHTO Chiang Mai 78.32 295 *e*P **P 21 58 00.2 +0.6**
CHTO pmax pmax
comp=Z,27nm,0.9s
CHTO Chiang Mai 78.32 295 *e*P **P 21 58 00.2 +0.6**
comp=Z,27nm,0.9s
CD2 Chengdu 80.21 308 *e*P **P 21 58 10.8 +1.1**
CD2 pP sP 21 58 24.6 +1.1
CD2 sP pP 21 58 30.2 +10
CD2 S **S 22 08 13.6 +0.7**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,220nm,5.2s
HHC Hu-ho-hao-te 80.48 320 *e*P **P 21 58 12.6 +1.6**
HHC S **S 22 08 09.5 -6.0**
HHC PMZ
comp=Z,19nm,1.4s
HHC PMZ
comp=Z,170nm,8.1s
HHC LN
comp=Z,230nm,17.9s
HHC LE
comp=Z,530nm,17.7s
HHC LZ
comp=Z,540nm,17.4s
MA2 Magadan 80.90 351 P **P 21 58 12.8 +0.2**
comp=Z,1.9nm,0.3s,baz=194,slow=4.8,SNR=7.0
LZH Lanzhou 82.81 313 *e*P **P 21 58 25.7 +2.2**
LZH pP sP 21 58 37.1 -0.3
LZH sP pP 21 58 42.7 +9.0
LZH *e*S **S 22 08 39.4 -0.5**
LZH sS sS 22 09 03.4 +6.7
LZH PMZ
comp=Z,65nm,1.5s
LZH PMZ
comp=Z,170nm,5.1s
LZH LN
comp=Z,540nm,17.0s
LZH LE
comp=Z,330nm,16.0s
LZH LZ
comp=Z,550nm,18.2s
SYO Syowa Base 83.65 196⇓ *e*X **P 21 58 24.8 -2.3**
SYO Syowa Base 83.65 196⇑ *e*X sP 21 58 40.0 -0.9
OHAK Old Harbor 83.67 20 *e*P **P 21 58 26.1 -1.1**
comp=Z,71nm,1.0s
SEY Seymchan 83.93 353 P **P 21 58 28.0 -0.4**
comp=Z,7.1nm,0.9s,baz=164,slow=6.6,SNR=11
SEY Seymchan 83.93 353 *i* P **P 21 58 27.7 -0.7**
KDAK Kodiak Island 84.35 20 *e*P **P 21 58 30.3 -0.3**
KDAK pmax pmax
comp=Z,65nm,1.1s
KDAK Kodiak Island 84.35 20 *e*P **P 21 58 30.3 -0.3**
comp=Z,65nm,1.1s
CLNS Chul'man 85.06 338 *e*P **P 21 58 34.1 -0.2**
CLNS pmax pmax
comp=Z,25nm,1.3s
CLNS pmax pmax
comp=N,11nm,1.3s
CLNS pmax pmax
comp=E,4.0nm,1.1s
CNPM China Poot 86.17 19 *e*P **P 21 58 40.2 +0.5**
comp=E,52nm,1.2s
SVW2 Sparrevohn 86.19 17 *e*P **P 21 58 39.0 -0.8**
comp=E,25nm,1.2s
RSO Redoubt South 86.46 18 *e*P **P 21 58 39.3 -2.1**
PCCM Crazy Canyon 87.08 50 *e*P **P 21 58 45.8 +1.0**
SHL Shillong 87.10 298 *e*P **P 21 58 46.5 +1.2**
HOPS Hopland Field 87.12 47 *e*P **P 21 58 45.5 +0.6**
comp=E,65nm,1.1s
SAO San Andreas Ge 87.19 49 *e*P **P 21 58 45.9 +0.6**
SAO pmax pmax
comp=Z,43nm,1.3s
SAO San Andreas Ge 87.19 49 *e*P **P 21 58 45.9 +0.6**
comp=Z,43nm,1.3s
ULN Ulaanbaatar 87.22 324 *d* *i*P **P 21 58 44.6 -0.8**
ULN pmax pmax
comp=Z,37nm,1.7s
ULN Ulaanbaatar 87.22 324 *e*P **P 21 58 44.9 -0.4**
comp=Z,26nm,1.2s
GTA Gaotai 87.24 314 ⇑P **P 21 58 46.7 +1.0**
GTA pP sP 21 58 58.6 -0.9
GTA sP pP 21 59 03.3 +7.4
GTA SKS **SKSac 22 09 09.4 -1.6**
GTA S **S 22 09 22.4 -1.2**
GTA sS sS 22 09 44.5 +4.0
GTA PMZ
comp=Z,5.0nm,1.4s
GTA PMZ
comp=Z,84nm,6.2s
GTA LN
comp=Z,200nm,13.8s
GTA LE
comp=Z,360nm,15.7s
GTA LZ
comp=Z,360nm,17.6s
SCZ2 Santa Cruz Isl 87.25 52 P **P 21 58 45.0 -0.6**
baz=243
KMRM Mail Ridge 87.29 45 *e*P **P 21 58 46.1 +0.3**
comp=Z,71nm,1.0s
PMPB Monarch Peak 87.40 50 *e*P **P 21 58 47.3 +0.9**
comp=Z,44nm,1.2s
PKM Mcpherson Peak 87.51 51 P **P 21 58 46.2 -0.9**
baz=243
SONA0 Songino Array 87.57 323 *e*P **P 21 58 46.6 -0.4**
comp=Z,29nm,1.4s
SONM Songino Array 87.57 323 P **P 21 58 46.6 -0.4**
comp=Z,8.1nm,1.1s,baz=145,slow=4.1,SNR=30
SONA1 Songino Array 87.57 324 *e*P **P 21 58 46.4 -0.6**
TT01 Tatalina 87.59 15 *e*P **P 21 58 45.6 -0.9**
KHMM Horse Mountain 87.59 45 *e*P **P 21 58 49.0 +1.7**
comp=Z,58nm,1.0s
TTA Tatalina 87.61 15 *e*P **P 21 58 46.9 +0.1**
TTA pmax pmax
comp=Z,11nm,1.3s
TTA Tatalina 87.61 15 *e*P **P 21 58 46.9 +0.1**
comp=Z,11nm,1.3s
YAK Yakutsk 87.65 343 *e*P **P 21 58 46.6 -0.2**
YAK *e* 22 02 10.5
YAK *e*S **SKSac 22 09 10.8 -1.2**
YAK *e*SS **SS 22 15 10.7 -2.6**
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=Z,80nm,3.0s
YAK pmax pmax
comp=N,29nm,2.3s
YAK pmax pmax
comp=E,26nm,2.4s
YAK smax smax
comp=N,55nm,3.2s
YAK smax smax
comp=E,46nm,3.2s
NVL N'lazarevskaya 87.67 188 *e*P **P 21 58 48.9 +1.9**
SNAA Sanae 88.04 183 P **P 21 58 48.5 -0.4**
SNAA Sanae 88.04 183 *e*P **P 21 58 46.5 -2.4**
SNAA pmax pmax
comp=Z,30nm,1.2s
SNAA Sanae 88.04 183 *e*P **P 21 58 46.5 -2.4**
comp=Z,30nm,1.2s
BILL Bilibino 88.12 359⇓ *i*P **P 21 58 48.3 -0.7**
BILL *i* 21 59 00.9
BILL pmax pmax
comp=Z,45nm,1.1s
BILL Bilibino 88.12 359 *e*P **P 21 58 48.2 -0.8**
comp=Z,35nm,1.0s
OSI Osito Audit: C 88.19 52 P **P 21 58 49.5 -0.7**
baz=244
WDC Whiskeytown Da 88.24 45 *e*P **P 21 58 50.3 +0.1**
WDC *e**PP **pP 21 59 01.2 +0.8**
WDC pmax pmax
comp=Z,68nm,1.3s
WDC Whiskeytown Da 88.24 45 *e*P **P 21 58 50.3 +0.1**
comp=Z,68nm,1.3s
WDC *e*pP **pP 21 59 01.2 +0.8**
L02D Cave Junction, 88.31 44 P **P 21 58 50.0 -0.6**
baz=240
N02D Trinity Center 88.32 45 P **P 21 58 50.9 +0.2**
baz=241,SNR=19
DECC Green Verdugo 88.33 53 P **P 21 58 49.8 -1.1**
baz=244
ARVC Arvin 88.34 52 P **P 21 58 50.2 -0.6**
baz=244
M02C Callahan 88.42 45 P **P 21 58 50.9 -0.3**
baz=241,SNR=15
ORV Oroville 88.46 47 *e*P **P 21 58 51.0 -0.3**
ORV *e**PP **sP 21 59 04.7 -0.5**
ORV pmax pmax
comp=Z,55nm,1.3s
ORV Oroville 88.46 47 *e*P **P 21 58 51.0 -0.3**
comp=Z,55nm,1.3s
ORV *e*pP **sP 21 59 04.7 -0.5**
VES Vestal, Richgr 88.47 51 P **P 21 58 50.8 -0.6**
baz=244
MWC Mount Wilson 88.52 53 *e*P **P 21 58 52.0 +0.1**
MWC pmax pmax
comp=Z,70nm,1.4s
MWC Mount Wilson 88.52 53 *e*P **P 21 58 52.0 +0.1**
comp=Z,70nm,1.4s
CMB Columbia Colle 88.53 48 *e*P **P 21 58 50.8 -0.9**
CMB pmax pmax
comp=Z,35nm,1.1s
CMB Columbia Colle 88.53 48 *e*P **P 21 58 50.8 -0.9**
comp=Z,35nm,1.1s
AFDM Forest Hills D 88.54 47 *e*P **P 21 58 51.0 -0.7**
comp=Z,57nm,1.2s
MGL Magalia 88.54 46 *e*P **P 21 58 53.3 +1.6**
O03D Paynes Creek 88.60 46 P **P 21 58 51.3 -0.8**
baz=242,SNR=16
109C Camp Elliot, M 88.67 54 P **P 21 58 51.3 -1.1**
baz=245
YBH Yreka Blue Hor 88.68 44 *e*P **P 21 58 52.1 -0.3**
YBH pmax pmax
comp=Z,55nm,1.0s
YBH Yreka Blue Hor 88.68 44 *e*P **P 21 58 52.1 -0.3**
comp=Z,55nm,1.0s
BFSC Mount Baldy Ra 88.82 53 P **P 21 58 52.4 -0.9**
baz=244,SNR=8.2
ISA Isabella, Lake 88.84 51 P **P 21 58 52.4 -0.8**
baz=244
EDW2 Edwards Air Fo 88.85 52 P **P 21 58 52.5 -0.8**
baz=244,SNR=7.6
MURC Murrieta 88.90 54 P **P 21 58 52.7 -0.9**
baz=245
BAR Barrett 88.91 55 *e*P **P 21 58 53.8 +0.2**
comp=Z,29nm,1.4s
HUMO Hull Mountain 88.94 43 *e*P **P 21 58 53.3 -0.2**
comp=Z,40nm,1.0s
MONP2 Monument Peak 89.19 54 P **P 21 58 54.4 -0.7**
baz=245,SNR=7.4
I03D Drain, OR 89.22 42 P **P 21 58 54.3 -0.5**
baz=241
VNA1 Neumayer--Stat 89.23 181 P **P 21 58 54.7 +0.3**
M04C Macdoel 89.28 45 P **P 21 58 54.8 -0.4**
baz=242,SNR=8.2
IKP In-Ko-Pah, Jac 89.33 55 P **P 21 58 54.6 -1.0**
baz=245
LRMC Laurel Mtn Rad 89.34 52 P **P 21 58 54.9 -0.8**
baz=244,SNR=7.5
LSA Lhasa 89.36 302 *e*P **P 21 58 56.7 +0.4**
LSA pmax pmax
comp=Z,12nm,1.5s
LSA Lhasa 89.36 302 *e*P **P 21 58 56.7 +0.4**
comp=Z,12nm,1.5s
WAKR Walker 89.41 48 *e*P **P 21 58 55.7 -0.3**
KTH Kantishna Hill 89.46 17 *e*P **P 21 58 54.4 -1.1**
comp=Z,12nm,1.4s
PFO Pinyon Flats O 89.46 54 P **P 21 58 55.4 -0.9**
comp=Z,11nm,1.0s,baz=274,slow=4.6,SNR=8.8
PFO Pinyon Flats O 89.46 54 *e*P **P 21 58 55.4 -0.9**
PFO pmax pmax
comp=Z,37nm,1.4s
PFO Pinyon Flats O 89.46 54 *e*P **P 21 58 55.4 -0.9**
comp=Z,37nm,1.4s
TPFO Pinon Flats 89.46 54 P **P 21 58 55.5 -0.8**
baz=245,SNR=7.3
MPOR Mary's Peak 89.49 42 P **P 21 58 57.0 +0.9**
RRX Edison Barstow 89.59 52 P **P 21 58 55.9 -0.8**
baz=245
TIN Tinemaha, Big 89.62 50 P **P 21 58 56.1 -0.9**
baz=244,SNR=5.8
SWSC Sam W. Stewart 89.69 55 P **P 21 58 56.3 -0.8**
baz=246,SNR=7.6
MPMC Manual Prospec 89.73 51 P **P 21 58 56.8 -0.8**
baz=244,SNR=32
K04D Chiloquin, OR 89.73 44 P **P 21 58 56.9 -0.5**
baz=242
DAC Darwin (Calif) 89.75 51 *e*P **P 21 58 57.0 -0.7**
DAC pmax pmax
comp=Z,30nm,1.1s
DAC Darwin (Calif) 89.75 51 *e*P **P 21 58 57.0 -0.7**
comp=Z,30nm,1.1s
YERR Yerington 89.76 48 *e*P **P 21 58 57.2 -0.4**
comp=Z,24nm,0.7s
TVH3 East Aurora ar 89.77 49 *e*P **P 21 58 57.5 -0.3**
comp=Z,33nm,1.3s
TVH2 Borealis Mine 89.83 49 *e*P **P 21 58 57.8 -0.2**
comp=Z,19nm,1.2s
I04A Tendick Farm, 89.87 43 P **P 21 58 56.8 -1.1**
baz=241,SNR=9.2
GSC Goldstone, Bar 89.91 52 P **P 21 58 57.5 -0.8**
baz=245,SNR=8.4
GSC Goldstone, Bar 89.91 52 *e*P **P 21 58 58.0 -0.3**
GSC pmax pmax
comp=Z,32nm,1.4s
GSC Goldstone, Bar 89.91 52 *e*P **P 21 58 58.0 -0.3**
comp=Z,32nm,1.4s
RND Reindeer 89.92 18 *e*P **P 21 58 56.3 -1.3**
RND pmax pmax
comp=Z,18nm,1.4s
RND Reindeer 89.92 18 *e*P **P 21 58 56.3 -1.3**
comp=Z,18nm,1.4s
BOD Bodaibo 89.93 334 *e*P **P 21 58 57.1 -0.6**
BOD pmax pmax
comp=Z,14nm,1.4s
BELC Belle Mtn. Jos 89.97 54 P **P 21 58 58.0 -0.7**
baz=245,SNR=14
PAHR Pah Rah Range 89.98 47 *e*P **P 21 58 58.5 -0.2**
comp=Z,52nm,1.2s
G03D McMinnville, O 90.02 41 P **P 21 58 58.1 -0.3**
baz=241
HEC Hector,Ludlow 90.06 53 P **P 21 58 58.1 -1.0**
baz=245,SNR=13
NV01 Mina Array Sit 90.17 49 *e*P **P 21 58 58.2 -1.4**
NVAR Mina Array Bea 90.17 49 P **P 21 58 58.2 -1.4**
comp=Z,17nm,0.9s,baz=235,slow=6.7,SNR=55
NVAR LR LR 22 36 18.6
comp=Z,363nm,18.0s,baz=265,slow=34
GRAC Grapevine Rang 90.22 50 P **P 21 58 59.4 -0.3**
baz=245
BC3 Big Chuckawall 90.24 54 P **P 21 58 59.4 -0.5**
baz=246,SNR=16
PALK Pallekele 90.27 278 LR LR 22 41 60.0
comp=Z,119nm,18.8s,baz=116,slow=37
SRIG Santa Rosalia 90.27 61 *e*P **P 21 59 00.4 +0.3**
NV11 Mina Array Sit 90.28 49 *e*P **P 21 58 59.3 -0.8**
comp=Z,45nm,1.1s
K05A Summer Lake 90.34 44 *e*P **P 21 58 59.9 -0.4**
comp=Z,55nm,1.0s
BWN Browne 90.34 17 *e*P **P 21 58 59.4 -0.1**
comp=Z,17nm,1.0s
MOD Modoc Plateau 90.35 45 *e*P **P 21 58 59.5 -0.8**
comp=Z,39nm,1.0s
FURC Furnace Creek, 90.36 51 P **P 21 58 59.8 -0.4**
baz=245,SNR=13
J05D Fort Rock, OR 90.38 43 P **P 21 58 59.9 -0.5**
baz=242,SNR=33
H04A Detroit Lake 90.43 42 *e*P **P 21 58 59.4 -1.1**
comp=Z,42nm,1.0s
GLA Glamis 90.47 55 P **P 21 59 00.7 -0.2**
baz=246,SNR=9.3
GLA Glamis 90.47 55 *e*P **P 21 59 01.2 +0.3**
GLA pmax pmax
comp=Z,52nm,1.1s
GLA Glamis 90.47 55 *e*P **P 21 59 01.2 +0.3**
comp=Z,52nm,1.1s
E03A Lebam 90.49 40 *e*P **P 21 58 59.8 -0.7**
comp=Z,82nm,1.0s
GMRC Granite Mounta 90.55 53 P **P 21 59 00.4 -1.0**
baz=246,SNR=11
SHOC Shoshone, Teco 90.55 52 P **P 21 59 00.8 -0.4**
baz=245
F04D Rainier, OR 90.60 40 P **P 21 59 01.3 +0.2**
baz=241
TUQ Turquoise Moun 90.62 52 P **P 21 59 01.0 -0.7**
baz=245,SNR=17
IRM Iron Mountain 90.68 54 P **P 21 59 01.4 -0.4**
baz=246,SNR=22
NLWA Neilton Lookou 90.72 39 *e*P **P 21 59 02.4 +0.6**
comp=Z,46nm,1.1s
I05D Terrebonne, OR 90.81 43 P **P 21 59 02.2 0.0**
baz=242
SLBS Sierra La Lagu 90.82 65 *e*P **P 21 59 03.4 +0.5**
comp=Z,34nm,1.1s
WRH Wood River Hil 90.96 17 *e*P **P 21 59 00.9 -1.5**
comp=Z,6.8nm,1.2s
Y12C Blythe 90.99 54 P **P 21 59 03.0 -0.2**
baz=246,SNR=5.9
Y12C Blythe 90.99 54 *e*P **P 21 59 03.3 +0.1**
comp=Z,36nm,1.1s
TPNV Topopah Spring 91.01 51 P **P 21 59 02.9 -0.6**
baz=245,SNR=32
TPNV Topopah Spring 91.01 51 *e*P **P 21 59 02.7 -0.8**
TPNV pmax pmax
comp=Z,37nm,1.0s
TPNV Topopah Spring 91.01 51 *e*P **P 21 59 02.7 -0.8**
comp=Z,37nm,1.0s
JLK June Lake 91.15 41 P **P 21 59 04.5 +0.6**
TLY Talaya 91.16 326 *e*P **P 21 59 02.3 -1.3**
TLY pmax pmax
comp=Z,10.0nm,0.9s
CCB Clear Creek Bu 91.17 17 *e*P **P 21 59 03.5 +0.2**
comp=Z,5.2nm,1.2s
113A Mohawk Valley, 91.18 55 *e*P **P 21 59 04.8 +0.7**
comp=Z,24nm,1.1s
TDL Tradedollar La 91.21 40 *e*P **P 21 59 03.7 -0.5**
WRAK Wrangell Islan 91.21 29 *e*P **P 21 59 04.1 +0.4**
comp=Z,23nm,0.9s
HDA Harding Lake 91.24 18 *e*P **P 21 59 02.3 -1.4**
comp=Z,5.2nm,0.8s
G05D Wamic, OR 91.24 42 P **P 21 59 04.0 -0.2**
baz=242
MDM Murphy Dome 91.29 17 *e*P **P 21 59 01.7 -2.3**
comp=Z,8.2nm,1.2s
COLA College 91.33 17 *e*P **P 21 59 03.3 -0.8**
COLA pmax pmax
comp=Z,4.0nm,1.0s
PDMCI Parker Dam,Lak 91.50 54 P **P 21 59 05.4 -0.2**
baz=246,SNR=14
IL1 Eielson Array 91.53 18 *e*P **P 21 59 03.3 -1.7**
ILAR Eielson Array 91.53 18 P **P 21 59 01.8 -3.2**
comp=Z,2.5nm,0.8s,baz=233,slow=5.1,SNR=12
ILAR LR LR 22 40 09.2
comp=Z,249nm,18.1s,baz=257,slow=36
ILB Eielson Array 91.53 18 *e*P **P 21 59 06.8 +1.8**
214A Organ Pipe Nat 91.60 57 P **P 21 59 05.4 -0.8**
baz=247
SHPR Sheep Range 91.63 52 *e*P **P 21 59 06.5 +0.1**
comp=Z,28nm,1.2s
LON Longmire 91.65 40 *e*P **P 21 59 05.7 -0.4**
LON pmax pmax
comp=Z,16nm,1.3s
LON Longmire 91.65 40 *e*P **P 21 59 05.7 -0.4**
comp=Z,16nm,1.3s
WVOR Wild Horse Val 91.70 45 *e*P **P 21 59 06.4 -0.1**
WVOR pmax pmax
comp=Z,33nm,1.1s
WVOR Wild Horse Val 91.70 45 *e*P **P 21 59 06.4 -0.1**
comp=Z,33nm,1.1s
D05A Enumclaw 91.75 40 *e*P **P 21 59 06.9 +0.5**
comp=Z,131nm,1.4s
D05A *e*pP **sP 21 59 20.8 +0.4**
BMN Battle Mountai 91.79 47 *e*P **P 21 59 06.2 -0.8**
BMN pmax pmax
comp=Z,26nm,1.0s
BMN Battle Mountai 91.79 47 *e*P **P 21 59 06.2 -0.8**
comp=Z,26nm,1.0s
HSIG 91.97 60 *e*P **P 21 59 08.2 +0.3**
comp=Z,22nm,1.1s
W13A Hualapai Mount 92.01 53 *e*P **P 21 59 07.6 -0.6**
comp=Z,21nm,1.1s
W13A *e*pP **sP 21 59 20.1 -2.1**
A04D Lummi Island 92.05 38 P **P 21 59 07.7 -0.1**
baz=241
R11A Troy Canyon, C 92.07 50 P **P 21 59 08.0 -0.4**
baz=246,SNR=12
R11A Troy Canyon, C 92.07 50 *e*P **P 21 59 07.2 -1.2**
comp=Z,5.9nm,0.9s
B05A Bryant 92.19 39 P **P 21 59 08.2 -0.3**
baz=242
Y14A Wickenburg 92.22 55 *e*P **P 21 59 09.4 +0.3**
comp=Z,44nm,0.9s
COLD Coldfoot 92.55 15 *e*P **P 21 59 10.1 +0.4**
comp=Z,5.9nm,1.0s
COLD *e*pP **sP 21 59 22.5 -1.1**
EGAK Eagle 93.23 19 *e*P **P 21 59 12.2 -0.7**
comp=Z,10nm,1.1s
ELK Elko 93.29 48 *e*P **P 21 59 14.2 +0.1**
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK Elko 93.29 48 *e*P **P 21 59 14.2 +0.1**
comp=Z,7.4nm,1.1s
DAWY Dawson 93.31 20 *e*P **P 21 59 12.7 -0.6**
comp=Z,13nm,1.4s
TUC Tucson 93.33 57 P **P 21 59 13.8 -0.4**
baz=248
TUC Tucson 93.33 57 *e*P **P 21 59 14.2 0.0**
TUC pmax pmax
comp=Z,19nm,1.1s
TUC Tucson 93.33 57 *e*P **P 21 59 14.2 0.0**
comp=Z,19nm,1.1s
CCUT Cedar City 93.36 51 *e*P **P 21 59 14.7 +0.2**
comp=Z,13nm,1.2s
DLBC Dease Lake 93.41 28 *e*P **P 21 59 13.3 -0.6**
comp=Z,26nm,1.3s
DLBC *e*pP **pP 21 59 25.3 +1.1**
KNB Kanab 93.55 52 *e*P **P 21 59 15.8 +0.5**
KNB pmax pmax
comp=Z,20nm,1.2s
KNB Kanab 93.55 52 *e*P **P 21 59 15.8 +0.5**
comp=Z,20nm,1.2s
SZCU Shurtz Canyon 93.58 51 *e*P **P 21 59 16.1 +0.7**
comp=Z,24nm,1.3s
X16A Lo Mia Camp, P 93.60 55 *e*P **P 21 59 16.2 +0.6**
comp=Z,24nm,1.3s
X16A *e*S **S 22 10 23.8 +1.3**
BMO Blue Mountains 93.61 43 *e*P **P 21 59 15.1 -0.1**
comp=Z,6.6nm,1.1s
U15A North Rim 93.72 53 *e*P **P 21 59 14.8 -1.4**
comp=Z,22nm,1.3s
MFID Camas Ranch 93.98 45 *e*P **P 21 59 16.4 -0.6**
comp=Z,10nm,1.0s
WUAZ Wupatki 94.07 54 P **P 21 59 17.3 -0.4**
baz=248
319A Douglas 94.18 58 *e*P **P 21 59 18.9 +0.6**
comp=Z,25nm,1.1s

MTPU	**Mount Pierson**	**94.41**	**51**	*e*P		**P**	**21 59 19.8**	**+0.4**
	comp=Z,8.4nm,1.0s							
MSU	**Marysvale**	**94.59**	**51**	*e*P		**P**	**21 59 20.9**	**+0.8**
MSU	**Marysvale**	**94.59**	**51**	*e*P		**P**	**21 59 20.9**	**+0.8**
DUG	**Dugway, Tooele**	**94.78**	**49**	P		**P**	**21 59 20.2**	**-0.6**
	baz=248							
BGU	**Big Grassy Mou**	**94.90**	**48**	*e*P		**P**	**21 59 21.8**	**+0.4**
	comp=Z,3.7nm,1.0s							
HLID	**Hailey**	**94.98**	**45**	P		**P**	**21 59 21.1**	**-0.6**
	baz=247							
HLID	**Hailey**	**94.98**	**45**	*e*P		**P**	**21 59 21.9**	**+0.2**
	comp=Z,6.7nm,1.1s							
NEW	**Newport**	**95.17**	**40**	P		**P**	**21 59 22.0**	**-0.3**
	baz=245							
Q16A	**Castle Valley**	**95.47**	**51**	*e*P		**P**	**21 59 24.6**	**+0.5**
	comp=Z,14nm,1.2s							
TMUT	**Trail Mountain**	**95.59**	**50**	*e*P		**P**	**21 59 25.2**	**+0.4**
TIXI	**Tiksi**	**95.63**	**348**	P		**P**	**21 59 22.3**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=102,slow=8.6,SNR=3.7							
TIXI	**Tiksi**	**95.63**	**348**	*i* P		**P**	**21 59 22.9**	**-0.8**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.1s							
TIXI	**Tiksi**	**95.63**	**348**	*e*P		**P**	**21 59 22.3**	**-1.4**
	comp=Z,4.8nm,1.2s							
121A	**Cookes Peak, D**	**95.77**	**58**	P		**P**	**21 59 24.5**	**-1.1**
	baz=250							
HWUT	**Hardware Ranch**	**96.18**	**48**	*e*P		**P**	**21 59 27.1**	**-0.1**
	comp=Z,2.7nm,0.8s							
PV05	**Paradox Valley**	**96.69**	**52**	*e*P		**P**	**21 59 29.4**	**-0.2**
DLMT	**Dillon**	**96.87**	**44**	*e*P		**P**	**21 59 30.5**	**+0.3**
	comp=Z,4.4nm,0.9s							
FXWY	**Fox Creek**	**97.29**	**46**	*e*P		**P**	**21 59 32.0**	**-0.2**
	comp=Z,5.5nm,1.4s							
WMQ	**Urumqi**	**97.33**	**314**	P		Pdif	21 59 33.0	+0.7
WMQ				pP		sP	21 59 46.2	+0.1
WMQ				sP		pP	21 59 52.2	+10
WMQ				S		**S**	**22 10 51.1**	**-3.0**
WMQ				PMZ				
	comp=Z,3.0nm,0.8s							
WMQ				PMZ				
	comp=Z,62nm,4.8s							
WMQ				LN				
	comp=Z,270nm,18.2s							
WMQ				LE				
	comp=Z,250nm,16.4s							
WMQ				LZ				
	comp=Z,210nm,18.4s							
MNTX	**Cornudas Mount**	**97.41**	**59**	P		**P**	**21 59 32.0**	**-0.8**
	baz=251							
MNTX	**Cornudas Mount**	**97.41**	**59**	*e*P		**P**	**21 59 32.6**	**-0.2**
	comp=Z,7.4nm,1.4s							
BOZ	**Bozeman (W)**	**97.61**	**44**	P		**P**	**21 59 33.0**	**-0.5**
	baz=249							
BOZ	**Bozeman (W)**	**97.61**	**44**	*e*P		**P**	**21 59 33.3**	**-0.2**
BOZ				pmax		pmax		
	comp=Z,5.0nm,1.1s							
BOZ	**Bozeman (W)**	**97.61**	**44**	*e*P		**P**	**21 59 33.3**	**-0.2**
	comp=Z,4.9nm,1.1s							
ANMO	**Albuquerque**	**97.63**	**56**	P		**P**	**21 59 33.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=190,slow=3.2,SNR=4.3							
ANMO	**Albuquerque**	**97.63**	**56**	P		**P**	**21 59 33.1**	**-0.9**
	baz=251							
ANMO	**Albuquerque**	**97.63**	**56**	*i* P		**P**	**21 59 32.2**	**-1.8**
ANMO				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ANMO	**Albuquerque**	**97.63**	**56**	*e*P		**P**	**21 59 33.5**	**-0.4**
	comp=Z,6.6nm,1.5s							
INK	**Inuvik**	**97.85**	**19**	*e*P		**P**	**21 59 32.9**	**-0.9**
INK				pmax		pmax		
	comp=Z,14nm,1.4s							
INK	**Inuvik**	**97.85**	**19**	*e*P		**P**	**21 59 32.9**	**-0.9**
	comp=Z,14nm,1.4s							
H17A	**Grant Village**	**97.86**	**46**	P		**P**	**21 59 34.2**	**-0.6**
	baz=249							
BW06	**Boulder Array**	**97.99**	**47**	P		**P**	**21 59 34.5**	**-0.9**
	baz=250							
BW06	**Boulder Array**	**97.99**	**47**	*e*P		**P**	**21 59 35.1**	**-0.3**
PD31	**Pinedale Array**	**97.99**	**47**	*e*P		**P**	**21 59 34.0**	**-1.4**
PDAR	**Pinedale Array**	**97.99**	**47**	P		**P**	**21 59 34.0**	**-1.4**
	comp=Z,1.4nm,1.0s,baz=201,slow=2.5,SNR=7.6							
PDAR				LR		LR	22 40 37.8	
	comp=Z,148nm,18.6s,baz=296,slow=34							
LTX	**Lajitas**	**98.05**	**62**	*e*P		**P**	**21 59 35.4**	**-0.4**
LTX	**Lajitas**	**98.05**	**62**	*e*P		**P**	**21 59 35.4**	**-0.4**
TX31	**Lajitas Ar. Si**	**98.05**	**62**	*e*P		**P**	**21 59 35.8**	**-0.1**
TXAR	**Lajitas Array**	**98.05**	**62**	P		**P**	**21 59 35.4**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=217,slow=6.1,SNR=9.7							
TXAR				LR		LR	22 38 53.5	
	comp=Z,273nm,18.0s,baz=0.0,slow=32							
MSTX	**Muleshoe**	**100.21**	**58**	*e*Pdif		**Pdif**	**21 59 49.2**	**+3.8**
MK32	**Makanchi Array**	**101.90**	**316**	*e*Pdif		**Pdif**	**21 59 53.2**	**+0.7**
MK32				*e*PKiKP		**PKiKP**	**22 04 14.1**	**-1.2**
MKAR	**Makanchi Array**	**101.90**	**316**	P		**Pdif**	**21 59 53.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=104,slow=6.1,SNR=2.3							
MKAR				PKiKP		**PKiKP**	**22 04 14.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=104,slow=4.6,SNR=3.9							
YKA	**Yellowknife Ar**	**102.03**	**28**	P		**Pdif**	**21 59 52.4**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=250,slow=4.8,SNR=6.2							
YKB5	**Yellowknife Ar**	**102.03**	**28**	*e*Pdif		**Pdif**	**21 59 52.4**	**-0.2**
RSSD	**Black Hills**	**102.23**	**47**	Pdiff		**Pdif**	**21 59 53.5**	**-0.7**
	baz=254							
D36A	**Goodland**	**110.33**	**46**	PKiKP		**PKiKP**	**22 04 30.4**	**-0.5**
	baz=262							
ARU	**Arti**	**117.61**	**324**	*i* PKIKP		**PKPdf**	**22 04 42.6**	**-1.9**
ARU							22 05 56.6	
ARU							22 11 51.9	
ARU				SP		SP	22 15 39.2	+1.6
ARU				SS		**SS**	**22 22 12.0**	**+5.0**
ARU	**Arti**	**117.61**	**324**	*e*PKPdf		**PKPdf**	**22 04 44.7**	**+0.2**
GEYT	**Alibeck**	**117.88**	**303**	PKP		**PKPdf**	**22 04 45.8**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=347,slow=4.4,SNR=6.2							
LVZ	**Lovozero**	**124.39**	**341**	*i* PKIKP		**PKPdf**	**22 04 55.8**	**-1.5**
LVZ				pmax		pmax		
	comp=Z,26nm,2.5s							
SUMG	**Summit**	**125.57**	**10**	*e*PKIKP		**PKPdf**	**22 05 00.0**	**+0.1**
SUMG	**Summit**	**125.57**	**10**	*e*PKPdf		**PKPdf**	**22 04 60.0**	**+0.1**
ARA0	**ARCESS Array S**	**125.89**	**345**	*e*PKPdf		**PKPdf**	**22 04 58.4**	**-1.7**
ARCES	**ARCESS Array B**	**125.89**	**345**	PKP		**PKPdf**	**22 04 58.4**	**-1.7**
	comp=Z,4.1nm,0.6s,baz=46,slow=2.6,SNR=15							
KLMR	**Klimovskoe**	**126.09**	**332**	*e*PKIKP		**PKPdf**	**22 04 57.0**	**-3.6**
KLMR				*e*			22 05 10.4	
KLMR				pmax		pmax		
	comp=Z,26nm,1.2s							
KMBO	**Kilima Mbogo**	**127.56**	**252**	PKP		**PKPdf**	**22 05 05.4**	**+0.1**
	comp=Z,0.4nm,0.2s,baz=296,slow=4.3,SNR=4.2							
GNI	**Garni**	**128.29**	**306**	*i* PKIKP		**PKPdf**	**22 05 05.0**	**-0.7**
GNI				pmax		pmax		
	comp=Z,45nm,1.7s							
PTGA	**Pitinga**	**128.32**	**108**	*e*PKPdf		**PKPdf**	**22 05 06.1**	**-0.3**
VRH	**Novokhopyorsk**	**128.35**	**320**	*e*PKIKP		**PKPdf**	**22 05 04.3**	**-0.9**
VRH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
NCK	**Nalchik**	**128.75**	**310**	*i* PKIKP		**PKPdf**	**22 05 03.8**	**-2.5**
HUMP	**Col San Antoni**	**129.00**	**83**	*e*PKPdf		**PKPdf**	**22 05 06.4**	**-1.1**
KIV	**Kislovodsk**	**129.32**	**311**	*e*PKIKP		**PKPdf**	**22 05 08.0**	**+0.5**
KIV	**Kislovodsk**	**129.32**	**311**	*e*PKPdf		**PKPdf**	**22 05 08.0**	**+0.5**
LPSR	**Galich'ya Gora**	**129.56**	**322**	*e*PKIKP		**PKPdf**	**22 05 07.9**	**+0.4**
LPSR				pmax		pmax		
	comp=Z,20nm,1.1s							
VSR	**Storozhevoye**	**129.88**	**321**	*e*PKIKP		**PKPdf**	**22 05 07.9**	**-0.2**
VSR				pmax		pmax		
	comp=Z,10.0nm,1.4s							
OBN	**Obninsk**	**129.92**	**326**	*i* PKIKP		**PKPdf**	**22 05 08.4**	**+0.3**
OBN				*i*			22 05 21.2	
OBN				pmax		pmax		
	comp=Z,33nm,1.7s							
FIA1	**FINESS Array S**	**131.25**	**337**	*e*PKPdf		**PKPdf**	**22 05 10.7**	**+0.2**
FIA0	**FINESS Array S**	**131.25**	**337**	*e*PKIKP		**PKPdf**	**22 05 10.5**	**+0.1**
FIA0	**FINESS Array S**	**131.25**	**337**	*e*PKPdf		**PKPdf**	**22 05 10.5**	**+0.1**
FINES	**FINESS Array B**	**131.25**	**337**	PKP		**PKPdf**	**22 05 10.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=46,slow=4.0,SNR=7.7							
AKASG	**Malin Array Be**	**135.85**	**323**	PKP		**PKPdf**	**22 05 19.6**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=54,slow=2.3,SNR=11							
AKBB	**Malin Array Si**	**135.85**	**323**	*e*PKIKP		**PKPdf**	**22 05 19.6**	**+0.2**
AKBB	**Malin Array Si**	**135.85**	**323**	*e*PKPdf		**PKPdf**	**22 05 19.6**	**+0.2**
KIEV	**Kiev**	**135.87**	**323**	*i* PKIKP		**PKPdf**	**22 05 17.7**	**-1.7**
AK11	**Malin Array Si**	**135.90**	**323**	*e*PKPdf		**PKPdf**	**22 05 19.9**	**+0.5**
NB2	**NORSAR Subarra**	**136.26**	**344**	PKPdf		**PKPdf**	**22 05 20.8**	**+0.9**
	comp=Z,5.3nm,1.4s,baz=31,slow=1.9							
NB200	**NORSAR Array S**	**136.26**	**344**	*e*PKPdf		**PKPdf**	**22 05 21.4**	**+1.4**
NOA	**NORSAR Array B**	**136.26**	**344**	PKhKP		PKPpre	22 05 09.4	
	comp=Z,1.4nm,1.0s,baz=38,slow=2.2,SNR=2.5							
NOA				PKP		**PKPdf**	**22 05 21.4**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=31,slow=1.9,SNR=6.0							
BR101	**Keskin Array S**	**136.78**	**307**	*e*PKPdf		**PKPdf**	**22 05 21.4**	**-0.3**
BRTR	**Keskin Array B**	**136.78**	**307**	PKP		**PKPdf**	**22 05 21.4**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=134,slow=5.3,SNR=9.1							
ANTO	**Ankara**	**137.38**	**307**	*e*PKIKP		**PKPdf**	**22 05 24.3**	**+1.6**
ANTO	**Ankara**	**137.38**	**307**	*e*PKPdf		**PKPdf**	**22 05 24.3**	**+1.6**
BR231	**Keskin MP Arra**	**137.40**	**307**	*e*PKPdf		**PKPdf**	**22 05 22.5**	**-0.3**
CFR	**Carcaliu**	**138.93**	**316**	↑*i*P		PKPpre	22 05 20.0	
CFR	**Carcaliu**	**138.93**	**316**	↑↑PKIKP		PKPpre	22 05 20.0	
TIRR	**Tirgusor**	**139.04**	**315**	↓*i*P		PKPpre	22 05 18.5	
TIRR	**Tirgusor**	**139.04**	**315**	↓↓PKHKP		PKPpre	22 05 18.5	
TESR	**Tescani**	**139.30**	**319**	↓*i*P		PKPpre	22 05 21.8	
BUR08	**Bucovina Ar. S**	**139.64**	**321**	*e*PKPdf		**PKPdf**	**22 05 29.0**	**+2.3**
BURAR	**Bucovina Array**	**139.65**	**321**	↓*i*P		**PKPdf**	**22 05 23.3**	**-2.8**
BURAR	**Bucovina Array**	**139.65**	**321**	↓↓PKIKP		**PKPdf**	**22 05 23.9**	**-2.8**
MLR	**Muntele Rosu**	**140.20**	**318**	↑*i*P		PKPpre	22 05 17.8	
MLR	**Muntele Rosu**	**140.20**	**318**	*e*PKIKP		**PKPdf**	**22 05 28.7**	**+0.9**
MLR	**Muntele Rosu**	**140.20**	**318**	*e*PKPdf		**PKPdf**	**22 05 28.7**	**+0.9**
KOLS	**Kolonicke sedl**	**140.62**	**325**	*e*PKIKP		**PKPdf**	**22 05 29.3**	**+1.0**
KOLS	**Kolonicke sedl**	**140.62**	**325**	*e*PKP		**PKPdf**	**22 05 29.3**	**+1.0**
UZH	**Uzhgorod**	**140.78**	**324**	*e*PKIKP		PKPpre	22 05 24.5	
UZH				*e*			22 05 29.3	
CRVS	**Cervenica-Dubn**	**141.08**	**325**	*e*PKIKP		**PKPdf**	**22 05 30.0**	**+0.9**
CRVS	**Cervenica-Dubn**	**141.08**	**325**	*e*PKP		**PKPdf**	**22 05 30.0**	**+0.9**
ARR	**Arges**	**141.08**	**318**	↓*i*P		PKPpre	22 05 25.2	
DRGR		**141.54**	**321**	↓*i*P		PKPpre	22 05 21.9	
DRGR		**141.54**	**321**	↓↓PKHKP		PKPpre	22 05 21.9	
PSZ	**Piszkesteto**	**142.50**	**325**	*e*PKPpre		PKPpre	22 05 28.6	
MORC	**Moravsky Berou**	**142.55**	**329**	*e*PKIKP		**PKPdf**	**22 05 32.9**	**+1.1**
MORC	**Moravsky Berou**	**142.55**	**329**	*e*PKPdf		**PKPdf**	**22 05 32.9**	**+1.1**
MPEP	**Malo Peshtene**	**142.57**	**316**	*e*P		**PKPdf**	**22 05 32.1**	**+0.2**
RZN	**Rozhen**	**142.62**	**313**	*e*P		**PKPdf**	**22 05 28.6**	**-3.7**
VYHS	**Vyhne**	**142.72**	**326**	*e*PKIKP		**PKPdf**	**22 05 29.7**	**-2.4**
VYHS	**Vyhne**	**142.72**	**326**	*e*PKP		**PKPdf**	**22 05 29.7**	**-2.4**
KARP	**Karpathos**	**142.74**	**302**	*e*PKPdf		**PKPdf**	**22 05 29.8**	**-2.8**
DPC	**Dobruska-Polom**	**142.75**	**330**	*e*PKP		**PKPdf**	**22 05 30.5**	**-1.6**
DPC	**Dobruska-Polom**	**142.75**	**330**	*e*PKIKP		**PKPdf**	**22 05 30.5**	**-1.6**
MDVR	**Moldovita**	**143.17**	**319**	↑*i*P		PKPab	22 05 23.4	-5.2
MMB	**Musomiste**	**143.33**	**313**	*e*P		PKPbc	22 05 30.5	0.0
PVCC	**Panska Ves**	**143.42**	**332**	*e*PKP		PKPbc	22 05 31.8	+1.4
PVCC				*ex*		x	22 05 43.1	
PVCC	**Panska Ves**	**143.42**	**332**	*e*PKIKP		PKPbc	22 05 31.8	+1.4
PVCC				*e*			22 05 43.1	
BRG	**Berggiesshubel**	**143.45**	**333**	*i* PKP		PKPbc	22 05 31.1	+0.6
	comp=Z,21nm,1.3s							
BRG				*e*			22 05 42.7	
	comp=Z,12nm,1.2s							
BRG				*e*			22 05 55.1	
	comp=Z,18nm,1.4s							
	comp=N,391nm,16.7s							
	comp=E,328nm,16.4s							
	comp=Z,515nm,17.8s							
BRG	**Berggiesshubel**	**143.45**	**333**	*i* PKIKP		PKPbc	22 05 31.1	+0.6
BRG				*e*			22 05 42.7	
BRG				pmax		pmax		
	comp=Z,21nm,1.3s							
BRG				MLR		MLR		
	comp=N,391nm,16.7s							
BRG				MLR		MLR		
	comp=E,328nm,16.4s							
BRG				MLR		MLR		
	comp=Z,515nm,17.8s							
CLL	**Collm**	**143.52**	**334**	↑*i* PKPdf		PKPbc	22 05 30.7	0.0
	comp=Z,17nm,1.3s							
CLL	**Collm**	**143.52**	**334**	*e*PKIKP		PKPbc	22 05 31.6	+0.9
CLL	**Collm**	**143.52**	**334**	*e*PKPdf		PKPbc	22 05 31.6	+0.9
KKB	**Krupnik**	**143.65**	**314**	*e*P		PKPbc	22 05 32.1	+0.7
PRU	**Pruhonice**	**143.82**	**331**	*e*PKP		**PKPdf**	**22 05 32.9**	**-1.0**
PRU				*ex*		x	22 05 44.0	
PRU	**Pruhonice**	**143.82**	**331**	*e*PKIKP		**PKPdf**	**22 05 32.9**	**-1.0**
PRU				*e*			22 05 44.0	
TREC	**Trest**	**143.87**	**330**	*e*PKP		PKPbc	22 05 32.4	+0.6
TREC	**Trest**	**143.87**	**330**	*e*PKIKP		PKPbc	22 05 32.4	+0.6
LAST	**Lasithi**	**144.17**	**302**	*e*PKPdf		**PKPdf**	**22 05 34.4**	**-0.7**
VAY	**Valandovo**	**144.24**	**313**	*i* PKP		**PKPab**	**22 05 32.8**	**0.0**
SOP	**Sopron**	**144.41**	**327**	*e*PKPdf		**PKPdf**	**22 05 34.4**	**-0.6**
NKC	**Novy Kostel**	**144.56**	**333**	*e*PKP		PKPbc	22 05 33.9	0.0
NKC				*ex*		x	22 05 44.9	
NKC	**Novy Kostel**	**144.56**	**333**	*e*PKIKP		PKPbc	22 05 33.9	0.0
NKC				*e*			22 05 44.9	
DIVS	**Divibare**	**144.58**	**319**	P		**PKPab**	**22 05 34.1**	**0.0**
IDI	**Anoyia**	**144.60**	**303**	*e*PKPdf		**PKPdf**	**22 05 35.8**	**-0.1**
CONA	**Conrad Observa**	**144.61**	**328**	*i* PKPdf		**PKPdf**	**22 05 35.3**	**-0.2**
	comp=Z,57nm,1.4s							
CONA				*i* sPKiKP		**sPKiKP**	**22 05 47.5**	**-5.8**
	comp=Z,34nm,1.4s							
SKO	**Skopje**	**144.71**	**315**	*i* PKP		PKPbc	22 05 34.6	0.0
SIVA	**Sivas**	**144.74**	**302**	P		**PKPab**	**22 05 34.7**	**-0.1**
SIVA	**Sivas**	**144.74**	**302**	P		**PKPab**	**22 05 34.7**	**-0.1**
LIT	**Litokhoron**	**144.80**	**312**	P		**PKPab**	**22 05 33.7**	**-1.3**
LIT	**Litokhoron**	**144.80**	**312**	*e*PKIKP		**PKPab**	**22 05 33.7**	**-1.3**
LIT	**Litokhoron**	**144.80**	**312**	*e*PKPbc		**PKPab**	**22 05 33.7**	**-1.3**
KHC	**Kasperske Hory**	**144.87**	**331**	*e*PKP		**PKPdf**	**22 05 35.6**	**-0.3**
KHC				*ex*		x	22 05 47.5	
KHC	**Kasperske Hory**	**144.87**	**331**	*e*PKIKP		**PKPdf**	**22 05 35.6**	**-0.3**
KHC	**Kasperske Hory**	**144.87**	**331**	*e*PKPbc		**PKPdf**	**22 05 35.6**	**-0.3**
ATAL	**Atalanti**	**144.96**	**309**	P		**PKPab**	**22 05 34.4**	**-1.2**
ATAL	**Atalanti**	**144.96**	**309**	*e*PKPbc		**PKPab**	**22 05 34.4**	**-1.2**
GEC2	**GERESS Array S**	**145.02**	**330**	*e*PKIKP		**PKPbc**	**22 05 35.2**	**-0.4**
GEC2	**GERESS Array S**	**145.02**	**330**	*e*PKPbc		**PKPbc**	**22 05 35.2**	**-0.4**
GERES	**GERESS Array B**	**145.02**	**330**	PKPbc		**PKPbc**	**22 05 35.4**	**-0.2**
	comp=Z,12nm,1.0s,baz=35,slow=3.3,SNR=41							
GEA0	**GERESS Array S**	**145.03**	**330**	*e*PKPbc		**PKPbc**	**22 05 34.6**	**-0.9**
BEHE	**Becsehely**	**145.07**	**325**	*e*PKPbc		**PKPdf**	**22 05 37.1**	**+0.9**
VAM	**Vamos**	**145.12**	**303**	P		**PKPbc**	**22 05 36.2**	**0.0**
VAM	**Vamos**	**145.12**	**303**	PKIKP		**PKPbc**	**22 05 36.2**	**0.0**
VAM	**Vamos**	**145.12**	**303**	P		**PKPbc**	**22 05 36.2**	**0.0**
DID	**Didima**	**145.22**	**307**	P		**PKPbc**	**22 05 34.4**	**-2.1**
DID	**Didima**	**145.22**	**307**	P		**PKPbc**	**22 05 34.4**	**-2.1**
DID	**Didima**	**145.22**	**307**	P		**PKPbc**	**22 05 34.4**	**-2.1**
ARSA	**Arzberg**	**145.23**	**327**	*i* PKPdf		**PKPdf**	**22 05 37.0**	**+0.5**
	comp=Z,28nm,1.3s,SNR=23							
IMMV	**Ierа Moni Meta**	**145.27**	**303**	P		**PKPbc**	**22 05 36.5**	**-0.2**
FNA	**Florina**	**145.28**	**313**	P		**PKPbc**	**22 05 35.7**	**-0.9**
FNA	**Florina**	**145.28**	**313**	PKIKP		**PKPbc**	**22 05 35.7**	**-0.9**
FNA	**Florina**	**145.28**	**313**	P		**PKPbc**	**22 05 35.7**	**-0.9**
AGG	**Agios Georgios**	**145.34**	**310**	*e*PKIKP		**PKPbc**	**22 05 36.6**	**-0.2**
AGG	**Agios Georgios**	**145.34**	**310**	*e*PKPdf		**PKPbc**	**22 05 36.6**	**-0.2**
DSF	**Desfina**	**145.42**	**309**	P		**PKPbc**	**22 05 35.5**	**-1.6**
DSF	**Desfina**	**145.42**	**309**	P		**PKPbc**	**22 05 35.5**	**-1.6**
DSF	**Desfina**	**145.42**	**309**	*e*PKPdf		**PKPbc**	**22 05 35.5**	**-1.6**
MOA	**Molln**	**145.45**	**329**	*i* PKPdf		**PKPdf**	**22 05 36.6**	**-0.3**
	comp=Z,50nm,1.1s,SNR=35							
GRFO	**Grafenberg**	**145.49**	**334**	*e*PKIKP		**PKPab**	**22 05 37.2**	**0.0**
GRFO	**Grafenberg**	**145.49**	**334**	*e*PKPdf		**PKPab**	**22 05 37.1**	**0.0**
OHR	**Ohrid**	**145.53**	**314**	↑*i*PKP		**PKPab**	**22 05 38.0**	**+0.3**
KALE	**Kalithea**	**145.71**	**309**	P		**PKPdf**	**22 05 37.2**	**-0.5**
KALE	**Kalithea**	**145.71**	**309**	P		**PKPdf**	**22 05 37.2**	**-0.5**
KALE	**Kalithea**	**145.71**	**309**	*e*PKPdf		**PKPdf**	**22 05 37.2**	**-0.5**
GUR	**Goura**	**145.73**	**308**	P		**PKPdf**	**22 05 37.8**	**0.0**
GUR	**Goura**	**145.73**	**308**	*e*PKPdf		**PKPdf**	**22 05 37.8**	**0.0**
KLV	**Kalavryta, Ach**	**145.83**	**308**	P		**PKPdf**	**22 05 36.9**	**-1.0**
KLV	**Kalavryta, Ach**	**145.83**	**308**	*e*PKPdf		**PKPdf**	**22 05 36.9**	**-1.0**
SOKA	**Soboth**	**145.86**	**327**	*i* PKPbc		**PKPdf**	**22 05 37.3**	**-0.3**
	comp=Z,36nm,1.4s,SNR=22							
LAKA	**Lakka**	**145.89**	**309**	P		**PKPdf**	**22 05 37.5**	**-0.4**
LAKA	**Lakka**	**145.89**	**309**	*e*PKPdf		**PKPdf**	**22 05 37.5**	**-0.4**
VLX	**Vlachokerasia**	**145.91**	**307**	P		**PKPbc**	**22 05 38.7**	**0.0**
VLX	**Vlachokerasia**	**145.91**	**307**	*e*PKPdf		**PKPbc**	**22 05 38.7**	**0.0**
GOLS	**Golise**	**145.98**	**325**	*e*PKPdf		**PKPdf**	**22 05 37.5**	**-0.4**
GOLS				*e*PKPbc		**PKPab**	**22 05 40.3**	**+1.1**
TIR	**Tirane**	**146.04**	**315**	*e*PKP2		**PKPbc**	**22 05 39.1**	**+0.2**
TIR	**Tirane**	**146.04**	**315**	*e*PKPdf		**PKPbc**	**22 05 39.1**	**+0.2**
DSL	**Palaion Diasel**	**146.17**	**311**	P		**PKPbc**	**22 05 39.1**	**-0.3**
DSL	**Palaion Diasel**	**146.17**	**311**	*e*PKPdf		**PKPbc**	**22 05 39.1**	**-0.3**
OBKA	**Obir**	**146.22**	**327**	*i* PKPab		**PKPbc**	**22 05 39.3**	**-0.1**
	comp=Z,20nm,1.7s,SNR=6.8							
KBA	**Koelnbreinsper**	**146.44**	**328**	*i* PKPab		**PKPbc**	**22 05 40.3**	**+0.2**
	comp=Z,17nm,1.4s							
BOJS	**Bojanci**	**146.50**	**325**	*i* PKPdf		**PKPbc**	**22 05 39.7**	**-0.5**
VISS	**Visnje**	**146.53**	**325**	*i* PKPdf		**PKPdf**	**22 05 39.4**	**+0.6**
MYKA	**Terra Mystica**	**146.60**	**328**	*i* PKPbc		**PKPdf**	**22 05 39.4**	**+0.4**
	comp=Z,10nm,0.9s							
BEBN	**Eben Emael**	**146.65**	**340**	PKP		**PKPab**	**22 05 41.2**	**-0.2**
CWF	**Charnwood Fore**	**146.66**	**349**	*e*PKPdf		**PKPbc**	**22 05 39.6**	**-0.7**
MEM	**Membach**	**146.70**	**339**	PKPbc		**PKPbc**	**22 05 40.1**	**-0.4**
MEM				APKP		**pPKPdf**	**22 05 52.1**	**+2.7**
JAVS	**Javornik**	**146.88**	**326**	*i* PKPdf		**PKPdf**	**22 05 39.2**	**-0.3**
ABTA	**Abfaltersbach**	**147.07**	**329**	*i* PKPbc		**PKPdf**	**22 05 40.0**	**+0.3**
	comp=Z,14nm,1.3s							
WATA	**Walderalm**	**147.10**	**330**	*i* PKPbc		**PKPdf**	**22 05 40.4**	**+0.6**
	comp=Z,21nm,1.2s							
BCLA	**Clavier**	**147.10**	**340**	PKPbc		**PKPbc**	**22 05 41.9**	**+0.2**
WTTA	**Wattenberg**	**147.12**	**330**	*i* PKPdf		**PKPdf**	**22 05 39.7**	**-0.2**
	comp=Z,32nm,1.2s,SNR=10							
TRI	**Trieste**	**147.16**	**326**	*e*PKP2		**PKPdf**	**22 05 40.6**	**+0.8**
TRI	**Trieste**	**147.16**	**326**	*e*PKPdf		**PKPdf**	**22 05 40.6**	**+0.8**
MOTA	**Moosalm**	**147.31**	**331**	*i* PKPbc		**PKPdf**	**22 05 40.8**	**+0.6**
	comp=Z,32nm,1.0s,SNR=19							
SNF	**Seneffe**	**147.34**	**341**	PKPbc		**PKPbc**	**22 05 43.2**	**+0.9**
SNF				APKP		**pPKPdf**	**22 05 53.9**	**+3.5**
RETA	**Reutte**	**147.36**	**331**	*i* pPKPdf		**PKPbc**	**22 05 42.9**	**+0.3**
	comp=Z,22nm,1.1s,SNR=11							
LANF	**Langenberg**	**147.42**	**336**	PKP		**PKPbc**	**22 05 43.0**	**+0.3**
WLF	**Walferdange**	**147.46**	**338**	PKPbc		**PKPbc**	**22 05 43.2**	**+0.4**
WLF				APKP		**pPKPdf**	**22 05 53.9**	**+3.2**
WLF	**Walferdange**	**147.46**	**338**	*e*PKP2		**PKPbc**	**22 05 43.1**	**+0

PET				smax	smax			
	comp=N,92nm,0.5s							
PET				smax	smax			
	comp=E,100nm,0.5s							
PETK	**Petropavlovsk-**	**3.86**	**228**	Pn	**Pn**	**21**	**58**	**18.0 +1.6**
	comp=E,1.8nm,0.3s,baz=63,slow=17,SNR=10							
PETK				Sn	**Sb**	**21**	**59**	**09.2 -3.3**
	comp=E,1.4nm,0.3s,baz=115,slow=34,SNR=3.1							
KRMR	**Karymshinskiy**	**3.90**	**222**	PN	**Pn**	**21**	**58**	**18.5 +1.7**
KRMR				S	**Sn**	**21**	**59**	**03.0 +1.5**
KRMR	**Karymshinskiy**	**3.90**	**222**	*e*P	**Pn**	**21**	**58**	**18.5 +1.7**
KRMR				*e*S	**Sn**	**21**	**59**	**03.0 +1.5**
RUS	**Russkaya**	**4.08**	**216**	*e*S	**Sn**	**21**	**59**	**09.9 +3.8**
TIXI	**Tiksi**	**21.27**	**331**	P	**P**	**22**	**02**	**01.5 -1.0**
	comp=E,1.4nm,0.6s,baz=116,slow=9.4,SNR=6.0							
ILAR	**Eielson Array**	**25.98**	**49**	P	**P**	**22**	**02**	**48.2 -0.5**
	comp=E,0.5nm,0.6s,baz=266,slow=9.0,SNR=5.8							
H11N2	**WAKE ISLAND Hy**	**36.17**	**173**	T	T	22	43	29.4
	baz=357,slow=76,SNR=19							
H11N3	**WAKE ISLAND Hy**	**36.19**	**173**	T	T	22	43	30.3
	baz=357,slow=76,SNR=26							
H11N1	**WAKE ISLAND Hy**	**36.19**	**173**	T	T	22	43	27.3
	baz=357,slow=76,SNR=22							
MKAR	**Makanchi Array**	**48.23**	**295**	P	**P**	**22**	**05**	**54.5 -2.2**
	comp=E,0.2nm,0.3s,baz=61,slow=6.8,SNR=2.9							
FINES	**FINESS Array B**	**58.16**	**337**	P	**P**	**22**	**07**	**08.1 -1.3**
	comp=E,0.5nm,0.4s,baz=32,slow=8.4,SNR=6.6							
TXAR	**Lajitas Array**	**68.37**	**70**	P	**P**	**22**	**08**	**18.1 +0.4**
	comp=E,0.5nm,0.6s,baz=301,slow=3.9,SNR=8.8							
WRA	**Warramunga Arr**	**79.11**	**207**	P	**P**	**22**	**09**	**24.0 +3.6**
	comp=E,0.3nm,0.6s,baz=9.4,slow=5.8,SNR=2.9							
ASAR	**Alice Springs**	**82.79**	**206**	P	**P**	**22**	**09**	**41.7 +1.7**
	comp=E,0.3nm,0.7s,baz=188,slow=26,SNR=3.3							

*TAP **08** 22:00:49.0,24.77N×122.43E,h7km±1km,ML3.0,D*
*JMA **08** 22:00:49.1,24.71N×122.52E,h31km±1km,M2.3*

ISC 08 22:00:48.6±1.0,24.75N±0.04×122.51E±0.02,h26km±11km, n33,σ0 80/56,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.50**	**127**	P			**Pb**	**22 00 58.7**	**0.0**
JYNG				S			**Sb**	**22 01 05.5**	**-0.1**
YOJ	**Yonaguni jima**	**0.54**	**122**	P			**Pb**	**22 00 59.4**	**-0.1**
YOJ				S			**Sb**	**22 01 06.7**	**-0.2**
TWB1	**Santiao Chiao**	**0.54**	**298**	*i* P			**Pb**	**22 00 59.0**	**-0.4**
	baz=301								
TWB1				*i* S			**Sb**	**22 01 06.4**	**-0.5**
	baz=301								
TWC	**Suao**	**0.62**	**257**	P			**Pb**	**22 01 00.2**	**-0.6**
	baz=253								
TWC				S			**Sb**	**22 01 09.2**	**+0.1**
	baz=253								
NWF	**Wu-fen Shan**	**0.74**	**296**	P			**Pn**	**22 01 03.1**	**-0.2**
	baz=297								
NWF				S			**Sb**	**22 01 12.7**	**+0.2**
	baz=297								
TWE	**Neicheng**	**0.77**	**268**	P			**Pn**	**22 01 03.1**	**-0.6**
	baz=265								
TWE				S			**Sb**	**22 01 13.6**	**+0.2**
	baz=265								
ENA	**Nanau**	**0.77**	**245**	P			**Pn**	**22 01 03.2**	**-0.6**
	baz=241								
ENA				*e*S			**Sb**	**22 01 13.9**	**+0.4**
	baz=241								
ENTT	**Nioudou**	**0.87**	**263**	P			**Pn**	**22 01 05.1**	**0.0**
	baz=260								
ENTT				S			**Sn**	**22 01 16.8**	**-0.1**
	baz=260								
TWA	**Mucha**	**0.87**	**285**	*e*P			**Pn**	**22 01 05.2**	**0.0**
	baz=285								
TWA				*e*S			**Sn**	**22 01 16.3**	**-0.8**
	baz=285								
PCYT	**Pengchaiyu**	**0.96**	**336**	*e*P			**Pn**	**22 01 06.3**	**0.0**
	baz=339								
TWY	**Chenhua**	**0.98**	**302**	*e*P			**Pn**	**22 01 07.0**	**+0.4**
	baz=304								
TWY				*e*S			**Sn**	**22 01 19.8**	**+0.2**
	baz=304								
NSK	**Sanguang**	**1.05**	**266**	P			**Pn**	**22 01 08.0**	**+0.3**
	baz=264								
NSK				*e*S			**Sn**	**22 01 21.8**	**+0.3**
	baz=264								
TWD	**Chiawan**	**1.07**	**231**	*e*P			**Pb**	**22 01 08.9**	**+0.5**
	baz=227								
TWD				*e*S			**Sb**	**22 01 23.3**	**+1.3**
	baz=227								
NNS	**Nan Shan**	**1.08**	**254**	P			**Pb**	**22 01 09.0**	**+0.3**
	baz=251								
NNS				S			**Sb**	**22 01 23.2**	**+0.7**
	baz=251								
IRIF	**Iriomote-Funau**	**1.19**	**110**	P			**Pn**	**22 01 09.3**	**-0.1**
WHF	**Hehuan Shan**	**1.29**	**242**	*e*S			**Sb**	**22 01 29.4**	**+0.7**
	baz=239								
TWT	**Tachien**	**1.31**	**248**	P			**Pb**	**22 01 13.5**	**+0.8**
	baz=245								
TWT				*e*S			**Sb**	**22 01 30.4**	**+1.2**
	baz=245								
ESL	**Shilin**	**1.36**	**227**	*e*P			**Pb**	**22 01 13.7**	**+0.4**
	baz=223								
ESL				*e*S			**Sb**	**22 01 31.8**	**+1.5**
	baz=223								
HATJ	**Hateruma jima**	**1.37**	**120**	*e*S			**Sn**	**22 01 28.8**	**-0.4**
NSTT	**Nanjuang**	**1.38**	**265**	*e*P			**Pb**	**22 01 14.0**	**+0.3**
	baz=263								
NSTT				*e*S			**Sb**	**22 01 31.5**	**+0.6**
	baz=263								
JKRS	**Kuro-shima**	**1.46**	**110**	P			**Pn**	**22 01 13.7**	**+0.5**
JIJ	**Ishigaki jima**	**1.54**	**104**	P			**Pn**	**22 01 15.0**	**+0.8**
JIJ				*e*S			**Sn**	**22 01 33.9**	**+0.6**
TWQ1	**Liyutan**	**1.63**	**256**	*e*P			**Pb**	**22 01 18.2**	**+0.1**
	baz=254								
TWQ1				*e*S			**Sb**	**22 01 39.5**	**+1.3**
	baz=254								
JISG	**Ishigakijimahi**	**1.65**	**95**	S			**Sn**	**22 01 35.7**	**-0.4**
TWF1	**Yuli**	**1.78**	**219**	*e*P			**Pn**	**22 01 18.3**	**+0.6**
	baz=216								
YUS	**Yu-Shan**	**1.90**	**229**	*e*P			**Pb**	**22 01 21.8**	**-1.0**
	baz=226								
YUS				*e*S			**Sb**	**22 01 46.7**	**+0.3**
	baz=226								
CHKT	**Chengkung**	**1.95**	**213**	*e*S			**Sb**	**22 01 46.4**	**-1.0**
	baz=210								
ALS	**Alishan**	**1.99**	**232**	*e*P			**Pb**	**22 01 23.6**	**-0.7**
	baz=229								
ALS				*e*S			**Sb**	**22 01 47.5**	**-1.3**
	baz=229								
CHN5	**Tsauling**	**2.03**	**236**	*e*P			**Pb**	**22 01 24.6**	**-0.3**
	baz=233								
CHN4	**Tsaushan**	**2.24**	**232**	*e*P			**Pb**	**22 01 26.2**	**-2.2**
	baz=229								
CHN4				*e*S			**Sb**	**22 01 53.9**	**-1.8**
	baz=229								
STYT	**Tauyuan**	**2.25**	**226**	*e*P			**Pb**	**22 01 27.3**	**-1.3**
	baz=223								
STYT				*e*S			**Sb**	**22 01 55.8**	**-0.4**
	baz=223								
WTP	**Ta-pu**	**2.29**	**230**	*e*P			**Pn**	**22 01 28.2**	**-1.1**
	baz=227								
CHN1	**Nanshi**	**2.39**	**230**	*e*P			**Pn**	**22 01 27.7**	**+1.6**
	baz=227								
CHN1				*e*S			**Sb**	**22 01 59.4**	**-0.8**
	baz=227								

*ATH **08** 22:05:13.5,37.33N×21.70E,h18km±4km,ML1.1/3,Error ellipse: s-maj=4.1km s-min=1.2km az=204.0*

CSEM 08 22:05:13.9±0.5,37.30N×21.79E,h10km,ML1.5,Error ellipse: s-maj=12.3km s-min=7.6km az=94.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.16**	**137**	P			Pg	22 05 18.7	+1.3
ITM	**Ithomi**	**0.16**	**137**	P			Pg	22 05 18.3	+0.9
ITM				S			Sg	22 05 22.8	+3.0
ITM				AML	AML			22 05 25.1	
	comp=E,82μm,0.2s								
ITM				AML	AML			22 05 27.0	
	comp=N,77μm,0.3s								
AMT	**Artemida-Makis**	**0.24**	**344**	P			Pg	22 05 18.0	-0.9
AMT				S			Sg	22 05 21.3	-1.0
AMT	**Artemida-Makis**	**0.24**	**344**	P			Pg	22 05 18.4	-0.6
AMT				S			Sg	22 05 21.8	-0.5
AMT				AML	AML			22 05 23.2	
	comp=N,343μm,0.2s								
AMT				AML	AML			22 05 23.4	
	comp=E,366μm,0.1s								
PYL	**PYLOS**	**0.40**	**186**	P			Pg	22 05 21.4	-0.4
PYL				S			Sb	22 05 29.5	+0.2
PYL	**PYLOS**	**0.40**	**186**	P			Pg	22 05 21.9	0.0
PYL				S			Sb	22 05 29.9	+0.5
PYL				AML	AML			22 05 31.9	
	comp=E,66μm,0.2s								
PYL				AML	AML			22 05 32.0	
	comp=N,44μm,0.4s								
TRIP	**Tripoli**	**0.45**	**59**	P			Pb	22 05 24.5	+0.6
TRIP				S			Sb	22 05 31.2	+0.5
TRIP	**Tripoli**	**0.45**	**59**	P			Pb	22 05 24.9	+0.9
DRO	**Drossia**	**0.66**	**354**	P			Pg	22 05 26.7	0.0
DRO				S			Sg	22 05 35.8	+0.5
DRO	**Drossia**	**0.66**	**354**	P			Pg	22 05 25.6	-1.0
GUR	**Goura**	**0.77**	**34**	P			Pg	22 05 28.0	-0.9
GUR				S			Sg	22 05 39.0	0.0
GUR	**Goura**	**0.77**	**34**	P			Pg	22 05 28.2	-0.6
KLV	**Kalavryta, Ach**	**0.80**	**21**	P			Pg	22 05 28.5	-0.8
KLV				S			Sg	22 05 40.2	+0.4
KLV	**Kalavryta, Ach**	**0.80**	**21**	P			Pg	22 05 28.2	-1.1
LAKA	**Lakka**	**0.95**	**9**	P			Pg	22 05 32.4	+0.1
EFP	**Efpalio**	**1.13**	**5**	P			Pn	22 05 39.6	+3.8
EFP	**Efpalio**	**1.13**	**5**	P			Pn	22 05 39.6	+3.8
SERG	**Sergoula**	**1.13**	**11**	P			Pn	22 05 37.3	+1.4
SERG	**Sergoula**	**1.13**	**11**	P			Pn	22 05 37.3	+1.4
ANX	**Ano Chora**	**1.30**	**4**	P			Pn	22 05 38.1	-0.1
ANX	**Ano Chora**	**1.30**	**4**	P			Pn	22 05 38.1	-0.1
PVO	**Paravola**	**1.33**	**351**	P			Pb	22 05 39.0	0.0
PVO	**Paravola**	**1.33**	**351**	P			Pb	22 05 39.0	0.0
PDO	**Prodromos**	**1.39**	**340**	P			Pb	22 05 39.8	-0.1
PDO	**Prodromos**	**1.39**	**340**	P			Pb	22 05 39.8	-0.1

*ISCJB **08** 22:08:35.3±0.8,17.41N±0.06×101.24W±0.04,h18km±6km, mb3.4/3,MS3.2/1,Error ellipse: s-maj=11.0km s-min=5.5km az=24.6*
*NEIC **08** 22:08:37.0,17.38N×101.32W,h14km,MD4.2(MEX),After MEX.*
*MEX **08** 22:08:37.0±0.6,17.38N×101.32W,h14km±3km,MD4.2*
*IDC **08** 22:08:58.5±7.2,18.09N×100.99W,h190km±59km,mb3.0/3, mb1 3.3/5,mb1mx3.0/51,mbtmp3.3/5,MS3.3/1,Ms1 3.3/1, ms1mx2.6/10,Error ellipse: s-maj=114.8km s-min=32.6km az=39.0*

ISC 08 22:08:35.7±1.1,17.39N±0.06×101.23W±0.07, h16km±10km,n18,σ1 23/29,mb3.5/3,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.31**	**314**	*i* P			**Pg**	**22 08 42.1**	**-0.1**
ZIIG				*i* S			**Sg**	**22 08 46.3**	**-0.4**
ZIIG	**Zihuatanejo**	**0.31**	**314**	*i* P			**Pg**	**22 08 42.1**	**-0.1**
ZIIG				*i* S			**Sg**	**22 08 46.3**	**-0.4**
CAIG	**El Cayaco**	**0.98**	**110**	*e*P			**Pb**	**22 08 53.7**	**-0.7**
CAIG				*e*S			**Sb**	**22 09 06.7**	**-0.4**
CAIG	**El Cayaco**	**0.98**	**110**	*e*P			**Pb**	**22 08 53.7**	**-0.7**
CAIG				*e*S			**Sb**	**22 09 06.7**	**-0.4**
ARIG	**Puente Sto Nin**	**1.22**	**43**	*i* P			**Pn**	**22 08 56.7**	**-1.5**
ARIG				*i* S			**Sb**	**22 09 12.3**	**-1.8**
ACX	**Acapulco**	**1.41**	**111**	*i* P			**Pn**	**22 09 00.3**	**-0.5**
ACX				*e*S			**Sn**	**22 09 18.4**	**-0.7**
ACX	**Acapulco**	**1.41**	**111**	*i* P			**Pn**	**22 09 00.3**	**-0.5**
ACX				*e*S			**Sn**	**22 09 18.4**	**-0.7**
MEIG	**Mezcala**	**1.63**	**71**	*e*P			**Pn**	**22 09 03.5**	**-0.3**
MEIG				*e*S			**Sn**	**22 09 24.8**	**+0.2**
MEIG	**Mezcala**	**1.63**	**71**	*e*P			**Pn**	**22 09 03.5**	**-0.3**
MEIG				*e*S			**Sn**	**22 09 24.8**	**+0.2**
PLIG	**Platanillo**	**1.93**	**59**	*e*P			**Pn**	**22 09 08.2**	**+0.2**
PLIG				*e*S			**Sn**	**22 09 31.5**	**-0.4**
PLIG	**Platanillo**	**1.93**	**59**	*e*P			**Pn**	**22 09 08.2**	**+0.2**
PLIG				*e*S			**Sn**	**22 09 31.5**	**-0.4**
TLIG	**Tlapa**	**2.55**	**86**	*e*P			**Pn**	**22 09 17.1**	**+0.5**
TLIG				*e*S			**Sn**	**22 09 47.0**	**-0.4**
CMIG	**Matias Romero**	**6.07**	**92**	P			**Pb**	**22 10 25.7**	**+4.5**
	0.3nm,0.3s,baz=276,slow=11,SNR=4.0								
CMIG				S			**Sb**	**22 11 31.4**	**-2.4**
	0.5nm,0.3s,baz=24,slow=20,SNR=4.6								
TXAR	**Lajitas Array**	**12.10**	**350**	P			P	22 11 36.7	-3.6
	0.0nm,0.3s,baz=176,slow=15,SNR=2.9								
NVAR	**Mina Array Bea**	**25.74**	**328**	P			**P**	**22 14 07.0**	**+1.2**
	1.5nm,0.8s,baz=155,slow=11,SNR=6.0								
PDAR	**Pinedale Array**	**26.27**	**346**	P			**P**	**22 14 11.4**	**+0.9**
	0.4nm,0.8s,baz=150,slow=7.3,SNR=4.6								
SDV	**Santo Domingo**	**30.94**	**102**	LR			LR	22 28 11.8	
	comp=Z,52nm,18.5s,baz=284,slow=37								
ILAR	**Eielson Array**	**56.33**	**338**	P			**P**	**22 18 15.3**	**-0.3**
	0.4nm,0.9s,baz=132,slow=6.1,SNR=4.2								

IDC 08 22:08:39.5±2.1,16.04S×173.26W,h0km,mb3.9/6, mb1 4.2/6,mb1mx3.8/52,mbtmp3.9/6,MS3.7/9,Ms1 3.8/9, ms1mx3.5/35,2C-3D,Error ellipse: s-maj=150.1km s-min=22.4km az=154.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.56**	**34**	Pn			Pn	22 09 13.3	-9.0
	38nm,0.3s,baz=198,slow=3.6,SNR=20								
AFI				Sn			Sn	22 09 35.6	-19
	92nm,0.3s,baz=48,slow=23,SNR=14								
AFI				LR			LR	22 09 44.6	
	comp=Z,244nm,18.9s,baz=260,slow=26								
RAO	**Raoul Island**	**13.83**	**197**	LR			LR	22 16 43.5	
	comp=Z,286nm,18.9s,baz=1.5,slow=35								
PPT	**Papeete**	**22.72**	**97**	LR			LR	22 21 33.8	
	comp=Z,187nm,18.4s,baz=256,slow=34								
RPZ	**Rata Peaks**	**30.64**	**203**	LR			LR	22 25 37.2	
	comp=Z,219nm,18.9s,baz=26,slow=33								
CTA	**Charters Tower**	**38.64**	**258**	LR			LR	22 29 03.7	
	comp=Z,339nm,21.4s,baz=9.0,slow=32								
PMG	**Port Moresby**	**39.12**	**275**	LR			LR	22 29 45.1	
	comp=Z,265nm,18.5s,baz=48,slow=32								
H11S2	**WAKE ISLAND Hy**	**39.58**	**329**	T			T	22 56 53.8	
	baz=149,slow=76,SNR=9.7								
H11S3	**WAKE ISLAND Hy**	**39.59**	**329**	T			T	22 56 56.0	
	baz=149,slow=76,SNR=9.2								
H11S1	**WAKE ISLAND Hy**	**39.59**	**329**	T			T	22 56 57.5	
	baz=149,slow=76,SNR=9.8								
H11N3	**WAKE ISLAND Hy**	**40.53**	**331**	T			T	22 58 17.1	
	baz=150,slow=76,SNR=5.1								
H11N1	**WAKE ISLAND Hy**	**40.53**	**331**	T			T	22 58 16.1	
	baz=150,slow=76,SNR=12								
H11N2	**WAKE ISLAND Hy**	**40.55**	**331**	T			T	22 58 17.8	
	baz=150,slow=76,SNR=5.5								
WRA	**Warramunga Arr**	**49.83**	**257**	P			P	22 17 34.0	-0.8
	0.5nm,0.6s,baz=91,slow=6.9,SNR=11								
ASAR	**Alice Springs**	**50.05**	**252**	P			P	22 17 36.4	0.0
	2.6nm,0.6s,baz=86,slow=8.0,SNR=27								
VNDA	**Vanda**	**62.76**	**186**	LR			LR	22 41 49.3	
	comp=Z,48nm,21.8s,baz=338,slow=32								
NVAR	**Mina Array Bea**	**74.71**	**42**	P			P	22 20 21.3	-0.3
	0.6nm,0.6s,baz=233,slow=8.7,SNR=3.9								
TXAR	**Lajitas Array**	**80.85**	**56**	P			P	22 20 57.3	+1.5
	0.8nm,0.8s,baz=226,slow=3.6,SNR=4.7								
ANMO	**Albuquerque**	**81.11**	**50**	P			P	22 20 56.0	-1.2
	0.4nm,0.4s,baz=105,slow=2.8,SNR=3.5								
PDAR	**Pinedale Array**	**82.65**	**42**	P			P	22 21 04.2	-0.9
	0.3nm,0.3s,baz=253,slow=9.1,SNR=2.8								
CMAR	**Chiang Mai Arr**	**92.94**	**288**	LR			LR	22 57 24.9	
	comp=Z,36nm,22.0s,baz=85,slow=32								
SONM	**Songino Array**	**95.41**	**318**	LR			LR	23 04 08.6	
	comp=Z,33nm,18.4s,baz=110,slow=35								
BVAR	**Borovoye Array**	**118.47**	**322**	PKP			PKPdf	22 27 29.2	+0.2
	0.8nm,0.7s,baz=71,slow=9.7,SNR=3.9								
MLR	**Muntele Rosu**	**146.50**	**335**	PKPbc			PKPbc	22 28 23.3	+0.3
	0.6nm,0.9s,baz=38,slow=18,SNR=5.1								
MLR	**Muntele Rosu**	**146.50**	**335**	↓*i* P			PKPbc	22 28 22.4	-0.6
KHC	**Kasperske Hory**	**146.53**	**352**	*e*P			PKPbc	22 28 22.8	-0.1
KHC				*ex*			x	22 28 31.7	
DRGR		**146.58**	**340**	↓*i* P			PKPdf	22 28 21.1	-0.6
BRTR	**Keskin Array B**	**146.73**	**321**	PKPbc			PKPbc	22 28 24.2	+0.3
	1.7nm,0.8s,baz=116,slow=2.0,SNR=9.0								
GERES	**GERESS Array B**	**146.79**	**352**	PKPbc			PKPdf	22 28 21.8	-0.2
	0.8nm,0.8s,baz=29,slow=3.0,SNR=5.6								
VOIR		**146.90**	**336**	↑*i* P			PKPab	22 28 25.0	-0.4
ARR	**Arges**	**147.12**	**336**	↓*i* P			PKPbc	22 28 25.4	+0.7
CONA	**Conrad Observa**	**147.32**	**349**	*i* PKPab			PKPbc	22 28 25.8	+0.6
MOA	**Molln**	**147.68**	**351**	*i* PKPab			PKPab	22 28 27.9	-0.4
MDVR	**Moldovita**	**148.68**	**339**	↑*i* P			PKPdf	22 28 24.8	-0.4

*NIED **08** 22:11:00,39.00N×142.50E,h32km,Mw4.9 Best double couple: M0 2.72000×10 16 NP1:φs 354.00000°,δ19.00000°, λ-101.00000°. NP2:φs 186.00000°,δ71.00000°, λ-86.00000°.*
*JMA **08** 22:11:14.0±0.1,39.04N×142.44E,h34km±1km,M5.0 Broadband fault plane solution: P waves. NP1: φs 171.00000°,δ63.00000°,λ-76.00000°. NP2: φs 323.00000°,δ30.00000°,λ-115.00000°. Principal axes: T Plg17.0000°, Azm251.0000°; N Plg12.0000°, Azm345.0000°; P Plg69.0000°, Azm109.0000°;*
JMA Felt IV J1.
*BJI **08** 22:11:14.0,38.92N×142.38E,h44km,mb4.9/79,mB5.0/51, Ms4.7/79,Ms7 4.6/70*
*ISCJB **08** 22:11:15.0±0.3,39.03N±0.02×142.36E±0.02,h40km±2km, mb4.9/156,MS4.6/45,Error ellipse: s-maj=3.7km s-min=2.7km az=145.7*
*MOS **08** 22:11:15.1±1.0,39.19N×142.30E,h33km,mb5.1/71, MS4.5/29,Error ellipse: s-maj=6.4km s-min=4.2km az=104.0*
*IDC **08** 22:11:18.0±1.8,39.04N×142.38E,h55km±15km,mb4.2/42, mb1 4.4/48,mb1mx4.3/64,mbtmp4.5/48,ML4.0/6,MS4.4/30, Ms1 4.4/30,ms1mx4.2/52,Error ellipse: s-maj=12.4km s-min=8.9km az=115.0*
*GCMT **08** 22:11:17.4±0.4,39.20N×142.36E,h32km±1km,MW5.0/74, Moment Tensor Solution. s32,c37; s74,c109; Duration: 0 Moment tensor: Scale 10 16Nm; Mrr-2.37±.20; Mθθ-0.13±.12; Mφφ2.50±.13; Mrθ0.03±.15; Mφθ0.07±.08; Mφr3.07±.21; Best double couple: Mo3.91900×10 16 NP1:φs 181.00000°,δ71.00000°,λ-91.00000°. NP2: φs 2.00000°,δ19.00000°,λ-89.00000°. Principal axes: T 3.9850, Plg26.0000°, Azm271.0000°; N -0.1270, Plg0.0000°, Azm181.0000°; P -3.8530, Plg64.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 22:11:17.4±0.4,39.03N×142.32E,h47km±3km,mb5.1/92 Error ellipse: s-maj=4.3km s-min=2.9km az=139.0*
NEIC Recorded [4 JMA] in Iwate and Miyagi.

ISC 08 22:11:15.2±0.3,38.99N±0.03×142.45E±0.03,h35km±1km, h35km:pP-P,n546,σ1 71/635,mb4.9/162,MS4.6/45, 40C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.61**	**279**	↑P			**Pn**	**22 11 26.0**	**-1.4**
OFUJ				S			**Sn**	**22 11 34.4**	**-1.7**
MIYJ	**Miyakonagasawa**	**0.76**	**320**	↓P			**Pn**	**22 11 27.6**	**-1.9**
MIYJ				S			**Sn**	**22 11 37.0**	**-2.8**
JMK	**Ichinoseki**	**0.96**	**268**	↑P			**Pn**	**22 11 31.2**	**-1.0**
JMK				*e*S			**Sn**	**22 11 43.7**	**-0.9**
JIO	**Ouri**	**1.01**	**238**	↑P			**Pn**	**22 11 31.9**	**-1.1**
JIO				S			**Sn**	**22 11 45.1**	**-0.9**
JOM	**Ohasama**	**1.02**	**299**	↑P			**Pn**	**22 11 31.9**	**-1.2**
JOM				S			**Sn**	**22 11 44.9**	**-1.3**
JTH	**Tanohata**	**1.05**	**335**	↑P			**Pn**	**22 11 31.8**	**-1.7**
JKZ	**Kuzumaki**	**1.32**	**319**	↑P			**Pn**	**22 11 36.3**	**-0.9**
JKZ				S			**Sn**	**22 11 52.2**	**-1.4**
JRG	**Rokugo**	**1.47**	**287**	↑P			**Pn**	**22 11 38.9**	**-0.3**
JRG				S			**Sn**	**22 11 58.3**	**+1.1**
JOU	**Okura**	**1.53**	**246**	↑P			**Pn**	**22 11 39.9**	**-0.2**
JOU				S			**Sn**	**22 12 00.0**	**+1.2**
JANG	**Nango**	**1.56**	**333**	↑P			**Pn**	**22 11 39.4**	**-1.1**
JANG				S			**Sn**	**22 11 58.7**	**-0.8**
JYK	**Kaneyama**	**1.63**	**268**	↑P			**Pn**	**22 11 41.2**	**-0.3**
JAH	**Hinai**	**1.84**	**311**	↑P			**Pn**	**22 11 44.1**	**-0.3**
JTM	**Tenmabayashi**	**2.08**	**330**	↑P			**Pn**	**22 11 47.3**	**-0.4**
JSI2	**Shiura 2**	**2.59**	**323**	↑P			**Pn**	**22 11 55.5**	**+0.8**
JOT	**Ohata**	**2.62**	**336**	↑P			**Pn**	**22 11 55.1**	**+0.1**
ERM	**Erimo**	**3.07**	**10**	*c* *i* P			**Pn**	**22 12 00.7**	**-0.5**
ERM				pmax	pmax				
	comp=Z,121nm,1.0s								
ERM	**Erimo**	**3.07**	**10**	*e*Pn			**Pn**	**22 12 01.1**	**-0.1**
ERM				*e*Sn			**Sn**	**22 12 34.2**	**-2.5**
JIZZ	**Izumozaki**	**3.28**	**245**	P			**Pn**	**22 12 06.1**	**+1.9**
JSD	**Sado**	**3.42**	**255**	↑P			**Pn**	**22 12 06.4**	**+0.3**
JAG	**Ashikaga**	**3.49**	**224**	P			**Pn**	**22 12 08.3**	**+1.2**
JJN	**Nakama**	**3.87**	**242**	↑P			**Pn**	**22 12 14.3**	**+2.0**
MJAR	**Matsushiro Arr**	**4.15**	**235**	P			**Pn**	**22 12 18.5**	**+2.3**
	comp=Z,19nm,0.3s,baz=40,slow=11,SNR=248								
MJAR				S			**Sn**	**22 13 07.9**	**+4.3**
	comp=Z,6.0nm,0.3s,baz=190,slow=20,SNR=4.6								
MJAR				LR	LR			22 14 07.6	
	comp=Z,9μm,18.6s,baz=40,slow=41								
MAJO	**Matsushiro**	**4.16**	**235**	*c* *i* P			**Pn**	**22 12 17.9**	**+1.7**
MAJO	**Matsushiro**	**4.16**	**235**

KS15 Wonju Array Si 11.56 267 ePn Pn 22 13 57.8 0.0
KSAR Wonju Array Be 11.56 267 P Pn 22 14 00.1 +2.3
KSAR Wonju Array Be 11.56 267 P Pn 22 14 00.1 +2.3
CBIJ Chichi jima 11.86 181 ePn Pn 22 13 58.1 -3.8
CBIJ eSn Sn 22 16 05.1 -8.0
JCJ Chichijima 11.86 181 P Pn 22 13 59.6 -2.3
comp=Z,4.7nm,0.3s,baz=66,slow=23,SNR=3.0
JCJ S Sn 22 16 05.1 -8.0
comp=Z,5.5nm,0.3s,baz=281,slow=22,SNR=2.6
TYV Tymovskoe 11.87 1 eP Pn 22 14 00.5 -1.4
TYV pmax pmax
comp=Z,15nm,0.8s
TJN Taejon 12.23 262 i P Pn 22 14 07.4 +0.5
KLR Kul'dur 12.79 327 P Pn 22 14 14.7 +0.3
comp=Z,0.3nm,0.3s,baz=134,slow=11,SNR=25
KLR LR LR 22 19 09.1
comp=Z,2µm,19.1s,baz=139,slow=37
CN2 Changchun 13.63 296 eP Pn 22 14 25.3 -0.7
CN2 PMZ
comp=Z,10.0nm,1.0s
CN2 PMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,1µm,18.0s
CN2 LE
comp=Z,1µm,18.0s
CN2 LZ
comp=Z,1µm,19.0s
NKL Nikolayevsk 14.21 356 eP Pn 22 14 37.0 +3.1
NKL pmax pmax
comp=Z,55nm,1.1s
NKL MLR MLR
comp=N,700nm,16.0s
NKL MLR MLR
comp=E,900nm,16.0s
NKL MLR MLR
comp=Z,1µm,16.0s
SNY Shenyang 14.65 287 ⇓P P 22 14 42.8 -2.9
SNY PMZ
comp=Z,120nm,1.1s
SNY PMZ
comp=Z,220nm,11.8s
SNY LN
comp=Z,1µm,17.2s
SNY LE
comp=Z,2µm,16.7s
SNY LZ
comp=Z,3µm,20.6s
SKR Severo-Kuril's 15.16 35 i P Pn 22 14 45.8 -0.8
DL2 Dalian 16.20 276 P Pn 22 15 00.4 +0.3
DL2 S Sn 22 18 00.8 +2.2
DL2 PMZ
comp=Z,99nm,1.5s
DL2 PMZ
comp=Z,360nm,4.4s
DL2 LN
comp=Z,700nm,13.4s
DL2 LE
comp=Z,1µm,14.2s
DL2 LZ
comp=Z,2µm,20.6s
PEA0 Petropavlovsk- 17.59 32 ePn Pn 22 15 13.9 -3.6
PEA0B Petropavlovsk- 17.59 32 ePn Pn 22 15 13.3 -4.2
comp=Z,51nm,1.2s
PEA0B esP sP 22 15 32.4 +0.7
PETK Petropavlovsk- 17.59 32 P Pn 22 15 12.9 -4.5
comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=6.4
PEA1 Petropavlovsk- 17.59 32 ePn Pn 22 15 12.9 -4.6
PET Petropavlovsk 17.93 33 eP P 22 15 23.0 +1.1
PET pmax pmax
comp=Z,47nm,1.1s
PET Petropavlovsk 17.93 33 ePn P 22 15 23.0 +1.1
comp=Z,47nm,1.1s
SSE Sheshan 19.08 252 P Pn 22 15 35.1 -0.6
SSE S Sn 22 19 07.1 -1.3
SSE PMZ
comp=Z,100nm,1.0s
SSE PMZ
comp=Z,100nm,8.3s
SSE LN
comp=Z,990nm,16.6s
SSE LE
comp=Z,830nm,16.6s
SSE LZ
comp=Z,1µm,18.5s
HIA Hailar 19.20 310 eP P 22 15 33.6 -2.4
HIA pmax pmax
comp=Z,38nm,1.2s
HIA Hailar 19.20 310 eP P 22 15 33.6 -2.4
comp=Z,38nm,1.2s
TIA Tai'an 20.24 270 ⇑P P 22 15 46.2 -1.2
TIA S S 22 19 28.6 -3.9
TIA PMZ
comp=Z,60nm,1.3s
TIA PMZ
comp=Z,370nm,3.6s
TIA LN
comp=Z,400nm,13.0s
TIA LE
comp=Z,2µm,15.0s
TIA LZ
comp=Z,2µm,12.0s
BJI Beijing 20.28 281 P P 22 15 45.2 -2.5
BJI sP sP 22 16 00.7 -0.6
BJI S S 22 19 26.9 -6.3
BJI sS sS 22 19 42.8 -4.9
BJI PMZ
comp=Z,38nm,1.6s
BJI LN
comp=Z,410nm,14.6s
BJI LE
comp=Z,2µm,14.0s
BJI LZ
comp=Z,910nm,22.4s
BJT Baijiatuau 20.29 281 eP P 22 15 46.0 -1.9
BJT pmax pmax
comp=Z,71nm,1.3s
BJT Baijiatuau 20.29 281 eP P 22 15 46.0 -1.9
comp=Z,71nm,1.3s
NJ2 Nanjing 20.38 257 eP P 22 15 49.3 +0.3
NJ2 sP sP 22 16 01.6 -0.9
NJ2 PMZ
comp=Z,27nm,0.9s
NJ2 LN
comp=Z,1µm,19.5s
NJ2 LE
comp=Z,1µm,19.0s
NJ2 LZ
comp=Z,2µm,19.0s
CLNS Chul'man 21.27 333 eP P 22 15 57.3 -1.1
CLNS i *PP pP 22 16 06.0 -1.6
CLNS e 22 16 17.9
CLNS eS S 22 19 53.1 +0.4
CLNS e 22 19 59.1
CLNS eSS SnSn 22 20 26.7 +11
CLNS pmax pmax
comp=Z,34nm,1.2s
CLNS pmax pmax
comp=E,16nm,1.2s
CLNS pmax pmax
comp=N,43nm,1.5s
CLNS pmax pmax
comp=N,21nm,1.1s
CLNS pmax pmax
comp=Z,15nm,1.0s
CLNS pmax pmax
comp=E,23nm,1.0s
CLNS smax smax
comp=N,131nm,10.0s
CLNS smax smax
comp=E,374nm,10.4s
CLNS MLR MLR
comp=N,470nm,15.0s
CLNS MLR MLR
comp=E,364nm,17.0s
CLNS MLR MLR
comp=Z,793nm,17.0s
MA2 Magadan 21.27 12 P P 22 15 58.7 +0.4
comp=Z,43nm,0.7s,baz=219,slow=9.1,SNR=47
MA2 LR LR 22 24 53.4
comp=Z,568nm,19.6s,baz=212,slow=38
YOJ Yonaguni jima 21.91 234 eP P 22 16 04.3 -1.2
YOJ pmax pmax
comp=Z,54nm,0.9s
YOJ Yonaguni jima 21.91 234 eP P 22 16 04.3 -1.2
comp=Z,54nm,0.9s

YHNB Yeheng 22.82 237 eP P 22 16 13.7 -1.6
comp=Z,69nm,1.6s
NACB Ninganchiao 23.03 236 eP P 22 16 14.2 -3.0
comp=Z,19nm,0.8s
HHC Hu-ho-hao-te 23.70 284 eP P 22 16 22.8 -1.1
HHC sP sP 22 16 42.0 +4.1
HHC PP PnPn 22 16 52.5 +0.5
HHC S S 22 20 31.5 -5.2
HHC sS sS 22 20 47.9 -5.1
HHC PMZ
comp=Z,14nm,0.9s
HHC PMZ
comp=Z,100nm,5.4s
HHC LN
comp=Z,810nm,15.1s
HHC LE
comp=Z,2µm,15.9s
HHC LZ
comp=Z,2µm,14.3s
SSLB Suanglung 23.71 237 eP P 22 16 20.7 -3.4
comp=Z,13nm,0.7s
YULB Yu-li 23.77 235 eP P 22 16 21.7 -2.9
comp=Z,14nm,0.7s
CIT Chita 23.90 313 eP P 22 16 25.2 -0.4
CIT e 22 16 38.3
CIT e 22 16 51.3
CIT pmax pmax
comp=Z,243nm,1.2s
TPUB Ta-pu 24.27 236 eP P 22 16 29.9 +0.7
comp=Z,22nm,0.8s
TWG Pinlang 24.32 235 eP P 22 16 28.0 -1.7
YAK Yakutsk 24.36 345 P P 22 16 28.6 -1.0
comp=Z,3.4nm,0.3s,baz=322,slow=19,SNR=14
YAK S S 22 20 43.9 -2.6
comp=Z,2.4nm,0.4s,baz=90,slow=20,SNR=13
YAK LR LR 22 27 59.7
comp=Z,394nm,18.3s,baz=140,slow=41
YAK Yakutsk 24.36 345 eP P 22 16 28.7 -1.0
YAK e 22 16 57.0
YAK e 22 20 08.6
YAK eS S 22 20 42.9 -3.7
YAK e 22 27 31.7
YAK pmax pmax
comp=Z,109nm,0.9s
YAK pmax pmax
comp=N,57nm,1.1s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,44nm,1.0s
YAK pmax pmax
comp=E,17nm,0.9s
YAK pmax pmax
comp=N,23nm,1.0s
YAK smax smax
comp=E,248nm,2.0s
YAK smax smax
comp=N,398nm,1.9s
YAK MLR MLR
comp=Z,803nm,17.0s
YAK MLR MLR
comp=N,674nm,16.0s
YAK Yakutsk 24.36 345 eP P 22 16 28.6 -1.0
comp=N,98nm,0.8s
YAK eS S 22 20 43.9 -2.6
WHN Wuhan 24.50 258 ⇑P P 22 16 31.0 -0.2
WHN pP pP 22 16 39.8 -1.3
WHN S S 22 20 49.6 +0.2
WHN PMZ
comp=N,250nm,1.6s
WHN LN
comp=N,1µm,12.5s
WHN LE
comp=N,3µm,14.7s
WHN LZ
comp=N,4µm,15.8s
QZH Quanzhou 24.52 242 ⇑iP P 22 16 23.7 -7.7
QZH S S 22 20 43.2 -6.5
QZH LR LR
comp=N,2µm,14.4s
QZH LR LR
comp=E,2µm,17.1s
QZH LR LR
comp=Z,3µm,14.8s
SEY Seymchan 24.72 11 P P 22 16 33.8 +0.9
comp=Z,16nm,0.7s,baz=194,slow=12,SNR=61
BOD Bodaibo 26.36 325 eP P 22 16 47.2 -0.6
BOD pmax pmax
comp=Z,26nm,1.2s
ULN Ulaanbaatar 27.00 301 i P P 22 16 52.5 -1.4
ULN pmax pmax
comp=Z,34nm,2.5s
ULN Ulaanbaatar 27.00 301 eP P 22 16 52.7 -1.2
comp=Z,24nm,1.4s
XAN Xi'an 27.30 270 P P 22 16 56.1 -0.5
XAN pP pP 22 17 05.6 -0.9
XAN PMZ
comp=Z,26nm,0.5s
XAN LN
comp=Z,820nm,17.9s
XAN LE
comp=Z,760nm,20.7s
XAN LZ
comp=Z,820nm,13.8s
SONA1 Songino Array 27.43 301 eP P 22 16 57.3 -0.5
SONA0 Songino Array 27.43 301 eP P 22 16 57.4 -0.4
comp=Z,55nm,2.0s
SONM Songino Array 27.43 301 P P 22 16 57.4 -0.4
comp=Z,4.1nm,0.6s,baz=93,slow=8.5,SNR=19
SONM LR LR 22 28 21.0
comp=Z,1µm,18.6s,baz=98,slow=37
ENH Enshi 28.36 262 eP P 22 17 05.7 -0.4
comp=Z,41nm,0.8s
H11N2 WAKE ISLAND Hy 28.53 125 T T 22 47 43.7
baz=318,slow=75,SNR=5857
H11N1 WAKE ISLAND Hy 28.54 125 T T 22 47 41.7
baz=318,slow=75,SNR=4160
H11N3 WAKE ISLAND Hy 28.55 125 T T 22 47 50.7
baz=318,slow=75,SNR=4051
H11S1 WAKE ISLAND Hy 29.31 127 T T 22 48 33.5
baz=319,slow=76,SNR=874
H11S3 WAKE ISLAND Hy 29.31 127 T T 22 48 34.8
baz=319,slow=76,SNR=801
H11S2 WAKE ISLAND Hy 29.33 127 T T 22 48 35.9
baz=319,slow=76,SNR=740
IRK Irkutsk 29.44 309 eP P 22 17 14.2 -1.3
IRK pmax pmax
comp=Z,12nm,1.6s
TLY Talaya 29.72 308 P P 22 17 17.9 0.0
comp=Z,15nm,0.9s,baz=113,slow=10.0,SNR=13
TLY LR LR 22 29 45.6
comp=Z,1µm,19.3s,baz=98,slow=37
TLY Talaya 29.72 308 i P P 22 17 17.9 0.0
TLY pmax pmax
comp=Z,31nm,1.3s
TLY Talaya 29.72 308 eP P 22 17 18.4 +0.4
ZAK Zakamensk 29.75 305 eP P 22 17 17.4 -0.9
ZAK pmax pmax
comp=Z,24nm,1.3s
LZH Lanzhou 30.60 277 eP P 22 17 26.5 +0.5
LZH pP pP 22 17 37.5 +1.5
LZH sP sP 22 17 43.8 +3.6
LZH PP PnPn 22 18 27.0 +1.1
LZH eS S 22 22 26.5 +0.6
LZH sS sS 22 22 38.7 -3.6
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,88nm,4.7s
LZH LN
comp=Z,690nm,13.6s
LZH LE
comp=Z,1µm,13.7s
LZH LZ
comp=Z,1µm,14.2s
BILL Bilibino 31.92 17 ⇑iP P 22 17 37.8 +0.7
BILL i 22 17 47.7
BILL e 22 18 43.4
BILL eS S 22 22 51.3 +5.7
BILL pmax pmax
comp=Z,20nm,1.4s
BILL MLR MLR
comp=Z,369nm,20.0s
BILL Bilibino 31.92 17 eP P 22 17 37.5 +0.4
comp=Z,20nm,1.5s
GYA Guiyang 32.39 258 ⇑iP P 22 17 41.1 -0.7

GYA pP sP 22 17 54.2 -1.8
GYA PP PnPn 22 18 52.0 +2.8
GYA PcP PcP 22 20 30.4 +1.5
GYA S S 22 22 52.8 -1.2
GYA sS sS 22 23 12.0 +1.6
GYA ScP ScP 22 24 11.9 +2.0
GYA SS SnSn 22 24 49.2 +1.2
GYA PMZ
comp=Z,40nm,0.8s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,540nm,17.0s
GYA LE
comp=Z,510nm,17.2s
GYA LZ
comp=Z,550nm,17.4s
CD2 Chengdu 32.53 268 ⇑P P 22 17 42.8 -0.1
CD2 pP pP 22 17 53.8 +0.9
CD2 sP sP 22 17 58.8 +1.7
CD2 PcP PcP 22 20 29.4 +0.3
CD2 S S 22 22 55.1 -0.8
CD2 sS sS 22 23 14.0 +1.6
CD2 PMZ
comp=Z,30nm,0.7s
CD2 PMZ
comp=Z,220nm,5.2s
CD2 LN
comp=Z,840nm,14.1s
CD2 LE
comp=Z,880nm,17.8s
CD2 LZ
comp=Z,2µm,13.7s
GTA Gaotai 32.82 284 eP P 22 17 45.9 +0.4
GTA pP pP 22 17 56.7 +1.2
GTA sP sP 22 18 00.4 +0.7
GTA PcP PcP 22 20 31.7 +1.8
GTA S S 22 22 59.6 -0.8
GTA sS sS 22 23 14.5 -2.4
GTA SS SnSn 22 25 01.4 +3.3
GTA PMZ
comp=Z,18nm,1.1s
GTA PMZ
comp=Z,76nm,5.0s
GTA LN
comp=Z,640nm,17.6s
GTA LE
comp=Z,2µm,19.0s
GTA LZ
comp=Z,2µm,18.5s
TIXI Tiksi 33.46 352 P P 22 17 49.1 -1.4
comp=Z,1.3nm,0.4s,baz=144,slow=7.9,SNR=5.6
TIXI Tiksi 33.46 352 i P P 22 17 49.9 -0.6
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 33.46 352 eP P 22 17 49.7 -0.8
QIZ Qiongzhong 34.50 244 P P 22 18 00.4 +0.3
QIZ PP PP 22 19 20.5 +1.9
QIZ S S 22 23 30.7 +4.2
QIZ sS sS 22 23 44.6 +1.6
QIZ LN
comp=Z,660nm,16.8s
QIZ LE
comp=Z,770nm,16.1s
QIZ LZ
comp=Z,1µm,16.0s
DAV Davao City (W) 35.23 210 LR LR 22 34 08.4
comp=Z,252nm,18.2s,baz=31,slow=39
SPIA Saint Paul Isl 35.58 43 eP P 22 18 09.7 +0.8
comp=Z,168nm,1.6s
NIKH Nikolski High 35.89 51 eP P 22 18 10.9 -0.8
comp=Z,262nm,1.6s
KMI Kunming 36.09 259 P P 22 18 14.2 +0.1
KMI pP pP 22 18 25.6 +1.5
KMI sP sP 22 18 31.5 +3.2
KMI PP PP 22 19 36.6 +0.2
KMI S S 22 23 50.2 -1.2
KMI PMZ
comp=Z,59nm,1.0s
KMI PMZ
comp=Z,120nm,3.1s
KMI LN
comp=Z,640nm,19.5s
KMI LE
comp=Z,1µm,17.3s
KMI LZ
comp=Z,1µm,17.3s
WMQ Urumqi 40.72 295 P P 22 18 53.9 +1.3
WMQ pP pP 22 19 03.6 +0.9
WMQ sP sP 22 19 10.9 +4.0
WMQ S S 22 25 00.1 -0.5
WMQ ScS ScS 22 28 53.6 -1.5
WMQ PMZ
comp=Z,53nm,0.6s
WMQ PMZ
comp=Z,110nm,3.6s
WMQ LN
comp=Z,270nm,17.4s
WMQ LE
comp=Z,250nm,17.4s
WMQ LZ
comp=Z,180nm,25.6s
ZAA0 Zalesovo Array 41.23 311 eP P 22 18 56.6 +0.1
ZAA1 Zalesovo Array 41.23 311 eP P 22 18 56.5 -0.1
ZALV Zalesovo Beam 41.23 311 P P 22 18 56.5 -0.1
comp=Z,10nm,0.5s,baz=90,slow=7.8,SNR=52
ZALV LR LR 22 36 39.8
comp=Z,1µm,19.2s,baz=70,slow=37
NRIK Noril'sk 41.85 334 P P 22 19 01.2 -0.2
comp=Z,4.2nm,0.6s,baz=116,slow=6.2,SNR=5.9
NRIK LR LR 22 37 12.7
comp=Z,1µm,20.3s,baz=106,slow=37
NVS Novosibirsk 42.11 312 eP P 22 19 03.7 0.0
NVS eS S 22 25 20.6 -0.1
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,26nm,1.2s
NVS pmax pmax
comp=Z,24nm,1.2s
NVS smax smax
comp=N,7.0nm,1.5s
NVS smax smax
comp=E,12nm,1.5s
CHTO Chiang Mai 42.58 255 eP P 22 19 08.6 +0.6
CHTO pmax pmax
comp=Z,45nm,1.5s
CHTO Chiang Mai 42.58 255 eP P 22 19 08.6 +0.6
comp=Z,45nm,1.5s
FAKI Fak Fak 42.75 195 eP P 22 19 10.5 +1.2
comp=Z,44nm,1.3s
CM31 Chiang Mai Arr 42.80 254 eP P 22 19 10.2 +0.5
CMAR Chiang Mai Arr 42.80 254 P P 22 19 10.2 +0.5
comp=Z,3.4nm,0.6s,baz=48,slow=6.5,SNR=23
CMAR LR LR 22 36 43.7
comp=Z,187nm,18.8s,baz=74,slow=36
CM01 Chiang Mai Arr 42.81 254 eP P 22 19 10.3 +0.5
LSA Lhasa 42.87 274 P P 22 19 11.7 +0.9
LSA PMZ
comp=Z,6.0nm,0.9s
LSA Lhasa 42.87 274 eP P 22 19 12.2 +1.4
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 42.87 274 eP P 22 19 12.2 +1.4
comp=Z,11nm,0.8s
TT01 Tatalina 43.35 36 eP P 22 19 15.5 +1.9
TT01 epP pP 22 19 25.5 +1.7
TTA Tatalina 43.35 36 eP P 22 19 16.0 +2.2
TTA pmax pmax
comp=Z,24nm,1.6s
TTA Tatalina 43.35 36 eP P 22 19 16.0 +2.2
comp=Z,24nm,1.6s
SVW2 Sparrevohn 43.48 39 eP P 22 19 17.1 +2.4
comp=Z,23nm,1.4s
MK01 Makanchi Array 43.80 301 eP P 22 19 16.9 -0.6
MK32 Makanchi Array 43.80 301 eP P 22 19 17.8 +0.2
MKAR Makanchi Array 43.80 301 P P 22 19 17.8 +0.2
comp=Z,17nm,0.7s,baz=84,slow=9.8,SNR=166
MKAR LR LR 22 38 08.8
comp=Z,714nm,21.3s,baz=71,slow=37
MKAR Makanchi Array 43.80 301 eP P 22 19 18.0 +0.4
MAKZ Makanchi 44.01 301 eP P 22 19 19.1 -0.1
MAKZ pmax pmax
comp=Z,37nm,1.0s
MAKZ Makanchi 44.01 301 eP P 22 19 19.1 -0.1

comp=Z,37nm,1.0s
PPLA Purkeypile 45.10 36 *e*P **P 22 19 30.5 +2.6**
comp=Z,53nm,1.3s
KDAK Kodiak Island 45.11 43 *i* P **P 22 19 28.6 +0.8**
KDAK Kodiak Island 45.11 43 *e*P **P 22 19 28.5 +0.8**
comp=Z,151nm,1.9s
SPU Mount Spurr 45.19 38 *e*P **P 22 19 28.5 0.0**
SPU *e*pP **pP 22 19 40.0 +1.2**
KURK Kurchatov 45.39 307 P **P 22 19 30.3 +0.1**
KURK S **S 22 26 07.7 -1.1**
KURK pmax pmax
comp=Z,37nm,0.6s
KURK Kurchatov 45.39 307 *e*P **P 22 19 30.3 +0.1**
KURK *e*S **S 22 26 07.7 -1.1**
KURBB Kurchatov Arra 45.47 307 P **P 22 19 30.3 -0.5**
comp=Z,37nm,0.6s,baz=81,slow=8.4,SNR=195
KURBB S **S 22 26 07.7 -2.1**
comp=Z,0.2nm,0.3s,baz=83,slow=16,SNR=5.2
BPAW Bear Paw Mtn. 45.65 34 *e*P **P 22 19 34.0 +2.0**
comp=Z,31nm,1.5s
KTH Kantishna Hill 45.67 35 *e*P **P 22 19 32.5 +0.2**
comp=Z,83nm,1.5s
CNPM China Poot 45.68 41 *e*P **P 22 19 33.0 +0.7**
comp=Z,59nm,1.6s
MLY Manley 45.76 33 *e*P **P 22 19 35.2 +2.2**
comp=Z,50nm,1.7s
SUA Susitna One 45.81 38 *e*P **P 22 19 35.0 +1.5**
comp=Z,16nm,0.9s
TRF Thorofare Moun 45.96 35 *e*P **P 22 19 35.6 +0.9**
comp=Z,29nm,1.4s
COLD Coldfoot 46.05 30 *e*P **P 22 19 37.1 +2.0**
comp=Z,12nm,1.0s
BWN Browne 46.31 34 *e*P **P 22 19 40.1 +2.9**
comp=Z,178nm,1.4s
RC01 Rabbit Creek A 46.32 38 *e*P **P 22 19 38.6 +1.3**
RC01 *e*pP **pP 22 19 49.0 +1.5**
MCK McKinley 46.56 35 *e*P **P 22 19 40.6 +1.4**
MCK *e**PP **pP 22 19 49.4 -0.1**
MCK pmax pmax
comp=Z,19nm,1.2s
MCK McKinley 46.56 35 *e*P **P 22 19 40.6 +1.4**
comp=Z,19nm,1.2s
MCK *e*pP **pP 22 19 49.4 -0.1**
RND Reindeer 46.61 35 *e*P **P 22 19 40.7 +1.0**
RND pmax pmax
comp=Z,75nm,1.6s
RND Reindeer 46.61 35 *e*P **P 22 19 40.7 +1.0**
comp=Z,75nm,1.6s
PDGK Podgornoye 46.61 297 P **P 22 19 39.9 +0.1**
PDGK pmax pmax
comp=Z,17nm,0.9s
MDM Murphy Dome 46.83 33 *e*P **P 22 19 43.4 +2.0**
comp=Z,74nm,1.5s
WRH Wood River Hil 46.90 34 *e*P **P 22 19 43.1 +1.3**
comp=Z,8.5nm,1.0s
SML Sawmill 46.94 37 *e*P **P 22 19 43.7 +1.5**
SML pmax pmax
comp=Z,71nm,1.4s
SML Sawmill 46.94 37 *e*P **P 22 19 43.7 +1.5**
comp=Z,71nm,1.4s
COLA College 46.99 33 *e*P **P 22 19 41.0 -1.5**
COLA pmax pmax
comp=Z,8.0nm,1.1s
CCB Clear Creek Bu 47.02 34 *e*P **P 22 19 44.1 +1.3**
comp=Z,20nm,1.4s
DHY Denali Highway 47.29 36 *e*P **P 22 19 46.3 +1.2**
comp=Z,52nm,1.6s
HDA Harding Lake 47.40 34 *e*P **P 22 19 46.6 +0.8**
comp=Z,29nm,1.2s
IL1 Eielson Array 47.41 33 *e*P **P 22 19 45.0 -0.8**
ILAR Eielson Array 47.41 33 P **P 22 19 46.4 +0.5**
comp=Z,6.0nm,0.6s,baz=262,slow=5.2,SNR=64
ILB Eielson Array 47.41 33 *e*P **P 22 19 46.4 +0.5**
SCM Sheep Creek Mo 47.41 37 *e*P **P 22 19 47.5 +1.6**
SCM pmax pmax
comp=Z,27nm,1.2s
SCM Sheep Creek Mo 47.41 37 *e*P **P 22 19 47.5 +1.6**
comp=Z,27nm,1.2s
KSM Kuching 47.49 226 *e*P **P 22 19 49.0 +2.0**
comp=Z,12nm,1.0s
GUN Gumba 47.80 274 *e*P **P 22 19 50.1 +0.4**
comp=Z,69nm,0.6s
FYU Fort Yukon 48.01 31 *e*P **P 22 19 53.1 +2.7**
comp=Z,121nm,1.6s
KLU Klutina 48.12 38 *e*P **P 22 19 53.3 +1.9**
comp=Z,73nm,1.7s
DIV Divide 48.23 38 *e*P **P 22 19 54.2 +1.9**
comp=Z,77nm,1.4s
KKN Kakani 48.32 275 *e*P **P 22 19 53.9 +0.3**
comp=Z,78nm,0.6s
PKIN Phulchoki 48.33 274 *e*P **P 22 19 54.1 +0.3**
comp=Z,13nm,0.6s
DMN Daman 48.54 275 *e*P **P 22 19 55.6 +0.2**
comp=Z,70nm,1.3s
KAPI Kappang 48.56 211 *e*P **P 22 19 54.3 -0.9**
comp=Z,24nm,1.1s
KAPI *e*pP **pP 22 20 05.3 -0.2**
GKN Gorkha 48.72 275 *e*P **P 22 19 56.8 +0.2**
comp=Z,65nm,0.7s
DOT Dot Lake 48.73 35 *e*P **P 22 19 57.0 +0.9**
comp=Z,66nm,1.5s
BMRM Bremner River 48.81 38 *e*P **P 22 19 57.9 +1.1**
comp=Z,56nm,1.5s
RAGM Ragged Mountai 48.86 39 *e*P **P 22 19 59.6 +2.5**
comp=Z,57nm,1.4s
MENT Mentasta 48.97 36 *e*P **P 22 19 59.6 +1.7**
comp=Z,61nm,1.7s
TKM2 Tokmak 2 49.44 297 *e*P **P 22 20 03.0 +0.9**
TKM2 pmax pmax
comp=Z,40nm,0.8s
TKM2 Tokmak 2 49.44 297 *e*P **P 22 20 03.0 +0.9**
comp=Z,40nm,0.8s
CRQM Cirque 49.55 38 *e*P **P 22 20 01.8 -0.8**
comp=Z,54nm,1.2s
KOLN Koldanda 49.63 276 *e*P **P 22 20 04.1 +0.4**
comp=Z,39nm,0.8s
EGAK Eagle 49.85 33 *e*P **P 22 20 05.2 +0.6**
comp=Z,9.8nm,0.9s
BVAR Borovoye Array 49.88 311 S **S 22 27 11.6 -0.9**
comp=Z,0.6nm,0.6s,baz=65,slow=14,SNR=4.5
BVAR LR LR 22 42 07.2
comp=Z,648nm,18.4s,baz=72,slow=37
BALM Baldy 49.89 38 *e*P **P 22 20 06.3 +1.2**
BALM pmax pmax
comp=Z,25nm,1.3s
BALM Baldy 49.89 38 *e*P **P 22 20 06.3 +1.2**
comp=Z,25nm,1.3s
BRVK Borovoye 49.93 311 *e*P **P 22 20 05.2 -0.2**
BRVK pmax pmax
comp=Z,58nm,1.1s
BRVK Borovoye 49.93 311 *e*P **P 22 20 05.2 -0.2**
comp=Z,58nm,1.1s
PYUN Piuthan 49.95 276 *e*P **P 22 20 06.6 +0.5**
comp=Z,200nm,1.0s
FRU Bishkek 50.15 297‖ *e*P **P 22 20 07.0 -0.2**
FRU *e* 22 20 20.0
FRU pmax pmax
comp=Z,40nm,1.4s
AAK Ala-Archa 50.30 297 LR LR 22 43 08.1
comp=Z,362nm,18.1s,baz=60,slow=38
AAK Ala-Archa 50.30 297 *e*P **P 22 20 07.9 -0.6**
AAK pmax pmax
comp=Z,23nm,1.1s
AAK Ala-Archa 50.30 297 *e*P **P 22 20 08.8 +0.3**
comp=Z,19nm,1.3s
KSH Kashi 50.38 293 P **P 22 20 13.3 +4.2**
KSH pP sP 22 20 27.4 +3.9
KSH PcP **PcP 22 21 32.0 +4.8**
KSH PP **PP 22 22 11.2 +6.6**
KSH S **S 22 27 21.6 +1.7**
KSH ScS **ScS 22 29 55.3 -2.2**
KSH SS **SS 22 30 54.9 +1.3**
KSH PMZ
comp=Z,7.0nm,0.9s
KSH PMZ
comp=Z,97nm,4.7s
KSH LN
comp=Z,330nm,9.9s
KSH LE
comp=Z,170nm,9.0s
KSH LZ
comp=Z,330nm,10.4s
KULM Kulim 50.51 239 *e*P **P 22 20 11.2 +1.0**
comp=Z,22nm,1.3s
ZRNK Zerenda 50.71 311 *e*P **P 22 20 10.8 -0.4**
ZRNK *e*S **S 22 27 24.4 +0.5**
ZRNK pmax pmax
comp=Z,30nm,1.0s
ZRNK Zerenda 50.71 311 *e*P **P 22 20 10.8 -0.4**
comp=Z,30nm,1.0s
ZRNK *e*S **S 22 27 24.4 +0.5**
EKS2 Erkin-Say 50.79 298 *e*P **P 22 20 12.5 +0.4**
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 50.79 298 *e*P **P 22 20 12.5 +0.4**
comp=Z,12nm,0.8s
IPM Ipoh 50.86 238 *e*P **P 22 20 13.3 +0.5**
IPM *e*pP **pP 22 20 23.9 +0.8**
SOEI Soe 51.37 203 *e*sP sP 22 20 35.1 +4.0
MNAS Manas 51.73 298 P **P 22 20 19.7 +0.5**
MNAS pmax pmax
comp=Z,34nm,1.2s
INK Inuvik 52.28 28 P **P 22 20 24.2 +1.5**
comp=Z,4.8nm,0.3s,baz=276,slow=6.1,SNR=14
MTN Manton Dam 52.63 194 *e*P **P 22 20 26.7 +0.8**
MTN *e*pP **pP 22 20 37.3 +1.0**
COEN Coen 52.67 179 *e*P **P 22 20 27.5 +1.3**
comp=Z,25nm,1.3s
THN Thein Dam 53.50 285 *e*P **P 22 20 27.6 -4.6**
SVE Sverdlovsk 54.23 318‖ *e*P **P 22 20 38.0 +0.7**
SVE pmax pmax
comp=Z,49nm,1.1s
SVE MLR MLR
comp=Z,1μm,16.0s
HLK Haleakala 55.18 90 *e*P **P 22 20 45.0 0.0**
comp=Z,225nm,1.2s
SOKR Solikamsk 55.28 322 *c i*P **P 22 20 44.0 -0.7**
SOKR pmax pmax
comp=Z,20nm,1.2s
SOKR MLR MLR
comp=Z,348nm,17.0s
ARU Arti 55.45 318 P **P 22 20 45.7 -0.3**
comp=Z,8.0nm,0.4s,baz=85,slow=5.3,SNR=6.3
ARU S **S 22 28 26.7 -1.6**
comp=Z,0.5nm,0.4s,baz=128,slow=20,SNR=10
ARU Arti 55.45 318 *d i*P **P 22 20 46.0 -0.1**
ARU 22 21 43.6
ARU 22 22 48.7
ARU PPP PPP 22 24 02.9
ARU S **S 22 28 28.9 +0.6**
ARU 22 30 30.8
ARU SS **SS 22 32 10.2 -2.5**
ARU SSS SSS 22 34 19.8
ARU pmax pmax
comp=Z,49nm,1.2s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 55.45 318 *e*P **P 22 20 45.7 -0.3**
comp=Z,35nm,1.0s
ARU *e*S **S 22 28 26.7 -1.6**
GSI Gunungsitoli 55.51 239 *e*P **P 22 20 48.5 +1.5**
comp=Z,82nm,1.6s
DZET Dzherino 55.75 295 P **P 22 20 48.7 0.0**
DZET pmax pmax
comp=Z,16nm,0.8s
DLBC Dease Lake 56.59 39 P **P 22 20 55.1 +0.8**
comp=Z,2.5nm,0.7s,baz=307,slow=5.4,SNR=6.6
DLBC Dease Lake 56.59 39 *e*P **P 22 20 55.1 +0.8**
comp=Z,41nm,1.7s
DLBC *e*pP **sP 22 21 08.1 -0.8**
ABKAR Akbulak array 57.32 309 *e*P **P 22 20 59.5 0.0**
KBL Kabul 57.49 290 *e*P **P 22 21 01.1 -0.1**
KBL pmax pmax
comp=Z,18nm,1.1s
KBL Kabul 57.49 290 *e*P **P 22 21 01.1 -0.1**
comp=Z,18nm,1.1s
SPA0 Spitsbergen Ar 58.77 349 *e*P **P 22 21 09.3 0.0**
SPITS Spitsbergen Ar 58.77 349 P **P 22 21 09.2 0.0**
comp=Z,1.2nm,0.5s,baz=95,slow=6.8,SNR=8.5
FITZ Fitzroy Crossi 58.93 199 P **P 22 21 11.6 +0.6**
comp=Z,3.1nm,0.6s,baz=0.0,slow=8.1,SNR=14
FITZ Fitzroy Crossi 58.93 199 *e*P **P 22 21 11.6 +0.6**
comp=Z,21nm,1.4s
WRAB Tennant Creek 59.10 189 *i*P **P 22 21 11.8 -0.4**
WRAB pmax pmax
comp=Z,41nm,1.2s
WRAB Tennant Creek 59.10 189 *e*P **P 22 21 12.9 +0.7**
comp=Z,44nm,1.1s
WB2 Warramunga Arr 59.11 189 *e*P **P 22 21 12.1 -0.1**
WR1 Warramunga Arr 59.11 189 *e*P **P 22 21 11.6 -0.6**
comp=Z,26nm,1.0s
WRA Warramunga Arr 59.11 189 P **P 22 21 11.6 -0.6**
comp=Z,12nm,0.6s,baz=6.0,slow=6.9,SNR=147
RES Resolute Bay 60.50 15 P **P 22 21 21.5 +0.3**
comp=Z,6.3nm,0.8s,baz=340,slow=4.0,SNR=5.5
APA Apatity 61.24 336 *e*P **P 22 21 22.0 -4.3**
APA MLR MLR
comp=Z,400nm,18.0s
YKW3 Yellowknife Ar 61.67 31 *e*P **P 22 21 30.3 +1.0**
comp=Z,32nm,1.8s
YKW3 *e*pP **pP 22 21 40.6 +0.7**
YKA Yellowknife Ar 61.71 31 P **P 22 21 29.5 0.0**
comp=Z,2.5nm,0.9s,baz=299,slow=6.7,SNR=14
YKB5 Yellowknife Ar 61.71 31 *e*P **P 22 21 29.5 0.0**
YKB5 *e*pP **pP 22 21 41.0 +0.9**
ARA0 ARCESS Array S 62.46 339 *e*P **P 22 21 33.8 -0.7**
ARCES ARCESS Array B 62.46 339 P **P 22 21 33.6 -0.8**
comp=Z,3.5nm,0.9s,baz=54,slow=6.2,SNR=6.6
ARCES LR LR 22 53 19.0
comp=Z,218nm,18.5s,baz=49,slow=40
ARE0 ARCESS Array S 62.46 339 *e*P **P 22 21 33.5 -0.9**
comp=Z,32nm,1.5s
KLMR Klimovskoe 62.55 327 *e*P **P 22 21 33.2 -1.9**
KLMR *e**PP **pP 22 21 43.8 -1.9**
KLMR *e* 22 23 50.7
KLMR pmax pmax
comp=Z,20nm,1.3s
AS01 Alice Springs 62.83 189 *e*P **P 22 21 37.8 +0.4**
AS31 Alice Springs 62.84 189 *e*P **P 22 21 37.5 0.0**
comp=Z,2.5nm,0.8s
ASAR Alice Springs 62.84 189 P **P 22 21 37.5 0.0**
comp=Z,4.9nm,0.6s,baz=9.9,slow=5.3,SNR=42
GEYT Alibeck 63.61 299 P **P 22 21 42.8 +0.1**
comp=Z,8.0nm,1.0s,baz=29,slow=3.4,SNR=18
GEYT LR LR 22 51 08.0
comp=Z,319nm,19.3s,baz=45,slow=38
DAG Danmarks Havn 63.90 355 *i*P **P 22 21 43.5 -0.4**
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 63.90 355 *i*P **P 22 21 43.5 -0.4**
comp=Z,4.3nm,0.9s
MOS Moscow 66.17 323 *e*P **P 22 21 59.6 +0.7**
MOS *e* 22 22 10.9
MOS pmax pmax
comp=Z,43nm,1.2s
MOS MLR MLR
comp=N,600nm,16.0s
MOS MLR MLR
comp=E,500nm,16.0s
MOS MLR MLR
comp=Z,600nm,16.0s
VRH Novokhopyorsk 66.68 318 *e*P **P 22 22 01.4 -0.9**
VRH pmax pmax
comp=Z,9.0nm,0.6s
VRH MLR MLR
comp=Z,770nm,16.0s
OBN Obninsk 67.02 323 P **P 22 22 04.3 -0.1**
comp=Z,6.9nm,0.5s,baz=26,slow=6.2,SNR=6.2
OBN Obninsk 67.02 323 *i*P **P 22 22 03.8 -0.6**
OBN *i* 22 22 10.4
OBN *e* 22 24 32.5
OBN *i*S **S 22 30 53.5 -1.8**
OBN pmax pmax
comp=Z,28nm,1.7s
OBN MLR MLR
comp=Z,630nm,16.0s
OBN Obninsk 67.02 323 *e*P **P 22 22 04.3 -0.1**
comp=Z,46nm,1.6s
LPSR Galich'ya Gora 67.33 320 *e*P **P 22 22 06.0 -0.4**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
LPSR MLR MLR
comp=Z,350nm,16.0s
FIA1 FINESS Array S 67.47 332 *e*P **P 22 22 07.5 +0.4**
FIA0 FINESS Array S 67.47 332 *e*P **P 22 22 06.6 -0.5**
FIA0 FINESS Array S 67.47 332 *e*P **P 22 22 06.6 -0.5**
FINES FINESS Array B 67.47 332 P **P 22 22 06.6 -0.5**
comp=Z,5.9nm,0.9s,baz=64,slow=6.3,SNR=15
FINES LR LR 22 53 39.5
comp=Z,491nm,20.8s,baz=37,slow=38
I04A Tendick Farm, 67.57 51 P **P 22 22 08.4 +0.2**
baz=303
AFI Afiamalu 67.78 131 LR LR 22 45 58.1
comp=Z,184nm,19.6s,baz=336,slow=31
VSR Storozhevoye 68.00 319 *e*P **P 22 22 09.9 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.5s
VSR MLR MLR
comp=Z,920nm,18.0s
J05D Fort Rock, OR 68.56 51 P **P 22 22 15.7 +1.2**
baz=304
SUMG Summit 68.73 0 *i*P **P 22 22 16.3 +0.9**
SUMG pmax pmax
comp=Z,5.0nm,0.5s
SUMG Summit 68.73 0 *i*P **P 22 22 16.3 +0.9**
comp=Z,4.9nm,0.5s
SUMG Summit 68.73 0 *e*P **P 22 22 16.6 +1.2**
comp=Z,20nm,1.2s
K05A Summer Lake 69.08 52 *e*P **P 22 22 20.2 +2.3**
K05A *e*pP **sP 22 22 31.4 -1.2**
KCPM Cahto Peak 69.09 55 *e*P **P 22 22 17.7 -0.2**
KCPM *e*PcP **PcP 22 22 40.3 -1.4**
KCPM *e*S **S 22 31 20.8 0.0**
VSU Vasula 69.18 330 *i*P **P 22 22 19.0 +1.1**
VSU pmax pmax
comp=Z,14nm,0.6s
WALA Waterton Lakes 69.45 43 *e*P **P 22 22 21.3 +1.4**
WALA *e*pP **pP 22 22 32.0 +1.4**
NCK Nalchik 69.97 310 *e*P **P 22 22 23.2 +0.1**
NCK pmax pmax
comp=Z,10.0nm,1.2s
ZEI Tsey 70.19 309 *e*P **P 22 22 22.9 -1.8**
ZEI pmax pmax
comp=Z,17nm,0.8s
KVAR Kislovodsk Arr 70.24 311 P **P 22 22 25.4 +0.6**
comp=Z,27nm,1.1s,baz=25,slow=2.7,SNR=5.4
KIV Kislovodsk 70.25 311 *i*P **P 22 22 26.2 +1.3**
SNR=19
KIV Kislovodsk 70.25 311 *e*P **P 22 22 25.5 +0.7**
KIV *e*S **S 22 31 34.6 +0.4**
KIV pmax pmax
comp=Z,34nm,1.1s
KIV MLR MLR
comp=Z,308nm,17.0s
KIV Kislovodsk 70.25 311 *e*P **P 22 22 25.4 +0.5**
comp=Z,30nm,0.8s
SCO Scoresbysund 70.25 354 *e*P **P 22 22 25.0 +0.7**
SCO Scoresbysund 70.25 354 *i*P **P 22 22 25.0 +0.7**
KBZ Khabaz 70.25 311 P **P 22 22 25.6 +0.8**
comp=Z,12nm,1.2s,baz=29,slow=4.0,SNR=16
KBZ LR LR 22 54 45.9
comp=Z,178nm,21.5s,baz=48,slow=37
SWMT Swartz Lake 70.31 44 *e*P **P 22 22 26.9 +1.6**
SWMT *e*pP **pP 22 22 36.8 +0.8**
STKA Stephens Creek 70.51 181 P **P 22 22 27.4 +1.1**
comp=Z,2.3nm,0.8s,baz=346,slow=3.4,SNR=3.7
STKA Stephens Creek 70.51 181 P **P 22 22 27.4 +1.1**
STKA pmax pmax
comp=Z,1.0nm,0.5s
STKA Stephens Creek 70.51 181 *e*P **P 22 22 27.4 +1.1**
comp=Z,7.5nm,1.8s
WVOR Wild Horse Val 70.62 51 *e*P P 22 22 22.3 -4.9
WVOR *e**PP sP 22 22 43.8 +1.8
WVOR Wild Horse Val 70.62 51 *e*P P 22 22 22.2 -4.9
WVOR *e*pP sP 22 22 43.8 +1.8
NEY Neytrino 70.63 310 *e*P **P 22 22 28.2 +0.9**
NEY pmax pmax
comp=Z,1.0nm,1.0s
MSO Missoula 70.75 45 P **P 22 22 28.7 +0.7**
baz=307
GNI Garni 71.19 307 *i*P **P 22 22 31.5 +0.7**
GNI pmax pmax
comp=Z,42nm,1.2s
FFC Flin Flon 71.62 33 *e*P **P 22 22 33.8 +0.9**
FFC pmax pmax
comp=Z,23nm,1.3s
FFC Flin Flon 71.62 33 *e*P **P 22 22 33.8 +0.9**
comp=Z,23nm,1.3s
LRM Limekiln Ridge 72.18 45 *e*P **P 22 22 37.2 +0.5**
DLMT Dillon 72.39 46 *e*P **P 22 22 40.0 +2.1**
comp=Z,25nm,1.5s
NC405 NORSAR Array S 72.49 337 *e*P **P 22 22 38.8 +0.8**
HFS Hagfors 72.64 336 P **P 22 22 39.0 +0.1**
comp=Z,1.4nm,0.3s,baz=47,slow=6.5,SNR=27
NB2 NORSAR Subarra 72.70 337 P **P 22 22 39.0 -0.2**
comp=Z,9.5nm,1.1s,baz=39,slow=6.2
NB200 NORSAR Array S 72.70 337 *e*P **P 22 22 39.1 -0.2**
NOA NORSAR Array B 72.70 337 P **P 22 22 39.1 -0.2**
comp=Z,1.2nm,0.5s,baz=37,slow=6.0,SNR=8.8
NOA LR LR 22 59 22.3
comp=Z,251nm,20.1s,baz=30,slow=40
BOZ Bozeman (W) 72.75 45 P **P 22 22 40.8 +0.9**
baz=308
BOZ Bozeman (W) 72.75 45 *e*P **P 22 22 41.6 +1.6**
BOZ pmax pmax
comp=Z,46nm,1.9s
BOZ Bozeman (W) 72.75 45 *e*P **P 22 22 41.6 +1.6**
comp=Z,46nm,1.9s
ANN Anapa 72.76 314 *e*P **P 22 22 35.4 -4.4**
ANN *e**PP **pP 22 22 47.5 -3.1**
ANN *e* 22 25 17.4
ANN *e*S **S 22 31 56.9 -6.1**
ANN pmax pmax
comp=Z,18nm,1.2s
NBO02 NORSAR Array S 72.80 338 *e*P **P 22 22 41.1 +1.3**
NV01 Mina Array Sit 73.17 54 *e*P **P 22 22 44.0 +1.3**
NV01 *e*pP **pP 22 22 54.8 +1.3**
NVAR Mina Array Bea 73.17 54 P **P 22 22 44.0 +1.3**
comp=Z,2.6nm,0.9s,baz=288,slow=7.3,SNR=9.6
AKASG Malin Array Be 73.25 322 P **P 22 22 42.4 -0.3**
comp=Z,3.6nm,0.4s,baz=44,slow=6.5,SNR=28
AKASG LR LR 22 57 05.0
comp=Z,108nm,18.8s,baz=40,slow=38
AKBB Malin Array Si 73.25 322 *e*P **P 22 22 42.4 -0.2**
AKBB pmax pmax
comp=Z,33nm,1.7s
AKBB Malin Array Si 73.25 322 *e*P **P 22 22 42.4 -0.2**
comp=Z,33nm,1.7s
KIEV Kiev 73.26 322 *c i*P **P 22 22 42.3 -0.4**
KIEV pmax pmax
comp=Z,9.0nm,1.1s
KIEV Kiev 73.26 322 *e*P **P 22 22 42.2 -0.4**
comp=Z,8.0nm,0.9s
AK11 Malin Array Si 73.29 322 *e*P **P 22 22 43.0 +0.1**
GCMT Greycliff 73.72 44 *e*P **P 22 22 47.6 +1.9**
H17A Grant Village 74.11 45 P **P 22 22 50.9 +2.8**
baz=309
FXWY Fox Creek 74.34 46 *e*P **P 22 22 51.7 +2.2**
FXWY *e*pP **pP 22 23 01.2 +0.9**
MOOW Moose Ponds 74.42 46 *e*P **P 22 22 52.2 +2.2**
comp=Z,41nm,2.0s
R11A Troy Canyon, C 74.92 53 P **P 22 22 54.4 +1.5**
baz=308
R11A Troy Canyon, C 74.92 53 *e*P **P 22 22 54.6 +1.7**
comp=Z,16nm,1.6s
LAO LASA Array 74.97 42 P **P 22 22 54.7 +1.8**
baz=312
MPMC Manual Prospec 75.11 56 P **P 22 22 54.1 0.0**
baz=308
HWUT Hardware Ranch 75.31 48 *e*P **P 22 22 57.0 +1.9**
HWUT *e*pP **PcP 22 23 08.3 0.0**
TPNV Topopah Spring 75.36 54 P **P 22 22 56.4 +1.0**
baz=308
TPNV Topopah Spring 75.36 54 *e*P **P 22 22 56.9 +1.5**
TPNV *e**PP **sP 22 23 09.6 -0.6**
TPNV Topopah Spring 75.36 54 *e*P **P 22 22 56.9 +1.5**
TPNV *e*pP **sP 22 23 09.6 -0.6**
DUG Dugway, Tooele 75.47 50 P **P 22 22 56.7 +0.7**
baz=309
DUG Dugway, Tooele 75.47 50 *e*P **P 22 22 57.1 +1.2**
DUG *e**PP **PcP 22 23 08.3 -0.6**
DUG Dugway, Tooele 75.47 50 *e*P **P 22 22 57.1 +1.2**
DUG *e*pP **PcP 22 23 08.3 -0.6**
BW06 Boulder Array 75.72 46 P **P 22 22 58.2 +0.7**
baz=310
BW06 Boulder Array 75.72 46 *e*P **P 22 22 58.6 +1.1**
BW06 *e*pP **PcP 22 23 09.2 -0.9**
PD31 Pinedale Array 75.72 46 *e*P **P 22 22 57.6 +0.1**
PD31 *e*pP **PcP 22 23 09.8 -0.3**
PDAR Pinedale Array 75.72 46 P **P 22 22 57.6 +0.1**
comp=Z,1.1nm,0.5s,baz=289,slow=0.6,SNR=7.8
LVV L'vov 76.28 324 *e*P **P 22 23 01.2 +1.0**
LVV *e*S **S 22 32 40.5 -1.7**
LVV MLR MLR
comp=N,300nm,15.0s
LVV MLR MLR
comp=Z,400nm,15.0s

SHPR Sheep Range 76.32 54 *e*P **P** **22 23 03.0 +2.1**
SHPR *ep*P **PcP** **22 23 13.5 +0.8**
MSU Marysvale 76.91 51 *e*P **P** **22 23 06.6 +2.3**
MSU *e**PP **PcP** **22 23 16.8 +1.5**
MSU Marysvale 76.91 51 *e*P **P** **22 23 06.6 +2.3**
MSU *ep*P **PcP** **22 23 16.8 +1.5**
KWP Kalwaria Pacla 77.02 325 *e*P **P** **22 23 05.5 +1.1**
KWP Kalwaria Pacla 77.02 325 *e*P **P** **22 23 05.5 +1.1**
Q16A Castle Valley 77.25 50 *e*P **P** **22 23 08.3 +2.1**
comp=Z,20nm,1.5s
BUR08 Bucovina Ar. S 77.27 322 *e*P **P** **22 23 06.7 +0.7**
BURAR Bucovina Array 77.28 322⇑*i*P **P** **22 23 06.7 +0.7**
BURAR Bucovina Array 77.28 322⇑P **P** **22 23 06.7 +0.7**
TESR Tescani 77.35 320⇑*i*P **P** **22 23 06.8 +0.5**
SRU San Rafael Swe 77.52 50 *e*P **P** **22 23 09.6 +2.0**
SRU *e**PP **pP** **22 23 20.4 +1.9**
SRU San Rafael Swe 77.52 50 *e*P **P** **22 23 09.6 +2.0**
SRU *ep*P **pP** **22 23 20.4 +1.9**
CFR Carcaliu 77.52 319⇓*i*P **P** **22 23 09.1 +1.9**
CFR Carcaliu 77.52 319⇓P **P** **22 23 09.1 +1.9**
KOLS Kolonicke sedl 77.72 324 *e*P **P** **22 23 09.0 +0.7**
KOLS pmax pmax
comp=Z,8.0nm,1.4s
KOLS Kolonicke sedl 77.72 324 *e*P **P** **22 23 09.0 +0.7**
VRI Vrincioaia 77.76 320⇓*i*P **P** **22 23 10.6 +2.0**
VRI Vrincioaia 77.76 320⇓P **P** **22 23 10.6 +2.0**
STHS Stebnicka Huta 77.83 325 *e*P **P** **22 23 10.6 +1.7**
STHS pmax pmax
comp=Z,6.0nm,1.0s
STHS Stebnicka Huta 77.83 325 *e*P **P** **22 23 10.6 +1.7**
RSSD Black Hills 77.83 42 P **P** **22 23 09.5 +0.1**
baz=313
RSSD Black Hills 77.83 42 *e*P **P** **22 23 10.2 +0.9**
RSSD pmax pmax
comp=Z,37nm,1.8s
RSSD Black Hills 77.83 42 *e*P **P** **22 23 10.2 +0.9**
comp=Z,38nm,1.8s
OJC Ojcow 77.87 326 *e*P **P** **22 23 10.9 +1.8**
OJC Ojcow 77.87 326 *e*P **P** **22 23 10.3 +1.2**
OJC pmax pmax
comp=Z,11nm,0.9s
OJC Ojcow 77.87 326 *e*P **P** **22 23 10.3 +1.2**
comp=Z,11nm,0.9s
UZH Uzhgorod 77.93 324 *e*P **P** **22 23 10.7 +1.3**
UZH *e* 22 23 18.5
CRVS Cervenica-Dubn 78.11 325 *e*P **P** **22 23 12.0 +1.5**
CRVS Cervenica-Dubn 78.11 325 *e*P **P** **22 23 12.0 +1.5**
BR101 Keskin Array S 78.16 312 *e*P **P** **22 23 11.4 +0.3**
BR131 Keskin Array S 78.16 312 *e*P **P** **22 23 12.9 +1.8**
BRTR Keskin Array B 78.16 312 P **P** **22 23 11.5 +0.3**
comp=Z,1.6nm,0.9s,baz=79,slow=4.0,SNR=12
BRTR LR LR 23 02 08.6
comp=Z,148nm,18.5s,baz=61,slow=39
U15A North Rim 78.17 53 *e*P **P** **22 23 13.5 +2.1**
U15A *ep*P **sP** **22 23 24.9 -1.3**
NIE Niedzica 78.24 326 *e*P **P** **22 23 12.4 +1.1**
NIE Niedzica 78.24 326 *e*P **P** **22 23 12.4 +1.1**
DOPR Dopca 78.36 321⇓*i*P **P** **22 23 14.2 +2.2**
MLR Muntele Rosu 78.42 320 P **P** **22 23 12.6 +0.2**
comp=Z,0.4nm,0.7s,baz=316,slow=6.3,SNR=7.1
MLR Muntele Rosu 78.42 320⇑*i*P **P** **22 23 14.9 +2.5**
MLR Muntele Rosu 78.42 320⇑P **P** **22 23 14.9 +2.5**
MLR Muntele Rosu 78.42 320 *e*P **P** **22 23 12.6 +0.2**
MLR *ep*P **pP** **22 23 23.5 +0.2**
BR231 Keskin MP Arra 78.59 312 *e*P **P** **22 23 12.3 -1.1**
LANS Liptovska Anna 78.81 326 *e*P **P** **22 23 16.3 +1.9**
LANS Liptovska Anna 78.81 326 *e*P **P** **22 23 16.3 +1.9**
OKC Ostrava-Krasne 78.86 327 AMS AMS 23 01 00.0
comp=Z,400nm,18.3s
VOIR 78.90 320⇑*i*P **P** **22 23 16.8 +1.8**
VOIR 78.90 320⇑P **P** **22 23 16.8 +1.8**
PV05 Paradox Valley 79.04 50 *e*P **P** **22 23 18.0 +1.9**
DRGR 79.06 323⇑*i*P P 22 23 25.2 +9.3
DRGR 79.06 323⇑P P 22 23 25.2 +9.3
ARR Arges 79.16 321⇑*i*P **P** **22 23 18.1 +1.7**
MORC Moravsky Berou 79.16 327 *e*P **P** **22 23 17.3 +1.0**
MORC pmax pmax
comp=Z,26nm,0.9s
MORC Moravsky Berou 79.16 327 *e*P **P** **22 23 17.3 +1.0**
comp=Z,26nm,0.9s
DPC Dobruska-Polom 79.23 328 *e*P **P** **22 23 18.6 +1.9**
DPC *ep*P **pP** **22 23 27.7 +0.1**
DPC AMS AMS 23 00 50.0
comp=Z,400nm,17.6s
DPC Dobruska-Polom 79.23 328 *e*P **P** **22 23 18.6 +1.9**
DPC *e* 22 23 27.7
DPC MLR MLR
comp=Z,400nm,17.6s
UPC Upice 79.24 328 AMS AMS 23 01 00.0
comp=Z,400nm,15.4s
VYHS Vyhne 79.58 326 *e*P **P** **22 23 20.4 +1.8**
VYHS pmax pmax
comp=Z,6.0nm,1.4s
VYHS Vyhne 79.58 326 *e*P **P** **22 23 20.4 +1.8**
BRG Berggiesshubel 79.78 330 *e*P P 22 23 28.9 +9.2
comp=Z,8.5nm,1.1s
BRG Berggiesshubel 79.78 330 *e*P P 22 23 28.9 +9.3
BRG pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 79.80 330 *i*P **P** **22 23 19.7 0.0**
comp=Z,8.0nm,1.2s
CLL *i* 22 23 27.8
CLL Lm MLR 23 01 00.0
comp=N,200nm,19.8s
CLL Lm MLR 23 01 00.0
comp=E,200nm,19.7s
CLL Lm MLR 23 01 00.0
comp=Z,400nm,18.1s
CLL Collm 79.80 330 *i*P **P** **22 23 19.7 0.0**
CLL *i* 22 23 27.8
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL MLR MLR
comp=Z,400nm,18.1s
CLL Collm 79.80 330 *e*P **P** **22 23 20.0 +0.3**
comp=Z,9.7nm,1.0s
PVCC Panska Ves 79.81 329 *e*P **P** **22 23 21.1 +1.4**
PVCC AMS AMS 23 01 20.0
comp=Z,600nm,18.9s
PVCC Panska Ves 79.81 329 *e*P **P** **22 23 21.1 +1.4**
PVCC MLR MLR
comp=Z,600nm,18.9s
ISCO Idaho Springs 79.91 47 P **P** **22 23 21.4 +0.4**
baz=313
VRAC Vranov 79.92 327 P **P** **22 23 21.0 +0.6**
comp=Z,5.2nm,1.1s,baz=24,slow=10.0,SNR=5.5
VRAC Vranov 79.92 327 P **P** **22 23 21.0 +0.6**
VRAC pmax pmax
comp=Z,5.0nm,1.1s
MVCO Mesa Verde 79.97 50 P **P** **22 23 22.3 +1.1**
baz=312
GOPC GO Pecny, Ondr 80.20 329 *e*P **P** **22 23 22.7 +0.8**
GOPC *e*PCP **PcP** **22 23 30.1 +1.0**
GOPC AMS AMS 23 01 10.0
comp=Z,500nm,19.4s
GOPC GO Pecny, Ondr 80.20 329 *e*P **P** **22 23 22.7 +0.8**
GOPC *e* 22 23 30.1
GOPC MLR MLR
comp=Z,500nm,19.4s
PRU Pruhonice 80.24 329 *e*P **P** **22 23 23.4 +1.3**
PRU *e*PCP **PcP** **22 23 31.0 +1.8**
PRU AMS AMS 23 01 30.0
comp=Z,500nm,19.6s
PRU Pruhonice 80.24 329 *e*P **P** **22 23 23.4 +1.3**
PRU *e* 22 23 31.0
PRU MLR MLR
comp=Z,500nm,19.6s
TREC Trest 80.39 328 *e*P **P** **22 23 23.8 +0.8**
TREC *e*PCP **pP** **22 23 32.5 -1.4**
TREC *ep*P **sP** **22 23 39.9 +2.1**
TREC AMS AMS 23 01 30.0
comp=Z,500nm,19.3s
TREC Trest 80.39 328 *e*P **P** **22 23 23.8 +0.8**
TREC *e* 22 23 32.5
TREC *e* 22 23 39.9
TREC MLR MLR
comp=Z,500nm,19.3s
RAR Rarotonga 80.66 127 LR LR 22 54 22.8
comp=Z,197nm,19.2s,baz=309,slow=32
NKC Novy Kostel 80.87 330 AMS AMS 23 02 20.0
comp=Z,400nm,18.9s
MDVR Moldovita 81.01 322⇑*i*P **P** **22 23 26.7 +0.3**
MPEP Malo Peshtene 81.05 320 *e*P **P** **22 23 28.0 +1.4**
CONA Conrad Observa 81.30 327 *i*P **P** **22 23 29.5 +1.6**
comp=Z,3.8nm,1.1s
CONA *i*pP **pP** **22 23 38.6 -0.2**
comp=Z,10.0nm,1.5s
KHC Kasperske Hory 81.30 329 *e*P **P** **22 23 28.3 +0.5**
KHC *e*PCP **pP** **22 23 36.6 -2.1**
KHC AMS AMS 23 01 50.0
comp=Z,500nm,18.4s
KHC Kasperske Hory 81.30 329 *e*P **P** **22 23 28.4 +0.5**
KHC pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 81.30 329 *e*P **P** **22 23 28.4 +0.5**
comp=Z,2.4nm,0.9s
GERES GERESS Array B 81.48 329 P **P** **22 23 29.1 +0.3**
comp=Z,0.6nm,0.5s,baz=43,slow=6.0,SNR=7.7
GERES LR LR 23 02 41.5
comp=Z,530nm,19.8s,baz=26,slow=38
GEA0 GERESS Array S 81.48 329 *e*P **P** **22 23 29.1 +0.2**
ECSD EROS Data Cent 81.88 39 P **P** **22 23 31.5 +0.5**
baz=318
ECSD EROS Data Cent 81.88 39 *e*P **P** **22 23 31.6 +0.7**
ECSD *ep*P **pP** **22 23 42.9 +1.0**
ARSA Arzberg 81.97 327 *i*PcP **P** **22 23 33.6 +2.2**
comp=Z,3.9nm,0.8s
MOA Molln 82.03 328 *i*PcP **P** **22 23 34.2 +2.5**
comp=Z,4.4nm,1.2s
MMB Musomiste 82.33 318 *e*P **P** **22 23 33.8 +0.4**
SOKA Soboth 82.62 327 *i*P **P** **22 23 35.2 +0.3**
comp=Z,6.6nm,1.2s
ANMO Albuquerque 82.71 51 P **P** **22 23 36.8 +1.0**
comp=Z,0.7nm,0.5s,baz=297,slow=6.8,SNR=5.7
ANMO Albuquerque 82.71 51 P **P** **22 23 36.7 +1.0**
baz=313
ANMO Albuquerque 82.71 51 *i*P **P** **22 23 36.6 +0.9**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 82.71 51 *e*P **P** **22 23 36.8 +1.0**
comp=Z,5.5nm,1.2s
OBKA Obir 82.96 327 *i*P P 22 23 30.9 -5.8
comp=Z,7.5nm,1.7s
H37A Dierke Farm, C 83.00 36 P **P** **22 23 37.5 +0.7**
baz=320
KBA Koelnbreinsper 83.02 328 *i*PcP **P** **22 23 38.4 +1.3**
comp=Z,12nm,1.1s
I37A Lemond, Waseca 83.21 37 P **P** **22 23 38.7 +0.8**
baz=320
URZ Urewera 83.21 153 LR LR 22 59 03.1
comp=Z,96nm,18.1s,baz=348,slow=34
SCHQ Schefferville 83.23 17 P **P** **22 23 37.7 -0.1**
comp=Z,9nm,0.6s,baz=270,slow=5.0,SNR=5.8
SCHQ Schefferville 83.23 17 *e*P **P** **22 23 37.7 -0.1**
comp=Z,12nm,1.3s
MYKA Terra Mystica 83.25 327 *i*P **P** **22 23 38.4 +0.3**
J37A Redenius Farm, 83.67 38 P **P** **22 23 40.3 0.0**
baz=320
I38A Scanlan Farm, 83.69 36 P **P** **22 23 40.5 +0.2**
baz=320
MOTA Moosalm 83.72 329 *i*P **P** **22 23 41.1 +0.5**
comp=Z,3.7nm,0.9s
MOTA *i*pP **pP** **22 23 50.1 -1.5**
comp=Z,8.3nm,0.9s
RETA Reutte 83.74 329 *i*PcP **P** **22 23 41.8 +1.1**
comp=Z,18nm,1.1s
K36A Gilmore City 83.75 38 P **P** **22 23 41.4 +0.7**
baz=319
CBKS Cedar Bluff 83.85 44 P **P** **22 23 40.3 -1.0**
baz=316
BFO Black Forest 83.99 331 *e*P **P** **22 23 43.5 +1.6**
BFO pmax pmax
comp=Z,20nm,1.4s
BFO Black Forest 83.99 331 *e*P **P** **22 23 43.5 +1.6**
comp=Z,20nm,1.4s
K37A Belmond 84.04 38 P **P** **22 23 42.8 +0.7**
baz=320
L36A Harm Buss Farm 84.05 39 P **P** **22 23 42.7 +0.5**
baz=319
N34A Lincoln 84.08 41 P **P** **22 23 42.6 +0.2**
baz=318
FETA Feichten 84.14 329 *i*PcP **P** **22 23 43.4 +0.6**
comp=Z,4.2nm,0.8s
J38A Wedel Dairy, R 84.17 37 P **P** **22 23 43.0 +0.2**
baz=320
DAVA Damuels 84.25 330 *i*PcP **P** **22 23 44.4 +1.0**
comp=Z,20nm,1.2s
O34A Beatrice 84.46 41 P **P** **22 23 44.0 -0.4**
baz=318
FUORN Ofenpass-Fuorn 84.65 329 *e*P **P** **22 23 46.1 +0.7**
comp=Z,24nm,1.0s
DAVOX Davos/Dischmat 84.67 329 P **P** **22 23 47.3 +1.8**
comp=Z,2.5nm,0.7s,baz=27,slow=6.8,SNR=3.1
Q33A Connelly Farm, 84.74 43 P **P** **22 23 46.4 +0.6**
baz=317
PPT Papeete 84.79 117 LR LR 22 54 42.0
comp=Z,243nm,21.7s,baz=2.5,slow=31
PPT2 Papeete2 84.81 117 *e*LR LR 22 50 27.1
comp=Z,466nm,22.0s
PPT2 Papeete2 84.81 117 *e*T T 23 57 25.5
comp=Z,25nm,0.3s
P34A Walnut Farm, R 84.86 42 P **P** **22 23 46.6 +0.2**
baz=318
M37A Trindle Farm, 84.88 39 P **P** **22 23 47.4 +1.0**
baz=320
M38A Pleasantville 85.28 39 P **P** **22 23 47.9 -0.6**
baz=320
P35A Duane Minner, 85.30 41 P **P** **22 23 49.3 +0.7**
baz=318
KSU1 Kansas State U 85.31 42 P **P** **22 23 48.9 +0.2**
baz=318
T32A Huddler Ranch, 85.48 45 P **P** **22 23 50.3 +0.7**
baz=317
AMTX Amarillo 85.57 48 P **P** **22 23 50.5 +0.4**
baz=316
MSTX Muleshoe 85.58 49 P **P** **22 23 50.4 +0.2**
baz=315
P36A Good Intent, A 85.64 41 P **P** **22 23 50.4 +0.1**
baz=319
O37A Wolven Farm, M 85.77 40 P **P** **22 23 51.7 +0.8**
baz=320
Q35A Mercer Eighty, 85.78 42 P **P** **22 23 51.2 +0.2**
baz=318
TAOE Nuku Hiva Isla 85.86 105 *e*LR LR 22 50 53.6
comp=Z,572nm,23.3s
TAOE Nuku Hiva Isla 85.86 105 *e*T T 23 58 46.6
comp=Z,286nm,0.2s
T33A Patterson Ranc 85.92 44 P **P** **22 23 51.4 -0.4**
baz=317
N39A Derby Farms, D 86.03 38 P **P** **22 23 52.7 +0.5**
baz=320
MEH Mehetia 86.05 117 *e*T T 23 58 58.2
comp=Z,72nm,0.3s
R35A Emporia Munici 86.10 42 P **P** **22 23 53.1 +0.5**
baz=318
P37A Lathrop 86.10 40 P **P** **22 23 52.3 -0.3**
baz=319
RPZ Rata Peaks 86.30 160 LR LR 22 57 17.6
comp=Z,104nm,21.6s,baz=350,slow=32
R36A Gordon, Harris 86.46 42 P **P** **22 23 54.4 +0.1**
baz=319
V32A Arapaho 86.47 46 P **P** **22 23 56.5 +2.0**
baz=317
P38A Dawn 86.48 40 P **P** **22 23 54.2 -0.3**
baz=320
S35A Otter Creek Ra 86.51 43 P **P** **22 23 55.8 +1.2**
baz=318
W32A Sentinel 86.79 46 P **P** **22 23 56.6 +0.6**
baz=317
R37A Teagarden Farm 86.82 42 P **P** **22 23 56.3 +0.2**
baz=319
S36A Lake Cedric, C 86.86 42 P **P** **22 23 56.9 +0.5**
baz=319
O40A La Belle 86.92 39 P **P** **22 23 57.1 +0.5**
baz=321
P39B Salisbury 86.98 40 P **P** **22 23 57.5 +0.7**
baz=320
T35A Sooner Cattle 86.98 43 P **P** **22 23 57.8 +0.9**
baz=318
Q39A Willow Grove F 87.21 40 P **P** **22 23 58.6 +0.7**
baz=320
W33A Caddo, Fort Co 87.21 46 P **P** **22 23 58.0 0.0**
baz=317
T36A Boggs Farm, Ca 87.21 43 P **P** **22 23 58.4 +0.4**
baz=319
V34A Guthrie 87.23 45 P **P** **22 23 59.1 +0.9**
baz=318
S37A Fort Scott 87.24 42 P **P** **22 23 58.8 +0.7**
baz=319
U35A Pawnee 87.26 44 P **P** **22 23 58.6 +0.3**
baz=318
P40A Paris 87.29 39 P **P** **22 23 59.3 +1.0**
baz=321
T37A Cheneyville 18 87.67 42 P **P** **22 24 00.6 +0.4**
baz=319
Q40A Laux Farm, Aux 87.69 39 P **P** **22 24 00.0 -0.3**
baz=321
R39A Chumby, Stover 87.73 40 P **P** **22 23 59.8 -0.7**
baz=320
S38A Stockton 87.81 41 P **P** **22 24 00.2 -0.7**
baz=320
Y33A Hilltop Ranch, 87.95 47 P **P** **22 24 02.1 +0.4**
baz=317
X34A Smith Ranch, M 87.96 46 P **P** **22 24 03.1 +1.4**
baz=318
T38A Diamond 88.06 42 P **P** **22 24 02.6 +0.5**
baz=320
S39A Bolivar 88.06 41 P **P** **22 24 02.2 0.0**
baz=320
W35A Tecumseh 88.09 45 P **P** **22 24 02.7 +0.4**
baz=318
U37A Salina 88.10 43 P **P** **22 24 02.9 +0.5**
baz=319
TUL1 Leonard 88.11 44 P **P** **22 24 03.7 +1.3**
baz=319
R40A Maddies Statio 88.14 40 P **P** **22 24 02.8 +0.3**
baz=321
TX31 Lajitas Ar. Si 88.29 53 *e*P **P** **22 24 03.9 +0.5**
LTX Lajitas 88.29 53 *e*P **P** **22 24 04.0 +0.6**
LTX Lajitas 88.29 53 *e*P **P** **22 24 04.0 +0.6**
TXAR Lajitas Array 88.29 53 P **P** **22 24 04.0 +0.6**
comp=Z,0.7nm,0.5s,baz=297,slow=3.3,SNR=10
ABTX Abilene, Hawle 88.37 48 P **P** **22 24 04.3 +0.6**
baz=317
U38A Gravette 88.47 42 P **P** **22 24 04.2 +0.2**
baz=320
V37A Hulbert 88.48 43 P **P** **22 24 04.5 +0.4**
baz=319
T39A Clever 88.55 41 P **P** **22 24 04.3 -0.1**
baz=320
S40A Lebanon 88.55 41 P **P** **22 24 04.1 -0.3**
baz=321
X35A Drake 88.59 45 P **P** **22 24 04.8 +0.1**
baz=318
133A Hamilton Ranch 88.81 48 P **P** **22 24 06.5 +0.7**
baz=317
W37B Quinton 88.89 44 P **P** **22 24 06.0 -0.1**
baz=319
V38A Canehill 88.89 43 P **P** **22 24 07.0 +1.0**
baz=320
T40A Mansfield 88.89 41 P **P** **22 24 06.2 +0.2**
baz=321
U39A Green Forest 88.98 42 P **P** **22 24 06.8 +0.3**
baz=320
T41A Mountain View 89.36 40 P **P** **22 24 08.4 +0.2**
baz=321
W38A Poteau 89.43 43 P **P** **22 24 09.0 +0.4**
baz=319
234A Clairette 89.69 48 P **P** **22 24 10.3 +0.4**
baz=318
333A Richland Sprin 89.70 49 P **P** **22 24 10.4 +0.4**
baz=317
135A Vickery Place, 89.70 47 P **P** **22 24 11.0 +1.1**
baz=318
334A Lometa 90.13 48 P **P** **22 24 12.7 +0.7**
baz=317
MIAR Mount Ida 90.33 43 P **P** **22 24 13.5 +0.7**
baz=320
ESDC Sonseca Array 95.89 335 P **P** **22 24 38.4 0.0**
comp=Z,0.1nm,0.4s,baz=11,slow=4.2,SNR=3.1
ESDC LR LR 23 13 18.2
comp=Z,168nm,20.2s,baz=0.0,slow=39
RKT Rikitea 98.74 113 *e*LR LR 22 56 26.7
comp=Z,534nm,29.5s
TOA1 Torodi Ar. Sit 116.50 316 *e*PKPdf **PKPdf** **22 29 55.1 -0.9**
TORD Torodi Ar. Bea 116.50 316 PKP **PKPdf** **22 29 55.1 -0.9**
comp=Z,0.3nm,0.6s,baz=312,slow=0.7,SNR=6.1
SNAA Sanae 142.86 197 *e*PKHKP PKPpre 22 30 39.9
SNAA Sanae 142.86 197 *e*PKPpre PKPpre 22 30 39.9
LPAZ La Paz 144.99 58 PKPbc **PKPab** **22 30 49.4 +0.2**
comp=Z,1.3nm,0.4s,baz=324,slow=3.9,SNR=6.7
PB11 IPOC Station P 146.34 65 *e*PKPdf **PKPab** **22 30 53.9 +0.2**

MEX 08 22:11:44.7±0.4, 15°27N×93°37W, h79km±5km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.46**	**18**	*i* P	Pn	22 11 56.7	-1.4
PCIG				*e*S	Sn	22 12 06.3	-1.6
CCIG	**Comitan**	**1.56**	**49**	*i* P	Pn	22 12 09.5	-1.4
CCIG				*i* S	Sn	22 12 29.2	-1.5

MEX 08 22:19:04.4±0.3, 29°00N×113°22W, h18km±146km, MD3.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.89**	**153**	*i* P	Pn	22 19 32.8	-2.9
SRIG				*i* S	Sn	22 19 54.6	-4.3
HSIG		**1.99**	**89**	*i* P	Pn	22 19 34.1	-2.9
HSIG				*i* S	Sn	22 19 58.1	-3.4

*IDC **08** 22:22:03.4±1.3, 37°57N×143°72E, h0km, mb3.7/10, mb1 3.8/12, mb1mx3.6/65, mbtmp3.7/12, ML3.6/2, Error ellipse: s-maj=27.9km s-min=24.3km az=119.0*
*ISCJB **08** 22:22:06.5±1.1, 37°6N±0°1×143°7E±0°1, h33km, mb3.7/10, Error ellipse: s-maj=20.3km s-min=9.8km az=146.2*

ISC 08 22:22:08.4±1.1, 37°62N±0°09×143°7E±0°1, h35km, n14, σ2s09/17, mb3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.49**	**258**	Pn	**Pn**	**22 23 14.5**	**+0.6**
	2.1nm,0.3s,baz=89,slow=15,SNR=14						
MJAR				Sn	**Sn**	**22 24 05.6**	**+0.8**
	1.2nm,0.3s,baz=103,slow=22,SNR=7.1						
MAT	**Matsushiro**	**4.49**	**258**	P	**Pn**	**22 23 14.5**	**+0.6**
MAT				S	**Sn**	**22 24 00.8**	**-4.0**
JHJ	**Hachijo jima 2**	**5.49**	**216**	Sn	**Sn**	**22 24 24.9**	**-4.7**
	5.9nm,0.3s,baz=248,slow=23,SNR=3.6						
ASAJ	**Asahikawa**	**6.54**	**353**	Pn	**Pn**	**22 23 41.8**	**-0.3**
	1.4nm,0.3s,baz=180,slow=14,SNR=5.0						
ASAJ				Sn	**Sn**	**22 24 51.2**	**-4.1**
	baz=286,slow=18,SNR=2.0						
SONM	**Songino Array**	**28.96**	**303**	P	**P**	**22 28 05.2**	**+0.7**
	0.2nm,0.5s,baz=81,slow=9.2,SNR=2.4						
ZALV	**Talesovo Beam**	**42.85**	**312**	P	**P**	**22 30 03.4**	**+0.6**
	0.4nm,0.3s,baz=74,slow=5.2,SNR=2.3						
MKAR	**Makanchi Array**	**45.32**	**302**	P	**P**	**22 30 22.8**	**0.0**
	0.5nm,0.6s,baz=82,slow=8.5,SNR=8.2						
KURBB	**Kurchatov Arra**	**47.05**	**308**	P	**P**	**22 30 37.0**	**+0.7**
	1.7nm,0.7s,baz=82,slow=8.0,SNR=15						
ILAR	**Eielson Array**	**48.04**	**33**	P	**P**	**22 30 44.1**	**+0.3**
	0.7nm,0.8s,baz=258,slow=6.7,SNR=6.7						
BVAR	**Borovoye Array**	**51.50**	**312**	P	**P**	**22 31 10.9**	**+0.6**
	0.3nm,0.5s,baz=56,slow=8.9,SNR=3.7						
WRA	**Warramunga Arr**	**57.92**	**190**	P	**P**	**22 31 56.9**	**-0.2**
	0.5nm,0.7s,baz=11,slow=7.4,SNR=6.0						
AKTO	**Aktyubinsk**	**59.61**	**312**	P	**P**	**22 32 09.3**	**+0.8**
	1.3nm,0.7s,baz=93,slow=6.7,SNR=4.7						
FINES	**FINESS Array B**	**69.12**	**333**	P	**P**	**22 33 11.6**	**+1.1**
	0.5nm,0.6s,baz=46,slow=8.0,SNR=2.5						
AKASG	**Malin Array Be**	**74.92**	**323**	P	**P**	**22 33 46.3**	**+0.8**
	0.4nm,0.3s,baz=45,slow=5.7,SNR=4.3						

IDC 08 22:26:49.6±4.3, 1°19N×96°83E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/58, mbtmp3.9/5, Error ellipse: s-maj=213.6km s-min=27.1km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**25.81**	**250**	T	T	22 59 12.5	
	baz=71,slow=75,SNR=152						
H08S3	**Diego Garcia H**	**25.82**	**250**	T	T	22 59 11.6	
	baz=71,slow=75,SNR=148						
H08S1	**Diego Carcia H**	**25.83**	**250**	T	T	22 59 05.3	
	baz=71,slow=75,SNR=177						
H01W3	**Cape Leeuwin H**	**39.38**	**157**	T	T	23 16 06.1	
	baz=332,slow=76,SNR=25						
H01W2	**Cape Leeuwin H**	**39.39**	**157**	T	T	23 16 06.2	
	baz=332,slow=76,SNR=30						
H01W1	**Cape Leeuwin H**	**39.39**	**157**	T	T	23 16 03.9	
	baz=332,slow=76,SNR=28						

WRA	Warramunga Arr	42.34	122	P		P	22 34 45.7	-0.1
	0.9nm,0.6s,baz=300,slow=8.9,SNR=6.8							
MKAR	Makanchi Array	47.16	346	P		P	22 35 24.5	+0.6
	0.7nm,0.6s,baz=162,slow=7.9,SNR=11							
KURBB	Kurchatov Arra	51.65	345	P		P	22 35 57.0	-1.0
	0.5nm,0.6s,baz=160,slow=6.8,SNR=6.6							
ZALV	Zalesovo Beam	53.51	351	P		P	22 36 12.0	+0.3
	1.3nm,0.4s,baz=173,slow=7.9,SNR=8.6							
ARCES	ARCESS Array B	82.42	340	P		P	22 39 13.1	-0.3
	1.2nm,0.7s,baz=92,slow=5.4,SNR=3.6							

IDC ***08*** *22:27:39.6±0.7,20.°34S×168.°36E,h0km,mb4.3/16, mb1 4.5/16,mb1mx4.3/37,mbtmp4.3/16,MS3.5/1, Ms1 3.5/1,ms1mx2.7/29,Error ellipse: s-maj=24.1km s-min=17.1km az=124.0*

ISCJB ***08*** *22:27:42.0±0.2,20.°35S±0.°05×168.°23E±0.°04,h26km, mb4.9/59,MS3.5/1,Error ellipse: s-maj=6.9km s-min=5.5km az=151.9*

NEIC ***08*** *22:27:44.0±0.8,20.°35S×168.°30E,h30km±5km,mb4.9/45, Error ellipse: s-maj=6.5km s-min=5.4km az=148.0*

BJI ***08*** *22:27:47.7,20.°30S×168.°20E,h59km,mb4.8/20,mB5.0/17, Ms4.8/8,Ms7 4.5/7*

ISC 08 22:27:43.8±0.3,20°37S±0°07×168°27E±0°07,h26km,n149, σ1§42/162,mb4.9/59,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	9.61	76	*e*Pn		Pn	22 30 01.0	+0.5
EIDS	Eidsvold	16.60	249	*e*Pn		Pn	22 31 34.9	+0.1
	19nm,1.4s							
URZ	Urewera	19.41	159	P		Pn	22 32 10.0	+0.9
	0.5nm,0.3s,baz=22,slow=9.4,SNR=7.2							
URZ	Urewera	19.41	159	*e*P		P	22 32 07.6	-0.3
	42nm,1.1s							
CTA	Charters Tower	20.66	267	P		Pn	22 32 24.1	-0.1
	22nm,0.9s,baz=86,slow=11,SNR=7.3							
CTAO	Charters Tower	20.66	267	*e*P		P	22 32 22.5	+0.7
	27nm,0.9s							
THZ	Tophouse	21.69	171	*e*P		P	22 32 34.5	+1.9
	27nm,1.0s							
KHZ	Kahutara	22.43	170	*e*P		P	22 32 39.6	-0.9
	31nm,1.3s							
RPZ	Rata Peaks	23.40	175	*e*P		P	22 32 50.4	-0.2
	38nm,1.4s							
MQZ	McQueen's Vall	23.56	172	*e*P		P	22 32 50.8	-1.3
	63nm,1.6s							
MQZ				*e*Sn		Sn	22 37 19.9	-5.8
MLZ	Mavora Lakes	24.93	180	*e*P		P	22 33 04.8	0.0
	90nm,1.9s							
STKA	Stephens Creek	26.48	239	P		P	22 33 20.7	+1.8
	4.6nm,1.0s,baz=62,slow=10,SNR=9.2							
STKA	Stephens Creek	26.48	239	*e*P		P	22 33 20.8	+1.8
	7.2nm,1.5s							
WC3	Warramunga Arr	31.79	265	*e*P		P	22 34 04.9	-1.5
	15nm,1.4s							
WB2	Warramunga Arr	31.81	265	*e*P		P	22 34 06.4	-0.2
	9.2nm,1.3s							
WR1	Warramunga Arr	31.82	265	*e*P		P	22 34 05.8	-0.9
	20nm,1.7s							
WR1				*e*PcP		PcP	22 36 57.2	-0.3
WRA	Warramunga Arr	31.83	265	P		P	22 34 05.8	-0.9
	1.1nm,0.5s,baz=96,slow=8.3,SNR=16							
WRA				PcP		PcP	22 36 57.2	-0.3
	0.6nm,0.7s,baz=86,slow=2.6,SNR=3.7							
AS01	Alice Springs	31.94	258	*e*P		P	22 34 07.2	-0.4
AS31	Alice Springs	31.98	258	*e*P		P	22 34 07.8	-0.3
	4.8nm,0.7s							
AS31				*e*PcP		PcP	22 36 57.4	-0.4
ASAR	Alice Springs	31.98	258	P		P	22 34 07.8	-0.3
	6.6nm,0.7s,baz=85,slow=9.1,SNR=70							
ASAR				PcP		PcP	22 36 57.4	-0.4
	0.5nm,0.7s,baz=73,slow=3.2,SNR=3.4							
ASAR				LR		LR	22 45 31.8	
	comp=Z,94nm,20.8s,baz=32,slow=33							
MCQ	Macquarie Isla	34.81	190	*e*P		P	22 34 30.2	-1.9
	254nm,1.4s							
FAKI	Fak Fak	39.16	292	*e*P		P	22 35 07.8	-1.9
	39nm,1.3s							
PPT	Papeete	39.89	93	*e*P		P	22 35 12.4	-3.3
FITZ	Fitzroy Crossi	40.24	266	P		P	22 35 19.1	+0.4
	4.9nm,0.7s,baz=124,slow=11,SNR=12							
FITZ	Fitzroy Crossi	40.24	266	*e*P		P	22 35 19.2	+0.6
	11nm,0.8s							
LUWI	Luwuk	48.41	288	*e*P		P	22 36 21.9	-2.2
	56nm,1.3s							
DAV	Davao City (W)	50.05	299	*e*P		P	22 36 34.9	-1.7
	163nm,0.4s							
HPO	Honuapo	52.86	44	*e*P		P	22 36 55.5	-2.0
CBIJ	Chichi jima	53.52	331	*e*P		P	22 37 00.4	-1.9
	186nm,1.2s							
VNDA	Vanda	57.28	182	P		P	22 37 28.6	-0.1
	0.8nm,0.6s,baz=350,slow=6.9,SNR=5.7							
VNDA	Vanda	57.28	182	*e*P		P	22 37 27.9	-0.8
	20nm,1.9s							
SBA	Scott Base	57.54	180	*e*P		P	22 37 31.8	+1.3
	11nm,0.9s							
SBA				*e*pP		sP	22 37 44.1	+2.4
MJAR	Matsushiro Arr	63.33	333	P		P	22 38 09.4	-1.2
	2.3nm,0.9s,baz=171,slow=7.4,SNR=10							
KSRS	Korea Array	68.93	326	P		P	22 38 46.6	+0.1
	1.2nm,0.8s,baz=268,slow=37,SNR=3.3							
KS15	Wonju Array Si	68.94	326	*e*P		P	22 38 46.6	0.0
KSAR	Wonju Array Be	68.94	326	P		P	22 38 46.6	0.0
QSPA	South Pole Qui	69.69	180	*e*P		P	22 38 51.0	-0.1
NJ2	Nanjing	70.39	317	*e*P		P	22 38 59.3	+3.7
NJ2				PMZ				
	15nm,0.5s							
IPM	Ipoh	70.43	283	*e*P		P	22 38 53.9	-2.5
	25nm,1.5s							
USRK	Ussuriysk Ar.	72.32	333	P		P	22 39 07.2	+0.2
	4.4nm,0.8s,baz=93,slow=7.3,SNR=8.6							
SMY	Shemya	72.96	4	*e*P		P	22 39 10.4	-0.2
	293nm,1.2s							
PEA0	Petropavlovsk-	73.74	353	*e*P		P	22 39 14.9	-0.3
PEA0B	Petropavlovsk-	73.74	353	*e*P		P	22 39 15.6	+0.3
	21nm,1.2s							
PETK	Petropavlovsk-	73.74	353	P		P	22 39 15.9	+0.7
	4.0nm,0.6s,baz=139,slow=7.5,SNR=9.1							
PEA1	Petropavlovsk-	73.74	353	*e*P		P	22 39 15.9	+0.7
NIKH	Nikolski High	75.68	14	*e*P		P	22 39 24.6	-1.9
	85nm,1.1s							
GYA	Guiyang	75.72	306	P		P	22 39 28.9	+1.4
GYA				pP		PcP	22 39 45.2	+5.0
GYA				PP		PP	22 42 21.8	+4.1
GYA				S		S	22 49 05.6	-2.3
GYA				sS		SKSac	22 49 33.0	-3.4
GYA				SS		SS	22 54 00.4	+0.1
GYA				PMZ				
	20nm,1.0s							
GYA				PMZ				
	120nm,5.9s							
GYA				LN				
	540nm,19.0s							
GYA				LE				
	480nm,20.0s							
GYA				LZ				
	460nm,19.6s							
KLR	Kul'dur	76.52	336	P		P	22 39 31.6	+0.2
	1.2nm,0.7s,baz=127,slow=7.7,SNR=4.6							
UNV	Unalaska Valle	77.04	15	*e*P		P	22 39 32.9	-1.3
	101nm,1.8s							
MAW	Mawson	77.05	202	P		P	22 39 34.7	+0.5
	4.4nm,1.0s,baz=96,slow=2.4,SNR=5.5							
MAW	Mawson	77.05	202	*e*P		P	22 39 34.7	+0.5
	1.9nm,1.0s							
BJI	Beijing	77.24	322	P		P	22 39 37.4	+1.8
BJI				PMZ				
	5.0nm,0.6s							
CM01	Chiang Mai Arr	78.11	295	*e*P		P	22 39 42.4	+1.5
CM31	Chiang Mai Arr	78.14	295	*e*P		P	22 39 42.6	+1.4
CMAR	Chiang Mai Arr	78.14	295	P		P	22 39 42.6	+1.4
	1.3nm,0.4s,baz=136,slow=4.1,SNR=12							
CHTO	Chiang Mai	78.30	295	*e*P		P	22 39 42.4	+0.4
	3.6nm,0.9s							
SPIA	Saint Paul Isl	79.32	12	*e*P		P	22 39 45.8	-0.9
	153nm,1.6s							
SDPT	Sand Point	79.97	18	*e*P		P	22 39 47.7	-2.6
	77nm,1.2s							
CD2	Chengdu	80.20	308	*e*P		P	22 39 51.8	-0.4
CD2				PMZ				
	10.0nm,0.5s							
HHC	Hu-ho-hao-te	80.49	320	*e*P		P	22 39 55.6	+2.0
HHC				sP		sP	22 40 16.2	+11
HHC				S		S	22 49 58.5	-0.1
HHC				PMZ				
	13nm,1.1s							
HHC				PMZ				
	77nm,8.6s							
HHC				LN				
	110nm,15.7s							
HHC				LE				
	99nm,17.2s							
HHC				LZ				
	69nm,15.2s							
LZH	Lanzhou	82.81	313	*e*P		P	22 40 07.8	+1.7
LZH				pP		sP	22 40 24.1	+6.6
LZH				sP		pP	22 40 30.4	+16
LZH				PMZ				
	15nm,1.0s							
KCPM	Cahto Peak	87.17	46	*e*P		P	22 40 23.9	-3.9
	15µm,0.6s							
SONA0	Songino Array	87.57	324	*e*P		P	22 40 29.1	-0.5
	11nm,1.5s							
SONM	Songino Array	87.57	324	P		P	22 40 29.1	-0.5
	0.8nm,0.8s,baz=133,slow=5.9,SNR=5.6							
SNAA	Sanae	88.00	183	*e*P		P	22 40 30.6	-0.7
	12nm,1.3s							
WDC	Whiskeytown Da	88.30	45	*e*P		P	22 40 32.6	-0.4
	24nm,1.4s							
N02D	Trinity Center	88.38	45	P		P	22 40 34.0	+0.5
	baz=241							
M02C	Callahan	88.48	45	P		P	22 40 34.5	+0.5
	baz=241							
CMB	Columbia Colle	88.58	48	*e*P		P	22 40 33.4	-1.1
	6.5nm,0.9s							
AFDM	Forest Hills D	88.59	47	*e*P		P	22 40 34.2	-0.3
	9.3nm,1.1s							
O03D	Paynes Creek	88.66	46	P		P	22 40 34.6	-0.3
	baz=242							
YBH	Yreka Blue Hor	88.74	44	*e*P		P	22 40 35.4	+0.1
	14nm,1.9s							
BFSC	Mount Baldy Ra	88.88	53	P		P	22 40 36.0	-0.2
	baz=244							
ISA	Isabella, Lake	88.89	51	P		P	22 40 35.7	-0.3
	baz=244							
EDW2	Edwards Air Fo	88.91	52	P		P	22 40 35.9	-0.2
	baz=244							
MURC	Murrieta	88.95	54	P		P	22 40 36.0	-0.4
	baz=245							
HUMO	Hull Mountain	89.00	43	*e*P		P	22 40 36.7	+0.3
	10nm,0.9s							
MONP2	Monument Peak	89.24	54	P		P	22 40 37.5	-0.5
	baz=245							
M04C	Macdoel	89.33	45	P		P	22 40 37.8	-0.3
	baz=242							
WAKR	Walker	89.46	48	*e*P		P	22 40 38.9	0.0
CWC	Cottonwood Cre	89.52	51	P		P	22 40 39.0	-0.1
	baz=244							
TIN	Tinemaha, Big	89.68	50	P		P	22 40 40.5	+0.7
	baz=244							
MPMC	Manual Prospec	89.78	51	P		P	22 40 40.2	-0.2
	baz=244							
DAC	Darwin (Calif)	89.80	51	*e*P		P	22 40 40.2	-0.3
	6.3nm,1.0s							
TVH2	Borealis Mine	89.88	49	*e*P		P	22 40 40.7	-0.2
	4.4nm,1.2s							
BELC	Belle Mtn. Jos	90.03	54	P		P	22 40 41.0	-0.5
	baz=245							
PAHR	Pah Rah Range	90.03	47	*e*P		P	22 40 41.2	-0.3
	13nm,1.2s							
HEC	Hector,Ludlow	90.12	53	P		P	22 40 41.6	-0.3
	baz=245							
NV01	Mina Array Sit	90.22	49	*e*P		P	22 40 41.9	-0.5
NVAR	Mina Array Bea	90.22	49	P		P	22 40 41.9	-0.5
	4.6nm,0.7s,baz=232,slow=8.0,SNR=26							
GRAC	Grapevine Rang	90.28	50	P		P	22 40 42.2	-0.3
	baz=244							
BC3	Big Chuckawall	90.30	54	P		P	22 40 42.4	-0.4
	baz=246							
NV11	Mina Array Sit	90.33	49	*e*P		P	22 40 42.4	-0.4
	12nm,1.1s							
K05A	Summer Lake	90.40	44	*e*P		P	22 40 42.9	-0.2
	9.1nm,0.8s							
MOD	Modoc Plateau	90.41	45	*e*P		P	22 40 42.8	-0.3
	8.3nm,0.8s							
FURC	Furnace Creek,	90.42	51	P		P	22 40 43.3	+0.3
	baz=245							
J05D	Fort Rock, OR	90.43	44	P		P	22 40 43.5	+0.3
	baz=242							
GLA	Glamis	90.53	55	P		P	22 40 44.1	+0.3
	baz=246							
GMRC	Granite Mounta	90.60	53	P		P	22 40 44.0	-0.2
	baz=246							
SHOC	Shoshone, Teco	90.61	52	P		P	22 40 43.4	-0.6
	baz=245							
F04D	Rainier, OR	90.65	40	P		P	22 40 44.7	+0.8
	baz=241							
TUQ	Turquoise Moun	90.68	52	P		P	22 40 44.2	-0.3
	baz=245							
IRM	Iron Mountain	90.73	54	P		P	22 40 43.5	-1.2
	baz=246							
I05D	Terrebonne, OR	90.86	43	P		P	22 40 44.6	-0.5
	baz=242							
Y12C	Blythe	91.04	54	P		P	22 40 46.1	+0.1
	baz=246							
TPNV	Topopah Spring	91.07	51	P		P	22 40 46.2	-0.2
	baz=245							
TPNV	Topopah Spring	91.07	51	*e*P		P	22 40 46.1	-0.2
	7.7nm,0.9s							
PDMCI	Parker Dam,Lak	91.56	54	P		P	22 40 48.2	-0.2
	baz=246							
IL1	Eielson Array	91.57	18	*e*P		P	22 40 48.4	+0.7
ILAR	Eielson Array	91.57	18	P		P	22 40 48.3	+0.5
	1.2nm,0.8s,baz=235,slow=5.1,SNR=9.0							
ILB	Eielson Array	91.57	18	*e*P		P	22 40 48.3	+0.5
214A	Organ Pipe Nat	91.66	57	P		P	22 40 49.1	+0.1
	baz=247							
SHPR	Sheep Range	91.68	52	*e*P		P	22 40 49.1	-0.1
	3.3nm,1.0s							
W13A	Hualapai Mount	92.06	53	*e*P		P	22 40 50.9	-0.1
	3.7nm,0.9s							
A04D	Lummi Island	92.11	38	P		P	22 40 51.1	+0.6
	baz=241							
R11A	Troy Canyon, C	92.12	50	*e*P		P	22 40 50.3	-1.0
	1.7nm,0.8s							
R11A				*e*PP		PP	22 44 37.1	+5.3
TUC	Tucson	93.38	57	P		P	22 40 56.4	-0.6
	baz=248							
U15A	North Rim	93.78	53	*e*P		P	22 40 59.0	-0.1
	8.0nm,1.3s							
MFID	Camas Ranch	94.04	45	*e*P		P	22 40 59.1	-0.7
	3.0nm,0.8s							
TCUT	Toone Canyon	96.17	49	*e*P		P	22 41 07.6	-2.2
	44nm,0.8s							
LAZ	Ladron	96.97	56	*e*pP		pP	22 41 23.0	+0.9
WMQ	Urumqi	97.33	314	P		P	22 41 14.2	-0.6
WMQ				pP		sP	22 41 30.9	+4.6
WMQ				sP		pP	22 41 38.2	+15
WMQ				PMZ				
	5.0nm,0.6s							
WMQ				PMZ				
	74nm,4.8s							
WMQ				LN				
	25nm,17.6s							
WMQ				LE				
	15nm,17.6s							
WMQ				LZ				
	25nm,18.4s							
ARA0	ARCESS Array S	125.91	345	*e*PKPdf		PKPdf	22 46 42.4	-0.3
ARCES	ARCESS Array B	125.91	345	PKP		PKPdf	22 46 42.4	-0.3
	4.1nm,0.8s,baz=27,slow=1.4,SNR=8.2							
FIA0	FINESS Array S	131.27	337	*e*PKPdf		PKPdf	22 46 53.1	0.0
FINES	FINESS Array B	131.27	337	PKP		PKPdf	22 46 53.1	0.0
	0.7nm,0.8s,baz=339,slow=3.4,SNR=3.5							
AKASG	Malin Array Be	135.86	323	PKP		PKPdf	22 47 02.7	+0.7
	0.3nm,0.4s,baz=71,slow=1.1,SNR=4.1							
AKBB	Malin Array Si	135.86	323	*e*PKPdf		PKPdf	22 47 02.7	+0.7
BRG	Berggiesshubel	143.46	333	*e*PKP		PKPdf	22 47 18.6	+2.8
	3.6nm,1.0s							
CLL	Collm	143.54	334	*e*PKPdf		PKPdf	22 47 16.0	0.0
NKC	Novy Kostel	144.57	333	*e*PKP		PKPdf	22 47 17.1	-0.8
CONA	Conrad Observa	144.62	327	*i* PKPdf		PKPdf	22 47 17.8	-0.3
	8.9nm,1.4s							
KHC	Kasperske Hory	144.88	331	*e*PKP		PKPdf	22 47 18.0	-0.5
KHC				*e*pPKP		pPKPdf	22 47 27.6	+0.4
GERES	GERESS Array B	145.03	330	PKPbc		PKPdf	22 47 18.4	-0.4
	2.2nm,0.8s,baz=60,slow=2.4,SNR=16							
GEA0	GERESS Array S	145.04	330	*e*PKPbc		PKPbc	22 47 17.9	-0.3
MOA	Molln	145.46	329	*i* PKPab		PKPab	22 47 19.8	+0.1
	13nm,1.1s							
SOKA	Soboth	145.86	326	*i* PKPab		PKPbc	22 47 20.9	+0.1
	8.9nm,1.3s							
MEM	Membach	146.72	339	PKP		PKPbc	22 47 23.4	+0.2
BCLA	Clavier	147.12	340	PKP		PKPab	22 47 25.0	-0.9
SNF	Seneffe	147.36	341	PKP		PKPbc	22 47 24.8	-0.2
WLF	Walferdange	147.48	338	PKP		PKPbc	22 47 26.1	+0.8
WLF				APKP		pPKPdf	22 47 38.7	+7.2
WLF	Walferdange	147.48	338	*e*PKPbc		PKPbc	22 47 25.9	+0.6
DOU	Dourbes	147.62	340	PKP		PKPbc	22 47 25.8	+0.1
DOU				APKP		pPKPdf	22 47 39.0	+7.2
FETA	Feichten	147.73	331	*i* PKPbc		PKPbc	22 47 25.6	-0.8
	7.0nm,0.9s							
BFO	Black Forest	147.76	335	*e*PKPbc		PKPbc	22 47 26.2	0.0
FUORN	Ofenpass-Fuorn	148.24	331	*e*PKPbc		PKPbc	22 47 28.2	+0.4
SENIN	Lac Senin/Sane	149.75	333	*e*PKPbc		PKPbc	22 47 32.0	+0.4
TORD	Torodi Ar. Bea	165.28	243	PKP		PKPdf	22 47 45.9	-0.8
	1.0nm,0.9s,baz=318,slow=3.3,SNR=4.6							
TORD				PKPab		PKPab	22 48 43.3	-1.0
	0.8nm,1.0s,baz=116,slow=4.8,SNR=4.9							
TOA1	Torodi Ar. Sit	165.29	243	*e*PKPdf		PKPdf	22 47 45.9	-0.8
TOA1				*e*PKPab		PKPab	22 48 43.3	-1.0

ISCJB ***08*** *22:29:57.0±0.5,36.°63N±0.°03×1.°70E±0.°05,h14km,Error ellipse: s-maj=5.6km s-min=4.4km az=9.7*

MDD ***08*** *22:29:56.4±0.8,36.°69N×1.°66E,h0km,mb3.5/2,Error ellipse: s-maj=7.7km s-min=4.5km az=115.0,PRXIMO*

CRAAG ***08*** *22:29:56.1,36.°48N×1.°77E,Ml2.8*

CSEM ***08*** *22:29:57.2±0.3,36.°60N×1.°71E,h10km,mb3.5,Error ellipse: s-maj=7.9km s-min=6.4km az=106.0*

ISC 08 22:29:57.0±0.9,36°59N±0°05×1°72E±0°03,h14km,n31, σ1§13/43,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EBNR	Beni Rached	0.33	207	P		Pg	22 30 03.4	-0.4
EBNR	Beni Rached	0.33	207	P		Pg	22 30 03.4	-0.4
ECHA	Ech Chlef	0.52	213	P		Pb	22 30 09.0	+1.1
ECHA	Ech Chlef	0.52	213	P		Pb	22 30 09.0	+1.1
ECHF	Ech Chlef	0.53	215	P		Pb	22 30 09.0	+1.0
ECHF	Ech Chlef	0.53	215	P		Pb	22 30 09.0	+1.0
EANR	'Ain N'Sour	0.81	218	P		Pg	22 30 11.8	-0.9
EANR	'Ain N'Sour	0.81	218	P		Pg	22 30 11.8	-0.9
EANR	'Ain N'Sour	0.81	218	P		Pg	22 30 11.8	-0.9
OKGL	Djebel Kef Gue	1.02	238	P		Pb	22 30 15.6	-1.0
	7.3nm,0.2s,SNR=7.9							
OKGL				S		Sb	22 30 28.6	-1.3
	95nm,0.2s,SNR=7.9							
OKGL	Djebel Kef Gue	1.02	238	P		Pb	22 30 15.6	-1.0
	7.3nm,0.2s,SNR=7.9							
OKGL				S		Sb	22 30 28.6	-1.3
	95nm,0.2s,SNR=7.9							
EMHD	Djebel Mahouad	1.07	111	P		Pb	22 30 17.7	+0.3
EMHD	Djebel Mahouad	1.07	111	P		Pb	22 30 17.7	+0.3
EMHD	Djebel Mahouad	1.07	111	P		Pb	22 30 17.7	+0.3
ADJB	Djebel Djouab	1.45	107	P		Pn	22 30 23.8	+0.8
ADJB	Djebel Djouab	1.45	107	P		Pn	22 30 23.8	+0.8
ADJB	Djebel Djouab	1.45	107	P		Pn	22 30 23.8	+0.8
EIBI	Ibiza	2.46	353	P		Pn	22 30 37.9	+1.2
	3.5nm,0.3s,SNR=7.9							
EIBI				S		Sn	22 31 05.6	-0.9
	5.2nm,0.2s,SNR=6.9							
EIBI	Ibiza	2.46	353	P		Pn	22 30 37.9	+1.2
	3.5nm,0.3s,SNR=7.9							
EIBI				S		Sn	22 31 05.6	-0.9
	5.2nm,0.2s,SNR=6.9							
ETOS	Mallorca	3.29	15	P		Pn	22 30 48.5	+0.3
	1.5nm,0.2s,SNR=7.9							
ETOS				S		Sn	22 31 26.5	-0.7
	0.1nm,0.0s,SNR=7.9							
ETOS	Mallorca	3.29	15	P		Pn	22 30 48.5	+0.3
	1.5nm,0.2s,SNR=7.9							
ETOS				S		Sn	22 31 26.5	-0.7
	0.1nm,0.0s,SNR=7.9							
ETOB	Tobarra	3.31	309	P		Pn	22 30 48.6	+0.1
	0.1nm,0.1s,SNR=4.0							
ETOB				S		Sn	22 31 28.9	+1.3
	12nm,0.9s,SNR=4.0							
ETOB	Tobarra	3.31	309	P		Pn	22 30 48.6	+0.1
	0.1nm,0.1s,SNR=4.0							
ETOB				S		Sn	22 31 28.9	+1.3
	12nm,0.9s,SNR=4.0							
EBER	Berja	3.71	276	P		Pn	22 30 52.8	-1.3
	0.0nm,0.0s,SNR=7.9							
EBER	Berja	3.71	276	P		Pn	22 30 52.8	-1.3
	SNR=7.9							
SESP	Santiago Espad	3.72	296	S		Sn	22 31 39.6	+1.6
	1.4nm,0.1s,SNR=7.9							
SESP	Santiago Espad	3.72	296	S		Sn	22 31 39.6	+1.6
	1.4nm,0.1s,SNR=7.9							
EQES	Quesada	4.01	289	P		Pn	22 31 00.3	+2.2
	0.1nm,0.2s,SNR=4.0							
EQES				S		Sn	22 31 46.4	+1.4
	0.5nm,0.2s,SNR=7.9							
EQES	Quesada	4.01	289	P		Pn	22 31 00.3	+2.2
	0.1nm,0.2s,SNR=4.0							
EQES				S		Sn	22 31 46.4	+1.4
	0.5nm,0.2s,SNR=7.9							
EMOS	Mosqueruela	4.14	336	P		Pn	22 31 01.7	+1.6
	0.6nm,0.1s,SNR=9.8							
EMOS				S		Sn	22 31 47.6	-0.8
	1.9nm,0.4s,SNR=7.9							
EMOS	Mosqueruela	4.14	336	P		Pn	22 31 01.7	+1.6
	0.6nm,0.1s,SNR=9.8							
EMOS				S		Sn	22 31 47.6	-0.8
	1.9nm,0.4s,SNR=7.9							

CSEM ***08*** *22:29:59.7±0.3,39.°48N×33.°02E,h8km,MD2.8,Error ellipse: s-maj=6.8km s-min=5.7km az=119.0*

ISK ***08*** *22:29:59.9,39.°49N×33.°07E,h5km,MD2.8*

ISCJB ***08*** *22:30:00.3±0.5,39.°46N±0.°03×33.°04E±0.°05,h7km±3km, Error ellipse: s-maj=7.9km s-min=4.7km az=33.5*

DDA ***08*** *22:30:00.1,39.°42N×33.°10E,h6km,Md2.3*

**ISC 08 22:30:00.1±0.9,39°47N±

CTA	**Charters Tower**	**26.23**	**256**	P		P	22 43 04.4	+0.3
	1.8nm,0.6s,baz=78,slow=14,SNR=2.5							
STKA	**Stephens Creek**	**33.28**	**235**	P		P	22 44 08.4	+1.9
	2.9nm,0.6s,baz=69,slow=11,SNR=7.4							
WRA	**Warramunga Arr**	**37.41**	**257**	P		P	22 44 42.3	0.0
	0.8nm,1.0s,baz=94,slow=8.4,SNR=2.7							
ASAR	**Alice Springs**	**38.00**	**251**	P		P	22 44 45.3	-2.0
	1.7nm,0.7s,baz=86,slow=8.9,SNR=11							

IDC 08 22:38:18.2±3.1, 20.90S×164.36E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/27, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=119.8km s-min=22.1km az=18.0, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.27**	**121**	Pn	Pn	22 38 57.3	+0.2
	9.2nm,0.3s,baz=87,slow=9.0,SNR=58						
DZM				Sn	Sn	22 39 26.5	+0.7
	13nm,0.3s,baz=228,slow=23,SNR=7.5						
WRA	**Warramunga Arr**	**28.13**	**267**	P	P	22 44 13.1	+0.8
	0.5nm,0.8s,baz=94,slow=8.1,SNR=7.7						
ASAR	**Alice Springs**	**28.29**	**259**	P	P	22 44 12.7	-1.0
	0.7nm,0.7s,baz=94,slow=7.5,SNR=6.7						
GERES	**GERESS Array B**	**143.57**	**327**	PKP	PKPdf	22 57 54.5	-0.5
	0.6nm,0.7s,baz=42,slow=1.6,SNR=4.0						

NIED ***08*** *22:58:00, 36.20N×141.30E, h8km, Mw3.7 Best double couple: M₀3.36000×10¹⁴ NP1:φ₀265.00000°, δ29.00000°, λ-48.00000°. NP2:φ₀40.00000°, δ69.00000°, λ-110.00000°.*

ISCJB ***08*** *22:58:16.6±0.6, 36.20N±0.04×141.34E±0.06, h26km, mb3.7/12, Error ellipse: s-maj=7.1km s-min=5.6km az=5.5*

JMA ***08*** *22:58:16.5±0.1, 36.17N×141.31E, h50km±3km, M3.7*

IDC ***08*** *22:58:21.1±2.7, 36.15N×141.13E, h46km±26km, mb3.5/12, mb1 3.8/14, mb1mx3.6/39, mbtmp3.8/14, ML3.6/2, Error ellipse: s-maj=26.9km s-min=14.6km az=74.0*

ISC 08 22:58:18.3±0.7, 36.22N±0.04×141.29E±0.06, h26km, n29, σ1°17/28, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.62**	**215**	P	**Pb**	**22 58 29.1**	**-1.5**
CHOJ				S	**Sb**	**22 58 38.0**	**-0.9**
JHO	**Hitachi**	**0.70**	**304**	P	**Pb**	**22 58 30.7**	**-1.3**
JHO				S	**Sb**	**22 58 41.2**	**-0.1**
JYT	**Yasato**	**0.89**	**271**	P	**Pb**	**22 58 33.2**	**-1.8**
ONAJ	**Iwakimizuishiy**	**0.97**	**336**	P	**Pn**	**22 58 34.3**	**-2.0**
JFK	**Kawauchi**	**1.20**	**344**	P	**Pn**	**22 58 37.5**	**-1.9**
JAG	**Ashikaga**	**1.50**	**279**	P	**Pn**	**22 58 42.0**	**-1.5**
MJAR	**Matsushiro Arr**	**2.51**	**278**	P	**Pn**	**22 58 57.0**	**-0.4**
	22nm,0.3s,baz=85,slow=9.8,SNR=178						
MJAR				S	**Sb**	**22 59 35.9**	**+2.8**
	7.1nm,0.3s,baz=75,slow=27,SNR=5.7						
MAT	**Matsushiro**	**2.51**	**278**	P	**Pn**	**22 58 57.1**	**-0.3**
MAT				S	**Sn**	**22 59 28.8**	**+1.6**
JHJ	**Hachijo jima 2**	**3.33**	**202**	P	**Pn**	**22 59 08.7**	**0.0**
	13nm,0.3s,baz=316,slow=23,SNR=12						
JHJ				S	**Sn**	**22 59 47.0**	**-0.4**
	38nm,0.3s,baz=41,slow=21,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**27.82**	**119**	T	T	23 33 09.3	
	baz=312,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**27.83**	**119**	T	T	23 33 09.9	
	baz=312,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**27.84**	**119**	T	T	23 33 11.0	
	baz=312,slow=76,SNR=16						
SONM	**Songino Array**	**28.17**	**305**	P	**P**	**23 04 08.1**	**-0.4**
	0.8nm,0.8s,baz=94,slow=7.8,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**28.51**	**121**	T	T	23 33 57.4	
	baz=314,slow=76,SNR=238						
H11S3	**WAKE ISLAND Hy**	**28.51**	**121**	T	T	23 34 04.4	
	baz=314,slow=76,SNR=107						
H11S2	**WAKE ISLAND Hy**	**28.52**	**121**	T	T	23 33 59.6	
	baz=314,slow=76,SNR=75						
ZALV	**Zalesovo Beam**	**42.40**	**313**	P	**P**	**23 06 10.8**	**+0.4**
	1.5nm,0.5s,baz=91,slow=6.6,SNR=7.1						
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**23 06 27.5**	**+0.3**
	0.2nm,0.2s,baz=90,slow=10,SNR=4.1						
ILAR	**Eielson Array**	**50.24**	**32**	P	**P**	**23 07 12.6**	**+0.8**
	0.8nm,0.6s,baz=268,slow=5.8,SNR=8.0						
WRA	**Warramunga Arr**	**56.24**	**188**	P	**P**	**23 07 55.2**	**-1.2**
	0.3nm,0.4s,baz=2.5,slow=7.0,SNR=7.1						
ASAR	**Alice Springs**	**59.97**	**188**	P	**P**	**23 08 22.1**	**-0.3**
	0.2nm,0.5s,baz=9.7,slow=15,SNR=3.7						
FINES	**FINESS Array B**	**69.49**	**332**	P	**P**	**23 09 24.1**	**0.0**
	1.2nm,0.7s,baz=39,slow=9.8,SNR=5.5						
AKASG	**Malin Array Be**	**74.88**	**322**	P	**P**	**23 09 56.4**	**-0.2**
	0.3nm,0.3s,baz=46,slow=6.0,SNR=5.2						
NB2	**NORSAR Subarra**	**74.90**	**337**	P	**P**	**23 09 56.8**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.90**	**337**	P	**P**	**23 09 56.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=39,slow=5.8,SNR=7.0						
NVAR	**Mina Array Bea**	**75.56**	**53**	P	**P**	**23 10 02.3**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=293,slow=4.6,SNR=3.1						
GERES	**GERESS Array B**	**83.35**	**328**	P	**P**	**23 10 43.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=28,slow=6.8,SNR=2.8						
TXAR	**Lajitas Array**	**90.70**	**52**	P	**P**	**23 11 20.3**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=265,slow=3.8,SNR=3.9						
LPAZ	**La Paz**	**147.61**	**51**	PKPbc	**PKPbc**	**23 18 00.6**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=252,slow=6.4,SNR=3.7						

ISCJB ***08*** *23:14:06.9±0.4, 39.11N±0.03×29.08E±0.03, h9km±5km, Error ellipse: s-maj=5.0km s-min=4.2km az=156.7*

ISK ***08*** *23:14:06.5, 39.11N×29.08E, h9km, MD2.6*

DDA ***08*** *23:14:07.0, 39.09N×29.10E, h7km, Md2.7*

CSEM ***08*** *23:14:07.0±0.1, 39.11N×29.09E, h8km, MD2.6, Error ellipse: s-maj=1.2km s-min=1.1km az=101.0*

ISC 08 23:14:07.2±0.9, 39.11N±0.03×29.09E±0.02, h13km±9km, n34, σ0°39/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.26**	**105**	*e*PG	**Pg**	**23 14 12.4**	**-0.2**
GEDZ				*e*SG	**Sg**	**23 14 16.4**	**+0.1**
GEDZ	**Gediz**	**0.26**	**105**	*e*Pg	**Pg**	**23 14 12.4**	**-0.2**
GEDZ				*e*Sg	**Sg**	**23 14 16.4**	**+0.1**
DEMI	**Demirci**	**0.30**	**257**	P	**Pg**	**23 14 13.6**	**+0.1**
DEMI				S	**Sg**	**23 14 18.0**	**+0.3**
DEMI	**Demirci**	**0.30**	**257**	*i* P	**Pg**	**23 14 13.6**	**+0.1**
DEMI				*i* S	**Sg**	**23 14 18.0**	**+0.3**
GDZ	**Gediz**	**0.30**	**94**	P	**Pg**	**23 14 13.2**	**-0.3**
GDZ				S	**Sg**	**23 14 17.5**	**-0.3**
GDZ	**Gediz**	**0.30**	**94**	*i* P	**Pg**	**23 14 13.2**	**-0.3**
GDZ				*i* S	**Sg**	**23 14 17.4**	**-0.3**
TVSB	**Tavsanli**	**0.44**	**40**	*e*PG	**Pg**	**23 14 15.7**	**-0.3**
TVSB	**Tavsanli**	**0.44**	**40**	*e*Pg	**Pg**	**23 14 15.7**	**-0.3**
DST	**Dursunbey**	**0.61**	**323**	*e*PG	**Pg**	**23 14 19.0**	**-0.2**
DST	**Dursunbey**	**0.61**	**323**	*e*Pg	**Pg**	**23 14 19.0**	**-0.2**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*PG	**Pg**	**23 14 20.5**	**0.0**
KULA				*e*SG	**Sg**	**23 14 29.4**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg	**Pg**	**23 14 20.5**	**0.0**
KULA				*e*Sg	**Sg**	**23 14 29.5**	**-0.1**
MANT	**Manisa**	**0.75**	**214**	P	**Pg**	**23 14 21.5**	**-0.2**
MANT				S	**Sg**	**23 14 30.9**	**-0.7**
MANT	**Manisa**	**0.75**	**214**	*i* P	**Pg**	**23 14 21.5**	**-0.2**
MANT				*i* S	**Sg**	**23 14 30.9**	**-0.7**
KHAL	**Karahalli**	**0.80**	**157**	P	**Pb**	**23 14 22.8**	**-0.2**
KHAL				S	**Sg**	**23 14 33.4**	**+0.1**
KHAL	**Karahalli**	**0.80**	**157**	*i* P	**Pb**	**23 14 22.8**	**-0.2**
KHAL				*i* S	**Sg**	**23 14 33.4**	**+0.1**
KHL	**Karahalli**	**0.85**	**157**	*e*PG	**Pb**	**23 14 23.8**	**-0.1**
KHL	**Karahalli**	**0.85**	**157**	*e*Pg	**Pb**	**23 14 23.8**	**-0.1**
AKS	**Akhisar**	**1.02**	**257**	*e*PG	**Pg**	**23 14 26.2**	**-0.6**
AKS	**Akhisar**	**1.02**	**257**	*e*Pg	**Pg**	**23 14 26.3**	**-0.6**
BALB	**Balikesir**	**1.08**	**300**	*e*PG	**Pg**	**23 14 27.4**	**-0.6**
BALB	**Balikesir**	**1.08**	**300**	*e*Pg	**Pg**	**23 14 27.4**	**-0.6**
CAVI	**Cavuskoy**	**1.23**	**28**	*e*PN	**Pn**	**23 14 30.6**	**+0.5**
CAVI	**Cavuskoy**	**1.23**	**28**	*e*Pn	**Pn**	**23 14 30.6**	**+0.5**
IZI	**Iznik**	**1.26**	**13**	*e*PN	**Pn**	**23 14 30.9**	**+0.5**
IZI	**Iznik**	**1.26**	**13**	*e*Pn	**Pn**	**23 14 31.0**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*PN	**Pn**	**23 14 31.1**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn	**Pn**	**23 14 31.1**	**+0.6**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*PN	**Pn**	**23 14 31.2**	**+0.4**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*Pn	**Pn**	**23 14 31.2**	**+0.4**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pn**	**23 14 33.9**	**+0.6**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pn**	**23 14 33.9**	**+0.6**
GULT	**Gulveren**	**1.71**	**39**	*e*PN	**Pn**	**23 14 37.1**	**+0.3**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**23 14 37.1**	**+0.3**

JMA 08 23:33:17.4, 36.71N×140.59E, h9km±1km, M2.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.10**	**190**	P	Pg	23 33 19.8	-0.1
JHO				*e*S	Sg	23 33 21.6	0.0
ONAJ	**Iwakimizuishiy**	**0.42**	**23**	P	Pg	23 33 25.7	0.0
ONAJ				S	Sg	23 33 31.6	+0.2
JYT	**Yasato**	**0.58**	**214**	P	Pg	23 33 28.3	-0.3
MAT	**Matsushiro**	**1.92**	**266**	P	Pn	23 33 48.3	-2.0
MAT				S	Sn	23 34 15.5	+0.8

IDC 08 23:35:47.1±6.0, 18.00S×177.00W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/26, mbtmp4.0/2, Error ellipse: s-maj=296.8km s-min=53.3km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.94**	**259**	P	P	23 44 12.4	+0.3
	1.3nm,0.3s,baz=96,slow=7.6,SNR=41						
ASAR	**Alice Springs**	**46.06**	**254**	P	P	23 44 12.5	-0.5
	0.6nm,0.3s,baz=83,slow=8.5,SNR=14						
GERES	**GERESS Array B**	**148.03**	**347**	PKPbc	PKPbc	23 55 33.9	-0.8
	0.3nm,0.7s,baz=38,slow=3.7,SNR=3.7						

MEX 08 23:41:35.2±0.3, 30.25N×114.76W, h14km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**1.00**	**323**	*e*P	Pb	23 41 51.2	-3.3
SPIG				*i* S	Sb	23 42 03.9	-3.8
CBX	**Cerro Bola**	**2.63**	**322**	*e*P	Pn	23 42 14.7	-2.6
CBX				*i* S	Sn	23 42 44.7	-4.3
TJIG	**Tijuana**	**2.73**	**324**	*i* P	Pn	23 42 15.8	-2.8
TJIG				*i* S	Sn	23 42 47.5	-3.8

DDA ***08*** *23:47:08.4, 39.35N×34.12E, h7km, Md2.7*

CSEM ***08*** *23:47:09.1±0.1, 39.41N×34.07E, h5km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.1km az=163.0*

ISK ***08*** *23:47:09.0, 39.39N×34.07E, h9km, MD2.7*

ISC 08 23:47:09.1±1.0, 39.39N±0.03×34.08E±0.02, h6km±10km, n30, σ0°54/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAMT	**Kaman**	**0.29**	**266**	PG	**Pg**	**23 47 14.8**	**+0.1**
KAMT				SG	**Sg**	**23 47 19.4**	**+0.8**
KAMT	**Kaman**	**0.29**	**266**	*i* Pg	**Pg**	**23 47 14.8**	**+0.1**
KAMT				*i* Sg	**Sg**	**23 47 19.4**	**+0.8**
CDAG	**Cicekdag**	**0.32**	**44**	P	**Pg**	**23 47 15.1**	**-0.3**
CDAG				S	**Sg**	**23 47 20.0**	**+0.2**
CDAG	**Cicekdag**	**0.32**	**44**	*i* P	**Pg**	**23 47 15.2**	**-0.3**
CDAG				*i* S	**Sg**	**23 47 20.0**	**+0.2**
SERE	**Sereflikochisa**	**0.60**	**222**	*e*PG	**Pg**	**23 47 20.9**	**+0.3**
SERE				*e*SG	**Sb**	**23 47 29.5**	**-1.3**
SERE	**Sereflikochisa**	**0.60**	**222**	*e*Pg	**Pg**	**23 47 20.9**	**+0.3**
SERE				*e*Sg	**Sb**	**23 47 29.5**	**-1.3**
BBAL	**Bala**	**0.76**	**282**	P	**Pg**	**23 47 23.7**	**0.0**
BBAL				S	**Sb**	**23 47 34.8**	**-0.6**
BBAL	**Bala**	**0.76**	**282**	*i* P	**Pg**	**23 47 23.7**	**0.0**
BBAL				*i* S	**Sb**	**23 47 34.8**	**-0.6**
AFSR	**Afˇar-Bala (A**	**0.79**	**274**	*e*PG	**Pg**	**23 47 23.3**	**-0.9**
AFSR				*e*SG	**Sb**	**23 47 35.5**	**-0.6**
AFSR	**Afˇar-Bala (A**	**0.79**	**274**	*e*Pg	**Pg**	**23 47 23.3**	**-0.9**
AFSR				*e*Sg	**Sb**	**23 47 35.5**	**-0.6**
AVNS	**Nevsehir-Avano**	**0.83**	**134**	S	**Sg**	**23 47 35.5**	**-0.4**
AVNS	**Nevsehir-Avano**	**0.83**	**134**	*i* S	**Sg**	**23 47 35.5**	**-0.4**
CORM	**Corum**	**0.89**	**28**	*e*PG	**Pb**	**23 47 26.7**	**-0.4**
CORM	**Corum**	**0.89**	**28**	*e*Pg	**Pb**	**23 47 26.7**	**-0.4**
KKUL	**Konya-Kulu**	**0.93**	**257**	P	**Pg**	**23 47 27.0**	**+0.1**
KKUL	**Konya-Kulu**	**0.93**	**257**	*i* P	**Pg**	**23 47 27.0**	**+0.1**
YOZ	**Yozgat**	**0.99**	**75**	*e*PG	**Pg**	**23 47 28.4**	**+0.3**
YOZ	**Yozgat**	**0.99**	**75**	*e*Pg	**Pg**	**23 47 28.4**	**+0.3**
GULA	**Gulagac**	**1.05**	**173**	*e*PG	**Pb**	**23 47 29.9**	**+0.1**
GULA	**Gulagac**	**1.05**	**173**	*e*Pg	**Pb**	**23 47 29.9**	**+0.1**
COAL	**Corum-Alaca**	**1.11**	**39**	P	**Pg**	**23 47 30.3**	**-0.1**
COAL				S	**Sb**	**23 47 46.0**	**+0.4**
COAL	**Corum-Alaca**	**1.11**	**39**	*i* P	**Pg**	**23 47 30.3**	**-0.1**
COAL				*i* S	**Sb**	**23 47 46.0**	**+0.4**
LOD	**Lodumlu**	**1.13**	**297**	*e*PN	**Pb**	**23 47 31.0**	**-0.1**
LOD	**Lodumlu**	**1.13**	**297**	*e*Pn	**Pb**	**23 47 31.0**	**-0.1**
ELDT	**Eldivan**	**1.21**	**336**	P	**Pg**	**23 47 31.9**	**-0.4**
ELDT	**Eldivan**	**1.21**	**336**	*i* P	**Pg**	**23 47 31.9**	**-0.4**
ELDT				*i* S	**Sn**	**23 47 50.6**	**+1.1**
BNN	**Bunyan**	**1.47**	**111**	*e*PN	**Pb**	**23 47 36.6**	**-0.4**
BNN	**Bunyan**	**1.47**	**111**	*e*Pn	**Pb**	**23 47 36.6**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**1.68**	**88**	P	**Pn**	**23 47 39.5**	**+0.4**
CUSAR				S	**Sg**	**23 48 02.8**	**-0.1**
CUSAR	**Sarkisla-SIVAS**	**1.68**	**88**	*i* P	**Pn**	**23 47 39.5**	**+0.4**
CUSAR				*i* S	**Sg**	**23 48 02.9**	**-0.1**

CASC 09 00:07:06.0±1.2, 9.35N×83.87W, h0km±6km, MD3.8, ML3.0, 3C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUS	**Buena Vista**	**0.23**	**28**↓	*e*P	Pg	00 07 12.3	+1.8
BUS				*e*S	Sg	00 07 16.7	+3.2
QCR	**Quepos**	**0.30**	**284**↑	*i*P	Pb	00 07 13.1	-1.2
URSC	**Urasca**	**0.49**	**11**↓	*i*P	Pb	00 07 16.8	-0.9
CGA2	**Cerro Gallo 2**	**0.49**	**319**↑	*e*P	Pg	00 07 23.3	+0.3
ACR	**Cerro Adams**	**0.98**	**135**↑	*e*P	Pg	00 07 24.8	0.0
ESPN	**Las Esperanzas**	**2.86**	**352**	*e*P	Pn	00 07 53.3	+0.4
ZANG	**Zanguenga, Cho**	**3.97**	**95**	*e*P	Pn	00 08 08.7	+0.4
BCIP	**Isla Barro Col**	**3.99**	**92**	*e*P	Pn	00 08 08.7	+0.3

PRE ***09*** *00:11:18.2±2.6, 25.64S×27.21E, h2km, ML3.8*

IDC ***09*** *00:11:19.3±1.6, 25.66S×27.03E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.6/30, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=54.0km s-min=16.8km az=110.0*

ISC 09 00:11:18.7±1.6, 25.68S±0.05×27.19E±0.05, h5km±11km, n22, σ1°81/38, mb3.8/3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**0.31**	**237**	*e*P	**Pb**	**00 11 26.4**	**-0.5**
KSR				*e*S	**Sb**	**00 11 31.3**	**-1.2**
KSR				AML	AML	00 11 34.6	
	comp=Z,5μm,0.5s						
KLOF	**Kloof**	**0.77**	**150**	*e*P	**Pg**	**00 11 34.1**	**+0.7**
KLOF				*e*S	**Sg**	**00 11 45.4**	**+2.0**
KLOF				AML	AML	00 11 50.1	
	comp=Z,1μm,0.7s						
WDLM	**Western Deep L**	**0.77**	**164**	*e*P	**Pg**	**00 11 33.8**	**+0.3**
WDLM				*e*S	**Sg**	**00 11 43.2**	**-0.3**
WDLM				AML	AML	00 11 53.2	
	comp=Z,591nm,0.8s						
ERPM	**east rand prop**	**1.15**	**125**	*e*P	**Pg**	**00 11 39.5**	**-1.4**
ERPM				*e*S	**Sg**	**00 11 53.3**	**-2.6**
ERPM				AML	AML	00 12 01.1	
	comp=Z,617nm,0.6s						
PRYS	**Parys**	**1.25**	**173**	*e*P	**Pg**	**00 11 42.7**	**0.0**
PRYS				*e*S	**Sn**	**00 12 02.4**	**+2.1**
PRYS				AML	AML	00 12 03.2	
	comp=Z,967nm,0.3s						
SWZ	**Schweizer**	**2.24**	**228**	*e*P	**Pn**	**00 11 56.7**	**+0.1**
SWZ				*e*S	**Sn**	**00 12 25.7**	**+1.0**
SWZ				AML	AML	00 12 40.2	
	comp=Z,175nm,0.3s						
SEK	**Senekal**	**2.66**	**172**	*e*P	**Pn**	**00 12 03.6**	**+1.2**
SEK				*e*S	**Sn**	**00 12 37.5**	**+2.4**
SEK				AML	AML	00 12 51.4	
	comp=Z,301nm,0.4s						
BOSA	**Boshof**	**3.39**	**210**	*i* P	Pn	00 12 07.4	-5.1
BOSA				*i*		00 12 07.5	
	baz=21,slow=14						
BOSA				*i* S	**Sb**	**00 12 59.6**	**-1.4**
BOSA	**Boshof**	**3.39**	**210**	Pn	**Pn**	**00 12 13.3**	**+0.8**
	comp=Z,5.5nm,0.3s,baz=32,slow=12,SNR=132						
BOSA				Pg	**Pb**	**00 12 20.4**	**+1.0**
	comp=Z,11nm,0.3s,baz=34,slow=16,SNR=30						
BOSA				Lg	Lg	00 13 04.8	
	comp=Z,31nm,0.3s,baz=293,slow=19,SNR=11						
MSNA	**Messina**	**4.21**	**39**	*e*P	**Pn**	**00 12 21.9**	**-1.8**
MSNA				*e*S	**Sn**	**00 13 10.9**	**-2.5**
MSNA				AML	AML	00 13 29.8	
	comp=Z,73nm,0.4s						
HVD	**Gariep Dam**	**5.13**	**197**	*e*P	**Pn**	**00 12 36.4**	**0.0**
HVD				*e*S	**Sn**	**00 13 34.2**	**-1.8**
HVD				AML	AML	00 14 05.7	
	comp=Z,68nm,0.5s						
MATP	**Matopo**	**5.37**	**13**	*i* P	Pn	00 12 34.2	-5.5
MATP				*i*		00 12 34.4	
	baz=108,slow=11						
MATP				*i* S	**Sn**	**00 13 44.0**	**+2.0**
UPI	**Upington**	**5.93**	**242**	*e*P	**Pn**	**00 12 47.5**	**+0.2**
UPI				*e*S	**Sn**	**00 13 53.6**	**-2.1**
UPI				AML	AML	00 14 26.0	
	comp=Z,48nm,0.4s						
KEIM	**Keimoes**	**6.30**	**240**	*e*P	**Pn**	**00 12 55.6**	**+3.1**
KEIM				*e*S	**Sn**	**00 14 02.2**	**-2.7**
KEIM				AML	AML	00 14 45.0	
	comp=Z,79nm,0.6s						
GRM	**Grahamstown**	**7.63**	**184**	*e*P	**Pn**	**00 13 12.1**	**+1.5**
GRM				*e*S	**Sn**	**00 14 36.7**	**-0.7**
GRM				AML	AML	00 15 28.8	
	comp=Z,22nm,0.5s						
BUFB	**Buffelsbos**	**8.70**	**194**	*e*P	**Pn**	**00 13 25.1**	**-0.2**
BUFB				*e*S	**Sn**	**00 14 59.8**	**-4.0**
BUFB				AML	AML	00 15 21.9	
	comp=Z,13nm,0.5s						
CVNA	**Calvinia**	**8.72**	**227**	*e*P	**Pn**	**00 13 26.8**	**+1.2**
CVNA				*e*S	**Sn**	**00 15 02.5**	**-1.9**
CVNA				AML	AML	00 16 01.1	
	comp=Z,50nm,0.6s						
KOMG	**Komaggas**	**9.53**	**242**	*e*P	**Pn**	**00 13 36.7**	**+0.1**
KOMG				*e*S	**Sn**	**00 15 20.2**	**-3.8**
KOMG				AML	AML	00 16 24.8	
	comp=Z,23nm,0.5s						
TORD	**Torodi Ar. Bea**	**45.89**	**324**	P	**P**	**00 19 42.6**	**+0.1**
	comp=Z,4.1nm,0.5s,baz=137,slow=7.3,SNR=106						
ESDC	**Sonseca Array**	**71.22**	**335**	P	**P**	**00 22 39.9**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=159,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**87.62**	**34**	P	**P**	**00 24 09.4**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=251,slow=4.4,SNR=2.1						
NVAR	**Mina Array Bea**	**148.30**	**302**	PKPbc	**PKPbc**	**00 31 07.3**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=69,slow=4.9,SNR=3.1						

NIED ***09*** *00:12:00, 25.10N×125.90E, h47km, Mw4.7 Best double couple: M₀1.14000×10¹⁶ NP1:φ₀222.00000°, δ66.00000°, λ-176.00000°. NP2:φ₀131.00000°, δ87.00000°, λ-24.00000°.*

IDC ***09*** *00:12:01.3±0.6, 24.99N×125.81E, h0km, mb4.3/23, mb1 4.4/25, mb1mx4.3/38, mbtmp4.2/25, ML3.6/2, MS3.7/28, Ms1 3.7/28, ms1mx3.6/41, Error ellipse: s-maj=18.4km s-min=14.0km az=82.0*

BJI ***09*** *00:12:03.0, 24.68N×126.18E, h40km, mb4.3/42, mB4.6/31, ML4.1/2, Ms4.1/36, Ms7 3.8/32*

ISCJB ***09*** *00:12:06.6±0.3, 24.99N±0.03×125.97E±0.02, h52km±2km, mb4.6/92, MS3.7/27, Error ellipse: s-maj=5.4km s-min=3.0km az=151.0*

JMA ***09*** *00:12:06.8±0.1, 25.01N×125.95E, h61km±2km, M4.4*

JMA Felt I J1.

MOS ***09*** *00:12:07.5±1.1, 25.02N×125.69E, h55km, mb4.9/31, Error ellipse: s-maj=9.7km s-min=5.8km az=95.9*

NEIC ***09*** *00:12:08.8±0.6, 24.97N×125.85E, h56km±5km, mb4.7/50, Error ellipse: s-maj=7.0km s-min=5.5km az=122.0*

NEIC Recorded [1 JMA] on Kume-jima and Miyako-jima.

BKK ***09*** *00:12:40.4±2.9, 26.16N×61.12×12.3E±4.9, h10km, M4.3/7, mb4.1/7, MLv4.4/1*

ISC 09 00:12:08.3±0.5, 25.03N±0.04×125.97E±0.03, h49km±4km, n273, σ2°11/279, mb4.6/94, MS3.7/27, 6C-6D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.58**	**242**	P	**Pn**	**00 12 19.3**	**-1.1**
JOGS				S	**Sn**	**00 12 28.5**	**-0.6**
JMJ	**Miyako jima 2**	**0.65**	**251**	P	**Pn**	**00 12 20.3**	**-1.0**
JMJ				S	**Sn**	**00 12 30.3**	**-0.4**
JIKM	**Ikemajima**	**0.66**	**261**	P	**Pn**	**00 12 20.3**	**-1.2**
JIKM				S	**Sn**	**00 12 30.7**	**-0.3**
JIRB	**Irabujima**	**0.75**	**254**	P	**Pn**	**00 12 21.3**	**-1.3**
JIRB				S	**Sn**	**00 12 31.8**	**-1.2**
JTJ	**

MJB9 Matsu-Tunnel 15.55 40 *e*Pn **Pn** **00 15 41.4 -2.8**
comp=Z,3.7nm,1.1s
QIZ Qiongzhong 16.09 251 P **Pn** **00 15 51.0 -0.3**
QIZ S **Sn** **00 18 48.2 -0.7**
QIZ LZ
comp=Z,380nm,19.8s
BJI Beijing 17.07 334 P **P** **00 16 06.3 +1.7**
BJI S **Sn** **00 19 14.3 +2.0**
BJI PMZ
comp=Z,15nm,1.6s
BJI PMZ
comp=Z,190nm,5.4s
GYA Guiyang 17.45 279 P **P** **00 16 14.2 +5.2**
GYA pP pP 00 16 17.8 -2.5
GYA PP **sP** **00 16 23.0 -3.5**
GYA S **Sn** **00 19 18.4 -3.4**
GYA sS S 00 19 33.0 +5.0
GYA SS **SnSn** **00 19 41.0 +5.4**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.8s
GYA LR LR
comp=N,580nm,14.8s
GYA LR LR
comp=E,490nm,15.0s
GYA LR LR
comp=Z,530nm,15.4s
DAV Davao City (W) 17.87 181 LR LR 00 22 38.4
comp=Z,149nm,21.9s,baz=359,slow=36
CN2 Changchun 18.73 359 *e*P **Pn** **00 16 27.5 +3.9**
CN2 *es*P sP 00 16 43.3 +2.9
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LZ
comp=Z,200nm,12.0s
USRK Ussuriysk Ar. 19.74 13 P **P** **00 16 33.9 0.0**
comp=Z,0.4nm,0.3s,baz=189,slow=8.8,SNR=5.1
USRK LR LR 00 24 35.4
comp=Z,130nm,19.1s,baz=194,slow=38
MDJ Mudanjiang 19.76 8 P **P** **00 16 34.5 +0.4**
MDJ PMZ
comp=Z,6.0nm,0.6s
MDJ PMZ
comp=Z,60nm,6.4s
HHC Hu-ho-hao-te 19.83 326 *e*P **Pn** **00 16 36.3 -0.6**
HHC sP sP 00 16 52.4 -0.2
HHC S **S** **00 20 14.8 -0.9**
HHC sS sS 00 20 27.6 -6.4
HHC SS **SnSn** **00 20 41.7 +7.7**
HHC PMZ
comp=Z,21nm,1.0s
HHC PMZ
comp=Z,140nm,4.2s
HHC LN
comp=Z,170nm,8.0s
HHC LE
comp=Z,170nm,8.8s
HHC LZ
comp=Z,160nm,9.8s
CD2 Chengdu 20.46 292 *e*P **P** **00 16 40.4 -1.4**
CD2 pP pP 00 16 50.5 -2.7
CD2 sP sP 00 16 55.9 -3.6
CD2 S **S** **00 20 27.2 -1.0**
CD2 sS sS 00 20 44.0 -2.7
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,220nm,5.0s
CD2 LN
comp=Z,350nm,8.6s
CD2 LE
comp=Z,470nm,8.4s
CD2 LZ
comp=Z,350nm,8.0s
MYLDM Lahad Datu 21.00 201 *e*P **P** **00 16 46.4 -1.3**
comp=Z,81nm,1.1s
KMI Kunming 21.04 275 P **P** **00 16 48.5 +0.2**
KMI pP pP 00 17 00.0 +0.2
KMI sP sP 00 17 04.8 -1.2
KMI PP **PnPn** **00 17 13.1 +4.4**
KMI S **S** **00 20 35.2 -4.9**
KMI sS Sn 00 20 53.0 +4.5
KMI SS **SnSn** **00 21 09.4 +5.6**
KMI PMZ
comp=Z,12nm,0.6s
KMI PMZ
comp=Z,140nm,4.2s
KMI LN
comp=Z,340nm,14.9s
KMI LE
comp=Z,240nm,13.2s
KMI LZ
comp=Z,260nm,12.8s
KKM Kota Kinabalu 21.07 208 *e*P **P** **00 16 49.5 +0.9**
comp=Z,34nm,0.9s
GUMO Guam 21.13 119 LR LR 00 23 25.4
comp=Z,94nm,21.3s,baz=308,slow=32
PANO Nakornpanom 21.39 253 P **P** **00 16 55.7 +3.7**
LZH Lanzhou 21.96 305 *e*P **P** **00 16 56.1 -1.9**
LZH pP pP 00 17 06.6 -3.0
LZH sP sP 00 17 12.0 -3.8
LZH PP **PnPn** **00 17 25.5 +4.3**
LZH *e*S **S** **00 20 50.5 -7.3**
LZH PMZ
comp=Z,23nm,1.0s
LZH PMZ
comp=Z,69nm,4.0s
LZH LN
comp=Z,220nm,12.2s
LZH LE
comp=Z,210nm,10.1s
LZH LZ
comp=Z,320nm,12.5s
ERM Erimo 22.12 36 *e*P **P** **00 17 02.5 +3.0**
ERM Erimo 22.12 36 *e*P **P** **00 16 58.1 -1.4**
comp=Z,20nm,1.1s
ASAJ Asahikawa 23.37 31 P **P** **00 17 13.2 +0.8**
comp=Z,16nm,0.5s,baz=236,slow=9.3,SNR=16
ASAJ Asahikawa 23.37 31 *e*P **P** **00 17 13.2 +0.8**
comp=Z,21nm,0.6s
KLR Kul'dur 24.57 9 P **P** **00 17 22.9 -0.6**
comp=Z,1.7nm,0.9s,baz=222,slow=3.8,SNR=4.8
KLR LR LR 00 28 11.3
comp=Z,69nm,18.4s,baz=180,slow=39
LBMI Labuha 25.56 176 P **P** **00 17 39.4 +6.7**
comp=Z,50nm,1.0s
YSS Yuzh-Sakhalins 25.64 27 *i* P **P** **00 17 34.4 +1.2**
YSS pmax pmax
comp=Z,29nm,1.3s
CM31 Chiang Mai Arr 25.91 261 *e*P **P** **00 17 39.5 +3.5**
CMAR Chiang Mai Arr 25.91 261 P **P** **00 17 39.5 +3.5**
comp=Z,0.8nm,0.3s,baz=58,slow=7.0,SNR=4.7
CMAR LR LR 00 27 46.8
comp=Z,159nm,21.8s,baz=104,slow=37
SBUM Sibu 26.07 213 *e*P **P** **00 17 38.1 +0.7**
comp=Z,16nm,0.8s
GTA Gaotai 26.25 309 *e*P **P** **00 17 38.0 -0.9**
GTA pP pP 00 17 48.7 -2.9
GTA sP sP 00 17 52.3 -5.2
GTA S **S** **00 22 05.6 -2.4**
GTA PMZ
comp=Z,5.0nm,1.0s
GTA PMZ
comp=Z,59nm,5.2s
GTA LN
comp=Z,270nm,19.0s
GTA LE
comp=Z,200nm,19.0s
GTA LZ
comp=Z,190nm,20.0s
PCI Palu 26.46 194 P **P** **00 17 46.4 +5.5**
comp=Z,64nm,1.0s
ULN Ulaanbaatar 27.26 332 *i* P **P** **00 17 47.0 -1.0**
ULN pmax pmax
comp=Z,9.0nm,1.7s
ULN Ulaanbaatar 27.26 332 *e*P **P** **00 17 50.1 +2.1**
comp=Z,7.4nm,1.1s
SONA0 Songino Array 27.52 331 *e*P **P** **00 17 49.6 -0.7**
comp=Z,5.7nm,0.8s
SONM Songino Array 27.52 331 P **P** **00 17 49.6 -0.7**
comp=Z,0.7nm,0.4s,baz=140,slow=8.0,SNR=8.7
SONM LR LR 00 30 24.7
comp=Z,213nm,20.2s,baz=126,slow=40
SONA1 Songino Array 27.53 331 *e*P **P** **00 17 49.4 -1.0**
TYV Tymovskoe 28.82 22 *e*P **P** **00 18 06.0 +4.4**
KAPI Kappang 30.47 192 LR LR 00 30 14.9
comp=Z,92nm,20.9s,baz=35,slow=36
WSI Waingapu 34.93 190 P sP 00 19 18.2 +4.0
MNSI Mandailing Nat 35.08 231 P sP 00 19 11.9 -3.7
PPI Padang Panjang 35.42 228 P **P** **00 19 02.6 +2.8**
GUN Gumba 35.89 284 *e*P **P** **00 19 05.5 +1.3**
comp=Z,5.8nm,0.4s
KLSI 36.04 218 P P 00 18 59.3 -5.8
WMQ Urumqi 36.31 311 P **P** **00 19 07.3 0.0**
WMQ pP pP 00 19 19.2 -1.0
WMQ sP sP 00 19 24.9 -1.1
WMQ PMZ
comp=Z,6.0nm,0.6s
WMQ PMZ
comp=Z,35nm,4.0s
WMQ LN
comp=Z,170nm,19.6s
WMQ LE
comp=Z,58nm,20.8s
PKIN Phulchoki 36.35 283 *e*P **P** **00 19 06.4 -1.6**
comp=Z,4.8nm,0.5s
KKN Kakani 36.43 283 *e*P **P** **00 19 08.2 -0.5**
DMN Daman 36.60 283 *e*P **P** **00 19 08.0 -2.2**
comp=Z,4.7nm,0.4s
PEA0 Petropavlovsk- 36.79 32 *e*P **P** **00 19 11.8 +0.7**
PEA0B Petropavlovsk- 36.79 32 *e*P **P** **00 19 10.5 -0.6**
comp=Z,30nm,1.4s
PETK Petropavlovsk- 36.79 32 P **P** **00 19 13.1 +1.9**
comp=Z,4.8nm,0.8s,baz=198,slow=4.4,SNR=7.9
PETK LR LR 00 34 45.4
comp=Z,71nm,19.6s,baz=222,slow=37
PEA1 Petropavlovsk- 36.79 32 *e*P **P** **00 19 13.1 +1.9**
GKN Gorkha 36.98 284 *e*P **P** **00 19 13.3 0.0**
comp=Z,7.3nm,0.4s
YAK Yakutsk 37.07 3 *e*P **P** **00 19 13.4 0.0**
YAK pmax pmax
comp=Z,28nm,0.5s
YAK Yakutsk 37.07 3 *e*P **P** **00 19 13.4 0.0**
comp=Z,28nm,0.5s
KOLN Koldanda 37.91 284 *e*P **P** **00 19 20.6 -0.7**
comp=Z,6.4nm,0.6s
MTN Manton Dam 37.98 172 *e*P **P** **00 19 21.9 +0.4**
comp=Z,12nm,0.8s
MTN *ep*P **pP** **00 19 33.8 -0.7**
H11N1 WAKE ISLAND Hy 38.11 90 T T 00 59 58.8
baz=283,slow=75,SNR=14
H11N2 WAKE ISLAND Hy 38.11 90 T T 01 00 03.3
baz=283,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 38.12 90 T T 01 00 00.1
baz=283,slow=75,SNR=13
H11S3 WAKE ISLAND Hy 38.27 92 T T 01 00 07.4
baz=290,slow=74,SNR=38
H11S1 WAKE ISLAND Hy 38.27 92 T T 01 00 03.9
baz=290,slow=74,SNR=29
H11S2 WAKE ISLAND Hy 38.28 92 T T 01 00 09.9
baz=290,slow=74,SNR=21
PYUN Piuthan 38.42 284 *e*P **P** **00 19 26.9 +1.4**
comp=Z,30nm,0.8s
RABL Rabaul 38.62 135 *e*P **P** **00 19 23.9 -3.2**
comp=Z,123nm,0.3s
MK01 Makanchi Array 40.83 313 *e*P **P** **00 19 43.3 -1.7**
MK31 Makanchi Array 40.84 313 *e*P **P** **00 19 44.0 -1.2**
MK31 Makanchi Array 40.84 313 *e*P **P** **00 19 44.0 -1.2**
MK32 Makanchi Array 40.84 313 *e*P **P** **00 19 43.6 -1.6**
MKAR Makanchi Array 40.84 313 P **P** **00 19 43.6 -1.6**
comp=Z,0.9nm,0.4s,baz=98,slow=10,SNR=15
MKAR LR LR 00 38 00.2
comp=Z,77nm,19.6s,baz=102,slow=38
MKAR Makanchi Array 40.84 313 *e*P **P** **00 19 44.0 -1.2**
MAKZ Makanchi 41.05 313 *e*P **P** **00 19 45.7 -1.2**
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
MAKZ Makanchi 41.05 313 *e*P **P** **00 19 45.7 -1.2**
comp=Z,3.3nm,0.9s
SEY Seymchan 41.77 18 P **P** **00 19 52.6 +0.2**
comp=Z,3.4nm,0.6s,baz=234,slow=6.3,SNR=14
ZAA0 Zalesovo Array 42.00 324 *e*P **P** **00 19 52.8 -1.7**
ZALV Zalesovo Beam 42.00 324 P **P** **00 19 52.5 -2.0**
comp=Z,3.3nm,0.5s,baz=114,slow=8.1,SNR=14
ZALV LR LR 00 39 30.5
comp=Z,72nm,18.5s,baz=68,slow=39
ZAA1 Zalesovo Array 42.00 324 *e*P **P** **00 19 52.5 -2.0**
FITZ Fitzroy Crossi 42.88 180 *e*P **P** **00 20 00.2 -1.7**
comp=Z,21nm,1.6s
KSH Kashi 44.13 302 P **P** **00 20 12.8 +0.7**
KSH pP pP 00 20 24.9 -0.4
KSH PcP **PcP** **00 21 57.2 +0.7**
KSH S **S** **00 26 38.7 -3.0**
KSH ScS **SS** **00 30 03.3 +2.9**
KSH PMZ
comp=Z,4.0nm,0.4s
KSH LN
comp=Z,83nm,10.7s
KSH LE
comp=Z,130nm,9.6s
KSH LZ
comp=Z,120nm,10.6s
KURK Kurchatov 44.31 318 *e*P **P** **00 20 11.5 -1.7**
KURK Kurchatov 44.31 318 *e*P **P** **00 20 11.5 -1.7**
KURBB Kurchatov Arra 44.34 318 P **P** **00 20 11.5 -1.9**
comp=Z,1.5nm,0.5s,baz=108,slow=8.8,SNR=10
TKM2 Tokmak 2 44.72 306 *e*P **P** **00 20 16.8 -0.1**
TKM2 pmax pmax
comp=Z,11nm,1.4s
TKM2 Tokmak 2 44.72 306 *e*P **P** **00 20 16.8 -0.1**
comp=Z,11nm,1.4s
WRAB Tennant Creek 45.43 169 *i* P **P** **00 20 23.2 +0.8**
WRAB pmax pmax
comp=Z,28nm,1.7s
WRAB Tennant Creek 45.43 169 *e*P **P** **00 20 21.8 -0.7**
comp=Z,20nm,1.0s
WR1 Warramunga Arr 45.44 169 *e*P **P** **00 20 21.9 -0.6**
comp=Z,18nm,1.0s
WRA Warramunga Arr 45.44 169 P **P** **00 20 21.9 -0.6**
comp=Z,3.8nm,0.8s,baz=350,slow=8.3,SNR=18
WRA Warramunga Arr 45.44 169 *e*P **P** **00 20 23.0 +0.5**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WB2 Warramunga Arr 45.44 169 *e*P **P** **00 20 21.6 -1.0**
WB2 *ep*P pP 00 20 27.1 -8.6
TIXI Tiksi 46.68 1 *e*P **P** **00 20 33.9 +2.3**
TIXI pmax pmax
comp=Z,2.0nm,1.1s
HNR Honiara 47.65 132 *e*P **P** **00 20 37.5 -2.4**
HNR Honiara 47.65 132 *e*P **P** **00 20 37.5 -2.4**
comp=Z,282nm,0.9s
AS31 Alice Springs 49.02 170 *e*P **P** **00 20 50.5 +0.2**
comp=Z,1.4nm,0.7s
ASAR Alice Springs 49.02 170 P **P** **00 20 50.5 +0.2**
comp=Z,1.9nm,0.8s,baz=356,slow=12,SNR=17
AS01 Alice Springs 49.02 170 *e*P **P** **00 20 50.2 -0.1**
AS01 *es*P **pP** **00 21 01.8 -1.9**
BILL Bilibino 49.45 19 *e*P **P** **00 20 54.3 +1.2**
BILL *e* 00 22 14.9
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,185nm,21.0s
NRIK Noril'sk 49.78 343 P **P** **00 20 53.5 -2.1**
comp=Z,5.5nm,0.8s,baz=120,slow=10,SNR=7.7
NRIK LR LR 00 44 26.5
comp=Z,134nm,19.3s,baz=124,slow=39
ZRNK Zerenda 50.63 319 *e*P **P** **00 21 01.4 -0.9**
ZRNK pmax pmax
comp=Z,3.0nm,0.8s
ZRNK Zerenda 50.63 319 *e*P **P** **00 21 01.4 -0.9**
comp=Z,3.0nm,0.8s
EIDS Eidsvold 55.68 152 *ep*P pP 00 21 56.4 +3.1
SVE Sverdlovsk 55.97 323 *ep*P **P** **00 21 40.4 -1.0**
SVE pmax pmax
comp=Z,21nm,1.3s
ABKAR Akbulak array 55.98 314 *e*P **P** **00 21 41.0 -0.6**
ARU Arti 57.08 322 *e i*P **P** **00 21 48.0 -1.3**
ARU 00 22 48.9
ARU S **S** **00 29 40.8 +0.3**
ARU SS **SS** **00 33 22.5 -6.9**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 57.08 322 *e*P **P** **00 21 48.4 -0.9**
comp=Z,8.6nm,0.9s
GEYT Alibeck 58.13 300 P **P** **00 21 57.7 +0.7**
comp=Z,2.9nm,0.7s,baz=66,slow=3.6,SNR=7.2
GEYT LR LR 00 50 06.4
comp=Z,98nm,20.4s,baz=270,slow=39
BBOO Buckleboo 58.32 170 *e*P **P** **00 21 58.0 -0.3**
comp=Z,117nm,1.8s
STKA Stephens Creek 58.53 164 P **P** **00 21 57.6 -2.0**
comp=Z,2.8nm,0.9s,baz=354,slow=4.4,SNR=4.6
STKA Stephens Creek 58.53 164 *e*P **P** **00 22 00.8 +1.1**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 58.53 164 *e*P **P** **00 21 57.6 -2.0**
comp=Z,5.8nm,1.5s
TT01 Tatalina 62.59 30 *e*P **P** **00 22 25.5 -1.5**
TTA Tatalina 62.59 30 *e*P **P** **00 22 26.6 -0.6**
TTA pmax pmax
comp=Z,13nm,1.6s
TTA Tatalina 62.59 30 *e*P **P** **00 22 26.6 -0.6**
comp=Z,13nm,1.6s
SVW2 Sparrevohn 62.87 32 *e*P **P** **00 22 29.9 +0.9**
comp=Z,4.8nm,0.8s
RSO Redoubt South 64.30 33 *e*P **P** **00 22 40.2 +1.6**
PPLA Purkeypile 64.34 30 *e*P **P** **00 22 40.0 +1.2**
comp=Z,7.0nm,0.9s
KDAK Kodiak Island 64.69 36 *e*P **P** **00 22 41.0 +0.1**
KDAK pmax pmax
comp=Z,90nm,1.8s
KDAK Kodiak Island 64.69 36 *e*P **P** **00 22 41.0 +0.1**
comp=Z,90nm,1.8s
BPAW Bear Paw Mtn. 64.77 29 *e*P **P** **00 22 42.8 +1.3**
comp=Z,5.0nm,0.7s
MLY Manley 64.79 28 *e*P **P** **00 22 43.2 +1.6**
comp=Z,7.1nm,0.7s
COLD Coldfoot 64.81 25 *e*P **P** **00 22 42.5 +0.9**
comp=Z,3.9nm,0.8s
KTH Kantishna Hill 64.85 29 *e*P **P** **00 22 44.6 +2.6**
comp=Z,5.2nm,1.0s
SUA Susitna One 65.17 32 *e*P **P** **00 22 45.7 +1.5**
MCK McKinley 65.71 29 *e*P **P** **00 22 45.5 -2.0**
MCK pmax pmax
comp=Z,8.0nm,0.8s
MCK McKinley 65.71 29 *e*P **P** **00 22 45.5 -2.0**
comp=Z,7.7nm,0.8s
RND Reindeer 65.79 29 *e*P **P** **00 22 45.8 -2.3**
RND pmax pmax
comp=Z,14nm,0.8s
RND Reindeer 65.79 29 *e*P **P** **00 22 45.8 -2.3**
comp=Z,14nm,0.8s
MDM Murphy Dome 65.86 28 *e*P **P** **00 22 49.8 +1.3**
comp=Z,15nm,0.9s
WRH Wood River Hil 65.98 28 *e*P **P** **00 22 49.4 +0.2**
comp=Z,24nm,1.8s
WRH *e*S **S** **00 31 39.7 +6.7**
COLA College 66.03 28 *e*P **P** **00 22 51.3 +1.8**
COLA pmax pmax
comp=Z,3.0nm,0.8s
CCB Clear Creek Bu 66.08 28 *e*P **P** **00 22 50.9 +1.1**
comp=Z,9.9nm,1.6s
SML Sawmill 66.26 31 *e*P **P** **00 22 53.2 +2.1**
SML pmax pmax
comp=Z,10.0nm,1.2s
SML Sawmill 66.26 31 *e*P **P** **00 22 53.2 +2.1**
comp=Z,9.9nm,1.2s
IL1 Eielson Array 66.45 28 *e*P **P** **00 22 52.4 +0.2**
ILAR Eielson Array 66.45 28 P **P** **00 22 51.5 -0.7**
comp=Z,1.5nm,0.6s,baz=247,slow=4.3,SNR=16
ILAR LR LR 00 54 30.9
comp=Z,49nm,18.4s,baz=192,slow=38
ILB Eielson Array 66.45 28 *e*P **P** **00 22 51.5 -0.7**
HDA Harding Lake 66.48 28 *e*P **P** **00 22 52.3 -0.1**
comp=Z,5.4nm,0.8s
DHY Denali Highway 66.50 30 *e*P **P** **00 22 53.1 +0.4**
comp=Z,13nm,1.7s
SCM Sheep Creek Mo 66.72 31 *e*P **P** **00 22 54.3 +0.2**
SCM pmax pmax
comp=Z,12nm,1.0s
SCM Sheep Creek Mo 66.72 31 *e*P **P** **00 22 54.3 +0.2**
comp=Z,12nm,1.0s
VRH Novokhopyorsk 67.40 317 *e*P **P** **00 22 57.0 -1.5**
VRH pmax pmax
comp=Z,5.0nm,0.6s
KLU Klutina 67.45 31 *e*P **P** **00 22 58.1 -0.6**
comp=Z,12nm,1.4s
ZEI Tsey 67.85 308 *e*P **P** **00 23 00.3 -1.5**
ZEI pmax pmax
comp=Z,6.0nm,0.3s
DOT Dot Lake 67.87 29 *e*P **P** **00 23 01.7 +0.4**
comp=Z,10nm,0.8s
DOT *ep*P **pP** **00 23 15.0 -0.2**
GNI Garni 67.89 305 *e*P **P** **00 23 02.3 +0.3**
GNI pmax pmax
comp=Z,13nm,1.1s
NCK Nalchik 67.90 309 *e*P **P** **00 23 01.7 -0.1**
NCK pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 68.33 309 P **P** **00 23 05.4 +0.9**
comp=Z,5.4nm,1.0s,baz=150,slow=2.6,SNR=8.6
KBZ LR LR 00 57 55.2
comp=Z,44nm,18.1s,baz=62,slow=40
KIV Kislovodsk 68.42 310 *e*P **P** **00 23 05.1 -0.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,51nm,17.0s
NEY Neytrino 68.58 309 *e*P **P** **00 23 06.5 +0.2**
NEY pmax pmax
comp=Z,1.0nm,0.8s
LPSR Galich'ya Gora 68.77 319 *e*P **P** **00 23 05.4 -1.7**
LPSR pmax pmax
comp=Z,5.0nm,0.5s
EGAK Eagle 68.86 27 *e*P **P** **00 23 09.3 +1.9**
comp=Z,6.7nm,1.1s
VSR Storozhevoye 68.96 318 *e*P **P** **00 23 06.7 -1.6**
VSR pmax pmax
comp=Z,6.0nm,1.1s
OBN Obninsk 69.52 322 *e*P **P** **00 23 09.3 -2.3**
OBN *e* 00 23 34.0
OBN *e* 00 25 47.5
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,39nm,18.0s
SPA0 Spitsbergen Ar 69.57 348 *e*P **P** **00 23 11.5 -0.2**
DAWY Dawson 69.78 28 *e*P **P** **00 23 14.8 +1.7**
comp=Z,9.1nm,1.4s
ARA0 ARCESS Array S 70.37 338 *e*P **P** **00 23 16.4 -0.3**
ARCES ARCESS Array B 70.37 338 P **P** **00 23 16.4 -0.3**
comp=Z,1.4nm,0.8s,baz=76,slow=7.5,SNR=7.4
ARCES LR LR 00 59 52.9
comp=Z,39nm,19.1s,baz=60,slow=41
INK Inuvik 70.79 23 P **P** **00 23 20.9 +1.7**
comp=Z,3.3nm,0.7s,baz=278,slow=9.2,SNR=4.5
INK Inuvik 70.79 23 *e*P **P** **00 23 20.8 +1.7**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 70.79 23 *e*P **P** **00 23 20.8 +1.7**
comp=Z,5.4nm,0.8s
AFI Afiamalu 71.97 115 *e*P **P** **00 23 25.7 -1.5**
AFI pmax pmax
comp=Z,44nm,1.0s
AFI Afiamalu 71.97 115 *e*P **P** **00 23 25.7 -1.5**
comp=Z,44nm,1.0s
FIA1 FINESS Array S 72.89 330 *e*P **P** **00 23 31.1 -0.8**
FIA0 FINESS Array S 72.89 330 *e*P **P** **00 23 32.0 +0.1**
FIA0 FINESS Array S 72.89 330 *e*P **P** **00 23 32.0 +0.1**
FINES FINESS Array B 72.89 330 P **P** **00 23 32.0 +0.1**
comp=Z,2.9nm,0.4s,baz=56,slow=5.6,SNR=33
FINES LR LR 00 59 27.1
comp=Z,71nm,18.1s,baz=70,slow=39
AKASG Malin Array Be 75.11 319 P **P** **00 23 44.3 -0.7**
comp=Z,0.5nm,0.3s,baz=63,slow=6.2,SNR=3.3
AKBB Malin Array Si 75.11 319 *e*P **P** **00 23 44.3 -0.7**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 75.11 319 *e*P **P** **00 23 44.3 -0.7**
comp=Z,3.8nm,0.7s
BR101 Keskin Array S 76.15 307 *e*P **P** **00 23 51.3 -0.1**
BR131 Keskin Array S 76.15 307 *e*P **P** **00 23 51.8 +0.4**
BRTR Keskin Array B 76.15 307 P **P** **00 23 51.3 -0.1**
comp=Z,2.3nm,0.8s,baz=90,slow=5.1,SNR=15
BRTR LR LR 01 00 42.6
comp=Z,29nm,19.8s,baz=72,slow=38
DAG Danmarks Havn 76.16 352 *i* P **P** **00 23 50.6 0.0**
DAG pmax pmax
comp=Z,5.0nm,1.0s
DAG Danmarks Havn 76.16 352 *i* P **P** **00 23 50.6 0.0**
comp=Z,5.0nm,1.0s
BR231 Keskin MP Arra 76.72 308 *e*P **P** **00 23 52.1 -2.6**
MMAI Mount Meron Ar 77.25 301 LR LR 01 03 30.4
comp=Z,26nm,20.6s,baz=175,slow=40

TESR	**Tescani**	**78.30**	**316**	⇑*i*	P		**P**	**00 24 03.5**	**+0.4**
BURAR	**Bucovina Array**	**78.73**	**317**	⇓*i*	P		**P**	**00 24 04.6**	**-1.1**
BURAR	**Bucovina Array**	**78.73**	**317**	⇓*i*	P		**P**	**00 24 04.6**	**-1.1**
MLR	**Muntele Rosu**	**79.16**	**315**	⇑*i*	P		**P**	**00 24 10.1**	**+2.0**
MLR	**Muntele Rosu**	**79.16**	**315**	⇑	P		**P**	**00 24 10.1**	**+2.0**
NC405	**NORSAR Array S**	**79.23**	**333**	*e*P			**P**	**00 24 08.7**	**+0.7**
NB2	**NORSAR Subarra**	**79.47**	**333**	P			**P**	**00 24 08.8**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=54,slow=5.6								
NB2	**NORSAR Subarra**	**79.47**	**333**	P			**P**	**00 24 09.0**	**-0.4**
NB200	**NORSAR Array S**	**79.47**	**333**	*e*P			**P**	**00 24 09.4**	**+0.1**
NOA	**NORSAR Array B**	**79.47**	**333**	P			**P**	**00 24 09.4**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=56,slow=5.6,SNR=9.6								
NOA					LR		LR	01 03 25.9	
	comp=Z,58nm,18.8s,baz=75,slow=39								
KOLS	**Kolonicke sedl**	**79.94**	**319**	*e*P			**P**	**00 24 14.7**	**+2.6**
KOLS	**Kolonicke sedl**	**79.94**	**319**	*e*P			**P**	**00 24 14.7**	**+2.6**
ARR	**Arges**	**80.05**	**315**	⇓*i*	P		**P**	**00 24 13.8**	**+1.0**
YKW3	**Yellowknife Ar**	**80.42**	**24**	*e*P			**P**	**00 24 16.5**	**+2.1**
	comp=Z,3.5nm,0.8s								
CRVS	**Cervenica-Dubn**	**80.43**	**320**	*e*P	P			00 24 19.6	+4.9
CRVS	**Cervenica-Dubn**	**80.43**	**320**	*e*P	P			00 24 19.6	+4.9
YKA	**Yellowknife Ar**	**80.46**	**24**	P			**P**	**00 24 15.1**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=302,slow=5.5,SNR=12								
YKB5	**Yellowknife Ar**	**80.46**	**24**	*e*P			**P**	**00 24 15.1**	**+0.5**
DRGR		**80.63**	**317**	⇓*i*	P		**P**	**00 24 15.2**	**-0.7**
DRGR		**80.63**	**317**	⇓	P		**P**	**00 24 15.2**	**-0.7**
OJC	**Ojcow**	**80.78**	**321**	*e*P			**P**	**00 24 16.5**	**-0.1**
OJC					pmax	pmax			
	comp=Z,18nm,1.5s								
OJC	**Ojcow**	**80.78**	**321**	*e*P			**P**	**00 24 16.5**	**-0.1**
	comp=Z,18nm,1.5s								
SCO	**Scoresbysund**	**82.07**	**350**	*i* P			**P**	**00 24 23.9**	**+0.9**
SCO					pmax	pmax			
	comp=Z,9.0nm,1.1s								
SCO	**Scoresbysund**	**82.07**	**350**	*i* P			**P**	**00 24 23.9**	**+0.9**
	comp=Z,8.6nm,1.1s								
SUMG	**Summit**	**82.07**	**355**	*i* P			**P**	**00 24 24.1**	**+0.6**
SUMG					pmax	pmax			
	comp=Z,8.0nm,0.9s								
SUMG	**Summit**	**82.07**	**355**	*i* P			**P**	**00 24 24.1**	**+0.6**
	comp=Z,8.0nm,0.9s								
SUMG	**Summit**	**82.07**	**355**	*e*P			**P**	**00 24 23.7**	**+0.3**
	comp=Z,11nm,1.1s								
VYHS	**Vyhne**	**82.16**	**320**	*e*P	P			00 24 28.8	+4.9
VYHS	**Vyhne**	**82.16**	**320**	*e*P	P			00 24 28.8	+4.9
MDVR	**Moldovita**	**82.16**	**316**	⇑*i*	P		**P**	**00 24 23.2**	**-0.9**
MORC	**Moravsky Berou**	**82.27**	**322**	*e*P			**P**	**00 24 26.7**	**+2.2**
MORC					pmax	pmax			
	comp=Z,22nm,1.3s								
MORC	**Moravsky Berou**	**82.27**	**322**	*e*P			**P**	**00 24 26.6**	**+2.2**
	comp=Z,22nm,1.3s								
KARP	**Karpathos**	**82.51**	**306**	*e*P			P	00 24 31.0	+4.9
	comp=Z,4.6nm,0.9s								
DPC	**Dobruska-Polom**	**82.66**	**323**	*e*P			**P**	**00 24 28.8**	**+2.2**
DPC	**Dobruska-Polom**	**82.66**	**323**	*e*P			**P**	**00 24 28.8**	**+2.2**
VRAC	**Vranov**	**83.04**	**322**	LR			LR	01 01 57.0	
	comp=Z,38nm,18.7s,baz=60,slow=36								
CLL	**Collm**	**83.95**	**324**	*e*P			**P**	**00 24 34.0**	**+0.9**
	comp=Z,3.0nm,0.6s								
CLL					LmV			01 06 00.0	
	comp=Z,100nm,18.1s								
CLL	**Collm**	**83.95**	**324**	*e*P			**P**	**00 24 34.0**	**+0.9**
CLL					pmax	pmax			
	comp=Z,3.0nm,0.6s								
CONA	**Conrad Observa**	**84.16**	**321**	*i* P			**P**	**00 24 34.4**	**0.0**
	comp=Z,3.9nm,0.9s								
GERES	**GERESS Array B**	**84.90**	**322**	P			**P**	**00 24 39.0**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=66,slow=3.3,SNR=8.3								
GERES					LR		LR	01 06 30.3	
	comp=Z,59nm,18.6s,baz=50,slow=38								
GEA0	**GERESS Array S**	**84.91**	**322**	*e*P			**P**	**00 24 39.1**	**+1.0**
MOA	**Molln**	**85.12**	**321**	*i* PcP			**P**	**00 24 40.7**	**+1.6**
	comp=Z,4.1nm,1.0s								
DAVOX	**Davos/Dischmat**	**88.19**	**322**	LR			LR	01 09 30.7	
	comp=Z,72nm,19.8s,baz=50,slow=39								
EKA	**Eskdalemuir Ar**	**88.95**	**334**	LR			LR	01 09 47.1	
	comp=Z,74nm,19.8s,baz=85,slow=39								
FFC	**Flin Flon**	**90.56**	**26**	*e*P			**P**	**00 25 07.2**	**+2.2**
FFC					pmax	pmax			
	comp=Z,5.0nm,1.1s								
FFC	**Flin Flon**	**90.56**	**26**	*e*P			**P**	**00 25 07.2**	**+2.2**
	comp=Z,5.2nm,1.1s								
PPT	**Papeete**	**92.44**	**108**	LR			LR	01 00 44.5	
	comp=Z,22nm,19.1s,baz=11,slow=32								
NVAR	**Mina Array Bea**	**92.80**	**45**	P			P	00 25 08.6	-7.4
	comp=Z,0.5nm,0.5s,baz=300,slow=7.2,SNR=2.9								
KEST	**Kesra**	**94.94**	**313**	LR			LR	01 12 18.0	
	comp=Z,48nm,18.1s,baz=272,slow=38								
ARGU	**Argyle Ridge**	**96.72**	**40**	*e*P			**P**	**00 25 31.9**	**-2.2**
SCHQ	**Schefferville**	**99.70**	**7**	LR			LR	01 13 46.5	
	comp=Z,56nm,19.6s,baz=5.5,slow=37								

MEX 09 00:19:44.0±0.6,**30.09N**×**115.13W**,**h13**km±999km,**MD3.8, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**1.00**	**343**	*e*P	Pg	00 19 59.9	-3.4
SPIG				*i* S	Sg	00 20 12.7	-3.8
CBX	**Cerro Bola**	**2.58**	**330**	*e*P	Pn	00 20 26.0	+0.4
CBX				*i* S	Sn	00 20 52.1	-4.8
TJIG	**Tijuana**	**2.69**	**331**	*i* P	Pn	00 20 24.6	-2.4
TJIG				*i* S	Sn	00 20 55.3	-4.1

CSEM ***09*** *00:21:23.6±0.1,40°.28N×16°.00E,h20km,ML2.9/13,Error ellipse: s-maj=2.7km s-min=2.2km az=147.0*

ROM 09 00:21:23.9±0.1,**40°.30N×16°.00E**,**h10**km±1km,**Md2.4**/20, **MI2.2**/20,**Error ellipse: s-maj=1.3km s-min=1.1km az=19.0**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHR	**S. Chirico Rap**	**0.12**	**149**	Pg	Pg	00 21 27.4	+0.5
SCHR				Sg	Sg	00 21 30.2	+1.2
	1μm,0.2s						
MCEL	**Monticello**	**0.15**	**280**	Pg	Pg	00 21 27.8	+0.4
MCEL				Sg	Sg	00 21 30.8	+1.0
	1μm,0.1s						
MCEL	**Monticello**	**0.15**	**280**	Pg	Pg	00 21 27.8	+0.4
MCEL				Sg	Sg	00 21 30.8	+1.0
	1μm,0.1s						
SIRI	**Monte Sirino -**	**0.15**	**220**	Pg	Pg	00 21 27.9	+0.5
SIRI				Sg	Sg	00 21 30.6	+0.7
	2μm,0.2s						
SIRI	**Monte Sirino -**	**0.15**	**220**	Pg	Pg	00 21 27.9	+0.5
SIRI				Sg	Sg	00 21 30.6	+0.7
	2μm,0.2s						
SLCN	**Sala Consilina**	**0.29**	**288**	Pg	Pg	00 21 30.2	+0.4
SLCN				Sg	Sb	00 21 35.5	-0.7
	935nm,0.3s						
SLCN	**Sala Consilina**	**0.29**	**288**	Pg	Pg	00 21 30.2	+0.4
SLCN				Sg	Sb	00 21 35.5	-0.7
	935nm,0.3s						
CUC	**Castrocucco**	**0.34**	**204**	Pg	Pg	00 21 30.8	+0.2
CUC				Sg	Sb	00 21 36.3	-1.1
	116nm,0.2s						
CUC	**Castrocucco**	**0.34**	**204**	Pg	Pg	00 21 30.8	+0.2
CUC				Sg	Sb	00 21 36.3	-1.1
	116nm,0.2s						
CRAC	**Craco**	**0.34**	**79**	Pg	Pg	00 21 31.4	+0.7
CRAC				Sg	Sb	00 21 37.3	-0.3
	235nm,0.2s						
CRAC	**Craco**	**0.34**	**79**	Pg	Pg	00 21 31.4	+0.7
CRAC				Sg	Sb	00 21 37.3	-0.3
	235nm,0.2s						
PZUN	**Potenza**	**0.37**	**337**	Pg	Pb	00 21 32.0	-0.6
PZUN				Sg	Sb	00 21 38.3	-0.2
	128nm,0.5s						
PZUN	**Potenza**	**0.37**	**337**	Pg	Pb	00 21 32.0	-0.6
PZUN				Sg	Sb	00 21 38.3	-0.2
	128nm,0.5s						
MMN	**Mormanno**	**0.41**	**181**	Pg	Pb	00 21 32.6	-0.6
MMN				Sg	Sb	00 21 39.4	0.0
	67nm,0.2s						
MMN	**Mormanno**	**0.41**	**181**	Pg	Pb	00 21 32.6	-0.6
MMN				Sg	Sb	00 21 39.4	0.0
	67nm,0.2s						
MIGL	**Miglionico**	**0.46**	**48**	Pg	Pg	00 21 32.5	-0.3
MIGL				Sg	Sg	00 21 39.2	+0.3
	326nm,0.2s						
MIGL	**Miglionico**	**0.46**	**48**	Pg	Pg	00 21 32.5	-0.3
MIGL				Sg	Sg	00 21 39.2	+0.3
	326nm,0.2s						

ACER	**Acerenza**	**0.49**	**355**		Pg		Pg	00 21 33.7	+0.2
ACER					Sg		Sb	00 21 41.9	+0.1
	202nm,0.2s								
ACER	**Acerenza**	**0.49**	**355**		Pg		Pg	00 21 33.7	+0.2
ACER					Sg		Sb	00 21 41.9	+0.1
	202nm,0.2s								
SALB	**San Lorenzo Be**	**0.50**	**147**		Pg		Pg	00 21 33.4	-0.3
SALB					Sg		Sb	00 21 41.5	-0.7
SALB	**San Lorenzo Be**	**0.50**	**147**		Pg		Pg	00 21 33.4	-0.3
SALB					Sg		Sb	00 21 41.5	-0.7
BULG	**Bulgheria - Ca**	**0.52**	**245**		Pg		Pg	00 21 34.4	+0.3
	143nm,0.3s								
BULG	**Bulgheria - Ca**	**0.52**	**245**		Pg		Pg	00 21 34.4	+0.3
	143nm,0.3s								
CMPR	**Campora**	**0.53**	**272**		Pg		Pg	00 21 33.6	-0.6
CMPR					Sg		Sb	00 21 42.6	-0.4
	79nm,0.6s								
CMPR	**Campora**	**0.53**	**272**		Pg		Pg	00 21 33.6	-0.6
CMPR					Sg		Sb	00 21 42.6	-0.4
	79nm,0.6s								
CDRU	**Civita di Ruta**	**0.56**	**290**		Pg		Pg	00 21 34.6	-0.2
CDRU					Sg		Sg	00 21 42.7	+0.4
	62nm,0.3s								
CDRU	**Civita di Ruta**	**0.56**	**290**		Pg		Pg	00 21 34.6	-0.2
CDRU					Sg		Sg	00 21 42.7	+0.4
	62nm,0.3s								
MRLC	**Muro Lucano**	**0.60**	**320**		Pg		Pg	00 21 35.8	+0.3
	59nm,0.4s								
MRLC	**Muro Lucano**	**0.60**	**320**		Pg		Pg	00 21 35.8	+0.3
	59nm,0.4s								
MATE	**Matera**	**0.64**	**57**		Pg		Pg	00 21 35.7	-0.7
	100nm,0.8s								
MATE	**Matera**	**0.64**	**57**		Pg		Pg	00 21 35.7	-0.7
	100nm,0.8s								
PALZ	**Palazzo San Ge**	**0.64**	**358**		Pg		Pg	00 21 36.3	-0.1
PALZ	**Palazzo San Ge**	**0.64**	**358**		Pg		Pg	00 21 36.3	-0.1
LTRZ	**Laterza**	**0.70**	**64**		Pg		Pg	00 21 36.6	-0.8
	39μm,21.0s								
LTRZ	**Laterza**	**0.70**	**64**		Pg		Pg	00 21 36.6	-0.8
	39μm,21.0s								
SG1	**Sgolgore (BA)**	**0.75**	**44**	*e*Pg			Pg	00 21 37.5	-0.9
SG1					Sg		Sb	00 21 49.6	+0.3
AMUR	**Altamura**	**0.76**	**37**		Pg		Pg	00 21 38.3	-0.3
	54nm,0.3s								
AMUR	**Altamura**	**0.76**	**37**		Pg		Pg	00 21 38.3	-0.3
	54nm,0.3s								
MRVN	**Minervino Murg**	**0.78**	**11**		Pg		Pg	00 21 39.1	+0.2
MRVN					Sg		Sb	00 21 50.3	+0.2
	55nm,0.5s								
MRVN	**Minervino Murg**	**0.78**	**11**		Pg		Pg	00 21 39.1	+0.2
MRVN					Sg		Sb	00 21 50.3	+0.2
	55nm,0.5s								
MCRV	**Calabrutti - M**	**0.79**	**308**		Pg		Pb	00 21 39.8	-0.1
	70nm,0.5s								
MCRV	**Calabrutti - M**	**0.79**	**308**		Pg		Pb	00 21 39.8	-0.1
	70nm,0.5s								
CDT	**Castel del Mon**	**0.81**	**15**	*e*Pg			Pg	00 21 39.5	0.0
CDT					Sg		Sb	00 21 51.9	+0.8
CAFE	**Carife**	**0.93**	**322**		Pg		Pg	00 21 41.5	-0.3
CAFE	**Carife**	**0.93**	**322**		Pg		Pg	00 21 41.5	-0.3
NOCI	**Noci**	**0.95**	**59**		Pg		Pg	00 21 40.9	-1.3
NOCI					Sg		Sb	00 21 55.3	+0.2
	66nm,0.3s								
NOCI	**Noci**	**0.95**	**59**		Pg		Pg	00 21 40.9	-1.3
NOCI					Sg		Sb	00 21 55.3	+0.2
	66nm,0.3s								
TAR1	**Taranto**	**1.01**	**77**	*e*Pg			Pg	00 21 41.1	-2.2
BAI	**Bari**	**1.05**	**39**	*e*Pg			Pg	00 21 43.8	-0.3
BAI					Sg		Sn	00 22 00.3	+1.0

ISCJB ***09*** *00:25:40.7±0.5,39°.12N±0°.03×29°.02E±0°.04,h2km±8km, Error ellipse: s-maj=5.7km s-min=4.2km az=150.0*
CSEM ***09*** *00:25:40.8±0.1,39°.13N×29°.04E,h2km,MD2.6,Error ellipse: s-maj=3.5km s-min=2.8km az=113.0*
ISK ***09*** *00:25:40.0,39°.10N×29°.07E,h5km,MD2.6*
DDA ***09*** *00:25:41.0,39°.12N×29°.02E,h7km,Md2.6*

ISC 09 00:25:40.6±1.1,**39.11N**±0°.02×**29.07E**±0°.02,**h3**km±13km, **n38**,σ**0s70**/49,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.27**	**104**	*e*PG	**Pg**	**00 25 45.2**	**-0.5**
GEDZ	**Gediz**	**0.27**	**104**	*e*Pg	**Pg**	**00 25 45.3**	**-0.5**
DEMI	**Demirci**	**0.29**	**257**	P	**Pg**	**00 25 46.3**	**+0.2**
DEMI				S	**Sg**	**00 25 49.8**	**0.0**
DEMI	**Demirci**	**0.29**	**257**	*i* P	**Pg**	**00 25 46.3**	**+0.2**
DEMI				*i* S	**Sg**	**00 25 49.8**	**0.0**
GDZ	**Gediz**	**0.32**	**93**	S	**Sb**	**00 25 53.7**	**-1.0**
GDZ	**Gediz**	**0.32**	**93**	*i* P	**Pg**	**00 25 43.8**	**-2.9**
GDZ				*i* S	**Sb**	**00 25 53.7**	**-1.0**
TVSB	**Tavsanli**	**0.46**	**41**	*e*PG	**Pg**	**00 25 50.1**	**+0.8**
TVSB				*e*SG	**Sg**	**00 25 56.5**	**+1.2**
TVSB	**Tavsanli**	**0.46**	**41**	*e*Pg	**Pg**	**00 25 50.2**	**+0.8**
TVSB				*e*Sg	**Sg**	**00 25 56.5**	**+1.2**
DST	**Dursunbey**	**0.61**	**325**	*e*PG	**Pg**	**00 25 51.5**	**-0.8**
DST	**Dursunbey**	**0.61**	**325**	*e*Pg	**Pg**	**00 25 51.5**	**-0.8**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*PG	**Pg**	**00 25 53.6**	**0.0**
KULA				*e*SG	**Sg**	**00 26 02.9**	**+0.6**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*Pg	**Pg**	**00 25 53.6**	**0.0**
KULA				*e*Sg	**Sg**	**00 26 02.9**	**+0.6**
MANT	**Manisa**	**0.74**	**213**	P	**Pg**	**00 25 55.0**	**+0.3**
MANT				S	**Sg**	**00 26 04.4**	**+0.1**
MANT	**Manisa**	**0.74**	**213**	*i* P	**Pg**	**00 25 55.0**	**+0.3**
MANT				*i* S	**Sg**	**00 26 04.4**	**+0.1**
KHAL	**Karahalli**	**0.81**	**156**	P	**Pb**	**00 25 57.8**	**+0.4**
KHAL				S	**Sb**	**00 26 08.6**	**-0.1**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pb**	**00 25 57.8**	**+0.4**
KHAL				*i* S	**Sb**	**00 26 08.6**	**-0.1**
AKS	**Akhisar**	**1.01**	**257**	*e*PG	**Pg**	**00 25 59.8**	**-0.1**
AKS	**Akhisar**	**1.01**	**257**	*e*Pg	**Pg**	**00 25 59.8**	**-0.1**
BALB	**Balikesir**	**1.07**	**300**	*e*PG	**Pb**	**00 26 01.4**	**-0.3**
BALB	**Balikesir**	**1.07**	**300**	*e*Pg	**Pb**	**00 26 01.4**	**-0.3**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*PN	**Pg**	**00 26 04.5**	**+0.1**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*Pn	**Pg**	**00 26 04.5**	**+0.1**
IZI	**Iznik**	**1.27**	**14**	*e*PN	**Pn**	**00 26 06.5**	**+1.2**
IZI	**Iznik**	**1.27**	**14**	*e*Pn	**Pn**	**00 26 06.6**	**+1.2**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*PN	**Pg**	**00 26 04.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn	**Pg**	**00 26 04.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pn**	**00 26 05.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pn**	**00 26 05.4**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*PN	**Pb**	**00 26 07.6**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*Pn	**Pb**	**00 26 07.6**	**-0.1**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*PN	**Pg**	**00 26 07.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*Pn	**Pg**	**00 26 07.6**	**-0.3**
ARMT	**Armutlu**	**1.46**	**354**	*e*PN	**Pn**	**00 26 07.6**	**-0.4**
ARMT	**Armutlu**	**1.46**	**354**	*e*Pn	**Pn**	**00 26 07.6**	**-0.4**
EDC	**Edincik**	**1.55**	**323**	*e*PN	**Pn**	**00 26 08.9**	**-0.3**
EDC	**Edincik**	**1.55**	**323**	*e*Pn	**Pn**	**00 26 08.9**	**-0.3**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pn**	**00 26 12.0**	**+0.3**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pn**	**00 26 12.0**	**+0.3**

ISK ***09*** *00:26:39.8,37°.83N×27°.82E,h11km,MD2.7*
ISCJB ***09*** *00:26:43.3±0.4,37°.83N±0°.03×27°.11E±0°.03,h3km±5km, Error ellipse: s-maj=5.2km s-min=3.3km az=137.8*
CSEM ***09*** *00:26:43.3±0.2,37°.82N×27°.11E,h8km,MD2.6,Error ellipse: s-maj=4.5km s-min=3.0km az=58.0*
DDA ***09*** *00:26:43.1,37°.83N×27°.09E,h7km,Md2.6*
THE ***09*** *00:26:43.8,37°.81N×27°.09E,h1km±2km,ML1.9/3,Error ellipse: s-maj=2.8km s-min=1.1km az=36.0*

ISC 09 00:26:43.5±0.9,**37.82N**±0°.02×**27.11E**±0°.02,**h11**km±6km, **n27**,σ**0s73**/46,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.15**	**141**	P	**Pg**	**00 26 46.9**	**-0.1**
GCAM				S	**Sg**	**00 26 49.6**	**+0.1**
GCAM	**G?zelcaml?**	**0.15**	**141**	*i* P	**Pg**	**00 26 46.9**	**-0.1**
GCAM				*i* S	**Sg**	**00 26 49.6**	**+0.1**
SMG	**Samos**	**0.24**	**243**	P	**Pg**	**00 26 48.2**	**-0.4**
SMG				S	**Sg**	**00 26 52.5**	**+0.5**
SMG	**Samos**	**0.24**	**243**	P	**Pg**	**00 26 48.2**	**-0.4**
SMG				S	**Sg**	**00 26 52.5**	**+0.5**
DGB	**˜zmir**	**0.29**	**322**	*i* P	**Pg**	**00 26 49.0**	**-0.4**
DGB				*i* S	**Sg**	**00 26 52.7**	**-0.8**
IZM	**Izmir**	**0.59**	**12**	*e*PG	**Pg**	**00 26 54.1**	**-0.9**
IZM				*e*SG	**Sb**	**00 27 04.4**	**+0.3**
IZM	**Izmir**	**0.59**	**12**	*e*Pg	**Pg**	**00 26 54.1**	**-0.9**
IZM				*e*Sg	**Sb**	**00 27 04.4**	**+0.3**
AYDN	**Tasoluk**	**0.63**	**105**	P	**Pg**	**00 26 55.5**	**-0.2**
AYDN				S	**Sg**	**00 27 04.5**	**+0.4**
AYDN	**Tasoluk**	**0.63**	**105**	*i* P	**Pg**	**00 26 55.5**	**-0.2**
AYDN				*i* S	**Sg**	**00 27 04.5**	**+0.4**
ZEY	**˜zmir**	**0.64**	**311**	*i* P	**Pg**	**00 26 55.4**	**-0.5**
ZEY				*i* S	**Sg**	**00 27 04.3**	**+0.1**
URLA	**Izmir**	**0.67**	**323**	P	**Pg**	**00 26 56.4**	**-0.2**
URLA	**Izmir**	**0.67**	**323**	*i* P	**Pg**	**00 26 56.4**	**-0.2**
BODT	**Bodrum**	**0.78**	**168**	*e*PG	**Pg**	**00 26 57.3**	**-1.2**
BODT				*e*SG	**Sb**	**00 27 09.5**	**0.0**
BODT	**Bodrum**	**0.78**	**168**	P	**Pg**	**00 26 58.3**	**-0.2**
BODT				S	**Sb**	**00 27 09.8**	**+0.3**
BODT	**Bodrum**	**0.78**	**168**	*e*Pg	**Pg**	**00 26 57.3**	**-1.2**
BODT	**Bodrum**	**0.78**	**168**	P	**Pg**	**00 26 58.3**	**-0.2**
BODT				*e*Sg	**Sb**	**00 27 09.5**	**0.0**
BDRM	**Kayabasi**	**0.80**	**161**	P	**Pg**	**00 26 58.1**	**-0.8**
BDRM	**Kayabasi**	**0.80**	**161**	*i* P	**Pg**	**00 26 58.1**	**-0.8**
BDRM				*i* S	**Sg**	**00 27 06.1**	**-3.3**
CHOS	**Chios island**	**1.01**	**304**	P	**Pb**	**00 27 03.2**	**+0.2**
CHOS				S	**Sb**	**00 27 16.8**	**+0.6**
CHOS	**Chios island**	**1.01**	**304**	P	**Pb**	**00 27 03.2**	**+0.2**
CHOS				S	**Sb**	**00 27 16.8**	**+0.6**
YER	**Yerkesik**	**1.16**	**126**	P	**Pn**	**00 27 06.4**	**+0.8**
YER				S	**Sn**	**00 27 21.8**	**+0.4**
YER	**Yerkesik**	**1.16**	**126**	P	**Pn**	**00 27 06.4**	**+0.8**
YER				S	**Sn**	**00 27 21.8**	**+0.4**
DKL	**Dikili**	**1.26**	**353**	*e*PN	**Pn**	**00 27 06.4**	**-0.6**
DKL	**Dikili**	**1.26**	**353**	*e*Pn	**Pn**	**00 27 06.4**	**-0.6**
KULA	**Kula-Manisa**	**1.40**	**60**	*e*PG	Pn	00 26 58.4	-11
APE	**Apeiranthos**	**1.47**	**240**	P	**Pn**	**00 27 10.0**	**+0.1**
APE				S	**Sg**	**00 27 30.6**	**-0.1**
APE	**Apeiranthos**	**1.47**	**240**	P	**Pn**	**00 27 10.0**	**+0.1**
APE				S	**Sg**	**00 27 30.6**	**-0.1**

SJA 09 00:27:53.6±0.6,**28°.57S×67°.86W**,**h114**km±4km,**ML3.1, MW3.6**,**La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.35**	**242**	*i* P	Pn	00 28 10.4	+0.2
VCA				*i* S	Sn	00 28 23.8	+1.0
VCA				IAML		00 28 25.2	
	comp=Z,1μm,0.2s						
AGUA	**GUANDACOL**	**1.07**	**211**	*i* P	Pn	00 28 16.8	+0.8
AGUA				*i* S	Sn	00 28 34.0	+1.1
CYA	**Choya**	**1.81**	**86**	*i* P	Pn	00 28 25.6	+1.1
CYA				*i* S	Sn	00 28 49.1	+1.0
CYA				IAML		00 28 49.4	
	comp=Z,120nm,0.4s						
AVFE	**Valle Fertil**	**2.11**	**171**	*i* P	Pn	00 28 29.2	+0.9
AVFE				*i* S	Sn	00 28 55.8	+1.1
AVFE				IAML		00 29 00.3	
	comp=Z,46nm,0.3s						

ISK ***09*** *00:33:16.8,39°.08N×29°.07E,h5km,MD2.4*
ISCJB ***09*** *00:33:17.3±0.6,39°.08N±0°.04×29°.05E±0°.04,h3km±8km, Error ellipse: s-maj=6.5km s-min=4.1km az=149.6*
CSEM ***09*** *00:33:17.5±0.1,39°.08N×29°.04E,h5km,MD2.7,Error ellipse: s-maj=3.1km s-min=2.2km az=116.0*
DDA ***09*** *00:33:17.1,39°.08N×29°.06E,h7km,Md2.7*

ISC 09 00:33:17.5±0.9,**39.08N**±0°.02×**29.07E**±0°.02,**h10**km±9km, **n26**,σ**0s34**/40,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**262**	P	**Pg**	**00 33 23.0**	**0.0**
DEMI				S	**Sg**	**00 33 26.9**	**+0.1**
DEMI	**Demirci**	**0.28**	**262**	*i* P	**Pg**	**00 33 23.1**	**0.0**
DEMI				*i* S	**Sg**	**00 33 26.9**	**+0.1**
GDZ	**Gediz**	**0.32**

baz=226
TWD eS Sn 00 39 25.9 +0.9
baz=226
NNS Nan Shan 1.10 252 eP Pn 00 39 10.1 0.0
baz=250
NNS eS Sb 00 39 24.0 -0.2
baz=250
IRIF Iriomote-Funau 1.19 112 P Pg 00 39 12.5 +0.9
IRIF S Sg 00 39 27.2 +0.1
WHF Hehuan Shan 1.31 241 P Pb 00 39 13.9 +0.3
baz=238
HATJ Hateruma jima 1.38 122 P Pg 00 39 15.0 -0.2
HATJ S Sg 00 39 33.1 0.0
NSTT Nanjuang 1.39 264 eP Pb 00 39 14.3 -0.4
baz=263
NSTT eS Sn 00 39 32.0 -0.3
baz=263
JKRS Kuro-shima 1.46 112 P Pg 00 39 17.0 +0.2
JKRS S Sn 00 39 33.1 -0.8
JIJ Ishigaki jima 1.53 106 P Pg 00 39 17.9 -0.3
JIJ eS Sb 00 39 36.6 +0.2
JISG Ishigakijimahi 1.64 97 P Pg 00 39 20.0 -0.2
JISG eS Sg 00 39 41.0 -0.5
TWQ1 Liyutan 1.65 255 eP Pb 00 39 18.9 -0.2
baz=253
TWQ1 eS Sb 00 39 40.6 +0.7
baz=253
EHY Hungye 1.68 221 eP Pb 00 39 18.8 -0.9
baz=218
EHY eS Sn 00 39 38.5 -1.0
baz=218
SMLT Sun Moon Lake 1.73 239 eP Pg 00 39 21.9 -0.1
baz=236
TYC Yuchr 1.76 240 eP Pb 00 39 20.9 0.0
baz=238
TYC eS Sb 00 39 42.3 -0.6
baz=238
TWF1 Yuli 1.82 218 eP Pn 00 39 20.7 +0.9
baz=215
TWF1 eS Sn 00 39 43.1 +0.4
baz=215
YUS Yu-Shan 1.93 228 eP Pb 00 39 23.1 -1.0
baz=225
YUS eS Sn 00 39 46.7 +0.4
baz=225
JTJ Tarama 1.99 94 S Sb 00 39 50.1 +0.6
ALS Alishan 2.02 231 eP Pb 00 39 24.9 -0.7
baz=229
CHN5 Tsauling 2.06 235 eP Pn 00 39 24.6 +1.4
baz=233
CHN5 eS Sb 00 39 50.5 -1.3
baz=233
CHN4 Tsaushan 2.27 231 eP Pb 00 39 27.9 -1.7
baz=229
CHN4 eS Sn 00 39 55.1 +1.0
baz=229
WTP Ta-pu 2.33 229 eP Pn 00 39 28.7 +1.8
baz=226
WTP eS Sn 00 39 57.1 +1.7
baz=226
CHN1 Nanshi 2.42 229 eP Pb 00 39 30.8 -1.6
baz=227
CHN1 eS Sb 00 40 00.2 -2.0
baz=227

*JMA **09** 00:49:02.1,36°.93N×140°.67E,h9km±1km,M3.3*
Broadband fault plane solution: P waves. NP1: ϕs160.00000°,δ64.00000°,λ-100.00000°. NP2:ϕs3.00000°, δ27.00000°,λ-70.00000°. Principal axes: T Plg19.0000°, Azm258.0000°; N Plg9.0000°, Azm165.0000°; P Plg69.0000°, Azm50.0000°;
JMA Felt I J1.
*IDC **09** 00:49:05.5±1.6,36°.24N×140°.46E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/47,mbtmp3.5/3 Error ellipse: s-maj=27.2km s-min=17.2km az=26.0*
ISC 09 00:49:02.0±1.2,36°.92N±0°.05×140°.65E±0°.06,h8km±11km, n15,σ0s51/14,mb3.7/3,7C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.22**	**32**	⇑P	**Pg**	**00 49 06.4**	**-0.1**
ONAJ				S	**Sg**	**00 49 09.5**	**0.0**
JHO	**Hitachi**	**0.31**	**193**	⇑P	**Pg**	**00 49 08.4**	**+0.2**
JFK	**Kawauchi**	**0.48**	**21**	⇑P	**Pg**	**00 49 11.0**	**-0.4**
JFK				S	**Sg**	**00 49 17.5**	**-0.3**
JSB	**Shiboa**	**0.59**	**275**	⇑P	**Pb**	**00 49 14.5**	**-0.1**
JFT	**Otama**	**0.65**	**337**	⇑P	**Pg**	**00 49 14.7**	**+0.1**
JFT				S	**Sg**	**00 49 23.3**	**+0.2**
JAG	**Ashikaga**	**1.08**	**243**	⇑P	**Pg**	**00 49 22.1**	**-0.7**
JKT	**Katashina**	**1.14**	**263**	⇑P	**Pg**	**00 49 23.5**	**-0.4**
MJAR	**Matsushiro Arr** 11nm,0.3s,baz=94,slow=18,SNR=64	**2.00**	**260**	Pg	**Pn**	**00 49 36.7**	**+0.6**
MJAR	13nm,0.3s,baz=96,slow=31,SNR=11			Lg	Lg	00 50 03.7	
MAT	**Matsushiro**	**2.00**	**260**	P	**Pn**	**00 49 37.1**	**+1.0**
MAT				S	**Sb**	**00 50 03.9**	**+0.2**
H11S1	**WAKE ISLAND Hy 29.31 122** baz=315,slow=76,SNR=44			T	T	01 25 37.2	
H11S3	**WAKE ISLAND Hy 29.33 122** baz=315,slow=76,SNR=40			T	T	01 25 37.3	
H11S2	**WAKE ISLAND Hy 29.33 122** baz=315,slow=76,SNR=22			T	T	01 25 38.0	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=96,slow=10,SNR=3.5	**41.54**	**312**	P	P	00 56 57.5	+7.8
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=80,slow=5.8,SNR=2.4	**43.66**	**302**	P	P	00 57 14.4	+7.2
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=2.8,slow=7.3,SNR=9.2	**56.87**	**187**	P	**P**	**00 58 46.7**	**-0.5**

*NIED **09** 00:55:00,37°.60N×144°.50E,h11km,Mw3.8 Best double couple: M≤5.40000×10^14 NP1:ϕs57.00000°,δ32.00000°, λ-68.00000°. NP2:ϕs212.00000°,δ61.00000°, λ-103.00000°.*
*IDC **09** 00:55:30.5±0.9,37°.31N×144°.93E,h0km,mb3.8/8, mb1 4.0/11,mb1mx3.7/46,mbtmp3.8/11,ML3.7/3,MS2.5/4, Ms1 2.5/4,ms1mx2.3/38,Error ellipse: s-maj=26.8km s-min=19.7km az=109.0*
*ISCJB **09** 00:55:34.4±0.7,37°.51N±0°.06×144°.61E±0°.06,h33km, mb3.7/8,Error ellipse: s-maj=8.1km s-min=6.8km az=0.1*
*JMA **09** 00:55:35.3±0.3,37°.63N×144°.51E,h24km,M4.2*
ISC 09 00:55:35.9±0.9,37°.51N±0°.06×144°.71E±0°.08,h35km,n31, σ2s09/35,mb3.8/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.81**	**291**	P	**Pn**	**00 56 17.2**	**-1.2**
OFUJ	**Ofunato**	**2.86**	**304**	P	**Pn**	**00 56 18.1**	**-0.9**
JMK	**Ichinoseki**	**3.10**	**299**	P	**Pn**	**00 56 21.6**	**-0.7**
JOU	**Okura**	**3.31**	**286**	P	**Pn**	**00 56 24.8**	**-0.4**
JOM	**Ohasama**	**3.32**	**307**	P	**Pn**	**00 56 25.3**	**0.0**
JOM				eS	**Sn**	**00 57 02.7**	**-0.8**
JYK	**Kaneyama**	**3.70**	**294**	P	**Pn**	**00 56 30.2**	**-0.4**
JYK				S	**Sn**	**00 57 12.2**	**-0.7**
JRG	**Rokugo**	**3.71**	**302**	P	**Pn**	**00 56 31.3**	**+0.6**
JANG	**Nango**	**3.79**	**320**	P	**Pn**	**00 56 30.6**	**-1.2**
JANG				eS	**Sn**	**00 57 12.6**	**-2.5**
JAH	**Hinai**	**4.15**	**311**	P	**Pn**	**00 56 36.9**	**+0.1**
JTM	**Tenmabayashi**	**4.32**	**320**	P	**Pn**	**00 56 38.8**	**-0.3**
JTM				S	**Sn**	**00 57 24.6**	**-3.7**
JCH	**Churui**	**5.20**	**349**	P	**Pn**	**00 56 49.7**	**-1.5**
JCH				S	**Sn**	**00 57 44.8**	**-5.1**
JKB	**Kayabe**	**5.21**	**328**	P	**Pn**	**00 56 51.2**	**-0.1**
JKB				S	**Sn**	**00 57 45.6**	**-4.5**
MJAR	**Matsushiro Arr** 3.9nm,0.3s,baz=88,slow=16,SNR=22	**5.29**	**261**	Pn	**Pn**	**00 56 52.3**	**-0.1**
MJAR	baz=88,slow=21,SNR=2.6			Sn	**Sn**	**00 57 50.9**	**-1.2**
MJAR	comp=Z,19nm,20.6s,baz=95,slow=35			LR	LR	00 58 39.4	
MAT	**Matsushiro**	**5.29**	**261**	P	**Pn**	**00 56 52.6**	**+0.2**
MAT				S	**Sn**	**00 57 50.2**	**-1.9**
JHJ	**Hachijo jima 2** 6.3nm,0.3s,baz=341,slow=20,SNR=10	**5.95**	**224**	Pn	**Pn**	**00 56 58.1**	**-3.4**
JHJ	29nm,0.3s,baz=59,slow=22,SNR=7.3			Sn	**Sn**	**00 58 03.4**	**-5.0**
ASAJ	**Asahikawa** 2.8nm,0.3s,baz=207,slow=15,SNR=6.1	**6.79**	**347**	Pn	**Pn**	**00 57 12.0**	**-1.0**
JNU	**Nakatsue** comp=Z,18nm,19.3s,baz=290,slow=44	**12.11**	**253**	LR	LR	01 04 25.1	
KSRS	**Korea Array** 0.3nm,0.3s,baz=91,slow=12,SNR=5.7	**13.33**	**275**	Pn	**Pn**	**00 58 45.6**	**+3.1**
KSRS	comp=Z,32nm,19.6s,baz=58,slow=32			LR	LR	01 02 45.1	
KLR	**Kul'dur** comp=Z,23nm,19.5s,slow=36	**15.01**	**325**	LR	LR	01 04 48.5	
H11N2	**WAKE ISLAND Hy 26.22 126** baz=318,slow=74,SNR=30			T	T	01 28 10.4	
H11N1	**WAKE ISLAND Hy 26.23 126** baz=318,slow=74,SNR=15			T	T	01 28 11.0	
H11N3	**WAKE ISLAND Hy 26.24 126** baz=318,slow=74,SNR=17			T	T	01 28 11.3	
MKAR	**Makanchi Array** 0.5nm,0.9s,baz=82,slow=11,SNR=3.2	**46.09**	**302**	P	**P**	**01 03 58.6**	**+2.2**
ILAR	**Eielson Array** 0.9nm,0.8s,baz=268,slow=6.9,SNR=8.5	**47.68**	**33**	P	**P**	**01 04 08.8**	**+0.2**
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=10,slow=7.1,SNR=9.1	**57.97**	**192**	P	**P**	**01 05 23.5**	**-1.4**
ASAR	**Alice Springs** 0.6nm,0.8s,baz=9.9,slow=8.0,SNR=7.2	**61.69**	**191**	P	**P**	**01 05 49.6**	**-0.9**
HFS	**Hagfors** 1.8nm,0.8s,baz=51,slow=8.0,SNR=3.6	**74.71**	**337**	P	**P**	**01 07 12.8**	**+1.2**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.7s,baz=37,slow=5.9	**74.73**	**339**	P	**P**	**01 07 12.9**	**+1.1**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.8s,baz=38,slow=5.8,SNR=4.4	**74.73**	**339**	P	**P**	**01 07 12.9**	**+1.1**
AKASG	**Malin Array Be** comp=Z,0.3nm,0.4s,baz=205,slow=36,SNR=4.2	**75.50**	**324**	P	**P**	**01 07 18.1**	**+1.7**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.5s,baz=328,slow=4.5,SNR=4.1	**87.73**	**54**	P	**P**	**01 08 21.9**	**+0.4**

*ISCJB **09** 00:58:08.4±0.2,36°.68N±0°.03×30°.10E±0°.02,h87km±4km, Error ellipse: s-maj=4.2km s-min=2.9km az=10.4*
*NSSC **09** 00:58:09.5±0.8,36°.62N×30°.23E,h126km±84km,MD1.9, ML2.7*
*ISK **09** 00:58:10.5,36°.86N×30°.03E,h71km,ML3.2*
*CSEM **09** 00:58:10.0±0.1,36°.70N×30°.09E,h70km,ML3.2,Error ellipse: s-maj=3.4km s-min=2.8km az=25.0*
*ATH **09** 00:58:10.1,36°.87N×29°.92E,h41km±5km,ML3.1/7,Error ellipse: s-maj=7.5km s-min=1.2km az=103.0*
*THE **09** 00:58:11.3,36°.80N×30°.10E,h73km±4km,ML3.4/4,Error ellipse: s-maj=4.7km s-min=1.2km az=219.0*
*HLW **09** 00:58:12.6,36°.41N×30°.06E,h32km±24km,Md3.7,Ml3.3*
*NIC **09** 00:58:13.9±0.5,36°.63N×30°.47E,h44km,ML3.3*
ISC 09 00:58:08.8±1.1,36°.71N±0°.04×30°.13E±0°.02,h78km±7km, n133,σ1s79/181,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.18**	**284**	ePG	**Pn**	**00 58 20.8**	**+0.4**
ELL				eSG	**Sn**	**00 58 29.4**	**+0.4**
ELL	**Elmali**	**0.18**	**284**	ePg	**Pn**	**00 58 20.8**	**+0.4**
ELL				eSg	**Sn**	**00 58 29.4**	**+0.4**
ANTB	**Antalya**	**0.47**	**65**	ePG	**Pn**	**00 58 23.4**	**+1.4**
ANTB				eSG	**Sn**	**00 58 33.6**	**+1.8**
ANTB	**Antalya**	**0.47**	**65**	ePg	**Pn**	**00 58 23.4**	**+1.4**
ANTB				eSg	**Sn**	**00 58 33.6**	**+1.8**
GLHS	**Glhisar (BURDU**	**0.68**	**312**	ePG	**Pn**	**00 58 24.3**	**+0.2**
GLHS				eSG	**Sn**	**00 58 34.6**	**-0.9**
GLHS	**Glhisar (BURDU**	**0.68**	**312**	ePg	**Pn**	**00 58 24.3**	**+0.2**
GLHS				eSg	**Sn**	**00 58 34.6**	**-0.9**
KSL	**Kastellorizon**	**0.70**	**218**	P	**Pn**	**00 58 25.4**	**+1.1**
KSL				S	**Sn**	**00 58 37.9**	**+2.1**
KSL	**Kastellorizon**	**0.70**	**218**	P	**Pn**	**00 58 25.6**	**+1.3**
KSL				S	**Sn**	**00 58 36.2**	**+0.3**
KSL	comp=N,1617μm,0.4s			AML	AML	00 58 39.7	
KSL	comp=E,2043μm,0.5s			AML	AML	00 58 39.9	
BCK	**Bucak**	**0.84**	**26**	ePG	**Pn**	**00 58 26.8**	**+0.9**
BCK	**Bucak**	**0.84**	**26**	ePg	**Pn**	**00 58 26.8**	**+0.9**
FETY	**Fethiye**	**0.84**	**266**	ePG	**Pn**	**00 58 27.2**	**+1.4**
FETY	**Fethiye**	**0.84**	**266**	P	**Pn**	**00 58 27.1**	**+1.3**
FETY				S	**Sn**	**00 58 38.7**	**+0.1**
FETY	**Fethiye**	**0.84**	**266**	P	**Pn**	**00 58 27.1**	**+1.3**
SUTC	**Sutluce-Ispart**	**1.04**	**42**	ePG	**Pn**	**00 58 30.4**	**+2.1**
SUTC	**Sutluce-Ispart**	**1.04**	**42**	ePg	**Pn**	**00 58 30.4**	**+2.1**
DALY	**Dalyan (Mu˘la**	**1.19**	**276**	ePN	**Pn**	**00 58 31.1**	**+1.1**
DALY	**Dalyan (Mu˘la**	**1.19**	**276**	ePn	**Pn**	**00 58 31.1**	**+1.1**
DENT	**Denizli**	**1.36**	**321**	ePN	**Pn**	**00 58 32.6**	**+0.3**
DENT	**Denizli**	**1.36**	**321**	ePn	**Pn**	**00 58 32.6**	**+0.3**
YER	**Yerkesik**	**1.54**	**287**	ePN	**Pn**	**00 58 36.2**	**+1.6**
YER	**Yerkesik**	**1.54**	**287**	P	**Pn**	**00 58 36.0**	**+1.5**
YER				S	**Sn**	**00 58 54.2**	**+0.2**
YER	**Yerkesik**	**1.54**	**287**	P	**Pn**	**00 58 36.0**	**+1.5**
YER				S	**Sn**	**00 58 54.2**	**+0.2**
ARG	**Arkhangelos**	**1.68**	**254**	P	**Pn**	**00 58 37.4**	**+1.0**
ARG				S	**Sn**	**00 58 58.2**	**+0.9**
ARG	**Arkhangelos**	**1.68**	**254**	P	**Pn**	**00 58 37.4**	**+1.0**
ARG				S	**Sn**	**00 58 58.2**	**+0.9**
KHL	**Karahalli**	**1.69**	**344**	ePN	**Pn**	**00 58 36.0**	**-0.5**
KHL	**Karahalli**	**1.69**	**344**	ePn	**Pn**	**00 58 36.0**	**-0.5**
HDMB	**Hadim**	**1.91**	**82**	ePN	**Pn**	**00 58 43.1**	**+3.5**
HDMB	**Hadim**	**1.91**	**82**	ePn	**Pn**	**00 58 43.1**	**+3.5**
KULA	**Kula-Manisa**	**2.15**	**328**	ePN	**Pn**	**00 58 42.9**	**+0.2**
KULA	**Kula-Manisa**	**2.15**	**328**	P	**Pn**	**00 58 42.5**	**-0.2**
KULA				S	**Sn**	**00 59 07.0**	**-1.5**
KULA	**Kula-Manisa**	**2.15**	**328**	P	**Pn**	**00 58 42.5**	**-0.2**
KULA	**Kula-Manisa**	**2.15**	**328**	ePn	**Pn**	**00 58 42.9**	**+0.2**
KULA				S	**Sn**	**00 59 07.0**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**2.17**	**306**	ePN	**Pn**	**00 58 43.5**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.17**	**306**	ePn	**Pn**	**00 58 43.5**	**+0.5**
KONT	**Konya--Tatoy**	**2.17**	**55**	ePN	**Pn**	**00 58 46.1**	**+3.2**
KONT	**Konya--Tatoy**	**2.17**	**55**	ePn	**Pn**	**00 58 46.1**	**+3.2**
BODT	**Bodrum**	**2.29**	**280**	ePN	**Pn**	**00 58 46.0**	**+1.5**
BODT	**Bodrum**	**2.29**	**280**	P	**Pn**	**00 58 45.9**	**+1.5**
BODT	**Bodrum**	**2.29**	**280**	P	**Pn**	**00 58 45.9**	**+1.5**
LADK	**Ladik-KONYA**	**2.32**	**49**	ePN	**Pn**	**00 58 47.1**	**+2.1**
LADK	**Ladik-KONYA**	**2.32**	**49**	ePn	**Pn**	**00 58 47.1**	**+2.1**
NIS1	**Nisyros Isl.**	**2.37**	**268**	P	**Pn**	**00 58 46.8**	**+1.2**
NIS1	**Nisyros Isl.**	**2.37**	**268**	P	**Pn**	**00 58 46.4**	**+0.8**
NIS1	**Nisyros Isl.**	**2.37**	**268**	P	**Pn**	**00 58 46.4**	**+0.8**
NIS1				S	**Sn**	**00 59 12.3**	**-1.5**
NIS1	comp=N,699μm,0.3s			AML	AML	00 59 20.0	
NIS1	comp=E,614μm,0.3s			AML	AML	00 59 23.0	
GEDZ	**Gediz**	**2.40**	**347**	ePN	**Pn**	**00 58 46.6**	**+0.5**
GEDZ	**Gediz**	**2.40**	**347**	ePn	**Pn**	**00 58 46.6**	**+0.5**
NISR	**Nisiros**	**2.41**	**269**	P	**Pn**	**00 58 46.8**	**+0.7**
NISR	**Nisiros**	**2.41**	**269**	P	**Pn**	**00 58 46.8**	**+0.7**
AKMC	**Akamas** baz=317	**2.45**	**132**	P	**Pn**	**00 58 47.7**	**+1.0**
AKMC	**Akamas**	**2.45**	**132**	P	**Pn**	**00 58 47.7**	**+1.0**
ALFC	**Alefka** baz=311	**2.53**	**127**	P	**Pn**	**00 58 48.3**	**+0.5**
ALFC				S	**Sn**	**00 59 16.6**	**-1.1**
ALFC	**Alefka**	**2.53**	**127**	P	**Pn**	**00 58 48.3**	**+0.5**
ALFC				S	**Sn**	**00 59 16.6**	**-1.1**
PPCY	**Paphos** baz=319	**2.56**	**135**	P	**Pn**	**00 58 50.0**	**+1.9**
PPCY	**Paphos**	**2.56**	**135**	P	**Pn**	**00 58 50.0**	**+1.9**
KIZT	**Kizilcal**	**2.58**	**32**	ePN	**Pn**	**00 58 50.1**	**+1.6**
KIZT	**Kizilcal**	**2.58**	**32**	ePn	**Pn**	**00 58 50.1**	**+1.6**
KARP	**Karpathos**	**2.66**	**245**	P	**Pn**	**00 58 51.2**	**+1.7**
KARP				S	**Sn**	**00 59 22.0**	**+1.1**
KARP	**Karpathos**	**2.66**	**245**	P	**Pn**	**00 58 51.2**	**+1.7**
KARP				S	**Sn**	**00 59 22.4**	**+1.5**
KARP	**Karpathos**	**2.66**	**245**	P	**Pn**	**00 58 51.3**	**+1.7**
KARP				S	**Sn**	**00 59 22.4**	**+1.5**
KARP	comp=N,484μm,0.2s			AML	AML	00 59 23.3	
KARP	comp=E,477μm,0.1s			AML	AML	00 59 23.3	
TVSB	**Tavsanli**	**2.79**	**349**	ePN	**Pn**	**00 58 51.8**	**+0.5**
TVSB	**Tavsanli**	**2.79**	**349**	ePn	**Pn**	**00 58 51.8**	**+0.5**
SMG	**Samos**	**2.81**	**292**	P	**Pn**	**00 58 52.2**	**+0.7**
SMG				S	**Sn**	**00 59 23.7**	**-0.7**
SMG	**Samos**	**2.81**	**292**	P	**Pn**	**00 58 52.2**	**+0.7**
SMG				S	**Sn**	**00 59 23.7**	**-0.7**
SMG	**Samos**	**2.81**	**292**	P	**Pn**	**00 58 51.5**	**0.0**
SMG				S	**Sn**	**00 59 21.1**	**-3.3**
SMG	comp=N,419μm,0.5s			AML	AML	00 59 25.6	
SMG	comp=E,518μm,0.5s			AML	AML	00 59 26.1	
AKS	**Akhisar**	**2.84**	**321**	ePN	**Pn**	**00 58 51.7**	**-0.2**
AKS	**Akhisar**	**2.84**	**321**	ePn	**Pn**	**00 58 51.7**	**-0.2**
ESKT	**Eskisehir**	**2.87**	**11**	ePN	**Pn**	**00 58 53.8**	**+1.4**
ESKT	**Eskisehir**	**2.87**	**11**	ePn	**Pn**	**00 58 53.8**	**+1.4**
CHBY	**Cihanbeyli**	**2.89**	**49**	ePN	**Pn**	**00 58 56.4**	**+3.8**
CHBY	**Cihanbeyli**	**2.89**	**49**	ePn	**Pn**	**00 58 56.4**	**+3.8**
MAMC	**Mammari** baz=303	**2.94**	**120**	P	**Pn**	**00 58 55.0**	**+1.8**
MAMC	**Mammari**	**2.94**	**120**	P	**Pn**	**00 58 55.0**	**+1.8**
SVRH	**Sivrihisar-ESK**	**2.95**	**22**	ePN	**Pn**	**00 58 55.0**	**+1.5**
SVRH	**Sivrihisar-ESK**	**2.95**	**22**	ePn	**Pn**	**00 58 55.0**	**+1.5**
SZAC	**Souni** baz=314	**2.97**	**130**	P	**Pn**	**00 58 55.5**	**+1.8**
SZAC	**Souni**	**2.97**	**130**	P	**Pn**	**00 58 55.5**	**+1.8**
DST	**Dursunbey**	**3.13**	**338**	ePN	**Pn**	**00 58 57.0**	**+1.2**
DST	**Dursunbey**	**3.13**	**338**	ePn	**Pn**	**00 58 57.0**	**+1.2**
CSS	**Mathiatis** baz=306	**3.13**	**123**	P	**Pn**	**00 58 56.8**	**+0.9**
CSS				S	**Sn**	**00 59 30.7**	**-1.5**
CSS	**Mathiatis**	**3.13**	**123**	P	**Pn**	**00 58 57.6**	**+1.7**
CSS	**Mathiatis**	**3.13**	**123**	P	**Pn**	**00 58 57.6**	**+1.7**
CSS				S	**Sn**	**00 59 30.7**	**-1.5**
ZKR	**Zakros**	**3.55**	**245**	P	**Pn**	**00 59 03.8**	**+2.3**
ZKR	**Zakros**	**3.55**	**245**	P	**Pn**	**00 59 03.8**	**+2.3**
ZKR				S	**Sn**	**00 59 43.9**	**+1.6**
ZKR	comp=N,173μm,0.6s			AML	AML	00 59 45.3	
ZKR	comp=E,203μm,0.6s			AML	AML	00 59 45.5	
CHOS	**Chios island**	**3.65**	**299**	P	**Pn**	**00 59 03.2**	**+0.3**
CHOS				S	**Sn**	**00 59 41.4**	**-3.4**
CHOS	**Chios island**	**3.65**	**299**	P	**Pn**	**00 59 03.2**	**+0.3**
CHOS				S	**Sn**	**00 59 41.4**	**-3.4**
APE	**Apeiranthos**	**3.70**	**277**	P	**Pn**	**00 59 05.1**	**+1.5**
APE				S	**Sn**	**00 59 44.6**	**-1.5**
APE	**Apeiranthos**	**3.70**	**277**	P	**Pn**	**00 59 05.0**	**+1.5**
APE				S	**Sn**	**00 59 44.6**	**-1.5**
APE	comp=N,84μm,0.6s			AML	AML	00 59 45.7	
APE	comp=E,71μm,0.6s			AML	AML	00 59 48.9	
NPS	**Neapolis**	**3.93**	**250**	P	**Pn**	**00 59 07.7**	**+1.0**
NPS	**Neapolis**	**3.93**	**250**	P	**Pn**	**00 59 07.7**	**+1.0**
NPS				S	**Sn**	**00 59 51.4**	**-0.3**
NPS	**Neapolis**	**3.93**	**250**	P	**Pn**	**00 59 07.3**	**+0.6**
NPS				S	**Sn**	**00 59 51.4**	**-0.3**
NPS	comp=E,261μm,0.3s			AML	AML	00 59 51.9	
NPS	comp=N,244μm,0.3s			AML	AML	00 59 52.4	
PRK	**Paraskevi**	**3.96**	**311**	P	**Pn**	**00 59 08.6**	**+1.5**
PRK				S	**Sn**	**00 59 49.3**	**-3.1**
PRK	**Paraskevi**	**3.96**	**311**	P	**Pn**	**00 59 08.6**	**+1.5**
PRK				S	**Sn**	**00 59 49.3**	**-3.1**
LAST	**Lasithi**	**4.07**	**249**	P	**Pn**	**00 59 09.8**	**+1.1**
LAST				S	**Sn**	**00 59 54.5**	**-0.7**
LAST	**Lasithi**	**4.07**	**249**	P	**Pn**	**00 59 09.8**	**+1.1**
IDI	**Anoyia**	**4.47**	**253**	P	**Pn**	**00 59 14.8**	**+0.6**
IDI	**Anoyia**	**4.47**	**253**	P	**Pn**	**00 59 14.8**	**+0.6**
SIVA	**Sivas**	**4.63**	**250**	P	**Pn**	**00 59 18.2**	**+2.0**
SIVA	**Sivas**	**4.63**	**250**	P	**Pn**	**00 59 18.2**	**+2.0**
ARNB	**Al Arnab**	**4.80**	**98**	eP	**Pn**	**00 59 20.0**	**+1.4**
ARNB				eS	**Sn**	**01 00 11.1**	**-1.8**
ARNB	comp=N,38nm,0.6s			AML	AML	01 00 18.0	
ARNB	comp=E,13nm,0.7s			AML	AML	01 00 19.3	
LIA	**Limnos Island**	**5.03**	**311**	P	**Pn**	**00 59 22.8**	**+1.2**
BTCH	**Batrach**	**5.15**	**96**	eP	**Pn**	**00 59 24.7**	**+1.2**
BTCH				eS	**Sn**	**01 00 18.7**	**-2.9**
BTCH	comp=N,32nm,0.5s			AML	AML	01 00 28.2	
BTCH	comp=E,25nm,0.5s			AML	AML	01 00 30.2	
DRWC	**Darouich**	**5.26**	**89**	eP	**Pn**	**00 59 26.3**	**+1.4**
DRWC				eS	**Sn**	**01 00 21.4**	**-2.8**
DRWC	comp=E,9.3nm,0.3s			AML	AML	01 00 31.6	
DRWC	comp=N,5.3nm,0.4s			AML	AML	01 00 37.3	
BHL	**Bhannes**	**5.31**	**120**	eP	**Pn**	**00 59 25.7**	**0.0**
BHL	**Bhannes**	**5.31**	**120**	eP	**Pn**	**00 59 25.7**	**0.0**
HWQ	**Hawqa**	**5.33**	**115**	eP	**Pn**	**00 59 27.7**	**+1.8**
HWQ	**Hawqa**	**5.33**	**115**	eP	**Pn**	**00 59 27.7**	**+1.8**
DQRL	**Deir Qamar**	**5.37**	**122**	eP	**Pn**	**00 59 26.0**	**-0.4**
DQRL	**Deir Qamar**	**5.37**	**122**	eP	**Pn**	**00 59 26.0**	**-0.4**
RCY	**Rachaya**	**5.67**	**123**	eP	**Pn**	**00 59 31.1**	**+0.5**
RCY	**Rachaya**	**5.67**	**123**	eP	**Pn**	**00 59 31.1**	**+0.5**
BRBR	**Barbar**	**5.80**	**123**	eP	**Pn**	**00 59 33.0**	**+0.6**
BRBR				eS	**Sn**	**01 00 33.6**	**-4.0**
BRBR	comp=N,37nm,0.6s			AML	AML	01 00 37.2	
BRBR	comp=E,18nm,0.6s			AML	AML	01 00 38.1	
MARH	**Ras Al Marh**	**5.84**	**115**	eP	**Pn**	**00 59 33.8**	**+0.7**
MARH				eS	**Sn**	**01 00 35.1**	**-3.7**
MARH	comp=N,7.4nm,0.3s			AML	AML	01 00 39.4	
MARH	comp=E,15nm,0.5s			AML	AML	01 00 42.8	
TOTH	**TOTAH**	**6.15**	**121**	eP	**Pn**	**00 59 38.4**	**+1.3**
TOTH				eS	**Sn**	**01 00 42.2**	**-3.8**
TOTH	comp=N,38nm,0.7s			AML	AML	01 00 46.9	
TOTH	comp=E,14nm,0.5s			AML	AML	01 00 55.8	
TCHB	**Talchebab**	**6.27**	**128**	eP	**Pn**	**00 59 39.8**	**+1.1**
TCHB				eS	**Sn**	**01 00 44.9**	**-4.1**
TCHB	comp=N,33nm,0.5s			AML	AML	01 00 51.8	
TCHB	comp=E,27nm,0.6s			AML	AML	01 00 52.8	
ROOS	**tl_alroos**	**6.37**	**111**	eP	**Pn**	**00 59 41.7**	**+1.6**
ROOS				eS	**Sn**	**01 00 47.2**	**-4.2**
ROOS	comp=E,15nm,0.7s			AML	AML	01 00 53.9	
ROOS	comp=N,19nm,0.3s			AML	AML	01 00 54.2	
SLUM	**Salum** baz=221	**6.61**	**219**	P	**Pn**	**00 59 44.1**	**+1.0**
SLUM	comp=E,30μm,0.2s,logA/T=5.2,baz=221			AMP		01 00 00.0	
SLUM	baz=221			S	**Sn**	**01 00 51.1**	**-5.9**
SLUM	**Salum**	**6.61**	**219**	P	**Pn**	**00 59 44.2**	**+1.0**
SALA	**Sala**	**6.74**	**124**	eP	**Pn**	**00 59 46.3**	**+1.0**
SALA				eS	**Sn**	**01 00 56.3**	**-4.4**
SALA	comp=N,14nm,0.4s			AML	AML	01 01 09.8	
KOT	**Kottamia** baz=166	**6.91**	**168**	P	**Pn**	**00 59 48.7**	**+1.3**
KOT	**Kottamia**	**6.91**	**168**	P	**Pn**	**00 59 48.7**	**+1.3**
ZALF	**Zalf**	**7.03**	**120**	eP	**Pn**	**00 59 50.7**	**+1.7**
ZALF				eS	**Sn**	**01 01 03.3**	**-4

PAU				S	Sb	01 06 51.5	-1.4		
ASAK	**Asacha**	**3.31**	**9**	P	Pb	01 06 36.7	-3.3		
RUS	**Russkaya**	**3.44**	**15**	*eP*	Pn	01 06 37.9	+2.9		
RUS				S	Sb	01 07 20.4	-3.9		
UGLR	**Uglovaya**	**4.24**	**15**	*eP*	Pn	01 06 49.8	+3.7		
AVH	**Avacha**	**4.28**	**14**	*eP*	Pn	01 06 51.2	+4.6		
SMAR	**Somma**	**4.29**	**14**	*eP*	Pn	01 06 50.5	+3.6		
SDLR	**Sedlovina**	**4.32**	**15**	*eP*	Pn	01 06 50.2	+3.0		
KRER	**Koryakskii**	**4.32**	**14**	*eP*	Pn	01 06 51.1	+3.8		
KRX	**Arik**	**4.36**	**13**	*eP*	Pn	01 06 51.3	+3.5		

IDC 09 01:36:45.0±1.3, 12°.18N×144°.07E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/33, mbtmp3.5/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/21, Error ellipse: s-maj=50.1km s-min=18.8km az=110.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.61**	**29**	Pn	Pn	01 37 15.0	+0.3
	107nm,0.3s,baz=173,slow=1.3,SNR=13						
GUMO				Sn	Sg	01 37 36.8	0.0
	83nm,0.3s,baz=163,slow=24,SNR=5.9						
PMG	**Port Moresby**	**21.66**	**172**	LR	LR	01 50 03.8	
	comp=Z,24nm,18.4s,baz=130,slow=37						
H11S3	**WAKE ISLAND Hy**	**22.69**	**71**	T	T	02 05 24.6	
	baz=252,slow=76,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**22.70**	**71**	T	T	02 05 24.7	
	baz=252,slow=76,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**22.70**	**71**	T	T	02 05 22.4	
	baz=252,slow=76,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**23.17**	**68**	T	T	02 05 51.5	
	baz=255,slow=75,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**23.18**	**68**	T	T	02 05 56.6	
	baz=255,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**23.19**	**68**	T	T	02 05 53.2	
	baz=255,slow=75,SNR=6.8						
JNU	**Nakatsue**	**24.09**	**332**	LR	LR	01 48 51.4	
	comp=Z,22nm,20.7s,baz=114,slow=30						
MJAR	**Matsushiro Arr**	**24.83**	**349**	LR	LR	01 51 22.5	
	comp=Z,40nm,18.3s,baz=230,slow=35						
WRA	**Warramunga Arr**	**33.32**	**197**	P	P	01 43 24.8	-0.1
	0.4nm,0.7s,baz=22,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**36.98**	**196**	P	P	01 43 56.4	0.0
	0.6nm,0.7s,baz=16,slow=9.4,SNR=5.8						
MKAR	**Makanchi Array**	**61.97**	**317**	P	P	01 47 06.7	-0.2
	0.3nm,0.7s,baz=87,slow=9.8,SNR=3.4						

WEL 09 01:38:02.4±0.3, 38°.00S×176°.57E, h143km±3km, ML3.6/8, 5C-3D, Error ellipse: s-maj=2.3km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.50**	**121**	⇑P	Pn	01 38 22.8	-0.1
URZ				SN	Sn	01 38 38.5	-0.1
MUGZ	**Murupara**	**0.50**	**161**	Pn	Pn	01 38 22.9	-0.1
RTZ	**Ruatahuna**	**0.69**	**152**	⇑PN	Pn	01 38 24.2	0.0
RTZ				SN	Sn	01 38 41.4	+0.5
MWZ	**Matawai**	**0.82**	**114**	PN	Pn	01 38 25.2	0.0
RAGZ	**Rawiri**	**0.83**	**127**	⇑PN	Pn	01 38 25.5	+0.3
MRHZ	**Matea Rd**	**0.84**	**188**	⇑PN	Pn	01 38 25.0	-0.2
MRHZ				SN	Sn	01 38 42.7	0.0
TOZ	**Tahuroa Road**	**0.89**	**288**	PN	Pn	01 38 26.1	+0.5
HAZ	**Te Kaha**	**0.99**	**76**	PN	Pn	01 38 26.0	-0.5
HAZ				SN	Sn	01 38 44.0	-0.7
RAHZ	**Arahi**	**1.00**	**156**	PN	Pn	01 38 27.0	+0.4
RAHZ				SN	Sn	01 38 45.7	+0.7
NMHZ	**Naumai**	**1.11**	**170**	PN	Pn	01 38 28.1	+0.5
RIGZ	**Rimuhau**	**1.17**	**127**	PN	Pn	01 38 28.5	+0.4
PKGZ	**Pakihiroa**	**1.20**	**85**	PN	Pn	01 38 28.4	0.0
ARHZ	**Aropaoanui**	**1.30**	**165**	PN	Pn	01 38 29.5	+0.1
KNZ	**Kokohu**	**1.34**	**140**	⇑PN	Pn	01 38 29.6	-0.1
PRGZ	**Paritu Road**	**1.38**	**132**	PN	Pn	01 38 30.2	0.0
KWHZ	**Kaweka Forest**	**1.42**	**185**	PN	Pn	01 38 30.4	-0.3
MCHZ	**McNeill Hill**	**1.44**	**176**	PN	Pn	01 38 30.9	0.0
WMGZ	**Waiomatatini S**	**1.47**	**83**	PN	Pn	01 38 31.1	0.0
WNVZ	**Wahianoa**	**1.52**	**210**	⇓PN	Pn	01 38 31.3	-0.6
MHGZ	**Mahia Peninsul**	**1.56**	**138**	PN	Pn	01 38 32.1	0.0
KRHZ	**Kereru**	**1.65**	**185**	PN	Pn	01 38 32.1	-1.0
CKHZ	**Cape Kidnapper**	**1.70**	**167**	⇓PN	Pn	01 38 33.4	-0.2
KAHZ	**Kahuranaki**	**1.80**	**172**	⇓PN	Pn	01 38 34.5	-0.4
PNHZ	**Pukenui**	**1.93**	**188**	PN	Pn	01 38 35.0	-1.3
PXZ	**Pawanui**	**2.04**	**174**	PN	Pn	01 38 36.6	-0.9
PXZ				AML	AML	01 39 04.8	
PXZ				AML	AML	01 39 05.3	
ANWZ	**Angora Road**	**2.45**	**182**	PN	Pn	01 38 41.0	-1.6
MRZ	**Mangatainoka R**	**2.76**	**196**	PN	Pn	01 38 44.0	-2.5
HOWZ	**Holdsworth Sta**	**3.00**	**195**	PN	Pn	01 38 46.5	-3.0
KIW	**Kapiti Island**	**3.13**	**204**	PN	Pn	01 38 48.0	-3.1
TMWZ	**Te Maipa**	**3.14**	**189**	PN	Pn	01 38 48.3	-3.0
MTW	**Mount Morrison**	**3.26**	**194**	PN	Pn	01 38 49.2	-3.6
DUWZ	**D'Urville Isla**	**3.47**	**215**	PN	Pn	01 38 52.1	-3.4
PAWZ	**Paruwai Farm**	**3.49**	**194**	AML	AML	01 39 35.5	
TCW	**Tory Channel**	**3.66**	**208**	PN	Pn	01 38 54.3	-3.7
TUWZ	**Tuamarina**	**3.98**	**210**	PN	Pn	01 38 58.2	-3.9

*ISCJB **09** 01:38:31.8±0.6, 24°.38N±0°.04×122°.33E±0°.02, h56km±9km, Error ellipse: s-maj=7.2km s-min=3.0km az=171.7*
*JMA **09** 01:38:31.3±0.1, 24°.29N×122°.29E, h61km±3km, M2.3*
*TAP **09** 01:38:32.7, 24°.44N×122°.25E, h59km±1km, ML3.1, D*
ISC 09 01:38:32.3±1.4, 24°.38N±0°.05×122°.33E±0°.02, h54km±14km, n27, σ0°60/50, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.50**	**298**	*eP*	**Pn**	**01 38 44.0**	**+0.3**
	baz=295						
TWC				*eS*	**Sn**	**01 38 52.1**	**0.0**
	baz=295						
ENA	**Nanau**	**0.54**	**276**	P	**Pn**	**01 38 44.3**	**+0.1**
	baz=268						
ENA				*eS*	**Sn**	**01 38 52.9**	**0.0**
	baz=268						
JYNG	**Yonagunijimaku**	**0.57**	**82**	P	**Pn**	**01 38 44.9**	**+0.3**
JYNG				S	**Sn**	**01 38 54.2**	**+0.7**
YOJ	**Yonaguni jima**	**0.63**	**82**	P	**Pn**	**01 38 45.4**	**+0.1**
YOJ				S	**Sn**	**01 38 55.3**	**+0.5**
TWE	**Neicheng**	**0.69**	**300**	*eP*	**Pn**	**01 38 46.6**	**+0.5**
	baz=298						
TWE				*eS*	**Sn**	**01 38 55.7**	**-0.5**
	baz=298						
TWB1	**Santiao Chiao**	**0.70**	**334**	*eP*	**Pn**	**01 38 46.0**	**-0.3**
	baz=338						
TWB1				*eS*	**Sn**	**01 38 56.2**	**-0.2**
	baz=338						
TWD	**Chiawan**	**0.73**	**246**	*eP*	**Pn**	**01 38 45.8**	**-0.8**
	baz=238						
TWD				*eS*	**Sn**	**01 38 56.5**	**-0.5**
	baz=238						
ENTT	**Nioudou**	**0.74**	**291**	P	**Pn**	**01 38 47.1**	**+0.3**
	baz=287						
ENTT				*eS*	**Sn**	**01 38 57.5**	**+0.2**
	baz=287						
NWF	**Wu-fen Shan**	**0.85**	**324**	*eP*	**Pn**	**01 38 48.0**	**-0.3**
	baz=326						
NWF				*eS*	**Sn**	**01 38 59.0**	**-1.0**
	baz=326						
NNS	**Nan Shan**	**0.87**	**274**	*eP*	**Pn**	**01 38 48.4**	**-0.2**
	baz=269						
NNS				*eS*	**Sn**	**01 39 00.2**	**-0.4**
	baz=269						
WHF	**Hehuan Shan**	**1.00**	**257**	*eP*	**Pn**	**01 38 50.0**	**-0.5**
	baz=251						
TWT	**Tachien**	**1.06**	**264**	*eP*	**Pn**	**01 38 51.3**	**+0.3**
	baz=259						
TWT				*eS*	**Sn**	**01 39 04.5**	**-0.4**
	baz=259						
NSTT	**Nanjuang**	**1.24**	**282**	*eP*	**Pn**	**01 38 53.9**	**+0.6**
	baz=279						
NSTT				*eS*	**Sn**	**01 39 09.2**	**+0.2**
	baz=279						
WDT	**Danda**	**1.25**	**241**	*eP*	**Pn**	**01 38 53.2**	**-0.6**
	baz=235						
WDT				*eS*	**Sn**	**01 39 09.2**	**-0.7**
	baz=235						
IRIF	**Iriomote-Funau**	**1.28**	**92**	P	**Pn**	**01 38 53.4**	**-0.4**
IRIF				*eS*	**Sn**	**01 39 09.8**	**-0.1**
HATJ	**Hateruma jima**	**1.38**	**103**	P	**Pn**	**01 38 55.7**	**+0.4**
TWF1	**Yuli**	**1.39**	**223**	*eP*	**Pn**	**01 38 54.4**	**-1.0**
	baz=218						
TWF1				*eS*	**Sn**	**01 39 12.3**	**-0.4**
	baz=218						
SMLT	**Sun Moon Lake**	**1.40**	**250**	*eP*	**Pn**	**01 38 55.4**	**-0.1**
	baz=245						
SMLT				*eS*	**Sn**	**01 39 13.5**	**+0.5**
	baz=245						
TYC	**Yuchr**	**1.42**	**251**	*eP*	**Pn**	**01 38 56.6**	**+0.9**
	baz=246						
TYC				*eS*	**Sn**	**01 39 14.4**	**+0.9**
	baz=246						
YUS	**Yu-Shan**	**1.54**	**235**	*eP*	**Pn**	**01 38 57.6**	**-0.2**
	baz=231						
YUS				*eS*	**Sn**	**01 39 15.8**	**-1.1**
	baz=231						
JKRS	**Kuro-shima**	**1.54**	**95**	P	**Pn**	**01 38 57.7**	**+0.3**
JKRS				S	**Sn**	**01 39 16.6**	**+0.3**
ALS	**Alishan**	**1.64**	**239**	*eP*	**Pn**	**01 38 59.5**	**+0.5**
	baz=234						
ALS				*eS*	**Sn**	**01 39 19.6**	**+0.4**
	baz=234						
JIJ	**Ishigaki jima**	**1.65**	**90**	P	**Pn**	**01 38 58.4**	**-0.5**
JIJ				*eS*	**Sn**	**01 39 18.3**	**-0.8**
CHN5	**Tsauling**	**1.70**	**243**	*eP*	**Pn**	**01 39 00.1**	**+0.4**
	baz=239						
CHN5				*eS*	**Sn**	**01 39 21.5**	**+1.2**
	baz=239						
JISG	**Ishigakijimahi**	**1.82**	**83**	*eS*	**Sn**	**01 39 22.7**	**-0.4**
CHN4	**Tsaushan**	**1.89**	**238**	*eP*	**Pn**	**01 39 01.7**	**-0.5**
	baz=234						
CHN4				*eS*	**Sn**	**01 39 26.2**	**+1.4**
	baz=234						
CHN1	**Nanshi**	**2.03**	**235**	*eS*	**Sn**	**01 39 29.0**	**+0.7**
	baz=231						

IDC 09 02:20:29.6±4.8, 0°.32S×15°.44W, h0km, mb3.6/1, mb1 4.0/2, mb1mx3.4/28, mbtmp4.0/2, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/28, Error ellipse: s-maj=370.0km s-min=51.5km az=139.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**7.52**	**173**	T	T	02 30 24.4	
	baz=345,slow=74,SNR=66						
H10N3	**ASCENSION HYDR**	**7.53**	**173**	T	T	02 30 24.7	
	baz=345,slow=74,SNR=49						
H10N1	**ASCENSION HYDR**	**7.54**	**173**	T	T	02 30 19.4	
	baz=345,slow=74,SNR=90						
H10S1	**ASCENSION HYDR**	**8.61**	**175**	T	T	02 31 44.2	
	baz=348,slow=74,SNR=27						
H10S3	**ASCENSION HYDR**	**8.62**	**175**	T	T	02 31 48.3	
	baz=348,slow=74,SNR=32						
H10S2	**ASCENSION HYDR**	**8.62**	**175**	T	T	02 31 45.6	
	baz=348,slow=74,SNR=27						
DBIC	**Dimbokro**	**12.63**	**56**	Pn	Pn	02 23 32.1	+1.4
	0.1nm,0.3s,baz=233,slow=13,SNR=5.4						
DBIC				Sn	Sn	02 25 51.5	-0.7
	0.2nm,0.3s,baz=80,slow=19,SNR=3.9						
DBIC				LR	LR	02 27 42.9	
	comp=Z,52nm,18.5s,baz=196,slow=34						
TORD	**Torodi Ar. Bea**	**21.62**	**51**	P	P	02 25 21.3	-0.2
	2.3nm,0.8s,baz=234,slow=11,SNR=12						
WRA	**Warramunga Arr**	**144.19**	**126**	PKP	PKPdf	02 40 07.7	-0.8
	0.3nm,0.8s,baz=247,slow=2.6,SNR=4.6						

*ISCJB **09** 02:26:00.7±0.4, 23°.48N±0°.02×122°.34E±0°.02, h15km±3km, Error ellipse: s-maj=3.2km s-min=2.0km az=146.9*
*JMA **09** 02:26:01.7±0.1, 23°.48N×122°.27E, h33km, M3.3*
*TAP **09** 02:26:02.6, 23°.49N×122°.31E, h38km±1km, ML3.8, C*
ISC 09 02:25:59.9±1.1, 23°.45N±0°.02×122°.33E±0°.02, h15km±9km, n64, σ0°74/121, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.85**	**308**	P	**Pn**	**02 26 17.1**	**-0.1**
	baz=298						
HWA				*eS*	**Sg**	**02 26 27.7**	**+0.1**
	baz=298						
ESL	**Shilin**	**0.90**	**294**	P	**Pb**	**02 26 17.2**	**0.0**
	baz=282						
ESL				S	**Sb**	**02 26 28.6**	**-0.4**
	baz=282						
TWD	**Chiawan**	**0.92**	**313**	*i* P	**Pg**	**02 26 17.9**	**+0.1**
	baz=310						
TWD				S	**Sb**	**02 26 28.6**	**-1.0**
	baz=310						
EHY	**Hungye**	**0.93**	**274**	*i* P	**Pn**	**02 26 18.3**	**0.0**
	baz=269						
EHY				*eS*	**Sb**	**02 26 29.7**	**-0.1**
	baz=269						
CHKT	**Chengkung**	**0.95**	**249**	P	**Pb**	**02 26 18.5**	**+0.4**
	baz=237						
CHKT				S	**Sb**	**02 26 29.3**	**-1.2**
	baz=237						
TWF1	**Yuli**	**0.95**	**264**	*i* P	**Pg**	**02 26 18.7**	**+0.3**
	baz=260						
TWF1				*eS*	**Sg**	**02 26 31.1**	**+0.1**
	baz=260						
ENA	**Nanau**	**1.11**	**331**	*eP*	**Pg**	**02 26 21.4**	**-0.1**
	baz=320						
ENA				*eS*	**Sb**	**02 26 35.0**	**-0.2**
	baz=320						
WDT	**Danda**	**1.14**	**286**	*i* P	**Pb**	**02 26 21.6**	**+0.1**
	baz=282						
WDT				*eS*	**Sb**	**02 26 35.7**	**-0.5**
	baz=282						
JYNG	**Yonagunijimaku**	**1.15**	**29**	P	**Pg**	**02 26 22.2**	**+0.2**
JYNG				*eS*	**Sb**	**02 26 36.0**	**-0.1**
YOJ	**Yonaguni jima**	**1.19**	**32**	P	**Pb**	**02 26 22.4**	**+0.3**
YOJ				*eS*	**Sb**	**02 26 37.5**	**+0.3**
WHF	**Hehuan Shan**	**1.20**	**306**	*eP*	**Pn**	**02 26 22.4**	**0.0**
	baz=302						
WHF				*eS*	**Sb**	**02 26 37.2**	**-0.8**
	baz=302						
ELDTW	**Lidau**	**1.23**	**258**	*eP*	**Pn**	**02 26 22.7**	**0.0**
	baz=245						
ELDTW				*eS*	**Sb**	**02 26 37.1**	**-1.7**
	baz=245						
TWC	**Suao**	**1.24**	**339**	*i* P	**Pb**	**02 26 23.3**	**+0.4**
	baz=348						
TWC				S	**Sb**	**02 26 37.7**	**-1.0**
	baz=348						
YUS	**Yu-Shan**	**1.27**	**272**	*i* P	**Pg**	**02 26 24.3**	**-0.1**
	baz=268						
YUS				*eS*	**Sb**	**02 26 39.4**	**-0.7**
	baz=268						
TTN	**Taitung**	**1.29**	**238**	*eP*	**Pn**	**02 26 23.4**	**+0.1**
	baz=234						
TTN				*eS*	**Sb**	**02 26 39.6**	**-0.6**
	baz=234						
TWG	**Pinlang**	**1.32**	**242**	*eP*	**Pn**	**02 26 24.3**	**+0.6**
	baz=231						
TWG				*eS*	**Sn**	**02 26 39.7**	**-1.2**
	baz=231						
NNS	**Nan Shan**	**1.32**	**319**	P	**Pb**	**02 26 24.5**	**0.0**
	baz=307						
NNS				*eS*	**Sb**	**02 26 39.7**	**-1.5**
	baz=307						
TWT	**Tachien**	**1.33**	**307**	*eP*	**Pb**	**02 26 25.0**	**+0.4**
	baz=303						
TWT				*eS*	**Sb**	**02 26 40.9**	**-0.5**
	baz=303						
ENTT	**Nioudou**	**1.38**	**330**	*eP*	**Pb**	**02 26 25.5**	**+0.2**
	baz=327						
ENTT				*eS*	**Sn**	**02 26 41.6**	**-0.9**
	baz=327						
SMLT	**Sun Moon Lake**	**1.38**	**289**	*eP*	**Pb**	**02 26 25.5**	**0.0**
	baz=284						
SMLT				*eS*	**Sg**	**02 26 44.0**	**-0.5**
	baz=284						
ALS	**Alishan**	**1.40**	**273**	P	**Pb**	**02 26 26.4**	**+0.4**
	baz=268						
ALS				S	**Sn**	**02 26 43.5**	**0.0**
	baz=268						
TWE	**Neicheng**	**1.40**	**335**	*eP*	**Pb**	**02 26 25.8**	**0.0**
	baz=332						
TWE				*eS*	**Sn**	**02 26 42.4**	**-0.7**
	baz=332						
TYC	**Yuchr**	**1.43**	**289**	P	**Pb**	**02 26 26.2**	**0.0**
	baz=285						
TYC				*eS*	**Sb**	**02 26 44.4**	**+0.3**
	baz=285						
STYT	**Tauyuan**	**1.47**	**259**	P	**Pb**	**02 26 27.4**	**+0.3**
	baz=249						
STYT				*eS*	**Sn**	**02 26 44.3**	**-0.7**
	baz=249						
HATJ	**Hateruma jima**	**1.48**	**66**	P	**Pb**	**02 26 27.2**	**+0.1**
HATJ				S	**Sn**	**02 26 45.2**	**+0.2**
CHN5	**Tsauling**	**1.52**	**276**	*eP*	**Pb**	**02 26 28.4**	**+0.5**
	baz=272						
CHN5				*eS*	**Sb**	**02 26 47.2**	**+0.2**
	baz=272						
IRIF	**Iriomote-Funau**	**1.56**	**55**	P	**Pb**	**02 26 29.1**	**+0.7**
IRIF				*eS*	**Sn**	**02 26 47.3**	**+0.4**
WNT	**Mingjian**	**1.57**	**286**	*eP*	**Pg**	**02 26 29.7**	**-0.4**
	baz=282						
WNT				*eS*	**Sg**	**02 26 49.3**	**-1.2**
	baz=282						
LAY	**Lan-yu**	**1.58**	**207**	P	Pn	**02 26 27.2**	**-0.1**
	baz=205						
LAY				S	**Sn**	**02 26 44.5**	**-2.9**
	baz=205						
TWB1	**Santiao Chiao**	**1.58**	**349**	*i* P	**Pb**	**02 26 28.6**	**-0.2**
	baz=347						
TWB1				*eS*	**Sn**	**02 26 46.9**	**-0.7**
	baz=347						
WTP	**Ta-pu**	**1.59**	**263**	P	**Pb**	**02 26 29.5**	**+0.5**
	baz=259						
WTP				*eS*	**Sb**	**02 26 48.8**	**-0.1**
	baz=259						
CHN4	**Tsaushan**	**1.60**	**267**	P	**Pb**	**02 26 29.4**	**+0.3**
	baz=263						
CHN4				S	**Sb**	**02 26 49.7**	**+0.6**
	baz=263						
SGST	**Jiashian**	**1.65**	**258**	*eP*	**Pb**	**02 26 30.6**	**+0.6**
	baz=253						
SGST				*eS*	**Sb**	**02 26 50.7**	**+0.2**
	baz=253						
TCU	**Taichung**	**1.67**	**295**	*eP*	**Pb**	**02 26 31.0**	**+0.7**
	baz=290						
TCU				*eS*	**Sb**	**02 26 51.1**	**+0.1**
	baz=290						
TWA	**Mucha**	**1.67**	**336**	*eP*	**Pg**	**02 26 31.6**	**-0.4**
	baz=333						
TWA				*eS*	**Sn**	**02 26 50.2**	**+0.5**
	baz=333						
CHN1	**Nanshi**	**1.68**	**261**	P	**Pb**	**02 26 31.1**	**+0.7**
	baz=257						
CHN1				S	**Sb**	**02 26 51.8**	**+0.4**
	baz=257						
TWQ1	**Liyutan**	**1.68**	**302**	*eP*	**Pb**	**02 26 31.2**	**+0.7**
	baz=298						
TWQ1				*eS*	**Sn**	**02 26 49.4**	**-0.7**
	baz=298						
NWF	**Wu-fen Shan**	**1.69**	**343**	P	**Pb**	**02 26 30.7**	**-0.1**
	baz=340						
NWF				*eS*	**Sn**	**02 26 50.1**	**-0.2**
	baz=340						
NSTT	**Nanjuang**	**1.69**	**314**	P	**Pb**	**02 26 31.0**	**+0.3**
	baz=311						
NSTT				S	**Sn**	**02 26 50.2**	**-0.1**
	baz=311						
TWK	**Hsinying**	**1.70**	**264**	*eS*	**Sb**	**02 26 52.2**	**0.0**
	baz=260						
SSD	**Sandimen**	**1.71**	**246**	*eP*	**Pb**	**02 26 31.6**	**+0.5**
	baz=239						
SSD				*eS*	**Sn**	**02 26 51.1**	**+0.4**
	baz=239						
JKRS	**Kuro-shima**	**1.73**	**63**	P	**Pb**	**02 26 31.1**	**-0.2**
JKRS				S	**Sn**	**02 26 51.7**	**+0.6**
NSY	**Sanyi**	**1.73**	**304**	*eP*	**Pb**	**02 26 31.4**	**+0.1**
	baz=300						
NSY				*eS*	**Sb**	**02 26 53.0**	**+0.1**
	baz=300						
EAST	**Anshuo**	**1.73**	**232**	*eP*	**Pb**	**02 26 30.7**	**+1.3**
	baz=237						
EAST				*eS*	**Sn**	**02 26 49.4**	**-1.8**
	baz=237						
CHY	**Chiayi**	**1.75**	**272**	*eS*	**Sb**	**02 26 54.1**	**+0.6**
	baz=267						
TAP	**Taipei**	**1.75**	**335**	*eP*	**Pb**	**02 26 31.7**	**0.0**
	baz=319						
TAP				*eS*	**Sb**	**02 26 52.9**	**-0.7**
	baz=319						
HSN	**Hsinchu**	**1.83**	**318**	*eP*	**Pg**	**02 26 34.9**	**-0.3**
	baz=315						
HSN				*eS*	**Sb**	**02 26 56.0**	**+0.2**
	baz=315						
NCU	**National Centr**	**1.84**	**326**	*eP*	**Pg**	**02 26 35.2**	**0.0**
	baz=322						
NCU				*eS*	**Sb**	**02 26 55.0**	**-1.1**
	baz=322						
TWS1	**Kuangyinshan**	**1.84**	**333**	*eP*	**Pn**	**02 26 31.6**	**+0.7**
	baz=330						
TWS1				*eS*	**Sb**	**02 26 55.1**	**-1.1**
	baz=330						
TWM1	**Shoushan**	**1.86**	**251**	*eP*	**Pg**	**02 26 35.3**	**-0.4**
	baz=247						
JIJ	**Ishigaki jima**	**1.89**	**61**	P	**Pn**	**02 26 32.8**	**+1.2**
JIJ				S	**Sn**	**02 26 55.0**	**-0.2**
SCZT	**Fangliau**	**1.91**	**236**	*eP*	**Pb**	**02 26 34.9**	**+0.5**
	baz=233						
SCZT				*eS*	**Sb**	**02 26 58.3**	**+0.4**
	baz=233						
TWY	**Chenhua**	**1.94**	**340**	*eP*	**Pn**	**02 26 32.1**	**-0.1**
	baz=337						
TWY				*eS*	**Sn**	**02 26 56.1**	**-0.2**
	baz=337						
TSEB	**Hengchuen, Pin**	**2.03**	**221**	*eP*	**Pb**	**02 26 37.0**	**+0.5**
	baz=230						
TSEB				*eS*	**Sb**	**02 27 00.9**	**-0.6**
	baz=230						
HEN	**Hengchun**	**2.06**	**226**	*eP*	**Pb**	**02 26 37.2**	**+0.3**
	baz=223						
HEN				*eS*	**Sb**	**02 27 01.7**	**-0.6**
	baz=223						
TWK1	**Hengchun**	**2.06**	**224**	*eP*	**Pb**	**02 26 36.4**	**-0.5**
	baz=221						
TWK1				*eS*	**Sn**	**02 26 59.9**	**+0.6**
	baz=221						
TWP	**Hsiaoliuchiu**	**2.12**	**239**	*eP*	**Pb**	**02 26 38.4**	**+0.3**
	baz=236						
TWP				*eS*	**Sb**	**02 27 04.1**	**0.0**
	baz=236						
JISG	**Ishigakijimahi**	**2.14**	**58**	*eS*	**Sn**	**02 26 59.9**	**-1.3**
WDGT	**Dungji**	**2.46**	**266**	*eP*	**Pn**	**02 26 41.2**	**+1.8**
	baz=262						
WDGT				*eS*	**Sn**	**02 27 09.8**	**+0.6**
	baz=262						
JTJ	**Tarama**	**2.47**	**61**	P	**Pn**	**02 26 38.7**	**-0.9**
JTJ				*eS*	**Sn**	**02 27 09.9**	**+0.4**
PNG	**Penghu**	**2.55**	**273**	*eP*	**Pn**	**02 26 42.4**	**+1.7**
	baz=268						
PNG				*eS*	**Sn**	**02 27 11.4**	**0.0**
	baz=268						
JIRB	**Irabujima**	**2.94**	**62**	*eS*	**Sn**	**02 27 21.2**	**+0.2**
JIKM	**Ikemajima**	**3.04**	**61**	*eS*	**Sn**	**02 27 23.2**	**-0.4**
KNM	**Kinmen**	**3.69**	**286**	*eP*	**Pn**	**02 26 59.6**	**+3.2**
	baz=289						

*IDC **09** 02:33:09.2±2.5, 39°.36N×142°.50E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, ML2.9/1, MS2.1/1, Ms1 2.1/1, ms1mx1.9/32, Error ellipse: s-maj=50

JAH	**Hinai**	**1.38 315**	P	**Pn**	**02 33 41.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.96 229**	Pn	**Pn**	**02 34 18.4**	**+1.5**
	0.6nm,0.3s,baz=43,slow=12,SNR=12					
MJAR			Sn	**Sn**	**02 35 08.4**	**+6.2**
	baz=30,slow=24,SNR=3.1					
MJAR			LR	LR	02 36 11.1	
	comp=Z,23nm,20.5s,baz=80,slow=41					
H11N2	**WAKE ISLAND Hy 29.01**	**125**	T	T	03 09 41.0	
	baz=318,slow=75,SNR=32					
H11N1	**WAKE ISLAND Hy 29.02**	**125**	T	T	03 09 39.6	
	baz=318,slow=75,SNR=39					
H11N3	**WAKE ISLAND Hy 29.02**	**125**	T	T	03 09 42.2	
	baz=318,slow=75,SNR=29					
H11S1	**WAKE ISLAND Hy 29.79**	**127**	T	T	03 10 38.5	
	baz=319,slow=76,SNR=9.0					
H11S3	**WAKE ISLAND Hy 29.79**	**127**	T	T	03 10 39.3	
	baz=319,slow=76,SNR=26					
H11S2	**WAKE ISLAND Hy 29.81**	**127**	T	T	03 10 39.6	
	baz=319,slow=76,SNR=10					
MKAR	**Makanchi Array**	**43.32 300**	P	**P**	**02 41 15.2**	**-0.2**
	0.1nm,0.4s,baz=70,slow=5.8,SNR=2.1					
WRA	**Warramunga Arr**	**59.28 188**	P	**P**	**02 43 13.8**	**-1.1**
	0.3nm,0.5s,baz=6.1,slow=7.9,SNR=2.8					

*ISCJB **09** 02:37:59.3±0.6, 0.˚84N±0.˚06×123.˚9E±0.˚1, h218km, mb3.4/8, Error ellipse: s-maj=14.8km s-min=8.4km az=5.6*
*IDC **09** 02:38:03.1±0.8, 0.˚69N×123.˚78E, h242km±8km, mb3.2/8, mb1 3.3/10, mb1mx3.1/37, mbtmp3.8/10, Error ellipse: s-maj=23.1km s-min=8.2km az=78.0*

ISC 09 02:38:01.5±0.7, 0.˚73N±0.˚07×124.˚0E±0.˚1, h218km, n11, σ2s05/18, mb3.6/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.08**	**216**	P		**Pn**	**Pn**	**02 39 41.5**	**-1.3**
	0.8nm,0.3s,baz=17,slow=11,SNR=3.3								
KAPI				S		**S**	**S**	**02 41 04.3**	**+0.7**
	0.4nm,0.3s,baz=99,slow=17,SNR=1.7								
FITZ	**Fitzroy Crossi**	**18.78**	**175**	P		**P**	**P**	**02 42 04.0**	**-0.7**
	0.6nm,0.3s,baz=11,slow=10,SNR=15								
WRA	**Warramunga Arr**	**22.93**	**154**	P		**P**	**P**	**02 42 46.5**	**-0.3**
	1.9nm,0.6s,baz=336,slow=10,SNR=21								
WRA				S		**S**	**S**	**02 46 38.1**	**-2.2**
	1.2nm,1.0s,baz=329,slow=17,SNR=4.7								
ASAR	**Alice Springs**	**26.11**	**159**	P		**P**	**P**	**02 43 15.8**	**+0.3**
	0.3nm,0.4s,baz=342,slow=11,SNR=8.5								
ASAR				pP		**pP**	**pP**	**02 44 01.4**	**+2.5**
	0.6nm,0.8s,baz=336,slow=11,SNR=3.6								
ASAR				PcP		**PcP**	**PcP**	**02 46 36.8**	**-0.5**
	0.6nm,0.4s,baz=347,slow=2.1,SNR=10								
ASAR				S		**S**	**S**	**02 47 31.0**	**+0.3**
	0.5nm,0.7s,baz=343,slow=20,SNR=4.3								
STKA	**Stephens Creek**	**36.48**	**154**	P		**P**	**P**	**02 44 46.5**	**+0.6**
	1.4nm,0.4s,baz=330,slow=12,SNR=5.7								
MJAR	**Matsushiro Arr**	**38.01**	**19**	P		**P**	**P**	**02 44 58.0**	**-0.7**
	0.8nm,0.4s,baz=182,slow=9.5,SNR=5.1								
USRK	**Ussuriysk Ar.**	**43.87**	**8**	P		**P**	**P**	**02 45 46.3**	**0.0**
	1.8nm,0.7s,baz=195,slow=10,SNR=4.2								
SONM	**Songino Array**	**49.34**	**344**	P		**P**	**P**	**02 46 26.5**	**-2.3**
	0.2nm,0.3s,baz=141,slow=9.3,SNR=2.5								
MKAR	**Makanchi Array**	**58.50**	**328**	P		**P**	**P**	**02 47 33.8**	**-1.2**
	0.3nm,0.4s,baz=125,slow=9.1,SNR=4.3								
MKAR				pP		**pP**	**pP**	**02 48 27.8**	**+3.5**
	0.2nm,0.5s,baz=126,slow=7.3,SNR=1.2								
KURBB	**Kurchatov Arra**	**62.82**	**329**	P		**P**	**P**	**02 48 03.0**	**-0.9**
	0.6nm,0.7s,baz=133,slow=5.8,SNR=9.4								
KURBB				pP		**pP**	**pP**	**02 48 59.1**	**+5.2**
	0.9nm,1.1s,baz=143,slow=3.7,SNR=4.1								
TXAR	**Lajitas Array**	**125.62**	**53**	PKP		**PKPdf**	**PKPdf**	**02 56 38.4**	**+0.6**
	0.4nm,0.9s,baz=188,slow=2.5,SNR=3.5								

IDC 09 02:38:01.5±1.6, 6.˚49S×149.˚97E, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.5/33, mbtmp3.5/6, Error ellipse: s-maj=59.9km s-min=23.5km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.23**	**227**	P		P	P	02 42 39.2	+0.7
	0.6nm,0.4s,baz=54,slow=11,SNR=11								
ASAR	**Alice Springs**	**23.03**	**220**	P		P	P	02 43 07.8	-0.7
	0.9nm,0.7s,baz=54,slow=9.3,SNR=10								
STKA	**Stephens Creek**	**26.45**	**196**	P		P	P	02 43 40.2	0.0
	2.8nm,1.1s,baz=318,slow=15,SNR=2.9								
MKAR	**Makanchi Array**	**79.76**	**320**	P		P	P	02 50 11.7	+0.1
	0.1nm,0.3s,baz=103,slow=6.2,SNR=2.5								
KURBB	**Kurchatov Arra**	**83.40**	**323**	P		P	P	02 50 30.0	-0.6
	0.1nm,0.2s,baz=90,slow=5.7,SNR=4.1								
ILAR	**Eielson Array**	**84.78**	**23**	P		P	P	02 50 37.9	+0.4
	0.5nm,1.1s,baz=211,slow=3.2,SNR=3.3								

*ISCJB **09** 02:44:49.4±1.2, 38.˚34N±0.˚05×143.˚88E±0.˚08, h52km±20km, mb3.4/3, Error ellipse: s-maj=11.7km s-min=7.3km az=27.3*
*JMA **09** 02:44:49.8±0.2, 38.˚37N×143.˚80E, h31km, M3.1*
*IDC **09** 02:44:49.9±2.7, 37.˚71N×143.˚96E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/40, mbtmp3.3/4, Error ellipse: s-maj=69.9km s-min=31.7km az=64.0*

ISC 09 02:44:51.2±2.2, 38.˚36N±0.˚07×143.˚8E±0.˚1, h42km±31km, n17, σ1s03/22, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.83**	**294**	P		P	Pn	02 45 20.1	-0.1
OFUJ				eS		**Sn**	**Sn**	**02 45 42.2**	**0.0**
JIO	**Ouri**	**1.95**	**273**	P		P	Pn	02 45 21.5	-0.3
JIO				eS		**Sn**	**Sn**	**02 45 44.4**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.98**	**308**	P		P	Pn	02 45 21.7	-0.5
MIYJ				eS		**Sn**	**Sn**	**02 45 45.6**	**-0.2**
JMK	**Ichinoseki**	**2.12**	**287**	P		P	Pn	02 45 24.2	0.0
JMK				eS		**Sn**	**Sn**	**02 45 49.5**	**+0.2**
JOM	**Ohasama**	**2.27**	**300**	P		**P**	**Pn**	**02 45 26.6**	**+0.4**
JOM				S		**S**	**Sn**	**02 45 54.1**	**+1.3**
JOU	**Okura**	**2.48**	**271**	P		**P**	**Pn**	**02 45 29.6**	**+0.4**
JRG	**Rokugo**	**2.69**	**293**	P		**P**	**Pn**	**02 45 32.9**	**+0.8**
JYK	**Kaneyama**	**2.77**	**283**	P		**P**	**Pn**	**02 45 33.8**	**+0.7**
JYK				eS		**Sn**	**Sn**	**02 46 06.9**	**+1.6**
JFT	**Otama**	**2.88**	**254**	P		**P**	**Pn**	**02 45 34.9**	**+0.2**
JFT				S		**Sn**	**Sn**	**02 46 07.9**	**-0.2**
JAG	**Ashikaga**	**3.98**	**242**	P		**P**	**Pn**	**02 45 49.3**	**-0.5**
JAG				S		**Sn**	**Sn**	**02 46 34.4**	**-0.8**
JNBK	**Urakawa-nobuka**	**4.00**	**349**	P		**P**	**Pn**	**02 45 50.5**	**+0.6**
JNBK				eS		**Sn**	**Sn**	**02 46 35.4**	**-0.1**
JCH	**Churui**	**4.26**	**355**	P		**P**	**Pn**	**02 45 53.1**	**-0.4**
JCH				eS		**Sn**	**Sn**	**02 46 40.0**	**-2.0**
JRY	**Ryogami san**	**4.58**	**241**	P		**P**	**Pn**	**02 45 57.4**	**-0.5**
JRY				S		**Sn**	**Sn**	**02 46 47.3**	**-2.6**
MJAR	**Matsushiro Arr**	**4.82**	**250**	Pn		**Pn**	**Pn**	**02 46 02.1**	**+0.8**
	baz=61,slow=9.3,SNR=2.9								
MKAR	**Makanchi Array**	**45.05**	**301**	P		P	P	02 53 11.0	+8.2
	0.1nm,0.4s,baz=91,slow=8.6,SNR=2.2								
KURBB	**Kurchatov Arra**	**46.70**	**307**	P		P	P	02 53 23.7	+7.9
	0.4nm,0.5s,baz=82,slow=8.6,SNR=5.5								
WRA	**Warramunga Arr**	**58.68**	**190**	P		**P**	**P**	**02 54 44.8**	**+0.3**
	0.6nm,0.8s,baz=9.4,slow=7.0,SNR=4.1								

*IDC **09** 03:00:23.5±3.0, 36.˚22N×70.˚91E, h165km±27km, mb3.3/8, mb1 3.4/13, mb1mx3.2/53, mbtmp3.8/13, Error ellipse: s-maj=23.1km s-min=16.6km az=15.0*
*ISCJB **09** 03:00:26.2±0.5, 36.˚53N±0.˚04×70.˚92E±0.˚07, h188km, mb3.5/8, Error ellipse: s-maj=8.2km s-min=4.8km az=147.9*
*NNC **09** 03:00:32.7±5.2, 36.˚99N×70.˚69E, h199km±43km, mb2.9, mpv4.0, Error ellipse: s-maj=54.0km s-min=29.4km az=148.0*

ISC 09 03:00:26.8±0.8, 36.˚52N±0.˚07×71.˚01E±0.˚08, h188km, n29, σ2s13/35, mb3.6/8, 7C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.87**	**324**	⇑P		**Pn**	**Pn**	**03 01 14.6**	**+0.3**
	38nm,0.2s								
DZET				⇑S		**Sn**	**Sn**	**03 01 48.4**	**-3.0**
	118nm,0.5s								
THN	**Thein Dam**	**5.63**	**135**	*e*P		**Pn**	**Pn**	**03 01 46.7**	**-2.4**
THN				eS		**Sn**	**Sn**	**03 02 49.0**	**-4.9**
MNAS	**Manas**	**6.07**	**11**	⇓P		**Pn**	**Pn**	**03 01 56.0**	**+1.1**
	5.2nm,0.5s								
MNAS				⇑S		**Sn**	**Sn**	**03 03 02.3**	**-2.1**
	38nm,0.6s								
KK08	**Karatay Array**	**6.59**	**357**	⇓P		**Pn**	**Pn**	**03 02 01.7**	**+0.2**
	2.4nm,0.5s,baz=176,slow=13								
KK08				⇓S		**Sn**	**Sn**	**03 03 11.5**	**-5.0**
	5.7nm,0.5s,baz=190,slow=24								
AAK	**Ala-Archa**	**6.67**	**23**	P		**Pn**	**Pn**	**03 02 04.4**	**+1.7**
	4.8nm,0.3s,baz=172,slow=6.3,SNR=19								
AAK				S		**Sn**	**Sn**	**03 03 20.3**	**+1.7**
	1.3nm,0.3s,baz=94,slow=12,SNR=9.5								
AAK	**Ala-Archa**	**6.67**	**23**	⇓P		**Pn**	**Pn**	**03 02 04.2**	**+1.4**
	3.0nm,0.3s								
AAK				⇑S		**Sn**	**Sn**	**03 03 18.8**	**+0.2**
	12nm,0.5s								
TKM2	**Tokmak 2**	**7.31**	**28**	⇑P		**Pn**	**Pn**	**03 02 11.7**	**+0.7**
	14nm,0.5s								
TKM2				⇓S		**Sn**	**Sn**	**03 03 30.7**	**-3.0**
	6.3nm,0.8s								
GEYT	**Alibeck**	**10.38**	**282**	P		Pn	Pn	03 02 49.6	-1.5
	0.5nm,0.3s,baz=121,slow=14,SNR=3.9								
PYUN	**Piuthan**	**13.15**	**126**	*e*P		**Pn**	**Pn**	**03 03 28.2**	**+1.4**
	15nm,0.5s								
MKAR	**Makanchi Array**	**13.27**	**36**	P		**Pn**	**Pn**	**03 03 28.3**	**+0.3**
	0.2nm,0.3s,baz=206,slow=8.0,SNR=6.8								
KOLN	**Koldanda**	**13.77**	**126**	*e*P		**Pn**	**Pn**	**03 03 35.6**	**+1.1**
	8.9nm,0.4s								
GKN	**Gorkha**	**14.31**	**123**	*e*P		**Pn**	**Pn**	**03 03 43.0**	**+1.8**
	13nm,0.3s								
DMN	**Daman**	**14.88**	**123**	*e*P		**Pn**	**Pn**	**03 03 49.6**	**+1.3**
	8.3nm,0.3s								
KKN	**Kakani**	**14.88**	**122**	*e*P		**Pn**	**Pn**	**03 03 49.7**	**+1.4**
	16nm,0.4s								
AB31	**Akbulak array**	**15.07**	**331**	⇑P		**Pn**	**Pn**	**03 03 52.3**	**+2.1**
	1.6nm,0.7s,baz=143,slow=11,SNR=18								
AB31				⇓S		**Sn**	**Sn**	**03 06 32.6**	**-5.9**
	0.4nm,0.5s,baz=158,slow=22,SNR=3.5								
PKIN	**Phulchoki**	**15.10**	**122**	*e*P		**Pn**	**Pn**	**03 03 51.5**	**+0.5**
	35nm,0.8s								
KURBB	**Kurchatov Arra**	**15.10**	**19**	P		**Pn**	**Pn**	**03 03 50.8**	**+0.3**
	0.1nm,0.3s,baz=200,slow=11,SNR=5.0								
GUN	**Gumba**	**15.22**	**120**	*e*P		**Pn**	**Pn**	**03 03 53.7**	**+1.1**
	6.2nm,0.3s								
AKTO	**Aktyubinsk**	**16.77**	**330**	P		**P**	**P**	**03 04 11.1**	**+1.4**
	0.7nm,0.3s,baz=138,slow=11,SNR=15								
AKTO	**Aktyubinsk**	**16.77**	**330**	⇑P		**P**	**P**	**03 04 10.6**	**+0.9**
	2.1nm,0.5s								
AKASG	**Malin Array Be**	**32.94**	**309**	P		**P**	**P**	**03 06 44.0**	**+0.7**
	0.8nm,0.4s,baz=81,slow=6.8,SNR=5.0								
FINES	**FINESS Array B**	**37.47**	**326**	P		**P**	**P**	**03 07 22.6**	**+0.9**
	0.8nm,0.5s,baz=120,slow=11,SNR=5.5								
ARCES	**ARCESS Array B**	**41.13**	**338**	P		**P**	**P**	**03 07 53.2**	**+1.2**
	1.4nm,0.6s,baz=122,slow=8.3,SNR=9.7								
NB2	**NORSAR Subarra**	**44.37**	**323**	P		**P**	**P**	**03 08 18.3**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.37**	**323**	P		**P**	**P**	**03 08 18.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=97,slow=7.8,SNR=7.7								
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P		P	P	03 10 49.0	-2.6
	comp=Z,0.4nm,0.4s,baz=51,slow=6.1,SNR=15								
YKA	**Yellowknife Ar**	**81.23**	**3**	P		**P**	**P**	**03 12 22.3**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=350,slow=5.4,SNR=8.4								
WRA	**Warramunga Arr**	**82.00**	**122**	P		**P**	**P**	**03 12 25.1**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=324,slow=4.9,SNR=14								
ASAR	**Alice Springs**	**84.26**	**125**	P		**P**	**P**	**03 12 36.6**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=297,slow=5.5,SNR=4.3								

KRSC 09 03:00:48.0±3.2, 49.˚53N×156.˚74E, h6km±3km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.22**	**341**	*i*P		Pg	Pg	03 01 09.0	-2.3
SKR				*e*S		Sg	Sg	03 01 24.8	-2.3
ASAK	**Asacha**	**2.95**	**14**	P		Pb	Pb	03 01 38.6	-2.3
RUS	**Russkaya**	**3.11**	**20**	P		Pb	Pb	03 01 40.7	-3.0
RUS				S		Sb	Sb	03 02 20.9	-1.0
UGLR	**Uglovaya**	**3.91**	**19**	P		Pn	Pn	03 01 52.8	+4.2
AVH	**Avacha**	**3.94**	**18**	P		Pn	Pn	03 01 53.2	+4.2
SMAR	**Somma**	**3.95**	**18**	P		Pn	Pn	03 01 53.6	+4.3
KRER	**Koryakskii**	**3.98**	**18**	P		Pn	Pn	03 01 53.6	+3.9
SDLR	**Sedlovina**	**3.98**	**19**	P		Pn	Pn	03 01 52.3	+2.7
KRX	**Arik**	**4.01**	**17**	P		Pb	Pb	03 01 55.1	-4.0
GNL	**Ganaly**	**4.24**	**10**	P		Pn	Pn	03 01 56.7	+3.6
MKZ	**Mys Kozlova**	**5.90**	**30**	P		Pn	Pn	03 02 18.5	+2.7

IDC 09 03:03:04.2±1.1, 55.˚47S×29.˚09W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.7/20, mbtmp3.7/3, Error ellipse: s-maj=47.3km s-min=31.6km az=88.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.10**	**183**	P		P	P	03 11 37.1	0.0
	0.3nm,0.5s,baz=241,slow=6.3,SNR=4.2								
H10S2	**ASCENSION HYDR**	**47.78**	**19**	T		T	T	04 03 23.3	
	baz=189								
H10S3	**ASCENSION HYDR**	**47.78**	**19**	T		T	T	04 03 30.0	
	baz=189								
H10S1	**ASCENSION HYDR**	**47.80**	**19**	T		T	T	04 03 20.0	
	baz=189								
H10N1	**ASCENSION HYDR**	**48.90**	**19**	T		T	T	04 04 45.4	
	baz=193								
H10N3	**ASCENSION HYDR**	**48.90**	**19**	T		T	T	04 04 48.9	
	baz=193								
H10N2	**ASCENSION HYDR**	**48.91**	**19**	T		T	T	04 04 45.8	
	baz=193								
LPAZ	**La Paz**	**49.16**	**307**	P		P	P	03 11 54.5	+0.1
	0.6nm,0.6s,baz=160,slow=6.9,SNR=3.1								
TORD	**Torodi Ar. Bea**	**73.09**	**31**	P		P	P	03 14 36.2	+0.1
	1.0nm,0.8s,baz=197,slow=6.1,SNR=8.7								
YKA	**Yellowknife Ar**	**135.02**	**319**	PKP		PKPdf	PKPdf	03 22 23.3	-0.5
	0.3nm,0.8s,baz=137,slow=1.1,SNR=4.4								
ILAR	**Eielson Array**	**148.93**	**313**	PKPbc		PKPbc	PKPbc	03 22 51.5	-0.9
	1.2nm,0.8s,baz=131,slow=1.7,SNR=16								

*IDC **09** 03:04:46.8±8.9, 39.˚81N×72.˚60E, h0km, mb3.2/1, mb1 3.3/5, mb1mx3.1/43, mbtmp3.3/5, ML2.8/4, Error ellipse: s-maj=119.4km s-min=48.2km az=67.0*

NNC 09 03:03:59.4±1.8, 37.˚59N×68.˚76E, h0km, mb3.3, mpv3.2, 5C-3D, Error ellipse: s-maj=20.0km s-min=12.6km az=89.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.22**	**2**	⇑Pn		Pn	Pn	03 04 23.7	-0.2
	33nm,0.4s								
DZET				⇓Sn		Sn	Sn	03 04 42.1	+1.0
	244nm,0.4s								
KK08	**Karatay Array**	**5.67**	**13**	⇑Pn		Pn	Pn	03 05 26.0	+1.2
	0.2nm,0.3s,baz=197,slow=16								
KK08				⇑Sn		Sn	Sn	03 06 32.5	+1.9
	2.4nm,0.6s								
KK08				⇓Lg		Lg	Lg	03 07 00.3	
	4.7nm,0.6s,baz=194,slow=30								
MNAS	**Manas**	**5.67**	**29**	⇑Pn		Pn	Pn	03 05 25.4	+0.3
	1.2nm,0.4s								
MNAS				⇓Sn		Sn	Sn	03 06 30.8	-0.2
	3.0nm,0.7s								
MNAS				⇑Lg		Lg	Lg	03 06 59.6	
	4.5nm,0.8s								
AAK	**Ala-Archa**	**6.69**	**39**	Pn		Pn	Pn	03 05 39.7	+0.7
	1.3nm,0.3s,baz=121,slow=1.5,SNR=4.4								
MKAR	**Makanchi Array**	**13.59**	**43**	Pn		Pn	Pn	03 07 12.2	-1.2
	0.1nm,0.3s,baz=234,slow=10,SNR=4.7								
KURBB	**Kurchatov Arra**	**14.78**	**25**	Pn		P	P	03 07 33.1	-2.7
	0.0nm,0.3s,baz=217,slow=11,SNR=2.5								
ZALV	**Zalesovo Beam**	**19.75**	**29**	Pn		Pn	Pn	03 08 40.0	+7.9
	0.6nm,0.3s,baz=214,slow=10.0,SNR=1.5								
SONM	**Songino Array**	**29.23**	**57**	P		P	P	03 10 16.8	+14
	0.2nm,0.4s,baz=268,slow=10,SNR=2.3								

*ISCJB **09** 03:21:04.4±3.6, 20.˚39S±0.˚05×168.˚32E±0.˚05, h14km±22km, mb4.6/39, MS3.7/7, Error ellipse: s-maj=9.5km s-min=7.5km az=153.2*
*NEIC **09** 03:21:05.2±0.2, 20.˚30S×168.˚34E, h10km, mb4.8/28, Error ellipse: s-maj=7.0km s-min=6.3km az=156.0*
*BJI **09** 03:21:07.0, 20.˚11S×168.˚58E, h27km, mb4.9/21, mB5.0/14, Ms5.0/3, Ms7 4.7/1*
*IDC **09** 03:21:09.5±0.6, 20.˚33S×168.˚29E, h36km±3km, mb4.1/15, mb1 4.4/16, mb1mx4.2/34, mbtmp4.4/16, ML4.2/1, MS3.7/9, Ms1 3.7/9, ms1mx3.3/37, Error ellipse: s-maj=17.8km s-min=13.3km az=116.0*

ISC 09 03:21:08.5±0.5, 20.˚46S±0.˚06×168.˚28E±0.˚07, h31km±2km, h30km:pP-P, n97, σ1s38/113, mb4.8/38, MS3.8/7, 1D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.35**	**226**	*e*Pn		**Pn**	**Pn**	**03 21 43.1**	**-2.0**
	335nm,0.3s								
DZM				*e*Sn		**Sn**	**Sn**	**03 22 13.0**	**+0.1**
	813nm,0.3s								
DZM	**Mont Dzumac**	**2.35**	**226**	Pn		**Pn**	**Pn**	**03 21 44.3**	**-0.8**
	29nm,0.3s,baz=108,slow=9.6,SNR=174								
DZM				Sn		**Sn**	**Sn**	**03 22 13.8**	**+0.9**
	110nm,0.3s,baz=226,slow=23,SNR=8.7								
DZM				LR		LR	LR	03 22 52.2	
	comp=Z,3μm,18.2s,baz=19,slow=42								
DZM	**Mont Dzumac**	**2.35**	**226**	*e*Pn		**Pn**	**Pn**	**03 21 43.8**	**-1.3**
DZM				*e*Sn		**Sn**	**Sn**	**03 22 07.2**	**-5.7**
MSVF	**Nonsavu**	**9.62**	**75**	*e*Pn		**Pn**	**Pn**	**03 23 23.8**	**-1.3**
OUZ	**Omahuta**	**15.44**	**163**	*e*Pn		**Pn**	**Pn**	**03 24 45.1**	**+1.1**
	28nm,1.0s								
URZ	**Urewera**	**19.32**	**159**	P		**Pn**	**Pn**	**03 25 34.0**	**+1.7**
	0.8nm,0.3s,baz=351,slow=7.7,SNR=24								
URZ				LR		LR	LR	03 31 53.0	
	comp=Z,165nm,18.9s,baz=348,slow=33								
URZ	**Urewera**	**19.32**	**159**	*e*P		**Pn**	**Pn**	**03 25 32.2**	**-0.1**
	98nm,1.1s								
BKZ	**Black Stump Fm**	**19.95**	**161**	*e*P		**Pn**	**Pn**	**03 25 39.7**	**-0.1**
	44nm,1.0s								
AFI	**Afiamalu**	**20.12**	**74**	LR		LR	LR	03 31 40.3	
	comp=Z,280nm,19.8s,baz=290,slow=31								
CTA	**Charters Tower**	**20.67**	**267**	P		Pn	Pn	03 25 48.4	0.0
	14nm,0.8s,baz=82,slow=14,SNR=6.1								
CTAO	**Charters Tower**	**20.67**	**267**	*e*P		Pn	Pn	03 25 48.1	-0.3
	22nm,0.9s								
BFZ	**Birch Farm**	**21.28**	**163**	*e*P		**P**	**P**	**03 25 53.1**	**+0.8**
	35nm,1.1s								
THZ	**Tophouse**	**21.60**	**171**	*e*P		**P**	**P**	**03 25 58.2**	**+2.4**
	44nm,1.0s								
PMG	**Port Moresby**	**23.14**	**295**	LR		LR	LR	03 33 54.7	
	comp=Z,142nm,18.7s,baz=168,slow=33								
COEN	**Coen**	**24.82**	**281**	*e*P		**P**	**P**	**03 26 29.3**	**+1.2**
	14nm,0.9s								
STKA	**Stephens Creek**	**26.44**	**239**	P		**P**	**P**	**03 26 44.3**	**+1.6**
	6.9nm,0.7s,baz=68,slow=9.6,SNR=8.8								
STKA				pP		**sP**	**sP**	**03 26 55.0**	**-0.5**
	19nm,0.6s,baz=53,slow=8.5,SNR=15								
STKA				LR		LR	LR	03 36 38.8	
	comp=Z,239nm,19.2s,baz=28,slow=35								
STKA	**Stephens Creek**	**26.44**	**239**	*e*P		**P**	**P**	**03 26 44.1**	**+1.4**
	5.1nm,0.6s								
STKA				pP		**sP**	**sP**	**03 26 55.0**	**-0.5**
RAR	**Rarotonga**	**29.84**	**97**	LR		LR	LR	03 36 43.0	
	comp=Z,76nm,18.9s,baz=265,slow=31								
WRAB	**Tennant Creek**	**31.82**	**265**	*e*P		**P**	**P**	**03 27 30.0**	**-0.6**
	22nm,0.7s								
WRA	**Warramunga Arr**	**31.83**	**265**	P		**P**	**P**	**03 27 30.2**	**-0.5**
	2.4nm,0.8s,baz=92,slow=8.4,SNR=15								
WRA				pP		**pP**	**pP**	**03 27 40.1**	**+0.3**
	3.7nm,0.8s,baz=91,slow=8.5,SNR=12								
WRA				PcP		**PcP**	**PcP**	**03 30 21.1**	**-0.3**
	0.9nm,0.9s,baz=95,slow=2.6,SNR=3.6								
WRA				pPcP				03 30 32.5	
	1.4nm,1.0s,baz=87,slow=3.6,SNR=4.5								
AS01	**Alice Springs**	**31.93**	**258**	*e*P		**P**	**P**	**03 27 30.9**	**-0.7**
AS31	**Alice Springs**	**31.97**	**258**	*e*P		**P**	**P**	**03 27 32.0**	**0.0**
	10nm,0.6s								
ASAR	**Alice Springs**	**31.97**	**258**	P		**P**	**P**	**03 27 32.0**	**0.0**
	13nm,0.9s,baz=82,slow=8.9,SNR=70								
ASAR				pP		**sP**	**sP**	**03 27 42.5**	**-2.4**
	21nm,0

3.1nm,0.8s,baz=232,slow=8.4,SNR=18
NVAR pP **pP** 03 34 17.3 +0.7
3.4nm,0.9s,baz=231,slow=7.8,SNR=8.8
NVAR LR LR 04 12 18.6
comp=Z,40nm,18.5s,baz=266,slow=34
NV11 Mina Array Sit 90.38 49 *e*P **P** **03 34 06.5 -0.5**
5.4nm,0.9s
TPNV Topopah Spring 91.12 51 *e*P **P** **03 34 09.3 -1.2**
ILAR Eielson Array 91.66 18 P **P** **03 34 09.2 -3.0**
0.6nm,0.8s,baz=227,slow=6.3,SNR=6.8
ILAR pP **pP** **03 34 21.6 -0.6**
0.8nm,0.6s,baz=230,slow=4.8,SNR=5.5
SHPR Sheep Range 91.73 52 *e*P **P** **03 34 12.9 -0.5**
7.4nm,1.3s
W13A Hualapai Mount 92.11 53 *e*P **P** **03 34 14.7 -0.6**
8.2nm,1.4s
R11A Troy Canyon, C 92.18 50 *e*P **P** **03 34 14.4 -1.0**
1.6nm,0.9s
LCMT Little Creek M 93.34 52 *e*P **P** **03 34 20.6 -0.2**
3.9nm,1.0s
TUC Tucson 93.42 57 *e*P **P** **03 34 20.4 -0.8**
4.3nm,1.2s
C09A Chrisman Ranch 94.39 40 *e*P **P** **03 34 23.4 -1.8**
24nm,0.2s
MTPU Mount Pierson 94.52 51 *e*P **P** **03 34 24.6 -1.8**
2.6nm,0.8s
JLU Jordanelle 96.00 49 *e*P **P** **03 34 32.5 -0.6**
3.0nm,0.9s
HEB Heber 96.05 49 *e*P **P** **03 34 33.9 +0.7**
WMQ Urumqi 97.39 314 P **P** **03 34 38.8 -0.2**
WMQ PMZ
5.0nm,0.6s
WMQ PMZ
50nm,3.8s
TXAR Lajitas Array 98.14 62 P Pdif 03 34 42.9 +0.1
0.2nm,0.6s,baz=251,slow=5.4,SNR=3.0
TXAR LR LR 04 10 34.9
comp=Z,30nm,21.2s,baz=0.0,slow=30
ARCES ARCESS Array B 126.00 345 PKP **PKPdf** **03 40 06.3 -0.5**
2.0nm,0.7s,baz=77,slow=2.6,SNR=6.1
ARCES pPKP **pPKPdf** **03 40 17.7 +0.6**
3.2nm,0.8s,baz=306,slow=1.0,SNR=3.0
FINES FINESS Array B 131.35 337 PKP **PKPdf** **03 40 16.0 -1.2**
1.0nm,0.8s,baz=323,slow=14,SNR=3.2
FINES pPKP **pPKPdf** **03 40 27.7 +0.2**
0.3nm,0.4s,baz=186,slow=34,SNR=2.6
KOLS Kolonicke sedl 140.70 324 *e*PKP **PKPdf** **03 40 36.8 +1.8**
LAST Lasithi 144.21 302 *e*PKPdf **PKPab** **03 40 39.5 -0.1**
IDI Anoyia 144.65 303 *e*PKPdf **PKPab** **03 40 41.2 0.0**
NKC Novy Kostel 144.66 333 *e*PKP PKPbc 03 40 41.1 +0.3
NKC *ex* x 03 40 52.7
CONA Conrad Observa 144.69 327 *i* PKPdf **PKPdf** **03 40 41.7 -0.5**
8.9nm,1.6s
KHC Kasperske Hory 144.97 331 *e*PKP PKPbc 03 40 42.0 +0.2
GEC2 GERESS Array S 145.11 330 *e*PKPbc **PKPbc** **03 40 40.8 -1.6**
GERES GERESS Array B 145.11 330 PKPbc **PKPab** **03 40 42.5 0.0**
1.9nm,0.8s,baz=40,slow=2.3,SNR=14
GERES pPKPbc pPKPbc 03 40 54.7 +1.9
1.4nm,0.6s,baz=54,slow=3.4,SNR=7.2
GEA0 GERESS Array S 145.12 330 *e*PKPbc **PKPab** **03 40 42.4 0.0**
ARSA Arzberg 145.31 327 *i* PKPdf **PKPdf** **03 40 43.5 +0.3**
4.1nm,1.1s
MOA Molln 145.54 329 *i* PKPab **PKPab** **03 40 44.2 +0.3**
6.3nm,0.9s
SOKA Soboth 145.94 326 *i* PKPab **PKPab** **03 40 45.3 -0.2**
2.1nm,0.9s
MEM Membach 146.81 339 PKPbc **PKPab** **03 40 48.2 -0.5**
MEM APKP **pPKPdf** **03 40 59.2 +3.3**
MOTA Moosalm 147.40 331 *i* pPKPdf **PKPbc** **03 40 49.0 -0.4**
5.2nm,0.7s
RETA Reutte 147.45 331 *i* PKPbc **PKPdf** **03 40 47.3 +0.4**
9.5nm,1.5s
WLF Walferdange 147.56 338 PKP **PKPbc** **03 40 50.0 +0.5**
WLF APKP **pPKPdf** **03 41 01.6 +4.4**
WLF Walferdange 147.56 338 *e*PKPbc **PKPbc** **03 40 49.5 0.0**
DOU Dourbes 147.71 340 PKPbc **PKPbc** **03 40 50.0 +0.1**
DOU APKP **pPKPdf** **03 41 01.5 +4.1**
FETA Feichten 147.81 331 *i* sPKPdf **PKPbc** **03 40 50.8 +0.3**
6.9nm,0.9s
DAVA Damuels 148.00 332 *i* pPKPdf **PKPbc** **03 40 50.8 -0.2**
7.1nm,0.8s
FUORN Ofenpass-Fuorn 148.32 331 *e*PKPbc **PKPbc** **03 40 51.9 -0.2**
ESDC Sonseca Array 159.72 343 PKPab **PKPab** **03 41 42.5 -0.6**
0.2nm,0.3s,baz=8.1,slow=3.8,SNR=3.7
TORD Torodi Ar. Bea 165.25 243 PKP **PKPdf** **03 41 10.1 -0.5**
1.3nm,1.0s,baz=219,slow=0.8,SNR=3.6
TORD PKPab **PKPab** **03 42 08.0 -0.2**
0.7nm,0.7s,baz=113,slow=5.6,SNR=3.6
TORD pPKPab **pPKPab** **03 42 19.2 +1.1**
1.2nm,0.9s,baz=98,slow=5.4,SNR=4.5

*IDC **09** 03:28:30.8±0.6,55.°55S×29.°00W,h0km,mb4.6/9, mb1 4.7/10,mb1mx4.3/21,mbtmp4.6/10,ML5.2/1,MS3.6/11, Ms1 3.6/11,ms1mx3.5/21,Error ellipse: s-maj=21.3km s-min=16.9km az=42.0*
*ISCJB **09** 03:28:32.8±0.5,55.°60S±0.°08×29.°1W±0.°1,h24km, mb4.6/16,MS3.7/12,Error ellipse: s-maj=12.9km s-min=9.8km az=138.6*
*NEIC **09** 03:28:35.4±2.8,55.°56S×29.°09W,h33km±19km,mb4.8/10, Error ellipse: s-maj=10.9km s-min=6.8km az=48.0*
ISC 09 03:28:34.0±0.4,**55.°59S**±0.°10×**29.°04W**±0.°09,**h24**km,**n79,**
σ1°19/71,mb4.8/15,**MS3.6/**12,**1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.49**	**284**	*e*Pn	**Pn**		**03 29 38.4**	**-2.0**
HOPE				*e*Sn	Sn		03 30 22.3	-9.4
PMSA	**Palmer Station**	**19.43**	**228**	P	**Pn**		**03 33 00.2**	**+0.8**
	0.7nm,0.3s,baz=47,slow=9.9,SNR=3.5							
SNAA	**Sanae**	**19.60**	**155**	*e*P	**P**		**03 33 00.5**	**+0.4**
	44nm,1.2s							
USHA	**Ushuaia**	**22.29**	**255**	P	**P**		**03 33 30.2**	**+1.1**
	38nm,0.8s,baz=79,slow=12,SNR=3.5							
TRQA	**Tornquist**	**28.18**	**295**	*e*P	**P**		**03 34 24.2**	**-0.1**
	81nm,1.8s							
PLCA	**Paso Flores**	**30.89**	**281**	LR	LR		03 47 52.8	
	comp=Z,94nm,18.2s,baz=150,slow=38							
SYO	**Syowa Base**	**32.60**	**141**	||*i* P		**P**		**03 35 00.0**	**-3.0**
QSPA	**South Pole Qui**	**34.67**	**180**	*e*P	**P**		**03 35 21.5**	**+0.2**
	17nm,0.6s							
CPUP	**Villa Florida**	**35.72**	**313**	P	**P**		**03 35 30.7**	**+0.2**
	4.0nm,0.7s,baz=159,slow=6.7,SNR=9.4							
MAW	**Mawson**	**41.14**	**144**	P	**P**		**03 36 15.8**	**+0.3**
	7.4nm,0.7s,baz=232,slow=6.3,SNR=13							
MAW				PcP	**PcP**		**03 38 13.9**	**-0.5**
	2.7nm,0.7s,baz=293,slow=9.2,SNR=3.8							
MAW				LR	LR		03 50 35.1	
	comp=Z,89nm,21.6s,baz=243,slow=32							
MAW	**Mawson**	**41.14**	**144**	*e*P	**P**		**03 36 16.2**	**+0.7**
MAW				PcP	**PcP**		**03 38 13.9**	**-0.5**
BDFB	**Brasilia**	**42.45**	**332**	P	**P**		**03 36 27.5**	**+0.5**
	2.6nm,0.9s,baz=102,slow=15,SNR=3.0							
BDFB				LR	LR		03 50 45.8	
	comp=Z,92nm,21.1s,baz=163,slow=32							
LVC	**Limon Verde**	**44.16**	**302**	P	**P**		**03 36 41.7**	**+0.6**
	23nm,0.7s,baz=55,slow=2.9,SNR=9.3							
LVC	**Limon Verde**	**44.16**	**302**	*e*P	**P**		**03 36 41.5**	**+0.5**
	7.7nm,0.8s							
BOSA	**Boshof**	**46.88**	**78**	LR	LR		03 52 19.4	
	comp=Z,41nm,21.5s,baz=143,slow=30							
VNDA	**Vanda**	**46.98**	**183**	P	**P**		**03 37 03.9**	**+1.6**
	2.8nm,0.8s,baz=183,slow=5.3,SNR=14							
VNDA				LR	LR		03 55 45.5	
	comp=Z,61nm,19.0s,baz=182,slow=35							
VNDA	**Vanda**	**46.98**	**183**	*e*P	**P**		**03 37 03.1**	**+0.8**
	4.3nm,0.9s							
H10S2	**ASCENSION HYDR**	**47.88**	**19**	T	T		04 28 44.7	
	baz=191,slow=75,SNR=12							
H10S3	**ASCENSION HYDR**	**47.88**	**19**	T	T		04 28 46.8	
	baz=191,slow=75,SNR=8.8							
H10S1	**ASCENSION HYDR**	**47.90**	**19**	T	T		04 28 50.7	
	baz=191,slow=75,SNR=7.5							
H10N1	**ASCENSION HYDR**	**49.00**	**19**	T	T		04 30 13.7	
	baz=190,slow=75,SNR=7.9							
H10N3	**ASCENSION HYDR**	**49.00**	**19**	T	T		04 30 08.9	
	baz=190,slow=75,SNR=9.7							
H10N2	**ASCENSION HYDR**	**49.02**	**19**	T	T		04 30 18.8	
	baz=190,slow=75,SNR=8.8							
LPAZ	**La Paz**	**49.26**	**307**	P	**P**		**03 37 22.1**	**+0.8**
	7.1nm,0.6s,baz=132,slow=4.6,SNR=51							
LPAZ				PcP	**PcP**		**03 38 44.4**	**+0.4**
	1.0nm,0.6s,baz=232,slow=11,SNR=1.6							
LPAZ				LR	LR		03 59 02.6	
	comp=Z,37nm,19.8s,baz=160,slow=37							
LPAZ	**La Paz**	**49.26**	**307**	*e*P	**P**		**03 37 22.1**	**+0.8**
	8.8nm,0.8s							
LPAZ				PcP	**PcP**		**03 38 44.4**	**+0.4**
LBTB	**Lobatse**	**49.89**	**75**	P	**P**		**03 37 26.8**	**+1.4**
	3.6nm,1.0s,baz=241,slow=8.6,SNR=4.8							
SAML	**Samuel**	**53.74**	**317**	*e*P	**P**		**03 37 53.7**	**-0.3**
	7.5nm,0.9s							
OTAV	**Otavalo**	**68.53**	**305**	*e*P	**P**		**03 39 35.9**	**+1.0**
	5.8nm,0.9s							
PRAC	**Prado**	**70.02**	**310**	*e*P	**P**		**03 39 43.8**	**+0.2**
	48nm,1.8s							
PCRV	**Puerto La Cruz**	**71.94**	**323**	LR	LR		04 09 23.3	
	comp=Z,62nm,21.0s,slow=34							
TOA0	**Torodi Ar. Sit**	**73.18**	**31**	*e*P	**P**		**03 40 02.5**	**-0.1**
	8.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**73.18**	**31**	P	**P**		**03 40 03.9**	**+1.4**
	6.2nm,0.7s,baz=197,slow=6.5,SNR=67							
TORD				LR	LR		04 05 18.1	
	comp=Z,46nm,20.8s,baz=270,slow=30							
SJG	**San Juan**	**79.85**	**324**	LR	LR		04 15 02.6	
	comp=Z,30nm,20.7s,baz=224,slow=35							
STKA	**Stephens Creek**	**92.52**	**172**	LR	LR		04 20 44.7	
	comp=Z,63nm,20.4s,baz=204,slow=34							
H07S1	**FLORES T-PHASE**	**94.61**	**358**	T	T		05 27 47.0	
	SNR=5.5							
ESDC	**Sonseca Array**	**97.27**	**19**	P	Pdif		03 42 06.9	+2.6
	0.2nm,0.3s,baz=191,slow=5.6,SNR=4.0							
ASAR	**Alice Springs**	**99.73**	**164**	LR	LR		04 24 29.6	
	comp=Z,65nm,20.3s,baz=186,slow=34							
WRAB	**Tennant Creek**	**103.47**	**164**	*e*Pdif	**Pdif**		**03 42 30.0**	**-2.4**
PDAR	**Pinedale Array**	**119.21**	**304**	PKP	**PKPdf**		**03 47 19.5**	**-0.8**
	0.4nm,0.5s,baz=126,slow=4.6,SNR=3.3							
NVAR	**Mina Array Bea**	**120.25**	**295**	PKP	**PKPdf**		**03 47 21.7**	**-0.7**
	0.4nm,0.6s,baz=92,slow=2.9,SNR=2.7							
SFJD	**Kangerlussuaq**	**123.33**	**350**	*e*Pdif	**Pdif**		**03 44 00.6**	**+1.2**
MSO	**Missoula**	**124.32**	**304**	*e*PKPdf	**PKPdf**		**03 47 30.3**	**+0.4**
FINES	**FINESS Array B**	**124.47**	**29**	PKP	**PKPdf**		**03 47 29.1**	**-0.3**
	0.5nm,0.4s,baz=240,slow=33,SNR=5.5							
CMAR	**Chiang Mai Arr**	**126.21**	**112**	PKP	**PKPdf**		**03 47 35.5**	**+1.4**
	0.7nm,0.3s,baz=233,slow=4.4,SNR=3.8							
ABKAR	**Akbulak array**	**127.97**	**56**	*e*Pdif	**Pdif**		**03 44 21.7**	**+1.2**
KSH	**Kashi**	**129.46**	**75**	PKP	**PKPdf**		**03 47 38.5**	**-1.4**
KSH				sPKP			03 47 53.0	
KSH				PP	**PP**		**03 49 50.3**	**-0.1**
KSH				SKS	**SKSdf**		**03 54 42.9**	**-6.8**
KSH	**Kashi**	**129.46**	**75**	SS	SS		04 07 01.3	-10
KSH				AMB	AMB			
	comp=Z,49nm,3.8s							
KSH				LR	LR			
	comp=N,85nm,5.5s							
KSH				LR	LR			
	comp=E,77nm,4.5s							
YKA	**Yellowknife Ar**	**135.13**	**319**	PKP	**PKPdf**		**03 47 49.6**	**0.0**
	comp=E,2.4nm,0.8s,baz=128,slow=2.4,SNR=13							
YKB5	**Yellowknife Ar**	**135.13**	**319**	*e*PKPdf	**PKPdf**		**03 47 49.4**	**-0.3**
MKAR	**Makanchi Array**	**137.74**	**72**	PKP	**PKPdf**		**03 47 54.0**	**-1.1**
	comp=E,0.2nm,0.3s,baz=207,slow=0.6,SNR=2.4							
KURBB	**Kurchatov Arra**	**138.06**	**65**	PKP	**PKPdf**		**03 47 55.2**	**-0.3**
	comp=E,0.3nm,0.5s,baz=236,slow=2.9,SNR=4.8							
KURK	**Kurchatov**	**138.16**	**65**	PKP	**PKPdf**		**03 47 55.2**	**-0.4**
WMQ	**Urumqi**	**138.84**	**79**	P	**PKPdf**		**03 47 57.0**	**-0.3**
WMQ				LR	LR			
	comp=N,43nm,20.0s							
WMQ				LR	LR			
	comp=Z,23nm,18.0s							
ZALV	**Zalesovo Beam**	**143.11**	**64**	PKhKP	PKPpre		03 48 01.4	
	comp=Z,0.6nm,0.3s,baz=266,slow=8.2,SNR=2.5							
INK	**Inuvik**	**144.78**	**321**	PKP	PKPbc		03 48 06.2	+0.1
	comp=Z,7.7nm,0.8s,baz=65,slow=4.6,SNR=8.9							
DAWY	**Dawson**	**145.71**	**313**	*e*PKPdf	**PKPdf**		**03 48 08.8**	**+0.1**
EGAK	**Eagle**	**146.66**	**314**	*e*PKPbc	**PKPbc**		**03 48 11.7**	**-0.3**
BMRM	**Bremner River**	**146.94**	**306**	*e*PKPbc	**PKPbc**		**03 48 13.3**	**+0.3**
EYAK	**Cordova Ski Ar**	**147.32**	**305**	*e*PKPbc	**PKPbc**		**03 48 13.3**	**-0.6**
DOT	**Dot Lake**	**147.55**	**311**	*e*PKPbc	**PKPbc**		**03 48 14.8**	**+0.2**
KLU	**Klutina**	**147.72**	**307**	*e*PKPbc	**PKPbc**		**03 48 15.2**	**0.0**
PAX	**Paxson**	**147.96**	**310**	*e*PKPbc	**PKPbc**		**03 48 16.0**	**+0.2**
IL1	**Eielson Array**	**149.03**	**313**	*e*PKPbc	**PKPbc**		**03 48 18.3**	**-0.1**
ILAR	**Eielson Array**	**149.03**	**313**	PKPbc	**PKPbc**		**03 48 18.4**	**0.0**
	comp=Z,10nm,0.8s,baz=128,slow=1.8,SNR=108							
COLA	**College**	**149.45**	**313**	*e*PKPbc	**PKPbc**		**03 48 19.5**	**+0.1**
COLA				*e*PKPab	**PKPab**		**03 48 25.0**	**+0.6**
RND	**Reindeer**	**149.56**	**310**	*e*PKPbc	**PKPbc**		**03 48 20.4**	**+0.5**
MCK	**McKinley**	**149.67**	**310**	*e*PKPbc	**PKPbc**		**03 48 20.2**	**+0.2**
TRF	**Thorofare Moun**	**150.20**	**309**	*e*PKPbc	**PKPbc**		**03 48 21.6**	**+0.2**
HHC	**Hu-ho-hao-te**	**150.37**	**103**	*e*PKPbc	**PKPdf**		**03 48 17.9**	**+0.6**
HHC				sPKP			03 48 34.8	
HHC				PP	**PP**		**03 51 58.4**	**-0.4**
SPU	**Mount Spurr**	**150.46**	**305**	*e*PKPbc	**PKPbc**		**03 48 21.8**	**-0.2**
BPAW	**Bear Paw Mtn.**	**150.63**	**311**	*e*PKPbc	**PKPbc**		**03 48 22.0**	**-0.3**
MLY	**Manley**	**150.69**	**312**	*e*PKPbc	**PKPbc**		**03 48 20.9**	**-1.5**
COLD	**Coldfoot**	**150.76**	**317**	*e*PKPbc	**PKPbc**		**03 48 23.2**	**+0.7**
PPLA	**Purkeypile**	**150.92**	**308**	*e*PKPbc	**PKPbc**		**03 48 23.1**	**-0.1**
PPLA				*e*PKPab	**PKPab**		**03 48 30.1**	**-0.7**
SONM	**Songino Array**	**151.75**	**87**	PKPbc	**PKPbc**		**03 48 25.4**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=223,slow=3.5,SNR=18							
SONA1	**Songino Array**	**151.76**	**87**	*e*PKPbc	**PKPbc**		**03 48 24.9**	**-0.7**
TT01	**Tatalina**	**152.65**	**307**	*e*PKPbc	**PKPbc**		**03 48 27.8**	**+0.9**
TTA	**Tatalina**	**152.65**	**307**	*e*PKPbc	**PKPbc**		**03 48 27.5**	**+0.5**
TIXI	**Tiksi**	**161.34**	**22**	PKPab	**PKPab**		**03 49 15.8**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=346,slow=1.9,SNR=4.6							

*IDC **09** 03:34:00.3±0.8,31.°11N×141.°67E,h0km,mb3.8/9, mb1 3.9/12,mb1mx3.7/48,mbtmp3.7/12,ML3.5/3,MS2.5/1, Ms1 2.5/1,ms1mx2.0/39,Error ellipse: s-maj=30.2km s-min=14.8km az=71.0*
*ISCJB **09** 03:34:04.1±0.6,31.°09N±0.°07×141.°5E±0.°2,h37km, mb4.0/10,Error ellipse: s-maj=23.5km s-min=5.7km az=159.0*
ISC 09 03:34:06.0±0.7,**31.°13N**±0.°09×**141.°6E**±0.°2,**h37**km,**n14,**
σ0°74/16,mb3.8/10,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.51**	**323**	Pn	**Pn**		**03 34 43.2**	**-1.0**
	9.3nm,0.3s,baz=259,slow=21,SNR=6.2							
JHJ				Sn	**Sn**		**03 35 12.9**	**-0.6**
	14nm,0.3s,baz=90,slow=23,SNR=3.5							
JCJ	**Chichijima**	**4.05**	**172**	Pn	**Pn**		**03 35 05.1**	**-0.3**
	9.7nm,0.3s,baz=291,slow=22,SNR=5.1							
JCJ				Sn	**Sn**		**03 35 51.7**	**+0.2**
	14nm,0.3s,baz=285,slow=23,SNR=4.9							
MJAR	**Matsushiro Arr**	**6.09**	**333**	Pn	**Pn**		**03 35 33.3**	**-0.2**
	0.7nm,0.3s,baz=153,slow=10,SNR=9.0							
MJAR				Sn	**Sn**		**03 36 43.3**	**+1.5**
	0.1nm,0.3s,baz=310,slow=21,SNR=2.5							
JNU	**Nakatsue**	**9.30**	**285**	LR	LR		03 39 13.5	
	comp=Z,31nm,21.4s,baz=120,slow=33							
SONM	**Songino Array**	**31.54**	**312**	P	**P**		**03 40 25.5**	**+0.7**
	0.5nm,0.6s,baz=108,slow=9.3,SNR=2.5							
MKAR	**Makanchi Array**	**47.58**	**307**	P	**P**		**03 42 37.9**	**-0.1**
	0.3nm,0.3s,baz=90,slow=8.5,SNR=3.6							
KURBB	**Kurchatov Arra**	**49.91**	**312**	P	**P**		**03 42 55.4**	**-0.3**
	1.0nm,0.7s,baz=88,slow=7.3,SNR=12							
WRA	**Warramunga Arr**	**51.25**	**189**	P	**P**		**03 43 05.5**	**-0.6**
	1.2nm,0.4s,baz=6.7,slow=7.6,SNR=23							
ASAR	**Alice Springs**	**54.98**	**189**	P	**P**		**03 43 33.0**	**-0.5**
	0.6nm,0.4s,baz=358,slow=4.9,SNR=16							
ARU	**Arti**	**60.95**	**321**	P	**P**		**03 44 15.0**	**0.0**
	7.4nm,0.2s,baz=297,slow=7.0,SNR=3.6							
FINES	**FINESS Array B**	**74.12**	**333**	P	**P**		**03 45 38.4**	**+0.4**
	1.3nm,0.9s,baz=52,slow=6.3,SNR=3.2							
NVAR	**Mina Array Bea**	**78.45**	**52**	P	**P**		**03 46 03.9**	**+0.5**
	0.2nm,0.3s,baz=222,slow=1.2,SNR=3.2							
BRTR	**Keskin Array B**	**82.90**	**312**	P	**P**		**03 46 27.9**	**+0.7**
	0.6nm,0.8s,baz=103,slow=5.3,SNR=4.4							
TXAR	**Lajitas Array**	**93.60**	**53**	P	**P**		**03 47 17.5**	**-1.2**
	0.2nm,0.7s,baz=323,slow=5.7,SNR=2.8							

*IDC **09** 03:35:33.4±1.3,31.°11N×141.°55E,h0km,mb3.7/6, mb1 3.8/8,mb1mx3.6/45,mbtmp3.7/8,ML3.0/3,Error ellipse: s-maj=50.6km s-min=15.1km az=69.0*
*ISCJB **09** 03:35:37.1±0.9,31.°09N±0.°09×141.°4E±0.°3,h37km, mb3.9/7,Error ellipse: s-maj=33.7km s-min=6.4km az=159.1*
ISC 09 03:35:38.9±1.0,**31.°1N**±0.°1×**141.°5E**±0.°2,**h37**km,**n10,**
σ0°46/12,mb3.8/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.46**	**324**	Pn	**Pn**		**03 36 16.1**	**-0.4**
	1.5nm,0.3s,baz=248,slow=23,SNR=2.1							
JHJ				Sn	**Sn**		**03 36 45.2**	**-0.1**
	7.5nm,0.3s,baz=57,slow=23,SNR=3.3							
JCJ	**Chichijima**	**4.06**	**171**	Pn	**Pn**		**03 36 38.4**	**0.0**
	3.4nm,0.3s,baz=321,slow=18,SNR=1.8							
JCJ				Sn	**Sn**		**03 37 24.9**	**+0.3**
	5.8nm,0.3s,baz=343,slow=22,SNR=2.6							
MJAR	**Matsushiro Arr**	**6.06**	**334**	Pn	**Pn**		**03 37 06.1**	**+0.2**
	0.7nm,0.3s,baz=263,slow=20,SNR=4.1							
SONM	**Songino Array**	**31.48**	**312**	P	**P**		**03 41 57.9**	**+0.8**
	0.3nm,0.5s,baz=121,slow=14,SNR=2.6							
MKAR	**Makanchi Array**	**47.52**	**307**	P	**P**		**03 44 09.7**	**-0.7**
	0.3nm,0.3s,baz=87,slow=10.0,SNR=3.0							
KURBB	**Kurchatov Arra**	**49.85**	**312**	P	**P**		**03 44 28.4**	**+0.2**
	0.6nm,0.5s,baz=88,slow=7.6,SNR=8.1							
WRA	**Warramunga Arr**	**51.23**	**189**	P	**P**		**03 44 38.5**	**-0.3**
	0.8nm,0.4s,baz=5.6,slow=7.7,SNR=8.0							
ASAR	**Alice Springs**	**54.96**	**189**	P	**P**		**03 45 06.1**	**-0.2**
	0.5nm,0.5s,baz=1.7,slow=5.4,SNR=8.7							
ARU	**Arti**	**60.90**	**321**	P	**P**		**03 45 47.9**	**+0.3**
	4.8nm,0.2s,baz=53,slow=3.9,SNR=2.9							
TXAR	**Lajitas Array**	**93.67**	**53**	P	**P**		**03 48 51.7**	**-0.3**
	0.1nm,0.5s,baz=305,slow=4.4,SNR=3.7							

*IDC **09** 03:38:23.8±0.8,55.°56S×29.°15W,h0km,mb4.3/6, mb1 4.4/6,mb1mx4.1/20,mbtmp4.3/6,MS3.2/1,Ms1 3.2/1, ms1mx2.8/23,Error ellipse: s-maj=34.9km s-min=21.0km az=53.0*
*ISCJB **09** 03:38:25.4±0.6,55.°57S±0.°09×29.°2W±0.°2,h24km,mb4.5/9, MS3.2/1,Error ellipse: s-maj=15.3km s-min=10.9km az=138.4*
*NEIC **09** 03:38:28.9±0.3,55.°56S×29.°21W,h35km,mb4.8/3,Error ellipse: s-maj=12.4km s-min=9.2km az=45.0*
ISC 09 03:38:27.4±0.6,**55.°6S**±0.°1×**29.°37W**±0.°10,**h24**km,**n35,**
σ1°06/29,mb4.5/9,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.30**	**284**	*e*Pn	**Pn**		**03 39 31.0**	**-0.2**
HOPE				*e*Sn	**Sn**		**03 40 17.9**	**-2.7**
PMSA	**Palmer Station**	**19.30**	**228**	*e*P	**Pn**		**03 42 53.6**	**+2.3**
	129nm,1.6s							
SNAA	**Sanae**	**19.69**	**155**	*e*P	**P**		**03 42 52.9**	**-1.6**
	12nm,1.0s							
TRQA	**Tornquist**	**28.00**	**295**	*e*P	**P**		**03 44 16.1**	**0.0**
	56nm,1.8s							
QSPA	**South Pole Qui**	**34.69**	**180**	*e*P	**P**		**03 45 14.2**	**-0.6**
CPUP	**Villa Florida**	**35.58**	**314**	P	**P**		**03 45 22.9**	**+0.3**
	1.8nm,0.7s,baz=146,slow=5.3,SNR=4.6							
CPUP				LR	LR		03 58 57.2	
	comp=Z,39nm,19.5s,baz=188,slow=35							
ROC1	**El Roble**	**36.62**	**291**	*e*P	**P**		**03 45 32.1**	**+0.3**
	41nm,1.4s							
MAW	**Mawson**	**41.26**	**145**	P	**P**		**03 46 09.3**	**-0.7**
	2.8nm,0.7s,baz=223,slow=7.9,SNR=5.6							
LVC	**Limon Verde**	**44.00**	**302**	P	**P**		**03 46 33.8**	**+0.7**
	14nm,0.7s,baz=311,slow=2.0,SNR=4.0							
VNDA	**Vanda**	**46.99**	**183**	P	**P**		**03 46 56.8**	**+1.0**
	1.0nm,0.6s,baz=167,slow=4.4,SNR=7.1							
H10S2	**ASCENSION HYDR**	**47.93**	**20**	T	T		04 38 37.0	
	baz=191,slow=75,SNR=6.4							
H10S3	**ASCENSION HYDR**	**47.93**	**20**	T	T		04 38 48.6	
	baz=191,slow=75,SNR=4.7							
H10S1	**ASCENSION HYDR**	**47.94**	**20**	T	T		04 38 47.8	
	baz=191,slow=75,SNR=4.9							
H10N1	**ASCENSION HYDR**	**49.04**	**20**	T	T		04 40 02.7	
	baz=190,slow=75,SNR=4.2							
H10N3	**ASCENSION HYDR**	**49.04**	**20**	T	T		04 40 03.3	
	baz=190,slow=75,SNR=5.2							
H10N2	**ASCENSION HYDR**	**49.06**	**20**	T	T		04 40 05.6	
	baz=190,slow=75,SNR=4.9							
LPAZ	**La Paz**	**49.10**	**307**	P	**P**		**03 47 14.6**	**+1.2**
	2.3nm,0.6s,baz=185,slow=5.3,SNR=15							
TOA0	**Torodi Ar. Sit**	**73.26**	**32**	*e*P	**P**		**03 49 55.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**73.26**	**32**	P	**P**		**03 49 57.1**	**+0.7**
	3.2nm,0.7s,baz=198,slow=6.5,SNR=26							
TOA1	**Torodi Ar. Sit**	**73.27**	**32**	*e*P	**P**		**03 49 57.1**	**+0.7**
	27nm,1.9s							
FXWY	**Fox Creek**	**120.41**	**304**	*e*PKPdf	**PKPdf**		**03 57 16.9**	**+0.9**
**YKA

1.3nm,0.7s,baz=127,slow=5.9,SNR=7.3
YKA Yellowknife Ar 62.53 346 P **P** **04 11 46.8 -1.3**
0.9nm,0.7s,baz=145,slow=6.6,SNR=3.9
ILAR Eielson Array 74.66 337 P **P** **04 13 03.7 0.0**
0.6nm,0.9s,baz=142,slow=4.6,SNR=5.3
TORD Torodi Ar. Bea 87.38 77 LR LR 04 53 10.7
comp=Z,18nm,18.5s,baz=245,slow=36

*MOS **09** 04:05:58.5±1.6,76°.28N×130°.37E, h9km,mb4.1/5,Error ellipse: s-maj=54.4km s-min=11.6km az=91.9*
*IDC **09** 04:05:58.3±0.9,76°.51N×129°.84E, h0km,mb3.6/6, mb1 3.9/7,mb1mx3.6/48,mbtmp3.7/7,ML6.0/1,MS3.2/1, Ms1 3.2/1,ms1mx2.3/46,Error ellipse: s-maj=37.0km s-min=19.4km az=150.0*
*ISCJB **09** 04:05:59.2±0.5,76°.22N±0°.05×130°.1E±0°.3, h10km, mb3.6/11,MS3.1/1,Error ellipse: s-maj=10.9km s-min=7.4km az=161.1*
ISC 09 04:06:00.2±0.6,76°.27N±0°.07×130°.48E±0°.09,h10km,n26, σ1§82/28,mb3.8/11,Laptev Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TIXI	**Tiksi**	**4.67**	**186**	Pn		**Pn**	**04 07 11.3**	**+0.7**
	2.6nm,0.3s,baz=5.6,slow=9.8,SNR=19							
TIXI				Sn		**Sn**	**04 08 03.9**	**-0.8**
	21nm,0.3s,baz=251,slow=6.9,SNR=16							
DEPR	**Deputatskiy**	**7.44**	**153**	*eP*		**Pn**	**04 07 49.8**	**+1.2**
DEPR				Pmax			04 07 49.8	
	comp=Z,3.0nm,0.4s							
DEPR				*eS*		**Sn**	**04 09 10.5**	**-2.4**
DEPR				Smax			04 09 10.5	
	comp=E,15nm,0.4s							
MOMR	**Moma**	**10.62**	**151**	*eP*		**Pn**	**04 08 34.9**	**+2.8**
MOMR				Pmax			04 08 34.9	
	comp=Z,2.0nm,0.2s							
MOMR				*eS*		**Sn**	**04 10 28.4**	**-2.4**
MOMR				Smax			04 10 28.4	
	comp=N,11nm,0.7s							
YAK	**Yakutsk**	**14.31**	**182**	*i* P		**Pn**	**04 09 24.6**	**+2.1**
SEY	**Seymchan**	**15.23**	**139**	*i* P		**Pn**	**04 09 35.3**	**+0.4**
MA2	**Magadan**	**18.21**	**146**	*i* P		**P**	**04 10 15.0**	**+2.1**
PET	**Petropavlovsk**	**25.70**	**139**	*i* P		**P**	**04 11 27.8**	**-2.2**
COLA	**College**	**26.77**	**70**	*i* P		**P**	**04 11 42.2**	**+2.7**
COLA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ILAR	**Eielson Array**	**27.07**	**69**	P		**P**	**04 11 44.0**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=325,slow=9.1,SNR=6.3							
ILAR	**Eielson Array**	**27.07**	**69**	*eP*		**P**	**04 11 44.7**	**+2.4**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ULN	**Ulaanbaatar**	**30.06**	**212**	*i* P		**P**	**04 12 08.1**	**-1.1**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**35.41**	**242**	P		**P**	**04 12 55.0**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=30,slow=6.0,SNR=4.6							
MKAR				LR		LR	04 27 43.2	
	comp=Z,33nm,18.6s,baz=50,slow=37							
MKAR	**Makanchi Array**	**35.41**	**242**	*eP*		**P**	**04 12 56.2**	**+0.4**
YKA	**Yellowknife Ar**	**35.58**	**46**	P		**P**	**04 12 54.9**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=344,slow=8.7,SNR=2.9							
STHS	**Stebnicka Huta**	**46.84**	**302**	*eP*		**P**	**04 14 30.7**	**+1.0**
STHS	**Stebnicka Huta**	**46.84**	**302**	*eP*		**P**	**04 14 30.7**	**+1.0**
KBZ	**Khabaz**	**47.45**	**281**	P		**P**	**04 14 34.2**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=17,slow=11,SNR=3.1							
KECS	**Kecovo**	**47.89**	**303**	*eP*		**P**	**04 14 38.6**	**+0.8**
KECS				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KECS	**Kecovo**	**47.89**	**303**	*eP*		**P**	**04 14 38.6**	**+0.8**
BFO	**Black Forest**	**50.33**	**313**	*i* P		**P**	**04 14 57.1**	**+0.6**
BRTR	**Keskin Array B**	**53.40**	**287**	P		**P**	**04 15 21.2**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=34,slow=9.0,SNR=4.2							
NVAR	**Mina Array Bea**	**57.78**	**60**	P		P	04 15 59.6	+8.3
	comp=Z,0.5nm,0.6s,baz=331,slow=7.2,SNR=3.7							
TXAR	**Lajitas Array**	**69.44**	**49**	P		**P**	**04 17 07.6**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=3.9,slow=3.3,SNR=10							
TORD	**Torodi Ar. Bea**	**85.77**	**310**	P		**P**	**04 18 36.0**	**-3.4**
	comp=Z,0.4nm,0.6s,baz=357,slow=5.7,SNR=4.9							
RPN	**Rapa Nui**	**123.19**	**67**	*i* PKIKP		**PKPdf**	**04 24 58.7**	**+2.5**
MAW	**Mawson**	**149.55**	**224**	PKPbc		**PKPbc**	**04 25 47.5**	**0.0**
	comp=Z,1.4nm,0.7s,baz=320,slow=12,SNR=3.7							

JMA 09 04:06:19.0±0.1,38°.54N×144°.47E,h33km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**2.25**	**285**	P		Pn	04 06 55.5	+1.6
OFUJ				S		Sn	04 07 22.5	+1.9
MIYJ	**Miyakonagasawa**	**2.31**	**297**	P		Pn	04 06 55.9	+1.2
MIYJ				*eS*		Sn	04 07 23.5	+1.5
JIO	**Ouri**	**2.45**	**269**	P		Pn	04 06 58.0	+1.4
JIO				*eS*		Sn	04 07 27.0	+1.6
JMK	**Ichinoseki**	**2.57**	**280**	P		Pn	04 07 00.3	+2.0
JMK				*eS*		Sn	04 07 30.9	+2.4
JOM	**Ohasama**	**2.65**	**292**	P		Pn	04 07 01.2	+1.9
JOM				S		Sn	04 07 32.3	+2.0
JMM	**Marumori**	**2.97**	**258**	P		Pn	04 07 05.4	+1.6
JMM				S		Sn	04 07 40.1	+1.7
JOU	**Okura**	**2.99**	**268**	P		Pn	04 07 06.1	+2.0
JOU				S		Sn	04 07 41.4	+2.5
JRG	**Rokugo**	**3.11**	**287**	P		Pn	04 07 08.1	+2.4
JRG				S		Sn	04 07 44.6	+2.9
JYK	**Kaneyama**	**3.24**	**278**	P		Pn	04 07 09.5	+2.0
JYK				*eS*		Sn	04 07 46.9	+2.0
JFT	**Otama**	**3.42**	**254**	S		Sn	04 07 51.9	+2.5
JYS	**Shirataka**	**3.48**	**266**	S		Sn	04 07 53.3	+2.5
JFY	**Yanaizu**	**3.93**	**255**	P		Pn	04 07 19.3	+2.3
JHK	**Hiroka**	**4.50**	**255**	P		Pn	04 07 27.3	+2.4

*ISCJB **09** 04:14:02.6±0.4,21°.59N±0°.05×144°.46E±0°.09,h114km, mb4.3/29,Error ellipse: s-maj=12.4km s-min=6.3km az=168.2*
*NEIC **09** 04:14:07.8±1.4,21°.66N×144°.27E, h145km±12km, mb4.5/11,Error ellipse: s-maj=11.5km s-min=7.7km az=102.0*
*IDC **09** 04:14:07.4±0.7,21°.64N×144°.27E, h141km±5km,mb3.9/20, mb1 4.1/23,mb1mx3.9/42,mbtmp4.4/23,Error ellipse: s-maj=16.7km s-min=10.1km az=80.0*
ISC 09 04:14:04.3±0.6,21°.59N±0°.08×144°.5E±0°.1,h114km,n45, σ2§06/47,mb4.3/29,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.86**	**340**	P		**Pn**	**04 15 31.1**	**+2.3**
CBIJ				S		**Sn**	**04 16 34.8**	**+0.1**
JCJ	**Chichijima**	**5.86**	**340**	P		**Pn**	**04 15 31.1**	**+2.3**
	32nm,0.3s,baz=105,slow=21,SNR=16							
JCJ				S		**Sn**	**04 16 34.8**	**+0.1**
	44nm,0.3s,baz=288,slow=23,SNR=7.6							
MJAR	**Matsushiro Arr**	**15.86**	**341**	P		**Pn**	**04 17 39.7**	**-1.4**
	1.9nm,0.3s,baz=104,slow=9.9,SNR=14							
MAJO	**Matsushiro**	**15.86**	**341**	*ePn*		**Pn**	**04 17 40.0**	**-1.1**
	18nm,0.8s							
MAT	**Matsushiro**	**15.86**	**341**	P		**Pn**	**04 17 39.8**	**-1.3**
JNU	**Nakatsue**	**16.64**	**316**	P		**P**	**04 17 52.2**	**+1.1**
	1.1nm,0.3s,baz=109,slow=7.0,SNR=13							
JNU	**Nakatsue**	**16.64**	**316**	*ePn*		**P**	**04 17 52.4**	**+1.1**
	6.9nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**21.07**	**91**	T		T	04 40 31.4	
	baz=278							
H11N2	**WAKE ISLAND Hy**	**21.07**	**91**	T		T	04 40 45.3	
	baz=278,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**21.08**	**91**	T		T	04 40 31.4	
	baz=278							
H11S3	**WAKE ISLAND Hy**	**21.10**	**94**	T		T	04 41 00.2	
	baz=282							
H11S1	**WAKE ISLAND Hy**	**21.11**	**94**	T		T	04 41 41.8	
	baz=282							
H11S2	**WAKE ISLAND Hy**	**21.12**	**94**	T		T	04 40 46.8	
	baz=282							
KSRS	**Korea Array**	**21.33**	**321**	P		**P**	**04 18 42.2**	**+0.1**
	21nm,0.7s,baz=144,slow=8.4,SNR=80							
KSAR	**Wonju Array Be**	**21.34**	**321**	P		**P**	**04 18 42.2**	**0.0**
YHNB	**Yeheng**	**21.45**	**283**	*eP*		**P**	**04 18 43.1**	**-0.5**
	18nm,0.8s							
SSLB	**Suanglung**	**21.80**	**280**	*eP*		**P**	**04 18 46.4**	**-0.9**
	17nm,0.6s							
USRK	**Ussuriysk Ar.**	**24.80**	**338**	P		**P**	**04 19 16.7**	**+1.1**
	1.3nm,0.7s,baz=148,slow=47,SNR=3.6							
KLR	**Kul'dur**	**29.38**	**343**	P		**P**	**04 19 57.0**	**+0.5**
	8.3nm,0.5s,baz=155,slow=7.3,SNR=37							
SONM	**Songino Array**	**40.18**	**320**	P		**P**	**04 21 28.4**	**-1.1**
	1.1nm,0.4s,baz=127,slow=8.8,SNR=6.9							
WRAB	**Tennant Creek**	**42.44**	**194**	*eP*		**P**	**04 21 48.7**	**+0.8**
	6.1nm,0.3s							
WRA	**Warramunga Arr**	**42.45**	**194**	P		**P**	**04 21 48.4**	**+0.3**
	2.9nm,0.3s,baz=13,slow=8.7,SNR=68							
FITZ	**Fitzroy Crossi**	**43.54**	**206**	*eP*		**P**	**04 21 57.1**	**+0.3**
	6.2nm,1.0s							
ASAR	**Alice Springs**	**46.15**	**193**	P		**P**	**04 22 17.9**	**+0.4**
	0.9nm,0.4s,baz=14,slow=7.0,SNR=13							
STKA	**Stephens Creek**	**53.23**	**183**	P		**P**	**04 23 11.3**	**+0.3**
	8.4nm,1.1s,baz=10,slow=7.9,SNR=11							
ZALV	**Zalesovo Beam**	**55.03**	**322**	P		**P**	**04 23 22.7**	**-1.2**
	2.6nm,0.6s,baz=101,slow=7.7,SNR=6.0							
MKAR	**Makanchi Array**	**55.65**	**313**	P		**P**	**04 23 27.8**	**-0.7**
	3.9nm,0.7s,baz=91,slow=9.4,SNR=33							
MKAR				pP		**pP**	**04 24 00.9**	**+5.1**
	0.4nm,0.4s,baz=87,slow=8.6,SNR=1.7							
MKAR				PcP		**PcP**	**04 24 25.9**	**-0.7**
	1.3nm,0.6s,baz=88,slow=5.8,SNR=5.3							
BPAW	**Bear Paw Mtn.**	**59.71**	**27**	*eP*		**P**	**04 23 57.4**	**+0.7**
	0.7nm,0.8s							
TRF	**Thorofare Moun**	**59.87**	**28**	*eP*		**P**	**04 23 58.4**	**+0.5**
	6.0nm,0.8s							
TKM2	**Tokmak 2**	**60.35**	**308**	*eP*		**P**	**04 24 01.3**	**-0.3**
	10.0nm,1.1s							
SML	**Sawmill**	**60.45**	**30**	*eP*		**P**	**04 24 02.5**	**+0.8**
	1.4nm,0.8s							
ILAR	**Eielson Array**	**61.59**	**27**	P		**P**	**04 24 09.2**	**-0.1**
	2.8nm,0.8s,baz=259,slow=5.7,SNR=30							
ILAR				pP		**sP**	**04 24 44.4**	**-5.2**
	0.1nm,0.4s,baz=316,slow=37,SNR=1.9							
DAWY	**Dawson**	**64.75**	**28**	*eP*		**P**	**04 24 30.6**	**+0.4**
INK	**Inuvik**	**67.19**	**24**	P		**P**	**04 24 45.9**	**+0.2**
	2.3nm,0.7s,baz=336,slow=32,SNR=4.0							
ABKAR	**Akbulak array**	**70.45**	**316**	*eP*		**P**	**04 25 05.2**	**-1.1**
	6.2nm,0.7s							
GEYT	**Alibeck**	**74.29**	**305**	P		**P**	**04 25 29.5**	**+0.2**
	4.2nm,0.7s,baz=45,slow=2.3,SNR=5.5							
YKA	**Yellowknife Ar**	**75.99**	**28**	P		**P**	**04 25 39.1**	**+0.6**
	1.0nm,0.5s,baz=291,slow=5.4,SNR=11							
YKA				pP		**sP**	**04 26 14.5**	**-5.1**
	0.4nm,0.7s,baz=290,slow=5.2,SNR=2.0							
ARCES	**ARCESS Array B**	**79.40**	**342**	P		**P**	**04 25 57.2**	**-0.1**
	2.7nm,0.7s,baz=74,slow=8.9,SNR=11							
NVAR	**Mina Array Bea**	**82.27**	**52**	P		**P**	**04 26 15.6**	**+2.1**
	2.5nm,0.7s,baz=272,slow=5.7,SNR=14							
NVAR				pP		**pP**	**04 26 48.3**	**+5.5**
	0.1nm,0.4s,baz=146,slow=39,SNR=1.4							
KBZ	**Khabaz**	**83.30**	**314**	P		**P**	**04 26 18.2**	**-0.2**
	9.0nm,0.8s,baz=90,slow=3.7,SNR=18							
KBZ				pP		**pP**	**04 26 52.8**	**+5.1**
	1.9nm,0.8s,baz=130,slow=4.7,SNR=1.4							
FINES	**FINESS Array B**	**83.79**	**335**	P		**P**	**04 26 18.9**	**-1.7**
	2.0nm,0.4s,baz=74,slow=4.4,SNR=22							
AKASG	**Malin Array Be**	**88.28**	**325**	P		**P**	**04 26 41.0**	**-1.9**
	0.5nm,0.4s,baz=46,slow=4.7,SNR=8.7							
NOA	**NORSAR Array B**	**89.47**	**339**	P		**P**	**04 26 46.8**	**-1.5**
	0.6nm,0.7s,baz=356,slow=0.4,SNR=3.2							
BRTR	**Keskin Array B**	**91.28**	**314**	P		**P**	**04 26 55.0**	**-2.3**
	0.7nm,0.8s,baz=77,slow=5.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**129.73**	**310**	PKP		**PKPdf**	**04 32 59.5**	**-1.5**
	0.4nm,0.8s,baz=111,slow=1.6,SNR=7.5							

JMA 09 04:14:32.7,37°.02N×140°.60E,h9km±1km,M1.2,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.41**	**32**	P		Pg	04 14 40.7	-0.1
JFK				S		Sg	04 14 46.3	+0.1
JHO	**Hitachi**	**0.41**	**183**	P		Pg	04 14 40.6	-0.1
JHO				S		Sg	04 14 46.3	+0.2
JFT	**Otama**	**0.54**	**337**	P		Pg	04 14 43.5	+0.3

IDC 09 04:14:57.8±5.9,37°.12N×139°.90E,h0km,mb3.8/2, mb1 4.1/2,mb1mx3.4/37,mbtmp3.8/2,Error ellipse: s-maj=115.8km s-min=42.7km az=12.0,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**1.47**	**247**	Pn		Pn	04 15 25.4	-0.3
	0.4nm,0.3s,baz=62,slow=9.9,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**29.24**	**119**	T		T	04 51 24.2	
	baz=329							
H11N1	**WAKE ISLAND Hy**	**29.25**	**119**	T		T	04 51 21.6	
	baz=329							
H11N3	**WAKE ISLAND Hy**	**29.26**	**119**	T		T	04 51 38.8	
	baz=329							
H11S1	**WAKE ISLAND Hy**	**29.94**	**121**	T		T	04 52 03.4	
	baz=314							
H11S3	**WAKE ISLAND Hy**	**29.94**	**121**	T		T	04 52 14.4	
	baz=314							
H11S2	**WAKE ISLAND Hy**	**29.95**	**121**	T		T	04 52 29.9	
	baz=314							
WRA	**Warramunga Arr**	**57.00**	**186**	P		P	04 24 44.5	-0.8
	0.5nm,0.4s,baz=5.7,slow=7.6,SNR=5.4							
ASAR	**Alice Springs**	**60.73**	**186**	P		P	04 25 11.8	+0.6
	0.4nm,0.3s,baz=2.4,slow=5.8,SNR=6.2							

*ISCJB **09** 04:18:38.9±0.3,16°.12N±0°.03×61°.87W±0°.05,h174km±2km, mb3.5/9,Error ellipse: s-maj=8.2km s-min=4.0km az=154.1*
*TRN **09** 04:18:38.3,16°.15N×61°.81W,h175km,MD3.7*
*IDC **09** 04:18:39.5±0.5,16°.08N×61°.88W,h164km±4km,mb3.3/9, mb1 3.5/11,mb1mx3.3/32,mbtmp3.8/11,Error ellipse: s-maj=13.4km s-min=8.4km az=60.0*
ISC 09 04:18:39.7±0.6,16°.10N±0°.04×61°.90W±0°.06,h170km±5km, n69,σ0§69/80,mb3.5/9,17C-10D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LZG	**Guadaloupe-1**	**0.13**	**70**	*eP*		**Pn**	**04 19 02.5**	**+0.2**
MLG	**Mont-d'or**	**0.19**	**101**	*iP*		**Pn**	**04 19 02.8**	**+0.4**
FNG	**Fond-Bernard**	**0.21**	**100**	*iP*		**Pn**	**04 19 03.0**	**+0.4**
SSG	**Sans Toucher**	**0.21**	**92**	*iP*		**Pn**	**04 19 02.9**	**+0.4**
SCG	**Saint Claude**	**0.22**	**107**	*iP*		**Pn**	**04 19 03.0**	**+0.5**
HMG	**Houelmont**	**0.23**	**120**	*iP*		**Pn**	**04 19 02.9**	**+0.4**
HMG				*eS*		**Sn**	**04 19 20.2**	**+0.3**
CRG	**Carmichael**	**0.24**	**100**	*iP*		**Pn**	**04 19 03.2**	**+0.5**
PHG	**Guadaloupe-2**	**0.26**	**108**	*eP*		**Pn**	**04 19 03.1**	**+0.5**
BCG	**Bois Riant Cap**	**0.27**	**92**	*eP*		**Pn**	**04 19 03.0**	**+0.4**
DOG	**Dongo Capester**	**0.28**	**103**	*eP*		**Pn**	**04 19 02.9**	**+0.3**
TBG	**Guadaloupe-3**	**0.35**	**134**	*eP*		**Pn**	**04 19 02.9**	**+0.1**
TBG				*eS*		**Sn**	**04 19 20.8**	**+0.5**
MGG	**Marie-Galante**	**0.59**	**107**	*iP*		**Pn**	**04 19 04.0**	**+0.2**
MLYT	**Lee's Yard**	**0.68**	**336**	*eP*		**Pn**	**04 19 04.6**	**+0.4**
MLYT				*eS*		**Sn**	**04 19 23.6**	**+0.3**
BBL	**Barber's Block**	**0.70**	**144**	*eP*		**Pn**	**04 19 04.5**	**+0.1**
BBL				*eS*		**Sn**	**04 19 22.9**	**-0.5**
DWS	**Wesley**	**0.77**	**133**	*eP*		**Pn**	**04 19 04.7**	**-0.1**
DWS				*eS*		**Sn**	**04 19 23.6**	**-0.5**
DEG	**La Desirade**	**0.84**	**75**	*eP*		**Pn**	**04 19 05.0**	**-0.3**
DEG				*eS*		**Sn**	**04 19 24.1**	**-0.7**
H05N1	**Guadeloupe/Mar**	**0.84**	**75**	P		**Pn**	**04 19 05.0**	**-0.2**
H05N1				S		**Sn**	**04 19 23.9**	**-1.0**
	SNR=8249							
MDN	**Morne-Daniel**	**0.92**	**148**	*eP*		**Pn**	**04 19 06.7**	**+0.9**
MDN				*eS*		**Sn**	**04 19 26.9**	**+1.1**
BPA	**Boggy Peak**	**0.95**	**3**	*iP*		**Pn**	**04 19 06.7**	**+0.7**
BPA				*eS*		**Sn**	**04 19 25.6**	**-0.8**
DLPL	**La Plaine**	**0.99**	**140**	*eP*		**Pn**	**04 19 07.2**	**+0.8**
DSHT	**Scott's Head**	**1.01**	**150**	*eP*		**Pn**	**04 19 07.5**	**+1.0**
SVN	**Savane Anatole**	**1.43**	**150**	*eP*		**Pn**	**04 19 10.1**	**-0.2**
PCM	**Pelee Case Pet**	**1.44**	**152**	*eP*		**Pn**	**04 19 09.9**	**-0.4**
PCM	**Pelee Case Pet**	**1.44**	**152**	*eP*		**Pn**	**04 19 10.5**	**+0.2**
CXM	**Morne La Croix**	**1.46**	**151**	*eP*		**Pn**	**04 19 10.4**	**-0.2**
CXM				*eS*		**Sn**	**04 19 35.8**	**+1.3**
BAMF	**Morne Balai**	**1.47**	**150**	*eP*		**Pn**	**04 19 10.5**	**-0.1**
GBMF	**Grand Be**	**1.47**	**151**	*eP*		**Pn**	**04 19 10.3**	**-0.4**
PML	**Morne Lenard**	**1.48**	**152**	*iP*		**Pn**	**04 19 10.3**	**-0.4**
FDF	**Fort de France**	**1.54**	**152**	*iP*		**Pn**	**04 19 10.8**	**-0.4**
FDF				*eS*		**Sn**	**04 19 35.5**	**-0.2**
ANWB	**Willy Bob**	**1.57**	**4**	*iP*		**Pn**	**04 19 11.3**	**-0.2**
ANWB				*eS*		**Sn**	**04 19 34.3**	**-1.9**
SEUS	**St. Eustatius**	**1.73**	**323**	*iP*		**Pn**	**04 19 13.5**	**+0.3**
SEUS				*eS*		**Sn**	**04 19 38.4**	**-0.7**
ZAM	**Aeronautique**	**1.73**	**151**	*eP*		**Pn**	**04 19 13.1**	**-0.1**
TRMF	**Trois Ilets**	**1.75**	**152**	*eP*		**Pn**	**04 19 13.3**	**-0.2**
LPMF	**Morne Lapointe**	**1.76**	**149**	*eP*		**Pn**	**04 19 13.0**	**-0.6**
BIM	**Bigot**	**1.76**	**153**	*eP*		**Pn**	**04 19 13.4**	**-0.2**
BIM				*eS*		**Sn**	**04 19 40.2**	**+0.4**
H05S1	**Guadeloupe/Mar**	**1.95**	**148**	P		**Pn**	**04 19 15.5**	**-0.1**
H05S1				S		**Sn**	**04 19 42.5**	**-0.8**
SABA	**Saba**	**1.99**	**320**	*iP*		**Pn**	**04 19 16.1**	**+0.1**
SMRT	**St. Maarten**	**2.24**	**330**	*iP*		**Pn**	**04 19 18.5**	**-0.4**
SMRT				*eS*		**Sn**	**04 19 48.2**	**-1.1**
SLW	**Petit Monier**	**2.26**	**156**	*eP*		**Pn**	**04 19 18.7**	**-0.5**
MCLT	**Moule a Chique**	**2.55**	**158**	*eP*		**Pn**	**04 19 22.1**	**-0.4**
MCLT				*eS*		**Sn**	**04 19 54.9**	**-0.8**
SVV	**Soufriere Volc**	**2.84**	**166**	*iP*		**Pn**	**04 19 26.8**	**+0.8**
SVB	**Belmont**	**2.88**	**167**	*iP*		**Pn**	**04 19 26.1**	**-0.4**
FCV	**Fort Charlotte**	**2.99**	**168**	*eP*		**Pn**	**04 19 28.1**	**+0.3**
BBGH	**Gun Hill**	**3.71**	**142**	*eP*		**Pn**	**04 19 37.2**	**+0.3**
GRW	**Mount Saint Ca**	**3.92**	**177**	*eP*		**Pn**	**04 19 39.7**	**0.0**
SJG	**San Juan**	**4.53**	**297**	P		**Pn**	**04 19 46.5**	**-0.9**
	6.7nm,0.3s,baz=89,slow=10,SNR=17							
SJG				S		**Sn**	**04 20 42.4**	**+2.2**
	3.5nm,0.3s,baz=131,slow=23,SNR=5.8							
CBRI	**Barrientos, No**	**13.52**	**233**	*eP*		**Pn**	**04 21 44.8**	**-0.3**
GRMC	**Gramalote, San**	**13.53**	**233**	*eP*		**Pn**	**04 21 44.8**	**-0.3**
SJCC	**San Jacinto, C**	**14.33**	**246**	*eP*		**P**	**04 21 56.2**	**-1.1**
RUSC	**La Rusia**	**14.93**	**228**	*eP*		**P**	**04 22 04.6**	**+0.1**
CHIC	**Chingaza**	**16.27**	**227**	*eP*		**Pn**	**04 22 19.3**	**0.0**
CAPC	**Capurgana**	**16.81**	**246**	*eP*		**Pn**	**04 22 24.4**	**-1.0**
PTGA	**Pitinga**	**16.83**	**173**	P		**Pn**	**04 22 24.4**	**-1.2**
	0.5nm,0.3s,baz=356,slow=14,SNR=6.0							
H07N1	**FLORES T-PHASE**	**35.66**	**43**	T		T	05 03 04.8	
	SNR=5.6							
SCHQ	**Schefferville**	**38.84**	**355**	P		**P**	**04 25 49.7**	**+1.5**
	2.7nm,0.6s,baz=173,slow=6.8,SNR=9.7							
TXAR	**Lajitas Array**	**40.50**	**296**	P		**P**	**04 26 02.6**	**+0.3**
	0.2nm,0.5s,baz=123,slow=8.3,SNR=8.1							
CPUP	**Villa Florida**	**42.41**	**174**	P		**P**	**04 26 16.2**	**-1.4**
	1.1nm,0.9s,baz=340,slow=5.0,SNR=3.6							
PDAR	**Pinedale Array**	**48.45**	**313**	P		**P**	**04 27 05.5**	**+0.2**
	0.5nm,0.6s,baz=103,slow=11,SNR=3.9							
H10N3	**ASCENSION HYDR**	**52.60**	**113**	T		T	05 23 30.8	
	baz=296,slow=75,SNR=3.1							
H10N2	**ASCENSION HYDR**	**52.61**	**113**	T		T	05 23 30.9	
	baz=296,slow=75,SNR=2.7							
H10N1	**ASCENSION HYDR**	**52.62**	**113**	T		T	05 23 32.7	
	baz=296,slow=75,SNR=3.4							
H10S3	**ASCENSION HYDR**	**52.97**	**115**	T		T	05 23 59.3	
	baz=295							
H10S1	**ASCENSION HYDR**	**52.98**	**115**	T		T	05 23 58.6	
	baz=295							
H10S2	**ASCENSION HYDR**	**52.99**	**115**	T		T	05 23 59.4	
	baz=295							
YKA	**Yellowknife Ar**	**59.04**	**334**	P		**P**	**04 28 21.2**	**-0.3**
	0.8nm,0.6s,baz=104,slow=7.5,SNR=7.4							
TORD	**Torodi Ar. Bea**	**61.40**	**84**	P		**P**	**04 28 39.0**	**+0.6**
	0.3nm,0.6s,baz=264,slow=6.4,SNR=6.2							
ILAR	**Eielson Array**	**73.44**	**334**	P		**P**	**04 29 53.0**	**-0.2**
	0.5nm,0.5s,baz=95,slow=4.2,SNR=13							
FINES	**FINESS Array B**	**75.05**	**30**	P		**P**	**04 30 03.3**	**+0.8**
	0.8nm,0.5s,baz=262,slow=3.9,SNR=3.8							
BRTR	**Keskin Array B**	**84.04**	**51**	P		**P**	**04 30 52.5**	**+0.9**
	0.3nm,0.5s,baz=273,slow=6.8,SNR=2.8							

*NIED **09** 04:31:00,38°.40N×143°.90E,h5km,Mw4.3 Best double couple: M₀3.20000×10¹⁵ NP1:φs76.00000°,δ47.00000°, λ-10.00000°. NP2:φs172.00000°,δ83.00000°, λ-137.00000°.*
*IDC **09** 04:31:22.7±0.5,38°.23N×144

	comp=Z,11nm,0.8s						
MA2	**Magadan**	**21.66**	**9**	P	**P**	**04 36 15.8**	**+1.0**
	comp=Z,4.8nm,0.4s,baz=215,slow=11,SNR=7.0						
MA2	**Magadan**	**21.66**	**9**	*e*P	**P**	**04 36 15.7**	**+1.0**
MA2				pmax	pmax		
	comp=Z,38nm,0.7s						
MA2	**Magadan**	**21.66**	**9**	*e*P	**P**	**04 36 15.7**	**+1.0**
	comp=Z,38nm,0.7s						
SEY	**Seymchan**	**25.12**	**9**	P	**P**	**04 36 50.6**	**+1.6**
	comp=Z,5.0nm,0.6s,baz=186,slow=7.2,SNR=22						
YAK	**Yakutsk**	**25.34**	**344**	LR	LR	04 47 51.4	
	comp=Z,90nm,19.4s,baz=93,slow=39						
YAK	**Yakutsk**	**25.34**	**344**	*e*P	**P**	**04 36 50.6**	**-0.4**
YAK				*e*		04 37 32.8	
YAK				*e*S	**S**	**04 41 20.2**	**+2.9**
YAK				*e*SS	SnSn	04 42 27.2	+19
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.5s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.2s						
YAK				smax	smax		
	comp=N,58nm,1.8s						
YAK				smax	smax		
	comp=E,38nm,1.7s						
H11N2	**WAKE ISLAND Hy**	**27.07**	**127**	T	T	05 05 42.5	
	baz=317,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.07**	**127**	T	T	05 05 43.3	
	baz=317,slow=74,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**27.08**	**127**	T	T	05 05 43.9	
	baz=317,slow=74,SNR=8.2						
BOD	**Bodaibo**	**27.65**	**325**	*e*P	**P**	**04 37 15.6**	**+3.6**
BOD				pmax	pmax		
	comp=Z,11nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**27.86**	**129**	T	T	05 06 44.3	
	baz=317,slow=76,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**27.86**	**129**	T	T	05 06 38.1	
	baz=317,slow=76,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**27.88**	**129**	T	T	05 06 44.5	
	baz=317,slow=76,SNR=4.8						
ULN	**Ulaanbaatar**	**28.47**	**302**	*i* P	**P**	**04 37 19.1**	**-0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**28.47**	**302**	*e*P	**P**	**04 37 20.1**	**+0.4**
	comp=Z,3.7nm,0.8s						
SONM	**Songino Array**	**28.91**	**301**	P	**P**	**04 37 24.2**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=92,slow=8.2,SNR=9.3						
SONM				LR	LR	04 49 14.4	
	comp=Z,166nm,19.2s,baz=74,slow=37						
ENH	**Enshi**	**29.62**	**265**	*e*P	**P**	**04 37 31.6**	**+1.7**
	comp=Z,12nm,0.7s						
TLY	**Talaya**	**31.17**	**309**	LR	LR	04 51 04.6	
	comp=Z,137nm,18.0s,baz=110,slow=38						
TLY	**Talaya**	**31.17**	**309**	*e*P	**P**	**04 37 47.0**	**+3.7**
TLY				*e*S	**S**	**04 42 51.2**	**+1.8**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,107nm,15.0s						
ZAK	**Zakamensk**	**31.21**	**306**	*e*P	**P**	**04 37 45.6**	**+1.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL	**Bilibino**	**32.17**	**15**	*e*P	**P**	**04 37 50.5**	**-1.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL	**Bilibino**	**32.17**	**15**	*e*P	**P**	**04 37 51.8**	**0.0**
	comp=Z,11nm,1.2s						
TIXI	**Tiksi**	**34.28**	**351**	*i* P	**P**	**04 38 09.5**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.5s						
TIXI	**Tiksi**	**34.28**	**351**	*e*P	**P**	**04 38 09.6**	**-0.7**
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**42.66**	**311**	P	**P**	**04 39 21.3**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=78,slow=6.8,SNR=3.2						
ZALV				LR	LR	04 57 46.4	
	comp=Z,47nm,18.0s,baz=70,slow=37						
NRIK	**Noril'sk**	**43.01**	**334**	LR	LR	04 58 17.5	
	comp=Z,143nm,20.3s,baz=112,slow=38						
CMAR	**Chiang Mai Arr**	**43.93**	**256**	P	**P**	**04 39 31.5**	**0.0**
	comp=Z,0.8nm,0.3s,baz=52,slow=37,SNR=2.7						
CMAR				LR	LR	05 01 28.4	
	comp=Z,41nm,18.4s,baz=95,slow=41						
KDAK	**Kodiak Island**	**44.66**	**43**	*i* P	**P**	**04 39 37.2**	**+0.3**
MKAR	**Makanchi Array**	**45.28**	**301**	P	**P**	**04 39 42.5**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=86,slow=9.8,SNR=14						
KURK	**Kurchatov**	**46.85**	**308**	P	**P**	**04 39 55.0**	**+0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**46.85**	**308**	P	**P**	**04 39 55.0**	**+0.7**
KURBB	**Kurchatov Arra**	**46.92**	**307**	P	**P**	**04 39 55.0**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=81,slow=8.3,SNR=18						
ILAR	**Eielson Array**	**47.21**	**33**	P	**P**	**04 39 57.5**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=260,slow=5.8,SNR=15						
TKM2	**Tokmak 2**	**50.93**	**298**	*e*P	**P**	**04 40 26.9**	**+0.9**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TKM2	**Tokmak 2**	**50.93**	**298**	*e*P	**P**	**04 40 26.9**	**+0.9**
	comp=Z,6.9nm,0.6s						
BVAR	**Borovoye Array**	**51.31**	**312**	P	**P**	**04 40 28.8**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=288,slow=42,SNR=4.4						
BRVK	**Borovoye**	**51.36**	**312**	P	**P**	**04 40 30.1**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**51.36**	**312**	P	**P**	**04 40 30.1**	**+1.2**
	comp=Z,2.0nm,0.4s						
AAK	**Ala-Archa**	**51.79**	**298**	*e*P	**P**	**04 40 32.5**	**+0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
EKS2	**Erkin-Say**	**52.27**	**299**	P	**P**	**04 40 38.8**	**+2.8**
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKS2	**Erkin-Say**	**52.27**	**299**	P	**P**	**04 40 38.8**	**+2.8**
	comp=Z,1.4nm,0.5s						
ARU	**Arti**	**56.82**	**319**	P	**P**	**04 41 04.5**	**-4.2**
	comp=Z,4.0nm,0.3s,baz=273,slow=19,SNR=2.3						
ARU	**Arti**	**56.82**	**319**	*c i* P	**P**	**04 41 08.7**	**+0.1**
ARU						04 43 12.7	
ARU				S	**S**	**04 49 01.9**	**-0.1**
ARU				SS	**SS**	**04 52 50.4**	**+1.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARU	**Arti**	**56.82**	**319**	P	**P**	**04 41 08.8**	**+0.1**
WRAB	**Tennant Creek**	**58.70**	**191**	*i* P	**P**	**04 41 22.6**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s						
WRAB	**Tennant Creek**	**58.70**	**191**	*e*P	**P**	**04 41 23.1**	**+1.0**
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**58.71**	**191**	P	**P**	**04 41 20.5**	**-1.7**
	comp=Z,8.1nm,1.1s,baz=8.2,slow=7.4,SNR=17						
ABKAR	**Akbulak array**	**58.76**	**310**	*e*P	**P**	**04 41 22.7**	**+0.3**
	comp=Z,2.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**58.78**	**201**	P	**P**	**04 41 22.1**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=22,slow=8.1,SNR=9.2						
AKTO	**Aktyubinsk**	**59.41**	**312**	P	**P**	**04 41 27.0**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=74,slow=7.8,SNR=4.8						
YKA	**Yellowknife Ar**	**61.57**	**31**	P	**P**	**04 41 41.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=293,slow=6.8,SNR=8.0						
ASAR	**Alice Springs**	**62.43**	**191**	P	**P**	**04 41 46.6**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=14,slow=6.9,SNR=7.8						
ARCES	**ARCESS Array B**	**63.53**	**340**	P	**P**	**04 41 54.5**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=62,slow=11,SNR=5.4						
ARCES				LR	LR	05 14 23.6	
	comp=Z,48nm,18.8s,baz=54,slow=41						
KLMR	**Klimovskoe**	**63.80**	**328**	*e*P	**P**	**04 41 55.6**	**-0.7**
KLMR				pmax	pmax		
	comp=Z,3.0nm,1.4s						
OBN	**Obninsk**	**68.33**	**324**	*i* P	**P**	**04 42 23.3**	**-2.2**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
FINES	**FINESS Array B**	**68.65**	**333**	P	**P**	**04 42 27.3**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=46,slow=11,SNR=5.3						
FINES				LR	LR	05 15 06.0	
	comp=Z,56nm,18.9s,baz=26,slow=38						
FFC	**Flin Flon**	**71.41**	**34**	*e*P	**P**	**04 42 44.8**	**+0.3**
FFC				pmax	pmax		
	comp=Z,14nm,1.4s						
FFC	**Flin Flon**	**71.41**	**34**	*e*P	**P**	**04 42 44.8**	**+0.3**
	comp=Z,14nm,1.4s						
KIV	**Kislovodsk**	**71.68**	**312**	*e*P	**P**	**04 42 45.7**	**-0.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,52nm,17.0s						
KBZ	**Khabaz**	**71.68**	**312**	P	**P**	**04 42 47.0**	**+0.7**
	comp=Z,2.8nm,1.1s,baz=75,slow=3.1,SNR=3.9						
KBZ	**Khabaz**	**71.68**	**312**	P	**P**	**04 42 47.0**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DLMT	**Dillon**	**71.87**	**46**	*e*P	**P**	**04 42 48.9**	**+1.2**
	comp=Z,3.5nm,1.0s						
BOZ	**Bozeman (W)**	**72.24**	**46**	*e*P	**P**	**04 42 50.9**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BOZ	**Bozeman (W)**	**72.24**	**46**	*e*P	**P**	**04 42 50.9**	**+1.0**
	comp=Z,7.0nm,1.4s						
NVAR	**Mina Array Bea**	**72.45**	**55**	P	**P**	**04 42 52.7**	**+1.4**
	comp=Z,3.5nm,0.8s,baz=290,slow=6.8,SNR=19						
NOA	**NORSAR Array B**	**73.80**	**338**	P	**P**	**04 42 58.4**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=38,slow=5.8,SNR=3.5						
NOA				LR	LR	05 20 52.7	
	comp=Z,50nm,19.5s,baz=20,slow=40						
R11A	**Troy Canyon, C**	**74.23**	**54**	*e*P	**P**	**04 43 02.7**	**+0.9**
	comp=Z,8.2nm,1.4s						
AKASG	**Malin Array Be**	**74.57**	**323**	P	**P**	**04 43 03.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=41,slow=6.1,SNR=11						
AKASG				LR	LR	05 19 27.0	
	comp=Z,54nm,18.2s,baz=270,slow=39						
KIEV	**Kiev**	**74.58**	**323**	*e*P	**P**	**04 43 02.8**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PDAR	**Pinedale Array**	**75.19**	**47**	P	**P**	**04 43 07.8**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=276,slow=1.6,SNR=21						
ULM	**Lac du Bonnet**	**77.19**	**35**	P	**P**	**04 43 18.8**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=222,slow=1.4,SNR=2.8						
BRTR	**Keskin Array B**	**79.59**	**313**	P	**P**	**04 43 32.5**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=116,slow=5.6,SNR=2.8						
ANMO	**Albuquerque**	**82.07**	**51**	P	**P**	**04 43 46.8**	**+1.5**
	comp=Z,2.4nm,0.9s,baz=307,slow=7.5,SNR=8.7						
ANMO	**Albuquerque**	**82.07**	**51**	*d i* P	**P**	**04 43 46.4**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ANMO	**Albuquerque**	**82.07**	**51**	*e*P	**P**	**04 43 46.2**	**+0.9**
	comp=Z,3.2nm,1.0s						
GERES	**GERESS Array B**	**82.72**	**330**	LR	LR	05 24 05.6	
	comp=Z,35nm,18.3s,baz=353,slow=38						
PPT	**Papeete**	**83.31**	**118**	LR	LR	05 23 57.3	
	comp=Z,13nm,18.6s,baz=12,slow=38						
SCHQ	**Schefferville**	**83.45**	**17**	LR	LR	05 25 58.3	
	comp=Z,29nm,18.2s,baz=44,slow=39						
TXAR	**Lajitas Array**	**87.59**	**54**	P	**P**	**04 44 13.4**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=302,slow=3.7,SNR=6.4						
TORD	**Torodi Ar. Bea**	**117.89**	**318**	PKP	**PKPdf**	**04 50 10.5**	**-1.2**
	comp=Z,0.7nm,1.1s,baz=214,slow=9.0,SNR=3.0						

NIED ***09*** *04:33:00,36˚.40N×136˚.80E,h5km,Mw4.0 Best double couple: M₀1.31000×10¹⁵ NP1:φ₈354.00000°,δ68.00000°, λ12.00000°. NP2:φ₈259.00000°,δ79.00000°,λ158.00000°.*

JMA 09 04:33:36.8,36˚.35N×136˚.74E,h7km±1km,M3.7,1C-2D Broadband fault plane solution: P waves. NP1: φ₈168.00000°,δ84.00000°,λ12.00000°. **NP2:**φ₈77.00000°, δ78.00000°,λ174.00000°. **Principal axes:** T Plg13.0000°, Azm33.0000°; N Plg76.0000°, Azm195.0000°; P Plg4.0000°, Azm302.0000°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.34**	**258**	⇓P		Pg	04 33 43.8	+0.4
JKG				S		Sg	04 33 48.8	+0.9
JGN	**Niukaw**	**0.48**	**105**	⇓P		Pg	04 33 45.9	-0.2
JGN				S		Sg	04 33 52.5	+0.1
JTT	**Ttatey**	**0.54**	**62**	⇑P		Pg	04 33 47.4	+0.1
JTT				S		Sg	04 33 55.3	+0.9
MAT	**Matsushiro**	**1.20**	**80**	P		Pn	04 34 00.1	+0.1
MAT				S		Sn	04 34 17.5	+1.0

ISCJB ***09*** *04:38:19.8±0.4,24˚.47N±0˚.02×122˚.03E±0˚.02,h5km±3km Error ellipse: s-maj=3.1km s-min=2.2km az=164.1*
TAP ***09*** *04:38:20.7,24˚.47N×121˚.94E,h20km,ML3.9,B*
JMA ***09*** *04:38:20.4±0.1,24˚.41N×121˚.94E,h21km,M3.3*

ISC 09 04:38:20.8±0.9,24˚.47N±0˚.02×121˚.98E±0˚.02,h18km±3km, n59,σ0s67/96,4C-6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWC	**Suao** baz=333	**0.18**	**320**	⇓*i*P		**Pb**	**04 38 25.4**	**+0.2**
ENA	**Nanau** baz=256	**0.22**	**259**	⇑ *i*P		**Pb**	**04 38 25.6**	**-0.4**
EHP	**Heping Village** baz=233	**0.27**	**234**	*e*P		**Pg**	**04 38 26.8**	**0.0**
EHP				*e*S		**Sb**	**04 38 31.1**	**0.0**
ILA	**Ilan** baz=326	**0.36**	**325**	⇓*i*P		**Pg**	**04 38 28.7**	**+0.3**
ILA				*i* S		**Sg**	**04 38 33.7**	**+0.2**
TWE	**Neicheng** baz=317	**0.38**	**312**	⇓*i*P		**Pg**	**04 38 28.5**	**-0.1**
TWE				S		**Sg**	**04 38 33.1**	**-0.9**
ENTT	**Nioudou** baz=297	**0.41**	**295**	P		**Pg**	**04 38 29.1**	**-0.2**
TWD	**Chiawan** baz=222	**0.52**	**222**	P		**Pb**	**04 38 30.5**	**-0.8**
TWB1	**Santiao Chiao** baz=357	**0.54**	**1**	⇓*i*P		**Pb**	**04 38 31.8**	**+0.2**
TWB1				S		**Sb**	**04 38 38.2**	**-0.8**
NNS	**Nan Shan** baz=268	**0.55**	**267**	⇑*i*P		**Pb**	**04 38 31.3**	**-0.7**
NNS				S		**Sb**	**04 38 38.2**	**-1.3**
HWA	**Hwalien** baz=216	**0.60**	**215**	*e*P		**Pb**	**04 38 32.8**	**+0.1**
NSK	**Sanguang** baz=292	**0.60**	**290**	⇓P		**Pb**	**04 38 32.5**	**-0.2**
NSK				*i* S		**Sb**	**04 38 39.5**	**-1.4**
TWA	**Mucha** baz=333	**0.62**	**325**	P		**Pb**	**04 38 32.9**	**-0.2**
TWA				S		**Sb**	**04 38 41.0**	**-0.5**
NWF	**Wu-fen Shan** baz=337	**0.63**	**343**	P		**Pb**	**04 38 33.3**	**+0.1**
NWF				S		**Sg**	**04 38 42.1**	**+0.5**
TAP1	**Taipei** baz=317	**0.70**	**324**	*e*P		**Pb**	**04 38 34.5**	**0.0**
TAP1				S		**Sb**	**04 38 44.1**	**+0.3**
TAP	**Taipei** baz=317	**0.71**	**323**	*e*P		**Pb**	**04 38 34.8**	**+0.2**
TAP				*e*S		**Sb**	**04 38 44.4**	**+0.4**
WHF	**Hehuan Shan** baz=250	**0.72**	**244**	⇑P		**Pb**	**04 38 34.1**	**-1.0**
WHF				S		**Sb**	**04 38 44.2**	**-0.7**
TWT	**Tachien** baz=250	**0.76**	**254**	⇑P		**Pb**	**04 38 35.4**	**-0.3**
TWT				*e*S		**Sb**	**04 38 45.4**	**-0.3**
TWS1	**Kuangyinshan** baz=316	**0.81**	**321**	P		**Pg**	**04 38 37.0**	**+0.4**
TWS1				S		**Sn**	**04 38 48.6**	**-0.2**
ESL	**Shilin** baz=222	**0.82**	**217**	*e*P		**Pb**	**04 38 36.5**	**0.0**
TWY	**Chenhua** baz=339	**0.87**	**337**	P		**Pb**	**04 38 37.9**	**+0.5**
TWY				S		**Sg**	**04 38 49.7**	**+0.3**
NCU	**National Centr** baz=314	**0.88**	**305**	*e*P		**Pn**	**04 38 38.4**	**+0.2**
NCU				*e*S		**Sn**	**04 38 50.6**	**+0.1**
JYNG	**Yonaguni jima** baz=88	**0.88**	**91**	P		**Pb**	**04 38 37.5**	**0.0**
JYNG				S		**Sg**	**04 38 49.8**	**+0.2**
NSTT	**Nanjuang** baz=282	**0.90**	**280**	P		**Pb**	**04 38 37.8**	**-0.1**
NSTT				*e*S		**Sb**	**04 38 49.0**	**-0.6**
YOJ	**Yonaguni jima** baz=88	**0.94**	**90**	⇓*i*P		**Pb**	**04 38 38.4**	**-0.2**
YOJ				S		**Sb**	**04 38 51.4**	**+0.7**
YOJ	**Yonaguni jima** baz=88	**0.94**	**90**	⇓*i*P		**Pb**	**04 38 38.5**	**0.0**
YOJ				*i* S		**Sg**	**04 38 51.6**	**+0.1**
HSN	**Hsinchu** baz=294	**0.97**	**290**	P		**Pn**	**04 38 39.8**	**+0.3**
HSN				S		**Sg**	**04 38 52.8**	**+0.2**
WDT	**Danda** baz=228	**1.05**	**228**	*e*P		**Pb**	**04 38 40.0**	**-0.6**
WDT				*e*S		**Sg**	**04 38 55.9**	**+0.9**
TWQ1	**Liyutan** baz=265	**1.10**	**264**	*e*P		**Pb**	**04 38 41.8**	**+0.5**
TWQ1				*e*S		**Sb**	**04 38 55.6**	**+0.2**
NSY	**Sanyi** baz=280	**1.11**	**268**	P		**Pg**	**04 38 42.4**	**+0.1**
NSY				*e*S		**Sg**	**04 38 57.0**	**+0.2**
SMLT	**Sun Moon Lake** baz=229	**1.14**	**240**	*e*P		**Pn**	**04 38 41.7**	**-0.3**
PCYT	**Pengchaiyu** baz=6.0	**1.16**	**4**	*e*P		**Pn**	**04 38 41.3**	**-0.8**
TYC	**Yuchr** baz=231	**1.17**	**241**	*e*P		**Pn**	**04 38 42.0**	**-0.2**
TCU	**Taichung** baz=257	**1.23**	**255**	*e*P		**Pb**	**04 38 44.1**	**+0.6**
TCU				*e*S		**Sg**	**04 39 01.8**	**+1.1**
TWF1	**Yuli** baz=221	**1.27**	**209**	*e*P		**Pn**	**04 38 42.8**	**-0.9**
WNT	**Mingjian** baz=243	**1.32**	**244**	*e*P		**Pg**	**04 38 46.1**	**-0.1**
YUS	**Yu-Shan** baz=225	**1.35**	**224**	*e*P		**Pn**	**04 38 45.5**	**+0.3**
YUS				*e*S		**Sg**	**04 39 04.9**	**+0.2**
ALS	**Alishan** baz=215	**1.44**	**229**	*e*P		**Pb**	**04 38 47.2**	**0.0**
CHN5	**Tsauling** baz=236	**1.47**	**234**	P		**Pb**	**04 38 48.2**	**+0.5**
CHN5				*e*S		**Sg**	**04 39 08.6**	**+0.2**
CHKT	**Chengkung** baz=186	**1.47**	**202**	*e*P		**Pn**	**04 38 45.0**	**-1.4**
WGK	**Gukeng** baz=238	**1.51**	**239**	*e*P		**Pb**	**04 38 48.7**	**+0.5**
ELDTW	**Lidau** baz=201	**1.55**	**215**	*e*P		**Pn**	**04 38 47.7**	**+0.1**
IRIF	**Iriomote-Funau**	**1.60**	**94**	P		**Pn**	**04 38 47.7**	**-0.5**
IRIF				S		**Sn**	**04 39 07.7**	**-0.7**
CHN2	**Minshiung** baz=238	**1.66**	**236**	*e*P		**Pb**	**04 38 51.4**	**+0.6**
CHN2				*e*S		**Sg**	**04 39 15.2**	**+0.9**
CHN4	**Tsaushan** baz=231	**1.69**	**229**	P		**Pb**	**04 38 51.3**	**0.0**
CHN4				*e*S		**Sg**	**04 39 15.0**	**-0.2**
STYT	**Tauyuan** baz=220	**1.71**	**221**	*e*P		**Pn**	**04 38 50.9**	**+1.1**
CHY	**Chiayi** baz=238	**1.72**	**236**	*e*P		**Pb**	**04 38 52.4**	**+0.6**
CHY				*e*S		**Sg**	**04 39 16.0**	**-0.2**
HATJ	**Hateruma jima**	**1.72**	**103**	P		**Pn**	**04 38 50.4**	**+0.6**
HATJ				*e*S		**Sn**	**04 39 12.0**	**+0.7**
WTP	**Ta-pu** baz=225	**1.74**	**226**	*e*P		**Pb**	**04 38 52.1**	**-0.1**
TWK	**Hsinying** baz=228	**1.81**	**229**	*e*P		**Pb**	**04 38 52.9**	**-0.6**
TWG	**Pinlang** baz=193	**1.84**	**207**	*e*P		**Pn**	**04 38 52.2**	**+0.7**
CHN1	**Nanshi** baz=228	**1.84**	**226**	*e*P		**Pb**	**04 38 53.4**	**-0.5**
CHN1				*e*S		**Sb**	**04 39 18.5**	**+1.9**
JKRS	**Kuro-shima**	**1.87**	**97**	P		**Pn**	**04 38 52.1**	**+0.3**
JKRS				S		**Sn**	**04 39 14.3**	**-0.7**
SGST	**Jiashian** baz=225	**1.88**	**223**	*e*P		**Pn**	**04 38 53.3**	**+1.3**
SGST				*e*S		**Sb**	**04 39 19.8**	**+2.1**
JIJ	**Ishigaki jima**	**1.98**	**93**	P		**Pn**	**04 38 53.0**	**-0.3**
JIJ				S		**Sn**	**04 39 16.6**	**-1.1**
JISG	**Ishigakijimahi**	**2.13**	**86**	P		**Pn**	**04 38 55.1**	**-0.3**
JISG				S		**Sn**	**04 39 21.2**	**-0.2**
PNG	**Penghu** baz=249	**2.39**	**248**	*e*P		**Pn**	**04 38 58.3**	**-0.7**
WDGT	**Dungji** baz=241	**2.44**	**241**	*e*P		**Pn**	**04 39 00.5**	**+0.8**
LAY	**Lan-yu** baz=189	**2.45**	**189**	*e*P		**Pn**	**04 38 57.9**	**-2.0**
JTJ	**Tarama**	**2.49**	**85**	P		**Pn**	**04 39 01.1**	**+0.7**
JTJ				S		**Sn**	**04 39 30.1**	**-0.2**

TAP 09 04:38:20.3,24˚.63N×121˚.50E,h28km,ML2.2,2D,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou** baz=82	**0.06**	**79**	⇓*i*P		Pb	04 38 25.5	+0.3
NSK	**Sanguang** baz=291	**0.14**	**291**	⇓*i*P		Pb	04 38 25.9	+0.2
TWE	**Neicheng** baz=62	**0.18**	**59**	*e*P		Pb	04 38 25.7	-0.3
NNS	**Nan Shan** baz=209	**0.22**	**211**	*e*P		Pb	04 38 26.9	+0.3
WHF	**Hehuan Shan** baz=203	**0.53**	**204**	*e*P		Pb	04 38 30.2	-1.1

NIED ***09*** *04:47:00,39˚.60N×140˚.60E,h14km,Mw3.3 Best double couple: M₀1.10000×10¹⁴ NP1:φ₈273.00000°,δ28.00000°, λ-26.00000°. NP2:φ₈26.00000°,δ78.00000°, λ-116.00000°.*

IDC ***09*** *04:47:07.3±1.8,39˚.87N×141˚.25E,h0km,mb3.8/5, mb1 3.9/8,mb1mx3.6/46,mbtmp3.8/8,ML3.3/3,Error ellipse: s-maj=44.2km s-min=20.5km az=69.0*

ISCJB ***09*** *04:47:10.0±0.5,39˚.63N±0˚.03×140˚.69E±0˚.04,h10km, mb3.7/5,Error ellipse: s-maj=4.9km s-min=4.1km az=155.2*

JMA ***09*** *04:47:10.7,39˚.61N×140˚.63E,h4km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φ₈214.00000°,δ90.00000°,λ100.00000°. NP2: φ₈304.00000°,δ10.00000°,λ0.00000°. Principal axes: T Plg44.0000°, Azm134.0000°; N Plg10.0000°, Azm34.0000°; P Plg44.0000°, Azm294.0000°;*

JMA Felt III J1.

ISC 09 04:47:09.4±0.9,39˚.67N±0˚.04×140˚.83E±0˚.05,h10km,n22, σ2s22/23,mb3.9/5,3C-2D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.31**	**209**	⇑P		**Pg**	**04 47 15.2**	**-0.5**
JRG				S		**Sg**	**04 47 18.7**	**-1.2**
JOM	**Ohasama**	**0.41**	**119**	⇑P		**Pn**	**04 47 20.6**	**-0.8**
JOM				S		**Sb**	**04 47 27.5**	**+2.4**
JYW	**Yuwa**	**0.50**	**255**	⇓P		**Pg**	**04 47 17.8**	**-1.3**
JYW				S		**Sg**	**04 47 23.2**	**-2.4**
JAH	**Hinai**	**0.54**	**344**	⇓P		**Pn**	**04 47 21.9**	**-1.2**
JAH				S		**Sn**	**04 47 29.6**	**-2.6**
JMK	**Ichinoseki**	**0.78**	**157**	⇑P		**Pn**	**04 47 25.3**	**-1.2**
JMK				S		**Sb**	**04 47 35.9**	**+0.2**
JYK	**Kaneyama**	**0.84**	**206**	P		**Pg**	**04 47 24.0**	**-1.5**
MAT	**Matsushiro**	**3.75**	**214**	P		**Pn**	**04 48 08.3**	**+1.0**
MAT				S		**Sn**	**04 48 53.3**	**+1.8**
MJAR	**Matsushi

baz=318,slow=75,SNR=35
H11N1 WAKE ISLAND Hy 29.96 124 T T 05 24 02.3
baz=318,slow=75,SNR=35
H11N3 WAKE ISLAND Hy 29.97 124 T T 05 24 03.0
baz=318,slow=75,SNR=36
H11S1 WAKE ISLAND Hy 30.73 126 T T 05 24 56.8
baz=319,slow=76,SNR=4.8
H11S3 WAKE ISLAND Hy 30.73 126 T T 05 24 55.8
baz=319,slow=76,SNR=5.0
H11S2 WAKE ISLAND Hy 30.75 126 T T 05 24 58.7
baz=319,slow=76,SNR=3.6
ZALV Zalesovo Beam 39.83 310 P **P** **04 54 42.9 +0.2**
0.5nm,0.3s,baz=90,slow=10,SNR=3.6
MKAR Makanchi Array 42.37 300 P **P** **04 55 04.8 +1.0**
0.1nm,0.3s,baz=80,slow=10,SNR=1.9
KURBB Kurchatov Arra 44.05 306 P **P** **04 55 18.1 +0.9**
2.1nm,0.7s,baz=82,slow=8.5
WRA Warramunga Arr 59.61 187 P **P** **04 57 14.1 +0.6**
0.9nm,0.7s,baz=4.2,slow=7.0,SNR=7.8
ASAR Alice Springs 63.34 187 P **P** **04 57 40.0 +1.2**
0.6nm,0.7s,baz=10,slow=7.6,SNR=6.2

IDC 09 04:58:59.4±1.9, 8°19S×129°61E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.3/33, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=57.8km s-min=24.0km az=79.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.58**	**201**	Pn		Pn	05 01 31.6	-0.8
	0.1nm,0.3s,baz=38,slow=12,SNR=4.8							
FITZ				Sn		Sn	05 03 32.8	+1.1
	0.1nm,0.3s,baz=196,slow=20,SNR=5.1							
WRA	**Warramunga Arr**	**12.55**	**159**	Pn		Pn	05 01 59.3	-0.1
	0.2nm,0.3s,baz=339,slow=13,SNR=7.5							
WRA				Sn		Sn	05 04 22.5	+2.5
	0.2nm,0.3s,baz=336,slow=23,SNR=5.6							
ASAR	**Alice Springs**	**15.93**	**166**	Pn		Pn	05 02 45.6	+0.5
	0.2nm,0.3s,baz=342,slow=9.1,SNR=7.4							
MKAR	**Makanchi Array**	**69.01**	**327**	P		P	05 10 06.9	+0.1
	0.1nm,0.4s,baz=133,slow=6.1,SNR=1.5							

JMA 09 04:59:14.7±0.2, 38°11N×144°28E, h43km, M4.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**2.26**	**296**	P		Pn	04 59 50.9	+1.3
OFUJ				S		Sn	05 00 17.8	+1.5
JIO	**Ouri**	**2.33**	**279**	P		Pn	04 59 51.8	+1.3
JIO				S		Sn	05 00 19.3	+1.4
MIYJ	**Miyakonagasawa**	**2.42**	**308**	P		Pn	04 59 52.7	+1.0
MIYJ				S		Sn	05 00 20.8	+0.8
JMK	**Ichinoseki**	**2.54**	**290**	P		Pn	04 59 55.1	+1.7
JMK				S	e	Sn	05 00 25.4	+2.3
JOM	**Ohasama**	**2.70**	**301**	P		Pn	04 59 57.3	+1.7
JOM				S		Sn	05 00 29.0	+1.9
JANG	**Nango**	**3.12**	**317**	P		Pn	05 00 02.4	+1.1
JANG				S		Sn	05 00 37.9	+0.6
JFT	**Otama**	**3.18**	**260**	P		Pn	05 00 04.0	+1.8
JFT				S		Sn	05 00 40.5	+1.6
JYK	**Kaneyama**	**3.18**	**286**	P		Pn	05 00 04.5	+2.3
JAW	**Awa shima**	**3.97**	**277**	P		Pn	05 00 15.6	+2.5
JCH	**Churui**	**4.55**	**351**	P		Pn	05 00 21.0	0.0
JRY	**Ryogami san**	**4.78**	**246**	P		Pn	05 00 25.0	+0.8
MAT	**Matsushiro**	**5.09**	**254**	P		Pn	05 00 30.8	+2.4
MAT				S	e	Sn	05 01 26.2	+0.3

*NIED **09** 05:27:00, 37°10N×142°50E, h17km, Mw3.6 Best double couple: M₀2.40000×10¹⁴ NP1:φ₀124.00000°, δ11.00000°, λ6.00000°. NP2:φ₀29.00000°, δ89.00000°, λ101.00000°.*
*ISCJB **09** 05:27:10.7±0.8, 37°11N±0°06×142°55E±0°07, h9km, mb3.7/5, Error ellipse: s-maj=9.1km s-min=7.9km az=21.7*
*IDC **09** 05:27:11.2±1.5, 37°13N×142°58E, h0km, mb3.7/5, mb1 3.7/9, mb1mx3.5/41, mbtmp3.7/9, ML3.5/3, MS2.5/4, Ms1 2.5/4, ms1mx2.3/37, Error ellipse: s-maj=38.4km s-min=19.9km az=73.0*
*JMA **09** 05:27:12.6±0.4, 37°10N×142°47E, h20km, M3.8*
ISC 09 05:27:13.1±1.2, 37°14N±0°08×142°44E±0°08, h9km, n23, σ0s86/18, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**1.27**	**281**	P		**Pn**	**05 27 36.2**	**-0.8**
JFK				S		**Sb**	**05 27 53.0**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.31**	**269**	P		**Pn**	**05 27 36.6**	**-1.0**
JMM	**Marumori**	**1.50**	**299**	S		**Sn**	**05 27 59.1**	**-0.6**
JIO	**Ouri**	**1.57**	**327**	P		**Pn**	**05 27 41.1**	**0.0**
JIO				S		**Sb**	**05 28 02.5**	**+0.2**
JOU	**Okura**	**1.86**	**312**	P		**Pn**	**05 27 45.2**	**0.0**
MJAR	**Matsushiro Arr**	**3.44**	**261**	Pn		**Pn**	**05 28 07.9**	**+1.0**
	5.7nm,0.3s,baz=90,slow=15,SNR=22							
MJAR				LR		LR	05 29 18.8	
	comp=Z,18nm,21.8s,baz=90,slow=36							
MAT	**Matsushiro**	**3.44**	**261**	P		**Pn**	**05 28 08.2**	**+1.2**
MAT				S		**Sn**	**05 28 49.3**	**+1.4**
ASAJ	**Asahikawa**	**6.97**	**1**	Pn		**Pn**	**05 28 55.5**	**+0.1**
	0.9nm,0.3s,baz=1.7,slow=9.6,SNR=3.7							
JCJ	**Chichijima**	**10.02**	**181**	LR		LR	05 35 26.0	
	comp=Z,40nm,19.9s,baz=310,slow=49							
USRK	**Ussuriysk Ar.**	**10.61**	**315**	Pn		**Pn**	**05 29 46.0**	**+0.8**
	0.1nm,0.3s,baz=145,slow=45,SNR=2.2							
KSRS	**Korea Array**	**11.57**	**276**	Pn		**Pn**	**05 29 59.8**	**+1.4**
	0.2nm,0.3s,baz=87,slow=13,SNR=4.6							
KSRS				LR		LR	05 34 24.7	
	comp=Z,37nm,18.7s,baz=106,slow=37							
KLR	**Kul'dur**	**14.36**	**331**	LR		LR	05 35 47.6	
	comp=Z,24nm,20.9s,baz=128,slow=36							
H11N2	**WAKE ISLAND Hy 27.51**	**122**		T		T	06 01 49.5	
	baz=314,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy 27.51**	**122**		T		T	06 01 51.6	
	baz=314,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy 27.52**	**122**		T		T	06 01 51.4	
	baz=314,slow=75,SNR=18							
H11S1	**WAKE ISLAND Hy 28.24**	**124**		T		T	06 02 46.3	
	baz=316,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy 28.24**	**125**		T		T	06 02 45.4	
	baz=316,slow=76,SNR=7.1							
H11S2	**WAKE ISLAND Hy 28.25**	**125**		T		T	06 02 52.4	
	baz=316,slow=76,SNR=6.9							
SONM	**Songino Array**	**28.41**	**304**	P		**P**	**05 33 08.1**	**+0.2**
	0.6nm,0.6s,baz=91,slow=9.8,SNR=4.4							
NRIK	**Noril'sk**	**42.51**	**335**	P		**P**	**05 35 16.2**	**-0.3**
	2.8nm,0.6s,baz=51,slow=6.5,SNR=2.7							
MKAR	**Makanchi Array**	**44.76**	**302**	P		**P**	**05 35 26.8**	**0.0**
	0.2nm,0.4s,baz=86,slow=12,SNR=3.2							
WRA	**Warramunga Arr**	**57.29**	**189**	P		**P**	**05 37 00.0**	**-1.2**
	0.4nm,0.4s,baz=6.5,slow=6.8,SNR=6.8							
ASAR	**Alice Springs**	**61.01**	**189**	P		**P**	**05 37 27.3**	**+0.3**
	0.2nm,0.4s,baz=0.0,slow=6.9,SNR=3.5							

IDC 09 05:32:23.8±4.0, 3°73S×154°24E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/27, mbtmp3.6/2, Error ellipse: s-maj=191.3km s-min=49.8km az=119.0, North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.22**	**229**	P		P	05 37 51.9	+0.3
	0.5nm,0.3s,baz=55,slow=10,SNR=4.7							
ASAR	**Alice Springs**	**27.90**	**223**	P		P	05 38 15.3	-0.4
	0.2nm,0.4s,baz=51,slow=9.1,SNR=4.0							
TORD	**Torodi Ar. Bea**	**151.30**	**291**	PKPbc		PKPbc	05 52 20.4	-0.1
	0.4nm,0.7s,baz=20,slow=1.7,SNR=2.2							

IDC 09 06:01:28.9±1.4, 3°29S×128°15E, h0km, mb3.7/3, mb1 3.9/6, mb1mx3.6/30, mbtmp3.8/6, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/35, Error ellipse: s-maj=44.1km s-min=22.7km az=78.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**8.55**	**258**	Pn		Pn	06 03 33.0	-1.0
	2.4nm,0.3s,baz=83,slow=7.9,SNR=11							
FITZ	**Fitzroy Crossi**	**14.93**	**189**	Pn		Pn	06 05 00.8	-0.5
	0.1nm,0.3s,baz=11,slow=11,SNR=2.6							
WRA	**Warramunga Arr**	**17.62**	**160**	P		Pn	06 05 36.0	0.0
	0.1nm,0.3s,baz=338,slow=12,SNR=6.2							
ASAR	**Alice Springs**	**21.01**	**165**	P		P	06 06 14.0	-0.2
	4.7nm,0.9s,baz=346,slow=12,SNR=35							

KSRS	**Korea Array**	**40.53**	**360**	P		P	06 09 08.3	-1.5
	0.8nm,0.6s,baz=178,slow=9.3,SNR=4.2							
KSRS				LR		LR	06 23 26.5	
	comp=Z,24nm,20.9s,baz=174,slow=32							
MKAR	**Makanchi Array**	**64.13**	**327**	P		P	06 12 06.7	+1.6
	0.6nm,0.9s,baz=122,slow=5.9,SNR=3.7							

IDC 09 06:08:00.6±1.8, 60°59S×27°75W, h0km, mb3.5/1, mb1 3.5/1, mb1mx3.3/27, mbtmp3.5/1, Error ellipse: s-maj=103.2km s-min=78.2km az=133.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**77.17**	**29**	P		P	06 19 56.1	+0.1
	0.2nm,0.4s,baz=198,slow=6.4,SNR=4.7							
SONM	**Songino Array**	**150.96**	**95**	PKPbc		PKPbc	06 27 54.0	-0.3
	0.3nm,0.4s,baz=224,slow=4.0,SNR=3.1							
ILAR	**Eielson Array**	**152.72**	**305**	PKPbc		PKPbc	06 27 57.5	-0.1
	0.5nm,0.6s,baz=109,slow=4.4,SNR=7.3							

*JMA **09** 06:13:35.9±0.4, 36°01N×129°62E, h10km, M2.9*
*ISCJB **09** 06:13:37.9±1.3, 35°93N±0°05×129°68E±0°07, h12km±10km, Error ellipse: s-maj=9.6km s-min=8.4km az=137.3*
*KMA **09** 06:13:37.4±0.7, 35°91N×129°71E, h8km±7km, Error ellipse: s-maj=5.7km s-min=3.0km az=116.0*
ISC 09 06:13:37.4±1.9, 35°95N±0°04×129°64E±0°07, h12km±14km, n10, σ0s56/15, 6C-3D, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSPHA	**Pohang**	**0.33**	**317**	⇑P		**Pb**	**06 13 45.6**	**+0.4**
	SNR=19							
KSPHA				⇑S		**Sb**	**06 13 50.9**	**+0.5**
KSYOC	**YEONGCHEON**	**0.56**	**272**	⇓P		**Pb**	**06 13 49.5**	**+0.3**
	SNR=12							
KSYOC				⇓S		**Sb**	**06 13 58.0**	**+0.8**
KSDAG	**Daegu**	**0.63**	**253**	⇑P		**Pb**	**06 13 50.5**	**0.0**
	SNR=40							
KSDAG				⇑S		**Sb**	**06 13 59.4**	**+0.1**
KSADO	**Andong**	**0.72**	**309**	⇑P		**Pb**	**06 13 52.3**	**+0.4**
	SNR=18							
KSULJ	**Uljin**	**0.77**	**346**	P		**Pn**	**06 13 53.0**	**-1.1**
	SNR=26							
KSBUS	**Busan**	**0.82**	**212**	⇑P		**Pg**	**06 13 53.1**	**-0.2**
	SNR=12							
KSCPR	**CHUPUNGNYEONG**	**1.38**	**282**	⇓P		**Pg**	**06 14 04.0**	**+0.1**
	SNR=28							
JTU	**Tsushima**	**1.44**	**188**	P		**Pn**	**06 14 03.0**	**-0.3**
JTU				eS		**Sn**	**06 14 21.5**	**-0.6**
JTY	**Toyota**	**2.05**	**145**	P		**Pn**	**06 14 11.9**	**+0.2**
JTY				eS		**Sn**	**06 14 37.7**	**+0.5**
JII	**Iki**	**2.15**	**178**	S		**Sb**	**06 14 42.9**	**-0.1**

*ISCJB **09** 06:15:52.6±0.3, 6°29N±0°03×73°72W±0°03, h87km±4km, mb3.7/9, Error ellipse: s-maj=5.9km s-min=3.5km az=30.2*
*IDC **09** 06:15:53.2±0.5, 6°31N×73°71W, h74km±5km, mb3.6/8, mb1 3.9/11, mb1mx3.6/36, mbtmp4.0/11, MS3.1/1, Ms1 3.1/1, ms1mx2.4/24, Error ellipse: s-maj=16.1km s-min=6.8km az=118.0*
*FUNV **09** 06:15:53.2, 6°25N×73°72W, h12km, MW3.8*
*RSNC **09** 06:15:54.7±0.9, 6°27N×73°87W, h47km±17km, ML4.0*
ISC 09 06:15:53.2±0.6, 6°29N±0°03×73°71W±0°04, h76km±5km, n55, σ1s81/83, mb4.0/9, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.60**	**61**	*i* P		**Pn**	**06 16 09.0**	**+1.2**
BARC				eS		**Sn**	**06 16 20.1**	**+1.4**
BARC				*i*			06 16 21.0	
	comp=Z,7μm,0.2s							
RUSC	**La Rusia**	**0.74**	**122**	*e*P		**Pn**	**06 16 10.2**	**+0.7**
RUSC				eS		**Sn**	**06 16 22.8**	**+1.2**
RUSC				*i*			06 16 23.4	
	comp=Z,2μm,0.3s							
BRRC	**Barranca, Sant**	**0.81**	**0**	⇓*i* P		**Pn**	**06 16 09.9**	**+0.1**
BRRC				*i*			06 16 10.2	
	comp=Z,4μm,0.2s							
BRRC				eS		**Sn**	**06 16 21.3**	**-0.8**
NORC	**Norcasia**	**1.36**	**238**	*e*P		**Pn**	**06 16 14.7**	**-1.9**
NORC				eS		**Sn**	**06 16 29.8**	**-4.5**
PAMC	**Pamplona, Colo**	**1.45**	**44**	*e*P		**Pn**	**06 16 20.0**	**+1.9**
PAMC				eS		**Sn**	**06 16 39.9**	**+3.0**
ROSC	**El Rosal**	**1.56**	**203**	P		**Pn**	**06 16 20.4**	**+0.8**
	comp=Z,212nm,0.3s,baz=122,slow=3.6,SNR=361							
ROSC				S		**Sn**	**06 16 40.0**	**+0.6**
	comp=Z,214nm,0.3s,baz=199,slow=23,SNR=6.1							
CHIC	**Chingaza**	**1.65**	**181**	*e*P		**Pn**	**06 16 20.9**	**+0.1**
CHIC				eS		**Sn**	**06 16 40.6**	**-1.0**
GRMC	**Gramalote, San**	**1.68**	**32**	*e*P		**Pn**	**06 16 24.3**	**+3.4**
GRMC				*i*			06 16 49.7	
	comp=Z,2μm,0.3s							
CBRI	**Barrientos, No**	**1.68**	**33**	*i* P		**Pn**	**06 16 22.6**	**+1.6**
CBRI				eS		**Sn**	**06 16 45.2**	**+3.3**
GUEC	**Guerrero, Nort**	**1.72**	**27**	*e*P		**Pn**	**06 16 23.0**	**+1.4**
GUEC				*i*			06 16 23.4	
OCAC	**Ocana**	**1.97**	**11**	*i* P		**Pn**	**06 16 25.7**	**+0.9**
OCAC				*i*			06 16 27.9	
	comp=Z,1μm,0.4s							
OCAC				eS		**Sn**	**06 16 50.4**	**+1.6**
CAPV	**Capacho**	**2.09**	**42**	*e*P		**Pn**	**06 16 29.4**	**+3.0**
CAPV				eS		**Sn**	**06 16 54.2**	**+2.5**
VILC	**Villavicencio,**	**2.17**	**180**	*e*P		**Pn**	**06 16 28.5**	**+1.1**
VILC				*i*			06 17 04.3	
	comp=Z,371nm,0.4s							
TOLC	**Tolima**	**2.33**	**223**	*e*P		**Pn**	**06 16 29.8**	**0.0**
TOLC				eS		**Sn**	**06 16 55.4**	**-2.3**
PRAC	**Prado**	**2.82**	**205**	*e*P		**Pn**	**06 16 35.1**	**-1.0**
SJAC	**San Juan de Ar**	**3.01**	**185**	*e*P		**Pn**	**06 16 39.0**	**+0.2**
SJAC				*i*			06 17 26.0	
	comp=Z,756nm,0.5s							
MOTC	**Monteria, Cord**	**3.14**	**322**	*e*P		**Pn**	**06 16 39.7**	**-0.7**
MOTC				*i*			06 17 35.0	
	comp=Z,226nm,0.6s							
VIGV	**El Vigia**	**3.44**	**42**	*e*P		**Pn**	**06 16 46.6**	**+2.1**
VIGV				eS		**Sn**	**06 17 25.0**	**+0.8**
SOCV	**Socops**	**3.46**	**55**	*e*P		**Pn**	**06 16 46.6**	**+1.9**
SOCV				eS		**Sn**	**06 17 25.8**	**+1.2**
SJCC	**San Jacinto, C**	**3.86**	**338**	*e*P		**Pn**	**06 16 50.2**	**-0.2**
SJCC				eS		**Sn**	**06 17 34.6**	**0.0**
SJCC				*i*			06 17 38.7	
	comp=Z,148nm,0.5s							
SDV	**Santo Domingo**	**3.99**	**50**	P		**Pn**	**06 16 51.8**	**-0.4**
	comp=Z,25nm,0.3s,baz=254,slow=19,SNR=18							
SDV				S		**Sn**	**06 17 39.1**	**+1.2**
	comp=Z,88nm,0.3s,baz=30,slow=15,SNR=23							
SDV	**Santo Domingo**	**3.99**	**50**	*e*P		**Pn**	**06 16 54.6**	**+2.3**
SDV				*i*			06 17 42.7	
	comp=Z,247nm,0.5s							
SDV	**Santo Domingo**	**3.99**	**50**	*e*P		**Pn**	**06 16 54.3**	**+2.1**
SDV				eS		**Sn**	**06 17 38.5**	**+0.6**
ELOV	**Elorza**	**4.26**	**80**	*e*P		**Pn**	**06 16 57.4**	**+1.7**
ELOV				eS		**Sn**	**06 17 43.9**	**-0.3**
VIRV	**Villa del Rosa**	**4.38**	**17**	*e*S		**Sn**	**06 17 47.0**	**-0.1**
QARV	**Quebrada Arrib**	**5.01**	**39**	*e*S		**Sn**	**06 18 02.2**	**-0.3**
SANV	**Sanarito**	**5.22**	**52**	*e*P		**Pn**	**06 17 09.8**	**+0.9**
CURV	**Curarigua**	**5.24**	**45**	*e*P		**Pn**	**06 17 10.4**	**+1.3**
DABV	**Dabajuro**	**5.51**	**33**	*e*P		**Pn**	**06 17 14.0**	**+1.2**
TEPV	**Terepaima**	**5.77**	**51**	*e*P		**Pn**	**06 17 17.3**	**+0.9**
TEPV				eS		**Sn**	**06 18 20.1**	**-1.1**
SIQV	**Siquisique**	**5.80**	**41**	*e*P		**Pn**	**06 17 17.0**	**+0.3**
PAYV	**Puerto Ayacuch**	**6.09**	**98**	*e*P		**Pn**	**06 17 21.4**	**+0.8**
BAUV	**El Baul**	**6.21**	**65**	⇓*i* P		**Pn**	**06 17 22.0**	**-0.3**
BAUV				eS		**Sn**	**06 18 29.4**	**-2.5**
MAPV	**Macapo**	**6.28**	**56**	*e*P		**Pn**	**06 17 24.4**	**+1.1**
MAPV				eS		**Sn**	**06 18 31.8**	**-1.9**
MONV	**Montecano**	**6.73**	**33**	*e*P		**Pn**	**06 17 30.0**	**+0.6**
TURV	**Turiamo**	**7.13**	**54**	*e*P		**Pn**	**06 17 35.4**	**+0.5**
TURV				eS		**Sn**	**06 18 50.8**	**-3.6**
MERV	**Las Mercedes**	**7.91**	**68**	*e*P		**Pn**	**06 17 45.4**	**-0.2**
MERV				eS		**Sn**	**06 19 09.3**	**-4.4**
BIRV	**Birongo**	**8.46**	**60**	*e*P		**Pn**	**06 17 52.9**	**-0.1**
BIRV				eS		**Sn**	**06 19 21.8**	**-5.1**
CUPV	**Cœpira**	**8.69**	**64**	*e*P		**Pn**	**06 17 56.0**	**-0.3**
CUPV				eS		**Sn**	**06 19 27.8**	**-5.0**
PCRV	**Puerto La Cruz**	**9.78**	**66**	P		**Pn**	**06 18 11.1**	**0.0**
	comp=Z,1.8nm,0.3s,baz=320,slow=3.0,SNR=13							
SJG	**San Juan**	**13.87**	**31**	P		**Pn**	**06 19 04.8**	**-1.7**
	comp=Z,4.3nm,0.3s,baz=222,slow=13,SNR=11							
PTGA	**Pitinga**	**15.39**	**116**	P		**Pn**	**06 19 24.2**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=301,slow=10,SNR=6.1							
NNA	**Nana**	**18.43**	**190**	LR		LR	06 28 05.3	
	comp=Z,58nm,21.1s,baz=318,slow=40							
LPAZ	**La Paz**	**23.11**	**166**	P		**P**	**06 20 54.3**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=267,slow=3.1,SNR=7.1							
LPAZ				pP		**pP**	**06 21 10.8**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=13,slow=10,SNR=3.2							
SIV	**San Ignacio**	**25.43**	**151**	P		P	06 21 22.2	+8.1
	comp=Z,4.3nm,0.8s,baz=283,slow=1.3,SNR=6.4							
TXAR	**Lajitas Array**	**36.38**	**313**	P		**P**	**06 22 51.8**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=110,slow=11,SNR=3.4							
TXAR				pP		**pP**	**06 23 08.3**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=126,slow=7.7,SNR=2.9							
TXAR				PcP		**PcP**	**06 25 14.9**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=141,slow=5.8,SNR=3.2							
YKA	**Yellowknife Ar**	**63.56**	**340**	P		**P**	**06 26 15.5**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=134,slow=6.5,SNR=24							
YKA				pP		**pP**	**06 26 34.3**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=126,slow=7.3,SNR=5.8							
TORD	**Torodi Ar. Bea**	**74.42**	**78**	P		**P**	**06 27 22.7**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=293,slow=6.3,SNR=4.0							
NOA	**NORSAR Array B**	**82.07**	**29**	P		**P**	**06 28 07.0**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=268,slow=5.3,SNR=4.5							
ARCES	**ARCESS Array B**	**87.37**	**20**	P		**P**	**06 28 32.5**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=263,slow=4.9,SNR=6.8							
FINES	**FINESS Array B**	**89.18**	**28**	P		**P**	**06 28 40.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=191,slow=29,SNR=3.5							
AKASG	**Malin Array Be**	**93.30**	**38**	P		**P**	**06 29 00.2**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=307,slow=32,SNR=5.4							
MKAR	**Makanchi Array**	**123.01**	**19**	PKP		**PKPdf**	**06 34 40.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=320,slow=3.8,SNR=3.2							
ASAR	**Alice Springs**	**148.33**	**234**	PKPbc		**PKPbc**	**06 35 30.4**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=113,slow=3.7,SNR=8.6							
ASAR				pPKPbc		**pPKPbc**	**06 35 51.8**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=120,slow=3.6,SNR=2.2							
WRA	**Warramunga Arr**	**149.57**	**241**	PKPbc		**PKPbc**	**06 35 32.6**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=107,slow=2.9,SNR=16							
WRA				pPKPbc		**pPKPbc**	**06 35 54.2**	**-2.2**
	comp=Z,0.5nm,0.5s,baz=107,slow=3.1,SNR=2.6							

IDC 09 06:16:16.6±6.0, 3°72S×129°16E, h170km±75km, mb3.1/2, mb1 3.3/4, mb1mx3.7/32, mbtmp3.7/4, Error ellipse: s-maj=103.9km s-min=18.4km az=82.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**3.53**	**37**	P		Pn	06 17 12.5	+0.9
SIJI				S		Sn	06 17 54.3	0.0
WRA	**Warramunga Arr**	**16.89**	**163**	P		P	06 20 01.0	-1.5
	0.3nm,0.3s,baz=341,slow=12,SNR=10.0							
ASAR	**Alice Springs**	**20.35**	**167**	P		P	06 20 40.5	+0.5
	2.1nm,0.4s,baz=348,slow=12,SNR=29							
MKAR	**Makanchi Array**	**65.05**	**326**	P		P	06 26 38.8	0.0
	0.1nm,0.5s,baz=116,slow=10,SNR=2.3							

*SOME **09** 06:16:31.0, 44°77N×81°87E, h0km*
*NNC **09** 06:16:33.4±1.4, 44°88N×81°83E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=22.3km s-min=6.6km az=121.0*
ISC 09 06:16:31.2±1.8, 44°75N±0°06×82°15E±0°08, h0km±18km, n17, σ1s36/33, 6C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KTMS	**Ketmen**	**1.84**	**226**	*e*P		**Pn**	**06 17 03.3**	**-0.9**
	8.2nm,0.3s							
KTMS				eS		**Sn**	**06 17 26.8**	**-1.4**
	96nm,0.4s							
MK31	**Makanchi Array**	**2.05**	**3**	Pn		**Pn**	**06 17 07.1**	**+0.2**
	7.3nm,0.4s,baz=196,slow=13,SNR=188							
MK31				⇑Sn		**Sb**	**06 17 34.0**	**-1.2**
	8.2nm,0.3s,baz=189,slow=28,SNR=22							
KAPS	**Kapalarasan**	**2.05**	**286**	*e*P		**Pn**	**06 17 06.6**	**-0.5**
	11nm,0.2s							
KAPS				eS		**Sn**	**06 17 33.0**	**-0.4**
	16nm,0.3s							
SHLS	**Shalkode**	**2.29**	**227**	*e*P		**Pn**	**06 17 10.5**	**+0.2**
	19nm,0.2s							
SHLS				eS		**Sn**	**06 17 40.2**	**+0.8**
	55nm,0.4s							
PDGK	**Podgornoye**	**2.39**	**234**	⇑Pn		**Pn**	**06 17 11.8**	**+0.2**
	11nm,0.6s							
PDGK				⇑Sn		**Sn**	**06 17 43.2**	**+1.7**
	14nm,0.5s							
MNBS	**Baschi**	**2.77**	**257**	*e*P		**Pn**	**06 17 18.8**	**+1.8**
	0.1nm,0.1s							
MNBS				eS		**Sn**	**

TJIG	**Tijuana**	**0.59**	**231**	*e*P	**Pb**	**06 25 32.4**	**+0.2**
CBX	**Cerro Bola**	**0.67**	**223**	*e*P	**Pg**	**06 25 34.0**	**+0.3**
CBX				*e*S	**Sg**	**06 25 43.0**	**+0.3**
SDRC	**San Diego Road**	**0.69**	**264**	*e*P	**Pb**	**06 25 34.0**	**+0.1**
CPBX	**Cerro Prieto**	**0.80**	**119**	*e*P	**Pn**	**06 25 36.8**	**0.0**
CPBX				*e*S	**Sn**	**06 25 47.8**	**-0.4**
CPBX				AML	AML	06 25 49.9	
	comp=E,679nm,0.8s						
CPBX				⇑*e*		06 25 49.9	
CPBX				⇓*e*		06 25 50.5	
CPBX				AML	AML	06 25 50.5	
	comp=N,982nm,0.2s						
109C	**Camp Elliot, M**	**0.82**	**276**	P	**Pb**	**06 25 36.4**	**+0.1**
	baz=96,SNR=15						
109C				S	**Sb**	**06 25 46.8**	**-0.2**
	baz=96						
TPFO	**Pinon Flats**	**0.84**	**341**	P	**Pg**	**06 25 37.2**	**+0.2**
	baz=163,SNR=21						
TPFO				S	**Sb**	**06 25 48.0**	**+0.3**
	baz=163						
PFO	**Pinyon Flats O**	**0.85**	**341**	P	**Pg**	**06 25 37.3**	**+0.1**
	baz=163						
PFO				S	**Sb**	**06 25 48.1**	**+0.3**
	baz=163						
BC3	**Big Chuckawall**	**1.02**	**34**	P	**Pb**	**06 25 39.7**	**0.0**
	baz=214,SNR=9.5						
BC3				S	**Sb**	**06 25 52.3**	**-0.4**
	baz=214						
GLA	**Glamis**	**1.12**	**77**	P	**Pn**	**06 25 41.0**	**-0.3**
	baz=257,SNR=16						
GLA				S	**Sb**	**06 25 54.7**	**-0.9**
	baz=257						
PBX	**Punta Banda**	**1.18**	**206**	*e*P	**Pb**	**06 25 42.5**	**+0.2**
MURC	**Murrieta**	**1.19**	**312**	P	**Pn**	**06 25 42.3**	**0.0**
	baz=132,SNR=11						
MURC				S	**Sn**	**06 25 58.7**	**+0.6**
	baz=132						
BELC	**Belle Mtn. Jos**	**1.20**	**5**	P	**Pn**	**06 25 42.3**	**-0.1**
	baz=186,SNR=12						
ECNX	**Esteban Cantu**	**1.21**	**199**	⇑*e*P	**Pb**	**06 25 43.1**	**+0.1**
ZAX	**El Zacaton**	**1.29**	**185**	*e*P	**Pb**	**06 25 44.4**	**0.0**
IRM	**Iron Mountain**	**1.58**	**31**	P	**Pn**	**06 25 47.2**	**-0.4**
	baz=212						
BBRC	**Big Bear Solar**	**1.59**	**336**	Pb	**Pb**	**06 25 49.0**	**-0.5**
	baz=156,SNR=8.4						
BBRC				Sb	**Sg**	**06 26 11.3**	**-0.8**
	baz=156						
ECBX	**El Chinero**	**1.61**	**145**	*e*P	**Pb**	**06 25 50.2**	**+0.5**
BFSC	**Mount Baldy Ra**	**1.92**	**319**	Sb	**Sb**	**06 26 20.0**	**+1.4**
	baz=139						

*ISK **09** 06:52:41.3, 39˚.20N×32˚.24E, h7km, MD2.9*
*CSEM **09** 06:52:42.2±0.2, 39˚.18N×32˚.26E, h5km, MD2.9, Error ellipse: s-maj=5.9km s-min=4.8km az=173.0*
*DDA **09** 06:52:43.1, 39˚.15N×32˚.22E, h7km, Md2.9*

ISC 09 06:52:42.7±1.0, 39˚.17N±0˚.02×32˚.24E±0˚.02, h8km±10km, n42, σ1$05/57, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.40**	**225**	PG	**Pg**	**06 52 50.3**	**-0.2**
KIZT				*e*SG	**Sg**	**06 52 55.5**	**-0.3**
KIZT	**Kizilcal**	**0.40**	**225**	*i* Pg	**Pg**	**06 52 50.3**	**-0.2**
KIZT				*e*Sg	**Sg**	**06 52 55.5**	**-0.3**
KKUL	**Konya-Kulu**	**0.53**	**89**	P	**Pb**	**06 52 54.5**	**+0.2**
KKUL	**Konya-Kulu**	**0.53**	**89**	*i* P	**Pb**	**06 52 54.5**	**+0.2**
KKUL				*i* S	**Sn**	**06 53 04.7**	**-1.0**
SVRH	**Sivrihisar-ESK**	**0.62**	**297**	PG	**Pg**	**06 52 53.5**	**-1.3**
SVRH	**Sivrihisar-ESK**	**0.62**	**297**	*i* Pg	**Pg**	**06 52 53.5**	**-1.3**
KDHN	**Kadinhani**	**0.65**	**189**	P	**Pg**	**06 52 55.0**	**-0.3**
KDHN				S	**Sb**	**06 53 05.2**	**-0.4**
KDHN	**Kadinhani**	**0.65**	**189**	*i* P	**Pg**	**06 52 55.0**	**-0.3**
KDHN				*i* S	**Sb**	**06 53 05.2**	**-0.4**
AFSR	**Afˇar-Bala (A**	**0.70**	**66**	*e*PG	**Pg**	**06 52 54.9**	**-1.4**
AFSR	**Afˇar-Bala (A**	**0.70**	**66**	*e*Pg	**Pg**	**06 52 54.9**	**-1.4**
CHBY	**Cihanbeyli**	**0.77**	**139**	*e*PG	**Pg**	**06 52 57.6**	**0.0**
CHBY	**Cihanbeyli**	**0.77**	**139**	*e*Pg	**Pg**	**06 52 57.6**	**0.0**
LOD	**Lodumlu**	**0.83**	**29**	*e*PG	**Pg**	**06 52 56.7**	**-2.0**
LOD	**Lodumlu**	**0.83**	**29**	*e*Pg	**Pg**	**06 52 56.7**	**-2.0**
LADK	**Ladik-KONYA**	**0.97**	**174**	*e*PG	**Pg**	**06 53 00.8**	**-0.5**
LADK	**Ladik-KONYA**	**0.97**	**174**	*e*Pg	**Pg**	**06 53 00.8**	**-0.5**
SERE	**Serefiikochisa**	**1.05**	**102**	*e*PG	**Pg**	**06 53 02.1**	**-0.8**
SERE	**Serefiikochisa**	**1.05**	**102**	*e*Pg	**Pg**	**06 53 02.1**	**-0.8**
BOLV	**Bolvadin**	**1.10**	**246**	P	**Pn**	**06 53 04.4**	**-0.1**
BOLV				S	**Sn**	**06 53 20.8**	**+0.9**
BOLV	**Bolvadin**	**1.10**	**246**	*i* P	**Pn**	**06 53 04.4**	**-0.1**
BOLV				*i* S	**Sn**	**06 53 20.8**	**+0.9**
ESKT	**Eskisehir**	**1.13**	**289**	*e*PN	**Pg**	**06 53 03.4**	**-1.1**
ESKT	**Eskisehir**	**1.13**	**289**	*e*Pn	**Pg**	**06 53 03.4**	**-1.1**
ESKT	**Eskisehir**	**1.13**	**289**	*i* P	**Pb**	**06 53 04.5**	**-0.1**
ESKT				*i* S	**Sb**	**06 53 19.7**	**+0.2**
SEYT	**Eskypehyr**	**1.13**	**289**	P	**Pb**	**06 53 04.5**	**-0.1**
SEYT				S	**Sb**	**06 53 19.7**	**+0.2**
KAMT	**Kaman**	**1.16**	**79**	*e*PN	**Pb**	**06 53 03.5**	**-1.6**
KAMT	**Kaman**	**1.16**	**79**	*e*Pn	**Pb**	**06 53 03.5**	**-1.6**
KONT	**Konya--Tatoy**	**1.22**	**176**	*e*PN	**Pn**	**06 53 05.9**	**-0.2**
KONT	**Konya--Tatoy**	**1.22**	**176**	*e*Pn	**Pn**	**06 53 05.9**	**-0.2**
BORA	**Eskisehir**	**1.56**	**298**	P	**Pb**	**06 53 11.8**	**0.0**
BORA				S	**Sg**	**06 53 33.9**	**+1.2**
BORA	**Eskisehir**	**1.56**	**298**	*i* P	**Pb**	**06 53 11.8**	**0.0**
BORA				*i* S	**Sg**	**06 53 33.9**	**+1.2**
ELDT	**Eldivan**	**1.61**	**34**	P	**Pg**	**06 53 13.5**	**0.0**
ELDT				S	**Sg**	**06 53 36.9**	**+2.5**
ELDT	**Eldivan**	**1.61**	**34**	*i* P	**Pg**	**06 53 13.5**	**0.0**
ELDT				*i* S	**Sg**	**06 53 36.9**	**+2.5**
BCAM	**Yenicaga**	**1.65**	**355**	P	**Pn**	**06 53 12.1**	**0.0**
BCAM	**Yenicaga**	**1.65**	**355**	*i* P	**Pn**	**06 53 12.1**	**0.0**
BCAM				*i* S	**Sg**	**06 53 39.2**	**+3.3**
CDAG	**Cicekdag**	**1.71**	**74**	P	**Pg**	**06 53 15.6**	**0.0**
CDAG	**Cicekdag**	**1.71**	**74**	*i* P	**Pg**	**06 53 15.6**	**0.0**
CDAG				*i* S	**Sg**	**06 53 39.6**	**+1.8**
GULA	**Gulagac**	**1.76**	**117**	*e*PN	**Pn**	**06 53 13.6**	**0.0**
GULA	**Gulagac**	**1.76**	**117**	*e*Pn	**Pn**	**06 53 13.6**	**0.0**
CORM	**Corum**	**2.10**	**61**	*e*PN	**Pn**	**06 53 17.5**	**-0.8**
CORM	**Corum**	**2.10**	**61**	*e*Pn	**Pn**	**06 53 17.5**	**-0.8**
TVSB	**Tavsanli**	**2.17**	**278**	*e*PN	**Pn**	**06 53 18.8**	**-0.4**
TVSB	**Tavsanli**	**2.17**	**278**	*e*Pn	**Pn**	**06 53 18.8**	**-0.4**

IDC 09 07:05:36.1±8.8, 3˚.01S×13˚.11W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/31, mbtmp3.7/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/24, Error ellipse: s-maj=365.1km s-min=115.2km az=147.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.98**	**196**	T	T	07 10 39.2	
	baz=51,slow=74,SNR=229						
H10N1	**ASCENSION HYDR**	**5.00**	**196**	T	T	07 10 34.4	
	baz=51,slow=74,SNR=269						
H10N3	**ASCENSION HYDR**	**5.00**	**196**	T	T	07 10 40.7	
	baz=51,slow=74,SNR=134						
H10S1	**ASCENSION HYDR**	**6.09**	**194**	T	T	07 11 34.9	
	baz=41,slow=75,SNR=46						
H10S3	**ASCENSION HYDR**	**6.11**	**195**	T	T	07 11 37.2	
	baz=41,slow=75,SNR=43						
H10S2	**ASCENSION HYDR**	**6.11**	**194**	T	T	07 11 37.0	
	baz=41,slow=75,SNR=53						
DBIC	**Dimbokro**	**12.66**	**41**	LR	LR	07 13 01.7	
	comp=Z,52nm,18.1s,baz=146,slow=35						
TORD	**Torodi Ar. Bea**	**21.76**	**42**	P	P	07 10 29.5	0.0
	3.0nm,1.1s,baz=213,slow=11,SNR=9.2						
TORD				LR	LR	07 18 32.9	
	comp=Z,26nm,18.1s,baz=175,slow=36						
BRTR	**Keskin Array B**	**60.36**	**40**	P	P	07 15 47.5	+0.1
	0.3nm,0.3s,baz=242,slow=6.1,SNR=3.4						
AKASG	**Malin Array Be**	**64.58**	**28**	P	P	07 16 14.9	-0.2
	0.3nm,0.4s,baz=229,slow=7.0,SNR=4.3						

*IDC **09** 07:09:10.4±1.7, 6˚.22S×131˚.19E, h0km, mb4.1/2, mb1 4.3/6, mb1mx3.9/45, mbtmp4.1/6, ML3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/41, Error ellipse: s-maj=54.4km s-min=23.6km az=88.0*
*ISCJB **09** 07:09:12.8±0.7, 6˚.24S±0˚.05×131˚.5E±0˚.1, h61km, mb4.1/3, Error ellipse: s-maj=20.7km s-min=7.1km az=178.2*
*NEIC **09** 07:09:13.9±0.8, 6˚.16S×131˚.52E, h35km, mb4.3/2, Error ellipse: s-maj=22.8km s-min=9.4km az=81.0*

ISC 09 07:09:14.3±0.8, 6˚21S±0˚.05×131˚6E±0˚.1, h61km, n12, σ3$48/16, mb4.2/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.34**	**11**	*e*Pn	**Pn**	**07 10 03.5**	**-0.7**
FAKI				*e*Sn	**Sn**	**07 10 38.6**	**-3.9**
SIJI	**Sorong**	**5.32**	**357**	Pn	**Pn**	**07 10 31.4**	**+0.1**
	8.5nm,0.3s,baz=175,slow=8.2,SNR=1.8						
SIJI				Sn	**Sn**	**07 11 24.4**	**-6.8**
	13nm,0.3s,baz=86,slow=23,SNR=6.2						
FITZ	**Fitzroy Crossi**	**13.16**	**206**	Pn	**Pn**	**07 12 18.1**	**-0.4**
	0.5nm,0.3s,baz=31,slow=10,SNR=11						
FITZ				Sn	**Sn**	**07 14 39.6**	**-3.8**
	0.5nm,0.3s,baz=88,slow=19,SNR=4.8						
FITZ	**Fitzroy Crossi**	**13.16**	**206**	*e*Pn	**Pn**	**07 12 19.5**	**+1.0**
FITZ				*e*Sn	**Sn**	**07 14 40.0**	**-3.3**
WRAB	**Tennant Creek**	**13.90**	**169**	*e*Pn	**Pn**	**07 12 28.5**	**+0.1**
WRA	**Warramunga Arr**	**13.91**	**169**	Pn	**Pn**	**07 12 28.6**	**0.0**
	0.3nm,0.3s,baz=343,slow=13,SNR=12						
WRA				Sn	Sn	07 14 55.5	-5.9
	0.3nm,0.3s,baz=353,slow=18,SNR=5.6						
PMG	**Port Moresby**	**15.75**	**103**	LR	LR	07 20 07.7	
	comp=Z,78nm,19.8s,baz=290,slow=41						
ASAR	**Alice Springs**	**17.50**	**173**	Pn	**Pn**	**07 13 16.2**	**+1.9**
	0.4nm,0.3s,baz=352,slow=11,SNR=31						
ASAR				Sn	**Sn**	**07 16 22.6**	**-5.9**
	0.2nm,0.3s,baz=1.0,slow=29,SNR=5.0						
KKM	**Kota Kinabalu**	**19.59**	**308**	*e*P	**P**	**07 13 36.9**	**-0.8**
	9.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.46**	**308**	P	**P**	**07 16 49.4**	**+2.1**
	1.2nm,0.5s,baz=134,slow=7.9,SNR=5.2						
USRK	**Uesuriysk Ar.**	**50.18**	**0**	P	**P**	**07 18 06.9**	**+3.1**
	1.4nm,0.6s,baz=201,slow=7.7,SNR=3.3						
QSPA	**South Pole Qui**	**83.76**	**180**	*e*P	**P**	**07 21 40.7**	**+4.0**
	1.0nm,0.4s						

*NIED **09** 07:12:00, 43˚.80N×147˚.80E, h83km, Mw4.7 Best double couple: M0 1.06000×10^16 NP1:φs172.00000°, δ20.00000°, λ22.00000°. NP2:φs62.00000°, δ83.00000°, λ109.00000°.*
*ISCJB **09** 07:12:01.9±0.3, 44˚.08N±0˚.03×147˚.75E±0˚.02, h86km±2km, mb4.8/232, Error ellipse: s-maj=4.8km s-min=2.5km az=163.3*
*MOS **09** 07:12:01.6±1.0, 44˚.07N×147˚.75E, h84km, mb5.0/94, Error ellipse: s-maj=6.4km s-min=4.1km az=104.4*
MOS Felt (II) at Malokuril'skoye.
*BJI **09** 07:12:01.9, 44˚.09N×148˚.01E, h102km, mb4.8/48, mB4.7/32*
*SKHL **09** 07:12:02.7±0.4, 43˚.91N×147˚.76E, h96km±2km, mb5.1/1, msh5.1/1*
SKHL Felt (II) at Malokurilskoe (74 km).
*IDC **09** 07:12:02.7±2.0, 44˚.07N×147˚.75E, h80km±17km, mb4.5/22, mb1 4.6/29, mb1mx4.5/49, mbtmp4.8/29, MS3.2/26, Ms1 3.2/26, ms1mx3.1/55, Error ellipse: s-maj=15.5km s-min=10.4km az=153.0*
*JMA **09** 07:12:02.4±0.2, 43˚.78N×147˚.85E, h57km, M4.5*
*NEIC **09** 07:12:04.2±0.5, 44˚.20N×147˚.71E, h87km±4km, mb4.8/153, Error ellipse: s-maj=6.1km s-min=2.6km az=171.0*
NEIC Felt [II] at Shakotan.

ISC 09 07:12:02.1±0.6, 44˚.03N±0˚.04×147˚.77E±0˚.04, h77km±4km, n859, σ1$04/881, mb4.8/236, 36C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.69**	**257**	*d i*PN	**Pn**	**07 12 17.8**	**+0.4**
SHO				*i* S	**Sn**	**07 12 29.0**	**+0.3**
SHO				pmax	pmax		
	comp=N,997nm,0.5s						
SHO				pmax	pmax		
	comp=Z,5μm,0.5s						
SHO				pmax	pmax		
	comp=E,3μm,0.6s						
SHO				smax	smax		
	comp=E,42μm,0.6s						
SHO				smax	smax		
	comp=N,72μm,0.7s						
SHO	**Shikotan**	**0.69**	**257**	*i* P	**Pn**	**07 12 17.8**	**+0.4**
SHO				AMB	AMB	07 12 18.6	
	comp=N,5μm,0.5s						
SHO				*e*S	**Sn**	**07 12 29.1**	**+0.3**
SHO				A	A	07 12 29.8	
	comp=N,7μm,0.7s						
SHO				A	A	07 12 29.8	
	comp=N,42μm,0.7s						
KUR	**Kuril'sk**	**1.20**	**3**	*d i*PN	**Pn**	**07 12 24.6**	**+1.1**
KUR				*i* S	**Sn**	**07 12 41.1**	**+1.6**
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				pmax	pmax		
	comp=E,716nm,0.1s						
KUR				pmax	pmax		
	comp=N,798nm,0.3s						
KUR				smax	smax		
	comp=E,7μm,0.3s						
KUR				smax	smax		
	comp=N,19μm,0.5s						
KUR	**Kuril'sk**	**1.20**	**3**	*i* P	**Pn**	**07 12 24.6**	**+1.1**
KUR				AMB	AMB	07 12 25.1	
	comp=N,271nm,0.5s						
KUR				AMB	AMB	07 12 25.1	
	comp=N,492nm,0.5s						
KUR				AMB	AMB	07 12 25.1	
	comp=N,1μm,0.5s						
KUR				*i* S	**Sn**	**07 12 41.2**	**+1.7**
KUR				A	A	07 12 44.8	
	comp=N,3μm,0.5s						
KUR				A	A	07 12 44.8	
	comp=N,5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**271**	*d i*PN	**Pn**	**07 12 26.5**	**+0.9**
YUK				*i* S	**Sn**	**07 12 44.1**	**+0.8**
YUK				pmax	pmax		
	comp=Z,3μm,0.6s						
YUK				pmax	pmax		
	comp=E,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,678nm,0.1s						
YUK				smax	smax		
	comp=N,11μm,0.6s						
YUK				smax	smax		
	comp=E,18μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**271**	*i* P	**Pn**	**07 12 26.5**	**+0.9**
YUK				AMB	AMB	07 12 28.0	
	comp=E,680nm,0.4s						
YUK				AMB	AMB	07 12 28.0	
	comp=E,1μm,0.4s						
YUK				AMB	AMB	07 12 28.0	
	comp=E,3μm,0.4s						
YUK				*i* S	**Sn**	**07 12 44.1**	**+0.8**
YUK				A	A	07 12 46.7	
	comp=E,8μm,0.6s						
YUK				A	A	07 12 46.7	
	comp=E,2μm,0.6s						
NEM2	**Nemuro 2**	**1.61**	**246**	P	**Pn**	**07 12 28.6**	**-0.1**
NEM2				*e*S	**Sn**	**07 12 48.1**	**-0.7**
JRA	**Rausu**	**1.91**	**268**	P	**Pn**	**07 12 34.4**	**+1.7**
JRA				*e*S	**Sn**	**07 12 58.2**	**+2.3**
JNK	**Nakash**	**2.25**	**260**	P	**Pn**	**07 12 38.0**	**+0.8**
JNK				*e*S	**Sn**	**07 13 05.6**	**+1.5**
JAK	**Akkeshi**	**2.46**	**246**	P	**Pn**	**07 12 40.2**	**+0.1**
JAK				*e*S	**Sn**	**07 13 08.1**	**-1.0**
JTKR	**Abashiri--Toko**	**2.78**	**270**	P	**Pn**	**07 12 46.3**	**+1.9**
JAR	**Ashorobuto**	**2.99**	**257**	P	**Pn**	**07 12 48.6**	**+1.3**
JAR				*e*S	**Sn**	**07 13 23.2**	**+1.2**
JOB	**Onbets**	**3.08**	**250**	P	**Pn**	**07 12 49.4**	**+1.0**
JOB				*e*S	**Sn**	**07 13 24.6**	**+0.5**
JCH	**Churui**	**3.51**	**248**	P	**Pn**	**07 12 54.6**	**+0.3**
JCH				*e*S	**Sn**	**07 13 34.2**	**-0.5**
JKK2	**Kamakawa 2**	**3.63**	**269**	P	**Pn**	**07 12 58.3**	**+2.4**
ASAJ	**Asahikawa**	**3.73**	**273**	P	**Pn**	**07 12 59.5**	**+2.2**
ASAJ	**Asahikawa**	**3.73**	**273**	*e*P	**Pn**	**07 12 59.9**	**+2.7**
ASAJ	**Asahikawa**	**3.73**	**273**	*e*Pn	**Pn**	**07 12 59.8**	**+2.5**
ASAJ				*e*Sn	**Sn**	**07 13 43.5**	**+3.6**
JSE	**Soyaes**	**3.82**	**286**	P	**Pn**	**07 13 00.8**	**+2.3**
JFR	**Furan**	**3.85**	**259**	P	**Pn**	**07 13 01.1**	**+2.1**
JFR				*e*S	**Sn**	**07 13 44.8**	**+1.7**
ERM	**Erimo**	**3.93**	**241**	*ce*PN	**Pn**	**07 13 02.5**	**+2.4**
ERM				pmax	pmax		
	comp=Z,72nm,0.7s						
ERM	**Erimo**	**3.93**	**241**	*e*Pn	**Pn**	**07 13 02.3**	**+2.2**
ERM				*e*Sn	**Sn**	**07 13 45.0**	**0.0**
JNBK	**Urakawa-nobuka**	**4.06**	**246**	P	**Pn**	**07 13 02.0**	**+0.2**
JHR	**Hokuryu**	**4.38**	**268**	P	**Pn**	**07 13 09.3**	**+3.2**
JWK2	**Keihoku**	**4.38**	**289**	P	**Pn**	**07 13 09.9**	**+3.8**
JYG	**Yagishiri**	**4.57**	**277**	P	**Pn**	**07 13 11.0**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.58**	**311**	*e*PN	**Pn**	**07 13 11.2**	**+2.4**
YSS	**Yuzh-Sakhalins**	**4.58**	**311**	*e*P	**Pn**	**07 13 11.2**	**+2.4**
YSS				AMB	AMB	07 13 11.9	
	comp=Z,310nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.58**	**311**	*e*Pn	**Pn**	**07 13 11.2**	**+2.4**
YSS				*e*Sn	Sn	07 13 45.7	-15
JEW	**Eniwo**	**4.75**	**258**	P	**Pn**	**07 13 13.0**	**+1.8**
JEW				*e*S	**Sn**	**07 14 06.5**	**+1.5**
UGL	**Uglegorsk**	**6.39**	**324**	*e*PN	**Pn**	**07 13 36.5**	**+2.9**
UGL				*e*S	**Sn**	**07 14 51.0**	**+5.9**
UGL				pmax	pmax		
	comp=Z,140nm,0.7s						
UGL				smax	smax		
	comp=N,950nm,4.0s						
UGL				smax	smax		
	comp=E,550nm,4.0s						
UGL				smax	smax		
	comp=Z,700nm,4.0s						
UGL				smax	smax		
	comp=N,310nm,1.0s						
UGL				smax	smax		
	comp=E,160nm,0.8s						
UGL	**Uglegorsk**	**6.39**	**324**	*e*P	**Pn**	**07 13 36.5**	**+2.9**
UGL				AMB	AMB	07 13 37.5	
	comp=E,140nm,0.7s						
UGL				*e*S	**Sn**	**07 14 47.0**	**+1.9**
UGL				A	A	07 14 58.0	
	comp=E,950nm,4.0s						
UGL				A	A	07 14 58.0	
	comp=E,550nm,4.0s						
UGL				A	A	07 14 58.0	
	comp=E,700nm,4.0s						
UGL				A	A	07 15 06.5	
	comp=E,310nm,0.9s						
UGL				A	A	07 15 06.5	
	comp=E,160nm,0.9s						
TYV	**Tymovskoe**	**7.66**	**335**	*e*PN	**Pn**	**07 13 53.5**	**+2.6**
TYV				*e*		07 15 26.0	
TYV				pmax	pmax		
	comp=Z,37nm,0.8s						
TYV				MLR	MLR		
	comp=Z,500nm,12.0s						
TYV	**Tymovskoe**	**7.66**	**335**	*e*P	**Pn**	**07 13 53.5**	**+2.6**
TYV				AMB	AMB	07 14 05.0	
	comp=Z,37nm,0.8s						
TEY	**Ternei**	**8.04**	**281**	*e*P	**Pn**	**07 13 58.0**	**+1.9**
TEY				AMB	AMB	07 13 59.6	
	comp=Z,56nm,1.0s						
TEY				AMB	AMB	07 13 59.6	
	comp=Z,47nm,1.0s						
SKR	**Severo-Kuril's**	**8.74**	**37**	*e*PN	**Pn**	**07 14 04.4**	**-1.1**
SKR				pmax	pmax		
	comp=Z,300nm,5.4s						
SKR				pmax	pmax		
	comp=Z,121nm,0.8s						
SKR	**Severo-Kuril's**	**8.74**	**37**	*e*P	**Pn**	**07 14 06.5**	**+1.0**
SKR				AMB	AMB	07 14 08.2	
	comp=Z,260nm,5.0s						
SKR				AMB	AMB	07 14 08.4	
	comp=Z,120nm,0.8s						
HABR	**Khabarovsk**	**9.86**	**301**	*e*PN	**Pn**	**07 14 19.5**	**-1.4**
HABR				pmax	pmax		
	comp=N,7.0nm,0.6s						
HABR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HABR				pmax	pmax		
	comp=E,2.0nm,0.3s						
HABR				MLR	MLR		
	comp=Z,58nm,13.0s						
GRNR	**Gornyy**	**10.22**	**315**	*e*rx	rx	07 14 30.0	
MAJO	**Matsushiro**	**10.45**	**228**	*i* PN	**Pn**	**07 14 32.7**	**+3.7**
MJAR	**Matsushiro Arr**	**10.45**	**228**	*i* P	**Pn**	**07 14 28.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=27,slow=13,SNR=7.8						
MJAR				LR	LR	07 18 40.0	
	comp=Z,41nm,20.4s,baz=70,slow=38						
PEA0	**Petropavlovsk-**	**11.21**	**32**	*e*Pn	**Pn**	**07 14 37.5**	**-1.7**
PEA0				*e*Sn	**Sn**	**07 16 42.9**	**+0.4**
PEA0B	**Petropavlovsk-**	**11.21**	**32**	*e*Pn	**Pn**	**07 14 37.9**	**-1.3**
PEA0B				*e*Sn	**Sn**	**07 16 42.9**	**+0.4**
PETK	**Petropavlovsk-**	**11.21**	**32**	P	**Pn**	**07 14 37.5**	**-1.7**
	comp=Z,2.1nm,0.3s,baz=192,slow=10,SNR=37						
PETK				LR	LR	07 19 28.6	
	comp=Z,35nm,18.1s,baz=210,slow=40						
PEA1	**Petropavlovsk-**	**11.21**	**32**	*e*Pn	**Pn**	**07 14 37.5**	**-1.7**
USRK	**Ussuriysk Ar.**	**11.35**	**276**	P	**Pn**	**07 14 42.5**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=90,slow=13,SNR=17						
USRK				LR	LR	07 19 02.3	
	comp=Z,121nm,21.6s,baz=94,slow=37						
KLR	**Kul'dur**	**12.17**	**301**	P	**Pn**	**07 14 54.7**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=109,slow=15,SNR=10						
KLR				LR	LR	07 19 56.0	
	comp=Z,115nm,21.7s,baz=127,slow=39						
JHJ	**Hachijo jima 2**	**12.55**	**212**	LR	LR	07 20 26.0	
	comp=Z,16nm,18.6s,baz=62,slow=40						
MDJ	**Mudanjiang**	**13.03**	**279**	*e*Pn	**Pn**	**07 15 04.5**	**+0.5**
MDJ				*e*Sn	**Sn**	**07 17 28.4**	**+1.4**
EKMR	**Ekimchan**	**13.32**	**318**	*e*P	**Pn**	**07 15 08.0**	**+0.2**
EKMR				AMB	AMB	07 15 17.4	
	comp=Z,6.0nm,0.7s						
MA2	**Magadan**	**15.68**	**6**	P	**Pn**	**07 15 37.7**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=193,slow=9.9,SNR=25						
MA2				LR	LR	07 21 55.6	
	comp=Z,80nm,18.5s,baz=180,slow=38						
MA2	**Magadan**	**15.68**	**6**	*e*P	**Pn**	**07 15 36.8**	**-1.4**
MA2	**Magadan**	**15.68**	**6**	*e*Pn	**Pn**	**07 15 37.3**	**-0.9**
CN2	**Changchun**	**16.08**	**277**	*e*P	**P**	**07 15 45.2**	**-0.2**
CN2				PMZ			
	comp=Z,10.0nm,0.8s						
BMKR	**Bomnak**	**16.25**	**318**	*e*P	**Pn**	**07 15 45.5**	**0.0**
BMKR				AMB	AMB	07 15 48.9	
	comp=Z,48nm,1.0s						
KSRS	**Korea Array**	**16

BOD pmax pmax
comp=Z,13nm,0.7s
BILL Bilibino 25.97 16 *e*P **P 07 17 24.5 -2.6**
BILL pmax pmax
comp=Z,12nm,0.5s
BILL Bilibino 25.97 16 *e*P **P 07 17 24.5 -2.6**
comp=Z,12nm,0.5s
HHC Hu-ho-hao-te 26.77 276 *e*P **P 07 17 36.2 +1.4**
HHC pP sP 07 17 58.7 -2.8
HHC S **S 07 22 03.3 -1.8**
HHC PMZ
comp=Z,25nm,1.0s
HHC PMZ
comp=Z,110nm,5.5s
ULN Ulaanbaatar 28.33 292*c i*P **P 07 17 49.0 +0.3**
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 28.33 292 *e*P **P 07 17 49.0 +0.3**
ULN Ulaanbaatar 28.33 292 *e*P **P 07 17 49.2 +0.6**
comp=Z,16nm,0.7s
SONA1 Songino Array 28.77 292 *e*P **P 07 17 53.1 +0.6**
SONA0 Songino Array 28.77 292 *e*P **P 07 17 53.2 +0.6**
comp=Z,14nm,0.7s
SONM Songino Array 28.77 292 P **P 07 17 53.2 +0.6**
comp=Z,8.7nm,0.6s,baz=80,slow=8.2,SNR=58
SONM LR LR 07 30 33.6
comp=Z,107nm,18.2s,baz=69,slow=39
H11N2 WAKE ISLAND Hy 29.03 140 T T 07 48 54.6
baz=332,slow=76,SNR=467
H11N1 WAKE ISLAND Hy 29.04 141 T T 07 48 55.6
baz=332,slow=76,SNR=483
H11N3 WAKE ISLAND Hy 29.05 140 T T 07 48 55.9
baz=332,slow=76,SNR=542
TIXI Tiksi 29.18 348 P **P 07 17 52.2 -3.5**
comp=Z,3.0nm,0.4s,baz=140,slow=6.6,SNR=7.6
TIXI LR LR 07 29 38.0
comp=Z,40nm,21.4s,baz=156,slow=36
H11S1 WAKE ISLAND Hy 30.01 142 T T 07 50 07.0
baz=333,slow=76,SNR=1108
H11S3 WAKE ISLAND Hy 30.02 142 T T 07 50 10.3
baz=333,slow=76,SNR=277
H11S2 WAKE ISLAND Hy 30.03 142 T T 07 50 08.9
baz=333,slow=76,SNR=229
TLY Talaya 30.19 300 LR LR 07 30 46.5
comp=Z,91nm,20.0s,baz=90,slow=37
TLY Talaya 30.19 300 *e*P **P 07 18 05.1 +0.2**
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,68nm,14.0s
TLY Talaya 30.19 300 *e*P **P 07 18 04.4 -0.5**
GUMO Guam 30.44 186 LR LR 07 30 36.2
comp=Z,14nm,18.3s,baz=243,slow=36
ZAK Zakamensk 30.51 298 *e*P **P 07 18 06.8 -1.1**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
MOY Mondy 31.83 301 *e*P **P 07 18 19.9 +0.4**
TNA Tin City 32.37 33 *e*P **P 07 18 24.7 +0.8**
comp=Z,18nm,0.8s
LZH Lanzhou 34.21 272 *e*P **P 07 18 42.2 +1.8**
LZH pP sP 07 19 05.1 -2.3
LZH sP pP 07 19 17.4 +19
LZH PMZ
comp=Z,24nm,1.0s
LZH PMZ
comp=Z,140nm,4.2s
GTA Gaotai 35.69 280 *e*P **P 07 18 53.9 +0.8**
GTA pP sP 07 19 17.3 -2.8
GTA sP pP 07 19 29.2 +18
GTA PcP **PcP 07 21 20.5 +0.7**
GTA S **S 07 24 22.7 -1.5**
GTA sS ScP 07 25 00.7 +1.9
GTA SS **SnSn 07 26 47.8 -4.9**
GTA PMZ
comp=Z,6.0nm,1.1s
GTA PMZ
comp=Z,60nm,6.7s
GTA LN
comp=Z,140nm,16.6s
GTA LE
comp=Z,190nm,15.2s
GTA LZ
comp=Z,80nm,15.2s
CD2 Chengdu 36.88 264 *e*P **P 07 19 02.8 -0.4**
TT01 Tatalina 36.93 39 *e*P **P 07 19 04.1 +0.9**
SVW2 Sparrevohn 37.06 42 *e*P **P 07 19 05.3 +1.0**
comp=Z,9.5nm,0.8s
RSO Redoubt South 38.45 43 *e*P **P 07 19 17.0 +0.6**
PPLA Purkeypile 38.68 39 *e*P **P 07 19 19.8 +1.7**
comp=Z,129nm,1.8s
KDAK Kodiak Island 38.73 48 *e*P **P 07 19 18.3 -0.1**
KDAK pmax pmax
comp=Z,28nm,1.2s
KDAK Kodiak Island 38.73 48 *e*P **P 07 19 17.7 -0.7**
KDAK Kodiak Island 38.73 48 *e*P **P 07 19 18.3 -0.1**
comp=Z,28nm,1.2s
SPU Mount Spurr 38.77 42 *e*P **P 07 19 19.7 +0.9**
NRIK Noril'sk 39.22 331 LR LR 07 38 38.7
comp=Z,49nm,18.7s,baz=98,slow=41
BPAW Bear Paw Mtn. 39.23 38 *e*P **P 07 19 23.6 +1.0**
comp=Z,17nm,0.8s
KTH Kantishna Hill 39.25 38 *e*P **P 07 19 24.0 +1.2**
comp=Z,51nm,0.9s
CNPM China Poot 39.27 45 *e*P **P 07 19 23.5 +0.5**
comp=Z,25nm,1.2s
MLY Manley 39.35 36 *e*P **P 07 19 24.7 +1.1**
comp=Z,27nm,0.8s
BRLK Bradley Lake 39.43 44 *e*P **P 07 19 24.7 +0.4**
comp=Z,15nm,0.7s
TRF Thorofare Moun 39.54 39 *e*P **P 07 19 25.8 +0.5**
comp=Z,10nm,0.8s
COLD Coldfoot 39.67 33 *e*P **P 07 19 27.1 +0.8**
comp=Z,37nm,1.1s
BWN Browne 39.90 37 *e*P **P 07 19 30.2 +2.1**
comp=Z,128nm,1.0s
MCK McKinley 40.14 38 *e*P **P 07 19 30.5 +0.4**
MCK pmax pmax
comp=Z,24nm,0.9s
MCK McKinley 40.14 38 *e*P **P 07 19 30.5 +0.4**
MCK McKinley 40.14 38 *e*P **P 07 19 30.5 +0.4**
comp=Z,24nm,0.9s
PMR Palmer 40.15 41 *e*P **P 07 19 30.3 +0.1**
PMR pmax pmax
comp=Z,12nm,1.1s
PMR Palmer 40.15 41 *e*P **P 07 19 30.2 +0.1**
comp=Z,12nm,1.1s
RND Reindeer 40.19 39 *e*P **P 07 19 30.9 +0.3**
RND pmax pmax
comp=Z,27nm,1.1s
RND Reindeer 40.19 39 *e*P **P 07 19 30.9 +0.3**
comp=Z,27nm,1.1s
MDM Murphy Dome 40.42 36 *e*P **P 07 19 33.3 +0.9**
comp=Z,45nm,0.7s
WRH Wood River Hil 40.49 37 *e*P **P 07 19 33.4 +0.5**
comp=Z,25nm,0.8s
SML Sawmill 40.52 41 *e*P **P 07 19 33.7 +0.4**
SML pmax pmax
comp=Z,34nm,0.7s
SML Sawmill 40.52 41 *e*P **P 07 19 33.9 +0.6**
SML Sawmill 40.52 41 *e*P **P 07 19 33.7 +0.4**
comp=Z,34nm,0.7s
COLA College 40.58 36⇑ *i*P **P 07 19 34.3 +0.6**
COLA pmax pmax
comp=Z,62nm,0.9s
COLA College 40.58 36 *e*P **P 07 19 34.3 +0.6**
COLA College 40.58 36 *e*P **P 07 19 34.8 +1.1**
comp=Z,56nm,0.8s
CCB Clear Creek Bu 40.61 37 *e*P **P 07 19 34.2 +0.3**
comp=Z,10nm,0.7s
DHY Denali Highway 40.87 39 *e*P **P 07 19 36.4 0.0**
comp=Z,32nm,1.2s
HDA Harding Lake 40.99 37 *e*P **P 07 19 37.4 +0.3**
comp=Z,32nm,0.8s
SCM Sheep Creek Mo 40.99 41 *e*P **P 07 19 37.9 +0.7**
SCM pmax pmax
comp=Z,21nm,1.1s
SCM Sheep Creek Mo 40.99 41 *e*P **P 07 19 37.9 +0.7**
comp=Z,21nm,1.1s
IL1 Eielson Array 41.00 36 *e*P **P 07 19 37.1 -0.1**
ILAR Eielson Array 41.00 36 P **P 07 19 37.1 -0.1**
comp=Z,17nm,0.6s,baz=254,slow=7.1,SNR=167
ILAR Eielson Array 41.00 36 P **P 07 19 37.1 -0.1**
ILAR pmax pmax
comp=Z,13nm,0.6s
ILB Eielson Array 41.00 36 *e*P **P 07 19 37.1 -0.1**
KMI Kunming 41.01 258 P **P 07 19 39.7 +1.7**
KMI PMZ
comp=Z,13nm,0.5s
KMI PMZ
comp=Z,64nm,4.3s
ZAA1 Zalesovo Array 41.18 307 *e*P **P 07 19 38.9 +0.1**
ZAA1 *e*PcP **PcP 07 21 36.7 +0.2**
ZAA0 Zalesovo Array 41.18 307 *e*P **P 07 19 38.5 -0.3**
ZAA0 *e*PcP **PcP 07 21 36.6 +0.2**
ZALV Zalesovo Beam 41.18 307 P **P 07 19 38.9 +0.1**
comp=Z,3.0nm,0.6s,baz=82,slow=6.2,SNR=11
ZALV PcP **PcP 07 21 36.7 +0.2**
comp=Z,7.0nm,0.7s,baz=89,slow=2.8,SNR=15
ZALV LR LR 07 37 47.0
comp=Z,22nm,19.4s,baz=72,slow=38
ZALV Zalesovo Beam 41.18 307 P **P 07 19 38.9 +0.1**
ZALV 07 21 36.7
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV MLR MLR
comp=Z,23nm,19.4s
FYU Fort Yukon 41.62 34 *e*P **P 07 19 43.9 +1.7**
comp=Z,85nm,0.7s
KLU Klutina 41.69 41 *e*P **P 07 19 43.6 +0.6**
comp=Z,15nm,0.9s
DIV Divide 41.81 42 *e*P **P 07 19 44.4 +0.5**
DIV Divide 41.81 42 *e*P **P 07 19 44.4 +0.5**
comp=Z,22nm,1.0s
DOT Dot Lake 42.31 38 *e*P **P 07 19 47.8 -0.2**
comp=Z,37nm,0.7s
BMRM Bremner River 42.39 42 *e*P **P 07 19 49.5 +0.8**
comp=Z,20nm,0.8s
WMQ Urumqi 42.41 292 P **P 07 19 49.8 +0.8**
WMQ pP sP 07 20 12.8 -3.6
WMQ sP pP 07 20 24.1 +17
WMQ PMZ
comp=Z,12nm,0.8s
WMQ PMZ
comp=Z,49nm,5.4s
WMQ LN
comp=Z,42nm,20.2s
WMQ LZ
comp=Z,41nm,21.0s
RAGM Ragged Mountai 42.45 43 *e*P **P 07 19 50.1 +1.1**
comp=Z,22nm,1.1s
MENT Mentasta 42.54 39 *e*P **P 07 19 50.9 +1.0**
comp=Z,11nm,0.7s
CRQM Cirque 43.13 42 *e*P **P 07 19 56.0 +1.2**
comp=Z,30nm,0.8s
EGAK Eagle 43.44 36 *e*P **P 07 19 57.2 +0.2**
comp=Z,36nm,0.8s
BALM Baldy 43.47 42 *e*P **P 07 19 58.4 +1.0**
BALM pmax pmax
comp=Z,13nm,0.7s
BALM Baldy 43.47 42 *e*P **P 07 19 58.4 +1.0**
comp=Z,13nm,0.7s
MK31 Makanchi Array 44.85 298 *i*P **P 07 20 08.8 +0.3**
MK31 pmax pmax
comp=Z,23nm,0.8s
MK31 Makanchi Array 44.85 298 *e*P **P 07 20 09.1 +0.5**
MK32 Makanchi Array 44.85 298 *e*P **P 07 20 08.8 +0.3**
MK32 ePcP **PcP 07 21 49.4 +0.4**
MKAR Makanchi Array 44.85 298 P **P 07 20 08.8 +0.3**
comp=Z,20nm,0.9s,baz=78,slow=8.5,SNR=138
MKAR PcP **PcP 07 21 49.4 +0.4**
comp=Z,2.1nm,0.7s,baz=60,slow=4.9,SNR=3.1
MKAR LR LR 07 40 20.5
comp=Z,81nm,18.2s,baz=16,slow=38
MKAR Makanchi Array 44.85 298 *e*P **P 07 20 09.0 +0.5**
MK01 Makanchi Array 44.85 298 *e*P **P 07 20 08.7 +0.2**
KURK Kurchatov 45.74 304 *e*P **P 07 20 15.2 -0.2**
KURK pmax pmax
comp=Z,76nm,0.7s
KURK Kurchatov 45.74 304 *e*P **P 07 20 15.2 -0.2**
KURK Kurchatov 45.74 304 *e*P **P 07 20 15.2 -0.2**
comp=Z,76nm,0.7s
INK Inuvik 45.94 30 P **P 07 20 17.5 +0.8**
comp=Z,36nm,0.7s,baz=296,slow=7.1,SNR=41
INK Inuvik 45.94 30 *e*P **P 07 20 17.4 +0.7**
comp=Z,42nm,0.8s
CMAR Chiang Mai Arr 48.03 254 P **P 07 20 34.1 +0.4**
comp=Z,1.0nm,0.4s,baz=49,slow=6.8,SNR=7.4
PDGK Podgornoye 48.06 294 P **P 07 20 33.5 -0.1**
PDGK pmax pmax
comp=Z,8.0nm,0.8s
BVA0 Borovoye Array 49.67 309 *i*P **P 07 20 45.5 -0.3**
BVA0 pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 49.71 309 *e*P **P 07 20 46.0 -0.2**
BRVK pmax pmax
comp=Z,60nm,0.9s
BRVK Borovoye 49.71 309 *e*P **P 07 20 46.0 -0.2**
comp=Z,60nm,0.9s
DLBC Dease Lake 50.17 43 P **P 07 20 51.3 +1.6**
comp=Z,6.4nm,0.7s,baz=294,slow=5.8,SNR=14
DLBC Dease Lake 50.17 43 *e*P **P 07 20 51.0 +1.4**
comp=Z,6.4nm,0.7s
ZRNK Zerenda 50.47 310 *i*P **P 07 20 50.9 -0.9**
ZRNK pmax pmax
comp=Z,28nm,0.9s
ZRNK Zerenda 50.47 310 *e*P **P 07 20 50.9 -0.9**
comp=Z,23nm,0.8s
OTUK Ortayu 50.47 303 P **P 07 20 52.2 +0.2**
OTUK pmax pmax
comp=Z,34nm,0.9s
TKM2 Tokmak 2 50.79 296 *i*P **P 07 20 55.2 +0.5**
TKM2 pmax pmax
comp=Z,30nm,1.6s
TKM2 Tokmak 2 50.79 296 *e*P **P 07 20 54.9 +0.2**
comp=Z,13nm,0.8s
GUN Gumba 51.44 273 *e*P **P 07 21 00.2 +0.3**
comp=Z,53nm,0.8s
AAK Ala-Archa 51.64 296*c i*P **P 07 21 01.3 +0.3**
AAK pmax pmax
comp=Z,38nm,1.5s
AAK Ala-Archa 51.64 296 *e*P **P 07 21 01.5 +0.5**
AAK Ala-Archa 51.64 296 *e*P **P 07 21 01.5 +0.5**
comp=Z,26nm,1.5s
KKN Kakani 51.94 274 *e*P **P 07 21 03.8 +0.3**
comp=Z,44nm,1.0s
PKIN Phulchoki 51.98 273 *e*P **P 07 21 03.9 0.0**
comp=Z,16nm,0.7s
EKS2 Erkin-Say 52.09 296 *e*P **P 07 21 04.9 +0.6**
EKS2 pmax pmax
comp=Z,8.0nm,0.7s
EKS2 Erkin-Say 52.09 296 *e*P **P 07 21 04.9 +0.6**
comp=Z,7.8nm,0.7s
KSH Kashi 52.17 292 P **P 07 21 09.4 +4.4**
KSH pP sP 07 21 36.8 +4.0
KSH PcP **PcP 07 22 18.8 +3.1**
KSH PP **PP 07 23 11.0 +7.3**
KSH S **S 07 28 26.1 +2.4**
KSH SS **SS 07 32 04.1 +2.6**
KSH PMZ
comp=Z,6.0nm,0.7s
KSH PMZ
comp=Z,45nm,3.3s
KSH LN
comp=Z,340nm,12.0s
KSH LE
comp=Z,280nm,12.9s
DMN Daman 52.17 274 *e*P **P 07 21 05.9 +0.6**
comp=Z,28nm,0.5s
GKN Gorkha 52.28 274 *e*P **P 07 21 06.3 +0.4**
comp=Z,56nm,1.0s
MNAS Manas 53.00 296 P **P 07 21 11.6 +0.6**
MNAS pmax pmax
comp=Z,17nm,0.7s
KOLN Koldanda 53.16 275 *e*P **P 07 21 13.2 +0.7**
comp=Z,32nm,0.7s
PMG Port Moresby 53.19 181 LR LR 07 42 02.7
comp=Z,32nm,19.1s,baz=284,slow=34
SVE Sverdlovsk 53.24 317⇑ *i*P **P 07 21 11.5 -0.9**
SVE pmax pmax
comp=Z,38nm,1.0s
PYUN Piuthan 53.41 276 *e*P **P 07 21 14.8 +0.5**
comp=Z,54nm,0.9s
SOKR Solikamsk 53.84 321*c i*P **P 07 21 14.2 -2.4**
SOKR pmax pmax
comp=Z,38nm,1.3s
ARU Arti 54.45 317 LR LR 07 48 39.3
comp=Z,40nm,18.4s,baz=88,slow=40
ARU Arti 54.45 317*c i*P **P 07 21 19.9 -1.3**
ARU *PP **pP 07 21 39.2 -1.3**
ARU 07 22 21.6
ARU S **S 07 28 52.0 -1.7**
ARU SS **SKiKP 07 32 28.5 +5.6**
ARU pmax pmax
comp=Z,40nm,1.2s
ARU Arti 54.45 317 *e*P **P 07 21 19.9 -1.3**
ARU Arti 54.45 317 *e*P **P 07 21 20.8 -0.4**
comp=Z,24nm,0.6s
RES Resolute Bay 54.57 17 *e*P **P 07 21 21.7 -0.1**
RES Resolute Bay 54.57 17 *e*P **P 07 21 22.0 +0.2**
RES Resolute Bay 54.57 17 *e*P **P 07 21 21.7 -0.1**
YKW3 Yellowknife Ar 55.28 34 *e*P **P 07 21 27.4 +0.3**
comp=Z,29nm,1.3s
YKA Yellowknife Ar 55.32 34 P **P 07 21 27.6 +0.3**
comp=Z,9.4nm,0.6s,baz=300,slow=7.2,SNR=163
YKA PcP **PcP 07 22 27.0 0.0**
comp=Z,1.1nm,0.6s,baz=301,slow=3.2,SNR=5.0
YKB5 Yellowknife Ar 55.32 34 *e*P **P 07 21 26.8 -0.6**
BJO Bjornoya 56.89 345 *e*P **P 07 21 36.8 -1.6**
AB31 Akbulak array 57.23 309 P **P 07 21 41.1 -0.1**
AB31 pmax pmax
comp=Z,25nm,0.9s
ABKAR Akbulak array 57.23 309 *e*P **P 07 21 41.3 0.0**
DZET Dzherino 57.29 294 P **P 07 21 41.4 -0.5**
DZET pmax pmax
comp=Z,8.0nm,0.7s
AKTO Aktyubinsk 57.69 311 LR LR 07 48 03.2
comp=Z,30nm,18.4s,baz=60,slow=38
LVZ Lovozero 57.73 336*ce*P **P 07 21 44.0 -0.4**
LVZ pmax pmax
comp=Z,32nm,1.7s
B05A Bryant 59.06 51 P **P 07 21 54.2 +0.2**
baz=303
ARA0 ARCESS Array S 59.14 340 *e*P **P 07 21 53.0 -1.2**
ARCES ARCESS Array B 59.14 340 P **P 07 21 53.0 -1.2**
comp=Z,7.0nm,0.5s,baz=45,slow=7.2,SNR=43
ARE0 ARCESS Array S 59.14 340 *e*P **P 07 21 53.2 -1.0**
DAG Danmarks Havn 59.17 356 *i*P **P 07 21 52.1 -2.2**
DAG pmax pmax
comp=Z,15nm,1.2s
DAG Danmarks Havn 59.17 356 *i*P **P 07 21 52.1 -2.2**
comp=Z,9.7nm,1.2s
KBL Kabul 59.51 290 *e*P **P 07 21 57.4 -0.2**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 59.51 290 *e*P **P 07 21 57.4 -0.2**
comp=Z,15nm,0.8s
KTK1 Kautokeino 60.08 340 *e*P **P 07 21 59.7 -0.9**
KTK1 IAmb IAmb 07 22 00.8
comp=Z,21nm,0.7s
SGF Sodankyl 60.35 338 P **P 07 22 04.2 +1.7**
SGF pmax pmax
comp=Z,24nm,0.9s
KLMR Klimovskoe 60.44 328 *e*P **P 07 21 59.3 -3.9**
KLMR pmax pmax
comp=Z,14nm,0.8s
TRO Tromso 60.63 342 *e*P **P 07 22 03.5 -0.9**
TRO IAmb IAmb 07 22 04.4
comp=Z,32nm,0.8s
MSF Maaselka 60.70 336 P **P 07 22 04.4 -0.6**
MSF pmax pmax
comp=Z,20nm,0.7s
G05D Wamic, OR 61.18 54 P **P 07 22 09.1 +0.5**
baz=305
I04A Tendick Farm, 61.36 56 P **P 07 22 09.9 +0.1**
baz=305
L02D Cave Junction, 61.58 58 P **P 07 22 11.6 +0.3**
baz=305
I05D Terrebonne, OR 61.69 55 P **P 07 22 12.5 +0.5**
baz=305
NEW Newport 61.81 49 P **P 07 22 13.0 +0.2**
baz=306
NEW Newport 61.81 49 *e*P **P 07 22 13.0 +0.2**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 61.81 49 *e*P **P 07 22 13.0 +0.2**
comp=Z,6.3nm,0.9s
OUL Oulu 62.22 336 P **P 07 22 14.6 -0.5**
OUL pmax pmax
comp=Z,23nm,0.7s
J05D Fort Rock, OR 62.35 56 P **P 07 22 17.0 +0.4**
baz=306
M02C Callahan 62.48 58 P **P 07 22 18.4 +1.0**
baz=306
STEI Steigen 62.80 342 *e*P **P 07 22 18.2 -0.8**
STEI IAmb IAmb 07 22 18.9
comp=Z,11nm,0.8s
N02D Trinity Center 62.81 58 P **P 07 22 20.0 +0.4**
baz=306
M04C Macdoel 62.87 57 P **P 07 22 20.2 +0.1**
baz=306
K05A Summer Lake 62.88 56 *e*P **P 07 22 21.4 +1.2**
comp=Z,12nm,0.9s
WALA Waterton Lakes 63.06 47 *e*P **P 07 22 21.8 +0.5**
comp=Z,10nm,1.1s
BLMT Blacktail Moun 63.45 48 *e*P **P 07 22 24.8 +0.9**
SUMG Summit 63.61 2 *i*P **P 07 22 25.0 +0.2**
SUMG pmax pmax
comp=Z,18nm,0.6s
SUMG Summit 63.61 2 *i*P **P 07 22 25.0 +0.2**
comp=Z,18nm,0.6s
SUMG Summit 63.61 2 *e*P **P 07 22 24.9 +0.2**
comp=Z,21nm,0.8s
SUF Sumiainen 63.86 334 P **P 07 22 25.4 -0.7**
SUF pmax pmax
comp=Z,30nm,0.6s
SWMT Swartz Lake 63.95 48 *e*P **P 07 22 27.9 +0.8**
MSO Missoula 64.40 49 P **P 07 22 30.1 +0.1**
baz=308,SNR=9.6
MSO Missoula 64.40 49 *e*P **P 07 22 30.5 +0.5**
comp=Z,9.3nm,0.9s
WVOR Wild Horse Val 64.40 55 *e*P **P 07 22 30.6 +0.5**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
WVOR Wild Horse Val 64.40 55 *e*P **P 07 22 30.6 +0.5**
comp=Z,4.7nm,1.1s
MOS Moscow 64.48 324 *e*P **P 07 22 27.9 -2.3**
MOS *e* 07 22 48.5
GEYT Alibeck 64.69 299 P **P 07 22 32.5 +0.5**
comp=Z,6.0nm,0.6s,baz=37,slow=3.7,SNR=9.2
FIA1 FINESS Array S 64.82 333 *e*P **P 07 22 31.5 -0.8**
FIA0 FINESS Array S 64.83 333 *e*P **P 07 22 31.2 -1.1**
FIA0 FINESS Array S 64.83 333 *e*P **P 07 22 31.2 -1.1**
FINES FINESS Array B 64.83 333 P **P 07 22 31.2 -1.1**
comp=Z,15nm,0.5s,baz=40,slow=7.7,SNR=120
WRAB Tennant Creek 64.83 194*ce*P **P 07 22 30.8 -2.0**
WRAB pmax pmax
comp=Z,12nm,1.2s
WR1 Warramunga Arr 64.84 194 *e*P **P 07 22 33.1 +0.2**
comp=Z,9.4nm,1.2s
WRA Warramunga Arr 64.84 194 P **P 07 22 33.1 +0.2**
comp=Z,1.2nm,0.7s,baz=13,slow=6.8,SNR=6.9
FFC Flin Flon 65.21 37 *e*P **P 07 22 35.4 +0.4**
FFC pmax pmax
comp=Z,23nm,0.8s
FFC Flin Flon 65.21 37 *e*P **P 07 22 35.4 +0.4**
FFC Flin Flon 65.21 37 *e*P **P 07 22 35.4 +0.4**
comp=Z,23nm,0.8s
OBN Obninsk 65.35 324⇓ *i*P **P 07 22 34.1 -1.7**
OBN pmax pmax
comp=Z,45nm,1.7s
OBN MLR MLR
comp=Z,29nm,18.0s
OBN Obninsk 65.35 324 *e*P **P 07 22 35.9 +0.1**
SCO Scoresbysund 65.55 356 *i*P **P 07 22 36.4 -0.5**
SCO pmax pmax
comp=Z,6.0nm,0.8s
SCO Scoresbysund 65.55 356 *i*P **P 07 22 36.4 -0.5**
comp=Z,5.7nm,0.8s
FCC Fort Churchill 65.56 30 *e*P **P 07 22 36.9 -0.2**
FCC pmax pmax
comp=Z,13nm,0.6s
FCC Fort Churchill 65.56 30 *e*P **P 07 22 36.9 -0.2**
FCC Fort Churchill 65.56 30 *e*P **P 07 22 36.9 -0.2**
comp=Z,12nm,0.6s
PAHR Pah Rah Range 65.60 58 *e*P **P 07 22 38.4 +0.4**
comp=Z,7.8nm,1.0s
VRH Novokhopyorsk 65.61 318 *e*P **P 07 22 36.6 -1.0**
VRH pmax pmax
comp=Z,40nm,0.9s
LRM Limekiln Ridge 65.83 49 *e*P **P 07 22 40.1 +0.6**
EGMT Eagleton 65.88 46 P **P 07 22 39.7 +0.1**
baz=310,SNR=13
EGMT Eagleton 65.88 46 *e*P **P 07 22 39.8 +0.3**
comp=Z,16nm,0.6s
LPSR Galich'ya Gora 65.99 321 *e*P **P 07 22 39.5 -0.6**
LPSR pmax pmax
comp=Z,30nm,1.0s
CMB Columbia Colle 66.01 60 *e*P **P 07 22 41.1 +0.6**

CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 66.01 60 *e*P **P 07 22 41.1 +0.6**
comp=Z,4.0nm,0.8s
DLMT Dillon 66.04 50 *e*P **P 07 22 41.8 +1.1**
comp=Z,8.1nm,1.1s
YERR Yerington 66.13 58 *e*P **P 07 22 42.0 +0.5**
comp=Z,10nm,0.9s
HLID Hailey 66.15 52 P **P 07 22 41.8 +0.3**
baz=309,SNR=5.6
HLID Hailey 66.15 52 *e*P **P 07 22 41.6 +0.1**
comp=Z,3.8nm,1.0s
MCMT McKenzie Canyo 66.24 50 *e*P **P 07 22 42.6 +0.4**
BOZ Bozeman (W) 66.39 49 P **P 07 22 43.4 +0.5**
baz=310,SNR=16
BOZ Bozeman (W) 66.39 49 *e*P **P 07 22 43.5 +0.5**
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BOZ Bozeman (W) 66.39 49 *e*P **P 07 22 43.5 +0.6**
comp=Z,10nm,0.8s
TVH3 East Aurora ar 66.78 59 *e*P **P 07 22 46.3 +0.6**
comp=Z,8.1nm,1.0s
TVH2 Borealis Mine 66.81 59 *e*P **P 07 22 46.3 +0.4**
comp=Z,4.7nm,1.1s
VSR Storozhevoye 66.81 320 *e*P **P 07 22 44.6 -0.7**
VSR pmax pmax
comp=Z,40nm,0.8s
VSU Vasula 66.81 331 *ce*P **P 07 22 44.5 -0.6**
VSU pmax pmax
comp=Z,51nm,1.7s
NV01 Mina Array Sit 67.05 58 *e*P **P 07 22 47.9 +0.5**
NVAR Mina Array Bea 67.05 58 P **P 07 22 48.0 +0.6**
comp=Z,7.2nm,0.8s,baz=295,slow=7.4,SNR=45
NV11 Mina Array Sit 67.14 58 *e*P **P 07 22 48.5 +0.6**
comp=Z,5.8nm,0.9s
GCMT Greycliff 67.35 48 *e*P **P 07 22 50.1 +1.0**
H17A Grant Village 67.77 49 P **P 07 22 53.8 +2.0**
baz=310,SNR=10
H17A Grant Village 67.77 49 *e*P **P 07 22 53.9 +2.1**
comp=Z,11nm,1.0s
IMW Indian Meadow 67.89 50 *e*P **P 07 22 53.7 +1.1**
comp=Z,7.1nm,0.9s
SMMC Simmler 67.94 62 P **P 07 22 52.1 -0.7**
baz=309
DZM Mont Dzumac 67.97 161 P **P 07 22 56.4 +3.4**
comp=Z,6.4nm,1.0s,baz=121,slow=8.4,SNR=3.1
RLMT Red Lodge 68.00 48 P **P 07 22 53.5 +0.3**
baz=311
RLMT Red Lodge 68.00 48 *e*P **P 07 22 53.9 +0.6**
comp=Z,17nm,1.5s
MOOW Moose Ponds 68.09 50 *e*P **P 07 22 54.7 +0.9**
comp=Z,9.3nm,1.1s
TPAW Teton Pass 68.14 50 *e*P **P 07 22 55.4 +1.2**
comp=Z,11nm,0.9s
VES Vestal, Richgr 68.19 61 P **P 07 22 53.9 -0.4**
baz=309
HVU Hansel Valley 68.22 53 *e*P **P 07 22 55.1 +0.5**
HVU pmax pmax
comp=Z,4.0nm,0.9s
HVU Hansel Valley 68.22 53 *e*P **P 07 22 55.1 +0.5**
comp=Z,4.0nm,0.9s
LOHW Long Hollow 68.26 50 *e*P **P 07 22 56.0 +1.2**
comp=Z,22nm,1.8s
SNOW Snow King Moun 68.27 50 *e*P **P 07 22 56.2 +1.3**
comp=Z,4.7nm,0.8s
REDW Red Top Meadow 68.28 50 *e*P **P 07 22 56.1 +1.0**
comp=Z,9.1nm,1.1s
DGMT Dagmar 68.39 43 P **P 07 22 55.3 -0.1**
baz=313,SNR=6.9
DGMT Dagmar 68.39 43 *e*P **P 07 22 55.8 +0.5**
comp=Z,28nm,0.8s
CWC Cottonwood Cre 68.44 60 P **P 07 22 56.2 +0.1**
baz=310
GRAC Grapevine Rang 68.53 59 P **P 07 22 57.1 +0.7**
baz=310,SNR=9.3
ASAR Alice Springs 68.56 194 P **P 07 22 56.5 0.0**
comp=Z,0.5nm,0.9s,baz=7.1,slow=5.2,SNR=6.3
LAO LASA Array 68.57 45 P **P 07 22 56.8 +0.3**
baz=312
LAO LASA Array 68.57 45 *e*P **P 07 22 57.4 +0.9**
comp=Z,19nm,1.0s
A25A Svangstu Ranch 68.60 42 P **P 07 22 56.6 0.0**
baz=313
R11A Troy Canyon, C 68.76 57 P **P 07 22 58.2 +0.1**
baz=310,SNR=11
R11A Troy Canyon, C 68.76 57 *e*P **P 07 22 58.1 +0.1**
comp=Z,6.0nm,1.0s
DAC Darwin (Calif) 68.85 60 *e*P **P 07 22 58.8 +0.2**
DAC pmax pmax
comp=Z,11nm,1.4s
DAC Darwin (Calif) 68.85 60 *e*P **P 07 22 58.8 +0.2**
comp=Z,11nm,1.4s
HWUT Hardware Ranch 69.02 52 *e*P **P 07 23 00.2 +0.6**
comp=Z,11nm,1.4s
B25A Knox Farm, Ray 69.03 43 P **P 07 22 59.4 +0.1**
baz=313
MPMC Manual Prospec 69.05 60 P **P 07 23 00.1 +0.2**
baz=310,SNR=5.2
A26A Wade Farm, Ken 69.14 42 P **P 07 23 00.2 +0.2**
baz=314,SNR=5.2
FURC Furnace Creek, 69.18 59 P **P 07 23 00.8 +0.4**
baz=310,SNR=15
DUG Dugway, Tooele 69.22 54 P **P 07 23 01.2 +0.4**
baz=311,SNR=7.6
DUG Dugway, Tooele 69.22 54 *e*P **P 07 23 01.5 +0.7**
DUG pmax pmax
comp=Z,7.0nm,0.9s
DUG Dugway, Tooele 69.22 54 *e*P **P 07 23 01.6 +0.7**
DUG Dugway, Tooele 69.22 54 *e*P **P 07 23 01.5 +0.7**
comp=Z,6.6nm,0.9s
TPNV Topopah Spring 69.25 58 P **P 07 23 01.3 +0.3**
baz=310,SNR=9.5
TPNV Topopah Spring 69.25 58 *e*P **P 07 23 01.4 +0.3**
TPNV pmax pmax
comp=Z,10.0nm,1.0s
TPNV Topopah Spring 69.25 58 *e*P **P 07 23 01.4 +0.3**
comp=Z,10.0nm,1.0s
NC303 NORSAR Array S 69.30 339 *e*P **P 07 23 00.6 -0.2**
NC405 NORSAR Array S 69.31 339 *e*P **P 07 23 00.5 -0.4**
C25A Freed Ranch, W 69.36 43 P **P 07 23 01.5 +0.1**
baz=313
BW06 Boulder Array 69.39 50 P **P 07 23 01.7 -0.2**
baz=312,SNR=7.8
BW06 Boulder Array 69.39 50 *e*P **P 07 23 01.9 -0.1**
comp=Z,6.1nm,1.0s
PD31 Pinedale Array 69.39 50 *e*P **P 07 23 01.9 0.0**
PDAR Pinedale Array 69.39 50 P **P 07 23 01.7 -0.2**
comp=Z,5.1nm,0.9s,baz=279,slow=2.9,SNR=25
PDAR LR LR 07 53 20.9
comp=Z,20nm,19.4s,baz=312,slow=36
NC204 NORSAR Array S 69.41 339 *e*P **P 07 23 00.8 -0.7**
TCUT Toone Canyon 69.43 52 *e*P **P 07 23 02.9 +0.7**
comp=Z,8.8nm,0.9s
NB201 NORSAR Array S 69.47 339 *e*P **P 07 23 01.6 -0.2**
EDW2 Edwards Air Fo 69.48 61 P **P 07 23 02.7 +0.3**
baz=310
NB2 NORSAR Subarra 69.50 339 P **P 07 23 01.5 -0.5**
comp=Z,24nm,0.7s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.50 339 P **P 07 23 01.5 -0.5**
baz=31,slow=6.5
NB2 NORSAR Subarra 69.50 339 P **P 07 23 01.4 -0.5**
NB200 NORSAR Array S 69.50 339 *e*P **P 07 23 01.6 -0.5**
NOA NORSAR Array B 69.50 339 P **P 07 23 01.6 -0.5**
comp=Z,26nm,0.8s,baz=32,slow=6.2,SNR=70
NOA LR LR 07 56 56.1
comp=Z,18nm,21.4s,baz=35,slow=39
NOA NORSAR Array B 69.50 339 P **P 07 23 01.6 -0.5**
NOA pmax pmax
comp=Z,28nm,0.8s
NOA MLR MLR
comp=Z,18nm,21.4s
NBO02 NORSAR Array S 69.58 339 *e*P **P 07 23 01.9 -0.6**
NBO00 NORSAR Array S 69.62 339 *e*P **P 07 23 02.5 -0.3**
NC602 NORSAR Array S 69.67 339 *e*P **P 07 23 02.4 -0.6**
NAO01 NORSAR Array S 69.75 339 *e*P **P 07 23 03.0 -0.5**
C26A Wahner Farm, P 69.85 42 P **P 07 23 04.4 -0.1**
baz=314
B27A Peters Farms, 69.86 42 P **P 07 23 04.7 +0.3**
baz=314
KIV Kislovodsk 69.91 312 *e*P **P 07 23 05.8 +0.9**
KIV pmax pmax
comp=Z,49nm,0.9s
KIV MLR MLR
comp=Z,52nm,17.0s
KIV Kislovodsk 69.91 312 *e*P **P 07 23 05.8 +0.9**
KIV Kislovodsk 69.91 312 *e*P **P 07 23 05.7 +0.8**
comp=Z,41nm,0.8s

SHOC Shoshone, Teco 69.91 59 P **P 07 23 05.0 0.0**
baz=310
KBZ Khabaz 69.94 312 P **P 07 23 06.0 +1.0**
comp=Z,25nm,0.9s,baz=63,slow=3.9,SNR=43
KBZ LR LR 07 57 53.9
comp=Z,50nm,20.1s,baz=44,slow=39
KBZ Khabaz 69.94 312 P **P 07 23 06.0 +1.0**
KBZ pmax pmax
comp=Z,25nm,0.9s
KBZ MLR MLR
comp=Z,50nm,20.1s
GSC Goldstone, Bar 69.96 60 P **P 07 23 05.3 -0.1**
baz=310
A28A Rude Farm, Bot 69.97 41 P **P 07 23 05.2 0.0**
baz=315,SNR=7.8
ZEI Tsey 70.03 310 *e*P **P 07 23 05.1 -0.7**
ZEI pmax pmax
comp=Z,29nm,0.5s
BFSC Mount Baldy Ra 70.11 61 P **P 07 23 06.4 +0.1**
baz=310
E25A Miller Ranch, 70.12 44 P **P 07 23 06.3 +0.1**
baz=314,SNR=9.6
SHPR Sheep Range 70.20 58 *e*P **P 07 23 07.8 +0.9**
comp=Z,5.2nm,0.9s
D26A Manning 70.24 43 P **P 07 23 06.5 -0.4**
baz=314
B28A Dugan Ranch, T 70.25 41 P **P 07 23 07.0 +0.1**
baz=315,SNR=9.4
NEY Neytrino 70.36 311 ⇓ *i*P **P 07 23 08.9 +1.1**
NEY pmax pmax
comp=Z,2.0nm,0.7s
TUQ Turquoise Moun 70.42 59 P **P 07 23 08.6 +0.3**
baz=311
A29A Manning Farm, 70.45 40 P **P 07 23 08.1 +0.1**
baz=315,SNR=26
F25A Bowman 70.49 45 P **P 07 23 08.3 -0.1**
baz=314
BBRC Big Bear Solar 70.56 61 P **P 07 23 08.9 -0.4**
baz=311
HEC Hector,Ludlow 70.56 60 P **P 07 23 09.5 +0.4**
baz=311
CCUT Cedar City 70.61 56 *e*P **P 07 23 10.0 +0.5**
comp=Z,6.8nm,1.3s
E26A Carlson Angus 70.61 44 P **P 07 23 09.0 -0.1**
baz=314,SNR=6.1
MSU Marysvale 70.69 55 *e*P **P 07 23 10.7 +0.8**
MSU Marysvale 70.69 55 *e*P **P 07 23 10.7 +0.8**
B29A Wagenman Farm, 70.72 41 P **P 07 23 09.8 +0.1**
baz=316,SNR=7.0
C28A Hausauer Farms 70.76 42 P **P 07 23 10.2 +0.3**
baz=315
MURC Murrieta 70.81 62 P **P 07 23 10.3 -0.2**
baz=311
A30A Hoffart Farm, 70.86 40 P **P 07 23 10.6 +0.1**
baz=316,SNR=8.4
P17A Butcher Ranch, 70.89 53 *e*P **P 07 23 11.8 +0.7**
comp=Z,6.9nm,0.9s
F26A Lodgepole 70.94 44 P **P 07 23 11.0 -0.1**
baz=314,SNR=8.2
MTPU Mount Pierson 71.00 55 *e*P **P 07 23 12.7 +0.7**
comp=Z,3.6nm,0.8s
ULM Lac du Bonnet 71.01 37 P **P 07 23 10.8 -0.6**
comp=Z,5.6nm,0.7s,baz=309,slow=8.0,SNR=6.6
ULM Lac du Bonnet 71.01 37 *e*P **P 07 23 10.9 -0.5**
ULM pmax pmax
comp=Z,7.0nm,0.8s
ULM Lac du Bonnet 71.01 37 *e*P **P 07 23 10.9 -0.5**
ULM Lac du Bonnet 71.01 37 *e*P **P 07 23 10.9 -0.5**
comp=Z,6.6nm,0.8s
GMRC Granite Mounta 71.01 60 P **P 07 23 11.7 -0.1**
baz=311
MDND Maddock 71.04 41 P **P 07 23 11.7 +0.1**
baz=316,SNR=7.8
MDND Maddock 71.04 41 *e*P **P 07 23 12.1 +0.5**
comp=Z,34nm,0.8s
D28A Regan 71.04 42 P **P 07 23 11.4 -0.2**
baz=315
LCMT Little Creek M 71.04 57 *e*P **P 07 23 12.5 +0.6**
comp=Z,6.1nm,1.0s
P18A Preston Nutter 71.08 53 *e*P **P 07 23 13.1 +0.7**
comp=Z,10nm,0.3s
K22A Casper 71.13 49 P **P 07 23 12.2 -0.2**
baz=313,SNR=5.4
B30A Myrvik Farm, E 71.20 40 P **P 07 23 12.7 +0.1**
baz=316,SNR=22
SRU San Rafael Swe 71.26 54 *e*P **P 07 23 13.6 +0.3**
SRU pmax pmax
comp=Z,10.0nm,0.9s
SRU San Rafael Swe 71.26 54 *e*P **P 07 23 13.6 +0.3**
comp=Z,9.6nm,0.9s
PFO Pinyon Flats O 71.27 61 P **P 07 23 13.8 +0.4**
baz=311
TPFO Pinon Flats 71.28 61 P **P 07 23 13.5 +0.1**
baz=311
KNB Kanab 71.29 56 *e*P **P 07 23 14.1 +0.6**
KNB pmax pmax
comp=Z,8.0nm,1.1s
KNB Kanab 71.29 56 *e*P **P 07 23 14.1 +0.6**
comp=Z,7.6nm,1.1s
BELC Belle Mtn. Jos 71.31 61 P **P 07 23 13.7 0.0**
baz=311
GNI Garni 71.32 308 ⇓ *e*P **P 07 23 15.3 +1.6**
RSSD Black Hills 71.44 46 P **P 07 23 14.3 -0.1**
baz=314
RSSD Black Hills 71.44 46 *e*P **P 07 23 14.2 -0.1**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD Black Hills 71.44 46 *e*P **P 07 23 14.2 -0.2**
comp=Z,6.6nm,0.8s
B31A Greenbush Farm 71.54 40 P **P 07 23 14.4 -0.2**
baz=316,SNR=8.4
D29A Pettibone, Tap 71.60 42 P **P 07 23 15.0 -0.1**
baz=316
AKASG Malin Array Be 71.61 324 P **P 07 23 14.5 -0.5**
comp=Z,13nm,0.6s,baz=39,slow=6.4,SNR=68
AKASG Malin Array Be 71.61 324 P **P 07 23 14.5 -0.5**
AKBB Malin Array Si 71.61 324 *e*P **P 07 23 14.4 -0.6**
AKBB pmax pmax
comp=Z,27nm,0.8s
AKBB Malin Array Si 71.61 324 *e*P **P 07 23 14.4 -0.6**
comp=Z,27nm,0.8s
KIEV Kiev 71.63 324 *c i*P **P 07 23 14.5 -0.6**
KIEV pmax pmax
comp=Z,28nm,0.8s
KIEV Kiev 71.63 324 *e*P **P 07 23 14.5 -0.6**
KIEV Kiev 71.63 324 *e*P **P 07 23 14.5 -0.6**
comp=Z,26nm,0.8s
AK11 Malin Array Si 71.66 324 *e*P **P 07 23 14.6 -0.6**
C30A Mose, Pekin 71.67 41 P **P 07 23 15.2 -0.2**
baz=316
A32A Rocking H Ranc 71.70 39 P **P 07 23 14.9 -0.7**
baz=317,SNR=8.4
IRM Iron Mountain 71.74 60 P **P 07 23 16.3 +0.2**
baz=311
BC3 Big Chuckawall 71.88 61 P **P 07 23 16.8 -0.2**
baz=311
O20A White River Ci 71.88 52 P **P 07 23 17.0 -0.1**
baz=313
O20A White River Ci 71.88 52 *e*P **P 07 23 17.2 +0.1**
comp=Z,9.4nm,1.2s
W13A Hualapai Mount 71.91 59 *e*P **P 07 23 17.7 +0.4**
comp=Z,2.7nm,0.8s
E29A Napoleon 71.93 42 P **P 07 23 16.5 -0.5**
baz=316
C31A Landman Farms, 71.95 40 P **P 07 23 16.7 -0.4**
baz=317,SNR=8.6
D30A Buchanan 71.97 41 P **P 07 23 16.7 -0.5**
baz=316,SNR=7.9
U15A North Rim 72.00 57 *e*P **P 07 23 18.7 +0.8**
comp=Z,7.8nm,0.9s
B32A Ashes, Strandq 72.07 39 P **P 07 23 17.2 -0.6**
baz=317,SNR=6.1
IKP In-Ko-Pah, Jac 72.12 62 P **P 07 23 18.5 0.0**
baz=311
A33A Warroad 72.19 38 P **P 07 23 17.9 -0.6**
baz=318,SNR=15
PDMCI Parker Dam,Lak 72.27 59 P **P 07 23 19.3 +0.1**
baz=312
E30A Jud 72.33 42 P **P 07 23 19.2 -0.2**
baz=316
F29A Eureka 72.36 43 P **P 07 23 19.1 -0.5**
baz=316
Y12C Blythe 72.40 60 P **P 07 23 19.8 -0.2**
baz=312
AGMN Agassiz Nation 72.44 39 P **P 07 23 19.3 -0.7**
baz=318,SNR=7.0
AGMN Agassiz Nation 72.44 39 *e*P **P 07 23 19.3 -0.7**
comp=Z,9.8nm,0.9s

C32A Crookston 72.49 40 P **P 07 23 19.8 -0.5**
baz=317
D31A Mcclaflin, Tow 72.50 41 P **P 07 23 19.9 -0.4**
baz=317,SNR=6.6
B33A Robert and Kas 72.59 39 P **P 07 23 20.2 -0.7**
baz=318
PV10 Paradox Valley 72.61 53 *e*P **P 07 23 22.4 +0.8**
N23A Red Feather La 72.64 50 P **P 07 23 21.9 +0.2**
baz=314,SNR=6.4
N23A Red Feather La 72.64 50 *e*P **P 07 23 22.6 +0.9**
comp=Z,10nm,1.0s
GLA Glamis 72.67 61 P **P 07 23 22.2 +0.5**
baz=312
D32A Dogwood Acres, 72.77 40 P **P 07 23 21.4 -0.5**
baz=317
E31A Nome 72.78 41 P **P 07 23 21.6 -0.4**
baz=317,SNR=16
PV05 Paradox Valley 72.78 54 *e*P **P 07 23 23.2 +0.7**
B34A Aery, Baudette 72.85 38 P **P 07 23 21.5 -0.9**
baz=318,SNR=5.2
C33A Trail 72.88 39 P **P 07 23 22.2 -0.4**
baz=318
PV01 Paradox Valley 73.05 53 *e*P **P 07 23 24.4 +0.3**
F31A Hecla 73.11 42 P **P 07 23 23.7 -0.4**
baz=317
WUAZ Wupatki 73.16 57 P **P 07 23 24.6 -0.1**
baz=313
WUAZ Wupatki 73.16 57 *e*P **P 07 23 25.3 +0.6**
comp=Z,5.4nm,0.9s
G30A Faulkton 73.20 43 P **P 07 23 23.9 -0.7**
baz=316,SNR=5.5
Y14A Wickenburg 73.22 59 *e*P **P 07 23 25.3 +0.4**
comp=Z,23nm,1.0s
SMCO Snowmass 73.25 52 *e*P **P 07 23 25.6 +0.2**
comp=Z,3.2nm,0.7s
D33A AnnSam, Waubun 73.31 40 P **P 07 23 24.4 -0.7**
baz=313,SNR=7.9
B35A Bob, Littlefor 73.35 38 P **P 07 23 24.7 -0.7**
baz=319,SNR=9.2
C34A RKJ Ranch, Bem 73.35 39 P **P 07 23 24.7 -0.7**
baz=318
BSD Bornholm Skovb 73.44 334 *i*P **P 07 23 25.3 -0.4**
BSD pmax pmax
comp=Z,47nm,0.8s
BSD Bornholm Skovb 73.44 334 *i*P **P 07 23 25.3 -0.4**
comp=Z,47nm,0.8s
ISCO Idaho Springs 73.58 50 P **P 07 23 27.6 +0.3**
baz=314,SNR=6.2
ISCO Idaho Springs 73.58 50 *e*P **P 07 23 28.1 +0.8**
ISCO pmax pmax
comp=Z,14nm,1.6s
ISCO Idaho Springs 73.58 50 *e*P **P 07 23 28.1 +0.8**
comp=Z,14nm,1.6s
SIM Simferopol' 73.61 317 *e*P **P 07 23 26.5 -0.4**
SIM pmax pmax
comp=Z,18nm,0.8s
F32A Veblen 73.64 41 P **P 07 23 26.9 -0.2**
baz=317
D34A Park Rapids 73.64 39 P **P 07 23 26.4 -0.8**
baz=318,SNR=9.6
E33A Westby DABS, E 73.70 40 P **P 07 23 27.0 -0.5**
baz=318,SNR=6.9
MVCO Mesa Verde 73.72 54 P **P 07 23 28.0 0.0**
baz=313,SNR=5.1
MVCO Mesa Verde 73.72 54 *e*P **P 07 23 28.4 +0.4**
comp=Z,5.5nm,0.9s
C35A Jirik Farms, M 73.74 38 P **P 07 23 27.1 -0.6**
baz=319
X16A Lo Mia Camp, P 73.86 58 *e*P **P 07 23 29.6 +0.8**
comp=Z,6.8nm,0.8s
SORM Soroca 73.92 323 ⇑ *i*P **P 07 23 28.3 -0.4**
SORM Soroca 73.92 323 ⇑P **P 07 23 28.3 -0.4**
H31A Wolsey 74.00 43 P **P 07 23 28.8 -0.5**
baz=317
F33A 5 Mile Ranch, 74.06 41 P **P 07 23 29.3 -0.2**
baz=318
D35A Remer 74.17 39 P **P 07 23 29.5 -0.7**
baz=319
C36A Pine Crest Far 74.20 38 P **P 07 23 29.5 -0.9**
baz=319,SNR=8.8
S22A 4UR Ranch, Cre 74.32 53 P **P 07 23 32.0 +0.4**
baz=314,SNR=6.7
S22A 4UR Ranch, Cre 74.32 53 *e*P **P 07 23 32.6 +1.0**
comp=Z,4.8nm,1.0s
J30A Dallas 74.33 44 P **P 07 23 30.8 -0.4**
baz=317,SNR=7.0
E35A Pequot Lakes 74.40 39 P **P 07 23 31.2 -0.4**
baz=319
G33A Ortonville 74.46 41 P **P 07 23 31.5 -0.5**
baz=318,SNR=9.8
D36A Goodland 74.49 38 P **P 07 23 31.5 -0.6**
baz=319
C37A Embarrass 74.51 37 P **P 07 23 31.2 -0.9**
baz=320,SNR=7.1
F34A Alexandria 74.58 40 P **P 07 23 32.2 -0.4**
baz=318
EYMN Ely 74.64 37 P **P 07 23 32.5 -0.5**
baz=320
EYMN Ely 74.64 37 *e*P **P 07 23 32.4 -0.5**
comp=Z,8.7nm,0.8s
214A Organ Pipe Nat 74.67 60 P **P 07 23 34.0 +0.6**
baz=313
H33A Prehn Over Nor 74.70 42 P **P 07 23 32.6 -0.7**
baz=318,SNR=5.3
OGNE Ogallala 74.72 47 P **P 07 23 33.4 -0.2**
baz=316
OGNE Ogallala 74.72 47 *e*P **P 07 23 33.8 +0.2**
comp=Z,34nm,0.9s
J31A Geddes 74.73 44 P **P 07 23 33.4 -0.2**
baz=317
K30A Basset 74.74 45 P **P 07 23 33.3 -0.4**
baz=317,SNR=5.5
G34A Benson 74.81 41 P **P 07 23 33.7 -0.2**
baz=318
D37A Cotton 74.84 38 P **P 07 23 33.6 -0.4**
baz=320
F35A Swanville 74.85 40 P **P 07 23 33.8 -0.4**
baz=319
C38A Sawbill Land. 74.91 37 P **P 07 23 33.6 -0.9**
baz=320,SNR=6.6
E36A McGregor 74.95 39 P **P 07 23 34.1 -0.6**
baz=319,SNR=8.6
SDCO Great Sand Dun 75.07 52 P **P 07 23 36.0 +0.1**
baz=315,SNR=6.0
SDCO Great Sand Dun 75.07 52 *e*P **P 07 23 36.4 +0.4**
comp=Z,1.8nm,0.8s
KWP Kalwaria Pacla 75.12 327 *e*P **P 07 23 36.2 +0.6**
KWP Kalwaria Pacla 75.12 327 *e*P **P 07 23 36.2 +0.6**
K31A O'Neill 75.21 44 P **P 07 23 36.0 -0.3**
baz=317
F36A Milaca 75.33 39 P **P 07 23 36.0 -0.8**
baz=319
G35A Watkins 75.37 40 P **P 07 23 37.1 -0.1**
baz=319
ECSD EROS Data Cent 75.46 42 P **P 07 23 37.1 -0.5**
baz=318,SNR=15
ECSD EROS Data Cent 75.46 42 *e*P **P 07 23 37.2 -0.5**
comp=Z,10nm,0.9s
L31A Butterfield Fa 75.50 45 P **P 07 23 37.7 -0.3**
baz=317,SNR=7.6
K32A Verdigre 75.58 44 P **P 07 23 38.9 +0.4**
baz=318
J33A Davis 75.59 43 P **P 07 23 38.0 -0.5**
baz=318
H35A Sunnyside Ranc 75.60 41 P **P 07 23 38.3 -0.1**
baz=319,SNR=9.5
BUR08 Bucovina Ar. S 75.66 324 *e*P **P 07 23 39.1 +0.2**
BURAR Bucovina Array 75.67 324 ⇓ *i*P **P 07 23 38.9 -0.1**
BURAR Bucovina Array 75.67 324 ⇓P **P 07 23 38.9 -0.1**
TUC Tucson 75.69 59 P **P 07 23 39.4 +0.1**
baz=314
TUC Tucson 75.69 59 *e*P **P 07 23 39.9 +0.6**
TUC pmax pmax
comp=Z,2.0nm,0.9s
TUC Tucson 75.69 59 *e*P **P 07 23 39.9 +0.6**
comp=Z,2.2nm,0.9s
G36A St. Michael 75.70 40 P **P 07 23 38.6 -0.4**
baz=319
OJC Ojcow 75.77 329 *e*P **P 07 23 39.5 +0.1**
OJC Ojcow 75.77 329 *e*P **P 07 23 39.5 +0.1**
OJC pmax pmax
comp=Z,26nm,1.0s
OJC Ojcow 75.77 329 *e*P **P 07 23 39.5 +0.1**
OJC Ojcow 75.77 329 *e*P **P 07 23 39.5 +0.1**
comp=Z,26nm,1.0s
KSCO Kaye Shedlock' 75.78 49 P **P 07 23 39.1 -0.7**
baz=316

KOLS Kolonicke sedl 75.85 326 eP P 07 23 40.0 +0.2
KOLS pmax pmax
comp=Z,121nm,3.0s
KOLS Kolonicke sedl 75.85 326 eP P 07 23 40.0 +0.2
STHS Stebnicka Huta 75.87 327 eP P 07 23 40.9 +1.0
STHS pmax pmax
comp=Z,12nm,0.8s
STHS Stebnicka Huta 75.87 327 eP P 07 23 40.9 +1.0
TESR Tescani 75.91 322 ⇑iP P 07 23 40.3 +0.1
TLCR 75.95 320 ⇑iP P 07 23 39.8 -0.6
TLCR 75.95 320 ⇑P P 07 23 39.8 -0.6
K33A Hardington 76.11 43 P P 07 23 41.1 -0.3
baz=318
H36A Jessenland, He 76.11 40 P P 07 23 41.4 0.0
baz=319,SNR=9.1
T25A Trinidad 76.12 52 P P 07 23 41.7 -0.1
baz=315
T25A Trinidad 76.12 52 eP P 07 23 41.8 0.0
comp=Z,4.4nm,0.8s
SPMN Marine on St. 76.14 39 P P 07 23 41.3 -0.2
baz=320
I35A Creekview Farm 76.16 41 P P 07 23 41.8 +0.1
baz=319
CRVS Cervenica-Dubn 76.19 327 eP P 07 23 42.1 +0.3
CRVS Cervenica-Dubn 76.19 327 eP P 07 23 42.1 +0.3
NIE Niedzica 76.23 328 eP P 07 23 42.7 +0.7
NIE Niedzica 76.23 328 eP P 07 23 42.7 +0.7
CFR Carcaliu 76.27 321 ⇑iP P 07 23 41.8 -0.4
CFR Carcaliu 76.27 321 ⇑P P 07 23 41.8 -0.4
VRI Vrincioaia 76.37 322 ⇑iP P 07 23 43.3 +0.4
VRI Vrincioaia 76.37 322 ⇑P P 07 23 43.3 +0.4
BGNE Belgrade 76.41 45 P P 07 23 43.0 -0.2
baz=318
PLOR Plostina 76.42 322 ⇑iP P 07 23 45.3 +2.1
PLOR Plostina 76.42 322 ⇑P P 07 23 45.3 +2.1
LAZ Ladron 76.45 55 eP P 07 23 44.8 +1.0
ANMO Albuquerque 76.48 54 P P 07 23 44.3 +0.4
baz=315
ANMO Albuquerque 76.48 54 ceP P 07 23 43.9 0.0
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO Albuquerque 76.48 54 eP P 07 23 44.6 +0.7
comp=Z,3.2nm,1.0s
K34A Le Mars 76.49 43 P P 07 23 43.3 -0.3
baz=318
I36A Fitzsimmons Fa 76.49 41 P P 07 23 43.4 -0.2
baz=319
KSP Ksiaz 76.54 331 eP P 07 23 43.9 +0.2
KSP Ksiaz 76.54 331 eP P 07 23 43.9 +0.2
H37A Dierke Farm, C 76.58 40 P P 07 23 44.0 -0.1
baz=320
O31A Woolen Ranch, 76.72 47 P P 07 23 44.7 -0.3
baz=317
LANS Liptovska Anna 76.77 328 eP P 07 23 46.0 +0.9
LANS Liptovska Anna 76.77 328 eP P 07 23 46.0 +0.9
M33A Taylor Creek F 76.77 44 P P 07 23 44.9 -0.3
baz=318
I37A Lemond, Waseca 76.78 40 P P 07 23 45.1 -0.1
baz=320,SNR=9.8
DOPR Dopca 76.88 323 ⇑iP P 07 23 46.7 +1.0
L34A Svendsen Farm, 76.89 44 P P 07 23 45.2 -0.6
baz=318
KECS Kecovo 76.91 327 eP P 07 23 46.4 +0.6
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 76.91 327 eP P 07 23 46.4 +0.6
UPC Upice 76.92 331 ⇑eP P 07 23 46.0 +0.2
UPC Upice 76.92 331 eP P 07 23 46.0 +0.2
DPC Dobruska-Polom 76.94 330 eP P 07 23 46.7 +0.7
DPC Dobruska-Polom 76.94 330 eP P 07 23 46.7 +0.7
MORC Moravsky Berou 76.97 329 eP P 07 23 46.7 +0.5
MORC pmax pmax
comp=Z,58nm,0.9s
MORC Moravsky Berou 76.97 329 eP P 07 23 46.7 +0.5
comp=Z,58nm,0.9s
MLR Muntele Rosu 77.01 322 ⇓iP P 07 23 47.2 +0.6
MLR Muntele Rosu 77.01 322 eP P 07 23 47.0 +0.4
MLR pmax pmax
comp=Z,8.0nm,0.6s
MLR Muntele Rosu 77.01 322 eP P 07 23 47.0 +0.4
comp=Z,8.4nm,0.6s
ISR Istrita 77.03 322 ⇑iP P 07 23 45.5 -1.1
ISR Istrita 77.03 322 ⇑P P 07 23 45.5 -1.1
SCHQ Schefferville 77.21 20 P P 07 23 47.2 -0.2
comp=Z,5.2nm,0.5s,baz=333,slow=5.0,SNR=16
SCHQ Schefferville 77.21 20 eP P 07 23 47.2 -0.2
comp=Z,23nm,1.4s
J37A Redenius Farm, 77.25 41 P P 07 23 47.8 -0.1
baz=320
319A Douglas 77.26 59 eP P 07 23 48.8 +0.6
comp=Z,9.2nm,0.8s
I38A Scanlan Farm, 77.26 40 P P 07 23 47.7 -0.2
baz=320
CLL Collm 77.27 333 ⇑iP P 07 23 47.5 -0.3
comp=Z,29nm,0.8s
CLL Collm 77.27 333 eP P 07 23 47.4 -0.3
CLL pmax pmax
comp=Z,49nm,1.2s
CLL Collm 77.27 333 eP P 07 23 47.3 -0.5
CLL Collm 77.27 333 eP P 07 23 47.4 -0.3
comp=Z,48nm,1.2s
SECR 77.31 322 ⇑iP P 07 23 52.7 +4.6
BRG Berggiesshubel 77.32 332 eP P 07 23 48.0 -0.1
comp=Z,17nm,1.4s
BRG Berggiesshubel 77.32 332 eP P 07 23 48.0 -0.1
BRG pmax pmax
comp=Z,17nm,1.4s
K36A Gilmore City 77.33 42 P P 07 23 47.8 -0.5
baz=319
121A Cookes Peak, D 77.37 57 P P 07 23 49.1 +0.2
baz=315
DRGR 77.37 325 ⇑iP P 07 23 48.5 0.0
DRGR 77.37 325 ⇑P P 07 23 48.6 0.0
VOIR 77.44 323 ⇑iP P 07 23 49.3 +0.3
VOIR 77.44 323 ⇑P P 07 23 49.3 +0.3
CBKS Cedar Bluff 77.48 48 P P 07 23 48.4 -0.9
baz=317
P32A Huiting Farm, 77.49 46 P P 07 23 48.2 -1.1
baz=318
VYHS Vyhne 77.54 328 eP P 07 23 50.0 +0.6
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 77.54 328 eP P 07 23 50.0 +0.6
M35A Neola 77.60 44 P P 07 23 49.5 -0.3
baz=319
PSZ Piszkesteto 77.60 327 eP P 07 23 50.1 +0.3
PSZ pmax pmax
comp=Z,14nm,1.0s
PSZ Piszkesteto 77.60 327 eP P 07 23 50.1 +0.3
comp=Z,14nm,1.0s
K37A Belmond 77.62 41 P P 07 23 49.2 -0.7
baz=320
L36A Harm Buss Farm 77.63 42 P P 07 23 49.3 -0.6
baz=319
N34A Lincoln 77.67 44 P P 07 23 49.0 -1.2
baz=319
BR101 Keskin Array S 77.67 314 eP P 07 23 50.8 +0.3
BR131 Keskin Array S 77.67 314 eP P 07 23 50.7 +0.3
BRTR Keskin Array B 77.67 314 P P 07 23 50.8 +0.3
comp=Z,3.1nm,0.7s,baz=79,slow=3.2,SNR=22
O33A Hebron 77.68 46 P P 07 23 50.0 -0.3
baz=318
J38A Wedel Dairy, R 77.75 40 P P 07 23 50.2 -0.4
baz=320
GOPC GO Pecny, Ondr 77.84 331 eP P 07 23 51.5 +0.5
GOPC GO Pecny, Ondr 77.84 331 eP P 07 23 51.5 +0.5
PRU Pruhonice 77.87 331 ⇑eP P 07 23 51.5 +0.4
PRU Pruhonice 77.87 331 eP P 07 23 51.5 +0.4
Q32A Meitler Ranch, 77.98 47 P P 07 23 51.0 -1.0
baz=318,SNR=5.4
ESK Eskdalemuir 78.01 344 iP P 07 23 52.8 +1.0
BR231 Keskin MP Arra 78.03 314 eP P 07 23 51.4 -1.0
L37A Phoenix Point, 78.05 42 P P 07 23 52.1 -0.2
baz=320
O34A Beatrice 78.06 45 P P 07 23 51.1 -1.3
baz=319,SNR=6.0
N35A Tabor 78.08 44 P P 07 23 52.2 -0.3
baz=319
MOX Moxa 78.29 333 P P 07 23 53.9 +0.4
MOX pmax pmax
comp=Z,11nm,1.1s
R32A Long Quarter, 78.31 47 P P 07 23 53.0 -0.9
baz=318
Q33A Connelly Farm, 78.35 46 P P 07 23 53.1 -0.9
baz=318,SNR=16
L38A Oak Wood Farm, 78.42 41 P P 07 23 54.0 -0.4
baz=320
N36A Muff Farm, Cla 78.46 44 P P 07 23 54.6 0.0
baz=319
P34A Walnut Farm, R 78.47 45 P P 07 23 53.4 -1.3
baz=319,SNR=7.1
S32A Newby Ranch, P 78.73 48 P P 07 23 55.7 -0.4
baz=318
R33A Olander Ranch, 78.78 47 P P 07 23 55.7 -0.7
baz=318
M38A Pleasantville 78.86 42 P P 07 23 56.4 -0.3
baz=320
N37A Lee Faris, Mou 78.87 43 P P 07 23 56.8 0.0
baz=320
Q34A Chapman 78.87 46 P P 07 23 56.5 -0.4
baz=319
P35A Duane Minner, 78.89 45 P P 07 23 56.4 -0.6
baz=319
KSU1 Kansas State U 78.91 46 P P 07 23 56.2 -0.9
baz=319
KSU1 Kansas State U 78.91 46 eP P 07 23 56.3 -0.8
comp=Z,15nm,0.6s
KHC Kasperske Hory 78.93 331 ⇑iP P 07 23 57.4 +0.3
KHC epP pP 07 24 18.9 +1.4
KHC Kasperske Hory 78.93 331 eP P 07 23 57.3 +0.3
KHC pmax pmax
comp=Z,6.0nm,0.7s
KHC Kasperske Hory 78.93 331 eP P 07 23 57.3 +0.3
comp=Z,6.3nm,0.7s
O36A Bolckow 78.97 44 P P 07 23 57.1 -0.3
baz=320
SOP Sopron 79.08 329 P P 07 23 58.8 +1.0
SOP pmax pmax
comp=Z,22nm,0.9s
T32A Huddler Ranch, 79.12 48 P P 07 23 57.9 -0.4
baz=318
CONA Conrad Observa 79.13 329 iP P 07 23 59.0 +0.7
comp=Z,7.7nm,0.7s,SNR=9.5
GEC2 GERESS Array S 79.13 331 eP P 07 23 58.3 0.0
GEC2 pmax pmax
comp=Z,5.0nm,0.6s
GEC2 GERESS Array S 79.13 331 eP P 07 23 58.3 0.0
comp=Z,5.4nm,0.6s
GERES GERESS Array B 79.13 331 P P 07 23 58.2 0.0
comp=Z,4.3nm,0.6s,baz=33,slow=5.1,SNR=23
GERES GERESS Array B 79.13 331 P P 07 23 58.2 0.0
GEA0 GERESS Array S 79.14 331 eP P 07 23 58.0 -0.3
R34A Isabella, Hill 79.18 47 P P 07 23 58.3 -0.3
baz=318
P36A Good Intent, A 79.24 44 P P 07 23 58.4 -0.5
baz=319
GRF Grafenberg Arr 79.24 333 P P 07 23 59.0 +0.3
GRF pmax pmax
comp=Z,44nm,0.7s
GRFO Grafenberg 79.24 333 eP P 07 23 59.4 +0.7
GRFO pmax pmax
comp=Z,20nm,0.7s
GRFO Grafenberg 79.24 333 eP P 07 23 59.4 +0.7
comp=Z,20nm,0.7s
S33A Kaszmaul Farm, 79.30 47 P P 07 23 59.2 -0.1
baz=318
N38A Joes South For 79.32 43 P P 07 23 58.8 -0.6
baz=320,SNR=5.3
O37A Wolven Farm, M 79.35 43 P P 07 23 59.2 -0.3
baz=320
Q35A Mercer Eighty, 79.39 45 P P 07 23 59.0 -0.8
baz=319
MNTX Cornudas Mount 79.40 56 P P 07 23 60.0 +0.1
baz=316,SNR=8.0
MNTX Cornudas Mount 79.40 56 eP P 07 24 00.2 +0.2
comp=Z,8.2nm,1.3s
N39A Derby Farms, D 79.61 42 P P 07 24 00.8 0.0
baz=321
U32A Winter Ranch, 79.66 49 P P 07 24 00.9 -0.4
baz=318
P37A Lathrop 79.69 44 P P 07 24 00.6 -0.7
baz=320,SNR=8.0
S34A Willow Spring 79.70 47 P P 07 24 01.1 -0.3
baz=319
R35A Emporia Munici 79.71 46 P P 07 24 01.3 -0.1
baz=319
O38A Galt 79.72 43 P P 07 24 01.5 0.0
baz=320
MOA Molln 79.77 330 iP P 07 24 01.8 +0.2
comp=Z,6.8nm,0.9s
ARSA Arberg 79.82 329 iP P 07 24 02.3 +0.4
comp=Z,2.6nm,0.5s
MEM Membach 80.04 336 P P 07 24 03.5 +0.5
R36A Gordon, Harris 80.06 45 P P 07 24 02.7 -0.6
baz=319,SNR=15
P38A Dawn 80.07 43 P P 07 24 02.9 -0.5
baz=320,SNR=9.2
O39A Kirksville 80.07 42 P P 07 24 03.2 -0.2
baz=321
U33A Lingo Farm, Me 80.11 48 P P 07 24 03.2 -0.5
baz=318,SNR=5.4
S35A Otter Creek Ra 80.12 46 P P 07 24 03.2 -0.5
baz=319,SNR=6.9
T34A McClaskey Farm 80.16 47 P P 07 24 03.3 -0.6
baz=319,SNR=5.1
Q37A Longview Farm, 80.18 44 P P 07 24 03.2 -0.8
baz=320
U34A Anderson Ranch 80.41 48 P P 07 24 04.9 -0.3
baz=319,SNR=7.8
U34A Anderson Ranch 80.41 48 eP P 07 24 05.5 +0.2
comp=Z,26nm,0.8s
BCLA Clavier 80.42 337 P P 07 24 04.8 -0.2
comp=Z,8.6nm,0.9s
R37A Teagarden Farm 80.42 45 P P 07 24 04.2 -1.1
baz=320,SNR=8.6
W32A Sentinel 80.46 50 P P 07 24 05.6 +0.1
baz=318
V33A Lossen Ranch, 80.47 49 P P 07 24 05.2 -0.4
baz=318
S36A Lake Cedric, C 80.47 46 P P 07 24 05.0 -0.5
baz=319,SNR=17
SOKA Soboth 80.48 329 iP P 07 24 05.7 +0.1
comp=Z,20nm,1.0s,SNR=9.9
GROS Grobnik 80.49 329 iP P 07 24 05.4 -0.2
O40A La Belle 80.50 42 P P 07 24 05.2 -0.5
baz=321,SNR=7.5
Q38A Cooks Store, C 80.54 44 P P 07 24 05.2 -0.7
baz=320,SNR=18
P39B Salisbury 80.56 43 P P 07 24 05.5 -0.5
baz=321
T35A Sooner Cattle 80.60 47 P P 07 24 06.0 -0.3
baz=319,SNR=8.7
KBA Koelnbreinsper 80.76 330 iP P 07 24 07.8 +0.6
comp=Z,8.3nm,0.6s,SNR=10
KBA Koelnbreinsper 80.76 330 P P 07 24 07.7 +0.6
KBA pmax pmax
comp=Z,20nm,0.8s
Q39A Willow Grove F 80.79 43 P P 07 24 06.8 -0.5
baz=321,SNR=10.0
OBKA Obir 80.81 329 iP P 07 24 07.1 -0.2
comp=Z,3.8nm,0.6s
T36A Boggs Farm, Ca 80.82 47 P P 07 24 07.1 -0.3
baz=319,SNR=6.5
GOLS Golise 80.83 328 iP P 07 24 07.1 -0.2
S37A Fort Scott 80.84 45 P P 07 24 06.8 -0.7
baz=320,SNR=9.8
W33A Caddo, Fort Co 80.86 49 P P 07 24 08.0 +0.2
baz=318
V34A Guthrie 80.87 48 P P 07 24 07.6 -0.1
baz=319,SNR=5.3
V34A Guthrie 80.87 48 eP P 07 24 07.7 -0.1
comp=Z,12nm,0.8s
P40A Paris 80.88 43 P P 07 24 07.4 -0.3
baz=321,SNR=7.3
X32A Elmer 80.95 50 P P 07 24 07.8 -0.5
baz=318,SNR=5.4
R38A Fenwick Farm, 80.98 45 P P 07 24 06.9 -1.3
baz=320,SNR=8.2
WMOK Wichita Mounta 81.00 50 P P 07 24 08.1 -0.4
baz=318
MYKA Terra Mystica 81.03 330 iP P 07 24 07.8 -0.7
comp=Z,4.0nm,0.6s
WATA Walderalm 81.16 332 iP P 07 24 09.5 +0.3
comp=Z,7.6nm,0.4s
W34A Bridge Creek, 81.18 49 P P 07 24 09.6 +0.2
baz=319
WTTA Wattenberg 81.20 331 iP P 07 24 09.2 -0.3
comp=Z,11nm,0.6s
Q40A Laux Farm, Aux 81.28 43 P P 07 24 09.2 -0.6
baz=321,SNR=6.8
T37A Cheneyville 18 81.28 46 P P 07 24 09.2 -0.6
baz=320,SNR=9.9
V35A Meyer Ranch, C 81.29 48 P P 07 24 09.6 -0.4
baz=319
VISS Visnje 81.30 329 iP P 07 24 09.2 -0.6
RETA Reutte 81.30 332 iP P 07 24 10.1 +0.2
comp=Z,12nm,1.1s
MOTA Moosalm 81.31 332 iP P 07 24 10.1 +0.1
comp=Z,7.7nm,0.6s,SNR=9.0
BFO Black Forest 81.36 334 eP P 07 24 09.8 -0.4
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 81.36 334 eP P 07 24 09.8 -0.4
comp=Z,7.4nm,0.8s
HDIL Hopedale 81.39 40 P P 07 24 09.8 -0.6
baz=322,SNR=7.0
HDIL Hopedale 81.39 40 eP P 07 24 10.4 0.0
comp=Z,34nm,0.8s
U36A Oologah 81.40 47 P P 07 24 10.4 -0.1
baz=320
S38A Stockton 81.41 45 P P 07 24 09.6 -0.9
baz=320
CDF Champ du Feu 81.62 335 eP P 07 24 10.9 -0.7
CDF pmax pmax
comp=Z,9.0nm,0.7s
X34A Smith Ranch, M 81.62 49 P P 07 24 12.1 +0.4
baz=319
Y33A Hilltop Ranch, 81.63 50 P P 07 24 11.4 -0.4
baz=318
S39A Bolivar 81.66 45 P P 07 24 10.8 -1.1
baz=321,SNR=11
T38A Diamond 81.67 46 P P 07 24 11.4 -0.6
baz=320,SNR=22
U37A Salina 81.72 47 P P 07 24 11.8 -0.4
baz=320,SNR=5.9
FETA Feichten 81.72 332 iP P 07 24 12.4 +0.1
comp=Z,6.3nm,0.7s
R40A Maddies Statio 81.73 44 P P 07 24 11.5 -0.7
baz=321,SNR=15
W35A Tecumseh 81.73 48 P P 07 24 12.2 -0.1
baz=319
TUL1 Leonard 81.74 47 P P 07 24 11.9 -0.4
baz=320
TUL1 Leonard 81.74 47 eP P 07 24 12.3 0.0
comp=Z,9.9nm,0.8s
DAVA Damuels 81.77 333 iP P 07 24 12.4 -0.1
comp=Z,8.6nm,0.7s
U38A Gravette 82.07 46 P P 07 24 13.6 -0.5
baz=320
W36A Wetumka 82.09 48 P P 07 24 13.8 -0.3
baz=319,SNR=5.4
Q42A Golden Eagle 82.09 42 P P 07 24 13.7 -0.4
baz=322,SNR=6.0
V37A Hulbert 82.10 47 P P 07 24 13.7 -0.5
baz=320,SNR=11
TX31 Lajitas Ar. Si 82.12 57 eP P 07 24 14.7 +0.1
LTX Lajitas 82.12 57 eP P 07 24 14.7 +0.1
LTX Lajitas 82.12 57 eP P 07 24 14.7 +0.1
TXAR Lajitas Array 82.12 57 P P 07 24 14.7 +0.1
comp=Z,6.1nm,0.8s,baz=300,slow=4.0,SNR=75
Y34A Reagan Ranch, 82.14 50 P P 07 24 14.4 -0.1
baz=319
T39A Clever 82.14 45 P P 07 24 13.5 -1.0
baz=321,SNR=6.8
S40A Lebanon 82.14 44 P P 07 24 13.5 -1.0
baz=321,SNR=8.4
FUORN Ofenpass-Fuorn 82.23 332 eP P 07 24 15.4 +0.4
comp=Z,29nm,1.4s
SADO Sadowa 82.23 32 LR LR 08 05 04.9
comp=Z,21nm,18.2s,baz=44,slow=39
X35A Drake 82.24 49 P P 07 24 14.3 -0.7
baz=319,SNR=7.6
HINF Hinteralfeld 82.28 335 eP P 07 24 13.9 -1.1
HINF pmax pmax
comp=Z,5.0nm,0.6s
HHAR Hobbs 82.42 46 eP P 07 24 15.2 -0.7
comp=Z,8.0nm,0.7s
X36A Centrahoma 82.45 48 P P 07 24 15.9 -0.2
baz=319,SNR=5.6
T40A Mansfield 82.48 44 P P 07 24 15.7 -0.5
baz=321
133A Hamilton Ranch 82.50 51 P P 07 24 16.4 0.0
baz=318
V38A Canehill 82.50 46 P P 07 24 15.9 -0.5
baz=320,SNR=9.2
W37B Quinton 82.51 48 P P 07 24 16.3 -0.1
baz=320,SNR=6.1
SFIN Lafayette 82.54 39 P P 07 24 16.2 -0.2
baz=324
Y35A Marietta 82.58 49 P P 07 24 16.5 -0.2
baz=319
U39A Green Forest 82.58 46 P P 07 24 16.1 -0.7
baz=321,SNR=21
TRQ Mont Tremblant 82.63 28 eP P 07 24 16.3 -0.6
LMQ La Malbaie 82.82 25 eP P 07 24 17.4 -0.4
Z35A Perchaven, San 82.89 50 P P 07 24 18.0 -0.4
baz=319
V39A Pettirew 82.92 46 P P 07 24 17.7 -0.9
baz=321,SNR=11
U40A Yellville 82.93 45 P P 07 24 17.8 -0.7
baz=321,SNR=16
T41A Mountain View 82.95 44 P P 07 24 17.7 -0.9
baz=322,SNR=7.5
X37A Clayton 82.96 48 P P 07 24 18.5 -0.2
baz=320
Y36A Durant 82.99 49 P P 07 24 18.7 -0.2
baz=320
134A White-Moore Ra 83.00 51 P P 07 24 18.8 -0.2
baz=319
W38A Poteau 83.05 47 P P 07 24 19.0 -0.2
baz=320,SNR=6.5
X38A Whitesboro 83.19 47 P P 07 24 19.8 -0.1
baz=320,SNR=5.9
R44A Waltonville 83.31 42 P P 07 24 20.1 -0.4
baz=323
W39A Magazine 83.34 46 P P 07 24 20.1 -0.5
baz=321,SNR=5.4
S43A Fulton Ridge, 83.37 43 P P 07 24 20.2 -0.5
baz=322,SNR=8.2
135A Vickery Place, 83.38 50 P P 07 24 20.6 -0.3
baz=319
Z36A Blue Ridge 83.39 49 P P 07 24 20.9 -0.1
baz=320
234A Clairette 83.39 51 P P 07 24 20.7 -0.3
baz=319,SNR=5.2
333A Richland Sprin 83.42 52 P P 07 24 20.9 -0.2
baz=318,SNR=5.8
SENIN Lac Senin/Sane 83.43 334 eP P 07 24 21.2 0.0
comp=Z,8.0nm,0.8s
JCT Junction City 83.57 53 P P 07 24 21.7 -0.3
baz=318
CABF La Chapelle 83.59 335 eP P 07 24 22.9 +1.0
CABF pmax pmax
comp=Z,64nm,2.0s
S44A Carbondale 83.67 42 P P 07 24 22.1 -0.2
baz=323,SNR=10
SIUC Southern Illin 83.67 42 eP P 07 24 22.6 +0.3
comp=Z,32nm,0.8s
X39A Fountain Ranch 83.69 47 P P 07 24 22.3 -0.2
baz=320,SNR=6.4
W40A Ferguson Farm, 83.71 46 P P 07 24 22.1 -0.4
baz=321
V41A Mountainview 83.73 45 P P 07 24 21.7 -0.9
baz=321,SNR=8.9
433A Art 83.78 53 P P 07 24 22.8 -0.2
baz=318
PPT Papeete 83.79 122 LR LR 07 55 25.9
comp=Z,24nm,21.6s,baz=316,slow=31
PPT2 Papeete2 83.80 122 eLR LR 07 50 55.8
comp=Z,105nm,28.5s
PPT2 Papeete2 83.80 122 eT T 08 56 47.7
comp=Z,4.6nm,0.3s
334A Lometa 83.83 52 P P 07 24 23.4 +0.1
baz=319
136A Ennis 83.93 50 P P 07 24 23.2 -0.5
baz=320
MIAR Mount Ida 83.95 47 P P 07 24 23.4 -0.4
baz=321,SNR=9.8
MIAR Mount Ida 83.95 47 eP P 07 24 23.6 -0.2
MIAR pmax pmax
comp=Z,15nm,0.9s
MIAR Mount Ida 83.95 47 eP P 07 24 23.6 -0.2
comp=Z,15nm,0.9s
X201 Greenbrier Sit 84.00 46 eP P 07 24 23.7 -0.3
comp=Z,15nm,1.3s
S45A Carrier Mills 84.01 42 P P 07 24 23.8 -0.2
baz=323
X301 Greenbrier Sit 84.02 46 eP P 07 24 23.7 -0.4
comp=Z,18nm,1.4s
V42A Cord 84.10 45 P P 07 24 23.6 -0.9
baz=322

Y39A	**Lockesburg**	**84.14**	**47**	P		**P**	**07 24 24.7**	**-0.1**
	baz=320							
W41B	**Gary Mavity, V**	**84.15**	**46**	P		**P**	**07 24 24.2**	**-0.6**
	baz=321,SNR=7.3							
434A	**Burnet**	**84.20**	**52**	P		**P**	**07 24 24.7**	**-0.5**
	baz=319							
PARMO	**Parma**	**84.24**	**43**	*e*P		**P**	**07 24 25.4**	**+0.1**
AVF	**Avril sur Loir**	**84.25**	**336**	*e*P		**P**	**07 24 24.6**	**-0.5**
AVF				pmax	pmax			
	comp=Z,9.0nm,0.8s							
236A	**Katherine and**	**84.29**	**50**	P		**P**	**07 24 26.0**	**+0.4**
	baz=320							
533A	**Kerrville**	**84.32**	**53**	P		**P**	**07 24 26.1**	**+0.3**
	baz=318							
LPL	**La Plagne**	**84.36**	**334**	*e*P		**P**	**07 24 25.7**	**-0.3**
LPL				pmax	pmax			
	comp=Z,11nm,0.8s							
LPG	**La Plagne**	**84.37**	**334**	*e*P		**P**	**07 24 26.6**	**+0.5**
LPG				pmax	pmax			
	comp=Z,9.0nm,0.6s							
X40A	**Basin Creek Fa**	**84.38**	**46**	P		**P**	**07 24 26.0**	**0.0**
	baz=321							
ACSO	**Alum Creek Sta**	**84.48**	**37**	*e*P		**P**	**07 24 26.4**	**0.0**
	comp=Z,13nm,0.8s							
Y40A	**Okolona**	**84.52**	**47**	P		**P**	**07 24 26.5**	**-0.1**
	baz=321							
X41A	**Kaden, Bauxite**	**84.54**	**46**	P		**P**	**07 24 27.0**	**+0.2**
	baz=321							
138A	**Matatall Enter**	**84.58**	**49**	P		**P**	**07 24 28.3**	**+1.3**
	baz=320							
WCI	**Wyandotte Cave**	**84.64**	**40**	*e*P		**P**	**07 24 26.9**	**-0.4**
WCI				pmax	pmax			
	comp=Z,14nm,0.9s							
WCI	**Wyandotte Cave**	**84.64**	**40**	*e*P		**P**	**07 24 26.9**	**-0.4**
	comp=Z,14nm,0.9s							
534A	**Blanco**	**84.67**	**53**	P		**P**	**07 24 27.2**	**-0.4**
	baz=319,SNR=6.0							
633A	**Saathoff Ranch**	**84.69**	**54**	P		**P**	**07 24 27.5**	**-0.1**
	baz=318,SNR=6.6							
M54A	**Oil Creek Stat**	**84.79**	**34**	P		**P**	**07 24 27.4**	**-0.6**
	baz=328							
QUIF	**Quistinic**	**84.93**	**341**	*e*P		**P**	**07 24 28.0**	**-0.4**
QUIF				pmax	pmax			
	comp=Z,16nm,0.8s							
Y41A	**Eaglette Beard**	**84.97**	**47**	P		**P**	**07 24 29.0**	**0.0**
	baz=321							
Z40A	**Long Farm, Mag**	**85.03**	**47**	P		**P**	**07 24 29.5**	**+0.2**
	baz=321							
832A	**Faith Ranch, C**	**85.09**	**55**	P		**P**	**07 24 30.3**	**+0.7**
	baz=318							
N54A	**Moraine State**	**85.12**	**34**	P		**P**	**07 24 29.3**	**-0.3**
	baz=328,SNR=5.0							
733A	**Divot King Ran**	**85.17**	**54**	P		**P**	**07 24 30.2**	**+0.2**
	baz=318							
LAST	**Lasithi**	**85.33**	**316**	*e*P		**P**	**07 24 30.9**	**+0.1**
	comp=Z,35nm,1.1s							
X43A	**Marvell**	**85.36**	**45**	P		**P**	**07 24 31.1**	**+0.2**
	baz=322							
CCAR	**Cane Creek**	**85.38**	**46**	*e*P		**P**	**07 24 31.6**	**+0.7**
	comp=Z,19nm,0.8s							
Y42A	**Garnett, Star**	**85.43**	**46**	P		**P**	**07 24 31.6**	**+0.3**
	baz=322							
VIVF	**Saint-Julien-l**	**85.60**	**335**	*e*P		**P**	**07 24 31.9**	**-0.1**
VIVF				pmax	pmax			
	comp=Z,18nm,1.1s							
WVT	**Waverly**	**85.60**	**42**	*e*P		**P**	**07 24 32.0**	**-0.1**
WVT				pmax	pmax			
	comp=Z,7.0nm,0.7s							
WVT	**Waverly**	**85.60**	**42**	*e*P		**P**	**07 24 32.0**	**-0.1**
	comp=Z,7.4nm,0.7s							
X44A	**Crenshaw**	**85.75**	**45**	P		**P**	**07 24 32.8**	**0.0**
	baz=322							
Z42A	**Norrel Spur, H**	**85.79**	**46**	P		**P**	**07 24 33.5**	**+0.5**
	baz=322							
141A	**Papa Simpson,**	**85.80**	**48**	P		**P**	**07 24 33.3**	**+0.2**
	baz=321							
636A	**Smothers Creek**	**85.90**	**52**	P		**P**	**07 24 34.1**	**+0.5**
	baz=319							
933A	**Laredo**	**86.00**	**55**	P		**P**	**07 24 35.0**	**+0.8**
	baz=319							
O56A	**Blue Knob Stat**	**86.28**	**34**	P		**P**	**07 24 35.2**	**-0.2**
	baz=329,SNR=6.8							
736A	**Circle Diamond**	**86.29**	**53**	P		**P**	**07 24 36.3**	**+0.8**
	baz=319							
CAF	**Calviac**	**86.32**	**336**	*e*P		**P**	**07 24 35.9**	**+0.4**
CAF				pmax	pmax			
	comp=Z,13nm,0.8s							
PLAL	**Pickwick Lake**	**86.40**	**43**	*e*P		**P**	**07 24 35.6**	**-0.4**
	comp=Z,5.2nm,0.7s							
Y45A	**Yeager Farm, C**	**86.56**	**45**	P		**P**	**07 24 36.9**	**+0.1**
	baz=323,SNR=5.8							
Z44A	**Pea Ridge, Bel**	**86.57**	**45**	P		**P**	**07 24 37.0**	**+0.2**
	baz=322							
034A	**Hebbronville**	**86.76**	**55**	P		**P**	**07 24 39.1**	**+1.1**
	baz=319							
N59A	**State Game Lan**	**86.81**	**32**	P		**P**	**07 24 37.8**	**-0.1**
	baz=330							
Y46A	**Houston**	**86.89**	**44**	P		**P**	**07 24 38.2**	**-0.2**
	baz=323,SNR=6.5							
SWET	**Sewanee**	**87.25**	**41**	*e*P		**P**	**07 24 39.6**	**-0.6**
	comp=Z,5.2nm,0.7s							
TZTN	**Tazewell**	**87.27**	**39**	*e*P		**P**	**07 24 40.3**	**0.0**
	comp=Z,8.8nm,0.8s							
145A	**Houston Renfro**	**87.36**	**46**	P		**P**	**07 24 40.9**	**+0.2**
	baz=323							
Y47A	**UCPARC, Winfie**	**87.38**	**43**	P		**P**	**07 24 40.3**	**-0.5**
	baz=324							
MVL	**Millersville**	**87.38**	**32**	*e*P		**P**	**07 24 40.8**	**+0.2**
	comp=Z,7.4nm,0.8s							
244A	**Avery, Jackson**	**87.41**	**46**	P		**P**	**07 24 41.1**	**+0.1**
	baz=322,SNR=5.1							
CPCT	**Cooper Cave**	**87.72**	**40**	*e*P		**P**	**07 24 42.4**	**0.0**
	comp=Z,5.7nm,0.7s							
146A	**Union**	**87.78**	**45**	P		**P**	**07 24 43.0**	**+0.3**
	baz=323							
TKL	**Tuckaleechee C**	**87.90**	**40**	LR		LR	08 06 24.3	
	comp=Z,24nm,18.6s,baz=349,slow=37							
TKL	**Tuckaleechee C**	**87.90**	**40**	*e*P		**P**	**07 24 43.1**	**-0.2**
TKL				pmax	pmax			
	comp=Z,12nm,0.6s							
TKL	**Tuckaleechee C**	**87.90**	**40**	*e*P		**P**	**07 24 43.1**	**-0.2**
	comp=Z,12nm,0.6s							
Z48A	**Northport**	**87.95**	**44**	P		**P**	**07 24 42.5**	**-0.9**
	baz=324							
147A	**Livingston**	**88.15**	**44**	P		**P**	**07 24 44.8**	**+0.3**
	baz=324							
247A	**Quitman**	**88.47**	**45**	P		**P**	**07 24 46.8**	**+0.8**
	baz=323							
346A	**Big Creek Wild**	**88.56**	**46**	P		**P**	**07 24 46.8**	**+0.3**
	baz=323							
347A	**Saraland**	**89.03**	**45**	P		**P**	**07 24 49.1**	**+0.5**
	baz=323							
KMSC	**Kings Mountain**	**89.44**	**38**	P		**P**	**07 24 50.5**	**0.0**
	baz=327							
TOA1	**Torodi Ar. Sit**	**115.24**	**323**	*e*PKiKP		**PKiKP**	**07 30 34.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**115.24**	**323**	PKP		**PKPdf**	**07 30 34.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=41,slow=1.8,SNR=5.2							
DBIC	**Dimbokro**	**123.80**	**327**	PKP		**PKPdf**	**07 30 50.4**	**-1.2**
	comp=Z,8.6nm,1.2s,baz=223,slow=6.5,SNR=3.4							
LPAZ	**La Paz**	**138.96**	**59**	PKP		**PKPdf**	**07 31 23.1**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=300,slow=1.9,SNR=3.4							
BDFB	**Brasilia**	**148.68**	**30**	PKPbc		**PKPbc**	**07 31 40.8**	**-0.1**
	comp=Z,5.9nm,0.7s,baz=273,slow=3.0,SNR=11							
BDFB				PKPab		**PKPab**	**07 31 45.0**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=131,slow=1.8,SNR=5.9							
CPUP	**Villa Florida**	**153.10**	**57**	PKPbc		**PKPbc**	**07 31 50.5**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=297,slow=2.9,SNR=4.7							

IDC 09 07:14:13.2±2.1, 2°96S×151°02E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/41, mbtmp3.5/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/25, Error ellipse: s-maj=224.2km s-min=26.6km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.45**	**223**	P	P	07 19 24.1	-0.4
	0.7nm,0.8s,baz=48,slow=9.8,SNR=3.3						
DZM	**Mont Dzumac**	**24.19**	**143**	LR	LR	07 28 04.1	
	comp=Z,100nm,18.0s,baz=56,slow=34						
ASAR	**Alice Springs**	**26.42**	**217**	P	P	07 19 52.3	+0.5
	0.7nm,1.0s,baz=50,slow=9.1,SNR=3.3						
ASAR				LR	LR	07 31 12.3	
	comp=Z,22nm,20.1s,baz=349,slow=39						
JNU	**Nakatsue**	**40.63**	**334**	LR	LR	07 35 19.2	
	comp=Z,46nm,22.0s,baz=288,slow=31						
ILAR	**Eielson Array**	**81.14**	**23**	P	P	07 26 30.2	-0.1
	0.5nm,0.6s,baz=245,slow=5.7,SNR=12						

IDC 09 07:23:09.7±3.4, 5°25N×94°84E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/45, mbtmp3.8/5, Error ellipse: s-maj=138.0km s-min=21.6km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**25.71**	**240**	T	T	07 55 44.8	
	baz=61,slow=76,SNR=4.9						
H08S2	**Diego Garcia H**	**25.71**	**240**	T	T	07 55 45.4	
	baz=61,slow=76,SNR=13						
H08S1	**Diego Garcia H**	**25.72**	**240**	T	T	07 55 47.3	
	baz=61,slow=76,SNR=4.3						
MKAR	**Makanchi Array**	**42.79**	**347**	P	P	07 31 08.8	-0.3
	0.7nm,0.4s,baz=168,slow=7.9,SNR=14						
SONM	**Songino Array**	**43.58**	**11**	P	P	07 31 15.7	+0.1
	0.3nm,0.5s,baz=180,slow=9.7,SNR=2.7						
WRA	**Warramunga Arr**	**46.20**	**124**	P	P	07 31 36.8	0.0
	1.1nm,0.6s,baz=304,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**47.73**	**129**	P	P	07 31 48.4	-0.3
	0.2nm,0.4s,baz=304,slow=7.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**49.24**	**352**	P	P	07 31 59.6	-0.2
	1.8nm,0.3s,baz=178,slow=7.8,SNR=6.7						

*ISCJB **09** 07:26:54.8±0.4, 40°42N±0°02×25°80E±0°03, h6km±4km, Error ellipse: s-maj=4.1km s-min=3.3km az=27.9*
*CSEM **09** 07:26:54.8±0.1, 40°42N×25°79E, h5km, ML2.0, Error ellipse: s-maj=2.7km s-min=1.9km az=137.0*
*THE **09** 07:26:55.1, 40°41N×25°77E, h9km±1km, ML2.0/5, Error ellipse: s-maj=1.5km s-min=0.8km az=151.0*
*ISK **09** 07:26:55.0, 40°43N×25°85E, h7km, MD2.7*
*DDA **09** 07:26:56.4, 40°36N×25°96E, h8km, Md2.7*
ISC 09 07:26:54.3±0.9, 40°44N±0°02×25°79E±0°02, h15km±8km, n40, σ0°842/66, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.20**	**278**	P	**Pb**	**07 26 59.4**	**-0.2**
SMTH				S	**Sb**	**07 27 02.6**	**-0.6**
SMTH	**Samothraki Isl**	**0.20**	**278**	P	**Pb**	**07 26 59.4**	**-0.2**
SMTH				S	**Sb**	**07 27 02.6**	**-0.6**
GADA	**Gvkgeada**	**0.27**	**161**	PG	**Pb**	**07 27 00.3**	**-0.4**
GADA				SG	**Sg**	**07 27 04.2**	**+0.2**
GADA	**Gvkgeada**	**0.27**	**161**	P	**Pb**	**07 27 00.5**	**-0.3**
GADA				S	**Sg**	**07 27 04.1**	**+0.2**
GADA	**Gvkgeada**	**0.27**	**161**	P	**Pb**	**07 27 00.5**	**-0.3**
GADA				S	**Sg**	**07 27 04.1**	**+0.2**
ENEZ	**Enez**	**0.41**	**43**	PG	**Pb**	**07 27 03.0**	**-0.2**
ENEZ				SG	**Sb**	**07 27 08.7**	**-0.4**
ENEZ	**Enez**	**0.41**	**43**	P	**Pb**	**07 27 03.3**	**+0.1**
ENEZ				S	**Sb**	**07 27 09.3**	**+0.2**
ENEZ	**Enez**	**0.41**	**43**	*i* Pg	**Pb**	**07 27 03.0**	**-0.2**
ENEZ	**Enez**	**0.41**	**43**	P	**Pb**	**07 27 03.3**	**+0.1**
ENEZ				*i* Sg	**Sb**	**07 27 08.7**	**-0.4**
ENEZ				S	**Sb**	**07 27 09.3**	**+0.2**
ALN	**Alexandroupoli**	**0.49**	**23**	PG	**Pb**	**07 27 04.9**	**+0.2**
ALN	**Alexandroupoli**	**0.49**	**23**	P	**Pb**	**07 27 04.9**	**+0.2**
ALN				S	**Sb**	**07 27 12.2**	**+0.5**
ALN	**Alexandroupoli**	**0.49**	**23**	P	**Pb**	**07 27 04.9**	**+0.2**
ALN				S	**Sb**	**07 27 12.2**	**+0.5**
ERIK	**Erikli-Kesan**	**0.60**	**67**	PG	**Pb**	**07 27 06.2**	**-0.2**
ERIK	**Erikli-Kesan**	**0.60**	**67**	*i* Pg	**Pb**	**07 27 06.2**	**-0.2**
BOZC	**Bozcaada**	**0.63**	**161**	*i* P	**Pg**	**07 27 06.6**	**-0.1**
BOZC				*i* S	**Sg**	**07 27 14.8**	**-0.3**
LIA	**Limnos Island**	**0.71**	**221**	P	**Pg**	**07 27 08.1**	**-0.1**
LIA				S	**Sg**	**07 27 17.7**	**0.0**
LIA	**Limnos Island**	**0.71**	**221**	P	**Pg**	**07 27 08.1**	**-0.1**
LIA				S	**Sg**	**07 27 17.7**	**0.0**
LPK	**Lapseki**	**0.75**	**95**	*e*PG	**Pb**	**07 27 08.8**	**-0.2**
LPK	**Lapseki**	**0.75**	**95**	*e*Pg	**Pb**	**07 27 08.8**	**-0.2**
KESN	**Edirne-Kesan**	**0.78**	**60**	P	**Pn**	**07 27 10.8**	**-0.3**
KESN				S	**Sb**	**07 27 20.8**	**+0.5**
KESN	**Edirne-Kesan**	**0.78**	**60**	*i* P	**Pn**	**07 27 10.8**	**-0.3**
KESN				*i* S	**Sb**	**07 27 20.8**	**+0.5**
SART	**Tekirdag**	**1.09**	**77**	P	**Pg**	**07 27 15.4**	**+0.1**
SART				S	**Sn**	**07 27 29.5**	**-0.4**
SART	**Tekirdag**	**1.09**	**77**	*i* P	**Pg**	**07 27 15.4**	**+0.1**
SART				*i* S	**Sn**	**07 27 29.6**	**-0.4**
KAVA	**Kavala**	**1.11**	**300**	P	**Pg**	**07 27 15.8**	**0.0**
KAVA				S	**Sn**	**07 27 31.7**	**+1.3**
KAVA	**Kavala**	**1.11**	**300**	P	**Pg**	**07 27 15.8**	**0.0**
KAVA				S	**Sn**	**07 27 31.7**	**+1.3**
SIGR	**SIGRI**	**1.23**	**178**	*e*PN	**Pg**	**07 27 18.8**	**+0.8**
SIGR	**SIGRI**	**1.23**	**178**	P	**Pn**	**07 27 17.0**	**+0.1**
SIGR				S	**Sn**	**07 27 33.3**	**0.0**
SIGR	**SIGRI**	**1.23**	**178**	P	**Pn**	**07 27 17.0**	**+0.1**
SIGR	**SIGRI**	**1.23**	**178**	*e*Pn	**Pg**	**07 27 18.8**	**+0.8**
SIGR				S	**Sn**	**07 27 33.3**	**0.0**
OUR	**Ouranopolis**	**1.38**	**266**	*e*PN	**Pg**	**07 27 21.2**	**+0.3**
OUR	**Ouranopolis**	**1.38**	**266**	P	**Pb**	**07 27 19.4**	**-0.4**
OUR	**Ouranopolis**	**1.38**	**266**	P	**Pb**	**07 27 19.4**	**-0.4**
OUR	**Ouranopolis**	**1.38**	**266**	*e*Pn	**Pg**	**07 27 21.2**	**+0.3**
BALY	**Balya**	**1.57**	**116**	P	**Pb**	**07 27 23.2**	**+0.1**
BALY				S	**Sb**	**07 27 43.1**	**+0.3**
BALY	**Balya**	**1.57**	**116**	*i* P	**Pb**	**07 27 23.2**	**+0.1**
BALY				*i* S	**Sb**	**07 27 43.1**	**+0.3**
EDRB	**Edirne**	**1.58**	**27**	*e*PN	**Pg**	**07 27 24.0**	**-0.6**
EDRB	**Edirne**	**1.58**	**27**	P	**Pg**	**07 27 24.2**	**-0.4**
EDRB				S	**Sg**	**07 27 45.2**	**0.0**
EDRB	**Edirne**	**1.58**	**27**	*e*Pn	**Pg**	**07 27 24.0**	**-0.6**
EDRB				S	**Sg**	**07 27 45.2**	**0.0**
CHOS	**Chios island**	**2.06**	**174**	*e*PN	**Pb**	**07 27 30.8**	**-0.7**
CHOS	**Chios island**	**2.06**	**174**	*e*Pn	**Pb**	**07 27 30.8**	**-0.7**

*ISCJB **09** 07:34:25.4±0.2, 23°61N±0°03×89°66E±0°02, h33km, mb4.0/28, MS3.2/6, Error ellipse: s-maj=4.1km s-min=3.0km az=14.1*
*NEIC **09** 07:34:27.4±0.3, 23°60N×89°66E, h35km, mb4.4/9, Error ellipse: s-maj=10.1km s-min=5.1km az=39.0*
NEIC Felt [II] at Dhaka. Also felt at Bogra and Narayanganj. Felt at Calcutta, India.
*IDC **09** 07:34:27.1±0.6, 23°69N×89°60E, h30km±3km, mb3.6/21, mb1 3.8/21, mb1mx3.6/60, mbtmp3.8/21, ML4.8/1, MS3.1/5, Ms1 3.2/5, ms1mx2.8/36, Error ellipse: s-maj=17.9km s-min=11.8km az=43.0*
ISC 09 07:34:27.2±0.4, 23°59N±0°04×89°64E±0°03, h35km, n99, σ2°816/125, mb4.0/28, MS3.1/6, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.84**	**46**	*e*P	**Pn**	**07 35 07.4**	**-2.8**
SHL				*e*S	**Sn**	**07 35 38.1**	**-5.2**
SHL				IAML		07 35 50.8	
	comp=N,2μm,0.4s						
SHL				IAML		07 36 02.6	
	comp=E,2μm,0.5s						
BOK	**Bokaro**	**3.45**	**274**	*e*P	**Pn**	**07 35 19.3**	**+0.8**
BOK				*e*S	**Sn**	**07 35 59.0**	**+0.8**
BOK				IAML		07 36 16.1	
	comp=E,462nm,0.5s						
BOK				IAML		07 36 16.1	
	comp=N,577nm,0.2s						
BWNR	**Bhubaneshwar**	**4.84**	**228**	*e*P	**Pn**	**07 35 39.4**	**+1.9**
BWNR				*e*S	**Sn**	**07 36 35.7**	**+3.4**
BWNR				IAML		07 37 22.2	
	comp=E,889nm,0.5s						
BWNR				IAML		07 37 24.2	
	comp=N,661nm,0.5s						
GUN	**Gumba**	**5.48**	**323**	*e*Pn	**Pn**	**07 35 46.2**	**-0.5**
GUN				*e*Sn	**Sn**	**07 36 53.3**	**+4.6**
	comp=N,158nm,0.2s						
GUN				*e*Sn	Sn	07 36 53.4	+4.7
PKIN	**Phulchoki**	**5.52**	**317**	*e*Pn	**Pn**	**07 35 46.6**	**-0.6**
PKIN				*e*Sn	**Sn**	**07 36 53.7**	**+4.1**
	comp=N,211nm,0.3s						
DMN	**Daman**	**5.73**	**315**	*e*Pn	**Pn**	**07 35 49.2**	**-0.8**
DMN				*e*Sn	**Sn**	**07 36 57.9**	**+3.2**
KKN	**Kakani**	**5.74**	**318**	*e*Pn	**Pn**	**07 35 49.7**	**-0.5**
KKN				*e*Sn	**Sn**	**07 36 58.7**	**+3.7**
	comp=N,113nm,0.2s						
LSA	**Lhasa**	**6.24**	**12**	Pn	**Pn**	**07 35 56.4**	**-0.8**
LSA				Sn	Sn	07 36 57.4	-10
LSA				smax	smax		
	comp=N,120nm,0.9s						
LSA				smax	smax		
	comp=E,310nm,0.9s						
LSA	**Lhasa**	**6.24**	**12**	*e*Pn	**Pn**	**07 35 57.1**	**-0.1**
LSA				*e*Sn	**Sn**	**07 37 06.2**	**-1.3**

GKN	**Gorkha**	**6.30**	**315**	*e*Pn		**Pn**	**07 35 56.8**	**-1.0**
KOLN	**Koldanda**	**6.86**	**309**	*e*Pn		**Pn**	**07 36 04.0**	**-1.5**
KOLN				*e*Sn		**Sn**	**07 37 25.0**	**+2.5**
	comp=E,397nm,0.5s							
PYUN	**Piuthan**	**7.49**	**308**	*e*Pn		**Pn**	**07 36 13.0**	**-1.2**
PYUN				*e*Sn		**Sn**	**07 37 39.2**	**+1.2**
	comp=E,573nm,0.8s							
CHTO	**Chiang Mai**	**9.89**	**117**	P		**Pn**	**07 36 46.3**	**-0.7**
CHTO	**Chiang Mai**	**9.89**	**117**	*e*Pn		**Pn**	**07 36 46.4**	**-0.6**
CHTO				*e*Sn		**Sn**	**07 38 32.1**	**-4.8**
CM31	**Chiang Mai Arr**	**10.07**	**119**	*e*Pn		**Pn**	**07 36 49.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**10.07**	**119**	Pn		**Pn**	**07 36 49.4**	**-0.1**
	comp=E,2.5nm,0.3s,baz=300,slow=14,SNR=118							
CMAR				LR		LR	07 41 25.7	
	comp=E,74nm,18.6s,baz=310,slow=41							
NGP	**Nagpur**	**10.10**	**258**	*e*P		**Pn**	**07 36 50.0**	**+0.3**
NGP				*e*S		**Sn**	**07 38 36.9**	**-5.0**
CM01	**Chiang Mai Arr**	**10.11**	**119**	*e*Pn		**Pn**	**07 36 49.5**	**-0.4**
LGTI	**Lohaghat**	**10.24**	**307**	*ex*		Pn	07 37 01.2	+10
LAMP	**Lampang**	**10.60**	**117**	P		**Pn**	**07 36 58.4**	**+1.7**
DGPR	**DIGLIPUR**	**10.81**	**163**	*e*P		**Pn**	**07 36 58.1**	**-1.5**
DGPR				IAmb		IAmb	07 37 03.0	
	comp=Z,52nm,0.4s							
SUKH	**Sukhothai**	**11.15**	**121**	P		**Pn**	**07 37 04.8**	**+0.5**
BHPL	**Bhopal**	**11.22**	**271**	*e*P		**Pn**	**07 37 03.2**	**-2.0**
BHPL				IAmb		IAmb	07 37 04.1	
	comp=Z,16nm,0.7s							
UTTA	**Uttaradit**	**11.75**	**118**	P		**Pn**	**07 37 12.5**	**+0.1**
KMI	**Kunming**	**12.04**	**80**	P		**Pn**	**07 37 19.3**	**+2.7**
KMI				pP		P	07 37 22.0	-7.1
KMI				sP			07 37 24.2	
KMI				PP		**PnPn**	**07 37 28.3**	**+3.9**
KMI				S		**Sn**	**07 39 33.3**	**+3.5**
KMI				sS			07 39 38.1	
KMI				SS		**SnSn**	**07 39 47.6**	**+5.8**
KMI				pmax	pmax			
	comp=Z,24nm,0.6s							
KMI				pmax	pmax			
	comp=Z,96nm,4.0s							
KMI				LR	LR			
	comp=N,620nm,17.5s							
KMI				LR	LR			
	comp=E,220nm,15.6s							
KMI				LR	LR			
	comp=Z,270nm,17.5s							
HYB	**Hyderabad**	**12.06**	**241**	*i* P		P	07 37 24.0	-5.1
	comp=Z,38nm,0.8s							
HYB				*e*			07 39 23.0	
HYB				*e*S		**Sn**	**07 39 33.5**	**+3.4**
HYB	**Hyderabad**	**12.06**	**241**	*e*P		**Pn**	**07 37 17.4**	**+0.6**
HYB				IAmb		IAmb	07 37 25.3	
	comp=Z,36nm,0.7s							
NDI	**New Delhi**	**12.26**	**297**	*ex*		Pn	07 37 11.0	-8.3
NDI				*ex*		**Sn**	**07 39 33.0**	**-1.8**
LOEI	**Loei**	**12.45**	**117**	P		Pn	07 37 27.4	+5.4
PBKT	**Sadao Pong**	**12.72**	**121**	P		**Pn**	**07 37 26.9**	**+1.2**
SMLA	**Simla**	**13.38**	**307**	*e*P		**Pn**	**07 37 30.7**	**-4.0**
SMLA				*e*S		Sn	07 39 48.9	-13
SDNR	**Sundarnagar**	**13.72**	**308**	*ex*		**Pn**	**07 37 42.2**	**+2.9**
NONG	**Nongkai**	**13.77**	**111**	P		**P**	**07 37 48.2**	**+0.2**
	comp=Z,36nm,1.1s,comp=Z,0.3nm							
CD2	**Chengdu**	**14.51**	**57**	*e*P		**Pn**	**07 37 50.0**	**-0.2**
DHRM	**DHARAMSHALA**	**14.60**	**309**	*e*P		**Pn**	**07 37 48.2**	**-3.4**
SKNT	**Sakolnakorn**	**14.97**	**113**	P		**P**	**07 38 03.3**	**+1.8**
	comp=Z,18nm,1.3s,comp=Z,0.2nm							
THN	**Thein Dam**	**15.12**	**309**	*ex*		Pn	07 37 50.0	-8.2
THN				*ex*		x	07 40 29.0	
PANO	**Nakornpanom**	**15.43**	**112**	P		**Pn**	**07 38 04.1**	**+1.8**
	comp=Z,16nm,0.9s,comp=Z,0.1nm							
POO	**Poona**	**15.57**	**254**	*e*P		**Pn**	**07 38 05.0**	**+0.7**
	comp=Z,20nm,1.0s							
GYA	**Guiyang**	**15.69**	**76**	*e*P		**Pn**	**07 38 06.4**	**+0.5**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
UBPT	**Khong Chiam**	**17.05**	**116**	P		**P**	**07 38 26.1**	**+1.6**
LZH	**Lanzhou**	**17.50**	**41**	*e*P		**P**	**07 38 32.9**	**+3.4**
LZH				pP		pP	07 38 37.4	-1.3
LZH				sP		sP	07 38 40.2	-2.9
LZH				*e*S		**Sn**	**07 41 41.0**	**-1.4**
LZH				sS		S	07 41 52.0	+2.3
LZH				SS		**SnSn**	**07 42 01.2**	**+5.1**
LZH				pmax	pmax			
	comp=Z,35nm,1.0s							
LZH				pmax	pmax			
	comp=Z,170nm,5.0s							
LZH				LR	LR			
	comp=N,260nm,11.4s							
LZH				LR	LR			
	comp=E,320nm,11.8s							
LZH				LR	LR			
	comp=Z,440nm,13.1s							
GTA	**Gaotai**	**17.98**	**26**	*e*P		**Pn**	**07 38 31.2**	**-3.3**
GTA				pP		P	07 38 35.6	+0.8
GTA				sP		pP	07 38 38.0	-6.0
GTA		

comp=Z,110nm,11.4s
SONA0 Songino Array 27.64 25 *e*P **P 07 40 12.6 +1.0**
SONM Songino Array 27.64 25 P **P 07 40 12.6 +1.0**
comp=Z,0.6nm,0.6s,baz=215,slow=6.5,SNR=3.9
SONM pP **pP 07 40 20.1 -1.6**
comp=Z,1.9nm,0.6s,baz=200,slow=10.0,SNR=8.9
SONA1 Songino Array 27.65 25 *e*P **P 07 40 11.8 0.0**
KURBB Kurchatov Arra 28.34 345 P **P 07 40 17.6 -0.1**
comp=Z,1.4nm,0.8s,baz=168,slow=8.5,SNR=11
KURBB pP **pP 07 40 26.5 -1.3**
comp=Z,2.7nm,0.9s,baz=164,slow=8.6,SNR=7.5
KURK Kurchatov 28.41 345 *e*P **P 07 40 17.6 -0.6**
WSAR Wadi Sarin 28.43 276 LR LR 07 52 50.7
comp=Z,49nm,19.4s,baz=104,slow=39
ZALV Zalesovo Beam 30.54 354 P **P 07 40 37.9 +0.8**
comp=Z,0.9nm,0.3s,baz=156,slow=11,SNR=3.2
ZALV pP **pP 07 40 46.1 -1.0**
comp=Z,1.5nm,0.5s,baz=176,slow=7.3,SNR=4.4
ZAA1 Zalesovo Array 30.54 354 *e*P **P 07 40 38.0 +0.8**
BVAR Borovoye Array 32.83 338 P **P 07 40 57.3 0.0**
comp=Z,0.3nm,0.3s,baz=110,slow=13,SNR=3.9
ABKAR Akbulak array 34.64 325 *e*P **P 07 41 13.4 +0.3**
comp=Z,1.2nm,0.4s
KSRS Korea Array 35.51 58 LR LR 07 56 38.8
comp=Z,15nm,19.1s,baz=160,slow=38
AKTO Aktyubinsk 36.34 326 P **P 07 41 27.4 -0.3**
comp=Z,0.9nm,0.5s,baz=105,slow=9.8,SNR=4.3
USRK Ussuriysk Ar. 40.17 49 P **P** 07 42 09.2 +9.2
comp=Z,5.1nm,0.8s,baz=242,slow=10.0,SNR=7.6
KLR Kul'dur 41.70 41 P **P 07 42 10.6 -2.0**
comp=Z,0.5nm,0.6s,baz=37,slow=4.0,SNR=2.0
KLR pP **pP 07 42 20.2 -2.6**
comp=Z,1.4nm,0.8s,baz=294,slow=5.5,SNR=6.0
MJAR Matsushiro Arr 43.55 61 LR LR 08 03 26.4
comp=Z,40nm,18.6s,baz=215,slow=40
YAK Yakutsk 47.00 25 LR LR 08 05 26.9
comp=Z,24nm,18.5s,baz=269,slow=40
BR101 Keskin Array S 49.54 303 *e*P **P 07 43 14.1 -0.8**
BRTR Keskin Array B 49.54 303 P **P 07 43 14.1 -0.8**
comp=Z,0.4nm,0.5s,baz=116,slow=8.4,SNR=2.7
BRTR pP **pP 07 43 24.6 -0.7**
comp=Z,0.9nm,0.5s,baz=111,slow=9.5,SNR=4.6
BR231 Keskin MP Arra 50.21 303 *e*P **P 07 43 20.9 +1.0**
AKASG Malin Array Be 53.48 317 P **P 07 43 41.9 -2.0**
comp=Z,0.3nm,0.5s,baz=79,slow=7.1,SNR=2.8
AKASG pP **pP 07 43 51.9 -2.6**
comp=Z,0.3nm,0.3s,baz=300,slow=24,SNR=2.4
AKBB Malin Array Si 53.48 317 *e*P **P 07 43 43.1 -0.8**
comp=Z,8.7nm,1.4s
MLR Muntele Rosu 55.34 310 P **P 07 43 58.7 +1.0**
comp=Z,0.6nm,0.6s,baz=61,slow=5.7,SNR=4.7
MLR pP **pP 07 44 07.6 -0.7**
comp=Z,1.4nm,0.8s,baz=187,slow=2.8,SNR=6.4
MLR Muntele Rosu 55.34 310 *e*P **P 07 43 59.1 +1.4**
comp=Z,5.8nm,0.8s
MLR pP **pP 07 44 07.6 -0.7**
SEY Seymchan 56.91 29 P **P 07 44 08.2 -0.2**
comp=Z,0.5nm,0.3s,baz=46,slow=16,SNR=1.9
SEY pP **pP 07 44 17.6 -1.4**
comp=Z,1.6nm,0.3s,baz=269,slow=8.7,SNR=5.6
FIA0 FINESS Array S 56.96 329 *e*P **P 07 44 08.5 -0.4**
FINES FINESS Array B 56.96 329 P **P 07 44 08.5 -0.4**
comp=Z,0.9nm,0.5s,baz=101,slow=8.0,SNR=5.0
FINES pP **pP 07 44 17.2 -2.2**
comp=Z,2.5nm,0.6s,baz=121,slow=9.6,SNR=6.6
ARA0 ARCESS Array S 59.12 338 *e*P **P 07 44 25.0 +1.1**
ARCES ARCESS Array B 59.12 338 P **P 07 44 25.0 +1.1**
comp=Z,2.3nm,1.0s,baz=107,slow=8.1,SNR=4.3
WRA Warramunga Arr 61.41 131 P **P 07 44 41.6 +1.4**
comp=Z,1.6nm,0.9s,baz=320,slow=7.4,SNR=13
WRA pP **pP 07 44 51.2 +0.3**
comp=Z,1.8nm,0.5s,baz=322,slow=7.3,SNR=10
WR1 Warramunga Arr 61.41 131 *e*P **P 07 44 41.6 +1.4**
GERES GERESS Array B 63.52 314 P **P 07 44 53.9 -0.2**
comp=Z,0.4nm,0.2s,baz=64,slow=6.4,SNR=4.8
GERES pP **pP 07 45 02.9 -1.9**
comp=Z,0.8nm,0.7s,baz=68,slow=7.4,SNR=3.1
ASAR Alice Springs 63.67 134 P **P 07 44 56.8 +1.5**
comp=Z,0.6nm,0.8s,baz=301,slow=6.2,SNR=6.2
NB2 NORSAR Subarra 64.08 328 P P 07 45 05.4 +7.9
comp=Z,4.3nm,1.1s,baz=88,slow=7.4
NB200 NORSAR Array S 64.08 328 *e*P **P 07 44 56.3 -1.2**
NOA NORSAR Array B 64.08 328 P **P 07 44 56.3 -1.2**
comp=Z,0.3nm,0.5s,baz=138,slow=25,SNR=2.4
NOA pP **pP 07 45 05.7 -2.6**
comp=Z,2.0nm,0.9s,baz=88,slow=6.8,SNR=5.5
KEST Kesra 69.07 301 P **P 07 45 30.1 +0.2**
comp=Z,1.7nm,0.7s,baz=23,slow=8.6,SNR=2.0
KEST Kesra 69.07 301 *e*P **P 07 45 31.3 +1.4**
comp=Z,8.2nm,0.9s
ES19 SONSECA Array 77.91 308 *e*P P 07 46 28.1 +6.3
ILAR Eielson Array 81.80 21 P **P 07 46 42.5 +0.2**
comp=Z,0.2nm,0.6s,baz=315,slow=6.1,SNR=2.3
TOA1 Torodi Ar. Sit 83.00 281 *e*P **P 07 46 49.7 +0.3**
TORD Torodi Ar. Bea 83.00 281 P **P 07 46 49.7 +0.3**
comp=Z,0.7nm,0.8s,baz=108,slow=0.5,SNR=3.2
TORD pP **pP 07 46 60.0 -0.5**
comp=Z,0.5nm,1.0s,baz=238,slow=8.4,SNR=3.3

*ISCJB **09** 07:40:28.9±0.2,59°.55N±0°.02×152°.36W±0°.04,h94km±2km, mb4.0/20,Error ellipse: s-maj=3.8km s-min=2.4km az=143.9*
*NEIC **09** 07:40:31.0,59°.57N×152°.49W,h83km,mb4.3/2,After AEIC.*
NEIC Felt at Anchor Point and Homer.
*IDC **09** 07:40:32.2±2.7,59°.81N×152°.61W,h96km±22km,mb3.5/16, mb1 3.6/19,mb1mx3.5/51,mbtmp3.8/19,Error ellipse: s-maj=20.4km s-min=14.6km az=26.0*
ISC 09 07:40:30.4±0.7,59°.58N±0°.04×152°.45W±0°.04,h83km±6km, n135,σ1§18/168,mb4.0/20,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.40**	**280**	*e*Pn	**Pn**	**07 40 43.7**	**0.0**
IVE	**Iliamna Volcan**	**0.52**	**327**	P	**Pn**	**07 40 44.4**	**-0.3**
AUE	**Augustine Isla**	**0.52**	**245**	*e*Pn	**Pn**	**07 40 44.6**	**0.0**
AUL	**Augustine Lava**	**0.54**	**249**	P	**Pn**	**07 40 44.8**	**+0.1**
AUL				S	**Sn**	**07 40 55.7**	**+0.3**
AUSE	**Augustine SEas**	**0.54**	**244**	P	**Pn**	**07 40 44.6**	**-0.1**
AUI	**Augustine Isla**	**0.56**	**244**	P	**Pn**	**07 40 44.8**	**-0.2**
CNPM	**China Poot**	**0.62**	**95**	*e*Pn	**Pn**	**07 40 45.7**	**+0.1**
CNPM				*e*Sn	**Sn**	**07 40 57.1**	**+0.3**
BRLK	**Bradley Lake**	**0.81**	**76**	*e*Pn	**Pn**	**07 40 47.4**	**-0.1**
BRLK				*e*Sn	**Sn**	**07 41 00.1**	**-0.2**
RSO	**Redoubt South**	**0.90**	**350**	*e*Pn	**Pn**	**07 40 48.7**	**+0.1**
CDD	**Cape Douglas**	**0.90**	**224**	P	**Pn**	**07 40 48.0**	**-0.5**
RDWB	**Redoubt West**	**0.93**	**348**	P	**Pn**	**07 40 48.8**	**-0.1**
FOPK	**Fourpeaked Vol**	**0.98**	**213**	P	**Pn**	**07 40 48.8**	**-0.6**
NCT	**North Crescent**	**1.01**	**346**	*e*Pn	**Pn**	**07 40 49.8**	**0.0**
FOSS	**Fourpeaked Sta**	**1.01**	**220**	*e*Pn	**Pn**	**07 40 49.3**	**-0.5**
RDJH	**Redoubt Jeurge**	**1.03**	**350**	P	**Pn**	**07 40 50.1**	**+0.1**
MCNL	**McNeil River**	**1.04**	**248**	P	**Pn**	**07 40 49.6**	**-0.6**
KAPH	**Katmai Pasha**	**1.39**	**226**	P	**Pn**	**07 40 54.2**	**-0.3**
SLKM	**Skilak Lake**	**1.45**	**49**	*e*Pn	**Pn**	**07 40 55.0**	**-0.2**
SEW	**Seward**	**1.60**	**70**	*e*Sn	**Sn**	**07 40 56.6**	**-0.4**
SEW				*e*Pn	**Pn**	**07 41 16.6**	**-0.7**
SPU	**Mount Spurr**	**1.62**	**7**	*e*Pn	**Pn**	**07 40 57.7**	**+0.3**
SPU				*e*Sn	**Sn**	**07 41 18.4**	**+0.6**
KAHC	**Katmai Hardscr**	**1.62**	**236**	P	**Pn**	**07 40 56.8**	**-0.6**
CKL	**Chakachamna La**	**1.62**	**2**	P	**Pn**	**07 40 57.8**	**+0.3**
SPCR	**Spurr Chakacha**	**1.63**	**4**	P	**Pn**	**07 40 57.8**	**+0.3**
SPWE	**Spurr West**	**1.70**	**358**	P	**Pn**	**07 40 58.9**	**+0.5**
KAWH	**Katmai**	**1.71**	**226**	P	**Pn**	**07 40 58.2**	**-0.4**
KDAK	**Kodiak Island**	**1.81**	**182**	*e*Pn	**Pn**	**07 40 58.5**	**-1.3**
KDAK				*e*Sn	**Sn**	**07 41 19.9**	**-2.2**
KAKN	**Katmai Knife C**	**1.87**	**227**	P	**Pn**	**07 41 00.3**	**-0.4**
KVTA	**Katmai Vly 10**	**1.90**	**232**	P	**Pn**	**07 41 00.7**	**-0.4**
STLK	**Strandline Lak**	**1.95**	**9**	P	**Pn**	**07 41 02.3**	**+0.6**
FIB	**Fire Island**	**1.95**	**34**	*e*Pn	**Pn**	**07 41 02.8**	**+1.2**
KABR	**Katmai Barrier**	**1.96**	**223**	P	**Pn**	**07 41 00.6**	**-1.3**
KABU	**Katmai Buttres**	**1.97**	**229**	P	**Pn**	**07 41 02.0**	**0.0**
RC01	**Rabbit Creek A**	**2.02**	**41**	*e*Pn	**Pn**	**07 41 02.8**	**+0.1**
RC01				*e*Sn	**Sn**	**07 41 26.8**	**-0.5**
KELA	**Mount Kelaz**	**2.05**	**237**	P	**Pn**	**07 41 02.7**	**-0.5**
SUA	**Susitna One**	**2.07**	**23**	*e*Pn	**Pn**	**07 41 03.9**	**+0.6**
SUA				*e*Sn	**Sn**	**07 41 30.1**	**+1.7**
SVW2	**Sparrevohn**	**2.17**	**316**	*e*Pn	**Pn**	**07 41 04.1**	**-0.5**
SVW2				*e*Sn	**Sn**	**07 41 25.6**	**-5.2**
OHAK	**Old Harbor**	**2.41**	**191**	*e*Pn	**Pn**	**07 41 06.3**	**-1.4**
SKT	**Skwentna**	**2.45**	**10**	*e*Pn	**Pn**	**07 41 08.5**	**+0.2**
PMR	**Palmer**	**2.60**	**38**	*e*Pn	**Pn**	**07 41 09.8**	**-0.5**
PMR				*e*Sn	**Sn**	**07 41 38.8**	**-2.1**
KNK	**Knik Glacier**	**2.70**	**45**	*e*Pn	**Pn**	**07 41 11.3**	**-0.4**
PLK3	**Peulik 3**	**2.76**	**228**	P	**Pn**	**07 41 12.6**	**+0.2**
PLK1	**Peulik 1**	**2.81**	**232**	P	**Pn**	**07 41 13.3**	**+0.1**
PLK4	**Peulik 4**	**2.83**	**228**	P	**Pn**	**07 41 13.7**	**+0.2**
SML	**Sawmill**	**3.01**	**40**	*e*Pn	**Pn**	**07 41 15.4**	**-0.5**
SML				*e*Sn	**Sn**	**07 41 49.4**	**-1.6**
HIN	**Hinchinbrook I**	**3.10**	**72**	*e*Pn	**Pn**	**07 41 16.2**	**-0.9**
MID	**Middleton Isla**	**3.12**	**90**	*e*Pn	**Pn**	**07 41 17.0**	**-0.3**
MID				*e*Sn	**Sn**	**07 41 50.9**	**-2.6**
PPLA	**Purkeypile**	**3.33**	**2**	*e*Pn	**Pn**	**07 41 21.1**	**+0.8**
SCM	**Sheep Creek Mo**	**3.38**	**46**	*e*Pn	**Pn**	**07 41 20.7**	**-0.2**
SCM				*e*Sn	**Sn**	**07 42 00.2**	**+0.3**
VLZ	**Valdez**	**3.41**	**60**	*e*Pn	**Pn**	**07 41 20.9**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.50**	**71**	*e*Pn	**Pn**	**07 41 21.3**	**-1.1**
EYAK				*e*Sn	**Sn**	**07 42 00.9**	**-1.7**
DIV	**Divide**	**3.66**	**62**	*e*Pn	**Pn**	**07 41 24.2**	**-0.5**
DIV				*e*Sn	**Sn**	**07 42 04.2**	**-2.6**
HUR	**Hurricane**	**3.67**	**21**	*e*Pn	**Pn**	**07 41 25.8**	**+1.1**
KLU	**Klutina**	**3.75**	**56**	*e*Pn	**Pn**	**07 41 25.6**	**-0.4**
KLU				*e*Sn	**Sn**	**07 42 06.7**	**-2.3**
TT01	**Tatalina**	**3.75**	**334**	*e*Pn	**Pn**	**07 41 25.7**	**-0.2**
TTA	**Tatalina**	**3.77**	**334**	*e*Pn	**Pn**	**07 41 26.2**	**0.0**
CAST	**Castle Rocks**	**3.85**	**2**	*e*Pn	**Pn**	**07 41 28.3**	**+1.0**
RAGM	**Ragged Mountai**	**3.99**	**75**	*e*Pn	**Pn**	**07 41 28.1**	**-1.0**
TRF	**Thorofare Moun**	**4.02**	**14**	*e*Pn	**Pn**	**07 41 29.9**	**+0.3**
KTH	**Kantishna Hill**	**4.05**	**10**	*e*Pn	**Pn**	**07 41 30.7**	**+0.7**
KTH				*e*Sn	**Sn**	**07 42 18.0**	**+1.8**
BMRM	**Bremner River**	**4.15**	**67**	*e*Pn	**Pn**	**07 41 30.3**	**-1.0**
BMRM				*e*Sn	**Sn**	**07 42 16.4**	**-2.2**
RND	**Reindeer**	**4.21**	**23**	*e*Pn	**Pn**	**07 41 32.2**	**+0.1**
PS11	**TAPS Pump St11**	**4.23**	**51**	*e*Pn	**Pn**	**07 41 32.8**	**+0.4**
DHY	**Denali Highway**	**4.27**	**33**	*e*Pn	**Pn**	**07 41 33.4**	**+0.3**
DHY				*e*Sn	**Sn**	**07 42 22.4**	**+0.6**
NICHA	**Nichawak Mount**	**4.32**	**78**	P	**Pn**	**07 41 33.0**	**-0.6**
NICHA				S	**Sn**	**07 42 19.9**	**-2.9**
SUCK	**Suckling Hills**	**4.41**	**80**	P	**Pn**	**07 41 34.7**	**0.0**
BERG	**Berg Lake**	**4.47**	**76**	*e*Pn	**Pn**	**07 41 35.2**	**-0.4**
MCK	**McKinley**	**4.49**	**20**	*e*Pn	**Pn**	**07 41 36.4**	**+0.5**
MCK				*e*Sn	**Sn**	**07 42 27.0**	**+0.2**
CHGN	**Chignik**	**4.57**	**227**	*e*Pn	**Pn**	**07 41 36.7**	**-0.4**
BPAW	**Bear Paw Mtn.**	**4.59**	**8**	*e*Pn	**Pn**	**07 41 36.6**	**-0.6**
GRIN	**Grindle Hills**	**4.65**	**77**	P	**Pn**	**07 41 36.8**	**-1.3**
KHIT	**Khitrov Hills**	**4.70**	**75**	P	**Pn**	**07 41 37.7**	**-1.1**
VRDI	**Verde Repeater**	**4.76**	**66**	P	**Pn**	**07 41 38.7**	**-1.0**
PAX	**Paxson**	**4.78**	**42**	*e*Pn	**Pn**	**07 41 40.1**	**+0.1**
CRQM	**Cirque**	**4.80**	**72**	*e*Sn	**Sn**	**07 42 31.3**	**-3.3**
BWN	**Browne**	**4.82**	**16**	*e*Pn	**Pn**	**07 41 41.1**	**+0.7**
BALM	**Baldy**	**5.23**	**69**	*e*Pn	**Pn**	**07 41 45.5**	**-0.6**
WRH	**Wood River Hil**	**5.32**	**21**	*e*Pn	**Pn**	**07 41 46.8**	**-0.4**
MENT	**Mentasta**	**5.39**	**48**	*e*Pn	**Pn**	**07 41 49.7**	**+1.5**
HDA	**Harding Lake**	**5.49**	**26**	*e*Pn	**Pn**	**07 41 49.8**	**+0.3**
MLY	**Manley**	**5.53**	**8**	*e*Pn	**Pn**	**07 41 49.9**	**-0.1**
CCB	**Clear Creek Bu**	**5.53**	**21**	*e*Pn	**Pn**	**07 41 49.4**	**-0.6**
DOT	**Dot Lake**	**5.71**	**41**	*e*Pn	**Pn**	**07 41 52.8**	**+0.2**
COLA	**College**	**5.73**	**20**	*e*Pn	**Pn**	**07 41 52.4**	**-0.3**
MDM	**Murphy Dome**	**5.74**	**18**	*e*Pn	**Pn**	**07 41 52.5**	**-0.5**
IL1	**Eielson Array**	**5.82**	**24**	*e*Pn	**Pn**	**07 41 53.4**	**-0.6**
ILAR	**Eielson Array**	**5.82**	**24**	P	**Pn**	**07 41 53.2**	**-0.8**
	8.0nm,0.3s,baz=209,slow=14,SNR=387						
ILAR				S	**Sn**	**07 42 57.5**	**-1.7**
	8.7nm,0.3s,baz=212,slow=24,SNR=5.1						
ILB	**Eielson Array**	**5.82**	**24**	*e*Pn	**Pn**	**07 41 53.8**	**-0.2**
ILB				*e*Sn	**Sn**	**07 42 57.5**	**-1.7**
SDPT	**Sand Point**	**6.06**	**229**	*e*Pn	**Pn**	**07 41 56.7**	**-0.7**
YKU2	**Yakutat**	**6.50**	**85**	*e*Pn	**Pn**	**07 42 04.5**	**+1.2**
DHAK	**Deception Hill**	**7.30**	**88**	*e*Pn	**Pn**	**07 42 14.2**	**0.0**
DHAK				*e*Sn	**Sn**	**07 43 31.8**	**-3.6**
EGAK	**Eagle**	**7.41**	**41**	*e*Pn	**Pn**	**07 42 15.5**	**-0.2**
FYU	**Fort Yukon**	**7.73**	**22**	*e*Pn	**Pn**	**07 42 19.5**	**-0.5**
COLD	**Coldfoot**	**7.74**	**7**	*e*Pn	**Pn**	**07 42 20.2**	**0.0**
SKAG	**Skagway**	**8.70**	**83**	*e*Pn	**Pn**	**07 42 34.4**	**+1.1**
SKAG				*e*Sn	**Sn**	**07 44 10.3**	**+0.7**
AKUT	**Akutan**	**9.11**	**239**	*e*Pn	**Pn**	**07 42 39.2**	**+0.4**
TNA	**Tin City**	**9.30**	**317**	*e*Pn	**Pn**	**07 42 42.7**	**+1.3**
UNV	**Unalaska Valle**	**9.62**	**239**	*e*Pn	**Pn**	**07 42 44.9**	**-0.8**
WRAK	**Wrangell Islan**	**11.12**	**98**	*e*Pn	**Pn**	**07 43 06.5**	**+0.4**
CRAG	**Craig**	**11.16**	**103**	*e*Pn	**Pn**	**07 43 05.9**	**-0.9**
DLBC	**Dease Lake**	**11.60**	**86**	P	**Pn**	**07 43 14.4**	**+1.6**
	4.9nm,0.3s,baz=239,slow=11,SNR=62						
DLBC				S	**Sn**	**07 45 19.4**	**-1.0**
	0.9nm,0.3s,baz=129,slow=25,SNR=6.1						
DLBC	**Dease Lake**	**11.60**	**86**	*e*Pn	**Pn**	**07 43 14.6**	**+1.7**
INK	**Inuvik**	**12.01**	**35**	P	**Pn**	**07 43 18.8**	**+0.6**
	0.3nm,0.3s,baz=162,slow=2.9,SNR=4.3						
BBB	**Bella Bella**	**15.46**	**108**	P	**P**	**07 44 06.5**	**+0.3**
	0.3nm,0.3s,baz=341,slow=17,SNR=4.9						
YKA	**Yellowknife Ar**	**18.37**	**65**	P	**P**	**07 44 39.3**	**+1.1**
	0.2nm,0.3s,baz=277,slow=10,SNR=12						
YKA				PcP	**PcP**	**07 49 05.0**	**-0.4**
	0.1nm,0.3s,baz=275,slow=1.2,SNR=5.7						
YKB5	**Yellowknife Ar**	**18.37**	**65**	*e*P	**P**	**07 44 39.3**	**+1.0**
KCPM	**Cahto Peak**	**26.95**	**125**	*e*P	**P**	**07 46 06.4**	**+2.4**
	15μm,0.6s						
KCPM				*e*S	**S**	**07 50 37.9**	**+3.0**
PEA1	**Petropavlovsk-**	**27.79**	**279**	*e*P	**P**	**07 46 10.4**	**-0.8**
PETK	**Petropavlovsk-**	**27.80**	**279**	P	**P**	**07 46 10.4**	**-0.9**
	3.7nm,0.8s,baz=70,slow=13,SNR=8.0						
PDAR	**Pinedale Array**	**31.02**	**103**	P	**P**	**07 46 43.0**	**+2.9**
	0.2nm,0.4s,baz=310,slow=4.6,SNR=3.1						
TMUT	**Trail Mountain**	**32.87**	**110**	*e*P	**P**	**07 46 57.3**	**+0.8**
	4.1nm,0.8s						
SPITS	**Spitsbergen Ar**	**42.31**	**3**	P	P	07 48 12.4	-2.8
	1.5nm,0.7s,baz=6.5,slow=3.7,SNR=7.1						
LTX	**Lajitas**	**44.57**	**111**	*e*P	**P**	**07 48 35.0**	**+1.0**
TXAR	**Lajitas Array**	**44.57**	**111**	P	**P**	**07 48 35.0**	**+1.0**
	0.2nm,0.7s,baz=337,slow=5.4,SNR=3.5						
ARA0	**ARCESS Array S**	**51.17**	**1**	*e*P	**P**	**07 49 22.9**	**-1.4**
ARA0				*e*PcP	**PcP**	**07 50 38.3**	**-0.2**
ARCES	**ARCESS Array B**	**51.17**	**1**	P	**P**	**07 49 22.9**	**-1.4**
	2.0nm,0.9s,baz=352,slow=5.5,SNR=3.3						
ARCES				PcP	**PcP**	**07 50 38.3**	**-0.2**
	1.0nm,0.5s,baz=339,slow=3.0,SNR=3.9						
KSRS	**Korea Array**	**53.54**	**283**	P	**P**	**07 49 41.5**	**-0.7**
	0.6nm,0.3s,baz=34,slow=6.8,SNR=5.0						
SONA0	**Songino Array**	**55.26**	**306**	*e*P	**P**	**07 49 55.3**	**+0.6**
	6.8nm,1.8s						
SONM	**Songino Array**	**55.26**	**306**	P	**P**	**07 49 55.3**	**+0.6**
	0.5nm,0.5s,baz=65,slow=7.1,SNR=4.3						
ZAA1	**Zalesovo Array**	**57.87**	**324**	*e*P	**P**	**07 50 12.4**	**-0.6**
ZALV	**Zalesovo Beam**	**57.88**	**324**	P	**P**	**07 50 12.4**	**-0.6**
	1.1nm,0.1s,baz=24,slow=7.0,SNR=3.7						
HHC	**Hu-ho-hao-te**	**58.62**	**298**	*e*P	**P**	**07 50 19.7**	**+1.1**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,75nm,7.8s						
FIA0	**FINESS Array S**	**59.30**	**1**	*e*P	**P**	**07 50 22.1**	**-0.6**
FIA0				*e*PcP	**PcP**	**07 51 08.3**	**-1.6**
FINES	**FINESS Array B**	**59.30**	**1**	P	**P**	**07 50 22.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=353,slow=7.3,SNR=6.0						
FINES				PcP	**PcP**	**07 51 08.3**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=248,slow=35,SNR=4.7						
KURK	**Kurchatov**	**62.53**	**326**	*e*P	**P**	**07 50 44.6**	**-0.2**
KURK				*e*PcP	**PcP**	**07 51 22.3**	**-0.9**
BVAR	**Borovoye Array**	**62.57**	**332**	P	**P**	**07 50 44.4**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=29,slow=7.4,SNR=7.3						
KURBB	**Kurchatov Arra**	**62.64**	**326**	P	**P**	**07 50 44.6**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=29,slow=6.3,SNR=6.8						
KURBB				PcP	**PcP**	**07 51 22.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=360,slow=15,SNR=4.4						
MK32	**Makanchi Array**	**64.93**	**322**	*e*P	**P**	**07 50 59.7**	**-1.0**
MKAR	**Makanchi Array**	**64.93**	**322**	P	**P**	**07 50 59.7**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=38,slow=7.4,SNR=8.9						
WMQ	**Urumqi**	**65.75**	**316**	P	**P**	**07 51 09.4**	**+3.3**
AKASG	**Malin Array Be**	**70.06**	**359**	P	**P**	**07 51 31.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=5.8,slow=6.1,SNR=3.9						
GERES	**GERESS Array B**	**71.34**	**10**	P	**P**	**07 51 40.5**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=337,slow=5.8,SNR=5.2						
ESDC	**Sonseca Array**	**77.72**	**24**	P	**P**	**07 52 17.9**	**0.0**
	comp=Z,0.4nm,0.4s,baz=343,slow=6.0,SNR=3.3						
BR101	**Keskin Array S**	**80.92**	**355**	*e*P	**P**	**07 52 33.5**	**-1.8**
BRTR	**Keskin Array B**	**80.92**	**355**	P	**P**	**07 52 33.5**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=16,slow=5.7,SNR=2.5						
BOSA	**Boshof**	**149.00**	**4**	PKPbc	**PKPdf**	**08 00 06.4**	**+2.1**
	comp=Z,1.4nm,0.4s,baz=334,slow=1.1,SNR=7.5						

*IDC **09** 07:44:18.8±2.3,22°.35S×66°.95W,h149km±27km,mb4.0/1, mb1 3.3/3,mb1mx3.0/29,mbtmp3.8/3,Error ellipse: s-maj=58.0km s-min=22.0km az=138.0*
*ISCJB **09** 07:44:19.5±0.7,22°.3S±0°.1×67°.37W±0°.07,h200km, mb4.0/1,Error ellipse: s-maj=16.0km s-min=9.0km az=13.1*
*SJA **09** 07:44:19.2±0.8,21°.94S×66°.30W,h255km±41km,ML3.0, MW3.5*
ISC 09 07:44:19.7±1.2,22°.2S±0°.1×67°.31W±0°.07,h200km,n8, σ2§29/10,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.53**	**255**	P	**Pn**	**07 44 53.6**	**-0.4**
	145nm,0.3s,baz=74,slow=5.2,SNR=38						
LVC				S	**Sn**	**07 45 17.9**	**-2.7**
	210nm,0.3s,baz=240,slow=20,SNR=22						
YJA	**Yavi**	**1.66**	**88**	*i* P	**Pn**	**07 44 55.3**	**-0.1**
YJA				IAML		07 44 56.0	
	comp=Z,63nm,0.1s						
YJA				*i* S	**Sn**	**07 45 21.0**	**-2.0**
HJA	**Humahuaca**	**2.00**	**119**	*i* P	**Pn**	**07 44 58.8**	**+0.1**
HJA				IAML		07 44 60.0	
	comp=Z,58nm,0.4s						
HJA				*i* S	**Sn**	**07 45 29.1**	**+0.1**
AZAP	**Zapla**	**2.86**	**134**	*i* P	**Pn**	**07 45 08.2**	**+0.2**
AZAP				IAML		07 45 09.7	
	comp=Z,33nm,0.3s						
LPAZ	**La Paz**	**5.96**	**352**	P	**Pn**	**07 45 48.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=180,slow=8.1,SNR=15						
SIV	**San Ignacio**	**8.56**	**45**	P	**Pn**	**07 46 17.2**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=237,slow=8.2,SNR=8.9						
TORD	**Torodi Ar. Bea**	**76.21**	**69**	P	P	07 55 49.6	+3.2
	comp=Z,1.3nm,0.3s,baz=253,slow=5.5,SNR=33						
MKAR	**Makanchi Array**	**145.33**	**38**	PKPbc	**PKPab**	**08 03 37.8**	**+3.6**
	comp=Z,0.1nm,0.4s,baz=298,slow=3.1,SNR=2.4						

*ISCJB **09** 08:01:48.3±0.7,6°.86N±0°.05×73°.08W±0°.06,h157km±6km, Error ellipse: s-maj=11.2km s-min=5.2km az=36.4*
*FUNV **09** 08:01:49.4,6°.78N×73°.14W,h155km,MW2.6*
*RSNC **09** 08:01:50.9±0.6,6°.80N×73°.12W,h141km±4km,ML2.3*
ISC 09 08:01:48.1±1.5,6°.83N±0°.05×73°.09W±0°.06,h159km±9km, n21,σ1§05/33,2C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**202**	*i* P	**Pn**	**08 02 09.9**	**-0.1**
BARC				*e*S	**Sn**	**08 02 24.4**	**-2.1**
BARC				*i*		08 02 25.7	
	comp=Z,52nm,0.3s						
GIRC	**Giron, Santand**	**0.27**	**337**	*e*P	**Pn**	**08 02 09.9**	**0.0**
PAMC	**Pamplona, Colo**	**0.64**	**37**	*e*P	**Pn**	**08 02 12.8**	**+1.0**
PAMC				*e*S	**Sn**	**08 02 29.6**	**-0.3**
BRRC	**Barranca, Sant**	**0.68**	**294**	⇑*i* P	**Pn**	**08 02 11.7**	**+0.2**
BRRC				*i*		08 02 11.9	
	comp=Z,100nm,0.2s						
BRRC				*e*S	**Sn**	**08 02 28.6**	**-0.7**
GRMC	**Gramalote, San**	**

63nm,0.7s
KURBB ⇓Lg Lg 08 10 06.7
110nm,0.8s
MK31 Makanchi Array 9.10 222 Pn **Pn 08 07 55.5 +0.1**
0.4nm,0.3s,baz=39,slow=13,SNR=46
MK31 ⇓Sn **Sn 08 09 37.2 -0.6**
5.5nm,0.8s,baz=45,slow=22,SNR=5.9
MK31 ⇓Lg Lg 08 10 23.9
36nm,1.1s,baz=54,slow=35,SNR=5.5
MKAR Makanchi Array 9.10 222 Pn **Pn 08 07 54.9 -0.5**
0.7nm,0.3s,baz=39,slow=13,SNR=26
MKAR Sn **Sn 08 09 39.0 +1.2**
0.4nm,0.3s,baz=32,slow=21,SNR=7.7
MKAR Lg Lg 08 10 23.7
0.3nm,0.3s,baz=37,slow=25,SNR=5.9
SONM Songino Array 11.42 116 Pg Pg 08 09 09.7
0.0nm,0.3s,baz=305,slow=18,SNR=2.7
SONM Sn **Sn 08 10 35.0 +0.1**
0.1nm,0.3s,baz=306,slow=25,SNR=3.0
SONM Lg Lg 08 11 43.4
0.2nm,0.3s,baz=303,slow=28,SNR=12
BVA0 Borovoye Array 12.37 274 ⇑Sn **Sn 08 11 04.2 +6.4**
7.0nm,1.0s,baz=71,slow=29,SNR=5.2
OTUK Ortayu 13.08 252 ⇓Pn **Pn 08 08 50.0 +0.1**
1.3nm,0.6s
OTUK ⇑Sn **Sn 08 11 11.5 -3.9**
7.5nm,1.1s
OTUK ⇓Lg Lg 08 12 31.5
14nm,1.1s
ARU Arti 18.65 291 LR LR 08 18 01.5
comp=Z,11nm,18.1s,baz=16,slow=40
KVAR Kislovodsk Arr 32.72 272 LR LR 08 27 34.8
comp=Z,31nm,20.9s,baz=41,slow=40
KBZ Khabaz 32.73 272 LR LR 08 26 23.5
comp=Z,72nm,18.7s,baz=262,slow=38
MLR Muntele Rosu 41.58 286 LR LR 08 30 44.4
comp=Z,385nm,20.4s,baz=150,slow=36
ILAR Eielson Array 53.53 27 P **P 08 15 03.0 -1.3**
0.2nm,0.6s,baz=324,slow=4.5,SNR=3.1
TORD Torodi Ar. Bea 79.15 277 P **P 08 17 50.7 +1.6**
0.5nm,0.9s,baz=37,slow=7.4,SNR=3.4

---

*NSSC **09** 08:14:18.9±1.1, 34°.81N×28°.88E, h28km±146km, ML3.5*
*IDC **09** 08:14:21.6±0.6, 34°.82N×29°.13E, h0km, mb4.2/18, mb1 4.3/31, mb1mx4.2/45, mbtmp4.2/31, ML4.2/13, MS3.3/15, Ms1 3.4/15, ms1mx3.1/50, Error ellipse: s-maj=12.2km s-min=11.3km az=127.0*
*ISCJB **09** 08:14:23.9±0.2, 34°.69N±0°.02×29°.13E±0°.01, h40km±3km, mb4.3/36, MS3.3/11, Error ellipse: s-maj=2.7km s-min=1.7km az=26.4*
*MOS **09** 08:14:23.9±1.2, 34°.76N×29°.08E, h29km, mb4.6/24, Error ellipse: s-maj=6.7km s-min=3.5km az=107.3*
*ISK **09** 08:14:24.3, 34°.78N×29°.08E, h25km, ML3.9*
*ATH **09** 08:14:25.2, 34°.98N×28°.90E, h19km±3km, ML4.1/14, Error ellipse: s-maj=4.4km s-min=1.1km az=97.0*
*NEIC **09** 08:14:25.6±1.5, 34°.79N×29°.10E, h27km±12km, mb4.0/5, ML4.1(THE), ML3.9(ATH), Error ellipse: s-maj=6.5km s-min=4.6km az=179.0*
*CSEM **09** 08:14:26.2±0.1, 34°.73N×29°.14E, h40km, mb4.0/4, Error ellipse: s-maj=3.2km s-min=2.0km az=26.0*
*HLW **09** 08:14:26.8, 34°.56N×29°.14E, h22km±11km, Md3.6, Ml3.9*
*THE **09** 08:14:27.6, 34°.83N×29°.13E, h54km±5km, ML4.1/7, Error ellipse: s-maj=5.2km s-min=1.0km az=4.0*
*NIC **09** 08:14:29.0±0.1, 35°.00N×29°.38E, h40km, mb4.3, ML4.0*
*GII **09** 08:14:30.4±0.0, 34°.49N×29°.44E, h30km, mb4.1/1, MD3.5/5*
*DDA **09** 08:14:40.5, 36°.07N×29°.06E, h28km, Ml3.9*
ISC 09 08:14:25.1±0.8, 34°.79N±0°.03×29°.12E±0°.03, h25km±6km, n591, σ1°88/697, mb4.3/34, MS3.2/11, 17C-4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.41**	**15**	P	**Pn**		**08 14 49.5**	**+0.3**
KSL				S	**Sn**		**08 15 06.6**	**-0.4**
KSL	**Kastellorizon**	**1.41**	**15**	P	**Pn**		**08 14 49.5**	**+0.3**
KSL	**Kastellorizon**	**1.41**	**15**	P	**Pn**		**08 14 49.0**	**-0.1**
KSL				S	**Sn**		**08 15 06.1**	**-0.8**
KSL				AML	AML		08 15 17.7	
	comp=N,2896μm,0.6s							
KSL				AML	AML		08 15 30.8	
	comp=E,4272μm,0.8s							
AKAS	**Kas**	**1.50**	**15**	P	**Pn**		**08 14 51.2**	**+0.7**
AKAS	**Kas**	**1.50**	**15**	*i* P	**Pn**		**08 14 51.2**	**+0.7**
ARG	**Arkhangelos**	**1.64**	**331**	P	**Pn**		**08 14 52.4**	**+0.1**
ARG				S	**Sn**		**08 15 12.5**	**-0.2**
ARG	**Arkhangelos**	**1.64**	**331**	P	**Pn**		**08 14 52.4**	**+0.1**
ARG				S	**Sb**		**08 15 15.0**	**+0.1**
ARG	**Arkhangelos**	**1.64**	**331**	P	**Pn**		**08 14 51.8**	**-0.5**
ARG				S	**Sn**		**08 15 10.2**	**-2.5**
ARG	**Arkhangelos**	**1.64**	**331**	P	**Pn**		**08 14 52.4**	**+0.1**
ARG				S	**Sb**		**08 15 15.0**	**+0.1**
KARP	**Karpathos**	**1.78**	**296**	PN	**Pn**		**08 14 54.2**	**0.0**
KARP				*e*SN	**Sn**		**08 15 15.4**	**-0.7**
KARP	**Karpathos**	**1.78**	**296**	P	**Pn**		**08 14 54.9**	**+0.7**
KARP				S	**Sn**		**08 15 17.0**	**+0.9**
KARP	**Karpathos**	**1.78**	**296**	*i* Pn	**Pn**		**08 14 54.2**	**0.0**
KAP	**Karpathos**	**1.78**	**296**	P	**Pn**		**08 14 54.9**	**+0.7**
KARP				S	**Sn**		**08 15 14.1**	**-2.0**
KARP				*e*Sn	**Sn**		**08 15 15.4**	**-0.7**
KARP	**Karpathos**	**1.78**	**296**	P	**Pn**		**08 14 54.9**	**+0.7**
KARP				S	**Sn**		**08 15 17.0**	**+0.9**
KARP	**Karpathos**	**1.78**	**296**	P	**Pb**		**08 14 56.0**	**-1.0**
KARP				S	**Sn**		**08 15 14.1**	**-2.0**
KARP				AML	AML		08 15 17.8	
	comp=N,4683μm,0.6s							
KARP				AML	AML		08 15 22.7	
	comp=E,3367μm,0.9s							
FETY	**Fethiye**	**1.84**	**359**	PN	**Pn**		**08 14 55.4**	**+0.2**
FETY				*e*SN	**Sn**		**08 15 17.4**	**-0.3**
FETY	**Fethiye**	**1.84**	**359**	P	**Pn**		**08 14 55.3**	**+0.1**
FETY				S	**Sn**		**08 15 17.8**	**+0.1**
FETY	**Fethiye**	**1.84**	**359**	P	**Pn**		**08 14 55.3**	**+0.1**
FETY				*e*Sn	**Sn**		**08 15 17.4**	**-0.3**
FETY	**Fethiye**	**1.84**	**359**	P	**Pn**		**08 14 55.3**	**+0.1**
FETY				S	**Sn**		**08 15 17.8**	**+0.1**
ELL	**Elmali**	**2.06**	**18**	PN	**Pn**		**08 14 59.4**	**+1.2**
ELL	**Elmali**	**2.06**	**18**	P	**Pn**		**08 14 59.4**	**+1.2**
ELL	**Elmali**	**2.06**	**18**	*i* Pn	**Pn**		**08 14 59.4**	**+1.2**
DALY	**Dalyan (Mu¨la**	**2.06**	**349**	PN	**Pn**		**08 14 58.1**	**0.0**
DALY				*e*SN	**Sn**		**08 15 23.1**	**+0.1**
DALY	**Dalyan (Mu¨la**	**2.06**	**349**	*i* Pn	**Pn**		**08 14 58.1**	**0.0**
DALY				*e*Sn	**Sn**		**08 15 23.1**	**+0.1**
TURN	**Turunc**	**2.12**	**349**	*i* P	**Pn**		**08 14 59.1**	**+0.2**
GLHS	**Glhisar (BURDU**	**2.38**	**7**	PN	**Pn**		**08 15 03.7**	**+1.0**
GLHS	**Glhisar (BURDU**	**2.38**	**7**	*i* Pn	**Pn**		**08 15 03.7**	**+1.0**
ZKR	**Zakros**	**2.41**	**279**	P	**Pn**		**08 15 03.2**	**+0.3**
ZKR				S	**Sn**		**08 15 32.1**	**+0.5**
ZKR	**Zakros**	**2.41**	**279**	P	**Pn**		**08 15 03.3**	**+0.3**
ZKR				S	**Sn**		**08 15 31.6**	**0.0**
ZKR	**Zakros**	**2.41**	**279**	P	**Pn**		**08 15 03.2**	**+0.3**
ZKR				S	**Sn**		**08 15 32.1**	**+0.5**
ZKR	**Zakros**	**2.41**	**279**	P	**Pn**		**08 15 03.4**	**+0.4**
ZKR				S	**Sn**		**08 15 31.6**	**0.0**
ZKR				AML	AML		08 15 32.2	
	comp=E,3804μm,0.7s							
ZKR				AML	AML		08 15 33.2	
	comp=N,4023μm,0.6s							
KORT	**Korkueli**	**2.42**	**24**	P	**Pn**		**08 15 04.8**	**+1.5**
KORT	**Korkueli**	**2.42**	**24**	*i* P	**Pn**		**08 15 04.8**	**+1.5**
YER	**Yerkesik**	**2.44**	**344**	PN	**Pn**		**08 15 04.4**	**+1.1**
YER	**Yerkesik**	**2.44**	**344**	P	**Pn**		**08 15 04.5**	**+1.1**
YER				S	**Sn**		**08 15 32.1**	**-0.4**
YER	**Yerkesik**	**2.44**	**344**	P	**Pn**		**08 15 04.5**	**+1.1**
YER				S	**Sn**		**08 15 34.1**	**+1.6**
YER	**Yerkesik**	**2.44**	**344**	P	**Pn**		**08 15 04.5**	**+1.1**
YER				S	**Sn**		**08 15 34.1**	**+1.6**
YER	**Yerkesik**	**2.44**	**344**	P	**Pn**		**08 15 04.5**	**+1.1**
YER				S	**Sn**		**08 15 34.1**	**+1.6**
ANTB	**Antalya**	**2.45**	**30**	PN	**Pn**		**08 15 05.0**	**+1.6**
ANTB	**Antalya**	**2.45**	**30**	*i* Pn	**Pn**		**08 15 05.0**	**+1.6**
GOLH	**Golhisar**	**2.47**	**8**	P	**Pn**		**08 15 05.8**	**+1.9**
GOLH	**Golhisar**	**2.47**	**8**	*i* P	**Pn**		**08 15 05.8**	**+1.9**
AKMC	**Akamas**	**2.65**	**84**	P	**Pn**		**08 15 06.4**	**+0.2**
	baz=270							
AKMC	**Akamas**	**2.65**	**84**	P	**Pn**		**08 15 06.4**	**+0.2**
BDRM	**Kayabasi**	**2.65**	**330**	P	**Pn**		**08 15 06.2**	**-0.1**
BDRM	**Kayabasi**	**2.65**	**330**	*i* P	**Pn**		**08 15 06.2**	**-0.1**
PPCY	**Paphos**	**2.65**	**87**	P	**Pn**		**08 15 06.5**	**+0.3**
	baz=273							
PPCY	**Paphos**	**2.65**	**87**	P	**Pn**		**08 15 06.5**	**+0.3**
BODT	**Bodrum**	**2.71**	**328**	PN	**Pn**		**08 15 06.7**	**-0.3**
BODT	**Bodrum**	**2.71**	**328**	P	**Pn**		**08 15 06.9**	**-0.1**
BODT	**Bodrum**	**2.71**	**328**	P	**Pn**		**08 15 06.9**	**-0.1**
BODT	**Bodrum**	**2.71**	**328**	P	**Pn**		**08 15 06.9**	**-0.1**
ALFC	**Alefka**	**2.88**	**82**	P	**Pn**		**08 15 09.7**	**+0.3**
	baz=267							
ALFC				S	**Sn**		**08 15 41.3**	**-2.0**
ALFC	**Alefka**	**2.88**	**82**	P	**Pn**		**08 15 09.7**	**+0.3**
ALFC				S	**Sn**		**08 15 41.3**	**-2.0**
DNZL	**Cakiroluk**	**2.90**	**359**	P	**Pn**		**08 15 10.6**	**+0.8**
DNZL	**Cakiroluk**	**2.90**	**359**	*i* P	**Pn**		**08 15 10.6**	**+0.8**
NPS	**Neapolis**	**2.92**	**280**	P	**Pn**		**08 15 11.3**	**+1.4**
NPS				S	**Sn**		**08 15 44.0**	**-0.2**
NPS	**Neapolis**	**2.92**	**280**	P	**Pn**		**08 15 11.3**	**+1.4**
NPS				S	**Sn**		**08 15 44.0**	**-0.2**
NPS	**Neapolis**	**2.92**	**280**	P	**Pn**		**08 15 12.2**	**+2.3**
NPS				S	**Sn**		**08 15 44.0**	**-0.2**
NPS	**Neapolis**	**2.92**	**280**	P	**Pn**		**08 15 11.3**	**+1.4**
NPS				S	**Sn**		**08 15 44.0**	**-0.2**
NPS	**Neapolis**	**2.92**	**280**	P	**Pn**		**08 15 12.2**	**+2.3**
NPS				S	**Sn**		**08 15 44.3**	**+0.1**
NPS				AML	AML		08 15 44.8	
	comp=N,2539μm,1.0s							
NPS				AML	AML		08 15 45.7	
	comp=E,2722μm,0.6s							
BCK	**Bucak**	**2.92**	**24**	*e*PN	**Pn**		**08 15 10.1**	**+0.1**
BCK	**Bucak**	**2.92**	**24**	P	**Pn**		**08 15 10.1**	**+0.1**
BCK	**Bucak**	**2.92**	**24**	*e*Pn	**Pn**		**08 15 10.1**	**+0.1**
DENT	**Denizli**	**2.96**	**359**	PN	**Pn**		**08 15 11.6**	**+1.0**
DENT	**Denizli**	**2.96**	**359**	*i* Pn	**Pn**		**08 15 11.6**	**+1.0**
GAZI	**Gazipasa**	**2.98**	**60**	P	**Pn**		**08 15 10.9**	**+0.1**
GAZI	**Gazipasa**	**2.98**	**60**	*i* P	**Pn**		**08 15 10.9**	**+0.1**
LAST	**Lasithi**	**3.02**	**278**	P	**Pn**		**08 15 12.3**	**+1.0**
LAST				S	**Sn**		**08 15 47.6**	**+0.9**
LAST	**Lasithi**	**3.02**	**278**	P	**Pn**		**08 15 12.7**	**+1.4**
LAST				S	**Sn**		**08 15 44.8**	**-1.9**
LAST	**Lasithi**	**3.02**	**278**	P	**Pn**		**08 15 12.3**	**+1.0**
LAST				S	**Sn**		**08 15 47.6**	**+0.9**
LAST	**Lasithi**	**3.02**	**278**	P	**Pn**		**08 15 12.7**	**+1.4**
AYDN	**Tasoluk**	**3.04**	**341**	P	**Pn**		**08 15 12.4**	**+0.8**
AYDN	**Tasoluk**	**3.04**	**341**	*i* P	**Pn**		**08 15 12.4**	**+0.8**
SUTC	**Sutluce-Ispart**	**3.08**	**29**	*e*PN	**Pn**		**08 15 14.1**	**+1.8**
SUTC	**Sutluce-Ispart**	**3.08**	**29**	*e*Pn	**Pn**		**08 15 14.1**	**+1.8**
SZAC	**Souni**	**3.10**	**90**	P	**Pn**		**08 15 13.0**	**+0.6**
	baz=275							
SZAC				S	**Sn**		**08 15 47.4**	**-1.2**
SZAC	**Souni**	**3.10**	**90**	P	**Pn**		**08 15 13.0**	**+0.6**
SZAC				S	**Sn**		**08 15 47.4**	**-1.2**
LEF	**Lefka**	**3.11**	**83**	PN	**Pn**		**08 15 12.5**	**-0.1**
LEF	**Lefka**	**3.11**	**83**	*i* Pn	**Pn**		**08 15 12.5**	**-0.1**
ISP	**Isparta**	**3.23**	**20**	*e*PN	**Pn**		**08 15 16.0**	**+1.6**
ISP	**Isparta**	**3.23**	**20**	P	**Pn**		**08 15 16.2**	**+1.9**
ISP	**Isparta**	**3.23**	**20**	*e*P	**Pn**		**08 15 16.4**	**+2.1**
ISP				*e*			08 15 52.6	
ISP	**Isparta**	**3.23**	**20**	P	**Pn**		**08 15 16.2**	**+1.9**
ISP				*e*Sn	**Sn**		**08 15 52.6**	**+0.1**
ISP	**Isparta**	**3.23**	**20**	*e*Pn	**Pn**		**08 15 16.4**	**+2.1**
ISP				*e*Sn	**Sn**		**08 15 52.6**	**+0.5**
GCAM	**G?zelcaml?**	**3.28**	**333**	P	**Pn**		**08 15 16.6**	**+1.7**
GCAM	**G?zelcaml?**	**3.28**	**333**	*i* P	**Pn**		**08 15 16.6**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**3.31**	**343**	*e*PN	**Pn**		**08 15 15.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**3.31**	**343**	*e*Pn	**Pn**		**08 15 15.5**	**+0.2**
IACM	**Heraklion**	**3.36**	**280**	P	**Pn**		**08 15 18.2**	**+2.2**
IACM				S	**Sn**		**08 15 54.9**	**-0.2**
IACM	**Heraklion**	**3.36**	**280**	P	**Pn**		**08 15 18.2**	**+2.2**
IACM				S	**Sn**		**08 15 54.9**	**-0.2**
IACM				AML	AML		08 16 03.1	
	comp=E,12358μm,0.5s							
IACM				AML	AML		08 16 07.0	
	comp=N,9148μm,0.5s							
SANT	**Santorini**	**3.38**	**299**	*e*Pn	**Pn**		**08 15 16.3**	**0.0**
SANT	**Santorini**	**3.38**	**299**	P	**Pn**		**08 15 16.6**	**+0.4**
SANT				S	**Sn**		**08 15 54.1**	**-1.5**
SANT	**Santorini**	**3.38**	**299**	*e*Pn	**Pn**		**08 15 16.3**	**0.0**
SANT				*e*Sn	**Sn**		**08 15 54.4**	**-1.2**
SANT	**Santorini**	**3.38**	**299**	P	**Pn**		**08 15 16.6**	**+0.4**
SANT				S	**Sn**		**08 15 54.1**	**-1.5**
SANT				AML	AML		08 15 55.0	
	comp=N,714μm,0.4s							
SANT				AML	AML		08 15 55.3	
	comp=E,1327μm,0.7s							
THR6	**Thira Island,**	**3.42**	**298**	P	**Pn**		**08 15 17.1**	**+0.4**
THR6	**Thira Island,**	**3.42**	**298**	P	**Pn**		**08 15 17.1**	**+0.4**
THR6	**Thira Island,**	**3.42**	**298**	P	**Pn**		**08 15 17.1**	**+0.4**
THR3	**Thira Island,**	**3.44**	**299**	P	**Pn**		**08 15 17.4**	**+0.4**
THR3	**Thira Island,**	**3.44**	**299**	P	**Pn**		**08 15 17.4**	**+0.4**
THR3	**Thira Island,**	**3.44**	**299**	P	**Pn**		**08 15 17.4**	**+0.4**
SMG	**Samos**	**3.45**	**328**	P	**Pn**		**08 15 17.2**	**0.0**
SMG	**Samos**	**3.45**	**328**	P	**Pn**		**08 15 17.0**	**-0.3**
SMG				S	**Sn**		**08 15 54.5**	**-2.8**
SMG	**Samos**	**3.45**	**328**	P	**Pn**		**08 15 17.2**	**0.0**
SMG	**Samos**	**3.45**	**328**	P	**Pn**		**08 15 17.0**	**-0.3**
SMG				S	**Sn**		**08 15 54.5**	**-2.8**
SMG				AML	AML		08 15 58.7	
	comp=E,955μm,0.7s							
SMG				AML	AML		08 15 58.9	
	comp=N,831μm,0.6s							
CSS	**Mathiatis**	**3.46**	**86**	P	**Pn**		**08 15 18.0**	**+0.6**
	baz=271							
CSS	**Mathiatis**	**3.46**	**86**	P	**Pn**		**08 15 18.1**	**+0.6**
CSS				S	**Sn**		**08 15 56.5**	**-1.2**
CSS	**Mathiatis**	**3.46**	**86**	Pn	**Pn**		**08 15 17.3**	**-0.1**
CSS	**Mathiatis**	**3.46**	**86**	Pn	**Pn**		**08 15 17.3**	**-0.1**
CSS	**Mathiatis**	**3.46**	**86**	P	**Pn**		**08 15 18.0**	**+0.6**
CSS				S	**Sn**		**08 15 56.5**	**-1.2**
CSS	**Mathiatis**	**3.46**	**86**	P	**Pn**		**08 15 18.1**	**+0.6**
CSS				S	**Sn**		**08 15 56.5**	**-1.2**
THR5	**Thira Island,**	**3.48**	**299**	*e*PN	**Pn**		**08 15 18.3**	**+0.7**
THR5	**Thira Island,**	**3.48**	**299**	P	**Pn**		**08 15 17.9**	**+0.3**
THR5	**Thira Island,**	**3.48**	**299**	P	**Pn**		**08 15 17.9**	**+0.3**
THR5	**Thira Island,**	**3.48**	**299**	*e*Pn	**Pn**		**08 15 18.3**	**+0.7**
IDI	**Anoyia**	**3.51**	**279**	Pn	**Pn**		**08 15 18.9**	**+0.8**
	comp=N,40nm,0.3s,baz=80,slow=12,SNR=81							
IDI				Sn	**Sn**		**08 15 58.2**	**-0.6**
	comp=N,57nm,0.3s,baz=154,slow=22,SNR=21							
IDI	**Anoyia**	**3.51**	**279**	P	**Pn**		**08 15 18.9**	**+0.8**
IDI	**Anoyia**	**3.51**	**279**	P	**Pn**		**08 15 19.5**	**+1.4**
IDI				S	**Sn**		**08 15 56.0**	**-2.8**
IDI				Sn	**Sn**		**08 15 58.2**	**-0.6**
IDI	**Anoyia**	**3.51**	**279**	P	**Pn**		**08 15 19.5**	**+1.4**
IDI				S	**Sn**		**08 15 56.0**	**-2.8**
IDI				AML	AML		08 16 00.4	
	comp=E,2097μm,0.5s							
IDI				AML	AML		08 16 01.0	
	comp=N,2484μm,0.4s							
KHL	**Karahalli**	**3.54**	**5**	*e*PN	**Pn**		**08 15 18.8**	**+0.2**
KHL	**Karahalli**	**3.54**	**5**	*e*Pn	**Pn**		**08 15 18.8**	**+0.2**
SIVA	**Sivas**	**3.55**	**275**	P	**Pn**		**08 15 19.9**	**+1.3**
SIVA				S	**Sn**		**08 15 59.4**	**-0.4**
SIVA	**Sivas**	**3.55**	**275**	P	**Pn**		**08 15 17.9**	**-0.7**
SIVA				S	**Sn**		**08 15 58.5**	**-1.3**
SIVA	**Sivas**	**3.55**	**275**	P	**Pn**		**08 15 19.9**	**+1.3**
SIVA				S	**Sn**		**08 15 59.4**	**-0.4**
SIVA	**Sivas**	**3.55**	**275**	P	**Pn**		**08 15 17.9**	**-0.7**
SIVA				S	**Sn**		**08 15 58.5**	**-1.3**
SIVA				AML	AML		08 16 01.6	
	comp=N,4765μm,0.5s							
SIVA				AML	AML		08 16 11.0	
	comp=E,3404μm,0.8s							
KHAL	**Karahalli**	**3.59**	**5**	P	**Pn**		**08 15 19.4**	**+0.1**
KHAL	**Karahalli**	**3.59**	**5**	*i* P	**Pn**		**08 15 19.4**	**+0.1**
LFK	**Lefkose**	**3.65**	**81**	*e*PN	**Pn**		**08 15 21.7**	**+1.7**
LFK	**Lefkose**	**3.65**	**81**	*e*Pn	**Pn**		**08 15 21.7**	**+1.7**
APE	**Apeiranthos**	**3.70**	**309**	*e*PN	**Pn**		**08 15 21.4**	**+0.7**
APE	**Apeiranthos**	**3.70**	**309**	P	**Pn**		**08 15 20.5**	**-0.2**
APE	**Apeiranthos**	**3.70**	**309**	*c* P	**Pn**		**08 15 20.4**	**-0.2**
APE	**Apeiranthos**	**3.70**	**309**	P	**Pn**		**08 15 20.4**	**-0.2**
APE	**Apeiranthos**	**3.70**	**309**	*e*Pn	**Pn**		**08 15 21.4**	**+0.7**
APE				S	**Sn**		**08 16 01.0**	**-2.5**
APE	**Apeiranthos**	**3.70**	**309**	P	**Pn**		**08 15 20.5**	**-0.2**
APE	**Apeiranthos**	**3.70**	**309**	P	**Pn**		**08 15 20.4**	**-0.2**
APE				S	**Sn**		**08 16 01.0**	**-2.5**
APE				AML	AML		08 16 01.7	
	comp=N,633μm,0.6s							
APE				AML	AML		08 16 03.7	
	comp=E,530μm,0.5s							
MANT	**Manisa**	**3.72**	**353**	P	**Pn**		**08 15 21.2**	**0.0**
MANT	**Manisa**	**3.72**	**353**	*i* P	**Pn**		**08 15 21.2**	**0.0**
DGB	**´zmir**	**3.73**	**332**	*i* P	**Pn**		**08 15 20.6**	**-0.4**
KULA	**Kula-Manisa**	**3.74**	**354**	*e*PN	**Pn**		**08 15 21.4**	**+0.1**
KULA	**Kula-Manisa**	**3.74**	**354**	P	**Pn**		**08 15 21.3**	**+0.1**
KULA	**Kula-Manisa**	**3.74**	**354**	P	**Pn**		**08 15 21.3**	**+0.1**
KULA	**Kula-Manisa**	**3.74**	**354**	P	**Pn**		**08 15 21.3**	**+0.1**
MATC	**Matruh**	**3.78**	**205**	P	**Pn**		**08 15 21.8**	**0.0**
	baz=208							
IZM	**Izmir**	**3.90**	**338**	*e*PN	**Pn**		**08 15 23.9**	**+0.4**
IZM	**Izmir**	**3.90**	**338**	*e*Pn	**Pn**		**08 15 23.9**	**+0.4**
IKL	**Isikli**	**3.99**	**67**	*e*PN	**Pn**		**08 15 25.7**	**+1.0**
IKL	**Isikli**	**3.99**	**67**	*e*Pn	**Pn**		**08 15 25.7**	**+1.0**
ZEY	**´zmir**	**4.04**	**329**	*i* P	**Pn**		**08 15 24.0**	**-1.3**
HMAT	**Matruh**	**4.06**	**205**	P	**Pn**		**08 15 21.8**	**-3.8**
VAM	**Vamos**	**4.08**	**280**	P	**Pn**		**08 15 26.7**	**+0.8**
VAM	**Vamos**	**4.08**	**280**	P	**Pn**		**08 15 26.7**	**+0.8**
VAM	**Vamos**	**4.08**	**280**	P	**Pn**		**08 15 27.5**	**+1.6**
VAM				S	**Sn**		**08 16 08.9**	**-4.0**
VAM	**Vamos**	**4.08**	**280**	P	**Pn**		**08 15 26.7**	**+0.8**
KONT	**Konya--Tatoy**	**4.09**	**39**	*e*PN	**Pn**		**08 15 28.3**	**+2.2**
KONT	**Konya--Tatoy**	**4.09**	**39**	*e*Pn	**Pn**		**08 15 28.3**	**+2.2**
URLA	**Izmir**	**4.11**	**331**	P	**Pn**		**08 15 25.3**	**-1.0**
URLA	**Izmir**	**4.11**	**331**	*i* P	**Pn**		**08 15 25.3**	**-1.0**
GVD	**Gavdhos**	**4.14**	**272**	P	**Pn**		**08 15 27.7**	**+1.0**
GVD	**Gavdhos**	**4.14**	**272**	P	**Pn**		**08 15 27.7**	**+1.0**
GVD				S	**Sn**		**08 16 12.7**	**-1.7**
GVD	**Gavdhos**	**4.14**	**272**	P	**Pn**		**08 15 27.7**	**+1.0**
GVD	**Gavdhos**	**4.14**	**272**	P	**Pn**		**08 15 26.0**	**-0.8**
GVD				S	**Sn**		**08 16 12.7**	**-1.7**
GVD				AML	AML		08 16 16.7	
	comp=N,1755μm,0.3s							
GVD				AML	AML		08 16 19.2	
	comp=E,2094μm,0.4s							
AKS	**Akhisar**	**4.22**	**346**	*e*PN	**Pn**		**08 15 28.0**	**+0.2**
AKS	**Akhisar**	**4.22**	**346**	*e*Pn	**Pn**		**08 15 28.0**	**+0.2**
DEMI	**Demirci**	**4.26**	**356**	P	**Pn**		**08 15 28.3**	**-0.1**
DEMI	**Demirci**	**4.26**	**356**	*i* P	**Pn**		**08 15 28.3**	**-0.1**
IMMV	**Iera Moni Meta**	**4.27**	**281**	P	**Pn**		**08 15 28.8**	**+0.3**
IMMV	**Iera Moni Meta**	**4.27**	**281**	P	**Pn**		**08 15 28.8**	**+0.3**
IMMV				S	**Sn**		**08 16 14.5**	**-2.9**
IMMV	**Iera Moni Meta**	**4.27**	**281**	P	**Pn**		**08 15 28.2**	**-0.3**
IMMV				S	**Sn**		**08 16 14.5**	**-2.9**
IMMV				AML	AML		08 16 17.1	
	comp=N,1940μm,0.5s							
IMMV				AML	AML		08 16 23.9	
	comp=E,2077μm,0.6s							
MHLO	**Agia Marina, M**	**4.28**	**298**	P	**Pn**		**08 15 31.0**	**+2.3**
MHLO				S	**Sn**		**08 16 13.8**	**-4.0**
MHLO	**Agia Marina, M**	**4.28**	**298**	P	**Pn**		**08 15 31.0**	**+2.3**
MHLO				S	**Sn**		**08 16 13.8**	**-4.0**
MHLO				AML	AML		08 16 23.7	
	comp=E,3149μm,0.4s							
MHLO				AML	AML		08 16 26.2	
	comp=N,3712μm,0.5s							
LADK	**Ladik-KONYA**	**4.29**	**37**	*e*PN	**Pn**		**08 15 31.0**	**+2.1**
LADK	**Ladik-KONYA**	**4.29**	**37**	*e*Pn	**Pn**		**08 15 31.0**	**+2.1**
GDZ	**Gediz**	**4.30**	**4**	P	**Pn**		**08 15 28.9**	**-0.2**
GDZ	**Gediz**	**4.30**	**4**	*i* P	**Pn**		**08 15 28.9**	**-0.2**
CHOS	**Chios island**	**4.36**	**326**	*e*PN	**Pn**		**08 15 31.6**	**+1.8**
CHOS	**Chios island**	**4.36**	**326**	P	**Pn**		**08 15 29.2**	**-0.6**
CHOS	**Chios island**	**4.36**	**326**	*e*Pn	**Pn**		**08 15 31.6**	**+1.8**
CHOS	**Chios island**	**4.36**	**326**	P	**Pn**		**08 15 29.2**	**-0.6**
KIZK	**Mersin**	**4.42**	**66**	P	**Pn**		**08 15 31.4**	**+0.8**
KIZK	**Mersin**	**4.42**	**66**	*i* P	**Pn**		**08 15 31.4**	**+0.8**
KDHN

comp=N,9,2nm,0.3s,baz=293,slow=13,SNR=24
MMAI Sn Sn 08 16 46.1 -2.2
comp=N,37nm,0.3s,baz=216,slow=50,SNR=7.6
IZI Iznik 5.55 3 *e*PN Pn 08 15 47.8 +1.7
IZI Iznik 5.55 3 *e*Pn Pn 08 15 47.8 +1.7
SLTI Sal'it 5.56 116 Pn Pn 08 15 45.2 -1.0
SLTI Sal'it 5.56 116 Pn Pn 08 15 45.2 -1.0
GPA Golpazari 5.57 9 *e*PN Pn 08 15 48.7 +2.3
GPA Golpazari 5.57 9 *e*Pn Pn 08 15 48.7 +2.3
BOZC Bozcaada 5.61 335 *i* P Pn 08 15 48.3 +1.5
GLL Jalalah 5.64 156 P Pn 08 15 46.4 -0.9
baz=155
GLL Jalalah 5.64 156 P Pn 08 15 46.4 -0.9
HWQ Hawqa 5.66 93 *e*P Pn 08 15 47.8 +0.1
KSDI Kefar Szold 5.66 104 Pn Pn 08 15 47.2 -0.4
KSDI Kefar Szold 5.66 104 Pn Pn 08 15 47.2 -0.4
YURE YUREGIR 5.67 67 P Pn 08 15 48.2 +0.5
YURE YUREGIR 5.67 67 *i* P Pn 08 15 48.2 +0.5
ARNB Al Arnab 5.70 77 *e*P Pn 08 15 45.7 -2.5
ARNB *e*S Sn 08 16 48.4 -4.5
ARNB AML AML 08 16 58.2
comp=N,95nm,0.4s
ARNB AML AML 08 16 59.2
comp=E,57nm,1.0s
RCY Rachaya 5.71 101 *e*P Pn 08 15 47.9 -0.5
GULT Gulveren 5.74 11 *e*PN Pn 08 15 51.2 +2.5
GULT Gulveren 5.74 11 *e*Pn Pn 08 15 51.3 +2.5
MMLI Mount Malkishu 5.75 112 Pn Pn 08 15 48.3 -0.6
MMLI Sn Sn 08 16 50.5 -3.7
MMLI Mount Malkishu 5.75 112 Pn Pn 08 15 48.3 -0.6
MMLI Sn Sn 08 16 50.5 -3.7
VILL Villia 5.77 307 P Pn 08 15 50.5 +1.4
AKO Adana 5.77 61 *i* P Pn 08 15 50.7 +1.6
ARMT Armutlu 5.77 358 *e*PN Pn 08 15 51.5 +2.4
ARMT Armutlu 5.77 358 *e*Pn Pn 08 15 51.5 +2.4
VIL2 Platees 5.82 308 P Pn 08 15 50.5 +0.7
AMAZ Amatzia 5.84 122 Pn Pn 08 15 49.9 -0.2
AMAZ Sn Sn 08 16 52.2 -4.1
AMAZ Amatzia 5.84 122 Pn Pn 08 15 49.9 -0.2
AMAZ Sn Sn 08 16 52.2 -4.1
KSHT Keshet 5.85 106 Pn Pn 08 15 50.5 +0.3
KSHT Keshet 5.85 106 Pn Pn 08 15 50.5 +0.3
SUZ Suez 5.85 147 P Pn 08 15 49.2 -1.0
baz=145
SUZ Suez 5.85 147 P Pn 08 15 49.2 -1.0
KZIT Kziot 5.89 130 Pn Pn 08 15 50.2 -0.6
KZIT Kziot 5.89 130 Pn Pn 08 15 50.2 -0.6
HMDT Nahal Hemdat 5.92 114 Pn Pn 08 15 50.8 -0.3
HMDT Sn Sn 08 16 54.8 -3.3
HMDT Nahal Hemdat 5.92 114 Pn Pn 08 15 50.8 -0.3
HMDT Sn Sn 08 16 54.8 -3.3
LTK Loutraki 5.92 305 P Pn 08 15 53.3 +2.1
LTK Loutraki 5.92 305 P Pn 08 15 53.4 +2.1
LIA Limnos Island 5.99 330 P Pn 08 15 52.0 -0.1
VLX Vlachokerasia 6.04 297 P Pn 08 15 51.8 -1.1
VLX Vlachokerasia 6.04 297 P Pn 08 15 51.8 -1.1
AOS Alonnisos 6.06 318 P Pn 08 15 54.6 +1.5
AOS Alonnisos 6.06 318 P Pn 08 15 54.6 +1.5
QASN Qassioun 6.06 100 *e*P Pn 08 15 50.5 -2.7
QASN *e*S Sn 08 16 56.5 -5.3
QASN AML AML 08 17 02.2
comp=N,357nm,0.4s
QASN AML AML 08 17 06.1
comp=E,256nm,0.6s
TCHB Talchebab 6.08 108 *e*P Pn 08 15 50.5 -2.9
TCHB *e*S Sn 08 16 56.2 -6.0
TCHB AML AML 08 17 03.7
comp=N,348nm,0.5s
TCHB AML AML 08 17 09.3
comp=E,256nm,0.5s
PROD Prodromos 6.09 306 P Pn 08 15 55.9 +2.4
PROD Prodromos 6.09 306 P Pn 08 15 55.9 +2.4
BRTR Keskin Array B 6.10 35 Pn Pn 08 15 54.7 +0.9
comp=E,3.0nm,0.3s,baz=218,slow=16,SNR=36
BRTR Sn Sn 08 17 01.4 -1.5
comp=E,2.7nm,0.3s,baz=204,slow=24,SNR=12
BTCH Batrach 6.12 76 *e*P Pn 08 15 51.1 -2.8
BTCH *e*S Sn 08 16 57.3 -6.0
BTCH AML AML 08 17 03.6
comp=N,145nm,0.3s
BTCH AML AML 08 17 06.4
comp=E,100nm,0.7s
MARH Ras Al Marh 6.13 95 *e*P Pn 08 15 52.0 -2.4
MARH *e*S Sn 08 16 58.8 -5.1
MARH AML AML 08 17 04.4
comp=N,54nm,0.4s
MARH AML AML 08 17 07.4
comp=E,83nm,0.5s
THAL Thalero 6.13 304 P Pn 08 15 56.2 +2.1
THAL Thalero 6.13 304 P Pn 08 15 56.2 +2.1
DSI Dead Sea 6.13 120 Pn Pn 08 15 54.2 -0.1
DSI Dead Sea 6.15 120 Pn Pn 08 15 54.2 -0.1
SAHE Sakarya_HENDEK 6.21 12 P Pn 08 15 54.8 -0.3
SAHE Sakarya_HENDEK 6.21 12 *i* P Pn 08 15 54.8 -0.3
ZAF Zafarana 6.21 151 P Pn 08 15 54.2 -1.0
baz=150
ZAF Zafarana 6.21 151 P Pn 08 15 54.2 -1.0
TOTH TOTAH 6.23 101 *e*P Pn 08 15 53.8 -1.6
TOTH *e*S Sn 08 17 01.1 -4.7
TOTH AML AML 08 17 07.1
comp=N,154nm,0.6s
TOTH AML AML 08 17 16.6
comp=E,76nm,0.8s
LKR Lokris 6.25 310 P Pn 08 15 58.5 +2.8
LKR Lokris 6.25 310 P Pn 08 15 58.5 +2.8
SMIA Simia 6.26 312 P Pn 08 15 58.4 +2.6
SMIA Simia 6.26 312 P Pn 08 15 58.4 +2.6
ATAL Atalanti 6.26 310 P Pn 08 15 57.4 +1.6
ATAL Atalanti 6.26 310 P Pn 08 15 57.4 +1.6
MZBI Masada 6.28 122 Pn Pn 08 15 56.1 +0.1
MZBI Masada 6.28 122 Pn Pn 08 15 56.1 +0.1
MZDA Masada 6.28 122 Pn Pn 08 15 56.1 0.0
MZDA Sn Sn 08 17 03.2 -3.9
MZDA Masada 6.28 122 Pn Pn 08 15 56.1 0.0
MZDA Sn Sn 08 17 03.2 -3.9
SKIA Skiathos 6.29 316 P Pn 08 15 58.0 +1.7
SKIA Skiathos 6.29 316 P Pn 08 15 58.0 +1.7
ITM Ithomi 6.30 294 P Pn 08 15 56.2 -0.2
ITM Ithomi 6.30 294 P Pn 08 15 56.2 -0.2
GUR Goura 6.31 302 P Pn 08 15 57.6 +1.0
GUR Goura 6.31 302 P Pn 08 15 57.6 +1.0
RMNI Mount Ramon 6.33 130 Pn Pn 08 15 56.7 -0.2
RMNI Mount Ramon 6.33 130 Pn Pn 08 15 56.7 -0.2
SWA2 6.34 210 P Pn 08 15 56.3 -0.7
baz=212
SWA2 6.34 210 P Pn 08 15 56.3 -0.7
SMTH Samothraki Isl 6.35 334 P Pn 08 15 58.9 +1.8
SMTH Samothraki Isl 6.35 334 P Pn 08 15 58.9 +1.8
KAND Kocaeli-Kandir 6.35 7 P Pn 08 15 57.6 +0.5
KAND Kocaeli-Kandir 6.35 7 *i* P Pn 08 15 57.6 +0.5
PYL PYLOS 6.35 291 P Pn 08 15 54.5 -2.6
PYL PYLOS 6.35 291 P Pn 08 15 54.5 -2.6
DRWC Darouich 6.41 71 *e*P Pn 08 15 54.9 -3.0
DRWC *e*S Sn 08 17 04.5 -5.7
DRWC AML AML 08 17 12.4
comp=E,57nm,0.7s
DRWC AML AML 08 17 23.4
comp=N,37nm,0.5s
DSF Desfina 6.42 306 P Pn 08 16 00.1 +2.0
DSF Desfina 6.42 306 P Pn 08 16 00.1 +2.0
BCAM Yenicaga 6.45 20 P Pn 08 16 00.2 +1.6
BCAM Yenicaga 6.45 20 *i* P Pn 08 16 00.2 +1.6
KLV Kalavryta, Ach 6.49 302 P Pn 08 15 58.7 -0.4
KLV Kalavryta, Ach 6.49 302 P Pn 08 15 58.7 -0.4
NEO Neokhori 6.53 315 P Pn 08 16 03.1 +3.6
NEO Neokhori 6.53 315 P Pn 08 16 03.1 +3.6
XOR Xorichti 6.58 316 P Pn 08 16 01.2 +0.9
XOR Xorichti 6.58 316 P Pn 08 16 01.2 +0.9
AMT Artemida-Makis 6.59 297 P Pn 08 16 02.0 +1.5
AMT Artemida-Makis 6.59 297 P Pn 08 16 01.9 +1.5
ZFRI Zfri 6.62 128 Pn Pn 08 16 00.2 -0.6
ZFRI Sn Sn 08 17 10.5 -5.0
ZFRI Zfri 6.62 128 Pn Pn 08 16 00.2 -0.6
ZFRI Sn Sn 08 17 10.5 -5.0
KRMI Paran Flat 6.64 133 Pn Pn 08 15 59.8 -1.3
KRMI Paran Flat 6.64 133 Pn Pn 08 15 59.8 -1.3
PRNI Paran 6.65 130 Pn Pn 08 16 00.0 -1.2
PRNI Sn Sn 08 17 10.5 -5.7
PRNI Paran 6.65 130 Pn Pn 08 16 00.0 -1.2
PRNI Sn Sn 08 17 10.5 -5.7
KALE Kalithea 6.67 305 P Pn 08 16 03.4 +1.9
KALE Kalithea 6.67 305 P Pn 08 16 03.4 +1.9
SALA Sala 6.67 106 *e*P Pn 08 15 59.4 -2.3
SALA *e*S Sn 08 17 12.0 -4.9
SALA AML AML 08 17 21.3
comp=E,8.0nm,0.4s
SALA AML AML 08 17 23.5
comp=N,79nm,0.4s
LAKA Lakka 6.71 303 P Pn 08 16 01.3 -0.7
LAKA Lakka 6.71 303 P Pn 08 16 01.3 -0.7
PAIG Paliouri 6.71 321 P Pn 08 16 04.3 +2.2
PAIG pmax pmax
comp=E,12nm,0.8s
PAIG Paliouri 6.71 321 P Pn 08 16 05.1 +3.1
PAIG Paliouri 6.71 321 P Pn 08 16 05.1 +3.1
SERG Sergoula 6.74 305 P Pn 08 16 04.2 +1.8
FYTO Fytoko, Volos 6.76 315 P Pn 08 16 05.9 +3.3
FYTO Fytoko, Volos 6.76 315 P Pn 08 16 05.9 +3.3
DRO Drossia 6.76 300 P Pn 08 16 05.6 +2.9
DRO Drossia 6.76 300 P Pn 08 16 05.6 +2.9
ROOS tl_alroos 6.77 93 *e*P Pn 08 16 01.2 -1.8
ROOS *e*S Sn 08 17 14.2 -5.1
ROOS AML AML 08 17 22.1
comp=E,118nm,0.4s
ROOS AML AML 08 17 24.9
comp=N,111nm,0.6s
HRFI Mount Harif 6.89 132 Pn Pn 08 16 03.7 -0.8
HRFI Mount Harif 6.89 132 Pn Pn 08 16 03.7 -0.8
AGG Agios Georgios 6.89 310 P Pn 08 16 06.5 +2.0
AGG pmax pmax
comp=E,291nm,0.9s
AGG Agios Georgios 6.89 310 P Pn 08 16 08.0 +3.5
AGG Agios Georgios 6.89 310 P Pn 08 16 08.0 +3.5
ANX Ano Chora 6.92 305 P Pn 08 16 06.2 +1.2
RLS Riolos of Patr 6.98 300 P Pn 08 16 07.2 +1.5
MBRI Mt Berech 6.99 134 Pn Pn 08 16 05.5 -0.4
MBRI Sn Sn 08 17 19.9 -4.7
MBRI Mt Berech 6.99 134 Pn Pn 08 16 05.5 -0.4
MBRI Sn Sn 08 17 19.9 -4.7
ASF Jabal al Asfar 7.00 110 Pn Pn 08 16 06.8 +0.7
comp=E,1.8nm,0.3s,baz=243,slow=7.3,SNR=11
ASF Sn Sn 08 17 22.0 -2.9
comp=E,1.6nm,0.3s,baz=319,slow=22,SNR=3.3
ZALF Zalf 7.08 103 *e*P Pn 08 16 05.1 -2.0
ZALF *e*S Sn 08 17 21.5 -5.4
ZALF AML AML 08 17 38.6
comp=E,37nm,0.6s
ZALF AML AML 08 17 45.9
comp=N,26nm,0.5s
EIL Elat 7.10 134 Pn Pn 08 16 06.8 -0.6
comp=N,8.7nm,0.3s,baz=347,slow=3.3,SNR=58
EIL Sn Sn 08 17 21.3 -6.0
comp=N,59nm,0.3s,baz=70,slow=14,SNR=17
EIL LR LR 08 19 35.4
comp=N,95nm,21.6s,baz=52,slow=44
EIL Elat 7.10 134 Pn Pn 08 16 06.5 -0.9
EIL Sn Sn 08 17 21.1 -6.2
AXS Araxos 7.11 301 P Pn 08 16 09.0 +1.6
AXS Araxos 7.11 301 P Pn 08 16 09.0 +1.6
EVR Evrytania 7.17 307 P Pn 08 16 11.3 +2.9
EVR Evrytania 7.17 307 P Pn 08 16 11.3 +2.9
PVO Paravola 7.20 304 P Pn 08 16 13.1 +4.4
PVO Paravola 7.20 304 P Pn 08 16 13.1 +4.4
ZKS Zakynthos 7.33 296 P Pn 08 16 06.7 -3.9
ZKS Zakynthos 7.33 296 P Pn 08 16 06.7 -3.9
THL Klokotos Trika 7.41 312 P Pn 08 16 15.1 +3.5
PDO Prodromos 7.42 303 P Pn 08 16 12.3 +0.5
PDO Prodromos 7.42 303 P Pn 08 16 12.3 +0.5
HQLS 7.44 136 P Pn 08 16 12.0 -0.1
LIT Litokhoron 7.48 317 P Pn 08 16 16.5 +3.9
LIT Litokhoron 7.48 317 P Pn 08 16 16.5 +3.9
KFL Anninata 7.49 299 P Pn 08 16 09.8 -2.9
KFL Anninata 7.49 299 P Pn 08 16 09.8 -2.9
TR2 Tor 2 7.49 147 P Pn 08 16 11.7 -1.1
baz=146
TR2 Tor 2 7.49 147 P Pn 08 16 11.7 -1.1
HAQS Haql 7.55 138 P Pn 08 16 13.5 0.0
SOH Sokhos 7.56 325 P Pn 08 16 16.8 +3.1
SOH pmax pmax
comp=E,12nm,0.7s
THE Thessaloniki 7.60 322 P Pn 08 16 17.5 +3.2
THE pmax pmax
comp=E,66nm,1.0s
HDHB Dhahab 7.64 141 P Pn 08 16 14.7 -0.1
baz=139
HDHB Dhahab 7.64 141 P Pn 08 16 14.7 -0.1
VLS Valsamata 7.66 299 P Pn 08 16 12.9 -2.2
DSL Palaion Diasel 7.75 306 P Pn 08 16 16.5 +0.2
DSL Palaion Diasel 7.75 306 P Pn 08 16 16.6 +0.2
LKD2 Lefkada island 7.88 303 P Pn 08 16 16.5 -1.6
LKD2 Lefkada island 7.88 303 P Pn 08 16 16.5 -1.6
KPRO Kipourio 8.04 312 P Pn 08 16 23.9 +3.5
KPRO Kipourio 8.04 312 P Pn 08 16 23.9 +3.5
RSHS 8.08 142 P Pn 08 16 20.2 -0.6
SH2 Sharm el Sheik 8.09 147 P Pn 08 16 20.1 -0.8
baz=146
SH2 Sharm el Sheik 8.09 147 P Pn 08 16 20.1 -0.8
JLOS 8.11 136 P Pn 08 16 21.0 -0.4
BDAS Al Bad' 8.13 140 P Pn 08 16 20.8 -0.8
GRG Griva 8.13 321 P Pn 08 16 24.2 +2.6
GRG pmax pmax
comp=E,64nm,1.1s
FNA Florina 8.57 317 P Pn 08 16 30.4 +2.9
FNA pmax pmax
comp=E,79nm,1.4s
SGD Sagiada 8.57 307 P Pn 08 16 24.5 -3.0
SGD Sagiada 8.57 307 P Pn 08 16 24.5 -3.0
KEK Kerkira 8.91 306 P Pn 08 16 28.3 -3.9
OHR Ohrid 9.11 316 *i* Pn Sn 08 18 18.7 +1.9
TIRR Tirgusor 9.67 357⇑ *i*P Pn 08 16 44.5 +1.9
TIRR Tirgusor 9.67 357 ⇑P Pn 08 16 44.5 +1.9
TIR Tirane 9.80 315 *e*P Pn 08 16 45.5 +1.1
TIR *e* 08 18 37.9
TIR pmax pmax
comp=E,46nm,0.4s
TIR Tirane 9.80 315 *e*Pn Pn 08 16 45.5 +1.1
comp=E,46nm,0.4s
TIR *e*Sn Sn 08 18 37.8 +4.2
TIR Tirane 9.80 315 *e*Pn Pn 08 16 45.5 +1.1
comp=E,46nm,0.4s
TIR *e*Sn Sn 08 18 37.9 +4.2
CFR Carcaliu 10.41 356⇓ *i*P Pn 08 16 52.8 +0.2
CFR Carcaliu 10.41 356 ⇓P Pn 08 16 52.8 +0.2
TIP Timpagrande 10.81 298 *e*Pn Pn 08 16 55.2 -3.2
comp=E,37nm,0.4s
TIP Timpagrande 10.81 298 *e*Pn Pn 08 16 55.2 -3.2
comp=E,37nm,0.4s
MLR Muntele Rosu 10.96 348 Pn Pn 08 17 02.0 +1.6
comp=E,0.1nm,0.3s,baz=208,slow=14,SNR=7.7
MLR Muntele Rosu 10.96 348 *i*P Pn 08 17 01.0 +0.6
VOIR 11.08 345 *i*P Pn 08 17 02.9 +0.9
VOIR 11.08 345 ⇑P Pn 08 17 02.9 +0.9
PLOR Plostina 11.21 351 *i*P Pn 08 17 04.4 +0.7
PLOR Plostina 11.21 351 ⇑P Pn 08 17 04.4 +0.7
VRI Vrincioaia 11.22 351 *i*P Pn 08 17 04.9 +1.1
VRI Vrincioaia 11.22 351 ⇑P Pn 08 17 04.9 +1.1
MDVR Moldovita 11.49 333 *i*P Pn 08 17 09.8 +2.3
CUC Castrocucco 11.79 300 *e*Pn Pn 08 17 08.3 -3.3
comp=E,107nm,0.6s
CUC Castrocucco 11.79 300 *e*Pn Pn 08 17 08.3 -3.3
comp=E,107nm,0.6s
VAE Valguarnera 12.19 287 Pn Pn 08 17 15.7 -1.5
comp=E,7.1nm,0.3s,baz=325,slow=7.3,SNR=3.1
VAE Sn Sn 08 19 21.9 -10
comp=E,9.0nm,0.3s,baz=167,slow=8.0,SNR=6.2
BURAR Bucovina Array 13.15 348 *i*P Pn 08 17 27.4 -2.8
BURAR Bucovina Array 13.15 348 ⇑P Pn 08 17 27.4 -2.8
GNI Garni 13.51 62 LR LR 08 24 29.1
comp=E,75nm,18.3s,baz=250,slow=45
GNI Garni 13.51 62c *i*P Pn 08 17 35.5 +0.3
NEY Neytrino 13.52 47 *i*P Pn 08 17 36.8 +1.4
KBZ Khabaz 13.90 46 Pn Pn 08 17 42.9 +2.5
comp=E,0.2nm,0.3s,baz=62,slow=7.0,SNR=2.1
KIV Kislovodsk 13.91 45 *e*P Pn 08 17 42.7 +2.1
KIV pmax pmax
comp=E,10.0nm,0.9s
KIV MLR MLR
comp=E,13nm,12.0s
KVAR Kislovodsk Arr 13.91 45 Pn Pn 08 17 42.8 +2.1
baz=232,slow=5.8,SNR=3.1
ZEI Tsey 14.01 51 *e*P P 08 17 49.3 -0.5
NCK Nalchik 14.19 48 *i* P Pn 08 17 45.6 +1.2
NCK pmax pmax
comp=E,6.0nm,0.8s
NVLJ Novalja 14.67 316 *e*Pn Pn 08 17 46.6 -4.2
NVLJ Sn Sn 08 20 22.1 -10
PSZ Piszkesteto 14.82 335‖ *e*Pn P 08 17 58.3 -0.4
PSZ Piszkesteto 14.82 335 *e*P P 08 17 57.5 -1.2
PSZ pmax pmax
comp=E,41nm,0.9s
PSZ Piszkesteto 14.82 335 *e*Pn P 08 17 57.5 -1.2
comp=E,41nm,0.9s
PSZ Piszkesteto 14.82 335 *e*Pn P 08 17 57.5 -1.2
comp=E,41nm,0.9s
KOLS Kolonicke sedl 15.02 342 *e*P P 08 18 01.4 +0.6
KOLS Kolonicke sedl 15.02 342 *e*P P 08 18 01.4 +0.6
BOJS Bojanci 15.04 319 *i* Pn Pn 08 17 53.6 -2.4
BOJS *i* Sn Sn 08 20 33.7 -8.0
CRVS Cervenica-Dubn 15.20 340 *e*P P 08 18 03.4 +0.6
CRVS Cervenica-Dubn 15.20 340 *e*P P 08 18 03.4 +0.6
VISS Visnje 15.46 320 *i* Pn Pn 08 17 58.8 -2.6
VYHS Vyhne 15.68 334 *e*P P 08 18 08.1 -0.1
VYHS Vyhne 15.68 334 *e*P P 08 18 08.0 -0.1
KIEV Kiev 15.90 0 *e*P P 08 18 09.9 -0.6
KIEV pmax pmax
comp=E,8.0nm,1.2s
AKASG Malin Array Be 15.90 0 Pn Pn 08 18 05.7 -1.4
comp=E,0.7nm,0.3s,baz=184,slow=11,SNR=2.9
AKASG Malin Array Be 15.90 0 *e*P P 08 18 12.0 +1.4
AKASG pmax pmax
comp=E,2.0nm,0.3s
JAVS Javornik 15.94 319 *i* Pn Pn 08 18 05.2 -2.4
SOKA Soboth 15.94 322 *i* Pn Pn 08 18 07.1 -0.6
comp=E,7.5nm,1.1s
LANS Liptovska Anna 16.03 336 *e*P P 08 18 13.6 +1.6
LANS Liptovska Anna 16.03 336 *e*P P 08 18 13.6 +1.6
LANS Liptovska Anna 16.03 336 *e*PG P 08 18 24.1 +12
LANS *e*SG 08 18 26.6
ARSA Arzberg 16.10 325 *i* P P 08 18 12.6 -0.3
comp=E,5.6nm,0.6s
KEST Kesra 16.18 279 Pn P 08 18 14.4 +0.5
comp=E,0.9nm,0.3s,baz=322,slow=2.5,SNR=11
KEST Sn Sn 08 21 01.3 -8.4
comp=E,0.4nm,0.3s,baz=83,slow=23,SNR=4.4
OKC Ostrava-Krasne 17.06 335 AMS AMS 08 26 50.0
comp=E,200nm,17.0s
KBA Koelnbreinsper 17.07 321 *i* Pn Pn 08 18 21.5 -0.6
comp=E,8.2nm,0.7s
KBA Koelnbreinsper 17.07 321 P P 08 18 23.1 -0.7
KBA pmax pmax
comp=E,11nm,1.1s
VRAC Vranov 17.20 331 P P 08 18 24.5 -0.4
comp=E,1.8nm,0.3s,baz=140,slow=9.9,SNR=20
VRAC LR LR 08 27 10.0
comp=E,191nm,18.0s,baz=147,slow=45
ABTA Abfaltersbach 17.31 319 *i* Pn Pn 08 18 22.7 -2.3
comp=E,5.3nm,0.6s
TREC Trest 17.64 329 AMS AMS 08 27 00.0
GERES GERESS Array B 18.10 326 P Pn 08 18 33.9 -0.8
comp=E,0.8nm,0.3s,baz=139,slow=12,SNR=39
GERES LR LR 08 27 18.1
comp=E,109nm,18.4s,baz=132,slow=43
GERES GERESS Array B 18.10 326 *e*P Pn 08 18 34.3 -0.4
GERES pmax pmax
comp=E,1.0nm,0.3s
DPC Dobruska-Polom 18.14 333 *e*P Pn 08 18 35.1 -0.1
DPC Dobruska-Polom 18.14 333 *e*P Pn 08 18 35.1 -0.1
WATA Walderalm 18.17 319 *i* Pn P 08 18 36.5 +0.7
comp=E,8.2nm,0.7s
KHC Kasperske Hory 18.36 326 *e*P P 08 18 36.5 -1.4
KHC *ex* x 08 18 40.7
KHC AMS AMS 08 27 30.0
comp=E,200nm,12.6s
KHC Kasperske Hory 18.36 326 *e*P P 08 18 36.4 -1.4
KHC pmax pmax
comp=E,3.0nm,0.9s
KHC Kasperske Hory 18.36 326 *e*P P 08 18 36.4 -1.4
comp=E,2.5nm,0.9s
KHC Kasperske Hory 18.36 326 *e*P P 08 18 36.4 -1.4
comp=E,2.5nm,0.9s
UPC Upice 18.39 333 *e*P Pn 08 18 38.7 +0.5
UPC AMS AMS 08 27 50.0
comp=E,300nm,19.5s
UPC Upice 18.39 333 *e*P Pn 08 18 38.7 +0.5
UPC MLR MLR
comp=E,300nm,19.5s
GOPC GO Pecny, Ondr 18.41 330 AMS AMS 08 27 50.0
MOTA Moosalm 18.44 318 *i* Pn P 08 18 38.8 +0.1
comp=E,10nm,0.8s
FETA Feichten 18.46 317 *i* Pn P 08 18 38.4 -0.6
comp=E,8.3nm,0.7s
PRU Pruhonice 18.57 329 *e*P P 08 18 39.7 -0.3
PRU *e*pP pP 08 18 46.8 0.0
PRU AMS AMS 08 27 40.0
comp=E,200nm,9.5s
PRU Pruhonice 18.57 329 *e*P P 08 18 39.7 -0.3
PRU MLR MLR
comp=E,200nm,9.5s
WET Wettzell 18.70 325 P P 08 18 41.0 -0.5
WET pmax pmax
comp=E,15nm,0.8s
DAVOX Davos/Dischmat 18.81 315 P Pn 08 18 43.8 +0.3
comp=E,0.8nm,0.3s,baz=149,slow=18,SNR=3.6
DAVOX LR LR 08 28 26.7
comp=E,170nm,18.6s,baz=86,slow=45
PVCC Panska Ves 18.97 330 *e*P P 08 18 44.6 +0.2
PVCC *e*pP pP 08 18 52.1 +0.9
PVCC AMS AMS 08 28 30.0
comp=E,200nm,14.2s
PVCC Panska Ves 18.97 330 *e*P P 08 18 44.6 +0.2
PVCC MLR MLR
comp=E,200nm,14.2s
SBF Sospel 19.02 305 *e*P P 08 18 44.2 -1.0
SBF pmax pmax
comp=E,20nm,0.7s
DAVA Damuels 19.08 317 *i* P P 08 18 45.1 -0.7
comp=E,6.3nm,0.5s
BRG Berggiesshubel 19.49 330 P P 08 18 50.0 -0.1
BRG pmax pmax
comp=E,13nm,1.0s
NKC Novy Kostel 19.66 327 *e*P P 08 18 50.8 -1.2
NKC Novy Kostel 19.66 327 *e*P P 08 18 50.8 -1.2
MICGM Minsk 19.73 358 *e* P 08 18 52.0 -0.7
MNK Minsk 19.73 358 *e*P P 08 18 52.0 -0.7
LPG La Plagne 20.11 309 *e*P P 08 18 57.5 +0.3
LPG pmax pmax
comp=E,20nm,0.7s
LPL La Plagne 20.13 309 *e*P P 08 18 57.7 +0.3
LPL pmax pmax
comp=E,13nm,0.5s
NACGM Naroch 20.18 356 *e* P 08 18 56.0 -1.6
CLL Collm 20.21 330 *e*P P 08 18 55.0 -2.9
comp=E,4.0nm,0.7s
CLL *i* 08 18 56.6
comp=E,6.0nm,0.8s
CLL *i* 08 19 00.8
CLL *i* 08 19 07.0
CLL LmV 08 28 00.0
comp=E,100nm,18.8s
CLL Collm 20.21 330 *e*P P 08 18 55.0 -2.9
CLL pmax pmax
comp=E,4.0nm,0.7s
MOX Moxa 20.33 327 P Pn 08 19 00.9 -0.5
MOX pmax pmax
comp=E,17nm,0.9s
BFO Black Forest 20.53 318 *e*P P 08 19 02.0 +0.5
BFO pmax pmax
comp=E,5.0nm,0.6s
BFO Black Forest 20.53 318 *e*P P 08 19 02.0 +0.5
comp=E,5.2nm,0.6s
BFO Black Forest 20.53 318 *e*P P 08 19 02.0 +0.5
comp=E,5.2nm,0.6s
KLNR Kaliningrad 20.77 345 *e*P P 08 19 04.2 +0.3
KLNR pmax pmax
comp=E,30nm,0.5s
OBN Obninsk 20.97 12 P P 08 19 06.4 +0.3
comp=E,23nm,0.4s,baz=132,slow=5.7,SNR=4.7
OBN Obninsk 20.97 12*d* *i*P P 08 19 07.2 +1.1
OBN *e* 08 19 25.6
OBN pmax pmax
comp=E,16nm,0.5s
OBN MLR MLR
comp=E,40nm,16.0s
CABF La Chapelle 21.00 311 *e*P P 08 19 03.6 -3.1
CABF pmax pmax
comp=E,15nm,0.6s
HINF Hinteralfeld 21.11 315 *e*P P 08 19 05.6 -2.1
HINF pmax pmax
comp=E,2.0nm,0.2s
VIVF Saint-Julien-l 21.23 306 *e*P P 08 19 07.5 -1.6

VIVF					pmax	pmax			
	comp=Z,7.0nm,0.6s								
MOS	**Moscow**	**21.76**	**13**	*eP*	**P**		**08 19 12.5**	**-2.0**	
MOS					pmax	pmax			
	comp=Z,47nm,1.3s								
MOS					pmax	pmax			
	comp=Z,75nm,0.9s								
AVF	**Avril sur Loir**	**22.79**	**310**	*eP*	**P**		**08 19 24.2**	**-1.5**	
AVF					pmax	pmax			
	comp=Z,10.0nm,0.8s								
TCF	**Toulx Ste Croi**	**23.34**	**308**	*eP*	**P**		**08 19 31.0**	**-0.4**	
TCF					pmax	pmax			
	comp=Z,19nm,1.4s								
GEYT	**Alibeck**	**23.52**	**74**	P	**P**		**08 19 34.5**	**+1.3**	
	comp=Z,1.1nm,0.3s,baz=195,slow=17,SNR=2.4								
VSU	**Vasula**	**23.74**	**357**	*iP*	**P**		**08 19 36.7**	**+1.7**	
VSU					pmax	pmax			
	comp=Z,13nm,0.8s								
TAM	**Tamanrasset**	**23.82**	**246**	*eP*	**P**		**08 19 38.3**	**+1.9**	
TAM					pmax	pmax			
	comp=Z,23nm,1.5s								
TAM	**Tamanrasset**	**23.82**	**246**	*eP*	**P**		**08 19 38.3**	**+1.9**	
	comp=Z,23nm,1.5s								
TAM	**Tamanrasset**	**23.82**	**246**	*eP*	**P**		**08 19 38.3**	**+1.9**	
	comp=Z,23nm,1.5s								
FLN	**La Foliniere**	**25.93**	**312**	*eP*	**P**		**08 19 53.6**	**-1.6**	
FLN					pmax	pmax			
	comp=Z,26nm,0.6s								
GRR	**Gorron**	**26.03**	**311**	*eP*	**P**		**08 19 54.5**	**-1.6**	
GRR					pmax	pmax			
	comp=Z,23nm,0.6s								
ESDC	**Sonseca Array**	**26.70**	**290**	P	**P**		**08 20 01.9**	**-0.4**	
	comp=Z,1.8nm,0.5s,baz=81,slow=9.8,SNR=1.8								
FINES	**FINESS Array B**	**26.75**	**357**	P	**P**		**08 20 02.3**	**-0.1**	
	comp=Z,2.0nm,0.7s,baz=181,slow=7.0,SNR=8.8								
FINES					LR	LR	08 32 35.1		
	comp=Z,46nm,19.9s,baz=202,slow=41								
FINES	**FINESS Array B**	**26.75**	**357**	*eP*	**P**		**08 20 09.0**	**+6.6**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.5s								
KLMR	**Klimovskoe**	**26.93**	**11**	*eP*	**P**		**08 20 03.1**	**-1.0**	
KLMR				*e**SP	**pP**		**08 20 12.5**	**+1.0**	
KLMR				*e*			08 20 43.4		
KLMR					pmax	pmax			
	comp=Z,10.0nm,1.3s								
HFS	**Hagfors**	**27.28**	**343**	P	**P**		**08 20 06.5**	**-0.8**	
	comp=Z,4.0nm,0.6s,baz=156,slow=11,SNR=9.6								
QUIF	**Quistinic**	**27.34**	**309**	*eP*	**P**		**08 20 09.4**	**+1.5**	
QUIF					pmax	pmax			
	comp=Z,93nm,1.8s								
ROSF	**Rostrenen**	**27.53**	**309**	*eP*	**P**		**08 20 08.0**	**-1.6**	
ROSF					pmax	pmax			
	comp=Z,22nm,1.3s								
KONO	**Kongsberg**	**27.97**	**339**	*eP*	**P**		**08 20 12.7**	**-0.7**	
NB2	**NORSAR Subarra**	**28.68**	**342**	P	**P**		**08 20 18.1**	**-1.7**	
	comp=Z,1.2nm,0.4s,baz=144,slow=9.3								
NB2	**NORSAR Subarra**	**28.68**	**342**	P	**P**		**08 20 18.1**	**-1.7**	
	comp=Z,1.2nm,0.4s,SNR=6.3								
NOA	**NORSAR Array B**	**28.68**	**342**	P	**P**		**08 20 19.5**	**-0.2**	
	comp=Z,1.6nm,0.8s,baz=145,slow=9.1,SNR=6.8								
NOA					LR	LR	08 35 14.8		
	comp=Z,47nm,18.1s,baz=170,slow=44								
NOA	**NORSAR Array B**	**28.68**	**342**	*eP*	**P**		**08 20 19.7**	**-0.1**	
NOA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
ARU	**Arti**	**29.49**	**34**	P	**P**		**08 20 25.0**	**-1.9**	
	comp=Z,7.5nm,0.2s,baz=237,slow=11,SNR=2.5								
ARU					LR	LR	08 35 18.9		
	comp=Z,21nm,20.0s,baz=280,slow=43								
ARU	**Arti**	**29.49**	**34**	P	**P**		**08 20 25.3**	**-1.6**	
ARU					S		**08 25 20.4**	**+0.7**	
ARU					SS		**SnSn**	**08 26 46.2**	**-1.7**
TORD	**Torodi Ar. Bea**	**32.86**	**236**	P	**P**		**08 20 57.2**	**+0.2**	
	comp=Z,3.4nm,0.8s,baz=36,slow=11,SNR=22								
ARCES	**ARCESS Array B**	**34.86**	**358**	P	**P**		**08 21 13.9**	**+0.1**	
	comp=Z,2.0nm,0.7s,baz=180,slow=12,SNR=6.9								
ARCES	**ARCESS Array B**	**34.86**	**358**	*eP*	**P**		**08 21 13.5**	**-0.4**	
ARCES					pmax	pmax			
	comp=Z,2.0nm,0.7s								
AAK	**Ala-Archa**	**35.91**	**64**	*iP*	**P**		**08 21 23.6**	**+0.2**	
AAK					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KMBO	**Kilima Mbogo**	**36.53**	**166**	P	**P**		**08 21 28.7**	**-0.3**	
	comp=Z,4.7nm,0.7s,baz=261,slow=14,SNR=8.9								
KMBO	**Kilima Mbogo**	**36.53**	**166**	*eP*	**P**		**08 21 28.2**	**-0.8**	
KMBO					pmax	pmax			
	comp=Z,8.0nm,1.0s								
KMBO	**Kilima Mbogo**	**36.53**	**166**	*eP*	**P**		**08 21 28.2**	**-0.8**	
	comp=Z,8.1nm,1.0s								
KMBO	**Kilima Mbogo**	**36.53**	**166**	*eP*	**P**		**08 21 28.2**	**-0.8**	
	comp=Z,8.1nm,1.0s								
MKAR	**Makanchi Array**	**41.27**	**56**	P	**P**		**08 22 08.0**	**-0.2**	
	comp=Z,1.8nm,0.8s,baz=277,slow=6.2,SNR=17								
MKAR	**Makanchi Array**	**41.27**	**56**	*eP*	**P**		**08 22 08.3**	**+0.1**	
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.8s								
DBIC	**Dimbokro**	**41.97**	**236**	P	**P**		**08 22 13.9**	**-0.3**	
	comp=Z,4.1nm,0.6s,baz=27,slow=9.7,SNR=8.5								
BORG	**Borgarnes**	**42.45**	**331**	LR	LR		08 41 40.0		
	comp=Z,30nm,20.8s,baz=41,slow=39								
ZALV	**Zalesovo Beam**	**42.92**	**46**	P	**P**		**08 22 20.8**	**-0.7**	
	comp=Z,1.3nm,0.4s,baz=271,slow=8.5,SNR=4.0								
ZALV					LR	LR	08 44 10.9		
	comp=Z,29nm,18.7s,baz=250,slow=42								
ZALV	**Zalesovo Beam**	**42.92**	**46**	*eP*	**P**		**08 22 21.5**	**0.0**	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.4s								
SPITS	**Spitsbergen Ar**	**43.84**	**356**	LR	LR		08 41 43.4		
	comp=Z,33nm,19.4s,baz=115,slow=38								
PYUN	**Piuthan**	**45.98**	**83**	*eP*	**P**		**08 22 47.9**	**+1.3**	
	comp=Z,30nm,0.6s								
KOLN	**Koldanda**	**46.61**	**83**	*eP*	**P**		**08 22 52.3**	**+0.8**	
	comp=Z,25nm,0.7s								
NRIK	**Noril'sk**	**46.85**	**24**	P	**P**		**08 22 54.1**	**+1.6**	
	comp=Z,1.8nm,0.5s,baz=214,slow=4.1,SNR=1.6								
GKN	**Gorkha**	**47.37**	**82**	*eP*	**P**		**08 22 58.5**	**+1.1**	
	comp=Z,43nm,0.7s								
DMN	**Daman**	**47.90**	**82**	*eP*	**P**		**08 23 02.8**	**+1.1**	
	comp=Z,46nm,0.8s								
KKN	**Kakani**	**47.97**	**82**	*eP*	**P**		**08 23 03.0**	**+0.8**	
	comp=Z,30nm,0.6s								
PKIN	**Phulchoki**	**48.15**	**82**	*eP*	**P**		**08 23 04.2**	**+0.6**	
	comp=Z,33nm,0.9s								
GUN	**Gumba**	**48.41**	**82**	*eP*	**P**		**08 23 06.6**	**+0.9**	
	comp=Z,41nm,0.8s								
PALK	**Pallekele**	**54.63**	**108**	LR	LR		08 50 42.9		
	comp=Z,56nm,19.1s,baz=296,slow=40								
SONM	**Songino Array**	**57.19**	**51**	P	**P**		**08 24 10.7**	**+0.6**	
	comp=Z,0.3nm,0.3s,baz=284,slow=5.8,SNR=1.6								
SONM					LR	LR	08 52 16.6		
	comp=Z,44nm,20.5s,baz=355,slow=40								
BOSA	**Boshof**	**63.16**	**184**	P	**P**		**08 24 52.9**	**+1.9**	
	comp=Z,6.0nm,0.9s,baz=357,slow=7.3,SNR=5.8								
SCHQ	**Schefferville**	**65.55**	**321**	P	**P**		**08 25 05.9**	**-0.5**	
	comp=Z,6.7nm,0.6s,baz=57,slow=6.2,SNR=12								
ENH	**Enshi**	**66.17**	**69**	*eP*	**P**		**08 25 13.3**	**+2.6**	
	comp=Z,13nm,0.4s								
ENH	**Enshi**	**66.17**	**69**	*eP*	**P**		**08 25 13.3**	**+2.6**	
	comp=Z,13nm,0.4s								
BILL	**Bilibino**	**72.59**	**16**	*eP*	**P**		**08 25 52.1**	**+2.4**	
BILL				*e*			08 28 31.2		
BILL					pmax	pmax			
	comp=Z,1.0nm,1.2s								
YKA	**Yellowknife Ar**	**78.76**	**344**	P	**P**		**08 26 25.6**	**+0.5**	
	comp=Z,0.4nm,0.7s,baz=29,slow=5.8,SNR=5.0								
ILAR	**Eielson Array**	**80.72**	**358**	P	**P**		**08 26 37.8**	**+2.0**	
	comp=Z,0.4nm,0.8s,baz=346,slow=4.2,SNR=4.1								
BPAW	**Bear Paw Mtn.**	**81.44**	**0**	*eP*	**P**		**08 26 41.3**	**+1.7**	
	comp=Z,0.2nm,0.6s								
BPAW	**Bear Paw Mtn.**	**81.44**	**0**	*eP*	**P**		**08 26 41.3**	**+1.7**	
	comp=Z,0.2nm,0.6s								
ULM	**Lac du Bonnet**	**82.39**	**328**	LR	LR		09 04 24.6		
	comp=Z,52nm,18.1s,baz=262,slow=36								
PDAR	**Pinedale Array**	**94.07**	**331**	LR	LR		09 12 24.5		
	comp=Z,33nm,18.2s,baz=10.0,slow=37								
ASAR	**Alice Springs**	**114.79**	**102**	PKP	PKPdf		08 33 03.2	-0.6	
	comp=Z,0.2nm,0.5s,baz=318,slow=1.2,SNR=5.3								

*SKHL **09** 08:34:39.8±0.2, 42°.42N×145°.06E, h30km, mb4.1/2*
*JMA **09** 08:34:39.9, 42°.51N×145°.01E, h45km±1km, MS3.2*
ISC 09 08:34:40.0±2.5, 42°.5N±0°.1×145°.04E±0°.06, h27km±14km, n10, σ0°.86/17, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.56**	**333**	P	**Pb**	**08 34 51.3**	**+0.1**
JAK				*eS*	**Sb**	**08 34 59.5**	**+0.6**
JOB	**Onbets**	**0.97**	**295**	P	**Pn**	**08 34 57.3**	**-0.6**
NEM2	**Nemuro 2**	**1.01**	**31**	P	**Pn**	**08 34 57.9**	**-0.5**
NEM2				*eS*	**Sb**	**08 35 10.6**	**-1.1**
JAR	**Ashorobuto**	**1.23**	**311**	P	**Pn**	**08 35 00.4**	**-0.9**
JCH	**Churui**	**1.24**	**276**	P	**Pn**	**08 35 01.7**	**+0.2**
JRA	**Rausu**	**1.44**	**2**	P	**Pn**	**08 35 03.8**	**-0.5**
JRA				*eS*	**Sn**	**08 35 21.5**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**1.65**	**21**	*iP*	**Pn**	**08 35 07.2**	**0.0**
YUK				*i* S	**Sn**	**08 35 27.9**	**+0.4**
YUK				A	A	08 35 28.4	
	380nm,0.5s						
YUK				A	A	08 35 28.4	
	650nm,0.5s						
JTKR	**Abashiri--Toko**	**1.69**	**331**	P	**Pn**	**08 35 08.1**	**+0.4**
JTKR				*eS*	**Sn**	**08 35 29.1**	**+0.7**
SHO	**Shikotan**	**1.90**	**43**	*eP*	**Pn**	**08 35 10.1**	**-0.5**
SHO				AMB	AMB	08 35 15.0	
	47nm,0.3s						
SHO				*i* S	**Sn**	**08 35 32.7**	**-0.9**
SHO				A	A	08 35 38.3	
	85nm,0.2s						
SHO				A	A	08 35 38.3	
	311nm,0.2s						
KUR	**Kuril'sk**	**3.42**	**36**	*eP*	**Pn**	**08 35 33.2**	**+1.8**
KUR				AMB	AMB	08 35 35.5	
	20nm,0.3s						
KUR				*i* S	**Sn**	**08 36 11.7**	**+0.7**
KUR				A	A	08 36 15.5	
	55nm,0.3s						
KUR				A	A	08 36 15.5	
	56nm,0.3s						

*IDC **09** 08:40:00.7±1.1, 17°.62N×119°.52E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/47, mbtmp3.5/5, MS3.0/3, Ms1 3.0/3, ms1mx2.5/41, Error ellipse: s-maj=55.5km s-min=19.6km az=69.0*
*MAN **09** 08:40:02, 17°.81N×119°.30E, h29km, mb4.6, ML3.4, MS3.3*
ISC 09 08:40:03.7±1.1, 17°.69N±0°.06×119°.4E±0°.1, h21km±6km, n15, σ1°.20/19, mb3.5/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**1.26**	**92**	*eP*	**Pn**	**08 40 25.8**	**-0.3**
ABRA				*eS*	**Sb**	**08 40 43.2**	**+0.7**
PIP	**Pasuquin**	**1.33**	**62**	*iP*	**Pn**	**08 40 25.8**	**-1.3**
PIP				*eS*	**Sn**	**08 40 42.3**	**-1.9**
BOLP	**Bolinao**	**1.40**	**159**	*eP*	**Pn**	**08 40 27.5**	**-0.5**
BOLP				*eS*	**Sn**	**08 40 45.0**	**-0.9**
APYP	**Conner**	**1.77**	**84**	*eP*	**Pn**	**08 40 33.3**	**+0.1**
APYP				*eS*	**Sn**	**08 40 56.0**	**+0.8**
CAUP	**Cauayan**	**2.44**	**107**	*eP*	**Pb**	**08 40 46.6**	**-0.3**
CAUP				*eS*	**Sb**	**08 41 18.0**	**+1.4**
SGCP	**Mt. Cagua**	**2.59**	**77**	*eP*	**Pn**	**08 40 45.4**	**+1.0**
SGCP				*eS*	**Sb**	**08 41 21.1**	**+0.3**
BALP	**Baler**	**2.85**	**132**	*eP*	**Pn**	**08 40 50.2**	**+2.1**
BALP				*eS*	**Sb**	**08 41 27.2**	**-1.3**
JNU	**Nakatsue**	**18.52**	**32**	LR	LR	08 51 04.5	
	comp=Z,32nm,18.5s,baz=122,slow=36						
KSRS	**Korea Array**	**21.07**	**19**	P	**P**	**08 44 46.5**	**0.0**
	3.3nm,0.9s,baz=205,slow=11,SNR=11						
MJAR	**Matsushiro Arr**	**25.08**	**38**	LR	LR	08 55 57.2	
	comp=Z,23nm,19.0s,baz=220,slow=38						
WRA	**Warramunga Arr**	**40.18**	**158**	P	**P**	**08 47 37.5**	**-1.2**
	0.5nm,0.8s,baz=335,slow=9.4,SNR=2.4						
MKAR	**Makanchi Array**	**42.11**	**322**	P	**P**	**08 47 55.9**	**+1.5**
	0.1nm,0.3s,baz=111,slow=7.9,SNR=3.5						
ASAR	**Alice Springs**	**43.48**	**160**	P	**P**	**08 48 05.1**	**-0.7**
	0.5nm,0.5s,baz=339,slow=6.7,SNR=8.5						
KURBB	**Kurchatov Arra**	**46.20**	**325**	P	**P**	**08 48 27.9**	**+0.8**
	1.3nm,0.8s,baz=122,slow=8.1,SNR=11						
NRIK	**Noril'sk**	**55.26**	**347**	LR	LR	09 14 24.3	
	comp=Z,22nm,18.2s,baz=108,slow=37						

IDC 09 08:45:33.0±6.7, 31°.97S×179°.85E, h368km±74km, mb3.1/3, mb1 3.3/4, mb1mx3.0/32, mbtmp3.9/4, Error ellipse: s-maj=82.3km s-min=36.4km az=12.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.67**	**199**	P	**P**	08 47 12.7	-0.3
	3.2nm,0.3s,baz=271,slow=4.0,SNR=65						
URZ				S	S	08 48 31.8	-0.6
	2.1nm,0.3s,baz=237,slow=23,SNR=14						
CTA	**Charters Tower**	**32.30**	**283**	P	P	08 51 30.1	+0.8
	1.9nm,0.5s,baz=149,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**41.22**	**270**	P	P	08 52 43.5	-0.2
	0.2nm,0.3s,baz=107,slow=7.0,SNR=6.1						
WRA	**Warramunga Arr**	**42.36**	**275**	P	P	08 52 52.1	-0.7
	1.0nm,0.3s,baz=112,slow=8.0,SNR=25						
FINES	**FINESS Array B**	**145.34**	**338**	PKPbc	PKPdf	09 04 28.2	+0.6
	1.4nm,0.4s,baz=53,slow=2.7,SNR=10						

*ISK **09** 08:50:14.9, 37°.27N×28°.23E, h5km, MD2.4*
*ISCJB **09** 08:50:15.4±0.8, 37°.25N±0°.05×28°.22E±0°.08, h12km±9km, Error ellipse: s-maj=12.5km s-min=5.0km az=143.9*
*DDA **09** 08:50:15.5, 37°.24N×28°.20E, h7km, Ml2.5*
*CSEM **09** 08:50:16.1±0.2, 37°.26N×28°.20E, h2km, MD2.4, Error ellipse: s-maj=6.8km s-min=3.6km az=46.0*
ISC 09 08:50:15.7±0.9, 37°.23N±0°.04×28°.23E±0°.04, h11km±7km, n15, σ0°.60/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.10**	**155**	*e*PG	**Pg**	**08 50 18.1**	**-0.5**
YER				*e*SG	**Sg**	**08 50 21.0**	**+0.4**
YER	**Yerkesik**	**0.10**	**155**	*e*Pg	**Pg**	**08 50 18.1**	**-0.5**
YER				*e*Sg	**Sg**	**08 50 21.0**	**+0.4**
TURN	**Turunc**	**0.47**	**140**	*i*P	**Pg**	**08 50 23.9**	**-1.0**
TURN				*i* S	**Sb**	**08 50 32.0**	**-0.8**
AYDN	**Tasoluk**	**0.51**	**327**	P	**Pg**	**08 50 25.0**	**-0.7**
AYDN				S	**Sg**	**08 50 32.7**	**+0.1**
AYDN	**Tasoluk**	**0.51**	**327**	*i*P	**Pg**	**08 50 25.0**	**-0.7**
AYDN				*i* S	**Sg**	**08 50 32.7**	**+0.1**
DALY	**Dalyan (Mu˘la**	**0.54**	**140**	*e*PG	**Pb**	**08 50 27.0**	**-0.1**
DALY				*e*SG	**Sb**	**08 50 35.9**	**+1.1**
DALY	**Dalyan (Mu˘la**	**0.54**	**140**	*e*Pg	**Pb**	**08 50 27.0**	**-0.1**
DALY				*e*Sg	**Sb**	**08 50 35.9**	**+1.1**
BDRM	**Kayabasi**	**0.65**	**256**	P	**Pg**	**08 50 27.6**	**-0.7**
BDRM				S	**Sg**	**08 50 37.1**	**+0.3**
BDRM	**Kayabasi**	**0.65**	**256**	*i*P	**Pg**	**08 50 27.6**	**-0.7**
BDRM				*i* S	**Sg**	**08 50 37.1**	**+0.3**
BODT	**Bodrum**	**0.75**	**257**	*e*PG	**Pb**	**08 50 31.0**	**+0.2**
BODT	**Bodrum**	**0.75**	**257**	*e*Pg	**Pb**	**08 50 31.0**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**340**	*e*PG	**Pg**	**08 50 30.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**340**	*e*Pg	**Pg**	**08 50 30.3**	**-0.2**
FETY	**Fethiye**	**0.91**	**131**	*e*PG	**Pn**	**08 50 34.5**	**+0.1**
FETY	**Fethiye**	**0.91**	**131**	*e*Pg	**Pn**	**08 50 34.5**	**+0.1**

IDC 09 08:54:53.7±4.1, 13°.00N×143°.49E, h201km±80km, mb3.2/5, mb1 3.3/5, mb1mx3.0/45, mbtmp3.7/5, MS2.7/1, Ms1 2.7/1, ms1mx2.3/19, Error ellipse: s-maj=164.7km s-min=16.5km az=86.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.46**	**66**	P	Pn	08 55 28.2	+1.0
	4.1nm,0.3s,baz=301,slow=9.5,SNR=6.8						
GUMO				S	S	08 55 53.2	+0.4
	34nm,0.3s,baz=172,slow=23,SNR=13						
WRA	**Warramunga Arr**	**33.95**	**196**	P	P	09 01 18.2	0.0
	0.9nm,0.6s,baz=17,slow=9.4,SNR=9.8						
KLR	**Kul'dur**	**37.40**	**347**	LR	LR	09 17 59.4	
	comp=Z,11nm,18.3s,baz=42,slow=37						
ASAR	**Alice Springs**	**37.63**	**194**	P	P	09 01 49.1	-0.3
	0.4nm,0.6s,baz=16,slow=11,SNR=8.2						
MKAR	**Makanchi Array**	**60.98**	**316**	P	P	09 04 45.9	+0.1
	0.3nm,0.6s,baz=87,slow=6.8,SNR=4.0						
KURBB	**Kurchatov Arra**	**64.21**	**320**	P	P	09 05 06.8	-0.2
	0.3nm,0.3s,baz=105,slow=6.1,SNR=5.9						
BVAR	**Borovoye Array**	**69.56**	**322**	P	P	09 05 40.8	+0.1
	1.0nm,0.5s,baz=100,slow=8.1,SNR=6.5						

SJA 09 08:57:47.0±0.6, 23°.66S×63°.61W, h20km±5km, ML3.2, MW3.7, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASTB	**Santa Barbara**	**0.82**	**250**	*i*P	Pg	08 58 03.3	+0.2
AZAP	**Zapla**	**1.44**	**247**	*i*P	Pg	08 58 14.9	0.0
AZAP				*i* S	Sg	08 58 34.9	+1.1
AZAP				IAML		08 58 36.1	
	comp=Z,1μm,0.3s						
HJA	**Humahuaca**	**1.71**	**285**	*i*P	Pb	08 58 18.5	+0.5
HJA				IAML		08 58 21.3	
	comp=Z,185nm,0.2s						
HJA				*i* S	Sg	08 58 42.8	+0.3
YJA	**Yavi**	**2.30**	**310**	*i*P	Pb	08 58 27.4	-0.6
YJA				*i* S	Sb	08 58 57.0	+0.9
YJA				IAML		08 58 59.0	
	comp=Z,74nm,0.5s						

*DDA **09** 08:58:29.4, 37°.23N×28°.23E, h7km, Ml2.1*
*ISK **09** 08:58:29.4, 37°.25N×28°.21E, h15km, MD2.6*
*ISCJB **09** 08:58:30.0±0.7, 37°.25N±0°.05×28°.25E±0°.05, h15km±11km, Error ellipse: s-maj=9.5km s-min=5.3km az=39.5*
*CSEM **09** 08:58:30.0±0.2, 37°.24N×28°.21E, h12km, MD2.6, Error ellipse: s-maj=6.5km s-min=3.9km az=48.0*
ISC 09 08:58:29.6±1.0, 37°.26N±0°.04×28°.23E±0°.04, h15km±7km, n13, σ0°.58/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**161**	*e*PG	**Pg**	**08 58 32.5**	**-0.8**
YER				*e*SG	**Sg**	**08 58 36.7**	**+1.0**
YER	**Yerkesik**	**0.13**	**161**	*e*Pg	**Pg**	**08 58 32.5**	**-0.8**
YER				*e*Sg	**Sg**	**08 58 36.7**	**+1.0**
TURN	**Turunc**	**0.48**	**142**	*i*P	**Pg**	**08 58 38.4**	**-0.9**
TURN				*i* S	**Sg**	**08 58 45.6**	**-0.2**
AYDN	**Tasoluk**	**0.49**	**325**	P	**Pb**	**08 58 39.6**	**-0.4**
AYDN				S	**Sb**	**08 58 47.3**	**+0.3**
AYDN	**Tasoluk**	**0.49**	**325**	*i*P	**Pb**	**08 58 39.6**	**-0.4**
AYDN				*i* S	**Sb**	**08 58 47.3**	**+0.3**
DALY	**Dalyan (Mu˘la**	**0.55**	**142**	*e*PG	**Pb**	**08 58 40.9**	**-0.1**
DALY				*e*SG	**Sb**	**08 58 49.4**	**+0.7**
DALY	**Dalyan (Mu˘la**	**0.55**	**142**	*e*Pg	**Pb**	**08 58 40.9**	**-0.1**
DALY				*e*Sg	**Sb**	**08 58 49.4**	**+0.7**
BDRM	**Kayabasi**	**0.66**	**253**	P	**Pg**	**08 58 42.0**	**-0.4**
BDRM	**Kayabasi**	**0.66**	**253**	*i*P	**Pg**	**08 58 42.0**	**-0.4**
BDRM				*i* S	**Sb**	**08 58 51.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**339**	*e*PG	**Pb**	**08 58 44.6**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**339**	*e*Pg	**Pb**	**08 58 44.6**	**+0.3**
BODT	**Bodrum**	**0.76**	**256**	*e*PG	**Pb**	**08 58 44.4**	**-0.1**
BODT				*e*SG	**Sb**	**08 58 55.0**	**+0.3**
BODT	**Bodrum**	**0.76**	**256**	*e*Pg	**Pb**	**08 58 44.4**	**-0.1**
BODT				*e*Sg	**Sb**	**08 58 55.0**	**+0.3**

*NIED **09** 09:14:00, 37°.60N×141°.80E, h17km, Mw3.3 Best double couple: M0 9.14000×10^13 NP1: φs 229.00000°, δ25.00000°, λ171.00000°. NP2: φs 327.00000°, δ86.00000°, λ65.00000°.*
JMA 09 09:14:10.3±0.1, 37°.55N×141°.84E, h26km±3km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.79**	**257**	P	Pb	09 14 25.1	-0.3
JMM	**Marumori**	**0.89**	**291**	P	Pb	09 14 26.7	-0.4
JMM				S	Sb	09 14 37.9	-0.6
ONAJ	**Iwakimizuishiy**	**0.94**	**242**	P	Pn	09 14 27.3	-0.6
ONAJ				*e*S	Sb	09 14 39.0	-1.2
JIO	**Ouri**	**0.98**	**337**	P	Pn	09 14 27.9	-0.5
JIO				*e*S	Sb	09 14 39.9	-1.3
JFT	**Otama**	**1.20**	**269**	P	Pb	09 14 32.1	-0.2
JFT				S	Sb	09 14 47.5	+0.2
JOU	**Okura**	**1.24**	**312**	P	Pb	09 14 32.7	-0.3
JOU				S	Sn	09 14 48.1	+0.3
JMK	**Ichinoseki**	**1.48**	**341**	P	Pn	09 14 35.8	+0.5
JMK				*e*S	Sn	09 14 54.1	+0.3
JYS	**Shirataka**	**1.56**	**296**	P	Pb	09 14 38.0	-0.4
JYS				*e*S	Sb	09 14 58.1	+0.4
JFY	**Yanaizu**	**1.71**	**266**	P	Pb	09 14 39.8	-1.2
JFY				*e*S	Sb	09 15 00.9	-1.1
MAT	**Matsushiro**	**3.08**	**252**	P	Pn	09 14 59.9	+2.7
MAT				S	Sb	09 15 38.9	-2.5

*ISCJB **09** 09:16:46.2±0.4, 30°.63N±0°.06×137°.71E±0°.10, h477km, mb3.5/14, Error ellipse: s-maj=11.4km s-min=6.8km az=160.8*
*IDC **09** 09:16:47.4±0.6, 30°.63N×137°.79E, h484km±8km, mb3.2/14, mb1 3.4/22, mb1mx3.2/52, mbtmp4.2/22, Error ellipse: s-maj=14.8km s

CHOJ	**Chosi**	**0.59**	**322**	P	**Pn**	**09 23 16.6**	**-3.0**
CHOJ				*e*S	**Sn**	**09 23 24.5**	**-3.5**
BSO1	**Boso 1**	**0.64**	**205**	P	**Pn**	**09 23 17.9**	**-2.0**
BSO3	**Boso 3**	**0.79**	**236**	P	**Pn**	**09 23 20.0**	**-2.1**
BSO4	**Boso 4**	**0.83**	**253**	P	**Pn**	**09 23 20.8**	**-2.0**
JCN	**Nagara**	**0.92**	**281**	P	**Pn**	**09 23 22.1**	**-2.0**
JYT	**Yasato**	**1.34**	**318**	P	**Pn**	**09 23 29.1**	**-0.8**
JHO	**Hitachi**	**1.49**	**337**	P	**Pn**	**09 23 30.4**	**-1.7**
JHJ	**Hachijo jima 2**	**2.46**	**211**	P	**Pn**	**09 23 45.1**	**-0.3**
	9.2nm,0.3s,baz=311,slow=23,SNR=12						
JHJ				S	**Sn**	**09 24 13.4**	**-0.8**
	35nm,0.3s,baz=258,slow=22,SNR=8.0						
MJAR	**Matsushiro Arr**	**2.83**	**298**	P	**Pn**	**09 23 50.3**	**-0.1**
	4.2nm,0.3s,baz=100,slow=15,SNR=21						
MJAR				LR	LR	09 25 15.4	
	comp=Z,83nm,19.7s,baz=155,slow=47						
MAT	**Matsushiro**	**2.83**	**298**	P	**Pn**	**09 23 50.4**	**-0.1**
MAT				S	**Sn**	**09 24 27.8**	**+4.4**
KSRS	**Korea Array**	**11.02**	**285**	LR	LR	09 30 10.5	
	comp=Z,34nm,20.3s,baz=85,slow=39						
USRK	**Ussuriysk Ar.**	**11.46**	**324**	P	**Pn**	**09 25 49.2**	**+0.4**
	0.1nm,0.3s,baz=150,slow=15,SNR=3.9						
H11N2	**WAKE ISLAND Hy 27.35**	**118**		T	T	09 58 00.4	
	baz=310,slow=75,SNR=7.1						
H11N1	**WAKE ISLAND Hy 27.36**	**118**		T	T	09 57 59.1	
	baz=310,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy 27.37**	**118**		T	T	09 57 56.0	
	baz=310,slow=75,SNR=9.9						
H11S3	**WAKE ISLAND Hy 28.00**	**120**		T	T	09 58 34.0	
	baz=312,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy 28.00**	**120**		T	T	09 58 34.6	
	baz=312,slow=75,SNR=41						
H11S2	**WAKE ISLAND Hy 28.02**	**120**		T	T	09 58 26.0	
	baz=312,slow=75,SNR=21						
SONM	**Songino Array**	**28.75**	**307**	P	**P**	**09 29 03.0**	**+1.0**
	0.4nm,0.6s,baz=94,slow=7.5,SNR=2.6						
MKAR	**Makanchi Array**	**45.02**	**304**	P	**P**	**09 31 18.9**	**-0.8**
	0.5nm,0.4s,baz=82,slow=11,SNR=5.0						
KURBB	**Kurchatov Arra**	**47.05**	**309**	P	**P**	**09 31 34.9**	**-0.8**
	0.8nm,0.4s,baz=86,slow=8.1,SNR=5.8						
WRA	**Warramunga Arr**	**55.28**	**188**	P	**P**	**09 32 36.7**	**-1.0**
	0.5nm,0.4s,baz=1.6,slow=7.6,SNR=14						
WRA				LR	LR	09 55 20.4	
	comp=Z,60nm,21.4s,baz=200,slow=35						
ASAR	**Alice Springs**	**59.00**	**188**	P	**P**	**09 33 05.2**	**+1.2**
	0.3nm,0.7s,baz=2.3,slow=6.5,SNR=4.6						
NVAR	**Mina Array Bea**	**76.14**	**53**	P	**P**	**09 34 54.2**	**+1.8**
	0.3nm,0.5s,baz=316,slow=7.6,SNR=3.0						

*ISCJB **09** 09:29:08.9±0.6,46°.72N±0°.08×153°.02E±0°.10,h56km, mb3.6/14,MS3.0/1,Error ellipse: s-maj=14.1km s-min=5.0km az=142.9*
*SKHL **09** 09:29:08.9±0.9,46°.64N×153°.08E,h53km±2km,mb4.5/4*
*MOS **09** 09:29:09.1±1.6,46°.61N×153°.01E,h62km,mb4.1/6,Error ellipse: s-maj=12.5km s-min=8.1km az=71.1*
*IDC **09** 09:29:18.2±3.0,46°.86N×152°.77E,h121km±24km, mb3.3/12,mb1 3.5/17,mb1mx3.4/41,mbtmp3.7/17,MS2.9/4, Ms1 2.9/4,ms1mx2.6/29,Error ellipse: s-maj=24.9km s-min=14.6km az=154.0*

ISC 09 09:29:10.7±0.8,46°.76N±0°.09×153°.04E±0°.08,h56km,n52, σ1§50/50,mb3.6/14,3C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.92**	**249**	*e*PN	**Pn**	**09 30 07.3**	**-1.0**
KUR				*e*S	**Sn**	**09 30 54.9**	**+2.0**
KUR				pmax	pmax		
	comp=Z,52nm,0.3s						
KUR				pmax	pmax		
	comp=N,25nm,0.1s						
KUR				pmax	pmax		
	comp=E,22nm,0.2s						
KUR				smax	smax		
	comp=N,68nm,0.3s						
KUR				smax	smax		
	comp=E,175nm,0.5s						
KUR	**Kuril'sk**	**3.92**	**249**	*e*P	**Pn**	**09 30 07.5**	**-0.8**
KUR				AMB	AMB	09 30 10.1	
	comp=E,13nm,0.3s						
KUR				AMB	AMB	09 30 10.1	
	comp=E,11nm,0.3s						
KUR				AMB	AMB	09 30 10.1	
	comp=E,26nm,0.3s						
KUR				*e*S	**Sn**	**09 30 50.1**	**-2.8**
KUR				A	A	09 31 04.3	
	comp=E,70nm,0.3s						
KUR				A	A	09 31 04.3	
	comp=E,180nm,0.3s						
SKR	**Severo-Kuril's**	**4.42**	**26**	*e*PN	**Pn**	**09 30 14.8**	**-0.3**
SKR				pmax	pmax		
	comp=Z,37nm,0.7s						
SKR	**Severo-Kuril's**	**4.42**	**26**	*e*P	**Pn**	**09 30 14.5**	**-0.6**
SKR				AMB	AMB	09 30 22.5	
	comp=Z,40nm,0.7s						
SKR				*e*S	**Sn**	**09 31 03.0**	**-2.2**
SKR				A	A	09 31 24.3	
	comp=Z,100nm,0.6s						
SHO	**Shikotan**	**5.25**	**239**	*i*PN	**Pn**	**09 30 23.5**	**-3.0**
SHO				*i* S	**Sn**	**09 31 23.7**	**-2.0**
SHO				pmax	pmax		
	comp=N,16nm,0.6s						
SHO				pmax	pmax		
	comp=Z,39nm,0.6s						
SHO				pmax	pmax		
	comp=E,22nm,0.3s						
SHO				smax	smax		
	comp=N,28nm,0.3s						
SHO				smax	smax		
	comp=E,104nm,0.6s						
SHO	**Shikotan**	**5.25**	**239**	*i* P	**Pn**	**09 30 23.5**	**-3.0**
SHO				AMB	AMB	09 30 35.9	
	comp=E,39nm,0.6s						
SHO				*i* S	**Sn**	**09 31 23.7**	**-2.0**
SHO				A	A	09 31 36.1	
	comp=E,28nm,0.3s						
SHO				A	A	09 31 36.1	
	comp=E,110nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.75**	**244**	*e*PN	**Pn**	**09 30 33.1**	**-0.2**
YUK				*i* S	**Sn**	**09 31 40.2**	**+2.4**
YUK				pmax	pmax		
	comp=E,65nm,0.4s						
YUK				pmax	pmax		
	comp=Z,86nm,0.4s						
YUK				smax	smax		
	comp=E,32nm,0.4s						
YUK				smax	smax		
	comp=N,74nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.75**	**244**	*e*P	**Pn**	**09 30 33.1**	**-0.2**
YUK				AMB	AMB	09 30 35.5	
	comp=N,86nm,0.4s						
YUK				*e*S	**Sn**	**09 31 40.2**	**+2.4**
YUK				A	A	09 31 44.6	
	comp=N,32nm,0.4s						
YUK				A	A	09 31 44.6	
	comp=N,74nm,0.4s						
PETK	**Petropavlovsk-**	**7.03**	**24**	P	Pn	09 30 57.2	+6.4
	comp=N,0.6nm,0.3s,baz=178,slow=10,SNR=4.3						
PETK				S	Sn	09 32 18.2	+9.0
	comp=N,1.3nm,0.3s,baz=4.2,slow=22,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**7.06**	**275**	*e*PN	**Pn**	**09 30 51.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.06**	**275**	*e*P	**Pn**	**09 30 51.6**	**+0.3**
PET	**Petropavlovsk**	**7.24**	**28**	*i* PN	**Pn**	**09 30 54.4**	**+0.7**
PET	**Petropavlovsk**	**7.24**	**28**	*e*P	**Pn**	**09 30 54.4**	**+0.7**
ERM	**Erimo**	**8.52**	**240**	*e*PN	**Pn**	**09 31 10.0**	**-1.3**
ERM	**Erimo**	**8.52**	**240**	*e*P	**Pn**	**09 31 10.0**	**-1.3**
MA2	**Magadan**	**12.91**	**355**	P	**P**	**09 32 15.9**	**-4.2**
	comp=N,0.2nm,0.3s,baz=135,slow=4.2,SNR=2.3						
MA2				LR	LR	09 36 36.5	
	comp=N,26nm,18.8s,baz=178,slow=34						
MA2	**Magadan**	**12.91**	**355**	*e*P	**Pn**	**09 32 11.6**	**+0.5**
KLR	**Kul'dur**	**14.46**	**288**	P	**Pn**	**09 32 34.3**	**+2.2**
	comp=N,0.1nm,0.3s,baz=70,slow=15,SNR=1.9						
KLR				LR	LR	09 37 56.6	
	comp=N,37nm,19.5s,baz=123,slow=36						
USRK	**Ussuriysk Ar.**	**14.99**	**268**	P	**Pn**	**09 32 39.9**	**+1.0**
	comp=N,0.2nm,0.3s,baz=70,slow=13,SNR=4.0						
USRK				LR	LR	09 38 30.5	
	comp=N,48nm,20.0s,baz=28,slow=37						
SEY	**Seymchan**	**16.21**	**359**	P	**P**	**09 32 57.4**	**+0.7**
	comp=N,0.2nm,0.3s,baz=162,slow=22,SNR=3.2						
KROS	**Kirovskiy**	**18.17**	**305**	*e*P	**P**	**09 33 19.0**	**+0.6**
KROS				AMB	AMB	09 33 21.7	
	comp=N,3.0nm,0.5s						
YAK	**Yakutsk**	**20.29**	**327**	*i* P	**P**	**09 33 41.4**	**0.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YAK	**Yakutsk**	**20.29**	**327**	*e*P	**P**	**09 33 41.3**	**-0.1**
KSRS	**Korea Array**	**20.75**	**252**	P	Pn	09 33 49.1	-0.4
	comp=Z,1.3nm,0.8s,baz=59,slow=7.8,SNR=4.5						
H11N2	**WAKE ISLAND Hy 29.25**	**153**		T	T	10 06 24.5	
	baz=340,slow=76,SNR=55						
H11N1	**WAKE ISLAND Hy 29.27**	**153**		T	T	10 06 53.6	
	baz=340,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy 29.27**	**152**		T	T	10 06 26.0	
	baz=340,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy 30.34**	**154**		T	T	10 07 46.4	
	baz=341,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy 30.35**	**154**		T	T	10 07 59.5	
	baz=341,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy 30.36**	**154**		T	T	10 07 41.5	
	baz=341,slow=76,SNR=54						
ULN	**Ulaanbaatar**	**30.85**	**289**	*i* P	**P**	**09 35 21.2**	**-0.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ULN	**Ulaanbaatar**	**30.85**	**289**	*e*P	**P**	**09 35 21.2**	**-0.2**
SONM	**Songino Array**	**31.28**	**289**	LR	LR	09 48 07.5	
	comp=Z,32nm,18.7s,baz=100,slow=36						
COLA	**College**	**36.16**	**38**	*i* P	**P**	**09 36 07.5**	**+0.4**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
COLA	**College**	**36.16**	**38**	*e*P	**P**	**09 36 07.5**	**+0.4**
ILAR	**Eielson Array**	**36.57**	**39**	P	**P**	**09 36 12.5**	**+1.8**
	comp=Z,0.4nm,1.0s,baz=288,slow=9.0,SNR=4.2						
MKAR	**Makanchi Array**	**46.89**	**297**	P	**P**	**09 37 34.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=67,slow=12,SNR=2.7						
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**09 38 06.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=299,slow=7.1,SNR=4.5						
AAK	**Ala-Archa**	**53.79**	**296**	*i*P	**P**	**09 38 29.2**	**+1.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**53.79**	**296**	*e*P	**P**	**09 38 29.2**	**+1.7**
ARCES	**ARCESS Array B**	**57.83**	**341**	P	**P**	**09 38 55.7**	**-0.1**
	comp=Z,1.0nm,1.1s,baz=43,slow=5.4,SNR=2.6						
FINES	**FINESS Array B**	**64.01**	**335**	P	**P**	**09 39 36.3**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=47,slow=7.5,SNR=8.8						
FINES	**FINESS Array B**	**64.01**	**335**	*e*P	**P**	**09 39 37.0**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.01**	**335**	*e*P	**P**	**09 39 37.0**	**-0.8**
PDAR	**Pinedale Array**	**64.78**	**54**	P	**P**	**09 39 45.0**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=349,slow=3.7,SNR=3.3						
NB2	**NORSAR Subarra**	**68.20**	**341**	P	**P**	**09 40 04.2**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.20**	**341**	P	**P**	**09 40 04.3**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=28,slow=6.2,SNR=5.3						
AKASG	**Malin Array Be**	**71.51**	**326**	P	**P**	**09 40 24.0**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=34,slow=6.5,SNR=3.7						
AKASG	**Malin Array Be**	**71.51**	**326**	P	**P**	**09 40 24.0**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.20**	**198**	P	**P**	**09 40 30.0**	**+0.5**
	comp=Z,0.1nm,0.7s,baz=8.3,slow=7.0,SNR=2.7						
TXAR	**Lajitas Array**	**77.53**	**60**	P	**P**	**09 41 01.0**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=294,slow=4.6,SNR=8.0						
BRTR	**Keskin Array B**	**78.35**	**317**	P	**P**	**09 41 05.3**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=40,slow=6.4,SNR=4.1						

*ISK **09** 09:30:05.8,39°.04N×29°.18E,h15km,MD2.4*
*ISCJB **09** 09:30:06.7±0.5,39°.12N±0°.03×29°.03E±0°.04,h10km±5km, Error ellipse: s-maj=6.1km s-min=3.9km az=39.2*
*DDA **09** 09:30:06.1,39°.14N×29°.03E,h7km,Ml2.6*
*CSEM **09** 09:30:06.8±0.2,39°.11N×29°.03E,h10km,ML2.6,Error ellipse: s-maj=5.4km s-min=3.3km az=124.0*

ISC 09 09:30:06.3±1.0,39°.12N±0°.03×29°.03E±0°.03,h16km±10km, n21,σ0§30/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**252**	P	**Pb**	**09 30 12.5**	**-0.1**
DEMI				S	**Sb**	**09 30 16.5**	**-0.3**
DEMI	**Demirci**	**0.25**	**252**	*i* P	**Pb**	**09 30 12.5**	**-0.1**
DEMI				*i* S	**Sb**	**09 30 16.5**	**-0.3**
GDZ	**Gediz**	**0.35**	**95**	P	**Pg**	**09 30 13.8**	**+0.1**
GDZ				S	**Sb**	**09 30 19.0**	**-0.7**
GDZ	**Gediz**	**0.35**	**95**	*i* P	**Pg**	**09 30 13.8**	**+0.1**
GDZ				*i* S	**Sb**	**09 30 19.0**	**-0.7**
TVSB	**Tavsanli**	**0.47**	**46**	*e*PG	**Pb**	**09 30 16.5**	**+0.2**
TVSB				*e*SG	**Sg**	**09 30 22.0**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**46**	*e*Pg	**Pb**	**09 30 16.5**	**+0.2**
TVSB				*e*Sg	**Sg**	**09 30 22.0**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**09 30 19.2**	**-0.3**
KULA				*e*SG	**Sb**	**09 30 28.9**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**09 30 19.2**	**-0.3**
KULA				*e*Sg	**Sb**	**09 30 28.9**	**+0.1**
MANT	**Manisa**	**0.73**	**210**	P	**Pb**	**09 30 21.0**	**+0.3**
MANT				S	**Sg**	**09 30 30.2**	**-0.1**
MANT	**Manisa**	**0.73**	**210**	*i* P	**Pb**	**09 30 21.0**	**+0.3**
MANT				*i* S	**Sg**	**09 30 30.2**	**-0.1**
KHAL	**Karahalli**	**0.83**	**154**	P	**Pn**	**09 30 23.6**	**+0.1**
KHAL				S	**Sb**	**09 30 33.8**	**+0.3**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pn**	**09 30 23.6**	**+0.1**
KHAL				*i* S	**Sb**	**09 30 33.8**	**+0.3**
IGD	**Bursa**	**1.15**	**7**	*i* P	**Pb**	**09 30 27.3**	**-0.4**
IGD				*i* S	**Sb**	**09 30 43.0**	**+0.6**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pg**	**09 30 30.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pg**	**09 30 30.7**	**+0.2**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pg**	**09 30 32.0**	**-0.1**
BORA				S	**Sg**	**09 30 49.8**	**+0.2**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pg**	**09 30 32.0**	**-0.1**
BORA				*i* S	**Sg**	**09 30 49.8**	**+0.2**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pg**	**09 30 34.3**	**+0.2**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pg**	**09 30 34.3**	**+0.2**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pn**	**09 30 35.7**	**-0.2**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	**09 30 35.7**	**-0.2**

*ISCJB **09** 09:31:51.1±0.8,36°.63N±0°.04×142°.81E±0°.08,h15km, mb3.5/6,Error ellipse: s-maj=9.3km s-min=5.8km az=1.3*
*JMA **09** 09:31:52.0±0.3,36°.64N×142°.87E,h34km,M3.3*
*IDC **09** 09:31:56.2±6.9,36°.51N×142°.68E,h33km±54km,mb3.4/6, mb1 3.5/10,mb1mx3.4/49,mbtmp3.5/10,ML3.4/2,MS2.5/2, Ms1 2.5/2,ms1mx2.2/33,Error ellipse: s-maj=35.2km s-min=18.2km az=95.0*

ISC 09 09:31:53.3±0.9,36°.63N±0°.04×142°.73E±0°.09,h15km,n26, σ1§23/29,mb3.6/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.62**	**288**	P	**Pn**	**09 32 20.8**	**-0.6**
JFK	**Kawauchi**	**1.66**	**297**	P	**Pn**	**09 32 21.1**	**-0.8**
JHO	**Hitachi**	**1.74**	**270**	P	**Pn**	**09 32 22.2**	**-0.8**
CHOJ	**Chosi**	**1.77**	**239**	P	**Pn**	**09 32 22.9**	**-0.5**
JMM	**Marumori**	**1.98**	**309**	P	**Pn**	**09 32 25.5**	**-0.8**
JMM				S	**Sn**	**09 32 50.0**	**-0.8**
JFT	**Otama**	**2.11**	**296**	P	**Pn**	**09 32 28.2**	**+0.1**
JIO	**Ouri**	**2.13**	**329**	P	**Pn**	**09 32 26.8**	**-1.5**
BSO1	**Boso 1**	**2.43**	**216**	P	**Pn**	**09 32 31.8**	**-0.2**
BSO1				*e*S	**Sn**	**09 33 01.6**	**+0.4**
JMK	**Ichinoseki**	**2.61**	**333**	P	**Pn**	**09 32 34.1**	**-0.9**
JAG	**Ashikaga**	**2.65**	**267**	P	**Pn**	**09 32 35.6**	**+0.1**
JYK	**Kaneyama**	**2.96**	**321**	P	**Pn**	**09 32 39.2**	**-0.6**
JOM	**Ohasama**	**3.06**	**339**	*e*S	**Sn**	**09 33 16.2**	**-1.3**
JRY	**Ryogami san**	**3.15**	**260**	P	**Pn**	**09 32 42.1**	**-0.3**
MJAR	**Matsushiro Arr**	**3.64**	**270**	P	**Pn**	**09 32 49.5**	**+0.4**
	2.6nm,0.3s,baz=85,slow=9.5,SNR=25						
MJAR				LR	LR	09 34 34.1	
	comp=Z,84nm,20.6s,baz=100,slow=44						
MAT	**Matsushiro**	**3.64**	**270**	P	**Pn**	**09 32 50.4**	**+1.2**
MAT				*e*S	**Sn**	**09 33 32.0**	**+0.1**
JHJ	**Hachijo jima 2**	**4.25**	**216**	Pn	**Pn**	**09 32 57.5**	**-0.1**
	8.4nm,0.3s,baz=168,slow=23,SNR=6.5						
JHJ				Sn	**Sn**	**09 33 43.5**	**-3.5**
	12nm,0.3s,baz=228,slow=22,SNR=5.1						
JNU	**Nakatsue**	**10.34**	**254**	LR	LR	09 38 22.8	
	comp=Z,24nm,18.8s,baz=108,slow=38						
USRK	**Ussuriysk Ar.**	**11.14**	**316**	Pn	**Pn**	**09 34 33.4**	**+1.4**
	0.1nm,0.3s,baz=134,slow=14,SNR=2.1						
KSRS	**Korea Array**	**11.87**	**278**	Pn	**Pn**	**09 34 41.7**	**-0.3**
	baz=92,slow=14,SNR=4.8						
KLR	**Kul'dur**	**14.92**	**331**	Pn	**P**	**09 35 28.4**	**-0.9**
	0.2nm,0.3s,baz=126,slow=11,SNR=3.7						
SEY	**Seymchan**	**27.00**	**10**	P	**P**	**09 37 37.8**	**+3.5**
	0.6nm,0.5s,baz=57,slow=23,SNR=1.8						
SONM	**Songino Array**	**28.89**	**304**	P	**P**	**09 37 52.4**	**+0.9**
	0.6nm,0.5s,baz=100,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**45.23**	**303**	P	**P**	**09 40 10.0**	**+0.2**
	0.4nm,0.4s,baz=87,slow=10,SNR=5.0						
ILAR	**Eielson Array**	**49.27**	**32**	P	**P**	**09 40 40.6**	**-0.5**
	0.3nm,0.7s,baz=262,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**56.82**	**189**	P	**P**	**09 41 36.3**	**-0.8**
	0.7nm,1.1s,baz=6.1,slow=7.0,SNR=2.5						
ASAR	**Alice Springs**	**60.54**	**189**	P	**P**	**09 42 02.7**	**-0.3**
	0.3nm,0.6s,baz=13,slow=8.6,SNR=3.6						

*CSEM **09** 09:39:06.3,33°.78N×35°.78E,h3km,ML2.7*
GRAL 09 09:39:06.3±0.3,33°.78N×35°.78E,h4km±8km,MD2.7, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.16**	**319**	*e*P	Pg	09 39 09.2	-0.3
BHL				*e*S	Sg	09 39 11.4	-0.2
BHL	**Bhannes**	**0.16**	**319**	*e*P	Pg	09 39 09.2	-0.3
BHL				*e*S	Sg	09 39 11.4	-0.2
DQRL	**Deir Qamar**	**0.19**	**246**	*e*P	Pg	09 39 09.8	-0.3
DQRL				*e*S	Sg	09 39 12.3	-0.2
DQRL	**Deir Qamar**	**0.19**	**246**	*e*P	Pg	09 39 09.8	-0.2
DQRL				*e*S	Sg	09 39 12.3	-0.2
RCY	**Rachaya**	**0.29**	**171**	*e*P	Pg	09 39 11.5	-0.4
RCY				*e*S	Sg	09 39 15.4	-0.3
HWQ	**Hawqa**	**0.51**	**16**	*e*P	Pg	09 39 15.5	-0.7
HWQ	**Hawqa**	**0.51**	**16**	*e*P	Pg	09 39 15.5	-0.7

*ISK **09** 09:40:21.6,34°.68N×29°.03E,h25km,MD3.3*
*CSEM **09** 09:40:22.6±0.6,34°.82N×29°.00E,h10km,ML3.0,Error ellipse: s-maj=13.8km s-min=7.0km az=1.0*
*ISCJB **09** 09:40:24.6±1.4,34°.86N±0°.09×29°.04E±0°.07,h37km,Error ellipse: s-maj=13.1km s-min=8.0km az=170.9*
*DDA **09** 09:40:32.7,35°.66N×28°.88E,h7km,Ml3.0*

ISC 09 09:40:24.7±2.0,34°.8N±0°.1×29°.03E±0°.05,h37km,n22, σ0§82/29,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.51**	**18**	P	**Pn**	**09 40 49.1**	**-0.2**
AKAS	**Kas**	**1.51**	**18**	*i* P	**Pn**	**09 40 49.1**	**-0.2**
AKAS				*i* S	**Sn**	**09 41 05.2**	**-2.5**
KARP	**Karpathos**	**1.71**	**297**	*e*PN	**Pn**	**09 40 51.7**	**-0.2**
KARP				*e*SN	**Sn**	**09 41 12.9**	**+0.4**
KARP	**Karpathos**	**1.71**	**297**	*e*Pn	**Pn**	**09 40 51.7**	**-0.2**
KARP				*e*Sn	**Sn**	**09 41 12.9**	**+0.4**
FETY	**Fethiye**	**1.83**	**1**	*e*PN	**Pn**	**09 40 53.6**	**-0.1**
FETY	**Fethiye**	**1.83**	**1**	*e*Pn	**Pn**	**09 40 53.6**	**-0.1**
ELL	**Elmali**	**2.07**	**20**	*e*PN	**Pn**	**09 40 58.1**	**+1.1**
ELL	**Elmali**	**2.07**	**20**	*e*Pn	**Pn**	**09 40 58.1**	**+1.1**
YER	**Yerkesik**	**2.41**	**346**	*e*PN	**Pn**	**09 41 02.1**	**+0.5**
YER	**Yerkesik**	**2.41**	**346**	*e*Pn	**Pn**	**09 41 02.1**	**+0.5**
GOLH	**Golhisar**	**2.47**	**10**	P	**Pn**	**09 41 03.5**	**+1.0**
GOLH				S	**Sn**	**09 41 32.4**	**+0.9**
GOLH	**Golhisar**	**2.47**	**10**	*i* P	**Pn**	**09 41 03.5**	**+1.0**
GOLH				*i* S	**Sn**	**09 41 32.4**	**+0.9**
BODT	**Bodrum**	**2.66**	**329**	*e*PN	**Pn**	**09 41 05.1**	**+0.1**
BODT	**Bodrum**	**2.66**	**329**	*e*Pn	**Pn**	**09 41 05.1**	**+0.1**
AYDN	**Tasoluk**	**3.01**	**342**	P	**Pn**	**09 41 09.9**	**+0.1**
AYDN				S	**Sn**	**09 41 43.4**	**-1.2**
AYDN	**Tasoluk**	**3.01**	**342**	*i* P	**Pn**	**09 41 09.9**	**+0.1**
AYDN				*i* S	**Sn**	**09 41 43.4**	**-1.2**
SUTC	**Sutluce-Ispart**	**3.11**	**30**	*e*PN	**Pn**	**09 41 11.5**	**+0.2**
SUTC	**Sutluce-Ispart**	**3.11**	**30**	*e*Pn	**Pn**	**09 41 11.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**3.27**	**344**	*e*PN	**Pn**	**09 41 14.4**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**3.27**	**344**	*e*Pn	**Pn**	**09 41 14.4**	**+0.8**
IKL	**Isikli**	**4.06**	**68**	*e*PN	**Pn**	**09 41 24.3**	**+0.1**
IKL	**Isikli**	**4.06**	**68**	*e*Pn	**Pn**	**09 41 24.3**	**+0.1**

*CSEM **09** 09:43:07.2±0.6,34°.87N×29°.16E,h10km,MD3.2,Error ellipse: s-maj=11.9km s-min=8.7km az=6.0*
*ISK **09** 09:43:07.2,34°.92N×29°.16E,h12km,MD3.2*
*DDA **09** 09:43:50.3,35°.67N×28°.88E,h10km,Md3.3*

ISC 09 09:43:05.6±2.7,34°.85N±0°.08×29°.21E±0°.05,h6km±15km, n32,σ1§28/48,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.42**	**13**	P

APA0	**Apatity Array**	**2.97**	**14**	Pn	**Pb**	**09 45 44.7**	**-1.9**
	baz=188,slow=14						
APA0				Sn	**Sb**	**09 46 24.0**	**+0.7**
	baz=194,slow=18						
APA0	**Apatity Array**	**2.97**	**14**	Pn	**Pb**	**09 45 44.7**	**-1.9**
	SNR=50						
APA0				Sn	**Sb**	**09 46 24.0**	**+0.7**
	SNR=50						
SUF	**Sumiainen**	**3.01**	**230**	*e*PB	**Pn**	**09 45 42.7**	**+0.9**
SUF				MSG		09 46 17.5	
	comp=Z,3.7nm,0.2s						
SUF	**Sumiainen**	**3.01**	**230**	Pb	**Pn**	**09 45 42.7**	**+0.9**
VRF	**Varrio**	**3.07**	**349**	*e*P	**Pn**	**09 45 45.1**	**+2.3**
VRF				MSG		09 46 26.3	
	comp=Z,2.6nm,0.2s						
VRF	**Varrio**	**3.07**	**349**	P	**Pn**	**09 45 45.0**	**+2.3**
TOF	**Tornio**	**3.14**	**298**	*e*P	**Pn**	**09 45 43.9**	**+0.3**
TOF				*e*SB	**Sn**	**09 46 23.8**	**+2.2**
TOF	**Tornio**	**3.14**	**298**	P	**Pn**	**09 45 43.9**	**+0.3**
KAF	**Kangasniemi**	**3.42**	**221**	*e*PB	**Pn**	**09 45 50.2**	**+2.7**
KAF				MSG		09 46 29.6	
	comp=Z,2.7nm,0.2s						
KEF	**Keuruu**	**3.82**	**230**	*e*P	**Pn**	**09 45 54.1**	**+1.1**
KEF	**Keuruu**	**3.82**	**230**	P	**Pn**	**09 45 54.0**	**+1.1**
FIA0	**FINESS Array S**	**4.03**	**217**	Pn	**Pn**	**09 45 55.8**	**-0.1**
	baz=36,slow=14						
FIA0				Lg	Lg	09 46 53.4	
	baz=27,slow=37						
FIA0	**FINESS Array S**	**4.03**	**217**	Pn	**Pn**	**09 45 55.8**	**-0.1**
	baz=36,slow=14						
FIA0				Lg	Lg	09 46 53.4	
	baz=27,slow=37						
FIA0	**FINESS Array S**	**4.03**	**217**	*e*P	**Pn**	**09 45 55.8**	**-0.1**
FIA0	**FINESS Array S**	**4.03**	**217**	P	**Pn**	**09 45 55.8**	**-0.1**
FIA0				Lg	Lg	09 46 53.3	
	SNR=29						
FINES	**FINESS Array B**	**4.03**	**217**	Pn	**Pn**	**09 45 56.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=3.7						
FINES				Sn	**Sb**	**09 46 54.6**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=36,slow=26,SNR=5.5						
FINES				Lg	Lg	09 47 16.2	
	comp=Z,0.4nm,0.3s,baz=32,slow=29,SNR=7.0						
VAF	**Ylistaro**	**4.11**	**249**	*e*PB	**Pn**	**09 45 58.6**	**+1.7**
VAF	**Ylistaro**	**4.11**	**249**	Pb	**Pn**	**09 45 58.6**	**+1.7**
VJF	**Virojoki**	**4.54**	**203**	*e*P	**Pn**	**09 46 02.8**	**0.0**
VJF	**Virojoki**	**4.54**	**203**	P	**Pn**	**09 46 02.8**	**0.0**
UMAU	**Umeaa**	**4.63**	**264**	*e*P	**Pn**	**09 46 02.7**	**-1.4**
UMAU	**Umeaa**	**4.63**	**264**	P	**Pn**	**09 46 02.6**	**-1.4**
HEF	**Hetta**	**4.72**	**324**	*e*P	**Pn**	**09 46 07.4**	**+2.0**
HEF	**Hetta**	**4.72**	**324**	P	**Pn**	**09 46 07.4**	**+2.0**
PVF	**Pernaja**	**4.87**	**212**	*e*P	**Pn**	**09 46 08.5**	**+1.1**
PVF	**Pernaja**	**4.87**	**212**	P	**Pn**	**09 46 08.4**	**+1.1**
LANU	**Lannavaara**	**4.94**	**316**	*e*P	**Pn**	**09 46 08.6**	**+0.3**
LANU				*e*PB	**Pb**	**09 46 16.8**	**-3.5**
LANU	**Lannavaara**	**4.94**	**316**	P	**Pn**	**09 46 08.6**	**+0.3**
ARA0	**ARCESS Array S**	**5.28**	**338**	Pn	**Pn**	**09 46 13.8**	**+0.8**
	baz=148,slow=9.3						
ARA0				Sn	**Sn**	**09 47 12.2**	**-2.2**
ARA0				Lg	Lg	09 47 37.6	
	baz=154,slow=37						
ARA0	**ARCESS Array S**	**5.28**	**338**	Pn	**Pn**	**09 46 13.8**	**+0.8**
	baz=148,slow=9.3						
ARA0				Sn	**Sn**	**09 47 12.2**	**-2.2**
ARA0				Lg	Lg	09 47 37.6	
	baz=154,slow=37						
ARA0	**ARCESS Array S**	**5.28**	**338**	Pn	**Pn**	**09 46 13.8**	**+0.8**
	SNR=50						
ARA0				Sn	**Sn**	**09 47 12.2**	**-2.2**
	SNR=50						
ARCES	**ARCESS Array B**	**5.28**	**338**	Pn	**Pn**	**09 46 14.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=151,slow=14,SNR=10						
ARCES				Sn	**Sn**	**09 47 18.7**	**+4.3**
	comp=Z,0.5nm,0.3s,baz=158,slow=22,SNR=4.0						
ARE0	**ARCESS Array S**	**5.28**	**338**	*e*P	**Pn**	**09 46 14.3**	**+1.4**
ARE0				*e*SG	**Sb**	**09 47 35.0**	**+5.2**
ARE0	**ARCESS Array S**	**5.28**	**338**	P	**Pn**	**09 46 14.3**	**+1.4**
RAF	**Rauma**	**5.68**	**233**	*e*P	**Pn**	**09 46 18.9**	**+0.4**
RAF				*e*SG	**Sb**	**09 47 43.1**	**+1.7**
RAF	**Rauma**	**5.68**	**233**	P	**Pn**	**09 46 18.9**	**+0.4**
HFS	**Hagfors**	**9.29**	**248**	Pn	**Pn**	**09 47 05.2**	**-2.8**
	baz=63,slow=10						
HFS	**Hagfors**	**9.29**	**248**	Pn	**Pn**	**09 47 12.1**	**+4.1**
	comp=Z,0.1nm,0.3s,baz=63,slow=12,SNR=3.7						
HFS	**Hagfors**	**9.29**	**248**	Pn	**Pn**	**09 47 05.2**	**-2.8**
	baz=63,slow=10						
HFS	**Hagfors**	**9.29**	**248**	Pn	**Pn**	**09 47 05.2**	**-2.8**
	SNR=50						
NOA	**NORSAR Array B**	**9.80**	**257**	Pn	Pn	09 47 20.7	+5.7
	comp=Z,0.1nm,0.3s,baz=48,slow=9.1,SNR=2.2						

BKK ***09*** *09:50:56.6±2.5, 14˚N±5˚×9˚3E±2˚2, h10km, M4.6/18, mB5.1/11, mb4.6/18, MLv4.8/7, Mw(mB)4.5/11*
DJA ***09*** *09:50:57.5±1.6, 14˚N±6˚×9˚2E±1˚8, h10km, M5.0/15, mb4.9/15, mB5.4/7, MLv5.1/3, Mw(mB)4.9/7, Mwp5.9/1*
ISCJB ***09*** *09:50:59.0±0.8, 14.08N±0.02×92.82E±0.02, h19km±6km, mb4.7/91, MS3.6/12, Error ellipse: s-maj=4.1km s-min=2.7km az=11.7*
MOS ***09*** *09:51:01.4±0.9, 14.09N×92.93E, h38km, mb4.9/34, Error ellipse: s-maj=8.2km s-min=5.3km az=108.8*
BJI ***09*** *09:51:02.2, 14.08N×92.87E, h42km, mb4.7/51, mB4.8/36, Ms4.1/29, Ms7 3.8/20*
NEIC ***09*** *09:51:03.9±0.6, 14.12N×92.88E, h40km±6km, mb4.9/37, Error ellipse: s-maj=6.0km s-min=4.5km az=57.0*
IDC ***09*** *09:51:03.1±0.4, 14.08N×92.92E, h36km±2km, mb4.4/35, mb1 4.5/37, mb1mx4.4/47, mbtmp4.6/37, ML4.5/2, MS3.5/11, Ms1 3.6/11, ms1mx3.3/47, Error ellipse: s-maj=12.0km s-min=8.7km az=43.0*

ISC 09 09:51:03.1±0.3, 14.09N±0.04×92.85E±0.03, h34km±1km, h33km:pP-P, n296, σ1$43/354, mb4.8/93, MS3.5/12, 19C-9D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.91**	**175**	*e*P		**Pb**		**09 51 20.3**	**-0.1**
DGPR				*e*S		**Sb**		**09 51 33.1**	**+0.9**
DGPR				IAML				09 51 35.0	
	comp=N,19μm,0.2s								
DGPR				IAML				09 51 35.3	
	comp=E,19μm,0.4s								
PBA	**Port Blair**	**2.42**	**182**	*e*P		Pn		09 51 41.4	+1.1
PBA				*e*S		Sn		09 52 11.5	+2.7
KHLT	**Khaolaem Dam**	**5.61**	**82**	P		**Pb**		**09 52 35.8**	**-4.5**
	comp=E,59nm,0.7s,comp=E,657nmcomp=E,0.2nm								
KHLT	**Khaolaem Dam**	**5.61**	**82**	P		**Pn**		**09 52 24.7**	**+0.5**
	comp=E,59nm,0.7s,comp=E,662nm								
SRDT	**SRDT**	**6.09**	**87**	P		**Pn**		**09 52 31.5**	**+0.7**
	comp=E,296nm,0.7s								
UMPA	**Umpang Tak**	**6.18**	**69**	P		**Pn**		**09 52 31.7**	**-0.4**
MHMT	**Maesarieng**	**6.36**	**50**	P		**Pn**		**09 52 34.4**	**-0.1**
PHET	**Kaeng Krachan**	**6.70**	**99**	P		**Pn**		**09 52 40.8**	**+1.6**
	comp=E,65nm,0.9s,comp=E,686nmcomp=E,0.2nm								
PHET	**Kaeng Krachan**	**6.70**	**99**	P		**Sn**		**09 53 56.4**	**+2.0**
CM01	**Chiang Mai Arr**	**7.28**	**53**	*e*Pn		**Pn**		**09 52 47.0**	**-0.2**
CM01				*e*Sn		**Sn**		**09 54 05.5**	**-3.2**
CM31	**Chiang Mai Arr**	**7.29**	**53**	*e*Pn		**Sn**		**09 52 47.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**7.29**	**53**	Pn		**Pn**		**09 52 46.1**	**-1.2**
	comp=E,2.4nm,0.3s,baz=244,slow=15,SNR=29								
CMAR				Sn		**Sn**		**09 54 05.3**	**-3.7**
	comp=E,2.6nm,0.3s,baz=238,slow=27,SNR=7.9								
CMAR				LR		LR		09 55 52.6	
	comp=E,198nm,19.6s,baz=227,slow=40								
SUKH	**Sukhothai**	**7.35**	**62**	P		**Pn**		**09 52 47.9**	**-0.3**
	comp=E,16nm,0.8s,comp=E,178nm								
SUKH	**Sukhothai**	**7.35**	**62**	P		**Pn**		**09 52 47.8**	**-0.4**
	comp=E,16nm,0.8s,comp=E,178nmcomp=E,0.1nm								
CHTO	**Chiang Mai**	**7.50**	**50**	P		**Pn**		**09 52 50.0**	**-0.3**
	comp=E,145nm,0.6s,comp=E,2μm								
CHTO	**Chiang Mai**	**7.50**	**50**	P		**Pn**		**09 52 48.5**	**-1.8**
	comp=E,145nm,0.6s,comp=E,3μmcomp=E,1.0nm								
CHTO	**Chiang Mai**	**7.50**	**50**	P		**Pn**		**09 52 50.0**	**-0.3**
CHTO	**Chiang Mai**	**7.50**	**50**	*e*P		**Pn**		**09 52 49.0**	**-1.3**
CHTO	**Chiang Mai**	**7.50**	**50**	*e*Pn		**Pn**		**09 52 49.0**	**-1.3**
LAMP	**Lampang**	**7.87**	**55**	P		**Pn**		**09 52 55.9**	**+0.6**
	comp=E,14nm,0.6s								
LAMP	**Lampang**	**7.87**	**55**	P		**Pn**		**09 52 54.3**	**-1.0**
	comp=E,14nm,0.6s								
LAMP	**Lampang**	**7.87**	**55**	P		**Pn**		**09 52 55.9**	**+0.6**
PATY	**Pattaya**	**7.88**	**97**	P		**Pn**		**09 52 56.1**	**+0.6**
	comp=E,19nm,0.7s,comp=E,5μm								
PBKT	**Sadao Pong**	**8.22**	**71**	P		**Pn**		**09 53 00.6**	**+0.6**
PBKT	**Sadao Pong**	**8.22**	**71**	P		**Pn**		**09 53 00.4**	**+0.4**
	comp=E,27nm,0.7s								

SURA	**Surathani**	**8.25**	**126**	P		**Pn**		**09 53 02.3**	**+1.8**
	comp=E,29nm,0.9s,comp=E,4μm								
UTTA	**Uttaradit**	**8.26**	**63**	P		Pn		09 53 09.7	+9.1
	comp=E,6.8nm,0.6s,comp=E,107nm								
UTTA	**Uttaradit**	**8.26**	**63**	P		**Pn**		**09 53 01.0**	**+0.4**
	comp=E,6.8nm,0.6s,comp=E,76nm								
LOEI	**Loei**	**8.79**	**66**	P		Pn		09 53 13.0	+5.1
SRAK	**Srakaew**	**8.92**	**89**	P		Pn		09 53 19.9	+10
	comp=E,135nm,0.7s,comp=E,1μm								
SRAK	**Srakaew**	**8.92**	**89**	P		Pn		09 53 19.6	+10
BWNR	**Bhubaneshwar**	**9.13**	**314**	*e*P		**Pn**		**09 53 10.6**	**-2.0**
CHBT	**CHBT**	**9.32**	**97**	P		**Pn**		**09 53 16.5**	**+1.3**
	comp=E,35nm,0.6s								
CHLP	**Challavanipeta**	**9.51**	**299**	*e*Pn		**Pn**		**09 53 15.7**	**-2.1**
CHLP				IAmb		IAmb		09 53 17.2	
	comp=Z,116nm,0.6s								
CHLP				*e*				09 54 52.5	
LHMI	**Lhok Sumawe**	**9.68**	**155**	P		**Pn**		**09 53 22.1**	**+1.9**
	comp=Z,246nm,0.7s								
LHMI	**Lhok Sumawe**	**9.68**	**155**	*e*Pn		**Pn**		**09 53 24.0**	**+3.8**
VIS	**Vishakhapatnam**	**9.84**	**293**	*i* P		**Pn**		**09 53 21.5**	**-0.8**
VIS				*ex*		x		09 55 02.2	
VIS				*ex*		x		09 55 04.2	
	comp=E,164nm,0.3s								
VIS				*ex*		x		09 55 04.4	
	comp=N,523nm,0.5s								
MLSI	**Meulaboh, Aceh**	**10.37**	**160**	P		**Pn**		**09 53 28.4**	**-1.2**
	comp=N,92nm,0.6s								
NONG	**Nongkai**	**10.66**	**67**	P		Pn		09 53 40.9	+7.4
	comp=N,50nm,1.1s								
NONG	**Nongkai**	**10.66**	**67**	P		**Pn**		**09 53 34.4**	**+0.9**
	comp=N,13nm,1.1s								
NONG	**Nongkai**	**10.66**	**67**	P		Pn		09 53 40.9	+7.4
	comp=N,50nm,1.1s,comp=N,0.2nm								
SKNT	**Sakolnakorn**	**11.11**	**74**	P		**Pn**		**09 53 40.7**	**+1.0**
	comp=N,15nm,1.5s,comp=N,3μm								
PVM	**Polavaram**	**11.26**	**288**	*e*Pn		**Pn**		**09 53 41.5**	**-0.3**
PVM				IAmb		IAmb		09 53 43.6	
	comp=Z,51nm,0.4s								
PVM				*e*				09 55 33.1	
PVM				*e*Sn		**Sn**		**09 55 47.4**	**+1.0**
SHL	**Shillong**	**11.46**	**356**	*e*P		**Pn**		**09 53 41.3**	**-3.4**
SHL				*ex*		x		09 55 42.0	
SHL				IAML				09 55 47.0	
	comp=N,279nm,0.4s								
SHL				IAML				09 55 47.5	
	comp=E,132nm,0.3s								
KCSI	**Kotacane, Aceh**	**11.57**	**155**	P		**Pn**		**09 53 46.3**	**+0.3**
	comp=E,53nm,1.2s								
KULM	**Kulim**	**11.64**	**138**	*e*Pn		**Pn**		**09 53 48.2**	**+1.3**
BOK	**Bokaro**	**11.69**	**327**	*e*P		**Pn**		**09 53 46.9**	**-0.6**
BOK				IAmb		IAmb		09 53 48.4	
	comp=Z,59nm,0.8s								
PANO	**Nakornpanom**	**11.73**	**73**	P		**Pn**		**09 53 48.3**	**0.0**
UBPT	**Khong Chiam**	**12.27**	**83**	P		**P**		**09 54 06.9**	**-0.6**
ADKI	**Addanki**	**12.57**	**280**	*e*Pn		**Pn**		**09 53 57.5**	**-2.1**
ADKI				IAmb		IAmb		09 54 00.9	
	comp=Z,12nm,0.6s								
ADKI				*e*				09 56 05.1	
PSI	**Prapat**	**12.72**	**151**	*e*P		**Pn**		**09 54 04.8**	**+3.0**
PSI	**Prapat**	**12.72**	**151**	*e*Pn		**Pn**		**09 54 04.8**	**+3.0**
SKHT	**Srikalahasti**	**12.76**	**270**	*e*Pn		**Pn**		**09 54 02.1**	**-0.2**
SKHT				IAmb		IAmb		09 54 05.8	
	comp=Z,185nm,2.8s								
SKHT				*e*				09 56 10.8	
SKHT				*e*Sn		**Sn**		**09 56 24.5**	**+1.3**
NJS	**Nagarjunasagar**	**13.29**	**282**	*e*Pn		**Pn**		**09 54 08.2**	**-1.4**
NJS				IAmb		IAmb		09 54 11.2	
	comp=Z,11nm,0.6s								
NJS				*e*				09 56 22.4	
RCLA	**Racherla**	**13.51**	**278**	*e*Pn		**Pn**		**09 54 12.3**	**-0.2**
RCLA				IAmb		IAmb		09 54 19.6	
	comp=Z,42nm,1.6s								
RCLA				*e*				09 56 27.9	
RCLA				*e*Sn		**Sn**		**09 56 42.4**	**+0.9**
SRLM	**Srisailam**	**13.62**	**280**	*e*Pn		**Pn**		**09 54 14.0**	**-0.2**
SRLM				IAmb		IAmb		09 54 15.0	
	comp=Z,15nm,0.5s								
SRLM				*e*				09 56 30.6	
SRLM				*e*Sn		**Sn**		**09 56 45.9**	**+1.4**
PALK	**Pallekele**	**13.72**	**242**	Pn		**Pn**		**09 54 14.5**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=113,slow=4.3,SNR=5.0								
PALK				LR		LR		09 58 49.0	
	comp=Z,165nm,21.6s,baz=118,slow=34								
RPR	**Rampur**	**13.84**	**292**	*e*Pn		**Pn**		**09 54 15.8**	**-1.2**
RPR				IAmb		IAmb		09 54 17.1	
	comp=Z,46nm,0.7s								
RPR				*e*				09 56 36.8	
RPR				*e*Sn		**Sn**		**09 56 50.0**	**+0.5**
HYB	**Hyderabad**	**14.15**	**285**	*i* P		**Pn**		**09 54 20.5**	**-0.9**
HYB				*e*				09 56 46.5	
HYB				*e*S		**Sn**		**09 56 57.0**	**-0.3**
HYBB	**Hyderabad (bro**	**14.15**	**285**	*e*Pn		**Pn**		**09 54 21.1**	**-0.3**
HYBB				IAmb		IAmb		09 54 26.2	
	comp=Z,14nm,0.8s								
HYBB				*e*				09 56 44.9	
HYBB				Sn		**Sn**		**09 56 58.0**	**+0.7**
KMI	**Kunming**	**14.39**	**39**	P		**Pn**		**09 54 26.8**	**+2.0**
KMI				pP		P		09 54 34.0	+2.7
KMI				PP		**PnPn**		**09 54 38.1**	**+5.2**
KMI				sP				09 54 40.4	
KMI				S		**Sn**		**09 57 05.3**	**+1.9**
KMI				sS		S		09 57 18.3	-4.4
KMI				SS		**SnSn**		**09 57 23.0**	**+6.7**
KMI				PMZ					
	comp=Z,17nm,0.7s								
KMI				PMZ					
	comp=Z,120nm,5.5s								
KMI				LN					
	comp=Z,240nm,11.8s								
KMI				LE					
	comp=Z,160nm,10.0s								
KMI				LZ					
	comp=Z,250nm,15.0s								
SRSP	**Sriramsagar**	**14.72**	**291**	*e*Pn		**Pn**		**09 54 27.5**	**-1.5**
SRSP				IAmb		IAmb		09 54 28.3	
	comp=Z,25nm,0.7s								
SRSP				*e*				09 56 59.1	
SRSP				*e*Sn		**Sn**		**09 57 12.1**	**+1.1**
MNSI	**Mandailing Nat**	**14.79**	**153**	P		**Pn**		**09 54 30.8**	**+0.8**
	comp=Z,29nm,0.4s,comp=Z,2μm								
NGP	**Nagpur**	**14.90**	**300**	*e*P		**Pn**		**09 54 31.7**	**+0.2**
NGP				IAmb		IAmb		09 54 32.3	
	comp=Z,81nm,1.2s								
PKIN	**Phulchoki**	**15.12**	**334**	*e*P		**Pn**		**09 54 32.2**	**-2.3**
	comp=Z,52nm,0.6s								
GUN	**Gumba**	**15.21**	**336**	*e*P		**Pn**		**09 54 33.8**	**-2.0**
DMN	**Daman**	**15.27**	**333**	*e*P		**Pn**		**09 54 34.5**	**-2.0**
KKN	**Kakani**	**15.35**	**334**	*e*P		**Pn**		**09 54 35.9**	**-1.7**
LSA	**Lhasa**	**15.62**	**355**	P		**Pn**		**09 54 41.2**	**-0.1**
LSA				PMZ					
	comp=Z,6.0nm,0.6s								
GKN	**Gorkha**	**15.82**	**332**	*e*P		**Pn**		**09 54 42.1**	**-1.5**
	comp=Z,55nm,0.3s								
KLRI	**Killari**	**16.11**	**286**	*e*Pn		**Pn**		**09 54 45.8**	**-1.5**
KLRI				IAmb		IAmb		09 54 47.0	
	comp=Z,32nm,0.6s								
KLRI				*e*				09 57 27.1	
KLRI				*e*Sn		**Sn**		**09 57 44.4**	**-0.6**
KOLN	**Koldanda**	**16.11**	**329**	*e*P		**Pn**		**09 54 46.1**	**-1.3**
	comp=Z,75nm,0.6s								
PPI	**Padang Panjang**	**16.27**	**152**	P		**Pn**		**09 54 50.0**	**+0.8**
	comp=Z,26nm,0.8s								
MYKOM	**Kota Tinggi**	**16.36**	**137**	*e*Pn		**P**		**09 54 53.1**	**+0.2**
	comp=Z,40nm,0.9s								
PYUN	**Piuthan**	**16.69**	**328**	*e*P		**Pn**		**09 54 53.7**	**-1.0**
PDSI	**Padang**	**16.70**	**153**	P		**Pn**		**09 54 54.3**	**-0.4**
	comp=Z,20nm,0.7s,comp=Z,6μm								
QIZ	**Qiongzhong**	**17.01**	**71**	P		**Pn**		**09 54 58.7**	**+0.1**
QIZ				S		**Sn**		**09 58 07.1**	**+0.2**
QIZ				LN					
	comp=Z,170nm,21.3s								
QIZ				LE					
	comp=Z,94nm,19.4s								
SDSI	**Sungai Dareh**	**17.17**	**150**	P		**Pn**		**09 55 00.7**	**+0.1**
BHPL	**Bhopal**	**17.20**	**304**	*e*P		**P**		**09 55 02.6**	**+0.3**
GYA	**Guiyang**	**17.85**	**44**	*e*P		**P**		**09 55 10.0**	**+0.4**
GYA				pP		pP		09 55 18.6	+0.2
GYA				PP		**sP**		**09 55 26.2**	**+3.5**
GYA				S		**Sn**		**09 58 24.8**	**-2.5**
GYA				sS		S		09 58 39.6	+6.4
GYA				SS		**SnSn**		**09 58 48.2**	**+7.0**
GYA				PMZ					
	comp=Z,20nm,0.8s								

GYA				PMZ					
	comp=Z,130nm,4.6s								
GYA				LN					
	comp=Z,2μm,15.8s								
GYA				LE					
	comp=Z,1μm,16.0s								
GYA				LZ					
	comp=Z,1μm,16.4s								
POO	**Poona**	**18.76**	**286**	*e*P		**Pn**		**09 55 21.0**	**+0.8**
	comp=Z,20nm,1.0s								
CD2	**Chengdu**	**19.52**	**29**	⇓P		**P**		**09 55 28.0**	**+0.2**
CD2				pP		pP		09 55 37.7	+1.1
CD2				sP		sP		09 55 42.9	+2.0
CD2				S		**S**		**09 59 05.8**	**-0.8**
CD2				PMZ					
	comp=Z,60nm,0.5s								
CD2				PMZ					
	comp=Z,320nm,5.2s								
NDI	**New Delhi**	**20.53**	**318**	*ex*		**P**		**09 55 33.5**	**-5.2**
SMLA	**Simla**	**22.25**	**322**	*e*P		**P**		**09 55 58.1**	**+0.9**
SMLA				IAmb		IAmb		09 55 59.9	
	comp=Z,12nm,0.7s								
SBUM	**Sibu**	**22.36**	**119**	*e*P		**P**		**09 55 57.0**	**-1.5**
	comp=Z,16nm,1.0s								
SDNR	**Sundarnagar**	**22.64**	**323**	*ex*		P		09 56 11.2	+10
DHRM	**DHARAMSHALA**	**23.57**	**323**	*e*P		**P**		**09 56 11.6**	**+0.6**
DHRM				IAmb		IAmb		09 56 12.7	
	comp=Z,25nm,0.5s								
LZH	**Lanzhou**	**24.03**	**22**	⇓P		**P**		**09 56 15.7**	**+0.5**
LZH				pP		pP		09 56 23.2	-1.6
LZH				sP		sP		09 56 27.3	-1.6
LZH				PP		**PnPn**		**09 56 51.6**	**+6.8**
LZH				*e*S		S		10 00 17.3	-13
LZH				SS		**SnSn**		**10 01 17.0**	**+4.4**
LZH				PMZ					
	comp=Z,56nm,1.0s								
LZH				PMZ					
	comp=Z,150nm,4.0s								
LZH				LN					
	comp=Z,570nm,14.0s								
LZH				LE					
	comp=Z,430nm,11.9s								
LZH				LZ					
	comp=Z,670nm,15.0s								
XAN	**Xi'an**	**24.63**	**33**	P		**P**		**09 56 19.3**	**-1.4**
XAN				PMZ					
	comp=Z,53nm,1.0s								
GTA	**Gaotai**	**25.96**	**12**	⇑P		**P**		**09 56 33.6**	**+0.8**
GTA				pP		pP		09 56 42.8	+0.4
GTA				sP		sP		09 56 47.5	+1.0
GTA				PcP		**PcP**		**10 00 01.7**	**+0.9**
GTA				S		**S**		**10 01 02.2**	**+1.0**
GTA				sS		sS		10 01 16.9	-0.2
GTA				PMZ					
	comp=Z,15nm,1.0s								
GTA				PMZ					
	comp=Z,38nm,4.5s								
GTA				LN					
	comp=Z,270nm,18.1s								
GTA				LE					
	comp=Z,310nm,19.0s								
GTA				LZ					
	comp=Z,170nm,19.0s								
KSH	**Kashi**	**29.36**	**333**	P		**P**		**09 57 04.8**	**+1.6**
KSH				pP		pP		09 57 14.1	+1.2
KSH				PP		**PnPn**		**09 58 00.8**	**+3.2**
KSH				PcP		**PcP**		**10 00 11.1**	**+2.1**
KSH				S		**S**		**10 01 53.6**	**-1.2**
KSH				ScS		**ScS**		**10 07 41.1**	**-1.8**
KSH				PMZ					
	comp=Z,4.0nm,0.5s								
KSH				PMZ					
	comp=Z,29nm,3.2s								
KSH				LN					
	comp=Z,93nm,8.2s								
KSH				LE					
	comp=Z,85nm,5.3s								
KSH				LZ					
	comp=Z,110nm,5.5s								
H08S3	**Diego Garcia H**	**29.56**	**224**	T		T		10 28 00.2	
	baz=42,slow=76,SNR=7.4								
H08S2	**Diego Garcia H**	**29.57**	**224**	T		T		10 28 00.2	
	baz=42,slow=76,SNR=8.0								
H08S1	**Diego Carcia H**	**29.58**	**224**	T		T		10 28 08.7	
	baz=42,slow=76,SNR=7.0								
WMQ	**Urumqi**	**29.96**	**353**	P		**P**		**09 57 09.7**	**+1.3**
WMQ				pP		pP		09 57 19.7	+1.6
WMQ				sP		sP		09 57 23.7	+1.6
WMQ				PMZ					
	comp=Z,4.0nm,0.8s								
WMQ				PMZ					
	comp=Z,39nm,5.8s								
WMQ				LN					
	comp=Z,60n

ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 35.69 16 *e*P **P 09 57 57.7 -0.8**
comp=Z,5.0nm,0.9s
ZAK Zakamensk 37.18 11 *e*P **P 09 58 10.8 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
TJN Taejon 38.00 48*ce*P **P 09 58 17.7 -0.4**
OTUK Ortayu 38.06 338 P **P 09 58 18.9 +0.4**
OTUK pmax pmax
comp=Z,9.0nm,0.9s
KURBB Kurchatov Arra 38.25 345 P **pP 09 58 20.0 0.0**
comp=Z,9.7nm,0.7s,baz=166,slow=8.3,SNR=5.3
KURBB pP **pP 09 58 31.2 +1.4**
comp=Z,6.1nm,0.8s,baz=165,slow=8.1,SNR=7.8
KURBB PcP **PcP 10 00 33.6 -0.1**
comp=Z,0.8nm,0.5s,baz=173,slow=3.2,SNR=4.0
KURK Kurchatov 38.31 345 P **P 09 58 20.0 -0.5**
KURK *PP **pP 09 58 31.2 +0.9**
KURK 10 00 33.7
KURK pmax pmax
comp=Z,10.0nm,0.7s
KURK Kurchatov 38.31 345 *e*P **P 09 58 20.3 -0.2**
comp=Z,36nm,0.9s
KURK pP **pP 09 58 31.2 +0.9**
KURK PcP **PcP 10 00 33.6 -0.3**
TLY Talaya 38.49 11 *e*P **P 09 58 23.7 +1.6**
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,71nm,20.0s
KSAR Wonju Array Be 38.85 47 P **P 09 58 24.5 -0.8**
KSAR *SP **sP 09 58 38.0 -1.1**
KSAR Wonju Array Be 38.85 47 P **P 09 58 24.5 -0.8**
KSAR sP **sP 09 58 38.0 -1.1**
GEYT Alibeck 38.87 314 P **P 09 58 26.7 +1.3**
comp=Z,10nm,0.7s,baz=140,slow=7.7,SNR=11
GEYT pP **pP 09 58 35.7 +0.5**
comp=Z,4.6nm,0.5s,baz=163,slow=11,SNR=2.7
KSRS Korea Array 38.89 47 P **P 09 58 24.5 -1.0**
comp=Z,4.4nm,0.8s,baz=243,slow=8.5,SNR=22
KSRS sP **sP 09 58 38.0 -1.4**
comp=Z,2.5nm,0.8s,baz=236,slow=8.6,SNR=4.8
ZAA0 Zalesovo Array 40.27 353 *e*P **P 09 58 36.4 -0.4**
ZAA0 *e*P **P 09 58 36.6 -0.2**
ZALV Zalesovo Beam 40.27 353 P **P 09 58 36.4 -0.4**
comp=Z,12nm,0.7s,baz=176,slow=8.5,SNR=46
ZALV pP **pP 09 58 47.8 +1.2**
comp=Z,5.4nm,0.7s,baz=179,slow=8.8,SNR=5.4
ZALV LR LR 10 17 39.6
comp=Z,61nm,20.3s,baz=84,slow=40
CN2 Changchun 40.65 37 *e*P **P 09 58 39.9 -0.2**
CN2 PMZ
comp=Z,10.0nm,0.7s
NVS Novosibirsk 41.35 352 *e*P **P 09 58 44.7 -1.0**
BVAR Borovoye Array 42.74 340 P **P 09 58 56.6 -0.6**
comp=Z,1.5nm,0.5s,baz=146,slow=8.2,SNR=11
BVAR pP **pP 09 59 07.5 +0.4**
comp=Z,0.5nm,0.4s,baz=177,slow=5.6,SNR=2.5
BVAR PcP **PcP 10 00 48.2 -0.1**
comp=Z,0.8nm,0.6s,baz=116,slow=5.1,SNR=3.7
BVAR LR LR 10 19 30.0
comp=Z,84nm,20.3s,baz=74,slow=40
BRVK Borovoye 42.81 340 *e*P **P 09 58 57.3 -0.3**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 42.81 340 *e*P **P 09 58 57.3 -0.3**
comp=Z,9.9nm,0.9s
ABKAR Akbulak array 44.24 329 *e*P **P 09 59 09.4 +0.2**
comp=Z,5.6nm,0.7s
USRK Ussuriysk Ar. 44.82 40 P **P 09 59 13.2 -0.8**
comp=Z,3.3nm,0.7s,baz=237,slow=6.5,SNR=6.4
FITZ Fitzroy Crossi 45.48 134 P **P 09 59 17.7 -1.7**
baz=46,SNR=12
FITZ Fitzroy Crossi 45.48 134 *e*P **P 09 59 18.1 -1.4**
comp=Z,14nm,0.9s
AKTO Aktyubinsk 45.95 329 P **P 09 59 22.7 -0.1**
comp=Z,2.4nm,0.5s,baz=122,slow=7.8,SNR=5.7
MAJO Matsushiro 46.18 53 *i*P **P 09 59 23.6 -1.2**
MAJO pmax pmax
comp=Z,30nm,1.0s
MJAR Matsushiro Arr 46.18 53 P **P 09 59 24.9 +0.1**
comp=Z,3.4nm,1.1s,baz=259,slow=9.7,SNR=7.5
MJAR PcP **PcP 10 01 00.4 0.0**
comp=Z,2.4nm,0.9s,baz=230,slow=3.4,SNR=7.4
MJAR pPcP 10 01 12.6
comp=Z,1.9nm,0.6s,baz=234,slow=4.1,SNR=6.6
MORW Morawa 48.40 153 P **P 09 59 41.7 -0.5**
baz=48,SNR=5.1
CLNS Chul'man 49.15 23 *e*P **P 09 59 47.4 -0.2**
CLNS pmax pmax
comp=Z,13nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,0.9s
SVE Sverdlovsk 49.21 337↓ *i*P **P 09 59 48.4 +0.4**
SVE pmax pmax
comp=Z,30nm,1.0s
GNI Garni 49.31 311 P **P 09 59 49.6 +0.3**
comp=Z,10nm,0.8s,baz=280,slow=3.3,SNR=6.2
GNI sP **sP 10 00 03.7 +0.4**
comp=Z,9.5nm,0.6s,baz=154,slow=14,SNR=2.7
GNI Garni 49.31 311*ce*P **P 09 59 50.3 +1.0**
GNI pmax pmax
comp=Z,67nm,1.3s
GNI Garni 49.31 311 *e*P **P 09 59 49.6 +0.3**
GNI *epP* **sP 10 00 03.2 -0.1**
ARU Arti 49.72 336*c i*P **P 09 59 51.3 -0.6**
ARU 10 01 11.3
ARU 10 01 45.8
ARU S **S 10 07 00.0 +1.4**
ARU SS **SS 10 10 27.6 -3.6**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 49.72 336 *e*P **P 09 59 52.1 +0.1**
comp=Z,6.5nm,0.7s
BLDU Ballidu 50.02 153 P **P 09 59 54.0 -0.5**
baz=50,SNR=6.9
ZEI Tsey 50.74 314 *e*P **P 10 00 00.1 -0.1**
ZEI pmax pmax
comp=Z,19nm,0.5s
KLBR Kellerberrin 51.32 153 P **P 10 00 03.4 -0.9**
baz=51,SNR=27
KBZ Khabaz 51.74 315 P **P 10 00 08.3 +1.0**
comp=Z,2.7nm,0.7s,baz=113,slow=7.5,SNR=8.3
KVAR Kislovodsk Arr 51.95 315 P **P 10 00 09.8 +0.7**
comp=Z,11nm,0.6s,baz=223,slow=2.4,SNR=6.0
KVAR pP **pP 10 00 19.8 +0.6**
comp=Z,11nm,0.7s,baz=145,slow=2.7,SNR=2.7
KIV Kislovodsk 51.96 315 *e*P **P 10 00 09.8 +0.7**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,50nm,16.0s
WRKA Warakurna 52.03 138 P **P 10 00 08.8 -1.0**
baz=52,SNR=17
NWAO Narrogin (SRO) 52.24 154 P **P 10 00 10.4 -0.6**
comp=Z,23nm,0.7s,baz=202,slow=7.6,SNR=19
NWAO LR LR 10 19 23.8
comp=Z,32nm,21.8s,baz=176,slow=33
NWAO Narrogin (SRO) 52.24 154 P **P 10 00 10.3 -0.8**
baz=52,SNR=14
NWAO Narrogin (SRO) 52.24 154 *e*P **P 10 00 09.8 -1.3**
comp=Z,57nm,1.3s
YSS Yuzh-Sakhalins 52.82 41 *e*P **P 10 00 15.5 +0.2**
YSS *e* 10 00 24.0
YSS pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 52.82 41 *e*P **P 10 00 14.8 -0.6**
comp=Z,16nm,0.8s
WRA Warramunga Arr 53.00 129 P **P 10 00 15.8 -1.2**
comp=Z,10.0nm,0.8s,baz=309,slow=8.1,SNR=64
WRA pP **pP 10 00 27.4 +0.2**
comp=Z,4.1nm,0.7s,baz=308,slow=7.6,SNR=8.0
WRAB Tennant Creek 53.01 129*ce*P **P 10 00 15.7 -1.4**
WRAB pmax pmax
comp=Z,70nm,1.7s
WRAB Tennant Creek 53.01 129 *e*P **P 10 00 16.1 -0.9**
comp=Z,14nm,0.8s
WB2 Warramunga Arr 53.01 129 *e*P **P 10 00 16.0 -1.1**
comp=Z,14nm,0.8s
KMBL Kambalda 53.10 149 P **P 10 00 16.5 -1.0**
baz=53,SNR=5.9
ASF Jabal al Asfar 53.92 300 P **P 10 00 24.3 +0.5**
comp=Z,1.1nm,0.3s,baz=89,slow=10.0,SNR=3.4
comp=Z,2.5nm,0.5s,baz=137,slow=13,SNR=3.6
KEST Kesra 76.70 304 P **P 10 02 51.0 -0.3**
comp=Z,5.9nm,0.9s,baz=278,slow=4.4,SNR=5.9
BOSA Boshof 77.88 236 P **P 10 02 58.6 +0.6**
comp=Z,8.0nm,0.6s,baz=63,slow=3.0,SNR=17
MAW Mawson 84.33 191 LR LR 10 34 45.8
comp=Z,56nm,18.0s,baz=240,slow=31
ES19 SONSECA Array 86.22 310 *e*P **P 10 03 41.4 -0.2**
ES19 *epP* **pP 10 03 53.1 +0.8**
ESDC Sonseca Array 86.28 310 P **P 10 03 41.5 -0.4**
comp=Z,2.4nm,0.7s,baz=54,slow=4.8,SNR=10
MLY Manley 87.95 22 *e*P **P 10 03 50.0 +0.5**
comp=Z,4.3nm,0.8s
TOA0 Torodi Ar. Sit 87.96 283 *e*P **P 10 03 50.2 -0.2**
TOA0 *epP* **pP 10 04 01.9 +0.8**
TORD Torodi Ar. Bea 87.96 283 P **P 10 03 50.3 -0.1**
comp=Z,4.4nm,0.8s,baz=87,slow=4.8,SNR=25
TORD pP **pP 10 04 01.9 +0.8**
comp=Z,2.7nm,1.0s,baz=97,slow=3.5,SNR=7.5
TORD sP **sP 10 04 06.4 +1.5**
comp=Z,1.6nm,0.7s,baz=84,slow=4.3,SNR=4.6
BPAW Bear Paw Mtn. 88.32 23 *e*P **P 10 03 51.6 +0.4**
comp=Z,7.7nm,0.8s
BPAW *epP* **pP 10 04 02.1 +0.2**
TRF Thorofare Moun 88.91 24 *e*P **P 10 03 54.7 +0.5**
comp=Z,4.7nm,0.8s
MCK McKinley 89.29 23 *e*P **P 10 03 55.9 +0.1**
MCK *e**PP **sP 10 04 10.5 +0.2**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 89.29 23 *e*P **P 10 03 55.9 +0.1**
comp=Z,6.2nm,0.8s
MCK *epP* **sP 10 04 10.5 +0.2**
SPU Mount Spurr 89.31 26 *e*P **P 10 03 56.3 +0.4**
IL1 Eielson Array 89.49 22 *e*P **P 10 03 54.5 -2.2**
ILAR Eielson Array 89.49 22 P **P 10 03 55.5 -1.2**
comp=Z,1.3nm,0.7s,baz=299,slow=4.3,SNR=20
ILAR pP **pP 10 04 08.1 +0.7**
comp=Z,1.2nm,0.9s,baz=306,slow=4.8,SNR=5.3
ILAR sP **sP 10 04 11.2 0.0**
comp=Z,0.3nm,0.5s,baz=326,slow=33,SNR=5.3
ILB Eielson Array 89.49 22 *e*P **P 10 03 55.5 -1.2**
SUA Susitna One 89.72 25 *e*P **P 10 03 58.6 +0.7**
comp=Z,18nm,1.0s
PMR Palmer 90.32 25 *e*P **P 10 04 00.7 +0.1**
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR Palmer 90.32 25 *e*P **P 10 04 00.7 +0.1**
comp=Z,7.8nm,0.9s
BRLK Bradley Lake 90.50 27 *e*P **P 10 04 00.9 -0.6**
comp=Z,18nm,0.7s
SML Sawmill 90.53 25 *e*P **P 10 04 02.2 +0.5**
SML pmax pmax
comp=Z,7.0nm,0.6s
SML Sawmill 90.53 25 *e*P **P 10 04 02.2 +0.5**
comp=Z,6.9nm,0.6s
SEW Seward 90.95 26 *e*P **P 10 04 03.8 +0.3**
comp=Z,11nm,0.9s
DOT Dot Lake 91.15 22 *e*P **P 10 04 04.5 0.0**
comp=Z,8.4nm,0.7s
KLU Klutina 91.67 24 *e*P **P 10 04 07.8 +0.8**
comp=Z,6.4nm,1.2s
BMRM Bremner River 92.50 24 *e*P **P 10 04 11.9 +1.1**
comp=Z,9.4nm,1.0s
SFJD Kangerlussuaq 94.82 346 *e*P **P 10 04 20.0 -1.2**
SFJD pmax pmax
comp=Z,20nm,0.8s
SFJD Kangerlussuaq 94.82 346 *e*P **P 10 04 20.0 -1.2**
comp=Z,20nm,0.8s
SNOW Snow King Moun 118.79 19 *e*PKPdf **PKPdf 10 09 48.8 +0.2**
PDAR Pinedale Array 119.80 19 PKP **PKPdf 10 09 49.9 -0.7**
comp=Z,1.6nm,0.5s,baz=162,slow=0.5,SNR=5.9
NVAR **Mina Array Bea 120.17 28** PKP **PKPdf 10 09 52.1 +0.8**
comp=Z,1.6nm,0.7s,baz=311,slow=2.6,SNR=11
NVAR pPKP **pPKPdf 10 10 03.6 +1.3**
comp=Z,0.6nm,0.7s,baz=328,slow=3.1,SNR=3.1
MSU Marysvale 122.67 23 *e*PKIKP **PKPdf 10 09 57.4 +1.2**
MSU Marysvale 122.67 23 *e*PKPdf **PKPdf 10 09 57.4 +1.2**
MTPU Mount Pierson 123.08 23 *e*PKPdf **PKPdf 10 09 58.3 +1.2**
LCMT Little Creek M 123.54 25 *e*PKPdf **PKPdf 10 09 59.3 +1.6**
X16A Lo Mia Camp, P 126.52 25 *e*PKPdf **PKPdf 10 10 05.2 +1.5**
ANMO Albuquerque 127.91 20 *e*PKIKP **PKPdf 10 10 07.5 +1.2**
ANMO Albuquerque 127.91 20 *e*PKPdf **PKPdf 10 10 07.5 +1.2**
TUC Tucson 128.62 26 *e*PKIKP **PKPdf 10 10 09.3 +1.8**
TUC Tucson 128.62 26 *e*PKPdf **PKPdf 10 10 09.3 +1.8**
TX31 Lajitas Ar. Si 133.98 20 *e*PKPdf **PKPdf 10 10 17.8 0.0**
TX31 *e*PKPdf **PKiKP 10 10 18.9 -0.1**
TXAR Lajitas Array 133.98 20 PKP **PKPdf 10 10 18.4 +0.7**
comp=Z,0.8nm,0.7s,baz=118,slow=0.3,SNR=17
TXAR sPKP 10 10 31.2
comp=Z,0.3nm,0.5s,baz=114,slow=0.7,SNR=5.2
JCT Junction City 134.05 15 *e*PKIKP **PKPdf 10 10 18.8 +1.0**
JCT Junction City 134.05 15 *e*PKPdf **PKPdf 10 10 18.8 +1.0**
TEIG Tepich 145.88 2 *e*PKPdf **PKPbc 10 10 40.1 +0.2**
CPUP Villa Florida 149.56 242 PKPbc **PKPbc 10 10 48.7 -1.1**
comp=Z,1.7nm,0.5s,baz=78,slow=2.9,SNR=9.8
CPUP PKPab **PKPab 10 10 54.7 -0.2**
comp=Z,0.4nm,0.3s,baz=134,slow=4.3,SNR=4.0
PTGA Pitinga 150.01 294 *e*PKPbc **PKPbc 10 10 50.8 -0.5**
ROSC El Rosal 157.29 325 PKPab **PKPab 10 11 26.4 -1.8**
comp=Z,4.7nm,0.3s,baz=186,slow=15,SNR=3.4
LPAZ La Paz 161.51 261 PKP **PKPdf 10 11 00.6 -1.7**
comp=Z,0.9nm,0.7s,baz=43,slow=3.0,SNR=4.3
LPAZ PKPab **PKPab 10 11 46.6 -0.3**
comp=Z,1.5nm,0.8s,baz=49,slow=2.0,SNR=4.2

LJU 09 10:00:44.6, 46°39N×15°07E, h0km, ML0.9 Rockburst, Northwestern Balkan Peninsula

*HLW **09** 10:03:07.0, 34°.97N×29°.17E, h35km±37km, Md3.3, MI3.9*
*CSEM **09** 10:03:08.9±0.1, 34°.75N×29°.11E, h20km, ML3.6, Error ellipse: s-maj=3.4km s-min=2.3km az=14.0*
*ATH **09** 10:03:08.9, 34°.93N×28°.88E, h16km±2km, ML3.6/13, Error ellipse: s-maj=2.6km s-min=1.2km az=91.0*
*DDA **09** 10:03:09.2, 34°.90N×28°.97E, h27km, MI4.1*
*MOS **09** 10:03:09.7±1.1, 34°.74N×29°.13E, h47km, mb4.2/8, Error ellipse: s-maj=8.5km s-min=4.7km az=106.5*
*IDC **09** 10:03:10.2±4.6, 34°.83N×29°.16E, h30km±37km, mb3.8/12, mb1 3.9/21, mb1mx3.7/45, mbtmp3.9/21, ML4.1/9, MS2.9/4, Ms1 2.9/4, ms1mx2.4/60, Error ellipse: s-maj=15.7km s-min=12.6km az=14.0*
*NSSC **09** 10:03:10.6±1.5, 34°.69N×29°.26E, h35km±384km, ML3.1*
*NEIC **09** 10:03:10.9±0.6, 34°.81N×29°.17E, h36km±8km, mb4.6/2, ML4.2(THE), Error ellipse: s-maj=8.1km s-min=5.6km az=201.0*
*ISK **09** 10:03:10.4, 35°.07N×28°.90E, h8km, ML3.7*
*THE **09** 10:03:12.7, 34°.89N×29°.03E, h23km±5km, ML3.6/10, Error ellipse: s-maj=6.3km s-min=1.0km az=137.0*
*NIC **09** 10:03:13.1±0.1, 34°.92N×29°.35E, h40km, mb4.2, ML3.9*
ISC 09 10:03:05.4±1.4, 34.75N±0°.03×29.07E±0°.02, h2km±9km, n309, σ1↑95/368, mb3.9/17, 2C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.46**	**17**	P		**Pg**		**10 03 33.7**	**+0.3**
KSL				S		**Sg**		**10 03 51.8**	**-0.4**
KSL	**Kastellorizon**	**1.46**	**17**	P		**Pg**		**10 03 33.3**	**0.0**
KSL				S		**Sg**		**10 03 51.3**	**-0.9**
KSL	comp=N,1014μm,1.1s			AML		AML		10 04 16.9	
KSL	comp=E,1323μm,1.2s			AML		AML		10 04 22.7	
AKAS	**Kas**	**1.54**	**16**	P		**Pg**		**10 03 35.4**	**+0.4**
AKAS				S		**Sn**		**10 03 53.0**	**-1.7**
AKAS	**Kas**	**1.54**	**16**	*i* P		**Pg**		**10 03 35.4**	**+0.4**
AKAS				*i* S		**Sn**		**10 03 53.0**	**-1.7**
ARG	**Arkhangelos**	**1.65**	**333**	P		**Pg**		**10 03 36.7**	**-0.4**
ARG				S		**Sn**		**10 03 55.2**	**-2.0**
ARG	**Arkhangelos**	**1.65**	**333**	P		**Pg**		**10 03 38.1**	**+1.0**
ARG	**Arkhangelos**	**1.65**	**333**	P		**Pg**		**10 03 36.7**	**-0.4**
ARG				S		**Sn**		**10 03 55.1**	**-2.1**
KARP	**Karpathos**	**1.75**	**297**	*e*PN		**Pg**		**10 03 38.3**	**-0.7**
KARP	**Karpathos**	**1.75**	**297**	P		**Pg**		**10 03 39.1**	**+0.1**
KARP				S		**Sn**		**10 03 58.7**	**-1.0**
KARP	**Karpathos**	**1.75**	**297**	*e*Pn		**Pg**		**10 03 38.3**	**-0.7**
KARP	**Karpathos**	**1.75**	**297**	P		**Pg**		**10 03 39.1**	**+0.1**
KARP				S		**Sn**		**10 03 58.7**	**-1.0**
KARP	**Karpathos**	**1.75**	**297**	P		**Pg**		**10 03 40.3**	**+1.3**

AS31 Alice Springs 54.95 133 *e*P **P 10 00 30.3 -0.9**
comp=Z,3.3nm,0.6s
ASAR **Alice Springs 54.95 133** P **P 10 00 30.2 -1.0**
comp=Z,7.5nm,0.5s,baz=310,slow=6.8,SNR=164
ASAR pP **pP 10 00 41.0 -0.4**
comp=Z,4.8nm,0.4s,baz=310,slow=6.9,SNR=14
AS01 Alice Springs 54.98 133 *e*P **P 10 00 30.1 -1.3**
MMAI Mount Meron Ar 55.26 300 P **P 10 00 35.0 +1.5**
comp=Z,0.6nm,0.3s,baz=201,slow=41,SNR=2.5
NRIK Noril'sk 55.32 358 P **P 10 00 32.9 -0.2**
comp=Z,3.9nm,0.5s,baz=198,slow=4.0,SNR=3.8
EIL Elat 55.40 296 P **P 10 00 34.8 +0.4**
comp=Z,2.2nm,0.6s,baz=124,slow=3.2,SNR=3.5
ANN Anapa 55.81 315 *e*P **P 10 00 35.6 -1.5**
ANN *e* 10 02 42.2
ANN pmax pmax
comp=Z,42nm,1.0s
QIS Mount Isa 57.42 126 P **P 10 00 48.1 -0.8**
baz=57,SNR=5.1
BR131 Keskin Array S 57.52 308 *e*P **P 10 00 48.9 -0.6**
BRTR Keskin Array B 57.52 308 P **P 10 00 48.8 -0.7**
comp=Z,7.7nm,0.7s,baz=121,slow=7.5,SNR=46
BRTR pP **pP 10 00 59.4 -0.4**
comp=Z,5.6nm,0.8s,baz=122,slow=7.9,SNR=9.2
BR231 Keskin MP Arra 58.19 308 *e*P **P 10 00 49.8 -4.5**
OBN Obninsk 59.51 326 *e*P **P 10 01 01.9 -1.0**
OBN *e* 10 01 49.4
OBN *e* 10 03 14.7
OBN pmax pmax
comp=Z,5.0nm,1.0s
KLMR Klimovskoe 60.36 333 *e*P **P 10 01 05.3 -3.4**
KLMR *e**PP **pP 10 01 16.2 -2.7**
KLMR *e**SP **sP 10 01 19.2 -3.7**
KLMR *e* 10 01 51.6
KLMR pmax pmax
comp=Z,8.0nm,0.9s
TIXI Tiksi 61.45 12*d i*P **P 10 01 14.4 -1.5**
TIXI pmax pmax
comp=Z,14nm,1.7s
TIXI Tiksi 61.45 12 *e*P **P 10 01 14.7 -1.2**
comp=Z,6.3nm,0.9s
MA2 Magadan 61.94 29↑ *e*P **P 10 01 18.1 -1.3**
KARP Karpathos 62.24 303 *e*P **P 10 01 21.7 -0.2**
comp=Z,15nm,0.7s
AKASG Malin Array Be 62.56 320 P **P 10 01 22.7 -1.1**
comp=Z,1.1nm,0.5s,baz=84,slow=4.9,SNR=11
AKASG LR LR 10 32 00.8
comp=Z,62nm,20.8s,baz=90,slow=39
KIEV Kiev 62.57 320↓ *e*P **P 10 01 22.5 -1.3**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
PETR Petresti 63.05 314↑ *i*P P 10 01 33.7 +6.6
VRI Vrincioaia 63.42 314↑ *i*P **P 10 01 30.5 +0.9**
VRI Vrincioaia 63.42 314 ↑P **P 10 01 30.5 +0.9**
PLOR Plostina 63.47 314↓ *i*P **P 10 01 30.8 +0.9**
PLOR Plostina 63.47 314 ↓P **P 10 01 30.8 +0.9**
TESR Tescani 63.55 315↑ *i*P **P 10 01 30.3 -0.1**
MLR Muntele Rosu 63.92 314 P **P 10 01 33.8 +0.7**
comp=Z,1.9nm,0.8s,baz=175,slow=3.7,SNR=9.7
MLR Muntele Rosu 63.92 314↓ *i*P **P 10 01 33.7 +0.7**
IDI Anoyia 64.09 303 P **P 10 01 33.5 -0.8**
comp=Z,4.8nm,0.5s,baz=98,slow=9.2,SNR=5.9
DOPR Dopca 64.36 314↑ *i*P **P 10 01 36.7 +0.9**
VOIR 64.54 314↑ *i*P **P 10 01 34.5 -2.5**
VOIR 64.54 314 ↑P **P 10 01 34.5 -2.5**
BURAR Bucovina Array 64.66 316↑ *i*P **P 10 01 37.3 -0.5**
BURAR Bucovina Array 64.66 316 ↑P **P 10 01 37.3 -0.5**
BUR08 Bucovina Ar. S 64.68 316 *e*P **P 10 01 37.9 0.0**
STKA Stephens Creek 65.34 135 P **P 10 01 41.6 -0.7**
comp=Z,7.5nm,0.7s,baz=318,slow=5.5,SNR=13
STKA Stephens Creek 65.34 135 P **P 10 01 41.8 -0.5**
baz=65,SNR=8.5
STKA Stephens Creek 65.34 135 *e*P **P 10 01 42.1 -0.2**
comp=Z,1.8nm,0.8s
APA Apatity 65.63 339↑ *i*P **P 10 01 42.2 -1.4**
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,200nm,22.0s
VSU Vasula 65.65 328*ce*P **P 10 01 43.4 -0.4**
VSU pmax pmax
comp=Z,14nm,0.8s
FIA1 FINESS Array S 66.67 331 *e*P **P 10 01 49.8 -0.6**
FIA1 *e*P **P 10 01 50.0 -0.3**
FINES FINESS Array B 66.67 331 P **P 10 01 49.8 -0.6**
comp=Z,11nm,0.7s,baz=103,slow=8.4,SNR=42
FINES pP **pP 10 02 01.9 +1.2**
comp=Z,1.7nm,0.5s,baz=103,slow=6.1,SNR=3.3
MDVR Moldovita 66.84 313↓ *i*P **P 10 01 50.5 -1.4**
CRVS Cervenica-Dubn 67.29 317 *e*P **P 10 01 55.1 +0.5**
CRVS Cervenica-Dubn 67.29 317 *e*P **P 10 01 55.1 +0.5**
STHS Stebnicka Huta 67.47 318 *e*P **P 10 01 55.8 +0.1**
STHS pmax pmax
comp=Z,3.0nm,0.6s
STHS Stebnicka Huta 67.47 318 *e*P **P 10 01 55.8 +0.1**
RMQ Roma 67.66 127 P **P 10 01 58.2 +1.0**
baz=68,SNR=6.9
KECS Kecovo 67.90 317 *e*P **P 10 01 58.8 +0.4**
KECS pmax pmax
comp=Z,4.0nm,0.7s
KECS Kecovo 67.90 317 *e*P **P 10 01 58.8 +0.4**
CMSA Cobar Meteorol 68.00 133 P **P 10 01 58.8 -0.4**
baz=68,SNR=18
VYHS Vyhne 69.00 317 *e*P **P 10 02 05.1 -0.2**
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 69.00 317 *e*P **P 10 02 05.1 -0.2**
ARA0 ARCESS Array S 69.03 340 *e*P **P 10 02 05.0 -0.1**
ARCES ARCESS Array B 69.03 340 P **P 10 02 05.0 -0.1**
comp=Z,6.1nm,0.5s,baz=93,slow=6.3,SNR=48
ARCES pP **pP 10 02 17.1 +1.6**
comp=Z,3.9nm,0.8s,baz=110,slow=6.6,SNR=3.5
ARCES LR LR 10 35 43.3
comp=Z,88nm,18.3s,baz=157,slow=39
MORC Moravsky Berou 69.90 318 *e*P **P 10 02 11.3 +0.4**
MORC pmax pmax
comp=Z,25nm,0.9s
MORC Moravsky Berou 69.90 318 *e*P **P 10 02 11.2 +0.4**
comp=Z,25nm,0.9s
LSZ Lusaka 70.28 248 *e*P **P 10 02 15.1 +1.3**
LSZ pmax pmax
comp=Z,7.0nm,0.8s
LSZ Lusaka 70.28 248 *e*P **P 10 02 15.1 +1.3**
comp=Z,7.4nm,0.8s
DPC Dobruska-Polom 70.70 319 *e*P **P 10 02 16.3 +0.5**
DPC Dobruska-Polom 70.70 319 *e*P **P 10 02 16.3 +0.5**
BILL Bilibino 70.84 22 *e*P **P 10 02 14.4 -1.8**
BILL *e* 10 02 36.2
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 70.84 22 *e*P **P 10 02 15.4 -0.8**
comp=Z,2.5nm,0.8s
PDKS Podkum 71.59 314 *i*P **P 10 02 21.0 -0.2**
PRU Pruhonice 71.84 318 *e*P **P 10 02 23.2 +0.6**
PRU *epP* **pP 10 02 33.0 -0.1**
PRU Pruhonice 71.84 318 *e*P **P 10 02 23.2 +0.6**
PRU 10 02 33.0
CRNS Crni Vrh 72.10 314 *i*P **P 10 02 24.0 -0.3**
BRG Berggiesshubel 72.22 319 *e*P **P 10 02 24.2 -0.7**
comp=Z,5.6nm,1.0s
BRG Berggiesshubel 72.22 319 *e*P **P 10 02 24.2 -0.7**
BRG pmax pmax
comp=Z,6.0nm,1.0s
GEA0 GERESS Array S 72.41 317 *e*P **P 10 02 25.9 -0.2**
GERES GERESS Array B 72.41 317 P **P 10 02 25.8 -0.4**
comp=Z,4.8nm,0.7s,baz=90,slow=6.7,SNR=31
KHC Kasperske Hory 72.48 317 *e*P **P 10 02 26.7 +0.2**
KHC pmax pmax
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 72.48 317 *e*P **P 10 02 26.6 +0.2**
comp=Z,4.0nm,1.0s
CLL Collm 72.80 320 *i*P **P 10 02 28.0 -0.3**
comp=Z,6.0nm,0.8s
CLL Collm 72.80 320 *i*P **P 10 02 28.0 -0.3**
CLL pmax pmax
comp=Z,6.0nm,0.8s
NC405 NORSAR Array S 73.50 330 *e*P **P 10 02 31.8 -0.5**
NB2 NORSAR Subarra 73.74 330 P **P 10 02 32.5 -1.3**
comp=Z,5.3nm,0.7s,baz=88,slow=5.9
NOA NORSAR Array B 73.74 330 P **P 10 02 32.5 -1.3**
comp=Z,4.6nm,0.7s,baz=90,slow=5.8,SNR=21
NOA pP **pP 10 02 44.6 +0.4**
comp=Z,1.9nm,0.7s,baz=90,slow=5.8,SNR=4.7
NAO01 NORSAR Array S 73.90 330 *e*P **P 10 02 33.0 -1.6**
DAVOX Davos/Dischmat 75.09 315 P **P 10 02 41.5 -0.5**

KARP S Sn 10 03 57.1 -2.7
KARP AML AML 10 04 02.3
comp=N,1269µm,0.8s
KARP AML AML 10 04 07.3
comp=E,1638µm,0.6s
FETY Fethiye 1.88 0 *e*PN Pb **10 03 39.3 -1.1**
FETY *e*SN Sn **10 04 00.4 -2.5**
FETY Fethiye 1.88 0 P Pb **10 03 39.6 -0.9**
FETY Fethiye 1.88 0 *e*Pn Pb **10 03 39.3 -1.1**
FETY Fethiye 1.88 0 P Pb **10 03 39.6 -0.9**
FETY *e*Sn Sn **10 04 00.4 -2.5**
DALY Dalyan (Mu¨la 2.09 351 *e*PN Pn **10 03 42.0 +0.6**
DALY Dalyan (Mu¨la 2.09 351 *e*Pn Pn **10 03 42.0 +0.6**
ELL Elmali 2.10 19 *e*PN Pb **10 03 43.5 -0.9**
ELL Elmali 2.10 19 *e*Pn Pb **10 03 43.5 -0.9**
TURN Turunc 2.15 350 *i* P Pb **10 03 43.9 -1.1**
TURN *i* S Sn **10 04 08.9 -0.6**
ZKR Zakros 2.37 280 P Pb **10 03 47.4 -1.4**
ZKR S Sb **10 04 15.5 -3.0**
ZKR Zakros 2.37 280 P Pb **10 03 47.4 -1.4**
ZKR S Sb **10 04 15.5 -3.0**
ZKR Zakros 2.37 280 P Pb **10 03 47.8 -1.0**
ZKR S Sn **10 04 14.9 0.0**
ZKR AML AML 10 04 16.3
comp=E,1100µm,0.7s
ZKR AML AML 10 04 17.6
comp=N,1324µm,0.7s
NIS1 Nisyros Isl. 2.40 321 *e*PN Pn **10 03 46.6 +0.8**
NIS1 Nisyros Isl. 2.40 321 *e*Pn Pn **10 03 46.6 +0.8**
GLHS Glhisar (BURDU 2.42 8 *e*PN Pb **10 03 48.4 -1.4**
GLHS Glhisar (BURDU 2.42 8 *e*Pn Pb **10 03 48.4 -1.4**
YER Yerkesik 2.46 345 *e*PN Pn **10 03 47.4 +0.8**
YER Yerkesik 2.46 345 P Pb **10 03 48.8 -1.6**
YER Yerkesik 2.46 345 P Pb **10 03 48.1 -2.3**
YER Yerkesik 2.46 345 *e*Pn Pn **10 03 47.4 +0.8**
YER Yerkesik 2.46 345 P Pb **10 03 48.8 -1.6**
KORT Korkueli 2.47 25 P Pb **10 03 49.2 -1.5**
KORT S Sn **10 04 19.1 +1.4**
KORT Korkueli 2.47 25 *i* P Pb **10 03 49.2 -1.5**
KORT *i* S Sn **10 04 19.1 +1.4**
ANTB Antalya 2.50 31 *e*PN Pb **10 03 49.8 -1.2**
ANTB Antalya 2.50 31 *e*Pn Pb **10 03 49.8 -1.2**
GOLH Golhisar 2.51 9 P Pb **10 03 50.1 -1.2**
GOLH S Sn **10 04 19.3 +0.7**
GOLH Golhisar 2.51 9 *i* P Pb **10 03 50.1 -1.2**
GOLH *i* S Sn **10 04 19.3 +0.7**
BDRM Kayabasi 2.66 331 P Pn **10 03 50.4 +1.1**
BDRM Kayabasi 2.66 331 *i* P Pn **10 03 50.4 +1.1**
AKMC Akamas 2.70 83 P Pn **10 03 51.0 +1.2**
baz=268
AKMC Akamas 2.70 83 P Pn **10 03 51.0 +1.2**
PPCY Paphos 2.70 86 P Pn **10 03 51.0 +1.2**
baz=271
PPCY Paphos 2.70 86 P Pn **10 03 51.0 +1.2**
BODT Bodrum 2.71 329 *e*PN Pn **10 03 51.0 +0.9**
BODT Bodrum 2.71 329 P Pb **10 03 50.9 +0.9**
BODT Bodrum 2.71 329 *e*Pn Pn **10 03 51.0 +0.9**
NPS Neapolis 2.88 281 P Pb **10 03 55.4 -2.1**
NPS S Sn **10 04 28.5 +0.9**
NPS Neapolis 2.88 281 P Pb **10 03 55.9 -1.6**
NPS Neapolis 2.88 281 P Pb **10 03 55.2 -2.4**
NPS S Sn **10 04 28.5 +0.9**
NPS Neapolis 2.88 281 P Pb **10 03 55.2 -2.4**
NPS S Sn **10 04 27.2 -0.4**
NPS AML AML 10 04 28.9
comp=N,756µm,1.0s
NPS AML AML 10 04 30.1
comp=E,1002µm,0.6s
ALFC Alefka 2.93 81 P Pn **10 03 54.4 +1.4**
baz=265
ALFC S Sn **10 04 26.1 -2.7**
ALFC Alefka 2.93 81 P Pn **10 03 54.4 +1.4**
ALFC S Sn **10 04 26.1 -2.7**
DNZL Cakiroluk 2.93 360 P Pn **10 03 54.9 +1.7**
DNZL S Sn **10 04 26.1 -3.0**
DNZL Cakiroluk 2.93 360 *i* P Pn **10 03 54.9 +1.7**
DNZL *i* S Sn **10 04 26.1 -3.0**
BCK Bucak 2.97 24 *e*PN Pn **10 03 56.2 +2.6**
BCK Bucak 2.97 24 *e*Pn Pn **10 03 56.2 +2.6**
LAST Lasithi 2.98 279 P Pb **10 03 56.4 -2.8**
LAST S Sn **10 04 30.4 +0.4**
LAST Lasithi 2.98 279 P Pb **10 03 56.4 -2.8**
LAST S Sn **10 04 30.4 +0.4**
LAST Lasithi 2.98 279 P Pb **10 03 57.1 -2.1**
DENT Denizli 3.00 359 *e*PN Pn **10 03 55.5 +1.6**
DENT Denizli 3.00 359 *e*Pn Pn **10 03 55.6 +1.6**
GAZI Gazipasa 3.04 60 P Pn **10 03 55.1 +0.6**
GAZI S Sn **10 04 28.8 -2.6**
GAZI Gazipasa 3.04 60 *i* P Pn **10 03 55.1 +0.6**
GAZI *i* S Sn **10 04 28.8 -2.6**
AYDN Tasoluk 3.06 342 P Pn **10 03 56.8 +2.0**
AYDN Tasoluk 3.06 342 *i* P Pn **10 03 56.8 +2.0**
SUTC Sutluce-Ispart 3.14 29 *e*PN Pn **10 03 58.9 +2.9**
SUTC Sutluce-Ispart 3.14 29 *e*Pn Pn **10 03 58.9 +2.9**
SZAC Souni 3.14 89 P Pn **10 03 57.5 +1.6**
baz=274
SZAC S Sn **10 04 32.3 -1.7**
SZAC Souni 3.14 89 P Pn **10 03 57.5 +1.6**
SZAC S Sn **10 04 32.3 -1.7**
ISP Isparta 3.28 21 *e*PN Pn **10 04 00.4 +2.5**
ISP Isparta 3.28 21 *i* P Pn **10 04 00.1 +2.2**
ISP Isparta 3.28 21 *e*Pn Pn **10 04 00.4 +2.5**
AYDB Zeytinkoy-Aydi 3.33 344 *e*PN Pn **10 03 59.7 +1.1**
AYDB Zeytinkoy-Aydi 3.33 344 *e*Pn Pn **10 03 59.7 +1.1**
SANT Santorini 3.36 300 P Pn **10 04 00.9 +2.0**
SANT Santorini 3.36 300 *e*Pn Pn **10 04 00.7 +1.8**
SANT Santorini 3.36 300 P Pn **10 04 00.9 +2.0**
THR3 Thira Island, 3.42 300 P Pn **10 04 02.0 +2.3**
THR3 Thira Island, 3.42 300 P Pn **10 04 02.0 +2.3**
SMG Samos 3.46 329 P Pn **10 04 01.5 +1.2**
SMG S Sn **10 04 39.8 -2.0**
SMG Samos 3.46 329 P Pn **10 04 01.5 +1.2**
SMG S Sn **10 04 39.8 -2.0**
SMG Samos 3.46 329 P Pn **10 04 01.1 +0.8**
SMG S Sn **10 04 38.6 -3.2**
SMG AML AML 10 04 40.8
comp=N,350µm,0.6s
SMG AML AML 10 04 43.6
comp=E,299µm,0.4s
THR5 Thira Island, 3.46 300 *e*PN Pn **10 04 02.5 +2.2**
THR5 Thira Island, 3.46 300 P Pn **10 04 02.2 +2.0**
THR5 Thira Island, 3.46 300 P Pn **10 04 02.2 +2.0**
THR5 Thira Island, 3.46 300 *e*Pn Pn **10 04 02.5 +2.2**
IDI Anoyia 3.47 280 Pn Pn **10 04 03.3 +2.8**
comp=E,12nm,0.3s,baz=71,slow=12,SNR=47
IDI Sn Sn **10 04 43.1 +0.9**
comp=E,17nm,0.3s,baz=6.3,slow=14,SNR=17
IDI Anoyia 3.47 280 P Pn **10 04 03.2 +2.8**
IDI S Sn **10 04 42.0 -0.2**
IDI Anoyia 3.47 280 *e*Pn Pn **10 04 03.1 +2.6**
IDI S Sn **10 04 42.0 -0.2**
IDI Anoyia 3.47 280 *e*Pn Pn **10 04 03.1 +2.6**
IDI Pn Pn **10 04 03.3 +2.8**
IDI *e*Sn Sn **10 04 42.6 +0.4**
IDI Sn Sn **10 04 43.1 +0.9**
IDI Anoyia 3.47 280 P Pb **10 04 03.9 -3.7**
IDI S Sn **10 04 43.5 +1.4**
IDI AML AML 10 04 44.4
comp=E,662µm,0.5s
IDI AML AML 10 04 45.3
comp=N,872µm,0.4s
SIVA Sivas 3.51 276 P Pn **10 04 02.8 +1.8**
SIVA S Sn **10 04 44.2 +1.2**
SIVA Sivas 3.51 276 P Pn **10 04 02.8 +1.8**
SIVA S Sn **10 04 43.5 +0.5**
SIVA Sivas 3.51 276 P Pn **10 04 01.5 +0.6**
SIVA S Sn **10 04 43.5 +0.5**
SIVA AML AML 10 04 45.7
comp=N,1349µm,0.5s
SIVA AML AML 10 04 55.7
comp=E,1138µm,0.5s
CSS Mathiatis 3.51 85 P Pn **10 04 02.4 +1.4**
baz=270
CSS S Sn **10 04 40.9 -2.2**
CSS Mathiatis 3.51 85 P Pn **10 04 01.9 +0.9**
CSS S Sn **10 04 40.7 -2.4**
CSS Mathiatis 3.51 85 P Pn **10 04 01.9 +0.9**
CSS S Sn **10 04 40.9 -2.2**
CSS *e*Sn Sn **10 04 41.4 -1.7**
CSS Mathiatis 3.51 85 *e*Pn Pn **10 04 02.0 +1.0**
CSS *e*Sn Sn **10 04 41.4 -1.7**

KHL Karahalli 3.58 6 *e*PN Pn **10 04 02.9 +0.9**
KHL Karahalli 3.58 6 *e*Pn Pn **10 04 02.9 +0.9**
KHAL Karahalli 3.63 5 P Pn **10 04 03.9 +1.2**
KHAL Karahalli 3.63 5 *i* P Pn **10 04 03.9 +1.2**
ERMK Ermenek 3.65 58 P Pn **10 04 05.6 +2.5**
ERMK Ermenek 3.65 58 *i* P Pn **10 04 05.6 +2.5**
APE Apeiranthos 3.69 310 *e*PN Pn **10 04 04.8 +1.4**
APE Apeiranthos 3.69 310 P Pn **10 04 04.8 +1.4**
APE Apeiranthos 3.69 310 *c* P Pn **10 04 04.8 +1.4**
APE Apeiranthos 3.69 310 P Pn **10 04 04.8 +1.4**
APE S Sn **10 04 46.1 -1.4**
APE Apeiranthos 3.69 310 P Pn **10 04 04.8 +1.4**
APE S Sn **10 04 46.1 -1.4**
APE AML AML 10 04 48.0
comp=E,154µm,0.4s
APE AML AML 10 04 48.3
comp=N,181µm,0.4s
MATC Matruh 3.73 205 P Pn **10 04 06.0 +2.0**
baz=205
DGB ¨zmir 3.73 332 *i* P Pn **10 04 04.9 +0.9**
MANT Manisa 3.75 354 P Pn **10 04 05.4 +0.9**
MANT Manisa 3.75 354 *i* P Pn **10 04 05.4 +0.9**
KULA Kula-Manisa 3.77 355 *e*PN Pn **10 04 05.6 +1.0**
KULA Kula-Manisa 3.77 355 P Pn **10 04 05.6 +1.0**
KULA Kula-Manisa 3.77 355 P Pn **10 04 05.6 +1.0**
IZM Izmir 3.92 339 *e*PN Pn **10 04 07.8 +1.2**
IZM Izmir 3.92 339 *e*Pn Pn **10 04 07.8 +1.2**
HMAT Matruh 4.01 205 P Pn **10 04 06.0 -1.8**
VAM Vamos 4.04 281 P Pn **10 04 11.3 +3.0**
VAM Vamos 4.04 281 P Pn **10 04 10.5 +2.2**
ZEY ¨zmir 4.05 330 *i* P Pn **10 04 08.9 +0.6**
GVD Gavdhos 4.10 273 P Pn **10 04 12.2 +3.1**
GVD S Sn **10 04 57.2 -0.4**
GVD Gavdhos 4.10 273 P Pn **10 04 12.2 +3.1**
GVD S Sn **10 04 57.2 -0.4**
GVD Gavdhos 4.10 273 P Pn **10 04 12.4 +3.4**
GVD S Sn **10 04 56.3 -1.3**
GVD AML AML 10 05 01.5
comp=N,627µm,0.4s
GVD AML AML 10 05 03.3
comp=E,574µm,0.5s
URLA Izmir 4.11 332 P Pn **10 04 11.5 +2.2**
URLA Izmir 4.11 332 *i* P Pn **10 04 11.5 +2.2**
IMMV Iera Moni Meta 4.23 281 P Pn **10 04 13.9 +3.0**
IMMV Iera Moni Meta 4.23 281 P Pn **10 04 11.7 +0.8**
IMMV S Sn **10 05 01.4 +0.6**
IMMV Iera Moni Meta 4.23 281 P Pn **10 04 11.7 +0.8**
IMMV S Sn **10 05 01.4 +0.6**
IMMV AML AML 10 05 08.0
comp=E,732µm,0.5s
IMMV AML AML 10 05 09.5
comp=N,694µm,0.4s
AKS Akhisar 4.24 347 *e*PN Pn **10 04 12.0 +1.0**
AKS Akhisar 4.24 347 *e*Pn Pn **10 04 12.0 +1.0**
MHLO Agia Marina, M 4.26 298 P Pn **10 04 14.1 +2.8**
MHLO S Sn **10 05 01.8 +0.2**
MHLO Agia Marina, M 4.26 298 P Pn **10 04 14.1 +2.8**
MHLO S Sn **10 05 01.8 +0.2**
MHLO AML AML 10 05 07.7
comp=E,965µm,0.4s
MHLO AML AML 10 05 10.2
comp=N,1007µm,0.6s
DEMI Demirci 4.29 356 P Pn **10 04 12.9 +1.1**
DEMI Demirci 4.29 356 *i* P Pn **10 04 12.9 +1.1**
GDZ Gediz 4.34 4 P Pn **10 04 13.5 +1.0**
GDZ Gediz 4.34 4 *i* P Pn **10 04 13.5 +1.0**
CHOS Chios island 4.36 327 *e*PN Pn **10 04 14.4 +1.7**
CHOS Chios island 4.36 327 *e*Pn Pn **10 04 14.5 +1.7**
CHOS S Sn **10 05 03.9 -0.3**
CHOS Chios island 4.36 327 P Pn **10 04 14.7 +2.0**
CHOS S Sn **10 05 03.9 -0.3**
SLUM Salum 4.59 226 P Pn **10 04 17.2 +1.4**
ANKY Antikythira Is 4.84 285 P Pn **10 04 19.6 +0.3**
ANKY S Sn **10 05 14.5 -1.5**
ANKY Antikythira Is 4.84 285 P Pn **10 04 19.6 +0.3**
ANKY S Sn **10 05 14.5 -1.5**
ANKY AML AML 10 05 17.9
comp=N,539µm,0.4s
ANKY AML AML 10 05 26.3
comp=E,441µm,0.9s
KERG Konya-Eregli 4.88 56 P Pn **10 04 21.5 +1.6**
KERG Konya-Eregli 4.88 56 *i* P Pn **10 04 21.6 +1.6**
KARY Karystos 4.97 313 P Pn **10 04 23.5 +2.5**
KARY Karystos 4.97 313 P Pn **10 04 23.5 +2.5**
PRK Paraskevi 5.01 334 P Pn **10 04 24.7 +3.1**
BORA Eskisehir 5.24 12 P Pn **10 04 26.0 +1.2**
BORA Eskisehir 5.24 12 *i* P Pn **10 04 26.0 +1.2**
VLY Voula,Athens 5.26 308 P Pn **10 04 27.5 +2.4**
VLY Voula,Athens 5.26 308 P Pn **10 04 27.5 +2.4**
ATHU Athens Univers 5.33 308 P Pn **10 04 26.6 +0.5**
ATHU Athens Univers 5.33 308 P Pn **10 04 26.6 +0.5**
KOT Kottamia 5.35 153 P Pn **10 04 27.0 +0.7**
baz=155
KOT Kottamia 5.35 153 P Pn **10 04 27.0 +0.7**
VLI Veliai 5.36 293 P Pn **10 04 27.5 +1.1**
VLI Veliai 5.36 293 P Pn **10 04 27.5 +1.1**
VLI Veliai 5.36 293 P Pn **10 04 26.7 +0.3**
VLI S Sn **10 05 24.0 -4.6**
VLI AML AML 10 05 26.6
comp=E,347µm,0.4s
VLI AML AML 10 05 28.6
comp=N,568µm,0.7s
DID Didima 5.46 302 P Pn **10 04 30.2 +2.4**
DID Didima 5.46 302 P Pn **10 04 30.2 +2.4**
DID Didima 5.46 302 P Pn **10 04 30.6 +2.7**
KRND KRANIDI 5.46 300 P Pn **10 04 30.3 +2.5**
KRND KRANIDI 5.46 300 P Pn **10 04 30.3 +2.5**
KRND KRANIDI 5.46 300 P Pn **10 04 31.0 +3.1**
HSAF As Saff 5.54 157 P Pn **10 04 29.1 +0.3**
baz=158
HSAF As Saff 5.54 157 P Pn **10 04 29.2 +0.3**
MMAI Mount Meron Ar 5.55 106 Pn Pn **10 04 29.5 +0.4**
comp=N,9.8nm,0.3s,baz=299,slow=12,SNR=15
MMAI Sn Sn **10 05 31.7 -1.7**
comp=N,27nm,0.3s,baz=5.4,slow=19,SNR=11
MMAI LR LR 10 07 60.0
comp=N,51nm,20.2s,baz=270,slow=53
GLL Jalalah 5.62 156 P Pn **10 04 30.4 +0.3**
baz=157
GLL Jalalah 5.62 156 P Pn **10 04 30.4 +0.3**
HWQ Hawqa 5.70 93 *e*P Pn **10 04 32.9 +1.7**
HWQ Hawqa 5.70 93 *e*P Pn **10 04 32.9 +1.7**
RCY Rachaya 5.75 101 *e*P Pn **10 04 32.5 +0.5**
ARNB Al Arnab 5.75 77 *e*P Pn **10 04 32.2 +0.3**
ARNB *e*S Sn **10 05 30.9 -7.6**
ARNB AML AML 10 05 36.3
comp=E,34nm,0.4s
ARNB AML AML 10 05 36.4
comp=N,57nm,0.4s
VILL Villia 5.75 308 P Pn **10 04 35.3 +3.4**
VIL2 Platees 5.81 308 P Pn **10 04 35.3 +2.7**
SUZ Suez 5.84 146 P Pn **10 04 33.9 +0.8**
baz=147
SUZ Suez 5.84 146 P Pn **10 04 33.9 +0.8**
BRBR Barbar 5.87 101 *e*P Pn **10 04 34.1 +0.6**
BRBR *e*S Sn **10 05 34.1 -7.4**
BRBR AML AML 10 05 40.8
comp=E,44nm,0.4s
BRBR AML AML 10 05 45.6
comp=N,90nm,0.3s
LTK Loutraki 5.90 305 P Pn **10 04 36.9 +3.0**
LTK Loutraki 5.90 305 P Pn **10 04 36.9 +3.0**
LTK Loutraki 5.90 305 P Pn **10 04 37.5 +3.6**
VLX Vlachokerasia 6.01 298 P Pn **10 04 36.7 +1.2**
VLX Vlachokerasia 6.01 298 P Pn **10 04 36.7 +1.2**
AOS Alonnisos 6.06 318 P Pn **10 04 39.2 +3.2**
AOS Alonnisos 6.06 318 P Pn **10 04 39.2 +3.2**
BRTR Keskin Array B 6.16 35 Pn Pn **10 04 39.4 +1.9**
comp=N,1.0nm,0.3s,baz=222,slow=16,SNR=18
BRTR Sn Sn **10 05 45.9 -2.7**
comp=N,1.4nm,0.3s,baz=202,slow=26,SNR=11
BTCH Batrach 6.17 76 *e*P Pn **10 04 38.4 +0.7**
BTCH *e*S Sn **10 05 43.2 -5.6**
BTCH AML AML 10 05 51.1
comp=E,43nm,0.2s
BTCH AML AML 10 05 51.3

comp=N,97nm,0.4s
MARH Ras Al Marh 6.17 95 *e*P Pn **10 04 39.1 +1.2**
MARH *e*S Sn **10 05 41.6 -7.6**
MARH AML AML 10 05 50.6
comp=N,37nm,0.4s
MARH AML AML 10 05 50.8
comp=E,49nm,0.3s
ZAF Zafarana 6.20 151 P Pn **10 04 39.3 +1.3**
baz=152
ZAF Zafarana 6.20 151 P Pn **10 04 39.3 +1.3**
ITM Ithomi 6.28 295 P Pn **10 04 40.9 +1.9**
ITM Ithomi 6.28 295 P Pn **10 04 40.9 +1.9**
ITM Ithomi 6.28 295 P Pn **10 04 40.0 +1.0**
SKIA Skiathos 6.29 316 P Pn **10 04 41.9 +2.8**
SKIA Skiathos 6.29 316 P Pn **10 04 41.9 +2.8**
SKIA Skiathos 6.29 316 P Pn **10 04 42.3 +3.2**
GUR Goura 6.29 302 P Pn **10 04 41.3 +2.0**
GUR Goura 6.29 302 P Pn **10 04 40.9 +1.6**
GUR Goura 6.29 302 P Pn **10 04 40.9 +1.6**
SWA2 6.29 210 P Pn **10 04 40.5 +1.4**
baz=210
SWA2 6.29 210 P Pn **10 04 40.6 +1.4**
PYL PYLOS 6.32 292 P Pn **10 04 38.0 -1.6**
HNKL Nakhl 6.36 138 P Pn **10 04 40.5 +0.4**
baz=139
HNKL Nakhl 6.36 138 P Pn **10 04 40.5 +0.4**
DSF Desfina 6.40 307 P Pn **10 04 43.5 +2.7**
DSF Desfina 6.40 307 P Pn **10 04 43.5 +2.7**
DSF Desfina 6.40 307 P Pn **10 04 44.2 +3.4**
KLV Kalavryta, Ach 6.47 302 P Pn **10 04 43.7 +1.9**
KLV Kalavryta, Ach 6.47 302 P Pn **10 04 43.7 +1.9**
KLV Kalavryta, Ach 6.47 302 P Pn **10 04 42.3 +0.5**
XOR Xorichti 6.58 316 P Pn **10 04 45.7 +2.6**
XOR Xorichti 6.58 316 P Pn **10 04 45.7 +2.6**
XOR Xorichti 6.58 316 P Pn **10 04 46.4 +3.2**
ALN Alexandroupoli 6.58 340 P Pn **10 04 46.9 +3.7**
KALE Kalithea 6.65 305 P Pn **10 04 46.8 +2.6**
KALE Kalithea 6.65 305 P Pn **10 04 46.8 +2.6**
LAKA Lakka 6.69 303 P Pn **10 04 46.0 +1.4**
LAKA Lakka 6.69 303 P Pn **10 04 46.0 +1.4**
SALA Sala 6.70 106 *e*P Pn **10 04 45.3 +0.2**
SALA *e*S Sn **10 05 54.2 -7.9**
SALA AML AML 10 06 05.7
comp=E,3.5nm,0.3s
SALA AML AML 10 06 07.7
comp=N,48nm,0.4s
SERG Sergoula 6.72 305 P Pn **10 04 47.1 +2.0**
DRO Drossia 6.74 300 P Pn 10 04 49.6 +4.2
DRO Drossia 6.74 300 P Pn 10 04 49.6 +4.2
AGG Agios Georgios 6.88 310 P Pn **10 04 50.8 +3.5**
AGG Agios Georgios 6.88 310 P Pn **10 04 50.8 +3.5**
AGG pmax pmax
comp=Z,109nm,1.0s
AGG Agios Georgios 6.88 310 P Pn **10 04 50.8 +3.5**
AGG Agios Georgios 6.88 310 P Pn 10 04 51.9 +4.6
ANX Ano Chora 6.90 306 P Pn **10 04 50.6 +2.9**
ANX Ano Chora 6.90 306 P Pn **10 04 50.6 +2.9**
ASF Jabal al Asfar 7.03 109 Pn Pn **10 04 50.6 +1.1**
comp=Z,1.4nm,0.3s,baz=259,slow=4.7,SNR=8.4
ASF Sn Sn **10 06 07.9 -2.1**
comp=Z,1.7nm,0.3s,baz=34,slow=15,SNR=3.3
EIL Elat 7.11 134 Pn Pn **10 04 51.7 +1.3**
comp=Z,4.4nm,0.3s,baz=309,slow=3.3,SNR=41
EIL Sn Sn **10 06 06.2 -5.6**
comp=Z,30nm,0.3s,baz=60,slow=16,SNR=17
EVR Evrytania 7.15 308 P Pn 10 04 55.3 +4.2
EVR Evrytania 7.15 308 P Pn 10 04 55.4 +4.3
PVO Paravola 7.18 305 P Pn 10 04 56.0 +4.6
ZKS Zakynthos 7.31 296 P Pn **10 04 54.6 +1.4**
ZKS Zakynthos 7.31 296 P Pn **10 04 54.6 +1.4**
THL Klokotos Trika 7.40 313 P Pn **10 04 58.0 +3.6**
THL Klokotos Trika 7.40 313 P Pn **10 04 58.0 +3.6**
PDO Prodromos 7.41 304 P Pn **10 04 56.2 +1.7**
PDO Prodromos 7.41 304 P Pn **10 04 56.2 +1.7**
KFL Anninata 7.47 299 P Pn **10 04 57.1 +1.7**
KFL Anninata 7.47 299 P Pn **10 04 57.1 +1.7**
SOH Sokhos 7.56 325 P Pn 10 05 02.3 +5.7
SOH pmax pmax
comp=Z,4.0nm,0.7s
THE Thessaloniki 7.60 322 P Pn 10 05 02.4 +5.2
THE pmax pmax
comp=Z,32nm,0.9s
VLS Valsamata 7.64 299 P Pn **10 04 57.2 -0.5**
DSL Palaion Diasel 7.74 307 P Pn **10 05 00.7 +1.7**
DSL Palaion Diasel 7.74 307 P Pn **10 05 00.7 +1.7**
LKD2 Lefkada island 7.86 303 P Pn **10 05 01.2 +0.5**
LKD2 Lefkada island 7.86 303 P Pn **10 05 01.2 +0.5**
KPRO Kipourio 8.04 313 P Pn **10 05 06.2 +3.0**
KPRO Kipourio 8.04 313 P Pn **10 05 06.2 +3.0**
GRG Griva 8.13 322 P Pn 10 05 08.8 +4.3
GRG pmax pmax
comp=Z,23nm,1.1s
FNA Florina 8.56 317 P Pn 10 05 15.1 +4.7
FNA pmax pmax
comp=Z,30nm,1.2s
FNA Florina 8.56 317 P Pn 10 05 16.9 +6.5
DIVS Divibare 11.67 326 *e*Pn Pn **10 05 56.4 +3.4**
BBLS Lazići 11.77 323 *e*Pn Pn **10 05 57.4 +3.0**
GNI Garni 13.56 62 *e*P Pn **10 06 20.3 +1.4**
NEY Neytrino 13.58 47 *e*P Pn **10 06 20.1 +1.0**
KIV Kislovodsk 13.96 45 *e*P Pn **10 06 27.6 +3.2**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,11nm,11.0s
NCK Nalchik 14.24 48 *i* P Pn **10 06 30.5 +2.4**
NVLJ Novalja 14.66 316 *e*Pn Pn **10 06 31.8 -2.0**
PSZ Piszkesteto 14.83 335 *e*P P **10 06 42.5 +0.3**
PSZ pmax pmax
comp=Z,17nm,0.9s
PSZ Piszkesteto 14.83 335 *e*P P **10 06 42.5 +0.3**
comp=Z,17nm,0.9s
PSZ Piszkesteto 14.83 335 *e*P P **10 06 42.5 +0.3**
comp=Z,17nm,0.9s
VYHS Vyhne 15.70 334 *e*P P **10 06 52.1 +0.4**
VYHS Vyhne 15.70 334 *e*P P **10 06 52.1 +0.4**
VYHS Vyhne 15.70 334 *e*P P **10 06 52.1 +0.4**
KIEV Kiev 15.93 0 *i* P P **10 06 54.3 0.0**
KIEV pmax pmax
comp=Z,4.0nm,1.7s
AKASG Malin Array Be 15.94 0 Pn P **10 06 52.4 -2.0**
comp=Z,0.8nm,0.3s,baz=182,slow=10.0,SNR=5.3
KEST Kesra 16.14 279 Pn P **10 06 58.3 +1.4**
comp=Z,0.4nm,0.3s,baz=27,slow=6.1,SNR=5.7
VRAC Vranov 17.21 331 P P **10 07 07.8 -0.7**
comp=Z,0.6nm,0.3s,baz=150,slow=7.4,SNR=7.5
VRAC LR LR 10 15 31.3
comp=Z,52nm,19.6s,baz=174,slow=43
GERES GERESS Array B 18.10 326 P P **10 07 18.6 +0.1**
comp=Z,0.3nm,0.3s,baz=138,slow=12,SNR=14
WET Wettzell 18.70 325 P Pn **10 07 25.2 0.0**
WET pmax pmax
comp=Z,16nm,0.6s
DAVOX Davos/Dischmat 18.80 315 P Pn **10 07 28.0 +1.3**
comp=Z,0.2nm,0.3s,baz=18,slow=16,SNR=1.8
DAVOX LR LR 10 17 11.8
comp=Z,45nm,19.7s,baz=258,slow=45
DAVOX Davos/Dischmat 18.80 315 P Pn **10 07 28.0 +1.3**
DAVOX MLR MLR
comp=Z,45nm,19.7s
DAVOX Davos/Dischmat 18.80 315 P Pn **10 07 28.0 +1.3**
BFO Black Forest 20.53 318 *i* P Pn 10 07 47.1 0.0
KLNR Kaliningrad 20.79 345 *e*P Pn 10 07 49.4 -0.6
OBN Obninsk 21.02 12 *e*P P **10 07 50.1 +0.1**
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,23nm,19.0s
OBN Obninsk 21.02 12 P P **10 07 50.2 +0.1**
comp=Z,14nm,1.3s
OBN Obninsk 21.02 12 P P **10 07 50.2 +0.1**
comp=Z,14nm,1.3s
GEYT Alibeck 23.57 74 P P **10 08 17.7 +0.3**
comp=Z,3.4nm,0.3s,baz=28,slow=32,SNR=2.7
VSU Vasula 23.77 357 *i* P P **10 08 20.3 +1.3**
VSU pmax pmax
comp=Z,28nm,1.5s
AKTO Aktyubinsk 26.23 44 P P **10 08 41.0 -0.6**
comp=Z,0.9nm,0.5s,baz=246,slow=8.8,SNR=3.0
ESDC Sonseca Array 26.67 290 P P **10 08 46.7 +1.0**
comp=Z,0.7nm,0.5s,baz=83,slow=11,SNR=6.2
FINES FINESS Array B 26.78 357 P P **10 08 47.6 +1.2**
comp=Z,0.6nm,0.5s,baz=156,slow=11,SNR=4.2
KLMR Klimovskoe 26.97 11 *e*P P **10 08 47.8 -0.4**

KLMR					pmax	pmax			
	comp=Z,11nm,1.5s								
HFS	**Hagfors**	**27.30**	**343**		P		**P**	**10 08 50.8**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=146,slow=14,SNR=3.7								
HFS					LR	LR		10 20 47.2	
	comp=Z,28nm,18.9s,baz=113,slow=39								
KONO	**Kongsberg**	**27.98**	**339**		P		**P**	**10 08 57.6**	**+0.4**
KONO					pmax	pmax			
	comp=Z,69nm,2.3s								
KONO	**Kongsberg**	**27.98**	**339**		P		**P**	**10 08 57.6**	**+0.4**
	comp=Z,69nm,2.3s								
KONO	**Kongsberg**	**27.98**	**339**		P		**P**	**10 08 57.6**	**+0.4**
	comp=Z,69nm,2.3s								
NOA	**NORSAR Array B**	**28.70**	**342**		P		**P**	**10 09 03.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=168,slow=7.7,SNR=2.5								
ESK	**Eskdalemuir**	**30.28**	**323**		P		**P**	**10 09 16.9**	**-0.8**
ESK					pmax	pmax			
	comp=Z,21nm,0.5s								
ESK	**Eskdalemuir**	**30.28**	**323**		P		**P**	**10 09 16.9**	**-0.8**
	comp=Z,21nm,0.5s								
ESK	**Eskdalemuir**	**30.28**	**323**		P		**P**	**10 09 16.9**	**-0.8**
	comp=Z,21nm,0.5s								
TORD	**Torodi Ar. Bea**	**32.80**	**236**		P		**P**	**10 09 41.4**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=31,slow=11,SNR=6.7								
ARCES	**ARCESS Array B**	**34.89**	**358**		P		**P**	**10 09 58.4**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=174,slow=9.1,SNR=3.7								
MKAR	**Makanchi Array**	**41.32**	**56**		P		**P**	**10 10 52.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=269,slow=6.1,SNR=4.9								
ZALV	**Zalesovo Beam**	**42.98**	**46**		P		**P**	**10 11 04.9**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=269,slow=14,SNR=2.4								
BOSA	**Boshof**	**63.13**	**184**		P		**P**	**10 13 36.8**	**+2.2**
	comp=Z,3.0nm,0.9s,baz=135,slow=8.2,SNR=3.1								
SCHQ	**Schefferville**	**65.55**	**321**		P		**P**	**10 13 50.5**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=78,slow=7.1,SNR=3.7								

WEL 09 10:09:45.2±0.5, 36.96S×178.02E, h84km±5km, ML3.7/4, 1C-3D, Error ellipse: s-maj=4.1km s-min=3.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.64**	**159**	P*	Pn	10 09 58.3	-2.3
MXZ				AML	AML	10 10 13.3	
MXZ				AML	AML	10 10 13.3	
MXZ				AML	AML	10 10 13.4	
MXZ				AML	AML	10 10 13.7	
HAZ	**Te Kaha**	**0.82**	**193**	P*	Pn	10 10 00.7	-1.6
HAZ				S*	Sn	10 10 14.0	-1.1
WMGZ	**Waiomatatini S**	**0.91**	**160**	PN	Pn	10 10 03.2	-0.2
WMGZ				SN	Sn	10 10 18.2	+1.1
PKGZ	**Pakihiroa**	**0.93**	**177**	PN	Pn	10 10 03.3	-0.4
PKGZ				SN	Sn	10 10 18.6	+1.1
PUZ	**Puketiti**	**1.13**	**170**	PN	Pn	10 10 05.7	-0.3
PUZ				AML	AML	10 10 27.5	
PUZ				AML	AML	10 10 29.0	
MWZ	**Matawai**	**1.43**	**196**	⇓P*	Pn	10 10 09.5	-0.2
MWZ				AML	AML	10 10 33.9	
MWZ				AML	AML	10 10 35.7	
MYRZ	**Mayor Island**	**1.46**	**257**	⇓P*	Pn	10 10 10.4	+0.4
OPRZ	**Ohinepanea**	**1.46**	**232**	P*	Pn	10 10 10.0	-0.1
TKGZ	**Te Karaka**	**1.48**	**185**	PN	Pn	10 10 11.0	+0.6
URZ	**Urewera**	**1.48**	**209**	⇑P*	Pn	10 10 10.4	0.0
URZ				AML	AML	10 10 29.9	
URZ				AML	AML	10 10 34.7	
CNGZ	**Carnagh Statio**	**1.53**	**174**	PN	Pn	10 10 11.6	+0.6
TGRZ	**Tauranga**	**1.60**	**241**	P*	Pn	10 10 12.3	+0.4
RAGZ	**Rawiri**	**1.60**	**197**	P*	Pn	10 10 12.5	+0.4
TARZ	**Mount Tarawera**	**1.75**	**223**	P*	Pn	10 10 15.4	+1.4
RIGZ	**Rimuhau**	**1.75**	**187**	PN	Pn	10 10 14.0	0.0
MUGZ	**Murupara**	**1.81**	**213**	PN	Pn	10 10 14.8	+0.2
RTZ	**Ruatahuna**	**1.84**	**206**	PN	Pn	10 10 15.1	-0.1
KUZ	**Kuaotunu**	**1.85**	**276**	⇓PN	Pn	10 10 15.4	+0.2
SNGZ	**Shannon Statio**	**1.90**	**196**	PN	Pn	10 10 16.6	+0.8
KNZ	**Kokohu**	**2.08**	**187**	PN	Pn	10 10 17.2	-0.9
TOZ	**Tahuroa Road**	**2.15**	**248**	PN	Pn	10 10 19.8	+0.7
GRZ	**Great Barrier**	**2.18**	**288**	PN	Pn	10 10 19.9	+0.4
MHGZ	**Mahia Peninsul**	**2.19**	**182**	PN	Pn	10 10 19.2	-0.5
MRHZ	**Matea Rd**	**2.26**	**214**	PN	Pn	10 10 21.3	+0.7
MKAZ	**Moumakai**	**2.29**	**266**	PN	Pn	10 10 21.9	+0.9
NMHZ	**Naumai**	**2.34**	**204**	PN	Pn	10 10 22.9	+1.2
ARHZ	**Aropaoanui**	**2.44**	**199**	PN	Pn	10 10 23.1	+0.2
BKZ	**Black Stump Fm**	**2.51**	**208**	PN	Pn	10 10 24.4	+0.4
MCHZ	**McNeill Hill**	**2.69**	**202**	PN	Pn	10 10 26.6	+0.3
KWHZ	**Kaweka Forest**	**2.76**	**207**	PN	Pn	10 10 27.4	0.0
BHHZ	**Black Hill Sta**	**2.96**	**211**	PN	Pn	10 10 30.5	+0.5
KAHZ	**Kahuranaki**	**2.97**	**197**	PN	Pn	10 10 29.6	-0.6
KRHZ	**Kereru**	**2.98**	**205**	PN	Pn	10 10 29.5	-0.7
WNVZ	**Wahianoa**	**3.04**	**218**	PN	Pn	10 10 32.9	+1.7
PXZ	**Pawanui**	**3.20**	**196**	PN	Pn	10 10 31.3	-1.9

*ISN **09** 10:13:02.8±1.3, 30.76N×49.50E, h0km±6km, ML4.1*
*TEH **09** 10:13:09.9, 32.34N×50.06E, h6km, ML4.1*
*MOS **09** 10:13:10.5±1.3, 32.10N×50.01E, h13km, mb4.5/35, Error ellipse: s-maj=8.8km s-min=4.2km az=119.8*
*ISCJB **09** 10:13:11.4±0.2, 32.12N±0.03×49.94E±0.02, h15km, mb4.4/88, MS3.7/4, Error ellipse: s-maj=4.8km s-min=2.9km az=12.1*
*CSEM **09** 10:13:11.5±0.2, 32.23N×50.00E, h2km, mb4.6/11, Error ellipse: s-maj=6.8km s-min=4.2km az=3.0*
*NEIC **09** 10:13:12.6±0.4, 32.21N×49.99E, h10km, mb4.7/13, MN4.1(TEH), Error ellipse: s-maj=8.8km s-min=5.2km az=177.0*
*THR **09** 10:13:13.1±1.3, 32.23N×49.99E, h15km, ML4.0*
*BJI **09** 10:13:14.5, 32.20N×50.00E, h36km, mb4.5/18, mB4.8/14, Ms4.4/9, Ms7 3.9/8*
*IDC **09** 10:13:18.7±2.9, 32.29N×50.04E, h56km±23km, mb3.8/26, mb1 3.9/32, mb1mx3.8/60, mbtmp4.0/32, ML3.5/3, MS3.3/8, Ms1 3.3/8, ms1mx3.1/44, Error ellipse: s-maj=24.8km s-min=11.4km az=168.0*
*DSN **09** 10:13:25.6±1.4, 31.79N×50.83E, h36km, Error ellipse: s-maj=57.9km s-min=10.5km az=44.0*

ISC 09 10:13:13.2±0.4, 32.19N±0.05×50.08E±0.04, h15km, n282, σ1s51/285, mb4.5/88, MS3.5/4, 28C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPIR	**Pirpir**	**0.84**	**54**	*e*Pg	**Pg**	**10 13 25.9**	**-3.7**
IPIR				*e*AMB	AMB	10 13 42.3	
	comp=Z,56μm,0.2s						
IPIR	**Pirpir**	**0.84**	**54**	*e*Pg	**Pg**	**10 13 25.9**	**-3.7**
IGAR	**Gharneh**	**1.67**	**82**	*e*Pn	**Pn**	**10 13 42.5**	**+0.3**
IGAR				*e*AMB	AMB	10 13 45.7	
	comp=Z,25μm,0.2s						
IKLH	**Kolahrood**	**1.69**	**48**	*e*Pn	**Pn**	**10 13 40.3**	**-2.1**
IKLH				*e*Sg	**Sn**	**10 14 04.7**	**+0.7**
IKLH				*e*AMB	AMB	10 14 18.1	
	comp=Z,30μm,0.4s						
IKLH	**Kolahrood**	**1.69**	**48**	*e*Pn	**Pn**	**10 13 40.3**	**-2.1**
IKLH				*e*Sg	**Sn**	**10 14 04.7**	**+0.7**
QAM	**Ghamsar**	**1.94**	**36**	*e*Pn	**Pn**	**10 13 45.7**	**-0.1**
QAM				*e*AMB	AMB	10 14 18.4	
	comp=Z,23μm,0.2s						
IZEF	**Zefreh**	**2.02**	**69**	*e*Pn	**Pn**	**10 13 47.6**	**+0.6**
IZEF				*e*AMB	AMB	10 13 49.8	
	comp=Z,14μm,0.3s						
IZEF	**Zefreh**	**2.02**	**69**	*e*Pn	**Pn**	**10 13 47.6**	**+0.6**
ASAO	**Ashtian**	**2.35**	**359**	*e*Pn	**Pn**	**10 13 53.0**	**+1.5**
ASAO				AML	AML	10 14 31.5	
	comp=N,1μm,0.7s						
ASAO				AML	AML	10 14 39.5	
	comp=E,1μm,0.6s						
ASAO	**Ashtian**	**2.35**	**359**	*e*Pn	**Pn**	**10 13 53.0**	**+1.5**
NASN	**Na'in**	**2.38**	**75**	*e*Pn	**Pb**	**10 13 54.1**	**-1.9**
NASN	**Na'in**	**2.38**	**75**	*e*Pn	**Pb**	**10 13 54.1**	**-1.9**
GHVR	**GHOM**	**2.50**	**24**	*e*Pn	**Pn**	**10 13 55.5**	**+2.1**
GHVR	**GHOM**	**2.50**	**24**	*e*Pn	**Pn**	**10 13 55.5**	**+2.1**
IKOM	**Komasi**	**2.93**	**313**	*e*Pn	**Pn**	**10 13 58.7**	**-0.6**
IKOM				*e*AMB	AMB	10 14 54.6	
	comp=Z,11μm,0.4s						
IKOM	**Komasi**	**2.93**	**313**	*e*Pn	**Pn**	**10 13 58.7**	**-0.6**
ISAD	**Sadrabad**	**3.07**	**94**	*e*Pn	**Pn**	**10 14 02.6**	**+1.2**
ISAD				*e*AMB	AMB	10 15 06.9	
	comp=Z,3μm,0.3s						
ISAD	**Sadrabad**	**3.07**	**94**	*e*Pn	**Pn**	**10 14 02.6**	**+1.2**
IVRN	**Varamin**	**3.12**	**26**	*e*Pn	**Pn**	**10 14 02.5**	**+0.6**
IVRN				*e*AMB	AMB	10 15 02.8	
	comp=Z,7μm,0.4s						
IVRN	**Varamin**	**3.12**	**26**	*e*Pn	**Pn**	**10 14 02.5**	**+0.6**
IRAZ	**Razeghan**	**3.21**	**358**	*e*Pn	**Pn**	**10 14 03.6**	**+0.3**
IRAZ				*e*AMB	AMB	10 14 55.1	
	comp=Z,13μm,0.5s						
IRAZ	**Razeghan**	**3.21**	**358**	*e*Pn	**Pn**	**10 14 03.6**	**+0.3**
AHBU	**AHRAM**	**3.48**	**162**	*e*Pn	**Pn**	**10 14 09.9**	**+3.2**
IVIS	**Veis**	**3.57**	**312**	*e*Pn	**Pn**	**10 14 07.0**	**-1.1**
IVIS				*e*AMB	AMB	10 15 24.4	
	comp=Z,4μm,0.3s						
IVIS	**Veis**	**3.57**	**312**	*e*Pn	**Pn**	**10 14 07.0**	**-1.1**
ICHK	**Chekchek**	**3.67**	**88**	*e*Pn	**Pn**	**10 14 11.0**	**+1.4**
ICHK				*e*AMB	AMB	10 14 24.0	
	comp=Z,3μm,0.4s						
ICHK	**Chekchek**	**3.67**	**88**	*e*Pn	**Pn**	**10 14 11.0**	**+1.4**
SNGE	**Sanandaj**	**3.69**	**323**	*e*Pn	**Pn**	**10 14 10.1**	**+0.3**
SNGE	**Sanandaj**	**3.69**	**323**	*e*Pn	**Pn**	**10 14 10.1**	**+0.3**
IDMV	**Damavand**	**3.75**	**25**	*e*Pn	**Pn**	**10 14 11.1**	**+0.4**
IDMV				*e*AMB	AMB	10 15 28.2	
	comp=Z,5μm,0.4s						
IDMV	**Damavand**	**3.75**	**25**	*e*Pn	**Pn**	**10 14 11.1**	**+0.4**
ILIN	**Lien**	**3.77**	**317**	*e*Pn	**Pn**	**10 14 10.0**	**-1.0**
ILIN				*e*AMB	AMB	10 15 28.1	
	comp=Z,4μm,0.4s						
ILIN	**Lien**	**3.77**	**317**	*e*Pn	**Pn**	**10 14 10.0**	**-1.0**
THKV	**Tehran--Karaj**	**3.77**	**10**	*e*Pn	**Pn**	**10 14 13.3**	**+2.3**
THKV				AML	AML	10 15 22.3	
	comp=N,227nm,0.7s						
THKV				AML	AML	10 15 37.7	
	comp=E,199nm,0.6s						
THKV	**Tehran--Karaj**	**3.77**	**10**	*e*Pn	**Pn**	**10 14 13.3**	**+2.3**
ISRV	**Sarvestan**	**3.83**	**136**	*e*Pn	**Pn**	**10 14 13.6**	**+1.8**
ISRV	**Sarvestan**	**3.83**	**136**	*e*Pn	**Pn**	**10 14 13.6**	**+1.8**
IMEH	**Mehriz**	**3.94**	**100**	*e*Pn	**Pn**	**10 14 15.1**	**+1.8**
IMEH				*e*AMB	AMB	10 15 36.3	
	comp=Z,2μm,0.4s						
IMEH	**Mehriz**	**3.94**	**100**	*e*Pn	**Pn**	**10 14 15.1**	**+1.8**
IDHR	**Dehrash**	**3.98**	**310**	*e*Pn	**Pn**	**10 14 12.8**	**-1.0**
IDHR				*e*AMB	AMB	10 15 10.5	
	comp=Z,4μm,0.2s						
IDHR	**Dehrash**	**3.98**	**310**	*e*Pn	**Pn**	**10 14 12.8**	**-1.0**
IFIR	**Firoozkooh**	**4.10**	**32**	*e*Pn	**Pn**	**10 14 17.5**	**+2.0**
IFIR				*e*AMB	AMB	10 14 40.4	
	comp=Z,978nm,0.2s						
IFIR	**Firoozkooh**	**4.10**	**32**	*e*Pn	**Pn**	**10 14 17.5**	**+2.0**
IBAF	**Bafgh**	**4.70**	**96**	*e*Pn	**Pn**	**10 14 25.3**	**+1.5**
IBAF				*e*AMB	AMB	10 14 51.7	
	comp=Z,687nm,0.4s						
IBAF	**Bafgh**	**4.70**	**96**	*e*Pn	**Pn**	**10 14 25.3**	**+1.5**
BANOM	**Banah**	**8.28**	**137**	*i* P	**Pn**	**10 15 13.5**	**+0.7**
	SNR=7.8						
BANOM				S	**Sn**	**10 16 38.9**	**-7.2**
NAZ	**Nazwa, Dubai**	**8.69**	**144**	P	**Pn**	**10 15 20.4**	**+2.0**
GEYT	**Alibeck**	**8.72**	**47**	P	**Pn**	**10 15 20.6**	**+1.7**
	baz=243,slow=13,SNR=7.1						
GEYT				LR	LR	10 19 26.2	
	comp=Z,164nm,18.3s,baz=240,slow=42						
UOSS	**Minazif**	**9.00**	**142**	*e*Pn	**Pn**	**10 15 23.9**	**+1.3**
UOSS				*e*Sn	**Sn**	**10 17 00.5**	**-3.3**
UOSS	**Minazif**	**9.00**	**142**	*e*Pn	**Pn**	**10 15 23.9**	**+1.3**
UOSS				*e*Sn	**Sn**	**10 17 00.5**	**-3.3**
GNI	**Garni**	**9.04**	**333**	P	**Pn**	**10 15 24.3**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=154,slow=9.4,SNR=2.5						
GNI	**Garni**	**9.04**	**333**	*i* P	**Pn**	**10 15 23.5**	**+0.2**
GNI				pmax	pmax		
	comp=Z,34nm,1.7s						
HATD	**Hatta, Dubai**	**9.06**	**143**	P	**Pn**	**10 15 24.1**	**+0.6**
ASHO	**Ashiyiah**	**9.14**	**143**	*i* P	**Pn**	**10 15 24.8**	**+0.2**
	SNR=11						
ASF	**Jabal al Asfar**	**11.17**	**273**	P	**Pn**	**10 15 50.5**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=50,slow=9.3,SNR=5.0						
ASF				S	**Sn**	**10 17 54.9**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=157,slow=23,SNR=3.7						
ASF				LR	LR	10 21 41.7	
	comp=Z,458nm,20.4s,baz=30,slow=45						
ZEI	**Tsey**	**11.66**	**337**	*e*P	Pn	10 16 05.0	+5.8
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.4s						
NCK	**Nalchik**	**12.39**	**337**	*e*P	**Pn**	**10 16 09.0**	**0.0**
MMAI	**Mount Meron Ar**	**12.41**	**278**	P	**Pn**	**10 16 13.6**	**+4.2**
	baz=269,slow=40,SNR=2.3						
MMAI				LR	LR	10 22 06.2	
	comp=Z,93nm,20.3s,baz=100,slow=43						
NEY	**Neytrino**	**12.48**	**334**	*e*P	**Pn**	**10 16 10.8**	**+0.5**
KBZ	**Khabaz**	**12.83**	**336**	P	**Pn**	**10 16 18.7**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=181,slow=2.3,SNR=3.5						
KBZ				LR	LR	10 20 40.6	
	comp=Z,54nm,18.6s,baz=153,slow=35						
KVAR	**Kislovodsk Arr**	**13.10**	**336**	P	**Pn**	**10 16 21.7**	**+3.0**
	baz=206,slow=3.3,SNR=4.0						
KIV	**Kislovodsk**	**13.10**	**336**	*e*P	**Pn**	**10 16 21.1**	**+2.3**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,61nm,10.0s						
EIL	**Elat**	**13.23**	**263**	P	**Pn**	**10 16 18.7**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=21,slow=9.1,SNR=4.2						
GOF	**Gofitskoye**	**13.97**	**339**	⇑*e*P	**P**	**10 16 39.8**	**+1.3**
BR131	**Keskin Array S**	**15.28**	**304**	*e*Pn	**Pn**	**10 16 47.3**	**-1.2**
BR131	**Keskin Array S**	**15.28**	**304**	*e*Pn	**Pn**	**10 16 47.3**	**-1.2**
BRTR	**Keskin Array B**	**15.28**	**304**	P	**Pn**	**10 16 47.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=7.6						
BRTR				LR	LR	10 22 57.9	
	comp=Z,80nm,21.0s,baz=110,slow=38						
BR231	**Keskin MP Arra**	**15.93**	**303**	*e*Pn	**Pn**	**10 16 54.0**	**-2.9**
BR231	**Keskin MP Arra**	**15.93**	**303**	*e*Pn	**Pn**	**10 16 54.0**	**-2.9**
ABKAR	**Akbulak array**	**18.59**	**21**	*e*P	**P**	**10 17 29.5**	**-0.1**
	comp=Z,1.9nm,0.6s						
ABKAR	**Akbulak array**	**18.59**	**21**	*e*P	**P**	**10 17 29.6**	**-0.1**
	comp=Z,1.9nm,0.6s						
AKTO	**Aktyubinsk**	**19.16**	**16**	P	**P**	**10 17 35.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=5.0						
AKTO				LR	LR	10 27 13.2	
	comp=Z,103nm,18.1s,baz=159,slow=44						
VRH	**Novokhopyorsk**	**19.97**	**344**	*e*P	**P**	**10 17 44.0**	**-0.7**
VRH				pmax	pmax		
	comp=Z,20nm,0.5s						
VSR	**Storozhevoye**	**20.64**	**340**	*e*P	**P**	**10 17 50.2**	**-1.8**
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
LAST	**Lasithi**	**20.68**	**285**	*e*P	**P**	**10 17 53.5**	**+0.9**
	comp=Z,36nm,0.9s						
LAST	**Lasithi**	**20.68**	**285**	*e*P	**P**	**10 17 53.5**	**+0.9**
	comp=Z,36nm,0.9s						
TIRR	**Tirgusor**	**20.88**	**312**	*i*P	**P**	**10 17 54.7**	**0.0**
TIRR	**Tirgusor**	**20.88**	**312**	⇑P	**P**	**10 17 54.7**	**0.0**
MSAB	**Monastry St. A**	**21.08**	**311**	⇑*i*P	**P**	**10 17 56.8**	**-0.1**
IDI	**Anoyia**	**21.16**	**285**	P	**P**	**10 17 58.0**	**+0.2**
	comp=Z,36nm,0.8s,baz=91,slow=11,SNR=26						
IDI	**Anoyia**	**21.16**	**285**	*e*P	**P**	**10 17 58.1**	**+0.2**
	comp=Z,48nm,0.9s						
IDI	**Anoyia**	**21.16**	**285**	*e*P	**P**	**10 17 58.1**	**+0.2**
	comp=Z,48nm,0.9s						
HARR	**Harova**	**21.29**	**312**	⇑*i*P	**P**	**10 17 59.4**	**+0.3**
HARR	**Harsova**	**21.29**	**312**	⇑P	**P**	**10 17 59.4**	**+0.3**
CFR	**Carcaliu**	**21.40**	**314**	⇑*i*P	**P**	**10 17 59.5**	**-0.8**
CFR	**Carcaliu**	**21.40**	**314**	⇑P	**P**	**10 17 59.5**	**-0.8**
EKS2	**Erkin-Say**	**21.46**	**54**	*e*P	**P**	**10 17 57.6**	**-3.5**
EKS2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
EKS2	**Erkin-Say**	**21.46**	**54**	*e*P	**P**	**10 17 57.6**	**-3.5**
	comp=Z,6.3nm,0.7s						
EKS2	**Erkin-Say**	**21.46**	**54**	*e*P	**P**	**10 17 57.6**	**-3.5**
	comp=Z,6.4nm,0.7s						
ATD	**Arta Tunnel**	**21.61**	**200**	P	**P**	**10 18 08.7**	**+5.9**
	comp=Z,2.9nm,0.3s,baz=25,slow=11,SNR=3.6						
AAK	**Ala-Archa**	**21.94**	**55**	P	**P**	**10 18 11.8**	**+5.5**
	comp=Z,5.6nm,0.7s,baz=241,slow=20,SNR=5.9						
AAK	**Ala-Archa**	**21.94**	**55**	*i* P	**P**	**10 18 05.3**	**-1.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
AAK	**Ala-Archa**	**21.94**	**55**	*e*P	**P**	**10 18 07.9**	**+1.5**
	comp=Z,6.8nm,0.8s						
AAK	**Ala-Archa**	**21.94**	**55**	*e*P	**P**	**10 18 07.9**	**+1.5**
	comp=Z,6.8nm,0.8s						
LPSR	**Galich'ya Gora**	**21.95**	**342**	*e*P	**P**	**10 18 05.4**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,30nm,0.7s						
KSH	**Kashi**	**22.18**	**63**	P	**P**	**10 18 06.8**	**-2.0**
KSH				pP	sP	10 18 16.2	+1.2
KSH				PP	**PnPn**	**10 18 30.9**	**-0.2**
KSH				S	S	10 22 00.1	-13
KSH				PMZ			
	comp=Z,14nm,1.0s						
KSH				PMZ			
	comp=Z,85nm,4.7s						
KSH				LN			
	comp=Z,160nm,8.9s						
KSH				LE			
	comp=Z,130nm,9.1s						
KSH				LZ			
	comp=Z,170nm,7.7s						
VRI	**Vrincioaia**	**22.60**	**314**	⇑*i*P	**P**	**10 18 13.9**	**+0.7**
VRI	**Vrincioaia**	**22.60**	**314**	⇑P	**P**	**10 18 14.0**	**+0.7**
PLOR	**Plostina**	**22.64**	**314**	⇑*i*P	**P**	**10 18 14.9**	**+1.2**
PLOR	**Plostina**	**22.64**	**314**	⇑P	**P**	**10 18 14.9**	**+1.2**
TKM2	**Tokmak 2**	**22.80**	**55**	*e*P	**P**	**10 18 16.1**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TKM2	**Tokmak 2**	**22.80**	**55**	*e*P	**P**	**10 18 16.1**	**+0.5**
	comp=Z,2.7nm,0.8s						
TKM2	**Tokmak 2**	**22.80**	**55**	*e*P	**P**	**10 18 16.1**	**+0.5**
	comp=Z,2.7nm,0.8s						
SORM	**Soroca**	**22.89**	**320**	⇑*i*P	**P**	**10 18 13.5**	**-2.7**
SORM	**Soroca**	**22.89**	**320**	⇑P	**P**	**10 18 13.5**	**-2.7**
MLR	**Muntele Rosu**	**22.91**	**312**	P	**P**	**10 18 18.1**	**+1.5**
	comp=Z,2.8nm,1.0s,baz=122,slow=1.6,SNR=10						
MLR	**Muntele Rosu**	**22.91**	**312**	⇑*i*P	**P**	**10 18 19.7**	**+3.1**
TESR	**Tescani**	**22.97**	**315**	⇑*i*P	**P**	**10 18 14.8**	**-2.2**
VOIR		**23.45**	**312**	⇑*i*P	**P**	**10 18 22.0**	**0.0**
VOIR		**23.45**	**312**	⇑P	**P**	**10 18 22.0**	**0.0**
DOPR	**Dopca**	**23.48**	**313**	⇑*i*P	**P**	**10 18 21.6**	**-0.6**
GRG	**Griva**	**23.81**	**299**	P	**P**	**10 18 26.2**	**+0.7**
GRG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKASG	**Malin Array Be**	**24.07**	**326**	P	**P**	**10 18 26.2**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=129,slow=9.0,SNR=6.7						
KIEV	**Kiev**	**24.08**	**326**	⇑*e*P	**P**	**10 18 27.4**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIEV	**Kiev**	**24.08**	**326**	*e*P	**P**	**10 18 25.4**	**-2.4**
	comp=Z,5.7nm,0.5s						
KIEV	**Kiev**	**24.08**	**326**	*e*P	**P**	**10 18 25.4**	**-2.4**
	comp=Z,5.7nm,0.5s						
KMPD	**K-Podol'skiy**	**24.17**	**319**	P	**P**	**10 18 25.0**	**-3.7**
BURAR	**Bucovina Array**	**24.37**	**316**	⇑*i*P	**P**	**10 18 31.2**	**+0.5**
BURAR	**Bucovina Array**	**24.37**	**316**	⇑P	**P**	**10 18 31.2**	**+0.5**
BUR08	**Bucovina Ar. S**	**24.40**	**316**	*e*P	**P**	**10 18 30.7**	**-0.3**
BUR08	**Bucovina Ar. S**	**24.40**	**316**	*e*P	**P**	**10 18 30.7**	**-0.3**
OBN	**Obninsk**	**24.83**	**341**	*e*P	**P**	**10 18 34.5**	**-0.1**
OBN				*e*		10 19 06.2	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,63nm,20.0s						
ARU	**Arti**	**24.94**	**11**	P	**P**	**10 18 36.0**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=173,slow=6.3,SNR=8.0						
ARU	**Arti**	**24.94**	**11**	*d i*P	**P**	**10 18 36.3**	**+0.6**
ARU						10 19 07.6	
ARU				S	**S**	**10 22 58.4**	**-0.1**
ARU				pmax	pmax		
	comp=Z,15nm,1.7s						
ARU	**Arti**	**24.94**	**11**	*e*P	**P**	**10 18 37.1**	**+1.4**
	comp=Z,9.9nm,1.1s						
ARU	**Arti**	**24.94**	**11**	*e*P	**P**	**10 18 37.1**	**+1.4**
	comp=Z,9.9nm,1.1s						
MOS	**Moscow**	**25.11**	**343**	*e*P	**P**	**10 18 36.9**	**-0.3**
MOS				*e*		10 19 29.9	
MOS				pmax	pmax		
	comp=Z,31nm,0.9s						
MDVR	**Moldovita**	**25.38**	**308**	⇑*i*P	**P**	**10 18 39.7**	**-0.1**
BRVK	**Borovoye**	**25.45**	**29**	⇓*e*P	**P**	**10 18 41.2**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,17nm,1.4s						
BVAR	**Borovoye Array**	**25.46**	**29**	P	**P**	**10 18 41.2**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=224,slow=8.3,SNR=9.4

comp=Z,18nm,0.8s
CLZ Clausthal 34.87 316 *e*P **P 10 20 05.9 +2.2**
CLZ pmax pmax
comp=Z,26nm,0.8s
BFO Black Forest 35.22 310 *i* P P 10 20 12.8 +6.0
SENIN Lac Senin/Sane 35.57 306 *e*P **P 10 20 09.0 -1.1**
comp=Z,16nm,1.5s
SENIN Lac Senin/Sane 35.57 306 *e*P **P 10 20 09.0 -1.1**
comp=Z,16nm,1.5s
MBDF Montbardon 35.75 303 *e*P **P 10 20 10.2 -1.3**
MBDF pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 35.84 304 *e*P **P 10 20 11.1 -1.4**
LPG pmax pmax
comp=Z,11nm,0.8s
LPL La Plagne 35.85 305 *e*P **P 10 20 11.2 -1.3**
LPL pmax pmax
comp=Z,15nm,1.1s
OUL Oulu 36.11 343 P **P 10 20 15.8 +1.7**
OUL pmax pmax
comp=Z,14nm,1.4s
HFS Hagfors 36.81 330 P **P 10 20 20.2 -0.1**
comp=Z,1.4nm,0.4s,baz=111,slow=8.4,SNR=6.9
LVZ Lovozero 36.87 350 *ce*P **P 10 20 19.8 -0.9**
LVZ pmax pmax
comp=Z,18nm,1.7s
VIVF Saint-Julien-l 37.25 303 *e*P **P 10 20 23.1 -1.1**
VIVF pmax pmax
comp=Z,4.0nm,0.8s
AVF Avril sur Loir 38.32 306 *e*P **P 10 20 32.4 -0.8**
AVF pmax pmax
comp=Z,8.0nm,1.2s
NOA NORSAR Array B 38.33 330 P **P 10 20 32.5 -0.7**
comp=Z,1.0nm,0.8s,baz=124,slow=8.5,SNR=4.5
TCF Toulx Ste Croi 39.07 305 *e*P **P 10 20 39.8 +0.3**
TCF pmax pmax
comp=Z,25nm,1.6s
RJF Les Rejaudoux 39.50 304 *e*P **P 10 20 41.9 -1.2**
RJF pmax pmax
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 39.87 347 P **P 10 20 47.5 +1.6**
comp=Z,1.1nm,0.7s,baz=140,slow=5.7,SNR=3.6
LFF La Frestale 40.04 303 *e*P **P 10 20 46.2 -1.4**
LFF pmax pmax
comp=Z,7.0nm,0.8s
GTA Gaotai 40.55 65 *e*P **P 10 20 53.8 +1.7**
GTA pP sP 10 21 04.8 +6.2
GTA sP pP 10 21 09.0 +12
GTA S **S 10 27 03.0 +2.1**
GTA sS sS 10 27 19.4 +11
GTA PMZ
comp=Z,7.0nm,1.0s
GTA PMZ
comp=Z,50nm,6.2s
GTA LN
comp=Z,150nm,14.3s
GTA LE
comp=Z,360nm,20.4s
GTA LZ
comp=Z,180nm,18.1s
LDF La Druitiere 40.82 309 *e*P **P 10 20 51.8 -2.2**
LDF pmax pmax
comp=Z,50nm,1.6s
FLN La Foliniere 41.07 309 *e*P **P 10 20 54.0 -2.1**
FLN pmax pmax
comp=Z,8.0nm,0.8s
GRR Gorron 41.29 308 *e*P **P 10 20 56.2 -1.7**
GRR pmax pmax
comp=Z,14nm,1.1s
SGMF Saint Gilles 42.42 308 *e*P **P 10 21 05.3 -1.8**
SGMF pmax pmax
comp=Z,64nm,1.6s
QUIF Quistinic 42.81 308 *e*P **P 10 21 08.3 -2.0**
QUIF pmax pmax
comp=Z,67nm,1.8s
ROSF Rostrenen 42.90 308 *e*P **P 10 21 09.1 -1.9**
ROSF pmax pmax
comp=Z,72nm,1.9s
EKA Eskdalemuir Ar 43.53 318 P **P 10 21 14.7 -1.3**
comp=Z,3.0nm,0.8s,baz=118,slow=8.8,SNR=5.1
EKA Eskdalemuir Ar 43.53 318 P **P 10 21 14.7 -1.3**
EKA pmax pmax
comp=Z,1.0nm,0.7s
ES19 SONSECA Array 43.78 296 *e*P **P 10 21 17.4 -0.9**
ES19 SONSECA Array 43.78 296 *e*P **P 10 21 17.4 -0.9**
ESDC Sonseca Array 43.83 296 P **P 10 21 18.0 -0.8**
comp=Z,2.5nm,0.8s,baz=75,slow=8.7,SNR=10
ESDC Sonseca Array 43.83 296 P **P 10 21 18.0 -0.8**
SONM Songino Array 44.88 53 P **P 10 21 27.6 +0.5**
comp=Z,0.3nm,0.3s,baz=264,slow=15,SNR=3.8
ULN Ulaanbaatar 45.32 53 *ce*P **P 10 21 31.3 +0.7**
ULN pmax pmax
comp=Z,3.0nm,1.0s
MDT Midelt 45.69 286 P **P 10 21 34.0 +0.3**
comp=Z,2.6nm,0.9s,baz=85,slow=9.0,SNR=4.9
MVO Moncorvo 45.95 298 *e*LR LR 11 19 58.6
comp=Z,1µm,18.0s
KMI Kunming 46.36 85 P **P 10 21 40.3 +1.1**
KMI PMZ
comp=Z,12nm,0.8s
KMI PMZ
comp=Z,100nm,4.3s
PBAR Barrancos 46.44 294 *e*P **P 10 21 38.9 -0.5**
comp=Z,45nm,1.5s
PBAR Barrancos 46.44 294 *e*P **P 10 21 38.9 -0.5**
MTE Manteigas 46.45 297 *e*P **P 10 21 39.0 -0.6**
MTE Manteigas 46.45 297 *e*LR LR 11 18 59.0
comp=Z,1µm,18.0s
MTE Manteigas 46.45 297 *e*P **P 10 21 39.0 -0.6**
PCBR Castelo Branco 46.49 296 *e*P **P 10 21 39.6 -0.2**
comp=Z,23nm,1.5s
PCBR Castelo Branco 46.49 296 *e*P **P 10 21 39.6 -0.2**
PMRV Marv??o 46.49 296 *e*P **P 10 21 39.6 -0.2**
comp=Z,22nm,1.8s
PMRV Marv??o 46.49 296 *e*LR LR 11 19 20.8
comp=Z,769nm,18.0s
PMRV Marv??o 46.49 296 *e*P **P 10 21 39.6 -0.2**
PVIS Viseu 46.67 298 *e*P **P 10 21 41.4 +0.2**
comp=Z,15nm,1.9s
PVIS Viseu 46.67 298 *e*P **P 10 21 41.4 +0.2**
PESTR Estremoz 46.74 295 *e*P **P 10 21 41.7 -0.1**
PESTR Estremoz 46.74 295 *e*P **P 10 21 41.7 -0.1**
PGAV Gavieira, Arco 46.77 299 A A 11 40 36.0
comp=Z,800nm,20.0s
PBEJ Beja 47.11 294 *e*P **P 10 21 43.6 -1.1**
comp=Z,15nm,1.4s
PBEJ Beja 47.11 294 *e*P **P 10 21 43.6 -1.1**
PVAQ Vaqueiros 47.12 293 *e*LR LR 11 22 15.1
comp=Z,916nm,18.0s
PMTG Montargil 47.19 295 *e*P **P 10 21 45.0 -0.3**
comp=Z,18nm,1.6s
PMTG Montargil 47.19 295 *e*P **P 10 21 45.0 -0.3**
PTOM Tomar 47.24 296 *e*P **P 10 21 46.0 +0.4**
comp=Z,29nm,1.0s
PTOM Tomar 47.24 296 *e*P **P 10 21 46.0 +0.4**
PCVE Castro Verde 47.32 294 *e*P **P 10 21 45.8 -0.5**
comp=Z,14nm,1.5s
PCVE Castro Verde 47.32 294 *e*P **P 10 21 45.8 -0.5**
MESJ Messejana 47.42 294 *e*P **P 10 21 47.2 +0.1**
comp=Z,22nm,1.5s
MESJ Messejana 47.42 294 *e*P **P 10 21 47.2 +0.1**
PNCL Nicolau / Gran 47.61 294 *e*P **P 10 21 48.4 -0.1**
comp=Z,17nm,1.0s
PNCL Nicolau / Gran 47.61 294 *e*P **P 10 21 48.4 -0.1**
TOA0 Torodi Ar. Sit 48.06 258 *e*P **P 10 21 52.1 -0.2**
TOA0 Torodi Ar. Sit 48.06 258 *e*P **P 10 21 52.1 -0.2**
TOA0 *e*P **pP 10 21 52.7 -4.4**
TORD Torodi Ar. Bea 48.06 258 P **P 10 21 52.4 +0.1**
comp=Z,6.3nm,1.1s,baz=46,slow=7.0,SNR=15
HHC Hu-ho-hao-te 49.27 62 *e*P **P 10 22 03.1 +1.7**
HHC sP sP 10 22 17.7 +10
HHC S **S 10 29 08.2 +1.1**
HHC sS sS 10 29 26.0 +11
HHC PMZ
comp=Z,18nm,1.1s
HHC LN
comp=Z,2µm,14.7s
HHC LE
comp=Z,700nm,15.4s
HHC LZ
comp=Z,920nm,15.6s
BJI Beijing 52.88 62 P **P 10 22 26.7 -1.7**
BJI PMZ
comp=Z,6.0nm,0.6s
BJI PMZ
comp=Z,63nm,4.3s

DAG Danmarks Havn 54.08 345 *i* P **P 10 22 36.3 -0.4**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 54.08 345 *i* P **P 10 22 36.3 -0.4**
comp=Z,2.8nm,0.8s
QIZ Qiongzhong 54.84 88 P **P 10 22 43.6 +0.5**
PMOZ Porto Moniz, M 55.82 290 *e*LR LR 11 35 36.3
comp=Z,435nm,20.0s
DBIC Dimbokro 56.98 256 LR LR 10 50 19.5
comp=Z,171nm,18.4s,baz=38,slow=39
SUMG Summit 59.20 339 *i* P **P 10 23 14.4 +0.8**
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 59.20 339 *i* P **P 10 23 14.4 +0.8**
comp=Z,15nm,0.9s
SUMG Summit 59.20 339 *e*P **P 10 23 14.2 +0.6**
comp=Z,18nm,1.0s
SUMG Summit 59.20 339 *e*P **P 10 23 14.2 +0.6**
comp=Z,18nm,1.0s
KSAR Wonju Array Be 62.38 61 P **P 10 23 34.5 -0.9**
KSAR Wonju Array Be 62.38 61 P **P 10 23 34.5 -0.9**
KSAR Wonju Array Be 62.38 61 P **P 10 23 34.5 -0.9**
KSRS Korea Array 62.41 61 P **P 10 23 34.5 -1.0**
comp=Z,0.3nm,0.3s,baz=282,slow=6.2,SNR=3.9
TGY Tagaytay City 66.54 88 LR LR 10 53 40.9
comp=Z,758nm,21.7s,baz=7.5,slow=36
SEY Seymchan 67.12 29 P **P 10 24 05.9 +0.1**
comp=Z,1.2nm,0.6s,baz=324,slow=8.5,SNR=4.9
BILL Bilibino 69.48 21 *e*P **P 10 24 20.5 -0.1**
BILL *e* 10 26 57.9
BILL pmax pmax
comp=Z,1.0nm,0.9s
SCHQ Schefferville 77.86 328 P **P 10 25 09.8 -0.2**
comp=Z,1.2nm,0.4s,baz=48,slow=6.5,SNR=7.1
COLD Coldfoot 79.70 8 *e*P **P 10 25 20.4 +0.5**
COLD Coldfoot 79.70 8 *e*P **P 10 25 20.4 +0.5**
IL1 Eielson Array 82.45 7 *e*P **P 10 25 34.3 -0.2**
IL1 Eielson Array 82.45 7 *e*P **P 10 25 34.3 -0.2**
ILAR Eielson Array 82.45 7 P **P 10 25 33.2 -1.3**
comp=Z,0.6nm,0.6s,baz=322,slow=3.4,SNR=8.9
DOT Dot Lake 83.83 6 *e*P **P 10 25 42.8 +1.0**
comp=Z,6.3nm,0.8s
DOT Dot Lake 83.83 6 *e*P **P 10 25 42.8 +1.0**
comp=Z,6.3nm,0.8s
YKW3 Yellowknife Ar 84.78 353 *e*P **P 10 25 46.9 +0.4**
comp=Z,7.0nm,1.3s
YKW3 Yellowknife Ar 84.78 353 *e*P **P 10 25 46.9 +0.4**
comp=Z,7.0nm,1.3s
YKA Yellowknife Ar 84.84 353 P **P 10 25 46.1 -0.8**
comp=Z,1.9nm,0.8s,baz=11,slow=5.4,SNR=18
YKB5 Yellowknife Ar 84.84 353 *e*P **P 10 25 47.0 +0.2**
YKB5 Yellowknife Ar 84.84 353 *e*P **P 10 25 47.0 +0.2**
KLU Klutina 85.75 8 *e*P **P 10 25 53.4 +1.9**
comp=Z,15nm,1.6s
KLU Klutina 85.75 8 *e*P **P 10 25 53.4 +1.9**
comp=Z,15nm,1.6s
KDAK Kodiak Island 88.36 12 *i* P **P 10 26 06.0 +1.9**
DLBC Dease Lake 89.72 0 P **P 10 26 11.8 +1.1**
comp=Z,1.1nm,0.6s,baz=354,slow=10,SNR=3.5
WRA Warramunga Arr 95.73 110 P **P 10 26 39.9 +1.0**
comp=Z,0.3nm,0.8s,baz=325,slow=4.1,SNR=2.6

CSEM ***09*** *10:16:38.0, 43°.33N×13°.23E, h3km, MD2.1/14*
ROM 09 10:16:38.0±0.1, 43°.33N×13°.23E, h3km±1km, Md2.1/14, MI1.4/8, Error ellipse: s-maj=1.4km s-min=1.1km az=91.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CING	**Cingoli**	**0.05**	**330**	Pg		Pg	10 16 39.5	+0.3
CING				Sg		Sg	10 16 40.8	+0.8
	480nm,0.3s							
CING	**Cingoli**	**0.05**	**330**	Pg		Pg	10 16 39.5	+0.3
CING				Sg		Sg	10 16 40.8	+0.8
	480nm,0.3s							
SNTG	**Esanatoglia**	**0.23**	**251**	Pg		Pg	10 16 43.1	+0.7
SNTG				Sg		Sg	10 16 47.3	+2.0
	36nm,0.2s							
SNTG	**Esanatoglia**	**0.23**	**251**	Pg		Pg	10 16 43.1	+0.7
SNTG				Sg		Sg	10 16 47.3	+2.0
	36nm,0.2s							
ARVD	**Arcevia**	**0.27**	**309**	Pg		Pg	10 16 43.9	+0.7
ARVD				Sg		Sb	10 16 48.7	-1.9
	18nm,0.2s							
ARVD	**Arcevia**	**0.27**	**309**	Pg		Pg	10 16 43.9	+0.7
ARVD				Sg		Sb	10 16 48.7	-1.9
	18nm,0.2s							
FDMO	**Fiordimonte**	**0.31**	**200**	Pg		Pg	10 16 44.6	+0.6
FDMO				Sg		Sb	10 16 50.5	-1.3
	48nm,0.2s							
FDMO	**Fiordimonte**	**0.31**	**200**	Pg		Pg	10 16 44.6	+0.6
FDMO				Sg		Sb	10 16 50.5	-1.3
	48nm,0.2s							
SSFR	**Montelago di S**	**0.34**	**288**	Pg		Pg	10 16 45.2	+0.6
SSFR				Sg		Sb	10 16 51.6	-1.2
	90nm,0.2s							
SSFR	**Montelago di S**	**0.34**	**288**	Pg		Pg	10 16 45.2	+0.6
SSFR				Sg		Sb	10 16 51.6	-1.2
	90nm,0.2s							
AOI	**Ancona**	**0.35**	**51**	Pg		Pb	10 16 45.9	-1.0
AOI				Sg		Sb	10 16 52.3	-0.6
AOI	**Ancona**	**0.35**	**51**	Pg		Pb	10 16 45.9	-1.0
AOI				Sg		Sb	10 16 52.3	-0.6
CESI	**CESI - Serrava**	**0.40**	**217**	Pg		Pg	10 16 46.5	+0.7
CESI				Sg		Sb	10 16 53.8	-0.7
CESI	**CESI - Serrava**	**0.40**	**217**	Pg		Pg	10 16 46.5	+0.7
CESI				Sg		Sb	10 16 53.8	-0.7
FRON	**Frontone**	**0.41**	**297**	Pg		Pg	10 16 46.6	+0.6
FRON				Sg		Sb	10 16 53.4	-1.4
	22nm,0.3s							
FRON	**Frontone**	**0.41**	**297**	Pg		Pg	10 16 46.6	+0.6
FRON				Sg		Sb	10 16 53.4	-1.4
	22nm,0.3s							
ATCC	**AVT- Casa Cast**	**0.46**	**252**	Pg		Pg	10 16 47.6	+0.8
ATCC				Sg		Sb	10 16 55.8	-0.1
ATCC	**AVT- Casa Cast**	**0.46**	**252**	Pg		Pg	10 16 47.6	+0.8
ATCC				Sg		Sb	10 16 55.8	-0.1
FSSB	**Fossombrone**	**0.49**	**318**	Pg		Pb	10 16 48.4	-0.9
FSSB				Sg		Sb	10 16 57.2	+0.2
FSSB	**Fossombrone**	**0.49**	**318**	Pg		Pb	10 16 48.4	-0.9
FSSB				Sg		Sb	10 16 57.2	+0.2
MURB	**Monte Urbino**	**0.52**	**263**	Pg		Pb	10 16 49.5	-0.4
MURB				Sg		Sb	10 16 58.3	+0.4
	62nm,0.2s							
MURB	**Monte Urbino**	**0.52**	**263**	Pg		Pb	10 16 49.5	-0.4
MURB				Sg		Sb	10 16 58.3	+0.4
	62nm,0.2s							
PIEI	**Pieia**	**0.55**	**292**	Pg		Pg	10 16 48.9	+0.4
PIEI				Sg		Sb	10 16 58.4	-0.2
	16nm,0.4s							
PIEI	**Pieia**	**0.55**	**292**	Pg		Pg	10 16 48.9	+0.4
PIEI				Sg		Sb	10 16 58.4	-0.2
	16nm,0.4s							
ATPC	**Poggio Castell**	**0.58**	**285**	Pg		Pb	10 16 50.2	-0.7
ATPC				Sg		Sb	10 17 00.1	+0.4
	20nm,0.3s							
ATPC	**Poggio Castell**	**0.58**	**285**	Pg		Pb	10 16 50.2	-0.7
ATPC				Sg		Sb	10 17 00.1	+0.4
	20nm,0.3s							
ATVO	**AVT- Monte Val**	**0.60**	**275**	Pg		Pb	10 16 50.7	-0.6
ATVO				Sg		Sb	10 17 00.2	0.0
ATVO	**AVT- Monte Val**	**0.60**	**275**	Pg		Pb	10 16 50.7	-0.6
ATVO				Sg		Sb	10 17 00.2	0.0
LNSS	**Leonessa**	**0.74**	**191**	Pg		Pb	10 16 53.0	-0.6
LNSS				Sg		Sb	10 17 05.0	+0.8
LNSS	**Leonessa**	**0.74**	**191**	Pg		Pb	10 16 53.0	-0.6
LNSS				Sg		Sb	10 17 05.0	+0.8
RM33	**Pellescritta (**	**0.82**	**181**	Pg		Pg	10 16 54.0	+0.3
RM33				Sg		Sb	10 17 07.6	+1.1
RM33	**Pellescritta (**	**0.82**	**181**	Pg		Pg	10 16 54.0	+0.3
RM33				Sg		Sb	10 17 07.6	+1.1

NNC 09 10:22:55.5±2.2, 51°.94N×75°.91E, h0km, mb3.5, mpv3.1, 3C-4D, Error ellipse: s-maj=60.3km s-min=11.5km az=27.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURK	**Kurchatov**	**2.10**	**125**	⇓Pn		Pn	10 23 30.4	-1.4
	33nm,0.6s							
KURK				⇓Sn		Sb	10 24 00.6	-0.4
	175nm,0.6s							
KURBB	**Kurchatov Arra**	**2.11**	**128**	⇑Pn		Pn	10 23 29.4	-2.6
	6.8nm,0.6s,baz=308,slow=18							
KURBB				⇓Sn		Sb	10 24 00.6	-0.7
	57nm,0.7s,baz=307,slow=28							
BVA0	**Borovoye Array**	**3.54**	**290**	Pn		Pn	10 23 51.7	-0.1
	1.2nm,0.6s,baz=111,slow=18,SNR=4.8							
BVA0				⇑Sn		Sn	10 24 34.3	-0.1
	5.1nm,0.6s,baz=115,slow=26,SNR=8.8							
ZRNK	**Zerenda**	**4.34**	**286**	⇓Sn		Sn	10 24 58.3	+4.3
	13nm,0.7s							
MK31	**Makanchi Array**	**6.62**	**139**	⇑Lg		Lg	10 26 19.0	
	3.3nm,0.7s,baz=320,slow=26,SNR=6.2							

ISCJB ***09*** *10:23:39.4±0.5, 59°.01N±0°.03×18°.18E±0°.06, h0km, Error ellipse: s-maj=5.8km s-min=3.7km az=139.0*
CSEM ***09*** *10:23:40.3±0.2, 59°.01N×18°.14E, h2km, ML1.8, Error ellipse: s-maj=5.6km s-min=3.6km az=120.0, Mining explosion.*
UPP ***09*** *10:23:40.0±0.1, 58°.99N×18°.21E, h0km, ML1.8, Explosion*
HEL ***09*** *10:23:41.1±0.1, 59°.00N×18°.17E, h0km, ML2.0, ML1.8(UPP), Explosion*
IDC ***09*** *10:23:42.6±2.7, 59°.08N×18°.18E, h0km, mb1 3.3/3, mb1mx3.0/54, mbtmp3.1/3, ML2.4/3, Error ellipse: s-maj=32.3km s-min=9.1km az=180.0*
ISC 09 10:23:39.3±0.8, 58°.98N±0°.03×18°.23E±0°.03, h0km, n59, σ1§25/71, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NRTU	**Norrtaelje**	**0.73**	**16**	P		**Pg**	**10 23 53.7**	**+0.4**
NRTU				S		**Sg**	**10 24 03.0**	**+0.3**
NRTU	**Norrtaelje**	**0.73**	**16**	*i* P		**Pg**	**10 23 53.7**	**+0.4**
NRTU				*i* S		**Sg**	**10 24 03.0**	**+0.3**
NRTU	**Norrtaelje**	**0.73**	**16**	P		**Pg**	**10 23 53.7**	**+0.4**
NRTU				S		**Sg**	**10 24 03.0**	**+0.3**
VIKU	**Vikbolandet**	**0.93**	**240**	P		**Pg**	**10 23 57.4**	**+0.2**
VIKU	**Vikbolandet**	**0.93**	**240**	*e*P		**Pg**	**10 23 57.4**	**+0.2**
VIKU	**Vikbolandet**	**0.93**	**240**	P		**Pg**	**10 23 57.4**	**+0.2**
UPP	**Uppsala**	**0.94**	**341**	P		**Pg**	**10 23 57.6**	**+0.4**
UPP	**Uppsala**	**0.94**	**341**	*e*P		**Pg**	**10 23 57.6**	**+0.4**
UPP	**Uppsala**	**0.94**	**341**	P		**Pg**	**10 23 57.6**	**+0.4**
ESKU	**Eskilstuna**	**0.98**	**286**	P		**Pg**	**10 23 57.9**	**-0.2**
ESKU	**Eskilstuna**	**0.98**	**286**	*e*P		**Pg**	**10 23 57.9**	**-0.2**
ESKU	**Eskilstuna**	**0.98**	**286**	P		**Pg**	**10 23 57.9**	**-0.2**
FIBU	**Brunna**	**1.03**	**334**	P		**Pg**	**10 23 59.0**	**0.0**
BACU	**Backbrunna**	**1.05**	**327**	P		**Pg**	**10 23 59.2**	**-0.2**
BACU	**Backbrunna**	**1.05**	**327**	*e*P		**Pg**	**10 23 59.2**	**-0.2**
BACU	**Backbrunna**	**1.05**	**327**	P		**Pg**	**10 23 59.2**	**-0.2**
FLYU	**Flymyra**	**1.17**	**351**	P		**Pg**	**10 24 01.5**	**-0.1**
FLYU	**Flymyra**	**1.17**	**351**	*e*P		**Pg**	**10 24 01.5**	**-0.1**
FLYU	**Flymyra**	**1.17**	**351**	P		**Pg**	**10 24 01.5**	**-0.1**
GOTU	**Gotland**	**1.31**	**172**	P		**Pg**	**10 24 04.2**	**-0.2**
GOTU	**Gotland**	**1.31**	**172**	*e*P		**Pg**	**10 24 04.2**	**-0.2**
GOTU	**Gotland**	**1.31**	**172**	P		**Pg**	**10 24 04.2**	**-0.2**
GRAU	**Graesoe**	**1.37**	**6**	P		**Pg**	**10 24 05.3**	**-0.2**
GRAU	**Graesoe**	**1.37**	**6**	*e*P		**Pg**	**10 24 05.3**	**-0.2**
GRAU	**Graesoe**	**1.37**	**6**	P		**Pg**	**10 24 05.3**	**-0.2**
OSTU	**Oestervaala**	**1.37**	**336**	P		**Pg**	**10 24 05.2**	**-0.4**
OSTU	**Oestervaala**	**1.37**	**336**	*e*P		**Pg**	**10 24 05.2**	**-0.4**
OSTU	**Oestervaala**	**1.37**	**336**	P		**Pg**	**10 24 05.2**	**-0.4**
FORU	**Forsmark**	**1.41**	**359**	P		**Pn**	**10 24 06.0**	**-0.2**
FORU	**Forsmark**	**1.41**	**359**	*e*P		**Pn**	**10 24 06.0**	**-0.2**
FORU	**Forsmark**	**1.41**	**359**	P		**Pn**	**10 24 06.0**	**-0.2**
AAL	**Aland**	**1.50**	**36**	P		**Pn**	**10 24 07.7**	**+0.2**
AAL	**Aland**	**1.50**	**36**	*e*P		**Pn**	**10 24 07.6**	**+0.2**
AAL				*e*S		**Sg**	**10 24 27.4**	**-0.1**
AAL	**Aland**	**1.50**	**36**	P		**Pn**	**10 24 07.7**	**+0.2**
AAL				S		**Sg**	**10 24 27.3**	**-0.1**
VSTU	**Vaestervik**	**1.60**	**215**	P		**Pg**	**10 24 09.5**	**-0.4**
VSTU	**Vaestervik**	**1.60**	**215**	*e*P		**Pg**	**10 24 09.5**	**-0.4**
VSTU	**Vaestervik**	**1.60**	**215**	P		**Pg**	**10 24 09.5**	**-0.4**
LNKU	**Linkoeping**	**1.62**	**243**	P		**Pb**	**10 24 09.4**	**-0.6**
LNKU	**Linkoeping**	**1.62**	**243**	*e*P		**Pb**	**10 24 09.4**	**-0.6**
LNKU	**Linkoeping**	**1.62**	**243**	P		**Pb**	**10 24 09.4**	**-0.6**
ASKU	**Askersund**	**1.77**	**269**	P		**Pb**	**10 24 11.9**	**-0.6**
ASKU	**Askersund**	**1.77**	**269**	*e*P		**Pb**	**10 24 11.9**	**-0.6**
ASKU	**Askersund**	**1.77**	**269**	P		**Pb**	**10 24 11.9**	**-0.6**
ASPU	**Aespoe**	**1.79**	**210**	P		**Pb**	**10 24 12.8**	**-0.1**
ASPU	**Aespoe**	**1.79**	**210**	*e*P		**Pb**	**10 24 12.8**	**-0.1**
ASPU	**Aespoe**	**1.79**	**210**	P		**Pb**	**10 24 12.8**	**-0.1**
RAF	**Rauma**	**2.71**	**39**	*e*P		**Pn**	**10 24 26.0**	**+1.9**
RAF				*e*S		**Sn**	**10 24 56.9**	**-0.6**
RAF	**Rauma**	**2.71**	**39**	P		**Pn**	**10 24 25.9**	**+1.9**
RAF				S		**Sn**	**10 24 56.9**	**-0.6**
MEF	**Metsahovi**	**3.37**	**66**	*e*SB		**Sb**	**10 25 21.9**	**+0.6**
MEF	**Metsahovi**	**3.37**	**66**	Sb		**Sb**	**10 25 21.9**	**+0.6**
NOA	**NORSAR Array B**	**4.08**	**303**	Pn		**Pn**	**10 24 43.6**	**+0.6**
	0.1nm,0.3s,baz=119,slow=13,SNR=4.5							
NOA				Sn		**Sn**	**10 25 31.5**	**+0.1**
	0.1nm,0.3s,baz=101,slow=18,SNR=1.3							
NOA				Lg		Lg	10 25 47.1	
	0.6nm,0.3s,baz=121,slow=21,SNR=5.2							
KEF	**Keuruu**	**4.58**	**43**	*e*P		**Pn**	**10 24 52.1**	**+2.4**
KEF				*e*SG		**Sg**	**10 26 02.7**	**-3.5**
KEF				MSG			10 26 06.5	
	comp=Z,2.0nm,0.2s							
KEF	**Keuruu**	**4.58**	**43**	P		**Pn**	**10 24 52.1**	**+2.4**
VAF	**Ylistaro**	**4.61**	**26**	*e*P		**Pn**	**10 24 52.9**	**+2.7**
VAF				*e*SG		**Sg**	**10 26 02.9**	**-4.5**
VAF				MSG			10 26 08.4	
	comp=Z,1.5nm,0.2s							
VAF	**Ylistaro**	**4.61**	**26**	P		**Pn**	**10 24 52.9**	**+2.7**
FIA0	**FINESS Array S**	**4.63**	**54**	*e*S		**Sn**	**10 25 45.9**	**+1.1**
FIA0				*e*SG		**Sg**	**10 26 03.5**	**-4.4**
FIA0	**FINESS Array S**	**4.63**	**54**	S		**Sn**	**10 25 45.9**	**+1.1**
FINES	**FINESS Array B**	**4.63**	**54**	Pn		**Pn**	**10 24 53.0**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=244,slow=13,SNR=8.5							
FINES				Sn		**Sn**	**10 25 46.1**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=245,slow=23,SNR=6.2							
FINES				Lg		Lg	10 26 06.1	
	comp=Z,0.7nm,0.3s,baz=246,slow=26,SNR=8.7							
ARCES	**ARCESS Array B**	**11.05**	**13**	Pn		**Pn**	**10 26 16.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=189,slow=13,SNR=5.3							

NIED ***09*** *10:26:00, 37°.20N×142°.20E, h5km, Mw5.1 Best double couple: M0≏4.78000×10¹⁶ NP1:ϕs≏19.00000°, δ33.00000°, λ-78.00000°. NP2:ϕs≏185.00000°, δ58.00000°, λ-98.00000°.*
JMA ***09*** *10:26:02.8±0.3, 37°.23N×142°.28E, h22km±5km, M5.2 JMA Felt II J1.*
ISCJB ***09*** *10:26:02.6±0.7, 37°.25N±0°.02×142°.21E±0°.02, h9km±4km, mb5.1/195, MS4.9/12, Error ellipse: s-maj=3.3km s-min=2.1km az=166.1*
IDC ***09*** *10:26:02.4±0.4, 37°.26N×142°.25E, h0km, mb4.8/40, mb1 4.9/47, mb1mx4.9/53, mbtmp4.8/47, ML3.8/5, MS4.5/8, Ms1 4.5/8, ms1mx3.9/52, Error ellipse: s-maj=11.6km s-min=9.0km az=101.0*
BJI ***09*** *10:26:04.1, 37°.24N×142°.08E, h21km, mb5.1/76, mB4.9/62, Ms5.0/82, Ms7 4.8/75*
MOS ***09*** *10:26:06.3±0.9, 37°.45N×142°.16E, h32km, mb5.3/91, Error ellipse: s-maj=6.1km s-min=4.2km az=108.5*
GCMT ***09*** *10:26:08.2±0.2, 37°.25N×142°.20E, h12km, MW5.0/118, Moment Tensor Solution. s49,c57; s118,c190; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.61±.09; Mθθ0.28±.09; Mϕϕ4.32±.08; Mrθ-0.76±.31; Mrϕ 1.00±.08; Mθr0.46±.27; Best double couple: M0≏4.66400×10¹⁶ NP1:ϕs183.00000°, δ48.00000°, λ-103.00000°. NP2: ϕs≏23.00000°, δ44.00000°, λ-76.00000°. Principal axes: T 4.5630, Plg2.0000°, Azm283.0000°; N 0.1960, Plg10.0000°, Azm193.0000°; P -4.7660, Plg80.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***09*** *10:26:08.2±0.1, 37°.26N×142°.15E, h35km, mb5.1/78 Error ellipse: s-maj=3.8km s-min=2.5km az=148.0*
NEIC Recorded [2 JMA] in Fukushima and Miyagi.
**ISC 09 10:26:04.9±0.4, 37°.27N±0°.03×142°.24E±0°.03

JMM eS **Sb** **10 26 43.1 -2.0**
JIO Ouri 1.37 329 ⇓P **Pn** **10 26 27.6 -1.7**
JFT Otama 1.54 280 ⇑P **Pn** **10 26 30.4 -1.2**
JOU Okura 1.66 312 ⇓P **Pn** **10 26 32.4 -0.9**
JOU eS **Sn** **10 26 54.2 0.0**
JMK Ichinoseki 1.86 335 ⇓P **Pn** **10 26 34.9 -1.1**
JSB Shiboa 1.88 261 P **Pn** **10 26 35.7 -0.6**
JYS Shirataka 1.97 299 P **Pn** **10 26 37.2 -0.3**
JFY Yanaizu 2.02 275 P **Pn** **10 26 37.3 -1.0**
JYK Kaneyama 2.21 318 P **Pn** **10 26 40.2 -0.7**
JOM Ohasama 2.32 342 ⇓P **Pn** **10 26 41.7 -0.6**
JAG Ashikaga 2.39 250 P **Pn** **10 26 41.5 -1.8**
JRG Rokugo 2.47 330 ⇓P **Pn** **10 26 44.2 -0.2**
MJAR Matsushiro Arr 3.31 258 Pn **Pn** **10 26 55.4 -0.6**
24nm,0.3s,baz=91,slow=15,SNR=145
MJAR LR LR 10 28 31.4
comp=Z,14μm,18.4s,baz=80,slow=45
MAJO Matsushiro 3.31 258 eP **Pn** **10 26 56.2 +0.2**
MAJO Matsushiro 3.31 258 ePn **Pn** **10 26 56.3 +0.2**
MAT Matsushiro 3.31 258 P **Pn** **10 26 55.6 -0.4**
MAT S **Sn** **10 27 34.8 -0.3**
MJB9 Matsu-Tunnel 3.32 259 ePn **Pn** **10 26 56.3 +0.2**
JTT Ttatey 3.99 262 P **Pn** **10 27 08.6 +3.3**
JHJ2 Mitsune 4.60 206 ePn **Pn** **10 27 13.5 -0.3**
JHJ Hachijo jima 2 4.61 207 Pn **Pn** **10 27 11.7 -2.2**
189nm,0.3s,baz=343,slow=21,SNR=54
JHJ Sn **Sn** **10 28 07.2 +0.3**
188nm,0.3s,baz=48,slow=23,SNR=6.4
JHJ LR LR 10 29 13.4
comp=Z,3μm,18.1s,baz=20,slow=42
INU Inuyama 4.63 247 ePn **Pn** **10 27 15.4 +1.2**
ERM Erimo 4.79 8 ceP **Pn** **10 27 15.4 -0.8**
ERM pmax pmax
comp=Z,233nm,1.7s
ERM Erimo 4.79 8 ePn **Pn** **10 27 15.2 -1.0**
ASAJ Asahikawa 6.84 2 ePn **Pn** **10 27 44.0 -0.5**
YUK Yuzh-Kuril'sk 7.29 21 i P **Pn** **10 27 48.5 -2.1**
KUR Kuril'sk 9.01 26 eP **Pn** **10 28 14.3 +0.2**
KUR eS **Sn** **10 29 49.3 -5.9**
KUR pmax pmax
comp=Z,51nm,0.8s
KUR smax smax
comp=N,158nm,0.6s
KUR smax smax
comp=E,86nm,0.6s
YSS Yuzh-Sakhalins 9.68 2 keP **Pn** **10 28 22.4 -1.0**
YSS eS **Sn** **10 30 09.6 -2.1**
YSS pmax pmax
comp=Z,80nm,0.8s
YSS pmax pmax
comp=Z,300nm,3.0s
YSS MLR MLR
comp=Z,1μm,15.0s
YSS MLR MLR
comp=N,3μm,13.0s
YSS MLR MLR
comp=E,2μm,14.0s
YSS Yuzh-Sakhalins 9.68 2 ePn **Pn** **10 28 21.9 -1.5**
VLA **Vladivostok** 9.84 310 i P **Pn** **10 28 28.5 +3.0**
VLA pmax pmax
comp=Z,71nm,0.9s
JKIT Kitakata 9.99 246 P **Pn** **10 28 30.1 +2.4**
MSHR Mys Shultsa 10.02 305⇑eP **Pn** **10 28 29.9 +1.8**
CBIJ Chichi jima 10.15 180 Pn **Pn** **10 28 29.8 -0.1**
CBIJ ePn Pn 10 28 30.9 +1.0
CBIJ Sn **Sn** **10 30 15.9 -7.4**
JCJ Chichijima 10.15 180 Pn **Pn** **10 28 29.8 -0.1**
comp=Z,20nm,0.3s,baz=282,slow=15,SNR=7.8
JCJ Sn **Sn** **10 30 15.9 -7.4**
comp=Z,8.9nm,0.3s,baz=87,slow=21,SNR=2.9
JNU Nakatsue 10.18 249 Pn **Pn** **10 28 31.1 +0.8**
comp=Z,2.0nm,0.3s,baz=62,slow=9.4,SNR=59
JNU LR LR 10 32 44.6
comp=Z,3μm,20.0s,baz=68,slow=40
JNU Nakatsue 10.18 249 P **Pn** **10 28 32.6 +2.4**
JNU Nakatsue 10.18 249 ePn **Pn** **10 28 32.7 +2.4**
USRK Ussuriysk Ar. 10.40 315 Pn **Pn** **10 28 34.9 +1.6**
comp=Z,1.3nm,0.3s,baz=132,slow=13,SNR=58
USRK LR LR 10 32 12.4
comp=Z,5μm,19.4s,baz=123,slow=36
JTA Tamana 10.51 249 P **Pn** **10 28 36.9 +2.1**
KSRS Korea Array 11.40 275 Pn **Pn** **10 28 50.8 +3.8**
comp=Z,1.4nm,0.3s,baz=90,slow=13,SNR=132
KSRS LR LR 10 32 45.1
comp=Z,4μm,20.0s,baz=85,slow=35
KS01 Wonju Array Si 11.42 275 ePn **Pn** **10 28 50.0 +2.7**
KS15 Wonju Array Si 11.43 275 ePn **Pn** **10 28 51.4 +4.0**
KSAR Wonju Array Be 11.43 275 P **Pn** **10 28 50.8 +3.4**
KSAR Wonju Array Be 11.43 275 Pn **Pn** **10 28 50.8 +3.4**
UGL Uglegorsk 11.80 359 P **Pn** **10 28 53.0 +0.6**
UGL e 10 31 08.0
UGL pmax pmax
comp=Z,110nm,1.0s
UGL MLR MLR
comp=N,2μm,14.0s
UGL MLR MLR
comp=E,2μm,14.0s
UGL MLR MLR
comp=Z,2μm,14.0s
TJN Taejon 11.96 270⇑eP **Pn** **10 28 57.7 +3.1**
MDJ Mudanjiang 12.04 311 P **Pn** **10 28 58.0 +2.3**
MDJ S **Sn** **10 31 12.7 +3.1**
MDJ PcP **PcP** **10 34 39.3 -1.2**
MDJ ScP **ScP** **10 38 13.7 +1.1**
MDJ ScS **ScS** **10 41 45.5 -2.8**
MDJ PMZ
comp=Z,25nm,1.4s
MDJ PMZ
comp=Z,550nm,8.0s
MDJ LN
comp=Z,3μm,18.1s
MDJ LE
comp=Z,4μm,15.9s
MDJ LZ
comp=Z,3μm,19.2s
MDJ Mudanjiang 12.04 311 ePn **Pn** **10 28 57.7 +1.9**
comp=Z,75nm,1.0s
HABR Khabarovsk 12.37 337 ceP **Pn** **10 28 57.0 -3.1**
HABR eS **Sn** **10 31 14.1 -3.3**
HABR pmax pmax
comp=N,18nm,1.3s
HABR pmax pmax
comp=E,17nm,1.3s
HABR pmax pmax
comp=Z,48nm,1.3s
HABR MLR MLR
comp=Z,99nm,10.0s
TYV Tymovskoe 13.59 1 eP **Pn** **10 29 15.2 -1.6**
TYV eS **Sn** **10 31 52.0 +4.7**
TYV pmax pmax
comp=N,26nm,1.0s
TYV pmax pmax
comp=Z,88nm,1.0s
TYV smax smax
comp=E,900nm,8.0s
TYV MLR MLR
comp=E,2μm,16.0s
TYV MLR MLR
comp=Z,2μm,13.0s
KLR Kul'dur 14.17 331 Pn **Pn** **10 29 24.0 -0.7**
comp=Z,0.2nm,0.3s,baz=124,slow=13,SNR=17
KLR LR LR 10 34 43.7
comp=Z,1μm,19.6s,baz=146,slow=37
CN2 Changchun 14.33 302 eP **Pn** **10 29 27.9 +1.0**
CN2 esP P 10 29 36.2 +2.2
CN2 PP **PnPn** **10 29 39.1 +4.3**
CN2 eS **Sn** **10 32 06.6 +1.2**
CN2 PMZ
comp=Z,20nm,1.1s
CN2 PMZ
comp=Z,600nm,8.0s
CN2 LN
comp=Z,2μm,15.0s
CN2 LE
comp=Z,2μm,15.0s
CN2 LZ
comp=Z,2μm,18.0s
SNY Shenyang 15.09 293 ⇓P **Pn** **10 29 37.0 -0.3**
SNY S **Sn** **10 32 24.9 +0.8**
SNY PMZ
comp=Z,18nm,0.7s
SNY PMZ
comp=Z,570nm,9.3s
SNY LN
comp=Z,5μm,13.5s
SNY LE
comp=Z,4μm,18.5s
SNY LZ
comp=Z,6μm,18.5s
DL2 Dalian 16.31 282⇑i P **P** **10 29 55.4 -0.6**
DL2 PMZ
comp=Z,130nm,0.8s
DL2 PMZ
comp=Z,580nm,11.8s
DL2 LN
comp=Z,2μm,12.0s
DL2 LE
comp=Z,2μm,13.4s
DL2 LZ
comp=Z,3μm,17.6s
SKR Severo-Kuril's 16.68 32 eP **P** **10 29 59.9 -0.1**
SKR eS **Sn** **10 33 00.1 -2.3**
SKR pmax pmax
comp=Z,100nm,3.1s
SKR pmax pmax
comp=Z,90nm,1.1s
SKR pmax pmax
comp=Z,400nm,3.9s
SKR MLR MLR
comp=Z,2μm,15.0s
SSE Sheshan 18.46 257 P **P** **10 30 18.6 -1.2**
SSE S **Sn** **10 33 44.4 -1.5**
SSE PMZ
comp=Z,43nm,1.0s
SSE PMZ
comp=Z,350nm,11.0s
SSE LN
comp=Z,2μm,18.8s
SSE LE
comp=Z,2μm,18.8s
SSE LZ
comp=Z,2μm,17.1s
PEA0 Petropavlovsk- 19.15 29 eP **P** **10 30 27.2 0.0**
PEA0B Petropavlovsk- 19.15 29 eP **Pn** **10 30 29.1 +0.9**
comp=Z,55nm,1.1s
PETK Petropavlovsk- 19.15 29 P **P** **10 30 27.3 +0.1**
comp=Z,0.4nm,0.3s,baz=190,slow=10,SNR=15
PETK LR LR 10 37 28.2
comp=Z,495nm,21.6s,baz=216,slow=36
PET Petropavlovsk 19.47 31 eP **P** **10 30 31.5 +0.8**
PET eS **Sn** **10 34 02.8 -7.1**
PET pmax pmax
comp=Z,300nm,7.1s
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=Z,1μm,15.0s
NJ2 Nanjing 19.91 262 eP **P** **10 30 34.1 -1.6**
NJ2 PMZ
comp=Z,20nm,1.0s
NJ2 PMZ
comp=Z,320nm,5.0s
NJ2 LN
comp=Z,2μm,17.4s
NJ2 LE
comp=Z,2μm,20.6s
NJ2 LZ
comp=Z,2μm,20.6s
TIA Tai'an 20.14 275 ⇑P **P** **10 30 37.1 -1.2**
TIA PP **PnPn** **10 31 02.4 +7.8**
TIA S **S** **10 34 20.3 -3.6**
TIA PMZ
comp=Z,70nm,1.1s
TIA PMZ
comp=Z,200nm,4.0s
TIA LN
comp=Z,2μm,14.0s
TIA LE
comp=Z,2μm,16.0s
TIA LZ
comp=Z,3μm,16.0s
HIA Hailar 20.21 313 eP Pn 10 30 40.5 -0.4
HIA pmax pmax
comp=Z,30nm,0.9s
HIA Hailar 20.21 313 eP Pn 10 30 40.5 -0.3
comp=Z,30nm,0.9s
BJI Beijing 20.52 286 P **P** **10 30 40.9 -1.4**
BJI S **S** **10 34 25.2 -6.0**
BJI PMZ
comp=Z,30nm,0.9s
BJI PMZ
comp=Z,140nm,3.9s
BJI LN
comp=Z,2μm,14.5s
BJI LE
comp=Z,1μm,14.5s
BJI LZ
comp=Z,1μm,32.6s
BJT Baijiatuau 20.52 286 eP **P** **10 30 41.1 -1.2**
BJT pmax pmax
comp=Z,58nm,0.9s
BJT Baijiatuau 20.52 286 eP **P** **10 30 41.1 -1.2**
comp=Z,58nm,0.9s
YHNB Yeheng 21.80 241 eP **P** **10 30 56.9 +0.6**
comp=Z,86nm,1.7s
SSLB Suanglung 22.67 240 eP **P** **10 31 06.0 +0.4**
comp=Z,29nm,0.9s
YULB Yu-li 22.70 238 eP **P** **10 31 04.5 -1.3**
comp=Z,27nm,0.8s
CLNS Chul'man 22.74 335 eP **P** **10 31 04.7 -1.3**
CLNS e*PP **sP** **10 31 11.8 -1.1**
CLNS e 10 31 19.4
CLNS e 10 34 54.7
CLNS eS **S** **10 35 08.0 -5.9**
CLNS eSS **SnSn** **10 35 56.3 +12**
CLNS pmax pmax
comp=Z,35nm,0.9s
CLNS pmax pmax
comp=N,27nm,1.0s
CLNS pmax pmax
comp=E,21nm,1.0s
CLNS smax smax
comp=E,203nm,8.6s
CLNS smax smax
comp=N,273nm,11.0s
CLNS MLR MLR
comp=E,693nm,9.0s
CLNS MLR MLR
comp=Z,707nm,12.0s
CLNS MLR MLR
comp=N,831nm,12.0s
MA2 Magadan 22.99 11 P **P** **10 31 08.3 -0.2**
comp=N,66nm,1.0s,baz=218,slow=9.4,SNR=24
TPUB Ta-pu 23.21 239 eP **P** **10 31 08.4 -2.8**
comp=N,48nm,0.7s
TWG Pinlang 23.23 238 eP **P** **10 31 12.0 +0.6**
comp=N,242nm,0.9s
TIY Taiyuan 23.61 280 eP **P** **10 31 17.7 +2.6**
TIY S **S** **10 35 23.5 -5.4**
TIY sS **sS** **10 35 40.6 +3.4**
TIY SS **SnSn** **10 36 12.0 +6.0**
TIY PMZ
comp=N,150nm,6.1s
TIY LN
comp=N,1μm,13.4s
TIY LE
comp=N,2μm,16.7s
TIY LZ
comp=N,3μm,16.5s
QZH Quanzhou 23.61 245⇓i P 10 31 05.9 -9.2
QZH S S 10 35 18.0 -11
QZH pmax pmax
comp=Z,140nm,0.8s
QZH LR LR
comp=N,2μm,10.8s
QZH LR LR
comp=E,1μm,11.4s
QZH LR LR
comp=Z,2μm,17.2s
HHC Hu-ho-hao-te 24.02 288 eP **P** **10 31 19.3 +0.2**
HHC PP **PnPn** **10 31 50.8 +3.0**
HHC S **S** **10 35 34.7 -0.8**
HHC sS sS 10 35 47.2 +3.5
HHC PMZ
comp=Z,28nm,1.2s
HHC PMZ
comp=Z,170nm,8.0s
HHC LN
comp=Z,2μm,13.5s
HHC LE
comp=Z,790nm,12.2s
HHC LZ
comp=Z,930nm,14.6s
WHN Wuhan 24.05 262 ⇑P **P** **10 31 16.5 -2.7**
WHN sP **sP** **10 31 24.7 -1.6**
WHN S **S** **10 35 35.9 +0.1**
WHN LN
comp=Z,960nm,11.4s
WHN LE
comp=Z,3μm,12.9s
WHN LZ
comp=Z,4μm,13.5s
CIT Chita 24.97 315 eP **P** **10 31 27.5 0.0**
CIT e 10 31 33.1
CIT e 10 32 11.8
CIT pmax pmax
comp=Z,361nm,1.3s
YAK Yakutsk 25.99 346 P **P** **10 31 36.0 -0.5**
comp=Z,5.5nm,0.6s,baz=337,slow=23,SNR=18
YAK LR LR 10 41 58.4
comp=Z,1μm,19.1s,baz=62,slow=37
YAK Yakutsk 25.99 346 eP **P** **10 31 36.2 -0.3**
YAK e*PP **sP** **10 31 45.7 +2.1**
YAK e 10 32 14.0
YAK ePPP PPP 10 32 21.9
YAK e 10 35 01.0
YAK eS **S** **10 36 04.9 -1.3**
YAK eSS **SnSn** **10 37 01.1 -2.3**
YAK eSSS SSS 10 37 19.9
YAK pmax pmax
comp=Z,76nm,0.9s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=E,20nm,1.3s
YAK pmax pmax
comp=Z,30nm,1.4s
YAK pmax pmax
comp=N,82nm,1.5s
YAK pmax pmax
comp=E,55nm,1.9s
YAK smax smax
comp=N,125nm,3.0s
YAK smax smax
comp=E,355nm,3.7s
YAK MLR MLR
comp=Z,1μm,15.0s
YAK MLR MLR
comp=N,766nm,15.0s
YAK MLR MLR
comp=E,603nm,13.0s
YAK Yakutsk 25.99 346 eP **P** **10 31 36.5 0.0**
comp=E,146nm,1.0s
SEY Seymchan 26.43 10 P **P** **10 31 41.2 +0.6**
comp=E,42nm,1.0s,baz=196,slow=6.6,SNR=70
SEY Seymchan 26.43 10 ceP **P** **10 31 40.7 +0.2**
XAN Xi'an 27.19 273 P **P** **10 31 46.8 -0.9**
XAN pP pP 10 31 51.9 -0.8
XAN S **S** **10 36 20.8 -5.0**
XAN PMZ
comp=E,34nm,0.7s
XAN PMZ
comp=E,250nm,10.0s
XAN LN
comp=E,6μm,15.0s
XAN LE
comp=E,5μm,17.7s
XAN LZ
comp=E,8μm,13.6s
BOD Bodaibo 27.68 327 eP **P** **10 31 50.3 -1.5**
BOD pmax pmax
comp=Z,38nm,1.0s
H11N2 WAKE ISLAND Hy 27.71 122 T T 11 00 45.3
baz=315,slow=75,SNR=1080
H11N1 WAKE ISLAND Hy 27.72 122 T T 11 00 46.5
baz=315,slow=75,SNR=1112
H11N3 WAKE ISLAND Hy 27.73 122 T T 11 00 45.1
baz=315,slow=75,SNR=841
ULN Ulaanbaatar 27.77 304 i P **P** **10 31 53.3 +0.4**
ULN pmax pmax
comp=Z,39nm,1.2s
ULN Ulaanbaatar 27.77 304 eP **P** **10 31 53.1 +0.1**
comp=Z,95nm,1.4s
ENH Enshi 28.01 265 eP **P** **10 31 54.6 -0.5**
comp=Z,157nm,0.9s
SONA1 Songino Array 28.20 303 eP **P** **10 31 57.1 +0.3**
SONM Songino Array 28.20 303 P **P** **10 31 57.2 +0.4**
comp=Z,49nm,1.0s,baz=97,slow=8.7,SNR=159
H11S1 WAKE ISLAND Hy 28.44 124 T T 11 01 37.4
baz=317,slow=76,SNR=903
H11S3 WAKE ISLAND Hy 28.44 124 T T 11 01 43.2
baz=317,slow=76,SNR=1337
H11S2 WAKE ISLAND Hy 28.46 124 T T 11 01 38.6
baz=317,slow=76,SNR=1299
GZH Guangzhou 28.57 249 P P 10 31 54.1 -6.0
GZH S **S** **10 36 40.3 -7.3**
GZH pmax pmax
comp=Z,570nm,5.0s
TGY Tagaytay City 29.88 225 P **P** **10 32 11.8 +0.1**
comp=Z,117nm,0.3s,baz=324,slow=3.5,SNR=3.8
IRK Irkutsk 30.43 312 eP **P** **10 32 16.3 0.0**
IRK pmax pmax
comp=Z,34nm,1.0s
ZAK Zakamensk 30.64 308 eP **P** **10 32 18.0 -0.3**
ZAK pmax pmax
comp=Z,36nm,1.2s
TLY Talaya 30.68 310 P **P** **10 32 19.0 +0.5**
comp=Z,11nm,0.7s,baz=114,slow=5.9,SNR=30
TLY Talaya 30.68 310⇑eP **P** **10 32 19.0 +0.5**
TLY pmax pmax
comp=Z,56nm,1.7s
TLY Talaya 30.68 310 eP **P** **10 32 19.5 +1.0**
comp=Z,41nm,1.1s
LZH Lanzhou 30.68 280 eP **P** **10 32 19.2 +0.3**
LZH pP sP 10 32 26.4 +0.4
LZH sP pP 10 32 29.4 +5.5
LZH S **S** **10 37 21.1 +0.2**
LZH sS sS 10 37 37.0 +7.8
LZH PMZ
comp=Z,32nm,1.1s
LZH PMZ
comp=Z,170nm,5.8s
LZH LN
comp=Z,2μm,13.6s
LZH LE
comp=Z,3μm,14.9s
LZH LZ
comp=Z,4μm,16.0s
GYA Guiyang 31.91 261⇑i P **P** **10 32 29.2 -0.6**
GYA pP sP 10 32 37.6 +0.7
GYA PP **PnPn** **10 33 36.4 +1.8**
GYA PcP **PcP** **10 35 22.8 +2.7**
GYA S **S** **10 37 37.6 -2.7**
GYA ScP **ScP** **10 39 02.3 -0.4**
GYA ScS **ScS** **10 42 59.0 -2.4**
GYA PMZ
comp=Z,70nm,0.8s
GYA PMZ
comp=Z,110nm,9.9s
GYA LN
comp=Z,1μm,14.6s
GYA LE
comp=Z,830nm,18.0s
GYA LZ
comp=Z,940nm,16.8s
CD2 Chengdu 32.33 270⇑i P **P** **10 32 33.0 -0.4**
CD2 sP sP 10 32 42.1 +1.6
CD2 S **S** **10 37 45.6 -1.0**
CD2 sS sS 10 37 56.5 +1.5
CD2 PMZ
comp=Z,60nm,0.7s
CD2 PMZ
comp=Z,200nm,4.9s
CD2 LN
comp=Z,12μm,17.7s
CD2 LE
comp=Z,7μm,19.1s
CD2 LZ
comp=Z,8μm,15.7s
GTA Gaotai 33.12 287 eP **P** **10 32 40.4 +0.1**
GTA pP pP 10 32 45.6 +0.2
GTA sP sP 10 32 48.7 +1.3
GTA PcP **PcP** **10 35 24.3 +1.1**
GTA S **S** **10 37 57.9 -1.1**
GTA sS sS 10 38 09.0 +1.7
GTA SS **SnSn** **10 40 00.7 +2.7**
GTA PMZ
comp=Z,10.0nm,1.1s

GTA PMZ
comp=Z,110nm,5.5s
GTA LN
comp=Z,1µm,15.7s
GTA LE
comp=Z,870nm,18.1s
GTA LZ
comp=Z,1µm,20.9s
BILL Bilibino 33.61 16 *i*P **P 10 32 44.5 +0.5**
BILL *e* 10 32 49.4
BILL *e* 10 33 56.9
BILL pmax pmax
comp=Z,31nm,1.2s
BILL MLR MLR
comp=Z,593nm,20.0s
BILL Bilibino 33.61 16 *e*P **P 10 32 44.2 +0.1**
comp=Z,35nm,1.3s
QIZ Qiongzhong 33.63 246 P **P 10 32 44.4 -0.3**
QIZ S **S 10 38 06.3 -0.5**
QIZ Qiongzhong 33.63 246 *e*P **P 10 32 46.2 +1.5**
comp=Z,45nm,1.2s
TIXI Tiksi 35.13 353 P **P 10 32 56.8 -0.4**
comp=Z,4.3nm,0.8s,baz=144,slow=7.4,SNR=10
TIXI Tiksi 35.13 353 *ce*P **P 10 32 55.7 -1.4**
TIXI pmax pmax
comp=Z,15nm,1.7s
TIXI Tiksi 35.13 353 *e*P **P 10 32 56.5 -0.6**
comp=Z,13nm,1.2s
KMI Kunming 35.65 262 P **P 10 33 03.6 +1.2**
KMI pP sP 10 33 09.0 -0.6
KMI sP pP 10 33 12.3 +4.8
KMI PP **PP 10 34 24.9 +1.5**
KMI S **S 10 38 37.0 -1.4**
KMI sS sS 10 38 47.3 +0.6
KMI SS **SnSn 10 40 53.4 -6.3**
KMI PMZ
comp=Z,75nm,0.9s
KMI PMZ
comp=Z,200nm,4.4s
KMI LN
comp=Z,1µm,15.6s
KMI LE
comp=Z,1µm,16.1s
KMI LZ
comp=Z,2µm,20.6s
MYLDM Lahad Datu 38.62 220 *e*P **P 10 33 29.3 +1.9**
comp=Z,40nm,1.2s
PANO Nakornpanom 38.67 249 P **P 10 33 29.6 +1.8**
comp=Z,24nm,1.9s
NONG Nongkai 39.21 252 P **P 10 33 33.4 +1.0**
comp=Z,48nm,0.9s
UBPT Khong Chiam 39.23 246 P **P 10 33 33.7 +1.2**
comp=Z,52nm,1.0s
SKNT Sakolnakorn 39.25 249 P **P 10 33 33.6 +0.9**
comp=Z,36nm,1.2s,comp=Z,13µm
SWI Sorong 39.29 198 P **P 10 33 33.2 +0.2**
comp=Z,23nm,1.1s
KHON Khomkaen 40.51 250 P **P 10 33 45.3 +2.1**
comp=Z,15nm,0.7s
LOEI Loei 40.97 253 P **P 10 33 44.9 -2.1**
comp=Z,13nm,1.2s
MRSI Marisa 41.14 212 P **P 10 33 49.3 +1.0**
comp=Z,37nm,1.3s,comp=Z,2µm
WMQ Urumqi 41.32 297 P **P 10 33 51.0 +1.3**
WMQ pP sP 10 33 56.1 -0.8
WMQ sP pP 10 34 01.0 +6.1
WMQ PP **PnPn 10 35 29.6 -0.1**
WMQ S **S 10 40 03.4 0.0**
WMQ sS sS 10 40 13.2 +1.4
WMQ PMZ
comp=Z,38nm,0.8s
WMQ PMZ
comp=Z,180nm,3.6s
WMQ LN
comp=Z,690nm,14.6s
WMQ LE
comp=Z,410nm,17.2s
WMQ LZ
comp=Z,470nm,20.0s
UTTA Uttaradit 41.37 254 P **P 10 33 52.4 +2.1**
comp=Z,5.9nm,1.0s,comp=Z,51nm
LAMP Lampang 41.63 255 P **P 10 33 54.5 +2.1**
comp=Z,71nm,0.7s
PBKT Sadao Pong 41.76 252 P **P 10 33 54.5 +1.0**
comp=Z,20nm,1.0s
SANI Sanana 41.93 205 P **P 10 33 55.0 +0.2**
comp=Z,45nm,1.1s
CHTO Chiang Mai 41.99 256 P **P 10 33 56.6 +1.1**
comp=Z,62nm,0.8s
CHTO Chiang Mai 41.99 256 *e*P **P 10 33 56.5 +1.1**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 41.99 256 *e*P **P 10 33 56.5 +1.1**
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 42.20 256 P **P 10 33 57.1 +0.1**
comp=Z,4.5nm,0.6s,baz=49,slow=7.2,SNR=17
CMAR PcP **PcP 10 35 52.4 +1.2**
comp=Z,3.5nm,0.9s,baz=15,slow=3.1,SNR=4.7
CM01 Chiang Mai Arr 42.20 256 *e*P **P 10 33 57.2 +0.1**
SUKH Sukhothai 42.24 254 P **P 10 33 58.9 +1.5**
comp=Z,5.8nm,0.9s,comp=Z,61nm
ZAA0 Zalesovo Array 42.24 312 *e*P **P 10 33 56.1 -0.9**
ZAA0 *e*P **P 10 33 57.5 +0.5**
ZALV Zalesovo Beam 42.24 312 P **P 10 33 56.9 -0.1**
comp=Z,56nm,0.9s,baz=89,slow=6.6,SNR=103
ZALV PcP **PcP 10 35 51.0 +0.3**
comp=Z,5.8nm,0.8s,baz=116,slow=3.4,SNR=3.7
SRAK Srakaew 42.57 248 P **P 10 33 58.9 -1.2**
comp=Z,61nm,0.9s,comp=Z,545nm
LSA Lhasa 42.84 275 P **P 10 34 04.0 +1.2**
LSA PMZ
comp=Z,17nm,1.2s
LSA Lhasa 42.84 275 *e*P **P 10 34 03.5 +0.7**
LSA pmax pmax
comp=Z,20nm,0.7s
LSA Lhasa 42.84 275 *e*P **P 10 34 03.5 +0.7**
comp=Z,20nm,0.7s
NVS Novosibirsk 43.15 314 *i*P **P 10 34 05.0 +0.6**
NVS *e*S **S 10 40 26.8 -3.1**
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,31nm,1.0s
NVS pmax pmax
comp=Z,43nm,1.0s
PCI Palu 43.29 214 P **P 10 34 05.8 -0.1**
comp=Z,59nm,1.3s,comp=Z,1µm
NRIK Noril'sk 43.33 335 P **P 10 34 05.4 -0.2**
comp=Z,6.1nm,0.7s,baz=105,slow=9.4,SNR=8.8
SHL Shillong 44.07 270 *e*P **P 10 34 12.0 -0.4**
MK01 Makanchi Array 44.55 302 *e*P **P 10 34 16.2 +0.4**
MK31 Makanchi Array 44.55 302 *i*P **P 10 34 15.9 +0.1**
MK31 pmax pmax
comp=Z,95nm,1.0s
MK31 Makanchi Array 44.55 302 *e*P **P 10 34 16.1 +0.3**
MKAR Makanchi Array 44.55 302 P **P 10 34 15.8 0.0**
comp=Z,32nm,0.8s,baz=86,slow=9.8,SNR=95
MKAR Makanchi Array 44.55 302 *e*P **P 10 34 16.1 +0.3**
MAKZ Makanchi 44.76 302 *e*P **P 10 34 17.7 +0.3**
MAKZ pmax pmax
comp=Z,71nm,0.9s
MAKZ Makanchi 44.76 302 *e*P **P 10 34 17.7 +0.3**
comp=Z,71nm,0.9s
TT01 Tatalina 44.84 35 *e*P **P 10 34 17.8 0.0**
TTA Tatalina 44.85 35 *e*P **P 10 34 19.0 +1.0**
TTA pmax pmax
comp=Z,7.0nm,1.2s
TTA Tatalina 44.85 35 *e*P **P 10 34 19.0 +1.0**
comp=Z,6.9nm,1.2s
KDI Kendari 44.91 208 P **P 10 34 20.0 +1.2**
comp=Z,24nm,1.2s
SVW2 Sparrevohn 44.93 37 *e*P **P 10 34 18.2 -0.3**
comp=Z,12nm,0.9s
PHET Kaeng Krachan 45.06 249 P **P 10 34 23.3 +3.1**
comp=Z,16nm,0.7s
OHAK Old Harbor 46.13 43 *e*P **P 10 34 28.2 +0.2**
comp=Z,25nm,1.0s
KURK Kurchatov 46.30 308 P **P 10 34 30.2 +0.6**
KURK pmax pmax
comp=Z,54nm,0.6s
KURK Kurchatov 46.30 308 *e*P **P 10 34 28.9 -0.7**
comp=Z,285nm,0.6s
RSO Redoubt South 46.30 38 *e*P **P 10 34 31.3 +1.6**
KURBB Kurchatov Arra 46.38 308 P **P 10 34 30.1 0.0**
comp=Z,67nm,0.8s,baz=82,slow=8.2,SNR=150
KDAK Kodiak Island 46.48 42 *i*P **P 10 34 31.2 +0.4**
comp=Z,37nm,0.8s
KDAK Kodiak Island 46.48 42 *e*P **P 10 34 31.2 +0.4**
comp=Z,37nm,0.8s
PPLA Purkeypile 46.59 35 *e*P **P 10 34 32.5 +0.6**
comp=Z,48nm,1.6s
SPU Mount Spurr 46.64 37 *e*P **P 10 34 33.7 +1.5**
STKI Sintang 46.67 225 P **P 10 34 34.3 +1.5**
comp=Z,37nm,0.5s,comp=Z,13µm
KAPI Kappang 47.01 211 P **P 10 34 36.1 +0.7**
comp=Z,24nm,0.6s,baz=60,slow=2.1,SNR=12
KAPI Kappang 47.01 211 *e*P **P 10 34 36.2 +0.8**
comp=Z,75nm,1.4s
BPAW Bear Paw Mtn. 47.16 33 *e*P **P 10 34 37.6 +1.5**
comp=Z,6.4nm,0.9s
KTH Kantishna Hill 47.18 34 *e*P **P 10 34 38.0 +1.7**
comp=Z,15nm,0.9s
PDGK Podgornoye 47.25 298 P **P 10 34 36.9 -0.1**
PDGK pmax pmax
comp=Z,57nm,0.9s
MLY Manley 47.30 32 *e*P **P 10 34 38.9 +1.7**
comp=Z,12nm,0.9s
TRF Thorofare Moun 47.46 34 *e*P **P 10 34 39.8 +1.1**
comp=Z,9.9nm,1.0s
COLD Coldfoot 47.62 29 *e*P **P 10 34 41.1 +1.4**
COLD *e*pP **sP 10 34 45.4 -1.4**
BSSI Bau Bau, Buton 47.73 210 P **P 10 34 40.9 -0.1**
comp=Z,27nm,1.3s,comp=Z,583nm
RC01 Rabbit Creek A 47.77 37 *e*P **P 10 34 42.1 +1.3**
comp=Z,19nm,0.6s
GUN Gumba 47.79 276 *e*P **P 10 34 42.2 +0.3**
comp=Z,236nm,0.9s
BWN Browne 47.83 33 *e*P **P 10 34 43.5 +2.2**
comp=Z,55nm,1.1s
BBKI Banjar Baru 47.87 218 P **P 10 34 42.4 +0.2**
comp=Z,78nm,1.4s,comp=Z,7µm
SEW Seward 47.96 39 *e*P **P 10 34 43.8 +1.5**
comp=Z,30nm,1.2s
MCK McKinley 48.07 34 *e*P **P 10 34 44.1 +0.9**
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 48.07 34 *e*P **P 10 34 44.0 +0.9**
comp=Z,13nm,1.0s
KKN Kakani 48.32 276 *e*P **P 10 34 46.4 +0.6**
comp=Z,85nm,0.8s
PKIN Phulchoki 48.32 276 *e*P **P 10 34 45.9 0.0**
comp=Z,37nm,0.7s
MDM Murphy Dome 48.36 32 *e*P **P 10 34 46.6 +1.1**
comp=Z,25nm,1.0s
WRH Wood River Hil 48.43 33 *e*P **P 10 34 46.6 +0.7**
comp=Z,7.7nm,0.8s
KRAB Krabi 48.49 244 P **P 10 34 48.5 +1.5**
comp=Z,46nm,0.7s,comp=Z,1µm
COLA College 48.52 32 *i*P **P 10 34 47.2 +0.6**
COLA pmax pmax
comp=Z,30nm,2.2s
COLA College 48.52 32 *e*P **P 10 34 48.1 +1.5**
comp=Z,10nm,0.8s
DMN Daman 48.54 276 *e*P **P 10 34 47.8 +0.2**
comp=Z,56nm,0.8s
CCB Clear Creek Bu 48.55 33 *e*P **P 10 34 47.5 +0.7**
comp=Z,3.7nm,0.9s
GKN Gorkha 48.73 277 *e*P **P 10 34 49.1 +0.1**
comp=Z,176nm,0.9s
IL1 Eielson Array 48.94 32 *e*P **P 10 34 48.5 -1.3**
ILAR Eielson Array 48.94 32 P **P 10 34 49.9 0.0**
comp=Z,10nm,0.8s,baz=267,slow=6.2,SNR=106
ILB Eielson Array 48.94 32 *e*P **P 10 34 50.2 +0.4**
KOLN Kolanda 49.66 277 *e*P **P 10 34 56.5 +0.4**
comp=Z,76nm,0.9s
PAX Paxson 49.66 35 *e*P **P 10 34 55.7 +0.2**
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX Paxson 49.66 35 *e*P **P 10 34 55.6 +0.2**
comp=Z,9.2nm,1.0s
DIV Divide 49.69 37 *e*P **P 10 34 57.2 +1.5**
comp=Z,34nm,1.1s
SOEI Soe 49.73 203 P **P 10 34 56.5 0.0**
comp=Z,70nm,1.0s,comp=Z,707nm
SOEI Soe 49.73 203 *e*P **P 10 34 59.8 +3.3**
comp=Z,71nm,1.0s
IPM Ipoh 49.83 239 *e*P **P 10 34 57.3 0.0**
comp=Z,30nm,1.1s
PYUN Piuthan 49.99 278 *e*P **P 10 34 58.9 +0.2**
comp=Z,408nm,1.0s
TKM2 Tokmak 2 50.10 298 *i*P **P 10 34 59.7 +0.4**
TKM2 pmax pmax
comp=Z,40nm,0.7s
TKM2 Tokmak 2 50.10 298 *e*P **P 10 35 00.1 +0.8**
comp=Z,43nm,0.7s
DOT Dot Lake 50.24 34 *e*P **P 10 35 00.1 +0.3**
comp=Z,17nm,0.7s
MENT Mentasta 50.46 35 *e*P **P 10 35 03.1 +1.6**
comp=Z,14nm,0.8s
FRU Bishkek 50.81 299 *e*P **P 10 35 03.0 -1.4**
FRU pmax pmax
comp=Z,50nm,1.2s
OTUK Ortayu 50.82 306 P **P 10 35 04.3 -0.1**
OTUK pmax pmax
comp=Z,51nm,1.4s
BVA0 Borovoye Array 50.90 312 *i*P **P 10 35 04.5 -0.4**
BVA0 pmax pmax
comp=Z,20nm,1.3s
BVAR Borovoye Array 50.90 312 P **P 10 35 05.1 +0.1**
comp=Z,18nm,1.0s,baz=78,slow=7.7,SNR=32
KSH Kashi 50.91 294 P **P 10 35 09.7 +4.3**
KSH pP sP 10 35 15.2 +2.6
KSH PcP **PcP 10 36 24.2 +2.5**
KSH PP **PP 10 37 06.4 +4.8**
KSH S **S 10 42 24.0 +2.7**
KSH ScS **ScS 10 44 54.0 -1.6**
KSH SS **SS 10 45 56.5 +0.7**
KSH PMZ
comp=Z,22nm,1.0s
KSH PMZ
comp=Z,120nm,4.2s
KSH LN
comp=Z,870nm,15.2s
KSH LE
comp=Z,2µm,19.4s
KSH LZ
comp=Z,2µm,17.1s
MTN Manton Dam 50.93 194 *e*P **P 10 35 04.9 -0.5**
comp=Z,39nm,1.3s
BRVK Borovoye 50.95 312 *i*P **P 10 35 05.6 +0.3**
BRVK pmax pmax
comp=Z,51nm,1.0s
BRVK Borovoye 50.95 312 *e*P **P 10 35 06.0 +0.6**
comp=Z,40nm,0.9s
AAK Ala-Archa 50.96 298 P **P 10 35 05.9 +0.2**
comp=Z,13nm,0.7s,baz=80,slow=5.6,SNR=8.5
AAK Ala-Archa 50.96 298 *i*P **P 10 35 05.7 0.0**
AAK pmax pmax
comp=Z,19nm,1.1s
AAK Ala-Archa 50.96 298 *e*P **P 10 35 06.4 +0.6**
comp=Z,22nm,0.9s
COEN Coen 50.96 179 *e*P **P 10 35 06.0 +0.3**
comp=Z,16nm,0.8s
EGAK Eagle 51.38 32 *e*P **P 10 35 08.9 +0.6**
comp=Z,9.6nm,1.0s
EKS2 Erkin-Say 51.45 299 *e*P **P 10 35 09.6 +0.2**
EKS2 pmax pmax
comp=Z,18nm,0.9s
EKS2 Erkin-Say 51.45 299 *e*P **P 10 35 09.6 +0.2**
comp=Z,18nm,0.9s
ZRNK Zerenda 51.73 312 *i*P **P 10 35 10.9 -0.2**
ZRNK pmax pmax
comp=Z,32nm,1.0s
MNAS Manas 52.40 299 P **P 10 35 16.7 +0.2**
MNAS pmax pmax
comp=Z,43nm,0.8s
PSI Prapat 52.48 240 *e*P **P 10 35 17.5 +0.2**
PSI pmax pmax
comp=Z,15nm,0.9s
PSI Prapat 52.48 240 *e*P **P 10 35 17.5 +0.2**
comp=Z,15nm,0.9s
PWJI Pagerwojo 53.31 219 P **P 10 35 22.3 -0.9**
comp=Z,76nm,0.8s
MNSI Mandailing Nat 53.50 237 P **P 10 35 26.2 +1.6**
comp=Z,27nm,0.4s
SDSI Sungai Dareh 53.56 234 P **P 10 35 26.0 +0.9**
comp=Z,46nm,1.1s
KK31 Karatay Array 53.58 300 *i*P **P 10 35 25.1 +0.1**
KK31 pmax pmax
comp=Z,35nm,1.2s
KKAR Karatay Array 53.58 300 *e*P **P 10 35 25.4 +0.4**
KKAR pmax pmax
comp=Z,20nm,0.8s
KKAR Karatay Array 53.58 300 *e*P **P 10 35 25.4 +0.4**
comp=Z,20nm,0.8s
UGM Wanagama 53.86 220 P **P 10 35 26.8 -0.5**
comp=Z,100nm,1.1s
UGM Wanagama 53.86 220 *e*P **P 10 35 26.8 -0.5**
comp=Z,190nm,1.3s
INK Inuvik 53.87 27 *e*P **P 10 35 27.6 +0.9**
INK pmax pmax
comp=Z,12nm,0.8s
INK Inuvik 53.87 27 *e*P **P 10 35 27.6 +0.9**
comp=Z,12nm,0.8s
KPJI Karang Pucung 54.21 222 P **P 10 35 29.7 -0.1**
GSI Gunungsitoli 54.49 240 *e*P **P 10 35 31.8 -0.1**
comp=Z,170nm,1.3s
SVE Sverdlovsk 55.40 319 *ce*P **P 10 35 38.6 +0.6**
SVE *e*S **S 10 43 23.3 +1.6**
SVE pmax pmax
comp=Z,74nm,1.1s
SVE MLR MLR
comp=Z,1µm,16.0s
DZET Dzherino 56.34 296 P **P 10 35 45.1 0.0**
DZET pmax pmax
comp=Z,58nm,0.8s
SOKR Solikamsk 56.54 323 *d*/*i*P **P 10 35 44.8 -1.2**
SOKR pmax pmax
comp=Z,30nm,1.1s
SOKR MLR MLR
comp=Z,686nm,18.0s
ARU Arti 56.62 319 P **P 10 35 46.7 0.0**
comp=Z,27nm,0.8s,baz=77,slow=4.4,SNR=30
ARU Arti 56.62 319 *d*/*i*P **P 10 35 46.7 0.0**
ARU 10 36 39.3
ARU PPP PPP 10 39 10.6
ARU S **S 10 43 39.7 +1.9**
ARU 10 45 33.9
ARU SS **SS 10 47 26.4 +1.6**
ARU pmax pmax
comp=Z,64nm,1.0s
ARU MLR MLR
comp=Z,2µm,18.0s
ARU Arti 56.62 319 *e*P **P 10 35 46.9 +0.2**
comp=Z,67nm,1.1s
FITZ Fitzroy Crossi 57.26 199 P **P 10 35 51.9 +0.4**
comp=Z,5.2nm,0.9s,baz=15,slow=7.5,SNR=10
FITZ Fitzroy Crossi 57.26 199 *e*P **P 10 35 52.1 +0.5**
comp=Z,48nm,1.9s
WRAB Tennant Creek 57.38 189 *e*P **P 10 35 51.1 -1.3**
WRAB pmax pmax
comp=Z,26nm,0.8s
WRAB Tennant Creek 57.38 189 *e*P **P 10 35 51.1 -1.3**
comp=Z,26nm,0.8s
WB2 Warramunga Arr 57.39 189 *e*P **P 10 35 51.1 -1.4**
comp=Z,27nm,0.8s
WRA Warramunga Arr 57.39 189 P **P 10 35 51.1 -1.4**
comp=Z,15nm,0.6s,baz=6.4,slow=7.3,SNR=192
WRA PcP **PcP 10 36 47.3 +0.9**
comp=Z,5.8nm,0.8s,baz=358,slow=4.0,SNR=5.9
KBL Kabul 57.95 291 *e*P **P 10 35 56.8 +0.1**
KBL pmax pmax
comp=Z,34nm,1.0s
KBL Kabul 57.95 291 *e*P **P 10 35 56.8 +0.1**
comp=Z,34nm,1.0s
DLBC Dease Lake 58.03 38 *e*P **P 10 35 58.6 +1.9**
comp=Z,14nm,1.1s
ABKAR Akbulak array 58.29 310 *e*P **P 10 35 58.5 -0.1**
comp=Z,5.5nm,0.4s
HYB Hyderabad 58.87 269 *i*P **P 10 36 03.5 +0.4**
AKTO Aktyubinsk 59.01 312 P **P 10 36 03.6 0.0**
comp=Z,13nm,0.8s,baz=71,slow=6.7,SNR=25
SPITS Spitsbergen Ar 60.42 349 P **P 10 36 13.1 +0.2**
comp=Z,7.6nm,0.9s,baz=107,slow=14,SNR=5.8
AS01 Alice Springs 61.11 189 *e*P **P 10 36 16.3 -1.9**
AS31 Alice Springs 61.12 189 *e*P **P 10 36 17.6 -0.7**
comp=Z,3.2nm,0.9s
ASAR Alice Springs 61.12 189 P **P 10 36 17.4 -0.9**
comp=Z,7.5nm,0.7s,baz=16,slow=7.2,SNR=91
HSPB Hornsund (broa 61.35 348 *e*P **P 10 36 20.2 +1.0**
MBWA Marble Bar 61.87 204 *e*P **P 10 36 22.9 -0.4**
comp=Z,32nm,0.8s
LVZ Lovozero 62.16 336 *e*P **P 10 36 24.5 -0.3**
LVZ pmax pmax
comp=Z,24nm,1.0s
LVZ Lovozero 62.16 336 *e*P **P 10 36 24.5 -0.3**
comp=Z,24nm,1.0s
RES Resolute Bay 62.20 15 P **P 10 36 25.3 +0.3**
comp=Z,23nm,0.9s,baz=310,slow=9.2,SNR=8.5
RES Resolute Bay 62.20 15 *e*P **P 10 36 25.7 +0.7**
RES pmax pmax
comp=Z,26nm,0.9s
RES Resolute Bay 62.20 15 *e*P **P 10 36 25.7 +0.7**
comp=Z,26nm,0.9s
APA Apatity 62.74 336 *i*P **P 10 36 28.0 -0.7**
APA *i*S **S 10 44 51.0 -5.4**
APA pmax pmax
comp=Z,20nm,0.9s
APA MLR MLR
comp=Z,500nm,14.0s
YKA Yellowknife Ar 63.27 30 P **P 10 36 32.3 +0.1**
comp=Z,3.6nm,0.8s,baz=298,slow=6.7,SNR=32
DZM Mont Dzumac 63.28 155 *e*S **S 10 45 08.6 +4.3**
comp=Z,137nm,23.6s
DZM Mont Dzumac 63.28 155 *e*LR LR 10 55 21.1
comp=Z,766nm,21.6s
DZM Mont Dzumac 63.28 155 P **P 10 36 33.3 +0.4**
comp=Z,4.0nm,0.9s,baz=43,slow=10.0,SNR=3.2
KLMR Klimovskoe 63.91 328 *e*P **P 10 36 34.3 -2.2**
KLMR *e* 10 38 54.8
KLMR pmax pmax
comp=Z,30nm,1.0s
ARA0 ARCESS Array S 64.00 340 *e*P **P 10 36 37.4 +0.3**
ARA0 *ep*P **sP 10 36 43.0 -1.4**
ARCES ARCESS Array B 64.00 340 P **P 10 36 37.6 +0.6**
comp=Z,8.5nm,0.9s,baz=56,slow=7.5,SNR=14
ARE0 ARCESS Array S 64.00 340 *e*P **P 10 36 38.0 +1.0**
comp=Z,40nm,1.3s
GEYT Alibeck 64.30 299 P **P 10 36 39.6 +0.1**
comp=Z,7.1nm,0.6s,baz=29,slow=3.4,SNR=11
DAG Danmarks Havn 65.59 355 *i*P **P 10 36 46.9 -0.3**
DAG pmax pmax
comp=Z,13nm,1.0s
DAG Danmarks Havn 65.59 355 *i*P **P 10 36 46.9 -0.3**
comp=Z,13nm,1.0s
NLWA Neilton Lookou 66.06 48 *e*P **P 10 36 54.4 +3.6**
comp=Z,16nm,1.2s
B05A Bryant 66.67 46 P **P 10 36 55.5 +0.9**
baz=300
D05A Enumclaw 67.28 47 *e*P **P 10 37 01.4 +2.9**
comp=Z,39nm,1.5s
MOS Moscow 67.45 324 *e*P **P 10 36 58.2 -1.2**
MOS pmax pmax
comp=Z,94nm,1.3s
VRH Novokhopyorsk 67.84 318 *e*P **P 10 37 01.1 -0.9**
VRH pmax pmax
comp=Z,50nm,0.9s
OBN Obninsk 68.30 323 *i*P **P 10 37 05.3 +0.5**
OBN *e* 10 37 12.5
OBN *e* 10 37 30.0
OBN pmax pmax
comp=Z,31nm,1.1s
OBN MLR MLR
comp=Z,409nm,16.0s
OBN Obninsk 68.30 323 *e*P **P 10 37 04.8 0.0**
H04A Detroit Lake 68.45 50 *e*P **P 10 37 07.5 +1.5**
comp=Z,32nm,1.4s
LPSR Galich'ya Gora 68.54 320 *e*P **P 10 37 06.3 0.0**
LPSR pmax pmax
comp=Z,40nm,0.9s
G05D Wamic, OR 68.68 49 P **P 10 37 08.3 +0.9**
baz=302
I04A Tendick Farm, 68.77 51 P **P 10 37 08.7 +0.6**
baz=302
STKA Stephens Creek 68.80 181 P **P 10 37 08.2 +0.1**
comp=Z,5.4nm,0.7s,baz=340,slow=5.0,SNR=8.4
L02D Cave Junction, 68.88 53 P **P 10 37 09.0 +0.3**
baz=302
FIA1 FINESS Array S 68.91 332 *e*P **P 10 37 08.6 +0.1**
FINES FINESS Array B 68.91 332 P **P 10 37 08.7 +0.2**
comp=Z,39nm,0.8s,baz=57,slow=7.0,SNR=103
I05D Terrebonne, OR 69.14 50 P **P 10 37 10.3 0.0**
baz=302
VSR Storozhevoye 69.19 319 *e*P **P 10 37 09.7 -0.7**
VSR pmax pmax
comp=Z,30nm,0.8s
NEW Newport 69.50 45 P **P 10 37 13.0 +0.6**
comp=Z,2.8nm,0.8s,baz=320,slow=2.2,SNR=4.6
NEW Newport 69.50 45 P **P 10 37 12.6 +0.2**
baz=303

J05D Fort Rock, OR 69.77 51 P P 10 37 15.1 +0.7
baz=302
K04D Chiloquin, OR 69.80 51 P P 10 37 15.3 +0.8
baz=302
BBOO Buckleboo 69.96 186 *eP* P 10 37 15.0 -0.2
N02D Trinity Center 70.08 53 P P 10 37 16.9 +0.7
baz=302
M04C Macdoel 70.20 52 P P 10 37 17.5 +0.5
baz=303
K05A Summer Lake 70.28 51 *eP* P 10 37 19.4 +1.8
comp=Z,36nm,1.1s
WDC Whiskeytown Da 70.40 54 *eP* P 10 37 20.0 +2.0
WDC pmax pmax
comp=Z,13nm,1.1s
WDC Whiskeytown Da 70.40 54 *eP* P 10 37 20.0 +2.0
comp=Z,13nm,1.1s
GOF Gofitskoye 70.42 312⇑ *eP* P 10 37 18.8 +0.7
GOF pmax pmax
comp=Z,51nm,0.6s
SUMG Summit 70.44 0 *i* P P 10 37 19.2 +0.9
SUMG pmax pmax
comp=Z,27nm,1.1s
SUMG Summit 70.44 0 *i* P P 10 37 19.2 +0.9
comp=Z,27nm,1.1s
SUMG Summit 70.44 0 *eP* P 10 37 19.2 +0.9
WALA Waterton Lakes 70.81 43 *eP* P 10 37 21.8 +1.1
NCK Nalchik 70.95 310 *i* P P 10 37 21.4 0.0
NCK pmax pmax
comp=Z,19nm,1.1s
GUDG Gudauri 70.98 309 P P 10 37 23.2 +1.3
O03D Paynes Creek 71.03 54 P P 10 37 22.5 +0.5
baz=303
MOD Modoc Plateau 71.10 51 *eP* P 10 37 23.8 +1.3
ZEI Tsey 71.16 310 *eP* P 10 37 21.0 -1.9
ZEI pmax pmax
comp=Z,44nm,0.9s
KBZ Khabaz 71.25 311 P P 10 37 23.7 +0.5
comp=Z,19nm,0.9s,baz=39,slow=2.2,SNR=37
KIV Kislovodsk 71.25 311 *eP* P 10 37 23.8 +0.5
KIV *eS* S 10 46 40.7 +0.7
KIV pmax pmax
comp=Z,62nm,1.0s
KIV pmax pmax
comp=Z,24nm,3.2s
KIV Kislovodsk 71.25 311 *eP* P 10 37 24.6 +1.3
ONI Oni 71.54 310 P P 10 37 26.0 +0.9
ONI Oni 71.54 310 P P 10 37 25.9 +0.9
NEY Neytrino 71.62 311⇑ *eP* P 10 37 27.3 +1.6
NEY pmax pmax
comp=Z,3.0nm,1.0s
SWMT Swartz Lake 71.66 44 *eP* P 10 37 26.9 +1.1
WVOR Wild Horse Val 71.83 50 *eP* P 10 37 28.2 +1.3
WVOR Wild Horse Val 71.83 50 *eP* P 10 37 28.2 +1.3
SCO Scoresbysund 71.94 354 *i* P P 10 37 27.5 +0.7
SCO pmax pmax
comp=Z,23nm,1.5s
SCO Scoresbysund 71.94 354 *i* P P 10 37 27.5 +0.7
comp=Z,23nm,1.5s
MSO Missoula 72.08 44 P P 10 37 28.6 +0.3
baz=306
MSO Missoula 72.08 44 *eP* P 10 37 29.0 +0.6
GNI Garni 72.09 307⇑ *eP* P 10 37 30.3 +1.8
GNI pmax pmax
comp=Z,98nm,2.0s
AKH Akhalkalaki 72.17 309 P P 10 37 28.6 -0.4
AKH Akhalkalaki 72.17 309 P P 10 37 28.6 -0.4
BGD Bogdanovka 72.19 308 P P 10 37 30.9 +1.7
AFDM Forest Hills D 72.30 54 *eP* P 10 37 31.3 +1.7
CHVG Ch'k'valeri 72.31 310 P P 10 37 30.7 +1.1
UOSS Minazif 72.36 288 *eP* P 10 37 30.9 +0.7
IZAR Zarasai 72.56 328 *eP* P 10 37 31.5 +0.7
IZAR IAmb IAmb 10 37 33.6
comp=Z,16nm,0.6s
IDID Didziasalis 72.63 327 *eP* P 10 37 32.0 +0.8
IDID IAmb IAmb 10 37 33.0
comp=Z,17nm,1.0s
ISAL Salakas 72.73 328 *eP* P 10 37 32.6 +0.8
ISAL IAmb IAmb 10 37 33.7
comp=Z,28nm,0.9s
NACGM Naroch 72.89 327 *e* P 10 37 32.0 -0.8
PAHR Pah Rah Range 72.90 53 *eP* P 10 37 34.6 +1.3
MFID Camas Ranch 72.97 48 *eP* P 10 37 34.6 +0.9
FFC Flin Flon 73.14 33 *eP* P 10 37 34.6 +0.3
FFC Flin Flon 73.14 33 *eP* P 10 37 34.6 +0.3
CMB Columbia Colle 73.19 55 *eP* P 10 37 36.2 +1.2
CMB Columbia Colle 73.19 55 *eP* P 10 37 36.2 +1.2
SOC Sochi 73.23 312 *d iP* P 10 37 34.5 -0.5
SOC *ePPP* PPP 10 42 02.5
SOC *eS* S 10 47 02.1 -0.4
SOC pmax pmax
comp=Z,24nm,0.9s
FCC Fort Churchill 73.49 27 *eP* P 10 37 36.3 0.0
FCC Fort Churchill 73.49 27 *eP* P 10 37 36.3 0.0
LRM Limekiln Ridge 73.51 45 *eP* P 10 37 37.8 +0.8
WAKR Walker 73.54 54 *eP* P 10 37 38.8 +1.6
DLMT Dillon 73.70 45 *eP* P 10 37 39.1 +1.1
HLID Hailey 73.72 47 P P 10 37 38.8 +0.6
baz=306
HLID Hailey 73.72 47 *eP* P 10 37 39.6 +1.4
ANN Anapa 73.84 314 *eP* P 10 37 37.1 -1.4
ANN *e*PP sP 10 37 44.9 -1.0
ANN *e* 10 37 50.7
ANN *e* 10 40 22.3
ANN pmax pmax
comp=Z,57nm,1.6s
ANN MLR MLR
comp=Z,467nm,18.0s
BMN Battle Mountai 73.85 51 *eP* P 10 37 40.5 +1.6
BMN Battle Mountai 73.85 51 *eP* P 10 37 40.5 +1.6
MCMT McKenzie Canyo 73.88 46 *eP* P 10 37 39.9 +0.7
BOZ Bozeman (W) 74.08 44 P P 10 37 40.6 +0.4
baz=307,SNR=13
BOZ Bozeman (W) 74.08 44 *eP* P 10 37 41.1 +0.9
BOZ Bozeman (W) 74.08 44 *eP* P 10 37 41.1 +0.9
NB2 NORSAR Subarra 74.22 338 P P 10 37 40.8 +0.2
comp=Z,44nm,1.1s,baz=39,slow=5.9
NB2 NORSAR Subarra 74.22 338 P P 10 37 40.8 +0.2
baz=39,slow=5.9
NB2 NORSAR Subarra 74.22 338 P P 10 37 39.5 -1.1
NB2 pmax pmax
comp=Z,36nm,1.2s
NOA NORSAR Array B 74.22 338 P P 10 37 40.8 +0.2
comp=Z,19nm,1.0s,baz=39,slow=5.8,SNR=25
NVAR Mina Array Bea 74.31 54 P P 10 37 42.7 +0.9
comp=Z,5.7nm,0.9s,baz=290,slow=6.7,SNR=32
AKASG Malin Array Be 74.51 323 P P 10 37 42.4 +0.1
comp=Z,26nm,0.8s,baz=45,slow=6.1,SNR=62
AKBB Malin Array Si 74.51 323 *eP* P 10 37 42.5 +0.1
AKBB Malin Array Si 74.51 323 *eP* P 10 37 42.5 +0.1
KIEV Kiev 74.52 323 *d iP* P 10 37 42.4 0.0
KIEV pmax pmax
comp=Z,40nm,0.9s
KIEV Kiev 74.52 323 *eP* P 10 37 42.3 -0.2
AK11 Malin Array Si 74.55 323 *eP* P 10 37 42.5 -0.1
ELK Elko 74.89 50 *eP* P 10 37 46.6 +1.5
ELK Elko 74.89 50 *eP* P 10 37 46.6 +1.5
RCTC Rector, Farmer 74.92 56 P P 10 37 45.9 +0.8
baz=305
SUW Suwalki 75.04 328 *eP* P 10 37 45.7 +0.3
SUW Suwalki 75.04 328 *eP* P 10 37 45.7 +0.3
YMR Madison River 75.05 45 *eP* P 10 37 47.6 +1.7
GCMT Greycliff 75.08 43 *eP* P 10 37 47.3 +1.3
YFT Old Faithful 75.25 45 *eP* P 10 37 50.5 +3.3
VES Vestal, Richgr 75.30 56 P P 10 37 46.9 -0.3
baz=306,SNR=6.5
PKM Mcpherson Peak 75.36 57 P P 10 37 48.7 +0.8
baz=305
LKWY Lake 75.43 45 *eP* P 10 37 51.1 +2.9
LKWY Lake 75.43 45 *eP* P 10 37 51.1 +2.9
H17A Grant Village 75.43 45 P P 10 37 49.9 +1.7
baz=308,SNR=12
H17A Grant Village 75.43 45 *eP* P 10 37 50.9 +2.7
IMW Indian Meadow 75.53 46 *eP* P 10 37 50.3 +1.5
FLWY Flagg Ranch 75.56 45 *eP* P 10 37 51.1 +2.2
SFJD Kangerlussuaq 75.59 5 *i* P P 10 37 48.0 -0.3
SFJD pmax pmax
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 75.59 5 *i* P P 10 37 48.0 -0.3
comp=Z,18nm,0.9s
CWC Cottonwood Cre 75.61 55 P P 10 37 49.8 +0.6
baz=306
SIM Simferopol' 75.62 316 *eP* P 10 37 48.1 -0.8
SIM *e* 10 37 57.0
SIM pmax pmax
comp=Z,33nm,0.9s
SIM MLR MLR
comp=N,420nm,18.3s
RLMT Red Lodge 75.71 44 P P 10 37 50.4 +0.6
baz=309,SNR=5.1
RLMT Red Lodge 75.71 44 *eP* P 10 37 51.1 +1.3
MOOW Moose Ponds 75.74 46 *eP* P 10 37 51.2 +1.3
GRAC Grapevine Rang 75.75 54 P P 10 37 50.5 +0.6
baz=306,SNR=8.3
HVU Hansel Valley 75.76 48 *eP* P 10 37 51.5 +1.5
HVU Hansel Valley 75.76 48 *eP* P 10 37 51.5 +1.5
TPAW Teton Pass 75.78 46 *eP* P 10 37 52.0 +1.8
ISA Isabella, Lake 75.81 56 P P 10 37 50.3 +0.1
baz=306
ARVC Arvin 75.88 57 P P 10 37 50.8 +0.2
baz=306
LOHW Long Hollow 75.90 46 *eP* P 10 37 52.6 +1.8
SNOW Snow King Moun 75.91 46 *eP* P 10 37 52.5 +1.6
REDW Red Top Meadow 75.91 46 *eP* P 10 37 52.5 +1.6
DAC Darwin (Calif) 76.03 55 *eP* P 10 37 52.5 +0.9
DAC Darwin (Calif) 76.03 55 *eP* P 10 37 52.5 +0.9
R11A Troy Canyon, C 76.09 52 P P 10 37 52.5 +0.5
baz=307,SNR=18
R11A Troy Canyon, C 76.09 52 *eP* P 10 37 52.8 +0.8
BGU Big Grassy Mou 76.12 49 *eP* P 10 37 53.5 +1.4
AHID Auburn Hatcher 76.14 47 *eP* P 10 37 53.4 +1.2
MPMC Manual Prospec 76.22 55 P P 10 37 53.3 +0.6
baz=306,SNR=11
LAO LASA Array 76.36 41 P P 10 37 54.0 +0.8
baz=310
LAO LASA Array 76.36 41 *eP* P 10 37 54.6 +1.5
FURC Furnace Creek, 76.39 55 P P 10 37 53.9 +0.5
baz=306,SNR=8.7
LRMC Laurel Mtn Rad 76.44 56 P P 10 37 54.2 +0.3
baz=306,SNR=5.4
A25A Svangstu Ranch 76.47 38 P P 10 37 53.8 +0.1
baz=312
TPNV Topopah Spring 76.50 54 P P 10 37 54.8 +0.4
baz=307,SNR=19
TPNV Topopah Spring 76.50 54 *eP* P 10 37 55.0 +0.7
TPNV Topopah Spring 76.50 54 *eP* P 10 37 55.0 +0.7
HWUT Hardware Ranch 76.58 48 *eP* P 10 37 56.1 +1.5
EDW2 Edwards Air Fo 76.58 56 P P 10 37 55.3 +0.6
baz=306,SNR=6.9
SORM Soroca 76.62 321⇑ *iP* P 10 37 55.1 +0.6
SORM Soroca 76.62 321⇑ P P 10 37 55.1 +0.6
DUG Dugway, Tooele 76.70 50 P P 10 37 55.9 +0.5
baz=308
DUG Dugway, Tooele 76.70 50 *eP* P 10 37 56.5 +1.2
DUG Dugway, Tooele 76.70 50 *eP* P 10 37 56.5 +1.2
TCUT Toone Canyon 76.97 48 *eP* P 10 37 58.5 +1.5
A26A Wade Farm, Ken 77.02 38 P P 10 37 57.3 +0.5
baz=313
BW06 Boulder Array 77.03 46 P P 10 37 57.5 +0.3
baz=309
BW06 Boulder Array 77.03 46 *eP* P 10 37 57.4 +0.1
BW06 *eP* P 10 37 57.8 +0.5
PD31 Pinedale Array 77.03 46 *eP* P 10 37 57.9 +0.6
PDAR Pinedale Array 77.03 46 P P 10 37 57.2 -0.1
comp=N,2.2nm,0.7s,baz=270,slow=3.0,SNR=21
GSC Goldstone, Bar 77.12 55 P P 10 37 58.3 +0.6
baz=307,SNR=6.8
GSC Goldstone, Bar 77.12 55 *eP* P 10 37 58.6 +0.9
GSC Goldstone, Bar 77.12 55 *eP* P 10 37 58.6 +0.9
KIS Kishinev 77.14 320 *eP* P 10 37 56.0 -1.5
KIS LRM MLR 11 14 58.0
comp=N,1μm,16.0s
KIS Kishinev 77.14 320 *eP* P 10 37 56.0 -1.5
KIS *e* 10 38 13.0
KIS *e* 10 48 10.0
KIS MLR MLR
KIS comp=Z,1μm,15.0s MLR MLR
comp=Z,1μm,16.0s
BFSC Mount Baldy Ra 77.18 57 P P 10 37 58.2 0.0
baz=306
JLU Jordanelle 77.27 49 *eP* P 10 38 00.0 +1.3
A27A Ledaux Ranch, 77.37 37 P P 10 37 59.2 +0.5
baz=313
SHPR Sheep Range 77.47 54 *eP* P 10 38 01.2 +1.5
BORG Borgarnes 77.49 353 *i* P P 10 37 57.4 -1.7
D25A Fairfield 77.56 40 P P 10 38 00.2 +0.3
baz=312
LVV L'vov 77.57 324 *eP* P 10 37 58.7 -1.2
TUQ Turquoise Moun 77.61 55 P P 10 38 01.2 +0.6
baz=307,SNR=7.5
BBRC Big Bear Solar 77.66 56 P P 10 38 01.2 +0.3
baz=307
HEC Hecor,Ludlow 77.71 56 P P 10 38 01.5 +0.5
baz=307
B27A Peters Farms, 77.73 38 P P 10 38 01.3 +0.5
baz=313
A28A Rude Farm, Bot 77.86 37 P P 10 38 01.9 +0.3
baz=314
MURC Murrieta 77.87 57 P P 10 38 02.2 +0.3
baz=307
E25A Miller Ranch, 77.95 40 P P 10 38 02.5 +0.4
baz=312
CCUT Cedar City 77.97 52 *eP* P 10 38 04.2 +1.5
MSU Marysvale 78.12 51 *eP* P 10 38 04.9 +1.5
MSU Marysvale 78.12 51 *eP* P 10 38 04.9 +1.5
B28A Dugan Ranch, T 78.14 37 P P 10 38 03.4 +0.3
baz=314
GMRC Granite Mounta 78.18 55 P P 10 38 04.2 +0.5
baz=307,SNR=6.9
F25A Bowman 78.31 41 P P 10 38 04.4 +0.3
baz=312
KWP Kalwaria Pacla 78.32 325 *eP* P 10 38 05.0 +1.0
KWP Kalwaria Pacla 78.32 325 *eP* P 10 38 05.0 +1.0
A29A Manning Farm, 78.35 36 P P 10 38 04.4 +0.2
baz=314
PFO Pinyon Flats O 78.36 57 P P 10 38 05.1 +0.4
baz=307
PFO Pinyon Flats O 78.36 57 *eP* P 10 38 05.5 +0.8
PFO Pinyon Flats O 78.36 57 *eP* P 10 38 05.5 +0.8
109C Camp Elliot, M 78.36 58 P P 10 38 05.1 +0.6
baz=307
TPFO Pinon Flats 78.36 57 P P 10 38 05.0 +0.3
baz=307,SNR=5.1
LCMT Little Creek M 78.38 52 *eP* P 10 38 06.0 +1.2
P17A Butcher Ranch, 78.40 49 *eP* P 10 38 06.4 +1.5
MTPU Mount Pierson 78.41 51 *eP* P 10 38 06.8 +1.6
BELC Belle Mtn. Jos 78.43 56 P P 10 38 05.4 +0.3
baz=307
E26A Carlson Angus 78.45 40 P P 10 38 05.2 +0.3
baz=313
Q16A Castle Valley 78.48 50 *eP* P 10 38 07.1 +1.7
BUR08 Bucovina Ar. S 78.52 322 *eP* P 10 38 06.4 +1.1
TESR Tescani 78.57 321 *iP* P 10 38 05.9 +0.4
B29A Wagenman Farm, 78.61 37 P P 10 38 05.7 +0.1
baz=314
C28A Hausauer Farms 78.63 38 P P 10 38 06.3 +0.5
baz=314
KNB Kanab 78.64 52 *eP* P 10 38 08.0 +1.7
KNB Kanab 78.64 52 *eP* P 10 38 08.0 +1.7
PKCU Pink Cliffs 78.70 51 *eP* P 10 38 11.6 +4.9
CFR Carcaliu 78.70 319⇑ *iP* P 10 38 06.8 +0.6
CFR Carcaliu 78.70 319⇑ P P 10 38 06.8 +0.6
SRU San Rafael Swe 78.76 49 *eP* P 10 38 08.0 +1.1
SRU San Rafael Swe 78.76 49 *eP* P 10 38 08.0 +1.1
F26A Lodgepole 78.76 40 P P 10 38 06.8 +0.2
baz=313
A30A Hoffart Farm, 78.77 36 P P 10 38 06.7 +0.2
baz=315
MONP2 Monument Peak 78.81 57 P P 10 38 07.6 +0.3
baz=307
K22A Casper 78.82 45 P P 10 38 07.2 +0.1
baz=311
K22A Casper 78.82 45 *eP* P 10 38 07.8 +0.7
MMU Miners Mountai 78.86 50 *eP* P 10 38 08.8 +1.2
IRM Iron Mountain 78.90 56 P P 10 38 07.9 +0.4
baz=308,SNR=6.3
ULM Lac du Bonnet 78.94 34 P P 10 38 07.6 +0.2
comp=Z,4.8nm,0.8s,baz=315,slow=5.4,SNR=6.2
VRI Vrincioaia 78.97 320⇑ *iP* P 10 38 10.4 +2.7
VRI Vrincioaia 78.97 320⇑ P P 10 38 10.4 +2.7
BC3 Big Chuckawall 79.00 56 P P 10 38 08.4 +0.2
baz=308,SNR=5.7
KOLS Kolonicke sedl 79.01 324 *eP* P 10 38 09.1 +1.2
KOLS *e* 10 38 14.8
KOLS *e* 10 41 04.3
KOLS pmax pmax
comp=Z,16nm,1.1s
KOLS Kolonicke sedl 79.01 324 *eP* P 10 38 09.1 +1.2
KOLS *e* 10 38 14.8
KOLS *ePP* PP 10 41 04.3 -1.9
PLOR Plostina 79.02 320⇑ *iP* P 10 38 09.3 +1.3
PLOR Plostina 79.02 320⇑ P P 10 38 09.3 +1.3
B30A Myrvik Farm, E 79.11 36 P P 10 38 08.5 +0.1
baz=315
H25A Fruitdale 79.11 42 P P 10 38 08.3 -0.2
baz=312
HARR Harsova 79.14 319⇑ *iP* P 10 38 09.6 +1.0
HARR Harsova 79.14 319⇑ P P 10 38 09.6 +1.0
STHS Stebnicka Huta 79.14 325 *eP* P 10 38 09.9 +1.3
STHS pmax pmax
comp=Z,15nm,0.9s
STHS Stebnicka Huta 79.14 325 *eP* P 10 38 09.9 +1.3
IKP In-Ko-Pah, Jac 79.17 57 P P 10 38 09.3 +0.2
baz=308
BR131 Keskin Array S 79.19 312 *eP* P 10 38 09.8 +0.6
BRTR Keskin Array B 79.19 312 P P 10 38 09.4 +0.3
comp=Z,7.7nm,1.0s,baz=97,slow=4.0,SNR=38
BRTR PP PP 10 41 05.1 -3.0
comp=Z,1.8nm,1.0s,baz=64,slow=6.6,SNR=3.9
SWSC Sam W. Stewart 79.20 57 P P 10 38 09.6 +0.5
baz=308
OJC Ojcow 79.21 327 *eP* P 10 38 09.7 +0.9
OJC Ojcow 79.21 327 *eP* P 10 38 09.8 +0.9
OJC Ojcow 79.21 327 *eP* P 10 38 09.8 +0.9
RSSD Black Hills 79.21 42 P P 10 38 09.3 0.0
baz=312
RSSD Black Hills 79.21 42 *eP* P 10 38 09.7 +0.4
RSSD Black Hills 79.21 42 *eP* P 10 38 09.7 +0.4
UZH Uzhgorod 79.22 324 *eP* P 10 38 09.0 0.0
UZH *e* 10 41 13.1
UZH *eS* S 10 48 04.0 -4.1
ARCR ARCALIA 79.32 322⇑ *iP* P 10 38 11.6 +2.0
CRVS Cervenica-Dubn 79.41 325 *eP* P 10 38 11.3 +1.2
CRVS Cervenica-Dubn 79.41 325 *eP* P 10 38 11.3 +1.2
TRPA Tarpa 79.46 324⇓ *eP* P 10 38 11.3 +1.0
O20A White River Ci 79.46 47 P P 10 38 10.9 +0.2
baz=310
O20A White River Ci 79.46 47 *eP* P 10 38 11.5 +0.8
PDMCI Parker Dam,Lak 79.47 55 P P 10 38 10.6 +0.1
baz=308,SNR=7.3
Y12C Blythe 79.55 56 P P 10 38 11.6 +0.6
baz=308
Y12C Blythe 79.55 56 *eP* P 10 38 12.3 +1.2
C30A Mose, Pekin 79.56 37 P P 10 38 11.2 +0.3
baz=315
NIE Niedzica 79.57 326 *eP* P 10 38 12.1 +1.2
NIE Niedzica 79.57 326 *eP* P 10 38 12.1 +1.2
ISR Istrita 79.57 320⇑ *iP* P 10 38 12.9 +1.8
ISR Istrita 79.57 320⇑ P P 10 38 12.9 +1.8
DOPR Dopca 79.58 321⇑ *iP* P 10 38 12.9 +1.9
MSAB Monastry St. A 79.60 318⇑ *iP* P 10 38 11.9 +0.8
BR231 Keskin MP Arra 79.62 312 *eP* P 10 38 10.4 -1.1
A32A Rocking H Ranc 79.62 35 P P 10 38 11.0 -0.2
baz=316
MLR Muntele Rosu 79.63 320⇑ *iP* P 10 38 12.4 +1.0
MLR Muntele Rosu 79.63 320⇑ P P 10 38 12.4 +1.0
GLA Glamis 79.78 56 P P 10 38 13.0 +0.7
baz=308,SNR=5.9
GLA Glamis 79.78 56 *eP* P 10 38 13.1 +0.7
GLA Glamis 79.78 56 *eP* P 10 38 13.1 +0.7
D30A Buchanan 79.85 37 P P 10 38 12.3 -0.2
baz=315
C31A Landman Farms, 79.85 36 P P 10 38 12.0 -0.4
baz=316
CJR Cluj-Napoca 79.95 322⇑ *iP* P 10 38 15.0 +1.9
CJR Cluj-Napoca 79.95 322⇑ P P 10 38 15.0 +1.9
B32A Ashes, Strandq 79.98 35 P P 10 38 12.2 -0.9
baz=316
PV09 Paradox Valley 79.98 49 *eP* P 10 38 15.1 +1.4
A33A Warroad 80.11 34 P P 10 38 13.4 -0.4
baz=317,SNR=9.1
VOIR 80.12 321⇑ *iP* P 10 38 15.1 +1.0
VOIR 80.12 321⇑ P P 10 38 15.1 +1.0
LANS Liptovska Anna 80.14 326 *eP* P 10 38 16.1 +2.1
LANS Liptovska Anna 80.14 326 *eP* P 10 38 16.1 +2.1
KECS Kecovo 80.16 325 *eP* P 10 38 15.4 +1.3
KECS pmax pmax
comp=Z,7.0nm,1.1s
KECS Kecovo 80.16 325 *eP* P 10 38 15.4 +1.3
KECS *ePP* PP 10 41 17.4 +1.6
PV04 Paradox Valley 80.19 49 *eP* P 10 38 15.5 +0.8
OKC Ostrava-Krasne 80.21 327 *eP* P 10 38 15.0 +0.7
OKC *ePCP* sP 10 38 20.6 -1.2
OKC Ostrava-Krasne 80.21 327 *eP* P 10 38 15.0 +0.7
OKC *e* 10 38 20.6
OKC MLR MLR
comp=Z,3μm,14.4s
KSP Ksiaz 80.24 329 *eP* P 10 38 15.5 +1.0
KSP Ksiaz 80.24 329 *eP* P 10 38 15.5 +1.0
PV05 Paradox Valley 80.27 49 *eP* P 10 38 16.2 +1.0
N23A Red Feather La 80.30 46 P P 10 38 16.3 +0.9
baz=311
N23A Red Feather La 80.30 46 *eP* P 10 38 16.7 +1.4
AGMN Agassiz Nation 80.36 35 P P 10 38 14.6 -0.6
baz=317
AGMN Agassiz Nation 80.36 35 *eP* P 10 38 15.0 -0.2
D31A Mcclaflin, Tow 80.39 37 P P 10 38 15.2 -0.2
baz=316
WUAZ Wupatki 80.49 53 P P 10 38 17.0 +0.6
baz=309,SNR=10.0
WUAZ Wupatki 80.49 53 *eP* P 10 38 17.8 +1.4
MORC Moravsky Berou 80.52 327 *eP* P 10 38 16.9 +0.9
MORC Moravsky Berou 80.52 327 *eP* P 10 38 16.9 +0.9
PV01 Paradox Valley 80.56 49 *eP* P 10 38 17.4 +0.6
DPC Dobruska-Polom 80.60 328 *eP* P 10 38 17.7 +1.2
DPC *ePCP* sP 10 38 23.0 -0.9
DPC *ePP* PP 10 41 20.1 +0.7
DPC Dobruska-Polom 80.60 328 *eP* P 10 38 17.7 +1.2
DPC *e* 10 38 23.0
DPC *e* 10 41 20.1
UPC Upice 80.61 329 *eP* P 10 38 17.5 +1.0
UPC Upice 80.61 329 *eP* P 10 38 17.5 +1.0
E31A Nome 80.66 37 P P 10 38 16.4 -0.4
baz=316
B34A Aery, Baudette 80.77 34 P P 10 38 17.0 -0.5
baz=318
C33A Trail 80.80 35 P P 10 38 17.0 -0.6
baz=317
SMCO Snowmass 80.83 47 *eP* P 10 38 19.1 +0.7
PSZ Piszkesteto 80.84 325⇓ *eP* P 10 38 18.9 +1.0
PSZ Piszkesteto 80.84 325 *eP* P 10 38 18.9 +1.0
PSZ Piszkesteto 80.84 325 *eP* P 10 38 18.9 +1.0
VYHS Vyhne 80.90 326 *eP* P 10 38 19.4 +1.3
VYHS pmax pmax
comp=Z,11nm,1.1s
VYHS Vyhne 80.90 326 *eP* P 10 38 19.4 +1.3
VYHS *ePP* PP 10 41 23.3 +1.4
F31A Hecla 80.98 38 P P 10 38 18.5 -0.1
baz=316
G30A Faulkton 81.05 39 P P 10 38 18.9 -0.1
baz=315
BRG Berggiesshubel 81.18 330 *i* P P 10 38 20.1 +0.5
comp=Z,18nm,0.9s
BRG *e* 10 38 24.7
comp=Z,16nm,1.0s
BRG Berggiesshubel 81.18 330 *i* P P 10 38 20.0 +0.5
BRG *e* 10 38 24.7
BRG pmax pmax
comp=Z,18nm,0.9s
MVCO Mesa Verde 81.20 50 P P 10 38 20.6 +0.4
baz=310,SNR=7.7
MVCO Mesa Verde 81.20 50 *eP* P 10 38 21.3 +1.1
ISCO Idaho Springs 81.21 46 P P 10 38 20.7 +0.4
baz=312
ISCO Idaho Springs 81.21 46 *eP* P 10 38 21.5 +1.2
ISCO Idaho Springs 81.21 46 *eP* P 10 38 21.5 +1.2
D33A AnnSam, Waubun 81.21 36 P P 10 38 19.3 -0.5
baz=317
CLL Collm 81.22 331 *i* P P 10 38 19.9 +0.2
comp=Z,35nm,1.0s
CLL *ePP* pP 10 38 24.0 -1.1
CLL *eS* PcP 10 38 26.0 +0.1
CLL Collm 81.22 331 ⇓ *iP* P 10 38 19.9 +0.2
CLL pmax pmax
comp=Z,35nm,1.0s
CLL Collm 81.22 331 *eP* P 10 38 19.8 +0.1
I29A Vivian Onida 81.24 40 P P 10 38 19.9 -0.1
baz=314
B35A Bob, Littlefor 81.28 34 P P 10 38 19.6 -0.5
baz=318,SNR=6.0
D34A Park Rapids 81.56 36 P P 10 38 21.0 -0.6
baz=317
GOPC GO Pecny, Ondr 81.58 329 *eP* P 10 38 22.4 +0.7

GOPC					*e*PCP		**sP**	**10 38 28.2**	**-0.9**
GOPC	**GO Pecny, Ondr**	**81.58**	**329**		*e*P		**P**	**10 38 22.4**	**+0.7**
GOPC					*e*			10 38 28.2	
PRU	**Pruhonice**	**81.62**	**329**		*e*P		**P**	**10 38 22.7**	**+0.8**
PRU					*e*PCP		**pP**	**10 38 26.4**	**-0.9**
PRU	**Pruhonice**	**81.62**	**329**		*e*P		**P**	**10 38 22.7**	**+0.8**
C35A	**Jirik Farms, M** baz=318	**81.66**	**35**	P			**P**	**10 38 21.4**	**-0.7**
TREC	**Trest**	**81.76**	**328**		*e*P		**P**	**10 38 23.5**	**+0.9**
TREC					*e*PCP		**pP**	**10 38 27.2**	**-0.9**
TREC	**Trest**	**81.76**	**328**		*e*P		**P**	**10 38 23.5**	**+0.9**
TREC					*e*			10 38 29.0	
I30A	**Oacoma** baz=315	**81.77**	**40**	P			**P**	**10 38 23.0**	**+0.2**
G32A	**Webster** baz=316	**81.78**	**38**	P			**P**	**10 38 22.9**	**0.0**
214A	**Organ Pipe Nat** baz=309	**81.80**	**56**	P			**P**	**10 38 23.8**	**+0.6**
214A	**Organ Pipe Nat** comp=Z,224nm,2.0s	**81.80**	**56**	*e*P			**P**	**10 38 23.7**	**+0.6**
S22A	**4UR Ranch, Cre** baz=311,SNR=11	**81.85**	**48**	P			**P**	**10 38 24.3**	**+0.5**
S22A	**4UR Ranch, Cre**	**81.85**	**48**	*e*P			**P**	**10 38 25.1**	**+1.3**
F33A	**5 Mile Ranch,** baz=317	**81.95**	**37**	P			**P**	**10 38 23.7**	**+0.1**
Q24A	**Divide** baz=312	**82.03**	**47**	P			**P**	**10 38 24.8**	**+0.1**
D35A	**Remer** baz=318	**82.08**	**35**	P			**P**	**10 38 24.0**	**-0.4**
C36A	**Pine Crest Far** baz=319	**82.13**	**34**	P			**P**	**10 38 24.1**	**-0.5**
J30A	**Dallas** baz=315	**82.15**	**40**	P			**P**	**10 38 24.9**	**0.0**
MDVR	**Moldovita**	**82.25**	**322**	⇑	*i*P		**P**	**10 38 26.1**	**+0.7**
NKC	**Novy Kostel**	**82.28**	**330**		*e*P		**P**	**10 38 26.1**	**+0.7**
NKC					*e*PCP		**pP**	**10 38 28.8**	**-2.0**
NKC	**Novy Kostel**	**82.28**	**330**		*e*P		**P**	**10 38 26.1**	**+0.7**
NKC					*e*			10 38 31.8	
G33A	**Ortonville** baz=317	**82.34**	**38**	P			**P**	**10 38 25.9**	**+0.2**
D36A	**Goodland** baz=319	**82.42**	**35**	P			**P**	**10 38 25.5**	**-0.6**
C37A	**Embarrass** baz=319	**82.44**	**34**	P			**P**	**10 38 26.2**	**0.0**
SOP	**Sopron**	**82.52**	**326**	‖	*e*SKKPdf		**P**	**10 38 27.8**	**+1.2**
SOP	**Sopron**	**82.52**	**326**		P		**P**	**10 38 28.3**	**+1.7**
K30A	**Basset** baz=315	**82.54**	**41**	P			**P**	**10 38 27.2**	**+0.3**
H33A	**Prehn Over Nor** baz=317	**82.57**	**38**	P			**P**	**10 38 27.2**	**+0.3**
EYMN	**Ely** baz=320,SNR=6.3	**82.58**	**33**	P			**P**	**10 38 26.6**	**-0.4**
EYMN	**Ely**	**82.58**	**33**	*e*P			**P**	**10 38 27.0**	**0.0**
PLD	**Plovdiv**	**82.62**	**318**	P			**P**	**10 38 27.6**	**+0.3**
CONA	**Conrad Observa** comp=Z,20nm,1.0s,SNR=7.5	**82.64**	**327**	*i* PcP			**P**	**10 38 28.7**	**+1.3**
SDCO	**Great Sand Dun** baz=312,SNR=11	**82.64**	**48**	P			**P**	**10 38 28.4**	**+0.5**
SDCO	**Great Sand Dun**	**82.64**	**48**	*e*P			**P**	**10 38 28.6**	**+0.8**
KHC	**Kasperske Hory**	**82.68**	**329**	*e*P			**P**	**10 38 28.3**	**+0.8**
KHC					*e*PCP		**pP**	**10 38 31.6**	**-1.4**
KHC	**Kasperske Hory**	**82.68**	**329**	*e*P			**P**	**10 38 28.3**	**+0.8**
KHC	**Kasperske Hory**	**82.68**	**329**	*e*P			**P**	**10 38 28.2**	**+0.8**
G34A	**Benson** baz=317	**82.70**	**37**	P			**P**	**10 38 27.8**	**+0.2**
F35A	**Swanville** baz=318	**82.75**	**36**	P			**P**	**10 38 27.8**	**-0.1**
D37A	**Cotton** baz=319	**82.76**	**34**	P			**P**	**10 38 27.2**	**-0.7**
C38A	**Sawbill Land.** baz=320,SNR=6.4	**82.85**	**33**	P			**P**	**10 38 27.1**	**-1.3**
GERES	**GERESS Array B** comp=Z,8.3nm,0.8s,baz=35,slow=4.9,SNR=42	**82.85**	**329**		P		**P**	**10 38 28.7**	**+0.2**
E36A	**McGregor** baz=319	**82.87**	**35**	P			**P**	**10 38 28.0**	**-0.5**
TUC	**Tucson** baz=310	**82.90**	**55**	P			**P**	**10 38 29.4**	**+0.4**
TUC	**Tucson**	**82.90**	**55**	*e*P			**P**	**10 38 30.1**	**+1.1**
TUC	**Tucson**	**82.90**	**55**	*e*P			**P**	**10 38 30.1**	**+1.1**
GRFO	**Grafenberg**	**83.19**	**330**	*e*P			**P**	**10 38 31.6**	**+1.5**
GRFO	**Grafenberg**	**83.19**	**330**	*e*P			**P**	**10 38 31.6**	**+1.5**
C39A	**Grand Marais** baz=321	**83.27**	**33**	P			**P**	**10 38 29.9**	**-0.6**
L31A	**Butterfield Fa** baz=316	**83.30**	**41**	P			**P**	**10 38 30.9**	**0.0**
ARSA	**Arzberg** comp=Z,11nm,1.1s	**83.31**	**327**	*i* P			**P**	**10 38 31.6**	**+0.9**
ECSD	**EROS Data Cent** baz=317,SNR=6.8	**83.32**	**39**	P			**P**	**10 38 30.5**	**-0.3**
ECSD	**EROS Data Cent**	**83.32**	**39**	*e*P			**P**	**10 38 30.3**	**-0.6**
MOA	**Molln** comp=Z,11nm,0.9s,SNR=5.5	**83.39**	**328**	*i* P			**P**	**10 38 32.0**	**+0.8**
KSCO	**Kaye Shedlock'**	**83.45**	**45**	*e*P			**P**	**10 38 31.6**	**-0.1**
H35A	**Sunnyside Ranc** baz=318,SNR=7.3	**83.48**	**37**	P			**P**	**10 38 31.7**	**0.0**
T25A	**Trinidad** baz=313,SNR=11	**83.69**	**48**	P			**P**	**10 38 33.5**	**+0.3**
T25A	**Trinidad**	**83.69**	**48**	*e*P			**P**	**10 38 33.9**	**+0.7**
LAZ	**Ladron**	**83.86**	**51**	*e*P			**P**	**10 38 35.5**	**+1.4**
GROS	**Grobnik**	**83.92**	**326**	*i* P			**P**	**10 38 33.8**	**-0.2**
ANMO	**Albuquerque** baz=312	**83.93**	**50**	P			**P**	**10 38 35.1**	**+0.7**
ANMO	**Albuquerque**	**83.93**	**50**	*e*P			**P**	**10 38 35.4**	**+1.0**
ANMO	**Albuquerque**	**83.93**	**50**	*e*P			**P**	**10 38 35.4**	**+1.0**
SOKA	**Soboth** comp=Z,21nm,1.0s,SNR=14	**83.96**	**327**	*i* P			**P**	**10 38 34.7**	**+0.5**
PPT2	**Papeete2** comp=Z,609nm,24.2s,baz=310	**84.17**	**117**	*e*LR			LR	11 04 48.3	
PPT2	**Papeete2** comp=Z,3.4nm,0.3s	**84.17**	**117**	*e*T			T	12 11 05.9	
DOBS	**Dobrina**	**84.17**	**326**	*i* P			**P**	**10 38 35.3**	**+0.1**
PAE	**Paea** comp=Z,1.0nm,0.3s	**84.21**	**117**	*e*T			T	12 11 08.5	
LPM	**Los Pinos Moun**	**84.24**	**51**	*e*P			**P**	**10 38 37.2**	**+1.2**
OBKA	**Obir** comp=Z,6.0nm,0.9s	**84.30**	**327**	*i* P			**P**	**10 38 36.1**	**+0.1**
BNM	**Barren Site**	**84.35**	**51**	*e*P			**P**	**10 38 37.9**	**+1.3**
KBA	**Koelnbreinsper** comp=Z,12nm,0.9s,SNR=6.7	**84.38**	**328**	*i* P			**P**	**10 38 36.3**	**-0.1**
KBA	**Koelnbreinsper**	**84.38**	**328**	P			**P**	**10 38 37.9**	**+1.4**
MEM	**Membach** comp=Z,6.4nm,1.2s	**84.39**	**334**	P			**P**	**10 38 36.7**	**+0.5**
LEGS	**Legarje**	**84.40**	**326**	*i* P			**P**	**10 38 36.4**	**0.0**
MYKA	**Terra Mystica** comp=Z,6.6nm,0.9s	**84.61**	**327**	*i* P			**P**	**10 38 37.3**	**-0.2**
I37A	**Lemond, Waseca** baz=319	**84.68**	**37**	P			**P**	**10 38 38.2**	**+0.4**
121A	**Cookes Peak, D** baz=311	**84.69**	**53**	P			**P**	**10 38 39.1**	**+0.8**
121A	**Cookes Peak, D** comp=Z,13nm,1.0s	**84.69**	**53**	*e*P			**P**	**10 38 39.2**	**+0.9**
BCLA	**Clavier** comp=Z,14nm,1.4s	**84.80**	**334**	P			**P**	**10 38 38.8**	**+0.6**
CWF	**Charnwood Fore**	**84.92**	**339**	*e*P			**P**	**10 38 40.5**	**+1.7**
SCHQ	**Schefferville** comp=Z,3.8nm,0.8s,baz=347,slow=9.1,SNR=4.0	**84.92**	**16**	P			**P**	**10 38 39.2**	**+0.4**
JAVS	**Javornik**	**84.99**	**327**	*i* P			**P**	**10 38 39.4**	**-0.1**
ABTA	**Abfaltersbach** comp=Z,11nm,1.0s	**85.00**	**328**	*i* P			**P**	**10 38 39.5**	**+0.1**
LANF	**Langenberg**	**85.08**	**332**	⇑	*e*P		**P**	**10 38 40.6**	**+0.9**
MOTA	**Moosalm** comp=Z,17nm,1.1s	**85.11**	**329**	*i* PcP			**P**	**10 38 41.0**	**+0.9**
RETA	**Reutte** comp=Z,20nm,0.9s,SNR=9.7	**85.13**	**329**	*i* PcP			**P**	**10 38 40.7**	**+0.6**
K36A	**Gilmore City** baz=318	**85.20**	**38**	P			**P**	**10 38 40.3**	**-0.1**
P32A	**Huiting Farm,** baz=316	**85.25**	**43**	P			**P**	**10 38 40.2**	**-0.6**
DOU	**Dourbes**	**85.31**	**334**	P			**P**	**10 38 41.2**	**+0.4**
BFO	**Black Forest**	**85.42**	**331**	*i* P			**P**	**10 38 41.9**	**+0.5**
BFO	**Black Forest** comp=Z,29nm,1.0s	**85.42**	**331**	*e*P			**P**	**10 38 41.6**	**+0.1**
BAIF	**Baives** comp=Z,10.0nm,0.9s	**85.48**	**334**	*e*P			**P**	**10 38 41.1**	**-0.6**
BAIF						pmax	pmax		
K37A	**Belmond** baz=319	**85.50**	**38**	P			**P**	**10 38 41.7**	**-0.2**
FETA	**Feichten** comp=Z,15nm,0.9s,SNR=5.1	**85.52**	**329**	*i* PcP			**P**	**10 38 42.3**	**+0.2**
TAOE	**Nuku Hiva Isla** comp=Z,867nm,25.8s,baz=328	**85.59**	**105**	*e*LR			LR	11 05 34.8	
J38A	**Wedel Dairy, R** baz=319	**85.64**	**37**	P			**P**	**10 38 42.4**	**-0.3**
DAVA	**Damuels** comp=Z,26nm,0.9s,SNR=7.2	**85.65**	**330**	*i* PcP			**P**	**10 38 42.9**	**+0.1**
Q32A	**Meitler Ranch,** baz=316	**85.72**	**43**	P			**P**	**10 38 42.5**	**-0.6**
CDF	**Champ du Feu** comp=Z,23nm,1.0s	**85.75**	**332**	*e*P			**P**	**10 38 42.7**	**-0.5**
CDF						pmax	pmax		
O34A	**Beatrice** baz=317	**85.86**	**41**	P			**P**	**10 38 42.8**	**-1.0**
N35A	**Tabor** baz=318	**85.91**	**40**	P			**P**	**10 38 44.2**	**+0.1**
L37A	**Phoenix Point,** baz=319	**85.92**	**38**	P			**P**	**10 38 43.6**	**-0.5**
ECH	**Echery**	**85.95**	**332**	⇑	*e*P		**P**	**10 38 44.7**	**+0.6**
FUORN	**Ofenpass-Fuorn**	**86.03**	**329**		*e*P		P	10 38 50.1	+5.3
R32A	**Long Quarter,** baz=316	**86.04**	**43**	P			**P**	**10 38 44.2**	**-0.6**
Q33A	**Connelly Farm,** baz=316	**86.11**	**43**	P			**P**	**10 38 44.6**	**-0.5**
P34A	**Walnut Farm, R** baz=317	**86.25**	**42**	P			**P**	**10 38 44.9**	**-0.9**
MOF	**Molkenrain**	**86.27**	**332**	⇑	*e*P		**P**	**10 38 46.2**	**+0.4**
N36A	**Muff Farm, Cla** baz=318	**86.29**	**40**	P			**P**	**10 38 45.7**	**-0.2**
HINF	**Hinteralfeld** comp=Z,8.0nm,0.9s	**86.40**	**332**	*e*P			**P**	**10 38 45.5**	**-0.9**
HINF						pmax	pmax		
S32A	**Newby Ranch, P** baz=316	**86.44**	**44**	P			**P**	**10 38 46.1**	**-0.6**
R33A	**Olander Ranch,** baz=316	**86.52**	**43**	P			**P**	**10 38 46.9**	**-0.2**
Q34A	**Chapman** baz=317	**86.64**	**42**	P			**P**	**10 38 47.3**	**-0.3**
P35A	**Duane Minner,** baz=317	**86.69**	**41**	P			**P**	**10 38 47.5**	**-0.4**
N37A	**Lee Faris, Mou** baz=318	**86.72**	**39**	P			**P**	**10 38 48.0**	**0.0**
MNTX	**Cornudas Mount** baz=313	**86.76**	**52**	P			**P**	**10 38 48.5**	**+0.1**
MNTX	**Cornudas Mount**	**86.76**	**52**	*e*P			**P**	**10 38 49.0**	**+0.6**
O36A	**Bolckow** baz=318	**86.80**	**40**	P			**P**	**10 38 48.4**	**0.0**
LOMF	**Lomont**	**86.80**	**331**	⇑	*e*P		**P**	**10 38 48.8**	**+0.4**
T32A	**Huddler Ranch,** baz=316	**86.81**	**44**	P			**P**	**10 38 48.6**	**0.0**
MSTX	**Muleshoe** baz=314	**86.83**	**49**	P			**P**	**10 38 48.6**	**-0.2**
P36A	**Good Intent, A** baz=318	**87.05**	**41**	P			**P**	**10 38 49.4**	**-0.2**
LAST	**Lasithi**	**87.05**	**313**	*e*P			**P**	**10 38 50.9**	**+1.1**
Q35A	**Mercer Eighty,** baz=317	**87.17**	**42**	P			**P**	**10 38 50.1**	**-0.1**
N38A	**Joes South For** baz=319	**87.18**	**39**	P			**P**	**10 38 50.1**	**-0.1**
IDI	**Anoyia**	**87.31**	**313**	*e*P			**P**	**10 38 50.4**	**-0.7**
S34A	**Willow Spring** baz=317	**87.44**	**43**	P			**P**	**10 38 51.3**	**-0.2**
R35A	**Emporia Munici** baz=317	**87.48**	**42**	P			**P**	**10 38 52.0**	**+0.3**
N39A	**Derby Farms, D** baz=320	**87.48**	**38**	P			**P**	**10 38 51.7**	**0.0**
P37A	**Lathrop** baz=318	**87.52**	**40**	P			**P**	**10 38 51.6**	**-0.2**
R36A	**Gordon, Harris** baz=318	**87.85**	**42**	P			**P**	**10 38 53.5**	**0.0**
S35A	**Otter Creek Ra** baz=317	**87.88**	**43**	P			**P**	**10 38 53.8**	**+0.1**
T34A	**McClaskey Farm** baz=317	**87.89**	**44**	P			**P**	**10 38 53.9**	**+0.2**
P38A	**Dawn** baz=319	**87.91**	**40**	P			**P**	**10 38 53.5**	**-0.2**
LOR	**Lormes** comp=Z,24nm,1.0s	**87.97**	**333**	*e*P			**P**	**10 38 54.4**	**+0.5**
LOR						pmax	pmax		
W32A	**Sentinel** baz=316	**88.09**	**46**	P			**P**	**10 38 55.2**	**+0.4**
U34A	**Anderson Ranch** baz=317	**88.12**	**44**	P			**P**	**10 38 55.1**	**+0.3**
U34A	**Andersen Ranch** comp=Z,22nm,1.3s	**88.12**	**44**	*e*P			**P**	**10 38 55.3**	**+0.5**
V33A	**Lossen Ranch,** baz=316	**88.14**	**45**	P			**P**	**10 38 54.9**	**-0.1**
R37A	**Teagarden Farm** baz=318	**88.21**	**41**	P			**P**	**10 38 55.0**	**-0.2**
T35A	**Sooner Cattle** baz=317	**88.34**	**43**	P			**P**	**10 38 56.0**	**+0.1**
LPL	**La Plagne** comp=Z,8.0nm,1.1s	**88.35**	**330**	*e*P			**P**	**10 38 56.0**	**-0.1**
LPL						pmax	pmax		
Q38A	**Cooks Store, C** baz=319	**88.36**	**40**	P			**P**	**10 38 55.5**	**-0.4**
LPG	**La Plagne** comp=Z,5.0nm,0.8s	**88.36**	**330**	*e*P			**P**	**10 38 58.1**	**+1.9**
LPG						pmax	pmax		
O40A	**La Belle** baz=320	**88.36**	**38**	P			**P**	**10 38 55.8**	**-0.1**
P39B	**Salisbury** baz=319	**88.41**	**39**	P			**P**	**10 38 56.0**	**-0.1**
W33A	**Caddo, Fort Co** baz=316	**88.52**	**46**	P			**P**	**10 38 57.3**	**+0.5**
AVF	**Avril sur Loir** comp=Z,18nm,1.2s	**88.56**	**333**	*e*P			**P**	**10 38 56.4**	**-0.3**
AVF						pmax	pmax		
V34A	**Guthrie** baz=317	**88.57**	**45**	P			**P**	**10 38 57.4**	**+0.5**
V34A	**Guthrie** comp=Z,9.2nm,0.9s	**88.57**	**45**	*e*P			**P**	**10 38 57.5**	**+0.5**
X32A	**Elmer** baz=316	**88.57**	**47**	P			**P**	**10 38 57.3**	**+0.3**
T36A	**Boggs Farm, Ca** baz=318	**88.58**	**43**	P			**P**	**10 38 57.4**	**+0.4**
U35A	**Pawnee** baz=317	**88.61**	**44**	P			**P**	**10 38 57.2**	**0.0**
S37A	**Fort Scott** baz=318	**88.62**	**42**	P			**P**	**10 38 57.1**	**-0.1**
Q39A	**Willow Grove F** baz=319	**88.63**	**40**	P			**P**	**10 38 56.9**	**-0.2**
WMOK	**Wichita Mounta** baz=316	**88.64**	**46**	P			**P**	**10 38 57.5**	**+0.2**
WMOK	**Wichita Mounta**	**88.64**	**46**	*e*P			**P**	**10 38 58.4**	**+1.1**
WMOK	**Wichita Mounta**	**88.64**	**46**	*e*P			**P**	**10 38 58.4**	**+1.1**
P40A	**Paris** baz=320	**88.73**	**39**	P			**P**	**10 38 57.8**	**+0.1**
R38A	**Fenwick Farm,** baz=319	**88.79**	**41**	P			**P**	**10 38 57.6**	**-0.4**
V35A	**Meyer Ranch, C** baz=317	**89.00**	**44**	P			**P**	**10 38 58.9**	**-0.1**
T37A	**Chenyville 18** baz=318	**89.05**	**42**	P			**P**	**10 38 59.0**	**-0.2**
Q40A	**Laux Farm, Aux** baz=320	**89.12**	**39**	P			**P**	**10 38 59.0**	**-0.5**
Y33A	**Hilltop Ranch,** baz=316	**89.25**	**47**	P			**P**	**10 39 00.0**	**-0.2**
HDIL	**Hopedale** baz=322	**89.28**	**37**	P			**P**	**10 39 00.4**	**+0.2**
W35A	**Tecumseh** baz=317	**89.42**	**45**	P			**P**	**10 39 01.3**	**+0.3**
T38A	**Diamond** baz=318	**89.45**	**42**	P			**P**	**10 39 00.9**	**-0.1**
TXAR	**Lajitas Array** comp=Z,4.3nm,1.0s,baz=301,slow=3.2,SNR=32	**89.45**	**53**	P			**P**	**10 39 01.5**	**+0.2**
S39A	**Bolivar** baz=319	**89.47**	**41**	P			**P**	**10 39 00.4**	**-0.8**
TUL1	**Leonard** baz=318	**89.47**	**44**	P			**P**	**10 39 01.1**	**-0.1**
U37A	**Salina** baz=318	**89.47**	**43**	P			**P**	**10 39 01.2**	**0.0**
V36A	**Jenks** baz=318	**89.48**	**44**	P			**P**	**10 39 01.1**	**-0.1**
R40A	**Maddies Statio** baz=320	**89.56**	**40**	P			**P**	**10 39 01.4**	**-0.1**
ABTX	**Abilene, Hawle** baz=316	**89.64**	**48**	P			**P**	**10 39 02.4**	**+0.3**
Z33A	**Whitaker Ranch** baz=316	**89.68**	**47**	P			**P**	**10 39 02.6**	**+0.3**
VIVF	**Saint-Julien-l** comp=Z,7.0nm,1.0s	**89.70**	**331**	*e*P			**P**	**10 39 02.5**	**+0.3**
VIVF						pmax	pmax		
W36A	**Wetumka** baz=317	**89.79**	**44**	P			**P**	**10 39 02.6**	**-0.1**
U38A	**Gravette** baz=318	**89.84**	**42**	P			**P**	**10 39 02.8**	**-0.1**
V37A	**Hulbert** baz=318	**89.84**	**43**	P			**P**	**10 39 02.7**	**-0.2**
X35A	**Drake** baz=317	**89.91**	**45**	P			**P**	**10 39 02.8**	**-0.5**
T39A	**Clever** baz=319	**89.94**	**41**	P			**P**	**10 39 03.0**	**-0.4**
S40A	**Lebanon** baz=320	**89.96**	**40**	P			**P**	**10 39 03.2**	**-0.3**
133A	**Hamilton Ranch**	**90.08**	**48**	P			**P**	**10 39 03.9**	**-0.2**
Z34A	**Collier Ranch,** baz=316	**90.12**	**47**	P			**P**	**10 39 04.6**	**+0.3**
X36A	**Centrahoma** baz=317	**90.14**	**45**	P			**P**	**10 39 04.7**	**+0.4**
W37B	**Quinton** baz=318	**90.23**	**44**	P			**P**	**10 39 04.8**	**0.0**
T40A	**Mansfield** baz=320	**90.29**	**41**	P			**P**	**10 39 04.5**	**-0.5**
U39A	**Green Forest** baz=319	**90.37**	**42**	P			**P**	**10 39 04.9**	**-0.5**
SFIN	**Lafayette** baz=323	**90.45**	**35**	P			**P**	**10 39 05.5**	**-0.2**
233A	**Rising Star** baz=316	**90.51**	**48**	P			**P**	**10 39 06.6**	**+0.4**
Z35A	**Perchaven, San** baz=317	**90.53**	**46**	P			**P**	**10 39 06.1**	**-0.1**
134A	**White-Moore Ra** baz=316	**90.59**	**47**	P			**P**	**10 39 06.7**	**+0.2**
CAF	**Calviac** comp=Z,18nm,1.4s	**90.62**	**333**	*e*P			**P**	**10 39 06.6**	**+0.2**
CAF						pmax	pmax		
Y36A	**Durant** baz=317	**90.67**	**45**	P			**P**	**10 39 07.0**	**+0.2**
X37A	**Clayton** baz=318	**90.67**	**44**	P			**P**	**10 39 06.7**	**-0.1**
LMQ	**La Malbaie**	**90.68**	**21**	*e*P			**P**	**10 39 06.8**	**+0.2**
V39A	**Pettigrew** baz=319	**90.69**	**42**	P			**P**	**10 39 06.5**	**-0.5**
U40A	**Yellville** baz=319	**90.72**	**41**	P			**P**	**10 39 06.7**	**-0.3**
T41A	**Mountain View** baz=320	**90.77**	**40**	P			**P**	**10 39 07.2**	**-0.1**
W38A	**Poteau** baz=318	**90.79**	**43**	P			**P**	**10 39 07.6**	**+0.3**
X38A	**Whitesboro** baz=318	**90.91**	**44**	P			**P**	**10 39 08.0**	**0.0**
333A	**Richland Sprin** baz=316	**90.95**	**49**	P			**P**	**10 39 08.4**	**+0.2**
234A	**Clairette** baz=316	**90.97**	**48**	P			**P**	**10 39 08.6**	**+0.3**
Y37A	**Hugo** baz=318	**90.98**	**45**	P			**P**	**10 39 08.4**	**+0.2**
JCT	**Junction City** baz=315	**91.06**	**50**	P			**P**	**10 39 08.8**	**0.0**
JCT	**Junction City**	**91.06**	**50**	*e*P			**P**	**10 39 11.4**	**+2.6**
JCT	**Junction City**	**91.06**	**50**	*e*P			**P**	**10 39 11.4**	**+2.6**
R44A	**Waltonville** baz=322	**91.19**	**38**	P			**P**	**10 39 09.2**	**+0.1**
433A	**Art** baz=316	**91.30**	**49**	P			**P**	**10 39 09.5**	**-0.3**
WHTX	**Lake Whitney,** comp=Z,11nm,0.9s	**91.38**	**47**	*e*P			**P**	**10 39 10.5**	**+0.4**
334A	**Lometa** baz=316	**91.39**	**48**	P			**P**	**10 39 10.2**	**-0.1**
X39A	**Fountain Ranch** baz=319	**91.43**	**43**	P			**P**	**10 39 10.3**	**0.0**
V41A	**Mountainview** baz=320	**91.52**	**41**	P			**P**	**10 39 10.0**	**-0.8**
PBMO	**Poplar Bluff**	**91.66**	**40**	*e*P			**P**	**10 39 11.8**	**+0.4**
MIAR	**Mount Ida** baz=319	**91.69**	**43**	P			**P**	**10 39 11.6**	**0.0**
MIAR	**Mount Ida**	**91.69**	**43**	*e*P			**P**	**10 39 12.3**	**+0.7**
MIAR	**Mount Ida**	**91.69**	**43**	*e*P			**P**	**10 39 12.2**	**+0.7**
434A	**Burnet** baz=316	**91.75**	**49**	P			**P**	**10 39 11.8**	**-0.1**
V42A	**Cord** baz=320	**91.91**	**41**	P			**P**	**10 39 12.1**	**-0.4**
W41B	**Gary Mavity, V** baz=320	**91.94**	**42**	P			**P**	**10 39 12.8**	**+0.1**
X40A	**Basin Creek Fa** baz=319	**92.14**	**43**	P			**P**	**10 39 13.6**	**0.0**
633A	**Saathoff Ranch** baz=316	**92.17**	**50**	P			**P**	**10 39 14.2**	**+0.3**
336A	**Riesel** baz=317	**92.18**	**47**	P			**P**	**10 39 14.0**	**+0.2**
534A	**Blanco** baz=316	**92.19**	**49**	P			**P**	**10 39 13.9**	**-0.1**
Y40A	**Okolona** baz=319	**92.25**	**43**	P			**P**	**10 39 14.3**	**+0.1**
833A	**Chaparral WMA,** baz=316	**92.84**	**51**	P			**P**	**10 39 17.7**	**+0.7**
N54A	**Moraine State** baz=328	**93.07**	**31**	P			**P**	**10 39 18.1**	**+0.3**
933A	**Laredo** baz=316	**93.41**	**51**	P			**P**	**10 39 20.6**	**+0.9**
636A	**Smothers Creek** baz=317	**93.43**	**49**	P			**P**	**10 39 20.6**	**+0.9**
034A	**Hebbronville** baz=316	**94.17**	**51**	P			**P**	**10 39 23.8**	**+0.7**
Y45A	**Yeager Farm, C** baz=321	**94.37**	**41**	P			**P**	**10 39 24.7**	**+0.8**
ESDC	**Sonseca Array** comp=Z,0.2nm,0.3s,baz=210,slow=40,SNR=1.6	**97.36**	**334**	P			Pdif	10 39 37.8	+0.2
RKT	**Rikitea** comp=Z,615nm,28.5s,baz=316	**98.23**	**113**	*e*LR			LR	11 11 23.0	
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.7s,baz=47,slow=1.7,SNR=6.0	**117.63**	**316**	PKP			**PKPdf**	**10 44 50.2**	**-0.4**
TORD						PP	**PP**	**10 46 01.7**	**-0.6**
LPAZ	**La Paz** comp=Z,4.2nm,1.1s,baz=29,slow=6.6,SNR=8.5	**146.00**	**60**	PKP			**PKPdf**	**10 45 42.6**	**-1.6**
LPAZ						PKPbc	**PKPab**	**10 45 45.4**	**-0.1**
LPAZ	**La Paz** comp=Z,17nm,0.9s,baz=350,slow=4.8,SNR=30	**146.00**	**60**	PKIKP			**PKPdf**	**10 45 42.6**	**-1.6**
LPAZ								10 45 45.4	
LPAZ	comp=Z,17nm,0.9s					pmax	pmax		
LPAZ	comp=Z,17nm,0.9s					pmax	pmax		
LVC	**Limon Verde**	**149.47**	**70**	*e*PKPdf			**PKPdf**	**10 45 51.3**	**+1.8**
LVC					*e*PKPbc		**PKiKP**	**10 45 54.8**	**-0.3**
LCO	**Las Campanas**	**151.32**	**83**	*e*PKPdf			**PKPdf**	**10 45 54.6**	**+2.5**

NIED ***09*** *10:38:00,36°.50N×140°.90E,h5km,Mw5.5 Best double couple: M0 1.96000×10^17 NP1:φs25.00000°,δ36.00000°, λ-32.00000°. NP2:φs142.00000°,δ72.00000°, λ-122.00000°.*

BJI ***09*** *10:38:30.8,36°.27N×140°.97E,h15km,mb5.0/66,mB5.3/52, Ms5.7/80,Ms7 5.5/74*

IDC ***09*** *10:38:31.5±0.4,36°.50N×140°.83E,h0km,mb4.9/34, mb1 5.0/37,mb1mx5.0/43,mbtmp4.9/37,ML4.1/3,MS5.0/38, Ms1 5.0/38,ms1mx4.9/49,Error ellipse: s-maj=12.4km s-min=9.8km az=88.0*

JMA ***09*** *10:38:32.9±0.1,36°.50N×140°.97E,h13km±2km,M5.7 Broadband fault plane solution: P waves. NP1: φs352.00000°,δ52.00000°,λ-106.00000°. NP2: φs198.00000°,δ41.00000°,λ-70.00000°. Principal axes: T Plg6.0000°, Azm94.0000°; N Plg13.0000°, Azm3.0000°; P Plg76.0000°, Azm207.0000°;*

JMA Felt IV J1.

ISCJB ***09*** *10:38:34.0±0.4,36°.48N±0°.02×140°.88E±0°.02,h22km±2km, mb5.2/335,MS5.2/53 Error ellipse: s-maj=3.0km s-min=2.2km az=147.6*

MOS ***09*** *10:38:33.4±1.2,36°.55N×140°.93E,h24km,mb5.4/137, MS5.2/40,Error ellipse: s-maj=6.9km s-min=4.8km az=104.7*

GCMT ***09*** *10:38:34.5±0.1,36°.47N×140°.90E,h12km,MW5.4/131, Moment Tensor Solution. s76,c116; s131,c251; Duration: 1ŝ2 Moment tensor: Scale 10^17Nm; Mrr-0.85±.02; Mθθ-0.88±.02; Mφφ1.73±.02; Mrθ0.47±.05; Mθφ-0.44±.02; Mφr0.49

JHO Hitachi 0.34 289 ⇑P Pg 10 38 39.6 -1.2
JHO S Sg 10 38 45.4 -0.1
ONAJ Iwakimizuishiy 0.62 347 ⇓P Pg 10 38 44.9 -1.1
ONAJ eS Sg 10 38 53.5 -0.6
JYT Yasato 0.68 247 ⇑P Pg 10 38 45.8 -1.3
JYT S Sg 10 38 55.9 -0.2
JFK Kawauchi 0.87 355 ⇑P Pg 10 38 48.7 -2.0
JFK S Sg 10 39 01.0 -1.1
JSB Shiboa 0.96 299 ⇑P Pg 10 38 52.1 -0.4
JSB S Sb 10 39 05.0 0.0
JFT Otama 1.14 334 ⇑P Pb 10 38 53.9 -1.5
JFT S Sg 10 39 10.3 -0.3
JAG Ashikaga 1.22 267 ⇑P Pn 10 38 54.5 -2.1
I30JP ISUMI INFRASON 1.30 204 Pn Pn 10 38 57.9 +0.2
baz=38,slow=26,SNR=3.1
I30JP *i* 10 45 10.0
baz=17,slow=328,SNR=0.6
JKT Katashina 1.41 281 ⇑P Pn 10 38 57.8 -1.5
BSO4 Boso 4 1.59 199 P Pn 10 39 01.4 -0.2
JHK Hiroka 1.73 296 ⇑P Pn 10 39 03.1 -0.6
JHK S Sb 10 39 27.3 +0.1
BSO3 Boso 3 1.73 193 P Pn 10 39 03.4 0.0
JRY Ryogami san 1.74 255 ⇑P Pn 10 39 01.8 -1.9
BSO1 Boso 1 1.84 180 P Pn 10 39 05.0 +0.4
JOD2 Odawara 2 1.96 232 P Pn 10 39 06.2 -0.6
AJI Ajiro2 2.10 227 ⇓P Pn 10 39 07.8 -0.9
JYN Shimob 2.20 244 P Pn 10 39 09.4 -0.8
MJAR Matsushiro Arr 2.22 272 Pn Pn 10 39 09.2 -1.2
163nm,0.3s,baz=85,slow=10,SNR=405
MJAR Sn Sb 10 39 41.1 -0.2
493nm,0.3s,baz=309,slow=31,SNR=8.3
MJAR LR LR 10 40 15.5
comp=Z,77µm,18.8s,baz=90,slow=50
MAJO Matsushiro 2.22 272 *e*P Pn 10 39 11.2 +0.8
MAJO Matsushiro 2.22 272 *e*Pn Pn 10 39 10.3 -0.1
MAT Matsushiro 2.22 272 P Pn 10 39 10.2 -0.2
MAT S Sb 10 39 39.8 -1.5
MAT Matsushiro 2.22 272 P Pn 10 39 10.3 -0.2
MJB9 Matsu-Tunnel 2.23 272 *e*Pn Pn 10 39 10.4 -0.1
JNG Nsakai 2.31 262 P Pn 10 39 11.3 -0.4
JJN Nakama 2.33 286 P Pn 10 39 12.1 +0.3
JNT Takato 2.37 256 P Pn 10 39 12.3 -0.2
JIZS Izushimoda 2.46 224 P Pn 10 39 13.3 -0.4
JSD Sado 2.65 306 P Pn 10 39 15.7 -0.5
SHZ3 Shizuoka 3 2.66 238 P Pn 10 39 17.1 +0.7
JNY Yasuok 2.77 247 P Pn 10 39 18.8 +0.9
JSG Sagara 2.91 232 P Pn 10 39 20.8 +1.0
JGN Niukaw 2.96 266 P Pn 10 39 20.9 +0.3
JYZW Yoshizawa 3.03 241 P Pn 10 39 21.6 +0.2
JGF Kuroka 3.06 254 P Pn 10 39 22.4 +0.5
HMMJ Hamamatsu 2 3.11 239 P Pn 10 39 23.0 +0.4
JAO Obara 3.25 249 P Pn 10 39 25.2 +0.6
INU Inuyama 3.41 251 *e*Pn Pn 10 39 27.1 +0.4
JHJ Hachijo jima 2 3.51 196 Pn Pn 10 39 27.5 -0.6
104nm,0.3s,baz=325,slow=19,SNR=34
JHJ Sn Sn 10 40 11.9 +2.4
274nm,0.3s,baz=117,slow=23,SNR=5.3
JHJ LR LR 10 40 51.1
comp=Z,9µm,18.5s,baz=30,slow=40
JHJ2 Mitsune 3.51 196 *e*Pn Pn 10 39 28.2 +0.2
ERM Erimo 5.76 16 *i* P Pn 10 39 56.6 -2.4
ASAJ Asahikawa 7.71 9 Pn Pn 10 40 24.8 -1.0
ASAJ Sn Sn 10 41 55.0 +2.1
6.3nm,0.3s,baz=183,slow=16,SNR=4.4
JNU Nakatsue 8.95 251 Pn Pn 10 40 43.6 +0.8
1.4nm,0.3s,baz=62,slow=7.4,SNR=22
JNU Nakatsue 8.95 251 *e*Pn Pn 10 40 44.2 +1.4
CBIJ Chichi jima 9.43 173 *e*Pn Pn 10 40 46.0 -3.4
CBIJ Sn Sn 10 42 27.8 -7.6
JCJ Chichijima 9.43 173 Pn Pn 10 40 45.7 -3.8
JCJ Sn Sn 10 42 27.8 -7.6
52nm,0.3s,baz=295,slow=22,SNR=4.4
JCJ LR LR 10 44 41.3
comp=Z,11µm,21.5s,baz=354,slow=39
VLA Vladivostok 9.62 316 ⇑*e*P Pn 10 40 50.1 -1.8
MSHR Mys Shultsa 9.71 312 ⇑*e*P Pn 10 40 56.1 +3.0
KUR Kuril'sk 10.16 29 *e*P Pn 10 41 00.3 +0.9
KUR *e*S Sn 10 42 48.4 -4.8
KUR pmax pmax
comp=N,16nm,0.9s
KUR pmax pmax
comp=E,12nm,0.9s
KUR pmax pmax
comp=Z,61nm,0.9s
KUR smax smax
comp=N,83nm,1.1s
KUR smax smax
comp=E,47nm,0.5s
USRK Ussuriysk Ar. 10.29 321 Pn Pn 10 41 04.7 +3.5
comp=E,1.2nm,0.3s,baz=134,slow=13,SNR=44
USRK LR LR 10 44 02.7
comp=E,2µm,19.9s,baz=126,slow=32
KSRS Korea Array 10.48 279 Pn Pn 10 41 07.0 +3.2
comp=E,2.1nm,0.3s,baz=102,slow=14,SNR=47
KSRS LR LR 10 45 01.3
comp=E,11µm,19.5s,baz=81,slow=38
KSRS Korea Array 10.48 279 P Pn 10 41 07.0 +3.2
KSRS pmax pmax
comp=Z,2.0nm,0.3s
KSRS MLR MLR
comp=Z,11µm,19.5s
KS01 Wonju Array Si 10.50 279 *e*Pn Pn 10 41 07.3 +3.3
KS15 Wonju Array Si 10.51 279 *e*Pn Pn 10 41 07.9 +3.7
KSAR Wonju Array Be 10.51 279 P Pn 10 41 07.0 +2.8
KSAR Wonju Array Be 10.51 279 Pn Pn 10 41 07.0 +2.8
YSS Yuzh-Sakhalins 10.53 7 ⇑*i*P Pn 10 41 03.2 -1.2
YSS *e*S Sn 10 42 57.9 -4.2
YSS pmax pmax
comp=Z,40nm,0.6s
YSS pmax pmax
comp=Z,600nm,5.0s
YSS MLR MLR
comp=Z,6µm,15.0s
YSS MLR MLR
comp=N,13µm,16.0s
YSS MLR MLR
comp=E,21µm,16.0s
YSS Yuzh-Sakhalins 10.53 7 *e*Pn Pn 10 41 03.4 -1.0
INCN Inchon 11.51 279 P Pn 10 41 27.6 +10
SNR=6.8
INCN Inchon 11.51 279 *e*Pn Pn 10 41 24.3 +6.4
comp=E,52nm,0.9s
MDJ Mudanjiang 11.85 317 P Pn 10 41 22.8 +0.4
MDJ S Sn 10 43 35.6 +1.2
MDJ PcP **PcP** 10 47 09.1 -0.7
MDJ ScP **ScP** 10 50 42.5 +0.3
MDJ ScS **ScS** 10 54 19.6 +1.8
MDJ PMZ
comp=E,10.0nm,0.8s
MDJ PMZ
comp=E,1µm,8.4s
MDJ LN
comp=E,9µm,11.6s
MDJ LE
comp=E,6µm,11.0s
MDJ LZ
comp=E,10µm,14.4s
MDJ Mudanjiang 11.85 317 *e*Pn Pn 10 41 21.7 -0.7
comp=E,242nm,1.5s
UGL Uglegorsk 12.60 3 P P 10 41 40.5 -3.6
UGL pmax pmax
comp=Z,49nm,0.7s
UGL MLR MLR
comp=Z,12µm,13.0s
UGL MLR MLR
comp=N,9µm,14.0s
UGL MLR MLR
comp=E,16µm,18.0s
HABR Khabarovsk 12.73 342 *ce*P Pn 10 41 30.6 -3.9
HABR *e*S Sn 10 43 51.5 -4.5
HABR pmax pmax
comp=Z,9.0nm,1.3s
HABR MLR MLR
comp=Z,5µm,13.0s
CN2 Changchun 13.92 306 *e*P Pn 10 41 54.0 +3.3
CN2 *es*P P 10 42 00.9 +2.0
CN2 *e*S Sn 10 44 29.5 +4.5
CN2 PMZ
comp=Z,20nm,1.1s
CN2 LN
comp=Z,26µm,13.0s
CN2 LE
comp=Z,13µm,13.0s
CN2 LZ
comp=Z,9µm,15.0s
KLR Kul'dur 14.39 335 Pn Pn 10 41 55.9 -1.3
comp=Z,0.2nm,0.3s,baz=130,slow=15,SNR=5.4
KLR LR LR 10 47 23.3
comp=Z,4µm,18.6s,baz=148,slow=37
TYV Tymovskoe 14.41 4 *e*P Pn 10 41 55.2 -2.2
TYV pmax pmax
comp=N,26nm,1.0s
TYV pmax pmax
comp=Z,114nm,1.0s
TYV pmax pmax
comp=N,2µm,10.0s
TYV pmax pmax
comp=Z,1µm,10.0s
TYV MLR MLR
comp=N,17µm,15.0s
TYV MLR MLR
comp=Z,20µm,15.0s
JOW Kunigami 14.47 232 *e*P P 10 42 03.8 -1.2
SNY Shenyang 14.49 297 ⇓P Pn 10 42 00.6 +2.0
SNY PMZ
comp=Z,2µm,12.9s
SNY LN
comp=Z,20µm,13.7s
SNY LE
comp=Z,23µm,14.7s
SNY LZ
comp=Z,26µm,17.1s
DL2 Dalian 15.50 285 P P 10 42 19.6 +3.2
DL2 S S 10 45 16.7 -2.5
DL2 pmax pmax
comp=Z,55nm,0.7s
DL2 pmax pmax
comp=Z,2µm,11.1s
DL2 LR LR
comp=N,9µm,12.0s
DL2 LR LR
comp=E,15µm,13.4s
DL2 LR LR
comp=Z,16µm,15.5s
SSE Sheshan 17.29 258 P Pn 10 42 33.5 -1.5
SSE S Sn 10 45 47.8 +0.6
SSE PMZ
comp=Z,40nm,1.1s
SSE PMZ
comp=Z,2µm,9.2s
SSE LN
comp=Z,18µm,14.4s
SSE LE
comp=Z,9µm,14.4s
SSE LZ
comp=Z,10µm,14.5s
SKR Severo-Kuril's 17.88 33 *e*P Pn 10 42 41.0 -1.0
SKR *e*S Sn 10 45 56.5 -4.6
SKR pmax pmax
comp=Z,138nm,2.2s
SKR pmax pmax
comp=Z,900nm,2.4s
SKR MLR MLR
comp=Z,5µm,18.0s
NJ2 Nanjing 18.80 263 *e*P P 10 42 51.5 -1.4
NJ2 pP **pP** 10 42 56.6 -0.1
NJ2 sP **sP** 10 42 59.8 +1.3
NJ2 PMZ
comp=Z,25nm,0.9s
NJ2 PMZ
comp=Z,260nm,6.6s
NJ2 LN
comp=Z,7µm,14.2s
NJ2 LE
comp=Z,15µm,16.3s
NJ2 LZ
comp=Z,12µm,16.8s
TIA Tai'an 19.20 276 ⇑P P 10 42 55.6 -1.8
TIA PMZ
comp=Z,40nm,1.0s
TIA PMZ
comp=Z,1µm,11.0s
TIA LN
comp=Z,11µm,13.5s
TIA LE
comp=Z,12µm,15.2s
TIA LZ
comp=Z,16µm,15.0s
BJI Beijing 19.77 288 P P 10 43 02.3 -1.2
BJI S S 10 46 45.6 -0.3
BJI PMZ
comp=Z,21nm,0.9s
BJI PMZ
comp=Z,750nm,8.4s
BJI LN
comp=Z,9µm,15.2s
BJI LE
comp=Z,5µm,18.3s
BJI LZ
comp=Z,4µm,23.8s
BJT Baijiatuau 19.77 288 *e*P P 10 43 02.3 -1.3
BJT pmax pmax
comp=Z,48nm,0.8s
BJT Baijiatuau 19.77 288 *e*P P 10 43 02.2 -1.3
comp=Z,48nm,0.8s
HIA Hailar 20.03 316 *e*P P 10 43 06.2 -0.2
HIA pmax pmax
comp=Z,9.0nm,0.4s
HIA Hailar 20.03 316 *e*P P 10 43 06.2 -0.2
comp=Z,9.5nm,0.4s
TATO Taipei 20.26 241 *e*P P 10 43 07.8 -1.3
PEA0 Petropavlovsk- 20.33 30 *e*P Pn 10 43 10.7 -0.9
PEA0B Petropavlovsk- 20.33 30 *e*P Pn 10 43 14.9 +3.3
comp=Z,128nm,1.3s
PETK Petropavlovsk- 20.33 30 P P 10 43 10.3 +0.7
comp=Z,7.8nm,0.8s,baz=190,slow=6.0,SNR=9.4
PETK LR LR 10 52 14.5
comp=Z,4µm,18.1s,baz=216,slow=40
YHNB Yeheng 20.54 240 *e*P P 10 43 12.0 -0.1
comp=Z,52nm,1.1s
PET Petropavlovsk 20.66 31 *e*P P 10 43 12.6 -0.5
PET *e*S S 10 47 01.1 -2.3
PET pmax pmax
comp=Z,138nm,1.3s
PET MLR MLR
comp=Z,5µm,15.0s
PET MLR MLR
comp=Z,5µm,15.0s
PET Petropavlovsk 20.66 31 *e*P P 10 43 13.6 +0.6
comp=Z,267nm,1.4s
NACB Ninganchiao 20.70 239 *e*P P 10 43 12.7 -1.1
SSLB Suanglung 21.40 239 *e*P P 10 43 24.1 +2.8
comp=Z,41nm,1.1s
YULB Yu-li 21.42 238 *e*P P 10 43 19.9 -1.7
comp=Z,20nm,0.8s
TPUB Ta-pu 21.94 239 *e*P P 10 43 25.6 -1.6
comp=Z,78nm,1.0s
TWG Pinlang 21.96 237 *e*P P 10 43 27.3 0.0
comp=Z,327nm,1.1s
WHN Wuhan 22.93 263 ⇑P P 10 43 35.2 -2.5
WHN sP **sP** 10 43 42.4 -0.8
WHN S S 10 47 46.6 -0.8
WHN LN
comp=Z,20µm,13.0s
WHN LE
comp=Z,31µm,14.6s
WHN LZ
comp=Z,37µm,16.3s
CLNS Chul'man 23.03 337 *e*P P 10 43 35.8 -2.7
CLNS *e**PP **sP** 10 43 44.7 +0.6
CLNS *e* 10 47 27.8
CLNS *e*S S 10 47 43.7 -5.0
CLNS *e*SS SnSn 10 48 40.5 +20
CLNS pmax pmax
comp=Z,32nm,1.0s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=N,18nm,1.1s
CLNS smax smax
comp=E,164nm,7.3s
CLNS smax smax
comp=N,1µm,12.0s
CLNS MLR MLR
comp=N,3µm,13.0s
CLNS MLR MLR
comp=E,4µm,12.0s
CLNS MLR MLR
comp=Z,4µm,12.0s
GUMO Guam 23.08 170 P P 10 43 39.9 +0.6
comp=Z,48nm,0.4s,baz=174,slow=24,SNR=4.7
GUMO Guam 23.08 170 *e*P P 10 43 34.8 -4.5
comp=Z,317nm,0.9s
GUMO P P 10 43 39.9 +0.6
HHC Hu-ho-hao-te 23.31 290 *e*P P 10 43 40.3 -1.3
HHC sP sP 10 43 52.0 +4.8
HHC PP **PnPn** 10 44 15.5 +8.1
HHC S S 10 47 50.5 -3.3
HHC sS sS 10 47 57.3 -3.2
HHC PMZ
comp=Z,30nm,1.1s
HHC PMZ
comp=Z,420nm,8.4s
HHC LN
comp=Z,8µm,14.7s
HHC LE
comp=Z,4µm,12.8s
HHC LZ
comp=Z,4µm,13.2s
MA2 Magadan 23.95 12 P P 10 43 47.0 -0.5
comp=Z,29nm,0.7s,baz=214,slow=8.8,SNR=21
MA2 LR LR 10 53 04.1
comp=Z,3µm,20.4s,baz=214,slow=36
MA2 Magadan 23.95 12 P P 10 43 47.0 -0.5
MA2 pmax pmax
comp=Z,50nm,0.9s
MA2 MLR MLR
comp=Z,3µm,20.4s
MA2 Magadan 23.95 12 *e*P P 10 43 46.8 -0.7
MA2 P P 10 43 47.0 -0.5
CIT Chita 24.82 317 *e*P P 10 43 55.6 0.0
CIT *e* 10 44 06.9
CIT *e* 10 44 30.7
CIT *e* 10 44 44.5
XAN Xi'an 26.22 274 P P 10 44 07.6 -0.8
XAN pP sP 10 44 16.5 +2.3
XAN PMZ
comp=Z,11nm,0.7s
YAK Yakutsk 26.52 348 P P 10 44 10.1 -0.6
comp=Z,1.8nm,0.3s,baz=332,slow=22,SNR=5.8
YAK LR LR 10 54 37.7
comp=Z,5µm,20.7s,baz=146,slow=36
YAK Yakutsk 26.52 348 *i* P P 10 44 10.1 -0.6
YAK *e* 10 44 51.2
YAK *e*S S 10 48 43.0 -1.3
YAK pmax pmax
comp=Z,47nm,1.1s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK MLR MLR
comp=Z,9µm,14.0s
YAK Yakutsk 26.52 348 *e*P P 10 44 10.5 -0.3
comp=Z,93nm,1.0s
ENH Enshi 26.93 266 *e*P P 10 44 13.2 -1.7
comp=Z,90nm,1.0s
ULN Ulaanbaatar 27.36 305 *i* P P 10 44 18.3 -0.5
ULN pmax pmax
comp=Z,13nm,0.9s
ULN Ulaanbaatar 27.36 305 P P 10 44 19.5 +0.7
SNR=11
ULN Ulaanbaatar 27.36 305 *e*P P 10 44 18.0 -0.8
comp=Z,42nm,1.3s
SEY Seymchan 27.38 11 P P 10 44 18.9 +0.3
comp=Z,17nm,0.8s,baz=196,slow=7.2,SNR=26
SEY LR LR 10 56 27.3
comp=Z,5µm,18.4s,baz=155,slow=39
SEY Seymchan 27.38 11 *i* P P 10 44 19.3 +0.7
SONA1 Songino Array 27.79 305 *e*P P 10 44 21.1 -1.5
SONM Songino Array 27.79 305 P P 10 44 20.9 -1.6
comp=Z,5.9nm,0.7s,baz=108,slow=9.0,SNR=21
SONM ScP **ScP** 10 51 19.5 +0.5
comp=Z,1.5nm,0.9s,baz=132,slow=4.4,SNR=3.8
SONM LR LR 10 55 13.3
comp=Z,4µm,18.9s,baz=104,slow=36
BOD Bodaibo 27.79 329 *e*P P 10 44 19.3 -3.0
BOD pmax pmax
comp=Z,24nm,1.0s
H11N2 WAKE ISLAND Hy 28.19 119 T T 11 13 51.2
baz=312,slow=75,SNR=3948
H11N1 WAKE ISLAND Hy 28.20 119 T T 11 13 51.8
baz=312,slow=75,SNR=4271
H11N3 WAKE ISLAND Hy 28.21 119 T T 11 13 52.5
baz=312,slow=75,SNR=3113
H11S1 WAKE ISLAND Hy 28.88 121 T T 11 14 45.7
baz=314,slow=76
H11S3 WAKE ISLAND Hy 28.88 121 T T 11 14 40.3
baz=314,slow=76
H11S2 WAKE ISLAND Hy 28.89 121 T T 11 14 45.0
baz=314,slow=76
LZH Lanzhou 29.81 280 *e*P P 10 44 41.5 +0.8
LZH pP sP 10 44 47.2 +0.8
LZH sP pP 10 44 49.9 +5.1
LZH *e*S S 10 49 35.3 -1.7
LZH sS sS 10 49 45.5 +1.7
LZH PMZ
comp=Z,39nm,1.0s
LZH PMZ
comp=Z,190nm,6.2s
LZH LN
comp=Z,8µm,12.2s
LZH LE
comp=Z,11µm,14.8s
LZH LZ
comp=Z,14µm,16.6s
IRK Irkutsk 30.20 313 *e*P P 10 44 47.7 +4.0
IRK pmax pmax
comp=Z,37nm,1.7s
ZAK Zakamensk 30.32 309 *e*P P 10 44 44.9 -0.1
ZAK pmax pmax
comp=Z,13nm,1.4s
TLY Talaya 30.41 312 P P 10 44 44.5 -1.1
comp=Z,6.3nm,0.8s,baz=75,slow=2.2,SNR=11
TLY LR LR 10 55 37.7
comp=Z,2µm,21.1s,baz=108,slow=34
TLY Talaya 30.41 312 *e*P P 10 44 46.8 +1.1
TLY *e*S S 10 49 45.8 -0.2
TLY pmax pmax
comp=Z,15nm,0.9s
TLY MLR MLR
comp=Z,2µm,10.0s
GYA Guiyang 30.78 261 ⇑*i*P P 10 44 47.4 -1.9
GYA PP **PnPn** 10 45 50.2 +0.9
GYA PcP **PcP** 10 47 48.3 +1.7
GYA S S 10 49 47.8 -4.6
GYA ScP **ScP** 10 51 29.6 +0.7
GYA SS **SnSn** 10 51 32.0 +1.1
GYA ScS **ScS** 10 55 24.0 -1.7
GYA PMZ
comp=Z,70nm,1.0s
GYA PMZ
comp=Z,120nm,8.6s
GYA LN
comp=Z,5µm,15.8s
GYA LE
comp=Z,4µm,16.9s
GYA LZ
comp=Z,7µm,16.4s
CD2 Chengdu 31.32 271 P P 10 44 52.0 -1.9
CD2 S S 10 49 58.7 -1.9
CD2 sS sS 10 50 04.6 -2.7
CD2 PcS **PcS** 10 51 30.9 -1.3
CD2 PMZ
comp=Z,60nm,0.7s
CD2 PMZ
comp=Z,200nm,4.9s
CD2 LN
comp=Z,12µm,17.7s
CD2 LE
comp=Z,7µm,19.1s
CD2 LZ
comp=Z,8µm,15.7s
GTA Gaotai 32.38 288 *e*P P 10 45 03.0 -0.3
GTA pP sP 10 45 14.1 +5.0
GTA PcP **PcP** 10 47 51.6 +0.9
GTA S S 10 50 18.0 +0.8
GTA PMZ
comp=Z,10.0nm,1.1s
GTA LN
comp=Z,6µm,15.7s
GTA LE
comp=Z,4µm,14.3s
GTA LZ
comp=Z,5µm,15.7s
QIZ Qiongzhong 32.38 246 P P 10 45 02.6 -0.7
QIZ S S 10 50 18.9 +1.7

QIZ LN
comp=Z,5µm,15.6s
QIZ LE
comp=Z,5µm,16.8s
QIZ LZ
comp=Z,5µm,13.8s
KMI Kunming 34.53 262 P P 10 45 21.2 -1.0
KMI pP pP 10 45 26.2 -0.1
KMI sP sP 10 45 28.0 0.0
KMI PP **PnPn 10 46 38.5 +1.1**
KMI S **S 10 50 48.0 -2.9**
KMI sS sS 10 50 55.8 -1.9
KMI PMZ
comp=Z,52nm,1.0s
KMI PMZ
comp=Z,500nm,5.4s
KMI LN
comp=Z,7µm,15.2s
KMI LE
comp=Z,7µm,15.2s
KMI LZ
comp=Z,8µm,15.4s
BILL Bilibino 34.64 16⇑ *iP* **P 10 45 21.8 -0.6**
BILL *e* 10 46 33.3
BILL *e* 10 48 01.2
BILL pmax pmax
comp=Z,18nm,1.2s
BILL MLR MLR
comp=Z,3µm,20.0s
BILL Bilibino 34.64 16 *eP* **P 10 45 21.9 -0.6**
comp=Z,10nm,0.7s
TIXI Tiksi 35.78 353 P P 10 45 31.0 -1.2
comp=Z,10nm,0.5s,baz=142,slow=6.1,SNR=22
TIXI Tiksi 35.78 353 *d iP* **P 10 45 30.5 -1.6**
TIXI pmax pmax
comp=Z,24nm,1.1s
TIXI Tiksi 35.78 353 *eP* **P 10 45 30.6 -1.6**
comp=Z,25nm,0.8s
MYLDM Lahad Datu 37.37 219 *eP* **P 10 45 47.0 +0.7**
comp=Z,33nm,0.9s
PANO Nakornpanom 37.44 249 P P 10 45 48.6 +1.7
comp=Z,17nm,1.2s
UBPT Khong Chiam 37.98 246 P P 10 45 54.6 +3.1
comp=Z,24nm,1.3s
NONG Nongkai 38.00 251 P P 10 45 51.3 -0.4
comp=Z,42nm,1.1s
SKNT Sakolnakorn 38.02 249 P P 10 45 51.8 -0.1
comp=Z,37nm,0.8s
SWI Sorong 38.25 196 P P 10 45 52.3 -1.5
comp=Z,106nm,0.9s,comp=Z,2µm
SWI Sorong 38.25 196 P P 10 45 53.4 -0.4
SWI pmax pmax
comp=Z,88nm,1.5s
GENI Genyem 38.90 181 P P 10 45 56.4 -2.8
comp=Z,112nm,1.2s,comp=Z,3µm
KHON Khomkaen 39.28 249 P P 10 46 04.1 +1.6
comp=Z,13nm,1.0s
LOEI Loei 39.77 252 P P 10 46 03.2 -3.3
comp=Z,26nm,1.0s,comp=Z,547nm
MRSI Marisa 39.95 211 P P 10 46 06.3 -1.7
comp=Z,41nm,1.1s
FAKI Fak Fak 40.05 194 P P 10 46 06.3 -2.5
comp=Z,116nm,1.5s,comp=Z,2µm
FAKI Fak Fak 40.05 194 *eP* **P 10 46 08.2 -0.6**
comp=Z,80nm,0.9s
UTTA Uttaradit 40.17 253 P P 10 46 09.7 -0.2
comp=Z,6.5nm,0.8s,comp=Z,66nm
CHAI Chaiyaphum 40.19 250 P P 10 46 09.4 -0.6
comp=Z,18nm,1.0s,comp=Z,167nm
LAMP Lampang 40.44 255 P P 10 46 14.0 +1.9
comp=Z,7.9nm,0.9s
PBKT Sadao Pong 40.55 251 P P 10 46 12.7 -0.3
comp=Z,41nm,1.0s
WMQ Urumqi 40.76 297 P P 10 46 14.6 0.0
WMQ sP sP 10 46 22.9 +2.5
WMQ PcP **PcP 10 48 16.6 +0.9**
WMQ S **S 10 52 24.1 -0.8**
WMQ sS sS 10 52 31.6 -0.1
WMQ SS **SS 10 55 19.6 -5.9**
WMQ PMZ
comp=Z,15nm,0.8s
WMQ PMZ
comp=Z,170nm,3.6s
WMQ LN
comp=Z,6µm,17.6s
WMQ LE
comp=Z,2µm,18.6s
WMQ LZ
comp=Z,2µm,18.6s
SANI Sanana 40.81 203 P P 10 46 13.3 -1.8
comp=Z,94nm,0.8s,comp=Z,1µm
CHTO Chiang Mai 40.81 256 P P 10 46 15.7 +0.5
comp=Z,71nm,1.4s
CHTO Chiang Mai 40.81 256 *eP* **P 10 46 14.6 -0.6**
CHTO pmax pmax
comp=Z,11nm,0.8s
CHTO Chiang Mai 40.81 256 *eP* **P 10 46 14.6 -0.6**
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 41.02 256 P P 10 46 15.6 -1.3
comp=Z,2.1nm,0.5s,baz=43,slow=6.7,SNR=12
CMAR LR LR 11 05 41.0
comp=Z,5µm,18.2s,baz=50,slow=40
CM01 Chiang Mai Arr 41.02 255 *eP* **P 10 46 15.2 -1.7**
SUKH Sukhothai 41.04 254 P P 10 46 17.5 +0.5
comp=Z,6.0nm,0.8s
SRAK Srakaew 41.33 247 P P 10 46 16.0 -3.4
comp=Z,59nm,0.9s,comp=Z,938nm
LSA Lhasa 41.90 276 P P 10 46 25.3 +0.7
LSA PMZ
comp=Z,24nm,0.9s
LSA Lhasa 41.90 276 *eP* **P 10 46 24.3 -0.3**
LSA pmax pmax
comp=Z,49nm,1.2s
LSA Lhasa 41.90 276 *eP* **P 10 46 24.3 -0.3**
comp=Z,49nm,1.2s
CHBT CHBT 41.93 246 P P 10 46 25.3 +1.0
comp=Z,42nm,0.9s
ZAA0 Zalesovo Array 42.01 313 *eP* **P 10 46 23.0 -1.6**
ZAA0 *eP* **P 10 46 23.6 -1.0**
ZALV Zalesovo Beam 42.01 313 P P 10 46 23.2 -1.4
comp=Z,36nm,0.7s,baz=95,slow=7.1,SNR=95
NVS Novosibirsk 42.95 314⇑ *iP* **P 10 46 32.1 -0.1**
NVS *eS* **S 10 52 58.1 +1.3**
NVS pmax pmax
comp=Z,62nm,1.4s
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,53nm,1.6s
NVS smax smax
comp=N,16nm,2.0s
NVS smax smax
comp=E,29nm,2.0s
SBUM Sibu 43.03 225 *eP* **P 10 46 33.1 -0.2**
SHL Shillong 43.04 270 *eP* **P 10 46 36.0 +2.4**
SHL *eP* **P 10 46 36.0 +2.4**
SRDT SRDT 43.31 250 P P 10 46 41.2 +5.6
comp=E,99nm,1.2s,comp=E,3µm
NRIK Noril'sk 43.60 336 P P 10 46 37.4 +0.1
comp=E,5.2nm,0.6s,baz=113,slow=13,SNR=4.4
NRIK LR LR 11 06 30.5
comp=E,3µm,20.0s,baz=105,slow=38
MK01 Makanchi Array 44.10 302 *eP* **P 10 46 40.9 -0.8**
MK31 Makanchi Array 44.10 303 *eP* **P 10 46 40.8 -0.9**
MKAR Makanchi Array 44.10 303 P P 10 46 41.0 -0.6
comp=E,23nm,1.0s,baz=87,slow=9.8,SNR=65
MKAR LR LR 11 05 07.2
comp=E,3µm,19.8s,baz=86,slow=36
MKAR Makanchi Array 44.10 303 *eP* **P 10 46 40.8 -0.9**
MAKZ Makanchi 44.31 303 *eP* **P 10 46 43.3 -0.1**
MAKZ pmax pmax
comp=Z,26nm,0.9s
MAKZ Makanchi 44.31 303 *eP* **P 10 46 43.3 -0.1**
comp=Z,26nm,0.9s
KAPI Kappang 45.82 210 *eP* **P 10 46 55.5 -0.1**
comp=Z,126nm,1.4s
KURK Kurchatov 45.98 308 *eP* **P 10 46 55.3 -1.2**
KURK pmax pmax
comp=Z,192nm,0.7s
KURK Kurchatov 45.98 308 *eP* **P 10 46 55.3 -1.2**
comp=Z,192nm,0.7s
TT01 Tatalina 46.06 35 *eP* **P 10 46 58.1 +1.2**
TTA Tatalina 46.06 34 *eP* **P 10 46 58.4 +1.3**
TTA pmax pmax
comp=Z,14nm,1.1s
TTA Tatalina 46.06 34 *eP* **P 10 46 58.4 +1.3**
comp=Z,14nm,1.1s
SVW2 Sparrevohn 46.16 37 *eP* **P 10 46 59.6 +1.8**
comp=Z,30nm,1.0s
PDGK Podgornoye 46.71 298 P P 10 47 02.1 -0.2
PDGK pmax pmax
comp=Z,62nm,1.1s
GUN Gumba 46.85 276 *eP* **P 10 47 04.3 +0.2**
comp=Z,152nm,1.0s
SKLT Songkhla 46.94 242 P P 10 47 05.7 +1.3
comp=Z,35nm,1.1s
KRAB Krabi 47.23 244 P P 10 47 06.9 +0.2
comp=Z,54nm,0.9s
PKIN Phulchoki 47.38 276 *eP* **P 10 47 07.7 -0.4**
comp=Z,57nm,0.7s
KKN Kakani 47.38 276 *eP* **P 10 47 08.2 +0.1**
comp=Z,124nm,0.9s
OHAK Old Harbor 47.39 42 *eP* **P 10 47 09.0 +1.5**
comp=Z,36nm,0.9s
RSO Redoubt South 47.54 38 *eP* **P 10 47 11.0 +2.2**
DMN Daman 47.60 276 *eP* **P 10 47 09.8 0.0**
comp=Z,44nm,0.7s
KDAK Kodiak Island 47.74 42 *eP* **P 10 47 10.1 0.0**
KDAK pmax pmax
comp=Z,49nm,0.9s
KDAK Kodiak Island 47.74 42 *eP* **P 10 47 10.1 0.0**
comp=Z,49nm,0.9s
GKN Gorkha 47.81 277 *eP* **P 10 47 11.3 0.0**
comp=Z,199nm,1.0s
PPLA Purkeypile 47.81 35 *eP* **P 10 47 13.0 +2.2**
comp=Z,64nm,1.3s
SPU Mount Spurr 47.88 37 *eP* **P 10 47 12.7 +1.4**
MMRI Maumere 48.22 205 *eP* **P 10 47 13.9 -0.4**
comp=Z,110nm,1.1s
KULM Kulim 48.24 240 *eP* **P 10 47 14.8 +0.3**
comp=Z,55nm,1.6s
CNPM China Poot 48.34 39 *eP* **P 10 47 19.1 +4.3**
comp=Z,45nm,1.3s
BPAW Bear Paw Mtn. 48.37 33 *eP* **P 10 47 17.1 +2.1**
comp=Z,17nm,1.1s
KTH Kantishna Hill 48.39 34 *eP* **P 10 47 17.7 +2.5**
comp=Z,44nm,1.2s
MLY Manley 48.49 32 *eP* **P 10 47 17.5 +1.5**
comp=Z,29nm,1.1s
SUA Susitna One 48.50 37 *eP* **P 10 47 20.4 +4.3**
comp=Z,22nm,0.8s
BRLK Bradley Lake 48.50 39 *eP* **P 10 47 19.7 +3.6**
comp=Z,18nm,0.8s
AAA Alma-Ata 48.52 299 *eP* **P 10 47 16.6 +0.1**
AAA *eS* **S 10 54 15.5 -2.0**
AAA pmax pmax
comp=Z,500nm,3.4s
AAA smax smax
comp=E,2µm,23.3s
AAA MLR MLR
comp=Z,8µm,18.0s
IPM Ipoh 48.56 239 *eP* **P 10 47 15.9 -1.1**
comp=Z,37nm,1.0s
SOEI Soe 48.62 202 *eP* **P 10 47 16.1 -1.5**
comp=Z,148nm,0.9s
TRF Thorofare Moun 48.67 34 *eP* **P 10 47 18.9 +1.4**
comp=Z,17nm,1.0s
KOLN Koldanda 48.74 277 *eP* **P 10 47 18.7 +0.1**
comp=Z,42nm,0.6s
COLD Coldfoot 48.79 29 *eP* **P 10 47 20.1 +1.9**
comp=Z,10nm,1.0s
RC01 Rabbit Creek A 49.00 37 *eP* **P 10 47 24.0 +4.2**
comp=Z,63nm,1.2s
BWN Browne 49.03 33 *eP* **P 10 47 22.2 +2.1**
comp=Z,144nm,1.3s
PYUN Piuthan 49.08 278 *eP* **P 10 47 21.4 +0.2**
comp=Z,239nm,1.0s
SEW Seward 49.20 38 *eP* **P 10 47 21.7 +0.3**
comp=Z,30nm,0.8s
PMR Palmer 49.27 36 *eP* **P 10 47 22.2 +0.3**
PMR pmax pmax
comp=Z,24nm,0.9s
PMR Palmer 49.27 36 *eP* **P 10 47 22.1 +0.3**
comp=Z,24nm,0.9s
MCK McKinley 49.28 34 *eP* **P 10 47 23.8 +1.9**
MCK pmax pmax
comp=Z,35nm,1.2s
MCK McKinley 49.28 34 *eP* **P 10 47 23.8 +1.9**
comp=Z,35nm,1.2s
RND Reindeer 49.32 34 *eP* **P 10 47 22.8 +0.4**
RND pmax pmax
comp=Z,97nm,1.7s
RND Reindeer 49.32 34 *eP* **P 10 47 22.8 +0.4**
comp=Z,97nm,1.7s
MDM Murphy Dome 49.56 32 *eP* **P 10 47 22.3 -1.8**
comp=Z,54nm,1.0s
TKM2 Tokmak 2 49.57 299 *i P* **P 10 47 24.9 +0.1**
TKM2 pmax pmax
comp=Z,55nm,1.1s
TKM2 Tokmak 2 49.57 299 *eP* **P 10 47 24.4 -0.3**
comp=Z,77nm,0.3s
WRH Wood River Hil 49.63 33 *eP* **P 10 47 25.3 +0.7**
comp=Z,28nm,0.9s
SML Sawmill 49.63 36 *eP* **P 10 47 25.5 +0.8**
SML pmax pmax
comp=Z,38nm,0.8s
SML Sawmill 49.63 36 *eP* **P 10 47 25.5 +0.8**
comp=Z,38nm,0.8s
COLA College 49.72 32 *c iP* **P 10 47 26.4 +1.1**
COLA pmax pmax
comp=Z,46nm,1.9s
COLA College 49.72 32 *eP* **P 10 47 26.4 +1.1**
comp=Z,41nm,1.3s
CCB Clear Creek Bu 49.75 32 *eP* **P 10 47 27.1 +1.7**
comp=Z,18nm,1.3s
MTN Manton Dam 49.95 193 *eP* **P 10 47 26.2 -1.2**
comp=Z,67nm,0.9s
DHY Denali Highway 50.01 34 *eP* **P 10 47 29.3 +1.6**
comp=Z,62nm,1.8s
SCM Sheep Creek Mo 50.11 36 *eP* **P 10 47 29.7 +1.3**
SCM pmax pmax
comp=Z,49nm,1.1s
SCM Sheep Creek Mo 50.11 36 *eP* **P 10 47 29.7 +1.3**
comp=Z,49nm,1.1s
IL1 Eielson Array 50.14 32 *eP* **P 10 47 28.1 -0.3**
ILAR Eielson Array 50.14 32 P P 10 47 28.4 0.0
comp=Z,7.9nm,0.6s,baz=266,slow=5.5,SNR=100
ILAR LR LR 11 09 49.4
comp=Z,1µm,20.3s,baz=273,slow=37
ILB Eielson Array 50.14 32 *eP* **P 10 47 28.6 +0.2**
COEN Coen 50.23 177 *eP* **P 10 47 29.9 +0.3**
comp=Z,49nm,0.9s
FRU Bishkek 50.29 299 *eP* **P 10 47 29.5 -0.5**
FRU *e* 10 49 23.5
FRU *eS* **S 10 54 42.0 -0.2**
FRU pmax pmax
comp=Z,100nm,2.0s
KSH Kashi 50.30 294 P P 10 47 33.5 +3.3
KSH pP sP 10 47 37.8 +1.7
KSH PcP **PcP 10 48 50.9 +1.9**
KSH PP **PP 10 49 29.6 +4.1**
KSH S **S 10 54 45.0 +2.4**
KSH ScS **ScS 10 57 19.9 -1.4**
KSH PMZ
comp=Z,17nm,0.8s
KSH PMZ
comp=Z,280nm,4.9s
KSH LN
comp=Z,3µm,14.3s
KSH LE
comp=Z,3µm,13.4s
KSH LZ
comp=Z,5µm,18.1s
AAK Ala-Archa 50.43 299 LR LR 11 10 03.7
comp=Z,4µm,19.6s,baz=60,slow=38
AAK Ala-Archa 50.43 299 *i P* **P 10 47 30.2 -1.0**
AAK pmax pmax
comp=Z,28nm,0.9s
AAK Ala-Archa 50.43 299 P P 10 47 30.4 -0.8
SNR=14
AAK Ala-Archa 50.43 299 *eP* **P 10 47 31.3 +0.1**
comp=Z,12nm,0.8s
OTUK Ortayu 50.45 306 P P 10 47 30.3 -0.8
OTUK pmax pmax
comp=Z,27nm,1.0s
BVA0 Borovoye Array 50.67 313 P P 10 47 31.7 -1.0
BVA0 pmax pmax
comp=Z,38nm,1.6s
BRVK Borovoye 50.72 313⇑ *iP* **P 10 47 32.8 -0.3**
BRVK pmax pmax
comp=Z,46nm,0.8s
BRVK Borovoye 50.72 313 *eP* **P 10 47 33.0 -0.1**
comp=Z,52nm,0.9s
KLU Klutina 50.81 36 *eP* **P 10 47 34.8 +1.1**
comp=Z,26nm,1.0s
PAX Paxson 50.88 34 *eP* **P 10 47 36.5 +2.3**
PAX pmax pmax
comp=Z,13nm,1.0s
PAX Paxson 50.88 34 *eP* **P 10 47 36.5 +2.3**
comp=Z,13nm,1.0s
DIV Divide 50.92 37 *eP* **P 10 47 37.3 +2.8**
comp=Z,71nm,1.4s
EKS2 Erkin-Say 50.93 299 *eP* **P 10 47 34.6 -0.4**
EKS2 pmax pmax
comp=Z,14nm,0.9s
EKS2 Erkin-Say 50.93 299 *eP* **P 10 47 34.6 -0.4**
comp=Z,14nm,0.9s
EYAK Cordova Ski Ar 50.99 38 *eP* **P 10 47 36.3 +1.3**
comp=Z,36nm,1.1s
PSI Prapat 51.21 239 *eP* **P 10 47 36.1 -1.2**
PSI pmax pmax
comp=Z,19nm,0.7s
PSI Prapat 51.21 239 *eP* **P 10 47 36.1 -1.2**
comp=Z,18nm,0.7s
DOT Dot Lake 51.45 33 *eP* **P 10 47 38.8 +0.4**
comp=Z,229nm,1.9s
BMRM Bremner River 51.50 37 *eP* **P 10 47 40.1 +1.2**
comp=Z,69nm,1.3s
ZRNK Zerenda 51.50 313 *i P* **P 10 47 38.3 -0.6**
ZRNK pmax pmax
comp=Z,69nm,1.5s
ZRNK Zerenda 51.50 313 *eP* **P 10 47 38.2 -0.7**
comp=Z,55nm,1.2s
RAGM Ragged Mountai 51.54 38 *eP* **P 10 47 40.8 +1.6**
comp=Z,35nm,1.0s
BKNI Bangkinang 51.59 235 *eP* **P 10 47 40.0 0.0**
comp=Z,160nm,0.9s
MENT Mentasta 51.68 34 *eP* **P 10 47 40.7 +0.5**
comp=Z,34nm,1.1s
MNAS Manas 51.88 299 P P 10 47 42.1 0.0
MNAS pmax pmax
comp=Z,34nm,1.6s
CRQM Cirque 52.24 37 *eP* **P 10 47 46.6 +2.0**
comp=Z,54nm,1.1s
SDNR Sundarnagar 52.43 284 *ex* **P 10 47 44.2 -2.0**
EGAK Eagle 52.58 32 *eP* **P 10 47 46.9 +0.1**
comp=Z,49nm,1.5s
UGM Wanagama 52.62 219 *eP* **P 10 47 46.4 -1.2**
comp=Z,200nm,1.2s
KK31 Karatay Array 53.08 300 *i P* **P 10 47 50.4 -0.5**
KK31 pmax pmax
comp=Z,29nm,1.2s
KKAR Karatay Array 53.08 300 *eP* **P 10 47 50.7 -0.2**
KKAR pmax pmax
comp=Z,25nm,0.9s
KKAR Karatay Array 53.08 300 *eP* **P 10 47 50.7 -0.2**
comp=Z,25nm,0.9s
GSI Gunungsitoli 53.22 239 *eP* **P 10 47 51.5 -0.7**
comp=Z,140nm,0.7s
NDI New Delhi 53.42 281 *ex* P 10 47 46.0 -7.5
INK Inuvik 55.02 27 LR LR 11 15 37.0
comp=Z,654nm,19.2s,baz=288,slow=40
INK Inuvik 55.02 27 *eP* **P 10 48 05.5 +0.9**
INK pmax pmax
comp=Z,26nm,0.9s
INK Inuvik 55.02 27 *eP* **P 10 48 05.5 +0.9**
comp=Z,26nm,0.9s
SVE Sverdlovsk 55.31 319⇓ *eP* **P 10 48 06.5 -0.3**
SVE *eS* **S 10 55 49.2 -1.0**
SVE pmax pmax
comp=Z,56nm,0.9s
DZET Dzherino 55.76 296 P P 10 48 10.0 -0.5
DZET pmax pmax
comp=Z,20nm,0.5s
FITZ Fitzroy Crossi 56.20 198 *eP* **P 10 48 13.1 -0.5**
comp=Z,111nm,1.6s
SKAG Skagway 56.34 38 *eP* P 10 48 19.6 +5.4
comp=Z,58nm,1.4s
WRAB Tennant Creek 56.47 187 *d iP* **P 10 48 14.2 -1.3**
WRAB pmax pmax
comp=Z,232nm,2.5s
WRAB Tennant Creek 56.47 187 *eP* **P 10 48 14.2 -1.3**
comp=Z,36nm,0.8s
WB2 Warramunga Arr 56.48 187 *eP* **P 10 48 14.3 -1.3**
comp=Z,61nm,1.0s
WRA Warramunga Arr 56.48 187 P P 10 48 14.1 -1.5
comp=Z,23nm,0.7s,baz=5.9,slow=7.5,SNR=191
CTAO Charters Tower 56.50 174 *eP* **P 10 48 15.0 -0.7**
CTAO pmax pmax
comp=Z,359nm,1.8s
CTAO Charters Tower 56.50 174 *eP* **P 10 48 15.0 -0.7**
comp=Z,359nm,1.8s
ARU Arti 56.52 319 LR LR 11 14 01.9
comp=Z,2µm,18.3s,baz=75,slow=38
ARU Arti 56.52 319 *d iP* **P 10 48 14.1 -1.4**
ARU 10 49 13.6
ARU 10 50 20.0
ARU PPP PPP 10 51 33.1
ARU S **S 10 56 06.4 0.0**
ARU 10 58 03.0
ARU SS **SS 10 59 55.4 +2.2**
ARU pmax pmax
comp=Z,36nm,1.0s
ARU Arti 56.52 319 *eP* **P 10 48 14.2 -1.3**
comp=Z,46nm,0.9s
SOKR Solikamsk 56.53 323 *c iP* **P 10 48 13.6 -1.9**
SOKR S **S 10 56 04.2 -2.1**
SOKR pmax pmax
comp=Z,22nm,1.1s
KBL Kabul 57.27 291 *eP* **P 10 48 20.9 -0.6**
KBL pmax pmax
comp=Z,17nm,0.8s
KBL Kabul 57.27 291 *eP* **P 10 48 20.9 -0.6**
comp=Z,16nm,0.8s
HYB Hyderabad 57.83 269 *i P* **P 10 48 25.0 -0.4**
AB31 Akbulak array 58.01 310 *eP* **P 10 48 24.6 -1.5**
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 58.01 310 *eP* **P 10 48 25.1 -1.1**
comp=Z,6.6nm,0.4s
AKTO Aktyubinsk 58.77 312 LR LR 11 14 17.2
comp=Z,1µm,18.6s,baz=64,slow=37
WRAK Wrangell Islan 58.78 40 *eP* **P 10 48 33.6 +2.2**
comp=Z,14nm,1.0s
DLBC Dease Lake 59.27 38 *eP* **P 10 48 37.2 +2.3**
comp=Z,74nm,1.4s
AS01 Alice Springs 60.20 187 *eP* **P 10 48 39.7 -1.8**
AS31 Alice Springs 60.21 187 *eP* **P 10 48 40.5 -1.1**
comp=Z,5.2nm,0.6s
ASAR Alice Springs 60.21 187 P P 10 48 40.5 -1.1
comp=Z,14nm,0.8s,baz=13,slow=6.1,SNR=116
ASAR LR LR 11 12 30.5
comp=Z,483nm,21.6s,baz=3.5,slow=34
MBWA Marble Bar 60.76 203 *eP* **P 10 48 44.2 -1.1**
comp=Z,86nm,0.7s
SPA0 Spitsbergen Ar 60.98 349 *eP* P 10 48 51.0 +4.8
KBS Kingsbay 61.12 350 *eP* **P 10 48 51.0 +3.9**
KBS pmax pmax
comp=Z,30nm,0.9s
KBS Kingsbay 61.12 350 *eP* **P 10 48 51.0 +3.9**
comp=Z,30nm,0.9s
HSPB Hornsund (broa 61.89 348 *eP* **P 10 48 54.4 +2.0**
PALK Pallekele 61.90 258 LR LR 11 17 44.3
comp=Z,1µm,20.4s,baz=118,slow=38
PALK Pallekele 61.90 258 *i P* **P 10 48 54.7 +1.3**
EIDS Eidsvold 62.27 170 *eP* **P 10 48 55.9 +0.5**
comp=Z,49nm,1.5s
LVZ Lovozero 62.45 336 *i P* **P 10 48 56.3 0.0**
LVZ pmax pmax
comp=Z,40nm,1.3s
APA Apatity 63.03 336⇑ *iP* **P 10 49 00.5 +0.4**
APA *i* 10 49 41.0
APA *i S* **S 10 57 26.0 -3.8**
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,2µm,17.0s
DZM Mont Dzumac 63.03 153 *eP* **P 10 49 00.6 -0.1**
comp=Z,117nm,1.4s
DZM Mont Dzumac 63.03 153 *e*LR LR 11 07 41.6
comp=Z,1µm,22.8s
DZM Mont Dzumac 63.03 153 P P 10 49 01.8 +1.1
comp=Z,27nm,1.1s,baz=336,slow=8.1,SNR=12
DZM Mont Dzumac 63.03 153 *eP* **P 10 49 00.7 -0.1**
comp=Z,73nm,1.3s
RES Resolute Bay 63.21 14 *eP* **P 10 49 03.0 +1.9**
RES pmax pmax
comp=Z,25nm,0.9s
RES Resolute Bay 63.21 14 *eP* **P 10 49 03.0 +1.9**

comp=Z,25nm,0.9s
GEYT Alibeck 63.78 299 P P 10 49 05.7 +0.1
comp=Z,6.9nm,0.6s,baz=33,slow=3.5,SNR=10
GEYT LR LR 11 16 59.9
comp=Z,2µm,20.2s,baz=70,slow=36
COCO West Island 63.82 229 *i* P **P 10 49 08.2 +2.3**
KLMR Klimovskoe 64.02 328 *e*P **P 10 49 05.4 -1.3**
KLMR *e* 10 51 25.3
KLMR pmax pmax
comp=Z,25nm,0.9s
MSVF Nonsavu 64.32 140 *e*P **P 10 49 11.7 +2.4**
MSVF pmax pmax
comp=Z,43nm,1.3s
MSVF Nonsavu 64.32 140 *e*P **P 10 49 11.7 +2.4**
comp=Z,43nm,1.3s
ARA0 ARCESS Array S 64.37 339 *e*P **P 10 49 13.0 +4.1**
ARCES ARCESS Array B 64.37 339 P **P 10 49 08.9 -0.1**
comp=Z,4.7nm,0.7s,baz=61,slow=9.9,SNR=11
ARCES LR LR 11 22 03.8
comp=Z,1µm,18.2s,baz=47,slow=41
YKW3 Yellowknife Ar 64.41 30 *e*P **P 10 49 09.6 +0.3**
comp=Z,55nm,1.7s
YKA Yellowknife Ar 64.45 30 P **P 10 49 09.5 0.0**
comp=Z,7.2nm,0.8s,baz=297,slow=6.6,SNR=19
YKA LR LR 11 18 01.5
comp=Z,43nm,21.5s,baz=180,slow=37
YKA Yellowknife Ar 64.45 30 P **P 10 49 09.5 0.0**
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKB5 Yellowknife Ar 64.45 30 *e*P **P 10 49 09.7 +0.2**
DAG Danmarks Havn 66.27 355 *i* P **P 10 49 20.3 -0.8**
DAG pmax pmax
comp=Z,28nm,1.0s
DAG Danmarks Havn 66.27 355 *i* P **P 10 49 20.3 -0.8**
comp=Z,28nm,1.0s
NLWA Neilton Lookou 67.34 47 *e*P **P 10 49 30.4 +1.9**
comp=Z,54nm,1.1s
MOS Moscow 67.46 323 *e*P **P 10 49 28.1 -0.9**
MOS *e* 10 49 52.5
MOS *e*S **S 10 58 23.2 -1.4**
MOS *e* 10 59 22.0
MOS pmax pmax
comp=Z,63nm,1.0s
MOS MLR MLR
comp=E,5µm,16.0s
MOS MLR MLR
comp=Z,3µm,16.0s
MOS MLR MLR
comp=N,2µm,15.0s
VRH Novokhopyorsk 67.73 318 *e*P **P 10 49 29.6 -1.2**
VRH pmax pmax
comp=Z,20nm,0.7s
VRH MLR MLR
comp=Z,2µm,14.0s
B05A Bryant 67.94 46 P **P 10 49 33.2 +1.1**
baz=300
E03A Lebam 67.94 48 *e*P **P 10 49 35.2 +3.0**
comp=Z,45nm,0.9s
STKA Stephens Creek 68.02 179 P **P 10 49 32.1 -0.6**
comp=Z,11nm,0.9s,baz=348,slow=7.3,SNR=16
STKA LR LR 11 20 15.1
comp=Z,568nm,19.5s,baz=359,slow=37
STKA Stephens Creek 68.02 179 *e*P **P 10 49 32.1 -0.6**
comp=Z,5.4nm,1.1s
JCW Jim Creek 68.07 46 P **P 10 49 34.3 +1.3**
OBN Obninsk 68.31 323 LR LR 11 20 59.8
comp=Z,1µm,18.6s,baz=59,slow=37
OBN Obninsk 68.31 323⇓ *e*P **P 10 49 33.5 -0.8**
OBN *e* 10 49 59.9
OBN *e* 10 52 03.2
OBN pmax pmax
comp=Z,31nm,1.1s
OBN MLR MLR
comp=Z,2µm,15.0s
OBN Obninsk 68.31 323 *e*P **P 10 49 33.9 -0.4**
comp=Z,32nm,0.9s
LPSR Galich'ya Gora 68.48 320 *e*P **P 10 49 34.8 -0.7**
LPSR pmax pmax
comp=Z,30nm,1.0s
LPSR MLR MLR
comp=Z,2µm,15.0s
KULLO Kullorsuaq 68.54 5 *i* P **P 10 49 36.9 +1.4**
KULLO pmax pmax
comp=Z,25nm,0.9s
KULLO Kullorsuaq 68.54 5 *i* P **P 10 49 36.9 +1.4**
comp=Z,25nm,0.9s
D05A Enumclaw 68.55 47 *e*P **P 10 49 37.3 +1.3**
comp=Z,32nm,0.9s
TDL Tradedollar La 68.84 48 P **P 10 49 39.3 +1.2**
LON Longmire 68.88 47 *e*P **P 10 49 39.9 +1.7**
LON pmax pmax
comp=Z,15nm,1.2s
LON Longmire 68.88 47 *e*P **P 10 49 39.9 +1.7**
comp=Z,15nm,1.2s
F04A Amboy 68.94 48 *e*P **P 10 49 40.2 +1.7**
comp=Z,37nm,0.8s
NLW Nelson Butte 69.05 45 P **P 10 49 41.5 +2.2**
VSR Storozhevoye 69.10 319 *e*P **P 10 49 38.5 -0.8**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,2µm,13.0s
BBOO Buckleboo 69.10 184 *e*P **P 10 49 39.1 -0.3**
comp=Z,31nm,0.9s
FIA1 FINESS Array S 69.12 332 *e*P **P 10 49 39.1 -0.2**
FIA1 *e*P **P 10 49 39.7 +0.4**
FINES FINESS Array B 69.12 332 P **P 10 49 38.8 -0.5**
comp=Z,26nm,0.8s,baz=58,slow=7.2,SNR=25
B08A Colville Reser 69.47 45 *e*P P 10 49 47.1 +5.3
comp=Z,22nm,1.1s
I03D Drain, OR 69.52 50 P **P 10 49 43.8 +1.7**
baz=301
H04A Detroit Lake 69.73 49 *e*P **P 10 49 44.7 +1.3**
comp=Z,41nm,1.0s
I04A Tendick Farm, 70.05 50 P **P 10 49 46.5 +1.0**
baz=302
L02D Cave Junction, 70.16 52 P **P 10 49 47.1 +1.0**
baz=302
GOF Gofitskoye 70.18 312⇑ *e*P **P 10 49 46.2 0.0**
GOF pmax pmax
comp=Z,58nm,0.9s
HUMO Hull Mountain 70.34 51 *e*P **P 10 49 48.2 +1.0**
comp=Z,286nm,2.1s
C09A Chrisman Ranch 70.37 45 *e*P **P 10 49 51.5 +4.2**
comp=Z,30nm,1.0s
I05D Terrebonne, OR 70.42 49 P **P 10 49 49.1 +1.4**
baz=302
VTHM Trough 70.44 48 P **P 10 49 49.0 +1.2**
NCK Nalchik 70.67 310⇓ *e*P **P 10 49 49.5 +0.3**
NCK pmax pmax
comp=Z,32nm,0.5s
NEW Newport 70.76 44 P **P 10 49 50.4 +0.6**
comp=Z,7.7nm,0.7s,baz=301,slow=7.2,SNR=7.1
NEW Newport 70.76 44 P **P 10 49 50.8 +1.1**
baz=304
NEW Newport 70.76 44 *e*P **P 10 49 50.7 +1.0**
comp=Z,22nm,1.0s
ZEI Tsey 70.86 309 *e*P **P 10 49 49.3 -1.3**
ZEI pmax pmax
comp=Z,31nm,0.6s
YBH Yreka Blue Hor 70.95 52 *e*P P 10 49 56.2 +5.1
YBH pmax pmax
comp=Z,32nm,0.9s
YBH Yreka Blue Hor 70.95 52 *e*P P 10 49 56.2 +5.1
comp=Z,32nm,0.9s
BUOR Burton Butte 70.96 51 P **P 10 49 52.7 +1.5**
KBZ Khabaz 70.98 311 P **P 10 49 51.0 0.0**
comp=Z,19nm,0.9s,baz=33,slow=3.1,SNR=37
KBZ LR LR 11 22 35.0
comp=Z,2µm,20.2s,baz=58,slow=37
KBZ Khabaz 70.98 311 P **P 10 49 51.0 0.0**
KBZ pmax pmax
comp=Z,19nm,0.9s
KBZ MLR MLR
comp=Z,2µm,20.2s
KIV Kislovodsk 70.98 311 *i* P **P 10 49 51.1 -0.2**
SNR=15
KIV Kislovodsk 70.98 311 *e*P **P 10 49 50.5 -0.7**
KIV *e*S **S 10 59 06.0 -0.8**
KIV pmax pmax
comp=Z,77nm,1.1s
KIV pmax pmax
comp=Z,74nm,4.9s
KIV Kislovodsk 70.98 311 P **P 10 49 51.1 -0.2**
SNR=28
KIV Kislovodsk 70.98 311 *e*P **P 10 49 52.0 +0.8**
comp=Z,81nm,1.0s

BANOM Banah 71.04 289 P **P 10 49 52.1 +0.4**
M02C Callahan 71.04 52 P **P 10 49 53.1 +1.5**
baz=302
J05D Fort Rock, OR 71.05 50 P **P 10 49 52.4 +0.7**
baz=303
SUMG Summit 71.22 360 *i* P **P 10 49 53.2 +0.7**
SUMG pmax pmax
comp=Z,73nm,1.0s
SUMG MLR MLR
comp=Z,2µm,19.0s
SUMG Summit 71.22 360 *i* P **P 10 49 53.2 +0.7**
comp=Z,73nm,1.0s
comp=Z,2µm,19.0s
SUMG Summit 71.22 360 *e*P **P 10 49 52.4 -0.1**
comp=Z,64nm,0.9s
LHEM Herd Peak 71.32 52 P **P 10 49 54.8 +1.3**
NEY Neytrino 71.34 310 *e*P **P 10 49 53.7 +0.2**
NEY pmax pmax
comp=Z,9.0nm,1.1s
N02D Trinity Center 71.36 53 P **P 10 49 54.6 +1.1**
baz=302
M04C Macdoel 71.48 51 P **P 10 49 55.3 +1.0**
baz=303
K05A Summer Lake 71.56 50 *e*P **P 10 49 56.4 +1.5**
comp=Z,75nm,1.1s
UOSS Minazif 71.63 288 *e*P **P 10 49 55.6 +0.3**
comp=Z,3.0nm,1.2s
WDC Whiskeytown Da 71.68 53 *e*P **P 10 49 56.7 +1.4**
WDC pmax pmax
comp=Z,24nm,1.0s
WDC Whiskeytown Da 71.68 53 *e*P **P 10 49 56.7 +1.4**
comp=Z,24nm,1.0s
GNI Garni 71.74 307 *i* P **P 10 49 56.3 +0.4**
SNR=5.3
GNI Garni 71.74 307 *ce*P **P 10 49 56.7 +0.8**
GNI pmax pmax
comp=Z,134nm,1.4s
GNI Garni 71.74 307 *e*P **P 10 49 55.3 -0.7**
comp=Z,517nm,1.2s
HATD Hatta, Dubai 71.75 288 *i* P **P 10 49 55.8 -0.2**
SNR=8.5
ASHO Ashiyiah 71.88 288 *i* P **P 10 49 56.4 -0.5**
SNR=7.6
WALA Waterton Lakes 72.07 42 *e*P **P 10 49 58.8 +1.0**
comp=Z,20nm,1.1s
BSMT Bassoo Peak 72.29 43 *e*P **P 10 50 00.4 +1.2**
O03D Paynes Creek 72.31 53 P **P 10 49 59.9 +0.6**
baz=303
MOD Modoc Plateau 72.38 51 *e*P **P 10 50 00.5 +0.7**
comp=Z,19nm,0.9s
BLMT Blacktail Moun 72.43 43 *e*P P 10 50 05.6 +5.6
BMO Blue Mountains 72.56 47 *e*P **P 10 50 01.8 +1.1**
comp=Z,29nm,1.0s
SCO Scoresbysund 72.61 354 *e*P **P 10 50 01.5 +1.2**
SCO pmax pmax
comp=Z,16nm,1.2s
SCO Scoresbysund 72.61 354 *i* P **P 10 50 01.5 +1.2**
comp=Z,16nm,1.2s
JTMT Jette 72.63 43 *e*P **P 10 50 03.1 +2.0**
IZAR Zarasai 72.67 327 *e*P **P 10 50 00.9 -0.1**
IZAR IAmb IAmb 10 50 05.0
comp=Z,17nm,0.7s
YBMT Yellow Bay 72.71 43 *e*P **P 10 50 03.4 +1.8**
IDID Didziasalis 72.73 327 *e*P **P 10 50 01.2 -0.1**
IDID IAmb IAmb 10 50 05.3
comp=Z,16nm,0.9s
MICGM Minsk 72.73 326 *e*P **P 10 50 02.0 +0.6**
MICGM *e*LR LR 11 24 34.0
MICGM LRM MLR 11 27 12.0
comp=Z,6.3nm,16.0s
MNK Minsk 72.73 326 *e*P **P 10 50 02.0 +0.6**
MNK MLR MLR
comp=Z,6µm,16.0s
ISAL Salakas 72.83 327 *e*P **P 10 50 01.8 -0.1**
ISAL IAmb IAmb 10 50 06.1
comp=Z,26nm,0.9s
ORV Oroville 72.91 53 *e*P **P 10 50 03.4 +0.7**
ORV pmax pmax
comp=Z,17nm,0.9s
ORV Oroville 72.91 53 *e*P **P 10 50 03.4 +0.7**
comp=Z,16nm,0.9s
SWMT Swartz Lake 72.92 43 *e*P **P 10 50 04.0 +1.2**
NACGM Naroch 72.97 327 *e*P **P 10 50 03.0 +0.2**
NACGM *e*PPP PPP 10 54 44.0
NACGM *e*S **S 10 59 30.0 +1.0**
NACGM *e*SS **SS 11 04 17.0 +8.4**
NACGM *e*SSS SSS 11 07 28.0
NACGM *e*LQ LQ 11 15 38.0
NACGM *e*LR LR 11 20 46.0
NACGM LRM MLR 11 26 10.0
comp=Z,6.0nm,14.0s
SOC Sochi 72.98 312 *e*P **P 10 50 02.8 -0.3**
SOC *e* 10 52 51.3
SOC *e*PPP PPP 10 54 27.8
SOC *e*S **S 10 59 27.4 -2.2**
SOC *e*SS **SS 11 04 07.5 -1.9**
SOC pmax pmax
comp=Z,15nm,0.6s
WVOR Wild Horse Val 73.11 50 *e*P **P 10 50 05.3 +1.2**
WVOR pmax pmax
comp=Z,42nm,1.4s
WVOR Wild Horse Val 73.11 50 *e*P **P 10 50 05.3 +1.2**
comp=Z,42nm,1.4s
MSO Missoula 73.35 44 P **P 10 50 05.8 +0.5**
baz=306
MSO Missoula 73.35 44 *e*P **P 10 50 06.0 +0.7**
comp=Z,25nm,1.1s
AFDM Forest Hills D 73.58 54 *e*P **P 10 50 08.3 +1.6**
comp=Z,22nm,1.2s
ANN Anapa 73.64 314 *e*P **P 10 50 04.8 -2.1**
ANN *e**PP **pP 10 50 10.4 -0.9**
ANN *e* 10 50 21.3
ANN *e*S **SKiKP 10 59 34.6 -1.9**
ANN pmax pmax
comp=Z,38nm,1.1s
ANN MLR MLR
comp=Z,1µm,15.0s
CHMT Chamberlain Mo 73.68 43 *e*P **P 10 50 07.8 +0.3**
PAHR Pah Rah Range 74.18 52 *e*P **P 10 50 11.5 +1.1**
comp=Z,33nm,1.0s
MFID Camas Ranch 74.25 47 *e*P **P 10 50 11.2 +0.5**
comp=Z,34nm,1.1s
NC405 NORSAR Array S 74.33 337 *e*P **P 10 50 11.2 +0.5**
FFC Flin Flon 74.35 32 *e*P **P 10 50 10.9 0.0**
FFC pmax pmax
comp=Z,60nm,0.9s
FFC Flin Flon 74.35 32 *e*P **P 10 50 10.9 0.0**
comp=Z,60nm,0.9s
NC303 NORSAR Array S 74.35 337 *e*P **P 10 50 14.2 +3.4**
CMB Columbia Colle 74.47 54 *e*P **P 10 50 12.9 +0.9**
CMB pmax pmax
comp=Z,27nm,0.9s
CMB Columbia Colle 74.47 54 *e*P **P 10 50 12.9 +0.9**
comp=Z,27nm,0.9s
SAO San Andreas Ge 74.48 56 *e*P **P 10 50 14.2 +2.2**
SAO pmax pmax
comp=Z,20nm,1.0s
SAO San Andreas Ge 74.48 56 *e*P **P 10 50 14.2 +2.2**
comp=Z,20nm,1.0s
NC204 NORSAR Array S 74.50 337 *e*P **P 10 50 12.1 +0.4**
AKASG Malin Array Be 74.50 322 P **P 10 50 10.3 -1.5**
comp=Z,14nm,0.6s,baz=46,slow=6.4,SNR=46
AKASG Malin Array Be 74.50 322 P **P 10 50 10.3 -1.5**
AKASG pmax pmax
comp=Z,20nm,0.8s
AKBB Malin Array Si 74.50 322 *e*P **P 10 50 11.3 -0.6**
AKBB pmax pmax
comp=Z,32nm,0.8s
AKBB Malin Array Si 74.50 322 *e*P **P 10 50 11.2 -0.6**
comp=Z,32nm,0.8s
NB201 NORSAR Array S 74.51 337 *e*P **P 10 50 12.2 +0.5**
KIEV Kiev 74.51 322⇓ *i*P **P 10 50 11.1 -0.8**
KIEV pmax pmax
comp=Z,21nm,0.9s
KIEV Kiev 74.51 322 *e*P **P 10 50 09.9 -2.0**
comp=Z,47nm,1.1s
NB2 NORSAR Subarra 74.54 337 P **P 10 50 11.7 -0.3**
comp=Z,17nm,0.8s,baz=41,slow=6.2
NB2 NORSAR Subarra 74.54 337 P **P 10 50 11.7 -0.3**
baz=41,slow=6.2
NB2 NORSAR Subarra 74.54 337 P **P 10 50 11.9 -0.1**
NOA NORSAR Array B 74.54 337 P **P 10 50 10.8 -1.1**
comp=Z,11nm,0.8s,baz=39,slow=5.8,SNR=19
NOA LR LR 11 25 21.3
comp=Z,1µm,21.1s,baz=65,slow=38
AK11 Malin Array Si 74.54 322 *e*P **P 10 50 11.1 -1.0**

HRY Holter Researc 74.59 43 *e*P **P 10 50 13.4 +0.7**
FCC Fort Churchill 74.64 26 *e*P **P 10 50 12.2 -0.3**
FCC pmax pmax
comp=Z,59nm,1.1s
FCC Fort Churchill 74.64 26 *e*P **P 10 50 12.2 -0.3**
comp=Z,59nm,1.1s
NBO02 NORSAR Array S 74.64 337 *e*P **P 10 50 12.7 +0.2**
NBO00 NORSAR Array S 74.68 337 *e*P **P 10 50 13.6 +0.9**
LRM Limekiln Ridge 74.78 44 *e*P **P 10 50 14.6 +0.6**
NAO01 NORSAR Array S 74.79 337 *e*P **P 10 50 16.8 +3.4**
WAKR Walker 74.82 53 *e*P **P 10 50 15.7 +1.5**
EGMT Eagleton 74.91 41 P **P 10 50 14.9 +0.5**
baz=308
EGMT Eagleton 74.91 41 *e*P **P 10 50 15.0 +0.6**
comp=Z,82nm,1.4s
DLMT Dillon 74.97 44 *e*P **P 10 50 15.7 +0.8**
comp=Z,36nm,0.8s
HLID Hailey 75.00 47 P **P 10 50 15.8 +0.7**
baz=306
HLID Hailey 75.00 47 *e*P **P 10 50 16.0 +0.9**
comp=Z,23nm,1.1s
LCCM Lewis and Clar 75.09 44 *e*P **P 10 50 16.6 +1.0**
BMN Battle Mountai 75.13 51 *e*P **P 10 50 16.9 +1.0**
BMN pmax pmax
comp=Z,35nm,0.9s
BMN Battle Mountai 75.13 51 *e*P **P 10 50 16.9 +1.0**
comp=Z,35nm,0.9s
MCMT McKenzie Canyo 75.15 45 *e*P **P 10 50 17.1 +1.0**
BOZ Bozeman (W) 75.34 44 P **P 10 50 17.6 +0.6**
baz=308
BOZ Bozeman (W) 75.34 44 *e*P **P 10 50 17.9 +0.9**
BOZ pmax pmax
comp=Z,28nm,0.9s
BOZ Bozeman (W) 75.34 44 *e*P **P 10 50 17.9 +0.9**
comp=Z,28nm,0.9s
BGMT Barton Gulch 75.36 44 *e*P **P 10 50 18.4 +1.1**
SIM Simferopol' 75.46 315 *e*P **P 10 50 16.8 -0.7**
SIM *e* 10 50 28.0
SIM pmax pmax
comp=Z,30nm,0.9s
NV01 Mina Array Sit 75.60 53 *e*P **P 10 50 19.5 +0.8**
NVAR Mina Array Bea 75.60 53 P **P 10 50 19.4 +0.7**
comp=Z,9.1nm,0.6s,baz=302,slow=6.0,SNR=69
NVAR LR LR 11 18 11.8
comp=Z,321nm,20.4s,baz=308,slow=31
NV11 Mina Array Sit 75.69 53 *e*P **P 10 50 20.0 +0.8**
comp=Z,18nm,0.9s
MLAC Mammoth, Mammo 75.71 54 P **P 10 50 20.9 +1.5**
baz=305
QLMT Earthquake Lak 75.95 44 *e*P **P 10 50 22.0 +1.4**
ELK Elko 76.17 49 P **P 10 50 23.6 +1.6**
comp=Z,5.0nm,0.4s,baz=207,slow=0.5,SNR=4.2
ELK Elko 76.17 49 *e*P **P 10 50 23.1 +1.1**
ELK pmax pmax
comp=Z,16nm,1.0s
ELK Elko 76.17 49 *e*P **P 10 50 23.1 +1.1**
comp=Z,16nm,1.0s
YMR Madison River 76.31 44 *e*P **P 10 50 24.3 +1.6**
comp=Z,24nm,0.8s
GCMT Greycliff 76.34 43 *e*P **P 10 50 23.9 +1.2**
SFJD Kangerlussuaq 76.45 5 *e*P **P 10 50 21.9 -0.8**
SFJD pmax pmax
comp=Z,21nm,1.1s
SFJD Kangerlussuaq 76.45 5 *i* P **P 10 50 21.9 -0.8**
comp=Z,21nm,1.1s
YFT Old Faithful 76.52 44 *e*P **P 10 50 26.8 +2.9**
comp=Z,21nm,0.9s
SORM Soroca 76.58 321⇓ *i*P **P 10 50 23.8 0.0**
SORM Soroca 76.58 321 ⇓P **P 10 50 23.8 0.0**
VES Vestal, Richgr 76.58 55 P **P 10 50 24.4 +0.4**
baz=306
PKM Mcpherson Peak 76.64 57 P **P 10 50 25.9 +1.2**
baz=305
LKWY Lake 76.69 44 *e*P **P 10 50 27.4 +2.5**
LKWY pmax pmax
comp=Z,33nm,1.1s
LKWY Lake 76.69 44 *e*P **P 10 50 27.4 +2.5**
comp=Z,33nm,1.1s
H17A Grant Village 76.70 44 P **P 10 50 27.6 +2.7**
baz=308
H17A Grant Village 76.70 44 *e*P **P 10 50 27.6 +2.7**
comp=Z,43nm,0.9s
IMW Indian Meadow 76.80 45 *e*P **P 10 50 27.1 +1.5**
comp=Z,32nm,0.8s
FLWY Flagg Ranch 76.83 45 *e*P **P 10 50 27.9 +2.4**
comp=Z,153nm,1.8s
SBC Santa Barbara 76.96 57 P **P 10 50 27.3 +1.1**
baz=306
RLMT Red Lodge 76.98 43 P **P 10 50 27.2 +0.8**
baz=309
RLMT Red Lodge 76.98 43 *e*P **P 10 50 27.8 +1.3**
comp=Z,84nm,1.7s
MOOW Moose Ponds 77.01 45 *e*P **P 10 50 27.9 +1.3**
comp=Z,30nm,1.1s
GRAC Grapevine Rang 77.03 54 P **P 10 50 27.4 +0.8**
baz=306
HVU Hansel Valley 77.03 47 *e*P **P 10 50 28.2 +1.5**
HVU pmax pmax
comp=Z,29nm,0.9s
HVU Hansel Valley 77.03 47 *e*P **P 10 50 28.2 +1.5**
comp=Z,29nm,0.9s
TPAW Teton Pass 77.05 45 *e*P **P 10 50 28.6 +1.7**
comp=Z,19nm,0.8s
KIS Kishinev 77.07 319 *e*P **P 10 50 25.0 -1.6**
KIS *e*S **S 11 00 13.0 -1.9**
KIS LRM MLR 11 27 30.0
comp=Z,2µm,16.0s
KIS Kishinev 77.07 319 *e*P **P 10 50 25.0 -1.6**
KIS *e* 10 50 40.0
KIS *e*S **S 11 00 13.0 -1.9**
KIS *e* 11 00 25.0
KIS MLR MLR
comp=N,3µm,15.0s
KIS MLR MLR
comp=Z,2µm,15.0s
KIS MLR MLR
comp=Z,2µm,16.0s
ARVC Arvin 77.16 56 P **P 10 50 28.7 +1.4**
baz=306
LOHW Long Hollow 77.17 45 *e*P **P 10 50 29.1 +1.6**
comp=Z,15nm,0.9s
SNOW Snow King Moun 77.18 45 *e*P **P 10 50 29.4 +1.7**
comp=Z,22nm,1.0s
REDW Red Top Meadow 77.18 45 *e*P **P 10 50 29.1 +1.4**
comp=Z,29nm,1.3s
DAC Darwin (Calif) 77.31 54 *e*P **P 10 50 28.9 +0.5**
DAC pmax pmax
comp=Z,11nm,0.8s
DAC Darwin (Calif) 77.31 54 *e*P **P 10 50 28.9 +0.5**
comp=Z,11nm,0.8s
R11A Troy Canyon, C 77.37 52 P **P 10 50 29.6 +0.9**
baz=307
R11A Troy Canyon, C 77.37 52 *e*P **P 10 50 29.4 +0.7**
comp=Z,24nm,0.9s
BGU Big Grassy Mou 77.40 48 *e*P **P 10 50 30.1 +1.3**
comp=Z,16nm,0.9s
AHID Auburn Hatcher 77.41 46 *e*P **P 10 50 29.9 +1.0**
comp=Z,17nm,0.9s
DGMT Dagmar 77.48 38 *e*P **P 10 50 31.4 +2.4**
comp=Z,70nm,1.3s
MPMC Manual Prospec 77.50 54 P **P 10 50 29.8 +0.3**
baz=306
LVV L'vov 77.60 324 *e*P **P 10 50 29.5 0.0**
LAO LASA Array 77.61 41 P **P 10 50 30.9 +1.1**
baz=311
LAO LASA Array 77.61 41 *e*P **P 10 50 31.7 +1.9**
comp=Z,223nm,1.9s
FURC Furnace Creek, 77.67 54 P **P 10 50 31.0 +0.9**
baz=306
A25A Svangstu Ranch 77.70 37 P **P 10 50 31.3 +1.2**
baz=312
LRMC Laurel Mtn Rad 77.72 55 P **P 10 50 31.2 +0.6**
baz=306
BSD Bornholm Skovb 77.74 332 *e*P **P 10 50 32.3 +2.1**
BSD Bornholm Skovb 77.74 332 *i* P **P 10 50 32.3 +2.1**
TPNV Topopah Spring 77.78 53 P **P 10 50 31.5 +0.5**
baz=307
TPNV Topopah Spring 77.78 53 *e*P **P 10 50 31.7 +0.7**
TPNV pmax pmax
comp=Z,35nm,0.9s
TPNV Topopah Spring 77.78 53 *e*P **P 10 50 31.6 +0.7**
comp=Z,35nm,0.9s
HWUT Hardware Ranch 77.86 47 *e*P **P 10 50 32.2 +0.9**
comp=Z,56nm,1.3s
EDW2 Edwards Air Fo 77.86 56 P **P 10 50 32.1 +0.8**
baz=306

DUG	**Dugway, Tooele**	**77.98**	**49**	P		**P**	**10 50 32.9 +0.8**
	baz=308						
DUG	**Dugway, Tooele**	**77.98**	**49**	*e*P		**P**	**10 50 33.0 +1.0**
DUG				pmax		pmax	
	comp=Z,33nm,0.9s						
DUG	**Dugway, Tooele**	**77.98**	**49**	*e*P		**P**	**10 50 33.0 +1.0**
	comp=Z,33nm,0.9s						
MCU	**Monte Cristo P**	**77.98**	**47**	*e*P		**P**	**10 50 33.1 +0.9**
BORG	**Borgarnes**	**78.13**	**352**	*i* P		P	10 50 39.1 +6.9
TCUT	**Toone Canyon**	**78.25**	**47**	*e*P		**P**	**10 50 35.0 +1.3**
	comp=Z,49nm,0.9s						
A26A	**Wade Farm, Ken**	**78.25**	**37**	P		**P**	**10 50 34.0 +0.7**
	baz=313						
BW06	**Boulder Array**	**78.30**	**45**	P		**P**	**10 50 34.1 +0.3**
	baz=309						
BW06	**Boulder Array**	**78.30**	**45**	*e*P		**P**	**10 50 33.1 -0.7**
BW06				*e*P		**P**	**10 50 33.9 +0.1**
PD31	**Pinedale Array**	**78.30**	**45**	*e*P		**P**	**10 50 34.4 +0.5**
PDAR	**Pinedale Array**	**78.30**	**45**	P		**P**	**10 50 33.7 -0.2**
	comp=Z,6.3nm,0.5s,baz=272,slow=1.6,SNR=59						
PDAR				LR		LR	11 19 32.6
	comp=Z,229nm,20.8s,baz=348,slow=31						
KWP	**Kalwaria Pacla**	**78.35**	**324**	*e*P		**P**	**10 50 33.8 0.0**
KWP	**Kalwaria Pacla**	**78.35**	**324**	*e*P		**P**	**10 50 33.8 0.0**
SHOC	**Shoshone, Teco**	**78.39**	**54**	P		**P**	**10 50 34.8 +0.6**
	baz=307						
GSC	**Goldstone, Bar**	**78.40**	**55**	P		**P**	**10 50 34.8 +0.4**
	baz=307						
GSC	**Goldstone, Bar**	**78.40**	**55**	*e*P		**P**	**10 50 35.2 +0.8**
GSC				pmax		pmax	
	comp=Z,11nm,0.8s						
GSC	**Goldstone, Bar**	**78.40**	**55**	*e*P		**P**	**10 50 35.2 +0.8**
	comp=Z,11nm,0.8s						
C25A	**Freed Ranch, W**	**78.45**	**38**	P		**P**	**10 50 35.0 +0.6**
	baz=312						
BFSC	**Mount Baldy Ra**	**78.46**	**56**	P		**P**	**10 50 35.8 +1.0**
	baz=306						
BUR08	**Bucovina Ar. S**	**78.50**	**322**	*e*P		**P**	**10 50 34.5 -0.1**
BURAR	**Bucovina Array**	**78.51**	**322**⇑	*i*P		**P**	**10 50 35.1 +0.4**
BURAR	**Bucovina Array**	**78.51**	**322**⇑	P		**P**	**10 50 35.1 +0.4**
TESR	**Tescani**	**78.51**	**320**⇓	*i*P		**P**	**10 50 35.3 +0.6**
JLU	**Jordanelle**	**78.55**	**48**	*e*P		**P**	**10 50 36.5 +1.2**
	comp=Z,66nm,1.6s						
SHPR	**Sheep Range**	**78.75**	**53**	*e*P		**P**	**10 50 37.4 +1.1**
	comp=Z,21nm,1.0s						
FLU	**Fool Peak**	**78.87**	**49**	*e*P		**P**	**10 50 38.1 +1.1**
TUQ	**Turquoise Moun**	**78.90**	**54**	P		**P**	**10 50 37.9 +0.7**
	baz=307						
VRI	**Vrincioaia**	**78.90**	**320**⇑	*i*P		**P**	**10 50 38.8 +2.0**
VRI	**Vrincioaia**	**78.90**	**320**	⇑P		**P**	**10 50 38.8 +2.0**
TIRR	**Tirgusor**	**78.93**	**318**⇓	*i*P		**P**	**10 50 36.7 -0.3**
TIRR	**Tirgusor**	**78.93**	**318**	⇓P		**P**	**10 50 36.7 -0.3**
BR131	**Keskin Array S**	**78.94**	**311**	*e*P		**P**	**10 50 37.9 +0.5**
BRTR	**Keskin Array B**	**78.94**	**311**	P		**P**	**10 50 36.4 -0.9**
	comp=Z,15nm,1.0s,baz=90,slow=3.7,SNR=36						
BRTR				LR		LR	11 27 35.5
	comp=Z,934nm,21.4s,baz=42,slow=37						
BBRC	**Big Bear Solar**	**78.94**	**56**	P		**P**	**10 50 38.0 +0.5**
	baz=307						
HEC	**Hector,Ludlow**	**78.99**	**55**	P		**P**	**10 50 38.2 +0.5**
	baz=307						
KOLS	**Kolonicke sedl**	**79.04**	**324**	*e*P		**P**	**10 50 38.1 +0.5**
KOLS				pmax		pmax	
	comp=Z,11nm,1.0s						
KOLS	**Kolonicke sedl**	**79.04**	**324**	*e*P		**P**	**10 50 38.1 +0.5**
KOLS				*e*S		**S**	**11 00 34.8 -1.4**
KOLS				*e*L		L	11 31 10.8
A28A	**Rude Farm, Bot**	**79.09**	**36**	P		**P**	**10 50 39.2 +1.3**
	baz=314						
MURC	**Murrieta**	**79.15**	**56**	P		**P**	**10 50 39.9 +1.4**
	baz=307						
STHS	**Stebnicka Huta**	**79.19**	**325**	*e*P		**P**	**10 50 40.1 +1.7**
STHS				pmax		pmax	
	comp=Z,20nm,0.9s						
STHS	**Stebnicka Huta**	**79.19**	**325**	*e*P		**P**	**10 50 40.1 +1.7**
E25A	**Miller Ranch,**	**79.20**	**39**	P		**P**	**10 50 39.4 +0.9**
	baz=312						
UZH	**Uzhgorod**	**79.24**	**324**	*e*P		**P**	**10 50 38.1 -0.5**
UZH				*e*			10 50 50.3
UZH				*e*			10 53 34.1
UZH				*e*S		**S**	**11 00 32.9 -5.3**
CCUT	**Cedar City**	**79.25**	**51**	*e*P		**P**	**10 50 40.2 +1.0**
	comp=Z,22nm,1.1s						
OJC	**Ojcow**	**79.28**	**326**	*e*P		**P**	**10 50 38.4 -0.4**
OJC	**Ojcow**	**79.28**	**326**	*e*P		**P**	**10 50 39.7 +0.9**
OJC				pmax		pmax	
	comp=Z,40nm,1.0s						
OJC	**Ojcow**	**79.28**	**326**	*e*P		**P**	**10 50 39.7 +0.9**
	comp=Z,40nm,1.0s						
ANTO	**Ankara**	**79.36**	**312**	*e*P		**P**	**10 50 40.5 +1.0**
ANTO				pmax		pmax	
	comp=Z,32nm,0.9s						
ANTO	**Ankara**	**79.36**	**312**	*e*P		**P**	**10 50 40.5 +1.0**
	comp=Z,32nm,0.9s						
BR231	**Keskin MP Arra**	**79.38**	**312**	*e*P		**P**	**10 50 38.4 -1.3**
MSU	**Marysvale**	**79.40**	**50**	*e*P		**P**	**10 50 41.3 +1.3**
MSU	**Marysvale**	**79.40**	**50**	*e*P		**P**	**10 50 41.3 +1.3**
CRVS	**Cervenica-Dubn**	**79.45**	**324**	*e*P		**P**	**10 50 40.9 +1.1**
CRVS				*e*S		**S**	**11 00 43.3 +2.8**
CRVS	**Cervenica-Dubn**	**79.45**	**324**	*e*P		**P**	**10 50 40.9 +1.1**
GMRC	**Granite Mounta**	**79.46**	**55**	P		**P**	**10 50 40.7 +0.4**
	baz=307						
TRPA	**Tarpa**	**79.47**	**323**⇑	*e*P		**P**	**10 50 40.8 +0.9**
MSAB	**Monastry St. A**	**79.49**	**318**⇑	*i*P		**P**	**10 50 40.9 +0.9**
ISR	**Istrita**	**79.49**	**319**⇓	*i*P		**P**	**10 50 39.4 -0.7**
ISR	**Istrita**	**79.49**	**319**	⇓P		**P**	**10 50 39.4 -0.7**
F25A	**Bowman**	**79.56**	**40**	P		**P**	**10 50 41.2 +0.7**
	baz=313						
MLR	**Muntele Rosu**	**79.56**	**320**⇑	*i*P		**P**	**10 50 41.7 +1.1**
MLR	**Muntele Rosu**	**79.56**	**320**	⇑P		**P**	**10 50 41.7 +1.1**
A29A	**Manning Farm,**	**79.57**	**36**	P		**P**	**10 50 41.1 +0.6**
	baz=315						
NIE	**Niedzica**	**79.62**	**325**	*e*P		**P**	**10 50 41.5 +0.8**
NIE	**Niedzica**	**79.62**	**325**	*e*P		**P**	**10 50 41.5 +0.8**
PFO	**Pinyon Flats O**	**79.64**	**56**	P		**P**	**10 50 41.4 +0.2**
	baz=307						
PFO	**Pinyon Flats O**	**79.64**	**56**	*e*P		**P**	**10 50 41.8 +0.6**
PFO				pmax		pmax	
	comp=Z,21nm,1.0s						
PFO	**Pinyon Flats O**	**79.64**	**56**	*e*P		**P**	**10 50 41.8 +0.6**
	comp=Z,21nm,1.0s						
TPFO	**Pinon Flats**	**79.64**	**56**	P		**P**	**10 50 41.6 +0.4**
	baz=307						
LCMT	**Little Creek M**	**79.66**	**52**	*e*P		**P**	**10 50 42.4 +1.1**
	comp=Z,23nm,0.9s						
P17A	**Butcher Ranch,**	**79.68**	**48**	*e*P		**P**	**10 50 42.5 +1.1**
	comp=Z,42nm,0.8s						
MTPU	**Mount Pierson**	**79.69**	**50**	*e*P		**P**	**10 50 43.1 +1.4**
	comp=Z,23nm,0.9s						
E26A	**Carlson Angus**	**79.69**	**39**	P		**P**	**10 50 42.1 +0.9**
	baz=313						
BELC	**Belle Mtn. Jos**	**79.71**	**55**	P		**P**	**10 50 41.6 -0.1**
	baz=307						
Q16A	**Castle Valley**	**79.76**	**49**	*e*P		**P**	**10 50 43.4 +1.4**
	comp=Z,102nm,1.8s						
B29A	**Wagenman Farm,**	**79.84**	**36**	P		**P**	**10 50 42.7 +0.8**
	baz=315						
C28A	**Hausauer Farms**	**79.87**	**37**	P		**P**	**10 50 43.0 +0.9**
	baz=314						
KNB	**Kanab**	**79.92**	**51**	*e*P		**P**	**10 50 44.1 +1.3**
KNB				pmax		pmax	
	comp=Z,57nm,1.3s						
KNB	**Kanab**	**79.92**	**51**	*e*P		**P**	**10 50 44.1 +1.3**
	comp=Z,57nm,1.3s						
CJR	**Cluj-Napoca**	**79.93**	**322**⇓	*i*P		**P**	**10 50 45.0 +2.5**
CJR	**Cluj-Napoca**	**79.93**	**322**	⇓P		**P**	**10 50 45.0 +2.5**
A30A	**Hoffart Farm,**	**79.99**	**35**	P		**P**	**10 50 43.1 +0.4**
	baz=316						
F26A	**Lodgepole**	**80.01**	**39**	P		**P**	**10 50 43.3 +0.4**
	baz=313						
SRU	**San Rafael Swe**	**80.03**	**49**	*e*P		**P**	**10 50 44.2 +0.8**
SRU				pmax		pmax	
	comp=Z,36nm,0.8s						
SRU	**San Rafael Swe**	**80.03**	**49**	*e*P		**P**	**10 50 44.2 +0.8**
	comp=Z,36nm,0.8s						
BAR	**Barrett**	**80.05**	**57**	*e*P		**P**	**10 50 44.0 +0.7**
	comp=Z,16nm,0.8s						
K22A	**Casper**	**80.08**	**44**	P		**P**	**10 50 44.4 +0.8**
	baz=311						
K22A	**Casper**	**80.08**	**44**	*e*P		**P**	**10 50 44.1 +0.5**
	comp=Z,51nm,1.4s						
MONP2	**Monument Peak**	**80.09**	**56**	P		**P**	**10 50 44.4 +0.6**
	baz=307						
MMU	**Miners Mountai**	**80.14**	**50**	*e*P		**P**	**10 50 45.2 +1.2**
ULM	**Lac du Bonnet**	**80.15**	**33**	P		**P**	**10 50 42.9 -0.6**
	comp=Z,2.8nm,0.6s,baz=334,slow=8.0,SNR=5.5						
ULM				LR		LR	11 26 31.4
	comp=Z,338nm,21.0s,baz=322,slow=36						
ULM	**Lac du Bonnet**	**80.15**	**33**	*e*P		**P**	**10 50 43.5 0.0**
	comp=Z,22nm,0.8s						
MDND	**Maddock**	**80.15**	**37**	P		**P**	**10 50 44.5 +0.9**
	baz=315						
MDND	**Maddock**	**80.15**	**37**	*e*P		**P**	**10 50 46.3 +2.7**
	comp=Z,90nm,1.4s						
IRM	**Iron Mountain**	**80.18**	**55**	P		**P**	**10 50 44.7 +0.6**
	baz=308						
LANS	**Liptovska Anna**	**80.20**	**325**	*e*P		**P**	**10 50 45.7 +1.8**
LANS	**Liptovska Anna**	**80.20**	**325**	*e*P		**P**	**10 50 45.7 +1.8**
KECS	**Kecovo**	**80.20**	**324**	*e*P		**P**	**10 50 44.8 +1.0**
KECS				pmax		pmax	
	comp=Z,5.0nm,1.0s						
KECS	**Kecovo**	**80.20**	**324**	*e*P		**P**	**10 50 44.8 +1.0**
KECS				*e*PP		**PP**	**10 53 46.0 +0.4**
BC3	**Big Chuckawall**	**80.28**	**55**	P		**P**	**10 50 44.7 +0.1**
	baz=308						
OKC	**Ostrava-Krasne**	**80.30**	**326**	*e*S		**S**	**11 00 50.2 +0.9**
OKC				AMS		AMS	11 31 40.0
	comp=Z,3µm,14.4s						
DRGR		**80.32**	**322**⇓	*i*P		**P**	**10 50 44.6 0.0**
DRGR		**80.32**	**322**	⇓P		**P**	**10 50 44.6 0.0**
B30A	**Myrvik Farm, E**	**80.33**	**35**	P		**P**	**10 50 44.8 +0.3**
	baz=316						
H25A	**Fruitdale**	**80.36**	**41**	P		**P**	**10 50 45.7 +0.8**
	baz=313						
KSP	**Ksiaz**	**80.36**	**328**	*e*P		**P**	**10 50 44.3 -0.4**
KSP	**Ksiaz**	**80.36**	**328**	*e*P		**P**	**10 50 44.3 -0.4**
W13A	**Hualapai Mount**	**80.42**	**53**	*e*P		**P**	**10 50 46.1 +0.5**
	comp=Z,10.0nm,0.9s						
IKP	**In-Ko-Pah, Jac**	**80.45**	**56**	P		**P**	**10 50 45.8 +0.2**
	baz=307						
RSSD	**Black Hills**	**80.47**	**41**	P		**P**	**10 50 45.8 +0.2**
	baz=312						
RSSD	**Black Hills**	**80.47**	**41**	*e*P		**P**	**10 50 45.7 0.0**
RSSD				pmax		pmax	
	comp=Z,29nm,1.1s						
RSSD	**Black Hills**	**80.47**	**41**	*e*P		**P**	**10 50 45.7 0.0**
	comp=Z,29nm,1.1s						
SWSC	**Sam W. Stewart**	**80.48**	**56**	P		**P**	**10 50 46.1 +0.5**
	baz=308						
MORC	**Moravsky Berou**	**80.61**	**327**	*e*P		**P**	**10 50 47.1 +1.0**
MORC				pmax		pmax	
	comp=Z,77nm,1.0s						
MORC	**Moravsky Berou**	**80.61**	**327**	*e*P		**P**	**10 50 47.1 +1.0**
	comp=Z,77nm,1.0s						
U15A	**North Rim**	**80.62**	**52**	*e*P		**P**	**10 50 47.8 +1.1**
	comp=Z,14nm,0.8s						
B31A	**Greenbush Farm**	**80.67**	**35**	P		**P**	**10 50 47.0 +0.7**
	baz=316						
DPC	**Dobruska-Polom**	**80.72**	**328**	*e*P		**P**	**10 50 47.0 +0.3**
DPC				*ex*		x	10 50 58.9
DPC				*e*PP		**PP**	**10 53 50.7 +0.8**
DPC				*e*S		**S**	**11 00 54.5 +0.6**
DPC				AMS		AMS	11 31 00.0
	comp=Z,3µm,14.1s						
DPC	**Dobruska-Polom**	**80.72**	**328**	*e*P		**P**	**10 50 47.0 +0.3**
DPC				*e*			10 50 58.9
DPC				*e*			10 53 50.7
DPC				*e*S		**S**	**11 00 54.5 +0.6**
DPC				MLR		MLR	
	comp=Z,3µm,14.1s						
UPC	**Upice**	**80.73**	**328**	*e*P		**P**	**10 50 46.8 +0.1**
UPC				*e*S		**S**	**11 00 55.2 +1.3**
UPC				AMS		AMS	11 30 50.0
	comp=Z,3µm,13.4s						
UPC	**Upice**	**80.73**	**328**	*e*P		**P**	**10 50 46.8 +0.1**
UPC				*e*S		**S**	**11 00 55.2 +1.3**
UPC				MLR		MLR	
	comp=Z,3µm,13.4s						
O20A	**White River Ci**	**80.74**	**47**	P		**P**	**10 50 47.4 +0.3**
	baz=310						
O20A	**White River Ci**	**80.74**	**47**	*e*P		**P**	**10 50 47.8 +0.7**
	comp=Z,28nm,1.0s						
PDMCI	**Parker Dam,Lak**	**80.75**	**54**	P		**P**	**10 50 47.7 +0.7**
	baz=308						
Y12C	**Blythe**	**80.83**	**55**	P		**P**	**10 50 47.8 +0.3**
	baz=308						
Y12C	**Blythe**	**80.83**	**55**	*e*P		**P**	**10 50 48.2 +0.7**
	comp=Z,18nm,0.9s						
A32A	**Rocking H Ranc**	**80.84**	**34**	P		**P**	**10 50 47.6 +0.3**
	baz=317						
PSZ	**Piszkesteto**	**80.88**	**324**⇓	*e*P		**P**	**10 50 47.5 -0.1**
PSZ	**Piszkesteto**	**80.88**	**324**	*e*P		**P**	**10 50 48.8 +1.2**
PSZ				pmax		pmax	
	comp=Z,30nm,1.0s						
PSZ	**Piszkesteto**	**80.88**	**324**	*e*P		**P**	**10 50 48.8 +1.2**
	comp=Z,30nm,1.0s						
VYHS	**Vyhne**	**80.96**	**325**	*e*P		**P**	**10 50 48.2 +0.3**
VYHS				pmax		pmax	
	comp=Z,9.0nm,1.1s						
VYHS	**Vyhne**	**80.96**	**325**	*e*P		**P**	**10 50 48.2 +0.3**
VYHS	**Vyhne**	**80.96**	**325**	*e*S		**S**	**11 00 57.1 +0.7**
VYHS				*e*L		L	11 32 22.7
GLA	**Glamis**	**81.06**	**56**	P		**P**	**10 50 49.2 +0.4**
	baz=308						
C31A	**Landman Farms,**	**81.08**	**36**	P		**P**	**10 50 48.6 0.0**
	baz=316						
D30A	**Buchanan**	**81.08**	**37**	P		**P**	**10 50 48.9 +0.3**
	baz=315						
B32A	**Ashes, Strandq**	**81.20**	**35**	P		**P**	**10 50 48.9 -0.3**
	baz=317						
PV09	**Paradox Valley**	**81.26**	**48**	*e*P		**P**	**10 50 51.3 +1.2**
A33A	**Warroad**	**81.32**	**34**	P		**P**	**10 50 49.2 -0.6**
	baz=318						
BRG	**Berggiesshubel**	**81.33**	**329**	*i* P		**P**	**10 50 50.0 +0.2**
	comp=Z,16nm,1.2s						
BRG				*e*			10 51 03.8
	comp=Z,21nm,1.1s						
	comp=N,3µm,16.4s						
	comp=E,4µm,16.0s						
	comp=Z,2µm,13.9s						
BRG	**Berggiesshubel**	**81.33**	**329**	*i* P		**P**	**10 50 50.0 +0.2**
BRG				*e*			10 51 03.8
BRG				pmax		pmax	
	comp=Z,16nm,1.2s						
BRG				MLR		MLR	
	comp=N,3µm,16.4s						
BRG				MLR		MLR	
	comp=E,4µm,16.0s						
BRG				MLR		MLR	
	comp=Z,2µm,13.9s						
PVCC	**Panska Ves**	**81.33**	**329**	*e*P		**P**	**10 50 50.5 +0.7**
PVCC				AMS		AMS	11 31 40.0
	comp=Z,2µm,14.5s						
PVCC	**Panska Ves**	**81.33**	**329**	*e*P		**P**	**10 50 50.5 +0.7**
PVCC				MLR		MLR	
	comp=Z,2µm,14.5s						
CLL	**Collm**	**81.38**	**330**⇓	*i*P		**P**	**10 50 49.0 -1.1**
	comp=Z,19nm,1.0s						
CLL				*i* pP		**pP**	**10 50 53.2 -1.3**
	comp=Z,29nm,0.9s						
CLL				*i*			10 51 01.1
CLL				*e*			10 51 03.0
CLL				*i* PP		**PP**	**10 53 59.2 +4.0**
CLL				*e*S		**S**	**11 01 04.0 +3.4**
CLL	**Collm**	**81.38**	**330**⇓	*i*P		**P**	**10 50 49.0 -1.1**
CLL				*i* *PP		**pP**	**10 50 53.2 -1.3**
CLL				*e*S		**S**	**11 01 04.0 +3.4**
CLL				pmax		pmax	
	comp=Z,19nm,1.0s						
CLL	**Collm**	**81.38**	**330**	*e*P		**P**	**10 50 50.6 +0.5**
	comp=Z,27nm,0.9s						
PV10	**Paradox Valley**	**81.40**	**48**	*e*P		**P**	**10 50 51.9 +1.2**
PV04	**Paradox Valley**	**81.47**	**48**	*e*P		**P**	**10 50 52.1 +1.0**
URZ	**Urewera**	**81.55**	**152**	P		**P**	**10 50 50.8 -0.1**
	comp=Z,4.8nm,0.8s,baz=122,slow=5.7,SNR=2.4						
PV05	**Paradox Valley**	**81.55**	**49**	*e*P		**P**	**10 50 52.5 +1.0**
N23A	**Red Feather La**	**81.57**	**45**	P		**P**	**10 50 52.2 +0.6**
	baz=312						
N23A	**Red Feather La**	**81.57**	**45**	*e*P		**P**	**10 50 53.0 +1.3**
	comp=Z,58nm,1.1s						
AGMN	**Agassiz Nation**	**81.58**	**34**	P		**P**	**10 50 50.7 -0.5**
	baz=317						
AGMN	**Agassiz Nation**	**81.58**	**34**	*e*P		**P**	**10 50 50.8 -0.4**
	comp=Z,29nm,1.1s						
D31A	**Mcclaflin, Tow**	**81.62**	**36**	P		**P**	**10 50 51.7 +0.3**
	baz=316						
GOPC	**GO Pecny, Ondr**	**81.70**	**328**	*e*P		**P**	**10 50 51.8 -0.1**
GOPC				*ex*		x	10 51 03.8
GOPC				*ex*		x	10 51 06.0
GOPC				*e*S		**S**	**11 01 05.5 +1.4**
GOPC				AMS		AMS	11 30 50.0
	comp=Z,4µm,15.1s						
GOPC	**GO Pecny, Ondr**	**81.70**	**328**	*e*P		**P**	**10 50 51.8 -0.1**
GOPC				*e*			10 51 03.8
GOPC				*e*S		**S**	**11 01 05.5 +1.4**
GOPC				MLR		MLR	
	comp=Z,4µm,15.1s						
Y14A	**Wickenburg**	**81.71**	**54**	*e*P		**P**	**10 50 52.9 +0.7**
	comp=Z,65nm,1.0s						
PRU	**Pruhonice**	**81.75**	**328**	*e*P		**P**	**10 50 52.3 +0.2**
PRU				*ex*		x	10 51 03.9
PRU				*e*S		**S**	**11 01 05.5 +1.0**
PRU				AMS		AMS	11 31 00.0
	comp=Z,3µm,14.8s						
PRU	**Pruhonice**	**81.75**	**328**	*e*P		**P**	**10 50 52.3 +0.2**
PRU				*e*			10 51 03.9
PRU				*e*S		**S**	**11 01 05.5 +1.0**
PRU				MLR		MLR	
	comp=Z,3µm,14.8s						
WUAZ	**Wupatki**	**81.77**	**52**	P		**P**	**10 50 53.6 +0.9**
	baz=309						
WUAZ	**Wupatki**	**81.77**	**52**	*e*P		**P**	**10 50 53.7 +0.9**
	comp=Z,22nm,1.0s						
PV01	**Paradox Valley**	**81.83**	**48**	*e*P		**P**	**10 50 53.5 +0.4**
TREC	**Trest**	**81.87**	**327**	AMS		AMS	11 31 50.0
	comp=Z,2µm,14.9s						
E31A	**Nome**	**81.89**	**37**	P		**P**	**10 50 52.7 -0.2**
	baz=316						
113A	**Mohawk Valley,**	**81.94**	**55**	*e*P		**P**	**10 50 54.1 +0.7**
	comp=Z,13nm,1.0s						
B34A	**Aery, Baudette**	**81.99**	**34**	P		**P**	**10 50 53.3 0.0**
	baz=318						
C33A	**Trail**	**82.01**	**35**	P		**P**	**10 50 53.4 -0.1**
	baz=317						
ISP	**Isparta**	**82.02**	**311**	P		**P**	**10 50 52.9 -1.0**
ISP	**Isparta**	**82.02**	**311**	P		**P**	**10 50 52.9 -1.0**
ISP				*e*			10 50 56.5
ISP	**Isparta**	**82.02**	**311**	P		**P**	**10 50 52.9 -1.0**
ISP				*e*P		**P**	**10 50 56.5 +2.6**
SMCO	**Snowmass**	**82.10**	**47**	*e*P		**P**	**10 50 55.8 +1.1**
	comp=Z,15nm,0.9s						
CSS	**Mathiatis**	**82.11**	**308**	*e*P		**P**	**10 50 54.7 +0.5**
	comp=Z,7.6nm,1.0s						
MPEP	**Malo Peshtene**	**82.17**	**319**	P		**P**	**10 50 56.6 +2.2**
MDVR	**Moldovita**	**82.22**	**321**⇓	*i*P		**P**	**10 50 54.8 +0.1**
G30A	**Faulkton**	**82.30**	**38**	P		**P**	**10 50 55.0 0.0**
	baz=315						
X16A	**Lo Mia Camp, P**	**82.42**	**53**	*e*P		**P**	**10 50 57.1 +1.0**
	comp=Z,15nm,1.0s						
NKC	**Novy Kostel**	**82.43**	**330**	*e*P		**P**	**10 50 56.0 +0.3**
NKC				AMS		AMS	11 31 10.0
	comp=Z,3µm,19.5s						
NKC	**Novy Kostel**	**82.43**	**330**	*e*P		**P**	**10 50 56.0 +0.3**
NKC				MLR		MLR	
	comp=Z,3µm,19.5s						
MVCO	**Mesa Verde**	**82.47**	**49**	P		**P**	**10 50 57.3 +0.9**
	baz=311						
MVCO	**Mesa Verde**	**82.47**	**49**	*e*P		**P**	**10 50 57.1 +0.7**
	comp=Z,29nm,1.0s						
ISCO	**Idaho Springs**	**82.48**	**45**	P		**P**	**10 50 57.2 +0.7**
	baz=312						
ISCO	**Idaho Springs**	**82.48**	**45**	*e*P		**P**	**10 50 57.7 +1.2**
ISCO				pmax		pmax	
	comp=Z,15nm,0.9s						
ISCO	**Idaho Springs**	**82.48**	**45**	*e*P		**P**	**10 50 57.7 +1.2**
	comp=Z,15nm,0.9s						
B35A	**Bob, Littlefor**	**82.49**	**33**	P		**P**	**10 50 55.6 -0.4**
	baz=319						
SOP	**Sopron**	**82.59**	**326**	P		**P**	**10 50 59.7 +3.2**
CONA	**Conrad Observa**	**82.72**	**326**	*i* P		**P**	**10 50 58.1 +0.7**
	comp=Z,5.9nm,0.6s						
RZN	**Rozhen**	**82.79**	**317**	P		**P**	**10 51 02.5 +4.6**
KHC	**Kasperske Hory**	**82.81**	**328**	*e*P		**P**	**10 50 57.5 -0.2**
KHC				*ex*		x	10 51 09.4
KHC				*e*S		**S**	**11 01 17.6 +2.1**
KHC				AMS		AMS	11 31 30.0
	comp=Z,4µm,15.0s						
KHC	**Kasperske Hory**	**82.81**	**328**	*e*P		**P**	**10 50 57.5 -0.2**
KHC				*e*			10 51 09.4
KHC				*e*S		**S**	**11 01 17.6 +2.1**
KHC				MLR		MLR	
	comp=Z,4µm,15.0s						
KHC	**Kasperske Hory**	**82.81**	**328**	*e*P		**P**	**10 50 57.4 -0.3**
	comp=Z,6.4nm,0.9s						
E33A	**Westby DABS, E**	**82.83**	**36**	P		**P**	**10 50 58.0 +0.3**
	baz=317						
C35A	**Jirik Farms, M**	**82.87**	**34**	P		**P**	**10 50 57.2 -0.8**
	baz=318						
GEC2	**GERESS Array S**	**82.97**	**328**	*e*P		**P**	**10 50 59.2 +0.6**
GEC2				pmax		pmax	
	comp=Z,12nm,1.0s						
GEC2	**GERESS Array S**	**82.97**	**328**	*e*P		**P**	**10 50 59.2 +0.6**
	comp=Z,12nm,1.0s						
GERES	**GERESS Array B**	**82.97**	**328**	P		**P**	**10 50 58.5 -0.1**
	comp=Z,14nm,1.1s,baz=39,slow=5.1,SNR=15						
GERES				LR		LR	11 31 47.1
	comp=Z,2µm,18.1s,baz=24,slow=38						
GERES	**GERESS Array B**	**82.97**	**328**	P		**P**	**10 50 58.5 -0.1**
GERES				pmax		pmax	
	comp=Z,14nm,1.1s						
GERES				MLR		MLR	
	comp=Z,2µm,18.1s						
GEA0	**GERESS Array S**	**82.98**	**328**	*e*P		**P**	**10 50 57.7 -0.9**
G32A	**Webster**	**83.02**	**37**	P		**P**	**10 50 60.0 +1.2**
	baz=316						
214A	**Organ Pipe Nat**	**83.07**	**55**	P		**P**	**10 50 59.6

baz=317
YER Yerkesik 83.82 312 P P 10 51 02.6 -0.6
YER Yerkesik 83.82 312 P P 10 51 02.6 -0.6
SIGR SIGRI 83.84 315 P P 10 51 03.0 -0.1
SIGR SIGRI 83.84 315 P P 10 51 03.0 -0.1
SDCO Great Sand Dun 83.92 47 P P 10 51 04.2 +0.2
baz=312
SDCO Great Sand Dun 83.92 47 eP P 10 51 04.6 +0.7
comp=Z,22nm,1.0s
G34A Benson 83.93 36 P P 10 51 03.6 +0.2
baz=316
D37A Cotton 83.97 33 P P 10 51 03.0 -0.7
baz=320
GROS Grobnik 83.99 326 eP P 10 51 03.7 -0.1
SOKA Soboth 84.04 326 i PcP P 10 51 04.5 +0.4
comp=Z,26nm,1.0s
C38A Sawbill Land. 84.05 32 P P 10 51 03.6 -0.5
baz=320
E36A McGregor 84.09 34 P P 10 51 03.7 -0.6
baz=319
TUC Tucson 84.18 54 P P 10 51 05.8 +0.7
baz=310
TUC Tucson 84.18 54 eP P 10 51 05.6 +0.5
TUC pmax pmax
comp=Z,13nm,0.9s
TUC Tucson 84.18 54 eP P 10 51 05.6 +0.5
comp=Z,13nm,0.9s
VAY Valandovo 84.21 318 P P 10 51 05.2 +0.2
VAY Valandovo 84.21 318 i P P 10 51 05.2 +0.2
VAY Valandovo 84.21 318 P P 10 51 05.2 +0.2
VAY Valandovo 84.21 318 P P 10 51 05.2 +0.2
CHOS Chios island 84.29 314 P P 10 51 05.4 -0.1
CHOS Chios island 84.29 314 P P 10 51 05.4 -0.1
SMG Samos 84.29 313 P P 10 51 04.2 -1.3
SMG Samos 84.29 313 P P 10 51 04.2 -1.3
SKO Skopje 84.35 319 P P 10 51 06.3 +0.6
SKO Skopje 84.35 319 i P P 10 51 06.5 +0.8
SKO Skopje 84.35 319 P P 10 51 06.3 +0.6
SKO Skopje 84.35 319 P P 10 51 06.3 +0.6
PLG Polygyros 84.39 317 P P 10 51 05.8 -0.2
PLG Polygyros 84.39 317 P P 10 51 05.8 -0.2
PLG Polygyros 84.39 317 P P 10 51 05.8 -0.2
BODT Bodrum 84.45 313 P P 10 51 06.0 -0.3
BODT Bodrum 84.45 313 P P 10 51 06.0 -0.3
F36A Milaca 84.46 35 P P 10 51 06.3 +0.1
baz=319
C39A Grand Marais 84.47 32 P P 10 51 05.6 -0.5
baz=321
KBA Koelnbreinsper 84.48 327 i P P 10 51 06.4 -0.1
comp=Z,22nm,1.4s
L31A Butterfield Fa 84.55 40 P P 10 51 07.0 +0.2
baz=316
ECSD EROS Data Cent 84.56 38 P P 10 51 06.2 -0.6
baz=317
ECSD EROS Data Cent 84.56 38 eP P 10 51 06.7 0.0
comp=Z,18nm,0.9s
MYKA Terra Mystica 84.69 327 i P P 10 51 07.0 -0.4
comp=Z,8.8nm,0.8s
H35A Sunnyside Ranc 84.71 36 P P 10 51 07.4 -0.1
baz=318
KSCO Kaye Shedlock' 84.72 44 P P 10 51 07.7 -0.1
baz=314
PPT Papeete 84.72 116 LR LR 11 24 04.7
comp=Z,460nm,19.5s,baz=308,slow=32
PPT2 Papeete2 84.73 116 eLR LR 11 17 32.8
comp=Z,3µm,31.5s,baz=311
PPT2 Papeete2 84.73 116 eT T 12 23 51.6
comp=Z,20nm,0.4s
PAE Paea 84.78 116 eT T 12 23 54.1
comp=Z,2.6nm,0.3s
VISS Visnje 84.78 325 i P P 10 51 10.1 +2.3
BOJS Bojanci 84.82 325 eP P 10 51 09.0 +1.0
TIAR Tiarei 84.88 116 eT T 12 24 01.8
comp=Z,10nm,0.3s
T25A Trinidad 84.97 47 P P 10 51 09.9 +0.7
baz=313
T25A Trinidad 84.97 47 eP P 10 51 09.8 +0.7
comp=Z,30nm,0.8s
AOS Alonnisos 84.99 316 P P 10 51 07.0 -2.0
AOS Alonnisos 84.99 316 P P 10 51 07.0 -2.0
ABTA Abfaltersbach 85.10 327 i P P 10 51 08.7 -0.8
comp=Z,8.3nm,0.9s
LIT Litokhoron 85.11 317 P P 10 51 09.0 -0.6
LIT Litokhoron 85.11 317 P P 10 51 09.0 -0.6
LIT Litokhoron 85.11 317 P P 10 51 09.0 -0.6
LAZ Ladron 85.14 50 eP P 10 51 11.2 +1.1
ANMO Albuquerque 85.21 50 P P 10 51 11.3 +0.9
baz=312
ANMO Albuquerque 85.21 50 eP P 10 51 11.5 +1.1
ANMO pmax pmax
comp=Z,13nm,0.9s
ANMO Albuquerque 85.21 50 eP P 10 51 11.5 +1.1
comp=Z,13nm,0.9s
FNA Florina 85.23 319 P P 10 51 09.3 -0.9
FNA Florina 85.23 319 P P 10 51 09.3 -0.9
FNA Florina 85.23 319 P P 10 51 09.3 -0.9
H36A Jessenland, He 85.23 36 P P 10 51 10.7 +0.6
baz=319
XOR Xorichti 85.24 317 P P 10 51 08.2 -2.0
XOR Xorichti 85.24 317 P P 10 51 08.2 -2.0
MOTA Moosalm 85.24 328 i PcP P 10 51 10.9 +0.7
comp=Z,3.7nm,0.7s
RETA Reutte 85.27 329 i P P 10 51 10.0 -0.3
comp=Z,19nm,1.1s
SPMN Marine on St. 85.27 35 eP P 10 51 15.8 +5.5
comp=Z,24nm,1.1s
OHR Ohrid 85.30 319 i P P 10 51 10.4 -0.1
LPM Los Pinos Moun 85.52 50 eP P 10 51 12.8 +0.8
KARP Karpathos 85.55 312 eP P 10 51 12.8 +0.9
comp=Z,25nm,1.0s
K34A Le Mars 85.58 38 P P 10 51 11.9 0.0
baz=318
BFO Black Forest 85.59 331 i P P 10 51 12.7 +0.9
BFO Black Forest 85.59 331 eP P 10 51 12.3 +0.5
comp=Z,19nm,0.9s
BNM Barren Site 85.63 50 eP P 10 51 13.2 +0.6
FETA Feichten 85.65 328 i P P 10 51 10.1 -2.3
comp=Z,6.6nm,1.0s
BAIF Baives 85.73 334 eP P 10 51 14.1 +1.7
BAIF pmax pmax
comp=Z,60nm,1.9s
319A Douglas 85.76 54 eP P 10 51 14.0 +0.9
DAVA Damuels 85.80 329 i PcP P 10 51 13.9 +0.9
comp=Z,17nm,0.8s
ATAL Atalanti 85.80 316 P P 10 51 11.1 -1.9
ATAL Atalanti 85.80 316 P P 10 51 11.1 -1.9
M33A Taylor Creek F 85.84 40 P P 10 51 13.0 -0.2
baz=317
LKR Lokris 85.84 316 P P 10 51 12.2 -1.0
LKR Lokris 85.84 316 P P 10 51 12.2 -1.0
I37A Lemond, Waseca 85.91 36 P P 10 51 13.5 0.0
baz=319
CDF Champ du Feu 85.94 331 eP P 10 51 14.3 +0.7
CDF pmax pmax
comp=Z,21nm,1.0s
SCHQ Schefferville 85.95 16 P P 10 51 13.8 +0.4
comp=Z,24nm,0.9s,baz=344,slow=5.5,SNR=15
SCHQ LR LR 11 33 43.6
comp=Z,515nm,18.5s,baz=346,slow=38
SCHQ Schefferville 85.95 16 eP P 10 51 15.6 +2.1
comp=Z,25nm,0.9s
AGG Agios Georgios 85.95 317 eP P 10 51 14.1 +0.3
AGG pmax pmax
comp=Z,27nm,0.9s
AGG Agios Georgios 85.95 317 eP P 10 51 14.1 +0.3
comp=Z,26nm,0.9s
121A Cookes Peak, D 85.97 52 P P 10 51 15.0 +0.8
baz=311
121A Cookes Peak, D 85.97 52 eP P 10 51 15.0 +0.8
comp=Z,21nm,1.1s
L34A Svendsen Farm, 85.97 39 P P 10 51 14.2 +0.3
baz=317
SANT Santorini 86.01 313 eP P 10 51 14.1 0.0
comp=Z,65nm,1.1s
MEH Mehetia 86.01 116 eT T 12 25 27.3
comp=Z,70nm,0.2s
FUORN Ofenpass-Fuorn 86.17 328 eP P 10 51 15.7 +0.7
comp=Z,33nm,1.2s
I38A Scanlan Farm, 86.39 35 P P 10 51 15.5 -0.3
baz=320
TAOE Nuku Hiva Isla 86.39 104 eLR LR 11 18 23.2
comp=Z,2µm,24.8s,baz=317
TAOE Nuku Hiva Isla 86.39 104 eT T 12 26 00.7
comp=Z,24nm,0.2s
K36A Gilmore City 86.43 37 P P 10 51 16.0 -0.1
baz=319
CBKS Cedar Bluff 86.46 43 P P 10 51 16.2 -0.2
baz=316
CBKS Cedar Bluff 86.46 43 eP P 10 51 21.6 +5.2
CBKS pmax pmax
comp=Z,35nm,1.2s
CBKS Cedar Bluff 86.46 43 eP P 10 51 21.6 +5.2
comp=Z,35nm,1.2s
ANX Ano Chora 86.48 317 P P 10 51 17.5 +1.0
P32A Huiting Farm, 86.51 42 P P 10 51 16.2 -0.4
baz=316
HINF Hinteralfeld 86.59 331 eP P 10 51 16.1 -0.7
HINF pmax pmax
comp=Z,35nm,1.6s
DAMY Dhamar 86.63 286 eP P 10 51 22.6 +4.7
comp=Z,47nm,1.5s
M35A Neola 86.68 39 P P 10 51 17.4 0.0
baz=318
O33A Hebron 86.72 41 P P 10 51 16.9 -0.7
baz=317
K37A Belmond 86.73 37 P P 10 51 17.2 -0.3
baz=319
N34A Lincoln 86.73 40 P P 10 51 17.0 -0.6
baz=317
LAST Lasithi 86.82 312 P P 10 51 17.9 -0.3
LAST Lasithi 86.82 312 eP P 10 51 19.1 +0.9
comp=Z,47nm,1.0s
Q32A Meitler Ranch, 86.98 42 P P 10 51 18.3 -0.6
baz=316
IDI Anoyia 87.09 313 P P 10 51 19.8 +0.3
IDI Anoyia 87.09 313 eP P 10 51 19.6 +0.1
comp=Z,30nm,1.0s
O34A Beatrice 87.11 40 P P 10 51 18.4 -1.1
baz=317
N35A Tabor 87.16 39 P P 10 51 19.7 0.0
baz=318
Q33A Connelly Farm, 87.37 42 P P 10 51 20.4 -0.4
baz=317
P34A Walnut Farm, R 87.51 41 P P 10 51 20.9 -0.5
baz=317
L38A Oak Wood Farm, 87.53 37 P P 10 51 20.9 -0.5
baz=320
N36A Muff Farm, Cla 87.54 39 P P 10 51 21.5 0.0
baz=318
S32A Newby Ranch, P 87.70 43 P P 10 51 22.8 +0.4
baz=316
R33A Olander Ranch, 87.78 42 P P 10 51 22.8 0.0
baz=316
Q34A Chapman 87.90 41 P P 10 51 22.9 -0.4
baz=317
P35A Duane Minner, 87.94 40 P P 10 51 23.6 +0.1
baz=318
KSU1 Kansas State U 87.95 41 P P 10 51 23.6 +0.1
baz=317
KSU1 Kansas State U 87.95 41 eP P 10 51 26.9 +3.4
comp=Z,26nm,0.8s
N37A Lee Faris, Mou 87.96 39 P P 10 51 23.6 +0.1
baz=315
M38A Pleasantville 87.97 38 P P 10 51 24.6 +1.1
baz=319
MNTX Cornudas Mount 88.04 51 P P 10 51 24.3 +0.2
baz=313
MNTX Cornudas Mount 88.04 51 eP P 10 51 24.8 +0.7
comp=Z,7.6nm,1.3s
T32A Huddler Ranch, 88.08 44 P P 10 51 24.3 +0.1
baz=316
AQU L'Aquila 88.09 324 eP P 10 51 27.9 +3.7
AQU pmax pmax
comp=Z,30nm,0.9s
AQU L'Aquila 88.09 324 eP P 10 51 27.9 +3.7
comp=Z,30nm,0.9s
MSTX Muleshoe 88.10 48 eP P 10 51 29.9 +5.4
comp=Z,11nm,1.0s
AMTX Amarillo 88.12 47 P P 10 51 24.7 +0.2
baz=314
AMTX Amarillo 88.12 47 eP P 10 51 25.5 +1.0
comp=Z,24nm,0.9s
LOR Lormes 88.19 332 eP P 10 51 26.0 +1.5
LOR pmax pmax
comp=Z,22nm,1.4s
R34A Isabella, Hill 88.19 42 P P 10 51 24.6 -0.1
baz=317
P36A Good Intent, A 88.30 40 P P 10 51 25.3 +0.1
baz=318
Q35A Mercer Eighty, 88.43 41 P P 10 51 25.5 -0.3
baz=318
FLN La Foliniere 88.45 336 eP P 10 51 29.1 +3.5
FLN pmax pmax
comp=Z,47nm,1.6s
LPL La Plagne 88.52 330 eP P 10 51 27.1 +0.8
LPL pmax pmax
comp=Z,4.0nm,0.8s
LPG La Plagne 88.52 330 eP P 10 51 28.0 +1.5
LPG pmax pmax
comp=Z,10.0nm,0.9s
S34A Willow Spring 88.70 42 P P 10 51 27.0 -0.1
baz=317
N39A Derby Farms, D 88.72 38 P P 10 51 27.3 +0.2
baz=320
R35A Emporia Munici 88.73 41 P P 10 51 27.0 -0.3
baz=318
AVF Avril sur Loir 88.78 332 eP P 10 51 27.4 +0.2
AVF pmax pmax
comp=Z,11nm,0.9s
GRR Gorron 88.90 336 eP P 10 51 29.7 +1.9
GRR pmax pmax
comp=Z,59nm,1.8s
R36A Gordon, Harris 89.10 41 P P 10 51 28.7 -0.3
baz=318
S35A Otter Creek Ra 89.14 42 P P 10 51 28.9 -0.3
baz=318
ORIF Oris-en-Rattie 89.35 330 eP P 10 51 33.2 +3.1
ORIF pmax pmax
comp=Z,31nm,1.6s
W32A Sentinel 89.36 45 P P 10 51 29.5 -0.8
baz=316
U34A Anderson Ranch 89.39 43 P P 10 51 30.4 0.0
baz=317
U34A Anderson Ranch 89.39 43 eP P 10 51 31.0 +0.7
comp=Z,26nm,0.9s
R37A Teagarden Farm 89.47 41 P P 10 51 30.4 -0.3
baz=318
S36A Lake Cedric, C 89.50 41 P P 10 51 30.4 -0.4
baz=318
T35A Sooner Cattle 89.60 43 P P 10 51 31.2 -0.1
baz=317
O40A La Belle 89.60 38 P P 10 51 30.9 -0.3
baz=320
V34A Guthrie 89.83 44 P P 10 51 33.1 +0.7
baz=317
V34A Guthrie 89.83 44 eP P 10 51 33.8 +1.4
comp=Z,30nm,0.8s
T36A Boggs Farm, Ca 89.83 42 P P 10 51 32.6 +0.2
baz=318
X32A Elmer 89.84 46 P P 10 51 31.9 -0.6
baz=316
Q39A Willow Grove F 89.87 39 P P 10 51 32.5 0.0
baz=320
S37A Fort Scott 89.88 41 P P 10 51 32.1 -0.5
baz=318
VIVF Saint-Julien-l 89.88 331 eP P 10 51 35.9 +3.4
VIVF pmax pmax
comp=Z,6.0nm,0.8s
WMOK Wichita Mounta 89.91 45 P P 10 51 31.7 -1.2
baz=316
WMOK Wichita Mounta 89.91 45 eP P 10 51 32.8 0.0
WMOK pmax pmax
comp=Z,15nm,1.0s
WMOK Wichita Mounta 89.91 45 eP P 10 51 32.8 0.0
comp=Z,15nm,1.0s
P40A Paris 89.97 38 P P 10 51 32.8 -0.2
baz=320
R38A Fenwick Farm, 90.04 40 P P 10 51 32.0 -1.3
baz=319
X33A Lawton 90.21 45 P P 10 51 33.5 -0.8
baz=316
V35A Meyer Ranch, C 90.26 43 P P 10 51 34.2 -0.3
baz=317
T37A Cheneyville 18 90.31 41 P P 10 51 34.5 -0.1
baz=318
Q40A Laux Farm, Aux 90.36 39 P P 10 51 34.8 0.0
baz=320
R39A Chumby, Stover 90.39 40 P P 10 51 34.5 -0.5
baz=320
S38A Stockton 90.46 40 P P 10 51 34.9 -0.4
baz=319
X34A Smith Ranch, M 90.55 45 P P 10 51 35.2 -0.6
baz=317
W35A Tecumseh 90.69 44 P P 10 51 36.2 -0.3
baz=317
T38A Diamond 90.70 41 P P 10 51 35.9 -0.5
baz=319
S39A Bolivar 90.72 40 P P 10 51 35.7 -0.8
baz=319
TUL1 Leonard 90.73 43 P P 10 51 36.1 -0.5
baz=318
TUL1 Leonard 90.73 43 eP P 10 51 36.9 +0.3
comp=Z,20nm,0.8s
TX31 Lajitas Ar. Si 90.73 52 eP P 10 51 36.5 -0.3
TX31 eP P 10 51 37.1 +0.2
TXAR Lajitas Array 90.73 52 P P 10 51 36.7 -0.1
comp=Z,3.5nm,0.7s,baz=304,slow=2.8,SNR=45
TXAR LR LR 11 26 10.4
comp=Z,618nm,21.9s,baz=0.0,slow=32
U37A Salina 90.73 42 P P 10 51 36.6 0.0
baz=318
V36A Jenks 90.74 43 P P 10 51 36.5 -0.2
baz=318
R40A Maddies Statio 90.81 39 P P 10 51 36.5 -0.4
baz=320
CAF Calviac 90.83 332 eP P 10 51 38.1 +1.1
CAF pmax pmax
comp=Z,9.0nm,1.1s
ABTX Abilene, Hawle 90.91 47 P P 10 51 37.7 +0.2
baz=316
ABTX Abilene, Hawle 90.91 47 eP P 10 51 38.2 +0.6
comp=Z,27nm,1.0s
Z33A Whitaker Ranch 90.96 46 P P 10 51 37.8 +0.1
baz=316
Y34A Reagan Ranch, 91.06 45 P P 10 51 38.0 -0.1
baz=317
W36A Wetumka 91.06 44 P P 10 51 37.9 -0.3
baz=318
HPIG 91.06 55 eP P 10 51 38.9 +0.4
U38A Gravette 91.10 42 P P 10 51 37.9 -0.4
baz=319
V37A Hulbert 91.11 42 P P 10 51 38.3 -0.1
baz=318
X35A Drake 91.18 45 P P 10 51 38.6 -0.2
baz=317
T39A Clever 91.19 41 P P 10 51 38.4 -0.3
baz=319
Q42A Golden Eagle 91.19 38 P P 10 51 37.8 -0.9
baz=321
S40A Lebanon 91.21 40 P P 10 51 39.3 +0.5
baz=320
133A Hamilton Ranch 91.35 47 P P 10 51 39.6 +0.1
baz=316
Z34A Collier Ranch, 91.39 46 P P 10 51 39.8 0.0
baz=317
X36A Centrahoma 91.41 44 P P 10 51 39.7 -0.1
baz=318
HHAR Hobbs 91.45 41 eP P 10 51 40.2 +0.2
comp=Z,12nm,0.9s
W37B Quinton 91.50 43 P P 10 51 40.2 0.0
baz=318
Y35A Marietta 91.50 45 P P 10 51 38.9 -1.4
baz=317
V38A Canehill 91.52 42 P P 10 51 40.7 +0.4
baz=319
T40A Mansfield 91.54 40 P P 10 51 39.5 -0.9
baz=320
U39A Green Forest 91.62 41 P P 10 51 40.1 -0.7
baz=319
TRQ Mont Tremblant 91.67 24 eP P 10 51 45.0 +4.2
LMQ La Malbaie 91.77 21 eP P 10 51 41.0 -0.2
233A Rising Star 91.78 47 P P 10 51 41.7 +0.1
baz=316
Z35A Perchaven, San 91.80 45 P P 10 51 41.5 -0.2
baz=317
134A White-Moore Ra 91.87 46 P P 10 51 42.0 +0.1
baz=316
Y36A Durant 91.94 44 P P 10 51 41.8 -0.4
baz=318
X37A Clayton 91.94 43 P P 10 51 41.7 -0.5
baz=318
V39A Pettigrew 91.94 42 P P 10 51 42.1 -0.2
baz=319
U40A Yellville 91.97 41 P P 10 51 42.0 -0.4
baz=320
T41A Mountain View 92.02 40 P P 10 51 41.5 -1.1
baz=320
W38A Poteau 92.05 43 P P 10 51 42.3 -0.4
baz=319
X38A Whitesboro 92.18 43 P P 10 51 43.0 -0.3
baz=318
333A Richland Sprin 92.23 48 P P 10 51 43.4 -0.3
baz=316
234A Clairette 92.25 47 P P 10 51 43.9 +0.1
baz=316
Z36A Blue Ridge 92.31 45 P P 10 51 43.9 -0.1
baz=317
JCT Junction City 92.34 49 P P 10 51 43.8 -0.4
baz=316
W39A Magazine 92.35 42 P P 10 51 43.8 -0.3
baz=319
433A Art 92.57 48 P P 10 51 44.4 -0.9
baz=316
WHTX Lake Whitney, 92.65 46 P P 10 51 45.6 +0.1
baz=317
WHTX Lake Whitney, 92.65 46 eP P 10 51 45.9 +0.3
comp=Z,36nm,0.9s
334A Lometa 92.67 47 P P 10 51 45.8 +0.1
baz=316
X39A Fountain Ranch 92.69 43 P P 10 51 45.8 +0.1
baz=319
S44A Carbondale 92.77 38 P P 10 51 45.4 -0.6
baz=322
V41A Mountainview 92.77 41 P P 10 51 45.7 -0.4
baz=320
SIUC Southern Illin 92.78 38 eP P 10 51 51.3 +5.3
comp=Z,23nm,1.0s
PBMO Poplar Bluff 92.90 39 eP P 10 51 51.1 +4.5
comp=Z,21nm,1.2s
MIAR Mount Ida 92.95 42 P P 10 51 47.4 +0.5
baz=319
MIAR Mount Ida 92.95 42 eP P 10 51 47.5 +0.6
MIAR pmax pmax
comp=Z,22nm,1.0s
MIAR Mount Ida 92.95 42 eP P 10 51 47.5 +0.6
comp=Z,22nm,1.0s
434A Burnet 93.02 48 P P 10 51 46.8 -0.6
baz=316
X201 Greenbrier Sit 93.04 41 eP P 10 51 51.1 +3.8
comp=Z,13nm,1.0s
WHAR Wooly Hollow 93.08 41 eP P 10 51 47.4 0.0
comp=Z,21nm,1.0s
533A Kerrville 93.09 49 P P 10 51 47.2 -0.5
baz=316
V42A Cord 93.16 40 P P 10 51 47.7 -0.2
baz=320
X40A Basin Creek Fa 93.40 42 P P 10 51 48.6 -0.3
baz=320
633A Saathoff Ranch 93.44 49 P P 10 51 48.5 -0.7
baz=316
534A Blanco 93.46 48 P P 10 51 48.9 -0.5
baz=316
PKME Peaks-Kenny Pk 94.14 21 eP P 10 51 52.2 +0.1
comp=Z,18nm,1.0s
933A Laredo 94.69 51 P P 10 51 55.5 +0.5
baz=316
LMN Caledonia Moun 94.80 18 eP P 10 52 00.6 +5.4
comp=Z,16nm,1.2s
KEST Kesra 95.23 322 P P 10 51 56.2 -1.2
comp=Z,4.5nm,0.9s,baz=293,slow=4.7,SNR=4.5
KEST LR LR 11 38 29.6
comp=Z,1µm,19.0s,baz=356,slow=38
ZAIG Zacatecas 95.94 56 eP P 10 52 02.5 +1.3
comp=Z,8.2nm,1.0s
ES19 SONSECA Array 97.56 333 eP Pdif 10 52 10.6 +2.6
ESDC Sonseca Array 97.61 333 P Pdif 10 52 10.0 +1.8
comp=Z,0.2nm,0.3s,baz=19,slow=3.4,SNR=3.5
ESDC PP PP 10 56 10.8 +6.1
comp=Z,0.1nm,0.2s,baz=36,slow=7.7,SNR=4.4
ESDC LR LR 11 40 36.9
comp=Z,1µm,18.9s,baz=55,slow=38
RKT Rikitea 98.89 112 eLR LR 11 23 56.1
comp=Z,1µm,26.0s,baz=308
VNDA Vanda 114.47 175 PP PP 10 58 09.8 +0.2
comp=Z,0.8nm,0.7s,baz=351,slow=7.3,SNR=3.5
TORD Torodi Ar. Bea 117.45 314 PKP PKPdf 10 57 18.9 -1.0
comp=Z,1.0nm,0.6s,baz=12,slow=2.1,SNR=10
TORD PP PP 10 58 25.1 -5.5
comp=Z,2.3nm,0.9s,baz=35,slow=6.4,SNR=6.6
TORD PKKPbc PKKPbc 11 07 42.5 +1.2
comp=Z,0.8nm,0.8s,baz=199,slow=3.1,SNR=7.6
MAW Mawson 118.90 205 PKP PKPdf 10 57 20.9 0.0

comp=Z,0.7nm,0.4s,baz=99,slow=11,SNR=2.4
BOSA Boshof 126.12 259 PKP **PKPdf 10 57 36.4 +0.2**
comp=Z,5.0nm,1.1s,baz=283,slow=4.4,SNR=3.0
QSPA South Pole Qui 126.24 180 *e*PKPdf **PKPdf 10 57 34.7 -0.5**
SNAA Sanae 140.13 197 *e*PKIKP **PKPdf 10 58 01.4 +0.3**
SNAA Sanae 140.13 197 *e*PKPdf **PKPdf 10 58 01.4 +0.3**
SAML Samuel 144.88 45 *e*PKPdf **PKPab 10 58 09.0 -1.2**
LPAZ La Paz 147.27 60 PKPbc **PKPbc 10 58 17.8 -0.5**
comp=Z,8.2nm,0.8s,baz=318,slow=1.8,SNR=25
LVC Limon Verde 150.69 70 *e*PKPdf **PKPdf 10 58 23.3 +2.3**
LCO Las Campanas 152.43 83 *e*PKPdf **PKPdf 10 58 25.8 +2.4**
BDFB Brasilia 157.74 23 PKPab **PKPab 10 59 04.2 +1.2**
comp=Z,10nm,0.8s,baz=9.8,slow=4.6,SNR=3.3

*IDC **09** 10:47:02.1±3.1,36°.31N×140°.35E, h74km±32km, mb3.4/3, mb1 3.6/4, mb1mx3.2/48, mbtmp3.7/4, Error ellipse: s-maj=48.2km s-min=22.6km az=96.0*
ISC 09 10:47:01.8±1.3, 36°.41N±0°.09×140°.7E±0°.1, h73km, n12, σ2s94/9, mb4.0/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**1.97**	**275**	P	**Pn**	**10 47 29.9**	**-3.2**
	7.4nm,0.3s,baz=85,slow=10,SNR=19						
MJAR				S	**Sn**	**10 48 00.8**	**+3.8**
	14nm,0.3s,baz=100,slow=21,SNR=7.4						
MAT	**Matsushiro**	**1.97**	**275**	P	**Pn**	**10 47 30.4**	**-2.8**
MAT				S	**Sn**	**10 47 59.5**	**+2.5**
JHJ	**Hachijo jima 2**	**3.36**	**192**	P	**Pn**	**10 47 50.2**	**-1.8**
	7.5nm,0.3s,baz=354,slow=22,SNR=4.7						
JHJ				S	**Sn**	**10 48 33.1**	**+2.5**
	7.3nm,0.3s,baz=125,slow=24,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.37**	**119**	T	T	11 22 18.9	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.38**	**119**	T	T	11 22 17.1	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.39**	**119**	T	T	11 22 18.7	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**29.05**	**121**	T	T	11 23 06.8	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**29.05**	**121**	T	T	11 23 09.6	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**29.07**	**121**	T	T	11 23 05.1	
	baz=316						
ILAR	**Eielson Array**	**50.35**	**32**	P	**P**	**10 55 52.6**	**+1.7**
	0.3nm,0.7s,baz=285,slow=5.2,SNR=4.2						
WRA	**Warramunga Arr**	**56.36**	**187**	P	**P**	**10 56 34.5**	**-0.9**
	1.9nm,1.1s,baz=2.3,slow=7.7,SNR=4.3						
ASAR	**Alice Springs**	**60.09**	**187**	P	**P**	**10 57 00.9**	**-0.6**
	1.3nm,1.1s,baz=9.6,slow=7.2,SNR=3.6						

*CSEM **09** 10:48:50.6, 43°.40N×12°.48E, h7km, MD1.3/5*
ROM 09 10:48:50.6±0.1, 43°.40N×12°.48E, h7km, Md1.3/5, Ml1.1/4, Error ellipse: s-maj=0.5km s-min=0.3km az=170.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATVO	**AVT- Monte Val**	**0.06**	**252**	Pg	Pg	10 48 52.5	+0.2
ATVO				Sg	Sg	10 48 53.9	+0.4
ATVO	**AVT- Monte Val**	**0.06**	**252**	Pg	Pg	10 48 52.5	+0.2
ATVO				Sg	Sg	10 48 53.9	+0.4
ATPC	**Poggio Castell**	**0.08**	**348**	Pg	Pg	10 48 52.9	+0.3
ATPC				Sg	Sg	10 48 54.6	+0.5
	98nm,0.1s						
ATPC	**Poggio Castell**	**0.08**	**348**	Pg	Pg	10 48 52.9	+0.3
ATPC				Sg	Sg	10 48 54.6	+0.5
	98nm,0.1s						
PIEI	**Pieia**	**0.14**	**16**	Pg	Pg	10 48 54.1	+0.5
PIEI				Sg	Sg	10 48 56.6	+1.0
	45nm,0.2s						
PIEI	**Pieia**	**0.14**	**16**	Pg	Pg	10 48 54.1	+0.5
PIEI				Sg	Sg	10 48 56.6	+1.0
	45nm,0.2s						
BADI	**Badiali**	**0.20**	**303**	Pg	Pg	10 48 55.3	+0.6
BADI				Sg	Sg	10 48 58.8	+1.3
	32nm,0.2s						
BADI	**Badiali**	**0.20**	**303**	Pg	Pg	10 48 55.3	+0.6
BADI				Sg	Sg	10 48 58.8	+1.3
	32nm,0.2s						
ATMC	**Monte Cedrone**	**0.21**	**283**	Pg	Pg	10 48 55.8	+0.9
ATMC				Sg	Sg	10 48 59.1	+1.3
	23nm,0.1s						
ATMC	**Monte Cedrone**	**0.21**	**283**	Pg	Pg	10 48 55.8	+0.9
ATMC				Sg	Sg	10 48 59.1	+1.3
	23nm,0.1s						
SSFR	**Montelago di S**	**0.22**	**81**	Pg	Pg	10 48 55.7	+0.6
SSFR				Sg	Sg	10 48 59.6	+1.5
	28nm,0.1s						
SSFR	**Montelago di S**	**0.22**	**81**	Pg	Pg	10 48 55.7	+0.6
SSFR				Sg	Sg	10 48 59.6	+1.5
	28nm,0.1s						

*CSEM **09** 10:50:20.9, 42°.63N×46°.32E, h0km, ML2.5*
*TIF **09** 10:50:20.9, 42°.63N×46°.32E, h11km±1km*
*MOS **09** 10:50:22.0±1.7, 42°.62N×46°.38E, h15km, mb4.0/1, Error ellipse: s-maj=9.4km s-min=7.1km az=27.8*
ISC 09 10:50:21.1±1.2, 42°.65N±0°.03×46°.33E±0°.02, h2km±10km, n30, σ0s78/54, 1C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XNZR	**Khunzakh**	**0.30**	**110**	*e*PG	**Pg**	**10 50 27.0**	**+0.1**
XNZR				S	**Sb**	**10 50 33.0**	**-1.7**
XNZR				pmax	pmax		
	comp=Z,144nm,0.1s						
DLMR	**Dylym**	**0.48**	**28**	*e*PG	**Pb**	**10 50 31.0**	**-1.3**
DLMR				*e*S	**Sb**	**10 50 38.5**	**-1.3**
DBC	**Dubki**	**0.53**	**45**	⇑*i*PG	**Pn**	**10 50 37.8**	**+2.1**
DBC				*i* S	**Sn**	**10 50 46.1**	**+0.8**
DBC				pmax	pmax		
	comp=Z,42nm,0.0s						
GNBR	**Gunib**	**0.54**	**118**	⇓*i*PG	**Pg**	**10 50 31.7**	**+0.3**
GNBR				*e*		10 50 40.6	
GNBR				pmax	pmax		
	comp=Z,134nm,0.1s						
GNBR				smax	smax		
	comp=E,692nm,1.1s						
GNBR				smax	smax		
	comp=N,515nm,0.5s						
GNBR				smax	smax		
	comp=E,729nm,0.8s						
BUJR	**Buynaksk**	**0.60**	**72**	PG	**Pb**	**10 50 34.0**	**-0.4**
BUJR				*e*S	**Sn**	**10 50 47.0**	**-0.1**
GROC	**Groznyy**	**0.68**	**325**	*e*PG	**Pg**	**10 50 34.6**	**+0.5**
GROC				*e*S	**Sb**	**10 50 45.7**	**+0.2**
KMGR	**Komgaron**	**1.15**	**291**	*e*PG	**Pb**	**10 50 43.5**	**-0.2**
KMGR				*e*S	**Sb**	**10 50 59.7**	**+0.6**
VLKR	**Vladikavkaz**	**1.28**	**289**	*e*PG	**Pg**	**10 50 45.6**	**0.0**
VLKR				*e*S	**Sb**	**10 51 03.1**	**+0.4**
DUS	**Dusheti**	**1.32**	**246**	P	**Pg**	**10 50 46.5**	**0.0**
DUS				S	**Sn**	**10 51 05.3**	**+0.4**
DUS	**Dusheti**	**1.32**	**246**	PG	**Pg**	**10 50 46.4**	**0.0**
DUS				S	**Sn**	**10 51 05.2**	**+0.4**
DUS	**Dusheti**	**1.32**	**246**	P	**Pg**	**10 50 46.5**	**0.0**
DUS				S	**Sn**	**10 51 05.3**	**+0.4**
GUDG	**Gudauri**	**1.38**	**263**	P	**Pg**	**10 50 46.5**	**-1.0**
GUDG				S	**Sg**	**10 51 05.4**	**0.0**
GUDG	**Gudauri**	**1.38**	**263**	P	**Pg**	**10 50 46.5**	**-1.0**
GUDG				S	**Sg**	**10 51 05.4**	**0.0**
DGRG	**David-gareji**	**1.39**	**211**	P	**Pb**	**10 50 48.5**	**+0.7**
DGRG				S	**Sn**	**10 51 07.2**	**+0.7**
DGRG	**David-gareji**	**1.39**	**211**	PG	**Pb**	**10 50 48.5**	**+0.7**
DGRG				S	**Sn**	**10 51 07.1**	**+0.7**
DGRG	**David-gareji**	**1.39**	**211**	P	**Pb**	**10 50 48.5**	**+0.7**
DGRG				S	**Sn**	**10 51 07.2**	**+0.7**
TBLG	**Delisi**	**1.49**	**233**	P	**Pn**	**10 50 48.6**	**-0.3**
TBLG				S	**Sg**	**10 51 09.8**	**+0.8**
TBLG	**Delisi**	**1.49**	**233**	PG	**Pn**	**10 50 48.0**	**-0.9**
TBLG				S	**Sg**	**10 51 09.8**	**+0.8**
TBLG	**Delisi**	**1.49**	**233**	P	**Pn**	**10 50 48.0**	**-0.9**
TBLG				S	**Sg**	**10 51 09.8**	**+0.8**
BTKR	**Batakoyurt**	**1.50**	**300**	*e*PG	**Pg**	**10 50 50.4**	**+0.6**
BTKR				*e*S	**Sg**	**10 51 10.9**	**+1.7**
LACR	**Lac**	**1.50**	**278**	⇓*i*PG	**Pn**	**10 50 48.0**	**-1.2**
AKT	**Akhty**	**1.56**	**138**	⇓*i*PG	**Pb**	**10 50 50.2**	**-0.6**
AKT				*e*		10 51 11.3	
AKT				pmax	pmax		
	comp=Z,41nm,0.4s						
AKT				smax	smax		
	comp=E,106nm,0.4s						
AKT				smax	smax		
	comp=E,93nm,0.4s						
AKT				smax	smax		
	comp=N,62nm,0.4s						
ARNR	**Ardon**	**1.59**	**290**	*e*PN	**Pb**	**10 50 50.8**	**-0.4**
ARNR				*e*S	**Sg**	**10 51 12.2**	**0.0**
KORR	**Kora**	**1.72**	**286**	*e*PN	**Pg**	**10 50 54.2**	**+0.2**
KORR				*e*S	**Sg**	**10 51 17.2**	**+0.9**
STDR	**Stavd-Durt**	**1.81**	**294**	*e*PN	**Pb**	**10 50 54.8**	**-0.1**
PRTR	**Priterechnaya**	**1.86**	**307**	*e*PN	**Pb**	**10 50 55.2**	**-0.6**
DIGR	**Digorskoe uzhe**	**2.04**	**278**	*e*PN	**Pn**	**10 50 56.3**	**-0.3**
ONI	**Oni**	**2.12**	**269**	P	**Pg**	**10 51 01.2**	**-0.5**
ONI				S	**Sg**	**10 51 28.4**	**-0.8**
ONI	**Oni**	**2.12**	**269**	PN	**Pb**	**10 51 00.2**	**0.0**
ONI				S	**Sg**	**10 51 28.4**	**-0.8**
ONI	**Oni**	**2.12**	**269**	P	**Pb**	**10 51 00.3**	**0.0**
ONI				S	**Sg**	**10 51 28.4**	**-0.8**

IDC 09 10:51:18.8±12.0, 15°.33S×178°.24W, h450km±149km, mb3.0/7, mb1 3.3/7, mb1mx3.0/34, mbtmp3.8/7, Error ellipse: s-maj=87.5km s-min=36.0km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.06**	**238**	P	P	10 58 13.9	+0.2
	2.7nm,1.0s,baz=93,slow=17,SNR=3.3						
WRA	**Warramunga Arr**	**45.31**	**257**	P	P	10 58 55.1	-0.2
	0.2nm,0.3s,baz=90,slow=7.6,SNR=9.0						
ASAR	**Alice Springs**	**45.69**	**252**	P	P	10 58 57.8	-0.5
	1.8nm,0.5s,baz=86,slow=8.5,SNR=31						
NVAR	**Mina Array Bea**	**77.47**	**44**	P	P	11 02 26.8	-0.3
	0.5nm,0.7s,baz=230,slow=8.5,SNR=3.8						
ILAR	**Eielson Array**	**83.35**	**13**	P	P	11 02 57.5	+0.5
	0.5nm,0.7s,baz=221,slow=5.2,SNR=7.2						
TXAR	**Lajitas Array**	**84.49**	**58**	P	P	11 03 03.7	+0.1
	0.4nm,0.8s,baz=225,slow=6.9,SNR=5.1						
PDAR	**Pinedale Array**	**85.38**	**43**	P	P	11 03 07.5	-0.3
	0.2nm,0.3s,baz=227,slow=3.4,SNR=2.7						
BRTR	**Keskin Array B**	**143.04**	**317**	PKP	PKPdf	11 10 00.3	-0.6
	0.6nm,0.6s,baz=153,slow=4.1,SNR=4.9						

*IDC **09** 11:03:25.7±1.1, 37°.69N×142°.84E, h0km, mb3.6/8, mb1 3.6/12, mb1mx3.5/49, mbtmp3.6/12, ML3.2/3, Error ellipse: s-maj=25.1km s-min=18.0km az=99.0*
*ISCJB **09** 11:03:27.2±0.7, 37°.70N±0°.05×142°.89E±0°.06, h24km, mb3.6/8, Error ellipse: s-maj=7.5km s-min=6.9km az=33.4*
*JMA **09** 11:03:28.0±0.2, 37°.75N×142°.80E, h27km, M3.8*
ISC 09 11:03:29.4±1.0, 37°.68N±0°.05×142°.69E±0°.07, h24km, n28, σ1s41/29, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.31**	**307**	P	**Pn**	**11 03 51.6**	**-0.6**
JIO				*e*S	**Sn**	**11 04 08.4**	**-0.5**
JFK	**Kawauchi**	**1.47**	**258**	P	**Pn**	**11 03 54.6**	**+0.1**
JMK	**Ichinoseki**	**1.72**	**318**	P	**Pn**	**11 03 57.1**	**-0.7**
JOU	**Okura**	**1.74**	**294**	P	**Pn**	**11 03 58.7**	**+0.6**
JOU				*e*S	**Sb**	**11 04 21.3**	**-0.7**
JFT	**Otama**	**1.87**	**266**	P	**Pb**	**11 04 01.2**	**-1.7**
JFT				*e*S	**Sb**	**11 04 25.6**	**-0.3**
JOM	**Ohasama**	**2.10**	**329**	P	**Pn**	**11 04 02.7**	**-0.4**
JOM				*e*S	**Sn**	**11 04 29.0**	**+0.6**
JYS	**Shirataka**	**2.14**	**285**	P	**Pn**	**11 04 05.1**	**+1.4**
JYS				*e*S	**Sb**	**11 04 32.7**	**-0.9**
JYK	**Kaneyama**	**2.21**	**305**	P	**Pn**	**11 04 05.1**	**+0.5**
MJAR	**Matsushiro Arr**	**3.75**	**254**	Pn	**Pn**	**11 04 27.2**	**+1.3**
	1.0nm,0.3s,baz=80,slow=14,SNR=12						
MAT	**Matsushiro**	**3.75**	**254**	P	**Pn**	**11 04 28.9**	**+3.0**
MAT				S	**Sb**	**11 05 18.0**	**-2.1**
JHJ	**Hachijo jima 2**	**5.13**	**208**	Pn	**Pn**	**11 04 45.7**	**+1.0**
	4.9nm,0.3s,baz=72,slow=20,SNR=4.0						
JHJ				Sn	**Sn**	**11 05 41.3**	**-1.9**
	7.9nm,0.3s,baz=41,slow=19,SNR=3.7						
ASAJ	**Asahikawa**	**6.43**	**359**	Pn	**Pn**	**11 05 01.7**	**-0.9**
	baz=165,slow=19						
USRK	**Ussuriysk Ar.**	**10.38**	**312**	Pn	**Pn**	**11 06 00.7**	**+3.9**
	0.2nm,0.3s,baz=119,slow=16,SNR=5.0						
KSRS	**Korea Array**	**11.72**	**273**	Pn	**Pn**	**11 06 17.2**	**+2.2**
	0.1nm,0.3s,baz=97,slow=13,SNR=5.6						
SEY	**Seymchan**	**25.97**	**10**	P	**P**	**11 08 59.2**	**-0.6**
	0.8nm,0.6s,baz=199,slow=11,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**27.63**	**124**	T	T	11 38 14.4	
	baz=316,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**27.64**	**124**	T	T	11 38 09.3	
	baz=316,slow=75,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**27.65**	**124**	T	T	11 38 10.3	
	baz=316,slow=75,SNR=14						
SONM	**Songino Array**	**28.28**	**303**	P	**P**	**11 09 21.0**	**+0.1**
	1.1nm,0.9s,baz=94,slow=8.8,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**28.39**	**126**	T	T	11 39 07.5	
	baz=318,slow=76,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**28.39**	**126**	T	T	11 39 10.3	
	baz=318,slow=76,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**28.40**	**126**	T	T	11 39 09.1	
	baz=318,slow=76,SNR=5.3						
ZALV	**Zalesovo Beam**	**42.23**	**312**	P	**P**	**11 11 21.0**	**+0.6**
	0.8nm,0.5s,baz=75,slow=6.1,SNR=3.6						
MKAR	**Makanchi Array**	**44.36**	**302**	P	**P**	**11 11 40.7**	**+0.8**
	1.0nm,0.6s,baz=88,slow=11,SNR=9.7						
KURBB	**Kurchatov Arra**	**46.41**	**308**	P	**P**	**11 11 53.8**	**0.0**
	1.2nm,0.6s,baz=82,slow=8.0,SNR=9.3						
ILAR	**Eielson Array**	**48.41**	**33**	P	**P**	**11 12 09.1**	**-0.1**
	0.2nm,0.6s,baz=266,slow=6.2,SNR=3.0						
WRA	**Warramunga Arr**	**57.85**	**189**	P	**P**	**11 13 18.4**	**-0.7**
	0.4nm,0.5s,baz=7.2,slow=7.2,SNR=6.5						
ASAR	**Alice Springs**	**61.58**	**189**	P	**P**	**11 13 45.2**	**+0.5**
	0.3nm,1.0s,baz=9.3,slow=6.0,SNR=4.2						

*IDC **09** 11:10:57.8±1.3, 1°.57N×99°.51E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/45, mbtmp4.0/5, Error ellipse: s-maj=56.0km s-min=20.9km az=51.0*
*ISCJB **09** 11:11:16.6±0.6, 1°.68N±0°.07×99°.62E±0°.07, h166km, mb3.8/5, Error ellipse: s-maj=12.8km s-min=5.9km az=43.8*
*DJA **09** 11:11:19.0±0.6, 2°.1N±5°.1×9°.9E±°, h157km±6km, M3.7/8, MLv3.7/8*
ISC 09 11:11:17.1±0.8, 1°.60N±0°.08×99°.59E±0°.09, h166km, n16, σ1s53/18, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.80**	**180**	P	**Pn**	**11 11 43.8**	**+1.8**
MNSI				S	**Sn**	**11 12 00.9**	**-0.2**
BKNI	**Bangkinang**	**1.93**	**131**	P	**Pn**	**11 11 53.9**	**+1.4**
GSI	**Gunungsitoli**	**2.03**	**262**	P	**Pn**	**11 11 55.0**	**+1.4**
GSI				S	**Sn**	**11 12 20.8**	**-0.9**
PPI	**Padang Panjang**	**2.20**	**158**	P	**Pn**	**11 11 57.2**	**+1.7**
KCSI	**Kotacane, Aceh**	**2.63**	**317**	P	**Pn**	**11 12 03.0**	**+2.3**
KCSI				S	**Sn**	**11 12 34.3**	**-0.2**
PDSI	**Padang**	**2.64**	**161**	P	**Pn**	**11 12 01.6**	**+0.8**
TPTI		**2.92**	**305**	P	**Pn**	**11 12 05.8**	**+1.7**
TPTI				S	**Sn**	**11 12 40.1**	**-0.5**
MLSI	**Meulaboh, Aceh**	**4.14**	**310**	P	**Pn**	**11 12 20.9**	**+1.3**
MLSI				S	**Sn**	**11 13 05.3**	**-3.1**
H08S2	**Diego Garcia H**	**28.54**	**251**	T	T	11 44 18.3	
	baz=71,slow=75,SNR=20						
H08S3	**Diego Garcia H**	**28.55**	**251**	T	T	11 44 32.2	
	baz=71,slow=75,SNR=15						
H08S1	**Diego Garcia H**	**28.56**	**251**	T	T	11 44 43.3	
	baz=71,slow=75,SNR=21						
WRA	**Warramunga Arr**	**40.25**	**124**	P	**P**	**11 18 37.4**	**-0.7**
	6.5nm,0.5s,baz=303,slow=9.1,SNR=67						
ASAR	**Alice Springs**	**41.76**	**129**	P	**P**	**11 18 49.3**	**-1.1**
	0.5nm,0.4s,baz=300,slow=7.5,SNR=20						
MKAR	**Makanchi Array**	**47.48**	**344**	P	**P**	**11 19 36.3**	**+1.0**
	0.8nm,0.3s,baz=153,slow=7.8,SNR=8.0						
KLR	**Kul'dur**	**54.86**	**25**	P	**P**	**11 20 29.2**	**-1.0**
	0.5nm,0.4s,baz=217,slow=5.1,SNR=3.1						
BRTR	**Keskin Array B**	**70.62**	**312**	P	**P**	**11 22 14.5**	**-0.3**
	0.5nm,0.6s,baz=126,slow=9.7,SNR=2.9						

MEX 09 11:14:53.7±0.3, 13°.68N×92°.48W, h16km±122km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.13**	**340**	*i* P	Pn	11 15 25.7	-3.0
PCIG				*i* S	Sn	11 15 50.3	-4.6

*IDC **09** 11:20:47.2±0.8, 28°.23N×129°.16E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/36, mbtmp3.6/10, ML3.7/2, Error ellipse: s-maj=28.9km s-min=19.4km az=85.0*
*ISCJB **09** 11:20:50.7±0.4, 28°.29N±0°.03×129°.55E±0°.04, h27km±3km, mb3.6/8, Error ellipse: s-maj=7.4km s-min=3.1km az=33.8*
*JMA **09** 11:20:50.9±0.1, 28°.30N×129°.56E, h26km±2km, M3.9*
JMA Felt II J1.
ISC 09 11:20:49.4±1.0, 28°.19N±0°.04×129°.50E±0°.05, h17km±7km, n27, σ1s67/43, mb3.7/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.24**	**22**	P	**Pb**	**11 20 55.5**	**+0.1**
JAM				S	**Sb**	**11 20 59.0**	**-0.4**
JAMN	**Amaminishikomi**	**0.29**	**281**	P	**Pb**	**11 20 58.8**	**+2.6**
JAMN				*e*S	**Sb**	**11 21 04.1**	**+3.3**
JZK	**Kikaishima**	**0.43**	**73**	P	**Pg**	**11 20 58.7**	**+0.5**
JZK				*e*S	**Sg**	**11 21 05.3**	**+1.1**
JTK	**Tokunoshima**	**0.63**	**231**	P	**Pn**	**11 21 04.1**	**+0.5**
JTK				*e*S	**Sn**	**11 21 14.5**	**+1.3**
JTAJ	**Takarajima**	**1.00**	**345**	P	**Pb**	**11 21 07.3**	**-1.0**
JTAJ				*e*S	**Sb**	**11 21 19.4**	**-1.8**
JOKE	**Okinoerabujima**	**1.16**	**225**	P	**Pg**	**11 21 13.1**	**+1.2**
JOKE				*e*S	**Sn**	**11 21 29.8**	**+3.4**
JNN	**Nakanoshima**	**1.68**	**11**	P	**Pn**	**11 21 16.6**	**-1.5**
JNN				*e*S	**Sn**	**11 21 36.3**	**-2.9**
JOW	**Kunigami**	**1.73**	**219**	P	**Pg**	**11 21 21.6**	**-1.1**
JOW				*e*S	**Sg**	**11 21 44.6**	**-0.7**
JIH	**Iheya**	**1.78**	**230**	P	**Pb**	**11 21 21.9**	**+0.3**
JIH				*e*S	**Sg**	**11 21 45.2**	**-1.6**
JNTH	**Nagotoyohara**	**2.12**	**219**	P	**Pb**	**11 21 27.0**	**-0.3**
JNTH				S	**Sb**	**11 21 54.0**	**+0.6**
JYAK	**Yakushimahirau**	**2.23**	**23**	P	**Pn**	**11 21 25.4**	**-0.1**
JYAK				S	**Sn**	**11 21 51.6**	**-1.1**
JKC	**Kuchinoerabu**	**2.35**	**15**	P	**Pn**	**11 21 27.8**	**+0.6**
JKC				*e*S	**Sn**	**11 21 55.9**	**+0.3**
JAGN	**Aguni-jima**	**2.56**	**232**	P	**Pb**	**11 21 33.0**	**-1.9**
JJT2	**Tamagusuku 2**	**2.57**	**218**	P	**Pb**	**11 21 33.5**	**-1.5**
JJT2				*e*S	**Sb**	**11 22 06.5**	**+0.2**
JTN	**Tanegashima 3**	**2.78**	**27**	P	**Pn**	**11 21 33.1**	**0.0**
JTN				*e*S	**Sn**	**11 22 06.0**	**-0.3**
JKE	**Kume jima 2**	**3.05**	**233**	P	**Pb**	**11 21 39.7**	**-3.5**
JKE				*e*S	**Sb**	**11 22 16.6**	**-3.5**
JNU	**Nakatsue**	**5.06**	**13**	Pn	**Pn**	**11 22 06.2**	**+1.6**
	4.1nm,0.3s,baz=188,slow=11,SNR=51						
JNU				Sn	**Sn**	**11 23 02.6**	**-0.1**
	baz=320,slow=16,SNR=2.2						
KSRS	**Korea Array**	**9.34**	**352**	Pn	**Pn**	**11 23 05.2**	**+2.0**
	0.1nm,0.3s,baz=174,slow=15,SNR=3.4						
MJAR	**Matsushiro Arr**	**11.11**	**39**	Pn	**Pn**	**11 23 28.0**	**+0.4**
	0.3nm,0.3s,baz=254,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**41.12**	**310**	P	**P**	**11 28 31.2**	**-1.3**
	0.2nm,0.3s,baz=92,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**48.07**	**174**	P	**P**	**11 29 28.4**	**+0.2**
	0.6nm,0.7s,baz=354,slow=8.4,SNR=7.8						
ASAR	**Alice Springs**	**51.73**	**175**	P	**P**	**11 29 57.4**	**+1.5**
	0.6nm,0.7s,baz=6.2,slow=14,SNR=12						
ILAR	**Eielson Array**	**62.19**	**29**	P	**P**	**11 31 10.7**	**+1.1**
	0.2nm,0.6s,baz=287,slow=9.2,SNR=2.8						
FINES	**FINESS Array B**	**71.72**	**331**	P	**P**	**11 32 08.8**	**-1.5**
	0.8nm,0.6s,baz=68,slow=5.1,SNR=4.4						
AKASG	**Malin Array Be**	**74.78**	**320**	P	**P**	**11 32 27.0**	**-1.5**
	0.3nm,0.4s,baz=59,slow=6.9,SNR=3.4						
BRTR	**Keskin Array B**	**76.73**	**308**	P	**P**	**11 32 39.9**	**-0.1**
	0.3nm,0.4s,baz=108,slow=4.7,SNR=2.9						
NVAR	**Mina Array Bea**	**88.34**	**47**	P	**P**	**11 33 43.3**	**+2.6**
	0.3nm,0.5s,baz=251,slow=8.5,SNR=3.4						

*ISCJB **09** 11:27:33.0±0.7, 26°.44S±0°.08×179°.0E±0°.1, h500km, mb3.7/8, Error ellipse: s-maj=13.4km s-min=10.7km az=166.9*
*IDC **09** 11:27:34.6±1.4, 26°.38S×179°.08E, h512km±16km, mb3.4/8, mb1 3.6/11, mb1mx3.4/34, mbtmp4.3/11, Error ellipse: s-maj=18.8km s-min=13.2km az=171.0*
ISC 09 11:27:34.3±0.7, 26°.40S±0°.10×178°.98E±0°.10, h500km, n15, σ2s23/18, mb3.7/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.95**	**137**	P	**P**	**11 28 52.2**	**0.0**
	58nm,0.3s,baz=82,slow=19,SNR=4.9						
RAO				S	**S**	**11 30 02.2**	**+6.4**
	42nm,0.3s,baz=90,slow=20,SNR=2.1						
URZ	**Urewera**	**11.93**	**187**	P	**P**	**11 30 10.9**	**-0.9**
	2.7nm,0.3s,baz=276,slow=3.7,SNR=17						
URZ				S	**S**	**11 32 18.3**	**-3.4**
	1.7nm,0.3s,baz=64,slow=22,SNR=14						
DZM	**Mont Dzumac**	**12.22**	**288**	P	**P**	**11 30 18.2**	**+2.8**
	0.3nm,0.3s,baz=59,slow=12,SNR=6.8						
RPZ	**Rata Peaks**	**18.43**	**198**	P	**P**	**11 31 16.7**	**-1.7**
	0.7nm,0.3s,baz=326,slow=

ISC 09 11:45:44.1±2.6, 37.01N±0.04×142.19E±0.06, h1km±16km, n33, σ1.921/41, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.11**	**289**	P	**Pb**	**11 46 06.2**	**+0.1**
JFK				S	**Sn**	**11 46 22.7**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.12**	**275**	P	**Pb**	**11 46 06.2**	**-0.1**
ONAJ				*e*S	**Sn**	**11 46 22.6**	**-0.4**
JHO	**Hitachi**	**1.36**	**253**	P	**Pn**	**11 46 10.3**	**0.0**
JMM	**Marumori**	**1.40**	**308**	P	**Pn**	**11 46 10.4**	**-0.4**
JMM				*e*S	**Sg**	**11 46 30.1**	**+0.9**
JFT	**Otama**	**1.56**	**289**	P	**Pb**	**11 46 13.8**	**-0.1**
JFT				*e*S	**Sb**	**11 46 35.3**	**+1.2**
JIO	**Ouri**	**1.59**	**335**	P	**Pb**	**11 46 13.4**	**-0.8**
JIO				*e*S	**Sb**	**11 46 34.0**	**-0.8**
CHOJ	**Chosi**	**1.69**	**220**	P	**Pb**	**11 46 15.8**	**-0.2**
CHOJ				*e*S	**Sb**	**11 46 37.7**	**-0.1**
JOU	**Okura**	**1.81**	**319**	P	**Pb**	**11 46 17.0**	**-1.1**
JOU				*e*S	**Sb**	**11 46 40.1**	**-1.3**
JSB	**Shiboa**	**1.82**	**269**	P	**Pb**	**11 46 18.1**	**-0.1**
JSB				*e*S	**Sb**	**11 46 41.6**	**+0.1**
JFY	**Yanaizu**	**2.02**	**282**	P	**Pb**	**11 46 20.7**	**-1.0**
JFY				S	**Sb**	**11 46 47.1**	**-0.3**
JYS	**Shirataka**	**2.08**	**306**	P	**Pb**	**11 46 21.4**	**-1.2**
JYS				*e*S	**Sb**	**11 46 48.3**	**-0.6**
JMK	**Ichinoseki**	**2.08**	**339**	P	**Pb**	**11 46 20.9**	**-1.8**
OFUJ	**Ofunato**	**2.10**	**349**	P	**Pn**	**11 46 20.4**	**-0.1**
JAG	**Ashikaga**	**2.28**	**256**	P	**Pn**	**11 46 24.1**	**+1.3**
JAG				*e*S	**Sb**	**11 46 53.6**	**-1.1**
JKT	**Katashina**	**2.37**	**265**	P	**Pb**	**11 46 26.2**	**-1.5**
JYK	**Kaneyama**	**2.39**	**323**	P	**Pn**	**11 46 25.1**	**+0.7**
JYK				*e*S	**Sn**	**11 46 54.8**	**+0.5**
MJAR	**Matsushiro Arr**	**3.23**	**263**	Pn	**Pn**	**11 46 38.7**	**+2.7**
	15nm,0.3s,baz=89,slow=15,SNR=55						
MJAR				Sn	**Sb**	**11 47 19.7**	**-2.5**
	4.1nm,0.3s,baz=326,slow=6.8,SNR=5.4						
MAT	**Matsushiro**	**3.23**	**263**	P	**Pb**	**11 46 39.3**	**-3.0**
MAT				S	**Sb**	**11 47 21.1**	**-1.1**
JHJ	**Hachijo jima 2**	**4.36**	**208**	Pn	**Pn**	**11 46 51.6**	**+0.2**
	39nm,0.3s,baz=113,slow=22,SNR=27						
JHJ				Sn	**Sn**	**11 47 40.9**	**-2.0**
	20nm,0.3s,baz=90,slow=20,SNR=4.0						
ASAJ	**Asahikawa**	**7.10**	**2**	Pn	**Pn**	**11 47 29.1**	**0.0**
	0.7nm,0.3s,baz=202,slow=14,SNR=6.7						
JNU	**Nakatsue**	**10.05**	**251**	Pn	**Pn**	**11 48 12.3**	**+2.6**
	0.6nm,0.3s,baz=60,slow=8.9,SNR=9.7						
KSRS	**Korea Array**	**11.39**	**277**	Pn	Pn	11 48 33.0	+5.2
	0.1nm,0.3s,baz=91,slow=13,SNR=15						
H11N2	**WAKE ISLAND Hy**	**27.60**	**122**	T	T	12 20 24.2	
	baz=326,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.61**	**122**	T	T	12 21 05.8	
	baz=326,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**27.62**	**122**	T	T	12 21 07.9	
	baz=326,slow=74,SNR=15						
SONM	**Songino Array**	**28.31**	**304**	P	**P**	**11 51 39.4**	**0.0**
	1.1nm,0.8s,baz=94,slow=9.2,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**28.33**	**124**	T	T	12 21 26.1	
	baz=316,slow=76,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**28.33**	**124**	T	T	12 21 41.8	
	baz=316,slow=76,SNR=9.2						
H11S2	**WAKE ISLAND Hy**	**28.34**	**124**	T	T	12 21 22.5	
	baz=316,slow=76,SNR=8.7						
MKAR	**Makanchi Array**	**44.66**	**302**	P	**P**	**11 53 58.2**	**0.0**
	0.5nm,0.4s,baz=89,slow=8.8,SNR=5.8						
KURBB	**Kurchatov Arra**	**46.51**	**308**	P	**P**	**11 54 12.7**	**-0.1**
	1.1nm,0.5s,baz=82,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**11 54 33.2**	**-0.1**
	0.4nm,0.7s,baz=259,slow=6.0,SNR=5.5						
NVAR	**Mina Array Bea**	**74.50**	**54**	P	**P**	**11 57 25.5**	**+0.9**
	0.3nm,0.6s,baz=296,slow=6.7,SNR=3.9						

*ISCJB **09** 11:47:14.1±0.4, 16.2S±0.1×175.16W±0.09, h278km, mb4.0/14, Error ellipse: s-maj=17.3km s-min=7.2km az=145.0*

*IDC **09** 11:47:14.4±1.2, 16.13S×175.17W, h268km±12km, mb3.8/14, mb1 4.0/16, mb1mx3.7/39, mbtmp4.4/16, Error ellipse: s-maj=17.6km s-min=9.9km az=131.0*

ISC 09 11:47:15.3±0.5, 16.1S±0.1×175.1W±0.1, h278km, n32, σ0.976/33, mb4.0/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.91**	**56**	P	**Pn**	**11 48 20.0**	**+0.4**
	50nm,0.3s,baz=159,slow=1.7,SNR=68						
AFI				S	**S**	**11 49 09.6**	**-1.2**
	25nm,0.3s,baz=77,slow=22,SNR=4.6						
DZM	**Mont Dzumac**	**18.39**	**248**	P	**P**	**11 51 09.1**	**-1.5**
	0.1nm,0.3s,baz=229,slow=20,SNR=2.0						
URZ	**Urewera**	**23.09**	**196**	P	**P**	**11 51 54.7**	**-2.1**
	17nm,0.7s,baz=347,slow=5.2,SNR=13						
RPZ	**Rata Peaks**	**29.91**	**200**	P	**P**	**11 52 57.9**	**+0.2**
	9.4nm,0.8s,baz=349,slow=3.6,SNR=5.5						
ARMA	**Armidale**	**33.55**	**239**	P	**P**	**11 53 30.3**	**+0.6**
	baz=34,SNR=8.0						
CNB	**Canberra Magne**	**37.00**	**232**	P	**P**	**11 53 59.3**	**+0.4**
	baz=38,SNR=6.4						
MTSU	**Mount Surprise**	**38.76**	**261**	P	**P**	**11 54 13.4**	**-0.3**
	baz=40,SNR=5.1						
COEN	**Coen**	**40.28**	**267**	P	**P**	**11 54 27.1**	**+0.9**
	baz=41,SNR=9.5						
STKA	**Stephens Creek**	**42.24**	**240**	P	**P**	**11 54 41.9**	**+0.1**
	7.0nm,0.8s,baz=86,slow=9.6,SNR=9.2						
STKA	**Stephens Creek**	**42.24**	**240**	P	**P**	**11 54 42.0**	**+0.1**
	baz=43,SNR=7.6						
HTT	**Hallett**	**44.76**	**239**	P	**P**	**11 55 02.7**	**+0.9**
	baz=46,SNR=3.3						
BBOO	**Buckleboo**	**47.02**	**240**	P	**P**	**11 55 19.1**	**-0.2**
	baz=48,SNR=7.0						
WRA	**Warramunga Ar**	**48.07**	**258**	P	**P**	**11 55 26.9**	**-0.7**
	3.2nm,0.5s,baz=92,slow=6.8,SNR=118						
WRA				PcP	**PcP**	**11 56 50.6**	**-0.2**
	1.1nm,0.7s,baz=89,slow=4.0,SNR=5.0						
ASAR	**Alice Springs**	**48.31**	**253**	P	**P**	**11 55 28.9**	**-0.5**
	21nm,0.6s,baz=86,slow=8.3,SNR=199						
MTN	**Manton Dam**	**52.02**	**266**	P	**P**	**11 55 57.6**	**+0.4**
	baz=53,SNR=5.6						
WRKA	**Warakurna**	**53.39**	**251**	P	**P**	**11 56 06.7**	**-0.5**
	baz=54,SNR=41						
KLBR	**Kellerberrin**	**62.44**	**242**	P	**P**	**11 57 08.7**	**-0.9**
	baz=63,SNR=20						
VNDA	**Vanda**	**62.50**	**186**	P	**P**	**11 57 10.0**	**+0.9**
	4.0nm,1.0s,baz=6.9,slow=5.9,SNR=13						
BLDU	**Balliduu**	**63.38**	**244**	P	**P**	**11 57 15.4**	**-0.4**
	baz=64,SNR=5.6						
GIRL	**Giralia**	**66.42**	**252**	P	**P**	**11 57 36.6**	**+1.2**
	baz=67,SNR=3.9						
MJAR	**Matsushiro Arr**	**68.43**	**321**	P	**P**	**11 57 47.4**	**-0.2**
	1.1nm,0.6s,baz=163,slow=5.4,SNR=5.4						
KSRS	**Korea Array**	**75.52**	**316**	P	**P**	**11 58 29.7**	**+0.3**
	1.6nm,1.0s,baz=122,slow=5.8,SNR=7.5						
NVAR	**Mina Array Bea**	**75.98**	**43**	P	**P**	**11 58 32.7**	**+0.4**
	1.6nm,0.7s,baz=230,slow=9.0,SNR=10						
TXAR	**Lajitas Array**	**82.39**	**57**	P	**P**	**11 59 07.3**	**+0.4**
	0.6nm,0.7s,baz=220,slow=8.3,SNR=7.7						
ILAR	**Eielson Array**	**83.48**	**12**	P	**P**	**11 59 10.8**	**-0.7**
	0.6nm,0.5s,baz=229,slow=5.6,SNR=13						
PDAR	**Pinedale Array**	**83.91**	**42**	P	**P**	**11 59 14.3**	**-0.3**
	1.2nm,0.6s,baz=204,slow=3.3,SNR=9.3						
MAW	**Mawson**	**86.58**	**199**	P	**P**	**11 59 27.3**	**+0.3**
	4.1nm,0.7s,baz=146,slow=6.9,SNR=7.5						
CMAR	**Chiang Mai Arr**	**91.27**	**289**	P	**P**	**11 59 50.8**	**+0.8**
	1.0nm,0.6s,baz=108,slow=3.3,SNR=4.7						
ARCES	**ARCESS Array B**	**125.08**	**351**	PKP	**PKPdf**	**12 05 41.6**	**-0.4**
	1.1nm,0.7s,baz=40,slow=1.5,SNR=3.8						
KMBO	**Kilima Mbogo**	**143.73**	**245**	PKP	PKPbc	12 06 17.6	+0.6
	3.1nm,0.7s,baz=60,slow=5.4,SNR=6.4						
BRTR	**Keskin Array B**	**145.64**	**319**	PKPbc	**PKPbc**	**12 06 21.8**	**-0.1**
	2.4nm,0.9s,baz=123,slow=2.1,SNR=11						
GERES	**GERESS Array B**	**146.57**	**349**	PKPbc	**PKPdf**	**12 06 22.9**	**+0.6**
	0.2nm,0.2s,baz=61,slow=4.6,SNR=4.0						

*ISCJB **09** 11:58:50.5±0.6, 0.00S±0.07×122.97E±0.06, h50km, mb4.2/9, Error ellipse: s-maj=10.2km s-min=8.0km az=165.3*

*IDC **09** 11:58:53.4±3.7, 0.19S×122.95E, h76km±36km, mb3.9/9, mb1 4.1/11, mb1mx3.7/35, mbtmp4.3/11, Error ellipse: s-maj=29.2km s-min=14.0km az=75.0*

*DJA **09** 11:58:56.8±0.3, 0.5S±3.2E±, h58km±10km, M4.6/16, mb4.7/9, mB4.9/6, MLv4.8/16, Mw(mB)4.2/6*

ISC 09 11:58:51.4±0.7, 0.12S±0.08×122.99E±0.08, h50km, n25, σ2.943/23, mb4.2/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.94**	**193**	P	**Pn**	**11 59 12.3**	**+3.9**
MRSI	**Marisa**	**1.20**	**299**	P	Pn	11 59 17.4	+5.5
KMSI	**Cibinong**	**1.21**	**55**	P	Pn	11 59 20.6	+8.7
PCI	**Palu**	**3.25**	**256**	P	**Pn**	**11 59 43.2**	**+3.3**
SANI	**Sanana**	**3.56**	**123**	P	**Pn**	**11 59 46.3**	**+2.2**
KDI	**Kendari**	**3.83**	**186**	P	**Pn**	**11 59 50.2**	**+2.3**
TTSI	**Tana Toraja**	**4.30**	**227**	P	**Pn**	**11 59 57.1**	**+2.8**
LBMI	**Labuha**	**4.54**	**97**	P	Pn	12 00 05.5	+7.9
SPSI	**Sidrap Palu**	**5.00**	**220**	P	**Pn**	**12 00 06.6**	**+2.7**
NLAI	**Namlea**	**5.15**	**127**	P	**Pn**	**12 00 09.9**	**+4.0**
	132nm,0.8s,3µm1.5nm						
KAPI	**Kappang**	**5.84**	**214**	P	**Pn**	**12 00 17.9**	**+2.5**
	14nm,0.3s,baz=78,slow=5.4,SNR=20						
KAPI				S	**Sn**	**12 01 20.7**	**-0.5**
	18nm,0.3s,baz=86,slow=22,SNR=10						
BSSI	**Bau Bau, Buton**	**6.48**	**203**	P	**Pn**	**12 00 27.8**	**+3.5**
	55nm,0.9s,893nm0.3nm						
MSAI	**Masohi**	**6.75**	**118**	P	Pn	12 00 32.5	+4.6
	24nm,0.8s,282nm0.2nm						
SWI	**Sorong**	**8.30**	**95**	P	**Pn**	**12 00 53.1**	**+3.8**
	45nm,0.7s,769nm						
BBKI	**Banjar Baru**	**8.79**	**248**	P	**Pn**	**12 00 57.8**	**+1.8**
	40nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.06**	**172**	P	**Pn**	**12 02 58.9**	**+0.1**
	0.5nm,0.3s,baz=22,slow=6.4,SNR=16						
WRA	**Warramunga Arr**	**22.62**	**151**	P	**P**	**12 03 46.9**	**-1.3**
	4.5nm,0.6s,baz=329,slow=11,SNR=78						
ASAR	**Alice Springs**	**25.70**	**156**	P	**P**	**12 04 16.3**	**-0.8**
	2.4nm,0.6s,baz=342,slow=14,SNR=33						
ASAR				PcP	**PcP**	**12 07 44.8**	**-1.8**
	1.5nm,0.5s,baz=344,slow=2.2,SNR=17						
NWAO	**Narrogin (SRO)**	**33.08**	**189**	P	**P**	**12 05 20.7**	**-1.8**
	4.0nm,0.9s,baz=0.0,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**36.16**	**153**	P	**P**	**12 05 48.4**	**-0.7**
	3.3nm,0.7s,baz=333,slow=11,SNR=9.1						
MJAR	**Matsushiro Arr**	**39.12**	**20**	P	**P**	**12 06 13.2**	**-0.8**
	3.1nm,0.8s,baz=192,slow=9.5,SNR=13						
SONM	**Songino Array**	**49.90**	**345**	P	**P**	**12 07 41.3**	**+1.3**
	0.7nm,0.5s,baz=164,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**58.71**	**328**	P	**P**	**12 08 43.1**	**-0.9**
	1.2nm,0.3s,baz=125,slow=8.5,SNR=18						
RPZ	**Rata Peaks**	**60.92**	**142**	P	**P**	**12 08 58.7**	**-0.5**
	8.9nm,0.7s,baz=323,slow=5.1,SNR=5.1						
VNDA	**Vanda**	**80.13**	**172**	P	**P**	**12 10 54.3**	**-1.4**
	1.0nm,0.6s,baz=315,slow=3.4,SNR=5.6						

*IDC **09** 12:04:20.3±1.1, 10.37S×122.53E, h0km, mb4.2/4, mb1 4.4/7, mb1mx3.9/37, mbtmp4.3/7, ML4.0/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/30, Error ellipse: s-maj=75.8km s-min=18.6km az=63.0*

*ISCJB **09** 12:04:22.4±0.5, 10.66S±0.07×122.54E±0.09, h33km, mb4.1/4, Error ellipse: s-maj=15.4km s-min=5.6km az=144.4*

*DJA **09** 12:04:29.2±1.1, 10.5S±9.5×12.2E±, h102km±12km, M4.0/9, mB4.6/1, mb3.9/4, MLv4.0/9, Mw(mB)3.8/1*

ISC 09 12:04:25.1±0.8, 10.59S±0.07×122.56E±0.08, h35km, n18, σ2.921/20, mb4.2/4, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.87**	**64**	P	Pn	12 05 03.2	+8.5
MMRI	**Maumere**	**1.97**	**351**	P	**Pn**	**12 04 56.9**	**+1.0**
BASI	**Baing, Sumba**	**1.99**	**280**	P	**Pn**	**12 04 57.8**	**+1.6**
WSI	**Waingapu**	**2.41**	**292**	P	**Pn**	**12 05 02.4**	**+0.4**
BSSI	**Bau Bau, Buton**	**4.87**	**335**	P	**Pn**	**12 05 36.5**	**+0.6**
PLAI	**Plampang**	**5.03**	**290**	P	**Pn**	**12 05 37.2**	**-0.9**
TWSI	**Taliwang, Sumb**	**5.89**	**288**	P	**Pn**	**12 05 49.1**	**-0.9**
	22nm,1.3s,650nm0.2nm						
KAPI	**Kappang**	**6.20**	**333**	Pn	**Pn**	**12 05 54.4**	**+0.3**
	0.8nm,0.3s,baz=153,slow=6.7,SNR=6.1						
KAPI				LR	LR	12 08 40.4	
	comp=Z,158nm,20.6s,baz=188,slow=44						
SPSI	**Sidrap Palu**	**7.14**	**337**	P	**Pn**	**12 06 04.9**	**-2.2**
	7.9nm,0.9s,0.0nm						
FITZ	**Fitzroy Crossi**	**8.04**	**159**	Pn	**Pn**	**12 06 22.6**	**+3.1**
	1.0nm,0.3s,baz=343,slow=11,SNR=56						
FITZ				Sn	**Sn**	**12 07 49.3**	**0.0**
	5.6nm,0.3s,baz=139,slow=6.2,SNR=15						
FITZ				LR	LR	12 09 39.2	
	comp=Z,69nm,20.8s,baz=343,slow=39						
JAGI	**Jajag, Banyuwa**	**8.56**	**284**	P	**Pn**	**12 06 23.3**	**-3.3**
WRA	**Warramunga Arr**	**14.67**	**131**	Pn	**Pn**	**12 07 50.8**	**+0.6**
	0.8nm,0.3s,baz=307,slow=14,SNR=35						
WRA				Sn	**Sn**	**12 10 28.2**	**-3.5**
	1.5nm,0.3s,baz=301,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.91**	**142**	Pn	**P**	**12 08 22.4**	**+1.4**
	0.9nm,0.3s,baz=323,slow=13,SNR=48						
ASAR				Sn	**Sn**	**12 11 21.3**	**-4.9**
	0.4nm,0.3s,baz=316,slow=25,SNR=11						
STKA	**Stephens Creek**	**27.54**	**143**	P	**P**	**12 10 09.0**	**+0.3**
	1.7nm,0.8s,baz=308,slow=17,SNR=1.9						
USRK	**Ussuriysk Ar.**	**55.19**	**8**	P	**P**	**12 13 54.0**	**-0.3**
	1.2nm,0.4s,baz=198,slow=6.7,SNR=7.7						
MKAR	**Makanchi Array**	**67.50**	**331**	P	**P**	**12 15 16.9**	**-0.7**
	2.4nm,0.7s,baz=140,slow=7.5,SNR=15						
ZALV	**Zalesovo Beam**	**71.80**	**338**	P	**P**	**12 15 42.1**	**-1.8**
	0.7nm,0.3s,baz=155,slow=6.1,SNR=2.7						
LPAZ	**La Paz**	**151.28**	**158**	PKPbc	**PKPbc**	**12 24 19.8**	**+3.1**
	0.9nm,0.6s,baz=183,slow=1.6,SNR=4.0						

IDC 09 12:07:31.8±1.8, 55.93S×29.23W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.8/21, mbtmp3.9/2, Error ellipse: s-maj=79.4km s-min=44.6km az=10.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**49.38**	**307**	P	P	12 16 23.4	-0.3
	1.1nm,0.6s,baz=147,slow=7.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**73.53**	**31**	P	P	12 19 06.3	+0.1
	1.1nm,0.8s,baz=202,slow=6.9,SNR=5.9						
YKA	**Yellowknife Ar**	**135.32**	**319**	PKP	PKPdf	12 26 51.2	-0.6
	0.3nm,0.7s,baz=118,slow=1.3,SNR=3.3						
ILAR	**Eielson Array**	**149.18**	**312**	PKPbc	PKPbc	12 27 20.4	-0.2
	1.5nm,0.8s,baz=117,slow=1.4,SNR=17						
SONM	**Songino Array**	**151.87**	**88**	PKPbc	PKPbc	12 27 27.3	-0.4
	0.7nm,0.7s,baz=262,slow=2.2,SNR=3.5						

*IDC **09** 12:09:41.1±0.6, 3.69S×151.00E, h0km, mb4.2/21, mb1 4.4/22, mb1mx4.2/45, mbtmp4.2/22, ML3.8/1, MS4.1/13, Ms1 4.1/13, ms1mx4.0/22, Error ellipse: s-maj=22.3km s-min=13.7km az=98.0*

*ISCJB **09** 12:09:46.0±0.2, 3.57S±0.04×150.56E±0.05, h27km, mb4.6/77, MS4.0/11, Error ellipse: s-maj=7.6km s-min=5.7km az=31.1*

*BJI **09** 12:09:47.8, 3.50S×150.60E, h39km, mb4.7/26, mB5.0/11, Ms4.6/13, Ms7 4.4/12*

*MOS **09** 12:09:47.3±1.6, 3.53S×150.48E, h38km, mb5.1/15, Error ellipse: s-maj=13.3km s-min=7.6km az=81.6*

*GCMT **09** 12:09:48.7±0.2, 3.57S×151.13E, h16km±1km, MW5.0/104, Moment Tensor Solution. s39,c47; s104,c164; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.65±.10; Mθθ2.21±.09; Mϕϕ-1.56±.08; Mrθ0.16±.26; Mrϕ2.92±.08; Mθr-1.09±.27; Best double couple: M≈3.68000×10^16 NP1:ϕs285.00000°, δ72.00000°, λ-11.00000°. Principal axes: T 3.8340, Plg5.0000°, Azm151.0000°; N -0.3100, Plg69.0000°, Azm47.0000°; P -3.5250, Plg20.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 12:09:48.7±0.3, 3.55S×150.57E, h35km, mb4.9/51 Error ellipse: s-maj=10.6km s-min=6.5km az=120.0*

ISC 09 12:09:47.0±0.4, 3.59S±0.05×150.65E±0.08, h27km, n149, σ2.909/148, mb4.7/75, MS4.1/11, 7C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.62**	**295**	*e*Pn	**Pn**	**12 10 42.0**	**+0.6**
PMG	**Port Moresby**	**6.74**	**211**	Pn	**Pn**	**12 11 26.0**	**+1.7**
	3.1nm,0.3s,baz=48,slow=10,SNR=10.0						
PMG				LR	LR	12 14 16.5	
	comp=Z,2µm,18.5s,baz=40,slow=40						
PMG	**Port Moresby**	**6.74**	**211**	*ce*P	**Pn**	**12 11 26.8**	**+2.5**
PMG				pmax	pmax		
	comp=Z,321nm,1.7s						
PMG	**Port Moresby**	**6.74**	**211**	*e*Pn	**Pn**	**12 11 27.3**	**+3.0**
HNR	**Honiara**	**10.91**	**123**	LR	LR	12 16 15.8	
	comp=Z,2µm,21.4s,baz=298,slow=37						
CTA	**Charters Tower**	**16.95**	**194**	Pn	**Pn**	**12 13 41.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=21,slow=8.6,SNR=2.4						
CTAO	**Charters Tower**	**16.95**	**194**	*e*P	**P**	**12 13 44.9**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,47nm,1.3s						
CTAO	**Charters Tower**	**16.95**	**194**	*e*Pn	**P**	**12 13 44.9**	**+0.6**
	comp=Z,47nm,1.3s						
MTN	**Manton Dam**	**21.38**	**243**	*e*P	**P**	**12 14 33.7**	**+1.0**
	comp=Z,39nm,1.4s						
EIDS	**Eidsvold**	**21.66**	**179**	*e*P	**P**	**12 14 37.7**	**+2.1**
WRAB	**Tennant Creek**	**22.73**	**223**	*ce*P	**P**	**12 14 45.1**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,68nm,1.2s						
WRAB	**Tennant Creek**	**22.73**	**223**	*e*P	**P**	**12 14 44.1**	**-3.1**
	comp=Z,22nm,1.0s						
WB2	**Warramunga Arr**	**22.74**	**223**	*e*P	**P**	**12 14 46.5**	**-0.8**
	comp=Z,32nm,1.1s						
WRA	**Warramunga Arr**	**22.75**	**223**	P	**P**	**12 14 46.4**	**-1.0**
	comp=Z,14nm,1.1s,baz=48,slow=10,SNR=16						
WRA				LR	LR	12 24 35.9	
	comp=Z,753nm,18.2s,baz=50,slow=39						
DZM	**Mont Dzumac**	**23.93**	**142**	P	**P**	**12 14 53.4**	**-5.7**
	comp=Z,22nm,1.0s,baz=348,slow=9.1,SNR=12						
DZM				LR	LR	12 23 00.5	
	comp=Z,955nm,21.6s,baz=300,slow=34						
DZM	**Mont Dzumac**	**23.93**	**142**	*e*P	**P**	**12 14 52.8**	**-6.3**
	comp=Z,110nm,1.3s						
DZM				P	**P**	**12 14 53.4**	**-5.7**
AS01	**Alice Springs**	**25.67**	**217**	*e*P	**P**	**12 15 13.9**	**-1.0**
AS31	**Alice Springs**	**25.70**	**218**	*e*P	**P**	**12 15 14.6**	**-0.6**
	comp=Z,2.6nm,0.9s						
ASAR	**Alice Springs**	**25.70**	**218**	P	**P**	**12 15 14.2**	**-1.0**
	comp=Z,6.1nm,0.8s,baz=52,slow=8.5,SNR=22						
ASAR				LR	LR	12 26 42.7	
	comp=Z,455nm,19.6s,baz=42,slow=40						
FITZ	**Fitzroy Crossi**	**28.43**	**238**	P	**P**	**12 15 39.7**	**-0.1**
	comp=Z,5.8nm,1.1s,baz=90,slow=8.8,SNR=5.3						
FITZ	**Fitzroy Crossi**	**28.43**	**238**	*e*P	**P**	**12 15 39.7**	**-0.1**
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**29.40**	**196**	P	**P**	**12 15 44.5**	**-3.8**
	comp=Z,2.8nm,1.0s,baz=33,slow=16,SNR=2.9						
STKA				LR	LR	12 27 06.1	
	comp=Z,412nm,18.7s,baz=12,slow=36						
AFI	**Afiamalu**	**38.46**	**108**	LR	LR	12 30 38.6	
	comp=Z,237nm,18.9s,baz=286,slow=33						
MJAR	**Matsushiro Arr**	**41.58**	**345**	P	**P**	**12 17 33.6**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=165,slow=10,SNR=4.1						
URZ	**Urewera**	**42.12**	**148**	LR	LR	12 32 46.3	
	comp=Z,311nm,19.3s,baz=312,slow=33						
TJN	**Taejon**	**45.32**	**333**	*ce*P	**P**	**12 18 02.5**	**-0.3**
KSRS	**Korea Array**	**45.98**	**335**	P	**P**	**12 18 07.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=138,slow=12,SNR=3.8						
KSAR	**Wonju Array Be**	**45.98**	**335**	P	**P**	**12 18 07.2**	**-0.8**
KSAR	**Wonju Array Be**	**45.98**	**335**	P	**P**	**12 18 07.2**	**-0.8**
QIZ	**Qiongzhong**	**46.01**	**301**	P	**P**	**12 18 09.2**	**+0.6**
QIZ				S	**S**	**12 24 53.8**	**+1.4**
QIZ				LE			
	comp=Z,200nm,19.0s						
QIZ				LZ			
	comp=Z,340nm,26.2s						
USRK	**Ussuriysk Ar.**	**50.44**	**343**	P	**P**	**12 18 41.9**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=143,slow=5.0,SNR=3.0						
RAR	**Rarotonga**	**51.23**	**114**	LR	LR	12 34 56.6	
	comp=Z,58nm,21.7s,baz=276,slow=30						
RAR	**Rarotonga**	**51.23**	**114**	*e*P	**P**	**12 18 51.7**	**+3.0**
RAR				pmax	pmax		
	comp=Z,83nm,0.5s						
RAR	**Rarotonga**	**51.23**	**114**	*e*P	**P**	**12 18 51.7**	**+3.0**
	comp=Z,83nm,0.5s						
MDJ	**Mudanjiang**	**51.56**	**341**	P	**P**	**12 18 53.8**	**+3.0**
MDJ				pP	sP	12 19 03.0	+0.7
MDJ				sP	pP	12 19 06.6	+7.5
MDJ				PP	**PP**	**12 20 48.5**	**+0.1**
MDJ				S	**S**	**12 26 08.1**	**-1.7**
MDJ				PMZ			
	comp=Z,10.0nm,1.1s						
MDJ				PMZ			
	comp

TIXI	**Tiksi**	**76.43**	**353**	P		**P**	**12 21 33.3**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=135,slow=3.5,SNR=8.4							
TIXI	**Tiksi**	**76.43**	**353**	*ce*P		**P**	**12 21 35.6**	**+1.8**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.2s							
TIXI	**Tiksi**	**76.43**	**353**	*e*P		**P**	**12 21 35.8**	**+2.1**
	comp=Z,5.8nm,0.6s							
SVW2	**Sparrevohn**	**76.57**	**24**	*e*P		**P**	**12 21 36.8**	**+2.0**
	comp=Z,4.3nm,0.8s							
TT01	**Tatalina**	**77.43**	**22**	*e*P		**P**	**12 21 39.2**	**-0.3**
TTA	**Tatalina**	**77.44**	**22**	*e*P		**P**	**12 21 40.2**	**+0.4**
TTA	**Tatalina**	**77.44**	**22**	*e*P		**P**	**12 21 40.2**	**+0.4**
CNPM	**China Poot**	**77.57**	**26**	*e*P		**P**	**12 21 40.1**	**-0.3**
	comp=Z,34nm,0.9s							
MK01	**Makanchi Array**	**78.00**	**319**	*e*P		**P**	**12 21 43.1**	**0.0**
MKAR	**Makanchi Array**	**78.01**	**319**	P		**P**	**12 21 43.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=114,slow=6.8,SNR=7.8							
MAKZ	**Makanchi**	**78.22**	**319**	*e*P		**P**	**12 21 44.9**	**+0.5**
MAKZ				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MAKZ	**Makanchi**	**78.22**	**319**	*e*P		**P**	**12 21 44.9**	**+0.5**
	comp=Z,3.8nm,0.8s							
SEW	**Seward**	**78.64**	**26**	*e*P		**P**	**12 21 47.9**	**+1.5**
	comp=Z,16nm,1.1s							
ZAA0	**Zalesovo Array**	**78.97**	**327**	*e*P		**P**	**12 21 51.9**	**+3.6**
ZALV	**Zalesovo Beam**	**78.97**	**327**	P		**P**	**12 21 47.7**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=141,slow=5.5,SNR=2.4							
PMR	**Palmer**	**79.48**	**25**	*e*P		**P**	**12 21 51.6**	**+0.7**
PMR				pmax	pmax			
	comp=Z,22nm,1.4s							
PMR	**Palmer**	**79.48**	**25**	*e*P		**P**	**12 21 51.6**	**+0.7**
	comp=Z,22nm,1.4s							
TRF	**Thorofare Moun**	**79.92**	**23**	*e*P		**P**	**12 21 51.9**	**-1.6**
	comp=Z,4.0nm,0.8s							
SML	**Sawmill**	**79.92**	**25**	*e*P		**P**	**12 21 50.7**	**-2.7**
SML				pmax	pmax			
	comp=Z,20nm,0.9s							
SML	**Sawmill**	**79.92**	**25**	*e*P		**P**	**12 21 50.6**	**-2.7**
	comp=Z,20nm,0.9s							
BPAW	**Bear Paw Mtn.**	**79.97**	**22**	*e*P		**P**	**12 21 53.0**	**-0.6**
	comp=Z,9.0nm,1.2s							
SCM	**Sheep Creek Mo**	**80.36**	**25**	*e*P		**P**	**12 21 55.4**	**-0.4**
SCM				pmax	pmax			
	comp=Z,30nm,0.8s							
SCM	**Sheep Creek Mo**	**80.36**	**25**	*e*P		**P**	**12 21 55.4**	**-0.4**
	comp=Z,30nm,0.8s							
RND	**Reindeer**	**80.46**	**23**	*e*P		**P**	**12 21 55.1**	**-1.2**
RND				pmax	pmax			
	comp=Z,11nm,0.8s							
RND	**Reindeer**	**80.46**	**23**	*e*P		**P**	**12 21 55.1**	**-1.2**
	comp=Z,11nm,0.8s							
KSH	**Kashi**	**80.53**	**311**	P		**P**	**12 21 54.9**	**-2.4**
KSH				pP	pP		12 22 07.3	+1.4
KSH				PP	**PP**		**12 25 00.5**	**-0.4**
KSH				S	**S**		**12 31 53.8**	**-8.8**
KSH				SKS	**SKSac**		**12 32 06.4**	**-7.6**
KSH				SS	**SS**		**12 37 15.4**	**+0.1**
KSH				PMZ				
	comp=Z,5.0nm,0.4s							
KSH				PMZ				
	comp=Z,72nm,6.4s							
KSH				LN				
	comp=Z,320nm,13.3s							
KSH				LE				
	comp=Z,430nm,14.2s							
MLY	**Manley**	**80.54**	**22**	*e*P		**P**	**12 21 56.0**	**-0.7**
	comp=Z,7.1nm,0.9s							
MCK	**McKinley**	**80.58**	**23**	*e*P		**P**	**12 21 54.1**	**-2.8**
MCK				pmax	pmax			
	comp=Z,19nm,1.0s							
MCK	**McKinley**	**80.58**	**23**	*e*P		**P**	**12 21 54.1**	**-2.8**
	comp=Z,19nm,1.0s							
DIV	**Divide**	**80.72**	**26**	*e*P		**P**	**12 21 59.1**	**+1.4**
	comp=Z,15nm,0.8s							
KLU	**Klutina**	**80.81**	**26**	*e*P		**P**	**12 21 58.5**	**+0.2**
	comp=Z,13nm,0.8s							
RAGM	**Ragged Mountai**	**80.90**	**27**	*e*P		**P**	**12 21 58.8**	**+0.1**
	comp=Z,19nm,1.2s							
BMRM	**Bremner River**	**81.17**	**27**	*e*P		**P**	**12 22 02.7**	**+2.6**
	comp=Z,9.8nm,1.0s							
WRH	**Wood River Hil**	**81.26**	**23**	*e*P		**P**	**12 22 00.1**	**-0.4**
	comp=Z,8.2nm,1.0s							
MDM	**Murphy Dome**	**81.43**	**22**	*e*P		**P**	**12 22 02.3**	**+0.9**
	comp=Z,18nm,1.9s							
CCB	**Clear Creek Bu**	**81.45**	**23**	*e*P		**P**	**12 22 01.5**	**0.0**
	comp=Z,6.8nm,1.0s							
KURK	**Kurchatov**	**81.50**	**322**	P		**P**	**12 22 00.8**	**-1.2**
KURK	**Kurchatov**	**81.50**	**322**	P		**P**	**12 22 00.8**	**-1.2**
KURBB	**Kurchatov Arra**	**81.53**	**322**	P		**P**	**12 22 00.8**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=101,slow=4.3,SNR=4.8							
COLA	**College**	**81.54**	**22**	*i* P		**P**	**12 22 04.8**	**+2.9**
COLA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
COLA	**College**	**81.54**	**22**	*e*P		**P**	**12 22 02.0**	**+0.2**
	comp=Z,9.9nm,0.8s							
CRQM	**Cirque**	**81.75**	**27**	*e*P		**P**	**12 22 02.9**	**-0.5**
	comp=Z,8.8nm,0.8s							
COLD	**Coldfoot**	**81.83**	**20**	*e*P		**P**	**12 22 02.3**	**-1.1**
	comp=Z,5.7nm,1.2s							
ILAR	**Eielson Array**	**81.86**	**23**	P		**P**	**12 21 60.0**	**-3.6**
	comp=Z,3.4nm,1.0s,baz=247,slow=4.4,SNR=15							
ILAR	**Eielson Array**	**81.86**	**23**	P		**P**	**12 22 00.0**	**-3.6**
ILB	**Eielson Array**	**81.86**	**23**	*e*P		**P**	**12 22 03.3**	**-0.4**
AAK	**Ala-Archa**	**82.28**	**314**	*i* P		**P**	**12 22 06.7**	**+0.1**
AAK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
DOT	**Dot Lake**	**82.49**	**24**	*e*P		**P**	**12 22 06.0**	**-1.0**
	comp=Z,26nm,1.0s							
EGAK	**Eagle**	**84.10**	**24**	*e*P		**P**	**12 22 14.5**	**-0.7**
	comp=Z,6.8nm,0.9s							
NRIK	**Noril'sk**	**84.13**	**341**	P		**P**	**12 22 14.0**	**-1.3**
	comp=Z,3.0nm,0.5s,baz=180,slow=4.0,SNR=3.2							
KKAR	**Karatay Array**	**85.25**	**314**	*e*P		**P**	**12 22 21.5**	**0.0**
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KKAR	**Karatay Array**	**85.25**	**314**	*e*P		**P**	**12 22 21.5**	**0.0**
	comp=Z,3.6nm,0.8s							
MAW	**Mawson**	**85.86**	**203**	LR		LR	12 59 41.9	
	comp=Z,100nm,19.1s,baz=62,slow=35							
QSPA	**South Pole Qui**	**86.37**	**180**	*e*P		**P**	**12 22 27.4**	**+0.7**
	comp=Z,38nm,1.2s							
BVAR	**Borovoye Array**	**86.99**	**323**	P		**P**	**12 22 28.2**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=78,slow=6.6,SNR=3.4							
DLBC	**Dease Lake**	**87.45**	**31**	*e*P		**P**	**12 22 32.4**	**+0.3**
	comp=Z,9.6nm,1.3s							
ZRNK	**Zerenda**	**87.81**	**323**	*e*P		**P**	**12 22 34.3**	**+0.5**
ZRNK	**Zerenda**	**87.81**	**323**	*e*P		**P**	**12 22 34.4**	**+0.5**
	comp=Z,2.2nm,0.9s							
INK	**Inuvik**	**88.10**	**21**	*e*P		**P**	**12 22 35.3**	**+0.5**
INK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
INK	**Inuvik**	**88.10**	**21**	*e*P		**P**	**12 22 35.3**	**+0.5**
	comp=Z,6.6nm,0.9s							
HUMO	**Hull Mountain**	**89.74**	**47**	*e*P		**P**	**12 22 45.6**	**+2.4**
	comp=Z,13nm,0.9s							
K05A	**Summer Lake**	**91.27**	**47**	*e*P		**P**	**12 22 52.9**	**+2.3**
	comp=Z,16nm,0.9s							
MOD	**Modoc Plateau**	**91.66**	**48**	*e*P		**P**	**12 22 53.6**	**+1.3**
	comp=Z,16nm,1.2s							
PAHR	**Pah Rah Range**	**92.24**	**51**	*e*P		**P**	**12 22 56.9**	**+1.8**
	comp=Z,5.4nm,1.2s							
WVOR	**Wild Horse Val**	**92.92**	**48**	*e*P		**P**	**12 23 00.0**	**+1.9**
WVOR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
WVOR	**Wild Horse Val**	**92.92**	**48**	*e*P		**P**	**12 22 60.0**	**+1.9**
	comp=Z,5.2nm,0.9s							
NV01	**Mina Array Sit**	**93.02**	**52**	*e*P		**P**	**12 22 57.3**	**-1.5**
NVAR	**Mina Array Bea**	**93.02**	**52**	P		**P**	**12 22 57.6**	**-1.2**
	comp=Z,7.7nm,0.8s,baz=264,slow=6.4,SNR=14							
NVAR				LR		LR	12 58 03.7	
	comp=Z,28nm,21.2s,baz=253,slow=31							
NV11	**Mina Array Sit**	**93.14**	**52**	*e*P		**P**	**12 23 01.1**	**+1.8**
	comp=Z,4.7nm,1.1s							
DAC	**Darwin (Calif)**	**93.51**	**54**	*e*P		**P**	**12 22 59.8**	**-1.3**
DAC				pmax	pmax			
	comp=Z,8.0nm,1.1s							
DAC	**Darwin (Calif)**	**93.51**	**54**	*e*P		**P**	**12 22 59.8**	**-1.3**
	comp=Z,8.0nm,1.1s							
TPNV	**Topopah Spring**	**94.61**	**53**	*e*P		**P**	**12 23 07.8**	**+1.7**
TPNV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
TPNV	**Topopah Spring**	**94.61**	**53**	*e*P		**P**	**12 23 07.8**	**+1.7**
	comp=Z,5.8nm,0.9s							
R11A	**Troy Canyon, C**	**95.16**	**52**	*e*P		**P**	**12 23 10.8**	**+2.3**
	comp=Z,6.3nm,1.4s							
YKA	**Yellowknife Ar**	**95.36**	**28**	P		**P**	**12 23 08.1**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=273,slow=4.4,SNR=16							
YKB5	**Yellowknife Ar**	**95.36**	**28**	*e*P		**P**	**12 23 06.4**	**-2.2**
SHPR	**Sheep Range**	**95.48**	**54**	*e*P		**P**	**12 23 10.8**	**+0.7**
	comp=Z,2.6nm,0.9s							
WALA	**Waterton Lakes**	**96.26**	**41**	*e*P		**P**	**12 23 13.2**	**0.0**
	comp=Z,8.2nm,1.0s							
CCUT	**Cedar City**	**96.92**	**53**	*e*P		**P**	**12 23 18.8**	**+2.1**
	comp=Z,12nm,1.9s							
LCMT	**Little Creek M**	**97.02**	**53**	*e*P		Pdif	12 23 18.9	+1.8
	comp=Z,5.7nm,1.3s							
HVU	**Hansel Valley**	**97.28**	**49**	*e*P		Pdif	12 23 19.7	+1.5
HVU				pmax	pmax			
	comp=Z,3.0nm,0.9s							
HVU	**Hansel Valley**	**97.28**	**49**	*e*P		Pdif	12 23 19.7	+1.6
	comp=Z,3.4nm,0.9s							
KNB	**Kanab**	**97.36**	**53**	*e*P		Pdif	12 23 21.2	+2.5
KNB	**Kanab**	**97.36**	**53**	*e*P		Pdif	12 23 21.2	+2.6
BW06	**Boulder Array**	**99.61**	**47**	*e*Pdif		**Pdif**	**12 23 29.2**	**+0.5**
BW06				*e*Pdif		**Pdif**	**12 23 29.5**	**+0.9**
PD31	**Pinedale Array**	**99.61**	**47**	*e*Pdif		**Pdif**	**12 23 29.5**	**+0.9**
PDAR	**Pinedale Array**	**99.61**	**47**	P		**Pdif**	**12 23 29.5**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=250,slow=3.0,SNR=10							
PDAR				LR		LR	13 01 44.3	
	comp=Z,129nm,20.2s,baz=264,slow=31							
GERES	**GERESS Array B**	**121.90**	**328**	PKP		**PKPdf**	**12 28 42.9**	**+3.8**
	comp=Z,1.1nm,0.6s,baz=52,slow=1.6,SNR=8.1							
ESK	**Eskdalemuir**	**124.27**	**342**	*i* PKIKP		**PKPdf**	**12 28 44.8**	**+1.5**
TORD	**Torodi Ar. Bea**	**147.89**	**289**	PKPbc		**PKPbc**	**12 29 31.8**	**+1.0**
	comp=Z,7.5nm,0.7s,baz=62,slow=2.5,SNR=40							
BDFB	**Brasilia**	**153.43**	**136**	PKPbc		**PKPbc**	**12 29 44.3**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=129,slow=6.5,SNR=3.3							

IDC 09 12:15:45.2±12.0**, 16°.55S**×**179°.23W, h443**km±152km**,**
mb2.8/6, mb1 3.2/6, mb1mx3.0/33, mbtmp3.6/6, Error ellipse: s-maj=119.4km s-min=35.0km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.12**	**258**	P		P	P	12 23 12.8	-0.2
	0.2nm,0.6s,baz=96,slow=7.8,SNR=17								
ASAR	**Alice Springs**	**44.42**	**253**	P		P	P	12 23 15.2	-0.1
	1.0nm,0.5s,baz=86,slow=8.2,SNR=12								
NVAR	**Mina Array Bea**	**79.00**	**44**	P		P	P	12 27 02.9	+0.5
	0.5nm,0.6s,baz=226,slow=7.9,SNR=5.1								
ILAR	**Eielson Array**	**84.75**	**13**	P		P	P	12 27 30.7	-0.3
	0.3nm,0.6s,baz=224,slow=5.4,SNR=6.9								
TXAR	**Lajitas Array**	**85.94**	**58**	P		P	P	12 27 37.6	-0.1
	0.4nm,0.7s,baz=217,slow=6.8,SNR=6.7								
PDAR	**Pinedale Array**	**86.92**	**44**	P		P	P	12 27 41.6	-0.7
	0.2nm,0.4s,baz=201,slow=7.4,SNR=3.1								
GERES	**GERESS Array B**	**146.10**	**345**	PKPbc		PKPbc	PKPbc	12 34 34.2	-0.6
	0.6nm,0.5s,baz=79,slow=2.5,SNR=5.0								

*DDA **09** 12:20:27.5, 40°.70N×30°.67E, h7km, Md2.7*
*ISCJB **09** 12:20:28.0±0.6, 40°.70N±0°.03×30°.67E±0°.05, h5km±10km, Error ellipse: s-maj=6.0km s-min=5.0km az=21.5*
*CSEM **09** 12:20:28.1±0.2, 40°.70N×30°.68E, h2km, MD2.4, Error ellipse: s-maj=4.0km s-min=3.4km az=122.0*
*ISK **09** 12:20:32.4, 40°.50N×30°.52E, h13km, MD2.4*
ISC 09 12:20:28.2±1.0**, 40°.70N**±0°.03×**30°.66E**±0°.03**, h5**km±12km**,**
n19,σ0s62/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAHE	**Sakarya_HENDEK**	**0.21**	**43**	P		**Pg**	**Pg**	**12 20 32.4**	**0.0**
SAHE				S		**Sg**	**Sg**	**12 20 35.7**	**+0.4**
SAHE	**Sakarya_HENDEK**	**0.21**	**43**	*i* P		**Pg**	**Pg**	**12 20 32.4**	**0.0**
SAHE				*i* S		**Sg**	**Sg**	**12 20 35.7**	**+0.4**
SPNC	**Spanca-Adapaz**	**0.27**	**268**	*e*PG		**Pn**	**Pg**	**12 20 38.2**	**-0.6**
BTAS	**Taskesti**	**0.28**	**116**	P		**Pg**	**Pg**	**12 20 32.8**	**-1.0**
BTAS				S		**Sg**	**Sg**	**12 20 37.5**	**-0.1**
BTAS	**Taskesti**	**0.28**	**116**	*i* P		**Pg**	**Pg**	**12 20 32.8**	**-1.0**
BTAS				*i* S		**Sg**	**Sg**	**12 20 37.5**	**-0.1**
GULT	**Gulveren**	**0.29**	**203**	*e*PG		**Pg**	**Pg**	**12 20 34.4**	**+0.6**
GULT				*e*SG		**Sg**	**Sg**	**12 20 38.0**	**+0.4**
GULT	**Gulveren**	**0.29**	**203**	*e*Pg		**Pg**	**Pg**	**12 20 34.4**	**+0.6**
GULT				*e*Sg		**Sg**	**Sg**	**12 20 38.0**	**+0.4**
MDUB	**Mudurnu**	**0.47**	**119**	*e*PG		**Pn**	**Pg**	**12 20 43.1**	**+1.5**
KAND	**Kocaeli-Kandir**	**0.54**	**318**	P		**Pg**	**Pg**	**12 20 38.1**	**-0.4**
KAND				S		**Sg**	**Sg**	**12 20 45.5**	**+0.1**
KAND	**Kocaeli-Kandir**	**0.54**	**318**	*i* P		**Pg**	**Pg**	**12 20 38.1**	**-0.4**
KAND				*i* S		**Sg**	**Sg**	**12 20 45.5**	**+0.1**
HRT	**Hereke**	**0.77**	**280**	*e*PG		**Pn**	**Pg**	**12 20 47.1**	**+1.4**
CAVI	**Cavuskoy**	**0.80**	**232**	*e*PG		**Pb**	**Pg**	**12 20 44.0**	**-0.5**
CAVI	**Cavuskoy**	**0.80**	**232**	*e*Pg		**Pb**	**Pg**	**12 20 44.1**	**-0.5**
BORA	**Eskisehir**	**0.83**	**191**	P		**Pg**	**Pg**	**12 20 43.8**	**-0.4**
BORA				S		**Sb**	**Sb**	**12 20 56.1**	**-0.5**
BORA	**Eskisehir**	**0.83**	**191**	*i* P		**Pg**	**Pg**	**12 20 43.8**	**-0.4**
BORA				*i* S		**Sb**	**Sb**	**12 20 56.1**	**-0.5**
BCAM	**Yenicaga**	**1.07**	**83**	P		**Pb**	**Pb**	**12 20 49.1**	**-0.2**
BCAM	**Yenicaga**	**1.07**	**83**	*i* P		**Pb**	**Pb**	**12 20 49.1**	**-0.2**
TVSB	**Tavsanli**	**1.55**	**217**	*e*PN		**Pb**	**Pb**	**12 20 57.1**	**-0.3**
TVSB	**Tavsanli**	**1.55**	**217**	*e*Pn		**Pb**	**Pb**	**12 20 57.1**	**-0.3**

*ISCJB **09** 12:24:07.8±0.5, 50°.02N±0°.04×18°.51E±0°.03, h0km, Error ellipse: s-maj=5.2km s-min=2.5km az=12.0*
*IPEC **09** 12:24:08.8±0.2, 49°.98N×18°.64E, h2km±5km, ML1.7/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
*CSEM **09** 12:24:08.8±0.3, 50°.00N×18°.55E, h2km, ML2.8/9, Error ellipse: s-maj=8.4km s-min=3.7km az=5.0*
ISC 09 12:24:08.8±0.8**, 49°.95N**±0°.03×**18°.54E**±0°.02**, h0**km**, n32,**
σ0s83/52, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**246**	*e*PG		**Pb**	**Pb**	**12 24 16.0**	**-0.7**
OKC				*e*SG		**Sb**	**Sb**	**12 24 20.6**	**-1.3**
	32nm,0.4s								
OKC	**Ostrava-Krasne**	**0.28**	**246**	Pg		**Pb**	**Pb**	**12 24 16.0**	**-0.7**
OKC				Sg		**Sb**	**Sb**	**12 24 20.6**	**-1.3**
	32nm,0.4s								
MORC	**Moravsky Berou**	**0.67**	**255**	*e*Pg		**Pb**	**Pb**	**12 24 23.0**	**-0.4**
MORC				*e*Sg		**Sb**	**Sb**	**12 24 32.0**	**-1.2**
	15nm,0.3s								
OJC	**Ojcow**	**0.85**	**71**	*e*Pg		**Pg**	**Pg**	**12 24 24.0**	**-1.1**
OJC				*e*Sg		**Sg**	**Sg**	**12 24 35.9**	**-0.3**
OJC	**Ojcow**	**0.85**	**71**	*e*Pg		**Pg**	**Pg**	**12 24 24.0**	**-1.1**
OJC				*e*Sg		**Sg**	**Sg**	**12 24 35.9**	**-0.3**
LANS	**Liptovska Anna**	**1.01**	**143**	*e*Pg		**Pg**	**Pg**	**12 24 28.1**	**+0.1**
LANS				*e*Sg		**Sb**	**Sb**	**12 24 42.8**	**-0.1**
LANS	**Liptovska Anna**	**1.01**	**143**	*e*PG		**Pg**	**Pg**	**12 24 28.1**	**+0.1**
LANS				*e*SG		**Sb**	**Sb**	**12 24 42.8**	**-0.1**
NIE	**Niedzica**	**1.26**	**114**	*e*Pg		**Pg**	**Pg**	**12 24 32.8**	**-0.2**
NIE				*e*Sg		**Sn**	**Sn**	**12 24 51.6**	**+0.2**
VRAC	**Vranov**	**1.42**	**244**	*e*Pg		**Pg**	**Pg**	**12 24 36.0**	**0.0**
VRAC				*e*Sg		**Sn**	**Sn**	**12 24 55.5**	**+0.2**
	12nm,0.4s								
VYHS	**Vyhne**	**1.47**	**172**	*e*Pn		**Pn**	**Pg**	**12 24 36.5**	**-0.1**
VYHS				*e*Sn		**Sg**	**Sg**	**12 24 56.2**	**+0.1**
VYHS	**Vyhne**	**1.47**	**172**	*e*PN		**Pn**	**Pg**	**12 24 36.5**	**-0.1**
VYHS				*e*SN		**Sg**	**Sg**	**12 24 56.2**	**+0.1**
VYHS				*e*LG		Lg	Lg	12 24 57.2	
DPC	**Dobruska-Polom**	**1.48**	**286**	*e*PG		**Pb**	**Pg**	**12 24 37.6**	**+0.4**
DPC				*e*SG		**Sn**	**Sn**	**12 24 57.2**	**+0.4**
	8.7nm,0.3s								
DPC	**Dobruska-Polom**	**1.48**	**286**	Pg		**Pb**	**Pb**	**12 24 37.6**	**+0.4**
DPC				Sg		**Sn**	**Sn**	**12 24 57.2**	**+0.4**
	8.7nm,0.3s								
KRUC	**Moravsky**	**1.66**	**238**	*e*Pg		**Pb**	**Pb**	**12 24 40.2**	**0.0**
KRUC				*e*Sg		**Sg**	**Sg**	**12 25 02.8**	**+0.8**
	6.2nm,0.3s								
UPC	**Upice**	**1.71**	**290**	*e*SG		**Sg**	**Sg**	**12 25 05.5**	**+1.6**
	8.2nm,0.2s								
UPC	**Upice**	**1.71**	**290**	Sg		**Sg**	**Sg**	**12 25 05.5**	**+1.6**
	8.2nm,0.2s								
STHS	**Stebnicka Huta**	**1.84**	**106**	*e*P		**Pb**	**Pb**	**12 24 43.3**	**0.0**
STHS				pmax	pmax				
	comp=N,11nm,0.5s								
STHS	**Stebnicka Huta**	**1.84**	**106**	*e*Pn		**Pb**	**Pb**	**12 24 43.3**	**0.0**
STHS	**Stebnicka Huta**	**1.84**	**106**	*e*PN		**Pb**	**Pb**	**12 24 43.2**	**0.0**
STHS				*e*SN		**Sg**	**Sg**	**12 25 09.9**	**+2.1**
STHS				*e*LG		Lg	Lg	12 25 16.3	
KECS	**Kecovo**	**1.95**	**138**	*e*P		**Pg**	**Pg**	**12 24 47.3**	**+1.2**
KECS				pmax	pmax				
	comp=N,3.0nm,0.4s								
KECS	**Kecovo**	**1.95**	**138**	*e*Pn		**Pg**	**Pg**	**12 24 47.3**	**+1.2**
KECS				*e*Sn		**Sg**	**Sg**	**12 25 11.2**	**-0.1**
KECS	**Kecovo**	**1.95**	**138**	*e*PN		**Pg**	**Pg**	**12 24 47.3**	**+1.2**
KECS				*e*SN		**Sg**	**Sg**	**12 25 11.2**	**-0.1**
KECS				*e*LG		Lg	Lg	12 25 13.1	
GOPC	**GO Pecny, Ondr**	**2.42**	**270**	*e*PG		**Pb**	**Pb**	**12 24 53.5**	**+0.2**
GOPC				*e*SG		**Sg**	**Sg**	**12 25 26.5**	**-0.2**
	comp=N,2.9nm,0.2s								
GOPC	**GO Pecny, Ondr**	**2.42**	**270**	Pg		**Pb**	**Pb**	**12 24 53.5**	**+0.2**
GOPC				Sg		**Sg**	**Sg**	**12 25 26.5**	**-0.2**
	comp=N,2.9nm,0.2s								
PRU	**Pruhonice**	**2.58**	**272**	*e*SG		**Sg**	**Sg**	**12 25 30.9**	**-0.8**
	comp=N,3.7nm,0.3s								
PRU	**Pruhonice**	**2.58**	**272**	Sg		**Sg**	**Sg**	**12 25 30.9**	**-0.8**
	comp=N,3.7nm,0.3s								
PVCC	**Panska Ves**	**2.61**	**284**	*e*SG		**Sg**	**Sg**	**12 25 33.2**	**+0.5**
	comp=N,7.2nm,0.2s								
PVCC	**Panska Ves**	**2.61**	**284**	Sg		**Sg**	**Sg**	**12 25 33.2**	**+0.5**
	comp=N,7.2nm,0.2s								
BRG	**Berggiesshubel**	**3.08**	**289**	PG		**Pg**	**Pg**	**12 25 09.0**	**+1.2**
BRG				SG		**Sg**	**Sg**	**12 25 47.9**	**+0.2**
	comp=N,6.0nm,0.7s								
BRG	**Berggiesshubel**	**3.08**	**289**	P		**Pg**	**Pg**	**12 25 09.0**	**+1.2**
KHC	**Kasperske Hory**	**3.33**	**258**	*e*SG		**Sg**	**Sg**	**12 25 54.4**	**-1.5**
	comp=N,3.9nm,0.3s								
KHC	**Kasperske Hory**	**3.33**	**258**	Sg		**Sg**	**Sg**	**12 25 54.4**	**-1.5**
	comp=N,3.9nm,0.3s								

*NIED **09** 12:44:00, 37°.00N×142°.10E, h26km, Mw3.8 Best double couple: M0 6.21000×10^14 NP1:φs53.00000°, δ14.00000°, λ-70.00000°. NP2:φs212.00000°, δ77.00000°, λ-95.00000°.*
*IDC **09** 12:44:06.0±1.9, 36°.96N×142°.50E, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.6/35, mbtmp3.8/8, ML3.6/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/57, Error ellipse: s-maj=47.9km s-min=20.8km az=64.0*
*ISCJB **09** 12:44:09.9±1.2, 36°.95N±0°.05×142°.27E±0°.08, h35km±11km, mb3.8/5, MS3.8/1, Error ellipse: s-maj=11.6km s-min=8.1km az=15.3*
*JMA **09** 12:44:11.3±0.2, 37°.01N×142°.12E, h37km±4km, M3.8*
ISC 09 12:44:09.0±3.6**, 36°.94N**±0°.05×**142°.25E**±0°.08**, h17**km±23km**,**
n25,σ1s68/25, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.18**	**278**	P		**Pb**	**Pb**	**12 44 30.0**	**-0.9**
JFK	**Kawauchi**	**1.18**	**292**	P		**Pb**	**Pb**	**12 44 29.8**	**-1.2**
JFK				*e*S		**Sb**	**Sb**	**12 44 43.2**	**-2.8**
JHD	**Hitachi**	**1.39**	**257**	*e*S		**Sn**	**Sn**	**12 44 49.9**	**-1.7**
JMM	**Marumori**	**1.49**	**309**	P		**Pn**	**Pn**	**12 44 34.5**	**-0.4**
JFT	**Otama**	**1.64**	**291**	P		**Pn**	**Pn**	**12 44 37.4**	**+0.4**
JFT				*e*S		**Sn**	**Sn**	**12 44 56.2**	**-1.5**
JIO	**Ouri**	**1.68**	**335**	P		**Pn**	**Pn**	**12 44 37.3**	**-0.2**
JIO				*e*S		**Sn**	**Sn**	**12 44 56.0**	**-2.6**
JOU	**Okura**	**1.90**	**319**	P

PB11 eS Sn 12 45 58.8 +1.2
PB11 IAML 12 45 59.6
comp=E,3µm,0.2s
PB09 IPOC Station P 1.41 196 eP Pn 12 45 45.8 +0.9
PSGC Pisagua 1.48 304⇑eP Pn 12 45 45.8 +0.2
PSGC eS Sn 12 46 06.9 +0.8
MNMC Minye Minye 1.49 331⇑eP Pn 12 45 46.7 +0.7
MNMC eS Sn 12 46 08.1 +1.4
MNMC IAML 12 46 09.5
comp=E,571nm,0.5s
PB07 IPOC Station P 1.62 217 eP Pn 12 45 47.5 +0.2
PB07 eS Sn 12 46 09.5 +0.2
PB13 IPOC Station P 2.19 343⇑iP Pn 12 45 56.2 +1.3
PB13 IAML 12 46 27.8
comp=N,517nm,0.4s
PB12 IPOC Station P 2.30 322⇓eP Pn 12 45 55.3 -0.5

NIED 09 12:49:00,37.°30N×142.°30E, h5km, Mw3.5 Best double couple: M0 1.83000×10^14 NP1:φs112.00000°,δ38.00000°, λ77.00000°. NP2:φs309.00000°,δ53.00000°,λ100.00000°.
IDC 09 12:49:34.0±7.2,37.°01N×142.°43E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.2/3, ML3.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/29, Error ellipse: s-maj=152.1km s-min=45.8km az=26.0
ISCJB 09 12:49:34.4±1.1,37.°24N±0.°05×142.°26E±0.°08, h21km, mb3.5/2, MS3.7/1, Error ellipse: s-maj=9.8km s-min=7.8km az=172.3
JMA 09 12:49:35.1±0.2,37.°29N×142.°26E, h24km±5km, M3.5
ISC 09 12:49:35.7±1.6,37.°30N±0.°07×142.°3E±0.°1, h21km, n12, σ0.°95/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**1.29**	**296**	P	**Pn**	**12 49 57.9**	**-0.6**
JMM				eS	**Sn**	**12 50 14.5**	**-0.7**
JIO	**Ouri**	**1.36**	**328**	P	**Pn**	**12 49 58.9**	**-0.5**
JIO				eS	**Sn**	**12 50 16.2**	**-0.6**
JFT	**Otama**	**1.55**	**279**	P	**Pn**	**12 50 02.2**	**+0.2**
JOU	**Okura**	**1.65**	**311**	eS	**Sn**	**12 50 25.1**	**+1.1**
JYK	**Kaneyama**	**2.20**	**318**	P	**Pn**	**12 50 11.8**	**+0.8**
JOM	**Ohasama**	**2.30**	**341**	P	**Pn**	**12 50 13.0**	**+0.7**
JAG	**Ashikaga**	**2.41**	**250**	P	**Pn**	**12 50 13.5**	**-0.4**
MJAR	**Matsushiro Arr**	**3.33**	**258**	Pn	**Pn**	**12 50 28.1**	**+1.6**
	1.8nm,0.3s,baz=80,slow=16,SNR=13						
MJAR				Sn	**Sn**	**12 51 04.6**	**-0.9**
	1.6nm,0.3s,baz=106,slow=12,SNR=5.5						
MAT	**Matsushiro**	**3.33**	**258**	P	**Pn**	**12 50 28.1**	**+1.5**
MAT				S	**Sn**	**12 51 05.1**	**-0.4**
ARU	**Arti**	**56.61**	**319**	LR	LR	13 24 47.9	
	comp=Z,51nm,18.1s,baz=112,slow=37						
WRA	**Warramunga Arr**	**57.42**	**189**	P	**P**	**12 59 21.8**	**-1.0**
	0.3nm,0.6s,baz=7.5,slow=7.3,SNR=6.2						
ASAR	**Alice Springs**	**61.15**	**189**	P	**P**	**12 59 49.0**	**+0.4**
	0.3nm,0.9s,baz=9.8,slow=12,SNR=3.0						

MEX 09 12:51:45.6±0.8,16.°48N×98.°44W, h22km±22km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**106**	i P	Pb	12 51 51.6	-1.0
PNIG				eS	Sb	12 51 56.1	-1.2
TLIG	**Tlapa**	**1.08**	**353**	i P	Pn	12 52 01.6	-4.0
TLIG				i S	Sb	12 52 13.9	-5.6
VHO	**Vista Hermosa**	**1.74**	**70**	eP	Pn	12 52 12.3	-2.4
VHO				i S	Sn	12 52 32.0	-4.2
MEIG	**Mezcala**	**1.83**	**322**	eP	Pn	12 52 13.5	-2.3
MEIG				i S	Sn	12 52 34.7	-3.6
CAIG	**El Cayaco**	**1.84**	**288**	eP	Pn	12 52 12.7	-3.2
CAIG				eS	Sn	12 52 35.0	-3.5
PLIG	**Platanillo**	**2.15**	**332**	eP	Pn	12 52 18.4	-1.9
PLIG				i S	Sn	12 52 43.3	-3.1
ARIG	**Puente Sto Nin**	**2.56**	**315**	eP	Pn	12 52 23.2	-2.5
ARIG				i S	Sn	12 52 53.5	-2.7

IDC 09 13:07:01.4±2.1,37.°81N×144.°67E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/49, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=49.7km s-min=32.5km az=85.0
ISCJB 09 13:07:03.7±0.8,37.°91N±0.°06×144.°53E±0.°07, h33km, mb3.5/2, Error ellipse: s-maj=8.7km s-min=7.5km az=32.3
JMA 09 13:07:06.3±0.1,37.°99N×144.°30E, h27km, M3.6
ISC 09 13:07:04.0±1.3,37.°88N±0.°06×144.°63E±0.°08, h35km, n15, σ1.°96/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.62**	**298**	P	**Pn**	**13 07 44.3**	**+0.5**
OFUJ				eS	**Sn**	**13 08 12.7**	**-1.6**
JIO	**Ouri**	**2.65**	**284**	P	**Pn**	**13 07 44.7**	**+0.5**
JIO				S	**Sn**	**13 08 12.8**	**-2.3**
JMK	**Ichinoseki**	**2.89**	**293**	P	**Pn**	**13 07 48.3**	**+0.8**
JOM	**Ohasama**	**3.06**	**302**	P	**Pn**	**13 07 50.8**	**+0.9**
JOM				S	**Sn**	**13 08 24.3**	**-1.0**
JOU	**Okura**	**3.17**	**280**	P	**Pn**	**13 07 52.3**	**+0.9**
JOU				S	**Sn**	**13 08 26.7**	**-1.2**
JANG	**Nango**	**3.48**	**317**	P	**Pn**	**13 07 57.0**	**+1.4**
JYK	**Kaneyama**	**3.51**	**289**	P	**Pn**	**13 07 57.0**	**+0.9**
JYK				S	**Sn**	**13 08 35.5**	**-1.0**
JCH	**Churui**	**4.83**	**349**	P	**Pn**	**13 08 15.0**	**+0.8**
JCH				eS	**Sn**	**13 09 06.6**	**-2.3**
JRY	**Ryogami san**	**4.95**	**250**	P	**Pn**	**13 08 16.9**	**+1.0**
JRY				eS	**Sn**	**13 09 08.7**	**-3.2**
MJAR	**Matsushiro Arr**	**5.29**	**257**	Pn	**Pn**	**13 08 21.7**	**+1.1**
	0.7nm,0.3s,baz=85,slow=14,SNR=6.4						
NEM2	**Nemuro 2**	**5.55**	**8**	P	**Pn**	**13 08 23.8**	**-0.3**
NEM2				eS	**Sn**	**13 09 23.4**	**-3.2**
JHJ	**Hachijo jima 2**	**6.17**	**221**	Pn	**Pn**	**13 08 33.4**	**+0.7**
	3.6nm,0.3s,baz=14,slow=23,SNR=7.1						
JHJ				Sn	**Sn**	**13 09 37.7**	**-4.4**
	5.1nm,0.3s,baz=72,slow=19,SNR=3.2						
ASAJ	**Asahikawa**	**6.42**	**347**	Pn	**Pn**	**13 08 38.1**	**+2.0**
	baz=153,slow=11						
WRA	**Warramunga Arr**	**58.32**	**191**	P	**P**	**13 16 56.6**	**+1.1**
	0.4nm,0.8s,baz=13,slow=7.4,SNR=3.2						
ASAR	**Alice Springs**	**62.04**	**191**	P	**P**	**13 17 24.1**	**+3.2**
	0.4nm,1.1s,baz=2.5,slow=6.5,SNR=3.0						

ISCJB 09 13:09:19.6±0.6,51.°42N±0.°03×16.°24E±0.°03, h0km, Error ellipse: s-maj=5.0km s-min=2.5km az=6.9
CSEM 09 13:09:21.5±0.4,51.°41N×16.°19E, h2km, ML3.5/9, Error ellipse: s-maj=6.2km s-min=2.8km az=2.0
IDC 09 13:09:22.3±1.3,51.°44N×16.°09E, h0km, mb1 3.6/3, mb1mx3.2/32, mbtmp3.4/3, ML2.8/3, Error ellipse: s-maj=42.9km s-min=10.6km az=117.0
WAR 09 13:09:22.2,51.°44N×16.°19E, h1km, Mw2.8
PRU 09 13:09:22.7,51.°40N×16.°18E, h0km
ISC 09 13:09:20.1±0.8,51.°49N±0.°04×16.°19E±0.°02, h0km, n42, σ1.°06/83, 7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**174**	i Pg	**Pg**	**13 09 33.4**	**+0.8**
KSP				i Sg	**Sg**	**13 09 41.5**	**+0.4**
KSP	**Ksiaz**	**0.65**	**174**⇓	iPg	**Pg**	**13 09 33.4**	**+0.8**
KSP				i Sg	**Sg**	**13 09 41.5**	**+0.4**
UPC	**Upice**	**0.99**	**187**⇓	ePG	**Pg**	**13 09 39.7**	**+0.6**
UPC				eSG	**Sg**	**13 09 51.7**	**-0.3**
	144nm,0.3s						
UPC	**Upice**	**0.99**	**187**	Pg	**Pg**	**13 09 39.7**	**+0.6**
UPC				Sg	**Sg**	**13 09 51.7**	**-0.3**
	144nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**176**	ePG	**Pg**	**13 09 42.2**	**+0.1**
DPC				eSG	**Sg**	**13 09 56.4**	**-0.5**
	33nm,0.2s						
DPC	**Dobruska-Polom**	**1.15**	**176**	Pg	**Pg**	**13 09 42.2**	**+0.1**
DPC				Sg	**Sg**	**13 09 56.4**	**-0.5**
	33nm,0.2s						
PVCC	**Panska Ves**	**1.41**	**227**⇓	ePG	**Pb**	**13 09 47.9**	**+0.6**
PVCC				eSG	**Sn**	**13 10 06.5**	**+0.2**
	201nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**227**	Pg	**Pb**	**13 09 47.9**	**+0.6**
PVCC				Sg	**Sn**	**13 10 06.5**	**+0.2**
	201nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**247**	PG	**Pg**	**13 09 50.8**	**+1.1**
BRG				SG	**Sg**	**13 10 11.1**	**+1.4**
	52nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	ePN	**Pb**	**13 09 53.5**	**-0.7**
GOPC				ePG	**Pg**	**13 09 54.8**	**-0.1**
GOPC				eSG	**Sb**	**13 10 17.9**	**+0.4**
	23nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	Pn	**Pb**	**13 09 53.5**	**-0.7**
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	Pg	**Pg**	**13 09 54.8**	**-0.1**
GOPC				Sg	**Sb**	**13 10 17.9**	**+0.4**
	23nm,0.3s						
PRU	**Pruhonice**	**1.83**	**215**⇓	ePN	**Pn**	**13 09 53.5**	**+0.6**
PRU				ePG	**Pb**	**13 09 54.8**	**+0.3**
PRU				eSG	**Sg**	**13 10 18.9**	**-0.1**
	55nm,0.6s						
PRU	**Pruhonice**	**1.83**	**215**	Pn	**Pn**	**13 09 53.5**	**+0.6**
MORC	**Moravsky Berou**	**1.92**	**153**	eSg	**Sb**	**13 10 20.1**	**-0.5**
CLL	**Collm**	**2.01**	**266**	ePn	**Pb**	**13 09 57.0**	**-0.4**
CLL				i Pg	**Pg**	**13 09 59.3**	**+0.8**
CLL				i		13 10 01.8	
CLL				eSg	**Sg**	**13 10 25.0**	**+0.5**
	comp=Z,20nm,0.4s						
CLL				LmV		13 25 00.0	
	comp=Z,100nm,18.5s						
OKC	**Ostrava-Krasne**	**2.07**	**142**⇓	ePG	**Pg**	**13 10 00.1**	**+0.3**
OKC				eSG	**Sb**	**13 10 24.9**	**0.0**
	comp=Z,38nm,0.5s						
OKC	**Ostrava-Krasne**	**2.07**	**142**	Pg	**Pg**	**13 10 00.1**	**+0.3**
OKC				Sg	**Sb**	**13 10 24.9**	**0.0**
	comp=Z,38nm,0.5s						
VRAC	**Vranov**	**2.20**	**173**	ePn	**Pn**	**13 09 58.7**	**+0.7**
TREC	**Trest**	**2.25**	**192**⇓	ePG	**Pb**	**13 10 02.4**	**+0.8**
TREC				eSG	**Sg**	**13 10 31.4**	**-0.8**
	comp=Z,29nm,0.3s						
TREC	**Trest**	**2.25**	**192**	Pg	**Pb**	**13 10 02.4**	**+0.8**
TREC				Sg	**Sg**	**13 10 31.4**	**-0.8**
	comp=Z,29nm,0.3s						
OJC	**Ojcow**	**2.62**	**118**	ePg	**Pg**	**13 10 11.0**	**+0.7**
OJC				eSn	**Sn**	**13 10 34.3**	**-1.8**
OJC				eSg	**Sg**	**13 10 45.6**	**+1.4**
OJC	**Ojcow**	**2.62**	**118**	ePg	**Pg**	**13 10 11.0**	**+0.7**
OJC				eSn	**Sn**	**13 10 34.3**	**-1.8**
OJC				eSg	**Sg**	**13 10 45.6**	**+1.4**
OJC	**Ojcow**	**2.62**	**118**	ePg	**Pg**	**13 10 11.0**	**+0.7**
OJC				eSn	**Sn**	**13 10 34.3**	**-1.8**
OJC				eSg	**Sg**	**13 10 45.6**	**+1.4**
NKC	**Novy Kostel**	**2.69**	**243**⇓	ePN	**Pn**	**13 10 05.7**	**+1.1**
NKC				ePG	**Pg**	**13 10 11.4**	**-0.2**
NKC				eSN	**Sn**	**13 10 38.2**	**+0.4**
NKC				eSG	**Sg**	**13 10 46.5**	**+0.1**
	comp=Z,43nm,0.4s						
NKC	**Novy Kostel**	**2.69**	**243**	Pn	**Pn**	**13 10 05.7**	**+1.1**
NKC	**Novy Kostel**	**2.69**	**243**	Pg	**Pg**	**13 10 11.4**	**-0.2**
NKC				Sn	**Sn**	**13 10 38.2**	**+0.4**
NKC				Sg	**Sg**	**13 10 46.5**	**+0.1**
	comp=Z,43nm,0.4s						
KHC	**Kasperske Hory**	**2.90**	**216**	ePN	**Pn**	**13 10 08.2**	**+0.7**
KHC				ePG	**Pb**	**13 10 14.2**	**+1.5**
KHC				eSN	**Sn**	**13 10 42.3**	**-0.8**
KHC				eSG	**Sg**	**13 10 52.9**	**-0.3**
	comp=Z,15nm,0.4s						
KHC	**Kasperske Hory**	**2.90**	**216**	Pn	**Pn**	**13 10 08.2**	**+0.7**
GERES	**GERESS Array B**	**3.10**	**212**	Pn	**Pn**	**13 10 11.7**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=34,slow=13,SNR=9.8						
GERES				Pg	**Pb**	**13 10 17.4**	**+1.3**
	comp=Z,4.5nm,0.3s,baz=30,slow=18,SNR=39						
GERES				Lg	Lg	13 10 56.8	
	comp=Z,6.1nm,0.3s,baz=42,slow=27,SNR=10						
LANS	**Liptovska Anna**	**3.15**	**137**	ePg	**Pg**	**13 10 20.3**	**-0.1**
LANS				eSg	**Sb**	**13 10 58.5**	**+2.6**
LANS	**Liptovska Anna**	**3.15**	**137**	e	**Pn**	**13 10 11.3**	**+0.3**
LANS	**Liptovska Anna**	**3.15**	**137**	ePG	**Pg**	**13 10 20.3**	**-0.1**
LANS				eSG	**Sb**	**13 10 58.5**	**+2.6**
VYHS	**Vyhne**	**3.45**	**149**	ePg	**Pg**	**13 10 26.4**	**+0.1**
VYHS				eSg	**Sg**	**13 11 08.9**	**-2.1**
VYHS	**Vyhne**	**3.45**	**149**	ePG	**Pg**	**13 10 26.4**	**+0.1**
VYHS				eSG	**Sg**	**13 11 08.9**	**-2.1**
VYHS				eLG	Lg	13 11 14.7	
STHS	**Stebnicka Huta**	**3.84**	**121**	ePg	**Pg**	**13 10 35.3**	**+1.6**
STHS				eSg	**Sg**	**13 11 23.7**	**+0.3**
STHS	**Stebnicka Huta**	**3.84**	**121**	ePG	**Pg**	**13 10 35.3**	**+1.6**
STHS				eSG	**Sg**	**13 11 23.7**	**+0.3**
STHS				eLG	Lg	13 11 35.6	
KECS	**Kecovo**	**4.09**	**136**	eSG	**Sb**	**13 11 24.6**	**+1.6**
KECS				eLG	Lg	13 11 36.8	
CRVS	**Cervenica-Dubn**	**4.26**	**125**	eSg	**Sg**	**13 11 38.0**	**+1.0**
CRVS	**Cervenica-Dubn**	**4.26**	**125**	eSG	**Sg**	**13 11 38.0**	**+1.0**
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**13 12 02.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=203,slow=10,SNR=4.3						
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**P**	**13 13 35.0**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=200,slow=13,SNR=5.0						

DDA 09 13:13:33.2,39.°46N×30.°10E, h7km, Md2.6
CSEM 09 13:13:33.7±0.3,39.°43N×30.°09E, h5km, MD2.2, Error ellipse: s-maj=7.9km s-min=5.5km az=157.0
ISK 09 13:13:34.2,39.°43N×29.°97E, h18km, MD2.2
ISC 09 13:13:32.9±1.6,39.°48N±0.°04×30.°05E±0.°03, h3km±13km, n21, σ1.°27/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.46**	**266**	ePG	**Pg**	**13 13 42.7**	**+1.0**
TVSB	**Tavsanli**	**0.46**	**266**	ePg	**Pg**	**13 13 42.7**	**+1.0**
BORA	**Eskisehir**	**0.50**	**38**	P	**Pg**	**13 13 43.0**	**+0.4**
BORA				S	**Sb**	**13 13 50.7**	**-1.7**
BORA	**Eskisehir**	**0.50**	**38**	i P	**Pg**	**13 13 43.0**	**+0.4**
BORA				i S	**Sb**	**13 13 50.7**	**-1.7**
GDZ	**Gediz**	**0.59**	**228**	P	**Pg**	**13 13 45.0**	**+0.7**
GDZ				S	**Sb**	**13 13 54.2**	**-0.7**
GDZ	**Gediz**	**0.59**	**228**	i P	**Pg**	**13 13 45.0**	**+0.7**
GDZ				i S	**Sb**	**13 13 54.2**	**-0.7**
ESKT	**Eskisehir**	**0.62**	**86**	i P	**Pg**	**13 13 44.8**	**0.0**
ESKT				i S	**Sb**	**13 13 54.4**	**-1.4**
SEYT	**Eskypehyr**	**0.62**	**86**	P	**Pg**	**13 13 44.8**	**0.0**
SEYT				S	**Sb**	**13 13 54.4**	**-1.3**
CAVI	**Cavuskoy**	**0.73**	**348**	ePG	**Pg**	**13 13 49.9**	**-0.4**
CAVI				eSG	**Sn**	**13 14 01.3**	**-0.8**
CAVI	**Cavuskoy**	**0.73**	**348**	ePg	**Pg**	**13 13 49.9**	**-0.4**
CAVI				eSg	**Sn**	**13 14 01.3**	**-0.8**
IZI	**Iznik**	**0.96**	**333**	ePG	**Pn**	**13 13 53.6**	**+0.2**
IZI	**Iznik**	**0.96**	**333**	ePg	**Pn**	**13 13 53.6**	**+0.2**
GULT	**Gulveren**	**1.01**	**21**	ePN	**Pn**	**13 13 56.0**	**+1.8**
GULT	**Gulveren**	**1.01**	**21**	ePn	**Pn**	**13 13 56.0**	**+1.8**
IGD	**Bursa**	**1.02**	**320**	i P	**Pg**	**13 13 53.5**	**+1.0**
IGD				i S	**Sn**	**13 14 10.2**	**+1.2**
DEMI	**Demirci**	**1.12**	**247**	P	**Pg**	**13 13 51.8**	**-2.6**
DEMI				S	**Sn**	**13 14 13.4**	**+1.6**
DEMI	**Demirci**	**1.12**	**247**	i P	**Pg**	**13 13 51.8**	**-2.6**
DEMI				i S	**Sn**	**13 14 13.3**	**+1.6**
SVRH	**Sivrihisar-ESK**	**1.14**	**91**	ePN	**Pn**	**13 13 56.7**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.14**	**91**	ePn	**Pn**	**13 13 56.7**	**+0.8**
ARMT	**Armutlu**	**1.41**	**320**	ePN	**Pn**	**13 13 59.8**	**+0.2**
ARMT	**Armutlu**	**1.41**	**320**	ePn	**Pn**	**13 13 59.8**	**+0.2**

IDC 09 13:13:55.0±3.1,6.°56S×147.°86E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/36, mbtmp3.4/4, ML3.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/18, Error ellipse: s-maj=74.7km s-min=38.7km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.92**	**194**	Pn	Pn	13 14 44.1	+1.4
	1.9nm,0.3s,baz=46,slow=8.6,SNR=13						
PMG				Sn	Sb	13 15 23.7	-0.5
	2.8nm,0.3s,baz=246,slow=20,SNR=4.6						
HNR	**Honiara**	**12.30**	**104**	LR	LR	13 20 54.9	
	comp=Z,67nm,18.9s,baz=209,slow=34						
WRA	**Warramunga Arr**	**18.70**	**223**	P	P	13 18 14.6	-0.6
	0.1nm,0.3s,baz=50,slow=11,SNR=3.6						
GUMO	**Guam**	**20.23**	**352**	LR	LR	13 24 45.6	
	comp=Z,32nm,19.1s,baz=102,slow=32						
ASAR	**Alice Springs**	**21.67**	**217**	P	P	13 18 46.8	-0.7
	0.3nm,0.4s,baz=49,slow=9.9,SNR=21						
FITZ	**Fitzroy Crossi**	**24.52**	**240**	P	P	13 19 15.8	-0.7
	1.8nm,0.5s,baz=51,slow=8.4,SNR=12						
TORD	**Torodi Ar. Bea**	**146.06**	**284**	PKPbc	PKPbc	13 33 38.1	0.0
	0.8nm,0.9s,baz=68,slow=3.4,SNR=6.0						

IDC 09 13:14:44.4±432.0,47.°41N×47.°27E, h0km, Error ellipse: s-maj=178.2km s-min=144.3km az=5.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.70**	**63**	i		14 05 20.0	
	baz=249,slow=311,SNR=1.8						
I43RU	**DUBNA INFRASON**	**11.18**	**330**	i		14 20 40.0	
	baz=141,slow=312,SNR=2.2						
I26DE	**FREYUNG INFRAS**	**22.34**	**286**	i		15 31 50.0	
	baz=80,slow=322,SNR=0.4						

IDC 09 13:21:50.8±3.4,6.°71S×148.°13E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/30, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=100.1km s-min=45.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.77**	**224**	P	P	13 26 11.7	-0.1
	0.1nm,0.3s,baz=50,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**21.71**	**218**	P	P	13 26 44.0	+0.3
	0.8nm,0.5s,baz=53,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**24.67**	**241**	P	P	13 27 12.4	-1.2
	3.5nm,0.5s,baz=53,slow=6.9,SNR=13						
TORD	**Torodi Ar. Bea**	**146.35**	**284**	PKPbc	PKPbc	13 41 35.0	+0.3
	0.7nm,0.8s,baz=62,slow=3.4,SNR=4.6						

IDC 09 13:23:53.9±3.3,6.°76S×148.°32E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=101.1km s-min=43.7km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.86**	**225**	P	Pn	13 28 17.1	+0.8
	0.1nm,0.3s,baz=51,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**21.78**	**218**	P	P	13 28 47.5	0.0
	0.6nm,0.5s,baz=53,slow=9.1,SNR=9.5						
FITZ	**Fitzroy Crossi**	**24.81**	**241**	P	P	13 29 16.3	-1.6
	1.4nm,0.4s,baz=54,slow=7.5,SNR=8.4						
TORD	**Torodi Ar. Bea**	**146.54**	**284**	PKPbc	PKPbc	13 43 38.4	+0.1
	0.3nm,0.4s,baz=57,slow=4.4,SNR=5.7						

NIED 09 13:24:00,36.°50N×141.°00E, h5km, Mw3.4 Best double couple: M0 1.22000×10^14 NP1:φs335.00000°,δ36.00000°, λ-126.00000°. NP2:φs197.00000°,δ61.00000°, λ-67.00000°.
JMA 09 13:24:12.0±0.1,36.°46N×140.°99E, h19km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.37**	**294**	P	Pg	13 24 19.4	-0.4
JHO				S	Sg	13 24 25.2	0.0
ONAJ	**Iwakimizuishiy**	**0.66**	**347**	P	Pb	13 24 24.4	-0.5
JYT	**Yasato**	**0.68**	**250**	P	Pb	13 24 25.0	-0.2
JYT				S	Sg	13 24 35.0	+0.4
JSB	**Shiboa**	**1.00**	**301**	P	Pb	13 24 30.8	+0.1
JFT	**Otama**	**1.18**	**334**	eS	Sn	13 24 49.6	+0.6
MAT	**Matsushiro**	**2.24**	**273**	P	Pn	13 24 49.4	+1.3
MAT				S	Sb	13 25 18.0	-1.3

ISK 09 13:26:43.5,39.°12N×29.°07E, h5km, ML3.5
DDA 09 13:26:43.8,39.°12N×29.°03E, h7km, Ml3.5
CSEM 09 13:26:44.5±0.1,39.°11N×29.°04E, h2km, ML3.5, Error ellipse: s-maj=2.9km s-min=2.8km az=104.0
THE 09 13:26:45.7,39.°07N×28.°88E, h5km±5km, ML2.9/1, Error ellipse: s-maj=5.5km s-min=1.0km az=148.0
ISC 09 13:26:44.3±1.0,39.°12N±0.°02×29.°03E±0.°02, h5km±9km, n146, σ0.°91/172, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**252**	P	**Pg**	**13 26 49.3**	**0.0**
DEMI				S	**Sg**	**13 26 53.0**	**+0.3**
DEMI	**Demirci**	**0.26**	**252**	i P	**Pg**	**13 26 49.3**	**0.0**
DEMI				i S	**Sg**	**13 26 53.0**	**+0.3**
GEDZ	**Gediz**	**0.31**	**104**	ePG	**Pg**	**13 26 50.3**	**0.0**
GEDZ				eSG	**Sg**	**13 26 54.9**	**+0.5**
GEDZ	**Gediz**	**0.31**	**104**	ePg	**Pg**	**13 26 50.3**	**0.0**
GEDZ				eSg	**Sg**	**13 26 54.9**	**+0.5**
GDZ	**Gediz**	**0.35**	**95**	P	**Pg**	**13 26 50.8**	**-0.4**
GDZ				S	**Sg**	**13 26 55.9**	**-0.1**
GDZ	**Gediz**	**0.35**	**95**	i P	**Pg**	**13 26 50.8**	**-0.4**
GDZ				i S	**Sg**	**13 26 55.9**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**46**	ePG	**Pg**	**13 26 52.9**	**-0.5**
TVSB				eSG	**Sg**	**13 26 59.8**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**46**	ePg	**Pg**	**13 26 52.9**	**-0.5**
TVSB				eSg	**Sg**	**13 26 59.8**	**+0.2**
DST	**Dursunbey**	**0.58**	**327**	ePG	**Pg**	**13 26 55.5**	**+0.1**
DST	**Dursunbey**	**0.58**	**327**	ePg	**Pg**	**13 26 55.5**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**205**	ePG	**Pg**	**13 26 56.7**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**205**	P	**Pg**	**13 26 56.5**	**-0.7**
KULA				S	**Sg**	**13 27 05.2**	**-0.7**
KULA	**Kula-Manisa**	**0.67**	**205**	P	**Pg**	**13 26 56.5**	**-0.7**
KULA	**Kula-Manisa**	**0.67**	**205**	ePg	**Pg**	**13 26 56.7**	**-0.5**
KULA				S	**Sg**	**13 27 05.2**	**-0.7**
MANT	**Manisa**	**0.73**	**210**	P	**Pg**	**13 26 57.7**	**-0.6**
MANT	**Manisa**	**0.73**	**210**	i P	**Pg**	**13 26 57.7**	**-0.6**
KHAL	**Karahalli**	**0.83**	**154**	P	**Pg**	**13 26 59.8**	**-0.5**
KHAL				S	**Sg**	**13 27 10.6**	**-0.6**
KHAL	**Karahalli**	**0.83**	**154**	i P	**Pg**	**13 26 59.8**	**-0.5**
KHAL				i S	**Sg**	**13 27 10.6**	**-0.6**
KHL	**Karahalli**	**0.89**	**154**	ePG	**Pg**	**13 27 01.5**	**+0.1**
KHL	**Karahalli**	**0.89**	**154**	ePg	**Pg**	**13 27 01.5**	**+0.1**
AKS	**Akhisar**	**0.98**	**256**	ePG	**Pg**	**13 27 03.1**	**0.0**
AKS	**Akhisar**	**0.98**	**256**	ePg	**Pg**	**13 27 03.1**	**0.0**
BALB	**Balikesir**	**1.03**	**301**	ePG	**Pb**	**13 27 04.8**	**+0.2**
BALB	**Balikesir**	**1.03**	**301**	ePg	**Pb**	**13 27 04.8**	**+0.2**
IGD	**Bursa**	**1.15**	**7**	i P	**Pb**	**13 27 04.8**	**-1.5**
IGD				i S	**Sb**	**13 27 22.2**	**+0.4**
CAVI	**Cavuskoy**	**1.25**	**30**	ePN	**Pg**	**13 27 08.1**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**30**	ePn	**Pg**	**13 27 08.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	ePN	**Pg**	**13 27 08.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	ePn	**Pg**	**13 27 08.6**	**+0.3**
BALY	**Balya**	**1.25**	**300**	P	**Pg**	**13 27 08.0**	**-0.4**
BALY	**Balya**	**1.25**	**300**	i P	**Pg**	**13 27 08.0**	**-0.4**
KCTX	**Karacabey (Bur**	**1.25**	**336**	ePN	**Pg**	**13 27 08.1**	**-0.3**
KCTX	**Karacabey (Bur**	**1.25**	**336**	ePn	**Pg**	**13 27 08.1**	**-0.3**
IZI	**Iznik**	**1.26**	**16**	ePN	**Pg**	**13 27 08.7**	**+0.2**
IZI	**Iznik**	**1.26**	**16**	ePn	**Pg**	**13 27 08.7**	**+0.2**
GEMT	**Gemlik**	**1.32**	**5**	ePN	**Pg**	**13 27 10.2**	**+0.6**
GEMT	**Gemlik**	**1.32**	**5**	ePn	**Pg**	**13 27 10.2**	**+0.6**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pn**	**13 27 08.7**	**-1.0**
BORA				S	**Sg**	**13 27 27.1**	**-0.2**
BORA	**Eskisehir**	**1.34**	**55**	i P	**Pn**	**13 27 08.7**	**-1.0**
BORA				i S	**Sg**	**13 27 27.1**	**-0.2**
DENT	**Denizli**	**1.36**	**180**	ePN	**Pb**	**13 27 10.4**	**0.0**
DENT	**Denizli**	**1.36**	**180**	ePn	**Pb**	**13 27 10.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.39**	**312**	ePN	**Pg**	**13 27 11.6**	**+0.7**
GONE	**Gonen-Balikesi**	**1.39**	**312**	ePn	**Pg**	**13 27 11.6**	**+0.7**
ADVT	**Abdulvahap**	**1.42**	**22**	ePN	**Pb**	**13 27 11.3**	**0.0**
ADVT	**Abdulvahap**	**1.42**	**22**	ePn	**Pb**	**13 27 11.3**	**0.0**
DNZL	**Cakiroluk**	**1.43**	**179**	P	**Pn**	**13 27 11.4**	**+0.3**
DNZL				S	**Sn**	**13 27 30.6**	**+0.3**
DNZL	**Cakiroluk**	**1.43**	**179**	i P	**Pn**	**13 27 11.3**	**+0.3**
DNZL				i S	**Sn**	**13 27 30.6**	**+0.3**
ARMT	**Armutlu**	**1.45**	**355**	ePN	**Pn**	**13 27 11.2**	**0.0**
ARMT	**Armutlu**	**1.45**	**355**	ePn	**Pn**	**13 27 11.2**	**0.0**
ESKT	**Eskisehir**	**1.47**	**74**	ePN	**Pn**	**13 27 11.9**	**+0.4**
ESKT	**Eskisehir**	**1.47**	**74**	ePn	**Pn**	**13 27 11.9**	**+0.4**
ESKT	**Eskisehir**	**1.47**	**74**	i P	**Pn**	**13 27 11.1**	**-0.5**
SEYT	**Eskypehyr**	**1.47**	**74**	P	**Pn**	**13 27 11.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**218**	ePN	**Pn**	**13 27 12.0**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**218**	ePn	**Pn**	**13 27 12.0**	**+0.4**
EDC	**Edincik**	**1.52**	**324**	ePN	**Pn**	**13 27 12.6**	**+0.5**
EDC	**Edincik**	**1.52**	**324**	ePn	**Pn**	**13 27 12.6**	**+0.5**
GPA	**Golpazari**	**1.53**	**40**	ePN	**Pb**	**13 27 13.0**	**-0.1**
GPA	**Golpazari**	**1.53**	**40**	ePn	**Pb**	**13 27 13.0**	**-0.1**
BOLV	**Bolvadin**	**1.55**	**104**	P	**Pg**	**13 27 14.4**	**+0.3**
BOLV	**Bolvadin**	**1.55**	**104**	i P	**Pg**	**13 27 14.3**	**+0.3**
IZM	**Izmir**	**1.56**	**243**	ePN	**Pn**	**13 27 13.3**	**+0.6**
IZM	**Izmir**	**1.56**	**243**	ePn	**Pn**	**13 27 13.3**	**+0.6**
KNL	**Bal¯-kesir**	**1.63**	**315**	i P	**Pn**	**13 27 13.1**	**-0.6**
KNL				i S	**Sb**	**13 27 36.7**	**+1.0**
DKL	**Dikili**	**1.65**	**269**	ePN	**Pb**	**13 27 15.2**	**+0.1**
DKL	**Dikili**	**1.65**	**269**	ePn	**Pb**	**13 27 15.3**	**+0.1**
AYDN	**Tasoluk**	**1.71**	**212**	P	**Pb**	**13 27 16.5**	**+0.2**
AYDN	**Tasoluk**	**1.71**	**212**	i P	**Pb**	**13 27 16.5**	**+0.2**
GULT	**Gulveren**	**1.74**	**41**	ePN	**Pb**	**13 27 16.4**	**-0.4**
GULT	**Gulveren**	**1.74**	**41**	ePn	**Pb**	**13 27 16.4**	**-0.4**

HRT	Hereke	1.77	16	ePN	Pn	13 27 16.4	+0.8
HRT	Hereke	1.77	16	ePn	Pn	13 27 16.4	+0.8
AYVA	Ayvalik	1.82	277	P	Pb	13 27 18.5	+0.3
AYVA	Ayvalik	1.82	277	iP	Pb	13 27 18.5	+0.3
AYVA				iS	Sg	13 27 43.5	+0.5
MRMT	Marmara Adasi	1.84	324	ePN	Pb	13 27 18.0	-0.5
MRMT	Marmara Adasi	1.84	324	ePn	Pb	13 27 18.0	-0.5
SPNC	Sapanca-Adapaz	1.85	32	ePN	Pn	13 27 17.5	+0.9
SPNC	Sapanca-Adapaz	1.85	32	ePn	Pn	13 27 17.5	+0.9
GOLH	Golhisar	1.93	167	P	Pb	13 27 20.4	+0.4
GOLH	Golhisar	1.93	167	iP	Pb	13 27 20.4	+0.4
ISK	Istanbul-Kandi	1.94	1	ePN	Pn	13 27 19.1	+1.2
ISK	Istanbul-Kandi	1.94	1	P	Pn	13 27 18.1	+0.2
ISK				S	Sb	13 27 44.8	+0.1
ISK	Istanbul-Kandi	1.94	1	P	Pn	13 27 18.1	+0.2
ISK	Istanbul-Kandi	1.94	1	ePn	Pn	13 27 19.1	+1.2
ISK				S	Sb	13 27 44.8	+0.1
SVRH	Sivrihisar-ESK	1.96	80	ePN	Pn	13 27 18.8	+0.5
SVRH	Sivrihisar-ESK	1.96	80	ePn	Pn	13 27 18.8	+0.5
DGB	˜zmir	1.99	238	iP	Pb	13 27 20.9	-0.1
GLHS	Glhisar (BURDU	2.00	169	ePN	Pn	13 27 19.7	+0.9
GLHS	Glhisar (BURDU	2.00	169	ePn	Pn	13 27 19.7	+0.9
BGKT	Bogazkoy	2.07	355	ePN	Pb	13 27 21.3	-1.0
BGKT	Bogazkoy	2.07	355	ePn	Pb	13 27 21.3	-1.0
YER	Yerkesik	2.07	197	ePN	Pn	13 27 20.7	+1.0
YER	Yerkesik	2.07	197	P	Pn	13 27 18.9	-0.8
YER	Yerkesik	2.07	197	P	Pn	13 27 18.9	-0.8
YER	Yerkesik	2.07	197	ePn	Pn	13 27 20.7	+1.0
SILT	Sile	2.08	13	ePN	Pb	13 27 21.7	-0.9
SILT	Sile	2.08	13	ePn	Pb	13 27 21.7	-0.9
KLYT	Kilyos	2.13	0	ePN	Pn	13 27 21.6	+1.1
KLYT	Kilyos	2.13	0	ePn	Pn	13 27 21.6	+1.1
MDUB	Mudurnu	2.15	50	ePN	Pn	13 27 21.7	+0.8
MDUB	Mudurnu	2.15	50	ePn	Pn	13 27 21.7	+0.8
LPK	Lapseki	2.15	306	ePN	Pn	13 27 22.2	+1.4
LPK	Lapseki	2.15	306	ePn	Pn	13 27 22.2	+1.4
CTKS	Kestanelik-??a	2.15	349	ePN	Pn	13 27 22.2	+1.5
CTKS	Kestanelik-??a	2.15	349	ePn	Pn	13 27 22.2	+1.5
KAND	Kocaeli-Kandir	2.16	24	iP	Pg	13 27 25.5	-0.3
ZEY	˜zmir	2.16	247	iP	Pb	13 27 25.0	+1.1
ZEY				iS	Sg	13 27 54.7	+0.8
EZN	Ezine	2.21	289	ePN	Pn	13 27 23.3	+1.8
EZN	Ezine	2.21	289	ePn	Pn	13 27 23.3	+1.8
SAHE	Sakarya_HENDEK	2.23	38	iP	Pg	13 27 26.2	-0.8
KIZT	Kizilcal	2.23	95	ePN	Pn	13 27 23.1	+1.0
KIZT	Kizilcal	2.23	95	ePn	Pn	13 27 23.1	+1.0
SUTC	Sutluce-Ispart	2.26	136	ePN	Pn	13 27 23.1	+0.7
SUTC	Sutluce-Ispart	2.26	136	ePn	Pn	13 27 23.1	+0.7
GELI	Tayfur-Gelibol	2.34	304	ePN	Pb	13 27 25.8	-1.2
GELI	Tayfur-Gelibol	2.34	304	ePn	Pb	13 27 25.8	-1.2
CHOS	Chios island	2.44	253	ePN	Pb	13 27 27.1	-1.6
CHOS	Chios island	2.44	253	P	Pn	13 27 23.7	-1.1
CHOS	Chios island	2.44	253	P	Pn	13 27 23.7	-1.1
CHOS	Chios island	2.44	253	ePn	Pb	13 27 27.1	-1.6
SIGR	SIGRI	2.47	273	ePN	Pn	13 27 26.9	+1.8
SIGR	SIGRI	2.47	273	ePn	Pn	13 27 26.9	+1.8
ERIK	Erikli-Kesan	2.48	309	ePN	Pn	13 27 27.4	+2.1
ERIK	Erikli-Kesan	2.48	309	ePn	Pn	13 27 27.4	+2.1
GADA	Gvkgeada	2.64	295	ePN	Pn	13 27 29.4	+1.9
GADA	Gvkgeada	2.64	295	P	Pn	13 27 25.8	-1.7
GADA	Gvkgeada	2.64	295	P	Pn	13 27 25.8	-1.7
GADA	Gvkgeada	2.64	295	ePn	Pn	13 27 29.4	+1.9
ENEZ	Enez	2.74	307	ePN	Pn	13 27 30.8	+1.9
ENEZ	Enez	2.74	307	ePn	Pn	13 27 30.8	+1.9
ALN	Alexandroupoli	2.90	309	ePN	Pn	13 27 32.9	+1.9
ALN	Alexandroupoli	2.90	309	P	Pn	13 27 30.5	-0.5
ALN	Alexandroupoli	2.90	309	P	Pn	13 27 30.5	-0.5
ALN	Alexandroupoli	2.90	309	ePn	Pn	13 27 32.9	+1.9
SMTH	Samothraki Isl	3.01	298	P	Pn	13 27 32.2	-0.5
SMTH	Samothraki Isl	3.01	298	P	Pn	13 27 32.2	-0.5
LIA	Limnos Island	3.07	286	P	Pn	13 27 32.8	-0.7
LIA	Limnos Island	3.07	286	P	Pn	13 27 32.8	-0.7
EDRB	Edirne	3.23	328	ePN	Pn	13 27 38.0	+2.4
EDRB	Edirne	3.23	328	P	Pn	13 27 35.1	-0.6
EDRB				S	Sn	13 28 14.2	-0.3
EDRB	Edirne	3.23	328	P	Pn	13 27 35.1	-0.6
EDRB	Edirne	3.23	328	ePn	Pn	13 27 38.0	+2.4
EDRB				S	Sn	13 28 14.2	-0.3
SAFT	Safranbolu	3.51	52	ePN	Pn	13 27 41.4	+1.9
SAFT	Safranbolu	3.51	52	ePn	Pn	13 27 41.4	+1.9
KAVA	Kavala	3.94	300	P	Pn	13 27 45.2	-0.2
KAVA				S	Sn	13 28 30.0	-1.9
KAVA	Kavala	3.94	300	P	Pn	13 27 45.2	-0.2
KAVA				S	Sn	13 28 30.0	-1.9

*NAO **09** 13:40:50.8±3.7, 70°.71N×6°.66W, ML3.7*
*CSEM **09** 13:40:52.6±0.3, 70°.81N×6°.78W, h10km, ML3.8, Error ellipse: s-maj=7.0km s-min=4.9km az=142.0*
*BER **09** 13:40:55.4±1.8, 70°.72N×7°.14W, h10km, ML3.8, ML3.7(NAO)*
*REY **09** 13:40:57.9, 70°.90N×9°.35W, h10km*

ISC 09 13:40:53.5±1.0, 70°.91N±0°.06×7°.02W±0°.06, h16km, n41, σ1§35/56, 2C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	Jan Mayen East	0.43	282	eP	Pb	13 41 03.7	+1.1
JNE				eS	Sb	13 41 09.4	+0.6
JNE	comp=Z,7μm,0.3s			IAML		13 41 14.4	
JNE	Jan Mayen East SNR=101	0.43	282	eP	Pb	13 41 03.7	+1.1
JNE	SNR=101			eS	Sb	13 41 09.4	+0.6
JNW	Jan Mayen West	0.48	286	⇑iP	Pb	13 41 04.4	+0.9
JNW				eS	Sb	13 41 11.4	+1.2
JNW	comp=Z,12μm,0.3s			IAML		13 41 15.3	
JNW	Jan Mayen West SNR=100	0.48	286	⇑iP	Pb	13 41 04.4	+0.9
JNW	SNR=100			eS	Sb	13 41 11.4	+1.2
JMIC	Jan Mayen	0.49	280	Pg	Pb	13 41 04.4	+0.6
JMIC				Lg	Lg	13 41 12.6	
JMIC	Jan Mayen	0.49	280	Pg	Pb	13 41 04.4	+0.6
JMIC				Lg	Lg	13 41 12.6	
JMIC	Jan Mayen SNR=100	0.49	280	Pg	Pb	13 41 04.4	+0.6
JMIC	SNR=50			Lg	Lg	13 41 12.6	
JMI	Jan Mayen	0.56	273	eP	Pg	13 41 04.9	+0.3
JMI				e		13 41 06.1	
JMI				eS	Sn	13 41 15.1	-0.6
JMI	comp=Z,3μm,0.2s			IAML		13 41 17.6	
JMI	Jan Mayen SNR=99	0.56	273	eP	Pg	13 41 04.9	+0.3
JMI	SNR=99			eS	Sn	13 41 15.1	-0.6
IGIL	Gilhagi baz=212	5.94	220	P	Pn	13 42 20.4	-0.2
IGIL	baz=212			S	Sn	13 43 27.1	-1.0
IGIL	Gilhagi	5.94	220	P	Pn	13 42 20.4	-0.2
IGIL				S	Sn	13 43 27.1	-1.0
IHED	Heoinshofoi baz=215	6.14	223	S	Sn	13 43 30.8	-2.3
IHED	Heoinshofoi	6.14	223	S	Sn	13 43 30.8	-2.3
IDIM	Dimmadals˜¡s baz=213	6.16	221	P	Pn	13 42 23.8	+0.2
IDIM	baz=213			S	Sn	13 43 32.5	-1.1
IDIM	Dimmadals˜¡s	6.16	221	P	Pn	13 42 23.8	+0.2
IDIM				S	Sn	13 43 32.5	-1.1
IGHA	Grjothals baz=212	6.20	220	P	Pn	13 42 24.5	+0.3
IGHA	baz=212			S	Sn	13 43 33.7	-1.0
IGHA	Grjothals	6.20	220	P	Pn	13 42 24.5	+0.3
IGHA				S	Sn	13 43 33.7	-1.0
IGRS	Grimsstaoir baz=209	6.27	217	S	Sn	13 43 35.6	-0.8
IGRS	Grimsstaoir	6.27	217	S	Sn	13 43 35.6	-0.8
IGRA	Granastaoir baz=215	6.34	223	S	Sn	13 43 36.1	-1.9
IGRA	Granastaoir	6.34	223	S	Sn	13 43 36.1	-1.9
IMEL	Melhnausar baz=210	6.44	218	P	Pn	13 42 29.3	+1.8
IMEL	baz=210			S	Sn	13 43 40.0	-0.5
IMEL	Melhnausar	6.44	218	P	Pn	13 42 29.3	+1.8
IMEL				S	Sn	13 43 40.0	-0.5
IHLA	Hella baz=218	6.50	226	S	Sn	13 43 40.3	-1.7
IHLA	Hella	6.50	226	S	Sn	13 43 40.3	-1.7
DAG	Danmarks Havn	6.71	337	iP	Pn	13 42 30.5	-0.6
DAG				eS	Sn	13 43 42.0	-5.1
DAG	Danmarks Havn	6.71	337	iP	Pn	13 42 30.5	-0.6
BJO	Bjornoya	8.54	53	eP	Pn	13 42 56.8	+0.6
BJO	Bjornoya SNR=47	8.54	53	eP	Pn	13 42 56.8	+0.6
HSPB	Hornsund (broa	8.66	35	eP	Pn	13 42 58.4	+0.5
HSPB	Hornsund (broa SNR=47	8.66	35	eP	Pn	13 42 58.4	+0.5
HSP	Hornsund	8.67	35	Pn	Pn	13 42 58.4	+0.4
KBS	Kingsbay	9.37	23	Pn	Pn	13 43 08.5	+1.0
KBS	Kingsbay	9.37	23	eP	Pn	13 43 08.4	+0.8
KBS	Kingsbay SNR=47	9.37	23	eP	Pn	13 43 08.4	+0.8
SPA0	Spitsbergen Ar baz=212,slow=12	9.50	30	Pn	Pn	13 43 11.0	+1.6
SPA0	Spitsbergen Ar	9.50	30	eP	Pn	13 43 10.9	+1.6
SPA0	Spitsbergen Ar SNR=47	9.50	30	eP	Pn	13 43 10.9	+1.6
ARA0	ARCESS Array S baz=289,slow=11	11.02	82	Pn	Pn	13 43 28.4	-1.8
ARA0	ARCESS Array S baz=289,slow=11	11.02	82	P	Pn	13 43 28.4	-1.8
ARA0	ARCESS Array S SNR=47	11.02	82	P	Pn	13 43 28.4	-1.8

*DDA **09** 13:44:01.9, 39°.10N×29°.04E, h7km, Md3.3*
*ISK **09** 13:44:02.1, 39°.08N×29°.05E, h5km, ML3.2*
*CSEM **09** 13:44:03.2±0.1, 39°.06N×29°.05E, h2km, MD3.3, Error ellipse: s-maj=3.7km s-min=2.9km az=124.0*
*THE **09** 13:44:04.7, 39°.02N×28°.86E, h2km±2km, Error ellipse: s-maj=4.1km s-min=1.0km az=275.0*

ISC 09 13:44:02.8±1.0, 39°.09N±0°.02×29°.04E±0°.02, h7km±9km, n105, σ0§77/120, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.26	260	P	Pg	13 44 08.0	+0.1
DEMI				S	Sg	13 44 11.6	+0.3
DEMI	Demirci	0.26	260	iP	Pg	13 44 08.0	+0.1
DEMI				iS	Sg	13 44 11.6	+0.3
GEDZ	Gediz	0.29	98	PG	Pg	13 44 08.8	+0.2
GEDZ	Gediz	0.29	98	iPg	Pg	13 44 08.8	+0.2
GDZ	Gediz	0.34	90	P	Pg	13 44 09.2	-0.4
GDZ				S	Sg	13 44 14.0	-0.2
GDZ	Gediz	0.34	90	iP	Pg	13 44 09.2	-0.4
GDZ				iS	Sg	13 44 14.0	-0.2
TVSB	Tavsanli	0.49	42	PG	Pg	13 44 11.5	-0.8
TVSB	Tavsanli	0.49	42	iPg	Pg	13 44 11.5	-0.8
KULA	Kula-Manisa	0.64	207	PG	Pg	13 44 15.1	-0.2
KULA				eSG	Sg	13 44 23.6	0.0
KULA	Kula-Manisa	0.64	207	P	Pg	13 44 15.0	-0.2
KULA				S	Sg	13 44 23.4	-0.2
KULA	Kula-Manisa	0.64	207	iPg	Pg	13 44 15.1	-0.2
KULA				S	Sg	13 44 23.4	-0.2
MANT	Manisa	0.70	212	P	Pg	13 44 16.0	-0.4
MANT				S	Sg	13 44 25.5	-0.1
MANT	Manisa	0.70	212	iP	Pg	13 44 16.0	-0.4
MANT				iS	Sg	13 44 25.4	-0.1
KHL	Karahalli	0.85	153	PG	Pb	13 44 19.8	-0.2
KHL	Karahalli	0.85	153	iPg	Pb	13 44 19.8	-0.2
AKS	Akhisar	0.98	258	PG	Pg	13 44 21.7	+0.1
AKS	Akhisar	0.98	258	iPg	Pg	13 44 21.7	+0.1
BALB	Balikesir	1.05	302	PG	Pg	13 44 23.3	+0.3
BALB	Balikesir	1.05	302	iPg	Pg	13 44 23.3	+0.3
IGD	Bursa	1.18	6	iP	Pg	13 44 23.4	-2.1
IGD				iS	Sg	13 44 40.8	-0.1
CAVI	Cavuskoy	1.27	29	PN	Pn	13 44 27.0	-0.2
CAVI	Cavuskoy	1.27	29	iPn	Pn	13 44 27.0	-0.2
BALY	Balya	1.28	301	P	Pn	13 44 26.8	-0.4
BALY	Balya	1.28	301	iP	Pn	13 44 26.8	-0.4
MDNY	Mudanya-Bursa	1.29	355	ePN	Pn	13 44 27.4	+0.1
MDNY	Mudanya-Bursa	1.29	355	ePn	Pn	13 44 27.4	+0.1
KCTX	Karacabey (Bur	1.29	336	ePN	Pg	13 44 27.9	+0.3
KCTX	Karacabey (Bur	1.29	336	ePn	Pg	13 44 27.9	+0.3
DENT	Denizli	1.33	180	ePN	Pg	13 44 29.1	+0.7
DENT	Denizli	1.33	180	ePn	Pg	13 44 29.1	+0.7
GEMT	Gemlik	1.35	5	ePN	Pg	13 44 29.7	+1.0
GEMT	Gemlik	1.35	5	ePn	Pg	13 44 29.7	+1.0
GONE	Gonen-Balikesi	1.42	313	ePN	Pn	13 44 29.2	+0.1
GONE	Gonen-Balikesi	1.42	313	ePn	Pn	13 44 29.2	+0.1
ADVT	Abdulvahap	1.45	22	ePN	Pg	13 44 31.0	+0.4
ADVT	Abdulvahap	1.45	22	ePn	Pg	13 44 31.0	+0.4
AYDB	Zeytinkoy-Aydi	1.45	219	ePN	Pg	13 44 30.9	+0.2
AYDB	Zeytinkoy-Aydi	1.45	219	ePn	Pg	13 44 30.9	+0.2
ESKT	Eskisehir	1.47	72	ePN	Pn	13 44 30.3	+0.4
ESKT	Eskisehir	1.47	72	ePn	Pn	13 44 30.3	+0.4
ARMT	Armutlu	1.48	355	ePN	Pb	13 44 31.0	+0.3
ARMT	Armutlu	1.48	355	ePn	Pb	13 44 31.0	+0.3
GPA	Golpazari	1.55	39	ePN	Pb	13 44 32.0	+0.1
GPA	Golpazari	1.55	39	ePn	Pb	13 44 32.0	+0.1
EDC	Edincik	1.55	325	ePN	Pg	13 44 32.9	+0.3
EDC	Edincik	1.55	325	ePn	Pg	13 44 32.9	+0.3
IZM	Izmir	1.55	244	ePN	Pb	13 44 32.1	+0.2
IZM	Izmir	1.55	244	ePn	Pb	13 44 32.1	+0.2
DKL	Dikili	1.66	270	ePN	Pg	13 44 35.0	+0.3
DKL	Dikili	1.66	270	ePn	Pg	13 44 35.0	+0.3
KNL	Bal˜¬kesir	1.66	316	iP	Pn	13 44 32.5	0.0
KNL				iS	Sn	13 44 53.1	-1.0
GULT	Gulveren	1.76	40	ePN	Pb	13 44 35.1	-0.4
GULT	Gulveren	1.76	40	ePn	Pb	13 44 35.1	-0.4
HRT	Hereke	1.80	15	ePN	Pb	13 44 36.2	0.0
HRT	Hereke	1.80	15	ePn	Pb	13 44 36.2	0.0
AYVA	Ayvalik	1.84	278	P	Pg	13 44 37.8	-0.2
AYVA	Ayvalik	1.84	278	iP	Pg	13 44 37.9	-0.2
SPNC	Sapanca-Adapaz	1.87	31	ePN	Pn	13 44 36.5	+1.2
SPNC	Sapanca-Adapaz	1.87	31	ePn	Pn	13 44 36.5	+1.2
MRMT	Marmara Adasi	1.88	324	ePN	Pb	13 44 37.5	0.0
MRMT	Marmara Adasi	1.88	324	ePn	Pb	13 44 37.5	0.0
SVRH	Sivrihisar-ESK	1.96	79	ePN	Pn	13 44 37.9	+1.3
SVRH	Sivrihisar-ESK	1.96	79	ePn	Pn	13 44 37.9	+1.3
ISK	Istanbul-Kandi	1.98	0	ePN	Pb	13 44 38.2	-1.0
ISK	Istanbul-Kandi	1.98	0	P	Pb	13 44 39.5	+0.4
ISK				S	Sb	13 45 05.0	+1.0
ISK	Istanbul-Kandi	1.98	0	ePn	Pb	13 44 38.2	-1.0
ISK	Istanbul-Kandi	1.98	0	P	Pb	13 44 39.5	+0.4
ISK				S	Sb	13 45 05.0	+1.0
YER	Yerkesik	2.04	197	ePN	Pb	13 44 39.4	-0.9
YER	Yerkesik	2.04	197	P	Pn	13 44 37.2	-0.5
YER	Yerkesik	2.04	197	P	Pn	13 44 37.2	-0.5
YER	Yerkesik	2.04	197	ePn	Pb	13 44 39.4	-0.9
URLA	Izmir	2.04	250	iP	Pg	13 44 42.2	+0.1
SILT	Sile	2.11	12	ePN	Pb	13 44 40.4	-1.1
SILT	Sile	2.11	12	ePn	Pb	13 44 40.4	-1.1
ZEY	˜zmir	2.16	248	iP	Pg	13 44 44.0	-0.2
KLYT	Kilyos	2.16	0	ePN	Pb	13 44 41.1	-1.2
KLYT	Kilyos	2.16	0	ePn	Pb	13 44 41.1	-1.2
CTKS	Kestanelik-??a	2.19	349	ePN	Pb	13 44 42.0	-0.7
CTKS	Kestanelik-??a	2.19	349	ePn	Pb	13 44 42.0	-0.7
KIZT	Kizilcal	2.22	94	ePN	Pn	13 44 41.3	+1.0
KIZT	Kizilcal	2.22	94	ePn	Pn	13 44 41.3	+1.0
EZN	Ezine	2.23	290	ePN	Pb	13 44 42.2	-1.1
EZN	Ezine	2.23	290	ePn	Pb	13 44 42.3	-1.1
DALY	Dalyan (Mu˜la	2.29	188	ePN	Pn	13 44 41.6	+0.6
DALY	Dalyan (Mu˜la	2.29	188	ePn	Pn	13 44 41.6	+0.6
GELI	Tayfur-Gelibol	2.37	304	ePN	Pn	13 44 44.0	+1.8
GELI	Tayfur-Gelibol	2.37	304	ePn	Pn	13 44 44.0	+1.8
CHOS	Chios island	2.44	254	ePN	Pn	13 44 44.9	+1.8
CHOS	Chios island	2.44	254	P	Pn	13 44 42.3	-0.9
CHOS	Chios island	2.44	254	P	Pn	13 44 42.3	-0.9
CHOS	Chios island	2.44	254	ePn	Pn	13 44 44.9	+1.8
BODT	Bodrum	2.44	215	ePN	Pn	13 44 44.5	+1.4
BODT	Bodrum	2.44	215	ePn	Pn	13 44 44.5	+1.4
SIGR	SIGRI	2.48	274	ePN	Pn	13 44 45.3	+1.6
SIGR	SIGRI	2.48	274	ePn	Pn	13 44 45.3	+1.6
GADA	Gvkgeada	2.66	295	ePN	Pn	13 44 47.9	+1.7
GADA	Gvkgeada	2.66	295	P	Pn	13 44 46.5	+0.3
GADA	Gvkgeada	2.66	295	P	Pn	13 44 46.5	+0.3
GADA	Gvkgeada	2.66	295	ePn	Pn	13 44 47.9	+1.7
SMTH	Samothraki Isl	3.04	298	P	Pn	13 44 51.2	-0.1
SMTH	Samothraki Isl	3.04	298	P	Pn	13 44 51.2	-0.1
EDRB	Edirne	3.27	328	P	Pn	13 44 54.2	-0.3
EDRB	Edirne	3.27	328	P	Pn	13 44 54.2	-0.3
KARP	Karpathos	3.84	204	P	Pn	13 45 02.0	-0.4
KARP				S	Sn	13 45 46.8	-1.0
KARP	Karpathos	3.84	204	P	Pn	13 45 02.0	-0.4
KARP				S	Sn	13 45 46.8	-1.0

*DDA **09** 13:53:05.2, 39°.09N×29°.05E, h7km, Md2.5*
*ISK **09** 13:53:05.8, 39°.06N×29°.17E, h5km, MD2.2*
*CSEM **09** 13:53:06.2±0.1, 39°.08N×29°.07E, h2km, MD2.5, Error ellipse: s-maj=3.6km s-min=2.6km az=117.0*

ISC 09 13:53:06.1±1.0, 39°.08N±0°.02×29°.08E±0°.02, h6km±11km, n27, σ0§56/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.28	263	P	Pg	13 53 11.4	-0.3
DEMI				S	Sg	13 53 15.1	-0.3
DEMI	Demirci	0.28	263	iP	Pg	13 53 11.4	-0.3
DEMI				iS	Sg	13 53 15.2	-0.3
GDZ	Gediz	0.32	88	P	Pg	13 53 12.7	+0.4
GDZ				S	Sg	13 53 17.5	+1.0
GDZ	Gediz	0.32	88	iP	Pg	13 53 12.7	+0.4
GDZ				iS	Sg	13 53 17.5	+1.0
TVSB	Tavsanli	0.48	39	ePG	Pg	13 53 15.5	+0.1
TVSB				eSG	Sg	13 53 20.9	-0.7
TVSB	Tavsanli	0.48	39	ePg	Pg	13 53 15.5	+0.1
TVSB				eSg	Sg	13 53 20.9	-0.7
KULA	Kula-Manisa	0.65	210	ePG	Pg	13 53 18.7	+0.1
KULA	Kula-Manisa	0.65	210	ePg	Pg	13 53 18.7	+0.1
MANT	Manisa	0.71	215	P	Pg	13 53 19.6	-0.2
MANT				S	Sg	13 53 28.9	-0.2
MANT	Manisa	0.71	215	iP	Pg	13 53 19.6	-0.2
MANT				iS	Sg	13 53 28.9	-0.2
KHAL	Karahalli	0.78	155	P	Pb	13 53 22.0	-0.1
KHAL				S	Sb	13 53 32.2	-0.7
KHAL	Karahalli	0.78	155	iP	Pb	13 53 21.9	-0.1
KHAL				iS	Sb	13 53 32.1	-0.7
KHL	Karahalli	0.83	155	ePG	Pg	13 53 22.1	+0.1
KHL	Karahalli	0.83	155	ePg	Pg	13 53 22.1	+0.1
BALB	Balikesir	1.08	302	ePN	Pn	13 53 29.0	+1.2
BALB	Balikesir	1.08	302	ePn	Pn	13 53 29.0	+1.2
IGD	Bursa	1.19	5	iP	Pg	13 53 27.5	-1.4
IGD				iS	Sg	13 53 44.1	-0.3
CAVI	Cavuskoy	1.27	28	ePN	Pn	13 53 30.3	-0.1
CAVI	Cavuskoy	1.27	28	ePn	Pn	13 53 30.3	-0.1
IZI	Iznik	1.30	14	ePN	Pb	13 53 30.9	0.0
IZI	Iznik	1.30	14	ePn	Pb	13 53 30.9	0.0
KCTX	Karacabey (Bur	1.31	335	ePN	Pg	13 53 32.1	+0.8
KCTX	Karacabey (Bur	1.31	335	ePn	Pg	13 53 32.1	+0.8
BORA	Eskisehir	1.33	53	P	Pn	13 53 31.1	-0.2
BORA				S	Sb	13 53 48.9	-0.1
BORA	Eskisehir	1.33	53	iP	Pn	13 53 31.1	-0.2
BORA				iS	Sb	13 53 48.9	-0.1
ARMT	Armutlu	1.50	354	ePN	Pg	13 53 34.9	+0.1
ARMT	Armutlu	1.50	354	ePn	Pg	13 53 34.9	+0.1

*IDC **09** 13:53:18.8±1.4, 37°.53N×143°.66E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.4/49, mbtmp3.6/5, ML3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/39, Error ellipse: s-maj=38.5km s-min=22.6km az=123.0*
*ISCJB **09** 13:53:21.2±0.9, 37°.60N±0°.05×143°.56E±0°.07, h33km, mb3.5/2, Error ellipse: s-maj=8.3km s-min=7.4km az=18.0*
*JMA **09** 13:53:22.1±0.2, 37°.65N×143°.46E, h39km, M3.4*

ISC 09 13:53:22.9±1.3, 37°.58N±0°.06×143°.55E±0°.09, h35km, n17, σ1§66/23, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.94	297	P	Pn	13 53 52.7	-0.7
JIO				S	Sn	13 54 15.2	-1.4
OFUJ	Ofunato	2.10	316	P	Pn	13 53 54.4	-1.3
JMK	Ichinoseki	2.29	307	P	Pn	13 53 57.1	-1.1
JOU	Okura	2.41	290	P	Pn	13 53 59.6	-0.3
JFT	Otama	2.55	270	P	Pn	13 54 01.9	0.0
JFT				S	Sn	13 54 31.6	-0.1
JOM	Ohasama	2.59	318	P	Pn	13 54 01.6	-0.7
JOM				S	Sn	13 54 30.7	-1.9
JYK	Kaneyama	2.84	299	P	Pn	13 54 05.9	+0.1
JYK				S	Sn	13 54 38.7	-0.2
JRG	Rokugo	2.92	309	P	Pn	13 54 07.1	+0.2
JANG	Nango	3.21	331	P	Pn	13 54 10.6	-0.2
JAG	Ashikaga	3.48	252	P	Pn	13 54 14.9	+0.4
JRY	Ryogami san	4.04	249	P	Pn	13 54 22.4	0.0
JRY				S	Sn	13 55 06.5	-2.0
MJAR	Matsushiro Arr 1.7nm,0.3s,baz=90,slow=15,SNR=19	4.39	258	Pn	Pn	13 54 28.6	+

mb1 4.1/4,mb1mx3.6/30,mbtmp4.0/4,ML3.7/1,MS3.6/1, Ms1 3.6/1,ms1mx2.6/27,Error ellipse: s-maj=71.0km s-min=38.2km az=104.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.97**	**195**	Pn	Pn	14 02 23.7	+1.6
	3.3nm,0.3s,baz=16,slow=7.5,SNR=12						
PMG				Sn	Sb	14 03 04.2	-0.1
	4.6nm,0.3s,baz=90,slow=20,SNR=6.5						
WRA	**Warramunga Arr**	**18.77**	**223**	P	P	14 05 54.6	+0.1
	0.2nm,0.3s,baz=50,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**21.74**	**217**	P	P	14 06 25.9	-0.9
	1.7nm,0.5s,baz=50,slow=9.9,SNR=11						
DZM	**Mont Dzumac**	**23.64**	**133**	LR	LR	14 14 29.8	
	comp=Z,148nm,19.3s,baz=282,slow=33						
FITZ	**Fitzroy Crossi**	**24.60**	**240**	P	P	14 06 55.3	-0.5
	4.8nm,0.4s,baz=50,slow=8.2,SNR=19						
TORD	**Torodi Ar. Bea**	**146.11**	**284**	PKPbc	PKPdf	14 21 16.4	+0.4
	1.5nm,0.9s,baz=64,slow=1.9,SNR=7.2						

IDC 09 14:03:04.0±3.2,6.51S×147.65E,h0km,mb3.7/2, mb1 3.8/4,mb1mx3.4/30,mbtmp3.6/4,ML3.2/1,MS3.2/1, Ms1 3.2/1,ms1mx2.5/34,Error ellipse: s-maj=74.6km s-min=39.7km az=99.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.92**	**189**	Pn	Pn	14 03 53.9	+2.1
	5.1nm,0.3s,baz=348,slow=14,SNR=2.9						
PMG				Sn	Sb	14 04 32.6	-0.7
	4.7nm,0.3s,baz=288,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**18.58**	**223**	P	P	14 07 22.3	-0.6
	0.1nm,0.3s,baz=51,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**21.58**	**216**	P	P	14 07 54.6	-0.9
	0.8nm,0.6s,baz=53,slow=8.9,SNR=6.5						
FITZ	**Fitzroy Crossi**	**24.36**	**240**	P	P	14 08 24.0	0.0
	2.7nm,0.5s,baz=60,slow=11,SNR=7.4						
JHJ	**Hachijo jima 2**	**40.11**	**350**	LR	LR	14 23 18.2	
	comp=Z,36nm,21.4s,baz=266,slow=30						
TORD	**Torodi Ar. Bea**	**145.84**	**284**	PKPbc	PKPdf	14 22 45.4	-0.5
	0.5nm,0.4s,baz=64,slow=3.2,SNR=6.8						

IDC 09 14:05:03.1±2.0,62.62S×57.30W,h0km,mb3.8/1, mb1 3.8/1,mb1mx3.4/23,mbtmp3.8/1,MS3.6/1,Ms1 3.5/1, ms1mx2.8/15,Error ellipse: s-maj=196.4km s-min=67.9km az=139.0,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**43.12**	**151**	LR	LR	14 31 08.4	
	comp=Z,71nm,18.0s,baz=242,slow=36						
TORD	**Torodi Ar. Bea**	**88.19**	**57**	P	P	14 17 55.8	0.0
	0.5nm,0.8s,baz=217,slow=4.5,SNR=3.3						
ILAR	**Eielson Array**	**143.10**	**314**	PKP	PKPdf	14 24 36.6	-0.5
	0.5nm,0.9s,baz=146,slow=2.0,SNR=4.6						
BVAR	**Borovoye Array**	**151.33**	**85**	PKPbc	PKPbc	14 24 56.9	-0.4
	3.8nm,0.8s,baz=205,slow=3.0,SNR=14						
MJAR	**Matsushiro Arr**	**152.18**	**207**	PKPbc	PKPbc	14 24 59.6	-0.2
	0.5nm,0.4s,baz=169,slow=2.8,SNR=5.1						
MKAR	**Makanchi Array**	**152.40**	**106**	PKPbc	PKPbc	14 24 59.9	0.0
	1.5nm,0.7s,baz=250,slow=4.2,SNR=9.7						

*IDC **09** 14:16:20.1±3.5,35.77N×70.87E,h87km±28km,mb3.5/9, mb1 3.6/15,mb1mx3.3/60,mbtmp3.8/15,Error ellipse: s-maj=26.9km s-min=21.2km az=166.0*
*ISCJB **09** 14:16:22.0±0.8,36.09N±0.06×70.75E±0.08,h110km, mb3.6/8,Error ellipse: s-maj=9.4km s-min=8.1km az=15.2*
*NNC **09** 14:16:25.8±4.6,36.28N×70.51E,h157km±35km,mb3.4, mpv3.9,Error ellipse: s-maj=39.5km s-min=27.7km az=171.0*

ISC 09 14:16:23.7±1.0,36.13N±0.08×70.57E±0.07,h110km,n23, σ2s27/30,mb3.6/8,4C-8D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.01**	**333**	⇓P	**Pn**	**14 17 11.0**	**+1.1**
	3.0nm,0.1s						
DZET				⇓S	**Sn**	**14 17 48.4**	**+2.9**
	201nm,0.5s						
THN	**Thein Dam**	**5.63**	**129**	*e*P	Pn	14 17 34.0	-11
THN				*e*S	Sn	14 18 34.0	-14
MNAS	**Manas**	**6.52**	**13**	⇑P	**Pn**	**14 17 57.4**	**+0.2**
	5.8nm,0.8s						
MNAS				⇓S	**Sn**	**14 19 09.8**	**-0.3**
	3.5nm,0.3s						
KK31	**Karatay Array**	**6.96**	**360**	⇓P	**Pn**	**14 18 03.6**	**+0.5**
	3.5nm,0.3s,baz=185,slow=13,SNR=186						
KK31				⇓S	**Sn**	**14 19 20.9**	**+0.3**
	3.5nm,0.3s,baz=187,slow=24,SNR=3.8						
AAK	**Ala-Archa**	**7.17**	**24**	P	**Pn**	**14 18 05.5**	**-0.4**
	3.4nm,0.3s,baz=201,slow=8.9,SNR=17						
AAK				S	**Sn**	**14 19 25.0**	**-0.8**
	1.4nm,0.3s,baz=328,slow=21,SNR=6.4						
AAK	**Ala-Archa**	**7.17**	**24**	⇓P	**Pn**	**14 18 05.8**	**-0.1**
	8.6nm,0.5s						
AAK				⇑S	**Sn**	**14 19 26.3**	**+0.4**
	4.6nm,0.5s						
TKM2	**Tokmak 2**	**7.81**	**28**	⇓P	**Pn**	**14 18 14.6**	**-0.1**
	4.9nm,0.5s						
GEYT	**Alibeck**	**10.12**	**284**	P	**Pn**	**14 18 46.2**	**+0.3**
	1.1nm,0.3s,baz=117,slow=9.7,SNR=7.7						
GEYT				S	**Sn**	**14 20 34.1**	**-3.3**
	1.8nm,0.3s,baz=71,slow=9.3,SNR=5.6						
MKAR	**Makanchi Array**	**13.79**	**36**	P	**Pn**	**14 19 32.2**	**-2.1**
	0.1nm,0.3s,baz=224,slow=12,SNR=3.4						
AB31	**Akbulak array**	**15.24**	**333**	P	**Pn**	**14 19 53.3**	**+0.5**
	5.3nm,0.4s,baz=157,slow=11,SNR=221						
AB31				⇑S	**Sn**	**14 22 35.1**	**-6.1**
	2.6nm,0.7s,baz=152,slow=22,SNR=7.6						
KURBB	**Kurchatov Arra**	**15.58**	**19**	P	**P**	**14 19 59.8**	**+0.9**
	0.1nm,0.3s,baz=209,slow=10,SNR=14						
BVAR	**Borovoye Array**	**16.89**	**360**	P	**P**	**14 20 14.1**	**+0.7**
	0.5nm,0.3s,baz=179,slow=11,SNR=4.3						
AKTO	**Aktyubinsk**	**16.93**	**331**	P	**P**	**14 20 16.2**	**+2.3**
	0.5nm,0.3s,baz=145,slow=13,SNR=17						
AKTO	**Aktyubinsk**	**16.93**	**331**	⇑P	**P**	**14 20 16.6**	**+2.7**
	4.8nm,0.8s						
AKTO				⇓S	**Sn**	**14 23 17.2**	**-4.6**
	2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**20.39**	**25**	P	**P**	**14 20 51.5**	**0.0**
	1.9nm,0.3s,baz=226,slow=11,SNR=9.1						
ARU	**Arti**	**21.87**	**342**	P	**P**	**14 21 11.8**	**+4.5**
	1.4nm,0.4s,baz=154,slow=6.0,SNR=4.1						
FINES	**FINESS Array B**	**37.60**	**326**	P	**P**	**14 23 30.1**	**+2.9**
	1.7nm,0.6s,baz=125,slow=9.5,SNR=10.0						
ARCES	**ARCESS Array B**	**41.35**	**338**	P	**P**	**14 24 01.0**	**+2.6**
	2.0nm,0.7s,baz=110,slow=7.0,SNR=7.1						
TIXI	**Tiksi**	**46.24**	**22**	P	**P**	**14 24 37.7**	**+0.3**
	0.8nm,0.4s,baz=302,slow=5.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.36**	**269**	P	**P**	**14 26 54.1**	**-0.6**
	0.5nm,0.6s,baz=50,slow=6.0,SNR=4.9						
ILAR	**Eielson Array**	**75.22**	**16**	P	**P**	**14 27 53.2**	**-0.7**
	0.2nm,0.6s,baz=276,slow=2.6,SNR=4.3						
YKA	**Yellowknife Ar**	**81.62**		P	**P**	**14 28 29.1**	**0.0**
	0.6nm,0.6s,baz=352,slow=5.4,SNR=4.5						
WRA	**Warramunga Arr**	**82.09**	**122**	P	**P**	**14 28 30.2**	**-2.0**
	0.3nm,0.7s,baz=322,slow=4.3,SNR=4.6						

*IDC **09** 14:16:51.1±1.2,6.52S×147.89E,h0km,mb4.0/7, mb1 4.1/9,mb1mx3.9/36,mbtmp4.0/9,ML3.8/1,MS3.1/6, Ms1 3.1/6,ms1mx2.8/31,Error ellipse: s-maj=50.3km s-min=16.3km az=107.0*
*ISCJB **09** 14:16:55.7±0.9,6.55S±0.08×147.8E±0.2,h51km,mb3.9/8, MS3.0/4,Error ellipse: s-maj=29.8km s-min=8.8km az=12.6*
*NEIC **09** 14:16:56.1±0.9,6.56S×147.87E,h35km,mb4.2/3,Error ellipse: s-maj=34.4km s-min=11.8km az=107.0*

ISC 09 14:16:57.5±1.0,6.6S±0.1×147.9E±0.3,h51km,n17, σ0s97/14,mb3.9/8,MS3.0/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.88**	**195**	Pn	**Pn**	**14 17 41.2**	**+0.2**
	7.0nm,0.3s,baz=5.2,slow=9.8,SNR=38						
PMG				Sn	**Sn**	**14 18 15.5**	**+1.0**
	7.5nm,0.3s,baz=27,slow=14,SNR=2.7						
PMG				LR	LR	14 18 59.8	
	comp=Z,276nm,18.3s,baz=202,slow=43						
HNR	**Honiara**	**12.24**	**104**	LR	LR	14 23 37.5	
	comp=Z,56nm,19.3s,baz=250,slow=33						
WRAB	**Tennant Creek**	**18.68**	**224**	P	**P**	**14 21 12.2**	**+0.5**
	1.9nm,0.6s						
WRA	**Warramunga Arr**	**18.70**	**224**	P	**P**	**14 21 11.6**	**-0.2**
	0.3nm,0.3s,baz=49,slow=11,SNR=12						
GUMO	**Guam**	**20.29**	**351**	LR	LR	14 27 28.7	
	comp=Z,35nm,21.5s,baz=164,slow=32						
ASAR	**Alice Springs**	**21.66**	**217**	P	**P**	**14 21 43.8**	**-0.2**
	1.8nm,0.5s,baz=52,slow=8.6,SNR=49						
DZM	**Mont Dzumac**	**23.59**	**133**	LR	LR	14 29 59.7	
	comp=Z,121nm,20.0s,baz=8.5,slow=33						
FITZ	**Fitzroy Crossi**	**24.54**	**240**	P	**P**	**14 22 13.0**	**+0.4**
	10nm,0.5s,baz=51,slow=7.9,SNR=37						
FITZ				LR	LR	14 32 46.5	
	comp=Z,52nm,21.0s,baz=56,slow=39						
FITZ	**Fitzroy Crossi**	**24.54**	**240**	*e*P	**P**	**14 22 11.4**	**-1.2**
	8.0nm,0.5s						
STKA	**Stephens Creek**	**25.83**	**192**	P	**P**	**14 22 24.4**	**+0.2**
	1.8nm,0.6s,baz=344,slow=12,SNR=4.5						
KSRS	**Korea Array**	**47.64**	**338**	LR	LR	14 43 48.0	
	comp=Z,12nm,18.9s,baz=0.0,slow=34						
KLR	**Kul'dur**	**57.37**	**347**	P	**P**	**14 26 41.0**	**+0.5**
	0.9nm,0.5s,baz=218,slow=2.7,SNR=4.5						
PETK	**Petropavlovsk-**	**60.06**	**7**	P	**P**	**14 27 00.7**	**+1.6**
	1.4nm,0.6s,baz=153,slow=10.0,SNR=4.7						
CASY	**Casey**	**64.92**	**196**	*e*P	**P**	**14 27 30.0**	**-1.4**
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**78.53**	**320**	P	**P**	**14 28 52.8**	**-0.8**
	0.2nm,0.4s,baz=109,slow=6.7,SNR=2.7						
ILAR	**Eielson Array**	**85.68**	**23**	P	**P**	**14 29 29.6**	**-1.0**
	0.2nm,0.6s,baz=254,slow=4.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**146.12**	**284**	PKPbc	**PKPab**	**14 36 34.7**	**+0.9**
	1.1nm,0.4s,baz=62,slow=3.6,SNR=28						

*ISCJB **09** 14:24:58.9±0.5,41.25N±0.05×32.88E±0.03,h0km,Error ellipse: s-maj=7.2km s-min=3.4km az=1.5*
*DDA **09** 14:24:58.7,41.26N×32.86E,h7km,Md2.8,Suspected Mining explosion.*
*CSEM **09** 14:24:58.8±0.3,41.25N×32.83E,h2km,MD2.8,Error ellipse: s-maj=10.4km s-min=5.5km az=5.0,Suspected Mining explosion.*
*ISK **09** 14:24:58.1,41.15N×32.67E,h16km,ML2.2*

ISC 09 14:24:58.4±0.8,41.37N±0.05×32.83E±0.02,h0km,n17, σ0s97/27,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAFT	**Safranbolu**	**0.17**	**222**	*e*PG	**Pg**	**14 25 01.3**	**-0.3**
SAFT				*e*SG	**Sg**	**14 25 04.3**	**+0.6**
SAFT	**Safranbolu**	**0.17**	**222**	*e*Pg	**Pg**	**14 25 01.3**	**-0.3**
BTIN	**Bart¨–n**	**0.52**	**302**	P	**Pb**	**14 25 10.2**	**-0.1**
BTIN				S	**Sb**	**14 25 19.1**	**+0.7**
BTIN	**Bart¨–n**	**0.52**	**302**	*i* P	**Pb**	**14 25 10.2**	**-0.1**
BTIN				*i* S	**Sb**	**14 25 19.1**	**+0.7**
ILGA	**Ilgaz**	**0.74**	**115**	P	**Pg**	**14 25 11.9**	**-0.6**
ILGA				S	**Sg**	**14 25 21.8**	**-0.2**
ILGA	**Ilgaz**	**0.74**	**115**	*i* P	**Pg**	**14 25 11.8**	**-0.6**
ILGA				*i* S	**Sg**	**14 25 21.8**	**-0.2**
BCAM	**Yenicaga**	**0.80**	**227**	P	**Pg**	**14 25 12.9**	**-0.8**
BCAM				S	**Sg**	**14 25 23.2**	**-0.8**
BCAM	**Yenicaga**	**0.80**	**227**	*i* P	**Pg**	**14 25 12.9**	**-0.8**
BCAM				*i* S	**Sg**	**14 25 23.2**	**-0.8**
CANT	**Cankiri**	**0.96**	**142**	*e*PG	**Pg**	**14 25 15.9**	**-0.9**
KDZE	**Karadeniz Ereo**	**1.05**	**268**	*e*PG	**Pg**	**14 25 16.7**	**-1.8**
KDZE	**Karadeniz Ereo**	**1.05**	**268**	*e*Pg	**Pg**	**14 25 16.7**	**-1.8**
BZK	**Bozkurt**	**1.06**	**55**	*e*PN	**Pn**	**14 25 21.9**	**+1.5**
BZK	**Bozkurt**	**1.06**	**55**	*e*Pn	**Pn**	**14 25 22.0**	**+1.5**
BOYT	**Boyabat**	**1.56**	**87**	P	**Pb**	**14 25 28.2**	**+0.1**
BOYT				S	**Sn**	**14 25 47.1**	**-1.3**
BOYT	**Boyabat**	**1.56**	**87**	*i* P	**Pb**	**14 25 28.2**	**+0.1**
BOYT				*i* S	**Sn**	**14 25 47.1**	**-1.3**
SAHE	**Sakarya_HENDEK**	**1.58**	**252**	P	**Pb**	**14 25 28.7**	**+0.2**
SAHE	**Sakarya_HENDEK**	**1.58**	**252**	*i* P	**Pb**	**14 25 28.7**	**+0.2**
SAHE				*i* S	**Sg**	**14 25 50.8**	**+1.6**

*IDC **09** 14:32:31.8±0.8,39.18N×20.56E,h0km,mb4.0/12, mb1 4.0/18,mb1mx3.9/41,mbtmp3.9/18,ML3.7/5,MS3.1/13, Ms1 3.1/13,ms1mx2.8/48,Error ellipse: s-maj=15.9km s-min=14.2km az=51.0*
*ISCJB **09** 14:32:32.1±0.4,39.08N±0.01×20.56E±0.02,h7km±3km, mb3.9/12,MS3.0/6,Error ellipse: s-maj=3.4km s-min=1.8km az=149.7*
*PDG **09** 14:32:32.6±0.7,39.13N×20.64E,h2km±1km,ML3.8/13, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*THE **09** 14:32:32.6,39.10N×20.66E,h17km,ML3.8/9,Error ellipse: s-maj=1.0km s-min=0.5km az=41.0*
*CSEM **09** 14:32:32.6±0.1,39.09N×20.59E,h2km,ML3.6,Error ellipse: s-maj=3.7km s-min=1.9km az=54.0*
*ATH **09** 14:32:32.6,39.08N×20.64E,h8km±1km,ML3.6/16,Error ellipse: s-maj=1.5km s-min=0.6km az=246.0*
*TIR **09** 14:32:35.7±1.4,39.15N×20.62E,h2km±376km,ML3.5*
*BEO **09** 14:32:38.1±0.9,39.49N×20.24E,h0km,M3.7/6*
*SOF **09** 14:32:47.7,39.89N×21.47E,h2km,MD3.6*

ISC 09 14:32:32.8±0.9,39.10N±0.01×20.65E±0.02,h8km±6km, n325,σ1s54/382,mb4.0/12,MS3.0/6,16C-18D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKD2	**Lefkada island**	**0.31**	**179**	P	**Pg**	**14 32 39.4**	**+0.6**
LKD2				S	**Sb**	**14 32 44.5**	**-1.2**
LKD2	**Lefkada island**	**0.31**	**179**	P	**Pg**	**14 32 39.4**	**+0.6**
LKD2				S	**Sg**	**14 32 43.7**	**+0.7**
LKD2	**Lefkada island**	**0.31**	**179**	P	**Pg**	**14 32 39.5**	**+0.6**
LKD2				S	**Sg**	**14 32 43.7**	**+0.7**
LKD2				AML	AML	14 32 53.3	
	comp=N,27861μm,0.9s						
LKD2				AML	AML	14 32 56.6	
	comp=E,26907μm,0.7s						
DSL	**Palaion Diasel**	**0.35**	**84**	P	**Pg**	**14 32 39.2**	**-0.4**
DSL				S	**Sg**	**14 32 44.9**	**+0.7**
DSL	**Palaion Diasel**	**0.35**	**84**	P	**Pg**	**14 32 39.3**	**-0.4**
DSL				S	**Sg**	**14 32 44.0**	**-0.2**
DSL	**Palaion Diasel**	**0.35**	**84**	P	**Pg**	**14 32 39.1**	**-0.4**
DSL				S	**Sg**	**14 32 45.0**	**+0.9**
DSL				AML	AML	14 32 49.5	
	comp=E,15497μm,0.5s						
DSL				AML	AML	14 32 51.5	
	comp=N,23746μm,0.4s						
IGT	**Igoumenitsa**	**0.50**	**330**	P	**Pg**	**14 32 41.9**	**-0.6**
IGT				S	**Sg**	**14 32 50.0**	**+0.9**
IGT	**Igoumenitsa**	**0.50**	**330**	P	**Pg**	**14 32 41.9**	**-0.6**
IGT				S	**Sg**	**14 32 49.2**	**+0.1**
IGT	**Igoumenitsa**	**0.50**	**330**	P	**Pg**	**14 32 41.8**	**-0.7**
IGT				S	**Sb**	**14 32 50.7**	**-0.6**
IGT				AML	AML	14 32 52.7	
	comp=E,14636μm,0.4s						
IGT				AML	AML	14 32 53.8	
	comp=N,11064μm,0.4s						
JAN	**Janina**	**0.58**	**15**	P	**Pg**	**14 32 43.6**	**-0.4**
JAN				S	**Sb**	**14 32 52.8**	**-0.8**
JAN	**Janina**	**0.58**	**15**	P	**Pg**	**14 32 43.7**	**-0.3**
JAN				S	**Sb**	**14 32 52.8**	**-0.8**
JAN	**Janina**	**0.58**	**15**	AML	AML	14 32 58.3	
	comp=E,18422μm,0.5s						
SGD	**Sagiada**	**0.61**	**328**	P	**Pg**	**14 32 44.0**	**-0.6**
SGD				S	**Sb**	**14 32 53.7**	**-0.7**
SGD	**Sagiada**	**0.61**	**328**	P	**Pg**	**14 32 44.0**	**-0.6**
SGD				S	**Sb**	**14 32 53.7**	**-0.7**
SGD	**Sagiada**	**0.61**	**328**	P	**Pg**	**14 32 44.5**	**-0.1**
SGD				S	**Sb**	**14 32 54.4**	**0.0**
PDO	**Prodromos**	**0.65**	**140**	P	**Pg**	**14 32 45.0**	**-0.2**
PDO				S	**Sg**	**14 32 54.1**	**+0.4**
PDO	**Prodromos**	**0.65**	**140**	P	**Pg**	**14 32 45.0**	**-0.2**
PDO				S	**Sg**	**14 32 53.4**	**-0.3**
PDO	**Prodromos**	**0.65**	**140**	P	**Pg**	**14 32 45.7**	**+0.5**
PDO				S	**Sg**	**14 32 53.4**	**-0.3**
PDO				AML	AML	14 33 02.2	
	comp=E,11356μm,0.4s						
PDO				AML	AML	14 33 03.5	
	comp=N,12066μm,0.4s						
PVO	**Paravola**	**0.83**	**125**	P	**Pg**	**14 32 48.4**	**-0.4**
PVO	**Paravola**	**0.83**	**125**	P	**Pg**	**14 32 48.4**	**-0.4**
PVO				S	**Sg**	**14 32 59.3**	**-0.3**
PVO	**Paravola**	**0.83**	**125**	P	**Pg**	**14 32 49.0**	**+0.2**
PVO				S	**Sg**	**14 32 59.4**	**-0.3**
PVO				AML	AML	14 33 05.3	
	comp=N,11244μm,0.7s						
PVO				AML	AML	14 33 06.8	
	comp=E,15417μm,0.7s						
KEK	**Kerkira**	**0.90**	**313**	P	**Pg**	**14 32 49.3**	**-0.9**
KEK				S	**Sg**	**14 33 01.7**	**-0.2**
KEK	**Kerkira**	**0.90**	**313**	P	**Pg**	**14 32 49.4**	**-0.8**
KEK				S	**Sg**	**14 33 01.4**	**-0.5**
EVR	**Evrytania**	**0.92**	**101**	P	**Pg**	**14 32 49.6**	**-0.8**
EVR				S	**Sg**	**14 33 02.2**	**-0.1**
EVR	**Evrytania**	**0.92**	**101**	P	**Pg**	**14 32 49.7**	**-0.7**
EVR				S	**Sg**	**14 33 02.2**	**-0.1**
EVR	**Evrytania**	**0.92**	**101**	P	**Pb**	**14 32 51.1**	**+0.1**
EVR				S	**Sg**	**14 33 01.4**	**-1.0**
EVR				AML	AML	14 33 11.4	
	comp=N,6320μm,1.0s						
VLS	**Valsamata**	**0.92**	**183**	P	**Pg**	**14 32 49.6**	**-0.8**
VLS				S	**Sb**	**14 33 03.3**	**0.0**
VLS	**Valsamata**	**0.92**	**183**	P	**Pg**	**14 32 49.6**	**-0.8**
VLS				S	**Sg**	**14 33 02.0**	**-0.4**
KFL	**Anninata**	**0.99**	**174**	P	**Pg**	**14 32 50.8**	**-1.0**
KFL				S	**Sg**	**14 33 04.4**	**-0.3**
KFL	**Anninata**	**0.99**	**174**	P	**Pg**	**14 32 50.8**	**-1.0**
KFL				S	**Sg**	**14 33 04.4**	**-0.3**
KFL	**Anninata**	**0.99**	**174**	P	**Pg**	**14 32 50.7**	**-1.0**
KPRO	**Kipourio**	**1.02**	**32**	P	**Pg**	**14 32 51.7**	**-0.6**
KPRO	**Kipourio**	**1.02**	**32**	P	**Pg**	**14 32 52.1**	**-0.2**
KPRO				S	**Sg**	**14 33 05.3**	**-0.3**
KPRO	**Kipourio**	**1.02**	**32**	P	**Pg**	**14 32 52.1**	**-0.2**
KPRO				S	**Sg**	**14 33 05.3**	**-0.3**
KPRO				AML	AML	14 33 12.3	
	comp=E,16484μm,0.9s						
KPRO				AML	AML	14 33 16.5	
	comp=N,13746μm,0.8s						
AXS	**Araxos**	**1.06**	**148**	P	**Pg**	**14 32 52.1**	**-1.1**
AXS	**Araxos**	**1.06**	**148**	P	**Pg**	**14 32 52.2**	**-1.0**
AXS	**Araxos**	**1.06**	**148**	P	**Pg**	**14 32 52.2**	**-1.0**
ANX	**Ano Chora**	**1.11**	**117**	P	**Pg**	**14 32 53.0**	**-1.1**
ANX	**Ano Chora**	**1.11**	**117**	P	**Pg**	**14 32 53.0**	**-1.1**
THL	**Klokotos Trika**	**1.15**	**66**	P	**Pg**	**14 32 53.7**	**-1.2**
THL	**Klokotos Trika**	**1.15**	**66**	P	**Pg**	**14 32 54.4**	**-0.5**
PENT	**Pentalofos**	**1.16**	**19**	P	**Pn**	**14 32 55.3**	**-0.1**
PENT	**Pentalofos**	**1.16**	**19**	P	**Pn**	**14 32 55.3**	**-0.1**
PENT				S	**Sn**	**14 33 11.8**	**+0.3**
PENT	**Pentalofos**	**1.16**	**19**	P	**Pn**	**14 32 56.3**	**+0.9**
PENT				S	**Sn**	**14 33 11.8**	**+0.3**
PENT				AML	AML	14 33 19.6	
	comp=N,5880μm,0.9s						
PENT				AML	AML	14 33 19.7	
	comp=E,5077μm,0.5s						
EFP	**Efpalio**	**1.19**	**124**	P	**Pb**	**14 32 54.8**	**-0.6**
EFP	**Efpalio**	**1.19**	**124**	P	**Pb**	**14 32 54.8**	**-0.6**
RLS	**Riolos of Patr**	**1.22**	**148**	P	**Pb**	**14 32 54.7**	**-1.3**
RLS	**Riolos of Patr**	**1.22**	**148**	P	**Pb**	**14 32 54.7**	**-1.3**
RLS	**Riolos of Patr**	**1.22**	**148**	AML	AML	14 33 26.9	
	comp=E,1698μm,0.7s						
RLS				AML	AML	14 33 36.8	
	comp=N,3626μm,0.9s						
VTN	**Vitineika**	**1.25**	**160**	P	**Pn**	**14 32 55.9**	**-0.6**
VTN	**Vitineika**	**1.25**	**160**	P	**Pn**	**14 32 55.9**	**-0.6**
SERG	**Sergoula**	**1.29**	**121**	P	**Pn**	**14 32 56.4**	**-0.7**
SERG	**Sergoula**	**1.29**	**121**	P	**Pn**	**14 32 56.8**	**-0.3**
SERG				S	**Sn**	**14 33 18.2**	**+3.6**
AGG	**Agios Georgios**	**1.31**	**93**	P	**Pn**	**14 32 57.2**	**-0.1**
AGG	**Agios Georgios**	**1.31**	**93**	P	**Pb**	**14 32 57.4**	**-0.2**
AGG	**Agios Georgios**	**1.31**	**93**	P	**Pb**	**14 32 57.4**	**-0.2**
AGG				AML	AML	14 33 23.0	
	comp=N,15396μm,0.6s						
AGG				AML	AML	14 33 27.8	
	comp=E,11536μm,0.8s						
LAKA	**Lakka**	**1.34**	**129**	P	**Pn**	**14 32 57.4**	**-0.4**
LAKA	**Lakka**	**1.34**	**129**	P	**Pn**	**14 32 57.4**	**-0.4**
LAKA	**Lakka**	**1.34**	**129**	P	**Pn**	**14 32 57.1**	**-0.7**
KALE	**Kalithea**	**1.36**	**121**	P	**Pn**	**14 32 57.6**	**-0.5**
KALE	**Kalithea**	**1.36**	**121**	P	**Pn**	**14 32 58.2**	**+0.2**
KALE	**Kalithea**	**1.36**	**121**	P	**Pn**	**14 32 58.2**	**+0.2**
KALE				AML	AML	14 33 24.9	
	comp=E,2724μm,0.7s						
KALE				AML	AML	14 33 28.6	
	comp=N,5235μm,0.7s						
DRO	**Drossia**	**1.41**	**144**	P	**Pn**	**14 32 57.6**	**-1.2**
DRO				S	**Sb**	**14 33 15.2**	**-2.3**
DRO	**Drossia**	**1.41**	**144**	P	**Pn**	**14 32 57.6**	**-1.2**
DRO				S	**Sb**	**14 33 15.2**	**-2.3**
DRO	**Drossia**	**1.41**	**144**	P	**Pn**	**14 32 57.0**	**-1.8**
DRO				AML	AML	14 33 28.8	
	comp=N,4577μm,0.5s						
DRO				AML	AML	14 33 35.8	
	comp=E,3262μm,0.6s						
KZN	**Kozani**	**1.48**	**35**	P	**Pb**	**14 33 00.6**	**0.0**
KZN	**Kozani**	**1.48**	**35**	P	**Pb**	**14 33 00.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.57**	**131**	P	**Pn**	**14 33 00.7**	**-0.3**
KLV	**Kalavryta, Ach**	**1.57**	**131**	P

PLG	**Polygyros**	**2.50**	**58**	P		**Pn**	**14 33 15.2 +1.4**
AOS	**Alonnisos**	**2.51**	**87**	P		**Pn**	**14 33 15.5 +1.7**
AOS	**Alonnisos**	**2.51**	**87**	P		**Pn**	**14 33 14.9 +1.1**
AOS	**Alonnisos**	**2.51**	**87**	P		**Pn**	**14 33 14.9 +1.1**
DID	**Didima**	**2.58**	**127**	P		**Pn**	**14 33 16.6 +1.7**
DID	**Didima**	**2.58**	**127**	P		**Pn**	**14 33 16.5 +1.7**
DID	**Didima**	**2.58**	**127**	P		**Pn**	**14 33 16.4 +1.6**
KRND	**KRANIDI**	**2.61**	**130**	P		**Pn**	**14 33 17.1 +2.0**
KRND	**KRANIDI**	**2.61**	**130**	P		**Pn**	**14 33 17.1 +2.0**
KRND	**KRANIDI**	**2.61**	**130**	P		**Pb**	**14 33 19.1 -0.6**
EREA	**Eretria**	**2.65**	**104**	P		**Pb**	**14 33 18.4 -2.1**
EREA	**Eretria**	**2.65**	**104**	P		**Pb**	**14 33 18.3 -2.2**
EREA	**Eretria**	**2.65**	**104**	P		**Pb**	**14 33 18.3 -2.2**
ATH	**Athens Observa**	**2.65**	**114**	P		**Pb**	**14 33 18.6 -1.9**
ATH	**Athens Observa**	**2.65**	**114**	P		**Pb**	**14 33 18.6 -1.9**
VAY	**Valandovo**	**2.66**	**33**	*i* Pn		**Pb**	**14 33 18.7 -2.0**
VAY	**Valandovo**	**2.66**	**33**	*i* Pn		**Pb**	**14 33 18.6 -2.1**
SOH	**Sokhos**	**2.70**	**49**	P		**Pn**	**14 33 18.8 +2.3**
SOH	**Sokhos**	**2.70**	**49**	P		**Pn**	**14 33 18.8 +2.3**
SOH	**Sokhos**	**2.70**	**49**	P		**Pb**	**14 33 18.9 -2.4**
PTL	**Penteli**	**2.73**	**112**	P		**Pb**	**14 33 19.4 -2.4**
PTL	**Penteli**	**2.73**	**112**	P		**Pb**	**14 33 19.4 -2.4**
VLY	**Voula,Athens**	**2.76**	**116**	P		**Pn**	**14 33 19.4 +2.1**
VLY	**Voula,Athens**	**2.76**	**116**	P		**Pn**	**14 33 19.4 +2.1**
OUR	**Ouranopolis**	**2.85**	**63**	P		**Pn**	**14 33 20.6 +2.1**
OUR	**Ouranopolis**	**2.85**	**63**	P		**Pn**	**14 33 20.5 +2.1**
OUR	**Ouranopolis**	**2.85**	**63**	P		**Pn**	**14 33 20.5 +2.0**
SKO	**Skopje**	**2.93**	**12**	*i* Pn		**Pn**	**14 33 21.9 +2.1**
SKO	**Skopje**	**2.93**	**12**	*i* Pn		**Pn**	**14 33 21.8 +2.1**
TAR1	**Taranto**	**2.96**	**300**	*e*Pn		**Pn**	**14 33 21.8 +1.8**
VLI	**Veliai**	**2.98**	**142**	P		**Pn**	**14 33 22.2 +1.9**
VLI	**Veliai**	**2.98**	**142**	P		**Pn**	**14 33 22.2 +1.9**
SRS	**Serrai**	**3.02**	**47**	P		**Pn**	**14 33 22.8 +1.9**
SRS	**Serrai**	**3.02**	**47**	P		**Pn**	**14 33 22.8 +1.9**
TIP	**Timpagrande**	**3.03**	**273**	P		**Pn**	**14 33 22.2 +1.1**
TIP	**Timpagrande**	**3.03**	**273**	P		**Pn**	**14 33 21.7 +0.7**
TIP	**Timpagrande**	**3.03**	**273**	P		**Pn**	**14 33 21.7 +0.7**
ULC	**Ulcinj**	**3.06**	**340**	⇓*i* Pn		**Pn**	**14 33 21.6 +0.2**
ULC				*e*Sn		**Sn**	**14 33 57.8 -0.4**
ULC	**Ulcinj**	**3.06**	**340**	⇓*i* Pn		**Pn**	**14 33 21.6 +0.2**
ULC				*e*Sn		**Sn**	**14 33 57.8 -0.4**
KARY	**Karystos**	**3.15**	**109**	P		**Pn**	**14 33 24.8 +2.2**
KARY	**Karystos**	**3.15**	**109**	P		**Pn**	**14 33 24.8 +2.2**
DRME	**Dracevica, Mon**	**3.28**	**341**	⇑*i* Pn		**Pn**	**14 33 25.0 +0.5**
DRME				*e*Sn		**Sn**	**14 34 06.7 +3.0**
DRME	**Dracevica, Mon**	**3.28**	**341**	⇑*i* Pn		**Pn**	**14 33 25.0 +0.5**
DRME				*e*Sn		**Sn**	**14 34 06.7 +3.0**
KKB	**Krupnik**	**3.33**	**33**	P		**Pn**	**14 33 27.7 +2.6**
NVR	**Nevrokopi**	**3.33**	**46**	P		**Pn**	**14 33 27.3 +2.1**
NVR	**Nevrokopi**	**3.33**	**46**	P		**Pn**	**14 33 27.3 +2.1**
MMB	**Musomiste**	**3.42**	**42**	P		**Pn**	**14 33 29.0 +2.6**
BUM	**Brajici-Budva**	**3.47**	**338**	⇓*i* Pn		**Pn**	**14 33 27.4 +0.3**
BUM				*e*Sn		**Sn**	**14 34 10.9 +2.5**
BUM	**Brajici-Budva**	**3.47**	**338**	⇓*i* Pn		**Pn**	**14 33 27.4 +0.3**
BUM				*e*Sn		**Sn**	**14 34 10.9 +2.5**
PDG	**Podgorica**	**3.50**	**343**	P		**Pn**	**14 33 28.2 +0.8**
PDG	**Podgorica**	**3.50**	**343**	⇓*i* Pn		**Pn**	**14 33 27.5 +0.1**
PDG	**Podgorica**	**3.50**	**343**	P		**Pn**	**14 33 28.2 +0.8**
PDG				*e*Sn		**Sn**	**14 34 11.6 +2.7**
TTG	**Podgorica**	**3.50**	**343**	⇓*i* Pn		**Pn**	**14 33 27.5 +0.1**
TTG				*e*Sn		**Sn**	**14 34 11.6 +2.7**
SG1	**Sgolgore (BA)**	**3.52**	**301**	*e*Pn		**Pn**	**14 33 28.6 +0.9**
KAVA	**Kavala**	**3.52**	**56**	P		**Pn**	**14 33 29.1 +1.4**
KAVA	**Kavala**	**3.52**	**56**	P		**Pn**	**14 33 28.6 +0.9**
KAVA	**Kavala**	**3.52**	**56**	P		**Pn**	**14 33 28.6 +0.9**
BAI	**Bari**	**3.52**	**306**	*e*Pn		**Pn**	**14 33 29.3 +1.6**
PVY	**Plav**	**3.53**	**352**	⇑*i* Pn		**Pn**	**14 33 28.4 +0.4**
PVY				*e*Sn		**Sn**	**14 34 12.8 +2.7**
PVY	**Plav**	**3.53**	**352**	⇑*i* Pn		**Pn**	**14 33 28.4 +0.4**
PVY				*e*Sn		**Sn**	**14 34 12.8 +2.7**
LIA	**Limnos Island**	**3.59**	**76**	P		**Pn**	**14 33 30.7 +2.0**
LIA	**Limnos Island**	**3.59**	**76**	P		**Pn**	**14 33 29.6 +0.9**
CEME	**Cevo**	**3.69**	**340**	⇑*i* Pn		**Pn**	**14 33 30.1 0.0**
CEME				*e*Sn		**Sn**	**14 34 16.4 +2.6**
CEME	**Cevo**	**3.69**	**340**	⇑*i* Pn		**Pn**	**14 33 30.1 0.0**
CEME				*e*Sn		**Sn**	**14 34 16.4 +2.6**
HCY	**Herceg Novi**	**3.73**	**335**	⇓*i* Pn		**Pn**	**14 33 30.2 -0.4**
HCY				*e*Sn		**Sn**	**14 34 17.7 +3.0**
HCY	**Herceg Novi**	**3.73**	**335**	⇓*i* Pn		**Pn**	**14 33 30.2 -0.4**
HCY				*e*Sn		**Sn**	**14 34 17.7 +3.0**
BEY	**Berane**	**3.81**	**352**	*e*Pn		**Pn**	**14 33 32.5 +0.6**
BEY				*e*Sn		**Sn**	**14 34 19.4 +2.5**
IVA	**Berane**	**3.81**	**352**	*e*Pn		**Pn**	**14 33 32.5 +0.6**
IVA				*e*Sn		**Sn**	**14 34 19.4 +2.5**
BARS	**Barje**	**3.82**	**13**	*e*Pn		**Pn**	**14 33 33.1 +1.3**
BARS				*e*Sn		**Sn**	**14 34 16.2 -0.7**
BARS	**Barje**	**3.82**	**13**	*e*Pn		**Pn**	**14 33 33.1 +1.3**
BARS				*e*Sn		**Sn**	**14 34 16.2 -0.7**
ANKY	**Antikythira Is**	**3.85**	**146**	P		**Pn**	**14 33 34.7 +2.4**
ANKY	**Antikythira Is**	**3.85**	**146**	P		**Pn**	**14 33 34.7 +2.4**
NKME	**Niksic**	**3.89**	**341**	⇑*i* Pn		**Pn**	**14 33 33.4 +0.6**
NKME				*e*Sn		**Sn**	**14 34 21.4 +2.8**
NKME	**Niksic**	**3.89**	**341**	⇑*i* Pn		**Pn**	**14 33 33.4 +0.6**
NKME				*e*Sn		**Sn**	**14 34 21.4 +2.8**
CDT	**Castel del Mon**	**3.90**	**302**	*e*Pn		**Pn**	**14 33 33.8 +0.8**
NKY	**Niksic**	**3.92**	**342**	⇓*i* Pn		**Pn**	**14 33 33.8 +0.5**
NKY				*e*Sn		**Sn**	**14 34 21.7 +2.2**
NKY	**Niksic**	**3.92**	**342**	⇓*i* Pn		**Pn**	**14 33 33.8 +0.5**
NKY				*e*Sn		**Sn**	**14 34 21.7 +2.2**
TREB	**Trebinje**	**4.02**	**335**	*e*Pn		**Pn**	**14 33 33.7 -0.8**
RZN	**Rozhen**	**4.04**	**49**	P		**Pn**	**14 33 37.7 +2.7**
BRY	**Bratogost**	**4.12**	**338**	⇓*i* Pn		**Pn**	**14 33 35.9 -0.3**
BRY				*e*Sn		**Sn**	**14 34 26.6 +2.0**
BRY	**Bratogost**	**4.12**	**338**	⇓*i* Pn		**Pn**	**14 33 35.9 -0.3**
BRY				*e*Sn		**Sn**	**14 34 26.6 +2.0**
SELS	**Selova**	**4.13**	**5**	*e*Pn		**Pn**	**14 33 37.1 +0.9**
SJES	**Sjenica**	**4.19**	**353**	*e*Pn		**Pn**	**14 33 38.0 +0.9**
SJES				*e*Sn		**Sn**	**14 34 20.9 -5.4**
SJES	**Sjenica**	**4.19**	**353**	*e*Pn		**Pn**	**14 33 38.0 +0.9**
GADA	**Gvkgeada**	**4.19**	**73**	P		**Pn**	**14 33 39.2 +2.2**
GADA	**Gvkgeada**	**4.19**	**73**	P		**Pn**	**14 33 39.2 +2.2**
CHOS	**Chios island**	**4.28**	**98**	P		**Pn**	**14 33 41.0 +2.7**
CHOS	**Chios island**	**4.28**	**98**	P		**Pn**	**14 33 41.0 +2.7**
UPM	**Unac-Piva**	**4.31**	**343**	⇓*i* Pn		**Pn**	**14 33 39.2 +0.4**
UPM				*e*Sn		**Sn**	**14 34 31.4 +2.1**
UPM	**Unac-Piva**	**4.31**	**343**	⇓*i* Pn		**Pn**	**14 33 39.2 +0.4**
UPM				*e*Sn		**Sn**	**14 34 31.4 +2.1**
PLE	**Pljevlja**	**4.34**	**348**	⇓*i* Pn		**Pn**	**14 33 39.7 +0.7**
PLE				*e*Sn		**Sn**	**14 34 31.7 +1.9**
PLE	**Pljevlja**	**4.34**	**348**	⇓*i* Pn		**Pn**	**14 33 39.7 +0.7**
PLE				*e*Sn		**Sn**	**14 34 31.7 +1.9**
APE	**Apeiranthos**	**4.35**	**116**	P		**Pn**	**14 33 41.3 +2.1**
APE	**Apeiranthos**	**4.35**	**116**	P		**Pn**	**14 33 41.3 +2.1**
ZAPS	**Zavoj**	**4.43**	**19**	*e*Pn		**Pn**	**14 33 42.9 +2.6**
ZAPS				*e*Sn		**Sn**	**14 34 32.2 +0.1**
MS1	**Monte Sant'Ang**	**4.44**	**307**	*e*Pn		**Pn**	**14 33 40.5 0.0**
IVAS	**Ivanjica**	**4.49**	**355**	*e*Pn		**Pn**	**14 33 42.0 +0.9**
IVAS	**Ivanjica**	**4.49**	**355**	*e*Pn		**Pn**	**14 33 42.0 +0.9**
IMMV	**Iera Moni Meta**	**4.50**	**143**	P		**Pn**	**14 33 43.4 +2.3**
IMMV	**Iera Moni Meta**	**4.50**	**143**	P		**Pn**	**14 33 43.4 +2.3**
ALN	**Alexandroupoli**	**4.51**	**65**	P		**Pn**	**14 33 42.9 +1.5**
ALN	**Alexandroupoli**	**4.51**	**65**	P		**Pn**	**14 33 42.9 +1.5**
BOVS	**Bovan**	**4.60**	**10**	*e*Pn		**Pn**	**14 33 43.5 +0.9**
BOVS	**Bovan**	**4.60**	**10**	*e*Pn		**Pn**	**14 33 43.5 +0.9**
VAM	**Vamos**	**4.64**	**141**	P		**Pn**	**14 33 45.1 +1.9**
VAM	**Vamos**	**4.64**	**141**	P		**Pn**	**14 33 45.1 +1.9**
BOLS	**Boljevac**	**4.83**	**11**	*e*Pn		**Pn**	**14 33 46.4 +0.7**
BOLS	**Boljevac**	**4.83**	**11**	*e*Pn		**Pn**	**14 33 46.4 +0.7**
MPEP	**Malo Peshtene**	**4.85**	**28**	P		**Pn**	**14 33 49.1 +3.1**
BBLS	**Lazići**	**4.86**	**349**	*e*Pn		**Pn**	**14 33 46.3 +0.1**
BBLS				*e*Sn		**Sn**	**14 34 37.0 -5.6**
BBLS	**Lazići**	**4.86**	**349**	*e*Pn		**Pn**	**14 33 46.3 +0.1**
DIVS	**Divibare**	**5.02**	**355**	P		**Pn**	**14 33 48.5 +0.1**
DIVS	**Divibare**	**5.02**	**355**	*e*Pn		**Pn**	**14 33 48.6 +0.1**
DIVS				*e*Sn		**Sn**	**14 34 41.2 -5.5**
DIVS	**Divibare**	**5.02**	**355**	*e*Pn		**Pn**	**14 33 48.6 +0.1**
IDI	**Anoyia**	**5.09**	**137**	Pn		**Pn**	**14 33 49.6 +0.2**
	comp=N,1.8nm,0.3s,baz=332,slow=11,SNR=14						
IDI				Sn		**Sn**	**14 34 46.2 -2.1**
	comp=N,2.5nm,0.3s,baz=78,slow=20,SNR=2.7						
IDI				LR		LR	14 36 06.0
	comp=N,226nm,19.1s,baz=288,slow=41						
KUBS	**Kucevo**	**5.37**	**8**	*e*Pn		**Pn**	**14 33 53.7 +0.6**
KUBS	**Kucevo**	**5.37**	**8**	*e*Pn		**Pn**	**14 33 53.7 +0.6**
LAST	**Lasithi**	**5.50**	**134**	P		**Pn**	**14 33 54.2 -0.9**
LAST	**Lasithi**	**5.50**	**134**	P		**Pn**	**14 33 54.2 -0.9**
TEKS	**Tekeris**	**5.51**	**352**	*e*Pn		**Pn**	**14 33 55.0 -0.1**
TEKS	**Tekeris**	**5.51**	**352**	*e*Pn		**Pn**	**14 33 55.0 -0.1**
MDVR	**Moldovita**	**5.74**	**8**	⇑*i* P		**Pn**	**14 33 58.9 +0.7**
FGSL	**Fruska Gora**	**6.09**	**354**	*e*Pn		**Pn**	**14 34 03.6 +0.6**
FRGS	**Fruska Gora**	**6.09**	**354**	*e*Pn		**Pn**	**14 34 03.6 +0.6**
FRGS				*e*Sn		**Sn**	**14 35 06.0 -6.9**
UDBI	**Udbina**	**6.54**	**328**	*e*Pn		**Pn**	**14 34 09.8 +0.5**
UDBI				Sn		**Sn**	**14 35 21.9 -2.2**
UDBI	**Udbina**	**6.54**	**328**	*e*Pn		**Pn**	**14 34 09.8 +0.5**
LOT	**Lotru**	**6.75**	**19**	⇑*i* P		Pn	14 34 20.4 +8.1
NVLJ	**Novalja**	**6.96**	**324**	*e*Pn		**Pn**	**14 34 14.7 -0.3**
NVLJ				Sn		**Sn**	**14 35 30.6 -3.7**
NVLJ	**Novalja**	**6.96**	**324**	*e*Pn		**Pn**	**14 34 14.6 -0.3**
VOIR		**7.12**	**26**	⇑*i* P		**Pn**	**14 34 20.3 +3.0**
ISR	**Istrita**	**7.44**	**34**	⇓*i* P		Pn	14 34 26.6 +5.0
MLR	**Muntele Rosu**	**7.50**	**30**	Pn		**Pn**	**14 34 25.5 +3.0**
	comp=N,0.3nm,0.3s,baz=154,slow=2.5,SNR=11						
MLR				LR		LR	14 38 04.5
	comp=N,24nm,21.0s,baz=208,slow=45						
MLR	**Muntele Rosu**	**7.50**	**30**	⇑*i* P		Pn	14 34 27.4 +5.0
BOJS	**Bojanci**	**7.55**	**330**	*i* Pn		**Pn**	**14 34 22.5 -0.5**
DOPR	**Dopca**	**7.70**	**25**	⇑*i* P		**Pn**	**14 34 29.8 +4.6**
CRES	**Cresnjev**	**7.74**	**332**	⇑*i* Pn		**Pn**	**14 34 24.8 -0.9**
VISS	**Visnje**	**7.96**	**329**	*i* Pn		**Pn**	**14 34 28.2 -0.5**
VISS				*i* Sn		**Sn**	**14 35 54.7 -4.2**
PLOR	**Plostina**	**8.07**	**31**	⇑*i* P		**Pn**	**14 34 34.7 +4.4**
CEY	**Cerknica**	**8.08**	**327**	*e*Pn		**Pn**	**14 34 29.8 -0.5**
PDKS	**Podkum**	**8.11**	**331**	*i* Pn		**Pn**	**14 34 29.8 -1.0**
VRI	**Vrincioaia**	**8.12**	**32**	⇑*i* P		**Pn**	**14 34 34.8 +4.0**
VNDS	**Vrh nad Dolski**	**8.26**	**330**	*e*Pn		**Pn**	**14 34 31.9 -0.9**
VNDS				*e*Sn		**Sn**	**14 36 01.8 -4.5**
SOKA	**Soboth**	**8.62**	**333**	*e*Pn		**Pn**	**14 34 37.1 -0.8**
	comp=N,6.7nm,0.5s						
SOKA	**Soboth**	**8.62**	**333**	Pn		**Pn**	**14 34 37.1 -0.8**
	comp=N,6.7nm,0.5s						
OBKA	**Obir**	**8.66**	**331**	*i* Pn		**Pn**	**14 34 36.4 -1.9**
	comp=N,6.9nm,0.6s						
OBKA				*i* Sn		**Sn**	**14 36 13.1 -3.0**
	comp=N,8.2nm,0.5s						
OBKA	**Obir**	**8.66**	**331**	P		**Pn**	**14 34 36.4 -1.9**
	comp=N,6.9nm,0.6s						
ARSA	**Arzberg**	**8.97**	**337**	*i* Pn		**Pn**	**14 34 41.5 -1.1**
	comp=N,2.9nm,0.5s						
ARSA	**Arzberg**	**8.97**	**337**	P		**Pn**	**14 34 41.5 -1.1**
	comp=N,2.9nm,0.5s						
BURAR	**Bucovina Array**	**9.14**	**20**	⇓*i* P		**Pn**	**14 34 48.7 +3.8**
KECS	**Kecovo**	**9.38**	**359**	*e*Pn		**Pn**	**14 34 49.8 +1.6**
KECS	**Kecovo**	**9.38**	**359**	*e*PN		**Pn**	**14 34 49.8 +1.6**
VYHS	**Vyhne**	**9.49**	**353**	*e*Pn		**Pn**	**14 34 49.5 -0.1**
VYHS	**Vyhne**	**9.49**	**353**	*e*PN		**Pn**	**14 34 49.5 -0.1**
VYHS				*e*			14 36 33.6
KBA	**Koelnbreinsper**	**9.60**	**329**	*i* Pn		**Pn**	**14 34 51.0 -0.3**
	comp=N,2.6nm,0.5s						
KBA	**Koelnbreinsper**	**9.60**	**329**	P		**Pn**	**14 34 51.0 -0.3**
	comp=N,2.6nm,0.5s						
KEST	**Kesra**	**9.60**	**253**	Pn		**Pn**	**14 34 52.8 +1.5**
	comp=N,0.6nm,0.3s,baz=23,slow=4.6,SNR=6.9						
KEST				LR		LR	14 39 51.5
	comp=N,91nm,18.5s,baz=7.5,slow=46						
ABTA	**Abfaltersbach**	**9.70**	**325**	*e*Pn		**Pn**	**14 34 52.2 -0.4**
	comp=N,4.2nm,0.6s						
ABTA	**Abfaltersbach**	**9.70**	**325**	Pn		**Pn**	**14 34 52.2 -0.4**
	comp=N,4.2nm,0.6s						
CRVS	**Cervenica-Dubn**	**9.82**	**3**	*e*Pn		**Pn**	**14 34 53.7 -0.5**
CRVS	**Cervenica-Dubn**	**9.82**	**3**	*e*PN		**Pn**	**14 34 53.7 -0.5**
MOA	**Molln**	**9.90**	**334**	*i* Pn		**Pn**	**14 34 53.8 -1.5**
	comp=N,5.4nm,0.7s						
MOA	**Molln**	**9.90**	**334**	P		**Pn**	**14 34 53.8 -1.5**
	comp=N,5.4nm,0.7s						
BRTR	**Keskin Array B**	**10.07**	**82**	Pn		Pn	14 35 02.5 +4.8
	comp=N,0.3nm,0.3s,baz=268,slow=13,SNR=7.9						
VRAC	**Vranov**	**10.62**	**345**	LR		LR	14 40 10.9
	comp=N,228nm,19.0s,baz=180,slow=44						
MOTA	**Moosalm**	**10.79**	**323**	*i* Pn		**Pn**	**14 35 08.2 +0.6**
	comp=N,5.7nm,0.5s						
MOTA	**Moosalm**	**10.79**	**323**	P		**Pn**	**14 35 08.2 +0.6**
	comp=N,5.7nm,0.5s						
TREC	**Trest**	**10.85**	**342**	AMS		AMS	14 40 30.0
	comp=N,200nm,12.3s						
GERES	**GERESS Array B**	**10.95**	**335**	Pn		**Pn**	**14 35 08.7 -1.1**
	comp=N,0.6nm,0.3s,baz=155,slow=14,SNR=12						
DAVOX	**Davos/Dischmat**	**11.01**	**318**	LR		LR	14 39 56.7
	comp=N,83nm,18.3s,baz=89,slow=41						
KHC	**Kasperske Hory**	**11.24**	**335**	*e*P		**Pn**	**14 35 13.9 +0.2**
KHC				*ex*		x	14 35 20.4
KHC				*ex*		x	14 35 31.9
KHC				AMS		AMS	14 40 30.0
	comp=N,300nm,11.3s						
DPC	**Dobruska-Polom**	**11.66**	**346**	AMS		AMS	14 40 40.0
	comp=N,400nm,14.5s						
PRU	**Pruhonice**	**11.72**	**340**	AMS		AMS	14 41 00.0
	comp=N,300nm,9.8s						
UPC	**Upice**	**11.87**	**345**	AMS		AMS	14 40 50.0
	comp=N,300nm,13.5s						
PVCC	**Panska Ves**	**12.21**	**341**	AMS		AMS	14 40 50.0
	comp=N,200nm,10.1s						
NKC	**Novy Kostel**	**12.56**	**335**	AMS		AMS	14 41 20.0
	comp=N,300nm,12.3s						
MMAI	**Mount Meron Ar**	**13.38**	**112**	Pn		**Pn**	**14 35 42.9 -0.1**
	baz=270,slow=3.7,SNR=3.4						
EIL	**Elat**	**15.07**	**124**	Pn		**P**	**14 36 12.9 +1.5**
	comp=N,0.4nm,0.3s,baz=358,slow=10,SNR=5.4						
GNI	**Garni**	**18.58**	**79**	LR		LR	14 44 52.6
	comp=N,26nm,21.6s,baz=252,slow=40						
ESDC	**Sonseca Array**	**19.03**	**280**	P		**Pn**	**14 36 57.5 +1.6**
	comp=N,0.6nm,0.3s,baz=75,slow=10,SNR=6.3						
OBN	**Obninsk**	**19.26**	**29**	LR		LR	14 45 41.8
	comp=N,42nm,21.6s,baz=264,slow=41						
HFS	**Hagfors**	**21.51**	**350**	P		**P**	**14 37 19.9 -1.9**
	comp=N,3.7nm,0.6s,baz=183,slow=13,SNR=13						
HFS				LR		LR	14 46 48.0
	comp=N,50nm,19.5s,baz=178,slow=40						
FINES	**FINESS Array B**	**22.62**	**7**	P		**P**	**14 37 31.6 -2.1**
	comp=N,2.0nm,0.5s,baz=185,slow=7.8,SNR=18						
FINES				LR		LR	14 48 56.1
	comp=N,35nm,19.3s,baz=200,slow=44						
NB2	**NORSAR Subarra**	**22.74**	**348**	P		**P**	**14 37 34.7 -0.4**
	comp=Z,2.8nm,0.8s,baz=157,slow=9.3						
NB2	**NORSAR Subarra**	**22.74**	**348**	P		**P**	**14 37 34.7 -0.4**
	comp=Z,2.8nm,0.8s,SNR=1.7						
NOA	**NORSAR Array B**	**22.74**	**348**	P		**P**	**14 37 34.4 -0.7**
	comp=Z,1.8nm,0.6s,baz=159,slow=8.8,SNR=11						
NOA				LR		LR	14 47 44.0
	comp=Z,51nm,19.3s,baz=155,slow=40						
EKA	**Eskdalemuir Ar**	**22.75**	**323**	P		**P**	**14 37 34.4 -0.7**
	comp=Z,4.2nm,0.6s,baz=123,slow=9.9,SNR=14						
AKTO	**Aktyubinsk**	**28.55**	**54**	P		**P**	**14 38 28.5 -0.3**
	comp=Z,0.8nm,0.4s,baz=249,slow=14,SNR=3.3						
GEYT	**Ailbe-k**	**29.20**	**318**	LR		**P**	**14 38 37.1 +2.3**
	comp=Z,2.1nm,0.4s,baz=273,slow=8.4,SNR=4.0						
ARCES	**ARCESS Array B**	**30.61**	**3**	P		**P**	**14 38 45.6 -1.3**
	comp=Z,1.6nm,0.8s,baz=188,slow=8.1,SNR=8.1						
ARCES				LR		LR	14 52 14.4
	comp=Z,41nm,18.1s,baz=128,slow=39						
TORD	**Torodi Ar. Bea**	**30.81**	**218**	P		**P**	**14 38 49.9 +0.8**
	comp=Z,1.5nm,0.6s,baz=34,slow=9.4,SNR=10						
DBIC	**Dimbokro**	**39.64**	**222**	LR		LR	14 59 44.6
	comp=Z,286nm,18.2s,baz=68,slow=4						
MKAR	**Makanchi Array**	**44.74**	**59**	P		**P**	**14 40 45.8 -0.6**
	comp=Z,1.1nm,0.5s,baz=272,slow=7.5,SNR=13						
ZALV	**Zalesovo Beam**	**45.00**	**49**	P		**P**	**14 40 47.8 -0.6**
	comp=Z,6.2nm,0.5s,baz=276,slow=8.8,SNR=24						
ZALV				LR		LR	15 01 38.0
	comp=Z,38nm,18.3s,baz=70,slow=39						
YKA	**Yellowknife Ar**	**72.56**	**340**	P		**P**	**14 43 59.8 -0.1**
	comp=Z,0.6nm,0.5s,baz=35,slow=5.2,SNR=5.5						
ILAR	**Eielson Array**	**76.01**	**355**	P		**P**	**14 44 20.9 +1.0**
	comp=Z,2.0nm,0.6s,baz=15,slow=3.7,SNR=2.3						
WRA	**Warramunga Arr**	**120.47**	**92**	PKP		**PKPdf**	**14 51 25.1 0.0**
	comp=Z,0.3nm,0.7s,baz=326,slow=2.1,SNR=3.6						
ASAR	**Alice Springs**	**122.16**	**96**	PKP		**PKPdf**	**14 51 28.5 +0.2**
	comp=Z,0.3nm,0.5s,baz=314,slow=1.5,SNR=11						

IDC 09 14:49:58.5±4.2, 55.°91S×29.°04W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/19, mbtmp3.7/2, Error ellipse: s-maj=141.5km s-min=51.6km az=176.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**49.45**	**307**	P	P	14 58 50.9	-0.1
	0.6nm,0.5s,baz=153,slow=6.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**73.46**	**31**	P	P	15 01 32.5	0.0
	0.3nm,0.6s,baz=202,slow=7.9,SNR=4.3						
ILAR	**Eielson Array**	**149.25**	**312**	PKPbc	PKPbc	15 09 46.9	-0.5
	0.6nm,0.8s,baz=124,slow=2.4,SNR=5.3						

IDC 09 14:53:53.3±4.3, 11.°44S×165.°80E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/34, mbtmp3.5/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/16, Error ellipse: s-maj=218.9km s-min=33.2km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.09**	**289**	LR	LR	14 57 52.0	
	comp=Z,80nm,19.4s,baz=58,slow=39						
PMG	**Port Moresby**	**18.45**	**275**	LR	LR	15 05 01.6	
	comp=Z,44nm,18.5s,baz=88,slow=36						
WRA	**Warramunga Arr**	**31.40**	**250**	P	P	15 00 16.5	+0.2
	0.8nm,0.7s,baz=82,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**32.67**	**244**	P	P	15 00 27.2	-0.2
	0.2nm,0.7s,baz=64,slow=10,SNR=4.4						
ILAR	**Eielson Array**	**83.86**	**18**	P	P	15 06 24.5	0.0
	0.3nm,0.6s,baz=238,slow=5.1,SNR=7.3						

SOME ***09*** *14:53:59.5, 41.°45N×77.°10E, h5km*
KRNET 09 14:53:59.0±0.1, 41.°58N×77.°17E, mb2.1, 15C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.96**	**314**	⇓*i* P	Pb	14 54 18.5	-0.3
	baz=319						
ULHL				⇓*i* S	Sb	14 54 31.9	-0.2
	baz=319						
BOOM	**Boomskoye usch**	**1.29**	**315**	⇓*e* P	Pb	14 54 24.3	-0.1
	baz=315						
BOOM				⇓*e* S	Sn	14 54 42.7	0.0
	baz=315			

ISC 09 15:22:12.0±0.8, 32°67'N±0°02×115°75'W±0°02, h9km±5km, n174, σ1°49/212, mb4.0/3, MS3.0/3, 9C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	0.03	138	⇑*i*P		Pg	15 22 13.0	-0.7
WESC	**Westside Schoo**	0.09	9	⇓*i*P		Pg	15 22 14.8	+0.5
ERPC	**Ernies Place**	0.10	45	⇓*i*P		Pg	15 22 15.0	+0.5
YUH	**Yuha Desert**	0.15	261	⇑*i*P		Pg	15 22 15.5	+0.3
COK	**Cook Ranch**	0.18	6	⇓*i*P		Pg	15 22 16.7	+0.9
SWSC	**Sam W. Stewart** baz=169,SNR=1000	0.28	351	P		Pg	15 22 17.7	+0.1
SWSC				S		Sg	15 22 21.4	0.0
SWSC	**Sam W. Stewart** baz=169	0.28	351	⇓*i*P		Pg	15 22 18.1	+0.5
CRR	**Carrizo Plain**	0.28	319	⇓*i*P		Pb	15 22 18.3	-1.0
RMX	**La Rumorosa**	0.29	256	⇑*e*P		Pg	15 22 17.6	-0.2
RMX				*e*S		Sg	15 22 21.8	+0.1
IKP	**In-Ko-Pah, Jac** baz=88,SNR=1000	0.30	266	P		Pb	15 22 18.5	-1.2
IKP				S		Sb	15 22 23.0	-1.8
IKP	**In-Ko-Pah, Jac** baz=88	0.30	266	⇑*i*P		Pb	15 22 18.5	-1.2
IKP				*e*S		Sb	15 22 22.9	-2.0
CPBX	**Cerro Prieto**	0.45	124	⇑*e*P		Pg	15 22 20.8	0.0
CPBX				*e*S		Sg	15 22 26.8	0.0
CPBX	comp=N,145μm,0.4s			AML		AML	15 22 39.1	
CPBX				⇑*e*			15 22 39.1	
MBIG	**Mexicali**	0.53	119	*e*P		Pg	15 22 22.4	0.0
MBIG	**Mexicali**	0.53	119	*e*P		Pg	15 22 22.5	+0.1
MONP2	**Monument Peak** baz=112	0.61	291	P		Pg	15 22 23.8	0.0
MONP2				S		Sb	15 22 32.4	-1.3
BAR	**Barrett**	0.78	271	⇑*e*P		Pb	15 22 26.9	-0.8
BAR	**Barrett**	0.78	271	*e*Pg		Pb	15 22 26.9	-0.8
BAR				*e*Sg		Sg	15 22 36.5	-0.7
TJIG	**Tijuana**	0.82	253	*e*P		Pg	15 22 27.6	-0.2
TJIG				*e*S		Sg	15 22 38.1	-0.3
TJIG	**Tijuana**	0.82	253	*e*P		Pg	15 22 27.4	-0.3
CBX	**Cerro Bola**	0.85	245	*e*P		Pg	15 22 28.2	-0.2
CBX				*e*S		Sb	15 22 39.7	-0.9
CBX	**Cerro Bola**	0.85	245	⇑*e*P		Pg	15 22 28.2	-0.2
CBX				*e*S		Sb	15 22 39.5	-1.1
CBX				*i* S		Sb	15 22 39.5	-1.1
GLA	**Glamis** baz=243,SNR=610	0.86	64	P		Pg	15 22 27.6	-1.1
GLA				S		Sg	15 22 39.0	-0.9
GLA	**Glamis** baz=243	0.86	64	*e*Pg		Pg	15 22 27.5	-1.1
GLA				*e*Sg		Sg	15 22 39.5	-0.4
SDRC	**San Diego Road**	1.01	274	⇑*e*P		Pg	15 22 30.8	-0.6
BC3	**Big Chuckawall** baz=194,SNR=977	1.01	14	P		Pg	15 22 30.3	-1.2
BC3				S		Sg	15 22 43.4	-1.3
I57US	**PINON FLAT INF** baz=151,slow=28	1.10	328	Pg		Pb	15 22 32.2	-1.1
I57US				Lg		Lg	15 22 45.5	
I57US				*i*			15 32 50.0	
TPFO	**Pinon Flats** baz=147,SNR=609	1.10	328	P		Pb	15 22 31.9	-1.5
TPFO				S		Sg	15 22 46.4	-1.2
PFO	**Pinyon Flats O** comp=N,292nm,0.3s,baz=147,slow=12,SNR=990	1.11	328	Pg		Pb	15 22 31.9	-1.6
PFO				Lg		Lg	15 22 46.4	
PFO	**Pinyon Flats O** comp=N,806nm,0.3s,baz=234,slow=19,SNR=55	1.11	328	P		Pb	15 22 31.9	-1.6
PFO				S		Sg	15 22 46.6	-1.3
PFO	**Pinyon Flats O** baz=147	1.11	328	*e*Pg		Pb	15 22 31.8	-1.7
PFO				*e*Sg		Sg	15 22 46.8	-1.0
109C	**Camp Elliot, M** baz=101,SNR=346	1.16	281	P		Pb	15 22 33.4	-0.8
109C				S		Sg	15 22 48.7	-0.7
ZAX	**El Zacaton**	1.24	201	⇓*e*P		Pn	15 22 33.9	-1.6
ZAX				*e*S		Sb	15 22 50.1	-1.6
ZAX				⇓*e*			15 22 51.5	
ZAX	comp=E,11μm,0.3s			AML		AML	15 22 51.5	
ECNX	**Esteban Cantu**	1.24	216	*e*P		Pn	15 22 34.1	-1.5
PBX	**Punta Banda**	1.24	222	*e*P		Pn	15 22 34.2	-1.4
ECBX	**El Chinero**	1.33	153	*e*P		Pn	15 22 33.6	-3.1
ECBX				*e*S		Sb	15 22 51.5	-2.8
BELC	**Belle Mtn. Jos** baz=171,SNR=1000	1.34	351	P		Pn	15 22 35.4	-1.7
Y12C	**Blythe** baz=223,SNR=42	1.49	43	P		Pn	15 22 37.0	-1.9
Y12C	**Blythe**	1.49	43	*e*Pn		Pn	15 22 37.0	-1.9
Y12C				*e*Sn		Sn	15 22 54.4	-4.0
MURC	**Murrieta** baz=127,SNR=837	1.53	308	P		Pn	15 22 38.1	-1.4
MURC				Sb		Sg	15 23 00.5	-0.6
IRM	**Iron Mountain** baz=198,SNR=205	1.57	19	P		Pn	15 22 38.4	-1.6
SPIG	**San Pedro Mart**	1.64	171	*e*P		Pn	15 22 39.9	-1.4
SPIG				*e*S		Sb	15 23 03.7	+0.3
SPX	**San Pedro Mart**	1.64	171	*e*P		Pn	15 22 39.9	-1.4
SPX				*e*S		Sn	15 23 02.4	-0.2
SPX	**San Pedro Mart**	1.64	171	*e*Sn		Sb	15 23 03.4	-0.1
113A	**Mohawk Valley,**	1.67	86	*e*Pn		Pn	15 22 39.4	-2.1
BBRC	**Big Bear Solar** baz=148,SNR=35	1.86	329	P		Pn	15 22 42.9	-1.4
GMRC	**Granite Mounta** baz=182,SNR=77	2.11	2	P		Pn	15 22 46.1	-1.5
PDMCI	**Parker Dam,Lak** baz=220,SNR=25	2.11	39	P		Pn	15 22 46.0	-1.4
HEC	**Hector,Ludlow** baz=167,SNR=16	2.21	347	P		Pn	15 22 47.5	-1.4
BFSC	**Mount Baldy Ra** baz=134,SNR=385	2.23	315	P		Pn	15 22 48.2	-1.1
BFSC				Sb		Sb	15 23 20.9	+0.5
SSK	**Sunset Peak**	2.24	314	*e*Pn		Pg	15 22 53.5	-1.3
NEE2	**Needles Airpor** baz=204	2.29	24	P		Pn	15 22 49.1	-0.9
FMP	**Fort Macarthur** baz=115	2.37	297	Pb		Pb	15 22 53.9	-0.9
FMP				Sb		Sg	15 23 25.7	-2.6
SCI2	**San Clemente I** baz=97,SNR=23	2.38	278	P		Pn	15 22 50.4	-0.7
SCI2				S		Sn	15 23 20.7	+0.3
RRX	**Edison Barstow** baz=154	2.43	335	P		Pn	15 22 50.9	-1.0
LDFC	**Landfair**	2.46	12	*e*Pn		Pn	15 22 52.3	-0.1
MWC	**Mount Wilson**	2.48	309	*e*Pn		Pn	15 22 53.4	+0.7
MWC				*e*Sn		Sb	15 23 27.6	+0.1
PASC	**Pasadena Art C**	2.53	307	*e*Pn		Pn	15 22 53.5	+0.3
PASC				*e*Sn		Sb	15 23 29.0	+0.3
214A	**Organ Pipe Nat** baz=287,SNR=79	2.59	105	P		Pn	15 22 51.5	-2.6
Y14A	**Wickenburg**	2.62	60	*e*Pn		Pn	15 22 53.0	-1.6
DECC	**Green Verdugo** baz=126	2.68	307	Sb		Sb	15 23 34.4	+1.4
TUQ	**Turquoise Moun** baz=177,SNR=11	2.76	357	P		Pn	15 22 55.4	-1.2
GSC	**Goldstone, Bar** baz=161,SNR=14	2.77	342	P		Pn	15 22 55.4	-1.2
GSC	**Goldstone, Bar**	2.77	342	*e*Pn		Pn	15 22 55.5	-1.1
W13A	**Hualapai Mount**	2.88	32	*e*Pn		Pn	15 22 57.2	-1.0
EDW2	**Edwards Air Fo** baz=139,SNR=14	2.89	320	P		Pn	15 22 57.1	-1.1
EDW2				Sb		Sb	15 23 41.1	+1.9
BLG	**Laguna Peak, P** baz=116	3.12	298	P		Pn	15 23 01.4	0.0
OSI	**Osito Audit: C** baz=127	3.15	309	Pb		Pb	15 23 08.1	-0.1
OSI	**Osito Audit: C**	3.15	309	*e*Pn		Pn	15 23 01.6	-0.2
OSI				*e*Sn		Sb	15 23 46.8	+0.1
SNCC	**San Nicolas Is**	3.23	281	*e*Pn		Pn	15 23 03.1	+0.2
SNCC				*e*Sn		Sn	15 23 41.1	-0.3
LRMC	**Laurel Mtn Rad** baz=150,SNR=15	3.23	331	P		Pn	15 23 02.0	-1.0
SHOC	**Shoshone, Teco** baz=172	3.25	352	Pg		Pg	15 23 14.1	-0.2
ARVC	**Arvin** baz=133,SNR=16	3.54	315	P		Pn	15 23 06.6	-0.6
MPMC	**Manual Prospec** baz=156,SNR=9.7	3.67	337	P		Pn	15 23 08.3	-0.9
ISA	**Isabella, Lake** baz=142,SNR=13	3.74	324	P		Pn	15 23 09.2	-0.8
ISA	**Isabella, Lake**	3.74	324	*e*Pn		Pn	15 23 09.5	-0.5
SHPR	**Sheep Range**	3.86	7	*e*Pn		Pn	15 23 11.9	+0.3
FURC	**Furnace Creek,** baz=166	3.90	347	Pg		Pg	15 23 26.2	-0.5
DAC	**Darwin (Calif)**	3.91	338	*e*Pn		Pn	15 23 11.8	-0.6
X16A	**Lo Mia Camp, P**	4.00	63	*e*Pn		Pn	15 23 12.9	-0.7
WLHM	**Little Horse**	4.07	329	*e*Pn		Pn	15 23 14.4	-0.3
TUC	**Tucson** baz=276	4.21	94	P		Pn	15 23 13.9	-2.5
TUC	**Tucson**	4.21	94	*e*Pn		Pn	15 23 13.9	-2.5
TUC				*e*			15 23 37.1	
TPNV	**Topopah Spring** baz=174,SNR=17	4.29	355	P		Pn	15 23 17.6	0.0
TPNV	**Topopah Spring**	4.29	355	*e*Pn		Pn	15 23 17.9	+0.3
TPNV				*e*Pg		Pg	15 23 35.0	+0.8
SMMC	**Simmler** baz=126	4.40	308	P		Pn	15 23 19.4	+0.4
GRAC	**Grapevine Rang** baz=162,SNR=20	4.51	343	P		Pn	15 23 20.8	+0.2
WUAZ	**Wupatki** baz=233,SNR=14	4.61	51	P		Pn	15 23 21.9	-0.1
WUAZ	**Wupatki**	4.61	51	*e*Pn		Pn	15 23 21.9	-0.1
WUAZ				*e*Pg		Pg	15 23 40.4	+0.2
U15A	**North Rim**	4.71	36	*e*Pn		Pn	15 23 23.9	+0.5
LCMT	**Little Creek M**	4.79	25	*e*Pn		Pn	15 23 25.1	+0.6
LCMT				*e*Pg		Pg	15 23 45.6	+1.7
LCMT				*e*Sg		Sg	15 24 44.7	-1.3
KNB	**Kanab**	4.96	28	*e*Pn		Pn	15 23 27.8	+1.0
KNB				*e*Pg		Pg	15 23 46.8	-0.2
KNB				*e*Sg		Sg	15 24 53.3	+2.1
X18A	**Snowflake**	5.18	67	*e*Pn		Pn	15 23 29.7	-0.2
CCUT	**Cedar City**	5.25	21	*e*Pn		Pn	15 23 31.8	+1.0
CCUT				*e*Sg		Sg	15 24 57.7	-2.8
PKCU	**Pink Cliffs**	5.53	30	*e*Pn		Pn	15 23 36.0	+1.2
PKCU				*e*Pg		Pg	15 23 59.9	+1.9
PKCU				*e*Sg		Sg	15 25 08.1	-1.6
W18A	**Petrified Fore** baz=246,SNR=36	5.56	62	P		Pn	15 23 35.2	+0.1
W18A	**Petrified Fore**	5.56	62	*e*Pn		Pn	15 23 36.0	+0.9
319A	**Douglas**	5.64	102	*e*Pn		Pn	15 23 34.6	-1.5
R11A	**Troy Canyon, C** baz=181	5.67	1	Pg		Pg	15 23 59.5	-1.0
R11A	**Troy Canyon, C**	5.67	1	*e*Pn		Pn	15 23 38.5	+1.9
R11A				*e*Pg		Pg	15 24 00.1	-0.4
R11A				*e*Lg		Lg	15 25 19.0	
PSUT	**Pine Spring**	6.05	14	*e*Pn		Pn	15 23 42.9	+1.1
NV11	**Mina Array Sit**	6.07	342	*e*Pn		Pn	15 23 42.8	+0.7
NV11				*e*Pg		Pg	15 24 08.9	+0.5
MTPU	**Mount Pierson**	6.10	28	*e*Pn		Pn	15 23 44.6	+1.9
MTPU				*e*Pg		Pg	15 24 06.9	-1.9
NV01	**Mina Array Sit**	6.11	341	*e*Pn		Pn	15 23 43.3	+0.6
NV01				*e*Pg		Pg	15 24 07.9	-1.2
NVAR	**Mina Array Bea** comp=E,0.6nm,0.3s,baz=173,slow=16,SNR=10.0	6.11	341	Pn		Pn	15 23 43.3	+0.6
MSU	**Marysvale**	6.51	26	*e*Pn		Pn	15 23 51.2	+3.0
MSU				*e*Pg		Pb	15 24 03.7	-1.9
WAKR	**Walker**	6.55	334	*e*Pn		Pn	15 23 50.4	+1.8
CMB	**Columbia Colle**	6.56	326	*e*Pn		Pn	15 23 50.5	+1.9
121A	**Cookes Peak, D** baz=273,SNR=131	6.72	89	P		Pn	15 23 50.2	-0.8
LAZ	**Ladron**	7.39	74	*e*Pn		Pn	15 24 00.7	+0.5
MVCO	**Mesa Verde**	7.48	51	*e*Pn		Pn	15 24 03.9	+2.4
Y22D	**IRIS PASSCAL I** baz=262,SNR=5.2	7.52	77	P		Pn	15 24 01.8	-0.2
Y22D	**IRIS PASSCAL I**	7.52	77	*e*Pn		Pn	15 24 01.7	-0.2
AFDM	**Forest Hills D**	7.56	327	*e*Pn		Pn	15 24 05.1	+2.7
AFDM				*e*Sg		Sg	15 26 10.1	-4.7
TMUT	**Trail Mountain**	7.56	28	*e*Pn		Pn	15 24 08.6	+5.9
PAHR	**Pah Rah Range**	7.61	338	*e*Pn		Pn	15 24 05.0	+1.9
PV05	**Paradox Valley**	7.65	43	*e*Pn		Pn	15 24 05.9	+2.0
SRU	**San Rafael Swe**	7.70	32	*e*Pn		Pn	15 24 06.7	+2.3
BNM	**Barren Site**	7.77	77	*e*Pn		Pn	15 24 05.3	-0.1
LPM	**Los Pinos Moun**	7.79	75	*e*Pn		Pn	15 24 05.7	0.0
BMN	**Battle Mountai**	7.83	352	*e*Pn		Pn	15 24 08.7	+2.4
NLU	**North Lily Min**	7.85	21	*e*Pn		Pn	15 24 06.6	+0.1
DUG	**Dugway, Tooele**	7.87	17	*e*Pn		Pn	15 24 09.4	+2.7
PV10	**Paradox Valley**	7.89	42	*e*Pn		Pn	15 24 09.1	+2.0
P17A	**Butcher Ranch,**	7.91	29	*e*Pg		Pg	15 24 44.0	+0.6
PV09	**Paradox Valley**	7.93	41	*e*Pn		Pn	15 24 10.0	+2.4
PV01	**Paradox Valley**	8.00	45	*e*Pn		Pn	15 24 10.3	+1.7
ANMO	**Albuquerque** comp=E,1.2nm,0.3s,baz=262,slow=12,SNR=11	8.06	71	Pn		Pn	15 24 10.6	+1.2
ANMO				Lg		Lg	15 26 30.5	
ANMO	comp=E,0.4nm,0.3s,baz=342,slow=20,SNR=2.7			LR		LR	15 27 31.7	
ANMO	**Albuquerque** baz=256	8.06	71	P		Pn	15 24 10.1	+0.7
ELK	**Elko**	8.07	3	*e*Pn		Pn	15 24 10.8	+1.2
ELK				*e*Pg		Pg	15 24 45.6	-0.8
P18A	**Preston Nutter**	8.24	31	*e*Pn		Pn	15 24 13.1	+1.0
BGU	**Big Grassy Mou**	8.52	14	*e*Pn		Pn	15 24 20.2	+4.5
MGL	**Magalia**	8.53	328	*e*Pn		Pn	15 24 13.5	-2.2
JLU	**Jordanelle**	8.63	22	*e*Pn		Pn	15 24 19.4	+2.0
MNTX	**Cornudas Mount** baz=279,SNR=39	8.84	94	P		Pn	15 24 19.1	-0.8
MNTX	**Cornudas Mount**	8.84	94	*e*Pn		Pn	15 24 19.1	-0.8
S22A	**4UR Ranch, Cre**	8.88	53	*e*Pn		Pn	15 24 22.1	+1.3
TCUT	**Toone Canyon**	9.12	21	*e*Pn		Pn	15 24 25.5	+1.5
HVU	**Hansel Valley**	9.39	14	*e*Pn		Pn	15 24 25.9	-1.8
SMCO	**Snowmass**	9.63	45	*e*Pn		Pn	15 24 33.8	+2.7
LPIG	**La Paz** comp=E,88nm,19.9s,baz=342,slow=38	9.79	149	LR		LR	15 28 21.2	
SDCO	**Great Sand Dun**	9.79	56	*e*Pn		Pn	15 24 34.5	+1.2
CPRX	**Cap Rock**	10.00	85	*e*Pn		Pn	15 24 37.6	+1.6
T25A	**Trinidad**	10.32	61	*e*Pn		Pn	15 24 42.7	+2.3
Q24A	**Divide**	10.65	51	*e*Pn		Pn	15 24 46.4	+1.4
AHID	**Auburn Hatcher**	10.72	19	*e*Pn		Pn	15 24 48.2	+2.3
TX31	**Lajitas Ar. Si**	10.89	105	*e*Pn		Pn	15 24 47.9	-0.2
TX31				*e*Lg		Lg	15 27 55.8	
LTX	**Lajitas**	10.89	105	*e*Pn		Pn	15 24 48.4	+0.3
LTX				*e*Lg		Lg	15 27 52.9	
TXAR	**Lajitas Array** comp=E,1.0nm,0.3s,baz=288,slow=13,SNR=50	10.89	105	Pn		Pn	15 24 48.4	+0.3
TXAR				Lg		Lg	15 27 52.9	
TXAR	comp=E,0.1nm,0.3s,baz=268,slow=14,SNR=3.3			LR		LR	15 29 21.2	
HLID	comp=E,176nm,18.4s,baz=0.0,slow=40 **Hailey**	10.92	5	*e*Pn		Pn	15 24 53.9	+5.3
MSTX	**Muleshoe**	10.93	80	*e*Pn		Pn	15 24 51.6	+2.9
BW06	**Boulder Array**	11.20	24	*e*Pn		Pn	15 24 57.6	+5.1
PD31	**Pinedale Array**	11.20	24	*e*Pn		Pn	15 24 57.8	+5.3
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=131,slow=11,SNR=2.4	11.20	24	Pn		Pn	15 24 57.2	+4.7
N23A	**Red Feather La**	11.36	41	*e*Pn		Pn	15 24 59.5	+4.8
LNOR	**Lincton Mounta**	13.33	352	*e*Sn		Sn	15 27 48.3	-1.3
RLMT	**Red Lodge**	13.41	20	*e*Pn		Pn	15 25 24.5	+1.9
ABTX	**Abilene, Hawle**	13.57	86	*e*Pn		Pn	15 25 28.4	+3.7
JCT	**Junction City**	13.77	95	*e*Pn		Pn	15 25 30.8	+3.3
LON	**Longmire**	14.81	343	*e*Pn		P	15 25 46.5	-1.1
ZAIG	**Zacatecas** comp=E,21nm,1.8s	15.27	127	*e*Pn		Pn	15 25 49.0	+0.9
NEW	**Newport** comp=E,116nm,18.5s,baz=188,slow=40	15.61	357	LR		LR	15 32 38.1	
TUL1	**Leonard** comp=E,7.2nm,0.7s	16.80	73	*e*Pn		Pn	15 26 06.6	-0.9
PGC	**Sidney** comp=E,10nm,1.0s	16.98	342	*e*Pn		P	15 26 12.3	+0.8
MIAR	**Mount Ida** comp=E,7.2nm,1.0s	18.56	78	*e*P		Pn	15 26 30.1	+0.8
BBB	**Bella Bella** comp=E,70nm,20.1s,baz=146,slow=40	21.47	339	LR		LR	15 36 40.0	
AGMN	**Agassiz Nation** comp=E,6.6nm,1.0s	21.64	38	*e*P		P	15 27 03.2	+0.8
TKL	**Tuckaleechee C** comp=E,112nm,18.5s,baz=268,slow=38	26.56	75	LR		LR	15 38 53.3	
YKA	**Yellowknife Ar** comp=E,6.7nm,21.0s,baz=180,slow=38	29.85	1	LR		LR	15 40 50.3	
ILAR	**Eielson Array** comp=E,0.5nm,0.8s,baz=156,slow=8.6,SNR=6.5	37.36	339	P		P	15 29 26.9	+2.3
HHC	**Hu-ho-hao-te** comp=Z,10.0nm,1.0s	94.80	326	*e*P		P	15 35 32.7	-1.6
HHC				pmax		pmax		
HHC	comp=Z,84nm,5.5s			pmax		pmax		
WMQ	**Urumqi**	100.92	343	P		Pdif	15 36 03.9	+2.2
WR1	**Warramunga Arr**	116.90	263	*e*PKPdf		PKPdf	15 40 59.0	+1.5
WRA	**Warramunga Arr** comp=Z,0.3nm,0.8s,baz=57,slow=2.4,SNR=2.8	116.90	263	PKP		PKPdf	15 40 59.0	+1.5
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=77,slow=2.0,SNR=4.3	118.90	259	PKP		PKPdf	15 41 03.2	+1.9

*ISCJB **09** 15:24:59.2±1.1, 17°.6S±0°.5×178°.7W±0°.3, h547km, mb3.9/6, Error ellipse: s-maj=76.7km s-min=13.7km az=154.2*
*IDC **09** 15:24:59.2±1.9, 17°.34S×178°.88W, h526km±25km, mb3.3/6, mb1 3.6/8, mb1mx3.2/35, mbtmp4.3/8, Error ellipse: s-maj=72.6km s-min=15.5km az=152.0*

ISC 09 15:24:60.0±1.2, 17°.6S±0°.5×178°.7W±0°.3, h547km, n9, σ1°00/10, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 4.6nm,0.3s,baz=80,slow=5.5,SNR=8.8	7.60	62	P		P	15 26 52.3	-1.6
DZM	**Mont Dzumac** 0.8nm,0.3s,baz=288,slow=20,SNR=13	14.67	250	P		P	15 28 05.8	-0.5
CTA	**Charters Tower** 2.5nm,0.7s,baz=84,slow=15,SNR=3.1	33.22	260	P		P	15 30 52.3	+0.1
STKA	**Stephens Creek** 3.5nm,0.5s,baz=90,slow=9.7,SNR=25	38.54	241	P		P	15 31 36.5	+0.4
WRA	**Warramunga Arr** 1.9nm,0.5s,baz=96,slow=7.4,SNR=47	44.41	259	P		P	15 32 21.9	-0.8
WRA				PcP		PcP	15 33 54.8	+0.2
ASAR	**Alice Springs** 21nm,0.6s,baz=89,slow=7.8,SNR=750	44.61	254	P		P	15 32 24.0	-0.2
ILAR	**Eielson Array** 0.4nm,0.5s,baz=227,slow=5.1,SNR=4.3	85.63	13	P		P	15 36 41.0	+0.5
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=224,slow=5.2,SNR=4.9	86.06	58	P		P	15 36 45.2	+1.8
GERES	**GERESS Array B** 0.2nm,0.4s,baz=355,slow=2.1,SNR=3.7	147.22	345	PKPbc		PKPbc	15 43 41.9	-0.3

*ISCJB **09** 15:34:24.3±1.7, 35°.39N±0°.07×27°.77E±0°.08, h9km±10km, Error ellipse: s-maj=14.0km s-min=7.8km az=44.2*
*CSEM **09** 15:34:25.7±0.7, 35°.43N×27°.70E, h12km, ML2.5, Error ellipse: s-maj=17.9km s-min=7.0km az=139.0*
*ATH **09** 15:34:26.3, 35°.52N×27°.64E, h29km±1km, ML2.5/3, Error ellipse: s-maj=5.2km s-min=1.5km az=322.0*

ISC 09 15:34:23.4±1.9, 35°.41N±0°.07×27°.81E±0°.06, h9km±12km, n27, σ0°97/35, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	0.54	284	P		Pg	15 34 34.6	+0.6
KARP				S		Sb	15 34 42.2	-0.9
KARP	**Karpathos**	0.54	284	P		Pg	15 34 34.6	+0.6
KARP				S		Sb	15 34 42.2	-0.9
KARP				AML		AML	15 34 43.8	
KARP	comp=N,3581μm,0.8s			AML		AML	15 34 43.8	
ARG	comp=E,2246μm,0.4s **Arkhangelos**	0.84	18	P		Pn	15 34 42.4	+0.9
ARG				S		Sn	15 34 53.8	-0.2
NIS1	**Nisyros Isl.**	1.29	337	P		Pg	15 34 48.3	+0.3
NIS1	**Nisyros Isl.**	1.29	337	P		Pg	15 34 48.5	+0.3
NIS1				AML		AML	15 35 12.4	
NIS1	comp=E,408μm,0.5s			AML		AML	15 35 15.8	
NISR	comp=N,441μm,0.4s **Nisiros**	1.32	335	P		Pn	15 34 46.9	-1.1
NISR	**Nisiros**	1.32	335	P		Pn	15 34 46.9	-1.1
ZKR	**Zakros**	1.33	258	P		Pn	15 34 47.5	-0.7
ZKR	**Zakros**	1.33	258	P		Pn	15 34 47.5	-0.7
ZKR				AML		AML	15 35 18.2	
ZKR	comp=E,349μm,1.1s			AML		AML	15 35 18.8	
TURN	comp=N,374μm,0.5s **Turunc**	1.59	24	*i* P		Pn	15 34 51.2	-0.6
TURN				*i* S		Sn	15 35 12.3	-0.2
BDRM	**Kayabasi**	1.68	350	P		Pn	15 34 53.8	+0.8
BDRM				S		Sg	15 35 16.3	-1.0
BDRM	**Kayabasi**	1.68	350	*i* P		Pn	15 34 53.8	+0.8
BDRM				*i* S		Sg	15 35 16.3	-1.0
NPS	**Neapolis**	1.80	266	P		Pn	15 34 55.4	+0.7
NPS	**Neapolis**	1.80	266	P		Pn	15 34 55.4	+0.7
LAST	**Lasithi**	1.92	263	P		Pb	15 34 58.7	0.0
LAST	**Lasithi**	1.92	263	P		Pb	15 34 58.7	0.0
AYDN	**Tasoluk**	2.25	1	P		Pn	15 35 02.6	+1.8
AYDN				S		Sb	15 35 32.0	-0.1
AYDN	**Tasoluk**	2.25	1	*i* P		Pn	15 35 02.6	+1.8
AYDN				*i* S		Sb	15 35 32.0	-0.1
GOLH	**Golhisar**	2.31	37	P		Pb	15 35 04.9	-0.4
GOLH	**Golhisar**	2.31	37	*i* P		Pb	15 35 04.9	-0.4
IDI	**Anoyia**	2.39	268	P		Pn	15 35 04.0	+1.2
IDI	**Anoyia**	2.39	268	P		Pn	15 35 04.0	+1.2
SMG	**Samos**	2.42	341	P		Pn	15 35 04.6	+1.4
SMG	**Samos**	2.42	341	P		Pn	15 35 04.6	+1.4
APE	**Apeiranthos**	2.47	313	P		Pn	15 35 05.3	+1.3
APE	**Apeiranthos**	2.47	313	P		Pn	15 35 05.3	+1.3
DNZL	**Cakiroluk**	2.48	23	*i* P		Pg	15 35 11.4	+0.4

**WEL 09 15:36:44.8±0.4, 35°.04S×178°.51E, h250km±8km, ML

ISC 09 15:37:32.7±1.8, 54°33N±0.09×161°34W±0.05, h24km±12km, n66, σ1°53/73, mb4.0/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRIA	**Deer Island**	**0.84**	**320**	P	**Pb**	**15 37 48.1**	**-0.5**
DOL	**Dolgoi Island**	**0.88**	**340**	P	**Pb**	**15 37 48.9**	**-0.4**
DT1	**Dutton Round H**	**0.96**	**325**	*e*Pn	**Pn**	**15 37 49.8**	**-0.8**
PS4A	**Pavlof South-4**	**1.07**	**344**	P	**Pn**	**15 37 52.2**	**0.0**
PVV	**Pavlof Volcano**	**1.08**	**346**	P	**Pn**	**15 37 52.5**	**+0.2**
SDPT	**Sand Point**	**1.14**	**26**	*e*Pn	**Pb**	**15 37 54.2**	**+0.5**
SDPT				*e*Sn	**Sn**	**15 38 09.0**	**+1.0**
PN6	**Pavlof North-6**	**1.18**	**344**	*e*Pn	**Pn**	**15 37 54.9**	**+1.1**
PN6				*e*Sn	**Sn**	**15 38 10.6**	**+1.6**
BALA	**Baldy Mountain**	**1.21**	**317**	*e*Pn	**Pn**	**15 37 54.8**	**+0.7**
SSLS	**Shishaldin Sou**	**1.60**	**285**	P	**Pn**	**15 38 00.9**	**+1.4**
SSLS				S	**Sn**	**15 38 20.9**	**+1.5**
SSLN	**Shishaldin Nor**	**1.62**	**289**	P	**Pb**	**15 38 01.6**	**-0.3**
SSLW	**Shishaldin Wes**	**1.68**	**287**	P	**Pn**	**15 38 01.5**	**+1.2**
WESP	**Westdahl Peak**	**1.98**	**276**	P	**Pn**	**15 38 06.7**	**+1.9**
WESP				S	**Sb**	**15 38 32.0**	**-0.5**
WEBT	**Westdahl Beart**	**2.01**	**279**	P	**Pn**	**15 38 07.2**	**+2.0**
WECS	**Westdahl Cape**	**2.02**	**277**	P	**Pn**	**15 38 07.1**	**+1.9**
VNWF	**Veniaminof 8**	**2.09**	**28**	P	**Pb**	**15 38 09.3**	**-0.7**
CHGN	**Chignik**	**2.59**	**39**	*e*Pn	**Pn**	**15 38 16.1**	**+3.0**
CHGN				*e*Sn	**Sb**	**15 38 49.1**	**-0.7**
AKUT	**Akutan**	**2.61**	**268**	*e*Pn	**Pn**	**15 38 13.9**	**+0.5**
AKUT				*e*Sn	**Sn**	**15 38 44.6**	**+0.4**
UNV	**Unalaska Valle**	**3.08**	**263**	*e*Pn	**Pn**	**15 38 21.4**	**+1.6**
NIKH	**Nikolski High**	**4.67**	**256**	*e*Pn	**Pn**	**15 38 42.7**	**+1.1**
OHAK	**Old Harbor**	**5.39**	**54**	*e*Pn	**Pn**	**15 38 53.2**	**+1.6**
OHAK				*e*Sn	**Sn**	**15 39 54.9**	**+2.2**
SPIA	**Saint Paul Isl**	**5.79**	**303**	*e*Pn	**Pn**	**15 38 59.2**	**+2.3**
KDAK	**Kodiak Island**	**6.00**	**51**	*e*Pn	**Pn**	**15 39 01.1**	**+1.2**
SVW2	**Sparrevohn**	**7.45**	**22**	*e*Pn	**Pn**	**15 39 21.9**	**+2.0**
SVW2				*e*Sn	**Sn**	**15 40 41.7**	**-1.8**
HOM	**Homer**	**7.52**	**41**	*e*Pn	**Pn**	**15 39 19.2**	**-1.5**
CNPM	**China Poot**	**7.59**	**43**	*e*Pn	**Pn**	**15 39 23.1**	**+1.4**
CNPM				*e*Sn	**Sn**	**15 40 44.7**	**-2.3**
RSO	**Redoubt South**	**7.70**	**34**	*e*Pn	**Pn**	**15 39 22.5**	**-0.9**
RSO				*e*Sn	**Sn**	**15 40 48.3**	**-1.5**
BRLK	**Bradley Lake**	**7.88**	**42**	*e*Pn	**Pn**	**15 39 26.9**	**+1.2**
SPU	**Mount Spurr**	**8.47**	**32**	*e*Pn	**Pn**	**15 39 36.7**	**+2.9**
SEW	**Seward**	**8.66**	**43**	*e*Pn	**Pn**	**15 39 38.2**	**+1.8**
TT01	**Tatalina**	**9.04**	**16**	*e*Pn	**Pn**	**15 39 42.7**	**+1.2**
TT01				*e*Sn	**Sn**	**15 41 22.2**	**-0.2**
TTA	**Tatalina**	**9.06**	**16**	*e*Pn	**Pn**	**15 39 43.6**	**+1.6**
RC01	**Rabbit Creek A**	**9.18**	**38**	*e*Pn	**Pn**	**15 39 46.2**	**+2.7**
PMR	**Palmer**	**9.74**	**37**	*e*Pn	**Pn**	**15 39 50.4**	**-0.7**
PPLA	**Purkeypile**	**9.82**	**25**	*e*Pn	**Pn**	**15 39 56.8**	**+4.5**
SML	**Sawmill**	**10.17**	**37**	*e*Pn	**Pn**	**15 39 56.8**	**-0.2**
EYAK	**Cordova Ski Ar**	**10.45**	**47**	*e*Pn	**Pn**	**15 40 02.0**	**+1.2**
SCM	**Sheep Creek Mo**	**10.55**	**39**	*e*Pn	**Pn**	**15 40 02.9**	**+0.7**
KTH	**Kantishna Hill**	**10.69**	**26**	*e*Pn	**Pn**	**15 40 03.5**	**-0.7**
DIV	**Divide**	**10.74**	**44**	*e*Pn	**Pn**	**15 40 06.4**	**+1.5**
TRF	**Thorofare Moun**	**10.77**	**27**	*e*Pn	**Pn**	**15 40 05.8**	**+0.4**
RAGM	**Ragged Mountai**	**10.84**	**49**	*e*Pn	**Pn**	**15 40 07.4**	**+1.2**
KLU	**Klutina**	**10.88**	**43**	*e*Pn	**Pn**	**15 40 07.5**	**+0.7**
BPAW	**Bear Paw Mtn.**	**11.13**	**24**	*e*Pn	**Pn**	**15 40 12.7**	**+2.6**
RND	**Reindeer**	**11.14**	**30**	*e*Pn	**Pn**	**15 40 09.2**	**-1.2**
BMRM	**Bremner River**	**11.14**	**47**	*e*Pn	**Pn**	**15 40 13.0**	**+2.6**
DHY	**Denali Highway**	**11.36**	**34**	*e*Pn	**Pn**	**15 40 12.8**	**-0.7**
MCK	**McKinley**	**11.37**	**29**	*e*Pn	**Pn**	**15 40 13.4**	**0.0**
TNA	**Tin City**	**11.73**	**346**	*e*Pn	**Pn**	**15 40 17.5**	**-0.8**
PAX	**Paxson**	**11.94**	**37**	*e*Pn	**Pn**	**15 40 22.2**	**+0.9**
CCB	**Clear Creek Bu**	**12.39**	**28**	*e*Pn	**Pn**	**15 40 25.2**	**-2.1**
HDA	**Harding Lake**	**12.45**	**30**	*e*Pn	**Pn**	**15 40 25.6**	**-2.6**
MDM	**Murphy Dome**	**12.52**	**26**	*e*Pn	**Pn**	**15 40 29.9**	**+0.8**
COLA	**College**	**12.55**	**27**	*e*Pn	**Pn**	**15 40 30.3**	**+0.7**
ILAR	**Eielson Array**	**12.74**	**29**	Pn	**Pn**	**15 40 31.1**	**-1.0**
	0.1nm,0.3s,baz=222,slow=15,SNR=3.7						
DOT	**Dot Lake**	**12.86**	**37**	*e*Pn	**Pn**	**15 40 31.6**	**-2.2**
DHAK	**Deception Hill**	**13.53**	**60**	*e*Pn	**Pn**	**15 40 41.5**	**-1.5**
COLD	**Coldfoot**	**14.00**	**18**	*e*Pn	**Pn**	**15 40 49.9**	**+0.6**
PEA0	**Petropavlovsk-**	**24.04**	**284**	*e*P	**P**	**15 42 45.5**	**0.0**
PEA0B	**Petropavlovsk-**	**24.04**	**284**	*e*P	**P**	**15 42 45.2**	**-0.3**
PETK	**Petropavlovsk-**	**24.04**	**284**	P	**P**	**15 42 44.7**	**-0.8**
	4.1nm,0.5s,baz=81,slow=13,SNR=40						
H11S1	**WAKE ISLAND Hy**	**43.34**	**227**	T	T	16 31 46.7	
	baz=26,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**43.35**	**227**	T	T	16 31 44.7	
	baz=26,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**43.36**	**227**	T	T	16 31 44.6	
	baz=26,slow=76,SNR=6.7						
GUMO	**Guam**	**58.29**	**247**	LR	LR	16 08 45.9	
	comp=Z,12nm,19.6s,baz=102,slow=32						
AKASG	**Malin Array Be**	**74.97**	**353**	P	**P**	**15 49 10.8**	**-0.5**
	0.6nm,0.4s,baz=11,slow=6.0,SNR=4.8						
BRTR	**Keskin Array B**	**85.44**	**348**	P	**P**	**15 50 07.7**	**-0.5**
	0.5nm,0.6s,baz=22,slow=6.3,SNR=3.7						

*NIED **09** 15:40:00, 37.90N×141.70E, h53km, Mw4.4 Best double couple: M0=4.18000×10^15 NP1:φ=193.00000°, δ=27.00000°, λ=78.00000°. NP2:φ=26.00000°, δ=63.00000°, λ=96.00000°.*

*BJI **09** 15:40:53.4, 37.72N×141.90E, h54km, mb4.7/55, mB4.7/32, Ms3.7/20, Ms7 3.6/20*

*ISCJB **09** 15:40:55.9±0.3, 37.89N±0.02×141.60E±0.03, h59km±2km, mb4.7/176, MS3.3/11, Error ellipse: s-maj=4.2km s-min=3.0km az=41.2*

*MOS **09** 15:40:56.3±0.9, 38.16N×141.55E, h50km, mb4.9/87, Error ellipse: s-maj=6.7km s-min=4.5km az=105.7*

*JMA **09** 15:40:56.3±0.1, 37.90N×141.65E, h49km±1km, M4.4*

JMA Felt II J1.

*IDC **09** 15:40:56.6±0.5, 37.88N×141.61E, h50km±5km, mb4.2/29, mb1 4.4/37, mb1mx4.3/55, mbtmp4.5/37, MS3.3/15, Ms1 3.3/15, ms1mx3.1/44, Error ellipse: s-maj=12.1km s-min=9.1km az=107.0*

*NEIC **09** 15:40:57.5±0.4, 37.89N×141.58E, h58km±4km, mb4.7/110, Error ellipse: s-maj=4.2km s-min=2.7km az=135.0*

NEIC Recorded [2 JMA] in Fukushima and Miyagi.

ISC 09 15:40:56.0±0.5, 37.93N±0.03×141.66E±0.04, h47km±3km, h46km:pP-P, n378, σ1°31/427, mb4.7/178, MS3.4/11, 11C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.58**	**335**	P	**Pn**	**15 41 08.9**	**+0.8**
JIO				S	**Sn**	**15 41 17.5**	**+0.8**
JMM	**Marumori**	**0.69**	**265**	P	**Pn**	**15 41 09.8**	**+0.3**
JMM				*e*S	**Sn**	**15 41 19.1**	**-0.1**
JFK	**Kawauchi**	**0.84**	**229**	P	**Pn**	**15 41 11.4**	**-0.1**
JFK				*e*S	**Sn**	**15 41 22.1**	**-0.7**
JOU	**Okura**	**0.90**	**299**	P	**Pn**	**15 41 13.1**	**+0.8**
JOU				S	**Sn**	**15 41 24.9**	**+0.6**
JMK	**Ichinoseki**	**1.08**	**341**	P	**Pn**	**15 41 15.8**	**+1.1**
JMK				*e*S	**Sn**	**15 41 29.7**	**+1.1**
JFT	**Otama**	**1.13**	**249**	P	**Pn**	**15 41 16.1**	**+0.7**
JFT				*e*S	**Sn**	**15 41 30.2**	**+0.5**
JYS	**Shirataka**	**1.29**	**284**	P	**Pn**	**15 41 18.5**	**+0.9**
JYS				*e*S	**Sn**	**15 41 34.4**	**+0.6**
JYK	**Kaneyama**	**1.43**	**314**	P	**Pn**	**15 41 20.5**	**+1.1**
JYK				*e*S	**Sn**	**15 41 37.6**	**+0.6**
JOM	**Ohasama**	**1.57**	**349**	P	**Pn**	**15 41 22.6**	**+1.2**
JOM				*e*S	**Sn**	**15 41 41.6**	**+1.0**
JFY	**Yanaizu**	**1.64**	**252**	P	**Pn**	**15 41 23.1**	**+0.8**
JYA	**Atsumi**	**1.67**	**294**	P	**Pn**	**15 41 23.8**	**+1.0**
JRG	**Rokugo**	**1.68**	**332**	P	**Pn**	**15 41 24.5**	**+1.7**
JRG				*e*S	**Sn**	**15 41 45.6**	**+2.5**
MJAR	**Matsushiro Arr**	**3.08**	**244**	P	**Pn**	**15 41 43.6**	**+1.5**
	9.0nm,0.3s,baz=67,slow=11,SNR=102						
MJAR				LR	LR	15 43 07.8	
	comp=Z,638nm,20.5s,baz=65,slow=44						
MAJO	**Matsushiro**	**3.08**	**244**	*d i*P	**Pn**	**15 41 43.8**	**+1.6**
MAJO	**Matsushiro**	**3.08**	**244**	*e*Pn	**Pn**	**15 41 44.1**	**+1.9**
MAT	**Matsushiro**	**3.08**	**244**	P	**Pn**	**15 41 43.8**	**+1.6**
MAT				S	**Sn**	**15 42 24.3**	**+6.5**
MJB9	**Matsu-Tunnel**	**3.08**	**245**	*e*Pn	**Pn**	**15 41 44.0**	**+1.8**
ERM	**Erimo**	**4.24**	**15**	*ce*P	**Pn**	**15 41 58.1**	**+0.1**
ERM				pmax	pmax		
	comp=Z,65nm,1.2s						
ERM	**Erimo**	**4.24**	**15**	*e*Pn	**Pn**	**15 41 57.8**	**-0.3**
ERM				*e*Sn	**Sn**	**15 42 45.2**	**-1.1**
INU	**Inuyama**	**4.54**	**237**	*e*Pn	**Pn**	**15 42 03.6**	**+1.5**
JHJ2	**Mitsune**	**5.03**	**198**	*e*Pn	**Pn**	**15 42 09.8**	**+0.9**
JHJ2				*e*Sn	**Sn**	**15 43 03.2**	**-2.5**
JHJ	**Hachijo jima 2**	**5.03**	**198**	P	**Pn**	**15 42 09.6**	**+0.6**
	comp=Z,32nm,0.3s,baz=338,slow=22,SNR=27						
JHJ				S	**Sn**	**15 43 03.0**	**-2.9**
	comp=Z,77nm,0.3s,baz=105,slow=22,SNR=9.0						
JHJ				LR	LR	15 44 15.8	
	comp=Z,310nm,20.4s,baz=76,slow=40						
ASAJ	**Asahikawa**	**6.22**	**6**	P	**Pn**	**15 42 25.5**	**+0.2**
	baz=90,slow=20						
ASAJ				S	**Sn**	**15 43 36.2**	**+1.2**
ASAJ	**Asahikawa**	**6.22**	**6**	*e*Pn	**Pn**	**15 42 25.5**	**+0.2**
ASAJ				*e*Sn	**Sn**	**15 43 33.9**	**-1.2**
KUR	**Kuril'sk**	**8.65**	**31**	*e*P	**Pn**	**15 42 58.1**	**-0.4**
KUR				*e*S	**Sn**	**15 44 30.1**	**-4.5**
KUR				pmax	pmax		
	comp=E,7.0nm,0.5s						
KUR				pmax	pmax		
	comp=Z,18nm,0.5s						
KUR				pmax	pmax		
	comp=N,7.0nm,0.4s						
KUR				smax	smax		
	comp=E,94nm,0.6s						
KUR				smax	smax		
	comp=N,62nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.06**	**5**	*e*P	**Pn**	**15 43 04.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**9.06**	**5**	*e*Pn	**Pn**	**15 43 04.0**	**0.0**
VLA	**Vladivostok**	**9.07**	**308**	*i* P	**Pn**	**15 43 06.9**	**+2.7**
MSHR	**Mys Shultsa**	**9.28**	**303**	*ce*P	**Pn**	**15 43 08.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.62**	**314**	P	**Pn**	**15 43 13.7**	**+1.9**
	comp=N,3.1nm,0.3s,baz=110,slow=15,SNR=57						
USRK				LR	LR	15 46 42.7	
	comp=N,216nm,21.0s,baz=116,slow=36						
JNU	**Nakatsue**	**10.01**	**245**	P	**Pn**	**15 43 18.3**	**+1.2**
	comp=N,0.6nm,0.3s,baz=52,slow=7.7,SNR=13						
JNU				LR	LR	15 47 30.1	
	comp=N,341nm,20.7s,baz=110,slow=40						
JNU	**Nakatsue**	**10.01**	**245**	*e*Pn	**Pn**	**15 43 18.6**	**+1.4**
CBIJ	**Chichi jima**	**10.81**	**178**	*e*Pn	**Pn**	**15 43 26.8**	**-1.2**
CBIJ				*e*Sn	Sn	15 45 12.8	-15
JCJ	**Chichijima**	**10.81**	**178**	P	**Pn**	**15 43 27.0**	**-1.1**
	baz=90,slow=20						
JCJ				S	Sn	15 45 14.9	-13
	comp=N,2.7nm,0.3s,baz=287,slow=20,SNR=2.3						
KSRS	**Korea Array**	**10.90**	**272**	P	**Pn**	**15 43 33.2**	**+3.9**
	comp=N,1.0nm,0.3s,baz=83,slow=14,SNR=41						
KSRS				LR	LR	15 47 20.7	
	comp=N,175nm,21.6s,baz=57,slow=35						
KS01	**Wonju Array Si**	**10.92**	**272**	*e*Pn	**Pn**	**15 43 31.2**	**+1.7**
KS15	**Wonju Array Si**	**10.93**	**272**	*e*Pn	**Pn**	**15 43 32.1**	**+2.4**
KSAR	**Wonju Array Be**	**10.93**	**272**	P	**Pn**	**15 43 33.2**	**+3.5**
KSAR	**Wonju Array Be**	**10.93**	**272**	P	**Pn**	**15 43 33.2**	**+3.5**
MDJ	**Mudanjiang**	**11.27**	**310**	P	**Pn**	**15 43 38.7**	**+4.4**
MDJ				PMZ			
	comp=N,31nm,1.0s						
MDJ				PMZ			
	comp=N,27nm,2.8s						
MDJ	**Mudanjiang**	**11.27**	**310**	*e*Pn	**Pn**	**15 43 38.0**	**+3.7**
TJN	**Taejon**	**11.52**	**267**	*ce*P	**Pn**	**15 43 42.1**	**+4.4**
HABR	**Khabarovsk**	**11.59**	**338**	*e*P	**Pn**	**15 43 37.1**	**-1.5**
HABR				*e*S	**Sn**	**15 45 45.8**	**-0.7**
HABR				pmax	pmax		
	comp=E,9.0nm,0.9s						
HABR				pmax	pmax		
	comp=N,12nm,1.6s						
HABR				pmax	pmax		
	comp=Z,13nm,1.6s						
HABR				MLR	MLR		
	comp=Z,66nm,12.0s						
KLR	**Kul'dur**	**13.38**	**331**	P	**Pn**	**15 44 03.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=124,slow=11,SNR=8.6						
KLR				LR	LR	15 49 14.5	
	comp=Z,123nm,19.2s,baz=142,slow=37						
CN2	**Changchun**	**13.60**	**301**	*e*P	**Pn**	**15 44 05.2**	**-0.9**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				LN			
	comp=Z,100nm,13.0s						
CN2				LE			
	comp=Z,200nm,13.0s						
CN2				LZ			
	comp=Z,100nm,15.0s						
JOW	**Kunigami**	**15.80**	**229**	*e*Pn	**Pn**	**15 44 33.6**	**-1.7**
	comp=Z,41nm,1.3s						
PEA0	**Petropavlovsk-**	**18.82**	**31**	*e*P	**Pn**	**15 45 13.0**	**+0.5**
PEA0B	**Petropavlovsk-**	**18.82**	**31**	*e*P	**Pn**	**15 45 13.2**	**+0.7**
	comp=Z,30nm,1.3s						
PETK	**Petropavlovsk-**	**18.82**	**31**	P	**Pn**	**15 45 12.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=218,slow=6.2,SNR=8.0						
PETK				LR	LR	15 52 41.8	
	comp=Z,25nm,21.3s,baz=220,slow=37						
PEA1	**Petropavlovsk-**	**18.82**	**31**	*e*P	**Pn**	**15 45 12.3**	**-0.2**
TIA	**Tai'an**	**19.64**	**273**	*e*P	**P**	**15 45 20.3**	**-0.5**
TIA				PMZ			
	comp=Z,30nm,1.1s						
BJI	**Beijing**	**19.91**	**284**	P	**P**	**15 45 21.8**	**-1.8**
BJI				S	**S**	**15 49 00.4**	**-4.6**
BJI				PMZ			
	comp=Z,9.0nm,0.8s						
BJI				PMZ			
	comp=Z,73nm,4.3s						
BJI				LN			
	comp=Z,79nm,12.8s						
BJI				LE			
	comp=Z,84nm,16.6s						
BJT	**Baijiatuan**	**19.91**	**284**	*e*P	**P**	**15 45 22.5**	**-1.1**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJT	**Baijiatuan**	**19.91**	**284**	*e*P	**P**	**15 45 22.5**	**-1.1**
	comp=Z,9.9nm,0.7s						
NACB	**Ninganchiao**	**21.93**	**237**	*e*P	**P**	**15 45 46.6**	**+1.2**
	comp=Z,16nm,0.8s						
MA2	**Magadan**	**22.44**	**12**	P	**P**	**15 45 50.6**	**0.0**
	comp=Z,21nm,0.7s,baz=222,slow=8.4,SNR=20						
SSLB	**Suanglung**	**22.62**	**237**	*e*P	**P**	**15 45 50.0**	**-2.9**
	comp=Z,14nm,0.9s						
YULB	**Yu-li**	**22.66**	**236**	*e*P	**P**	**15 45 51.0**	**-2.3**
	comp=Z,36nm,1.7s						
TPUB	**Ta-pu**	**23.17**	**237**	*e*P	**P**	**15 45 55.8**	**-2.7**
	comp=Z,64nm,1.6s						
TWG	**Pinlang**	**23.21**	**235**	*e*P	**P**	**15 45 56.4**	**-2.5**
	comp=Z,84nm,1.0s						
HHC	**Hu-ho-hao-te**	**23.39**	**287**	*e*P	**P**	**15 45 58.2**	**-2.5**
HHC				pP	pP	15 46 09.0	-3.2
HHC				PP	**PnPn**	**15 46 28.4**	**+0.1**
HHC				S	**S**	**15 50 03.3**	**-7.1**
HHC				sS	sS	15 50 27.7	-3.0
HHC				PMZ			
	comp=Z,18nm,1.0s						
HHC				PMZ			
	comp=Z,100nm,5.5s						
GUMO	**Guam**	**24.41**	**172**	LR	LR	15 55 58.5	
	comp=Z,12nm,21.2s,baz=12,slow=37						
YAK	**Yakutsk**	**25.25**	**347**	*e*P	**P**	**15 46 15.3**	**-2.0**
YAK				*e**PP	**sP**	**15 46 33.0**	**-2.0**
YAK				*e*		15 46 50.3	
YAK				*e*		15 49 49.0	
YAK				*e*S	**S**	**15 50 35.9**	**-3.5**
YAK				*e**SS	**sS**	**15 51 01.0**	**+1.1**
YAK				*e*SS	**SnSn**	**15 51 31.2**	**-2.2**
YAK				*e*		15 57 11.0	
YAK				pmax	pmax		
	comp=Z,21nm,0.9s						
YAK				pmax	pmax		
	comp=N,14nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,89nm,3.7s						
YAK				pmax	pmax		
	comp=E,38nm,3.4s						
YAK				pmax	pmax		
	comp=N,47nm,3.5s						
YAK				smax	smax		
	comp=N,58nm,2.8s						
YAK				smax	smax		
	comp=E,34nm,2.7s						
SEY	**Seymchan**	**25.88**	**11**	P	**P**	**15 46 24.2**	**+1.2**
	comp=E,16nm,0.9s,baz=204,slow=6.8,SNR=41						
XAN	**Xi'an**	**26.70**	**272**	P	**P**	**15 46 36.9**	**+6.1**
XAN				pP	pP	15 46 44.2	+1.2
XAN				pmax	pmax		
	comp=Z,14nm,0.6s						
ULN	**Ulaanbaatar**	**27.03**	**303**	*ce*P	**P**	**15 46 34.2**	**+0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**27.03**	**303**	*e*P	**P**	**15 46 33.2**	**-0.6**
	comp=Z,3.3nm,0.6s						
SONA1	**Songino Array**	**27.46**	**303**	*e*P	**P**	**15 46 38.2**	**+0.6**
SONA0	**Songino Array**	**27.46**	**302**	*e*P	**P**	**15 46 38.0**	**+0.4**
	comp=Z,5.4nm,0.8s						
SONA0				*e*PcP	**PcP**	**15 49 54.9**	**-0.2**
SONM	**Songino Array**	**27.46**	**302**	P	**P**	**15 46 38.0**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=94,slow=9.0,SNR=16						
SONM				PcP	**PcP**	**15 49 54.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=147,slow=3.0,SNR=4.1						
SONM				LR	LR	15 56 36.1	
	comp=Z,64nm,21.8s,baz=78,slow=34						
ENH	**Enshi**	**27.62**	**264**	*e*P	**P**	**15 46 38.2**	**-0.9**
	comp=Z,27nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	16 17 02.5	
	baz=316,slow=75,SNR=1004						
H11N1	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	16 17 03.1	
	baz=316,slow=75,SNR=1409						
H11N3	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	16 17 03.8	
	baz=316,slow=75,SNR=1148						
H11S1	**WAKE ISLAND Hy**	**29.19**	**125**	T	T	16 17 59.8	
	baz=317,slow=75,SNR=526						
H11S3	**WAKE ISLAND Hy**	**29.19**	**125**	T	T	16 17 58.6	
	baz=317,slow=75,SNR=782						
H11S2	**WAKE ISLAND Hy**	**29.20**	**125**	T	T	16 17 58.6	
	baz=317,slow=75,SNR=573						
ZAK	**Zakamensk**	**29.88**	**307**	*e*P	**P**	**15 46 58.3**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TLY	**Talaya**	**29.91**	**310**	P	**P**	**15 46 59.6**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=127,slow=5.0,SNR=3.3						
TLY				LR	LR	15 59 46.0	
	comp=Z,74nm,18.5s,baz=91,slow=38						
TLY	**Talaya**	**29.91**	**310**	*e*P	**P**	**15 46 59.8**	**+0.6**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TLY				MLR	MLR		
	comp=Z,98nm,17.0s						
LZH	**Lanzhou**	**30.12**	**278**	*e*P	**P**	**15 47 04.2**	**+2.8**
LZH				pP	sP	15 47 17.4	-1.9
LZH				sP	pP	15 47 23.3	+10
LZH				PMZ			
	comp=Z,17nm,1.0s						
GYA	**Guiyang**	**31.57**	**259**	*i*P	**P**	**15 47 13.2**	**-1.1**
GYA				pP	pP	15 47 29.4	+2.8
GYA				sP	sP	15 47 35.0	+2.9
GYA				PP	**PnPn**	**15 48 20.2**	**+1.3**
GYA				PcP	**PcP**	**15 50 06.3**	**+0.4**
GYA				S	**S**	**15 52 18.3**	**-1.6**
GYA				sS	sS	15 52 42.0	+1.4
GYA				ScP	**ScP**	**15 53 44.2**	**-1.0**
GYA				SS	**SnSn**	**15 54 08.8**	**+0.3**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,110nm,5.0s						
GYA				LN			
	comp=Z,460nm,16.0s						
GYA				LE			
	comp=Z,440nm,16.9s						
GYA				LZ			
	comp=Z,400nm,16.4s						
CD2	**Chengdu**	**31.88**	**269**	*e*P	**P**	**15 47 15.8**	**-1.0**
GTA	**Gaotai**	**32.50**	**286**	*e*P	**P**	**15 47 21.8**	**-0.5**
GTA				pP	pP	15 47 32.9	-1.7
GTA				sP	sP	15 47 37.8	-2.4
GTA				PcP	**PcP**	**15 50 08.8**	**+0.5**
GTA				S	**S**	**15 52 32.0**	**-2.2**
GTA				PMZ			
	comp=Z,3.0nm,0.8s						
GTA				PMZ			
	comp=Z,25nm,5.9s						
GTA				LN			
	comp=Z,61nm,15.2s						
GTA				LE			
	comp=Z,80nm,19.0s						
GTA				LZ			
	comp=Z,110nm,19.0s						
BILL	**Bilibino**	**33.12**	**17**	*e*P	**P**	**15 47 27.4**	**+0.2**
BILL				*e*		15 47 40.7	
BILL				*e*		15 48 38.7	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.6s						
BILL				MLR	MLR		
	comp=Z,71nm,20.0s						
BILL	**Bilibino**	**33.12**	**17**	*e*P	**P**	**15 47 27.6**	**+0.4**
	comp=Z,13nm,1.6s						
QIZ	**Qiongzhong**	**33.48**	**245**	P	**P**	**15 47 30.0**	**-0.9**
QIZ				S	**S**	**15 52 49.0**	**-0.4**
QIZ				PMZ			
	comp=Z,20nm,1.5s						
QIZ				LZ			
	comp=Z,94nm,15.4s						
TIXI	**Tiksi**	**34.43**	**353**	P	**P**	**15 47 38.1**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=144,slow=6.2,SNR=11						
TIXI	**Tiksi**	**34.43**	**353**	*ce*P	**P**	**15 47 36.9**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIXI	**Tiksi**	**34.43**	**353**	*e*P	**P**	**15 47 38.0**	**-0.5**
	comp=Z,3.5nm,1.0s						
**KMI

comp=Z,10nm,0.6s
KSM Kuching 46.31 226 *e*P **P 15 49 17.5 +0.2**
comp=Z,40nm,1.9s
PPLA Purkeypile 46.33 35 *e*P **P 15 49 17.5 +0.5**
comp=Z,18nm,1.5s
SPU Mount Spurr 46.41 38 *e*P **P 15 49 17.4 -0.2**
PDGK Podgornoye 46.54 297 P **P 15 49 18.6 -0.2**
PDGK pmax pmax
comp=Z,5.0nm,0.5s
KTH Kantishna Hill 46.90 34 *e*P **P 15 49 19.7 -1.8**
comp=Z,8.8nm,1.0s
MLY Manley 46.99 32 *e*P **P 15 49 23.4 +1.3**
comp=Z,4.9nm,0.7s
SUA Susitna One 47.03 37 *e*P **P 15 49 23.0 +0.5**
comp=Z,24nm,1.8s
BRLK Bradley Lake 47.05 40 *e*P **P 15 49 24.1 +1.5**
comp=Z,46nm,1.8s
TRF Thorofare Moun 47.19 35 *e*P **P 15 49 24.8 +1.0**
comp=Z,4.2nm,0.9s
GUN Gumba 47.27 275 *e*P **P 15 49 26.2 +1.1**
comp=Z,26nm,0.5s
COLD Coldfoot 47.28 29 *e*P **P 15 49 26.7 +2.5**
comp=Z,10.0nm,1.8s
KAPI Kappang 47.33 210 *e*P **P 15 49 25.7 +0.5**
comp=Z,21nm,1.3s
RC01 Rabbit Creek A 47.53 38 *e*P **P 15 49 27.0 +0.7**
comp=Z,8.1nm,0.9s
BWN Browne 47.54 34 *e*P **P 15 49 29.0 +2.7**
comp=Z,38nm,1.0s
MCK McKinley 47.78 34 *e*P **P 15 49 29.3 +1.0**
MCK pmax pmax
comp=Z,6.0nm,1.0s
MCK McKinley 47.78 34 *e*P **P 15 49 29.2 +1.0**
comp=Z,6.1nm,1.0s
PMR Palmer 47.79 37 *e*P **P 15 49 29.1 +0.8**
PMR pmax pmax
comp=Z,7.0nm,0.6s
PMR Palmer 47.79 37 *e*P **P 15 49 29.1 +0.8**
comp=Z,7.0nm,0.6s
KKN Kakani 47.80 275 *e*P **P 15 49 29.5 +0.4**
comp=Z,12nm,0.4s
PKIN Phulchoki 47.80 275 *e*P **P 15 49 29.1 -0.1**
comp=Z,5.8nm,0.4s
RND Reindeer 47.83 35 *e*P **P 15 49 29.3 +0.6**
RND pmax pmax
comp=Z,4.0nm,0.6s
RND Reindeer 47.83 35 *e*P **P 15 49 29.3 +0.6**
comp=Z,4.0nm,0.6s
DMN Daman 48.02 275 *e*P **P 15 49 31.1 +0.3**
MDM Murphy Dome 48.06 33 *e*P **P 15 49 31.7 +1.3**
comp=Z,6.4nm,0.8s
WRH Wood River Hil 48.13 33 *e*P **P 15 49 31.6 +0.8**
WRH *e*PcP **PcP 15 50 57.5 -0.3**
SML Sawmill 48.16 37 *e*P **P 15 49 32.0 +0.8**
SML pmax pmax
comp=Z,9.0nm,0.7s
SML Sawmill 48.16 37 *e*P **P 15 49 32.0 +0.8**
comp=Z,9.2nm,0.7s
GKN Gorkha 48.21 276 *e*P **P 15 49 32.2 0.0**
comp=Z,15nm,0.5s
COLA College 48.22 33 *e*P **P 15 49 32.0 +0.5**
COLA pmax pmax
comp=Z,7.0nm,0.3s
COLA College 48.22 33 *e*P **P 15 49 32.0 +0.5**
comp=Z,7.4nm,0.3s
CCB Clear Creek Bu 48.25 33 *e*P **P 15 49 32.7 +0.9**
comp=Z,9.1nm,1.8s
DHY Denali Highway 48.52 35 *e*P **P 15 49 35.3 +1.2**
comp=Z,14nm,1.6s
HDA Harding Lake 48.63 33 *e*P **P 15 49 34.1 -0.6**
comp=Z,8.8nm,1.2s
SCM Sheep Creek Mo 48.63 37 *e*P **P 15 49 36.2 +1.3**
SCM pmax pmax
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 48.63 37 *e*P **P 15 49 36.2 +1.3**
comp=Z,10.0nm,0.8s
ILAR Eielson Array 48.64 33 P **P 15 49 35.4 +0.6**
comp=Z,3.5nm,0.7s,baz=267,slow=6.5,SNR=41
ILB Eielson Array 48.64 33 *e*P **P 15 49 35.3 +0.6**
IL1 Eielson Array 48.64 33 *e*P **P 15 49 35.3 +0.5**
KOLN Koldanda 49.13 276 *e*P **P 15 49 39.4 +0.1**
comp=Z,7.1nm,0.4s
KLU Klutina 49.34 37 *e*P **P 15 49 41.4 +1.2**
comp=Z,8.2nm,0.6s
TKM2 Tokmak 2 49.38 298 *i* P **P 15 49 41.7 +0.6**
TKM2 pmax pmax
comp=Z,11nm,0.5s
TKM2 Tokmak 2 49.38 298 *e*P **P 15 49 41.8 +0.7**
comp=Z,15nm,0.6s
PAX Paxson 49.39 35 *e*P **P 15 49 41.3 +0.6**
PAX pmax pmax
comp=Z,8.0nm,1.1s
PAX Paxson 49.39 35 *e*P **P 15 49 41.3 +0.6**
comp=Z,7.8nm,1.1s
DIV Divide 49.45 38 *e*P **P 15 49 42.5 +1.4**
comp=Z,8.7nm,0.6s
PYUN Piuthan 49.46 277 *e*P **P 15 49 42.1 +0.3**
comp=Z,36nm,0.7s
EYAK Cordova Ski Ar 49.53 38 *e*P **P 15 49 41.8 +0.1**
comp=Z,8.8nm,0.8s
MMRI Maumere 49.75 206 *e*P **P 15 49 44.5 +0.8**
MMRI *e*PcP **PcP 15 51 03.1 -1.1**
IPM Ipoh 49.78 238 *e*P **P 15 49 43.3 -0.8**
comp=Z,5.8nm,0.8s
DOT Dot Lake 49.96 34 *e*P **P 15 49 45.7 +0.8**
comp=Z,11nm,0.9s
BMRM Bremner River 50.03 38 *e*P **P 15 49 46.9 +1.3**
comp=Z,8.1nm,0.9s
BMRM *e*PcP **PcP 15 51 05.7 +0.9**
RAGM Ragged Mountai 50.08 38 *e*P **P 15 49 47.8 +1.9**
comp=Z,38nm,1.8s
BVA0 Borovoye Array 50.12 312 P **P 15 49 45.8 -0.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 50.18 312 *ce*P **P 15 49 46.2 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 50.18 312 *e*P **P 15 49 46.6 -0.1**
comp=Z,13nm,0.8s
BRVK *e*PcP **PcP 15 51 05.2 -0.1**
KSH Kashi 50.23 293 P **P 15 49 51.6 +4.2**
KSH pP sP 15 50 07.4 +1.6
KSH PcP **PcP 15 51 08.6 +2.6**
KSH PP **PP 15 51 47.1 +4.2**
KSH S **S 15 56 58.6 +2.2**
KSH ScS **ScS 15 59 33.4 -1.3**
KSH SS **SS 16 00 30.6 +0.7**
KSH PMZ
comp=Z,5.0nm,0.7s
KSH PMZ
comp=Z,44nm,3.8s
KSH LN
comp=Z,62nm,4.3s
KSH LE
comp=Z,87nm,5.1s
KSH LZ
comp=Z,96nm,6.8s
AAK Ala-Archa 50.25 298 ⇓ *i* P **P 15 49 48.0 +0.4**
AAK pmax pmax
comp=Z,8.0nm,0.6s
AAK Ala-Archa 50.25 298 *e*P **P 15 49 47.6 0.0**
comp=Z,4.6nm,0.6s
AAK *e*PcP **PcP 15 51 05.8 -0.2**
EKS2 Erkin-Say 50.74 298 *e*P **P 15 49 51.2 -0.1**
EKS2 pmax pmax
comp=Z,4.0nm,0.6s
EKS2 Erkin-Say 50.74 298 *e*P **P 15 49 51.1 -0.1**
comp=Z,4.5nm,0.6s
CRQM Cirque 50.77 38 *e*P **P 15 49 53.2 +1.9**
comp=Z,8.4nm,0.8s
CRQM *e*PcP **PcP 15 51 06.3 -1.4**
ZRNK Zerenda 50.95 312 *e*P **P 15 49 52.2 -0.3**
ZRNK Zerenda 50.95 312 *e*P **P 15 49 52.2 -0.3**
EGAK Eagle 51.08 32 *e*P **P 15 49 54.3 +1.0**
comp=Z,11nm,1.7s
BALM Baldy 51.11 37 *e*P **P 15 49 54.9 +1.2**
BALM pmax pmax
comp=Z,4.0nm,0.8s
BALM Baldy 51.11 37 *e*P **P 15 49 54.9 +1.2**
comp=Z,4.1nm,0.8s
MTN Manton Dam 51.46 193 *e*P **P 15 49 56.6 0.0**
comp=Z,19nm,1.4s
COEN Coen 51.63 178 *e*P **P 15 49 58.4 +0.5**
comp=Z,19nm,1.3s
MNAS Manas 51.68 298 P **P 15 49 58.9 +0.5**
MNAS pmax pmax

comp=Z,11nm,0.7s
LHMI Lhok Sumawe 52.04 243 *e*P **P 15 50 00.4 -0.7**
comp=Z,62nm,1.0s
PSI Prapat 52.42 239 *e*P **P 15 50 03.7 -0.4**
PSI pmax pmax
comp=Z,6.0nm,0.7s
PSI Prapat 52.42 239 *e*P **P 15 50 03.7 -0.4**
comp=Z,6.0nm,0.7s
KK31 Karatay Array 52.85 300 *i* P **P 15 50 06.9 0.0**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 52.85 300 *e*P **P 15 50 06.9 0.0**
KKAR Karatay Array 52.85 300 *e*P **P 15 50 06.9 0.0**
INK Inuvik 53.51 27 P **P 15 50 11.1 -0.1**
comp=Z,4.6nm,0.8s,baz=281,slow=7.4,SNR=6.4
INK Inuvik 53.51 27 *e*P **P 15 50 12.4 +1.2**
GSI Gunungsitoli 54.43 239 *e*P **P 15 50 19.0 +0.4**
comp=Z,21nm,0.7s
SVE Sverdlovsk 54.61 318 ⇓ *e*P **P 15 50 19.6 +0.1**
SVE pmax pmax
comp=Z,21nm,0.9s
DZET Dzherino 55.64 295 P **P 15 50 27.6 +0.2**
DZET pmax pmax
comp=Z,16nm,0.7s
ARU Arti 55.83 318 *c i* P **P 15 50 28.0 -0.2**
ARU *PP **sP 15 50 45.6 -1.1**
ARU 15 51 24.3
ARU 15 52 33.0
ARU S **S 15 58 13.3 +1.5**
ARU SS **SS 16 02 00.2 +2.9**
ARU pmax pmax
comp=Z,14nm,0.7s
ARU Arti 55.83 318 *e*P **P 15 50 28.0 -0.2**
comp=Z,14nm,0.7s
KBL Kabul 57.28 291 *e*P **P 15 50 38.9 -0.3**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 57.28 291 *e*P **P 15 50 38.9 -0.3**
comp=Z,11nm,1.0s
AB31 Akbulak array 57.52 310 P **P 15 50 39.6 -0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 57.52 310 *e*P **P 15 50 39.8 -0.5**
FITZ Fitzroy Crossi 57.73 198 P **P 15 50 42.4 +0.3**
comp=Z,5.9nm,0.9s,baz=356,slow=5.6,SNR=11
FITZ Fitzroy Crossi 57.73 198 *e*P **P 15 50 42.6 +0.6**
comp=Z,18nm,1.4s
DLBC Dease Lake 57.80 38 P **P 15 50 43.9 +1.6**
comp=Z,4.3nm,0.7s,baz=253,slow=5.2,SNR=7.7
DLBC Dease Lake 57.80 38 *e*P **P 15 50 44.2 +1.9**
comp=Z,4.2nm,0.6s
WRAB Tennant Creek 57.96 188 *ce*P **P 15 50 42.5 -1.2**
WRAB pmax pmax
comp=Z,30nm,1.7s
WB2 Warramunga Arr 57.97 188 *e*P **P 15 50 43.1 -0.6**
comp=Z,11nm,0.8s
WR1 Warramunga Arr 57.97 188 *e*P **P 15 50 43.1 -0.7**
comp=Z,14nm,0.9s
WR1 *e*PcP **PcP 15 51 35.5 +0.1**
WRA Warramunga Arr 57.97 188 P **P 15 50 43.1 -0.7**
comp=Z,9.0nm,0.7s,baz=6.1,slow=7.0,SNR=71
WRA pP **pP 15 50 56.3 -0.6**
comp=Z,2.8nm,0.6s,baz=4.9,slow=7.2,SNR=6.4
WRA PcP **PcP 15 51 35.5 +0.1**
comp=Z,1.5nm,0.6s,baz=1.0,slow=4.2,SNR=5.0
WC3 Warramunga Arr 57.98 188 *e*P **P 15 50 42.6 -1.2**
comp=Z,8.9nm,0.8s
XMIS Christmas Isla 58.77 223 *e*P **P 15 50 48.1 -1.3**
comp=Z,285nm,2.0s
SPB1 Spitsbergen Ar 59.68 349 *e*P **P 15 50 55.0 0.0**
SPA1 Spitsbergen Ar 59.69 349 *e*P **P 15 50 55.8 +0.8**
SPB5 Spitsbergen Ar 59.69 349 *e*P **P 15 50 55.3 +0.3**
SPA0 Spitsbergen Ar 59.69 349 *e*P **P 15 50 55.8 +0.8**
SPITS Spitsbergen Ar 59.69 349 P **P 15 50 56.0 +0.9**
comp=Z,2.7nm,0.7s,baz=106,slow=7.9,SNR=11
SPITS Spitsbergen Ar 59.69 349 P **P 15 50 56.0 +0.9**
SPITS pmax pmax
comp=Z,3.0nm,0.7s
SPA2 Spitsbergen Ar 59.69 349 *e*P **P 15 50 55.7 +0.7**
SPB2 Spitsbergen Ar 59.69 349 *e*P **P 15 50 56.6 +1.6**
SPA3 Spitsbergen Ar 59.69 349 *e*P **P 15 50 54.9 -0.1**
SPB4 Spitsbergen Ar 59.69 349 *e*P **P 15 50 55.6 +0.5**
SPB3 Spitsbergen Ar 59.69 349 *e*P **P 15 50 55.6 +0.6**
KBS Kingsbay 59.81 350 *e*P **P 15 50 56.3 +0.5**
KBS pmax pmax
comp=Z,58nm,1.5s
KBS Kingsbay 59.81 350 *e*P **P 15 50 56.3 +0.5**
comp=Z,58nm,1.5s
LVZ Lovozero 61.38 336 *e*P **P 15 51 06.0 -0.7**
LVZ pmax pmax
comp=Z,36nm,1.4s
LVZ Lovozero 61.38 336 *e*P **P 15 51 06.0 -0.7**
comp=Z,36nm,1.4s
AS01 Alice Springs 61.69 188 *e*P **P 15 51 08.8 -0.5**
AS31 Alice Springs 61.70 188 *e*P **P 15 51 09.1 -0.2**
comp=Z,12nm,0.8s
ASAR Alice Springs 61.70 188 P **P 15 51 09.0 -0.3**
comp=Z,3.3nm,0.8s,baz=8.7,slow=5.8,SNR=31
ASAR pP **pP 15 51 22.6 0.0**
comp=Z,2.7nm,0.8s,baz=12,slow=7.2,SNR=10
ASAR LR LR 16 18 12.7
comp=Z,26nm,19.1s,baz=40,slow=36
YKW3 Yellowknife Ar 62.90 30 *e*P **P 15 51 17.7 +0.8**
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 62.94 30 P **P 15 51 17.6 +0.5**
comp=Z,2.5nm,0.7s,baz=304,slow=6.8,SNR=13
YKB5 Yellowknife Ar 62.94 30 *e*P **P 15 51 16.9 -0.2**
KLMR Klimovskoe 63.11 328 *e*P **P 15 51 17.2 -1.1**
KLMR pmax pmax
comp=Z,6.0nm,0.7s
ARA0 ARCESS Array S 63.23 339 *e*P **P 15 51 19.4 +0.4**
ARCES ARCESS Array B 63.23 339 P **P 15 51 19.4 +0.4**
comp=Z,4.3nm,0.8s,baz=57,slow=8.8,SNR=8.8
ARE0 ARCESS Array S 63.23 339 *e*P **P 15 51 19.5 +0.4**
comp=Z,68nm,1.8s
GEYT Ailbeck 63.58 299 P **P 15 51 22.1 +0.2**
comp=Z,2.6nm,0.5s,baz=26,slow=3.8,SNR=8.5
VRH Novokhopyorsk 67.05 318 *e*P **P 15 51 43.2 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
SUF Sumiainen 67.28 333 P **P 15 51 45.6 +0.3**
SUF pmax pmax
comp=Z,14nm,1.0s
OBN Obninsk 67.50 323 ⇑ *e*P **P 15 51 45.9 -0.9**
OBN *e* 15 52 10.3
OBN *e* 15 54 12.1
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,16nm,14.0s
FIA0 FINESS Array S 68.12 332 *e*P **P 15 51 50.6 0.0**
FIA0 FINESS Array S 68.12 332 *e*P **P 15 51 50.5 0.0**
FINES FINESS Array B 68.12 332 P **P 15 51 50.5 0.0**
comp=Z,11nm,0.6s,baz=52,slow=7.5,SNR=48
VSR Storozhevoye 68.39 319 *e*P **P 15 51 52.0 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.5s
STKA Stephens Creek 69.44 180 P **P 15 51 58.7 -0.4**
comp=Z,2.2nm,0.7s,baz=321,slow=12,SNR=5.2
STKA Stephens Creek 69.44 180 *e*P **P 15 51 59.4 +0.3**
STKA pmax pmax
comp=Z,10.0nm,1.9s
STKA Stephens Creek 69.44 180 *e*P **P 15 51 59.4 +0.3**
comp=Z,9.9nm,1.9s
SUMG Summit 69.80 0 *e*P **P 15 52 01.8 +0.4**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 69.80 0 *e*P **P 15 52 01.8 +0.4**
comp=Z,7.2nm,0.9s
K05A Summer Lake 70.23 51 *e*P **P 15 52 06.3 +2.0**
comp=Z,9.9nm,0.9s
ZEI Tsey 70.39 309 *e*P **P 15 52 03.6 -1.7**
ZEI pmax pmax
comp=Z,12nm,0.3s
KBZ Khabaz 70.47 311 P **P 15 52 05.9 +0.4**
comp=Z,6.6nm,0.9s,baz=12,slow=24,SNR=13
KIV Kislovodsk 70.47 311 *e*P **P 15 52 06.6 +1.0**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,36nm,18.0s
KIV Kislovodsk 70.47 311 *e*P **P 15 52 06.8 +1.2**
comp=Z,17nm,0.9s
WALA Waterton Lakes 70.64 42 *e*P **P 15 52 07.8 +1.2**
comp=Z,3.9nm,0.8s
NEY Neytrino 70.85 310 *e*P **P 15 52 08.9 +0.9**
NEY pmax pmax
comp=Z,1.0nm,0.7s
MOD Modoc Plateau 71.05 51 *e*P **P 15 52 10.2 +1.0**
comp=Z,3.3nm,0.7s
UOSS Minazif 71.73 288 *e*P **P 15 52 12.6 -0.8**
comp=Z,0.8nm,0.9s
FFC Flin Flon 72.85 33 *e*P **P 15 52 20.0 +0.4**
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 72.85 33 *e*P **P 15 52 20.0 +0.4**
comp=Z,6.3nm,0.8s
PAHR Pah Rah Range 72.87 53 *e*P **P 15 52 20.7 +0.5**
comp=Z,6.3nm,1.1s
FCC Fort Churchill 73.12 27 *e*P **P 15 52 21.5 +0.4**
FCC pmax pmax
comp=Z,7.0nm,0.9s
FCC Fort Churchill 73.12 27 *e*P **P 15 52 21.5 +0.4**
comp=Z,7.1nm,0.9s
HRY Holter Researc 73.17 44 *e*P **P 15 52 23.2 +1.4**
NC405 NORSAR Array S 73.23 337 *e*P **P 15 52 21.7 -0.1**
NC303 NORSAR Array S 73.25 337 *e*P **P 15 52 22.3 +0.5**
LRM Limekiln Ridge 73.37 45 *e*P **P 15 52 24.4 +1.2**
NC204 NORSAR Array S 73.39 338 *e*P **P 15 52 22.5 -0.3**
NB201 NORSAR Array S 73.41 337 *e*P **P 15 52 22.6 -0.2**
NB2 NORSAR Subarra 73.44 337 P **P 15 52 22.8 -0.2**
comp=Z,8.3nm,0.8s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.44 337 P **P 15 52 23.0 0.0**
NB2 pmax pmax
comp=Z,7.0nm,0.9s
NB200 NORSAR Array S 73.44 337 *e*P **P 15 52 23.1 +0.1**
NOA NORSAR Array B 73.44 337 P **P 15 52 23.1 +0.1**
comp=Z,5.4nm,0.7s,baz=39,slow=5.9,SNR=25
EGMT Eagleton 73.47 42 *e*P **P 15 52 24.4 +0.9**
NBO02 NORSAR Array S 73.54 337 *e*P **P 15 52 23.8 +0.2**
DLMT Dillon 73.57 45 *e*P **P 15 52 25.2 +1.0**
comp=Z,10nm,1.2s
HLID Hailey 73.62 47 *e*P **P 15 52 26.1 +1.5**
comp=Z,2.9nm,1.0s
NAO01 NORSAR Array S 73.69 337 *e*P **P 15 52 24.3 -0.2**
AKASG Malin Array Be 73.72 322 P **P 15 52 24.5 -0.2**
comp=Z,6.8nm,0.5s,baz=45,slow=6.3,SNR=39
AKASG LR LR 16 25 03.8
comp=Z,34nm,18.1s,baz=150,slow=36
AKBB Malin Array Si 73.72 322 *e*P **P 15 52 24.2 -0.6**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 73.72 322 *e*P **P 15 52 24.2 -0.6**
comp=Z,9.6nm,0.7s
KIEV Kiev 73.73 322 ⇑ *e*P **P 15 52 24.5 -0.3**
KIEV pmax pmax
comp=Z,10.0nm,0.7s
KIEV Kiev 73.73 322 *e*P **P 15 52 24.4 -0.3**
AK11 Malin Array Si 73.76 322 *e*P **P 15 52 24.7 -0.3**
BOZ Bozeman (W) 73.93 44 *e*P **P 15 52 27.5 +1.1**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 73.93 44 *e*P **P 15 52 27.5 +1.1**
comp=Z,3.8nm,0.8s
NV01 Mina Array Sit 74.30 53 *e*P **P 15 52 30.0 +1.3**
NVAR Mina Array Bea 74.30 53 P **P 15 52 30.3 +1.6**
comp=Z,2.6nm,0.8s,baz=291,slow=6.7,SNR=18
H17A Grant Village 75.30 45 *e*P **P 15 52 37.0 +2.6**
comp=Z,8.4nm,0.8s
IMW Indian Meadow 75.41 45 *e*P **P 15 52 37.1 +2.0**
comp=Z,5.2nm,0.7s
R11A Troy Canyon, C 76.06 52 *e*P **P 15 52 39.8 +1.0**
comp=Z,4.8nm,1.2s
HWUT Hardware Ranch 76.48 48 *e*P **P 15 52 42.4 +1.3**
comp=Z,5.8nm,0.4s
TPNV Topopah Spring 76.49 54 *e*P **P 15 52 42.1 +0.9**
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV Topopah Spring 76.49 54 *e*P **P 15 52 42.1 +0.9**
comp=Z,8.3nm,1.1s
BW06 Boulder Array 76.90 46 *e*P **P 15 52 44.2 +0.7**
comp=Z,3.2nm,0.8s
PD31 Pinedale Array 76.90 46 *e*P **P 15 52 44.2 +0.7**
PDAR Pinedale Array 76.90 46 P **P 15 52 44.3 +0.7**
comp=Z,2.6nm,0.7s,baz=264,slow=3.0,SNR=21
SHPR Sheep Range 77.45 53 *e*P **P 15 52 47.4 +0.8**
comp=Z,3.4nm,0.8s
BUR08 Bucovina Ar. S 77.72 322 *e*P **P 15 52 48.4 +0.6**
MSU Marysvale 78.06 50 *e*P **P 15 52 51.7 +1.6**
MSU Marysvale 78.06 50 *e*P **P 15 52 51.7 +1.6**
P17A Butcher Ranch, 78.32 49 *e*P **P 15 52 53.0 +1.6**
comp=Z,6.1nm,0.8s
LCMT Little Creek M 78.34 52 *e*P **P 15 52 53.3 +1.7**
comp=Z,4.3nm,1.0s
STHS Stebnicka Huta 78.34 325 *e*P **P 15 52 52.6 +1.4**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 78.34 325 *e*P **P 15 52 52.6 +1.4**
MTPU Mount Pierson 78.35 51 *e*P **P 15 52 53.3 +1.4**
comp=Z,3.3nm,0.8s
BR101 Keskin Array S 78.41 312 *e*P **P 15 52 52.3 +0.4**
BR131 Keskin Array S 78.41 312 *e*P **P 15 52 51.6 -0.2**
BRTR Keskin Array B 78.41 312 P **P 15 52 52.3 +0.4**
comp=Z,2.0nm,0.8s,baz=74,slow=4.5,SNR=11
OJC Ojcow 78.41 326 *e*P **P 15 52 52.0 +0.5**
OJC pmax pmax
comp=Z,11nm,0.7s
OJC Ojcow 78.41 326 *e*P **P 15 52 52.0 +0.5**
comp=Z,11nm,0.7s
KNB Kanab 78.60 52 *e*P **P 15 52 53.9 +0.8**
KNB pmax pmax
comp=Z,7.0nm,1.4s
KNB Kanab 78.60 52 *e*P **P 15 52 53.9 +0.8**
comp=Z,7.1nm,1.4s
ULM Lac du Bonnet 78.65 34 P **P 15 52 52.9 0.0**
comp=Z,1.8nm,0.5s,baz=315,slow=5.7,SNR=3.2
SRU San Rafael Swe 78.68 49 *e*P **P 15 52 54.5 +1.1**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 78.68 49 *e*P **P 15 52 54.5 +1.1**
comp=Z,6.9nm,0.9s
BR231 Keskin MP Arra 78.84 312 *e*P **P 15 52 52.4 -1.8**
U15A North Rim 79.31 52 *e*P **P 15 52 58.5 +1.5**
comp=Z,4.9nm,1.1s
MORC Moravsky Berou 79.72 327 *e*P **P 15 52 59.2 +0.5**
MORC pmax pmax
comp=Z,25nm,0.9s
MORC Moravsky Berou 79.72 327 *e*P **P 15 52 59.2 +0.5**
comp=Z,25nm,0.9s
DPC Dobruska-Polom 79.81 328 *e*P **P 15 53 00.1 +0.9**
DPC Dobruska-Polom 79.81 328 *e*P **P 15 53 00.1 +0.9**
PSZ Piszkesteto 80.05 325 *e*P **P 15 53 01.1 +0.5**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 80.05 325 *e*P **P 15 53 01.1 +0.5**
comp=Z,7.3nm,0.9s
AGMN Agassiz Nation 80.09 35 *e*P **P 15 52 59.9 -0.8**
comp=Z,7.0nm,1.2s
VYHS Vyhne 80.11 325 *e*P **P 15 53 01.5 +0.7**
VYHS pmax pmax
comp=Z,2.0nm,0.9s
VYHS Vyhne 80.11 325 *e*P **P 15 53 01.5 +0.7**
N23A Red Feather La 80.17 45 *e*P **P 15 53 02.7 +1.1**
comp=Z,6.6nm,1.1s
BRG Berggiesshubel 80.39 329 *e*P **P 15 53 02.4 +0.2**
comp=Z,3.7nm,0.8s
BRG Berggiesshubel 80.39 329 *e*P **P 15 53 02.4 +0.2**
BRG pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 80.42 330 *i* P **P 15 53 02.4 0.0**
comp=Z,9.0nm,0.9s
CLL Collm 80.42 330 *e*P **P 15 53 02.3 -0.1**
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 80.42 330 *e*P **P 15 53 02.3 -0.1**
comp=Z,8.9nm,0.9s
WUAZ Wupatki 80.46 52 *e*P **P 15 53 04.1 +1.0**
comp=Z,4.4nm,0.8s
GOPC GO Pecny, Ondr 80.78 328 *e*P **P 15 53 05.1 +0.7**
GOPC GO Pecny, Ondr 80.78 328 *e*P **P 15 53 05.1 +0.7**
PRU Pruhonice 80.83 329 *e*P **P 15 53 05.1 +0.5**
PRU Pruhonice 80.83 329 *e*P **P 15 53 05.1 +0.5**
X16A Lo Mia Camp, P 81.12 53 *e*P **P 15 53 08.0 +1.3**
comp=Z,3.1nm,0.8s
CONA Conrad Observa 81.84 327 *i* P **P 15 53 11.1 +0.9**
comp=Z,2.5nm,0.6s
KHC Kasperske Hory 81.89 329 *e*P **P 15 53 10.7 +0.4**
KHC Kasperske Hory 81.89 329 *e*P **P 15 53 10.5 +0.2**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 81.89 329 *e*P **P 15 53 10.5 +0.2**
comp=Z,2.7nm,0.9s

GERES	**GERESS Array B**	**82.06**	**328**	P		**P**		**15 53 11.3**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=35,slow=4.9,SNR=16								
GEA0	**GERESS Array S**	**82.06**	**328**	*e*P		**P**		**15 53 10.8**	**-0.5**
MOA	**Molln**	**82.59**	**327**	*i* PcP		**P**		**15 53 15.2**	**+1.2**
	comp=Z,4.6nm,1.1s								
SOKA	**Soboth**	**83.17**	**326**	*i* P		**P**		**15 53 17.4**	**+0.3**
	comp=Z,10nm,1.3s								
KBA	**Koelnbreinsper**	**83.59**	**327**	*i* PcP		**P**		**15 53 20.0**	**+0.7**
	comp=Z,5.3nm,0.7s								
T25A	**Trinidad**	**83.59**	**47**	*e*P		**P**		**15 53 20.1**	**+0.5**
	comp=Z,6.0nm,0.8s								
MYKA	**Terra Mystica**	**83.81**	**327**	*i* P		**P**		**15 53 20.1**	**-0.3**
	comp=Z,4.0nm,0.6s								
ANMO	**Albuquerque**	**83.86**	**50**	*e*P		**P**		**15 53 22.0**	**+1.0**
ANMO				pmax		pmax			
	comp=Z,4.0nm,1.0s								
ANMO	**Albuquerque**	**83.86**	**50**	*e*P		**P**		**15 53 22.0**	**+1.0**
	comp=Z,4.1nm,1.0s								
MOTA	**Moosalm**	**84.31**	**329**	*i* P		**P**		**15 53 23.1**	**0.0**
	comp=Z,3.0nm,0.6s								
RETA	**Reutte**	**84.34**	**329**	*i* P		**P**		**15 53 23.4**	**+0.4**
	comp=Z,6.4nm,0.6s								
BFO	**Black Forest**	**84.62**	**331**	*e*P		**P**		**15 53 24.4**	**0.0**
BFO				pmax		pmax			
	comp=Z,9.0nm,0.8s								
BFO	**Black Forest**	**84.62**	**331**	*e*P		**P**		**15 53 24.4**	**0.0**
	comp=Z,8.6nm,0.8s								
FETA	**Feichten**	**84.73**	**329**	*i* P		**P**		**15 53 25.1**	**-0.1**
	comp=Z,3.6nm,0.7s								
DAVA	**Damuels**	**84.86**	**329**	*i* P		**P**		**15 53 25.7**	**-0.1**
	comp=Z,15nm,1.1s								
CDF	**Champ du Feu**	**84.96**	**331**	*e*P		**P**		**15 53 25.7**	**-0.5**
CDF				pmax		pmax			
	comp=Z,7.0nm,0.8s								
HINF	**Hinteralfeld**	**85.61**	**331**	*e*P		**P**		**15 53 28.4**	**-1.0**
HINF				pmax		pmax			
	comp=Z,8.0nm,1.2s								
LAST	**Lasithi**	**86.27**	**313**	*e*P		**P**		**15 53 33.0**	**+0.1**
	comp=Z,17nm,0.9s								
LOR	**Lormes**	**87.18**	**333**	*e*P		**P**		**15 53 36.5**	**-0.6**
LOR				pmax		pmax			
	comp=Z,12nm,1.0s								
FLN	**La Foliniere**	**87.38**	**336**	*e*P		**P**		**15 53 38.2**	**+0.3**
FLN				pmax		pmax			
	comp=Z,27nm,1.6s								
LDF	**La Druitiere**	**87.41**	**336**	*e*P		**P**		**15 53 36.7**	**-1.4**
LDF				pmax		pmax			
	comp=Z,51nm,2.0s								
LPL	**La Plagne**	**87.56**	**330**	*e*P		**P**		**15 53 39.0**	**-0.2**
LPL				pmax		pmax			
	comp=Z,5.0nm,0.8s								
LPG	**La Plagne**	**87.57**	**330**	*e*P		**P**		**15 53 39.9**	**+0.6**
LPG				pmax		pmax			
	comp=Z,3.0nm,0.6s								
AVF	**Avril sur Loir**	**87.77**	**333**	*e*P		**P**		**15 53 39.5**	**-0.3**
AVF				pmax		pmax			
	comp=Z,8.0nm,0.7s								
LTX	**Lajitas**	**89.42**	**53**	*e*P		**P**		**15 53 49.0**	**+0.9**
LTX	**Lajitas**	**89.42**	**53**	*e*P		**P**		**15 53 49.0**	**+0.9**
TX31	**Lajitas Ar. Si**	**89.42**	**53**	*e*P		**P**		**15 53 48.6**	**+0.5**
TXAR	**Lajitas Array**	**89.42**	**53**	P		**P**		**15 53 49.0**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=301,slow=3.2,SNR=36								
TXAR				pP		**pP**		**15 54 03.7**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=304,slow=2.8,SNR=5.5								
CAF	**Calviac**	**89.83**	**333**	*e*P		**P**		**15 53 49.8**	**+0.1**
CAF				pmax		pmax			
	comp=Z,4.0nm,0.8s								
LFF	**La Frestale**	**90.29**	**333**	*e*P		**P**		**15 53 51.8**	**+0.1**
LFF				pmax		pmax			
	comp=Z,6.0nm,0.6s								
TOA1	**Torodi Ar. Sit**	**116.84**	**315**	*e*PKPdf		**PKPdf**		**15 59 34.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**116.84**	**315**	PKP		**PKPdf**		**15 59 34.6**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=21,slow=1.8,SNR=3.0								
LPAZ	**La Paz**	**146.07**	**59**	PKPbc		**PKPab**		**16 00 32.5**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=3.0,slow=7.8,SNR=12								
LPAZ				pPKPbc		pPKPbc		16 00 47.5	+1.3
	comp=Z,6.1nm,0.8s,baz=15,slow=5.0,SNR=5.3								

*MDD **09** 15:49:07.1±1.8,35.68N×0.24W,h59km±21km,mb3.6/6, Error ellipse: s-maj=10.2km s-min=6.0km az=155.0, PRXIMO*

*ISCJB **09** 15:49:08.1±0.7,35.80N±0.05×0.32W±0.05,h16km, Error ellipse: s-maj=7.5km s-min=5.2km az=25.2*

*CSEM **09** 15:49:08.4±0.3,35.65N×0.21W,h30km,ML2.9, Error ellipse: s-maj=9.2km s-min=8.3km az=23.0*

*CRAAG **09** 15:49:08.1,35.69N×0.13W,Ml2.9*

ISC 09 15:49:05.7±0.9,35.89N±0.04×0.37W±0.04,h16km,n25, σ0.87/31,1D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USTO	**Oran**	**0.21**	**224**	P	Pb	15 49 17.0	+5.8
USTO	**Oran**	**0.21**	**224**	P	Pb	15 49 17.0	+5.8
ODJA	**Bouhanifia**	**0.58**	**162**	P	**Pg**	**15 49 16.0**	**-1.2**
ODJA	**Bouhanifia**	**0.58**	**162**	P	**Pg**	**15 49 16.0**	**-1.2**
ODJA	**Bouhanifia**	**0.58**	**162**	P	**Pg**	**15 49 16.0**	**-1.2**
OTSS	**Djebel Tessala**	**0.70**	**210**	P	**Pn**	**15 49 21.4**	**+0.4**
OTSS	**Djebel Tessala**	**0.70**	**210**	P	**Pn**	**15 49 21.4**	**+0.4**
OTSS	**Djebel Tessala**	**0.70**	**210**	P	**Pn**	**15 49 21.4**	**+0.4**
OKGL	**Djebel Kef Gue**	**0.83**	**79**	P	**Pn**	**15 49 23.4**	**+0.6**
OKGL	**Djebel Kef Gue**	**0.83**	**79**	⇓P	**Pn**	**15 49 23.2**	**+0.4**
	99nm,0.1s,SNR=18						
OKGL				S	**Sg**	**15 49 34.2**	**+1.3**
	231nm,0.2s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**0.83**	**79**	P	**Pn**	**15 49 23.4**	**+0.6**
OKGL				S	**Sg**	**15 49 34.2**	**+1.3**
	231nm,0.2s,SNR=7.9						
OLHC	**Oulhaca**	**1.07**	**234**	P	Pb	15 49 18.0	-7.8
OLHC	**Oulhaca**	**1.07**	**234**	P	Pb	15 49 18.0	-7.8
OLHC	**Oulhaca**	**1.07**	**234**	P	Pb	15 49 18.0	-7.8
ENIJ	**Nijar**	**1.84**	**307**	P	**Pg**	**15 49 40.1**	**-0.9**
	1.2nm,0.1s,SNR=7.9						
ENIJ				S	**Sb**	**15 50 02.5**	**+0.8**
	11nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**1.84**	**307**	P	**Pg**	**15 49 40.1**	**-0.9**
	1.2nm,0.1s,SNR=7.9						
ENIJ				S	**Sb**	**15 50 02.5**	**+0.8**
	11nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.27**	**297**	P	**Pb**	**15 49 46.4**	**0.0**
	1.0nm,0.1s,SNR=7.9						
EBER				S	**Sb**	**15 50 15.4**	**+1.0**
	5.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.27**	**297**	P	**Pb**	**15 49 46.4**	**0.0**
	1.0nm,0.1s,SNR=7.9						
EBER				S	**Sb**	**15 50 15.4**	**+1.0**
	5.7nm,0.3s,SNR=7.9						
AFON	**Font Roja**	**2.78**	**357**	P	**Pb**	**15 49 55.0**	**0.0**
	0.1nm,0.1s,SNR=4.0						
AFON	**Font Roja**	**2.78**	**357**	P	**Pb**	**15 49 55.0**	**0.0**
	0.1nm,0.1s,SNR=4.0						
SESP	**Santiago Espad**	**2.83**	**323**	P	**Pb**	**15 49 56.1**	**+0.2**
	5.5nm,0.2s,SNR=7.9						
SESP				S	**Sb**	**15 50 30.6**	**+0.2**
	0.1nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**2.83**	**323**	P	**Pb**	**15 49 56.1**	**+0.2**
	5.5nm,0.2s,SNR=7.9						
SESP				S	**Sb**	**15 50 30.6**	**+0.2**
	0.1nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.89**	**312**	P	**Pb**	**15 49 57.2**	**+0.2**
	1.1nm,0.1s,SNR=7.9						
EQES				S	**Sb**	**15 50 31.7**	**-0.5**
	3.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.89**	**312**	P	**Pb**	**15 49 57.2**	**+0.2**
	1.1nm,0.1s,SNR=7.9						
EQES				S	**Sb**	**15 50 31.7**	**-0.5**
	3.5nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**2.91**	**341**	P	**Pb**	**15 49 56.0**	**-1.3**
	1.4nm,0.2s,SNR=7.0						
ETOB				S	**Sb**	**15 50 30.4**	**-2.2**
	2.5nm,0.3s,SNR=7.9						

IDC 09 16:03:52.6±1.1,13.02N×143.59E,h206km±25km,mb3.3/6, mb1 3.5/6,mb1mx3.1/49,mbtmp3.8/6,Error ellipse: s-maj=53.1km s-min=14.8km az=83.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.37**	**65**	P	Pn	16 04 26.3	+0.6
	15nm,0.3s,baz=215,slow=1.1,SNR=21						
GUMO				S	S	16 04 51.5	+0.3
	45nm,0.3s,baz=180,slow=23,SNR=27						
WRA	**Warramunga Arr**	**34.00**	**196**	P	P	16 10 16.9	-0.1
	1.6nm,0.7s,baz=17,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**37.67**	**195**	P	P	16 10 48.2	0.0
	0.8nm,0.5s,baz=18,slow=13,SNR=18						
CMAR	**Chiang Mai Arr**	**43.23**	**283**	P	P	16 11 33.1	-0.7
	0.6nm,0.5s,baz=78,slow=6.7,SNR=6.3						
SONM	**Songino Array**	**46.49**	**326**	P	P	16 11 59.8	+0.5
	0.4nm,0.6s,baz=144,slow=5.2,SNR=2.6						
MKAR	**Makanchi Array**	**61.04**	**316**	P	P	16 13 44.8	+0.2
	0.6nm,0.5s,baz=91,slow=7.2,SNR=8.2						
FINES	**FINESS Array B**	**91.15**	**335**	P	P	16 16 32.8	-1.0
	1.2nm,0.5s,baz=50,slow=3.0,SNR=8.0						

*ISCJB **09** 16:05:09.0±0.9,36.18N±0.04×142.49E±0.07,h18km, mb3.4/3,MS3.3/1,Error ellipse: s-maj=8.5km s-min=5.8km az=7.4*

*JMA **09** 16:05:10.6±0.2,36.17N×142.47E,h73km,M2.9*

*IDC **09** 16:05:10.5±2.2,35.93N×142.32E,h0km,mb3.5/3, mb1 3.5/5,mb1mx3.3/56,mbtmp3.5/5,ML3.4/2,MS2.7/4, Ms1 2.7/4,ms1mx2.3/39,Error ellipse: s-maj=41.9km s-min=25.2km az=68.0*

ISC 09 16:05:11.2±1.2,36.15N±0.05×142.48E±0.09,h18km,n19, σ1.74/23,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.39**	**252**	P	**Pn**	**16 05 34.6**	**-1.1**
JHO	**Hitachi**	**1.61**	**287**	P	**Pn**	**16 05 37.5**	**-1.2**
JHO				*e*S	**Sn**	**16 05 57.0**	**-2.0**
JFK	**Kawauchi**	**1.77**	**314**	S	**Sn**	**16 06 00.8**	**-2.2**
BSO1	**Boso 1**	**1.93**	**220**	P	**Pn**	**16 05 41.7**	**-0.9**
JFT	**Otama**	**2.19**	**309**	*e*S	**Sn**	**16 06 11.9**	**-1.6**
JAG	**Ashikaga**	**2.46**	**277**	P	**Pn**	**16 05 49.5**	**-0.9**
JAG				*e*S	**Sn**	**16 06 18.6**	**-1.4**
JOD2	**Odawara 2**	**2.90**	**253**	P	**Pn**	**16 05 55.7**	**-0.8**
JOD2				*e*S	**Sn**	**16 06 29.6**	**-1.3**
JRY	**Ryogami san**	**2.90**	**268**	P	**Pn**	**16 05 55.4**	**-1.1**
JMK	**Ichinoseki**	**2.97**	**341**	P	**Pn**	**16 05 55.9**	**-1.5**
JMK				*e*S	**Sn**	**16 06 30.1**	**-2.4**
JYK	**Kaneyama**	**3.23**	**329**	P	**Pn**	**16 06 00.1**	**-1.0**
JOM	**Ohasama**	**3.45**	**345**	P	**Pn**	**16 06 02.4**	**-1.6**
JOM				S	**Sn**	**16 06 42.7**	**-1.6**
MJAR	**Matsushiro Arr**	**3.47**	**278**	Pn	**Pn**	**16 06 03.9**	**-0.5**
	2.2nm,0.3s,baz=82,slow=7.9,SNR=20						
MJAR				Sn	**Sn**	**16 06 45.6**	**+0.7**
	0.7nm,0.3s,baz=270,slow=22,SNR=4.6						
MJAR				LR	LR	16 07 42.6	
	comp=Z,58nm,20.0s,baz=110,slow=46						
JHJ	**Hachijo jima 2**	**3.75**	**217**	Pn	**Pn**	**16 06 06.7**	**-1.5**
	13nm,0.3s,baz=291,slow=22,SNR=8.0						
JHJ				Sn	**Sn**	**16 06 48.5**	**-3.5**
	26nm,0.3s,baz=283,slow=23,SNR=8.2						
KSRS	**Korea Array**	**11.74**	**281**	LR		16 12 01.6	
	comp=Z,20nm,18.9s,baz=355,slow=35						
KLR	**Kul'dur**	**15.24**	**332**	LR	LR	16 13 34.8	
	comp=Z,21nm,20.8s,baz=122,slow=33						
SONM	**Songino Array**	**28.99**	**305**	P	**P**	**16 11 11.3**	**+1.4**
	0.2nm,0.4s,baz=116,slow=9.9,SNR=4.1						
MKAR	**Makanchi Array**	**45.32**	**303**	P	**P**	**16 13 30.9**	**+3.0**
	0.6nm,0.7s,baz=87,slow=10.0,SNR=7.6						
WRA	**Warramunga Arr**	**56.32**	**189**	P	**P**	**16 14 51.2**	**+0.2**
	0.5nm,0.3s,baz=5.8,slow=6.8,SNR=3.2						
AKASG	**Malin Array Be**	**75.52**	**323**	LR	LR	16 52 24.3	
	comp=Z,15nm,19.5s,baz=35,slow=38						

MAN 09 16:10:56,13.30N×120.26E,h15km,mb4.2,ML3.0,MS2.8, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.44**	**358**	*e*P	Pg	16 11 04.9	+0.1
LUBP				*e*S	Sg	16 11 11.0	+0.2
TGY	**Tagaytay City**	**1.04**	**39**	⇓*i*P	Pn	16 11 16.0	-0.1
TGY				*i* S	Sn	16 11 31.7	+1.3
SJMP	**San Jose**	**1.18**	**135**	*e*P	Pb	16 11 18.3	+0.3
SJMP				*e*S	Sg	16 11 34.5	+0.3
BUSP	**Coron**	**1.29**	**183**	*e*P	Pg	16 11 20.4	-0.4
BUSP				*e*S	Sn	16 11 36.9	+0.5
OTRP	**Odiongan**	**1.95**	**118**	*e*P	Pb	16 11 30.4	-0.9
OTRP				*e*S	Sn	16 11 53.0	+0.2
ENPP	**El Nido**	**2.23**	**202**	*e*P	Pn	16 11 33.5	+1.0
ENPP				*e*S	Sb	16 12 02.0	-1.5
CUYO	**Cuyo Island**	**2.54**	**163**	*e*P	Pn	16 11 37.2	+0.5
CUYO				*e*S	Sn	16 12 07.0	-0.4
GUIM	**Jordan**	**3.50**	**139**	*e*P	Pn	16 11 51.5	+1.7
GUIM				*e*S	Sn	16 12 32.3	+1.3

IDC 09 16:13:12.3±7.1,19.89S×177.76W,h0km,mb3.3/2, mb1 3.6/2,mb1mx3.3/37,mbtmp3.3/2,Error ellipse: s-maj=316.3km s-min=111.2km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.88**	**256**	P	P	16 21 27.4	-1.4
	0.3nm,0.9s,baz=94,slow=6.9,SNR=4.7						
WRA	**Warramunga Arr**	**44.91**	**261**	P	P	16 21 30.0	+0.9
	0.2nm,0.3s,baz=95,slow=8.2,SNR=9.6						
AKASG	**Malin Array Be**	**142.59**	**332**	PKP	PKPdf	16 32 46.9	-0.3
	0.4nm,0.4s,baz=43,slow=4.0,SNR=4.5						

*PRU **09** 16:16:28.8,40.29N×19.46E,h0km,M4.5*

*ROM **09** 16:16:31.4±0.3,40.56N×20.22E,h10km,Ml4.3/57, Error ellipse: s-maj=5.7km s-min=2.0km az=119.0*

*IDC **09** 16:16:32.4±0.7,40.66N×19.78E,h0km,mb4.0/16, mb1 4.0/27,mb1mx3.9/57,mbtmp3.9/27,ML3.7/10, MS3.2/17,Ms1 3.3/17,ms1mx3.1/43,Error ellipse: s-maj=11.4km s-min=9.8km az=33.0*

*ATH **09** 16:16:32.7,40.77N×19.81E,h13km±1km,ML3.9/10,Error ellipse: s-maj=2.0km s-min=1.0km az=162.0*

*MOS **09** 16:16:33.3±1.0,40.71N×19.68E,h18km,mb4.4/14,Error ellipse: s-maj=4.8km s-min=3.3km az=103.3*

*NEIC **09** 16:16:33.0,40.72N×19.86E,h7km,mb4.5/7,ML4.1(TIR), ML4.1(THE),After TIR.*

NEIC Felt at Ballsh and Berat.

*TIR **09** 16:16:33.8,40.74N×19.88E,h15km,ML4.1*

*LDG **09** 16:16:34.6±0.1,40.68N×19.86E,h10km,Ml4.2/9,Error ellipse: s-maj=2.9km s-min=1.7km az=39.0*

*THE **09** 16:16:34.4,40.68N×19.92E,h2km±1km,ML4.1/8,Error ellipse: s-maj=1.3km s-min=0.5km az=139.0*

*PDG **09** 16:16:34.3±0.7,40.70N×19.81E,h11km±1km,MD4.0/4, ML4.0/10,Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

*CSEM **09** 16:16:35.0±0.1,40.70N×19.83E,h10km,mb4.6/5, ML4.3/11,Error ellipse: s-maj=2.0km s-min=1.5km az=45.0*

*BEO **09** 16:16:38.3±0.7,40.81N×19.98E,h21km±3km,M3.9/7*

ISC 09 16:16:34.2±1.0,40.69N±0.01×19.88E±0.02,h12km±6km, n797,σ1.66/927,mb4.2/25,MS3.2/13,36C-12D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.66**	**359**	*i* PN	**Pg**	**16 16 47.1**	**+0.2**
TIR				*i* SN	**Sn**	**16 17 02.1**	**+2.4**
TIR	**Tirane**	**0.66**	**359**	*e*Pg	**Pb**	**16 16 47.5**	**-0.2**
TIR				*e*Sg	**Sn**	**16 16 58.7**	**-1.0**
TIR	**Tirane**	**0.66**	**359**	Pn	**Pb**	**16 16 47.6**	**-0.2**
	15μm,1.0s						
TIR	**Tirane**	**0.66**	**359**	*e*P	**Pb**	**16 16 47.4**	**-0.2**
TIR				*e*		16 16 55.2	
TIR	**Tirane**	**0.66**	**359**	*e*Pg	**Pb**	**16 16 47.5**	**-0.2**
TIR				*e*Sg	**Sn**	**16 16 58.7**	**-1.0**
TIR	**Tirane**	**0.66**	**359**	*e*Pg	**Pb**	**16 16 47.4**	**-0.3**
TIR				*e*Pn	Pn	16 16 55.2	+5.8
OHR	**Ohrid**	**0.81**	**59**	*i* Pg	**Pg**	**16 16 48.8**	**-1.1**
OHR				*i* Sg	**Sn**	**16 17 03.6**	**-0.1**
OHR	**Ohrid**	**0.81**	**59**	*i* Pg	**Pg**	**16 16 48.8**	**-1.1**
OHR				*i* Sg	**Sn**	**16 17 03.5**	**-0.1**
KEK	**Kerkira**	**0.98**	**184**	P	**Pg**	**16 16 51.9**	**-1.2**
KEK				S	**Sb**	**16 17 06.4**	**+0.3**
KEK	**Kerkira**	**0.98**	**184**	P	**Pg**	**16 16 52.1**	**-1.0**
KEK				S	**Sb**	**16 17 06.4**	**+0.3**
KEK	**Kerkira**	**0.98**	**184**	P	**Pg**	**16 16 51.9**	**-1.2**
PENT	**Pentalofos**	**1.08**	**117**	P	**Pb**	**16 16 54.3**	**-0.6**
PENT				S	**Sg**	**16 17 08.5**	**-0.6**
PENT	**Pentalofos**	**1.08**	**117**	P	**Pb**	**16 16 54.5**	**-0.4**
PENT				S	**Sn**	**16 17 10.8**	**+0.5**
PENT	**Pentalofos**	**1.08**	**117**	P	**Pb**	**16 16 54.5**	**-0.4**
PENT				S	**Sn**	**16 17 10.8**	**+0.5**
PENT				AML	AML	16 17 19.0	
	comp=E,5581μm,0.7s						
PENT				AML	AML	16 17 20.7	
	comp=N,5335μm,0.8s						
SGD	**Sagiada**	**1.11**	**166**	P	**Pb**	**16 16 54.7**	**-0.7**
SGD				S	**Sn**	**16 17 10.8**	**-0.1**
SGD	**Sagiada**	**1.11**	**166**	P	**Pb**	**16 16 55.2**	**-0.2**
SGD				S	**Sn**	**16 17 10.8**	**-0.1**
SGD	**Sagiada**	**1.11**	**166**	P	**Pb**	**16 16 55.2**	**-0.2**
SGD				S	**Sn**	**16 17 12.4**	**+1.5**
FNA	**Florina**	**1.14**	**85**	P	**Pb**	**16 16 54.4**	**-1.5**
FNA				S	**Sg**	**16 17 11.2**	**+0.2**
FNA	**Florina**	**1.14**	**85**	P	**Pb**	**16 16 54.4**	**-1.5**
FNA				S	**Sg**	**16 17 11.2**	**+0.2**
FNA	**Florina**	**1.14**	**85**	P	**Pb**	**16 16 54.0**	**-1.9**
FNA				S	**Sg**	**16 17 11.2**	**+0.2**
FNA	**Florina**	**1.14**	**85**	P	**Pb**	**16 16 54.4**	**-1.5**
FNA				S	**Sg**	**16 17 11.2**	**+0.2**
FNA	**Florina**	**1.14**	**85**	P	**Pb**	**16 16 54.0**	**-1.9**
FNA				S	**Sb**	**16 17 10.2**	**-0.5**
FNA				AML	AML	16 17 17.3	
	comp=N,14180μm,0.7s						
FNA				AML	AML	16 17 22.4	
	comp=E,14969μm,0.5s						
IGT	**Igoumenitsa**	**1.21**	**163**	P	**Pn**	**16 16 56.6**	**-0.4**
IGT				S	**Sn**	**16 17 13.5**	**+0.1**
IGT	**Igoumenitsa**	**1.21**	**163**	*e*P	**Pn**	**16 16 56.6**	**-0.4**
IGT	**Igoumenitsa**	**1.21**	**163**	P	**Pb**	**16 16 57.1**	**0.0**
IGT				S	**Sn**	**16 17 13.5**	**+0.1**
IGT	**Igoumenitsa**	**1.21**	**163**	*e*Pn	**Pn**	**16 16 56.6**	**-0.4**
IGT	**Igoumenitsa**	**1.21**	**163**	P	**Pb**	**16 16 57.1**	**0.0**
IGT				S	**Sn**	**16 17 17.3**	**+3.9**
IGT				AML	AML	16 17 18.4	
	comp=N,18860μm,0.5s						
IGT				AML	AML	16 17 22.3	
	comp=E,16470μm,0.7s						
SCTE	**Santa Cesarea**	**1.25**	**241**	Pn	**Pg**	**16 16 57.7**	**-0.5**
SCTE				Sn	**Sn**	**16 17 16.5**	**+2.3**
	comp=E,2μm,0.6s						
SCTE	**Santa Cesarea**	**1.25**	**241**	Pn	**Pg**	**16 16 57.7**	**-0.5**
SCTE	**Santa Cesarea**	**1.25**	**241**	P	**Pg**	**16 16 59.2**	**+1.0**
SCTE				S	**Sn**	**16 17 14.3**	**+0.1**
SCTE				Sn	**Sn**	**16 17 16.5**	**+2.3**
	comp=E,2μm,0.6s						
SCTE	**Santa Cesarea**	**1.25**	**241**	P	**Pg**	**16 16 59.2**	**+1.0**
SCTE				S	**Sn**	**16 17 14.3**	**+0.1**
SCTE				AML	AML	16 17 17.1	
	comp=E,6782μm,0.6s						
SCTE				AML	AML	16 17 17.5	
	comp=N,6988μm,0.5s						
JAN	**Janina**	**1.27**	**144**	P	**Pn**	**16 16 57.4**	**-0.5**
JAN				S	**Sb**	**16 17 14.8**	**+0.2**
JAN	**Janina**	**1.27**	**144**	P	**Pn**	**16 16 57.4**	**-0.5**
JAN				S	**Sb**	**16 17 14.8**	**+0.2**
JAN	**Janina**	**1.27**	**144**	P	**Pn**	**16 16 57.8**	**-0.1**
JAN				S	**Sb**	**16 17 14.8**	**+0.2**
JAN	**Janina**	**1.27**	**144**	P	**Pn**	**16 16 57.4**	**-0.5**
JAN				S	**Sb**	**16 17 14.8**	**+0.2**
JAN	**Janina**	**1.27**	**144**	S	**Sg**	**16 17 19.7**	**+4.4**
JAN				AML	AML	16 17 22.6	
	comp=E,12955μm,0.6s						
KPRO	**Kipourio**	**1.35**	**123**	P	**Pn**	**16 16 58.4**	**-0.6**
KPRO	**Kipourio**	**1.35**	**123**	P	**Pn**	**16 16 58.8**	**-0.2**
KPRO	**Kipourio**	**1.35**	**123**	P	**Pn**	**16 16 58.8**	**-0.2**
ULC	**Ulcinj**	**1.36**	**339**	⇑*i*Pg	**Pg**	**16 16 59.8**	**-0.5**
ULC				*e*Sg	**Sg**	**16 17 20.1**	**+2.1**
ULC	**Ulcinj**	**1.36**	**339**	P	**Pg**	**16 17 00.0**	**-0.3**
ULC				*e*Sg	**Sg**	**16 17 20.1**	**+2.1**
KZN	**Kozani**	**1.49**	**104**	P	**Pn**	**16 17 01.0**	**0.0**
KZN	**Kozani**	**1.49**	**104**	P	**Pn**	**16 17 01.0**	**0.0**
KZN	**Kozani**	**1.49**	**104**	P	**Pb**	**16 17 02.0**	**+0.1**
KZN				S	**Sg**	**16 17 24.5**	**+2.3**
KZN	**Kozani**	**1.49**	**104**	P	**Pn**	**16 17 01.0**	**0.0**
MESG	**Mesagne**	**1.55**	**267**	Pn	**Pb**	**16 17 02.2**	**-0.7**
	comp=E,5μm,0.7s						
MESG	**Mesagne**	**1.55**	**267**	Pn	**Pb**	**16 17 02.2**	**-0.7**
	comp=E,5μm,0.7s						
DRME	**Dracevica, Mon**	**1.58**	**341**	⇓*i*Pg	**Pb**	**16 17 03.2**	**-0.3**
DRME				*e*Sg	**Sg**	**16 17 25.8**	**+0.6**
DRME	**Dracevica, Mon**	**1.58**	**341**	⇑*i*Pn	**Pb**	**16 17 03.4**	**-0.1**
DRME				*e*Sn	**Sb**	**16 17 23.0**	**-0.5**
DRME				*e*Sg	**Sg**	**16 17 25.8**	**+0.6**
SKO	**Skopje**	**1.73**	**42**	P	**Pb**	**16 17 05.7**	**-0.4**
SKO				S	**Sg**	**16 17 29.1**	**-0.9**
SKO	**Skopje**	**1.73**	**42**	*i* Pn	**Pb**	**16 17 06.5**	**+0.4**
SKO	**Skopje**	**1.73**	**42**	*e*Pn	**Pb**	**16 17 06.4**	**+0.4**
SKO	**Skopje**	**1.73**	**42**	*e*P	**Pb**	**16 17 05.7**	**-0.4**
SKO				*e*		16 17 29.1	
SKO	**Skopje**	**1.73**	**42**	P	**Pb**	**16 17 05.7**	**-0.4**
SKO	**Skopje**	**1.73**	**42**	*e*Pn	**Pb**	**16 17 06.4**	**+0.4**
SKO				S	**Sg**	**16 17 29.1**	**-0.9**
SKO	**Skopje**	**1.73**	**42**	*e*Pn	**Pb**	**16 17 05.7**	**-0.4**
SKO				*e*Sn	**Sg**	**16 17 29.1**	**-0.9**
BUM	**Brajici-Budva**	**1.77**	**336**	⇑*i*Pn	Pn	**16 17 05.5**	**+0.7**
BUM				*e*

LIT	Litokhoron	2.08	106	eP	Pb	16 17 11.2	-0.7
LIT	Litokhoron	2.08	106	P	Pb	16 17 11.2	-0.7
LIT	Litokhoron	2.08	106	ePn	Pb	16 17 11.2	-0.7
LIT	Litokhoron	2.08	106	P	Pb	16 17 12.5	+0.6
VAY	Valandovo	2.13	72	P	Pn	16 17 10.1	+0.4
VAY				S	Sb	16 17 38.2	-0.9
VAY	Valandovo	2.13	72	iPn	Pn	16 17 10.9	+1.2
VAY	Valandovo	2.13	72	ePn	Pn	16 17 11.3	-1.5
VAY	Valandovo	2.13	72	eP	Pn	16 17 10.1	+0.4
VAY	Valandovo	2.13	72	P	Pn	16 17 10.1	+0.4
VAY	Valandovo	2.13	72	ePn	Pn	16 17 11.3	-1.5
VAY				S	Sb	16 17 38.2	-0.9
VAY	Valandovo	2.13	72	ePn	Pn	16 17 10.1	+0.4
NOCI	Noci	2.14	273	Pn	Pn	16 17 10.0	+0.2
	comp=N,3µm,0.7s						
NOCI	Noci	2.14	273	P	Pn	16 17 10.1	+0.2
NOCI				S	Sn	16 17 35.9	-0.5
NOCI	Noci	2.14	273	P	Pn	16 17 10.1	+0.2
NOCI				S	Sn	16 17 35.9	-0.5
BEY	Berane	2.18	0	⇑iPn	Pb	16 17 12.1	-1.6
BEY	Berane	2.18	0	P	Pb	16 17 13.6	-0.1
BEY				eSn	Sb	16 17 40.5	-0.2
IVA	Berane	2.18	0	⇑iPn	Pb	16 17 12.1	-1.6
IVA				eSn	Sb	16 17 40.5	-0.2
NKME	Niksic	2.19	342	⇑iPn	Pn	16 17 11.5	+1.0
NKME				eSn	Sb	16 17 40.4	-0.5
NKME	Niksic	2.19	342	⇑iPn	Pn	16 17 11.5	+1.0
NKME				eSn	Sb	16 17 40.4	-0.5
NKY	Niksic	2.22	343	⇑iPn	Pn	16 17 11.8	+0.8
NKY				eSn	Sb	16 17 41.1	-0.8
NKY	Niksic	2.22	343	⇑iPn	Pn	16 17 11.8	+0.8
NKY				eSn	Sb	16 17 41.1	-0.8
EVR	Evrytania	2.31	139	P	Pb	16 17 15.7	-0.3
EVR	Evrytania	2.31	139	P	Pb	16 17 15.7	-0.3
EVR	Evrytania	2.31	139	P	Pb	16 17 15.7	-0.3
EVR	Evrytania	2.31	139	P	Pg	16 17 17.5	-1.1
BAI	Bari	2.31	281	ePn	Pn	16 17 13.1	+0.9
BAI				Sn	Sn	16 17 41.2	+0.6
PDO	Prodromos	2.32	154	P	Pn	16 17 13.6	+1.3
PDO	Prodromos	2.32	154	P	Pn	16 17 13.6	+1.3
PDO	Prodromos	2.32	154	P	Pn	16 17 13.5	+1.3
TREB	Trebinje	2.33	331	⇑iPn	Pn	16 17 12.3	-0.1
TREB				eSn	Sn	16 17 41.4	+0.5
LTRZ	Laterza	2.33	269	Pn	Pn	16 17 12.8	+0.3
	comp=N,3µm,0.9s						
LTRZ	Laterza	2.33	269	Pn	Pn	16 17 12.8	+0.3
	comp=N,3µm,0.9s						
THE	Thessaloniki	2.35	90	P	Pn	16 17 14.2	+1.6
THE	Thessaloniki	2.35	90	eP	Pn	16 17 14.2	+1.6
THE	Thessaloniki	2.35	90	P	Pn	16 17 14.2	+1.6
THE	Thessaloniki	2.35	90	ePn	Pn	16 17 14.2	+1.6
THE	Thessaloniki	2.35	90	P	Pb	16 17 15.7	-0.7
MATE	Matera	2.42	270	Pn	Pn	16 17 14.0	+0.4
	comp=N,1µm,0.6s						
MATE	Matera	2.42	270	Pn	Pn	16 17 14.0	+0.4
	comp=N,1µm,0.6s						
BRY	Bratogost	2.42	336	⇓iPn	Pn	16 17 14.0	+0.1
BRY				eSn	Sb	16 17 46.1	-1.7
BRY	Bratogost	2.42	336	ePn	Pn	16 17 14.2	+0.3
BRY				eSn	Sn	16 17 44.6	+1.0
PVO	Paravola	2.43	148	P	Pn	16 17 15.9	+2.1
PVO	Paravola	2.43	148	P	Pn	16 17 15.9	+2.1
PVO	Paravola	2.43	148	P	Pb	16 17 16.7	-1.2
SG1	Sgolgore (BA)	2.44	275	ePn	Pn	16 17 13.9	0.0
SG1				Sn	Sn	16 17 43.5	-0.2
HORT	Hortiatis	2.45	91	P	Pn	16 17 15.4	+1.3
HORT	Hortiatis	2.45	91	P	Pn	16 17 15.5	+1.3
HORT	Hortiatis	2.45	91	P	Pn	16 17 15.4	+1.3
HORT	Hortiatis	2.45	91	P	Pn	16 17 15.5	+1.3
HORT				AML	AML	16 17 57.3	
	comp=E,540µm,0.9s						
HORT				AML	AML	16 17 58.6	
	comp=N,1185µm,0.8s						
AMUR	Altamura	2.50	276	Pn	Pn	16 17 15.3	+0.5
	comp=N,2µm,1.0s						
AMUR	Altamura	2.50	276	Pn	Pn	16 17 15.3	+0.5
	comp=N,2µm,1.0s						
AGG	Agios Georgios	2.52	131	P	Pb	16 17 18.1	-1.3
AGG	Agios Georgios	2.52	131	eP	Pb	16 17 18.1	-1.3
AGG	Agios Georgios	2.52	131	P	Pb	16 17 18.1	-1.3
AGG	Agios Georgios	2.52	131	ePn	Pb	16 17 18.1	-1.3
AGG	Agios Georgios	2.52	131	P	Pn	16 17 19.5	+0.1
BARS	Barje	2.57	34	ePn	Pb	16 17 18.0	-2.3
BARS	Barje	2.57	34	ePn	Pb	16 17 18.0	-2.3
SJES	Sjenica	2.57	1	ePn	Pb	16 17 18.3	-2.0
SJES				eSn	Sn	16 17 47.6	+0.5
SJES	Sjenica	2.57	1	ePn	Pb	16 17 18.3	-2.0
SJES				eSn	Sn	16 17 47.6	+0.5
VLS	Valsamata	2.57	167	P	Pn	16 17 15.8	0.0
VLS				S	Sn	16 17 49.0	+2.0
VLS	Valsamata	2.57	167	P	Pn	16 17 15.8	0.0
VLS				S	Sn	16 17 49.0	+2.0
VLS	Valsamata	2.57	167	P	Pn	16 17 15.8	0.0
VLS				S	Sn	16 17 49.0	+2.0
VLS	Valsamata	2.57	167	P	Pn	16 17 15.8	0.0
VLS				S	Sn	16 17 49.0	+2.0
UPM	Unac-Piva	2.61	344	⇑iPn	Pn	16 17 17.8	+1.3
UPM				eSn	Sn	16 17 50.3	+2.0
UPM	Unac-Piva	2.61	344	ePn	Pn	16 17 17.4	+0.9
UPM	Unac-Piva	2.61	344	P	Pb	16 17 18.9	-2.2
UPM				eSn	Sn	16 17 50.3	+2.0
MIGL	Miglionico	2.62	269	Pn	Pn	16 17 17.6	+1.2
	comp=N,14µm,1.2s						
MIGL	Miglionico	2.62	269	Pn	Pn	16 17 17.6	+1.2
	comp=N,14µm,1.2s						
ANX	Ano Chora	2.62	142	P	Pn	16 17 18.9	+2.4
ANX	Ano Chora	2.62	142	P	Pn	16 17 18.9	+2.4
LADO	San Nicola del	2.64	239	Pn	Pn	16 17 16.9	+0.2
	comp=N,1µm,0.6s						
LADO	San Nicola del	2.64	239	Pn	Pn	16 17 16.9	+0.2
	comp=N,1µm,0.6s						
SOH	Sokhos	2.64	86	P	Pn	16 17 18.6	+1.9
SOH	Sokhos	2.64	86	eP	Pn	16 17 18.6	+1.9
SOH	Sokhos	2.64	86	P	Pn	16 17 18.6	+1.9
SOH	Sokhos	2.64	86	ePn	Pn	16 17 18.6	+1.9
SOH	Sokhos	2.64	86	P	Pn	16 17 18.9	+2.2
PIPA	Pietrapaola	2.64	244	Pn	Pn	16 17 16.5	-0.3
	comp=N,832nm,0.9s						
PIPA	Pietrapaola	2.64	244	Pn	Pn	16 17 16.5	-0.3
	comp=N,832nm,0.9s						
PLE	Pljevlja	2.66	352	⇓iPn	Pn	16 17 18.9	+1.8
PLE				eSn	Sn	16 17 51.8	+2.4
PLE	Pljevlja	2.66	352	⇓iPn	Pn	16 17 18.9	+1.8
PLE				eSn	Sn	16 17 51.8	+2.4
KFL	Anninata	2.67	164	P	Pn	16 17 17.5	+0.3
KFL	Anninata	2.67	164	P	Pn	16 17 17.5	+0.3
KFL	Anninata	2.67	164	P	Pn	16 17 16.0	-1.2
FYTO	Fytoko, Volos	2.67	118	P	Pn	16 17 18.8	+1.6
FYTO	Fytoko, Volos	2.67	118	P	Pn	16 17 18.8	+1.6
FYTO	Fytoko, Volos	2.67	118	ePn	Pn	16 17 18.8	+1.6
FYTO	Fytoko, Volos	2.67	118	P	Pb	16 17 20.8	-1.2
SELS	Selova	2.69	20	ePn	Pn	16 17 19.0	+1.6
PLG	Polygyros	2.73	96	P	Pn	16 17 20.0	+2.0
PLG	Polygyros	2.73	96	P	Pn	16 17 20.0	+2.0
PLG	Polygyros	2.73	96	P	Pn	16 17 20.0	+2.0
PLG				S	Sb	16 17 55.3	-1.3
PLG	Polygyros	2.73	96	P	Pn	16 17 20.0	+2.0
PLG	Polygyros	2.73	96	P	Pb	16 17 21.7	-1.4
PLG				S	Sb	16 17 55.3	-1.3
PLG				AML	AML	16 18 01.1	
	comp=N,1049µm,0.7s						
PLG				AML	AML	16 18 04.8	
	comp=E,1104µm,0.9s						
AXS	Araxos	2.75	155	P	Pn	16 17 19.6	+1.4
AXS	Araxos	2.75	155	P	Pn	16 17 19.5	+1.4
AXS	Araxos	2.75	155	P	Pn	16 17 19.5	+1.4
EFP	Efpalio	2.75	145	P	Pb	16 17 21.0	-2.4
EFP	Efpalio	2.75	145	P	Pb	16 17 21.0	-2.4
EFP	Efpalio	2.75	145	P	Pb	16 17 22.3	-1.1
CDT	Castel del Mon	2.76	279	ePn	Pn	16 17 18.5	+0.1
MRVN	Minervino Murg	2.82	279	Pn	Pn	16 17 20.0	+0.8
	comp=E,834nm,0.9s						
MRVN	Minervino Murg	2.82	279	Pn	Pn	16 17 20.0	+0.8
	comp=E,834nm,0.9s						
SALB	San Lorenzo Be	2.83	254	Pn	Pn	16 17 19.1	-0.2
	comp=E,1µm,0.9s						
SALB	San Lorenzo Be	2.83	254	Pn	Pn	16 17 19.1	-0.2
	comp=E,1µm,0.9s						
SERG	Sergoula	2.83	143	P	Pn	16 17 21.9	+2.6
SERG	Sergoula	2.83	143	P	Pn	16 17 21.9	+2.6
TIP	Timpagrande	2.84	239	P	Pn	16 17 19.0	-0.5
TIP	Timpagrande	2.84	239	Pn	Pn	16 17 19.6	+0.1
	comp=E,678nm,1.5s						
TIP	Timpagrande	2.84	239	P	Pn	16 17 19.0	-0.5
TIP	Timpagrande	2.84	239	Pn	Pn	16 17 19.6	+0.1
	comp=E,678nm,1.5s						
TIP	Timpagrande	2.84	239	ePn	Pn	16 17 19.0	-0.5
TIP	Timpagrande	2.84	239	P	Pn	16 17 17.9	-1.6
SRS	Serrai	2.84	80	P	Pn	16 17 20.2	+0.7
SRS				S	Sn	16 17 55.5	+1.8
SRS	Serrai	2.84	80	eP	Pn	16 17 20.2	+0.7
SRS	Serrai	2.84	80	P	Pn	16 17 20.7	+1.2
SRS				S	Sn	16 17 55.5	+1.8
SRS	Serrai	2.84	80	ePn	Pn	16 17 20.2	+0.7
SRS	Serrai	2.84	80	P	Pn	16 17 20.7	+1.2
XOR	Xorichti	2.87	116	P	Pn	16 17 20.3	+0.5
XOR	Xorichti	2.87	116	P	Pn	16 17 22.4	+2.6
XOR	Xorichti	2.87	116	P	Pn	16 17 20.3	+0.5
XOR	Xorichti	2.87	116	P	Pn	16 17 22.4	+2.6
KALE	Kalithea	2.89	142	P	Pn	16 17 22.9	+2.8
KALE	Kalithea	2.89	142	P	Pn	16 17 22.9	+2.8
KALE	Kalithea	2.89	142	ePn	Pn	16 17 22.9	+2.8
KALE	Kalithea	2.89	142	P	Pb	16 17 24.6	-1.2
IVAS	Ivanjica	2.89	4	ePn	Pn	16 17 21.5	+1.3
IVAS	Ivanjica	2.89	4	ePn	Pn	16 17 21.5	+1.3
RLS	Riolos of Patr	2.90	154	P	Pn	16 17 21.8	+1.5
RLS	Riolos of Patr	2.90	154	P	Pn	16 17 21.6	+1.3
RLS	Riolos of Patr	2.90	154	P	Pn	16 17 21.8	+1.5
NEO	Neokhori	2.92	117	P	Pn	16 17 22.1	+1.6
NEO	Neokhori	2.92	117	P	Pn	16 17 22.1	+1.6
LAKA	Lakka	2.94	146	P	Pn	16 17 23.1	+2.3
LAKA	Lakka	2.94	146	P	Pn	16 17 23.1	+2.3
LAKA	Lakka	2.94	146	ePn	Pn	16 17 23.1	+2.3
LAKA	Lakka	2.94	146	P	Pn	16 17 23.4	+2.6
SCHR	S. Chirico Rap	2.95	262	Pn	Pn	16 17 22.0	+1.0
	comp=E,673nm,0.8s						
VTN	Vitineika	2.95	160	P	Pn	16 17 23.0	+2.0
VTN	Vitineika	2.95	160	P	Pn	16 17 23.0	+2.0
SERS	Sersale	2.96	237	Pn	Pn	16 17 20.9	-0.3
	comp=E,551nm,1.1s						
SERS	Sersale	2.96	237	Pn	Pn	16 17 20.9	-0.3
	comp=E,551nm,1.1s						
PALZ	Palazzo San Ge	2.99	276	Pn	Pn	16 17 23.4	+1.9
PALZ	Palazzo San Ge	2.99	276	Pn	Pn	16 17 23.4	+1.9
PAIG	Paliouri	3.00	104	P	Pn	16 17 23.0	+1.3
PAIG	Paliouri	3.00	104	eP	Pn	16 17 23.0	+1.3
PAIG	Paliouri	3.00	104	P	Pn	16 17 23.6	+2.0
PAIG	Paliouri	3.00	104	ePn	Pn	16 17 23.0	+1.3
PAIG	Paliouri	3.00	104	P	Pn	16 17 23.6	+2.0
DSF	Desfina	3.06	137	P	Pn	16 17 24.7	+2.2
DSF	Desfina	3.06	137	P	Pn	16 17 24.7	+2.2
DSF	Desfina	3.06	137	ePn	Pn	16 17 24.7	+2.2
DSF	Desfina	3.06	137	P	Pn	16 17 25.6	+3.0
ZKS	Zakynthos	3.07	167	P	Pn	16 17 22.6	-0.1
ZKS				S	Sn	16 18 01.5	+2.1
ZKS	Zakynthos	3.07	167	P	Pn	16 17 22.6	-0.1
ZKS				S	Sn	16 18 01.5	+2.1
DRO	Drossia	3.08	152	P	Pn	16 17 24.6	+1.8
DRO	Drossia	3.08	152	P	Pn	16 17 24.4	+1.6
DRO	Drossia	3.08	152	P	Pn	16 17 24.4	+1.6
NVR	Nevrokopi	3.08	76	P	Pn	16 17 23.8	+1.0
NVR				S	Sn	16 18 01.3	+1.7
NVR	Nevrokopi	3.08	76	P	Pn	16 17 24.1	+1.3
NVR				S	Sn	16 18 01.3	+1.7
NVR	Nevrokopi	3.08	76	P	Pn	16 17 23.8	+1.0
MMN	Mormanno	3.08	256	Pn	Pn	16 17 24.5	+1.8
	comp=E,178nm,0.5s						
MMN	Mormanno	3.08	256	Pn	Pn	16 17 24.5	+1.8
	comp=E,178nm,0.5s						
SIRI	Monte Sirino -	3.11	262	Pn	Pn	16 17 24.0	+0.8
	comp=E,430nm,0.4s						
SIRI	Monte Sirino -	3.11	262	Pn	Pn	16 17 24.0	+0.8
	comp=E,430nm,0.4s						
MCEL	Monticello	3.13	265	Pn	Pn	16 17 25.2	+1.7
	comp=E,1µm,0.8s						
MCEL	Monticello	3.13	265	Pn	Pn	16 17 25.2	+1.7
	comp=E,1µm,0.8s						
SMIA	Simia	3.14	124	P	Pn	16 17 26.3	+2.7
SMIA	Simia	3.14	124	P	Pn	16 17 26.3	+2.7
ATAL	Atalanti	3.14	129	P	Pn	16 17 26.2	+2.6
ATAL	Atalanti	3.14	129	P	Pn	16 17 26.2	+2.6
ATAL	Atalanti	3.14	129	ePn	Pn	16 17 26.2	+2.6
ATAL	Atalanti	3.14	129	P	Pb	16 17 27.0	-3.0
MS1	Monte Sant'Ang	3.14	290	ePn	Pn	16 17 23.6	0.0
MS1				Sn	Sn	16 18 00.0	-1.1
OUR	Ouranopolis	3.15	95	P	Pn	16 17 25.5	+1.9
OUR	Ouranopolis	3.15	95	eP	Pn	16 17 25.5	+1.9
OUR	Ouranopolis	3.15	95	P	Pn	16 17 25.5	+1.9
OUR	Ouranopolis	3.15	95	ePn	Pn	16 17 25.5	+1.9
OUR	Ouranopolis	3.15	95	P	Pb	16 17 27.7	-2.4
SKIA	Skiathos	3.15	118	P	Pn	16 17 25.5	+1.8
SKIA	Skiathos	3.15	118	P	Pn	16 17 25.5	+1.8
SKIA	Skiathos	3.15	118	P	Pn	16 17 25.1	+1.4
LKR	Lokris	3.15	129	P	Pn	16 17 26.3	+2.6
LKR	Lokris	3.15	129	P	Pn	16 17 26.3	+2.6
LKR	Lokris	3.15	129	P	Pn	16 17 26.3	+2.6
LKR	Lokris	3.15	129	P	Pn	16 17 26.6	+2.8
CAR1	CAROLEI	3.17	244	Pn	Pn	16 17 24.9	+0.9
	comp=E,484nm,0.5s						
CAR1	CAROLEI	3.17	244	Pn	Pn	16 17 24.9	+0.9
	comp=E,484nm,0.5s						
MSAG	Monte S. Angel	3.17	290	Pn	Pn	16 17 24.5	+0.5
	comp=E,1µm,0.7s						
MSAG	Monte S. Angel	3.17	290	Pn	Pn	16 17 24.5	+0.5
	comp=E,1µm,0.7s						
KLV	Kalavryta, Ach	3.18	146	P	Pn	16 17 26.5	+2.4
KLV	Kalavryta, Ach	3.18	146	P	Pn	16 17 26.5	+2.4
KLV	Kalavryta, Ach	3.18	146	ePn	Pn	16 17 26.5	+2.4
KLV	Kalavryta, Ach	3.18	146	P	Pn	16 17 26.8	+2.7
CUC	Castrocucco	3.19	259	Pn	Pn	16 17 25.9	+1.7
	comp=E,501nm,0.8s						
CUC	Castrocucco	3.19	259	ePn	Pn	16 17 24.8	+0.5
CUC	Castrocucco	3.19	259	P	Pn	16 17 26.1	+1.9
CUC				eSn	Sn	16 17 59.5	-2.7
CUC	Castrocucco	3.19	259	ePn	Pn	16 17 24.8	+0.5
CUC				eSn	Sn	16 17 59.5	-2.7
CUC	Castrocucco	3.19	259	P	Pn	16 17 26.1	+1.9
BBLS	Lazići	3.19	354	ePn	Pn	16 17 25.7	+1.4
BBLS	Lazići	3.19	354	ePn	Pn	16 17 25.7	+1.4
BBLS				eSn	Sn	16 18 03.5	+1.1
BOVS	Bovan	3.24	24	ePn	Pn	16 17 27.0	+2.1
BOVS				eSn	Sn	16 18 01.9	-1.5
BOVS	Bovan	3.24	24	ePn	Pn	16 17 27.0	+2.1
VULT	Monte Vulture	3.25	276	Pn	Pn	16 17 28.1	+3.0
	comp=E,2µm,0.8s						
VULT	Monte Vulture	3.25	276	Pn	Pn	16 17 28.1	+3.0
	comp=E,2µm,0.8s						
SLCN	Sala Consilina	3.25	266	Pn	Pn	16 17 26.6	+1.4
	comp=E,2µm,1.1s						
SLCN	Sala Consilina	3.25	266	Pn	Pn	16 17 26.6	+1.4
	comp=E,2µm,1.1s						
GRUS	Gruza	3.25	11	ePn	Pn	16 17 26.8	+1.7
GRUS	Gruza	3.25	11	ePn	Pn	16 17 26.8	+1.7
ZAPS	Zavoj	3.29	38	ePn	Pn	16 17 27.4	+1.7
ZAPS				eSn	Sn	16 18 03.0	-1.9
ZAPS	Zavoj	3.29	38	ePn	Pn	16 17 27.4	+1.7
SGRT	San Giovanni R	3.30	290	Pn	Pn	16 17 26.3	+0.5
	comp=E,1µm,1.1s						
SGRT	San Giovanni R	3.30	290	Pn	Pn	16 17 26.3	+0.5
	comp=E,1µm,1.1s						
MRLC	Muro Lucano	3.34	273	Pn	Pn	16 17 28.3	+2.0
	comp=E,736nm,0.6s						
MRLC	Muro Lucano	3.34	273	Pn	Pn	16 17 28.3	+2.0
	comp=E,736nm,0.6s						
PROD	Prodromos	3.37	135	P	Pn	16 17 28.3	+1.6
PROD	Prodromos	3.37	135	P	Pn	16 17 28.3	+1.6
DIVS	Divibare	3.41	1	P	Pn	16 17 28.4	+1.1
DIVS	Divibare	3.41	1	⇑iPn	Pn	16 17 28.3	+1.0
THAL	Thalero	3.42	140	P	Pb	16 17 31.7	-3.0
THAL	Thalero	3.42	140	P	Pb	16 17 31.7	-3.0
AOS	Alonnisos	3.43	115	P	Pn	16 17 29.3	+1.8
AOS	Alonnisos	3.43	115	P	Pn	16 17 29.3	+1.8
AOS	Alonnisos	3.43	115	ePn	Pn	16 17 29.3	+1.8
AOS	Alonnisos	3.43	115	P	Pn	16 17 29.0	+1.5
AMT	Artemida-Makis	3.46	155	P	Pn	16 17 28.9	+0.9
AMT	Artemida-Makis	3.46	155	P	Pn	16 17 28.9	+0.9
AMT	Artemida-Makis	3.46	155	P	Pn	16 17 27.7	-0.3
PLAC	Placanica	3.48	231	Pn	Pn	16 17 27.9	-0.4
	comp=E,248nm,0.6s						
PLAC	Placanica	3.48	231	Pn	Pn	16 17 27.9	-0.4
	comp=E,248nm,0.6s						
BOLS	Boljevac	3.49	25	ePn	Pn	16 17 29.4	+1.0
BOLS				eSn	Sn	16 18 07.4	-2.2
BOLS	Boljevac	3.49	25	ePn	Pn	16 17 29.4	+1.0
CDRU	Civita di Ruta	3.49	268	Pn	Pn	16 17 29.0	+0.5
	comp=E,466nm,1.1s						
CDRU	Civita di Ruta	3.49	268	Pn	Pn	16 17 29.0	+0.5
	comp=E,466nm,1.1s						
BULG	Bulgheria - Ca	3.50	261	Pn	Pn	16 17 29.8	+1.3
	comp=E,1µm,1.0s						
BULG	Bulgheria - Ca	3.50	261	Pn	Pn	16 17 29.8	+1.3
	comp=E,1µm,1.0s						
CMPR	Campora	3.51	265	Pn	Pn	16 17 29.8	+1.1
	comp=E,624nm,0.9s						
CMPR	Campora	3.51	265	Pn	Pn	16 17 29.8	+1.1
	comp=E,624nm,0.9s						
KAVA	Kavala	3.53	84	P	Pn	16 17 30.7	+1.8
KAVA	Kavala	3.53	84	P	Pn	16 17 30.7	+1.8
KAVA	Kavala	3.53	84	ePn	Pn	16 17 30.7	+1.8
KAVA	Kavala	3.53	84	P	Pn	16 17 31.9	+3.0
CAFE	Carife	3.54	277	Pn	Pn	16 17 30.4	+1.2
	comp=E,10µm,1.0s						
CAFE	Carife	3.54	277	Pn	Pn	16 17 30.4	+1.2
	comp=E,10µm,1.0s						
TRUS	Trudelj	3.55	6	ePn	Pn	16 17 30.4	+1.2
TRUS	Trudelj	3.55	6	ePn	Pn	16 17 30.4	+1.2
SNAL	S. Angelo Dei	3.55	275	Pn	Pn	16 17 31.6	+2.3
SNAL	S. Angelo Dei	3.55	275	Pn	Pn	16 17 31.6	+2.3
LTK	Loutraki	3.58	137	P	Pn	16 17 31.7	+2.0
LTK	Loutraki	3.58	137	P	Pn	16 17 31.4	+1.8
LTK	Loutraki	3.58	137	ePn	Pn	16 17 31.7	+2.0
LTK	Loutraki	3.58	137	P	Pn	16 17 31.4	+1.8
VIL2	Platees	3.61	132	P	Pn	16 17 32.6	+2.6
MOCO	Biccari - m.te	3.64	282	Pn	Pn	16 17 32.1	+1.6
	comp=E,642nm,0.9s						
VILL	Villia	3.66	132	P	Pn	16 17 32.9	+2.1
VILL	Villia	3.66	132	P	Pn	16 17 32.6	+1.8
JOPP	Joppolo	3.72	237	Pn	Pn	16 17 31.6	0.0
	comp=E,218nm,0.7s						
JOPP	Joppolo	3.72	237	Pn	Pn	16 17 31.6	0.0
	comp=E,218nm,0.7s						
MRB1	Monte Rocchett	3.75	278	Pn	Pn	16 17 34.1	+2.2
	comp=E,718nm,0.7s						
MRB1	Monte Rocchett	3.75	278	Pn	Pn	16 17 34.1	+2.2
	comp=E,718nm,0.7s						
GATE	Gambatesa	3.84	284	Pn	Pn	16 17 35.1	+1.8
GATE	Gambatesa	3.84	284	Pn	Pn	16 17 35.1	+1.8
VLX	Vlachokerasia	3.84	149	P	Pn	16 17 35.9	+2.5
VLX	Vlachokerasia	3.84	149	P	Pn	16 17 35.9	+2.5
VLX	Vlachokerasia	3.84	149	ePn	Pn	16 17 35.9	+2.5
VLX	Vlachokerasia	3.84	149	P	Pn	16 17 36.0	+2.7
ITM	Ithomi	3.85	155	P	Pn	16 17 34.1	+0.7
ITM	Ithomi	3.85	155	P	Pn	16 17 34.4	+1.0
ITM	Ithomi	3.85	155	P	Pn	16 17 34.1	+0.7
ITM	Ithomi	3.85	155	P	Pn	16 17 34.4	+1.0
TEKS	Tekeris	3.86	356	ePn	Pn	16 17 34.5	+1.0
TEKS	Tekeris	3.86	356	ePn	Pn	16 17 34.5	+1.0
TEKS				eSn	Sn	16 18 19.6	+0.7
EREA	Eretria	3.87	125	P	Pn	16 17 36.6	+3.0
EREA	Eretria	3.87	125	P	Pn	16 17 36.6	+3.0
EREA	Eretria	3.87	125	P	Pn	16 17 37.4	+3.8
PSB1	Pescosannita	3.88	280	Pn	Pn	16 17 35.8	+2.1
	comp=E,508nm,1.1s						
PSB1	Pescosannita	3.88	280	Pn	Pn	16 17 35.8	+2.1
	comp=E,508nm,1.1s						
CIGN	Sant'Elia a Pi	3.88	286	Pn	Pn	16 17 35.1	+1.4
	comp=E,635nm,1.1s						
CIGN	Sant'Elia a Pi	3.88	286	Pn	Pn	16 17 35.1	+1.4
	comp=E,635nm,1.1s						
PLD	Plovdiv	3.89	67	P	Pn	16 17 37.4	+3.5
KUBS	Kucevo	3.95	19	ePn	Pn	16 17 34.8	+0.1
KUBS				eSn	Sn	16 18 18.5	-2.4
KUBS	Kucevo	3.95	19	ePn	Pn	16 17 34.8	+0.1
SOI	Samo	3.96	230	Pn	Pn	16 17 34.8	0.0
	comp=E,434nm,1.2s						
SOI	Samo	3.96	230	P	Pn	16 17 34.9	+0.1
SOI	Samo	3.96	230	Pn	Pn	16 17 34.8	0.0
	comp=E,434nm,1.2s						
SACR	S. Croce Del S	3.98	282	Pn	Pn	16 17 36.8	+1.6
	comp=E,1µm,1.7s						
SACR	S. Croce Del S	3.98	282	Pn	Pn	16 17 36.8	+1.6
	comp=E,1µm,1.7s						
GMB	Gambarie	4.03	233	Pn	Pn	16 17 36.1	+0.2
	comp=E,991nm,0.7s						
GMB	Gambarie	4.03	233	Pn	Pn	16 17 36.1	+0.2
	comp=E,991nm,0.7s						
PAOL	Paolisi	4.04	277	Pn	Pn	16 17 38.3	+2.2
	comp=E,424nm,0.7s						
PAOL	Paolisi	4.04	277	Pn	Pn	16 17 38.3	+2.2
	comp=E,424nm,0.7s						
PYL	PYLOS	4.06	158	P	Pn	16 17 36.5	+0.3
PYL	PYLOS	4.06	158	P	Pn	16 17 36.5	+0.3
PYL	PYLOS	4.06	158	ePn	Pn	16 17 36.5	+0.3
PYL	PYLOS	4.06	158	P	Pn	16 17 35.0	-1.2
PTL	Penteli	4.06	129	P	Pn	16 17 39.0	+2.7
PTL	Penteli	4.06	129	P	Pn	16 17 39.0	+2.7
MPAZ	Palizzi	4.06	229	Pn	Pn	16 17 36.0	-0.3
	comp=E,165nm,0.5s						
MPAZ	Palizzi	4.06	229	Pn	Pn	16 17 36.0	-0.3
	comp=E,165nm,0.5s						
ATHU	Athens Univers	4.07	131	P	Pn	16 17 38.5	+2.1
ATHU	Athens Univers	4.07	131	P	Pn	16 17 38.5	+2.1
BSSO	Busso	4.08	284	Pn	Pn	16 17 38.4	+1.8
	comp=E,275nm,0.7s						
BSSO	Busso	4.08	284	Pn	Pn	16 17 38.4	+1.8
	comp=E,275nm,0.7s						
PTRJ	Pietraroja	4.11	281	Pn	Pn	16 17 38.5	+1.6
	comp=E,760nm,0.7s						
PTRJ	Pietraroja	4.11	281	Pn	Pn	16 17 38.5	+1.6
	comp=E,760nm,0.7s						
DID	Didima	4.12	140	P	Pn	16 17 38.4	+1.4
DID	Didima	4.12	140	P	Pn	16 17 38.4	+1.4
DID	Didima	4.12	140	ePn	Pn	16 17 38.4	+1.4
DID	Didima	4.12	140	P	Pn	16 17 37.2	+0.2
FRES	Fresagrandinar	4.13	290	Pn	Pn	16 17 38.6	+1.4
	comp=E,868nm,0.8s						
FRES	Fresagrandinar	4.13	290	Pn	Pn	16 17 38.6	+1.4
	comp=E,868nm,0.8s						
VLY	Voula,Athens	4.15	132	P	Pn	16 17 39.9	+2.4
VLY	Voula,Athens	4.15	132	P	Pn	16 17 39.9	+2.4
VLY	Voula,Athens	4.15	132	ePn	Pn	16 17 39.9	+2.4
VLY	Voula,Athens	4.15	132	P	Pn	16 17 39.9	+2.4
TRIV	Trivento	4.16	287	Pn	Pn	16 17 39.2	+1.6
	comp=E,676nm,1.2s						
TRIV	Trivento	4.16	287	Pn	Pn	16 17 39.2	+1.6
	comp=E,676nm,1.2s						
KRND	KRANIDI	4.17	141	P	Pn	16 17 39.1	+1.4
KRND	KRANIDI	4.17	141	P	Pn	16 17 39.1	+1.4
MDVR	Moldovita	4.30	18	⇑iP	Pn	16 17 40.9	+1.3
MDVR	Moldovita	4.30	18	S	Sn	16 18 25.3	-4.5
VAGA	Valle Agricola	4.33	281	Pn	Pn	16 17 42.1	+2.1
	comp=E,305nm,0.6s						
VAGA	Valle Agricola	4.33	281	Pn	Pn	16 17 42.1	+2.1
	comp=E,305nm,0.6s						
MIDA	Miranda	4.35	284	Pn	Pn	16 17 41.9	+1.6
	comp=E,280nm,0.4s						
MIDA	Miranda	4.35	284	Pn	Pn	16 17 41.9	+1.6
	comp=E,280nm,0.4s						
CAFR	Castel Frentan	4.43	292	Pn	Pn	16 17 42.5	+1.2
	comp=E,916nm,0.6s						
CAFR	Castel Frentan	4.43	292	Pn	Pn	16 17 42.5	+1.2
	comp=E,916nm,0.6s						
RNI2	Rionero Sannit	4.44	285	Pn	Pn	16 17 43.2	+1.7
	comp=E,347nm,0.8s						
RNI2	Rionero Sannit	4.44	285	Pn	Pn	16 17 43.2	+1.7
	comp=E,347nm,0.8s						
MCSR	Castroreale	4.45	235	Pn	Pn	16 17 41.4	-0.2
	comp=E,304nm,0.3s						
MCSR	Castroreale	4.45	235	Pn	Pn	16 17 41.4	-0.2
	comp=E,304nm,0.3s						
FGSL	Fruska Gora	4.46	359	ePn	Pn	16 17 42.1	+0.3
FRGS	Fruska Gora	4.46	359	ePn	Pn	16 17 42.1	+0.3
LPEL	Lama dei Pelig	4.50	289	Pn	Pn	16 17 43.6	+1.3
	comp=E,179nm,0.7s						
LPEL	Lama dei Pelig	4.50	289	Pn	Pn	16 17 43.6	+1.3
	comp=E,179nm,0.7s						
BLY	Banja Luka	4.51	335	Pn	Pn	16 17 43.3	+0.8
	comp=E,145nm,0.8s						
BLY	Banja Luka	4.51	335	Pn	Pn	16 17 43.3	+0.8
	comp=E,145nm,0.8s						
BLY				eSn	Sn	16 18 33.7	-1.2
CERA	Filignano	4.52	283	Pn	Pn	16 17 44.9	+2.3
	comp=E,556nm,1.0s						
CERA	Filignano	4.52	283	Pn	Pn	16 17 44.9	+2.3
	comp=E,556nm,1.0s						
MMME	Mongiuffi-Meli	4.52	234	Pn	Pn	16 17 42.8	+0.1
	comp=E,137nm,0.7s						
MMME	Mongiuffi-Meli	4.52	234	Pn	Pn	16 17 42.8	+0.1

comp=E,137nm,0.7s
NOV Novara 4.54 236 Pn **Pn** 16 17 41.4 -1.5
comp=E,129nm,0.6s
NOV Novara 4.54 236 Pn **Pn** 16 17 41.4 -1.5
comp=E,129nm,0.6s
VLI Veliai 4.63 148 P **Pn** 16 17 45.5 +1.4
VLI Veliai 4.63 148 P **Pn** 16 17 45.5 +1.4
VLI Veliai 4.63 148 *e*Pn **Pn** 16 17 45.5 +1.4
VLI Veliai 4.63 148 P **Pn** 16 17 44.2 +0.1
SRE Strehaia 4.66 31 ⇑*i*P **Pn** 16 17 47.5 +3.0
ALN Alexandroupoli 4.68 85 P **Pn** 16 17 46.8 +2.1
ALN Alexandroupoli 4.68 85 P **Pn** 16 17 46.8 +2.1
ALN Alexandroupoli 4.68 85 P **Pn** 16 17 46.8 +2.1
ALN Alexandroupoli 4.68 85 P **Pn** 16 17 46.8 +2.1
ALN Alexandroupoli 4.68 85 P **Pn** 16 17 46.9 +2.1
INTR Introdacqua 4.69 288 Pn **Pn** 16 17 46.0 +1.1
comp=E,667nm,1.0s
INTR Introdacqua 4.69 288 Pn **Pn** 16 17 46.0 +1.1
comp=E,667nm,1.0s
POFI Posta Fibreno 4.77 284 Pn **Pn** 16 17 47.4 +1.4
comp=E,125nm,0.5s
POFI Posta Fibreno 4.77 284 Pn **Pn** 16 17 47.4 +1.4
comp=E,125nm,0.5s
UDBI Udbina 4.89 323 *e*Pn **Pn** 16 17 49.3 +1.6
UDBI Sn **Sn** 16 18 45.4 +1.1
UDBI Udbina 4.89 323 *e*Pn **Pn** 16 17 49.2 +1.6
UDBI Sn **Sn** 16 18 45.3 +1.1
KYTH Kithira 5.07 150 P **Pn** 16 17 52.2 +2.1
KYTH Kithira 5.07 150 P **Pn** 16 17 51.7 +1.6
KYTH Kithira 5.07 150 *e*Pn **Pn** 16 17 52.2 +2.1
KYTH Kithira 5.07 150 P **Pn** 16 17 51.7 +1.6
BZS Buzias 5.08 14 *e*Pn **Pn** 16 17 51.2 +0.9
BZS Buzias 5.08 14 *e*Pn **Pn** 16 17 51.2 +0.9
AQU L'Aquila 5.14 291 *e*P **Pn** 16 17 52.5 +1.4
AQU L'Aquila 5.14 291 *e*Pn **Pn** 16 17 50.5 -0.6
AQU *e*Sn **Sn** 16 18 46.9 -3.5
AQU L'Aquila 5.14 291 *e*Pn **Pn** 16 17 52.5 +1.4
CHOS Chios island 5.30 114 P **Pn** 16 17 55.8 +2.5
CHOS Chios island 5.30 114 P **Pn** 16 17 55.8 +2.5
CHOS Chios island 5.30 114 P **Pn** 16 17 55.8 +2.5
CHOS Chios island 5.30 114 P **Pn** 16 17 56.6 +3.3
NVLJ Novalja 5.35 318 *i* Pn **Pn** 16 17 54.4 +0.5
NVLJ Sn **Sn** 16 18 54.9 -0.6
NVLJ Novalja 5.35 318 *i* Pn **Pn** 16 17 54.4 +0.5
NVLJ Sn **Sn** 16 18 54.8 -0.6
ANKY Antikythira Is 5.52 150 P **Pn** 16 17 57.9 +1.7
ANKY Antikythira Is 5.52 150 P **Pn** 16 17 57.9 +1.7
ANKY Antikythira Is 5.52 150 *e*Pn **Pn** 16 17 57.9 +1.7
ANKY Antikythira Is 5.52 150 P **Pn** 16 17 57.2 +1.0
LOT Lotru 5.54 30 ⇓*i*P **Pn** 16 17 53.9 -2.7
DEV Deva 5.64 22 ⇓*i*P **Pn** 16 17 58.4 +0.5
APE Apeiranthos 5.70 128 P **Pn** 16 17 59.5 +0.7
APE Apeiranthos 5.70 128 *e*P **Pn** 16 18 01.0 +2.2
APE Apeiranthos 5.70 128 P **Pn** 16 17 59.5 +0.7
APE Apeiranthos 5.70 128 *e*Pn **Pn** 16 17 59.5 +0.7
APE Apeiranthos 5.70 128 P **Pn** 16 17 59.4 +0.7
SIRR Siria 5.72 12 ⇓*i*P **Pn** 16 18 00.2 +1.2
BOJS Bojanci 5.88 326 *i* Pn **Pn** 16 18 01.9 +0.7
BOJS *i* Sn **Sn** 16 19 08.7 +0.1
BOJS Bojanci 5.88 326 *i* Pn **Pn** 16 18 01.9 +0.7
BOJS *i* Sn **Sn** 16 19 08.7 +0.1
CLTB Caltabellotta 6.04 241 *e*Pn **Pn** 16 18 04.8 +1.2
CLTB Caltabellotta 6.04 241 *e*Pn **Pn** 16 18 04.8 +1.2
CRES Cresnjev 6.06 329 *e*Pn **Pn** 16 18 03.5 -0.2
VOIR 6.07 37 ⇑*i*P **Pn** 16 18 07.2 +3.4
SANT Santorini 6.14 133 *e*Pn **Pn** 16 18 05.9 +1.0
SANT Santorini 6.14 133 *e*Pn **Pn** 16 18 05.9 +1.0
BEHE Becsehely 6.20 340 *e*Pn **Pn** 16 18 06.3 +0.7
BEHE Becsehely 6.20 340 *e*Pn **Pn** 16 18 06.3 +0.7
SECR 6.28 44 ⇓*i*P **Pn** 16 18 09.8 +3.0
VISS Visnje 6.30 326 *i* Pn **Pn** 16 18 06.9 0.0
VISS *i* Sn **Sn** 16 19 20.1 +1.3
VISS Visnje 6.30 326 *i* Pn **Pn** 16 18 06.9 0.0
VISS *i* Sn **Sn** 16 19 20.1 +1.3
CEY Cerknica 6.43 324 ⇑*i*Pn **Pn** 16 18 08.7 0.0
DRGR 6.43 18 ⇓*i*P **Pn** 16 18 10.5 +1.7
DRGR 6.43 18 S **Sn** 16 19 19.2 -3.0
MLR Muntele Rosu 6.53 41 Pn **Pn** 16 18 13.8 +3.5
comp=E,0.2nm,0.3s,baz=158,slow=14,SNR=11
MLR Sn **Sn** 16 19 26.9 +2.1
comp=E,0.2nm,0.3s,baz=242,slow=8.1,SNR=4.1
MLR LR LR 16 21 16.0
comp=E,74nm,21.5s,baz=198,slow=43
MLR Muntele Rosu 6.53 41 ⇓*i*P **Pn** 16 18 14.4 +4.1
ISR Istrita 6.59 46 ⇑*i*P **Pn** 16 18 15.4 +4.3
LJU Ljubljana 6.62 326 *i* Pn **Pn** 16 18 11.2 -0.2
LJU *i* Sn **Sn** 16 19 25.5 -1.2
comp=Z,192nm,1.5s
LJU Ljubljana 6.62 326 ⇑*i*Pn **Pn** 16 18 11.1 -0.2
LJU *i* Sn **Sn** 16 19 27.4 +0.7
comp=Z,192nm,1.5s
IDI Anoyia 6.69 142 Pn **Pn** 16 18 11.9 -0.5
comp=Z,0.8nm,0.3s,baz=306,slow=17,SNR=6.4
IDI Sn **Sn** 16 19 24.7 -3.9
comp=Z,0.9nm,0.3s,baz=299,slow=18,SNR=3.4
IDI Anoyia 6.69 142 *e*Pn **Pn** 16 18 13.4 +1.0
IDI Anoyia 6.69 142 *e*Pn **Pn** 16 18 13.4 +1.0
IDI *e*Sn **Sn** 16 19 26.7 -1.9
JAVS Javornik 6.71 323 *i* Pn **Pn** 16 18 12.2 -0.5
JAVS *i* Sn **Sn** 16 19 27.0 -2.1
JAVS Javornik 6.71 323 *i* Pn **Pn** 16 18 12.2 -0.5
JAVS *i* Sn **Sn** 16 19 27.0 -2.1
TRI Trieste 6.72 320 *e*P **Pn** 16 18 11.7 -1.0
TRI *e* 16 19 26.8
TRI Trieste 6.72 320 *e*Pn **Pn** 16 18 11.7 -1.0
TRI Trieste 6.72 320 *e*Pn **Pn** 16 18 11.7 -1.0
TRI *e*Sn **Sn** 16 19 26.8 -2.2
SOKA Soboth 6.94 331 *i* Pn **Pn** 16 18 15.4 -0.4
comp=Z,8.1nm,0.3s,SNR=23
SOKA *i* Sn **Sn** 16 19 34.3 -0.4
comp=Z,13nm,0.6s
SOKA Soboth 6.94 331 Pn **Pn** 16 18 15.4 -0.4
comp=Z,8.1nm,0.3s,SNR=23
SOKA Sn **Sn** 16 19 34.3 -0.4
comp=Z,13nm,0.6s
OBKA Obir 6.98 328 *i* Pn **Pn** 16 18 17.1 +0.6
comp=Z,5.6nm,0.2s,SNR=9.4
OBKA *i* Sn **Sn** 16 19 37.1 +1.3
comp=Z,22nm,0.6s
OBKA Obir 6.98 328 Pn **Pn** 16 18 17.1 +0.6
comp=Z,5.6nm,0.2s,SNR=9.4
OBKA Sn **Sn** 16 19 37.1 +1.3
comp=Z,22nm,0.6s
LAST Lasithi 7.07 140 *e*Pn **Pn** 16 18 17.5 -0.2
LAST Lasithi 7.07 140 *e*Pn **Pn** 16 18 17.5 -0.2
LAST *e*Sn **Sn** 16 19 35.1 -3.0
PLOR Plostina 7.14 42 ⇑*i*P **Pn** 16 18 22.4 +3.9
HARR Harsova 7.15 53 ⇓*i*P **Pn** 16 18 22.4 +3.8
VRI Vrincioaia 7.19 42 ⇑*i*P **Pn** 16 18 22.9 +3.7
VRI Vrincioaia 7.19 42 P **Pn** 16 18 22.8 +3.6
PSZ Piszkesteto 7.22 0 ⇑*e*Pn **Pn** 16 18 20.8 +1.1
PSZ Piszkesteto 7.22 0 *e*P **Pn** 16 18 20.0 +0.3
PSZ Piszkesteto 7.22 0 *e*Pn **Pn** 16 18 20.0 +0.3
PSZ Piszkesteto 7.22 0 *e*Pn **Pn** 16 18 20.0 +0.3
ARSA Arzberg 7.27 336 *e*Pn **Pn** 16 18 19.9 -0.4
comp=Z,7.6nm,0.7s,SNR=6.5
ARSA Arzberg 7.27 336 Pn **Pn** 16 18 19.9 -0.4
comp=Z,7.6nm,0.7s,SNR=6.5
MYKA Terra Mystica 7.46 325 *e*Pn **Pn** 16 18 22.9 -0.1
comp=Z,3.1nm,0.4s,SNR=7.2
MYKA *e*Sn **Sn** 16 19 48.3 +0.8
comp=Z,9.0nm,0.5s
MYKA Terra Mystica 7.46 325 Pn **Pn** 16 18 22.9 -0.1
comp=Z,3.1nm,0.4s,SNR=7.2
MYKA Sn **Sn** 16 19 48.3 +0.8
comp=Z,9.0nm,0.5s
CFR Carcaliu 7.53 51 ⇑*i*P **Pn** 16 18 27.8 +3.9
TESR Tescani 7.61 38 ⇑*i*P **Pn** 16 18 27.5 +2.5
TRPA Tarpa 7.67 13 ⇑*e*pPn **Pn** 16 18 27.8 +2.0
TRPA Tarpa 7.67 13 ⇑*e*Pn **Pn** 16 18 27.8 +2.0
KARP Karpathos 7.70 130 *e*Pn **Pn** 16 18 28.1 +1.9
KARP Karpathos 7.70 130 *e*Pn **Pn** 16 18 28.1 +1.9
KECS Kecovo 7.80 3 *e*P **Pn** 16 18 30.0 +2.4
KECS *e* 16 20 04.6
KECS Kecovo 7.80 3 *e*Pn **Pn** 16 18 30.0 +2.4
KECS Kecovo 7.80 3 *e*PN **Pn** 16 18 30.0 +2.4
KECS *e* 16 20 04.6
VYHS Vyhne 7.84 355 *e*P **Pn** 16 18 29.3 +1.2
VYHS Vyhne 7.84 355 *e*Pn **Pn** 16 18 29.3 +1.2
VYHS Vyhne 7.84 355 *e*PN **Pn** 16 18 29.3 +1.2
VYHS *e* 16 20 08.9
BURAR Bucovina Array 7.91 27 ⇑*i*P **Pn** 16 18 32.4 +3.2
BURAR Bucovina Array 7.91 27 P **Pn** 16 18 32.3 +3.1
BUR08 Bucovina Ar. S 7.93 27 *e*Pn **Pn** 16 18 30.3 +0.8
BUR08 Bucovina Ar. S 7.93 27 *e*Pn **Pn** 16 18 30.3 +0.8
KBA Koelnbreinsper 7.94 326 *i* Pn **Pn** 16 18 29.4 -0.2
comp=Z,3.4nm,0.3s,SNR=10.0
KBA *i* Sn **Sn** 16 19 57.7 -1.7
comp=Z,14nm,0.6s
KBA Koelnbreinsper 7.94 326 P **Pn** 16 18 29.5 -0.1
KBA Koelnbreinsper 7.94 326 Pn **Pn** 16 18 29.4 -0.2
comp=Z,3.4nm,0.3s,SNR=10.0
KBA Sn **Sn** 16 19 57.7 -1.7
comp=Z,14nm,0.6s
TLCR 7.94 53 ⇓*i*P **Pn** 16 18 32.8 +3.3
ABTA Abfaltersbach 8.07 321 *e*Pn **Pn** 16 18 30.8 -0.5
comp=Z,8.0nm,0.4s,SNR=8.2
ABTA *e*Sn **Sn** 16 20 00.6 -1.9
comp=Z,44nm,0.8s
ABTA Abfaltersbach 8.07 321 Pn **Pn** 16 18 30.8 -0.5
comp=Z,8.0nm,0.4s,SNR=8.2
ABTA Sn **Sn** 16 20 00.6 -1.9
comp=Z,44nm,0.8s
UZH Uzhgorod 8.12 11 *e*P **Pn** 16 18 33.1 +1.2
UZH *e*S **Sn** 16 20 05.7 +2.1
VSL Villasalto 8.14 265 *e*Pn **Pn** 16 18 31.3 -1.0
VSL *e*Sn **Sn** 16 20 02.5 -1.7
VSL Villasalto 8.14 265 *e*Pn **Pn** 16 18 31.3 -1.0
VSL *e*Sn **Sn** 16 20 02.5 -1.7
MOA Molln 8.21 333 *i* Pn **Pn** 16 18 33.9 +0.7
comp=Z,5.7nm,0.3s,SNR=10
MOA *i* Sn **Sn** 16 20 09.4 +3.5
comp=Z,13nm,0.6s
MOA Molln 8.21 333 Pn **Pn** 16 18 33.9 +0.7
comp=Z,5.7nm,0.3s,SNR=10
CRVS Cervenica-Dubn 8.29 7 *e*P **Pn** 16 18 36.4 +2.2
CRVS Cervenica-Dubn 8.29 7 *e*Pn **Pn** 16 18 36.4 +2.2
CRVS Cervenica-Dubn 8.29 7 *e*PN **Pn** 16 18 36.4 +2.2
PGF Pioggiola 8.36 286 *e*P **Pn** 16 18 38.7 +3.3
KOLS Kolonicke sedl 8.41 11 *e*P **Pn** 16 18 38.4 +2.4
KOLS Kolonicke sedl 8.41 11 *e*Pn **Pn** 16 18 38.4 +2.4
KOLS Kolonicke sedl 8.41 11 *e*PN **Pn** 16 18 38.4 +2.4
LANS Liptovska Anna 8.46 358 *e*P **Pn** 16 18 41.0 +4.3
LANS Liptovska Anna 8.46 358 *e*PN **Pn** 16 18 41.0 +4.3
STHS Stebnicka Huta 8.78 6 *e*P Pn 16 18 46.3 +5.3
STHS Stebnicka Huta 8.78 6 *e*PN Pn 16 18 46.3 +5.3
WTTA Wattenberg 8.86 321 *e*Pn **Pn** 16 18 43.0 +0.8
comp=Z,11nm,0.3s,SNR=12
WTTA *i* Sn **Sn** 16 20 21.2 -0.8
comp=Z,20nm,0.5s
WTTA Wattenberg 8.86 321 Pn **Pn** 16 18 43.0 +0.8
comp=Z,11nm,0.3s,SNR=12
WTTA Sn **Sn** 16 20 21.2 -0.8
comp=Z,20nm,0.5s
VRAC Vranov 8.92 346 Pn **Pn** 16 18 44.1 +1.1
comp=Z,0.3nm,0.3s,baz=167,slow=12,SNR=4.4
VRAC Vranov 8.92 346 *e*Pn **Pn** 16 18 43.9 +0.9
WATA Walderalm 8.94 321 *i* Pn **Pn** 16 18 44.2 +1.0
comp=Z,45nm,0.6s,SNR=31
WATA Walderalm 8.94 321 Pn **Pn** 16 18 44.2 +1.0
comp=Z,45nm,0.6s,SNR=31
KIS Kishinev 9.02 43 *e*P Pn 16 18 52.0 +7.8
KIS LRM MLR 16 23 16.0
comp=Z,500nm,10.0s
KIS Kishinev 9.02 43 *e*P Pn 16 18 52.0 +7.8
KIS MLR MLR
comp=Z,500nm,10.0s
KIS MLR MLR
comp=Z,400nm,10.0s
SQTA Sankt Quirin 9.04 319 *i* Pn **Pn** 16 18 45.2 +0.6
SQTA Sankt Quirin 9.04 319 Pn **Pn** 16 18 45.2 +0.6
FUORN Ofenpass-Fuorn 9.14 314 *e*Pn **Pn** 16 18 46.4 +0.2
FUORN Ofenpass-Fuorn 9.14 314 *e*Pn **Pn** 16 18 46.4 +0.2
FUORN *e*Sn **Sn** 16 20 22.8 -6.5
TREC Trest 9.15 342 AMS AMS 16 23 00.0
comp=Z,400nm,9.9s
FETA Feichten 9.15 317 *i* Pn **Pn** 16 18 47.5 +1.4
comp=Z,31nm,0.7s
FETA *i* Sn **Sn** 16 20 29.8 +0.7
comp=Z,15nm,0.8s
FETA Feichten 9.15 317 Pn **Pn** 16 18 47.5 +1.4
comp=Z,31nm,0.7s
FETA Sn **Sn** 16 20 29.8 +0.7
comp=Z,15nm,0.8s
MOTA Moosalm 9.17 319 *i* Pn **Pn** 16 18 46.8 +0.3
comp=Z,58nm,0.7s,SNR=53
MOTA *i* Sn **Sn** 16 20 31.3 +1.6
comp=Z,23nm,0.7s
MOTA Moosalm 9.17 319 Pn **Pn** 16 18 46.8 +0.3
comp=Z,58nm,0.7s,SNR=53
MOTA Sn **Sn** 16 20 31.3 +1.6
comp=Z,23nm,0.7s
OKC Ostrava-Krasne 9.23 353 *e*PN **Pn** 16 18 48.3 +1.2
OKC *ex* x 16 18 52.6
OKC AMS AMS 16 23 40.0
comp=Z,200nm,8.2s
OKC Ostrava-Krasne 9.23 353 *e*P **Pn** 16 18 48.3 +1.2
OKC MLR MLR
comp=Z,200nm,8.2s
OKC Ostrava-Krasne 9.23 353 Pn **Pn** 16 18 48.3 +1.2
MORC Moravsky Berou 9.23 351 *e*P **Pn** 16 18 48.0 +0.8
MORC Moravsky Berou 9.23 351 *e*Pn **Pn** 16 18 48.0 +0.8
MORC Moravsky Berou 9.23 351 *e*Pn **Pn** 16 18 48.0 +0.8
GEA0 GERESS Array S 9.25 334 *e*Pn **Pn** 16 18 47.0 -0.5
GEA0 GERESS Array S 9.25 334 *e*Pn **Pn** 16 18 47.0 -0.5
GEC2 GERESS Array S 9.26 334 *e*P **Pn** 16 18 47.1 -0.5
GEC2 GERESS Array S 9.26 334 *e*Pn **Pn** 16 18 47.1 -0.5
GEC2 GERESS Array S 9.26 334 *e*Pn **Pn** 16 18 47.1 -0.5
GERES GERESS Array B 9.26 334 Pn **Pn** 16 18 47.5 -0.5
comp=Z,0.5nm,0.3s,baz=156,slow=13,SNR=20
GERES Sn **Sn** 16 20 29.5 -2.2
comp=Z,0.5nm,0.3s,baz=152,slow=23,SNR=3.1
GERES LR LR 16 23 21.8
comp=Z,201nm,21.5s,baz=145,slow=44
GERES GERESS Array B 9.26 334 P **Pn** 16 18 47.1 -0.5
GERES 16 20 29.5
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES smax smax
comp=N,1.0nm,0.3s
GERES MLR MLR
comp=Z,201nm,21.5s
DAVOX Davos/Dischmat 9.45 313 Pn **Pn** 16 18 51.1 +0.7
comp=Z,2.0nm,0.3s,baz=152,slow=17,SNR=12
DAVOX Sn **Sn** 16 20 34.2 -2.4
comp=Z,0.8nm,0.3s,baz=308,slow=19,SNR=3.3
DAVOX LR LR 16 23 30.4
comp=Z,189nm,19.7s,baz=84,slow=44
OJC Ojcow 9.53 360 *e*P **Pn** 16 18 52.7 +1.5
OJC Ojcow 9.53 360 *e*Pn **Pn** 16 18 52.7 +1.5
OJC Ojcow 9.53 360 *e*Pn **Pn** 16 18 52.7 +1.5
KHC Kasperske Hory 9.54 334 *e*PN **Pn** 16 18 51.2 -0.3
KHC *ex* x 16 19 01.6
KHC *e*SN **Sn** 16 20 37.5 -1.2
KHC AMS AMS 16 23 40.0
comp=Z,400nm,17.8s
KHC Kasperske Hory 9.54 334 *e*P **Pn** 16 18 51.2 -0.3
KHC *e* 16 20 37.5
KHC MLR MLR
comp=Z,400nm,17.8s
KHC Kasperske Hory 9.54 334 Pn **Pn** 16 18 51.2 -0.3
KHC Sn **Sn** 16 20 37.5 -1.2
KHC Kasperske Hory 9.54 334 *e*Pn **Pn** 16 18 50.3 -1.2
KEST Kesra 9.65 243 *e*Pn **Pn** 16 18 54.2 +1.1
KEST Kesra 9.65 243 *e*Pn **Pn** 16 18 54.2 +1.1
SBF Sospel 9.75 293 *e*P **Pn** 16 18 57.7 +3.3
SBF Sospel 9.75 293 *e*P **Pn** 16 18 57.1 +2.7
SBF pmax pmax
comp=Z,140nm,1.6s
DAVA Damuels 9.76 316 *i* Pn **Pn** 16 18 55.9 +1.3
comp=Z,11nm,0.7s
DAVA *i* Sn **Sn** 16 20 43.3 -0.9
comp=Z,22nm,0.7s
DAVA Damuels 9.76 316 Pn **Pn** 16 18 55.9 +1.3
comp=Z,11nm,0.7s
DAVA Sn **Sn** 16 20 43.3 -0.9
comp=Z,22nm,0.7s
WET Wettzell 9.80 332 P **Pn** 16 18 54.5 -0.5
WET pmax pmax
comp=Z,16nm,0.9s
GOPC GO Pecny, Ondr 9.89 340 AMS AMS 16 23 20.0
comp=Z,400nm,11.9s
BR231 Keskin MP Arra 9.89 91 *e*Pn **Pn** 16 18 59.4 +3.0
BR231 Keskin MP Arra 9.89 91 *e*Pn **Pn** 16 18 59.4 +3.0
DPC Dobruska-Polom 9.97 347 AMS AMS 16 23 30.0
comp=Z,400nm,15.1s
PRU Pruhonice 10.02 340 *e*PN **Pn** 16 18 58.9 +0.9
PRU AMS AMS 16 23 20.0
comp=Z,300nm,11.2s
PRU Pruhonice 10.02 340 *e*P **Pn** 16 18 58.9 +0.9
PRU MLR MLR
comp=Z,300nm,11.2s
PRU Pruhonice 10.02 340 Pn **Pn** 16 18 58.9 +0.9
UPC Upice 10.18 346 AMS AMS 16 23 50.0
comp=Z,500nm,10.4s
FRF La Foret Royal 10.24 291 *e*P **Pn** 16 19 04.9 +3.9
MBDF Montbardon 10.46 297 *e*P **Pn** 16 19 07.4 +3.3
MBDF *e*Sn **Sn** 16 20 52.3 -8.9
comp=Z,12nm,0.6s
PVCC Panska Ves 10.51 341 AMS AMS 16 23 40.0
comp=Z,300nm,12.0s
BR101 Keskin Array S 10.57 91 *e*Pn **Pn** 16 19 07.7 +2.0
BR101 Keskin Array S 10.57 91 *e*Pn **Pn** 16 19 07.7 +2.0
BRTR Keskin Array B 10.57 91 Pn **Pn** 16 19 07.7 +2.0
comp=Z,0.1nm,0.3s,baz=278,slow=11,SNR=3.5
LPG La Plagne 10.73 301 *e*Pn **Pn** 16 19 06.1 -1.9
LPG *e*Sn **Sn** 16 20 59.5 -8.7
comp=Z,21nm,0.6s
LPG La Plagne 10.73 301 *e*P **Pn** 16 19 06.1 -1.9
LPG La Plagne 10.73 301 *e*Pn **Pn** 16 19 06.1 -1.9
LPG La Plagne 10.73 301 *e*Pn **Pn** 16 19 06.1 -1.9
SENIN Lac Senin/Sane 10.75 306 *e*Pn **Pn** 16 19 06.4 -1.7
SENIN Lac Senin/Sane 10.75 306 *e*Pn **Pn** 16 19 06.4 -1.7
SENIN *e*Sn Sn 16 20 50.3 -18
LPL La Plagne 10.75 301 *e*Pn **Pn** 16 19 06.1 -2.1
LPL *e*Sn **Sn** 16 20 59.9 -8.7
comp=Z,31nm,0.7s
LPL La Plagne 10.75 301 *e*P **Pn** 16 19 09.2 +1.0
LPL pmax pmax
comp=Z,5.0nm,0.4s
LPL La Plagne 10.75 301 *e*Pn **Pn** 16 19 06.1 -2.1
SPAK Spaichingen-Ko 10.85 317 *e*P **Pn** 16 19 10.5 +1.1
NKC Novy Kostel 10.87 334 AMS AMS 16 24 30.0
BRG Berggiesshubel 10.99 340 *e*(P) **Pn** 16 19 11.5 +0.3
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 10.99 340 *e*P **Pn** 16 19 11.5 +0.3
BRG pmax pmax
comp=Z,5.0nm,0.9s
ORIF Oris-en-Rattie 11.12 297 *e*Pn **Pn** 16 19 10.8 -2.3
ORIF *e*Sn **Sn** 16 21 08.7 -8.7
comp=Z,9.7nm,0.6s
ORIF Oris-en-Rattie 11.12 297 *e*P **Pn** 16 19 10.8 -2.3
ORIF Oris-en-Rattie 11.12 297 *e*Pn **Pn** 16 19 10.8 -2.3
FELD Feldberg im Sc 11.13 314 *e*P **Pn** 16 19 13.2 -0.1
BBS Basel-Blauen 11.17 311 *e*P **Pn** 16 19 13.5 -0.3
BFO Black Forest 11.23 317 *i* P **Pn** 16 19 14.5 -0.1
BFO Black Forest 11.23 317 *e*Pn **Pn** 16 19 12.5 -2.1
MOX Moxa 11.50 333 P **Pn** 16 19 18.8 +0.5
MOX pmax pmax
comp=Z,13nm,0.9s
LOMF Lomont 11.51 310 *e*P **Pn** 16 19 18.2 -0.2
LOMF Lomont 11.51 310 *e*Pn **Pn** 16 19 18.2 -0.2
MOF Molkenrain 11.60 312 *e*P **Pn** 16 19 19.2 -0.5
MOF Molkenrain 11.60 312 *e*Pn **Pn** 16 19 19.2 -0.5
CABF La Chapelle 11.61 305 *e*Pn **Pn** 16 19 17.6 -2.2
CABF La Chapelle 11.61 305 P **Pn** 16 19 17.6 -2.2
CABF pmax pmax
comp=Z,27nm,1.2s
CABF La Chapelle 11.61 305 *e*Pn **Pn** 16 19 17.6 -2.2
CLL Collm 11.64 338 *e*P **Pn** 16 19 17.0 -3.1
CLL *e* 16 21 36.0
CLL *e* 16 22 37.0
CLL Collm 11.64 338 *e*P **Pn** 16 19 17.0 -3.1
HINF Hinteralfeld 11.74 312 *e*Pn **Pn** 16 19 19.2 -2.3
HINF *e*Sn Sn 16 21 22.7 -10
comp=Z,15nm,0.6s
HINF Hinteralfeld 11.74 312 *e*P **Pn** 16 19 19.7 -1.8
HINF pmax pmax
comp=Z,5.0nm,0.5s
ECH Echery 11.79 314 *e*P **Pn** 16 19 22.7 +0.5
ECH Echery 11.79 314 *e*P **Pn** 16 19 22.7 +0.5
CDF Champ du Feu 11.84 315 *e*Pn **Pn** 16 19 21.2 -1.8
CDF *e*Sn Sn 16 21 25.1 -10
comp=Z,4.8nm,0.6s
CDF Champ du Feu 11.84 315 *e*P **Pn** 16 19 22.6 -0.4
CDF pmax pmax
comp=Z,10.0nm,0.8s
CDF Champ du Feu 11.84 315 *e*Pn **Pn** 16 19 21.2 -1.8
AK11 Malin Array Si 11.90 30 *e*Pn **Pn** 16 19 21.4 -2.3
KIEV Kiev 11.93 30 *e*P **Pn** 16 19 27.0 +3.0
KIEV pmax pmax
comp=Z,5.0nm,1.1s
KIEV Kiev 11.93 30 *e*Pn **Pn** 16 19 22.0 -2.0
AKASG Malin Array Be 11.94 30 Pn **Pn** 16 19 25.5 +1.3
comp=Z,0.5nm,0.3s,baz=219,slow=12,SNR=4.8
AKASG Malin Array Be 11.94 30 *e*P Pn 16 19 30.9 +6.7
AKBB Malin Array Si 11.94 30 *e*P **Pn** 16 19 21.8 -2.4
AKBB Malin Array Si 11.94 30 *e*Pn **Pn** 16 19 21.8 -2.4
HAU Haudompre 12.13 312 *e*Pn **Pn** 16 19 24.2 -2.6
HAU *e*Sn Sn 16 21 31.5 -10
comp=Z,11nm,0.5s
PAGF Fort de Pagny 12.77 313 *e*Pn **Pn** 16 19 33.7 -1.9
PAGF Fort de Pagny 12.77 313 *e*Pn **Pn** 16 19 33.7 -1.9
SMF Signal de Mont 13.04 302 *e*Pn **Pn** 16 19 36.8 -2.5
SMF *e*Sn Sn 16 21 53.5 -11
comp=Z,11nm,0.6s
SMF Signal de Mont 13.04 302 *e*P **Pn** 16 19 36.8 -2.5
SMF Signal de Mont 13.04 302 *e*Pn **Pn** 16 19 36.8 -2.5
WLF Walferdange 13.18 317 *e*P **Pn** 16 19 40.6 -0.6
WLF Walferdange 13.18 317 *e*Pn **Pn** 16 19 40.6 -0.6
WLF Walferdange 13.18 317 *e*Pn **Pn** 16 19 40.6 -0.6
LOR Lormes 13.27 305 *e*Pn **Pn** 16 19 39.4 -3.0
LOR *e*Sn Sn 16 21 59.1 -11
comp=Z,9.8nm,0.6s
SSF Saint Saulge 13.41 304 *e*Pn **Pn** 16 19 42.4 -1.9
SSF Saint Saulge 13.41 304 *e*Pn **Pn** 16 19 42.4 -1.9
KLNR Kaliningrad 13.92 1 *i* P **Pn** 16 19 52.0 +0.8
TCF Toulx Ste Croi 13.99 299 *e*Pn **Pn** 16 19 49.0 -3.2
GIVF Givet 14.13 317 *e*P **Pn** 16 19 53.9 -0.3
GIVF pmax pmax
comp=Z,6.0nm,0.6s
MMAI Mount Meron Ar 14.59 117 Pn **Pn** 16 20 00.1 -0.4
comp=Z,6.4nm,0.3s,baz=15,slow=11,SNR=9.1
NACGM Naroch 14.94 16 *e* **P** 16 20 10.0 -0.8
SOC Sochi 14.99 72 *e*P **P** 16 20 11.9 +0.5
SOC pmax pmax
comp=Z,10.0nm,0.6s
LDF La Druitiere 16.25 306 *e*P **P** 16 20 25.2 -0.1
LDF La Druitiere 16.25 306 *e*P **P** 16 20 27.0 +1.7
LDF pmax pmax
comp=Z,20nm,1.0s
LDF La Druitiere 16.25 306 *e*P **P** 16 20 25.2 -0.1
EIL Elat 16.49 127 Pn **Pn** 16 20 26.7 +1.3
comp=Z,0.3nm,0.3s,baz=356,slow=17,SNR=2.7
GRR Gorron 16.64 304 *e*P **P** 16 20 30.8 +1.2
GRR pmax pmax
comp=Z,23nm,1.2s
VSR Storozhevoye 16.99 45 *e*P **P** 16 20 33.3 -0.2
VSR pmax pmax
comp=Z,4.0nm,0.5s
KIV Kislovodsk 17.16 72 *e*P **P** 16 20 37.2 +1.6
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,13nm,13.0s
NEY Neytrino 17.17 74 ⇑*e*P **P** 16 20 38.1 +2.4
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 17.31 72 P **P** 16 20 39.1 +2.1
comp=Z,0.0nm,0.3s,baz=197,slow=20,SNR=3.3
KBZ LR LR 16 27 52.8
comp=Z,35nm,20.7s,baz=282,slow=39
ZEI Tsey 18.04 75 *e*P **P** 16 20 50.4 +5.1
ZEI pmax pmax
comp=Z,13nm,0.4s
OBN Obninsk 18.18 32 *e*P **P** 16 20 48.1 +1.5
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,54nm,14.0s
ESDC Sonseca Array 18.24 275 P **P** 16 20 47.8 +0.3
comp=Z,0.2nm,0.3s,baz=90,slow=12,SNR=5.5
VSU Vasula 18.32 12 *i* P **Pn** 16 20 47.4 -0.5
VSU pmax pmax
comp=Z,22nm,0.8s
PAB San Pablo 18.56 274 *e*P **P** 16 20 50.9 -0.1
PAB pmax pmax
comp=Z,14nm,1.4s
PAB San Pablo 18.56 274 *e*P **P** 16 20 50.9 -0.1
comp=Z,14nm,1.4s
PAB San Pablo 18.56 274 *e*P **P** 16 20 50.9 -0.1

comp=Z,14nm,1.4s
HFS Hagfors 19.84 351 P **Pn** **16 21 05.5 -0.9**
comp=Z,0.2nm,0.3s,baz=179,slow=14,SNR=6.0
NC602 NORSAR Array S 20.72 348 *eP* **P** **16 21 15.2 +0.9**
NC602 NORSAR Array S 20.72 348 *eP* **P** **16 21 15.2 +0.9**
NAO01 NORSAR Array S 20.93 348 *eP* Pn 16 21 18.4 -0.7
NAO01 NORSAR Array S 20.93 348 *eP* Pn 16 21 18.4 -0.7
NC405 NORSAR Array S 21.05 349 *eP* **P** **16 21 18.5 +0.6**
NC405 NORSAR Array S 21.05 349 *eP* **P** **16 21 18.5 +0.6**
NB201 NORSAR Array S 21.06 348 *eP* **P** **16 21 19.5 +1.5**
NB201 NORSAR Array S 21.06 348 *eP* **P** **16 21 19.5 +1.5**
NB2 NORSAR Subarra 21.06 348 P **P** **16 21 18.7 +0.7**
comp=Z,9.6nm,0.8s,baz=158,slow=10
NB2 NORSAR Subarra 21.06 348 P **P** **16 21 18.7 +0.7**
comp=Z,9.6nm,0.8s,SNR=7.3
NB200 NORSAR Array S 21.06 348 *eP* **P** **16 21 18.9 +0.9**
NB200 NORSAR Array S 21.06 348 *eP* **P** **16 21 18.9 +0.9**
NOA NORSAR Array B 21.06 348 P **P** **16 21 18.9 +0.9**
comp=Z,8.5nm,0.8s,baz=158,slow=9.5,SNR=26
MDT Midelt 21.10 256 P **P** **16 21 18.7 -0.1**
comp=Z,1.8nm,0.9s,baz=58,slow=14,SNR=1.8
MDT LR LR 16 28 12.5
comp=Z,38nm,20.6s,baz=13,slow=33
EKA Eskdalemuir Ar 21.12 322 P **P** **16 21 19.2 +0.6**
comp=Z,14nm,0.9s,baz=118,slow=11,SNR=20
NBO00 NORSAR Array S 21.12 348 *eP* **P** **16 21 21.3 +2.6**
NBO00 NORSAR Array S 21.12 348 *eP* **P** **16 21 21.3 +2.6**
FIA0 FINESS Array S 21.12 8 *eP* **P** **16 21 17.7 -0.9**
FIA0 FINESS Array S 21.12 8 *eP* **P** **16 21 17.7 -0.9**
FIA0 FINESS Array S 21.12 8 *eP* **P** **16 21 17.7 -0.9**
FINES FINESS Array B 21.12 8 P **P** **16 21 17.7 -0.9**
comp=Z,7.0nm,0.8s,baz=184,slow=11,SNR=17
FINES LR LR 16 30 25.8
comp=Z,86nm,19.7s,baz=198,slow=39
FIA1 FINESS Array S 21.12 8 *eP* **P** **16 21 17.2 -1.4**
comp=Z,8.2nm,0.9s
NBO02 NORSAR Array S 21.12 348 *eP* **P** **16 21 19.0 +0.3**
NBO02 NORSAR Array S 21.12 348 *eP* **P** **16 21 19.0 +0.3**
ESK Eskdalemuir 21.13 322 *eP* **P** **16 21 18.7 -0.1**
ESK pmax pmax
comp=Z,36nm,1.0s
ESK Eskdalemuir 21.13 322 *eP* **P** **16 21 18.7 -0.1**
comp=Z,36nm,1.0s
ESK Eskdalemuir 21.13 322 *eP* **P** **16 21 18.7 -0.1**
comp=Z,36nm,1.0s
NC303 NORSAR Array S 21.21 349 *eP* **P** **16 21 18.7 -0.9**
NC303 NORSAR Array S 21.21 349 *eP* **P** **16 21 18.7 -0.9**
NC204 NORSAR Array S 21.35 348 *eP* **P** **16 21 22.7 +1.5**
NC204 NORSAR Array S 21.35 348 *eP* **P** **16 21 22.7 +1.5**
TAM Tamanrasset 21.57 218 *eP* **P** **16 21 25.5 +1.6**
TAM pmax pmax
comp=Z,9.0nm,1.1s
TAM Tamanrasset 21.57 218 *eP* **P** **16 21 25.5 +1.6**
comp=Z,9.2nm,1.1s
TAM Tamanrasset 21.57 218 *eP* **P** **16 21 25.5 +1.6**
comp=Z,9.2nm,1.1s
KLMR Klimovskoe 23.52 24 *eP* **P** **16 21 42.3 -1.6**
KLMR pmax pmax
comp=Z,15nm,0.9s
AKTO Aktyubinsk 28.14 57 LR LR 16 35 17.5
comp=Z,34nm,19.3s,baz=276,slow=40
ARA0 ARCESS Array S 29.06 4 *eP* **P** **16 22 33.0 -1.0**
ARCES ARCESS Array B 29.06 4 P **P** **16 22 33.6 -0.4**
comp=Z,3.8nm,0.8s,baz=179,slow=10,SNR=7.2
ARCES LR LR 16 34 46.3
comp=Z,76nm,18.8s,baz=183,slow=38
GEYT Alibeck 29.56 83 P **P** **16 22 39.2 +0.3**
comp=Z,1.0nm,0.4s,baz=277,slow=11,SNR=3.5
ARU Arti 29.56 45 LR LR 16 35 54.0
comp=Z,30nm,19.2s,baz=10.0,slow=39
TOA1 Torodi Ar. Sit 31.73 215 *eP* **P** **16 22 58.1 -0.1**
TOA1 Torodi Ar. Sit 31.73 215 *eP* **P** **16 22 58.1 -0.1**
TORD Torodi Ar. Bea 31.73 215 P **P** **16 22 58.1 -0.1**
comp=Z,2.3nm,0.8s,baz=25,slow=9.1,SNR=13
TORD LR LR 16 37 50.0
comp=Z,43nm,18.4s,baz=75,slow=40
BRVK Borovoye 35.87 53 *eP* **P** **16 23 34.0 +0.2**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 35.87 53 *eP* **P** **16 23 34.0 +0.2**
comp=Z,11nm,0.6s
BRVK Borovoye 35.87 53 *eP* **P** **16 23 34.0 +0.2**
comp=Z,11nm,0.6s
DBIC Dimbokro 40.45 220 LR LR 16 43 24.7
comp=Z,34nm,18.2s,baz=27,slow=40
ZAA1 Zalesovo Array 44.42 50 *eP* **P** **16 24 44.5 -0.1**
ZAA1 Zalesovo Array 44.42 50 *eP* **P** **16 24 44.5 -0.1**
ZAA0 Zalesovo Array 44.42 50 *eP* **P** **16 24 44.0 -0.6**
ZAA0 Zalesovo Array 44.42 50 *eP* **P** **16 24 44.0 -0.6**
ZALV Zalesovo Beam 44.42 50 P **P** **16 24 44.5 -0.1**
comp=Z,1.5nm,0.5s,baz=277,slow=9.1,SNR=6.0
ZALV LR LR 16 47 07.2
comp=Z,16nm,18.4s,baz=248,slow=41
ZALV Zalesovo Beam 44.42 50 P **P** **16 24 44.5 -0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV MLR MLR
comp=Z,16nm,18.4s
MK31 Makanchi Array 44.45 60 *eP* **P** **16 24 46.4 +1.4**
MK31 Makanchi Array 44.45 60 *eP* **P** **16 24 46.4 +1.4**
MK31 Makanchi Array 44.45 60 *eP* **P** **16 24 46.4 +1.4**
MK32 Makanchi Array 44.45 60 *eP* **P** **16 24 44.4 -0.6**
MK32 Makanchi Array 44.45 60 *eP* **P** **16 24 44.4 -0.6**
MKAR Makanchi Array 44.45 60 P **P** **16 24 44.4 -0.6**
comp=Z,0.6nm,0.6s,baz=284,slow=7.2,SNR=7.5
MKAR LR LR 16 44 28.9
comp=Z,34nm,19.2s,baz=290,slow=38
MKAR Makanchi Array 44.45 60 *eP* **P** **16 24 44.6 -0.4**
MKAR Makanchi Array 44.45 60 *eP* **P** **16 24 44.6 -0.4**
MK01 Makanchi Array 44.46 60 *eP* **P** **16 24 44.7 -0.5**
MK01 Makanchi Array 44.46 60 *eP* **P** **16 24 44.6 -0.5**
NRIK Noril'sk 44.79 28 LR LR 16 46 44.7
comp=Z,42nm,18.4s,baz=28,slow=40
WMQ Urumqi 49.01 63 P **P** **16 25 22.0 +1.2**
TLY Talaya 55.97 48 *eP* **P** **16 26 10.5 -1.7**
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY Talaya 55.97 48 *eP* **P** **16 26 10.5 -1.7**
comp=Z,5.5nm,0.6s
SCHQ Schefferville 56.29 316 P **P** **16 26 13.9 -0.6**
comp=Z,2.4nm,0.8s,baz=14,slow=8.3,SNR=2.8
SCHQ Schefferville 56.29 316 *eP* **P** **16 26 13.4 -1.1**
comp=Z,32nm,1.6s
SCHQ Schefferville 56.29 316 *eP* **P** **16 26 13.4 -1.1**
comp=Z,32nm,1.6s
SONA0 Songino Array 59.26 51 *eP* **P** **16 26 36.5 +0.9**
SONA0 Songino Array 59.26 51 *eP* **P** **16 26 36.5 +0.9**
SONM Songino Array 59.26 51 P **P** **16 26 36.5 +0.9**
comp=Z,0.2nm,0.4s,baz=193,slow=12,SNR=2.6
PALK Pallekele 63.29 104 *i* P 16 27 13.4 +10
HHC Hu-ho-hao-te 66.03 56 *eP* **P** **16 27 22.2 +1.3**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,71nm,5.0s
BILL Bilibino 68.68 13 *eP* **P** **16 27 35.2 -1.9**
BILL pmax pmax
comp=Z,2.0nm,1.2s
BOSA Boshof 69.14 175 P **P** **16 27 43.8 +3.3**
comp=Z,2.7nm,0.8s,baz=18,slow=6.8,SNR=3.4
CM31 Chiang Mai Arr 70.04 83 *eP* **P** **16 27 45.6 -0.7**
CM31 Chiang Mai Arr 70.04 83 *eP* **P** **16 27 45.6 -0.7**
CMAR Chiang Mai Arr 70.04 83 P **P** **16 27 45.5 -0.8**
comp=Z,0.8nm,0.7s,baz=306,slow=7.5,SNR=5.5
YKA Yellowknife Ar 70.86 339 P **P** **16 27 49.3 -1.2**
comp=Z,1.8nm,0.9s,baz=40,slow=6.2,SNR=7.9
ILAR Eielson Array 74.36 354 P **P** **16 28 11.8 +0.4**
comp=Z,0.4nm,0.8s,baz=356,slow=6.5,SNR=4.5
ILAR Eielson Array 74.36 354 P **P** **16 28 11.8 +0.4**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILB Eielson Array 74.36 354 *eP* **P** **16 28 11.0 -0.4**
ILB Eielson Array 74.36 354 *eP* **P** **16 28 11.0 -0.4**
KS01 Wonju Array Si 78.09 51 *eP* **P** **16 28 32.8 -0.3**
KS01 Wonju Array Si 78.09 51 *eP* **P** **16 28 32.8 -0.3**
KS15 Wonju Array Si 78.10 51 *eP* **P** **16 28 32.9 -0.2**
KS15 Wonju Array Si 78.10 51 *eP* **P** **16 28 32.9 -0.2**
KSAR Wonju Array Be 78.10 51 P **P** **16 28 33.5 +0.4**
KSAR Wonju Array Be 78.10 51 P **P** **16 28 33.5 +0.4**
KSAR Wonju Array Be 78.10 51 P **P** **16 28 33.5 +0.4**
KSRS Korea Array 78.12 51 P **P** **16 28 33.5 +0.3**
comp=Z,1.9nm,0.7s,baz=313,slow=4.8,SNR=6.5
KSRS LR LR 17 05 20.6
comp=Z,14nm,18.2s,baz=215,slow=38
PDAR Pinedale Array 85.20 325 LR LR 17 08 42.6
comp=Z,35nm,18.6s,baz=36,slow=37
NVAR Mina Array Bea 92.47 328 LR LR 17 15 16.6
comp=Z,61nm,18.1s,baz=61,slow=38
TXAR Lajitas Array 92.89 313 P **P** **16 29 49.2 +1.8**
comp=Z,0.4nm,0.6s,baz=8.5,slow=2.5,SNR=5.5
ASAR Alice Springs 122.89 94 PKP **PKPdf** **16 35 29.4 -1.1**
comp=Z,0.4nm,0.7s,baz=310,slow=1.7,SNR=7.3

IDC 09 16:38:40.4±4.1, 20.32S×169.23E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, ML3.4/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/20, Error ellipse: s-maj=131.3km s-min=41.3km az=135.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.13**	**236**	Pn	Pn	16 39 32.5	+1.4
	4.7nm,0.3s,baz=125,slow=14,SNR=14						
DZM				Sn	Sb	16 40 14.6	-1.2
	4.8nm,0.3s,baz=88,slow=22,SNR=9.3						
STKA	**Stephens Creek**	**27.28**	**239**	P	P	16 44 24.8	-1.9
	2.7nm,1.0s,baz=48,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**32.73**	**265**	P	P	16 45 15.2	+0.1
	0.7nm,0.7s,baz=90,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**32.87**	**258**	P	P	16 45 16.8	+0.3
	0.4nm,0.8s,baz=82,slow=9.1,SNR=4.7						
KAPI	**Kappang**	**50.40**	**281**	LR	LR	17 11 54.2	
	comp=Z,30nm,18.5s,baz=98,slow=40						
VNDA	**Vanda**	**57.35**	**182**	LR	LR	17 09 34.3	
	comp=Z,23nm,18.6s,baz=171,slow=32						
KSRS	**Korea Array**	**69.39**	**326**	LR	LR	17 19 36.1	
	comp=Z,20nm,18.0s,baz=18,slow=35						
SONM	**Songino Array**	**88.08**	**323**	LR	LR	17 30 29.9	
	comp=Z,11nm,19.0s,baz=108,slow=35						
GERES	**GERESS Array B**	**145.44**	**331**	PKPbc	PKPbc	16 58 20.0	-0.5
	0.7nm,0.7s,baz=50,slow=5.2,SNR=6.7						

IDC 09 17:00:52.3±3.8, 6.23S×103.87E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/46, mbtmp3.7/6, Error ellipse: s-maj=166.7km s-min=18.5km az=57.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**25.00**	**349**	P	P	17 06 18.1	0.0
	0.4nm,0.8s,baz=185,slow=9.8,SNR=2.9						
H08S2	**Diego Garcia H**	**31.18**	**266**	T	T	17 39 31.0	
	baz=90						
H08S3	**Diego Garcia H**	**31.19**	**266**	T	T	17 39 47.7	
	baz=90						
H08S1	**Diego Garcia H**	**31.20**	**266**	T	T	17 39 43.2	
	baz=90						
WRA	**Warramunga Arr**	**32.58**	**118**	P	P	17 07 25.6	-0.1
	0.6nm,0.5s,baz=287,slow=12,SNR=9.0						
ASAR	**Alice Springs**	**33.68**	**124**	P	P	17 07 35.1	-0.3
	0.8nm,0.9s,baz=302,slow=8.2,SNR=15						
STKA	**Stephens Creek**	**43.48**	**131**	P	P	17 08 57.6	0.0
	1.7nm,0.5s,baz=319,slow=8.3,SNR=8.6						
SONM	**Songino Array**	**53.87**	**2**	P	P	17 10 17.4	0.0
	0.2nm,0.3s,baz=175,slow=6.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**62.06**	**347**	P	P	17 11 14.4	-0.2
	0.7nm,0.5s,baz=161,slow=6.0,SNR=3.1						
TXAR	**Lajitas Array**	**145.31**	**45**	PKPbc	PKPbc	17 20 32.2	-0.5
	0.4nm,0.5s,baz=299,slow=1.9,SNR=7.2						

ISCJB ***09*** *17:01:09.4±0.4, 67.09N±0.02×21.08E±0.07, h0km, Error ellipse: s-maj=3.9km s-min=2.8km az=0.5*
HEL ***09*** *17:01:11.0±0.3, 67.11N×20.92E, h0km, ML2.4, Explosion*
CSEM ***09*** *17:01:11.6±0.2, 67.10N×21.21E, h2km, ML2.4, Error ellipse: s-maj=5.9km s-min=4.6km az=109.0, Mining explosion.*
IDC ***09*** *17:01:12.0±0.8, 67.04N×21.38E, h0km, mb1 3.0/5, mb1mx2.9/48, mbtmp3.0/5, ML2.5/5, Error ellipse: s-maj=20.5km s-min=8.5km az=111.0*
NAO ***09*** *17:01:12.0±0.9, 67.11N×21.41E, ML2.5*
BER ***09*** *17:01:13.9±3.1, 67.14N×21.00E, h0km, ML1.6, ML2.5(NAO), Suspected explosion*
ISC 09 17:01:10.4±0.7, 67.10N±0.02×20.94E±0.03, h0km, n59, σ1s26/89, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**1.04**	**22**	PG	**Pg**	**17 01 29.8**	**-0.5**
LANU				SN	**Sn**	**17 01 47.0**	**-0.5**
LANU	**Lannavaara**	**1.04**	**22**	Pg	**Pg**	**17 01 29.8**	**-0.5**
LANU				Sn	**Sn**	**17 01 47.0**	**-0.5**
HEF	**Hetta**	**1.68**	**37**	PG	**Pn**	**17 01 41.0**	**-0.1**
	baz=218						
HEF				MSG		17 02 01.0	
	comp=Z,30nm,0.2s						
HEF				SG	**Sb**	**17 02 03.5**	**-0.2**
HEF	**Hetta**	**1.68**	**37**	Pg	**Pn**	**17 01 40.9**	**-0.1**
HEF				Sg	**Sb**	**17 02 03.5**	**-0.2**
TOF	**Tornio**	**1.69**	**125**	PG	**Pn**	**17 01 41.2**	**0.0**
TOF				SG	**Sn**	**17 02 04.0**	**+0.4**
TOF	**Tornio**	**1.69**	**125**	Pg	**Pn**	**17 01 41.1**	**0.0**
TOF				Sg	**Sn**	**17 02 03.9**	**+0.4**
KIF	**Kilpisjarvi**	**1.92**	**359**	Pn	**Pb**	**17 01 46.1**	**-0.1**
KIF				Lg	Lg	17 02 12.7	
KIF	**Kilpisjarvi**	**1.92**	**359**	Pn	**Pb**	**17 01 46.1**	**-0.1**
KIF				Lg	Lg	17 02 12.7	
KIF	**Kilpisjarvi**	**1.92**	**359**	PG	**Pb**	**17 01 45.9**	**-0.3**
KIF				MSG		17 02 08.8	
	comp=Z,26nm,0.2s						
KIF				SG	**Sg**	**17 02 12.8**	**+0.8**
KIF	**Kilpisjarvi**	**1.92**	**359**	Pn	**Pb**	**17 01 46.1**	**-0.1**
	SNR=50						
KIF				Lg	Lg	17 02 12.6	
	SNR=30						
RNF	**Rovaniemi**	**2.06**	**101**	PB	**Pn**	**17 01 47.4**	**+1.1**
RNF				SG	**Sg**	**17 02 16.6**	**0.0**
RNF	**Rovaniemi**	**2.06**	**101**	Pb	**Pn**	**17 01 47.3**	**+1.1**
KTK1	**Kautokeino**	**2.11**	**23**	*eP*	**Pb**	**17 01 49.1**	**-0.4**
KTK1				*eSg*	**Sg**	**17 02 17.0**	**-1.1**
KTK1				IAML		17 02 20.2	
	comp=Z,6.5nm,0.2s						
KTK1	**Kautokeino**	**2.11**	**23**	*eP*	**Pb**	**17 01 49.1**	**-0.4**
	SNR=50						
KTK1				*eSg*	**Sg**	**17 02 17.0**	**-1.1**
	SNR=90						
SGF	**Sodankyl**	**2.20**	**78**	PG	**Pb**	**17 01 51.8**	**+0.8**
	baz=260						
SGF				SG	**Sg**	**17 02 21.6**	**+0.7**
SGF	**Sodankyl**	**2.20**	**78**	Pg	**Pb**	**17 01 51.8**	**+0.8**
STEI	**Steigen**	**2.34**	**294**	*eP*	**Pb**	**17 01 53.5**	**+0.1**
STEI				IAML		17 02 29.5	
	comp=Z,5.3nm,0.2s						
STEI	**Steigen**	**2.34**	**294**	*eP*	**Pb**	**17 01 53.5**	**+0.1**
	SNR=50						
TRO	**Tromso**	**2.66**	**345**	*eSg*	**Sg**	**17 02 34.5**	**-1.1**
TRO	**Tromso**	**2.66**	**345**	*eSg*	**Sg**	**17 02 34.5**	**-1.1**
	SNR=90						
OUL	**Oulu**	**2.85**	**133**	PB	**Pb**	**17 02 00.9**	**-1.2**
ARA0	**ARCESS Array S**	**2.98**	**33**	Pn	**Pn**	**17 01 59.6**	**+0.8**
	baz=208,slow=14						
ARA0				Sn	**Sn**	**17 02 35.5**	**+0.2**
	baz=213,slow=28						
ARA0	**ARCESS Array S**	**2.98**	**33**	Pn	**Pn**	**17 01 59.6**	**+0.8**
	baz=208,slow=14						
ARA0				Sn	**Sn**	**17 02 35.5**	**+0.2**
	baz=213,slow=28						
ARA0	**ARCESS Array S**	**2.98**	**33**	Pn	**Pn**	**17 01 59.7**	**+0.8**
	SNR=50						
ARA0				Sn	**Sn**	**17 02 35.5**	**+0.2**
	SNR=50						
ARCES	**ARCESS Array B**	**2.98**	**33**	Pn	**Pn**	**17 01 59.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=209,slow=14,SNR=28						
ARCES				Sn	**Sn**	**17 02 35.6**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=215,slow=25,SNR=6.3						
ARE0	**ARCESS Array S**	**2.98**	**33**	PN	**Pn**	**17 01 59.3**	**+0.4**
ARE0				SB	**Sb**	**17 02 40.3**	**-0.9**
ARE0	**ARCESS Array S**	**2.98**	**33**	Pn	**Pn**	**17 01 59.3**	**+0.4**
LOF	**Lofoten**	**3.02**	**294**	*eP*	**Pn**	**17 01 59.3**	**0.0**
LOF				IAML		17 02 53.3	
	comp=Z,7.8nm,0.2s						
LOF	**Lofoten**	**3.02**	**294**	*eP*	**Pn**	**17 01 59.3**	**0.0**
	SNR=50						
OUFX	**Oulainen**	**3.15**	**149**	PB	**Pn**	**17 02 03.3**	**+2.1**
OUFX				SN	**Sn**	**17 02 38.0**	**-1.4**
UMAU	**Umea**	**3.23**	**182**	PN	**Pn**	**17 02 03.0**	**+0.7**
UMAU				SG	**Sb**	**17 02 46.8**	**-1.4**
UMAU	**Umea**	**3.23**	**182**	Pn	**Pn**	**17 02 02.9**	**+0.7**
VRF	**Varrio**	**3.41**	**75**	PN	**Pn**	**17 02 06.6**	**+1.8**
VRF				SG	**Sb**	**17 02 55.1**	**+1.6**
VRF	**Varrio**	**3.41**	**75**	Pn	**Pn**	**17 02 06.5**	**+1.8**
VRF				Sg	**Sb**	**17 02 55.1**	**+1.6**
MSF	**Maaselka**	**3.46**	**106**	PB	**Pb**	**17 02 11.1**	**-1.3**
KU6	**Riekki**	**3.73**	**103**	PN	**Pn**	**17 02 10.9**	**+1.6**
	baz=286						
KU6				SB	**Sb**	**17 03 01.1**	**-1.8**
KU6	**Riekki**	**3.73**	**103**	Pn	**Pn**	**17 02 10.8**	**+1.6**
VAF	**Ylistaro**	**4.13**	**169**	PN	**Pn**	**17 02 15.7**	**+1.0**
VAF	**Ylistaro**	**4.13**	**169**	Pn	**Pn**	**17 02 15.7**	**+1.0**
NSS	**Namsos**	**4.50**	**239**	*eP*	**Pn**	**17 02 22.1**	**+2.4**
NSS	**Namsos**	**4.50**	**239**	*eP*	**Pn**	**17 02 22.1**	**+2.4**
	SNR=49						
HEMU	**Hemsoen**	**4.61**	**197**	PN	**Pn**	**17 02 22.9**	**+1.7**
HEMU	**Hemsoen**	**4.61**	**197**	Pn	**Pn**	**17 02 22.8**	**+1.7**
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**17 02 21.8**	**-0.5**
	baz=270,slow=11						
APA0				Sn	**Sn**	**17 03 15.2**	**-2.1**
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**17 02 21.8**	**-0.5**
	baz=270,slow=11						
APA0				Sn	**Sn**	**17 03 15.2**	**-2.1**
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**17 02 21.8**	**-0.5**
	SNR=50						
APA0				Sn	**Sn**	**17 03 15.2**	**-2.1**
	SNR=50						
FIA0	**FINESS Array S**	**6.10**	**156**	Pn	**Pn**	**17 02 42.6**	**+1.0**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**17 03 52.2**	**+0.2**
	baz=350,slow=28						
FIA0	**FINESS Array S**	**6.10**	**156**	Pn	**Pn**	**17 02 42.6**	**+1.0**
	baz=348,slow=14						
FIA0				Sn	**Sn**	**17 03 52.2**	**+0.2**
	baz=350,slow=28						
FIA0	**FINESS Array S**	**6.10**	**156**	Pn	**Pn**	**17 02 42.6**	**+1.0**
	SNR=50						
FIA0				Sn	**Sn**	**17 03 52.2**	**+0.2**
	SNR=50						
FINES	**FINESS Array B**	**6.10**	**156**	Pn	**Pn**	**17 02 42.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=338,slow=13,SNR=8.6						
FINES				Sn	**Sn**	**17 03 48.2**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=350,slow=21,SNR=2.8						
FINES				Lg	Lg	17 04 16.4	
	comp=Z,0.2nm,0.3s,baz=335,slow=32,SNR=2.5						
NB2	**NORSAR Subarra**	**7.42**	**220**	Pn	**Pn**	**17 03 02.3**	**+2.5**
NB2	**NORSAR Subarra**	**7.42**	**220**	Pn	**Pn**	**17 03 02.3**	**+2.5**
NB2	**NORSAR Subarra**	**7.42**	**220**	Pn	**Pn**	**17 03 02.3**	**+2.5**
	SNR=50						
NOA	**NORSAR Array B**	**7.42**	**220**	Pn	**Pn**	**17 03 00.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=81,slow=5.4,SNR=2.7						
NOA				Sn	**Sn**	**17 04 21.3**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=45,slow=13,SNR=2.4						
HFS	**Hagfors**	**7.69**	**208**	Pn	**Pn**	**17 03 04.9**	**+1.4**
	baz=32,slow=14						
HFS	**Hagfors**	**7.69**	**208**	Pn	**Pn**	**17 03 03.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=23,slow=13,SNR=3.8						
HFS				Sn	**Sn**	**17 04 30.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=41,slow=22,SNR=4.0						
HFS				Lg	Lg	17 05 10.4	
	comp=Z,0.2nm,0.3s,baz=26,slow=30,SNR=2.5						
HFS	**Hagfors**	**7.69**	**208**	Pn	**Pn**	**17 03 04.9**	**+1.4**
	baz=32,slow=14						
HFS	**Hagfors**	**7.69**	**208**	Pn	**Pn**	**17 03 04.9**	**+1.4**
	SNR=50						
SPITS	**Spitsbergen Ar**	**11.22**	**355**	Pn	**Pn**	**17 03 53.1**	**+1.4**
	baz=169,slow=16,SNR=2.5						

CASC 09 17:02:42.6±1.9, 8.30N×82.83W, h44km±53km, MD3.8, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.51**	**16**	*eP*	Pn	17 02 53.4	-0.4
BRU2				*eS*	Sn	17 03 02.5	+0.8
TBS2		**0.52**	**19**	*eP*	Pn	17 02 54.5	+0.5
TBS2				*eS*	Sn	17 03 03.8	+1.8
QCR	**Quepos**	**1.73**	**310**	*eP*	Pn	17 03 09.6	-0.6
QCR				*eS*	Sn	17 03 30.9	-0.1
URSC	**Urasca**	**1.79**	**329**	*eP*	Pn	17 03 11.6	+0.4
URSC				*eS*	Sn	17 03 33.1	+0.3
CGA2	**Cerro Gallo 2**	**2.35**	**317**	*i P*	Pn	17 03 20.3	+1.4
CGA2				*eS*	Sn	17 03 49.0	+2.5

CSEM ***09*** *17:13:00.0±0.4, 78.25N×7.44E, h5km, ML2.8*
NAO ***09*** *17:13:02.8±2.1, 78.26N×8.41E, ML2.8*
IDC ***09*** *17:13:03.6±1.9, 78.22N×8.00E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/37, mbtmp3.5/4, ML2.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.3/33, Error ellipse: s-maj=35.4km s-min=25.0km az=69.0*
BER ***09*** *17:13:03.6±3.3, 78.27N×8.16E, h1km±20km, MD2.1, ML2.3, ML2.8(NAO)*
ISC 09 17:13:04.3±1.5, 78.14N±0.07×8.6E±0.1, h10km, n22, σ1s82/28, mb3.4/3, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.03**	**38**	Pg	**Pg**	**17 13 21.4**	**-2.7**
KBS				Lg	Lg	17 13 33.5	
KBS	**Kingsbay**	**1.03**	**38**	Pg	**Pg**	**17 13 21.4**	**-2.7**
KBS				Lg	Lg	17 13 33.5	
KBS	**Kingsbay**	**1.03**	**38**	Pg	**Pg**	**17 13 21.4**	**-2.7**
KBS				Lg	Lg	17 13 33.5	
BRBA	**Barentsburg A**	**1.16**	**91**	Pg	**Pn**	**17 13 26.9**	**+0.4**
BRBA				Lg	Lg	17 13 42.9	
	SNR=90						
SPA0	**Spitsbergen Ar**	**1.60**	**85**	Pg	**Pn**	**17 13 33.4**	**+0.9**
	baz=264,slow=16						
SPA0				Lg	Lg	17 13 55.3	
	baz=277,slow=28						
SPA0	**Spitsbergen Ar**	**1.60**	**85**	*eP*	**Pn**	**17 13 33.2**	**+0.7**
SPA0				Lg	Lg	17 13 55.3	
	baz=277,slow=28						
SPA0	**Spitsbergen Ar**	**1.60**	**85**	*eP*	**Pn**	**17 13 33.2**	**+0.7**
	SNR=50						
SPA0				Lg	Lg	17 13 55.3	
HSP	**Hornsund**	**1.88**	**124**	Pn	**Pn**	**17 13 36.9**	**+0.5**
HSP				Lg	Lg	17 14 02.2	
HSPB	**Hornsund (broa**	**1.88**	**124**	Pn	**Pn**	**17 13 36.9**	**+0.5**
HSPB				*eS*	**Sn**	**17 14 01.2**	**+1.1**
HSPB				IAML		17 14 05.8	
	comp=Z,28nm,0.6s						
HSPB	**Hornsund (broa**	**1.88**	**124**	Pn	**Pn**	**17 13 36.9**	**+0.5**
HSPB				*eS*	**Sn**	**17 14 01.2**	**+1.1**
	SNR=50						
HSPB				Lg	Lg	17 14 02.2	
**HOPE

JMA 09 17:42:46.2±0.2, 38.13N×144.57E, h41km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.46**	**294**	P	Pn	17 43 25.4	+1.6
JIO	**Ouri**	**2.56**	**278**	P	Pn	17 43 26.5	+1.4
JIO				*e*S	Sn	17 43 56.4	+1.5
MIYJ	**Miyakonagasawa**	**2.59**	**305**	P	Pn	17 43 26.9	+1.3
MIYJ				*e*S	Sn	17 43 57.0	+1.2
JMK	**Ichinoseki**	**2.75**	**288**	P	Pn	17 43 29.6	+1.8
JMK				*e*S	Sn	17 44 02.4	+2.6
JOM	**Ohasama**	**2.89**	**299**	P	Pn	17 43 31.7	+2.0
JOM				*e*S	Sn	17 44 05.3	+2.1
JANG	**Nango**	**3.26**	**314**	P	Pn	17 43 36.7	+1.9
JANG				*e*S	Sn	17 44 13.4	+1.0
JYK	**Kaneyama**	**3.40**	**285**	P	Pn	17 43 39.0	+2.4
JYK				*e*S	Sn	17 44 18.2	+2.5
JFT	**Otama**	**3.41**	**261**	P	Pn	17 43 38.8	+2.0
JFT				*e*S	Sn	17 44 18.0	+2.0
JOT	**Ohata**	**4.23**	**321**	P	Pn	17 43 50.2	+2.1
JOT				*e*S	Sn	17 44 35.8	-0.5
JKB	**Kayabe**	**4.63**	**325**	P	Pn	17 43 55.7	+2.1
JKB				*e*S	Sn	17 44 45.0	-1.1
JRY	**Ryogami san**	**5.00**	**247**	P	Pn	17 43 59.3	+0.6
JRY				*e*S	Sn	17 44 54.1	-1.2
NEM2	**Nemuro 2**	**5.30**	**9**	P	Pn	17 43 59.9	-2.9
NEM2				*e*S	Sn	17 44 55.8	-6.8
JTKR	**Abashiri--Toko**	**5.86**	**355**	P	Pn	17 44 09.6	-0.8
JTKR				*e*S	Sn	17 45 11.8	-4.4

*ISCJB **09** 17:50:21.3±0.5, 8.85S±0.07×113.75E±0.04, h101km±5km, mb4.0/11, Error ellipse: s-maj=11.5km s-min=5.9km az=14.2*
*NEIC **09** 17:50:21.7±0.9, 8.75S×113.74E, h98km±9km, mb4.2/3, Error ellipse: s-maj=16.9km s-min=11.2km az=217.0*
*DJA **09** 17:50:23.4±0.3, 9˚S±4'×111˚4E±˚, h53km±5km, M4.6/22, mb4.7/8, mB5.5/3, MLv4.5/22, Mw(mB)5.0/3*
*IDC **09** 17:50:23.1±1.4, 8.68S×113.84E, h107km±11km, mb3.9/8, mb1 4.0/9, mb1mx3.6/34, mbtmp4.3/9, MS2.9/5, Ms1 3.0/5, ms1mx2.8/33, Error ellipse: s-maj=31.6km s-min=13.8km az=63.0*

ISC 09 17:50:22.1±0.6, 8.81S±0.07×113.81E±0.04, h95km±5km, n40, σ2s04/45, mb4.0/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.48**	**46**	P	Pn	**17 50 37.1**	**-0.1**
JAGI				S	Sn	**17 50 46.1**	**-2.4**
JAGI	**Jajag, Banyuwa**	**0.48**	**46**	*e*Pg	Pn	**17 50 36.7**	**-0.5**
JAGI				*e*Sg	Sn	**17 50 48.4**	**-0.1**
GMJI	**Gumukmas**	**0.64**	**326**	P	Pn	**17 50 37.4**	**-1.1**
GMJI				S	Sn	**17 50 49.8**	**-0.9**
ABJI	**Asem Bagus**	**1.09**	**23**	P	Pn	**17 50 44.9**	**+1.7**
DNP	**Denpasar**	**1.40**	**85**	P	Pn	**17 50 48.1**	**+1.3**
PWJI	**Pagerwojo**	**2.13**	**291**	P	Pn	**17 50 55.9**	**-0.2**
PWJI				S	Sn	**17 51 21.2**	**-1.0**
GRJI	**Gresik**	**2.29**	**325**	S	Sn	**17 51 26.5**	**+0.5**
PCJI	**Pacitan**	**2.67**	**283**	P	Pn	**17 51 02.9**	**-0.4**
NGJI	**Ngawi**	**2.73**	**301**	P	Pn	**17 51 07.4**	**+3.4**
NGJI				S	Sn	**17 51 41.4**	**+5.1**
TWSI	**Taliwang, Sumb**	**3.04**	**89**	P	Pn	**17 51 09.8**	**+1.5**
UGM	**Wanagama**	**3.37**	**285**	P	Pn	**17 51 13.6**	**+0.9**
PLAI	**Plampang**	**3.92**	**91**	P	Pn	**17 51 22.7**	**+2.5**
KPJI	**Karang Pucung** 43nm,0.7s,0.3nm	**5.04**	**287**	P	Pn	**17 51 37.3**	**+1.9**
BBKI	**Banjar Baru** 42nm,1.0s,0.2nm	**5.41**	**11**	P	Pn	**17 51 43.7**	**+3.4**
CISI	**Cisompet, Garu** 65nm,0.7s,4μm0.6nm	**6.06**	**281**	P	Pn	**17 51 47.5**	**-1.7**
CISI	**Cisompet, Garu** 46nm,0.3s	**6.06**	**281**	*e*Pn	Pn	**17 51 47.6**	**-1.6**
LEM	**Lembang** 228nm,1.0s,1.2nm	**6.44**	**287**	P	Pn	**17 51 50.2**	**-4.3**
WSI	**Waingapu** 95nm,0.7s,2μm0.9nm	**6.47**	**98**	P	Pn	**17 51 56.7**	**+2.0**
KAPI	**Kappang** 4.9nm,0.3s,baz=248,slow=7.5,SNR=11	**7.00**	**58**	P	Pn	**17 52 03.6**	**+1.6**
KAPI	0.8nm,0.3s,baz=202,slow=16,SNR=1.7			S	Sn	**17 53 17.0**	**-3.2**
KAPI	comp=Z,61nm,19.7s,baz=246,slow=36			LR	LR	17 54 29.9	
SPSI	**Sidrap Palu** 8.9nm,1.0s,0.0nm	**7.63**	**51**	P	Pn	**17 52 11.3**	**+0.7**
MTKI	**Muara Teweh, K** 36nm,0.4s,8μm0.6nm	**7.89**	**8**	P	Pn	**17 52 17.0**	**+2.9**
MBWA	**Marble Bar**	**13.54**	**156**	*e*P	Pn	17 53 24.8	-5.5
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=313,slow=8.3,SNR=11	**14.75**	**130**	P	Pn	**17 53 43.3**	**-2.7**
FITZ	0.3nm,0.3s,baz=12,slow=20,SNR=6.9			S	Sn	17 56 15.3	-13
FITZ	comp=Z,24nm,18.2s,baz=92,slow=36			LR	LR	17 59 09.6	
WRA	**Warramunga Arr** 3.1nm,0.3s,baz=298,slow=12,SNR=55	**22.73**	**121**	P	**P**	**17 55 15.2**	**-1.2**
WRA	1.1nm,0.5s,baz=295,slow=12,SNR=3.3			pP	**pP**	**17 55 38.6**	**+3.4**
WRA	0.4nm,0.3s,baz=318,slow=1.5,SNR=7.3			PcP	**PcP**	**17 59 05.4**	**0.0**
WRAB	**Tennant Creek** 5.2nm,0.5s	**22.74**	**121**	*e*P	**P**	**17 55 15.4**	**-1.0**
NWAO	**Narrogin (SRO)** 3.1nm,0.5s,baz=36,slow=15,SNR=6.2	**24.21**	**173**	P	**P**	**17 55 30.3**	**+0.4**
ASAR	**Alice Springs** 6.1nm,0.5s,baz=303,slow=9.1,SNR=135	**24.25**	**130**	P	**P**	**17 55 30.6**	**+0.1**
ASAR	1.1nm,0.5s,baz=306,slow=9.2,SNR=2.5			pP	**pP**	**17 55 53.2**	**+1.9**
ASAR	1.0nm,0.3s,baz=308,slow=1.9,SNR=17			PcP	**PcP**	**17 59 08.6**	**+0.1**
CMAR	**Chiang Mai Arr** 0.4nm,0.6s,baz=163,slow=9.2,SNR=3.0	**30.81**	**332**	P	**P**	**17 56 29.5**	**+0.4**
CMAR	comp=Z,12nm,19.8s,baz=270,slow=41			LR	LR	18 11 22.5	
STKA	**Stephens Creek** 4.1nm,0.3s,baz=318,slow=8.5,SNR=40	**34.53**	**136**	P	**P**	**17 57 02.0**	**+0.5**
STKA	1.2nm,0.5s,baz=326,slow=11,SNR=1.2			pP	**pP**	**17 57 25.5**	**+2.3**
H08S2	**Diego Garcia H** baz=95,slow=75,SNR=5.2	**40.89**	**268**	T	T	18 40 53.8	
H08S3	**Diego Garcia H** baz=95,slow=75,SNR=5.2	**40.90**	**269**	T	T	18 40 58.3	
H08S1	**Diego Carcia H** baz=95,slow=75,SNR=5.6	**40.91**	**268**	T	T	18 40 53.8	
HNR	**Honiara** comp=Z,17nm,19.5s,baz=106,slow=38	**45.54**	**95**	LR	LR	18 19 14.9	
MKAR	**Makanchi Array** 0.6nm,0.3s,baz=149,slow=7.4,SNR=5.1	**62.07**	**336**	P	**P**	**18 00 31.1**	**-1.6**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=157,slow=5.8,SNR=3.1	**67.15**	**342**	P	**P**	**18 01 02.8**	**-2.8**
VNDA	**Vanda** 0.8nm,0.4s,baz=309,slow=8.5,SNR=10	**73.01**	**170**	P	**P**	**18 01 41.5**	**+0.4**
ABKAR	**Akbulak array** 1.0nm,0.5s	**74.51**	**327**	*e*P	**P**	**18 01 48.4**	**-1.9**
QSPA	**South Pole Qui** 16nm,1.1s	**81.19**	**180**	*e*P	**P**	**18 02 27.5**	**+0.3**
BOSA	**Boshof** comp=Z,39nm,21.0s,baz=163,slow=30	**84.58**	**242**	LR	LR	18 32 36.0	
LPAZ	**La Paz** 0.8nm,0.5s,baz=225,slow=7.1,SNR=3.5	**154.99**	**176**	PKPab	**PKPab**	**18 10 31.3**	**+1.3**

*ISCJB **09** 17:50:28.5±0.5, 39.13N±0.03×29.07E±0.03, h0km±7km, Error ellipse: s-maj=5.2km s-min=4.0km az=145.7*
*DDA **09** 17:50:28.5, 39.13N×29.08E, h10km, Ml3.1*
*CSEM **09** 17:50:28.8±0.1, 39.13N×29.08E, h2km, MD2.7, Error ellipse: s-maj=2.5km s-min=2.1km az=98.0*
*ISK **09** 17:50:28.6, 39.13N×29.11E, h5km, MD2.7*

ISC 09 17:50:28.8±1.0, 39.14N±0.02×29.06E±0.02, h8km±10km, n55, σ0961/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**251**	P	**Pg**	**17 50 34.7**	**+0.4**
DEMI				S	**Sg**	**17 50 38.7**	**+0.6**
DEMI	**Demirci**	**0.28**	**251**	*i* P	**Pg**	**17 50 34.7**	**+0.4**
DEMI				*i* S	**Sg**	**17 50 38.7**	**+0.6**
GEDZ	**Gediz**	**0.29**	**108**	*e*PG	**Pg**	**17 50 34.6**	**+0.1**
GEDZ	**Gediz**	**0.29**	**108**	*e*Pg	**Pg**	**17 50 34.7**	**+0.1**
GDZ	**Gediz**	**0.33**	**98**	P	**Pg**	**17 50 35.2**	**-0.2**
GDZ				S	**Sg**	**17 50 40.0**	**+0.2**
GDZ	**Gediz**	**0.33**	**98**	*i* P	**Pg**	**17 50 35.2**	**-0.2**
GDZ				*i* S	**Sg**	**17 50 40.0**	**+0.2**
TVSB	**Tavsanli**	**0.44**	**45**	*e*PG	**Pg**	**17 50 37.0**	**-0.4**
TVSB				*e*SG	**Sg**	**17 50 42.7**	**-0.6**
TVSB	**Tavsanli**	**0.44**	**45**	*e*Pg	**Pg**	**17 50 37.0**	**-0.4**
TVSB				*e*Sg	**Sg**	**17 50 42.7**	**-0.6**
DST	**Dursunbey**	**0.58**	**324**	*e*PG	**Pb**	**17 50 40.9**	**-0.3**
DST	**Dursunbey**	**0.58**	**324**	*e*Pg	**Pb**	**17 50 40.9**	**-0.3**
KULA	**Kula-Manisa**	**0.69**	**207**	*e*PG	**Pg**	**17 50 42.3**	**+0.2**
KULA	**Kula-Manisa**	**0.69**	**207**	*e*Pg	**Pg**	**17 50 42.3**	**+0.2**
MANT	**Manisa**	**0.75**	**211**	P	**Pg**	**17 50 43.0**	**-0.3**
MANT				S	**Sg**	**17 50 51.4**	**-1.7**
MANT	**Manisa**	**0.75**	**211**	*i* P	**Pg**	**17 50 43.0**	**-0.3**
MANT				*i* S	**Sg**	**17 50 51.4**	**-1.7**
KHAL	**Karahalli**	**0.84**	**156**	P	**Pg**	**17 50 44.8**	**-0.1**
KHAL				S	**Sg**	**17 50 56.2**	**+0.5**
KHAL	**Karahalli**	**0.84**	**156**	*i* P	**Pg**	**17 50 44.8**	**-0.1**
KHAL				*i* S	**Sg**	**17 50 56.2**	**+0.5**
KHL	**Karahalli**	**0.89**	**156**	*e*PG	**Pg**	**17 50 45.7**	**-0.2**
KHL				*e*SG	**Sb**	**17 50 58.1**	**-0.4**
KHL	**Karahalli**	**0.89**	**156**	*e*Pg	**Pg**	**17 50 45.7**	**-0.2**
KHL				*e*Sg	**Sb**	**17 50 58.1**	**-0.4**
AKS	**Akhisar**	**1.00**	**256**	*e*PG	**Pn**	**17 50 49.0**	**-0.1**
AKS	**Akhisar**	**1.00**	**256**	*e*Pg	**Pn**	**17 50 49.0**	**-0.1**
BALB	**Balikesir**	**1.04**	**299**	*e*PN	**Pn**	**17 50 49.9**	**+0.2**
BALB	**Balikesir**	**1.04**	**299**	*e*Pn	**Pn**	**17 50 49.9**	**+0.2**
IGD	**Bursa**	**1.13**	**6**	*i* P	**Pg**	**17 50 49.2**	**-1.3**
IGD				*i* S	**Sb**	**17 51 05.9**	**+0.4**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*PN	**Pn**	**17 50 52.2**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*Pn	**Pn**	**17 50 52.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*PN	**Pg**	**17 50 52.9**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*Pn	**Pg**	**17 50 52.9**	**+0.3**
IZI	**Iznik**	**1.24**	**15**	*e*PN	**Pn**	**17 50 52.6**	**+0.1**
IZI	**Iznik**	**1.24**	**15**	*e*Pn	**Pn**	**17 50 52.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**Pg**	**17 50 53.1**	**+0.3**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn	**Pg**	**17 50 53.1**	**+0.3**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*PN	**Pg**	**17 50 55.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*Pn	**Pg**	**17 50 55.8**	**+0.3**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*PN	**Pb**	**17 50 55.2**	**+0.1**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*Pn	**Pb**	**17 50 55.2**	**+0.1**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN	**Pb**	**17 50 55.8**	**0.0**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn	**Pb**	**17 50 55.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**218**	*e*PN	**Pb**	**17 50 57.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**218**	*e*Pn	**Pb**	**17 50 57.3**	**+0.4**
EDC	**Edincik**	**1.52**	**323**	*e*PN	**Pg**	**17 50 57.7**	**-0.2**
EDC	**Edincik**	**1.52**	**323**	*e*Pn	**Pg**	**17 50 57.7**	**-0.2**
IZM	**Izmir**	**1.58**	**243**	*e*PN	**Pb**	**17 50 58.5**	**+0.2**
IZM	**Izmir**	**1.58**	**243**	*e*Pn	**Pb**	**17 50 58.5**	**+0.2**
GULT	**Gulveren**	**1.71**	**40**	*e*PN	**Pn**	**17 50 59.4**	**+0.4**
GULT	**Gulveren**	**1.71**	**40**	*e*Pn	**Pn**	**17 50 59.4**	**+0.4**
HRT	**Hereke**	**1.75**	**15**	*e*PN	**Pn**	**17 51 00.2**	**+0.8**
HRT	**Hereke**	**1.75**	**15**	*e*Pn	**Pn**	**17 51 00.2**	**+0.8**
MRMT	**Marmara Adasi**	**1.85**	**323**	*e*PN	**Pb**	**17 51 02.4**	**-0.4**
MRMT	**Marmara Adasi**	**1.85**	**323**	*e*Pn	**Pb**	**17 51 02.4**	**-0.4**
ISK	**Istanbul-Kandi**	**1.93**	**0**	*e*PN	**Pn**	**17 51 03.0**	**+1.2**
ISK	**Istanbul-Kandi**	**1.93**	**0**	*e*Pn	**Pn**	**17 51 03.0**	**+1.2**
KLYT	**Kilyos**	**2.12**	**360**	*e*PN	**Pn**	**17 51 05.8**	**+1.4**
KLYT	**Kilyos**	**2.12**	**360**	*e*Pn	**Pn**	**17 51 05.8**	**+1.4**
LPK	**Lapseki**	**2.16**	**306**	*e*PN	**Pb**	**17 51 06.8**	**-1.3**
LPK	**Lapseki**	**2.16**	**306**	*e*Pn	**Pb**	**17 51 06.8**	**-1.3**

*ISCJB **09** 18:04:18.3±0.5, 50.10N±0.03×18.36E±0.03, h0km, Error ellipse: s-maj=5.0km s-min=2.6km az=10.5*
*IPEC **09** 18:04:19.4±0.2, 50.04N×18.49E, h2km±2km, ML1.9/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
*CSEM **09** 18:04:19.5±0.3, 50.06N×18.41E, h1km, ML2.5/7, Error ellipse: s-maj=7.3km s-min=3.7km az=9.0*

ISC 09 18:04:19.4±0.8, 50.06N±0.04×18.43E±0.02, h0km, n26, σ0s94/48, 3C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**278**	*e*Pg	**Pg**	**18 04 24.0**	**+1.6**
RAC				*e*Sg	**Sg**	**18 04 27.5**	**+3.1**
OKC	**Ostrava-Krasne**	**0.29**	**220**	*i*PG	**Pg**	**18 04 25.8**	**+0.9**
OKC				*e*SG	**Sg**	**18 04 29.8**	**+1.1**
OKC	**Ostrava-Krasne** 52nm,0.6s	**0.29**	**220**	Pg	**Pg**	**18 04 25.8**	**+0.9**
OKC				Sg	**Sg**	**18 04 29.8**	**+1.1**
MORC	**Moravsky Berou** 16nm,0.4s	**0.64**	**244**	*e*Pg	**Pg**	**18 04 32.1**	**+0.4**
MORC				*e*Sg	**Sg**	**18 04 40.4**	**+0.4**
OJC	**Ojcow**	**0.89**	**79**	*e*Pg	**Pg**	**18 04 36.5**	**0.0**
OJC				*e*Sg	**Sb**	**18 04 49.8**	**-0.4**
OJC	**Ojcow**	**0.89**	**79**	*e*Pg	**Pg**	**18 04 36.5**	**0.0**
OJC				*e*Sg	**Sb**	**18 04 49.8**	**-0.4**
LANS	**Liptovska Anna**	**1.13**	**143**	*e*Pg	**Pg**	**18 04 41.2**	**+0.1**
LANS				*e*Sg	**Sb**	**18 04 57.5**	**+0.3**
LANS	**Liptovska Anna**	**1.13**	**143**	*e*PG	**Pg**	**18 04 41.2**	**+0.1**
LANS				*e*SG	**Sb**	**18 04 57.5**	**+0.3**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pb**	**18 04 45.9**	**-0.1**
NIE				*e*Sg	**Sn**	**18 05 05.7**	**+1.0**
NIE	**Niedzica**	**1.37**	**117**	*e*Pg	**Pb**	**18 04 45.9**	**-0.1**
NIE				*e*Sg	**Sn**	**18 05 05.7**	**+1.0**
DPC	**Dobruska-Polom** 9.9nm,0.4s	**1.39**	**283**	*e*PG	**Pg**	**18 04 45.9**	**-0.1**
DPC				*e*SG	**Sb**	**18 05 04.6**	**+0.1**
DPC	**Dobruska-Polom** 9.9nm,0.4s	**1.39**	**283**	Pg	**Pg**	**18 04 45.9**	**-0.1**
DPC				Sg	**Sb**	**18 05 04.6**	**+0.1**
VRAC	**Vranov** 12nm,0.3s	**1.41**	**238**	*e*Pg	**Pn**	**18 04 45.9**	**-0.5**
VRAC				*e*Sg	**Sg**	**18 05 04.3**	**-0.5**
VYHS	**Vyhne**	**1.59**	**170**	*e*Sn	**Sn**	**18 05 09.4**	**-0.7**
VYHS	**Vyhne**	**1.59**	**170**	*e*SN	**Sn**	**18 05 09.4**	**-0.7**
VYHS				eLG	Lg	18 05 13.6	
UPC	**Upice**	**1.62**	**287**	*i*ePG	**Pb**	**18 04 50.0**	**-0.1**
UPC				*e*SG	**Sg**	**18 05 11.5**	**+0.2**
UPC	**Upice**	**1.62**	**287**	Pg	**Pb**	**18 04 50.0**	**-0.1**
UPC				Sg	**Sg**	**18 05 11.5**	**+0.2**
KRUC	**Moravsky** 17nm,0.5s	**1.66**	**234**	*e*Pn	**Pn**	**18 04 49.7**	**-0.1**
KRUC				*e*Sg	**Sn**	**18 05 11.9**	**+0.1**
STHS	**Stebnicka Huta**	**1.93**	**108**	*e*SN	**Sg**	**18 05 22.3**	**+0.8**
GOPC	**GO Pecny, Ondr** 3.1nm,0.3s	**2.36**	**268**	*e*PG	**Pb**	**18 05 02.8**	**0.0**
GOPC				*e*SG	**Sb**	**18 05 33.0**	**+0.6**
GOPC	**GO Pecny, Ondr** 3.5nm,0.5s	**2.36**	**268**	Pg	**Pb**	**18 05 02.8**	**0.0**
PRU	**Pruhonice**	**2.51**	**270**	*i*ePG	**Pg**	**18 05 07.0**	**-0.5**
PRU				*e*SG	**Sb**	**18 05 37.6**	**+0.8**
PRU	**Pruhonice** 3.5nm,0.5s	**2.51**	**270**	Pg	**Pg**	**18 05 07.0**	**-0.5**
PRU				Sg	**Sb**	**18 05 37.6**	**+0.8**
BRG	**Berggiesshubel** 3.1nm,0.7s	**2.98**	**288**	PG	**Pg**	**18 05 16.6**	**+0.1**
BRG				SG	**Sg**	**18 05 54.1**	**-1.1**
KHC	**Kasperske Hory** 3.8nm,0.4s	**3.29**	**255**	*e*PG	**Pg**	**18 05 21.1**	**-1.4**
KHC				*e*SG	**Sg**	**18 06 02.8**	**-2.3**
KHC	**Kasperske Hory** 3.8nm,0.4s	**3.29**	**255**	Pg	**Pg**	**18 05 21.1**	**-1.4**
KHC				Sg	**Sg**	**18 06 02.8**	**-2.3**

*ISCJB **09** 18:07:54.7±0.9, 58.8S±0.2×29.4W±0.4, h10km, mb4.0/6, Error ellipse: s-maj=29.9km s-min=22.5km az=162.8*
*IDC **09** 18:07:54.4±0.8, 58.76S×29.47W, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/23, mbtmp4.1/6, Error ellipse: s-maj=31.0km s-min=24.0km az=73.0*

ISC 09 18:07:56.0±0.9, 58.8S±0.2×29.5W±0.2, h10km, n8, σ1s21/8, mb4.1/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson** 1.8nm,0.6s,baz=300,slow=6.7,SNR=4.5	**38.73**	**142**	P	**P**	**18 15 20.1**	**+0.5**
VNDA	**Vanda** 1.5nm,0.8s,baz=194,slow=4.9,SNR=8.2	**43.78**	**184**	P	**P**	**18 16 02.2**	**+1.2**
LBTB	**Lobatse** 2.0nm,0.7s,baz=206,slow=5.9,SNR=3.6	**50.99**	**73**	P	**P**	**18 16 58.2**	**+0.3**
LPAZ	**La Paz** 2.2nm,0.8s,baz=171,slow=5.4,SNR=8.7	**51.04**	**310**	P	**P**	**18 16 59.2**	**+0.4**
TORD	**Torodi Ar. Bea** 3.0nm,0.7s,baz=196,slow=6.5,SNR=18	**76.04**	**31**	P	**P**	**18 19 43.7**	**+0.5**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=185,slow=4.6,SNR=4.1	**96.73**	**165**	P	**P**	**18 21 24.7**	**-1.9**
ILAR	**Eielson Array** 3.9nm,0.7s,baz=148,slow=2.3,SNR=18	**150.92**	**308**	PKPbc	**PKPbc**	**18 27 46.9**	**-0.3**
SONM	**Songino Array** 0.9nm,0.7s,baz=266,slow=2.2,SNR=4.8	**151.98**	**93**	PKPbc	**PKPbc**	**18 27 49.1**	**-1.3**

IDC 09 18:11:26.0±1.8, 9.25S×126.44E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.5/43, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=89.3km s-min=27.0km az=69.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.0nm,0.3s,baz=5.3,slow=11,SNR=33	**8.83**	**185**	Pn	Pn	18 13 35.0	0.0
FITZ	1.1nm,0.3s,baz=201,slow=14,SNR=7.5			Sn	Sn	18 15 04.1	-11
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=322,slow=14,SNR=13	**13.09**	**145**	Pn	Pn	18 14 33.4	+0.1
WRA	0.2nm,0.3s,baz=328,slow=21,SNR=6.2			Sn	Sn	18 16 50.4	-9.3
ASAR	**Alice Springs** 0.1nm,0.3s,baz=324,slow=11,SNR=15	**16.01**	**154**	Pn	Pn	18 15 12.7	-0.1
ASAR	0.1nm,0.3s,baz=324,slow=24,SNR=5.2			Sn	Sn	18 18 03.2	-7.9
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=119,slow=8.1,SNR=7.9	**68.25**	**329**	P	P	18 22 28.7	0.0

*ISCJB **09** 18:12:17.7±0.7, 43.50N±0.06×105.25W±0.07, h0km, Error ellipse: s-maj=9.8km s-min=6.7km az=24.4*
*IDC **09** 18:12:17.4±1.6, 43.69N×105.60W, h0km, mb1 3.7/2, mb1mx3.3/46, mbtmp3.5/2, ML2.2/1, Error ellipse: s-maj=32.2km s-min=10.1km az=150.0*
*NEIC **09** 18:12:18.5±0.7, 43.52N×105.22W, h0km, ML3.1, Error ellipse: s-maj=9.9km s-min=7.5km az=171.0, Suspected Mining explosion.*
NEIC 85 km [53 miles] N of Douglas.

ISC 09 18:12:16.8±0.9, 43.53N±0.04×105.36W±0.04, h0km, n24, σ2s97/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.13**	**58**	*e*Pg	**Pg**	**18 12 38.2**	**-0.3**
K22A	**Casper**	**1.22**	**225**	*e*Pg	**Pg**	**18 12 40.4**	**+0.2**
PHWY	**Pilot Hill**	**2.22**	**182**	*e*Pn	**Pb**	**18 12 56.7**	**-1.4**
BW06	**Boulder Array**	**3.16**	**258**	*e*Pn	**Pn**	**18 13 09.2**	**+1.1**
PDAR	**Pinedale Array** 4.6nm,0.3s,baz=83,slow=15,SNR=31	**3.16**	**258**	Pn	**Pn**	**18 13 09.8**	**+1.7**
PDAR	7.2nm,0.3s,baz=76,slow=34,SNR=7.9			Lg	Lg	18 13 52.3	
RLMT	**Red Lodge**	**3.23**	**301**	*e*Pn	**Pn**	**18 13 10.5**	**+1.6**
OGNE	**Ogallala**	**3.57**	**135**	*e*Pn	**Pn**	**18 13 15.9**	**+2.4**
ISCO	**Idaho Springs**	**3.73**	**183**	*e*Pn	**Pn**	**18 13 17.9**	**+2.0**
LOHW	**Long Hollow**	**3.81**	**273**	*e*Pn	**Pn**	**18 13 20.1**	**+3.1**
H17A	**Grant Village**	**3.86**	**285**	*e*Pn	**Pn**	**18 13 20.9**	**+3.2**
FLWY	**Flagg Ranch**	**3.90**	**280**	*e*Pn	**Pn**	**18 13 21.8**	**+3.6**
MOOW	**Moose Ponds**	**3.91**	**275**	*e*Pn	**Pn**	**18 13 21.8**	**+3.4**
SNOW	**Snow King Moun**	**3.92**	**271**	*e*Pn	**Pb**	**18 13 23.3**	**-3.7**
REDW	**Red Top Meadow**	**4.00**	**270**	*e*Pn	**Pn**	**18 13 23.2**	**+3.6**
IMW	**Indian Meadow**	**4.06**	**277**	*e*Pn	**Pn**	**18 13 23.4**	**+2.9**
TPAW	**Teton Pass**	**4.07**	**271**	*e*Pn	**Pn**	**18 13 24.5**	**+4.0**
AHID	**Auburn Hatcher**	**4.27**	**262**	*e*Pn	**Pn**	**18 13 26.8**	**+3.6**
BOZ	**Bozeman (W)** 4.9nm,0.6s	**4.95**	**298**	*e*Pn	**Pn**	**18 13 37.3**	**+4.7**
KSCO	**Kaye Shedlock'**	**4.96**	**155**	Pn	**Pn**	**18 13 33.3**	**+0.7**
HWUT	**Hardware Ranch** 6.0nm,0.5s	**4.96**	**249**	*e*Pn	**Pn**	**18 13 36.4**	**+3.6**
DGMT	**Dagmar** 49nm,0.6s	**5.01**	**9**	*e*Pn	**Pb**	**18 13 44.8**	**-0.7**
DLMT	**Dillon** 2.0nm,0.4s	**5.50**	**292**	*e*Pn	**Pb**	**18 13 50.1**	**-3.7**
ULM	**Lac du Bonnet** 0.4nm,0.3s,baz=241,slow=8.2,SNR=3.4	**9.35**	**41**	Pn	**Pn**	**18 14 31.6**	**-1.1**
ULM	0.3nm,0.3s,baz=348,slow=20,SNR=2.0			Lg	Lg	18 17 03.0	
TXAR	**Lajitas Array** baz=1.0,slow=15,SNR=2.7	**14.23**	**174**	Pg	Pg	18 16 40.5	
TXAR	0.0nm,0.3s,baz=360,slow=27,SNR=2.2			Lg	Lg	18 19 47.2	

*NIED **09** 18:15:00, 40.20N×142.40E, h41km, Mw4.8 Best double couple: M0 1.66000×10^16 NP1:φs181.00000°, δ19.00000°, λ65.00000°. NP2:φs27.00000°, δ73.00000°, λ98.00000°.*
*BJI **09** 18:15:48.4, 39.96N×142.77E, h42km, mb4.9/57, mB4.9/36, Ms4.2/38, Ms7 4.0/34*
*ISCJB **09** 18:15:52.8±0.4, 40.18N±0.02×142.37E±0.04, h48km±3km, mb4.9/159, MS4.2/35, Error ellipse: s-maj=5.5km s-min=3.4km az=32.9*
*M

HABR pmax pmax
comp=N,38nm,1.5s
HABR pmax pmax
comp=E,42nm,1.5s
HABR pmax pmax
comp=Z,68nm,1.5s
HABR MLR MLR
comp=Z,618nm,13.0s
MDJ Mudanjiang 10.53 299 *e*Pn **Pn 18 18 24.4 +3.3**
comp=Z,54nm,0.8s
TYV Tymovskoe 10.71 1 *e*P **Pn 18 18 28.0 +4.4**
TYV MLR MLR
comp=N,2μm,18.0s
TYV MLR MLR
comp=Z,2μm,20.0s
JNU Nakatsue 11.66 237 P **Pn 18 18 37.4 +0.7**
comp=Z,0.5nm,0.3s,baz=37,slow=5.1,SNR=14
JNU LR LR 18 23 30.9
comp=Z,555nm,18.1s,baz=207,slow=40
JNU Nakatsue 11.66 237 *e*Pn **Pn 18 18 37.8 +1.1**
comp=Z,9.5nm,0.8s
KSRS Korea Array 11.68 261 P **Pn 18 18 39.8 +2.9**
comp=Z,0.8nm,0.3s,baz=76,slow=13,SNR=34
KSRS S **Sn 18 20 41.2 -4.6**
baz=71,slow=24,SNR=1.8
KSRS LR LR 18 22 51.8
comp=Z,875nm,18.4s,baz=78,slow=36
KSAR Wonju Array Be 11.71 261 P **Pn 18 18 39.8 +2.5**
KSAR S **Sn 18 20 41.2 -5.4**
KSAR Wonju Array Be 11.71 261 P **Pn 18 18 39.8 +2.5**
KSAR S **Sn 18 20 41.2 -5.4**
KLR Kul'dur 11.85 324 P **Pn 18 18 39.1 -0.1**
comp=Z,0.4nm,0.3s,baz=133,slow=12,SNR=25
KLR LR LR 18 23 25.9
comp=Z,855nm,18.1s,baz=139,slow=38
TJN Taejon 12.46 257*ce*P **Pn 18 18 50.4 +2.8**
CBIJ Chichi jima 13.02 181 P **Pn 18 18 53.0 -2.4**
CBIJ S Sn 18 21 06.3 -13
JCJ Chichijima 13.02 181 P **Pn 18 18 53.0 -2.4**
comp=Z,6.3nm,0.3s,baz=31,slow=19,SNR=3.4
JCJ S Sn 18 21 06.3 -13
comp=Z,6.4nm,0.3s,baz=319,slow=19,SNR=2.8
CN2 Changchun 13.19 292 *e*P **Pn 18 19 01.4 +3.9**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,300nm,16.0s
CN2 LE
comp=Z,600nm,16.0s
CN2 LZ
comp=Z,600nm,19.0s
SNY Shenyang 14.38 283 ⇓P **Pn 18 19 14.4 +0.8**
SNY S **Sn 18 21 57.4 +5.7**
SNY PMZ
comp=Z,8.0nm,0.7s
SNY PMZ
comp=Z,150nm,14.7s
SNY LN
comp=Z,260nm,15.0s
SNY LE
comp=Z,630nm,17.8s
SNY LZ
comp=Z,980nm,17.1s
PETK Petropavlovsk- 16.60 34 P **Pn 18 19 40.0 -2.4**
comp=Z,0.2nm,0.3s,baz=195,slow=11,SNR=4.7
PETK LR LR 18 27 18.1
comp=Z,120nm,18.6s,baz=218,slow=41
HIA Hailar 18.50 307 *e*P **P 18 20 03.4 -2.0**
HIA pmax pmax
comp=Z,13nm,0.6s
HIA Hailar 18.50 307 *e*P **P 18 20 03.4 -2.0**
comp=Z,13nm,0.6s
BJT Baijiatuau 20.11 278 *e*P **P 18 20 21.3 -1.7**
BJT pmax pmax
comp=Z,41nm,0.8s
BJT Baijiatuau 20.11 278 *e*P **P 18 20 21.3 -1.7**
comp=Z,41nm,0.8s
MA2 Magadan 20.14 12 P **P 18 20 22.5 -0.6**
comp=Z,14nm,0.6s,baz=224,slow=10,SNR=24
CLNS Chul'man 20.26 331 *e*P **P 18 20 24.5 0.0**
CLNS *e* 18 20 40.8
CLNS *e* 18 24 33.2
CLNS *e*SS SS 18 24 47.1
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=N,23nm,1.1s
CLNS pmax pmax
comp=Z,33nm,0.9s
CLNS pmax pmax
comp=Z,42nm,0.9s
CLNS pmax pmax
comp=N,41nm,1.0s
CLNS pmax pmax
comp=E,26nm,1.0s
CLNS MLR MLR
comp=Z,431nm,16.0s
CLNS MLR MLR
comp=N,280nm,16.0s
CLNS MLR MLR
comp=E,327nm,18.0s
TIA Tai'an 20.30 267 ⇑P **P 18 20 24.4 -0.7**
TIA PMZ
comp=E,30nm,0.9s
NJ2 Nanjing 20.69 254 ⇑P **P 18 20 29.2 -0.1**
NJ2 PMZ
comp=E,41nm,0.8s
CIT Chita 23.15 310 *e*P **P 18 20 52.0 -3.4**
CIT *e* 18 21 01.4
CIT *e* 18 21 10.1
CIT pmax pmax
comp=Z,160nm,1.2s
TATO Taipei 23.20 236 *e*P **P 18 20 54.2 -1.8**
YAK Yakutsk 23.25 345 P **P 18 20 53.7 -2.5**
comp=Z,7.9nm,0.6s,baz=156,slow=20,SNR=16
YAK Yakutsk 23.25 345*c i*P **P 18 20 53.8 -2.4**
YAK *e**PP **pP 18 21 03.7 -3.2**
YAK *e* 18 21 19.5
YAK *e* 18 24 40.8
YAK *e*S **S 18 25 00.9 -4.1**
YAK *e**SS **sS 18 25 21.9 -2.0**
YAK *e*SS **SnSn 18 25 41.2 -0.5**
YAK *e* 18 31 58.5
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=N,14nm,0.8s
YAK pmax pmax
comp=E,8.0nm,0.8s
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,33nm,1.0s
YAK pmax pmax
comp=E,13nm,0.7s
YAK smax smax
comp=N,139nm,2.2s
YAK smax smax
comp=E,82nm,2.1s
YAK Yakutsk 23.25 345 *e*P **P 18 20 54.1 -2.1**
comp=E,97nm,0.7s
YHNB Yeheng 23.49 235 *e*P **P 18 20 56.6 -2.3**
comp=E,31nm,0.9s
SEY Seymchan 23.57 11 P **P 18 20 58.8 -0.5**
comp=E,35nm,1.0s,baz=185,slow=8.1,SNR=44
SEY Seymchan 23.57 11*ce*P **P 18 20 58.6 -0.7**
YULB Yu-li 24.47 233 *e*P **P 18 21 06.5 -1.4**
comp=E,10.0nm,0.6s
WHN Wuhan 24.78 256 ⇑P **P 18 21 09.7 -1.0**
WHN PMZ
comp=E,76nm,1.4s
WHN LN
comp=E,400nm,13.6s
WHN LE
comp=E,880nm,17.6s
WHN LZ
comp=E,1μm,17.1s
TWG Pinlang 25.03 233 *e*P **P 18 21 12.6 -0.5**
comp=E,90nm,0.8s
BOD Bodaibo 25.43 324 *e*P **P 18 21 15.6 -0.7**
BOD *e* 18 21 31.2
BOD pmax pmax
comp=Z,52nm,1.1s
ULN Ulaanbaatar 26.44 299*c i*P **P 18 21 25.2 -0.7**
ULN pmax pmax
comp=Z,9.0nm,0.6s
ULN Ulaanbaatar 26.44 299 *e*P **P 18 21 25.1 -0.7**
comp=Z,9.5nm,0.7s
SONM Songino Array 26.88 299 P **P 18 21 29.5 -0.3**
comp=Z,11nm,0.7s,baz=98,slow=8.3,SNR=64
SONM LR LR 18 32 41.7
comp=Z,590nm,18.8s,baz=94,slow=38
XAN Xi'an 27.35 268 P **P 18 21 32.6 -1.4**
XAN pP pP 18 21 40.9 -4.4
XAN PMZ
comp=Z,10.0nm,0.8s
ENH Enshi 28.56 260 *e*P **P 18 21 44.0 -0.9**
comp=Z,25nm,0.7s
IRK Irkutsk 28.74 308 *e*P **P 18 21 45.6 -0.5**
IRK *e* 18 22 01.2
IRK pmax pmax
comp=Z,30nm,1.7s
TLY Talaya 29.04 306 P **P 18 21 48.6 -0.2**
comp=Z,7.6nm,0.8s,baz=112,slow=4.4,SNR=19
TLY Talaya 29.04 306 *e*P **P 18 21 49.2 +0.4**
TLY *e* 18 22 06.0
TLY pmax pmax
comp=Z,18nm,1.4s
TLY MLR MLR
comp=Z,268nm,14.0s
TLY Talaya 29.04 306 *e*P **P 18 21 48.9 0.0**
comp=Z,11nm,0.8s
ZAK Zakamensk 29.11 304 *e*P **P 18 21 48.8 -0.8**
ZAK pmax pmax
comp=Z,18nm,1.3s
H11N2 WAKE ISLAND Hy 29.19 127 T T 18 52 46.2
baz=319,slow=75,SNR=1869
H11N1 WAKE ISLAND Hy 29.20 127 T T 18 52 32.7
baz=319,slow=75,SNR=1275
H11N3 WAKE ISLAND Hy 29.21 127 T T 18 52 33.4
baz=319,slow=75,SNR=3415
H11S1 WAKE ISLAND Hy 30.01 129 T T 18 53 59.0
baz=321,slow=76,SNR=215
H11S3 WAKE ISLAND Hy 30.01 129 T T 18 53 37.9
baz=321,slow=76,SNR=135
H11S2 WAKE ISLAND Hy 30.02 129 T T 18 53 52.6
baz=321,slow=76,SNR=163
LZH Lanzhou 30.50 275 *e*P **P 18 22 02.3 +0.2**
LZH PMZ
comp=Z,20nm,1.0s
MOY Mondy 30.67 306 *e*P **P 18 22 03.9 +0.5**
MOY pmax pmax
comp=Z,28nm,1.9s
BILL Bilibino 30.80 17⇓ *i*P **P 18 22 04.6 +0.4**
BILL *e* 18 22 16.2
BILL *e* 18 23 08.0
BILL pmax pmax
comp=Z,19nm,1.2s
BILL MLR MLR
comp=Z,244nm,20.0s
BILL Bilibino 30.80 17 *e*P **P 18 22 04.8 +0.5**
comp=Z,37nm,1.3s
TIXI Tiksi 32.31 352 P **P 18 22 16.5 -0.9**
comp=Z,7.5nm,0.7s,baz=139,slow=6.9,SNR=14
TIXI Tiksi 32.31 352 *e*P **P 18 22 16.6 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 32.31 352 *e*P **P 18 22 16.6 -0.8**
comp=Z,7.3nm,0.8s
GTA Gaotai 32.57 283 *e*P **P 18 22 19.6 -0.6**
GTA pP pP 18 22 30.8 -0.9
GTA sP sP 18 22 34.9 -1.9
GTA PcP **PcP 18 25 07.4 +1.5**
GTA S **S 18 27 32.5 -0.4**
GTA sS sS 18 27 53.4 +1.3
GTA SS **SnSn 18 29 32.0 +2.6**
GTA PMZ
comp=Z,6.0nm,0.9s
GTA PMZ
comp=Z,77nm,4.8s
GTA LN
comp=Z,190nm,18.1s
GTA LE
comp=Z,450nm,18.1s
GTA LZ
comp=Z,600nm,19.5s
GYA Guiyang 32.67 256⇑ *i*P **P 18 22 20.0 -1.2**
GYA PMZ
comp=Z,30nm,0.9s
NONG Nongkai 40.37 249 P **P 18 23 27.2 +0.5**
comp=Z,39nm,0.9s,comp=Z,3μm
SKNT Sakolnakorn 40.50 247 P **P 18 23 28.4 +0.6**
comp=Z,36nm,1.1s
ZALV Zalesovo Beam 40.50 310 P **P 18 23 26.9 -0.5**
comp=Z,21nm,0.9s,baz=91,slow=7.4,SNR=66
ZALV PcP **PcP 18 25 29.6 +0.3**
comp=Z,4.7nm,0.5s,baz=92,slow=2.8,SNR=5.8
ZALV LR LR 18 41 03.0
comp=Z,391nm,18.9s,baz=70,slow=37
UBPT Khong Chiam 40.63 243 P **P 18 23 29.9 +1.0**
comp=Z,40nm,1.0s
NRIK Noril'sk 40.82 334 P **P 18 23 29.7 -0.1**
comp=Z,4.5nm,0.5s,baz=123,slow=4.9,SNR=7.3
NRIK LR LR 18 41 27.7
comp=Z,505nm,19.5s,baz=56,slow=38
KKM Kota Kinabalu 41.34 222 *e*P **P 18 23 35.8 +0.9**
comp=Z,12nm,1.0s
NVS Novosibirsk 41.36 311⇓ *i*P **P 18 23 35.0 +0.6**
NVS pmax pmax
comp=Z,26nm,1.2s
NVS pmax pmax
comp=N,5.0nm,1.1s
NVS pmax pmax
comp=E,21nm,1.1s
KHON Khomkaen 41.75 247 P **P 18 23 38.4 +0.4**
comp=E,21nm,0.8s,comp=E,650nm
LOEI Loei 42.08 250 P **P 18 23 38.3 -2.5**
comp=E,81nm,1.3s
UTTA Uttaradit 42.44 251 P **P 18 23 44.2 +0.5**
comp=E,10nm,1.0s,comp=E,86nm
LAMP Lampang 42.61 252 P **P 18 23 46.3 +1.2**
comp=E,11nm,0.9s
CHAI Chaiyaphum 42.63 247 P **P 18 23 45.2 -0.1**
comp=E,17nm,0.9s,comp=E,167nm
LBMI Labuha 42.84 202 P **P 18 23 47.6 +0.7**
comp=E,27nm,1.2s
LSA Lhasa 42.84 272 P **P 18 23 48.3 +0.9**
LSA PMZ
comp=E,11nm,1.1s
LSA Lhasa 42.84 272 *e*P **P 18 23 48.4 +1.0**
LSA pmax pmax
comp=E,16nm,0.8s
LSA Lhasa 42.84 272 *e*P **P 18 23 48.4 +1.0**
comp=E,16nm,0.8s
PBKT Sadao Pong 42.91 249 P **P 18 23 48.1 +0.6**
comp=Z,20nm,1.1s
CHTO Chiang Mai 42.93 253 P **P 18 23 48.0 +0.3**
comp=Z,111nm,1.0s
CHTO Chiang Mai 42.93 253 *e*P **P 18 23 46.8 -0.9**
CHTO pmax pmax
comp=Z,23nm,0.9s
CHTO Chiang Mai 42.93 253 *e*P **P 18 23 46.8 -0.9**
comp=Z,23nm,0.9s
CMAR Chiang Mai Arr 43.15 253 P **P 18 23 49.7 +0.2**
comp=Z,5.7nm,0.9s,baz=50,slow=6.4,SNR=26
CMAR LR LR 18 41 52.7
comp=Z,55nm,20.1s,baz=50,slow=36
MK31 Makanchi Array 43.24 300 *i* P **P 18 23 50.0 0.0**
MK31 pmax pmax
comp=Z,23nm,0.7s
MKAR Makanchi Array 43.24 300 P **P 18 23 49.6 -0.3**
comp=Z,12nm,0.6s,baz=85,slow=9.2,SNR=75
MKAR LR LR 18 42 38.9
comp=Z,293nm,20.0s,baz=76,slow=37
MKAR Makanchi Array 43.24 300 P **P 18 23 49.6 -0.3**
MKAR pmax pmax
comp=Z,13nm,0.6s
MKAR MLR MLR
comp=Z,293nm,20.0s
SUKH Sukhothai 43.28 251 P **P 18 23 51.3 +0.9**
comp=Z,10nm,0.9s,comp=Z,86nm
MRSI Marisa 43.70 211 P **P 18 23 53.7 -0.1**
comp=Z,54nm,1.1s
OHAK Old Harbor 43.93 45 *e*P **P 18 23 56.6 +1.4**
comp=Z,12nm,0.7s
PPLA Purkeypile 44.15 37 *e*P **P 18 23 59.7 +2.5**
comp=Z,8.4nm,0.8s
KDAK Kodiak Island 44.25 44 *e*P **P 18 23 58.8 +1.0**
KDAK pmax pmax
comp=Z,27nm,1.0s
KDAK Kodiak Island 44.25 44 *e*P **P 18 23 58.8 +1.0**
comp=Z,27nm,1.0s
CHBT CHBT 44.56 244 P **P 18 24 02.8 +2.0**
comp=Z,47nm,1.5s
SANI Sanana 44.63 204 P **P 18 24 01.1 -0.2**
comp=Z,30nm,1.0s
UMPA Umpang Tak 44.66 251 P **P 18 24 04.9 +3.3**
comp=Z,10nm,1.0s
KURK Kurchatov 44.73 306 P **P 18 24 02.3 +0.6**
KURK pmax pmax
comp=Z,48nm,0.7s
KURK Kurchatov 44.73 306 *e*P **P 18 24 01.6 -0.2**
comp=Z,421nm,0.7s
KURBB Kurchatov Arra 44.80 306 P **P 18 24 02.3 -0.1**
comp=Z,52nm,0.7s,baz=82,slow=8.7,SNR=323
PCI Palu 45.80 212 P **P 18 24 10.1 -0.5**
comp=Z,23nm,1.0s
COLA College 46.01 34 *i* P **P 18 24 13.3 +1.6**
COLA pmax pmax
comp=Z,5.0nm,0.9s
PDGK Podgornoye 46.12 296 P **P 18 24 12.8 -0.1**
PDGK pmax pmax
comp=Z,19nm,0.7s
ILAR Eielson Array 46.43 34 P **P 18 24 16.2 +1.2**
comp=Z,5.7nm,0.7s,baz=268,slow=6.4,SNR=64
ILAR LR LR 18 46 36.1
comp=Z,76nm,18.3s,baz=266,slow=40
DIV Divide 47.31 39 *e*P **P 18 24 23.9 +1.9**
comp=Z,31nm,1.1s
GUN Gumba 47.74 273 *e*P **P 18 24 26.6 +0.4**
comp=Z,211nm,0.8s
KKN Kakani 48.26 274 *e*P **P 18 24 30.3 +0.3**
comp=Z,157nm,0.8s
PKIN Phulchoki 48.28 273 *e*P **P 18 24 30.0 -0.2**
comp=Z,22nm,0.6s
DMN Daman 48.49 274 *e*P **P 18 24 32.3 +0.5**
comp=Z,70nm,0.9s
GKN Gorkha 48.65 274 *e*P **P 18 24 33.0 +0.1**
comp=Z,104nm,0.9s
TKM2 Tokmak 2 48.94 296 *i* P **P 18 24 35.4 +0.3**
TKM2 pmax pmax
comp=Z,29nm,0.9s
TKM2 Tokmak 2 48.94 296 *e*P **P 18 24 35.5 +0.5**
comp=Z,19nm,0.6s
BVA0 Borovoye Array 49.14 311 P **P 18 24 35.8 -0.4**
BVA0 pmax pmax
comp=Z,18nm,0.7s
BVAR Borovoye Array 49.14 311 P **P 18 24 36.5 +0.3**
comp=Z,23nm,0.7s,baz=78,slow=9.2,SNR=118
BRVK Borovoye 49.19 311*c i*P **P 18 24 36.9 +0.3**
BRVK pmax pmax
comp=Z,67nm,0.8s
BRVK Borovoye 49.19 311 *e*P **P 18 24 36.8 +0.3**
comp=Z,60nm,0.8s
OTUK Ortayu 49.33 304 P **P 18 24 37.3 -0.4**
OTUK pmax pmax
comp=Z,24nm,0.9s
KOLN Koldanda 49.56 275 *e*P **P 18 24 40.4 +0.5**
comp=Z,65nm,0.8s
FRU Bishkek 49.65 297 *e*P **P 18 24 39.5 -0.7**
AAK Ala-Archa 49.80 296*c i*P **P 18 24 41.5 -0.1**
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 49.80 296 *e*P **P 18 24 41.3 -0.2**
comp=Z,6.3nm,0.8s
PYUN Piuthan 49.86 275 *e*P **P 18 24 42.4 +0.2**
comp=Z,201nm,1.0s
KRAB Krabi 49.94 242 P **P 18 24 43.8 +1.1**
comp=Z,64nm,0.8s,comp=Z,538nm
ZRNK Zerenda 49.97 311 *i* P **P 18 24 42.7 +0.3**
ZRNK pmax pmax
comp=Z,37nm,0.7s
EKS2 Erkin-Say 50.28 297 *e*P **P 18 24 45.1 -0.1**
EKS2 pmax pmax
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 50.28 297 *e*P **P 18 24 45.1 -0.1**
comp=Z,10.0nm,0.7s
KULM Kulim 51.13 239 *e*P **P 18 24 52.4 +0.7**
comp=Z,24nm,0.9s
MNAS Manas 51.22 297 P **P 18 24 52.5 +0.2**
MNAS pmax pmax
comp=Z,38nm,0.9s
INK Inuvik 51.24 28 P **P 18 24 53.8 +2.0**
comp=Z,8.8nm,0.5s,baz=301,slow=7.4,SNR=18
IPM Ipoh 51.50 238 *e*P **P 18 24 54.2 -0.3**
comp=Z,18nm,0.9s
KK31 Karatay Array 52.34 298 *i* P **P 18 24 59.9 -0.5**
KK31 pmax pmax
comp=Z,16nm,0.9s
KKAR Karatay Array 52.34 298 *e*P **P 18 25 00.0 -0.4**
KKAR pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 52.34 298 *e*P **P 18 25 00.0 -0.4**
comp=Z,12nm,0.6s
SVE Sverdlovsk 53.40 317*d i*P **P 18 25 08.9 +0.9**
SVE pmax pmax
comp=Z,83nm,0.8s
SVE MLR MLR
comp=Z,588nm,17.0s
SOKR Solikamsk 54.39 321*c i*P **P 18 25 14.1 -1.0**
SOKR pmax pmax
comp=Z,45nm,1.0s
SOKR MLR MLR
comp=Z,196nm,18.0s
ARU Arti 54.61 317*c i*P **P 18 25 17.0 +0.1**
ARU *PP **sP 18 25 33.7 -0.1**
ARU 18 26 19.1
ARU 18 27 19.1
ARU PPP PPP 18 28 34.0
ARU S **S 18 32 54.5 +1.3**
ARU SS **SS 18 36 36.8 +1.0**
ARU pmax pmax
comp=Z,78nm,1.0s
ARU MLR MLR
comp=Z,437nm,17.0s
ARU Arti 54.61 317 *e*P **P 18 25 16.9 +0.1**
comp=Z,54nm,0.8s
DZET Dzherino 55.29 294 P **P 18 25 22.0 -0.2**
DZET pmax pmax
comp=Z,20nm,0.8s
SDSI Sungai Dareh 55.42 233 P **P 18 25 23.3 +0.1**
comp=Z,54nm,1.0s
DLBC Dease Lake 55.67 40 P **P 18 25 26.6 +2.0**
comp=Z,1.5nm,0.5s,baz=238,slow=22,SNR=3.6
PWJI Pagerwojo 55.68 218 P **P 18 25 23.8 -1.2**
comp=Z,29nm,0.9s
GSI Gunungsitoli 56.13 238 P **P 18 25 28.6 +0.3**
comp=Z,44nm,1.1s
GSI Gunungsitoli 56.13 238 *e*P **P 18 25 28.8 +0.5**
comp=Z,25nm,0.9s
KPJI Karang Pucung 56.48 221 P **P 18 25 30.2 -0.5**
comp=Z,27nm,1.0s
AKTO Aktyubinsk 57.24 311 P **P 18 25 35.4 -0.4**
AKTO pmax pmax
comp=Z,34nm,0.8s
HYB Hyderabad 59.16 267 *i* P **P 18 25 49.5 -0.1**
RES Resolute Bay 59.38 15 P **P 18 25 50.7 +0.5**
comp=Z,12nm,0.7s,baz=310,slow=7.9,SNR=5.9
LVZ Lovozero 59.62 335*ce*P **P 18 25 51.3 -0.8**
LVZ pmax pmax
comp=Z,29nm,1.7s
WRAB Tennant Creek 60.25 189*ce*P **P 18 25 56.0 -0.9**
WRAB pmax pmax
comp=Z,38nm,1.2s
WRAB Tennant Creek 60.25 189 *e*P **P 18 25 56.3 -0.6**
comp=Z,26nm,1.2s
WRA Warramunga Arr 60.26 189 P **P 18 25 56.5 -0.5**
comp=Z,6.1nm,0.6s,baz=6.5,slow=6.9,SNR=58
YKA Yellowknife Ar 60.70 31 P **P 18 26 00.3 +0.8**
comp=Z,2.6nm,0.8s,baz=302,slow=6.3,SNR=13
YKA pP **pP 18 26 12.4 +0.7**
comp=Z,5.0nm,0.7s,baz=304,slow=6.5,SNR=18
ARCES ARCESS Array B 61.38 339 P **P 18 26 04.5 +0.5**
comp=Z,6.4nm,0.8s,baz=52,slow=7.8,SNR=20
ARCES LR LR 18 57 24.4
comp=Z,81nm,18.7s,baz=54,slow=41
KLMR Klimovskoe 61.58 327 *e*P **P 18 26 03.5 -2.0**
KLMR *e**PP **pP 18 26 18.8 +1.0**
KLMR *e* 18 26 43.8
KLMR *e* 18 28 20.0
KLMR pmax pmax
comp=Z,38nm,1.2s
DAG Danmarks Havn 62.74 355 *i* P **P 18 26 13.5 +0.5**
DAG *i* 18 26 27.8
DAG Danmarks Havn 62.74 355 *i* P **P 18 26 13.5 +0.5**
DAG *i* 18 26 27.8
GEYT Alibeck 63.09 298 P **P 18 26 15.7 -0.3**

comp=Z,26nm,0.8s,baz=28,slow=3.5,SNR=60
GEYT LR LR 18 55 32.2
comp=Z,78nm,18.8s,baz=170,slow=38
ASAR Alice Springs 63.99 189 P **P 18 26 21.9 0.0**
comp=Z,4.6nm,0.8s,baz=3.9,slow=5.2,SNR=38
ASAR LR LR 18 54 03.2
comp=Z,55nm,21.5s,baz=16,slow=36
MBWA Marble Bar 64.58 204 *eP* **P 18 26 25.8 0.0**
MOS Moscow 65.26 323 *eP* **P 18 26 29.3 -0.5**
MOS pmax pmax
comp=Z,98nm,1.6s
MOS pmax pmax
comp=Z,64nm,1.4s
DZM Mont Dzumac 65.81 156 *e*LR LR 18 46 20.8
comp=Z,188nm,22.9s
VRH Novokhopyorsk 65.84 317 *eP* **P 18 26 33.8 +0.1**
VRH pmax pmax
comp=Z,70nm,1.3s
VRH MLR MLR
comp=Z,520nm,24.0s
OBN Obninsk 66.11 323 P **P 18 26 35.4 +0.1**
comp=Z,35nm,0.9s,baz=4.9,slow=3.4,SNR=7.7
OBN Obninsk 66.11 323 *c iP* **P 18 26 35.6 +0.3**
OBN *e* 18 26 51.7
OBN *e* 18 27 05.4
OBN *e* 18 29 01.9
OBN pmax pmax
comp=Z,77nm,1.7s
OBN MLR MLR
comp=Z,219nm,16.0s
FINES FINESS Array B 66.45 332 P **P 18 26 37.4 -0.1**
comp=Z,18nm,0.8s,baz=47,slow=8.4,SNR=60
FINES LR LR 18 57 45.7
comp=Z,295nm,20.8s,baz=44,slow=38
VSR Storozhevoye 67.15 318 *eP* **P 18 26 41.9 -0.2**
VSR pmax pmax
comp=Z,60nm,1.1s
VSR MLR MLR
comp=Z,500nm,28.0s
VSU Vasula 68.20 329 *ceP* **P 18 26 49.1 +0.6**
VSU pmax pmax
comp=Z,80nm,1.0s
GOF Gofitskoye 68.65 311⇑ *iP* **P 18 26 52.5 +0.8**
GOF pmax pmax
comp=Z,76nm,0.9s
MOD Modoc Plateau 69.18 52 *eP* **P 18 26 57.1 +2.0**
comp=Z,4.8nm,0.8s
NCK Nalchik 69.25 310⇓ *iP* **P 18 26 56.5 +1.1**
NCK pmax pmax
comp=Z,34nm,1.1s
GUDG Gudauri 69.33 308 P **P 18 26 57.6 +1.4**
ZEI Tsey 69.48 309 *eP* **P 18 26 54.7 -2.4**
ZEI pmax pmax
comp=Z,67nm,1.0s
KIV Kislovodsk 69.51 311 *i* P **P 18 26 58.2 +1.1**
SNR=35
KIV Kislovodsk 69.51 311 *eP* **P 18 26 58.1 +1.0**
KIV pmax pmax
comp=Z,101nm,1.1s
KIV Kislovodsk 69.51 311 *eP* **P 18 26 57.9 +0.8**
comp=Z,84nm,0.9s
KBZ Khabaz 69.52 310 P **P 18 26 57.8 +0.8**
comp=Z,26nm,0.9s,baz=36,slow=4.3,SNR=54
ONI Oni 69.86 309 P **P 18 27 00.8 +1.5**
ONI Oni 69.86 309 P **P 18 27 00.7 +1.5**
WVOR Wild Horse Val 69.87 51 *eP* **P 18 27 01.2 +1.8**
WVOR pmax pmax
comp=Z,9.0nm,0.9s
WVOR Wild Horse Val 69.87 51 *eP* **P 18 27 01.2 +1.8**
comp=Z,9.4nm,0.9s
NEY Neytrino 69.91 310⇑ *eP* **P 18 27 00.4 +0.7**
NEY pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 70.53 306 *c iP* **P 18 27 04.6 +1.1**
GNI pmax pmax
comp=Z,73nm,1.2s
GNI Garni 70.53 306 *eP* **P 18 27 04.6 +1.1**
comp=Z,170nm,1.1s
BGD Bogdanovka 70.56 308 P **P 18 27 05.8 +2.0**
NACGM Naroch 70.59 327 *e* **P 18 27 03.0 -0.4**
NACGM *e*LR LR 18 58 28.0
CHVG Ch'k'valeri 70.60 310 P **P 18 27 04.7 +1.0**
FFC Flin Flon 70.64 34 *eP* **P 18 27 04.7 +1.0**
FFC pmax pmax
comp=Z,16nm,0.9s
FFC Flin Flon 70.64 34 *eP* **P 18 27 04.7 +1.0**
comp=Z,16nm,0.9s
FCC Fort Churchill 70.85 27 *eP* **P 18 27 05.5 +0.7**
FCC pmax pmax
comp=Z,20nm,1.1s
FCC Fort Churchill 70.85 27 *eP* **P 18 27 05.5 +0.7**
comp=Z,20nm,1.1s
BANOM Banah 71.02 288 *i* P **P 18 27 07.0 +0.4**
SNR=9.9
BANOM Banah 71.02 288 P **P 18 27 06.9 +0.3**
SNR=9.9
SOC Sochi 71.45 312 *eP* **P 18 27 07.8 -1.0**
SOC *e* 18 29 45.9
SOC *eS* **S 18 36 25.5 +1.4**
SOC pmax pmax
comp=Z,12nm,0.4s
DLMT Dillon 71.56 46 *eP* **P 18 27 11.1 +1.5**
comp=Z,20nm,0.9s
NB2 NORSAR Subarra 71.64 337 P **P 18 27 09.9 +0.2**
comp=Z,22nm,1.0s,baz=40,slow=6.2
NB2 NORSAR Subarra 71.64 337 P **P 18 27 09.9 +0.2**
baz=40,slow=6.2
NB2 NORSAR Subarra 71.64 337 P **P 18 27 09.7 0.0**
NB2 pmax pmax
comp=Z,19nm,1.0s
NOA NORSAR Array B 71.64 337 P **P 18 27 10.1 +0.4**
comp=Z,14nm,0.8s,baz=39,slow=6.0,SNR=37
NOA PP **PP 18 29 49.0 +0.6**
comp=Z,1.2nm,0.9s,baz=41,slow=8.2,SNR=2.4
NOA LR LR 19 01 31.5
comp=Z,132nm,21.4s,baz=35,slow=38
HLID Hailey 71.66 48 *eP* **P 18 27 11.8 +1.5**
comp=Z,5.7nm,1.0s
STKA Stephens Creek 71.67 181 LR LR 18 56 00.5
comp=Z,29nm,21.7s,baz=23,slow=34
HATD Hatta, Dubai 71.79 287 *i* P **P 18 27 11.6 +0.5**
SNR=18
ASHO Ashiyiah 71.93 287 *i* P **P 18 27 12.0 -0.1**
SNR=9.9
ASHO Ashiyiah 71.93 287 P **P 18 27 12.0 -0.1**
SNR=9.9
ANN Anapa 71.98 314 *eP* **P 18 27 10.7 -1.2**
ANN pmax pmax
comp=Z,38nm,1.6s
FAQ Al Faqa, Dubai 72.23 288 *i* P **P 18 27 13.5 -0.3**
SNR=12
AKASG Malin Array Be 72.35 322 P **P 18 27 14.2 +0.2**
comp=Z,18nm,0.8s,baz=44,slow=6.4,SNR=64
AKASG LR LR 19 02 13.8
comp=Z,108nm,20.2s,baz=60,slow=38
KIEV Kiev 72.36 322 *c iP* **P 18 27 14.1 -0.1**
KIEV pmax pmax
comp=Z,35nm,1.0s
KIEV Kiev 72.36 322 *eP* **P 18 27 14.0 -0.1**
comp=Z,30nm,0.9s
NVAR Mina Array Bea 72.47 54 P **P 18 27 17.1 +1.7**
comp=Z,0.7nm,0.6s,baz=288,slow=6.8,SNR=7.0
NVAR pP **pP 18 27 28.8 +0.9**
comp=Z,3.2nm,0.9s,baz=294,slow=6.4,SNR=8.6
IMW Indian Meadow 73.40 46 *eP* **P 18 27 23.2 +2.4**
comp=Z,7.1nm,0.8s
RLMT Red Lodge 73.52 45 *eP* **P 18 27 23.2 +1.8**
comp=Z,9.4nm,0.9s
FRB Frobisher Bay 73.55 14 P **P 18 27 21.4 +0.5**
comp=Z,19nm,0.7s,baz=344,slow=5.5,SNR=10
FRB pP **pP 18 27 34.5 +1.0**
comp=Z,22nm,0.7s,baz=328,slow=6.8,SNR=5.9
TPAW Teton Pass 73.66 47 *eP* **P 18 27 23.2 +0.9**
comp=Z,11nm,1.2s
SIM Simferopol' 73.70 315 *eP* **P 18 27 21.8 -0.4**
SIM pmax pmax
comp=Z,22nm,1.0s
R11A Troy Canyon, C 74.20 53 *eP* **P 18 27 27.2 +1.7**
comp=Z,6.4nm,1.1s
SORM Soroca 74.52 321⇑ *iP* **P 18 27 27.0 +0.2**
SORM Soroca 74.52 321⇑ P **P 18 27 27.0 +0.2**
DUG Dugway, Tooele 74.70 50 *eP* **P 18 27 30.0 +1.7**
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 74.70 50 *eP* **P 18 27 30.0 +1.7**
comp=Z,6.1nm,0.9s

BW06 Boulder Array 74.90 47 *eP* **P 18 27 30.9 +1.3**
comp=Z,6.5nm,1.0s
PDAR Pinedale Array 74.90 47 P **P 18 27 30.9 +1.4**
comp=Z,1.3nm,0.6s,baz=248,slow=1.5,SNR=12
LVV L'vov 75.36 324 *eP* **P 18 27 31.7 0.0**
KWP Kalwaria Pacla 76.09 324 *eP* **P 18 27 37.2 +1.3**
KWP Kalwaria Pacla 76.09 324 *eP* **P 18 27 37.2 +1.3**
NWAO Narrogin (SRO) 76.37 202 P **P 18 27 37.8 +0.3**
comp=Z,4.6nm,0.6s,baz=302,slow=9.5,SNR=3.5
BURAR Bucovina Array 76.39 322 *⇓iP* **P 18 27 38.9 +1.2**
BURAR Bucovina Array 76.39 322 *⇓jP* **P 18 27 38.9 +1.2**
ULM Lac du Bonnet 76.45 34 P **P 18 27 38.3 +0.4**
comp=Z,2.5nm,0.6s,baz=316,slow=6.4,SNR=3.2
TESR Tescani 76.48 320 *⇓iP* **P 18 27 38.7 +0.5**
CFR Carcaliu 76.67 319 *⇓iP* **P 18 27 39.7 +0.5**
CFR Carcaliu 76.67 319 *⇓jP* **P 18 27 39.7 +0.5**
KOLS Kolonicke sedl 76.79 324 *eP* **P 18 27 41.0 +1.1**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 76.79 324 *eP* **P 18 27 41.0 +1.1**
STHS Stebnicka Huta 76.89 325 *eP* **P 18 27 42.4 +1.9**
STHS pmax pmax
comp=Z,9.0nm,1.1s
STHS Stebnicka Huta 76.89 325 *eP* **P 18 27 42.4 +1.9**
VRI Vrincioaia 76.89 320 *⇓iP* **P 18 27 41.8 +1.3**
VRI Vrincioaia 76.89 320 *⇓jP* **P 18 27 41.8 +1.3**
OJC Ojcow 76.92 326 *eP* **P 18 27 41.5 +0.9**
OJC Ojcow 76.92 326 *eP* **P 18 27 41.5 +0.9**
PLOR Plostina 76.94 320⇑ *iP* P 18 27 45.7 +4.9
PLOR Plostina 76.94 320⇑ *jP* P 18 27 45.7 +4.9
RSSD Black Hills 76.96 43 *eP* **P 18 27 42.0 +0.8**
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD Black Hills 76.96 43 *eP* **P 18 27 42.0 +0.8**
comp=Z,6.2nm,0.8s
ARCR ARCALIA 77.17 322 *⇓iP* **P 18 27 43.4 +1.3**
CRVS Cervenica-Dubn 77.18 325 *eP* **P 18 27 43.0 +0.9**
CRVS Cervenica-Dubn 77.18 325 *eP* **P 18 27 43.0 +0.9**
TRPA Tarpa 77.26 323⇑ *eP* **P 18 27 43.6 +1.1**
NIE Niedzica 77.30 325 *eP* **P 18 27 44.2 +1.4**
NIE Niedzica 77.30 325⇑ *eP* **P 18 27 44.2 +1.4**
BRTR Keskin Array B 77.41 312 P **P 18 27 44.0 +0.3**
comp=Z,6.3nm,0.9s,baz=72,slow=4.0,SNR=27
BRTR PP **PP 18 30 41.5 +3.5**
comp=Z,1.4nm,0.8s,baz=64,slow=5.6,SNR=3.8
DOPR Dopca 77.48 321⇑ *iP* **P 18 27 46.7 +2.9**
ISR Istrita 77.51 319 *⇓iP* **P 18 27 46.0 +1.9**
ISR Istrita 77.51 319 *⇓jP* **P 18 27 46.0 +1.9**
MLR Muntele Rosu 77.55 320 *⇓iP* **P 18 27 46.6 +2.2**
MLR Muntele Rosu 77.55 320 *⇓jP* **P 18 27 46.6 +2.2**
MSAB Monastry St. A 77.59 318 *⇓jP* **P 18 27 45.9 +1.5**
CJR Cluj-Napoca 77.80 322 *⇓iP* **P 18 27 47.3 +1.7**
CJR Cluj-Napoca 77.80 322 *⇓jP* **P 18 27 47.4 +1.8**
SECR 77.81 319 *⇓iP* **P 18 27 47.9 +2.2**
LANS Liptovska Anna 77.86 326 *eP* **P 18 27 48.1 +2.2**
LANS Liptovska Anna 77.86 326 *eP* **P 18 27 48.1 +2.2**
KSP Ksiaz 77.89 328 *eP* **P 18 27 47.1 +1.1**
KSP Ksiaz 77.89 328 *eP* **P 18 27 47.1 +1.1**
OKC Ostrava-Krasne 77.90 327 *eP* **P 18 27 47.6 +1.5**
OKC AMS AMS 19 04 50.0
comp=Z,200nm,15.8s
OKC Ostrava-Krasne 77.90 327 *eP* **P 18 27 47.6 +1.5**
OKC MLR MLR
comp=Z,200nm,15.8s
AGMN Agassiz Nation 77.91 36 *eP* **P 18 27 46.2 0.0**
comp=Z,18nm,1.3s
KECS Kecovo 77.92 325 *eP* **P 18 27 47.9 +1.7**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 77.92 325 *eP* **P 18 27 47.9 +1.7**
VOIR 78.03 320 *⇓iP* **P 18 27 48.7 +1.7**
VOIR 78.03 320 *⇓jP* **P 18 27 48.7 +1.7**
DPC Dobruska-Polom 78.26 328 *eP* **P 18 27 49.3 +1.2**
DPC *e*PCP **PcP 18 27 55.2 -2.2**
DPC *e*pP **pP 18 28 02.8 +2.1**
DPC *e*PP **PP 18 30 38.0 -6.6**
DPC AMS AMS 19 05 00.0
DPC Dobruska-Polom 78.26 328 *eP* **P 18 27 49.3 +1.2**
DPC *e* 18 27 55.2
DPC *e* 18 28 02.8
UPC Upice 78.27 328 *eP* **P 18 27 49.2 +1.1**
UPC *e*PCP **PcP 18 27 57.2 -0.2**
UPC AMS AMS 19 05 00.0
comp=Z,200nm,17.6s
UPC Upice 78.27 328 *eP* **P 18 27 49.2 +1.1**
UPC *e* 18 27 57.2
UPC MLR MLR
comp=Z,200nm,17.6s
ARR Arges 78.28 320 *⇓iP* **P 18 27 50.4 +2.1**
WUAZ Wupatki 78.60 53 *eP* **P 18 27 52.7 +2.3**
comp=Z,6.5nm,0.9s
PSZ Piszkesteto 78.61 325⇑ *eP* **P 18 27 51.4 +1.3**
PSZ Piszkesteto 78.61 325 *eP* **P 18 27 51.3 +1.2**
PSZ pmax pmax
comp=Z,11nm,0.9s
PSZ Piszkesteto 78.61 325 *eP* **P 18 27 51.3 +1.2**
comp=Z,11nm,0.9s
VYHS Vyhne 78.63 326 *eP* **P 18 27 51.1 +0.9**
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 78.63 326 *eP* **P 18 27 51.1 +0.9**
HUMR Humele 78.71 320 *⇓iP* **P 18 27 50.7 0.0**
BRG Berggiesshubel 78.79 330 *eP* **P 18 27 51.7 +0.7**
comp=Z,13nm,1.3s
BRG *e* 18 28 06.0
comp=Z,4.6nm,0.9s
comp=N,105nm,17.7s
comp=E,102nm,22.6s
comp=Z,119nm,21.0s
BRG Berggiesshubel 78.79 330 *eP* **P 18 27 51.7 +0.7**
BRG *e* 18 28 06.0
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=E,102nm,22.6s
BRG MLR MLR
comp=Z,119nm,21.0s
CLL Collm 78.81 330 *iP* **P 18 27 51.3 +0.3**
comp=Z,11nm,0.8s
CLL *i* 18 28 04.7
CLL *i* 18 28 19.2
CLL *i* 18 30 37.8
CLL Collm 78.81 330 *iP* **P 18 27 51.3 +0.3**
CLL *i* 18 28 04.7
CLL pmax pmax
comp=Z,11nm,0.8s
PVCC Panska Ves 78.82 329 *eP* **P 18 27 52.4 +1.3**
PVCC *e*pP **pP 18 28 06.0 +2.2**
PVCC AMS AMS 19 05 40.0
comp=Z,200nm,20.0s
PVCC Panska Ves 78.82 329 *eP* **P 18 27 52.4 +1.3**
PVCC *e* 18 28 06.0
PVCC MLR MLR
comp=Z,200nm,20.0s
SIRR Siria 79.04 323⇑ *iP* **P 18 27 53.3 +0.9**
ISCO Idaho Springs 79.09 47 *eP* **P 18 27 55.6 +2.4**
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 79.09 47 *eP* **P 18 27 55.6 +2.4**
comp=Z,7.0nm,1.0s
GOPC GO Pecny, Ondr 79.22 329 *eP* **P 18 27 54.6 +1.2**
GOPC AMS AMS 19 05 40.0
comp=Z,200nm,15.6s
GOPC GO Pecny, Ondr 79.22 329 *eP* **P 18 27 54.6 +1.2**
GOPC MLR MLR
comp=Z,200nm,15.6s
PRU Pruhonice 79.26 329 *eP* **P 18 27 54.6 +1.1**
PRU *e*PCP **PcP 18 28 03.1 +1.4**
PRU AMS AMS 19 05 50.0
comp=Z,200nm,17.8s
PRU Pruhonice 79.26 329 *eP* **P 18 27 54.6 +1.1**
PRU *e* 18 28 03.1
PRU MLR MLR
comp=Z,200nm,17.8s
TREC Trest 79.42 328 *eP* **P 18 27 55.7 +1.2**
TREC Trest 79.42 328 *eP* **P 18 27 55.7 +1.2**
TREC MLR MLR
comp=Z,500nm,17.8s
NKC Novy Kostel 79.88 330 *eP* **P 18 27 57.7 +0.7**
NKC Novy Kostel 79.88 330 *eP* **P 18 27 57.7 +0.7**
EYMN Ely 80.07 34 *eP* **P 18 27 58.4 +0.4**
comp=Z,19nm,1.3s
MDVR Moldovita 80.12 322⇑ *iP* **P 18 27 58.6 +0.2**
MPEP Malo Peshtene 80.18 320 *i* P **P 18 27 59.8 +1.1**

SOP Sopron 80.23 326⇑ *eP* **P 18 28 00.3 +1.4**
SOP Sopron 80.23 326 P **P 18 28 01.0 +2.1**
KHC Kasperske Hory 80.32 329 *eP* **P 18 28 00.4 +1.0**
KHC *e*pP **pP 18 28 14.1 +2.1**
KHC AMS AMS 19 06 30.0
comp=Z,200nm,14.2s
KHC Kasperske Hory 80.32 329 *eP* **P 18 27 59.9 +0.5**
KHC pmax pmax
comp=Z,5.0nm,0.8s
KHC Kasperske Hory 80.32 329 *eP* **P 18 27 59.9 +0.5**
comp=Z,4.6nm,0.8s
CONA Conrad Observa 80.34 327 *i* PcP **P 18 28 01.0 +1.5**
comp=Z,12nm,1.0s,SNR=9.5
ASF Jabal al Asfar 80.46 304 P **P 18 28 01.4 +0.9**
comp=Z,4.3nm,0.9s,baz=49,slow=9.3,SNR=6.6
GERES GERESS Array B 80.50 329 P **P 18 28 00.9 +0.5**
comp=Z,3.8nm,0.8s,baz=35,slow=4.9,SNR=27
GERES PP **PP 18 30 58.3 -5.0**
comp=Z,0.8nm,0.8s,baz=46,slow=9.5,SNR=3.5
GERES LR LR 19 06 47.8
comp=Z,154nm,19.6s,baz=44,slow=38
GRFO Grafenberg 80.79 330 *eP* **P 18 28 02.1 +0.3**
GRFO pmax pmax
comp=Z,10.0nm,0.8s
GRFO Grafenberg 80.79 330 *eP* **P 18 28 02.0 +0.3**
comp=Z,10nm,0.8s
CSS Mathiatis 80.80 308 *eP* **P 18 28 02.5 +0.3**
comp=Z,3.5nm,0.8s
MMAI Mount Meron Ar 80.84 306 P **P 18 28 03.2 +0.7**
comp=Z,14nm,1.0s,baz=49,slow=5.7,SNR=18
RZN Rozhen 80.90 318 *i* P **P 18 28 04.0 +1.2**
ECSD EROS Data Cent 80.96 39 *eP* **P 18 28 01.2 -1.7**
comp=Z,4.3nm,1.0s
ARSA Arzberg 81.01 327 *i* P **P 18 28 04.1 +1.1**
comp=Z,7.8nm,1.1s
MOA Molln 81.06 328 *i* P **P 18 28 04.2 +0.9**
comp=Z,4.2nm,0.9s
MMB Musomiste 81.48 318 *i* P **P 18 28 06.9 +1.2**
GROS Grobnik 81.64 326 *i* P **P 18 28 07.0 +0.5**
SOKA Soboth 81.67 326 *i* PcP **P 18 28 07.5 +0.9**
comp=Z,14nm,0.7s,SNR=15
ANMO Albuquerque 81.95 51 *eP* **P 18 28 10.2 +1.7**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO Albuquerque 81.95 51 *eP* **P 18 28 10.2 +1.7**
comp=Z,7.3nm,1.1s
OBKA Obir 82.01 327 *i* P **P 18 28 08.8 +0.3**
comp=Z,7.7nm,0.7s
KBA Koelnbreinsper 82.06 328 *i* PcP **P 18 28 10.4 +1.6**
comp=Z,14nm,0.8s,SNR=10
KBA Koelnbreinsper 82.06 328 P **P 18 28 09.8 +1.0**
SCHQ Schefferville 82.11 17 P **P 18 28 08.6 -0.1**
comp=Z,3.3nm,0.4s,baz=299,slow=1.2,SNR=4.1
SCHQ LR LR 19 07 11.0
comp=Z,48nm,19.0s,baz=299,slow=38
MYKA Terra Mystica 82.29 327 *i* P **P 18 28 10.2 +0.3**
comp=Z,6.3nm,0.6s,SNR=6.2
LJU Ljubljana 82.39 326 *i* P **P 18 28 10.5 +0.2**
WTTA Wattenberg 82.60 329 *i* PcP **P 18 28 12.5 +0.9**
comp=Z,6.1nm,0.7s
ABTA Abfaltersbach 82.66 328 *i* P **P 18 28 12.1 +0.2**
comp=Z,11nm,1.2s
JAVS Javornik 82.70 327 *i* P **P 18 28 11.7 -0.4**
JAVS *e* 18 28 26.8
MOTA Moosalm 82.74 329 *i* PcP **P 18 28 13.1 +0.7**
comp=Z,16nm,1.0s,SNR=8.5
RETA Reutte 82.76 329 *i* PcP **P 18 28 13.3 +1.0**
comp=Z,14nm,0.8s,SNR=9.4
121A Cookes Peak, D 82.81 53 *eP* **P 18 28 15.1 +2.1**
comp=Z,6.2nm,0.9s
BFO Black Forest 82.99 331 *i* P **P 18 28 14.3 +0.9**
FETA Feichten 83.15 329 *i* PcP **P 18 28 15.2 +0.7**
comp=Z,13nm,1.4s
DAVA Damuels 83.27 330 *i* PcP **P 18 28 15.8 +0.7**
comp=Z,17nm,1.4s
FNA Florina 83.27 319 P **P 18 28 16.1 +1.0**
CDF Champ du Feu 83.31 332 *eP* **P 18 28 14.8 -0.4**
CDF pmax pmax
comp=Z,9.0nm,1.0s
ECH Echery 83.51 332 *eP* **P 18 28 16.3 +0.1**
MOF Molkenrain 83.83 332⇑ *eP* **P 18 28 17.8 -0.1**
HINF Hinteralfeld 83.96 332 *eP* **P 18 28 18.6 +0.1**
HINF pmax pmax
comp=Z,2.0nm,0.6s
URZ Urewera 84.23 153 LR LR 19 03 06.1
comp=Z,48nm,20.9s,baz=326,slow=34
MNTX Cornudas Mount 84.86 52 *eP* **P 18 28 24.4 +1.1**
comp=Z,13nm,1.4s
PPT Papeete 85.30 117 LR LR 18 57 01.1
comp=Z,107nm,21.5s,baz=326,slow=29
PPT2 Papeete2 85.32 118 *e*LR LR 18 55 26.8
comp=Z,224nm,22.8s,baz=315
PPT2 Papeete2 85.32 118 *eT* T 20 02 46.7
comp=Z,15nm,0.3s
LPL La Plagne 85.95 331 *eP* **P 18 28 28.5 -0.2**
LPL pmax pmax
comp=Z,13nm,0.8s
LPG La Plagne 85.95 331 *eP* **P 18 28 28.7 -0.1**
LPG pmax pmax
comp=Z,13nm,0.8s
AVF Avril sur Loir 86.08 333 *eP* **P 18 28 28.9 -0.1**
AVF pmax pmax
comp=Z,31nm,0.8s
TAOE Nuku Hiva Isla 86.14 105 *e*LR LR 18 56 06.0
comp=Z,275nm,22.9s
MEH Mehetia 86.55 117 *eT* T 20 04 18.3
comp=Z,60nm,0.3s
PLDF La Plantade 86.69 333⇑ *eP* **P 18 28 33.1 +0.9**
AGO Saint Agoulin 86.79 333⇑ *eP* **P 18 28 33.4 +0.8**
ROSF Rostrenen 86.81 338 *eP* **P 18 28 32.8 +0.2**
ROSF pmax pmax
comp=Z,24nm,1.0s
PYM Petit Puy Mans 87.10 333⇑ *eP* **P 18 28 31.0 -3.2**
RPZ Rata Peaks 87.38 160 LR LR 19 07 18.3
comp=Z,117nm,18.5s,baz=352,slow=35
LBL Lubilhac 87.46 332 *eP* **P 18 28 33.3 -2.6**
TXAR Lajitas Array 87.57 53 P **P 18 28 37.9 +1.1**
comp=Z,0.6nm,0.6s,baz=293,slow=3.5,SNR=12
CAF Calviac 88.14 333 *eP* **P 18 28 39.6 +0.5**
CAF pmax pmax
comp=Z,12nm,1.1s
EPF Esparros 90.40 333 *eP* **P 18 28 48.0 -1.8**
EPF pmax pmax
comp=Z,6.0nm,1.2s
ESDC Sonseca Array 94.85 335 P **P 18 29 10.6 +0.2**
comp=Z,1.0nm,0.5s,baz=18,slow=4.3,SNR=10
ESDC PP **PP 18 32 59.3 +0.9**
comp=Z,0.2nm,0.4s,baz=21,slow=8.2,SNR=4.1
ESDC LR LR 19 17 16.1
comp=Z,74nm,18.3s,baz=300,slow=39
TORD Torodi Ar. Bea 115.68 317 PKP **PKPdf 18 34 30.3 -0.7**
comp=Z,0.7nm,0.6s,baz=347,slow=2.9,SNR=4.7
TORD PP **PP 18 35 28.9 -4.3**
comp=Z,1.6nm,0.8s,baz=32,slow=6.3,SNR=6.8
MAW Mawson 122.70 207 PKP **PKPdf 18 34 43.3 +0.5**
comp=Z,1.2nm,0.6s,baz=16,slow=7.4,SNR=4.8
DBIC Dimbokro 124.53 319 PKP **PKPdf 18 34 47.8 -0.2**
comp=Z,2.7nm,0.8s,baz=328,slow=3.8,SNR=4.6
SNAA Sanae 143.97 198 *e*PKPdf PKPab 18 35 20.0 +0.1
LPAZ La Paz 144.34 57 PKP PKPbc 18 35 24.6 +0.6
comp=Z,1.3nm,0.6s,baz=350,slow=5.8,SNR=5.0

MAN 09 18:24:39,6.96N×125.89E,h56km,mb3.9,ML2.7,MS2.4, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MATI	**Mati**	**0.37**	**93**	*eP*		Pn	18 24 51.7	+2.4
MATI				*eS*		Sn	18 25 00.5	+3.8
DMPH	**Davao City--Mi**	**0.40**	**288⇑**	*eP*		Pn	18 24 51.1	+1.5
DMPH				*eS*		Sn	18 25 01.6	+4.4
BUKP	**Musuan**	**1.23**	**318**	*eP*		Pn	18 25 02.0	+2.0
BUKP				*eS*		Sn	18 25 16.9	+1.3

*ISCJB **09** 18:34:00.1±0.4, 42.05N±0.04×142.53E±0.04, h72km±3km, mb3.6/7, Error ellipse: s-maj=7.8km s-min=4.0km az=145.1*

*JMA **09** 18:34:00.9±0.1, 42.03N×142.56E, h62km±2km, M3.5 Broadband fault plane solution: P waves. NP1: φs70.00000°, δ64.00000°, λ110.00000°. NP2: φs210.00000°, δ32.00000°, λ55.00000°. Principal axes: T Plg65.0000°, Azm15.0000°; N Plg18.0000°, Azm241.0000°; P Plg17.0000°, Azm145.0000°;*

JMA Felt I J1.
*NIED **09** 18:34:00, 42.00N×142.50E, h71km, Mw3.8 Best double couple: M₀6.45000×10¹⁴ NP1:φ₁166.00000°, δ21.00000°, λ20.00000°. NP2:φ₂57.00000°, δ83.00000°, λ110.00000°.*
*IDC **09** 18:34:02.3±2.4, 42.13N×142.44E, h76km±19km, mb3.4/7, mb1 3.5/10, mb1mx3.3/34, mbtmp3.6/10, Error ellipse: s-maj=31.8km s-min=20.3km az=142.0*
ISC 09 18:34:00.6±0.8, 42°04N±0.05×142°52E±0.04, h63km±7km, n33, σ0.95/40, mb3.7/7, 4C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.29**	**35**	⇑P	**Pn**		**18 34 11.0**	**0.0**
JNBK				S	**Sn**		**18 34 18.8**	**+0.2**
JEM	**Erimo**	**0.47**	**93**	⇑P	**Pn**		**18 34 12.7**	**+0.2**
JEM				eS	**Sn**		**18 34 21.5**	**+0.3**
JBT2	**Biratori 2**	**0.75**	**351**	⇓P	**Pn**		**18 34 15.9**	**+0.3**
JBT2				eS	**Sn**		**18 34 27.2**	**+0.6**
JCH	**Churui**	**0.85**	**47**	⇓P	**Pn**		**18 34 17.0**	**+0.2**
JCH				eS	**Sn**		**18 34 29.4**	**+0.7**
JKB	**Kayabe**	**1.12**	**263**	⇓P	**Pn**		**18 34 20.7**	**+0.4**
JKB				eS	**Sn**		**18 34 35.4**	**+0.4**
JFR	**Furan**	**1.12**	**3**	⇓P	**Pn**		**18 34 20.6**	**+0.2**
JEW	**Eniwo**	**1.13**	**316**	⇓P	**Pn**		**18 34 21.1**	**+0.7**
JNB	**Noboribetsu**	**1.18**	**292**	⇓P	**Pn**		**18 34 21.0**	**-0.1**
JNB				eS	**Sn**		**18 34 36.5**	**+0.1**
JOT	**Ohata**	**1.28**	**240**	⇑P	**Pn**		**18 34 22.8**	**+0.4**
JOT				eS	**Sn**		**18 34 38.8**	**0.0**
JOB	**Onbets**	**1.30**	**48**	P	**Pn**		**18 34 23.9**	**+1.3**
JOB				eS	**Sn**		**18 34 40.8**	**+1.7**
JAB	**Ashibetsu**	**1.48**	**351**	⇓P	**Pn**		**18 34 25.9**	**+0.8**
JAR	**Ashorobuto**	**1.56**	**36**	⇓P	**Pn**		**18 34 26.4**	**+0.3**
JAR				eS	**Sn**		**18 34 45.1**	**-0.2**
JYM2	**Yakumo 2**	**1.61**	**274**	⇓P	**Pn**		**18 34 27.2**	**+0.5**
JYM2				eS	**Sn**		**18 34 47.9**	**+1.4**
JSR	**Shiriuchi**	**1.66**	**253**	P	**Pn**		**18 34 28.1**	**+0.7**
JSR				eS	**Sn**		**18 34 49.4**	**+1.7**
JTM	**Tenmabayashi**	**1.66**	**222**	⇑P	**Pn**		**18 34 28.5**	**+1.0**
JTM				eS	**Sn**		**18 34 49.4**	**+1.5**
ASAJ	**Asahikawa**	**2.08**	**1**	P	**Pn**		**18 34 34.5**	**+1.3**
	40nm,0.3s,baz=205,slow=13,SNR=310							
ASAJ				S	**Sn**		**18 34 58.5**	**+0.5**
	18nm,0.3s,baz=62,slow=23,SNR=12							
MJAR	**Matsushiro Arr**	**6.43**	**213**	P	**Pn**		**18 35 34.8**	**+2.2**
	0.6nm,0.3s,baz=23,slow=14,SNR=8.4							
USRK	**Ussuriysk Ar.**	**8.01**	**289**	P	**Pn**		**18 35 55.0**	**+0.9**
	0.2nm,0.3s,baz=88,slow=15,SNR=3.8							
JHJ	**Hachijo jima 2**	**9.16**	**195**	P	**Pn**		**18 36 08.0**	**-2.1**
	4.0nm,0.3s,baz=73,slow=19,SNR=8.8							
JHJ				S	Sn		18 37 41.8	-10
	3.2nm,0.3s,baz=72,slow=20,SNR=2.3							
PETK	**Petropavlovsk-**	**15.05**	**37**	P	**Pn**		**18 37 28.5**	**-0.8**
	0.1nm,0.3s,baz=183,slow=7.2,SNR=3.4							
SEY	**Seymchan**	**21.72**	**12**	P	**P**		**18 38 45.0**	**-1.2**
	1.3nm,0.5s,baz=204,slow=12,SNR=7.1							
H11N2	**WAKE ISLAND Hy**	**30.34**	**130**	T	T		19 11 43.2	
	baz=323,slow=75,SNR=25							
H11N1	**WAKE ISLAND Hy**	**30.35**	**130**	T	T		19 11 44.5	
	baz=323,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy**	**30.35**	**130**	T	T		19 11 44.5	
	baz=323,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**31.20**	**131**	T	T		19 12 41.8	
	baz=325,slow=76,SNR=34							
H11S3	**WAKE ISLAND Hy**	**31.20**	**131**	T	T		19 12 50.5	
	baz=325,slow=76,SNR=21							
H11S2	**WAKE ISLAND Hy**	**31.22**	**131**	T	T		19 12 51.8	
	baz=325,slow=76,SNR=20							
ZALV	**Zalesovo Beam**	**39.34**	**308**	P	**P**		**18 41 22.2**	**-1.1**
	0.7nm,0.5s,baz=78,slow=6.8,SNR=4.3							
MKAR	**Makanchi Array**	**42.37**	**298**	P	**P**		**18 41 47.6**	**-0.8**
	0.5nm,0.8s,baz=72,slow=9.4,SNR=5.2							
ILAR	**Eielson Array**	**44.86**	**35**	P	**P**		**18 42 08.6**	**+0.5**
	0.4nm,0.5s,baz=268,slow=5.6,SNR=6.0							
FINES	**FINESS Array B**	**64.81**	**332**	P	**P**		**18 44 32.2**	**0.0**
	1.2nm,0.7s,baz=64,slow=8.7,SNR=6.6							
NOA	**NORSAR Array B**	**69.91**	**337**	P	**P**		**18 45 04.7**	**+0.2**
	0.8nm,0.7s,baz=37,slow=6.3,SNR=3.8							
TXAR	**Lajitas Array**	**86.41**	**53**	P	**P**		**18 46 36.5**	**+0.2**
	0.4nm,0.7s,baz=292,slow=1.9,SNR=3.6							

*IDC **09** 18:36:00.7±3.2, 17.69S×178.36W, h610km±40km, mb3.5/4, mb1 3.8/4, mb1mx3.1/25, mbtmp4.6/4, Error ellipse: s-maj=101.2km s-min=19.6km az=159.0*
ISC 09 18:35:59.2±1.3, 18°2S±0.4×178°2W±0.2, h600km, n18, σ0.79/14, mb4.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**29.40**	**250**	P	P		18 41 19.3	+3.4
	baz=37,SNR=3.2							
ARMA	**Armidale**	**30.01**	**240**	P	P		18 41 23.1	+1.9
	baz=37,SNR=7.4							
RMQ	**Roma**	**31.63**	**249**	P	P		18 41 36.3	+1.3
	baz=39,SNR=12							
CNB	**Canberra Magne**	**33.45**	**233**	P	**P**		**18 41 51.2**	**+0.9**
	baz=41,SNR=19							
CMSA	**Cobar Meteorol**	**35.23**	**241**	P	**P**		**18 42 06.1**	**+1.1**
	baz=43,SNR=16							
MTSU	**Mount Surprise**	**35.62**	**264**	P	**P**		**18 42 08.6**	**+0.3**
	baz=43,SNR=5.5							
COEN	**Coen**	**37.34**	**271**	P	P		18 42 23.7	+1.2
	baz=45,SNR=5.9							
STKA	**Stephens Creek**	**38.71**	**242**	P	P		18 42 34.8	+1.4
	7.4nm,0.5s,baz=85,slow=11,SNR=32							
STKA	**Stephens Creek**	**38.71**	**242**	P	P		18 42 34.7	+1.3
	baz=46,SNR=23							
HTT	**Hallett**	**41.22**	**240**	P	P		18 42 55.0	+1.6
	baz=49,SNR=10							
BBOO	**Buckleboo**	**43.49**	**241**	P	**P**		**18 43 11.2**	**+0.2**
	baz=51,SNR=18							
WRA	**Warramunga Arr**	**44.82**	**260**	P	**P**		**18 43 21.2**	**-0.2**
	5.2nm,0.5s,baz=95,slow=7.2,SNR=79							
WRA				PcP	**PcP**		**18 44 50.1**	**-0.1**
	0.3nm,0.3s,baz=88,slow=3.2,SNR=2.8							
ASAR	**Alice Springs**	**44.95**	**254**	P	**P**		**18 43 23.0**	**+0.6**
	20nm,0.6s,baz=89,slow=8.5,SNR=572							
ASAR				PcP	**PcP**		**18 44 50.5**	**-0.2**
	0.6nm,0.5s,baz=100,slow=3.7,SNR=3.7							
ASAR				S	**S**		**18 49 18.4**	**+0.1**
	1.1nm,0.9s,baz=89,slow=15,SNR=7.7							
MTN	**Manton Dam**	**49.03**	**269**	P	**P**		**18 43 52.8**	**-0.3**
	baz=56,SNR=5.4							
WRKA	**Warakurna**	**49.99**	**252**	P	**P**		**18 44 00.1**	**0.0**
	baz=58,SNR=70							
FITZ	**Fitzroy Crossi**	**53.22**	**261**	P	**P**		**18 44 23.4**	**+0.2**
	baz=61,SNR=5.7							
KLBR	**Kellerberrin**	**58.92**	**244**	P	**P**		**18 45 00.3**	**-2.0**
	baz=66,SNR=9.5							
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**		**18 47 37.6**	**+0.3**
	0.3nm,0.7s,baz=214,slow=4.4,SNR=2.8							

*IDC **09** 18:43:37.1±1.2, 36.54S×75.83W, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.1/26, mbtmp4.0/11, ML4.5/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/22, Error ellipse: s-maj=33.8km s-min=23.5km az=38.0*
*NEIC **09** 18:43:39.2±0.4, 36.44S×75.78W, h10km, mb4.8/10, Error ellipse: s-maj=11.3km s-min=8.6km az=57.0*
*ISCJB **09** 18:43:41.2±0.4, 36.44S±0.04×75.60W±0.04, h33km, mb4.4/16, MS3.7/3, Error ellipse: s-maj=6.2km s-min=4.9km az=174.8*
ISC 09 18:43:43.3±0.6, 36.41S±0.05×75.61W±0.07, h35km, n45, σ1.45/51, mb4.5/16, MS3.9/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**2.06**	**103**	eS	**Sn**		**18 44 36.3**	**-3.5**
CCSP				IAML			18 44 39.8	
	comp=E,2μm,0.2s							
COCH	**Cobquecura**	**2.30**	**84**	eP	**Pn**		**18 44 17.0**	**-1.7**
COCH				eS	**Sn**		**18 44 43.8**	**-1.9**
COCH				IAML			18 44 44.2	
	comp=N,973nm,0.6s							
CCHI	**Chillan**	**2.85**	**95**	eP	**Pn**		**18 44 25.3**	**-1.0**
CCHI				eS	**Sn**		**18 44 58.2**	**-1.2**
CCHI				IAML			18 45 01.9	
	comp=N,2μm,0.8s							
TALC	**Talca**	**3.38**	**74**	eP	**Pn**		**18 44 32.9**	**-0.7**
TALC				eS	**Sn**		**18 45 11.4**	**-1.1**
ROC1	**El Roble**	**5.11**	**49**	ePn	**Pn**		**18 44 55.9**	**-1.7**
PLCA	**Paso Flores**	**5.86**	**139**	Pn	**Pn**		**18 45 07.7**	**0.0**
	comp=N,4.0nm,0.3s,baz=317,slow=11,SNR=28							
PLCA				Sn	**Sn**		**18 46 16.6**	**+3.0**
	comp=N,8.8nm,0.3s,baz=332,slow=17,SNR=7.3							
PLCA				LR	LR		18 47 32.8	
	comp=N,1μm,19.5s,baz=342,slow=40							
AAGR	**Agrelo**	**6.49**	**61**	*i* P	**Pn**		**18 45 17.6**	**+1.1**
ARCO	**CERRO ARCO**	**6.56**	**59**	*i* P	**Pn**		**18 45 18.7**	**+1.3**
ARCO				IAML			18 46 33.8	
	comp=Z,52nm,0.5s							
ARCO				*i* S	**Sn**		**18 46 34.0**	**+3.0**
AUSP	**Uspallata**	**6.63**	**53**	*i* P	**Pn**		**18 45 19.8**	**+1.3**
AUSP				*i* S	**Sn**		**18 46 35.7**	**+2.7**
RTLS	**Leoncito**	**6.97**	**51**	*i* P	**Pn**		**18 45 23.5**	**+0.3**
RTLS				*i* S	**Sn**		**18 46 42.9**	**+1.6**
LCO	**Las Campanas**	**8.46**	**31**	*e*Pn	**Pn**		**18 45 40.7**	**-2.9**
LCO				*e*Sn	**Sn**		**18 47 14.8**	**-3.2**
TRQA	**Tornquist**	**10.99**	**103**	*e*Pn	**Pn**		**18 46 18.7**	**+0.6**
CHRN	**Cochrane**	**11.06**	**169**	*e*Pn	**Pn**		**18 46 19.7**	**+0.8**
PB01	**IPOC Station P**	**16.22**	**21**	*e*Pn	**P**		**18 47 33.1**	**+1.7**
	comp=Z,22nm,1.1s							
PB11	**IPOC Station P**	**17.39**	**19**	*e*Pn	**P**		**18 47 46.0**	**+1.6**
	comp=Z,33nm,1.0s							
CPUP	**Villa Florida**	**18.54**	**62**	P	**Pn**		**18 47 58.9**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=239,slow=11,SNR=4.8							
CPUP				LR	LR		18 55 31.6	
	comp=Z,72nm,18.8s,baz=235,slow=38							
CPUP	**Villa Florida**	**18.54**	**62**	*e*P	**Pn**		**18 47 57.9**	**+0.6**
LPAZ	**La Paz**	**21.12**	**20**	P	**P**		**18 48 27.2**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=200,slow=6.6,SNR=6.0							
LPAZ	**La Paz**	**21.12**	**20**	*e*P	**P**		**18 48 27.2**	**+1.5**
	comp=Z,3.5nm,0.7s							
SIV	**San Ignacio**	**24.10**	**36**	P	**P**		**18 48 56.3**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=226,slow=10,SNR=3.1							
NNA	**Nana**	**24.34**	**357**	LR	LR		18 56 00.2	
	comp=Z,83nm,20.4s,baz=157,slow=30							
BDFB	**Brasilia**	**32.10**	**57**	P	**P**		**18 50 07.0**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=221,slow=9.3,SNR=3.4							
RUSC	**La Rusia**	**42.15**	**4**	*e*P	**P**		**18 51 33.7**	**+0.7**
	comp=Z,24nm,0.7s							
SNAA	**Sanae**	**50.49**	**157**	*e*P	**P**		**18 52 37.9**	**+0.4**
	comp=Z,14nm,1.2s							
QSPA	**South Pole Qui**	**53.83**	**180**	*e*P	**P**		**18 53 02.9**	**+0.5**
PPT	**Papeete**	**67.06**	**265**	LR	LR		19 17 19.5	
	comp=Z,71nm,20.1s,baz=171,slow=30							
TXAR	**Lajitas Array**	**70.52**	**334**	P	**P**		**18 54 54.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=152,slow=8.2,SNR=13							
LTX	**Lajitas**	**70.52**	**334**	*e*P	**P**		**18 54 54.2**	**-0.3**
TX31	**Lajitas Ar. Si**	**70.52**	**334**	*e*P	**P**		**18 54 54.5**	**0.0**
CCAR	**Cane Creek**	**71.58**	**346**	*e*P	**P**		**18 54 59.6**	**-1.1**
	comp=Z,70nm,0.5s							
SWET	**Sewanee**	**71.91**	**351**	*e*P	**P**		**18 55 02.3**	**-0.4**
	comp=Z,7.4nm,0.8s							
PLAL	**Pickwick Lake**	**71.97**	**349**	*e*P	**P**		**18 55 01.2**	**-1.9**
	comp=Z,22nm,0.5s							
X201	**Greenbrier Sit**	**73.03**	**346**	*e*P	**P**		**18 55 08.7**	**-0.7**
	comp=Z,4.9nm,0.8s							
DBIC	**Dimbokro**	**78.70**	**73**	P	**P**		**18 55 42.6**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=180,slow=4.4,SNR=7.7							
DBIC	**Dimbokro**	**78.70**	**73**	*e*P	**P**		**18 55 42.6**	**+0.3**
	comp=Z,40nm,1.7s							
BOSA	**Boshof**	**81.50**	**119**	P	**P**		**18 55 56.8**	**-0.6**
	comp=Z,5.1nm,0.9s,baz=239,slow=9.1,SNR=4.2							
NV01	**Mina Array Sit**	**84.27**	**328**	*e*P	**P**		**18 56 11.1**	**-0.4**
NVAR	**Mina Array Bea**	**84.27**	**328**	P	**P**		**18 56 11.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=142,slow=3.2,SNR=3.3							
PD31	**Pinedale Array**	**84.67**	**336**	*e*P	**P**		**18 56 12.6**	**-0.8**
PDAR	**Pinedale Array**	**84.67**	**336**	P	**P**		**18 56 12.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=178,slow=3.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**87.76**	**72**	P	**P**		**18 56 29.0**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=222,slow=1.9,SNR=3.4							
TORD				LR	LR		19 34 37.7	
	comp=Z,47nm,18.4s,baz=0.0,slow=35							
TOA1	**Torodi Ar. Sit**	**87.76**	**72**	*e*P	**P**		**18 56 29.0**	**+0.1**
	comp=Z,11nm,1.5s							
ABKAR	**Akbulak array**	**145.47**	**54**	*e*PKPdf	**PKPab**		**19 03 17.2**	**-0.2**
MK32	**Makanchi Array**	**160.55**	**51**	*e*PKPab	**PKPab**		**19 04 19.8**	**-0.8**
MKAR	**Makanchi Array**	**160.55**	**51**	PKPab	**PKPab**		**19 04 19.8**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=284,slow=4.9,SNR=5.0							

*ISCJB **09** 19:02:25.8±0.4, 12.49N±0.05×47.40E±0.03, h14km, mb4.2/33, MS3.8/19, Error ellipse: s-maj=7.5km s-min=4.0km az=14.2*
*IDC **09** 19:02:25.4±0.6, 12.45N×47.58E, h0km, mb4.0/22, mb1 4.1/25, mb1mx4.1/43, mbtmp4.0/25, ML3.3/3, MS3.8/21, Ms1 3.8/21, ms1mx3.6/45, Error ellipse: s-maj=15.5km s-min=13.9km az=109.0*
*NEIC **09** 19:02:27.0±0.4, 12.43N×47.50E, h10km, mb4.6/11, Error ellipse: s-maj=9.5km s-min=7.7km az=139.0*
*CSEM **09** 19:02:27.2±0.3, 12.48N×47.39E, h10km, mb4.7/11, Error ellipse: s-maj=10.7km s-min=8.0km az=4.0*
*DHMR **09** 19:02:28.7±1.7, 12.57N×46.99E, h5km±18km, ML4.4*
*ISN **09** 19:02:39.7±1.6, 12.37N×47.46E, h94km±13km, ML4.5*
ISC 09 19:02:27.5±0.5, 12.45N±0.07×47.39E±0.06, h14km, n82, σ1.52/83, mb4.3/33, MS3.8/19, 2C-2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.34**	**311**	⇑*i* P	**Pn**		**19 03 03.9**	**-1.9**
BDHA				*i* S	**Sn**		**19 03 31.6**	**-2.9**
BDHA				AML	AML		19 03 33.0	
	comp=N,7μm,0.6s							
BDHA	**Al Bayda'**	**2.34**	**311**	⇑*i* P	**Pn**		**19 03 03.9**	**-1.9**
BDHA				*i* S	**Sn**		**19 03 31.6**	**-2.9**
ADEN	**Aden**	**2.38**	**278**	⇓*i* P	**Pn**		**19 03 03.3**	**-2.8**
ADEN				*i* S	**Sn**		**19 03 31.9**	**-3.1**
ADEN				AML	AML		19 03 33.3	
	comp=N,3μm,0.5s							
ADEN	**Aden**	**2.38**	**278**	⇓*i* P	**Pn**		**19 03 03.3**	**-2.8**
ADEN				*i* S	**Sn**		**19 03 31.9**	**-3.1**
DAMY	**Dhamar**	**3.60**	**306**	*e*Pn	**Pn**		**19 03 22.9**	**-0.4**
DAMY	**Dhamar**	**3.60**	**306**	*e*Pn	**Pn**		**19 03 22.9**	**-0.4**
DHBB	**Dhamar BB**	**3.60**	**306**	*i* P	**Pn**		**19 03 22.7**	**-0.6**
DHBB				*i* S	**Sn**		**19 04 04.5**	**-1.3**
DHBB	**Dhamar BB**	**3.60**	**306**	*i* P	**Pn**		**19 03 22.7**	**-0.6**
DHBB				*i* S	**Sn**		**19 04 04.5**	**-1.3**
UDYN	**Al 'Udayn**	**3.66**	**295**	*i* P	**Pn**		**19 03 23.4**	**-0.5**
UDYN				*i* S	**Sn**		**19 04 04.6**	**-2.5**
SANA	**San'a**	**4.26**	**314**	*i* S	**Sn**		**19 04 22.1**	**+0.2**
ATD	**Arta Tunnel**	**4.54**	**259**	Pn	**Pn**		**19 03 37.1**	**+1.2**
	comp=N,4.3nm,0.3s,baz=39,slow=8.1,SNR=13							
ATD				Lg	Lg		19 04 49.8	
	comp=N,2.2nm,0.3s,baz=126,slow=18,SNR=1.5							
HAJJ	**Hajjah**	**4.90**	**312**	*i* P	**Pn**		**19 03 41.1**	**+0.1**
HAJJ				*i* S	**Sn**		**19 04 36.8**	**-0.8**
HAJJ				AML	AML		19 04 56.1	
	comp=Z,1μm,0.7s							
HAJJ	**Hajjah**	**4.90**	**312**	*i* P	**Pn**		**19 03 41.1**	**+0.1**
HAJJ				*i* S	**Sn**		**19 04 36.8**	**-0.8**
WSAR	**Wadi Sarin**	**15.14**	**43**	Pn	**Pn**		**19 06 00.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=2.9							
WSAR				LR	LR		19 11 49.5	
	comp=Z,180nm,20.4s,baz=246,slow=38							
KMBO	**Kilima Mbogo**	**16.83**	**217**	Pn	**Pn**		**19 06 23.6**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=32,slow=11,SNR=12							
KMBO				Lg	Lg		19 11 17.0	
	comp=Z,0.2nm,0.3s,baz=144,slow=19,SNR=1.9							
KMBO				LR	LR		19 12 32.3	
	comp=Z,315nm,20.3s,baz=3.5,slow=36							
EIL	**Elat**	**20.67**	**328**	P	Pn		19 07 08.8	-0.6
	comp=Z,6.5nm,0.8s,baz=138,slow=11,SNR=2.7							
EIL				Lg	Lg		19 13 01.9	
	comp=Z,1.1nm,0.4s,baz=3.4,slow=19,SNR=3.4							
EIL				LR	LR		19 14 28.0	
	comp=Z,753nm,18.7s,baz=146,slow=35							
ASF	**Jabal al Asfar**	**21.88**	**336**	P	**P**		**19 07 21.6**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=138,slow=3.7,SNR=9.0							
ASF				Lg	Lg		19 13 45.0	
	comp=Z,1.2nm,0.5s,baz=90,slow=20,SNR=2.2							
MMAI	**Mount Meron Ar**	**23.23**	**334**	P	**P**		**19 07 37.0**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=146,slow=14,SNR=3.3							
MMAI				LR	LR		19 16 03.3	
	comp=Z,340nm,18.4s,baz=180,slow=35							
GEYT	**Alibeck**	**27.12**	**19**	P	**P**		**19 08 09.6**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=182,slow=9.7,SNR=2.5							
GEYT				LR	LR		19 20 52.4	
	comp=Z,734nm,18.8s,baz=210,slow=41							
GNI	**Garni**	**27.69**	**356**	P	**P**		**19 08 17.1**	**+1.6**
	comp=Z,2.4nm,0.4s,baz=183,slow=2.1,SNR=5.3							
GNI				LR	LR		19 20 40.1	
	comp=Z,534nm,19.3s,baz=158,slow=40							
GNI	**Garni**	**27.69**	**356**	*e*P	**P**		**19 08 14.0**	**-1.4**
	comp=Z,55nm,0.8s							
GNI	**Garni**	**27.69**	**356**	*e*P	**P**		**19 08 14.0**	**-1.4**
	comp=Z,55nm,0.8s							

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**29.77**	**338**	P	**P**		**19 08 33.9**	**0.0**
	comp=Z,1.0nm,0.8s,baz=162,slow=11,SNR=4.2							
BRTR				LR	LR		19 21 17.0	
	comp=Z,361nm,19.4s,baz=146,slow=38							
KBZ	**Khabaz**	**31.41**	**354**	P	**P**		**19 08 50.2**	**+2.1**
	comp=Z,1.6nm,0.9s,baz=185,slow=6.5,SNR=4.0							
KBZ				LR	LR		19 24 49.1	
	comp=Z,134nm,20.5s,baz=160,slow=43							
KIV	**Kislovodsk**	**31.66**	**354**	*e*P	**P**		**19 08 51.8**	**+1.4**
	comp=Z,16nm,1.1s							
KIV	**Kislovodsk**	**31.66**	**354**	*e*P	**P**		**19 08 51.9**	**+1.4**
	comp=Z,16nm,1.1s							
KKAR	**Karatay Array**	**36.51**	**29**	*e*P	**P**		**19 09 33.3**	**+0.8**
	comp=Z,1.9nm,0.8s							
KKAR	**Karatay Array**	**36.51**	**29**	*e*P	**P**		**19 09 33.3**	**+0.8**
	comp=Z,1.9nm,0.8s							
PYUN	**Piuthan**	**36.67**	**59**	*e*P	**P**		**19 09 33.6**	**-0.8**
KOLN	**Koldanda**	**37.09**	**60**	*e*P	**P**		**19 09 37.3**	**-0.6**
	comp=Z,20nm,0.8s							
MATP	**Matopo**	**37.58**	**210**	P	**P**		**19 09 42.9**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=41,slow=7.9,SNR=3.9							
EKS2	**Erkin-Say**	**37.81**	**32**	*e*P	**P**		**19 09 44.9**	**+1.2**
	comp=Z,5.3nm,0.9s							
EKS2	**Erkin-Say**	**37.81**	**32**	*e*P	**P**		**19 09 44.9**	**+1.2**
	comp=Z,5.3nm,0.9s							
GKN	**Gorkha**	**38.04**	**60**	*e*P	**P**		**19 09 43.6**	**-2.3**
	comp=Z,24nm,1.0s							
ABKAR	**Akbulak array**	**38.14**	**13**	*e*P	**P**		**19 09 46.7**	**+0.5**
ABKAR	**Akbulak array**	**38.14**	**13**	*e*P	**P**		**19 09 46.6**	**+0.5**
AAK	**Ala-Archa**	**38.17**	**33**	*e*P	**P**		**19 09 47.6**	**+0.8**
	comp=Z,11nm,1.2s							
AAK	**Ala-Archa**	**38.17**	**33**	*e*P	**P**		**19 09 47.6**	**+0.8**
	comp=Z,11nm,1.2s							
DMN	**Daman**	**38.33**	**61**	*e*P	**P**		**19 09 47.4**	**-1.0**
	comp=Z,35nm,0.9s							
KKN	**Kakani**	**38.53**	**61**	*e*P	**P**		**19 09 48.7**	**-1.3**
	comp=Z,56nm,1.3s							
PKIN	**Phulchoki**	**38.57**	**61**	*e*P	**P**		**19 09 48.7**	**-1.8**
	comp=Z,36nm,1.4s							
GUN	**Gumba**	**39.07**	**61**	*e*P	**P**		**19 09 53.7**	**-1.1**
	comp=Z,59nm,1.1s							
KIEV	**Kiev**	**40.93**	**342**	*e*P	**P**		**19 10 09.8**	**+0.4**
	comp=Z,8.5nm,1.2s							
KIEV	**Kiev**	**40.93**	**342**	*e*P	**P**		**19 10 09.8**	**+0.4**
	comp=Z,8.5nm,1.2s							
AKASG	**Malin Array Be**	**40.94**	**342**	P	**P**		**19 10 09.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=156,slow=7.6,SNR=8.7							
AKASG				LR	LR		19 29 45.8	
	comp=Z,103nm,18.5s,baz=160,slow=40							
KEST	**Kesra**	**41.38**	**311**	LR	LR		19 28 00.4	
	comp=Z,219nm,19.2s,baz=4.0,slow=37							
KOLS	**Kolonicke sedl**	**41.91**	**335**	*e*P	P		19 10 23.2	+5.7
STHS	**Stebnicka Huta**	**42.71**	**335**	*e*P	P		19 10 29.5	+5.4
BRVK	**Borovoye**	**44.45**	**20**	*e*P	**P**		**19 10 35.9**	**-2.1**
	comp=Z,12nm,1.3s							
BRVK	**Borovoye**	**44.45**	**20**	*e*P	**P**		**19 10 35.9**	**-2.1**
	comp=Z,12nm,1.3s							
TORD	**Torodi Ar. Bea**	**44.52**	**276**	P	**P**		**19 10 40.7**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=94,slow=6.5,SNR=7.5							
ARU	**Arti**	**44.73**	**9**	*e*P	**P**		**19 10 42.4**	**+2.3**

JRY	**Ryogami san**	**0.94**	**279**	P	**Pn**	**19 16 28.4 +0.4**
JRY				S	**Sn**	**19 16 41.9 +0.8**
JOD2	**Odawara 2**	**0.99**	**232**	P	**Pn**	**19 16 28.4 -0.2**
JOD2				S	**Sn**	**19 16 41.7 -0.5**
JKT	**Katashina**	**1.10**	**324**	P	**Pn**	**19 16 30.0 0.0**
JKT				*e*S	**Sn**	**19 16 44.9 +0.2**
BSO3	**Boso 3**	**1.14**	**160**	P	**Pn**	**19 16 29.8 -0.4**
BSO3				*e*S	**Sn**	**19 16 46.1 +1.1**
JIM2	**Oshima 3**	**1.26**	**204**	P	**Pn**	**19 16 31.1 -1.0**
JIM2				*e*S	**Sn**	**19 16 46.8 -1.6**
JYN	**Shimob**	**1.28**	**253**	P	**Pn**	**19 16 32.8 +0.4**
JYN				*e*S	**Sn**	**19 16 49.1 +0.2**
BSO1	**Boso 1**	**1.44**	**148**	P	**Pn**	**19 16 34.0 +0.2**
BSO1				*e*S	**Sn**	**19 16 52.9 +1.3**
JIZS	**Izushimoda**	**1.50**	**220**	P	**Pn**	**19 16 35.0 -0.2**
JIZS				S	**Sn**	**19 16 53.3 -0.7**
MJAR	**Matsushiro Arr**	**1.63**	**295**	P	**Pn**	**19 16 37.1 +0.1**
	14nm,0.3s,baz=108,slow=7.1,SNR=145					
MJAR				S	**Sn**	**19 16 56.0 -1.0**
	11nm,0.3s,baz=106,slow=22,SNR=17					
MAT	**Matsushiro**	**1.63**	**295**	P	**Pn**	**19 16 37.4 +0.4**
MAT				S	**Sn**	**19 16 57.9 +0.8**
MKAR	**Makanchi Array**	**43.81**	**303**	P	**P**	**19 24 09.4 0.0**
	0.1nm,0.3s,baz=81,slow=9.0,SNR=3.0					
WRA	**Warramunga Arr**	**55.78**	**186**	P	**P**	**19 25 40.5 +0.1**
	0.4nm,0.5s,baz=1.0,slow=7.5,SNR=4.7					

*BJI **09** 19:28:41.3, 12°.63N×143°.53E, h100km, mb4.8/30, mB4.9/21*
*IDC **09** 19:28:45.9±0.7, 12°.88N×143°.40E, h113km±6km, mb4.2/27, mb1 4.4/27, mb1mx4.3/39, mbtmp4.6/27, MS3.4/9, Ms1 3.4/9, ms1mx3.0/49, Error ellipse: s-maj=13.0km s-min=8.2km az=75.0*
*NEIC **09** 19:28:46.0±1.0, 12°.84N×143°.44E, h116km±9km, mb4.6/21, Error ellipse: s-maj=8.9km s-min=6.3km az=77.0*
*DJA **09** 19:28:46.8±0.5, 13°.N±5'×14°.4E±', h114km±8km, M4.7/19, mb4.8/19, mB5.2/5, MLv4.7/1, Mw(mB)4.6/5*
*ISCJB **09** 19:28:48.5±0.2, 12°.82N±0°.03×143°.25E±0°.05, h150km, mb4.4/52, Error ellipse: s-maj=6.4km s-min=4.8km az=11.9*

ISC 09 19:28:49.6±0.3, 12°.80N±0°.05×143°.26E±0°.08, h150km, n128, σ1s38/127, mb4.4/52, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.75**	**63**	P	P	Pn	19 29 13.7	-8.2
	1µm,0.3s,baz=258,slow=1.1,SNR=469							
GUMO				S		Sn	19 29 34.2	-12
	797nm,0.3s,baz=343,slow=14,SNR=7.5							
GUMO				LR		LR	19 29 36.5	
	comp=Z,401nm,18.8s,baz=65,slow=32							
JAY	**Jayapura**	**15.43**	**190**	P	**P**		**19 32 22.1 +1.4**	
	0.1nm,0.3s,baz=90,slow=20,SNR=5.0							
JAY				S		**Sn**	**19 35 06.7 -4.6**	
	0.0nm,0.3s,baz=90,slow=20,SNR=2.5							
GENI	**Genyem**	**15.60**	**192**	P	**Pn**		**19 32 20.9 -0.7**	
	69nm,1.4s							
DAV	**Davao City (W)**	**18.32**	**254**	LR		LR	19 39 12.7	
	comp=Z,70nm,21.7s,baz=250,slow=34							
FAKI	**Fak Fak**	**19.07**	**216**	P		**Pn**	**19 33 02.4 -0.7**	
	156nm,1.2s,2µm							
FAKI	**Fak Fak**	**19.07**	**216**	*e*P	**P**		**19 33 01.9 +1.3**	
	142nm,1.0s							
JOW	**Kunigami**	**19.81**	**317**	*e*P	**Pn**		**19 33 10.7 -1.1**	
	10.0nm,0.6s							
LBMI	**Labuha**	**20.56**	**231**	P	**P**		**19 33 16.7 0.0**	
	46nm,1.9s,910nm							
MSAI	**Masohi**	**21.45**	**223**	P	**P**		**19 33 26.2 0.0**	
	23nm,1.0s,204nm							
PMG	**Port Moresby**	**22.40**	**170**	P	**P**		**19 33 34.6 -1.3**	
	11nm,0.6s,baz=55,slow=3.6,SNR=6.6							
SANI	**Sanana**	**22.62**	**230**	P	**P**		**19 33 36.1 -1.9**	
	18nm,1.0s							
JNU	**Nakatsue**	**23.18**	**333**	P	**P**		**19 33 42.8 -0.3**	
	17nm,0.6s,baz=120,slow=2.2,SNR=28							
JNU				pP		**pP**	**19 34 05.8 -5.7**	
	20nm,0.9s,baz=159,slow=7.7,SNR=3.3							
H11S3	**WAKE ISLAND Hy**	**23.25**	**73**	T	T		19 57 38.5	
	baz=253,slow=74							
H11S1	**WAKE ISLAND Hy**	**23.26**	**73**	T	T		19 57 19.1	
	baz=253,slow=74							
H11S2	**WAKE ISLAND Hy**	**23.26**	**73**	T	T		19 57 47.5	
	baz=253							
H11N1	**WAKE ISLAND Hy**	**23.68**	**70**	T	T		19 57 50.9	
	baz=255,slow=75,SNR=4.8							
H11N2	**WAKE ISLAND Hy**	**23.70**	**70**	T	T		19 57 50.4	
	baz=255,slow=75,SNR=4.5							
H11N3	**WAKE ISLAND Hy**	**23.70**	**70**	T	T		19 57 46.4	
	baz=255,slow=75,SNR=3.9							
SSLB	**Suanglung**	**23.80**	**300**	*e*P	**P**		**19 33 49.2 +0.5**	
	47nm,1.3s							
MJAR	**Matsushiro Arr**	**24.07**	**350**	P	**P**		**19 33 49.4 -1.8**	
	4.8nm,0.8s,baz=175,slow=11,SNR=8.3							
MJAR				ScP		**ScP**	**19 40 56.6 +3.4**	
	1.7nm,0.7s,baz=165,slow=3.8,SNR=4.4							
MJAR				LR		LR	19 42 56.0	
	comp=Z,40nm,18.6s,baz=235,slow=35							
MRSI	**Marisa**	**24.43**	**242**	P	**P**		**19 33 56.4 +1.8**	
	85nm,1.1s,1µm							
LUWI	**Luwuk**	**24.55**	**237**	P	**P**		**19 33 55.7 +0.1**	
	257nm,0.9s,2µm							
LUWI	**Luwuk**	**24.55**	**237**	*e*P	**P**		**19 33 55.5 -0.1**	
	208nm,0.8s							
KSRS	**Korea Array**	**28.12**	**333**	P	**P**		**19 34 27.1 -0.4**	
	2.1nm,0.4s,baz=145,slow=9.3,SNR=12							
KSAR	**Wonju Array Be**	**28.13**	**333**	P	**P**		**19 34 27.1 -0.5**	
USRK	**Ussuriysk Ar.**	**32.75**	**345**	P	**P**		**19 35 08.2 +0.1**	
	1.7nm,0.5s,baz=159,slow=8.3,SNR=7.2							
CTA	**Charters Tower**	**32.82**	**175**	P	**P**		**19 35 09.2 +0.3**	
	15nm,0.7s,baz=346,slow=11							
WRAB	**Tennant Creek**	**33.69**	**195**	*e*P	**P**		**19 35 16.6 0.0**	
	15nm,0.5s							
WRA	**Warramunga Arr**	**33.70**	**195**	P	**P**		**19 35 16.9 +0.2**	
	8.7nm,0.5s,baz=21,slow=9.5,SNR=128							
WRA				PcP		**PcP**	**19 37 54.2 +1.2**	
	2.6nm,0.7s,baz=17,slow=3.5,SNR=7.4							
WRA				ScP		**ScP**	**19 41 27.3 +3.4**	
	2.2nm,1.1s,baz=11,slow=3.7,SNR=5.7							
CN2	**Changchun**	**34.48**	**337**	*e*P	P		19 35 28.1	+4.9
CN2				PMZ				
	10.0nm,0.7s							
ENH	**Enshi**	**35.72**	**305**	*e*P	**P**		**19 35 35.1 +1.1**	
	17nm,1.0s							
ASAR	**Alice Springs**	**37.38**	**194**	P	**P**		**19 35 48.5 +0.5**	
	3.3nm,0.5s,baz=24,slow=11,SNR=85							
ASAR				PcP		**PcP**	**19 38 05.3 +1.4**	
	2.6nm,0.6s,baz=38,slow=2.7,SNR=12							
ASAR				S		**S**	**19 41 26.9 +1.8**	
	3.0nm,1.1s,baz=25,slow=18,SNR=11							
ASAR				LR		LR	19 51 33.4	
	comp=Z,53nm,19.0s,baz=348,slow=36							
KLR	**Kul'dur**	**37.55**	**348**	P	**P**		**19 35 48.6 -0.5**	
	2.6nm,0.7s,baz=156,slow=11,SNR=12							
DZM	**Mont Dzumac**	**41.45**	**147**	P	**P**		**19 36 22.3 +0.4**	
	105nm,0.6s,baz=304,slow=4.5,SNR=161							
DZM	**Mont Dzumac**	**41.45**	**147**	*e*P	**P**		**19 36 20.9 -1.0**	
	94nm,0.6s							
LZH	**Lanzhou**	**42.31**	**310**	*e*P	**P**		**19 36 31.0 +2.1**	
LZH				PMZ				
	27nm,1.0s							
LZH				PMZ				
	150nm,4.6s							
CMAR	**Chiang Mai Arr**	**42.97**	**283**	P	**P**		**19 36 36.4 +2.1**	
	2.3nm,0.5s,baz=79,slow=6.6,SNR=28							
CMAR				pP		**pP**	**19 37 00.5 -7.0**	
	4.3nm,0.9s,baz=85,slow=6.9,SNR=6.9							
CMAR				PcP		**PcP**	**19 38 23.9 +1.8**	
	2.0nm,0.5s,baz=94,slow=1.9,SNR=14							
CMAR				LR		LR	19 55 11.7	
	comp=Z,24nm,18.1s,baz=120,slow=37							
STKA	**Stephens Creek**	**44.45**	**182**	P	**P**		**19 36 45.0 -0.8**	
	21nm,0.7s,baz=4.7,slow=7.7,SNR=52							
STKA				LR		LR	19 55 00.2	
	comp=Z,93nm,21.8s,baz=310,slow=35							
ULN	**Ulaanbaatar**	**46.15**	**327**	*e*P	**P**		**19 37 00.3 +1.1**	
	2.8nm,0.6s							
SONM	**Songino Array**	**46.49**	**326**	P	**P**		**19 37 02.8 +0.9**	
	4.0nm,0.5s,baz=150,slow=8.3,SNR=49							
SONM				ScP		**ScP**	**19 42 16.6 +3.2**	
	0.5nm,0.6s,baz=156,slow=5.5,SNR=4.2							
GTA	**Gaotai**	**46.54**	**313**	*e*P	**P**		**19 37 03.6 +1.2**	
GTA				pP		pP	19 37 27.4	-8.7
GTA				sP		sP	19 37 37.9	-15
GTA				PMZ				
	17nm,1.1s							
YAK	**Yakutsk**	**50.12**	**352**	LR		LR	19 58 32.7	
	comp=Z,69nm,18.4s,baz=235,slow=36							
YAK	**Yakutsk**	**50.12**	**352**	*e*P	**P**		**19 37 28.3 -0.9**	
	10nm,0.6s							
TLY	**Talaya**	**50.20**	**329**	*e*P	**P**		**19 37 31.1 +1.1**	
	4.0nm,0.8s							
SEY	**Seymchan**	**50.48**	**5**	P	**P**		**19 37 33.8 +1.9**	
	0.8nm,0.4s,baz=171,slow=6.2,SNR=3.8							
LSA	**Lhasa**	**50.97**	**298**	*e*P	**P**		**19 37 38.6 +1.8**	
	5.0nm,0.6s							
AFI	**Afiamalu**	**51.85**	**119**	P	**P**		**19 37 43.5 +0.5**	
	35nm,0.8s,baz=260,slow=17,SNR=5.0							
PKIN	**Phulchoki**	**55.81**	**295**	*e*P	**P**		**19 38 09.3 -2.6**	
	4.3nm,0.5s							
GKN	**Gorkha**	**56.50**	**295**	*e*P	**P**		**19 38 17.3 +0.6**	
	8.5nm,0.4s							
KOLN	**Koldanda**	**57.41**	**295**	*e*P	**P**		**19 38 23.9 +0.8**	
	4.9nm,0.4s							
PYUN	**Piuthan**	**57.96**	**295**	*e*P	**P**		**19 38 27.7 +0.7**	
	46nm,1.0s							
TIXI	**Tiksi**	**59.46**	**355**	*e*P	**P**		**19 38 34.5 -1.8**	
	1.4nm,0.9s							
URZ	**Urewera**	**59.87**	**150**	*e*P	**P**		**19 38 37.5 -2.0**	
MKAR	**Makanchi Array**	**60.98**	**317**	P	**P**		**19 38 48.2 +1.2**	
	4.3nm,0.7s,baz=91,slow=8.9,SNR=48							
MKAR				PKP2bc			20 08 10.7	
	1.4nm,0.8s,baz=298,slow=2.6,SNR=11							
ZALV	**Zalesovo Beam**	**61.36**	**325**	P	**P**		**19 38 49.5 +0.1**	
	2.3nm,0.5s,baz=114,slow=7.0,SNR=14							
ZALV				LR		LR	20 07 49.3	
	comp=Z,32nm,18.0s,baz=70,slow=38							
ZALV				PKP2bc			20 08 09.3	
	0.8nm,0.5s,baz=298,slow=3.2,SNR=3.9							
KURK	**Kurchatov**	**64.18**	**320**	*e*P	**P**		**19 39 08.5 +0.3**	
	135nm,0.9s							
NRIK	**Noril'sk**	**66.37**	**341**	P	**P**		**19 39 21.1 -0.8**	
	3.7nm,0.8s,baz=126,slow=6.7,SNR=3.8							
NRIK				LR		LR	20 09 36.2	
	comp=Z,40nm,19.1s,baz=125,slow=37							
PMR	**Palmer**	**68.22**	**28**	*e*P	**P**		**19 39 32.5 -1.2**	
	12nm,0.7s							
SML	**Sawmill**	**68.64**	**28**	*e*P	**P**		**19 39 36.1 -0.3**	
	2.0nm,0.8s							
KKAR	**Karaby Array**	**68.79**	**311**	*e*P	**P**		**19 39 38.4 +0.7**	
	0.7nm,0.3s							
COLD	**Coldfoot**	**69.27**	**22**	*e*P	**P**		**19 39 40.5 +0.3**	
	8.8nm,0.7s							
BRVK	**Borovoye**	**69.64**	**322**	*e*P	**P**		**19 39 43.3 +0.6**	
	10nm,0.5s							
ILAR	**Eielson Array**	**69.94**	**25**	P	**P**		**19 39 43.1 -1.2**	
	7.3nm,0.6s,baz=252,slow=5.6,SNR=76							
ILAR				PKP2bc			20 07 45.3	
	0.7nm,0.9s,baz=108,slow=2.0,SNR=4.2							
INK	**Inuvik**	**75.69**	**22**	P	**P**		**19 40 17.7 -0.3**	
	3.1nm,0.6s,baz=318,slow=4.3,SNR=7.8							
INK	**Inuvik**	**75.69**	**22**	*e*P	**P**		**19 40 18.0 -0.1**	
ABKAR	**Akbulak array**	**76.07**	**318**	*e*P	**P**		**19 40 20.7 0.0**	
	1.7nm,0.5s							
ARU	**Arti**	**76.52**	**325**	*e*P	**P**		**19 40 22.9 -0.1**	
	3.3nm,0.6s							
DLBC	**Dease Lake**	**77.49**	**33**	P	**P**		**19 40 28.1 -0.4**	
	3.5nm,0.7s,baz=278,slow=5.7,SNR=7.8							
GEYT	**Ailbeck**	**78.46**	**306**	P	**P**		**19 40 33.5 -0.8**	
	1.3nm,0.4s,baz=102,slow=11,SNR=3.7							
B05A	**Bryant**	**83.62**	**42**	P	**P**		**19 41 02.0 +0.7**	
	baz=282							
I03D	**Drain, OR**	**83.70**	**47**	P	**P**		**19 41 02.2 +0.4**	
	baz=282							
YKA	**Yellowknife Ar**	**84.27**	**27**	P	**P**		**19 41 04.1 -0.2**	
	4.0nm,0.5s,baz=286,slow=5.2,SNR=30							
M02C	**Callahan**	**84.53**	**49**	P	**P**		**19 41 07.3 +1.1**	
	baz=282							
N02D	**Trinity Center**	**84.73**	**49**	P	**P**		**19 41 07.5 +0.3**	
	baz=282							
M04C	**Macdoel**	**85.19**	**48**	P	**P**		**19 41 09.8 +0.3**	
	baz=283							
J05D	**Fort Rock, OR**	**85.29**	**47**	P	**P**		**19 41 09.9 -0.1**	
	baz=283							
O03D	**Paynes Creek**	**85.55**	**50**	P	**P**		**19 41 11.0 -0.3**	
	baz=283							
NEW	**Newport**	**86.85**	**41**	P	**P**		**19 41 17.2 -0.2**	
	baz=286							
ARCES	**ARCESS Array B**	**87.34**	**342**	P	**P**		**19 41 18.6 -0.7**	
	1.1nm,0.5s,baz=75,slow=6.5,SNR=10							
WVOR	**Wild Horse Val**	**87.35**	**47**	*e*P	**P**		**19 41 20.2 +0.2**	
	1.3nm,0.5s							
BMO	**Blue Mountains**	**87.65**	**45**	*e*P	**P**		**19 41 21.4 0.0**	
	5.2nm,0.9s							
PKM	**Mcpherson Peak**	**88.36**	**55**	P	**P**		**19 41 25.7 +0.6**	
	baz=284							
NVAR	**Mina Array Bea**	**88.63**	**51**	P	**P**		**19 41 26.9 +0.5**	
	8.7nm,0.7s,baz=272,slow=6.0,SNR=53							
MFID	**Camas Ranch**	**89.07**	**46**	*e*P	**P**		**19 41 28.6 +0.4**	
	5.4nm,0.9s							
CWC	**Cottonwood Cre**	**89.32**	**53**	P	**P**		**19 41 29.7 +0.1**	
	baz=285							
EDW2	**Edwards Air Fo**	**89.80**	**54**	P	**P**		**19 41 31.9 +0.2**	
	baz=285							
MPMC	**Manual Prospec**	**89.89**	**53**	P	**P**		**19 41 32.4 +0.2**	
	baz=286,SNR=7.2							
LRMC	**Laurel Mtn Rad**	**89.89**	**54**	P	**P**		**19 41 32.3 +0.1**	
	baz=286,SNR=6.4							
HLID	**Hailey**	**90.01**	**45**	P	**P**		**19 41 33.1 +0.4**	
	baz=288							
FURC	**Furnace Creek,**	**90.26**	**53**	P	**P**		**19 41 34.0 +0.4**	
	baz=286							
TPNV	**Topopah Spring**	**90.60**	**52**	P	**P**		**19 41 35.7 +0.2**	
	baz=286,SNR=9.7							
GSC	**Goldstone, Bar**	**90.63**	**54**	P	**P**		**19 41 35.5 -0.1**	
	baz=286							
R11A	**Troy Canyon, C**	**90.71**	**50**	P	**P**		**19 41 36.1 +0.2**	
	baz=287							
VNDA	**Vanda**	**90.79**	**176**	P	**P**		**19 41 36.0 +0.8**	
	2.5nm,1.0s,baz=312,slow=5.2,SNR=11							
HEC	**Hector,Ludlow**	**91.13**	**54**	P	**P**		**19 41 37.9 0.0**	
	baz=286							
FINES	**FINESS Array B**	**91.21**	**335**	P	**P**		**19 41 36.0 -1.5**	
	4.0nm,0.5s,baz=72,slow=4.8,SNR=46							
FINES				pP		pP	19 42 07.5	-8.0
	3.3nm,0.8s,baz=76,slow=5.9,SNR=5.0							
TUQ	**Turquoise Moun**	**91.28**	**53**	P	**P**		**19 41 38.4 -0.2**	
	baz=287,SNR=6.3							
PFO	**Pinyon Flats O**	**91.37**	**55**	P	**P**		**19 41 38.9 -0.2**	
	baz=286							
TPFO	**Pinon Flats**	**91.38**	**55**	P	**P**		**19 41 38.5 -0.7**	
	baz=286							
MONP2	**Mcumment Peak**	**91.60**	**56**	P	**P**		**19 41 40.0 -0.2**	
	baz=286,SNR=5.1							
BELC	**Belle Mtn. Jos**	**91.63**	**55**	P	**P**		**19 41 39.9 -0.4**	
	baz=286							
GMRC	**Granite Mounta**	**91.68**	**54**	P	**P**		**19 41 40.4 -0.1**	
	baz=287,SNR=7.7							
IKP	**In-Ko-Pah, Jac**	**91.92**	**56**	P	**P**		**19 41 42.0 +0.4**	
	baz=286							
SWSC	**Sam W. Stewart**	**92.09**	**56**	P	**P**		**19 41 42.3 0.0**	
	baz=287							
BC3	**Big Chuckawall**	**92.16**	**55**	P	**P**		**19 41 42.5 -0.3**	
	baz=287,SNR=6.1							
DUG	**Dugway, Tooele**	**92.19**	**48**	P	**P**		**19 41 43.3 +0.5**	
	baz=289							
IRM	**Iron Mountain**	**92.26**	**54**	P	**P**		**19 41 43.0 -0.1**	
	baz=287,SNR=8.2							
GLA	**Glamis**	**92.84**	**55**	P	**P**		**19 41 45.8 0.0**	
	baz=287							
Y12C	**Blythe**	**92.88**	**55**	P	**P**		**19 41 46.2 +0.4**	
	baz=287							
RLMT	**Red Lodge**	**92.97**	**43**	P	**P**		**19 41 47.8 +1.5**	
	baz=291							
PDMCI	**Parker Dam,Lak**	**93.02**	**54**	P	**P**		**19 41 47.5 +1.1**	
	baz=288							
PDAR	**Pinedale Array**	**93.62**	**45**	P	**P**		**19 41 48.5 -1.0**	
	0.3nm,0.5s,baz=235,slow=3.2,SNR=2.6							
AKASG	**Malin Array Be**	**94.75**	**324**	PKKPbc	PKKPbc		19 58 49.8	-2.3
	0.7nm,0.6s,baz=268,slow=2.8,SNR=4.3							
214A	**Organ Pipe Nat**	**94.80**	**56**	P	**P**		**19 41 55.3 +0.6**	
	baz=288							
BRTR	**Keskin Array B**	**96.46**	**313**	P	**P**		**19 42 01.2 -1.1**	
	0.5nm,0.7s,baz=114,slow=5.2,SNR=4.0							
SFJD	**Kangerlussuaq**	**99.77**	**5**	LR		LR	20 22 14.4	
	comp=Z,19nm,21.8s,baz=32,slow=32							
TXAR	**Lajitas Array**	**103.09**	**56**	P		**Pdif**	**19 42 32.6 +0.5**	
	0.3nm,0.9s,baz=284,slow=3.6,SNR=2.7							
GERES	**GERESS Array B**	**104.19**	**328**	PKKPbc	PKKPbc		19 58 23.3	-2.4
	0.3nm,0.6s,baz=281,slow=5.9,SNR=3.9							
ESDC	**Sonseca Array**	**119.54**	**331**	PKKPbc	PKKPbc		19 57 37.9	+3.1
	0.8nm,0.7s,baz=244,slow=6.0,SNR=5.2							
BOSA	**Boshof**	**120.50**	**244**	PKP		**PKPdf**	**19 47 24.8 +0.6**	
	1.2nm,0.4s,baz=130,slow=1.0,SNR=7.4							
TORD	**Torodi Ar. Bea**	**133.99**	**303**	PKP		**PKPdf**	**19 47 50.2 +0.1**	
	1.1nm,0.6s,baz=49,slow=2.1,SNR=9.8							
TORD				SKPbc		**SKPab**	**19 51 09.9 +1.5**	
	0.7nm,0.7s,baz=44,slow=1.9,SNR=3.4							
PLCA	**Paso Flores**	**139.38**	**139**	PKP		**PKPdf**	**19 48 01.0 +1.6**	
	4.8nm,0.8s,baz=203,slow=5.6,SNR=3.1							
DBIC	**Dimbokro**	**142.88**	**300**	PKhKP		PKPpre	19 48 02.5	
	2.6nm,0.6s,baz=53,slow=5.4,SNR=6.4							
TRQA	**Tornquist**	**146.27**	**143**	*e*PKPdf		**PKPab**	**19 48 13.6 -0.4**	
LVC	**Limon Verde**	**147.90**	**112**	PKPbc		**PKPbc**	**19 48 17.0 -1.4**	
	25nm,0.6s,baz=233,slow=5.3,SNR=6.3							
LPAZ	**La Paz**	**149.43**	**100**	PKP		**PKPdf**	**19 48 19.2 +1.1**	
	6.5nm,0.4s,baz=282,slow=1.6,SNR=21							
LPAZ				PKPbc		**PKPbc**	**19 48 23.3 +0.6**	
	6.5nm,0.4s,baz=282,slow=2.5,SNR=24							
SAML	**Samuel**	**153.76**	**84**	*e*PKPdf		**PKPdf**	**19 48 24.5 +0.5**	
SAML				*e*PKPbc		**PKiKP**	**19 48 32.1 +0.1**	
SAML				*e*PKPab		**PKPab**	**19 48 44.0 -1.4**	
CPUP	**Villa Florida**	**156.44**	**128**	PKPab		**PKPab**	**19 48 57.5 +1.0**	
	4.8nm,0.7s,baz=268,slow=4.3,SNR=8.0							

*ISCJB **09** 19:34:40.8±0.7, 12°.8N±0°.1×143°.7E±0°.1, h138km, mb3.5/6, Error ellipse: s-maj=19.9km s-min=11.6km az=40.5*
*IDC **09** 19:34:43.5±1.5, 12°.85N×144°.08E, h158km±35km, mb3.3/6, mb1 3.5/6, mb1mx3.2/38, mbtmp3.8/6, Error ellipse: s-maj=95.4km s-min=15.8km az=83.0*

ISC 09 19:34:42.3±0.9, 12°.8N±0°.1×143°.8E±0°.2, h138km, n13, σ0s87/8, mb3.7/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.30**	**54**	P		**Pn**	**19 35 08.5**	**-0.3**
	156nm,0.3s,baz=217,slow=20,SNR=36							
GUMO				S		**Sn**	**19 35 29.8**	**+0.7**
	173nm,0.3s,baz=193,slow=23,SNR=16							
H11S3	**WAKE ISLAND Hy**	**22.75**	**73**	T	T		20 04 06.4	
	baz=263							
H11S1	**WAKE ISLAND Hy**	**22.77**	**73**	T	T		20 04 08.3	
	baz=263							
H11S2	**WAKE ISLAND Hy**	**22.77**	**73**	T	T		20 04 10.3	
	baz=263							
H11N1	**WAKE ISLAND Hy**	**23.20**	**70**	T	T		20 04 37.6	
	baz=254							
H11N2	**WAKE ISLAND Hy**	**23.21**	**70**	T	T		20 04 41.4	
	baz=254							
H11N3	**WAKE ISLAND Hy**	**23.22**	**70**	T	T		20 04 41.9	
	baz=254							
WRA	**Warramunga Arr**	**33.86**	**196**	P	**P**		**19 41 11.7**	**-0.1**
	1.3nm,0.6s,baz=19,slow=9.6,SNR=23							
ASAR	**Alice Springs**	**37.53**	**195**	P	**P**		**19 41 43.6**	**+0.5**
	0.6nm,0.6s,baz=23,slow=12,SNR=8.8							
STKA	**Stephens Creek**	**44.49**	**183**	P	**P**		**19 42 40.0**	**+0.1**
	3.2nm,1.1s,baz=350,slow=11,SNR=4.1							
SONM	**Songino Array**	**46.76**	**326**	P	**P**		**19 42 58.3**	**+0.6**
	0.2nm,0.4s,baz=133,slow=8.0,SNR=3.0							
MKAR	**Makanchi Array**	**61.31**	**317**	P	**P**		**19 44 43.9**	**+0.6**
	0.1nm,0.4s,baz=87,slow=8.4,SNR=3.1							
FINES	**FINESS Array B**	**91.41**	**335**	P	**P**		**19 47 31.0**	**-1.5**
	1.5nm,0.9s,baz=75,slow=5.1,SNR=4.8							

*IDC **09** 19:35:59.7±0.7, 34°.56S×71°.81W, h0km, mb4.2/9, mb1 4.4/12, mb1mx4.3/27, mbtmp4.2/12, ML4.5/3, MS3.4/5, Ms1 3.4/5, ms1mx3.1/32, Error ellipse: s-maj=32.7km s-min=16.5km az=87.0*
*ISCJB **09** 19:36:01.4±1.4, 34°.67S±0°.03×72°.01W±0°.08, h19km±10km, mb4.3/14, MS3.2/3, Error ellipse: s-maj=11.4km s-min=4.1km az=21.3*
*NEIC **09** 19:36:02.0, 34°.69S×71°.91W, h25km, mb4.6/6, ML4.2(GUC), After GUC.*
NEIC Felt [III] at Chepica, Curico, Lolol, Molina, Paredones, Pichilemu, Santa Cruz and Talca; [II] at Constitucion, Iloca, Longavi, Pencahue and Rancagua.
*GUC **09** 19:36:02.2±0.5, 34°.69S×71°.91W, h25km±3km, ML4.2*

ISC 09 19:35:59.6±1.7, 34°.64S±0°.03×71°.95W±0°.08, h1km±10km, n51, σ1s46/51, mb4.4/13, MS3.1/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.80**	**161**	*e*P		**Pg**	**19 36 15.4**	**+0.4**
TALC				*e*S		**Sg**	**19 36 25.4**	**0.0**
ANTU	**Antumapu**	**1.52**	**46**	*e*P

comp=Z,1.7nm,0.9s,baz=138,slow=5.5,SNR=6.9
NVAR Mina Array Bea 84.45 325 P **P 19 48 34.1 +0.1**
comp=Z,0.8nm,0.8s,baz=153,slow=6.1,SNR=5.9
ELK Elko 84.94 328 *e*P **P 19 48 37.4 +0.9**
WRA Warramunga Arr 120.24 209 PKP **PKPdf 19 54 52.0 -1.1**
comp=Z,0.3nm,0.7s,baz=161,slow=1.6,SNR=6.7
H11S2 WAKE ISLAND Hy 25.83 269 T T 22 13 20.6
baz=119,slow=75,SNR=19
H11S1 WAKE ISLAND Hy 25.85 269 T T 22 13 22.4
baz=119,slow=75,SNR=30
H11S3 WAKE ISLAND Hy 25.85 269 T T 22 13 21.9
baz=119,slow=75,SNR=21
H11N3 WAKE ISLAND Hy 26.26 270 T T 22 13 52.8
baz=122
H11N1 WAKE ISLAND Hy 26.28 270 T T 22 13 53.0
baz=122
H11N2 WAKE ISLAND Hy 26.28 270 T T 22 13 54.2
baz=122
SEY Seymchan 140.62 330 PKP **PKPdf 19 55 30.7 +0.7**
comp=Z,0.7nm,0.5s,baz=153,slow=2.0,SNR=3.5
ZALV Zalesovo Beam 154.72 33 PKP **PKPdf 19 55 52.6 -0.7**
comp=Z,0.3nm,0.5s,baz=337,slow=1.9,SNR=2.6
ZALV PKPbc **PKPbc 19 56 00.4 -1.5**
comp=Z,1.0nm,0.6s,baz=299,slow=3.1,SNR=4.9
MKAR Makanchi Array 157.12 50 PKPab **PKPab 19 56 27.1 -0.3**
comp=Z,0.2nm,0.4s,baz=256,slow=3.6,SNR=3.8
SONM Songino Array 166.76 5 PKPab **PKPab 19 57 09.8 +0.2**
comp=Z,0.6nm,0.9s,baz=350,slow=3.2,SNR=4.0

MEX 09 19:44:08.2±1.1, 16.65N×94.40W, h165km±26km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.48**	**130**	*e*P	Pn	19 44 37.6	-1.2
PCIG				*e*S	Sn	19 44 59.9	-2.3
HUIG	**Huatulco**	**1.86**	**242**	*i* P	Pn	19 44 40.8	-2.0
HUIG				*i* S	Sn	19 45 08.1	-1.3
VHO	**Vista Hermosa**	**2.27**	**281**	*i* P	Pn	19 44 46.9	-0.7
VHO				*e*S	Sn	19 45 14.8	-3.3
PNIG	**Pinotepa**	**3.58**	**266**	*e*P	Pn	19 45 02.0	-1.6
PNIG				*e*S	Sn	19 45 43.2	-3.4

NIED ***09*** *19:54:00.39.70N×142.10E,h50km,Mw3.8 Best double couple: M₀5.02000×10¹⁴ NP1:φ₀s200.00000°,δ20.00000°, λ81.00000°. NP2:φ₀s29.00000°,δ71.00000°,λ93.00000°.*
ISCJB ***09*** *19:54:03.2±0.7,39.68N±0.03×142.13E±0.10,h55km±5km, mb3.6/8,MS3.2/2,Error ellipse: s-maj=12.4km s-min=5.1km az=4.6*
JMA ***09*** *19:54:04.0,39.71N×142.13E,h48km±1km,M3.7*
JMA Felt I J1.
IDC ***09*** *19:54:05.6±2.2,39.65N×142.17E,h68km±21km,mb3.4/8, mb1 3.5/12,mb1mx3.3/45,mbtmp3.7/12,MS3.0/4, Ms1 3.0/4,ms1mx2.5/39,Error ellipse: s-maj=25.8km s-min=17.6km az=100.0*
ISC 09 19:54:03.9±1.0, 39.67N±0.04×142.14E±0.09, h48km±8km, n32, σ1s28/34, mb3.7/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.26**	**250**	P	**Pn**	**19 54 12.7**	**+0.2**
MIYJ				S	**Sn**	**19 54 18.7**	**+0.1**
JTH	**Tanohata**	**0.34**	**322**	P	**Pn**	**19 54 13.0**	**-0.3**
JTH				S	**Sn**	**19 54 19.3**	**-0.7**
JOM	**Ohasama**	**0.68**	**254**	P	**Pn**	**19 54 17.6**	**+0.3**
JOM				S	**Sn**	**19 54 27.4**	**+0.4**
OFUJ	**Ofunato**	**0.69**	**212**	P	**Pn**	**19 54 17.6**	**+0.2**
OFUJ				*e*S	**Sn**	**19 54 27.5**	**+0.3**
JKZ	**Kuzumaki**	**0.70**	**297**	P	**Pn**	**19 54 17.5**	**-0.1**
JKZ				*e*S	**Sn**	**19 54 26.7**	**-0.8**
JANG	**Nango**	**0.85**	**326**	P	**Pn**	**19 54 19.0**	**-0.6**
JANG				S	**Sn**	**19 54 29.8**	**-1.3**
JMK	**Ichinoseki**	**1.01**	**225**	P	**Pn**	**19 54 22.1**	**+0.5**
JMK				S	**Sn**	**19 54 35.4**	**+0.7**
JRG	**Rokugo**	**1.19**	**257**	P	**Pn**	**19 54 24.4**	**+0.2**
JAH	**Hinai**	**1.27**	**295**	P	**Pn**	**19 54 25.4**	**+0.2**
JIO	**Ouri**	**1.36**	**207**	P	**Pn**	**19 54 26.7**	**+0.3**
JIO				*e*S	**Sn**	**19 54 43.4**	**+0.2**
JTM	**Tenmabayashi**	**1.39**	**324**	P	**Pn**	**19 54 26.5**	**-0.3**
JTM				*e*S	**Sn**	**19 54 42.9**	**-1.1**
MJAR	**Matsushiro Arr**	**4.40**	**226**	P	**Pn**	**19 55 11.0**	**+2.9**
	1.2nm,0.3s,baz=32,slow=13,SNR=17						
ASAJ	**Asahikawa**	**4.46**	**4**	P	**Pn**	**19 55 09.6**	**+0.7**
	1.0nm,0.3s,baz=213,slow=15,SNR=13						
ASAJ				S	**Sn**	**19 56 03.0**	**+3.6**
	1.4nm,0.3s,baz=102,slow=19,SNR=3.4						
JHJ	**Hachijo jima 2**	**6.80**	**197**	P	**Pn**	**19 55 41.6**	**+0.5**
	4.9nm,0.3s,baz=49,slow=19,SNR=4.1						
JHJ				S	**Sn**	**19 56 53.8**	**-3.4**
	4.0nm,0.3s,baz=49,slow=19,SNR=2.5						
USRK	**Ussuriysk Ar.**	**8.81**	**304**	P	**Pn**	**19 56 11.4**	**+2.8**
	0.2nm,0.3s,baz=115,slow=14,SNR=9.2						
USRK				LR	LR	19 59 07.8	
	comp=Z,56nm,20.1s,baz=192,slow=34						
KSRS	**Korea Array**	**11.35**	**263**	P	Pn	19 56 48.7	+5.5
	0.3nm,0.3s,baz=72,slow=14,SNR=3.4						
KSRS				LR	LR	20 00 07.1	
	comp=Z,33nm,19.7s,baz=142,slow=32						
SEY	**Seymchan**	**24.10**	**11**	P	**P**	**19 59 15.3**	**+0.7**
	2.5nm,0.9s,baz=174,slow=5.5,SNR=7.8						
SONM	**Songino Array**	**26.89**	**300**	P	**P**	**19 59 40.4**	**+0.2**
	0.3nm,0.4s,baz=84,slow=7.8,SNR=4.5						
H11N2	**WAKE ISLAND Hy 29.12**		**126**	T	T	20 30 35.2	
	baz=318,slow=75,SNR=158						
H11N1	**WAKE ISLAND Hy 29.13**		**126**	T	T	20 30 42.4	
	baz=318,slow=75,SNR=213						
H11N3	**WAKE ISLAND Hy 29.13**		**126**	T	T	20 30 42.6	
	baz=318,slow=75,SNR=191						
H11S1	**WAKE ISLAND Hy 29.91**		**128**	T	T	20 31 41.6	
	baz=319,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy 29.92**		**128**	T	T	20 31 43.1	
	baz=319,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy 29.93**		**128**	T	T	20 31 44.5	
	baz=319,slow=76,SNR=26						
ZALV	**Zalesovo Beam**	**40.61**	**310**	P	**P**	**20 01 38.5**	**-0.2**
	1.4nm,0.4s,baz=98,slow=7.4,SNR=6.9						
MKAR	**Makanchi Array**	**43.25**	**300**	P	**P**	**20 02 00.1**	**-0.3**
	0.7nm,0.5s,baz=84,slow=9.7,SNR=12						
ILAR	**Eielson Array**	**46.98**	**34**	P	**P**	**20 02 29.7**	**0.0**
	0.4nm,0.6s,baz=256,slow=7.0,SNR=4.9						
KAPI	**Kappang**	**49.02**	**210**	LR	LR	20 24 02.8	
	comp=Z,32nm,18.2s,baz=90,slow=37						
BVAR	**Borovoye Array**	**49.25**	**311**	P	**P**	**20 02 47.0**	**-0.4**
	0.3nm,0.5s,baz=62,slow=7.4,SNR=3.9						
SPITS	**Spitsbergen Ar**	**58.06**	**349**	LR	LR	20 32 01.3	
	comp=Z,14nm,18.0s,baz=90,slow=39						
WRA	**Warramunga Arr**	**59.74**	**188**	P	**P**	**20 04 03.1**	**-0.7**
	0.5nm,0.8s,baz=5.9,slow=6.7,SNR=5.2						
FINES	**FINESS Array B**	**66.76**	**332**	P	**P**	**20 04 49.1**	**-0.6**
	0.2nm,0.3s,baz=27,slow=9.6,SNR=3.8						

ISCJB ***09*** *20:08:15.3±0.5,39.10N±0.03×29.05E±0.04,h8km±6km, Error ellipse: s-maj=6.4km s-min=4.6km az=136.5*
ISK ***09*** *20:08:15.1,39.12N×29.07E,h9km,MD2.6*
CSEM ***09*** *20:08:15.4±0.1,39.10N×29.05E,h8km,MD2.8,Error ellipse: s-maj=2.1km s-min=1.4km az=113.0*
DDA ***09*** *20:08:15.4,39.09N×29.05E,h7km,Md2.8*
ISC 09 20:08:15.5±0.9, 39.10N±0.03×29.05E±0.03, h13km±9km, n22, σ0s21/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**257**	P	**Pg**	**20 08 21.0**	**0.0**
DEMI				S	**Sg**	**20 08 24.7**	**-0.1**
DEMI	**Demirci**	**0.27**	**257**	*i* P	**Pg**	**20 08 21.0**	**0.0**
DEMI				*i* S	**Sg**	**20 08 24.7**	**-0.1**
GDZ	**Gediz**	**0.34**	**92**	P	**Pg**	**20 08 22.5**	**+0.1**
GDZ				S	**Sg**	**20 08 27.3**	**+0.3**
GDZ	**Gediz**	**0.34**	**92**	*i* P	**Pg**	**20 08 22.5**	**+0.1**
GDZ				*i* S	**Sg**	**20 08 27.3**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**43**	*e*PG	**Pg**	**20 08 24.6**	**-0.2**
TVSB				*e*SG	**Sg**	**20 08 30.9**	**-0.3**
TVSB	**Tavsanli**	**0.47**	**43**	*e*Pg	**Pg**	**20 08 24.6**	**-0.2**
TVSB				*e*Sg	**Sg**	**20 08 30.9**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG	**Pg**	**20 08 28.6**	**+0.2**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg	**Pg**	**20 08 28.6**	**+0.2**
MANT	**Manisa**	**0.72**	**212**	P	**Pg**	**20 08 29.5**	**0.0**
MANT				S	**Sg**	**20 08 38.8**	**-0.3**
MANT	**Manisa**	**0.72**	**212**	*i* P	**Pg**	**20 08 29.6**	**0.0**
MANT				*i* S	**Sg**	**20 08 38.8**	**-0.3**
KHAL	**Karahalli**	**0.81**	**154**	P	**Pg**	**20 08 30.8**	**-0.4**
KHAL				S	**Sb**	**20 08 42.3**	**-0.1**
KHAL	**Karahalli**	**0.81**	**154**	*i* P	**Pg**	**20 08 30.8**	**-0.4**
KHAL				*i* S	**Sb**	**20 08 42.3**	**-0.1**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN	**Pb**	**20 08 39.1**	**0.0**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*Pn	**Pb**	**20 08 39.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN	**Pb**	**20 08 39.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn	**Pb**	**20 08 39.4**	**+0.1**
IZI	**Iznik**	**1.27**	**15**	*e*PN	**Pb**	**20 08 39.7**	**+0.2**
IZI	**Iznik**	**1.27**	**15**	*e*Pn	**Pb**	**20 08 39.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pg**	**20 08 40.0**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pg**	**20 08 40.0**	**-0.1**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	**Pn**	**20 08 41.9**	**+0.2**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	**Pn**	**20 08 41.9**	**+0.2**

CSEM ***09*** *20:09:57.4±0.4,50.22N×19.29E,h1km,Error ellipse: s-maj=11.5km s-min=5.7km az=179.0*
PRU 09 20:09:57.9, 50.24N×19.29E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.33**	**93**	*e*Pg	Pg	20 10 04.0	-0.1
OJC				*e*Sg	Sg	20 10 08.4	0.0
OJC	**Ojcow**	**0.33**	**93**	*e*Pg	Pg	20 10 04.0	-0.2
OJC				*e*Sg	Sg	20 10 08.4	0.0
OKC	**Ostrava-Krasne**	**0.84**	**242**	*e*SG	Sb	20 10 26.1	-1.1
OKC	**Ostrava-Krasne**	**0.84**	**242**	Sg	Sb	20 10 26.1	-1.1
LANS	**Liptovska Anna**	**1.10**	**174**	*e*Pg	Pg	20 10 18.7	-0.2
LANS	**Liptovska Anna**	**1.10**	**174**	*e*PG	Pg	20 10 18.7	-0.2
LANS				*e*SG	Sb	20 10 33.9	-0.7
MORC	**Moravsky Berou**	**1.22**	**248**	*e*Pg	Pg	20 10 21.2	0.0
MORC				*e*Sg	Sg	20 10 36.8	-0.2
VYHS	**Vyhne**	**1.77**	**190**	*e*Pn	Pn	20 10 28.1	-1.7
VYHS				*e*Sn	Sn	20 10 49.7	-3.4
VYHS	**Vyhne**	**1.77**	**190**	*e*PN	Pn	20 10 28.1	-1.7
VYHS				*e*SN	Sn	20 10 49.7	-3.4
VYHS				*e*LG	Lg	20 10 53.3	
DPC	**Dobruska-Polom**	**1.91**	**274**	*e*PG	Pb	20 10 33.5	-0.1
DPC				*e*SG	Sb	20 10 58.4	+0.5
	1.4nm,0.4s						
DPC	**Dobruska-Polom**	**1.91**	**274**	Pg	Pb	20 10 33.5	-0.1
DPC				Sg	Sb	20 10 58.4	+0.5
	1.4nm,0.4s						

CSEM ***09*** *20:10:41.6±0.3,50.15N×19.15E,h1km,Error ellipse: s-maj=8.1km s-min=4.9km az=179.0*
PRU 09 20:10:42.6, 50.13N×19.16E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.42**	**77**	*e*Pg	Pg	20 10 50.2	-0.4
OJC				*e*Sg	Sg	20 10 56.1	0.0
OJC	**Ojcow**	**0.42**	**77**	*e*Pg	Pg	20 10 50.2	-0.4
OJC				*e*Sg	Sg	20 10 56.1	0.0
OKC	**Ostrava-Krasne**	**0.72**	**246**	*e*SG	Sg	20 11 06.8	+1.2
OKC	**Ostrava-Krasne**	**0.72**	**246**	Sg	Sg	20 11 06.8	+1.2
LANS	**Liptovska Anna**	**1.00**	**168**	*e*Pg	Pg	20 11 01.2	-0.6
LANS				*e*Sg	Sg	20 11 15.1	+0.4
LANS	**Liptovska Anna**	**1.00**	**168**	*e*PG	Pg	20 11 01.2	-0.6
LANS				*e*SG	Sg	20 11 15.1	+0.4
MORC	**Moravsky Berou**	**1.10**	**252**	*e*Pg	Pg	20 11 03.2	-0.5
MORC				*e*Sg	Sg	20 11 17.9	-0.1
VYHS	**Vyhne**	**1.65**	**187**	*e*Pn	Pn	20 11 11.0	-1.9
VYHS				*e*Sn	Sn	20 11 33.2	-1.6
VYHS	**Vyhne**	**1.65**	**187**	*e*PN	Pn	20 11 11.0	-1.9
VYHS				*e*SN	Sn	20 11 33.2	-1.6
VYHS				*e*LG	Lg	20 11 34.7	
DPC	**Dobruska-Polom**	**1.83**	**278**	*e*PG	Pn	20 11 15.9	+0.5
DPC				*e*SG	Sb	20 11 40.3	-0.3
	3.1nm,0.6s						
DPC	**Dobruska-Polom**	**1.83**	**278**	Pg	Pn	20 11 15.9	+0.5
DPC				Sg	Sb	20 11 40.3	-0.3
	3.1nm,0.6s						

IDC 09 20:11:22.7±6.8, 7.77S×124.64E, h364km±83km, mb2.9/2, mb1 3.2/5, mb1mx2.8/41, mbtmp3.9/5, Error ellipse: s-maj=114.3km s-min=26.8km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.32**	**175**	P	Pn	20 13 44.7	+0.2
	1.0nm,0.3s,baz=2.8,slow=9.8,SNR=39						
WRA	**Warramunga Arr**	**15.33**	**143**	P	P	20 14 39.0	-1.4
	1.3nm,0.3s,baz=324,slow=12,SNR=45						
WRA				S	S	20 17 24.2	0.0
	baz=316,slow=21,SNR=2.8						
ASAR	**Alice Springs**	**18.14**	**152**	P	P	20 15 10.8	+0.3
	0.3nm,0.3s,baz=321,slow=8.6,SNR=23						
STKA	**Stephens Creek**	**28.72**	**149**	P	P	20 16 48.0	0.0
	1.5nm,0.7s,baz=326,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**66.07**	**330**	P	P	20 21 31.6	0.0
	0.2nm,0.5s,baz=120,slow=7.3,SNR=3.2						

ISCJB ***09*** *20:14:43.4±0.2,6.40S±0.03×130.23E±0.03,h146km, mb4.4/35,Error ellipse: s-maj=4.5km s-min=4.1km az=37.9*
BJI ***09*** *20:14:43.0,6.66S×130.60E,h179km,mb4.4/10,mB4.5/6*
NEIC ***09*** *20:14:46.0±0.3,6.37S×130.17E,mb5.1/15,Error ellipse: s-maj=6.9km s-min=5.9km az=50.0*
IDC ***09*** *20:14:45.6±0.8,6.37S×130.11E,h150km±7km,mb4.0/17, mb1 4.1/19,mb1mx4.0/38,mbtmp4.4/19,Error ellipse: s-maj=15.2km s-min=9.1km az=77.0*
DJA ***09*** *20:14:48.7±0.2,6.2S×13.0E±°,h163km±3km,M4.8/53, mb4.9/53,mB5.3/34,MLv5.4/11,Mw(mB)4.7/34,Mwp5.6/1*
ISC 09 20:14:45.0±0.3, 6.43S±0.04×130.16E±0.04, h146km, n97, σ2s18/105, mb4.5/35, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**144**	P	Pn	20 15 23.7	+4.8
SAUI				S	**Sn**	**20 15 51.7**	**+6.7**
MSAI	**Masohi**	**3.30**	**338**	P	**Pn**	**20 15 39.4**	**+3.3**
FAKI	**Fak Fak**	**4.06**	**31**	P	**Pn**	**20 15 48.3**	**+2.3**
FAKI				S	**Sn**	**20 16 33.0**	**-0.4**
FAKI	**Fak Fak**	**4.06**	**31**	*e*Pn	**Pn**	**20 15 47.2**	**+1.2**
NLAI	**Namlea**	**4.40**	**316**	P	Pn	20 15 56.0	+5.6
SWI	**Sorong**	**5.63**	**11**	P	**Pn**	**20 16 10.4**	**+3.5**
	107nm,0.6s,11μm3.0nm						
SWI				S	**Sn**	**20 17 07.8**	**-3.0**
	107nm,0.6s,11μm3.0nm						
SANI	**Sanana**	**6.02**	**316**	P	**Pn**	**20 16 15.1**	**+3.1**
	81nm,1.4s,793nm0.3nm						
RKPI	**Ransiki, Papua**	**6.32**	**40**	P	**Pn**	**20 16 19.5**	**+3.5**
	1μm,0.8s,23μm8.0nm						
SOEI	**Soe**	**6.71**	**240**	P	**Pn**	**20 16 22.5**	**+1.2**
	505nm,0.9s,6μm2.7nm						
SOEI				S	**Sn**	**20 17 37.2**	**+0.5**
	505nm,0.9s,6μm2.7nm						
SOEI	**Soe**	**6.71**	**240**	*e*Pn	**Pn**	**20 16 22.3**	**+1.0**
KDI	**Kendari**	**7.90**	**288**	P	**Pn**	**20 16 41.5**	**+4.3**
	90nm,1.1s,898nm0.4nm						
MMRI	**Maumere**	**8.16**	**254**	P	**Pn**	**20 16 43.4**	**+2.8**
	138nm,0.5s,3μm						
MMRI	**Maumere**	**8.16**	**254**	*e*Pn	**Pn**	**20 16 43.0**	**+2.4**
	102nm,0.5s						
LUWI	**Luwuk**	**9.11**	**306**	P	**Pn**	**20 16 57.0**	**+3.7**
	78nm,1.2s,795nm						
LUWI	**Luwuk**	**9.11**	**306**	*e*Pn	**Pn**	**20 16 56.7**	**+3.4**
	101nm,1.1s						
BSSI	**Bau Bau, Buton**	**9.62**	**271**	P	**Pn**	**20 17 02.8**	**+2.7**
	78nm,1.5s,1μm						
WSI	**Waingapu**	**10.28**	**251**	P	**Pn**	**20 17 09.7**	**+0.8**
	503nm,0.6s,9μm						
MMPI	**Merauke**	**10.34**	**102**	P	Pn	20 17 17.3	+7.7
KAPI	**Kappang**	**10.45**	**277**	P	**Pn**	**20 17 10.5**	**-0.7**
	1.7nm,0.3s,baz=54,slow=5.1,SNR=3.7						
KAPI	**Kappang**	**10.45**	**277**	*e*Pn	**Pn**	**20 17 14.0**	**+2.8**
SPSI	**Sidrap Palu**	**10.63**	**283**	P	**Pn**	**20 17 17.2**	**+3.6**
	32nm,1.3s,379nm						
GENI	**Genyem**	**10.68**	**70**	P	**Pn**	**20 17 17.7**	**+3.5**
	91nm,0.8s,1μm						
MRSI	**Marisa**	**10.69**	**310**	P	**Pn**	**20 17 17.3**	**+2.9**
	214nm,0.9s,2μm						
JAY	**Jayapura**	**11.21**	**70**	P	**Pn**	**20 17 22.1**	**+1.0**
	0.1nm,0.3s,baz=270,slow=20,SNR=4.2						
JAY				S	**Sn**	**20 19 25.4**	**+0.3**
	baz=270,slow=20,SNR=2.8						
PCI	**Palu**	**11.67**	**298**	P	**P**	**20 17 32.5**	**-2.1**
	199nm,1.0s,2μm						
FITZ	**Fitzroy Crossi**	**12.41**	**200**	P	**Pn**	**20 17 34.5**	**-2.4**
	2.1nm,0.3s,baz=17,slow=8.4,SNR=15						
FITZ				S	Sn	20 19 42.9	-11
	18nm,0.3s,baz=98,slow=14,SNR=9.5						
PLAI	**Plampang**	**12.51**	**258**	P	**Pn**	**20 17 40.0**	**+1.9**
	192nm,0.8s,3μm						
TWSI	**Taliwang, Sumb**	**13.36**	**259**	P	**Pn**	**20 17 51.4**	**+2.3**
	52nm,0.9s,864nm						
WRAB	**Tennant Creek**	**14.03**	**164**	*e*Pn	**Pn**	**20 17 56.0**	**-1.6**
	55nm,0.6s						
WRA	**Warramunga Arr**	**14.04**	**164**	P	**Pn**	**20 17 55.5**	**-2.2**
	3.8nm,0.3s,baz=349,slow=12,SNR=41						
WRA				S	Sn	20 20 20.4	-13
	17nm,0.3s,baz=329,slow=26,SNR=11						
COEN	**Coen**	**14.83**	**121**	*e*Pn	**P**	**20 18 09.4**	**-0.3**
	187nm,0.9s						
BBKI	**Banjar Baru**	**15.54**	**280**	P	**P**	**20 18 19.9**	**+2.2**
	326nm,1.1s,3μm						
JAGI	**Jajag, Banyuwa**	**16.00**	**262**	P	**P**	**20 18 25.2**	**+2.4**
	50nm,1.2s,1μm						
JAGI	**Jajag, Banyuwa**	**16.00**	**262**	*e*Pn	**Pn**	**20 18 18.9**	**-3.3**
	35nm,0.3s						
GMJI	**Gumukmas**	**16.68**	**263**	P	**Pn**	**20 18 33.9**	**+3.5**
	42nm,1.0s						
PMG	**Port Moresby**	**17.09**	**101**	P	**Pn**	**20 18 38.1**	**+2.7**
	1.1nm,0.3s,baz=285,slow=8.9,SNR=7.5						
PMG				S	**S**	**20 21 38.1**	**-7.6**
	0.8nm,0.3s,baz=204,slow=20,SNR=5.2						
ASAR	**Alice Springs**	**17.52**	**169**	P	**Pn**	**20 18 40.8**	**+0.4**
	8.2nm,0.3s,baz=347,slow=12,SNR=259						
ASAR				S	**S**	**20 21 46.5**	**-7.8**
	4.8nm,0.3s,baz=354,slow=26,SNR=9.6						
MBWA	**Marble Bar**	**17.79**	**214**	*e*P	**P**	**20 18 42.7**	**+0.3**
	112nm,0.9s						
PWJI	**Pagerwojo**	**18.28**	**264**	P	**P**	**20 18 48.4**	**+0.6**
	57nm,0.7s						
KKM	**Kota Kinabalu**	**18.63**	**311**	*e*P	**P**	**20 18 52.7**	**+0.9**
	16nm,0.4s						
PBKI	**Pangkalan Bun**	**18.80**	**281**	P	**Pn**	**20 18 56.0**	**+0.4**
	135nm,1.0s,2μm						
PCJI	**Pacitan**	**18.91**	**264**	P	**Pn**	**20 18 56.9**	**0.0**
	90nm,1.0s,1μm						
STKI	**Sintang**	**19.73**	**288**	P	**Pn**	**20 19 06.0**	**-0.5**
	30nm,0.5s,7μm						
CTA	**Charters Tower**	**20.70**	**133**	P	Pn	20 19 16.1	-1.8
	46nm,0.9s,baz=315,slow=12,SNR=28						
CTAO	**Charters Tower**	**20.70**	**133**	*e*P	**P**	**20 19 15.0**	**+1.0**
	222nm,0.8s						
KPJI	**Karang Pucung**	**21.10**	**266**	P	**P**	**20 19 18.8**	**+0.6**
	56nm,0.9s						
CISI	**Cisompet, Garu**	**22.21**	**266**	P	**P**	**20 19 29.3**	**-0.6**
	194nm,0.8s,2μm						
CISI	**Cisompet, Garu**	**22.21**	**266**	*e*P	**P**	**20 19 27.1**	**-2.9**
	89nm,0.6s						
CNJI	**Cibinong**	**22.88**	**266**	P	**P**	**20 19 36.1**	**-0.2**
	315nm,1.1s,3μm						
PPBI	**Pangkal Pinang**	**24.32**	**279**	P	**P**	**20 19 55.4**	**+6.0**
	25nm,0.9s,890nm						
BBOO	**Buckleboo**	**26.82**	**169**	*e*P	**P**	**20 20 11.7**	**-0.1**
	39nm,0.8s						
STKA	**Stephens Creek**	**27.48**	**159**	P	**P**	**20 20 18.2**	**+0.5**
	12nm,0.4s,baz=335,slow=8.8,SNR=102						
NWAO	**Narrogin (SRO)**	**28.98**	**203**	P	**P**	**20 20 31.1**	**+0.2**
	3.2nm,0.3s,baz=266,slow=8.2,SNR=9.1						
HNR	**Honiara**	**29.64**	**98**	P	**P**	**20 20 36.4**	**-0.7**
	89nm,0.5s,baz=183,slow=4.1,SNR=5.3						
PPI	**Padang Panjang**	**30.28**	**280**	P	**P**	**20 20 43.6**	**+0.9**
	30nm,1.0s						
MNSI	**Mandailing Nat**	**31.36**	**282**	P	**P**	**20 20 53.4**	**+1.2**
	28nm,0.8s						
CBIJ	**Chichi jima**	**35.30**	**19**	P	**P**	**20 21 25.4**	**-0.8**
JCJ	**Chichijima**	**35.30**	**19**	P	**P**	**20 21 25.4**	**-0.8**
	21nm,0.3s,baz=131,slow=20,SNR=5.0						
CHAI	**Chaiyaphum**	**35.64**	**309**	P	**P**	**20 21 29.3**	**+0.1**
	4.9nm,0.5s						
UTTA	**Uttaradit**	**37.84**	**310**	P	**P**	**20 21 47.8**	**0.0**
	5.1nm,0.8s,51nm						
TAU	**Tasmania Unive**	**39.37**	**160**	*e*P	**P**	**20 22 02.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**39.49**	**309**	P	**P**	**20 22 01.1**	**-0.6**
	2.8nm,0.6s,baz=139,slow=7.4,SNR=19						
CHTO	**Chiang Mai**	**39.70**	**310**	P	**P**	**20 22 03.4**	**+0.1**
	57nm,1.2s						
MJAR	**Matsushiro Arr**	**43.40**	**9**	P	**P**	**20 22 32.1**	**-1.1**
	2.2nm,0.6s,baz=187,slow=9.6,SNR=15						
KSAR	**Wonju Array Be**	**43.69**	**357**	P	**P**	**20 22 34.7**	**-0.8**
KSRS	**Korea Array**	**43.70**	**357**	P	**P**	**20 22 34.7**	**-0.9**
	0.3nm,0.3s,baz=177,slow=9.3,SNR=4.2						
CN2	**Changchun**	**50.17**	**356**	*e*P	**P**	**20 23 24.6**	**-1.1**
CN2				PMZ			
	10.0nm,0.6s						
USRK	**Uss

az=86.9

*GCMT **09** 20:16:28.3±0.1,30.2S×177.6W,h46km,MW5.6/121, Moment Tensor Solution. s121,c231; s120,c273; Duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.47±.03; $M_{\theta\theta}$0.07±.03; $M_{\phi\phi}$-2.53±.02; $M_{r\theta}$0.11±.03; $M_{\theta\phi}$-0.23±.02; $M_{r\phi}$1.21±.03; Best double couple: M_o2.78900×10^{17} NP1:ϕ_s5.00000°,δ58.00000°, λ90.00000°. NP2:ϕ_s185.00000°,δ32.00000°,λ90.00000°. Principal axes: T 2.7480, Plg77.0000°, Azm275.0000°; N 0.0880, Plg0.0000°, Azm5.0000°; P -2.8290, Plg13.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **09** 20:16:28.6,29.7S×177.2W,h48km, mb5.3/41, mB5.5/39,Ms5.3/33,Ms7 5.0/34*

*NEIC **09** 20:16:28.3±1.4,30.4S×178.06W,h31km±9km, mb5.4/162, MS5.1/133,MW5.6,Error ellipse: s-maj=5.9km s-min=4.4km az=137.0*

*IDC **09** 20:16:29.6±1.5,30.22S×177.90W,h39km±11km,mb5.0/34, mb1 5.0/35,mb1mx5.0/44,mbtmp5.2/35,ML4.2/1,MS4.9/24, Ms1 4.9/24,ms1mx4.8/30,Error ellipse: s-maj=12.4km s-min=11.6km az=29.0*

*NEIC **09** 20:16:30.0±0.0,30.36S×177.92W,h35km,Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}2.49; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-2.54; $M_{r\theta}$-0.55; $M_{\theta\phi}$-0.52; $M_{r\phi}$1.92; Best double couple: M_o3.30000×10^{17} NP1:ϕ_s355.00000°, δ64.00000°,λ75.00000°. NP2:ϕ_s206.00000°,δ29.0000°, λ118.00000°. Principal axes: T 3.2900, Plg67.0000°, Azm237.0000°; N -0.0700, Plg13.0000°, Azm1.0000°; P -3.2200, Plg17.0000°, Azm95.0000°;*

ISC 09 20:16:29.5±0.4,30.37S±0.04×177.98W±0.04,h41km±3km, h40km:pP-P,n973,σ1§87/938,mb5.5/200,MS5.1/174, 20C-33D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RAO	**Raoul Island**	**1.11**	**3**	Pn		**Pn**	**20 16 46.1**	**-2.5**
	2μm,0.3s,baz=252,slow=20,SNR=71							
RAO				Sn		**Sn**	**20 16 57.7**	**-5.0**
	19μm,0.3s,baz=246,slow=20,SNR=25							
RAO	**Raoul Island**	**1.11**	**3**	*e*P		**Pn**	**20 16 46.6**	**-2.0**
RAO							20 16 57.7	
RAO	**Raoul Island**	**1.11**	**3**	*e*Pn		**Pn**	**20 16 46.6**	**-2.0**
RAO				Sn		**Sn**	**20 16 57.7**	**-5.0**
MXZ	**Matakaoa Point**	**7.81**	**202**	*e*Pn		**Pn**	**20 18 17.8**	**-2.7**
MXZ	**Matakaoa Point**	**7.81**	**202**	Pn		**Pn**	**20 18 17.1**	**-3.4**
MXZ				SN		**Sn**	**20 19 47.0**	**-0.6**
WMGZ	**Waiomatatini S**	**8.01**	**201**	*e*Pn		**Pn**	**20 18 20.6**	**-2.7**
WMGZ				SN		**Sn**	**20 19 52.6**	**+0.1**
HAZ	**Te Kaha**	**8.16**	**204**	Pn		**Pn**	**20 18 22.7**	**-2.7**
HAZ				SN		**Sn**	**20 19 57.3**	**+1.1**
PKGZ	**Pakihiroa**	**8.18**	**202**	*e*Pn		**Pn**	**20 18 21.9**	**-3.8**
PKGZ				SN		**Sn**	**20 19 55.1**	**-1.7**
PUZ	**Puketiti**	**8.29**	**201**	*e*Pn		**Pn**	**20 18 23.5**	**-3.6**
PUZ				SN		**Sn**	**20 19 56.6**	**-2.9**
TWGZ	**Tauwhareparae**	**8.47**	**202**	*e*Pn		**Pn**	**20 18 25.8**	**-3.8**
TWGZ				SN		**Sn**	**20 20 04.2**	**+0.2**
OUZ	**Omahuta**	**8.58**	**234**	*e*Pn		Pn	20 18 38.8	+7.7
OUZ	**Omahuta**	**8.58**	**234**	Pn		Pn	20 18 38.6	+7.5
CNGZ	**Carnagh Statio**	**8.68**	**200**	*e*Pn		**Pn**	**20 18 28.7**	**-3.8**
TKGZ	**Te Karaka**	**8.76**	**202**	*e*Pn		**Pn**	**20 18 28.9**	**-4.5**
TKGZ				*e*SN		**Sn**	**20 20 09.9**	**-0.9**
MWZ	**Matawai**	**8.77**	**204**	Pn		**Pn**	**20 18 30.8**	**-2.9**
MWZ				SN		**Sn**	**20 20 08.2**	**-3.1**
URZ	**Urewera**	**8.85**	**206**	Pn		**Pn**	**20 18 31.4**	**-3.4**
	3.3nm,0.3s,baz=106,slow=16,SNR=34							
URZ				Sn		**Sn**	**20 20 11.4**	**-1.8**
	28nm,0.3s,baz=71,slow=21,SNR=11							
URZ	**Urewera**	**8.85**	**206**	PN		**Pn**	**20 18 31.1**	**-3.7**
URZ				SN		**Sn**	**20 20 11.4**	**-1.8**
RAGZ	**Rawiri**	**8.95**	**204**	PN		**Pn**	**20 18 32.3**	**-3.9**
RIGZ	**Rimuhau**	**9.03**	**202**	*e*PN		**Pn**	**20 18 33.5**	**-3.7**
RIGZ				SN		**Sn**	**20 20 16.9**	**-0.7**
TOZ	**Tahuroa Road**	**9.12**	**215**	*e*PN		**Pn**	**20 18 39.9**	**+1.4**
MUGZ	**Murupara**	**9.17**	**207**	PN		**Pn**	**20 18 35.6**	**-3.6**
MUGZ				SN		**Sn**	**20 20 17.3**	**-3.8**
PRGZ	**Paritu Road**	**9.19**	**201**	*e*PN		Pn	20 18 34.3	-5.1
KNZ	**Kokohu**	**9.34**	**201**	*e*PN		Pn	20 18 36.2	-5.3
KNZ				SN		**Sn**	**20 20 19.8**	**-5.5**
MHGZ	**Mahia Peninsul**	**9.39**	**200**	*e*PN		Pn	20 18 37.3	-4.9
RAHZ	**Arahi**	**9.44**	**204**	PN		Pn	20 18 38.1	-4.8
RAHZ				SN		**Sn**	**20 20 26.7**	**-1.0**
WHHZ	**Waihua**	**9.54**	**203**	*e*PN		**Pn**	**20 18 40.2**	**-4.0**
WHHZ				SN		**Sn**	**20 20 27.8**	**-2.2**
MRHZ	**Matea Rd**	**9.62**	**207**	PN		**Pn**	**20 18 42.7**	**-2.7**
NMHZ	**Naumai**	**9.70**	**205**	PN		Pn	20 18 41.3	-5.2
ARHZ	**Aropaoanui**	**9.78**	**204**	*e*PN		**Pn**	**20 18 43.2**	**-4.4**
BKZ	**Black Stump Fm**	**9.88**	**206**	*e*Pn		**Pn**	**20 18 44.7**	**-4.2**
BKZ	**Black Stump Fm**	**9.88**	**206**	PN		Pn	20 18 44.1	-4.8
MCHZ	**McNeill Hill**	**10.05**	**204**	PN		**Pn**	**20 18 46.9**	**-4.4**
MCHZ				SN		**Sn**	**20 20 38.0**	**-4.6**
CKHZ	**Cape Kidnapper**	**10.11**	**202**	*e*PN		Pn	20 18 46.7	-5.4
KWHZ	**Kaweka Forest**	**10.13**	**205**	PN		Pn	20 18 46.6	-5.9
KWHZ				SN		**Sn**	**20 20 42.6**	**-2.1**
KAHZ	**Kahuranaki**	**10.30**	**203**	*e*PN		Pn	20 18 49.2	-5.5
KAHZ				SN		**Sn**	**20 20 45.9**	**-2.9**
BHHZ	**Black Hill Sta**	**10.32**	**207**	*e*PN		Pn	20 18 49.5	-5.6
KRHZ	**Kereru**	**10.34**	**205**	PN		Pn	20 18 49.8	-5.5
KRHZ				SN		**Sn**	**20 20 44.5**	**-5.4**
WNVZ	**Wahianoa**	**10.37**	**209**	*e*PN		**Pn**	**20 18 53.6**	**-2.2**
PXZ	**Pawanui**	**10.52**	**202**	PN		Pn	20 18 51.1	-6.6
PXZ				SN		**Sn**	**20 20 48.9**	**-5.2**
PNHZ	**Pukenui**	**10.64**	**205**	PN		Pn	20 18 53.7	-5.7
WPHZ	**Waipukurau**	**10.69**	**204**	SN		**Sn**	**20 20 53.8**	**-4.6**
PRHZ	**Porangahau**	**10.81**	**203**	PN		Pn	20 18 54.6	-7.0
TSZ	**Takapari Road**	**10.86**	**205**	PN		Pn	20 18 53.7	-8.7
TSZ				SN		**Sn**	**20 20 56.2**	**-6.3**
ANWZ	**Angora Road**	**11.03**	**203**	PN		Pn	20 18 57.3	-7.4
POWZ	**Post Office Ro**	**11.22**	**205**	SN		**Sn**	**20 21 05.9**	**-5.5**
PRWZ	**Pori Road**	**11.29**	**204**	SN		**Sn**	**20 21 07.0**	**-6.1**
BFZ	**Birch Farm**	**11.31**	**203**	*e*Pn		Pn	20 19 02.0	-6.4
TIWZ	**Tintock**	**11.52**	**204**	*e*PN		Pn	20 19 05.0	-6.3
TIWZ				*e*SN		**Sn**	**20 21 11.4**	**-7.2**
MRZ	**Mangatainoka R**	**11.53**	**205**	*e*PN		Pn	20 19 03.0	-8.4
MRZ				SN		**Sn**	**20 21 11.0**	**-7.8**
HOWZ	**Holdsworth Sta**	**11.76**	**205**	PN		Pn	20 19 07.2	-7.3
HOWZ				SN		**Sn**	**20 21 16.0**	**-8.5**
OGWZ	**Otaki Gorge**	**11.82**	**206**	*e*PN		Pn	20 19 08.7	-6.7
OGWZ				SN		**Sn**	**20 21 18.4**	**-7.5**
KIW	**Kapiti Island**	**11.95**	**207**	PN		Pn	20 19 10.4	-6.9
CAW	**Cannon Point**	**12.11**	**206**	*e*PN		Pn	20 19 13.4	-5.9
CAW				SN		**Sn**	**20 21 24.0**	**-8.9**
TRWZ	**Traveller**	**12.14**	**203**	*e*PN		Pn	20 19 12.4	-7.4
PAWZ	**Paruwai Farm**	**12.21**	**204**	PN		Pn	20 19 15.3	-5.5
MSWZ	**Moikau Station**	**12.31**	**205**	SN		Sn	20 21 27.1	-11
SNZO	**South Karori**	**12.42**	**206**	*e*Pn		Pn	20 19 16.9	-6.6
SNZO				*e*Sn		**Sn**	**20 21 33.6**	**-7.0**
PLWZ	**Palliser**	**12.44**	**204**	*e*PN		Pn	20 19 18.1	-5.8
PLWZ				SN		Sn	20 21 31.1	-10
TCW	**Tory Channel**	**12.50**	**208**	PN		Pn	20 19 16.7	-8.0
TCW				SN		**Sn**	**20 21 33.9**	**-8.8**
NNZ	**Nelson**	**12.89**	**211**	SN		Sn	20 21 42.6	-9.4
QRZ	**Quartz Range**	**12.97**	**214**	*e*PN		**Pn**	**20 19 29.7**	**-1.4**
MSVF	**Nonsavu**	**13.09**	**343**	*e*P		**Pn**	**20 19 35.1**	**+2.1**
MSVF	**Nonsavu**	**13.09**	**343**	*e*Pn		**Pn**	**20 19 35.1**	**+2.1**
THZ	**Tophouse**	**13.54**	**210**	*e*Pn		**Pn**	**20 19 34.9**	**-4.0**
THZ	**Tophouse**	**13.54**	**210**	*e*PN		Pn	20 19 30.1	-8.8
THZ				SN		**Sn**	**20 21 59.1**	**-8.9**
KHZ	**Kahutara**	**13.82**	**207**	*e*Pn		Pn	20 19 37.2	-5.5
KHZ				*e*Sn		**Sn**	**20 22 06.6**	**-8.0**
KHZ	**Kahutara**	**13.82**	**207**	*e*PN		Pn	20 19 33.4	-9.2
KHZ				SN		Sn	20 22 03.4	-11
DSZ	**Denniston Nort**	**14.03**	**213**	SN		Sn	20 22 08.9	-11
LTZ	**Lake Taylor**	**14.64**	**210**	*e*Pn		Pn	20 19 48.5	-5.4
LTZ	**Lake Taylor**	**14.64**	**210**	*e*PN		**Pn**	**20 19 50.3**	**-3.6**
LTZ				SN		Sn	20 22 20.7	-14
OXZ	**Oxford**	**15.18**	**209**	*e*Pn		**Pn**	**20 19 54.1**	**-6.8**
	73nm,0.7s							
MQZ	**McQueen's Vall**	**15.25**	**207**	*e*Pn		Pn	20 19 53.3	-8.5
	36nm,1.0s							
MQZ				*e*Sn		Sn	20 22 36.4	-13
RPZ	**Rata Peaks**	**15.92**	**210**	Pn		**Pn**	**20 20 05.8**	**-4.7**
	1.4nm,0.3s,baz=45,slow=5.7,SNR=7.6							
RPZ				Sn		Sn	20 22 50.0	-16
	2.2nm,0.3s,baz=131,slow=20,SNR=6.1							
RPZ				LR		LR	20 26 27.7	
	comp=Z,5μm,21.9s,baz=42,slow=37							
RPZ	**Rata Peaks**	**15.92**	**210**	*e*Pn		**Pn**	**20 20 08.4**	**-2.1**
	44nm,0.7s							
RPZ				Sn		Sn	20 22 50.0	-16
RPZ	**Rata Peaks**	**15.92**	**210**	*e*PN		**Pn**	**20 20 04.8**	**-5.7**
DZM	**Mont Dzumac**	**16.23**	**297**	*e*P		**P**	**20 20 17.2**	**0.0**
	482nm,0.8s							
DZM				*e*LR		LR	20 23 53.0	
	21μm,25.2s							
DZM	**Mont Dzumac**	**16.23**	**297**	Pn		**P**	**20 20 19.5**	**+2.3**
	1.0nm,0.3s,baz=91,slow=16,SNR=30							
DZM				LR		LR	20 25 22.0	
	comp=Z,11μm,18.7s,baz=128,slow=33							
DZM	**Mont Dzumac**	**16.23**	**297**	*e*Pn		**P**	**20 20 19.1**	**+1.9**
	214nm,0.7s							
FOZ	**Fox Glacier**	**16.34**	**213**	*e*PN		**Pn**	**20 20 12.3**	**-3.4**
ODZ	**Otahua Downs**	**17.17**	**208**	*e*Pn		**Pn**	**20 20 24.7**	**-1.5**
	53nm,1.1s							
AFI	**Afiamalu**	**17.35**	**21**	P		Pn	20 20 19.6	-9.1
	2.5nm,0.3s,baz=158,slow=19,SNR=2.8							
AFI				S		Sn	20 23 18.2	-23
	4.9nm,0.3s,baz=114,slow=19,SNR=3.4							
AFI	**Afiamalu**	**17.35**	**21**	*e*P		**Pn**	**20 20 26.5**	**-2.2**
AFI				pmax		pmax		
	comp=Z,170nm,0.9s							
AFI	**Afiamalu**	**17.35**	**21**	*e*Pn		**Pn**	**20 20 26.5**	**-2.2**
	comp=Z,170nm,0.9s							
AFI				S		Sn	20 23 18.2	-23
RAR	**Rarotonga**	**18.74**	**65**	P		**P**	**20 20 41.9**	**-3.0**
	comp=Z,7.2nm,0.3s,baz=222,slow=8.6,SNR=8.5							
RAR				S		Sn	20 23 52.4	-22
	comp=Z,3.7nm,0.3s,baz=139,slow=19,SNR=3.7							
RAR				LR		LR	20 26 10.9	
	comp=Z,4μm,21.9s,baz=238,slow=31							
RAR	**Rarotonga**	**18.74**	**65**	*e*P		**P**	**20 20 42.2**	**-2.7**
RAR				pmax		pmax		
	comp=Z,126nm,0.8s							
RAR	**Rarotonga**	**18.74**	**65**	*e*P		**P**	**20 20 42.2**	**-2.7**
	comp=Z,126nm,0.8s							
RAR				S		Sn	20 23 52.4	-22
WHZ	**Wether Hill Ro**	**19.00**	**211**	*e*P		**P**	**20 20 46.7**	**-0.9**
LHI	**Lord Howe Isla**	**19.72**	**261**	P		**Pn**	**20 20 57.9**	**+0.6**
	baz=20,SNR=4.7							
LHI	**Lord Howe Isla**	**19.72**	**261**	*e*P		**Pn**	**20 21 01.6**	**+4.3**
	comp=Z,386nm,1.4s							
FUNA	**Funafuti**	**21.89**	**352**	PFAKE			20 21 30.0	+11
FUNA				LR		LR		
	comp=Z,4μm,20.0s							
ARMA	**Armidale**	**26.18**	**262**	P		**P**	**20 22 03.0**	**+2.7**
	baz=26,SNR=15							
ARMA	**Armidale**	**26.18**	**262**	*e*P		**P**	**20 22 04.9**	**+4.5**
	comp=Z,54nm,1.0s							
MGCD	**Mangrove Creek**	**26.38**	**256**	P		**P**	**20 22 05.0**	**+3.0**
	baz=27,SNR=17							
EIDS	**Eidsvold**	**27.75**	**273**	P		**P**	**20 22 16.7**	**+2.4**
	baz=28,SNR=17							
EIDS	**Eidsvold**	**27.75**	**273**	*e*P		**P**	**20 22 16.9**	**+2.5**
	comp=Z,129nm,1.5s							
CNB	**Canberra Magne**	**27.80**	**251**	P		**P**	**20 22 15.0**	**+0.1**
	baz=28,SNR=13							
MILA	**Mila**	**28.05**	**247**	P		**P**	**20 22 19.9**	**+2.9**
	baz=28,SNR=6.7							
CAN	**Canberra**	**28.10**	**251**	*e*P		**P**	**20 22 20.7**	**+3.2**
CAN				pmax		pmax		
	comp=Z,88nm,0.8s							
CAN				MLR		MLR		
	comp=Z,3μm,21.0s							
CAN	**Canberra**	**28.10**	**251**	*e*P		**P**	**20 22 20.6**	**+3.2**
	comp=Z,88nm,0.8s							
CAN				LR		LR		
	comp=Z,3μm,21.0s							
YNG	**Young**	**28.60**	**253**	P		**P**	**20 22 24.2**	**+2.2**
	baz=29,SNR=16							
PAE	**Paea**	**28.77**	**70**	*e*T		T	20 51 48.5	
	comp=Z,36nm,0.3s							
PPT2	**Papeete2**	**28.81**	**70**	*e*S		**S**	**20 27 13.6**	**+2.4**
	comp=Z,2μm,27.8s							
PPT2				*e*LQ		LQ	20 28 20.4	
	comp=Z,2μm,22.5s							
PPT2				*e*LR		LR	20 29 46.9	
	comp=Z,10μm,26.0s,baz=235							
PPT2	**Papeete2**	**28.81**	**70**	*e*T		T	20 51 52.5	
	comp=Z,42nm,0.3s							
PPT	**Papeete**	**28.82**	**70**	LR		LR	20 31 02.0	
	comp=Z,2μm,21.4s,baz=237,slow=30							
TVO	**Taravao**	**28.98**	**71**	*e*T		T	20 52 06.3	
	comp=Z,9.5nm,0.3s							
HNR	**Honiara**	**29.29**	**311**	LR		LR	20 32 09.2	
	comp=Z,2μm,21.9s,baz=144,slow=32							
RMQ	**Roma**	**29.45**	**269**	P		**P**	**20 22 32.6**	**+3.1**
	baz=30,SNR=29							
MEH	**Mehetia**	**29.90**	**72**	*e*T		T	20 53 17.4	
	comp=Z,87nm,0.3s							
TAU	**Tasmania Unive**	**30.31**	**236**	PFAKE			20 22 50.0	+13
TAU				LR		LR		
	comp=Z,5μm,19.0s							
CMSA	**Cobar Meteorol**	**31.09**	**258**	P		**P**	**20 22 45.0**	**+1.1**
	baz=31,SNR=15							
VAH	**Vaihoa**	**31.65**	**68**	*e*T		T	20 55 20.8	
	comp=Z,128nm,0.3s							
TARA	**Tarawa**	**32.72**	**343**	PFAKE			20 23 10.0	+12
TARA				LR		LR		
	comp=Z,185nm,21.0s							
CTA	**Charters Tower**	**33.81**	**279**	P		**P**	**20 23 10.0**	**+2.1**
	comp=Z,109nm,0.6s,baz=104,slow=11,SNR=66							
CTA	**Charters Tower**	**33.81**	**279**	P		**P**	**20 23 10.0**	**+2.1**
CTAO	**Charters Tower**	**33.81**	**279**	*e*P		**P**	**20 23 10.2**	**+2.3**
CTAO				pmax		pmax		
	comp=Z,127nm,0.6s							
CTAO				MLR		MLR		
	comp=Z,7μm,21.0s							
CTAO	**Charters Tower**	**33.81**	**279**	*e*P		**P**	**20 23 10.2**	**+2.3**
	comp=Z,127nm,0.6s							
CTAO				LR		LR		
	comp=Z,7μm,21.0s							
STKA	**Stephens Creek**	**34.50**	**257**	P		**P**	**20 23 15.7**	**+1.9**
	comp=Z,122nm,0.9s,baz=90,slow=9.1,SNR=33							
STKA				PKiKP		**PKiKP**	**20 33 09.7**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=94,slow=3.0,SNR=3.9							
STKA				LR		LR	20 36 30.3	
	comp=Z,4μm,18.5s,baz=98,slow=35							
STKA	**Stephens Creek**	**34.50**	**257**	P		**P**	**20 23 15.2**	**+1.4**
	baz=35,SNR=29							
HTT	**Hallett**	**36.53**	**254**	P		**P**	**20 23 32.9**	**+1.7**
	baz=37,SNR=19							
RABL	**Rabaul**	**38.36**	**307**	*e*P		**P**	**20 23 49.5**	**+2.6**
	comp=Z,46nm,0.6s							
PMG	**Port Moresby**	**38.61**	**295**	P		**P**	**20 23 50.7**	**+1.8**
	comp=Z,39nm,1.1s,baz=98,slow=3.7,SNR=5.2							
PMG				PcP		**PcP**	**20 26 01.1**	**+0.3**
	comp=Z,28nm,0.8s,baz=143,slow=1.5,SNR=3.2							
PMG				LR		LR	20 36 52.0	
	comp=Z,3μm,21.8s,baz=132,slow=32							
PMG	**Port Moresby**	**38.61**	**295**	*c*e*P*		**P**	**20 23 50.2**	**+1.3**
PMG				pmax		pmax		
	comp=Z,212nm,1.3s							
PMG	**Port Moresby**	**38.61**	**295**	*e*P		**P**	**20 23 51.2**	**+2.3**
	comp=Z,58nm,1.3s							
PMG				PcP		**PcP**	**20 26 01.1**	**+0.3**
RKT	**Rikitea**	**38.90**	**90**	*e*S		**S**	**20 29 51.8**	**+5.0**
	comp=Z,1μm,29.8s							
RKT				*e*LR		LR	20 34 31.9	
	comp=Z,6μm,27.0s,baz=255							
RKT	**Rikitea**	**38.90**	**90**	*e*T		T	21 05 03.9	
	comp=Z,10nm,0.4s							
BBOO	**Buckleboo**	**38.99**	**254**	P		**P**	**20 23 52.5**	**+0.5**
	baz=39,SNR=19							
BBOO	**Buckleboo**	**38.99**	**254**	*e*P		**P**	**20 23 53.4**	**+1.4**
	comp=Z,79nm,0.7s							
TAOE	**Nuku Hiva Isla**	**41.28**	**67**	*e*S		**S**	**20 30 25.8**	**+3.1**
	comp=Z,1μm,26.3s							
TAOE				*e*LR		LR	20 35 29.1	
	comp=Z,6μm,26.7s,baz=239							
PTCN	**Pitcairn Islan**	**42.47**	**95**	PFAKE			20 24 30.0	+9.3
PTCN				LR		LR		
	comp=Z,5μm,22.0s							
ASAR	**Alice Springs**	**43.13**	**267**	P		**P**	**20 24 26.8**	**+0.7**
	comp=Z,30nm,0.7s,baz=112,slow=7.9,SNR=12							
ASAR				PcP		**PcP**	**20 26 16.8**	**+1.4**
	comp=Z,11nm,0.8s,baz=110,slow=4.2,SNR=3.8							
ASAR				ScP		**ScP**	**20 30 02.8**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=125,slow=4.7,SNR=4.4							
ASAR				PKiKP		**PKiKP**	**20 33 17.0**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=106,slow=1.2,SNR=7.0							
ASAR				LR		LR	20 42 21.6	
	comp=Z,5μm,18.1s,baz=118,slow=36							
MANU	**Manus Island**	**43.26**	**304**	*e*P		**P**	**20 24 27.4**	**+0.2**
	comp=Z,56nm,0.8s							
WRAB	**Tennant Creek**	**44.11**	**272**	*c*e*P*		**P**	**20 24 34.2**	**+0.2**
WRAB				pmax		pmax		
	comp=Z,309nm,0.8s							
WRAB	**Tennant Creek**	**44.11**	**272**	PFAKE			20 24 50.0	+16
WRAB				LR		LR		
	comp=Z,3μm,21.0s							
WRA	**Warramunga Arr**	**44.11**	**272**	P		**P**	**20 24 34.2**	**+0.1**
	comp=Z,107nm,0.6s,baz=111,slow=7.9,SNR=24							
WRA				ScP		**ScP**	**20 30 06.9**	**-0.5**
	comp=Z,3.7nm,0.9s,baz=115,slow=4.0,SNR=5.8							
WRA				S		**S**	**20 31 04.2**	**0.0**
	comp=Z,9.3nm,0.9s,baz=110,slow=14,SNR=8.4							
WRA				PKiKP		**PKiKP**	**20 33 18.4**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=105,slow=0.3,SNR=9.9							
WRA				LR		LR	20 41 24.9	
	comp=Z,3μm,21.6s,baz=115,slow=34							
JAY	**Jayapura**	**47.90**	**297**	P		**P**	**20 25 04.3**	**+0.4**
SBA	**Scott Base**	**48.07**	**184**	*e*P		**P**	**20 25 08.8**	**+4.4**
SBA				pmax		pmax		
	comp=Z,67nm,1.0s							
SBA				MLR		MLR		
	comp=Z,813nm,20.0s							
SBA	**Scott Base**	**48.07**	**184**	*e*P		**P**	**20 25 08.8**	**+4.4**
	comp=Z,66nm,1.0s							
SBA				LR		LR		
	comp=Z,813nm,20.0s							
VNDA	**Vanda**	**48.13**	**186**	P		**P**	**20 25 07.1**	**+2.2**
	comp=Z,7.8nm,0.7s,baz=12,slow=6.8,SNR=29							
VNDA				LR		LR	20 41 44.5	
	comp=Z,609nm,22.0s,baz=30,slow=31							
VNDA	**Vanda**	**48.13**	**186**	*e*P		**P**	**20 25 07.6**	**+2.7**
VNDA				pmax		pmax		
	comp=Z,40nm,1.4s							
VNDA	**Vanda**	**48.13**	**186**	*e*P		**P**	**20 25 07.6**	**+2.7**
	comp=Z,40nm,1.4s							
GENI	**Genyem**	**48.26**	**297**	P		**P**	**20 25 07.4**	**+0.7**
MTN	**Manton Dam**	**49.99**	**279**	P		**P**	**20 25 20.4**	**+0.4**
	baz=50,SNR=3.7							
MTN	**Manton Dam**	**49.99**	**279**	*e*P		**P**	**20 25 19.3**	**-0.6**
	comp=Z,29nm,0.8s							
FITZ	**Fitzroy Crossi**	**52.38**	**270**	P		**P**	**20 25 38.2**	**+0.4**
	comp=Z,30nm,0.8s,baz=106,slow=9.3,SNR=6.4							
FITZ	**Fitzroy Crossi**	**52.38**	**270**	P		**P**	**20 25 37.6**	**-0.3**
	baz=52,SNR=7.1							
FITZ	**Fitzroy Crossi**	**52.38**	**270**	*e*P		**P**	**20 25 38.8**	**+1.0**
	comp=Z,173nm,1.8s							
POHA	**Pohakuloa**	**54.32**	**26**	PFAKE			20 26 10.0	+18
POHA				LR		LR		
	comp=Z,1μm,20.0s							
FAKI	**Fak Fak**	**54.34**	**290**	*e*P		**P**	**20 25 52.4**	**0.0**
	comp=Z,93nm,1.2s							
KLBR	**Kellerberrin**	**54.38**	**251**	P		**P**	**20 25 51.9**	**-0.4**
	baz=54,SNR=7.6							
NWAO	**Narrogin (SRO)**	**54.42**	**249**	PFAKE			20 26 00.0	+7.3
NWAO				LR		LR		
	comp=Z,2μm,22.0s							
HPAH	**Hawaii Prepara**	**54.50**	**26**	*e*P		**P**	**20 25 54.1**	**+0.8**
	comp=Z,268nm,1.3s							
CASY	**Casey**	**55.17**	**208**	*e*P		**P**	**20 25 57.1**	**-0.5**
	comp=Z,88nm,0.8s							
CASY				LR		LR		
	comp=Z,126nm,19.0s							
MBWA	**Marble Bar**	**56.24**	**264**	PFAKE			20 26 20.0	+14
MBWA				LR		LR		
	comp=Z,2μm,19.0s							
GUMO	**Guam**	**56.47**	**315**	P		**P**	**20 26 06.5**	**-1.0**
	comp=Z,151nm,0.8s,baz=197,slow=8.6,SNR=7.0							
GUMO				LR		LR	20 47 25.1	
	comp=Z,694nm,21.6s,baz=147,slow=33							
MSAI	**Masohi**	**56.82**	**287**	P		**P**	**20 26 08.4**	**-1.7**
	comp=Z,14nm,0.7s,comp=Z,489nm							
SOEI	**Soe**	**57.37**	**278**	*e*P		**P**	**20 26 15.3**	**+1.2**
	comp=Z,54nm,0.8s							
MIDW	**Midway**	**58.26**	**1**	PFAKE			20 26 30.0	+10
MIDW		

MAJO **Matsushiro** 78.23 325 *i* P **P** 20 28 23.6 -1.2
MAJO pmax pmax
comp=Z,164nm,0.9s
MAJO **Matsushiro** 78.23 325 *e*P **P** 20 28 23.9 -0.9
comp=Z,40nm,0.6s
MAJO LR LR
comp=Z,3µm,22.0s
NVL **N'lazarevskaya** 78.91 183 *e*P **P** 20 28 30.5 +2.4
NVL *e*S **S** 20 38 20.2 -2.9
KSI **Kapahiang** 79.04 272 P **P** 20 28 28.8 -1.1
comp=Z,96nm,0.9s,comp=Z,1µm
YULB **Yu-li** 79.06 305 *e*P **P** 20 28 27.5 -2.2
TPUB **Ta-pu** 79.48 305 *e*P **P** 20 28 29.7 -2.2
comp=Z,37nm,0.9s
JNU **Nakatsue** 79.55 318 P **P** 20 28 30.6 -1.5
comp=Z,15nm,0.9s,baz=90,slow=5.7,SNR=8.0
JNU **Nakatsue** 79.55 318 *e*P **P** 20 28 30.6 -1.5
comp=Z,37nm,1.1s
SSLB **Suanglung** 79.56 305 *e*P **P** 20 28 30.4 -2.0
comp=Z,16nm,0.7s
YHNB **Yeheng** 79.83 306 PFAKE 20 28 50.0 +16
YHNB LR LR
comp=Z,496nm,20.0s
COCO **West Island** 79.84 262 PFAKE 20 28 50.0 +16
COCO LR LR
comp=Z,2µm,19.0s
TATO **Taipei** 79.94 307 PFAKE 20 28 50.0 +16
TATO LR LR
comp=Z,586nm,22.0s
ERM **Erimo** 80.44 332 *e*P **P** 20 28 38.5 +1.9
ERM pmax pmax
comp=Z,33nm,0.9s
ERM MLR MLR
comp=Z,1µm,20.0s
ERM **Erimo** 80.44 332 *e*P **P** 20 28 38.5 +1.9
comp=Z,33nm,0.9s
ERM LR LR
comp=Z,1µm,20.0s
MYKOM **Kota Tinggi** 80.71 278 ⇓P **P** 20 28 39.2 +0.4
MYKOM **Kota Tinggi** 80.71 278 *e*P **P** 20 28 38.1 -0.7
comp=Z,30nm,0.9s
KUR **Kuril'sk** 81.41 336 *e*P **P** 20 28 40.8 -0.9
KUR *e*S **S** 20 38 52.3 +2.6
KUR MLR MLR
comp=N,416nm,18.0s
KUR MLR MLR
comp=Z,623nm,18.0s
QZH **Quanzhou** 81.95 305 ⇑*i*P P 20 28 38.4 -6.7
QZH PP **PP** 20 31 46.8 -6.6
QZH **Quanzhou** 81.95 305 S S 20 38 46.1 -10
QZH pmax pmax
comp=Z,560nm,4.5s
QZH LR LR
comp=N,820nm,17.7s
QZH LR LR
comp=E,1µm,20.2s
QZH LR LR
comp=Z,830nm,22.0s
ASAJ **Asahikawa** 82.42 333 P **P** 20 28 47.8 +0.7
comp=Z,24nm,0.8s,baz=210,slow=6.7
ASAJ **Asahikawa** 82.42 333 *e*P **P** 20 28 47.3 +0.2
comp=Z,38nm,0.9s
PLCA **Paso Flores** 82.51 133 P **P** 20 28 49.0 +0.9
comp=Z,19nm,0.9s,baz=224,slow=8.6,SNR=8.1
PLCA LR LR 20 56 50.9
comp=Z,1µm,21.6s,baz=275,slow=29
PLCA **Paso Flores** 82.51 133 *e*P **P** 20 28 49.9 +1.8
PLCA pmax pmax
comp=Z,34nm,1.0s
PLCA **Paso Flores** 82.51 133 *e*P **P** 20 28 49.9 +1.8
comp=Z,34nm,1.0s
EFI **East Falkland** 82.81 147 *e*P **P** 20 28 49.5 +0.2
EFI pmax pmax
comp=Z,87nm,1.0s
EFI **East Falkland** 82.81 147 *e*P **P** 20 28 49.5 +0.2
comp=Z,86nm,1.0s
FRIM **Kepong** 83.35 278 ⇑P **P** 20 28 53.6 +0.9
NIKH **Nikolski High** 83.37 6 *e*P **P** 20 28 52.2 +0.4
comp=Z,445nm,0.7s
MNSI **Mandailing Nat** 83.87 275 P **P** 20 28 53.9 -1.5
comp=Z,35nm,0.8s
TJN **Taejon** 83.89 319 *ce*P **P** 20 28 54.6 -0.3
SNCC **San Nicolas Is** 84.01 46 P **P** 20 28 56.6 +1.0
baz=228
KSRS **Korea Array** 84.34 320 P **P** 20 28 57.4 +0.3
comp=Z,8.1nm,0.7s,baz=143,slow=5.8,SNR=48
KS15 **Wonju Array Si** 84.35 320 *e*P **P** 20 28 58.4 +1.2
KSAR **Wonju Array Be** 84.35 320 P **P** 20 28 57.4 +0.2
KSAR **Wonju Array Be** 84.35 320 P **P** 20 28 57.4 +0.2
KS01 **Wonju Array Si** 84.37 320 *e*P **P** 20 28 57.4 +0.1
SCI2 **San Clemente I** 84.44 47 P **P** 20 28 58.8 +1.0
baz=228
SCZ2 **Santa Cruz Isl** 84.44 45 P **P** 20 28 58.4 +0.6
baz=228
UNV **Unalaska Valle** 84.45 7 *e*P **P** 20 28 57.0 -0.3
comp=Z,61nm,0.6s
IPM **Ipoh** 84.50 278 *e*P **P** 20 28 58.0 -0.6
comp=Z,31nm,0.8s
SBC **Santa Barbara** 84.69 45 P **P** 20 28 59.0 0.0
baz=228
YSS **Yuzh-Sakhalins** 84.73 334 *e*P **P** 20 28 59.7 +0.9
YSS *e*S **S** 20 39 15.6 -7.7
YSS smax smax
comp=N,400nm,13.0s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS **Yuzh-Sakhalins** 84.73 334 *e*P **P** 20 29 00.3 +1.4
comp=Z,65nm,0.9s
YSS LR LR
comp=Z,365nm,20.0s
AKUT **Akutan** 84.82 7 *e*P **P** 20 28 58.8 -0.3
comp=Z,159nm,1.3s
BLG **Laguna Peak, P** 84.87 46 P **P** 20 29 00.4 +0.4
baz=228
PKM **Mcpherson Peak** 84.93 45 P **P** 20 29 01.5 +1.0
baz=227
QIZ **Qiongzhong** 85.00 295 P **P** 20 29 02.7 +1.8
QIZ S **S** 20 39 25.2 -2.0
QIZ PMZ
comp=Z,16nm,1.6s
QIZ LZ
comp=Z,590nm,40.7s
QIZ **Qiongzhong** 85.00 295 PFAKE 20 29 10.0 +9.1
QIZ LR LR
comp=Z,250nm,19.0s
FMP **Fort Macarthur** 85.08 46 P **P** 20 29 01.8 +0.8
baz=228
INCN **Inchon** 85.08 319 PFAKE 20 29 10.0 +9.1
INCN LR LR
comp=Z,615nm,21.0s
SMMC **Simmler** 85.11 44 P **P** 20 29 02.0 +0.8
baz=227
KULM **Kulim** 85.24 279 ⇓P **P** 20 29 01.8 -0.4
KULM **Kulim** 85.24 279 ⇓P **P** 20 29 02.5 +0.2
KULM **Kulim** 85.24 279 *e*P **P** 20 29 01.5 -0.8
comp=Z,26nm,0.9s
KULM LR LR
comp=Z,881nm,20.0s
109C **Camp Elliot, M** 85.29 48 P **P** 20 29 02.4 +0.3
baz=229
OSI **Osito Audit: C** 85.42 45 P **P** 20 29 03.3 +0.6
baz=228
DECC **Green Verdugo** 85.42 46 P **P** 20 29 03.6 +0.9
baz=228
PSI **Prapat** 85.45 276 *e*P **P** 20 29 02.5 -1.0
PSI *e* 20 32 24.1
PSI pmax pmax
comp=Z,35nm,1.1s
PSI **Prapat** 85.45 276 *e*P **P** 20 29 02.5 -1.0
comp=Z,35nm,1.1s
PSI *e*PP **PP** 20 32 24.1 +1.8
PASC **Pasadena Art C** 85.45 46 *e*P **P** 20 29 00.6 -2.2
comp=Z,69nm,1.5s
PET **Petropavlovsk** 85.51 346 *e*P **P** 20 29 02.6 0.0
PET *e*S **S** 20 39 30.0 -0.7
PET pmax pmax
comp=Z,300nm,19.1s
PET pmax pmax
comp=Z,34nm,0.6s
PET MLR MLR
comp=Z,800nm,18.0s
PET **Petropavlovsk** 85.51 346 *e*P **P** 20 29 01.9 -0.7
comp=Z,31nm,0.9s
PET LR LR
comp=Z,824nm,20.0s
MWC **Mount Wilson** 85.57 46 *e*P **P** 20 29 05.2 +1.6
MWC pmax pmax
comp=Z,60nm,1.4s
MWC **Mount Wilson** 85.57 46 *e*P **P** 20 29 05.2 +1.6
comp=Z,60nm,1.4s
ARVC **Arvin** 85.69 45 P **P** 20 29 04.5 +0.5
baz=228
MURC **Murrieta** 85.70 47 P **P** 20 29 04.8 +0.6
baz=229
MONP2 **Monument Peak** 85.73 48 P **P** 20 29 05.6 +1.0
baz=230,SNR=6.6
IKP **In-Ko-Pah, Jac** 85.78 48 P **P** 20 29 05.6 +1.0
baz=230,SNR=6.8
PEA0 **Petropavlovsk-** 85.79 346 *e*P **P** 20 29 04.0 0.0
PEA0B **Petropavlovsk-** 85.79 346 *e*P **P** 20 29 04.4 +0.4
comp=Z,90nm,1.0s
PETK **Petropavlovsk-** 85.79 346 P **P** 20 29 03.9 -0.1
comp=Z,51nm,0.8s,baz=124,slow=7.5,SNR=38
PETK LR LR 21 04 34.7
comp=Z,416nm,19.1s,baz=164,slow=34
BFSC **Mount Baldy Ra** 85.83 46 P **P** 20 29 05.6 +0.7
baz=229
GSI **Gunungsitoli** 85.86 274 P **P** 20 29 06.0 +0.6
comp=Z,130nm,0.9s
GSI **Gunungsitoli** 85.86 274 *e*P **P** 20 29 05.8 +0.5
comp=Z,88nm,0.8s
VES **Vestal, Richgr** 86.01 44 P **P** 20 29 06.1 +0.5
baz=228
EDW2 **Edwards Air Fo** 86.04 46 P **P** 20 29 06.4 +0.6
baz=228,SNR=15
SWSC **Sam W. Stewart** 86.17 48 P **P** 20 29 07.1 +0.8
baz=230
TPFO **Pinon Flats** 86.17 47 P **P** 20 29 07.8 +1.2
baz=230,SNR=6.2
PFO **Pinyon Flats O** 86.17 47 P **P** 20 29 07.3 +0.7
comp=Z,13nm,1.0s,baz=281,slow=4.0,SNR=10
PFO **Pinyon Flats O** 86.17 47 P **P** 20 29 08.1 +1.5
baz=230,SNR=7.2
PFO **Pinyon Flats O** 86.17 47 *e*P **P** 20 29 08.1 +1.5
PFO pmax pmax
comp=Z,34nm,1.1s
PFO MLR MLR
comp=Z,705nm,20.0s
PFO **Pinyon Flats O** 86.17 47 *e*P **P** 20 29 08.1 +1.5
comp=Z,34nm,1.1s
PFO LR LR
comp=Z,705nm,20.0s
RCTC **Rector, Farmer** 86.23 44 P **P** 20 29 06.8 +0.2
baz=228
NJ2 **Nanjing** 86.24 311 *e*P **P** 20 29 06.6 -0.1
NJ2 sP **sP** 20 29 28.4 +4.6
NJ2 PP **PP** 20 32 26.2 -2.1
NJ2 S **S** 20 39 41.0 +2.1
NJ2 PMZ
comp=Z,24nm,0.6s
NJ2 PMZ
comp=Z,300nm,3.5s
NJ2 LN
comp=Z,2µm,16.3s
NJ2 LE
comp=Z,2µm,17.3s
NJ2 LZ
comp=Z,550nm,19.0s
ISA **Isabella, Lake** 86.26 45 P **P** 20 29 07.3 +0.4
baz=228,SNR=7.2
ISA **Isabella, Lake** 86.26 45 *e*P **P** 20 29 08.1 +1.2
ISA pmax pmax
comp=Z,127nm,1.8s
ISA **Isabella, Lake** 86.26 45 *e*P **P** 20 29 08.1 +1.2
comp=Z,127nm,1.8s
BBRC **Big Bear Solar** 86.30 47 P **P** 20 29 08.0 +0.6
baz=229
UBPT **Khong Chiam** 86.43 290 P **P** 20 29 09.6 +1.5
comp=Z,32nm,1.3s,comp=Z,729nm
ROC1 **El Roble** 86.53 126 *e*P **P** 20 29 09.7 +1.0
comp=Z,38nm,0.8s
LRMC **Laurel Mtn Rad** 86.63 45 P **P** 20 29 09.3 +0.5
baz=229,SNR=13
RRX **Edison Barstow** 86.66 46 P **P** 20 29 09.7 +0.9
baz=229
SDPT **Sand Point** 86.68 10 *e*P **P** 20 29 08.8 +0.5
comp=Z,169nm,0.7s
BELC **Belle Mtn. Jos** 86.72 47 P **P** 20 29 09.6 +0.3
baz=230,SNR=13
CMB **Columbia Colle** 86.73 42 *e*P **P** 20 29 09.7 +0.6
CMB pmax pmax
comp=Z,19nm,0.9s
CMB **Columbia Colle** 86.73 42 *e*P **P** 20 29 09.7 +0.6
comp=Z,19nm,0.9s
BC3 **Big Chuckawall** 86.84 48 P **P** 20 29 10.5 +0.7
baz=230,SNR=14
GLA **Glamis** 86.86 49 P **P** 20 29 11.3 +1.4
baz=230,SNR=7.1
GLA **Glamis** 86.86 49 *e*P **P** 20 29 11.9 +2.0
GLA pmax pmax
comp=Z,114nm,1.6s
GLA **Glamis** 86.86 49 *e*P **P** 20 29 11.9 +2.0
comp=Z,114nm,1.6s
HSIG 86.98 54 *e*P **P** 20 29 11.4 +0.9
comp=Z,45nm,1.3s
AFDM **Forest Hills D** 87.02 41 *e*P **P** 20 29 11.4 +0.9
comp=Z,21nm,1.2s
CWC **Cottonwood Cre** 87.02 44 P **P** 20 29 11.4 +0.7
baz=228
HEC **Hector Ludlow** 87.04 46 P **P** 20 29 11.0 +0.3
baz=230,SNR=8.0
GSC **Goldstone, Bar** 87.05 46 P **P** 20 29 11.0 +0.2
baz=229,SNR=17
GSC **Goldstone, Bar** 87.05 46 *e*P **P** 20 29 11.8 +1.0
GSC pmax pmax
comp=Z,168nm,2.0s
GSC **Goldstone, Bar** 87.05 46 *e*P **P** 20 29 11.8 +1.0
comp=Z,168nm,2.0s
MPMC **Manual Prospec** 87.12 45 P **P** 20 29 10.8 -0.5
baz=229,SNR=14
ORV **Oroville** 87.14 40 *e*P **P** 20 29 12.2 +1.2
ORV pmax pmax
comp=Z,32nm,1.4s
ORV **Oroville** 87.14 40 *e*P **P** 20 29 12.2 +1.2
comp=Z,32nm,1.4s
USRK **Ussuriysk Ar.** 87.14 327 P **P** 20 29 11.3 +0.4
comp=Z,24nm,0.9s,baz=121,slow=4.1,SNR=31
USRK LR LR 21 03 51.8
comp=Z,486nm,20.8s,baz=134,slow=33
TPTI 87.18 275 P **P** 20 29 11.8 0.0
comp=Z,53nm,0.7s
DAC **Darwin (Calif)** 87.20 45 *e*P **P** 20 29 12.4 +0.7
DAC pmax pmax
comp=Z,32nm,1.5s
DAC **Darwin (Calif)** 87.20 45 *e*P **P** 20 29 12.3 +0.7
comp=Z,32nm,1.5s
WDC **Whiskeytown Da** 87.28 39 *e*P **P** 20 29 12.8 +1.2
WDC pmax pmax
comp=Z,36nm,1.3s
WDC **Whiskeytown Da** 87.28 39 *e*P **P** 20 29 12.8 +1.2
comp=Z,36nm,1.3s
TIN **Tinemaha, Big** 87.33 44 P **P** 20 29 12.5 +0.4
baz=228
MLAC **Mammoth, Mammo** 87.36 43 P **P** 20 29 12.8 +0.4
baz=228
IRM **Iron Mountain** 87.36 48 P **P** 20 29 13.4 +1.2
baz=230,SNR=22
113A **Mohawk Valley,** 87.38 49 *e*P **P** 20 29 13.5 +1.2
comp=Z,28nm,1.3s
GMRC **Granite Mounta** 87.43 47 P **P** 20 29 13.3 +0.5
baz=230,SNR=8.4
N02D **Trinity Center** 87.47 39 P **P** 20 29 13.3 +0.6
baz=225
O03D **Paynes Creek** 87.48 39 P **P** 20 29 12.7 -0.1
baz=226
Y12C **Blythe** 87.50 48 P **P** 20 29 13.7 +0.8
baz=231
Y12C **Blythe** 87.50 48 *e*P **P** 20 29 14.4 +1.6
comp=Z,71nm,1.5s
214A **Organ Pipe Nat** 87.50 51 P **P** 20 29 13.9 +0.9
baz=232
214A **Organ Pipe Nat** 87.50 51 *e*P **P** 20 29 14.0 +1.0
comp=Z,192nm,1.5s
M02C **Callahan** 87.68 38 P **P** 20 29 14.8 +1.1
baz=225,SNR=7.0
TUQ **Turquoise Moun** 87.69 46 P **P** 20 29 14.4 +0.5
baz=230,SNR=8.2
SHOC **Shoshone, Teco** 87.77 46 P **P** 20 29 14.5 +0.3
baz=230
FURC **Furnace Creek,** 87.78 45 P **P** 20 29 14.7 +0.6
baz=229
GRAC **Grapevine Rang** 87.82 44 P **P** 20 29 14.6 +0.2
baz=229,SNR=14
L02D **Cave Junction,** 87.83 37 P **P** 20 29 15.5 +1.2
baz=225
CHGN **Chignik** 87.92 11 *e*P **P** 20 29 14.3 +0.1
LDFC **Landfair** 87.97 47 *e*P **P** 20 29 17.4 +2.2
comp=Z,312nm,1.8s
YBH **Yreka Blue Hor** 88.00 38 *e*P **P** 20 29 16.1 +0.9
YBH pmax pmax
comp=Z,14nm,0.9s
YBH **Yreka Blue Hor** 88.00 38 *e*P **P** 20 29 16.1 +0.9
comp=Z,14nm,0.9s
NEE2 **Needles Airpor** 88.08 47 P **P** 20 29 16.6 +0.9
baz=230
PDMCI **Parker Dam,Lak** 88.09 48 P **P** 20 29 16.8 +1.1
baz=231,SNR=9.4
NV01 **Mina Array Sit** 88.20 43 *e*P **P** 20 29 16.5 +0.1
NVAR **Mina Array Bea** 88.20 43 P **P** 20 29 16.9 +0.5
comp=Z,14nm,0.8s,baz=227,slow=8.0,SNR=92
NVAR PKKPbc **PKKPbc** 20 47 02.3 +1.0
comp=Z,1.2nm,0.6s,baz=66,slow=4.9,SNR=7.9
NVAR PKPPKP **P'P'df** 20 55 07.4 +1.9
comp=Z,0.8nm,0.7s,baz=86,slow=4.1,SNR=5.8
NVAR LR LR 21 05 23.4
comp=Z,1µm,18.1s,baz=246,slow=33
NV11 **Mina Array Sit** 88.29 43 *e*P **P** 20 29 17.4 +0.6
comp=Z,18nm,1.0s
PAHR **Pah Rah Range** 88.44 41 *e*P **P** 20 29 18.2 +0.8
comp=Z,11nm,0.8s
TPNV **Topopah Spring** 88.46 45 P **P** 20 29 18.4 +0.8
baz=230,SNR=12
TPNV **Topopah Spring** 88.46 45 *e*P **P** 20 29 18.8 +1.2
TPNV pmax pmax
comp=Z,39nm,1.3s
TPNV **Topopah Spring** 88.46 45 *e*P **P** 20 29 18.8 +1.2
comp=Z,39nm,1.3s
HUMO **Hull Mountain** 88.48 37 *e*P **P** 20 29 18.1 +0.7
comp=Z,15nm,1.1s
M04C **Macdoel** 88.50 38 P **P** 20 29 18.2 +0.6
baz=226,SNR=6.9
SKNT **Sakolnakorn** 88.54 291 P **P** 20 29 19.3 +1.1
comp=Z,47nm,1.2s
Y14A **Wickenburg** 88.60 49 *e*P **P** 20 29 19.6 +1.4
comp=Z,252nm,1.4s
MDJ **Mudanjiang** 88.61 326 P **P** 20 29 18.3 +0.4
MDJ pP pP 20 29 30.5 +0.1
MDJ sP sP 20 29 35.3 +0.3
MDJ S **S** 20 40 00.1 -1.0
MDJ sS sS 20 40 21.7 -0.3
MDJ SS **SS** 20 45 50.9 -2.7
MDJ PMZ
comp=Z,11nm,1.1s
MDJ PMZ
comp=Z,270nm,6.4s
MDJ LN
comp=Z,430nm,20.2s
MDJ LE
comp=Z,370nm,14.5s
MDJ LZ
comp=Z,650nm,16.9s
MDJ **Mudanjiang** 88.61 326 *e*P **P** 20 29 18.8 +1.0
comp=Z,12nm,0.8s
MDJ LR LR
comp=Z,496nm,20.0s
W13A **Hualapai Mount** 88.76 48 *e*P **P** 20 29 20.4 +1.3
comp=Z,96nm,1.9s
SHPR **Sheep Range** 88.85 46 *e*P **P** 20 29 21.2 +1.8
comp=Z,62nm,1.7s
DL2 **Dalian** 88.94 317 P **P** 20 29 19.6 +0.1
DL2 PMZ
comp=Z,300nm,5.9s
HABR **Khabarovsk** 89.03 331 *ce*P **P** 20 29 19.7 0.0
HABR *e* 20 32 48.4
HABR *e*PPP PPP 20 34 44.8
HABR *e*S **SKSac** 20 39 38.7 -7.1
HABR *e* 20 40 02.0
HABR *e*SS **SS** 20 45 52.4 -7.1
I03D **Drain, OR** 89.05 36 P **P** 20 29 20.6 +0.6
baz=225
TUC **Tucson** 89.08 51 P **P** 20 29 21.9 +1.4
baz=233
TUC **Tucson** 89.08 51 *e*P **P** 20 29 21.9 +1.4
TUC pmax pmax
comp=Z,128nm,1.8s
TUC MLR MLR
comp=Z,456nm,19.0s
TUC **Tucson** 89.08 51 *e*P **P** 20 29 21.9 +1.4
comp=Z,128nm,1.8s
TUC LR LR
comp=Z,456nm,19.0s
K04D **Chiloquin, OR** 89.13 38 P **P** 20 29 21.1 +0.6
baz=226
KHON **Honomkaen** 89.15 289 P **P** 20 29 23.9 +2.9
comp=Z,12nm,1.1s,comp=Z,1µm
HOPE **Hope Point** 89.37 159 PFAKE 20 29 30.0 +8.5
HOPE LR LR
comp=Z,438nm,19.0s
MOD **Modoc Plateau** 89.41 39 *e*P **P** 20 29 22.4 +0.5
comp=Z,38nm,1.6s
TRQA **Tornquist** 89.44 135 PFAKE 20 29 30.0 +7.7
TRQA LR LR
comp=Z,770nm,20.0s
319A **Douglas** 89.55 53 *e*P **P** 20 29 24.0 +1.2
comp=Z,30nm,1.1s
CHAI **Chaiyaphum** 89.60 289 P **P** 20 29 25.5 +2.3
comp=Z,8.4nm,0.9s,comp=Z,66nm
I04A **Tendick Farm,** 89.60 37 P **P** 20 29 23.3 +0.7
baz=225,SNR=5.8
K05A **Summer Lake** 89.66 38 *e*P **P** 20 29 24.4 +1.3
comp=Z,64nm,1.5s
HBO **Huckleberry Mo** 89.68 37 P **P** 20 29 24.1 +1.0
OHAK **Old Harbor** 89.71 13 *e*P **P** 20 29 22.6 0.0
comp=Z,44nm,0.9s
R11A **Troy Canyon, C** 89.77 44 P **P** 20 29 24.5 +0.8
baz=230,SNR=8.1
R11A **Troy Canyon, C** 89.77 44 *e*P **P** 20 29 24.5 +0.8
comp=Z,7.4nm,1.2s
NONG **Nongkai** 89.79 291 P **P** 20 29 25.1 +1.1
comp=Z,52nm,1.1s
J05D **Fort Rock, OR** 89.86 38 P **P** 20 29 24.7 +0.7
baz=226,SNR=7.2
BROR **Big Rock Looko** 89.91 36 P **P** 20 29 24.8 +0.8
X16A **Lo Mia Camp, P** 89.92 49 *e*P **P** 20 29 26.2 +1.7
comp=Z,34nm,0.9s
TIA **Tai'an** 89.96 313 *e*P **P** 20 29 24.8 +0.3
TIA PMZ
comp=Z,40nm,0.8s
CN2 **Changchun** 90.13 323 *e*P **P** 20 29 25.4 +0.4
CN2 *e*S **S** 20 40 10.0 -5.3
CN2 PMZ
comp=Z,30nm,0.8s
CN2 PMZ
comp=Z,300nm,6.0s
CN2 LN
comp=Z,300nm,16.0s
CN2 LE
comp=Z,500nm,16.0s
CN2 LZ
comp=Z,500nm,17.0s
BMN **Battle Mountai** 90.16 42 *e*P **P** 20 29 25.4 0.0
BMN pmax pmax
comp=Z,40nm,1.5s
BMN **Battle Mountai** 90.16 42 *e*P **P** 20 29 25.4 0.0
comp=Z,40nm,1.5s
G03D **McMinnville, O** 90.17 35 P **P** 20 29 25.8 +0.7
baz=225
H04A **Detroit Lake** 90.34 36 *e*P **P** 20 29 26.8 +0.7
comp=Z,22nm,0.8s
LCMT **Little Creek M** 90.36 46 *e*P **P** 20 29 27.8 +1.3
KDAK **Kodiak Island** 90.38 13 *e*P **P** 20 29 26.5 +0.7
KDAK pmax pmax
comp=Z,43nm,1.1s
KDAK MLR MLR
comp=Z,805nm,20.0s
KDAK **Kodiak Island** 90.38 13 *e*P **P** 20 29 26.5 +0.7
comp=Z,43nm,1.1s
KDAK LR LR
comp=Z,805nm,20.0s
I05D **Terrebonne, OR** 90.53 37 P **P** 20 29 27.4 +0.4
baz=226
BPO **Bald Peter** 90.57 36 P **P** 20 29 28.3 +0.9
U15A **North Rim** 90.60 47 *e*P **P** 20 29 29.4 +1.6
comp=Z,26nm,0.9s
CCUT **Cedar City** 90.62 46 *e*P **P** 20 29 29.1 +1.3
comp=Z,15nm,1.1s
KNB **Kanab** 90.63 47 *e*P **P** 20 29 29.2 +1.4
KNB pmax pmax
comp=Z,25nm,1.0s
KNB **Kanab** 90.63 47 *e*P **P** 20 29 29.2 +1.4
comp=Z,24nm,1.0s

WUAZ Wupatki 90.63 48 P **P 20 29 28.8 +1.0**
baz=232
WUAZ Wupatki 90.63 48 *e*P **P 20 29 29.3 +1.5**
comp=Z,66nm,1.4s
WUAZ LR LR
comp=Z,499nm,21.0s
WVOR Wild Horse Val 90.68 40 *e*P **P 20 29 28.7 +0.9**
WVOR pmax pmax
comp=Z,34nm,1.5s
WVOR Wild Horse Val 90.68 40 *e*P **P 20 29 28.7 +0.9**
comp=Z,34nm,1.5s
PBKT Sadao Pong 90.78 289 P **P 20 29 31.1 +2.4**
comp=Z,25nm,1.8s
F04D Rainier, OR 90.91 35 P **P 20 29 29.8 +1.2**
baz=225
PSUT Pine Spring 90.93 45 *e*P **P 20 29 30.0 +0.8**
comp=Z,13nm,0.9s
E03A Lebam 90.97 34 P **P 20 29 30.2 +1.4**
KLR Kul'dur 91.02 330 P **P 20 29 29.6 +0.6**
comp=Z,14nm,0.8s,baz=123,slow=3.1,SNR=28
KLR LR LR 21 05 54.4
comp=Z,641nm,21.6s,slow=33
LOEI Loei 91.03 290 P **P 20 29 30.9 +1.1**
comp=Z,110nm,0.7s
F04A Amboy 91.10 35 *e*P **P 20 29 29.8 +0.3**
comp=Z,29nm,0.9s
CROR Criterion Ridg 91.16 37 P **P 20 29 29.7 -0.2**
G05D Wamic, OR 91.17 36 P **P 20 29 30.1 +0.2**
baz=226
121A Cookes Peak, D 91.25 53 P **P 20 29 32.3 +1.5**
baz=234
121A Cookes Peak, D 91.25 53 *e*P **P 20 29 30.9 +0.2**
comp=Z,18nm,1.2s
NLWA Neilton Lookou 91.42 33 *e*P **P 20 29 33.0 +1.9**
comp=Z,72nm,1.8s
NLWA LR LR
comp=Z,765nm,21.0s
W18A Petrified Fore 91.46 50 P **P 20 29 32.6 +0.9**
baz=233
W18A Petrified Fore 91.46 50 *e*P **P 20 29 33.8 +2.1**
comp=Z,45nm,1.4s
TDL Tradedollar La 91.49 35 P **P 20 29 32.7 +1.2**
ELK Elko 91.51 43 *e*P **P 20 29 32.3 +0.4**
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 91.51 43 *e*P **P 20 29 32.3 +0.4**
comp=Z,7.4nm,0.9s
G06A Carlson Farm, 91.52 37 *e*P **P 20 29 32.4 +0.9**
comp=Z,30nm,0.9s
GYA Guiyang 91.55 300⇑ *i*P **P 20 29 32.5 +0.3**
GYA pP sP 20 29 48.4 -1.0
GYA PP **PP 20 33 16.8 +5.7**
GYA SKS **SKSac 20 40 02.8 +1.0**
GYA S **S 20 40 29.0 -0.4**
GYA sS sS 20 40 52.6 +2.3
GYA SS **SS 20 46 41.2 +4.1**
GYA PMZ
comp=Z,20nm,0.9s
GYA PMZ
comp=Z,130nm,6.9s
GYA LN
comp=Z,560nm,20.0s
GYA LE
comp=Z,540nm,21.0s
GYA LZ
comp=Z,500nm,20.4s
ENH Enshi 91.60 304 *e*P **P 20 29 32.9 +0.7**
comp=Z,23nm,0.9s
ENH LR LR
comp=Z,317nm,21.0s
MTPU Mount Pierson 91.66 46 *e*P **P 20 29 34.7 +1.9**
comp=Z,21nm,1.2s
UTTA Uttaradit 91.73 289 P **P 20 29 37.1 +4.1**
comp=Z,3.0nm,0.9s
MSU Marysvale 91.95 46 *e*P **P 20 29 35.1 +1.2**
MSU Marysvale 91.95 46 *e*P **P 20 29 35.1 +1.2**
LON Longmire 91.97 35 *e*P **P 20 29 33.8 +0.2**
LON pmax pmax
comp=Z,7.0nm,1.1s
LON Longmire 91.97 35 *e*P **P 20 29 33.8 +0.2**
comp=Z,7.2nm,1.1s
D05A Enumclaw 92.19 34 *e*P **P 20 29 34.9 +0.5**
comp=Z,26nm,1.0s
CNPM China Poot 92.26 13 *e*P **P 20 29 34.8 +0.2**
comp=Z,46nm,0.9s
HOM Homer 92.30 13 *e*P **P 20 29 35.8 +1.1**
comp=Z,141nm,0.9s
TX31 Lajitas Ar. Si 92.36 57 *e*P **P 20 29 36.2 +0.3**
TXAR Lajitas Array 92.36 57 P **P 20 29 36.3 +0.4**
comp=Z,3.3nm,1.0s,baz=214,slow=6.0,SNR=19
TXAR LR LR 21 06 30.7
comp=Z,313nm,18.0s,baz=0.0,slow=32
G08A Pilot Rock 92.42 37 *e*P **P 20 29 36.8 +1.0**
comp=Z,20nm,0.9s
MNTX Cornudas Mount 92.45 55 P **P 20 29 37.2 +1.1**
baz=236
MNTX Cornudas Mount 92.45 55 *e*P **P 20 29 36.5 +0.4**
comp=Z,5.7nm,0.9s
MNTX LR LR
comp=Z,301nm,22.0s
BRLK Bradley Lake 92.55 13 *e*P **P 20 29 36.1 +0.2**
comp=Z,58nm,1.1s
DUG Dugway, Tooele 92.60 44 P **P 20 29 36.9 +0.2**
baz=232
DUG Dugway, Tooele 92.60 44 PFAKE 20 29 50.0 +13
DUG LR LR
comp=Z,1μm,19.0s
CMIG Matias Romero 92.73 72 P **P 20 29 38.7 +1.0**
comp=Z,4.2nm,0.8s,baz=274,slow=4.9,SNR=6.6
Y22D IRIS PASSCAL I 92.73 52 P **P 20 29 37.0 -0.5**
baz=235
LAZ Ladron 92.77 51 *e*P **P 20 29 39.4 +1.6**
RSO Redoubt South 92.84 12 *e*P **P 20 29 36.9 -0.5**
HAWA Hanford 92.87 36 PFAKE 20 29 50.0 +12
HAWA LR LR
comp=Z,692nm,19.0s
MFID Camas Ranch 92.88 40 *e*P **P 20 29 38.8 +0.8**
comp=Z,15nm,0.9s
MFID eSS SS 20 46 50.5 -5.2
B05A Bryant 92.89 34 P **P 20 29 38.6 +0.9**
baz=226
BJT Baijiatuau 92.91 315 PFAKE 20 29 50.0 +12
BJT LR LR
comp=Z,621nm,22.0s
BJI Beijing 92.92 315 P **P 20 29 38.3 +0.3**
BJI pP **pP 20 29 50.7 +0.2**
BJI sP **sP 20 29 57.2 +2.1**
BJI PP **PP 20 33 28.0 +6.6**
BJI SKS **SKSac 20 40 06.4 -2.1**
BJI S **S 20 40 41.0 +0.3**
BJI PMZ
comp=Z,11nm,0.8s
BJI PMZ
comp=Z,300nm,6.1s
BJI LN
comp=Z,300nm,35.2s
BJI LE
comp=Z,300nm,34.4s
BJI LZ
comp=Z,910nm,32.3s
A04D Lummi Island 92.92 33 P **P 20 29 39.0 +1.2**
baz=225
BGU Big Grassy Mou 92.92 43 *e*P **P 20 29 39.3 +1.0**
comp=Z,7.3nm,1.0s
SVW2 Sparrevohn 92.95 11 *e*P **P 20 29 37.2 -0.5**
comp=Z,7.1nm,0.9s
BNM Barren Site 92.97 52 *e*P **P 20 29 40.0 +1.3**
BMO Blue Mountains 93.01 38 *e*P **P 20 29 39.0 +0.5**
comp=Z,5.1nm,0.8s
BMO LR LR
comp=Z,623nm,20.0s
TMUT Trail Mountain 93.03 46 *e*P **P 20 29 40.6 +1.6**
comp=Z,26nm,1.3s
BBB Bella Bella 93.06 28 P **P 20 29 39.2 +0.8**
comp=Z,9.2nm,0.9s,baz=171,slow=4.8,SNR=4.4
C06D Leavenworth 93.23 34 P **P 20 29 39.0 -0.3**
baz=227
MA2 Magadan 93.27 345 P **P 20 29 38.7 -0.5**
comp=Z,8.7nm,0.7s,baz=159,slow=5.2,SNR=8.1
MA2 LR LR 21 06 00.2
comp=Z,710nm,21.8s,baz=172,slow=32
SRU San Rafael Swe 93.34 46 *e*P **P 20 29 41.2 +0.9**
SRU pmax pmax
comp=Z,13nm,1.1s
SRU San Rafael Swe 93.34 46 *e*P **P 20 29 41.2 +0.9**
comp=Z,13nm,1.1s
SRU *e*PKKPdf **PKKPdf 20 46 47.6 +0.3**

CM01 Chiang Mai Arr 93.38 289 *e*P **P 20 29 41.6 +1.0**
CMAR Chiang Mai Arr 93.41 289 P **P 20 29 41.8 +1.0**
comp=Z,2.9nm,0.7s,baz=135,slow=3.9,SNR=12
CMAR PP **PP 20 33 27.3 +1.7**
comp=Z,2.0nm,1.0s,baz=131,slow=5.4,SNR=5.3
CMAR PKiKP **PKiKP 20 34 28.1 +1.1**
comp=Z,0.8nm,0.7s,baz=216,slow=1.2,SNR=5.0
CMAR PKKPbc **PKKPbc 20 46 47.8 +0.9**
comp=Z,1.3nm,0.9s,baz=289,slow=4.4,SNR=5.1
CMAR LR LR 21 14 27.8
comp=Z,194nm,19.7s,baz=146,slow=37
NNA Nana 93.41 106 PFAKE 20 29 50.0 +8.9
NNA LR LR
comp=Z,776nm,21.0s
MVCO Mesa Verde 93.50 49 P **P 20 29 41.9 +0.8**
baz=234
MVCO Mesa Verde 93.50 49 PFAKE 20 29 50.0 +8.9
MVCO LR LR
comp=Z,512nm,22.0s
ANMO Albuquerque 93.55 51 P **P 20 29 42.0 +0.6**
comp=Z,4.2nm,0.9s,baz=210,slow=6.6,SNR=11
ANMO Albuquerque 93.55 51 P **P 20 29 42.5 +1.1**
baz=235
ANMO Albuquerque 93.55 51 *e*P **P 20 29 42.4 +1.1**
ANMO pmax pmax
comp=Z,12nm,1.1s
ANMO MLR MLR
comp=Z,505nm,19.0s
ANMO Albuquerque 93.55 51 *e*P **P 20 29 42.4 +1.0**
comp=Z,12nm,1.1s
ANMO LR LR
comp=Z,505nm,19.0s
CHTO Chiang Mai 93.59 290 P **P 20 29 45.5 +3.8**
CHTO Chiang Mai 93.59 290 *e*P **P 20 29 44.5 +2.9**
CHTO pmax pmax
comp=Z,37nm,1.8s
CHTO MLR MLR
comp=Z,461nm,20.0s
CHTO Chiang Mai 93.59 290 *e*P **P 20 29 44.5 +2.9**
comp=Z,37nm,1.8s
CHTO LR LR
comp=Z,461nm,20.0s
HVU Hansel Valley 93.60 43 *e*P **P 20 29 42.4 +1.0**
HVU pmax pmax
comp=Z,17nm,0.9s
HVU Hansel Valley 93.60 43 *e*P **P 20 29 42.4 +1.0**
comp=Z,17nm,0.9s
PV05 Paradox Valley 93.62 48 *e*P **P 20 29 43.3 +1.6**
SPU Mount Spurr 93.64 12 *e*P **P 20 29 39.5 -1.4**
HLID Hailey 93.77 41 P **P 20 29 43.0 +0.8**
baz=231
HLID Hailey 93.77 41 *e*P **P 20 29 42.8 +0.6**
comp=Z,9.9nm,0.8s
HLID LR LR
comp=Z,630nm,19.0s
KMI Kunming 93.82 297 P **P 20 29 45.2 +2.3**
KMI pP sP 20 29 59.3 -0.7
KMI sP pP 20 30 04.5 +9.1
KMI PP **PP 20 33 35.4 +6.3**
KMI S **S 20 40 49.9 0.0**
KMI sS sS 20 41 13.4 +2.5
KMI SS **SS 20 47 13.5 +3.6**
KMI PMZ
comp=Z,14nm,0.7s
KMI PMZ
comp=Z,120nm,5.5s
KMI LN
comp=Z,370nm,17.2s
KMI LE
comp=Z,340nm,17.2s
KMI LZ
comp=Z,350nm,18.9s
TIY Taiyuan 93.86 312 *e*P **P 20 29 43.7 +1.1**
TIY LN
comp=Z,290nm,13.7s
TIY LE
comp=Z,530nm,13.7s
TIY LZ
comp=Z,870nm,16.5s
LVC Limon Verde 93.94 119 P **P 20 29 43.1 -0.7**
comp=Z,12nm,0.6s,baz=264,slow=9.8,SNR=4.0
RC01 Rabbit Creek A 94.00 13 *e*P **P 20 29 42.5 0.0**
comp=Z,24nm,1.0s
SUA Susitna One 94.14 13 *e*P **P 20 29 43.3 -0.1**
comp=Z,29nm,0.8s
HWUT Hardware Ranch 94.21 44 *e*P **P 20 29 44.6 +0.4**
comp=Z,5.9nm,1.0s
HWUT *e*PKKPdf **PKKPbc 20 46 46.2 +0.2**
HWUT LR LR
comp=Z,863nm,20.0s
EYAK Cordova Ski Ar 94.36 15 *e*P **P 20 29 44.3 +0.2**
EYAK *e*pP **sP 20 29 59.5 -1.8**
PMR Palmer 94.58 13 *e*P **P 20 29 45.2 +0.1**
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 94.58 13 *e*P **P 20 29 45.1 +0.1**
comp=Z,17nm,1.0s
TT01 Tatalina 94.60 10 *e*P **P 20 29 45.3 +0.1**
TTA Tatalina 94.62 10 *e*P **P 20 29 45.8 +0.4**
TTA pmax pmax
comp=Z,18nm,1.0s
TTA Tatalina 94.62 10 *e*P **P 20 29 45.8 +0.4**
comp=Z,18nm,1.0s
933A Laredo 94.69 61 P **P 20 29 47.1 +0.6**
baz=238
WRAK Wrangell Islan 94.73 23 PFAKE 20 30 00.0 +14
WRAK LR LR
comp=Z,638nm,21.0s
034A Hebbronville 94.85 62 P **P 20 29 47.1 -0.2**
baz=238
DIV Dixie 94.87 15 *e*P **P 20 29 47.3 +0.7**
comp=Z,14nm,0.9s
S22A 4UR Ranch, Cre 94.89 49 P **P 20 29 47.8 +0.2**
baz=235
S22A 4UR Ranch, Cre 94.89 49 *e*P **P 20 29 48.8 +1.2**
comp=Z,11nm,1.3s
SML Sawmill 94.93 14 *e*P **P 20 29 49.5 +2.6**
SML pmax pmax
comp=Z,10.0nm,1.0s
SML Sawmill 94.93 14 *e*P **P 20 29 49.5 +2.6**
comp=Z,10nm,1.0s
BMRM Bremner River 95.00 16 *e*P **P 20 29 47.4 +0.3**
comp=Z,27nm,0.9s
KLU Klutina 95.16 15 *e*P **P 20 29 48.1 +0.2**
comp=Z,8.4nm,0.9s
SCM Sheep Creek Mo 95.16 14 *e*P **P 20 29 48.3 +0.4**
SCM pmax pmax
comp=Z,34nm,0.9s
SCM Sheep Creek Mo 95.16 14 *e*P **P 20 29 48.3 +0.4**
comp=Z,34nm,0.9s
AHID Auburn Hatcher 95.19 43 *e*P **P 20 29 50.5 +1.8**
comp=Z,11nm,0.8s
AHID LR LR
comp=Z,837nm,19.0s
PPLA Purkeypile 95.21 12 *e*P **P 20 29 48.4 +0.2**
comp=Z,12nm,1.1s
NEW Newport 95.34 36 P **P 20 29 49.2 +0.2**
baz=229
NEW Newport 95.34 36 PFAKE 20 30 00.0 +11
NEW LR LR
comp=Z,744nm,20.0s
MCMT McKenzie Canyo 95.44 40 *e*P **P 20 29 50.2 +0.4**
834A Tilden 95.50 61 P **P 20 29 49.9 -0.3**
baz=238
MSTX Muleshoe 95.53 54 P **P 20 29 50.2 -0.1**
baz=237
REDW Red Top Meadow 95.69 42 *e*P **P 20 29 51.8 +0.7**
comp=Z,19nm,1.3s
CAST Castle Rocks 95.71 11 *e*P **P 20 29 49.1 -1.2**
comp=Z,15nm,0.9s
TPAW Ten Pass 95.71 42 *e*P **P 20 29 52.1 +1.0**
comp=Z,10nm,1.2s
FXWY Fox Creek 95.75 42 *e*P **P 20 29 52.8 +1.5**
comp=Z,5.2nm,0.9s
SDCO Great Sand Dun 95.76 49 P **P 20 29 52.2 +0.6**
baz=236
SDCO Great Sand Dun 95.76 49 PFAKE 20 30 00.0 +8.4
SDCO LR LR
comp=Z,362nm,20.0s
JCT Junction City 95.80 58 PFAKE 20 30 00.0 +8.4
JCT LR LR
comp=Z,2μm,21.0s
DLMT Dillon 95.91 40 *e*P **P 20 29 52.8 +0.9**
comp=Z,5.8nm,0.9s
SEY Seymchan 95.95 347 P **P 20 29 50.9 -0.5**
comp=Z,10nm,0.7s,baz=156,slow=5.1,SNR=29
SEY Seymchan 95.95 347⇓ *i*P **P 20 29 50.7 -0.7**

IMW Indian Meadow 95.96 42 *e*P **P 20 29 52.5 +0.2**
comp=Z,7.5nm,1.0s
MOOW Moose Ponds 95.98 42 *e*P **P 20 29 53.3 +1.0**
comp=Z,13nm,1.7s
LOHW Long Hollow 95.99 42 *e*P **P 20 29 52.7 +0.4**
comp=Z,3.6nm,0.8s
KTH Kantishna Hill 96.04 12 *e*P **P 20 29 51.3 -0.6**
comp=Z,12nm,1.0s
TRF Thorofare Moun 96.06 12 *e*P **P 20 29 51.5 -0.6**
comp=Z,22nm,0.9s
CD2 Chengdu 96.09 302 P **P 20 29 49.6 -3.3**
CD2 pP pP 20 30 01.9 -3.5
CD2 PP **PP 20 33 43.3 -3.1**
CD2 Chengdu 96.09 302 SKS **SKSac 20 40 22.6 -3.6**
CD2 Chengdu 96.09 302 S **S 20 41 06.4 -2.5**
CD2 Chengdu 96.09 302 sS sS 20 41 27.6 -2.4
CD2 Chengdu 96.09 302 SS SS 20 47 41.1 -0.5
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.4s
CD2 Chengdu 96.09 302 *e*P **P 20 29 53.6 +0.7**
CD2 pP pP 20 30 07.5 +2.1
CD2 sP sP 20 30 12.9 +2.9
CD2 SKS **SKSac 20 40 25.9 -0.3**
CD2 S **ScS 20 41 09.7 +0.2**
CD2 sS sS 20 41 33.6 +3.6
CD2 SS **SS 20 47 44.4 +2.8**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,220nm,5.0s
BW06 Boulder Array 96.10 44 P **P 20 29 52.6 -0.3**
baz=234
BW06 Boulder Array 96.10 44 *e*P **P 20 29 52.5 -0.4**
comp=Z,5.6nm,1.0s
BW06 LR LR
comp=Z,926nm,22.0s
PDAR Pinedale Array 96.10 44 P **P 20 29 52.6 -0.3**
comp=Z,2.0nm,0.8s,baz=224,slow=3.9,SNR=14
PDAR PP PP 20 33 57.8 +11
comp=Z,0.1nm,0.3s,baz=235,slow=5.2,SNR=4.0
PDAR PKKP **PKKPbc 20 46 40.4 -0.7**
comp=Z,1.8nm,0.7s,baz=84,slow=3.8,SNR=12
PDAR LR LR 21 10 36.1
comp=Z,798nm,18.0s,baz=236,slow=34
FLWY Flagg Ranch 96.21 42 *e*P **P 20 29 54.6 +1.2**
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 96.23 314 *e*P **P 20 29 55.9 +2.5**
HHC pP sP 20 30 09.5 -1.0
HHC SKS **SKSac 20 40 25.2 -1.4**
HHC S **ScS 20 41 11.1 +0.7**
HHC PMZ
comp=Z,17nm,1.1s
HHC PMZ
comp=Z,95nm,8.5s
HHC LN
comp=Z,210nm,19.4s
HHC LE
comp=Z,350nm,18.0s
HHC LZ
comp=Z,520nm,19.6s
LRM Limekiln Ridge 96.27 40 *e*P **P 20 29 55.2 +1.5**
DHY Denali Highway 96.27 13 *e*P **P 20 29 53.8 +0.7**
comp=Z,9.8nm,1.1s
RND Reindeer 96.28 13 *e*P **P 20 29 53.0 0.0**
RND pmax pmax
comp=Z,36nm,1.1s
RND Reindeer 96.28 13 *e*P **P 20 29 53.0 0.0**
comp=Z,36nm,1.1s
433A Art 96.46 58 P **P 20 29 54.5 -0.1**
baz=238
H17A Grant Village 96.47 42 P **P 20 29 54.9 +0.4**
baz=233
BPAW Bear Paw Mtn. 96.53 12 *e*P **P 20 29 53.9 -0.2**
comp=Z,4.4nm,1.0s
534A Blanco 96.54 59 P **P 20 29 54.8 -0.2**
baz=239
MCK McKinley 96.56 13 *e*P **P 20 29 55.0 +0.8**
MCK pmax pmax
comp=Z,14nm,0.9s
MCK McKinley 96.56 13 *e*P **P 20 29 55.0 +0.8**
comp=Z,14nm,0.9s
BOZ Bozeman (W) 96.62 40 P **P 20 29 55.7 +0.7**
baz=233
BOZ Bozeman (W) 96.62 40 PFAKE 20 30 10.0 +15
BOZ LR LR
comp=Z,590nm,21.0s
HIA Hailar 96.70 324 PFAKE 20 30 10.0 +15
HIA LR LR
comp=Z,625nm,19.0s
635A Leesville 96.74 60 P **P 20 29 55.8 0.0**
baz=239
AMTX Amarillo 96.78 54 P **P 20 29 55.4 -0.6**
baz=238
ISCO Idaho Springs 96.84 48 P **P 20 29 56.8 +0.4**
baz=236
ISCO Idaho Springs 96.84 48 PFAKE 20 30 10.0 +14
ISCO LR LR
comp=Z,568nm,21.0s
333A Richland Sprin 96.84 58 P **P 20 29 56.0 -0.2**
baz=239
DLBC Dease Lake 97.09 23 P Pdif 20 29 57.1 +0.2
comp=Z,0.7nm,0.4s,baz=214,slow=3.6,SNR=2.5
434A Burnet 97.10 59 P Pdif 20 29 57.6 0.0
baz=239
334A Lometa 97.39 58 P Pdif 20 29 59.5 +0.7
baz=239
WRH Wood River Hil 97.39 13 *e*P **P 20 29 57.6 -0.3**
comp=Z,14nm,0.9s
MLY Manley 97.43 11 *e*P **P 20 29 56.2 -2.0**
comp=Z,11nm,1.1s
DOT Dot Lake 97.48 15 *e*P **P 20 29 58.4 0.0**
comp=Z,41nm,0.9s
CCB Clear Creek Bu 97.61 13 *e*P **P 20 29 58.4 -0.5**
comp=Z,10.0nm,0.8s
RLMT Red Lodge 97.65 42 P Pdif 20 30 00.1 +0.2
baz=234
RLMT Red Lodge 97.65 42 PFAKE 20 30 10.0 +10
RLMT LR LR
comp=Z,1μm,19.0s
COLA College 97.80 12 *i* P **P 20 29 59.6 -0.1**
COLA pmax pmax
comp=Z,10.0nm,1.1s
COLA College 97.80 12 *e*P **P 20 29 59.1 -0.6**
comp=Z,14nm,0.8s
COLA LR LR
comp=Z,611nm,20.0s
MDM Murphy Dome 97.81 12 *e*P **P 20 29 59.6 -0.2**
comp=Z,8.1nm,1.0s
K22A Casper 97.86 45 P **P 20 30 00.7 -0.1**
baz=236
ILAR Eielson Array 97.89 13 P **P 20 29 59.4 -0.8**
comp=Z,2.9nm,0.7s,baz=218,slow=5.7,SNR=28
ILAR PKiKP **PKiKP 20 34 32.9 -0.6**
comp=Z,0.7nm,0.8s,baz=239,slow=3.0,SNR=4.0
ILAR PKKPbc **PKKPbc 20 46 34.5 -2.1**
comp=Z,1.5nm,0.8s,baz=331,slow=2.0,SNR=9.0
ILAR LR LR 21 11 08.3
comp=Z,108nm,18.4s,baz=214,slow=34
LPAZ La Paz 98.14 114 P Pdif 20 30 04.1 +0.8
comp=Z,1.9nm,0.6s,baz=257,slow=2.7,SNR=6.2
LPAZ LR LR 21 05 26.9
comp=Z,335nm,21.5s,baz=270,slow=30
KSCO Kaye Shedlock' 98.34 50 *e*PKKPbc PKKPbc 20 46 32.2 -2.3
OTAV Otavalo 98.34 95 PFAKE 20 30 20.0 +16
OTAV LR LR
comp=Z,700nm,21.0s
LZH Lanzhou 98.72 307 *e*P Pdif 20 30 08.4 +3.6
LZH pP sP 20 30 21.0 -0.9
LZH sP pP 20 30 25.9 +8.6
LZH PMZ
comp=Z,14nm,1.0s
WMOK Wichita Mounta 98.74 55 *e*P Pdif 20 30 04.9 +0.1
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK MLR MLR
comp=Z,490nm,19.0s
WMOK Wichita Mounta 98.74 55 *e*P Pdif 20 30 04.9 +0.1
comp=Z,4.5nm,0.8s
WMOK *e*PP PP 20 34 17.1 +10
WMOK LR LR
comp=Z,490nm,19.0s
BILL Bilibino 98.81 354⇓ *e*P **P 20 30 03.9 -0.3**
BILL *e* 20 34 07.1
BILL pmax pmax

comp=Z,4.0nm,0.7s
BILL MLR MLR
comp=Z,642nm,19.0s
BILL Bilibino 98.81 354 *e*P **P 20 30 04.1 -0.1**
comp=Z,6.5nm,1.0s
BILL LR LR
comp=Z,711nm,21.0s
EGMT Eagleton 99.07 39 PFAKE 20 30 20.0 +14
EGMT LR LR
comp=Z,1µm,19.0s
EGAK Eagle 99.10 15 *e*P **Pdif 20 30 07.0 +1.4**
comp=Z,14nm,1.4s
EGAK *e*PP **PP 20 34 07.2 -1.5**
EGAK LR LR
comp=Z,616nm,21.0s
COLD Coldfoot 99.54 11 *e*P **Pdif 20 30 10.8 +3.4**
comp=Z,5.9nm,0.9s
TEIG Tepich 99.71 72 PFAKE 20 30 20.0 +11
TEIG LR LR
comp=Z,146nm,21.0s
OGNE Ogallala 99.75 48 PFAKE 20 30 20.0 +11
OGNE LR LR
comp=Z,615nm,19.0s
CPUP Villa Florida 99.99 128 P **Pdif 20 30 13.8 +3.2**
comp=Z,1.6nm,0.8s,baz=297,slow=11,SNR=3.1
CPUP Villa Florida 99.99 128 P **Pdif 20 30 13.8 +3.2**
CPUP *e*PP **PP 20 34 10.7 -4.8**
CBKS Cedar Bluff 100.16 51 PFAKE 20 30 20.0 +9.0
CBKS LR LR
comp=Z,645nm,19.0s
RSSD Black Hills 100.19 45 Pdiff **Pdif 20 30 11.6 +0.4**
baz=238
RSSD Black Hills 100.19 45 *e*P **Pdif 20 30 11.6 +0.4**
RSSD Black Hills 100.19 45 *e*Pdif **Pdif 20 30 11.6 +0.4**
LAO LASA Array 100.29 42 PFAKE 20 30 20.0 +8.6
LAO LR LR
comp=Z,708nm,19.0s
YAK Yakutsk 101.23 338 P **Pdif 20 30 16.6 +1.6**
comp=Z,1.4nm,0.3s,baz=172,slow=9.4,SNR=2.0
YAK Yakutsk 101.23 338 P **Pdif 20 30 16.6 +1.6**
YAK MLR MLR
comp=Z,737nm,20.0s
YAK Yakutsk 101.23 338 P **Pdif 20 30 16.6 +1.6**
YAK LR LR
comp=Z,737nm,20.0s
BCIP Isla Barro Col 101.56 86 PFAKE 20 30 30.0 +12
BCIP LR LR
comp=Z,501nm,22.0s
MIAR Mount Ida 102.38 57 PFAKE 20 30 30.0 +9.1
MIAR LR LR
comp=Z,468nm,22.0s
DGMT Dagmar 102.41 41 PFAKE 20 30 30.0 +9.3
DGMT LR LR
comp=Z,643nm,21.0s
KSU1 Kansas State U 102.42 52 PFAKE 20 30 30.0 +9.0
KSU1 LR LR
comp=Z,423nm,20.0s
ULN Ulaanbaatar 102.77 318 PFAKE 20 30 30.0 +7.5
ULN LR LR
comp=Z,365nm,20.0s
SONM Songino Array 103.13 318 Pdiff **Pdif 20 30 25.0 +0.9**
comp=Z,0.5nm,0.7s,baz=145,slow=3.5,SNR=3.3
SONM PP **PP 20 34 35.7 -4.1**
comp=Z,1.5nm,1.1s,baz=104,slow=6.3,SNR=5.2
SONM PKKPbc **PKKPbc 20 46 21.6 +0.6**
comp=Z,1.0nm,0.9s,baz=257,slow=1.8,SNR=5.3
SONA1 Songino Array 103.13 318 *e*PP PP 20 34 35.4 -4.4
U39A Green Forest 103.31 56 Pdiff **Pdif 20 30 25.3 +0.3**
baz=242
PALK Pallekele 103.39 271 *i* P **Pdif 20 30 19.6 -6.3**
INK Inuvik 103.75 16 PP PP 20 34 40.9 -2.7
comp=Z,1.7nm,0.7s,baz=235,slow=6.5,SNR=3.0
ECSD EROS Data Cent 104.62 48 PFAKE 20 30 40.0 +9.3
ECSD LR LR
comp=Z,472nm,20.0s
MDND Maddock 104.75 43 *e*PKKPbc PKKPbc 20 46 13.8 -2.1
LSA Lhasa 105.03 296 *e*PKiKP **PKiKP 20 34 48.6 +0.5**
comp=Z,4.2nm,1.1s
LSA LR LR
comp=Z,426nm,22.0s
YKA Yellowknife Ar 105.41 26 Pdiff **Pdif 20 30 35.6 +2.0**
comp=Z,0.2nm,0.6s,baz=249,slow=5.2,SNR=2.5
YKA PKiKP **PKiKP 20 34 46.0 -1.1**
comp=Z,0.7nm,0.6s,baz=258,slow=1.4,SNR=6.6
YKA PP **PP 20 34 59.6 +3.5**
comp=Z,0.7nm,0.8s,baz=229,slow=7.3,SNR=5.7
YKA PKKPbc **PKKPbc 20 46 12.4 -2.0**
comp=Z,4.5nm,0.8s,baz=42,slow=3.2,SNR=16
YKA PKKPab **PKKPab 20 46 28.5 +1.2**
comp=Z,2.2nm,0.9s,baz=48,slow=4.9,SNR=6.3
BRAL Brewton 105.73 63 PFAKE 20 35 00.0
BRAL LR LR
comp=Z,288nm,20.0s
SCIA State Center 106.01 51 PFAKE 20 35 00.0
SCIA LR LR
comp=Z,428nm,19.0s
SAML Samuel 106.28 111 PFAKE 20 35 00.0
SAML LR LR
comp=Z,717nm,21.0s
TLY Talaya 106.57 320 PFAKE 20 35 00.0
TLY LR LR
comp=Z,776nm,21.0s
FFC Flin Flon 106.77 36 PFAKE 20 35 00.0
FFC LR LR
comp=Z,587nm,19.0s
AGMN Agassiz Nation 107.18 44 PFAKE 20 35 00.0
AGMN LR LR
comp=Z,745nm,19.0s
MTDJ Mount Denham 107.78 79 PFAKE 20 35 00.0
MTDJ LR LR
comp=Z,815nm,22.0s
ULM Lac du Bonnet 108.03 42 PKKP 20 46 21.1
comp=Z,7.0nm,1.0s,baz=64,slow=3.5,SNR=4.3
HDIL Hopedale 108.10 53 PFAKE 20 35 00.0
HDIL LR LR
comp=Z,460nm,20.0s
TIXI Tiksi 108.24 345 Pdiff **Pdif 20 30 43.9 -2.1**
comp=Z,0.4nm,0.2s,baz=97,slow=6.7,SNR=4.6
TIXI PKiKP **PKiKP 20 34 50.7 -1.4**
comp=Z,4.0nm,0.8s,baz=98,slow=1.9,SNR=12
TIXI Tiksi 108.24 345 P **Pdif 20 30 43.9 -2.1**
TIXI MLR MLR
comp=Z,339nm,20.0s
TIXI Tiksi 108.24 345 Pdif **Pdif 20 30 43.9 -2.1**
TIXI PKiKP **PKiKP 20 34 50.7 -1.4**
TIXI LR LR
comp=Z,339nm,20.0s
SPB Sao Paulo 108.38 133 PFAKE 20 35 10.0
SPB LR LR
comp=Z,1µm,21.0s
JFWS Jewell Farm 108.43 51 PFAKE 20 35 10.0
JFWS LR LR
comp=Z,536nm,20.0s
SDV Santo Domingo 109.38 91 PFAKE 20 35 10.0
SDV LR LR
comp=Z,693nm,22.0s
GOGA Godfrey 109.43 62 PFAKE 20 35 10.0
GOGA LR LR
comp=Z,376nm,20.0s
EYMN Ely 109.68 45 PFAKE 20 35 10.0
EYMN LR LR
comp=Z,572nm,19.0s
COWI Conover 110.44 48 PFAKE 20 35 10.0
COWI LR LR
comp=Z,486nm,20.0s
GTBY Guantanamo Bay 110.58 78 PFAKE 20 35 10.0
GTBY LR LR
comp=Z,326nm,20.0s
NHSC New Hope 111.83 64 PFAKE 20 35 10.0
NHSC LR LR
comp=Z,354nm,20.0s
ACSO Alum Creek Sta 112.41 56 PFAKE 20 35 10.0
ACSO LR LR
comp=Z,779nm,22.0s
AAM Ann Arbor 112.68 53 PFAKE 20 35 10.0
AAM LR LR
comp=Z,415nm,20.0s
BLA Blacksburg 113.18 59 PFAKE 20 35 10.0
BLA LR LR
comp=Z,524nm,19.0s
WMQ Urumqi 113.22 308 *e*PKP 20 35 02.6
WMQ PP **PP 20 35 58.4 +5.0**
WMQ PKS **PKSdf 20 38 38.1 -1.0**
WMQ SKS **SKSdf 20 42 09.9 -1.4**
WMQ SS **SS 20 51 38.1 +2.1**
WMQ PPMZ
comp=Z,87nm,4.6s
WMQ LN
comp=Z,99nm,17.4s
WMQ LE
comp=Z,120nm,18.6s
WMQ LZ
comp=Z,170nm,24.4s
SDDR Presa de Saban 113.42 81 PFAKE 20 35 20.0
SDDR LR LR
comp=Z,269nm,20.0s
PTGA Pitinga 113.55 106 PFAKE 20 35 20.0
PTGA LR LR
comp=Z,32µm,19.0s
CNNC Cliffs of the 114.39 62 PFAKE 20 35 20.0 +15
CNNC LR LR
comp=Z,664nm,21.0s
ABPO Ambohimpanom 114.40 227 PFAKE 20 35 20.0 +14
ABPO LR LR
comp=Z,305nm,20.0s
GRTK Grand Turk 114.62 79 PFAKE 20 35 20.0 +14
GRTK LR LR
comp=Z,371nm,19.0s
CBN Corbin Frederi 115.80 59 PFAKE 20 35 20.0 +13
CBN LR LR
comp=Z,363nm,19.0s
BOSA Boshof 117.30 203 PKP **PKPdf 20 35 11.4 +0.4**
comp=Z,8.6nm,0.8s,baz=142,slow=3.4,SNR=7.6
SJG San Juan 117.46 84 *e*PKiKP **PKPdf 20 35 10.0 -1.3**
SJG MLR MLR
comp=Z,354nm,22.0s
SJG San Juan 117.46 84 *e*PKPdf **PKPdf 20 35 10.0 -1.3**
SJG LR LR
comp=Z,354nm,22.0s
HUMP Col San Antoni 117.73 84 *e*PKPdf **PKPdf 20 35 11.1 -0.6**
MK01 Makanchi Array 117.75 310 *e*PKPdf **PKPdf 20 35 09.2 -1.9**
MKAR Makanchi Array 117.77 310 Pdiff **Pdif 20 31 31.9 +2.8**
comp=Z,0.2nm,0.2s,baz=91,slow=4.9,SNR=3.5
MKAR PKP **PKPdf 20 35 09.9 -1.2**
comp=Z,7.4nm,0.7s,baz=195,slow=0.7,SNR=62
MKAR PKKPbc **PKKPbc 20 45 32.4 -0.4**
comp=Z,0.4nm,0.4s,baz=288,slow=3.8,SNR=6.8
MAKZ Makanchi 117.98 310 *e*PKiKP **PKPdf 20 35 09.9 -1.6**
MAKZ Makanchi 117.98 310 *e*PKPdf **PKPdf 20 35 09.9 -1.6**
ZAA0 Zalesovo Array 118.02 318 *e*PKPdf **PKPdf 20 35 09.4 -1.8**
ZAA0 *e*PKPdf **PKiKP 20 35 09.6 -1.7**
ZALV Zalesovo Beam 118.02 318 PKP **PKPdf 20 35 09.3 -2.0**
comp=Z,6.6nm,0.7s,baz=159,slow=1.3,SNR=36
BINY Binghamton 118.04 55 PFAKE 20 35 20.0 +8.3
BINY LR LR
comp=Z,771nm,21.0s
GRGR Grenville 118.68 92 PFAKE 20 35 30.0 +16
GRGR LR LR
comp=Z,683nm,22.0s
NVS Novosibirsk 119.12 319⇑ *i*PKiKP **PKPdf 20 35 12.6 -0.7**
NVS pmax pmax
comp=Z,22nm,1.2s
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=E,19nm,1.5s
NRIK Noril'sk 119.62 336 PKP **PKPdf 20 35 12.4 -1.4**
comp=E,11nm,0.8s,baz=57,slow=3.0,SNR=8.4
LONY Lake Ozonia 119.68 53 PFAKE 20 35 30.0 +15
LONY LR LR
comp=Z,369nm,20.0s
KSH Kashi 120.24 301 PKP **PKPdf 20 35 17.5 +1.3**
KSH sPKP 20 35 35.3
KSH PP PP 20 36 51.7 +9.0
KSH PKS **PKSdf 20 38 55.5 +2.6**
KSH SS SS 20 53 15.3 +7.4
KSH PPMZ
comp=Z,74nm,5.2s
KSH LN
comp=Z,84nm,5.4s
KSH LE
comp=Z,140nm,7.2s
KSH LZ
comp=Z,320nm,19.9s
FDF Fort de France 120.30 90 PFAKE 20 35 30.0 +13
FDF LR LR
comp=Z,285nm,20.0s
BBGH Gun Hill 120.95 93 PFAKE 20 35 30.0 +12
BBGH LR LR
comp=Z,1µm,22.0s
ANWB Willy Bob 121.03 87 PFAKE 20 35 30.0 +12
ANWB LR LR
comp=Z,391nm,20.0s
KURK Kurchatov 121.04 314 *e*PKiKP **PKPdf 20 35 16.0 -1.2**
KURK MLR MLR
comp=Z,446nm,20.0s
KURK Kurchatov 121.04 314 *e*PKPdf **PKPdf 20 35 16.0 -1.2**
KURK LR LR
comp=Z,446nm,20.0s
TKM2 Tokmak 2 121.39 304 *e*PKiKP **PKPdf 20 35 17.6 -0.8**
TKM2 MLR MLR
comp=Z,452nm,20.0s
TKM2 Tokmak 2 121.39 304 *e*PKPdf **PKPdf 20 35 17.6 -0.8**
TKM2 LR LR
comp=Z,452nm,20.0s
FRU Bishkek 122.07 304 *e*PKiKP **PKPdf 20 35 18.0 -1.5**
FRU pmax pmax
comp=Z,50nm,1.6s
AAK Ala-Archa 122.11 304 *e*PKiKP **PKPdf 20 35 19.4 -0.4**
AAK MLR MLR
comp=Z,392nm,19.0s
AAK Ala-Archa 122.11 304 *e*PKPdf **PKPdf 20 35 19.4 -0.4**
AAK LR LR
comp=Z,392nm,19.0s
EKS2 Erkin-Say 122.63 304 *e*PKiKP **PKPdf 20 35 20.4 -0.3**
EKS2 MLR MLR
comp=Z,355nm,20.0s
EKS2 Erkin-Say 122.63 304 *e*PKPdf **PKPdf 20 35 20.4 -0.3**
EKS2 LR LR
comp=Z,355nm,20.0s
PKME Peaks-Kenny Pk 123.48 53 PFAKE 20 35 30.0 +8.0
PKME LR LR
comp=Z,514nm,19.0s
BBSR BB Station 123.86 69 PFAKE 20 35 40.0 +17
BBSR LR LR
comp=Z,441nm,21.0s
KBL Kabul 124.22 293 *e*PKiKP **PKPdf 20 35 24.4 +0.3**
KBL Kabul 124.22 293 *e*PKPdf **PKPdf 20 35 24.4 +0.3**
KKAR Karatay Array 125.07 304 *e*PKiKP **PKPdf 20 35 24.7 -0.5**
KKAR Karatay Array 125.07 304 *e*PKPdf **PKPdf 20 35 24.7 -0.5**
SCHQ Schefferville 126.21 42 PKP **PKPdf 20 35 25.8 -1.2**
comp=Z,16nm,0.9s,baz=289,slow=0.8,SNR=8.8
SCHQ Schefferville 126.21 42 *e*PKPdf **PKPdf 20 35 26.3 -0.7**
BRVK Borovoye 126.46 316 *e*PKiKP **PKPdf 20 35 26.2 -1.3**
BRVK pmax pmax
comp=Z,129nm,1.2s
BRVK Borovoye 126.46 316 *e*PKPdf **PKPdf 20 35 26.8 -0.8**
BRVK LR LR
comp=Z,261nm,22.0s
LMN Caledonia Moun 126.69 53 *e*PKPdf **PKPdf 20 35 27.8 -0.4**
LSZ Lusaka 128.09 213 *e*PKiKP **PKPdf 20 35 32.7 +0.7**
LSZ MLR MLR
comp=Z,404nm,19.0s
LSZ Lusaka 128.09 213 *e*PKPdf **PKPdf 20 35 32.7 +0.7**
LSZ LR LR
comp=Z,404nm,19.0s
TSUM Tsumeb 128.49 199 *e*PKPdf **PKPdf 20 35 34.4 +1.7**
TSUM *e*PP **PP 20 37 38.7 +2.2**
TSUM LR LR
comp=Z,736nm,19.0s
RCBR Riachuelo 128.87 128 PFAKE 20 35 50.0 +17
RCBR LR LR
comp=Z,494nm,19.0s
KBS Kingsbay 131.16 357 *e*SKPbc **SKPab 20 38 58.6 +1.1**
KBS LR LR
comp=Z,278nm,22.0s
SPA0 Spitsbergen Ar 131.67 356 *e*P **PKPdf 20 35 36.5 -0.3**
SPA0 IAmb IAmb 20 35 37.3
comp=Z,28nm,1.0s
SVE Sverdlovsk 131.88 321 *i* PKiKP **PKPdf 20 35 37.6 -0.1**
SVE pmax pmax
comp=Z,25nm,1.1s
SVE MLR MLR
comp=Z,678nm,21.0s
SFJD Kangerlussuaq 131.97 25 PFAKE 20 35 50.0 +12
SFJD LR LR
comp=Z,534nm,20.0s
UOSS Minazif 132.08 277 *e*PKPdf **PKPdf 20 35 40.1 +1.0**
UOSS *e*SKPdf **SKPdf 20 39 08.3 -2.8**
DAG Danmarks Havn 132.51 6⇑ *i*PKiKP **PKPdf 20 35 36.8 -1.6**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 132.51 6⇑ *i*P **PKPdf 20 35 36.8 -1.6**
comp=Z,6.1nm,0.9s
SUMG Summit 132.67 15 *i* PKIKP **PKPdf 20 35 40.7 +1.4**
SUMG pmax pmax
comp=Z,18nm,1.3s
SUMG Summit 132.67 15 *i* P **PKPdf 20 35 40.7 +1.4**
comp=Z,18nm,1.3s
SUMG Summit 132.67 15 *e*PKPdf **PKPdf 20 35 41.0 +1.7**
ABKAR Akbulak array 132.90 311 *e*PKPdf **PKPdf 20 35 39.6 -0.3**
ARU Arti 133.08 321 *i* PKIKP **PKPdf 20 35 39.4 -0.6**
ARU 20 38 02.9
ARU MLR MLR
comp=Z,755nm,25.0s
ARU Arti 133.08 321 *e*PKPdf **PKPdf 20 35 39.0 -1.0**
ARU *e*SKPbc **SKPbc 20 39 03.7 -0.8**
ARU LR LR
comp=Z,658nm,21.0s
SOKR Solikamsk 133.37 325 *d i*PKIKP **PKPdf 20 35 38.6 -1.8**
SOKR pmax pmax
comp=Z,48nm,1.1s
SOKR MLR MLR
comp=Z,490nm,20.0s
GEYT Alibeck 133.56 295 PKhKP PKPpre 20 35 31.6
comp=Z,3.0nm,0.8s,baz=64,slow=3.4,SNR=5.0
GEYT PKP **PKPdf 20 35 41.5 0.0**
comp=Z,22nm,0.9s,baz=43,slow=6.5,SNR=18
GEYT SKPbc **SKPbc 20 39 05.7 -1.2**
comp=Z,8.7nm,0.9s,baz=85,slow=1.6,SNR=8.9
KMBO Kilima Mbogo 134.11 233 PKP **PKPdf 20 35 44.6 +1.0**
comp=Z,4.6nm,0.9s,baz=55,slow=4.9,SNR=9.5
KMBO SKPbc **SKPab 20 39 11.9 -0.7**
comp=Z,5.5nm,0.9s,baz=13,slow=2.7,SNR=6.3
KMBO Kilima Mbogo 134.11 233 *e*PKiKP **PKPdf 20 35 44.4 +0.8**
KMBO MLR MLR
comp=Z,423nm,19.0s
KMBO Kilima Mbogo 134.11 233 *e*PKPdf **PKPdf 20 35 44.4 +0.8**
KMBO *e*SKPbc **SKPab 20 39 13.3 +0.8**
KMBO LR LR
comp=Z,423nm,19.0s
SCO Scoresbysund 137.66 12 *i* PKIKP **PKPdf 20 35 50.0 +1.9**
SCO pmax pmax
comp=Z,11nm,1.0s
SCO Scoresbysund 137.66 12 *i* P **PKPdf 20 35 50.0 +1.9**
comp=Z,11nm,1.0s
LVZ Lovozero 137.82 342 PFAKE 20 36 00.0 +11
LVZ LR LR
comp=Z,453nm,21.0s
HAMF Hammerfest 137.91 349 *e* PKPdf 20 35 39.3 -9.3
HAMF *e*PP **PP 20 38 33.3 -3.3**
DAMY Dhamar 138.07 258 *e*PKPdf **PKPdf 20 35 52.9 +2.0**
KEV Kevo 138.10 347 PFAKE 20 36 00.0 +11
KEV LR LR
comp=Z,411nm,21.0s
ARCES ARCESS Array B 138.56 348 PKhKP PKPpre 20 35 40.3
comp=Z,6.0nm,0.8s,baz=58,slow=1.3,SNR=15
ARCES SKPbc **SKPbc 20 39 18.5 -2.7**
comp=Z,9.1nm,0.9s,baz=5.7,slow=3.7,SNR=6.6
ARE0 ARCESS Array S 138.56 348 *e*PP PP 20 38 39.2 -1.5
ASCN Ascension 138.80 155 PFAKE 20 36 00.0 +8.0
ASCN LR LR
comp=Z,1µm,22.0s
KLMR Klimovskoe 140.74 332 *e*PKHKP PKPpre 20 35 48.8
KLMR pmax pmax
comp=Z,56nm,1.5s
DGRG David-gareji 143.53 300 P PKPbc 20 35 57.1 0.0
DGRG David-gareji 143.53 300 PKiKP PKPbc 20 35 57.0 -0.1
TBLG Delisi 143.99 300 P PKPab 20 35 58.1 +0.2
TBLG Delisi 143.99 300 PKiKP PKPab 20 35 58.0 +0.1
VRH Novokhopyorsk 144.03 317 *e*PKiKP **PKPdf 20 35 59.8 -0.3**
VRH pmax pmax
comp=Z,40nm,0.8s
VRH MLR MLR
comp=Z,420nm,28.0s
GNI Garni 144.07 298 *e*PKiKP PKPbc 20 35 58.9 0.0
GNI MLR MLR
comp=Z,341nm,22.0s
GNI Garni 144.07 298 *e*PKPdf PKPbc 20 35 58.9 -0.1
GNI LR LR
comp=Z,341nm,22.0s
GUDG Gudauri 144.12 302 P PKPbc 20 35 59.7 +0.6
MOS Moscow 144.32 326 *i* PKIKP **PKPab 20 35 57.8 -0.8**
MOS *e* 20 43 05.0
MOS pmax pmax
comp=Z,50nm,1.4s
ZEI Tsey 144.50 302 *i* PKIKP **PKPab 20 35 59.8 -0.2**
ZEI pmax pmax
comp=Z,97nm,0.7s
NCK Nalchik 144.64 303⇓ *i*PKIKP **PKPab 20 36 00.3 0.0**
GOF Gofitskoye 144.79 306⇑ *i*PKIKP PKPbc 20 36 01.0 +0.2
GOF pmax pmax
comp=Z,70nm,0.9s
ONI Oni 144.86 302 P PKPbc 20 36 01.4 +0.2
ONI Oni 144.86 302 PKIKP PKPbc 20 36 01.3 +0.1
BGD Bogdanovka 144.88 300 P PKPbc 20 36 01.6 +0.1
AKH Akhalkalaki 144.94 300 P **PKPdf 20 36 02.3 -0.1**
AKH Akhalkalaki 144.94 300 PKIKP **PKPdf 20 36 02.2 -0.1**
LPSR Galich'ya Gora 145.10 320 *e*PKIKP **PKPab 20 36 01.6 0.0**
LPSR pmax pmax
comp=Z,100nm,0.9s
LPSR MLR MLR
comp=Z,120nm,16.0s
KBZ Khabaz 145.11 304 PKPbc **PKPbc 20 36 01.7 -0.1**
comp=Z,39nm,0.9s,baz=112,slow=1.7,SNR=38
FINES FINESS Array B 145.12 340 PKPbc **PKPbc 20 35 60.0 -1.3**
comp=Z,230nm,0.7s,baz=64,slow=4.4,SNR=615
FINES FINESS Array B 145.12 340 PKIKP **PKPbc 20 36 00.0 -1.3**
OBN Obninsk 145.16 325⇑ *i*PKIKP **PKPbc 20 36 00.6 -1.0**
OBN pmax pmax
comp=Z,262nm,1.7s
OBN Obninsk 145.16 325 *e*PKPbc **PKPbc 20 36 01.1 -0.5**
OBN LR LR
comp=Z,425nm,22.0s
KIV Kislovodsk 145.22 304 *i* PKP2 **PKPbc 20 36 01.7 -0.7**
KIV pmax pmax
comp=Z,66nm,1.1s
KIV Kislovodsk 145.22 304 *e*PKPbc **PKPbc 20 36 02.1 -0.2**
KIV LR LR
comp=Z,432nm,21.0s
NSS Namsos 145.25 352 *e*P **PKPbc 20 36 00.6 -1.0**
NSS IAmb IAmb 20 36 01.9
comp=Z,279nm,0.8s
NEY Neytrino 145.30 303 *d i*PKIKP **PKPab 20 36 03.6 +0.7**
VSR Storozhevoye 145.53 318 *e*PKIKP **PKPdf 20 36 02.5 -0.2**
VSR pmax pmax
comp=Z,130nm,0.9s
CHVG Ch'k'valeri 145.84 302 P **PKPbc 20 36 04.5 +0.2**
TBLU Trondheim 146.68 353 *e*P **PKPbc 20 36 05.4 -0.6**
TBLU IAmb IAmb 20 36 07.1
comp=Z,61nm,0.8s
VSU Vasula 147.21 336⇓ *i*PKP2 **PKPbc 20 36 07.1 -0.5**
SOC Sochi 147.41 304 *e*PKHKP PKPpre 20 35 59.5
SOC *i* 20 36 06.9
SOC MLR MLR
comp=Z,502nm,22.0s
MOL Molde 147.59 355 *e*P **PKPbc 20 36 07.6 -0.9**
MOL IAmb IAmb 20 36 09.2
comp=Z,84nm,1.1s
DOMB Dombas 147.99 354 *e*P **PKPbc 20 36 08.9 -0.9**
AKN Aaknes 148.02 356 *e*P **PKPbc 20 36 09.6 -0.2**
AKN IAmb IAmb 20 36 10.8
comp=Z,103nm,0.9s
FOO Floro 148.70 357 *e*P **PKPbc 20 36 09.9 -1.6**
FOO IAmb IAmb 20 36 12.2
comp=Z,276nm,1.6s
NB2 NORSAR Subarra 148.72 351 PKP **PKPbc 20 36 10.8 -0.9**
comp=Z,148nm,1.2s,baz=12,slow=2.8
NB2 NORSAR Subarra 148.72 351 PKP **PKPbc 20 36 10.8 -0.9**
baz=12,slow=2.8
NOA NORSAR Array B 148.72 351 PKP **PKPdf 20 36 07.9 0.0**
comp=Z,18nm,0.9s,baz=14,slow=4.3,SNR=72
NOA PKPbc **PKPbc 20 36 10.8 -0.9**
comp=Z,59nm,0.9s,baz=15,slow=4.3,SNR=93
ANN Anapa 148.73 307 *e*PKHKP PKPpre 20 36 06.8
ANN *i* 20 36 12.3
ANN pmax pmax
comp=Z,210nm,1.0s
NC602 NORSAR Array S 148.97 351 *e*P **PKPbc 20 36 11.1 -1.2**
NC602 IAmb IAmb 20 36 12.6
comp=Z,85nm,1.1s
HYA Hoyanger 149.07 356 *e*P **PKPbc 20 36 12.1 -0.4**
HYA IAmb IAmb 20 36 13.2
comp=Z,74nm,1.1s
SUE Sulen 149.25 357 *e*P **PKPbc 20 36 12.7 -0.2**
SUE IAmb IAmb 20 36 13.8

comp=Z,107nm,1.0s
IDID Didziasalis 149.49 332 *e*P **PKPbc** **20 36 13.4 -0.3**
IDID IAmb IAmb 20 36 15.3
comp=Z,35nm,0.9s
ISAL Salakas 149.55 333 *e*P **PKPbc** **20 36 13.0 -0.9**
ISAL IAmb IAmb 20 36 19.8
comp=Z,37nm,0.8s
MICGM Minsk 149.57 330⇓ *e*P **PKPbc** **20 36 14.0 +0.1**
MICGM PM 20 36 15.0
comp=Z,0.2nm,1.2s
MICGM *e*LR LR 21 37 30.0
MNK Minsk 149.57 330⇓ *e*PKP2 **PKPbc** **20 36 14.0 +0.1**
MNK pmax pmax
comp=Z,210nm,1.2s
NACGM Naroch 149.76 331 *e*P **PKPdf** **20 36 09.0 -0.6**
NACGM PM 20 36 15.0
comp=Z,0.5nm,1.0s
NACGM *e*LR LR 21 35 42.0
ASK Askoy 149.81 357 *e*P **PKPbc** **20 36 14.2 -0.1**
ASK IAmb IAmb 20 36 15.2
comp=Z,52nm,0.9s
OSL Oslo 149.85 351 *e*P **PKPbc** **20 36 14.3 -0.1**
OSL IAmb IAmb 20 36 15.0
comp=Z,100nm,1.3s
BER Bergen 149.90 357 *e*P **PKPbc** **20 36 14.2 -0.3**
BER IAmb IAmb 20 36 15.4
comp=Z,98nm,1.3s
KONO Kongsberg 150.28 352 *e*P **PKPbc** **20 36 14.3 -1.1**
KONO IAmb IAmb 20 36 16.2
comp=Z,95nm,0.9s
KONO Kongsberg 150.28 352 *e*PKIKP **PKPbc** **20 36 15.2 -0.3**
KONO MLR MLR
comp=Z,342nm,19.0s
KONO Kongsberg 150.28 352 *e*PKPbc **PKPbc** **20 36 15.2 -0.3**
KONO LR LR
comp=Z,342nm,19.0s
ODD1 Odda 150.29 355 *e*P **PKPbc** **20 36 15.3 -0.2**
BLS5 Blasjo 150.79 355 *e*P **PKPbc** **20 36 16.6 -0.2**
BLS5 IAmb IAmb 20 36 17.9
comp=Z,141nm,1.7s
SIM Simferopol' 150.94 309 *e*PKIKP **PKPbc** **20 36 17.1 -0.5**
SIM *e* 20 36 32.0
SIM pmax pmax
comp=Z,87nm,0.7s
KMY Karmoy 151.08 357 *e*P **PKPbc** **20 36 17.1 -0.2**
KMY IAmb IAmb 20 36 18.4
comp=Z,87nm,0.9s
HWQ Hawqa 151.15 287 *e*P **PKPbc** **20 36 18.6 +0.1**
RCY Rachaya 151.21 285 *e*P **PKPbc** **20 36 19.0 +0.2**
AKASG Malin Array Be 151.29 323 PKP **PKPdf** **20 36 10.8 -1.3**
comp=Z,1.7nm,0.6s,baz=54,slow=1.8,SNR=11
AKASG PKPbc **PKPbc** **20 36 17.3 -0.9**
comp=Z,92nm,0.7s,baz=47,slow=2.8,SNR=182
KIEV Kiev 151.30 323 *e*PKIKP **PKPbc** **20 36 17.2 -1.0**
KIEV MLR MLR
comp=Z,468nm,22.0s
KIEV Kiev 151.30 323 *e*PKPbc **PKPbc** **20 36 17.2 -1.0**
KIEV LR LR
comp=Z,468nm,22.0s
STAV Stavanger 151.33 356 *e*P **PKPbc** **20 36 16.6 -1.4**
STAV IAmb IAmb 20 36 18.8
comp=Z,50nm,0.8s
BHL Bhannes 151.38 286 *e*P **PKPbc** **20 36 19.1 0.0**
DQRL Deir Qamar 151.44 286 *e*P **PKPbc** **20 36 19.4 +0.2**
HOMB Homborsund 151.75 353 *e*P **PKPbc** **20 36 18.3 -0.7**
HOMB IAmb IAmb 20 36 20.0
comp=Z,148nm,0.9s
SNART Snartemo 151.81 354 *e*P **PKPbc** **20 36 18.8 -0.3**
SNART IAmb IAmb 20 36 20.0
comp=Z,42nm,0.7s
SUW Suwalki 151.86 333 *e*PKP **PKPdf** **20 36 11.9 -1.0**
SUW Suwalki 151.86 333 *e*PKIKP **PKPdf** **20 36 11.9 -1.0**
BR131 Keskin Array S 152.60 299 *e*PKPdf **PKPdf** **20 36 14.1 -0.6**
BRTR Keskin Array B 152.60 299 PKP **PKPdf** **20 36 13.7 -1.0**
comp=Z,2.9nm,0.9s,baz=146,slow=2.4,SNR=13
BRTR PKPbc **PKPbc** **20 36 20.6 -1.1**
comp=Z,23nm,0.8s,baz=142,slow=4.5,SNR=37
PHNC Paralimni 152.73 288 P **PKPbc** **20 36 21.6 -0.4**
SORM Soroca 153.17 319⇓ *i*P **PKPbc** **20 36 21.8 -0.7**
SORM Soroca 153.17 319 ⇓PKIKP **PKPbc** **20 36 21.8 -0.7**
ANTO Ankara 153.21 299 *e*PKIKP **PKPdf** **20 36 15.9 +0.4**
ANTO Ankara 153.21 299 *e*PKPdf **PKPdf** **20 36 15.9 +0.4**
ANTO LR LR
comp=Z,15nm,21.0s
BR231 Keskin MP Arra 153.23 299 *e*PKPdf **PKPdf** **20 36 14.6 -1.0**
BR231 *e*PKPbc **PKPbc** **20 36 22.9 -0.2**
CSS Mathiatis 153.31 288 P **PKPbc** **20 36 23.2 -0.1**
CSS Mathiatis 153.31 288 *e*PKPdf **PKPdf** **20 36 16.9 +1.2**
CSS LR LR
comp=Z,180nm,22.0s
MAMC Mammari 153.40 289 P **PKPbc** **20 36 24.8 +1.4**
KIS Kishinev 153.48 316 *e*PKP **PKPbc** **20 36 23.0 -0.2**
KIS *ep*PKP PKPab 20 36 50.0 +14
KIS *i* SKKS 20 46 52.0
KIS LRM MLR 21 41 30.0
comp=Z,400nm,20.0s
KIS Kishinev 153.48 316 *e*PKIKP **PKPbc** **20 36 23.0 -0.2**
KIS *e* 20 40 19.0
BSD Bornholm Skovb 153.61 343 *e*PKIKP **PKPbc** **20 36 22.8 -0.4**
BSD pmax pmax
comp=Z,35nm,0.8s
BSD Bornholm Skovb 153.61 343 *i* P **PKPbc** **20 36 22.8 -0.4**
comp=Z,35nm,0.8s
COP Copenhagen 153.64 347 *e*PKIKP **PKPbc** **20 36 23.2 0.0**
COP MLR MLR
comp=Z,360nm,26.0s
COP Copenhagen 153.64 347 *i* P **PKPbc** **20 36 23.2 0.0**
comp=Z,360nm,26.0s
SZAC Souni 153.68 288 P **PKPbc** **20 36 25.3 +1.2**
LEOM Leova 154.08 316⇓ *i*P **PKPbc** **20 36 24.3 -0.2**
LEOM Leova 154.08 316 ⇓PKIKP **PKPbc** **20 36 24.3 -0.2**
AKMC Akamas 154.13 288 P **PKPbc** **20 36 25.4 +0.4**
BEL Belsk 154.46 332 *e*PKP **PKPbc** **20 36 25.3 +0.2**
BEL Belsk 154.46 332 *e*PKIKP **PKPbc** **20 36 25.3 +0.2**
LVV L'vov 154.46 326 *e*PKIKP **PKPdf** **20 36 16.1 -0.7**
CFR Carcaliu 154.75 313 *i*P **PKPbc** **20 36 25.3 -0.7**
CFR Carcaliu 154.75 313 ⇑PKIKP **PKPbc** **20 36 25.3 -0.7**
ESK Eskdalemuir 154.79 7 PFAKE 20 36 30.0 +4.3
ESK LR LR
comp=Z,602nm,20.0s
TESR Tescani 155.01 317⇓ *i*P PKPdf 20 36 26.6 +8.9
LIC Lamto 155.08 163 *e*PKP1 **PKPdf** **20 36 18.7 -0.1**
comp=Z,31nm,1.0s
HARR Harsova 155.10 312⇓ *i*P PKPdf 20 36 26.6 +8.7
HARR Harsova 155.10 312 ⇓PKIKP PKPdf 20 36 26.6 +8.7
BUR08 Bucovina Ar. S 155.21 321 *e*PKPbc PKPdf 20 36 26.5 +8.4
BURAR Bucovina Array 155.22 321⇓ *i*P PKPdf 20 36 26.9 +8.8
BURAR Bucovina Array 155.22 321 ⇓PKIKP PKPdf 20 36 26.9 +8.8
KWP Kalwaria Pacla 155.22 327 *e*PKP **PKPdf** **20 36 19.6 +1.7**
KWP Kalwaria Pacla 155.22 327 *e*PKIKP **PKPdf** **20 36 19.6 +1.7**
KIC Kosan Boka 155.28 164 *e*PKP1 **PKPdf** **20 36 19.5 +0.4**
comp=Z,50nm,0.8s
VRI Vrincioaia 155.30 316⇑ *i*P PKPdf 20 36 27.6 +9.5
VRI Vrincioaia 155.30 316 ⇑PKIKP PKPdf 20 36 27.6 +9.5
PLOR Plostina 155.35 316⇓ *i*P PKPdf 20 36 27.3 +9.1
PLOR Plostina 155.35 316 ⇓PKIKP PKPdf 20 36 27.3 +9.1
TIC Toumodi 155.49 163 *e*PKP1 **PKPdf** **20 36 19.8 +0.4**
DBIC Dimbokro 155.55 163 PKP **PKPdf** **20 36 19.4 -0.1**
comp=Z,5.3nm,1.0s,baz=118,slow=1.9,SNR=3.5
DBIC PKPab **PKPab** **20 36 44.5 -0.7**
comp=Z,22nm,1.0s,baz=161,slow=4.2,SNR=10
DBIC Dimbokro 155.55 163 PKIKP **PKPdf** **20 36 19.4 -0.1**
DBIC *e* 20 36 45.1
DBIC Dimbokro 155.55 163 PKP **PKPdf** **20 36 19.4 -0.1**
DBIC *ep*PKPab **PKPab** **20 36 45.1 -0.1**
KOLS Kolonicke sedl 155.90 326 *e*PKIKP **PKPdf** **20 36 19.6 +0.8**
KOLS *e* 20 36 29.4
KOLS *e* 20 36 45.5
KOLS Kolonicke sedl 155.90 326 *e*PKP **PKPdf** **20 36 19.6 +0.8**
KOLS *e* 20 36 29.4
KOLS *e* 20 36 45.5
MLR Muntele Rosu 155.96 316⇑ *i*P **PKPdf** **20 36 20.3 +1.1**
MLR Muntele Rosu 155.96 316 ⇑PKIKP **PKPdf** **20 36 20.3 +1.1**
STHS Stebnicka Huta 156.05 328 *e*PKIKP **PKPdf** **20 36 19.7 +0.7**
STHS *e* 20 36 45.8
STHS Stebnicka Huta 156.05 328 *e*PKP **PKPdf** **20 36 19.7 +0.7**
STHS *e* 20 36 45.8
OJC Ojcow 156.09 331 *e*PKP **PKPdf** **20 36 19.0 -0.1**
OJC Ojcow 156.09 331 *e*PKIKP **PKPdf** **20 36 18.9 -0.1**
OJC Ojcow 156.09 331 *e*PKPdf **PKPdf** **20 36 18.9 -0.1**
UZH Uzhgorod 156.10 325 *e*PKIKP PKPdf 20 36 28.7 +10
UZH *e* 20 36 40.3
CRVS Cervenica-Dubn 156.31 327 *e*PKIKP **PKPdf** **20 36 19.9 +0.5**
CRVS *e* 20 36 30.1
CRVS *e* 20 36 47.4
CRVS Cervenica-Dubn 156.31 327 *e*PKP **PKPdf** **20 36 19.9 +0.5**
CRVS *e* 20 36 30.1
CRVS *e* 20 36 47.4
NIE Niedzica 156.48 329 *e*PKP **PKPdf** **20 36 19.8 +0.2**
NIE Niedzica 156.48 329 *e*PKIKP **PKPdf** **20 36 19.8 +0.2**
VOIR 156.53 316⇓ *i*P PKPdf 20 36 31.8 +12
VOIR 156.53 316 ⇓PKIKP PKPdf 20 36 31.8 +12
ARR Arges 156.81 316⇓ *i*P **PKPdf** **20 36 21.4 +1.2**
KSP Ksiaz 156.93 336 *e*PKP **PKPdf** **20 36 20.8 +0.7**
KSP Ksiaz 156.93 336 *e*PKIKP **PKPdf** **20 36 20.8 +0.7**
HUMR Humele 157.04 314⇓ *i*P PKPdf 20 36 35.1 +15
LANS Liptovska Anna 157.04 330 *e*PKIKP **PKPdf** **20 36 22.3 +1.9**
LANS Liptovska Anna 157.04 330 *e*PKP **PKPdf** **20 36 22.3 +1.9**
LANS *e* 20 36 51.2
OKC Ostrava-Krasne 157.06 333 *e*PKPDF **PKPdf** **20 36 21.1 +0.8**
OKC *ep*PKAB **PKPab** **20 36 51.0 +0.2**
OKC *ep*PKP **pPKPab** **20 37 00.8 -2.6**
OKC *e*PP **PP** **20 40 27.1 -2.1**
OKC AMS AMS 21 44 30.0
comp=Z,400nm,22.1s
OKC Ostrava-Krasne 157.06 333 *e*PKIKP **PKPdf** **20 36 21.1 +0.8**
OKC *e* 20 40 27.1
OKC MLR MLR
comp=Z,400nm,22.1s
KECS Kecovo 157.07 327 *e*PKIKP **PKPdf** **20 36 21.7 +1.3**
KECS Kecovo 157.07 327 *e*PKP **PKPdf** **20 36 21.7 +1.3**
KECS *e* 20 36 51.1
DRGR 157.08 321⇓ *i*P **PKPdf** **20 36 20.0 -0.5**
DRGR 157.08 321 ⇓PKIKP **PKPdf** **20 36 20.0 -0.5**
UPC Upice 157.31 336 *e*PKPDF **PKPdf** **20 36 21.4 +0.8**
UPC *ep*PKP **pPKPdf** **20 36 31.7 -1.9**
UPC *ex* x 20 36 35.7
UPC *e*PKPAB **PKPab** **20 36 51.9 0.0**
UPC *ex* x 20 37 04.8
UPC *e*PP **PP** **20 40 25.2 -5.3**
UPC AMS AMS 21 48 40.0
comp=Z,600nm,19.9s
UPC Upice 157.31 336 *e*PKIKP **PKPdf** **20 36 21.4 +0.8**
UPC *e* 20 36 31.7
UPC *e* 20 36 35.7
UPC MLR MLR
comp=Z,600nm,19.9s
DPC Dobruska-Polom 157.34 336 *e*PKPDF **PKPdf** **20 36 21.4 +0.7**
DPC *ep*PKP **pPKPdf** **20 36 31.3 -2.4**
DPC *e*PKPAB **PKPab** **20 36 52.3 +0.3**
DPC *ex* x 20 37 01.5
DPC *e*PP **PP** **20 40 29.0 -1.7**
DPC Dobruska-Polom 157.34 336 *e*PKIKP **PKPdf** **20 36 21.4 +0.7**
DPC *e* 20 36 31.3
DPC *e* 20 40 29.0
MORC Moravsky Berou 157.35 333 *e*PKIKP **PKPdf** **20 36 21.1 +0.3**
MORC Moravsky Berou 157.35 333 *e*PKPdf **PKPdf** **20 36 21.1 +0.3**
CWF Charnwood Fore 157.52 5 *e*PKPab **PKPab** **20 36 52.4 -0.2**
CLL Collm 157.54 342 *e*PKPdf **PKPdf** **20 36 21.0 +0.2**
CLL *i* PKPdiff **pPKPdf** **20 36 31.7 -2.1**
comp=Z,13nm,0.9s
CLL *e*PKPab **PKPab** **20 36 52.0 -0.8**
comp=Z,34nm,0.8s
CLL *i* 20 36 56.0
comp=Z,31nm,0.8s
CLL *e*PP **PP** **20 40 31.0 -0.6**
CLL *e*PPP PPP 20 44 06.0
CLL *e* 20 49 20.0
CLL *e*PSKS 20 50 49.0
CLL *e* 20 52 45.0
CLL *e*PPS PPS 20 53 47.0
CLL *e*SSS SSS 21 06 22.0
CLL *e*SSSS 21 10 30.0
CLL LmV 21 57 00.0
comp=Z,400nm,20.8s
CLL Collm 157.54 342 *e*PKIKP **PKPdf** **20 36 21.0 +0.2**
CLL *i* 20 36 31.7
CLL MLR MLR
comp=Z,400nm,20.8s
BRG Berggiesshubel 157.66 340 *i* PKP **PKPdf** **20 36 21.1 +0.1**
comp=Z,17nm,1.4s
BRG *e* 20 36 32.4
comp=Z,7.7nm,0.9s
BRG *e* 20 36 53.1
comp=Z,30nm,0.8s
BRG PP **PP** **20 40 33.0 +0.7**
BRG SKKS 20 50 59.0
BRG S 20 53 49.0
BRG SS SS 21 00 47.0 +21
comp=N,263nm,21.3s
comp=E,214nm,18.7s
comp=Z,494nm,22.7s
BRG Berggiesshubel 157.66 340 *i* PKIKP **PKPdf** **20 36 21.1 +0.1**
BRG *e* 20 36 32.4
BRG 20 40 33.0
BRG 20 53 49.0
BRG S
BRG pmax pmax
comp=Z,17nm,1.4s
BRG MLR MLR
comp=N,263nm,21.3s
BRG MLR MLR
comp=E,214nm,18.7s
BRG MLR MLR
comp=Z,494nm,22.7s
PSZ Piszkesteto 157.75 327 *ep*PKPdf **PKPab** **20 36 54.1 +0.1**
PSZ Piszkesteto 157.75 327 *e*PKIKP **PKPdf** **20 36 21.4 +0.1**
PSZ MLR MLR
comp=Z,534nm,20.0s
PSZ Piszkesteto 157.75 327 *e*PKPdf **PKPdf** **20 36 21.4 +0.1**
PSZ LR LR
comp=Z,534nm,20.0s
PVCC Panska Ves 157.77 338 *e*PKPDF **PKPdf** **20 36 21.5 +0.3**
PVCC *e*PKPAB **PKPab** **20 36 53.5 -0.3**
PVCC *ep*PKP **pPKPab** **20 37 04.8 -1.6**
PVCC *e*PP **PP** **20 40 27.7 -5.3**
PVCC AMS AMS 21 46 00.0
comp=Z,400nm,23.1s
PVCC Panska Ves 157.77 338 *e*PKIKP **PKPdf** **20 36 21.5 +0.3**
PVCC *e* 20 36 53.5
PVCC MLR MLR
comp=Z,400nm,23.1s
VYHS Vyhne 157.81 329 *e*PKIKP **PKPdf** **20 36 21.7 +0.4**
VYHS *e* 20 36 54.0
VYHS Vyhne 157.81 329 *e*PKP **PKPdf** **20 36 21.7 +0.4**
VYHS *e* 20 36 54.0
SIRR Siria 157.97 322⇓ *i*P **PKPdf** **20 36 21.5 -0.1**
WTSB Winterswijk 158.13 352 *e*P **PKPab** **20 36 54.6 -0.7**
comp=Z,46nm,0.8s
GOPC GO Pecny, Ondr 158.23 337 *e*PKPAB **PKPab** **20 36 55.9 0.0**
GOPC *e*PP **PP** **20 40 34.0 -1.6**
GOPC AMS AMS 21 45 20.0
comp=Z,400nm,18.4s
GOPC GO Pecny, Ondr 158.23 337 *e*PKP2 **PKPab** **20 36 55.9 0.0**
GOPC *e* 20 40 34.0
GOPC MLR MLR
comp=Z,400nm,18.4s
PRU Pruhonice 158.25 338 *e*PKPDF **PKPdf** **20 36 21.7 -0.1**
PRU *ep*PKP **pPKPdf** **20 36 33.8 -0.9**
PRU *ex* x 20 36 41.3
PRU *e*PKPAB **PKPab** **20 36 56.4 +0.5**
PRU *ex* x 20 37 03.3
PRU *ex* x 20 37 12.0
PRU *e*PP **PP** **20 40 34.7 -0.9**
PRU AMS AMS 21 47 20.0
comp=Z,500nm,24.1s
PRU Pruhonice 158.25 338 *e*PKIKP **PKPdf** **20 36 21.7 -0.1**
PRU *e* 20 36 33.8
PRU *e* 20 36 56.4
PRU *e* 20 40 34.7
PRU MLR MLR
comp=Z,500nm,24.1s
TREC Trest 158.51 335 *e*PP PP 20 40 33.2 -4.0
TREC AMS AMS 21 47 20.0
comp=Z,500nm,17.8s
NKC Novy Kostel 158.66 341 *e*PKPDF **PKPdf** **20 36 22.2 -0.1**
NKC *ep*PKP **pPKPdf** **20 36 34.8 -0.5**
NKC *e*PKPAB **PKPab** **20 36 57.8 +0.1**
NKC *e*PP **PP** **20 40 32.3 -5.5**
NKC *e*PP PP 20 40 42.0 +4.2
NKC Novy Kostel 158.66 341 *e*PKIKP **PKPdf** **20 36 22.2 -0.1**
NKC *e* 20 36 34.8
NKC *e* 20 36 57.8
NKC *e* 20 40 42.0
MDVR Moldovita 158.85 318⇓ *i*P PKPdf 20 36 32.8 +10
KHC Kasperske Hory 159.31 338 *e*PKPDF **PKPdf** **20 36 22.7 -0.4**
KHC *ep*PKP **pPKPdf** **20 36 35.6 -0.5**
KHC *ex* x 20 36 39.9
KHC *e*PKPAB **PKPab** **20 37 00.6 0.0**
KHC *ex* x 20 37 08.6
KHC *ex* x 20 40 37.2
KHC *e*PP **PP** **20 40 45.7 +4.3**
KHC AMS AMS 21 46 50.0
comp=Z,600nm,24.5s
KHC Kasperske Hory 159.31 338 *e*PKIKP **PKPdf** **20 36 22.7 -0.4**
KHC *e* 20 36 35.6
KHC *e* 20 37 00.6
KHC *e* 20 40 45.7
KHC MLR MLR
comp=Z,600nm,24.5s
KHC Kasperske Hory 159.31 338 *e*PKPdf **PKPdf** **20 36 22.3 -0.8**
BEBN Eben Emael 159.41 353 PKPab **PKPab** **20 37 00.4 -0.5**
HGN Heimansgroeve 159.42 353 *e*P **PKPab** **20 37 00.3 -0.6**
comp=Z,56nm,0.8s
HGN *e*PP PP 20 40 28.8 -13
GRFO Grafenberg 159.49 343 *e*PKP2 **PKPab** **20 37 01.5 +0.2**
GRFO Grafenberg 159.49 343 *e*PKPab **PKPab** **20 37 01.5 +0.2**
CONA Conrad Observa 159.50 333 *i* PKPdf **PKPdf** **20 36 23.5 0.0**
comp=Z,4.2nm,0.9s
CONA *i* PKPab **PKPab** **20 37 02.0 +0.4**
comp=Z,8.6nm,0.9s
GERES GERESS Array B 159.51 338 PKP **PKPdf** **20 36 22.4 -1.1**
comp=Z,4.1nm,1.0s,baz=48,slow=2.0,SNR=17
GERES PKPab **PKPab** **20 37 01.4 -0.2**
comp=Z,4.8nm,0.7s,baz=41,slow=4.3,SNR=8.2
SANT Santorini 159.55 293 PFAKE 20 36 30.0 +6.2
SANT LR LR
comp=Z,332nm,20.0s
MEM Membach 159.56 353 PKPab **PKPab** **20 37 01.4 -0.2**
SNF Seneffe 159.81 356 PKPab **PKPab** **20 37 02.3 -0.3**
BCLA Clavier 159.82 354 PKPab **PKPab** **20 37 02.1 -0.6**
MOA Molln 160.17 335 *i* PKPdf **PKPdf** **20 36 23.8 -0.4**
comp=Z,6.2nm,1.8s
MOA *i* PKPab **PKPab** **20 37 05.0 +0.6**
comp=Z,18nm,1.0s
ARSA Arzberg 160.18 332 *i* PKPdf **PKPdf** **20 36 23.5 -0.6**
comp=Z,3.7nm,0.9s
ARSA *i* PKPab **PKPab** **20 37 04.7 +0.3**
comp=Z,5.6nm,1.0s
DOU Dourbes 160.20 355 PKPab **PKPab** **20 37 03.8 -0.5**
WLF Walferdange 160.48 352 PKPab **PKPab** **20 37 05.8 +0.3**
WLF Walferdange 160.48 352 *e*PKP2 **PKPab** **20 37 05.5 -0.1**
WLF MLR MLR
comp=Z,584nm,21.0s
WLF Walferdange 160.48 352 *e*PKPab **PKPab** **20 37 05.5 -0.1**
WLF LR LR
comp=Z,584nm,21.0s
SOKA Soboth 160.84 332 *i* PKPdf **PKPdf** **20 36 24.1 -0.9**
comp=Z,8.6nm,1.1s
SOKA *i* PKPab **PKPab** **20 37 07.3 -0.1**
comp=Z,13nm,1.1s
LANF Langenberg 160.90 348 PKP **PKPab** **20 37 08.1 +0.6**
KBA Koelnbreinsper 161.16 335 *i* PKPdf **PKPdf** **20 36 24.9 -0.5**
comp=Z,6.5nm,1.1s
BFO Black Forest 161.42 347 *e*PKP2 **PKPab** **20 37 09.4 -0.4**
BFO MLR MLR
comp=Z,427nm,20.0s
BFO Black Forest 161.42 347 *e*PKPab **PKPab** **20 37 09.3 -0.4**
BFO LR LR
comp=Z,427nm,20.0s
WATA Walderalm 161.52 339 *i* PKPdf **PKPdf** **20 36 27.4 +1.7**
comp=Z,2.3nm,0.4s
WATA *i* PKPab **PKPab** **20 37 10.9 +0.5**
comp=Z,18nm,0.8s
LJU Ljubljana 161.56 332 *e*PKPdf **PKPdf** **20 36 25.1 -0.5**
RETA Reutte 161.63 341 *i* PKPab **PKPab** **20 37 10.8 +0.1**
SNR=8.2
MOTA Moosalm 161.66 340 *i* PKPdf **PKPdf** **20 36 25.4 -0.5**
MOTA *i* PKPab **PKPab** **20 37 11.2 +0.2**
comp=Z,31nm,1.0s,SNR=9.7
BOJS Bojanci 161.68 329 *i* PKPdf **PKPdf** **20 36 25.2 -0.5**
ABTA Abfaltersbach 161.73 336 *i* PKPdf **PKPdf** **20 36 25.4 -0.5**
comp=Z,14nm,1.7s
ABTA *i* PKPab **PKPab** **20 37 10.6 -0.8**
comp=Z,12nm,0.8s
ECH Echery 161.75 349 PKP **PKPab** **20 37 09.7 -1.5**
JAVS Javornik 161.87 332 *i* PKPdf **PKPdf** **20 36 24.2 -1.9**
JAVS *i* PKPab **PKPab** **20 37 10.4 -1.5**
TIR Tirane 161.89 312 PFAKE 20 36 40.0 +14
TIR LR LR
comp=Z,473nm,21.0s
DAVA Damuels 162.05 342 *i* PKPdf **PKPdf** **20 36 26.4 +0.1**
comp=Z,10nm,1.2s
DAVA *i* PKPab **PKPab** **20 37 12.6 -0.2**
comp=Z,24nm,0.8s,SNR=9.7
FETA Feichten 162.06 340 *i* PKPdf **PKPdf** **20 36 26.5 +0.1**
comp=Z,13nm,1.7s
FETA *i* PKPab **PKPab** **20 37 13.1 +0.3**
comp=Z,16nm,1.0s
MOF Molkenrain 162.10 349 PKP **PKPab** **20 37 11.6 -1.3**
FUORN Ofenpass-Fuorn 162.56 341 *e*PKPdf **PKPdf** **20 36 25.4 -1.6**
FUORN *e*PKPab **PKPab** **20 37 15.5 +0.4**
LOMF Lomont 162.64 349 PKP **PKPab** **20 37 12.1 -3.1**
TORD Torodi Ar. Bea 162.86 179 PKP **PKPdf** **20 36 27.2 -0.6**
comp=Z,7.4nm,1.2s,baz=108,slow=0.4,SNR=15
TORD PKPab **PKPab** **20 37 17.3 +0.5**
comp=Z,29nm,0.8s,baz=179,slow=3.6,SNR=30
TORD PP **PP** **20 41 01.6 +1.5**
comp=Z,2.3nm,0.9s,baz=160,slow=4.6,SNR=4.0
KOWA Kowa 163.25 159 *e*PKPdf **PKPdf** **20 36 28.3 +0.1**
SENIN Lac Senin/Sane 163.51 347 *e*PKPdf **PKPdf** **20 36 26.6 -1.3**
SENIN *e*PKPab **PKPab** **20 37 18.9 -0.3**
VLC Villacollemand 164.72 337 PFAKE 20 36 40.0 +11
VLC LR LR
comp=Z,309nm,21.0s
BNI Bardonecchia 164.89 347 PFAKE 20 36 40.0 +11
BNI LR LR
comp=Z,570nm,22.0s
AQU L'Aquila 164.95 326 PFAKE 20 36 40.0 +11
AQU LR LR
comp=Z,519nm,21.0s
SSB Saint Sauveur 164.98 353 *e*PKIKP **PKPdf** **20 36 29.0 0.0**
SSB *e* 20 37 25.1
SSB MLR MLR
comp=Z,446nm,19.0s
SSB Saint Sauveur 164.98 353 *e*PKPdf **PKPdf** **20 36 29.0 0.0**
SSB *e*PKPab **PKPab** **20 37 25.1 -0.4**
SSB LR LR
comp=Z,446nm,19.0s
TIP Timpagrande 165.05 310 *e*PKPdf **PKPdf** **20 36 30.8 +1.5**
TIP LR LR
comp=Z,411nm,22.0s
CUC Castrocucco 165.20 314 PFAKE 20 36 40.0 +11
CUC LR LR
comp=Z,297nm,21.0s
PGAV Gavieira, Arco 165.77 33 *e*PKPdf **PKPdf** **20 36 30.6 +0.8**
PGAV Gavieira, Arco 165.77 33 *e*SS SS 21 02 00.3 +9.1
PGAV Gavieira, Arco 165.77 33 *e*LR LR 21 33 56.8
comp=Z,402nm,20.0s
PCAB Cabril 166.08 33 *e*PKPdf **PKPdf** **20 36 31.3 +1.3**
POLO Lamas de Olo 166.45 33 *e*PKPdf **PKPdf** **20 36 31.2 +0.8**
POLO Lamas de Olo 166.45 33 *e*PKPab **PKPab** **20 37 32.0 -0.3**
PVRL Vila Real 166.56 33 *e*PKPdf **PKPdf** **20 36 31.7 +1.3**
PBRG Braganca 166.58 29 *e*PKPdf **PKPdf** **20 36 31.0 +0.6**
PBRG Braganca 166.58 29 *e*PKPab **PKPab** **20 37 32.5 -0.2**
PVIS Viseu 166.91 35 *e*PKPdf **PKPdf** **20 36 31.8 +1.1**
PVIS Viseu 166.91 35 *e*PKPab **PKPab** **20 37 34.0 -0.2**
MVO Moncorvo 166.97 32 *e*PKPdf **PKPdf** **20 36 31.9 +1.2**
MVO Moncorvo 166.97 32 *e*PKPab **PKPab** **20 37 34.5 0.0**
MVO Moncorvo 166.97 32 *e*SS SS 21 02 15.5 +12
MVO Moncorvo 166.97 32 *e*LR LR 21 34 16.5
comp=Z,501nm,18.0s
PCAS Casmilo, Conde 167.08 39 *e*PKPdf **PKPdf** **20 36 31.9 +1.1**
MTE Manteigas 167.32 35 *e*PKPdf **PKPdf** **20 36 31.9 +0.9**
MTE Manteigas 167.32 35 *e*PKPab **PKPab** **20 37 37.0 +0.9**
MTE Manteigas 167.32 35 *e*SS SS 21 02 11.5 +4.5
MTE Manteigas 167.32 35 *e*LR LR 21 34 43.7
comp=Z,480nm,20.0s
MTE Manteigas 167.32 35 *e*PKPdf **PKPdf** **20 36 32.8 +1.8**
MTE LR LR
comp=Z,547nm,20.0s
PTOM Tomar 167.43 40 *e*PKPdf **PKPdf** **20 36 32.3 +1.3**
PTOM Tomar 167.43 40 *e*PKPab **PKPab** **20 37 36.3 -0.2**
PCBR Castelo Branco 167.77 37 *e*PKPdf **PKPdf** **20 36 32.4 +1.2**
PMTG Montargil 167.91 41 *e*PKPdf **PKPdf** **20 36 32.1 +0.7**
PMTG Montargil 167.91 41 *e*PKPab **PKPab** **20 37 38.1 -0.6**
PMRV Marv??o 168.12 38 *e*PKPdf **PKPdf** **20 36 32.6 +1.1**
PMRV Marv??o 168.12 38 *e*PKPab **PKPab** **20 37 39.3 -0.3**
PMRV Marv??o 168.12 38 *e*SS SS 21 02 23.0 +7.9
PMRV Marv??o 168.12 38 *e*LR LR 21 35 29.0

comp=Z,577nm,20.0s
CLTB Caltabellotta 168.26 311 PFAKE 20 36 40.0 +8.2
CLTB LR LR
comp=Z,270nm,21.0s
PNCL Nicolau / Gran 168.35 46 *e*PKPdf **PKPdf 20 36 32.7 +1.0**
PNCL Nicolau / Gran 168.35 46 *e*PKPab **PKPab 20 37 40.2 -0.5**
EVO Evora 168.39 43 *e*PKPdf **PKPdf 20 36 32.7 +1.0**
PESTR Estremoz 168.41 40 *e*PKPdf **PKPdf 20 36 33.4 +1.6**
PTEO Sao Teotonio 168.57 48 *e*PKPdf **PKPdf 20 36 33.4 +1.5**
MESJ Messejana 168.71 46 *e*P **PKPdf 20 36 32.3 +0.3**
MESJ *e*PP **PP 20 41 32.0 +0.5**
MESJ AMS AMS 21 53 26.3
comp=Z,294nm,28.0s
MESJ Messejana 168.71 46 *e*PKPdf **PKPdf 20 36 33.1 +1.2**
MESJ Messejana 168.71 46 *e*PKPab **PKPab 20 37 42.0 -0.3**
MESJ Messejana 168.71 46 *e*PKIKP **PKPdf 20 36 32.2 +0.3**
MESJ *e* 20 41 32.0
PFVI Vila Bisbo 168.74 50 *e*PKPdf **PKPdf 20 36 32.8 +0.8**
MORF Marmelete 168.75 49 *e*P **PKPdf 20 36 32.3 +0.2**
MORF *e*PP **PP 20 41 32.2 +0.3**
MORF AMS AMS 22 01 20.8
comp=Z,360nm,26.8s
MORF Marmelete 168.75 49 *e*PKPdf **PKPdf 20 36 33.6 +1.5**
MORF Marmelete 168.75 49 *e*PKIKP **PKPdf 20 36 32.2 +0.2**
MORF *e* 20 41 32.1
PBEJ Beja 168.81 44 *e*PKPdf **PKPdf 20 36 33.5 +1.5**
PCVE Castro Verde 168.95 46 *e*PKPdf **PKPdf 20 36 33.7 +1.6**
VSL Villasalto 169.08 328 PFAKE 20 36 40.0 +7.8
VSL LR LR
comp=Z,411nm,20.0s
PBAR Barrancos 169.20 41 *e*PKPdf **PKPdf 20 36 33.5 +1.2**
PBDV Barranco-do-Ve 169.26 48 *e*PKPdf **PKPdf 20 36 34.2 +1.8**
PVAQ Vaqueiros 169.29 46 *e*SS SS 21 02 33.5 +6.1
PVAQ Vaqueiros 169.29 46 *e*LR LR 21 35 40.1
comp=Z,320nm,20.0s
PAB San Pablo 169.46 28 *e*PKIKP **PKPdf 20 36 33.8 +1.3**
PAB MLR MLR
comp=Z,702nm,22.0s
PAB San Pablo 169.46 28 *e*PKPdf **PKPdf 20 36 33.8 +1.3**
PAB LR LR
comp=Z,702nm,22.0s
ESDC Sonseca Array 169.50 26 PKP **PKPdf 20 36 33.1 +0.7**
comp=Z,4.1nm,0.9s,baz=349,slow=3.0,SNR=27
ESDC PKPab **PKPab 20 37 45.0 -0.8**
comp=Z,2.1nm,0.8s,baz=318,slow=3.9,SNR=6.7
ESDC PP **PP 20 41 34.6 -0.3**
comp=Z,1.1nm,0.8s,baz=352,slow=5.5,SNR=5.7
RTC Rabat Centre 171.66 62 PFAKE 20 36 40.0 +6.3
RTC LR LR
comp=Z,3μm,20.0s
TAM Tamanrasset 171.83 203 *e*PKIKP **PKPdf 20 36 33.8 -0.6**
TAM MLR MLR
comp=Z,528nm,21.0s
TAM Tamanrasset 171.83 203 *e*PKPdf **PKPdf 20 36 33.8 -0.6**
TAM *e*PKPab **PKPab 20 37 59.0 +2.6**
TAM LR LR
comp=Z,528nm,21.0s
KEST Kesra 171.85 313 PKP **PKPdf 20 36 33.9 0.0**
comp=Z,5.9nm,0.9s,baz=126,slow=6.3,SNR=5.4
KEST PKPab **PKPab 20 37 58.0 +1.6**
comp=Z,3.8nm,0.9s,baz=105,slow=10,SNR=2.3

NIED ***09*** *20:30:00.37˚80N×142˚50E,h35km,Mw4.0 Best double couple: M₀9.58000×10¹⁴ NP1:φ₈46.00000°,δ19.00000°, λ89.00000°. NP2:φ₈227.00000°,δ71.00000°,λ90.00000°.*
ISCJB ***09*** *20:30:05.0±1.0,37˚79N±0˚04×142˚52E±0˚08,h38km±9km, mb3.9/11,Error ellipse: s-maj=10.2km s-min=6.4km az=15.3*
JMA ***09*** *20:30:05.9±0.2,37˚80N×142˚43E,h42km±4km,M4.3*
JMA Felt I J1.
IDC ***09*** *20:30:07.3±0.8,37˚71N×142˚42E,h42km±7km,mb3.7/11, mb1 3.9/14,mb1mx3.6/42,mbtmp4.0/14,ML3.4/3,MS2.8/3, Ms1 2.8/3,ms1mx2.6/58,Error ellipse: s-maj=20.1km s-min=13.9km az=87.0*

ISC 09 20:30:05.2±0.8,37˚77N±0˚05×142˚58E±0˚06,h29km±4km, n39,σ1$56/46,mb4.0/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.19**	**305**	P	**Pn**	**20 30 25.1**	**-0.8**
JIO				S	**Sn**	**20 30 38.3**	**-2.8**
JFK	**Kawauchi**	**1.42**	**254**	P	**Pn**	**20 30 28.0**	**-1.1**
JFK				S	**Sn**	**20 30 43.8**	**-2.9**
JMM	**Marumori**	**1.42**	**274**	P	**Pn**	**20 30 28.0**	**-1.1**
JMM				*e*S	**Sn**	**20 30 44.1**	**-2.7**
JMK	**Ichinoseki**	**1.59**	**318**	P	**Pn**	**20 30 31.2**	**-0.3**
JMK				*e*S	**Sn**	**20 30 49.5**	**-1.6**
JOU	**Okura**	**1.63**	**292**	P	**Pn**	**20 30 31.6**	**-0.3**
JOU				*e*S	**Sn**	**20 30 50.0**	**-2.0**
JFT	**Otama**	**1.80**	**263**	P	**Pn**	**20 30 34.4**	**+0.1**
JFT				*e*S	**Sn**	**20 30 55.1**	**-1.1**
JOM	**Ohasama**	**1.98**	**330**	P	**Pn**	**20 30 36.7**	**-0.1**
JOM				*e*S	**Sn**	**20 30 59.3**	**-1.3**
JYS	**Shirataka**	**2.04**	**284**	P	**Pn**	**20 30 37.4**	**-0.2**
JYK	**Kaneyama**	**2.09**	**304**	P	**Pn**	**20 30 38.1**	**-0.2**
JRG	**Rokugo**	**2.23**	**317**	P	**Pn**	**20 30 40.2**	**0.0**
JRG				*e*S	**Sn**	**20 31 06.2**	**-0.6**
JNS	**Sasagawa**	**2.59**	**272**	P	**Pn**	**20 30 45.8**	**+0.7**
JAW	**Awa shima**	**2.72**	**286**	P	**Pn**	**20 30 47.3**	**+0.4**
JANG	**Nango**	**2.73**	**343**	P	**Pn**	**20 30 46.4**	**-0.7**
MJAR	**Matsushiro Arr**	**3.70**	**252**	P	**Pn**	**20 31 01.2**	**+0.7**
	3.8nm,0.3s,baz=78,slow=14,SNR=21						
MJAR				LR	LR	20 32 42.1	
	comp=Z,93nm,20.5s,baz=80,slow=44						
MAT	**Matsushiro**	**3.70**	**252**	P	**Pn**	**20 31 01.1**	**+0.6**
MAT				*e*S	**Sn**	**20 31 45.3**	**+2.1**
JHJ	**Hachijo jima 2**	**5.17**	**207**	P	**Pn**	**20 31 20.6**	**0.0**
	27nm,0.3s,baz=14,slow=18,SNR=21						
JHJ				S	**Sn**	**20 32 14.3**	**-5.1**
	35nm,0.3s,baz=0.5,slow=19,SNR=5.7						
JHJ				LR	LR	20 33 07.7	
	comp=Z,55nm,18.1s,baz=64,slow=36						
ASAJ	**Asahikawa**	**6.34**	**0**	P	**Pn**	**20 31 36.5**	**-0.2**
	2.5nm,0.3s,baz=202,slow=14,SNR=24						
ASAJ				S	**Sn**	**20 32 45.0**	**-3.2**
	baz=107,slow=19						
USRK	**Ussuriysk Ar.**	**10.26**	**312**	P	**Pn**	**20 32 31.0**	**+0.6**
	0.4nm,0.3s,baz=125,slow=14,SNR=5.4						
KSRS	**Korea Array**	**11.63**	**273**	P	**Pn**	**20 32 52.0**	**+2.8**
	0.2nm,0.3s,baz=88,slow=13,SNR=7.4						
KLR	**Kul'dur**	**13.88**	**329**	P	**Pn**	**20 33 18.4**	**-1.5**
	0.2nm,0.3s,baz=143,slow=11,SNR=3.0						
PETK	**Petropavlovsk-**	**18.59**	**30**	LR	LR	20 41 27.9	
	comp=Z,104nm,21.5s,baz=72,slow=36						
YAK	**Yakutsk**	**25.57**	**346**	P	**P**	**20 35 31.3**	**0.0**
	1.3nm,0.3s,baz=140,slow=18,SNR=2.5						
SEY	**Seymchan**	**25.90**	**10**	P	**P**	**20 35 36.7**	**+2.4**
	1.3nm,0.2s,baz=183,slow=9.8,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**27.75**	**124**	T	T	21 05 01.1	
	baz=316,slow=75,SNR=86						
H11N1	**WAKE ISLAND Hy**	**27.76**	**124**	T	T	21 05 15.5	
	baz=316,slow=75,SNR=63						
H11N3	**WAKE ISLAND Hy**	**27.77**	**124**	T	T	21 05 11.7	
	baz=316,slow=75,SNR=4.5						
SONM	**Songino Array**	**28.16**	**303**	P	**P**	**20 35 55.0**	**-0.1**
	2.0nm,0.7s,baz=95,slow=7.9,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**28.50**	**126**	T	T	21 07 21.7	
	baz=318,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**28.51**	**126**	T	T	21 07 20.6	
	baz=318,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**28.52**	**126**	T	T	21 07 21.6	
	baz=318,slow=76,SNR=22						
ZALV	**Zalesovo Beam**	**42.11**	**312**	P	**P**	**20 37 54.5**	**0.0**
	1.7nm,0.5s,baz=89,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**44.52**	**302**	P	**P**	**20 38 13.5**	**-0.7**
	2.0nm,0.6s,baz=90,slow=9.5,SNR=7.0						
ILAR	**Eielson Array**	**48.38**	**33**	P	**P**	**20 38 44.0**	**-0.1**
	0.3nm,0.6s,baz=264,slow=5.0,SNR=5.1						
WRA	**Warramunga Arr**	**57.82**	**189**	P	**P**	**20 39 54.2**	**-0.6**
	2.2nm,0.5s,baz=6.4,slow=7.3,SNR=47						
WRA				pP	**sP**	**20 40 06.2**	**-0.8**
	1.4nm,0.7s,baz=6.2,slow=7.2,SNR=5.9						
ASAR	**Alice Springs**	**61.65**	**189**	P	**P**	**20 40 20.4**	**-0.1**
	0.7nm,0.5s,baz=1.3,slow=5.9,SNR=13						
ASAR				pP	**sP**	**20 40 32.3**	**-0.3**
	0.6nm,0.7s,baz=16,slow=7.5,SNR=4.6						
FINES	**FINESS Array B**	**68.59**	**332**	P	**P**	**20 41 04.9**	**-0.1**
	1.4nm,0.7s,baz=34,slow=8.4,SNR=3.5						
FINES				pP	**sP**	**20 41 18.4**	**+1.0**
	0.8nm,0.4s,baz=46,slow=8.1,SNR=1.4						
PDAR	**Pinedale Array**	**76.49**	**46**	P	**P**	**20 41 54.2**	**+1.5**
	0.2nm,0.5s,baz=287,slow=1.5,SNR=2.6						
TXAR	**Lajitas Array**	**88.94**	**53**	P	**P**	**20 42 58.6**	**+1.3**
	0.2nm,0.6s,baz=266,slow=1.4,SNR=2.9						
LPAZ	**La Paz**	**145.52**	**60**	PKPbc	**PKPab**	**20 49 42.9**	**+0.8**
	1.0nm,0.7s,baz=16,slow=3.4,SNR=4.5						

IDC 09 20:35:28.5±10.0,37˚90S×91˚85W,h0km,mb4.2/6, mb1 4.4/6,mb1mx4.1/26,mbtmp4.2/6,Error ellipse: s-maj=283.9km s-min=34.0km az=2.0,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**24.90**	**59**	P	P	20 40 52.7	-0.9
	8.7nm,0.3s,baz=225,slow=7.1,SNR=4.3						
LPAZ	**La Paz**	**30.00**	**51**	P	P	20 41 41.4	+1.8
	1.5nm,0.6s,baz=221,slow=6.9,SNR=6.1						
PTGA	**Pitinga**	**47.20**	**46**	P	P	20 44 02.1	-1.1
	2.6nm,0.6s,baz=210,slow=11,SNR=5.9						
TXAR	**Lajitas Array**	**67.79**	**349**	P	P	20 46 27.7	-0.5
	1.2nm,1.0s,baz=165,slow=7.5,SNR=3.5						
NVAR	**Mina Array Bea**	**79.77**	**339**	P	P	20 47 38.9	+0.5
	0.9nm,0.9s,baz=168,slow=6.6,SNR=3.3						
PDAR	**Pinedale Array**	**81.89**	**347**	P	P	20 47 50.0	+0.3
	1.1nm,0.8s,baz=151,slow=6.2,SNR=5.3						

NIED ***09*** *20:44:00.35˚70N×140˚80E,h11km,Mw3.7 Best double couple: M₀3.84000×10¹⁴ NP1:φ₈320.00000°,δ31.00000°, λ-111.00000°. NP2:φ₈164.00000°,δ61.00000°, λ-78.00000°.*
ISCJB ***09*** *20:44:14.3±1.2,35˚78N±0˚05×141˚01E±0˚09,h16km±6km, mb3.3/2,Error ellipse: s-maj=12.9km s-min=8.4km az=159.8*
IDC ***09*** *20:44:14.6±3.8,35˚64N×140˚77E,h0km,mb3.3/2, mb1 3.4/3,mb1mx3.2/39,mbtmp3.2/3,ML3.0/1,Error ellipse: s-maj=108.3km s-min=26.5km az=49.0*
JMA ***09*** *20:44:16.1±0.1,35˚74N×140˚84E,h14km±1km,M3.5*
JMA Felt I J1.

ISC 09 20:44:15.8±1.1,35˚75N±0˚06×140˚84E±0˚09,h14km±6km, n16,σ0$89/15,2C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.05**	**157**	⇓P	**Pg**	**20 44 18.6**	**+0.1**
CHOJ				S	**Sg**	**20 44 20.3**	**+0.1**
JCN	**Nagara**	**0.61**	**238**	P	**Pb**	**20 44 28.5**	**+0.2**
JCN				S	**Sn**	**20 44 38.8**	**-0.9**
JYT	**Yasato**	**0.71**	**313**	⇑P	**Pg**	**20 44 29.5**	**-0.2**
JYT				*e*S	**Sg**	**20 44 38.9**	**-0.1**
BSO4	**Boso 4**	**0.86**	**209**	P	**Pn**	**20 44 32.8**	**-0.6**
JHO	**Hitachi**	**0.89**	**346**	⇑P	**Pg**	**20 44 32.1**	**-1.0**
BSO3	**Boso 3**	**0.98**	**196**	P	**Pn**	**20 44 34.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.27**	**291**	Pn	**Pn**	**20 44 52.7**	**-0.3**
	4.0nm,0.3s,baz=95,slow=8.7,SNR=40						
MJAR				Sn	**Sn**	**20 45 22.7**	**+2.0**
	2.8nm,0.3s,baz=96,slow=12,SNR=6.6						
MAT	**Matsushiro**	**2.27**	**291**	P	**Pn**	**20 44 52.7**	**-0.2**
MAT				*e*S	**Sb**	**20 45 23.6**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	21 19 03.5	
	baz=311,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	21 19 02.6	
	baz=311,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	21 19 03.4	
	baz=311,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	21 19 53.9	
	baz=312,slow=75,SNR=36						
H11S3	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	21 19 54.1	
	baz=312,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	21 19 53.2	
	baz=312,slow=75,SNR=23						
MKAR	**Makanchi Array**	**44.42**	**303**	P	**P**	**20 52 26.9**	**+0.9**
	0.1nm,0.3s,baz=85,slow=8.5,SNR=4.0						
WRA	**Warramunga Arr**	**55.73**	**187**	P	**P**	**20 53 52.1**	**+0.1**
	0.4nm,0.9s,baz=4.1,slow=7.5,SNR=3.8						

NIED ***09*** *20:51:00.36˚30N×141˚60E,h11km,Mw4.5 Best double couple: M₀7.40000×10¹⁵ NP1:φ₈213.00000°,δ17.00000°, λ101.00000°. NP2:φ₈21.00000°,δ74.00000°,λ87.00000°.*
IDC ***09*** *20:51:20.9±0.6,36˚20N×141˚53E,h0km,mb4.3/35, mb1 4.4/40,mb1mx4.3/68,mbtmp4.3/40,ML4.2/5,MS4.2/4, Ms1 4.2/4,ms1mx3.4/55,Error ellipse: s-maj=14.3km s-min=12.9km az=128.0*
NEIC ***09*** *20:51:22.8±2.1,36˚20N×141˚61E,h13km±13km,mb4.8/15, Error ellipse: s-maj=6.8km s-min=5.0km az=122.0*
NEIC Recorded [1 JMA] in Fukushima, Gumma, Ibaraki and Tochigi.
JMA ***09*** *20:51:24.6±0.1,36˚23N×141˚53E,h53km±3km,M4.5*
JMA Felt I J1.
ISCJB ***09*** *20:51:24.3±0.6,36˚21N±0˚03×141˚58E±0˚05,h36km±4km, mb4.5/67,MS4.4/8,Error ellipse: s-maj=6.4km s-min=4.4km az=7.1*
MOS ***09*** *20:51:27.1±0.9,36˚64N×141˚31E,h35km,mb4.9/46, MS4.4/7,Error ellipse: s-maj=9.2km s-min=5.5km az=126.8*
BJI ***09*** *20:51:28.9,36˚28N×140˚86E,h40km,mb4.7/37,mB4.8/23, Ms4.3/20,Ms7 4.3/18*

ISC 09 20:51:26.5±0.5,36˚26N±0˚05×141˚54E±0˚06,h38km±2km, n157,σ1$30/157,mb4.6/67,MS4.5/8,8C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.78**	**225**	P	Pn	20 51 39.2	-1.8
CHOJ				*e*S	**Sn**	**20 51 50.3**	**-1.2**
JHO	**Hitachi**	**0.85**	**294**	P	**Pn**	**20 51 40.4**	**-1.6**
ONAJ	**Iwakimizuishiy**	**1.03**	**325**	P	**Pn**	**20 51 43.0**	**-1.4**
ONAJ				*e*S	**Sn**	**20 51 57.8**	**+0.2**
JFK	**Kawauchi**	**1.23**	**335**	P	**Pn**	**20 51 45.8**	**-1.3**
JFK				*e*S	**Sn**	**20 52 02.7**	**+0.2**
JFT	**Otama**	**1.58**	**323**	P	**Pn**	**20 51 52.1**	**+0.1**
JFT				*e*S	**Sn**	**20 52 13.1**	**+1.9**
BSO1	**Boso 1**	**1.67**	**196**	P	Pn	20 51 51.6	-1.1
BSO3	**Boso 3**	**1.68**	**210**	P	**Pn**	**20 51 52.5**	**-0.6**
JAG	**Ashikaga**	**1.69**	**276**	P	**Pn**	**20 51 52.3**	**-1.2**
JAG				*e*S	**Sn**	**20 52 13.2**	**-0.6**
JMM	**Marumori**	**1.71**	**340**	P	**Pn**	**20 51 53.0**	**-0.7**
JMM				*e*S	**Sn**	**20 52 14.2**	**-0.1**
JFY	**Yanaizu**	**1.86**	**308**	P	**Pn**	**20 51 55.8**	**-0.1**
JKT	**Katashina**	**1.91**	**286**	P	**Pn**	**20 51 56.2**	**-0.4**
JKT				*e*S	**Sn**	**20 52 19.9**	**+0.5**
MJAR	**Matsushiro Arr**	**2.70**	**277**	Pn	**Pn**	**20 52 07.2**	**-0.1**
	91nm,0.3s,baz=102,slow=8.9,SNR=628						
MJAR				Sn	**Sn**	**20 52 39.0**	**+0.3**
	38nm,0.3s,baz=98,slow=16,SNR=5.3						
MAJO	**Matsushiro**	**2.70**	**277**	*i* P	**Pn**	**20 52 07.8**	**+0.4**
MAJO	**Matsushiro**	**2.70**	**277**	*e*Pn	**Pn**	**20 52 07.5**	**+0.1**
MAT	**Matsushiro**	**2.70**	**277**	P	**Pn**	**20 52 07.4**	**0.0**
MAT				S	**Sn**	**20 52 42.7**	**+3.9**
JHJ2	**Mitsune**	**3.44**	**205**	*e*Pn	**Pn**	**20 52 17.5**	**-0.1**
JHJ	**Hachijo jima 2**	**3.45**	**205**	Pn	Pn	20 52 16.3	-1.4
	77nm,0.3s,baz=329,slow=19,SNR=55						
JHJ				Sn	Sn	20 52 54.2	-3.1
	97nm,0.3s,baz=72,slow=20,SNR=9.4						
ERM	**Erimo**	**5.88**	**12**	*e*P	**Pn**	**20 52 49.7**	**-1.4**
ERM				pmax	pmax		
	comp=Z,46nm,0.8s						
ERM	**Erimo**	**5.88**	**12**	*e*Pn	**Pn**	**20 52 49.7**	**-1.4**
	comp=Z,46nm,0.8s						
ASAJ	**Asahikawa**	**7.89**	**6**	*e*Pn	**Pn**	**20 53 16.9**	**-1.7**
	comp=Z,7.9nm,0.6s						
CBIJ	**Chichi jima**	**9.15**	**176**	Pn	Pn	20 53 31.8	-4.2
CBIJ				Sn	Sn	20 55 06.8	-11
JCJ	**Chichijima**	**9.15**	**176**	Pn	Pn	20 53 31.8	-4.2
	comp=Z,11nm,0.3s,baz=285,slow=21,SNR=6.7						
JCJ				Sn	Sn	20 55 06.8	-11
	comp=Z,13nm,0.3s,baz=288,slow=20,SNR=4.2						
JNU	**Nakatsue**	**9.32**	**253**	Pn	**Pn**	**20 53 39.3**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=65,slow=8.1,SNR=13						
MSHR	**Mys Shultsa**	**10.21**	**311**	*i* P	**Pn**	**20 53 47.5**	**-2.8**
YSS	**Yuzh-Sakhalins**	**10.72**	**4**	*e*P	**Pn**	**20 53 55.8**	**-1.6**
YSS				pmax	pmax		
	comp=Z,13nm,0.6s						
YSS	**Yuzh-Sakhalins**	**10.72**	**4**	*e*Pn	**Pn**	**20 53 55.8**	**-1.6**
	comp=Z,13nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.77**	**320**	Pn	**Pn**	**20 53 59.7**	**+1.7**
	comp=Z,1.1nm,0.3s,baz=132,slow=13,SNR=24						
KSRS	**Korea Array**	**10.97**	**280**	Pn	**Pn**	**20 54 01.5**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=94,slow=14,SNR=32						
KSRS				LR	LR	20 58 04.5	
	comp=Z,571nm,21.1s,baz=112,slow=37						
KSAR	**Wonju Array Be**	**11.00**	**280**	P	**Pn**	**20 54 01.5**	**+0.2**
KSAR	**Wonju Array Be**	**11.00**	**280**	Pn	**Pn**	**20 54 01.5**	**+0.2**
TJN	**Taejon**	**11.44**	**275**	*ce*P	**Pn**	**20 54 09.1**	**+1.9**
MDJ	**Mudanjiang**	**12.34**	**316**	*e*Pn	**Pn**	**20 54 20.0**	**+0.5**
	comp=Z,12nm,0.8s						
HABR	**Khabarovsk**	**13.11**	**341**	*e*P	P	20 54 43.3	+3.9
HABR				*e*S	Sn	20 56 42.7	-12
HABR				MLR	MLR		
	comp=Z,283nm,12.0s						
CN2	**Changchun**	**14.43**	**306**	*e*P	**P**	**20 54 53.0**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**14.80**	**334**	Pn	**Pn**	**20 54 50.2**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=142,slow=13,SNR=6.1						
SNY	**Shenyang**	**15.01**	**297**	⇓P	Pn	20 54 50.2	-5.6
SNY				S	**Sn**	**20 57 42.6**	**+1.8**
SNY				PMZ			
	comp=Z,15nm,0.8s						
SNY				PMZ			
	comp=Z,240nm,14.1s						
SNY				LN			
	comp=Z,380nm,15.0s						
SNY				LE			
	comp=Z,460nm,15.7s						
SNY				LZ			
	comp=Z,790nm,17.7s						
TIA	**Tai'an**	**19.68**	**277**	*e*P	**P**	**20 55 50.6**	**-1.7**
TIA				PMZ			
	comp=Z,10.0nm,1.2s						
BJT	**Baijiatuau**	**20.28**	**288**	*e*P	**P**	**20 55 57.0**	**-1.7**
BJT				pmax	pmax		
	comp=Z,12nm,0.5s						
BJT	**Baijiatuau**	**20.28**	**288**	*e*P	**P**	**20 55 57.0**	**-1.7**
	comp=Z,12nm,0.5s						
PETK	**Petropavlovsk-**	**20.31**	**29**	P	**P**	**20 55 59.1**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=166,slow=8.6,SNR=2.1						
CLNS	**Chul'man**	**23.43**	**337**	*e*P	**P**	**20 56 26.0**	**-6.0**
CLNS				pmax	pmax		
	comp=N,33nm,1.4s						
CLNS				pmax	pmax		
	comp=Z,29nm,1.2s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
MA2	**Magadan**	**24.09**	**12**	P	**P**	**20 56 39.1**	**+1.0**
	comp=E,2.4nm,0.3s,baz=246,slow=9.2,SNR=3.7						
XAN	**Xi'an**	**26.69**	**275**	P	**P**	**20 57 02.3**	**+0.2**
XAN				pP	pP	20 57 10.2	-2.5
XAN				PMZ			
	comp=E,17nm,1.4s						
YAK	**Yakutsk**	**26.84**	**348**	P	**P**	**20 57 02.7**	**-0.3**
	comp=E,1.6nm,0.3s,baz=250,slow=17,SNR=7.3						
YAK				LR	LR	21 09 10.4	
	comp=E,765nm,21.5s,baz=102,slow=40						
YAK	**Yakutsk**	**26.84**	**348**	*e*P	**P**	**20 57 03.0**	**0.0**
YAK				*e*PP	**pP**	**20 57 10.4**	**-3.3**
YAK				*e*		20 57 47.1	
YAK				*e*PPP	PPP	20 57 59.6	
YAK				pmax	pmax		
	comp=Z,27nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,109nm,3.5s						
YAK				pmax	pmax		
	comp=N,27nm,3.0s						
YAK				pmax	pmax		
	comp=E,29nm,2.7s						
YAK				MLR	MLR		
	comp=Z,792nm,20.0s						
YAK				MLR	MLR		
	comp=N,287nm,19.0s						
YAK				MLR	MLR		
	comp=E,279nm,21.0s						
ENH	**Enshi**	**27.38**	**267**	*e*P	**P**	**20 57 07.2**	**-1.0**
	comp=E,37nm,0.9s						
SEY	**Seymchan**	**27.53**	**11**	P	**P**	**20 57 10.5**	**+1.3**
	comp=E,2.6nm,0.7s,baz=190,slow=9.1,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**27.68**	**120**	T	T	21 26 29.0	
	baz=311,slow=75,SNR=81						
H11N1	**WAKE ISLAND Hy**	**27.68**	**120**	T	T	21 26 29.8	
	baz=311,slow=75,SNR=92						
H11N3	**WAKE ISLAND Hy**	**27.69**	**120**	T	T	21 26 30.5	
	baz=311,slow=75,SNR=63						
ULN	**Ulaanbaatar**	**27.88**	**305**	⇑*i*P	**P**	**20 57 12.5**	**-0.2**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ULN	**Ulaanbaatar**	**27.88**	**305**	*e*P	**P**	**20 57 12.9**	**+0.2**
	comp=Z,5.1nm,0.8s						
SONM	**Songino Array**	**28.30**	**305**	P	**P**	**20 57 16.5**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=108,slow=9.0,SNR=53						
H11S1	**WAKE ISLAND Hy**	**28.36**	**122**	T	T	21 27 15.6	
	baz=314,slow=75,SNR=104						
H11S3	**WAKE ISLAND Hy**	**28.36**	**122**	T	T	21 27 15.6	
	baz=314,slow=75,SNR=66						
H11S2	**WAKE ISLAND Hy**	**28.38**	**122**	T	T	21 27 26.5	
	baz=314,slow=75,SNR=45						
ZAK	**Zakamensk**	**30.83**	**309**	*e*P	**P**	**20 57 37.4**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TLY	**Talaya**	**30.91**	**312**	P	**P**	**20 57 38.9**	**-0.5**
	comp=Z,5.2nm,0.6s,baz=136,slow=4.1,SNR=4.2						
TLY	**Talaya**	**30.91**	**312**	*e*P	**P**	**20 57 40.0**	**+0.6**
TLY				pmax	pmax		
	comp=Z,16nm,1.1s						
TLY				MLR	MLR		
	comp=Z,564nm,17.0s						
MOY	**Mondy**	**32.52**	**311**	*e*P	**P**	**20 57 53.8**	**+0.2**
GTA	**Gaotai**	**32.89**	**288**	*e*P	**P**	**20 57 57.2**	**+0.2**
GTA				PMZ			
	comp=Z,7.0nm,1.1s						
BILL	**Bilibino**	**34.74**	**16**	⇓*e*P	**P**	**20 58 16.2**	**+3

comp=Z,10.0nm,1.6s
KOLN Koldanda 49.22 277 *e*P **P 21 00 12.0 +0.6**
comp=Z,9.8nm,0.5s
PYUN Piuthan 49.57 278 *e*P **P 21 00 14.8 +0.7**
comp=Z,96nm,0.9s
TKM2 Tokmak 2 50.09 299 *i* P **P 21 00 18.5 +0.7**
TKM2 pmax pmax
comp=Z,19nm,1.3s
TKM2 Tokmak 2 50.09 299 *e*P **P 21 00 18.9 +1.1**
comp=Z,8.7nm,0.6s
ILAR Eielson Array 50.10 32 P **P 21 00 18.1 +0.7**
comp=Z,1.8nm,0.8s,baz=266,slow=6.4,SNR=22
AAK Ala-Archa 50.95 299⇑ *i*P **P 21 00 24.9 +0.6**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 50.95 299 *e*P **P 21 00 24.8 +0.6**
comp=Z,3.4nm,0.6s
OTUK Ortayu 50.96 306 P **P 21 00 24.4 +0.3**
OTUK pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 51.17 313 P **P 21 00 25.9 +0.3**
comp=Z,3.4nm,0.6s,baz=74,slow=6.3,SNR=26
BVAR Borovoye Array 51.17 313 P **P 21 00 25.9 +0.3**
BVAR pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 51.22 313*c i*P **P 21 00 26.0 +0.1**
BRVK pmax pmax
comp=Z,24nm,0.8s
BRVK Borovoye 51.22 313 *e*P **P 21 00 26.0 +0.1**
comp=Z,20nm,0.8s
EKS2 Erkin-Say 51.44 299 *e*P **P 21 00 28.6 +0.7**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 51.44 299 *e*P **P 21 00 28.6 +0.7**
comp=Z,4.6nm,0.9s
ZRNK Zerenda 52.00 313 *i* P **P 21 00 31.6 -0.2**
ZRNK pmax pmax
comp=Z,10.0nm,0.8s
MNAS Manas 52.39 299 *i* P **P 21 00 35.7 +0.6**
MNAS pmax pmax
comp=Z,12nm,0.9s
GSI Gunungsitoli 53.49 240 *e*P **P 21 00 43.2 -0.1**
comp=Z,16nm,0.8s
KKAR Karatay Array 53.60 301 *e*P **P 21 00 43.8 0.0**
KKAR pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 53.60 301 *e*P **P 21 00 43.8 0.0**
comp=Z,12nm,1.0s
INK Inuvik 55.03 27 P **P 21 00 54.8 +1.1**
comp=Z,2.6nm,0.8s,baz=317,slow=1.1,SNR=4.6
INK Inuvik 55.03 27 P **P 21 00 54.8 +1.1**
INK pmax pmax
comp=Z,2.0nm,0.6s
SVE Sverdlovsk 55.79 319 *e*P **P 21 01 00.3 +0.9**
SVE pmax pmax
comp=Z,21nm,1.0s
SVE MLR MLR
comp=Z,473nm,20.0s
DZET Dzherino 56.27 296 *i* P **P 21 01 03.5 +0.2**
DZET pmax pmax
comp=Z,13nm,0.7s
WRA Warramunga Arr 56.31 188 P P 21 01 02.0 -1.4
comp=Z,4.1nm,0.8s,baz=5.9,slow=7.0,SNR=9.9
ARU Arti 57.01 319 P **P 21 01 08.4 +0.4**
comp=Z,11nm,0.6s,baz=90,slow=3.8,SNR=25
ARU Arti 57.01 319*c i*P **P 21 01 08.1 +0.1**
ARU *PP **sP 21 01 24.5 +0.6**
ARU 21 02 02.4
ARU 21 03 13.8
ARU S **S 21 08 56.0 -3.5**
ARU SS **SS 21 12 42.0 -5.8**
ARU pmax pmax
comp=Z,19nm,1.0s
ABKAR Akbulak array 58.51 311 *e*P **P 21 01 18.8 +0.1**
comp=Z,7.6nm,0.6s
AKTO Aktyubinsk 59.27 312 P **P 21 01 23.8 -0.2**
comp=Z,6.1nm,0.8s,baz=74,slow=7.4,SNR=11
ASAR Alice Springs 60.04 188 P **P 21 01 28.8 -0.7**
comp=Z,0.4nm,0.8s,baz=356,slow=6.3,SNR=5.9
YKA Yellowknife Ar 64.43 30 P **P 21 01 57.1 -1.3**
comp=Z,0.7nm,0.7s,baz=309,slow=7.1,SNR=5.3
KLMR Klimovskoe 64.46 328 *e*P **P 21 01 57.3 -1.4**
KLMR pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 64.75 340 P **P 21 02 00.6 +0.1**
comp=Z,3.3nm,0.8s,baz=68,slow=3.3,SNR=5.3
ARCES LR LR 21 34 40.4
comp=Z,502nm,21.0s,baz=52,slow=40
VRH Novokhopyorsk 68.22 318 *e*P **P 21 02 22.7 -0.2**
VRH pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 68.77 323⇓ *e*P **P 21 02 24.8 -1.4**
OBN pmax pmax
comp=Z,21nm,1.7s
OBN MLR MLR
comp=Z,309nm,20.0s
LPSR Galich'ya Gora 68.96 320 *e*P **P 21 02 27.9 +0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR MLR MLR
comp=Z,300nm,24.0s
FINES FINESS Array B 69.54 332 P **P 21 02 31.1 +0.2**
comp=Z,5.4nm,0.8s,baz=64,slow=8.7,SNR=17
VSR Storozhevoye 69.58 319 *e*P **P 21 02 30.9 -0.4**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR MLR MLR
comp=Z,300nm,19.0s
GOF Gofitskoye 70.68 312⇑ *e*P P 21 02 43.9 +5.7
ZEI Tsey 71.36 310 *e*P **P 21 02 40.8 -1.9**
SUMG Summit 71.46 360 *e*P **P 21 02 42.0 -1.0**
SUMG pmax pmax
comp=Z,3.0nm,0.8s
SUMG Summit 71.46 360 *e*P **P 21 02 42.0 -1.0**
comp=Z,3.4nm,0.8s
KBZ Khabaz 71.48 311 P **P 21 02 43.2 +0.2**
comp=Z,5.3nm,0.9s,baz=22,slow=5.4,SNR=10
KVAR Kislovodsk Arr 71.48 311 P **P 21 02 44.3 +1.1**
comp=Z,7.6nm,0.9s,baz=121,slow=8.3,SNR=10
KIV Kislovodsk 71.49 311 *e*P **P 21 02 43.3 0.0**
KIV pmax pmax
comp=Z,14nm,0.9s
KIV Kislovodsk 71.49 311 *e*P **P 21 02 44.8 +1.6**
comp=Z,16nm,1.0s
GNI Garni 72.25 307 P **P 21 02 49.3 +1.3**
comp=Z,3.1nm,0.5s,baz=63,slow=11,SNR=3.2
GNI Garni 72.25 307*ce*P **P 21 02 48.6 +0.6**
GNI pmax pmax
comp=Z,33nm,1.7s
HFS Hagfors 74.83 336 P **P 21 03 02.7 +0.1**
comp=Z,3.7nm,0.8s,baz=72,slow=9.5,SNR=5.7
NB2 NORSAR Subarra 74.94 337 P **P 21 03 03.4 +0.2**
comp=Z,7.3nm,1.0s,baz=39,slow=6.2
NB2 NORSAR Subarra 74.94 337 P **P 21 03 03.6 +0.4**
NB2 pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 74.94 337 P **P 21 03 03.6 +0.4**
comp=Z,3.7nm,0.8s,baz=39,slow=5.7,SNR=11
AKASG Malin Array Be 74.97 322 P **P 21 03 03.5 -0.1**
comp=Z,5.1nm,0.6s,baz=46,slow=6.4,SNR=23
KIEV Kiev 74.98 322*c i*P **P 21 03 03.6 0.0**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
NVAR Mina Array Bea 75.37 53 P **P 21 03 08.5 +2.1**
comp=Z,0.4nm,0.6s,baz=309,slow=5.7,SNR=2.2
PDAR Pinedale Array 78.14 45 P **P 21 03 22.9 +1.0**
comp=Z,0.4nm,0.4s,baz=274,slow=3.5,SNR=2.4
PFO Pinyon Flats O 79.39 56 LR LR 21 35 12.0
comp=Z,72nm,18.8s,baz=304,slow=33
BRTR Keskin Array B 79.44 312 P **P 21 03 29.6 +0.6**
comp=Z,3.4nm,1.0s,baz=101,slow=4.0,SNR=12
KOLS Kolonicke sedl 79.50 324 *e*P **P 21 03 28.3 -0.7**
KOLS pmax pmax
comp=Z,4.0nm,1.4s
KOLS Kolonicke sedl 79.50 324 *e*P **P 21 03 28.3 -0.7**
DPC Dobruska-Polom 81.16 328 *e*P **P 21 03 39.4 +1.4**
DPC *ep*P **PcP 21 03 44.2 0.0**
DPC *ex* x 21 03 49.3
DPC Dobruska-Polom 81.16 328 *e*P **P 21 03 39.4 +1.4**
DPC *e* 21 03 49.3
CLL Collm 81.81 330 *i* P **P 21 03 41.5 +0.2**
comp=Z,5.0nm,0.9s
CLL *e* 21 03 51.0
CLL *i* 21 03 55.6
CLL Collm 81.81 330 *i* P **P 21 03 41.5 +0.2**
CLL *e* 21 03 51.0
CLL pmax pmax
comp=Z,5.0nm,0.9s
VRAC Vranov 81.82 327 P **P 21 03 42.5 +1.1**
comp=Z,1.1nm,0.5s,baz=330,slow=9.8,SNR=3.1
PRU Pruhonice 82.19 329 *e*P **P 21 03 44.4 +1.1**
PRU Pruhonice 82.19 329 *e*P **P 21 03 44.4 +1.1**
MMAI Mount Meron Ar 82.49 306 P **P 21 03 46.8 +1.5**
comp=Z,0.6nm,0.5s,baz=64,slow=6.6,SNR=3.8
KHC Kasperske Hory 83.25 329 *e*P **P 21 03 49.5 +0.6**
KHC *ep*P **PcP 21 03 55.7 +2.3**
KHC *ex* x 21 04 00.4
KHC Kasperske Hory 83.25 329 *e*P **P 21 03 49.5 +0.6**
KHC *e* 21 04 00.4
GERES GERESS Array B 83.42 328 P **P 21 03 49.9 0.0**
comp=Z,0.9nm,0.6s,baz=43,slow=6.0,SNR=8.0
EKA Eskdalemuir Ar 83.89 341 P **P 21 03 52.8 +0.7**
comp=Z,0.3nm,0.4s,baz=57,slow=5.1,SNR=3.6
BFO Black Forest 86.03 331 *i* P **P 21 04 03.8 +0.9**
TXAR Lajitas Array 90.52 52 P **P 21 04 25.5 +0.8**
comp=Z,0.4nm,0.8s,baz=297,slow=1.1,SNR=4.1
TORD Torodi Ar. Bea 117.94 315 PP PP 21 11 20.3 -2.8
comp=Z,0.5nm,0.8s,baz=44,slow=7.7,SNR=3.7
LPAZ La Paz 146.99 61 PKPbc **PKPdf 21 11 06.7 +2.5**
comp=Z,0.7nm,0.5s,baz=6.5,slow=3.6,SNR=4.8

IDC *09* 20:56:41.2±2.9, 17°.60N×40°.32E, *h*0km, *mb*3.4/4, *mb*1 3.4/4, *mb*1*mx*3.2/57, *mbtmp*3.4/4, Error ellipse: s-maj=72.2km s-min=30.6km az=151.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**22.79**	**347**	P	P	21 01 45.7	0.0
	0.3nm,0.7s,baz=181,slow=9.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**37.46**	**269**	P	P	21 03 56.8	-0.1
	0.9nm,0.9s,baz=89,slow=9.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**44.84**	**34**	P	P	21 04 56.8	-0.2
	0.2nm,0.6s,baz=239,slow=8.0,SNR=2.0						
ZALV	**Zalesovo Beam**	**49.87**	**33**	P	P	21 05 36.2	0.0
	0.4nm,0.4s,baz=238,slow=8.3,SNR=3.8						

*NIED **09** 21:03:00, 35°.80N×140°.90E, h14km, Mw3.8 Best double couple: M0 6.37000×10^14 NP1: φs338.00000°, δ35.00000°, λ-127.00000°. NP2: φs201.00000°, δ63.00000°, λ-68.00000°.*
*IDC **09** 21:03:13.9±1.1, 35°.63N×140°.81E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/61, mbtmp3.7/11, ML3.3/3, Error ellipse: s-maj=28.9km s-min=17.9km az=78.0*
*ISCJB **09** 21:03:14.9±0.8, 35°.73N±0°.04×141°.01E±0°.07, h22km±5km, mb3.6/9, Error ellipse: s-maj=9.9km s-min=6.0km az=170.2*
*JMA **09** 21:03:16.4±0.2, 35°.74N×140°.83E, h13km±1km, M3.8*
JMA Felt II J1.

ISC 09 21:03:15.7±1.1, 35°.67N±0°.04×140°.78E±0°.07, h13km±7km, n28, σ1°.39/25, mb3.6/9, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.07**	**61**⇓	P	**Pg**	**21 03 18.7**	**+0.3**
JCN	**Nagara**	**0.54**	**242**⇑	P	**Pn**	**21 03 29.1**	**+0.1**
JCN				S	**Sn**	**21 03 39.2**	**+1.3**
JYT	**Yasato**	**0.73**	**320**⇑	P	**Pg**	**21 03 29.6**	**-0.4**
JYT				S	**Sg**	**21 03 39.7**	**0.0**
BSO4	**Boso 4**	**0.77**	**208**⇑	P	**Pn**	**21 03 32.8**	**+0.7**
BSO3	**Boso 3**	**0.89**	**195**	P	**Pn**	**21 03 34.5**	**+0.8**
JHO	**Hitachi**	**0.96**	**350**⇑	P	**Pg**	**21 03 32.3**	**-1.9**
JHO				eS	**Sg**	**21 03 45.3**	**-1.4**
BSO1	**Boso 1**	**1.02**	**171**	P	**Pg**	**21 03 35.0**	**-0.4**
MJAR	**Matsushiro Arr**	**2.26**	**293**	Pn	**Pn**	**21 03 52.8**	**0.0**
	6.9nm,0.3s,baz=92,slow=10,SNR=91						
MAT	**Matsushiro**	**2.26**	**293**	P	**Pn**	**21 03 52.8**	**0.0**
MAT				S	**Sb**	**21 04 24.0**	**-0.3**
JHJ	**Hachijo jima 2**	**2.67**	**198**	Pn	**Pn**	**21 03 57.9**	**-0.6**
	3.9nm,0.3s,baz=66,slow=20,SNR=2.1						
JHJ				Sn	**Sn**	**21 04 25.8**	**-4.9**
	12nm,0.3s,baz=43,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**8.55**	**9**	Pn	**Pn**	**21 05 19.9**	**+0.7**
	0.6nm,0.3s,baz=252,slow=9.5,SNR=4.9						
KSRS	**Korea Array**	**10.50**	**284**	Pn	Pn	21 05 50.9	+5.1
	baz=90,slow=13,SNR=3.0						
USRK	**Ussuriysk Ar.**	**10.87**	**324**	Pn	Pn	21 05 56.9	+6.0
	0.1nm,0.3s,baz=143,slow=12,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	21 38 03.9	
	baz=311,slow=75,SNR=106						
H11N1	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	21 38 06.4	
	baz=311,slow=75,SNR=129						
H11N3	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	21 38 07.2	
	baz=311,slow=75,SNR=115						
SONM	**Songino Array**	**28.15**	**306**	P	**P**	**21 09 07.4**	**-0.3**
	0.3nm,0.6s,baz=103,slow=9.4,SNR=2.6						
H11S3	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	21 38 54.3	
	baz=312,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	21 38 53.1	
	baz=312,slow=75,SNR=40						
H11S2	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	21 38 54.2	
	baz=312,slow=75,SNR=25						
ZALV	**Zalesovo Beam**	**42.47**	**313**	P	**P**	**21 11 10.9**	**+0.7**
	0.3nm,0.3s,baz=81,slow=9.2,SNR=5.0						
MKAR	**Makanchi Array**	**44.42**	**303**	P	**P**	**21 11 27.6**	**+1.4**
	1.4nm,0.7s,baz=89,slow=9.7,SNR=13						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**21 12 16.5**	**+0.2**
	0.7nm,0.8s,baz=271,slow=6.3,SNR=7.0						
BVAR	**Borovoye Array**	**51.12**	**313**	P	**P**	**21 12 17.1**	**-0.9**
	0.5nm,0.6s,baz=103,slow=6.4,SNR=3.1						
WRA	**Warramunga Arr**	**55.64**	**187**	P	**P**	**21 12 50.7**	**-0.8**
	0.5nm,0.7s,baz=2.2,slow=7.5,SNR=5.5						
AKTO	**Aktyubinsk**	**59.21**	**312**	P	**P**	**21 13 17.5**	**+1.1**
	1.0nm,0.6s,baz=56,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**59.37**	**187**	P	**P**	**21 13 18.4**	**+0.7**
	0.2nm,0.7s,baz=22,slow=12,SNR=4.6						
KBZ	**Khabaz**	**71.41**	**311**	P	**P**	**21 14 36.5**	**+1.0**
	1.8nm,0.8s,baz=4.4,slow=13,SNR=2.8						

*IDC **09** 21:08:30.4±1.1, 45°.66N×27°.26E, h0km, mb3.7/2, mb1 3.5/5, mb1mx3.1/51, mbtmp3.4/5, ML2.7/3, Error ellipse: s-maj=16.1km s-min=9.6km az=159.0*
*CSEM **09** 21:08:32.7±0.1, 45°.78N×27°.18E, h12km, MD3.3, Error ellipse: s-maj=3.0km s-min=2.8km az=72.0*
*BUC **09** 21:08:32.4±0.8, 45°.77N×27°.17E, h16km±6km, MD3.3/6, Error ellipse: s-maj=7.0km s-min=5.8km az=78.0*
*SIGU **09** 21:08:32.3, 45°.78N×27°.18E, h10km, mb3.1*
*ISCJB **09** 21:08:33.3±0.3, 45°.78N±0°.01×27°.18E±0°.03, h19km±3km, mb3.5/2, Error ellipse: s-maj=3.0km s-min=2.5km az=172.9*

ISC 09 21:08:32.0±0.6, 45°.79N±0°.01×27°.20E±0°.01, h17km±5km, n129, σ1°.33/184, 66C-30D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODBI	**Odobesti**	**0.10**	**257**⇑	*i*P	**Pg**	**21 08 36.4**	**+0.8**
ODBI	**Odobesti**	**0.10**	**257**⇑	P	**Pg**	**21 08 36.4**	**+0.8**
ODBI	**Odobesti**	**0.10**	**257**⇑	*e*P	**Pg**	**21 08 36.4**	**+0.8**
VRI	**Vrincioaia**	**0.34**	**284**⇓	*i*P	**Pg**	**21 08 39.2**	**0.0**
VRI	**Vrincioaia**	**0.34**	**284**⇓	P	**Pg**	**21 08 39.2**	**0.0**
VRI				*i* S	**Sg**	**21 08 44.3**	**+0.2**
VRI	**Vrincioaia**	**0.34**	**284**⇓	*e*P	**Pg**	**21 08 39.2**	**0.0**
VRI				*i* S	**Sg**	**21 08 44.3**	**+0.2**
PLOR	**Plostina**	**0.39**	**280**⇓	*i*P	**Pg**	**21 08 40.2**	**+0.1**
PLOR	**Plostina**	**0.39**	**280**⇓	P	**Pg**	**21 08 40.2**	**+0.1**
PLOR				*i* S	**Sg**	**21 08 45.9**	**+0.3**
PLOR	**Plostina**	**0.39**	**280**⇓	*e*P	**Pg**	**21 08 40.2**	**+0.1**
PLOR				*i* S	**Sg**	**21 08 45.9**	**+0.3**
GRER		**0.44**	**201**⇓	*i*P	**Pb**	**21 08 42.6**	**+1.3**
GRER		**0.44**	**201**⇓	P	**Pb**	**21 08 42.6**	**+1.3**
GRER				*i* S	**Sb**	**21 08 47.5**	**0.0**
GRER		**0.44**	**201**⇓	*e*P	**Pb**	**21 08 42.6**	**+1.3**
GRER				*i* S	**Sb**	**21 08 47.5**	**0.0**
TESR	**Tescani**	**0.82**	**332**⇓	*i*P	**Pg**	**21 08 48.2**	**+0.2**
TESR	**Tescani**	**0.82**	**332**⇓	P	**Pg**	**21 08 48.2**	**+0.2**
TESR				*i* S	**Sb**	**21 08 59.6**	**+1.0**
TESR	**Tescani**	**0.82**	**332**⇓	*e*P	**Pg**	**21 08 48.2**	**+0.2**
TESR				*i* S	**Sb**	**21 08 59.6**	**+1.0**
PGOR	**Pogoanele**	**0.89**	**190**⇑	*i*P	**Pb**	**21 08 49.7**	**+0.7**
PGOR	**Pogoanele**	**0.89**	**190**⇑	P	**Pb**	**21 08 49.7**	**+0.7**
PGOR				*i* S	**Sb**	**21 09 01.6**	**+1.0**
PGOR	**Pogoanele**	**0.89**	**190**⇑	*e*P	**Pb**	**21 08 49.7**	**+0.7**
PGOR				*i* S	**Sb**	**21 09 01.6**	**+1.0**
CFR	**Carcaliu**	**0.90**	**132**⇑	*i*P	**Pg**	**21 08 48.9**	**-0.6**
CFR	**Carcaliu**	**0.90**	**132**⇑	P	**Pg**	**21 08 48.9**	**-0.6**
CFR				*i* S	**Sb**	**21 09 01.8**	**+1.1**
CFR	**Carcaliu**	**0.90**	**132**⇑	*e*P	**Pg**	**21 08 48.9**	**-0.6**
CFR				*i* S	**Sb**	**21 09 01.8**	**+1.1**
MLR	**Muntele Rosu**	**0.93**	**252**	Pg	**Pg**	**21 08 50.0**	**-0.1**
	9.4nm,0.3s,baz=61,slow=13,SNR=156						
MLR				Lg	Lg	21 09 02.1	
	4.4nm,0.3s,baz=222,slow=19,SNR=20						
MLR	**Muntele Rosu**	**0.93**	**252**⇓	*i*P	**Pg**	**21 08 50.0**	**-0.1**
MLR	**Muntele Rosu**	**0.93**	**252**⇓	P	**Pg**	**21 08 50.0**	**-0.1**
MLR				*i* S	**Sn**	**21 09 04.4**	**+1.0**
MLR	**Muntele Rosu**	**0.93**	**252**⇓	*e*P	**Pg**	**21 08 50.0**	**-0.1**
MLR				*i* S	**Sn**	**21 09 04.4**	**+1.0**
LEOM	**Leova**	**1.00**	**46**⇑	*i*P	**Pn**	**21 08 52.3**	**+1.1**
LEOM	**Leova**	**1.00**	**46**⇑	P	**Pn**	**21 08 52.3**	**+1.1**
LEOM				*i* S	**Sn**	**21 09 06.5**	**+1.6**
LEOM	**Leova**	**1.00**	**46**⇑	*e*P	**Pn**	**21 08 52.3**	**+1.1**
LEOM				*i* S	**Sn**	**21 09 06.5**	**+1.6**
SECR		**1.10**	**227**⇑	*i*P	**Pn**	**21 08 54.2**	**+1.6**
SECR		**1.10**	**227**⇑	P	**Pn**	**21 08 54.2**	**+1.6**
SECR				*i* S	**Sn**	**21 09 09.1**	**+1.8**
SECR		**1.10**	**227**⇑	*e*P	**Pn**	**21 08 54.2**	**+1.6**
SECR				*i* S	**Sn**	**21 09 09.1**	**+1.8**
AMRR	**Amara**	**1.18**	**175**⇑	*i*P	**Pn**	**21 08 54.7**	**+1.0**
AMRR	**Amara**	**1.18**	**175**⇑	P	**Pn**	**21 08 54.7**	**+1.0**
AMRR				*i* S	**Sn**	**21 09 10.9**	**+1.6**
AMRR	**Amara**	**1.18**	**175**⇑	*e*P	**Pn**	**21 08 54.7**	**+1.0**
AMRR				*i* S	**Sn**	**21 09 10.9**	**+1.6**
HARR	**Harsova**	**1.21**	**155**⇑	*i*P	**Pn**	**21 08 54.3**	**+0.2**
HARR	**Harsova**	**1.21**	**155**⇑	P	**Pn**	**21 08 54.3**	**+0.2**
HARR	**Harsova**	**1.21**	**155**⇑	*e*P	**Pn**	**21 08 54.3**	**+0.2**
DOPR	**Dopca**	**1.28**	**279**⇑	*i*P	**Pn**	**21 08 55.6**	**+0.5**
DOPR	**Dopca**	**1.28**	**279**⇑	P	**Pn**	**21 08 55.6**	**+0.5**
DOPR	**Dopca**	**1.28**	**279**⇑	*e*P	**Pn**	**21 08 55.6**	**+0.5**
TLCR		**1.28**	**117**⇑	*i*P	**Pg**	**21 08 57.0**	**+0.2**
TLCR		**1.28**	**117**⇑	P	**Pg**	**21 08 57.0**	**+0.2**
TLCR				*i* S	**Sg**	**21 09 15.0**	**+1.4**
TLCR		**1.28**	**117**⇑	*e*P	**Pg**	**21 08 57.0**	**+0.2**
TLCR				*i* S	**Sg**	**21 09 15.0**	**+1.4**
SULR		**1.29**	**211**⇑	*i*P	**Pb**	**21 08 56.4**	**+0.5**
SULR		**1.29**	**211**⇑	P	**Pb**	**21 08 56.4**	**+0.5**
SULR				*i* S	**Sg**	**21 09 14.2**	**+0.3**
SULR		**1.29**	**211**⇑	*e*P	**Pb**	**21 08 56.4**	**+0.5**
SULR				*i* S	**Sg**	**21 09 14.2**	**+0.3**
IAS	**Iasi**	**1.43**	**10**⇑	*i*P	**Pn**	**21 08 57.5**	**+0.4**
IAS	**Iasi**	**1.43**	**10**⇑	P	**Pn**	**21 08 57.5**	**+0.4**
IAS				*i* S	**Sg**	**21 08 18.1**	**-0.1**
IAS	**Iasi**	**1.43**	**10**⇑	*e*P	**Pn**	**21 08 57.5**	**+0.4**
IAS				*i* S	**Sg**	**21 09 18.1**	**-0.1**
JOSR	**Joseni**	**1.49**	**309**⇓	*i*P	**Pb**	**21 08 59.6**	**+0.4**
JOSR	**Joseni**	**1.49**	**309**⇓	P	**Pb**	**21 08 59.6**	**+0.4**
JOSR	**Joseni**	**1.49**	**309**⇓	*e*P	**Pb**	**21 08 59.6**	**+0.4**
VOIR		**1.55**	**258**⇓	*i*P	**Pn**	**21 08 59.4**	**+0.5**
VOIR		**1.55**	**258**⇓	P	**Pn**	**21 08 59.4**	**+0.5**
VOIR				*i* S	**Sb**	**21 09 20.2**	**+0.6**
VOIR		**1.55**	**258**⇓	*e*P	**Pn**	**21 08 59.4**	**+0.5**
VOIR				*i* S	**Sb**	**21 09 20.2**	**+0.6**
CVDA	**Cernavoda**	**1.57**	**158**⇑	*i*P	**Pb**	**21 09 00.8**	**+0.2**
CVDA	**Cernavoda**	**1.57**	**158**⇑	P	**Pb**	**21 09 00.8**	**+0.2**
CVDA				*i* S	**Sb**	**21 09 21.3**	**+1.2**
CVDA	**Cernavoda**	**1.57**	**158**⇑	*e*P	**Pb**	**21 09 00.8**	**+0.2**
CVDA				*i* S	**Sb**	**21 09 21.3**	**+1.2**
TIRR	**Tirgusor**	**1.58**	**147**⇓	*i*P	**Pn**	**21 08 59.8**	**+0.6**
TIRR	**Tirgusor**	**1.58**	**147**⇓	P	**Pn**	**21 08 59.8**	**+0.6**
TIRR				*i* S	**Sn**	**21 09 20.6**	**+1.4**
TIRR	**Tirgusor**	**1.58**	**147**⇓	*e*P	**Pn**	**21 08 59.8**	**+0.6**
TIRR				*i* S	**Sn**	**21 09 20.6**	**+1.4**
MILM	**Milestii Mici**	**1.59**	**44**⇑	*i*P	**Pn**	**21 09 01.1**	**+1.8**
MILM	**Milestii Mici**	**1.59**	**44**⇑	P	**Pn**	**21 09 01.1**	**+1.8**
MILM				*i* S	**Sb**	**21 09 22.1**	**+1.4**
MILM	**Milestii Mici**	**1.59**	**44**⇑	*e*P	**Pn**	**21 09 01.1**	**+1.8**
MILM				*i* S	**Sb**	**21 09 22.1**	**+1.4**
KIS	**Kishinev**	**1.65**	**42**	*e*P	**Pg**	**21 09 04.0**	**+0.3**
KIS				*i* S	**Sg**	**21 09 26.0**	**+0.8**
	1µm,1.0s						
KIS	**Kishinev**	**1.65**	**42**⇑	*i*P	**Pb**	**21 09 02.8**	**+0.9**
KIS	**Kishinev**	**1.65**	**42**⇑	P	**Pb**	**21 09 02.8**	**+0.9**
KIS	**Kishinev**	**1.65**	**42**	*e*P	**Pb**	**21 09 02.8**	**+0.9**
KIS				*e*S	**Sg**	**21 09 26.0**	**+0.8**
KIS				Sm		21 09 28.0	
KIS	**Kishinev**	**1.65**	**42**⇑	*i*P	**Pb**	**21 09 02.8**	**+0.9**
KIS				*i* S	**Sg**	**21 09 26.0**	**+0.8**
	1µm,1.0s						
BUC1	**Bucharest**	**1.66**	**210**⇑	*i*P	**Pb**	**21 09 02.1**	**0.0**
BUC1	**Bucharest**	**1.66**	**210**⇑	P	**Pb**	**21 09 02.1**	**0.0**
BUC1				*i* S	**Sg**	**21 09 24.6**	**-1.0**
BUC1	**Bucharest**	**1.66**	**210**⇑	*e*P	**Pb**	**21 09 02.1**	**0.0**
BUC1				*i* S	**Sg**	**21 09 24.6**	**-1.0**
MSAB	**Monastry St. A**	**1.75**	**165**⇑	*i*P	**Pn**	**21 09 02.0**	**+0.4**
MSAB	**Monastry St. A**	**1.75**	**165**⇑	P	**Pn**	**21 09 02.0**	**+0.4**
MSAB				*i* S	**Sb**	**21 09 25.6**	**+0.2**
MSAB	**Monastry St. A**	**1.75**	**165**⇑	*e*P	**Pn**	**21 09 02.0**	**+0.4**
MSAB				*i* S	**Sb**	**21 09 25.6**	**+0.2**
ARR	**Arges**	**1.85**	**258**⇓	*i*P	**Pn**	**21 09 04.2**	**+1.2**
ARR	**Arges**	**1.85**	**258**⇓	P	**Pn**	**21 09 04.2**	**+1.2**
ARR				*i* S	**Sb**	**21 09 28.0**	**+0.3**
ARR	**Arges**	**1.85**	**258**⇓	*e*P	**Pn**	**21 09 04.2**	**+1.2**
ARR				*i* S	**Sb**	**21 09 28.0**	**+0.3**
HUMR	**Humele**	**2.01**	**232**⇑	*i*P	**Pn**	**21 09 06.3**	**+1.1**
HUMR	**Humele**	**2.01**	**232**⇑	P	**Pn**	**21 09 06.3**	**+1.1**
HUMR				*i* S	**Sn**	**21 09 31.8**	**+1.9**
HUMR	**Humele**	**2.01**	**232**⇑	*e*P	**Pn**	**21 09 06.3**	**+1.1**
HUMR				*i* S	**Sn**	**21 09 31.8**	**+1.9**
MANR	**Mangalia**	**2.20**	**153**	S	**Sn**	**21 09 35.8**	**+1.2**
MANR	**Mangalia**	**2.20**	**153**	*i* S	**Sn**	**21 09 35.8**	**+1.2**
MANR	**Mangalia**	**2.20**	**153**	*e* S	**Sn**	**21 09 35.8**	**+1.2**
BURAR	**Bucovina Array**	**2.28**	**324**⇑	*i*P	**Pb**	**21 09 12.0**	**-0.8**
BURAR	**Bucovina Array**	**2.28**	**324**⇑	P	**Pb**	**21 09 12.0**	**-0.8**
BURAR				*i* S	**Sn**	**21 09 39.3**	**+2.6**
BURAR	**Bucovina Array**	**2.28**	**324**⇑	*e*P	**Pb**	**21 09 12.0**	**-0.8**
BURAR		

AKASG				Sn		**Sn**	**21 10 41.6**	**-4.3**
	3.4nm,0.3s,baz=200,slow=21,SNR=4.3							
AKASG				Lg		Lg	21 11 08.2	
	11nm,0.3s,baz=196,slow=29,SNR=9.5							
DIVS	**Divibare**	**5.39**	**254**	*e*Pn		Pn	21 09 58.8	+7.2
IVAS	**Ivanjica**	**5.49**	**249**	*e*Pn		**Pn**	**21 09 56.9**	**+3.9**
SUDU	**Sudak**	**5.57**	**96**	*e*P		**Pn**	**21 09 52.9**	**-1.1**
SUDU				Pm			21 09 58.6	
SUDU				*e*S		**Sn**	**21 10 54.1**	**-3.5**
SUDU				Sm			21 11 01.1	
BRTR	**Keskin Array B**	**7.69**	**140**	Pn		**Pn**	**21 10 24.6**	**+1.3**
	0.1nm,0.3s,baz=316,slow=12,SNR=2.4							
FINES	**FINESS Array B**	**15.70**	**358**	Pn		**Pn**	**21 12 07.8**	**-4.3**
	0.1nm,0.3s,baz=172,slow=11,SNR=2.4							
ARCES	**ARCESS Array B**	**23.83**	**359**	P		**P**	**21 13 45.3**	**+1.5**
	3.0nm,1.1s,baz=178,slow=9.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**39.04**	**222**	P		**P**	**21 15 56.5**	**-1.3**
	0.5nm,0.6s,baz=29,slow=9.7,SNR=4.7							

IDC ***09*** *21:09:49.2±2.9, 5.71S×127.39E, h424km±32km, mb2.9/5, mb1 3.1/8, mb1mx2.8/48, mbtmp3.8/8, Error ellipse: s-maj=74.4km s-min=11.1km az=64.0*

ISC 09 21:09:51.1±1.2, 5.8S±0.2×127.3E±0.3, h450km, n8, σ1§62/10, mb3.3/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.31**	**187**	P	**P**	**21 12 32.4**	**-1.0**
	0.2nm,0.3s,baz=29,slow=11,SNR=8.5						
FITZ				S	S	21 15 01.4	+14
	0.1nm,0.3s,baz=267,slow=22,SNR=2.7						
WRA	**Warramunga Arr**	**15.62**	**155**	P	**P**	**21 13 07.8**	**-1.0**
	1.1nm,0.3s,baz=336,slow=12,SNR=60						
WRA				S	**S**	**21 15 50.0**	**-2.3**
	0.1nm,0.3s,baz=323,slow=20,SNR=5.9						
ASAR	**Alice Springs**	**18.85**	**161**	P	**P**	**21 13 42.5**	**+0.4**
	0.5nm,0.3s,baz=351,slow=13,SNR=34						
ASAR				S	**S**	**21 16 53.8**	**+3.2**
	0.1nm,0.3s,baz=341,slow=20,SNR=14						
STKA	**Stephens Creek**	**29.17**	**154**	P	**P**	**21 15 15.0**	**+0.7**
	0.6nm,0.3s,baz=324,slow=7.9,SNR=7.2						
CMAR	**Chiang Mai Arr**	**36.93**	**311**	P	**P**	**21 16 20.6**	**0.0**
	0.6nm,0.6s,baz=139,slow=6.6,SNR=4.7						
MKAR	**Makanchi Array**	**65.79**	**328**	P	**P**	**21 19 50.5**	**+0.1**
	0.5nm,0.6s,baz=130,slow=7.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**69.36**	**335**	P	**P**	**21 20 11.6**	**-0.6**
	0.6nm,0.5s,baz=160,slow=4.6,SNR=2.4						
KURBB	**Kurchatov Arra**	**70.12**	**329**	P	**P**	**21 20 17.0**	**+0.2**
	0.5nm,0.8s,baz=111,slow=5.1,SNR=3.9						

IDC ***09*** *21:13:20.1±0.9, 34.26N×100.77E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.4/71, mbtmp3.6/9, ML3.3/2, Error ellipse: s-maj=35.8km s-min=17.1km az=49.0*

BJI ***09*** *21:13:23.8, 34.33N×100.81E, h10km, ML3.7/13, Ms3.5/6, Ms7 3.5/5*

ISC 09 21:13:21.3±0.9, 34.06N±0.08×100.78E±0.07, h10km, n13, σ1§54/19, mb3.7/7, 1C, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**3.22**	**50**	⇑Pn	**Pn**	**21 14 12.7**	**+0.5**
LZH				Pg	**Pb**	**21 14 19.0**	**+0.2**
LZH				Sg	**Sb**	**21 14 58.9**	**+0.7**
LZH				SMN			
	310nm,0.7s						
LZH				SME			
	430nm,0.6s						
LZH				LN			
	940nm,4.5s						
LZH				LE			
	1μm,5.6s						
LZH				LZ			
	1μm,6.5s						
GTA	**Gaotai**	**5.40**	**352**	Pn	**Pn**	**21 14 43.5**	**+1.5**
GTA				Pg	**Pb**	**21 14 57.7**	**+1.9**
GTA				Sn	**Sn**	**21 15 42.4**	**-1.9**
GTA				Sg	**Sb**	**21 16 03.5**	**+2.8**
GTA				SMN			
	31nm,0.9s						
GTA				SME			
	41nm,0.7s						
XAN	**Xi'an**	**6.75**	**88**	Pn	**Pn**	**21 15 01.6**	**+1.0**
WMQ	**Urumqi**	**14.08**	**318**	P	**Pn**	**21 16 40.6**	**-0.3**
SONM	**Songino Array**	**14.39**	**15**	Pn	**Pn**	**21 16 43.2**	**-2.0**
	0.1nm,0.3s,baz=205,slow=11,SNR=9.6						
MKAR	**Makanchi Array**	**18.91**	**318**	P	**P**	**21 17 41.6**	**-0.6**
	0.1nm,0.3s,baz=126,slow=12,SNR=4.7						
KSRS	**Korea Array**	**22.25**	**73**	P	**P**	**21 18 17.9**	**-0.5**
	1.3nm,0.9s,baz=268,slow=7.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**22.86**	**335**	P	**P**	**21 18 23.1**	**-1.6**
	1.8nm,0.5s,baz=136,slow=11,SNR=14						
KURBB	**Kurchatov Arra**	**23.20**	**322**	P	**P**	**21 18 26.6**	**-1.6**
	1.0nm,0.8s,baz=126,slow=11,SNR=6.1						
KURBB				PcP	**PcP**	**21 22 15.0**	**-1.0**
	0.2nm,0.5s,baz=110,slow=1.6,SNR=3.4						
BRTR	**Keskin Array B**	**52.88**	**297**	P	**P**	**21 22 37.6**	**+0.1**
	0.6nm,0.7s,baz=113,slow=9.6,SNR=4.4						
FINES	**FINESS Array B**	**53.55**	**325**	P	**P**	**21 22 40.4**	**-1.6**
	0.3nm,0.3s,baz=93,slow=7.8,SNR=5.4						
WRA	**Warramunga Arr**	**62.49**	**144**	P	**P**	**21 23 46.0**	**+0.8**
	0.5nm,0.7s,baz=339,slow=6.9,SNR=3.8						
ASAR	**Alice Springs**	**65.48**	**147**	P	**P**	**21 24 07.0**	**+2.2**
	0.2nm,0.6s,baz=332,slow=7.8,SNR=4.4						

IDC ***09*** *21:17:52.4±5.9, 36.05N×71.49E, h136km±56km, mb3.3/5, mb1 3.2/10, mb1mx3.0/66, mbtmp3.7/10, Error ellipse: s-maj=58.5km s-min=41.8km az=129.0*

ISCJB ***09*** *21:17:55.7±0.8, 36.59N±0.05×71.4E±0.1, h114km, mb3.6/4, Error ellipse: s-maj=12.8km s-min=6.2km az=160.1*

NNC ***09*** *21:18:04.9±3.4, 37.09N×71.14E, h190km±26km, mb2.8, mpv3.9, Error ellipse: s-maj=32.2km s-min=17.0km az=153.0*

ISC 09 21:17:56.7±1.0, 36.66N±0.07×71.50E±0.07, h114km, n19, σ3§85/28, mb3.6/4, 7C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.02**	**316**	⇓P	**Pn**	**21 18 47.8**	**+4.7**
	22nm,0.4s						
DZET				⇓S	**Sn**	**21 19 23.0**	**+4.1**
	70nm,0.4s						
KSH	**Kashi**	**4.54**	**50**	Pn	**Pn**	**21 19 04.8**	**+1.4**
KSH				Sn	**Sn**	**21 19 51.5**	**-3.8**
KSH				smax	smax		
	comp=N,270nm,0.7s						
KSH				smax	smax		
	comp=E,210nm,0.3s						
THN	**Thein Dam**	**5.46**	**139**	*e*P	**Pn**	**21 19 17.0**	**+1.2**
THN				*e*S	**Sn**	**21 20 16.8**	**-0.6**
MNAS	**Manas**	**5.88**	**7**	⇓P	**Pn**	**21 19 25.2**	**+3.8**
	comp=E,8.4nm,0.4s						
MNAS				⇓S	**Sn**	**21 20 28.5**	**+0.9**
	comp=E,35nm,0.7s						
AAK	**Ala-Archa**	**6.40**	**20**	P	**Pn**	**21 19 32.1**	**+3.5**
	comp=E,3.5nm,0.3s,baz=111,slow=2.1,SNR=16						
AAK				S	**Sn**	**21 20 41.6**	**+1.3**
	comp=E,1.5nm,0.3s,baz=125,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.40**	**20**	⇑P	**Pn**	**21 19 32.8**	**+4.2**
	comp=E,6.0nm,0.5s						
AAK				⇑S	**Sn**	**21 20 43.2**	**+2.9**
	comp=E,9.7nm,0.5s						
KK31	**Karatay Array**	**6.49**	**354**	⇑P	**Pn**	**21 19 32.8**	**+3.2**
	comp=E,6.1nm,0.3s,baz=178,slow=13,SNR=53						
KK31				⇑S	**Sn**	**21 20 42.3**	**+0.1**
	comp=E,3.7nm,0.4s,baz=182,slow=22,SNR=4.5						
TKM2	**Tokmak 2**	**7.01**	**25**	⇑P	**Pn**	**21 19 40.7**	**+3.9**
	comp=E,3.8nm,0.5s						
TKM2				⇑S	**Sn**	**21 21 01.8**	**+6.7**
	comp=E,1.7nm,0.5s						
MKAR	**Makanchi Array**	**12.93**	**35**	P	**Pn**	**21 20 57.8**	**+1.6**
	comp=E,0.1nm,0.3s,baz=224,slow=13,SNR=6.7						
KURBB	**Kurchatov Arra**	**14.85**	**18**	P	**P**	**21 21 22.9**	**-0.7**
	comp=E,0.1nm,0.3s,baz=206,slow=11,SNR=8.5						
AB31	**Akbulak array**	**15.15**	**330**	⇓P	**Pn**	**21 21 25.7**	**+1.2**
	comp=E,0.6nm,0.5s,baz=164,slow=11,SNR=4.3						
AB31				⇓S	**Sn**	**21 24 03.7**	**-8.1**
	comp=E,0.2nm,0.3s,baz=152,slow=21,SNR=4.2						
BVAR	**Borovoye Array**	**16.39**	**358**	P	**P**	**21 21 40.8**	**+0.3**
	comp=E,0.3nm,0.3s,baz=160,slow=11,SNR=6.0						
AKTO	**Aktyubinsk**	**16.85**	**329**	P	**Pn**	**21 21 45.8**	**+0.3**
	comp=E,0.3nm,0.3s,baz=138,slow=13,SNR=5.7						
AKTO	**Aktyubinsk**	**16.85**	**329**	⇑P	**P**	**21 21 47.5**	**+1.7**
	comp=E,0.8nm,0.6s						
AKTO				⇓S	**Sn**	**21 24 43.2**	**-10**
	comp=E,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**19.61**	**24**	P	**P**	**21 22 15.8**	**0.0**
	comp=E,1.0nm,0.3s,baz=213,slow=11,SNR=6.0						
FINES	**FINESS Array B**	**37.58**	**326**	P	**P**	**21 24 57.5**	**-2.2**
	comp=E,0.7nm,0.8s,baz=130,slow=15,SNR=3.4						
HFS	**Hagfors**	**43.19**	**322**	P	**P**	**21 25 43.9**	**-2.0**
	comp=E,1.0nm,0.4s,baz=107,slow=9.5,SNR=7.8						
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**21 25 52.9**	**-3.5**
	comp=E,0.5nm,0.5s,baz=96,slow=7.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**66.12**	**269**	P	P	21 28 25.3	-6.7
	comp=E,0.3nm,0.4s,baz=50,slow=5.9,SNR=7.3						

MEX 09 21:20:38.7±0.7, 13.84N×91.91W, h20km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.24**	**326**	*e*P	Pn	21 21 12.9	-1.7
PCIG				*e*S	Sn	21 21 37.5	-4.3
CCIG	**Comitan**	**2.43**	**355**	*e*P	Pn	21 21 12.0	-5.5
CCIG				*e*S	Sn	21 21 36.3	-10

NIED ***09*** *21:44:00, 37.80N×141.60E, h47km, Mw3.7 Best double couple: M0 4.54000×10^14 NP1:ϕs180.00000°, δ25.00000°, λ74.00000°. NP2:ϕs18.00000°, δ66.00000°, λ97.00000°.*

IDC ***09*** *21:44:14.0±1.5, 37.90N×142.12E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.7/45, mbtmp3.8/12, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/43, Error ellipse: s-maj=44.8km s-min=18.9km az=78.0*

ISCJB ***09*** *21:44:21.4±0.8, 37.76N±0.04×141.62E±0.09, h58km±5km, mb3.9/13, Error ellipse: s-maj=12.0km s-min=5.7km az=12.4*

JMA ***09*** *21:44:22.6, 37.78N×141.57E, h49km±1km, M3.7*

JMA Felt I J1.

NEIC ***09*** *21:44:24.9±1.9, 37.71N×141.50E, h74km±15km, mb4.2/3, Error ellipse: s-maj=20.2km s-min=12.4km az=71.0*

NEIC Recorded [1 JMA] in Fukushima and Miyagi.

ISC 09 21:44:21.4±1.5, 37.77N±0.04×141.72E±0.09, h42km±13km, n35, σ1§61/40, mb4.0/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMM	**Marumori**	**0.74**	**278**	P	**Pn**	**21 44 35.3**	**-0.1**
JMM				*e*S	**Sn**	**21 44 44.3**	**-1.3**
JIO	**Ouri**	**0.74**	**337**	P	**Pn**	**21 44 36.3**	**+0.8**
JIO				S	**Sn**	**21 44 45.6**	**0.0**
JFK	**Kawauchi**	**0.79**	**239**	P	**Pn**	**21 44 36.1**	**0.0**
JFK				*e*S	**Sn**	**21 44 45.5**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.99**	**228**	P	**Pn**	**21 44 39.1**	**+0.2**
ONAJ				S	**Sn**	**21 44 50.5**	**-1.3**
JOU	**Okura**	**1.02**	**306**	P	**Pn**	**21 44 39.3**	**0.0**
JOU				S	**Sn**	**21 44 51.7**	**-0.8**
JFT	**Otama**	**1.13**	**258**	P	**Pn**	**21 44 41.0**	**+0.3**
JFT				S	**Sn**	**21 44 54.4**	**-0.7**
JMK	**Ichinoseki**	**1.24**	**342**	P	**Pn**	**21 44 43.3**	**+1.0**
JMK				*e*S	**Sn**	**21 44 58.1**	**+0.2**
JYS	**Shirataka**	**1.38**	**289**	P	**Pn**	**21 44 44.2**	**0.0**
JYS				*e*S	**Sn**	**21 45 00.1**	**-1.2**
JYK	**Kaneyama**	**1.57**	**317**	P	**Pn**	**21 44 47.3**	**+0.5**
JFY	**Yanaizu**	**1.64**	**258**	P	**Pn**	**21 44 48.0**	**+0.2**
JFY				*e*S	**Sn**	**21 45 06.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.06**	**247**	Pn	**Pn**	**21 45 08.4**	**+1.1**
	5.1nm,0.3s,baz=54,slow=11,SNR=39						
MJAR				Sn	**Sn**	**21 45 49.8**	**+7.1**
	4.4nm,0.3s,baz=358,slow=14,SNR=4.4						
MAJO	**Matsushiro**	**3.06**	**247**	*e*Pn	**Pn**	**21 45 08.6**	**+1.2**
MAT	**Matsushiro**	**3.06**	**247**	P	**Pn**	**21 45 08.4**	**+1.1**
MAT				S	**Sn**	**21 45 46.4**	**+3.7**
JHJ	**Hachijo jima 2**	**4.90**	**199**	Pn	**Pn**	**21 45 33.7**	**+1.2**
	13nm,0.3s,baz=348,slow=20,SNR=8.9						
JHJ				Sn	**Sn**	**21 46 26.2**	**-1.9**
	20nm,0.3s,baz=82,slow=22,SNR=7.0						
USRK	**Ussuriysk Ar.**	**9.76**	**314**	Pn	**Pn**	**21 46 40.5**	**+1.3**
	0.2nm,0.3s,baz=121,slow=14,SNR=4.3						
KSRS	**Korea Array**	**10.95**	**273**	LR	LR	21 50 39.5	
	comp=Z,43nm,18.7s,baz=320,slow=34						
SONM	**Songino Array**	**27.59**	**303**	P	**P**	**21 50 03.9**	**-0.6**
	0.5nm,0.6s,baz=78,slow=7.8,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.32**	**122**	T	T	22 20 24.4	
	baz=315,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**28.33**	**122**	T	T	22 20 23.9	
	baz=315,slow=75,SNR=74						
H11N3	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	22 20 25.0	
	baz=315,slow=75,SNR=102						
H11S1	**WAKE ISLAND Hy**	**29.06**	**124**	T	T	22 21 20.8	
	baz=317,slow=76,SNR=64						
H11S3	**WAKE ISLAND Hy**	**29.06**	**124**	T	T	22 21 22.0	
	baz=317,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy**	**29.08**	**124**	T	T	22 21 22.5	
	baz=317,slow=76,SNR=42						
ZALV	**Zalesovo Beam**	**41.60**	**312**	P	**P**	**21 52 04.0**	**-1.0**
	1.5nm,0.4s,baz=106,slow=7.9,SNR=5.2						
MKAR	**Makanchi Array**	**43.94**	**302**	P	**P**	**21 52 23.4**	**-0.6**
	0.4nm,0.4s,baz=89,slow=9.9,SNR=9.0						
KURK	**Kurchatov**	**45.67**	**308**	*e*P	**P**	**21 52 37.1**	**-0.6**
	2.3nm,0.5s						
COLA	**College**	**48.33**	**33**	P	**P**	**21 52 59.7**	**+1.5**
	1.5nm,0.5s						
BVAR	**Borovoye Array**	**50.26**	**312**	P	**P**	**21 53 14.6**	**+1.4**
	0.5nm,0.4s,baz=61,slow=10,SNR=2.8						
EKS2	**Erkin-Say**	**50.85**	**298**	*e*P	**P**	**21 53 17.4**	**-0.6**
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**57.82**	**188**	P	**P**	**21 54 08.2**	**-0.4**
	0.8nm,0.6s,baz=5.2,slow=7.3,SNR=9.8						
ASAR	**Alice Springs**	**61.55**	**188**	P	**P**	**21 54 33.8**	**-0.4**
	0.2nm,0.6s,baz=14,slow=9.1,SNR=4.0						
FINES	**FINESS Array B**	**68.28**	**332**	P	**P**	**21 55 17.2**	**-0.2**
	1.2nm,0.6s,baz=29,slow=7.1,SNR=6.7						
KBZ	**Khabaz**	**70.61**	**311**	P	**P**	**21 55 31.5**	**-0.7**
	1.1nm,0.6s,baz=56,slow=11,SNR=3.6						
AKASG	**Malin Array Be**	**73.87**	**322**	P	**P**	**21 55 51.1**	**-0.4**
	1.2nm,0.5s,baz=44,slow=6.3,SNR=5.5						
BRTR	**Keskin Array B**	**78.55**	**312**	P	**P**	**21 56 17.8**	**-0.8**
	0.3nm,0.5s,baz=55,slow=6.0,SNR=3.0						

IDC ***09*** *22:02:50.2±1.3, 14.65N×144.22E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/43, mbtmp3.7/5, MS2.8/2, Ms1 2.8/2, ms1mx2.5/37, Error ellipse: s-maj=68.7km s-min=17.6km az=65.0*

ISCJB ***09*** *22:02:52.8±1.0, 14.7N±0.2×144.3E±0.4, h33km, mb3.7/5, MS2.9/1, Error ellipse: s-maj=59.7km s-min=8.7km az=152.4*

ISC 09 22:02:54.4±1.6, 14.7N±0.2×144.5E±0.5, h35km, n11, σ1§00/7, mb3.7/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.17**	**161**	Pn	**Pn**	**22 03 14.1**	**-0.1**
	117nm,0.3s,baz=308,slow=5.2,SNR=33						
GUMO				Sn	**Sn**	**22 03 28.8**	**-0.1**
	125nm,0.3s,baz=278,slow=14,SNR=18						
GUMO				LR	LR	22 03 37.3	
	comp=Z,82nm,20.2s,baz=206,slow=38						
DAV	**Davao City (W)**	**20.03**	**250**	LR	LR	22 16 52.9	
	comp=Z,16nm,18.0s,baz=320,slow=43						
H11S3	**WAKE ISLAND Hy**	**21.62**	**77**	T	T	22 30 33.8	
	baz=262,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**21.64**	**77**	T	T	22 30 35.0	
	baz=262,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**21.64**	**77**	T	T	22 30 34.8	
	baz=262,slow=75,SNR=8.0						
MJAR	**Matsushiro Arr**	**22.46**	**347**	LR	LR	22 15 52.3	
	comp=Z,43nm,18.5s,baz=265,slow=35						
KSRS	**Korea Array**	**27.02**	**330**	P	**P**	**22 08 33.5**	**+0.3**
	1.1nm,0.6s,baz=148,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**35.83**	**196**	P	**P**	**22 09 51.3**	**+0.4**
	1.6nm,0.9s,baz=15,slow=9.5,SNR=7.6						
SONM	**Songino Array**	**45.61**	**324**	P	**P**	**22 11 10.3**	**-1.2**
	0.4nm,0.8s,baz=116,slow=6.6,SNR=4.1						
MKAR	**Makanchi Array**	**60.43**	**316**	P	**P**	**22 13 00.2**	**-0.3**
	0.4nm,0.6s,baz=88,slow=7.6,SNR=6.8						
ZALV	**Zalesovo Beam**	**60.50**	**324**	P	**P**	**22 13 02.4**	**+1.5**
	0.3nm,0.3s,baz=90,slow=8.6,SNR=2.7						

ISCJB ***09*** *22:05:58.7±0.6, 39.02N±0.04×141.51E±0.10, h88km±4km, mb3.5/5, Error ellipse: s-maj=12.8km s-min=6.6km az=9.9*

IDC ***09*** *22:05:59.1±1.1, 39.06N×141.55E, h76km±8km, mb3.3/5, mb1 3.4/8, mb1mx3.2/45, mbtmp3.6/8, Error ellipse: s-maj=27.7km s-min=18.4km az=93.0*

JMA ***09*** *22:06:00.4, 39.04N×141.46E, h78km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕs42.00000°, δ66.00000°, λ147.00000°. NP2: ϕs147.00000°, δ60.00000°, λ28.00000°. Principal axes: T Plg40.0000°, Azm3.0000°; N Plg50.0000°, Azm191.0000°; P Plg4.0000°, Azm96.0000°;*

JMA Felt I J1.

ISC 09 22:05:59.1±0.8, 38.99N±0.04×141.51E±0.08, h81km±5km, n24, σ1§14/29, mb3.6/5, 4C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.15**	**53**	⇑P	**Pn**	**22 06 11.9**	**+1.1**
OFUJ				*e*S	**Sn**	**22 06 20.2**	**+0.7**
JMK	**Ichinoseki**	**0.23**	**262**	⇑P	**Pn**	**22 06 11.7**	**+0.6**
JOM	**Ohasama**	**0.52**	**341**	⇓P	**Pn**	**22 06 13.6**	**+0.5**
JOM				*e*S	**Sn**	**22 06 23.3**	**-0.1**
JIO	**Ouri**	**0.55**	**194**	⇑P	**Pn**	**22 06 14.7**	**+1.4**
JIO				S	**Sn**	**22 06 25.1**	**+1.3**
MIYJ	**Miyakonagasawa**	**0.64**	**22**	P	**Pn**	**22 06 14.9**	**+0.7**
MIYJ				*e*S	**Sn**	**22 06 25.8**	**+0.4**
JRG	**Rokugo**	**0.80**	**301**	⇓P	**Pn**	**22 06 16.5**	**+0.6**
JRG				*e*S	**Sn**	**22 06 28.7**	**+0.4**
JTH	**Tanohata**	**0.99**	**16**	P	**Pn**	**22 06 18.9**	**+0.8**
JTH				S	**Sn**	**22 06 32.4**	**+0.1**
JKZ	**Kuzumaki**	**1.01**	**352**	P	**Pn**	**22 06 19.0**	**+0.6**
JKZ				*e*S	**Sn**	**22 06 32.1**	**-0.6**
JANG	**Nango**	**1.39**	**0**	⇑P	**Pn**	**22 06 23.2**	**+0.2**
JANG				*e*S	**Sn**	**22 06 40.8**	**-0.2**
MJAR	**Matsushiro Arr**	**3.58**	**228**	P	**Pn**	**22 06 54.9**	**+2.5**
	1.2nm,0.3s,baz=32,slow=12,SNR=11						
JHJ	**Hachijo jima 2**	**6.02**	**194**	P	**Pn**	**22 07 26.5**	**+0.9**
	2.5nm,0.3s,baz=53,slow=20,SNR=4.6						
JHJ				S	**Sn**	**22 08 30.6**	**-2.5**
	5.4nm,0.3s,baz=90,slow=20,SNR=2.9						
USRK	**Ussuriysk Ar.**	**8.83**	**309**	P	**Pn**	**22 08 05.3**	**+1.4**
	0.3nm,0.3s,baz=114,slow=14,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**29.13**	**124**	T	T	22 42 26.4	
	baz=317,slow=76,SNR=228						
H11N1	**WAKE ISLAND Hy**	**29.14**	**124**	T	T	22 42 29.4	
	baz=317,slow=76,SNR=181						
H11N3	**WAKE ISLAND Hy**	**29.14**	**124**	T	T	22 42 27.8	
	baz=317,slow=76,SNR=145						
H11S1	**WAKE ISLAND Hy**	**29.90**	**126**	T	T	22 43 20.1	
	baz=318,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	**29.90**	**126**	T	T	22 43 21.9	
	baz=318,slow=76,SNR=93						
H11S2	**WAKE ISLAND Hy**	**29.91**	**126**	T	T	22 43 21.8	
	baz=318,slow=76,SNR=45						
ZALV	**Zalesovo Beam**	**40.68**	**311**	P	**P**	**22 13 30.3**	**-1.0**
	0.7nm,0.4s,baz=90,slow=8.6,SNR=2.9						
ZALV				pP	**pP**	**22 13 48.8**	**-1.8**
	0.5nm,0.4s,baz=92,slow=9.4,SNR=1.5						
MKAR	**Makanchi Array**	**43.17**	**300**	P	**P**	**22 13 52.7**	**+0.9**
	0.4nm,0.4s,baz=79,slow=9.9,SNR=6.6						
ILAR	**Eielson Array**	**47.81**	**33**	P	**P**	**22 14 29.0**	**+0.9**
	0.4nm,0.7s,baz=264,slow=6.2,SNR=3.1						
ILAR				sP	**sP**	**22 14 55.8**	**-1.3**
	0.4nm,0.7s,baz=282,slow=5.4,SNR=3.5						
WRA	**Warramunga Arr**	**59.00**	**188**	P	**P**	**22 15 51.1**	**+0.6**
	0.3nm,0.8s,baz=5.7,slow=7.5,SNR=3.4						
WRA				pP	**pP**	**22 16 10.5**	**-0.4**
	0.5nm,0.7s,baz=5.3,slow=7.2,SNR=2.8						
ASAR	**Alice Springs**	**62.73**	**188**	pP	pP	22 16 36.6	+0.3
	0.6nm,0.7s,baz=12,slow=7.9,SNR=4.5						
FINES	**FINESS Array B**	**67.13**	**332**	P	**P**	**22 16 43.1**	**-0.7**
	0.5nm,0.5s,baz=33,slow=11,SNR=3.9						

MEX 09 22:15:06.3±0.5, 14.07N×92.00W, h20km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.01**	**324**	*e*P	Pn	22 15 37.0	-2.1
PCIG				*e*S	Sn	22 15 59.9	-3.8
CCIG	**Comitan**	**2.21**	**357**	*e*P	Pn	22 15 39.7	-2.3
CCIG				*e*S	Sn	22 16 06.2	-2.6

ISCJB ***09*** *22:17:33.5±1.2, 34.8N±0.2×135.6E±0.1, h150km, mb3.2/3, Error ellipse: s-maj=26.1km s-min=10.6km az=148.9*

IDC ***09*** *22:17:35.2±7.1, 34.93N×135.65E, h152km±96km, mb3.0/3, mb1 3.0/4, mb1mx2.8/41, mbtmp3.3/4, Error ellipse: s-maj=101.8km s-min=25.4km az=60.0*

JMA ***09*** *22:17:42.8±0.2, 35.62N×137.17E, h268km±2km, M2.0*

ISC 09 22:17:35.5±1.3, 34.9N±0.2×135.5E±0.1, h150km, n5, σ1§68/7, mb3.3/3, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**2.58**	**54**	P	**Pn**	**22 18 20.4**	**+2.7**
JNG				S	**Sn

DEMI	**Demirci**	**0.26**	**257**	*i* P	**Pg**	**22 22 32.2**	**-0.1**
DEMI				*i* S	**Sg**	**22 22 36.3**	**+0.5**
GEDZ	**Gediz**	**0.29**	**101**	*e*PG	**Pg**	**22 22 33.3**	**+0.3**
GEDZ				*e*SG	**Sg**	**22 22 37.7**	**+0.7**
GEDZ	**Gediz**	**0.29**	**101**	*e*Pg	**Pg**	**22 22 33.3**	**+0.3**
GEDZ				*e*Sg	**Sg**	**22 22 37.7**	**+0.7**
GDZ	**Gediz**	**0.34**	**92**	P	**Pg**	**22 22 33.6**	**-0.4**
GDZ				S	**Sg**	**22 22 38.5**	**0.0**
GDZ	**Gediz**	**0.34**	**92**	*i* P	**Pg**	**22 22 33.6**	**-0.4**
GDZ				*i* S	**Sg**	**22 22 38.5**	**0.0**
TVSB	**Tavsanli**	**0.48**	**43**	*e*PG	**Pg**	**22 22 36.0**	**-0.5**
TVSB	**Tavsanli**	**0.48**	**43**	*e*Pg	**Pg**	**22 22 36.0**	**-0.5**
DST	**Dursunbey**	**0.60**	**327**	*e*PG	**Pg**	**22 22 39.3**	**+0.5**
DST	**Dursunbey**	**0.60**	**327**	*e*Pg	**Pg**	**22 22 39.3**	**+0.5**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG	**Pg**	**22 22 39.8**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg	**Pg**	**22 22 39.8**	**0.0**
MANT	**Manisa**	**0.72**	**212**	P	**Pg**	**22 22 40.7**	**-0.3**
MANT				S	**Sg**	**22 22 50.5**	**+0.2**
MANT	**Manisa**	**0.72**	**212**	*i* P	**Pg**	**22 22 40.7**	**-0.3**
MANT				*i* S	**Sg**	**22 22 50.5**	**+0.2**
KHAL	**Karahalli**	**0.81**	**154**	P	**Pb**	**22 22 43.2**	**-0.3**
KHAL				S	**Sb**	**22 22 54.1**	**-0.6**
KHAL	**Karahalli**	**0.81**	**154**	*i* P	**Pb**	**22 22 43.2**	**-0.3**
KHAL				*i* S	**Sb**	**22 22 54.1**	**-0.6**
KHL	**Karahalli**	**0.86**	**154**	*e*PG	**Pb**	**22 22 44.8**	**+0.4**
KHL	**Karahalli**	**0.86**	**154**	*e*Pg	**Pb**	**22 22 44.8**	**+0.4**
AKS	**Akhisar**	**0.98**	**257**	*e*PG	**Pb**	**22 22 46.2**	**-0.1**
AKS	**Akhisar**	**0.98**	**257**	*e*Pg	**Pb**	**22 22 46.3**	**-0.1**
BALB	**Balikesir**	**1.05**	**301**	*e*PG	**Pn**	**22 22 48.1**	**0.0**
BALB	**Balikesir**	**1.05**	**301**	*e*Pg	**Pn**	**22 22 48.1**	**0.0**
IGD	**Bursa**	**1.17**	**6**	*i* P	**Pb**	**22 22 47.0**	**-2.6**
IGD				*i* S	**Sg**	**22 22 55.0**	**+0.2**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN	**Pg**	**22 22 51.7**	**+0.3**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*Pn	**Pg**	**22 22 51.7**	**+0.3**
BALY	**Balya**	**1.27**	**301**	P	**Pn**	**22 22 50.8**	**-0.4**
BALY				S	**Sn**	**22 23 08.8**	**+0.3**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pn**	**22 22 50.8**	**-0.4**
BALY				*i* S	**Sn**	**22 23 08.8**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pg**	**22 22 52.1**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn	**Pg**	**22 22 52.1**	**+0.6**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pn**	**22 22 51.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pn**	**22 22 51.3**	**0.0**
IZI	**Iznik**	**1.28**	**15**	*e*PN	**Pb**	**22 22 51.6**	**+0.1**
IZI	**Iznik**	**1.28**	**15**	*e*Pn	**Pb**	**22 22 51.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN	**Pg**	**22 22 54.5**	**+0.3**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn	**Pg**	**22 22 54.5**	**+0.3**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*PN	**Pb**	**22 22 54.4**	**+0.3**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*Pn	**Pb**	**22 22 54.4**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pg**	**22 22 55.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*Pn	**Pg**	**22 22 55.4**	**+0.2**
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN	**Pg**	**22 22 55.2**	**-0.1**
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn	**Pg**	**22 22 55.2**	**-0.1**
ESKT	**Eskisehir**	**1.47**	**73**	*i* P	**Pn**	**22 22 54.1**	**+0.1**
ESKT				*i* S	**Sb**	**22 23 13.7**	**+0.2**
SEYT	**Eskypehyr**	**1.47**	**73**	P	**Pn**	**22 22 54.1**	**+0.1**
SEYT				S	**Sb**	**22 23 13.7**	**+0.2**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pg**	**22 22 55.4**	**+0.1**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pg**	**22 22 55.4**	**+0.1**
EDC	**Edincik**	**1.54**	**324**	*e*PN	**Pg**	**22 22 56.4**	**-0.3**
EDC	**Edincik**	**1.54**	**324**	*e*Pn	**Pg**	**22 22 56.4**	**-0.3**
IZM	**Izmir**	**1.56**	**244**	*e*PN	**Pg**	**22 22 56.9**	**-0.1**
IZM	**Izmir**	**1.56**	**244**	*e*Pn	**Pg**	**22 22 56.9**	**-0.1**
DKL	**Dikili**	**1.66**	**270**	*e*PN	**Pb**	**22 22 58.2**	**+0.3**
DKL	**Dikili**	**1.66**	**270**	*e*Pn	**Pb**	**22 22 58.2**	**+0.3**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pb**	**22 22 59.3**	**-0.2**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pb**	**22 22 59.3**	**-0.2**
HRT	**Hereke**	**1.79**	**15**	*e*PN	**Pb**	**22 22 59.8**	**-0.3**
HRT	**Hereke**	**1.79**	**15**	*e*Pn	**Pb**	**22 22 59.8**	**-0.3**
KRBG	**Karabiga-Canak**	**1.86**	**314**	*e*PN	**Pb**	**22 23 01.1**	**-0.3**
KRBG	**Karabiga-Canak**	**1.86**	**314**	*e*Pn	**Pb**	**22 23 01.1**	**-0.3**
MRMT	**Marmara Adasi**	**1.87**	**324**	*e*PN	**Pb**	**22 23 01.5**	**0.0**
MRMT	**Marmara Adasi**	**1.87**	**324**	*e*Pn	**Pb**	**22 23 01.5**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*PN	**Pb**	**22 23 02.2**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*Pn	**Pb**	**22 23 02.2**	**-0.9**
ISK	**Istanbul-Kandi**	**1.96**	**0**	*e*PN	**Pb**	**22 23 02.3**	**-0.8**
ISK	**Istanbul-Kandi**	**1.96**	**0**	*e*Pn	**Pb**	**22 23 02.3**	**-0.8**
YER	**Yerkesik**	**2.05**	**197**	*e*PN	**Pb**	**22 23 04.1**	**-0.5**
YER	**Yerkesik**	**2.05**	**197**	*e*Pn	**Pb**	**22 23 04.1**	**-0.5**
BGKT	**Bogazkoy**	**2.09**	**354**	*e*PN	**Pb**	**22 23 04.3**	**-0.9**
BGKT	**Bogazkoy**	**2.09**	**354**	*e*Pn	**Pb**	**22 23 04.3**	**-0.9**
SILT	**Sile**	**2.10**	**13**	*e*PN	**Pb**	**22 23 04.4**	**-1.1**
SILT	**Sile**	**2.10**	**13**	*e*Pn	**Pb**	**22 23 04.4**	**-1.1**
KLYT	**Kilyos**	**2.15**	**0**	*e*PN	**Pb**	**22 23 05.1**	**-1.2**
KLYT	**Kilyos**	**2.15**	**0**	*e*Pn	**Pb**	**22 23 05.1**	**-1.2**
MDUB	**Mudurnu**	**2.15**	**50**	*e*PN	**Pn**	**22 23 04.3**	**+0.9**
MDUB	**Mudurnu**	**2.15**	**50**	*e*Pn	**Pn**	**22 23 04.3**	**+0.9**
LPK	**Lapseki**	**2.17**	**307**	*e*PN	**Pb**	**22 23 05.4**	**-1.2**
LPK	**Lapseki**	**2.17**	**307**	*e*Pn	**Pb**	**22 23 05.4**	**-1.2**
CTKS	**Kestanelik-??a**	**2.17**	**349**	*e*PN	**Pb**	**22 23 05.4**	**-1.3**
CTKS	**Kestanelik-??a**	**2.17**	**349**	*e*Pn	**Pb**	**22 23 05.4**	**-1.3**
KIZT	**Kizilcal**	**2.22**	**95**	*e*PN	**Pb**	**22 23 06.2**	**-1.5**
KIZT	**Kizilcal**	**2.22**	**95**	*e*Pn	**Pb**	**22 23 06.2**	**-1.5**
GELI	**Tayfur-Gelibol**	**2.36**	**304**	*e*PN	**Pb**	**22 23 08.3**	**-1.6**
GELI	**Tayfur-Gelibol**	**2.36**	**304**	*e*Pn	**Pb**	**22 23 08.3**	**-1.6**
CTYL	**Yalikoy Yolu**	**2.44**	**347**	*e*PN	**Pn**	**22 23 09.1**	**+1.9**
CTYL	**Yalikoy Yolu**	**2.44**	**347**	*e*Pn	**Pn**	**22 23 09.1**	**+1.9**
ERIK	**Erikli-Kesan**	**2.50**	**310**	*e*PN	**Pb**	**22 23 10.2**	**-2.0**
ERIK	**Erikli-Kesan**	**2.50**	**310**	*e*Pn	**Pb**	**22 23 10.2**	**-2.0**

IDC 09 22:27:45.1±2.3, 2°45N×126°89E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, Error ellipse: s-maj=184.1km s-min=26.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.43**	**162**	P	P	22 32 56.0	-0.1
	0.7nm,0.5s,baz=341,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.84**	**166**	P	P	22 33 27.8	+0.3
	0.3nm,0.7s,baz=355,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**58.69**	**326**	P	P	22 37 44.3	-0.2
	0.1nm,0.3s,baz=123,slow=7.6,SNR=4.2						

*IDC **09** 22:34:00.1±1.4, 34°.83N×138°.08E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/40, mbtmp3.6/3, ML2.5/1, Error ellipse: s-maj=42.4km s-min=19.8km az=67.0*
*ISCJB **09** 22:34:01.1±0.7, 35°.58N±0°.04×140°.05E±0°.07, h80km±5km, mb3.4/2, Error ellipse: s-maj=10.3km s-min=5.9km az=148.3*
*JMA **09** 22:34:01.9±0.2, 35°.68N×140°.04E, h69km±2km, M2.7*
ISC 09 22:34:02.0±1.1, 35°.59N±0°.05×140°.04E±0°.06, h75km±8km, n15, σ0s98/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.22**	**143**	P	**Pn**	**22 34 13.6**	**+0.2**
JCN				S	**Sn**	**22 34 22.7**	**+1.1**
TOK	**Tokyo**	**0.25**	**292**	*e*S	**Sn**	**22 34 20.7**	**-1.1**
JOD2	**Odawara 2**	**0.84**	**247**	P	**Pn**	**22 34 18.9**	**-0.1**
JOD2				S	**Sn**	**22 34 31.1**	**-0.5**
BSO3	**Boso 3**	**0.88**	**154**	P	**Pn**	**22 34 19.2**	**+0.1**
BSO3				S	**Sn**	**22 34 32.7**	**+0.9**
JAG	**Ashikaga**	**0.96**	**330**	P	**Pn**	**22 34 19.4**	**-0.9**
JAG				S	**Sn**	**22 34 31.9**	**-2.1**
JIM2	**Oshima 3**	**1.01**	**210**	P	**Pn**	**22 34 20.7**	**-0.2**
JIM2				S	**Sn**	**22 34 34.5**	**-0.5**
JRY	**Ryogami san**	**1.02**	**295**	P	**Pn**	**22 34 21.2**	**+0.1**
BSO1	**Boso 1**	**1.21**	**140**	P	**Pn**	**22 34 22.8**	**-0.1**
JYN	**Shimob**	**1.23**	**266**	P	**Pn**	**22 34 23.8**	**+0.1**
JYN				S	**Sn**	**22 34 40.4**	**+0.5**
JKT	**Katashina**	**1.34**	**332**	P	**Pn**	**22 34 24.5**	**-0.7**
MJAR	**Matsushiro Arr**	**1.76**	**303**	Pn	**Pn**	**22 34 30.7**	**+0.1**
	6.7nm,0.3s,baz=146,slow=15,SNR=55						
MAT	**Matsushiro**	**1.76**	**303**	P	**Pn**	**22 34 30.8**	**+0.1**
MAT				eS	**Sn**	**22 34 54.3**	**+1.9**
JHJ	**Hachijo jima 2**	**2.48**	**185**	Pn	**Pn**	**22 34 39.1**	**-1.1**
	3.1nm,0.3s,baz=27,slow=17,SNR=4.3						
JHJ				Sn	**Sn**	**22 35 07.7**	**-1.8**
	11nm,0.3s,baz=272,slow=15,SNR=3.8						
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**22 42 01.9**	**+0.4**
	0.1nm,0.2s,baz=86,slow=9.7,SNR=4.5						
WRA	**Warramunga Arr**	**55.49**	**187**	P	**P**	**22 43 29.6**	**+0.4**
	0.4nm,0.5s,baz=360,slow=7.3,SNR=9.6						

WEL 09 22:43:17.0±0.4, 38°.86S×175°.36E, h166km±3km, ML3.6/8, 9C-4D, Error ellipse: s-maj=2.4km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**0.43**	**160**	⇑PN	Pn	22 43 40.1	0.0
WHVZ	**Whangaehu Hut**	**0.46**	**158**	PN	Pn	22 43 40.5	+0.3
WHVZ				SN	Sn	22 43 57.3	-0.8
WNVZ	**Wahianoa**	**0.51**	**159**	PN	Pn	22 43 40.4	+0.1
WNVZ				SN	Sn	22 43 57.6	-0.8
HIZ	**Hauiti**	**0.52**	**311**	⇓PN	Pn	22 43 40.1	-0.2
MTVZ	**Mangateitei**	**0.54**	**171**	PN	Pn	22 43 40.4	0.0
MTVZ				SN	Sn	22 43 57.5	-1.0
VRZ	**Vera Road**	**0.54**	**240**	PN	Pn	22 43 40.4	+0.1
VRZ				SN	Sn	22 43 58.4	+0.2
TLZ	**Tolley Road**	**0.54**	**15**	⇓PN	Pn	22 43 40.2	-0.2
MOVZ	**Moawhango**	**0.63**	**151**	PN	Pn	22 43 40.6	-0.3
MRHZ	**Matea Rd**	**0.82**	**89**	PN	Pn	22 43 41.5	-0.5
BHHZ	**Black Hill Sta**	**0.84**	**140**	PN	Pn	22 43 41.9	-0.2
WAZ	**Wanganui**	**0.94**	**198**	⇑PN	Pn	22 43 43.0	+0.2
KWHZ	**Kaweka Forest**	**1.00**	**125**	PN	Pn	22 43 43.6	+0.2
KRHZ	**Kereru**	**1.11**	**135**	⇑PN	Pn	22 43 44.3	+0.1
NMHZ	**Naumai**	**1.15**	**103**	PN	Pn	22 43 45.4	+0.8
MCHZ	**McNeill Hill**	**1.19**	**120**	PN	Pn	22 43 45.6	+0.8
MCHZ				SN	Sn	22 44 06.5	+0.2
PNHZ	**Pukenui**	**1.24**	**149**	⇑PN	Pn	22 43 45.3	0.0
PNHZ				SN	Sn	22 44 05.7	-1.6
TSZ	**Takapari Road**	**1.29**	**159**	PN	Pn	22 43 45.6	-0.1
TSZ				AML	AML	22 44 08.0	
TSZ				AML	AML	22 44 10.4	
ARHZ	**Aropaoanui**	**1.34**	**108**	PN	Pn	22 43 46.6	+0.4
OHWZ	**Ohakea**	**1.35**	**181**	PN	Pn	22 43 46.6	+0.3
WPHZ	**Waipukurau**	**1.47**	**146**	⇑PN	Pn	22 43 47.4	0.0
WPHZ				SN	Sn	22 44 09.3	-1.8
URZ	**Urewera**	**1.50**	**67**	PN	Pn	22 43 46.8	-0.9
URZ				SN	Sn	22 44 08.9	-2.4
KAHZ	**Kahuranaki**	**1.50**	**129**	PN	Pn	22 43 48.1	+0.3
KAHZ				SN	Sn	22 44 10.6	-1.1
CKHZ	**Cape Kidnapper**	**1.56**	**122**	PN	Pn	22 43 48.7	+0.4
CKHZ				SN	Sn	22 44 11.3	-1.1
POWZ	**Post Office Ro**	**1.57**	**169**	PN	Pn	22 43 47.8	-0.6
DVHZ	**Dannevirke**	**1.57**	**157**	PN	Pn	22 43 47.9	-0.5
PXZ	**Pawanui**	**1.65**	**136**	⇑PN	Pn	22 43 49.2	-0.1
PXZ				AML	AML	22 44 14.1	
PXZ				AML	AML	22 44 14.1	
PXZ				AML	AML	22 44 14.2	
PXZ				AML	AML	22 44 14.3	
PRHZ	**Porangahau**	**1.72**	**145**	PN	Pn	22 43 49.8	-0.2
PRWZ	**Pori Road**	**1.76**	**165**	PN	Pn	22 43 50.1	-0.4
MWZ	**Matawai**	**1.77**	**74**	⇓PN	Pn	22 43 50.1	-0.5
KNZ	**Kokohu**	**1.81**	**96**	PN	Pn	22 43 50.7	-0.2
MRZ	**Mangatainoka R**	**1.81**	**175**	⇑PN	Pn	22 43 50.1	-0.9
ANWZ	**Angora Road**	**1.82**	**152**	⇑PN	Pn	22 43 50.8	-0.2
RIGZ	**Rimuhau**	**1.88**	**86**	PN	Pn	22 43 51.7	-0.1
BFZ	**Birch Farm**	**1.95**	**160**	PN	Pn	22 43 51.8	-0.7
TIWZ	**Tintock**	**1.96**	**168**	PN	Pn	22 43 51.8	-0.9
OGWZ	**Otaki Gorge**	**1.96**	**184**	PN	Pn	22 43 51.9	-0.8
PRGZ	**Paritu Road**	**1.97**	**93**	PN	Pn	22 43 52.7	0.0
MHGZ	**Mahia Peninsul**	**2.01**	**99**	PN	Pn	22 43 53.3	+0.2
KIW	**Kapiti Island**	**2.03**	**190**	PN	Pn	22 43 52.2	-1.2
KIW				AML	AML	22 44 19.3	
HOWZ	**Holdsworth Sta**	**2.04**	**177**	PN	Pn	22 43 52.4	-1.1
CPWZ	**Castlepoint**	**2.15**	**163**	PN	Pn	22 43 54.3	-0.4
TWGZ	**Tauwhareparae**	**2.16**	**73**	SN	Sn	22 44 22.5	-1.8
HAZ	**Te Kaha**	**2.20**	**61**	PN	Pn	22 43 54.0	-1.3
DUWZ	**D'Urville Isla**	**2.24**	**209**	PN	Pn	22 43 54.2	-1.5
CNGZ	**Carnagh Statio**	**2.26**	**81**	PN	Pn	22 43 55.8	-0.2
CAW	**Cannon Point**	**2.26**	**186**	PN	Pn	22 43 54.8	-1.2
CAW				AML	AML	22 43 56.0	
CAW				SN	Sn	22 44 23.2	-3.2
TMWZ	**Te Maipa**	**2.29**	**170**	PN	Pn	22 43 55.2	-1.2
MTW	**Mount Morrison**	**2.30**	**177**	PN	Pn	22 43 55.1	-1.4
WEL	**Wellington**	**2.47**	**190**	PN	Pn	22 43 57.0	-1.4
TCW	**Tory Channel**	**2.50**	**199**	PN	Pn	22 43 57.3	-1.5
TCW				SN	Sn	22 44 27.1	-4.1
TCW				AML	AML	22 44 29.0	
PAWZ	**Paruwai Farm**	**2.52**	**179**	PN	Pn	22 43 57.5	-1.7
TRWZ	**Traveller**	**2.55**	**174**	PN	Pn	22 43 57.9	-1.6
MSWZ	**Moikau Station**	**2.56**	**182**	PN	Pn	22 43 57.9	-1.7
MSWZ				AML	AML	22 43 58.8	
MSWZ				AML	AML	22 44 28.8	
BHW	**Baring Head**	**2.58**	**188**	⇑PN	Pn	22 43 58.0	-1.7
BHW				AML	AML	22 43 58.4	
WMGZ	**Waiomatatini S**	**2.61**	**68**	PN	Pn	22 43 59.3	-0.9
PLWZ	**Palliser**	**2.71**	**182**	PN	Pn	22 43 59.5	-2.0
TUWZ	**Tuamarina**	**2.79**	**202**	PN	Pn	22 44 00.3	-2.1
TUWZ				AML	AML	22 44 01.4	
TUWZ				AML	AML	22 44 02.4	
NNZ	**Nelson**	**2.81**	**212**	⇓PN	Pn	22 44 00.5	-2.0
NNZ				SN	Sn	22 44 34.3	-3.7
QRZ	**Quartz Range**	**2.94**	**227**	PN	Pn	22 44 01.5	-2.7
CMWZ	**Cape Campbell**	**3.02**	**197**	PN	Pn	22 44 03.9	-1.3
BSWZ	**Blackbirch Sta**	**3.08**	**201**	PN	Pn	22 44 04.2	-1.6

*CSEM **09** 23:01:30.0±0.1, 43°.40N×12°.50E, h5km, ML2.6/19, Error ellipse: s-maj=2.0km s-min=1.8km az=17.0*
ROM 09 23:01:29.1±0.1, 43°.41N×12°.50E, h8km, Md2.2/18, Ml2.0/17, Error ellipse: s-maj=0.7km s-min=0.7km az=22.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.07**	**252**	Pg	Pg	23 01 31.6	+0.4
ATVO				Sg	Sg	23 01 33.0	+0.3
	1µm,0.3s						
ATVO	**AVT- Monte Val**	**0.07**	**252**	Pg	Pg	23 01 31.6	+0.4
ATVO				Sg	Sg	23 01 33.0	+0.3
	1µm,0.3s						
ATPC	**Poggio Castell**	**0.08**	**336**	Pg	Pg	23 01 31.9	+0.5
ATPC				Sg	Sg	23 01 33.8	+0.8
	2µm,0.2s						
ATPC	**Poggio Castell**	**0.08**	**336**	Pg	Pg	23 01 31.9	+0.5
ATPC				Sg	Sg	23 01 33.8	+0.8
	2µm,0.2s						
PIEI	**Pieia**	**0.13**	**10**	Pg	Pg	23 01 32.7	+0.6
PIEI				Sg	Sg	23 01 35.8	+1.6
	526nm,0.2s						
PIEI	**Pieia**	**0.13**	**10**	Pg	Pg	23 01 32.7	+0.6
PIEI				Sg	Sg	23 01 35.8	+1.6
	526nm,0.2s						
MURB	**Monte Urbino**	**0.14**	**174**	Pg	Pg	23 01 32.8	+0.6
MURB				Sg	Sg	23 01 35.6	+1.2
	1µm,0.2s						
MURB	**Monte Urbino**	**0.14**	**174**	Pg	Pg	23 01 32.8	+0.6
MURB				Sg	Sg	23 01 35.6	+1.2
	1µm,0.2s						
FRON	**Frontone**	**0.20**	**55**	Pg	Pg	23 01 33.7	+0.5
FRON				Sg	Sg	23 01 37.2	+1.3
	269nm,0.1s						
FRON	**Frontone**	**0.20**	**55**	Pg	Pg	23 01 33.7	+0.5
FRON				Sg	Sg	23 01 37.2	+1.3
	269nm,0.1s						
SSFR	**Montelago di S**	**0.20**	**81**	Pg	Pg	23 01 33.9	+0.6
SSFR				Sg	Sg	23 01 37.4	+1.2
	578nm,0.2s						
SSFR	**Montelago di S**	**0.20**	**81**	Pg	Pg	23 01 33.9	+0.6
SSFR				Sg	Sg	23 01 37.4	+1.2
	578nm,0.2s						
BADI	**Badiali**	**0.22**	**299**	Pg	Pg	23 01 34.4	+0.9
BADI				Sg	Sg	23 01 38.2	+1.7
	182nm,0.2s						
BADI	**Badiali**	**0.22**	**299**	Pg	Pg	23 01 34.4	+0.9
BADI				Sg	Sg	23 01 38.2	+1.7
	182nm,0.2s						
ATMC	**Monte Cedrone**	**0.23**	**281**	Pg	Pg	23 01 34.5	+0.7
ATMC				Sg	Sg	23 01 38.2	+1.3
	138nm,0.1s						
ATMC	**Monte Cedrone**	**0.23**	**281**	Pg	Pg	23 01 34.5	+0.7
ATMC				Sg	Sg	23 01 38.2	+1.3
	138nm,0.1s						
ATTE	**AVT- Monte Tez**	**0.23**	**208**	Pg	Pg	23 01 34.3	+0.5
ATTE				Sg	Sg	23 01 38.5	+1.5
	156nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.23**	**208**	Pg	Pg	23 01 34.3	+0.5
ATTE				Sg	Sg	23 01 38.5	+1.5
	156nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.24**	**156**	Pg	Pg	23 01 34.8	+0.8
ATCC				Sg	Sg	23 01 39.2	+2.0
	493nm,0.2s						
ATCC	**AVT- Casa Cast**	**0.24**	**156**	Pg	Pg	23 01 34.8	+0.8
ATCC				Sg	Sg	23 01 39.2	+2.0
	493nm,0.2s						
PARC	**Parchiule**	**0.31**	**322**	Pg	Pg	23 01 36.0	+0.7
PARC				Sg	Sb	23 01 41.8	-0.3
	117nm,0.3s						
PARC	**Parchiule**	**0.31**	**322**	Pg	Pg	23 01 36.0	+0.7
PARC				Sg	Sb	23 01 41.8	-0.3
	117nm,0.3s						
ARVD	**Arcevia**	**0.33**	**74**	Pg	Pg	23 01 36.2	+0.5
ARVD				Sg	Sb	23 01 41.7	-1.0
	83nm,0.3s						
ARVD	**Arcevia**	**0.33**	**74**	Pg	Pg	23 01 36.2	+0.5
ARVD				Sg	Sb	23 01 41.7	-1.0
	83nm,0.3s						
FSSB	**Fossombrone**	**0.35**	**35**	Pg	Pg	23 01 36.6	+0.6
FSSB				Sg	Sb	23 01 42.6	-0.6
	185nm,0.3s						
FSSB	**Fossombrone**	**0.35**	**35**	Pg	Pg	23 01 36.6	+0.6
FSSB				Sg	Sb	23 01 42.6	-0.6
	185nm,0.3s						
SNTG	**Esanatoglia**	**0.35**	**115**	Pg	Pg	23 01 36.7	+0.7
SNTG				Sg	Sb	23 01 42.3	-1.0
	84nm,0.2s						
SNTG	**Esanatoglia**	**0.35**	**115**	Pg	Pg	23 01 36.7	+0.7
SNTG				Sg	Sb	23 01 42.3	-1.0
	84nm,0.2s						
CAFI	**Castiglion Fio**	**0.40**	**259**	Pg	Pb	23 01 37.7	-0.7
CAFI				Sg	Sb	23 01 43.6	-1.1
CAFI	**Castiglion Fio**	**0.40**	**259**	Pg	Pb	23 01 37.7	-0.7
CAFI				Sg	Sb	23 01 43.6	-1.1
CING	**Cingoli**	**0.51**	**93**	Pg	Pb	23 01 39.7	-0.5
CING				Sg	Sb	23 01 47.7	0.0
	35nm,0.5s						
CING	**Cingoli**	**0.51**	**93**	Pg	Pb	23 01 39.7	-0.5
CING				Sg	Sb	23 01 47.7	0.0
	35nm,0.5s						
FDMO	**Fiordimonte**	**0.56**	**131**	Pg	Pg	23 01 40.3	+0.3
FDMO				Sg	Sb	23 01 49.2	-0.2
	33nm,0.3s						
FDMO	**Fiordimonte**	**0.56**	**131**	Pg	Pg	23 01 40.3	+0.3
FDMO				Sg	Sb	23 01 49.2	-0.2
	33nm,0.3s						
MGAB	**Montegabbione**	**0.57**	**210**	Pg	Pg	23 01 40.5	+0.4
MGAB				Sg	Sb	23 01 49.9	+0.4
	164nm,0.3s						
MGAB	**Montegabbione**	**0.57**	**210**	Pg	Pg	23 01 40.5	+0.4
MGAB				Sg	Sb	23 01 49.9	+0.4
	164nm,0.3s						
NRCA	**Norcia**	**0.72**	**142**	Pg	Pg	23 01 43.1	0.0
NRCA				Sg	Sb	23 01 54.2	+0.1
	38nm,0.2s						
NRCA	**Norcia**	**0.72**	**142**	Pg	Pg	23 01 43.1	0.0
NRCA				Sg	Sb	23 01 54.2	+0.1
	38nm,0.2s						
LNSS	**Leonessa**	**0.89**	**154**	Pg	Pg	23 01 46.1	-0.2
LNSS				Sg	Sb	23 01 59.7	+0.8
	33nm,0.6s						
LNSS	**Leonessa**	**0.89**	**154**	Pg	Pg	23 01 46.1	-0.2
LNSS			

TALC	Talca	4.00	9	*e*P		Pn	23 05 06.1	-1.3
ROC1	El Roble	6.47	11	*i* P		Pn	23 05 38.5	-2.4
ROC1	El Roble	6.47	11	*e*Pn		Pn	23 05 37.5	-3.5
AAGR	Agrelo	6.90	26	*i* P		Pn	23 05 45.0	-1.6
ARCO	CERRO ARCO	7.09	25	*i* P		Pn	23 05 47.4	-1.8
ASAL	Salagasta	7.35	24	*i* P		Pn	23 05 50.5	-2.2
CHRN	Cochrane	7.89	181	*e*Pn		Pn	23 05 58.4	-1.4
TRQA	Tornquist	8.27	84	*e*Pn		Pn	23 06 02.0	-3.0
LCO	Las Campanas	10.42	8	*e*Pn		Pn	23 06 30.8	-3.6
EFI	East Falkland	15.87	146	*e*Pn		Pn	23 07 43.4	-1.2
	comp=N,140nm,1.6s							
PB10	IPOC Station P	15.87	6	*e*Pn		Pn	23 07 44.3	-0.6
	comp=N,109nm,1.6s							
LVC	Limon Verde	16.96	11	P		Pn	23 07 57.5	-1.1
	comp=N,41nm,0.3s,baz=228,slow=7.0,SNR=17							
LVC	Limon Verde	16.96	11	*e*Pn		Pn	23 07 57.4	-1.2
	comp=N,66nm,1.9s							
PB04	IPOC Station P	17.08	7	*e*Pn		Pn	23 07 58.6	-1.2
	comp=N,112nm,1.5s							
CPUP	Villa Florida	18.12	49	P		P	23 08 07.5	-3.5
	comp=N,0.7nm,0.3s,baz=222,slow=7.8,SNR=13							
CPUP	Villa Florida	18.12	49	*e*Pn		P	23 08 10.0	-1.0
PB01	IPOC Station P	18.43	9	*e*P		P	23 08 14.5	0.0
	comp=N,73nm,1.8s							
PB11	IPOC Station P	19.67	8	*e*P		P	23 08 28.5	+0.4
	comp=N,47nm,0.8s							
LPAZ	La Paz	23.29	10	P		P	23 09 07.3	+1.0
	comp=N,4.5nm,0.7s,baz=180,slow=5.8,SNR=24							
LPAZ	La Paz	23.29	10	*e*P		P	23 09 05.9	-0.4
	comp=N,8.8nm,0.8s							
SIV	San Ignacio	25.31	26	P		P	23 09 22.9	-1.0
	comp=N,3.7nm,0.7s,baz=267,slow=5.3,SNR=3.2							
PMSA	Palmer Station	25.93	172	*e*P		P	23 09 29.9	+1.0
	comp=N,55nm,1.2s							
SPB	Sao Paulo	26.36	61	*e*P		P	23 09 32.6	-0.8
	comp=N,136nm,1.9s							
SAML	Samuel	31.39	18	*e*P		P	23 10 18.4	+0.5
	comp=N,17nm,1.9s							
BDFB	Brasilia	31.86	49	P		P	23 10 20.3	-1.9
	comp=N,3.7nm,0.6s,baz=181,slow=5.3,SNR=6.7							
BDFB	Brasilia	31.86	49	*e*P		P	23 10 21.2	-1.0
	comp=N,35nm,1.5s							
OTAV	Otavalo	39.79	351	*e*P		P	23 11 30.7	+0.4
	comp=N,6.7nm,1.4s							
PTGA	Pitinga	40.09	20	*e*P		P	23 11 31.7	-0.6
	comp=N,4.1nm,0.8s							
PRAC	Prado	42.92	356	*e*P		P	23 11 55.4	+0.1
	comp=N,6.5nm,0.8s							
TRIS	Tristan da Cun	46.52	107	*e*P		P	23 12 22.6	-1.1
	comp=N,171nm,1.4s							
SNAA	Sanae	46.79	156	*e*P		P	23 12 26.6	+1.1
	comp=N,12nm,1.7s							
SDV	Santo Domingo	48.02	2	*e*P		P	23 12 36.5	+0.7
	comp=N,5.6nm,0.4s							
PTCN	Pitcairn Islan	50.04	268	*e*P		P	23 12 52.2	+1.3
	comp=N,2µm,1.7s							
SVB	Belmont	53.38	14	*e*P		P	23 13 16.5	+0.8
	comp=N,43nm,0.9s							
CELP	Cerrillos	57.39	7	*e*P		P	23 13 44.7	+0.4
HUMP	Col San Antoni	57.53	7	*e*P		P	23 13 45.6	+0.4
	comp=N,11nm,1.0s							
SDD	Santo Domingo	57.56	3	*e*P		P	23 13 45.6	+0.2
	comp=N,127nm,0.9s							
ANWB	Willy Bob	57.59	12	*e*P		P	23 13 45.6	-0.1
	comp=N,183nm,1.9s							
CBYP	Canovanas	57.65	7	*e*P		P	23 13 46.3	+0.1
	comp=N,8.8nm,0.8s							
SMRT	St. Maarten	57.77	11	*e*P		P	23 13 47.3	+0.3
	comp=N,17nm,0.8s							
STVI	Saint Thomas	57.83	8	*e*P		P	23 13 47.8	+0.4
	comp=N,9.2nm,1.0s							
CCIG	Comitan	58.33	338	*e*P		P	23 13 52.4	+1.2
	comp=N,16nm,1.4s							
TXAR	Lajitas Array	74.28	332	P		P	23 15 35.4	+2.8
	comp=N,0.3nm,0.6s,baz=162,slow=5.1,SNR=4.4							
SWET	Sewanee	75.24	349	*e*P		P	23 15 39.9	+2.0
	comp=N,1.5nm,0.8s							
WVT	Waverly	76.45	347	*e*P		P	23 15 46.6	+2.0
	comp=N,8.9nm,1.3s							
DBIC	Dimbokro	77.24	70	P		P	23 15 50.1	+0.5
	comp=N,1.2nm,0.3s,baz=192,slow=6.0,SNR=9.6							
BOSA	Boshof	77.89	117	P		P	23 15 52.9	-0.5
	comp=N,2.6nm,0.8s,baz=225,slow=4.3,SNR=4.2							
MTPU	Mount Pierson	85.24	330	*e*P		P	23 16 33.6	+1.8
	comp=N,1.8nm,0.7s							
TOA0	Torodi Ar. Sit	86.34	70	*e*P		P	23 16 36.9	-0.4
TORD	Torodi Ar. Bea	86.34	70	P		P	23 16 37.0	-0.3
	comp=N,1.5nm,0.8s,baz=225,slow=4.0,SNR=8.5							
PDAR	Pinedale Array	88.40	334	P		P	23 16 49.1	+2.3
	comp=N,0.3nm,0.5s,baz=127,slow=6.9,SNR=3.4							
ABKAR	Akbulak array	145.03	58	*e*PKPbc		PKPdf	23 23 32.2	+1.2
TIXI	Tiksi	145.88	348	PKPbc		PKPbc	23 23 33.5	+0.9
	comp=N,0.9nm,0.3s,baz=68,slow=3.5,SNR=5.5							
ZALV	Zalesovo Beam	158.76	39	PKPab		PKPab	23 24 28.6	+1.1
	comp=N,0.4nm,0.4s,baz=272,slow=4.0,SNR=2.1							
MKAR	Makanchi Array	160.15	60	PKPab		PKPab	23 24 34.4	+0.4
	comp=N,1.2nm,0.7s,baz=274,slow=4.5,SNR=12							

SKHL 09 23:19:07.7±0.3, 45°.12N×130°.87E, h5km, mb4.2/1, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRTR	Gornotajezhnoj	1.69	146	*e*Pg	Pb	23 19 39.5	+0.3
GRTR				AMB	AMB	23 19 55.0	
	20nm,0.2s						
GRTR				*e*Sg	Sg	23 20 02.2	+0.3
GRTR				*e*Sg	Sb	23 20 25.9	+25
GRTR				A	A	23 20 32.4	
	104nm,0.5s						
TEY	Ternei	4.06	89	*e*Pg	Pb	23 20 20.5	+0.8
TEY				*e*Sg	Sb	23 21 13.0	+4.0
TEY				A	A	23 21 21.0	
	87nm,0.9s						
GRNR	Gornyy	6.77	31	*e*Sg	Sg	23 22 39.0	-5.9
EKMR	Ekimchan	8.07	9	*e*Pn	Pn	23 21 06.8	+1.3
EKMR				*e*Sg	Sg	23 23 20.0	-6.7
EKMR				A	A	23 23 22.7	
	6.0nm,0.8s						
BMKR	Bomnak	9.69	353	*e*Sg	Sn	23 24 10.0	+53

*IDC **09** 23:51:53.7±1.5, 6°.51S×148°.16E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.6/43, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=58.0km s-min=22.3km az=119.0*

*ISCJB **09** 23:51:58.9±0.6, 6°.60S±0°.09×148°.06E±0°.09, h51km, mb4.4/11, Error ellipse: s-maj=14.3km s-min=11.4km az=38.4*

*NEIC **09** 23:51:59.2±0.4, 6°.54S×148°.02E, h35km, mb4.6/7, Error ellipse: s-maj=10.5km s-min=8.6km az=127.0*

ISC 09 23:52:00.6±0.7, 6°.50S±0°.08×148°.1E±0°.1, h51km, n16, σ1§32/18, mb4.5/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.03	198	Pn	Pn	23 52 44.5	-1.5
	7.4nm,0.3s,baz=14,slow=10,SNR=6.5						
PMG				Sn	Sn	23 53 23.3	+2.2
	5.5nm,0.3s,baz=24,slow=16,SNR=6.6						
PMG	Port Moresby	3.03	198	*e*Pn	Pn	23 52 44.0	-2.0
PMG				Sn	Sn	23 53 23.3	+2.2
HNR	Honiara	12.10	105	*e*Pn	Pn	23 54 50.1	-0.4
WRA	Warramunga Arr	18.88	224	P	P	23 56 16.1	-0.9
	0.2nm,0.3s,baz=50,slow=10,SNR=4.6						
ASAR	Alice Springs	21.84	217	P	P	23 56 47.6	-1.4
	1.1nm,0.5s,baz=51,slow=9.3,SNR=13						
FITZ	Fitzroy Crossi	24.74	240	P	P	23 57 16.7	-0.7
	4.4nm,0.5s,baz=52,slow=7.6,SNR=20						
KKM	Kota Kinabalu	34.16	291	*e*P	P	23 58 41.5	+0.1
	3.0nm,0.4s						
KSM	Kuching	38.53	281	*e*P	P	23 59 18.5	0.0
	3.6nm,0.3s						
MAJO	Matsushiro	43.81	348	*e*P	P	00 00 00.3	-1.3
	5.4nm,0.5s						
COCO	West Island	50.82	260	*e*P	P	00 00 56.4	-0.1
	180nm,0.4s						
ULN	Ulaanbaatar	65.07	331	*e*P	P	00 02 37.3	+1.4
	0.4nm,0.6s						
PMR	Palmer	83.19	25	*e*P	P	00 04 22.1	+1.0
	2.2nm,0.4s						
QSPA	South Pole Qui	83.47	180	*e*P	P	00 04 23.1	+0.5
	2.7nm,0.5s						
MCK	McKinley	84.26	23	*e*P	P	00 04 27.5	+1.0
	1.4nm,0.4s						
ILAR	Eielson Array	85.52	23	P	P	00 04 33.2	+0.4
	0.3nm,0.6s,baz=259,slow=3.6,SNR=3.2						
TORD	Torodi Ar. Bea	146.26	284	PKPbc	PKPab	00 11 38.1	+0.7
	0.5nm,0.5s,baz=62,slow=3.5,SNR=5.8						

*NIED **09** 23:58:00, 38°.50N×144°.50E, h8km, Mw3.6 Best double couple: M0 2.70000×10^14 NP1:φs36.00000°, δ19.00000°, λ-114.00000°. NP2:φs241.00000°, δ73.00000°, λ-82.00000°.*

*IDC **09** 23:58:35.1±1.2, 38°.34N×144°.76E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.7/50, mbtmp3.8/12, ML3.0/2, MS2.0/1, Ms1 2.0/1, ms1mx1.9/56, Error ellipse: s-maj=27.1km s-min=19.3km az=115.0*

*ISCJB **09** 23:58:38.5±0.5, 38°.48N±0°.04×144°.56E±0°.04, h29km, mb4.0/16, Error ellipse: s-maj=6.6km s-min=4.5km az=161.9*

*JMA **09** 23:58:39.0±0.2, 38°.52N×144°.51E, h32km, M3.8*

*NEIC **09** 23:58:40.8±0.6, 38°.42N×144°.64E, h35km, mb4.3/7, Error ellipse: s-maj=13.7km s-min=9.4km az=150.0*

ISC 09 23:58:39.9±0.8, 38°.47N±0°.06×144°.57E±0°.08, h29km, n39, σ1§86/48, mb3.9/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.35	286	P	Pn	23 59 16.0	-0.5
MIYJ	Miyakonagasawa	2.41	298	P	Pn	23 59 16.5	-0.9
MIYJ				S	Sn	23 59 44.5	-1.5
JMK	Ichinoseki	2.67	282	P	Pn	23 59 20.7	-0.2
JOM	Ohasama	2.75	292	P	Pn	23 59 21.8	-0.2
JOM				*e*S	Sn	23 59 53.4	-0.8
JANG	Nango	3.04	310	P	Pn	23 59 24.7	-1.3
JOU	Okura	3.07	269	P	Pn	23 59 27.1	+0.6
JOU				*e*S	Sn	00 00 01.9	-0.3
JRG	Rokugo	3.21	288	P	Pn	23 59 28.7	+0.4
JRG				S	Sn	00 00 06.7	+1.1
JYK	Kaneyama	3.33	279	P	Pn	23 59 30.6	+0.6
JYK				S	Sn	00 00 09.2	+0.7
JFT	Otama	3.48	256	P	Pn	23 59 32.8	+0.8
JFT				S	Sn	00 00 11.8	-0.4
JTM	Tenmabayashi	3.56	312	P	Pn	23 59 32.4	-0.8
JTM				S	Sn	00 00 12.6	-1.7
ERM	Erimo	3.71	343	*e*Pn	Pn	23 59 35.1	0.0
ERM				*e*Sn	Sn	00 00 19.2	+1.4
JCH	Churui	4.24	348	P	Pn	23 59 40.9	-1.6
JCH				*e*S	Sn	00 00 28.3	-2.8
JKB	Kayabe	4.36	323	P	Pn	23 59 45.2	+1.1
NEM2	Nemuro 2	4.97	10	P	Pn	23 59 48.1	-4.4
NEM2				*e*S	Sn	00 00 41.4	-7.6
JRY	Ryogami san	5.14	243	P	Pn	23 59 54.4	-0.5
JRY				S	Sn	00 00 51.1	-2.2
MJAR	Matsushiro Arr	5.41	251	Pn	Pn	23 59 59.0	+0.4
	1.4nm,0.3s,baz=75,slow=14,SNR=14						
MJAR				Sn	Sn	00 01 02.5	+2.5
	1.0nm,0.3s,baz=101,slow=28,SNR=5.5						
MJAR				LR	LR	00 01 44.7	
	comp=Z,16nm,19.2s,baz=335,slow=35						
MAT	Matsushiro	5.41	251	P	Pn	23 59 59.6	+1.0
JHJ	Hachijo jima 2	6.60	218	Pn	Pn	00 00 13.1	-1.9
JHJ				Sn	Sn	00 01 23.2	-6.1
	8.9nm,0.3s,baz=82,slow=24,SNR=2.6						
USRK	Ussuriysk Ar.	11.05	305	Pn	Pn	00 01 17.9	+2.0
	0.4nm,0.3s,baz=108,slow=13,SNR=8.0						
SEY	Seymchan	24.95	8	P	P	00 04 01.1	+0.7
	1.5nm,0.5s,baz=180,slow=5.5,SNR=9.4						
H11N2	WAKE ISLAND Hy	26.88	128	T	T	00 32 11.9	
	baz=326						
H11N1	WAKE ISLAND Hy	26.89	128	T	T	00 32 12.8	
	baz=326						
H11N3	WAKE ISLAND Hy	26.90	128	T	T	00 32 13.3	
	baz=326						
SONM	Songino Array	29.13	301	P	P	00 04 38.8	+0.5
	0.2nm,0.3s,baz=76,slow=6.1,SNR=3.1						
TIXI	Tiksi	34.21	351	P	P	00 05 21.6	-0.8
	0.8nm,0.5s,baz=140,slow=4.1,SNR=3.0						
ZALV	Zalesovo Beam	42.83	311	P	P	00 06 37.1	+2.2
	0.5nm,0.4s,baz=97,slow=7.4,SNR=2.2						
KTH	Kanthishna Hill	45.15	35	*e*P	P	00 06 54.0	+0.4
	8.1nm,0.5s						
MKAR	Makanchi Array	45.49	301	P	P	00 06 57.6	+1.1
	0.2nm,0.3s,baz=74,slow=15,SNR=5.8						
COLD	Coldfoot	45.68	30	*e*P	P	00 06 58.5	+0.8
	0.4nm,0.4s						
COLA	College	46.52	33	*e*P	P	00 07 03.5	-0.8
	1.9nm,0.5s						
ILAR	Eielson Array	46.94	33	P	P	00 07 08.1	+0.5
	0.2nm,0.5s,baz=249,slow=7.6,SNR=3.3						
KURK	Kurchatov	47.03	308	P	P	00 07 09.8	+1.3
KURBB	Kurchatov Arra	47.11	307	P	P	00 07 09.8	+0.7
	1.4nm,0.5s,baz=81,slow=7.8,SNR=9.2						
EKS2	Erkin-Say	52.50	299	*e*P	P	00 07 51.6	+1.2
	0.8nm,0.4s						
WRA	Warramunga Arr	58.89	191	P	P	00 08 35.0	-1.2
	1.6nm,0.7s,baz=12,slow=7.3,SNR=9.9						
FINES	FINESS Array B	68.69	333	P	P	00 09 40.1	-0.1
	1.0nm,0.8s,baz=36,slow=10,SNR=3.4						
SMCO	Snowmass	78.66	49	P	P	00 10 39.7	0.0
	0.3nm,0.3s						
KSCO	Kaye Shedlock'	81.29	47	*e*P	P	00 10 54.0	+0.4
	6.9nm,0.4s						
BLA	Blacksburg	94.02	34	*e*P	P	00 11 55.6	+0.2
	0.7nm,0.4s						

*NIED **10** 00:09:00, 40°.20N×142°.40E, h38km, Mw3.6 Best double couple: M0 3.29000×10^14 NP1:φs173.00000°, δ20.00000°, λ62.00000°. NP2:φs22.00000°, δ73.00000°, λ99.00000°.*

*IDC **10** 00:09:10.6±2.4, 40°.50N×142°.16E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/54, mbtmp3.5/6, ML3.3/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/40, Error ellipse: s-maj=52.5km s-min=32.3km az=139.0*

*ISCJB **10** 00:09:11.6±1.3, 40°.22N±0°.05×142°.46E±0°.09, h29km±6km, mb3.4/5, MS3.1/1, Error ellipse: s-maj=11.7km s-min=8.2km az=13.6*

*JMA **10** 00:09:12.8±0.1, 40°.16N×142°.41E, h35km±1km, M3.5*

ISC 10 00:09:13.0±1.9, 40°.17N±0°.07×142°.35E±0°.09, h30km±12km, n17, σ1§11/22, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.44	238	P	Pn	00 09 23.0	-0.3
JTH				*e*S	Sb	00 09 30.3	+1.3
JANG	Nango	0.67	288	P	Pn	00 09 26.3	-0.1
JANG				S	Sn	00 09 35.7	-0.2
MIYJ	Miyakonagasawa	0.72	215	P	Pb	00 09 26.5	-0.6
MIYJ				S	Sn	00 09 36.1	-1.1
JKZ	Kuzumaki	0.81	257	P	Pn	00 09 28.6	+0.3
JKZ				S	Sn	00 09 39.5	+0.2
JOM	Ohasama	1.07	230	P	Pb	00 09 32.4	-0.6
JOM				*e*S	Sb	00 09 46.8	+0.1
JTM	Tenmabayashi	1.16	302	P	Pn	00 09 33.7	+0.6
JAH	Hinai	1.31	271	P	Pn	00 09 36.2	+0.9
JAH				*e*S	Sn	00 09 53.3	+1.5
JMK	Ichinoseki	1.50	216	P	Pb	00 09 38.9	-1.3
JMK				S	Sb	00 09 58.1	-0.7
JRG	Rokugo	1.53	240	P	Pb	00 09 39.5	-1.3
MJAR	Matsushiro Arr	4.87	223	Pn	Pn	00 10 27.1	+2.9
	1.1nm,0.3s,baz=30,slow=13,SNR=14						
USRK	Ussuriysk Ar.	8.68	301	LR	LR	00 14 26.1	
	comp=Z,55nm,19.2s,baz=9.4,slow=38						
SONM	Songino Array	26.78	299	P	P	00 14 50.8	+0.5
	0.3nm,0.4s,baz=106,slow=4.8,SNR=3.9						
ZALV	Zalesovo Beam	40.41	310	P	P	00 16 47.3	-0.8
	0.5nm,0.3s,baz=88,slow=8.8,SNR=2.5						
JAY	Jayapura	42.51	182	LR	LR	00 31 19.5	
	comp=Z,26nm,21.2s,baz=181,slow=31						
MKAR	Makanchi Array	43.15	299	P	P	00 17 09.6	-1.0
	0.4nm,0.5s,baz=85,slow=10.0,SNR=5.2						
ILAR	Eielson Array	46.47	34	P	P	00 17 37.6	+0.7
	0.2nm,0.5s,baz=251,slow=5.6,SNR=2.9						
FINES	FINESS Array B	66.39	332	P	P	00 19 58.3	-0.3
	0.4nm,0.6s,baz=39,slow=9.0,SNR=3.6						

*IDC **10** 00:11:16.4±0.4, 6°.60S×147°.65E, h0km, mb4.9/25, mb1 5.0/29, mb1mx5.0/37, mbtmp5.0/29, ML4.5/3, MS4.7/27, Ms1 4.7/27, ms1mx4.7/32, Error ellipse: s-maj=13.9km s-min=8.7km az=107.0*

*BJI **10** 00:11:18.0, 6°.54S×148°.28E, h34km, mb4.9/66, mB5.3/52, Ms5.0/59, Ms7 4.8/56*

*ISCJB **10** 00:11:21.0±0.7, 6°.64S±0°.03×147°.98E±0°.03, h47km±6km, mb5.2/152, MS4.8/35, Error ellipse: s-maj=5.0km s-min=4.3km az=19.1*

*MOS **10** 00:11:21.8±1.4, 6°.53S×147°.69E, h44km, mb5.4/39, MS4.8/16, Error ellipse: s-maj=9.2km s-min=5.4km az=94.2*

*GCMT **10** 00:11:23.4±0.1, 6°.79S×147°.85E, h12km, MW5.2/110, Moment Tensor Solution. s96,c144; s110,c221; Duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr-0.81±.01; Mθθ0.09±.01; Mφφ0.71±.01; Mrθ-0.32±.03; Mrφ0.38±.01; Mθφ-0.08±.03; Best double couple: M0 0.91600×10^17 NP1:φs42.00000°, δ54.00000°, λ-69.00000°. NP2:φs189.00000°, δ41.00000°, λ-116.00000°. Principal axes: T 0.9230, Plg7.0000°, Azm117.0000°; N -0.0150, Plg17.0000°, Azm209.0000°; P -0.9090, Plg72.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **10** 00:11:23.4±0.7, 6°.62S×147°.87E, h52km±6km, mb5.2/87 Error ellipse: s-maj=5.4km s-min=4.6km az=114.0*

*DJA **10** 00:11:29.3±0.9, 7°.5±4°×14°.8E±°, h88km±7km, M5.5/74, mb5.4/74, mB5.9/41, Mw(mB)5.5/41*

ISC 10 00:11:22.4±0.4, 6°.62S±0°.03×147°.94E±0°.04, h41km±3km, h41km:pP-P,n527, σ1§65/558, mb5.2/149, MS4.8/35, 19C-16D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.87	196	Pn	Pn	00 12 04.7	-1.1
	59nm,0.3s,baz=8.3,slow=12,SNR=62						
PMG				Sn	Sn	00 12 44.9	+5.7
	92nm,0.3s,baz=6.2,slow=19,SNR=12						
PMG				LR	LR	00 12 51.9	
	comp=Z,11µm,18.0s,baz=216,slow=34						
PMG	Port Moresby	2.87	196	*e*Pn	Pn	00 12 06.2	+0.4
PMG				Sn	Sn	00 12 44.9	+5.7
MANU	Manus Island	4.58	353	*e*Pn	Pn	00 12 31.8	+2.5
RABL	Rabaul	4.85	60	*e*Pn	Pn	00 12 35.6	+2.6
JAY	Jayapura	8.28	299	LR	LR	00 17 15.8	
	comp=Z,618nm,18.3s,baz=170,slow=45						
COEN	Coen	8.67	212	P	Pn	00 13 25.6	+0.3
	baz=8.5,SNR=14						
COEN	Coen	8.67	212	*e*Pn	Pn	00 13 25.7	+0.3
GENI	Genyem	8.72	297	P	Pn	00 13 30.2	+4.2
MTSU	Mount Surprise	11.98	197	P	Pn	00 14 11.8	+1.1
	baz=12,SNR=12						
HNR	Honiara	12.21	104	Pn	Pn	00 14 17.0	+3.1
	6.5nm,0.3s,baz=283,slow=16,SNR=2.7						
HNR				Sn	S	00 16 47.0	-9.0
	3.7nm,0.3s,baz=227,slow=18,SNR=2.4						
HNR				LR	LR	00 18 35.0	
	comp=Z,773nm,21.1s,baz=268,slow=35						
HNR	Honiara	12.21	104	*e*Pn	Pn	00 14 14.8	+0.9
HNR				Sn	S	00 16 47.0	-9.0
CTA	Charters Tower	13.49	187	Pn	Pn	00 14 30.8	-0.5
	0.9nm,0.3s,baz=16,slow=14,SNR=19						
CTA				LR	LR	00 19 58.8	
	comp=Z,5µm,18.3s,baz=8.5,slow=39						
CTA	Charters Tower	13.49	187	P	Pn	00 14 29.4	-1.9
	baz=13						
CTAO	Charters Tower	13.49	187	*e*P	Pn	00 14 33.9	+2.5
CTAO	Charters Tower	13.49	187	*e*Pn	Pn	00 14 33.9	+2.5
FAKI	Fak Fak	16.06	282	P	P	00 15 08.0	-0.4
FAKI	Fak Fak	16.06	282	*e*Pn	Pn	00 15 06.8	+1.3
	256nm,1.0s						
SAUI	Saumlaki	16.56	264	*e*Pn	Pn	00 15 11.4	-0.4
	504nm,0.9s						
PATS	Pohnpei	16.91	38	P	P	00 15 21.9	+4.2
	baz=17						
MTN	Manton Dam	17.67	248	*e*Pn	Pn	00 15 25.9	+0.2
	42nm,1.0s						
WR6	Warramunga Arr	18.63	223	P	P	00 15 35.8	-1.0
	baz=18						
WRAB	Tennant Creek	18.69	224	*e*P	Pn	00 15 37.9	-0.1
WRAB				pmax	pmax		
	comp=Z,83nm,1.1s						
WRAB	Tennant Creek	18.69	224	*e*P	Pn	00 15 37.9	-0.1
	comp=Z,83nm,1.1s						
WB2	Warramunga Arr	18.69	224	*e*P	P	00 15 36.8	-0.7
	comp=Z,102nm,1.3s						
WRA	Warramunga Arr	18.70	224	P	P	00 15 35.8	-1.7
	comp=Z,1.7nm,0.3s,baz=48,slow=11,SNR=46						
WRA				S	Sn	00 19 02.8	-3.8
	comp=Z,0.1nm,0.3s,baz=43,slow=25,SNR=2.5						
WRA				LR	LR	00 23 30.8	
	comp=Z,5µm,18.1s,baz=50,slow=40						
EIDS	Eidsvold	18.89	171	P	Pn	00 15 40.1	-0.2
	baz=19,SNR=6.3						
EIDS	Eidsvold	18.89	171	*e*P	Pn	00 15 40.6	+0.3
	comp=Z,47nm,1.1s						
MSAI	Masohi	19.21	279	P	Pn	00 15 45.3	+0.9
PALU	Palau	19.31	316	P	Pn	00 15 47.0	+1.5
	baz=20,SNR=3.4						
RMQ	Roma	19.77	178	P	P	00 15 49.0	-0.2
	baz=20,SNR=47						
GUMO	Guam	20.31	351	P	P	00 15 53.7	-1.3
	comp=Z,88nm,0.7s,baz=177,slow=19,SNR=3.3						
GUMO				LR	LR	00 22 04.8	
	comp=Z,3µm,21.5s,baz=174,slow=32						
GUMO	Guam	20.31	351	*e*P	P	00 15 55.2	+0.2
	comp=Z,343nm,1.3s						
NLAI	Namlea	21.03	278	P	P	00 16 03.8	+0.9
	comp=Z,137nm,0.9s,comp=Z,3µm						
AS01	Alice Springs	21.63	217	*e*P	P	00 16 06.8	-2.5
AS31	Alice Springs	21.66	217	*e*P	P	00 16 08.2	-1.4
	comp=Z,26nm,1.2s						
ASAR	Alice Springs	21.66	217	P	P	00 16 07.7	-2.0
	comp=Z,15nm,0.6s,baz=53,slow=9.1,SNR=60						
ASAR				S	S	00 20 11.9	+4.3
	comp=Z,5.5nm,0.9s,baz

comp=Z,10nm,1.0s
WRKA Warakurna 26.25 224 P **P** **00 16 51.7 -2.2**
baz=26,SNR=77
MRSI Marisa 26.88 284 P **P** **00 16 58.7 -1.1**
comp=Z,106nm,1.2s,comp=Z,1μm
BSSI Bau Bau, Buton 27.28 269 P **P** **00 17 02.6 -0.7**
comp=Z,129nm,1.3s,comp=Z,2μm
BASI Baing, Sumba 27.30 261 P **P** **00 17 04.7 +1.3**
comp=Z,314nm,1.2s,comp=Z,4μm
YNG Young 27.55 179 P **P** **00 17 05.5 0.0**
baz=27,SNR=9.5
HTT Hallett 27.96 196 P **P** **00 17 09.0 -0.3**
baz=28,SNR=8.1
KAPI Kappang 28.09 272 P **P** **00 17 08.2 -2.4**
comp=Z,46nm,1.2s,baz=84,slow=9.2,SNR=7.5
KAPI LR LR 00 31 07.9
comp=Z,2μm,20.2s,baz=105,slow=43
KAPI Kappang 28.09 272 *e*P **P** **00 17 11.1 +0.6**
KAPI *es*P sP 00 17 37.6 +11
SPSI Sidrap Palu 28.17 274 P P 00 17 16.3 +5.0
TTSI Tana Toraja 28.24 276 P **P** **00 17 13.9 +2.0**
BBOO Buckleboo 28.31 201 P **P** **00 17 13.3 +1.0**
baz=28,SNR=6.8
BBOO Buckleboo 28.31 201 *e*P **P** **00 17 13.3 +1.0**
comp=Z,41nm,1.0s
PCI Palu 28.60 280 P **P** **00 17 17.7 +2.6**
comp=Z,231nm,1.2s,comp=Z,3μm
PLAI Plampang 29.96 264 P **P** **00 17 27.8 +0.6**
comp=Z,70nm,0.8s
ARPS Mount Arapiles 30.52 190 P **P** **00 17 32.8 +1.0**
baz=30,SNR=5.6
MBWA Marble Bar 30.88 239 *e*P **P** **00 17 34.5 -0.7**
comp=Z,140nm,0.8s
MYLDM Lahad Datu 31.64 291 ⇑P **P** **00 17 43.1 +1.2**
MYLDM Lahad Datu 31.64 291 *e*P **P** **00 17 44.4 +2.4**
comp=Z,68nm,1.3s
TSM Tawau 31.91 289 ⇑P **P** **00 17 45.0 +0.6**
DNP Denpasar 32.49 264 P **P** **00 17 52.3 +2.8**
comp=Z,238nm,0.3s
BBKI Banjar Baru 33.11 274 P **P** **00 17 58.6 +3.7**
comp=Z,75nm,0.8s,comp=Z,5μm
JAGI Jajag, Banyuwa 33.54 265 P **P** **00 17 57.5 -1.2**
JAGI Jajag, Banyuwa 33.54 265 *e*P **P** **00 17 55.1 -3.6**
comp=Z,83nm,0.7s
KKM Kota Kinabalu 34.07 291 ⇓P **P** **00 18 03.7 +0.4**
KMBL Kambalda 34.64 221 P **P** **00 18 07.2 -0.8**
baz=34,SNR=14
PWJI Pagerwojo 35.86 265 P **P** **00 18 20.7 +2.0**
GIRL Giralia 36.16 240 P **P** **00 18 21.8 +0.6**
baz=36,SNR=3.5
PCJI Pacitan 36.48 265 P **P** **00 18 24.0 0.0**
SBUM Sibu 36.78 283 *e*P **P** **00 18 26.8 +0.3**
comp=Z,102nm,1.4s
STKI Sintang 36.98 279 P **P** **00 18 30.6 +2.3**
comp=Z,69nm,1.1s
UGM Wanagama 37.13 266 P **P** **00 18 30.2 +0.6**
comp=Z,151nm,1.1s
UGM Wanagama 37.13 266 *e*P **P** **00 18 28.9 -0.7**
comp=Z,124nm,0.9s
MORW Morawa 37.47 230 P **P** **00 18 31.2 -1.1**
baz=37,SNR=18
KLBR Kellerberrin 37.58 225 P **P** **00 18 31.4 -1.7**
baz=37,SNR=21
BLDU Ballidu 37.78 227 P **P** **00 18 33.5 -1.4**
baz=38,SNR=10
KSM Kuching 38.41 281 *e*P **P** **00 18 41.1 +0.7**
comp=Z,66nm,1.1s
NWAO Narrogin (SRO) 38.71 223 P **P** **00 18 40.6 -2.1**
comp=Z,63nm,1.1s,baz=292,slow=7.4,SNR=8.2
NWAO Narrogin (SRO) 38.71 223 P **P** **00 18 42.2 -0.5**
baz=39,SNR=6.9
NWAO Narrogin (SRO) 38.71 223 *e*P **P** **00 18 42.2 -0.5**
NWAO pmax pmax
comp=Z,71nm,1.0s
NWAO Narrogin (SRO) 38.71 223 *e*P **P** **00 18 42.2 -0.5**
comp=Z,71nm,1.0s
KPJI Karang Pucung 38.72 267 P **P** **00 18 43.8 +0.9**
comp=Z,102nm,1.0s,comp=Z,2μm
CMJI Cimerak 39.19 266 P **P** **00 18 46.2 -0.7**
comp=Z,197nm,0.9s,comp=Z,2μm
JCJI Jatiwangi 39.40 268 P **P** **00 18 50.4 +1.7**
comp=Z,256nm,1.0s,comp=Z,7μm
CISI Cisompet, Garu 39.82 266 P **P** **00 18 51.4 -0.8**
comp=Z,230nm,1.3s
CISI Cisompet, Garu 39.82 266 *e*P **P** **00 18 50.5 -1.7**
comp=Z,302nm,1.2s
RKGY Rocky Gully 39.88 221 P **P** **00 18 52.3 -0.1**
baz=40,SNR=4.9
NACB Ninganchiao 39.96 321 *e*P **P** **00 18 52.9 -0.3**
comp=Z,79nm,1.2s
YHNB Yeheng 40.46 321 *e*P **P** **00 18 57.3 -0.1**
comp=Z,57nm,1.1s
CNJI Cibinong 40.50 267 P **P** **00 18 57.3 -0.5**
comp=Z,385nm,1.2s,comp=Z,4μm
TATO Taipei 40.61 322 *e*P **P** **00 18 58.1 -0.4**
comp=Z,188nm,1.4s
URZ Urewera 41.11 144 LR LR 00 34 33.0
comp=Z,2μm,18.3s,baz=306,slow=34
PPBI Pangkal Pinang 41.90 274 P **P** **00 19 12.8 +3.5**
comp=Z,79nm,1.3s,comp=Z,21μm
RPZ Rata Peaks 42.15 155 P **P** **00 19 11.6 +0.7**
comp=Z,13nm,0.6s,baz=339,slow=3.6,SNR=6.2
QZH Quanzhou 42.43 319 ⇓*i*P P 00 19 05.1 -8.3
QZH S **S** **00 25 27.0 -5.5**
QZH LR LR
comp=N,2μm,14.6s
QZH LR LR
comp=E,820nm,12.9s
QZH LR LR
comp=Z,3μm,32.2s
JNU Nakatsue 42.72 339 *e*P **P** **00 19 14.7 -1.0**
comp=Z,31nm,1.1s
KASI Kota Agung 43.20 269 P **P** **00 19 19.6 -0.3**
comp=Z,108nm,1.2s
MJAR Matsushiro Arr 43.89 349 P **P** **00 19 23.7 -1.4**
comp=Z,32nm,1.2s,baz=172,slow=7.9,SNR=45
MJAR PcP **PcP** **00 21 11.7 +0.9**
comp=Z,2.8nm,0.9s,baz=165,slow=2.1,SNR=4.3
MJAR LR LR 00 35 19.8
comp=Z,760nm,21.3s,baz=155,slow=33
MAJO Matsushiro 43.89 349 *d i*P **P** **00 19 24.0 -1.1**
MAJO pmax pmax
comp=Z,455nm,1.3s
MAJO Matsushiro 43.89 349 *e*P **P** **00 19 24.2 -0.9**
comp=Z,108nm,1.4s
MAT Matsushiro 43.89 349 P **P** **00 19 23.9 -1.2**
MAT S **S** **00 25 53.4 -0.3**
MJB9 Matsu-Tunnel 43.90 349 *e*P **P** **00 19 24.7 -0.5**
comp=Z,29nm,1.5s
MYKOM Kota Tinggi 44.79 279 *e*P **P** **00 19 32.8 +0.1**
comp=Z,41nm,1.0s
KSI Kapahiang 45.25 271 P P 00 19 40.7 +4.3
QIZ Qiongzhong 45.37 305 P **P** **00 19 38.4 +1.2**
QIZ sP **pP** **00 19 50.8 +2.0**
QIZ S **S** **00 26 18.3 +2.6**
QIZ sS **sS** **00 26 34.3 -0.6**
QIZ LN
comp=Z,320nm,20.1s
QIZ LE
comp=Z,570nm,20.6s
QIZ LZ
comp=Z,950nm,21.2s
SSE Sheshan 45.40 327 P **P** **00 19 35.3 -1.9**
SSE S **S** **00 26 14.9 -0.8**
SSE sS **sS** **00 26 30.3 -4.6**
SSE PMZ
comp=Z,39nm,0.8s
SSE PMZ
comp=Z,120nm,4.6s
SSE LN
comp=Z,800nm,21.6s
SSE LE
comp=Z,1μm,21.6s
SSE LZ
comp=Z,870nm,20.3s
SDSI Sungai Dareh 46.73 275 P **P** **00 19 48.6 +0.6**
comp=Z,364nm,0.8s
TJN Taejon 46.92 337 *ce*P **P** **00 19 49.2 +0.1**
NJ2 Nanjing 47.41 326 *e*P **P** **00 19 52.9 0.0**
NJ2 pP **pP** **00 19 59.2 -5.4**
NJ2 PMZ
comp=Z,28nm,1.4s
NJ2 LN
comp=Z,850nm,21.7s
NJ2 LE
comp=Z,900nm,15.7s
NJ2 LZ
comp=Z,1μm,23.3s
KSRS Korea Array 47.66 338 P **P** **00 19 53.5 -1.3**
comp=Z,19nm,1.1s,baz=157,slow=8.3,SNR=41
KSRS PcP **PcP** **00 21 25.3 +1.5**
comp=Z,0.7nm,0.4s,baz=156,slow=4.2,SNR=4.2
KSRS LR LR 00 39 43.1
comp=Z,871nm,18.9s,baz=159,slow=36
KSRS Korea Array 47.66 338 P **P** **00 19 53.5 -1.3**
KSRS 00 21 25.3
KSRS pmax pmax
comp=Z,18nm,1.1s
KSRS MLR MLR
comp=Z,871nm,18.9s
KS15 Wonju Array Si 47.67 338 *e*P **P** **00 19 55.9 +1.1**
KSAR Wonju Array Be 47.67 338 P **P** **00 19 53.5 -1.3**
KSAR 00 21 25.3
KSAR Wonju Array Be 47.67 338 P **P** **00 19 53.5 -1.3**
KSAR PcP **PcP** **00 21 25.3 +1.5**
PDSI Padang 47.69 275 P **P** **00 19 57.0 +1.5**
comp=Z,18nm,0.7s,comp=Z,4μm
KS01 Wonju Array Si 47.70 338 *e*P **P** **00 19 53.7 -1.3**
PPI Padang Panjang 47.82 275 P **P** **00 19 55.8 -0.6**
comp=Z,162nm,1.1s,comp=Z,2μm
IPM Ipoh 48.11 282 *e*P **P** **00 19 58.1 -0.6**
comp=Z,147nm,1.3s
KULM Kulim 48.66 283 *e*P **P** **00 20 02.6 -0.3**
comp=Z,74nm,1.0s
MNSI Mandailing Nat 48.82 277 P **P** **00 20 04.2 0.0**
comp=Z,58nm,1.2s,comp=Z,5μm
WHN Wuhan 49.00 321 ⇓P **P** **00 20 05.5 +0.3**
WHN S **S** **00 27 14.0 +7.0**
WHN PMZ
comp=Z,92nm,1.3s
WHN LN
comp=Z,1μm,13.9s
WHN LE
comp=Z,960nm,17.8s
WHN LZ
comp=Z,2μm,20.8s
SKLT Songkhla 49.15 285 P **P** **00 20 07.6 +0.9**
comp=Z,88nm,1.2s,comp=Z,1μm
CHBT CHBT 49.24 293 P **P** **00 20 09.0 +1.7**
comp=Z,91nm,1.7s
SKNT Sakolnakorn 49.37 299 P **P** **00 20 10.2 +1.9**
comp=Z,46nm,0.9s
PSI Prapat 49.82 279 *e*P **P** **00 20 10.8 -1.2**
PSI pmax pmax
comp=Z,175nm,1.7s
PSI Prapat 49.82 279 *e*P **P** **00 20 10.8 -1.2**
comp=Z,175nm,1.7s
TRTT Trang 50.21 286 P **P** **00 20 15.6 +0.8**
comp=Z,59nm,1.3s,comp=Z,1μm
TSI Tuntungan 50.30 280 P **P** **00 20 17.6 +2.1**
comp=Z,172nm,1.1s
NONG Nongkai 50.55 300 P **P** **00 20 19.0 +1.7**
comp=Z,47nm,1.7s,comp=Z,2μm
SURA Surathani 50.63 287 P **P** **00 20 19.4 +1.5**
comp=Z,35nm,1.3s,comp=Z,7μm
COCO West Island 50.66 260 *i* P P 00 20 24.0 +5.9
CHAI Chaiyaphum 50.70 297 P **P** **00 20 20.7 +2.3**
comp=Z,5.5nm,1.2s,comp=Z,142nm
ASAJ Asahikawa 50.73 355 *e*P **P** **00 20 19.0 +0.9**
comp=Z,41nm,1.2s
KRAB Krabi 50.79 286 P **P** **00 20 20.7 +1.6**
comp=Z,34nm,1.1s
GSI Gunungsitoli 50.88 277 P **P** **00 20 19.8 0.0**
comp=Z,87nm,1.3s
GSI Gunungsitoli 50.88 277 *e*P **P** **00 20 18.3 -1.5**
comp=Z,70nm,0.9s
KCSI Kotacane, Aceh 51.09 280 P **P** **00 20 20.5 -0.9**
comp=Z,87nm,1.3s
SURT Suratani 51.37 287 P **P** **00 20 24.8 +1.3**
comp=Z,42nm,1.2s,comp=Z,496nm
TIA Tai'an 51.49 328 ⇓P **P** **00 20 22.9 -1.1**
TIA PMZ
comp=Z,30nm,1.3s
TIA PMZ
comp=Z,230nm,4.4s
TIA LN
comp=Z,580nm,19.0s
TIA LE
comp=Z,1μm,19.0s
TIA LZ
comp=Z,560nm,17.8s
PKDT Phuket 51.52 285 P **P** **00 20 25.7 +1.0**
comp=Z,110nm,1.3s,comp=Z,5μm
TPTI 51.61 279 P **P** **00 20 25.1 -0.2**
comp=Z,127nm,0.9s,comp=Z,1μm
KUR Kuril'sk 51.62 360 ⇑*e*P **P** **00 20 26.6 +1.9**
GYA Guiyang 51.79 311 *e*P **P** **00 20 29.4 +2.8**
GYA PMZ
comp=Z,10.0nm,1.0s
PBKT Sadao Pong 51.85 297 P **P** **00 20 29.8 +2.8**
comp=Z,14nm,1.4s,comp=Z,1μm
LOEI Loei 51.96 298 P **P** **00 20 26.8 -1.1**
comp=Z,27nm,1.4s
ENH Enshi 52.00 317 *e*P **P** **00 20 27.4 -0.6**
comp=Z,24nm,1.3s
LHMI Lhok Sumawe 52.24 282 P P 00 20 41.9 +12
MLSI Meulaboh, Aceh 52.57 280 P **P** **00 20 32.3 -0.2**
comp=Z,193nm,1.1s
USRK Ussuriysk Ar. 52.59 346 P **P** **00 20 31.4 -0.7**
comp=Z,11nm,0.9s,baz=175,slow=7.7,SNR=22
USRK PcP **PcP** **00 21 43.1 +1.3**
comp=Z,1.2nm,0.5s,baz=170,slow=2.6,SNR=2.6
USRK LR LR 00 42 48.2
comp=Z,502nm,18.3s,baz=144,slow=36
UTTA Uttaradit 52.67 298 P **P** **00 20 35.1 +2.0**
comp=Z,8.3nm,1.2s,comp=Z,86nm
SNY Shenyang 53.11 337 ⇓P **P** **00 20 34.8 -1.1**
SNY S **S** **00 28 02.5 -0.9**
SNY PMZ
comp=Z,190nm,5.0s
SNY LN
comp=Z,750nm,17.4s
SNY LE
comp=Z,330nm,15.0s
SNY LZ
comp=Z,1μm,17.8s
SUKH Sukhothai 53.39 297 P **P** **00 20 41.2 +2.8**
comp=Z,9.0nm,1.2s,comp=Z,96nm
YSS Yuzh-Sakhalins 53.54 356 ⇑*e*P **P** **00 20 38.9 0.0**
YSS pmax pmax
comp=Z,58nm,1.7s
UMPA Umpang Tak 53.60 296 P **P** **00 20 42.3 +2.3**
comp=Z,13nm,1.2s,comp=Z,1μm
MDJ Mudanjiang 53.61 344 P **P** **00 20 39.3 -0.3**
MDJ pP pP 00 20 48.1 -3.3
MDJ sP sP 00 20 51.6 -4.5
MDJ S **S** **00 28 10.9 +0.7**
MDJ sS sS 00 28 26.9 -2.9
MDJ PMZ
comp=Z,11nm,1.6s
MDJ PMZ
comp=Z,110nm,4.6s
MDJ LN
comp=Z,590nm,23.0s
MDJ LE
comp=Z,900nm,27.3s
MDJ LZ
comp=Z,570nm,23.8s
LAMP Lampang 53.79 299 P **P** **00 20 44.5 +3.2**
comp=Z,7.6nm,1.4s
KMI Kunming 54.11 307 P **P** **00 20 46.1 +2.2**
KMI pP pP 00 20 57.2 +1.5
KMI sP sP 00 21 01.6 +1.1
KMI PP **PP** **00 22 49.6 +3.7**
KMI S **S** **00 28 18.7 +0.6**
KMI sS sS 00 28 37.8 +0.1
KMI SS **SS** **00 31 59.7 -0.7**
KMI PMZ
comp=Z,19nm,1.0s
KMI PMZ
comp=Z,160nm,5.1s
KMI LN
comp=Z,520nm,17.1s
KMI LE
comp=Z,600nm,20.6s
KMI LZ
comp=Z,860nm,22.3s
CN2 Changchun 54.15 340 *e*P **P** **00 20 47.3 +3.8**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 LN
comp=Z,700nm,17.0s
CN2 LE
comp=Z,400nm,17.0s
CN2 LZ
comp=Z,800nm,18.0s
CM01 Chiang Mai Arr 54.34 298 *e*P **P** **00 20 46.6 +1.3**
CMAR Chiang Mai Arr 54.36 298 P **P** **00 20 44.6 -0.9**
comp=Z,8.9nm,0.9s,baz=118,slow=5.5,SNR=30
CMAR PcP **PcP** **00 21 48.5 -0.6**
comp=Z,2.2nm,0.5s,baz=138,slow=3.1,SNR=2.7
CMAR LR LR 00 42 06.5
comp=Z,422nm,20.9s,baz=134,slow=34
CMAR PKP2bc 00 51 15.4
comp=Z,0.8nm,0.3s,baz=295,slow=4.5,SNR=4.2
CHTO Chiang Mai 54.50 299 P **P** **00 20 48.8 +2.3**
comp=Z,211nm,1.2s
CHTO Chiang Mai 54.50 299 *e*P **P** **00 20 48.1 +1.5**
CHTO pmax pmax
comp=Z,29nm,1.3s
CHTO Chiang Mai 54.50 299 *e*P **P** **00 20 48.1 +1.5**
comp=Z,30nm,1.3s
XAN Xi'an 54.75 320 P **P** **00 20 46.7 -1.4**
XAN PMZ
comp=Z,25nm,1.5s
XAN LN
comp=Z,600nm,20.3s
XAN LE
comp=Z,570nm,35.6s
XAN LZ
comp=Z,640nm,25.5s
BJT Baijiatuau 54.88 330 *e*P **P** **00 20 48.8 -0.1**
BJT pmax pmax
comp=Z,10.0nm,0.7s
BJT Baijiatuau 54.88 330 *e*P **P** **00 20 48.8 -0.1**
comp=Z,9.7nm,0.7s
BJI Beijing 54.90 330 P **P** **00 20 47.7 -1.3**
BJI pP **pP** **00 20 59.1 -1.7**
BJI S **S** **00 28 28.5 +0.8**
BJI sS **sS** **00 28 48.8 +1.5**
BJI PMZ
comp=Z,25nm,1.5s
BJI PMZ
comp=Z,260nm,4.1s
BJI LN
comp=Z,620nm,19.8s
BJI LE
comp=Z,1μm,22.0s
BJI LZ
comp=Z,1μm,24.9s
CD2 Chengdu 56.37 314 P **P** **00 20 59.5 -0.4**
CD2 pP pP 00 21 10.8 -0.9
CD2 sP sP 00 21 15.5 -1.0
CD2 PcS **PcS** **00 25 56.5 -1.0**
CD2 S **S** **00 28 48.8 +1.0**
CD2 sS sS 00 29 08.1 +0.6
CD2 SS **SS** **00 32 37.9 +2.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
CD2 LN
comp=Z,620nm,15.2s
CD2 LE
comp=Z,990nm,17.6s
CD2 LZ
comp=Z,1μm,19.1s
KLR Kul'dur 57.39 347 P **P** **00 21 06.5 -0.1**
comp=Z,15nm,0.9s,baz=157,slow=5.9,SNR=23
TYV Tymovskoe 57.43 356 *e*P **P** **00 21 05.5 -1.4**
TYV pmax pmax
comp=Z,22nm,0.8s
HHC Hu-ho-hao-te 57.85 328 *e*P **P** **00 21 12.7 +2.5**
HHC pP pP 00 21 22.9 +0.8
HHC sP sP 00 21 26.8 0.0
HHC S **S** **00 29 09.4 +2.3**
HHC sS sS 00 29 26.3 -0.5
HHC ScS **ScS** **00 30 56.9 +0.2**
HHC PMZ
comp=Z,15nm,1.0s
HHC PMZ
comp=Z,110nm,6.8s
HHC LN
comp=Z,880nm,17.8s
HHC LE
comp=Z,560nm,16.3s
HHC LZ
comp=Z,1μm,17.8s
LZH Lanzhou 59.29 319 *e*P **P** **00 21 20.7 +0.3**
LZH pP pP 00 21 26.7 -5.6
LZH sP sP 00 21 29.5 -7.5
LZH PMZ
comp=Z,16nm,1.0s
PEA0 Petropavlovsk- 60.07 7 *e*P **P** **00 21 25.2 -0.1**
PEA0B Petropavlovsk- 60.07 7 *e*P **P** **00 21 26.0 +0.8**
comp=Z,66nm,1.2s
PETK Petropavlovsk- 60.07 7 P **P** **00 21 25.7 +0.5**
comp=Z,24nm,1.0s,baz=163,slow=5.4,SNR=18
PETK LR LR 00 43 45.6
comp=Z,535nm,21.9s,baz=192,slow=32
PET Petropavlovsk 60.11 7 *e*P **P** **00 21 24.6 -0.8**
PET *e*S **S** **00 29 32.6 -3.0**
PET pmax pmax
comp=Z,30nm,1.1s
HIA Hailar 60.86 339 *e*P **P** **00 21 30.1 -0.6**
HIA pmax pmax
comp=Z,14nm,0.7s
HIA Hailar 60.86 339 *e*P **P** **00 21 30.1 -0.6**
comp=Z,14nm,0.7s
PPT Papeete 61.83 106 LR LR 00 44 50.1
comp=Z,309nm,21.8s,baz=252,slow=32
PPT2 Papeete2 61.83 106 *e*S **S** **00 29 57.4 -1.6**
comp=Z,698nm,26.0s
PPT2 *e*LQ LQ 00 37 20.0
comp=Z,767nm,26.5s
PPT2 *e*LR LR 00 39 58.6
comp=Z,1μm,24.5s,baz=278
TBI Tubuai 62.27 113 *e*S **S** **00 30 02.6 -1.7**
comp=Z,709nm,36.0s
TBI *e*LQ LQ 00 37 35.1
comp=Z,648nm,29.5s
TBI *e*LR LR 00 40 15.7
comp=Z,1μm,36.5s
SHL Shillong 63.14 303 *e*P **P** **00 21 50.0 +3.3**
GTA Gaotai 63.81 320 ⇑P **P** **00 21 51.4 +0.6**
GTA pP pP 00 22 02.6 -0.3
GTA sP sP 00 22 07.5 -0.1
GTA S **S** **00 30 23.0 -0.3**
GTA sS sS 00 30 41.3 -2.0
GTA SS **SS** **00 34 32.9 +0.7**
GTA PMZ
comp=Z,9.0nm,1.3s
GTA PMZ
comp=Z,200nm,5.0s
GTA LN
comp=Z,430nm,19.5s
GTA LE
comp=Z,290nm,21.4s
GTA LZ
comp=Z,380nm,20.4s
CASY Casey 64.91 196 *e*P **P** **00 21 56.4 -1.0**
comp=Z,0.8nm,0.9s
ULN Ulaanbaatar 65.10 331 *ce*P **P** **00 21 58.0 -1.1**
ULN pmax pmax
comp=Z,30nm,1.7s
ULN Ulaanbaatar 65.10 331 *e*P **P** **00 21 58.6 -0.5**
comp=Z,15nm,1.0s
LSA Lhasa 65.36 307 *e*P **P** **00 22 01.7 +0.2**
LSA pmax pmax
comp=Z,32nm,1.2s
LSA Lhasa 65.36 307 *e*P **P** **00 22 01.7 +0.2**
comp=Z,32nm,1.2s
SONM Songino Array 65.40 331 P **P** **00 22 00.2 -0.8**
comp=Z,15nm,1.2s,baz=153,slow=5.4,SNR=41
SONM PcP **PcP** **00 22 31.8 -0.9**
comp=Z,5.4nm,1.0s,baz=147,slow=3.5,SNR=6.1
SONM PKP2ab 00 50 51.6
comp=Z,6.3nm,99.9s,baz=246,slow=2.6,SNR=6.0
SONM LR LR 00 51 34.6
comp=Z,883nm,18.8s,baz=126,slow=37
SONA1 Songino Array 65.40 331 *e*P **P** **00 22 00.0 -1.0**
MA2 Magadan 66.02 2 *e*P **P** **00 22 04.6 0.0**
MA2 pmax pmax
comp=Z,173nm,1.2s
MA2 Magadan 66.02 2 *e*P **P** **00 22 04.6 0.0**
comp=Z,173nm,1.2s
PALK Pallekele 68.47 280 *e*P **P** **00 22 22.8 +1.7**
PALK pmax pmax
comp=Z,86nm,1.4s
PALK Pallekele 68.47 280 *e*P **P** **00 22 22.8 +1.7**

comp=Z,86nm,1.4s
ZAK Zakamensk 68.63 331 *e*P **P 00 22 19.3 -2.1**
ZAK pmax pmax
comp=Z,16nm,1.5s
GUN Gumba 68.98 303 *e*P **P 00 22 24.6 +0.2**
comp=Z,36nm,0.6s
PKIN Phulchoki 69.28 303 *e*P **P 00 22 26.0 -0.1**
comp=Z,11nm,0.8s
TLY Talaya 69.32 332 *e*P **P 00 22 25.1 -0.5**
TLY *e*PPP PPP 00 26 34.9
TLY *e*S **S 00 31 32.0 +2.7**
TLY *e* 00 32 22.5
TLY pmax pmax
comp=Z,17nm,1.5s
TLY MLR MLR
comp=Z,526nm,18.0s
SEY Seymchan 69.44 2*c*e**P P 00 22 25.5 -0.5**
KKN Kakani 69.44 303 *e*P **P 00 22 27.0 -0.1**
comp=Z,42nm,0.9s
YAK Yakutsk 69.89 351 *e*P **P 00 22 28.1 -0.7**
YAK *e**PP **pP 00 22 41.1 +0.1**
YAK *e* 00 22 49.2
YAK *e* 00 25 10.4
YAK *e*PPP PPP 00 26 43.7
YAK *e*S **S 00 31 36.2 +0.7**
YAK *e**SS **SKSac 00 32 23.0 -3.2**
YAK pmax pmax
comp=Z,51nm,1.4s
YAK pmax pmax
comp=N,29nm,1.4s
YAK pmax pmax
comp=E,2.0nm,0.3s
YAK pmax pmax
comp=N,5.0nm,0.3s
YAK pmax pmax
comp=Z,13nm,0.3s
YAK smax smax
comp=E,54nm,14.6s
YAK smax smax
comp=N,94nm,15.6s
YAK MLR MLR
comp=N,342nm,20.0s
YAK MLR MLR
comp=Z,433nm,18.0s
YAK MLR MLR
comp=E,89nm,18.0s
GKN Gorkha 70.05 303 *e*P **P 00 22 30.7 -0.1**
comp=E,64nm,0.9s
MIR Mirnyy 70.52 200 *e*P **P 00 22 33.0 +0.3**
MIR pmax pmax
comp=Z,4.0nm,1.5s
MOY Mondy 70.56 331 *e*P **P 00 22 32.8 -0.5**
MOY pmax pmax
comp=Z,40nm,1.3s
KOLN Koldanda 70.84 302 *e*P **P 00 22 34.3 -1.4**
comp=Z,40nm,0.9s
TAOE Nuku Hiva Isla 71.20 97 *e*S **S 00 31 55.9 +3.1**
comp=Z,195nm,23.7s
TAOE Nuku Hiva Isla 71.20 97 *e*LR LR 00 44 22.0
comp=Z,421nm,22.3s
VNDA Vanda 71.24 177 P **P 00 22 36.7 -0.2**
comp=Z,13nm,0.9s,baz=338,slow=6.9,SNR=19
VNDA LR LR 00 52 02.3
comp=Z,815nm,18.3s,baz=352,slow=34
VNDA Vanda 71.24 177 *e*P **P 00 22 36.8 -0.2**
comp=Z,31nm,1.1s
PYUN Piuthan 71.46 302 *e*P **P 00 22 39.2 -0.2**
comp=Z,90nm,1.0s
SBA Scott Base 71.87 176 *e*P **P 00 22 41.8 +1.1**
SBA pmax pmax
comp=Z,10.0nm,1.0s
SBA Scott Base 71.87 176 *e*P **P 00 22 41.8 +1.1**
comp=Z,10nm,1.0s
HYB Hyderabad 72.55 290 *i*P **P 00 22 47.5 +1.6**
WMQ Urumqi 73.87 319 P **P 00 22 52.8 -0.4**
WMQ pP pP 00 23 02.7 -2.8
WMQ PcP **sP 00 23 10.0 -0.1**
WMQ S **S 00 32 22.6 +0.5**
WMQ SKS **SKSac 00 32 54.0 -3.2**
WMQ SS **SS 00 37 09.4 +2.3**
WMQ PMZ
comp=Z,10.0nm,1.6s
WMQ PMZ
comp=Z,130nm,4.6s
WMQ LN
comp=Z,230nm,19.4s
WMQ LE
comp=Z,130nm,21.2s
WMQ LZ
comp=Z,140nm,21.2s
RKT Rikitea 75.58 112 *e*LR LR 00 46 16.1
comp=Z,2µm,32.8s
BILL Bilibino 75.61 7⇓*e*P **P 00 23 02.8 +0.1**
BILL *e* 00 23 11.6
BILL *e* 00 25 54.8
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,260nm,19.0s
MK01 Makanchi Array 78.55 320 *e*P **P 00 23 18.1 -1.7**
MK31 Makanchi Array 78.57 320 *e*P **P 00 23 18.8 -1.0**
MK31 Makanchi Array 78.57 320 *e*P **P 00 23 18.8 -1.0**
MKAR Makanchi Array 78.57 320 P **P 00 23 18.1 -1.7**
comp=Z,6.7nm,0.9s,baz=101,slow=5.1,SNR=42
MKAR PKPPKP **P'P'df 00 50 24.3 +6.0**
comp=Z,0.7nm,1.0s,baz=222,slow=1.9,SNR=3.2
MKAR LR LR 01 00 35.7
comp=Z,104nm,18.1s,baz=104,slow=38
MAKZ Makanchi 78.77 320 *e*P **P 00 23 19.4 -1.5**
MAKZ pmax pmax
comp=Z,28nm,1.1s
MAKZ Makanchi 78.77 320 *e*P **P 00 23 19.4 -1.5**
comp=Z,28nm,1.1s
TIXI Tiksi 79.12 354*c*e**P P 00 23 20.7 -1.5**
TIXI pmax pmax
comp=Z,18nm,1.2s
TIXI Tiksi 79.12 354 *e*P **P 00 23 20.4 -1.8**
comp=Z,22nm,1.3s
OHAK Old Harbor 79.39 28 *e*P **P 00 23 24.5 +0.5**
comp=Z,40nm,1.5s
KDAK Kodiak Island 80.00 28 *e*P **P 00 23 28.5 +1.2**
KDAK pmax pmax
comp=Z,34nm,1.4s
KDAK Kodiak Island 80.00 28 *e*P **P 00 23 28.4 +1.2**
comp=Z,34nm,1.4s
ZAA0 Zalesovo Array 80.03 328 *e*P **P 00 23 25.1 -2.5**
ZALV Zalesovo Beam 80.03 328 P **P 00 23 25.3 -2.3**
comp=Z,3.8nm,0.6s,baz=116,slow=5.4,SNR=19
ZALV LR LR 00 58 51.1
comp=Z,483nm,21.4s,baz=76,slow=36
SVW2 Sparrevohn 80.42 24 *e*P **P 00 23 30.0 +0.5**
comp=Z,8.0nm,0.9s
KSH Kashi 80.48 312 P **P 00 23 31.9 +1.4**
KSH pP pP 00 23 40.2 -2.7
KSH PP **PP 00 26 37.8 +3.5**
KSH S **S 00 33 35.1 +0.7**
KSH SS **SS 00 38 52.4 +5.1**
KSH PMZ
comp=Z,17nm,1.1s
KSH PMZ
comp=Z,180nm,5.2s
KSH LN
comp=Z,190nm,12.4s
KSH LE
comp=Z,330nm,14.9s
KSH LZ
comp=Z,590nm,20.1s
TT01 Tatalina 81.24 23 *e*P **P 00 23 33.9 +0.1**
NVS Novosibirsk 81.25 328⇓*i*P **P 00 23 32.8 -1.3**
NVS *e*S **S 00 33 48.8 +7.4**
NVS pmax pmax
comp=Z,23nm,1.4s
NVS pmax pmax
comp=N,10.0nm,1.5s
NVS pmax pmax
comp=E,18nm,1.5s
NVS smax smax
comp=N,15nm,2.5s
NVS smax smax
comp=E,26nm,2.5s
TTA Tatalina 81.26 23 *e*P **P 00 23 33.4 -0.7**
TTA pmax pmax
comp=Z,16nm,1.4s
TTA Tatalina 81.26 23 *e*P **P 00 23 33.4 -0.7**
comp=Z,16nm,1.4s
TKM2 Tokmak 2 81.74 315 *e*P **P 00 23 36.3 -1.0**
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 Tokmak 2 81.74 315 *e*P **P 00 23 36.3 -1.0**
comp=Z,10nm,0.8s
MAW Mawson 82.04 203 P **P 00 23 37.5 -0.5**
comp=Z,7.8nm,1.0s,baz=47,slow=6.0,SNR=8.9
MAW LR LR 00 59 43.7
comp=Z,330nm,18.5s,baz=70,slow=36
MAW Mawson 82.04 203 P **P 00 23 35.7 -2.3**
baz=82,SNR=10.0
MAW Mawson 82.04 203 *e*P **P 00 23 37.4 -0.6**
comp=Z,2.9nm,0.9s
KURK Kurchatov 82.26 323 *e*P **P 00 23 37.5 -2.0**
KURK pmax pmax
comp=Z,130nm,1.3s
KURK Kurchatov 82.26 323 *e*P **P 00 23 37.5 -2.0**
comp=Z,130nm,1.3s
FRU Bishkek 82.41 315 *e*P **P 00 23 39.0 -1.5**
AAK Ala-Archa 82.44 314⇓*i*P **P 00 23 39.7 -1.1**
AAK pmax pmax
comp=Z,44nm,1.1s
AAK Ala-Archa 82.44 314 *e*P **P 00 23 40.2 -0.7**
comp=Z,16nm,1.0s
PPLA Purkeypile 82.73 24 *e*P **P 00 23 43.1 +1.2**
comp=Z,26nm,1.5s
EKS2 Erkin-Say 82.95 314 *e*P **P 00 23 43.0 -0.5**
EKS2 pmax pmax
comp=Z,18nm,0.9s
EKS2 Erkin-Say 82.95 314 *e*P **P 00 23 43.0 -0.5**
comp=Z,18nm,0.9s
CAST Castle Rocks 83.03 23 *e*P **P 00 23 41.9 -1.4**
comp=Z,43nm,1.3s
QSPA South Pole Qui 83.35 180 *e*P **P 00 23 44.2 -0.9**
comp=Z,247nm,1.1s
PMR Palmer 83.36 25 *e*P **P 00 23 45.4 +0.4**
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 83.36 25 *e*P **P 00 23 45.4 +0.4**
comp=Z,14nm,1.0s
KTH Kantishna Hill 83.55 23 *e*P **P 00 23 45.1 -0.9**
comp=Z,18nm,1.2s
TRF Thorofare Moun 83.75 23 *e*P **P 00 23 45.7 -1.5**
BPAW Bear Paw Mtn. 83.79 23 *e*P **P 00 23 46.1 -1.1**
comp=Z,24nm,1.6s
SML Sawmill 83.80 25 *e*P **P 00 23 46.8 -0.5**
SML pmax pmax
comp=Z,37nm,1.1s
SML Sawmill 83.80 25 *e*P **P 00 23 46.8 -0.5**
comp=Z,37nm,1.1s
SCM Sheep Creek Mo 84.24 26 *e*P **P 00 23 49.2 -0.4**
SCM pmax pmax
comp=Z,35nm,0.9s
SCM Sheep Creek Mo 84.24 26 *e*P **P 00 23 49.2 -0.4**
comp=Z,35nm,0.9s
RND Reindeer 84.30 24 *e*P **P 00 23 48.2 -1.7**
RND pmax pmax
comp=Z,17nm,1.1s
RND Reindeer 84.30 24 *e*P **P 00 23 48.2 -1.7**
comp=Z,17nm,1.1s
MLY Manley 84.34 22 *e*P **P 00 23 49.0 -0.9**
comp=Z,14nm,1.1s
EYAK Cordova Ski Ar 84.40 27 *e*P **P 00 23 50.8 +0.5**
comp=Z,12nm,1.0s
BWN Browne 84.41 23 *e*P **P 00 23 50.8 +0.5**
comp=Z,54nm,1.2s
MCK McKinley 84.42 24 *e*P **P 00 23 48.9 -1.5**
MCK pmax pmax
comp=Z,33nm,1.2s
MCK McKinley 84.42 24 *e*P **P 00 23 48.9 -1.5**
comp=Z,33nm,1.2s
DIV Divide 84.62 27 *e*P **P 00 23 52.0 +0.5**
comp=Z,15nm,0.8s
KLU Klutina 84.70 26 *e*P **P 00 23 51.6 -0.4**
comp=Z,17nm,1.0s
DHY Denali Highway 84.76 24 *e*P **P 00 23 51.7 -0.6**
comp=Z,16nm,1.0s
RAGM Ragged Mountai 84.82 27 *e*P **P 00 23 53.8 +1.3**
comp=Z,17nm,1.0s
BMRM Bremner River 85.08 27 *e*P **P 00 23 53.5 -0.2**
comp=Z,25nm,1.2s
WRH Wood River Hil 85.08 23 *e*P **P 00 23 52.2 -1.5**
comp=Z,16nm,1.2s
MDM Murphy Dome 85.25 23 *e*P **P 00 23 53.1 -1.4**
comp=Z,10.0nm,1.4s
CCB Clear Creek Bu 85.27 23 *e*P **P 00 23 52.5 -2.0**
comp=Z,17nm,1.2s
COLA College 85.36 23 *i*P **P 00 23 53.4 -1.6**
COLA pmax pmax
comp=Z,14nm,1.1s
KKAR Karatay Array 85.39 314 *e*P **P 00 23 54.6 -1.1**
KKAR Karatay Array 85.39 314 *e*P **P 00 23 54.6 -1.1**
COLD Coldfoot 85.59 20 *e*P **P 00 23 56.4 +0.3**
comp=Z,12nm,1.3s
CRQM Cirque 85.66 27 *e*P **P 00 23 56.8 0.0**
comp=Z,27nm,1.4s
IL1 Eielson Array 85.68 23 *e*P **P 00 23 53.4 -3.2**
ILAR Eielson Array 85.68 23 P **P 00 23 54.6 -2.1**
comp=Z,4.8nm,0.9s,baz=255,slow=5.0,SNR=26
ILAR LR LR 00 57 47.3
comp=Z,260nm,20.2s,baz=252,slow=32
ILB Eielson Array 85.68 23 *e*P **P 00 23 54.6 -2.1**
NRIK Noril'sk 86.15 342 P **P 00 23 57.2 -1.6**
comp=Z,7.9nm,0.8s,baz=109,slow=4.5,SNR=12
NRIK LR LR 01 01 34.7
comp=Z,349nm,21.1s,baz=124,slow=35
DOT Dot Lake 86.35 24 *e*P **P 00 23 59.6 -0.5**
comp=Z,44nm,1.1s
BRVK Borovoye 87.89 324*c*e**P P 00 24 04.9 -2.7**
BRVK pmax pmax
comp=Z,59nm,1.2s
BRVK Borovoye 87.89 324 *e*P **P 00 24 05.8 -1.9**
comp=Z,57nm,1.2s
EGAK Eagle 87.95 24 *e*P **P 00 24 07.0 -0.7**
comp=Z,19nm,1.3s
SYO Syowa Base 90.33 200⇓*e*P **P 00 24 20.0 +1.1**
INK Inuvik 91.89 21 P **P 00 24 25.9 -0.1**
comp=Z,4.1nm,1.0s,baz=285,slow=6.6,SNR=5.9
ABKAR Akbulak array 93.66 319 *e*P **P 00 24 32.2 -2.4**
YBH Yreka Blue Hor 93.87 49 *e*P **P 00 24 38.1 +2.2**
YBH Yreka Blue Hor 93.87 49 *e*P **P 00 24 38.1 +2.2**
GEYT Alibeck 93.88 308 P **P 00 24 34.0 -1.9**
comp=Z,8.9nm,1.0s,baz=94,slow=2.2,SNR=21
GEYT LR LR 01 09 48.0
comp=Z,411nm,20.7s,baz=115,slow=38
SVE Sverdlovsk 94.01 327 *e*P **P 00 24 34.5 -1.6**
ARU Arti 95.12 326 *e*P **P 00 24 38.7 -2.5**
ARU pmax pmax
comp=Z,15nm,1.3s
ARU Arti 95.12 326 *e*P **P 00 24 38.7 -2.5**
comp=Z,15nm,1.3s
NV01 Mina Array Sit 97.01 52 *e*P Pdif 00 24 52.7 +2.1
NVAR Mina Array Bea 97.01 52 P **P 00 24 49.8 -0.7**
comp=Z,0.8nm,0.7s,baz=237,slow=2.8,SNR=4.1
NVAR LR LR 01 04 41.9
comp=Z,331nm,18.8s,baz=268,slow=33
DAC Darwin (Calif) 97.47 54 *e*P Pdif 00 24 54.7 +2.0
DAC pmax pmax
comp=Z,7.0nm,1.4s
DAC Darwin (Calif) 97.47 54 *e*P Pdif 00 24 54.7 +2.0
comp=Z,6.8nm,1.4s
PFO Pinyon Flats O 98.28 57 P Pdif 00 24 57.4 +1.2
comp=Z,1.7nm,0.6s,baz=231,slow=5.9,SNR=3.9
YKA Yellowknife Ar 99.28 28 P **Pdif 00 24 59.2 -0.6**
comp=Z,1.0nm,0.9s,baz=275,slow=4.2,SNR=5.3
YKA LR LR 01 05 24.5
comp=Z,17nm,21.6s,baz=0.0,slow=33
SNAA Sanae 99.54 189 *e*P **Pdif 00 24 59.7 -1.3**
SNAA pmax pmax
comp=Z,31nm,1.7s
SNAA Sanae 99.54 189 *e*P **Pdif 00 24 59.6 -1.3**
comp=Z,31nm,1.7s
KLMR Klimovskoe 104.69 331 *e*P **Pdif 00 25 20.1 -3.8**
KLMR pmax pmax
comp=Z,22nm,1.5s
MNTX Cornudas Mount 107.63 59 *e*PKiKP **PKiKP 00 29 47.5 +1.8**
TXAR Lajitas Array 109.24 61 PKiKP **PKiKP 00 29 49.2 +0.4**
comp=Z,1.3nm,1.1s,baz=262,slow=1.4,SNR=7.1
FINES FINESS Array B 110.63 334 PKiKP **PKiKP 00 29 50.9 +0.5**
comp=Z,2.2nm,0.6s,baz=58,slow=3.0,SNR=11
VSU Vasula 111.59 331*c i*PKiKP **PKiKP 00 29 52.6 +0.4**
VSU pmax pmax
comp=Z,52nm,2.5s
BRTR Keskin Array B 112.84 310 PKiKP **PKiKP 00 29 55.0 -0.5**
comp=Z,2.2nm,1.1s,baz=126,slow=2.5,SNR=9.2
BRTR Keskin Array B 112.84 310 PKiKP **PKiKP 00 29 55.0 -0.5**
ECSD EROS Data Cent 112.85 45 *e*PKiKP **PKiKP 00 29 54.1 -1.0**
AKASG Malin Array Be 113.07 323 PKiKP **PKiKP 00 29 54.9 -0.5**
comp=Z,2.4nm,0.9s,baz=63,slow=2.2,SNR=6.9
ANTO Ankara 113.45 311 *e*PKiKP **PKiKP 00 29 57.7 +1.2**
ANTO Ankara 113.45 311 *e*PKiKP **PKiKP 00 29 57.7 +1.2**
SORM Soroca 114.43 320⇑*i*P PKPdf 00 29 58.0 0.0
SORM Soroca 114.43 320⇑PKiKP PKPdf 00 29 58.0 0.0
SUW Suwalki 115.26 328 *e*PKP **PKPdf 00 30 00.9 +1.5**
SUW Suwalki 115.26 328 *e*PKiKP **PKPdf 00 30 00.9 +1.5**
BURAR Bucovina Array 116.59 320⇑*i*P **PKPdf 00 30 05.3 +2.9**
BURAR Bucovina Array 116.59 320 PKiKP **PKPdf 00 30 05.3 +2.9**
MLR Muntele Rosu 116.85 318⇑*i*P **PKPdf 00 30 02.9 -0.1**
MLR Muntele Rosu 116.85 318⇑PKiKP **PKPdf 00 30 02.9 -0.1**
NB2 NORSAR Subarra 116.88 338 PKPdf **PKPdf 00 30 02.3 -0.1**
comp=Z,1.5nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B 116.88 338 PKP **PKPdf 00 30 02.0 -0.4**
comp=Z,3.3nm,0.9s,baz=57,slow=2.0,SNR=5.0
MIAR Mount Ida 117.11 55 *e*PKiKP **PKPdf 00 30 04.6 +1.0**
MIAR Mount Ida 117.11 55 *e*PKPdf **PKPdf 00 30 04.5 +1.0**
FRB Frobisher Bay 117.25 17 PKP **PKPdf 00 30 02.4 -0.5**
comp=Z,8.6nm,0.9s,baz=0.0,slow=2.0,SNR=3.0
VOIR 117.46 318⇓*i*P **PKPdf 00 30 04.9 +0.8**
VOIR 117.46 318⇓PKiKP **PKPdf 00 30 04.9 +0.8**
BMR Baia Mare 117.65 321⇓*i*P **PKPdf 00 30 04.1 -0.1**
BMR Baia Mare 117.65 321⇓PKiKP **PKPdf 00 30 04.1 -0.1**
KOLS Kolonicke sedl 117.91 323 *e*PKiKP **PKPdf 00 30 05.1 +0.4**
KOLS Kolonicke sedl 117.91 323 *e*PKP **PKPdf 00 30 05.1 +0.4**
STHS Stebnicka Huta 118.32 323 *e*PKiKP **PKPdf 00 30 05.8 +0.3**
STHS Stebnicka Huta 118.32 323 *e*PKP **PKPdf 00 30 05.8 +0.3**
CRVS Cervenica-Dubn 118.41 323 *e*PKiKP **PKPdf 00 30 06.3 +0.6**
CRVS Cervenica-Dubn 118.41 323 *e*PKP **PKPdf 00 30 06.3 +0.6**
DRGR 118.48 320⇑*i*P **PKPdf 00 30 05.5 -0.5**
DRGR 118.48 320⇑PKiKP **PKPdf 00 30 05.5 -0.5**
OJC Ojcow 118.81 325 *e*PKP **PKPdf 00 30 07.2 +0.8**
OJC Ojcow 118.81 325 *e*PKiKP **PKPdf 00 30 07.2 +0.8**
NIE Niedzica 118.88 324 *e*PKP **PKPdf 00 30 07.2 +0.6**
NIE Niedzica 118.88 324 *e*PKiKP **PKPdf 00 30 07.2 +0.6**
HDIL Hopedale 118.94 47 *e*PKPdf **PKPdf 00 30 08.3 +1.3**
KECS Kecovo 119.17 323 *e*PKiKP **PKPdf 00 30 06.0 -1.2**
KECS Kecovo 119.17 323 *e*PKP **PKPdf 00 30 06.0 -1.2**
SIRR Siria 119.36 320⇓*i*P **PKPdf 00 30 07.6 0.0**
LANS Liptovska Anna 119.48 324 *e*PKiKP **PKPdf 00 30 09.9 +2.1**
LANS Liptovska Anna 119.48 324 *e*PKP **PKPdf 00 30 09.9 +2.1**
PSZ Piszkesteto 119.77 322⇓*e*PKPdf **PKPdf 00 30 09.2 +0.8**
PSZ Piszkesteto 119.77 322 *e*PKiKP **PKPdf 00 30 08.1 -0.3**
PSZ Piszkesteto 119.77 322 *e*PKPdf **PKPdf 00 30 08.1 -0.3**
MDVR Moldovita 119.90 318⇓*i*P **PKPdf 00 30 08.5 -0.2**
OKC Ostrava-Krasne 119.93 325 *e*PKPdf **PKPdf 00 30 08.6 0.0**
OKC *ex* x 00 30 16.5
OKC AMS AMS 01 25 40.0
comp=Z,300nm,21.3s
OKC Ostrava-Krasne 119.93 325 *e*PKiKP **PKPdf 00 30 08.6 0.0**
OKC *e* 00 30 16.5
OKC MLR MLR
comp=Z,300nm,21.3s
VYHS Vyhne 120.15 323 *e*PKiKP **PKPdf 00 30 08.7 -0.4**
VYHS Vyhne 120.15 323 *e*PKP **PKPdf 00 30 08.7 -0.4**
MORC Moravsky Berou 120.30 325 *e*PKiKP **PKPdf 00 30 09.8 +0.4**
MORC Moravsky Berou 120.30 325 *e*PKPdf **PKPdf 00 30 09.8 +0.4**
OLIL Olney 120.36 49 *e*PKPdf **PKPdf 00 30 09.6 -0.1**
DPC Dobruska-Polom 120.70 326 *e*PKPdf **PKPdf 00 30 10.4 +0.3**
DPC *ex* x 00 30 18.0
DPC Dobruska-Polom 120.70 326 *e*PKiKP **PKPdf 00 30 10.4 +0.3**
DPC *e* 00 30 18.0
UPC Upice 120.80 326 *e*PKPdf **PKPdf 00 30 10.3 +0.1**
UPC AMS AMS 01 20 40.0
comp=Z,400nm,22.3s
UPC Upice 120.80 326 *e*PKiKP **PKPdf 00 30 10.3 +0.1**
UPC MLR MLR
comp=Z,400nm,22.3s
PLCA Paso Flores 121.09 146 PKP **PKPdf 00 30 12.3 +1.0**
comp=Z,4.1nm,0.8s,baz=272,slow=6.9,SNR=3.0
PLAL Pickwick Lake 121.42 53 *e*PKPdf **PKPdf 00 30 11.1 -0.8**
PVCC Panska Ves 121.57 327 *e*PKPdf **PKPdf 00 30 11.7 0.0**
PVCC AMS AMS 01 20 40.0
comp=Z,400nm,20.6s
PVCC Panska Ves 121.57 327 *e*PKiKP **PKPdf 00 30 11.7 0.0**
PVCC MLR MLR
comp=Z,400nm,20.6s
TREC Trest 121.70 325 *e*PKPdf **PKPdf 00 30 12.0 0.0**
TREC *ex* x 00 30 19.6
TREC AMS AMS 01 27 00.0
comp=Z,300nm,17.1s
TREC Trest 121.70 325 *e*PKiKP **PKPdf 00 30 12.0 0.0**
TREC *e* 00 30 19.6
TREC MLR MLR
comp=Z,300nm,17.1s
BRG Berggiesshubel 121.72 328 *e*PKP **PKPdf 00 30 11.9 -0.1**
comp=Z,20nm,1.1s
BRG Berggiesshubel 121.72 328 *e*PKiKP **PKPdf 00 30 11.9 -0.1**
BRG pmax pmax
comp=Z,20nm,1.1s
GOPC GO Pecny, Ondr 121.78 326 *e*PKPdf **PKPdf 00 30 12.1 -0.1**
GOPC AMS AMS 01 21 20.0
comp=Z,300nm,19.6s
GOPC GO Pecny, Ondr 121.78 326 *e*PKiKP **PKPdf 00 30 12.1 -0.1**
GOPC MLR MLR
comp=Z,300nm,19.6s
WCI Wyandotte Cave 121.86 49 *e*PKiKP **PKPdf 00 30 12.2 -0.5**
WCI Wyandotte Cave 121.86 49 *e*PKPdf **PKPdf 00 30 12.2 -0.5**
PRU Pruhonice 121.87 326 AMS AMS 01 21 00.0
comp=Z,400nm,19.7s
SOP Sopron 121.88 323 *e*PKPdf **PKPdf 00 30 12.6 +0.2**
CLL Collm 121.98 328 *i*PKPdf **PKPdf 00 30 12.6 +0.2**
comp=Z,15nm,0.8s
CLL *e*PS **PS 00 41 30.0 -11**
CLL *e*PPS PPS 00 43 18.0
CLL *e*SS SS 00 48 24.0 +2.7
CLL *e* 00 49 06.0
CLL *e*SSS SSS 00 54 00.0
CLL *e* 00 54 30.0
CLL *e* 00 55 12.0
CLL LmV 01 26 00.0
comp=Z,400nm,20.8s
CLL Collm 121.98 328 *i*PKiKP **PKPdf 00 30 12.6 +0.2**
CLL pmax pmax
comp=Z,15nm,0.8s
CLL MLR MLR
comp=Z,400nm,20.8s
CONA Conrad Observa 122.17 324 *i*PKiKP **PKPdf 00 30 12.8 -0.2**
comp=Z,10nm,0.9s,SNR=7.5
LRAL Lakeview Retre 122.79 55 *e*PKPdf **PKPdf 00 30 14.5 0.0**
KHC Kasperske Hory 122.86 326 *e*PKPdf **PKPdf 00 30 14.3 0.0**
KHC *ex* x 00 30 21.9
KHC AMS AMS 01 28 30.0
comp=Z,400nm,19.5s
KHC Kasperske Hory 122.86 326 *e*PKiKP **PKPdf 00 30 14.3 0.0**
KHC *e* 00 30 21.9
KHC MLR MLR
comp=Z,400nm,19.5s
KHC Kasperske Hory 122.86 326 *e*PKPdf **PKPdf 00 30 14.5 +0.2**
NKC Novy Kostel 122.87 328 *e*PKPdf **PKPdf 00 30 14.1 -0.1**
NKC *ex* x 00 30 21.6
NKC AMS AMS 01 29 30.0
comp=Z,500nm,16.2s
NKC Novy Kostel 122.87 328 *e*PKiKP **PKPdf 00 30 14.1 -0.1**
NKC *e* 00 30 21.6
NKC MLR MLR
comp=Z,500nm,16.2s
GERES GERESS Array B 122.94 326 PKP **PKPdf 00 30 14.2 -0.4**
comp=Z,5.0nm,0.7s,baz=67,slow=1.8,SNR=41
MOX Moxa 123.08 328 PKiKP **PKPdf 00 30 15.0 +0.4**
GROS Grobnik 123.10 322 *i*PKPdf **PKPdf 00 30 14.2 -0.7**
MOA Molln 123.14 324 *i*PKiKP **PKiKP 00 30 15.0 0.0**
comp=Z,6.1nm,1.0s
SOKA Soboth 123.28 323 *i*PKiKP **PKPdf 00 30 14.8 -0.4**
comp=Z,16nm,1.1s,SNR=14
ACSO Alum Creek Sta 123.58 46 *e*PKPdf **PKPdf 00 30 15.8 -0.1**
OBKA Obir 123.65 323 *i*PKiKP **PKPdf 00 30 15.9 0.0**
comp=Z,11nm,1.5s
BOJS Bojanci 123.72 322 *i*PKPdf **PKPdf 00 30 15.8 -0.1**
VISS Visnje 123.83 322 *i*PKPdf **PKPdf 00 30 15.9 -0.2**
GRFO Grafenberg 123.83 328 *e*PKiKP **PKPdf 00 30 15.5 -0.6**
GRFO Grafenberg 123.83 328 *e*PKPdf **PKPdf 00 30 15.5 -0.6**
KBA Koelnbreinsper 124.08 324 *i*PKiKP **PKPdf 00 30 16.7 -0.2**
comp=Z,16nm,1.1s,SNR=6.5
KBA Koelnbreinsper 124.08 324 PKPdf **PKPdf 00 30 16.6 -0.2**
MYKA Terra Mystica 124.13 323 *i*PKPdf **PKPdf 00 30 15.8 -1.1**
comp=Z,7.0nm,0.8s
SADO Sadowa 124.21 39 PKP **PKPdf 00 30 17.9 +0.9**
comp=Z,8.6nm,0.8s,baz=331,slow=3.2,SNR=5.7
JAVS Javornik 124.25 322 *i*PKPdf **PKPdf 00 30 16.4 -0.7**
SCHQ Schefferville 124.44 24 PKP **PKPdf 00 30 18.1 +1.0**
comp=Z,5.0nm,0.8s,baz=21,slow=5.7,SNR=5.4
TZTN Tazewell 124.47 50 *e*PKPdf **PKPdf 00 30 18.2 +0.4**

TKL	**Tuckaleechee C**	**124.59**	**51**	PKP		**PKPdf**	**00 30 18.4 +0.5**
	comp=Z,14nm,1.0s,baz=168,slow=3.3,SNR=12						
ABTA	**Abfaltersbach**	**124.73**	**324**	*i* PKiKP		**PKPdf**	**00 30 17.2 -0.9**
	comp=Z,24nm,1.2s,SNR=9.9						
WATA	**Walderalm**	**124.96**	**325**	*i* PKiKP		**PKiKP**	**00 30 18.7 -0.1**
	comp=Z,1.9nm,0.5s,SNR=6.4						
WTTA	**Wattenberg**	**124.96**	**325**	*i* PKiKP		**PKiKP**	**00 30 19.1 +0.2**
	comp=Z,37nm,1.5s,SNR=8.5						
MOTA	**Moosalm**	**125.22**	**325**	*i* PKiKP		**PKPdf**	**00 30 18.6 -0.5**
	comp=Z,8.5nm,0.6s,SNR=11						
RETA	**Reutte**	**125.33**	**326**	*i* PKiKP		**PKiKP**	**00 30 19.6 +0.1**
	comp=Z,12nm,1.1s,SNR=5.4						
GOGA	**Godfrey**	**125.53**	**53**	*e*PKIKP		**PKPdf**	**00 30 20.0 +0.2**
GOGA	**Godfrey**	**125.53**	**53**	*e*PKPdf		**PKPdf**	**00 30 20.0 +0.2**
FETA	**Feichten**	**125.61**	**325**	*i* PKiKP		**PKPdf**	**00 30 19.3 -0.5**
	comp=Z,24nm,1.1s,SNR=7.7						
MEM	**Membach**	**125.92**	**331**	PKP		**PKPdf**	**00 30 20.5 +0.5**
DAVA	**Damuels**	**125.94**	**326**	*i* PKiKP		**PKiKP**	**00 30 20.9 +0.1**
	comp=Z,18nm,0.8s,SNR=8.3						
TIGA	**Tifton**	**126.00**	**56**	*e*PKPdf		**PKPdf**	**00 30 21.3 +0.6**
LANF	**Langenberg**	**126.05**	**329**	PKP		**PKPdf**	**00 30 20.4 0.0**
BFO	**Black Forest**	**126.17**	**328**	*i* PKIKP		**PKPdf**	**00 30 21.6 +1.0**
BFO	**Black Forest**	**126.17**	**328**	*e*PKPdf		**PKPdf**	**00 30 20.4 -0.3**
ESK	**Eskdalemuir**	**126.25**	**340**	*i* PKIKP		**PKPdf**	**00 30 23.1 +2.6**
BCLA	**Clavier**	**126.38**	**331**	PKP		**PKPdf**	**00 30 21.2 +0.3**
WLF	**Walferdange**	**126.46**	**330**	PKP		**PKPdf**	**00 30 22.7 +1.6**
KMSC	**Kings Mountain**	**126.64**	**51**	*e*PKPdf		**PKPdf**	**00 30 22.0 +0.1**
SNF	**Seneffe**	**126.80**	**332**	PKP		**PKPdf**	**00 30 21.8 +0.1**
ECH	**Echery**	**126.86**	**328**	PKP		**PKPdf**	**00 30 22.6 +0.6**
DOU	**Dourbes**	**126.93**	**331**	PKP		**PKPdf**	**00 30 22.6 +0.6**
SSPA	**Standing Stone**	**126.95**	**43**	*e*PKPdf		**PKPdf**	**00 30 21.6 -0.7**
LONY	**Lake Ozonia**	**127.09**	**37**	*e*PKPdf		**PKPdf**	**00 30 22.3 -0.1**
MOF	**Molkenrain**	**127.10**	**328**	PKP		**PKPdf**	**00 30 21.9 -0.6**
LOMF	**Lomont**	**127.57**	**327**	PKP		**PKPdf**	**00 30 23.2 -0.2**
PLDF	**La Plantade**	**130.15**	**328**	PKP		**PKPdf**	**00 30 29.7 +1.3**
AGO	**Saint Agoulin**	**130.36**	**328**	PKP		**PKPdf**	**00 30 29.9 +1.2**
PYM	**Petit Puy Mans**	**130.62**	**328**	PKP		**PKPdf**	**00 30 30.8 +1.5**
LBL	**Lubilhac**	**130.83**	**327**	PKP		**PKPdf**	**00 30 31.3 +1.6**
KEST	**Kesra**	**132.28**	**313**	PKP		**PKPdf**	**00 30 34.3 +1.6**
	comp=Z,4.6nm,0.8s,baz=5.2,slow=0.9,SNR=4.4						
OTAV	**Otavalo**	**133.29**	**96**	*e*PKPdf		**PKPdf**	**00 30 36.0 +0.3**
MOTC	**Monteria, Cord**	**136.75**	**84**	*e*P		**PKPdf**	**00 30 42.2 +0.7**
GUYC	**Guyana, Colomb**	**136.89**	**89**	*e*P		**PKPdf**	**00 30 41.4 -1.0**
TOLC	**Tolima**	**136.91**	**90**	*e*P		PKPpre	00 30 34.9
SJCC	**San Jacinto, C**	**137.23**	**83**	*e*P		**PKPdf**	**00 30 43.1 +0.6**
PRAC	**Prado**	**137.26**	**92**	*e*P		**PKPdf**	**00 30 44.7 +2.1**
NORC	**Norcasia**	**137.43**	**89**	*e*P		**PKPdf**	**00 30 43.1 +0.2**
LPAZ	**La Paz**	**137.67**	**123**	PKhKP		PKPpre	00 30 35.3
	comp=Z,1.2nm,0.8s,baz=286,slow=3.8,SNR=3.9						
LPAZ				PKP		**PKPdf**	**00 30 46.0 +2.0**
	comp=Z,9.0nm,1.1s,baz=218,slow=4.7,SNR=9.4						
LPAZ	**La Paz**	**137.67**	**123**	PKIKP		**PKPdf**	**00 30 46.0 +2.0**
ROSC	**El Rosal**	**137.93**	**90**	PKP		**PKPdf**	**00 30 46.1 +1.9**
	comp=Z,16nm,0.8s,baz=197,slow=3.0,SNR=9.2						
ROSC	**El Rosal**	**137.93**	**90**	*e*P		**PKPdf**	**00 30 45.5 +1.3**
SJAC	**San Juan de Ar**	**138.15**	**92**	*e*P		**PKPdf**	**00 30 45.5 +1.2**
PBRG	**Braganca**	**138.37**	**331**	*e*PKPdf		**PKPdf**	**00 30 42.3 -1.6**
CHIC	**Chingaza**	**138.49**	**90**	*e*P		**PKPdf**	**00 30 45.1 -0.2**
ESDC	**Sonseca Array**	**138.52**	**327**	PKP		**PKPdf**	**00 30 45.5 +1.3**
	comp=Z,1.0nm,0.8s,baz=0.9,slow=3.3,SNR=10						
BRRC	**Barranca, Sant**	**138.66**	**87**	*e*P		**PKPdf**	**00 30 43.9 -1.2**
MVO	**Moncorvo**	**139.00**	**331**	*e*PKPdf		**PKPdf**	**00 30 45.6 +0.5**
PCAB	**Cabril**	**139.05**	**332**	*e*PKPdf		**PKPdf**	**00 30 46.0 +0.9**
OCAC	**Ocana**	**139.07**	**85**	*e*P		**PKPdf**	**00 30 46.2 +0.2**
CPUP	**Villa Florida**	**139.09**	**144**	PKP		**PKPdf**	**00 30 47.5 +1.9**
	comp=Z,8.7nm,1.2s,baz=212,slow=5.1,SNR=5.9						
BARC	**Barichara**	**139.16**	**88**	*e*P		PKPpre	00 30 39.0
POLO	**Lamas de Olo**	**139.20**	**332**	*e*PKPdf		**PKPdf**	**00 30 45.8 +0.3**
RUSC	**La Rusia**	**139.22**	**89**	*e*P		PKPpre	00 30 39.0
PVRL	**Vila Real**	**139.24**	**332**	*e*PKPdf		**PKPdf**	**00 30 46.3 +0.8**
GRMC	**Gramalote, San**	**139.57**	**86**	*e*P		PKPpre	00 30 40.7
CBRI	**Barrientos, No**	**139.58**	**86**	*e*P		**PKPdf**	**00 30 46.1 -0.9**
PVIS	**Viseu**	**139.76**	**331**	*e*PKPdf		**PKPdf**	**00 30 47.3 +0.9**
MTE	**Manteigas**	**139.84**	**331**	*e*PKPdf		**PKPdf**	**00 30 45.6 -1.0**
PCBR	**Castelo Branco**	**140.23**	**330**	*e*PKPdf		**PKPdf**	**00 30 46.9 -0.3**
URIC	**Uribia, Colomb**	**140.28**	**80**	*e*P		**PKPdf**	**00 30 45.5 -2.5**
TAM	**Tamanrasset**	**140.41**	**298**	*e*PKIKP		**PKPdf**	**00 30 48.6 +0.3**
TAM	**Tamanrasset**	**140.41**	**298**	*e*PKPdf		**PKPdf**	**00 30 48.6 +0.3**
PMRV	**Marv??o**	**140.50**	**329**	*e*PKPdf		**PKPdf**	**00 30 48.7 +0.9**
PCAS	**Casmilo, Conde**	**140.56**	**331**	*e*PKPdf		**PKPdf**	**00 30 49.4 +1.5**
PTOM	**Tomar**	**140.86**	**331**	*e*PKPdf		**PKPdf**	**00 30 42.6 -5.8**
PMTG	**Montargil**	**141.19**	**330**	*e*PKPdf		**PKPdf**	**00 30 48.9 -0.1**
PBAR	**Barrancos**	**141.26**	**328**	*e*PKPdf		**PKPdf**	**00 30 48.0 -1.1**
SDV	**Santo Domingo**	**141.73**	**84**	*e*P		**PKPdf**	**00 30 46.8 -4.1**
SDV	**Santo Domingo**	**141.73**	**84**	*e*PKPdf		**PKPdf**	**00 30 47.2 -3.7**
PBEJ	**Beja**	**141.80**	**328**	*e*PKPdf		**PKPdf**	**00 30 49.7 -0.4**
PNCL	**Nicolau / Gran**	**142.08**	**329**	*e*PKPdf		**PKPdf**	**00 30 50.4 -0.2**
MESJ	**Messejana**	**142.12**	**329**	*e*PKPdf		**PKPdf**	**00 30 53.1 +2.4**
PCVE	**Castro Verde**	**142.19**	**328**	*e*PKPdf		**PKPdf**	**00 30 49.7 -1.1**
PTEO	**Sao Teotonio**	**142.61**	**329**	*e*PKPdf		**PKPdf**	**00 30 49.3 -2.3**
MORF	**Marmelete**	**142.75**	**328**	*e*PKPdf		**PKPdf**	**00 30 57.3 +5.4**
MORF	**Marmelete**	**142.75**	**328**	*e*PKIKP		**PKPdf**	**00 30 49.4 -2.5**
PFVI	**Vila Bisbo**	**142.97**	**328**	*e*PKPdf		**PKPdf**	**00 30 53.2 +1.0**
SJG	**San Juan**	**144.87**	**68**	*e*PKP2		**PKPab**	**00 30 54.9 -0.2**
SJG	**San Juan**	**144.87**	**68**	*e*P		**PKPdf**	**00 30 55.8 -0.2**
SJG	**San Juan**	**144.87**	**68**	*e*PKPbc		**PKPab**	**00 30 54.9 -0.2**
SAML	**Samuel**	**145.34**	**116**	*e*PKPbc		**PKPbc**	**00 30 56.3 -0.5**
TORD	**Torodi Ar. Bea**	**146.15**	**284**	PKPbc		**PKPbc**	**00 30 59.0 -0.3**
	comp=Z,36nm,0.9s,baz=76,slow=2.0,SNR=110						
ANWB	**Willy Bob**	**148.99**	**67**	*e*P		**PKPdf**	**00 31 04.9 +1.9**
ANWB	**Willy Bob**	**148.99**	**67**	*e*P		**PKPbc**	**00 31 06.4 -0.6**
ANWB	**Willy Bob**	**148.99**	**67**	*e*PKPdf		**PKPdf**	**00 31 02.5 -0.4**
ANWB				*e*PKPbc		**PKPbc**	**00 31 07.1 +0.1**
TBG	**Guadaloupe-3**	**149.60**	**70**	*e*P		**PKPbc**	**00 31 09.2 +0.7**
PCM	**Pelee Case Pet**	**150.25**	**72**	*e*P		**PKPbc**	**00 31 11.6 +1.4**
PCM	**Pelee Case Pet**	**150.25**	**72**	*e*P		**PKPbc**	**00 31 12.5 +2.3**
CXM	**Morne La Croix**	**150.29**	**72**	*e*P		**PKPbc**	**00 31 12.4 +1.9**
BAMF	**Morne Balai**	**150.31**	**72**	*e*P		**PKPbc**	**00 31 12.4 +2.0**
FDF	**Fort de France**	**150.33**	**72**	*e*P		**PKPbc**	**00 31 12.3 +1.9**
FDF	**Fort de France**	**150.33**	**72**	*e*PKIKP		**PKPbc**	**00 31 09.5 -0.9**
FDF	**Fort de France**	**150.33**	**72**	*e*PKPbc		**PKPbc**	**00 31 09.5 -0.9**
TRMF	**Trois Ilets**	**150.47**	**72**	*e*P		**PKPbc**	**00 31 12.2 +1.5**
ZAM	**Aeronautique**	**150.48**	**72**	*e*P		**PKPbc**	**00 31 13.8 +3.1**
SVB	**Belmont**	**150.52**	**75**	*e*P		**PKPbc**	**00 31 11.4 +0.6**
MCLT	**Moule a Chique**	**150.74**	**74**	*e*P		**PKPbc**	**00 31 10.7 -0.6**
TOSP	**Speyside**	**151.50**	**79**	*e*P		**PKPbc**	**00 31 15.5 +2.4**
TOSP	**Speyside**	**151.50**	**79**	*e*P		**PKPbc**	**00 31 15.7 +2.5**
BDFB	**Brasilia**	**152.82**	**145**	PKP		**PKPdf**	**00 31 09.9 +0.8**
	comp=Z,7.3nm,1.2s,baz=223,slow=4.3,SNR=4.7						
BDFB				PKPbc		**PKiKP**	**00 31 17.0 +0.6**
	comp=Z,6.2nm,0.8s,baz=184,slow=3.6,SNR=6.4						
KIC	**Kosan Boka**	**152.85**	**271**	*e*PKP1		**PKPbc**	**00 31 16.1 -0.2**
	comp=Z,37nm,0.9s						
DBIC	**Dimbokro**	**152.98**	**272**	PKP		**PKPdf**	**00 31 08.9 -0.3**
	comp=Z,8.1nm,1.2s,baz=97,slow=8.1,SNR=3.6						
DBIC				PKPbc		**PKiKP**	**00 31 16.9 +0.3**
	comp=Z,14nm,0.8s,baz=96,slow=4.0,SNR=17						
LIC	**Lamto**	**153.13**	**271**	*e*PKP1		**PKPbc**	**00 31 16.7 -0.2**
	comp=Z,67nm,0.9s						
TIC	**Toumodi**	**153.14**	**272**	*e*PKP1		**PKPbc**	**00 31 17.4 +0.5**

IDC 10 00:13:26.0±8.8, 22°35N×108°48W, h0km, mb3.3/2, mb1 3.8/5, mb1mx3.6/38, mbtmp3.4/5, ML3.5/3, MS3.3/9, Ms1 3.3/9, ms1mx3.2/16, Error ellipse: s-maj=127.5km s-min=44.6km az=173.0, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**2.42**	**316**	Pn	Pn	00 14 05.7	-1.1
	28nm,0.3s,baz=142,slow=8.9,SNR=29						
LPIG				Sn	Sn	00 14 23.4	-14
	380nm,0.3s,baz=180,slow=20,SNR=40						
LPIG				LR	LR	00 14 57.1	
	comp=Z,950nm,18.7s,baz=70,slow=38						
TXAR	**Lajitas Array**	**8.19**	**31**	Pn	Pn	00 15 26.8	+0.5
	0.3nm,0.3s,baz=208,slow=15,SNR=15						
TXAR				Sn	Sn	00 16 46.3	-13
	0.3nm,0.3s,baz=209,slow=18,SNR=4.1						
TXAR				Lg	Lg	00 17 30.6	
	0.2nm,0.3s,baz=223,slow=33,SNR=2.7						
TXAR				LR	LR	00 18 32.6	
	comp=Z,160nm,18.6s,baz=0.0,slow=37						
ANMO	**Albuquerque**	**12.67**	**8**	LR	LR	00 20 56.9	
	comp=Z,167nm,20.0s,baz=198,slow=36						
PFO	**Pinyon Flats O**	**13.24**	**330**	LR	LR	00 20 28.4	
	comp=Z,130nm,21.4s,baz=142,slow=32						
NVAR	**Mina Array Bea**	**18.11**	**334**	P	P	00 17 40.2	+0.5
	0.0nm,0.3s,baz=148,slow=14,SNR=6.6						
NVAR				LR	LR	00 24 06.9	
	comp=Z,72nm,20.5s,baz=206,slow=36						
PDAR	**Pinedale Array**	**20.38**	**358**	P	Pn	00 18 05.6	-0.9
	2.6nm,0.9s,baz=163,slow=11,SNR=10						
PDAR				LR	LR	00 25 26.5	
	comp=Z,62nm,18.1s,baz=158,slow=35						
TKL	**Tuckaleechee C**	**25.26**	**53**	LR	LR	00 29 12.3	
	comp=Z,88nm,18.7s,baz=274,slow=38						
NEW	**Newport**	**26.77**	**347**	LR	LR	00 29 25.6	
	comp=Z,43nm,19.3s,baz=176,slow=36						
SADO	**Sadowa**	**32.83**	**40**	LR	LR	00 33 46.4	
	comp=Z,83nm,19.8s,baz=188,slow=37						
ILAR	**Eielson Array**	**49.27**	**339**	P	P	00 22 16.0	-0.2
	0.1nm,0.4s,baz=128,slow=5.8,SNR=3.3						

CSEM ***10*** *00:13:27.5, 43°.90N×12°.02E, h8km, MD1.8/4*
ROM 10 00:13:27.5±0.2, 43°.90N×12°.02E, h8km±1km, Md1.8/4, Ml1.1/2, Error ellipse: s-maj=2.1km s-min=2.1km az=161.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.13**	**270**	Pg	Pg	00 13 30.9	+0.6
SFI				Sg	Sg	00 13 33.0	+0.7
	51nm,0.2s						
SFI	**Santa Sofia**	**0.13**	**270**	Pg	Pg	00 13 30.9	+0.6
SFI				Sg	Sg	00 13 33.0	+0.7
	51nm,0.2s						
ASQU	**Asqua**	**0.20**	**238**	Pg	Pg	00 13 32.3	+0.7
ASQU				Sg	Sg	00 13 35.7	+1.3
	41nm,0.4s						
ASQU	**Asqua**	**0.20**	**238**	Pg	Pg	00 13 32.3	+0.7
ASQU				Sg	Sg	00 13 35.7	+1.3
	41nm,0.4s						
VMG	**Vicchio**	**0.35**	**280**	Pg	Pg	00 13 35.1	+0.7
VMG				Sg	Sb	00 13 41.0	-0.7
	180µm,0.1s						
VMG	**Vicchio**	**0.35**	**280**	Pg	Pg	00 13 35.1	+0.7
VMG				Sg	Sb	00 13 41.0	-0.7
	180µm,0.1s						
SEI	**Scarperia**	**0.51**	**288**	Pg	Pg	00 13 37.9	+0.6
SEI				Sg	Sb	00 13 45.7	-0.5
	196µm,0.4s						
SEI	**Scarperia**	**0.51**	**288**	Pg	Pg	00 13 37.9	+0.6
SEI				Sg	Sb	00 13 45.7	-0.5
	196µm,0.4s						

MAN 10 00:18:38, 12°.35N×122°.17E, h29km, mb4.2, ML3.0, MS2.7, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTRP	**Odiongan**	**0.15**	**273**	*e*P	Pn	00 18 46.0	+1.6
OTRP				*e*S	Sb	00 18 50.7	+3.3
RCP	**Roxas**	**0.97**	**145**	*e*P	Pb	00 19 02.8	+6.6
RCP				*e*S	Sb	00 19 21.1	+12
AUQP	**San Andres**	**1.08**	**27**	*e*P	Pn	00 18 56.8	-0.4
AUQP				*e*S	Sb	00 19 12.6	+0.7
GQP	**Guinayangan**	**1.56**	**10**	*e*P	Pn	00 19 03.1	-0.8
GQP				*e*S	Sn	00 19 21.0	-2.2
LQP	**Lukban**	**1.85**	**341**	*e*P	Pb	00 19 13.5	+2.2
LUBP	**Lubang**	**2.33**	**306**	*e*P	Pn	00 19 16.0	+1.6
LUBP				*e*S	Sn	00 19 43.3	+1.3

ISCJB ***10*** *00:31:14.4±0.5, 6°.60S±0°.05×147°.87E±0°.09, h51km, mb4.2/18, Error ellipse: s-maj=13.6km s-min=6.6km az=8.4*
IDC ***10*** *00:31:16.1±3.6, 6°.66S×147°.93E, h52km±32km, mb3.6/9, mb1 3.8/11, mb1mx3.6/29, mbtmp3.9/11, ML3.9/1, Error ellipse: s-maj=40.0km s-min=19.4km az=94.0*
NEIC ***10*** *00:31:17.1±0.9, 6°.65S×147°.88E, h62km±9km, mb4.4/10, Error ellipse: s-maj=9.6km s-min=6.2km az=112.0*
ISC 10 00:31:16.3±0.5, 6°.61S±0°.06×147°.8E±0°.1, h51km, n27, σ0s76/29, mb4.0/18, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.86**	**194**	P	Pn	00 32 00.6	+1.1
	6.6nm,0.3s,baz=24,slow=13,SNR=9.8						
PMG				S	Sn	00 32 32.3	-0.4
	7.3nm,0.3s,baz=52,slow=19,SNR=3.4						
PMG	**Port Moresby**	**2.86**	**194**	*e*Pn	Pn	00 31 59.9	+0.4
PMG				*e*Sn	Sn	00 32 32.8	+0.1
HNR	**Honiara**	**12.31**	**104**	*e*Pn	Pn	00 34 09.3	+0.3
WRAB	**Tennant Creek**	**18.63**	**223**	*e*P	Pn	00 35 30.6	-0.1
	2.4nm,0.6s						
WRA	**Warramunga Arr**	**18.64**	**223**	P	P	00 35 30.3	+0.3
	0.4nm,0.3s,baz=51,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.61**	**217**	P	P	00 36 01.7	-0.6
	2.3nm,0.9s,baz=39,slow=10.0,SNR=15						
FITZ	**Fitzroy Crossi**	**24.48**	**240**	P	P	00 36 30.7	-0.1
	8.0nm,0.4s,baz=54,slow=8.4,SNR=54						
STKA	**Stephens Creek**	**25.81**	**192**	P	P	00 36 41.9	-0.9
	1.3nm,0.8s,baz=10.0,slow=7.8,SNR=4.9						
NACB	**Ninganchiao**	**39.89**	**321**	*e*P	P	00 38 44.7	-0.8
	9.7nm,0.7s						
YHNB	**Yeheng**	**40.39**	**321**	*e*P	P	00 38 50.5	+0.9
	7.9nm,0.6s						
MJAR	**Matsushiro Arr**	**43.86**	**349**	P	P	00 39 17.3	-0.4
	0.6nm,0.3s,baz=167,slow=5.9,SNR=4.1						
MAJO	**Matsushiro**	**43.87**	**349**	P	P	00 39 17.6	-0.1
	1.8nm,0.4s						
KSRS	**Korea Array**	**47.62**	**338**	P	P	00 39 47.0	-0.3
	0.5nm,0.3s,baz=163,slow=9.7,SNR=2.7						
KSAR	**Wonju Array Be**	**47.62**	**338**	P	P	00 39 47.0	-0.3
CASY	**Casey**	**64.90**	**196**	*e*P	P	00 41 49.1	-1.0
	0.9nm,0.9s						
ULN	**Ulaanbaatar**	**65.04**	**331**	*e*P	P	00 41 51.8	+0.3
	0.7nm,0.4s						
SONM	**Songino Array**	**65.34**	**331**	P	P	00 41 54.2	+0.8
	0.2nm,0.4s,baz=145,slow=3.5,SNR=2.6						
MA2	**Magadan**	**66.01**	**2**	*e*P	P	00 41 57.0	-0.3
	14nm,0.4s						
YAK	**Yakutsk**	**69.87**	**351**	P	P	00 42 22.3	+0.8
	20nm,0.6s						
VNDA	**Vanda**	**71.26**	**177**	P	P	00 42 29.1	-0.7
	1.2nm,0.9s,baz=330,slow=4.7,SNR=4.3						
BILL	**Bilibino**	**75.61**	**7**	*e*P	P	00 42 55.5	+0.1
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**78.50**	**320**	P	P	00 43 12.0	-0.2
	0.6nm,0.9s,baz=114,slow=3.6,SNR=3.3						
QSPA	**South Pole Qui**	**83.36**	**180**	*e*P	P	00 43 37.3	-0.6
	4.8nm,0.7s						
ILAR	**Eielson Array**	**85.71**	**23**	P	P	00 43 48.7	-0.8
	0.5nm,0.8s,baz=256,slow=3.6,SNR=3.7						
SYO	**Syowa Base**	**90.31**	**200**	*e*P	P	00 44 14.0	+2.5
GERES	**GERESS Array B**	**122.88**	**326**	PKP	**PKPdf**	00 50 07.0	-0.1
	0.3nm,0.7s,baz=56,slow=2.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**146.05**	**284**	PKPbc	**PKPab**	00 50 52.1	-0.2
	2.1nm,0.8s,baz=74,slow=3.8,SNR=13						

IDC ***10*** *00:38:48.8±5.5, 31°.21S×65°.62W, h151km±40km, mb3.4/4, mb1 3.6/8, mb1mx3.5/22, mbtmp3.9/8, Error ellipse: s-maj=49.6km s-min=22.6km az=18.0*
ISCJB ***10*** *00:38:51.7±0.5, 30°.95S±0°.04×65°.62W±0°.06, h178km, mb3.4/5, Error ellipse: s-maj=7.5km s-min=5.6km az=18.3*
SJA ***10*** *00:38:51.6±0.7, 30°.99S×65°.62W, h186km±5km, ML3.5, MW3.8*
ISC 10 00:38:52.0±0.7, 30°.97S±0°.06×65°.63W±0°.07, h178km, n21, σ1s07/28, mb3.4/5, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACHE	**Chepes**	**0.91**	**258**	*i* P	Pn	00 39 20.3	+1.2
TCA	**Tanti**	**0.96**	**113**	*i* P	Pn	00 39 20.3	+0.9
TCA				*i* S	Sn	00 39 40.7	+0.2
TCA				IAML		00 39 41.9	
	comp=Z,111nm,0.7s						
MRA	**San Martin**	**1.45**	**183**	*i* P	Pn	00 39 24.1	+0.7
MRA				*i* S	Sn	00 39 48.0	+0.1
MRA				IAML		00 39 50.2	
	comp=Z,185nm,0.6s						
AVFE	**Valle Fertil**	**1.60**	**281**	*i* P	Pn	00 39 26.0	+1.1
AVFE				*i* S	Sn	00 39 50.8	+0.5
AVFE				IAML		00 39 51.1	
	comp=Z,348nm,0.2s						
ACAN	**Cantantal**	**1.86**	**225**	*i* P	Pn	00 39 28.2	+0.7
AMOG	**MOGNA**	**2.46**	**270**	*i* P	Pn	00 39 35.2	+1.0
CYA	**Choya**	**2.52**	**357**	*i* P	Pn	00 39 35.6	+0.7
CYA				IAML		00 39 36.3	
	comp=Z,193nm,0.5s						
CYA				*i* S	Sn	00 40 08.6	+0.2
ASAL	**Salagasta**	**3.17**	**239**	*i* P	Pn	00 39 43.0	+0.2
ARCO	**CERRO ARCO**	**3.37**	**236**	*i* P	Pn	00 39 45.4	+0.1
ARCO				*i* S	Sn	00 40 25.9	-0.9
ARCO				IAML		00 40 28.3	
	comp=Z,346nm,0.8s						
CPUP	**Villa Florida**	**8.63**	**60**	P	Pn	00 40 51.9	-1.8
	comp=Z,0.2nm,0.3s,baz=242,slow=12,SNR=4.0						
LVC	**Limon Verde**	**8.83**	**340**	P	Pn	00 40 57.2	+0.6
	comp=Z,56nm,0.3s,baz=178,slow=6.6,SNR=14						
LVC				S	Sn	00 42 33.0	-2.5
	comp=Z,8.6nm,0.3s,baz=90,slow=20,SNR=3.8						
LPAZ	**La Paz**	**14.79**	**351**	P	Pn	00 42 13.6	+0.3
	comp=Z,2.0nm,0.3s,baz=102,slow=3.3,SNR=36						
LPAZ				S	S	00 45 02.9	+1.9
	comp=Z,0.0nm,0.3s,baz=281,slow=16,SNR=3.5						
SIV	**San Ignacio**	**15.48**	**17**	P	Pn	00 42 21.0	-0.2
	comp=Z,0.3nm,0.3s,baz=221,slow=10,SNR=3.7						
BDFB	**Brasilia**	**22.19**	**51**	P	P	00 43 35.1	+1.0
	comp=Z,1.5nm,0.5s,baz=213,slow=16,SNR=2.9						
TXAR	**Lajitas Array**	**70.05**	**325**	P	P	00 49 45.4	+0.7
	comp=Z,0.3nm,0.4s,baz=149,slow=7.3,SNR=10						
TORD	**Torodi Ar. Bea**	**78.06**	**67**	P	P	00 50 30.9	-0.5
	comp=Z,1.0nm,0.6s,baz=269,slow=5.6,SNR=22						
PDAR	**Pinedale Array**	**83.73**	**329**	P	P	00 51 01.5	+0.4
	comp=Z,0.4nm,0.5s,baz=130,slow=8.4,SNR=3.7						
NVAR	**Mina Array Bea**	**84.72**	**321**	P	P	00 51 03.9	-2.2
	comp=Z,0.2nm,0.6s,baz=147,slow=9.2,SNR=3.7						
WRA	**Warramunga Arr**	**125.86**	**203**	PKP	**PKPdf**	00 57 32.5	-0.8
	comp=Z,0.2nm,0.4s,baz=156,slow=1.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**148.73**	**34**	PKPbc	**PKPbc**	00 58 18.5	+0.8
	comp=Z,2.2nm,0.6s,baz=303,slow=3.4,SNR=12						
MKAR	**Makanchi Array**	**150.71**	**48**	PKPbc	**PKPbc**	00 58 23.2	+0.4
	comp=Z,0.8nm,0.6s,baz=282,slow=2.0,SNR=7.7						

ISCJB ***10*** *00:40:48.8±0.5, 39°.10N±0°.04×29°.07E±0°.03, h5km±8km, Error ellipse: s-maj=6.3km s-min=4.4km az=166.4*
DDA ***10*** *00:40:48.4, 39°.10N×29°.08E, h7km, Md2.8*
CSEM ***10*** *00:40:48.8±0.1, 39°.12N×29°.06E, h2km, MD2.6, Error ellipse: s-maj=2.8km s-min=2.6km az=100.0*
ISK ***10*** *00:40:48.6, 39°.12N×29°.06E, h5km, MD2.6*
ISC 10 00:40:48.8±0.9, 39°.11N±0°.03×29°.07E±0°.02, h13km±9km, n32, σ0s76/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.28**	**104**	*e*PG	**Pb**	00

PMG Sn **Sn** **01 00 49.3 -0.5**
68nm,0.3s,baz=155,slow=14,SNR=6.4
PMG LR LR 01 01 47.0
comp=Z,2μm,21.4s,baz=44,slow=41
PMG Port Moresby 4.24 231 *ce*P **Pn** **01 00 01.8 +0.7**
PMG pmax pmax
comp=Z,2μm,1.0s
MANU Manus Island 5.64 326 *e*Pn **Pn** **01 00 22.9 +2.5**
HNR Honiara 9.71 107 LR LR 01 04 08.1
comp=Z,468nm,20.4s,baz=286,slow=32
COEN Coen 10.16 225 P **Pn** **01 01 21.1 -1.4**
baz=10,SNR=10.0
COEN Coen 10.16 225 *e*Pn **Pn** **01 01 22.4 -0.1**
MTSU Mount Surprise 12.82 208 P **Pn** **01 01 58.9 0.0**
baz=13,SNR=19
CTA Charters Tower 13.88 197 Pn **Pn** **01 02 13.3 0.0**
comp=Z,0.6nm,0.3s,baz=22,slow=14,SNR=6.3
CTA Charters Tower 13.88 197 P **Pn** **01 02 11.9 -1.5**
baz=14
CTAO Charters Tower 13.88 197 *e*P **Pn** **01 02 15.8 +2.4**
CTAO Charters Tower 13.88 197 *e*Pn **Pn** **01 02 15.8 +2.4**
QIS Mount Isa 17.32 217 P **Pn** **01 02 57.7 -0.7**
baz=17,SNR=8.7
EIDS Eidsvold 18.51 178 P **Pn** **01 03 12.9 0.0**
baz=18,SNR=8.3
EIDS Eidsvold 18.51 178 *e*P **Pn** **01 03 13.1 +0.1**
comp=Z,28nm,0.8s
FAKI Fak Fak 18.60 281 P **Pn** **01 03 18.9 +4.9**
RMQ Roma 19.69 185 P **P** **01 03 26.2 +0.7**
baz=20,SNR=18
MTN Manton Dam 20.03 251 P **P** **01 03 28.7 -0.6**
baz=20,SNR=17
MTN Manton Dam 20.03 251 *e*P **P** **01 03 28.7 -0.6**
comp=Z,87nm,0.8s
WR0 Warramunga Arr 20.32 228 P **P** **01 03 31.4 -1.0**
baz=20
WRAB Tennant Creek 20.44 229 *d i*P **P** **01 03 32.9 -0.9**
WRAB pmax pmax
comp=Z,258nm,0.7s
WRAB Tennant Creek 20.44 229 *e*P **P** **01 03 33.1 -0.7**
comp=Z,113nm,0.8s
WB2 Warramunga Arr 20.45 229 *e*P **P** **01 03 33.2 -0.7**
comp=Z,107nm,0.8s
WRA Warramunga Arr 20.45 229 P **P** **01 03 33.3 -0.6**
comp=Z,114nm,0.9s,baz=52,slow=11,SNR=115
WRA S **S** **01 07 16.9 -4.9**
comp=Z,12nm,1.1s,baz=55,slow=20,SNR=6.3
WRA LR LR 01 11 45.6
comp=Z,502nm,19.6s,baz=60,slow=38
WC4 Warramunga Arr 20.46 229 P **P** **01 03 33.4 -0.7**
baz=20
GUMO Guam 20.98 344 LR LR 01 10 20.1
comp=Z,499nm,20.8s,baz=148,slow=33
DZM Mont Dzumac 21.64 136 P **P** **01 03 47.1 +0.4**
comp=Z,31nm,0.8s,baz=335,slow=10,SNR=23
DZM LR LR 01 10 46.2
comp=Z,701nm,21.8s,baz=240,slow=33
DZM Mont Dzumac 21.64 136 *e*P **P** **01 03 45.8 -0.9**
comp=Z,33nm,0.8s
KNRA Kununurra 23.09 246 P **P** **01 04 00.7 -1.4**
baz=23
AS01 Alice Springs 23.15 222 *e*P **P** **01 04 01.8 -1.0**
AS31 Alice Springs 23.18 222 *e*P **P** **01 04 01.9 -1.1**
comp=Z,16nm,0.6s
AS31 *e*S **S** **01 08 15.4 +2.0**
ASAR Alice Springs 23.18 222 P **P** **01 04 01.8 -1.3**
comp=Z,44nm,0.8s,baz=54,slow=8.9,SNR=126
ASAR LR LR 01 12 57.7
comp=Z,488nm,18.4s,baz=50,slow=36
ARMA Armidale 23.56 178 P **P** **01 04 07.5 +0.8**
baz=24,SNR=4.0
ARMA Armidale 23.56 178 *e*P **P** **01 04 07.1 +0.3**
comp=Z,86nm,1.0s
NLAI Namlea 23.59 277 P **P** **01 04 11.5 +4.4**
TARA Tarawa 23.77 71 *e*P **P** **01 04 06.9 -1.9**
comp=Z,276nm,1.6s
SANI Sanana 24.89 280 P **P** **01 04 24.3 +5.1**
CMSA Cobar Meteorol 25.06 190 P **P** **01 04 19.5 -1.0**
baz=25,SNR=15
SOEI Soe 26.14 262 P **P** **01 04 34.6 +3.9**
comp=Z,156nm,1.0s,comp=Z,2μm
SOEI Soe 26.14 262 *e*P **P** **01 04 30.4 -0.3**
comp=Z,118nm,0.9s
STKA Stephens Creek 26.34 197 P **P** **01 04 30.9 -1.3**
comp=Z,29nm,0.7s,baz=358,slow=9.1,SNR=52
STKA LR LR 01 15 24.9
comp=Z,888nm,18.1s,baz=16,slow=38
STKA Stephens Creek 26.34 197 P **P** **01 04 30.9 -1.3**
baz=26,SNR=44
STKA Stephens Creek 26.34 197 *e*P **P** **01 04 30.9 -1.3**
STKA pmax pmax
comp=Z,8.0nm,0.8s
STKA Stephens Creek 26.34 197 *e*P **P** **01 04 30.9 -1.3**
comp=Z,7.6nm,0.8s
FITZ Fitzroy Crossi 26.74 243 P **P** **01 04 35.0 -0.9**
comp=Z,27nm,0.5s,baz=49,slow=8.5,SNR=88
FITZ LR LR 01 16 30.2
comp=Z,361nm,18.3s,baz=74,slow=40
FITZ Fitzroy Crossi 26.74 243 P **P** **01 04 35.0 -0.9**
baz=27,SNR=90
FITZ Fitzroy Crossi 26.74 243 *e*P **P** **01 04 35.1 -0.7**
comp=Z,62nm,0.8s
YNG Young 27.48 184 P **P** **01 04 41.8 -0.5**
baz=28
KDI Kendari 27.91 274 P **P** **01 04 50.8 +4.3**
comp=Z,38nm,1.2s
WRKA Warakurna 27.97 227 P **P** **01 04 45.8 -1.1**
baz=28,SNR=28
MMRI Maumere 28.08 264 P **P** **01 04 50.9 +2.9**
MMRI Maumere 28.08 264 *e*P **P** **01 04 47.2 -0.8**
comp=Z,110nm,0.7s
LUWI Luwuk 28.25 280 P P 01 04 57.9 +8.5
LUWI Luwuk 28.25 280 *e*P **P** **01 04 49.8 +0.3**
comp=Z,56nm,0.9s
LUWI *e*S **S** **01 09 36.1 +2.0**
DAV Davao City (W) 28.42 298 LR LR 01 15 37.4
comp=Z,84nm,19.5s,baz=173,slow=36
CAN Canberra 28.46 183 P **P** **01 04 50.2 -1.0**
baz=28
CAN Canberra 28.46 183 *e*P **P** **01 04 50.7 -0.4**
CAN pmax pmax
comp=Z,53nm,1.3s
CAN Canberra 28.46 183 *e*P **P** **01 04 50.7 -0.4**
comp=Z,53nm,1.3s
HTT Hallett 28.64 201 P **P** **01 04 51.7 -1.1**
baz=29,SNR=23
MSVF Nonsavu 28.99 115 *e*P **P** **01 04 56.3 +0.2**
MSVF pmax pmax
comp=Z,22nm,0.8s
MSVF Nonsavu 28.99 115 *e*P **P** **01 04 56.3 +0.2**
comp=Z,22nm,0.8s
BBOO Buckleboo 29.20 206 P **P** **01 04 56.3 -1.4**
baz=29,SNR=7.2
BSSI Bau Bau, Buton 29.84 269 P P 01 05 11.5 +7.9
KAPI Kappang 30.65 272 P **P** **01 05 09.5 -1.3**
comp=Z,8.5nm,0.9s,baz=101,slow=5.6,SNR=3.2
KAPI Kappang 30.65 272 *e*P **P** **01 05 10.2 -0.6**
comp=Z,39nm,1.0s
TTSI Tana Toraja 30.80 275 P **P** **01 05 15.6 +3.5**
comp=Z,38nm,1.3s,comp=Z,924nm
ARPS Mount Arapiles 30.91 194 P **P** **01 05 12.0 -0.8**
baz=31,SNR=11
MBWA Marble Bar 33.04 241 *e*P **P** **01 05 31.6 -0.1**
comp=Z,288nm,1.2s
MYLDM Lahad Datu 34.09 290 *e*P **P** **01 05 40.8 -0.1**
comp=Z,15nm,1.0s
JCJ Chichijima 34.61 347 P **P** **01 05 41.6 -3.6**
comp=Z,31nm,0.6s,baz=171,slow=13
CBIJ Chichi jima 34.61 347 P **P** **01 05 41.6 -3.6**
MOO Moorlands 35.66 184 P **P** **01 05 54.7 +0.6**
baz=36,SNR=5.2
JAGI Jajag, Banyuwa 36.08 265 *e*P **P** **01 05 55.2 -2.8**
comp=Z,44nm,0.7s
TAU Tasmania Unive 36.12 184 *e*P **P** **01 05 58.4 +0.4**
TAU Tasmania Unive 36.12 184 *e*P **P** **01 05 58.4 +0.4**
KMBL Kambalda 36.28 224 P **P** **01 05 58.7 -0.8**
baz=36,SNR=18
KKM Kota Kinabalu 36.52 290 *e*P **P** **01 06 02.0 +0.1**
comp=Z,18nm,1.2s
RAO Raoul Island 37.22 131 *e*P **P** **01 06 07.2 -0.4**
RAO Raoul Island 37.22 131 *e*P **P** **01 06 07.2 -0.4**
comp=Z,258nm,0.4s
KLBR Kellerberrin 39.32 227 P **P** **01 06 24.0 -1.3**
baz=39,SNR=21
MORW Morawa 39.36 231 P **P** **01 06 24.3 -1.4**
baz=39,SNR=5.0
BLDU Ballidu 39.59 229 P **P** **01 06 26.6 -1.0**
baz=40,SNR=5.8
JOW Kunigami 39.75 328 *e*P **P** **01 06 29.3 +0.4**
comp=Z,64nm,0.8s
NWAO Narrogin (SRO) 40.40 225 P **P** **01 06 32.6 -1.7**
comp=Z,8.0nm,0.7s,baz=315,slow=8.5,SNR=3.6
NWAO Narrogin (SRO) 40.40 225 *e*P **P** **01 06 33.5 -0.8**
NWAO pmax pmax
comp=Z,144nm,1.9s
NWAO Narrogin (SRO) 40.40 225 *e*P **P** **01 06 33.5 -0.8**
comp=Z,144nm,1.9s
JHJ2 Mitsune 40.93 346 *e*P **P** **01 06 38.5 -0.1**
comp=Z,101nm,0.9s
KHZ Kahutara 40.94 154 *e*P **P** **01 06 38.6 +0.1**
comp=Z,172nm,1.9s
KSM Kuching 40.96 280 *e*P **P** **01 06 39.2 +0.1**
comp=Z,11nm,0.7s
YHNB Yeheng 42.21 319 *e*P **P** **01 06 47.5 -1.8**
comp=Z,35nm,1.0s
TATO Taipei 42.35 319 *e*P **P** **01 06 50.1 -0.2**
comp=Z,266nm,1.8s
CISI Cisompet, Garu 42.37 266 *e*P **P** **01 06 49.5 -1.2**
comp=Z,196nm,1.2s
JNU Nakatsue 43.83 336 P **P** **01 07 01.0 -1.3**
comp=Z,18nm,0.7s,baz=139,slow=2.7,SNR=15
JNU Nakatsue 43.83 336 *e*P **P** **01 07 00.2 -2.0**
comp=Z,46nm,0.7s
MJAR Matsushiro Arr 44.59 346 P **P** **01 07 05.8 -2.4**
comp=Z,5.6nm,0.9s,baz=164,slow=8.0,SNR=11
MJAR LR LR 01 25 58.3
comp=Z,118nm,18.3s,baz=145,slow=36
MAJO Matsushiro 44.59 346 *e*P **P** **01 07 07.2 -1.1**
MAJO pmax pmax
comp=Z,15nm,0.8s
MAJO Matsushiro 44.59 346 *e*P **P** **01 07 07.2 -1.1**
comp=Z,15nm,0.8s
MAT Matsushiro 44.59 346 P **P** **01 07 06.1 -2.2**
MAT S **S** **01 13 43.0 +0.3**
MJB9 Matsu-Tunnel 44.60 346 *e*P **P** **01 07 07.0 -1.3**
comp=Z,3.7nm,0.8s
MYKOM Kota Tinggi 47.35 279 *e*P **P** **01 07 30.4 +0.1**
comp=Z,27nm,1.0s
QIZ Qiongzhong 47.57 303 P **P** **01 07 32.0 0.0**
KSRS Korea Array 48.78 336 P **P** **01 07 39.2 -1.8**
comp=Z,9.8nm,1.0s,baz=151,slow=9.1,SNR=35
KSAR Wonju Array Be 48.79 336 P **P** **01 07 39.2 -1.9**
KSAR Wonju Array Be 48.79 336 P **P** **01 07 39.2 -1.9**
KS01 Wonju Array Si 48.82 336 *e*P **P** **01 07 39.7 -1.6**
NJ2 Nanjing 49.00 324 *e*P **P** **01 07 42.1 -0.7**
NJ2 S **S** **01 14 43.0 -2.8**
NJ2 PMZ
comp=Z,13nm,0.5s
NJ2 LN
comp=Z,1μm,13.6s
NJ2 LE
comp=Z,2μm,18.1s
NJ2 LZ
comp=Z,1μm,15.7s
ASAJ Asahikawa 51.14 353 P **P** **01 07 59.0 +0.1**
comp=Z,3.9nm,0.4s,baz=239,slow=14,SNR=3.2
CHBT CHBT 51.66 292 P **P** **01 08 07.2 +4.0**
comp=Z,6μm,1.1s
PSI Prapat 52.37 279 *e*P **P** **01 08 07.7 -1.0**
PSI pmax pmax
comp=Z,39nm,1.2s
PSI Prapat 52.37 279 *e*P **P** **01 08 07.7 -1.0**
comp=Z,39nm,1.2s
NONG Nongkai 52.86 299 P **P** **01 08 15.2 +3.1**
comp=Z,18nm,0.4s,comp=Z,13μm
USRK Ussuriysk Ar. 53.41 343 P **P** **01 08 15.9 +0.3**
comp=Z,4.0nm,0.6s,baz=159,slow=7.2,SNR=13
USRK LR LR 01 29 06.5
comp=Z,50nm,21.3s,baz=169,slow=34
GSI Gunungsitoli 53.44 277 *e*P **P** **01 08 15.4 -1.1**
comp=Z,36nm,0.8s
GYA Guiyang 53.83 310 *e*P **P** **01 08 21.2 +1.9**
GYA PcP **PcP** **01 09 26.4 +1.5**
GYA PP **PP** **01 10 23.8 +3.2**
GYA S **S** **01 15 52.3 -0.6**
GYA SS **SS** **01 19 34.6 +0.2**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,6.8s
GYA LN
comp=Z,460nm,20.0s
GYA LE
comp=Z,340nm,21.0s
GYA LZ
comp=Z,400nm,20.4s
MDJ Mudanjiang 54.50 342 P **P** **01 08 22.7 -1.0**
MDJ pP pP 01 08 28.9 -2.8
MDJ sP sP 01 08 31.6 -3.2
MDJ S **S** **01 15 56.7 -4.4**
MDJ PMZ
comp=Z,14nm,1.3s
MDJ PMZ
comp=Z,99nm,6.8s
MDJ LN
comp=Z,220nm,19.1s
MDJ LE
comp=Z,380nm,17.7s
MDJ LZ
comp=Z,350nm,15.7s
CN2 Changchun 55.20 338 *e*P **P** **01 08 29.0 +0.3**
CN2 *es*P sP 01 08 39.9 0.0
CN2 LN
comp=Z,300nm,17.0s
CN2 LE
comp=Z,400nm,17.0s
CN2 LZ
comp=Z,300nm,17.0s
KMI Kunming 56.25 306 P **P** **01 08 38.9 +2.0**
KMI pP pP 01 08 46.4 +1.4
KMI sP sP 01 08 49.6 +1.5
KMI PP **PP** **01 10 44.1 +1.6**
KMI S **S** **01 16 25.7 +0.1**
KMI sS sS 01 16 38.2 -0.7
KMI SS **SS** **01 20 13.1 +0.3**
KMI PMZ
comp=Z,12nm,0.5s
KMI PMZ
comp=Z,98nm,4.9s
KMI LN
comp=Z,670nm,7.4s
KMI LE
comp=Z,510nm,7.5s
KMI LZ
comp=Z,610nm,8.0s
CMAR Chiang Mai Arr 56.70 297 P **P** **01 08 39.8 -0.1**
comp=Z,1.1nm,0.4s,baz=116,slow=6.5,SNR=5.8
KLR Kul'dur 58.12 346 P **P** **01 08 48.8 -0.6**
comp=Z,2.5nm,0.6s,baz=169,slow=3.8,SNR=11
CD2 Chengdu 58.33 313 P **P** **01 08 50.5 -0.8**
CD2 pP pP 01 08 58.3 -1.1
CD2 PcS **PcS** **01 13 42.6 -1.3**
CD2 S **S** **01 16 52.5 0.0**
CD2 sS sS 01 17 05.8 -0.1
CD2 SS **SS** **01 20 46.3 +1.2**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,5.2s
HHC Hu-ho-hao-te 59.36 326 *e*P **P** **01 08 59.8 +1.5**
HHC pP pP 01 09 07.4 +1.0
HHC sP sP 01 09 10.7 +1.2
HHC S **S** **01 17 05.5 -0.1**
HHC sS sS 01 17 18.1 -0.9
HHC ScS **ScS** **01 18 44.6 -2.4**
HHC PMZ
comp=Z,25nm,0.9s
HHC PMZ
comp=Z,110nm,8.4s
HHC LN
comp=Z,760nm,14.3s
HHC LE
comp=Z,880nm,17.3s
HHC LZ
comp=Z,480nm,13.9s
PEA0 Petropavlovsk- 59.95 5 *e*P **P** **01 09 00.4 -1.6**
PETK Petropavlovsk- 59.95 5 P **P** **01 09 00.4 -1.6**
comp=Z,7.6nm,0.7s,baz=164,slow=7.7,SNR=11
PETK LR LR 01 31 21.4
comp=Z,137nm,21.3s,baz=194,slow=32
PET Petropavlovsk 59.95 6 *e*P P 01 09 08.0 +6.0
PET *e*S **S** **01 17 15.8 +3.2**
LZH Lanzhou 61.09 318 *e*P **P** **01 09 10.1 -0.3**
LZH pP pP 01 09 16.0 -2.5
LZH sP sP 01 09 18.9 -2.7
LZH PMZ
comp=Z,14nm,1.0s
GTA Gaotai 65.58 319 *e*P **P** **01 09 43.9 +3.9**
GTA pP sP 01 09 50.5 -0.8
GTA sP pP 01 09 53.3 +5.1
GTA PMZ
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 66.49 330 *ce*P **P** **01 09 43.1 -2.6**
ULN pmax pmax
comp=Z,5.0nm,1.2s
ULN Ulaanbaatar 66.49 330 *e*P **P** **01 09 44.2 -1.5**
comp=Z,10nm,0.7s
SONM Songino Array 66.80 329 P **P** **01 09 46.8 -0.8**
comp=Z,5.3nm,0.9s,baz=141,slow=5.7,SNR=22
SONM PKP2bc 01 38 19.9
comp=Z,1.1nm,0.9s,baz=209,slow=2.7,SNR=5.7
SEY Seymchan 69.50 1 P **P** **01 10 02.5 -1.7**
comp=Z,2.0nm,0.6s,baz=167,slow=6.0,SNR=5.7
SEY Seymchan 69.50 1 *ce*P **P** **01 10 02.6 -1.5**
ZAK Zakamensk 70.01 330 *e*P **P** **01 10 05.9 -1.7**
ZAK pmax pmax
comp=Z,12nm,0.9s
YAK Yakutsk 70.46 350 LR LR 01 41 05.7
comp=Z,34nm,19.7s,baz=196,slow=36
YAK Yakutsk 70.46 350 *e*P **P** **01 10 09.5 -0.5**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.0s
TLY Talaya 70.66 331 LR LR 01 39 41.0
comp=N,109nm,21.6s,baz=142,slow=35
VNDA Vanda 70.98 177 P **P** **01 10 13.0 0.0**
comp=N,12nm,0.7s,baz=333,slow=6.6,SNR=55
VNDA LR LR 01 39 35.4
comp=N,214nm,18.0s,baz=358,slow=34
VNDA Vanda 70.98 177 *e*P **P** **01 10 13.1 +0.1**
VNDA pmax pmax
comp=Z,13nm,0.8s
VNDA Vanda 70.98 177 *e*P **P** **01 10 13.1 +0.1**
comp=Z,13nm,0.8s
MIR Mirnyy 71.30 201 *i*P **P** **01 10 15.0 -0.1**
MIR pmax pmax
comp=Z,6.0nm,1.2s
MOY Mondy 71.94 330 *e*P P 01 10 30.3 +11
BILL Bilibino 75.45 6 *ij i*P **P** **01 10 38.6 -0.9**
BILL *e* 01 10 49.9
BILL *e* 01 13 25.0
BILL pmax pmax
comp=Z,12nm,1.2s
BILL MLR MLR
comp=Z,55nm,17.0s
BILL Bilibino 75.45 6 *e*P **P** **01 10 39.2 -0.3**
comp=Z,11nm,1.1s
WMQ Urumqi 75.66 318 P **P** **01 10 41.5 +0.2**
WMQ pP pP 01 10 49.0 -0.6
WMQ sP sP 01 10 52.6 -0.1
WMQ PMZ
comp=Z,4.0nm,0.6s
WMQ PMZ
comp=Z,88nm,5.8s
WMQ LN
comp=Z,31nm,19.6s
WMQ LE
comp=Z,40nm,21.2s
WMQ LZ
comp=Z,32nm,18.0s
KDAK Kodiak Island 78.94 27 *e*P **P** **01 11 00.0 +0.8**
KDAK pmax pmax
comp=Z,71nm,1.9s
KDAK Kodiak Island 78.94 27 *e*P **P** **01 11 00.0 +0.8**
comp=Z,71nm,1.9s
SVW2 Sparrevohn 79.51 24 *e*P **P** **01 11 02.7 +0.4**
comp=Z,8.8nm,0.7s
TIXI Tiksi 79.54 353 *ce*P **P** **01 11 01.4 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 79.54 353 *e*P **P** **01 11 02.5 +0.2**
comp=Z,4.9nm,0.8s
MK01 Makanchi Array 80.31 320 *e*P **P** **01 11 05.4 -1.6**
MKAR Makanchi Array 80.32 320 P **P** **01 11 05.5 -1.6**
comp=Z,0.4nm,0.5s,baz=99,slow=6.3,SNR=5.0
TT01 Tatalina 80.40 22 *e*P **P** **01 11 06.2 -0.9**
TTA Tatalina 80.42 22 *e*P **P** **01 11 07.4 +0.1**
TTA pmax pmax
comp=Z,10.0nm,1.1s
TTA Tatalina 80.42 22 *e*P **P** **01 11 07.4 +0.1**
comp=Z,9.9nm,1.1s
CNPM China Peak 80.46 26 *e*P **P** **01 11 07.5 0.0**
comp=Z,65nm,0.8s
MAKZ Makanchi 80.53 320 *e*P **P** **01 11 06.9 -1.3**
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
MAKZ Makanchi 80.53 320 *e*P **P** **01 11 06.9 -1.3**
comp=Z,8.1nm,1.2s
BRLK Bradley Lake 80.73 26 *e*P **P** **01 11 08.7 -0.2**
comp=Z,18nm,0.7s
SEW Seward 81.53 26 *e*P **P** **01 11 13.2 0.0**
comp=Z,27nm,0.8s
ZAA0 Zalesovo Array 81.53 327 *e*P **P** **01 11 10.6 -2.7**
ZALV Zalesovo Beam 81.53 327 P **P** **01 11 10.7 -2.6**
comp=Z,1.4nm,0.3s,baz=122,slow=4.8,SNR=8.7
SUA Susitna One 81.67 25 *e*P **P** **01 11 13.5 -0.5**
comp=Z,9.8nm,0.7s
PPLA Purkeypile 81.84 23 *e*P **P** **01 11 16.1 +1.1**
comp=Z,29nm,1.6s
CAST Castle Rocks 82.17 22 *e*P **P** **01 11 16.0 -0.5**
comp=Z,15nm,0.6s
PMR Palmer 82.40 25 *e*P **P** **01 11 16.0 -1.7**
PMR pmax pmax
comp=Z,11nm,0.7s
PMR Palmer 82.40 25 *e*P **P** **01 11 16.0 -1.7**
comp=Z,11nm,0.7s
KTH Kantishna Hill 82.68 23 *e*P **P** **01 11 17.8 -1.4**
comp=Z,13nm,0.7s
SML Sawmill 82.84 25 *e*P **P** **01 11 19.7 -0.3**
SML pmax pmax
comp=Z,35nm,0.7s
SML Sawmill 82.84 25 *e*P **P** **01 11 19.7 -0.3**
comp=Z,34nm,0.7s
TRF Thorofare Moun 82.87 23 *e*P **P** **01 11 19.1 -1.2**
comp=Z,14nm,0.7s
MAW Mawson 82.90 203 P **P** **01 11 19.4 -0.8**
comp=Z,8.7nm,0.9s,baz=90,slow=7.5,SNR=11
MAW LR LR 01 47 37.5
comp=Z,128nm,18.2s,baz=66,slow=35
MAW Mawson 82.90 203 P **P** **01 11 20.0 -0.2**
baz=83,SNR=8.6
MAW Mawson 82.90 203 *e*P **P** **01 11 19.8 -0.5**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 82.90 203 *e*P **P** **01 11 19.8 -0.5**
comp=Z,4.1nm,0.9s
BPAW Bear Paw Mtn. 82.94 22 *e*P **P** **01 11 19.2 -1.3**
comp=Z,8.0nm,0.8s
QSPA South Pole Qui 83.21 180 *e*P **P** **01 11 21.7 -0.4**
comp=Z,163nm,0.8s
SCM Sheep Creek Mo 83.27 25 *e*P **P** **01 11 22.5 +0.2**
SCM pmax pmax
comp=Z,31nm,0.9s
SCM Sheep Creek Mo 83.27 25 *e*P **P** **01 11 22.5 +0.2**
comp=Z,30nm,0.9s
RND Reindeer 83.41 23 *e*P **P** **01 11 21.8 -1.2**
RND pmax pmax
comp=Z,29nm,0.7s
RND Reindeer 83.41 23 *e*P **P** **01 11 21.8 -1.2**
comp=Z,29nm,0.7s
MLY Manley 83.52 21 *e*P **P** **01 11 22.3 -1.2**
comp=Z,24nm,0.6s
MCK McKinley 83.54 23 *e*P **P** **01 11 22.4 -1.2**
MCK pmax pmax
comp=Z,36nm,0.7s
MCK McKinley 83.54 23 *e*P **P** **01 11 22.4 -1.2**
comp=Z,36nm,0.7s
BWN Browne 83.55 22 *e*P **P** **01 11 23.3 -0.3**
comp=Z,29nm,0.8s
DIV Divide 83.61 26 *e*P **P** **01 11 24.5 +0.4**
comp=Z,20nm,0.9s
KLU Klutina 83.71 26 *e*P **P** **01 11 24.7 +0.1**
comp=Z,25nm,0.9s
RAGM Ragged Mountai 83.77 27 *e*P **P** **01 11 26.9 +2.0**
comp=Z,39nm,1.3s
DHY Denali Highway 83.83 24 *e*P **P** **01 11 24.8 -0.5**
comp=Z,17nm,0.9s

KURK	**Kurchatov**	**83.92**	**323**	*e*P		**P**		**01 11 24.1**	**-1.7**
KURK	comp=Z,47nm,1.0s			pmax		pmax			
KURK	**Kurchatov**	**83.92**	**323**	*e*P		**P**		**01 11 24.1**	**-1.7**
	comp=Z,47nm,1.0s								
BMRM	**Bremner River**	**84.05**	**26**	*e*P		**P**		**01 11 27.0**	**+0.7**
	comp=Z,12nm,0.7s								
WRH	**Wood River Hil**	**84.22**	**22**	*e*P		**P**		**01 11 25.7**	**-1.4**
	comp=Z,15nm,0.8s								
AAK	**Ala-Archa**	**84.37**	**314**	*e*P		**P**		**01 11 28.3**	**-0.3**
AAK	comp=Z,8.0nm,1.2s			pmax		pmax			
AAK	**Ala-Archa**	**84.37**	**314**	*e*P		**P**		**01 11 28.2**	**-0.3**
	comp=Z,8.2nm,1.2s								
MDM	**Murphy Dome**	**84.41**	**22**	*e*P		**P**		**01 11 27.3**	**-0.7**
	comp=Z,8.6nm,1.0s								
CCB	**Clear Creek Bu**	**84.41**	**22**	*e*P		**P**		**01 11 26.4**	**-1.6**
	comp=Z,16nm,0.6s								
COLA	**College**	**84.50**	**22**	ǁ *i*P		**P**		**01 11 26.6**	**-1.8**
COLA	comp=Z,15nm,0.8s			pmax		pmax			
PAX	**Paxson**	**84.56**	**24**	*e*P		**P**		**01 11 29.7**	**+0.8**
PAX	comp=Z,12nm,1.2s			pmax		pmax			
PAX	**Paxson**	**84.56**	**24**	*e*P		**P**		**01 11 29.7**	**+0.8**
	comp=Z,12nm,1.2s								
CRQM	**Cirque**	**84.62**	**27**	*e*P		**P**		**01 11 29.9**	**+0.5**
	comp=Z,15nm,0.9s								
ILAR	**Eielson Array**	**84.82**	**22**	P		**P**		**01 11 27.9**	**-2.1**
	comp=Z,9.3nm,0.7s,baz=251,slow=5.1,SNR=87								
ILAR				LR		LR		01 45 30.2	
	comp=Z,114nm,19.2s,baz=274,slow=33								
ILAR	**Eielson Array**	**84.82**	**22**	P		**P**		**01 11 28.0**	**-2.1**
ILB	**Eielson Array**	**84.82**	**22**	*e*P		**P**		**01 11 27.9**	**-2.1**
IL1	**Eielson Array**	**84.82**	**22**	*e*P		**P**		**01 11 27.3**	**-2.8**
COLD	**Coldfoot**	**84.85**	**20**	*e*P		**P**		**01 11 30.2**	**0.0**
	comp=Z,8.9nm,0.7s								
EKS2	**Erkin-Say**	**84.89**	**314**	*e*P		**P**		**01 11 32.6**	**+1.5**
EKS2	comp=Z,8.0nm,1.1s			pmax		pmax			
EKS2	**Erkin-Say**	**84.89**	**314**	*e*P		**P**		**01 11 32.6**	**+1.5**
	comp=Z,8.1nm,1.1s								
BALM	**Baldy**	**85.08**	**27**	*e*P		**P**		**01 11 31.9**	**+0.2**
BALM	comp=Z,12nm,0.7s			pmax		pmax			
BALM	**Baldy**	**85.08**	**27**	*e*P		**P**		**01 11 31.9**	**+0.2**
	comp=Z,12nm,0.7s								
DOT	**Dot Lake**	**85.43**	**24**	*e*P		**P**		**01 11 32.9**	**-0.3**
	comp=Z,43nm,0.8s								
EGAK	**Eagle**	**87.05**	**23**	*e*P		**P**		**01 11 40.9**	**-0.2**
	comp=Z,31nm,1.1s								
NRIK	**Noril'sk**	**87.08**	**342**	P		**P**		**01 11 38.7**	**-2.5**
	comp=Z,0.0nm,0.1s,baz=120,slow=6.3,SNR=3.6								
KKAR	**Karatay Array**	**87.33**	**314**	*e*P		**P**		**01 11 42.3**	**-0.7**
KKAR	**Karatay Array**	**87.33**	**314**	*e*P		**P**		**01 11 42.3**	**-0.7**
BVAR	**Borovoye Array**	**89.45**	**323**	P		**P**		**01 11 50.1**	**-2.6**
	comp=Z,1.4nm,0.8s,baz=100,slow=5.1,SNR=8.0								
BRVK	**Borovoye**	**89.52**	**323**	*ce*P		**P**		**01 11 49.8**	**-3.3**
BRVK	comp=Z,9.0nm,1.2s			pmax		pmax			
BRVK	**Borovoye**	**89.52**	**323**	*e*P		**P**		**01 11 50.6**	**-2.5**
	comp=Z,6.4nm,0.9s								
BRVK				*e*				01 12 03.0	
DLBC	**Dease Lake**	**90.22**	**31**	*e*P		**P**		**01 11 59.1**	**+2.8**
	comp=Z,12nm,1.2s								
SYO	**Syowa Base**	**91.07**	**200**	ǁ *e*P		**P**		**01 12 01.0**	**+0.9**
SYO	**Syowa Base**	**91.07**	**200**	ǁ *e*PcP		**P**		**01 12 02.4**	**+2.3**
SYO	**Syowa Base**	**91.07**	**200**	ǁ *e*pP		pP		01 12 09.0	+0.5
INK	**Inuvik**	**91.09**	**21**	P		**P**		**01 11 57.9**	**-2.2**
	comp=Z,3.3nm,0.8s,baz=231,slow=6.6,SNR=4.1								
M02C	**Callahan**	**91.89**	**49**	P		**P**		**01 12 05.4**	**+0.9**
	baz=263								
HUMO	**Hull Mountain**	**91.97**	**48**	*e*P		**P**		**01 12 07.4**	**+2.5**
	comp=Z,11nm,0.8s								
O03D	**Paynes Creek**	**92.55**	**50**	P		**P**		**01 12 08.9**	**+1.2**
	baz=263								
M04C	**Macdoel**	**92.70**	**48**	P		**P**		**01 12 09.1**	**+0.8**
	baz=264								
A04D	**Lummi Island**	**92.90**	**41**	P		**P**		**01 12 12.1**	**+3.2**
	baz=263								
AFDM	**Forest Hills D**	**93.04**	**51**	*e*P		**P**		**01 12 12.7**	**+2.9**
	comp=Z,8.6nm,1.1s								
J05D	**Fort Rock, OR**	**93.31**	**47**	P		**P**		**01 12 12.8**	**+1.7**
	baz=264								
CMB	**Columbia Colle**	**93.40**	**52**	*e*P		**P**		**01 12 14.3**	**+2.8**
CMB	comp=Z,13nm,1.5s			pmax		pmax			
CMB	**Columbia Colle**	**93.40**	**52**	*e*P		**P**		**01 12 14.3**	**+2.8**
	comp=Z,13nm,1.5s								
K05A	**Summer Lake**	**93.50**	**48**	*e*P		**P**		**01 12 14.9**	**+2.8**
	comp=Z,13nm,0.9s								
PKM	**Mcpherson Peak**	**93.55**	**55**	P		**P**		**01 12 13.9**	**+1.5**
	baz=264								
MOD	**Modoc Plateau**	**93.85**	**48**	*e*P		**P**		**01 12 15.4**	**+1.7**
	comp=Z,8.5nm,0.9s								
PAHR	**Pah Rah Range**	**94.34**	**51**	*e*P		**P**		**01 12 18.7**	**+2.7**
	comp=Z,5.9nm,1.0s								
MWC	**Mount Wilson**	**94.93**	**56**	*e*P		**P**		**01 12 20.7**	**+1.9**
MWC	comp=Z,23nm,1.1s			pmax		pmax			
MWC	**Mount Wilson**	**94.93**	**56**	*e*P		**P**		**01 12 20.7**	**+1.9**
	comp=Z,23nm,1.1s								
EDW2	**Edwards Air Fo**	**95.03**	**56**	P		**P**		**01 12 21.4**	**+2.2**
	baz=265								
NV01	**Mina Array Sit**	**95.07**	**52**	*e*P		**P**		**01 12 20.2**	**+0.8**
NVAR	**Mina Array Bea**	**95.07**	**52**	P		**P**		**01 12 19.7**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=268,slow=7.2,SNR=14								
NVAR				LR		LR		01 51 32.9	
	comp=Z,156nm,18.5s,baz=272,slow=33								
CWC	**Cottonwood Cre**	**95.09**	**54**	P		**P**		**01 12 21.2**	**+1.7**
	baz=266								
NV11	**Mina Array Sit**	**95.19**	**52**	*e*P		**P**		**01 12 22.1**	**+2.2**
	comp=Z,7.1nm,0.9s								
BFSC	**Mount Baldy Ra**	**95.26**	**56**	P		**P**		**01 12 22.9**	**+2.6**
	baz=266								
LRMC	**Laurel Mtn Rad**	**95.34**	**55**	P		**P**		**01 12 22.5**	**+1.9**
	baz=266								
DAC	**Darwin (Calif)**	**95.47**	**54**	*e*P		**P**		**01 12 23.6**	**+2.3**
DAC	comp=Z,11nm,0.9s			pmax		pmax			
DAC	**Darwin (Calif)**	**95.47**	**54**	*e*P		**P**		**01 12 23.6**	**+2.3**
	comp=Z,11nm,0.9s								
MPMC	**Manual Prospec**	**95.54**	**54**	P		**P**		**01 12 23.5**	**+1.9**
	baz=266								
GEYT	**Alibeck**	**96.00**	**307**	P		**P**		**01 12 21.6**	**-1.9**
	comp=Z,1.2nm,0.6s,baz=60,slow=3.5,SNR=3.3								
GSC	**Goldstone, Bar**	**96.04**	**55**	P		**P**		**01 12 26.2**	**+2.4**
	baz=266								
GSC	**Goldstone, Bar**	**96.04**	**55**	*e*P		**P**		**01 12 27.9**	**+4.1**
GSC	comp=Z,6.0nm,1.1s			pmax		pmax			
GSC	**Goldstone, Bar**	**96.04**	**55**	*e*P		**P**		**01 12 27.9**	**+4.1**
	comp=Z,6.3nm,1.1s								
FURC	**Furnace Creek,**	**96.07**	**54**	P		**P**		**01 12 25.9**	**+2.2**
	baz=266								
MONP2	**Monument Peak**	**96.19**	**58**	P		**P**		**01 12 26.3**	**+1.7**
	baz=266								
PFO	**Pinyon Flats O**	**96.21**	**57**	P		**P**		**01 12 28.5**	**+3.9**
	baz=266								
TPFO	**Pinon Flats**	**96.21**	**57**	P		**P**		**01 12 27.5**	**+2.8**
	baz=266								
SHOC	**Shoshone, Teco**	**96.51**	**55**	P		**P**		**01 12 27.8**	**+2.0**
	baz=266								
NEW	**Newport**	**96.56**	**42**	P		**P**		**01 12 27.7**	**+1.9**
	baz=267								
TPNV	**Topopah Spring**	**96.59**	**54**	P		**P**		**01 12 27.7**	**+1.4**
	baz=267								
TPNV	**Topopah Spring**	**96.59**	**54**	*e*P		**P**		**01 12 29.1**	**+2.7**
TPNV	comp=Z,7.0nm,0.9s			pmax		pmax			
TPNV	**Topopah Spring**	**96.59**	**54**	*e*P		**P**		**01 12 29.1**	**+2.7**
	comp=Z,6.5nm,0.9s								
BELC	**Belle Mtn. Jos**	**96.62**	**57**	P		**P**		**01 12 28.6**	**+2.2**
	baz=266								
TUQ	**Turquoise Moun**	**96.77**	**55**	P		**P**		**01 12 28.9**	**+1.8**
	baz=267								
GMRC	**Granite Mounta**	**96.94**	**56**	P		**P**		**01 12 30.0**	**+2.0**
	baz=267								
R11A	**Troy Canyon, C**	**97.20**	**52**	P		Pdif		01 12 31.2	+2.1
	baz=267								
R11A	**Troy Canyon, C**	**97.20**	**52**	*e*P		Pdif		01 12 32.6	+3.4
	comp=Z,3.0nm,1.3s								
IRM	**Iron Mountain**	**97.33**	**56**	P		Pdif		01 12 31.8	+2.2
	baz=267								
SHPR	**Sheep Range**	**97.44**	**54**	*e*P		Pdif		01 12 34.0	+3.7
	comp=Z,4.4nm,1.0s								
GLA	**Glamis**	**97.54**	**58**	P		Pdif		01 12 33.1	+2.5
	baz=267								
Y12C	**Blythe**	**97.83**	**57**	P		Pdif		01 12 35.9	+4.1
	baz=267								
PDMCI	**Parker Dam,Lak**	**98.17**	**56**	P		Pdif		01 12 37.8	+4.5
	baz=268								
YKA	**Yellowknife Ar**	**98.21**	**28**	P		Pdif		01 12 33.3	+0.5
	comp=Z,1.2nm,0.6s,baz=269,slow=4.8,SNR=7.2								
YKA				LR		LR		01 53 58.4	
	comp=Z,6.6nm,19.7s,baz=0.0,slow=34								
HLID	**Hailey**	**98.28**	**47**	P		Pdif		01 12 37.7	+3.8
	baz=269								
WUAZ	**Wupatki**	**100.48**	**55**	P		**Pdif**		**01 12 47.7**	**+3.9**
	baz=269								
PDAR	**Pinedale Array**	**101.84**	**48**	P		**Pdif**		**01 12 49.9**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=240,slow=2.9,SNR=4.9								
TXAR	**Lajitas Array**	**107.06**	**61**	PKiKP		**PKiKP**		**01 17 23.6**	**+0.9**
	comp=Z,0.2nm,0.9s,baz=309,slow=5.7,SNR=2.5								
TXAR				PKKP		**PKKPdf**		**01 28 52.5**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=112,slow=4.9,SNR=4.4								
KIV	**Kislovodsk**	**107.49**	**314**	*i* P		**Pdif**		**01 13 13.1**	**-1.6**
KIV				*e*				01 17 40.4	
KIV	comp=Z,3.0nm,0.9s			pmax		pmax			
ARCES	**ARCESS Array B**	**108.05**	**342**	PKiKP		**PKiKP**		**01 17 22.8**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=108,slow=2.9,SNR=3.9								
OBN	**Obninsk**	**109.11**	**326**	*i* P		**Pdif**		**01 13 19.7**	**-1.7**
OBN	comp=Z,4.0nm,0.8s			pmax		pmax			
OBN				MLR		MLR			
	comp=Z,104nm,19.0s								
FINES	**FINESS Array B**	**111.86**	**335**	PKiKP		**PKiKP**		**01 17 30.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=68,slow=7.7,SNR=2.4								
AKASG	**Malin Array Be**	**114.73**	**323**	PKP		PKPdf		01 17 37.3	+0.9
	comp=Z,0.4nm,0.3s,baz=35,slow=24,SNR=2.6								
BRTR	**Keskin Array B**	**114.88**	**311**	PKP		PKPdf		01 17 37.7	+0.5
	comp=Z,0.4nm,0.7s,baz=29,slow=10,SNR=2.8								
BOSA	**Boshof**	**116.64**	**233**	PKP		**PKPdf**		**01 17 39.2**	**-1.7**
	comp=Z,2.5nm,1.0s,baz=90,slow=4.0,SNR=1.9								
NB2	**NORSAR Subarra**	**117.94**	**339**	PKPdf		pPKPdf		01 17 54.8	+3.8
	comp=Z,1.0nm,0.6s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.94**	**339**	PKP		**PKPdf**		**01 17 42.2**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=14,slow=4.6,SNR=3.4								
OKC	**Ostrava-Krasne**	**121.50**	**326**	AMS		AMS		02 08 50.0	
	comp=Z,100nm,18.4s								
BORG	**Borgarnes**	**121.82**	**356**	*i* PKiKP		**PKPdf**		**01 17 54.9**	**+5.3**
DPC	**Dobruska-Polom**	**122.23**	**327**	*ep*PKP		pPKPdf		01 18 03.9	+4.3
UPC	**Upice**	**122.31**	**327**	AMS		AMS		02 11 20.0	
	comp=Z,200nm,20.1s								
TKL	**Tuckaleechee C**	**122.68**	**52**	PKP		**PKPdf**		**01 17 52.7**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=209,slow=4.4,SNR=4.2								
PVCC	**Panska Ves**	**123.06**	**328**	*ep*PKP		**pPKPdf**		**01 18 04.6**	**+3.5**
PVCC				AMS		AMS		02 16 20.0	
	comp=Z,200nm,17.5s								
PVCC	**Panska Ves**	**123.06**	**328**	*e*PKIKP		PKPdf		01 18 04.6	+12
PVCC				MLR		MLR			
	comp=Z,200nm,17.5s								
BRG	**Berggiesshubel**	**123.19**	**329**	*e*PKP		**PKPdf**		**01 17 53.2**	**+0.6**
	comp=Z,3.1nm,0.9s								
BRG				*e*				01 18 05.0	
	comp=Z,3.9nm,0.7s								
BRG	**Berggiesshubel**	**123.19**	**329**	*e*PKIKP		**PKPdf**		**01 17 53.2**	**+0.6**
BRG				*e*				01 18 04.9	
BRG	comp=Z,3.0nm,0.9s			pmax		pmax			
TREC	**Trest**	**123.26**	**326**	*ep*PKP		**pPKPdf**		**01 18 05.8**	**+4.2**
TREC				AMS		AMS		02 15 10.0	
	comp=Z,100nm,21.0s								
GOPC	**GO Pecny, Ondr**	**123.29**	**327**	AMS		AMS		02 13 20.0	
PRU	**Pruhonice**	**123.38**	**328**	*e*PKPdf		**PKPdf**		**01 17 55.6**	**+2.6**
PRU				*ep*PKP		**pPKPdf**		**01 18 05.4**	**+3.7**
PRU				AMS		AMS		02 12 00.0	
	comp=Z,200nm,19.3s								
PRU	**Pruhonice**	**123.38**	**328**	*e*PKIKP		**PKPdf**		**01 17 55.6**	**+2.6**
PRU				*e*				01 18 05.4	
PRU				MLR		MLR			
	comp=Z,200nm,19.3s								
CLL	**Collm**	**123.42**	**329**	*e*PKPdf		**PKPdf**		**01 17 53.0**	**0.0**
	comp=Z,3.0nm,0.8s								
CLL				*i*				01 17 55.3	
CLL				*i*				01 18 05.8	
	comp=Z,5.0nm,0.6s								
CLL				LmV				02 15 00.0	
	comp=Z,100nm,21.3s								
CLL	**Collm**	**123.42**	**329**	*e*PKIKP		**PKPdf**		**01 17 53.0**	**0.0**
CLL				*i*				01 18 05.8	
CLL				pmax		pmax			
	comp=Z,3.0nm,0.8s								
NKC	**Novy Kostel**	**124.34**	**329**	*e*PKPdf		**PKPdf**		**01 17 56.0**	**+1.1**
NKC				*ex*		x		01 18 07.9	
NKC	**Novy Kostel**	**124.34**	**329**	*e*PKIKP		**PKPdf**		**01 17 56.0**	**+1.1**
NKC				*e*				01 18 07.9	
KHC	**Kasperske Hory**	**124.39**	**327**	*e*PKPdf		**PKPdf**		**01 17 56.2**	**+1.1**
KHC				*ex*		x		01 18 07.9	
KHC	**Kasperske Hory**	**124.39**	**327**	*e*PKIKP		**PKPdf**		**01 17 56.2**	**+1.1**
KHC	**Kasperske Hory**	**124.39**	**327**	*e*PKPdf		**PKPdf**		**01 17 56.2**	**+1.1**
GEC2	**GERESS Array S**	**124.48**	**327**	*e*PKIKP		**PKPdf**		**01 17 55.1**	**-0.2**
GEC2	**GERESS Array S**	**124.48**	**327**	*e*PKPdf		**PKPdf**		**01 17 55.1**	**-0.2**
GERES	**GERESS Array B**	**124.48**	**327**	PKP		**PKPdf**		**01 17 54.8**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=76,slow=1.7,SNR=14								
GEA0	**GERESS Array S**	**124.49**	**327**	*e*PKPdf		**PKPdf**		**01 17 53.9**	**-1.4**
BLA	**Blacksburg**	**124.75**	**49**	*e*PKIKP		**PKPdf**		**01 17 58.2**	**+2.1**
BLA_	**Blacksburg**	**124.75**	**49**	*e*PKPdf		**PKPdf**		**01 17 58.2**	**+2.1**
KEST	**Kesra**	**134.22**	**315**	PKP		**PKPdf**		**01 18 15.1**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=71,slow=18,SNR=2.5								
TOLC	**Tolima**	**134.35**	**90**	*e*P		**PKPdf**		**01 18 16.4**	**+1.0**
PRAC	**Prado**	**134.70**	**91**	*e*P		**PKPdf**		**01 18 17.4**	**+1.8**
PRAC	**Prado**	**134.70**	**91**	*e*PKPdf		**PKPdf**		**01 18 15.6**	**-0.1**
NORC	**Norcasia**	**134.87**	**89**	*e*P		**PKPdf**		**01 18 15.0**	**-1.0**
LPAZ	**La Paz**	**135.42**	**121**	PKP		**PKPdf**		**01 18 18.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=228,slow=3.5,SNR=3.9								
CBRI	**Barrientos, No**	**137.03**	**86**	*e*P		**PKPdf**		**01 18 19.0**	**-1.2**
CPUP	**Villa Florida**	**137.43**	**142**	PKP		**PKPdf**		**01 18 21.7**	**+1.4**
	comp=Z,2.2nm,0.9s,baz=215,slow=4.6,SNR=3.7								
SDV	**Santo Domingo**	**139.19**	**84**	*e*P		**PKPdf**		**01 18 24.9**	**+0.8**
SDV	**Santo Domingo**	**139.19**	**84**	*e*PKPdf		**PKPdf**		**01 18 24.6**	**+0.4**
ES19	**SONSECA Array**	**139.95**	**329**	*e*PKPdf		**PKPdf**		**01 18 28.0**	**+3.3**
ESDC	**Sonseca Array**	**140.00**	**329**	PKP		**PKPdf**		**01 18 25.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=321,slow=30,SNR=4.8								
PCBR	**Castelo Branco**	**141.59**	**332**	*e*PKPdf		**PKPdf**		**01 18 28.3**	**+0.8**
PMRV	**Marv??o**	**141.88**	**332**	*e*PKPdf		**PKPdf**		**01 18 25.8**	**-2.3**
PTOM	**Tomar**	**142.19**	**333**	*e*PKPdf		**PKPdf**		**01 18 27.1**	**-1.5**
PMTG	**Montargil**	**142.55**	**332**	*e*PKPdf		**PKPdf**		**01 18 30.6**	**+1.3**
TAM	**Tamanrasset**	**142.73**	**299**	*e*PKIKP		**PKPdf**		**01 18 31.1**	**+0.9**
TAM	**Tamanrasset**	**142.73**	**299**	*e*PKPdf		**PKPdf**		**01 18 31.1**	**+0.9**
HUMP	**Col San Antoni**	**142.81**	**69**	*e*PKPdf		**PKPdf**		**01 18 31.3**	**+1.0**
SMRT	**St. Maarten**	**145.39**	**68**	*e*PKPbc		**PKPbc**		**01 18 34.2**	**-0.5**
TOA0	**Torodi Ar. Sit**	**148.66**	**284**	*e*PKPdf		**PKPdf**		**01 18 39.8**	**-0.6**
TOA0				*e*PKPbc		**PKPbc**		**01 18 43.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**148.66**	**284**	PKPbc		**PKPbc**		**01 18 43.3**	**-0.8**
	comp=Z,6.7nm,0.5s,baz=45,slow=2.9,SNR=46								
TORD				SKPbc		**SKiKP**		**01 22 23.9**	**+3.6**
	comp=Z,0.9nm,0.9s,baz=64,slow=3.4,SNR=3.1								
PTGA	**Pitinga**	**148.68**	**103**	*e*PKPbc		**PKPbc**		**01 18 43.5**	**-0.7**
BDFB	**Brasília**	**151.15**	**141**	PKPbc		**PKPbc**		**01 18 50.1**	**-0.1**
	comp=Z,9.4nm,0.6s,baz=248,slow=1.7,SNR=14								
BDFB				PKPab		**PKPab**		**01 18 57.9**	**0.0**
	comp=Z,24nm,0.8s,baz=259,slow=0.5,SNR=11								
KOWA	**Kowa**	**153.84**	**289**	*e*PKPbc		**PKPbc**		**01 18 56.1**	**-0.1**
KIC	**Kosan Boka**	**155.42**	**271**	*e*PKP2		**PKPab**		**01 19 15.6**	**-0.5**
	comp=Z,61nm,0.9s								
DBIC	**Dimbokro**	**155.54**	**271**	PKPbc		**pPKPdf**		**01 18 59.8**	**+0.4**
	comp=Z,6.6nm,0.9s,baz=117,slow=0.6,SNR=4.3								
DBIC				PKPab		**PKPab**		**01 19 16.5**	**-0.1**
	comp=Z,11nm,0.8s,baz=83,slow=3.7,SNR=7.2								
LIC	**Lamto**	**155.70**	**270**	*e*PKP2		**PKPab**		**01 19 16.8**	**-0.4**
TIC	**Toumodi**	**155.71**	**271**	*e*PKP2		**PKPab**		**01 19 16.8**	**-0.5**

MEX 10 00:59:53.5±0.7, 15.76N×92.61W, h174km±7km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.59**	**265**	*i* P	Pn	01 00 16.6	-1.4
PCIG				*e*S	Sn	01 00 34.6	-2.2
CCIG	**Comitan**	**0.69**	**41**	*e*P	Pn	01 00 17.8	-1.0
CCIG				*e*S	Sn	01 00 35.5	-2.7

IDC 10 01:00:49.1±5.0, 23.83N×108.80W, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.5/41, mbtmp3.2/4, ML4.0/2, Error ellipse: s-maj=78.3km s-min=19.6km az=152.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.41**	**281**	Pn	Pn	01 01 15.2	-0.8
	42nm,0.3s,baz=64,slow=3.7,SNR=15						
LPIG				Sn	Sg	01 01 32.9	-1.4
	174nm,0.3s,baz=155,slow=19,SNR=25						
TXAR	**Lajitas Array**	**7.15**	**39**	Pn	Pn	01 02 35.0	0.0
	0.2nm,0.3s,baz=209,slow=14,SNR=14						
TXAR				Sn	Sn	01 03 55.7	-1.4
	0.3nm,0.3s,baz=200,slow=18,SNR=5.9						
TXAR				Lg	Lg	01 04 34.6	
	0.2nm,0.3s,baz=216,slow=29,SNR=5.5						
NVAR	**Mina Array Bea**	**16.65**	**333**	Pn	Pn	01 04 44.9	+0.8
	baz=154,slow=15,SNR=2.0						
PDAR	**Pinedale Array**	**18.89**	**358**	P	P	01 05 11.4	0.0
	0.1nm,0.3s,baz=169,slow=13,SNR=8.0						
ILAR	**Eielson Array**	**47.78**	**339**	P	P	01 09 29.7	+1.8
	0.3nm,0.6s,baz=153,slow=5.5,SNR=4.1						

IDC ***10*** *01:13:25.1±0.6, 14.60N×146.96E, h0km, mb4.4/27, mb1 4.5/28, mb1mx4.3/46, mbtmp4.4/28, ML4.5/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/46, Error ellipse: s-maj=16.8km s-min=12.9km az=95.0*

ISCJB ***10*** *01:13:29.0±0.3, 14.55N±0.04×146.75E±0.05, h33km, mb4.6/76, MS3.9/4, Error ellipse: s-maj=7.0km s-min=5.7km az=43.4*

MOS ***10*** *01:13:29.7±1.1, 14.61N×146.78E, h41km, mb4.9/32, Error ellipse: s-maj=11.6km s-min=6.5km az=106.9*

BJI ***10*** *01:13:29.6, 14.48N×147.24E, h57km, mb4.8/25, mB4.9/17, Ms4.9/17, Ms7 4.4/13*

NEIC ***10*** *01:13:32.8±0.9, 14.50N×146.73E, h53km±8km, mb4.6/37, Error ellipse: s-maj=7.7km s-min=5.4km az=109.0*

ISC 10 01:13:30.5±0.5, 14.55N±0.05×146.78E±0.06, h33km, n155, σ1°19/156, mb4.6/76, MS3.8/4, 5C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.06**	**330**	*e*Pn	**Pb**	**01 14 05.9**	**-1.4**
GUMO	**Guam**	**2.08**	**243**	Pn	**Pn**	**01 14 04.1**	**+0.9**
	115nm,0.3s,baz=64,slow=2.9,SNR=19						
GUMO				Sn	**Sb**	**01 14 34.2**	**+0.9**
	78nm,0.3s,baz=50,slow=18,SNR=6.2						
GUMO	**Guam**	**2.08**	**243**	*e*Pn	**Pn**	**01 14 03.6**	**+0.4**
GUMO				*e*Sn	**Sn**	**01 14 26.2**	**-1.8**
GUMO				Sn	**Sb**	**01 14 34.2**	**+0.9**
SARN	**Sarigan**	**2.35**	**336**	*e*Pn	**Pn**	**01 14 08.9**	**+2.0**
CBIJ	**Chichi jima**	**13.20**	**342**	*e*Pn	**Pn**	**01 16 38.8**	**+3.1**
H11N1	**WAKE ISLAND Hy**	**19.89**	**72**	T	T	01 37 30.4	
	baz=257,slow=73,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**19.90**	**72**	T	T	01 37 31.3	
	baz=257,slow=73,SNR=15						
H11N3	**WAKE ISLAND Hy**	**19.91**	**72**	T	T	01 37 34.0	
	baz=257,slow=73,SNR=19						
JOW	**Kunigami**	**21.16**	**308**	*e*P	**P**	**01 18 14.2**	**+1.2**
	30nm,0.9s						
FAKI	**Fak Fak**	**22.55**	**221**	*e*P	**P**	**01 18 28.3**	**+0.3**
MJAR	**Matsushiro Arr**	**23.20**	**342**	P	**P**	**01 18 32.4**	**-2.2**
	2.2nm,0.6s,baz=166,slow=9.5,SNR=7.6			

HHC				LE		
	comp=Z,500nm,16.9s					
HHC				LZ		
	comp=Z,330nm,17.5s					
DZM	**Mont Dzumac**	**41.19**	**152**	LR	LR	01 37 11.2
	comp=Z,92nm,18.4s,baz=180,slow=35					
KMI	**Kunming**	**42.57**	**291**	P	**P**	**01 21 24.6 +0.7**
KMI				PMZ		
	comp=Z,16nm,0.7s					
KMI				PMZ		
	comp=Z,81nm,5.1s					
CMAR	**Chiang Mai Arr**	**45.93**	**282**	P	**P**	**01 21 52.4 +1.8**
	comp=Z,1.9nm,0.4s,baz=83,slow=6.3,SNR=8.0					
ULN	**Ulaanbaatar**	**46.68**	**324**	*ce*P	**P**	**01 21 55.9 -0.4**
ULN				pmax	pmax	
	comp=Z,6.0nm,0.9s					
ULN	**Ulaanbaatar**	**46.68**	**324**	*e*P	**P**	**01 21 56.4 +0.1**
	comp=Z,16nm,1.2s					
SONM	**Songino Array**	**47.05**	**323**	P	**P**	**01 21 59.8 +0.7**
	comp=Z,4.8nm,0.8s,baz=133,slow=9.0,SNR=16					
SEY	**Seymchan**	**48.48**	**3**	P	**P**	**01 22 09.2 -0.6**
	comp=Z,3.6nm,0.6s,baz=176,slow=7.0,SNR=10					
CAN	**Canberra**	**49.64**	**178**	*e*P	**P**	**01 22 20.5 +1.5**
CAN				pmax	pmax	
	comp=Z,14nm,0.6s					
CAN	**Canberra**	**49.64**	**178**	*e*P	**P**	**01 22 20.5 +1.5**
	comp=Z,14nm,0.6s					
ZAK	**Zakamensk**	**50.10**	**325**	*e*P	**P**	**01 22 21.6 -0.9**
ZAK				pmax	pmax	
	comp=Z,4.0nm,1.6s					
TLY	**Talaya**	**50.56**	**327**	*e*P	**P**	**01 22 26.6 +0.7**
TLY				*e*S	**S**	**01 29 31.0 -7.0**
TLY				pmax	pmax	
	comp=Z,4.0nm,1.1s					
TLY				MLR	MLR	
	comp=Z,161nm,14.0s					
BILL	**Bilibino**	**54.92**	**9**	*ce*P	**P**	**01 22 57.3 -0.5**
BILL				pmax	pmax	
	comp=Z,8.0nm,1.4s					
GUN	**Gumba**	**57.79**	**294**	*e*P	**P**	**01 23 20.2 +0.8**
	comp=Z,38nm,0.8s					
WMQ	**Urumqi**	**57.84**	**313**	P	**P**	**01 23 20.8 +1.7**
WMQ				pP	sP	01 23 36.0 +2.9
WMQ				sP	pP	01 23 42.0 +13
WMQ				PMZ		
	comp=Z,21nm,0.8s					
WMQ				PMZ		
	comp=Z,50nm,4.4s					
WMQ				LN		
	comp=Z,170nm,15.4s					
WMQ				LE		
	comp=Z,160nm,13.2s					
WMQ				LZ		
	comp=Z,100nm,15.4s					
TIXI	**Tiksi**	**58.09**	**353**	P	**P**	**01 23 19.0 -1.3**
	comp=Z,1.3nm,0.3s,baz=143,slow=1.3,SNR=2.4					
TIXI	**Tiksi**	**58.09**	**353**	*ce*P	**P**	**01 23 19.1 -1.1**
TIXI				pmax	pmax	
	comp=Z,5.0nm,1.7s					
PKIN	**Phulchoki**	**58.22**	**294**	*e*P	**P**	**01 23 20.9 -1.4**
	comp=Z,7.8nm,0.6s					
KKN	**Kakani**	**58.32**	**294**	*e*P	**P**	**01 23 22.3 -0.7**
	comp=Z,12nm,0.5s					
DMN	**Daman**	**58.48**	**294**	*e*P	**P**	**01 23 24.5 +0.4**
	comp=Z,13nm,0.5s					
GKN	**Gorkha**	**58.89**	**294**	*e*P	**P**	**01 23 27.5 +0.7**
	comp=Z,45nm,0.9s					
KOLN	**Koldanda**	**59.81**	**294**	*e*P	**P**	**01 23 33.6 +0.3**
	comp=Z,20nm,0.7s					
PYUN	**Piuthan**	**60.34**	**294**	*e*P	**P**	**01 23 37.6 +0.7**
ZAA0	**Zalesovo Array**	**61.94**	**324**	*e*P	**P**	**01 23 47.0 0.0**
ZALV	**Zalesovo Beam**	**61.94**	**324**	P	**P**	**01 23 46.9 -0.1**
	comp=Z,3.1nm,0.6s,baz=111,slow=6.9,SNR=12					
MK01	**Makanchi Array**	**62.09**	**315**	*e*P	**P**	**01 23 48.9 +0.7**
MK31	**Makanchi Array**	**62.10**	**315**	*i* P	**P**	**01 23 48.9 +0.6**
MK31				pmax	pmax	
	comp=Z,3.0nm,0.5s					
MK31	**Makanchi Array**	**62.10**	**315**	*e*P	**P**	**01 23 49.2 +0.9**
MKAR	**Makanchi Array**	**62.10**	**315**	P	**P**	**01 23 49.1 +0.8**
	comp=Z,7.8nm,0.5s,baz=91,slow=8.5,SNR=64					
MAKZ	**Makanchi**	**62.31**	**315**	*e*P	**P**	**01 23 50.7 +1.0**
MAKZ				pmax	pmax	
	comp=Z,14nm,0.6s					
MAKZ	**Makanchi**	**62.31**	**315**	*e*P	**P**	**01 23 50.7 +1.0**
	comp=Z,14nm,0.6s					
NVS	**Novosibirsk**	**63.05**	**324**	⇓ *i* P	**P**	**01 23 54.4 0.0**
NVS				pmax	pmax	
	comp=Z,13nm,1.4s					
NVS				pmax	pmax	
	comp=E,14nm,1.5s					
RAR	**Rarotonga**	**63.37**	**123**	LR	LR	01 47 35.1
	comp=E,45nm,18.6s,baz=348,slow=32					
CAST	**Castle Rocks**	**64.33**	**26**	*e*P	**P**	**01 24 04.0 +1.3**
	comp=E,8.9nm,1.2s					
KTH	**Kantishna Hill**	**64.86**	**26**	*e*P	**P**	**01 24 07.1 +0.8**
	comp=E,9.7nm,1.0s					
BPAW	**Bear Paw Mtn.**	**65.02**	**25**	*e*P	**P**	**01 24 09.3 +2.1**
	comp=E,4.4nm,1.0s					
KURK	**Kurchatov**	**65.06**	**319**	P	**P**	**01 24 08.1 +0.5**
KURK				pmax	pmax	
	comp=Z,26nm,0.7s					
KURK	**Kurchatov**	**65.06**	**319**	*e*P	**P**	**01 24 07.7 +0.1**
	comp=Z,88nm,0.9s					
KURBB	**Kurchatov Arra**	**65.10**	**319**	P	**P**	**01 24 08.1 +0.2**
	comp=Z,26nm,0.7s,baz=99,slow=6.6,SNR=267					
MLY	**Manley**	**65.42**	**24**	*e*P	**P**	**01 24 11.2 +1.3**
	comp=Z,6.8nm,1.2s					
SML	**Sawmill**	**65.49**	**28**	*e*P	**P**	**01 24 10.6 +0.2**
SML				pmax	pmax	
	comp=Z,9.0nm,0.9s					
SML	**Sawmill**	**65.49**	**28**	*e*P	**P**	**01 24 10.6 +0.2**
	comp=Z,8.6nm,0.9s					
NRIK	**Noril'sk**	**65.84**	**340**	P	**P**	**01 24 11.7 -0.7**
	comp=Z,7.3nm,0.8s,baz=179,slow=0.9,SNR=3.8					
SCM	**Sheep Creek Mo**	**65.96**	**28**	*e*P	**P**	**01 24 15.4 +2.0**
SCM				pmax	pmax	
	comp=Z,22nm,0.8s					
SCM	**Sheep Creek Mo**	**65.96**	**28**	*e*P	**P**	**01 24 15.4 +2.0**
	comp=Z,22nm,0.8s					
WRH	**Wood River Hil**	**66.33**	**25**	*e*P	**P**	**01 24 15.1 -0.5**
	comp=Z,5.5nm,0.9s					
COLD	**Coldfoot**	**66.36**	**22**	*e*P	**P**	**01 24 16.0 +0.2**
	comp=Z,7.0nm,1.2s					
MDM	**Murphy Dome**	**66.42**	**25**	*e*P	**P**	**01 24 18.4 +2.2**
	comp=Z,7.4nm,1.3s					
TKM2	**Tokmak 2**	**66.50**	**311**	*e*P	**P**	**01 24 16.6 -0.8**
TKM2				pmax	pmax	
	comp=Z,3.0nm,0.8s					
TKM2	**Tokmak 2**	**66.50**	**311**	*e*P	**P**	**01 24 16.6 -0.8**
	comp=Z,3.2nm,0.8s					
CCB	**Clear Creek Bu**	**66.50**	**25**	*e*P	**P**	**01 24 17.8 +1.1**
	comp=Z,5.8nm,1.4s					
IL1	**Eielson Array**	**66.91**	**25**	*e*P	**P**	**01 24 17.7 -1.6**
ILAR	**Eielson Array**	**66.91**	**25**	P	**P**	**01 24 18.0 -1.4**
	comp=Z,3.4nm,0.9s,baz=257,slow=5.0,SNR=18					
ILB	**Eielson Array**	**66.91**	**25**	*e*P	**P**	**01 24 19.9 +0.5**
PAX	**Paxson**	**67.07**	**27**	*e*P	**P**	**01 24 19.8 -0.7**
PAX				pmax	pmax	
	comp=Z,3.0nm,0.8s					
PAX	**Paxson**	**67.07**	**27**	*e*P	**P**	**01 24 19.8 -0.7**
	comp=Z,3.2nm,0.8s					
AAK	**Ala-Archa**	**67.30**	**310**	P	**P**	**01 24 22.8 +0.3**
	comp=Z,1.0nm,0.3s,baz=13,slow=7.9,SNR=3.5					
AAK	**Ala-Archa**	**67.30**	**310**	*i* P	**P**	**01 24 22.0 -0.5**
AAK				pmax	pmax	
	comp=Z,13nm,1.5s					
AAK	**Ala-Archa**	**67.30**	**310**	*e*P	**P**	**01 24 21.8 -0.6**
EGAK	**Eagle**	**69.31**	**26**	*e*P	**P**	**01 24 35.3 +0.9**
	comp=Z,13nm,1.6s					
VOSK	**Vostochnaya**	**69.96**	**321**	*ce*P	**P**	**01 24 38.0 -0.7**
VOSK				pmax	pmax	
	comp=Z,3.0nm,0.8s					
KKAR	**Karatay Array**	**70.22**	**311**	*e*P	**P**	**01 24 40.7 +0.2**
KKAR				pmax	pmax	
	comp=Z,3.0nm,0.6s					
KKAR	**Karatay Array**	**70.22**	**311**	*e*P	**P**	**01 24 40.7 +0.2**
	comp=Z,2.9nm,0.6s					
BVAR	**Borovoye Array**	**70.33**	**321**	P	**P**	**01 24 40.9 0.0**
	comp=Z,8.6nm,0.7s,baz=96,slow=7.4,SNR=58					
BRVK	**Borovoye**	**70.40**	**321**	*ce*P	**P**	**01 24 41.6 +0.3**
BRVK				pmax	pmax	
	comp=Z,28nm,0.8s					
BRVK	**Borovoye**	**70.40**	**321**	*e*P	**P**	**01 24 41.1 -0.2**
	comp=Z,26nm,0.8s					
PPT	**Papeete**	**70.42**	**115**	LR	LR	01 49 39.4
	comp=Z,83nm,21.0s,baz=340,slow=31					
ZRNK	**Zerenda**	**71.17**	**321**	P	**P**	**01 24 45.4 -0.6**
ZRNK				pmax	pmax	
	comp=Z,11nm,1.1s					
INK	**Inuvik**	**72.78**	**23**	P	**P**	**01 24 55.2 -0.1**
	comp=Z,4.1nm,0.9s,baz=261,slow=4.4,SNR=4.8					
INK	**Inuvik**	**72.78**	**23**	P	**P**	**01 24 55.2 -0.1**
INK				pmax	pmax	
	comp=Z,5.0nm,0.9s					
INK	**Inuvik**	**72.78**	**23**	*e*P	**P**	**01 24 55.5 +0.2**
	comp=Z,7.6nm,1.1s					
DLBC	**Dease Lake**	**74.18**	**33**	*e*P	**P**	**01 25 05.5 +1.6**
	comp=Z,8.9nm,1.4s					
SVE	**Sverdlovsk**	**75.86**	**326**	*e*P	**P**	**01 25 13.8 +0.3**
SVE				pmax	pmax	
	comp=Z,15nm,1.4s					
ARU	**Arti**	**77.04**	**325**	*d i*P	**P**	**01 25 19.8 -0.4**
ARU				*PP	**sP**	**01 25 32.9 -1.5**
ARU						01 28 12.8
ARU				S	**S**	**01 35 07.9 +1.4**
ARU				SS	**SS**	**01 40 02.6 -0.9**
ARU				pmax	pmax	
	comp=Z,14nm,1.7s					
ARU	**Arti**	**77.04**	**325**	*e*P	**P**	**01 25 19.5 -0.7**
	comp=Z,21nm,1.6s					
AB31	**Akbulak array**	**77.08**	**318**	*i* P	**P**	**01 25 19.9 -0.7**
AB31				pmax	pmax	
	comp=Z,4.0nm,0.9s					
ABKAR	**Akbulak array**	**77.08**	**318**	*e*P	**P**	**01 25 20.5 -0.1**
	comp=Z,4.0nm,0.8s					
GEYT	**Alibeck**	**80.17**	**307**	P	**P**	**01 25 39.4 +1.5**
	comp=Z,3.1nm,0.7s,baz=31,slow=3.5,SNR=7.7					
YKA	**Yellowknife Ar**	**81.16**	**28**	P	**P**	**01 25 42.5 -0.1**
	comp=Z,1.6nm,0.7s,baz=288,slow=5.2,SNR=7.7					
NV01	**Mina Array Sit**	**84.88**	**52**	*e*P	**P**	**01 26 03.6 +1.0**
NVAR	**Mina Array Bea**	**84.88**	**52**	P	**P**	**01 26 01.3 -1.4**
	comp=Z,0.7nm,0.6s,baz=284,slow=4.5,SNR=5.3					
BSMT	**Bassoo Peak**	**84.90**	**42**	*e*P	**P**	**01 26 03.9 +1.3**
MFID	**Camas Ranch**	**85.40**	**46**	*e*P	**P**	**01 26 04.7 -0.3**
	comp=Z,3.9nm,0.9s					
KLMR	**Klimovskoe**	**85.58**	**332**	*e*P	**P**	**01 26 03.1 -2.3**
KLMR				pmax	pmax	
	comp=Z,12nm,1.5s					
ARCES	**ARCESS Array B**	**86.74**	**342**	P	**P**	**01 26 10.3 -0.6**
	comp=Z,6.4nm,1.1s,baz=58,slow=7.5,SNR=5.5					
LRM	**Limekiln Ridge**	**87.03**	**43**	*e*P	**P**	**01 26 13.9 +0.7**
DUG	**Dugway, Tooele**	**88.48**	**49**	*e*P	**P**	**01 26 21.6 +1.4**
DUG				pmax	pmax	
	comp=Z,3.0nm,0.9s					
DUG	**Dugway, Tooele**	**88.48**	**49**	*e*P	**P**	**01 26 21.6 +1.4**
	comp=Z,2.9nm,0.9s					
HWUT	**Hardware Ranch**	**88.94**	**47**	*e*P	**P**	**01 26 22.4 +0.1**
OBN	**Obninsk**	**89.31**	**327**	*e*P	**P**	**01 26 22.1 -1.3**
OBN				pmax	pmax	
	comp=Z,6.0nm,1.1s					
VSR	**Storozhevoye**	**89.44**	**323**	*e*P	**P**	**01 26 23.9 -0.2**
VSR				pmax	pmax	
	comp=Z,7.0nm,0.9s					
PDAR	**Pinedale Array**	**89.97**	**46**	P	**P**	**01 26 25.7 -1.5**
	comp=Z,0.2nm,0.5s,baz=212,slow=3.2,SNR=2.8					
FFC	**Flin Flon**	**90.01**	**33**	*e*P	**P**	**01 26 27.7 +0.9**
FFC	**Flin Flon**	**90.01**	**33**	*e*P	**P**	**01 26 27.7 +0.9**
U15A	**North Rim**	**90.03**	**52**	*e*P	**P**	**01 26 28.9 +1.2**
	comp=Z,5.2nm,1.0s					
FINES	**FINESS Array B**	**91.07**	**336**	P	**P**	**01 26 30.0 -1.5**
	comp=Z,2.0nm,0.7s,baz=64,slow=4.4,SNR=9.5					
SMCO	**Snowmass**	**93.07**	**48**	*e*P	**P**	**01 26 43.0 +1.2**
	comp=Z,3.5nm,1.1s					
LSZ	**Lusaka**	**120.84**	**261**	*e*PKIKP	**PKPdf**	**01 32 21.2 +0.7**
LSZ	**Lusaka**	**120.84**	**261**	*e*PKPdf	**PKPdf**	**01 32 21.2 +0.7**
TORD	**Torodi Ar. Bea**	**135.81**	**307**	PKhKP	PKPpre	01 32 40.5
	comp=Z,0.3nm,0.9s,baz=21,slow=3.1,SNR=2.5					
DBIC	**Dimbokro**	**144.84**	**305**	PKP	PKPbc	01 33 04.7 +0.4
	comp=Z,13nm,0.6s,baz=38,slow=3.3,SNR=29					
KIC	**Kean Boka**	**144.94**	**304**	*e*PKP1	PKPbc	01 33 05.0 +0.4
	comp=Z,32nm,0.7s					
TIC	**Toumodi**	**144.99**	**305**	*e*PKP1	PKPbc	01 33 04.9 +0.1
LIC	**Lamto**	**145.25**	**305**	*e*PKP1	**PKPbc**	**01 33 05.6 0.0**
	comp=Z,28nm,0.7s					
LVC	**Limon Verde**	**145.30**	**109**	PKPbc	**PKPbc**	**01 33 05.1 -0.9**
	comp=Z,19nm,0.7s,baz=211,slow=2.2,SNR=3.1					
LPAZ	**La Paz**	**146.33**	**98**	PKPbc	**PKPbc**	**01 33 09.5 -0.1**
	comp=Z,3.8nm,0.9s,baz=278,slow=3.4,SNR=14					
SAML	**Samuel**	**150.16**	**83**	*e*PKPbc	**PKPbc**	**01 33 18.6 -0.5**
SIV	**San Ignacio**	**153.10**	**97**	PKPbc	**PKPbc**	**01 33 25.7 -0.1**
	comp=Z,2.0nm,0.9s,baz=347,slow=0.5,SNR=3.7					

IDC 10 01:14:11.5±1.6, 15.73S×177.62E, h0km, mb3.9/6, mb1 4.3/6, mb1mx3.9/33, mbtmp3.9/6, MS3.4/3, Ms1 3.4/3, ms1mx3.1/25, Error ellipse: s-maj=111.6km s-min=23.8km az=148.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**10.41**	**81**	LR	LR	01 19 34.4	
	comp=Z,281nm,19.5s,baz=136,slow=31						
PPT	**Papeete**	**31.46**	**98**	LR	LR	01 30 19.1	
	comp=Z,63nm,19.7s,baz=260,slow=31						
STKA	**Stephens Creek**	**36.47**	**237**	P	P	01 21 18.6	+0.1
	2.0nm,0.7s,baz=58,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**41.34**	**258**	P	P	01 21 59.5	0.0
	1.1nm,0.9s,baz=90,slow=7.3,SNR=3.1						
ASAR	**Alice Springs**	**41.78**	**252**	P	P	01 22 02.8	-0.4
	3.9nm,0.9s,baz=86,slow=9.0,SNR=14						
KSRS	**Korea Array**	**70.57**	**320**	LR	LR	01 51 05.6	
	comp=Z,20nm,20.8s,baz=113,slow=31						
ILAR	**Eielson Array**	**84.68**	**14**	P	P	01 26 47.0	+0.1
	1.4nm,0.8s,baz=231,slow=5.7,SNR=5.5						
TXAR	**Lajitas Array**	**88.09**	**59**	P	P	01 27 04.6	0.0
	0.4nm,0.9s,baz=221,slow=6.6,SNR=4.0						
PDAR	**Pinedale Array**	**88.44**	**45**	P	P	01 27 05.8	-0.2
	0.5nm,0.7s,baz=248,slow=3.8,SNR=4.7						

*CSEM **10** 01:15:25.0, 43.89N×11.99E, h8km, MD1.9/8*
ROM 10 01:15:25.0±1.0, 43.89N×11.99E, h8km, Md1.9/8, Ml1.2/4, Error ellipse: s-maj=1.8km s-min=0.9km az=16.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T0502	**Localit˜ San**	**0.10**	**84**	Pg	Pg	01 15 27.8	+0.3
T0502				Sg	Sg	01 15 30.1	+0.8
SFI	**Santa Sofia**	**0.11**	**278**	Pg	Pg	01 15 27.9	+0.3
SFI				Sg	Sg	01 15 30.1	+0.7
SFI	**Santa Sofia**	**0.11**	**278**	Pg	Pg	01 15 27.9	+0.3
SFI				Sg	Sg	01 15 30.1	+0.7
ASQU	**Asqua**	**0.17**	**238**	Pg	Pg	01 15 29.3	+0.6
ASQU				Sg	Sg	01 15 32.4	+1.2
ASQU	**Asqua**	**0.17**	**238**	Pg	Pg	01 15 29.3	+0.6
ASQU				Sg	Sg	01 15 32.4	+1.2
CPGN	**Carpegna, Ital**	**0.25**	**110**	Pg	Pb	01 15 31.5	-0.4
	46µm,21.0s						
CPGN	**Carpegna, Ital**	**0.25**	**110**	Pg	Pb	01 15 31.5	-0.4
	46µm,21.0s						
VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	01 15 32.3	+0.7
VMG				Sg	Sb	01 15 38.1	-0.5
VMG	**Vicchio**	**0.33**	**283**	Pg	Pg	01 15 32.3	+0.7
VMG				Sg	Sb	01 15 38.1	-0.5
BADI	**Badiali**	**0.42**	**154**	Pg	Pg	01 15 33.5	+0.3
BADI				Sg	Sb	01 15 40.8	-0.4
	243nm,3.5s						
BADI	**Badiali**	**0.42**	**154**	Pg	Pg	01 15 33.5	+0.3
BADI				Sg	Sb	01 15 40.8	-0.4
	243nm,3.5s						
ATMC	**Monte Cedrone**	**0.47**	**162**	Pg	Pg	01 15 34.3	+0.2
ATMC				Sg	Sb	01 15 42.2	-0.3
	69nm,1.5s						
ATMC	**Monte Cedrone**	**0.47**	**162**	Pg	Pg	01 15 34.3	+0.2
ATMC				Sg	Sb	01 15 42.2	-0.3
	69nm,1.5s						
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	01 15 34.9	+0.4
SEI				Sg	Sb	01 15 42.9	-0.2
	184µm,0.2s						
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	01 15 34.9	+0.4
SEI				Sg	Sb	01 15 42.9	-0.2
	184µm,0.2s						
PIEI	**Pieia**	**0.53**	**132**	Pg	Pg	01 15 35.2	0.0
PIEI				Sg	Sb	01 15 43.9	-0.4
	120nm,2.9s						
PIEI	**Pieia**	**0.53**	**132**	Pg	Pg	01 15 35.2	0.0
PIEI				Sg	Sb	01 15 43.9	-0.4
	120nm,2.9s						

JMA 10 01:18:17.2±0.1, 38.59N×142.10E, h50km±1km, M3.5,

Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.59**	**326**	P	Pn	01 18 29.8	+0.2
OFUJ				S	Sn	01 18 38.7	+0.1
JIO	**Ouri**	**0.60**	**257**	P	Pn	01 18 29.7	0.0
JIO				S	Sn	01 18 38.3	-0.4
JMK	**Ichinoseki**	**0.78**	**298**	P	Pn	01 18 32.2	+0.3
JMK				S	Sn	01 18 43.0	+0.3
JOM	**Ohasama**	**1.08**	**325**	P	Pn	01 18 36.5	+0.5
JOM				S	Sn	01 18 50.7	+0.7
JOU	**Okura**	**1.15**	**259**	P	Pn	01 18 37.3	+0.4
JOU				S	Sn	01 18 51.8	+0.2
JMM	**Marumori**	**1.26**	**235**	P	Pn	01 18 38.2	-0.2
JMM				S	Sn	01 18 53.6	-0.6
JRG	**Rokugo**	**1.40**	**306**	P	Pn	01 18 40.8	+0.5
JYK	**Kaneyama**	**1.40**	**284**	P	Pn	01 18 40.8	+0.5
JFK	**Kawauchi**	**1.56**	**219**	P	Pn	01 18 42.4	-0.1
JFK				*e*S	Sn	01 19 00.9	-0.7
JYS	**Shirataka**	**1.64**	**258**	P	Pn	01 18 44.2	+0.6
JYS				*e*S	Sn	01 19 04.8	+1.2
MAT	**Matsushiro**	**3.71**	**238**	P	Pn	01 19 13.9	+1.9
MAT				S	Sn	01 19 52.6	-1.8

*ISCJB **10** 01:20:08.9±0.3, 34.27N±0.03×100.91E±0.04, h10km, mb4.1/35, MS3.7/4, Error ellipse: s-maj=5.0km s-min=4.0km az=38.9*
*NEIC **10** 01:20:10.8±0.3, 34.32N×100.83E, h10km, mb4.2/8, Error ellipse: s-maj=7.1km s-min=5.9km az=211.0*
*BJI **10** 01:20:12.0, 34.34N×100.80E, h10km, mb4.3/5, mB4.4/2, ML4.5/7, Ms4.1/17, Ms7 4.1/15*
*MOS **10** 01:20:12.4±0.7, 34.32N×100.85E, h33km, mb4.5/10, Error ellipse: s-maj=12.0km s-min=7.4km az=99.7*
*IDC **10** 01:20:14.2±5.0, 34.32N×100.79E, h33km±38km, mb3.9/25, mb1 4.0/28, mb1mx3.9/55, mbtmp4.1/28, ML3.9/3, MS3.7/7, Ms1 3.8/7, ms1mx3.3/51, Error ellipse: s-maj=16.0km s-min=11.8km az=19.0*

ISC 10 01:20:10.6±0.4, 34.14N±0.05×100.83E±0.05, h10km, n70, σ1§55/81, mb4.1/35, MS3.7/4, 2C, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**3.14**	**51**	⇑Pn	**Pn**	**01 21 01.1**	**+0.8**
LZH				Pg	**Pb**	**01 21 08.2**	**+1.6**
LZH				Sg	**Sb**	**01 21 47.3**	**+2.2**
LZH				LN			
	2µm,5.0s						
LZH				LE			
	2µm,6.1s						
LZH				LZ			
	3µm,6.5s						
CD2	**Chengdu**	**4.06**	**142**	Pn	**Pn**	**01 21 15.3**	**+2.4**
CD2				Pg	**Pg**	**01 21 29.5**	**+1.0**
CD2				Sn	**Sn**	**01 22 02.6**	**+2.0**
CD2				Sg	**Sg**	**01 22 23.8**	**+2.7**
CD2				SMN			
	420nm,1.1s						
CD2				SME			
	340nm,1.1s						
GTA	**Gaotai**	**5.32**	**351**	⇑Pn	**Pn**	**01 21 32.5**	**+2.2**
GTA				Pg	**Pb**	**01 21 46.9**	**+3.1**
GTA				Sn	**Sn**	**01 22 32.9**	**+1.2**
GTA				Sg	**Sb**	**01 22 54.2**	**+6.5**
GTA				LN			
	1µm,7.6s						
GTA				LE			
	720nm,8.1s						
GTA				LZ			
	1µm,8.6s						
XAN	**Xi'an**	**6.71**	**89**	Pn	**Pn**	**01 21 48.9**	**-0.4**
XAN				LN			
	760nm,13.5s						
XAN				LE			
	440nm,12.4s						
HHC	**Hu-ho-hao-te**	**10.84**	**49**	*e*P	**Pn**	**01 22 46.9**	**+1.0**
HHC				sP		01 22 56.8	
HHC				S	**Sn**	**01 24 44.5**	**-2.7**
HHC				PMZ			
	110nm,7.6s						
HHC				LN			
	760nm,10.7s						
HHC				LE			
	490nm,9.7s						
HHC				LZ			
	430nm,7.4s						
WMQ	**Urumqi**	**14.05**	**317**	P	**Pn**	**01 23 29.2**	**-0.5**
WMQ				PP	**P**	**01 23 40.7**	**+3.1**
WMQ				S	**Sn**	**01 26 06.9**	**+1.2**
WMQ				SS	**SnSn**	**01 26 21.2**	**+3.1**
WMQ				LN			
	280nm,9.4s						
WMQ				LE			
	230nm,9.0s						
SONM	**Songino Array**	**14.30**	**15**	Pn	**Pn**	**01 23 32.1**	**-1.2**
	0.4nm,0.3s,baz=200,slow=13,SNR=11						
SONM				Sn	Sn	01 25 57.1	-15
	0.1nm,0.3s,baz=180,slow=26,SNR=2.5						
SONM				Lg	Lg	01 27 44.7	
	baz=210,slow=29,SNR=4.5						
SONM				LR	LR	01 29 24.0	
	comp=Z,280nm,21.1s,baz=182,slow=39						
ULN	**Ulaanbaatar**	**14.48**	**17**	*e*P	**Pn**	**01 23 33.4**	**-2.4**
ULN				pmax	pmax		
	comp=Z,31nm,1.4s						
ULN	**Ulaanbaatar**	**14.48**	**17**	*e*Pn	**Pn**	**01 23 33.4**	**-2.4**
	comp=Z,31nm,1.4s						
CMAR	**Chiang Mai Arr**	**15.71**	**187**	Pn	**P**	**01 23 55.8**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=358,slow=11,SNR=4.1						
CMAR				LR	LR	01 30 34.7	
	comp=Z,265nm,19.9s,baz=17,slow=39						
ZAK	**Zakamensk**	**16.33**	**6**	*e*P	**Pn**	**01 23 57.4**	**-2.6**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.6s						
MOY	**Mondy**	**17.52**	**0**	*e*P	**Pn**	**01 24 15.2**	**+0.3**
MKAR	**Makanchi Array**	**18.88**	**318**	P	**P**	**01 24 29.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=123,slow=13,SNR=3.6						
MKAR				S	Sn	01 27 50.8	-12
	comp=Z,0.2nm,0.3s,baz=121,slow=23,SNR=5.2						
MKAR				LR	LR	01 32 20.6	
	comp=Z,246nm,20.4s,baz=123,

KURK	**Kurchatov**	**23.16**	**322**	P		**P**		**01 25 16.0**	**-1.1**
KURK								01 29 04.2	
KURK	**Kurchatov**	**23.16**	**322**	P		**P**		**01 25 15.9**	**-1.1**
KURK				PcP		**PcP**		**01 29 04.2**	**-1.1**
JNU	**Nakatsue**	**25.00**	**84**	*e*P		**P**		**01 25 34.5**	**-0.2**
	comp=Z,7.2nm,1.2s								
USRK	**Ussuriysk Ar.**	**26.02**	**58**	P		**P**		**01 25 44.7**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=198,slow=12,SNR=4.3								
KLR	**Kul'dur**	**27.34**	**47**	P		**P**		**01 25 55.0**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=259,slow=7.8,SNR=4.2								
KLR	**Kul'dur**	**27.34**	**47**	P		**P**		**01 25 55.0**	**-0.6**
BRVK	**Borovoye**	**28.77**	**320**	*e*P		**P**		**01 26 06.9**	**-1.4**
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.7s								
BRVK	**Borovoye**	**28.77**	**320**	*e*P		**P**		**01 26 06.9**	**-1.4**
	comp=Z,5.5nm,0.7s								
MJAR	**Matsushiro Arr**	**30.46**	**75**	P		**P**		**01 26 24.4**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=264,slow=6.6,SNR=3.9								
ABKAR	**Akbulak array**	**33.60**	**309**	*e*P		**P**		**01 26 50.0**	**-0.9**
	comp=Z,1.6nm,0.7s								
GEYT	**Alibeck**	**34.53**	**289**	P		**P**		**01 26 59.7**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=96,slow=3.0,SNR=5.9								
NRIK	**Noril'sk**	**36.02**	**352**	P		**P**		**01 27 10.6**	**-1.0**
	comp=Z,6.4nm,0.8s,baz=166,slow=8.5,SNR=6.5								
ARU	**Arti**	**36.34**	**321**	*e*P		**P**		**01 27 13.7**	**-0.8**
ARU				pmax	pmax				
	comp=Z,5.0nm,0.8s								
ARU	**Arti**	**36.34**	**321**	*e*P		**P**		**01 27 13.7**	**-0.8**
	comp=Z,4.6nm,0.8s								
TIXI	**Tiksi**	**40.38**	**13**	P		**P**		**01 27 45.7**	**-2.5**
	comp=Z,1.0nm,0.4s,baz=224,slow=6.5,SNR=3.6								
PETK	**Petropavlovsk-**	**44.03**	**47**	P		**P**		**01 28 18.1**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=270,slow=4.3,SNR=3.2								
LPSR	**Galich'ya Gora**	**47.08**	**313**	*e*P		**P**		**01 28 42.3**	**-0.1**
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
OBN	**Obninsk**	**48.38**	**316**	LR		LR		01 50 25.3	
	comp=Z,104nm,21.8s,baz=89,slow=38								
BRTR	**Keskin Array B**	**52.87**	**297**	P		**P**		**01 29 26.7**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=93,slow=6.5,SNR=21								
AKASG	**Malin Array Be**	**53.30**	**311**	P		**P**		**01 29 28.4**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=67,slow=7.3,SNR=6.0								
ARCES	**ARCESS Array B**	**53.35**	**335**	P		**P**		**01 29 28.6**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=95,slow=9.9,SNR=6.0								
FINES	**FINESS Array B**	**53.51**	**325**	P		**P**		**01 29 30.0**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=91,slow=7.6,SNR=6.9								
FINES	**FINESS Array B**	**53.51**	**325**	P		**P**		**01 29 30.0**	**-0.9**
VYHS	**Vyhne**	**60.40**	**311**	*e*P		**P**		**01 30 20.3**	**+0.3**
VYHS				pmax	pmax				
	comp=Z,3.0nm,1.5s								
VYHS	**Vyhne**	**60.40**	**311**	*e*P		**P**		**01 30 20.3**	**+0.3**
NB2	**NORSAR Subarra**	**60.61**	**326**	P		**P**		**01 30 19.3**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=82,slow=6.5								
NOA	**NORSAR Array B**	**60.61**	**326**	P		**P**		**01 30 19.4**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=73,slow=9.3,SNR=3.4								
WRAB	**Tennant Creek**	**62.54**	**144**	*e*P		**P**		**01 30 35.4**	**+0.7**
WRAB				pmax	pmax				
	comp=Z,8.0nm,1.0s								
WRAB	**Tennant Creek**	**62.54**	**144**	*e*P		**P**		**01 30 35.4**	**+0.7**
	comp=Z,8.4nm,1.0s								
WRA	**Warramunga Arr**	**62.54**	**144**	P		**P**		**01 30 35.7**	**+0.9**
	comp=Z,3.6nm,0.9s,baz=336,slow=7.8,SNR=12								
BRG	**Berggiesshubel**	**62.56**	**315**	*e*P		**P**		**01 30 34.3**	**-0.3**
	comp=Z,3.4nm,0.9s								
BRG	**Berggiesshubel**	**62.56**	**315**	*e*P		**P**		**01 30 34.3**	**-0.3**
BRG				pmax	pmax				
	comp=Z,3.0nm,0.9s								
GERES	**GERESS Array B**	**63.46**	**312**	P		**P**		**01 30 40.3**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=64,slow=7.6,SNR=7.5								
ASAR	**Alice Springs**	**65.53**	**147**	P		**P**		**01 30 55.8**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=330,slow=6.3,SNR=14								
ILAR	**Eielson Array**	**68.28**	**25**	P		**P**		**01 31 09.8**	**-1.7**
	comp=Z,1.3nm,1.0s,baz=292,slow=6.0,SNR=10								
KMBO	**Kilima Mbogo**	**69.02**	**254**	P		**P**		**01 31 17.0**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=53,slow=10,SNR=6.1								
KMBO	**Kilima Mbogo**	**69.02**	**254**	P		**P**		**01 31 17.0**	**-0.1**
INK	**Inuvik**	**70.19**	**19**	P		**P**		**01 31 22.3**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=321,slow=5.0								
KEST	**Kesra**	**72.10**	**301**	LR		LR		02 10 22.7	
	comp=Z,132nm,18.6s,baz=231,slow=42								
ESDC	**Sonseca Array**	**78.94**	**311**	P		**P**		**01 32 14.1**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=45,slow=5.8,SNR=10								
YKA	**Yellowknife Ar**	**79.57**	**16**	P		**P**		**01 32 16.7**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=322,slow=5.1,SNR=6.2								
TORD	**Torodi Ar. Bea**	**90.11**	**286**	P		**P**		**01 33 09.6**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=40,slow=3.1,SNR=6.0								
SAML	**Samuel**	**150.94**	**326**	*e*PKPbc		**PKPbc**		**01 40 03.1**	**-1.2**

NIED **10** *01:25:00,23.˙60N×121.˙60E,h35km,Mw4.7 Best double couple: M₀1.21000×10¹⁶ NP1:φ₀9.00000°,δ47.00000°, λ63.00000°. NP2:φ₀225.00000°,δ49.00000°,λ116.00000°.*

JMA **10** *01:25:20.8±0.1,23.˙58N×121.˙58E,h39km±3km,M4.7*

MOS **10** *01:25:20.1±0.9,23.˙57N×121.˙71E,h35km,mb4.9/47,Error ellipse: s-maj=8.9km s-min=5.2km az=119.2*

ISCJB **10** *01:25:21.7±0.2,23.˙58N±0.˙01×121.˙67E±0.˙01,h46km±1km, mb4.7/118,MS4.0/5, Error ellipse: s-maj=2.6km s-min=1.8km az=150.2*

NEIC **10** *01:25:21.5±0.6,23.˙55N×121.˙61E,h31km±4km,mb4.8/62, MW4.5,ML5.2(TAP),Error ellipse: s-maj=4.4km s-min=3.4km az=122.0,Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁵Nm; Mrr=4.17; Mθθ=1.29; Mφφ=2.89; Mrθ=0.85; Mrφ=3.86; Mθφ=4.45; Best double couple: M₀7.00000×10¹⁵ NP1:φ₀9.00000°,δ68.00000°, λ58.00000°. NP2:φ₀248.00000°,δ39.00000°,λ143.00000°. Principal axes: T 7.1100, Plg55.0000°, Azm238.0000°; N -0.2000, Plg30.0000°, Azm23.0000°; P -6.9000, Plg17.0000°, Azm122.0000°.*

NEIC Felt at Changhua, Hualien, Taichung and Taipei. Recorded [4 TAP] in Hualien; [3 TAP] in Taitung; [2 TAP] in Changhua, Chiayi, Nantou, Yilan and Yunlin; [1 TAP] in Miaoli.

TAP **10** *01:25:22.1,23.˙59N×121.˙59E,h35km,ML5.1,B*

BJI **10** *01:25:22.2,23.˙72N×121.˙51E,h27km,mb4.4/51,mB4.7/36, ML4.7/10,Ms4.3/51,Ms7 4.1/45*

IDC **10** *01:25:23.2±2.7,23.˙63N×121.˙76E,h49km±25km,mb4.1/33, mb1 4.3/37,mb1mx4.2/61,mbtmp4.4/37,ML4.2/4,MS3.8/9, Ms1 3.8/9,ms1mx3.4/39,Error ellipse: s-maj=13.4km s-min=10.8km az=55.0*

ISC 10 01:25:22.3±0.3,23.˙57N±0.˙02×121.˙69E±0.˙02,h35km±1km, n386,σ1s64/458,mb4.7/118,MS4.0/5,52C-18D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
TEGC	**Jichi Village**	**0.20**	**316**	*e*P		**Pn**	**01**	**25**	**29.1**	**-0.9**
	baz=344									
TEGC				*e*S		**Sn**	**01**	**25**	**34.2**	**-2.1**
	baz=344									
ESL	**Shilin**	**0.34**	**316**	⇑*i*P		**Pn**	**01**	**25**	**29.3**	**-1.4**
	baz=320									
EHY	**Hungye**	**0.34**	**260**	⇑*i*P		**Pn**	**01**	**25**	**29.4**	**-1.3**
	baz=259									
ESF	**Shoufeng Towns**	**0.35**	**331**	⇑P		**Pn**	**01**	**25**	**30.6**	**-0.2**
	baz=339									
ESF				*e*S		**Sn**	**01**	**25**	**36.3**	**-0.6**
	baz=339									
YULB	**Yu-li**	**0.40**	**244**	*e*Pg		**Pn**	**01**	**25**	**29.9**	**-1.5**
YULB				*e*Sg		**Sn**	**01**	**25**	**35.1**	**-2.8**
HWA	**Hwalien**	**0.42**	**349**	⇓*i*P		**Pn**	**01**	**25**	**31.3**	**-0.4**
	baz=11									
TWF1	**Yuli**	**0.42**	**240**	⇑*i*P		**Pn**	**01**	**25**	**30.7**	**-1.0**
	baz=236									
TWF1				*e*S		**Sn**	**01**	**25**	**36.3**	**-2.1**
	baz=236									
TWD	**Chiawan**	**0.52**	**350**	⇑*i*P		**Pn**	**01**	**25**	**32.5**	**-0.7**
	baz=353									
TWD				*e*S		**Sn**	**01**	**25**	**40.0**	**-0.7**
	baz=353									
WDT	**Danda**	**0.55**	**290**	⇑*i*P		**Pn**	**01**	**25**	**32.1**	**-1.7**
	baz=292									
CHKT	**Chengkung**	**0.55**	**213**	⇑P		**Pn**	**01**	**25**	**33.2**	**-0.5**
	baz=190									
CHKT				*e*S		**Sn**	**01**	**25**	**41.0**	**-0.7**
	baz=190									
NACB	**Ninganchiao**	**0.61**	**352**	*e*Pg		**Pn**	**01**	**25**	**33.0**	**-1.5**
NACB				*e*Sg		**Sn**	**01**	**25**	**41.8**	**-1.3**
YUS	**Yu-Shan**	**0.68**	**264**	⇑*i*P		**Pn**	**01**	**25**	**34.8**	**-1.1**
	baz=259									
SSLB	**Suanglung**	**0.71**	**288**	*e*Pg		**Pn**	**01**	**25**	**33.9**	**-1.9**
ELDTW	**Lidau**	**0.72**	**239**	⇑*i*P		**Pn**	**01**	**25**	**34.7**	**-1.4**
	baz=231									
EHP	**Heping Village**	**0.74**	**4**	*e*P		**Pn**	**01**	**25**	**36.6**	**+0.3**
	baz=12									
ALS	**Alishan**	**0.81**	**266**	⇑*i*P		**Pn**	**01**	**25**	**36.9**	**-0.7**
	baz=263									
TWT	**Tachien**	**0.83**	**326**	⇑*i*P		**Pn**	**01**	**25**	**36.9**	**-0.7**
	baz=330									
TWT				*e*S		**Sn**	**01**	**25**	**46.4**	**-2.4**
	baz=330									
TYC	**Yuchr**	**0.83**	**294**	⇑*i*P		**Pn**	**01**	**25**	**36.3**	**-1.2**
	baz=302									
ENA	**Nanau**	**0.86**	**3**	⇑*i*P		**Pn**	**01**	**25**	**37.5**	**-0.4**
	baz=19									
NNS	**Nan Shan**	**0.92**	**342**	⇑P		**Pn**	**01**	**25**	**37.9**	**-0.9**
	baz=356									
CHN5	**Tsauling**	**0.93**	**272**	⇑*i*P		**Pn**	**01**	**25**	**38.6**	**-0.3**
	baz=270									
TWG	**Pinlang**	**0.94**	**218**	⇓P		**Pn**	**01**	**25**	**37.4**	**-1.5**
	baz=200									
TWG	**Pinlang**	**0.94**	**218**	*e*Pn		**Pn**	**01**	**25**	**37.1**	**-1.8**
STYT	**Tauyuan**	**0.95**	**245**	⇑*i*P		**Pn**	**01**	**25**	**38.9**	**-0.2**
	baz=239									
TTN	**Taitung**	**0.95**	**212**	*e*P		**Pn**	**01**	**25**	**38.1**	**-1.0**
	baz=204									
WNT	**Mingjian**	**0.97**	**289**	⇑*i*P		**Pn**	**01**	**25**	**39.3**	**-0.1**
	baz=290									
WNT				S		**Sn**	**01**	**25**	**51.1**	**-0.9**
	baz=290									
TPUB	**Ta-pu**	**1.01**	**255**	*e*Pn		**Pn**	**01**	**25**	**39.7**	**-0.3**
TPUB				*e*Sn		**Sn**	**01**	**25**	**51.7**	**-1.2**
CHN4	**Tsaushan**	**1.03**	**258**	⇑*i*P		**Pn**	**01**	**25**	**40.3**	**+0.1**
	baz=255									
WTP	**Ta-pu**	**1.04**	**252**	⇑*i*P		**Pn**	**01**	**25**	**40.4**	**0.0**
	baz=240									
WGK	**Gukeng**	**1.04**	**277**	⇑*i*P		**Pn**	**01**	**25**	**40.3**	**0.0**
	baz=276									
WGK				*e*S		**Sn**	**01**	**25**	**53.0**	**-0.7**
	baz=276									
TWC	**Suao**	**1.05**	**8**	⇑*i*P		**Pn**	**01**	**25**	**40.6**	**+0.2**
	baz=22									
ENTT	**Nioudou**	**1.07**	**354**	⇑P		**Pn**	**01**	**25**	**40.4**	**-0.5**
TCU	**Taichung**	**1.09**	**302**	⇑*i*P		**Pn**	**01**	**25**	**41.4**	**+0.3**
	baz=305									
TCU				*e*S		**Sn**	**01**	**25**	**55.6**	**+0.6**
	baz=305									
CHN2	**Minshiung**	**1.12**	**268**	*e*P		**Pn**	**01**	**25**	**41.4**	**0.0**
	baz=266									
SGST	**Jiashian**	**1.13**	**245**	P		**Pn**	**01**	**25**	**42.2**	**+0.6**
	baz=241									
CHN1	**Nanshi**	**1.13**	**251**	⇑P		**Pn**	**01**	**25**	**42.0**	**+0.4**
	baz=245									
CHN1				S		**Sn**	**01**	**25**	**56.3**	**+0.3**
	baz=245									
YHNB	**Yeheng**	**1.14**	**345**	*e*Pn		**Pn**	**01**	**25**	**41.2**	**-0.5**
YHNB				*e*Sn		**Sn**	**01**	**25**	**54.7**	**-1.4**
TWK	**Hsinying**	**1.14**	**255**	⇑*i*P		**Pn**	**01**	**25**	**41.9**	**+0.1**
	baz=250									
TWK				*e*S		**Sn**	**01**	**25**	**56.9**	**+0.6**
	baz=250									
TWQ1	**Liyutan**	**1.14**	**313**	⇑*i*P		**Pn**	**01**	**25**	**42.4**	**+0.6**
	baz=331									
TWQ1				S		**Sn**	**01**	**25**	**56.9**	**+0.7**
	baz=331									
NSK	**Sanguang**	**1.15**	**345**	⇑*i*P		**Pn**	**01**	**25**	**41.6**	**-0.2**
NSK				*i* S		**Sn**	**01**	**25**	**55.0**	**-1.3**
TWE	**Neicheng**	**1.15**	**359**	⇑*i*P		**Pn**	**01**	**25**	**41.6**	**-0.2**
	baz=356									
CHY	**Chiayi**	**1.16**	**267**	⇑*i*P		**Pn**	**01**	**25**	**42.4**	**+0.4**
	baz=265									
CHY				*e*S		**Sn**	**01**	**25**	**56.5**	**-0.1**
	baz=265									
ECL	**Taimali**	**1.18**	**215**	*e*P		**Pn**	**01**	**25**	**40.5**	**-1.7**
	baz=208									
ILA	**Ilan**	**1.20**	**3**	*e*P		**Pn**	**01**	**25**	**42.4**	**-0.1**
	baz=357									
NSY	**Sanyi**	**1.20**	**315**	⇑*i*P		**Pn**	**01**	**25**	**43.4**	**+0.8**
	baz=332									
NSY				S		**Sn**	**01**	**25**	**58.8**	**+1.2**
	baz=332									
NSTT	**Nanjuang**	**1.23**	**329**	⇑*i*P		**Pn**	**01**	**25**	**43.7**	**+0.7**
	baz=344									
NSTT				*e*S		**Sn**	**01**	**25**	**57.7**	**-0.7**
	baz=344									
EGS		**1.29**	**10**	⇑P		**Pn**	**01**	**25**	**44.7**	**+0.9**
	baz=16									
CHN3	**Shinhua**	**1.31**	**248**	*e*P		**Pn**	**01**	**25**	**45.7**	**+1.6**
	baz=256									
CHN3				S		**Sn**	**01**	**26**	**03.1**	**+2.8**
	baz=256									
WTCT	**Ta-ch'eng**	**1.32**	**283**	⇑P		**Pn**	**01**	**25**	**44.3**	**0.0**
	baz=273									
WTCT				S		**Sn**	**01**	**26**	**00.9**	**+0.2**
	baz=273									
WSF	**Szhu**	**1.35**	**273**	P		**Pn**	**01**	**25**	**44.5**	**-0.1**
	baz=272									
WSF				*e*S		**Sn**	**01**	**26**	**01.0**	**-0.3**
	baz=272									
CHN8	**Yiju**	**1.38**	**261**	⇑P		**Pn**	**01**	**25**	**45.0**	**+0.1**
	baz=258									
CHN8				*e*S		**Sn**	**01**	**26**	**02.3**	**+0.3**
	baz=258									
TWM1	**Shoushan**	**1.38**	**238**	⇓P		**Pn**	**01**	**25**	**47.0**	**+2.0**
	baz=232									
SGLT	**Jiouru**	**1.39**	**233**	*e*P		**Pn**	**01**	**25**	**47.0**	**+1.9**
	baz=212									
SGLT				*e*S		**Sn**	**01**	**26**	**07.0**	**+4.9**
	baz=212									
HSN	**Hsinchu**	**1.40**	**332**	*e*P		**Pn**	**01**	**25**	**46.5**	**+1.3**
	baz=325									
HSN				S		**Sn**	**01**	**26**	**04.7**	**+2.3**
	baz=325									
TAW	**Tawu**	**1.41**	**211**	*e*P		**Pn**	**01**	**25**	**44.2**	**-1.2**
	baz=205									
EAST	**Anshuo**	**1.41**	**214**	⇓P		**Pn**	**01**	**25**	**44.4**	**-1.1**
	baz=199									
TATO	**Taipei**	**1.42**	**353**	*e*Pn		**Pn**	**01**	**25**	**45.8**	**+0.3**
TATO				*e*Sn		**Sn**	**01**	**26**	**01.4**	**-1.5**
SCLT	**Jiali**	**1.43**	**254**	*e*P		**Pn**	**01**	**25**	**46.3**	**+0.6**
	baz=250									
SCLT				*e*S		**Sn**	**01**	**26**	**04.6**	**+1.3**
	baz=250									
TAI1	**Yung-k'ang**	**1.44**	**249**	*e*P		**Pn**	**01**	**25**	**47.0**	**+1.1**
	baz=259									
TAI1				*e*S		**Sn**	**01**	**26**	**04.6**	**+1.0**
	baz=259									
JYNG	**Yonagunijimaku**	**1.45**	**52**	P		**Pn**	**01**	**25**	**47.3**	**+1.4**
JYNG				S		**Sn**	**01**	**26**	**05.2**	**+1.5**
TWB1	**Santiao Chiao**	**1.46**	**11**	*e*P		**Pn**	**01**	**25**	**47.2**	**+1.1**
	baz=16									
NCU	**National Centr**	**1.47**	**342**	*e*P		**Pn**	**01**	**25**	**46.8**	**+0.5**
	baz=347									
NCU				*e*S		**Sn**	**01**	**26**	**06.0**	**+1.7**
	baz=347									
TAP1	**Taipei**	**1.47**	**354**	*e*P		**Pn**	**01**	**25**	**46.3**	**0.0**
	baz=358									
TAP	**Taipei**	**1.48**	**353**	*e*P		**Pn**	**01**	**25**	**45.7**	**-0.6**
	baz=358									
NWF	**Wu-fen Shan**	**1.50**	**3**	⇑P		**Pn**	**01**	**25**	**47.3**	**+0.5**
	baz=8.0									
YOJ	**Yonaguni jima**	**1.50**	**53**	P		**Pn**	**01**	**25**	**48.1**	**+1.5**
YOJ				S		**Sn**	**01**	**26**	**07.1**	**+2.1**
YOJ	**Yonaguni jima**	**1.50**	**53**	⇓*i*P		**Pn**	**01**	**25**	**48.2**	**+1.5**
	baz=59									
YOJ				*i* S		**Sn**	**01**	**26**	**06.8**	**+1.7**
	baz=59									
YOJ	**Yonaguni jima**	**1.50**	**53**	*e*P		**Pn**	**01**	**25**	**48.2**	**+1.5**
YOJ				*e*			01	26	03.4	
YOJ	**Yonaguni jima**	**1.50**	**53**	*e*Pn		**Pn**	**01**	**25**	**48.2**	**+1.5**
YOJ				*e*Sn		**Sn**	**01**	**26**	**03.4**	**-1.6**
LAY	**Lan-yu**	**1.53**	**185**	⇑*i*P		**Pn**	**01**	**25**	**46.3**	**-0.8**
	baz=172									
SCZT	**Fangliau**	**1.54**	**220**	*e*P		**Pn**	**01**	**25**	**48.1**	**+0.8**
	baz=199									
SCZT				*e*S		**Sn**	**01**	**26**	**08.9**	**+2.8**
	baz=199									
TWS1	**Kuangyinshan**	**1.55**	**351**	*e*P		**Pn**	**01**	**25**	**47.7**	**+0.4**
	baz=10.0									
KAU	**Kaohsiung**	**1.61**	**232**	*e*P		**Pn**	**01**	**25**	**48.0**	**-0.2**
	baz=227									
TWY	**Chenhua**	**1.70**	**357**	*e*P		**Pn**	**01**	**25**	**48.5**	**-0.9**
	baz=1.0									
TWP	**Hsiaoliuchiu**	**1.72**	**225**	*e*P		**Pn**	**01**	**25**	**52.1**	**+2.4**
	baz=220									
HEN	**Hengchun**	**1.79**	**210**	*e*P		**Pn**	**01**	**25**	**50.2**	**-0.4**
	baz=192									
TWK1	**Hengchun**	**1.81**	**207**	*e*P		**Pn**	**01**	**25**	**51.2**	**+0.3**
	baz=192									
TSEB	**Hengchuen, Pin**	**1.81**	**204**	*e*P		**Pn**	**01**	**25**	**51.3**	**+0.3**
	baz=191									
WDGT	**Dungji**	**1.89**	**261**	*e*P		**Pn**	**01**	**25**	**51.5**	**-0.5**
	baz=258									
WDGT				*e*S		**Sn**	**01**	**26**	**12.7**	**-2.0**
	baz=258									
PNG	**Penghu**	**1.96**	**270**	⇑*i*P		**Pn**	**01**	**25**	**52.6**	**-0.3**
	baz=269									
PNG				*e*S		**Sn**	**01**	**26**	**14.6**	**-1.7**
	baz=269									
HATJ	**Hateruma jima**	**2.00**	**75**	P		**Pn**	**01**	**25**	**54.8**	**+1.3**
HATJ				*e*S		**Sn**	**01**	**26**	**19.2**	**+1.9**
IRIF	**Iriomote-Funau**	**2.02**	**67**	P		**Pn**	**01**	**25**	**55.5**	**+1.7**
IRIF				S		**Sn**	**01**	**26**	**20.1**	**+2.4**
PCYT	**Pengchaiyu**	**2.08**	**10**	*e*P		**Pn**	**01**	**25**	**55.4**	**+0.8**
	baz=1.0									
JKRS	**Kuro-shima**	**2.23**	**72**	P		**Pn**	**01**	**25**	**58.4**	**+1.8**
JKRS				*e*S		**Sn**	**01**	**26**	**25.8**	**+2.9**
JIJ	**Ishigaki jima**	**2.38**	**70**	P		**Pn**	**01**	**25**	**59.8**	**+1.0**
JIJ				S		**Sn**	**01**	**26**	**28.0**	**+1.3**
JISG	**Ishigakijimahi**	**2.60**	**66**	P		**Pn**	**01**	**26**	**02.7**	**+0.9**
JISG				S		**Sn**	**01**	**26**	**33.3**	**+1.1**
JTJ	**Tarama**	**2.95**	**68**	P		**Pn**	**01**	**26**	**07.9**	**+1.3**
JTJ				S		**Sn**	**01**	**26**	**42.6**	**+1.8**
KNM	**Kinmen**	**3.10**	**287**	⇑P		**Pn**	**01**	**26**	**09.4**	**+0.7**
	baz=285									
QZH	**Quanzhou**	**3.14**	**296**	⇓*i*Pn		Pn	01	26	01.2	-8.0
QZH						Sn	Sn	01	26	35.0 -11
QZH						smax	smax			
	comp=N,6μm,0.3s									
QZH						smax	smax			
	comp=E,8μm,1.1s									
QZH						LR	LR			
	comp=N,6μm,10.4s									
QZH						LR	LR			
	comp=E,6μm,10.0s									
QZH						LR	LR			
	comp=Z,9μm,10.7s									
JIRB	**Irabujima**	**3.42**	**68**	P		**Pn**	**01**	**26**	**14.0**	**+1.0**
JIRB				S		**Sn**	**01**	**26**	**53.1**	**+0.7**
JIKM	**Ikemajima**	**3.52**	**67**	P		**Pn**	**01**	**26**	**15.7**	**+1.3**
JIKM				S		**Sn**	**01**	**26**	**55.9**	**+1.1**
JOGS	**Gusukube**	**3.60**	**70**	P		**Pn**	**01**	**26**	**17.3**	**+1.8**
JOGS				S		**Sn**	**01**	**26**	**58.8**	**+2.1**
JKE	**Kume jima 2**	**5.38**	**58**	P		**Pn**	**01**	**26**	**40.6**	**+0.6**
JKE				S		**Sn**	**01**	**27**	**40.6**	**-0.1**
JAGN	**Aguni-jima**	**5.86**	**58**	P		**Pn**	**01**	**26**	**47.6**	**+0.9**
JAGN				*e*S		**Sn**	**01**	**27**	**52.6**	**-0.1**
JNTH	**Nagotoyohara**	**6.45**	**62**	P		**Pn**	**01**	**26**	**54.6**	**-0.1**
JNTH				*e*S		**Sn**	**01**	**28**	**06.2**	**-0.9**
JIH	**Iheya**	**6.65**	**57**	P		**Pn**	**01**	**26**	**57.3**	**-0.1**
JIH				*e*S		**Sn**	**01**	**28**	**09.3**	**-2.6**
JOW	**Kunigami**	**6.79**	**60**	P		**Pn**	**01**	**26**	**58.8**	**-0.6**
JOW				S		**Sn**	**01**	**28**	**13.9**	**-1.6**
JOW	**Kunigami**	**6.79**	**60**	⇓*e*P		**Pn**	**01**	**26**	**58.7**	**-0.7**
	baz=67									
JOW	**Kunigami**	**6.79**	**60**	*e*Pn		**Pn**	**01**	**26**	**59.0**	**-0.4**
MCO	**Taipa Grande**	**7.64**	**261**	P		**Sn**	**01**	**28**	**31.0**	**-5.4**
GZH	**Guangzhou**	**7.69**	**268**	P		Pn	01	27	06.6	-5.1
GZH				S		Sn	01	28	23.3	-14
GZH				smax	smax					
	comp=N,10.0nm,1.0s									
GZH				smax	smax					
	comp=E,800nm,1.0s									
JTK	**Tokunoshima**	**7.78**	**56**	P		**Pn**	**01**	**27**	**11.7**	**-1.3**
JAMN	**Amaminishikomi**	**8.19**	**54**	P		**Pn**	**01**	**27**	**17.3**	**-1.3**
JAM	**Amami Oshima**	**8.60**	**54**	P		**Pn**	**01**	**27**	**22.9**	**-1.3**
NJ2

KMI LE
comp=E,750nm,17.0s
KMI LZ
comp=E,1µm,14.9s
CD2 Chengdu 17.53 299 *e*P **Pn 01 29 22.8 -1.2**
CD2 pP pP 01 29 32.2 -1.9
CD2 sP sP 01 29 36.4 -2.2
CD2 S **Sn 01 32 36.5 -1.7**
CD2 PMZ
comp=E,30nm,0.5s
CD2 PMZ
comp=E,230nm,5.0s
CD2 LN
comp=E,930nm,13.2s
CD2 LE
comp=E,2µm,11.8s
CD2 LZ
comp=E,2µm,13.7s
SKNT Sakolnakorn 17.85 252 P **P 01 29 33.9 +5.5**
comp=E,17nm,1.4s
KKM Kota Kinabalu 18.20 198 ⇑P **Pn 01 29 34.9 +2.6**
KKM Kota Kinabalu 18.20 198 *e*Pn **P 01 29 32.1 -0.2**
SDKM Sandakan 18.34 194 ⇑P **Pn 01 29 36.4 +2.4**
JHJ Hachijo jima 2 18.53 55 P **P 01 29 35.0 -0.7**
comp=E,10nm,0.3s,baz=95,slow=20,SNR=3.1
JHJ LR LR 01 36 32.1
comp=E,243nm,18.4s,baz=20,slow=36
CBIJ Chichi jima 18.85 75 *e*P **Pn 01 29 40.6 +0.5**
comp=E,41nm,0.8s
JCJ Chichijima 18.85 75 P **P 01 29 38.7 -0.6**
comp=E,4.0nm,0.3s,baz=270,slow=18,SNR=3.6
JCJ LR LR 01 36 04.8
comp=E,120nm,19.4s,baz=222,slow=34
HHC Hu-ho-hao-te 19.22 336 *e*P **P 01 29 42.4 -1.0**
HHC pP pP 01 29 50.8 -1.9
HHC sP sP 01 29 55.3 -1.9
HHC S **Sn 01 33 11.6 -7.3**
HHC PMZ
comp=E,25nm,0.9s
HHC PMZ
comp=E,180nm,8.7s
HHC LN
comp=E,410nm,14.8s
HHC LE
comp=E,500nm,12.6s
HHC LZ
comp=E,310nm,15.5s
MAJO Matsushiro 19.24 44 *e*P **Pn 01 29 44.2 -0.5**
MAJO pmax pmax
comp=Z,7.0nm,0.7s
MAJO Matsushiro 19.24 44 *e*P **Pn 01 29 44.2 -0.5**
comp=Z,6.6nm,0.7s
MJAR Matsushiro Arr 19.24 44 P **P 01 29 42.5 -1.1**
comp=Z,0.4nm,0.3s,baz=229,slow=8.8,SNR=6.5
MJAR LR LR 01 37 20.0
comp=Z,165nm,20.3s,baz=215,slow=37
LZH Lanzhou 19.84 313 *e*P **Pn 01 29 57.1 +5.0**
LZH pP sP 01 30 06.1 +2.0
LZH sP pP 01 30 11.4 +12
LZH *e*S **Sn 01 33 35.1 +0.9**
LZH sS sS 01 33 48.2 +1.4
LZH SS **SnSn 01 34 03.0 +14**
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,130nm,5.9s
LZH LR LR
comp=N,710nm,12.7s
LZH LR LR
comp=E,1µm,12.1s
LZH LR LR
comp=Z,1µm,14.3s
CHAI Chaiyaphum 20.04 251 P Pn 01 29 58.7 +4.4
comp=Z,7.3nm,0.8s
LOEI Loei 20.05 256 P **P 01 29 51.5 -1.0**
comp=Z,36nm,0.8s,comp=Z,6µm
MSHR Mys Shultsa 20.53 20*c**e*P **P 01 29 57.6 +0.1**
PBKT Sadao Pong 20.66 254 P Pn 01 30 01.0 -0.5
comp=Z,19nm,1.2s,comp=Z,970nm
LAMP Lampang 21.18 260 P **P 01 30 06.8 +2.0**
comp=Z,6.5nm,0.8s
CHTO Chiang Mai 21.72 262 P **P 01 30 12.1 +1.6**
comp=Z,93nm,1.0s
CHTO Chiang Mai 21.72 262 *e*P **P 01 30 10.2 -0.4**
CHTO pmax pmax
comp=Z,16nm,0.8s
CHTO Chiang Mai 21.72 262 *e*P **P 01 30 10.2 -0.4**
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 21.82 261 P **P 01 30 12.6 +0.9**
comp=Z,4.4nm,0.4s,baz=63,slow=7.9,SNR=18
CMAR PcP **PcP 01 34 11.1 +0.2**
comp=Z,1.2nm,0.4s,baz=18,slow=1.6,SNR=5.5
BTM Bintulu 21.89 204 ⇑P **P 01 30 12.6 +0.2**
MDJ Mudanjiang 21.97 15 P **P 01 30 12.9 -0.1**
MDJ pP pP 01 30 21.0 -1.4
MDJ sP sP 01 30 24.8 -2.1
MDJ S **S 01 34 12.1 -1.4**
MDJ PMZ
comp=Z,6.0nm,0.6s
MDJ PMZ
comp=Z,59nm,4.9s
MDJ LN
comp=Z,110nm,14.1s
MDJ LE
comp=Z,380nm,16.3s
MDJ LZ
comp=Z,170nm,13.0s
USRK Ussuriysk Ar. 22.25 20 P **P 01 30 15.1 -0.9**
comp=Z,2.1nm,0.7s,baz=206,slow=15,SNR=8.5
SBUM Sibu 22.91 205 *e*P **P 01 30 22.3 -0.9**
comp=Z,51nm,0.6s
MRSI Marisa 22.95 179 P **P 01 30 27.4 +3.8**
comp=Z,26nm,0.8s
GUMO Guam 24.07 110 *e*P **P 01 30 36.3 +1.8**
GUMO pmax pmax
comp=Z,158nm,1.0s
GUMO Guam 24.07 110 *e*P **P 01 30 36.3 +1.8**
comp=Z,158nm,1.0s
GTA Gaotai 24.35 316 *e*P **P 01 30 37.9 +0.9**
GTA pP pP 01 30 47.4 +0.3
GTA sP sP 01 30 51.4 0.0
GTA PcP **PcP 01 34 15.0 -1.0**
GTA S **S 01 34 52.3 -1.9**
GTA sS sS 01 35 06.6 -4.1
GTA SS **SnSn 01 35 47.2 +8.2**
GTA PMZ
comp=Z,5.0nm,1.0s
GTA PMZ
comp=Z,93nm,5.5s
GTA LN
comp=Z,310nm,15.2s
GTA LE
comp=Z,470nm,16.6s
GTA LZ
comp=Z,610nm,16.2s
LUWI Luwuk 24.48 177 P **P 01 30 41.7 +3.5**
LUWI Luwuk 24.48 177 *e*P **P 01 30 37.2 -1.1**
KSM Kuching 24.58 208 ⇓P **P 01 30 39.6 +0.5**
KSM Kuching 24.58 208 *e*P **P 01 30 38.9 -0.2**
comp=Z,127nm,1.3s
LBMI Labuha 24.71 166 P P 01 30 52.1 +12
STKI Sintang 25.38 204 P **P 01 30 48.4 +2.0**
comp=Z,50nm,1.2s,comp=Z,12µm
ASAJ Asahikawa 26.73 35 *e*P **P 01 30 58.4 +0.1**
KLR Kul'dur 26.81 15 P **P 01 30 57.7 -1.4**
comp=Z,2.7nm,0.5s,baz=226,slow=8.5,SNR=11
KLR LR LR 01 42 53.5
comp=Z,206nm,18.6s,baz=206,slow=39
ULN Ulaanbaatar 26.91 338*c**e*P **P 01 30 59.0 -1.1**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 26.91 338 *e*P **P 01 30 59.5 -0.7**
comp=Z,5.5nm,0.6s
SONM Songino Array 27.11 337 P **P 01 31 01.3 -0.7**
comp=Z,3.3nm,0.6s,baz=155,slow=9.8,SNR=15
SONM PcP **PcP 01 34 21.5 -0.6**
comp=Z,0.7nm,0.6s,baz=157,slow=4.1,SNR=3.7
SONM LR LR 01 43 11.4
comp=Z,403nm,18.4s,baz=147,slow=39
SHL Shillong 27.16 280 *e*P **P 01 31 04.0 +1.4**
SHL *e*P **P 01 31 04.0 +1.4**
NLAI Namlea 27.16 168 P **P 01 31 05.8 +3.4**
comp=Z,58nm,0.8s
KULM Kulim 27.23 231 *e*P **P 01 31 02.4 -0.7**
comp=Z,7.3nm,0.9s

IPM Ipoh 27.53 230 *e*P **P 01 31 03.8 -2.0**
LSA Lhasa 27.92 289 *e*P **P 01 31 10.4 +0.6**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 27.92 289 *e*P **P 01 31 10.4 +0.6**
comp=Z,13nm,0.6s
KAPI Kappang 28.47 184 *e*P **P 01 31 13.6 -0.5**
comp=Z,8.2nm,0.8s
MNSI Mandailing Nat 31.18 227 P **P 01 31 39.2 +1.0**
comp=Z,24nm,0.8s
NGJI Ngawi 32.33 199 P **P 01 31 51.3 +3.1**
comp=Z,74nm,0.9s
KPJI Karang Pucung 33.15 204 P **P 01 31 58.2 +2.8**
comp=Z,32nm,1.0s
WMQ Urumqi 34.42 314 P **P 01 32 09.1 +2.8**
WMQ PMZ
comp=Z,4.0nm,0.8s
WMQ PMZ
comp=Z,28nm,3.6s
WMQ LN
comp=Z,170nm,14.6s
WMQ LE
comp=Z,160nm,11.0s
WMQ LZ
comp=Z,100nm,15.2s
MK01 Makanchi Array 39.09 316 *e*P **P 01 32 46.0 0.0**
MK31 Makanchi Array 39.10 316 *i*P **P 01 32 45.7 -0.4**
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 39.10 316 *e*P **P 01 32 46.1 0.0**
MKAR Makanchi Array 39.10 316 P **P 01 32 46.4 +0.2**
comp=Z,13nm,0.7s,baz=108,slow=10,SNR=67
MKAR PcP **PcP 01 34 53.8 -1.6**
comp=Z,0.5nm,0.4s,baz=104,slow=5.1,SNR=3.7
MAKZ Makanchi 39.31 316 *e*P **P 01 32 47.6 -0.2**
MAKZ pmax pmax
comp=Z,13nm,0.6s
MAKZ Makanchi 39.31 316 *e*P **P 01 32 47.6 -0.2**
comp=Z,13nm,0.6s
PDGK Podgornoye 39.84 310 P **P 01 32 52.4 +0.1**
PDGK pmax pmax
comp=Z,20nm,1.2s
PETK Petropavlovsk- 40.12 33 P **P 01 32 54.1 -0.4**
comp=Z,1.2nm,0.6s,baz=198,slow=7.0,SNR=3.1
ZAA0 Zalesovo Array 41.01 327 *e*P **P 01 33 00.6 -1.2**
ZALV Zalesovo Beam 41.01 327 P **P 01 33 00.2 -1.6**
comp=Z,4.9nm,0.6s,baz=117,slow=8.1,SNR=22
ZALV PcP **PcP 01 35 00.6 -0.7**
comp=Z,0.6nm,0.5s,baz=115,slow=5.4,SNR=2.4
KSH Kashi 41.62 304 P **P 01 33 09.4 +2.2**
KSH pP sP 01 33 20.3 -1.5
KSH PP **PnPn 01 34 51.2 +2.5**
KSH S **S 01 39 23.8 +2.4**
KSH SS **SS 01 42 26.2 -1.0**
KSH ScS **ScS 01 43 05.6 -2.5**
KSH PMZ
comp=Z,6.0nm,0.9s
KSH PMZ
comp=Z,72nm,4.6s
KSH LN
comp=Z,210nm,11.0s
KSH LE
comp=Z,550nm,19.9s
KSH LZ
comp=Z,370nm,16.8s
H11N1 WAKE ISLAND Hy 42.06 86 T T 02 18 11.2
baz=283,slow=75,SNR=300
H11N2 WAKE ISLAND Hy 42.06 86 T T 02 18 11.5
baz=283,slow=75,SNR=442
H11N3 WAKE ISLAND Hy 42.08 86 T T 02 18 12.6
baz=283,slow=75,SNR=422
H11S3 WAKE ISLAND Hy 42.17 88 T T 02 18 23.9
baz=285,slow=75,SNR=460
H11S1 WAKE ISLAND Hy 42.18 88 T T 02 18 23.2
baz=285,slow=75,SNR=292
H11S2 WAKE ISLAND Hy 42.19 88 T T 02 18 25.3
baz=285,slow=75,SNR=373
TKM2 Tokmak 2 42.51 308 P **P 01 33 15.0 +0.5**
TKM2 pmax pmax
comp=Z,14nm,0.7s
TKM2 Tokmak 2 42.51 308 *e*P **P 01 33 15.5 +1.0**
comp=Z,15nm,0.7s
COEN Coen 42.81 148 *e*P **P 01 33 18.4 +1.5**
comp=Z,15nm,1.0s
KURK Kurchatov 42.86 320 *e*P **P 01 33 16.2 -0.8**
KURK 01 35 06.0
KURK pmax pmax
comp=Z,33nm,0.5s
KURK Kurchatov 42.86 320 *e*P **P 01 33 16.1 -0.8**
comp=Z,33nm,0.5s
KURK PcP **PcP 01 35 06.0 -1.5**
KURBB Kurchatov Arra 42.88 320 P **P 01 33 16.5 -0.6**
comp=Z,5.0nm,0.5s,baz=109,slow=9.8,SNR=47
KURBB PcP **PcP 01 35 06.0 -1.5**
comp=Z,0.6nm,0.8s,baz=138,slow=5.7,SNR=3.1
AAK Ala-Archa 43.25 308 P **P 01 33 20.9 +0.5**
comp=Z,4.1nm,0.6s,baz=112,slow=6.7,SNR=9.9
AAK Ala-Archa 43.25 308 *e*P **P 01 33 19.7 -0.7**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 43.25 308 *e*P **P 01 33 19.7 -0.7**
comp=Z,5.2nm,0.8s
EKS2 Erkin-Say 43.77 308 *e*P **P 01 33 24.9 +0.3**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 43.77 308 *e*P **P 01 33 24.9 +0.3**
comp=Z,5.3nm,0.8s
SEY Seymchan 44.40 19 P **P 01 33 27.6 -1.5**
comp=Z,0.8nm,0.2s,baz=197,slow=14,SNR=2.3
SEY Seymchan 44.40 19 *i*P **P 01 33 29.0 -0.1**
MBWA Marble Bar 44.50 183 *e*P **P 01 33 28.5 -1.8**
comp=Z,96nm,1.0s
WRAB Tennant Creek 44.96 163 *i*P **P 01 33 32.7 -1.5**
WRAB Tennant Creek 44.96 163 *e*P **P 01 33 32.6 -1.5**
comp=Z,7.4nm,0.6s
WRA Warramunga Arr 44.97 163 P **P 01 33 33.0 -1.2**
comp=Z,7.3nm,0.5s,baz=345,slow=8.8,SNR=72
WRA PcP **PcP 01 35 13.5 -1.6**
comp=Z,1.4nm,0.8s,baz=340,slow=3.8,SNR=3.8
WB2 Warramunga Ar 44.97 163 *e*P **P 01 33 33.5 -0.7**
comp=Z,11nm,0.6s
OTUK Ortayu 45.95 315 P **P 01 33 42.1 +0.3**
OTUK pmax pmax
comp=Z,13nm,0.7s
KK31 Karatay Array 46.21 308 *i*P **P 01 33 44.0 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 46.21 308 *e*P **P 01 33 44.3 +0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 46.21 308 *e*P **P 01 33 44.2 +0.4**
comp=Z,5.7nm,0.6s
KBL Kabul 46.85 296 *e*P **P 01 33 50.2 +1.0**
KBL Kabul 46.85 296 *e*P **P 01 33 50.2 +1.0**
comp=Z,1µm,0.5s
DZET Dzherino 47.08 302 P **P 01 33 50.9 0.0**
DZET pmax pmax
comp=Z,10.0nm,0.6s
VOSK Vostochnaya 48.01 321*c**e*P **P 01 33 56.8 -0.9**
VOSK pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 48.28 3 P **P 01 33 58.3 -1.2**
comp=Z,4.0nm,0.7s,baz=151,slow=5.7,SNR=11
TIXI Tiksi 48.28 3*c**e*P **P 01 33 58.0 -1.5**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 48.28 3 *e*P **P 01 33 57.7 -1.8**
comp=Z,5.1nm,0.8s
ASAR Alice Springs 48.43 165 P **P 01 34 00.6 -0.6**
comp=Z,2.0nm,0.5s,baz=347,slow=7.0,SNR=19
ASAR PcP **PcP 01 35 26.3 -0.9**
comp=Z,2.0nm,1.0s,baz=358,slow=4.8,SNR=3.3
AS01 Alice Springs 48.44 165 *e*P **P 01 34 00.3 -1.0**
BVA0 Borovoye Array 48.44 321 P **P 01 34 00.5 -0.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 48.44 321 P **P 01 34 00.2 -0.8**
comp=Z,3.2nm,0.6s,baz=98,slow=8.7,SNR=23
BVAR PcP **PcP 01 35 25.5 -1.4**
comp=Z,3.0nm,0.8s,baz=117,slow=5.2,SNR=7.1
BRVK Borovoye 48.51 321*c**e*P **P 01 34 00.6 -1.0**
BRVK pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 48.51 321 *e*P **P 01 34 00.8 -0.8**
comp=Z,20nm,0.9s
ZRNK Zerenda 49.23 321 P **P 01 34 06.6 -0.5**

ZRNK pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 52.11 20*c**e*P **P 01 34 29.1 +0.6**
BILL pmax pmax
comp=Z,10.0nm,2.5s
BILL Bilibino 52.11 20 *e*P **P 01 34 28.4 -0.1**
AB31 Akbulak array 54.20 315 *i*P **P 01 34 44.3 +0.1**
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 54.20 315 *e*P **P 01 34 44.2 -0.1**
comp=Z,8.8nm,0.7s
GEYT Alibeck 55.51 301 P **P 01 34 54.3 +0.3**
comp=Z,6.3nm,0.8s,baz=86,slow=4.6,SNR=12
GEYT LR LR 02 02 55.7
comp=Z,290nm,18.8s,baz=145,slow=41
AKTO Aktyubinsk 55.54 316 P **P 01 34 53.7 -0.2**
comp=Z,4.3nm,0.9s,baz=104,slow=7.2,SNR=15
ARU Arti 55.88 323 P **P 01 34 55.3 -0.9**
comp=Z,3.7nm,0.5s,baz=12,slow=0.9,SNR=11
ARU Arti 55.88 323 *e*P **P 01 34 55.3 -0.9**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 55.88 323 *e*P **P 01 34 55.3 -0.9**
comp=Z,6.9nm,0.8s
STKA Stephens Creek 58.33 160 P **P 01 35 13.8 +0.1**
comp=Z,8.0nm,0.6s,baz=335,slow=6.6,SNR=26
STKA Stephens Creek 58.33 160 *e*P **P 01 35 13.8 +0.1**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 58.33 160 *e*P **P 01 35 13.8 +0.1**
comp=Z,2.0nm,0.6s
GNI Garni 65.53 305 *e*P **P 01 36 02.8 +0.3**
GNI pmax pmax
comp=Z,31nm,0.7s
GNI Garni 65.53 305 *e*P **P 01 36 02.8 +0.3**
comp=Z,31nm,0.7s
ZEI Tsey 65.67 308 *e*P **P 01 36 02.0 -1.4**
ZEI pmax pmax
comp=Z,20nm,0.6s
TT01 Tatalina 65.81 30 *e*P **P 01 36 04.7 +1.1**
TTA Tatalina 65.81 30 *e*P **P 01 36 04.9 +1.1**
TTA pmax pmax
comp=Z,9.0nm,1.0s
TTA Tatalina 65.81 30 *e*P **P 01 36 04.9 +1.1**
comp=Z,9.3nm,1.0s
VRH Novokhopyorsk 65.82 317 *e*P **P 01 36 02.6 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 65.93 328 *e*P **P 01 36 01.4 -3.0**
KLMR pmax pmax
comp=Z,9.0nm,1.3s
KBZ Khabaz 66.23 309 P **P 01 36 06.2 -0.4**
comp=Z,4.6nm,0.8s,baz=114,slow=4.8,SNR=11
KIV Kislovodsk 66.33 309 *e*P **P 01 36 07.3 -0.2**
KIV *e* 01 36 36.2
KIV *e* 01 38 33.6
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 66.33 309 *e*P **P 01 36 07.4 -0.1**
comp=Z,7.7nm,0.7s
LPSR Galich'ya Gora 67.32 319 *e*P **P 01 36 12.5 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 67.41 318 *e*P **P 01 36 12.5 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.5s
CAST Castle Rocks 67.53 29 *e*P **P 01 36 16.0 +1.3**
comp=Z,11nm,0.9s
PPLA Purkeypile 67.55 30 *e*P **P 01 36 16.3 +1.3**
comp=Z,16nm,1.2s
RSO Redoubt South 67.63 32 *e*P **P 01 36 17.1 +1.5**
COLD Coldfoot 67.79 25 *e*P **P 01 36 17.1 +0.9**
comp=Z,3.8nm,0.9s
SPU Mount Spurr 67.86 31 *e*P **P 01 36 17.8 +1.0**
MLY Manley 67.88 27 *e*P **P 01 36 18.2 +1.3**
comp=Z,9.8nm,1.0s
BPAW Bear Paw Mtn. 67.92 28 *e*P **P 01 36 18.2 +1.1**
comp=Z,6.1nm,0.8s
KTH Kantishna Hill 68.03 29 *e*P **P 01 36 18.9 +1.1**
comp=Z,13nm,1.4s
KDAK Kodiak Island 68.14 35*c**e*P **P 01 36 19.1 +0.6**
KDAK Kodiak Island 68.14 35 *e*P **P 01 36 19.2 +0.6**
comp=Z,11nm,0.8s
OBN Obninsk 68.27 322 *e*P **P 01 36 18.3 -1.1**
OBN *e* 01 36 47.6
OBN pmax pmax
comp=Z,6.0nm,1.4s
TRF Thorofare Moun 68.32 29 *e*P **P 01 36 21.6 +1.8**
comp=Z,6.0nm,0.7s
SUA Susitna One 68.44 31 *e*P **P 01 36 21.4 +0.9**
comp=Z,17nm,0.9s
BRLK Bradley Lake 68.67 33 *e*P **P 01 36 23.1 +1.2**
comp=Z,12nm,0.8s
MCK McKinley 68.87 28 *e*P **P 01 36 24.1 +1.1**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 68.87 28 *e*P **P 01 36 24.1 +1.1**
comp=Z,5.5nm,0.8s
MDM Murphy Dome 68.95 27 *e*P **P 01 36 24.5 +1.0**
comp=Z,11nm,0.9s
RND Reindeer 68.97 29 *e*P **P 01 36 23.9 +0.2**
RND pmax pmax
comp=Z,16nm,0.7s
RND Reindeer 68.97 29 *e*P **P 01 36 23.9 +0.2**
comp=Z,16nm,0.7s
COLA College 69.12 27 *e*P **P 01 36 25.7 +1.2**
COLA pmax pmax
comp=Z,4.0nm,0.6s
COLA College 69.12 27 *e*P **P 01 36 25.7 +1.2**
comp=Z,4.1nm,0.6s
CCB Clear Creek Bu 69.19 27 *e*P **P 01 36 25.6 +0.6**
comp=Z,3.7nm,1.1s
SML Sawmill 69.51 30 *e*P **P 01 36 26.2 -0.9**
SML pmax pmax
comp=Z,8.0nm,0.8s
SML Sawmill 69.51 30 *e*P **P 01 36 26.2 -0.9**
comp=Z,8.3nm,0.8s
ILAR Eielson Array 69.55 27 P **P 01 36 25.9 -1.3**
comp=Z,0.8nm,0.6s,baz=301,slow=9.1,SNR=14
ILB Eielson Array 69.55 27 *e*P **P 01 36 28.9 +1.7**
ARCES ARCESS Array B 70.28 338 P **P 01 36 30.0 -1.6**
comp=Z,2.1nm,0.9s,baz=70,slow=7.8,SNR=5.2
DOT Dot Lake 71.01 28 *e*P **P 01 36 35.4 -0.8**
comp=Z,16nm,1.2s
BMRM Bremner River 71.45 31 *e*P **P 01 36 39.4 +0.5**
comp=Z,15nm,1.3s
EGAK Eagle 71.92 27 *e*P **P 01 36 41.8 +0.2**
comp=Z,6.1nm,1.0s
FINES FINESS Array B 72.21 330 P **P 01 36 42.5 -0.9**
comp=Z,2.8nm,0.8s,baz=48,slow=5.4,SNR=18
FINES LR LR 02 11 21.7
comp=Z,161nm,20.0s,baz=354,slow=38
INK Inuvik 73.62 22 P **P 01 36 51.9 +0.3**
comp=Z,3.9nm,0.8s,baz=184,slow=0.9,SNR=4.5
INK Inuvik 73.62 22 *e*P **P 01 36 52.3 +0.7**
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 73.62 22 *e*P **P 01 36 52.2 +0.7**
comp=Z,8.7nm,0.9s
AKASG Malin Array Be 73.64 319 P **P 01 36 51.1 -1.0**
comp=Z,1.0nm,0.6s,baz=58,slow=6.3,SNR=11
ASF Jabal al Asfar 73.66 298 P **P 01 36 52.2 -0.5**
comp=Z,3.5nm,0.9s,baz=45,slow=1.4,SNR=6.2
BR131 Keskin Array S 73.91 307 *e*P **P 01 36 54.2 +0.1**
BRTR Keskin Array B 73.91 307 P **P 01 36 53.2 -0.9**
comp=Z,3.5nm,0.6s,baz=119,slow=4.3,SNR=24
ANTO Ankara 74.49 307 *e*P **P 01 36 57.2 -0.1**
ANTO pmax pmax
comp=Z,9.0nm,0.7s
ANTO Ankara 74.49 307 *e*P **P 01 36 57.2 -0.1**
comp=Z,9.3nm,0.7s
BR231 Keskin MP Arra 74.51 307 *e*P **P 01 36 54.2 -3.3**
MMAI Mount Meron Ar 74.60 300 P **P 01 36 57.5 -0.7**
comp=Z,1.0nm,0.6s,baz=94,slow=5.3,SNR=4.2
AFI Afiamalu 74.94 113 LR LR 02 07 57.9
comp=Z,43nm,18.5s,baz=336,slow=34
CSS Mathiatis 75.62 302 *e*P **P 01 37 02.1 -1.8**
comp=Z,1.7nm,0.6s
SUW Suwalki 76.07 323 *e*P **P 01 37 04.5 -1.5**
SUW Suwalki 76.07 323 *e*P **P 01 37 04.5 -1.5**
TESR Tescani 76.59 315 ⇓*i*P **P 01 37 08.4 -0.8**
VRI Vrincioaia 76.77 314 ⇓*i*P **P 01 37 10.1 -0.1**
VRI Vrincioaia 76.77 314 ⇓P **P 01 37 10.1 -0.1**
BUR08 Bucovina Ar. S 77.13 316 *e*P **P 01 37 12.1 -0.3**
BURAR Bucovina Array 77.13 316 ⇑*i*P **P 01 37 11.7 -0.6**
BURAR Bucovina Array 77.13 316 ⇑P **P 01 37 11.7 -0.6**

MLR	Muntele Rosu	77.41 314	⇓*i*P		P		01 37 13.8	-0.2
MLR	Muntele Rosu	77.41 314	⇓P		P		01 37 13.8	-0.2
KWP	Kalwaria Pacla	77.94 319	*e*P		P		01 37 16.6	-0.1
KWP	Kalwaria Pacla	77.94 319	*e*P		P		01 37 16.6	-0.1
ARR	Arges	78.32 314	⇓*i*P		P		01 37 18.6	-0.3
HUMR	Humele	78.39 314	⇓*i*P		P		01 37 18.5	-0.8
NC405	NORSAR Array S	78.73 332	*e*P		P		01 37 20.1	-0.8
LOT	Lotru	78.85 315	⇓*i*P		P		01 37 21.5	-0.5
NB201	NORSAR Array S	78.95 332	*e*P		P		01 37 21.0	-1.0
NB2	NORSAR Subarra	78.98 332	P		P		01 37 20.4	-1.9
	comp=Z,2.5nm,0.6s,baz=58,slow=5.6							
NB2	NORSAR Subarra	78.98 332	P		P		01 37 20.3	-2.0
NB2			pmax	pmax				
	comp=Z,2.0nm,0.6s							
NOA	NORSAR Array B	78.98 332	P		P		01 37 20.8	-1.5
	comp=Z,3.5nm,0.7s,baz=57,slow=5.7,SNR=16							
DRGR		79.02 316	⇓*i*P		P		01 37 22.4	-0.4
DRGR		79.02 316	⇓P		P		01 37 22.4	-0.4
NC204	NORSAR Array S	79.06 333	*e*P		P		01 37 21.6	-1.2
OJC	Ojcow	79.44 320	*e*P		P		01 37 24.7	-0.2
OJC	Ojcow	79.44 320	*e*P		P		01 37 24.7	-0.2
OJC	Ojcow	79.44 320	*e*P		P		01 37 24.4	-0.5
	comp=Z,9.8nm,0.8s							
PSZ	Piszkesteto	80.33 318	*e*P		P		01 37 29.2	-0.7
PSZ			pmax	pmax				
	comp=Z,6.0nm,1.0s							
PSZ	Piszkesteto	80.33 318	*e*P		P		01 37 29.2	-0.7
	comp=Z,6.2nm,1.0s							
MDVR	Moldovita	80.45 315	⇑*i*P		P		01 37 29.4	-1.2
OKC	Ostrava-Krasne	80.57 320	*e*P		P		01 37 30.6	-0.4
OKC	Ostrava-Krasne	80.57 320	*e*P		P		01 37 30.6	-0.4
VYHS	Vyhne	80.73 319	*e*P		P		01 37 31.7	-0.3
VYHS			pmax	pmax				
	comp=Z,7.0nm,1.0s							
VYHS	Vyhne	80.73 319	*e*P		P		01 37 31.7	-0.3
MORC	Moravsky Berou	80.95 320	*e*P		P		01 37 33.2	+0.1
MORC			pmax	pmax				
	comp=Z,18nm,1.0s							
MORC	Moravsky Berou	80.95 320	*e*P		P		01 37 33.2	+0.1
	comp=Z,18nm,1.0s							
KSP	Ksiaz	81.20 322	*e*P		P		01 37 34.3	-0.1
KSP	Ksiaz	81.20 322	*e*P		P		01 37 34.3	-0.1
DPC	Dobruska-Polom	81.40 321	*e*P		P		01 37 35.5	0.0
DPC	Dobruska-Polom	81.40 321	*e*P		P		01 37 35.5	0.0
UPC	Upice	81.51 322	*e*P		P		01 37 35.8	-0.2
UPC			*e*PCP		PcP		01 37 39.3	-2.7
UPC	Upice	81.51 322	*e*P		P		01 37 35.8	-0.2
GRG	Griva	81.52 311	P		P		01 37 35.0	-1.3
TREC	Trest	82.36 321	*e*P		P		01 37 40.3	-0.3
TREC	Trest	82.36 321	*e*P		P		01 37 40.3	-0.3
BRG	Berggiesshubel	82.51 323	*e*P		P		01 37 40.1	-1.2
	comp=Z,4.9nm,1.0s							
BRG	Berggiesshubel	82.51 323	*e*P		P		01 37 40.1	-1.2
BRG			pmax	pmax				
	comp=Z,5.0nm,1.0s							
PRU	Pruhonice	82.59 322	*e*P		P		01 37 41.4	-0.3
PRU	Pruhonice	82.59 322	*e*P		P		01 37 41.4	-0.3
CONA	Conrad Observa	82.77 319	*i*P		P		01 37 39.1	-3.7
	comp=Z,5.4nm,1.2s							
CLL	Collm	82.82 323	*i*P		P		01 37 41.9	-1.0
	comp=Z,9.0nm,1.0s							
CLL			*e*				01 38 11.0	
CLL			*e*PP		PP		01 40 48.0	-4.8
CLL	Collm	82.82 323	*i*P		P		01 37 41.9	-1.0
CLL			pmax	pmax				
	comp=Z,9.0nm,1.0s							
CLL	Collm	82.82 323	*e*P		P		01 37 42.0	-0.8
	comp=Z,6.7nm,0.9s							
YKA	Yellowknife Ar	83.36 23	P		P		01 37 44.1	-1.2
	comp=Z,2.1nm,0.6s,baz=309,slow=5.0,SNR=16							
KHC	Kasperske Hory	83.55 321	*e*P		P		01 37 46.2	-0.5
KHC			*e*PCP		PcP		01 37 52.6	+1.6
KHC	Kasperske Hory	83.55 321	*e*P		P		01 37 45.5	-1.2
KHC			pmax	pmax				
	comp=Z,2.0nm,0.9s							
KHC	Kasperske Hory	83.55 321	*e*P		P		01 37 45.5	-1.2
	comp=Z,1.9nm,0.9s							
GEC2	GERESS Array S	83.61 321	*e*P		P		01 37 46.6	-0.5
GEC2			pmax	pmax				
	comp=Z,7.0nm,0.9s							
GEC2	GERESS Array S	83.61 321	*e*P		P		01 37 46.6	-0.5
	comp=Z,7.4nm,0.9s							
GERES	GERESS Array B	83.61 321	P		P		01 37 46.2	-1.0
	comp=Z,5.5nm,0.8s,baz=56,slow=5.0,SNR=48							
GEA0	GERESS Array S	83.61 321	*e*P		P		01 37 46.0	-1.2
NKC	Novy Kostel	83.65 322	*e*P		P		01 37 46.6	-0.6
NKC	Novy Kostel	83.65 322	*e*P		P		01 37 46.6	-0.6
MOA	Molln	83.75 320	*i*P		P		01 37 47.6	-0.2
	comp=Z,6.8nm,0.7s							
SOKA	Soboth	83.84 318	*i*P		P		01 37 47.7	-0.7
	comp=Z,4.5nm,0.8s							
MOX	Moxa	83.91 323	P		P		01 37 48.5	0.0
MOX			pmax	pmax				
	comp=Z,6.0nm,1.0s							
ABPO	Ambohimpanom	84.04 246	*e*P		P		01 37 49.9	0.0
ABPO			pmax	pmax				
	comp=Z,13nm,0.8s							
ABPO	Ambohimpanom	84.04 246	*e*P		P		01 37 49.9	0.0
	comp=Z,13nm,0.8s							
GRF	Grafenberg Arr	84.61 322	P		P		01 37 53.5	+1.4
GRF			pmax	pmax				
	comp=Z,13nm,1.3s							
KBA	Koelnbreinsper	84.67 319	P		P		01 37 56.1	+3.4
KBA			pmax	pmax				
	comp=Z,7.0nm,1.0s							
KMBO	Kilima Mbogo	85.34 267	P		P		01 37 57.0	+0.3
	comp=Z,1.7nm,0.5s,baz=33,slow=7.6,SNR=7.0							
KMBO	Kilima Mbogo	85.34 267	*e*P		P		01 37 57.0	+0.3
KMBO			pmax	pmax				
	comp=Z,4.0nm,0.9s							
KMBO	Kilima Mbogo	85.34 267	*e*P		P		01 37 57.0	+0.3
	comp=Z,4.1nm,0.9s							
TIP	Timpagrande	86.19 311	*e*P		P		01 37 60.0	-0.3
	comp=Z,11nm,1.0s							
FUORN	Ofenpass-Fuorn	86.73 320	*e*P		P		01 38 02.9	-0.1
	comp=Z,12nm,1.1s							
AQU	L'Aquila	86.94 315	*e*P		P		01 38 04.0	+0.2
AQU			pmax	pmax				
	comp=Z,20nm,1.0s							
AQU	L'Aquila	86.94 315	*e*P		P		01 38 04.0	+0.2
	comp=Z,20nm,1.0s							
MEM	Membach	86.96 325	P		P		01 38 01.9	-1.8
WLF	Walferdange	87.41 324	P		P		01 38 05.4	-0.5
WLF	Walferdange	87.41 324	*e*P		P		01 38 05.6	-0.3
WLF			pmax	pmax				
	comp=Z,13nm,1.1s							
WLF	Walferdange	87.41 324	*e*P		P		01 38 05.6	-0.3
	comp=Z,12nm,1.1s							
BCLA	Clavier	87.44 325	P		P		01 38 05.5	-0.6
DOU	Dourbes	88.00 325	P		P		01 38 08.2	-0.4
KEST	Kesra	93.02 311	P		P		01 38 31.5	-1.0
	comp=Z,5.2nm,1.0s,baz=346,slow=6.8,SNR=5.5							
NVAR	Mina Array Bea	96.56 43	P		P		01 38 47.9	-1.0
	comp=Z,0.4nm,0.4s,baz=286,slow=6.5,SNR=2.0							
SNAA	Sanae	122.80 198	PKP		PKPdf		01 44 13.5	-0.3
VNA1	Neumayer--Stat	124.84 198	PKP		PKPdf		01 44 17.8	+0.3
USHA	Ushuaia	147.87 169	PKPbc		PKPbc		01 45 02.9	-0.3
	comp=Z,36nm,0.8s,baz=141,slow=4.2,SNR=3.4							
RCBR	Riachuelo	152.14 306	*e*PKPbc		PKPbc		01 45 14.7	-0.3
TRQA	Tornquist	165.22 169	*e*PKPab		PKPab		01 46 19.3	-1.0
BDFB	Brasilia	167.50 307	PKPab		PKPab		01 46 30.5	-0.7
	comp=Z,0.9nm,0.3s,baz=30,slow=5.3,SNR=3.0							
LPAZ	La Paz	168.27 54	PKP		PKPdf		01 45 26.7	0.0
	comp=Z,0.9nm,0.8s,baz=333,slow=4.5,SNR=3.1							

IDC ***10*** *01:33:55.7±3.3,36°.22N×71°.17E,h56km±29km,mb3.7/17, mb1 3.8/20,mb1mx3.6/55,mbtmp4.0/20,ML4.2/4,Error ellipse: s-maj=20.2km s-min=13.1km az=180.0*

ISCJB ***10*** *01:33:57.7±0.3,36°.38N±0°.03×71°.40E±0°.06,h100km, mb3.8/21,Error ellipse: s-maj=6.8km s-min=3.9km az=159.7*

MOS ***10*** *01:33:58.2±1.2,36°.45N×71°.24E,h88km,mb4.1/4,Error ellipse: s-maj=12.1km s-min=6.0km az=88.6*

NEIC ***10*** *01:33:59.3±2.4,36°.43N×71°.23E,h85km±20km,mb4.2/2, Error ellipse: s-maj=21.1km s-min=12.0km az=184.0*

NNC ***10*** *01:34:01.0±1.9,36°.58N×71°.05E,h120km±71km,mb3.5, mpv4.3,Error ellipse: s-maj=29.3km s-min=13.5km az=111.0*

ISC 10 01:33:58.7±0.5,36°.29N±0°.05×71°.24E±0°.05,h100km,n67, σ2s79/81,mb3.8/21,4C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZET	Dzherino	3.16	323	⇓P		Pn	01 34 45.0	-1.8
	17nm,0.4s							
DZET				⇑S		Sn	01 35 19.9	-3.8
	166nm,0.5s							
DZET	Dzherino	3.16	323	PN		Pn	01 34 44.9	-1.8
DZET				S		Sn	01 35 19.9	-3.8
DZET				pmax	pmax			
	comp=Z,17nm,0.4s							
DZET				smax	smax			
	comp=N,166nm,0.5s							
THN	Thein Dam	5.34	135	*e*P		Pn	01 35 13.2	-2.8
THN				*e*S		Sn	01 36 12.0	-4.2
PONG	Pong	5.83	137	*e*S		Sn	01 36 27.0	-1.1
MNAS	Manas	6.27	9	⇑P		Pn	01 35 27.7	-1.0
	comp=N,14nm,0.5s							
MNAS				⇓S		Sn	01 36 36.3	-2.7
	comp=N,16nm,0.3s							
MNAS	Manas	6.27	9	PN		Pn	01 35 27.7	-1.0
MNAS				pmax	pmax			
	comp=Z,14nm,0.5s							
EKS2	Erkin-Say	6.66	16	*e*PN		Pn	01 35 33.6	-0.5
EKS2				pmax	pmax			
	comp=Z,53nm,0.6s							
EKS2	Erkin-Say	6.66	16	*e*Pn		Pn	01 35 33.6	-0.5
	comp=Z,53nm,0.6s							
EKS2				*e*Sn		Sn	01 36 45.5	-3.0
SDNR	Sundarnagar	6.74	133	*e*P		Pn	01 35 35.2	0.0
SDNR				*e*S		Sn	01 36 45.2	-5.3
AAK	Ala-Archa	6.82	21	P		Pn	01 35 36.3	+0.1
	comp=Z,17nm,0.3s,baz=173,slow=5.8,SNR=82							
AAK				S		Sn	01 36 50.2	-2.2
	comp=Z,2.3nm,0.3s,baz=306,slow=19,SNR=5.1							
AAK	Ala-Archa	6.82	21	⇑P		Pn	01 35 36.3	+0.1
	comp=Z,38nm,0.5s							
AAK				⇓S		Sn	01 36 49.5	-2.9
	comp=Z,45nm,0.9s							
AAK	Ala-Archa	6.82	21	PN		Pn	01 35 36.2	-0.1
AAK				pmax	pmax			
	comp=Z,39nm,0.5s							
AAK	Ala-Archa	6.82	21	*e*Pn		Pn	01 35 36.0	-0.3
AAK				*e*Sn		Sn	01 36 48.8	-3.6
KK31	Karatay Array	6.83	356	⇓P		Pn	01 35 34.9	-1.4
	comp=Z,5.1nm,0.3s,baz=176,slow=13,SNR=164							
KK31				⇑S		Sn	01 36 47.9	-4.6
	comp=Z,13nm,0.6s,baz=185,slow=23,SNR=3.6							
KK31	Karatay Array	6.83	356	PN		Pn	01 35 34.9	-1.4
KK31				pmax	pmax			
	comp=Z,5.0nm,0.3s							
KKAR	Karatay Array	6.83	356	*e*PN		Pn	01 35 34.7	-1.6
KKAR				pmax	pmax			
	comp=Z,18nm,0.3s							
KKAR	Karatay Array	6.83	356	*e*Pn		Pn	01 35 34.7	-1.6
	comp=Z,18nm,0.3s							
KKAR				*e*Sn		Sn	01 36 47.8	-4.7
TKM2	Tokmak 2	7.43	26	PN		Pn	01 35 44.3	-0.3
TKM2				pmax	pmax			
	comp=Z,22nm,0.5s							
TKM2	Tokmak 2	7.43	26	*e*Pn		Pn	01 35 44.2	-0.3
	comp=Z,30nm,0.5s							
JOSI	Joshimath	9.00	127	*e*P		Pn	01 36 06.5	+0.5
JOSI				*e*S		Sn	01 37 39.6	-6.0
JOSI				IAML			01 38 14.0	
	comp=N,142nm,1.0s							
JOSI				IAML			01 38 14.4	
	comp=E,99nm,0.8s							
KHET	Khetri	9.06	153	*e*P		Pn	01 36 05.2	-1.4
KHET				*e*S		Sn	01 37 39.2	-7.6
KUDL	Kundal	9.26	150	*e*P		Pn	01 36 10.5	+1.2
KUDL				*e*S		Sn	01 37 45.1	-6.5
SONA	Sohna	9.41	147	*e*S		Sn	01 37 47.3	-8.1
GEYT	Alibeck	10.61	283	P		Pn	01 36 23.6	-4.1
	comp=E,1.5nm,0.3s,baz=95,slow=11,SNR=6.2							
GEYT				S		Sn	01 38 17.1	-7.4
	comp=E,5.0nm,0.3s,baz=80,slow=19,SNR=7.7							
PYUN	Piuthan	12.86	126	*e*P		Pn	01 36 55.6	-2.4
	comp=E,16nm,0.3s							
MKAR	Makanchi Array	13.35	35	P		Pn	01 37 02.8	-1.3
	comp=E,0.2nm,0.3s,baz=221,slow=13,SNR=9.6							
KOLN	Koldanda	13.48	126	*e*P		Pn	01 37 03.8	-2.3
	comp=E,8.6nm,0.5s							
GKN	Gorkha	14.03	122	*e*P		Pn	01 37 10.8	-2.4
	comp=E,6.0nm,0.3s							
PKIN	Phulchoki	14.81	122	*e*P		Pn	01 37 22.2	-1.2
	comp=E,4.8nm,0.2s							
KURBB	Kurchatov Arra	15.26	18	P		Pn	01 37 25.4	-3.2
	comp=E,0.0nm,0.3s,baz=212,slow=12,SNR=6.4							
AB31	Akbulak array	15.36	331	*e*P		Pn	01 37 26.5	-3.4
AB31				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ABKAR	Akbulak array	15.36	331	*e*Pn		Pn	01 37 26.6	-3.3
KURK	Kurchatov	15.37	18	*e*P		P	01 37 31.7	-0.7
KURK	Kurchatov	15.37	18	*e*P		P	01 37 31.7	-0.7
BVAR	Borovoye Array	16.75	358	P		Pn	01 37 44.8	-2.2
	comp=Z,0.9nm,0.3s,baz=165,slow=13,SNR=12							
BRVK	Borovoye	16.78	358	*e*P		Pn	01 37 44.3	-3.2
BRVK				pmax	pmax			
	comp=Z,19nm,0.8s							
BRVK	Borovoye	16.78	358	*e*Pn		Pn	01 37 44.3	-3.2
	comp=Z,19nm,0.8s							
AKTO	Aktyubinsk	17.06	330	P		Pn	01 37 49.5	-1.4
	comp=Z,1.3nm,0.3s,baz=141,slow=7.6,SNR=15							
ZALV	Zalesovo Beam	20.03	24	P		P	01 38 23.4	0.0
	comp=Z,20nm,0.3s,baz=212,slow=10,SNR=124							
NVS	Novosibirsk	20.31	20	⇓*i*P		P	01 38 26.8	+0.3
NVS				pmax	pmax			
	comp=N,14nm,0.8s							
NVS				pmax	pmax			
	comp=Z,15nm,0.8s							
NVS				pmax	pmax			
	comp=E,4.0nm,0.5s							
GNI	Garni	21.14	289	P		P	01 38 38.5	+2.7
	comp=E,10.0nm,0.8s,baz=77,slow=18,SNR=7.1							
GNI	Garni	21.14	289	*e*P		P	01 38 39.5	+3.7
GNI				pmax	pmax			
	comp=Z,109nm,1.0s							
GNI	Garni	21.14	289	*e*P		P	01 38 39.5	+3.7
	comp=Z,109nm,1.0s							
ARU	Arti	21.90	341	P		P	01 38 44.6	+1.1
	comp=Z,1.8nm,0.3s,baz=152,slow=1.3,SNR=4.9							
ARU	Arti	21.90	341	*e*P		P	01 38 44.5	+1.1
	comp=Z,7.4nm,1.0s							
KIV	Kislovodsk	23.06	298	*e*P		P	01 38 56.2	+0.6
KIV				pmax	pmax			
	comp=Z,4.0nm,0.8s							
SONM	Songino Array	28.30	55	P		P	01 39 44.8	+2.0
	comp=Z,0.4nm,0.5s,baz=272,slow=9.1,SNR=3.5							
BRTR	Keskin Array B	29.68	288	P		P	01 39 59.4	+4.2
	comp=Z,0.6nm,0.8s,baz=116,slow=9.8,SNR=3.7							
OBN	Obninsk	30.23	320	*e*P		P	01 39 57.4	-2.2
OBN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
AKASG	Malin Array Be	33.23	309	P		P	01 40 27.8	+1.8
	comp=Z,0.6nm,0.4s,baz=81,slow=6.6,SNR=2.9							
FINES	FINESS Array B	37.77	326	P		P	01 41 06.6	+1.9
	comp=Z,1.1nm,0.4s,baz=117,slow=9.7,SNR=15							
ARCES	ARCESS Array B	41.41	338	P		P	01 41 37.1	+2.2
	comp=Z,2.5nm,0.5s,baz=116,slow=8.2,SNR=19							
NB2	NORSAR Subarra	44.67	323	P		P	01 42 02.7	+1.5
	comp=Z,4.0nm,0.8s,baz=97,slow=7.9							
NOA	NORSAR Array B	44.67	323	P		P	01 42 02.8	+1.5
	comp=Z,2.4nm,0.6s,baz=97,slow=7.9,SNR=9.4							
KSAR	Wonju Array Be	44.74	71	P		P	01 42 03.6	+1.5
KSAR	Wonju Array Be	44.74	71	P		P	01 42 03.6	+1.5
KSRS	Korea Array	44.77	71	P		P	01 42 03.6	+1.3
	comp=Z,0.7nm,0.5s,baz=275,slow=7.4,SNR=2.9							
KLR	Kul'dur	45.11	54	P		P	01 42 06.4	+1.6
	comp=Z,0.8nm,0.7s,baz=270,slow=5.1,SNR=2.6							
MJAR	Matsushiro Arr	52.85	68	P		P	01 43 06.1	+2.0
	comp=Z,0.5nm,0.3s,baz=305,slow=9.5,SNR=3.6							
ESDC	Sonseca Array	57.73	298	P		P	01 43 41.6	+2.5
	comp=Z,0.1nm,0.4s,baz=60,slow=8.6,SNR=2.6							
BILL	Bilibino	58.71	26	*e*P		P	01 43 46.3	+0.8
BILL				pmax	pmax			
	comp=Z,1.0nm,1.1s							
TORD	Torodi Ar. Bea	65.91	269	P		P	01 44 34.0	-0.2
	comp=Z,1.8nm,0.7s,baz=51,slow=5.9,SNR=17							
LBTB	Lobatse	74.65	222	P		P	01 45 28.7	+1.4
	comp=Z,2.3nm,0.7s,baz=94,slow=4.8,SNR=4.3							
BOSA	Boshof	77.71	220	P		P	01 45 46.7	+2.1
	comp=Z,1.4nm,0.6s,baz=14,slow=6.6,SNR=4.4							
YKA	Yellowknife Ar	81.45	3	P		P	01 46 05.9	+1.6
	comp=Z,0.7nm,0.6s,baz=354,slow=5.5,SNR=8.2							
WRA	Warramunga Arr	81.71	122	P		P	01 46 09.1	+2.8
	comp=Z,0.5nm,0.7s,baz=323,slow=4.6,SNR=4.0							
ASAR	Alice Springs	83.97	125	P		P	01 46 21.0	+3.0
	comp=Z,0.8nm,0.8s,baz=317,slow=5.3,SNR=5.6							

IDC 10 01:37:12.9±6.7,10°.47S×155°.11E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.5/29,mbtmp3.5/4,MS3.0/1,Ms1 3.0/1, ms1mx2.5/19,Error ellipse: s-maj=193.2km s-min=34.6km az=119.0,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JAY	Jayapura	16.34	298	LR	LR		01 46 46.9	
	comp=Z,63nm,21.1s,baz=353,slow=35							
WRA	Warramunga Arr	22.12	242	P		P	01 42 08.5	-1.7
	1.2nm,0.8s,baz=63,slow=11,SNR=6.1							
ASAR	Alice Springs	24.10	234	P		P	01 42 31.4	+0.8
	0.8nm,0.6s,baz=63,slow=8.7,SNR=9.8							
SONM	Songino Array	72.32	328	P		P	01 48 41.7	+1.1
	0.2nm,0.4s,baz=110,slow=6.7,SNR=2.5							
MKAR	Makanchi Array	86.08	319	P		P	01 49 54.9	-0.8
	0.2nm,0.5s,baz=91,slow=5.1,SNR=2.2							

ISK ***10*** *01:48:34.8,39°.13N×29°.09E,h5km,MD2.8*

DDA ***10*** *01:48:34.6,39°.14N×29°.08E,h7km,Md2.8*

ISCJB ***10*** *01:48:35.0±0.5,39°.13N±0°.03×29°.09E±0°.03,h6km±6km, Error ellipse: s-maj=5.3km s-min=4.2km az=172.6*

CSEM ***10*** *01:48:35.2±0.1,39°.13N×29°.09E,h5km,MD2.8,Error ellipse: s-maj=2.2km s-min=1.9km az=65.0*

ISC 10 01:48:35.3±0.9,39°.14N±0°.02×29°.10E±0°.02,h11km±9km, n48,σ0s62/60,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GEDZ	Gediz	0.26	110	*e*PG		Pb	01 48 41.5	-0.5
GEDZ				*e*SG		Sg	01 48 44.6	+0.3
GEDZ	Gediz	0.26	110	*e*Pg		Pb	01 48 41.5	-0.5
GEDZ				*e*Sg		Sg	01 48 44.6	+0.3
GDZ	Gediz	0.30	99	P		Pg	01 48 41.3	-0.2
GDZ				S		Sg	01 48 45.7	+0.1
GDZ	Gediz	0.30	99	*i*P		Pg	01 48 41.3	-0.2
GDZ				*i*S		Sg	01 48 45.7	+0.1
DEMI	Demirci	0.31	253	P		Pg	01 48 41.7	0.0
DEMI				S		Sg	01 48 46.0	+0.1
DEMI	Demirci	0.31	253	*i*P		Pg	01 48 41.7	0.0
DEMI				*i*S		Sg	01 48 46.0	+0.1
TVSB	Tavsanli	0.42	42	*e*PG		Pg	01 48 43.3	-0.4
TVSB	Tavsanli	0.42	42	*e*Pg		Pg	01 48 43.3	-0.4
DST	Dursunbey	0.60	322	*e*PG		Pg	01 48 46.7	-0.3
DST	Dursunbey	0.60	322	*e*Pg		Pg	01 48 46.7	-0.3
KULA	Kula-Manisa	0.71	209	*e*PG		Pg	01 48 48.9	-0.2
KULA	Kula-Manisa	0.71	209	*e*Pg		Pg	01 48 48.9	-0.2
MANT	Manisa	0.77	214	P		Pg	01 48 49.7	-0.6
MANT				S		Sg	01 48 59.7	-0.7
MANT	Manisa	0.77	214	*i*P		Pg	01 48 49.7	-0.6
MANT				*i*S		Sg	01 48 59.7	-0.7
KHAL	Karahalli	0.82	158	P		Pb	01 48 51.2	-0.5
KHAL				S		Sg	01 49 02.0	0.0
KHAL	Karahalli	0.82	158	*i*P		Pb	01 48 51.1	-0.5
KHAL				*i*S		Sg	01 49 02.0	0.0
KHL	Karahalli	0.88	158	*e*PG		Pg	01 48 51.8	-0.4
KHL	Karahalli	0.88	158	*e*Pg		Pg	01 48 51.8	-0.4
BALB	Balikesir	1.07	298	*e*PG		Pb	01 48 55.8	-0.1
BALB	Balikesir	1.07	298	*e*Pg		Pb	01 48 55.8	-0.1
IGD	Bursa	1.13	4	*i*P		Pg	01 48 55.3	-1.8
IGD				*i*S		Sg	01 49 11.5	-0.3
CAVI	Cavuskoy	1.21	28	*e*PN		Pn	01 48 58.9	+0.7
CAVI	Cavuskoy	1.21	28	*e*Pn		Pn	01 48 58.9	+0.7
IZI	Iznik	1.23	13	*e*PN		Pb	01 48 58.7	0.0
IZI	Iznik	1.23	13	*e*Pn		Pb	01 48 58.7	0.0
MDNY	Mudanya-Bursa	1.24	352	*e*PN		Pn	01 48 59.0	+0.4
MDNY	Mudanya-Bursa	1.24	352	*e*Pn		Pn	01 48 59.0	+0.4
KCTX	Karacabey (Bur	1.27	333	*e*PN		Pg	01 48 58.9	-0.8
KCTX	Karacabey (Bur	1.27	333	*e*Pn		Pg	01 48 58.9	-0.8
BALY	Balya	1.30	298	P		Pg	01 48 59.4	-0.8
BALY	Balya	1.30	298	*i*P		Pg	01 48 59.4	-0.8
GONE	Gonen-Balikesi	1.42	310	*e*PN		Pb	01 49 01.7	-0.2
GONE	Gonen-Balikesi	1.42	310	*e*Pn		Pb	01 49 01.7	-0.2
ARMT	Armutlu	1.44	353	*e*PN		Pb	01 49 02.2	0.0
ARMT	Armutlu	1.44	353	*e*Pn		Pb	01 49 02.2	0.0
AYDB	Zeytinkoy-Aydi	1.52	219	*e*PN		Pn	01 49 03.0	+0.5
AYDB	Zeytinkoy-Aydi	1.52	219	*e*Pn		Pn	01 49 03.0	+0.5
EDC	Edincik	1.54

BFZ				SN	Sn	01 54 43.7	-2.4
TSZ	**Takapari Road**	**2.79**	**66**	PN	Pn	01 54 08.7	-1.1
DVHZ	**Dannevirke**	**2.83**	**71**	PN	Pn	01 54 09.4	-1.0
ANWZ	**Angora Road**	**3.00**	**76**	PN	Pn	01 54 11.7	-0.6
PNHZ	**Pukenui**	**3.02**	**65**	PN	Pn	01 54 11.3	-1.3
FOZ	**Fox Glacier**	**3.10**	**222**	PN	Pn	01 54 11.4	-1.9
FOZ				SN	Sn	01 54 47.3	-5.6
BHHZ	**Black Hill Sta**	**3.15**	**57**	PN	Pn	01 54 12.3	-1.8
KRHZ	**Kereru**	**3.26**	**62**	PN	Pn	01 54 14.0	-1.5
KAHZ	**Kahuranaki**	**3.53**	**67**	PN	Pn	01 54 17.5	-1.3
BKZ	**Black Stump Fm**	**3.61**	**56**	PN	Pn	01 54 17.1	-2.6
LBZ	**Lake Benmore**	**3.62**	**209**	PN	Pn	01 54 17.9	-1.8
JCZ	**Jackson Bay**	**4.01**	**224**	PN	Pn	01 54 22.5	-2.2
ODZ	**Otahua Downs**	**4.06**	**201**	PN	Pn	01 54 23.9	-1.3
KNZ	**Kokohu**	**4.45**	**61**	PN	Pn	01 54 28.1	-2.1

IDC 10 01:54:35.2±8.6, 19°22S×176°.61W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/23, mbtmp3.9/2, Error ellipse: s-maj=322.2km s-min=43.6km az=17.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.09**	**261**	P	P	02 03 01.2	-0.2
	0.6nm,0.4s,baz=97,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**46.10**	**255**	P	P	02 03 01.4	-0.1
	1.2nm,0.5s,baz=88,slow=8.3,SNR=14						
TORD	**Torodi Ar. Bea**	**173.74**	**165**	PKPab	PKPab	02 16 16.8	-0.4
	0.5nm,0.5s,baz=197,slow=6.3,SNR=16						

PGC 10 01:58:38.2±0.0, 60°.08N×138°.02W, h5km, ML2.1/7, 78km southwest of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK7	**Dusty Glacier**	**0.45**	**352**	P	Pg	01 58 46.5	-0.5
YUK7				S	Sg	01 58 52.9	0.0
HYT	**Haines Junctio**	**0.79**	**19**	P	Pg	01 58 52.2	-1.1
HYT				S	Sg	01 59 02.5	-1.0
YUK6	**Outpost Mounta**	**0.88**	**349**	P	Pg	01 58 53.7	-1.3
YUK6				S	Sg	01 59 05.9	-0.6
PLBC	**Pleasant Camp**	**1.05**	**126**	P	Pg	01 58 56.2	-2.0
PLBC				S	Sg	01 59 09.9	-1.9
YUK5	**Granite Creek**	**1.05**	**4**	P	Pg	01 58 57.2	-1.2
YUK5				S	Sg	01 59 11.6	-0.5
WHY	**Whitehorse**	**1.66**	**68**	Pn	Pn	01 59 07.5	-0.5
WHY				Sg	Sn	01 59 29.2	-0.6
CTGM	**Chitina Glacie**	**1.86**	**300**	Pn	Pn	01 59 11.0	+0.1
CTGM				Sg	Sb	01 59 35.8	-0.6
YUK3	**Moose Creek**	**2.08**	**326**	Pn	Pn	01 59 14.6	+0.8
YUK3				Sg	Sb	01 59 43.3	+0.7
YUK2	**White River**	**2.20**	**322**	Pg	Pb	01 59 17.5	-0.9
YUK2				Sg	Sb	01 59 47.3	+1.4
BALM	**Baldy**	**2.34**	**296**	Pn	Pn	01 59 17.8	+0.4
BALM				Pg	Pb	01 59 20.5	-0.4
BALM				Sg	Sb	01 59 49.8	-0.3

*NIED **10** 02:29:00, 37°.70N×142°.20E, h26km, Mw3.4 Best double couple: M₀1.27000×10¹⁴ NP1:φs129.00000°, δ65.00000°, λ173.00000°. NP2:φs221.00000°, δ84.00000°, λ25.00000°.*

JMA 10 02:29:00.9±0.2, 37°.75N×142°.18E, h32km±3km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.96**	**317**	P	Pn	02 29 18.5	+0.3
JIO				S	Sn	02 29 30.3	-0.4
JMM	**Marumori**	**1.10**	**276**	P	Pn	02 29 20.5	+0.4
JMM				S	Sn	02 29 34.5	+0.2
JFK	**Kawauchi**	**1.11**	**250**	P	Pn	02 29 20.4	+0.2
JFK				S	Sn	02 29 34.5	+0.1
JOU	**Okura**	**1.34**	**298**	P	Pn	02 29 24.5	+1.0
JOU				*e*S	Sn	02 29 41.3	+1.0
JMK	**Ichinoseki**	**1.42**	**328**	P	Pn	02 29 25.4	+1.0
JFT	**Otama**	**1.48**	**262**	P	Pb	02 29 26.8	-1.0
JFT				*e*S	Sb	02 29 45.1	-1.2
JYK	**Kaneyama**	**1.85**	**310**	P	Pn	02 29 31.7	+1.3
JOM	**Ohasama**	**1.86**	**338**	P	Pn	02 29 31.4	+0.9
JFY	**Yanaizu**	**2.00**	**261**	P	Pn	02 29 34.0	+1.6
JRG	**Rokugo**	**2.04**	**324**	P	Pn	02 29 34.6	+1.6
JYA	**Atsumi**	**2.12**	**294**	P	Pn	02 29 36.1	+2.0
MAT	**Matsushiro**	**3.40**	**250**	P	Pn	02 29 54.2	+2.5
MAT				S	Sn	02 30 31.2	+0.3

*IDC **10** 02:37:57.1±0.7, 36°.07N×72°.98E, h0km, mb4.0/20, mb1 4.2/27, mb1mx4.1/41, mbtmp4.1/27, ML3.7/6, MS3.3/5, Ms1 3.3/5, ms1mx2.9/36, Error ellipse: s-maj=14.8km s-min=12.7km az=23.0*

*ISCJB **10** 02:37:58.9±0.3, 36°.02N±0°.02×73°.06E±0°.05, h26km, mb4.2/41, MS3.3/3, Error ellipse: s-maj=5.6km s-min=3.0km az=159.8*

*MOS **10** 02:38:03.9±0.9, 36°.23N×73°.06E, h59km, mb4.5/16, Error ellipse: s-maj=8.9km s-min=4.7km az=89.4*

*NEIC **10** 02:38:05.2±0.8, 36°.20N×73°.04E, h58km±6km, mb4.6/19, Error ellipse: s-maj=8.0km s-min=6.3km az=176.0*

*NNC **10** 02:38:05.3± 10.0, 36°.19N×73°.28E, h28km±287km, mb4.7, mpv4.3, Error ellipse: s-maj=234.3km s-min=33.7km az=159.0*

*BJI **10** 02:38:09.5, 36°.33N×73°.90E, h57km, mb4.3/8, mB4.4/9, ML3.8/3, Ms3.7/6, Ms7 3.5/6*

ISC 10 02:38:01.0±0.4, 36°.08N±0°.04×73°.07E±0°.04, h26km, n133, σ2s 20/151, mb4.3/41, MS3.4/3, 11C-6D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**2.42**	**176**	P	**Pb**	**02 38 44.6**	**+0.8**
CEP	**Cherat**	**2.44**	**203**	P	**Pb**	**02 38 45.4**	**+1.1**
CEP				S	**Sb**	**02 39 18.0**	**+4.0**
THW	**Thamme Wali**	**3.45**	**199**	P	**Pb**	**02 38 59.8**	**-1.7**
KBL	**Kabul**	**3.63**	**246**	*e*PN	**Pb**	**02 39 00.7**	**-3.9**
KBL	**Kabul**	**3.63**	**246**	*e*Pn	**Pb**	**02 39 00.7**	**-3.9**
KSH	**Kashi**	**4.13**	**33**	P	**Pn**	**02 39 00.0**	**-2.6**
KSH				SMN			
	500nm,1.0s						
KSH				SME			
	410nm,1.0s						
SARP	**Sargodha**	**4.16**	**185**	P	Pn	02 39 07.7	+4.9
THN	**Thein Dam**	**4.24**	**148**	*e*P	**Pn**	**02 39 03.4**	**-0.5**
THN				*ex*	x	02 39 51.0	
DZET	**Dzherino**	**4.34**	**310**	⇓P	**Pn**	**02 39 08.7**	**+3.3**
	19nm,0.4s						
DZET				⇓S	**Sn**	**02 40 01.4**	**+6.2**
	116nm,0.4s						
DZET	**Dzherino**	**4.34**	**310**	PN	**Pn**	**02 39 08.7**	**+3.3**
DZET				S	**Sn**	**02 40 01.4**	**+6.2**
DZET				pmax	pmax		
	comp=Z,19nm,0.4s						
DZET				smax	smax		
	comp=N,116nm,0.4s						
PONG	**Pong**	**4.76**	**149**	*e*P	**Pn**	**02 39 13.0**	**+2.0**
PONG				*e*S	**Sn**	**02 40 09.0**	**+3.7**
BHK	**Bhakra**	**5.42**	**148**	*e*P	**Pn**	**02 39 22.0**	**+1.9**
BHK				*ex*	x	02 40 25.0	
MNAS	**Manas**	**6.42**	**356**	⇓P	**Pn**	**02 39 36.9**	**+2.9**
	comp=N,25nm,0.6s						
MNAS				⇓S	**Sn**	**02 40 49.2**	**+2.7**
	comp=N,68nm,0.7s						
MNAS	**Manas**	**6.42**	**356**	PN	**Pn**	**02 39 36.8**	**+2.9**
MNAS				S	**Sn**	**02 40 49.1**	**+2.7**
MNAS				pmax	pmax		
	comp=Z,25nm,0.6s						
MNAS				smax	smax		
	comp=N,68nm,0.7s						
EKS2	**Erkin-Say**	**6.60**	**5**	*e*PN	**Pn**	**02 39 39.8**	**+3.4**
EKS2	**Erkin-Say**	**6.60**	**5**	*e*Pn	**Pn**	**02 39 39.8**	**+3.4**
EKS2				*e*Sn	**Sn**	**02 40 50.1**	**-0.8**
AAK	**Ala-Archa**	**6.64**	**9**	Pn	**Pn**	**02 39 40.3**	**+3.3**
	comp=N,3.1nm,0.3s,baz=172,slow=6.3,SNR=18						
AAK				Sn	**Sn**	**02 40 55.5**	**+3.6**
	comp=N,0.7nm,0.3s,baz=122,slow=19,SNR=3.3						
AAK				Lg	Lg	02 41 28.7	
	comp=N,1.6nm,0.3s,baz=274,slow=17,SNR=2.4						
AAK	**Ala-Archa**	**6.64**	**9**	⇑P	**Pn**	**02 39 40.8**	**+3.8**
	comp=N,13nm,0.5s						
AAK				⇑S	**Sn**	**02 40 52.9**	**+0.9**
	comp=N,22nm,0.8s						
AAK	**Ala-Archa**	**6.64**	**9**	*e*Pn	**Pn**	**02 39 40.8**	**+3.8**
AAK				Sn	**Sn**	**02 40 55.5**	**+3.6**
AAK				Lg	Lg	02 41 28.6	
FRU	**Bishkek**	**6.85**	**10**	*e*PN	Pn	02 39 47.0	+7.2
FRU				pmax	pmax		
	comp=Z,40nm,1.6s						
TKM2	**Tokmak 2**	**7.11**	**15**	⇑P	**Pn**	**02 39 46.6**	**+3.1**
	comp=Z,11nm,0.7s						
TKM2				⇑S	**Sn**	**02 41 05.4**	**+1.9**
	comp=Z,22nm,0.8s						
TKM2	**Tokmak 2**	**7.11**	**15**	*e*PN	**Pn**	**02 39 46.6**	**+3.1**
TKM2	**Tokmak 2**	**7.11**	**15**	*e*Pn	**Pn**	**02 39 46.6**	**+3.1**
KK31	**Karatay Array**	**7.29**	**345**	⇓P	**Pn**	**02 39 48.5**	**+2.6**
	comp=Z,11nm,0.4s,baz=147,slow=10,SNR=171						
KK31				⇓S	**Sn**	**02 41 10.1**	**+2.3**
	comp=Z,27nm,0.4s,baz=152,slow=20,SNR=8.2						
KK31	**Karatay Array**	**7.29**	**345**	PN	**Pn**	**02 39 48.4**	**+2.6**
KK31				S	**Sn**	**02 41 10.0**	**+2.3**
KK31				pmax	pmax		
	comp=Z,11nm,0.4s						
KK31				smax	smax		
	comp=N,27nm,0.4s						
KKAR	**Karatay Array**	**7.29**	**345**	*e*PN	**Pn**	**02 39 48.6**	**+2.8**
KKAR	**Karatay Array**	**7.29**	**345**	*e*Pn	**Pn**	**02 39 48.6**	**+2.8**
KKAR				*e*Sn	**Sn**	**02 41 07.4**	**-0.3**
JOSI	**Joshimath**	**7.73**	**134**	*e*P	**Pn**	**02 39 52.1**	**0.0**
JOSI				*e*S	**Sn**	**02 41 16.0**	**-2.9**
JOSI				IAML		02 41 27.0	
	comp=N,915nm,1.1s						
JOSI				IAML		02 41 29.3	
	comp=E,684nm,0.7s						
BHGR	**Bahadurgarh**	**8.06**	**155**	*e*S	**Sn**	**02 41 27.1**	**+0.5**
BHGR				IAML		02 41 48.6	
	comp=Z,2μm,0.1s						
NDI	**New Delhi**	**8.16**	**153**	*e*P	**Pn**	**02 39 55.0**	**-2.8**
NDI				*e*S	**Sn**	**02 41 22.0**	**-7.2**
KHET	**Khetri**	**8.31**	**163**	*e*P	**Pn**	**02 39 59.1**	**-0.7**
KHET				*e*S	**Sn**	**02 41 30.1**	**-2.7**
KHET				IAML		02 42 26.0	
	comp=E,40nm,0.8s						
KHET				IAML		02 42 29.2	
	comp=N,32nm,0.5s						
KUDL	**Kundal**	**8.42**	**159**	*e*P	**Pn**	**02 40 00.8**	**-0.6**
KUDL				*e*S	**Sn**	**02 41 32.7**	**-2.9**
SONA	**Sohna**	**8.51**	**155**	*e*P	**Pn**	**02 40 05.3**	**+2.8**
SONA				*e*S	**Sn**	**02 41 36.2**	**-1.6**
PDGK	**Podgornoye**	**8.77**	**32**	P	**Pn**	**02 40 07.1**	**+1.1**
PDGK				pmax	pmax		
	comp=Z,17nm,0.8s						
LGTI	**Lohaghat**	**8.95**	**136**	*e*P	**Pn**	**02 40 08.1**	**-0.5**
LGTI				*ex*	x	02 41 52.2	
PYUN	**Piuthan**	**11.57**	**131**	*e*P	**Pn**	**02 40 41.9**	**-2.8**
	comp=Z,46nm,0.3s						
GEYT	**Alibeck**	**12.10**	**283**	Pn	**Pn**	**02 40 50.7**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=120,slow=8.7,SNR=3.1						
GEYT				Sn	**Sn**	**02 43 05.9**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=76,slow=12,SNR=4.0						
GEYT				Lg	Lg	02 44 08.8	
	comp=Z,3.2nm,0.3s,baz=45,slow=34,SNR=5.1						
GEYT				LR	LR	02 46 43.8	
	comp=Z,105nm,20.6s,baz=115,slow=44						
KOLN	**Koldanda**	**12.18**	**130**	*e*P	**Pn**	**02 40 50.8**	**-2.2**
	comp=Z,31nm,0.3s						
MAKZ	**Makanchi**	**12.62**	**29**	*e*P	**Pn**	**02 40 59.8**	**+1.0**
MAKZ	**Makanchi**	**12.62**	**29**	*e*Pn	**Pn**	**02 40 59.8**	**+1.0**
GKN	**Gorkha**	**12.68**	**126**	*e*P	**Pn**	**02 40 57.0**	**-2.9**
	comp=Z,49nm,0.4s						
MK01	**Makanchi Array**	**12.72**	**30**	*e*Pn	**Pn**	**02 41 01.0**	**+0.8**
MK31	**Makanchi Array**	**12.74**	**30**	P	**P**	**02 41 09.8**	**-1.5**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MK31	**Makanchi Array**	**12.74**	**30**	*e*Pn	**Pn**	**02 41 01.4**	**+1.0**
MKAR	**Makanchi Array**	**12.74**	**30**	Pn	**Pn**	**02 41 01.2**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=214,slow=11,SNR=14						
MKAR				LR	LR	02 46 17.5	
	comp=Z,139nm,20.3s,baz=227,slow=39						
MKAR	**Makanchi Array**	**12.74**	**30**	*e*Pn	**Pn**	**02 41 01.4**	**+1.0**
KKN	**Kakani**	**13.25**	**125**	*e*P	**Pn**	**02 41 03.8**	**-3.8**
	comp=Z,76nm,0.6s						
DMN	**Daman**	**13.25**	**126**	*e*P	**Pn**	**02 41 04.7**	**-3.0**
	comp=Z,28nm,0.4s						
PKIN	**Phulchoki**	**13.47**	**126**	*e*P	**Pn**	**02 41 06.7**	**-4.0**
	comp=Z,22nm,0.3s						
GUN	**Gumba**	**13.57**	**123**	*e*P	**Pn**	**02 41 08.1**	**-4.0**
	comp=Z,27nm,0.3s						
KURBB	**Kurchatov Arra**	**15.07**	**13**	Pn	**Pn**	**02 41 29.9**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=201,slow=12,SNR=9.0						
KURK	**Kurchatov**	**15.17**	**14**	*e*P	**Pn**	**02 41 33.9**	**+0.5**
KURK				pmax	pmax		
	comp=Z,99nm,1.0s						
KURK	**Kurchatov**	**15.17**	**14**	*e*Pn	**Pn**	**02 41 33.9**	**+0.5**
	comp=Z,99nm,1.0s						
AB31	**Akbulak array**	**16.30**	**328**	P	**Pn**	**02 41 47.8**	**-0.1**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ABKAR	**Akbulak array**	**16.30**	**328**	*e*Pn	**Pn**	**02 41 48.3**	**+0.4**
ABKAR				*e*Sn	**Sn**	**02 44 39.6**	**-8.3**
LSA	**Lhasa**	**16.45**	**108**	*e*P	**P**	**02 41 52.6**	**-0.5**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
LSA	**Lhasa**	**16.45**	**108**	*e*Pn	**P**	**02 41 52.6**	**-0.5**
	comp=Z,7.4nm,0.4s						
BVA0	**Borovoye Array**	**17.05**	**354**	P	**Pn**	**02 41 56.2**	**-1.3**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BVAR	**Borovoye Array**	**17.05**	**354**	P	**Pn**	**02 41 56.5**	**-1.0**
	comp=Z,3.8nm,0.3s,baz=159,slow=9.5,SNR=30						
BRVK	**Borovoye**	**17.09**	**354**	*e*P	**Pn**	**02 41 57.5**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,53nm,1.0s						
BRVK	**Borovoye**	**17.09**	**354**	*e*Pn	**Pn**	**02 41 56.8**	**-1.2**
	comp=Z,38nm,0.7s						
ZRNK	**Zerenda**	**17.11**	**352**	*e*P	**Pn**	**02 41 57.8**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,21nm,0.5s						
ZRNK	**Zerenda**	**17.11**	**352**	*e*Pn	**Pn**	**02 41 57.8**	**-0.5**
	comp=Z,21nm,0.5s						
AKTO	**Aktyubinsk**	**18.01**	**328**	P	**Pn**	**02 42 07.7**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=123,slow=14,SNR=3.7						
SHL	**Shillong**	**19.22**	**118**	*ex*	**P**	**02 42 20.0**	**-3.4**
ZAA0	**Zalesovo Array**	**19.66**	**21**	*e*P	**P**	**02 42 27.5**	**-0.2**
ZALV	**Zalesovo Beam**	**19.66**	**21**	P	**P**	**02 42 27.3**	**-0.4**
	comp=Z,2.5nm,0.3s,baz=213,slow=11,SNR=50						
NVS	**Novosibirsk**	**20.04**	**17**	*i*P	**P**	**02 42 32.2**	**+0.4**
NVS				pmax	pmax		
	comp=Z,12nm,0.7s						
NVS				pmax	pmax		
	comp=N,10.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.7s						
GTA	**Gaotai**	**21.38**	**73**	*e*P	**P**	**02 42 46.8**	**+0.1**
GTA				pP	sP	02 43 01.7	+4.6
GTA				sP	pP	02 43 06.8	+13
GTA				PMZ			
	comp=E,13nm,1.0s						
GTA				PMZ			
	comp=E,72nm,5.0s						
GTA				LN			
	comp=E,71nm,18.5s						
GTA				LE			
	comp=E,92nm,16.2s						
GTA				LZ			
	comp=E,140nm,16.6s						
ARU	**Arti**	**22.61**	**339**	P	**P**	**02 42 58.4**	**-1.0**
	comp=E,4.5nm,0.5s,baz=128,slow=7.9,SNR=5.9						
ARU	**Arti**	**22.61**	**339**	*e*P	**P**	**02 42 59.5**	**0.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARU	**Arti**	**22.61**	**339**	*e*P	**P**	**02 42 59.5**	**0.0**
	comp=Z,5.4nm,0.8s						
GNI	**Garni**	**22.61**	**289**	P	**P**	**02 42 58.7**	**-1.2**
	comp=Z,2.9nm,0.3s,baz=80,slow=11,SNR=2.5						
GNI	**Garni**	**22.61**	**289**	*e*P	**P**	**02 43 00.6**	**+0.7**
	comp=Z,47nm,0.8s						
KBZ	**Khabaz**	**24.28**	**298**	P	**P**	**02 43 14.3**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=84,slow=9.2,SNR=2.6						
KIV	**Kislovodsk**	**24.46**	**298**	*e*P	P	02 43 27.1	+9.2
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MOY	**Mondy**	**25.25**	**43**	*e*P	**P**	**02 43 26.3**	**+1.4**
MOY				pmax	pmax		
	comp=Z,13nm,1.5s						
ZAK	**Zakamensk**	**26.03**	**47**	*e*P	**P**	**02 43 31.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**27.21**	**54**	P	**P**	**02 43 42.5**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=247,slow=10,SNR=19						
ULN	**Ulaanbaatar**	**27.65**	**54**	*ce*P	**P**	**02 43 47.6**	**+0.9**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**28.79**	**121**	P	**P**	**02 43 59.0**	**+2.1**
	comp=Z,3.1nm,0.7s,baz=308,slow=10,SNR=8.1						
CMAR	**Chiang Mai Arr**	**28.79**	**121**	P	**P**	**02 43 59.0**	**+2.1**
HHC	**Hu-ho-hao-te**	**30.35**	**69**	*e*P	**P**	**02 44 11.8**	**+1.2**
HHC				pP	sP	02 44 26.6	+5.1
HHC				sP	pP	02 44 35.0	+17
HHC				S	**S**	**02 49 05.2**	**-4.3**
HHC				sS	sS	02 49 31.0	+8.8
HHC				PMZ			
	comp=Z,12nm,1.0s						
HHC				PMZ			
	comp=Z,85nm,8.5s						
HHC				LN			
	comp=Z,130nm,14.3s						
HHC				LE			
	comp=Z,130nm,9.4s						
HHC				LZ			
	comp=Z,80nm,12.9s						
BRTR	**Keskin Array B**	**31.16**	**289**	P	**P**	**02 44 18.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=102,slow=5.0,SNR=2.7						
KLMR	**Klimovskoe**	**32.68**	**330**	*e*P	**P**	**02 44 33.9**	**+3.2**
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.5s						
NRIK	**Noril'sk**	**34.26**	**9**	P	**P**	**02 44 45.5**	**+1.1**
	comp=Z,2.8nm,0.3s,baz=180,slow=3.0,SNR=3.3						
AKASG	**Malin Array Be**	**34.51**	**309**	P	**P**	**02 44 47.1**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=79,slow=7.2,SNR=6.2						
KIEV	**Kiev**	**34.52**	**309**	*e*P	**P**	**02 44 46.4**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIEV	**Kiev**	**34.52**	**309**	*e*P	**P**	**02 44 46.4**	**-0.5**
	comp=Z,2.8nm,0.7s						
WHN	**Wuhan**	**34.75**	**87**	*e*P	**P**	**02 44 50.9**	**+1.8**
FINES	**FINESS Array B**	**38.77**	**326**	P	**P**	**02 45 23.4**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=116,slow=9.6,SNR=9.7						
ARCES	**ARCESS Array B**	**42.18**	**337**	P	**P**	**02 45 51.3**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=115,slow=8.2,SNR=17						
ARCES				LR	LR	03 04 32.7	
	comp=Z,50nm,18.3s,baz=94,slow=38						
ARCES	**ARCESS Array B**	**42.18**	**337**	P	**P**	**02 45 51.3**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,50nm,18.3s						
YAK	**Yakutsk**	**43.35**	**35**	⇑*e*P	**P**	**02 46 01.0**	**+0.4**
YAK				pmax	pmax		
	comp=Z,38nm,0.8s						
YAK	**Yakutsk**	**43.35**	**35**	*e*P	**P**	**02 46 00.4**	**-0.2**
	comp=Z,43nm,0.7s						
KSAR	**Wonju Array Be**	**43.41**	**71**	P	**P**	**02 46 02.2**	**+0.7**
KSAR	**Wonju Array Be**	**43.41**	**71**	P	**P**	**02 46 02.2**	**+0.7**
KSRS	**Korea Array**	**43.44**	**71**	P	**P**	**02 46 02.2**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=262,slow=7.2,SNR=2.3						
TIXI	**Tiksi**	**45.55**	**22**	*ce*P	**P**	**02 46 18.1**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIXI	**Tiksi**	**45.55**	**22**	*e*P	**P**	**02 46 17.7**	**-0.3**
	comp=Z,4.0nm,0.7s						
NB2	**NORSAR Subarra**	**45.72**	**323**	P	**P**	**02 46 18.1**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**45.72**	**323**	P	**P**	**02 46 19.9**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=94,slow=7.7,SNR=2.8						
NOA				LR	LR	03 06 23.2	
	comp=Z,14nm,18.8s,baz=275,slow=37						
MJAR	**Matsushiro Arr**	**51.55**	**69**	P	**P**	**02 47 05.2**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=286,slow=8.7,SNR=3.1						
SEY	**Seymchan**	**53.84**	**34**	*ce*P	**P**	**02 47 22.6**	**+1.3**
BILL	**Bilibino**	**58.25**	**26**	⇑*e*P	**P**	**02 47 53.8**	**+1.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ESDC	**Sonseca Array**	**59.13**	**299**	P	**P**	**02 47 58.3**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=40,slow=7.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**67.39**	**270**	P	**P**	**02 48 53.0**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=56,slow=5.7,SNR=17						
COLD	**Coldfoot**	**71.92**	**16**	*e*P	**P**	**02 49 22.2**	**+0.7**
	comp=Z,7.4nm,1.1s						
MLY	**Manley**	**73.58**	**18**	*e*P	**P**	**02 49 32.2**	**+0.8**
	comp=Z,2.9nm,0.6s						
INK	**Inuvik**	**74.04**	**10**	*e*P	**P**	**02 49 35.1**	**+1.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
INK	**Inuvik**	**74.04**	**10**	*e*P	**P**	**02 49 35.1**	**+1.1**
	comp=Z,6.3nm,0.6s						
BPAW	**Bear Paw Mtn.**	**74.28**	**18**	*e*P	**P**	**02 49 35.4**	**-0.1**
	comp=Z,3.3nm,0.6s						
COLA	**College**	**74.41**	**17**	*e*P	**P**	**02 49 36.1**	**-0.1**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
COLA	**College**	**74.41**	**17**	*e*P	**P**	**02 49 36.1**	**-0.1**
	comp=Z,8.0nm,0.8s						
CAST	**Castle Rocks**	**74.54**	**19**	*e*P	**P**	**02 49 38.0**	**+1.0**
	comp=Z,9.0nm,0.8s						
IL1	**Eielson Array**	**74.72**	**17**	*e*P	**P**	**02 49 37.1**	**-0.9**
ILAR	**Eielson Array**	**74.72**	**17**	P	**P**	**02 49 37.8**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=312,slow=4.8,SNR=32						
KTH	**Kantishna Hill**	**74.74**	**19**	*e*P	**P**	**02 49 38.4**	**+0.1**
	comp=Z,7.5nm,1.1s						
PPLA	**Purkeypile**	**74.93**	**20**	*

n87,σ1ˢ32/100, 3C-4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**252**	⇑P	**Pn**	**03 01 14.9**	**-0.2**
MXZ				SN	**Sn**	**03 01 26.1**	**-0.8**
MXZ				AML	AML	03 01 27.0	
MXZ				AML	AML	03 01 28.1	
MXZ				AML	AML	03 01 29.6	
MXZ	**Matakaoa Point**	**0.88**	**252**	Pn	**Pn**	**03 01 14.9**	**-0.2**
MXZ				Sn	**Sn**	**03 01 26.1**	**-0.8**
PUZ	**Puketiti**	**1.17**	**228**	PN	**Pb**	**03 01 20.6**	**+0.4**
PUZ				SN	**Sn**	**03 01 35.6**	**+1.5**
PUZ				AML	AML	03 01 49.8	
PUZ	**Puketiti**	**1.17**	**228**	Pn	**Pb**	**03 01 20.6**	**+0.4**
PUZ				Sn	**Sn**	**03 01 35.6**	**+1.5**
PKGZ	**Pakihiroa**	**1.18**	**240**	PN	**Pb**	**03 01 20.3**	**-0.1**
HAZ	**Te Kaha**	**1.34**	**249**	⇑PN	**Pb**	**03 01 22.2**	**-0.8**
HAZ				SN	**Sb**	**03 01 40.6**	**+0.9**
TWGZ	**Tauwhareparae**	**1.40**	**231**	PN	**Pb**	**03 01 24.1**	**-0.1**
TWGZ	**Tauwhareparae**	**1.40**	**231**	Pn	**Pb**	**03 01 24.1**	**-0.1**
CNGZ	**Carnagh Statio**	**1.50**	**217**	PN	**Pb**	**03 01 25.9**	**+0.2**
CNGZ	**Carnagh Statio**	**1.50**	**217**	Pn	**Pb**	**03 01 25.9**	**+0.2**
TKGZ	**Te Karaka**	**1.65**	**226**	PN	**Pn**	**03 01 27.3**	**+1.6**
TKGZ				SN	**Sn**	**03 01 47.3**	**+1.3**
TKGZ	**Te Karaka**	**1.65**	**226**	Pn	**Pn**	**03 01 27.3**	**+1.6**
TKGZ				Sn	**Sn**	**03 01 47.3**	**+1.3**
MWZ	**Matawai**	**1.78**	**234**	PN	**Pn**	**03 01 28.6**	**+1.1**
MWZ				AML	AML	03 01 51.0	
MWZ				AML	AML	03 01 57.8	
MWZ				AML	AML	03 02 01.4	
MWZ	**Matawai**	**1.78**	**234**	Pn	**Pn**	**03 01 28.6**	**+1.1**
RIGZ	**Rimuhau**	**1.89**	**221**	PN	**Pn**	**03 01 30.2**	**+1.1**
RAGZ	**Rawiri**	**1.95**	**232**	PN	**Pn**	**03 01 31.2**	**+1.3**
RAGZ	**Rawiri**	**1.95**	**232**	Pn	**Pn**	**03 01 31.2**	**+1.3**
PRGZ	**Paritu Road**	**2.00**	**215**	PN	**Pn**	**03 01 32.1**	**+1.6**
PRGZ				SN	**Sn**	**03 01 56.9**	**+2.3**
PRGZ	**Paritu Road**	**2.00**	**215**	Pn	**Pn**	**03 01 32.1**	**+1.6**
URZ	**Urewera**	**2.02**	**241**	Pn	**Pn**	**03 01 32.2**	**+1.4**
URZ	25nm,0.3s,baz=66,slow=9.0,SNR=59			Sn	**Sn**	**03 01 56.6**	**+1.5**
URZ	22nm,0.3s,baz=288,slow=20,SNR=13			LR	LR	03 02 19.3	
URZ	**Urewera**	**2.02**	**241**	PN	**Pn**	**03 01 31.9**	**+1.1**
URZ	comp=Z,18nm,20.3s,baz=41,slow=39			SN	**Sn**	**03 01 56.2**	**+1.0**
URZ				AML	AML	03 02 02.9	
URZ	**Urewera**	**2.02**	**241**	Pn	**Pn**	**03 01 31.9**	**+1.1**
URZ				Sn	**Sn**	**03 01 56.2**	**+1.0**
KNZ	**Kokohu**	**2.17**	**217**	⇓PN	**Pn**	**03 01 33.6**	**+0.7**
KNZ	**Kokohu**	**2.17**	**217**	Pn	**Pn**	**03 01 33.6**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.18**	**211**	*e*PN	**Pn**	**03 01 33.9**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.18**	**211**	*e*Pn	**Pn**	**03 01 33.9**	**+0.9**
SNGZ	**Shannon Statio**	**2.18**	**227**	PN	**Pn**	**03 01 33.8**	**+0.8**
SNGZ	**Shannon Statio**	**2.18**	**227**	Pn	**Pn**	**03 01 33.8**	**+0.8**
RAHZ	**Arahi**	**2.42**	**227**	PN	**Pn**	**03 01 35.9**	**-0.4**
RAHZ	**Arahi**	**2.42**	**227**	Pn	**Pn**	**03 01 35.9**	**-0.4**
WHHZ	**Waihua**	**2.44**	**223**	PN	**Pn**	**03 01 37.5**	**+0.9**
NMHZ	**Naumai**	**2.70**	**227**	PN	**Pn**	**03 01 41.0**	**+0.8**
NMHZ	**Naumai**	**2.70**	**227**	Pn	**Pn**	**03 01 41.0**	**+0.8**
ARHZ	**Aropaoanui**	**2.70**	**223**	PN	**Pn**	**03 01 41.4**	**+1.2**
ARHZ	**Aropaoanui**	**2.70**	**223**	Pn	**Pn**	**03 01 41.4**	**+1.2**
BKZ	**Black Stump Fm**	**2.93**	**230**	⇓PN	**Pn**	**03 01 44.3**	**+1.0**
BKZ				AML	AML	03 02 18.1	
BKZ				AML	AML	03 02 18.9	
BKZ	**Black Stump Fm**	**2.93**	**230**	Pn	**Pn**	**03 01 44.3**	**+1.0**
KUZ	**Kuaotunu**	**2.96**	**280**	⇓PN	**Pn**	**03 01 43.2**	**-0.5**
KUZ				AML	AML	03 01 43.9	
KUZ	**Kuaotunu**	**2.96**	**280**	Pn	**Pn**	**03 01 43.2**	**-0.5**
MCHZ	**McNeill Hill**	**3.00**	**224**	PN	**Pn**	**03 01 45.1**	**+0.9**
MCHZ	**McNeill Hill**	**3.00**	**224**	Pn	**Pn**	**03 01 45.1**	**+0.9**
TOZ	**Tahuroa Road**	**3.10**	**261**	⇑PN	**Pn**	**03 01 46.3**	**+0.8**
TOZ	**Tahuroa Road**	**3.10**	**261**	Pn	**Pn**	**03 01 46.3**	**+0.8**
KWHZ	**Kaweka Forest**	**3.14**	**227**	PN	**Pn**	**03 01 46.9**	**+0.7**
KAHZ	**Kahuranaki**	**3.16**	**217**	PN	**Pn**	**03 01 46.6**	**+0.1**
KAHZ	**Kahuranaki**	**3.16**	**217**	Pn	**Pn**	**03 01 46.6**	**+0.1**
GRZ	**Great Barrier**	**3.30**	**287**	PN	**Pn**	**03 01 48.7**	**+0.3**
KRHZ	**Kereru**	**3.32**	**224**	PN	**Pn**	**03 01 48.5**	**-0.1**
PXZ	**Pawanui**	**3.36**	**215**	PN	**Pn**	**03 01 49.0**	**-0.1**
PXZ	**Pawanui**	**3.36**	**215**	Pn	**Pn**	**03 01 49.0**	**-0.1**
MKAZ	**Moumakai**	**3.36**	**272**	⇓PN	**Pn**	**03 01 49.3**	**+0.2**
MKAZ	**Moumakai**	**3.36**	**272**	Pn	**Pn**	**03 01 49.3**	**+0.2**
BHHZ	**Black Hill Sta**	**3.39**	**229**	PN	**Pn**	**03 01 50.3**	**+0.7**
BHHZ	**Black Hill Sta**	**3.39**	**229**	Pn	**Pn**	**03 01 50.4**	**+0.7**
PNHZ	**Pukenui**	**3.60**	**223**	PN	**Pn**	**03 01 52.1**	**-0.4**
PNHZ	**Pukenui**	**3.60**	**223**	Pn	**Pn**	**03 01 52.1**	**-0.4**
PRHZ	**Porangahau**	**3.65**	**215**	PN	**Pn**	**03 01 52.3**	**-0.8**
PRHZ	**Porangahau**	**3.65**	**215**	Pn	**Pn**	**03 01 52.3**	**-0.8**
AWAZ	**Awhitu Peninsu**	**3.77**	**272**	PN	**Pn**	**03 01 55.7**	**+0.9**
TSZ	**Takapari Road**	**3.83**	**223**	PN	**Pn**	**03 01 54.7**	**-1.0**
TSZ	**Takapari Road**	**3.83**	**223**	Pn	**Pn**	**03 01 54.7**	**-1.0**
ANWZ	**Angora Road**	**3.88**	**215**	PN	**Pn**	**03 01 56.2**	**-0.1**
DVHZ	**Dannevirke**	**3.90**	**219**	PN	**Pn**	**03 01 55.7**	**-1.0**
DVHZ	**Dannevirke**	**3.90**	**219**	Pn	**Pn**	**03 01 55.7**	**-1.0**
BFZ	**Birch Farm**	**4.16**	**215**	PN	**Pn**	**03 01 59.0**	**-1.2**
BFZ				SN	**Sn**	**03 02 45.7**	**-2.2**
BFZ	**Birch Farm**	**4.16**	**215**	Pn	**Pn**	**03 01 59.0**	**-1.2**
BFZ				Sn	**Sn**	**03 02 45.7**	**-2.2**
PRWZ	**Pori Road**	**4.19**	**218**	PN	**Pn**	**03 01 60.0**	**-0.6**
PRWZ	**Pori Road**	**4.19**	**218**	Pn	**Pn**	**03 01 60.0**	**-0.6**
TIWZ	**Tintock**	**4.40**	**217**	SN	**Sn**	**03 02 51.7**	**-2.2**
TIWZ				AML	AML	03 02 54.4	
TIWZ	**Tintock**	**4.40**	**217**	Sn	**Sn**	**03 02 51.7**	**-2.2**
MRZ	**Mangatainoka R**	**4.47**	**220**	PN	**Pn**	**03 02 02.8**	**-1.6**
MRZ	**Mangatainoka R**	**4.47**	**220**	Pn	**Pn**	**03 02 02.8**	**-1.6**
HOWZ	**Holdsworth Sta**	**4.68**	**219**	PN	**Pn**	**03 02 05.4**	**-1.9**
HOWZ	**Holdsworth Sta**	**4.68**	**219**	Pn	**Pn**	**03 02 05.5**	**-1.9**
THZ	**Tophouse**	**6.69**	**226**	PN	**Pn**	**03 02 32.6**	**-2.4**
THZ	**Tophouse**	**6.69**	**226**	Pn	**Pn**	**03 02 32.6**	**-2.4**
CTZ	**Chatham Island**	**7.12**	**156**	PN	**Pn**	**03 02 42.4**	**+1.6**
CTZ	**Chatham Island**	**7.12**	**156**	Pn	**Pn**	**03 02 42.4**	**+1.6**
LTZ	**Lake Taylor**	**7.72**	**223**	*e*PN	**Pn**	**03 02 47.3**	**-1.8**
LTZ				AML	AML	03 05 19.5	
LTZ	**Lake Taylor**	**7.72**	**223**	*e*Pn	**Pn**	**03 02 47.3**	**-1.8**
MQZ	**McQueen's Vall**	**8.19**	**216**	*e*PN	**Pn**	**03 02 51.9**	**-3.6**
MQZ	**McQueen's Vall**	**8.19**	**216**	*e*Pn	**Pn**	**03 02 51.9**	**-3.6**
ASAR	**Alice Springs**	**41.09**	**276**	P	**P**	**03 08 38.7**	**-1.3**
	0.7nm,0.6s,baz=127,slow=8.2,SNR=9.9						
WRA	**Warramunga Arr**	**42.70**	**281**	P	**P**	**03 08 51.6**	**-1.6**
	2.1nm,0.5s,baz=122,slow=7.9,SNR=27						
ARCES	**ARCESS Array B**	**144.75**	**344**	PKP	**PKPdf**	**03 20 32.0**	**+0.5**
	2.7nm,0.9s,baz=46,slow=3.5,SNR=5.7						
FINES	**FINESS Array B**	**150.63**	**334**	PKPbc	**PKPbc**	**03 20 46.9**	**0.0**
	1.9nm,0.5s,baz=22,slow=4.5,SNR=16						
TORD	**Torodi Ar. Bea**	**155.86**	**186**	PKPab	**PKPab**	**03 21 20.7**	**+3.6**
	0.5nm,1.0s,baz=178,slow=4.2,SNR=3.0						

*ISCJB **10** 03:03:04.1±0.5, 37.°16N×0.°04×71.°77E±0.°06, h106km, mb3.6/7, Error ellipse: s-maj=7.1km s-min=5.0km az=148.2*

*IDC **10** 03:03:05.0±4.6, 36.°97N×71.°78E, h106km±29km, mb3.3/7, mb1 3.5/14, mb1mx3.3/55, mbtmp3.8/14, MS3.3/1, Ms1 3.3/1, ms1mx2.2/39, Error ellipse: s-maj=55.1km s-min=21.8km az=152.0*

*NNC **10** 03:03:10.6±2.4, 37.°55N×71.°48E, h128km±38km, mb3.2, mpv4.0, Error ellipse: s-maj=23.1km s-min=12.3km az=146.0*

ISC 10 03:03:05.7±0.8, 37.°25N±0.°07×71.°68E±0.°06, h106km, n28, σ2ˢ44/35, mb3.6/7, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.73**	**305**	⇑P	**Pn**	**03 03 49.7**	**+1.5**
DZET	48nm,0.4s			⇑S	**Sn**	**03 04 20.9**	**+0.1**
	92nm,0.5s						
MNAS	**Manas**	**5.27**	**7**	⇑P	**Pn**	**03 04 24.6**	**+2.4**
MNAS	5.7nm,0.6s			⇑S	**Sn**	**03 05 21.6**	**-0.2**
	48nm,0.5s						
AAK	**Ala-Archa**	**5.79**	**21**	P	**Pn**	**03 04 32.2**	**+2.9**
AAK	4.9nm,0.3s,baz=171,slow=15,SNR=24			S	**Sn**	**03 05 35.2**	**+0.7**
	4.1nm,0.3s,baz=339,slow=19,SNR=18						
AAK	**Ala-Archa**	**5.79**	**21**	⇓P	**Pn**	**03 04 32.0**	**+2.7**
AAK	8.0nm,0.5s			⇓S	**Sn**	**03 05 34.7**	**+0.1**
	18nm,0.4s						
KK31	**Karatay Array**	**5.91**	**352**	⇑P	**Pn**	**03 04 32.8**	**+2.0**
	9.0nm,0.3s,baz=176,slow=12,SNR=182						
KK31				S	**Sn**	**03 05 35.6**	**-1.6**
	19nm,0.5s,baz=168,slow=21,SNR=19						
TKM2	**Tokmak 2**	**6.41**	**27**	⇓P	**Pn**	**03 04 40.1**	**+2.4**
	8.4nm,0.6s						
TKM2				⇑S	**Sn**	**03 05 49.7**	**+0.2**
	4.9nm,0.6s						
GEYT	**Alibeck**	**10.78**	**278**	P	**Pn**	**03 05 37.7**	**+0.7**
	0.2nm,0.3s,baz=103,slow=10,SNR=1.7						
MKAR	**Makanchi Array**	**12.36**	**36**	P	**Pn**	**03 05 59.2**	**+1.3**
	0.1nm,0.3s,baz=225,slow=14,SNR=6.5						
PYUN	**Piuthan**	**13.19**	**131**	*e*P	**Pn**	**03 06 05.9**	**-3.1**
	21nm,0.4s						
KOLN	**Koldanda**	**13.79**	**130**	*e*P	**Pn**	**03 06 14.0**	**-3.0**
	9.0nm,0.3s						
KURBB	**Kurchatov Arra**	**14.24**	**18**	P	**P**	**03 06 26.6**	**+0.2**
	0.1nm,0.3s,baz=205,slow=10,SNR=24						
GKN	**Gorkha**	**14.28**	**126**	*e*P	**Pn**	**03 06 20.7**	**-2.5**
	14nm,0.3s						
AB31	**Akbulak array**	**14.71**	**328**	P	**Pn**	**03 06 27.5**	**-0.8**
	1.1nm,0.5s,baz=138,slow=12,SNR=51						
AB31				S	**Sn**	**03 09 04.0**	**-6.4**
	3.4nm,0.7s,baz=152,slow=23,SNR=8.8						
DMN	**Daman**	**14.85**	**126**	*e*P	**Pn**	**03 06 28.6**	**-2.0**
	11nm,0.3s						
PKIN	**Phulchoki**	**15.06**	**126**	*e*P	**Pn**	**03 06 31.1**	**-2.1**
	7.2nm,0.4s						
GUN	**Gumba**	**15.15**	**124**	*e*P	**Pn**	**03 06 31.5**	**-3.0**
	9.9nm,0.4s						
BVAR	**Borovoye Array**	**15.80**	**357**	P	**P**	**03 06 44.4**	**+0.7**
	0.5nm,0.3s,baz=153,slow=11,SNR=4.2						
BVAR				S	**Sn**	**03 09 29.9**	**-6.8**
	0.3nm,0.3s,baz=166,slow=24,SNR=4.4						
RAMN	**Ramite**	**16.27**	**125**	*e*P	**Pn**	**03 06 45.2**	**-3.1**
	20nm,0.6s						
AKTO	**Aktyubinsk**	**16.42**	**328**	P	**P**	**03 06 51.7**	**+1.1**
	0.5nm,0.3s,baz=142,slow=16,SNR=8.0						
ZALV	**Zalesovo Beam**	**19.01**	**24**	P	**P**	**03 07 19.9**	**+1.0**
	1.3nm,0.3s,baz=216,slow=10,SNR=14						
SONM	**Songino Array**	**27.46**	**56**	LR	LR	03 21 38.1	
	comp=Z,56nm,18.4s,baz=93,slow=40						
FINES	**FINESS Array B**	**37.17**	**325**	P	**P**	**03 10 07.6**	**+1.5**
	0.5nm,0.4s,baz=119,slow=8.7,SNR=5.4						
ARCES	**ARCESS Array B**	**40.66**	**337**	P	**P**	**03 10 36.3**	**+1.2**
	1.6nm,0.7s,baz=118,slow=9.5,SNR=9.6						
NOA	**NORSAR Array B**	**44.11**	**323**	P	**P**	**03 11 04.3**	**+1.1**
	0.4nm,0.4s,baz=100,slow=7.8,SNR=2.8						
ESDC	**Sonseca Array**	**57.59**	**298**	P	**P**	**03 12 45.8**	**+1.3**
	0.2nm,0.4s,baz=50,slow=7.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**66.28**	**269**	P	**P**	**03 13 42.3**	**-0.7**
	0.2nm,0.6s,baz=52,slow=5.8,SNR=3.5						
INK	**Inuvik**	**73.07**	**10**	P	**P**	**03 14 24.8**	**+1.1**
	0.8nm,0.5s,baz=333,slow=6.2,SNR=3.1						
YKA	**Yellowknife Ar**	**80.47**	**3**	P	**P**	**03 15 06.0**	**+0.6**
	0.3nm,0.3s,baz=350,slow=5.5,SNR=4.8						

IDC 10 03:03:56.5±3.3, 57.°16S×148.°99E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/28, mbtmp3.7/3, MS3.3/4, Ms1 3.4/4, ms1mx3.1/19, Error ellipse: s-maj=265.9km s-min=27.5km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.93**	**172**	P	P	03 08 40.2	-0.1
	2.3nm,1.0s,baz=335,slow=11,SNR=6.1						
VNDA				LR	LR	03 14 40.5	
	comp=Z,40nm,19.1s,baz=9.5,slow=31						
URZ	**Urewera**	**26.44**	**56**	LR	LR	03 18 46.6	
	comp=Z,121nm,20.3s,baz=216,slow=34						
H01W1	**Cape Leeuwin H**	**32.31**	**299**	T	T	03 43 59.0	
	baz=144,slow=75,SNR=18						
H01W2	**Cape Leeuwin H**	**32.32**	**299**	T	T	03 43 56.2	
	baz=144,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**32.33**	**299**	T	T	03 43 57.0	
	baz=144,slow=75,SNR=16						
ASAR	**Alice Springs**	**35.21**	**336**	P	P	03 10 52.2	0.0
	0.3nm,0.6s,baz=158,slow=10.0,SNR=5.1						
MAW	**Mawson**	**37.94**	**218**	LR	LR	03 25 09.5	
	comp=Z,66nm,20.7s,baz=64,slow=34						
WRA	**Warramunga Arr**	**38.72**	**338**	P	P	03 11 21.5	-0.6
	2.1nm,0.8s,baz=167,slow=7.5,SNR=8.5						
H08S2	**Diego Garcia H**	**76.29**	**277**	T	T	04 38 39.0	
	baz=147,slow=76,SNR=7.9						
H08S1	**Diego Garcia H**	**76.30**	**277**	T	T	04 38 40.1	
	baz=147,slow=76,SNR=9.7						
H08S3	**Diego Garcia H**	**76.31**	**277**	T	T	04 38 44.6	
	baz=147,slow=76,SNR=7.9						
CMAR	**Chiang Mai Arr**	**86.09**	**313**	LR	LR	03 54 29.5	
	comp=Z,14nm,18.7s,baz=176,slow=35						
AKASG	**Malin Array Be**	**145.00**	**286**	PKPbc	PKPbc	03 23 31.9	-1.9
	0.1nm,0.3s,baz=143,slow=2.2,SNR=2.0						
FINES	**FINESS Array B**	**151.36**	**303**	PKPbc	PKPbc	03 23 51.7	+1.2
	0.8nm,0.6s,baz=100,slow=1.6,SNR=3.0						

*NIED **10** 03:19:00, 40.°10N×142.°90E, h29km, Mw3.6 Best double couple: M0 2.68000×10^14 NP1:φ=186.00000°, δ17.00000°, λ75.00000°. NP2:φ=22.00000°, δ74.00000°, λ95.00000°.*

*ISCJB **10** 03:19:17.1±1.4, 40.°14N±0.°06×143.°0E±0.°1, h12km, mb3.4/4, MS2.9/1, Error ellipse: s-maj=11.8km s-min=8.1km az=2.4*

*JMA **10** 03:19:19.4±0.2, 40.°12N×142.°86E, h19km±2km, M3.7*

*IDC **10** 03:19:35.4±3.2, 39.°69N×141.°59E, h138km±31km, mb3.0/4, mb1 3.1/6, mb1mx3.0/33, mbtmp3.4/6, MS2.8/3, Ms1 2.8/3, ms1mx2.4/17, Error ellipse: s-maj=35.0km s-min=24.6km az=83.0*

ISC 10 03:19:17.8±1.6, 40.°14N±0.°07×142.°83E±0.°10, h12km, n23, σ1ˢ08/16, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.77**	**255**	P	**Pn**	**03 19 34.5**	**0.0**
MIYJ	**Miyakonagasawa**	**0.96**	**235**	P	**Pn**	**03 19 37.0**	**-0.1**
MIYJ				*e*S	**Sn**	**03 19 49.6**	**-1.0**
JANG	**Nango**	**1.03**	**284**	P	**Pn**	**03 19 38.5**	**+0.4**
JKZ	**Kuzumaki**	**1.16**	**263**	P	**Pn**	**03 19 40.7**	**+0.8**
JOM	**Ohasama**	**1.36**	**241**	P	**Pg**	**03 19 43.7**	**-0.2**
OFUJ	**Ofunato**	**1.38**	**221**	P	**Pg**	**03 19 43.9**	**-0.5**
OFUJ				S	**Sg**	**03 20 02.4**	**0.0**
JTM	**Tenmabayashi**	**1.49**	**296**	P	**Pb**	**03 19 46.2**	**+0.7**
JTM				*e*S	**Sb**	**03 20 05.4**	**+1.0**
JAH	**Hinai**	**1.68**	**273**	P	**Pb**	**03 19 49.0**	**+0.3**
JAH				*e*S	**Sg**	**03 20 10.9**	**-1.0**
MJAR	**Matsushiro Arr**	**5.11**	**227**	P	**Pn**	**03 20 37.2**	**+3.0**
	0.6nm,0.3s,baz=35,slow=13,SNR=8.1						
USRK	**Ussuriysk Ar.**	**9.02**	**300**	P	Pn	03 21 34.5	+6.8
	0.2nm,0.3s,baz=100,slow=15,SNR=3.3						
JNU	**Nakatsue**	**11.87**	**238**	LR	LR	03 26 15.3	
	comp=Z,39nm,18.9s,baz=298,slow=37						
KLR	**Kul'dur**	**12.02**	**323**	LR	LR	03 26 52.3	
	comp=Z,31nm,19.7s,baz=98,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.97**	**128**	T	T	03 56 10.1	
	baz=318,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**28.98**	**128**	T	T	03 56 10.0	
	baz=318,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.99**	**128**	T	T	03 56 10.7	
	baz=318,slow=75,SNR=29						
TLY	**Talaya**	**29.26**	**306**	LR	LR	03 38 09.1	
	comp=Z,24nm,18.3s,baz=99,slow=39						
H11S1	**WAKE ISLAND Hy**	**29.79**	**129**	T	T	03 56 45.9	
	baz=322,slow=76,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**29.79**	**129**	T	T	03 56 33.7	
	baz=322,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**29.81**	**129**	T	T	03 56 49.7	
	baz=322,slow=76,SNR=6.9						
ZALV	**Zalesovo Beam**	**40.72**	**310**	P	**P**	**03 26 57.6**	**-0.5**
	0.9nm,0.6s,baz=90,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**43.48**	**300**	P	**P**	**03 27 20.8**	**0.0**
	0.3nm,0.4s,baz=79,slow=7.5,SNR=3.7						
ILAR	**Eielson Array**	**46.29**	**34**	P	P	03 27 53.8	+11
	0.3nm,0.7s,baz=258,slow=5.6,SNR=5.0						
WRA	**Warramunga Arr**	**60.29**	**189**	P	**P**	**03 29 25.2**	**-1.0**
	0.3nm,0.7s,baz=8.3,slow=7.0,SNR=2.9						

*TIR **10** 03:30:14.7, 40.°14N×20.°08E, h4km, ML3.3*

*BEO **10** 03:30:21.9±1.1, 39.°87N×20.°00E, h18km±6km, M2.9/4*

*THE **10** 03:30:22.0, 40.°18N×20.°01E, h0km±1km, ML2.8/10, Error ellipse: s-maj=2.2km s-min=0.7km az=307.0*

*ATH **10** 03:30:22.9, 40.°13N×20.°06E, h7km±2km, ML2.6/2, Error ellipse: s-maj=2.7km s-min=1.4km az=215.0*

*CSEM **10** 03:30:23.7±0.2, 40.°13N×20.°04E, h2km, ML2.6, Error ellipse: s-maj=6.0km s-min=3.9km az=77.0*

ISC 10 03:30:22.8±1.1, 40.°13N±0.°02×20.°06E±0.°02, h6km±10km, n76, σ1ˢ51/103, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.47**	**206**	P	**Pg**	**03 30 31.3**	**-0.5**
KEK				S	**Sb**	**03 30 38.5**	**-2.1**
KEK	**Kerkira**	**0.47**	**206**	P	**Pg**	**03 30 31.3**	**-0.5**
KEK				S	**Sb**	**03 30 38.5**	**-2.1**
SGD	**Sagiada**	**0.54**	**166**	P	**Pb**	**03 30 33.3**	**-1.4**
SGD				S	**Sb**	**03 30 41.2**	**-1.4**
SGD	**Sagiada**	**0.54**	**166**	P	**Pb**	**03 30 33.3**	**-1.4**
SGD				S	**Sb**	**03 30 41.2**	**-1.4**
SGD	**Sagiada**	**0.54**	**166**	P	**Pg**	**03 30 32.0**	**-1.1**
SGD				S	**Sg**	**03 30 40.3**	**+0.2**
IGT	**Igoumenitsa**	**0.63**	**161**	P	**Pg**	**03 30 34.8**	**-0.3**
IGT				S	**Sb**	**03 30 45.0**	**-0.5**
IGT	**Igoumenitsa**	**0.63**	**161**	P	**Pg**	**03 30 34.8**	**-0.3**
IGT				S	**Sb**	**03 30 45.0**	**-0.5**
IGT	**Igoumenitsa**	**0.63**	**161**	P	**Pg**	**03 30 34.7**	**-0.3**
IGT				S	**Sb**	**03 30 45.4**	**-0.1**
IGT				AML	AML	03 30 48.0	
	comp=N,1544μm,0.5s						
IGT				AML	AML	03 30 49.3	
	comp=E,1036μm,0.6s						
JAN	**Janina**	**0.77**	**128**	P	**Pg**	**03 30 37.0**	**-0.6**
JAN				S	**Sb**	**03 30 49.1**	**-0.4**
JAN	**Janina**	**0.77**	**128**	P	**Pg**	**03 30 37.0**	**-0.6**
JAN				S	**Sb**	**03 30 49.1**	**-0.4**
JAN	**Janina**	**0.77**	**128**	AML	AML	03 30 54.7	
	comp=E,1464μm,0.8s						
PENT	**Pentalofos**	**0.83**	**85**	P	**Pg**	**03 30 38.2**	**-0.5**
PENT				S	**Sb**	**03 30 51.1**	**-0.1**
PENT	**Pentalofos**	**0.83**	**85**	P	**Pg**	**03 30 38.2**	**-0.5**
PENT				S	**Sb**	**03 30 51.1**	**-0.1**
PENT	**Pentalofos**	**0.83**	**85**	P	**Pg**	**03 30 37.7**	**-1.0**
KPRO	**Kipourio**	**1.01**	**100**	P	**Pg**	**03 30 41.7**	**-0.6**
KPRO				S	**Sn**	**03 30 57.7**	**-0.7**
KPRO	**Kipourio**	**1.01**	**100**	P	**Pg**	**03 30 41.7**	**-0.6**
KPRO				S	**Sn**	**03 30 57.7**	**-0.7**
KPRO	**Kipourio**	**1.01**	**100**	P	**Pg**	**03 30 40.5**	**-1.8**
OHR	**Ohrid**	**1.13**	**30**	*i* Pn	**Pn**	**03 30 45.1**	**-0.2**
OHR	**Ohrid**	**1.13**	**30**	*i* Pn	**Pn**	**03 30 45.1**	**-0.2**
FNA	**Florina**	**1.20**	**57**	P	**Pb**	**03 30 44.6**	**-1.4**
FNA				S	**Sn**	**03 31 02.9**	**+0.1**
FNA	**Florina**	**1.20**	**57**	P	**Pb**	**03 30 44.6**	**-1.4**
FNA				S	**Sn**	**03 31 02.9**	**+0.1**
FNA	**Florina**	**1.20**	**57**	P	**Pb**	**03 30 44.5**	**-1.4**
TIR	**Tirane**	**1.22**	**353**	*i* PG	**Pg**	**03 30 46.4**	**+0.1**
TIR				*i* PG	**Sn**	**03 31 04.2**	**+0.8**
TIR	**Tirane**	**1.22**	**353**	*e*Pg	**Pg**	**03 30 48.2**	**+1.9**
TIR				*e*Sg	**Sn**	**03 31 09.5**	**+6.1**
TIR	**Tirane**	**1.22**	**353**	*i* Pg	**Pg**	**03 30 46.4**	**+0.1**
TIR	**Tirane**	**1.22**	**353**	P	**Pg**	**03 30 47.3**	**+1.0**
TIR	**Tirane**	**1.22**	**353**	P	**Pg**	**03 30 47.3**	**+1.0**
SCTE	**Santa Cesarea**	**1.23**	**268**	P	**Pg**	**03 30 46.6**	**+0.3**
SCTE	**Santa Cesarea**	**1.23**	**268**	P	**Pg**	**03 30 46.6**	**+0.3**
DSL	**Palaion Diasel**	**1.28**	**141**	P	**Pg**	**03 30 47.2**	**-0.1**

ML3.0(NAO)

ISC 10 03:57:27.8±0.8, 77°51N±0°06×8°14E±0°06, h10km, n37, σ1§54/34, MS3.1/10, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**1.41**	**64**	Pg	**Pg**	**03 57 54.3**	**-0.4**
BRBA				Lg	Lg	03 58 11.7	
	SNR=50						
KBS	**Kingsbay**	**1.62**	**27**	Pg	**Pn**	**03 57 56.6**	**+0.2**
KBS				Lg	Lg	03 58 16.2	
KBS	**Kingsbay**	**1.62**	**27**	*e*P	**Pn**	**03 57 56.5**	**+0.2**
KBS				*e*S	**Sn**	**03 58 16.1**	**-1.2**
KBS				IAML		03 58 18.6	
	comp=Z,68nm,0.6s						
KBS	**Kingsbay**	**1.62**	**27**	Pg	**Pn**	**03 57 56.6**	**+0.2**
KBS				*e*S	**Sn**	**03 58 16.1**	**-1.2**
	SNR=50						
HSPB	**Hornsund (broa**	**1.72**	**104**	*e*P	**Pn**	**03 57 57.4**	**-0.2**
HSPB				*e*S	**Sn**	**03 58 17.4**	**-2.2**
HSPB	**Hornsund (broa**	**1.72**	**104**	*e*P	**Pn**	**03 57 57.4**	**-0.2**
	SNR=50						
HSPB				*e*S	**Sn**	**03 58 17.4**	**-2.2**
	SNR=50						
HSP	**Hornsund**	**1.72**	**103**	Pg	**Pn**	**03 57 57.5**	**-0.2**
HSP				Lg	Lg	03 58 17.6	
SPA0	**Spitsbergen Ar**	**1.87**	**65**	Pg	**Pb**	**03 58 01.7**	**-0.2**
	baz=241,slow=14						
SPA0				Lg	Lg	03 58 24.8	
	baz=245,slow=22						
SPA0	**Spitsbergen Ar**	**1.87**	**65**	*e*P	**Pb**	**03 58 01.7**	**-0.2**
SPA0				*e*Sg	**Sb**	**03 58 24.9**	**-0.4**
SPA0	**Spitsbergen Ar**	**1.87**	**65**	*e*P	**Pb**	**03 58 01.7**	**-0.2**
	SNR=50						
SPA0				Lg	Lg	03 58 24.8	
	SNR=1.1						
SPITS	**Spitsbergen Ar**	**1.87**	**65**	Pn	**Pb**	**03 58 01.8**	**-0.2**
	baz=233,slow=15,SNR=912						
SPITS				Sn	**Sb**	**03 58 25.0**	**-0.3**
	baz=242,slow=28,SNR=11						
SPITS				LR	LR	03 58 51.4	
	comp=Z,151nm,21.8s,baz=295,slow=43						
HOPEN	**Hopen**	**3.93**	**96**	Pn	**Pn**	**03 58 28.8**	**+0.8**
HOPEN				Sn	**Sn**	**03 59 11.9**	**-2.1**
HOPEN	**Hopen**	**3.93**	**96**	*e*P	**Pn**	**03 58 28.8**	**+0.8**
HOPEN				*e*S	**Sn**	**03 59 12.0**	**-2.1**
HOPEN				IAML		03 59 14.9	
	comp=Z,26nm,0.2s						
HOPEN	**Hopen**	**3.93**	**96**	*e*P	**Pn**	**03 58 28.8**	**+0.8**
	SNR=49						
HOPEN				*e*S	**Sn**	**03 59 12.0**	**-2.1**
	SNR=49						
DAG	**Danmarks Havn**	**5.99**	**276**	*i* P	**Pn**	**03 58 52.8**	**-3.5**
DAG				*i* S	Sn	03 59 54.2	-11
DAG	**Danmarks Havn**	**5.99**	**276**	*i* P	Sn	03 59 53.9	-11
	comp=Z,23nm,0.7s						
ARA0	**ARCESS Array S**	**9.34**	**140**	Pn	**Pn**	**03 59 41.4**	**-0.9**
	baz=334,slow=12						
ARA0				Sn	Sn	04 01 17.6	-10
	baz=332,slow=22						
ARA0	**ARCESS Array S**	**9.34**	**140**	P	**Pn**	**03 59 41.4**	**-0.9**
	baz=334,slow=12						
ARA0				S	Sn	04 01 17.6	-10
	baz=332,slow=22						
ARA0	**ARCESS Array S**	**9.34**	**140**	P	**Pn**	**03 59 41.4**	**-0.9**
	SNR=47						
ARCES	**ARCESS Array B**	**9.34**	**140**	Pn	**Pn**	**03 59 41.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=332,slow=13,SNR=22						
ARCES				Sn	Sn	04 01 17.3	-10
	comp=Z,0.4nm,0.3s,baz=334,slow=20,SNR=5.3						
ARCES				LR	LR	04 03 24.9	
	comp=Z,72nm,18.7s,baz=4.5,slow=39						
SUMG	**Summit**	**12.65**	**271**	*i* P	**Pn**	**04 00 24.8**	**-2.9**
SUMG	**Summit**	**12.65**	**271**	*i* P	**Pn**	**04 00 26.3**	**-1.4**
	comp=Z,11nm,0.8s						
NOA	**NORSAR Array B**	**16.58**	**175**	Pn	**P**	**04 01 24.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=315,slow=3.8,SNR=2.3						
NOA				LR	LR	04 06 53.0	
	comp=Z,30nm,20.7s,baz=5.0,slow=34						
FINES	**FINESS Array B**	**17.16**	**150**	P	**Pn**	**04 01 27.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=357,slow=11,SNR=4.7						
FINES				LR	LR	04 08 00.4	
	comp=Z,64nm,21.4s,baz=358,slow=37						
HFS	**Hagfors**	**17.56**	**171**	LR	LR	04 07 25.2	
	comp=Z,54nm,19.9s,baz=348,slow=34						
SFJD	**Kangerlussuaq**	**19.64**	**270**	LR	LR	04 09 27.6	
	comp=Z,47nm,18.1s,baz=27,slow=37						
OBN	**Obninsk**	**24.66**	**139**	LR	LR	04 12 39.2	
	comp=Z,44nm,19.1s,baz=281,slow=37						
FRB	**Frobisher Bay**	**26.30**	**282**	LR	LR	04 13 46.0	
	comp=Z,58nm,19.7s,baz=328,slow=37						
VRAC	**Vranov**	**28.50**	**168**	LR	LR	04 13 53.4	
	comp=Z,32nm,20.0s,baz=330,slow=35						
GERES	**GERESS Array B**	**28.85**	**172**	LR	LR	04 14 19.3	
	comp=Z,25nm,19.6s,baz=304,slow=35						
SCHQ	**Scheffervill**	**34.03**	**273**	LR	LR	04 16 50.7	
	comp=Z,54nm,20.6s,baz=42,slow=34						
BRTR	**Keskin Array B**	**39.39**	**148**	LR	LR	04 23 28.0	
	comp=Z,16nm,19.1s,baz=67,slow=40						
MKAR	**Makanchi Array**	**41.41**	**92**	P	**P**	**04 05 17.2**	**+3.5**
MKAR				LR	LR	04 24 53.3	
	comp=Z,22nm,18.3s,baz=332,slow=40						
GEYT	**Alibeck**	**44.92**	**121**	LR	LR	04 27 06.5	
	comp=Z,33nm,18.4s,baz=235,slow=40						
PDAR	**Pinedale Array**	**54.14**	**306**	LR	LR	04 29 45.6	
	comp=Z,47nm,18.1s,baz=12,slow=36						
TORD	**Torodi Ar. Bea**	**64.45**	**187**	P	**P**	**04 08 05.7**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=0.8,slow=6.2,SNR=6.8						
DAV	**Davao City (W)**	**88.87**	**62**	LR	LR	04 54 08.6	
	comp=Z,27nm,19.6s,baz=338,slow=38						

IDC 10 04:20:11.7±60.0, 23°29S×177°79W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, Error ellipse: s-maj=1088.0km s-min=169.3km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.83**	**248**	P	P	04 27 21.4	-0.3
	0.7nm,0.4s,baz=79,slow=10,SNR=3.2						
ASAR	**Alice Springs**	**44.14**	**259**	P	P	04 28 22.2	-0.1
	0.3nm,0.4s,baz=96,slow=8.1,SNR=4.6						
WRA	**Warramunga Arr**	**44.48**	**265**	P	P	04 28 25.0	0.0
	0.8nm,0.4s,baz=102,slow=8.4,SNR=15						

*ISCJB **10** 04:25:27.1±0.2, 43°.81N±0°.02×11°.97E±0°.02, h14km±2km, Error ellipse: s-maj=3.2km s-min=2.2km az=34.6*
*CSEM **10** 04:25:27.7±0.1, 43°.80N×11°.97E, h10km, ML3.2/19, Error ellipse: s-maj=2.3km s-min=1.3km az=36.0*
*ROM **10** 04:25:27.2±0.1, 43°.82N×11°.98E, h7km, Ml2.7/28, Error ellipse: s-maj=1.1km s-min=0.7km az=11.0*
*LDG **10** 04:25:28.5±0.3, 43°.78N×11°.98E, h2km, Ml2.7/4, Error ellipse: s-maj=7.3km s-min=4.5km az=49.0*

ISC 10 04:25:27.5±0.8, 43°.81N±0°.02×11°.97E±0°.02, h10km±5km, n91, σ0§91/138, 5C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.13**	**317**	*i*Pg	**Pg**	**04 25 30.3**	**-0.2**
SFI				Sg	**Sg**	**04 25 32.7**	**0.0**
	1μm,0.8s						
SFI	**Santa Sofia**	**0.13**	**317**	*i*Pg	**Pg**	**04 25 30.3**	**-0.2**
SFI				Sg	**Sg**	**04 25 32.7**	**0.0**
	1μm,0.8s						
ASQU	**Asqua**	**0.13**	**264**	*i*Pg	**Pg**	**04 25 30.8**	**+0.2**
ASQU				Sg	**Sg**	**04 25 33.5**	**+0.8**
	3μm,0.6s						
ASQU	**Asqua**	**0.13**	**264**	*i*Pg	**Pg**	**04 25 30.8**	**+0.2**
ASQU				Sg	**Sg**	**04 25 33.5**	**+0.8**
	3μm,0.6s						
T0502	**Localit˙ San**	**0.15**	**54**	*i*Pg	**Pg**	**04 25 30.6**	**-0.3**
T0502				Sg	**Sg**	**04 25 33.2**	**-0.1**
	10μm,0.4s						
CPGN	**Carpegna, Ital**	**0.26**	**92**	Pg	**Pg**	**04 25 33.3**	**+0.5**
	2μm,0.6s						
CPGN	**Carpegna, Ital**	**0.26**	**92**	Pg	**Pg**	**04 25 33.3**	**+0.5**
	2μm,0.6s						
VMG	**Vicchio**	**0.34**	**296**	Pg	**Pg**	**04 25 34.6**	**+0.3**
VMG				Sg	**Sg**	**04 25 40.5**	**+1.7**
	206μm,0.5s						
VMG	**Vicchio**	**0.34**	**296**	Pg	**Pg**	**04 25 34.6**	**+0.3**
VMG				Sg	**Sg**	**04 25 40.5**	**+1.7**
	206μm,0.5s						
BADI	**Badiali**	**0.36**	**146**	Pg	**Pg**	**04 25 34.8**	**+0.1**
BADI				Sg	**Sb**	**04 25 40.8**	**-1.1**
	987nm,0.2s						
BADI	**Badiali**	**0.36**	**146**	Pg	**Pg**	**04 25 34.8**	**+0.1**
BADI				Sg	**Sb**	**04 25 40.8**	**-1.1**
	987nm,0.2s						
ATMC	**Monte Cedrone**	**0.40**	**156**	Pg	**Pg**	**04 25 35.5**	**+0.1**
ATMC				Sg	**Sb**	**04 25 41.9**	**-1.1**
	954nm,0.3s						
ATMC	**Monte Cedrone**	**0.40**	**156**	Pg	**Pg**	**04 25 35.5**	**+0.1**
ATMC				Sg	**Sb**	**04 25 41.9**	**-1.1**
	954nm,0.3s						
BRIS	**BRISIGHELLA**	**0.47**	**316**	Pg	**Pg**	**04 25 36.3**	**-0.4**
BRIS				Sg	**Sg**	**04 25 43.7**	**+0.7**
	284nm,0.5s						
BRIS	**BRISIGHELLA**	**0.47**	**316**	Pg	**Pg**	**04 25 36.3**	**-0.4**
BRIS				Sg	**Sg**	**04 25 43.7**	**+0.7**
	284nm,0.5s						
ATPC	**Poggio Castell**	**0.49**	**133**	Pg	**Pg**	**04 25 36.9**	**-0.1**
ATPC				Sg	**Sb**	**04 25 45.2**	**-0.2**
	617nm,0.4s						
ATPC	**Poggio Castell**	**0.49**	**133**	Pg	**Pg**	**04 25 36.9**	**-0.1**
ATPC				Sg	**Sb**	**04 25 45.2**	**-0.2**
	617nm,0.4s						
PIEI	**Pieia**	**0.50**	**123**	Pg	**Pg**	**04 25 36.9**	**-0.3**
PIEI				Sg	**Sb**	**04 25 44.7**	**-1.0**
	218nm,0.2s						
PIEI	**Pieia**	**0.50**	**123**	Pg	**Pg**	**04 25 36.9**	**-0.3**
PIEI				Sg	**Sb**	**04 25 44.7**	**-1.0**
	218nm,0.2s						
SEI	**Scarperia**	**0.50**	**299**	Pg	**Pg**	**04 25 37.3**	**0.0**
SEI				Sg	**Sg**	**04 25 45.5**	**+1.5**
	196μm,0.4s						
SEI	**Scarperia**	**0.50**	**299**	Pg	**Pg**	**04 25 37.3**	**0.0**
SEI				Sg	**Sg**	**04 25 45.5**	**+1.5**
	196μm,0.4s						
ATVO	**AVT- Monte Val**	**0.54**	**143**	Pg	**Pg**	**04 25 37.9**	**0.0**
ATVO				Sg	**Sb**	**04 25 46.8**	**0.0**
	734nm,0.2s						
ATVO	**AVT- Monte Val**	**0.54**	**143**	Pg	**Pg**	**04 25 37.9**	**0.0**
ATVO				Sg	**Sb**	**04 25 46.8**	**0.0**
	734nm,0.2s						
FSSB	**Fossombrone**	**0.60**	**101**	Pg	**Pg**	**04 25 38.9**	**-0.3**
FSSB				Sg	**Sb**	**04 25 48.2**	**-0.5**
	479nm,0.4s						
FSSB	**Fossombrone**	**0.60**	**101**	Pg	**Pg**	**04 25 38.9**	**-0.3**
FSSB				Sg	**Sb**	**04 25 48.2**	**-0.5**
	479nm,0.4s						
FRON	**Frontone**	**0.62**	**118**	Pg	**Pg**	**04 25 39.3**	**-0.3**
FRON				Sg	**Sb**	**04 25 48.9**	**-0.5**
	200nm,0.4s						
FRON	**Frontone**	**0.62**	**118**	Pg	**Pg**	**04 25 39.3**	**-0.3**
FRON				Sg	**Sb**	**04 25 48.9**	**-0.5**
	200nm,0.4s						
PESA	**Pesaro**	**0.65**	**78**	Pg	**Pg**	**04 25 39.9**	**-0.1**
	443nm,0.3s						
PESA	**Pesaro**	**0.65**	**78**	Pg	**Pg**	**04 25 39.9**	**-0.1**
	443nm,0.3s						
MTRZ	**Monterenzio**	**0.67**	**328**	Pg	**Pg**	**04 25 41.1**	**+0.6**
	332nm,0.6s						
MTRZ	**Monterenzio**	**0.67**	**328**	Pg	**Pg**	**04 25 41.1**	**+0.6**
	332nm,0.6s						
ATTE	**AVT- Monte Tez**	**0.68**	**155**	Pg	**Pg**	**04 25 40.5**	**-0.1**
	336nm,0.4s						
ATTE	**AVT- Monte Tez**	**0.68**	**155**	Pg	**Pg**	**04 25 40.5**	**-0.1**
	336nm,0.4s						
MURB	**Monte Urbino**	**0.68**	**143**	Pg	**Pg**	**04 25 40.6**	**-0.1**
	895nm,0.3s						
MURB	**Monte Urbino**	**0.68**	**143**	Pg	**Pg**	**04 25 40.6**	**-0.1**
	895nm,0.3s						
SSFR	**Montelago di S**	**0.70**	**122**	Pg	**Pg**	**04 25 40.7**	**-0.4**
	381nm,0.2s						
SSFR	**Montelago di S**	**0.70**	**122**	Pg	**Pg**	**04 25 40.7**	**-0.4**
	381nm,0.2s						
FNVD	**Fontana Vidola**	**0.70**	**301**	Pg	**Pg**	**04 25 41.2**	**0.0**
	220nm,0.8s						
FNVD	**Fontana Vidola**	**0.70**	**301**	Pg	**Pg**	**04 25 41.2**	**0.0**
	220nm,0.8s						
CRMI	**Carmignano**	**0.72**	**269**	Pg	**Pg**	**04 25 41.6**	**+0.1**
	123nm,0.6s						
CRMI	**Carmignano**	**0.72**	**269**	Pg	**Pg**	**04 25 41.6**	**+0.1**
	123nm,0.6s						
ARVD	**Arcevia**	**0.77**	**114**	Pg	**Pg**	**04 25 42.1**	**-0.4**
ARVD				Sg	**Sb**	**04 25 53.8**	**+0.1**
	119nm,0.4s						
ARVD	**Arcevia**	**0.77**	**114**	Pg	**Pg**	**04 25 42.1**	**-0.4**
ARVD				Sg	**Sb**	**04 25 53.8**	**+0.1**
	119nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.80**	**142**	Pg	**Pg**	**04 25 42.7**	**-0.1**
ATCC				Sg	**Sb**	**04 25 54.3**	**0.0**
ATCC	**AVT- Casa Cast**	**0.80**	**142**	Pg	**Pg**	**04 25 42.7**	**-0.1**
ATCC				Sg	**Sb**	**04 25 54.3**	**0.0**
FROS	**Frosini**	**0.84**	**225**	Pg	**Pb**	**04 25 44.3**	**0.0**
FROS				Sg	**Sb**	**04 25 56.0**	**+0.4**
	295nm,0.8s						
FROS	**Frosini**	**0.84**	**225**	Pg	**Pb**	**04 25 44.3**	**0.0**
FROS				Sg	**Sb**	**04 25 56.0**	**+0.4**
	295nm,0.8s						
SNTG	**Esanatoglia**	**0.90**	**128**	Pg	**Pg**	**04 25 44.8**	**-0.1**
	274nm,1.0s						
SNTG	**Esanatoglia**	**0.90**	**128**	Pg	**Pg**	**04 25 44.8**	**-0.1**
	274nm,1.0s						
MGAB	**Montegabbione**	**0.91**	**173**	Pg	**Pg**	**04 25 45.1**	**+0.2**
MGAB				Sg	**Sb**	**04 25 57.5**	**0.0**
	451nm,0.7s						
MGAB	**Montegabbione**	**0.91**	**173**	Pg	**Pg**	**04 25 45.1**	**+0.2**
MGAB				Sg	**Sb**	**04 25 57.5**	**0.0**
	451nm,0.7s						
SACS	**San Casciano d**	**0.96**	**182**	Pg	**Pg**	**04 25 46.1**	**+0.1**
	197nm,0.7s						
CING	**Cingoli**	**0.99**	**116**	Pg	**Pg**	**04 25 46.7**	**+0.1**
	230nm,0.6s						
CING	**Cingoli**	**0.99**	**116**	Pg	**Pg**	**04 25 46.7**	**+0.1**
	230nm,0.6s						
ARCI	**Arcidosso**	**1.02**	**201**	Pg	**Pg**	**04 25 47.1**	**-0.1**
	165nm,0.8s						
ARCI	**Arcidosso**	**1.02**	**201**	Pg	**Pg**	**04 25 47.1**	**-0.1**
	165nm,0.8s						
FDMO	**Fiordimonte**	**1.13**	**133**	Pg	**Pg**	**04 25 48.4**	**-0.7**
	132nm,0.7s						
FDMO	**Fiordimonte**	**1.13**	**133**	Pg	**Pg**	**04 25 48.4**	**-0.7**
	132nm,0.7s						
LNSS	**Leonessa**	**1.44**	**147**	Pg	**Pn**	**04 25 53.9**	**+0.1**
	85nm,0.4s						
LNSS	**Leonessa**	**1.44**	**147**	Pg	**Pn**	**04 25 53.9**	**+0.1**
	85nm,0.4s						
NVLJ	**Novalja**	**2.22**	**69**	*e*Pn	**Pn**	**04 26 04.7**	**+0.3**
NVLJ				Sn	**Sn**	**04 26 32.5**	**+0.6**
NVLJ	**Novalja**	**2.22**	**69**	*e*Pn	**Pn**	**04 26 04.7**	**+0.3**
NVLJ				Sn	**Sn**	**04 26 32.5**	**+0.6**
PGF	**Pioggiola**	**2.51**	**241**	*e*Pn	**Pn**	**04 26 08.6**	**+0.1**
PGF				*e*Sn	**Sn**	**04 26 39.3**	**+0.1**
	3.4nm,0.3s						
PGF	**Pioggiola**	**2.51**	**241**	*e*Pn	**Pn**	**04 26 08.6**	**+0.1**
PGF				*e*Sn	**Sn**	**04 26 39.3**	**+0.1**
	1.7nm,0.3s						
ABTA	**Abfaltersbach**	**2.96**	**7**	*e*Pn	**Pn**	**04 26 15.7**	**+1.0**
	1.9nm,0.4s						
ABTA				Sn	**Sn**	**04 26 52.1**	**+1.8**
	24nm,0.7s						
ABTA	**Abfaltersbach**	**2.96**	**7**	Pn	**Pn**	**04 26 15.7**	**+1.0**
	1.9nm,0.4s						
ABTA				Sn	**Sn**	**04 26 52.1**	**+1.8**
	24nm,0.7s						
OBKA	**Obir**	**3.26**	**33**	*e*Pn	**Pb**	**04 26 26.3**	**+0.7**
	3.3nm,0.3s						
OBKA				Sg	**Sg**	**04 27 13.4**	**+1.2**
	27nm,0.8s						
SBF	**Sospel**	**3.28**	**272**	*e*Pn	**Pn**	**04 26 19.2**	**+0.2**
SBF				*e*Sn	**Sn**	**04 26 57.2**	**-0.9**
	10nm,0.4s						
SBF	**Sospel**	**3.28**	**272**	*e*Pn	**Pn**	**04 26 19.2**	**+0.2**
SBF				*e*Sn	**Sn**	**04 26 57.2**	**-0.9**
	5.2nm,0.4s						
KBA	**Koelnbreinsper**	**3.41**	**16**	*i* Pn	**Pn**	**04 26 21.9**	**+1.0**
	1.1nm,0.3s						
KBA				*i* Sn	**Sn**	**04 27 01.9**	**+0.4**
	2.2nm,0.3s						
KBA	**Koelnbreinsper**	**3.41**	**16**	Pn	**Pn**	**04 26 21.9**	**+1.0**
	1.1nm,0.3s						
KBA				Sn	**Sn**	**04 27 01.9**	**+0.4**
	2.2nm,0.3s						
MOTA	**Moosalm**	**3.58**	**351**	*i* Pn	**Pn**	**04 26 27.7**	**+4.4**
MOTA				*i* Sn	**Sb**	**04 27 11.5**	**-3.3**
	3.0nm,0.5s						
DAVA	**Damuels**	**3.77**	**338**	*e*Pn	**Pb**	**04 26 32.3**	**-2.0**
	1.6nm,0.3s						
DAVA				*i* Sn	**Sn**	**04 27 12.8**	**+2.3**
	8.2nm,0.7s						
RETA	**Reutte**	**3.77**	**347**	*i* Pn	**Pb**	**04 26 30.8**	**-3.5**
MBDF	**Montbardon**	**3.84**	**286**	*e*Pn	**Pn**	**04 26 28.1**	**+1.2**
MBDF	**Montbardon**	**3.84**	**286**	*e*Pn	**Pn**	**04 26 28.1**	**+1.2**
FRF	**La Foret Royal**	**3.87**	**268**	*e*Pn	**Pn**	**04 26 27.3**	**+0.2**
FRF	**La Foret Royal**	**3.87**	**268**	*e*Pn	**Pn**	**04 26 27.3**	**+0.2**
LMR	**La Mourre**	**3.99**	**265**	*e*Pn	**Pn**	**04 26 28.3**	**-0.5**
LMR	**La Mourre**	**3.99**	**265**	*e*Pn	**Pn**	**04 26 28.3**	**-0.5**
CABF	**La Chapelle**	**5.01**	**306**	*e*Pn	**Pn**	**04 26 44.0**	**+1.2**
CABF	**La Chapelle**	**5.01**	**306**	*e*Pn	**Pn**	**04 26 44.0**	**+1.2**
HINF	**Hinteralfeld**	**5.37**	**320**	*e*Sn	**Sn**	**04 27 48.6**	**-1.0**
	2.0nm,0.3s						
HINF	**Hinteralfeld**	**5.37**	**320**	*e*Sn	**Sn**	**04 27 48.6**	**-1.0**
	1.0nm,0.3s						
KHC	**Kasperske Hory**	**5.44**	**11**	*e*SN	**Sn**	**04 27 51.2**	**-0.1**
CDF	**Champ du Feu**	**5.64**	**326**	*e*Pn	**Pn**	**04 26 52.2**	**+0.7**
CDF	**Champ du Feu**	**5.64**	**326**	*e*Pn	**Pn**	**04 26 52.2**	**+0.7**
HAU	**Haudompre**	**5.74**	**319**	*e*Pn	**Pn**	**04 26 52.9**	**+0.1**
HAU				*e*Sn	**Sn**	**04 27 55.9**	**-2.8**
	1.4nm,0.3s						
HAU	**Haudompre**	**5.74**	**319**	*e*Pn	**Pn**	**04 26 52.9**	**+0.1**
LASF	**Ste Croix**	**5.86**	**275**	*e*Pn	**Pn**	**04 26 54.9**	**+0.4**
LASF	**Ste Croix**	**5.86**	**275**	*e*Pn	**Pn**	**04 26 54.9**	**+0.4**

*CSEM **10** 04:26:25.1, 43°.82N×11°.99E, h9km, MD1.6/2*

ROM 10 04:26:25.1±0.1, 43°.82N×11°.99E, h9km, Md1.6/2, Ml1.6/2, Error ellipse: s-maj=1.1km s-min=0.6km az=3.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.13**	**308**	Pg	Pg	04 26 28.5	+0.4
SFI				Sg	Sg	04 26 30.9	+0.7
SFI	**Santa Sofia**	**0.13**	**308**	Pg	Pg	04 26 28.5	+0.4
SFI				Sg	Sg	04 26 30.9	+0.7
T0502	**Localit˙ San**	**0.13**	**54**	Pg	Pg	04 26 28.7	+0.6
T0502				Sg	Sg	04 26 31.2	+1.0
ASQU	**Asqua**	**0.15**	**259**	Pg	Pg	04 26 29.0	+0.6
ASQU				Sg	Sg	04 26 31.8	+1.2
	201nm,0.6s						
ASQU	**Asqua**	**0.15**	**259**	Pg	Pg	04 26 29.0	+0.6
ASQU				Sg	Sg	04 26 31.8	+1.2
	201nm,0.6s						
VMG	**Vicchio**	**0.35**	**293**	Pg	Pb	04 26 32.9	-0.6
VMG				Sg	Sb	04 26 38.6	-0.6
VMG	**Vicchio**	**0.35**	**293**	Pg	Pb	04 26 32.9	-0.6
VMG				Sg	Sb	04 26 38.6	-0.6
BADI	**Badiali**	**0.36**	**149**	Pg	Pg	04 26 32.9	+0.6
BADI				Sg	Sb	04 26 39.0	-0.6
BADI	**Badiali**	**0.36**	**149**	Pg	Pg	04 26 32.9	+0.6
BADI				Sg	Sb	04 26 39.0	-0.6

*IDC **10** 04:31:10.0±1.7, 6°.45S×148°.06E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/33, mbtmp3.7/7, ML3.7/1, MS3.3/6, Ms1 3.4/6, ms1mx3.0/30, Error ellipse: s-maj=61.6km s-min=21.1km az=112.0*
*ISCJB **10** 04:31:15.2±1.3, 6°.5S±0°.1×147°.9E±0°.3, h51km, mb3.7/5, MS3.3/5, Error ellipse: s-maj=40.0km s-min=13.3km az=14.1*

ISC 10 04:31:16.6±1.5, 6°.5S±0°.1×148°.1E±0°.4, h51km, n12, σ1§54/9, mb3.6/5, MS3.3/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.04**	**197**	Pn	**Pn**	**04 32 01.0**	**-1.3**
	3.9nm,0.3s,baz=10.0,slow=12,SNR=22						
PMG				Sn	**Sn**	**04 32 40.1**	**+2.6**
	14nm,0.3s,baz=293,slow=15,SNR=6.4						
PMG				LR	LR	04 33 08.0	
	comp=Z,459nm,18.1s,baz=279,slow=38						
WRA	**Warramunga Arr**	**18.89**	**224**	P	**P**	**04 35 31.6**	**-1.5**
	0.2nm,0.3s,baz=50,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**21.85**	**217**	P	**P**	**04 36 04.0**	**-1.1**
	1.8nm,0.6s,baz=57,slow=9.0,SNR=16						
DZM	**Mont Dzumac**	**23.56**	**133**	LR	LR	04 44 43.4	
	comp=Z,179nm,18.6s,baz=344,slow=34						
FITZ	**Fitzroy Crossi**	**24.74**	**240**	P	**P**	**04 36 32.8**	**-0.7**
	3.4nm,0.5s,baz=75,slow=8.6,SNR=8.9						
FITZ				LR	LR	04 47 22.3	
	comp=Z,103nm,19.9s,baz=62,slow=39						
KAPI	**Kappang**	**28.21**	**271**	LR	LR	04 50 21.7	
	comp=Z,82nm,18.0s,baz=110,slow=41						
CMAR	**Chiang Mai Arr**	**54.42**	**298**	LR	LR	05 06 27.9	
	comp=Z,11nm,18.3s,baz=350,slow=39						
SONM	**Songino Array**	**65.34**	**330**	P	**P**	**04 41 53.8**	**+0.1**
	0.2nm,0.4s,baz=170,slow=9.6,SNR=3.5						
MKAR	**Makanchi Array**	**78.55**	**320**	P	**P**	**04 43 13.7**	**+1.0**
	0.5nm,0.8s,baz=129,slow=4.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**79.99**	**328**	LR	LR	05 18 17.6	
	comp=Z,12nm,19.5s,baz=68,slow=35						
ILAR	**Eielson Array**	**85.50**	**23**	P	**P**	**04 43 48.6**	**-0.2**
	0.4nm,0.9s,baz=229,slow=5.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**146.24**	**284**	PKPbc	**PKPab**	**04 50 54.2**	**+0.9**
	1.5nm,1.1s,baz=75,slow=3.3,SNR=5.

MKAR Makanchi Array 45.22 304 P P 04 49 17.8 +6.3
0.2nm,0.4s,baz=92,slow=7.2,SNR=4.2
WRA Warramunga Arr 54.82 188 P P 04 50 29.0 +4.6
0.4nm,0.4s,baz=3.4,slow=7.4,SNR=9.1
ESDC Sonseca Array 99.23 333 LR LR 05 44 02.9
comp=Z,27nm,18.5s,baz=15,slow=38

IDC ***10*** *04:44:34.9±11.0, 13.17N×92.53W, h0km, mb3.6/2, mb1 4.2/3, mb1mx3.6/37, mbtmp3.7/3, ML4.3/1, Error ellipse: s-maj=225.2km s-min=119.2km az=12.0*
NEIC ***10*** *04:44:37.7±1.1, 13.77N×91.52W, h35km, mb4.0/6, MD4.0(MEX), Error ellipse: s-maj=21.9km s-min=10.1km az=207.0*
NEIC Felt at Chimaltenango, Escuintla, Quetzaltenango and Retalhuleu.
ISCJB ***10*** *04:44:38.5±0.8, 13.85N±0.08×91.51W±0.06, h61km±10km, mb3.8/8, Error ellipse: s-maj=14.6km s-min=5.2km az=32.7*
MEX ***10*** *04:44:40.6±0.7, 13.88N×91.77W, h20km, MD4.0*
ISC 10 04:44:38.7±1.3, 13.89N±0.08×91.54W±0.06, h49km±18km, n45, σ1s31/56, mb3.9/8, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUS1	**Cusmapa**	**1.55**	**89**	*e*P	**Pn**	**04 45 02.8**	**-1.1**
CUS1				*e*S	**Sn**	**04 45 22.2**	**-0.8**
RBDL	**Robledal**	**1.82**	**83**	⇑*e*P	**Pn**	**04 45 08.1**	**+0.4**
MONT	**Ecomontaæa**	**1.84**	**91**	*e*P	**Pn**	**04 45 08.2**	**+0.1**
RTR	**El Retiro**	**1.84**	**89**	*e*P	**Pn**	**04 45 08.4**	**+0.3**
RTR				*e*S	**Sn**	**04 45 29.9**	**-0.5**
SBLS	**San Blas**	**1.87**	**91**	*e*P	**Pn**	**04 45 08.4**	**0.0**
SBLS				*e*S	**Sn**	**04 45 31.4**	**+0.4**
SBLS				AML	AML	04 45 36.3	
	comp=Z,1μm,0.4s						
SNJE	**San Jose**	**1.88**	**90**	*e*P	**Pn**	**04 45 08.9**	**+0.3**
MRL	**Marmol**	**2.14**	**57**	*e*P	**Pn**	**04 45 13.3**	**+1.2**
BOQS	**Boqueron**	**2.21**	**94**	*e*P	**Pn**	**04 45 13.3**	**+0.3**
BOQS				*e*S	**Sn**	**04 45 39.4**	**+0.1**
SNET	**Serv Nac Est T**	**2.26**	**95**	*e*P	**Pn**	**04 45 13.6**	**-0.1**
SNET				*e*S	**Sn**	**04 45 40.0**	**-0.3**
SNET				AML	AML	04 45 47.9	
	comp=Z,3μm,0.2s						
LFU	**La Fuente**	**2.37**	**93**	*e*P	**Pn**	**04 45 15.3**	**+0.2**
LFRS	**El Faro**	**2.43**	**96**	*e*P	**Pn**	**04 45 16.6**	**+0.5**
PCIG		**2.43**	**318**	*e*P	**Pn**	**04 45 15.0**	**-0.9**
PCIG				*e*S	**Sn**	**04 45 41.6**	**-2.8**
PCIG		**2.43**	**318**	*e*P	**Pn**	**04 45 15.0**	**-0.9**
PCIG				*e*S	**Sn**	**04 45 41.6**	**-2.8**
LBRS	**Las Brisas**	**2.43**	**93**	*e*P	**Pn**	**04 45 16.5**	**+0.4**
CCIG	**Comitan**	**2.45**	**347**	*e*P	**Pn**	**04 45 18.5**	**+2.2**
CCIG				*e*S	**Sn**	**04 45 46.1**	**+0.9**
CCIG	**Comitan**	**2.45**	**347**	*e*Pn	**Pn**	**04 45 18.6**	**+2.2**
CCIG				*e*S	**Sn**	**04 45 46.1**	**+0.9**
SNVI	**San Vicente**	**2.64**	**96**	*e*P	**Pn**	**04 45 20.2**	**+1.2**
PACA	**Pacayal**	**3.16**	**97**	*e*P	**Pn**	**04 45 26.9**	**+0.9**
PACA				*e*S	**Sn**	**04 46 02.8**	**+0.2**
LCY	**Lacayo**	**3.19**	**98**	*e*P	**Pn**	**04 45 27.0**	**+0.4**
VSM	**San Miguel**	**3.21**	**98**	*e*P	**Pn**	**04 45 28.3**	**+1.4**
TGUH	**Tegucigalpa,Un**	**4.15**	**87**	*e*P	**Pn**	**04 45 39.8**	**+0.2**
TGUH	**Tegucigalpa,Un**	**4.15**	**87**	*e*Pn	**Pn**	**04 45 39.7**	**+0.2**
CNGN	**Cerro Negro**	**4.92**	**106**	*e*P	**Pn**	**04 45 51.1**	**+0.9**
MOMN	**Momotombo**	**5.09**	**106**	*e*P	**Pn**	**04 45 53.0**	**+0.5**
MOMN				*e*S	**Sn**	**04 46 48.8**	**-1.3**
ESTN	**Estel**	**5.09**	**98**	*e*P	**Pn**	**04 45 53.1**	**+0.5**
APYN	**Apoyeque**	**5.32**	**107**	*e*P	**Pn**	**04 45 55.5**	**-0.2**
XAVN	**Gruta Xavier**	**5.37**	**108**	*e*P	**Pn**	**04 45 57.6**	**+1.3**
TISN	**Laguna Tiscapa**	**5.43**	**108**	*e*P	**Pn**	**04 45 58.2**	**+1.2**
BOAB	**BOACO BROADBAN**	**5.90**	**103**	*e*P	**Pn**	**04 46 03.6**	**0.0**
TEIG	**Tepich**	**7.04**	**26**	*e*P	**Pn**	**04 46 20.0**	**+0.8**
TEIG	**Tepich**	**7.04**	**26**	*e*Pn	**Pn**	**04 46 19.6**	**+0.4**
TEIG				*e*Sn	**Sn**	**04 47 35.6**	**-2.2**
TLIG	**Tlapa**	**7.69**	**299**	*e*Pn	**Pn**	**04 46 30.1**	**+1.9**
MOIG	**Morelia**	**10.88**	**303**	*e*Pn	**Pn**	**04 47 15.6**	**+3.5**
ZAIG	**Zacatecas**	**13.69**	**312**	*e*Pn	**P**	**04 47 54.8**	**-3.1**
TXAR	**Lajitas Array**	**19.04**	**326**	P	**Pn**	**04 48 59.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=32						
TX31	**Lajitas Ar. Si**	**19.04**	**326**	*e*P	**Pn**	**04 48 58.6**	**+0.5**
PRAC	**Prado**	**19.30**	**120**	*e*P	**P**	**04 48 58.1**	**-1.7**
	comp=Z,32nm,2.0s						
WMOK	**Wichita Mounta**	**21.77**	**344**	*e*P	**P**	**04 49 26.7**	**+0.4**
	comp=Z,4.4nm,0.8s						
MNTX	**Cornudas Mount**	**21.80**	**327**	*e*P	**P**	**04 49 27.1**	**+0.5**
	comp=Z,3.4nm,0.8s						
MSTX	**Muleshoe**	**22.44**	**335**	*e*P	**P**	**04 49 33.8**	**+0.2**
	comp=Z,15nm,1.7s						
AMTX	**Amarillo**	**22.82**	**338**	*e*P	**P**	**04 49 37.4**	**-0.2**
	comp=Z,4.5nm,0.6s						
ANMO	**Albuquerque**	**24.92**	**330**	*e*P	**P**	**04 49 58.5**	**+1.0**
	comp=Z,0.7nm,0.6s						
TUC	**Tucson**	**25.41**	**319**	*e*P	**P**	**04 50 03.1**	**+1.3**
	comp=Z,2.3nm,0.9s						
NVAR	**Mina Array Bea**	**34.04**	**321**	P	**P**	**04 51 20.9**	**+2.4**
	comp=Z,1.2nm,0.6s,baz=135,slow=8.2,SNR=9.6						
YKA	**Yellowknife Ar**	**51.24**	**347**	P	P	04 53 43.9	+6.8
	comp=Z,0.3nm,0.7s,baz=144,slow=7.0,SNR=4.0						

ISCJB ***10*** *04:55:38.3±0.8, 26.23S±0.02×70.76W±0.04, h25km±6km, mb4.8/131, MS3.9/10, Error ellipse: s-maj=6.1km s-min=3.4km az=177.2*
GUC ***10*** *04:55:39.3±0.8, 26.27S×70.66W, h39km±4km, ML5.0*
NEIC ***10*** *04:55:39.0, 26.27S×70.66W, h39km, mb4.8/112, MW4.5, Moment Tensor Solution. s20 Moment tensor: Scale 1015Nm; Mrr0.73; Mθθ-5.43; Mϕϕ4.70; Mrθ3.22; Mθϕ-0.99; Mϕr-5.38; Best double couple: Mw8.10000×1015 NP1: ϕs227.00000°, δ42.00000°, λ8.00000°. NP2:ϕs131.00000°, δ85.00000°, λ132.00000°. Principal axes: T 8.9500, Plg36.0000°, Azm77.0000°; N -1.9800, Plg42.0000°, Azm307.0000°; P -6.9700, Plg28.0000°, Azm189.0000°; After GUC.*
NEIC Felt [IV] at Copiapo and Tierra Amarilla, [III] at Caldera and Chanaral and [II] at Diego de Almagro and Los Loros.
MOS ***10*** *04:55:41.8±1.1, 26.04S×70.56W, h40km, mb4.9/93 Error ellipse: s-maj=14.3km s-min=7.9km az=106.1*
IDC ***10*** *04:55:44.4±3.0, 26.22S×70.60W, h58km±25km, mb4.3/16, mb1 4.4/19, mb1mx4.3/27, mbtmp4.5/19, ML4.2/2, MS3.9/15, Ms1 3.9/15, ms1mx3.8/23, Error ellipse: s-maj=21.0km s-min=14.9km az=47.0*
ISC 10 04:55:39.3±0.5, 26.26S±0.03×70.66W±0.05, h19km±2km, h19km:pP-P, n643, σ0s93/659, mb4.8/131, MS3.8/10, 20C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.82**	**190**	⇑*i*P	**Pb**	**04 55 54.3**	**-0.6**
CDCH				*i* S	**Sb**	**04 56 04.4**	**-1.2**
CPCH	**Copiapo**	**1.13**	**166**	⇑*i*P	**Pn**	**04 55 59.6**	**-0.5**
CPCH				*i* S	**Sb**	**04 56 14.2**	**-0.3**
PB14	**IPOC Station P**	**1.64**	**8**	⇑*i*P	**Pn**	**04 56 08.0**	**+0.6**
PB14				⇑*i*P	**Pn**	**04 56 08.0**	**+0.6**
PB14				*i* S	**Sb**	**04 56 29.0**	**-0.5**
PB14				*i* S	**Sb**	**04 56 29.1**	**-0.5**
PB14				IAML		04 56 34.7	
	comp=E,18μm,1.1s						
PB14				IAML		04 56 34.7	
	comp=E,18μm,1.1s						
VACH	**Vallenar**	**2.31**	**182**	*e*P	**Pn**	**04 56 16.5**	**+0.2**
VACH				*i* S	**Sn**	**04 56 43.5**	**-0.7**
ANCH	**Antofagasta**	**2.58**	**5**	⇑*i*P	**Pn**	**04 56 19.7**	**-0.2**
PB10	**IPOC Station P**	**2.73**	**2**	⇑*i*P	**Pn**	**04 56 21.6**	**-0.6**
PB10				IAML		04 57 11.1	
	comp=E,8μm,1.3s						
PB10	**IPOC Station P**	**2.73**	**2**	*e*Pn	**Pn**	**04 56 21.6**	**-0.6**
LCO	**Las Campanas**	**2.74**	**181**	*i* P	**Pn**	**04 56 22.2**	**-0.3**
LCO	**Las Campanas**	**2.74**	**181**	⇓*i*P	**Pn**	**04 56 22.2**	**-0.3**
LCO				*i* S	**Sn**	**04 56 54.0**	**-1.3**
LCO				IAML		04 57 07.8	
	comp=E,9μm,0.3s						
LCO	**Las Campanas**	**2.74**	**181**	*e*Pn	**Pn**	**04 56 22.0**	**-0.5**
LCO				*e*Sn	**Sn**	**04 56 55.1**	**-0.2**
VCA	**Vinchina**	**3.29**	**139**	*i* P	**Pb**	**04 56 35.6**	**-1.6**
PB06	**IPOC Station P**	**3.67**	**16**	⇑*i*P	**Pn**	**04 56 36.0**	**+0.8**
TLL	**Tololo Astrono**	**3.90**	**182**	⇑*i*P	**Pn**	**04 56 38.3**	**0.0**
TLL				*e*S	**Sn**	**04 57 23.0**	**-0.8**
PB04	**IPOC Station P**	**3.94**	**7**	*e*Pn	**Pn**	**04 56 37.8**	**-1.0**
LVC	**Limon Verde**	**3.97**	**24**	P	**Pn**	**04 56 41.6**	**+2.1**
	comp=E,602nm,0.3s,baz=231,slow=13,SNR=126						
LVC				S	**Sb**	**04 57 37.5**	**+1.0**
	comp=E,3μm,0.3s,baz=315,slow=16,SNR=7.7						
LVC				LR	LR	04 58 14.4	
	comp=E,9μm,19.9s,baz=222,slow=38						
LVC	**Limon Verde**	**3.97**	**24**	*e*Pn	**Pn**	**04 56 41.5**	**+2.1**
LVC				*e*Sn	**Sn**	**04 57 22.4**	**-3.2**
LVC				S	**Sb**	**04 57 37.5**	**+1.0**
FSA	**Cafayète**	**4.21**	**89**	*i* P	**Pb**	**04 56 49.2**	**-3.6**
PB07	**IPOC Station P**	**4.57**	**9**	⇑*i*P	**Pn**	**04 56 46.9**	**-0.6**
AHML	**Horco Molle**	**4.80**	**97**	*i* P	Pb	04 56 56.9	-5.9
CYA	**Choya**	**4.84**	**118**	*i* P	**Pn**	**04 56 55.6**	**+4.5**
CYA				*i* S	**Sb**	**04 58 00.2**	**-1.1**
CYA				IAML		04 58 02.0	
	comp=Z,396nm,0.6s						
PB01	**IPOC Station P**	**5.30**	**12**	*e*Pn	**Pn**	**04 56 57.2**	**-0.4**
AZAP	**Zapla**	**5.46**	**69**	*i* P	**Pn**	**04 57 04.2**	**+4.4**
ASTB	**Santa Barbara**	**6.08**	**69**	*i* P	**Pn**	**04 57 12.7**	**+4.4**
ALOL	**LOMAS DE OLMED**	**6.53**	**70**	*i* P	**Pn**	**04 57 17.7**	**+3.4**
ROC1	**El Roble**	**6.70**	**183**	*e*Pn	**Pn**	**04 57 17.7**	**+0.8**
LPAZ	**La Paz**	**10.20**	**14**	P	**Pn**	**04 58 06.0**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=197,slow=6.8,SNR=53						
LPAZ				LR	LR	05 02 34.3	
	comp=Z,668nm,20.7s,baz=188,slow=40						
LPAZ	**La Paz**	**10.20**	**14**	*e*Pn	**Pn**	**04 58 06.0**	**+0.8**
CPUP	**Villa Florida**	**11.96**	**93**	P	**Pn**	**04 58 33.1**	**+4.3**
	comp=Z,0.2nm,0.3s,baz=282,slow=9.6,SNR=7.1						
CPUP				LR	LR	05 03 54.0	
	comp=Z,1μm,18.2s,baz=266,slow=41						
CPUP	**Villa Florida**	**11.96**	**93**	*e*P	**Pn**	**04 58 30.3**	**+1.5**
CPUP	**Villa Florida**	**11.96**	**93**	*e*Pn	**Pn**	**04 58 30.3**	**+1.5**
SIV	**San Ignacio**	**13.57**	**43**	P	**Pn**	**04 58 48.7**	**-2.2**
	comp=Z,2.7nm,0.3s,baz=229,slow=10,SNR=34						
SIV				S	**Sn**	**05 01 22.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=227,slow=17,SNR=5.5						
TRQA	**Tornquist**	**13.86**	**150**	*e*Pn	**Pn**	**04 58 56.0**	**+1.3**
TRQA				*e*Sn	**Sn**	**05 01 25.1**	**-3.0**
PLCA	**Paso Flores**	**14.44**	**180**	LR	LR	05 04 45.4	
	comp=Z,987nm,20.5s,baz=14,slow=37						
NNA	**Nana**	**15.35**	**337**	LR	LR	05 03 47.0	
	comp=Z,278nm,21.8s,baz=170,slow=32						
SAML	**Samuel**	**18.62**	**24**	*e*P	**Pn**	**04 59 57.0**	**+0.9**
	comp=Z,28nm,1.1s						
ATAH	**Atahualpa**	**20.39**	**337**	P	Pn	05 00 17.2	-0.5
	comp=Z,6.2nm,0.8s,baz=155,slow=3.4,SNR=5.1						
BDFB	**Brasilia**	**23.60**	**68**	P	**P**	**05 00 48.6**	**-0.7**
	comp=Z,33nm,0.9s,baz=239,slow=10,SNR=26						
BDFB				LR	LR	05 10 58.9	
	comp=Z,338nm,20.4s,baz=234,slow=39						
BDFB	**Brasilia**	**23.60**	**68**	*e*P	**P**	**05 00 48.8**	**-0.5**
BDFB				pmax	pmax		
	comp=Z,57nm,0.9s						
BDFB	**Brasilia**	**23.60**	**68**	*e*P	**P**	**05 00 48.8**	**-0.5**
	comp=Z,57nm,0.9s						
EFI	**East Falkland**	**27.13**	**163**	⇑P	**P**	**05 01 20.3**	**-0.6**
EFI				pmax	pmax		
	comp=Z,140nm,2.5s						
PTGA	**Pitinga**	**27.39**	**24**	P	**P**	**05 01 23.7**	**0.0**
	comp=Z,21nm,0.9s,baz=208,slow=11,SNR=21						
OTAV	**Otavalo**	**27.39**	**343**	*e*P	**P**	**05 01 24.9**	**+0.8**
	comp=Z,8.0nm,1.1s						
PRAC	**Prado**	**30.07**	**352**	*e*P	**P**	**05 01 49.4**	**+1.8**
	comp=Z,15nm,0.8s						
CHIC	**Chingaza**	**30.85**	**354**	*e*P	**P**	**05 01 53.9**	**-1.0**
ROSC	**El Rosal**	**31.12**	**353**	P	**P**	**05 01 58.6**	**+1.5**
	comp=Z,7.4nm,0.8s,baz=70,slow=12,SNR=5.7						
ROSC	**El Rosal**	**31.12**	**353**	*e*P	**P**	**05 01 57.4**	**+0.2**
ROSC	**El Rosal**	**31.12**	**353**	*e*P	**P**	**05 01 58.8**	**+1.7**
	comp=Z,6.6nm,0.8s						
NORC	**Norcasia**	**31.89**	**352**	*e*P	**P**	**05 02 02.8**	**-0.9**
RUSC	**La Rusia**	**32.05**	**355**	*e*P	**P**	**05 02 03.8**	**-1.7**
DBBC	**Dabeiba**	**33.51**	**350**	*e*P	**P**	**05 02 17.6**	**-0.2**
CBRI	**Barrientos, No**	**33.84**	**356**	*e*P	**P**	**05 02 18.3**	**-2.5**
GRMC	**Gramalote, San**	**33.84**	**356**	*e*P	**P**	**05 02 16.6**	**-4.1**
MOTC	**Monteria, Cord**	**35.16**	**351**	*e*P	**P**	**05 02 31.1**	**-1.0**
BCIP	**Isla Barro Col**	**36.32**	**345**	*e*P	**P**	**05 02 42.6**	**+0.6**
	comp=Z,8.6nm,0.9s						
RCBR	**Riachuelo**	**38.89**	**65**	P	**P**	**05 03 04.5**	**+0.7**
	comp=Z,22nm,0.8s,baz=233,slow=12,SNR=15						
RCBR	**Riachuelo**	**38.89**	**65**	*e*P	**P**	**05 03 04.5**	**+0.7**
	comp=Z,20nm,0.8s						
TGUH	**Tegucigalpa,Un**	**43.21**	**336**	*e*P	**P**	**05 03 40.0**	**+0.8**
	comp=Z,13nm,0.9s						
SJG	**San Juan**	**44.32**	**6**	P	**P**	**05 03 44.9**	**-3.2**
	comp=Z,8.5nm,0.6s,baz=143,slow=5.8,SNR=5.3						
SJG	**San Juan**	**44.32**	**6**	*e*P	**P**	**05 03 46.2**	**-1.9**
SJG				pmax	pmax		
	comp=Z,44nm,1.5s						
SJG	**San Juan**	**44.32**	**6**	*e*P	**P**	**05 03 46.2**	**-1.9**
	comp=Z,44nm,1.5s						
VNA1	**Neumayer--Stat**	**56.39**	**159**	P	**P**	**05 05 19.8**	**+0.9**
SNAA	**Sanae**	**58.35**	**160**	P	**P**	**05 05 32.8**	**-0.1**
SNAA	**Sanae**	**58.35**	**160**	⇑*i*P	**P**	**05 05 32.5**	**-0.4**
SNAA	**Sanae**	**58.35**	**160**	*e*P	**P**	**05 05 31.9**	**-0.9**
	comp=Z,19nm,0.7s						
035A	**Encino**	**59.12**	**331**	P	**P**	**05 05 39.2**	**+0.5**
	baz=151						
034A	**Hebbronville**	**59.49**	**331**	P	**P**	**05 05 41.8**	**+0.6**
	baz=151						
NHSC	**New Hope**	**59.73**	**351**	*e*P	**P**	**05 05 43.0**	**+0.4**
	comp=Z,42nm,0.9s						
738A	**Farr-Stevens R**	**59.81**	**335**	P	**P**	**05 05 44.2**	**+0.9**
	baz=154						
444A	**Pine Grove**	**59.82**	**340**	P	**P**	**05 05 43.6**	**+0.2**
	baz=159						
347A	**Saraland**	**59.83**	**342**	P	**P**	**05 05 43.4**	**0.0**
	baz=162						
346A	**Big Creek Wild**	**60.07**	**341**	P	**P**	**05 05 44.5**	**-0.6**
	baz=161						
835A	**Beeville**	**60.19**	**332**	P	**P**	**05 05 45.5**	**-0.4**
	baz=152						
933A	**Laredo**	**60.22**	**331**	P	**P**	**05 05 46.2**	**0.0**
	baz=150						
834A	**Tilden**	**60.35**	**332**	P	**P**	**05 05 47.2**	**+0.2**
	baz=151						
736A	**Circle Diamond**	**60.47**	**333**	P	**P**	**05 05 49.0**	**+1.1**
	baz=153,SNR=6.8						
344A	**Westbrook Farm**	**60.51**	**340**	P	**P**	**05 05 47.9**	**-0.1**
	baz=159						
GOGA	**Godfrey**	**60.58**	**348**	*e*P	**P**	**05 05 47.6**	**-0.9**
GOGA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GOGA	**Godfrey**	**60.58**	**348**	*e*P	**P**	**05 05 47.6**	**-0.9**
	comp=Z,5.4nm,0.8s						
637A	**Eagle Lake**	**60.61**	**334**	P	**P**	**05 05 49.3**	**+0.5**
	baz=154						
245A	**Little AP, Sta**	**60.80**	**341**	P	**P**	**05 05 49.7**	**-0.3**
	baz=160						
HKT	**Hockley**	**60.87**	**335**	*e*P	**P**	**05 05 51.0**	**+0.5**
HKT				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HKT	**Hockley**	**60.87**	**335**	*e*P	**P**	**05 05 51.0**	**+0.5**
	comp=Z,5.8nm,1.0s						
833A	**Chaparral WMA,**	**60.89**	**331**	P	**P**	**05 05 51.1**	**+0.4**
	baz=150,SNR=8.2						
636A	**Smothers Creek**	**60.93**	**334**	P	**P**	**05 05 51.6**	**+0.6**
	baz=153						
342A	**Flagon Creek P**	**60.93**	**339**	P	**P**	**05 05 51.3**	**+0.4**
	baz=158						
734A	**La Parita Cree**	**60.99**	**332**	P	**P**	**05 05 51.4**	**+0.1**
	baz=151						
244A	**Avery, Jackson**	**61.04**	**341**	P	**P**	**05 05 52.1**	**+0.4**
	baz=160						
JSC	**Jenkinsville**	**61.04**	**350**	*e*P	**P**	**05 05 51.3**	**-0.3**
JSC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
JSC	**Jenkinsville**	**61.04**	**350**	*e*P	**P**	**05 05 51.3**	**-0.3**
	comp=Z,10nm,0.9s						
832A	**Faith Ranch, C**	**61.11**	**330**	P	**P**	**05 05 52.5**	**+0.2**
	baz=150,SNR=6.1						
635A	**Leesville**	**61.14**	**333**	P	**P**	**05 05 52.2**	**-0.1**
	baz=152						
537A	**Green Hill Far**	**61.17**	**335**	P	**P**	**05 05 53.1**	**+0.5**
	baz=154						
733A	**Divot King Ran**	**61.19**	**331**	P	**P**	**05 05 53.1**	**+0.3**
	baz=151						
439A	**Center Grove,**	**61.24**	**336**	P	**P**	**05 05 53.5**	**+0.4**
	baz=155						
Z48A	**Northport**	**61.44**	**344**	P	**P**	**05 05 53.0**	**-1.4**
	baz=163						
536A	**Bastrop**	**61.46**	**334**	P	**P**	**05 05 54.7**	**+0.1**
	baz=153						
340A	**Bronson**	**61.49**	**337**	P	**P**	**05 05 54.7**	**0.0**
	baz=156						
242A	**Grayson**	**61.51**	**339**	P	**P**	**05 05 54.9**	**0.0**
	baz=158						
535A	**Dale**	**61.62**	**334**	P	**P**	**05 05 55.6**	**0.0**
	baz=153						
339A	**Huntington**	**61.65**	**337**	P	**P**	**05 05 56.0**	**+0.2**
	baz=156						
241A	**Mo Tay, Goldon**	**61.72**	**339**	P	**P**	**05 05 56.9**	**+0.6**
	baz=157						
437A	**Phantom Ranch,**	**61.77**	**335**	P	**P**	**05 05 56.8**	**+0.2**
	baz=154						
633A	**Saathoff Ranch**	**61.78**	**332**	P	**P**	**05 05 56.8**	**0.0**
	baz=151						
143A	**Socs Landing,**	**61.87**	**340**	P	**P**	**05 05 57.3**	**0.0**
	baz=159,SNR=5.5						
142A	**Monroe**	**61.90**	**340**	P	**P**	**05 05 57.6**	**+0.2**
	baz=158						
KMSC	**Kings Mountain**	**61.90**	**350**	P	**P**	**05 05 57.0**	**-0.4**
	baz=169						
338A	**Crockett**	**61.94**	**336**	P	**P**	**05 05 58.2**	**+0.4**
	baz=155						
534A	**Blanco**	**61.99**	**333**	P	**P**	**05 05 57.7**	**-0.4**
	baz=152						
Y47A	**UCPARC, Winfie**	**62.02**	**344**	P	**P**	**05 05 57.0**	**-1.3**
	baz=163						
533A	**Kerrville**	**62.26**	**332**	P	**P**	**05 05 59.3**	**-0.7**
	baz=151						
Y46A	**Houston**	**62.26**	**343**	P	**P**	**05 05 58.4**	**-1.4**
	baz=162						
Y45A	**Yeager Farm, C**	**62.42**	**342**	P	**P**	**05 06 00.3**	**-0.7**
	baz=161						
140A	**Cam and Jess,**	**62.51**	**338**	P	**P**	**05 06 01.7**	**+0.1**
	baz=157						
336A	**Riesel**	**62.54**	**335**	P	**P**	**05 06 01.7**	**-0.1**
	baz=154						
Z42A	**Norrel Spur, H**	**62.57**	**340**	P	**P**	**05 06 01.6**	**-0.3**
	baz=159						
434A	**Burnet**	**62.59**	**333**	P	**P**	**05 06 01.7**	**-0.5**
	baz=152						
335A	**Moody**	**62.67**	**334**	P	**P**	**05 06 02.6**	**-0.1**
	baz=153,SNR=5.1						
237A	**Washetta, Mont**	**62.70**	**336**	P	**P**	**05 06 03.0**	**+0.1**
	baz=155						
CPCT	**Cooper Cave**	**62.76**	**347**	*e*P	**P**	**05 06 02.6**	**-0.6**
	comp=Z,6.6nm,0.8s						
TKL	**Tuckaleechee C**	**62.82**	**348**	LR	LR	05 36 40.5	
	comp=Z,23nm,18.2s,slow=39						
TKL	**Tuckaleechee C**	**62.82**	**348**	*e*P	**P**	**05 06 02.6**	**-1.0**
TKL				pmax	pmax		
	comp=Z,13nm,0.8s						
TKL	**Tuckaleechee C**	**62.82**	**348**	*e*P	**P**	**05 06 02.5**	**-1.0**
	comp=Z,13nm,0.8s						
Z41A	**Richland Creek**	**62.82**	**339**	P	**P**	**05 06 03.7**	**0.0**
	baz=158						
SWET	**Sewanee**	**62.83**	**346**	*e*P	**P**	**05 06 02.7**	**-1.0**
	comp=Z,6.8nm,0.8s						
Y43A	**Makayla and Ka**	**62.86**	**341**	P	**P**	**05 06 03.2**	**-0.7**
	baz=160						
433A	**Art**	**62.88**	**333**	P	**P**	**05 06 03.8**	**-0.3**
	baz=151,SNR=32						
X45A	**UM Field Stati**	**62.91**	**343**	P	**P**	**05 06 02.9**	**-1.3**
	baz=161						
JCT	**Junction City**	**62.93**	**332**	P	**P**	**05 06 04.7**	**+0.2**
	baz=151,SNR=7.4						
JCT	**Junction City**	**62.93**	**332**	*e*P	**P**	**05 06 05.1**	**+0.6**
JCT				pmax	pmax		
	comp=Z,25nm,0.7s						
JCT	**Junction City**	**62.93**	**332**	*e*P	**P**	**05 06 05.1**	**+0.6**
	comp=Z,25nm,0.7s						
236A	**Katherine and**	**62.97**	**335**	P	**P**	**05 06 04.7**	**+0.1**
	baz=154						
NVL	**N'lazarevskaya**	**63.00**	**158**	*e*P	**P**	**05 06 05.4**	**+1.0**
NVL				*e*S	**S**	**05 14 36.5**	**+3.1**
OXF	**Oxford**	**63.00**	**343**	*e*P	**P**	**05 06 03.7**	**-1.1**
OXF				pmax	pmax		
	comp=Z,21nm,0.8s						
OXF	**Oxford**	**63.00**	**343**	*e*P	**P**	**05 06 03.7**	**-1.1**
	comp=Z,21nm,0.8s						
Z40A	**Long Farm, Mag**	**63.02**	**339**	P	**P**	**05 06 05.3**	**+0.4**
	baz=157						
334A	**Lometa**	**63.04**	**334**	P	**P**	**05 06 04.8**	**-0.3**
	baz=152,SNR=8.8						
138A	**Matatall Enter**	**63.04**	**337**	P	**P**	**05 06 05.7**	**+0.6**
	baz=156						
Y42A	**Garnett, Star**	**63.04**	**340**	P	**P**	**05 06 05.1**	**+0.1**
	baz=159						
LPIG	**La Paz**	**63.05**	**319**	LR	LR	05 27 27.8	
	comp=Z,28nm,19.6s,baz=208,slow=30						
PLAL	**Pickwick Lake**	**63.10**	**344**	*e*P	**P**	**05 06 04.0**	**-1.5**
	comp=Z,7.5nm,0.9s						
137A	**Heron Place, G**	**63.22**	**336**	P	**P**	**05 06 06.7**	**+0.4**
	baz=155,SNR=7.2						
WHTX	**Lake Whitney,**	**63.31**	**335**	P	**P**	**05 06 06.7**	**-0.2

baz=154,SNR=7.4
X37A Clayton 64.89 338 P P 05 06 17.2 0.0
baz=156
W39A Magazine 64.92 339 P P 05 06 17.5 +0.1
baz=157,SNR=8.3
V41A Mountainview 64.97 341 P P 05 06 16.8 -0.9
baz=159,SNR=8.7
Z33A Whitaker Ranch 64.97 334 P P 05 06 17.7 -0.1
baz=152,SNR=7.2
W38A Poteau 65.04 339 P P 05 06 18.2 0.0
baz=156
Y34A Reagan Ranch, 65.18 335 P P 05 06 18.7 -0.4
baz=153,SNR=6.0
X36A Centrahoma 65.22 337 P P 05 06 18.5 -0.8
baz=155,SNR=8.0
X35A Drake 65.28 336 P P 05 06 19.1 -0.7
baz=154,SNR=7.4
W37B Quinton 65.41 338 P P 05 06 20.4 -0.3
baz=156,SNR=15
V39A Pettigrew 65.47 340 P P 05 06 20.6 -0.4
baz=157,SNR=13
Y33A Hilltop Ranch, 65.55 335 P P 05 06 21.0 -0.6
baz=153
W36A Wetumka 65.68 337 P P 05 06 21.4 -1.0
baz=155,SNR=6.1
U40A Yellville 65.70 340 P P 05 06 21.8 -0.7
baz=158,SNR=14
V38A Canehill 65.73 339 P P 05 06 22.2 -0.5
baz=157,SNR=17
X34A Smith Ranch, M 65.78 336 P P 05 06 22.7 -0.3
baz=153,SNR=10
WCI Wyandotte Cave 65.80 347 eP P 05 06 21.6 -1.5
WCI pmax pmax
comp=Z,14nm,0.8s
WCI Wyandotte Cave 65.80 347 eP P 05 06 21.6 -1.5
comp=Z,14nm,0.8s
W35A Tecumseh 65.92 337 P P 05 06 22.7 -1.3
baz=154
HHAR Hobbs 65.97 340 eP P 05 06 24.0 -0.2
comp=Z,6.9nm,0.8s
S44A Carbondale 65.97 344 P P 05 06 23.2 -0.9
baz=162,SNR=7.5
X33A Lawton 65.98 335 P P 05 06 23.3 -1.0
baz=153,SNR=5.2
SIUC Southern Illin 65.98 344 eP P 05 06 23.6 -0.6
comp=Z,18nm,0.8s
V37A Hulbert 65.99 338 P P 05 06 23.7 -0.6
baz=156,SNR=6.0
T41A Mountain View 66.02 342 P P 05 06 23.9 -0.7
baz=159,SNR=17
S43A Fulton Ridge, 66.06 343 P P 05 06 23.6 -1.2
baz=161,SNR=10
V36A Jenks 66.17 338 P P 05 06 25.1 -0.4
baz=155,SNR=6.2
X32A Elmer 66.17 334 P P 05 06 24.8 -0.7
baz=152
TUL1 Leonard 66.23 338 P P 05 06 25.3 -0.6
baz=156,SNR=7.4
TUL1 Leonard 66.23 338 eP P 05 06 25.8 -0.1
comp=Z,19nm,0.8s
U38A Gravette 66.25 339 P P 05 06 25.4 -0.6
baz=157,SNR=6.3
W34A Bridge Creek, 66.32 336 P P 05 06 25.8 -0.7
baz=154
T40A Mansfield 66.34 341 P P 05 06 26.0 -0.6
baz=159
R44A Waltonville 66.45 344 P P 05 06 25.8 -1.5
baz=162
U37A Salina 66.46 339 P P 05 06 26.9 -0.4
baz=156,SNR=12
V35A Meyer Ranch, C 66.46 337 P P 05 06 26.4 -1.0
baz=154
T39A Clever 66.48 340 P P 05 06 26.9 -0.6
baz=158,SNR=6.8
MNTX Cornudas Mount 66.48 328 P P 05 06 27.0 -0.6
baz=146,SNR=16
MNTX Cornudas Mount 66.48 328 eP P 05 06 27.2 -0.4
comp=Z,7.7nm,0.8s
W33A Caddo, Fort Co 66.51 335 P P 05 06 27.8 +0.1
baz=153,SNR=14
O56A Blue Knob Stat 66.59 353 P P 05 06 28.2 0.0
baz=172
U36A Oologah 66.65 338 P P 05 06 28.3 -0.2
baz=156
S40A Lebanon 66.75 341 P P 05 06 28.6 -0.6
baz=159,SNR=12
V34A Guthrie 66.77 336 P P 05 06 28.8 -0.5
baz=154
V34A Guthrie 66.77 336 eP P 05 06 29.1 -0.3
comp=Z,19nm,0.8s
T38A Diamond 66.77 340 P P 05 06 28.9 -0.4
baz=157,SNR=25
W32A Sentinel 66.78 335 P P 05 06 29.4 -0.1
baz=152,SNR=19
U35A Pawnee 66.97 337 P P 05 06 30.2 -0.4
baz=155,SNR=14
N59A State Game Lan 67.00 356 P P 05 06 31.0 +0.3
baz=175
V33A Lossen Ranch, 67.03 336 P P 05 06 30.8 -0.3
baz=159,SNR=10
T37A Cheneyville 18 67.05 339 P P 05 06 30.5 -0.6
baz=156,SNR=18
S39A Bolivar 67.08 341 P P 05 06 30.8 -0.5
baz=158,SNR=20
ACSO Alum Creek Sta 67.14 350 eP P 05 06 30.0 -1.6
comp=Z,17nm,0.8s
S38A Stockton 67.20 340 P P 05 06 31.5 -0.6
baz=158,SNR=17
MSTX Muleshoe 67.21 331 P P 05 06 32.1 -0.2
baz=149,SNR=14
MSTX Muleshoe 67.21 331 eP P 05 06 32.4 +0.1
comp=Z,27nm,0.9s
V32A Arapaho 67.22 335 P P 05 06 32.1 -0.2
baz=152
Q43A New Douglas 67.26 344 P P 05 06 31.5 -0.9
baz=162
T36A Boggs Farm, Ca 67.31 338 P P 05 06 32.1 -0.6
baz=156,SNR=7.6
U34A Anderson Ranch 67.31 337 P P 05 06 32.3 -0.5
baz=154
U34A Anderson Ranch 67.31 337 eP P 05 06 32.2 -0.5
comp=Z,17nm,0.8s
R40A Maddies Statio 67.33 342 P P 05 06 32.2 -0.7
baz=159,SNR=28
T35A Sooner Cattle 67.39 338 P P 05 06 32.9 -0.4
baz=155
N54A Moraine State 67.44 352 P P 05 06 33.0 -0.5
baz=171
Q42A Golden Eagle 67.44 343 P P 05 06 32.9 -0.6
baz=161,SNR=11
U33A Lingo Farm, Me 67.52 336 P P 05 06 33.8 -0.3
baz=154
AMTX Amarillo 67.53 333 eP P 05 06 34.3 0.0
comp=Z,7.6nm,0.8s
R39A Chumby, Stover 67.57 341 P P 05 06 33.8 -0.6
baz=158
S37A Fort Scott 67.60 339 P P 05 06 34.1 -0.5
baz=157,SNR=13
R38A Fenwick Farm, 67.71 340 P P 05 06 34.5 -0.7
baz=158,SNR=10
T34A McClaskey Farm 67.72 337 P P 05 06 34.9 -0.4
baz=154,SNR=5.4
TAOE Nuku Hiva Isla 67.78 271 eLR LR 05 27 12.0
comp=Z,167nm,25.2s
U32A Winter Ranch, 67.79 336 P P 05 06 35.7 -0.2
baz=153
S36A Lake Cedric, C 67.81 339 P P 05 06 35.4 -0.6
baz=156,SNR=13
Q40A Laux Farm, Aux 67.93 342 P P 05 06 36.0 -0.7
baz=159,SNR=8.2
M54A Oil Creek Stat 67.94 353 P P 05 06 36.2 -0.5
baz=171
S35A Otter Creek Ra 68.02 338 P P 05 06 37.0 -0.2
baz=155
R37A Teagarden Farm 68.11 340 P P 05 06 37.1 -0.7
baz=157
T33A Patterson Ranc 68.14 336 P P 05 06 37.6 -0.4
baz=154
Q39A Willow Grove F 68.23 341 P P 05 06 37.9 -0.7
baz=159
S34A Willow Spring 68.30 338 P P 05 06 38.5 -0.5
baz=155
121A Cookes Peak, D 68.33 327 P P 05 06 40.4 +0.8
baz=144
121A Cookes Peak, D 68.33 327 eP P 05 06 40.3 +0.8
comp=Z,6.2nm,1.0s
R36A Gordon, Harris 68.33 339 P P 05 06 38.6 -0.6
baz=156

Q38A Cooks Store, C 68.34 341 P P 05 06 38.7 -0.5
baz=158,SNR=14
P40A Paris 68.43 342 P P 05 06 39.2 -0.5
baz=160,SNR=15
T32A Huddler Ranch, 68.47 336 P P 05 06 40.3 +0.1
baz=153,SNR=8.3
Q37A Longview Farm, 68.51 340 P P 05 06 39.3 -0.9
baz=157
R35A Emporia Munici 68.56 339 P P 05 06 40.2 -0.4
baz=156
P39B Salisbury 68.58 342 P P 05 06 40.4 -0.3
baz=159
HDIL Hopedale 68.69 345 P P 05 06 40.4 -1.0
baz=162
TRY Troy 68.70 358 eP P 05 06 42.4 +1.1
comp=Z,24nm,0.9s
R34A Isabella, Hill 68.89 338 P P 05 06 42.3 -0.3
baz=155,SNR=10.0
O40A La Belle 68.93 343 P P 05 06 42.0 -0.9
baz=160,SNR=9.2
S32A Newby Ranch, P 68.94 336 P P 05 06 42.6 -0.4
baz=153
Q35A Mercer Eighty, 68.99 339 P P 05 06 42.2 -1.1
baz=156
BNM Barren Site 69.09 329 eP P 05 06 45.9 +1.5
P37A Lathrop 69.14 341 P P 05 06 43.0 -1.2
baz=157
R33A Olander Ranch, 69.15 337 P P 05 06 44.1 -0.2
baz=154
LPM Los Pinos Moun 69.23 329 eP P 05 06 46.4 +1.3
O39A Kirksville 69.24 342 P P 05 06 44.1 -0.6
baz=159
Q34A Chapman 69.34 338 P P 05 06 44.6 -0.9
baz=155
O38A Galt 69.37 341 P P 05 06 44.7 -0.9
baz=158
KSU1 Kansas State U 69.40 339 P P 05 06 45.2 -0.6
baz=155
P36A Good Intent, A 69.43 340 P P 05 06 45.1 -0.8
baz=157
R32A Long Quarter, 69.50 337 P P 05 06 46.4 -0.1
baz=153,SNR=8.8
LAZ Ladron 69.54 328 eP P 05 06 46.9 -0.1
P35A Duane Minner, 69.60 339 P P 05 06 46.4 -0.6
baz=156
O37A Wolven Farm, M 69.61 341 P P 05 06 46.5 -0.5
baz=158
ANMO Albuquerque 69.67 329 P P 05 06 48.2 +0.4
baz=146
ANMO Albuquerque 69.67 329 ⇑iP P 05 06 48.9 +1.1
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 69.67 329 eP P 05 06 49.1 +1.3
comp=Z,3.8nm,0.8s
TUC Tucson 69.67 324 P P 05 06 48.3 +0.5
baz=142
TUC Tucson 69.67 324 eP P 05 06 48.9 +1.1
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC Tucson 69.67 324 eP P 05 06 48.9 +1.1
comp=Z,4.7nm,1.0s
Q33A Connelly Farm, 69.71 338 P P 05 06 47.3 -0.5
baz=154,SNR=6.3
N39A Derby Farms, D 69.81 343 P P 05 06 47.5 -0.8
baz=159,SNR=5.8
O36A Bow 69.82 340 P P 05 06 47.4 -0.9
baz=157
P34A Walnut Farm, R 69.87 339 P P 05 06 48.2 -0.5
baz=155
N38A Joes South For 69.93 342 P P 05 06 48.4 -0.7
baz=159
Q32A Meitler Ranch, 69.96 337 P P 05 06 48.9 -0.4
baz=154
N37A Lee Faris, Mou 70.17 341 P P 05 06 49.9 -0.7
baz=158
CBKS Cedar Bluff 70.22 336 P P 05 06 51.3 +0.4
baz=152
CBKS Cedar Bluff 70.22 336 eP P 05 06 51.6 +0.7
CBKS pmax pmax
comp=Z,13nm,0.8s
CBKS Cedar Bluff 70.22 336 eP P 05 06 51.6 +0.7
comp=Z,13nm,0.8s
O34A Beatrice 70.41 339 P P 05 06 51.2 -0.8
baz=155,SNR=5.7
214A Organ Pipe Nat 70.48 323 P P 05 06 53.8 +1.2
baz=140
214A Organ Pipe Nat 70.48 323 eP P 05 06 53.4 +0.8
comp=Z,26nm,1.0s
O33A Hebron 70.60 338 P P 05 06 52.9 -0.3
baz=155
T25A Trinidad 70.60 332 P P 05 06 54.3 +0.8
baz=148,SNR=9.5
T25A Trinidad 70.60 332 eP P 05 06 54.5 +1.0
comp=Z,9.5nm,0.8s
N35A Tabor 70.69 340 P P 05 06 53.5 -0.2
baz=156
M37A Trindle Farm, 70.73 342 P P 05 06 53.6 -0.3
baz=158,SNR=7.6
N34A Lincoln 70.94 340 P P 05 06 54.2 -1.0
baz=156
M36A Felix, Anita 70.99 341 P P 05 06 54.7 -0.8
baz=157
O32A Brockman Farm, 71.00 338 P P 05 06 55.3 -0.3
baz=154
N33A J Bar K, Exete 71.15 339 P P 05 06 56.2 -0.4
baz=155
M35A Neola 71.27 340 P P 05 06 57.1 -0.1
baz=156
L37A Phoenix Point, 71.31 342 P P 05 06 56.9 -0.5
baz=158
KSCO Kaye Shedlock' 71.48 334 P P 05 06 58.9 +0.2
baz=150
KSCO Kaye Shedlock' 71.48 334 eP P 05 06 59.8 +1.1
comp=Z,16nm,0.8s
L36A Harm Buss Farm 71.55 341 P P 05 06 58.3 -0.5
baz=157,SNR=8.1
SDCO Great Sand Dun 71.58 331 P P 05 07 00.3 +0.8
baz=147,SNR=11
SDCO Great Sand Dun 71.58 331 eP P 05 07 00.3 +0.8
comp=Z,5.7nm,1.0s
DBIC Dimbokro 71.65 73 P P 05 07 00.3 +0.2
comp=Z,11nm,0.8s,baz=211,slow=6.3,SNR=14
DBIC LR LR 05 36 41.4
comp=Z,168nm,20.1s,baz=170,slow=34
L35A Bielow Farm, R 71.81 341 P P 05 07 00.0 -0.4
baz=157
M33A Taylor Creek F 71.83 339 P P 05 07 00.3 -0.2
baz=155
VNDA Vanda 71.90 190 P P 05 07 01.7 +1.1
comp=Z,1.4nm,0.9s,baz=104,slow=4.8,SNR=5.4
VNDA LR LR 05 36 12.2
comp=Z,53nm,18.1s,baz=160,slow=34
VNDA Vanda 71.90 190 eP P 05 07 02.6 +2.0
VNDA pmax pmax
comp=Z,7.0nm,1.3s
VNDA Vanda 71.90 190 eP P 05 07 02.6 +2.0
comp=Z,6.5nm,1.3s
L34A Svendsen Farm, 71.93 340 P P 05 07 00.5 -0.7
baz=156,SNR=6.6
K36A Gilmore City 71.98 342 P P 05 07 01.8 +0.4
baz=158,SNR=6.6
BGNE Belgrade 71.98 339 P P 05 07 01.6 +0.1
baz=154
BGNE Belgrade 71.98 339 eP P 05 07 01.3 -0.3
comp=Z,39nm,0.9s
BGNE epP sP 05 07 09.8 -0.4
S22A 4UR Ranch, Cre 72.16 331 P P 05 07 03.4 +0.4
baz=146
S22A 4UR Ranch, Cre 72.16 331 eP P 05 07 04.2 +1.2
comp=Z,2.4nm,0.9s
M31A Lambtecht Ranc 72.20 338 P P 05 07 03.2 +0.3
baz=154
K35A Storm Lake 72.28 341 P P 05 07 03.1 -0.2
baz=157
J37A Redenius Farm, 72.36 343 P P 05 07 03.1 -0.5
baz=159
Q24A Divide 72.46 332 P P 05 07 05.5 +0.7
baz=148,SNR=9.2
Q24A Divide 72.46 332 eP P 05 07 05.7 +0.9
comp=Z,13nm,0.8s
MVCO Mesa Verde 72.47 329 P P 05 07 05.6 +0.8
baz=145,SNR=5.2
MVCO Mesa Verde 72.47 329 eP P 05 07 05.5 +0.7
comp=Z,7.3nm,0.9s
L32A Elgin 72.47 339 P P 05 07 04.7 +0.2
baz=154
WUAZ Wupatki 72.50 326 P P 05 07 06.1 +1.2
baz=142

WUAZ Wupatki 72.50 326 eP P 05 07 05.9 +0.9
comp=Z,11nm,0.9s
K34A Le Mars 72.50 341 P P 05 07 04.4 -0.2
baz=156
J36A Seneca 1, Swea 72.59 342 P P 05 07 04.4 -0.7
baz=158
SYO Syowa Base 72.63 159⇑eP P 05 07 02.6 -2.5
SYO Syowa Base 72.63 159⇑epP pP 05 07 09.6 -1.9
K33A Hardington 72.70 340 P P 05 07 05.5 -0.2
baz=155
I38A Scanlan Farm, 72.72 344 P P 05 07 05.1 -0.7
baz=160,SNR=10
PPT2 Papeete2 72.73 259 eS sS 05 16 41.6 -0.6
comp=Z,103nm,27.2s
PPT2 Papeete2 72.73 259 eLR LR 05 29 21.9
comp=Z,129nm,29.5s
Y12C Blythe 72.78 323 P P 05 07 07.1 +0.7
baz=140
Y12C Blythe 72.78 323 eP P 05 07 07.9 +1.5
comp=Z,5.2nm,0.8s
L31A Butterfield Fa 72.90 338 P P 05 07 07.3 +0.3
baz=154,SNR=6.1
I37A Lemond, Waseca 72.97 343 P P 05 07 06.7 -0.7
baz=159
PDMCI Parker Dam,Lak 72.99 323 P P 05 07 07.9 +0.2
baz=140
J34A George 73.01 341 P P 05 07 07.2 -0.3
baz=156
I36A Fitzsimmons Fa 73.14 343 P P 05 07 07.2 -1.1
baz=158
MONP2 Monument Peak 73.19 321 P P 05 07 10.5 +1.4
baz=138
BC3 Big Chuckawall 73.21 322 P P 05 07 09.7 +0.5
baz=139
I35A Creekview Farm 73.25 342 P P 05 07 08.4 -0.6
baz=157
PV01 Paradox Valley 73.25 330 eP P 05 07 09.7 +0.2
K31A O'Neill 73.27 339 P P 05 07 09.2 0.0
baz=154,SNR=7.0
J33A Davis 73.34 340 P P 05 07 08.8 -0.7
baz=156,SNR=5.9
ISCO Idaho Springs 73.35 333 P P 05 07 10.6 +0.5
baz=148,SNR=5.1
ISCO Idaho Springs 73.35 333 eP P 05 07 11.2 +1.1
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 73.35 333 eP P 05 07 11.2 +1.1
comp=Z,3.4nm,0.8s
H37A Dierke Farm, C 73.38 344 P P 05 07 08.6 -1.1
baz=159
SMCO Snowmass 73.41 331 eP P 05 07 11.7 +1.2
comp=Z,8.6nm,0.8s
IRM Iron Mountain 73.42 323 P P 05 07 10.8 +0.5
baz=139
PV05 Paradox Valley 73.45 329 eP P 05 07 11.6 +1.0
W13A Hualapai Mount 73.46 324 eP P 05 07 12.2 +1.5
comp=Z,4.1nm,0.8s
K30A Basset 73.60 338 P P 05 07 11.2 +0.1
baz=153
ECSD EROS Data Cent 73.61 341 P P 05 07 10.7 -0.4
baz=156,SNR=14
ECSD EROS Data Cent 73.61 341 eP P 05 07 10.2 -0.9
comp=Z,11nm,0.8s
H36A Jessenland, He 73.64 343 P P 05 07 10.7 -0.6
baz=158,SNR=6.3
J32A Parkston 73.66 340 P P 05 07 10.9 -0.5
baz=155
PV10 Paradox Valley 73.67 329 eP P 05 07 12.6 +0.7
U15A North Rim 73.67 326 eP P 05 07 13.4 +1.4
TPFO Pinon Flats 73.73 321 P P 05 07 13.2 +1.0
baz=138
PFO Pinyon Flats O 73.74 321 P P 05 07 13.1 +0.9
baz=138
BELC Belle Mtn. Jos 73.77 322 P P 05 07 13.1 +0.6
baz=138
J31A Geddes 73.87 339 P P 05 07 12.3 -0.4
baz=154
SPMN Marine on St. 73.95 344 P P 05 07 11.9 -1.1
baz=159
SPMN Marine on St. 73.95 344 eP P 05 07 12.2 -0.9
comp=Z,13nm,1.0s
SPMN epP sP 05 07 20.9 -0.8
H35A Sunnyside Ranc 73.99 342 P P 05 07 12.0 -1.3
baz=158
J30A Dallas 74.14 339 P P 05 07 13.9 -0.3
baz=153,SNR=7.9
MURC Murrieta 74.14 321 P P 05 07 15.2 +0.7
baz=138
GMRC Granite Mounta 74.17 323 P P 05 07 15.7 +0.9
baz=139
G36A St. Michael 74.20 343 P P 05 07 14.2 -0.3
baz=159
H34A Spellman Lake, 74.22 342 P P 05 07 14.0 -0.7
baz=157
G35A Watkins 74.38 343 P P 05 07 14.9 -0.7
baz=158
KNB Kanab 74.40 326 eP P 05 07 18.0 +1.9
KNB pmax pmax
comp=Z,17nm,1.2s
KNB Kanab 74.40 326 eP P 05 07 18.0 +1.9
comp=Z,17nm,1.2s
N23A Red Feather La 74.41 333 P P 05 07 16.1 -0.1
baz=148
PKCU Pink Cliffs 74.48 327 eP P 05 07 18.9 +2.1
comp=Z,1nm,0.9s
H33A Prehn Over Nor 74.51 341 P P 05 07 16.1 -0.3
baz=156,SNR=9.2
H32A Carlson Farm, 74.56 340 P P 05 07 16.2 -0.5
baz=155
PHWY Pilot Hill 74.56 334 eP P 05 07 17.7 +0.6
comp=Z,5.1nm,0.8s
HEC Hector,Ludlow 74.57 322 P P 05 07 17.4 +0.3
baz=138
LCMT Little Creek M 74.60 326 eP P 05 07 18.7 +1.4
comp=Z,4.3nm,0.9s
G34A Benson 74.71 342 P P 05 07 16.9 -0.5
baz=157
F36A Milaca 74.73 344 P P 05 07 16.5 -1.0
baz=159,SNR=8.3
O20A White River Ci 74.75 331 P P 05 07 18.8 +0.8
baz=146,SNR=10
O20A White River Ci 74.75 331 eP P 05 07 18.9 +0.8
comp=Z,12nm,0.8s
O20A epP sP 05 07 27.7 +0.9
TUQ Turquoise Moun 74.80 323 P P 05 07 19.2 +0.8
baz=139
H31A Wolsey 74.85 340 P P 05 07 17.9 -0.5
baz=154
MTPU Mount Pierson 74.88 327 eP P 05 07 20.5 +1.4
comp=Z,8.2nm,0.8s
G33A Ortonville 74.89 341 P P 05 07 18.1 -0.4
baz=156
SRU San Rafael Swe 74.94 329 eP P 05 07 20.3 +1.1
SRU pmax pmax
comp=Z,11nm,0.8s
SRU San Rafael Swe 74.94 329 eP P 05 07 20.3 +1.1
comp=Z,11nm,0.8s
SUSD Miller 74.97 339 P P 05 07 18.7 -0.4
baz=154
I29A Vivian Onida 75.03 338 P P 05 07 19.1 -0.3
baz=153
CCUT Cedar City 75.08 326 eP P 05 07 22.3 +2.1
comp=Z,14nm,0.9s
Q16A Castle Valley 75.09 328 eP P 05 07 21.5 +1.4
comp=Z,8.4nm,0.9s
GSC Goldstone, Bar 75.18 322 P P 05 07 20.6 +0.1
baz=138
GSC Goldstone, Bar 75.18 322 eP P 05 07 22.1 +1.5
GSC Goldstone, Bar 75.18 322 eP P 05 07 22.1 +1.5
SHPR Sheep Range 75.20 324 eP P 05 07 22.3 +1.5
comp=Z,5.7nm,1.0s
P18A Preston Nutter 75.23 329 eP P 05 07 22.5 +1.5
comp=Z,12nm,0.9s
MSU Marysvale 75.25 327 eP P 05 07 22.4 +1.3
MSU Marysvale 75.25 327 eP P 05 07 22.4 +1.3
E36A McGregor 75.27 344 P P 05 07 20.0 -0.7
baz=159,SNR=7.1
P17A Butcher Ranch, 75.33 329 eP P 05 07 22.7 +1.3
comp=Z,10.0nm,0.9s
TMUT Trail Mountain 75.41 329 eP P 05 07 23.8 +1.7
comp=Z,4.8nm,0.9s
F33A 5 Mile Ranch, 75.44 342 P P 05 07 20.9 -0.8
baz=156
EDW2 Edwards Air Fo 75.53 321 P P 05 07 22.0 -0.6
baz=137
BLG Laguna Peak, P 75.58 320 P P 05 07 21.6 -1.2
baz=136
E35A Pequot Lakes 75.60 343 P P 05 07 21.8 -0.8

baz=158
D37A **Cotton** 75.67 345 P P 05 07 22.3 -0.7
baz=160
C39A **Grand Marais** 75.79 347 P P 05 07 22.7 -0.9
baz=162,SNR=7.6
C38A **Sawbill Land.** 75.94 346 P P 05 07 23.3 -1.2
baz=161
G29A **Hoven** 75.95 339 P P 05 07 24.4 -0.3
baz=153
D35A **Remer** 75.99 344 P P 05 07 24.3 -0.5
baz=158,SNR=5.4
F31A **Hecla** 76.03 341 P P 05 07 24.6 -0.5
baz=155,SNR=11
FURC **Furnace Creek,** 76.08 323 P P 05 07 26.3 +0.7
baz=138
PSUT **Pine Spring** 76.09 326 eP P 05 07 27.0 +1.2
comp=Z,12nm,1.1s
TPNV **Topopah Spring** 76.11 324 P P 05 07 26.7 +0.8
baz=139
TPNV **Topopah Spring** 76.11 324 eP P 05 07 27.3 +1.4
TPNV e*PP sP 05 07 34.2 -0.5
TPNV pmax pmax
comp=Z,7.0nm,1.1s
TPNV **Topopah Spring** 76.11 324 eP P 05 07 27.3 +1.4
comp=Z,6.7nm,1.1s
TPNV epP sP 05 07 34.2 -0.5
MPMC **Manual Prospec** 76.11 323 P P 05 07 26.3 +0.3
baz=138
K22A **Casper** 76.12 334 P P 05 07 26.4 +0.5
baz=147
K22A **Casper** 76.12 334 eP P 05 07 27.0 +1.1
comp=Z,5.5nm,0.8s
C37A **Embarrass** 76.15 345 P P 05 07 25.1 -0.7
baz=160
EYMN **Ely** 76.20 346 P P 05 07 25.1 -0.9
baz=161
D34A **Park Rapids** 76.29 343 P P 05 07 25.1 -1.4
baz=158
C36A **Pine Crest Far** 76.33 345 P P 05 07 26.2 -0.5
baz=160
DAC **Darwin (Calif)** 76.33 323 eP P 05 07 28.5 +1.2
DAC pmax pmax
comp=Z,4.0nm,1.0s
DAC **Darwin (Calif)** 76.33 323 eP P 05 07 28.5 +1.2
comp=Z,3.7nm,1.0s
KOWA **Kowa** 76.39 66 eP P 05 07 28.2 +0.4
comp=Z,4.3nm,0.8s
RSSD **Black Hills** 76.42 336 P P 05 07 27.6 0.0
baz=150
RSSD **Black Hills** 76.42 336 eP P 05 07 27.4 -0.2
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD **Black Hills** 76.42 336 eP P 05 07 27.4 -0.2
comp=Z,6.3nm,1.0s
F29A **Eureka** 76.49 339 P P 05 07 27.7 0.0
baz=153
D33A **AnnSam, Waubun** 76.52 343 P P 05 07 27.5 -0.3
baz=157
C35A **Jirik Farms, M** 76.55 344 P P 05 07 27.6 -0.4
baz=159
E31A **Nome** 76.56 341 P P 05 07 27.8 -0.2
baz=155
JLU **Jordanelle** 76.56 329 eP P 05 07 29.8 +1.2
comp=Z,7.6nm,0.8s
PKM **Mcpherson Peak** 76.57 320 P P 05 07 28.6 0.0
baz=136
H25A **Fruitdale** 76.69 336 P P 05 07 29.3 +0.3
baz=150
CWC **Cottonwood Cre** 76.72 322 P P 05 07 29.7 +0.3
baz=137
C34A **RKJ Ranch, Bem** 76.74 343 P P 05 07 28.1 -0.9
baz=158
GRAC **Grapevine Rang** 76.74 323 P P 05 07 30.0 +0.6
baz=138
R11A **Troy Canyon, C** 76.82 325 P P 05 07 31.1 +1.1
baz=140
R11A **Troy Canyon, C** 76.82 325 eP P 05 07 30.6 +0.6
comp=Z,4.1nm,1.1s
VES **Vestal, Richgr** 76.84 321 P P 05 07 30.9 +1.0
baz=136
DUG **Dugway, Tooele** 76.88 328 P P 05 07 31.1 +0.9
baz=142
DUG **Dugway, Tooele** 76.88 328 eP P 05 07 31.3 +1.1
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG **Dugway, Tooele** 76.88 328 eP P 05 07 31.2 +1.1
comp=Z,8.2nm,0.9s
TCUT **Toone Canyon** 76.95 330 eP P 05 07 31.9 +1.2
comp=Z,8.9nm,0.8s
C33A **Trail** 77.06 343 P P 05 07 30.6 -0.3
baz=157
E29A **Napoleon** 77.09 340 P P 05 07 30.9 -0.2
baz=154
B35A **Bob, Littlefor** 77.11 344 P P 05 07 30.2 -0.9
baz=159,SNR=6.0
D30A **Buchanan** 77.31 341 P P 05 07 31.9 -0.4
baz=154,SNR=10
HWUT **Hardware Ranch** 77.42 330 eP P 05 07 33.8 +0.5
comp=Z,10nm,0.8s
HWUT epP sP 05 07 41.8 -0.2
B34A **Aery, Baudette** 77.45 344 P P 05 07 31.6 -1.4
baz=158
BW06 **Boulder Array** 77.47 332 eP P 05 07 33.6 0.0
comp=Z,1.6nm,0.8s
PDAR **Pinedale Array** 77.47 332 P P 05 07 33.5 -0.1
comp=Z,0.7nm,0.7s,baz=134,slow=6.4,SNR=4.7
PDAR LR LR 05 39 30.6
comp=Z,19nm,19.8s,baz=184,slow=34
B33A **Robert and Kas** 77.49 343 P P 05 07 32.8 -0.4
baz=157
D29A **Pettibone, Tap** 77.52 340 P P 05 07 33.1 -0.4
baz=154
BGU **Big Grassy Mou** 77.55 328 eP P 05 07 34.5 +0.5
comp=Z,5.3nm,1.2s
SUR **Sutherland** 77.58 120 eP P 05 07 34.1 -0.5
AGMN **Agassiz Nation** 77.58 343 P P 05 07 33.2 -0.5
baz=157,SNR=6.7
AGMN **Agassiz Nation** 77.58 343 eP P 05 07 33.4 -0.4
comp=Z,6.7nm,0.8s
C31A **Landman Farms,** 77.63 342 P P 05 07 33.5 -0.6
baz=155
C30A **Mose, Pekin** 77.76 341 P P 05 07 34.8 0.0
baz=155,SNR=6.1
F25A **Bowman** 77.77 337 P P 05 07 35.1 +0.1
baz=150
B32A **Ashes, Strandq** 77.85 343 P P 05 07 34.7 -0.5
baz=156,SNR=10
E26A **Carlson Angus** 77.91 338 P P 05 07 35.5 -0.2
baz=151
A33A **Warroad** 78.05 344 P P 05 07 35.9 -0.4
baz=158
HVU **Hansel Valley** 78.10 329 eP P 05 07 37.8 +0.7
HVU pmax pmax
comp=Z,7.0nm,0.8s
HVU **Hansel Valley** 78.10 329 eP P 05 07 37.8 +0.7
comp=Z,6.9nm,0.8s
B31A **Greenbush Farm** 78.18 342 P P 05 07 36.4 -0.7
baz=156
MDND **Maddock** 78.22 341 P P 05 07 37.3 0.0
baz=154
MDND **Maddock** 78.22 341 eP P 05 07 38.0 +0.6
comp=Z,28nm,0.8s
E25A **Miller Ranch,** 78.25 338 P P 05 07 37.7 +0.1
baz=150
NV01 **Mina Array Sit** 78.30 324 eP P 05 07 38.9 +0.6
NVAR **Mina Array Bea** 78.30 324 P P 05 07 38.9 +0.6
comp=Z,1.9nm,0.8s,baz=163,slow=6.0,SNR=11
A32A **Rocking H Ranc** 78.32 343 P P 05 07 37.6 -0.2
baz=156
D26A **Manning** 78.39 338 P P 05 07 38.4 0.0
baz=151
B30A **Myrvik Farm, E** 78.40 342 P P 05 07 38.1 -0.2
baz=155,SNR=6.0
ELK **Elko** 78.47 327 eP P 05 07 39.7 +0.5
ELK e*PP sP 05 07 47.8 -0.1
ELK pmax pmax
comp=Z,6.0nm,0.9s
ELK **Elko** 78.47 327 eP P 05 07 39.7 +0.5
comp=Z,6.0nm,0.9s
ELK epP sP 05 07 47.8 -0.1
REDW **Red Top Meadow** 78.51 331 eP P 05 07 39.3 0.0
comp=Z,5.5nm,0.9s
SNOW **Snow King Moun** 78.55 331 eP P 05 07 40.3 +0.7
comp=Z,6.0nm,0.8s
LOHW **Long Hollow** 78.60 332 eP P 05 07 40.8 +0.9
comp=Z,4.8nm,0.9s
LOHW epP sP 05 07 48.7 +0.1
TPAW **Teton Pass** 78.65 331 eP P 05 07 40.3 +0.2
comp=Z,8.7nm,1.0s
B29A **Wagenman Farm,** 78.70 341 P P 05 07 40.0 0.0
baz=154,SNR=7.1
MOOW **Moose Ponds** 78.77 332 eP P 05 07 41.2 +0.5
comp=Z,2.6nm,0.8s
D25A **Fairfield** 78.79 338 P P 05 07 41.1 +0.5
baz=150
FXWY **Fox Creek** 78.81 331 eP P 05 07 41.8 +0.8
comp=Z,4.4nm,1.0s
A30A **Hoffart Farm,** 78.83 342 P P 05 07 41.1 +0.4
baz=155
IMW **Indian Meadow** 78.98 332 eP P 05 07 42.4 +0.4
comp=Z,11nm,1.4s
B28A **Dugan Ranch, T** 78.99 340 P P 05 07 41.6 +0.1
baz=153,SNR=5.8
FLWY **Flagg Ranch** 79.02 332 eP P 05 07 43.5 +1.4
comp=Z,11nm,0.8s
A29A **Manning Farm,** 79.08 341 P P 05 07 41.7 -0.4
baz=154,SNR=8.1
BMN **Battle Mountai** 79.22 326 eP P 05 07 44.2 +1.0
BMN pmax pmax
comp=Z,3.0nm,0.8s
BMN **Battle Mountai** 79.22 326 eP P 05 07 44.2 +1.0
comp=Z,2.6nm,0.8s
H17A **Grant Village** 79.22 332 P P 05 07 42.9 -0.4
baz=144
RLMT **Red Lodge** 79.28 333 P P 05 07 43.8 +0.3
baz=145
RLMT **Red Lodge** 79.28 333 eP P 05 07 44.3 +0.8
comp=Z,5.8nm,0.8s
A28A **Rude Farm, Bot** 79.37 341 P P 05 07 43.6 -0.1
baz=153
ULM **Lac du Bonnet** 79.39 344 P P 05 07 43.0 -0.6
comp=Z,3.4nm,0.6s,baz=66,slow=0.9,SNR=4.7
ULM **Lac du Bonnet** 79.39 344 eP P 05 07 43.0 -0.6
comp=Z,1.8nm,1.5s
YMR **Madison River** 79.61 332 eP P 05 07 47.1 +1.8
comp=Z,15nm,0.8s
PAHR **Pah Rah Range** 79.81 324 eP P 05 07 47.9 +1.4
comp=Z,9.3nm,1.0s
A26A **Wade Farm, Ken** 79.90 340 P P 05 07 46.7 +0.2
baz=152
GCMT **Greycliff** 79.99 333 eP P 05 07 48.0 +0.8
TSUM **Tsumeb** 80.22 107 eP P 05 07 49.3 +0.1
comp=Z,9.9nm,0.8s
DGMT **Dagmar** 80.23 338 P P 05 07 48.6 +0.3
baz=150
DGMT **Dagmar** 80.23 338 eP P 05 07 48.6 +0.3
comp=Z,17nm,0.9s
MAW **Mawson** 80.25 164 P P 05 07 48.6 +0.3
comp=Z,21nm,0.8s,baz=205,slow=6.4,SNR=38
MAW LR LR 05 42 07.1
comp=Z,83nm,21.5s,baz=241,slow=35
MAW **Mawson** 80.25 164 eP P 05 07 48.8 +0.5
MAW pmax pmax
comp=Z,6.0nm,0.9s
MAW **Mawson** 80.25 164 eP P 05 07 48.8 +0.5
comp=Z,5.5nm,0.9s
HLID **Hailey** 80.25 329 P P 05 07 49.5 +0.7
baz=141
HLID **Hailey** 80.25 329 eP P 05 07 49.9 +1.1
comp=Z,9.2nm,0.8s
A25A **Svangstu Ranch** 80.28 339 P P 05 07 49.2 +0.6
baz=151
TOA0 **Torodi Ar. Sit** 80.46 70 eP P 05 07 50.5 +0.2
TORD **Torodi Ar. Bea** 80.46 70 P P 05 07 50.3 0.0
comp=Z,19nm,0.8s,baz=262,slow=5.0,SNR=140
TORD LR LR 05 44 20.3
comp=Z,113nm,18.5s,baz=210,slow=36
MCMT **McKenzie Canyo** 80.54 331 eP P 05 07 51.5 +1.2
BOZ **Bozeman (W)** 80.68 332 P P 05 07 51.2 +0.2
baz=144
BOZ **Bozeman (W)** 80.68 332 eP P 05 07 51.6 +0.6
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ **Bozeman (W)** 80.68 332 eP P 05 07 51.6 +0.6
comp=Z,2.7nm,0.9s
MFID **Camas Ranch** 80.79 328 eP P 05 07 51.6 0.0
comp=Z,5.8nm,1.2s
DLMT **Dillon** 80.86 331 eP P 05 07 52.4 +0.4
comp=Z,5.7nm,0.9s
LRM **Limekiln Ridge** 81.16 332 eP P 05 07 54.8 +1.1
WVOR **Wild Horse Val** 81.42 326 eP P 05 07 55.6 +0.6
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR **Wild Horse Val** 81.42 326 eP P 05 07 55.6 +0.6
comp=Z,4.5nm,1.0s
O03D **Paynes Creek** 81.52 323 P P 05 07 55.5 0.0
baz=135
EGMT **Eagleton** 81.85 335 P P 05 07 57.3 +0.1
baz=145
EGMT **Eagleton** 81.85 335 eP P 05 07 57.2 +0.1
comp=Z,5.4nm,0.8s
M04C **Macdoel** 82.59 324 P P 05 08 01.0 -0.2
baz=135
BOSA **Boshof** 82.63 118 P P 05 08 01.5 -0.3
comp=Z,5.2nm,0.9s,baz=273,slow=6.6,SNR=5.6
K05A **Summer Lake** 82.77 325 eP P 05 08 03.5 +1.3
comp=Z,12nm,0.9s
J05D **Fort Rock, OR** 83.35 325 P P 05 08 05.3 +0.2
baz=136
I05D **Terrebonne, OR** 84.16 326 P P 05 08 09.4 +0.3
baz=136
I04A **Tendick Farm,** 84.31 325 P P 05 08 09.6 -0.2
baz=135
WALA **Waterton Lakes** 84.33 333 eP P 05 08 10.4 +0.5
comp=Z,10nm,0.8s
WALA epP sP 05 08 18.8 +0.1
FFC **Flin Flon** 85.03 342 eP P 05 08 12.6 -0.5
FFC **Flin Flon** 85.03 342 eP P 05 08 12.6 -0.5
PFVI **Vila Bisbo** 85.74 45 eP P 05 08 18.4 +1.3
comp=Z,48nm,1.5s
MORF **Marmelete** 85.96 45 eP P 05 08 19.0 +0.8
MORF AMb AMB 05 08 21.4
comp=Z,32nm,1.3s
MORF **Marmelete** 85.96 45 eP P 05 08 19.5 +1.2
comp=Z,32nm,1.2s
MORF **Marmelete** 85.96 45 eP P 05 08 19.0 +0.8
PTEO **Sao Teotonio** 86.06 45 eP P 05 08 20.2 +1.6
comp=Z,44nm,1.0s
PBDV **Barranco-do-Ve** 86.38 45 eP P 05 08 21.9 +1.6
comp=Z,40nm,1.0s
PNCL **Nicolau / Gran** 86.52 44 eP P 05 08 22.2 +1.3
comp=Z,20nm,1.8s
PCVE **Castro Verde** 86.54 45 eP P 05 08 22.2 +1.1
comp=Z,18nm,0.9s
MESJ **Messejana** 86.55 45 eP P 05 08 21.9 +0.8
MESJ AMb AMB 05 08 23.6
comp=Z,16nm,1.0s
MESJ **Messejana** 86.55 45 eP P 05 08 22.8 +1.7
comp=Z,19nm,1.2s
MESJ **Messejana** 86.55 45 eP P 05 08 21.9 +0.8
PVAQ **Vaqueiros** 86.61 45 eP P 05 08 22.6 +1.2
comp=Z,26nm,1.6s
PBEJ **Beja** 86.89 45 eP P 05 08 23.0 +0.3
comp=Z,19nm,1.2s
PMTG **Montargil** 87.29 44 eP P 05 08 25.0 +0.3
comp=Z,13nm,1.9s
PTOM **Tomar** 87.51 43 eP P 05 08 27.1 +1.4
TAM **Tamanrasset** 88.37 64 eP P 05 08 31.0 +0.6
TAM pmax pmax
comp=Z,3.0nm,1.3s
TAM **Tamanrasset** 88.37 64 eP P 05 08 31.0 +0.6
comp=Z,3.5nm,1.3s
ESDC **Sonseca Array** 90.32 45 P P 05 08 37.7 -1.4
comp=Z,0.3nm,0.4s,baz=262,slow=4.7,SNR=5.6
ES19 **SONSECA Array** 90.38 45 eP P 05 08 40.2 +0.9
YKA **Yellowknife Ar** 95.14 341 P P 05 08 60.0 -0.6
comp=Z,1.4nm,0.7s,baz=131,slow=4.4,SNR=16
YKA **Yellowknife Ar** 95.14 341 P P 05 09 00.0 -0.6
YKA **Yellowknife Ar** 95.14 341 P P 05 09 00.0 -0.6
KEST **Kesra** 97.42 54 LR LR 05 56 41.6
comp=Z,120nm,18.1s,baz=257,slow=38
CLL **Collm** 106.28 41 ePS PS 05 23 39.0 +5.3
CLL eSSS SSS 05 33 18.0
VSU **Vasula** 115.79 35 ⇑iPKIKP PKPdf 05 14 19.6 -0.3
KIEV **Kiev** 115.94 44 ePKIKP PKPdf 05 14 19.1 -1.3
KIEV **Kiev** 115.94 44 ePKPdf PKPdf 05 14 19.1 -1.3
AKASG **Malin Array Be** 115.95 44 PKP PKPdf 05 14 19.1 -1.4
comp=Z,1.7nm,0.6s,baz=265,slow=2.7,SNR=10.0
BRTR **Keskin Array B** 116.82 57 PKP PKPdf 05 14 22.2 -0.5
comp=Z,0.9nm,0.6s,baz=182,slow=4.8,SNR=6.0
OBN **Obninsk** 120.86 40 ⇑iPKIKP PKPdf 05 14 29.7 0.0
OBN pmax pmax
comp=Z,5.0nm,0.7s
KLMR **Klimovskoe** 122.37 33 ePKIKP PKPdf 05 14 31.2 -1.3
KLMR e 05 14 40.6
KLMR e 05 16 06.9
KLMR pmax pmax
comp=Z,6.0nm,0.9s
KIV **Kislovodsk** 124.15 53 iPKIKP PKPdf 05 14 36.5 -0.1
KIV pmax pmax
comp=Z,4.0nm,0.8s
KBZ **Khabaz** 124.28 54 PKP PKPdf 05 14 35.9 -0.8
comp=Z,3.8nm,0.9s,baz=170,slow=2.3,SNR=7.4
ASAR **Alice Springs** 124.97 208 PKP PKPdf 05 14 37.4 -1.4
comp=Z,1.4nm,0.8s,baz=166,slow=2.1,SNR=10
BILL **Bilibino** 126.30 337⇑ePKIKP PKPdf 05 14 40.1 +0.2
BILL pmax pmax
comp=Z,2.0nm,1.0s
H11S2 **WAKE ISLAND Hyl** 126.75 274 T T 07 34 35.9
baz=108,slow=74,SNR=25
H11S1 **WAKE ISLAND Hyl** 126.76 274 T T 07 34 12.6
baz=108,slow=74,SNR=27
H11S3 **WAKE ISLAND Hyl** 126.77 274 T T 07 34 08.1
baz=108,slow=74,SNR=34
WRA **Warramunga Arr** 128.06 210 PKP PKPdf 05 14 43.5 -1.3
comp=Z,3.0nm,0.8s,baz=163,slow=1.7,SNR=18
WRAB **Tennant Creek** 128.06 210⇑ePKIKP PKPdf 05 14 43.3 -1.5
WRAB **Tennant Creek** 128.06 210 ePKPdf PKPdf 05 14 44.1 -0.7
COEN **Coen** 128.22 223 ePKPdf PKPdf 05 14 45.0 -0.2
ARU **Arti** 132.95 36 iPKIKP PKPdf 05 14 52.8 0.0
ARU 05 17 16.2
ARU **Arti** 132.95 36 ePKPdf PKPdf 05 14 53.6 +0.8
SEY **Seymchan** 133.75 334⇓ePKIKP PKPdf 05 14 54.7 +0.6
AKTO **Aktyubinsk** 134.20 44 PKP PKPdf 05 14 55.5 +0.1
comp=Z,1.8nm,0.6s,baz=269,slow=2.4,SNR=8.5
PET **Petropavlovsk** 134.77 320⇑ePKIKP PKPdf 05 14 57.2 +0.9
ABKAR **Akbulak array** 135.67 45 ePKPdf PKPdf 05 14 58.5 +0.4
BRVK **Borovoye** 140.51 37 ⇑PKIKP PKPdf 05 15 06.4 -0.5
BRVK **Borovoye** 140.51 37 ePKPdf PKPdf 05 15 07.6 +0.7
BVAR **Borovoye Array** 140.58 37 PKP PKPdf 05 15 06.9 -0.2
comp=Z,2.0nm,0.7s,baz=270,slow=1.5,SNR=12
KKAR **Karatay Array** 144.29 52 ePKIKP PKPbc 05 15 12.5 +0.2
KKAR **Karatay Array** 144.29 52 ePKPdf PKPbc 05 15 12.5 +0.1
TYV **Tymovskoe** 144.68 323 ePKHKP PKPpre 05 15 09.8
TYV pmax pmax
comp=Z,13nm,0.8s
NVS **Novosibirsk** 145.63 27⇓iPKIKP PKPab 05 15 16.9 +0.4
NVS i 05 15 25.8
NVS pmax pmax
comp=Z,35nm,1.1s
NVS pmax pmax
comp=N,4.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.7s
CISI **Cisompet, Garu** 146.36 177 ePKPdf PKPdf 05 15 18.9 +0.4
EKS2 **Erkin-Say** 146.71 51 ePKP2 PKPbc 05 15 19.5 -0.5
EKS2 **Erkin-Say** 146.71 51 ePKPbc PKPbc 05 15 19.5 -0.5
ZALV **Zalesovo Beam** 146.91 27 PKPbc PKPdf 05 15 18.6 +0.5
comp=E,36nm,0.8s,baz=290,slow=3.0,SNR=69
AAK **Ala-Archa** 147.23 51 ePKP2 PKPdf 05 15 20.3 +1.1
AAK **Ala-Archa** 147.23 51 ePKPdf PKPdf 05 15 20.3 +1.1
AAK ePKPbc PKPab 05 15 22.6 -0.7
FRU **Bishkek** 147.25 51 iPKP2 PKPbc 05 15 22.0 +0.6
FRU pmax pmax
comp=Z,48nm,1.2s
KAPI **Kappang** 147.31 199 ePKPbc PKPbc 05 15 22.4 +0.1
TKM2 **Tokmak 2** 147.90 50 ePKPdf PKPdf 05 15 20.7 +0.3
TKM2 e 05 15 24.0
TKM2 **Tokmak 2** 147.90 50 ePKPdf PKPdf 05 15 20.7 +0.3
TKM2 ePKPbc PKPbc 05 15 24.0 +0.6
LUWI **Luwuk** 149.92 208 ePKPbc PKPbc 05 15 29.7 +0.5
MKAR **Makanchi Array** 150.37 39 PKP PKPdf 05 15 23.4 -0.6
comp=Z,1.0nm,0.8s,baz=304,slow=1.3,SNR=26
MKAR PKPbc PKPbc 05 15 29.2 0.0
comp=Z,28nm,0.7s,baz=321,slow=2.3,SNR=205
MJAR **Matsushiro Arr** 153.40 300 PKPbc PKPbc 05 15 36.0 -0.5
comp=Z,2.6nm,0.8s,baz=61,slow=1.4,SNR=7.8
MAJO **Matsushiro** 153.40 300 ePKIKP PKPbc 05 15 36.3 -0.2
MAJO **Matsushiro** 153.40 300 ePKPbc PKPbc 05 15 36.2 -0.2
TLY **Talaya** 154.25 8 ePKPbc PKPdf 05 15 29.9 +0.3
TLY **Talaya** 154.25 8 ePKPdf PKPdf 05 15 29.9 +0.3
TLY ePKPab PKPab 05 15 52.1 +0.4
SONM **Songino Array** 158.34 5 PKP PKPdf 05 15 34.6 -0.6
comp=Z,1.5nm,0.7s,baz=334,slow=1.1,SNR=11
SONM PKPab PKPab 05 16 09.6 +0.2
comp=Z,2.3nm,0.9s,baz=338,slow=6.1,SNR=7.1
ULN **Ulaanbaatar** 158.36 4 ePKIKP PKPdf 05 15 35.3 0.0
ULN e 05 16 10.2
ULN **Ulaanbaatar** 158.36 4 ePKPdf PKPdf 05 15 35.3 0.0
ULN ePKPab PKPab 05 16 10.2 +0.6
KSRS **Korea Array** 160.70 310 PKP PKPdf 05 15 36.9 -1.1
comp=Z,1.0nm,0.6s,baz=109,slow=0.9,SNR=7.1
KSRS PKPab PKPab 05 16 20.8 +0.8
comp=Z,0.7nm,0.4s,baz=57,slow=4.3,SNR=4.7
KSAR **Wonju Array Be** 160.74 310 PKIKP PKPdf 05 15 37.0 -1.1
KSAR 05 16 20.8
KSAR **Wonju Array Be** 160.74 310 PKP PKPdf 05 15 37.0 -1.1
KSAR PKPab PKPab 05 16 20.8 +0.6
CMAR **Chiang Mai Arr** 167.65 127 PKP PKPdf 05 15 44.5 -0.4
comp=Z,2.6nm,0.3s,baz=251,slow=2.8,SNR=7.3
WHN **Wuhan** 173.86 315 ePKP PKPdf 05 15 48.3 +0.5

MEX 10 04:57:02.2±0.9, 16°.82N×94°.25W, h175km±20km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		1.49	138	*i* P	Pn	04 57 32.7	-1.0
PCIG				*i* S	Sn	04 57 55.4	-2.6
HUIG	Huatulco	2.07	240	*e*P	Pn	04 57 37.8	-2.0
HUIG				*e*S	Sn	04 58 07.4	-1.4
VHO	Vista Hermosa	2.39	276	*e*P	Pn	04 57 42.8	-0.8
VHO				*e*S	Sn	04 58 13.6	-2.0
PNIG	Pinotepa	3.74	264	*e*P	Pn	04 57 58.2	-1.7
PNIG				*e*S	Sn	04 58 42.6	-2.4

*CSEM **10** 05:23:02.1, 43°.82N×11°.99E, h8km, ML1.6/5*
ROM 10 05:23:02.1±0.1, 43°.82N×11°.99E, h8km±1km, Ml1.6/5, Error ellipse: s-maj=1.5km s-min=0.8km az=12.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	Santa Sofia	0.13	311	Pg	Pg	05 23 05.3	+0.3
SFI				Sg	Sg	05 23 07.7	+0.6
SFI	Santa Sofia	0.13	311	Pg	Pg	05 23 05.3	+0.3
SFI				Sg	Sg	05 23 07.7	+0.6
T0502	Localit` San	0.14	53	Pg	Pg	05 23 05.5	+0.4
T0502				Sg	Sg	05 23 08.2	+1.0
ASQU	Asqua	0.14	262	Pg	Pg	05 23 05.8	+0.6
ASQU				Sg	Sg	05 23 08.5	+1.1
ASQU	Asqua	0.14	262	Pg	Pg	05 23 05.8	+0.6
ASQU				Sg	Sg	05 23 08.5	+1.1
CPGN	Carpegna, Ital	0.24	94	Pg	Pg	05 23 08.1	+1.1
	1μm,3.4s						
CPGN	Carpegna, Ital	0.24	94	Pg	Pg	05 23 08.1	+1.1
	1μm,3.4s						
VMG	Vicchio	0.35	294	Pg	Pb	05 23 10.2	-0.4
VMG				Sg	Sb	05 23 15.5	-0.8
	188μm,0.3s						
VMG	Vicchio	0.35	294	Pg	Pb	05 23 10.2	-0.4
VMG				Sg	Sb	05 23 15.5	-0.8
	188μm,0.3s						
BADI	Badiali	0.36	149	Pg	Pg	05 23 09.6	+0.4
BADI				Sg	Sb	05 23 15.9	-0.7
	59nm,0.2s						
BADI	Badiali	0.36	149	Pg	Pg	05 23 09.6	+0.4
BADI				Sg	Sb	05 23 15.9	-0.7
	59nm,0.2s						
ATMC	Monte Cedrone	0.40	158	Pg	Pg	05 23 10.6	+0.7
	55nm,0.4s						
ATMC	Monte Cedrone	0.40	158	Pg	Pg	05 23 10.6	+0.7
	55nm,0.4s						
ATPC	Poggio Castell	0.48	134	Pg	Pg	05 23 11.7	+0.3
ATPC				Sg	Sb	05 23 20.0	0.0
	39nm,0.1s						
ATPC	Poggio Castell	0.48	134	Pg	Pg	05 23 11.7	+0.3
ATPC				Sg	Sb	05 23 20.0	0.0
	39nm,0.1s						
SEI	Scarperia	0.51	298	Pg	Pg	05 23 12.4	+0.4
SEI				Sg	Sb	05 23 20.4	-0.6
	181μm,0.2s						
SEI	Scarperia	0.51	298	Pg	Pg	05 23 12.4	+0.4
SEI				Sg	Sb	05 23 20.4	-0.6
	181μm,0.2s						
ATVO	AVT- Monte Val	0.53	145	Pg	Pg	05 23 12.9	+0.5
	35nm,0.3s						

ATVO	**AVT- Monte Val**	**0.53**	**145**	Pg	Pg	05 23 12.9	+0.5
	35nm,0.3s							

CSEM ***10*** *05:23:35.7, 43.82N×11.99E, h9km, MD1.9/10*
ROM 10 05:23:35.7±0.1, 43.82N×11.99E, h9km, Md1.9/10, Ml1.6/5, Error ellipse: s-maj=1.4km s-min=0.8km az=20.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.14**	**311**	Pg	Pg	05 23 39.1	+0.4
SFI				Sg	Sg	05 23 41.6	+0.7
SFI	**Santa Sofia**	**0.14**	**311**	Pg	Pg	05 23 39.1	+0.4
SFI				Sg	Sg	05 23 41.6	+0.7
T0502	**Localit˜ San**	**0.14**	**52**	Pg	Pg	05 23 39.3	+0.5
T0502				Sg	Sg	05 23 41.8	+0.9
ASQU	**Asqua**	**0.14**	**262**	Pg	Pg	05 23 39.6	+0.7
ASQU				Sg	Sg	05 23 42.1	+1.0
ASQU	**Asqua**	**0.14**	**262**	Pg	Pg	05 23 39.6	+0.7
ASQU				Sg	Sg	05 23 42.1	+1.0
CPGN	**Carpegna, Ital**	**0.24**	**93**	Pg	Pg	05 23 41.9	+1.3
	1µm,3.4s						
CPGN	**Carpegna, Ital**	**0.24**	**93**	Pg	Pg	05 23 41.9	+1.3
	1µm,3.4s						
VMG	**Vicchio**	**0.35**	**295**	Pg	Pg	05 23 43.4	+0.7
VMG				Sg	Sb	05 23 49.3	-0.6
	188µm,0.3s						
VMG	**Vicchio**	**0.35**	**295**	Pg	Pg	05 23 43.4	+0.7
VMG				Sg	Sb	05 23 49.3	-0.6
	188µm,0.3s						
BADI	**Badiali**	**0.36**	**149**	Pg	Pg	05 23 43.4	+0.6
BADI				Sg	Sb	05 23 49.4	-0.6
	59nm,0.2s						
BADI	**Badiali**	**0.36**	**149**	Pg	Pg	05 23 43.4	+0.6
BADI				Sg	Sb	05 23 49.4	-0.6
	59nm,0.2s						
ATMC	**Monte Cedrone**	**0.40**	**158**	Pg	Pg	05 23 44.1	+0.6
ATMC				Sg	Sb	05 23 50.6	-0.6
	55nm,0.4s						
ATMC	**Monte Cedrone**	**0.40**	**158**	Pg	Pg	05 23 44.1	+0.6
ATMC				Sg	Sb	05 23 50.6	-0.6
	55nm,0.4s						
ATPC	**Poggio Castell**	**0.48**	**134**	Pg	Pg	05 23 45.5	+0.5
ATPC				Sg	Sg	05 23 52.0	+0.7
	39nm,0.1s						
ATPC	**Poggio Castell**	**0.48**	**134**	Pg	Pg	05 23 45.5	+0.5
ATPC				Sg	Sg	05 23 52.0	+0.7
	39nm,0.1s						
SEI	**Scarperia**	**0.52**	**298**	Pg	Pg	05 23 46.1	+0.4
SEI				Sg	Sb	05 23 54.2	-0.4
	181µm,0.2s						
SEI	**Scarperia**	**0.52**	**298**	Pg	Pg	05 23 46.1	+0.4
SEI				Sg	Sb	05 23 54.2	-0.4
	181µm,0.2s						
ATVO	**AVT- Monte Val**	**0.53**	**145**	Pg	Pg	05 23 46.5	+0.5
ATVO				Sg	Sb	05 23 54.8	-0.2
	35nm,0.3s						
ATVO	**AVT- Monte Val**	**0.53**	**145**	Pg	Pg	05 23 46.5	+0.5
ATVO				Sg	Sb	05 23 54.8	-0.2
	35nm,0.3s						

ROM ***10*** *05:24:22.5±0.1, 43.82N×11.98E, h9km, Ml2.4/22, Error ellipse: s-maj=1.3km s-min=0.7km az=14.0*
CSEM ***10*** *05:24:22.6±0.1, 43.82N×11.98E, h15km, ML3.2/11, Error ellipse: s-maj=2.6km s-min=1.5km az=30.0*
ISC 10 05:24:22.5±0.8, 43.82N±0.02×11.98E±0.02, h12km±5km, n53, σ0.971/82, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.13**	**311**	Pg	**Pg**	**05 24 25.8**	**+0.1**
SFI				Sg	**Sg**	**05 24 28.2**	**+0.1**
	852nm,0.4s						
SFI	**Santa Sofia**	**0.13**	**311**	Pg	**Pg**	**05 24 25.8**	**+0.1**
SFI				Sg	**Sg**	**05 24 28.2**	**+0.1**
	852nm,0.4s						
ASQU	**Asqua**	**0.14**	**259**	Pg	**Pg**	**05 24 26.3**	**+0.4**
ASQU				Sg	**Sg**	**05 24 28.9**	**+0.5**
	2µm,0.5s						
ASQU	**Asqua**	**0.14**	**259**	Pg	**Pg**	**05 24 26.3**	**+0.4**
ASQU				Sg	**Sg**	**05 24 28.9**	**+0.5**
	2µm,0.5s						
T0502	**Localit˜ San**	**0.14**	**56**	Pg	**Pg**	**05 24 26.0**	**+0.1**
T0502				Sg	**Sg**	**05 24 28.5**	**+0.2**
	4µm,0.3s						
CPGN	**Carpegna, Ital**	**0.25**	**95**	Pg	**Pb**	**05 24 28.7**	**-0.3**
	940nm,0.6s						
CPGN	**Carpegna, Ital**	**0.25**	**95**	Pg	**Pb**	**05 24 28.7**	**-0.3**
	940nm,0.6s						
VMG	**Vicchio**	**0.34**	**294**	Pg	**Pg**	**05 24 30.0**	**+0.6**
VMG				Sg	**Sb**	**05 24 35.7**	**-0.3**
	206µm,0.5s						
VMG	**Vicchio**	**0.34**	**294**	Pg	**Pg**	**05 24 30.0**	**+0.6**
VMG				Sg	**Sb**	**05 24 35.7**	**-0.3**
	206µm,0.5s						
BADI	**Badiali**	**0.37**	**148**	Pg	**Pg**	**05 24 30.2**	**+0.4**
BADI				Sg	**Sb**	**05 24 36.1**	**-0.5**
	507nm,0.2s						
BADI	**Badiali**	**0.37**	**148**	Pg	**Pg**	**05 24 30.2**	**+0.4**
BADI				Sg	**Sb**	**05 24 36.1**	**-0.5**
	507nm,0.2s						
ATMC	**Monte Cedrone**	**0.41**	**157**	Pg	**Pg**	**05 24 30.8**	**+0.2**
ATMC				Sg	**Sb**	**05 24 37.1**	**-0.7**
	494nm,0.2s						
ATMC	**Monte Cedrone**	**0.41**	**157**	Pg	**Pg**	**05 24 30.8**	**+0.2**
ATMC				Sg	**Sb**	**05 24 37.1**	**-0.7**
	494nm,0.2s						
BRIS	**BRISIGHELLA**	**0.47**	**314**	Pg	**Pg**	**05 24 31.8**	**+0.1**
	233nm,0.4s						
BRIS	**BRISIGHELLA**	**0.47**	**314**	Pg	**Pg**	**05 24 31.8**	**+0.1**
	233nm,0.4s						
ATPC	**Poggio Castell**	**0.49**	**134**	Pg	**Pg**	**05 24 32.3**	**+0.3**
ATPC				Sg	**Sb**	**05 24 40.6**	**+0.5**
	165nm,0.1s						
ATPC	**Poggio Castell**	**0.49**	**134**	Pg	**Pg**	**05 24 32.3**	**+0.3**
ATPC				Sg	**Sb**	**05 24 40.6**	**+0.5**
	165nm,0.1s						
PIEI	**Pieia**	**0.49**	**125**	Pg	**Pg**	**05 24 32.1**	**-0.1**
PIEI				Sg	**Sb**	**05 24 40.1**	**-0.2**
	145nm,0.1s						
PIEI	**Pieia**	**0.49**	**125**	Pg	**Pg**	**05 24 32.1**	**-0.1**
PIEI				Sg	**Sb**	**05 24 40.1**	**-0.2**
	145nm,0.1s						
SEI	**Scarperia**	**0.51**	**298**	Pg	**Pg**	**05 24 32.8**	**+0.4**
SEI				Sg	**Sb**	**05 24 40.8**	**+0.1**
	192µm,0.4s						
SEI	**Scarperia**	**0.51**	**298**	Pg	**Pg**	**05 24 32.8**	**+0.4**
SEI				Sg	**Sb**	**05 24 40.8**	**+0.1**
	192µm,0.4s						
ATVO	**AVT- Monte Val**	**0.54**	**145**	Pg	**Pg**	**05 24 33.3**	**+0.3**
ATVO				Sg	**Sb**	**05 24 41.1**	**-0.5**
	293nm,0.2s						
ATVO	**AVT- Monte Val**	**0.54**	**145**	Pg	**Pg**	**05 24 33.3**	**+0.3**
ATVO				Sg	**Sb**	**05 24 41.1**	**-0.5**
	293nm,0.2s						
FSSB	**Fossombrone**	**0.59**	**102**	Pg	**Pg**	**05 24 34.2**	**+0.2**
FSSB				Sg	**Sb**	**05 24 43.4**	**+0.2**
	209nm,0.3s						
FSSB	**Fossombrone**	**0.59**	**102**	Pg	**Pg**	**05 24 34.2**	**+0.2**
FSSB				Sg	**Sb**	**05 24 43.4**	**+0.2**
	209nm,0.3s						
FRON	**Frontone**	**0.62**	**119**	Pg	**Pg**	**05 24 34.6**	**0.0**
	74nm,0.3s						
FRON	**Frontone**	**0.62**	**119**	Pg	**Pg**	**05 24 34.6**	**0.0**
	74nm,0.3s						
PTF	**Prato**	**0.67**	**282**	Pg	**Pg**	**05 24 35.8**	**+0.3**
	70µm,0.3s						
PTF	**Prato**	**0.67**	**282**	Pg	**Pg**	**05 24 35.8**	**+0.3**
	70µm,0.3s						
ATTE	**AVT- Monte Tez**	**0.68**	**156**	Pg	**Pg**	**05 24 35.9**	**+0.2**
	154nm,0.4s						
ATTE	**AVT- Monte Tez**	**0.68**	**156**	Pg	**Pg**	**05 24 35.9**	**+0.2**
	154nm,0.4s						
SSFR	**Montelago di S**	**0.70**	**123**	Pg	**Pg**	**05 24 35.9**	**-0.2**
	201nm,0.2s						
SSFR	**Montelago di S**	**0.70**	**123**	Pg	**Pg**	**05 24 35.9**	**-0.2**
	201nm,0.2s						
CRMI	**Carmignano**	**0.73**	**268**	Pg	**Pg**	**05 24 36.9**	**+0.3**
CRMI				Sg	**Sb**	**05 24 47.1**	**0.0**
	104nm,0.4s						
CRMI	**Carmignano**	**0.73**	**268**	Pg	**Pg**	**05 24 36.9**	**+0.3**
CRMI				Sg	**Sb**	**05 24 47.1**	**0.0**
	104nm,0.4s						

ARVD	**Arcevia**	**0.77**	**115**	Pg	**Pg**	**05 24 37.4**	**0.0**
	61nm,0.3s							
ARVD	**Arcevia**	**0.77**	**115**	Pg	**Pg**	**05 24 37.4**	**0.0**
	61nm,0.3s							
ATCC	**AVT- Casa Cast**	**0.80**	**143**	Pg	**Pg**	**05 24 38.0**	**+0.1**
ATCC				Sg	**Sb**	**05 24 49.2**	**+0.1**
	154nm,0.4s							
ATCC	**AVT- Casa Cast**	**0.80**	**143**	Pg	**Pg**	**05 24 38.0**	**+0.1**
ATCC				Sg	**Sb**	**05 24 49.2**	**+0.1**
	154nm,0.4s							
FROS	**Frosini**	**0.86**	**225**	Pg	**Pn**	**05 24 39.8**	**-0.6**
FROS				Sg	**Sb**	**05 24 50.3**	**-0.4**
	169nm,0.7s							
FROS	**Frosini**	**0.86**	**225**	Pg	**Pn**	**05 24 39.8**	**-0.6**
FROS				Sg	**Sb**	**05 24 50.3**	**-0.4**
	169nm,0.7s							
MGAB	**Montegabbione**	**0.92**	**174**	Pg	**Pb**	**05 24 39.9**	**-0.4**
	202nm,0.5s							
MGAB	**Montegabbione**	**0.92**	**174**	Pg	**Pb**	**05 24 39.9**	**-0.4**
	202nm,0.5s							
SACS	**San Casciano d**	**0.97**	**183**	Pg	**Pg**	**05 24 41.5**	**+0.2**
	79nm,0.4s							
ARCI	**Arcidosso**	**1.04**	**201**	Pg	**Pb**	**05 24 42.5**	**+0.1**
	95nm,0.8s							
ARCI	**Arcidosso**	**1.04**	**201**	Pg	**Pb**	**05 24 42.5**	**+0.1**
	95nm,0.8s							
FDMO	**Fiordimonte**	**1.13**	**134**	Pg	**Pn**	**05 24 44.0**	**-0.1**
	62nm,0.8s							
FDMO	**Fiordimonte**	**1.13**	**134**	Pg	**Pn**	**05 24 44.0**	**-0.1**
	62nm,0.8s							
MYKA	**Terra Mystica**	**3.04**	**22**	*i* Sn	**Sb**	**05 25 55.3**	**+1.6**
	4.7nm,0.4s							
OBKA	**Obir**	**3.24**	**33**	Pn	**Pn**	**05 25 12.5**	**-0.8**
	0.5nm,0.2s							
OBKA				*i* Sg	**Sg**	**05 26 09.2**	**+2.6**
	16nm,0.8s							
OBKA	**Obir**	**3.24**	**33**	Pn	**Pn**	**05 25 12.5**	**-0.8**
	0.5nm,0.2s							
OBKA				Sg	**Sg**	**05 26 09.2**	**+2.6**
	16nm,0.8s							
KBA	**Koelnbreinsper**	**3.40**	**16**	*i* Sn	**Sb**	**05 26 00.0**	**-3.9**
MOTA	**Moosalm**	**3.58**	**350**	*i* Pn	**Pb**	**05 25 25.3**	**-0.4**
	3.3nm,0.4s							

ISCJB ***10*** *05:24:29.4±1.1, 6.2N±0.2×60.5E±0.1, h10km, mb3.5/8, MS3.8/24, Error ellipse: s-maj=31.4km s-min=18.8km az=10.9*
IDC ***10*** *05:24:29.6±1.4, 6.20N×60.54E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/33, mbtmp3.6/8, MS3.7/26, Ms1 3.7/26, ms1mx3.6/43, Error ellipse: s-maj=39.4km s-min=23.6km az=12.0*
GCMT ***10*** *05:24:32.0±0.4, 6.21N×60.63E, h12km, MW4.8/60, Moment Tensor Solution. s26,c30; s60,c80; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.43±.07; Mθθ1.00±.07; Mφφ0.43±.08; Mrθ-0.26±.27; Mrφ-0.50±.06; Mθφ-1.27±.30; Best double couple: Mo1.77000×10^16 NP1:φs334.00000°, δ63.00000°, λ-62.00000°. NP2: φs104.00000°, δ38.00000°, λ-133.00000°. Principal axes: T 1.3980, Plg14.0000°, Azm44.0000°; N 0.7450, Plg25.0000°, Azm141.0000°; P -2.1420, Plg61.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 05:24:31.3±1.3, 6.2N±0.3×60.5E±0.2, h10km, n32, σ0.945/8, mb3.6/8, MS3.8/24, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**16.26**	**140**	T	T	05 45 00.5	
	baz=320,slow=76,SNR=62						
H08N3	**Diego Garcia H**	**16.27**	**140**	T	T	05 45 01.9	
	baz=320,slow=76,SNR=62						
H08N1	**Diego Carcia H**	**16.28**	**140**	T	T	05 45 01.4	
	baz=320,slow=76,SNR=74						
WSAR	**Wadi Sarin**	**17.02**	**354**	LR	LR	05 33 35.9	
	comp=Z,246nm,22.0s,baz=202,slow=32						
ATD	**Arta Tunnel**	**18.25**	**288**	LR	LR	05 34 54.8	
	comp=Z,89nm,19.2s,baz=127,slow=34						
PALK	**Pallekele**	**20.05**	**86**	LR	LR	05 35 06.3	
	comp=Z,397nm,19.1s,baz=296,slow=32						
KMBO	**Kilima Mbogo**	**24.37**	**253**	LR	LR	05 38 27.1	
	comp=Z,259nm,21.1s,baz=12,slow=34						
GEYT	**Alibeck**	**31.64**	**356**	LR	LR	05 43 58.7	
	comp=Z,86nm,20.8s,baz=95,slow=37						
MMAI	**Mount Meron Ar**	**35.45**	**322**	LR	LR	05 45 44.9	
	comp=Z,120nm,18.1s,baz=125,slow=36						
CMAR	**Chiang Mai Arr**	**39.34**	**68**	P	**P**	**05 32 01.6**	**+0.4**
	0.8nm,0.4s,baz=259,slow=8.9,SNR=4.3						
CMAR				LR	LR	05 47 22.5	
	comp=Z,64nm,18.3s,baz=243,slow=35						
KBZ	**Khabaz**	**40.45**	**340**	LR	LR	05 51 11.1	
	comp=Z,69nm,18.5s,baz=154,slow=40						
BRTR	**Keskin Array B**	**41.21**	**328**	P	**P**	**05 32 17.0**	**+0.5**
	0.4nm,0.6s,baz=155,slow=9.6,SNR=3.8						
BRTR				LR	LR	05 49 49.5	
	comp=Z,78nm,20.2s,baz=121,slow=37						
MKAR	**Makanchi Array**	**44.55**	**21**	P	**P**	**05 32 42.9**	**-0.4**
	0.1nm,0.3s,baz=208,slow=8.2,SNR=4.2						
MKAR				LR	LR	05 52 27.3	
	comp=Z,115nm,20.6s,baz=208,slow=38						
BOSA	**Boshof**	**48.53**	**223**	LR	LR	05 51 50.1	
	comp=Z,126nm,19.4s,baz=30,slow=34						
AKASG	**Malin Array Be**	**51.45**	**335**	P	**P**	**05 33 36.1**	**-0.6**
	0.2nm,0.4s,baz=136,slow=6.5,SNR=7.3						
AKASG				LR	LR	05 57 35.2	
	comp=Z,73nm,21.3s,baz=130,slow=39						
ZALV	**Zalesovo Beam**	**51.50**	**18**	LR	LR	05 56 14.3	
	comp=Z,75nm,20.5s,baz=250,slow=37						
SONM	**Songino Array**	**56.90**	**35**	P	**P**	**05 34 16.8**	**+0.2**
	0.3nm,0.4s,baz=247,slow=7.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**58.30**	**282**	P	**P**	**05 34 27.0**	**0.0**
	0.4nm,0.8s,baz=123,slow=5.3,SNR=5.4						
TORD				LR	LR	06 00 15.7	
	comp=Z,79nm,18.2s,baz=160,slow=37						
FINES	**FINESS Array B**	**60.77**	**342**	LR	LR	06 04 21.4	
	comp=Z,93nm,20.3s,baz=187,slow=39						
DBIC	**Dimbokro**	**64.37**	**274**	LR	LR	06 04 28.9	
	comp=Z,84nm,18.0s,baz=80,slow=37						
NRIK	**Noril'sk**	**65.48**	**10**	LR	LR	06 06 10.6	
	comp=Z,125nm,21.9s,baz=234,slow=38						
ESDC	**Sonseca Array**	**66.50**	**311**	P	**P**	**05 35 21.6**	**+0.1**
	0.2nm,0.3s,baz=101,slow=7.7,SNR=5.3						
ARCES	**ARCESS Array B**	**67.23**	**347**	LR	LR	06 08 17.9	
	comp=Z,40nm,18.8s,baz=168,slow=39						
KSRS	**Korea Array**	**68.32**	**52**	LR	LR	06 06 47.5	
	comp=Z,36nm,20.9s,baz=255,slow=37						
USRK	**Usuriysk Ar.**	**72.41**	**46**	LR	LR	06 09 00.5	
	comp=Z,67nm,20.1s,baz=238,slow=37						
MAW	**Mawson**	**73.67**	**179**	LR	LR	06 01 16.1	
	comp=Z,74nm,21.3s,baz=56,slow=30						
YAK	**Yakutsk**	**74.82**	**27**	LR	LR	06 12 03.0	
	comp=Z,75nm,19.0s,baz=265,slow=38						
MJAR	**Matsushiro Arr**	**76.42**	**54**	LR	LR	06 13 33.9	
	comp=Z,23nm,18.2s,baz=265,slow=38						
TIXI	**Tiksi**	**77.38**	**18**	LR	LR	06 12 04.1	
	comp=Z,81nm,20.1s,baz=266,slow=37						
ASAR	**Alice Springs**	**77.41**	**116**	P	**P**	**05 36 27.0**	**-0.3**
	1.0nm,1.0s,baz=298,slow=5.5,SNR=4.9						
STKA	**Stephens Creek**	**85.70**	**123**	LR	LR	06 10 00.3	
	comp=Z,58nm,21.6s,baz=208,slow=32						
PETK	**Petropavlovsk-**	**89.36**	**37**	LR	LR	06 19 54.1	
	comp=Z,59nm,19.2s,baz=289,slow=37						

SOME ***10*** *05:26:01.9, 44.43N×81.00E, h10km*
NNC ***10*** *05:26:03.5±1.2, 44.44N×80.88E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=32.1km s-min=5.0km az=124.0*
ISC 10 05:26:00.7±1.7, 44.35N±0.04×81.17E±0.06, h0km±12km, n18, σ1.918/32, 6C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.99**	**270**	*e*P	**Pg**	**05 26 19.1**	**-0.6**
	77nm,0.3s						
DJR				*e*S	**Sg**	**05 26 30.4**	**-2.2**
	98nm,0.2s						
KTMS	**Ketmen**	**1.08**	**214**	*e*P	**Pn**	**05 26 22.9**	**-0.3**
	40nm,0.2s						
KTMS				*e*S	**Sn**	**05 26 37.5**	**-1.4**
	38nm,0.4s						
SHLS	**Shalkode**	**1.51**	**219**	*e*P	**Pg**	**05 26 30.8**	**+1.1**
	50nm,0.2s						
SHLS				*e*S	**Sn**	**05 26 51.5**	**+1.8**
	41nm,0.4s						
PDGK	**Podgornoye**	**1.59**	**231**	⇓P	**Pb**	**05 26 30.3**	**-0.7**
	11nm,0.3s						
PDGK				⇑S	**Sg**	**05 26 51.8**	**0.0**
	44nm,0.5s						
KAPS	**Kapalarasan**	**1.60**	**307**	*e*P	**Pb**	**05 26 31.0**	**-0.2**
	77nm,0.3s						
KAPS				*e*S	**Sg**	**05 26 54.8**	**+2.7**
	182nm,0.4s						
UZB	**Uzynbulak**	**1.97**	**233**	*e*P	**Pb**	**05 26 36.9**	**-0.6**
	62nm,0.2s						
UZB				*e*S	**Sb**	**05 27 02.4**	**-0.2**
	57nm,0.2s						
KPKS	**Kokpek**	**2.00**	**245**	*e*P	**Pb**	**05 26 37.5**	**-0.6**
	233nm,0.2s						
KPKS				*e*S	**Sb**	**05 27 03.0**	**-0.5**
	267nm,0.5s						
MNBS	**Baschi**	**2.01**	**263**	*e*P	**Pn**	**05 26 36.4**	**+0.4**
	59nm,0.3s						
MNBS				*e*S	**Sn**	**05 27 00.7**	**-1.2**
	274nm,0.3s						
ZHN	**Zhinishke**	**2.31**	**240**	*e*P	**Pb**	**05 26 41.7**	**-1.6**
ZHN				*e*S	**Sn**	**05 27 10.1**	**+0.9**
KURS	**Kuram**	**2.33**	**249**	*e*P	**Pb**	**05 26 42.9**	**-0.8**
KURS				*e*S	**Sb**	**05 27 11.8**	**-1.3**
SATY	**Saty**	**2.38**	**238**	*e*P	**Pb**	**05 26 44.4**	**-0.1**
	130nm,0.3s						
SATY				*e*S	**Sb**	**05 27 15.0**	**+0.4**
	96nm,0.3s						
ARXS	**Arharly**	**2.41**	**268**	*e*P	**Pb**	**05 26 43.6**	**-1.4**
	55nm,0.3s						
ARXS				*e*S	**Sn**	**05 27 13.3**	**+1.7**
	108nm,0.3s						
MAKZ	**Makanchi**	**2.53**	**13**	⇑Pn	**Pb**	**05 26 46.2**	**-0.8**
	4.6nm,0.6s						
MAKZ				⇓Lg	Lg	05 27 21.7	
	15nm,0.8s						
MK31	**Makanchi Array**	**2.57**	**17**	⇑Pn	**Pb**	**05 26 47.2**	**-0.5**
	0.8nm,0.4s,baz=201,slow=12,SNR=46						
MK31				⇑Lg	Lg	05 27 21.3	
	4.8nm,0.4s,baz=200,slow=27,SNR=13						
CHKK	**Chushkaly**	**3.04**	**262**	*e*P	**Pb**	**05 26 54.9**	**-0.8**
	18nm,0.4s						
CHKK				*e*S	**Sb**	**05 27 32.5**	**-0.9**
	73nm,0.3s						
TNSS	**Tian-Shan**	**3.33**	**248**	*e*P	**Pb**	**05 27 01.3**	**+0.4**
	6.3nm,0.5s						
TNSS				*e*S	**Sb**	**05 27 42.1**	**0.0**
	5.2nm,0.4s						
TKM2	**Tokmak 2**	**4.29**	**253**	⇑Pg	**Pb**	**05 27 18.5**	**+1.4**
	6.9nm,0.5s						
TKM2				⇓Lg	Lg	05 28 16.3	
	8.4nm,0.6s						
AAK	**Ala-Archa**	**5.15**	**253**	⇓Pg	**Pb**	**05 27 32.9**	**+1.1**
	1.9nm,0.3s						
AAK				⇑Lg	Lg	05 28 41.0	
	4.9nm,0.7s						

IDC 10 05:35:39.7±1.5, 6.35N×60.46E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/41, mbtmp3.5/6, MS3.1/2, Ms1 3.2/2, ms1mx2.7/37, Error ellipse: s-maj=42.1km s-min=30.0km az=27.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**16.41**	**140**	T	T	05 56 09.4	
	baz=320,slow=76,SNR=13						
H08N3	**Diego Garcia H**	**16.42**	**140**	T	T	05 56 10.9	
	baz=320,slow=76,SNR=14						
H08N1	**Diego Carcia H**	**16.43**	**140**	T	T	05 56 08.7	
	baz=320,slow=76,SNR=16						
GEYT	**Alibeck**	**31.51**	**356**	LR	LR	05 53 21.7	
	comp=Z,31nm,21.4s,baz=195,slow=34						
CMAR	**Chiang Mai Arr**	**39.37**	**69**	LR	LR	05 58 04.6	
	comp=Z,29nm,19.7s,baz=262,slow=34						
BRTR	**Keskin Array B**	**41.06**	**328**	P		05 43 24.7	-0.5
	0.8nm,0.9s,baz=152,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**44.46**	**21**	P		05 43 53.0	+0.4
	0.2nm,0.3s,baz=198,slow=9.1,SNR=3.2						
AKASG	**Malin Array Be**	**51.30**	**335**	P		05 44 44.4	-1.1
	0.3nm,0.5s,baz=138,slow=7.0,SNR=4.4						
SONM	**Songino Array**	**56.84**	**35**	P		05 45 26.9	+0.6
	0.5nm,0.7s,baz=238,slow=8.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**58.20**	**281**	P		05 45 37.2	+0.9
	0.3nm,1.0s,baz=104,slow=6.1,SNR=3.5						
ASAR	**Alice Springs**			P		05 47 37.6	-0.5
	0.5nm,0.7s,baz=286,slow=6.7,SNR=4.8						

TAP 10 06:00:36.0, 23.06N×121.40E, h22km, ML3.5, 9C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.05**	**323**	⇓*i*P	Pb	06 00 40.3	+0.3
	baz=330						
CHKT				*i* S	Sb	06 00 43.2	+0.6
	baz=330						
TWF1	**Yuli**	**0.30**	**342**	⇓P	Pb	06 00 43.4	+0.4
	baz=330						
TWF1				S	Sb	06 00 49.0	+1.3
	baz=330						
ELDTW	**Lidau**	**0.37**	**290**	P	Pb	06 00 43.7	-0.4
	baz=290						
ELDTW				S	Sb	06 00 48.8	-0.7
	baz=290						
TTN	**Taitung**	**0.38**	**217**	*e*P	Pb	06 00 43.9	-0.3
	baz=210						
TWG	**Pinlang**	**0.38**	**232**	P	Pb	06 00 44.0	-0.2
	baz=243						
TWG				S	Sb	06 00 49.7	0.0
	baz=243						
EHY	**Hungye**	**0.45**	**351**	⇑P	Pb	06 00 45.3	-0.1
	baz=338						
EHY				*i* S	Sb	06 00 52.1	+0.5
	baz=338						
YUS	**Yu-Shan**	**0.59**	**316**	⇑*i*P	Pb	06 00 48.1	0.0
	baz=312						
YUS				*i* S	Sb	06 00 56.3	0.0
	baz=312						
STYT	**Tauyuan**	**0.60**	**280**	⇑*i*P	Pb	06 00 47.7	-0.2
	baz=285						
STYT				*i* S	Sb	06 00 56.0	0.0
	baz=285						
ALS	**Alishan**	**0.70**	**310**	⇑*i*P	Pb	06 00 50.2	+0.4
	baz=310						
ALS				S	Sb	06

	baz=299							
CHN2				*e*S	Sn	06 01 09.9	+2.5	
	baz=299							
TYC	**Yuchr**	**0.98**	**330**	*e*P	Pn	06 00 55.0	+0.6	
	baz=339							
TYC				*e*S	Sn	06 01 07.9	+0.3	
	baz=339							
WGK	**Gukeng**	**0.99**	**309**	*e*P	Pn	06 00 55.5	+0.9	
	baz=309							
SCZT	**Fangliau**	**0.99**	**226**	*e*P	Pb	06 00 53.9	-0.6	
	baz=224							
CHY	**Chiayi**	**0.99**	**296**	*e*P	Pn	06 00 55.4	+0.7	
	baz=296							
CHY				*e*S	Sn	06 01 10.2	+2.2	
	baz=296							
LAY	**Lan-yu**	**1.03**	**172**	⇑P	Pn	06 00 52.7	-2.4	
	baz=162							
TWD	**Chiawan**	**1.03**	**10**	*e*P	Pn	06 00 53.9	-1.3	
	baz=355							
WNT	**Mingjian**	**1.04**	**321**	*e*P	Pb	06 00 56.3	+0.8	
	baz=321							
WNT				*e*S	Sn	06 01 11.3	+2.0	
	baz=321							
WHF	**Hehuan Shan**	**1.09**	**354**	*e*P	Pn	06 00 55.5	-0.9	
	baz=3.0							
TWP	**Hsiaoliuchiu**	**1.19**	**234**	*e*P	Pb	06 01 00.5	+2.6	
	baz=233							
TWK1	**Hengchun**	**1.24**	**206**	*e*P	Pn	06 00 57.9	-0.2	
	baz=198							
TSEB	**Hengchuen, Pin**	**1.24**	**202**	*e*P	Pb	06 00 58.6	-0.2	
	baz=196							
TCU	**Taichung**	**1.27**	**329**	*e*P	Pb	06 01 00.2	+0.9	
	baz=327							
NNS	**Nan Shan**	**1.37**	**359**	*e*P	Pn	06 00 59.1	-0.9	
	baz=11							
ENA	**Nanau**	**1.40**	**13**	*e*P	Pn	06 00 59.6	-0.6	
	baz=359							
TWQ1	**Liyutan**	**1.40**	**336**	*e*P	Pb	06 01 02.4	+0.8	
	baz=336							
TWQ1				*e*S	Sb	06 01 21.1	+2.0	
	baz=336							
NSY	**Sanyi**	**1.47**	**337**	*e*P	Pb	06 01 03.5	+0.8	
	baz=336							
ENTT	**Nioudou**	**1.58**	**6**	*e*P	Pn	06 01 02.5	-0.3	
	baz=3.0							
TWC	**Suao**	**1.60**	**15**	*e*P	Pn	06 01 02.7	-0.2	
	baz=360							
NSTT	**Nanjuang**	**1.60**	**347**	*e*P	Pb	06 01 04.4	-0.6	
	baz=344							
NSK	**Sanguang**	**1.61**	**359**	*e*P	Pn	06 01 03.7	+0.5	
	baz=9.0							
TWE	**Neicheng**	**1.67**	**8**	*e*P	Pn	06 01 03.5	-0.5	
	baz=6.0							
NWF	**Wu-fen Shan**	**2.03**	**10**	*e*P	Pn	06 01 09.6	+0.6	
	baz=6.0							
YOJ	**Yonaguni jima**	**2.03**	**46**	*e*P	Pn	06 01 08.5	-0.5	
	baz=48							

CSEM ***10*** *06:00:40.5±0.2,38.°20N×37.°77E,h10km,MD2.9,Error ellipse: s-maj=5.0km s-min=4.0km az=26.0*
ISK ***10*** *06:00:40.3,38.°23N×37.°62E,h26km,ML2.0*
ISCJB ***10*** *06:00:43.0±0.6,38.°37N±0.°03×37.°86E±0.°04,h5km±5km, Error ellipse: s-maj=5.6km s-min=4.5km az=138.4*
DDA ***10*** *06:00:42.9,38.°37N×37.°87E,h4km,Md2.9*
ISC 10 06:00:41.3±1.2,38.°40N±0.°04×37.°76E±0.°03,h2km±11km, n17,σ1°s21/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.17**	**129**	P	**Pg**	**06 00 44.9**	**+0.4**
AKCD				S	**Sg**	**06 00 46.8**	**0.0**
AKCD	**Akcadag**	**0.17**	**129**	*i* P	**Pg**	**06 00 44.9**	**+0.4**
AKCD				*i* S	**Sg**	**06 00 46.8**	**0.0**
DARE	**Darende-Malaty**	**0.27**	**308**	*e*PG	**Pb**	**06 00 48.9**	**-0.1**
DARE				*e*SG	**Sb**	**06 00 55.0**	**+0.8**
DARE	**Darende-Malaty**	**0.27**	**308**	*e*Pg	**Pb**	**06 00 48.9**	**-0.1**
DARE				*e*Sg	**Sb**	**06 00 55.0**	**+0.8**
CUGUR	**Gurin_S˜VAS**	**0.50**	**310**	P	**Pn**	**06 00 54.5**	**-1.1**
CUGUR				S	**Sb**	**06 01 03.8**	**+3.1**
CUGUR	**Gurin_S˜VAS**	**0.50**	**310**	*i* P	**Pn**	**06 00 54.5**	**-1.1**
CUGUR				*i* S	**Sb**	**06 01 03.8**	**+3.1**
CUKAN	**kangal_SIVAS**	**0.94**	**346**	P	**Pn**	**06 01 02.2**	**+0.5**
CUKAN				S	**Sn**	**06 01 16.2**	**+0.3**
CUKAN	**kangal_SIVAS**	**0.94**	**346**	*i* P	**Pn**	**06 01 02.2**	**+0.5**
CUKAN				*i* S	**Sn**	**06 01 16.2**	**+0.3**
ELZG	**Elazig**	**0.97**	**84**	P	**Pg**	**06 01 00.4**	**+0.6**
ELZG				S	**Sb**	**06 01 13.9**	**-0.3**
ELZG	**Elazig**	**0.97**	**84**	*i* P	**Pg**	**06 01 00.4**	**+0.6**
ELZG				*i* S	**Sb**	**06 01 13.9**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.05**	**271**	*e*PG	**Pg**	**06 00 58.5**	**-3.0**
GZT	**Gaziantep**	**1.06**	**188**	*i* P	**Pn**	**06 01 03.6**	**+0.3**
GZT				*i* S	**Sn**	**06 01 17.7**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.22**	**91**	*e*PN	**Pg**	**06 01 03.7**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.22**	**91**	*e*Pn	**Pg**	**06 01 03.7**	**-0.9**
PTK	**Pertek**	**1.37**	**69**	*e*PN	**Pn**	**06 01 06.8**	**-0.9**
PTK				*e*SN	**Sn**	**06 01 25.9**	**-0.6**
PTK	**Pertek**	**1.37**	**69**	*e*Pn	**Pn**	**06 01 06.8**	**-0.9**
PTK				*e*Sn	**Sn**	**06 01 25.9**	**-0.6**
KAMA	**Osmaniye**	**1.49**	**216**	*i* P	**Pg**	**06 01 10.1**	**+0.3**
KAMA				*i* S	**Sg**	**06 01 30.3**	**+1.1**

VIE ***10*** *06:17:45.8±0.4,45.°87N×14.°92E,h12km,mb1.9/7,ML2.6/7, Error ellipse: s-maj=3.3km s-min=2.2km az=158.0*
ISCJB ***10*** *06:17:45.3±0.3,45.°84N±0.°02×14.°94E±0.°02,h14km±3km, Error ellipse: s-maj=2.6km s-min=2.1km az=15.1*
CSEM ***10*** *06:17:45.8±0.1,45.°83N×14.°94E,h10km,ML2.5,Error ellipse: s-maj=1.7km s-min=1.4km az=8.0*
LJU ***10*** *06:17:45.5,45.°83N×14.°93E,h14km,ML2.5*
IASPEI ***10*** *06:17:45.9±0.8,45.°84N±0.°02×14.°94E±0.°01,h12km±5km, Error ellipse: s-maj=2.7km s-min=2.1km az=176.3,GT5 selection from ISC bulletin GT5 identified by Bond˜¡r and McLaughlin (2009) selection criteria Bond˜¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
PRU ***10*** *06:17:50.5,46.°06N×14.°95E,h7km*
ISC 10 06:17:45.9±0.8,45.°84N±0.°02×14.°94E±0.°01,h12km±5km, n65,σ0°s53/114,17C-10D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VISS	**Visnje**	**0.08**	**239**	⇑*i*Pg	**Pg**	**06 17 48.6**	**+0.2**
VISS				*i* Sg	**Sg**	**06 17 50.2**	**-0.1**
	comp=Z,759nm,0.1s						
VISS	**Visnje**	**0.08**	**239**	⇑*i*Pg	**Pg**	**06 17 48.6**	**+0.2**
VISS				*i* Sg	**Sg**	**06 17 50.2**	**-0.1**
	comp=Z,759nm,0.1s						
PDKS	**Podkum**	**0.22**	**11**	⇓*i*Pg	**Pb**	**06 17 51.3**	**-0.6**
PDKS				*i* Sg	**Sg**	**06 17 54.2**	**+0.3**
	comp=Z,467nm,0.1s						
PDKS	**Podkum**	**0.22**	**11**	⇓*i*Pg	**Pb**	**06 17 51.3**	**-0.6**
PDKS				*i* Sg	**Sg**	**06 17 54.2**	**+0.3**
	comp=Z,467nm,0.1s						
LEGS	**Legarje**	**0.29**	**68**	⇑*i*Pg	**Pb**	**06 17 52.1**	**-0.8**
LEGS				*i* Sg	**Sg**	**06 17 55.9**	**+0.2**
LEGS	**Legarje**	**0.29**	**68**	⇑*i*Pg	**Pb**	**06 17 52.2**	**-0.8**
LEGS				*i* Sg	**Sg**	**06 17 55.9**	**+0.2**
VNDS	**Vrh nad Dolski**	**0.30**	**328**	⇓*i*Pg	**Pb**	**06 17 52.8**	**-0.6**
VNDS				*i* Sg	**Sg**	**06 17 56.4**	**+0.1**
	comp=Z,207nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.30**	**328**	⇓*i*Pg	**Pb**	**06 17 52.8**	**-0.6**
VNDS				*i* Sg	**Sg**	**06 17 56.4**	**+0.1**
	comp=Z,207nm,0.1s						
GBRS	**Gornja Briga**	**0.33**	**196**	⇑*i*Pg	**Pg**	**06 17 52.5**	**0.0**
LJU	**Ljubljana**	**0.35**	**305**	⇑*i*Pg	**Pb**	**06 17 53.5**	**-0.5**
LJU				*i* Sg	**Sg**	**06 17 58.0**	**+0.4**
	comp=Z,351nm,0.2s						
LJU	**Ljubljana**	**0.35**	**305**	⇑*i*Pg	**Pb**	**06 17 53.2**	**-0.9**
LJU				*i* Sg	**Sg**	**06 17 58.0**	**+0.4**
	comp=Z,351nm,0.2s						
GBAS	**Gorenja Brezov**	**0.36**	**285**	⇑*i*Pg	**Pb**	**06 17 53.5**	**-0.7**
GBAS				*i* Sg	**Sg**	**06 17 57.9**	**+0.1**
	comp=Z,126nm,0.1s						
GBAS	**Gorenja Brezov**	**0.36**	**285**	⇑*i*Pg	**Pb**	**06 17 53.5**	**-0.7**
GBAS				*i* Sg	**Sg**	**06 17 57.9**	**+0.1**
CRES	**Cresnjev**	**0.36**	**93**	*i* Pg	**Pg**	**06 17 53.2**	**0.0**
CRES				*i* Sg	**Sg**	**06 17 58.3**	**+0.3**
	comp=Z,262nm,0.1s						
CRES	**Cresnjev**	**0.36**	**93**	*i* Pg	**Pg**	**06 17 53.2**	**0.0**
CRES				*i* Sg	**Sg**	**06 17 58.3**	**+0.3**
	comp=Z,262nm,0.1s						
CEY	**Cerknica**	**0.37**	**254**	⇑*i*Pg	**Pg**	**06 17 53.6**	**+0.3**
CEY				*i* Sg	**Sg**	**06 17 58.2**	**-0.1**
	comp=Z,194nm,0.2s						
CEY	**Cerknica**	**0.37**	**254**	⇑*i*Pg	**Pg**	**06 17 53.6**	**+0.3**
CEY				*i* Sg	**Sg**	**06 17 58.2**	**-0.1**
	comp=Z,194nm,0.2s						
CESS	**Cesta pri Krsk**	**0.39**	**70**	*i* Pg	**Pg**	**06 17 53.9**	**+0.3**
CESS				*i* Sg	**Sg**	**06 17 59.0**	**+0.2**
	comp=Z,251nm,0.1s						
CESS	**Cesta pri Krsk**	**0.39**	**70**	*i* Pg	**Pg**	**06 17 53.9**	**+0.3**
CESS				*i* Sg	**Sg**	**06 17 59.0**	**+0.2**
	comp=Z,251nm,0.1s						
BOJS	**Bojanci**	**0.41**	**147**	⇓*i*Pg	**Pg**	**06 17 53.9**	**0.0**
BOJS				*i* Sg	**Sg**	**06 17 59.0**	**-0.3**
	comp=Z,227nm,0.1s						
BOJS	**Bojanci**	**0.41**	**147**	⇓*i*Pg	**Pg**	**06 17 53.9**	**0.0**
BOJS				*i* Sg	**Sg**	**06 17 59.0**	**-0.3**
	comp=Z,227nm,0.1s						
DOBS	**Dobrina**	**0.48**	**50**	*i* Pg	**Pb**	**06 17 55.6**	**-0.7**
DOBS	**Dobrina**	**0.48**	**50**	*i* Pg	**Pb**	**06 17 55.6**	**-0.7**
GCIS	**Gornji Cirnik**	**0.48**	**87**	⇑*i*Pg	**Pg**	**06 17 55.4**	**+0.1**
	comp=Z,42nm,0.1s						
GCIS	**Gornji Cirnik**	**0.48**	**87**	⇑*i*Pg	**Pg**	**06 17 55.4**	**+0.1**
	comp=Z,42nm,0.1s						
KNDS	**Knezji Dol**	**0.50**	**231**	*i* Pg	**Pg**	**06 17 55.7**	**0.0**
KNDS				*i* Sg	**Sg**	**06 18 02.3**	**-0.1**
	comp=Z,268nm,0.2s						
KNDS	**Knezji Dol**	**0.50**	**231**	*i* Pg	**Pg**	**06 17 55.7**	**0.0**
KNDS				*i* Sg	**Sg**	**06 18 02.3**	**-0.1**
	comp=Z,268nm,0.2s						
GOLS	**Golise**	**0.51**	**71**	*i* Pg	**Pb**	**06 17 56.2**	**-0.6**
GOLS				*i* Sg	**Sg**	**06 18 02.6**	**0.0**
	comp=Z,155nm,0.2s						
GOLS	**Golise**	**0.51**	**71**	*i* Pg	**Pb**	**06 17 56.2**	**-0.6**
GOLS				*i* Sg	**Sg**	**06 18 02.6**	**0.0**
	comp=Z,155nm,0.2s						
CRNS	**Crni Vrh**	**0.53**	**297**	⇑*i*Pg	**Pb**	**06 17 56.7**	**-0.5**
	comp=Z,179nm,0.2s						
CRNS	**Crni Vrh**	**0.53**	**297**	⇑*i*Pg	**Pb**	**06 17 56.7**	**-0.5**
	comp=Z,179nm,0.2s						
MOZS	**Mozjanca**	**0.57**	**323**	⇓*i*Pg	**Pb**	**06 17 57.7**	**-0.1**
MOZS				*i* Sg	**Sb**	**06 18 04.7**	**-1.2**
	comp=Z,84nm,0.1s						
MOZS	**Mozjanca**	**0.57**	**323**	⇓*i*Pg	**Pb**	**06 17 57.7**	**-0.1**
MOZS				*i* Sg	**Sb**	**06 18 04.7**	**-1.2**
	comp=Z,84nm,0.1s						
JAVS	**Javornik**	**0.61**	**275**	⇑*i*Pg	**Pg**	**06 17 57.7**	**-0.1**
JAVS				*i* Sg	**Sb**	**06 18 07.0**	**-0.3**
	comp=Z,63nm,0.2s						
JAVS	**Javornik**	**0.61**	**275**	⇑*i*Pg	**Pg**	**06 17 57.7**	**-0.1**
JAVS				*i* Sg	**Sb**	**06 18 07.0**	**-0.3**
	comp=Z,63nm,0.2s						
SKDS	**Skadanscina**	**0.71**	**246**	*i*	**Pb**	**06 18 00.8**	**+0.5**
SKDS				*i* Sg	**Sg**	**06 18 09.4**	**+0.4**
	comp=Z,95nm,0.1s						
OBKA	**Obir**	**0.72**	**338**	Pg	**Pb**	**06 18 00.3**	**-0.1**
	comp=Z,9.8nm,0.2s,SNR=29						
OBKA				Sg	**Sb**	**06 18 09.7**	**-0.6**
	comp=Z,134nm,0.3s						
GROS	**Grobnik**	**0.73**	**32**	⇓*i*Pg	**Pb**	**06 18 00.2**	**-0.4**
	comp=Z,146nm,0.2s						
GROS	**Grobnik**	**0.73**	**32**	⇓*i*Pg	**Pb**	**06 18 00.2**	**-0.4**
	comp=Z,146nm,0.2s						
ZAG	**Zagreb**	**0.73**	**91**	*e*Pg	**Pg**	**06 17 58.6**	**-1.5**
ZAG				*e*Sg	**Sb**	**06 18 10.4**	**-0.3**
VOJS	**Vojsko**	**0.76**	**285**	*i* Pg	**Pg**	**06 18 00.3**	**-0.3**
VOJS				*i* Sg	**Sb**	**06 18 11.6**	**+0.1**
	comp=Z,52nm,0.2s						
VOJS	**Vojsko**	**0.76**	**285**	*i* Pg	**Pg**	**06 18 00.3**	**-0.3**
VOJS				*i* Sg	**Sb**	**06 18 11.6**	**+0.1**
	comp=Z,52nm,0.2s						
GORS	**Gorjuse**	**0.81**	**306**	*i* Pg	**Pb**	**06 18 01.6**	**-0.3**
GORS				*i* Sg	**Sb**	**06 18 13.0**	**+0.1**
	comp=Z,135nm,0.3s						
GORS	**Gorjuse**	**0.81**	**306**	*i* Pg	**Pb**	**06 18 01.6**	**-0.3**
GORS				*i* Sg	**Sb**	**06 18 13.0**	**+0.1**
	comp=Z,135nm,0.3s						
BISS	**Bistriski jare**	**0.81**	**9**	*i* Pg	**Pb**	**06 18 02.0**	**0.0**
BISS	**Bistriski jare**	**0.81**	**9**	*i* Pg	**Pb**	**06 18 02.0**	**0.0**
SOKA	**Soboth**	**0.84**	**5**	Pg	**Pb**	**06 18 02.3**	**-0.2**
	comp=Z,5.4nm,0.2s,SNR=10						
SOKA				Sg	**Sb**	**06 18 13.3**	**-0.4**
	comp=Z,42nm,0.2s						
CADS	**Cadrg**	**0.92**	**295**	*i* Pg	**Pg**	**06 18 03.3**	**-0.3**
CADS				*i* Sg	**Sb**	**06 18 16.5**	**+0.4**
	comp=Z,98nm,0.2s						
CADS	**Cadrg**	**0.92**	**295**	*i* Pg	**Pg**	**06 18 03.3**	**-0.3**
CADS				*i* Sg	**Sb**	**06 18 16.5**	**+0.4**
	comp=Z,98nm,0.2s						
ROBS	**Robic**	**1.07**	**292**	*i* Sg	**Sn**	**06 18 21.1**	**-0.5**
ROBS	**Robic**	**1.07**	**292**	*i* Sg	**Sn**	**06 18 21.1**	**-0.5**
SISC	**Sisak**	**1.07**	**110**	Sg	**Sn**	**06 18 22.1**	**+0.4**
SISC	**Sisak**	**1.07**	**110**	Sg	**Sn**	**06 18 22.0**	**+0.4**
KOGS	**Kog**	**1.09**	**56**	*i* Pg	**Pn**	**06 18 07.5**	**+0.4**
KOGS				*i* Sg	**Sn**	**06 18 21.8**	**-0.4**
	comp=Z,52nm,0.2s						
KOGS	**Kog**	**1.09**	**56**	*i* Pg	**Pn**	**06 18 07.5**	**+0.4**
KOGS				*i* Sg	**Sn**	**06 18 21.8**	**-0.4**
	comp=Z,52nm,0.2s						
MYKA	**Terra Mystica**	**1.19**	**312**	Pg	**Pg**	**06 18 09.1**	**+0.2**
	comp=Z,5.6nm,0.2s,SNR=7.9						
MYKA				Sg	**Sn**	**06 18 25.3**	**+0.5**
	comp=Z,23nm,0.2s						
NVLJ	**Novalja**	**1.28**	**182**	*e*Pg	**Pn**	**06 18 09.6**	**-0.1**
NVLJ				Sg	**Sg**	**06 18 27.4**	**+0.3**
NVLJ	**Novalja**	**1.28**	**182**	*e*Pg	**Pn**	**06 18 09.5**	**-0.1**
NVLJ				Sg	**Sg**	**06 18 27.4**	**+0.3**
UDBI	**Udbina**	**1.44**	**156**	*e*Pg	**Pn**	**06 18 12.3**	**+0.4**
UDBI				Sg	**Sb**	**06 18 31.9**	**+0.9**
UDBI	**Udbina**	**1.44**	**156**	*e*Pg	**Pn**	**06 18 12.3**	**+0.4**
UDBI				Sg	**Sb**	**06 18 31.9**	**+0.9**
ARSA	**Arzberg**	**1.46**	**16**	Pg	**Pg**	**06 18 13.3**	**-0.7**
	comp=Z,12nm,0.2s,SNR=11						
ARSA				Sg	**Sb**	**06 18 31.2**	**-0.5**
	comp=Z,11nm,0.3s						
KBA	**Koelnbreinsper**	**1.65**	**319**	Pg	**Pb**	**06 18 16.3**	**-0.1**
	comp=Z,0.1nm,0.1s						
KBA				Sg	**Sg**	**06 18 39.1**	**0.0**
	comp=Z,10nm,0.2s						
BLY	**Banja Luka**	**1.93**	**124**	*e*Pn	**Pn**	**06 18 18.7**	**+0.2**
BLY				*e*Sn	**Sn**	**06 18 43.0**	**+0.3**
CONA	**Conrad Observa**	**2.18**	**17**	Pg	**Pg**	**06 18 28.3**	**+0.6**
	comp=Z,3.8nm,0.3s						
CONA				Sg	**Sg**	**06 18 59.0**	**+3.1**
	comp=Z,2.9nm,0.3s						
KHC	**Kasperske Hory**	**3.42**	**345**	*e*SN	**Sn**	**06 19 19.6**	**+0.1**

CSEM ***10*** *06:17:54.5,43.°88N×12.°00E,h9km,ML1.6/5*
ROM 10 06:17:54.5±0.1,43.°88N×12.°00E,h9km±1km,Ml1.6/5, Error ellipse: s-maj=1.8km s-min=0.9km az=6.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T0502	**Localiˆ San**	**0.10**	**80**	Pg	Pg	06 17 57.3	+0.3
T0502				Sg	Sg	06 17 59.4	+0.7
	294nm,0.2s						
SFI	**Santa Sofia**	**0.11**	**281**	Pg	Pg	06 17 57.5	+0.3
SFI				Sg	Sg	06 17 59.7	+0.7
	84nm,0.1s						
SFI	**Santa Sofia**	**0.11**	**281**	Pg	Pg	06 17 57.5	+0.3
SFI				Sg	Sg	06 17 59.7	+0.7
	84nm,0.1s						
ASQU	**Asqua**	**0.17**	**240**	Pg	Pg	06 17 58.9	+0.7
ASQU				Sg	Sg	06 18 02.0	+1.3
	155nm,0.3s						
ASQU	**Asqua**	**0.17**	**240**	Pg	Pg	06 17 58.9	+0.7
ASQU				Sg	Sg	06 18 02.0	+1.3
	155nm,0.3s						
CPGN	**Carpegna, Ital**	**0.25**	**109**	Pg	Pg	06 18 01.0	+1.5
	40μm,20.0s						
CPGN	**Carpegna, Ital**	**0.25**	**109**	Pg	Pg	06 18 01.0	+1.5
	40μm,20.0s						
PARC	**Parchiule**	**0.29**	**143**	Pg	Pg	06 18 00.8	+0.5
PARC				Sg	Sb	06 18 06.1	-0.8
	116nm,0.2s						
PARC	**Parchiule**	**0.29**	**143**	Pg	Pg	06 18 00.8	+0.5
PARC				Sg	Sb	06 18 06.1	-0.8
	116nm,0.2s						
VMG	**Vicchio**	**0.34**	**284**	Pg	Pg	06 18 01.9	+0.7
VMG				Sg	Sb	06 18 07.6	-0.7
	184μm,0.2s						
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	06 18 04.4	+0.3
SEI				Sg	Sb	06 18 12.3	-0.5
	184μm,0.2s						
SEI	**Scarperia**	**0.49**	**290**	Pg	Pg	06 18 04.4	+0.3
SEI				Sg	Sb	06 18 12.3	-0.5
	184μm,0.2s						

CSEM ***10*** *06:18:07.6,43.°88N×12.°00E,h8km,ML1.7/2*
ROM 10 06:18:07.6±0.1,43.°88N×12.°00E,h8km,Ml1.7/2,Error ellipse: s-maj=1.4km s-min=0.7km az=23.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T0502	**Localiˆ San**	**0.10**	**79**	Pg	Pg	06 18 10.4	+0.3
T0502				Sg	Sg	06 18 12.5	+0.7
SFI	**Santa Sofia**	**0.11**	**282**	Pg	Pg	06 18 10.5	+0.3
SFI				Sg	Sg	06 18 12.8	+0.8
SFI	**Santa Sofia**	**0.11**	**282**	Pg	Pg	06 18 10.5	+0.3
SFI				Sg	Sg	06 18 12.8	+0.8
ASQU	**Asqua**	**0.17**	**241**	Pg	Pg	06 18 11.9	+0.7
ASQU				Sg	Sg	06 18 15.0	+1.3
ASQU	**Asqua**	**0.17**	**241**	Pg	Pg	06 18 11.9	+0.7
ASQU				Sg	Sg	06 18 15.0	+1.3
CPGN	**Carpegna, Ital**	**0.25**	**109**	Pg	Pg	06 18 14.0	+1.4
CPGN	**Carpegna, Ital**	**0.25**	**109**	Pg	Pg	06 18 14.0	+1.4
PARC	**Parchiule**	**0.29**	**143**	Pg	Pg	06 18 14.0	+0.6
PARC				Sg	Sb	06 18 19.1	-0.9
PARC	**Parchiule**	**0.29**	**143**	Pg	Pg	06 18 14.0	+0.6
PARC				Sg	Sb	06 18 19.1	-0.9
VMG	**Vicchio**	**0.34**	**284**	Pg	Pg	06 18 14.9	+0.6
VMG				Sg	Sb	06 18 20.7	-0.7
VMG	**Vicchio**	**0.34**	**284**	Pg	Pg	06 18 14.9	+0.6
VMG				Sg	Sb	06 18 20.7	-0.7
BADI	**Badiali**	**0.41**	**154**	Pg	Pg	06 18 16.3	+0.7
BADI				Sg	Sb	06 18 22.8	-0.7
BADI	**Badiali**	**0.41**	**154**	Pg	Pg	06 18 16.3	+0.7
BADI				Sg	Sb	06 18 22.8	-0.7
ATMC	**Monte Cedrone**	**0.46**	**162**	Pg	Pb	06 18 17.6	-0.3
ATMC				Sg	Sb	06 18 23.7	-1.1
ATMC	**Monte Cedrone**	**0.46**	**162**	Pg	Pb	06 18 17.6	-0.3
ATMC				Sg	Sb	06 18 23.7	-1.1
SEI	**Scarperia**	**0.49**	**291**	Pg	Pg	06 18 17.5	+0.3
SEI				Sg	Sb	06 18 25.4	-0.5
SEI	**Scarperia**	**0.49**	**291**	Pg	Pg	06 18 17.5	+0.3
SEI				Sg	Sb	06 18 25.4	-0.5
ATPC	**Poggio Castell**	**0.52**	**140**	Pg	Pg	06 18 18.1	+0.4
ATPC				Sg	Sb	06 18 26.6	-0.1
ATPC	**Poggio Castell**	**0.52**	**140**	Pg	Pg	06 18 18.1	+0.4
ATPC				Sg	Sb	06 18 26.6	-0.1
ATVO	**AVT- Monte Val**	**0.58**	**149**	Pg	Pb	06 18 19.5	-0.5
ATVO				Sg	Sb	06 18 27.8	-0.6
ATVO	**AVT- Monte Val**	**0.58**	**149**	Pg	Pb	06 18 19.5	-0.5
ATVO				Sg	Sb	06 18 27.8	-0.6

IDC 10 06:22:30.2±20.0,18.°97S×177.°45W,h511km±171km, mb2.8/3,mb1 3.1/3,mb1mx2.8/34,mbtmp3.7/3,Error ellipse: s-maj=251.8km s-min=52.1km az=135.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.35**	**260**	P	P	06 30 02.5	-0.1
	0.4nm,0.4s,baz=97,slow=7.6,SNR=12						
WRA				PcP	PcP	06 31 31.1	-0.5
	0.5nm,0.9s,baz=92,slow=3.7,SNR=5.3						
ASAR	**Alice Springs**	**45.40**	**255**	P	P	06 30 02.9	-0.1
	0.5nm,0.4s,baz=88,slow=8.1,SNR=7.8						
ILAR	**Eielson Array**	**86.72**	**13**	P	P	06 34 19.0	0.0
	0.2nm,0.5s,baz=216,slow=4.5,SNR=3.9						
BRTR	**Keskin Array B**	**146.18**	**314**	PKPbc	PKPbc	06 41 12.7	-0.8
	0.3nm,0.6s,baz=277,slow=1.0,SNR=3.6						

ISCJB ***10*** *06:29:30.6±0.5,6.°55S±0.°04×130.°56E±0.°06,h50km, mb4.3/8,MS3.1/1,Error ellipse: s-maj=8.3km s-min=5.9km az=12.4*
IDC ***10*** *06:29:33.1±3.9,6.°49S×130.°19E,h52km±40km,mb3.9/7, mb1 4.2/11,mb1mx4.0/31,mbtmp4.3/11,ML4.2/4,MS3.1/2, Ms1 3.1/2,ms1mx2.5/33,Error ellipse: s-maj=33.1km s-min=22.6km az=68.0*
NEIC ***10*** *06:29:35.2±1.5,6.°58S×130.°19E,h74km±16km,mb4.8/5, Error ellipse: s-maj=16.7km s-min=10.6km az=96.0*
ISC 10 06:29:33.2±0.6,6.°65S±0.°05×130.°37E±0.°08,h50km,n23, σ3°s40/27,mb4.3/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.15**	**27**	*e*Pn	**Pn**	**06 30 37.7**	**+3.6**
FAKI				*e*Sn	**Sn

JFK				S	Sg	07 07 04.4	+0.1
JMM	**Marumori**	**0.88**	**9**	P	Pg	07 07 06.8	-0.6
MAT	**Matsushiro**	**1.99**	**257**	P	Pn	07 07 25.8	+1.1
MAT				S	Sb	07 07 51.6	-0.6

IDC 10 07:15:46.5±3.1, 6°45S×147°70E, h0km, mb3.8/2, mb1 3.9/4, ms1mx3.5/44, mbtmp3.7/4, ML3.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/31, Error ellipse: s-maj=69.4km s-min=33.0km az=95.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.99**	**190**	Pn	Pn	07 16 35.6	+0.5
	7.3nm,0.3s,baz=14,slow=12,SNR=12						
PMG				Sn	Sn	07 17 13.3	+1.6
	6.1nm,0.3s,baz=13,slow=19,SNR=6.0						
PMG				LR	LR	07 17 53.1	
	comp=Z,152nm,19.2s,baz=238,slow=42						
WRA	**Warramunga Arr**	**18.66**	**223**	P	P	07 20 05.7	-0.5
	0.2nm,0.3s,baz=48,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**21.66**	**216**	P	P	07 20 38.2	-0.6
	1.0nm,0.7s,baz=50,slow=9.3,SNR=8.9						
FITZ	**Fitzroy Crossi**	**24.43**	**240**	P	P	07 21 06.7	-0.4
	3.0nm,0.4s,baz=61,slow=8.5,SNR=16						
YAK	**Yakutsk**	**69.69**	**351**	LR	LR	07 52 08.0	
	comp=Z,47nm,21.7s,baz=267,slow=31						
TORD	**Torodi Ar. Bea**	**145.87**	**284**	PKPbc	PKPbc	07 35 28.8	-0.2
	0.4nm,0.5s,baz=77,slow=3.6,SNR=8.1						

DJA 10 07:15:55.6±0.7, 8°S±4°×107°E±°, h21km±8km, M4.0/4, MLv4.0/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.82**	**40**	P	Pb	07 16 10.8	-0.5
CISI				S	Sb	07 16 22.2	+0.3
CNJI	**Cibinong**	**0.89**	**350**	P	Pb	07 16 11.4	-0.9
CNJI				S	Sn	07 16 24.7	-0.4
CMJI	**Cimerak**	**1.23**	**71**	P	Pn	07 16 16.7	-0.8
CMJI				S	Sn	07 16 33.9	+0.5
SKJI	**Sukabumi**	**1.38**	**329**	P	Pn	07 16 19.3	-0.3
KPJI	**Karang Pucung**	**1.84**	**63**	P	Pn	07 16 25.9	-0.1
CGJI	**Cibinong**	**2.22**	**315**	P	Pn	07 16 30.4	-0.8
SBJI	**Serang**	**2.35**	**331**	P	Pn	07 16 33.5	+0.5
PWJI	**Pagerwojo**	**4.48**	**88**	P	Pn	07 17 02.4	+0.1

IDC 10 07:22:53.9±2.2, 2°53N×126°46E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/43, mbtmp3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/33, Error ellipse: s-maj=194.4km s-min=24.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**21.26**	**58**	LR	LR	07 33 36.1	
	comp=Z,20nm,20.7s,baz=116,slow=30						
WRA	**Warramunga Arr**	**23.63**	**161**	P	P	07 28 06.4	-0.5
	0.8nm,0.3s,baz=340,slow=10,SNR=16						
ASAR	**Alice Springs**	**27.03**	**165**	P	P	07 28 38.5	+0.5
	0.2nm,0.4s,baz=345,slow=10,SNR=5.0						
MKAR	**Makanchi Array**	**58.39**	**326**	P	P	07 32 51.3	0.0
	0.2nm,0.4s,baz=118,slow=8.4,SNR=5.3						

IDC 10 07:26:17.6±2.5, 53°73N×86°90E, h0km, mb1 2.9/2, mb1mx2.8/43, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=22.3km s-min=15.3km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**281**	*i*		07 34 20.0	
	baz=101,slow=314,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.25**	**281**	Pg	Pg	07 26 40.9	-0.6
	0.9nm,0.3s,baz=100,slow=18,SNR=16						
ZALV				Lg	Lg	07 26 58.1	
	1.4nm,0.3s,baz=98,slow=30,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.01**	**242**	Pn	Pn	07 27 48.4	+0.7
	0.1nm,0.3s,baz=58,slow=14,SNR=5.3						
KURBB				Sn	Sn	07 28 56.6	-0.7
	0.0nm,0.3s,baz=231,slow=7.2,SNR=3.1						
KURBB				Lg	Lg	07 29 29.0	
	0.0nm,0.3s,baz=62,slow=32,SNR=4.1						
MKAR	**Makanchi Array**	**7.55**	**205**	Pn	Pn	07 28 10.1	+1.3
	0.2nm,0.3s,baz=25,slow=13,SNR=8.7						

IDC 10 07:31:28.7±2.7, 53°50N×87°77E, h0km, mb1 3.3/2, mb1mx3.1/37, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=22.9km s-min=14.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**286**	*i*		07 42 20.0	
	baz=101,slow=320,SNR=20						
ZALV	**Zalesovo Beam**	**1.81**	**285**	Pg	Pn	07 32 00.8	-0.3
	4.7nm,0.3s,baz=101,slow=15,SNR=34						
ZALV				Lg	Lg	07 32 26.4	
	4.4nm,0.3s,baz=106,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**6.38**	**247**	Pn	Pn	07 33 04.7	+0.7
	0.3nm,0.3s,baz=64,slow=14,SNR=22						
KURBB				Sn	Sn	07 34 16.6	-0.8
	0.0nm,0.3s,baz=57,slow=28,SNR=3.3						
KURBB				Lg	Lg	07 34 51.5	
	0.1nm,0.3s,baz=64,slow=32,SNR=7.3						
MKAR	**Makanchi Array**	**7.58**	**210**	Pn	Pn	07 33 21.6	+1.2
	0.3nm,0.3s,baz=28,slow=13,SNR=14						
MKAR				Sn	Sn	07 34 46.6	-0.4
	0.1nm,0.3s,baz=27,slow=22,SNR=7.7						
MKAR				Lg	Lg	07 35 29.8	
	0.1nm,0.3s,baz=26,slow=30,SNR=6.0						

CASC 10 07:31:48.8±1.4, 13°25N×90°19W, h27km±6km, MD3.7, ML3.4, 7C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUS1	**Cusmapa**	**0.70**	**20**	*e*P	Pb	07 32 02.2	-0.3
CUS1				*e*S	Sn	07 32 12.9	-0.1
MONT	**Ecomontaæa**	**0.80**	**41**	⇓*i*P	Pn	07 32 04.6	0.0
SBLS	**San Blas**	**0.80**	**43**	⇑*e*P	Pn	07 32 04.5	-0.1
SBLS				*e*S	Sb	07 32 14.9	0.0
RTR	**El Retiro**	**0.83**	**39**	⇑*i*P	Pn	07 32 05.0	+0.1
RTR				*e*S	Sb	07 32 15.8	+0.1
SNJE	**San Jose**	**0.83**	**43**	⇑*i*P	Pn	07 32 05.0	-0.1
SNJE				*e*S	Sn	07 32 16.4	-0.1
RBDL	**Robledal**	**0.98**	**30**	⇑*i*P	Pn	07 32 07.1	0.0
BOQS	**Boqueron**	**1.01**	**61**	*e*P	Pn	07 32 07.3	0.0
SNET	**Serv Nac Est T**	**1.03**	**65**	*e*P	Pn	07 32 07.5	0.0
SNET				AML	AML	07 32 08.8	
	comp=Z,2µm,0.3s						
SNET				*e*S	Sb	07 32 22.9	+1.7
LFRS	**El Faro**	**1.16**	**71**	⇑*e*P	Pn	07 32 09.0	-0.4
LFRS				*e*S	Sb	07 32 25.2	+0.3
LFU	**La Fuente**	**1.16**	**65**	*e*P	Pn	07 32 09.4	+0.1
LBRS	**Las Brisas**	**1.22**	**66**	⇑*e*P	Pn	07 32 10.3	+0.1
LBRS				*e*S	Sb	07 32 26.4	-0.2
SNVI	**San Vicente**	**1.36**	**75**	*e*P	Pn	07 32 12.3	+0.1
SNVI				*e*S	Sb	07 32 30.6	-0.2
PACA	**Pacayal**	**1.83**	**83**	*e*P	Pn	07 32 18.6	-0.1
PACA				*e*S	Sn	07 32 42.4	+1.4
LCY	**Lacayo**	**1.85**	**85**	*e*P	Pn	07 32 19.2	+0.3
LCY				*e*S	Sn	07 32 42.4	+0.9
MRL	**Marmol**	**1.87**	**15**	*e*P	Pn	07 32 19.2	0.0
VSM	**San Miguel**	**1.87**	**84**	*e*P	Pn	07 32 19.6	+0.3
VSM				*e*S	Sb	07 32 44.3	-1.3
TGUH	**Tegucigalpa,Un**	**2.94**	**74**	⇑*e*P	Pn	07 32 33.7	-0.1
CNGN	**Cerro Negro**	**3.48**	**102**	*e*P	Pn	07 32 40.4	-0.9
CNGN				AML	AML	07 33 26.5	
	comp=N,68nm,0.3s						
ESTN	**Estel**	**3.72**	**92**	*e*P	Pn	07 32 44.5	-0.2
BOAB	**BOACO BROADBAN**	**4.48**	**100**	*e*P	Pn	07 32 53.6	-1.4

MEX 10 07:36:30.8±0.5, 13°82N×91°82W, h20km, MD3.5, Near coast of Guatemala

IDC 10 07:37:08.5±3.3, 53°64N×88°00E, h0km, mb1 2.9/2, mb1mx2.8/44, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=27.1km s-min=16.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**281**	*i*		07 48 49.1	
	baz=98,slow=319,SNR=5.3						
ZALV	**Zalesovo Beam**	**1.92**	**281**	Pg	Pn	07 37 42.5	+0.2
	1.4nm,0.3s,baz=98,slow=15,SNR=12						
ZALV				Lg	Lg	07 38 09.3	
	3.8nm,0.3s,baz=100,slow=34,SNR=18						
KURBB	**Kurchatov Arra**	**6.57**	**246**	Pn	Pn	07 38 47.1	+0.9
	0.1nm,0.3s,baz=60,slow=14,SNR=4.2						
KURBB				Sn	Sn	07 40 00.6	-1.1
	0.0nm,0.3s,baz=53,slow=28,SNR=3.1						
MKAR	**Makanchi Array**	**7.76**	**210**	Pn	Pn	07 39 03.8	+1.1
	0.1nm,0.3s,baz=32,slow=15,SNR=4.6						
MKAR				Sn	Sn	07 40 31.6	+0.3
	0.1nm,0.3s,baz=31,slow=21,SNR=3.7						
MKAR				Lg	Lg	07 41 13.4	
	0.1nm,0.3s,baz=32,slow=32,SNR=7.9						

*SJA **10** 07:50:59.6±0.7, 31°16S×68°55W, h108km±4km, ML3.5, MW3.8*
*ISCJB **10** 07:51:00.4±1.0, 31°16S±0°05×68°55W±0°06, h108km±10km, Error ellipse: s-maj=9.7km s-min=6.4km az=135.9*
*GUC **10** 07:51:00.5±0.5, 31°32S×69°34W, h130km±14km, ML3.2*
ISC 10 07:51:01.4±1.6, 31°16S±0°05×68°57W±0°05, h100km±11km, n16, σ0°74/21, 3C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.19**	**156**	*i* P	Pn	07 51 15.0	-0.6
AMOG	**MOGNA**	**0.23**	**16**	*i* P	Pn	07 51 15.5	-0.2
SJA	**San Juan**	**0.37**	**179**	*i* P	Pn	07 51 16.2	-0.3
SJA				*i* S	Sn	07 51 28.5	+0.8
SJA				IAML		07 51 29.7	
	comp=Z,958nm,0.2s						
RTCV	**Cerro Valdivia**	**0.70**	**178**	*i* P	Pn	07 51 18.2	-0.7
RTLS	**Leoncito**	**0.89**	**224**	*i* P	Pn	07 51 21.1	0.0
AVFE	**Valle Fertil**	**1.08**	**63**	*i* P	Pn	07 51 22.6	-0.1
AVFE				*i* S	Sn	07 51 39.0	+0.2
AVFE				IAML		07 51 39.7	
	comp=Z,849nm,0.3s						
ACAN	**Cantantal**	**1.62**	**134**	*i* P	Pn	07 51 29.0	-0.1
ACHE	**Chepes**	**1.63**	**91**	*i* P	Pn	07 51 28.9	-0.5
AGUA	**GUANDACOL**	**1.67**	**2**	*i* P	Pn	07 51 29.8	0.0
TLL	**Tololo Astrono**	**2.17**	**297**	⇑*i* P	Pn	07 51 36.2	-0.1
TLL				*i* S	Sn	07 52 03.4	+0.4
TLL				IAML		07 52 05.4	
	comp=N,296nm,0.3s						
FCH	**Farellones**	**2.61**	**214**	⇓*i* P	Pn	07 51 43.1	+0.9
FCH				*i* S	Sn	07 52 15.3	+1.6
FCH				IAML		07 52 19.9	
	comp=E,92nm,0.3s						
PEL	**Peldehue**	**2.67**	**222**	⇑*i* P	Pn	07 51 42.3	-0.5
PEL				*i* S	Sn	07 52 14.2	-0.5
PEL				IAML		07 52 16.4	
	comp=N,104nm,0.3s						
ROCH	**El Roble**	**2.75**	**228**	⇑*i* P	Pn	07 51 43.0	-1.1
ROCH				*i* S	Sn	07 52 15.6	-1.3
ROCH				IAML		07 52 19.6	
	comp=N,100nm,0.2s						
CLCH	**Cerro Calan**	**2.79**	**216**	⇓*i* P	Pn	07 51 44.6	+0.3
CLCH				*i* S	Sn	07 52 18.0	+0.5
CLCH				IAML		07 52 24.7	
	comp=E,104nm,0.6s						
LCO	**Las Campanas**	**2.83**	**319**	IAML		07 52 21.0	
	comp=N,160nm,0.3s						
ANTU	**Antumapu**	**2.98**	**215**	IAML		07 52 23.5	
	comp=E,70nm,0.2s						

*SJA **10** 08:15:05.5±0.5, 32°97S×70°16W, h112km±8km, ML3.1, MW3.7*
*ISCJB **10** 08:15:06.1±1.5, 33°0S±0°1×70°17W±0°07, h113km±13km, Error ellipse: s-maj=18.4km s-min=9.6km az=165.7*
*GUC **10** 08:15:06.1±0.7, 32°88S×70°13W, h103km±8km, ML3.5*
ISC 10 08:15:06.6±3.3, 33°0S±0°1×70°18W±0°07, h110km±24km, n13, σ0°28/19, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.36**	**196**	⇑*i* P	Pn	08 15 22.8	-0.3
FCH				*i* S	Sn	08 15 35.3	0.0
FCH				IAML		08 15 36.8	
	comp=N,1µm,0.1s						
PEL	**Peldehue**	**0.46**	**249**	⇓*i* P	Pn	08 15 22.9	-0.4
PEL				*i* S	Sn	08 15 35.7	0.0
PEL				IAML		08 15 36.3	
	comp=E,2µm,0.3s						
CLCH	**Cerro Calan**	**0.51**	**216**	⇓*i* P	Pn	08 15 23.6	0.0
CLCH				*i* S	Sn	08 15 36.8	+0.5
CLCH				IAML		08 15 37.7	
	comp=E,2µm,0.3s						
ANTU	**Antumapu**	**0.70**	**213**	⇓*i* P	Pn	08 15 25.0	0.0
ANTU				*i* S	Sn	08 15 39.2	+0.4
ANTU				IAML		08 15 39.5	
	comp=E,3µm,0.3s						
ROCH	**El Roble**	**0.70**	**271**	⇑*i* P	Pn	08 15 25.1	-0.2
ROCH				*i* S	Sn	08 15 39.1	-0.1
ROCH				IAML		08 15 39.9	
	comp=E,2µm,0.3s						
ROC1	**El Roble**	**0.71**	**270**	*i* P	Pn	08 15 25.2	-0.1
AUSP	**Uspallata**	**1.01**	**41**	*i* P	Pn	08 15 28.0	-0.2
ARCO	**CERRO ARCO**	**1.05**	**83**	*i* P	Pn	08 15 28.4	-0.1
ARCO				*i* S	Sn	08 15 45.2	+0.1
ARCO				IAML		08 15 46.3	
	comp=Z,306nm,0.5s						
AAGR	**Agrelo**	**1.14**	**95**	*i* P	Pn	08 15 29.3	0.0
ASAL	**Salagasta**	**1.20**	**71**	*i* P	Pn	08 15 29.7	-0.2
RTLS	**Leoncito**	**1.40**	**32**	*i* P	Pn	08 15 33.0	+0.5
RTCV	**Cerro Valdivia**	**1.78**	**51**	*i* P	Pn	08 15 36.5	-0.4
RTLL	**Cerro Villicun**	**2.19**	**42**	*i* P	Pn	08 15 41.9	-0.2

*NIED **10** 08:18:00, 36°.50N×141°.00E, h5km, Mw4.2 Best double couple: M0 2.25000×10^15 NP1:φs 26.00000°, δ54.00000°, λ-16.00000°. NP2:φs 125.00000°, δ77.00000°, λ-143.00000°.*
*IDC **10** 08:18:28.0±0.6, 36°.30N×141°.04E, h0km, mb4.0/17, mb1 4.1/22, mb1mx4.1/43, mbtmp4.0/22, ML3.3/4, MS3.3/11, Ms1 3.3/11, ms1mx3.0/40, Error ellipse: s-maj=15.3km s-min=14.2km az=104.0*
*JMA **10** 08:18:29.6±0.1, 36°.48N×140°.99E, h19km±1km, M4.4*
JMA Felt III J1.
*ISCJB **10** 08:18:31.9±0.8, 36°.47N±0°.04×140°.79E±0°.04, h21km±4km, mb4.4/59, MS3.5/11, Error ellipse: s-maj=7.0km s-min=5.0km az=142.4*
*NEIC **10** 08:18:31.2±3.3, 36°.33N×140°.86E, h11km±21km, mb4.6/29, Error ellipse: s-maj=9.2km s-min=7.2km az=122.0*
NEIC Recorded [3 JMA] in Ibaraki.
*MOS **10** 08:18:32.4±1.6, 36°.27N×140°.78E, h33km, mb4.7/18, Error ellipse: s-maj=9.6km s-min=7.5km az=97.8*
ISC 10 08:18:32.7±0.8, 36°.43N±0°.04×140°.81E±0°.04, h20km±3km, n147, σ1°95/149, mb4.4/59, MS3.4/11, 8C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.27**	**312**	P	Pg	08 18 36.9	-1.9
JHO				S	Sg	08 18 42.2	-0.8
JYT	**Yasato**	**0.54**	**248**	P	Pg	08 18 42.7	-0.9
JYT				S	Sn	08 18 53.3	-0.5
ONAJ	**Iwakimizuishiy**	**0.67**	**359**	P	Pb	08 18 41.9	-3.8
ONAJ				S	Sg	08 18 51.3	-3.6
JSB	**Shiboa**	**0.90**	**307**	P	Pb	08 18 48.3	-1.3
JSB				S	Sb	08 19 02.1	+1.0
JFK	**Kawauchi**	**0.93**	**3**	P	Pb	08 18 45.5	-4.7
MJAR	**Matsushiro Arr**	**2.10**	**274**	Pn	Pn	08 19 06.0	-0.7
	21nm,0.3s,baz=90,slow=8.9,SNR=90						
MJAR				Sn	Sb	08 19 37.5	+1.7
	82nm,0.3s,baz=91,slow=28,SNR=8.8						
MJAR				LR	LR	08 20 11.6	
	comp=Z,836nm,19.0s,baz=90,slow=46						
MAJO	**Matsushiro**	**2.10**	**274**	⇑*e*P	Pn	08 19 07.7	+0.9
MAJO	**Matsushiro**	**2.10**	**274**	*e*Pn	Pn	08 19 07.3	+0.5
MAT	**Matsushiro**	**2.10**	**274**	P	Pn	08 19 06.3	-0.5
MAT				S	Sb	08 19 37.2	+1.3
MJB9	**Matsu-Tunnel**	**2.10**	**274**	*e*Pn	Pn	08 19 06.9	0.0
INU	**Inuyama**	**3.27**	**252**	*e*Pn	Pn	08 19 24.6	+1.8
JHJ	**Hachijo jima 2**	**3.41**	**195**	Pn	Pn	08 19 25.3	+0.5
	52nm,0.3s,baz=304,slow=23,SNR=10						
JHJ				Sn	Sn	08 20 00.5	-4.2
	13nm,0.3s,baz=54,slow=19,SNR=3.0						
JHJ2	**Mitsune**	**3.41**	**194**	*e*Pn	Pn	08 19 25.8	+1.0
ERM	**Erimo**	**5.86**	**17**	*ce*P	Pn	08 20 00.5	+2.1
ERM				pmax	pmax		
	comp=Z,45nm,1.2s						
ERM	**Erimo**	**5.86**	**17**	*e*Pn	Pn	08 19 57.0	-1.4
ASAJ	**Asahikawa**	**7.79**	**10**	*e*Pn	Pn	08 20 23.7	-1.3
JNU	**Nakatsue**	**8.81**	**251**	Pn	Pn	08 20 40.0	+0.9
	comp=Z,0.2nm,0.3s,baz=36,slow=14,SNR=2.3						
CBIJ	**Chichi jima**	**9.38**	**172**	*e*Pn	Pn	08 20 42.2	-4.5
JCJ	**Chichijima**	**9.38**	**172**	Pn	Pn	08 20 41.8	-5.0
	comp=Z,11nm,0.3s,baz=311,slow=9.3,SNR=10.0						
USRK	**Ussuriysk Ar.**	**10.27**	**322**	Pn	Pn	08 21 02.7	+3.9
	comp=Z,0.3nm,0.3s,baz=137,slow=14,SNR=11						
USRK				LR	LR	08 24 54.0	
	comp=Z,105nm,18.0s,baz=127,slow=37						
KSRS	**Korea Array**	**10.37**	**279**	Pn	Pn	08 21 02.9	+2.6
	comp=Z,0.3nm,0.3s,baz=91,slow=14,SNR=6.6						
KSRS				LR	LR	08 24 57.8	
	comp=Z,167nm,18.1s,baz=82,slow=37						
KSAR	**Wonju Array Be**	**10.40**	**279**	P	Pn	08 21 02.9	+2.2
KSAR	**Wonju Array Be**	**10.40**	**279**	Pn	Pn	08 21 02.9	+2.2
MDJ	**Mudanjiang**	**11.81**	**317**	P	Pn	08 21 20.8	+0.8
MDJ				S	Sn	08 23 30.7	-0.5
MDJ				ScP	ScP	08 30 33.2	-6.0
MDJ				PcS	PcS	08 30 37.1	-4.3
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,64nm,4.0s						
MDJ				LR	LR		
	comp=N,170nm,18.7s						
MDJ				LR	LR		
	comp=E,170nm,21.8s						
MDJ				LR	LR		
	comp=Z,140nm,14.0s						
KLR	**Kul'dur**	**14.40**	**335**	Pn	Pn	08 21 56.6	+1.3
	comp=Z,0.1nm,0.3s,baz=145,slow=14,SNR=2.7						
KLR				LR	LR	08 27 17.1	
	comp=Z,55nm,19.9s,baz=138,slow=36						
YOJ	**Yonaguni jima**	**19.40**	**237**	*e*P	P	08 22 57.2	-0.4
YOJ				pmax	pmax		
	comp=Z,317nm,1.5s						
YOJ	**Yonaguni jima**	**19.40**	**237**	*e*P	P	08 22 57.2	-0.4
	comp=Z,317nm,1.5s						
BJI	**Beijing**	**19.67**	**288**	P	P	08 22 59.6	-0.8
BJI				S	S	08 26 28.5	-13
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,90nm,4.7s						
BJI				LR	LR		
	comp=N,250nm,16.0s						
BJI				LR	LR		
	comp=E,110nm,13.3s						
PETK	**Petropavlovsk-**	**20.45**	**30**	P	P	08 23 09.5	+0.7
	comp=E,1.7nm,0.6s,baz=224,slow=10,SNR=3.2						
PETK				LR	LR	08 32 10.1	
	comp=E,66nm,18.1s,baz=214,slow=40						
WHN	**Wuhan**	**22.80**	**263**	*e*P	P	08 23 34.8	+0.6
WHN				*e*S	S	08 27 47.3	+4.9
WHN				LR	LR		
	comp=N,450nm,11.0s						
WHN				LR	LR		
	comp=E,610nm,15.3s						
WHN				LR	LR		
	comp=Z,550nm,19.5s						
HHC	**Hu-ho-hao-te**	**23.21**	**290**	*e*P	P	08 23 38.7	+0.2
HHC				pP	sP	08 23 48.2	+1.5
HHC				sP	pP	08 23 52.2	+8.0
HHC				S	S	08 27 43.6	-5.9
HHC				sS	sS	08 27 59.4	+0.1
HHC	**Hu-ho-hao-te**	**23.21**	**290**	ScS	ScS	08 34 47.2	-2.0
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,55nm,8.5s						
HHC				LR	LR		
	comp=N,190nm,17.9s						
HHC				LR	LR		
	comp=E,1µm,18.3s						
HHC				LR	LR		
	comp=Z,88nm,15.5s						
MA2	**Magadan**	**24.04**	**12**	LR	LR	08 32 37.5	
	comp=Z,58nm,20.1s,baz=122,slow=35						
YAK	**Yakutsk**	**26.55**	**348**	LR	LR	08 35 51.2	
	comp=Z,63nm,18.4s,baz=138,slow=39						
YAK	**Yakutsk**	**26.55**	**348**	*e*P	P	08 24 10.5	+1.6
YAK				pmax	pmax		
	comp=Z,21nm,0.5s						
YAK	**Yakutsk**	**26.55**	**348**	*e*P	P	08 24 10.5	+1.6
	comp=Z,21nm,0.5s						
ULN	**Ulaanbaatar**	**27.30**	**305**	⇑*e*P	P	08 24 17.1	+1.0
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.30**	**305**	*e*P	P	08 24 16.8	+0.7
	comp=Z,3.0nm,0.8s						
SEY	**Seymchan**	**27.47**	**11**	P	P	08 24 17.1	-0.1
	comp=Z,0.6nm,0.2s,baz=250,slow=14,SNR=6.4						
SEY	**Seymchan**	**27.47**	**11**	⇑P	P	08 24 18.7	+1.5
SONA1	**Songino Array**	**27.72**	**305**	*e*P	P	08 24 19.7	-0.1
SONM	**Songino Array**	**27.73**	**305**	P	P	08 24 19.3	-0.6
	comp=Z,0.8nm,0.7s,baz=106,slow=9.6,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.27**	**119**	T	T	08 53 47.8	
	baz=312,slow=75,SNR=639						
H11N1	**WAKE ISLAND Hy**	**28.29**	**119**	T	T	08 53 49.3	
	baz=312,slow=75,SNR=700						
H11N3	**WAKE ISLAND Hy**	**28.29**	**119**	T	T	08 53 50.1	
	baz=312,slow=75,SNR=310						
H11S1	**WAKE ISLAND Hy**	**28.95**	**121**	T	T	08 54 36.1	
	baz=314,slow=76,SNR=3035						
H11S3	**WAKE ISLAND Hy**	**28.95**	**121**	T	T	08 54 36.8	
	baz=314,slow=76,SNR=2033						
H11S2	**WAKE ISLAND Hy**	**28.97**	**121**	T	T	08 54 39.8	
	baz=314,slow=76,SNR=1729						
LZH	**Lanzhou**	**29.70**	**280**	*e*P	P	08 24 38.3	+0.8
LZH				pP	sP	08 24 49.3	+3.4
LZH				sP	pP	08 24 54.0	+10
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
GYA	**Guiyang**	**30.65**	**261**	*e*P	P	08 24 46.5	+0.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
QIZ	**Qiongzhong**	**32.24**	**246**	P	P	08 24 59.1	-0.8
QIZ				sP	sP	08 25 18.1	+10
QIZ				S	S	08 30 09.0	-3.3
QIZ				LR	LR		
	comp=N,170nm,13.5s						
QIZ				LR	LR		
	comp=E,120nm,21.9s						
QIZ				LR	LR		
	comp=Z,140nm,12.8s						
KMI

ZALV Zalesovo Beam 41.97 313 P **P 08 26 20.4 -1.7**
comp=Z,4.1nm,0.7s,baz=101,slow=7.6,SNR=7.5
NRIK Noril'sk 43.61 336 LR LR 08 47 42.0
comp=Z,43nm,18.2s,baz=120,slow=40
MK01 Makanchi Array 44.03 303 *e*P **P 08 26 39.3 +0.4**
MK31 Makanchi Array 44.03 303 *e*P **P 08 26 39.8 +0.8**
MK31 Makanchi Array 44.03 303 *e*P **P 08 26 39.8 +0.8**
MKAR Makanchi Array 44.03 303 P **P 08 26 39.0 0.0**
comp=Z,1.7nm,0.7s,baz=91,slow=9.4,SNR=12
MKAR Makanchi Array 44.03 303 P **P 08 26 39.0 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 44.03 303 *e*P **P 08 26 39.8 +0.8**
TT01 Tatalina 46.18 34 *e*P **P 08 26 56.4 +0.6**
KDAK Kodiak Island 47.87 42 *e*P **P 08 27 11.1 +2.2**
KDAK pmax pmax
comp=Z,17nm,1.3s
KDAK Kodiak Island 47.87 42 *e*P **P 08 27 11.1 +2.2**
comp=Z,17nm,1.3s
CAST Castle Rocks 47.99 34 *e*P **P 08 27 12.0 +2.1**
comp=Z,9.3nm,1.7s
MDM Murphy Dome 49.68 32 *e*P **P 08 27 24.0 +1.1**
comp=Z,24nm,1.8s
WRH Wood River Hil 49.75 32 *e*P **P 08 27 25.0 +1.7**
comp=Z,7.4nm,1.6s
COLA College 49.84 32⇑ *i*P **P 08 27 27.3 +3.3**
COLA pmax pmax
comp=Z,2.0nm,1.0s
KSH Kashi 50.21 294 *e*P **P 08 27 31.6 +4.2**
KSH pmax pmax
comp=Z,4.0nm,0.4s
IL1 Eielson Array 50.26 32 *e*P **P 08 27 28.1 +0.9**
ILAR Eielson Array 50.26 32 P **P 08 27 25.2 -2.0**
comp=Z,1.0nm,0.6s,baz=271,slow=5.7,SNR=16
ILB Eielson Array 50.26 32 *e*P **P 08 27 27.9 +0.6**
DOT Dot Lake 51.57 33 *e*P **P 08 27 38.3 +1.1**
comp=Z,7.1nm,0.8s
EGAK Eagle 52.70 32 *e*P **P 08 27 46.4 +0.9**
comp=Z,13nm,1.8s
INK Inuvik 55.14 27 *e*P **P 08 28 06.2 +3.0**
INK pmax pmax
comp=Z,10.0nm,1.4s
INK Inuvik 55.14 27 *e*P **P 08 28 06.2 +3.0**
comp=Z,10nm,1.4s
FITZ Fitzroy Crossi 56.10 197 P **P 08 28 09.2 -1.4**
comp=Z,1.8nm,0.8s,baz=290,slow=10,SNR=2.5
FITZ Fitzroy Crossi 56.10 197 *e*P **P 08 28 12.1 +1.4**
comp=Z,48nm,1.9s
WRAB Tennant Creek 56.39 187 *e*P **P 08 28 10.4 -2.3**
WRAB pmax pmax
comp=Z,13nm,1.3s
WRAB Tennant Creek 56.39 187 *e*P **P 08 28 10.4 -2.3**
comp=Z,13nm,1.3s
WB2 Warramunga Arr 56.40 187 *e*P **P 08 28 10.5 -2.3**
comp=Z,13nm,1.3s
WRA Warramunga Arr 56.40 187 P **P 08 28 10.1 -2.7**
comp=Z,1.8nm,0.7s,baz=4.8,slow=7.3,SNR=30
ARU Arti 56.49 319 *d i*P **P 08 28 14.0 +0.9**
ARU 08 29 07.2
ARU 08 30 18.7
ARU S **S 08 36 03.0 -0.1**
ARU SS **SS 08 39 45.9 -4.0**
ARU pmax pmax
comp=Z,8.0nm,1.0s
FUNA Funafuti 57.44 133 *e*P **P 08 28 23.5 +3.3**
comp=Z,289nm,1.3s
ABKAR Akbulak array 57.96 310 *e*P **P 08 28 22.2 -1.4**
ASAR Alice Springs 60.13 187 P **P 08 28 36.0 -2.8**
comp=Z,1.2nm,0.7s,baz=11,slow=8.4,SNR=13
KLMR Klimovskoe 64.01 328 *e*P **P 08 29 02.0 -2.4**
KLMR *e**PP **sP 08 29 13.4 +0.3**
KLMR pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 64.39 339 P **P 08 29 06.3 -0.6**
comp=Z,1.2nm,0.7s,baz=60,slow=7.4,SNR=4.6
YKA Yellowknife Ar 64.57 30 P **P 08 29 07.0 -1.1**
comp=Z,0.6nm,0.7s,baz=295,slow=6.3,SNR=5.5
YKA Yellowknife Ar 64.57 30 P **P 08 29 07.0 -1.1**
OBN Obninsk 68.29 323 *e*P **P 08 29 30.3 -1.7**
OBN *e* 08 31 59.1
OBN pmax pmax
comp=Z,10.0nm,0.4s
FIA1 FINESS Array S 69.12 332 *e*P **P 08 29 38.0 +1.0**
FINES FINESS Array B 69.12 332 P **P 08 29 36.8 -0.3**
comp=Z,2.3nm,0.7s,baz=49,slow=8.8,SNR=7.3
COR Corvallis 69.23 49 *e*P **P 08 29 40.1 +2.0**
COR Corvallis 69.23 49 *e*P **P 08 29 40.1 +2.0**
comp=Z,129nm,1.8s
SUMG Summit 71.28 360 *e*P **P 08 29 53.8 +3.1**
SUMG pmax pmax
comp=Z,10.0nm,1.2s
SUMG Summit 71.28 360 *e*P **P 08 29 53.8 +3.1**
comp=Z,9.8nm,1.2s
FFC Flin Flon 74.47 32 *e*P **P 08 30 11.7 +2.3**
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 74.47 32 *e*P **P 08 30 11.7 +2.3**
comp=Z,5.8nm,1.0s
AKASG Malin Array Be 74.48 322 P **P 08 30 09.3 -0.2**
comp=Z,1.2nm,0.4s,baz=45,slow=6.1,SNR=8.8
KIEV Kiev 74.49 322⇑ P **P 08 30 10.5 +1.0**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
NB2 NORSAR Subarra 74.55 337 P **P 08 30 10.2 +0.4**
comp=Z,1.7nm,0.7s,baz=40,slow=6.2
NOA NORSAR Array B 74.55 337 P **P 08 30 10.0 +0.2**
comp=Z,1.1nm,0.6s,baz=42,slow=5.4,SNR=4.7
DLMT Dillon 75.11 44 *e*P **P 08 30 12.5 -1.0**
comp=Z,4.5nm,0.8s
BOZ Bozeman (W) 75.48 44 *e*P **P 08 30 15.8 +0.2**
BOZ pmax pmax
comp=Z,3.0nm,0.7s
BOZ Bozeman (W) 75.48 44 *e*P **P 08 30 15.8 +0.2**
comp=Z,2.8nm,0.7s
NV01 Mina Array Sit 75.73 53 *e*P **P 08 30 16.2 -1.1**
NVAR Mina Array Bea 75.73 53 P **P 08 30 15.9 -1.4**
comp=Z,2.0nm,0.7s,baz=299,slow=5.3,SNR=12
NVAR LR LR 08 54 35.9
comp=Z,19nm,21.5s,baz=340,slow=29
H17A Grant Village 76.84 44 *e*P **P 08 30 25.2 +1.8**
comp=Z,3.7nm,0.8s
IMW Indian Meadow 76.94 45 *e*P **P 08 30 24.2 +0.1**
comp=Z,3.2nm,0.8s
DUG Dugway, Tooele 78.11 49 *e*P **P 08 30 30.9 +0.4**
DUG pmax pmax
comp=Z,2.0nm,0.7s
DUG Dugway, Tooele 78.11 49 *e*P **P 08 30 30.9 +0.4**
comp=Z,2.1nm,0.7s
BW06 Boulder Array 78.43 45 *e*P **P 08 30 32.9 +0.6**
PD31 Pinedale Array 78.43 45 *e*P **P 08 30 32.6 +0.2**
PDAR Pinedale Array 78.43 45 P **P 08 30 30.4 -1.9**
comp=Z,1.1nm,0.6s,baz=267,slow=2.8,SNR=10
BRTR Keskin Array B 78.89 311 P **P 08 30 35.4 +0.5**
comp=Z,1.3nm,0.8s,baz=88,slow=4.5,SNR=6.6
BR231 Keskin MP Arra 79.33 312 *e*P **P 08 30 37.7 +0.5**
MSU Marysvale 79.54 50 *e*P **P 08 30 38.3 -0.2**
MSU Marysvale 79.54 50 *e*P **P 08 30 38.3 -0.2**
TMUT Trail Mountain 79.64 49 *e*P **P 08 30 40.1 +0.9**
comp=Z,3.4nm,1.0s
LCMT Little Creek M 79.80 51 *e*P **P 08 30 41.1 +1.2**
comp=Z,2.3nm,0.9s
MTPU Mount Pierson 79.83 50 *e*P **P 08 30 39.7 -0.5**
comp=Z,2.5nm,0.9s
KNB Kanab 80.06 51 *e*P **P 08 30 42.5 +1.2**
KNB pmax pmax
comp=Z,4.0nm,1.1s
KNB Kanab 80.06 51 *e*P **P 08 30 42.5 +1.2**
comp=Z,3.9nm,1.1s
SRU San Rafael Swe 80.17 48 *e*P **P 08 30 40.4 -1.5**
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 80.17 48 *e*P **P 08 30 40.4 -1.5**
comp=Z,4.3nm,0.7s
CLL Collm 81.38 330 *e*P **P 08 30 50.0 +2.2**
comp=Z,4.0nm,0.7s
CLL LmV 09 09 00.0
comp=Z,100nm,18.1s
CLL Collm 81.38 330 *e*P **P 08 30 50.0 +2.2**
CLL pmax pmax
comp=Z,4.0nm,0.7s
PV10 Paradox Valley 81.53 48 *e*P **P 08 30 50.2 +0.9**
URZ Urewera 81.54 152 LR LR 09 00 49.8
comp=Z,38nm,21.8s,baz=181,slow=31
SDCO Great Sand Dun 84.05 47 *e*P **P 08 31 05.2 +2.7**
comp=Z,1.6nm,0.9s
T25A Trinidad 85.10 47 *e*P **P 08 31 08.3 +0.7**
comp=Z,3.7nm,0.8s
ANMO Albuquerque 85.34 49⇑ *e*P **P 08 31 10.0 +1.2**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
BFO Black Forest 85.59 330 *ce*P **P 08 31 13.2 +3.6**
TXAR Lajitas Array 90.87 52 P **P 08 31 33.4 -1.8**
comp=Z,0.8nm,0.7s,baz=307,slow=3.0,SNR=11
HPIG 91.20 55 *e*P **P 08 31 37.9 +0.9**
comp=Z,16nm,0.6s
SNAA Sanae 140.03 197 PKP **PKPdf 08 37 57.6 -1.1**
SNAA Sanae 140.03 197 *e*PKIKP **PKPdf 08 37 58.0 -0.7**
SNAA Sanae 140.03 197 *e*PKPdf **PKPdf 08 37 58.0 -0.7**
LPAZ La Paz 147.41 60 PKPbc **PKPdf 08 38 13.8 -0.1**
comp=Z,0.7nm,0.9s,baz=333,slow=4.5,SNR=3.1
LPAZ La Paz 147.41 60 *e*PKPdf **PKPdf 08 38 14.0 +0.1**
LCO Las Campanas 152.56 83 *e*PKPbc **PKPbc 08 38 31.6 +3.4**

*ISCJB **10** 08:28:11.6±0.3, 7.°02S±0.°04×39.°60E±0.°05, h10km, mb4.4/22, MS4.0/21, Error ellipse: s-maj=7.1km s-min=5.9km az=43.4*
*IDC **10** 08:28:11.9±0.6, 6.°97S×39.°73E, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.2/35, mbtmp4.3/15, ML4.4/2, MS3.9/25, Ms1 3.9/25, ms1mx3.8/35, Error ellipse: s-maj=20.6km s-min=14.6km az=104.0*
*BJI **10** 08:28:12.9, 7.°10S×39.°60E, h10km, mb4.8/16, mB5.0/8, Ms4.7/4, Ms7 4.2/2*
*NEIC **10** 08:28:13.4±0.3, 7.°08S×39.°64E, h10km, mb4.8/13, Error ellipse: s-maj=10.9km s-min=7.0km az=103.0*
NEIC Felt [III] at Dar es Salaam. Also felt at Mkuranga and Zanzibar.

ISC 10 08:28:13.5±0.4, 6.°99S±0.°05×39.°55E±0.°06, h10km, n74, σ2s 04/65, mb4.6/22, MS4.0/21, 2D, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**3.86**	**282**	*i* P		**Pn**	**08 29 13.7**	**+0.6**
DODT				*i* S		**Sn**	**08 29 59.0**	**+0.4**
KMBO	**Kilima Mbogo**	**6.26**	**338**	Pn		**Pn**	**08 29 45.8**	**-0.5**
	15nm,0.3s,baz=152,slow=15,SNR=298							
KMBO				Sn		**Sn**	**08 30 53.4**	**-4.6**
	52nm,0.3s,baz=217,slow=22,SNR=12							
KMBO				LR		LR	08 32 18.0	
	comp=Z,2μm,20.6s,baz=112,slow=39							
KMBO	**Kilima Mbogo**	**6.26**	**338**	*e*Pn		**Pn**	**08 29 45.7**	**-0.6**
KMBO				*e*Sn		**Sn**	**08 30 53.2**	**-4.8**
NBI	**Nairobi**	**6.31**	**334**	*i* P		**Pn**	**08 29 46.8**	**-0.1**
NBI				*i* S		**Sn**	**08 30 56.8**	**-2.5**
LSZ	**Lusaka**	**13.85**	**233**	Pn		**Pn**	**08 31 29.6**	**-0.6**
	2.3nm,0.3s,baz=54,slow=13,SNR=21							
LSZ				Sn		Sn	08 33 53.0	-11
	2.4nm,0.3s,baz=334,slow=23,SNR=8.4							
LSZ				LR		LR	08 37 02.4	
	comp=Z,404nm,20.3s,baz=59,slow=38							
ABPO	**Ambohimpanom**	**14.09**	**149**	*e*Pn		**Pn**	**08 31 30.3**	**-3.2**
ABPO				*e*Sn		Sn	08 33 56.1	-14
KMZ	**Kasempa**	**14.94**	**243**	*i* P		**Pn**	**08 31 45.2**	**+0.1**
KMZ				*i*			08 31 45.4	
KMZ				*i*			08 31 45.5	
KMZ				*i*			08 31 47.6	
	baz=60,slow=8.6							
FURI	**Furi**	**15.81**	**357**	*e*Pn		**Pn**	**08 31 55.9**	**-0.8**
	25nm,0.7s							
MATP	**Matopo**	**17.12**	**218**	P		**Pn**	**08 32 10.7**	**-2.5**
	2.3nm,0.3s,baz=40,slow=13,SNR=23							
MATP				S		Sn	08 35 08.5	-15
	1.3nm,0.3s,baz=128,slow=23,SNR=11							
MATP				LR		LR	08 38 28.0	
	comp=Z,210nm,20.0s,baz=44,slow=36							
ATD	**Arta Tunnel**	**18.69**	**10**	P		**P**	**08 32 31.9**	**-0.3**
	0.8nm,0.3s,baz=237,slow=15,SNR=3.9							
ATD				S		S	08 36 19.0	+14
	1.5nm,0.3s,baz=255,slow=20,SNR=3.1							
ATD				LR		LR	08 40 14.9	
	comp=Z,474nm,20.9s,baz=164,slow=39							
RER	**Riviere de l'E**	**21.07**	**134**	*e*P		**P**	**08 33 02.9**	**+4.8**
	164nm,1.2s							
DAMY	**Dhamar**	**21.96**	**13**	*e*P		**P**	**08 33 10.5**	**+2.6**
	127nm,1.4s							
LBTB	**Lobatse**	**22.35**	**215**	P		**P**	**08 33 12.8**	**+1.0**
	13nm,0.8s,baz=32,slow=12,SNR=9.3							
LBTB				S		**S**	**08 37 11.8**	**-6.0**
	11nm,0.8s,baz=355,slow=20,SNR=4.1							
LBTB				LR		LR	08 42 03.9	
	comp=Z,369nm,18.1s,baz=50,slow=37							
LBTB	**Lobatse**	**22.35**	**215**	*e*P		**P**	**08 33 10.8**	**-1.0**
	37nm,1.2s							
LBTB				*e*S		**S**	**08 37 11.9**	**-5.9**
TSUM	**Tsumeb**	**24.56**	**238**	P		**P**	**08 33 35.2**	**+1.2**
	7.2nm,1.0s,baz=56,slow=9.6,SNR=9.7							
TSUM				S		S	08 38 08.2	+13
	0.9nm,0.5s,baz=29,slow=19,SNR=3.0							
TSUM				LR		LR	08 43 05.8	
	comp=Z,460nm,19.0s,baz=96,slow=36							
TSUM	**Tsumeb**	**24.56**	**238**	*e*P		**P**	**08 33 33.8**	**-0.1**
TSUM				S		S	08 38 08.2	+13
BOSA	**Boshof**	**25.40**	**210**	P		**P**	**08 33 42.1**	**+0.7**
	15nm,0.8s,baz=45,slow=8.3,SNR=15							
BOSA				S		S	08 38 28.9	+21
	17nm,1.1s,baz=292,slow=11,SNR=5.7							
BOSA				LR		LR	08 43 46.6	
	comp=Z,482nm,18.6s,baz=34,slow=37							
BOSA	**Boshof**	**25.40**	**210**	*e*P		**P**	**08 33 43.0**	**+1.6**
	28nm,1.0s							
BOSA				S		S	08 38 28.9	+21
H08N3	**Diego Garcia H**	**31.23**	**91**	T		T	09 06 47.4	
	baz=267,slow=76,SNR=55							
H08N2	**Diego Garcia H**	**31.24**	**91**	T		T	09 06 48.1	
	baz=267,slow=76,SNR=52							
H08N1	**Diego Garcia H**	**31.26**	**91**	T		T	09 06 49.1	
	baz=267,slow=76,SNR=53							
TOA0	**Torodi Ar. Sit**	**42.59**	**298**	*e*P		**P**	**08 36 12.0**	**+1.8**
	7.4nm,1.1s							
TORD	**Torodi Ar. Bea**	**42.59**	**298**	P		**P**	**08 36 11.2**	**+1.0**
	1.6nm,0.9s,baz=119,slow=7.9,SNR=8.8							
DBIC	**Dimbokro**	**46.33**	**286**	LR		LR	08 56 28.5	
	comp=Z,161nm,18.9s,baz=88,slow=36							
BRTR	**Keskin Array B**	**46.80**	**354**	P		**P**	**08 36 44.7**	**+1.1**
	0.4nm,0.4s,baz=179,slow=8.4,SNR=3.2							
BRTR				LR		LR	08 59 27.4	
	comp=Z,58nm,18.4s,baz=180,slow=40							
KBL	**Kabul**	**49.83**	**32**	*e*P		P	08 37 13.1	+5.9
	9.9nm,1.3s							
KBZ	**Khabaz**	**50.57**	**3**	LR		LR	09 00 19.9	
	comp=Z,101nm,18.3s,baz=162,slow=38							
KEST	**Kesra**	**51.12**	**328**	LR		LR	09 01 25.6	
	comp=Z,624nm,18.2s,baz=146,slow=39							
VSL	**Villasalto**	**54.03**	**331**	*e*P		**P**	**08 37 40.8**	**+2.7**
	28nm,1.4s							
KSH	**Kashi**	**57.23**	**33**	P		**P**	**08 38 00.3**	**-1.0**
KSH				pP		sP	08 38 05.8	0.0
KSH				PcP		**PcP**	**08 38 54.7**	**-1.0**
KSH				PP		**PP**	**08 40 08.3**	**-0.3**
KSH				S		**S**	**08 45 53.1**	**-4.3**
KSH				ScS		**ScS**	**08 47 48.3**	**-2.9**
KSH				PMZ				
	4.0nm,0.3s							
KSH				PMZ				
	67nm,5.2s							
KSH				LN				
	180nm,10.9s							
KSH				LE				
	200nm,12.6s							
KKAR	**Karatay Array**	**57.24**	**27**	*e*P		**P**	**08 38 01.8**	**+0.6**
PSZ	**Piszkestető**	**57.36**	**344**	*e*P		**P**	**08 38 03.1**	**+1.1**
	5.7nm,0.7s							
AKASG	**Malin Array Be**	**58.15**	**352**	P		**P**	**08 38 06.4**	**-0.9**
	0.1nm,0.2s,baz=177,slow=5.9,SNR=2.6							
ABKAR	**Akbulak array**	**58.78**	**15**	*e*P		**P**	**08 38 13.3**	**+1.5**
OKC	**Ostrava-Krasne**	**59.59**	**344**	AMS		AMS	09 12 30.0	
	100nm,12.8s							
GERES	**GERESS Array B**	**60.04**	**341**	LR		LR	09 05 05.3	
	comp=Z,74nm,21.9s,baz=194,slow=37							
KHC	**Kasperske Hory**	**60.33**	**341**	AMS		AMS	09 15 10.0	
	100nm,16.5s							
UPC	**Upice**	**60.79**	**343**	AMS		AMS	09 11 00.0	
	100nm,14.7s							
ES19	**SONSECA Array**	**61.38**	**323**	*e*P		**P**	**08 38 30.8**	**+0.9**
ESDC	**Sonseca Array**	**61.40**	**323**	P		**P**	**08 38 31.3**	**+1.3**
	0.2nm,0.3s,baz=131,slow=6.4,SNR=6.8							
ESDC				LR		LR	09 04 57.7	
	comp=Z,122nm,18.4s,baz=145,slow=36							
SYO	**Syowa Base**	**61.94**	**180**⇓	*e*P		**P**	**08 38 31.8**	**-1.3**
SYO	**Syowa Base**	**61.94**	**180**⇓	*i*pP		**P**	**08 38 34.0**	**+0.9**
MAW	**Mawson**	**62.55**	**170**	P		**P**	**08 38 37.9**	**+0.7**
	9.4nm,0.7s,baz=343,slow=7.5,SNR=18							
MAW				LR		LR	09 03 17.3	
	comp=Z,122nm,18.6s,baz=336,slow=34							
MAW	**Mawson**	**62.55**	**170**	*e*P		**P**	**08 38 38.4**	**+1.2**
	3.2nm,0.9s							
CMAR	**Chiang Mai Arr**	**63.79**	**66**	P		**P**	**08 38 45.6**	**-0.8**
	4.1nm,0.3s,baz=257,slow=7.6,SNR=5.4							
CMAR				LR		LR	09 02 48.7	
	comp=Z,28nm,20.5s,baz=240,slow=33							
ZRNK	**Zerenda**	**64.74**	**19**	*e*P		**P**	**08 38 55.6**	**+3.6**
	3.0nm,0.9s							
ARU	**Arti**	**65.11**	**12**	*e*P		**P**	**08 38 54.4**	**+0.1**
	14nm,1.0s							
ARU				*e*			08 39 03.4	
MAKZ	**Makanchi**	**65.45**	**31**	*e*P		**P**	**08 38 57.2**	**+0.5**
	16nm,1.2s							
MK01	**Makanchi Array**	**65.59**	**31**	*e*P		**P**	**08 38 57.1**	**-0.5**
MK31	**Makanchi Array**	**65.60**	**31**	*e*P		**P**	**08 38 58.1**	**+0.4**
MKAR	**Makanchi Array**	**65.60**	**31**	P		**P**	**08 38 56.5**	**-1.3**
	1.4nm,0.8s,baz=226,slow=6.1,SNR=12							
MKAR	**Makanchi Array**	**65.60**	**31**	*e*P		**P**	**08 38 58.1**	**+0.4**
WMQ	**Urumqi**	**66.67**	**36**	P		**P**	**08 39 05.5**	**+0.8**
FINES	**FINESS Array B**	**69.03**	**353**	LR		LR	09 13 30.1	
	comp=Z,65nm,18.2s,baz=196,slow=39							
KMI	**Kunming**	**69.22**	**60**	P		**P**	**08 39 22.8**	**+1.5**
KMI				PMZ				
	19nm,0.5s							
KMI				PMZ				
	73nm,4.2s							
NOA	**NORSAR Array B**	**71.36**	**346**	LR		LR	09 15 40.9	
	comp=Z,33nm,18.5s,baz=220,slow=40							
ZAA0	**Zalesovo Array**	**71.61**	**26**	*e*P		**P**	**08 39 34.6**	**-0.4**
ZALV	**Zalesovo Beam**	**71.61**	**26**	P		**P**	**08 39 34.5**	**-0.6**
	0.6nm,0.5s,baz=248,slow=7.6,SNR=3.6							
QIZ	**Qiongzhong**	**73.89**	**68**	P		**P**	**08 39 49.1**	**-0.2**
QIZ				S		**S**	**08 49 23.6**	**+1.9**
QIZ				PMZ				
	12nm,1.7s							
ARCES	**ARCESS Array B**	**76.97**	**355**	LR		LR	09 17 05.0	
	comp=Z,52nm,20.0s,baz=168,slow=38							
SONM	**Songino Array**	**80.00**	**39**	LR		LR	09 18 34.1	
	comp=Z,21nm,20.1s,baz=266,slow=38							
HHC	**Hu-ho-hao-te**	**81.16**	**47**	*e*P		**P**	**08 40 30.2**	**+0.5**
HHC				pP		PcP	08 40 35.0	-1.0
HHC				sP		sP	08 40 37.3	+3.1
HHC				S		**S**	**08 50 39.5**	**-0.5**
HHC				PMZ				
	23nm,1.1s							
HHC				PMZ				
	90nm,5.5s							
HHC				LN				
	100nm,14.9s							
HHC				LE				
	120nm,14.4s							
NRIK	**Noril'sk**	**82.95**	**15**	LR		LR	09 24 25.4	
	comp=Z,89nm,18.3s,baz=260,slow=41							
QSPA	**South Pole Qui**	**83.07**	**180**	*e*P		**P**	**08 40 39.9**	**+0.6**
BDFB	**Brasilia**	**85.81**	**255**	LR		LR	09 16 18.8	
	comp=Z,62nm,19.0s,baz=66,slow=34							
VNDA	**Vanda**	**89.85**	**169**	LR		LR	09 20 13.7	
	comp=Z,114nm,18.2s,baz=234,slow=35							
ASAR	**Alice Springs**	**91.19**	**114**	P		**P**	**08 41 18.7**	**-0.9**
	2.6nm,1.0s,baz=263,slow=4.9,SNR=12							
AS01	**Alice Springs**	**91.24**	**114**	*e*P		**P**	**08 41 18.2**	**-1.6**
WRA	**Warramunga Arr**	**92.12**	**110**	P		**P**	**08 41 22.7**	**-1.2**
	2.0nm,1.0s,baz=264,slow=3.1,SNR=7.3							
CPUP	**Villa Florida**	**93.06**	**243**	LR		LR	09 21 59.0	
	comp=Z,58nm,18.2s,baz=100,slow=35							
MDJ	**Mudanjiang**	**94.89**	**46**	P		**P**	**08 41 36.4**	**+0.3**
MDJ				PMZ				
	6.0nm,0.4s							
STKA	**Stephens Creek**	**96.47**	**123**	LR		LR	09 21 51.2	
	comp=Z,45nm,18.1s,baz=209,slow=33							
SIV	**San Ignacio**	**98.21**	**253**	LR		LR	09 25 05.6	
	comp=Z,71nm,18.1s,baz=138,slow=35							
NVAR	**Mina Array Bea**	**142.84**	**331**	PKP		**PKPdf**	**08 47 48.1**	**0.0**
	0.2nm,0.5s,baz=85,slow=2.0,SNR=3.7							

*ATH **10** 08:42:22.8, 38.°18N×26.°68E, h26km±1km, ML2.2/5, Error ellipse: s-maj=2.5km s-min=1.0km az=73.0*
*ISCJB **10** 08:42:23.7±0.5, 38.°18N±0.°03×26.°66E±0.°05, h11km±4km, Error ellipse: s-maj=7.5km s-min=3.5km az=137.5*
*DDA **10** 08:42:23.7, 38.°16N×26.°66E, h7km, Md2.7*
*CSEM **10** 08:42:24.0±0.1, 38.°18N×26.°66E, h15km, ML2.2, Error ellipse: s-maj=5.0km s-min=2.4km az=54.0*

ISC 10 08:42:23.6±0.9, 38.°19N±0.°03×26.°65E±0.°03, h13km±6km, n19, σ0s30/35, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZEY	**˜zmir**	**0.13**	**295**	*i* P		**Pg**	**08 42 27.0**	**0.0**
ZEY				*i* S		**Sg**	**08 42 29.5**	**+0.1**
DGB	**˜zmir**	**0.23**	**126**	*i* P		**Pg**	**08 42 28.5**	**0.0**
DGB				*i* S		**Sg**	**08 42 31.8**	**0.0**
SMG	**Samos**	**0.50**	**163**	P		**Pg**	**08 42 33.1**	**-0.3**
SMG				S		**Sg**	**08 42 40.0**	**-0.1**
SMG	**Samos**	**0.50**	**163**	P		**Pg**	**08 42 33.1**	**-0.3**
SMG				S		**Sg**	**08 42 40.0**	**-0.1**
SMG				AML		AML	08 42 40.5	
	comp=E,607μm,0.2s							
SMG				AML		AML	08 42 40.8	
	comp=N,486μm,0.2s							
CHOS	**Chios island**	**0.51**	**293**	P		**Pg**	**08 42 34.0**	**+0.3**
CHOS				S		**Sb**	**08 42 41.9**	**0.0**
CHOS	**Chios island**	**0.51**	**293**	P		**Pg**	**08 42 34.0**	**+0.3**
CHOS				S		**Sb**	**08 42 41.9**	**0.0**
CHOS				AML		AML	08 42 45.6	
	comp=N,1019μm,0.2s							
CHOS				AML		AML	08 42 46.3	
	comp=E,1352μm,0.1s							
GCAM	**G?zelcaml?**	**0.67**	**136**	P		**Pb**	**08 42 37.7**	**+0.6**
GCAM				S		**Sg**	**08 42 45.5**	**+0.1**
GCAM	**G?zelcaml?**	**0.67**	**136**	*i* P		**Pb**	**08 42 37.7**	**+0.6**
GCAM				*i* S		**Sg**	**08 42 45.5**	**+0.1**
PRK	**Paraskevi**	**1.10**	**344**	P		**Pb**	**08 42 44.4**	**-0.1**
PRK				S		**Sn**	**08 43 00.0**	**+0.2**
PRK	**Paraskevi**	**1.10**	**344**	P		**Pb**	**08 42 44.4**	**-0.1**
PRK				S		**Sn**	**08 43 00.0**	**+0.2**
PRK				AML		AML	08 43 02.4	
	comp=E,218μm,0.3s							
PRK				AML		AML	08 43 03.0	
	comp=N,482μm,0.4s							
AYDN	**Tasoluk**	**1.10**	**118**	P		**Pn**	**08 42 44.8**	**0.0**
AYDN				S		**Sb**	**08 42 58.7**	**-0.2**
AYDN	**Tasoluk**	**1.10**	**118**	*i* P		**Pn**	**08 42 44.8**	**0.0**
AYDN				*i* S		**Sb**	**08 42 58.7**	**-0.2**
SIGR	**SIGRI**	**1.20**	**329**	P		**Pn**	**08 42 45.9**	**-0.2**
SIGR				S		**Sb**	**08 43 00.8**	**-0.8**
SIGR	**SIGRI**	**1.20**	**329**	P		**Pn**	**08 42 45.9**	**-0.2**
SIGR				S		**Sb**	**08 43 00.8**	**-0.8**
SIGR				AML		AML	08 43 02.3	
	comp=E,113μm,0.3s							
SIGR				AML		AML	08 43 02.8	
	comp=N,166μm,0.3s							
APE	**Apeiranthos**	**1.43**	**219**	P		**Pb**	**08 42 49.9**	**-0.2**
APE				S		**Sb**	**08 43 08.2**	**0.0**
APE	**Apeiranthos**	**1.43**	**219**	P		**Pb**	**08 42 49.9**	**-0.2**
APE				S		**Sb**	**08 43 08.2**	**0.0**
APE				AML		AML	08 43 11.0	
	comp=E,97μm,0.2s							

comp=Z,69nm,20.9s,baz=84,slow=38
WRA Warramunga Arr 23.89 235 P P 08 51 35.0 +0.3
2.1nm,0.8s,baz=59,slow=9.7,SNR=12
WRA PcP PcP 08 55 18.3 +0.3
0.4nm,0.6s,baz=56,slow=2.9,SNR=3.9
ASAR Alice Springs 26.27 228 P P 08 51 56.2 -0.3
0.6nm,0.8s,baz=60,slow=8.7,SNR=7.3
SONM Songino Array 69.06 327 P P 08 57 27.4 +0.4
0.4nm,0.5s,baz=134,slow=4.2,SNR=2.3
MKAR Makanchi Array 83.14 319 P P 08 58 47.4 +0.2
0.9nm,0.7s,baz=111,slow=5.8,SNR=5.0
TORD Torodi Ar. Bea 152.86 286 PKPbc PKPbc 09 06 18.5 -1.0
1.2nm,0.7s,baz=61,slow=2.3,SNR=8.4

---

*ISCJB **10** 08:47:02.7±1.1,36°.55N±0°.08×71°.0E±0°.1,h100km, Error ellipse: s-maj=18.6km s-min=6.8km az=148.7*
*NNC **10** 08:47:06.9±10.0, 36°.99N×70°.90E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=83.4km s-min=48.3km az=173.0*
ISC 10 08:47:03.9±1.6, 36°.57N±0°.10×71°.0E±0°.1, h100km, n4, σ1ş48/8, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.82**	**323**	⇓Pn		**Pn**	**08 47 48.2**	**+0.8**
	19nm,0.4s							
DZET				⇑Sn		**Sn**	**08 48 20.7**	**-0.2**
	22nm,0.4s							
THN	**Thein Dam**	**5.67**	**135**	*e*P		**Pn**	**08 48 26.0**	**+0.3**
THN				*e*S		**Sn**	**08 49 29.0**	**-0.4**
MNAS	**Manas**	**6.02**	**11**	⇑Pn		**Pn**	**08 48 31.7**	**+1.2**
	0.5nm,0.4s							
MNAS				⇓Sn		**Sn**	**08 49 39.4**	**+1.3**
	5.2nm,0.5s							
KK31	**Karatay Array**	**6.53**	**357**	⇓Pn		**Pn**	**08 48 36.9**	**-0.5**
	0.7nm,0.3s,baz=180,slow=13,SNR=4.3							
KK31				Sn		**Sn**	**08 49 47.8**	**-2.6**
	1.2nm,0.3s,baz=187,slow=25,SNR=12							

KRSC 10 09:01:00.2±1.1, 50°.47N×157°.04E, h17km±20km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.62**	**290**	*e*P		Pg	09 01 12.2	-0.3
SKR				*e*S		Sb	09 01 21.2	+0.1
ASAK	**Asacha**	**1.99**	**15**	*e*P		Pb	09 01 35.6	-0.4
RUS	**Russkaya**	**2.17**	**25**	*e*P		Pn	09 01 36.5	+1.0
RUS				*e*P		Pb	09 01 36.8	-2.2
RUS				*e*S		Sn	09 02 03.6	+1.6
UGLR	**Uglovaya**	**2.96**	**21**	*e*P		Pb	09 01 49.7	-2.8
AVH	**Avacha**	**2.99**	**20**	*e*P		Pn	09 01 49.9	+3.0
AVH				*e*S		Sb	09 02 26.5	-2.7
SMAR	**Somma**	**3.00**	**21**	*e*P		Pn	09 01 50.0	+2.8
KRER	**Koryakskii**	**3.03**	**20**	*e*P		Pn	09 01 49.8	+2.3
SDLR	**Sedlovina**	**3.03**	**21**	*e*P		Pn	09 01 50.4	+2.9
KRX	**Arik**	**3.06**	**18**	*e*S		Sn	09 02 26.5	+2.4
GNL	**Ganaly**	**3.27**	**9**	*e*P		Pn	09 01 54.3	+3.5

IDC 10 09:04:49.1±2.4, 7°.37S×128°.31E, h0km, mb4.4/1, mb1 4.0/3, mb1mx3.6/30, mbtmp3.9/3, ML3.7/2, Error ellipse: s-maj=285.6km s-min=30.8km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.80**	**156**	Pn		Pn	09 08 04.6	-1.6
	0.4nm,0.3s,baz=333,slow=14,SNR=39							
WRA				Sn		Sn	09 10 25.4	-15
	1.0nm,0.3s,baz=330,slow=23,SNR=10							
ASAR	**Alice Springs**	**17.07**	**162**	Pn		P	09 08 50.8	-0.5
	0.2nm,0.3s,baz=337,slow=8.8,SNR=18							
ASAR				Sn		Sn	09 11 54.2	-5.7
	0.3nm,0.3s,baz=345,slow=28,SNR=5.5							
MKAR	**Makanchi Array**	**67.63**	**328**	P		P	09 15 47.9	0.0
	1.6nm,0.4s,baz=117,slow=8.2,SNR=18							

IDC 10 09:08:31.2±57.0, 18°.83S×174°.96W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.6/3, Error ellipse: s-maj=1069.0km s-min=164.4km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.09**	**243**	P		P	09 16 17.0	+0.1
	1.1nm,0.8s,baz=80,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**47.69**	**260**	P		P	09 17 10.0	+0.1
	0.2nm,0.3s,baz=97,slow=7.3,SNR=12							
ASAR	**Alice Springs**	**47.70**	**255**	P		P	09 17 09.4	-0.6
	0.6nm,0.7s,baz=96,slow=7.4,SNR=6.0							

---

*IDC **10** 09:14:08.2±1.5, 34°.12S×73°.67W, h0km, mb3.7/2, mb1 4.1/4, mb1mx3.8/23, mbtmp3.9/4, ML4.2/2, Error ellipse: s-maj=50.5km s-min=26.0km az=79.0*
*GUC **10** 09:14:09.8±0.7, 34°.08S×73°.19W, h14km±10km, ML3.7*
ISC 10 09:14:10.7±1.1, 34°.00S±0°.05×72°.96W±0°.08, h10km, n16, σ2ş31/23, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.77**	**142**	⇑*i*P		**Pb**	**09 14 41.4**	**-1.8**
TALC				*i*S		**Sg**	**09 15 04.4**	**-3.2**
RCDM	**Rinconada Maip**	**1.86**	**75**	⇑*i*P		**Pb**	**09 14 44.0**	**-0.9**
RCDM				*i*S		**Sg**	**09 15 10.6**	**-0.1**
ROCH	**El Roble**	**1.93**	**58**	⇑*i*P		**Pb**	**09 14 45.8**	**-0.3**
ROCH				IAML			09 15 17.0	
	comp=N,537nm,0.5s							
ANTU	**Antumapu**	**1.98**	**78**	*e*S		**Sg**	**09 15 14.9**	**+0.4**
ANTU				IAML			09 15 15.9	
	comp=E,770nm,0.3s							
PEL	**Peldehue**	**2.08**	**66**	*e*P		**Pb**	**09 14 48.7**	**+0.1**
PEL				*i*S		**Sg**	**09 15 17.6**	**-0.1**
PEL				IAML			09 15 20.1	
	comp=N,699nm,0.4s							
CLCH	**Cerro Calan**	**2.11**	**74**	*e*P		**Pb**	**09 14 48.5**	**-0.5**
CLCH				*i*S		**Sg**	**09 15 18.1**	**-0.4**
CLCH				IAML			09 15 23.4	
	comp=E,401nm,0.2s							
FCH	**Farellones**	**2.33**	**74**	*e*P		**Pb**	**09 14 52.2**	**-0.8**
FCH				*i*S		**Sg**	**09 15 24.4**	**-1.0**
FCH				IAML			09 15 25.7	
	comp=N,960nm,0.1s							
AUSP	**Uspallata**	**3.48**	**60**	*i*P		**Pb**	**09 15 10.1**	**-2.6**
AUSP				*i*S		**Sg**	**09 15 59.4**	**-3.3**
ARCO	**CERRO ARCO**	**3.56**	**72**	*i*P		**Pb**	**09 15 12.3**	**-1.6**
ARCO				*i*S		**Sg**	**09 16 03.0**	**-2.1**
ARCO				IAML			09 16 06.1	
	comp=Z,33nm,0.3s							
RTLS	**Leoncito**	**3.78**	**55**	*i*P		**Pb**	**09 15 13.5**	**-4.3**
AMOG	**MOGNA**	**4.86**	**52**	*i*P		**Pn**	**09 15 27.4**	**+3.4**
PLCA	**Paso Flores**	**6.98**	**165**	Pn		**Pn**	**09 15 51.9**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=350,slow=10,SNR=18							
PLCA				Sn		**Sn**	**09 17 17.8**	**+5.1**
	comp=Z,0.2nm,0.3s,baz=42,slow=20,SNR=1.5							
LPAZ	**La Paz**	**18.17**	**15**	P		**P**	**09 18 26.0**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=194,slow=7.1,SNR=10							
SIV	**San Ignacio**	**20.89**	**34**	P		Pn	09 18 57.0	+1.2
	comp=Z,1.9nm,0.7s,baz=213,slow=9.2,SNR=3.7							
TXAR	**Lajitas Array**	**69.37**	**332**	P		**P**	**09 25 16.9**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=160,slow=8.4,SNR=15							
KURBB	**Kurchatov Arra**	**153.39**	**43**	PKPab		**PKPab**	**09 34 21.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=284,slow=5.9,SNR=3.2							

---

*IDC **10** 09:25:24.1±2.3, 6°.12S×101°.37E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/46, mbtmp3.8/7, MS3.0/3, Ms1 3.1/3, ms1mx2.6/40, Error ellipse: s-maj=90.9km s-min=18.1km az=56.0*
*ISCJB **10** 09:25:26.7±0.6, 5°.94S±0°.05×101°.72E±0°.04, h22km, mb4.0/9, MS2.9/3, Error ellipse: s-maj=7.7km s-min=5.3km az=32.8*
*NEIC **10** 09:25:30.7±0.9, 5°.88S×101°.76E, h35km, mb4.2/2, Error ellipse: s-maj=23.5km s-min=11.0km az=56.0*
*DJA **10** 09:25:33.3±0.5, 6°.5±7°×10°.2E±°, h125km±11km, M4.5/11, mb4.7/6, mB5.0/4, MLv4.4/11, Mw(mB)4.4/4*
ISC 10 09:25:29.3±1.0, 5°.86S±0°.08×101°.80E±0°.08, h22km, n38, σ1ş52/37, mb4.0/9, MS2.9/3, Southwest of Sumatera

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

MNAI	**Manna**	**1.88**	**38**	P		**Pb**	**09 26 02.1**	**-0.9**
MNAI				S		**Sn**	**09 26 24.8**	**+1.5**
MNAI	**Manna**	**1.88**	**38**	*e*Pn		**Pn**	**09 26 00.9**	**+0.7**
KSI	**Kapahiang**	**2.33**	**20**	P		**Pn**	**09 26 07.3**	**+0.9**
LWLI	**Liwa**	**2.40**	**70**	P		**Pn**	**09 26 08.9**	**+1.5**
LWLI				S		**Sn**	**09 26 36.5**	**+0.3**
KASI	**Kota Agung**	**2.71**	**83**	P		**Pn**	**09 26 13.2**	**+1.7**
KASI				S		**Sn**	**09 26 44.8**	**+1.2**
MASI	**Maura Aman, Be**	**2.73**	**9**	P		**Pn**	**09 26 12.8**	**+0.9**
KLSI		**3.14**	**68**	P		**Pn**	**09 26 13.5**	**-4.0**
KLSI				S		**Sn**	**09 26 53.5**	**-0.9**
BLSI	**Bandar Lampung**	**3.47**	**82**	S		**Sn**	**09 27 03.5**	**+1.1**
CGJI	**Cibinong**	**3.95**	**101**	P		**Pn**	**09 26 30.3**	**+1.8**
CBJI	**Citeko**	**5.06**	**97**	P		**Pn**	**09 26 47.8**	**+4.0**
	576nm,0.7s,45μm4.0nm							
PDSI	**Padang**	**5.09**	**345**	P		**Pn**	**09 26 42.1**	**-2.2**
CNJI	**Cibinong**	**5.49**	**106**	P		**Pn**	**09 26 49.4**	**-0.4**
	99nm,0.9s,2μm0.5nm							
RGRI	**Rengat**	**5.50**	**6**	P		**Pn**	**09 26 49.4**	**-0.5**
PPI	**Padang Panjang**	**5.54**	**345**	P		**Pn**	**09 26 51.2**	**+0.7**
LEM	**Lembang**	**5.87**	**100**	P		**Pn**	**09 26 56.0**	**+0.9**
CISI	**Cisompet, Garu**	**6.21**	**106**	P		**Pn**	**09 26 59.4**	**-0.4**
	107nm,0.6s,2.4nm							
CISI	**Cisompet, Garu**	**6.21**	**106**	*e*Pn		**Pn**	**09 26 59.5**	**-0.2**
	76nm,0.3s							
CISI				*e*Sn		**Sn**	**09 28 10.6**	**+0.4**
TPI	**Tanjungpandan**	**6.60**	**62**	P		**Pn**	**09 27 02.3**	**-2.8**
	5.3nm,0.7s,93nm0.0nm							
CMJI	**Cimerak**	**6.88**	**107**	P		**Pn**	**09 27 08.5**	**-0.3**
	95nm,0.6s,2μm0.4nm							
MNSI	**Mandailing Nat**	**6.97**	**341**	P		**Pn**	**09 27 11.5**	**+1.4**
KPJI	**Karang Pucung**	**7.24**	**102**	P		**Pn**	**09 27 14.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**24.32**	**353**	LR		LR	09 41 39.7	
	comp=Z,41nm,19.4s,baz=220,slow=40							
PALK	**Pallekele**	**24.76**	**302**	LR		LR	09 39 14.2	
	comp=Z,37nm,19.7s,baz=15,slow=34							
FITZ	**Fitzroy Crossi**	**26.26**	**120**	*e*P		**P**	**09 31 03.4**	**+0.2**
	4.7nm,0.9s							
H08S2	**Diego Garcia H**	**29.15**	**265**	T		T	10 02 59.8	
	baz=87,slow=75,SNR=15							
H08S3	**Diego Garcia H**	**29.16**	**265**	T		T	10 02 55.4	
	baz=87,slow=75,SNR=18							
H08S1	**Diego Carcia H**	**29.17**	**265**	T		T	10 02 47.0	
	baz=87,slow=75,SNR=13							
NWAO	**Narrogin (SRO)**	**30.53**	**154**	LR		LR	09 44 27.5	
	comp=Z,22nm,19.0s,baz=322,slow=38							
WRA	**Warramunga Arr**	**34.58**	**117**	P		**P**	**09 32 16.4**	**-0.4**
	1.9nm,0.7s,baz=290,slow=11,SNR=17							
WRAB	**Tennant Creek**	**34.59**	**117**	*e*P		**P**	**09 32 17.0**	**+0.2**
	3.3nm,0.7s							
ASAR	**Alice Springs**	**35.60**	**123**	P		**P**	**09 32 25.4**	**-0.2**
	1.4nm,0.6s,baz=302,slow=8.0,SNR=21							
STKA	**Stephens Creek**	**45.29**	**130**	P		**P**	**09 33 45.8**	**+0.2**
	3.3nm,0.6s,baz=294,slow=7.2,SNR=9.0							
SONM	**Songino Array**	**53.62**	**4**	P		**P**	**09 34 50.2**	**+1.2**
	0.6nm,0.8s,baz=183,slow=9.5,SNR=3.2							
MKAR	**Makanchi Array**	**55.20**	**344**	P		**P**	**09 34 59.8**	**-0.7**
	0.3nm,0.5s,baz=156,slow=7.6,SNR=3.0							
KURBB	**Kurchatov Arra**	**59.73**	**343**	P		**P**	**09 35 30.3**	**-1.9**
	1.6nm,1.2s,baz=153,slow=7.7,SNR=3.6							
KURK	**Kurchatov**	**59.79**	**343**	P		**P**	**09 35 30.4**	**-2.3**
KLR	**Kul'dur**	**60.76**	**22**	P		**P**	**09 35 40.2**	**+0.9**
	0.4nm,0.4s,baz=170,slow=5.1,SNR=2.5							
TXAR	**Lajitas Array**	**146.48**	**43**	PKPbc		**PKPbc**	**09 45 09.7**	**+0.1**
	0.6nm,0.8s,baz=321,slow=1.4,SNR=12							

IDC 10 09:31:51.2±537.0, 50°.39N×112°.61E, h0km, Error ellipse: s-maj=202.8km s-min=100.1km az=61.0, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**4.83**	**240**	*i*			10 02 10.0	
	baz=55,slow=324,SNR=0.6							
I45RU	**USSURIYSK INFR**	**14.51**	**108**	*i*			11 02 18.7	
	baz=300,slow=315,SNR=1.9							
I46RU	**ZALESOVO INFRA**	**17.36**	**293**	*i*			11 21 50.0	
	baz=89,slow=322,SNR=0.8							

---

*SJA **10** 09:35:40.4±0.7, 32°.40S×72°.19W, h17km±10km, ML3.3, MW3.9*
*GUC **10** 09:35:45.3±0.7, 32°.22S×71°.74W, h36km±3km, ML3.7*
ISC 10 09:35:40.6±3.8, 32°.36S±0°.07×72°.3W±0°.1, h15km±28km, n15, σ1ş45/23, 4C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.21**	**121**	*i*P		**Pb**	**09 36 02.4**	**-0.9**
ROCH	**El Roble**	**1.21**	**120**	IAML			09 36 19.1	
	comp=E,2μm,0.4s							
PEL	**Peldehue**	**1.53**	**121**	⇓*i*P		**Pn**	**09 36 07.7**	**+0.2**
PEL				*i*S		**Sn**	**09 36 25.0**	**-2.2**
PEL				IAML			09 36 27.7	
	comp=N,4μm,0.3s							
STL	**Santa Lucia**	**1.73**	**129**	⇑*i*P		**Pn**	**09 36 11.3**	**+1.2**
STL				*i*S		**Sn**	**09 36 32.1**	**+0.1**
CLCH	**Cerro Calan**	**1.77**	**126**	⇑*i*P		**Pn**	**09 36 11.9**	**+1.1**
CLCH				*i*S		**Sn**	**09 36 31.8**	**-1.3**
CLCH				IAML			09 36 41.5	
	comp=N,1μm,0.7s							
ANTU	**Antumapu**	**1.82**	**132**	⇑*i*P		**Pn**	**09 36 13.2**	**+1.8**
ANTU				*e*S		**Sn**	**09 36 34.0**	**-0.2**
ANTU				IAML			09 36 41.1	
	comp=N,1μm,0.4s							
FSR	**Penalolen**	**1.83**	**128**	⇓*i*P		**Pn**	**09 36 13.2**	**+1.7**
FSR				*i*S		**Sn**	**09 36 34.1**	**-0.4**
FCH	**Farellones**	**1.91**	**121**	⇑*i*P		**Pn**	**09 36 13.7**	**+0.7**
FCH				*i*S		**Sn**	**09 36 35.6**	**-1.3**
FCH				IAML			09 36 37.5	
	comp=E,1μm,0.3s							
SJCH	**San Jose de Ma**	**2.04**	**129**	⇓*i*P		**Pn**	**09 36 16.2**	**+1.7**
SJCH				*i*S		**Sn**	**09 36 39.8**	**0.0**
AUSP	**Uspallata**	**2.43**	**88**	*i*P		**Pn**	**09 36 21.7**	**+1.7**
AUSP				*i*S		**Sb**	**09 36 52.8**	**-1.3**
TLL	**Tololo Astrono**	**2.52**	**30**	*e*P		**Pn**	**09 36 21.6**	**+0.4**
TLL				IAML			09 36 56.6	
	comp=N,1μm,1.1s							
RTLS	**Leoncito**	**2.57**	**78**	*i*P		**Pn**	**09 36 24.1**	**+2.1**
ARCO	**CERRO ARCO**	**2.84**	**101**	*i*P		**Pn**	**09 36 27.5**	**+1.9**
ARCO				*i*S		**Sn**	**09 37 01.4**	**+1.8**
ARCO				IAML			09 37 11.8	
	comp=Z,103nm,0.4s							
RTCV	**Cerro Valdivia**	**3.19**	**82**	*i*P		**Pn**	**09 36 31.8**	**+1.6**
LCO	**Las Campanas**	**3.60**	**22**	*e*P		**Pn**	**09 36 36.7**	**+0.6**

---

*DDA **10** 09:44:34.3, 40°.61N×26°.53E, h7km, Md2.3*
*CSEM **10** 09:44:34.6±0.1, 40°.62N×26°.54E, h5km, MD2.7, Error ellipse: s-maj=2.5km s-min=1.9km az=177.0*
*THE **10** 09:44:34.3, 40°.61N×26°.55E, h0km±1km, ML1.7/4, Error ellipse: s-maj=2.5km s-min=0.7km az=64.0*
*ISK **10** 09:44:34.1, 40°.62N×26°.54E, h8km, MD2.7*
ISC 10 09:44:34.4±0.9, 40°.61N±0°.02×26°.54E±0°.02, h8km±7km, n41, σ0ş59/66, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERIK	**Erikli-Kesan**	**0.07**	**341**	*e*PG		**Pg**	**09 44 36.0**	**-0.3**
ERIK	**Erikli-Kesan**	**0.07**	**341**	*e*Pg		**Pg**	**09 44 36.0**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.22**	**194**	*e*PG		**Pg**	**09 44 39.1**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.22**	**194**	*e*Pg		**Pg**	**09 44 39.1**	**+0.3**
KESN	**Edirne-Kesan**	**0.24**	**26**	P		**Pg**	**09 44 39.3**	**-0.1**
KESN				S		**Sg**	**09 44 43.9**	**+1.1**
KESN	**Edirne-Kesan**	**0.24**	**26**	*i*P		**Pg**	**09 44 39.3**	**-0.1**
KESN				*i*S		**Sg**	**09 44 43.9**	**+1.1**
LPK	**Lapseki**	**0.29**	**145**	*e*PG		**Pb**	**09 44 41.1**	**-0.8**
LPK	**Lapseki**	**0.29**	**145**	*e*Pg		**Pb**	**09 44 41.1**	**-0.8**
ENEZ	**Enez**	**0.32**	**294**	*e*PG		**Pg**	**09 44 41.3**	**+0.5**
ENEZ	**Enez**	**0.32**	**294**	P		**Pg**	**09 44 40.9**	**+0.1**
ENEZ				S		**Sb**	**09 44 46.3**	**-1.5**
ENEZ	**Enez**	**0.32**	**294**	P		**Pg**	**09 44 40.9**	**+0.1**
ENEZ	**Enez**	**0.32**	**294**	*e*Pg		**Pg**	**09 44 41.3**	**+0.5**
ENEZ				S		**Sb**	**09 44 46.3**	**-1.5**
ALN	**Alexandroupoli**	**0.47**	**308**	*e*PG		**Pg**	**09 44 43.2**	**-0.4**
ALN	**Alexandroupoli**	**0.47**	**308**	P		**Pg**	**09 44 43.2**	**-0.4**
ALN				S		**Sg**	**09 44 50.6**	**+0.7**
ALN	**Alexandroupoli**	**0.47**	**308**	*e*Pg		**Pg**	**09 44 43.3**	**-0.4**
ALN	**Alexandroupoli**	**0.47**	**308**	P		**Pg**	**09 44 43.6**	**-0.1**
ALN				S		**Sg**	**09 44 50.6**	**+0.7**
SART	**Tekirdag**	**0.49**	**80**	P		**Pg**	**09 44 44.3**	**+0.3**
SART				S		**Sb**	**09 44 52.0**	**-0.8**
SART	**Tekirdag**	**0.49**	**80**	*i*P		**Pg**	**09 44 44.3**	**+0.3**
SART				*i*S		**Sb**	**09 44 52.0**	**-0.8**
KRBG	**Karabiga-Canak**	**0.61**	**110**	*e*PG		**Pg**	**09 44 46.1**	**-0.2**
KRBG				*e*SG		**Sb**	**09 44 55.4**	**-0.8**
KRBG	**Karabiga-Canak**	**0.61**	**110**	*e*Pg		**Pg**	**09 44 46.1**	**-0.2**
KRBG				*e*Sg		**Sb**	**09 44 55.4**	**-0.8**
GADA	**Gvkgeada**	**0.64**	**230**	*e*PG		**Pg**	**09 44 47.3**	**+0.4**
GADA	**Gvkgeada**	**0.64**	**230**	P		**Pg**	**09 44 47.1**	**+0.2**
GADA				S		**Sb**	**09 44 57.0**	**-0.1**
GADA	**Gvkgeada**	**0.64**	**230**	P		**Pg**	**09 44 47.1**	**+0.2**
GADA				S		**Sb**	**09 44 57.0**	**-0.1**
SMTH	**Samothraki Isl**	**0.78**	**260**	P		**Pg**	**09 44 49.2**	**-0.3**
SMTH				S		**Sg**	**09 45 00.3**	**+0.6**
SMTH	**Samothraki Isl**	**0.78**	**260**	P		**Pg**	**09 44 49.2**	**-0.3**
SMTH				S		**Sg**	**09 45 00.3**	**+0.6**
EZN	**Ezine**	**0.80**	**192**	*e*PG		**Pg**	**09 44 49.5**	**-0.3**
EZN	**Ezine**	**0.80**	**192**	P		**Pg**	**09 44 49.4**	**-0.3**
EZN				S		**Sb**	**09 45 01.2**	**-0.3**
EZN	**Ezine**	**0.80**	**192**	*e*Pg		**Pg**	**09 44 49.5**	**-0.3**
EZN				S		**Sb**	**09 45 01.2**	**-0.3**
MRMT	**Marmara Adasi**	**0.80**	**90**	*e*PG		**Pg**	**09 44 49.7**	**-0.2**
MRMT				*e*SG		**Sb**	**09 45 01.4**	**-0.3**
MRMT	**Marmara Adasi**	**0.80**	**90**	*e*Pg		**Pg**	**09 44 49.7**	**-0.2**
MRMT				*e*Sg		**Sb**	**09 45 01.4**	**-0.3**
LIA	**Limnos Island**	**1.26**	**236**	P		**Pn**	**09 44 57.9**	**-0.4**
LIA				S		**Sn**	**09 45 16.8**	**+1.4**
LIA	**Limnos Island**	**1.26**	**236**	P		**Pn**	**09 44 57.9**	**-0.4**
LIA				S		**Sn**	**09 45 16.8**	**+1.4**
BALB	**Balikesir**	**1.41**	**133**	*e*PN		**Pn**	**09 45 00.7**	**+0.3**
BALB	**Balikesir**	**1.41**	**133**	*e*Pn		**Pn**	**09 45 00.7**	**+0.3**
SIGR	**SIGRI**	**1.49**	**201**	*e*PN		**Pn**	**09 45 01.8**	**+0.3**
SIGR				*e*SN		**Sg**	**09 45 22.4**	**0.0**
SIGR	**SIGRI**	**1.49**	**201**	P		**Pn**	**09 45 01.6**	**+0.1**
SIGR				S		**Sg**	**09 45 22.4**	**0.0**
SIGR	**SIGRI**	**1.49**	**201**	*e*Pn		**Pn**	**09 45 01.8**	**+0.3**
SIGR				S		**Sg**	**09 45 22.4**	**0.0**
CTYL	**Yalikoy Yolu**	**1.58**	**56**	*e*PN		**Pn**	**09 45 03.1**	**+0.3**
CTYL				*e*SN		**Sb**	**09 45 23.9**	**-0.1**
CTYL	**Yalikoy Yolu**	**1.58**	**56**	*e*Pn		**Pn**	**09 45 03.1**	**+0.3**
CTYL				*e*Sn		**Sb**	**09 45 23.9**	**-0.1**
CTKS	**Kestanelik-??a**	**1.62**	**67**	*e*PN		**Pb**	**09 45 03.8**	**-0.7**
CTKS	**Kestanelik-??a**	**1.62**	**67**	*e*Pn		**Pb**	**09 45 03.8**	**-0.7**

IDC 10 09:47:46.2±3.6, 53°.79N×88°.25E, h0km, mb1 3.1/3, mb1mx3.0/52, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=36.4km s-min=20.3km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.04**	**276**	*i*			10 00 25.0	
	baz=93,slow=317,SNR=11							
ZALV	**Zalesovo Beam**	**2.04**	**276**	Pn		Pn	09 48 21.7	0.0
	2.2nm,0.3s,baz=91,slow=12,SNR=37							
ZALV				Lg		Lg	09 48 50.9	
	8.6nm,0.3s,baz=93,slow=26,SNR=32							
KURBB	**Kurchatov Arra**	**6.76**	**246**	Pn		Pn	09 49 27.1	+0.4
	0.2nm,0.3s,baz=57,slow=13,SNR=16							
MKAR	**Makanchi Array**	**7.97**	**211**	Pn		Pn	09 49 44.4	+1.1
	0.2nm,0.3s,baz=33,slow=14,SNR=5.1							

---

*IDC **10** 09:53:22.3±0.8, 4°.77S×133°.88E, h0km, mb4.3/4, mb1 4.5/8, mb1mx4.1/28, mbtmp4.4/8, ML4.5/3, MS3.7/11, Ms1 3.6/11, ms1mx3.3/35, Error ellipse: s-maj=33.9km s-min=17.6km az=68.0*
*ISCJB **10** 09:53:23.8±0.4, 5°.03S±0°.03×133°.86E±0°.04, h28km, mb4.5/13, MS3.7/10, Error ellipse: s-maj=6.2km s-min=4.2km az=160.6*
*NEIC **10** 09:53:26.6±0.6, 4°.96S×133°.84E, h35km, mb4.5/6, Error ellipse: s-maj=13.5km s-min=9.0km az=69.0*
*DJA **10** 09:53:29.4±0.5, 5°.5±6°×13°.4E±°, h80km±31km, M4.8/6, mb4.7/6, mB5.2/3, MLv4.9/3, Mw(mB)4.5/3*
ISC 10 09:53:25.3±0.5, 5°.02S±0°.04×133°.92E±0°.05, h28km, n60, σ2ş95/63, mb4.7/13, MS3.8/10, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.67**	**321**	P		**Pn**	**09 54 02.3**	**-4.2**
FAKI				S		**Sn**	**09 54 30.6**	**-7.4**
FAKI	**Fak Fak**	**2.67**	**321**	*e*Pn		**Pn**	**09 54 02.5**	**-4.0**
FAKI				*e*Sn		**Sn**	**09 54 38.5**	**+0.5**
RKPI	**Ransiki, Papua**	**3.50**	**4**	P		**Pn**	**09 54 18.9**	**+1.0**
RKPI				S		**Sn**	**09 54 51.3**	**-7.1

HHC				pP	sP	10 02 30.5	+1.0	
HHC				sP	pP	10 02 34.3	+8.1	
HHC				S	**S**	**10 09 29.2**	**+2.1**	
HHC				ScS	**ScS**	**10 12 06.0**	**-1.3**	
HHC				pmax	pmax			
	comp=Z,40nm,1.1s							
HHC				pmax	pmax			
	comp=Z,99nm,5.6s							
HHC				LR	LR			
	comp=N,82nm,13.5s							
HHC				LR	LR			
	comp=E,110nm,12.9s							
HHC				LR	LR			
	comp=Z,34nm,14.7s							
RPZ	**Rata Peaks**	**50.52**	**145**	LR	LR	10 24 01.8		
	comp=Z,140nm,18.1s,baz=308,slow=36							
GTA	**Gaotai**	**54.26**	**328**	*eP*	**P**	**10 02 50.0**	**+0.9**	
GTA				pP	sP	10 03 01.1	0.0	
GTA				sP	pP	10 03 06.0	+8.3	
GTA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PETK	**Petropavlovsk-**	**61.30**	**16**	LR	LR	10 25 55.8		
	comp=Z,17nm,21.0s,baz=186,slow=32							
MA2	**Magadan**	**65.77**	**9**	LR	LR	10 32 48.4		
	comp=Z,31nm,18.0s,baz=248,slow=36							
MK01	**Makanchi Array**	**68.78**	**325**	*eP*	**P**	**10 04 26.7**	**-0.2**	
MK32	**Makanchi Array**	**68.80**	**325**	*eP*	**P**	**10 04 26.9**	**-0.2**	
MKAR	**Makanchi Array**	**68.80**	**325**	P	**P**	**10 04 26.9**	**-0.2**	
	comp=Z,4.3nm,0.8s,baz=116,slow=8.2,SNR=22							
MAKZ	**Makanchi**	**68.98**	**325**	*eP*	**P**	**10 04 28.1**	**-0.1**	
	comp=Z,5.0nm,0.8s							
KSH	**Kashi**	**69.28**	**315**	*eP*	**P**	**10 04 34.0**	**+3.7**	
KSH				pmax	pmax			
	comp=Z,2.0nm,0.3s							
VNDA	**Vanda**	**73.96**	**174**	LR	LR	10 36 58.0		
	comp=Z,65nm,19.4s,baz=351,slow=35							
PPT	**Papeete**	**75.65**	**107**	LR	LR	10 34 04.7		
	comp=Z,25nm,22.0s,baz=0.5,slow=32							
TIXI	**Tiksi**	**76.60**	**358**	LR	LR	10 37 15.4		
	comp=Z,39nm,21.2s,baz=356,slow=34							
MAW	**Mawson**	**78.21**	**202**	LR	LR	10 37 32.3		
	comp=Z,44nm,19.1s,baz=62,slow=34							
ZRNK	**Zerenda**	**79.26**	**326**	*eP*	**P**	**10 05 27.6**	**-0.5**	
	comp=Z,10nm,1.5s							
NRIK	**Noril'sk**	**80.64**	**345**	LR	LR	10 46 00.5		
	comp=Z,53nm,18.0s,baz=124,slow=39							
MLY	**Manley**	**88.38**	**24**	*eP*	**P**	**10 06 16.4**	**+2.0**	
	comp=Z,3.8nm,1.0s							
ILAR	**Eielson Array**	**89.92**	**25**	P	**P**	**10 06 21.1**	**-0.5**	
	comp=Z,0.6nm,0.9s,baz=272,slow=4.6,SNR=5.7							
ILB	**Eielson Array**	**89.92**	**25**	*eP*	**P**	**10 06 20.9**	**-0.7**	
TORD	**Torodi Ar. Bea**	**132.21**	**283**	PKP	**PKPdf**	**10 12 38.0**	**+0.3**	
	comp=Z,0.5nm,1.1s,baz=80,slow=3.5,SNR=2.5							
TOA1	**Torodi Ar. Sit**	**132.21**	**283**	*e*PKPdf	**PKPdf**	**10 12 38.0**	**+0.3**	
CPUP	**Villa Florida**	**146.98**	**161**	PKPbc	**PKPab**	**10 13 08.9**	**+1.4**	
	comp=Z,1.0nm,0.6s,baz=160,slow=11,SNR=2.2							
LPAZ	**La Paz**	**149.60**	**135**	PKPbc	**PKPab**	**10 13 16.6**	**-2.5**	
	comp=Z,0.7nm,0.8s,baz=24,slow=1.4,SNR=3.1							

*ISCJB **10** 10:12:31.2±0.5, 38.°64N±0.°02×27.°16E±0.°03, h6km±5km, Error ellipse: s-maj=4.3km s-min=3.9km az=27.8*
*DDA **10** 10:12:31.1, 38.°61N×27.°18E, h7km, Md2.8*
*CSEM **10** 10:12:31.5±0.2, 38.°63N×27.°18E, h12km, MD2.6, Error ellipse: s-maj=4.0km s-min=3.8km az=91.0*
*ISK **10** 10:12:31.1, 38.°63N×27.°20E, h9km, MD2.6*
ISC 10 10:12:31.5±0.9, 38.°63N±0.°02×27.°17E±0.°02, h17km±7km, n34, σ0§49/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.24**	**162**		*e*PG		**Pg**	**10 12 37.0**	**0.0**
IZM					*e*SG		**Sg**	**10 12 40.8**	**+0.2**
IZM	**Izmir**	**0.24**	**162**		*e*Pg		**Pg**	**10 12 37.0**	**0.0**
IZM					*e*Sg		**Sg**	**10 12 40.8**	**+0.2**
DKL	**Dikili**	**0.49**	**335**		*e*PG		**Pg**	**10 12 41.1**	**-0.2**
DKL	**Dikili**	**0.49**	**335**		*e*Pg		**Pg**	**10 12 41.1**	**-0.2**
URLA	**Izmir**	**0.52**	**240**		P		**Pg**	**10 12 41.6**	**-0.3**
URLA					S		**Sg**	**10 12 48.6**	**-0.3**
URLA	**Izmir**	**0.52**	**240**		*i* P		**Pg**	**10 12 41.6**	**-0.3**
URLA					*i* S		**Sg**	**10 12 48.6**	**-0.3**
AKS	**Akhisar**	**0.56**	**63**		*e*PG		**Pg**	**10 12 42.6**	**-0.1**
AKS					*e*SG		**Sb**	**10 12 50.6**	**-0.2**
AKS	**Akhisar**	**0.56**	**63**		*e*Pg		**Pg**	**10 12 42.6**	**-0.1**
AKS					*e*Sg		**Sb**	**10 12 50.6**	**-0.2**
DGB	**¯zmir**	**0.61**	**202**		*i* P		**Pg**	**10 12 43.6**	**0.0**
DGB					*i* S		**Sg**	**10 12 51.5**	**-0.3**
ZEY	**¯zmir**	**0.65**	**234**		*i* P		**Pg**	**10 12 43.5**	**-0.8**
ZEY					*i* S		**Sb**	**10 12 54.1**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**140**		*e*PG		**Pb**	**10 12 48.0**	**-0.5**
AYDB					*e*SG		**Sg**	**10 13 00.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**140**		*e*Pg		**Pb**	**10 12 48.0**	**-0.5**
AYDB					*e*Sg		**Sg**	**10 13 00.2**	**-0.2**
CHOS	**Chios island**	**0.91**	**255**		*e*PG		**Pn**	**10 12 49.6**	**0.0**
CHOS	**Chios island**	**0.91**	**255**		*e*Pg		**Pn**	**10 12 49.6**	**0.0**
GCAM	**G?zelcaml?**	**0.93**	**177**		P		**Pb**	**10 12 49.1**	**0.0**
GCAM					S		**Sg**	**10 13 01.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.93**	**177**		*i* P		**Sg**	**10 12 49.1**	**0.0**
GCAM					*i* S		**Sg**	**10 13 01.6**	**-0.1**
MANT	**Manisa**	**1.10**	**97**		P		**Pn**	**10 12 52.3**	**-0.1**
MANT					S		**Sg**	**10 13 07.0**	**-0.2**
MANT	**Manisa**	**1.10**	**97**		*i* P		**Pn**	**10 12 52.3**	**-0.1**
MANT					*i* S		**Sg**	**10 13 07.0**	**-0.2**
AYDN	**Tasoluk**	**1.11**	**150**		P		**Pb**	**10 12 52.3**	**-0.1**
AYDN					S		**Sg**	**10 13 08.1**	**+0.5**
AYDN	**Tasoluk**	**1.11**	**150**		*i* P		**Pb**	**10 12 52.3**	**-0.1**
AYDN					*i* S		**Sg**	**10 13 08.1**	**+0.5**
BALB	**Balikesir**	**1.16**	**28**		*e*PN		**Pb**	**10 12 53.1**	**0.0**
BALB					*e*SN		**Sg**	**10 13 08.7**	**-0.2**
BALB	**Balikesir**	**1.16**	**28**		*e*Pn		**Pb**	**10 12 53.1**	**0.0**
BALB					*e*Sn		**Sg**	**10 13 08.7**	**-0.2**
BALY	**Balya**	**1.17**	**17**		P		**Pn**	**10 12 53.1**	**-0.1**
BALY					S		**Sn**	**10 13 08.7**	**0.0**
BALY	**Balya**	**1.17**	**17**		*i* P		**Pn**	**10 12 53.1**	**-0.1**
BALY					*i* S		**Sn**	**10 13 08.7**	**0.0**
KULA	**Kula-Manisa**	**1.18**	**95**		*e*PN		**Pn**	**10 12 52.7**	**-0.6**
KULA	**Kula-Manisa**	**1.18**	**95**		*e*Pn		**Pn**	**10 12 52.7**	**-0.6**
SIGR	**SIGRI**	**1.18**	**300**		*e*PN		**Pg**	**10 12 54.1**	**-0.2**
SIGR	**SIGRI**	**1.18**	**300**		*e*Pn		**Pg**	**10 12 54.1**	**-0.2**
DEMI	**Demirci**	**1.28**	**70**		P		**Pn**	**10 12 53.5**	**-1.2**
DEMI					S		**Sg**	**10 13 13.1**	**+0.2**
DEMI	**Demirci**	**1.28**	**70**		*i* P		**Pn**	**10 12 53.5**	**-1.2**
DEMI					*i* S		**Sg**	**10 13 13.1**	**+0.2**
EZN	**Ezine**	**1.37**	**332**		*e*PN		**Pb**	**10 12 57.2**	**+0.5**
EZN	**Ezine**	**1.37**	**332**		*e*Pn		**Pb**	**10 12 57.2**	**+0.5**
KHAL	**Karahalli**	**1.84**	**97**		P		**Pb**	**10 13 05.3**	**+0.5**
KHAL					S		**Sb**	**10 13 29.0**	**+1.4**
KHAL	**Karahalli**	**1.84**	**97**		*i* P		**Pb**	**10 13 05.3**	**+0.5**
KHAL					*i* S		**Sb**	**10 13 29.0**	**+1.4**

*CSEM **10** 10:18:47.2±0.4, 38.°12N×35.°80E, h2km, MD2.6, Error ellipse: s-maj=9.6km s-min=6.5km az=141.0*
*ISK **10** 10:18:49.7, 37.°99N×35.°63E, h11km, ML2.4*
*DDA **10** 10:18:50.3, 38.°05N×35.°57E, h7km, Md2.6*
ISC 10 10:18:49.5±1.2, 38.°05N±0.°03×35.°63E±0.°03, h4km±11km, n16, σ0§75/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.22**	**282**		P		**Pg**	**10 18 54.4**	**+0.5**
YAHY	**KAYSERI_Yahyal**	**0.22**	**282**		*i* P		**Pg**	**10 18 54.4**	**+0.5**
YAHY					*i* S		Sg	10 19 10.4	+14
KOZT	**Kozan**	**0.59**	**165**		*e*PG		**Pg**	**10 19 00.2**	**-0.6**
KOZT					*e*SG		**Sg**	**10 19 08.6**	**+0.2**
KOZT	**Kozan**	**0.59**	**165**		*e*Pg		**Pg**	**10 19 00.2**	**-0.6**
KOZT					*e*Sg		**Sg**	**10 19 08.6**	**+0.2**
AKO	**Adana**	**0.60**	**194**		*i* P		**Pg**	**10 19 00.0**	**-1.1**
AKO					*i* S		**Sg**	**10 19 09.7**	**+0.7**
SARI	**SarD1z-Kayseri**	**0.71**	**60**		*e*PG		**Pb**	**10 19 04.5**	**-0.1**
SARI					*e*SG		**Sb**	**10 19 15.4**	**+0.6**
NIG	**Nigde**	**0.81**	**275**		*e*PG		**Pb**	**10 19 05.8**	**-0.5**
NIG	**Nigde**	**0.81**	**275**		*e*Pg		**Pb**	**10 19 05.8**	**-0.5**
BNN	**Bunyan**	**0.82**	**12**		*e*PG		**Pn**	**10 19 07.3**	**-0.7**
BNN					*e*SG		**Sn**	**10 19 19.4**	**-1.2**
GULE	**Gulek**	**1.02**	**222**		P		**Pg**	**10 19 08.1**	**-1.0**
GULE					S		**Sb**	**10 19 24.4**	**+0.7**
GULE	**Gulek**	**1.02**	**222**		*i* P		**Pg**	**10 19 08.1**	**-1.0**
GULE					*i* S		**Sb**	**10 19 24.4**	**+0.7**
GULA	**Gulagac**	**1.14**	**285**		*e*PN		**Pn**	**10 19 12.9**	**+0.5**
GULA	**Gulagac**	**1.14**	**285**		*e*Pn		**Pn**	**10 19 12.9**	**+0.5**
KAMA	**Osmaniye**	**1.19**	**136**		*i* P		**Pn**	**10 19 13.9**	**+0.9**
KAMA					*i* S		**Sn**	**10 19 31.0**	**+1.4**
KERG	**Konya-Eregli**	**1.35**	**243**		P		**Pn**	**10 19 15.3**	**0.0**
KERG					S		**Sn**	**10 19 33.5**	**-0.3**
KERG	**Konya-Eregli**	**1.35**	**243**		*i* P		**Pn**	**10 19 15.3**	**0.0**
KERG					*i* S		**Sn**	**10 19 33.5**	**-0.3**

*NIED **10** 10:23:00, 38.°10N×143.°00E, h17km, Mw3.6 Best double couple: M0≥7.57000×10^17 NP1:φs=60.00000°, δ30.00000°, λ=-66.00000°. NP2:φs=213.00000°, δ63.00000°, λ=-103.00000°.*
*IDC **10** 10:23:10.3±1.1, 38.°02N×143.°15E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/56, mbtmp3.6/7, ML3.1/2, Error ellipse: s-maj=37.9km s-min=20.1km az=109.0*
*ISCJB **10** 10:23:11.4±0.8, 38.°01N±0.°06×143.°07E±0.°07, h18km, mb3.6/5, Error ellipse: s-maj=8.4km s-min=7.4km az=141.8*
*JMA **10** 10:23:13.1±0.3, 38.°10N×142.°99E, h23km±5km, M3.7*
ISC 10 10:23:13.2±1.1, 38.°07N±0.°06×142.°95E±0.°08, h18km, n25, σ1§21/23, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.31**	**287**		P		**Pn**	**10 23 36.7**	**0.0**
OFUJ	**Ofunato**	**1.42**	**316**		P		**Pn**	**10 23 37.7**	**-0.5**
OFUJ					*e*S		**Sn**	**10 23 56.6**	**+0.2**
JMK	**Ichinoseki**	**1.62**	**304**		P		**Pn**	**10 23 40.9**	**+0.1**
JMM	**Marumori**	**1.71**	**264**		P		**Pn**	**10 23 42.4**	**+0.2**
JMM					*e*S		**Sn**	**10 24 03.5**	**-0.1**
JOU	**Okura**	**1.82**	**280**		P		**Pn**	**10 23 44.7**	**+1.0**
JOM	**Ohasama**	**1.91**	**318**		P		**Pn**	**10 23 45.8**	**+1.0**
JFT	**Otama**	**2.14**	**256**		P		**Pn**	**10 23 49.5**	**+1.4**
JFT					*e*S		**Sn**	**10 24 15.4**	**+1.2**
JYK	**Kaneyama**	**2.20**	**293**		P		**Pn**	**10 23 49.7**	**+0.8**
JRG	**Rokugo**	**2.24**	**307**		P		**Pn**	**10 23 50.5**	**+1.0**
JYS	**Shirataka**	**2.28**	**275**		P		**Pn**	**10 23 51.1**	**+1.2**
MJAR	**Matsushiro Arr**	**4.07**	**249**		Pn		**Pn**	**10 24 16.4**	**+1.7**
	0.5nm,0.3s,baz=78,slow=15,SNR=4.6								
MJAR					Sn		**Sb**	**10 25 09.9**	**-3.5**
	baz=213,slow=28,SNR=3.0								
MAT	**Matsushiro**	**4.08**	**249**		P		**Pn**	**10 24 16.5**	**+1.8**
MAT					*e*S		**Sn**	**10 25 02.9**	**+1.0**
JHJ	**Hachijo jima 2**	**5.57**	**208**		Pn		**Pn**	**10 24 35.1**	**-0.1**
	3.5nm,0.3s,baz=128,slow=24,SNR=3.9								
USRK	**Ussuriysk Ar.**	**10.28**	**310**		Pn		Pn	10 25 48.1	+8.3
	0.1nm,0.3s,baz=124,slow=17,SNR=4.3								
SEY	**Seymchan**	**25.55**	**10**		P		**P**	**10 28 40.8**	**+0.1**
	0.9nm,0.5s,baz=203,slow=7.2,SNR=4.7								
H11N2	**WAKE ISLAND Hy**	**27.68**	**125**		T		T	10 57 49.0	
	baz=317,slow=74,SNR=22								
H11N1	**WAKE ISLAND Hy**	**27.69**	**125**		T		T	10 57 49.6	
	baz=317,slow=74,SNR=12								
H11N3	**WAKE ISLAND Hy**	**27.70**	**125**		T		T	10 57 56.1	
	baz=317,slow=74,SNR=18								
H11S1	**WAKE ISLAND Hy**	**28.45**	**127**		T		T	10 58 55.2	
	baz=325								
H11S3	**WAKE ISLAND Hy**	**28.45**	**127**		T		T	10 58 48.1	
	baz=325								
H11S2	**WAKE ISLAND Hy**	**28.46**	**127**		T		T	10 58 56.8	
	baz=325								
KURBB	**Kurchatov Arra**	**46.33**	**307**		P		**P**	**10 31 38.5**	**+0.6**
	0.6nm,0.5s,baz=81,slow=8.0,SNR=5.1								
ILAR	**Eielson Array**	**47.97**	**33**		P		**P**	**10 31 50.2**	**-0.3**
	0.4nm,0.7s,baz=266,slow=5.9,SNR=6.5								
WRA	**Warramunga Arr**	**58.27**	**190**		P		**P**	**10 33 06.1**	**-0.7**
	0.8nm,0.6s,baz=8.0,slow=7.0,SNR=9.1								
ASAR	**Alice Springs**	**61.99**	**189**		P		**P**	**10 33 32.3**	**0.0**
	0.2nm,0.7s,baz=358,slow=5.7,SNR=3.5								

JMA 10 10:46:15.4, 36.°74N×140.°57E, h9km±1km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.13**	**180**		P		Pg	10 46 18.4	+0.1
ONAJ	**Iwakimizuishiy**	**0.41**	**27**		P		Pg	10 46 23.3	-0.1
ONAJ					S		Sg	10 46 28.9	+0.2
MAT	**Matsushiro**	**1.91**	**265**		P		Pn	10 46 48.4	+0.2
MAT					S		Sb	10 47 14.3	-0.1

*ISCJB **10** 10:49:20.9±0.3, 1.°76N±0.°04×122.°63E±0.°06, h450km, mb3.9/17, Error ellipse: s-maj=7.8km s-min=5.4km az=163.6*
*KLM **10** 10:49:20.1, 1.°69N×122.°85E, h476km, mb4.4, ML4.0, MS5.1*
*IDC **10** 10:49:22.1±1.5, 1.°72N×122.°54E, h454km±17km, mb3.6/17, mb1 3.6/19, mb1mx3.4/51, mbtmp4.4/19, Error ellipse: s-maj=19.5km s-min=7.6km az=76.0*
*DJA **10** 10:49:23.3±0.4, 2.°N±6.°×12.°2E±1.°, h447km±4km, M4.2/11, mb4.5/11, mB4.5/6, MLv4.4/9, Mw(mB)3.7/6*
ISC 10 10:49:21.9±0.5, 1.°72N±0.°06×122.°59E±0.°09, h450km, n44, σ1§13/52, mb3.9/17, 4C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.40**	**208**		P		**P**	**10 50 19.9**	**+0.3**
MRSI					S		**S**	**10 51 05.7**	**-0.5**
KMSI	**Cibinong**	**1.80**	**129**		P		**P**	**10 50 23.1**	**+1.7**
LUWI	**Luwuk**	**2.75**	**176**		P		**P**	**10 50 26.7**	**-0.6**
LUWI					S		**S**	**10 51 18.6**	**-1.6**
PCI	**Palu**	**3.79**	**226**		P		**P**	**10 50 33.7**	**-1.7**
PCI					S		**S**	**10 51 32.5**	**-2.5**
SANI	**Sanana**	**5.06**	**138**		P		**P**	**10 50 46.6**	**-0.4**
	104nm,0.6s,3µm0.6nm								
MYLDM	**Lahad Datu**	**5.33**	**310**		⇑P		**P**	**10 50 51.7**	**+2.2**
TTSI	**Tana Toraja**	**5.49**	**210**		P		**P**	**10 50 51.5**	**+0.4**
	96nm,0.8s,818nm0.3nm								
SDKM	**Sandakan**	**6.64**	**306**		⇑P		**P**	**10 51 04.2**	**+1.2**
KAPI	**Kappang**	**7.27**	**203**		P		**P**	**10 51 10.4**	**+0.8**
	6.2nm,0.3s,baz=34,slow=6.1,SNR=25								
KAPI					S		**S**	**10 52 36.9**	**-0.8**
	baz=178,slow=12,SNR=4.4								
KKM	**Kota Kinabalu**	**7.67**	**304**		⇑P		**P**	**10 51 15.2**	**+1.2**
SWI	**Sorong**	**9.05**	**106**		P		**P**	**10 51 31.0**	**+2.2**
	44nm,1.0s								
BBKI	**Banjar Baru**	**9.30**	**236**		P		**P**	**10 51 35.5**	**+4.0**
BTM	**Bintulu**	**9.61**	**279**		⇓P		**P**	**10 51 36.3**	**+1.4**
SBUM	**Sibu**	**10.38**	**274**		⇑P		**P**	**10 51 44.4**	**+1.1**
STKI	**Sintang**	**11.23**	**262**		P		**P**	**10 51 53.4**	**+0.8**
WSI	**Waingapu**	**11.54**	**191**		P		P	10 52 06.0	+10
KSM	**Kuching**	**12.28**	**269**		⇓P		**P**	**10 52 04.5**	**+0.6**
KPJI	**Karang Pucung**	**16.33**	**236**		P		**P**	**10 52 48.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**19.93**	**171**		P		**P**	**10 53 22.8**	**0.0**
	1.3nm,0.3s,baz=15,slow=9.1,SNR=35								
WRA	**Warramunga Arr**	**24.43**	**152**		P		**P**	**10 54 02.9**	**-0.5**
	5.2nm,0.4s,baz=336,slow=9.5,SNR=164								
WRA					PcP		**PcP**	**10 57 26.9**	**-1.0**
	0.7nm,0.5s,baz=323,slow=2.4,SNR=5.0								
ASAR	**Alice Springs**	**27.54**	**157**		P		**P**	**10 54 31.1**	**+0.2**
	1.5nm,0.3s,baz=340,slow=9.6,SNR=73								
ASAR					PcP		**PcP**	**10 57 35.1**	**-0.1**
	1.3nm,0.3s,baz=343,slow=2.3,SNR=12								
ASAR					S		**S**	**10 58 39.5**	**+0.1**
	0.6nm,0.8s,baz=341,slow=21,SNR=4.4								
JCJ	**Chichijima**	**31.46**	**35**		P		**P**	**10 55 04.8**	**-0.3**
	27nm,0.6s,baz=301,slow=22,SNR=5.3								
NWAO	**Narrogin (SRO)**	**34.83**	**188**		P		**P**	**10 55 33.1**	**-0.6**
	7.0nm,0.7s,baz=256,slow=9.9,SNR=5.6								
MJAR	**Matsushiro Arr**	**37.54**	**21**		P		**P**	**10 55 56.2**	**0.0**
	0.7nm,0.5s,baz=194,slow=9.0,SNR=4.0								
STKA	**Stephens Creek**	**37.97**	**153**		P		**P**	**10 56 00.8**	**+1.0**
	9.9nm,0.4s,baz=328,slow=23,SNR=3.8								
GUN	**Gumba**	**43.69**	**310**		*e*P		**P**	**10 56 46.8**	**+0.6**
	35nm,0.4s								
PKIN	**Phulchoki**	**43.90**	**309**		*e*P		**P**	**10 56 47.7**	**0.0**
	5.9nm,0.4s								
KKN	**Kakani**	**44.09**	**309**		*e*P		**P**	**10 56 49.3**	**+0.1**
	12nm,0.4s								
GKN	**Gorkha**	**44.69**	**309**		*e*P		**P**	**10 56 54.1**	**+0.3**
	16nm,0.3s								
KOLN	**Koldanda**	**45.39**	**308**		*e*P		**P**	**10 56 59.7**	**+0.5**
	16nm,0.4s								
PYUN	**Piuthan**	**46.02**	**309**		*e*P		**P**	**10 57 04.9**	**+0.8**
	47nm,0.6s								
SONM	**Songino Array**	**48.02**	**345**		P		**P**	**10 57 19.7**	**+0.9**
	1.7nm,0.7s,baz=162,slow=8.0,SNR=10								
SONM					PcP		**PcP**	**10 58 38.6**	**+0.1**
	0.6nm,0.6s,baz=139,slow=5.1,SNR=3.6								
MKAR	**Makanchi Array**	**56.94**	**328**		P		**P**	**10 58 23.3**	**+0.2**
	3.4nm,0.5s,baz=119,slow=8.9,SNR=26								
MKAR					PcP		**PcP**	**10 59 11.8**	**-0.5**
	0.3nm,0.3s,baz=126,slow=4.9,SNR=4.8								
ZALV	**Zalesovo Beam**	**60.58**	**335**		P		**P**	**10 58 46.9**	**-0.6**
	0.9nm,0.4s,baz=108,slow=4.8,SNR=3.9								
KURBB	**Kurchatov Arra**	**61.27**	**330**		P		**P**	**10 58 51.9**	**-0.3**
	2.7nm,0.8s,baz=133,slow=5.8,SNR=35								
BVAR	**Borovoye Array**	**66.80**	**329**		P		**P**	**10 59 27.1**	**-0.4**
	0.4nm,0.3s,baz=140,slow=9.5,SNR=4.7								
TIXI	**Tiksi**	**69.94**	**2**		P		**P**	**10 59 45.6**	**-0.6**
	1.0nm,0.3s,baz=103,slow=2.0,SNR=3.6								
AKTO	**Aktyubinsk**	**72.69**	**323**		P		**P**	**11 00 02.5**	**-0.5**
	1.1nm,0.5s,baz=112,slow=6.1,SNR=5.3								
ARU	**Arti**	**74.45**	**329**		P		**P**	**11 00 11.6**	**-1.3**
	5.1nm,0.2s,baz=107,slow=8.4,SNR=3.3								
MAW	**Mawson**	**80.47**	**200**		P		**P**	**11 00 45.9**	**+0.4**
	0.8nm,0.5s,baz=130,slow=5.2,SNR=3.3								
VNDA	**Vanda**	**82.00**	**172**		P		**P**	**11 00 53.2**	**0.0**
	1.6nm,0.6s,baz=315,slow=5.8,SNR=15								
ARCES	**ARCESS Array B**	**90.88**	**340**		P		**P**	**11 01 34.5**	**-1.5**
	2.2nm,0.8s,baz=78,slow=8.1,SNR=3.8								
TORD	**Torodi Ar. Bea**	**119.55**	**286**		PKP		**PKPdf**	**11 07 19.6**	**-1.0**
	0.5nm,0.4s,baz=99,slow=1.9,SNR=9.5								
TXAR	**Lajitas Array**	**126.08**	**51**		PKP		**PKPdf**	**11 07 33.9**	**+0.9**
	0.1nm,0.6s,baz=188,slow=0.9,SNR=2.5								

*IDC **10** 10:56:08.2±2.0, 26.°92S×177.°88W, h175km±18km, mb3.7/12, mb1 3.9/12, mb1mx3.8/32, mbtmp4.1/12, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=18.4km s-min=15.8km az=139.0*
*ISCJB **10** 10:56:09.5±0.5, 27.°1S±0.°1×177.°9W±0.°1, h202km, mb3.8/13, Error ellipse: s-maj=18.8km s-min=13.8km az=23.9*
ISC 10 10:56:10.6±0.6, 27.°1S±0.°1×177.°8W±0.°2, h202km, n19, σ1§16/19, mb3.9/13, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.12**	**182**		P		**Pn**	**10 56 48.2**	**-2.2**
	554nm,0.3s,baz=332,slow=2.2,SNR=33								
URZ	**Urewera**	**11.89**	**200**		P		Pn	10 58 47.3	-6.7
	0.6nm,0.3s,baz=267,slow=5.5,SNR=11								
URZ					S		S	11 00 56.2	-10
	20nm,0.3s,baz=280,slow=2.6,SNR=18								
URZ					LR		LR	11 03 22.0	
	comp=Z,83nm,18.2s,baz=50,slow=36								
AFI	**Afiamalu**	**14.31**	**24**		P		Pn	10 59 15.9	-8.6
	2.5nm,0.3s,baz=235,slow=9.8,SNR=6.5								
AFI					S		S	11 01 38.6	-25
	2.6nm,0.3s,baz=36,slow=20,SNR=5.7								
STKA	**Stephens Creek**	**35.49**	**252**		P		**P**	**11 02 48.7**	**+0.6**
	1.4nm,0.8s,baz=110,slow=15,SNR=2.5								
ASAR	**Alice Springs**	**43.54**	**263**		P		**P**	**11 03 54.2**	**-0.5**
	1.7nm,0.5s,baz=93,slow=7.1,SNR=51								
ASAR					PcP		**PcP**	**11 05 38.8**	**0.0**
	0.7nm,0.7s,baz=109,slow=3.3,SNR=4.4								
WRA	**Warramunga Arr**	**44.23**	**269**		P		**P**	**11 03 59.7**	**-0.4**
	8.4nm,0.9s,baz=106,slow=7.9,SNR=28								
VNDA	**Vanda**	**51.36**	**186**		P		**P**	**11 04 56.8**	**+2.8**
	2.5nm,0.6s,baz=8.4,slow=8.1,SNR=29								
MAW	**

KLYT	**Kilyos**	**2.12 359**	*e*PN	**Pn**	**10 57 33.3 +1.3**
KLYT	**Kilyos**	**2.12 359**	*e*Pn	**Pn**	**10 57 33.3 +1.3**
KAND	**Kocaeli-Kandir**	**2.15 23**	P	**Pn**	**10 57 33.5 +1.2**
KAND	**Kocaeli-Kandir**	**2.15 23**	*i* P	**Pn**	**10 57 33.5 +1.2**
CTKS	**Kestanelik-??a**	**2.15 349**	*e*PN	**Pn**	**10 57 33.3 +1.0**
CTKS	**Kestanelik-??a**	**2.15 349**	*e*Pn	**Pn**	**10 57 33.3 +1.0**

*ISCJB **10** 11:00:52.9±0.4, 40.60N±0.03×42.60E±0.03, h8km±5km, Error ellipse: s-maj=4.6km s-min=3.5km az=24.6*
*DDA **10** 11:00:52.8, 40.61N×42.61E, h7km, Md2.8*
*ISK **10** 11:00:52.4, 40.53N×42.59E, h15km, MD2.4*
*TIF **10** 11:00:52.5, 40.57N×42.58E, h25km±1km*
*CSEM **10** 11:00:52.5±0.1, 40.55N×42.59E, h10km, MD2.8, Error ellipse: s-maj=2.9km s-min=2.0km az=21.0*

ISC 10 11:00:52.7±0.9, 40.58N±0.03×42.59E±0.02, h14km±7km, n26, σ0s61/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SENK	**Senkaya-Erzuru**	**0.19**	**266**	PG	**Pg**	**11 00 57.0**	**-0.2**
SENK				SG	**Sg**	**11 01 00.6**	**+0.3**
SENK	**Senkaya-Erzuru**	**0.19**	**266**	*i* Pg	**Pg**	**11 00 57.1**	**-0.2**
SENK				*i* Sg	**Sg**	**11 01 00.6**	**+0.3**
KARS	**Kars**	**0.37**	**82**	*e*PG	**Pb**	**11 01 00.9**	**-0.3**
KARS	**Kars**	**0.37**	**82**	*e*Pg	**Pb**	**11 01 00.9**	**-0.3**
DIGO	**Kars**	**0.62**	**105**	P	**Pg**	**11 01 04.4**	**-0.5**
DIGO				S	**Sg**	**11 01 12.3**	**-0.8**
DIGO	**Kars**	**0.62**	**105**	*i* P	**Pg**	**11 01 04.4**	**-0.5**
DIGO				*i* S	**Sg**	**11 01 12.3**	**-0.8**
DDEM	**Demirkent**	**0.71**	**297**	P	**Pg**	**11 01 06.4**	**-0.2**
DDEM				S	**Sb**	**11 01 16.9**	**+0.2**
DDEM	**Demirkent**	**0.71**	**297**	*i* P	**Pg**	**11 01 06.5**	**-0.2**
DDEM				*i* S	**Sb**	**11 01 16.9**	**+0.2**
EATA	**Eleskirt**	**0.72**	**186**	P	**Pg**	**11 01 06.5**	**-0.3**
EATA	**Eleskirt**	**0.72**	**186**	*i* P	**Pg**	**11 01 06.5**	**-0.3**
EATA				*i* S	**Sn**	**11 01 18.6**	**-1.0**
DAGI	**Agillar**	**0.72**	**314**	*i* P	**Pb**	**11 01 06.9**	**-0.1**
DAGI				*i* S	**Sb**	**11 01 16.7**	**-0.1**
HOMI	**Horasan**	**0.75**	**225**	*i* P	**Pg**	**11 01 06.9**	**-0.4**
HOMI				*i* S	**Sn**	**11 01 19.8**	**-0.4**
EAK	**Akyaka**	**0.78**	**82**	P	**Pg**	**11 01 07.5**	**-0.4**
EAK				S	**Sb**	**11 01 19.2**	**+0.6**
EAK	**Akyaka**	**0.78**	**82**	*i* P	**Pg**	**11 01 07.5**	**-0.4**
EAK				*i* S	**Sb**	**11 01 19.2**	**+0.6**
ARTV	**Artvin**	**0.79**	**321**	P	**Pb**	**11 01 08.3**	**0.0**
ARTV				S	**Sb**	**11 01 19.0**	**0.0**
ARTV	**Artvin**	**0.79**	**321**	*i* P	**Pb**	**11 01 08.3**	**0.0**
ARTV				*i* S	**Sb**	**11 01 19.0**	**0.0**
DBAD	**Bademkaya**	**0.81**	**303**	P	**Pg**	**11 01 08.3**	**-0.2**
DBAD				S	**Sg**	**11 01 18.7**	**-0.5**
DBAD	**Bademkaya**	**0.81**	**303**	*i* P	**Pg**	**11 01 08.3**	**-0.2**
DBAD				*i* S	**Sg**	**11 01 18.7**	**-0.5**
BGD	**Bogdanovka**	**1.03**	**48**	P	**Pn**	**11 01 12.9**	**+0.1**
BGD				S	**Sn**	**11 01 27.6**	**+0.5**
BGD	**Bogdanovka**	**1.03**	**48**	P	**Pn**	**11 01 12.9**	**+0.1**
BGD				S	**Sn**	**11 01 27.6**	**+0.5**
AGRB	**Hanur-Agry**	**1.04**	**163**	*e*PG	**Pb**	**11 01 12.2**	**-0.5**
AGRB	**Hanur-Agry**	**1.04**	**163**	*e*Pg	**Pb**	**11 01 12.2**	**-0.5**
AKH	**Akhalkalaki**	**1.08**	**39**	P	**Sg**	**11 01 28.6**	**+1.0**
BCA	**Borcka**	**1.14**	**320**	*e*PN	**Pg**	**11 01 14.7**	**0.0**
TUTA	**Tutak**	**1.19**	**172**	P	**Pb**	**11 01 15.2**	**+0.2**
TUTA	**Tutak**	**1.19**	**172**	*i* P	**Pb**	**11 01 15.2**	**+0.2**
TUTA				*i* S	**Sg**	**11 01 33.7**	**+2.7**

IDC 10 11:05:56.1±2.7, 38.07N×143.45E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/43, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=53.6km s-min=32.1km az=82.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.45**	**252**	Pn	**Pn**	11 07 03.5	-1.4
	0.7nm,0.3s,baz=64,slow=11,SNR=8.6						
MAT	**Matsushiro**	**4.45**	**252**	P	**Pn**	11 07 04.4	-0.5
JHJ	**Hachijo jima 2**	**5.77**	**212**	Pn	**Pn**	11 07 24.3	+1.2
	4.7nm,0.3s,baz=235,slow=16,SNR=2.4						
JHJ				Sn	Sn	11 08 30.9	+1.0
	4.8nm,0.3s,baz=72,slow=20,SNR=1.6						
MKAR	**Makanchi Array**	**44.95**	**302**	P	P	11 14 13.0	+0.2
	0.2nm,0.4s,baz=85,slow=7.0,SNR=5.7						
WRA	**Warramunga Arr**	**58.33**	**190**	P	P	11 15 52.6	-0.4
	0.2nm,0.6s,baz=7.6,slow=7.0,SNR=4.8						

IDC 10 11:06:03.0±3.5, 53.59N×87.79E, h0km, mb1 3.3/2, mb1mx3.1/50, mbtmp3.3/2, ML2.8/2, Error ellipse: s-maj=34.3km s-min=17.1km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**283**	*i*		11 17 20.0	
	baz=101,slow=322,SNR=15						
ZALV	**Zalesovo Beam**	**1.80**	**283**	Pg	Pn	11 06 35.0	-0.3
	3.4nm,0.3s,baz=102,slow=13,SNR=21						
ZALV				Lg	Lg	11 07 00.4	
	5.4nm,0.3s,baz=100,slow=24,SNR=13						
KURBB	**Kurchatov Arra**	**6.43**	**246**	Pn	Pn	11 07 39.5	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=7.4						
MKAR	**Makanchi Array**	**7.66**	**210**	Pn	Pn	11 07 57.0	+1.2
	0.2nm,0.3s,baz=28,slow=12,SNR=5.5						
MKAR				Lg	Lg	11 10 00.6	
	0.0nm,0.3s,baz=24,slow=33,SNR=2.5						

*CSEM **10** 11:16:34.9±0.4, 38.62N×35.89E, h2km, MD2.6, Error ellipse: s-maj=9.2km s-min=8.8km az=2.0*
*ISK **10** 11:16:35.1, 38.68N×35.75E, h9km, MD2.6*
*DDA **10** 11:16:36.1, 38.64N×35.77E, h7km, Md2.8*

ISC 10 11:16:35.8±1.1, 38.65N±0.04×35.78E±0.03, h13km±9km, n20, σ1s02/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.21**	**15**	*e*PG	**Pg**	**11 16 39.6**	**-0.9**
BNN	**Bunyan**	**0.21**	**15**	*e*Pg	**Pg**	**11 16 39.6**	**-0.9**
SARI	**SarD1z-Kayseri**	**0.56**	**115**	*e*PG	**Pb**	**11 16 47.0**	**-0.5**
SARI				*e*SG	**Sb**	**11 16 55.7**	**+0.2**
YAHY	**KAYSERI_Yahyal**	**0.64**	**211**	S	**Sb**	**11 16 57.9**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**0.64**	**211**	*i* P	**Pg**	**11 16 47.6**	**-0.8**
YAHY				*i* S	**Sb**	**11 16 57.9**	**+0.1**
AVNS	**Nevsehir-Avano**	**0.74**	**282**	S	**Sn**	**11 17 02.5**	**-0.9**
AVNS	**Nevsehir-Avano**	**0.74**	**282**	*i* P	**Pn**	**11 16 51.4**	**-0.7**
AVNS				*i* S	**Sn**	**11 17 02.5**	**-0.9**
CUSAR	**Sarkisla-SIVAS**	**0.85**	**25**	P	**Pg**	**11 16 51.7**	**-0.6**
CUSAR				S	**Sn**	**11 17 05.9**	**-0.2**
CUSAR	**Sarkisla-SIVAS**	**0.85**	**25**	*i* P	**Pg**	**11 16 51.7**	**-0.6**
CUSAR				*i* S	**Sn**	**11 17 05.9**	**-0.2**
CUALT	**Altinyayla-SIV**	**0.99**	**51**	*i* P	Pn	11 17 02.4	+6.9
CUALT				*i* S	**Sn**	**11 17 10.5**	**+1.1**
YOZ	**Yozgat**	**1.05**	**340**	*e*PG	**Pg**	**11 16 54.1**	**-1.9**
YOZ	**Yozgat**	**1.05**	**340**	*e*Pg	**Pg**	**11 16 54.2**	**-1.9**
KOZT	**Kozan**	**1.17**	**178**	*e*PN	**Pn**	**11 16 58.2**	**+0.4**
KOZT	**Kozan**	**1.17**	**178**	*e*Pn	**Pn**	**11 16 58.2**	**+0.4**
GULA	**Gulagac**	**1.25**	**256**	*e*PN	**Pn**	**11 16 59.3**	**+0.3**
GULA	**Gulagac**	**1.25**	**256**	*e*Pn	**Pn**	**11 16 59.3**	**+0.3**
CDAG	**Cicekdag**	**1.46**	**312**	P	**Pg**	**11 17 04.0**	**+0.1**
CDAG				S	**Sg**	**11 17 24.8**	**+1.8**
CDAG	**Cicekdag**	**1.46**	**312**	*i* P	**Pg**	**11 17 04.0**	**+0.1**
CDAG				*i* S	**Sg**	**11 17 24.8**	**+1.8**
COAL	**Corum-Alaca**	**1.72**	**339**	P	**Pg**	**11 17 08.3**	**-0.5**
COAL				S	**Sg**	**11 17 32.5**	**+1.4**
COAL	**Corum-Alaca**	**1.72**	**339**	*i* P	**Pg**	**11 17 08.3**	**-0.5**
COAL				*i* S	**Sg**	**11 17 32.5**	**+1.4**

*IDC **10** 11:23:55.4±0.7, 0.36S×124.82E, h0km, mb4.0/15, mb1 4.1/16, mb1mx4.0/42, mbtmp4.0/16, ML3.6/1, MS2.8/3, Ms1 2.8/3, ms1mx2.4/42, Error ellipse: s-maj=38.1km s-min=14.4km az=79.0*
*NEIC **10** 11:23:56.9±0.3, 0.38S×124.89E, h10km, mb4.2/4, Error ellipse: s-maj=10.9km s-min=7.0km az=88.0*
*ISCJB **10** 11:24:01.0±0.3, 0.36S±0.05×125.11E±0.04, h52km, mb4.1/19, MS2.5/2, Error ellipse: s-maj=7.5km s-min=4.7km az=40.2*
*DJA **10** 11:24:00.2±0.3, 0.7S±3°×125.5E±°, h10km, M4.4/13, mb4.6/6, mB4.8/3, MLv4.3/13, Mw(mB)4.1/3*

ISC 10 11:24:01.9±0.5, 0.50S±0.05×124.94E±0.05, h52km, n37, σ1s89/37, mb4.1/19, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.44**	**318**	P	**Pn**	**11 24 26.1**	**+0.5**
KMSI				S	**Sn**	**11 24 44.5**	**+1.1**
SANI	**Sanana**	**1.86**	**146**	P	**Pn**	**11 24 31.6**	**+0.2**
SANI				S	**Sn**	**11 24 57.8**	**+4.0**
LUWI	**Luwuk**	**2.23**	**256**	P	Pn	11 24 42.0	+5.5
LUWI				S	Sn	11 25 16.7	+14
LUWI	**Luwuk**	**2.23**	**256**	Pn	**Pn**	**11 24 35.0**	**-1.5**
LUWI				*e*Sn	**Sn**	**11 25 04.1**	**+1.3**
LBMI	**Labuha**	**2.57**	**93**	P	**Pn**	**11 24 38.6**	**-2.5**
LBMI				S	**Sn**	**11 25 08.9**	**-2.2**
MRSI	**Marisa**	**3.15**	**288**	P	**Pn**	**11 24 50.0**	**+0.9**
NLAI	**Namlea**	**3.47**	**142**	P	**Pn**	**11 24 54.3**	**+0.8**
NLAI				S	**Sn**	**11 25 33.8**	**+0.4**
PCI	**Palu**	**5.12**	**265**	P	Pn	11 25 22.1	+6.0
	73nm,0.8s,844nm0.4nm						
TTSI	**Tana Toraja**	**5.71**	**244**	P	Pn	11 25 29.8	+5.7
	38nm,0.7s,714nm0.2nm						
SPSI	**Sidrap Palu**	**6.20**	**236**	P	Pn	11 25 37.1	+6.1
	27nm,0.6s,0.1nm						
KAPI	**Kappang**	**6.85**	**229**	*e*Pn	**Pn**	**11 25 37.3**	**-2.5**
KAPI				*e*Sn	**Sn**	**11 26 49.8**	**-6.7**
DAV	**Davao City (W)**	**7.55**	**5**	LR	LR	11 29 01.6	
	comp=Z,135nm,19.1s,baz=272,slow=41						
FAKI	**Fak Fak**	**7.69**	**108**	P	**Pn**	**11 25 48.5**	**-2.9**
SMRI	**Semarang**	**15.85**	**245**	P	P	11 27 55.4	+11
FITZ	**Fitzroy Crossi**	**17.50**	**178**	P	**Pn**	**11 28 01.6**	**-0.9**
	0.2nm,0.3s,baz=348,slow=9.3,SNR=5.1						
WRAB	**Tennant Creek**	**21.40**	**155**	*e*P	**P**	**11 28 46.7**	**+1.2**
	3.6nm,0.9s						
WRA	**Warramunga Arr**	**21.40**	**155**	P	**P**	**11 28 46.3**	**+0.8**
	1.0nm,0.6s,baz=333,slow=11,SNR=18						
ASAR	**Alice Springs**	**24.61**	**160**	P	**P**	**11 29 19.8**	**+2.2**
	0.9nm,0.9s,baz=342,slow=9.3,SNR=12						
ASAR				PcP	**PcP**	**11 32 57.0**	**+2.5**
	0.3nm,0.5s,baz=354,slow=2.3,SNR=6.1						
CMAR	**Chiang Mai Arr**	**31.75**	**308**	LR	LR	11 43 50.7	
	comp=Z,11nm,18.9s,baz=195,slow=38						
STKA	**Stephens Creek**	**34.95**	**155**	P	**P**	**11 30 51.0**	**+1.9**
	1.9nm,0.8s,baz=351,slow=9.9,SNR=3.6						
KSAR	**Wonju Array Be**	**37.85**	**4**	P	**P**	**11 31 13.8**	**+0.1**
KSRS	**Korea Array**	**37.87**	**4**	P	**P**	**11 31 13.8**	**0.0**
	1.5nm,0.7s,baz=181,slow=11,SNR=9.2						
KSRS				LR	LR	11 45 48.1	
	comp=Z,8.8nm,20.9s,baz=235,slow=35						
MJAR	**Matsushiro Arr**	**38.87**	**17**	P	**P**	**11 31 20.4**	**-1.9**
	1.7nm,0.6s,baz=193,slow=8.3,SNR=7.7						
USRK	**Ussuriysk Ar.**	**44.95**	**7**	P	**P**	**11 32 11.2**	**-0.6**
	1.2nm,0.5s,baz=182,slow=9.8,SNR=4.5						
KLR	**Kul'dur**	**49.89**	**6**	P	**P**	**11 32 49.7**	**-0.4**
	1.3nm,0.5s,baz=180,slow=4.0,SNR=4.4						
SONM	**Songino Array**	**50.78**	**344**	P	**P**	**11 32 56.5**	**-0.6**
	1.2nm,0.5s,baz=160,slow=7.6,SNR=6.9						
PETK	**Petropavlovsk-**	**60.00**	**22**	P	**P**	**11 34 04.0**	**+1.0**
	4.1nm,0.8s,baz=187,slow=7.0,SNR=5.2						
MKAR	**Makanchi Array**	**60.06**	**328**	P	**P**	**11 34 03.0**	**-0.7**
	2.4nm,0.5s,baz=124,slow=8.8,SNR=28						
ABKAR	**Akbulak array**	**74.31**	**322**	*e*P	**P**	**11 35 34.2**	**+0.3**
	0.7nm,0.3s						
ARU	**Arti**	**77.56**	**329**	*e*P	**P**	**11 35 52.7**	**+0.5**
	40nm,1.1s						
PMR	**Palmer**	**88.49**	**29**	*e*P	**P**	**11 36 49.6**	**+1.1**
	0.8nm,0.6s						
ILAR	**Eielson Array**	**89.67**	**25**	P	**P**	**11 36 53.0**	**-1.1**
	0.3nm,0.7s,baz=238,slow=5.1,SNR=7.8						
BRTR	**Keskin Array B**	**91.32**	**310**	P	**P**	**11 37 02.7**	**+0.2**
	0.5nm,0.6s,baz=98,slow=11,SNR=2.5						
AKASG	**Malin Array Be**	**94.02**	**321**	P	**P**	**11 37 14.2**	**-0.3**
	0.4nm,0.4s,baz=68,slow=5.8,SNR=1.5						
FINES	**FINESS Array B**	**94.68**	**332**	P	**P**	**11 37 16.4**	**-0.9**
	0.9nm,0.7s,baz=107,slow=7.4,SNR=2.9						
INK	**Inuvik**	**94.73**	**21**	P	**P**	**11 37 17.6**	**+0.3**
	0.5nm,0.5s,baz=198,slow=1.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.41**	**285**	PKP	**PKPdf**	**11 42 53.2**	**+0.7**
	0.6nm,0.7s,baz=80,slow=1.4,SNR=4.2						

NNC 10 11:30:04.8±14.0, 37.30N×71.75E, h0km, mb3.2, mpv2.9, 2C-3D, Error ellipse: s-maj=119.5km s-min=58.0km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.75**	**304**	⇓Pn	Pn	11 30 48.8	-1.6
	5.6nm,0.5s						
DZET				⇑Sn	Sn	11 31 26.7	+2.3
	33nm,0.5s						
MNAS	**Manas**	**5.22**	**6**	⇓Pn	Pn	11 31 25.7	+1.4
	0.5nm,0.5s						
MNAS				⇑Sn	Sn	11 32 23.7	-1.5
	0.2nm,0.4s						
KK31	**Karatay Array**	**5.88**	**351**	⇓Pn	Pn	11 31 34.3	+1.0
	0.3nm,0.3s,baz=179,slow=11,SNR=5.6						
KK31				Sn	Sn	11 32 42.9	+1.5
	0.9nm,0.5s,baz=185,slow=23,SNR=6.2						

MEX 10 11:30:25.5±0.6, 15.51N×91.34W, h16km±72km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.09**	**315**	*e*P	Pb	11 30 41.8	-4.3
PCIG		**1.82**	**276**	*e*P	Pn	11 30 53.0	-3.2
PCIG				*e*S	Sn	11 31 13.9	-5.1

IDC 10 11:31:00.8±3.1, 5.36S×133.87E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/32, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=129.0km s-min=29.3km az=83.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.50**	**178**	Pn	Pn	11 34 26.7	-0.7
	0.1nm,0.3s,baz=359,slow=12,SNR=7.9						
WRA				Sn	Sn	11 37 04.2	-4.9
	0.2nm,0.3s,baz=354,slow=24,SNR=6.3						
FITZ	**Fitzroy Crossi**	**15.00**	**212**	Pn	Pn	11 34 33.6	-0.6
	0.2nm,0.3s,baz=27,slow=9.1,SNR=8.0						
FITZ				Sn	Sn	11 37 15.4	-5.8
	0.3nm,0.3s,baz=219,slow=18,SNR=5.5						
ASAR	**Alice Springs**	**18.20**	**180**	P	P	11 35 15.6	+0.2
	0.2nm,0.3s,baz=6.7,slow=11,SNR=14						
ASAR				S	Sn	11 38 34.1	-4.9
	0.1nm,0.3s,baz=359,slow=27,SNR=2.7						
MKAR	**Makanchi Array**	**69.04**	**325**	P	P	11 42 08.4	0.0
	0.2nm,0.4s,baz=143,slow=5.0,SNR=3.2						

*ISCJB **10** 11:31:10.4±1.4, 36.48N±0.05×141.05E±0.07, h0km±7km, mb3.7/5, MS3.4/2, Error ellipse: s-maj=11.2km s-min=6.1km az=136.2*
*JMA **10** 11:31:12.8, 36.52N×140.93E, h14km±1km, M2.8*
*IDC **10** 11:31:15.5±2.0, 37.04N×140.58E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/35, mbtmp3.6/5, MS3.3/2, Ms1 3.3/2, ms1mx2.4/42, Error ellipse: s-maj=72.3km s-min=27.0km az=151.0*

ISC 10 11:31:13.1±2.0, 36.54N±0.07×140.92E±0.08, h8km±11km, n20, σ0s63/16, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.29**	**285**	P	**Pg**	**11 31 18.9**	**+0.1**
JHO				S	**Sg**	**11 31 23.5**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.57**	**350**	P	**Pg**	**11 31 24.1**	**-0.1**
ONAJ				S	**Sg**	**11 31 32.3**	**+0.6**
JYT	**Yasato**	**0.66**	**243**	P	**Pg**	**11 31 25.3**	**-0.5**
JYT				S	**Sg**	**11 31 34.8**	**+0.4**
JFK	**Kawauchi**	**0.83**	**358**	P	**Pg**	**11 31 28.2**	**-0.9**
JFK				S	**Sg**	**11 31 40.1**	**+0.2**
JSB	**Shiboa**	**0.91**	**299**	P	**Pb**	**11 31 30.6**	**-0.5**
MJAR	**Matsushiro Arr**	**2.18**	**271**	Pn	**Pn**	**11 31 49.5**	**-0.1**
	1.1nm,0.3s,baz=87,slow=15,SNR=13						
MJAR				Sn	**Sb**	**11 32 19.8**	**-0.2**
	2.1nm,0.3s,baz=50,slow=12,SNR=6.8						
MAT	**Matsushiro**	**2.18**	**271**	P	**Pn**	**11 31 49.7**	**0.0**
MAT				S	**Sb**	**11 32 19.3**	**-0.7**
SEY	**Seymchan**	**27.36**	**11**	P	**P**	**11 36 59.2**	**+0.9**
	2.3nm,0.5s,baz=183,slow=14,SNR=11						
H11N2	**WAKE ISLAND Hy**	**28.24**	**119**	T	T	12 06 52.4	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.25**	**119**	T	T	12 06 50.1	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.26**	**119**	T	T	12 06 54.2	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.93**	**121**	T	T	12 07 34.4	
	baz=314,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.93**	**121**	T	T	12 07 36.1	
	baz=314,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.95**	**121**	T	T	12 07 40.6	
	baz=314,slow=76,SNR=5.3						
NRIK	**Noril'sk**	**43.55**	**336**	LR	LR	11 56 12.2	
	comp=Z,19nm,18.3s,baz=109,slow=35						
ILAR	**Eielson Array**	**50.13**	**32**	P	**P**	**11 40 07.8**	**-0.6**
	0.4nm,0.8s,baz=257,slow=8.2,SNR=5.1						
GEYT	**Alibeck**	**63.73**	**299**	LR	LR	12 10 44.6	
	comp=Z,66nm,18.6s,baz=310,slow=38						
YKA	**Yellowknife Ar**	**64.44**	**30**	P	**P**	**11 41 50.3**	**+0.8**
	0.2nm,0.7s,baz=304,slow=6.5,SNR=2.7						
NVAR	**Mina Array Bea**	**75.61**	**53**	P	P	11 43 02.5	+3.7
	0.4nm,0.7s,baz=273,slow=6.2,SNR=3.8						
PDAR	**Pinedale Array**	**78.30**	**45**	P	P	11 43 17.8	+3.9
	0.2nm,0.3s,baz=336,slow=2.0,SNR=3.0						

IDC 10 11:46:09.9±11.0, 1.94S×127.36E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/46, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=174.6km s-min=106.2km az=141.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.16**	**186**	Pn	Pn	11 49 56.6	-1.9
	0.1nm,0.3s,baz=7.1,slow=16,SNR=2.0						
WRA	**Warramunga Arr**	**19.15**	**160**	P	Pn	11 50 35.5	-0.3
	0.1nm,0.3s,baz=340,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**22.51**	**164**	P	P	11 51 11.9	+0.4
	0.2nm,0.6s,baz=341,slow=11,SNR=2.0						
STKA	**Stephens Creek**	**32.67**	**157**	P	P	11 52 43.9	-0.1
	1.4nm,0.8s,baz=327,slow=17,SNR=1.5						

*ISCJB **10** 11:48:07.0±0.8, 0.8N±0.1×67.31E±0.09, h10km, mb4.1/17, MS3.4/8, Error ellipse: s-maj=19.0km s-min=11.1km az=24.3*
*IDC **10** 11:48:07.7±1.0, 0.80N×67.25E, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.8/56, mbtmp3.9/14, ML4.3/1, MS3.4/9, Ms1 3.4/9, ms1mx3.0/41, Error ellipse: s-maj=32.7km s-min=19.8km az=43.0*
*NEIC **10** 11:48:08.8±0.7, 0.72N×67.26E, h10km, mb4.4/3, Error ellipse: s-maj=18.7km s-min=10.3km az=206.0*

ISC 10 11:48:09.1±0.9, 0.8N±0.1×67.35E±0.09, h10km, n33, σ1s14/22, mb4.0/17, MS3.3/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**7.97**	**153**	T	T	11 58 23.2	
	baz=331,slow=75,SNR=88						
H08N3	**Diego Garcia H**	**7.98**	**153**	T	T	11 58 24.2	
	baz=331,slow=75,SNR=86						
H08N1	**Diego Carcia H**	**7.99**	**153**	T	T	11 58 20.0	
	baz=331,slow=75,SNR=84						
PALK	**Pallekele**	**14.78**	**64**	Pn	**Pn**	**11 51 39.6**	**+1.1**
	1.3nm,0.3s,baz=295,slow=10,SNR=11						
PALK				LR	LR	11 56 13.3	
	comp=Z,218nm,20.1s,baz=296,slow=33						
PALK	**Pallekele**	**14.78**	**64**	*e*Pn	**Pn**	**11 51 40.1**	**+1.6**
PALK				*e*Sn	**Sn**	**11 54 20.3**	**-2.2**
DAMY	**Dhamar**	**26.49**	**302**	*e*P	**P**	**11 53 46.6**	**-0.7**
	4.7nm,0.7s						
GSI	**Gunungsitoli**	**30.23**	**89**	*e*P	**P**	**11 54 19.4**	**-1.0**
	6.5nm,0.2s						
COCO	**West Island**	**32.00**	**115**	*e*P	**P**	**11 54 35.6**	**-0.3**
	161nm,0.6s						
CMAR	**Chiang Mai Arr**	**35.63**	**59**	LR	LR	12 08 26.6	
	comp=Z,48nm,19.4s,baz=240,slow=34						
GEYT	**Alibeck**	**37.91**	**348**	P	**P**	**11 55 27.0**	**+0.3**
	1.4nm,0.3s,baz=142,slow=16,SNR=2.6						
MKAR	**Makanchi Array**	**47.63**	**14**	P	**P**	**11 56 46.3**	**+0.9**
	0.2nm,0.3s,baz=207,slow=9.0,SNR=3.2						
KBZ	**Khabaz**	**47.97**	**336**	P	**P**	**11 56 47.5**	**-0.6**
	2.6nm,0.8s,baz=115,slow=2.3,SNR=6.2						
KBZ				LR	LR	12 17 26.0	
	comp=Z,24nm,20.9s,baz=235,slow=37						
ABKAR	**Akbulak array**	**48.68**	**354**	*e*P	**P**	**11 56 55.0**	**+1.6**
	3.1nm,1.0s						
BRTR	**Keskin Array B**	**49.43**	**326**	P	**P**	**11 56 58.9**	**-0.6**
	0.9nm,0.7s,baz=128,slow=8.0,SNR=5.0						
AKTO	**Aktyubinsk**	**50.08**	**352**	P	**P**	**11 57 05.0**	**+0.9**
	2.2nm,0.8s,baz=183,slow=9.6,SNR=7.3						
AKTO				LR	LR	12 19 25.7	
	comp=Z,17nm,18.3

RCDM				*i* S		**Sn**	**11 54 08.9**	**-2.7**
RCDM				IAML			11 54 11.4	
	comp=E,402nm,0.1s							
AMOG	**MOGNA**	**1.66**	**40**	*i* P		**Pn**	**11 53 52.2**	**+0.7**
AVFE	**Valle Fertil**	**2.49**	**52**	*i* P		**Pn**	**11 54 01.8**	**-0.3**
AVFE				*i* S		**Sn**	**11 54 32.6**	**+0.1**
AVFE				IAML			11 54 34.8	
	comp=Z,31nm,0.4s							

IDC 10 12:49:25.7±53.0, **23°38S**×**178°24W, h0**km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.5**/24, **mbtmp3.6**/3, **Error ellipse: s-maj=972.7km s-min=160.9km az=87.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.41**	**248**	P	P	12 56 31.1	-1.0
	0.8nm,0.4s,baz=82,slow=14,SNR=4.0						
ASAR	**Alice Springs**	**43.71**	**260**	P	P	12 57 32.8	-0.2
	0.2nm,0.3s,baz=91,slow=7.5,SNR=9.5						
WRA	**Warramunga Arr**	**44.05**	**265**	P	P	12 57 36.3	+0.5
	0.5nm,1.0s,baz=101,slow=8.3,SNR=12						

*DDA **10** 12:57:09.9, 39°.10N×29°.04E, h8km, Md3.0*
*ISK **10** 12:57:09.1, 38°.95N×29°.25E, h12km, MD3.0*
*ISCJB **10** 12:57:10.3±0.6, 39°.08N±0°.04×29°.04E±0°.04, h3km±8km, Error ellipse: s-maj=6.5km s-min=4.4km az=163.4*
*CSEM **10** 12:57:10.3±0.2, 39°.08N×29°.07E, h2km, MD3.0, Error ellipse: s-maj=5.7km s-min=4.3km az=120.0*

ISC 10 12:57:10.1±1.1, **39°.06N**±0°.03×**29°.10E**±0°.03, **h7**km±11km, **n34**, σ0**96**/48, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.30**	**85**	P	**Pb**	**12 57 17.3**	**-0.6**
GDZ				S	**Sb**	**12 57 22.3**	**-0.8**
GDZ	**Gediz**	**0.30**	**85**	*i* P	**Pb**	**12 57 17.3**	**-0.6**
GDZ				*i* S	**Sb**	**12 57 22.3**	**-0.8**
DEMI	**Demirci**	**0.30**	**266**	P	**Pg**	**12 57 15.7**	**-0.3**
DEMI				S	**Sg**	**12 57 19.5**	**-0.5**
DEMI	**Demirci**	**0.30**	**266**	*i* P	**Pg**	**12 57 15.7**	**-0.3**
DEMI				*i* S	**Sg**	**12 57 19.5**	**-0.5**
TVSB	**Tavsanli**	**0.48**	**36**	*e*PG	**Pg**	**12 57 19.6**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**36**	*e*Pg	**Pg**	**12 57 19.6**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**212**	*e*PG	**Pg**	**12 57 22.3**	**-0.3**
KULA				*e*SG	**Sg**	**12 57 31.2**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**212**	*e*Pg	**Pg**	**12 57 22.3**	**-0.3**
KULA				*e*Sg	**Sg**	**12 57 31.2**	**+0.2**
MANT	**Manisa**	**0.71**	**217**	P	**Pg**	**12 57 24.0**	**+0.2**
MANT				S	**Sg**	**12 57 33.4**	**+0.3**
MANT	**Manisa**	**0.71**	**217**	*i* P	**Pg**	**12 57 24.0**	**+0.2**
MANT				*i* S	**Sg**	**12 57 33.4**	**+0.3**
KHAL	**Karahalli**	**0.76**	**156**	P	**Pb**	**12 57 26.1**	**+0.4**
KHAL				S	**Sb**	**12 57 37.4**	**+1.1**
KHAL	**Karahalli**	**0.76**	**156**	*i* P	**Pb**	**12 57 26.1**	**+0.4**
KHAL				*i* S	**Sb**	**12 57 37.4**	**+1.1**
AKS	**Akhisar**	**1.02**	**260**	*e*PN	**Pn**	**12 57 30.7**	**-0.1**
BALB	**Balikesir**	**1.11**	**302**	*e*PN	**Pn**	**12 57 32.2**	**+0.2**
BALB	**Balikesir**	**1.11**	**302**	*e*Pn	**Pn**	**12 57 32.2**	**+0.2**
IGD	**Bursa**	**1.20**	**4**	*i* P	**Pg**	**12 57 32.0**	**-1.1**
IGD				*i* S	**Sb**	**12 57 48.6**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**27**	*e*PN	**Pg**	**12 57 34.2**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**27**	*e*Pn	**Pg**	**12 57 34.3**	**-0.3**
IZI	**Iznik**	**1.30**	**13**	*e*PN	**Pg**	**12 57 35.5**	**+0.4**
IZI				*e*SN	**Sn**	**12 57 53.4**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.31**	**353**	*e*PN	**Pg**	**12 57 36.0**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.31**	**353**	*e*Pn	**Pg**	**12 57 36.0**	**+0.7**
KCTX	**Karacabey (Bur**	**1.33**	**335**	*e*PN	**Pg**	**12 57 36.5**	**+0.9**
KCTX	**Karacabey (Bur**	**1.33**	**335**	*e*Pn	**Pg**	**12 57 36.5**	**+0.9**
ESKT	**Eskisehir**	**1.43**	**71**	*i* P	**Pn**	**12 57 36.7**	**0.0**
ESKT				*i* S	**Sg**	**12 57 58.5**	**+2.3**
SEYT	**Eskypehyr**	**1.43**	**71**	P	**Pn**	**12 57 36.7**	**+0.1**
SEYT				S	**Sg**	**12 57 58.5**	**+2.3**
ADVT	**Abdulvahap**	**1.45**	**20**	*e*PN	**Pn**	**12 57 36.8**	**-0.1**
ARMT	**Armutlu**	**1.51**	**353**	*e*PN	**Pg**	**12 57 38.5**	**-0.6**
ARMT	**Armutlu**	**1.51**	**353**	*e*Pn	**Pg**	**12 57 38.5**	**-0.6**
EDC	**Edincik**	**1.60**	**324**	*e*PN	**Pg**	**12 57 40.5**	**-0.2**
EDC	**Edincik**	**1.60**	**324**	*e*Pn	**Pg**	**12 57 40.6**	**-0.2**
GULT	**Gulveren**	**1.75**	**38**	*e*PN	**Pn**	**12 57 39.8**	**-1.2**
GULT	**Gulveren**	**1.75**	**38**	*e*Pn	**Pn**	**12 57 39.8**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.92**	**78**	*e*PN	**Pn**	**12 57 40.5**	**-2.8**
SVRH	**Sivrihisar-ESK**	**1.92**	**78**	*e*Pn	**Pn**	**12 57 40.6**	**-2.8**

SJA 10 13:02:21.0±0.6, **31°.01S**×**68°.84W, h107**km±7km, **ML2.8, MW3.5, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.45**	**136**	*i* P	Pn	13 02 37.8	+0.5
RTCV	**Cerro Valdivia**	**0.89**	**163**	*i* P	Pn	13 02 41.8	+0.9
AVFE	**Valle Fertil**	**1.24**	**74**	*i* P	Pn	13 02 45.8	+1.1
AVFE				*i* S	Sn	13 03 04.0	+1.4
AVFE				IAML		13 03 05.0	
	comp=Z,117nm,0.4s						
AGUA	**GUANDACOL**	**1.54**	**11**	*i* P	Pn	13 02 49.4	+1.1
ACHE	**Chepes**	**1.87**	**95**	*i* P	Pn	13 02 53.3	+0.9
ACAN	**Cantantal**	**1.89**	**132**	*i* P	Pn	13 02 53.9	+1.4

IDC 10 13:08:03.4±0.9, **29°.58S**×**178°.24W, h220**km±7km, **mb3.0**/2, **mb1 3.4**/3, **mb1mx3.1**/25, **mbtmp3.8**/3, **Error ellipse: s-maj=40.8km s-min=21.9km az=119.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.43**	**40**	P	Pn	13 08 32.9	+0.2
	424nm,0.3s,baz=237,slow=23,SNR=12						
RAO				S	S	13 08 56.3	+1.0
	136nm,0.3s,baz=72,slow=20,SNR=3.2						
URZ	**Urewera**	**9.48**	**203**	P	Pn	13 10 15.3	-0.2
	0.4nm,0.3s,baz=187,slow=18,SNR=5.5						
URZ				S	S	13 12 01.9	0.0
	0.7nm,0.3s,baz=288,slow=3.2,SNR=4.1						
ASAR	**Alice Springs**	**42.95**	**266**	P	P	13 15 41.1	+0.1
	0.3nm,0.5s,baz=108,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**43.87**	**271**	P	P	13 15 48.1	-0.2
	0.3nm,0.3s,baz=109,slow=8.0,SNR=24						
FINES	**FINESS Array B**	**144.31**	**340**	PKP	PKPab	13 27 10.9	-0.1
	1.6nm,0.5s,baz=48,slow=4.1,SNR=16						
AKASG	**Malin Array Be**	**150.53**	**323**	PKPbc	PKPbc	13 27 28.8	+0.2
	0.6nm,0.3s,baz=46,slow=3.3,SNR=7.2						

*MEX **10** 13:13:22.7±0.9, 16°.02N×98°.61W, h4km, MD4.9*
*ISCJB **10** 13:13:24.8±1.1, 16°.43N±0°.03×98°.28W±0°.02, h15km±6km, mb4.7/96, MS3.9/12, Error ellipse: s-maj=5.9km s-min=3.1km az=14.6*
*NEIC **10** 13:13:24.0, 16°.00N×98°.54W, h10km, mb4.8/106, MD4.9(MEX), After MEX.*
NEIC Felt at Oaxaca.
*IDC **10** 13:13:25.1±1.3, 16°.68N×98°.35W, h0km, mb4.3/9, mb1 4.5/13, mb1mx4.2/39, mbtmp4.2/13, ML3.8/4, MS3.9/15, Ms1 3.9/15, ms1mx3.7/34, Error ellipse: s-maj=28.5km s-min=16.5km az=8.0*

ISC 10 13:13:23.6±1.4, **16°.30N**±0°.04×**98°.47W**±0°.03, **h2**km±7km, **n558**, σ1**33**/582, **mb4.8**/96, **MS3.9**/12, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**74**	*i* P	**Pb**	**13 13 33.4**	**+1.1**
PNIG				*e*S	**Sb**	**13 13 41.7**	**+3.4**
PNIG	**Pinotepa**	**0.34**	**74**	*i* P	**Pb**	**13 13 33.4**	**+1.1**
PNIG				*e*S	**Sb**	**13 13 41.7**	**+3.4**
TLIG	**Tlapa**	**1.26**	**356**	*e*P	**Pn**	**13 13 47.4**	**-1.0**
TLIG				*e*S	**Sg**	**13 14 06.7**	**+2.5**
ACP2	**Acapulco**	**1.48**	**293**	*e*P	**Pn**	**13 13 48.1**	**-3.0**
ACP2				*e*S	**Sn**	**13 14 07.3**	**-3.7**
HMTT	**Tlapaneco**	**1.50**	**357**	*e*P	**Pn**	**13 13 51.4**	**-0.1**
VHO	**Vista Hermosa**	**1.83**	**65**	*i* P	**Pn**	**13 13 55.9**	**-0.3**
VHO				*e*S	**Sb**	**13 14 21.0**	**-0.4**
VHO	**Vista Hermosa**	**1.83**	**65**	*i* P	**Pn**	**13 13 55.9**	**-0.3**
VHO				*e*S	**Sb**	**13 14 21.0**	**-0.4**
OXBJ	**Oaxaca**	**1.84**	**65**	*e*P	**Pn**	**13 13 55.6**	**-0.8**
CAIG	**El Cayaco**	**1.88**	**294**	*e*P	Pn	13 13 51.9	-4.8
CAIG				*e*S	Sn	**13 14 18.0**	**-3.0**
MEIG	**Mezcala**	**1.96**	**326**	*e*P	**Pn**	**13 13 58.2**	**+0.3**
MEIG				*e*S	**Sn**	**13 14 22.0**	**-1.0**
MEIG	**Mezcala**	**1.96**	**326**	*e*P	**Pn**	**13 13 58.2**	**+0.3**
MEIG				*e*S	**Sn**	**13 14 22.0**	**-1.0**
PANG	**Puerto Angel**	**2.02**	**108**	*e*P	**Pn**	**13 13 55.0**	**-3.5**
PANG				*i* S	**Sn**	**13 14 20.0**	**-4.4**
PLIG	**Platanillo**	**2.31**	**335**	*e*P	**Pn**	**13 14 01.9**	**-0.8**
PLIG				*e*S	**Sn**	**13 14 31.7**	**0.0**
PLIG	**Platanillo**	**2.31**	**335**	*e*P	**Pn**	**13 14 01.9**	**-0.8**
PLIG				*e*S	**Sn**	**13 14 31.7**	**0.0**
HUIG	**Huatulco**	**2.33**	**103**	*e*P	**Pn**	**13 14 00.3**	**-2.6**
HUIG				*e*S	**Sn**	**13 14 28.7**	**-3.4**
HUIG	**Huatulco**	**2.33**	**103**	*e*P	**Pn**	**13 14 00.3**	**-2.6**
HUIG				*e*S	**Sn**	**13 14 28.7**	**-3.4**
TPIG	**Tehuac#an**	**2.36**	**26**	*e*P	**Pn**	**13 14 03.8**	**+0.3**
TPIG				*e*S	**Sb**	**13 14 35.2**	**-1.3**
TPIG	**Tehuac#an**	**2.36**	**26**	*e*P	**Pn**	**13 14 03.8**	**+0.3**
TPIG				*e*S	**Sb**	**13 14 35.2**	**-1.3**
YAIG	**Yautepec**	**2.61**	**347**	*e*P	**Pn**	**13 14 08.9**	**+2.0**
YAIG				*e*S	**Sn**	**13 14 34.1**	**-5.2**
YAIG	**Yautepec**	**2.61**	**347**	*e*P	**Pn**	**13 14 08.9**	**+2.0**
YAIG				*e*S	**Sn**	**13 14 34.1**	**-5.2**
ARIG	**Puente Sto Nin**	**2.67**	**318**	*e*P	**Pb**	**13 14 10.4**	**-1.7**
PPM	**Popocatepetl**	**2.76**	**357**	*e*P	**Pn**	**13 14 09.3**	**+0.1**
PPM				*e*P	Pb	13 14 09.3	-4.6
PPM				*i* S	**Sb**	**13 14 47.1**	**-1.3**
PPM	**Popocatepetl**	**2.76**	**357**	*e*P	**Pn**	**13 14 09.3**	**+0.1**
PPM				*i* S	**Sb**	**13 14 47.1**	**-1.3**
MAVM	**Malinalco, Edo**	**2.82**	**340**	*e*P	**Pb**	**13 14 13.8**	**-1.0**
MZVM		**2.97**	**346**	*e*P	**Pb**	**13 14 17.3**	**+0.1**
MZVM				*e*S	**Sg**	**13 14 57.8**	**-1.1**
VCVM	**Valle de Chalc**	**3.02**	**351**	*e*S	**Sg**	**13 15 04.3**	**+3.6**
UNM	**Universidad Na**	**3.09**	**347**	*e*P	**Pb**	**13 14 20.3**	**+0.9**
UNM				*e*S	**Sb**	**13 14 58.0**	**+0.3**
UNM	**Universidad Na**	**3.09**	**347**	*e*Pn	**Pb**	**13 14 20.6**	**+1.2**
UNM				*e*S	**Sb**	**13 14 58.0**	**+0.3**
ZIIG	**Zihuatanejo**	**3.15**	**295**	*e*P	**Pn**	**13 14 14.7**	**+0.6**
ZIIG				*e*P	**Pn**	**13 14 14.9**	**+0.8**
ZIIG				*e*P	**Pn**	**13 14 15.4**	**+1.3**
ZIIG	**Zihuatanejo**	**3.15**	**295**	*e*P	**Pn**	**13 14 14.7**	**+0.6**
TOVM	**TOLUCA**	**3.19**	**339**	*e*P	**Pb**	**13 14 19.9**	**-1.2**
TOVM				*e*S	**Sg**	**13 15 04.1**	**-1.9**
PTVM	**Pico Tres Padr**	**3.33**	**349**	*e*P	**Pn**	**13 14 16.0**	**-1.0**
PTVM	**Pico Tres Padr**	**3.33**	**349**	*e*Pn	**Pn**	**13 14 16.0**	**-1.0**
AZVM	**Cuida Lopez Ma**	**3.36**	**347**	*e*P	**Pb**	**13 14 24.2**	**+0.1**
VTVM	**Tizayuca**	**3.47**	**355**	*e*P	**Pb**	**13 14 25.6**	**-0.3**
CMIG	**Matias Romero**	**3.52**	**77**	Pn	**Pn**	**13 14 18.1**	**-1.3**
	38nm,0.3s,baz=256,slow=11,SNR=346						
CMIG				Pg	**Pg**	**13 14 30.7**	**-0.4**
	54nm,0.3s,baz=258,slow=15,SNR=38						
CMIG				Sn	**Sn**	**13 14 57.1**	**-4.5**
	63nm,0.3s,baz=318,slow=23,SNR=3.8						
CMIG				LR	LR	13 15 04.2	
	comp=Z,461nm,20.6s,baz=212,slow=30						
CMIG				Lg	Lg	13 15 12.1	
	134nm,0.3s,baz=250,slow=7.0,SNR=5.0						
ZUVM	**ZUMPANGO**	**3.56**	**351**	*e*P	**Pb**	**13 14 29.3**	**+1.9**
ATVM	**ATLACOMULCO**	**3.69**	**339**	*e*P	**Pb**	**13 14 27.8**	**-1.8**
TUIG	**Tuzandepetl**	**4.24**	**65**	*e*P	**Pn**	**13 14 24.8**	**-4.3**
TUIG				*i* S	**Sn**	**13 15 11.4**	**-7.8**
MOIG	**Morelia**	**4.24**	**323**	*e*Pn	**Pn**	**13 14 30.2**	**+0.8**
PCIG		**5.08**	**96**	*e*P	**Pn**	**13 14 39.1**	**-1.6**
PCIG				*i* S	**Sn**	**13 15 39.3**	**-0.7**
PCIG		**5.08**	**96**	*e*P	**Pn**	**13 14 39.1**	**-1.6**
PCIG				*i* S	**Sn**	**13 15 39.3**	**-0.7**
CCIG	**Comitan**	**6.08**	**89**	*e*P	**Pn**	**13 14 53.8**	**-0.9**
CCIG				*i* S	**Sn**	**13 16 07.5**	**+2.6**
CCIG	**Comitan**	**6.08**	**89**	*e*P	**Pn**	**13 14 53.8**	**-0.9**
CCIG				*i* S	**Sn**	**13 16 07.5**	**+2.6**
TEIG	**Tepich**	**10.44**	**66**	Pn	**Pn**	**13 15 52.1**	**-2.2**
	1.9nm,0.3s,baz=90,slow=22,SNR=8.1						
TEIG				Sn	**Sn**	**13 17 47.8**	**-4.1**
	2.2nm,0.3s,baz=180,slow=20,SNR=3.8						
TEIG				LR	LR	13 20 41.4	
	comp=Z,440nm,20.1s,baz=180,slow=43						
TEIG	**Tepich**	**10.44**	**66**	*e*Pn	**Pn**	**13 15 51.5**	**-2.8**
TEIG				Sn	**Sn**	**13 17 47.8**	**-4.1**
TEIG				*e*Sn	Sn	13 17 48.0	-3.9
835A	**Beeville**	**11.95**	**3**	P	**Pn**	**13 16 14.9**	**0.0**
	baz=183						
833A	**Chaparral WMA,**	**12.00**	**356**	P	**Pn**	**13 16 16.7**	**+1.0**
	baz=176						
H06E1	**SOCORRO T-PHAS**	**12.14**	**284**	T	T	13 28 22.7	
	SNR=184						
H06S1	**SOCORRO T**	**12.16**	**283**	T	T	13 28 27.1	
	SNR=24						
H06N1	**SOCORRO T-PHAS**	**12.21**	**284**	T	T	13 28 31.7	
	SNR=8.6						
HPIG		**12.52**	**329**	*e*Pn	**Pn**	**13 16 23.9**	**+0.9**
635A	**Leesville**	**13.04**	**3**	P	**Pn**	**13 16 29.4**	**-0.5**
	baz=183						
633A	**Saathoff Ranch**	**13.12**	**357**	P	**Pn**	**13 16 31.0**	**+0.1**
	baz=177						
636A	**Smothers Creek**	**13.19**	**5**	P	**Pn**	**13 16 31.8**	**0.0**
	baz=186						
637A	**Eagle Lake**	**13.23**	**8**	P	**Pn**	**13 16 31.6**	**-0.8**
	baz=189						
LPIG	**La Paz**	**13.55**	**307**	LR	LR	13 20 47.3	
	comp=Z,399nm,21.4s,baz=122,slow=33						
535A	**Dale**	**13.69**	**3**	P	**Pn**	**13 16 38.6**	**-0.2**
	baz=184						
HKT	**Hockley**	**13.80**	**10**	*e*Pn	**Pn**	**13 16 40.6**	**+0.4**
	27nm,1.4s						
TXAR	**Lajitas Array**	**13.83**	**341**	Pn	**Pn**	**13 16 42.0**	**+1.3**
	0.0nm,0.3s,baz=164,slow=10,SNR=15						
TXAR				Lg	Lg	13 20 47.6	
	0.0nm,0.3s,baz=162,slow=27,SNR=6.0						
TX31	**Lajitas Ar. Si**	**13.83**	**341**	*e*Pn	**Pn**	**13 16 42.5**	**+1.7**
537A	**Green Hill Far**	**13.86**	**8**	P	**Pn**	**13 16 40.6**	**-0.5**
	baz=189						
JCT	**Junction City**	**14.17**	**355**	P	**Pn**	**13 16 45.5**	**+0.1**
	baz=175						
433A	**Art**	**14.40**	**358**	P	**Pn**	**13 16 47.7**	**-0.9**
	baz=178,SNR=9.3						
435B	**Jarrell**	**14.44**	**3**	P	**Pn**	**13 16 48.8**	**-0.2**
	baz=184						
438A	**Sam Houston St**	**14.64**	**10**	P	**Pn**	**13 16 51.4**	**-0.5**
	baz=191						
335A	**Moody**	**14.95**	**3**	P	**Pn**	**13 16 55.3**	**-0.6**
	baz=184						
645A	**Chauvin**	**14.96**	**28**	P	**Pn**	**13 16 54.9**	**-1.3**
	baz=210						
334A	**Lometa**	**14.97**	**1**	P	**Pn**	**13 16 55.3**	**-0.9**
	baz=181						
337A	**Centerville**	**15.14**	**8**	P	**Pn**	**13 16 57.5**	**-1.0**
	baz=190						
338A	**Crockett**	**15.27**	**10**	P	**Pn**	**13 16 59.0**	**-1.2**
	baz=192						
339A	**Huntington**	**15.39**	**13**	P	**Pn**	**13 17 00.1**	**-1.7**
	baz=194						
340A	**Bronson**	**15.62**	**15**	P	**Pn**	**13 17 02.9**	**-1.9**
	baz=196						
234A	**Clairette**	**15.64**	**1**	P	**Pn**	**13 17 03.7**	**-1.5**
	baz=181,SNR=7.3						
WHTX	**Lake Whitney,**	**15.65**	**3**	P	**Pn**	**13 17 03.3**	**-1.9**
	baz=184,SNR=14						
WHTX	**Lake Whitney,**	**15.65**	**3**	*e*Pn	**Pn**	**13 17 05.2**	**-0.1**
	79nm,1.0s						
233A	**Rising Star**	**15.66**	**359**	P	**Pn**	**13 17 03.8**	**-1.5**
	baz=179,SNR=13						
341A	**Kurthwood**	**15.73**	**17**	P	**Pn**	**13 17 05.5**	**-0.7**
	baz=199						
236A	**Katherine and**	**15.73**	**6**	P	**Pn**	**13 17 04.7**	**-1.6**
	baz=187,SNR=5.4						
NATX	**Nacogdoches**	**15.78**	**12**	P	**Pn**	**13 17 06.5**	**-0.4**
	baz=194						
238A	**Jacksonville**	**15.93**	**10**	P	**Pn**	**13 17 08.5**	**-0.4**
	baz=192						
239A	**Gary**	**16.07**	**12**	P	**Pn**	**13 17 09.9**	**-0.7**
	baz=194						
136A	**Ennis**	**16.20**	**6**	P	**Pn**	**13 17 11.5**	**-0.9**
	baz=187						
134A	**White-Moore Ra**	**16.21**	**1**	P	**Pn**	**13 17 11.3**	**-1.2**
	baz=182,SNR=8.2						
135A	**Vickery Place,**	**16.22**	**3**	P	**Pn**	**13 17 12.0**	**-0.6**
	baz=184						
133A	**Hamilton Ranch**	**16.25**	**359**	P	**Pn**	**13 17 11.8**	**-1.1**
	baz=179,SNR=14						
240A	**Hunter Patters**	**16.25**	**14**	P	**Pn**	**13 17 11.5**	**-1.4**
	baz=196						
ABTX	**Abilene, Hawle**	**16.29**	**356**	P	**Pn**	**13 17 12.9**	**-0.6**
	baz=176,SNR=7.6						
ABTX	**Abilene, Hawle**	**16.29**	**356**	*e*Pn	**Pn**	**13 17 11.8**	**-1.7**
	94nm,1.4s						
137A	**Heron Place, G**	**16.41**	**8**	P	**Pn**	**13 17 13.6**	**-1.5**
	baz=189						
MNTX	**Cornudas Mount**	**16.57**	**339**	P	**Pn**	**13 17 17.3**	**+0.1**
	baz=157						
138A	**Matatall Enter**	**16.58**	**10**	P	**Pn**	**13 17 16.0**	**-1.2**
	baz=191						
Z33A	**Whitaker Ranch**	**16.92**	**359**	P	**Pn**	**13 17 20.5**	**-1.0**
	baz=179,SNR=8.3						
Z35A	**Perchaven, San**	**17.00**	**3**	P	**Pn**	**13 17 22.5**	**0.0**
	baz=184						
141A	**Papa Simpson,**	**17.00**	**16**	P	**Pn**	**13 17 21.6**	**-0.9**
	baz=198						
Z34A	**Collier Ranch,**	**17.01**	**2**	P	**Pn**	**13 17 22.5**	**-0.1**
	baz=182						
Z37A	**Pogue Cattle C**	**17.02**	**8**	P	**Pn**	**13 17 22.4**	**-0.4**
	baz=189						
346A	**Big Creek Wild**	**17.12**	**27**	P	**Pn**	**13 17 23.0**	**-1.0**
	baz=210						
244A	**Avery, Jackson**	**17.20**	**23**	P	**Pn**	**13 17 24.4**	**-0.6**
	baz=206						
VBMS	**Vicksburg**	**17.42**	**23**	P	**Pn**	**13 17 26.7**	**-1.0**
	baz=206						
Z40A	**Long Farm, Mag**	**17.50**	**14**	P	**P**	**13 17 29.2**	**-0.7**
	baz=196,SNR=5.8						
Y35A	**Marietta**	**17.58**	**4**	P	**Pn**	**13 17 29.1**	**-0.7**
	baz=185						
Y34A	**Reagan Ranch,**	**17.60**	**2**	P	**Pn**	**13 17 29.2**	**-0.8**
	baz=182						
Y33A	**Hilltop Ranch,**	**17.64**	**360**	P	**Pn**	**13 17 29.8**	**-0.7**
	baz=180						
Y36A	**Durant**	**17.64**	**6**	P	**Pn**	**13 17 28.9**	**-1.5**
	baz=187						
Z41A	**Richland Creek**	**17.65**	**16**	P	**Pn**	**13 17 29.8**	**-0.8**
	baz=198						
Y37A	**Hugo**	**17.79**	**8**	P	**Pn**	**13 17 31.2**	**-1.2**
	baz=189						
Y39A	**Lockesburg**	**18.00**	**12**	P	**Pn**	**13 17 33.3**	**-1.7**
	baz=194						
Z43A	**Armstrong Fami**	**18.06**	**20**	P	**Pn**	**13 17 34.0**	**-1.7**
	baz=203						
247A	**Quitman**	**18.06**	**28**	P	**Pn**	**13 17 33.9**	**-1.8**
	baz=212						
X32A	**Elmer**	**18.06**	**358**	P	**Pn**	**13 17 35.3**	**-0.5**
	baz=178						
X35A	**Drake**	**18.08**	**4**	P	**Pn**	**13 17 34.7**	**-1.2**
	baz=185,SNR=8.3						
X33A	**Lawton**	**18.17**	**360**	P	**Pn**	**13 17 36.6**	**-0.4**
	baz=180						
X34A	**Smith Ranch, M**	**18.24**	**2**	P	**Pn**	**13 17 37.3**	**-0.6**
	baz=182,SNR=7.2						
121A	**Cookes Peak, D**	**18.24**	**334**	P	**P**	**13 17 38.8**	**+0.5**
	baz=151						
121A	**Cookes Peak, D**	**18.24**	**334**	Pn	**P**	**13 17 38.7**	**+0.3**
	15nm,0.9s						
Y40A	**Okolona**	**18.25**	**14**	P	**Pn**	**13 17 37.2**	**-0.8**
	baz=196						
Y41A	**Eaglette Beard**	**18.29**	**16**	P	**Pn**	**13 17 36.8**	**-1.7**
	baz=198						
X36A	**Centrahoma**	**18.30**	**6**	P	**Pn**	**13 17 37.7**	**-0.8**
	baz=187,SNR=5.4						
WMOK	**Wichita Mounta**	**18.37**	**359**	P	**Pn**	**13 17 38.9**	**-0.5**
	baz=179						
146A	**Union**	**18.37**	**26**	P	**Pn**	**13 17 38.9**	**-0.5**
	baz=210						
Z44A	**Pea Ridge, Bel**	**18.40**	**22**	P	**P**	**13 17 38.4**	**-1.5**
	baz=205						
X37A	**Clayton**	**18.43**	**8**	P	**Pn**	**13 17 39.9**	**-0.2**
	baz=190						
Y42A	**Garnett, Star**	**18.47**	**18**	P	**P**	**13 17 39.1**	**-1.6**
	baz=200						
248A	**Dixon Mills**	**18.50**	**30**	P	**P**	**13 17 40.2**	**-0.9**
	baz=214						
X39A	**Fountain Ranch**	**18.55**	**11**	P	**P**	**13 17 41.1**	**-0.5**
	baz=193,SNR=6.5						
X38A	**Whitesboro**	**18.59**	**9**	P	**P**	**13 17 41.4**	**-0.6**
	baz=191,SNR=8.2						
MIAR	**Mount Ida**	**18.70**	**13**	P	**P**	**13 17 42.7**	**-0.5**
	baz=195						
AMTX	**Amarillo**	**18.73**	**352**	P	**P**	**13 17 43.4**	**-0.3**
	baz=171						
AMTX	**Amarillo**	**18.73**	**352**	*e*P	**P**	**13 17 41.7**	**-2.0**
	26nm,0.9s						
147A	**Livingston**	**18.74**	**28**	P	**P**	**13 17 42.2**	**-1.5**
	baz=212						
Z45A	**Winona**	**18.76**	**23**	P	**P**	**13 17 42.5**	**-1.4**
	baz=207						
W32A	**Sentinel**	**18.76**	**358**	P	**P**	**13 17 43.5**	**-0.4**
	baz=178						
W33A	**Caddo, Fort Co**	**18.78**	**360**	P	**P**	**13 17 43.6**	**-0.4

0.1nm,0.3s,baz=204,slow=20,SNR=2.1
ANMO LR LR 13 26 13.7
comp=Z,990nm,20.3s,baz=158,slow=39
ANMO Albuquerque 19.90 340 P **P** 13 17 56.9 +0.2
baz=158
ANMO Albuquerque 19.90 340 eP **P** 13 17 55.1 -1.6
28nm,1.4s
V39A Pettigrew 19.93 12 P **P** 13 17 56.0 -0.8
baz=194,SNR=19
Y47A UCPARC, Winfie 19.97 27 P **P** 13 17 56.0 -1.2
baz=211,SNR=9.7
U32A Winter Ranch, 20.01 359 P **P** 13 17 57.4 -0.1
baz=179
U35A Pawnee 20.05 4 P **P** 13 17 57.1 -0.9
baz=185
U33A Lingo Farm, Me 20.06 1 P **P** 13 17 57.1 -1.0
baz=181
U34A Anderson Ranch 20.08 2 P **P** 13 17 58.6 +0.3
baz=183,SNR=6.5
U34A Anderson Ranch 20.08 2 eP **P** 13 17 57.4 -0.9
96nm,1.3s
U36A Oologah 20.16 6 P **P** 13 17 58.4 -0.8
baz=188
V41A Mountainview 20.21 15 P **P** 13 17 58.6 -1.1
baz=198,SNR=14
U37A Salina 20.25 8 P **P** 13 17 59.0 -1.1
baz=189
TIGA Tifton 20.27 39 P **P** 13 17 58.9 -1.5
baz=225
214A Organ Pipe Nat 20.32 323 P Pn 13 18 02.0 -1.0
baz=138,SNR=6.3
214A Organ Pipe Nat 20.32 323 eP **P** 13 18 01.7 +0.7
216nm,1.8s
U38A Gravette 20.39 9 P **P** 13 18 02.0 +0.3
baz=191,SNR=5.5
V42A Cord 20.43 17 P **P** 13 18 01.4 -0.7
baz=200
U39A Green Forest 20.49 12 P **P** 13 18 01.5 -1.3
baz=194,SNR=20
W45A Hickory Valley 20.54 22 P **P** 13 18 01.9 -1.4
baz=206
U40A Yellville 20.59 13 P **P** 13 18 02.9 -1.0
baz=195,SNR=30
T35A Sooner Cattle 20.61 4 P **P** 13 18 02.8 -1.3
baz=185,SNR=9.0
T34A McClaskey Farm 20.68 3 P **P** 13 18 03.1 -1.7
baz=184,SNR=7.0
T33A Patterson Ranc 20.70 1 P **P** 13 18 03.5 -1.6
baz=181
T32A Huddler Ranch, 20.80 359 P **P** 13 18 04.8 -1.5
baz=179
PLAL Pickwick Lake 20.81 25 eP **P** 13 18 05.4 -0.8
46nm,0.9s
T36A Boggs Farm, Ca 20.81 6 P **P** 13 18 04.9 -1.3
baz=187
X18A Snowflake 20.88 333 eP Pn 13 18 08.3 -1.4
50nm,1.5s
V44A Blytheville 20.90 20 P **P** 13 18 05.1 -2.1
baz=204
T37A Cheneyville 18 20.98 8 P **P** 13 18 06.4 -1.7
baz=190,SNR=6.9
T38A Diamond 20.98 9 P **P** 13 18 06.0 -2.1
baz=191,SNR=9.3
T39A Clever 21.13 11 P **P** 13 18 08.4 -1.4
baz=194,SNR=10
V45A Humboldt 21.14 22 P **P** 13 18 08.3 -1.5
baz=206
S33A Kaszmaul Farm, 21.22 1 P **P** 13 18 09.9 -0.8
baz=181
W18A Petrified Fore 21.28 334 P **P** 13 18 11.7 +0.1
baz=150
S32A Newby Ranch, P 21.32 359 P **P** 13 18 10.9 -0.9
baz=179
S34A Willow Spring 21.36 3 P **P** 13 18 11.3 -0.8
baz=184
S35A Otter Creek Ra 21.39 5 P **P** 13 18 10.9 -1.6
baz=186,SNR=10.0
T25A Trinidad 21.42 347 P **P** 13 18 12.7 -0.3
baz=165,SNR=24
T25A Trinidad 21.42 347 eP **P** 13 18 14.0 +1.0
73nm,1.4s
T40A Mansfield 21.43 13 P **P** 13 18 11.5 -1.4
baz=196,SNR=6.9
113A Mohawk Valley, 21.46 323 eP **P** 13 18 14.6 +1.3
18nm,1.3s
X16A Lo Mia Camp, P 21.48 330 eP **P** 13 18 14.5 +0.8
37nm,1.4s
S36A Lake Cedric, C 21.50 6 P **P** 13 18 12.8 -0.8
baz=188
T41A Mountain View 21.50 15 P **P** 13 18 12.9 -0.8
baz=198,SNR=18
PBMO Poplar Bluff 21.61 18 eP **P** 13 18 14.2 -0.7
56nm,0.8s
S37A Fort Scott 21.62 8 P **P** 13 18 14.1 -0.8
baz=190
S38A Stockton 21.63 10 P **P** 13 18 14.3 -0.8
baz=192
GOGA Godfrey 21.76 36 eP **P** 13 18 14.3 -2.2
42nm,1.4s
S39A Bolivar 21.79 11 P **P** 13 18 15.5 -1.3
baz=193,SNR=16
S40A Lebanon 21.86 13 P **P** 13 18 16.2 -1.4
baz=196,SNR=22
Y14A Wickenburg 21.91 326 eP **P** 13 18 18.7 +0.5
170nm,1.4s
WVT Waverly 21.91 24 eP **P** 13 18 16.1 -1.9
50nm,0.9s
SWET Sewanee 21.93 28 eP **P** 13 18 16.9 -1.4
20nm,1.3s
R33A Olander Ranch, 21.93 1 P **P** 13 18 17.8 -0.5
baz=181
R34A Isabella, Hill 21.95 3 P **P** 13 18 17.4 -1.1
baz=183,SNR=9.8
R35A Emporia Munici 22.03 5 P **P** 13 18 18.2 -1.2
baz=186
R32A Long Quarter, 22.04 359 P **P** 13 18 18.9 -0.6
baz=180
R36A Gordon, Harris 22.10 6 P **P** 13 18 18.6 -1.5
baz=188,SNR=7.5
R37A Teagarden Farm 22.16 8 P **P** 13 18 20.7 -0.2
baz=189
R38A Fenwick Farm, 22.17 10 P **P** 13 18 20.8 -0.1
baz=192
SDCO Great Sand Dun 22.25 345 P **P** 13 18 22.0 -0.1
baz=162
SDCO Great Sand Dun 22.25 345 eP **P** 13 18 21.0 -1.1
16nm,1.3s
GLA Glamis 22.29 321 P **P** 13 18 22.7 +0.4
baz=135
WUAZ Wupatki 22.34 331 P **P** 13 18 23.0 0.0
baz=146
WUAZ Wupatki 22.34 331 eP **P** 13 18 22.2 -0.7
32nm,1.1s
R39A Chumby, Stover 22.45 11 P **P** 13 18 22.5 -1.4
baz=194
S43A Fulton Ridge, 22.45 18 P **P** 13 18 23.0 -0.9
baz=201
CBKS Cedar Bluff 22.46 357 P **P** 13 18 23.1 -0.9
baz=177
GTBY Guantanamo Bay 22.48 77 eP **P** 13 18 22.9 -1.5
178nm,1.6s
Q35A Mercer Eighty, 22.58 5 P **P** 13 18 24.6 -0.6
baz=186
Q34A Chapman 22.58 3 P **P** 13 18 23.9 -1.4
baz=184
R40A Maddies Statio 22.58 13 P **P** 13 18 25.5 +0.2
baz=196,SNR=36
S22A 4UR Ranch, Cre 22.61 343 P **P** 13 18 26.2 +0.4
baz=159,SNR=13
S22A 4UR Ranch, Cre 22.61 343 eP **P** 13 18 26.0 +0.1
37nm,1.6s
Q32A Meitler Ranch, 22.61 360 P **P** 13 18 24.7 -0.9
baz=180
Y12C Blythe 22.61 323 P **P** 13 18 26.1 +0.5
baz=137
Q33A Connelly Farm, 22.62 1 P **P** 13 18 24.9 -0.8
baz=182
MVCO Mesa Verde 22.64 339 P **P** 13 18 26.2 -0.1
baz=155
MVCO Mesa Verde 22.64 339 eP **P** 13 18 26.2 -0.1
51nm,1.2s
Q36A Arnold C. Orve 22.73 6 P **P** 13 18 26.5 -0.4
baz=188
Q37A Longview Farm, 22.77 8 P **P** 13 18 26.3 -1.0
baz=190
KSU1 Kansas State U 22.78 4 P **P** 13 18 25.7 -1.7
baz=185
CPCT Cooper Cave 22.78 31 eP **P** 13 18 26.0 -1.4
19nm,1.2s

PDMCI Parker Dam,Lak 22.80 325 P **P** 13 18 28.3 +0.7
baz=139
S44A Carbondale 22.81 19 P **P** 13 18 27.2 -0.5
baz=203,SNR=10
SIUC Southern Illin 22.84 19 eP **P** 13 18 28.1 +0.1
68nm,1.0s
KSCO Kaye Shedlock' 22.92 352 P **P** 13 18 28.7 -0.3
baz=170
KSCO Kaye Shedlock' 22.92 352 eP **P** 13 18 28.2 -0.8
48nm,1.0s
Q38A Cooks Store, C 22.98 10 P **P** 13 18 28.4 -1.0
baz=192
S45A Carrier Mills 23.02 20 P **P** 13 18 29.5 -0.4
baz=205,SNR=14
P33A Williams Farm, 23.06 2 P **P** 13 18 29.3 -1.1
baz=182
BC3 Big Chuckawall 23.09 322 P **P** 13 18 31.0 +0.3
baz=135
MONP2 Monument Peak 23.17 319 P **P** 13 18 32.1 +0.3
baz=132
Q39A Willow Grove F 23.17 11 P **P** 13 18 30.6 -0.8
baz=194
P34A Walnut Farm, R 23.21 3 P **P** 13 18 30.8 -1.0
baz=184
P32A Huiting Farm, 23.24 360 P **P** 13 18 31.1 -1.1
baz=180
P35A Duane Minner, 23.25 5 P **P** 13 18 31.4 -0.8
baz=186
W13A Hualapai Mount 23.26 326 eP **P** 13 18 33.2 +0.6
36nm,1.8s
Q40A Laux Farm, Aux 23.30 13 P **P** 13 18 31.9 -0.9
baz=196,SNR=10.0
TKL Tuckaleechee C 23.32 31 P **P** 13 18 30.3 -2.7
4.2nm,0.6s,baz=211,slow=9.1,SNR=4.2
TKL S **S** 13 22 48.2 +1.8
0.9nm,0.4s,baz=270,slow=9.1,SNR=2.2
Q24A Divide 23.33 347 P **P** 13 18 33.4 0.0
baz=164,SNR=6.9
Q24A Divide 23.33 347 eP **P** 13 18 34.4 +0.9
33nm,1.4s
R44A Waltonville 23.38 19 P **P** 13 18 32.8 -0.7
baz=203,SNR=6.7
NEE2 Needles Airpor 23.41 325 P **P** 13 18 34.2 +0.3
baz=138
P36A Good Intent, A 23.41 6 P **P** 13 18 33.1 -0.8
baz=188,SNR=5.2
P37A Lathrop 23.48 8 P **P** 13 18 33.4 -1.2
baz=190
PV01 Paradox Valley 23.50 340 eP **P** 13 18 35.5 +0.4
U15A North Rim 23.52 331 eP **P** 13 18 36.0 +0.8
52nm,1.8s
NHSC New Hope 23.52 41 eP **P** 13 18 36.5 +1.5
161nm,1.3s
Q42A Golden Eagle 23.58 16 P **P** 13 18 35.2 -0.4
baz=199,SNR=8.1
USIN University of 23.59 22 eP **P** 13 18 36.0 +0.3
111nm,1.0s
109C Camp Elliot, M 23.60 318 P **P** 13 18 36.1 +0.2
baz=131
P38A Dawn 23.64 10 P **P** 13 18 35.2 -0.9
baz=192,SNR=5.6
P39B Salisbury 23.64 11 P **P** 13 18 35.2 -1.0
baz=194,SNR=11
BELC Belle Mtn. Jos 23.65 321 P **P** 13 18 36.4 -0.2
baz=135
JSC Jenkinsville 23.66 38 eP **P** 13 18 37.4 +1.0
14nm,0.9s
TPFO Pinon Flats 23.66 320 P **P** 13 18 35.4 -1.2
baz=133
PFO Pinyon Flats O 23.67 320 P **P** 13 18 35.1 -1.5
16nm,0.4s,baz=155,slow=2.3,SNR=15
PFO LR LR 13 26 58.8
comp=Z,197nm,20.2s,baz=136,slow=35
PFO Pinyon Flats O 23.67 320 P **P** 13 18 35.4 -1.2
baz=133
O33A Hebron 23.70 2 P **P** 13 18 36.1 -0.7
baz=182
O31A Woolen Ranch, 23.78 358 P **P** 13 18 36.2 -1.3
baz=178
P40A Paris 23.82 12 P **P** 13 18 36.9 -1.0
baz=195,SNR=21
Q43A New Douglas 23.83 17 P **P** 13 18 36.9 -1.1
baz=201,SNR=6.0
O34A Beatrice 23.85 3 P **P** 13 18 36.9 -1.3
baz=184
O32A Brockman Farm, 23.88 0 P **P** 13 18 37.5 -1.0
baz=181
O36A Bolckow 23.94 7 P **P** 13 18 37.5 -1.5
baz=188,SNR=7.0
SMCO Snowmass 23.98 344 eP **P** 13 18 40.5 +0.5
62nm,1.4s
O35A Humboldt 23.99 5 P **P** 13 18 38.5 -1.0
baz=186
GMRC Granite Mounta 24.01 323 P **P** 13 18 40.6 +0.7
baz=136
PV09 Paradox Valley 24.02 339 eP **P** 13 18 40.8 +0.6
O37A Wolven Farm, M 24.08 8 P **P** 13 18 38.7 -1.6
baz=190
MURC Murrieta 24.12 319 P **P** 13 18 41.7 +0.9
baz=132
TZTN Tazewell 24.13 30 eP **P** 13 18 40.5 -0.4
O38A Galt 24.13 9 P **P** 13 18 39.9 -1.0
baz=192
KMSC Kings Mountain 24.23 36 P **P** 13 18 40.9 -0.9
baz=223
ISCO Idaho Springs 24.23 346 P **P** 13 18 42.3 +0.2
baz=164
ISCO Idaho Springs 24.23 346 eP **P** 13 18 42.6 +0.5
44nm,1.3s
WCI Wyandotte Cave 24.33 24 eP **P** 13 18 42.5 -0.3
74nm,1.3s
N33A J Bar K, Exete 24.37 2 P **P** 13 18 42.5 -0.6
baz=182
N32A Stulken Farm, 24.38 0 P **P** 13 18 42.6 -0.6
baz=181
BBRC Big Bear Solar 24.39 321 P **P** 13 18 42.7 -0.9
baz=133
O39A Kirksville 24.42 11 P **P** 13 18 42.3 -1.2
baz=194,SNR=9.3
O40A La Belle 24.42 12 P **P** 13 18 42.0 -1.5
baz=195,SNR=21
HEC Hector,Ludlow 24.43 322 P **P** 13 18 44.2 +0.5
baz=135
N31A Bailey Ranch, 24.44 359 P **P** 13 18 43.2 -0.6
baz=179
N34A Lincoln 24.51 4 P **P** 13 18 43.6 -0.7
baz=185
N35A Tabor 24.60 5 P **P** 13 18 44.1 -1.0
baz=187
N36A Muff Farm, Cla 24.62 6 P **P** 13 18 44.1 -1.2
baz=188
TUQ Turquoise Moun 24.62 324 P **P** 13 18 46.0 +0.4
baz=137
N37A Lee Faris, Mou 24.65 8 P **P** 13 18 44.5 -1.1
baz=190
OGNE Ogallala 24.75 354 P **P** 13 18 46.7 +0.1
baz=172
OGNE Ogallala 24.75 354 eP **P** 13 18 47.2 +0.5
108nm,1.1s
MTPU Mount Pierson 24.80 333 eP **P** 13 18 48.4 +1.0
59nm,1.6s
N38A Joes South For 24.83 9 P **P** 13 18 46.1 -1.1
baz=192,SNR=5.2
BFSC Mount Baldy Ra 24.83 320 P **P** 13 18 47.4 -0.1
baz=132
RRX Edison Barstow 24.85 322 P **P** 13 18 47.8 +0.3
baz=134
FMP Fort Macarthur 24.89 318 P **P** 13 18 47.9 0.0
baz=130
M31A Lambtecht Ranc 24.96 359 P **P** 13 18 48.0 -0.5
baz=179
BGNE Belgrade 25.02 1 P **P** 13 18 48.9 -0.1
baz=181
N39A Derby Farms, D 25.03 11 P **P** 13 18 48.0 -1.0
baz=194
GSC Goldstone, Bar 25.04 323 P **P** 13 18 50.2 +0.9
baz=135
GSC Goldstone, Bar 25.04 323 eP **P** 13 18 50.3 +1.0
18nm,1.4s
SRU San Rafael Swe 25.06 337 eP **P** 13 18 49.9 +0.4
27nm,1.1s
Q16A Castle Valley 25.14 336 eP **P** 13 18 51.1 +0.9
17nm,1.0s
SHOC Shoshone, Teco 25.16 324 P **P** 13 18 51.0 +0.7
baz=137
M34A Aspy Farms, Fr 25.17 3 P **P** 13 18 49.7 -0.5
baz=184
M35A Neola 25.20 5 P **P** 13 18 50.1 -0.4
baz=186
MSU Marysvale 25.20 334 eP **P** 13 18 52.0 +1.2
M33A Taylor Creek F 25.21 2 P **P** 13 18 50.4 -0.2
baz=183
O20A White River Ci 25.23 342 P **P** 13 18 51.5 +0.4
baz=158
DECC Green Verdugo 25.26 319 P **P** 13 18 51.9 +0.6
baz=131
M36A Felix, Anita 25.27 6 P **P** 13 18 50.4 -0.7
baz=188
M37A Trindle Farm, 25.31 8 P **P** 13 18 51.0 -0.5
baz=190
N23A Red Feather La 25.35 347 P **P** 13 18 52.4 +0.2
baz=163,SNR=12
N23A Red Feather La 25.35 347 eP **P** 13 18 53.2 +0.9
19nm,1.0s
P18A Preston Nutter 25.42 338 eP **P** 13 18 53.5 +0.6
19nm,1.0s
SNCC San Nicolas Is 25.42 315 P **P** 13 18 53.1 +0.4
baz=127
M38A Pleasantville 25.44 9 P **P** 13 18 52.0 -0.8
baz=192,SNR=12
HDIL Hopedale 25.45 16 P **P** 13 18 52.4 -0.4
baz=201
P17A Butcher Ranch, 25.46 337 eP **P** 13 18 54.4 +1.3
18nm,1.3s
EDW2 Edwards Air Fo 25.46 320 P **P** 13 18 53.7 +0.6
baz=132
TMUT Trail Mountain 25.48 337 eP **P** 13 18 54.4 +0.9
48nm,1.7s
L32A Elgin 25.62 1 P **P** 13 18 54.9 +0.4
baz=181
PHWY Pilot Hill 25.64 348 eP **P** 13 18 55.0 +0.2
21nm,1.2s
BLG Laguna Peak, P 25.64 318 P **P** 13 18 55.6 +0.9
baz=129
L34A Svendsen Farm, 25.64 4 P **P** 13 18 54.7 +0.1
baz=185
OSI Osito Audit: C 25.74 319 P **P** 13 18 56.5 +0.9
baz=131
L31A Butterfield Fa 25.79 359 P **P** 13 18 56.4 +0.5
baz=179
L33A Hoskins 25.80 2 P **P** 13 18 56.0 0.0
baz=183
L35A Bielow Farm, R 25.85 5 P **P** 13 18 56.5 +0.1
baz=186
TPNV Topopah Spring 25.91 326 P **P** 13 18 58.2 +1.0
baz=138
TPNV Topopah Spring 25.91 326 eP **P** 13 18 58.2 +1.0
41nm,1.6s
SCIA State Center 25.92 9 eP **P** 13 18 57.5 +0.4
L36A Harm Buss Farm 25.92 6 P **P** 13 18 57.3 +0.2
baz=188
SFIN Lafayette 25.95 20 P **P** 13 18 57.7 +0.4
baz=206
SFIN Lafayette 25.95 20 eP **P** 13 18 57.2 -0.1
62nm,1.4s
MPMC Manual Prospec 25.96 323 P **P** 13 18 59.1 +1.3
baz=135
L37A Phoenix Point, 26.06 8 P **P** 13 18 57.3 -1.0
baz=190,SNR=6.6
DAC Darwin (Calif) 26.18 323 eP **P** 13 19 00.0 +0.3
9.0nm,1.3s
L38A Oak Wood Farm, 26.19 9 P **P** 13 18 58.3 -1.2
baz=192,SNR=12
K31A O'Neill 26.24 360 P **P** 13 19 00.1 +0.1
baz=180
K33A Hardington 26.25 2 P **P** 13 18 59.8 -0.3
baz=183
ISA Isabella, Lake 26.27 321 P **P** 13 19 01.1 +0.7
baz=133
K32A Verdigre 26.28 1 P **P** 13 19 00.1 -0.2
baz=181
ROSC El Rosal 26.29 113 P **P** 13 19 06.0 +4.9
4.3nm,0.3s,baz=108,slow=20,SNR=5.2
K30A Basset 26.31 358 P **P** 13 19 00.4 -0.2
baz=178
K34A Le Mars 26.38 4 P **P** 13 19 01.0 -0.3
baz=185
K36A Gilmore City 26.48 7 P **P** 13 19 02.2 +0.1
baz=189
K35A Storm Lake 26.48 5 P **P** 13 19 01.3 -0.8
baz=187
GRAC Grapevine Rang 26.55 325 P **P** 13 19 03.2 +0.3
baz=136
CWC Cottonwood Cre 26.57 323 P **P** 13 19 03.2 0.0
baz=134
PKM Mcpherson Peak 26.61 318 P **P** 13 19 03.4 -0.2
baz=129
R11A Troy Canyon, C 26.63 329 P **P** 13 19 04.2 +0.5
baz=142
R11A Troy Canyon, C 26.63 329 eP **P** 13 19 04.6 +0.9
12nm,1.6s
K37A Belmond 26.70 8 P **P** 13 19 02.3 -1.8
baz=190,SNR=7.7
JLU Jordanelle 26.71 338 eP **P** 13 19 05.5 +1.0
35nm,2.0s
K38A Parkersburg 26.71 9 P **P** 13 19 05.0 +0.8
baz=192
VES Vestal, Richgr 26.76 321 P **P** 13 19 06.1 +1.3
baz=132
DUG Dugway, Tooele 26.88 335 P **P** 13 19 06.7 +0.7
baz=149
DUG Dugway, Tooele 26.88 335 eP **P** 13 19 07.1 +1.1
11nm,1.3s
J31A Geddes 26.91 360 P **P** 13 19 05.8 -0.2
baz=180
J30A Dallas 26.95 358 P **P** 13 19 06.3 -0.2
baz=178
J33A Davis 26.96 2 P **P** 13 19 05.7 -0.8
baz=183
J32A Parkston 26.99 1 P **P** 13 19 06.0 -0.7
baz=181
TIN Tinemaha, Big 27.08 324 P **P** 13 19 08.0 +0.2
baz=135
J35A Milford 27.12 5 P **P** 13 19 07.0 -1.0
baz=187
TCUT Toone Canyon 27.15 338 eP **P** 13 19 09.6 +1.1
26nm,1.1s
K22A Casper 27.16 347 P **P** 13 19 07.6 -0.8
baz=163
K22A Casper 27.16 347 eP **P** 13 19 09.2 +0.7
20nm,1.3s
J36A Seneca 1, Swea 27.17 7 P **P** 13 19 07.0 -1.4
baz=189,SNR=6.1
ACSO Alum Creek Sta 27.39 26 eP **P** 13 19 10.4 0.0
19nm,1.0s
ECSD EROS Data Cent 27.39 3 P **P** 13 19 09.6 -0.8
baz=184
ECSD EROS Data Cent 27.39 3 eP **P** 13 19 09.8 -0.6
15nm,1.3s
J38A Wedel Dairy, R 27.41 10 P **P** 13 19 09.3 -1.2
baz=193
JFWS Jewell Farm 27.44 13 eP **P** 13 19 10.8 0.0
25nm,1.1s
I30A Oacoma 27.54 359 P **P** 13 19 11.3 -0.4
baz=178
BGU Big Grassy Mou 27.59 336 eP **P** 13 19 13.8 +1.5
14nm,1.3s
I35A Creekview Farm 27.63 5 P **P** 13 19 11.5 -1.0
baz=187
HWUT Hardware Ranch 27.63 339 eP **P** 13 19 13.1 +0.3
7.4nm,1.1s
I32A Karley and Nic 27.65 2 P **P** 13 19 12.4 -0.3
baz=182
I33A Coleman 27.70 3 P **P** 13 19 12.1 -1.0
baz=184
I34A Hadley 27.74 4 P **P** 13 19 12.8 -0.7
baz=186
MLAC Mammoth, Mammo 27.83 324 P **P** 13 19 14.0 -0.6
baz=135
I36A Fitzsimmons Fa 27.89 7 P **P** 13 19 13.8 -1.0
baz=189
I37A Lemond, Waseca 27.96 8 P **P** 13 19 14.7 -0.7
baz=190
NV11 Mina Array Sit 28.02 326 eP **P** 13 19 17.1 +0.8
21nm,1.5s
BW06 Boulder Array 28.04 342 P **P** 13 19 16.4 0.0
baz=157
BW06 Boulder Array 28.04 342 eP **P** 13 19 16.7 +0.3
PD31 Pinedale Array 28.04 342 eP **P** 13 19 16.9 +0.5
PDAR Pinedale Array 28.04 342 P **P** 13 19 16.1 -0.3
2.0nm,0.8s,baz=134,slow=8.5,SNR=19
PDAR LR LR 13 29 54.0
comp=Z,311nm,18.4s,baz=170,slow=36
SUSD Miller 28.06 359 P **P** 13 19 15.9 -0.4
baz=179
H31A Wolsey 28.09 360 P **P** 13 19 16.1 -0.6

baz=180
NV01 **Mina Array Sit** 28.10 326 *e*P P 13 19 17.6 +0.6
NVAR **Mina Array Bea** 28.10 326 P P 13 19 16.8 -0.2
3.8nm,1.1s,baz=141,slow=8.1,SNR=16
NVAR LR LR 13 32 02.7
comp=Z,526nm,19.5s,baz=146,slow=40
SDV **Santo Domingo** 28.12 102 LR LR 13 32 12.8
comp=Z,288nm,19.0s,baz=3.5,slow=40
H32A **Carlson Farm,** 28.13 2 P P 13 19 16.4 -0.6
baz=182
RSSD **Black Hills** 28.13 351 P P 13 19 17.1 -0.1
baz=169
RSSD **Black Hills** 28.13 351 *e*P P 13 19 18.7 +1.5
26nm,1.6s
I38A **Scanlan Farm,** 28.14 9 P P 13 19 15.9 -1.2
baz=193
HVU **Hansel Valley** 28.23 337 *e*P P 13 19 19.0 +0.9
H29A **Onida** 28.28 357 P P 13 19 17.6 -0.7
baz=177
H33A **Prehn Over Nor** 28.33 3 P P 13 19 17.6 -1.2
baz=184
H34A **Spellman Lake,** 28.37 4 P P 13 19 18.3 -0.8
baz=186
H36A **Jessenland, He** 28.45 7 P P 13 19 19.1 -0.7
baz=189
H35A **Sunnyside Ranc** 28.48 5 P P 13 19 19.1 -0.9
baz=187
H25A **Fruitdale** 28.57 352 P P 13 19 21.4 +0.5
baz=170
G30A **Faulkton** 28.75 359 P P 13 19 21.9 -0.5
baz=179
G29A **Hoven** 28.83 358 P P 13 19 22.3 -0.9
baz=177
G31A **Conde** 28.84 0 P P 13 19 22.3 -1.0
baz=181
G33A **Ortonville** 28.86 3 P P 13 19 23.1 -0.3
baz=184
G34A **Benson** 28.95 4 P P 13 19 23.2 -1.0
baz=186
REDW **Red Top Meadow** 28.97 341 *e*P P 13 19 25.0 +0.3
12nm,1.1s
SNOW **Snow King Moun** 29.03 341 *e*P P 13 19 26.8 +1.6
21nm,1.4s
TPAW **Teton Pass** 29.11 341 *e*P P 13 19 27.5 +1.5
16nm,1.4s
LOHW **Long Hollow** 29.12 342 *e*P P 13 19 26.7 +0.7
27nm,1.6s
MOOW **Moose Ponds** 29.29 342 *e*P P 13 19 28.0 +0.5
3.3nm,0.9s
IMW **Indian Meadow** 29.48 342 *e*P P 13 19 29.8 +0.5
5.6nm,1.2s
F26A **Lodgepole** 29.68 354 P P 13 19 30.8 0.0
baz=172
RLMT **Red Lodge** 30.14 345 P P 13 19 35.2 +0.1
baz=159
RLMT **Red Lodge** 30.14 345 *e*P P 13 19 35.7 +0.7
9.1nm,1.1s
E29A **Napoleon** 30.20 358 P P 13 19 34.9 -0.4
baz=178
HLID **Hailey** 30.37 337 P P 13 19 37.1 0.0
baz=149
E25A **Miller Ranch,** 30.39 353 P P 13 19 36.9 -0.2
baz=171
D29A **Pettibone, Tap** 30.69 358 P P 13 19 39.1 -0.5
baz=178
D30A **Buchanan** 30.72 360 P P 13 19 38.7 -1.2
baz=180,SNR=6.7
D26A **Manning** 30.82 355 P P 13 19 41.3 +0.5
baz=173
D28A **Regan** 30.86 357 P P 13 19 40.1 -1.1
baz=176
D35A **Remer** 30.91 6 P P 13 19 40.9 -0.7
baz=188
MCMT **McKenzie Canyo** 30.92 340 *e*P P 13 19 43.6 +1.6
LAO **LASA Array** 30.98 350 P P 13 19 41.9 -0.4
baz=166
LAO **LASA Array** 30.98 350 *e*P P 13 19 43.1 +0.8
64nm,2.0s
D25A **Fairfield** 31.03 354 P P 13 19 41.2 -1.4
baz=171
D36A **Goodland** 31.10 7 P P 13 19 42.6 -0.7
baz=190
D37A **Cotton** 31.18 8 P P 13 19 43.6 -0.3
baz=191
WVOR **Wild Horse Val** 31.26 331 *e*P P 13 19 45.4 +0.6
18nm,1.5s
BOZ **Bozeman (W)** 31.27 342 P P 13 19 45.1 +0.1
baz=156
BOZ **Bozeman (W)** 31.27 342 *e*P P 13 19 45.6 +0.6
12nm,1.5s
DLMT **Dillon** 31.31 341 *e*P P 13 19 46.5 +1.2
17nm,1.2s
C30A **Mose, Pebin** 31.32 360 P P 13 19 45.5 +0.4
baz=180
O03D **Paynes Creek** 31.34 324 P P 13 19 45.2 -0.3
baz=134
N59A **State Game Lan** 31.42 34 P P 13 19 45.3 -0.8
baz=225
MDND **Maddock** 31.48 359 P P 13 19 45.8 -0.8
baz=178,SNR=5.5
MDND **Maddock** 31.48 359 *e*P P 13 19 47.3 +0.7
99nm,1.1s
C35A **Jirik Farms, M** 31.53 6 P P 13 19 46.2 -0.8
baz=188
C25A **Freed Ranch, W** 31.58 354 P P 13 19 47.3 -0.2
baz=171
LRM **Limekiln Ridge** 31.68 341 *e*P P 13 19 49.1 +0.5
C36A **Pine Crest Far** 31.71 7 P P 13 19 48.1 -0.6
baz=190
C37A **Embarrass** 31.77 8 P P 13 19 48.5 -0.6
baz=192
C38A **Sawbill Land.** 31.89 9 P P 13 19 49.6 -0.7
baz=193
B33A **Robert and Kas** 31.98 4 P P 13 19 50.4 -0.5
baz=185
AGMN **Agassiz Nation** 31.98 3 P P 13 19 49.8 -1.2
baz=185
AGMN **Agassiz Nation** 31.98 3 *e*P P 13 19 50.0 -1.0
36nm,1.4s
B32A **Ashes, Strandq** 32.05 2 P P 13 19 50.8 -0.7
baz=184
B30A **Myrvik Farm, E** 32.07 0 P P 13 19 51.2 -0.6
baz=180,SNR=6.0
EYMN **Ely** 32.08 9 P P 13 19 51.0 -0.9
baz=193
B29A **Wagenman Farm,** 32.09 359 P P 13 19 51.5 -0.4
baz=178,SNR=10
B27A **Peters Farms,** 32.10 356 P P 13 19 51.7 -0.4
baz=175
C39A **Grand Marais** 32.18 11 P P 13 19 52.0 -0.7
baz=195
B35A **Bob, Littlefor** 32.21 6 P P 13 19 51.8 -1.2
baz=189
B34A **Aery, Baudette** 32.25 5 P P 13 19 52.3 -1.1
baz=187
N02D **Trinity Center** 32.30 324 P P 13 19 54.3 +0.3
baz=133
DGMT **Dagmar** 32.43 353 P P 13 19 54.6 -0.3
baz=170
A29A **Manning Farm,** 32.54 359 P P 13 19 55.6 -0.3
baz=179,SNR=14
A30A **Hoffart Farm,** 32.56 0 P P 13 19 55.5 -0.6
baz=180
A28A **Rude Farm, Bot** 32.56 358 P P 13 19 55.8 -0.3
baz=177,SNR=6.8
A26A **Wade Farm, Ken** 32.64 356 P P 13 19 57.0 +0.2
baz=174
A33A **Warroad** 32.65 4 P P 13 19 56.1 -0.8
baz=186
MSO **Missoula** 33.05 340 P P 13 20 00.5 0.0
baz=152
F10A **Beach Ranch, E** 33.49 336 *e*P P 13 20 06.3 +2.0
15nm,1.2s
SWMT **Swartz Lake** 33.67 341 *e*P P 13 20 06.0 +0.1
ULM **Lac du Bonnet** 33.93 3 P P 13 20 05.7 -2.3
3.5nm,0.7s,baz=185,slow=8.1,SNR=5.4
ULM LR LR 13 34 15.8
comp=Z,133nm,19.3s,baz=211,slow=37
ULM **Lac du Bonnet** 33.93 3 *e*P P 13 20 07.0 -1.0
21nm,1.3s
G05D **Wamic, OR** 34.66 331 P P 13 20 14.4 0.0
baz=140
NEW **Newport** 35.37 338 P P 13 20 20.0 -0.5
baz=148
B05A **Bryant** 37.31 334 P P 13 20 36.5 -0.5
baz=141
A04D **Lummi Island** 37.92 334 P P 13 20 41.8 -0.4
baz=140

FFC **Flin Flon** 38.45 357 *e*P P 13 20 46.2 -0.4
14nm,1.0s
LPAZ **La Paz** 44.09 136 LR LR 13 38 41.4
comp=Z,101nm,18.5s,baz=309,slow=34
SCHQ **Schefferville** 45.53 25 P P 13 21 43.8 -0.6
9.5nm,0.7s,baz=236,slow=9.0,SNR=5.4
SCHQ LR LR 13 43 18.9
comp=Z,187nm,19.2s,baz=234,slow=40
SCHQ **Schefferville** 45.53 25 *e*P P 13 21 43.9 -0.6
58nm,1.6s
YKA **Yellowknife Ar** 47.52 350 P P 13 21 58.6 -1.3
1.3nm,0.8s,baz=156,slow=7.2,SNR=14
YKA LR LR 13 44 00.4
comp=Z,27nm,18.3s,baz=180,slow=39
DLBC **Dease Lake** 48.12 338 *e*P P 13 22 06.3 +1.5
12nm,1.4s
TAOE **Nuku Hiva Isla** 48.23 242 *e*T T 14 13 16.2
177nm,0.3s
RKT **Rikitea** 53.00 223 *e*T T 14 19 10.9
22nm,0.3s
BMRM **Bremner River** 55.38 335 *e*P P 13 23 00.6 +1.6
17nm,1.4s
KLU **Klutina** 56.20 335 *e*P P 13 23 06.3 +1.4
5.1nm,0.6s
INK **Inuvik** 56.55 345 *e*P P 13 23 06.4 -0.8
6.8nm,1.0s
DOT **Dot Lake** 56.67 338 *e*P P 13 23 08.5 +0.3
47nm,1.4s
PAX **Paxson** 56.82 336 *e*P P 13 23 09.4 +0.1
11nm,1.4s
SCM **Sheep Creek Mo** 56.96 335 *e*P P 13 23 11.2 +1.0
16nm,0.6s
PMR **Palmer** 57.59 334 *e*P P 13 23 15.2 +0.6
3.3nm,0.6s
IL1 **Eielson Array** 58.32 338 *e*P P 13 23 18.1 -1.6
ILAR **Eielson Array** 58.32 338 P P 13 23 18.8 -1.0
6.6nm,1.2s,baz=145,slow=4.6,SNR=33
ILAR LR LR 13 51 02.0
comp=Z,225nm,18.6s,baz=140,slow=39
ILB **Eielson Array** 58.32 338 *e*P P 13 23 19.4 -0.4
RND **Reindeer** 58.36 336 *e*P P 13 23 20.1 0.0
29nm,1.4s
MCK **McKinley** 58.55 336 *e*P P 13 23 21.9 +0.6
10nm,1.2s
CCB **Clear Creek Bu** 58.59 338 *e*P P 13 23 22.1 +0.5
6.7nm,1.5s
TRF **Thorofare Moun** 58.94 336 *e*P P 13 23 24.0 -0.2
32nm,1.5s
BWN **Browne** 58.97 337 *e*P P 13 23 24.0 -0.2
61nm,1.4s
KTH **Kantishna Hill** 59.24 336 *e*P P 13 23 25.6 -0.6
7.6nm,1.2s
PPLA **Purkeypile** 59.46 335 *e*P P 13 23 27.6 -0.3
43nm,1.6s
BPAW **Bear Paw Mtn.** 59.52 336 *e*P P 13 23 27.0 -1.1
23nm,1.9s
CAST **Castle Rocks** 59.65 335 *e*P P 13 23 27.6 -1.3
11nm,1.2s
MLY **Manley** 59.87 337 *e*P P 13 23 30.2 -0.3
16nm,1.4s
PPT2 **Papeete2** 60.57 238 *e*LR LR 13 41 06.5
118nm,24.5s
COLD **Coldfoot** 60.76 339 *e*P P 13 23 36.4 -0.1
9.6nm,1.4s
PLCA **Paso Flores** 62.38 156 LR LR 13 45 17.9
comp=Z,73nm,21.3s,baz=334,slow=30
SUMG **Summit** 65.76 17 *e*P P 13 24 09.8 -0.3
28nm,1.6s
BILL **Bilibino** 76.98 337 *e*P P 13 25 17.6 +0.1
26nm,1.7s
NOA **NORSAR Array B** 85.05 27 P P 13 26 00.7 0.0
0.3nm,0.5s,baz=300,slow=5.2,SNR=2.9
TIXI **Tiksi** 86.65 347 *e*P P 13 26 06.7 -1.6
CLL **Colim** 90.20 36 *e*P P 13 26 29.0 +3.4
CLL *e*PP PP 13 29 57.0 -1.7
CLL *e*SKKSac SKSac 13 37 05.0 +7.2
CLL *e*PS PS 13 38 32.0 +5.5
CLL *e*SS SS 13 43 17.0 -1.5
CLL *e*SSS SSS 13 47 12.0
CLL *e* 13 48 18.0
KHC **Kasperske Hory** 91.52 38 AMS AMS 14 11 00.0
200nm,14.4s
PRU **Pruhonice** 91.68 36 AMS AMS 14 10 40.0
100nm,14.1s
GOPC **GO Pecny, Ondr** 91.85 36 AMS AMS 14 10 30.0
100nm,13.0s
UPC **Upice** 92.26 36 AMS AMS 14 13 50.0
100nm,13.9s
NRIK **Noril'sk** 94.49 358 LR LR 14 14 44.4
comp=Z,47nm,18.2s,baz=100,slow=39
HHC **Hu-ho-hao-te** 116.68 335 *e*PKP PKPdf 13 32 11.8 +1.9
HHC PP PP 13 33 20.2 +3.8
HHC SKS SKSdf 13 39 16.2 -7.1
STKA **Stephens Creek** 123.66 242 PKP PKPdf 13 32 25.4 +2.0
3.1nm,1.0s,baz=94,slow=3.3,SNR=3.7
WRA **Warramunga Arr** 129.84 257 PKP PKPdf 13 32 38.6 +3.1
1.6nm,1.1s,baz=88,slow=2.6,SNR=3.9
ASAR **Alice Springs** 130.46 253 PKP PKPdf 13 32 38.9 +2.3
0.9nm,1.1s,baz=98,slow=1.9,SNR=4.4
QIZ **Qiongzhong** 135.19 320 PKPbc PKPdf 13 32 45.9 +0.3
QIZ PP PP 13 35 20.9 +0.9
QIZ **Qiongzhong** 135.19 320 SS SS 13 53 16.6 +1.0
QIZ AMB AMB
comp=Z,10.0nm,2.3s
QIZ LR LR
comp=Z,140nm,27.0s

*NEIC **10** 13:18:52.5, 16°.85N×98°.28W, h3km, MD4.1(MEX), After MEX.*
MEX 10 13:18:52.5±0.3, 16°.85N×98°.28W, h3km±13km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	0.47	162	*i* P	Pg	13 19 01.3	-0.3
PNIG				*e*S	Sg	13 19 08.2	+0.3
PNIG	**Pinotepa**	0.47	162	*i* P	Pg	13 19 01.3	-0.3
PNIG				*e*S	Sg	13 19 08.2	+0.3
CAIG	**El Cayaco**	1.91	276	*e*P	Pn	13 19 22.5	-3.5
CAIG	**El Cayaco**	1.91	276	*e*P	Pn	13 19 22.5	-3.5
PANG	**Puerto Angel**	2.10	124	*i* P	Pg	13 19 40.6	+7.9
HUIG	**Huatulco**	2.35	117	*e*P	Pn	13 19 28.8	-3.2
HUIG	**Huatulco**	2.35	117	*e*P	Pn	13 19 28.8	-3.2
WHTX	**Lake Whitney,**	15.10	3	Pn	Pn	13 22 26.3	-0.5
ABTX	**Abilene, Hawle**	15.76	356	*e*Pn	Pn	13 22 34.8	-0.7
MNTX	**Cornudas Mount**	16.13	338	Pn	Pn	13 22 39.8	-0.6
AMTX	**Amarillo**	18.22	351	P	Pn	13 23 05.8	-0.9

*CSEM **10** 13:19:52.2, 57°.77N×12°.14E, h0km, ML1.4, Mining explosion.*
UPP 10 13:19:52.2, 57°.77N×12°.14E, h0km, ML1.4, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORU	**Boraas**	0.36	112	P	Pg	13 19 59.3	+0.1
BORU				S	Sg	13 20 04.3	+0.4
TJOU	**Tjoern**	0.38	314	P	Pg	13 19 59.5	+0.1
VANU	**Vaenersborg**	0.72	357	P	Pg	13 20 05.8	-0.2
FABU	**Falkenberg**	0.83	158	P	Pg	13 20 07.8	-0.4
FKPU	**Falk**	0.93	65	P	Pg	13 20 09.7	-0.3
GNOU	**Gnosjoe**	1.00	118	P	Pg	13 20 10.8	-0.5
NASU	**Vaermlandsnaes**	1.28	25	P	Pg	13 20 15.7	-1.1
STRU	**Stroemstad**	1.36	339	P	Pg	13 20 17.3	-1.0
DEL	**Delary**	1.61	143	P	Pn	13 20 21.5	-0.3

IDC 10 13:22:29.5±1.4, 7°.48S×156°.11E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.7/30, mbtmp3.9/7, ML3.6/1, MS4.5/1, Ms1 4.5/1, ms1mx2.7/28, Error ellipse: s-maj=36.9km s-min=29.3km az=122.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	4.26	117	Pn	Pn	13 23 35.6	-0.1
HNR	3.3nm,0.3s,baz=293,slow=7.7,SNR=2.1			Sn	Sb	13 24 38.7	+1.3
WRA	4.3nm,0.3s,baz=278,slow=15,SNR=2.5 **Warramunga Arr**	24.47	237	P	P	13 27 51.7	+1.2
ASAR	1.2nm,0.6s,baz=62,slow=10,SNR=14 **Alice Springs**	26.70	230	P	P	13 28 10.3	-0.4
	0.1nm,0.3s,baz=58,slow=10,SNR=4.4						

H11S3 **WAKE ISLAND Hy** 27.84 22 T T 13 56 47.5
baz=202,slow=76,SNR=21
H11S2 **WAKE ISLAND Hy** 27.84 22 T T 13 56 48.9
baz=202,slow=76,SNR=21
H11S1 **WAKE ISLAND Hy** 27.85 22 T T 13 56 46.7
baz=202,slow=76,SNR=12
FITZ **Fitzroy Crossi** 31.48 247 P P 13 28 51.9 -1.3
3.6nm,1.0s,baz=45,slow=5.7,SNR=2.3
JNU **Nakatsue** 46.97 331 LR LR 13 48 36.6
comp=Z,500nm,20.1s,baz=294,slow=33
KMI **Kunming** 61.20 304 P P 13 32 43.3 -3.5
KMI pmax pmax
comp=Z,12nm,0.7s
KMI pmax pmax
comp=Z,93nm,4.4s
SONM **Songino Array** 70.34 327 P P 13 33 46.1 +0.9
comp=Z,0.3nm,0.4s,baz=133,slow=6.1,SNR=2.6
MKAR **Makanchi Array** 84.50 318 P P 13 35 04.6 +0.2
comp=Z,1.4nm,0.7s,baz=103,slow=6.2,SNR=8.8
ZALV **Zalesovo Beam** 85.20 326 P P 13 35 06.7 -1.0
comp=Z,1.3nm,0.5s,baz=116,slow=6.5,SNR=5.0

IDC 10 13:30:57.5±1.4, 7°.14S×155°.73E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/32, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=36.2km s-min=29.3km az=18.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	4.75	119	Pn	Pn	13 32 11.1	+0.7
HNR	5.7nm,0.3s,baz=220,slow=6.5,SNR=1.7			Sn	Sn	13 33 06.1	-0.2
WRA	baz=287,slow=19 **Warramunga Arr**	24.34	236	P	P	13 36 18.1	+0.8
ASAR	0.7nm,0.6s,baz=62,slow=10.0,SNR=10 **Alice Springs**	26.63	230	P	P	13 36 37.0	-1.1
H11S3	0.4nm,0.8s,baz=56,slow=10,SNR=2.7 **WAKE ISLAND Hy**	27.67	23	T	T	14 05 08.3	
H11S2	baz=202,slow=76,SNR=8.1 **WAKE ISLAND Hy**	27.68	23	T	T	14 05 17.5	
H11S1	baz=202,slow=76,SNR=7.5 **WAKE ISLAND Hy**	27.69	23	T	T	14 05 12.2	
MKAR	baz=202,slow=76,SNR=5.1 **Makanchi Array**	84.00	319	P	P	13 43 30.4	+0.5
ZALV	0.8nm,0.7s,baz=106,slow=6.2,SNR=6.9 **Zalesovo Beam**	84.71	326	P	P	13 43 32.5	-0.8
	0.7nm,0.5s,baz=103,slow=3.6,SNR=2.4						

JMA 10 13:39:42.9, 37°.81N×140°.01E, h9km±1km, M1.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFT	**Otama**	0.39	138	S	Sg	13 39 55.6	-0.1
JFY	**Yanaizu**	0.47	211	P	Pg	13 39 52.1	+0.1
JFY				S	Sg	13 39 58.2	0.0

*NIED **10** 13:39:00, 38°.60N×141°.90E, h50km, Mw4.5 Best double couple: M0 6.22000×10^15 NP1: φ=199.00000°, δ=22.00000°, λ=84.00000° NP2: φ=26.00000°, δ=68.00000°, λ=92.00000°.*
*BJI **10** 13:39:40.2, 38°.54N×142°.15E, h47km, mb4.8/64, mB4.8/37, Ms4.5/54, Ms7 4.2/52*
*JMA **10** 13:39:44.8±0.1, 38°.62N×141°.90E, h48km±1km, M4.4*
JMA Felt III J1.
*ISCJB **10** 13:39:44.1±0.4, 38°.61N±0°.03×141°.87E±0°.04, h56km±2km, mb4.7/100, MS4.4/6, Error ellipse: s-maj=5.6km s-min=3.5km az=39.3*
*NEIC **10** 13:39:45.3±0.6, 38°.67N×141°.77E, h52km±5km, mb4.7/31, Error ellipse: s-maj=6.9km s-min=4.6km az=130.0*
NEIC Felt at Ichinoseki. Recorded [3 JMA] in Iwate and Miyagi.
*IDC **10** 13:39:45.6±1.8, 38°.63N×141°.85E, h56km±16km, mb4.2/28, mb1 4.3/34, mb1mx4.2/48, mbtmp4.4/34, ML3.8/5, Error ellipse: s-maj=13.2km s-min=11.0km az=105.0*
*MOS **10** 13:39:46.3±0.9, 38°.88N×141°.71E, h61km, mb5.0/54, MS4.4/5, Error ellipse: s-maj=7.0km s-min=4.7km az=106.1*
ISC 10 13:39:45.1±0.5, 38°.60N±0°.04×141°.90E±0°.04, h54km±3km, h53km:pP-P, n280, σ1s53/317, mb4.7/104, MS4.5/6, 23C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	0.46	251	P	Pn	13 39 55.5	-0.5
JIO				S	Sn	13 40 02.8	-1.1
OFUJ	**Ofunato**	0.51	340	P	Pn	13 39 56.0	-0.7
OFUJ				S	Sn	13 40 03.7	-1.4
JMK	**Ichinoseki**	0.64	304	P	Pn	13 39 57.8	-0.4
JMK				S	Sn	13 40 07.0	-0.7
JOM	**Ohasama**	0.99	332	P	Pn	13 40 02.4	-0.4
JOM				*e*S	Sn	13 40 15.5	-0.3
JOU	**Okura**	1.00	257	P	Pn	13 40 02.6	-0.3
JOU				S	Sn	13 40 15.8	-0.2
JMM	**Marumori**	1.14	230	P	Pn	13 40 04.2	-0.5
JMM				S	Sn	13 40 18.2	-1.1
JYK	**Kaneyama**	1.24	285	P	Pn	13 40 06.0	-0.2
JRG	**Rokugo**	1.27	309	P	Pn	13 40 06.1	-0.3
JFK	**Kawauchi**	1.47	214	P	Pn	13 40 09.0	-0.3
JYS	**Shirataka**	1.49	256	P	Pn	13 40 09.6	+0.1
ERM	**Erimo**	3.54	15	*d* P	Pn	13 40 38.2	+0.7
ERM				pmax	pmax		
ERM	comp=Z,57nm,1.2s **Erimo**	3.54	15	*e*Pn	Pn	13 40 36.7	-0.8
ERM				*e*Sn	Sn	13 41 20.8	+2.6
MJAR	**Matsushiro Arr**	3.58	236	P	Pn	13 40 39.7	+1.6
MAJO	comp=Z,16nm,0.3s,baz=38,slow=12,SNR=113 **Matsushiro**	3.58	236	*d* P	Pn	13 40 41.4	+3.3
MAJO	**Matsushiro**	3.58	236	*e*Pn	Pn	13 40 39.7	+1.6
MAJO				*e*Sn	Sn	13 41 18.5	-0.6
MAT	**Matsushiro**	3.58	236	P	Pn	13 40 39.6	+1.5
MAT				S	Sn	13 41 25.8	+6.6
MJB9	**Matsu-Tunnel**	3.58	236	*e*Pn	Pn	13 40 38.8	+0.7
INU	**Inuyama**	5.08	232	*e*Pn	Pn	13 41 00.8	+2.2
ASAJ	**Asahikawa**	5.54	5	P	Pn	13 41 04.6	-0.2
ASAJ	baz=222,slow=5.9			S	Sn	13 42 06.9	-0.2
ASAJ	comp=Z,5.4nm,0.3s,baz=86,slow=19,SNR=3.4 **Asahikawa**	5.54	5	*e*Pn	Pn	13 41 04.4	-0.5
ASAJ				*e*Sn	Sn	13 42 07.2	+0.1
JHJ2	**Mitsune**	5.73	198	Pn	Pn	13 41 06.1	-1.4
JHJ	**Hachijo jima 2**	5.73	198	P	Pn	13 41 06.9	-0.7
JHJ	comp=Z,20nm,0.3s,baz=334,slow=21,SNR=12			S	Sn	13 42 08.2	-3.8
YUK	comp=Z,69nm,0.3s,baz=95,slow=22,SNR=8.4 **Yuzh-Kuril'sk**	6.19	28	*i* P	Pn	13 41 14.0	+0.2
KUR	**Kuril'sk**	7.98	32	*i* P	Pn	13 41 38.4	+0.1
KUR				*i* S	Sn	13 43 01.5	-5.6
KUR				pmax	pmax		
KUR	comp=Z,22nm,0.6s			pmax	pmax		
KUR	comp=N,6.0nm,0.3s			smax	smax		
KUR	comp=N,43nm,0.6s			smax	smax		
YSS	comp=E,59nm,0.6s **Yuzh-Sakhalins**	8.37	4	*e*P	Pn	13 41 43.6	-0.1
YSS				pmax	pmax		
YSS	comp=Z,50nm,0.9s **Yuzh-Sakhalins**	8.37	4	*e*Pn	Pn	13 41 40.1	-3.5
MSHR	**Mys Shultsa**	9.09	299	*i* P	Pn	13 41 53.9	+0.5
USRK	**Ussuriysk Ar.**	9.31	310	P	Pn	13 41 57.3	+0.8
JNU	comp=Z,1.4nm,0.3s,baz=122,slow=13,SNR=34 **Nakatsue**	10.48	242	P	Pn	13 42 14.4	+1.8
JNU	comp=Z,1.1nm,0.3s,baz=64,slow=8.4,SNR=11 **Nakatsue**	10.48	242	*e*Pn	Pn	13 42 12.2	-0.4
MDJ	**Mudanjiang**	10.99	307	P	Pn	13 42 20.4	+0.8
MDJ				S	Sn	13 44 23.3	+2.3
MDJ				ScP	ScP	13 51 43.7	+1.5
MDJ	comp=Z,3.0nm,0.7s			PMZ			
MDJ	comp=Z,22nm,2.9s			PMZ			
MDJ	comp=Z,530nm,20.1s			LN			
MDJ	comp=Z,650nm,18.5s			LE			
MDJ	comp=Z,810nm,17.3s			LZ			
MDJ	**Mudanjiang** comp=Z,23nm,0.8s	10.99	307	*e*Pn	Pn	13 42 17.3	-2.3
KSRS	**Korea Array**	11.09	268	P	Pn	13 42 24.3	+3.5

comp=Z,1.0nm,0.3s,baz=81,slow=14,SNR=30
KS01 Wonju Array Si 11.10 269 *e*Pn **Pn** **13 42 23.9 +2.8**
KS15 Wonju Array Si 11.12 268 *e*Pn **Pn** **13 42 19.8 -1.4**
KSAR Wonju Array Be 11.12 268 P **Pn** **13 42 24.3 +3.0**
KSAR Wonju Array Be 11.12 268 P **Pn** **13 42 24.3 +3.0**
JCJ Chichijima 11.48 179 S Sn 13 44 20.9 -12
comp=Z,2.9nm,0.3s,baz=324,slow=18,SNR=2.7
TJN Taejon 11.76 264⇑ *i*P **Pn** **13 42 34.0 +4.0**
TYV Tymovskoe 12.27 2 *e*P **Pn** **13 42 33.5 -3.4**
TYV pmax pmax
comp=Z,13nm,0.8s
KLR Kul'dur 12.89 329 P **Pn** **13 42 44.9 -0.4**
comp=Z,0.3nm,0.3s,baz=126,slow=14,SNR=6.3
CN2 Changchun 13.43 298 *e*P **Pn** **13 42 56.5 +3.8**
CN2 PMZ
comp=Z,10.0nm,0.8s
SNY Shenyang 14.37 289⇓ P **P** **13 43 11.5 +0.5**
SNY S **S** **13 45 54.2 -6.5**
DL2 Dalian 15.82 277 *e*P **P** **13 43 26.6 -0.5**
DL2 S **Sn** **13 46 22.5 +4.0**
DL2 PMZ
comp=Z,42nm,1.0s
DL2 LN
comp=Z,670nm,14.4s
DL2 LE
comp=Z,600nm,13.9s
DL2 LZ
comp=Z,650nm,20.1s
PETK Petropavlovsk- 18.15 32 P **Pn** **13 43 55.5 +2.5**
comp=Z,0.2nm,0.3s,baz=203,slow=6.4,SNR=4.3
PET Petropavlovsk 18.49 33 *e*P Pn 13 44 06.7 +10
TIA Tai'an 19.81 271⇓ P **P** **13 44 10.4 -0.7**
TIA PMZ
comp=Z,20nm,0.9s
TIA PMZ
comp=Z,210nm,5.1s
TIA LN
comp=Z,1μm,13.1s
TIA LE
comp=Z,440nm,17.8s
TIA LZ
comp=Z,540nm,18.4s
NJ2 Nanjing 19.88 258 *e*P **Pn** **13 44 13.9 0.0**
NJ2 PMZ
comp=Z,32nm,0.8s
BJI Beijing 19.94 282 P **P** **13 44 11.5 -0.9**
BJI sP **pP** **13 44 24.8 +0.4**
BJI S **S** **13 47 50.8 -2.9**
BJI PMZ
comp=Z,23nm,0.7s
BJI LN
comp=Z,650nm,15.5s
BJI LE
comp=Z,230nm,14.4s
BJI LZ
comp=Z,210nm,30.4s
BJT Baijiatuau 19.94 282 *e*P **P** **13 44 09.5 -3.0**
BJT pmax pmax
comp=Z,18nm,0.6s
BJT Baijiatuau 19.94 282 *e*P **P** **13 44 09.5 -3.0**
comp=Z,18nm,0.6s
MA2 Magadan 21.74 12 P **P** **13 44 30.0 -1.7**
comp=Z,25nm,1.0s,baz=192,slow=18,SNR=5.1
SSLB Suanglung 23.14 236 *e*P **P** **13 44 44.8 -2.0**
comp=Z,96nm,2.0s
HHC Hu-ho-hao-te 23.39 285 SS Sn 13 49 29.2 +8.6
HHC Hu-ho-hao-te 23.39 285 *e*P **P** **13 44 48.5 -0.6**
HHC sP sP 13 45 05.2 -3.2
HHC PP **PnPn** **13 45 16.4 -0.8**
HHC S **S** **13 48 58.8 +0.6**
HHC PMZ
comp=Z,18nm,1.0s
HHC PMZ
comp=Z,100nm,5.6s
HHC LN
comp=Z,590nm,12.6s
HHC LE
comp=Z,330nm,14.3s
HHC LZ
comp=Z,310nm,14.7s
WHN Wuhan 24.00 259⇓ *i*P **P** **13 44 54.4 -0.3**
WHN pP **pP** **13 45 06.4 -1.7**
WHN S **S** **13 49 07.8 -0.2**
WHN PMZ
comp=Z,48nm,0.8s
WHN LN
comp=Z,2μm,16.3s
WHN LE
comp=Z,1μm,12.7s
WHN LZ
comp=Z,1μm,14.8s
YAK Yakutsk 24.63 346 P **P** **13 44 58.5 -1.7**
comp=Z,2.3nm,0.3s,baz=340,slow=23,SNR=5.6
YAK Yakutsk 24.63 346 *e*P **P** **13 44 57.3 -2.9**
YAK *e*PPP PPP 13 45 37.0
YAK *e*S **S** **13 49 19.3 +1.8**
YAK *e*SS SnSn 13 49 45.3 -22
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK smax smax
comp=E,17nm,1.1s
YAK smax smax
comp=N,54nm,1.4s
YAK MLR MLR
comp=N,149nm,17.0s
YAK MLR MLR
comp=Z,259nm,18.0s
YAK MLR MLR
comp=E,217nm,17.0s
SEY Seymchan 25.18 11 P **P** **13 45 06.5 +1.3**
comp=E,21nm,0.9s,baz=204,slow=6.1,SNR=61
SEY Seymchan 25.18 11⇑ *i*P **P** **13 45 06.7 +1.6**
ULN Ulaanbaatar 26.83 302 *e*P **P** **13 45 19.2 -1.2**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 26.83 302 *e*P **P** **13 45 19.2 -1.2**
comp=Z,10nm,1.0s
XAN Xi'an 26.87 270 P **P** **13 45 20.4 -0.4**
XAN pP pP 13 45 31.5 -2.8
XAN PMZ
comp=Z,6.0nm,0.6s
XAN LN
comp=Z,440nm,15.0s
XAN LE
comp=Z,300nm,15.8s
XAN LZ
comp=Z,310nm,13.4s
SONA1 Songino Array 27.26 301 *e*P **P** **13 45 23.5 -0.8**
SONM Songino Array 27.26 301 P **P** **13 45 24.1 -0.3**
comp=Z,2.9nm,0.8s,baz=119,slow=9.6,SNR=13
SONM PcP **PcP** **13 48 43.2 +0.4**
comp=Z,0.8nm,0.6s,baz=120,slow=5.2,SNR=3.3
ENH Enshi 27.88 263 *e*P **P** **13 45 29.0 -0.8**
comp=Z,50nm,0.7s
H11N2 WAKE ISLAND Hy 28.66 124 T T 14 16 06.0
baz=317,slow=75,SNR=4103
H11N1 WAKE ISLAND Hy 28.67 124 T T 14 16 06.7
baz=317,slow=75,SNR=5246
H11N3 WAKE ISLAND Hy 28.68 124 T T 14 16 07.4
baz=317,slow=75,SNR=4353
H11S1 WAKE ISLAND Hy 29.43 126 T T 14 16 56.5
baz=318,slow=76,SNR=304
H11S3 WAKE ISLAND Hy 29.43 126 T T 14 16 58.4
baz=318,slow=76,SNR=140
H11S2 WAKE ISLAND Hy 29.44 126 T T 14 16 54.5
baz=318,slow=76,SNR=121
TLY Talaya 29.62 309 P **P** **13 45 45.0 -0.1**
comp=Z,9.4nm,0.8s,baz=157,slow=7.0,SNR=8.3
TLY Talaya 29.62 309 *e*P **P** **13 45 43.6 -1.5**
TLY pmax pmax
comp=Z,8.0nm,0.7s
TLY MLR MLR
comp=Z,446nm,20.0s
ZAK Zakamensk 29.63 306 *e*P **P** **13 45 45.0 -0.3**
ZAK pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 30.22 277 *e*P **P** **13 45 51.2 +0.5**
LZH pP pP 13 46 03.7 -0.6
LZH sP sP 13 46 08.3 -2.3
LZH PP **PnPn** **13 46 50.3 +0.3**
LZH *e*S **S** **13 50 38.0 -8.5**
LZH PMZ
comp=Z,24nm,1.0s
LZH PMZ
comp=Z,100nm,5.2s
LZH LN
comp=Z,430nm,15.7s
LZH LE
comp=Z,530nm,16.0s
LZH LZ
comp=Z,610nm,16.5s
GYA Guiyang 31.89 258 *e*P **P** **13 46 04.6 -0.9**
GYA pP pP 13 46 18.9 -0.2
GYA PP **PnPn** **13 47 13.0 +1.3**
GYA PcP **PcP** **13 48 56.3 +1.3**
GYA S **S** **13 51 12.0 -0.7**
GYA sS sS 13 51 33.2 -2.6
GYA ScP **ScP** **13 52 35.0 +1.2**
GYA ScS **ScS** **13 56 31.6 -0.9**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
CD2 Chengdu 32.09 268 *e*P **P** **13 46 06.2 -0.9**
CD2 pP pP 13 46 18.7 -2.0
CD2 sP sP 13 46 24.6 -2.4
CD2 S **S** **13 51 14.7 -0.9**
CD2 sS sS 13 51 36.3 -2.3
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
BILL Bilibino 32.42 17⇑ *i*P **P** **13 46 10.3 +0.8**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 32.42 17 *e*P **P** **13 46 07.5 -1.9**
comp=Z,5.6nm,0.9s
GTA Gaotai 32.50 285 *e*P **P** **13 46 12.4 +1.7**
GTA pP pP 13 46 24.3 -0.1
GTA sP sP 13 46 28.2 -2.5
GTA S **S** **13 51 21.6 -0.4**
GTA sS sS 13 51 42.8 -2.3
GTA SS **SnSn** **13 53 20.6 +1.1**
GTA PMZ
comp=Z,7.0nm,0.8s
GTA PMZ
comp=Z,61nm,6.7s
GTA LN
comp=Z,320nm,14.7s
GTA LE
comp=Z,300nm,18.1s
GTA LZ
comp=Z,280nm,18.5s
TIXI Tiksi 33.78 353 P **P** **13 46 20.5 -0.9**
comp=Z,5.4nm,0.7s,baz=144,slow=6.4,SNR=22
TIXI Tiksi 33.78 353⇑ *i*P **P** **13 46 20.7 -0.6**
TIXI *e**PP **pP** **13 46 36.8 +1.8**
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 33.78 353 *e*P **P** **13 46 20.3 -1.0**
comp=Z,4.6nm,0.7s
TIXI *e*PcP **PcP** **13 49 01.5 +2.2**
QIZ Qiongzhong 33.94 244 P **P** **13 46 23.9 +0.6**
QIZ pP **pP** **13 46 34.9 -2.1**
QIZ S **S** **13 51 45.4 +1.0**
QIZ sS **sS** **13 52 05.1 -2.5**
QIZ LN
comp=Z,230nm,12.5s
QIZ LE
comp=Z,290nm,13.6s
QIZ LZ
comp=Z,280nm,11.3s
KMI Kunming 35.60 260 P **P** **13 46 38.0 +0.2**
KMI PMZ
comp=Z,15nm,0.9s
KMI PMZ
comp=Z,110nm,5.8s
WMQ Urumqi 40.50 295 P **P** **13 47 20.0 +1.3**
WMQ pP pP 13 47 31.3 -1.3
WMQ sP sP 13 47 38.0 -0.9
WMQ PMZ
comp=Z,20nm,0.8s
WMQ PMZ
comp=Z,65nm,4.6s
WMQ LN
comp=Z,150nm,19.2s
WMQ LE
comp=Z,100nm,19.2s
WMQ LZ
comp=Z,97nm,17.2s
ZAA0 Zalesovo Array 41.16 311 *e*P **P** **13 47 23.6 -0.3**
ZAA0 *e*PcP **PcP** **13 49 22.3 +0.1**
ZALV Zalesovo Beam 41.16 311 P **P** **13 47 24.1 +0.3**
comp=Z,11nm,0.5s,baz=88,slow=7.2,SNR=63
ZALV PcP **PcP** **13 49 22.3 +0.1**
comp=Z,3.3nm,0.4s,baz=103,slow=3.0,SNR=7.9
NRIK Noril'sk 42.01 334 P **P** **13 47 30.0 -0.7**
comp=Z,3.4nm,0.4s,baz=130,slow=7.4,SNR=4.4
NVS Novosibirsk 42.05 312 *e*P **P** **13 47 30.9 -0.3**
NVS pmax pmax
comp=E,16nm,1.2s
NVS pmax pmax
comp=Z,20nm,1.2s
CHTO Chiang Mai 42.06 254 *e*P **P** **13 47 31.1 -0.6**
CHTO pmax pmax
comp=Z,8.0nm,0.6s
CHTO Chiang Mai 42.06 254 *e*P **P** **13 47 31.1 -0.6**
comp=Z,7.7nm,0.6s
CMAR Chiang Mai Arr 42.28 254 P **P** **13 47 33.8 +0.3**
comp=Z,0.9nm,0.6s,baz=43,slow=8.0,SNR=6.8
MK01 Makanchi Array 43.63 301 *e*P **P** **13 47 44.1 0.0**
MK31 Makanchi Array 43.63 301 *e*P **P** **13 47 44.2 +0.1**
MK31 Makanchi Array 43.63 301 *e*P **P** **13 47 44.2 +0.1**
MKAR Makanchi Array 43.63 301 P **P** **13 47 44.2 +0.1**
comp=Z,14nm,0.9s,baz=83,slow=9.9,SNR=69
MKAR PcP **PcP** **13 49 30.2 -0.5**
comp=Z,1.2nm,0.7s,baz=70,slow=4.4,SNR=2.2
MAKZ Makanchi 43.84 301 P **P** **13 47 45.3 -0.5**
MAKZ pmax pmax
comp=Z,20nm,1.1s
MAKZ Makanchi 43.84 301 *e*P **P** **13 47 45.6 -0.1**
comp=Z,25nm,1.3s
KURK Kurchatov 45.28 307 P **P** **13 47 55.8 -1.4**
KURK Kurchatov 45.28 307 *e*P **P** **13 47 56.8 -0.4**
comp=Z,252nm,1.0s
PPLA Purkeypile 45.67 36 *e*P **P** **13 48 01.2 +0.9**
comp=Z,13nm,1.0s
KDAK Kodiak Island 45.69 43 *i*P **P** **13 48 01.2 +1.0**
KTH Kantishna Hill 46.24 35 *e*P **P** **13 48 06.1 +1.5**
comp=Z,5.4nm,0.7s
GUN Gumba 47.40 274 *e*P **P** **13 48 14.2 -0.3**
comp=Z,49nm,0.7s
COLA College 47.55 33⇓ *i*P **P** **13 48 16.2 +1.4**
COLA *e**PP **pP** **13 48 30.4 +1.4**
COLA pmax pmax
comp=Z,5.0nm,1.7s
KKN Kakani 47.92 275 *e*P **P** **13 48 18.4 0.0**
comp=Z,42nm,0.7s
PKIN Phulchoki 47.93 274 *e*P **P** **13 48 18.3 -0.3**
comp=Z,7.5nm,0.5s
ILAR Eielson Array 47.97 33 P **P** **13 48 18.4 +0.4**
comp=Z,2.6nm,0.7s,baz=268,slow=6.4,SNR=40
ILB Eielson Array 47.97 33 *e*P **P** **13 48 18.0 0.0**
IL1 Eielson Array 47.97 33 *e*P **P** **13 48 18.0 0.0**
GKN Gorkha 48.33 275 *e*P **P** **13 48 21.4 -0.1**
TKM2 Tokmak 2 49.24 297 *e*P **P** **13 48 27.9 -0.5**
TKM2 pmax pmax
comp=Z,16nm,0.9s
TKM2 Tokmak 2 49.24 297 *e*P **P** **13 48 27.9 -0.5**
comp=Z,16nm,0.9s
KOLN Koldanda 49.24 276 *e*P **P** **13 48 28.6 0.0**
comp=Z,9.4nm,0.4s
DOT Dot Lake 49.29 34 *e*P **P** **13 48 27.4 -0.9**
comp=Z,5.5nm,0.8s
CHKZ Chkalovo 49.53 312 *i*P **P** **13 48 29.4 -0.7**
CHKZ pmax pmax
comp=Z,9.0nm,0.6s
PYUN Piuthan 49.56 276 *e*P **P** **13 48 31.4 +0.4**
comp=Z,36nm,0.7s
BVA0 Borovoye Array 49.81 311 P **P** **13 48 31.7 -0.6**
BVA0 pmax pmax
comp=Z,7.0nm,0.7s
OTUK Ortayu 49.83 305 P **P** **13 48 32.5 -0.1**
OTUK pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 49.87 311 *c i*P **P** **13 48 32.9 +0.2**
BRVK pmax pmax
comp=Z,20nm,0.6s
BRVK Borovoye 49.87 311 *e*P **P** **13 48 30.7 -2.0**
comp=Z,24nm,0.7s
AAK Ala-Archa 50.10 297⇑ *i*P **P** **13 48 34.9 +0.1**
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 50.10 297 *e*P **P** **13 48 33.5 -1.3**
comp=Z,3.9nm,0.6s
KSH Kashi 50.13 293 P **P** **13 48 39.5 +4.4**
KSH pP pP 13 48 52.1 +2.7
KSH PcP **PcP** **13 49 58.9 +5.0**
KSH PP **PP** **13 50 37.5 +7.1**
KSH S **S** **13 55 44.6 +1.7**
KSH PMZ
comp=Z,5.0nm,0.6s
KSH PMZ
comp=Z,41nm,3.2s
KSH LN
comp=Z,230nm,12.7s
KSH LE
comp=Z,140nm,7.5s
KSH LZ
comp=Z,470nm,14.1s
IPM Ipoh 50.29 238 P **P** **13 48 33.2 -3.2**
comp=Z,24nm,1.0s
EKS2 Erkin-Say 50.59 298 *e*P **P** **13 48 37.9 -0.6**
EKS2 Erkin-Say 50.59 298 *e*P **P** **13 48 34.5 -3.9**
comp=Z,4.7nm,0.9s
ZRNK Zerenda 50.64 312 *e*P **P** **13 48 38.5 -0.1**
ZRNK pmax pmax
comp=Z,14nm,0.8s
ZRNK Zerenda 50.64 312 *e*P **P** **13 48 38.5 -0.1**
comp=Z,14nm,0.8s
HNR Honiara 50.66 157 P **P** **13 48 38.7 -0.3**
comp=Z,36nm,0.2s,baz=246,slow=20,SNR=2.7
MNAS Manas 51.53 298 P **P** **13 48 45.8 +0.2**
MNAS pmax pmax
comp=Z,15nm,1.0s
KK31 Karatay Array 52.68 299 *i*P **P** **13 48 53.9 -0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 52.82 28 P **P** **13 48 55.6 +1.1**
comp=Z,2.0nm,0.5s,baz=286,slow=6.4,SNR=16
INK Inuvik 52.82 28 *e*P **P** **13 48 55.6 +1.1**
INK pmax pmax
comp=Z,6.0nm,1.2s
INK Inuvik 52.82 28 *e*P **P** **13 48 55.5 +1.1**
comp=Z,5.8nm,1.2s
SVE Sverdlovsk 54.23 318⇓ *e*P **P** **13 49 05.6 +0.5**
SVE pmax pmax
comp=Z,32nm,0.9s
GSI Gunungsitoli 54.94 239 *e*P **P** **13 49 11.1 +0.4**
comp=Z,25nm,0.9s
ARU Arti 55.45 318 *c i*P **P** **13 49 13.8 -0.1**
ARU *PP **pP** **13 49 29.9 +1.5**
ARU 13 50 13.2
ARU 13 51 14.8
ARU S **S** **13 56 53.6 -1.0**
ARU SS **SS** **14 00 37.4 -1.9**
ARU pmax pmax
comp=Z,21nm,1.0s
ARU MLR MLR
comp=Z,282nm,17.0s
ARU Arti 55.45 318 *e*P **P** **13 49 11.4 -2.4**
comp=Z,18nm,0.9s
DZET Dzherino 55.52 295 P **P** **13 49 16.5 +1.6**
DZET pmax pmax
comp=Z,11nm,0.5s
KBL Kabul 57.22 290 P **P** **13 49 28.1 +1.0**
KBL pmax pmax
comp=Z,10.0nm,0.8s
AB31 Akbulak array 57.23 310 *i*P **P** **13 49 26.1 -0.6**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 57.23 310 *e*P **P** **13 49 25.4 -1.2**
AKTO Aktyubinsk 57.92 311 P **P** **13 49 31.1 -0.4**
AKTO pmax pmax
comp=Z,12nm,0.9s
WRA Warramunga Arr 58.66 188 P **P** **13 49 36.6 -0.3**
comp=Z,4.8nm,0.7s,baz=6.7,slow=7.1,SNR=4.3
YKA Yellowknife Ar 62.26 31 P **P** **13 50 01.4 +0.4**
comp=Z,1.3nm,0.7s,baz=301,slow=6.4,SNR=10
ASAR Alice Springs 62.39 188 P **P** **13 50 02.9 +0.6**
comp=Z,1.6nm,0.7s,baz=19,slow=5.9,SNR=4.9
KLMR Klimovskoe 62.64 327 *e*P **P** **13 50 02.4 -1.1**
KLMR *e* 13 52 19.1
KLMR pmax pmax
comp=Z,12nm,1.5s
ARCES ARCESS Array B 62.67 339 P **P** **13 50 03.5 -0.1**
comp=Z,3.6nm,0.9s,baz=58,slow=7.8,SNR=9.9
GEYT Alibeck 63.42 298 P **P** **13 50 08.8 -0.4**
comp=Z,5.3nm,0.7s,baz=29,slow=3.4,SNR=8.2
DZM Mont Dzumac 64.60 155 *e*LR LR 14 09 42.0
comp=Z,183nm,28.4s
JOF Joensuu 64.76 332 P **P** **13 50 18.3 +0.8**
JOF pmax pmax
comp=Z,12nm,1.1s
SUF Sumiainen 66.76 333 P **P** **13 50 30.6 +0.3**
SUF pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 67.07 323 *e*P **P** **13 50 30.6 -1.8**
OBN pmax pmax
comp=Z,7.0nm,1.0s
FIA1 FINESS Array S 67.61 332 *e*P **P** **13 50 35.5 -0.2**
FINES FINESS Array B 67.61 332 P **P** **13 50 35.5 -0.2**
comp=Z,6.6nm,0.7s,baz=61,slow=9.0,SNR=26
SUMG Summit 69.12 0 *e*P **P** **13 50 46.3 +0.8**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 69.12 0 *e*P **P** **13 50 46.3 +0.8**
comp=Z,10nm,0.8s
VSU Vasula 69.30 329⇑ *i*P **P** **13 50 46.5 +0.2**
VSU pmax pmax
comp=Z,28nm,0.9s
GOF Gofitskoye 69.34 312⇑ *e*P **P** **13 50 47.1 +0.2**
KIV Kislovodsk 70.17 311⇑ *i*P **P** **13 50 53.5 +1.4**
KIV pmax pmax
comp=Z,36nm,1.0s
KBZ Khabaz 70.18 310 P **P** **13 50 52.6 +0.6**
comp=Z,10nm,0.8s,baz=72,slow=4.1,SNR=23
NEY Neytrino 70.56 310⇑ *e*P **P** **13 50 55.4 +0.8**
NEY pmax pmax
comp=Z,1.0nm,0.8s
FFC Flin Flon 72.18 33 *e*P **P** **13 51 04.7 +0.7**
FFC pmax pmax
comp=Z,5.0nm,0.8s
FFC Flin Flon 72.18 33 *e*P **P** **13 51 04.7 +0.7**
comp=Z,4.9nm,0.8s
NC405 NORSAR Array S 72.68 337 *e*P **P** **13 51 07.3 +0.4**
NC204 NORSAR Array S 72.84 338 *e*P **P** **13 51 08.0 +0.2**
NB201 NORSAR Array S 72.86 337 *e*P **P** **13 51 08.2 +0.3**
NB2 NORSAR Subarra 72.89 337 P **P** **13 51 08.0 -0.1**
comp=Z,7.4nm,0.7s,baz=40,slow=6.2
NB2 NORSAR Subarra 72.89 337 P **P** **13 51 07.7 -0.4**
NB2 pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 72.89 337 P **P** **13 51 08.0 -0.1**
comp=Z,7.7nm,0.8s,baz=38,slow=5.9,SNR=21
NBO02 NORSAR Array S 72.99 337 *e*P **P** **13 51 08.8 +0.1**
NBO00 NORSAR Array S 73.03 337 *e*P **P** **13 51 09.3 +0.4**
NAO01 NORSAR Array S 73.14 337 *e*P **P** **13 51 10.1 +0.5**
AKASG Malin Array Be 73.30 322 P **P** **13 51 10.3 -0.3**
comp=Z,5.0nm,0.6s,baz=46,slow=6.1,SNR=22
AKBB Malin Array Si 73.30 322 *e*P **P** **13 51 10.7 +0.1**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 73.30 322 *e*P **P** **13 51 10.7 +0.1**
comp=Z,8.1nm,0.8s
KIEV Kiev 73.31 322⇓ *i*P **P** **13 51 10.5 -0.2**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 73.31 322 *e*P **P** **13 51 10.2 -0.4**
comp=Z,8.7nm,0.8s
NV01 Mina Array Sit 73.75 54 *e*P **P** **13 51 15.1 +1.3**
NVAR Mina Array Bea 73.75 54 P **P** **13 51 14.1 +0.3**
comp=Z,1.2nm,0.8s,baz=275,slow=6.8,SNR=7.2
R11A Troy Canyon, C 75.50 52 *e*P **P** **13 51 25.4 +1.6**
comp=Z,3.2nm,1.2s
DUG Dugway, Tooele 76.04 50 *e*P **P** **13 51 28.8 +1.9**
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 76.04 50 *e*P **P** **13 51 28.8 +1.9**
comp=Z,3.6nm,0.9s
BW06 Boulder Array 76.30 46 *e*P **P** **13 51 29.0 +0.6**
PD31 Pinedale Array 76.30 46 *e*P **P** **13 51 29.4 +0.9**
PDAR Pinedale Array 76.30 46 P **P** **13 51 29.4 +0.9**
comp=Z,1.6nm,0.7s,baz=256,slow=1.5,SNR=16
BUR08 Bucovina Ar. S 77.31 322 *e*P **P** **13 51 34.6 +0.7**
BURAR Bucovina Array 77.32 322⇑ *i*P **P** **13 51 34.0 +0.1**

BURAR	**Bucovina Array**	**77.32**	**322**	⇑P		**P**	**13 51 34.0**	**+0.1**
CFR	**Carcaliu**	**77.53**	**318**	⇓*i*P		**P**	**13 51 35.1**	**+0.1**
CFR	**Carcaliu**	**77.53**	**318**	⇓P		**P**	**13 51 35.1**	**+0.1**
KOLS	**Kolonicke sedl**	**77.78**	**324**	*e*P		**P**	**13 51 37.2**	**+0.9**
KOLS				pmax	pmax			
	comp=Z,5.0nm,1.2s							
KOLS	**Kolonicke sedl**	**77.78**	**324**	*e*P		**P**	**13 51 37.2**	**+0.9**
STHS	**Stebnicka Huta**	**77.90**	**325**	*e*P		**P**	**13 51 38.1**	**+1.1**
STHS				pmax	pmax			
	comp=Z,4.0nm,1.1s							
STHS	**Stebnicka Huta**	**77.90**	**325**	*e*P		**P**	**13 51 38.1**	**+1.1**
OJC	**Ojcow**	**77.95**	**326**	*e*P		**P**	**13 51 38.2**	**+0.9**
OJC	**Ojcow**	**77.95**	**326**	*e*P		**P**	**13 51 37.6**	**+0.3**
OJC				pmax	pmax			
	comp=Z,13nm,1.0s							
OJC	**Ojcow**	**77.95**	**326**	*e*P		**P**	**13 51 37.6**	**+0.3**
	comp=Z,13nm,1.0s							
ULM	**Lac du Bonnet**	**77.99**	**34**	P		**P**	**13 51 37.1**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=321,slow=6.5,SNR=3.2							
SRU	**San Rafael Swe**	**78.10**	**49**	*e*P		**P**	**13 51 40.0**	**+1.5**
SRU				pmax	pmax			
	comp=Z,4.0nm,0.7s							
SRU	**San Rafael Swe**	**78.10**	**49**	*e*P		**P**	**13 51 40.0**	**+1.5**
	comp=Z,4.3nm,0.7s							
BRTR	**Keskin Array B**	**78.10**	**312**	P		**P**	**13 51 38.5**	**0.0**
	comp=Z,1.4nm,0.4s,baz=125,slow=3.0,SNR=9.7							
BRTR				PP		**PP**	**13 54 33.5**	**-1.4**
	comp=Z,1.4nm,0.9s,baz=57,slow=5.3,SNR=3.8							
CRVS	**Cervenica-Dubn**	**78.17**	**324**	*e*P		**P**	**13 51 39.8**	**+1.3**
CRVS	**Cervenica-Dubn**	**78.17**	**324**	*e*P		**P**	**13 51 39.8**	**+1.3**
NIE	**Niedzica**	**78.32**	**325**	*e*P		**P**	**13 51 40.2**	**+0.9**
NIE	**Niedzica**	**78.32**	**325**	*e*P		**P**	**13 51 40.2**	**+0.9**
DOPR	**Dopca**	**78.39**	**320**	⇑*i*P		**P**	**13 51 40.2**	**+0.4**
BR231	**Keskin MP Arra**	**78.53**	**312**	*e*P		**P**	**13 51 39.6**	**-1.2**
LANS	**Liptovska Anna**	**78.89**	**326**	*e*P		**P**	**13 51 43.4**	**+0.9**
LANS	**Liptovska Anna**	**78.89**	**326**	*e*P		**P**	**13 51 43.4**	**+0.9**
OKC	**Ostrava-Krasne**	**78.95**	**327**	AMS		AMS	14 32 40.0	
KSP	**Ksiaz**	**78.97**	**328**	*e*P		**P**	**13 51 43.4**	**+0.5**
KSP	**Ksiaz**	**78.97**	**328**	*e*P		**P**	**13 51 43.3**	**+0.4**
DRGR		**79.11**	**322**	⇑*i*P		**P**	**13 51 43.9**	**+0.1**
DRGR		**79.11**	**322**	⇑P		**P**	**13 51 43.9**	**+0.1**
ARR	**Arges**	**79.18**	**320**	⇑*i*P		**P**	**13 51 45.5**	**+1.3**
MORC	**Moravsky Berou**	**79.26**	**327**	⇑*i*P		**P**	**13 51 45.1**	**+0.6**
MORC	**Moravsky Berou**	**79.26**	**327**	*e*P		**P**	**13 51 45.4**	**+0.9**
MORC				pmax	pmax			
	comp=Z,26nm,0.9s							
MORC	**Moravsky Berou**	**79.26**	**327**	*e*P		**P**	**13 51 45.4**	**+0.9**
	comp=Z,26nm,0.9s							
DPC	**Dobruska-Polom**	**79.34**	**328**	*e*P		**P**	**13 51 45.6**	**+0.7**
DPC				*e*PCP		**PcP**	**13 51 53.0**	**0.0**
DPC				AMS		AMS	14 34 50.0	
	comp=Z,200nm,14.7s							
DPC	**Dobruska-Polom**	**79.34**	**328**	*e*P		**P**	**13 51 45.6**	**+0.7**
DPC				*e*			13 51 53.0	
DPC				MLR		MLR		
	comp=Z,200nm,14.7s							
UPC	**Upice**	**79.34**	**328**	AMS		AMS	14 32 30.0	
	comp=Z,200nm,12.8s							
VYHS	**Vyhne**	**79.65**	**325**	*e*P		**P**	**13 51 47.5**	**+0.8**
VYHS				pmax	pmax			
	comp=Z,2.0nm,1.0s							
VYHS	**Vyhne**	**79.65**	**325**	*e*P		**P**	**13 51 47.5**	**+0.8**
BRG	**Berggiesshubel**	**79.90**	**330**	*e*P		**P**	**13 51 48.2**	**+0.3**
	comp=Z,3.7nm,0.8s							
BRG	**Berggiesshubel**	**79.90**	**330**	*e*P		**P**	**13 51 48.2**	**+0.3**
BRG				pmax	pmax			
	comp=Z,4.0nm,0.8s							
PVCC	**Panska Ves**	**79.92**	**329**	*e*P		**P**	**13 51 48.8**	**+0.8**
PVCC				AMS		AMS	14 32 50.0	
	comp=Z,200nm,13.7s							
PVCC	**Panska Ves**	**79.92**	**329**	*e*P		**P**	**13 51 48.8**	**+0.8**
PVCC				MLR		MLR		
	comp=Z,200nm,13.7s							
CLL	**Collm**	**79.93**	**330**	⇑*i*P		**P**	**13 51 47.9**	**-0.1**
	comp=Z,11nm,0.7s							
CLL				*e*pP		**pP**	**13 52 05.0**	**+1.7**
CLL				LmH			14 28 00.0	
	comp=N,100nm,19.9s							
CLL				LmH			14 28 00.0	
	comp=E,100nm,19.2s							
CLL	**Collm**	**79.93**	**330**	*e*P		**P**	**13 51 48.4**	**+0.4**
CLL				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CLL	**Collm**	**79.93**	**330**	*e*P		**P**	**13 51 48.4**	**+0.4**
	comp=Z,9.8nm,0.7s							
GOPC	**GO Pecny, Ondr**	**80.30**	**328**	AMS		AMS	14 33 10.0	
	comp=Z,200nm,18.5s							
PRU	**Pruhonice**	**80.35**	**329**	*e*P		**P**	**13 51 50.9**	**+0.6**
PRU				AMS		AMS	14 31 40.0	
	comp=Z,200nm,12.9s							
PRU	**Pruhonice**	**80.35**	**329**	*e*P		**P**	**13 51 50.9**	**+0.6**
PRU				MLR		MLR		
	comp=Z,200nm,12.9s							
TREC	**Trest**	**80.49**	**328**	AMS		AMS	14 35 30.0	
	comp=Z,200nm,15.5s							
NKC	**Novy Kostel**	**80.99**	**330**	AMS		AMS	14 34 10.0	
	comp=Z,200nm,15.1s							
MDVR	**Moldovita**	**81.05**	**321**	⇑*i*P		**P**	**13 51 54.4**	**+0.1**
CONA	**Conrad Observa**	**81.38**	**327**	*i* P		**P**	**13 51 57.0**	**+1.0**
	comp=Z,6.4nm,1.0s							
KHC	**Kasperske Hory**	**81.41**	**329**	*e*P		**P**	**13 51 56.6**	**+0.5**
KHC				AMS		AMS	14 33 50.0	
	comp=Z,200nm,16.5s							
KHC	**Kasperske Hory**	**81.41**	**329**	*e*P		**P**	**13 51 56.6**	**+0.5**
KHC				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KHC	**Kasperske Hory**	**81.41**	**329**	*e*P		**P**	**13 51 56.6**	**+0.5**
	comp=Z,2.7nm,0.8s							
GERES	**GERESS Array B**	**81.58**	**328**	P		**P**	**13 51 56.9**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=35,slow=5.1,SNR=16							
GEA0	**GERESS Array S**	**81.59**	**328**	*e*P		**P**	**13 51 57.1**	**0.0**
WET	**Wettzell**	**81.68**	**329**	P		**P**	**13 51 59.4**	**+1.9**
WET				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SOKA	**Soboth**	**82.71**	**326**	*i* P		**P**	**13 52 03.3**	**+0.3**
	comp=Z,12nm,1.1s							
OBKA	**Obir**	**83.05**	**326**	*i* P		**P**	**13 52 04.8**	**+0.1**
	comp=Z,3.7nm,0.8s							
KBA	**Koelnbreinsper**	**83.12**	**327**	*i* PcP		**P**	**13 52 05.9**	**+0.7**
	comp=Z,6.0nm,0.8s							
KBA	**Koelnbreinsper**	**83.12**	**327**	P		**P**	**13 52 06.7**	**+1.5**
KBA				pmax	pmax			
	comp=Z,9.0nm,0.7s							
ANMO	**Albuquerque**	**83.29**	**50**	*c**e*P		**P**	**13 52 08.7**	**+2.3**
ANMO				pmax	pmax			
	comp=Z,5.0nm,2.5s							
MYKA	**Terra Mystica**	**83.34**	**327**	*i* P		**P**	**13 52 05.9**	**-0.4**
	comp=Z,2.8nm,0.4s							
WATA	**Walderalm**	**83.65**	**329**	*i* PcP		**P**	**13 52 08.8**	**+0.9**
	comp=Z,4.7nm,0.6s							
WTTA	**Wattenberg**	**83.68**	**328**	*i* P		**P**	**13 52 08.3**	**+0.2**
	comp=Z,6.9nm,1.0s							
ABTA	**Abfaltersbach**	**83.73**	**328**	*i* P		**P**	**13 52 07.4**	**-0.8**
	comp=Z,6.1nm,0.9s							
MOTA	**Moosalm**	**83.83**	**329**	*i* PcP		**P**	**13 52 09.1**	**+0.2**
	comp=Z,3.2nm,0.6s							
RETA	**Reutte**	**83.86**	**329**	*i* PcP		**P**	**13 52 09.4**	**+0.5**
	comp=Z,8.3nm,0.7s							
BFO	**Black Forest**	**84.12**	**331**	*e*P		**P**	**13 52 11.2**	**+1.0**
BFO	**Black Forest**	**84.12**	**331**	*e*P		**P**	**13 52 11.2**	**+1.0**
FETA	**Feichten**	**84.25**	**329**	*i* P		**P**	**13 52 09.7**	**-1.3**
	comp=Z,5.3nm,0.7s							
DAVA	**Damuels**	**84.37**	**329**	*i* PcP		**P**	**13 52 11.8**	**+0.2**
	comp=Z,11nm,0.8s							
CDF	**Champ du Feu**	**84.45**	**332**	*e*P		**P**	**13 52 11.6**	**-0.3**
CDF				pmax	pmax			
	comp=Z,8.0nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**84.76**	**329**	*e*P		**P**	**13 52 14.1**	**+0.4**
PPT2	**Papeete2**	**85.01**	**117**	*e*LR		LR	14 19 16.1	
	comp=Z,190nm,26.8s							
SENIN	**Lac Senin/Sane**	**86.14**	**330**	*e*P		**P**	**13 52 20.7**	**+0.1**
CABF	**La Chapelle**	**86.40**	**331**	*e*P		**P**	**13 52 22.0**	**+0.4**
CABF				pmax	pmax			
	comp=Z,8.0nm,1.1s							
LOR	**Lormes**	**86.66**	**333**	*e*P		**P**	**13 52 22.4**	**-0.4**
LOR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
FLN	**La Foliniere**	**86.83**	**336**	*e*P		**P**	**13 52 23.2**	**-0.4**
FLN				pmax	pmax			
	comp=Z,8.0nm,0.9s							
LDF	**La Druitiere**	**86.87**	**336**	*e*P		**P**	**13 52 23.3**	**-0.5**
LDF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LPL	**La Plagne**	**87.07**	**330**	*e*P		**P**	**13 52 25.3**	**+0.2**
LPL				pmax	pmax			
	comp=Z,4.0nm,0.5s							
LPG	**La Plagne**	**87.08**	**330**	*e*P		**P**	**13 52 25.4**	**+0.2**
LPG				pmax	pmax			
	comp=Z,4.0nm,0.5s							
AVF	**Avril sur Loir**	**87.25**	**333**	*e*P		**P**	**13 52 25.4**	**-0.2**
AVF				pmax	pmax			
	comp=Z,9.0nm,0.8s							
VIVF	**Saint-Julien-l**	**88.41**	**331**	*e*P		**P**	**13 52 31.5**	**+0.2**
VIVF				pmax	pmax			
	comp=Z,3.0nm,0.6s							
TX31	**Lajitas Ar. Si**	**88.86**	**53**	*e*P		**P**	**13 52 34.2**	**+0.4**
TXAR	**Lajitas Array**	**88.86**	**53**	P		**P**	**13 52 34.7**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=300,slow=3.5,SNR=12							
TBI	**Tubuai**	**89.00**	**121**	*e*LR		LR	14 21 06.5	
	comp=Z,153nm,27.0s							
ESDC	**Sonseca Array**	**96.05**	**334**	P		**P**	**13 53 06.7**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=4.9,slow=6.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**116.49**	**316**	PKP		**PKPdf**	**13 58 23.0**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=8.7,slow=1.9,SNR=3.3							
TORD				PP		**PP**	**13 59 30.0**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=20,slow=4.6,SNR=3.1							
LPAZ	**La Paz**	**145.56**	**58**	PKPbc		**PKPab**	**13 59 18.8**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=342,slow=4.1,SNR=12							

*NIED **10** 13:42:00,37.40N×141.60E,h5km,Mw4.6 Best double couple: M₀8.99000×10¹⁵ NP1:φs55.00000°,δ28.00000°, λ-54.00000°. NP2:φs195.00000°,δ67.00000°, λ-107.00000°.*
*IDC **10** 13:42:04.2±0.6,37.39N×141.58E,h0km,mb4.3/23, mb1 4.4/28,mb1mx4.3/44,mbtmp4.3/28,ML3.2/4,MS4.0/13, Ms1 4.0/13,ms1mx3.5/35,Error ellipse: s-maj=17.1km s-min=13.3km az=111.0*
*JMA **10** 13:42:05.5±0.2,37.38N×141.59E,h19km±2km,M4.7*
JMA Felt I J1.
*NEIC **10** 13:42:08.1±2.6,37.36N×141.63E,h28km±19km,mb4.3/1, Error ellipse: s-maj=11.0km s-min=8.7km az=110.0*
NEIC Recorded [1 JMA] in Fukushima, Miyagi and Yamagata.
*MOS **10** 13:42:08.3±1.3,37.43N×141.52E,h35km,mb4.8/12,Error ellipse: s-maj=9.7km s-min=6.2km az=94.1*

ISC 10 13:42:07.0±0.8,37.38N±0.04×141.56E±0.05,h16km±4km, n87,σ1ᵒ62/92,mb4.4/34,MS4.1/9,7C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.55**	**269**	P		**Pb**		**13 42 16.3**	**-1.9**
JFK				S		**Sb**		**13 42 24.1**	**-1.7**
ONAJ	**Iwakimizuishiy**	**0.67**	**246**	P		**Pb**		**13 42 18.4**	**-1.9**
ONAJ				S		**Sb**		**13 42 28.1**	**-1.2**
JMM	**Marumori**	**0.78**	**309**	P		**Pb**		**13 42 20.3**	**-1.8**
JMM				S		**Sb**		**13 42 31.2**	**-1.2**
JFT	**Otama**	**0.98**	**278**	P		**Pb**		**13 42 24.3**	**-1.3**
JFT				S		**Sn**		**13 42 38.0**	**-1.7**
JIO	**Ouri**	**1.09**	**351**	P		**Pb**		**13 42 25.2**	**-2.2**
JIO				*e*S		**Sb**		**13 42 39.2**	**-2.1**
JOU	**Okura**	**1.21**	**325**	P		**Pb**		**13 42 28.1**	**-1.4**
JOU				S		**Sg**		**13 42 44.9**	**-1.3**
MJAR	**Matsushiro Arr**	**2.81**	**254**	Pn		**Pn**		**13 42 51.6**	**+0.3**
	20nm,0.3s,baz=79,slow=16,SNR=11								
MJAR					Sn	**Sb**		**13 43 30.6**	**-0.4**
	9.1nm,0.3s,baz=285,slow=32,SNR=3.4								
MAJO	**Matsushiro**	**2.81**	**254**	*e*P		**Pb**		**13 42 53.0**	**-3.8**
MAT	**Matsushiro**	**2.81**	**254**	P		**Pn**		**13 42 51.9**	**+0.6**
MAT				S		**Sb**		**13 43 28.8**	**-2.2**
JHJ	**Hachijo jima 2**	**4.49**	**199**	Pn		**Pn**		**13 43 13.6**	**-0.8**
	26nm,0.3s,baz=90,slow=20,SNR=1.7								
JHJ					Sn	**Sn**		**13 44 09.5**	**+3.3**
	2.7nm,0.3s,baz=38,slow=20,SNR=1.9								
ERM	**Erimo**	**4.79**	**14**	P		Pn		13 43 21.4	+3.0
ASAJ	**Asahikawa**	**6.78**	**6**	Pn		**Pn**		**13 43 44.3**	**-1.4**
	0.2nm,0.3s,baz=71,slow=18,SNR=3.0								
KUR	**Kuril'sk**	**9.17**	**29**	P		**Pn**		**13 44 18.8**	**+0.3**
KUR				*e*S		**Sn**		**13 45 56.7**	**-4.5**
KUR				smax		smax			
	comp=N,14nm,0.7s								
KUR				smax		smax			
	comp=E,22nm,0.7s								
USRK	**Ussuriysk Ar.**	**9.95**	**316**	Pn		Pn		13 44 33.6	+4.4
	comp=E,0.2nm,0.3s,baz=125,slow=14,SNR=5.1								
USRK				LR		LR		13 48 01.6	
	comp=E,1μm,19.6s,baz=124,slow=36								
CBIJ	**Chichi jima**	**10.27**	**177**	Pn		**Pn**		**13 44 32.2**	**-1.4**
JCJ	**Chichijima**	**10.27**	**177**	Pn		**Pn**		**13 44 32.2**	**-1.4**
	comp=E,8.9nm,0.3s,baz=284,slow=19,SNR=4.7								
JCJ				LR		LR		13 48 47.7	
	comp=E,366nm,20.1s,baz=234,slow=39								
KSRS	**Korea Array**	**10.85**	**275**	Pn		**Pn**		**13 44 44.5**	**+3.0**
	comp=E,0.1nm,0.3s,baz=89,slow=13,SNR=6.1								
KSRS				LR		LR		13 48 19.1	
	comp=E,717nm,21.7s,baz=76,slow=34								
KSAR	**Wonju Array Be**	**10.88**	**274**	P		**Pn**		**13 44 44.5**	**+2.5**
KSAR	**Wonju Array Be**	**10.88**	**274**	Pn		**Pn**		**13 44 44.5**	**+2.5**
HABR	**Khabarovsk**	**12.06**	**339**	*e*P		**Pn**		**13 44 59.3**	**+1.2**
HABR				*e*S		**Sn**		**13 47 15.4**	**+3.2**
HABR				pmax		pmax			
	comp=Z,19nm,1.9s								
HABR				pmax		pmax			
	comp=E,25nm,0.9s								
HABR				pmax		pmax			
	comp=N,22nm,1.9s								
HABR				MLR		MLR			
	comp=Z,230nm,11.0s								
TYV	**Tymovskoe**	**13.50**	**3**	*e*P		**Pn**		**13 45 17.5**	**-0.2**
TYV				pmax		pmax			
	comp=Z,6.0nm,0.6s								
TYV				MLR		MLR			
	comp=N,2μm,17.0s								
TYV				MLR		MLR			
	comp=Z,1μm,16.0s								
KLR	**Kul'dur**	**13.81**	**332**	Pn		**Pn**		**13 45 24.5**	**+2.5**
	baz=133,slow=18,SNR=2.0								
KLR				LR		LR		13 50 34.3	
	comp=Z,703nm,18.8s,baz=148,slow=37								
PETK	**Petropavlovsk-**	**19.33**	**30**	P		**Pn**		**13 46 30.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=232,slow=8.9,SNR=3.0								
MA2	**Magadan**	**22.99**	**12**	P		**P**		**13 47 10.3**	**-0.5**
	comp=Z,10nm,0.8s,baz=263,slow=8.7,SNR=4.4								
YAK	**Yakutsk**	**25.76**	**347**	P		**P**		**13 47 36.8**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=320,slow=17,SNR=2.4								
YAK				LR		LR		13 57 53.8	
	comp=Z,264nm,18.3s,baz=172,slow=37								
YAK	**Yakutsk**	**25.76**	**347**	*e*P		**P**		**13 47 36.0**	**-0.6**
YAK				*e*				13 52 04.6	
YAK				pmax		pmax			
	comp=N,5.0nm,0.9s								
YAK				pmax		pmax			
	comp=Z,15nm,0.9s								
YAK				pmax		pmax			
	comp=E,3.0nm,0.9s								
SEY	**Seymchan**	**26.43**	**11**	P		**P**		**13 47 40.6**	**-2.0**
	comp=E,3.7nm,0.8s,baz=156,slow=10.0,SNR=2.2								
SEY	**Seymchan**	**26.43**	**11**	*e*P		**P**		**13 47 45.5**	**+2.8**
ULN	**Ulaanbaatar**	**27.26**	**304**	*e*P		**P**		**13 47 50.9**	**+0.4**
SONM	**Songino Array**	**27.69**	**303**	P		**P**		**13 47 53.5**	**-0.8**
	comp=E,3.3nm,0.8s,baz=90,slow=8.3,SNR=10								
SONM				LR		LR		13 59 13.3	
	comp=E,208nm,18.6s,baz=76,slow=37								
H11N2	**WAKE ISLAND Hy**	**28.23**	**122**	T		T		14 17 27.7	
	baz=314,slow=75,SNR=26								
H11N1	**WAKE ISLAND Hy**	**28.23**	**122**	T		T		14 17 28.4	
	baz=314,slow=75,SNR=24								
H11N3	**WAKE ISLAND Hy**	**28.25**	**122**	T		T		14 17 29.7	
	baz=314,slow=75,SNR=24								
H11S1	**WAKE ISLAND Hy**	**28.95**	**124**	T		T		14 18 22.8	
	baz=316,slow=76,SNR=24								
H11S3	**WAKE ISLAND Hy**	**28.95**	**124**	T		T		14 18 22.8	
	baz=316,slow=76,SNR=18								
H11S2	**WAKE ISLAND Hy**	**28.97**	**124**	T		T		14 18 25.9	
	baz=316,slow=76,SNR=23								
TLY	**Talaya**	**30.19**	**310**	P		**P**		**13 48 17.3**	**+0.9**
	comp=E,1.3nm,0.3s,baz=87,slow=18,SNR=3.2								
TLY				LR		LR		14 01 03.1	
	comp=E,436nm,18.1s,baz=96,slow=38								
BILL	**Bilibino**	**33.66**	**16**	⇑P		**P**		**13 48 48.9**	**+2.3**
BILL				*i* *PP		**sP**		**13 48 56.9**	**+3.3**
BILL				pmax		pmax			
	comp=Z,2.0nm,1.0s								
TIXI	**Tiksi**	**34.96**	**353**	P		**P**		**13 48 56.6**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=138,slow=5.6,SNR=3.5								
ZALV	**Zalesovo Beam**	**41.77**	**312**	P		**P**		**13 49 55.1**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=77,slow=6.5,SNR=6.0								
ZALV				LR		LR		14 08 18.2	
	comp=Z,215nm,18.2s,baz=68,slow=38								
MKAR	**Makanchi Array**	**44.03**	**302**	P		**P**		**13 50 13.0**	**-0.8**
	comp=Z,5.9nm,0.7s,baz=89,slow=10.0,SNR=11								
MKAR				LR		LR		14 07 48.6	
	comp=Z,126nm,20.9s,baz=0.0,slow=35								
MKAR	**Makanchi Array**	**44.03**	**302**	*e*P		**P**		**13 50 13.6**	**-0.2**
KURK	**Kurchatov**	**45.81**	**308**	*e*P		**P**		**13 50 26.7**	**-1.1**
KURK	**Kurchatov**	**45.81**	**308**	*e*P		**P**		**13 50 26.7**	**-1.1**
KDAK	**Kodiak Island**	**46.77**	**42**	*c**e*P		**P**		**13 50 36.7**	**+1.5**
COLA	**College**	**48.73**	**32**	⇑P		P		13 50 53.4	+3.1
COLA				pmax		pmax			
	comp=Z,11nm,2.2s								
ILAR	**Eielson Array**	**49.14**	**33**	P		**P**		**13 50 54.2**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=269,slow=6.3,SNR=8.8								
ILAR	**Eielson Array**	**49.14**	**33**	*e*P		**P**		**13 50 53.9**	**+0.4**
INK	**Inuvik**	**54.03**	**27**	P		**P**		**13 51 29.6**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=268,slow=6.0,SNR=4.6								
SVE	**Sverdlovsk**	**54.97**	**318**	*e*P		**P**		**13 51 36.8**	**-0.2**
SVE				pmax		pmax			
	comp=Z,19nm,1.4s								
ARU	**Arti**	**56.18**	**318**	*c* *i*P		**P**		**13 51 45.5**	**-0.2**
ARU								13 53 50.4	
ARU				S		**S**		**13 59 38.6**	**+4.4**
ARU				SS		**SS**		**14 03 22.9**	**+2.8**
ARU				pmax		pmax			
	comp=Z,11nm,1.0s								
ARU	**Arti**	**56.18**	**318**	*e*P		**P**		**13 51 43.4**	**-2.3**
	comp=Z,1.1nm,0.3s								
WRA	**Warramunga Arr**	**57.42**	**188**	P		**P**		**13 51 53.8**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=5.8,slow=7.5,SNR=5.8								
ABKAR	**Akbulak array**	**57.81**	**310**	*e*P		**P**		**13 51 55.4**	**-1.9**
ASAR	**Alice Springs**	**61.15**	**188**	P		**P**		**13 52 20.9**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=6.7,slow=6.7,SNR=6.1								
YKA	**Yellowknife Ar**	**63.45**	**30**	P		**P**		**13 52 36.0**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=303,slow=6.3,SNR=5.2								
KLMR	**Klimovskoe**	**63.53**	**328**	*e*P		**P**		**13 52 33.9**	**-2.2**
KLMR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
ARCES	**ARCESS Array B**	**63.71**	**339**	P		**P**		**13 52 37.3**	**0.0**
	comp=Z,2.6nm,0.8s,baz=37,slow=7.9,SNR=4.4								
ARCES				LR		LR		14 22 17.4	
	comp=Z,60nm,21.4s,baz=34,slow=38								
ARCES	**ARCESS Array B**	**63.71**	**339**	*e*P		**P**		**13 52 37.7**	**+0.4**
GEYT	**Alibeck**	**63.77**	**299**	P		**P**		**13 52 38.4**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=41,slow=2.7,SNR=9.4								
OBN	**Obninsk**	**67.89**	**323**	*e*P		**P**		**13 53 03.1**	**-1.2**
OBN				pmax		pmax			
	comp=Z,8.0nm,1.0s								
FINES	**FINESS Array B**	**68.56**	**332**	P		**P**		**13 53 08.2**	**-0.2**
	comp=Z,6.6nm,0.7s,baz=64,slow=8.7,SNR=14								
VSU	**Vasula**	**70.22**	**330**	⇓*i*P		**P**		**13 53 19.2**	**+0.5**
VSU				pmax		pmax			
	comp=Z,85nm,2.5s								
KBZ	**Khabaz**	**70.77**	**311**	P		**P**		**13 53 22.1**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=78,slow=4.8,SNR=5.5								
KBZ				LR		LR		14 29 16.7	
	comp=Z,101nm,18.3s,baz=24,slow=40								
KIV	**Kislovodsk**	**70.77**	**311**	*e*P		**P**		**13 53 23.6**	**+1.1**
KIV				pmax		pmax			
	comp=Z,10.0nm,0.6s								
NB2	**NORSAR Subarra**	**73.91**	**337**	P		**P**		**13 53 41.0**	**+0.1**
	comp=Z,5.0nm,0.8s,baz=40,slow=6.2								
NOA	**NORSAR Array B**	**73.91**	**337**	P		**P**		**13 53 41.0**	**+0.1**
	comp=Z,5.0nm,0.8s,baz=43,slow=5.4,SNR=9.1								
NOA	**NORSAR Array B**	**73.91**	**337**	P		**P**		**13 53 41.0**	**+0.1**
AKASG	**Malin Array Be**	**74.09**	**322**	P		**P**		**13 53 41.4**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=47,slow=6.3,SNR=11								
AKASG				LR		LR		14 28 09.7	
	comp=Z,101nm,21.2s,baz=65,slow=37								
AKASG	**Malin Array Be**	**74.09**	**322**	*e*P		**P**		**13 53 41.7**	**-0.4**
KIEV	**Kiev**	**74

WRA	**Warramunga Arr**	**24.56**	**237**	P		**P**	**13 47 43.0**	**+0.3**
	14nm,0.7s,baz=61,slow=9.7,SNR=71							
WRA				PcP		**PcP**	**13 51 20.2**	**+0.2**
	2.3nm,0.7s,baz=65,slow=2.4,SNR=4.6							
MTN	**Manton Dam**	**25.23**	**256**	*e*P		**P**	**13 47 49.0**	**+0.2**
	45nm,1.0s							
AS01	**Alice Springs**	**26.75**	**230**	*e*P		**P**	**13 48 01.9**	**-0.6**
AS31	**Alice Springs**	**26.79**	**230**	*e*P		**P**	**13 48 02.2**	**-0.6**
	1.8nm,0.7s							
ASAR	**Alice Springs**	**26.79**	**230**	P		**P**	**13 48 02.2**	**-0.6**
	2.4nm,1.0s,baz=61,slow=9.2,SNR=25							
ASAR				PcP		**PcP**	**13 51 25.6**	**+0.5**
	2.0nm,0.7s,baz=70,slow=2.8,SNR=4.9							
ASAR				LR		LR	13 58 10.0	
	comp=Z,317nm,19.9s,baz=84,slow=35							
STKA	**Stephens Creek**	**27.87**	**207**	P		**P**	**13 48 13.3**	**+0.8**
	2.0nm,0.8s,baz=7.1,slow=8.1,SNR=3.1							
STKA				LR		LR	13 58 38.6	
	comp=Z,298nm,20.6s,baz=23,slow=35							
MBWA	**Marble Bar**	**37.75**	**245**	*e*P		**P**	**13 49 38.0**	**-0.7**
RPZ	**Rata Peaks**	**38.43**	**163**	P		**P**	**13 49 45.2**	**+1.1**
	12nm,0.8s,baz=110,slow=7.9,SNR=4.3							
TGY	**Tagaytay City**	**40.99**	**301**	LR		LR	14 04 28.4	
	comp=Z,123nm,21.9s,baz=118,slow=32							
KSM	**Kuching**	**46.60**	**279**	*e*P		**P**	**13 50 49.4**	**-1.6**
	17nm,0.8s							
MJAR	**Matsushiro Arr**	**46.87**	**340**	P		**P**	**13 50 53.8**	**+1.1**
	1.9nm,0.9s,baz=176,slow=6.1,SNR=2.5							
MJAR				PcP		**PcP**	**13 52 24.8**	**-0.1**
	0.7nm,0.3s,baz=182,slow=4.1,SNR=4.2							
JNU	**Nakatsue**	**46.95**	**331**	P		**P**	**13 50 52.7**	**-0.6**
	12nm,0.7s,baz=131,slow=7.0,SNR=5.5							
KSRS	**Korea Array**	**51.87**	**331**	P		**P**	**13 51 30.2**	**-0.5**
	4.3nm,0.7s,baz=148,slow=7.5,SNR=30							
KSRS				PcP		**PcP**	**13 52 43.4**	**+0.4**
	0.7nm,0.6s,baz=159,slow=3.6,SNR=5.8							
KS15	**Wonju Array Si**	**51.88**	**331**	*e*P		**P**	**13 51 30.6**	**-0.1**
KSAR	**Wonju Array Be**	**51.88**	**331**	P		**P**	**13 51 30.2**	**-0.5**
KSAR				PcP		**PcP**	**13 52 43.4**	**+0.3**
KS01	**Wonju Array Si**	**51.90**	**331**	*e*P		**P**	**13 51 29.8**	**-1.1**
QIZ	**Qiongzhong**	**52.69**	**301**	P		**P**	**13 51 37.6**	**+0.4**
QIZ				pP		**pP**	**13 51 51.2**	**+0.6**
QIZ				sP		**sP**	**13 51 57.4**	**+1.1**
QIZ				S		**S**	**13 59 02.7**	**+1.0**
QIZ				sS		**sS**	**13 59 24.0**	**-0.3**
QIZ				PMZ				
	5.0nm,0.7s							
QIZ				LN				
	230nm,11.8s							
QIZ				LE				
	290nm,13.1s							
QIZ				LZ				
	280nm,12.7s							
PPT2	**Papeete2**	**53.75**	**106**	*e*LR		LR	14 07 19.2	
	94nm,22.2s							
TBI	**Tubuai**	**54.43**	**113**	*e*LR		LR	14 07 36.7	
	189nm,33.0s							
WHN	**Wuhan**	**55.06**	**315**	P		**P**	**13 51 54.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**55.84**	**339**	P		**P**	**13 52 00.2**	**+0.6**
	12nm,1.3s,baz=154,slow=43,SNR=4.3							
ENH	**Enshi**	**58.39**	**312**	*e*P		**P**	**13 52 16.3**	**-1.7**
BJI	**Beijing**	**59.94**	**325**	P		**P**	**13 52 30.0**	**+1.6**
BJI				PMZ				
	8.0nm,0.5s							
PEA0	**Petropavlovsk-**	**60.31**	**1**	*e*P		**P**	**13 52 30.6**	**-0.2**
PETK	**Petropavlovsk-**	**60.31**	**1**	P		**P**	**13 52 30.7**	**-0.1**
	3.9nm,0.8s,baz=150,slow=7.0,SNR=8.0							
PETK				LR		LR	14 15 14.0	
	comp=Z,140nm,21.6s,baz=167,slow=33							
KLR	**Kul'dur**	**60.33**	**342**	P		**P**	**13 52 30.9**	**-0.1**
	0.7nm,0.5s,baz=137,slow=10,SNR=5.4							
KMI	**Kunming**	**61.23**	**304**	P		**P**	**13 52 38.5**	**+0.7**
KMI				PMZ				
	12nm,0.8s							
KMI				PMZ				
	100nm,4.9s							
CM01	**Chiang Mai Arr**	**62.00**	**295**	*e*P		**P**	**13 52 42.6**	**-0.2**
CM31	**Chiang Mai Arr**	**62.03**	**295**	*e*P		**P**	**13 52 44.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**62.03**	**295**	P		**P**	**13 52 43.2**	**+0.1**
	6.3nm,0.9s,baz=111,slow=5.2,SNR=21							
CHTO	**Chiang Mai**	**62.14**	**296**	*e*P		**P**	**13 52 42.6**	**-1.2**
	24nm,1.1s							
HHC	**Hu-ho-hao-te**	**63.13**	**323**	*e*P		**P**	**13 52 52.1**	**+1.9**
HHC				pP		sP	13 53 08.5	-1.1
HHC				sP		pP	13 53 15.3	+11
HHC				S		**S**	**14 01 17.5**	**-0.4**
HHC				PMZ				
	24nm,1.0s							
HHC				PMZ				
	74nm,6.8s							
HHC				LN				
	95nm,17.6s							
HHC				LE				
	180nm,13.2s							
HHC				LZ				
	99nm,14.2s							
LZH	**Lanzhou**	**65.44**	**315**	*e*P		P	13 53 10.8	+5.3
LZH				pP		sP	13 53 26.6	+1.7
LZH				PMZ				
	12nm,1.0s							
MA2	**Magadan**	**66.92**	**357**	LR		LR	14 21 52.4	
	comp=Z,66nm,19.1s,baz=158,slow=35							
GTA	**Gaotai**	**69.85**	**317**	*e*P		**P**	**13 53 34.0**	**+0.8**
GTA				pP		pP	13 53 44.1	-3.1
GTA				PMZ				
	7.0nm,1.1s							
ULN	**Ulaanbaatar**	**69.99**	**327**	*e*P		**P**	**13 53 33.4**	**-0.5**
	21nm,1.1s							
VNDA	**Vanda**	**70.13**	**179**	P		**P**	**13 53 35.0**	**+1.0**
	5.8nm,0.8s,baz=332,slow=6.4,SNR=37							
VNDA				LR		LR	14 19 05.0	
	comp=Z,67nm,18.9s,baz=15,slow=31							
VNDA	**Vanda**	**70.13**	**179**	*e*P		**P**	**13 53 34.9**	**+0.9**
	6.9nm,0.8s							
SEY	**Seymchan**	**70.21**	**358**	P		**P**	**13 53 34.7**	**0.0**
	3.5nm,0.9s,baz=158,slow=5.8,SNR=8.3							
SONM	**Songino Array**	**70.33**	**327**	P		**P**	**13 53 36.3**	**+0.4**
	11nm,0.9s,baz=125,slow=5.4,SNR=43							
SONA1	**Songino Array**	**70.33**	**327**	*e*P		**P**	**13 53 36.1**	**+0.1**
SHL	**Shillong**	**70.52**	**300**	*e*P		P	13 53 30.0	-7.6
SHL				*e*P		P	13 53 30.0	-7.6
SBA	**Scott Base**	**70.61**	**178**	*e*P		**P**	**13 53 37.1**	**+0.2**
	7.5nm,0.9s							
LSA	**Lhasa**	**72.48**	**304**	*e*P		**P**	**13 53 49.1**	**-0.6**
	5.5nm,0.8s							
TLY	**Talaya**	**74.03**	**329**	P		**P**	**13 53 57.6**	**-0.2**
	8.0nm,0.7s,baz=270,slow=3.0,SNR=3.2							
BILL	**Bilibino**	**75.62**	**4**	*e*P		**P**	**13 54 05.7**	**-0.9**
	11nm,1.0s							
PKIN	**Phulchoki**	**76.66**	**301**	*e*P		**P**	**13 54 11.7**	**-2.1**
	14nm,0.7s							
KKN	**Kakani**	**76.82**	**301**	*e*P		**P**	**13 54 13.0**	**-1.6**
	4.2nm,0.3s							
DMN	**Daman**	**76.92**	**300**	*e*P		**P**	**13 54 15.0**	**-0.2**
	42nm,0.8s							
GKN	**Gorkha**	**77.42**	**301**	*e*P		**P**	**13 54 17.4**	**-0.5**
	50nm,0.9s							
KOLN	**Koldanda**	**78.25**	**300**	*e*P		**P**	**13 54 21.3**	**-1.3**
	13nm,0.7s							
PYUN	**Piuthan**	**78.86**	**300**	*e*P		**P**	**13 54 24.8**	**-1.1**
	13nm,0.4s							
WMQ	**Urumqi**	**79.94**	**317**	P		**P**	**13 54 31.9**	**+0.6**
WMQ				pP		sP	13 54 48.9	-2.1
WMQ				sP		pP	13 54 54.4	+8.9
WMQ				PMZ				
	6.0nm,1.2s							
WMQ				PMZ				
	67nm,4.2s							
WMQ				LN				
	31nm,19.4s							
WMQ				LE				
	31nm,19.4s							
WMQ				LZ				
	51nm,18.4s							
CAST	**Castle Rocks**	**80.70**	**21**	*e*P		**P**	**13 54 34.2**	**-0.6**
	5.4nm,0.8s							
SML	**Sawmill**	**81.15**	**23**	*e*P		**P**	**13 54 38.4**	**+1.1**
	11nm,1.0s							
KTH	**Kantishna Hill**	**81.19**	**21**	*e*P		**P**	**13 54 34.1**	**-3.4**
	3.1nm,0.9s							
TRF	**Thorofare Moun**	**81.36**	**21**	*e*P		**P**	**13 54 36.8**	**-1.8**
	4.3nm,0.8s							
MCK	**McKinley**	**82.02**	**22**	*e*P		**P**	**13 54 40.5**	**-1.4**
	10.0nm,0.9s							
QSPA	**South Pole Qui**	**82.56**	**180**	*e*P		**P**	**13 54 45.5**	**+0.6**
CCB	**Clear Creek Bu**	**82.94**	**21**	*e*P		**P**	**13 54 45.4**	**-1.2**
	3.9nm,1.0s							
IL1	**Eielson Array**	**83.34**	**21**	*e*P		**P**	**13 54 46.2**	**-2.5**
ILAR	**Eielson Array**	**83.34**	**21**	P		**P**	**13 54 48.0**	**-0.6**
	1.3nm,0.7s,baz=231,slow=5.9,SNR=9.4							
ILAR				LR		LR	14 27 33.3	
	comp=Z,103nm,20.2s,baz=262,slow=32							
DOT	**Dot Lake**	**83.80**	**23**	*e*P		**P**	**13 54 48.5**	**-2.6**
	14nm,1.0s							
MAW	**Mawson**	**84.45**	**203**	P		**P**	**13 54 55.2**	**+0.9**
	12nm,0.9s,baz=88,slow=7.2,SNR=21							
MAW	**Mawson**	**84.45**	**203**	*e*P		**P**	**13 54 54.3**	**0.0**
	3.9nm,1.0s							
MK01	**Makanchi Array**	**84.49**	**318**	*e*P		**P**	**13 54 54.6**	**-0.4**
MK31	**Makanchi Array**	**84.50**	**318**	*e*P		**P**	**13 54 55.1**	**+0.1**
MKAR	**Makanchi Array**	**84.50**	**318**	P		**P**	**13 54 55.0**	**-0.1**
	45nm,0.7s,baz=104,slow=5.8,SNR=215							
MKAR	**Makanchi Array**	**84.50**	**318**	*e*P		**P**	**13 54 55.1**	**+0.1**
MAKZ	**Makanchi**	**84.71**	**318**	*e*P		**P**	**13 54 56.0**	**-0.1**
	55nm,0.8s							
ZAA0	**Zalesovo Array**	**85.19**	**326**	*e*P		**P**	**13 54 57.2**	**-1.1**
ZALV	**Zalesovo Beam**	**85.19**	**326**	P		**P**	**13 54 57.1**	**-1.2**
	18nm,0.6s,baz=115,slow=5.5,SNR=60							
KSH	**Kashi**	**87.18**	**310**	P		**P**	**13 55 09.8**	**+1.2**
KSH				pP		sP	13 55 26.2	-2.2
KSH				PP		**PP**	**13 58 35.6**	**+2.6**
KSH				S		**S**	**14 05 43.3**	**-1.5**
KSH				SS		**SS**	**14 11 33.3**	**+3.6**
KSH				PMZ				
	5.0nm,0.6s							
KSH				PMZ				
	68nm,3.6s							
KSH				LN				
	62nm,6.3s							
KSH				LE				
	110nm,5.5s							
KSH				LZ				
	140nm,15.6s							
KURK	**Kurchatov**	**87.89**	**322**	*e*P		**P**	**13 55 08.9**	**-2.6**
	53nm,1.1s							
TKM2	**Tokmak 2**	**88.16**	**314**	*e*P		**P**	**13 55 12.6**	**-0.7**
	9.7nm,0.7s							
AAK	**Ala-Archa**	**88.90**	**313**	*e*P		**P**	**13 55 15.7**	**-1.0**
	7.3nm,0.7s							
EKS2	**Erkin-Say**	**89.42**	**313**	*e*P		**P**	**13 55 17.6**	**-1.5**
	6.0nm,0.8s							
NRIK	**Noril'sk**	**89.52**	**341**	P		**P**	**13 55 19.1**	**+0.2**
	2.2nm,0.6s,baz=111,slow=6.4,SNR=3.0							
INK	**Inuvik**	**89.71**	**20**	P		**P**	**13 55 19.5**	**-0.1**
	1.5nm,0.8s,baz=194,slow=2.9,SNR=4.2							
NVAR	**Mina Array Bea**	**91.06**	**52**	P		**P**	**13 55 28.7**	**+1.7**
	0.3nm,0.5s,baz=243,slow=6.0,SNR=3.0							
NVAR				LR		LR	14 29 59.8	
	comp=Z,40nm,21.3s,baz=271,slow=31							
KKAR	**Karatay Array**	**91.86**	**313**	*e*P		**P**	**13 55 29.7**	**-0.6**
BRVK	**Borovoye**	**93.41**	**323**	*e*P		**P**	**13 55 34.4**	**-2.9**
	31nm,1.1s							
ZRNK	**Zerenda**	**94.16**	**323**	*e*P		**P**	**13 55 38.7**	**-2.0**
	5.7nm,0.8s							
YKA	**Yellowknife Ar**	**96.17**	**28**	P		**P**	**13 55 49.3**	**-0.3**
	1.0nm,0.9s,baz=267,slow=4.6,SNR=7.3							
PDAR	**Pinedale Array**	**98.11**	**48**	P		Pdif	13 55 59.9	+0.6
	0.2nm,0.4s,baz=269,slow=3.6,SNR=3.0							
PDAR				LR		LR	14 36 40.0	
	comp=Z,80nm,18.8s,baz=294,slow=33							
AKASG	**Malin Array Be**	**118.57**	**325**	PKP		**PKPdf**	**14 01 08.9**	**-0.7**
	0.4nm,0.3s,baz=60,slow=2.0,SNR=5.3							
BRTR	**Keskin Array B**	**119.54**	**312**	PKP		**PKPdf**	**14 01 11.2**	**-0.9**
	0.9nm,0.7s,baz=127,slow=3.3,SNR=5.6							
KOLS	**Kolonicke sedl**	**123.37**	**325**	*e*PKP		**PKPdf**	**14 01 19.9**	**+0.9**
BRG	**Berggiesshubel**	**126.59**	**331**	*e*PKP		**PKPdf**	**14 01 25.0**	**-0.1**
	4.3nm,0.9s							
CLL	**Collm**	**126.74**	**332**	*e*PKPdf		**PKPdf**	**14 01 25.0**	**-0.4**
	comp=Z,5.0nm,1.3s							
KHC	**Kasperske Hory**	**127.90**	**330**	*e*PKPdf		**PKPdf**	**14 01 28.2**	**+0.5**
KHC				*ep*PKP		**pPKPdf**	**14 01 39.4**	**-3.3**
GERES	**GERESS Array B**	**128.02**	**329**	PKP		**PKPdf**	**14 01 28.1**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=85,slow=1.6,SNR=12							
LPAZ	**La Paz**	**130.22**	**119**	PKP		**PKPdf**	**14 01 34.4**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=313,slow=1.9,SNR=8.1							
CPUP	**Villa Florida**	**133.27**	**137**	PKP		**PKPdf**	**14 01 38.1**	**-0.4**
	comp=Z,4.3nm,1.0s,baz=34,slow=2.5,SNR=5.0							
ESDC	**Sonseca Array**	**143.27**	**334**	PKhKP	PKPpre		14 01 53.6	
	comp=Z,2.2nm,0.8s,baz=26,slow=3.3,SNR=10.0							
PVIS	**Viseu**	**143.93**	**339**	*e*PKP	PKPbc		14 01 55.8	+0.3
MTE	**Manteigas**	**144.08**	**339**	*e*PKP	PKPbc		14 01 56.3	+0.3
PCBR	**Castelo Branco**	**144.55**	**338**	*e*PKP	PKPbc		14 01 57.6	+0.2
PMRV	**Marv??o**	**144.88**	**338**	*e*PKP	**PKPab**		**14 01 58.2**	**-0.2**
PTOM	**Tomar**	**145.08**	**339**	*e*PKP	**PKPdf**		**14 01 59.9**	**+0.3**
PESTR	**Estremoz**	**145.44**	**337**	*e*PKP	**PKPbc**		**14 02 00.1**	**-0.2**
PMTG	**Montargil**	**145.50**	**338**	*e*PKP	**PKPdf**		**14 02 00.3**	**-0.1**
PBAR	**Barrancos**	**145.82**	**336**	*e*PKP	**PKPdf**		**14 02 01.1**	**+0.2**
EVO	**Evora**	**145.90**	**338**	*e*PKP	**PKPbc**		**14 02 01.6**	**-0.1**
PMAFR	**Mafra**	**145.98**	**340**	*e*PKP	**PKPab**		**14 02 02.3**	**-0.2**
PBEJ	**Beja**	**146.28**	**337**	*e*PKP	**PKPab**		**14 02 03.3**	**-0.3**
PNCL	**Nicolau / Gran**	**146.46**	**338**	*e*PKP	**PKPbc**		**14 02 03.6**	**+0.2**
MESJ	**Messejana**	**146.58**	**337**	*e*PKP	**PKPbc**		**14 02 04.1**	**+0.4**
PCVE	**Castro Verde**	**146.69**	**337**	*e*PKP	**PKPbc**		**14 02 04.3**	**+0.2**
PVAQ	**Vaqueiros**	**146.76**	**336**	*e*PKP	**PKPbc**		**14 02 04.6**	**+0.3**
BDFB	**Brasilia**	**146.84**	**134**	PKPbc	**PKPbc**		**14 02 05.4**	**+0.2**
	comp=Z,28nm,0.8s,baz=244,slow=1.5,SNR=30							
PBDV	**Barranco-do-Ve**	**146.99**	**336**	*e*PKP	**PKPab**		**14 02 06.3**	**-0.1**
PTEO	**Sao Teotonio**	**147.03**	**338**	*e*PKP	**PKPbc**		**14 02 05.7**	**+0.7**
MORF	**Marmelete**	**147.21**	**337**	*e*PKP	**PKPbc**		**14 02 06.2**	**+0.6**
TAM	**Tamanrasset**	**147.91**	**302**	*e*PKPbc	**PKPbc**		**14 02 08.3**	**+0.2**
PMAR	**Madeira**	**154.02**	**347**	*e*PKP	**PKPdf**		**14 02 15.8**	**+1.6**
TORD	**Torodi Ar. Bea**	**154.27**	**285**	PKP	**PKPdf**		**14 02 14.0**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=41,slow=2.1,SNR=4.8							
TORD				PKPbc	**PKPbc**		**14 02 22.5**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=70,slow=2.2,SNR=18							
DBIC	**Dimbokro**	**161.16**	**269**	PKPab	**PKPab**		**14 03 06.9**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=12,slow=14,SNR=4.6							

*CSEM **10** 13:49:14.6, 38.62N×23.72E, h14km, ML1.5/2*
ATH 10 13:49:14.6, 38.62N×23.72E, h14km±10km, ML1.5/2, Error ellipse: s-maj=10.3km s-min=1.5km az=118.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EREA	**Eretria**	**0.27**	**140**	P	Pg	13 49 20.2	0.0
EREA				S	Sg	13 49 24.6	+0.5
EREA	**Eretria**	**0.27**	**140**	P	Pg	13 49 20.2	0.0
EREA				S	Sg	13 49 24.6	+0.5
EREA				AML	AML	13 49 25.6	
	comp=E,270μm,0.3s						
EREA				AML	AML	13 49 26.6	
	comp=N,203μm,0.2s						
VIL2	**Platees**	**0.54**	**221**	P	Pg	13 49 25.1	-0.2
VIL2				S	Sg	13 49 32.6	+0.1
ATAL	**Atalanti**	**0.55**	**277**	P	Pb	13 49 26.0	0.0
ATAL	**Atalanti**	**0.55**	**277**	P	Pb	13 49 26.1	+0.1
VILL	**Villia**	**0.56**	**215**	P	Pg	13 49 25.1	-0.5
VILL				S	Sg	13 49 32.6	-0.4
AOS	**Alonnisos**	**0.56**	**13**	P	Pg	13 49 24.4	-1.2
AOS	**Alonnisos**	**0.56**	**13**	P	Pg	13 49 24.4	-1.2
LKR	**Lokris**	**0.56**	**273**	P	Pb	13 49 26.0	-0.2
LKR	**Lokris**	**0.56**	**273**	P	Pb	13 49 25.9	-0.2
DID	**Didima**	**1.18**	**199**	P	Pg	13 49 37.2	-0.1
DID	**Didima**	**1.18**	**199**	P	Pg	13 49 37.2	-0.1
DID				AML	AML	13 49 55.7	
	comp=N,39μm,0.4s						
DID				AML	AML	13 49 56.3	
	comp=E,65μm,0.3s						

*CSEM **10** 13:50:30.3, 47.06N×15.05E, h0km, ML1.1/5, Suspected Mining explosion.*
VIE 10 13:50:30.3±0.6, 47.06N×15.05E, h0km, mb0.8/2, ML1.1/5, Error ellipse: s-maj=5.1km s-min=3.9km az=154.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.38**	**59**	Pg	Pg	13 50 37.1	-0.5
	0.3nm,0.1s						
ARSA				Sg	Sg	13 50 42.1	-0.4
	2.9nm,0.1s						
SOKA	**Soboth**	**0.38**	**181**	Pg	Pg	13 50 38.0	+0.5
	2.5nm,0.2s						
SOKA				Sg	Sg	13 50 43.3	+0.9
	1.3nm,0.1s						
OBKA	**Obir**	**0.65**	**212**	Pg	Pg	13 50 43.3	+0.7
	1.6nm,0.1s						
MOA	**Molln**	**0.95**	**327**	Pg	Pn	13 50 50.7	-0.3
	0.5nm,0.1s						
MOA				Sg	Sb	13 51 03.3	+0.4
	0.8nm,0.1s						
KBA	**Koelnbreinsper**	**1.16**	**272**	Sg	Sg	13 51 07.6	-0.1
	0.7nm,0.2s						

*IDC **10** 13:53:03.1±2.0, 36.96N×141.84E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.2/38, mbtmp3.3/4, ML2.9/2, Error ellipse: s-maj=45.4km s-min=26.3km az=122.0*
*ISCJB **10** 13:53:06.5±1.7, 37.37N±0.07×141.65E±0.10, h18km±11km, mb3.2/2, Error ellipse: s-maj=15.7km s-min=7.3km az=38.5*
*JMA **10** 13:53:07.7±0.1, 37.39N×141.56E, h18km±3km, M3.4*
ISC 10 13:53:06.7±2.2, 37.41N±0.06×141.62E±0.09, h9km±11km, n16, σ0.940/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.59**	**266**	P	**Pg**	**13 53 18.3**	**+0.2**
JFK				S	**Sg**	**13 53 26.1**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.72**	**245**	P	**Pg**	**13 53 20.6**	**0.0**
ONAJ				S	**Sg**	**13 53 29.6**	**-0.4**
JMM	**Marumori**	**0.80**	**305**	P	**Pg**	**13 53 22.1**	**+0.1**
JMM				S	**Sg**	**13 53 33.1**	**+0.7**
JFT	**Otama**	**1.02**	**276**	P	**Pb**	**13 53 26.2**	**-0.3**
JFT				S	**Sb**	**13 53 39.6**	**-0.5**
JIO	**Ouri**	**1.06**	**349**	P	**Pn**	**13 53 27.2**	**-0.5**
JIO				S	**Sb**	**13 53 41.1**	**-0.2**
MJAR	**Matsushiro Arr**	**2.86**	**253**	Pn	**Pn**	**13 53 52.7**	**+0.2**
	0.9nm,0.3s,baz=77,slow=16,SNR=8.0						
MJAR				Sn	**Sb**	**13 54 32.8**	**-0.2**
	1.5nm,0.3s,baz=79,slow=20,SNR=4.9						
MAT	**Matsushiro**	**2.86**	**253**	P	**Pn**	**13 53 52.5**	**0.0**
MAT				S	**Sn**	**13 54 27.5**	**+0.4**
JHJ	**Hachijo jima 2**	**4.54**	**200**	Pn	Pn	13 54 07.6	-7.9
	3.3nm,0.3s,baz=239,slow=23,SNR=1.8						
JHJ				Sn	Sn	13 54 57.9	-10
	5.0nm,0.3s,baz=47,slow=21,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	14 28 25.9	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.21**	**122**	T	T	14 28 29.7	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.22**	**122**	T	T	14 28 30.9	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	14 29 21.7	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	14 29 22.3	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**28.95**	**124**	T	T	14 29 23.8	
	baz=318						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**14 01 14.6**	**-0.2**
	0.4nm,0.7s,baz=81,slow=8.9,SNR=2.5						
ILAR	**Eielson Array**	**49.09**	**33**	P	**P**	**14 01 54.4**	**+0.5**
	0.2nm,0.7s,baz=260,slow=5.3,SNR=1.9						

*IDC **10** 14:12:42.8±0.6, 36.52N×143.89E, h0km, mb4.0/19, mb1 4.2/24, mb1mx4.1/48, mbtmp4.1/24, ML3.5/5, MS3.1/4, Ms1 3.1/4, ms1mx2.6/51, Error ellipse: s-maj=16.2km s-min=14.2km az=128.0*
*NEIC **10** 14:12:44.2±0.5, 36.66N×143.84E, h10km, mb4.5/4, Error ellipse: s-maj=11.0km s-min=8.6km az=134.0*
*ISCJB **10** 14:12:46.0±0.4, 36.63N±0.03×143.65E±0.04, h33km, mb4.1/23, MS3.1/2, Error ellipse: s-maj=5.3km s-min=4.2km az=146.4*
*JMA **10** 14:12:45.6±0.2, 36.66N×143.70E, h48km, M4.1*
ISC 10 14:12:48.3±0.6, 36.67N±0.05×143.67E±0.07, h35km, n65, σ1.986/71, mb4.1/23, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.34**	**281**	P	**Pn**	**14 13 23.2**	**-1.2**
JFK	**Kawauchi**	**2.34**	**288**	P	**Pn**	**14 13 23.0**	**-1.4**
JFK				*e*S	**Sn**	**14 13 50.7**	**-1.2**
CHOJ	**Chosi**	**2.47**	**248**	P	**Pn**	**14 13 25.1**	**-1.0**
CHOJ				*e*S	**Sn**	**14 13 54.4**	**-0.6**
JHO	**Hitachi**	**2.49**	**270**	P	**Pn**	**14 13 25.1**	**-1.3**
JFT	**Otama**	**2.80**	**289**	P	**Pn**	**14 13 30.3**	**-0.3**
JFT				*e*S	**Sn**	**14 14 03.1**	**0.0**
BSO1	**Boso 1**	**2.97**	**228**	P	**Pn**	**14 13 31.6**	**-0.9**
BSO1				X		14 14 06.0	
JMK	**Ichinoseki**	**2.99**	**320**	P	**Pn**	**14 13 32.6**	**-0.6**
JMK				*e*S	**Sn**	**14 14 07.3**	**-0.6**
JOM	**Ohasama**	**3.37**	**327**	P	**Pn**	**14 13 38.2**	**-0.2**
JAG	**Ashikaga**	**3.40**	**267**	P	**Pn**	**14 13 38.2**	**-0.7**
JAG				S	**Sn**	**14 14 17.0**	**-1.1**
JYK	**Kaneyama**	**3.45**	**312**	P	**Pn**	**14 13 38.9**	**-0.7**
JRY	**Ryogami san**	**3.90**	**262**	P

WRAB	**Tennant Creek**	**56.98**	**190**	*eP*	**P**	**14 22 29.0**	**-1.4**
WRA	**Warramunga Arr**	**56.99**	**190**	P	**P**	**14 22 28.9**	**-1.6**
	2.4nm,0.7s,baz=12,slow=7.4,SNR=14						
ARU	**Arti**	**57.83**	**319**	LR	LR	14 51 29.0	
	comp=Z,43nm,18.1s,baz=38,slow=40						
ABKAR	**Akbulak array**	**59.55**	**311**	*eP*	**P**	**14 22 47.6**	**-0.6**
	3.5nm,0.7s						
ASAR	**Alice Springs**	**60.71**	**190**	P	**P**	**14 22 55.0**	**-1.3**
	0.9nm,0.7s,baz=13,slow=8.5,SNR=9.0						
YKA	**Yellowknife Ar**	**63.21**	**31**	P	**P**	**14 23 12.1**	**-0.5**
	0.4nm,0.7s,baz=301,slow=7.2,SNR=3.6						
GEYT	**Alibeck**	**65.59**	**300**	P	**P**	**14 23 30.6**	**+2.0**
	2.5nm,0.7s,baz=34,slow=5.6,SNR=5.1						
STKA	**Stephens Creek**	**68.22**	**182**	P	**P**	**14 23 44.6**	**-0.5**
	3.1nm,0.7s,baz=351,slow=6.7,SNR=6.7						
FINES	**FINESS Array B**	**69.97**	**333**	P	**P**	**14 23 55.7**	**-0.1**
	1.6nm,0.7s,baz=46,slow=8.2,SNR=6.5						
KBZ	**Khabaz**	**72.50**	**312**	P	**P**	**14 24 13.5**	**+2.1**
	2.0nm,0.7s,baz=26,slow=4.4,SNR=4.7						
NVAR	**Mina Array Bea**	**73.75**	**54**	P	**P**	**14 24 18.9**	**-0.3**
	1.1nm,0.7s,baz=292,slow=7.0,SNR=9.0						
NB2	**NORSAR Subarra**	**75.21**	**338**	P	**P**	**14 24 27.8**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**75.21**	**338**	P	**P**	**14 24 27.6**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=38,slow=5.7,SNR=6.9						
AKASG	**Malin Array Be**	**75.68**	**323**	P	**P**	**14 24 30.8**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=47,slow=5.5,SNR=7.0						
PDAR	**Pinedale Array**	**76.62**	**46**	P	**P**	**14 24 35.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=308,slow=4.4,SNR=3.0						
BRTR	**Keskin Array B**	**80.44**	**313**	P	**P**	**14 24 59.4**	**+2.8**
	comp=Z,0.6nm,0.6s,baz=145,slow=4.5,SNR=4.3						
TXAR	**Lajitas Array**	**88.89**	**54**	P	**P**	**14 25 39.1**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=310,slow=3.2,SNR=14						

IDC 10 14:16:39.6±1.4, 6.88S×150.56E, *h*41km±8km, mb3.4/4, mb1 3.8/5, mb1mx3.4/34, mbtmp3.7/5, ML1.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/25, Error ellipse: s-maj=78.8km s-min=13.8km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.20**	**233**	P	Pn	14 17 42.0	+0.8
	2.4nm,0.3s,baz=30,slow=12,SNR=4.1						
PMG				S	Sn	14 18 29.3	+0.2
	7.0nm,0.3s,baz=270,slow=16,SNR=6.5						
WRA	**Warramunga Arr**	**20.41**	**229**	P	P	14 21 12.5	-0.9
	2.3nm,0.7s,baz=54,slow=11,SNR=20						
ASAR	**Alice Springs**	**23.12**	**222**	P	P	14 21 41.9	-0.5
	0.5nm,0.5s,baz=54,slow=9.0,SNR=9.7						
ASAR				pP	pP	14 21 53.3	+0.5
	0.6nm,0.6s,baz=58,slow=9.4,SNR=4.6						
FITZ	**Fitzroy Crossi**	**26.73**	**243**	P	P	14 22 15.2	-0.3
	4.2nm,1.1s,baz=60,slow=12,SNR=3.9						
NWAO	**Narrogin (SRO)**	**40.35**	**226**	LR	LR	14 40 46.2	
	comp=Z,43nm,18.2s,slow=36						
ILAR	**Eielson Array**	**84.92**	**22**	P	P	14 29 10.1	0.0
	0.4nm,0.8s,baz=241,slow=5.0,SNR=3.5						
ILAR				pP	pP	14 29 21.2	-1.3
	0.3nm,0.7s,baz=236,slow=7.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**148.74**	**284**	PKPbc	PKPbc	14 36 23.9	+0.2
	0.3nm,0.4s,baz=82,slow=2.4,SNR=5.9						
TORD				pPKPbc	pPKPbc	14 36 36.8	+0.2
	0.6nm,0.6s,baz=58,slow=3.0,SNR=4.7						

*ISCJB **10** 14:31:01.5±0.3, 14.97S×171.03E±0.06, h650km, mb4.3/33, Error ellipse: s-maj=8.2km s-min=7.3km az=19.8*
*BJI **10** 14:31:01.6, 14.78S×171.09E, h648km, mb4.3/29, mB4.6/18*
*NEIC **10** 14:31:02.9±0.6, 14.90S×171.04E, h660km±11km, mb4.8/16, Error ellipse: s-maj=10.4km s-min=9.4km az=97.0*
*IDC **10** 14:31:03.5±1.7, 15.00S×171.11E, h662km±23km, mb3.6/18, mb1 3.8/21, mb1mx3.7/30, mbtmp4.7/21, Error ellipse: s-maj=14.8km s-min=11.6km az=83.0*

ISC 10 14:31:02.8±0.4, 14.92S±0.06×171.02E±0.07, h650km, n67, σ1s20/78, mb4.6/33, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.31**	**113**	*eP*	**P**	**14 32 58.6**	**+0.7**
DZM	**Mont Dzumac**	**8.33**	**211**	P	**P**	**14 33 09.5**	**+2.5**
	22nm,0.3s,baz=242,slow=5.5,SNR=167						
DZM	**Mont Dzumac**	**8.33**	**211**	*eP*	**P**	**14 33 08.1**	**+1.2**
DZM				*eS*	**S**	**14 34 48.1**	**-0.5**
FUNA	**Funafuti**	**10.22**	**52**	*eP*	**P**	**14 33 24.5**	**-0.4**
HNR	**Honiara**	**12.12**	**296**	P	**P**	**14 33 43.3**	**+0.6**
	55nm,0.3s,baz=196,slow=5.7,SNR=29						
HNR	**Honiara**	**12.12**	**296**	*eP*	**P**	**14 33 42.0**	**-0.7**
HNR	**Honiara**	**12.12**	**296**	*eP*	**P**	**14 33 41.1**	**-1.6**
AFI	**Afiamalu**	**16.70**	**89**	P	**P**	**14 34 24.6**	**-0.2**
	5.2nm,0.3s,baz=239,slow=7.7,SNR=8.0						
EIDS	**Eidsvold**	**21.38**	**238**	*eP*	**P**	**14 35 05.8**	**-0.9**
	53nm,1.4s						
PMG	**Port Moresby**	**23.95**	**281**	P	**P**	**14 35 31.6**	**+2.0**
	10.0nm,0.6s,baz=104,slow=2.9,SNR=9.2						
CTA	**Charters Tower**	**24.15**	**254**	P	**P**	**14 35 32.5**	**+1.1**
	7.1nm,0.5s,baz=84,slow=11,SNR=18						
MANU	**Manus Island**	**26.62**	**297**	*eP*	**P**	**14 35 54.2**	**+1.1**
	126nm,1.3s						
THZ	**Tophouse**	**26.79**	**177**	*eP*	**P**	**14 35 53.9**	**-0.3**
	142nm,1.9s						
RPZ	**Rata Peaks**	**28.70**	**180**	P	**P**	**14 36 09.8**	**-0.9**
	8.7nm,0.4s,baz=160,slow=1.4,SNR=16						
RPZ	**Rata Peaks**	**28.70**	**180**	*eP*	**P**	**14 36 09.9**	**-0.7**
DCZ	**Deep Cove**	**30.62**	**185**	*eP*	**P**	**14 36 26.9**	**-0.2**
	29nm,0.9s						
STKA	**Stephens Creek**	**31.69**	**233**	P	**P**	**14 36 37.8**	**+1.4**
	24nm,0.3s,baz=55,slow=6.9,SNR=213						
STKA	**Stephens Creek**	**31.69**	**233**	*eP*	**P**	**14 36 37.8**	**+1.4**
	14nm,1.1s						
JAY	**Jayapura**	**32.34**	**290**	P	**P**	**14 36 43.0**	**+0.9**
	1.0nm,0.5s,baz=93,slow=21,SNR=5.4						
WB2	**Warramunga Arr**	**35.29**	**257**	*eP*	**P**	**14 37 06.4**	**-0.1**
	34nm,0.8s						
WRAB	**Tennant Creek**	**35.29**	**257**	*eP*	**P**	**14 37 05.4**	**-1.1**
	30nm,0.6s						
WRAB				*eS*	**S**	**14 41 54.9**	**-2.1**
WRA	**Warramunga Arr**	**35.30**	**257**	P	**P**	**14 37 06.6**	**0.0**
	23nm,0.6s,baz=87,slow=8.5,SNR=259						
AS01	**Alice Springs**	**35.96**	**250**	*eP*	**P**	**14 37 12.0**	**0.0**
AS01				*eS*	**S**	**14 42 04.6**	**-2.3**
AS31	**Alice Springs**	**36.00**	**250**	*eP*	**P**	**14 37 12.6**	**+0.2**
	24nm,0.5s						
ASAR	**Alice Springs**	**36.00**	**250**	P	**P**	**14 37 12.8**	**+0.4**
	46nm,0.5s,baz=77,slow=9.2,SNR=952						
ASAR				PcP	**PcP**	**14 39 19.4**	**-0.7**
	1.3nm,0.5s,baz=74,slow=4.1,SNR=5.6						
BBOO	**Buckleboo**	**36.37**	**234**	*eP*	**P**	**14 37 15.3**	**+0.1**
	76nm,0.7s						
FITZ	**Fitzroy Crossi**	**43.54**	**259**	P	**P**	**14 38 13.1**	**+1.0**
	14nm,0.4s,baz=91,slow=9.7,SNR=13						
FITZ	**Fitzroy Crossi**	**43.54**	**259**	*eP*	**P**	**14 38 11.5**	**-0.6**
	99nm,1.7s						
MBWA	**Marble Bar**	**48.99**	**255**	*eP*	**P**	**14 38 53.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**51.77**	**240**	P	**P**	**14 39 12.8**	**-0.1**
	27nm,0.6s,baz=330,slow=6.6,SNR=33						
NWAO	**Narrogin (SRO)**	**51.77**	**240**	*eP*	**P**	**14 39 12.0**	**-0.9**
	38nm,0.8s						
MJAR	**Matsushiro Arr**	**59.83**	**330**	P	**P**	**14 40 08.0**	**0.0**
	8.2nm,0.9s,baz=160,slow=6.9,SNR=21						
MAJO	**Matsushiro**	**59.83**	**330**	*eP*	**P**	**14 40 07.0**	**-1.0**
	25nm,1.3s						
MAT	**Matsushiro**	**59.83**	**330**	P	**P**	**14 40 08.2**	**+0.2**
MAT				S	**S**	**14 47 27.6**	**-4.1**
MJB9	**Matsu-Tunnel**	**59.83**	**330**	*eP*	**P**	**14 40 07.4**	**-0.7**
	6.8nm,1.3s						
VNDA	**Vanda**	**62.78**	**182**	P	**P**	**14 40 26.3**	**-0.2**
	1.4nm,0.7s,baz=2.4,slow=6.2,SNR=12						
SBA	**Scott Base**	**62.98**	**181**	*eP*	**P**	**14 40 28.4**	**+0.7**
	17nm,0.9s						
ASAJ	**Asahikawa**	**64.22**	**338**	*eP*	**P**	**14 40 34.6**	**-1.5**
	6.6nm,1.2s						
CASY	**Casey**	**64.74**	**203**	*eP*	**P**	**14 40 36.2**	**-2.8**
	7.1nm,1.3s						
KSRS	**Korea Array**	**65.99**	**323**	P	**P**	**14 40 48.1**	**+0.9**
	2.9nm,0.9s,baz=140,slow=6.5,SNR=12						
KS01	**Wonju Array Si**	**66.03**	**323**	*eP*	**P**	**14 40 48.0**	**+0.6**
PETK	**Petropavlovsk-**	**68.72**	**351**	P	**P**	**14 41 04.2**	**+0.7**
	3.0nm,0.6s,baz=131,slow=4.4,SNR=13						
USRK	**Ussuriysk Ar.**	**68.75**	**331**	P	**P**	**14 41 05.1**	**+1.2**
	4.1nm,0.9s,baz=158,slow=5.3,SNR=10						
QIZ	**Qiongzhong**	**69.02**	**297**	P	**P**	**14 41 06.5**	**+0.5**
QIZ				pP	**pP**	**14 43 14.7**	**+0.2**
QIZ				sP	**sP**	**14 44 21.9**	**+0.5**
QIZ				S	**S**	**14 49 22.5**	**+0.7**
QIZ				PMZ			
	8.0nm,2.2s						
MDJ	**Mudanjiang**	**70.21**	**330**	P	**P**	**14 41 14.0**	**+1.5**
MDJ				PMZ			
	11nm,0.8s						
MDJ				PMZ			
	9.0nm,3.8s						
WHN	**Wuhan**	**70.80**	**310**	P	**P**	**14 41 17.4**	**+1.2**
CN2	**Changchun**	**71.73**	**327**	*eP*	**P**	**14 41 22.1**	**+0.7**
CN2				PMZ			
	10.0nm,0.9s						
BJI	**Beijing**	**74.73**	**319**	P	**P**	**14 41 39.5**	**+1.1**
BJI				PMZ			
	5.0nm,0.7s						
BJI				PMZ			
	99nm,5.5s						
GYA	**Guiyang**	**74.83**	**303**	*eP*	**P**	**14 41 40.0**	**+0.5**
GYA				pP	pP	14 43 53.4	+2.3
GYA				sP	sP	14 44 58.3	+1.2
GYA				S	**S**	**14 50 27.0**	**+0.9**
GYA				SKS	**SKSac**	**14 50 45.6**	**-2.3**
GYA				sS	sS	14 54 21.2	+0.6
GYA				PMZ			
	10.0nm,1.0s						
QSPA	**South Pole Qui**	**75.11**	**180**	*eP*	**P**	**14 41 39.1**	**-1.2**
	48nm,1.1s						
KMI	**Kunming**	**77.51**	**300**	P	**P**	**14 41 55.7**	**+1.4**
KMI				PMZ			
	6.0nm,0.8s						
KMI				PMZ			
	56nm,4.2s						
HHC	**Hu-ho-hao-te**	**78.11**	**318**	*eP*	**P**	**14 41 56.8**	**-0.2**
HHC				pP	pP	14 44 13.1	+2.8
HHC				S	**S**	**14 50 59.1**	**-1.1**
HHC				ScS	**ScS**	**14 51 16.9**	**-1.8**
HHC				PMZ			
	22nm,1.1s						
HHC				PMZ			
	120nm,8.0s						
CMAR	**Chiang Mai Arr**	**78.35**	**293**	P	**P**	**14 42 00.4**	**+1.8**
	1.5nm,0.6s,baz=113,slow=3.7,SNR=9.7						
CD2	**Chengdu**	**79.02**	**306**	*eP*	**P**	**14 42 01.5**	**-0.5**
LZH	**Lanzhou**	**81.16**	**311**	*eP*	**P**	**14 42 15.2**	**+2.2**
LZH				pP	pP	14 44 28.6	+0.8
LZH				sP	sP	14 45 35.6	+2.7
LZH				PMZ			
	15nm,1.0s						
MAW	**Mawson**	**83.05**	**202**	P	**P**	**14 42 21.7**	**0.0**
	3.1nm,0.8s,baz=72,slow=5.6,SNR=5.2						
MAW	**Mawson**	**83.05**	**202**	*eP*	**P**	**14 42 22.0**	**+0.3**
CAST	**Castle Rocks**	**83.15**	**16**	*eP*	**P**	**14 42 21.3**	**-1.0**
NVAR	**Mina Array Bea**	**84.68**	**48**	P	**P**	**14 42 31.0**	**+0.4**
	0.8nm,0.8s,baz=224,slow=6.1,SNR=5.4						
GTA	**Gaotai**	**85.44**	**313**	*eP*	**P**	**14 42 35.5**	**+1.4**
GTA				pP	pP	14 44 54.4	+3.6
GTA				sP	sP	14 45 57.0	+1.6
GTA				PMZ			
	6.0nm,0.9s						
ILAR	**Eielson Array**	**85.63**	**17**	P	**P**	**14 42 32.5**	**-1.7**
	0.5nm,0.6s,baz=230,slow=5.7,SNR=7.4						
ILAR				pP	**pP**	**14 44 51.6**	**+0.6**
	1.5nm,1.0s,baz=230,slow=6.0,SNR=5.5						
WMQ	**Urumqi**	**95.46**	**314**	P	**P**	**14 43 19.1**	**-1.0**
WMQ				PMZ			
	4.0nm,0.6s						
WMQ				PMZ			
	49nm,4.4s						
YKA	**Yellowknife Ar**	**96.07**	**27**	P	**P**	**14 43 22.5**	**+0.2**
	0.2nm,0.5s,baz=254,slow=4.4,SNR=3.7						
NB2	**NORSAR Subarra**	**131.69**	**347**	PKP	**SKPbc**	**14 51 29.5**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=38,slow=3.7						
NOA	**NORSAR Array B**	**131.69**	**347**	SKPbc	**SKPbc**	**14 51 29.7**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=29,slow=2.7,SNR=4.2						
VISS	**Visnje**	**143.27**	**332**	*i* PKPdf	PKPab	14 49 23.0	-0.6
BOJS	**Bojanci**	**143.31**	**331**	*i* PKPdf	PKPab	14 49 23.4	-0.3

*ISCJB **10** 14:34:15.8±0.5, 32.39N±0.06×115.52W±0.04, h5km±12km, Error ellipse: s-maj=10.7km s-min=3.8km az=25.5*
*ECX **10** 14:34:17.6±0.5, 32.40N×115.53W, h5km, MD2.8, ML3.0*
*MEX **10** 14:34:17.0±0.9, 32.50N×115.41W, h11km±92km, MD3.6*

ISC 10 14:34:14.8±1.2, 32.44N±0.04×115.48W±0.03, h16km±11km, n21, σ0s45/31, 10C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.15**	**97**	*eP*	**Pb**	**14 34 19.7**	**+0.5**
CPBX				*eS*	**Sb**	**14 34 22.1**	**-0.1**
CPBX				AML	AML	14 34 22.6	
	comp=E,8μm,0.3s						
CPBX				*e*		14 34 22.6	
CPBX				*e*		14 34 23.8	
CPBX				AML	AML	14 34 23.8	
	comp=N,16μm,0.3s						
MBIG	**Mexicali**	**0.24**	**97**	*eP*	**Pb**	**14 34 21.0**	**+0.3**
MBIG				*i* S	**Sb**	**14 34 24.0**	**-0.7**
ERPC	**Ernies Place**	**0.34**	**333**	*i* P	**Pn**	**14 34 24.2**	**-0.8**
WESC	**Westside Schoo**	**0.39**	**327**	*e* P	**Pn**	**14 34 24.7**	**-1.0**
YUH	**Yuha Desert**	**0.43**	**299**	*i* P	**Pb**	**14 34 24.5**	**+0.6**
COK	**Cook Ranch**	**0.46**	**333**	*i* P	**Pn**	**14 34 26.3**	**-0.4**
EMSC	**East Mesa**	**0.52**	**54**	*i* P	**Pn**	**14 34 27.9**	**+0.4**
COA	**Coachella**	**0.52**	**35**	*i* P	**Pn**	**14 34 27.8**	**+0.3**
RMX	**La Rumorosa**	**0.53**	**288**	*eP*	**Pb**	**14 34 25.8**	**0.0**
RMX				*eS*	**Sb**	**14 34 32.8**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**0.57**	**292**	*eP*	**Pb**	**14 34 27.1**	**+0.6**
SWSC	**Sam W. Stewart**	**0.57**	**332**	*i* P	**Pn**	**14 34 27.7**	**-0.5**
CBX	**Cerro Bola**	**1.01**	**263**	*eP*	**Pn**	**14 34 34.6**	**+0.3**
CBX				*eS*	**Sb**	**14 34 47.1**	**+0.1**
CBX	**Cerro Bola**	**1.01**	**263**	*eP*	**Pn**	**14 34 34.8**	**+0.5**
CBX				*eS*	**Sg**	**14 34 47.5**	**0.0**
CBX				AML	AML	14 34 50.5	
	comp=N,356nm,0.4s						
CBX				*e*		14 34 50.5	
TJIG	**Tijuana**	**1.01**	**270**	*eP*	**Pg**	**14 34 34.5**	**+0.2**
TJIG				*eS*	**Sb**	**14 34 46.9**	**-0.1**
ECBX	**El Chinero**	**1.03**	**159**	*eP*	**Pg**	**14 34 34.9**	**+0.2**
ECBX				*eS*	**Sn**	**14 34 48.5**	**0.0**
ECBX				*e*		14 34 50.5	
ECBX				AML	AML	14 34 50.5	
	comp=N,323nm,0.3s						
BAR	**Barrett**	**1.03**	**284**	*eP*	**Pg**	**14 34 35.2**	**+0.4**
ZAX	**El Zacaton**	**1.14**	**216**	*eP*	**Pg**	**14 34 36.5**	**-0.3**
ZAX				*eS*	**Sb**	**14 34 51.2**	**+0.4**
ZAX				AML	AML	14 34 55.4	
	comp=E,264nm,0.5s						
ZAX				*e*		14 34 55.4	
ECNX	**Esteban Cantu**	**1.23**	**231**	*eP*	**Pg**	**14 34 38.1**	**-0.3**
ECNX				*eS*	**Sb**	**14 34 53.4**	**+0.1**
PBX	**Punta Banda**	**1.26**	**237**	*eP*	**Pb**	**14 34 38.5**	**+0.3**
SPIG	**San Pedro Mart**	**1.39**	**179**	*eP*	**Pb**	**14 34 40.5**	**0.0**
SPIG				*eS*	**Sg**	**14 34 59.1**	**-0.6**
SPX	**San Pedro Mart**	**1.39**	**179**	*eP*	**Pb**	**14 34 40.5**	**0.0**

CASC 10 14:40:16.0±1.3, 9.95N×84.61W, h55km±6km, MD3.8, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGA2	**Cerro Gallo 2**	**0.16**	**66**	*i* P	Pn	14 40 24.9	+0.1
CGA2				*eS*	Sn	14 40 31.7	+0.5
QCR	**Quepos**	**0.68**	**140**	*i* P	Pn	14 40 29.7	-0.1
QCR				*eS*	Sn	14 40 40.2	+0.4
URSC	**Urasca**	**0.83**	**98**	*eP*	Pn	14 40 32.8	+1.0
URSC				*eS*	Sn	14 40 45.2	+1.8
BUS	**Buena Vista**	**0.93**	**115**	*eP*	Pn	14 40 33.4	+0.1
BUS				*eS*	Sn	14 40 46.5	+0.5
TBS2		**2.25**	**121**	*eP*	Pn	14 40 51.5	+0.6
TBS2				*eS*	Sn	14 41 18.5	+0.9
ESPN	**Las Esperanzas**	**2.25**	**8**	*eP*	Pn	14 40 51.4	+0.5
ESPN				*eS*	Sn	14 41 17.9	+0.4

*ISCJB **10** 14:44:36.7±1.2, 6.85S±0.3×150.5E±0.2, h26km, mb3.6/4, MS2.7/2, Error ellipse: s-maj=48.0km s-min=13.2km az=137.8*
*IDC **10** 14:44:40.2±1.2, 6.84S×150.52E, h38km±7km, mb3.6/5, mb1 3.9/6, mb1mx3.4/36, mbtmp3.9/6, ML1.8/1, MS2.9/2, Ms1 2.9/2, ms1mx2.3/33, Error ellipse: s-maj=54.8km s-min=17.9km az=128.0*

ISC 10 14:44:38.6±1.2, 6.85S±0.3×150.56E±0.3, h26km, n9, σ1s46/12, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.23**	**233**	Pn	**Pn**	**14 45 42.2**	**+0.9**
	4.4nm,0.3s,baz=13,slow=7.4,SNR=16						
PMG				Sn	**Sn**	**14 46 29.9**	**0.0**
	10nm,0.3s,baz=179,slow=17,SNR=8.9						
WRA	**Warramunga Arr**	**20.43**	**229**	P	**P**	**14 49 13.7**	**-0.4**
	4.0nm,0.6s,baz=55,slow=11,SNR=40						
WRA				pP	**sP**	**14 49 24.2**	**-0.4**
	1.6nm,0.6s,baz=54,slow=11,SNR=4.7						
GUMO	**Guam**	**21.07**	**344**	LR	LR	14 58 09.2	
	comp=Z,15nm,18.5s,baz=94,slow=38						
DZM	**Mont Dzumac**	**21.55**	**136**	LR	LR	14 56 16.9	
	comp=Z,48nm,18.8s,baz=78,slow=32						
ASAR	**Alice Springs**	**23.15**	**222**	P	**P**	**14 49 41.8**	**-1.4**
	0.7nm,0.4s,baz=54,slow=9.3,SNR=23						
ASAR				pP	**sP**	**14 49 53.0**	**-0.7**
	1.0nm,0.7s,baz=60,slow=9.1,SNR=6.1						
STKA	**Stephens Creek**	**26.28**	**197**	P	**P**	**14 50 12.8**	**+0.8**
	1.0nm,0.6s,baz=29,slow=15,SNR=3.2						
FITZ	**Fitzroy Crossi**	**26.75**	**243**	P	**P**	**14 50 15.3**	**-1.1**
	3.0nm,0.7s,baz=57,slow=11,SNR=7.7						
ILAR	**Eielson Array**	**84.88**	**22**	P	**P**	**14 57 10.5**	**-0.3**
	0.4nm,0.8s,baz=245,slow=5.1,SNR=4.5						
ILAR				pP	**sP**	**14 57 21.4**	**-0.9**
	0.5nm,0.8s,baz=259,slow=4.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.73**	**284**	PKPbc	**PKPbc**	**15 04 25.0**	**+0.3**
	0.3nm,0.3s,baz=87,slow=2.7,SNR=9.4						
TORD				pPKPbc	**pPKPbc**	**15 04 37.0**	**+3.6**
	0.8nm,0.5s,baz=92,slow=2.8,SNR=5.4						

*SCB **10** 14:44:55.3±0.3, 25.53S×70.81W, h42km, Ml4.6/2, Error ellipse: s-maj=9.2km s-min=5.3km az=65.0*
*MOS **10** 14:45:21.7±1.0, 23.71S×69.28W, h46km, mb5.3/28, Error ellipse: s-maj=15.6km s-min=7.3km az=113.7*
*SJA **10** 14:45:21.3±0.3, 24.03S×69.58W, h263km±50km, ML4.2, MW4.6*
*GUC **10** 14:45:25.8±0.4, 23.98S×69.38W, h46km±5km, ML5.1*
*NEIC **10** 14:45:25.0, 23.98S×69.37W, h46km, mb5.0/69, After GUC.*
NEIC Felt [III] at Mejillones and [II] at Antofagasta, Calama, Ollague, Peine, San Pedro de Atacama and Talabre.
*ISCJB **10** 14:45:25.8±0.3, 23.89S±0.03×69.49W±0.03, h90km±2km, mb4.8/94, Error ellipse: s-maj=4.8km s-min=4.1km az=157.8*
*BJI **10** 14:45:26.8, 23.90S×69.40W, h79km, mB5.2/9, Ms5.2/5, Ms7 5.1/4*
*IDC **10** 14:45:26.3±0.4, 23.98S×69.37W, h80km±2km, mb4.5/13, mb1 4.6/16, mb1mx4.5/22, mbtmp4.7/16, MS3.5/7, Ms1 3.5/7, ms1mx3.2/22, Error ellipse: s-maj=13.6km s-min=7.7km az=101.0*

ISC 10 14:45:25.9±0.3, 23.94S±0.03×69.45W±0.04, h81km±2km, h80km:pP-P, n527, σ1s24/563, mb4.9/94, 8C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**0.92**	**286**	*eP*	**Pn**	**14 45 44.1**	**+0.1**
ANCH				*eS*	**Sn**	**14 45 57.6**	**+0.2**
PB10	**IPOC Station P**	**1.10**	**292**	*eP*	**Pn**	**14 45 46.4**	**+0.2**
PB10				*eS*	**Sn**	**14 46 02.2**	**+0.9**
PB10				IAML		14 46 04.9	
	comp=N,128μm,0.5s						
PB10	**IPOC Station P**	**1.10**	**292**	*e*Pn	**Pn**	**14 45 46.7**	**+0.5**
PB14	**IPOC Station P**	**1.11**	**232**	*e*P	**Pn**	**14 45 46.7**	**0.0**
PB14				*eS*	**Sn**	**14 46 02.4**	**+0.3**
PB14				IAML		14 46 06.4	
	comp=E,73μm,0.4s						
PB06	**IPOC Station P**	**1.23**	**355**	*e*P	**Pn**	**14 45 48.2**	**+0.2**
PB06				*eS*	**Sn**	**14 46 05.3**	**+0.8**
PB06				IAML		14 46 05.7	
	comp=N,36μm,0.4s						
LVC	**Limon Verde**	**1.41**	**21**	P	**Pn**	**14 45 51.3**	**+0.8**
	comp=N,13μm,0.3s,baz=209,slow=9.0,SNR=682						
LVC				LR	LR	14 46 08.5	
	comp=N,1μm,21.5s,baz=262,slow=30						
LVC				S	**Sn**	**14 46 10.0**	**+1.1**
	comp=N,58μm,0.3s,baz=208,slow=13,SNR=78						
LVC	**Limon Verde**	**1.41**	**21**	*e*Pn	**Pn**	**14 45 51.2**	**+0.7**
LVC				*e*Sn	**Sn**	**14 46 07.7**	**-1.2**
PB04	**IPOC Station P**	**1.72**	**338**	*e*P	**Pn**	**14 45 54.2**	**0.0**
PB04				*eS*	**Sn**	**14 46 12.8**	**-3.0**
PB04	**IPOC Station P**	**1.72**	**338**	*e*Pn	**Pn**	**14 45 54.3**	**0.0**
PB09	**IPOC Station P**	**2.14**	**5**	*e*P	**Pn**	**14 46 00.9**	**+1.0**
PB09				*eS*	**Sn**	**14 46 27.1**	**+1.4**
PB07	**IPOC Station P**	**2.24**	**350**	*e*P	**Pn**	**14 46 01.1**	**0.0**
PB07				*eS*	**Sn**	**14 46 30.1**	**+2.0**
PB01	**IPOC Station P**	**2.88**	**359**	*e*Pn	**Pn**	**14 46 09.7**	**-0.1**
CPCH	**Copiapo**

BDFB Brasilia 21.77 72 P P 14 50 08.3 -3.0
BDFB *SP sP 14 50 38.1 +0.3
BDFB pmax pmax
comp=Z,22nm,0.8s
BDFB pmax pmax
comp=Z,108nm,0.8s
BDFB Brasilia 21.77 72 eP P 14 50 10.2 -1.1
comp=Z,165nm,0.8s
PTGA Pitinga 24.83 23 P P 14 50 40.6 -0.2
comp=Z,8.5nm,0.6s,baz=210,slow=14,SNR=15
PTGA sP sP 14 51 08.9 +0.1
comp=Z,26nm,0.7s,baz=201,slow=13,SNR=7.9
OTAV Otavalo 25.57 339 eP P 14 50 50.0 +1.9
comp=Z,6.2nm,0.8s
PRAC Prado 27.99 348 eP P 14 51 10.6 +1.3
comp=Z,10nm,0.7s
CHIC Chingaza 28.70 351 eP P 14 51 16.0 0.0
TOLC Tolima 28.92 348 eP P 14 51 19.4 +1.5
ROSC El Rosal 28.99 350 LR LR 15 03 37.8
comp=Z,94nm,20.9s,baz=258,slow=38
EFI East Falkland 29.05 165⇑ iP P 14 51 17.8 -0.5
EFI pmax pmax
comp=Z,141nm,2.3s
NORC Norcasia 29.79 349 eP P 14 51 25.7 +0.4
RUSC La Rusia 29.86 353 eP P 14 51 27.2 +0.8
USHA Ushuaia 30.86 179 sP sP 14 52 01.0 -1.5
comp=Z,56nm,0.8s,baz=118,slow=5.0,SNR=3.7
CBRI Barrientos, No 31.63 354 eP P 14 51 38.4 -3.2
SJCC San Jacinto, C 34.09 350 eP P 14 52 02.2 -0.7
RCBR Riachuelo 36.93 66 eP P 14 52 24.7 -2.7
comp=Z,14nm,0.9s
CELP Cerrillos 41.85 4 eP P 14 53 05.8 -2.3
ZAIG Zacatecas 56.49 323 eP P 14 55 02.1 +2.0
comp=Z,11nm,0.9s
034A Hebbronville 58.03 329 P P 14 55 11.5 +0.9
baz=148
VNA1 Neumayer--Stat 58.17 160 P P 14 55 11.9 +0.9
736A Circle Diamond 58.92 332 P P 14 55 18.2 +1.5
baz=150
JSC Jenkinsville 58.98 349 eP P 14 55 17.4 +0.4
JSC pmax pmax
comp=Z,14nm,0.9s
JSC Jenkinsville 58.98 349 eP P 14 55 17.4 +0.4
comp=Z,14nm,0.9s
833A Chaparral WMA, 59.43 329 P P 14 55 21.2 +0.9
baz=148,SNR=5.3
Z48A Northport 59.55 342 P P 14 55 21.3 +0.4
baz=161
832A Faith Ranch, C 59.67 329 P P 14 55 22.5 +0.5
baz=148
KMSC Kings Mountain 59.83 349 P P 14 55 23.4 +0.5
baz=167
KMSC Kings Mountain 59.83 349 eP P 14 55 23.2 +0.4
comp=Z,19nm,1.0s
Y47A UCPARC, Winfie 60.12 342 P P 14 55 24.2 -0.7
baz=161
SNAA Sanae 60.16 160 P P 14 55 24.9 +0.1
SNAA Sanae 60.16 160⇑ iP P 14 55 25.4 +0.6
SNAA Sanae 60.16 160 eP P 14 55 24.1 -0.7
comp=Z,18nm,0.9s
633A Seathoff Ranch 60.29 330 P P 14 55 26.6 +0.4
baz=149
534A Blanco 60.46 331 P P 14 55 27.2 -0.2
baz=149
239A Gary 60.56 336 P P 14 55 28.9 +0.9
baz=154
533A Kerrville 60.75 331 P P 14 55 29.5 +0.2
baz=149
CPCT Cooper Cave 60.76 346 eP P 14 55 29.2 -0.1
comp=Z,19nm,0.7s
TKL Tuckaleechee C 60.80 347 eP P 14 55 28.9 -0.6
TKL pmax pmax
comp=Z,16nm,0.8s
TKL Tuckaleechee C 60.80 347 eP P 14 55 28.9 -0.6
comp=Z,16nm,0.8s
SWET Sewanee 60.87 345 eP P 14 55 29.6 -0.4
comp=Z,9.3nm,0.7s
434A Burnet 61.05 332 P P 14 55 31.2 -0.1
baz=150
OXF Oxford 61.14 341 eP P 14 55 31.2 -0.6
OXF pmax pmax
comp=Z,26nm,0.8s
OXF Oxford 61.14 341 eP P 14 55 31.1 -0.6
comp=Z,26nm,0.8s
PLAL Pickwick Lake 61.20 343 eP P 14 55 31.1 -1.1
comp=Z,13nm,1.0s
Z40A Long Farm, Mag 61.29 337 P P 14 55 33.7 +0.9
baz=155
433A Art 61.36 331 P P 14 55 33.7 +0.3
baz=149,SNR=12
138A Matatall Enter 61.37 335 P P 14 55 34.4 +1.0
baz=153
JCT Junction City 61.44 330 P P 14 55 34.5 +0.5
baz=148
JCT Junction City 61.44 330 eP P 14 55 33.6 -0.4
JCT pmax pmax
comp=Z,21nm,0.7s
JCT Junction City 61.44 330 eP P 14 55 33.6 -0.4
comp=Z,21nm,0.7s
334A Lometa 61.48 332 P P 14 55 34.3 +0.1
baz=150
137A Heron Place, G 61.57 335 P P 14 55 35.6 +0.9
baz=153,SNR=5.9
BLA Blacksburg 61.69 350 eP P 14 55 35.7 +0.2
BLA pmax pmax
comp=Z,9.0nm,0.7s
BLA Blacksburg 61.69 350 eP P 14 55 35.7 +0.2
comp=Z,9.4nm,0.7s
WHTX Lake Whitney, 61.72 333 P P 14 55 36.1 +0.3
baz=151
333A Richland Sprin 61.80 331 P P 14 55 36.5 +0.1
baz=149,SNR=9.7
234A Clairette 62.02 332 P P 14 55 38.0 +0.2
baz=150,SNR=6.9
135A Vickery Place, 62.20 333 P P 14 55 39.2 +0.2
baz=151
WVT Waverly 62.22 343 eP P 14 55 38.0 -1.0
WVT pmax pmax
comp=Z,20nm,0.8s
WVT Waverly 62.22 343 eP P 14 55 38.0 -1.0
comp=Z,20nm,0.8s
TXAR Lajitas Array 62.35 326 P P 14 55 40.8 +0.6
comp=Z,1.8nm,0.6s,baz=154,slow=9.2,SNR=28
TXAR pP pP 14 56 01.8 +1.0
comp=Z,1.0nm,0.7s,baz=138,slow=9.6,SNR=4.1
TX31 Lajitas Ar. Si 62.35 326 eP P 14 55 41.0 +0.8
233A Rising Star 62.36 332 P P 14 55 40.2 +0.1
baz=150,SNR=6.6
Z36A Blue Ridge 62.43 335 P P 14 55 41.0 +0.5
baz=152,SNR=5.4
134A White-Moore Ra 62.49 333 P P 14 55 40.9 0.0
baz=150
MIAR Mount Ida 62.51 338 P P 14 55 41.0 0.0
baz=155
MIAR Mount Ida 62.51 338 eP P 14 55 41.2 +0.2
MIAR pmax pmax
comp=Z,17nm,0.9s
MIAR Mount Ida 62.51 338 eP P 14 55 41.2 +0.2
comp=Z,17nm,0.9s
W41B Gary Mavity, V 62.63 339 P P 14 55 41.5 -0.3
baz=156
X39A Fountain Ranch 62.67 337 P P 14 55 42.5 +0.5
baz=155,SNR=18
X301 Greenbrier Sit 62.74 339 eP P 14 55 42.8 +0.3
comp=Z,9.3nm,0.7s
WHAR Wooly Hollow 62.76 339 eP P 14 55 42.7 +0.1
comp=Z,10nm,0.9s
X201 Greenbrier Sit 62.78 339 eP P 14 55 42.8 0.0
comp=Z,10nm,0.8s
Z35A Perchaven, San 62.81 334 P P 14 55 43.4 +0.4
baz=151
133A Hamilton Ranch 62.87 332 P P 14 55 43.8 +0.3
baz=150
W40A Ferguson Farm, 62.92 338 P P 14 55 44.2 +0.5
baz=156,SNR=5.5
X38A Whitesboro 63.07 337 P P 14 55 45.1 +0.4
baz=154,SNR=9.3
Z34A Collier Ranch, 63.11 333 P P 14 55 45.3 +0.2
baz=151
V41A Mountainview 63.16 339 P P 14 55 44.8 -0.5
baz=157,SNR=5.7
W39A Magazine 63.17 338 P P 14 55 45.9 +0.5
baz=155,SNR=9.5
X37A Clayton 63.20 336 P P 14 55 45.8 +0.3
baz=153,SNR=7.6
ABTX Abilene, Hawle 63.20 332 P P 14 55 46.1 +0.5
baz=149,SNR=5.9
ABTX Abilene, Hawle 63.20 332 eP P 14 55 46.4 +0.7
comp=Z,18nm,0.9s
Y35A Marietta 63.23 334 P P 14 55 46.3 +0.5
baz=152,SNR=6.6
W38A Poteau 63.32 337 P P 14 55 46.9 +0.6
baz=154,SNR=8.1
Z33A Whitaker Ranch 63.39 333 P P 14 55 47.3 +0.4
baz=150,SNR=5.7
X36A Centrahoma 63.55 335 P P 14 55 47.4 -0.4
baz=152
PBMO Poplar Bluff 63.55 341 eP P 14 55 47.7 -0.1
comp=Z,14nm,0.8s
Y34A Reagan Ranch, 63.56 334 P P 14 55 48.1 +0.1
baz=151,SNR=8.3
X35A Drake 63.64 335 P P 14 55 48.1 -0.4
baz=152,SNR=9.6
V39A Pettigrew 63.71 338 P P 14 55 49.0 0.0
baz=155,SNR=12
W37B Quinton 63.71 336 P P 14 55 49.1 +0.2
baz=154,SNR=8.9
WCI Wyandotte Cave 63.83 345 eP P 14 55 48.6 -1.1
WCI pmax pmax
comp=Z,18nm,0.6s
WCI Wyandotte Cave 63.83 345 eP P 14 55 48.6 -1.1
comp=Z,18nm,0.6s
U40A Yellville 63.91 339 P P 14 55 50.0 -0.3
baz=155,SNR=9.1
Y33A Hilltop Ranch, 63.96 333 P P 14 55 50.6 0.0
baz=150
V38A Canehill 63.99 338 P P 14 55 50.6 -0.2
baz=155,SNR=17
W36A Wetumka 64.00 336 P P 14 55 50.4 -0.5
baz=153,SNR=8.2
S44A Carbondale 64.07 343 P P 14 55 50.5 -0.7
baz=160
U39A Green Forest 64.14 339 P P 14 55 51.4 -0.3
baz=156,SNR=6.5
X34A Smith Ranch, M 64.15 334 P P 14 55 52.1 +0.3
baz=151,SNR=5.5
S43A Fulton Ridge, 64.19 342 P P 14 55 51.3 -0.7
baz=159
T41A Mountain View 64.20 340 P P 14 55 51.6 -0.5
baz=157,SNR=5.9
HHAR Hobbs 64.21 338 eP P 14 55 52.4 +0.2
comp=Z,8.4nm,0.7s
W35A Tecumseh 64.26 335 P P 14 55 51.9 -0.7
baz=152
V37A Hulbert 64.27 337 P P 14 55 52.6 0.0
baz=154,SNR=6.0
O56A Blue Knob Stat 64.44 352 P P 14 55 54.3 +0.7
baz=171,SNR=5.4
V36A Jenks 64.47 336 P P 14 55 53.8 -0.1
baz=153,SNR=7.3
U38A Gravette 64.50 338 P P 14 55 53.9 -0.3
baz=155
TUL1 Leonard 64.53 336 P P 14 55 54.3 0.0
baz=153
T40A Mansfield 64.53 340 P P 14 55 53.8 -0.5
baz=157
R44A Waltonville 64.54 343 P P 14 55 53.4 -0.9
baz=160
WMOK Wichita Mounta 64.65 333 eP P 14 55 55.0 -0.2
WMOK pmax pmax
comp=Z,5.0nm,0.8s
WMOK Wichita Mounta 64.65 333 eP P 14 55 55.0 -0.2
comp=Z,4.9nm,0.8s
T39A Clever 64.69 339 P P 14 55 55.1 -0.3
baz=156,SNR=5.5
U37A Salina 64.73 337 P P 14 55 55.5 0.0
baz=154,SNR=10
NVL N'lazarevskaya 64.75 159 eP P 14 55 57.6 +2.3
V35A Meyer Ranch, C 64.79 336 P P 14 55 55.6 -0.3
baz=152
N59A State Game Lan 64.79 355 P P 14 55 56.6 +0.7
baz=174
W33A Caddo, Fort Co 64.89 334 P P 14 55 57.0 +0.4
baz=151,SNR=9.3
S40A Lebanon 64.94 340 P P 14 55 56.6 -0.3
baz=157,SNR=7.3
T38A Diamond 65.01 338 P P 14 55 57.4 0.0
baz=155,SNR=14
ACSO Alum Creek Sta 65.07 349 eP P 14 55 57.1 -0.6
comp=Z,20nm,0.8s
V34A Guthrie 65.11 335 P P 14 55 57.8 -0.3
baz=152
V34A Guthrie 65.11 335 eP P 14 55 58.1 0.0
comp=Z,29nm,1.2s
MNTX Cornudas Mount 65.13 327 P P 14 55 58.3 0.0
baz=144
MNTX Cornudas Mount 65.13 327 eP P 14 55 58.1 -0.2
comp=Z,8.1nm,1.0s
W32A Sentinel 65.18 333 P P 14 55 58.6 +0.1
baz=150,SNR=9.4
S39A Bolivar 65.28 339 P P 14 55 59.1 -0.1
baz=156,SNR=23
U35A Pawnee 65.28 336 P P 14 55 59.3 +0.1
baz=153,SNR=5.2
T37A Cheneyville 18 65.30 338 P P 14 55 59.3 0.0
baz=154,SNR=15
V33A Lossen Ranch, 65.40 334 P P 14 55 59.9 0.0
baz=151,SNR=5.6
S38A Stockton 65.42 339 P P 14 55 59.8 -0.3
baz=155,SNR=7.0
R40A Maddies Statio 65.50 340 P P 14 56 00.1 -0.4
baz=157,SNR=8.5
BRYW Bryant College 65.55 358 eP P 14 56 02.0 +1.2
comp=Z,40nm,0.8s
Q42A Golden Eagle 65.56 342 P P 14 56 00.3 -0.6
baz=159
T36A Boggs Farm, Ca 65.58 337 P P 14 56 01.0 -0.1
baz=154,SNR=6.7
V32A Arapaho 65.61 334 P P 14 56 01.3 0.0
baz=150
U34A Anderson Ranch 65.64 335 P P 14 56 01.2 -0.3
baz=152
U34A Anderson Ranch 65.64 335 eP P 14 56 01.7 +0.2
comp=Z,21nm,0.6s
T35A Sooner Cattle 65.69 336 P P 14 56 01.7 -0.1
baz=153
R39A Chumby, Stover 65.76 340 P P 14 56 01.9 -0.3
baz=156,SNR=6.1
M54A Oil Creek Stat 65.80 352 P P 14 56 02.3 -0.1
baz=170,SNR=5.5
S37A Fort Scott 65.84 338 P P 14 56 02.8 0.0
baz=155,SNR=8.8
U33A Lingo Farm, Me 65.86 335 P P 14 56 02.6 -0.3
baz=151
R38A Fenwick Farm, 65.92 339 P P 14 56 03.0 -0.2
baz=156,SNR=14
AMTX Amarillo 66.01 331 P P 14 56 02.4 -1.6
baz=148
T34A McClaskey Farm 66.03 336 P P 14 56 03.8 -0.2
baz=152
SFIN Lafayette 66.06 345 P P 14 56 02.5 -1.6
baz=162
S36A Lake Cedric, C 66.08 338 P P 14 56 04.2 0.0
baz=154,SNR=17
BINY Binghamton 66.08 355 eP P 14 56 05.1 +0.9
comp=Z,16nm,0.9s
Q40A Laux Farm, Aux 66.09 341 P P 14 56 03.9 -0.4
baz=157
HRV Adam Dziewonsk 66.14 358 eP P 14 56 05.7 +1.2
HRV pmax pmax
comp=Z,24nm,0.7s
HRV Adam Dziewonsk 66.14 358 eP P 14 56 05.7 +1.2
comp=Z,24nm,0.7s
S35A Otter Creek Ra 66.30 337 P P 14 56 05.7 0.0
baz=153,SNR=10
R37A Teagarden Farm 66.34 338 P P 14 56 05.7 -0.3
baz=155
Q39A Willow Grove F 66.41 340 P P 14 56 05.9 -0.4
baz=156
TRY Troy 66.45 357 eP P 14 56 07.9 +1.4
comp=Z,35nm,0.7s
Q38A Cooks Store, C 66.54 340 P P 14 56 07.3 +0.2
baz=156,SNR=16
P40A Paris 66.58 341 P P 14 56 06.9 -0.4
baz=158,SNR=8.6
R36A Gordon, Harris 66.58 338 P P 14 56 07.1 -0.4
baz=154
P39B Salisbury 66.75 341 P P 14 56 08.1 -0.4
baz=157,SNR=7.8
R35A Emporia Munici 66.83 337 P P 14 56 09.1 +0.1
baz=153
T32A Huddler Ranch, 66.83 335 P P 14 56 09.5 +0.3
baz=151
121A Cookes Peak, D 67.03 325 P P 14 56 12.6 +1.9
baz=142
O40A La Belle 67.07 341 P P 14 56 09.8 -0.7
baz=158
Q36A Arnold C. Orve 67.14 338 P P 14 56 11.0 0.0
baz=154
R34A Isabella, Hill 67.18 337 P P 14 56 11.4 +0.1
baz=152,SNR=7.1
Q35A Mercer Eighty, 67.25 338 P P 14 56 11.4 -0.3
baz=154
P37A Lathrop 67.34 339 P P 14 56 11.5 -0.7
baz=155
HNH Hanover 67.36 358 eP P 14 56 13.9 +1.7
comp=Z,32nm,1.0s
O39A Kirksville 67.39 341 P P 14 56 12.1 -0.4
baz=157
O38A Galt 67.55 340 P P 14 56 13.2 -0.3
baz=156,SNR=7.3
Q34A Chapman 67.62 337 P P 14 56 13.7 -0.3
baz=153
P36A Good Intent, A 67.65 339 P P 14 56 13.5 -0.7
baz=155
MDV Middlebury 67.69 357 eP P 14 56 15.3 +1.0
BNM Barren Site 67.72 327 eP P 14 56 17.1 +2.0
O37A Wolven Farm, M 67.80 340 P P 14 56 14.8 -0.4
baz=156
R32A Long Quarter, 67.83 336 P P 14 56 15.8 +0.4
baz=151
LPM Los Pinos Moun 67.85 327 eP P 14 56 17.7 +1.9
N39A Derby Farms, D 67.95 341 P P 14 56 15.7 -0.4
baz=157,SNR=6.1
Q33A Connelly Farm, 68.01 336 P P 14 56 16.1 -0.4
baz=152
O36A Bolckow 68.03 339 P P 14 56 16.6 0.0
baz=155
P34A Walnut Farm, R 68.14 337 P P 14 56 17.4 +0.1
baz=153,SNR=6.7
LAZ Ladron 68.17 327 eP P 14 56 19.4 +1.5
ANMO Albuquerque 68.27 328 P P 14 56 19.9 +1.4
baz=144
ANMO Albuquerque 68.27 328⇓ iP P 14 56 20.1 +1.7
ANMO *i* *PP pP 14 56 41.4 +2.0
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 68.27 328 eP P 14 56 20.2 +1.7
comp=Z,9.7nm,0.8s
Q32A Meitler Ranch, 68.27 336 P P 14 56 18.4 +0.2
baz=151,SNR=5.7
N37A Lee Faris, Mou 68.36 340 P P 14 56 18.4 -0.2
baz=156
LONY Lake Ozonia 68.38 356 eP P 14 56 19.3 +0.6
comp=Z,20nm,1.0s
TUC Tucson 68.46 323 P P 14 56 21.1 +1.5
baz=140
TUC Tucson 68.46 323 eP P 14 56 21.6 +2.0
TUC pmax pmax
comp=Z,13nm,1.1s
TUC Tucson 68.46 323 eP P 14 56 21.6 +2.0
comp=Z,13nm,1.1s
FRNY Flat Rock 68.54 357 eP P 14 56 20.7 +1.1
comp=Z,18nm,0.9s
CBKS Cedar Bluff 68.57 335 P P 14 56 20.6 +0.5
baz=150
CBKS Cedar Bluff 68.57 335 eP P 14 56 20.8 +0.7
CBKS pmax pmax
comp=Z,44nm,0.9s
CBKS Cedar Bluff 68.57 335 eP P 14 56 20.8 +0.7
comp=Z,44nm,0.9s
N36A Muff Farm, Cla 68.65 339 P P 14 56 20.3 -0.2
baz=155
M38A Pleasantville 68.65 341 P P 14 56 19.9 -0.6
baz=157,SNR=5.6
O34A Beatrice 68.66 338 P P 14 56 20.4 -0.1
baz=153
O33A Hebron 68.87 337 P P 14 56 21.9 +0.1
baz=152,SNR=5.2
M37A Trindle Farm, 68.90 340 P P 14 56 22.0 +0.1
baz=156
SADO Sadowa 68.94 353 eP P 14 56 22.2 +0.1
T25A Trinidad 69.10 331 P P 14 56 24.8 +1.2
baz=146
T25A Trinidad 69.10 331 eP P 14 56 25.1 +1.4
M36A Felix, Anita 69.18 340 P P 14 56 23.4 -0.3
baz=155
214A Organ Pipe Nat 69.33 321 P P 14 56 26.9 +2.0
baz=138
L37A Phoenix Point, 69.47 341 P P 14 56 25.0 -0.4
baz=156
LIC Lamto 69.56 73 eP P 14 56 26.1 -0.6
L36A Harm Buss Farm 69.72 340 P P 14 56 26.8 -0.2
baz=156
TIC Toumodi 69.76 73 eP P 14 56 27.1 -0.8
KIC Kosan Boka 69.87 73 eP P 14 56 28.3 -0.3
comp=Z,101nm,1.1s
KSCO Kaye Shedlock' 69.90 333 eP P 14 56 29.8 +1.5
comp=Z,21nm,0.8s
DBIC Dimbokro 69.92 73 P P 14 56 28.6 -0.2
comp=Z,17nm,0.6s,baz=220,slow=6.1,SNR=32
DBIC pP pP 14 56 50.2 +0.4
comp=Z,9.8nm,0.6s,baz=228,slow=6.0,SNR=5.7
DBIC LR LR 15 27 28.5
comp=Z,40nm,19.9s,baz=250,slow=36
DBIC Dimbokro 69.92 73 eP P 14 56 28.8 0.0
comp=Z,30nm,0.9s
TRQ Mont Tremblant 69.98 356 eP P 14 56 25.5 -3.1
L35A Bielow Farm, R 70.01 340 P P 14 56 28.5 -0.3
baz=155,SNR=5.8
K37A Belmond 70.02 341 P P 14 56 28.7 -0.1
baz=156
M33A Taylor Creek F 70.07 338 P P 14 56 28.8 -0.4
baz=153
SDCO Great Sand Dun 70.09 330 P P 14 56 31.1 +1.3
baz=145
SDCO Great Sand Dun 70.09 330 eP P 14 56 31.3 +1.5
comp=Z,15nm,1.1s
K36A Gilmore City 70.15 341 P P 14 56 29.3 -0.3
baz=156
L34A Svendsen Farm, 70.15 339 P P 14 56 29.4 -0.3
baz=154
BGNE Belgrade 70.25 337 P P 14 56 30.3 -0.1
baz=152
J37A Redenius Farm, 70.49 342 P P 14 56 31.3 -0.4
baz=157
S22A 4UR Ranch, Cre 70.70 329 P P 14 56 34.9 +1.3
baz=144
S22A 4UR Ranch, Cre 70.70 329 eP P 14 56 35.2 +1.7
J36A Seneca 1, Swea 70.74 341 P P 14 56 33.7 +0.5
baz=156
I38A Scanlan Farm, 70.83 343 P P 14 56 33.4 -0.3
baz=158,SNR=7.1
Q24A Divide 70.94 331 P P 14 56 36.0 +1.1
baz=146,SNR=8.6
Q24A Divide 70.94 331 eP P 14 56 36.6 +1.7
comp=Z,14nm,1.0s
MVCO Mesa Verde 71.07 328 P P 14 56 36.9 +1.3
baz=142
MVCO Mesa Verde 71.07 328 eP P 14 56 37.3 +1.6
comp=Z,14nm,0.8s
L31A Butterfield Fa 71.17 337 P P 14 56 36.5 +0.6
baz=152
WUAZ Wupatki 71.21 325 P P 14 56 38.4 +1.9
baz=140
WUAZ Wupatki 71.21 325 eP P 14 56 38.6 +2.1
comp=Z,17nm,0.9s
H37A Dierke Farm, C 71.48 343 P P 14 56 37.4 -0.3
baz=157
Y12C Blythe 71.62 322 P P 14 56 40.5 +1.8
baz=137
Y12C Blythe 71.62 322 eP P 14 56 41.2 +2.5
comp=Z,12nm,1.0s
IKP In-Ko-Pah, Jac 71.75 320 P P 14 56 41.6 +1.9
baz=136
ECSD EROS Data Cent 71.81 340 P P 14 56 39.5 -0.1
baz=154
ECSD EROS Data Cent 71.81 340 eP P 14 56 39.6 -0.1
comp=Z,10.0nm,0.9s
ISCO Idaho Springs 71.83 331 P P 14 56 41.3 +1.0
baz=145
ISCO Idaho Springs 71.83 331 eP P 14 56 41.9 +1.6
ISCO Idaho Springs 71.83 331 eP P 14 56 41.9 +1.6
PV01 Paradox Valley 71.84 328 eP P 14 56 42.4 +2.1
K30A Basset 71.88 337 P P 14 56 40.4 +0.2
baz=151
J32A Parkston 71.89 339 P P 14 56 39.9 -0.3
baz=153
SMCO Snowmass 71.93 330 eP P 14 56 42.8 +1.8
comp=Z,8.2nm,0.7s
PV05 Paradox Valley 72.05 328 eP P 14 56 43.2 +1.7
BC3 Big Chuckawall 72.09 321 P P 14 56 43.5 +1.8

baz=136
MONP2 **Monument Peak** 72.11 320 P P 14 56 41.9 0.0
baz=135
J31A **Geddes** 72.12 338 P P 14 56 41.7 +0.1
baz=152,SNR=5.0
H35A **Sunnyside Ranc** 72.14 341 P P 14 56 41.5 -0.1
baz=156
IRM **Iron Mountain** 72.27 321 P P 14 56 44.6 +1.9
baz=137
H34A **Spellman Lake,** 72.39 341 P P 14 56 43.1 0.0
baz=155,SNR=5.9
J30A **Dallas** 72.41 337 P P 14 56 43.5 +0.2
baz=151
TPFO **Pinon Flats** 72.63 320 P P 14 56 46.7 +1.8
baz=136
PFO **Pinyon Flats O** 72.64 320 P P 14 56 47.1 +2.1
baz=136
BELC **Belle Mtn. Jos** 72.65 321 P P 14 56 46.8 +1.7
baz=136
H33A **Prehn Over Nor** 72.70 340 P P 14 56 45.1 +0.1
baz=154,SNR=6.0
I31A **Royce, Wessing** 72.70 338 P P 14 56 45.4 +0.4
baz=152
F36A **Milaca** 72.83 343 P P 14 56 45.1 -0.6
baz=157,SNR=6.0
N23A **Red Feather La** 72.87 332 P P 14 56 47.8 +1.4
baz=145,SNR=5.7
N23A **Red Feather La** 72.87 332 eP P 14 56 47.9 +1.4
LDFC **Landfair** 72.92 322 eP P 14 56 49.4 +2.7
comp=Z,10nm,1.0s
PHWY **Pilot Hill** 73.00 332 eP P 14 56 48.7 +1.5
comp=Z,15nm,1.3s
GMRC **Granite Mounta** 73.02 322 P P 14 56 49.2 +1.9
baz=136
G33A **Ortonville** 73.07 340 P P 14 56 46.4 -0.7
baz=154,SNR=5.5
KNB **Kanab** 73.11 325 eP P 14 56 50.2 +2.4
KNB pmax pmax
comp=Z,20nm,1.1s
KNB **Kanab** 73.11 325 eP P 14 56 50.2 +2.4
comp=Z,20nm,1.1s
O20A **White River Ci** 73.28 330 P P 14 56 50.3 +1.6
baz=143
O20A **White River Ci** 73.28 330 eP P 14 56 50.5 +1.8
LCMT **Little Creek M** 73.33 325 eP P 14 56 51.0 +1.9
comp=Z,4.4nm,0.9s
HEC **Hector,Ludlow** 73.44 321 P P 14 56 51.4 +1.7
baz=136
SRU **San Rafael Swe** 73.55 328 eP P 14 56 51.7 +1.3
SRU pmax pmax
comp=Z,13nm,0.8s
SRU **San Rafael Swe** 73.55 328 eP P 14 56 51.7 +1.3
comp=Z,13nm,0.8s
MTPU **Mount Pierson** 73.56 326 eP P 14 56 52.7 +2.0
comp=Z,4.1nm,0.9s
TUQ **Turquoise Moun** 73.64 322 P P 14 56 52.7 +1.8
baz=136
Q16A **Castle Valley** 73.72 327 eP P 14 56 53.3 +2.0
comp=Z,7.2nm,0.9s
D37A **Cotton** 73.74 344 P P 14 56 51.0 0.0
baz=158
CCUT **Cedar City** 73.80 325 eP P 14 56 54.8 +2.9
comp=Z,15nm,0.9s
C39A **Grand Marais** 73.81 346 P P 14 56 50.9 -0.5
baz=160
P18A **Preston Nutter** 73.82 328 eP P 14 56 53.9 +1.9
comp=Z,10nm,0.8s
MSU **Marysvale** 73.91 326 eP P 14 56 54.4 +1.9
MSU **Marysvale** 73.91 326 eP P 14 56 54.4 +1.9
P17A **Butcher Ranch,** 73.94 328 eP P 14 56 54.1 +1.6
comp=Z,12nm,0.9s
C38A **Sawbill Land.** 73.98 345 P P 14 56 51.5 -0.9
baz=159
SHPR **Sheep Range** 73.99 323 eP P 14 56 55.3 +2.3
comp=Z,7.0nm,1.0s
GSC **Goldstone, Bar** 74.04 321 eP P 14 56 55.5 +2.3
GSC pmax pmax
comp=Z,7.0nm,1.0s
GSC **Goldstone, Bar** 74.04 321 eP P 14 56 55.5 +2.3
comp=Z,6.8nm,1.0s
D35A **Remer** 74.10 343 P P 14 56 53.0 -0.1
baz=157
C37A **Embarrass** 74.21 344 P P 14 56 53.4 -0.3
baz=158
F31A **Hecla** 74.23 340 P P 14 56 54.1 +0.2
baz=153
EYMN **Ely** 74.25 345 P P 14 56 53.5 -0.5
baz=159
VNDA **Vanda** 74.37 190 P P 14 56 56.2 +1.8
comp=Z,2.5nm,0.8s,baz=120,slow=6.3,SNR=14
VNDA **Vanda** 74.37 190 eP P 14 56 56.6 +2.1
C36A **Pine Crest Far** 74.40 344 P P 14 56 54.5 -0.4
baz=158,SNR=6.7
SYO **Syowa Base** 74.41 159 eP P 14 56 53.8 -0.9
EDW2 **Edwards Air Fo** 74.43 320 P P 14 56 56.4 +1.0
baz=135
KOWA **Kowa** 74.45 66 eP P 14 56 55.4 -0.5
comp=Z,7.2nm,0.6s
K22A **Casper** 74.56 333 P P 14 56 57.0 +0.9
baz=145
C35A **Jirik Farms, M** 74.65 343 P P 14 56 56.0 -0.3
baz=157,SNR=6.4
D33A **AnnSam, Waubun** 74.65 342 P P 14 56 56.2 -0.2
baz=155
LRMC **Laurel Mtn Rad** 74.67 321 P P 14 56 57.9 +1.0
baz=135
F29A **Eureka** 74.73 338 P P 14 56 57.0 +0.1
baz=151,SNR=5.6
RSSD **Black Hills** 74.77 335 P P 14 56 58.2 +0.8
baz=148
RSSD **Black Hills** 74.77 335 eP P 14 56 58.8 +1.4
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD **Black Hills** 74.77 335 eP P 14 56 58.8 +1.4
comp=Z,8.4nm,0.8s
FURC **Furnace Creek,** 74.91 322 P P 14 56 59.6 +1.6
baz=136
TPNV **Topopah Spring** 74.91 323 P P 14 57 00.4 +2.2
baz=136
TPNV **Topopah Spring** 74.91 323 eP P 14 57 00.5 +2.2
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV **Topopah Spring** 74.91 323 eP P 14 57 00.5 +2.2
comp=Z,10nm,0.8s
MPMC **Manual Prospec** 74.97 321 P P 14 57 00.1 +1.4
baz=135
JLU **Jordanelle** 75.16 328 eP P 14 57 01.7 +2.0
DAC **Darwin (Calif)** 75.19 321 eP P 14 57 00.1 +0.2
DAC **Darwin (Calif)** 75.19 321 eP P 14 57 00.1 +0.2
ISA **Isabella, Lake** 75.26 321 P P 14 57 01.9 +1.7
baz=134
D30A **Buchanan** 75.50 340 P P 14 57 01.6 +0.4
baz=152
DUG **Dugway, Tooele** 75.51 327 P P 14 57 03.3 +1.7
baz=140
DUG **Dugway, Tooele** 75.51 327 eP P 14 57 03.7 +2.0
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG **Dugway, Tooele** 75.51 327 eP P 14 57 03.6 +2.0
comp=Z,9.8nm,1.0s
PKM **Mcpherson Peak** 75.52 319 P P 14 57 03.5 +1.6
baz=133
TCUT **Toone Canyon** 75.54 329 eP P 14 57 03.7 +1.8
B34A **Aery, Baudette** 75.55 343 P P 14 57 02.2 +0.8
baz=156
R11A **Troy Canyon, C** 75.57 324 P P 14 57 04.1 +2.1
baz=137
R11A **Troy Canyon, C** 75.57 324 eP P 14 57 03.9 +1.9
GRAC **Grapevine Rang** 75.57 322 P P 14 57 03.8 +1.9
baz=136
CWC **Cottonwood Cre** 75.58 321 P P 14 57 03.9 +1.7
baz=135
AGMN **Agassiz Nation** 75.71 342 P P 14 57 02.2 -0.1
baz=155
AGMN **Agassiz Nation** 75.71 342 eP P 14 57 02.3 -0.1
comp=Z,12nm,0.8s
F26A **Lodgepole** 75.73 337 P P 14 57 03.4 +0.8
baz=149,SNR=11
C31A **Landman Farms,** 75.80 341 P P 14 57 02.9 +0.1
baz=153
C30A **Mose, Pekin** 75.94 340 P P 14 57 04.2 +0.4
baz=153,SNR=8.6
BW06 **Boulder Array** 75.97 331 P P 14 57 04.8 +0.4
baz=143
BW06 **Boulder Array** 75.97 331 eP P 14 57 04.6 +0.3
PD31 **Pinedale Array** 75.97 331 eP P 14 57 05.2 +0.9
PDAR **Pinedale Array** 75.97 331 P P 14 57 04.7 +0.4
comp=Z,0.8nm,0.3s,baz=126,slow=7.5,SNR=6.4
PDAR pP pP 14 57 26.1 +0.4
comp=Z,1.4nm,0.7s,baz=161,slow=9.4,SNR=2.8
B32A **Ashes, Strandq** 75.99 342 P P 14 57 03.9 0.0
baz=155,SNR=5.6
HWUT **Hardware Ranch** 75.99 329 eP P 14 57 05.5 +1.1
comp=Z,8.5nm,0.8s
MDND **Maddock** 76.42 340 eP P 14 57 07.8 +1.3
B30A **Myrvik Farm, E** 76.56 341 P P 14 57 07.6 +0.4
baz=153
D26A **Manning** 76.66 337 P P 14 57 08.6 +0.8
baz=149
AHID **Auburn Hatcher** 76.67 330 eP P 14 57 09.4 +1.2
B29A **Wagenman Farm,** 76.89 340 P P 14 57 09.7 +0.6
baz=152
REDW **Red Top Meadow** 77.03 330 eP P 14 57 11.5 +1.3
D25A **Fairfield** 77.08 337 P P 14 57 11.5 +1.3
baz=148
NVAR **Mina Array Bea** 77.11 323 P P 14 57 12.4 +1.6
comp=Z,2.1nm,0.7s,baz=154,slow=4.7,SNR=12
NVAR pP pP 14 57 33.3 +1.1
comp=Z,2.6nm,0.8s,baz=154,slow=5.7,SNR=6.9
LOHW **Long Hollow** 77.11 331 eP P 14 57 12.0 +1.3
ELK **Elko** 77.15 326 eP P 14 57 12.2 +1.2
ELK **Elko** 77.15 326 eP P 14 57 12.2 +1.2
TPAW **Teton Pass** 77.17 330 eP P 14 57 12.7 +1.6
B28A **Dugan Ranch, T** 77.20 339 P P 14 57 12.1 +1.3
baz=151
A29A **Manning Farm,** 77.26 340 P P 14 57 11.3 +0.1
baz=152,SNR=5.1
MOOW **Moose Ponds** 77.28 331 eP P 14 57 12.4 +0.8
B27A **Peters Farms,** 77.45 339 P P 14 57 12.9 +0.7
baz=150
IMW **Indian Meadow** 77.48 331 eP P 14 57 14.3 +1.4
ULM **Lac du Bonnet** 77.48 343 P P 14 57 12.4 +0.1
comp=Z,9.3nm,0.6s,baz=147,slow=5.6,SNR=12
ULM pP pP 14 57 33.6 -0.1
comp=Z,6.4nm,0.7s,baz=136,slow=6.8,SNR=4.3
ULM **Lac du Bonnet** 77.48 343 eP P 14 57 12.1 -0.2
FLWY **Flagg Ranch** 77.52 331 eP P 14 57 14.8 +1.8
H17A **Grant Village** 77.71 331 eP P 14 57 16.6 +2.5
RLMT **Red Lodge** 77.72 332 P P 14 57 15.3 +1.2
baz=143
RLMT **Red Lodge** 77.72 332 eP P 14 57 15.5 +1.4
LAO **LASA Array** 77.77 335 P P 14 57 15.0 +0.9
baz=146
LAO **LASA Array** 77.77 335 eP P 14 57 15.2 +1.1
YFT **Old Faithful** 77.87 331 eP P 14 57 18.4 +3.4
A27A **Ledoux Ranch,** 77.92 339 P P 14 57 15.8 +1.0
baz=150
B25A **Knox Farm, Ray** 77.98 338 P P 14 57 16.4 +1.3
baz=149
YMR **Madison River** 78.10 331 eP P 14 57 18.8 +2.6
A26A **Wade Farm, Ken** 78.13 339 P P 14 57 16.8 +0.8
baz=150
SCHQ **Schefferville** 78.48 2 P P 14 57 17.5 -0.3
comp=Z,7.9nm,0.8s,baz=224,slow=3.3,SNR=4.5
DGMT **Dagmar** 78.51 337 P P 14 57 19.4 +1.3
baz=148
DGMT **Dagmar** 78.51 337 eP P 14 57 19.4 +1.3
A25A **Svangstu Ranch** 78.53 338 P P 14 57 19.4 +1.2
baz=149
PAHR **Pah Rah Range** 78.60 323 eP P 14 57 21.0 +2.0
TORD **Torodi Ar. Bea** 78.65 70 P P 14 57 19.2 -0.3
comp=Z,44nm,0.7s,baz=255,slow=5.2,SNR=296
TORD pP pP 14 57 40.8 -0.2
comp=Z,26nm,0.7s,baz=249,slow=5.4,SNR=9.8
TORD sP sP 14 57 49.1 -0.7
comp=Z,36nm,0.7s,baz=249,slow=5.1,SNR=7.8
HLID **Hailey** 78.84 328 P P 14 57 22.1 +1.9
baz=139
HLID **Hailey** 78.84 328 eP P 14 57 22.1 +1.9
MCMT **McKenzie Canyo** 79.07 330 eP P 14 57 23.3 +1.8
BOZ **Bozeman (W)** 79.16 331 P P 14 57 22.8 +0.9
baz=141
BOZ **Bozeman (W)** 79.16 331 eP P 14 57 23.1 +1.2
BOZ **Bozeman (W)** 79.16 331 eP P 14 57 23.1 +1.2
DLMT **Dillon** 79.37 331 eP P 14 57 24.9 +1.9
LRM **Limekiln Ridge** 79.66 331 eP P 14 57 26.4 +1.7
ORV **Oroville** 79.68 322 eP P 14 57 26.8 +2.1
ORV **Oroville** 79.68 322 eP P 14 57 26.8 +2.1
TSUM **Tsumeb** 79.83 106 eP P 14 57 26.8 +0.6
EGMT **Eagleton** 80.25 334 P P 14 57 28.5 +0.9
baz=143
O03D **Pauns Creek** 80.35 322 P P 14 57 27.9 -0.5
baz=133
MOD **Modoc Plateau** 80.63 324 eP P 14 57 31.6 +1.6
WDC **Whiskeytown Da** 80.96 322 eP P 14 57 31.6 +0.1
WDC **Whiskeytown Da** 80.96 322 eP P 14 57 31.6 +0.1
MSO **Missoula** 81.09 331 P P 14 57 33.2 +1.0
baz=140
BMO **Blue Mountains** 81.19 328 eP P 14 57 34.1 +1.3
N02D **Trinity Center** 81.32 322 P P 14 57 33.8 +0.3
baz=132
M04C **Macdoel** 81.38 323 P P 14 57 34.5 +0.6
baz=133
K05A **Summer Lake** 81.52 324 eP P 14 57 36.7 +2.0
SWMT **Swartz Lake** 81.64 331 eP P 14 57 36.7 +1.6
M02C **Callahan** 81.68 322 P P 14 57 35.9 +0.5
baz=132
YBMT **Yellow Bay** 81.91 331 eP P 14 57 38.1 +1.6
RAR **Rarotonga** 81.93 250 LR LR 15 24 46.0
comp=Z,161nm,20.8s,baz=218,slow=29
JTMT **Jette** 81.94 331 eP P 14 57 38.2 +1.5
F10A **Beach Ranch, E** 81.97 329 eP P 14 57 39.4 +2.5
J05D **Fort Rock, OR** 82.08 325 P P 14 57 38.7 +1.1
baz=134
MAW **Mawson** 82.15 163 P P 14 57 38.1 +0.7
comp=Z,15nm,0.5s,baz=215,slow=6.6,SNR=77
MAW pP pP 14 57 59.2 +0.2
comp=Z,11nm,0.6s,baz=198,slow=5.2,SNR=7.4
BLMT **Blacktail Moun** 82.18 331 eP P 14 57 39.6 +1.6
BSMT **Bassoo Peak** 82.24 331 eP P 14 57 39.5 +1.2
L02D **Cave Junction,** 82.61 323 P P 14 57 41.6 +1.4
baz=132
BOSA **Boshof** 82.75 118 P P 14 57 41.6 +0.1
comp=Z,13nm,0.6s,baz=276,slow=4.9,SNR=29
BOSA **Boshof** 82.75 118 eP P 14 57 41.5 0.0
WALA **Waterton Lakes** 82.78 332 eP P 14 57 41.9 +0.9
I05D **Terrebonne, OR** 82.86 325 P P 14 57 43.0 +1.5
baz=134
I04A **Tendick Farm,** 83.06 324 P P 14 57 43.2 +0.7
baz=133
FFC **Flin Flon** 83.17 342 eP P 14 57 43.1 +0.3
FFC **Flin Flon** 83.17 342 eP P 14 57 43.1 +0.3
C09A **Chrisman Ranch** 83.79 329 eP P 14 57 47.5 +1.3
PBDV **Barranco-do-Ve** 83.97 45 eP P 14 57 48.8 +1.5
comp=Z,23nm,1.3s
PNCL **Nicolau / Gran** 84.10 44 eP P 14 57 49.2 +1.3
PCVE **Castro Verde** 84.13 44 eP P 14 57 49.4 +1.3
comp=Z,15nm,2.2s
MESJ **Messejana** 84.13 44 eP P 14 57 49.3 +1.2
PVAQ **Vaqueiros** 84.20 45 eP P 14 57 49.6 +1.2
comp=Z,24nm,1.6s
LBTB **Lobatse** 84.45 115 eP P 14 57 50.7 +0.4
LBTB **Lobatse** 84.45 115 eP P 14 57 50.6 +0.4
PBEJ **Beja** 84.47 44 eP P 14 57 51.1 +1.3
comp=Z,16nm,1.4s
EVO **Evora** 84.67 44 eP P 14 57 52.4 +1.6
comp=Z,16nm,1.6s
PMTG **Montargil** 84.86 43 eP P 14 57 52.9 +1.2
comp=Z,33nm,1.4s
PTOM **Tomar** 85.07 43 eP P 14 57 53.8 +1.1
comp=Z,30nm,0.7s
PBAR **Barrancos** 85.09 45 eP P 14 57 54.0 +1.1
comp=Z,34nm,0.8s
PESTR **Estremoz** 85.14 44 eP P 14 57 54.3 +1.2
comp=Z,27nm,1.3s
PCAS **Casmilo, Conde** 85.27 42 eP P 14 57 54.8 +1.0
PMRV **Marv??o** 85.59 43 eP P 14 57 55.7 +0.3
comp=Z,23nm,1.4s
PCBR **Castelo Branco** 85.78 43 eP P 14 57 56.9 +0.6
B05A **Bryant** 85.94 328 P P 14 57 57.0 +0.2
baz=133
PVIS **Viseu** 86.04 42 eP P 14 57 58.4 +0.8
comp=Z,22nm,1.4s
MTE **Manteigas** 86.07 42 eP P 14 57 58.4 +0.6
comp=Z,24nm,1.3s
MTE **Manteigas** 86.07 42 eP P 14 57 58.4 +0.6
TAM **Tamanrasset** 86.36 63 eP P 14 57 59.7 0.0
TAM **Tamanrasset** 86.36 63 eP P 14 57 59.7 0.0
MVO **Moncorvo** 86.83 42 eP P 14 58 02.5 +1.0
comp=Z,15nm,1.6s
PBRG **Braganca** 87.38 42 eP P 14 58 05.1 +1.0
comp=Z,16nm,2.0s
PAB **San Pablo** 87.59 45 eP P 14 58 05.7 +0.5
PAB **San Pablo** 87.59 45 eP P 14 58 05.7 +0.5
ESDC **Sonseca Array** 87.91 45 P P 14 58 07.1 +0.4
comp=Z,2.2nm,0.9s,baz=239,slow=5.7,SNR=8.2
ES19 **SONSECA Array** 87.97 45 eP P 14 58 07.5 +0.5
YKA **Yellowknife Ar** 93.31 341 P P 14 58 31.1 -0.1
comp=Z,6.7nm,0.8s,baz=136,slow=4.5,SNR=58
YKA pP pP 14 58 52.9 -0.2
comp=Z,5.4nm,0.7s,baz=137,slow=4.4,SNR=15
BRTR **Keskin Array B** 114.62 56 PKP PKPdf 15 03 57.3 +0.2
comp=Z,0.9nm,0.7s,baz=177,slow=2.4,SNR=5.0
OBN **Obninsk** 118.38 39 *c i* PKIKP **PKPdf** 15 04 02.8 -0.8
OBN pmax pmax
comp=Z,6.0nm,0.6s
KIV **Kislovodsk** 121.88 52 *e* PKIKP **PKPdf** 15 04 10.6 -0.3
KIV *e* 15 05 41.7
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ **Khabaz** 122.01 52 PKP **PKPdf** 15 04 11.6 +0.6
comp=Z,3.7nm,0.9s,baz=83,slow=1.6,SNR=7.2
GNI **Garni** 123.13 57 *i* PKIKP **PKPdf** 15 04 15.0 +1.5
GNI pmax pmax
comp=Z,21nm,0.6s
BILL **Bilibino** 124.59 338 *e* PKIKP **PKPdf** 15 04 14.7 -0.5
BILL pmax pmax
comp=Z,2.0nm,1.0s
ASAR **Alice Springs** 127.53 207 PKP **PKPdf** 15 04 22.1 -0.2
comp=Z,2.5nm,0.7s,baz=135,slow=1.7,SNR=61
ASAR pPKP **pPKPdf** 15 04 44.8 -0.3
comp=Z,2.0nm,0.5s,baz=136,slow=1.6,SNR=8.0
H11S2 **WAKE ISLAND Hy** 127.65 275 T T 17 24 26.5
baz=108,slow=74,SNR=517
H11S1 **WAKE ISLAND Hy** 127.66 275 T T 17 24 30.3
baz=108,slow=74,SNR=187
H11S3 **WAKE ISLAND Hy** 127.67 275 T T 17 24 27.6
baz=108,slow=74,SNR=269
ARU **Arti** 130.43 35 *i* PKIKP **PKPdf** 15 04 27.9 +1.2
ARU 15 06 42.5
ARU SS SS 15 24 06.2 +3.2
WRA **Warramunga Arr** 130.61 210 PKP **PKPdf** 15 04 28.5 +0.2
comp=Z,2.1nm,0.4s,baz=151,slow=1.6,SNR=62
WRA pPKP **pPKPdf** 15 04 51.0 +0.1
comp=Z,1.2nm,0.4s,baz=153,slow=1.7,SNR=7.0
TIXI **Tiksi** 131.13 352 *e* PKIKP **PKPdf** 15 04 27.9 +0.3
SEY **Seymchan** 132.12 336 *i* PKIKP **PKPdf** 15 04 30.9 +1.2
BVAR **Borovoye Array** 138.07 36 PKP **PKPdf** 15 04 42.4 +1.2
comp=Z,2.3nm,0.7s,baz=288,slow=1.4,SNR=16
BVAR pPKP **pPKPdf** 15 05 04.7 +0.9
comp=Z,1.2nm,0.7s,baz=300,slow=3.3,SNR=3.1
ZALV **Zalesovo Beam** 144.36 26 PKP PKPbc 15 04 51.5 +0.5
comp=Z,16nm,0.7s,baz=292,slow=4.6,SNR=74
ZALV pPKP pPKPdf 15 05 14.3 -0.8
comp=Z,7.9nm,0.7s,baz=298,slow=4.3,SNR=5.6
AAK **Ala-Archa** 144.90 49 *i* PKIKP **PKPdf** 15 04 54.7 +0.8
FRU **Bishkek** 144.91 49 *i* PKIKP **PKPdf** 15 04 54.0 +0.2
FRU pmax pmax
comp=Z,42nm,1.6s
YSS **Yuzh-Sakhalins** 145.52 320 *e* PKIKP **PKPab** 15 04 55.0 -0.1
YSS pmax pmax
comp=Z,63nm,2.5s
BOD **Bodaibo** 146.06 357 *e* PKHKP PKPpre 15 04 46.0
BOD pmax pmax
comp=Z,16nm,0.9s
KSH **Kashi** 146.98 54 PKPbc **PKPdf** 15 04 57.2 -0.3
KSH pPKP PKPdf 15 05 22.8 +2.5
KSH PKS **PKSdf** 15 08 30.6 -2.2
KSH SKS **SKSdf** 15 11 53.7 -5.5
KSH SS **SS** 15 27 17.8 -1.6
KSH PPMZ
KSH comp=Z,44nm,3.7s LN
KSH comp=Z,85nm,9.9s LE
comp=Z,70nm,4.8s
MKAR **Makanchi Array** 147.87 38 PKP **PKPdf** 15 04 59.0 +0.3
comp=Z,16nm,0.7s,baz=313,slow=2.7,SNR=48
MKAR pPKPbc **PKPbc** 15 05 02.1 +0.4
comp=Z,16nm,0.7s,baz=311,slow=2.7,SNR=74
MKAR pPKPbc **pPKPbc** 15 05 24.3 0.0
comp=Z,7.1nm,0.8s,baz=284,slow=3.5,SNR=4.1
HYB **Hyderabad** 149.42 96 *i* PKP **PKPbc** 15 05 07.0 +0.5
KLR **Kul'dur** 149.76 332 PKPbc **PKPbc** 15 05 06.5 +0.2
comp=Z,3.5nm,0.6s,baz=81,slow=3.6,SNR=14
KLR pPKPbc **pPKPbc** 15 05 28.9 0.0
comp=Z,1.6nm,0.5s,baz=360,slow=4.2,SNR=3.5
MOY **Mondy** 151.35 12 *e* PKIKP **PKPbc** 15 05 11.5 +1.3
MOY pmax pmax
comp=Z,20nm,1.5s
TLY **Talaya** 151.80 9 PKPbc **PKPbc** 15 05 12.1 +1.0
comp=Z,4.6nm,0.5s,baz=285,slow=3.0,SNR=8.3
TLY PKPab **PKPab** 15 05 21.7 +1.4
comp=Z,4.5nm,0.8s,baz=305,slow=3.8,SNR=4.1
TLY pPKPbc **pPKPbc** 15 05 34.0 +0.2
comp=Z,2.2nm,0.6s,baz=28,slow=10,SNR=2.2
WMQ **Urumqi** 152.71 38 PKPbc **PKPdf** 15 05 06.0 -0.3
ZAK **Zakamensk** 153.00 10 *e* PKIKP **PKPbc** 15 05 14.4 +0.5
ZAK pmax pmax
comp=Z,3.0nm,0.9s
MJAR **Matsushiro Arr** 153.11 304 PKPbc **PKPbc** 15 05 14.3 -0.2
comp=Z,2.7nm,0.8s,baz=78,slow=1.7,SNR=4.2
MJAR PKPab **PKPab** 15 05 27.3 +1.0
comp=Z,3.6nm,1.0s,baz=105,slow=1.8,SNR=5.2
MJAR pPKPbc **pPKPbc** 15 05 37.1 -0.1
comp=Z,1.0nm,0.5s,baz=264,slow=3.1,SNR=5.0
USRK **Ussuriysk Ar.** 153.24 324 PKPbc **PKPbc** 15 05 15.1 +0.6
comp=Z,3.1nm,0.9s,baz=303,slow=1.2,SNR=5.9
USRK PKPab **PKPab** 15 05 27.0 +0.5
comp=Z,1.4nm,0.6s,baz=245,slow=0.4,SNR=3.7
USRK pPKPbc **pPKPbc** 15 05 37.5 +0.4
comp=Z,2.2nm,0.7s,baz=28,slow=1.8,SNR=3.6
SONM **Songino Array** 155.92 7 PKP **PKPdf** 15 05 11.7 +0.9
comp=Z,1.4nm,1.0s,baz=261,slow=0.5,SNR=9.3
SONM PKPbc PKPbc 15 05 21.0
comp=Z,0.8nm,0.5s,baz=345,slow=1.6,SNR=4.6
SONM PKPab **PKPab** 15 05 38.5 +0.5
comp=Z,2.4nm,0.8s,baz=334,slow=5.2,SNR=9.3
KSRS **Korea Array** 159.93 316 PKP **PKPdf** 15 05 16.9 +1.1
comp=Z,1.5nm,0.7s,baz=68,slow=1.4,SNR=8.1
KSRS pPKP **pPKPdf** 15 05 39.0 +0.4
comp=Z,1.2nm,0.8s,baz=143,slow=3.1,SNR=3.0
KSRS PKPab **PKPab** 15 05 56.7 +1.2
comp=Z,1.9nm,0.8s,baz=63,slow=4.6,SNR=7.0
KSAR **Wonju Array Be** 159.96 316 PKIKP **PKPdf** 15 05 16.9 +1.0
KSAR 15 05 56.7
KSAR **Wonju Array Be** 159.96 316 PKP **PKPdf** 15 05 16.9 +1.0
KSAR pPKP **pPKPdf** 15 05 39.0 +0.3
KSAR PKPab **PKPab** 15 05 56.7 +1.0
GTA **Gaotai** 162.09 28 *e* PKP **PKPdf** 15 05 19.5 +1.2
GTA pPKP pPKPdf 15 05 37.8 -3.3
GTA sPKP 15 05 46.6
GTA PKPab **PKPab** 15 06 04.6 -0.4
HHC **Hu-ho-hao-te** 163.11 357 *e* PKP **PKPdf** 15 05 16.3 -2.9
CMAR **Chiang Mai Arr** 167.88 115 PKPab **PKPab** 15 06 30.6 -0.4
comp=Z,1.8nm,1.0s,baz=240,slow=5.0,SNR=5.4
KMI **Kunming** 172.79 79 PKP **PKPdf** 15 05 26.8 +0.3

IDC ***10*** *15:01:21.2±2.0, 36°37'N×142°06'E, h0km, mb3.7/3, mb1 3.6/6, mb1mx3.4/48, mbtmp3.7/6, ML3.4/3, MS2.5/1, Ms1 2.5/1, ms1mx2.0/48, Error ellipse: s-maj=44.9km s-min=24.3km az=80.0*

ISCJB ***10*** *15:01:22.3±0.9, 36°36'N±0°04'×142°03'E±0°08', h19km, mb3.6/3, Error ellipse: s-maj=9.5km s-min=5.3km az=1.5*

JMA ***10*** *15:01:23.2±0.3, 36°38'N×141°88'E, h8km, M3.3*

ISC 10 15:01:24.5±1.3, 36°35'N±0°05'×141°88'E±0°09', h19km, n18, σ0°92/22, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.05**	**232**	P	**Pn**	**15 01 43.5**	**-0.7**
CHOJ				*e*S	**Sb**	**15 01 57.8**	**+0.3**
JHO	**Hitachi**	**1.09**	**284**	P	**Pn**	**15 01 43.0**	**-1.7**
JHO				S	**Sb**	**15 01 59.3**	**+0.7**
ONAJ	**Iwakimizuishiy**	**1.15**	**311**	P	**Pn**	**15 01 45.1**	**-0.5**
JFK	**Kawauchi**	**1.29**	**322**	P	**Pn**	**15 01 47.3**	**-0.3**
JFK				S	**Sn**	**15 02 03.6**	**-0.8**
JFT	**Otama**	**1.70**	**314**	P	**Pn**	**15 01 53.8**	**+0.7**
JMM	**Marumori**	**1.74**	**330**	P	**Pn**	**15 01 53.3**	**-0.4**
BSO1	**Boso 1**	**1.85**	**204**	*e*S	**Sb**	**15 02 19.6**	**-0.3**
BSO3	**Boso 3**	**1.91**	**216**	P	**Pn**	**15 01 56.7**	**+0.9**
JAG	**Ashikaga**	**1.96**	**273**	P	**Pn**	**15 01 56.1**	**-0.6**
JFY	**Yanaizu**	**2.04**	**302**	P	**Pn**	**15 01 58.9**	**+1.1**
MJAR	**Matsushiro Arr**	**2.97**	**275**	Pn	**Pn**	**15 02 11.0**	**+0.4**
	3.9nm,0.3s,baz=98,slow=8.5,SNR=39						

MAT	**Matsushiro**	**2.97**	**275**	P	**Pn**	**15 02 11.4**	**+0.8**
MAT				S	**Sn**	**15 02 43.7**	**-2.0**
JHJ	**Hachijo jima 2**	**3.66**	**209**	Pn	**Pn**	**15 02 20.1**	**0.0**
	11nm,0.3s,baz=340,slow=20,SNR=11						
JHJ				Sn	**Sn**	**15 03 02.5**	**-0.2**
	24nm,0.3s,baz=52,slow=23,SNR=7.5						
ASAJ	**Asahikawa**	**7.77**	**4**	Pn	**Pn**	**15 03 15.2**	**-1.4**
	0.5nm,0.3s,baz=239,slow=11,SNR=7.6						
KSRS	**Korea Array**	**11.23**	**280**	LR	LR	15 08 45.6	
	comp=Z,24nm,19.0s,baz=168,slow=39						
SONM	**Songino Array**	**28.48**	**305**	P	**P**	**15 07 19.3**	**+0.8**
	1.0nm,0.6s,baz=96,slow=8.0,SNR=6.3						
MKAR	**Makanchi Array**	**44.80**	**303**	P	**P**	**15 09 37.4**	**+0.4**
	0.7nm,0.8s,baz=81,slow=8.9,SNR=3.8						
WRA	**Warramunga Arr**	**56.44**	**189**	P	**P**	**15 11 04.9**	**0.0**
	0.3nm,0.6s,baz=6.9,slow=7.4,SNR=3.4						

*ISCJB **10** 15:10:42.8±1.2, 6.7S±0.3×150.4E±0.3, h33km, mb3.8/4, Error ellipse: s-maj=49.9km s-min=13.4km az=136.3*
*IDC **10** 15:10:45.4±1.0, 6.77S×150.47E, h41km±7km, mb3.7/5, mb1 4.0/6, mb1mx3.5/35, mbtmp4.0/6, ML1.7/1, Error ellipse: s-maj=49.3km s-min=13.3km az=133.0*

ISC 10 15:10:44.9±1.2, 6.7S±0.3×150.5E±0.3, h33km, n7, σ1§09/11, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.21**	**231**	P		**Pn**	**15 11 47.2**	**+0.4**
	3.1nm,0.3s,baz=38,slow=9.9,SNR=16							
PMG				S		**Sn**	**15 12 34.6**	**-0.3**
	11nm,0.3s,baz=191,slow=19,SNR=8.7							
WRA	**Warramunga Arr**	**20.43**	**228**	P		**P**	**15 15 18.8**	**-0.8**
	5.6nm,0.7s,baz=55,slow=11,SNR=52							
WRA				pP		**pP**	**15 15 29.3**	**+1.0**
	2.3nm,0.6s,baz=55,slow=12,SNR=5.5							
ASAR	**Alice Springs**	**23.17**	**222**	P		**P**	**15 15 47.4**	**-1.4**
	1.1nm,0.5s,baz=53,slow=9.3,SNR=45							
STKA	**Stephens Creek**	**26.36**	**197**	P		**P**	**15 16 18.4**	**+0.3**
	1.9nm,0.6s,baz=31,slow=12,SNR=5.7							
FITZ	**Fitzroy Crossi**	**26.70**	**243**	P		**P**	**15 16 20.8**	**-0.6**
	1.5nm,0.5s,baz=64,slow=11,SNR=7.9							
ILAR	**Eielson Array**	**84.81**	**22**	P		**P**	**15 23 15.0**	**-0.7**
	0.7nm,0.8s,baz=240,slow=5.9,SNR=6.6							
ILAR				pP		**pP**	**15 23 26.5**	**+0.3**
	0.9nm,0.8s,baz=250,slow=5.0,SNR=7.7							
TORD	**Torodi Ar. Bea**	**148.59**	**284**	PKPbc		**PKPbc**	**15 30 29.5**	**-0.1**
	0.8nm,0.5s,baz=60,slow=2.6,SNR=8.5							
TORD				pPKPbc		**pPKPbc**	**15 30 42.5**	**+2.1**
	1.5nm,0.5s,baz=54,slow=3.0,SNR=11							

MAN 10 15:12:56, 7.61N×124.13E, h33km, mb3.6, ML2.4, MS1.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.41**	**164**	⇑*i*	P	Pn	15 13 06.9	+1.3
CTBH				*i*	S	Sn	15 13 14.1	+2.2
PAGZ	**Pagadian**	**0.78**	**288**	*e*	P	Pb	15 13 11.2	0.0
PAGZ				*e*	S	Sb	15 13 22.0	+0.5
BUKP	**Musuan**	**0.96**	**74**	*e*	P	Pb	15 13 16.6	+2.4
BUKP				*e*	S	Sb	15 13 32.6	+5.9
CGP	**Cagayan de Oro**	**1.01**	**34**	*e*	P	Pn	15 13 14.2	+0.4
CGP				*i*	S	Sn	15 13 27.1	+0.3
IPIL	**Ipil**	**1.56**	**277**	*e*	P	Pb	15 13 24.0	-0.3
IPIL				*e*	S	Sb	15 13 45.1	+1.5

IDC 10 15:27:57.2±8.5, 8.60S×129.82E, h101km±95km, mb3.2/1, mb1 3.3/4, mb1mx3.1/29, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=58.4km s-min=41.8km az=13.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.29**	**203**	P		Pn	15 30 21.8	0.0
	0.2nm,0.3s,baz=28,slow=12,SNR=13							
FITZ				S		Sn	15 32 17.0	+1.7
	0.5nm,0.3s,baz=132,slow=17,SNR=7.2							
WRA	**Warramunga Arr**	**12.10**	**159**	P		Pn	15 30 45.1	-1.1
	0.3nm,0.3s,baz=337,slow=13,SNR=18							
WRA				S		Sn	15 32 59.8	+0.5
	0.9nm,0.3s,baz=335,slow=20,SNR=15							
ASAR	**Alice Springs**	**15.49**	**166**	P		Pn	15 31 30.2	+0.1
	0.1nm,0.3s,baz=336,slow=8.8,SNR=14							
ASAR				S		Sn	15 34 23.0	+1.6
	0.3nm,0.3s,baz=354,slow=28,SNR=10.0							
MKAR	**Makanchi Array**	**69.46**	**327**	P		P	15 38 54.7	+0.1
	0.2nm,0.4s,baz=113,slow=8.7,SNR=4.5							

*LDG **10** 15:31:49.8±0.1, 47.71N×8.46E, h10km, Ml1.5/3, Error ellipse: s-maj=1.2km s-min=0.9km az=168.0*
*CSEM **10** 15:31:49.8±0.2, 47.74N×8.43E, h10km, ML1.6/6, Error ellipse: s-maj=3.8km s-min=2.6km az=33.0*

ZUR 10 15:31:49.5, 47.70N×8.47E, h12km±1km, ML1.1/6, 7C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SLE	**Schleitheim**	**0.06**	**16**	⇓*i*	P	Pg	15 31 52.2	+0.1
	174nm,0.1s							
SLE				*i*	S	Sg	15 31 54.0	0.0
	174nm,0.1s							
SLE	**Schleitheim**	**0.06**	**16**	⇓*i*	P	Pg	15 31 52.2	+0.1
	174nm,0.1s							
SLE				*i*	S	Sg	15 31 54.0	0.0
	174nm,0.1s							
TRULL	**Truellikon**	**0.15**	**110**	⇑*i*	P	Pg	15 31 53.5	+0.3
	28nm,0.3s							
TRULL	**Truellikon**	**0.15**	**110**	⇑*i*	P	Pg	15 31 53.5	+0.3
	28nm,0.3s							
ACHB	**Acheberg**	**0.18**	**231**	⇑*i*	P	Pg	15 31 53.8	+0.1
	14nm,0.3s							
ACHB				*i*	S	Sg	15 31 56.7	+0.2
	14nm,0.3s							
ACHB	**Acheberg**	**0.18**	**231**	⇑*i*	P	Pg	15 31 53.8	+0.1
	14nm,0.3s							
ACHB				*i*	S	Sg	15 31 56.7	+0.2
	14nm,0.3s							
SULZ	**Cheisacher**	**0.30**	**234**	⇑*i*	P	Pg	15 31 55.8	+0.2
	42nm,0.3s							
SULZ	**Cheisacher**	**0.30**	**234**	⇑*i*	P	Pg	15 31 55.8	+0.2
	42nm,0.3s							
ZUR	**Degenried**	**0.34**	**167**	*e*	Sg	Sg	15 31 57.1	-4.0
	98nm,0.2s							
EWZT2	**Wettswil, ZR**	**0.37**	**177**	*e*	P	Pb	15 31 58.4	+0.5
	70nm,0.4s							
EWZT2	**Wettswil, ZR**	**0.37**	**177**	*e*	P	Pb	15 31 58.4	+0.5
	70nm,0.4s							
KIZ	**Kirchzarten**	**0.45**	**305**	*i*	Sg	Sg	15 32 01.6	-2.8
	11nm,0.2s							
KIZ	**Kirchzarten**	**0.45**	**305**	⇑*i*	P	Pn	15 32 04.4	+2.7
	11nm,0.2s							
KIZ	**Kirchzarten**	**0.45**	**305**	*i*	Sg	Sg	15 32 01.6	-2.8
	11nm,0.2s							
CDF	**Champ du Feu**	**1.07**	**312**	*e*	P	Pb	15 32 09.9	0.0
CDF				*e*	Sg	Sb	15 32 23.4	-0.5
	0.6nm,0.2s							
CDF	**Champ du Feu**	**1.07**	**312**	*e*	P	Pb	15 32 09.9	0.0
CDF				*e*	Sg	Sb	15 32 23.4	-0.5
	0.3nm,0.2s							
HINF	**Hinteralfeld**	**1.09**	**277**	*e*	P	Pb	15 32 10.4	0.0
HINF				*e*	Sg	Sb	15 32 24.3	-0.3
	0.9nm,0.2s							
HINF	**Hinteralfeld**	**1.09**	**277**	*e*	P	Pb	15 32 10.4	0.0
HINF				*e*	Sg	Sb	15 32 24.3	-0.3
	0.4nm,0.2s							
HAU	**Haudompre**	**1.46**	**283**	*e*	Sg	Sg	15 32 35.8	-0.7
	1.1nm,0.2s							
HAU	**Haudompre**	**1.46**	**283**	*e*	Sg	Sg	15 32 35.8	-0.7
	0.6nm,0.2s							

*ISCJB **10** 15:32:46.4±0.4, 6.81S±0.05×122.63W±0.04, h10km, mb5.4/240, MS4.5/151, Error ellipse: s-maj=7.2km s-min=5.0km az=20.1*
*IDC **10** 15:32:47.7±0.6, 6.54S×122.89W, h0km, mb4.8/18, mb1 4.9/18, mb1mx4.8/33, mbtmp4.8/18, MS4.3/21, Ms1 4.3/21, ms1mx4.2/25, Error ellipse: s-maj=22.3km s-min=15.0km az=69.0*
*NEIC **10** 15:32:48.9±0.2, 6.73S×122.74W, h10km, mb5.5/225, MS4.5/124, Error ellipse: s-maj=5.8km s-min=4.8km az=72.0*
*MOS **10** 15:32:48.4±1.0, 6.51S×122.65W, h10km, mb5.5/63, Error ellipse: s-maj=12.8km s-min=5.3km az=79.9*
*GCMT **10** 15:32:49.0±0.2, 6.57S×122.71W, h12km, MW5.1/118, Moment Tensor Solution. s64,c86; s118,c198; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.62±.10; Mθθ-0.57±.10; Mφφ-5.04±.09; Mrθ-3.91±.32; Mθφ0.08±.08; Mφr0.72±.27; Best double couple: Mo6.33300×10¹⁶ NP1:ϕs332.00000°, δ56.00000°, λ.59.00000°. NP2: ϕs199.00000°, δ45.00000°, λ127.00000°. Principal axes: T 7.5410, Plg64.0000°, Azm186.0000°; N -2.4100, Plg25.0000°, Azm351.0000°; P -5.1250, Plg6.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **10** 15:32:49.4, 6.70S×122.70W, h10km, mB5.4/16, Ms5.1/14, Ms7 4.9/13*

ISC 10 15:32:52.8±2.3, 6.70S±0.07×122.79W±0.07, h33km±8km, n1039, σ1§26/985, mb5.5/240, MS4.5/151, 3C-7D, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TAOE	**Nuku Hiva Isla**	**17.34**	**262**	*e*	LR	LR	15 40 30.7	
	5μm,26.4s,baz=87							
TAOE	**Nuku Hiva Isla**	**17.34**	**262**	*e*	T	T	15 53 50.9	
	142nm,0.3s							
RKT	**Rikitea**	**20.10**	**214**	*e*	LR	LR	15 42 02.9	
	2μm,27.8s							
RKT	**Rikitea**	**20.10**	**214**	*e*	T	T	15 58 11.1	
	3.3nm,0.3s							
PPT	**Papeete**	**28.29**	**245**	LR		LR	15 46 54.0	
	comp=Z,985nm,18.3s,baz=22,slow=30							
PPT2	**Papeete2**	**28.29**	**245**	*e*	S	**S**	**15 43 20.7**	**-7.3**
	190nm,26.5s							
PPT2				*e*	LR	LR	15 45 40.3	
	3μm,26.5s,baz=64							
SLBS	**Sierra La Lagu**	**32.70**	**22**	*e*	P	**P**	**15 39 21.9**	**-0.5**
	186nm,1.8s							
SRIG	**Santa Rosalia**	**35.33**	**16**	*e*	P	**P**	**15 39 44.4**	**-0.7**
	166nm,1.7s							
ZAIG	**Zacatecas**	**35.35**	**33**	*e*	P	**P**	**15 39 45.1**	**-0.6**
	71nm,1.7s							
HSIG		**37.30**	**17**	*e*	P	**P**	**15 40 02.5**	**+0.6**
	62nm,1.3s							
HPIG		**37.33**	**26**	*e*	P	**P**	**15 40 02.4**	**0.0**
	18nm,1.2s							
RAR	**Rarotonga**	**38.56**	**244**	PFAKE			15 40 20.0	+7.3
RAR					LR	LR		
	comp=Z,2μm,19.0s							
214A	**Organ Pipe Nat**	**39.60**	**13**	P		**P**	**15 40 21.2**	**0.0**
	baz=196,SNR=9.1							
214A	**Organ Pipe Nat**	**39.60**	**13**	*e*	P	**P**	**15 40 19.7**	**-1.6**
	comp=Z,337nm,1.7s							
214A				*e*	PcP	**PcP**	**15 42 28.3**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**39.65**	**9**	P		**P**	**15 40 22.6**	**+0.9**
	baz=190							
SCI2	**San Clemente I**	**39.67**	**6**	P		**P**	**15 40 22.2**	**+0.4**
	baz=186							
109C	**Camp Elliot, M**	**39.74**	**7**	P		**P**	**15 40 22.4**	**0.0**
	baz=189							
MONP2	**Monument Peak**	**39.84**	**8**	P		**P**	**15 40 24.3**	**+0.9**
	baz=190							
SNCC	**San Nicolas Is**	**39.85**	**4**	P		**P**	**15 40 24.0**	**+0.7**
	baz=185							
SWSC	**Sam W. Stewart**	**39.98**	**9**	P		**P**	**15 40 24.9**	**+0.5**
	baz=191							
113A	**Mohawk Valley,**	**40.18**	**12**	*e*	P	**P**	**15 40 26.1**	**+0.1**
	comp=Z,74nm,1.4s							
GLA	**Glamis**	**40.25**	**10**	P		**P**	**15 40 27.3**	**+0.7**
	baz=192							
TX31	**Lajitas Ar. Si**	**40.28**	**26**	*e*	P	**P**	**15 40 25.9**	**-1.1**
TXAR	**Lajitas Array**	**40.28**	**26**	P		**P**	**15 40 26.3**	**-0.6**
	comp=Z,5.3nm,1.0s,baz=200,slow=11,SNR=38							
TXAR					PcP	**PcP**	**15 42 30.3**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=194,slow=6.7,SNR=4.8							
TXAR					LR	LR	15 53 21.2	
	comp=Z,460nm,20.2s,baz=0.0,slow=31							
FMP	**Fort Macarthur**	**40.42**	**6**	P		**P**	**15 40 28.3**	**+0.3**
	baz=187							
MURC	**Murrieta**	**40.43**	**7**	P		**P**	**15 40 28.7**	**+0.6**
	baz=188							
TUC	**Tucson**	**40.45**	**16**	P		**P**	**15 40 28.4**	**+0.1**
	baz=198							
TUC	**Tucson**	**40.45**	**16**	*e*	P	**P**	**15 40 27.9**	**-0.4**
TUC					pmax	pmax		
	comp=Z,54nm,1.5s							
TUC					MLR	MLR		
	comp=Z,310nm,22.0s							
TUC	**Tucson**	**40.45**	**16**	*e*	P	**P**	**15 40 27.9**	**-0.4**
	comp=Z,54nm,1.5s							
TUC					LR	LR		
	comp=Z,310nm,22.0s							
TPFO	**Pinon Flats**	**40.54**	**8**	P		**P**	**15 40 29.7**	**+0.6**
	baz=190,SNR=7.5							
PFO	**Pinyon Flats O**	**40.54**	**8**	P		**P**	**15 40 29.9**	**+0.7**
	baz=190							
PFO	**Pinyon Flats O**	**40.54**	**8**	*e*	P	**P**	**15 40 27.6**	**-1.5**
PFO					pmax	pmax		
	comp=Z,18nm,1.1s							
PFO	**Pinyon Flats O**	**40.54**	**8**	*e*	P	**P**	**15 40 27.6**	**-1.5**
	comp=Z,18nm,1.1s							
SCZ2	**Santa Cruz Isl**	**40.59**	**4**	P		**P**	**15 40 29.7**	**+0.3**
	baz=185							
BC3	**Big Chuckawall**	**40.74**	**9**	P		**P**	**15 40 31.6**	**+0.9**
	baz=191							
BLG	**Laguna Peak, P**	**40.74**	**5**	P		**P**	**15 40 31.5**	**+0.8**
	baz=186							
035Z	**Hargill**	**40.77**	**35**	P		**P**	**15 40 31.2**	**+0.3**
	baz=219							
034A	**Hebbronville**	**40.89**	**34**	P		**P**	**15 40 32.3**	**+0.4**
	baz=218,SNR=6.0							
MWC	**Mount Wilson**	**40.95**	**6**	*e*	P	**P**	**15 40 32.8**	**+0.2**
MWC					pmax	pmax		
	comp=Z,117nm,1.6s							
MWC	**Mount Wilson**	**40.95**	**6**	*e*	P	**P**	**15 40 32.8**	**+0.2**
	comp=Z,117nm,1.6s							
DECC	**Green Verdugo**	**40.95**	**6**	P		**P**	**15 40 33.1**	**+0.7**
	baz=187							
Y12C	**Blythe**	**40.99**	**11**	P		**P**	**15 40 33.3**	**+0.6**
	baz=192							
Y12C	**Blythe**	**40.99**	**11**	*e*	P	**P**	**15 40 33.0**	**+0.4**
	comp=Z,97nm,1.9s							
BELC	**Belle Mtn. Jos**	**40.99**	**9**	P		**P**	**15 40 33.8**	**+1.0**
	baz=190							
933A	**Laredo**	**41.00**	**33**	P		**P**	**15 40 32.9**	**0.0**
	baz=217,SNR=6.4							
BFSC	**Mount Baldy Ra**	**41.01**	**6**	P		**P**	**15 40 33.6**	**+0.7**
	baz=188							
SBC	**Santa Barbara**	**41.02**	**4**	P		**P**	**15 40 33.4**	**+0.5**
	baz=185							
035A	**Encino**	**41.11**	**35**	P		**P**	**15 40 33.4**	**-0.4**
	baz=219							
BBRC	**Big Bear Solar**	**41.12**	**7**	P		**P**	**15 40 34.7**	**+0.6**
	baz=189							
832A	**Faith Ranch, C**	**41.17**	**31**	P		**P**	**15 40 33.8**	**-0.4**
	baz=216,SNR=5.1							
OSI	**Osito Audit: C**	**41.27**	**5**	P		**P**	**15 40 36.1**	**+1.0**
	baz=186							
IRM	**Iron Mountain**	**41.28**	**10**	P		**P**	**15 40 35.8**	**+0.7**
	baz=191							
934A	**Benavides**	**41.40**	**33**	P		**P**	**15 40 36.3**	**+0.1**
	baz=218							
PKM	**Mcpherson Peak**	**41.46**	**4**	P		**P**	**15 40 37.3**	**+0.5**
	baz=184							
Y14A	**Wickenburg**	**41.47**	**12**	*e*	P	**P**	**15 40 36.5**	**-0.2**
	comp=Z,122nm,1.0s							
833A	**Chaparral WMA,**	**41.50**	**32**	P		**P**	**15 40 36.8**	**-0.2**
	baz=216							
MLOA	**Mauna Loa Obse**	**41.50**	**310**	*e*	P	**P**	**15 40 38.3**	**+0.7**
121A	**Cookes Peak, D**	**41.55**	**19**	P		**P**	**15 40 37.7**	**+0.2**
	baz=203,SNR=13							
121A	**Cookes Peak, D**	**41.55**	**19**	P		**P**	**15 40 36.9**	**-0.6**
	comp=Z,167nm,1.9s							
121A				*e*	PcP	**PcP**	**15 42 34.3**	**-0.3**
PDMCI	**Parker Dam,Lak**	**41.60**	**11**	P		**P**	**15 40 38.0**	**+0.4**
	baz=193							
EDW2	**Edwards Air Fo**	**41.61**	**6**	P		**P**	**15 40 38.6**	**+0.8**
	baz=187							
MNTX	**Cornudas Mount**	**41.65**	**23**	P		**P**	**15 40 38.0**	**-0.1**
	baz=206							
MNTX	**Cornudas Mount**	**41.65**	**23**	*e*	P	**P**	**15 40 35.8**	**-2.4**
	comp=Z,67nm,1.4s							
MNTX				*e*	PcP	**PcP**	**15 42 33.4**	**-1.3**
MNTX					LR	LR		
	comp=Z,324nm,21.0s							
RRX	**Edison Barstow**	**41.71**	**7**	P		**P**	**15 40 39.3**	**+0.7**
	baz=189							
HEC	**Hector,Ludlow**	**41.76**	**8**	P		**P**	**15 40 39.1**	**+0.1**
	baz=190							
ARVC	**Arvin**	**41.77**	**5**	P		**P**	**15 40 39.7**	**+0.6**
	baz=186							
834A	**Tilden**	**41.79**	**33**	P		**P**	**15 40 39.5**	**+0.2**
	baz=218							
GMRC	**Granite Mounta**	**41.81**	**9**	P		**P**	**15 40 40.2**	**+0.6**
	baz=190							
733A	**Divot King Ran**	**41.87**	**32**	P		**P**	**15 40 39.4**	**-0.5**
	baz=216							
SMMC	**Simmler**	**41.88**	**3**	P		**P**	**15 40 40.7**	**+0.7**
	baz=184							
NEE2	**Needles Airpor**	**41.96**	**10**	P		**P**	**15 40 40.9**	**+0.3**
	baz=192							
GSC	**Goldstone, Bar**	**42.16**	**7**	P		**P**	**15 40 42.7**	**+0.3**
	baz=189							
GSC	**Goldstone, Bar**	**42.16**	**7**	*e*	P	**P**	**15 40 42.2**	**-0.2**
GSC					pmax	pmax		
	comp=Z,34nm,1.0s							
GSC	**Goldstone, Bar**	**42.16**	**7**	*e*	P	**P**	**15 40 42.2**	**-0.2**
	comp=Z,34nm,1.0s							
LDFC	**Landfair**	**42.18**	**9**	*e*	P	**P**	**15 40 43.2**	**+0.7**
	comp=Z,132nm,1.6s							
LRMC	**Laurel Mtn Rad**	**42.23**	**6**	P		**P**	**15 40 43.4**	**+0.4**
	baz=187							
X16A	**Lo Mia Camp, P**	**42.28**	**14**	*e*	P	**P**	**15 40 43.5**	**0.0**
	comp=Z,30nm,1.3s							
835A	**Beeville**	**42.31**	**34**	P		**P**	**15 40 43.5**	**-0.1**
	baz=218							
ISA	**Isabella, Lake**	**42.34**	**5**	P		**P**	**15 40 44.4**	**+0.6**
	baz=186							
734A	**La Parita Cree**	**42.36**	**32**	P		**P**	**15 40 43.8**	**-0.2**
	baz=217							
TUQ	**Turquoise Moun**	**42.41**	**8**	P		**P**	**15 40 44.7**	**+0.3**
	baz=190							
W13A	**Hualapai Mount**	**42.42**	**11**	*e*	P	**P**	**15 40 43.7**	**-0.9**
	comp=Z,120nm,1.9s							
VES	**Vestal, Richgr**	**42.46**	**4**	P		**P**	**15 40 44.9**	**+0.3**
	baz=185							
633A	**Saathoff Ranch**	**42.52**	**31**	P		**P**	**15 40 44.8**	**-0.5**
	baz=216							
735A	**Kenedy**	**42.77**	**33**	P		**P**	**15 40 46.7**	**-0.6**
	baz=218							
X18A	**Snowflake**	**42.77**	**16**	*e*	P	**P**	**15 40 44.9**	**-2.5**
	comp=Z,70nm,1.2s							
SHOC	**Shoshone, Teco**	**42.82**	**8**	P		**P**	**15 40 47.8**	**+0.2**
	baz=189							
MPMC	**Manual Prospec**	**42.83**	**6**	P		**P**	**15 40 48.4**	**+0.5**
	baz=188							
634A	**China Grove, S**	**42.89**	**32**	P		**P**	**15 40 47.6**	**-0.7**
	baz=217							
RCTC	**Rector, Farmer**	**42.91**	**4**	P		**P**	**15 40 48.8**	**+0.5**
	baz=185							
DAC	**Darwin (Calif)**	**43.03**	**6**	*e*	P	**P**	**15 40 49.2**	**-0.4**
DAC				*e*			15 42 38.0	
DAC					pmax	pmax		
	comp=Z,127nm,2.2s							
DAC	**Darwin (Calif)**	**43.03**	**6**	*e*	P	**P**	**15 40 49.2**	**-0.4**
	comp=Z,127nm,2.2s							
DAC				*e*	PcP	**PcP**	**15 42 38.0**	**-1.4**
JCT	**Junction City**	**43.04**	**30**	P		**P**	**15 40 49.0**	**-0.5**
	baz=214							
JCT	**Junction City**	**43.04**	**30**	*e*	P	**P**	**15 40 48.7**	**-0.8**
JCT					pmax	pmax		
	comp=Z,63nm,1.4s							
JCT					MLR	MLR		
	comp=Z,282nm,21.0s							
JCT	**Junction City**	**43.04**	**30**	*e*	P	**P**	**15 40 48.7**	**-0.8**
	comp=Z,63nm,1.4s							
JCT					LR	LR		
	comp=Z,282nm,21.0s							
533A	**Kerrville**	**43.09**	**31**	P		**P**	**15 40 49.3**	**-0.7**
	baz=216							
CWC	**Cottonwood Cre**	**43.14**	**6**	P		**P**	**15 40 51.6**	**+1.2**
	baz=187							
635A	**Leesville**	**43.20**	**33**	P		**P**	**15 40 49.8**	**-1.0**
	baz=218							
TEIG	**Tepich**	**43.22**	**51**	P		**P**	**15 40 50.7**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=294,slow=22,SNR=4.0							
736A	**Circle Diamond**	**43.25**	**34**	P		**P**	**15 40 51.3**	**+0.2**
	baz=219							
Y22D	**IRIS PASSCAL I**	**43.25**	**19**	P		**P**	**15 40 51.8**	**+0.5**
	baz=203							
SAO	**San Andreas Ge**	**43.26**	**2**	*e*	P	**P**	**15 40 50.0**	**-1.1**
SAO					pmax	pmax		
	comp=Z,215nm,2.1s							
SAO	**San Andreas Ge**	**43.26**	**2**	*e*	P	**P**	**15 40 50.0**	**-1.1**
	comp=Z,215nm,2.1s							
FURC	**Furnace Creek,**	**43.30**	**7**	P		**P**	**15 40 52.0**	**+0.5**
	baz=188							
534A	**Blanco**	**43.34**	**31**	P		**P**	**15 40 51.2**	**-0.8**
	baz=216							
WUAZ	**Wupatki**	**43.35**	**14**	P		**P**	**15 40 52.6**	**+0.5**
	baz=196							
WUAZ	**Wupatki**	**43.35**	**14**	*e*	P	**P**	**15 40 51.2**	**-0.9**
	comp=Z,102nm,1.5s							
WUAZ				*e*	PcP	**PcP**	**15 42 38.8**	**-1.7**
WUAZ					LR	LR		
	comp=Z,328nm,22.0s							
W18A	**Petrified Fore**	**43.38**	**16**	P		**P**	**15 40 52.3**	**-0.1**
	baz=199,SNR=5.9							
W18A	**Petrified Fore**	**43.38**	**16**	*e*	P	**P**	**15 40 51.6**	**-0.7**
	comp=Z,85nm,1.6s							
W18A				*e*	PcP	**PcP**	**15 42 38.4**	**-2.2**
BNM	**Barren Site**	**43.42**	**20**	*e*	P	**P**	**15 40 52.6**	**-0.2**
737A	**Port Lavaca**	**43.45**	**35**	P		**P**	**15 40 53.5**	**+0.6**
	baz=220							
LAZ	**Ladron**	**43.48**	**19**	*e*	P	**P**	**15 40 52.1**	**-1.1**
LPM	**Los Pinos Moun**	**43.56**	**20**	*e*	P	**P**	**15 40 53.6**	**-0.2**
SHPR	**Sheep Range**	**43.57**	**9**	*e*	P	**P**	**15 40 54.2**	**+0.3**
	comp=Z,50nm,1.3s							
433A	**Art**	**43.62**	**30**	P		**P**	**15 40 53.2**	**-1.0**
	baz=215,SNR=39							
636A	**Smothers Creek**	**43.66**	**33**	P		**P**	**15 40 54.6**	**+0.1**
	baz=218							
TIN	**Tinemaha, Big**	**43.74**	**5**	P		**P**	**15 40 55.8**	**+0.6**
	baz=186							
GRAC	**Grapevine Rang**	**43.77**	**6**	P		**P**	**15 40 56.2**	**+0.9**
	baz=188							

comp=Z,306nm,1.5s
HKT Hockley 44.70 34 *e*P **P 15 41 01.7 -1.0**
HKT pmax pmax
comp=Z,171nm,1.7s
HKT Hockley 44.70 34 *e*P **P 15 41 01.6 -1.0**
comp=Z,171nm,1.7s
233A Rising Star 44.74 29 P **P 15 41 02.0 -1.2**
baz=215,SNR=6.3
OTAV Otavalo 44.77 83 *e*P **P 15 41 04.6 +0.4**
comp=Z,57nm,1.8s
OTAV LR LR
comp=Z,1µm,20.0s
436A Wall Ranch, Ga 44.81 32 P **P 15 41 03.8 +0.1**
baz=218
335A Moody 44.88 31 P **P 15 41 03.8 -0.5**
baz=217
ABTX Abilene, Hawle 44.89 28 P **P 15 41 03.6 -0.8**
baz=213,SNR=16
ABTX Abilene, Hawle 44.89 28 *e*P **P 15 41 01.8 -2.5**
comp=Z,458nm,2.0s
ABTX *e*PcP **PcP 15 42 44.3 -1.4**
ABTX *e*PP **PP 15 42 48.9 -0.7**
CCUT Cedar City 44.90 11 *e*P **P 15 41 05.2 +0.6**
comp=Z,52nm,1.3s
PKCU Pink Cliffs 44.99 12 *e*P **P 15 41 06.5 +1.0**
comp=Z,56nm,1.6s
WAKR Walker 45.08 4 *e*P **P 15 41 06.9 +0.9**
NV01 Mina Array Sit 45.09 5 *e*P **P 15 41 05.9 -0.2**
NVAR Mina Array Bea 45.09 5 P **P 15 41 06.4 +0.3**
comp=Z,8.6nm,0.9s,baz=192,slow=9.9,SNR=57
NVAR PcP **PcP 15 42 47.1 +0.6**
comp=Z,4.3nm,1.1s,baz=190,slow=4.5,SNR=3.9
NVAR LR LR 15 55 14.7
comp=Z,254nm,21.4s,baz=188,slow=30
538A Harpers Horsep 45.10 34 P **P 15 41 05.9 -0.1**
baz=220
234A Clairette 45.10 30 P **P 15 41 05.2 -0.8**
baz=216
437A Phantom Ranch, 45.21 33 P **P 15 41 06.7 -0.1**
baz=219
133A Hamilton Ranch 45.22 29 P **P 15 41 06.0 -0.9**
baz=214
336A Riesel 45.27 32 P **P 15 41 07.0 -0.3**
baz=218
R11A Troy Canyon, C 45.32 8 P **P 15 41 08.4 +0.5**
baz=190,SNR=24
R11A Troy Canyon, C 45.32 8 *e*P **P 15 41 08.2 +0.3**
comp=Z,105nm,1.9s
R11A *e*PcP **PcP 15 42 47.3 +0.2**
WHTX Lake Whitney, 45.44 31 P **P 15 41 07.8 -0.8**
baz=216
539A Cross D Ranch, 45.44 35 P **P 15 41 09.0 +0.3**
baz=221
AFDM Forest Hills D 45.45 2 *e*P **P 15 41 09.6 +0.9**
comp=Z,62nm,1.4s
438A Sam Houston St 45.51 34 P **P 15 41 09.1 -0.2**
baz=220
134A White-Moore Ra 45.59 30 P **P 15 41 09.4 -0.5**
baz=215
MTPU Mount Pierson 45.60 12 *e*P **P 15 41 11.0 +0.7**
comp=Z,113nm,1.9s
BCIP Isla Barro Col 45.61 70 *e*P **P 15 41 07.4 -2.9**
comp=Z,99nm,1.5s
BCIP LR LR
comp=Z,329nm,21.0s
MVCO Mesa Verde 45.68 16 P **P 15 41 10.5 -0.4**
baz=200
MVCO Mesa Verde 45.68 16 *e*P **P 15 41 10.2 -0.6**
comp=Z,43nm,1.0s
MVCO *e*PcP **PcP 15 42 48.4 -0.1**
MVCO LR LR
comp=Z,367nm,21.0s
337A Centerville 45.72 33 P **P 15 41 11.2 +0.2**
baz=219
Z33A Whitaker Ranch 45.85 28 P **P 15 41 11.4 -0.5**
baz=214,SNR=17
AMTX Amarillo 45.91 24 P **P 15 41 11.9 -0.6**
baz=210
AMTX Amarillo 45.91 24 *e*P **P 15 41 11.2 -1.3**
comp=Z,43nm,1.1s
135A Vickery Place, 45.91 30 P **P 15 41 12.0 -0.4**
baz=216
236A Katherine and 45.92 32 P **P 15 41 11.6 -0.8**
baz=218
439A Center Grove, 45.94 34 P **P 15 41 12.5 -0.1**
baz=220
540A Vidor 45.94 35 P **P 15 41 13.2 +0.5**
baz=222
ORV Oroville 46.04 1 *e*P **P 15 41 14.2 +0.9**
ORV pmax pmax
comp=Z,102nm,1.8s
ORV Oroville 46.04 1 *e*P **P 15 41 14.2 +0.9**
comp=Z,102nm,1.8s
MSU Marysvale 46.05 12 *e*P **P 15 41 14.2 +0.5**
MSU Marysvale 46.05 12 *e*P **P 15 41 14.2 +0.5**
338A Crockett 46.07 33 P **P 15 41 13.4 -0.3**
baz=219
PAHR Pah Rah Range 46.28 4 *e*P **P 15 41 15.4 0.0**
comp=Z,74nm,1.7s
136A Ennis 46.29 31 P **P 15 41 14.8 -0.6**
baz=217
541A Lake Charles 46.30 36 P **P 15 41 15.3 -0.1**
baz=222
237A Washetta, Mont 46.30 32 P **P 15 41 14.8 -0.6**
baz=218
Z34A Collier Ranch, 46.32 29 P **P 15 41 15.0 -0.6**
baz=215
440A Kirbyville 46.36 35 P **P 15 41 15.6 -0.3**
baz=221
339A Huntington 46.46 34 P **P 15 41 16.3 -0.4**
baz=220
Y33A Hilltop Ranch, 46.51 28 P **P 15 41 16.1 -0.9**
baz=214
X32A Elmer 46.55 27 P **P 15 41 17.1 -0.3**
baz=213,SNR=7.0
Z35A Perchaven, San 46.61 30 P **P 15 41 16.9 -1.0**
baz=216
PV10 Paradox Valley 46.64 15 *e*P **P 15 41 18.7 +0.4**
Q16A Castle Valley 46.65 12 *e*P **P 15 41 19.2 +0.9**
comp=Z,50nm,1.2s
S22A 4UR Ranch, Cre 46.66 17 P **P 15 41 18.5 -0.1**
baz=202,SNR=6.7
S22A 4UR Ranch, Cre 46.66 17 *e*P **P 15 41 18.9 +0.4**
comp=Z,44nm,1.6s
238A Jacksonville 46.67 33 P **P 15 41 17.7 -0.6**
baz=219
PV04 Paradox Valley 46.69 15 *e*P **P 15 41 18.5 -0.1**
PV04 *e*PcP **PcP 15 42 50.5 -1.5**
KMRM Mail Ridge 46.70 359 *e*P **P 15 41 20.4 +1.8**
comp=Z,73nm,1.1s
542A Morse 46.72 37 P **P 15 41 18.6 -0.1**
baz=223
NATX Nacogdoches 46.73 33 P **P 15 41 18.3 -0.5**
baz=220
NATX Nacogdoches 46.73 33 PFAKE 15 41 30.0 +11
NATX LR LR
comp=Z,335nm,21.0s
PV09 Paradox Valley 46.73 15 *e*P **P 15 41 20.1 +1.0**
O03D Paynes Creek 46.77 1 P **P 15 41 18.9 -0.2**
baz=181
137A Heron Place, G 46.79 32 P **P 15 41 18.9 -0.4**
baz=218
441A DeRidder 46.80 36 P **P 15 41 18.9 -0.5**
baz=222
Y34A Reagan Ranch, 46.88 29 P **P 15 41 18.9 -1.1**
baz=215,SNR=9.8
T25A Trinidad 46.88 20 P **P 15 41 19.8 -0.4**
baz=205,SNR=25
T25A Trinidad 46.88 20 *e*P **P 15 41 20.0 -0.2**
comp=Z,127nm,1.5s
340A Bronson 46.90 34 P **P 15 41 19.3 -0.8**
baz=221
Z36A Blue Ridge 46.97 31 P **P 15 41 19.3 -1.4**
baz=217
X33A Lawton 47.01 28 P **P 15 41 19.2 -1.8**
baz=214
TMUT Trail Mountain 47.01 12 *e*P **P 15 41 22.2 +1.0**
comp=Z,35nm,1.5s
239A Gary 47.03 33 P **P 15 41 20.5 -0.6**
baz=220
WMOK Wichita Mounta 47.04 27 P **P 15 41 19.7 -1.6**
baz=213
WMOK Wichita Mounta 47.04 27 *e*P **P 15 41 19.4 -1.9**
WMOK pmax pmax
comp=Z,16nm,1.4s
WMOK MLR MLR
comp=Z,491nm,20.0s
WMOK Wichita Mounta 47.04 27 *e*P **P 15 41 19.4 -1.9**
comp=Z,16nm,1.4s
WMOK LR LR
comp=Z,491nm,20.0s
WDC Whiskeytown Da 47.05 0 *e*P **P 15 41 22.0 +0.8**
WDC pmax pmax
comp=Z,67nm,1.4s
WDC Whiskeytown Da 47.05 0 *e*P **P 15 41 22.0 +0.8**
comp=Z,67nm,1.4s
SDCO Great Sand Dun 47.07 19 P **P 15 41 21.5 -0.3**
baz=204
SDCO Great Sand Dun 47.07 19 *e*P **P 15 41 21.4 -0.3**
comp=Z,85nm,1.6s
SDCO LR LR
comp=Z,372nm,20.0s
543A St. Martinvill 47.11 37 P **P 15 41 21.8 0.0**
baz=224
W32A Sentinel 47.16 27 P **P 15 41 21.4 -0.8**
baz=213,SNR=13
BMN Battle Mountai 47.18 6 *e*P **P 15 41 20.3 -2.1**
BMN *e* 15 42 53.2
BMN pmax pmax
comp=Z,62nm,1.8s
BMN Battle Mountai 47.18 6 *e*P **P 15 41 20.3 -2.1**
comp=Z,62nm,1.8s
BMN *e*PcP **PcP 15 42 53.2 -0.4**
Y35A Marietta 47.18 30 P **P 15 41 21.7 -0.6**
baz=216
138A Matatall Enter 47.19 32 P **P 15 41 22.0 -0.5**
baz=219
442A Mamou 47.22 36 P **P 15 41 22.0 -0.6**
baz=223
341A Kurthwood 47.24 35 P **P 15 41 22.0 -0.8**
baz=222
P17A Butcher Ranch, 47.28 13 *e*P **P 15 41 23.9 +0.7**
comp=Z,59nm,1.3s
Z37A Pogue Cattle C 47.33 31 P **P 15 41 22.8 -0.7**
baz=218
KHMM Horse Mountain 47.35 359 *e*P **P 15 41 25.6 +1.8**
comp=Z,68nm,1.3s
X34A Smith Ranch, M 47.37 28 P **P 15 41 23.5 -0.3**
baz=214,SNR=7.1
240A Hunter Patters 47.44 34 P **P 15 41 23.9 -0.4**
baz=221
645A Chauvin 47.44 39 P **P 15 41 23.3 -1.1**
baz=226
N02D Trinity Center 47.44 0 P **P 15 41 25.4 +1.0**
baz=190,SNR=19
W33A Caddo, Fort Co 47.53 27 P **P 15 41 24.4 -0.7**
baz=214
P18A Preston Nutter 47.54 13 *e*P **P 15 41 26.0 +0.7**
comp=Z,68nm,1.4s
544A White Castle 47.55 38 P **P 15 41 25.2 -0.1**
baz=225
Y36A Durant 47.55 30 P **P 15 41 24.4 -0.8**
baz=217
DUG Dugway, Tooele 47.56 10 P **P 15 41 25.7 +0.3**
baz=193
DUG Dugway, Tooele 47.56 10 *e*P **P 15 41 25.8 +0.4**
DUG pmax pmax
comp=Z,82nm,1.4s
DUG MLR MLR
comp=Z,192nm,20.0s
DUG Dugway, Tooele 47.56 10 *e*P **P 15 41 25.8 +0.4**
comp=Z,82nm,1.4s
DUG LR LR
comp=Z,192nm,20.0s
X35A Drake 47.61 29 P **P 15 41 24.6 -1.1**
baz=216,SNR=11
Z38A Mt. Pleasant 47.70 32 P **P 15 41 26.0 -0.4**
baz=219
ELK Elko 47.72 8 *e*P **P 15 41 26.8 +0.1**
ELK *e* 15 42 55.8
ELK pmax pmax
comp=Z,124nm,2.0s
ELK Elko 47.72 8 *e*P **P 15 41 26.8 +0.1**
comp=Z,124nm,2.0s
ELK *e*PcP **PcP 15 42 55.8 +0.1**
V32A Arapaho 47.74 26 P **P 15 41 26.2 -0.5**
baz=212,SNR=5.9
342A Flagon Creek P 47.76 36 P **P 15 41 26.3 -0.6**
baz=223
M02C Callahan 47.86 360 P **P 15 41 28.4 +0.8**
baz=180,SNR=12
241A Mo Tay, Goldon 47.90 35 P **P 15 41 27.5 -0.4**
baz=222
545A Edgard 47.91 39 P **P 15 41 28.1 0.0**
baz=225
W34A Bridge Creek, 47.91 28 P **P 15 41 27.5 -0.6**
baz=214
W34A Bridge Creek, 47.91 28 *e*P **P 15 41 27.3 -0.7**
comp=Z,176nm,1.6s
SMCO Snowmass 47.95 17 *e*P **P 15 41 29.5 +0.8**
comp=Z,71nm,1.6s
Y37A Hugo 47.95 31 P **P 15 41 27.6 -0.6**
baz=217,SNR=7.0
140A Cam and Jess, 47.99 34 P **P 15 41 28.3 -0.4**
baz=220
X36A Centrahoma 48.05 30 P **P 15 41 27.7 -1.3**
baz=216,SNR=5.9
343A Vidalia 48.11 37 P **P 15 41 29.1 -0.5**
baz=224
Z39A Irene McRaven, 48.12 33 P **P 15 41 28.7 -1.0**
baz=220
V33A Lossen Ranch, 48.17 27 P **P 15 41 29.3 -0.6**
baz=213,SNR=7.0
YBH Yreka Blue Hor 48.20 0 *e*P **P 15 41 31.0 +0.8**
YBH pmax pmax
comp=Z,35nm,1.1s
YBH Yreka Blue Hor 48.20 0 *e*P **P 15 41 31.0 +0.8**
comp=Z,35nm,1.1s
444A Pine Grove 48.23 38 P **P 15 41 29.8 -0.7**
baz=225
BGU Big Grassy Mou 48.24 10 *e*P **P 15 41 31.3 +0.7**
comp=Z,107nm,2.0s
M04C Macdoel 48.26 1 P **P 15 41 31.6 +0.8**
baz=181,SNR=16
W35A Tecumseh 48.27 29 P **P 15 41 29.6 -1.2**
baz=215,SNR=9.0
Q24A Divide 48.29 18 P **P 15 41 30.9 -0.4**
baz=204
Q24A Divide 48.29 18 *e*P **P 15 41 31.6 +0.3**
comp=Z,99nm,2.0s
U32A Winter Ranch, 48.32 26 P **P 15 41 30.5 -0.6**
baz=212
242A Grayson 48.36 35 P **P 15 41 31.2 -0.3**
baz=222
Y38A Idabel 48.36 32 P **P 15 41 30.6 -0.9**
baz=218
MOD Modoc Plateau 48.42 2 *e*P **P 15 41 32.5 +0.5**
comp=Z,64nm,1.3s
445A Amite 48.49 38 P **P 15 41 32.2 -0.3**
baz=225
O20A White River Ci 48.50 15 P **P 15 41 32.8 +0.1**
baz=199,SNR=8.6
O20A White River Ci 48.50 15 *e*P **P 15 41 33.3 +0.6**
comp=Z,77nm,1.3s
546A Slidell 48.52 39 P **P 15 41 32.3 -0.5**
baz=226
V34A Guthrie 48.53 28 P **P 15 41 32.0 -0.8**
baz=214
V34A Guthrie 48.53 28 *e*P **P 15 41 31.5 -1.2**
comp=Z,94nm,1.4s
X37A Clayton 48.55 30 P **P 15 41 32.0 -1.0**
baz=217,SNR=12
Z40A Long Farm, Mag 48.56 33 P **P 15 41 32.7 -0.3**
baz=220
W36A Wetumka 48.57 29 P **P 15 41 32.1 -1.0**
baz=216,SNR=6.4
243A Waterproof 48.62 36 P **P 15 41 33.4 -0.1**
baz=223
L02D Cave Junction, 48.63 359 P **P 15 41 33.8 +0.4**
baz=179
AFI Afiamalu 48.66 257 PFAKE 15 41 50.0 +16
AFI LR LR
comp=Z,1µm,22.0s
Y39A Lockesburg 48.71 32 P **P 15 41 33.5 -0.7**
baz=219
SPUT South Promonto 48.71 10 *e*P **P 15 41 35.7 +1.4**
comp=Z,83nm,1.7s
HOG Hogback Mounta 48.72 1 P **P 15 41 35.4 +1.0**
TCUT Toone Canyon 48.72 11 *e*P **P 15 41 35.6 +1.2**
comp=Z,96nm,1.2s
U33A Lingo Farm, Me 48.75 27 P **P 15 41 33.0 -1.5**
baz=213
344A Westbrook Farm 48.76 37 P **P 15 41 34.2 -0.4**
baz=224,SNR=6.2
V35A Meyer Ranch, C 48.78 28 P **P 15 41 33.8 -0.9**
baz=215,SNR=6.3
142A Monroe 48.84 35 P **P 15 41 34.3 -0.9**
baz=222
Z41A Richland Creek 48.88 34 P **P 15 41 35.3 -0.2**
baz=221
X38A Whitesboro 48.89 31 P **P 15 41 34.3 -1.3**
baz=218,SNR=18
ISCO Idaho Springs 48.92 18 P **P 15 41 36.1 +0.1**
baz=203
ISCO Idaho Springs 48.92 18 *e*P **P 15 41 36.7 +0.7**
ISCO pmax pmax
comp=Z,36nm,1.2s
ISCO MLR MLR
comp=Z,346nm,19.0s
ISCO Idaho Springs 48.92 18 *e*P **P 15 41 36.7 +0.7**
comp=Z,36nm,1.2s
ISCO LR LR
comp=Z,346nm,19.0s
PRAC Prado 48.92 79 *e*P **P 15 41 35.8 -0.5**
PRAC Prado 48.92 79 *e*P **P 15 41 35.7 -0.5**
comp=Z,141nm,1.9s
W37B Quinton 48.96 30 P **P 15 41 34.7 -1.4**
baz=217,SNR=5.5
U34A Anderson Ranch 49.01 27 P **P 15 41 35.5 -1.0**
baz=214
U34A Anderson Ranch 49.01 27 *e*P **P 15 41 35.8 -0.7**
comp=Z,151nm,1.8s
T32A Huddler Ranch, 49.03 25 P **P 15 41 36.0 -0.6**
baz=212
WVOR Wild Horse Val 49.05 4 *e*P **P 15 41 37.5 +0.7**
WVOR pmax pmax
comp=Z,74nm,1.3s
WVOR MLR MLR
comp=Z,168nm,19.0s
WVOR Wild Horse Val 49.05 4 *e*P **P 15 41 37.5 +0.7**
comp=Z,74nm,1.3s
WVOR LR LR
comp=Z,168nm,19.0s
HUMO Hull Mountain 49.08 360 *e*P **P 15 41 37.6 +0.7**
comp=Z,52nm,1.1s
345A Thompson Farm, 49.08 38 P **P 15 41 36.4 -0.7**
baz=225
K04D Chiloquin, OR 49.10 1 P **P 15 41 37.8 +0.6**
baz=181
HVU Hansel Valley 49.11 10 *e*P **P 15 41 38.0 +0.7**
HVU pmax pmax
comp=Z,118nm,1.7s
HVU Hansel Valley 49.11 10 *e*P **P 15 41 38.0 +0.7**
comp=Z,118nm,1.7s
446A Poplarville 49.13 39 P **P 15 41 37.0 -0.4**
baz=226
X39A Fountain Ranch 49.14 32 P **P 15 41 36.2 -1.3**
baz=219,SNR=29
HWUT Hardware Ranch 49.16 11 *e*P **P 15 41 38.0 +0.2**
comp=Z,64nm,1.3s
HWUT LR LR
comp=Z,231nm,22.0s
KSCO Kaye Shedlock' 49.18 21 P **P 15 41 37.5 -0.3**
baz=207,SNR=7.3
KSCO Kaye Shedlock' 49.18 21 *e*P **P 15 41 38.0 +0.1**
comp=Z,233nm,1.7s
Y40A Okolona 49.20 33 P **P 15 41 36.7 -1.2**
baz=220
244A Avery, Jackson 49.21 37 P **P 15 41 37.5 -0.5**
baz=224
K05A Summer Lake 49.22 2 *e*P **P 15 41 38.9 +0.7**
comp=Z,80nm,1.2s
V36A Jenks 49.23 29 P **P 15 41 37.2 -0.9**
baz=216
T33A Patterson Ranc 49.24 26 P **P 15 41 37.2 -1.0**
baz=213
143A Socs Landing, 49.26 35 P **P 15 41 37.9 -0.5**
baz=223
U35A Pawnee 49.33 28 P **P 15 41 38.0 -0.9**
baz=215
NORC Norcasia 49.35 77 *e*P **P 15 41 39.5 0.0**
W38A Poteau 49.37 31 P **P 15 41 37.9 -1.2**
baz=218,SNR=9.5
Z42A Norrel Spur, H 49.37 34 P **P 15 41 38.4 -0.9**
baz=222
TUL1 Leonard 49.40 29 P **P 15 41 38.4 -1.1**
baz=216
TUL1 Leonard 49.40 29 *e*P **P 15 41 38.6 -0.8**
comp=Z,148nm,1.7s
MOTC Montezuma, Cord 49.42 72 *e*P **P 15 41 38.3 -1.6**
VBMS Vicksburg 49.43 37 P **P 15 41 39.4 -0.3**
baz=224
MIAR Mount Ida 49.45 32 P **P 15 41 38.6 -1.1**
baz=219
MIAR Mount Ida 49.45 32 *e*P **P 15 41 38.7 -1.1**
MIAR pmax pmax
comp=Z,44nm,1.4s
MIAR MLR MLR
comp=Z,268nm,20.0s
MIAR Mount Ida 49.45 32 *e*P **P 15 41 38.7 -1.1**
comp=Z,44nm,1.4s
MIAR LR LR
comp=Z,268nm,20.0s
Y41A Eaglette Beard 49.46 33 P **P 15 41 38.9 -1.0**
baz=221
S32A Newby Ranch, P 49.46 25 P **P 15 41 39.1 -0.8**
baz=212
346A Big Creek Wild 49.48 38 P **P 15 41 39.7 -0.4**
baz=226
447A Lucedale 49.58 39 P **P 15 41 40.6 -0.2**
baz=227
T34A McClaskey Farm 49.66 27 P **P 15 41 40.1 -1.2**
baz=214,SNR=5.6
245A Little AP, Sta 49.67 37 P **P 15 41 41.2 -0.4**
baz=225
V37A Hulbert 49.70 30 P **P 15 41 40.4 -1.3**
baz=217,SNR=17
ROSC El Rosal 49.72 78 P **P 15 41 43.2 +0.5**
comp=Z,5.6nm,0.5s,baz=120,slow=22,SNR=4.6
Z43A Armstrong Fami 49.73 35 P **P 15 41 40.8 -1.1**
baz=223
S33A Kaszmaul Farm, 49.77 26 P **P 15 41 41.0 -1.2**
baz=213
J05D Fort Rock, OR 49.77 1 P **P 15 41 43.0 +0.7**
baz=182,SNR=16
144A Alexander Plac 49.78 36 P **P 15 41 42.2 -0.2**
baz=224
X40A Basin Creek Fa 49.80 33 P **P 15 41 41.0 -1.4**
baz=220
U36A Oologah 49.82 29 P **P 15 41 41.3 -1.3**
baz=216
N23A Red Feather La 49.83 17 P **P 15 41 43.0 0.0**
baz=202,SNR=9.8
N23A Red Feather La 49.83 17 *e*P **P 15 41 43.6 +0.6**
comp=Z,57nm,1.4s
W39A Magazine 49.84 31 P **P 15 41 41.8 -1.0**
baz=219,SNR=18
T35A Sooner Cattle 49.88 28 P **P 15 41 41.8 -1.3**
baz=215,SNR=5.4
Y42A Garnett, Star 49.88 34 P **P 15 41 42.4 -0.7**
baz=222
X41A Kaden, Bauxite 49.97 33 P **P 15 41 42.5 -1.3**
baz=221
V38A Canehill 50.04 30 P **P 15 41 42.9 -1.5**
baz=218,SNR=13
145A Houston Renfro 50.05 37 P **P 15 41 44.4 -0.1**
baz=224
347A Saraland 50.06 39 P **P 15 41 44.5 -0.1**
baz=227
CBKS Cedar Bluff 50.09 24 P **P 15 41 43.6 -1.0**
baz=210
CBKS Cedar Bluff 50.09 24 *e*P **P 15 41 44.0 -0.7**
CBKS pmax pmax
comp=Z,189nm,1.5s
CBKS MLR MLR
comp=Z,528nm,22.0s
CBKS Cedar Bluff 50.09 24 *e*P **P 15 41 44.0 -0.7**
comp=Z,189nm,1.5s
CBKS LR LR
comp=Z,528nm,22.0s
246A Jackson Lee, B 50.12 38 P **P 15 41 44.5 -0.5**
baz=226
U37A Salina 50.12 29 P **P 15 41 43.5 -1.4**
baz=217,SNR=11
I03D Drain, OR 50.17 359 P **P 15 41 45.3 +0.2**
baz=179
R32A Long Quarter, 50.17 25 P **P 15 41 44.0 -1.3**
baz=212,SNR=7.6
448A Bay Minette 50.17 40 P **P 15 41 44.6 -0.7**
baz=228
W40A Ferguson Farm, 50.21 32 P **P 15 41 44.7 -0.9**
baz=220
Z44A Pea Ridge, Bel 50.24 36 P **P 15 41 44.9 -0.9**
baz=224

S34A **Willow Spring** 50.25 27 P P 15 41 44.7 -1.2
baz=214
I04A **Tendick Farm,** 50.26 0 P P 15 41 45.8 -0.1
baz=180
UALR **University of** 50.28 33 *e*P P 15 41 46.0 -0.1
comp=Z,85nm,1.4s
MFID **Camas Ranch** 50.28 7 *e*P P 15 41 46.0 -0.1
comp=Z,115nm,1.5s
T36A **Boggs Farm, Ca** 50.29 28 P P 15 41 45.0 -1.1
baz=216,SNR=7.7
PHWY **Pilot Hill** 50.35 17 *e*P P 15 41 47.1 +0.3
comp=Z,94nm,1.8s
AHID **Auburn Hatcher** 50.37 11 *e*P P 15 41 46.8 -0.2
comp=Z,103nm,1.9s
AHID LR LR
comp=Z,138nm,21.0s
R33A **Olander Ranch,** 50.38 25 P P 15 41 45.8 -1.1
baz=213
V39A **Pettigrew** 50.41 31 P P 15 41 45.4 -1.8
baz=219,SNR=11
Y43A **Makayla and Ka** 50.42 35 P P 15 41 46.5 -0.6
baz=223
247A **Quitman** 50.47 38 P P 15 41 47.3 -0.3
baz=226
348A **Jackson** 50.47 39 P P 15 41 47.3 -0.3
baz=227
U38A **Gravette** 50.51 30 P P 15 41 46.6 -1.2
baz=218,SNR=11
S35A **Otter Creek Ra** 50.59 27 P P 15 41 47.5 -1.0
baz=215,SNR=9.8
X301 **Greenbrier Sit** 50.60 32 *e*P P 15 41 47.6 -0.9
comp=Z,15nm,1.0s
146A **Union** 50.60 37 P P 15 41 48.1 -0.5
baz=225
HLID **Hailey** 50.60 8 P P 15 41 49.1 +0.5
baz=191
HLID **Hailey** 50.60 8 *e*P P 15 41 48.9 +0.3
comp=Z,85nm,2.0s
HLID *e*PcP PcP 15 43 07.2 +1.3
HLID LR LR
comp=Z,154nm,21.0s
HHAR **Hobbs** 50.61 30 *e*P P 15 41 47.8 -0.8
comp=Z,130nm,1.3s
W41B **Gary Mavity, V** 50.63 33 P P 15 41 47.5 -1.3
baz=221,SNR=8.7
X201 **Greenbrier Sit** 50.66 32 *e*P P 15 41 48.0 -1.0
comp=Z,85nm,2.0s
BW06 **Boulder Array** 50.69 13 P P 15 41 48.8 -0.6
baz=197
BW06 **Boulder Array** 50.69 13 *e*P P 15 41 48.9 -0.5
BW06 LR LR
comp=Z,357nm,21.0s
PD31 **Pinedale Array** 50.69 13 *e*P P 15 41 49.0 -0.4
PDAR **Pinedale Array** 50.69 13 P P 15 41 48.5 -0.9
comp=Z,8.3nm,1.1s,baz=180,slow=5.8,SNR=13
PDAR PcP PcP 15 43 06.0 -0.4
comp=Z,1.5nm,0.8s,baz=175,slow=5.2,SNR=3.2
PDAR LR LR 15 59 08.5
comp=Z,281nm,21.4s,baz=194,slow=31
R34A **Isabella, Hill** 50.69 26 P P 15 41 48.4 -0.8
baz=213,SNR=8.6
WHAR **Wooly Hollow** 50.70 32 *e*P P 15 41 48.4 -0.9
comp=Z,110nm,2.0s
Q32A **Meitler Ranch,** 50.71 24 P P 15 41 48.3 -1.0
baz=212,SNR=9.6
Z45A **Winona** 50.74 36 P P 15 41 48.8 -0.8
baz=224
T37A **Cheneyville 18** 50.79 29 P P 15 41 49.1 -0.9
baz=217,SNR=9.3
I05D **Terrebonne, OR** 50.82 1 P P 15 41 50.7 +0.6
baz=182,SNR=17
BRRC **Barranca, Sant** 50.84 75 *e*P P 15 41 49.5 -1.3
BRAL **Brewton** 50.85 40 PFAKE 15 42 00.0 +10
BRAL LR LR
comp=Z,304nm,20.0s
Y44A **Strider, Charl** 50.86 35 P P 15 41 49.8 -0.8
baz=223
X43A **Marvell** 50.89 34 P P 15 41 50.0 -0.7
baz=222
U39A **Green Forest** 50.91 31 P P 15 41 49.8 -1.1
baz=219,SNR=35
S36A **Lake Cedric, C** 50.96 28 P P 15 41 50.5 -0.7
baz=216,SNR=7.2
REDW **Red Top Meadow** 50.99 11 *e*P P 15 41 51.4 -0.3
comp=Z,75nm,1.5s
Q33A **Connelly Farm,** 51.02 25 P P 15 41 50.5 -1.2
baz=212,SNR=10
T38A **Diamond** 51.02 29 P P 15 41 50.3 -1.4
baz=217,SNR=11
248A **Dixon Mills** 51.03 39 P P 15 41 51.4 -0.4
baz=227
MTDJ **Mount Denham** 51.06 60 PFAKE 15 42 00.0 +7.6
MTDJ LR LR
comp=Z,781nm,22.0s
Z46A **Louisville** 51.06 37 P P 15 41 51.7 -0.3
baz=225
TPAW **Teton Pass** 51.10 11 *e*P P 15 41 52.7 +0.2
comp=Z,36nm,1.2s
147A **Livingston** 51.10 38 P P 15 41 51.7 -0.6
baz=226
OGNE **Ogallala** 51.11 20 P P 15 41 52.0 -0.3
baz=207
OGNE **Ogallala** 51.11 20 PFAKE 15 42 00.0 +7.6
OGNE LR LR
comp=Z,282nm,21.0s
SNOW **Snow King Moun** 51.11 11 *e*P P 15 41 53.0 +0.4
comp=Z,41nm,1.5s
BPO **Bald Peter** 51.13 1 P P 15 41 53.6 +1.0
V41A **Mountainview** 51.14 32 P P 15 41 51.3 -1.3
baz=220,SNR=7.2
H04A **Detroit Lake** 51.15 1 *e*P P 15 41 52.9 +0.3
comp=Z,54nm,1.1s
RUSC **La Rusia** 51.15 77 *e*P P 15 41 50.1 -3.6
R35A **Emporia Munici** 51.17 27 P P 15 41 52.0 -0.8
baz=215
Y45A **Yeager Farm, C** 51.18 36 P P 15 41 51.8 -1.2
baz=224,SNR=14
U40A **Yellville** 51.22 31 P P 15 41 51.7 -1.5
baz=219,SNR=18
BARC **Barichara** 51.22 76 *e*P P 15 41 53.9 0.0
P32A **Huiting Farm,** 51.23 24 P P 15 41 52.4 -0.9
baz=211
LOHW **Long Hollow** 51.28 11 *e*P P 15 41 53.8 0.0
comp=Z,43nm,1.4s
X44A **Crenshaw** 51.29 35 P P 15 41 52.1 -1.6
baz=223
K22A **Casper** 51.30 15 P P 15 41 53.4 -0.5
baz=201,SNR=11
K22A **Casper** 51.30 15 *e*P P 15 41 53.5 -0.4
comp=Z,41nm,1.2s
Q34A **Chapman** 51.34 26 P P 15 41 52.9 -1.2
baz=214,SNR=5.1
S37A **Fort Scott** 51.34 28 P P 15 41 52.9 -1.3
baz=216
MOOW **Moose Ponds** 51.39 11 *e*P P 15 41 54.2 -0.4
comp=Z,122nm,1.9s
O31A **Woolen Ranch,** 51.40 23 P P 15 41 53.9 -0.6
baz=210,SNR=6.5
P33A **Williams Farm,** 51.45 25 P P 15 41 53.7 -1.2
baz=212,SNR=7.1
T39A **Clever** 51.47 30 P P 15 41 53.7 -1.3
baz=218,SNR=16
R36A **Gordon, Harris** 51.48 27 P P 15 41 53.8 -1.4
baz=215
IMW **Indian Meadow** 51.49 11 *e*P P 15 41 55.5 +0.1
comp=Z,98nm,1.1s
BMO **Blue Mountains** 51.56 5 *e*P P 15 41 56.4 +0.7
comp=Z,63nm,1.5s
V42A **Cord** 51.56 33 P P 15 41 54.2 -1.5
baz=221,SNR=9.8
Z47A **Carrollton** 51.59 38 P P 15 41 53.7 -2.2
baz=226
Y46A **Houston** 51.59 36 P P 15 41 54.7 -1.3
baz=225,SNR=12
KSU1 **Kansas State U** 51.63 26 P P 15 41 55.3 -0.9
baz=214
KSU1 **Kansas State U** 51.63 26 *e*P P 15 41 55.6 -0.7
comp=Z,23nm,0.8s
KSU1 LR LR
comp=Z,579nm,22.0s
X45A **UM Field Stati** 51.66 35 P P 15 41 55.3 -1.3
baz=224,SNR=5.2
G03D **McMinnville, O** 51.68 360 P P 15 41 56.6 +0.1
baz=179
Q35A **Mercer Eighty,** 51.68 27 P P 15 41 55.7 -1.0
baz=215,SNR=7.0
S38A **Stockton** 51.68 29 P P 15 41 55.7 -0.9
baz=218

FLWY **Flagg Ranch** 51.72 11 *e*P P 15 41 57.4 +0.3
comp=Z,246nm,1.5s
OXF **Oxford** 51.72 35 *e*P P 15 41 55.9 -1.1
OXF pmax pmax
comp=Z,154nm,1.3s
OXF **Oxford** 51.72 35 *e*P P 15 41 55.9 -1.1
comp=Z,154nm,1.3s
G05D **Wamic, OR** 51.73 1 P P 15 41 57.1 +0.3
baz=182
G06A **Carlson Farm,** 51.74 2 *e*P P 15 41 57.9 +0.9
comp=Z,186nm,1.9s
R37A **Teagarden Farm** 51.79 28 P P 15 41 56.3 -1.1
baz=216
GRMC **Gramalote, San** 51.87 75 *e*P P 15 41 58.4 -0.2
CBRI **Barrientos, No** 51.87 75 *e*P P 15 41 58.3 -0.4
G08A **Pilot Rock** 51.87 3 *e*P P 15 41 59.1 +1.0
comp=Z,185nm,1.8s
P34A **Walnut Farm, R** 51.91 25 P P 15 41 57.3 -1.0
baz=213,SNR=13
O32A **Brockman Farm,** 51.91 24 P P 15 41 57.2 -1.1
baz=211
W44A **Shelby Farms P** 51.94 35 P P 15 41 56.7 -1.8
baz=223
T40A **Mansfield** 52.00 31 P P 15 41 57.8 -1.2
baz=219,SNR=11
S39A **Bolivar** 52.02 30 P P 15 41 57.3 -1.8
baz=218,SNR=9.0
Z48A **Northport** 52.02 38 P P 15 41 57.6 -1.6
baz=226,SNR=9.6
Q36A **Arnold C. Orve** 52.02 27 P P 15 41 58.1 -1.1
baz=215
O33A **Hebron** 52.03 24 P P 15 41 58.0 -1.3
baz=212,SNR=7.9
H17A **Grant Village** 52.04 11 P P 15 41 59.6 +0.1
baz=195
H17A **Grant Village** 52.04 11 *e*P P 15 42 01.5 +2.0
comp=Z,1nm,2.0s
YFT **Old Faithful** 52.05 11 *e*P P 15 42 01.3 +1.8
comp=Z,106nm,1.9s
MCMT **McKenzie Canyo** 52.07 9 *e*P P 15 42 00.0 +0.3
MCMT *e*PcP PcP 15 43 13.0 +1.5
N31A **Bailey Ranch,** 52.12 23 P P 15 41 59.2 -0.7
baz=210
R38A **Fenwick Farm,** 52.12 29 P P 15 41 58.4 -1.5
baz=217,SNR=13
LRAL **Lakeview Retre** 52.13 38 *e*P P 15 41 59.3 -0.7
comp=Z,34nm,1.2s
Y47A **UCPARC, Winfie** 52.20 37 P P 15 41 59.1 -1.5
baz=226
LKWY **Lake** 52.24 11 PFAKE 15 42 10.0 +9.0
LKWY LR LR
comp=Z,278nm,19.0s
P35A **Duane Minner,** 52.24 26 P P 15 41 59.3 -1.4
baz=214
T41A **Mountain View** 52.30 31 P P 15 42 00.0 -1.3
baz=220,SNR=20
QLMT **Eaquake Lak** 52.31 10 *e*P P 15 42 02.8 +1.3
W45A **Hickory Valley** 52.31 35 P P 15 41 59.7 -1.6
baz=224
N32A **Stulken Farm,** 52.33 23 P P 15 42 00.1 -1.4
baz=211
S40A **Lebanon** 52.35 30 P P 15 42 00.7 -1.0
baz=219,SNR=20
V44A **Blytheville** 52.40 34 P P 15 42 00.5 -1.4
baz=223
F04A **Amboy** 52.40 0 *e*P P 15 42 02.0 +0.2
comp=Z,43nm,1.1s
Q37A **Longview Farm,** 52.42 28 P P 15 42 00.6 -1.5
baz=216
O34A **Beatrice** 52.49 25 P P 15 42 01.2 -1.4
baz=213,SNR=9.6
F04D **Rainier, OR** 52.55 360 P P 15 42 03.8 +0.9
baz=180
M31A **Lambtecht Ranc** 52.56 23 P P 15 42 02.6 -0.6
baz=210
DLMT **Dillon** 52.63 9 *e*P P 15 42 04.2 +0.4
comp=Z,44nm,1.3s
R39A **Chumby, Stover** 52.64 29 P P 15 42 02.5 -1.3
baz=218,SNR=10
N33A **J Bar K, Exete** 52.65 24 P P 15 42 02.7 -1.1
baz=212
P36A **Good Intent, A** 52.67 27 P P 15 42 02.4 -1.6
baz=215
F10A **Beach Ranch, E** 52.68 5 *e*P P 15 42 05.0 +1.0
comp=Z,57nm,1.6s
STD **Studebaker Rid** 52.71 0 P P 15 42 04.5 +0.2
PLAL **Pickwick Lake** 52.82 36 *e*P P 15 42 03.1 -2.0
comp=Z,16nm,1.0s
V45A **Humboldt** 52.86 35 P P 15 42 03.5 -1.8
baz=224
Q38A **Cooks Store, C** 52.88 28 P P 15 42 03.9 -1.6
baz=217,SNR=9.1
O35A **Humboldt** 52.90 26 P P 15 42 04.3 -1.3
baz=214
BGNE **Belgrade** 52.94 23 P P 15 42 05.1 -0.8
baz=211
BGNE **Belgrade** 52.94 23 *e*P P 15 42 05.5 -0.4
comp=Z,199nm,1.4s
HAWA **Hanford** 52.94 3 *e*P P 15 42 07.0 +1.2
comp=Z,146nm,1.8s
HAWA LR LR
comp=Z,250nm,22.0s
RLMT **Red Lodge** 53.00 12 P P 15 42 06.3 -0.3
baz=197
RLMT **Red Lodge** 53.00 12 *e*P P 15 42 06.4 -0.1
comp=Z,48nm,1.6s
RLMT LR LR
comp=Z,357nm,21.0s
R40A **Maddies Statio** 53.00 30 P P 15 42 05.3 -1.2
baz=219,SNR=10
P37A **Lathrop** 53.04 27 P P 15 42 05.1 -1.6
baz=216,SNR=6.0
BOZ **Bozeman (W)** 53.06 10 P P 15 42 06.3 -0.6
baz=194
BOZ **Bozeman (W)** 53.06 10 *e*P P 15 42 06.3 -0.6
BOZ pmax pmax
comp=Z,55nm,1.6s
BOZ MLR MLR
comp=Z,137nm,20.0s
BOZ **Bozeman (W)** 53.06 10 *e*P P 15 42 06.3 -0.6
comp=Z,55nm,1.6s
BOZ LR LR
comp=Z,137nm,20.0s
LRM **Limekiln Ridge** 53.10 9 *e*P P 15 42 07.2 -0.1
PB11 **IPOC Station P** 53.11 110 *e*P P 15 42 07.8 0.0
comp=Z,44nm,1.3s
N34A **Lincoln** 53.12 25 P P 15 42 06.1 -1.1
baz=213
O36A **Bolckow** 53.20 27 P P 15 42 06.7 -1.2
baz=215
LON **Longmire** 53.23 1 *e*P P 15 42 08.2 +0.2
LON pmax pmax
comp=Z,49nm,1.7s
LON **Longmire** 53.23 1 *e*P P 15 42 08.2 +0.2
comp=Z,49nm,1.7s
Q39A **Willow Grove F** 53.25 29 P P 15 42 06.8 -1.4
baz=218
TIGA **Tifton** 53.29 42 P P 15 42 07.1 -1.6
baz=231
TIGA **Tifton** 53.29 42 *e*P P 15 42 08.0 -0.7
comp=Z,48nm,0.3s
L31A **Butterfield Fa** 53.33 22 P P 15 42 08.3 -0.6
baz=210
RSSD **Black Hills** 53.35 17 P P 15 42 08.0 -1.1
baz=203
RSSD **Black Hills** 53.35 17 *e*P P 15 42 08.1 -1.1
RSSD *e* 15 43 15.6
RSSD pmax pmax
comp=Z,30nm,1.4s
RSSD **Black Hills** 53.35 17 *e*P P 15 42 08.1 -1.1
comp=Z,30nm,1.4s
RSSD *e*PcP PcP 15 43 15.6 -0.8
PB01 **IPOC Station P** 53.42 111 *e*P P 15 42 10.5 +0.5
comp=Z,192nm,2.0s
P38A **Dawn** 53.44 28 P P 15 42 08.2 -1.5
baz=217,SNR=9.8
M33A **Taylor Creek F** 53.45 24 P P 15 42 08.5 -1.2
baz=212,SNR=5.2
K30A **Basset** 53.48 21 P P 15 42 09.8 -0.2
baz=209
L32A **Elgin** 53.50 23 P P 15 42 09.5 -0.6
baz=211,SNR=7.2
N35A **Tabor** 53.50 25 P P 15 42 09.2 -0.9
baz=214
S43A **Fulton Ridge,** 53.58 32 P P 15 42 08.8 -1.9
baz=222,SNR=5.5
O37A **Wolven Farm, M** 53.59 27 P P 15 42 09.1 -1.7
baz=216

M34A **Aspy Farms, Fr** 53.64 24 P P 15 42 10.0 -1.1
baz=213
Q40A **Laux Farm, Aux** 53.65 30 P P 15 42 09.5 -1.6
baz=219,SNR=15
D05A **Enumclaw** 53.66 1 *e*P P 15 42 11.5 +0.4
comp=Z,203nm,1.6s
P39B **Salisbury** 53.70 29 P P 15 42 09.9 -1.6
baz=218,SNR=13
K31A **O'Neill** 53.75 22 P P 15 42 11.2 -0.7
baz=210
LTY **Liberty** 53.76 2 P P 15 42 11.6 -0.3
N36A **Muff Farm, Cla** 53.76 26 P P 15 42 11.3 -0.7
baz=215
WVT **Waverly** 53.77 35 *e*P P 15 42 10.0 -2.1
WVT pmax pmax
comp=Z,23nm,1.4s
WVT **Waverly** 53.77 35 *e*P P 15 42 10.0 -2.1
comp=Z,23nm,1.4s
GTBY **Guantanamo Bay** 53.85 59 PFAKE 15 42 20.0 +7.1
GTBY LR LR
comp=Z,285nm,20.0s
O38A **Galt** 53.87 28 P P 15 42 11.3 -1.4
baz=217
NLWA **Neilton Lookou** 53.87 359 *e*P P 15 42 13.4 +0.8
comp=Z,83nm,1.4s
NLWA LR LR
comp=Z,87nm,19.0s
MSO **Missoula** 53.87 8 P P 15 42 12.4 -0.4
baz=191
MSO **Missoula** 53.87 8 *e*P P 15 42 13.0 +0.2
comp=Z,101nm,1.3s
L33A **Hoskins** 53.92 23 P P 15 42 11.7 -1.5
baz=212
H25A **Fruitdale** 53.93 17 P P 15 42 12.6 -0.7
baz=204
M35A **Neola** 53.98 25 P P 15 42 11.9 -1.6
baz=214
N37A **Lee Faris, Mou** 54.04 27 P P 15 42 12.6 -1.4
baz=216,SNR=5.9
CHMT **Chamberlain Mo** 54.05 8 *e*P P 15 42 14.2 0.0
K32A **Verdigre** 54.07 22 P P 15 42 13.4 -0.8
baz=211,SNR=7.2
P40A **Paris** 54.07 29 P P 15 42 12.6 -1.6
baz=219,SNR=16
J30A **Dallas** 54.09 21 P P 15 42 13.6 -0.8
baz=209
S44A **Carbondale** 54.11 33 P P 15 42 12.8 -1.8
baz=222
L34A **Svendsen Farm,** 54.11 24 P P 15 42 13.1 -1.5
baz=213
SIUC **Southern Illin** 54.15 33 *e*P P 15 42 14.5 -0.3
comp=Z,188nm,1.9s
LVC **Limon Verde** 54.17 113 P P 15 42 16.9 +1.1
comp=Z,13nm,0.7s,baz=268,slow=9.4,SNR=3.3
SDV **Santo Domingo** 54.24 74 PFAKE 15 42 30.0 +14
SDV LR LR
comp=Z,938nm,22.0s
SWET **Sewanee** 54.25 37 *e*P P 15 42 14.1 -1.7
comp=Z,44nm,2.0s
LPAZ **La Paz** 54.26 105 LR LR 16 00 52.7
comp=Z,481nm,18.3s,baz=302,slow=31
LPAZ **La Paz** 54.26 105 *e*P P 15 42 17.1 +0.3
LPAZ pmax pmax
comp=Z,29nm,1.8s
LPAZ **La Paz** 54.26 105 *e*P P 15 42 17.1 +0.3
comp=Z,29nm,1.8s
SLM **Saint Louis** 54.30 31 *e*P P 15 42 15.7 -0.2
SLM pmax pmax
comp=Z,249nm,1.6s
SLM **Saint Louis** 54.30 31 *e*P P 15 42 15.7 -0.2
comp=Z,249nm,1.6s
J31A **Geddes** 54.33 21 P P 15 42 15.0 -1.1
baz=210
M36A **Felix, Anita** 54.35 26 P P 15 42 15.0 -1.3
baz=215
Q42A **Golden Eagle** 54.35 31 P P 15 42 14.7 -1.5
baz=220,SNR=7.6
K33A **Hardington** 54.40 23 P P 15 42 15.7 -0.9
baz=212
O39A **Kirksville** 54.40 28 P P 15 42 15.6 -1.1
baz=218,SNR=11
C06D **Leavenworth** 54.42 2 P P 15 42 16.3 -0.3
baz=182
I29A **Vivian Onida** 54.42 20 P P 15 42 15.7 -1.1
baz=208
S45A **Carrier Mills** 54.47 33 P P 15 42 15.7 -1.4
baz=223
N38A **Joes South For** 54.51 27 P P 15 42 15.9 -1.6
baz=217
SWMT **Swartz Lake** 54.53 7 *e*P P 15 42 17.7 +0.1
L35A **Bielow Farm, R** 54.58 25 P P 15 42 16.7 -1.2
baz=214,SNR=12
GOGA **Godfrey** 54.61 41 *e*P P 15 42 17.1 -1.2
GOGA pmax pmax
comp=Z,66nm,1.3s
GOGA MLR MLR
comp=Z,258nm,22.0s
GOGA **Godfrey** 54.61 41 *e*P P 15 42 17.1 -1.2
comp=Z,66nm,1.3s
GOGA LR LR
comp=Z,258nm,22.0s
R44A **Waltonville** 54.61 32 P P 15 42 17.1 -1.1
baz=222
O40A **La Belle** 54.62 29 P P 15 42 16.5 -1.7
baz=219,SNR=15
I30A **Oacoma** 54.63 21 P P 15 42 17.3 -1.0
baz=209
M37A **Trindle Farm,** 54.63 26 P P 15 42 17.3 -1.0
baz=216,SNR=5.8
J32A **Parkston** 54.73 22 P P 15 42 17.5 -1.5
baz=211
JTMT **Jette** 54.73 7 *e*P P 15 42 19.3 +0.2
B05A **Bryant** 54.74 1 P P 15 42 18.8 -0.1
baz=181,SNR=9.0
BSMT **Bassoo Peak** 54.78 7 *e*P P 15 42 19.4 -0.1
Q43A **New Douglas** 54.80 31 P P 15 42 18.0 -1.6
baz=221
K34A **Le Mars** 54.83 24 P P 15 42 18.5 -1.2
baz=213,SNR=9.3
YBMT **Yellow Bay** 54.88 7 *e*P P 15 42 20.4 +0.2
B08A **Colville Reser** 54.91 3 P P 15 42 20.0 -0.2
N39A **Derby Farms, D** 54.91 28 P P 15 42 18.7 -1.7
baz=218,SNR=12
L36A **Harm Buss Farm** 54.94 25 P P 15 42 19.0 -1.5
baz=215
NEW **Newport** 54.96 5 P P 15 42 20.6 0.0
comp=Z,3.3nm,0.7s,baz=174,slow=6.8,SNR=13
NEW **Newport** 54.96 5 P P 15 42 20.6 0.0
baz=187
NEW **Newport** 54.96 5 *e*P P 15 42 21.0 +0.4
comp=Z,82nm,1.8s
BLMT **Blacktail Moun** 54.98 7 *e*P P 15 42 20.9 -0.1
H29A **Onida** 54.99 20 P P 15 42 19.8 -1.1
baz=208
J33A **Davis** 55.02 23 P P 15 42 19.9 -1.2
baz=212,SNR=8.9
M38A **Pleasantville** 55.03 27 P P 15 42 19.4 -1.8
baz=217,SNR=14
I31A **Royce, Wessing** 55.05 21 P P 15 42 20.0 -1.2
baz=210
PGC **Sidney** 55.12 359 *e*P P 15 42 22.2 +0.6
comp=Z,91nm,1.3s
LAO **LASA Array** 55.16 14 P P 15 42 21.0 -1.1
baz=200
LAO **LASA Array** 55.16 14 *e*P P 15 42 21.2 -0.9
comp=Z,111nm,2.0s
F25A **Bowman** 55.17 16 P P 15 42 21.0 -1.2
baz=204
USIN **University of** 55.17 34 *e*P P 15 42 21.7 -0.6
comp=Z,108nm,1.1s
A04D **Lummi Island** 55.19 0 P P 15 42 22.2 0.0
baz=180
K35A **Storm Lake** 55.21 25 P P 15 42 21.3 -1.2
baz=214
SUSD **Miller** 55.26 21 P P 15 42 21.7 -1.1
baz=209
CPCT **Cooper Cave** 55.27 38 *e*P P 15 42 21.6 -1.4
comp=Z,30nm,1.5s
F26A **Lodgepole** 55.33 17 P P 15 42 21.9 -1.4
baz=204
L37A **Phoenix Point,** 55.35 26 P P 15 42 22.0 -1.5
baz=216
J34A **George** 55.39 24 P P 15 42 22.3 -1.4
baz=213,SNR=16
SCIA **State Center** 55.41 27 *e*P P 15 42 22.4 -1.5
comp=Z,32nm,0.9s
SCIA LR LR
comp=Z,304nm,20.0s

I32A	**Karley and Nic**	**55.44**	**22**	P		**P**	**15 42 23.1**	**-1.0**
	baz=211							
H31A	**Wolsey**	**55.46**	**21**	P		**P**	**15 42 22.5**	**-1.7**
	baz=210							
K36A	**Gilmore City**	**55.47**	**25**	P		**P**	**15 42 22.9**	**-1.5**
	baz=215,SNR=12							
OLIL	**Olney**	**55.49**	**33**	*e*P		**P**	**15 42 23.9**	**-0.6**
	comp=Z,65nm,1.1s							
ECSD	**EROS Data Cent**	**55.51**	**23**	P		**P**	**15 42 23.2**	**-1.4**
	baz=212							
ECSD	**EROS Data Cent**	**55.51**	**23**	*e*P		**P**	**15 42 23.1**	**-1.5**
	comp=Z,91nm,1.4s							
ECSD				LR		LR		
	comp=Z,414nm,20.0s							
G29A	**Hoven**	**55.59**	**19**	P		**P**	**15 42 23.2**	**-1.9**
	baz=208							
EGMT	**Eagleton**	**55.69**	**11**	P		**P**	**15 42 25.6**	**-0.3**
	baz=196							
EGMT	**Eagleton**	**55.69**	**11**	PFAKE			15 42 40.0	+14
EGMT				LR		LR		
	comp=Z,202nm,21.0s							
I33A	**Coleman**	**55.70**	**22**	P		**P**	**15 42 24.7**	**-1.3**
	baz=212							
E25A	**Miller Ranch,**	**55.71**	**16**	P		**P**	**15 42 24.8**	**-1.3**
	baz=203,SNR=9.5							
L38A	**Oak Wood Farm,**	**55.71**	**27**	P		**P**	**15 42 24.1**	**-2.0**
	baz=217,SNR=7.8							
J35A	**Milford**	**55.76**	**24**	P		**P**	**15 42 24.6**	**-1.8**
	baz=214							
G30A	**Faulkton**	**55.79**	**20**	P		**P**	**15 42 24.7**	**-1.9**
	baz=209							
H32A	**Carlson Farm,**	**55.86**	**22**	P		**P**	**15 42 25.6**	**-1.5**
	baz=211,SNR=5.4							
TKL	**Tuckaleechee C**	**55.86**	**38**	*e*P		**P**	**15 42 25.3**	**-2.0**
TKL				pmax		pmax		
	comp=Z,46nm,1.3s							
TKL	**Tuckaleechee C**	**55.86**	**38**	*e*P		**P**	**15 42 25.2**	**-2.0**
	comp=Z,46nm,1.3s							
K37A	**Belmond**	**55.92**	**26**	P		**P**	**15 42 25.2**	**-2.4**
	baz=216,SNR=12							
E26A	**Carlson Angus**	**55.95**	**17**	P		**P**	**15 42 26.4**	**-1.4**
	baz=204							
I34A	**Hadley**	**56.06**	**23**	P		**P**	**15 42 27.1**	**-1.4**
	baz=213,SNR=6.6							
WALA	**Waterton Lakes**	**56.07**	**7**	*e*P		**P**	**15 42 28.9**	**+0.3**
	comp=Z,50nm,1.2s							
J36A	**Seneca 1, Swea**	**56.08**	**25**	P		**P**	**15 42 26.9**	**-1.8**
	baz=215,SNR=8.2							
WCI	**Wyandotte Cave**	**56.12**	**34**	*e*P		**P**	**15 42 27.7**	**-1.4**
WCI				pmax		pmax		
	comp=Z,127nm,0.6s							
WCI	**Wyandotte Cave**	**56.12**	**34**	*e*P		**P**	**15 42 27.7**	**-1.4**
	comp=Z,127nm,0.6s							
F29A	**Eureka**	**56.19**	**19**	P		**P**	**15 42 27.8**	**-1.7**
	baz=208,SNR=11							
G31A	**Conde**	**56.20**	**21**	P		**P**	**15 42 27.8**	**-1.7**
	baz=210							
K38A	**Parkersburg**	**56.20**	**26**	P		**P**	**15 42 27.7**	**-1.9**
	baz=217							
HDIL	**Hopedale**	**56.22**	**30**	P		**P**	**15 42 28.0**	**-1.8**
	baz=221							
HDIL	**Hopedale**	**56.22**	**30**	*e*P		**P**	**15 42 28.5**	**-1.2**
	comp=Z,97nm,1.3s							
HDIL				LR		LR		
	comp=Z,197nm,20.0s							
I35A	**Creekview Farm**	**56.26**	**24**	P		**P**	**15 42 28.1**	**-1.8**
	baz=214							
H33A	**Prehn Over Nor**	**56.26**	**22**	P		**P**	**15 42 28.6**	**-1.4**
	baz=212,SNR=7.4							
D25A	**Fairfield**	**56.33**	**16**	P		**P**	**15 42 29.7**	**-0.7**
	baz=203,SNR=6.7							
J37A	**Redenius Farm,**	**56.40**	**25**	P		**P**	**15 42 29.1**	**-1.8**
	baz=216,SNR=11							
F30A	**Leola**	**56.45**	**20**	P		**P**	**15 42 29.6**	**-1.7**
	baz=209,SNR=6.7							
D26A	**Manning**	**56.47**	**17**	P		**P**	**15 42 30.0**	**-1.4**
	baz=204,SNR=12							
G32A	**Webster**	**56.48**	**21**	P		**P**	**15 42 29.9**	**-1.6**
	baz=210							
TZTN	**Tazewell**	**56.58**	**38**	*e*P		**P**	**15 42 31.1**	**-1.3**
	comp=Z,54nm,0.9s							
JSC	**Jenkinsville**	**56.58**	**41**	*e*P		**P**	**15 42 31.5**	**-0.9**
JSC				pmax		pmax		
	comp=Z,58nm,1.5s							
JSC	**Jenkinsville**	**56.58**	**41**	*e*P		**P**	**15 42 31.5**	**-0.9**
	comp=Z,58nm,1.5s							
NHSC	**New Hope**	**56.60**	**43**	*e*P		**P**	**15 42 32.5**	**0.0**
	comp=Z,85nm,1.1s							
NHSC				LR		LR		
	comp=Z,223nm,20.0s							
H34A	**Spellman Lake,**	**56.62**	**23**	P		**P**	**15 42 31.1**	**-1.4**
	baz=212,SNR=9.4							
F31A	**Hecla**	**56.74**	**20**	P		**P**	**15 42 31.5**	**-1.8**
	baz=209							
I36A	**Fitzsimmons Fa**	**56.78**	**25**	P		**P**	**15 42 31.8**	**-1.9**
	baz=215							
SDDR	**Presa de Saban**	**56.80**	**62**	*e*P		**P**	**15 42 34.3**	**0.0**
	comp=Z,45nm,1.4s							
SDDR				LR		LR		
	comp=Z,369nm,21.0s							
G33A	**Ortonville**	**56.81**	**22**	P		**P**	**15 42 32.2**	**-1.7**
	baz=212,SNR=7.3							
C25A	**Freed Ranch, W**	**56.86**	**16**	P		**P**	**15 42 33.3**	**-1.0**
	baz=203							
J38A	**Wedel Dairy, R**	**56.87**	**26**	P		**P**	**15 42 32.3**	**-2.0**
	baz=217,SNR=6.0							
E29A	**Napoleon**	**56.90**	**19**	P		**P**	**15 42 32.9**	**-1.5**
	baz=208,SNR=15							
H35A	**Sunnyside Ranc**	**57.02**	**23**	P		**P**	**15 42 33.5**	**-1.8**
	baz=214,SNR=5.6							
I37A	**Lemond, Waseca**	**57.03**	**25**	P		**P**	**15 42 33.7**	**-1.8**
	baz=215,SNR=9.5							
KMSC	**Kings Mountain**	**57.07**	**40**	P		**P**	**15 42 33.6**	**-2.3**
	baz=231							
KMSC	**Kings Mountain**	**57.07**	**40**	*e*P		**P**	**15 42 34.6**	**-1.3**
	comp=Z,12nm,1.0s							
E30A	**Jud**	**57.08**	**19**	P		**P**	**15 42 34.1**	**-1.7**
	baz=208							
F32A	**Veblen**	**57.14**	**21**	P		**P**	**15 42 34.5**	**-1.7**
	baz=211							
G34A	**Benson**	**57.16**	**23**	P		**P**	**15 42 34.6**	**-1.7**
	baz=212							
D28A	**Regan**	**57.16**	**18**	P		**P**	**15 42 34.7**	**-1.6**
	baz=206							
SFIN	**Lafayette**	**57.22**	**32**	P		**P**	**15 42 35.3**	**-1.6**
	baz=223,SNR=8.3							
SFIN	**Lafayette**	**57.22**	**32**	*e*P		**P**	**15 42 35.6**	**-1.2**
	comp=Z,97nm,1.2s							
H36A	**Jessenland, He**	**57.28**	**24**	P		**P**	**15 42 35.6**	**-1.5**
	baz=215							
DGMT	**Dagmar**	**57.32**	**15**	P		**P**	**15 42 36.5**	**-0.9**
	baz=202							
DGMT	**Dagmar**	**57.32**	**15**	*e*P		**P**	**15 42 37.0**	**-0.4**
	comp=Z,75nm,1.1s							
D29A	**Pettibone, Tap**	**57.35**	**19**	P		**P**	**15 42 35.6**	**-2.0**
	baz=208,SNR=5.0							
C27A	**Sayler Ranch,**	**57.35**	**17**	P		**P**	**15 42 36.3**	**-1.3**
	baz=205							
B25A	**Knox Farm, Ray**	**57.40**	**15**	P		**P**	**15 42 37.1**	**-0.9**
	baz=203							
F33A	**5 Mile Ranch,**	**57.42**	**22**	P		**P**	**15 42 36.3**	**-1.8**
	baz=212,SNR=13							
E31A	**Nome**	**57.47**	**20**	P		**P**	**15 42 36.8**	**-1.7**
	baz=210							
PLCA	**Paso Flores**	**57.48**	**135**	P		**P**	**15 42 40.6**	**+1.8**
	comp=Z,6.4nm,0.8s,baz=40,slow=5.9,SNR=3.4							
PLCA				LR		LR	16 00 56.5	
	comp=Z,464nm,21.5s,baz=319,slow=29							
PLCA	**Paso Flores**	**57.48**	**135**	*e*P		**P**	**15 42 41.8**	**+3.0**
	comp=Z,174nm,1.8s							
FUNA	**Funafuti**	**57.49**	**264**	PFAKE			15 42 50.0	+11
FUNA				LR		LR		
	comp=Z,4µm,20.0s							
I38A	**Scanlan Farm,**	**57.51**	**26**	P		**P**	**15 42 36.9**	**-2.0**
	baz=216,SNR=5.9							
JFWS	**Jewell Farm**	**57.55**	**28**	*e*P		**P**	**15 42 38.0**	**-1.2**
JFWS				pmax		pmax		
	comp=Z,132nm,1.6s							
JFWS				MLR		MLR		
	comp=Z,183nm,19.0s							
JFWS	**Jewell Farm**	**57.55**	**28**	*e*P		**P**	**15 42 38.0**	**-1.2**
	comp=Z,132nm,1.6s							
JFWS				LR		LR		
	comp=Z,183nm,19.0s							
G35A	**Watkins**	**57.59**	**23**	P		**P**	**15 42 37.3**	**-2.0**
	baz=214							
D30A	**Buchanan**	**57.66**	**19**	P		**P**	**15 42 38.1**	**-1.8**
	baz=208,SNR=13							
C28A	**Hausauer Farms**	**57.68**	**18**	P		**P**	**15 42 38.8**	**-1.2**
	baz=206,SNR=6.6							
H37A	**Dierke Farm, C**	**57.70**	**25**	P		**P**	**15 42 38.7**	**-1.4**
	baz=216							
B26A	**Jensen Ranch,**	**57.75**	**16**	P		**P**	**15 42 39.6**	**-0.8**
	baz=204							
F34A	**Alexandria**	**57.77**	**22**	P		**P**	**15 42 38.7**	**-1.9**
	baz=213							
E32A	**Braaten, Kindr**	**57.78**	**21**	P		**P**	**15 42 39.3**	**-1.4**
	baz=210							
G36A	**St. Michael**	**57.89**	**24**	P		**P**	**15 42 40.1**	**-1.4**
	baz=214,SNR=6.7							
D31A	**Mcclaflin, Tow**	**57.95**	**20**	P		**P**	**15 42 40.1**	**-1.8**
	baz=210							
A25A	**Svangstu Ranch**	**58.03**	**15**	P		**P**	**15 42 41.5**	**-0.9**
	baz=203							
MDND	**Maddock**	**58.04**	**18**	P		**P**	**15 42 40.6**	**-1.9**
	baz=207							
MDND	**Maddock**	**58.04**	**18**	*e*P		**P**	**15 42 42.0**	**-0.5**
	comp=Z,325nm,1.8s							
B27A	**Peters Farms,**	**58.05**	**17**	P		**P**	**15 42 41.5**	**-1.1**
	baz=205							
F35A	**Swanville**	**58.08**	**23**	P		**P**	**15 42 41.4**	**-1.4**
	baz=213,SNR=6.4							
E33A	**Westby DABS, E**	**58.09**	**22**	P		**P**	**15 42 41.3**	**-1.6**
	baz=212							
SPMN	**Marine on St.**	**58.27**	**25**	P		**P**	**15 42 42.3**	**-1.8**
	baz=216							
SPMN	**Marine on St.**	**58.27**	**25**	*e*P		**P**	**15 42 42.8**	**-1.3**
	comp=Z,69nm,1.3s							
D32A	**Dogwood Acres,**	**58.27**	**20**	P		**P**	**15 42 42.3**	**-1.8**
	baz=210							
C30A	**Mose, Pekin**	**58.27**	**19**	P		**P**	**15 42 42.8**	**-1.3**
	baz=209,SNR=14							
A26A	**Wade Farm, Ken**	**58.28**	**16**	P		**P**	**15 42 43.1**	**-1.1**
	baz=204,SNR=7.0							
B28A	**Dugan Ranch, T**	**58.35**	**17**	P		**P**	**15 42 43.5**	**-1.1**
	baz=206							
E34A	**Wadena**	**58.40**	**22**	P		**P**	**15 42 43.7**	**-1.3**
	baz=213,SNR=6.0							
F36A	**Milaca**	**58.50**	**24**	P		**P**	**15 42 44.2**	**-1.5**
	baz=215,SNR=33							
C31A	**Landman Farms,**	**58.59**	**20**	P		**P**	**15 42 45.0**	**-1.4**
	baz=209							
B29A	**Wagenman Farm,**	**58.67**	**18**	P		**P**	**15 42 45.5**	**-1.3**
	baz=207,SNR=9.1							
D33A	**AnnSam, Waubun**	**58.69**	**21**	P		**P**	**15 42 45.6**	**-1.4**
	baz=212							
E35A	**Pequot Lakes**	**58.73**	**23**	P		**P**	**15 42 45.8**	**-1.5**
	baz=213,SNR=7.5							
A28A	**Rude Farm, Bot**	**58.79**	**17**	P		**P**	**15 42 47.0**	**-0.7**
	baz=206,SNR=18							
D34A	**Park Rapids**	**58.88**	**22**	P		**P**	**15 42 46.9**	**-1.5**
	baz=212,SNR=6.9							
BLA	**Blacksburg**	**58.93**	**39**	*e*P		**P**	**15 42 47.7**	**-1.3**
BLA				pmax		pmax		
	comp=Z,98nm,1.8s							
BLA				MLR		MLR		
	comp=Z,135nm,19.0s							
BLA	**Blacksburg**	**58.93**	**39**	*e*P		**P**	**15 42 47.7**	**-1.3**
	comp=Z,98nm,1.8s							
BLA				LR		LR		
	comp=Z,135nm,19.0s							
B30A	**Myrvik Farm, E**	**58.98**	**19**	P		**P**	**15 42 47.5**	**-1.5**
	baz=208,SNR=6.9							
C32A	**Crookston**	**59.03**	**20**	P		**P**	**15 42 48.0**	**-1.4**
	baz=211							
SAML	**Samuel**	**59.04**	**96**	*e*P		**P**	**15 42 46.8**	**-3.3**
	comp=Z,32nm,1.7s							
SAML				LR		LR		
	comp=Z,363nm,19.0s							
A29A	**Manning Farm,**	**59.11**	**18**	P		**P**	**15 42 48.3**	**-1.6**
	baz=207,SNR=5.8							
E36A	**McGregor**	**59.14**	**23**	P		**P**	**15 42 48.4**	**-1.8**
	baz=215,SNR=11							
B31A	**Greenbush Farm**	**59.17**	**19**	P		**P**	**15 42 48.9**	**-1.5**
	baz=209							
C33A	**Trail**	**59.24**	**21**	P		**P**	**15 42 49.1**	**-1.7**
	baz=212							
D35A	**Remer**	**59.30**	**22**	P		**P**	**15 42 49.7**	**-1.6**
	baz=214,SNR=8.7							
ACSO	**Alum Creek Sta**	**59.37**	**35**	PFAKE			15 43 00.0	+8.2
ACSO				LR		LR		
	comp=Z,298nm,19.0s							
CNNC	**Cliffs of the**	**59.38**	**42**	PFAKE			15 43 00.0	+8.0
CNNC				LR		LR		
	comp=Z,546nm,20.0s							
A30A	**Hoffart Farm,**	**59.41**	**19**	P		**P**	**15 42 50.5**	**-1.5**
	baz=208							
C34A	**RKJ Ranch, Bem**	**59.46**	**22**	P		**P**	**15 42 50.8**	**-1.6**
	baz=212							
B32A	**Ashes, Strandq**	**59.52**	**20**	P		**P**	**15 42 51.2**	**-1.5**
	baz=210							
E37A	**Wrenshall**	**59.52**	**24**	P		**P**	**15 42 51.2**	**-1.6**
	baz=216							
AGMN	**Agassiz Nation**	**59.67**	**21**	P		**P**	**15 42 52.4**	**-1.4**
	baz=211							
AGMN	**Agassiz Nation**	**59.67**	**21**	PFAKE			15 43 10.0	+16
AGMN				LR		LR		
	comp=Z,334nm,22.0s							
D36A	**Goodland**	**59.72**	**23**	P		**P**	**15 42 52.4**	**-1.7**
	baz=214,SNR=7.1							
B33A	**Robert and Kas**	**59.74**	**21**	P		**P**	**15 42 52.7**	**-1.5**
	baz=212,SNR=6.1							
A31A	**Linda, St. Vin**	**59.77**	**19**	P		**P**	**15 42 52.8**	**-1.6**
	baz=210							
C35A	**Jirik Farms, M**	**59.84**	**22**	P		**P**	**15 42 53.3**	**-1.7**
	baz=214,SNR=14							
A32A	**Rocking H Ranc**	**59.98**	**20**	P		**P**	**15 42 54.0**	**-1.9**
	baz=210							
D37A	**Cotton**	**59.99**	**23**	P		**P**	**15 42 54.0**	**-2.0**
	baz=215							
B34A	**Aery, Baudette**	**60.26**	**21**	P		**P**	**15 42 56.4**	**-1.4**
	baz=212,SNR=9.9							
C36A	**Pine Crest Far**	**60.32**	**23**	P		**P**	**15 42 56.9**	**-1.4**
	baz=215,SNR=11							
A33A	**Warroad**	**60.38**	**20**	P		**P**	**15 42 56.7**	**-1.9**
	baz=212							
AAM	**Ann Arbor**	**60.41**	**33**	PFAKE			15 43 10.0	+11
AAM				LR		LR		
	comp=Z,293nm,20.0s							
B35A	**Bob, Littlefor**	**60.49**	**22**	P		**P**	**15 42 58.1**	**-1.3**
	baz=214,SNR=26							
COWI	**Conover**	**60.53**	**26**	*e*P		**P**	**15 42 57.5**	**-2.2**
	comp=Z,145nm,1.5s							
COWI				LR		LR		
	comp=Z,394nm,19.0s							
C37A	**Embarrass**	**60.55**	**23**	P		**P**	**15 42 58.5**	**-1.4**
	baz=215,SNR=15							
C38A	**Sawill Land.**	**60.91**	**24**	P		**P**	**15 43 00.2**	**-2.0**
	baz=216,SNR=9.5							
EYMN	**Ely**	**61.00**	**24**	P		**P**	**15 43 01.3**	**-1.6**
	baz=216							
EYMN	**Ely**	**61.00**	**24**	*e*P		**P**	**15 43 01.5**	**-1.4**
	comp=Z,63nm,1.1s							
EYMN				LR		LR		
	comp=Z,295nm,22.0s							
SJG	**San Juan**	**61.07**	**65**	PFAKE			15 43 20.0	+16
SJG				LR		LR		
	comp=Z,244nm,20.0s							
ULM	**Lac du Bonnet**	**61.34**	**19**	P		**P**	**15 43 02.6**	**-2.4**
	comp=Z,18nm,0.9s,baz=216,slow=7.4,SNR=20							
ULM				LR		LR	16 06 47.2	
	comp=Z,188nm,18.1s,baz=210,slow=33							
ULM	**Lac du Bonnet**	**61.34**	**19**	*e*P		**P**	**15 43 03.0**	**-2.1**
	comp=Z,41nm,1.0s							
C39A	**Grand Marais**	**61.45**	**24**	P		**P**	**15 43 04.0**	**-1.9**
	baz=218,SNR=5.7							
CBN	**Corbin Frederi**	**61.45**	**40**	PFAKE			15 43 20.0	+14
CBN				LR		LR		
	comp=Z,203nm,21.0s							
N54A	**Moraine State**	**61.56**	**36**	P		**P**	**15 43 05.4**	**-1.5**
	baz=230,SNR=9.3							
ALLY	**Alegheny Colle**	**61.91**	**35**	*e*P		**P**	**15 43 08.2**	**-1.0**
	comp=Z,225nm,1.6s							
O56A	**Blue Knob Stat**	**61.97**	**37**	P		**P**	**15 43 08.6**	**-1.1**
	baz=232,SNR=12							
M54A	**Oil Creek Stat**	**62.10**	**36**	P		**P**	**15 43 09.4**	**-1.1**
	baz=230,SNR=19							
ERPA	**Erie**	**62.30**	**35**	*e*P		**P**	**15 43 10.9**	**-0.9**
	comp=Z,357nm,1.8s							
SDMD	**Soldier's Deli**	**62.50**	**39**	*e*P		**P**	**15 43 13.2**	**+0.1**
	comp=Z,11nm,1.0s							
CRAG	**Craig**	**62.54**	**353**	*e*P		**P**	**15 43 13.7**	**+0.6**
	comp=Z,64nm,1.5s							
SSPA	**Standing Stone**	**62.60**	**37**	*e*P		**P**	**15 43 12.2**	**-1.6**
	comp=Z,78nm,1.1s							
PTGA	**Pitinga**	**62.92**	**87**	*e*P		**P**	**15 43 14.8**	**-1.7**
	comp=Z,53nm,1.8s							
PTGA				LR		LR		
	comp=Z,34µm,21.0s							
TRQA	**Tornquist**	**63.02**	**129**	*e*P		**P**	**15 43 17.4**	**+0.6**
	comp=Z,77nm,1.8s							
MVL	**Millersville**	**63.15**	**39**	*e*P		**P**	**15 43 17.2**	**-0.2**
	comp=Z,42nm,1.1s							
GRGR	**Grenville**	**63.59**	**73**	PFAKE			15 43 30.0	+9.1
GRGR				LR		LR		
	comp=Z,340nm,21.0s							
MMNY	**Mt. Morris Dam**	**63.88**	**35**	*e*P		**P**	**15 43 21.4**	**-0.8**
N59A	**State Game Lan**	**64.05**	**38**	P		**P**	**15 43 22.6**	**-0.8**
	baz=234,SNR=9.3							
LUPA	**Lehigh Univers**	**64.11**	**39**	*e*P		**P**	**15 43 23.7**	**-0.2**
	comp=Z,44nm,1.0s							
KSPA	**Keystone Colle**	**64.43**	**37**	*e*P		**P**	**15 43 25.5**	**-0.4**
	comp=Z,21nm,0.8s							
SADO	**Sadowa**	**64.50**	**33**	*e*P		**P**	**15 43 25.1**	**-1.1**
	comp=Z,55nm,1.1s							
TARA	**Tarawa**	**64.66**	**275**	PFAKE			15 43 40.0	+12
TARA				LR		LR		
	comp=Z,37nm,19.0s							
BRNJ	**Basking Ridge**	**64.66**	**39**	*e*P		**P**	**15 43 27.1**	**-0.3**
	comp=Z,46nm,0.7s							
BINY	**Binghamton**	**64.68**	**37**	*e*P		**P**	**15 43 27.1**	**-0.5**
	comp=Z,57nm,1.0s							
BINY				LR		LR		
	comp=Z,414nm,21.0s							
FDF	**Fort de France**	**64.71**	**70**	PFAKE			15 43 40.0	+12
FDF				LR		LR		
	comp=Z,242nm,19.0s							
ODNJ	**Ogdensburg**	**64.87**	**38**	*e*P		**P**	**15 43 28.3**	**-0.4**
	comp=Z,32nm,1.2s							
ANWB	**Willy Bob**	**64.90**	**67**	PFAKE			15 43 40.0	+11
ANWB				LR		LR		
	comp=Z,445nm,20.0s							
CPUP	**Villa Florida**	**65.08**	**116**	P		**P**	**15 43 30.5**	**0.0**
	comp=Z,7.8nm,0.9s,baz=284,slow=7.3,SNR=12							
CPUP				LR		LR	16 06 14.7	
	comp=Z,205nm,18.4s,baz=284,slow=31							
DLBC	**Dease Lake**	**65.19**	**356**	*e*P		**P**	**15 43 30.9**	**+0.3**
	comp=Z,163nm,1.9s							
PAL	**Palisades**	**65.25**	**39**	*e*P		**P**	**15 43 30.7**	**-0.5**
PAL				pmax		pmax		
	comp=Z,46nm,1.1s							
PAL	**Palisades**	**65.25**	**39**	*e*P		**P**	**15 43 30.7**	**-0.5**
	comp=Z,46nm,1.1s							
SKAG	**Skagway**	**66.71**	**353**	*e*P		**P**	**15 43 41.0**	**+0.9**
	comp=Z,90nm,1.8s							
ACCN	**Adirondack Com**	**66.76**	**37**	*e*P		**P**	**15 43 40.0**	**-0.9**
	comp=Z,42nm,1.0s							
LONY	**Lake Ozonia**	**66.95**	**35**	*e*P		**P**	**15 43 41.2**	**-0.8**
	comp=Z,50nm,1.1s							
LONY				LR		LR		
	comp=Z,228nm,20.0s							
BBSR	**BB Station**	**67.51**	**51**	PFAKE			15 44 00.0	+14
BBSR				LR		LR		
	comp=Z,199nm,20.0s							
FRNY	**Flat Rock**	**67.65**	**36**	*e*P		**P**	**15 43 45.8**	**-0.7**
	comp=Z,32nm,1.1s							
HNH	**Hanover**	**67.77**	**37**	*e*P		**P**	**15 43 47.3**	**0.0**
	comp=Z,274nm,1.9s							
TRQ	**Mont Tremblant**	**67.92**	**34**	*e*P		P	15 43 41.8	-6.5
MID	**Middleton Isla**	**68.55**	**347**	*e*P		**P**	**15 43 52.3**	**+0.5**
MID				pmax		pmax		
	comp=Z,95nm,1.2s							
MID	**Middleton Isla**	**68.55**	**347**	*e*P		**P**	**15 43 52.3**	**+0.5**
	comp=Z,96nm,1.2s							
KDAK	**Kodiak Island**	**68.67**	**343**	*e*P		**P**	**15 43 52.8**	**+0.2**
KDAK				pmax		pmax		
	comp=Z,49nm,1.3s							
KDAK				MLR		MLR		
	comp=Z,317nm,22.0s							
KDAK	**Kodiak Island**	**68.67**	**343**	*e*P		**P**	**15 43 52.8**	**+0.2**
	comp=Z,49nm,1.3s							
KDAK				LR		LR		
	comp=Z,317nm,22.0s							
RAGM	**Ragged Mountai**	**69.08**	**349**	*e*P		**P**	**15 43 55.7**	**+0.5**
	comp=Z,70nm,1.3s							
CRQM	**Cirque**	**69.13**	**349**	*e*P		**P**	**15 43 55.9**	**+0.3**
	comp=Z,64nm,1.2s							
FCC	**Fort Churchill**	**69.20**	**16**	*e*P		**P**	**15 43 55.0**	**-0.9**
FCC				pmax		pmax		
	comp=Z,31nm,1.0s							
FCC	**Fort Churchill**	**69.20**	**16**	*e*P		**P**	**15 43 55.0**	**-0.9**
	comp=Z,31nm,1.0s							
EFI	**East Falkland**	**69.22**	**143**	⇓*e*P		**P**	**15 43 55.9**	**-0.3**
EFI				pmax		pmax		
	comp=Z,19nm,0.9s							
YKA	**Yellowknife Ar**	**69.28**	**4**	P		**P**	**15 43 55.3**	**-1.0**
	comp=Z,13nm,0.7s,baz=183,slow=6.1,SNR=116							
YKA				LR		LR	16 10 55.7	
	comp=Z,6.4nm,19.9s,baz=180,slow=33							
EYAK	**Cordova Ski Ar**	**69.44**	**348**	*e*P		**P**	**15 43 57.5**	**+0.2**
	comp=Z,36nm,1.3s							
BMRM	**Bremner River**	**69.60**	**349**	*e*P		**P**	**15 43 58.3**	**-0.1**
	comp=Z,90nm,1.1s							
DZM	**Mont Dzumac**	**69.71**	**249**	*e*S		**S**	**15 53 01.8**	**-5.3**
	comp=Z,154nm,26.9s							
DZM	**Mont Dzumac**	**69.71**	**249**	*e*LR		LR	16 04 56.3	
	comp=Z,506nm,30.6s							
DZM	**Mont Dzumac**	**69.71**	**249**	*e*P		**P**	**15 44 01.0**	**+1.0**
	comp=Z,27nm,1.2s							
CNPM	**China Poot**	**69.80**	**345**	*e*P		**P**	**15 43 58.9**	**-0.7**
	comp=Z,38nm,1.2s							
WVL	**Waterville**	**69.82**	**38**	*e*P		**P**	**15 43 59.9**	**-0.2**
	comp=Z,59nm,1.1s							
SEW	**Seward**	**69.86**	**346**	*e*P		**P**	**15 43 59.5**	**-0.4**
	comp=Z,46nm,1.2s							
BRLK	**Bradley Lake**	**69.92**	**345**	*e*P		**P**	**15 44 00.1**	**-0.3**
	comp=Z,52nm,1.1s							
DIV	**Divide**	**69.98**	**348**	*e*P		**P**	**15 44 00.6**	**-0.2**
	comp=Z,56nm,1.2s			

MCK McKinley 72.97 348 eP P 15 44 17.9 -0.8
comp=Z,54nm,1.2s
TRF Thorofare Moun 73.00 347 eP P 15 44 17.8 -1.3
comp=Z,271nm,1.8s
KTH Kantishna Hill 73.23 347 eP P 15 44 19.2 -1.1
comp=Z,279nm,1.7s
CAST Castle Rocks 73.38 347 eP P 15 44 19.5 -1.6
comp=Z,55nm,1.2s
LMN Caledonia Moun 73.43 38 eP P 15 44 21.6 -0.2
comp=Z,35nm,1.1s
WRH Wood River Hil 73.47 349 eP P 15 44 20.5 -1.1
comp=Z,86nm,1.2s
IL1 Eielson Array 73.51 349 eP P 15 44 18.8 -3.1
ILAR Eielson Array 73.51 349 P P 15 44 20.3 -1.6
comp=Z,7.4nm,1.1s,baz=161,slow=5.0,SNR=34
ILAR LR LR 16 09 52.0
comp=Z,68nm,19.3s,baz=140,slow=30
ILB Eielson Array 73.51 349 eP P 15 44 21.1 -0.8
CCB Clear Creek Bu 73.57 349 eP P 15 44 21.1 -1.1
comp=Z,82nm,1.2s
BDFB Brasilia 73.59 104 LR LR 16 12 36.5
comp=Z,488nm,20.1s,baz=208,slow=32
BPAW Bear Paw Mtn. 73.72 348 eP P 15 44 21.6 -1.5
comp=Z,219nm,1.7s
COLA College 73.78 349 d iP P 15 44 23.2 -0.2
COLA pmax pmax
comp=Z,44nm,1.2s
COLA College 73.78 349 eP P 15 44 23.0 -0.4
comp=Z,64nm,1.1s
COLA LR LR
comp=Z,131nm,19.0s
H11S2 WAKE ISLAND Hy 73.86 291 T T 17 05 13.6
baz=103,slow=74,SNR=32
H11S1 WAKE ISLAND Hy 73.87 291 T T 17 05 14.2
baz=103,slow=74,SNR=24
H11S3 WAKE ISLAND Hy 73.88 291 T T 17 05 16.1
baz=103,slow=74,SNR=25
TT01 Tatalina 73.90 345 eP P 15 44 22.1 -2.1
TTA Tatalina 73.92 345 eP P 15 44 23.0 -1.4
TTA pmax pmax
comp=Z,35nm,1.4s
TTA Tatalina 73.92 345 eP P 15 44 23.0 -1.4
comp=Z,34nm,1.4s
MDM Murphy Dome 73.93 349 eP P 15 44 23.3 -1.0
comp=Z,120nm,1.3s
H11N3 WAKE ISLAND Hy 73.95 293 T T 17 05 19.9
baz=103,slow=74,SNR=15
H11N2 WAKE ISLAND Hy 73.97 293 T T 17 05 21.4
baz=103,slow=74,SNR=12
H11N1 WAKE ISLAND Hy 73.97 293 T T 17 05 24.8
baz=103,slow=74,SNR=6.5
MLY Manley 74.49 348 eP P 15 44 26.4 -1.3
comp=Z,59nm,1.2s
INK Inuvik 75.22 356 eP P 15 44 30.8 -0.9
INK pmax pmax
comp=Z,97nm,1.4s
INK Inuvik 75.22 356 eP P 15 44 30.8 -0.9
comp=Z,97nm,1.4s
COLD Coldfoot 76.33 349 eP P 15 44 37.5 -0.5
comp=Z,81nm,1.4s
HNR Honiara 76.42 262 PFAKE 15 44 50.0 +10
HNR LR LR
comp=Z,400nm,22.0s
SCHQ Schefferville 76.87 29 P P 15 44 40.3 -1.1
comp=Z,38nm,1.2s,baz=226,slow=3.7,SNR=7.4
SCHQ LR LR 16 16 13.2
comp=Z,174nm,20.5s,baz=272,slow=34
SCHQ Schefferville 76.87 29 eP P 15 44 40.4 -1.0
comp=Z,65nm,1.3s
GAMB Gambell 79.28 340 eP P 15 44 55.6 +1.2
comp=Z,77nm,1.3s
TNA Tin City 79.28 343 eP P 15 44 55.4 +0.9
comp=Z,68nm,1.6s
SBA Scott Base 79.41 192 PFAKE 15 45 10.0 +15
SBA LR LR
comp=Z,335nm,19.0s
VNDA Vanda 80.34 192 P P 15 45 02.2 +2.0
comp=Z,6.7nm,0.9s,baz=61,slow=4.2,SNR=20
VNDA LR LR 16 12 40.1
comp=Z,112nm,20.1s,baz=86,slow=30
VNDA Vanda 80.34 192 eP P 15 45 02.4 +2.3
comp=Z,27nm,1.4s
FRB Frobisher Bay 81.12 21 LR LR 16 18 45.8
comp=Z,62nm,18.6s,baz=212,slow=34
RES Resolute Bay 83.02 7 LR LR 16 20 48.5
comp=Z,86nm,18.2s,baz=236,slow=35
RES Resolute Bay 83.02 7 eP P 15 45 13.3 -0.9
RES pmax pmax
comp=Z,72nm,1.4s
RES Resolute Bay 83.02 7 eP P 15 45 13.3 -0.9
comp=Z,72nm,1.4s
QSPA South Pole Qui 83.34 180 eP P 15 45 18.4 +2.0
RCBR Riachuelo 86.25 95 P P 15 45 31.8 -0.2
comp=Z,6.8nm,1.1s,baz=258,slow=6.7,SNR=4.0
RCBR Riachuelo 86.25 95 P P 15 45 31.8 -0.2
RCBR LR LR
comp=Z,365nm,19.0s
PET Petropavlovsk 88.48 324 eP P 15 45 40.8 -0.9
PET eS S 15 56 22.6 -2.5
PET pmax pmax
comp=Z,44nm,1.3s
PET Petropavlovsk 88.48 324 eP P 15 45 40.5 -1.2
comp=Z,66nm,1.3s
PET LR LR
comp=Z,121nm,20.0s
CTAO Charters Tower 88.63 250 PFAKE 15 45 50.0 +6.8
CTAO LR LR
comp=Z,453nm,19.0s
PMG Port Moresby 88.98 261 ⇑ iP P 15 45 44.9 0.0
PMG pmax pmax
comp=Z,125nm,1.2s
PMG Port Moresby 88.98 261 PFAKE 15 46 00.0 +15
PMG LR LR
comp=Z,437nm,21.0s
PEA0 Petropavlovsk- 89.06 324 eP P 15 45 43.8 -0.7
PEA0B Petropavlovsk- 89.06 324 eP P 15 45 44.4 -0.1
comp=Z,59nm,1.1s
PETK Petropavlovsk- 89.06 324 P P 15 45 44.1 -0.4
comp=Z,20nm,0.8s,baz=106,slow=9.5,SNR=35
PETK LR LR 16 18 32.9
comp=Z,68nm,20.4s,baz=111,slow=31
BILL Bilibino 89.17 339 eP P 15 45 44.6 -0.1
BILL pmax pmax
comp=Z,15nm,1.7s
BILL Bilibino 89.17 339 PFAKE 15 46 00.0 +15
BILL LR LR
comp=Z,108nm,19.0s
SFJD Kangerlussuaq 89.26 22 LR LR 16 22 39.3
comp=Z,155nm,19.4s,baz=242,slow=34
MANU Manus Island 89.61 268 eP P 15 45 51.0 +3.1
comp=Z,64nm,1.4s
STKA Stephens Creek 91.25 238 LR LR 16 19 12.8
comp=Z,251nm,21.6s,baz=37,slow=30
SNAA Sanae 92.69 164 P P 15 46 00.5 -0.6
SNAA Sanae 92.69 164 ⇓ P P 15 46 00.8 -0.3
SEY Seymchan 93.57 333 P P 15 46 05.2 +0.1
comp=Z,7.8nm,1.0s,baz=104,slow=4.6,SNR=17
GUMO Guam 93.82 283 LR LR 16 18 14.3
comp=Z,123nm,21.6s,baz=108,slow=29
MA2 Magadan 93.93 329 LR LR 16 22 12.7
comp=Z,79nm,19.4s,baz=128,slow=32
ERM Erimo 97.45 311 PFAKE 15 46 30.0 +6.6
ERM LR LR
comp=Z,281nm,21.0s
ASAR Alice Springs 99.40 245 LR LR 16 25 15.6
comp=Z,208nm,21.3s,baz=92,slow=32
WRAB Tennant Creek 99.72 249 PFAKE 15 46 50.0 +16
WRAB LR LR
comp=Z,416nm,19.0s
WRA Warramunga Arr 99.72 249 LR LR 16 25 53.1
comp=Z,310nm,20.2s,baz=275,slow=32
MAJO Matsushiro 101.19 306 PFAKE 15 46 50.0 +10
MAJO LR LR
comp=Z,170nm,22.0s
YAK Yakutsk 104.08 332 PFAKE 15 47 00.0 +7.5
YAK LR LR
comp=Z,132nm,19.0s
KBS Kingsbay 104.41 8 PFAKE 15 47 00.0 +6.3
KBS LR LR
comp=Z,128nm,20.0s
ASCN Ascension 107.16 100 PFAKE 15 51 30.0
ASCN LR LR
comp=Z,2μm,21.0s
MDJ Mudanjiang 107.21 315 PFAKE 15 51 30.0
MDJ LR LR
comp=Z,146nm,20.0s
INCN Inchon 110.37 307 PFAKE 15 51 30.0
INCN LR LR
comp=Z,150nm,20.0s
DAV Davao City (W) 112.19 275 PFAKE 15 51 40.0
DAV LR LR
comp=Z,229nm,21.0s
MBWA Marble Bar 112.72 244 PFAKE 15 51 40.0
MBWA LR LR
comp=Z,292nm,19.0s
HIA Hailar 112.82 321 PFAKE 15 51 40.0
HIA LR LR
comp=Z,196nm,20.0s
MTE Manteigas 113.47 49 PFAKE 15 51 40.0
MTE LR LR
comp=Z,121nm,20.0s
RTC Rabat Centre 115.17 56 PFAKE 15 51 40.0 +8.8
RTC LR LR
comp=Z,631nm,22.0s
PAB San Pablo 116.06 49 PFAKE 15 51 40.0 +7.1
PAB LR LR
comp=Z,165nm,20.0s
KONO Kongsberg 116.10 25 PFAKE 15 51 40.0 +7.8
KONO LR LR
comp=Z,178nm,21.0s
YHNB Yeheng 116.23 294 PFAKE 15 51 50.0 +16
YHNB LR LR
comp=Z,372nm,19.0s
KAPI Kappang 116.50 261 PFAKE 15 51 50.0 +16
KAPI LR LR
comp=Z,124nm,19.0s
LVZ Lovozero 117.03 9 PFAKE 15 51 50.0 +16
LVZ LR LR
comp=Z,124nm,20.0s
BJI Beijing 117.87 312 PKP PKPdf 15 51 34.9 -1.3
BJI SS SS 16 09 02.8 +1.4
BJI LN
comp=Z,86nm,21.2s
BJI LE
comp=Z,130nm,24.5s
BJT Baijiatuau 117.88 312 PFAKE 15 51 50.0 +14
BJT LR LR
comp=Z,163nm,22.0s
KOWA Kowa 119.46 77 ePKPdf PKPdf 15 51 39.9 -0.1
WLF Walferdange 119.59 36 PFAKE 15 51 50.0 +11
WLF LR LR
comp=Z,164nm,21.0s
SSB Saint Sauveur 120.49 41 PFAKE 15 51 50.0 +8.8
SSB LR LR
comp=Z,213nm,22.0s
FINES FINESS Array B 120.68 17 PKP PKPdf 15 51 40.3 -0.6
comp=Z,2.6nm,0.7s,baz=57,slow=1.9,SNR=12
HHC Hu-ho-hao-te 120.98 314 ePKP PKPdf 15 51 43.6 +1.2
HHC PP PP 15 53 13.4 +1.8
HHC SKS SKSdf 15 58 56.1 +3.9
HHC SKKS SKKSac 16 00 04.0 -5.2
HHC PPMZ
comp=Z,55nm,8.6s
HHC LN
comp=Z,120nm,19.4s
HHC LE
comp=Z,180nm,22.0s
HHC LZ
comp=Z,110nm,20.8s
TLY Talaya 121.13 328 PFAKE 15 51 50.0 +7.8
TLY LR LR
comp=Z,87nm,19.0s
ULN Ulaanbaatar 121.14 323 ⇑ iPKIKP PKPdf 15 51 42.6 +0.1
ULN pmax pmax
comp=Z,11nm,2.5s
ULN Ulaanbaatar 121.14 323 PFAKE 15 51 50.0 +7.5
ULN LR LR
comp=Z,219nm,22.0s
KKM Kota Kinabalu 121.39 273 PFAKE 15 52 00.0 +16
KKM LR LR
comp=Z,134nm,22.0s
BFO Black Forest 121.48 36 PFAKE 15 51 50.0 +7.0
BFO LR LR
comp=Z,129nm,20.0s
SONA1 Songino Array 121.53 323 ePKPdf PKPdf 15 51 42.1 -1.2
SONM Songino Array 121.54 323 PKP PKPdf 15 51 42.5 -0.7
comp=Z,1.8nm,0.7s,baz=76,slow=1.3,SNR=14
WHN Wuhan 121.58 302 PKP PKPdf 15 51 45.5 +1.9
BNI Bardonecchia 121.96 40 PFAKE 15 52 00.0 +16
BNI LR LR
comp=Z,198nm,20.0s
ZAK Zakamensk 122.03 327 ePKIKP PKPdf 15 51 43.4 -0.7
ZAK pmax pmax
comp=Z,4.0nm,1.5s
CLL Collm 122.49 31 i PKPdf PKPdf 15 51 43.6 -1.2
comp=Z,11nm,1.6s
CLL ePP PP 15 53 20.0 -1.1
CLL ePS PS 16 03 30.0 +13
CLL eSS SS 16 10 00.0 +0.4
CLL eSSS SSS 16 14 30.0
CLL eSSSS 16 18 06.0
CLL Collm 122.49 31 i PKIKP PKPdf 15 51 43.6 -1.2
CLL pmax pmax
comp=Z,11nm,1.6s
TUE Stuetta 122.98 38 PFAKE 15 52 00.0 +14
TUE LR LR
comp=Z,135nm,20.0s
DAVOX Davos/Dischmat 123.15 37 PKP PKPdf 15 51 46.4 -0.1
comp=Z,1.8nm,0.6s,baz=326,slow=1.9,SNR=5.1
BRG Berggiesshubel 123.22 31 ePKP PKPdf 15 51 46.2 0.0
comp=Z,5.6nm,1.0s
BRG Berggiesshubel 123.22 31 ePKIKP PKPdf 15 51 46.2 0.0
BRG pmax pmax
comp=Z,6.0nm,1.0s
FUORN Ofenpass-Fuorn 123.46 37 ePKPdf PKPdf 15 51 48.0 +0.8
PVCC Panska Ves 123.75 31 ePKPdf PKPdf 15 51 47.5 +0.3
PVCC Panska Ves 123.75 31 ePKIKP PKPdf 15 51 47.5 +0.3
KHC Kasperske Hory 124.03 33 ePKPdf PKPdf 15 51 48.0 +0.1
KHC AMS AMS 16 39 50.0
comp=Z,100nm,18.0s
KHC Kasperske Hory 124.03 33 ePKIKP PKPdf 15 51 48.0 +0.1
KHC MLR MLR
comp=Z,100nm,18.0s
PRU Pruhonice 124.05 32 AMS AMS 16 40 50.0
comp=Z,100nm,16.9s
GOPC GO Pecny, Ondr 124.22 32 AMS AMS 16 41 00.0
comp=Z,100nm,14.9s
GERES GERESS Array B 124.26 33 PKP PKPdf 15 51 47.9 -0.5
comp=Z,1.1nm,1.0s,baz=316,slow=5.6,SNR=6.8
KLMR Klimovskoe 124.36 10 ePKIKP PKPdf 15 51 45.4 -2.6
KLMR pmax pmax
comp=Z,5.0nm,0.9s
KSP Ksiaz 124.44 30 ePKP PKPdf 15 51 49.0 +0.5
KSP Ksiaz 124.44 30 ePKIKP PKPdf 15 51 49.0 +0.5
VLC Villacollemand 124.72 40 PFAKE 15 52 00.0 +11
VLC LR LR
comp=Z,115nm,22.0s
DPC Dobruska-Polom 124.75 31 ePKPdf PKPdf 15 51 49.8 +0.6
DPC AMS AMS 16 41 30.0
comp=Z,100nm,16.2s
DPC Dobruska-Polom 124.75 31 ePKIKP PKPdf 15 51 49.8 +0.6
DPC MLR MLR
comp=Z,100nm,16.2s
TREC Trest 124.96 32 AMS AMS 16 40 40.0
comp=Z,100nm,18.6s
TORD Torodi Ar. Bea 125.03 79 PKP PKPdf 15 51 49.9 -0.8
comp=Z,2.4nm,0.7s,baz=306,slow=2.3,SNR=16
MORC Moravsky Berou 125.73 31 ePKIKP PKPdf 15 51 50.8 -0.3
MORC Moravsky Berou 125.73 31 ePKPdf PKPdf 15 51 50.8 -0.3
ENH Enshi 125.73 303 ePKPdf PKPdf 15 51 51.7 0.0
ENH LR LR
comp=Z,265nm,22.0s
OKC Ostrava-Krasne 125.99 30 ePKPdf PKPdf 15 51 51.8 +0.3
OKC Ostrava-Krasne 125.99 30 ePKIKP PKPdf 15 51 51.8 +0.3
VSL Villasalto 126.11 45 PFAKE 15 52 00.0 +7.9
VSL LR LR
comp=Z,91nm,19.0s
OJC Ojcow 126.56 29 ePKP PKPdf 15 51 52.8 +0.2
OJC Ojcow 126.56 29 ePKIKP PKPdf 15 51 52.8 +0.2
KSM Kuching 126.81 267 PFAKE 15 52 10.0 +16
KSM LR LR
comp=Z,167nm,20.0s
LANS Liptovska Anna 127.09 30 ePKIKP PKPdf 15 51 54.3 +0.6
LANS Liptovska Anna 127.09 30 ePKP PKPdf 15 51 54.3 +0.6
VYHS Vyhne 127.19 31 ePKIKP PKPdf 15 51 54.2 +0.3
VYHS Vyhne 127.19 31 ePKP PKPdf 15 51 54.2 +0.3
NIE Niedzica 127.33 30 ePKP PKPdf 15 51 55.2 +1.0
NIE Niedzica 127.33 30 ePKIKP PKPdf 15 51 55.2 +1.0
QIZ Qiongzhong 127.44 289 PKP PKPdf 15 51 53.9 -1.3
QIZ PP PP 15 53 54.6 -1.1
QIZ SS SS 16 11 06.8 +2.2
QIZ Qiongzhong 127.44 289 PFAKE 15 52 10.0 +15
QIZ LR LR
comp=Z,177nm,22.0s
AQU L'Aquila 127.53 40 PFAKE 15 52 10.0 +15
AQU LR LR
comp=Z,112nm,20.0s
NVS Novosibirsk 127.66 341 ePKIKP PKPdf 15 51 52.1 -2.4
STHS Stebnicka Huta 127.79 29 ePKIKP PKPdf 15 51 55.4 +0.4
STHS Stebnicka Huta 127.79 29 ePKP PKPdf 15 51 55.4 +0.4
TAM Tamanrasset 127.80 66 ePKIKP PKPdf 15 51 56.2 +0.2
TAM MLR MLR
comp=Z,138nm,20.0s
TAM Tamanrasset 127.80 66 ePKPdf PKPdf 15 51 56.2 +0.2
TAM LR LR
comp=Z,138nm,20.0s
ZALV Zalesovo Beam 127.87 340 PKP PKPdf 15 51 53.9 -1.1
comp=Z,0.6nm,0.4s,baz=29,slow=3.4,SNR=9.8
PSZ Piszkesteto 128.11 31 PFAKE 15 52 10.0 +14
PSZ LR LR
comp=Z,127nm,19.0s
CRVS Cervenica-Dubn 128.25 29 ePKIKP PKPdf 15 51 55.8 -0.1
CRVS Cervenica-Dubn 128.25 29 ePKP PKPdf 15 51 55.8 -0.1
LZH Lanzhou 128.35 311 ePKP PKPdf 15 51 57.0 +0.3
LZH PP PP 15 54 10.0 +8.9
LZH eSS SS 16 11 15.2 +0.4
LZH PPMZ
comp=Z,140nm,4.7s
LZH LN
comp=Z,220nm,16.4s
LZH LE
comp=Z,360nm,18.0s
LZH LZ
comp=Z,410nm,19.4s
KOLS Kolonicke sedl 128.62 29 ePKIKP PKPdf 15 51 55.8 -0.8
KOLS Kolonicke sedl 128.62 29 ePKP PKPdf 15 51 55.8 -0.8
OBN Obninsk 128.97 15 i PKIKP PKPdf 15 51 56.4 -0.6
OBN pmax pmax
comp=Z,16nm,0.5s
OBN Obninsk 128.97 15 PFAKE 15 52 10.0 +13
OBN LR LR
comp=Z,165nm,21.0s
GYA Guiyang 129.07 299 ePdif Pdif 15 48 44.2 -0.4
GYA PKP PKPdf 15 51 57.2 -1.1
GYA PP PP 15 54 09.3 +3.0
GYA PPMZ
comp=Z,120nm,8.2s
CLTB Caltabellotta 129.65 46 PFAKE 15 52 10.0 +11
CLTB LR LR
comp=Z,92nm,21.0s
GTA Gaotai 129.77 317 ⇓ PKP PKPdf 15 51 59.7 +0.4
GTA PP PP 15 54 15.8 +5.6
GTA SKS SKSdf 15 59 10.1 +1.4
GTA SKKS SKKSac 16 01 09.1 +3.9
GTA SS SS 16 11 39.5 +7.6
GTA PPMZ
comp=Z,100nm,7.8s
GTA LN
comp=Z,160nm,19.5s
GTA LE
comp=Z,130nm,19.0s
GTA LZ
comp=Z,280nm,17.6s
SVE Sverdlovsk 129.94 358 ePKIKP PKPdf 15 51 58.0 -0.8
SVE pmax pmax
comp=Z,22nm,1.7s
CD2 Chengdu 130.28 305 PKP PKPdf 15 51 59.5 -0.9
CD2 sPKP 15 52 04.3
CD2 PP PP 15 54 13.1 -0.7
CD2 SKS SKSdf 15 59 11.1 +1.3
CD2 SKKS SKKSac 16 01 08.6 0.0
CD2 SS SS 16 11 41.4 +2.6
CD2 PPMZ
comp=Z,160nm,5.4s
CUC Castrocucco 130.29 42 PFAKE 15 52 10.0 +10
CUC LR LR
comp=Z,69nm,20.0s
KIEV Kiev 130.33 23 ⇑ i PKIKP PKPdf 15 51 58.5 -1.3
KIEV i 15 51 59.9
KIEV Kiev 130.33 23 PFAKE 15 52 10.0 +10
KIEV LR LR
comp=Z,130nm,21.0s
AKASG Malin Array Be 130.33 23 PKP PKPdf 15 51 58.7 -1.0
comp=Z,4.4nm,0.7s,baz=316,slow=2.0,SNR=18
AKBB Malin Array Si 130.33 23 ePKIKP PKPdf 15 51 59.5 -0.3
AKBB Malin Array Si 130.33 23 ePKPdf PKPdf 15 51 59.5 -0.3
ARU Arti 130.40 359 i PKIKP PKPdf 15 51 59.5 -0.2
ARU 15 54 12.1
ARU SS SS 16 11 32.8 -4.4
ARU Arti 130.40 359 ePKPdf PKPdf 15 51 59.3 -0.4
ARU LR LR
comp=Z,118nm,22.0s
TIP Timpagrande 131.33 42 PFAKE 15 52 10.0 +7.9
TIP LR LR
comp=Z,114nm,20.0s
TIR Tirane 132.13 38 PFAKE 15 52 10.0 +6.5
TIR LR LR
comp=Z,111nm,22.0s
BRVK Borovoye 132.57 349 ⇓ i PKIKP PKPdf 15 52 04.1 +0.2
BRVK i 15 52 05.3
BRVK pmax pmax
comp=Z,34nm,1.2s
BRVK Borovoye 132.57 349 ePKPdf PKPdf 15 52 03.6 -0.4
BRVK LR LR
comp=Z,54nm,19.0s
KURK Kurchatov 132.64 342 ePKIKP PKPdf 15 52 02.9 -1.2
KURK MLR MLR
comp=Z,205nm,21.0s
KURK Kurchatov 132.64 342 ePKPdf PKPdf 15 52 02.9 -1.2
KURK LR LR
comp=Z,205nm,21.0s
KMI Kunming 132.82 298 PKP PKPdf 15 52 04.3 -1.3
ZRNK Zerenda 132.89 350 ePKPpre PKPpre 15 51 58.6
VSR Storozhevoye 133.17 15 ePKIKP PKPdf 15 52 04.0 -1.1
VSR pmax pmax
comp=Z,10.0nm,1.5s
TSUM Tsumeb 133.24 124 PKP PKPdf 15 52 07.2 +0.8
comp=Z,5.1nm,0.8s,baz=242,slow=2.1,SNR=9.4
TSUM Tsumeb 133.24 124 ePKPdf PKPdf 15 52 04.3 -2.1
TSUM LR LR
comp=Z,132nm,19.0s
BOSA Boshof 133.29 140 PKP PKPdf 15 52 06.8 +0.5
comp=Z,3.6nm,0.5s,baz=223,slow=2.8,SNR=5.3
BOSA Boshof 133.29 140 ePKPdf PKPdf 15 52 07.5 +1.2
VRH Novokhopyorsk 133.81 13 ePKIKP PKPdf 15 52 05.6 -0.7
VRH pmax pmax
comp=Z,10.0nm,1.7s
WMQ Urumqi 134.40 329 PKP PKPdf 15 52 07.6 -0.2
WMQ LN
comp=Z,29nm,18.8s
WMQ LE
comp=Z,43nm,18.8s
WMQ LZ
comp=Z,46nm,25.2s
MKAR Makanchi Array 134.62 336 PKP PKPdf 15 52 07.6 -0.4
comp=Z,2.9nm,0.8s,baz=40,slow=2.1,SNR=19
MK01 Makanchi Array 134.63 336 ePKPdf PKPdf 15 52 06.9 -1.2
LBTB Lobatse 135.94 137 ePKIKP PKPdf 15 52 12.8 +1.5
LBTB Lobatse 135.94 137 ePKPdf PKPdf 15 52 12.8 +1.5
KULM Kulim 136.79 271 PFAKE 15 52 20.0 +7.0
KULM LR LR
comp=Z,216nm,19.0s
ABKAR Akbulak array 137.53 357 ePKPpre PKPpre 15 52 05.2
CHTO Chiang Mai 137.67 291 ePKIKP PKPdf 15 52 15.2 +0.7
CHTO MLR MLR
comp=Z,139nm,22.0s
CHTO Chiang Mai 137.67 291 ePKPdf PKPdf 15 52 15.2 +0.7
CHTO LR LR
comp=Z,139nm,22.0s
CMAR Chiang Mai Arr 137.74 290 PKP PKPdf 15 52 14.4 -0.2
comp=Z,2.8nm,0.8s,baz=24,slow=1.0,SNR=14
ANN Anapa 138.32 21 i PKIKP PKPdf 15 52 11.7 -3.2
ANN pmax pmax
comp=Z,36nm,1.1s
ANTO Ankara 140.36 30 PFAKE 15 52 30.0 +11
ANTO LR LR
comp=Z,15nm,22.0s
TKM2 Tokmak 2 140.45 339 PFAKE 15 52 30.0 +11
TKM2 LR LR
comp=Z,123nm,19.0s
LSA Lhasa 140.73 310 PFAKE 15 52 30.0 +10
LSA LR LR
comp=Z,101nm,22.0s
KIV Kislovodsk 140.77 17 ePKIKP PKPdf 15 52 19.2 -0.4
KIV e 15 55 19.2
KIV pmax pmax

	comp=Z,4.0nm,0.9s							
KIV					MLR	MLR		
	comp=Z,38nm,15.0s							
KIV	**Kislovodsk**	**140.77**	**17**		PFAKE		15 52 30.0	+10
KIV					LR	LR		
	comp=Z,107nm,21.0s							
FRU	**Bishkek**	**140.87**	**340**	*e*	PKIKP	**PKPdf**	**15 52 18.0**	**-1.7**
FRU					pmax	pmax		
	comp=Z,50nm,2.1s							
BRTR	**Keskin Array B**	**140.89**	**29**		PKhKP	PKPpre	15 52 12.2	
	comp=Z,1.4nm,0.7s,baz=229,slow=1.3,SNR=4.7							
BRTR					PKP	**PKPdf**	**15 52 19.6**	**-0.3**
	comp=Z,7.2nm,0.8s,baz=193,slow=0.8,SNR=30							
AAK	**Ala-Archa**	**141.09**	**340**	⇓*i*	PKIKP	**PKPdf**	**15 52 20.6**	**+0.3**
AAK				*i*			15 52 22.1	
AAK	**Ala-Archa**	**141.09**	**340**	*e*	PKPdf	**PKPdf**	**15 52 21.1**	**+0.8**
AAK					LR	LR		
	comp=Z,122nm,19.0s							
EKS2	**Erkin-Say**	**141.31**	**340**	*e*	PKIKP	**PKPdf**	**15 52 21.0**	**+0.4**
EKS2					MLR	MLR		
	comp=Z,124nm,22.0s							
EKS2	**Erkin-Say**	**141.31**	**340**	*e*	PKPdf	**PKPdf**	**15 52 21.0**	**+0.4**
EKS2					LR	LR		
	comp=Z,124nm,22.0s							
KSH	**Kashi**	**143.23**	**335**		PKP	**PKPdf**	**15 52 22.9**	**-1.2**
KSH					PP	**PP**	**15 55 38.8**	**+5.0**
KSH					PKS	**PKSdf**	**15 55 58.9**	**-1.1**
KSH					SKS	**SKSdf**	**15 59 31.9**	**+0.2**
KSH					SKKS	**SKKSac**	**16 02 28.4**	**+3.0**
KSH					PPMZ			
	comp=Z,74nm,5.5s							
KSH					LN			
	comp=Z,97nm,6.8s							
KSH					LE			
	comp=Z,82nm,8.7s							
LSZ	**Lusaka**	**143.88**	**127**		PKP	**PKPdf**	**15 52 25.0**	**-0.9**
	comp=Z,8.6nm,0.8s,baz=221,slow=1.2,SNR=14							
LSZ	**Lusaka**	**143.88**	**127**		PKIKP	**PKPdf**	**15 52 25.0**	**-0.9**
LSZ	**Lusaka**	**143.88**	**127**		PKP	**PKPdf**	**15 52 25.0**	**-0.9**
CSS	**Mathiatis**	**144.30**	**35**	*e*	PKPdf	**PKPab**	**15 52 23.6**	**-0.4**
CSS					LR	LR		
	comp=Z,19nm,19.0s							
GNI	**Garni**	**144.87**	**17**	*e*	PKIKP	**PKPdf**	**15 52 26.6**	**-0.4**
GNI					MLR	MLR		
	comp=Z,131nm,20.0s							
GNI	**Garni**	**144.87**	**17**	*e*	PKPdf	**PKPdf**	**15 52 26.6**	**-0.4**
GNI					LR	LR		
	comp=Z,131nm,20.0s							
GUN	**Gumba**	**145.62**	**311**	*e*	P	**PKPdf**	**15 52 27.5**	**-1.4**
	comp=Z,305nm,1.5s							
KKN	**Kakani**	**146.13**	**312**	*e*	P	**PKPdf**	**15 52 29.0**	**-0.6**
	comp=Z,10nm,0.5s							
PKIN	**Phulchoki**	**146.16**	**311**	*e*	P	**PKPdf**	**15 52 29.9**	**+0.2**
GKN	**Gorkha**	**146.49**	**312**	*e*	P	**PKPdf**	**15 52 29.3**	**-0.8**
	comp=Z,127nm,1.1s							
KOLN	**Koldanda**	**147.37**	**313**	*e*	P	**PKPdf**	**15 52 32.0**	**+0.3**
	comp=Z,32nm,0.8s							
PYUN	**Piuthan**	**147.62**	**314**	*e*	P	**PKPdf**	**15 52 31.9**	**-0.2**
	comp=Z,84nm,0.8s							
GEYT	**Alibeck**	**148.91**	**359**		PKP	**PKPdf**	**15 52 33.1**	**-0.6**
	comp=Z,8.9nm,0.9s,baz=289,slow=9.2,SNR=8.0							
GEYT					PKPbc	**PKPbc**	**15 52 37.2**	**-0.4**
	comp=Z,11nm,0.7s,baz=300,slow=3.3,SNR=30							
THN	**Thein Dam**	**149.14**	**328**	*e*	P	**PKPdf**	**15 52 32.0**	**-2.1**
NDI	**New Delhi**	**151.10**	**322**	*e*	P	PKPpre	15 52 29.0	
KMBO	**Kilima Mbogo**	**158.61**	**111**		PKP	**PKPdf**	**15 52 48.0**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=328,slow=2.0,SNR=5.8							
KMBO					PKPab	**PKPab**	**15 53 26.5**	**+2.9**
	comp=Z,1.6nm,0.8s,baz=222,slow=5.5,SNR=4.1							
KMBO	**Kilima Mbogo**	**158.61**	**111**		PKIKP	**PKPdf**	**15 52 48.0**	**-0.4**
KMBO					MLR	MLR		
	comp=Z,205nm,21.0s							
KMBO	**Kilima Mbogo**	**158.61**	**111**		PKP	**PKPdf**	**15 52 48.0**	**-0.4**
KMBO					PKPab	**PKPab**	**15 53 26.5**	**+2.9**
KMBO					LR	LR		
	comp=Z,205nm,21.0s							

NIED ***10*** *15:35:00,37.30N×141.30E,h44km,Mw3.5 Best double couple: M₀2.22000×10¹⁴ NP1:φ₅58.00000°,δ35.00000°, λ-83.00000°. NP2:φ₅230.00000°,δ55.00000°, λ-95.00000°.*

JMA 10 15:35:07.6±0.1, 37°28'N×141°25'E, h37km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**0.31**	**286**	P		Pn	15 35 15.6	-0.3
JFK				S		Sn	15 35 20.9	-2.0
ONAJ	**Iwakimizuishiy**	**0.40**	**244**	P		Pn	15 35 16.6	-0.1
ONAJ				S		Sn	15 35 22.9	-0.7
JMM	**Marumori**	**0.69**	**328**	P		Pn	15 35 20.7	-0.2
JMM				S		Sn	15 35 30.0	-0.3
JFT	**Otama**	**0.77**	**288**	P		Pn	15 35 22.6	+0.7
JFT				S		Sn	15 35 33.0	+0.8
JHO	**Hitachi**	**0.86**	**219**	P		Pn	15 35 22.7	-0.5
JHO				S		Sn	15 35 33.7	-0.9
JSB	**Shiboa**	**1.11**	**254**	P		Pn	15 35 28.3	+1.7
JSB				S		Sn	15 35 42.7	+2.1
JIO	**Ouri**	**1.18**	**4**	P		Pn	15 35 27.4	-0.1
JIO				S		Sn	15 35 41.9	-0.3
JOU	**Okura**	**1.18**	**337**	P		Pn	15 35 28.4	+0.8
JOU				S		Sn	15 35 44.1	+1.7
JFY	**Yanaizu**	**1.24**	**276**	P		Pn	15 35 29.3	+0.9
JFY				S		Sn	15 35 45.9	+2.1

NIED ***10*** *15:40:00,36.90N×140.70E,h8km,Mw3.6 Best double couple: M₀2.79000×10¹⁴ NP1:φ₅304.00000°,δ43.00000°, λ-120.00000°. NP2:φ₅163.00000°,δ54.00000°, λ-65.00000°.*

ISCJB ***10*** *15:40:54.6±0.6,36.92N±0.03×140.80E±0.05,h17km±5km, mb3.6/4, Error ellipse: s-maj=7.4km s-min=4.2km az=17.2*

JMA ***10*** *15:40:55.4,36.94N×140.68E,h11km±1km,M3.9*

JMA Felt II J1.

IDC ***10*** *15:40:58.0±4.9,36.92N×140.79E,h34km±38km,mb3.5/4, mb1 3.6/7,mb1mx3.4/40,mbtmp3.7/7,ML3.4/3,Error ellipse: s-maj=31.9km s-min=18.8km az=78.0*

ISC 10 15:40:55.6±1.0, 36°93'N±0.03×140°70'E±0.04, h10km±7km, n23,σ1°§18/28, mb3.7/4, 5C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.18**	**24**	⇑P		**Pg**	**15 40 59.5**	**-0.1**
ONAJ				S		**Sg**	**15 41 02.6**	**+0.3**
JHO	**Hitachi**	**0.34**	**199**	⇑P		**Pg**	**15 41 02.0**	**-0.3**
JHO				S		**Sg**	**15 41 06.8**	**0.0**
JFK	**Kawauchi**	**0.45**	**17**	⇑P		**Pg**	**15 41 04.0**	**-0.5**
JFK				S		**Sg**	**15 41 10.3**	**-0.2**
JSB	**Shiboa**	**0.63**	**273**	⇑P		**Pg**	**15 41 07.9**	**+0.1**
JSB				S		**Sg**	**15 41 16.5**	**+0.4**
JFT	**Otama**	**0.65**	**333**	P		**Pg**	**15 41 08.0**	**-0.3**
JFT				S		**Sg**	**15 41 16.5**	**-0.4**
JYT	**Yasato**	**0.81**	**210**	P		**Pg**	**15 41 10.4**	**-0.9**
JYT				S		**Sg**	**15 41 21.4**	**-0.5**
JFY	**Yanaizu**	**0.93**	**301**	P		**Pg**	**15 41 12.8**	**-0.7**
JFY				S		**Sg**	**15 41 24.5**	**-1.1**
JMM	**Marumori**	**0.94**	**4**	⇑P		**Pg**	**15 41 12.4**	**-1.2**
JMM				S		**Sg**	**15 41 24.7**	**-1.1**
MJAR	**Matsushiro Arr**	**2.04**	**260**	Pn		**Pn**	**15 41 30.1**	**0.0**
	32nm,0.3s,baz=86,slow=16,SNR=116							
MJAR				Sn		**Sn**	**15 41 56.5**	**+0.8**
	42nm,0.3s,baz=91,slow=27,SNR=19							
MAT	**Matsushiro**	**2.04**	**260**	P		**Pn**	**15 41 30.4**	**+0.3**
MAT				S		**Sb**	**15 41 57.2**	**-1.2**
JHJ	**Hachijo jima 2**	**3.88**	**192**	Pn		**Pn**	**15 41 55.8**	**+0.5**
	8.9nm,0.3s,baz=292,slow=22,SNR=5.0							
JHJ				Sn		**Sn**	**15 42 41.3**	**+0.3**
	10nm,0.3s,baz=86,slow=23,SNR=3.5							
ASAJ	**Asahikawa**	**7.32**	**11**	Pn		**Pn**	**15 42 42.2**	**-0.3**
	0.5nm,0.3s,baz=236,slow=11,SNR=8.4							
USRK	**Ussuriysk Ar.**	**9.83**	**320**	Pn		**Pn**	**15 43 21.4**	**+4.4**
	0.2nm,0.3s,baz=114,slow=13,SNR=5.0							
H11N2	**WAKE ISLAND Hy**	**28.59**	**120**	T		T	16 16 40.3	
	baz=313,slow=75,SNR=29							
H11N1	**WAKE ISLAND Hy**	**28.59**	**120**	T		T	16 16 40.8	
	baz=313,slow=75,SNR=43							
H11N3	**WAKE ISLAND Hy**	**28.61**	**120**	T		T	16 16 41.6	
	baz=313,slow=75,SNR=43							
H11S1	**WAKE ISLAND Hy**	**29.29**	**122**	T		T	16 17 33.1	
	baz=314,slow=75,SNR=23							
H11S3	**WAKE ISLAND Hy**	**29.29**	**122**	T		T	16 17 32.8	
	baz=314,slow=75,SNR=28							
H11S2	**WAKE ISLAND Hy**	**29.30**	**122**	T		T	16 17 33.9	
	baz=314,slow=75,SNR=26							
ZALV	**Zalesovo Beam**	**41.56**	**312**	P		**P**	**15 48 43.2**	**0.0**
	0.6nm,0.5s,baz=120,slow=6.1,SNR=3.5							
MKAR	**Makanchi Array**	**43.69**	**302**	P		**P**	**15 48 59.6**	**-1.1**
	0.2nm,0.3s,baz=90,slow=10,SNR=2.9							
WRA	**Warramunga Arr**	**56.89**	**187**	P		**P**	**15 50 39.3**	**-1.5**
	0.9nm,0.5s,baz=2.4,slow=7.2,SNR=28							
ASAR	**Alice Springs**	**60.61**	**187**	P		**P**	**15 51 05.5**	**-1.2**
	0.6nm,0.8s,baz=19,slow=14,SNR=5.7							

GUC 10 15:41:07.0±0.4, 35°55'S×71°48'W, h100km±2km, ML3.6, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TALC	**Talca**	**0.19**	**321**	*e*P		Pn	15 41 20.6	-0.6
TALC				*e*S		Sn	15 41 31.4	-0.4
CCHI	**Chillan**	**1.16**	**204**	*e*P		Pn	15 41 28.7	-0.4
CCHI				⇑*i*P		Pn	15 41 28.8	-0.3
CCHI				*i*S		Sn	15 41 44.8	-1.1
CCHI				IAML			15 41 46.4	
	comp=E,1μm,0.2s							
COCH	**Cobquecura**	**1.21**	**241**	*e*P		Pn	15 41 29.4	-0.4
COCH				*i*S		Sn	15 41 46.4	-0.6
COCH				IAML			15 41 48.4	
	comp=N,936nm,0.1s							
ROCH	**El Roble**	**2.60**	**9**	⇑*i*P		Pn	15 41 47.9	+0.3
ROCH				*e*S		Sn	15 42 18.5	-0.3
ROCH				IAML			15 42 22.3	
	comp=N,497nm,0.3s							

ISCJB ***10*** *15:50:20.1±0.4,8.63S±0.04×118.67E±0.02,h10km, mb3.7/2,MS3.1/2,Error ellipse: s-maj=5.8km s-min=3.4km az=176.4*

IDC ***10*** *15:50:20.4±1.7,8.68S×119.03E,h0km,mb3.6/3, mb1 3.9/6,mb1mx3.6/36,mbtmp3.7/6,ML3.7/3,MS2.9/3, Ms1 2.9/3,ms1mx2.6/29,Error ellipse: s-maj=55.0km s-min=19.7km az=67.0*

DJA ***10*** *15:50:21.1±0.7,9°S±3°×11°E±°,h11km±5km,M4.4/16, mb4.7/5,MLv4.3/16*

ISC 10 15:50:20.8±0.8, 8°70S±0°05×118°68E±0°04, h10km, n24, σ1°§55/30, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLAI	**Plampang**	**0.91**	**262**	P		**Pg**	**15 50 36.6**	**-1.6**
PLAI				S		**Sg**	**15 50 48.8**	**-1.2**
TWSI	**Taliwang, Sumb**	**1.78**	**269**	P		**Pn**	**15 50 51.0**	**-0.6**
TWSI				S		**Sn**	**15 51 14.5**	**+0.2**
WSI	**Waingapu**	**1.86**	**121**	P		**Pn**	**15 50 52.3**	**-0.5**
WSI				S		**Sn**	**15 51 17.5**	**+1.1**
BASI	**Baing, Sumba**	**2.40**	**129**	S		**Sn**	**15 51 31.5**	**+1.8**
BSSI	**Bau Bau, Buton**	**3.11**	**35**	P		**Pn**	**15 51 09.2**	**-0.7**
BSSI				S		**Sn**	**15 51 46.7**	**-0.4**
DNP	**Denpasar**	**3.43**	**270**	P		**Pn**	**15 51 13.9**	**-0.5**
SRBI	**Singaraja**	**3.49**	**280**	P		**Pn**	**15 51 14.1**	**-1.0**
MMRI	**Maumere**	**3.52**	**89**	P		**Pn**	**15 51 16.4**	**+0.9**
MMRI				S		**Sn**	**15 52 00.3**	**+3.1**
KAPI	**Kappang**	**3.81**	**16**	Pn		**Pn**	**15 51 19.3**	**-0.3**
	9.6nm,0.3s,baz=195,slow=7.9,SNR=18							
KAPI				Sn		**Sn**	**15 52 03.6**	**-0.8**
	6.1nm,0.3s,baz=29,slow=18,SNR=4.5							
KAPI				LR		LR	15 53 16.6	
	comp=Z,44nm,20.2s,baz=212,slow=48							
JAGI	**Jajag, Banyuwa**	**4.49**	**273**	P		**Pn**	**15 51 28.2**	**-0.7**
JAGI				S		**Sn**	**15 52 23.4**	**+2.2**
SPSI	**Sidrap Palu**	**4.83**	**13**	P		**Pn**	**15 51 33.3**	**-0.2**
BLJI	**Banyuglugur**	**5.12**	**280**	P		**Pn**	**15 51 38.6**	**+1.0**
	99nm,1.1s,0.5nm							
GMJI	**Gumukmas**	**5.20**	**274**	P		**Pn**	**15 51 38.4**	**-0.3**
	88nm,0.8s,0.3nm							
GMJI				S		**Sn**	**15 52 41.2**	**+2.4**
	88nm,0.8s,0.3nm							
SOEI	**Soe**	**5.61**	**101**	P		**Pn**	**15 51 46.2**	**+1.7**
	65nm,0.8s,0.2nm							
TTSI	**Tana Toraja**	**5.73**	**11**	P		**Pn**	**15 51 46.8**	**+0.9**
	32nm,0.6s,0.1nm							
PWJI	**Pagerwojo**	**6.84**	**275**	P		**Pn**	**15 52 03.0**	**+1.8**
PCJI	**Pacitan**	**7.44**	**273**	P		**Pn**	**15 52 12.4**	**+2.9**
FITZ	**Fitzroy Crossi**	**11.54**	**145**	Pn		**Pn**	**15 53 03.2**	**-2.4**
	0.3nm,0.3s,baz=337,slow=9.5,SNR=8.6							
WRA	**Warramunga Arr**	**18.82**	**128**	P		**P**	**15 54 38.9**	**-2.0**
	0.2nm,0.3s,baz=305,slow=12,SNR=19							
ASAR	**Alice Springs**	**20.83**	**137**	P		**P**	**15 55 01.9**	**-0.8**
	1.4nm,0.5s,baz=315,slow=10.0,SNR=27							
NWAO	**Narrogin (SRO)**	**24.15**	**183**	LR		LR	16 04 45.2	
	comp=Z,35nm,21.5s,baz=318,slow=36							
HNR	**Honiara**	**40.74**	**94**	LR		LR	16 15 19.8	
	comp=Z,45nm,18.1s,baz=92,slow=37							
KSRS	**Korea Array**	**46.72**	**10**	P		**P**	**15 58 50.5**	**+0.6**
	0.8nm,0.6s,baz=182,slow=6.5,SNR=4.2							
MKAR	**Makanchi Array**	**64.05**	**333**	P		**P**	**16 00 56.8**	**+2.0**
	0.2nm,0.4s,baz=121,slow=6.9,SNR=3.4							

CSEM ***10*** *16:04:34.1±0.4,39.74N×38.73E,h5km,MD2.6,Error ellipse: s-maj=9.0km s-min=7.8km az=143.0*

DDA ***10*** *16:04:37.6,40.04N×38.69E,h7km,Md2.6*

ISK ***10*** *16:04:37.4,40.18N×38.65E,h24km,MD2.6*

ISC 10 16:04:37.0±0.9, 40°04N±0°06×38°70E±0°03, h10km, n13, σ1°§00/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SUSE	**Susehri**	**0.41**	**294**	P		**Pg**	**16 04 45.8**	**+0.6**
SUSE				S		**Sg**	**16 04 52.1**	**+1.4**
SUSE	**Susehri**	**0.41**	**294**	*i*P		**Pg**	**16 04 45.8**	**+0.6**
SUSE				*i*S		**Sg**	**16 04 52.1**	**+1.4**
KELT	**Kelkit**	**0.44**	**76**	P		**Pg**	**16 04 46.7**	**+1.0**
KELT				S		**Sg**	**16 04 53.0**	**+1.4**
KELT	**Kelkit**	**0.44**	**76**	*i*P		**Pg**	**16 04 46.7**	**+1.0**
KELT				*i*S		**Sg**	**16 04 53.0**	**+1.4**
REFA	**Refahiye_ERZ~**	**0.65**	**175**	P		Pg	16 04 41.1	-8.4
REFA				S		Sg	16 04 43.5	-14
REFA	**Refahiye_ERZ~**	**0.65**	**175**	*i*P		Pg	16 04 41.1	-8.4
REFA				*i*S		Sg	16 04 43.5	-15
GUMT	**Gumushane**	**0.73**	**55**	*e*PG		**Pg**	**16 04 51.7**	**+0.5**
GUMT	**Gumushane**	**0.73**	**55**	*e*Pg		**Pg**	**16 04 51.7**	**+0.5**
BAYT	**Ayd~-ntepe-Bay**	**1.16**	**72**	*e*PN		**Pb**	**16 04 58.5**	**-0.8**
BAYT				*e*SN		**Sg**	**16 05 14.1**	**-0.4**
BAYT	**Ayd~-ntepe-Bay**	**1.16**	**72**	*e*Pn		**Pb**	**16 04 58.5**	**-0.8**
BAYT				*e*Sn		**Sg**	**16 05 14.1**	**-0.4**
PTK	**Pertek**	**1.27**	**155**	*e*PN		**Pg**	**16 05 02.2**	**+0.9**
SVSK	**Karacayir**	**1.31**	**265**	*e*PN		**Pn**	**16 05 00.8**	**-0.5**
SVSK				*e*SN		**Sb**	**16 05 17.5**	**-1.0**
SVSK	**Karacayir**	**1.31**	**265**	*e*Pn		**Pn**	**16 05 00.8**	**-0.5**
SVSK				*e*Sn		**Sb**	**16 05 17.5**	**-1.0**

IDC 10 16:10:42.3±8.2, 16°90S×172°56W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/36, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=249.9km s-min=31.5km az=123.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**3.07**	**14**	Pn		Pn	16 11 32.0	-0.2
	3.1nm,0.3s,baz=221,slow=2.1,SNR=15							
AFI				Sn		Sn	16 12 03.9	-5.7
	33nm,0.3s,baz=210,slow=20,SNR=14							
STKA	**Stephens Creek**	**44.01**	**241**	P		P	16 18 51.0	-0.8
	0.8nm,0.7s,baz=77,slow=14,SNR=2.1							
WRA	**Warramunga Arr**	**50.31**	**258**	P		P	16 19 41.0	-0.2
	0.3nm,0.5s,baz=95,slow=7.5,SNR=11							
ASAR	**Alice Springs**	**50.43**	**253**	P		P	16 19 42.6	+0.5
	3.3nm,0.5s,baz=88,slow=8.5,SNR=94							

JMA 10 16:17:53.2±0.2, 39°42N×143°06E, h20km±2km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIYJ	**Miyakonagasawa**	**0.97**	**280**	P		Pb	16 18 11.0	-0.4
MIYJ				S		Sb	16 18 23.8	0.0
JTH	**Tanohata**	**1.06**	**300**	P		Pb	16 18 12.6	-0.2
JTH				S		Sn	16 18 26.7	-0.4
JOM	**Ohasama**	**1.37**	**273**	P		Pb	16 18 17.8	-0.3
JOM				S		Sb	16 18 35.1	-0.1
JKZ	**Kuzumaki**	**1.45**	**293**	P		Pn	16 18 18.9	+0.6
JKZ				S		Sb	16 18 37.2	-0.3
JANG	**Nango**	**1.52**	**309**	P		Pn	16 18 19.3	0.0
JAH	**Hinai**	**2.02**	**293**	S		Sb	16 18 54.0	+0.1
JTM	**Tenmabayashi**	**2.05**	**312**	P		Pn	16 18 27.8	+1.3
JTM				S		Sb	16 18 54.0	-0.7

MAN 10 16:30:52,17.67N×120.39E,h31km,mb4.0,ML2.8,MS2.4, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ABRA	**Dolores**	**0.31**	**93**	*e*P		Pn	16 31 01.6	+1.3
ABRA				*e*S		Sn	16 31 07.8	+1.9
PIP	**Pasuquin**	**0.69**	**18**	⇑*i*P		Pn	16 31 06.4	+0.7
PIP				*e*S		Sn	16 31 16.3	+0.9
APYP	**Conner**	**0.83**	**76**	*e*P		Pb	16 31 08.3	+0.3
APYP				*e*S		Sb	16 31 19.8	+0.9

ISCJB ***10*** *16:37:51.9±0.7,9.10N±0.03×69.79W±0.02,h22km±7km, Error ellipse: s-maj=4.6km s-min=3.0km az=153.2*

FUNV ***10*** *16:37:51.8,9.12N×69.83W,h5km,MW3.5*

ISC 10 16:37:51.1±1.3, 9°10N±0°03×69°80W±0°03, h9km±10km, n33,σ1°§13/51, 5C-1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SANV	**Sanarito**	**0.48**	**34**	⇑*i*P		**Pg**	**16 38 00.4**	**0.0**
SDV	**Santo Domingo**	**0.85**	**255**	*e*P		**Pg**	**16 38 06.3**	**-1.1**
TEPV	**Terepaima**	**1.05**	**35**	*e*P		**Pg**	**16 38 10.4**	**-0.8**
TEPV				*e*S		**Sg**	**16 38 25.8**	**+0.9**
QARV	**Quebrada Arrib**	**1.31**	**327**	*e*P		**Pg**	**16 38 16.4**	**+0.2**
QARV				*e*S		**Sg**	**16 38 32.8**	**-0.4**
SOCV	**Socops**	**1.32**	**232**	⇑*i*P		**Pn**	**16 38 15.1**	**-0.7**
SOCV				*e*S		**Sg**	**16 38 33.6**	**0.0**
MAPV	**Macapo**	**1.51**	**61**	*e*P		**Pn**	**16 38 19.7**	**+1.4**
MAPV				*e*S		**Sn**	**16 38 39.6**	**+1.4**
SIQV	**Siquisique**	**1.54**	**360**	*e*P		**Pn**	**16 38 19.0**	**+0.2**
SIQV				*e*S		**Sn**	**16 38 40.1**	**+1.3**
VIGV	**El Vigia**	**1.56**	**261**	⇑*e*P		**Pn**	**16 38 19.7**	**+0.6**
VIGV				*e*S		**Sn**	**16 38 39.6**	**+0.2**
BAUV	**El Baul**	**1.75**	**95**	*e*P		**Pn**	**16 38 21.8**	**+0.2**
BAUV				*e*S		**Sn**	**16 38 44.9**	**+1.0**
DABV	**Dabajuro**	**1.99**	**336**	*e*S		**Sn**	**16 38 49.4**	**-0.5**
ELOV	**Elorza**	**2.11**	**171**	*e*P		**Pn**	**16 38 27.6**	**+1.0**
ELOV				*e*S		**Sn**	**16 38 54.0**	**+1.1**
TURV	**Turiamo**	**2.35**	**55**	*e*P		**Pn**	**16 38 31.1**	**+1.2**
TURV				*e*S		**Sn**	**16 38 59.2**	**+0.3**
CAPV	**Capacho**	**2.77**	**244**	*e*P		**Pn**	**16 38 36.7**	**+0.9**
CAPV				*e*S		**Sn**	**16 39 09.1**	**-0.4**
MONV	**Montecano**	**2.84**	**357**	⇓*e*P		**Pn**	**16 38 37.2**	**+0.6**
MONV				*e*S		**Sn**	**16 39 10.5**	**-0.5**
VIRV	**Villa del Rosa**	**2.92**	**299**	*e*P		**Pn**	**16 38 37.5**	**-0.2**
VIRV				*e*S		**Sn**	**16 39 11.4**	**-1.5**
FUNV	**FUNVISIS**	**3.25**	**65**	*e*P		**Pn**	**16 38 43.5**	**+1.1**
FUNV				*e*S		**Sn**	**16 39 19.9**	**-1.3**
CBRI	**Barrientos, No**	**3.27**	**245**	*e*P		**Pn**	**16 38 44.3**	**+1.7**
GRMC	**Gramalote, San**	**3.27**	**245**	*e*P		**Pn**	**16 38 43.2**	**+0.6**
URIC	**Uribia, Colomb**	**3.36**	**320**	*e*P		**Pn**	**16 38 43.7**	**-0.1**
MERV	**Las Mercedes**	**3.46**	**87**	⇓*e*P		**Pn**	**16 38 45.8**	**+0.6**
MERV				*e*S		**Sn**	**16 39 25.1**	**-1.3**
OCAC	**Ocana**	**3.58**	**256**	*e*P		**Pn**	**16 38 48.8**	**+1.9**
BIRV	**Birongo**	**3.74**	**68**	*e*P		**Pn**	**16 38 49.9**	**+0.9**
BIRV				*e*S		**Sn**	**16 39 32.0**	**-1.2**
CUPV	**Cœpira**	**4.07**	**76**	*e*P		**Pn**	**16 38 54.6**	**+1.0**
CUPV				*e*S		**Sn**	**16 39 40.0**	**-1.5**
BARC	**Barichara**	**4.17**	**234**	*e*P		**Pn**	**16 38 56.5**	**+1.3**
BRRC	**Barranca, Sant**	**4.35**	**243**	*e*P		**Pn**	**16 38 58.9**	**+1.5**
RUSC	**La Rusia**	**4.55**	**226**	*e*P		**Pn**	**16 39 01.5**	**+0.9**
PRGV	**PARIAGUAN**	**5.11**	**93**	⇓*e*P		**Pn**	**16 39 07.6**	**-0.2**
PRGV				*e*S		**Sn**	**16 40 03.8**	**-3.1**
PCRV	**Puerto La Cruz**	**5.21**	**78**	*e*P		**Pn**	**16 39 09.4**	**+0.2**
PCRV				*e*S		**Sn**	**16 40 07.3**	**-2.2**
SJCC	**San Jacinto, C**	**5.36**	**279**	*e*P		**Pn**	**16 39 11.7**	**+0.3**
NORC	**Norcasia**	**6.13**	**235**	*e*P		**Pn**	**16 39 22.7**	**+0.8**
VILC	**Villavicencio,**	**6.29**	**218**	*e*P		**Pn**	**16 39 24.9**	**+0.8**
DBBC	**Dabeiba**	**6.67**	**252**	*e*P		**Pn**	**16 39 31.4**	**+1.9**
PRAC	**Prado**	**7.36**	**224**	*e*P		**Pn**	**16 39 39.6**	**+0.8**

**IDC 10 16:45:35.5±4.4, 2.79S×151.80E, h0km

JFK			S	Sg	16 57 35.8	+0.3
JFT	**Otama**	**0.56 338**	P	Pg	16 57 32.5	+0.2
JFT			S	Sg	16 57 40.3	+0.7
JFY	**Yanaizu**	**0.82 300**	S	Sg	16 57 47.7	-0.3
JMM	**Marumori**	**0.88 10**	S	Sg	16 57 49.6	-0.2
MAT	**Matsushiro**	**1.98 257**	P	Pn	16 57 55.9	+1.0
MAT			S	Sb	16 58 22.3	+0.2

IDC 10 17:00:32.9±6.5, 15°.14S×65°.61E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.3/35, mbtmp3.7/2, Error ellipse: s-maj=507.4km s-min=48.2km az=33.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**10.04**	**43**	T	T	17 11 57.1	
	baz=225						
H08S2	**Diego Garcia H**	**10.05**	**43**	T	T	17 11 58.0	
	baz=225						
H08S3	**Diego Garcia H**	**10.06**	**43**	T	T	17 11 57.2	
	baz=225						
H08N3	**Diego Garcia H**	**10.22**	**32**	T	T	17 12 22.8	
	baz=210,slow=76,SNR=127						
H08N1	**Diego Garcia H**	**10.23**	**32**	T	T	17 12 24.6	
	baz=210,slow=76,SNR=184						
H08N2	**Diego Garcia H**	**10.24**	**32**	T	T	17 12 25.1	
	baz=210,slow=76,SNR=142						
ASAR	**Alice Springs**	**64.47**	**109**	P	P	17 11 12.2	+0.4
	0.6nm,0.8s,baz=268,slow=6.4,SNR=9.0						
WRA	**Warramunga Arr**	**65.32**	**105**	P	P	17 11 17.0	-0.4
	0.7nm,0.6s,baz=266,slow=6.0,SNR=8.5						
PDAR	**Pinedale Array**	**152.16**	**352**	PKPbc	PKPbc	17 20 30.8	-0.2
	0.4nm,0.5s,baz=27,slow=1.0,SNR=3.8						

*IDC **10** 17:06:16.7±0.7, 62°.84S×56°.94W, h0km, mb4.3/10, mb1 4.4/12, mb1mx4.2/23, mbtmp4.3/12, ML4.5/2, MS3.9/13, Ms1 3.9/13, ms1mx3.8/16, Error ellipse: s-maj=26.5km s-min=18.2km az=64.0*

*ISCJB **10** 17:06:17.2±0.4, 62°.73S±0°.06×57°.2W±0°.2, h10km, mb4.7/28, MS4.0/13, Error ellipse: s-maj=11.8km s-min=7.9km az=160.5*

*GCMT **10** 17:06:19.6±0.3, 62°.39S×57°.27W, h12km, MW4.9/71, Moment Tensor Solution. s20,c21; s71,c89; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.28±.11; Mθθ1.43±.08; Mϕϕ0.84±.14; Mrθ-0.72±.33; Mϕθ0.95±.09; Mϕr-1.14±.50; Best double couple: Mo2.58200×10^16 NP1:ϕs243.00000°, δ81.00000°, λ-74.00000°. NP2: ϕs242.00000°, δ31.00000°, λ-74.00000°. Principal axes: T 2.4730, Plg15.0000°, Azm140.0000°; N 0.2150, Plg8.0000°, Azm48.0000°; P -2.6910, Plg73.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **10** 17:06:19.6±1.0, 62°.72S×57°.35W, h17km±6km, mb5.0/17 Error ellipse: s-maj=13.9km s-min=8.6km az=65.0*

ISC 10 17:06:18.8±0.4, 62°.73S±0°.08×57°.29W±0°.10, h10km, n77, σ1§55/55, mb4.7/28, MS3.9/13, 1C-1D, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**3.64**	**233**	Pn	**Pn**	**17 07 15.7**	**+0.6**
	1.9nm,0.3s,baz=54,slow=14,SNR=5.0						
PMSA				Lg	Lg	17 08 11.1	
	22nm,0.3s,baz=124,slow=18,SNR=4.2						
USHA	**Ushuaia**	**9.79**	**319**	Pn	**Pn**	**17 08 40.1**	**+0.7**
	9.2nm,0.3s,baz=129,slow=16,SNR=2.1						
USHA				Sn	Sn	17 10 17.2	-12
	22nm,0.3s,baz=208,slow=19,SNR=3.1						
USHA				LR	LR	17 11 37.9	
	comp=Z,10μm,20.0s,baz=168,slow=32						
EFI	**East Falkland**	**11.09**	**357**	*e*Pn	Pn	17 08 51.1	-6.1
CHRN	**Cochrane**	**17.74**	**324**	*e*Pn	**P**	**17 10 26.4**	**-0.1**
VNA1	**Neumayer--Stat**	**20.36**	**134**	P	Pn	17 11 05.2	+8.2
SNAA	**Sanae**	**22.07**	**137**	P	P	17 11 21.0	+7.5
SNAA	**Sanae**	**22.07**	**137**	*e*P	**P**	**17 11 14.2**	**+0.7**
	143nm,1.7s						
PLCA	**Paso Flores**	**23.41**	**334**	P	**P**	**17 11 29.0**	**+1.3**
	7.7nm,0.9s,baz=121,slow=5.9,SNR=2.4						
PLCA				LR	LR	17 20 29.9	
	comp=Z,643nm,18.5s,baz=184,slow=36						
PLCA	**Paso Flores**	**23.41**	**334**	*e*P	**P**	**17 11 28.6**	**+0.8**
	37nm,1.3s						
TRQA	**Tornquist**	**24.87**	**351**	*e*P	**P**	**17 11 42.9**	**+1.6**
	46nm,1.4s						
QSPA	**South Pole Qui**	**27.50**	**180**	*e*P	**P**	**17 12 04.3**	**-0.7**
	15nm,1.1s						
LCO	**Las Campanas**	**34.84**	**339**	*e*P	**P**	**17 13 09.9**	**-0.1**
	98nm,1.7s						
SYO	**Syowa Base**	**36.09**	**143**⇓	*e*P	**P**	**17 13 17.0**	**-3.0**
SYO	**Syowa Base**	**36.09**	**143**⇑	*e*pP	pP	17 13 22.0	-1.1
CPUP	**Villa Florida**	**36.39**	**360**	LR	LR	17 27 50.4	
	comp=Z,112nm,19.5s,baz=174,slow=35						
LVC	**Limon Verde**	**40.87**	**343**	P	**P**	**17 14 01.1**	**+0.1**
	14nm,0.9s,baz=203,slow=13,SNR=3.1						
MAW	**Mawson**	**43.02**	**151**	*e*P	**P**	**17 14 19.0**	**+1.3**
	2.9nm,1.1s						
PB11	**IPOC Station P**	**43.77**	**343**	*e*P	**P**	**17 14 24.9**	**+0.4**
	26nm,1.2s						
SIV	**San Ignacio**	**46.76**	**355**	P	**P**	**17 14 48.4**	**+0.4**
	2.2nm,0.7s,baz=180,slow=9.3,SNR=3.8						
LPAZ	**La Paz**	**47.01**	**346**	P	**P**	**17 14 51.5**	**+0.8**
	2.2nm,0.8s,baz=171,slow=5.4,SNR=8.6						
LPAZ				LR	LR	17 36 28.9	
	comp=Z,228nm,18.0s,baz=162,slow=38						
LPAZ	**La Paz**	**47.01**	**346**	*e*P	**P**	**17 14 51.1**	**+0.5**
BDFB	**Brasilia**	**47.48**	**12**	P	**P**	**17 14 52.6**	**-1.2**
	3.6nm,0.6s,baz=205,slow=8.9,SNR=4.1						
BDFB				LR	LR	17 33 08.3	
	comp=Z,75nm,21.9s,baz=196,slow=34						
SAML	**Samuel**	**53.85**	**353**	*e*P	**P**	**17 15 40.9**	**-0.8**
	6.2nm,0.9s						
SUR	**Sutherland**	**56.40**	**96**	P	**P**	**17 15 59.0**	**-1.3**
	0.6nm,1.2s,baz=169,slow=19,SNR=1.6						
SUR	**Sutherland**	**56.40**	**96**	*e*P	**P**	**17 15 59.7**	**-0.5**
	112nm,1.9s						
BOSA	**Boshof**	**61.61**	**98**	P	**P**	**17 16 34.8**	**-1.6**
	1.4nm,0.5s,baz=236,slow=3.6,SNR=1.8						
BOSA				LR	LR	17 38 08.7	
	comp=Z,85nm,20.0s,baz=177,slow=31						
H10S3	**ASCENSION HYDR**	**61.83**	**49**	T	T	18 24 00.8	
	baz=202,slow=74,SNR=10.0						
H10S2	**ASCENSION HYDR**	**61.83**	**49**	T	T	18 23 58.9	
	baz=202,slow=74,SNR=8.3						
H10S1	**ASCENSION HYDR**	**61.84**	**49**	T	T	18 23 58.9	
	baz=202,slow=74,SNR=6.7						
PTGA	**Pitinga**	**61.88**	**357**	*e*P	**P**	**17 16 37.7**	**-0.4**
	4.4nm,0.9s						
ASCN	**Ascension**	**62.88**	**49**	*e*P	**P**	**17 16 44.2**	**-0.6**
	764nm,1.8s						
H10N3	**ASCENSION HYDR**	**62.92**	**49**	T	T	18 25 12.1	
	baz=201,slow=75,SNR=21						
H10N1	**ASCENSION HYDR**	**62.92**	**49**	T	T	18 25 12.7	
	baz=201,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**62.94**	**49**	T	T	18 25 11.6	
	baz=201,slow=75,SNR=15						
OTAV	**Otavalo**	**64.79**	**336**	*e*P	**P**	**17 16 54.7**	**-3.2**
	7.8nm,0.9s						
LBTB	**Lobatse**	**64.85**	**96**	*e*P	**P**	**17 17 00.5**	**+2.6**
	10nm,0.9s						
PYZ	**Puysegur Point**	**65.94**	**212**	*e*P	**P**	**17 17 05.5**	**+1.0**
	130nm,1.3s						
TSUM	**Tsumeb**	**66.18**	**86**	*e*P	**P**	**17 17 08.5**	**+1.9**
	28nm,1.8s						
PRAC	**Prado**	**67.60**	**341**	*e*P	**P**	**17 17 15.8**	**+0.4**
	14nm,0.9s						
ROSC	**El Rosal**	**68.62**	**342**	P	**P**	**17 17 24.5**	**+2.3**
	7.4nm,0.7s,baz=163,slow=19,SNR=3.6						
ROSC				LR	LR	17 50 41.5	
	comp=Z,199nm,18.1s,baz=230,slow=39						
TBI	**Tubuai**	**70.50**	**257**	*e*LR	LR	17 39 08.3	
	180nm,28.8s						
LSZ	**Lusaka**	**74.49**	**93**	*e*P	**P**	**17 18 00.8**	**+3.4**
	7.8nm,0.9s						
PPT2	**Papeete2**	**75.58**	**260**	*e*LR	LR	17 41 29.6	
	191nm,27.5s						
PPT	**Papeete**	**75.60**	**260**	LR	LR	17 43 45.0	
	comp=Z,51nm,20.4s,baz=274,slow=30						
STKA	**Stephens Creek**	**84.51**	**196**	LR	LR	17 54 10.7	
	comp=Z,22nm,19.6s,baz=204,slow=34						
TORD	**Torodi Ar. Bea**	**88.24**	**57**	P	**P**	**17 19 09.2**	**-0.7**
	1.8nm,0.8s,baz=224,slow=4.8,SNR=3.9						
TOA1	**Torodi Ar. Sit**	**88.25**	**57**	*e*P	**P**	**17 19 09.2**	**-0.7**
	4.4nm,1.0s						
DZM	**Mont Dzumac**	**88.69**	**220**	*e*LR	LR	17 47 42.3	
	133nm,29.4s						
KMBO	**Kilima Mbogo**	**91.09**	**95**	LR	LR	17 57 11.1	
	comp=Z,118nm,19.0s,baz=86,slow=34						
ASAR	**Alice Springs**	**93.44**	**190**	P	**P**	**17 19 33.8**	**-0.5**
	0.6nm,0.9s,baz=162,slow=4.8,SNR=3.1						
ASAR				LR	LR	18 01 45.1	
	comp=Z,27nm,19.6s,baz=199,slow=36						
WR1	**Warramunga Arr**	**97.10**	**191**	*e*P	**P**	**17 19 49.7**	**-1.3**
	22nm,1.5s						
WRA	**Warramunga Arr**	**97.10**	**191**	P	**P**	**17 19 49.7**	**-1.3**
	0.3nm,0.8s,baz=175,slow=4.1,SNR=3.3						
WRA				LR	LR	18 04 16.7	
	comp=Z,57nm,18.1s,baz=145,slow=36						
TXAR	**Lajitas Array**	**98.92**	**320**	LR	LR	17 57 01.1	
	comp=Z,35nm,21.9s,baz=0.0,slow=31						
FITZ	**Fitzroy Crossi**	**99.41**	**183**	LR	LR	18 06 45.0	
	comp=Z,142nm,18.9s,baz=200,slow=36						
GERES	**GERESS Array B**	**124.56**	**49**	PKP	**PKPdf**	**17 25 15.8**	**-1.3**
	0.9nm,0.7s,baz=207,slow=1.5,SNR=6.0						
BRTR	**Keskin Array B**	**124.80**	**70**	PKP	**PKPdf**	**17 25 17.5**	**-0.4**
	1.7nm,0.9s,baz=168,slow=3.2,SNR=8.9						
BR101	**Keskin Array S**	**124.80**	**70**	*e*PKPdf	**PKPdf**	**17 25 17.5**	**-0.4**
AKASG	**Malin Array Be**	**131.85**	**58**	PKP	**PKPdf**	**17 25 28.6**	**-2.2**
	0.6nm,0.6s,baz=243,slow=1.3,SNR=3.5						
AKBB	**Malin Array Si**	**131.85**	**58**	*e*PKPdf	**PKPdf**	**17 25 28.2**	**-2.6**
YKA	**Yellowknife Ar**	**132.11**	**328**	PKP	**PKPdf**	**17 25 30.6**	**-0.3**
	0.7nm,0.7s,baz=154,slow=1.8,SNR=4.0						
CM31	**Chiang Mai Arr**	**132.80**	**149**	*e*PKPdf	**PKPdf**	**17 25 31.4**	**-2.2**
CMAR	**Chiang Mai Arr**	**132.80**	**149**	PKP	**PKPdf**	**17 25 32.5**	**-1.2**
	0.5nm,0.7s,baz=222,slow=4.0,SNR=3.1						
FIA0	**FINESS Array S**	**138.84**	**46**	*e*PKPpre	PKPpre	17 25 35.8	
FINES	**FINESS Array B**	**138.84**	**46**	PKhKP	PKPpre	17 25 35.8	
	1.3nm,0.8s,baz=232,slow=6.8,SNR=2.3						
IL1	**Eielson Array**	**143.18**	**314**	*e*PKPpre	PKPpre	17 25 44.7	
ILAR	**Eielson Array**	**143.18**	**314**	PKhKP	PKPpre	17 25 44.7	
	1.2nm,1.0s,baz=182,slow=2.2,SNR=4.1						
ILB	**Eielson Array**	**143.18**	**314**	*e*PKPpre	PKPpre	17 25 48.5	
ARA0	**ARCESS Array S**	**144.15**	**37**	*e*PKPdf	**PKPdf**	**17 25 52.2**	**-0.6**
ARA0				*e*PKPdf	PKPbc	17 25 52.5	+1.4
ARCES	**ARCESS Array B**	**144.15**	**37**	PKhKP	PKPpre	17 25 46.1	
	3.1nm,0.9s,baz=246,slow=3.8,SNR=3.4						
ARCES				PKP	**PKPdf**	**17 25 52.5**	**-0.4**
	10nm,1.0s,baz=228,slow=2.2,SNR=9.4						
MJAR	**Matsushiro Arr**	**152.09**	**207**	PKPbc	**PKPbc**	**17 26 12.0**	**-1.4**
	2.8nm,0.7s,baz=135,slow=2.7,SNR=6.4						
MAKZ	**Makanchi**	**152.23**	**106**	*e*PKPbc	**PKPbc**	**17 26 12.2**	**-1.3**
MAKZ				*e*PKPab	**PKiKP**	**17 26 18.1**	**+4.3**
MK32	**Makanchi Array**	**152.36**	**106**	*ep*PKPdf	pPKPdf	17 26 11.8	+1.4
MKAR	**Makanchi Array**	**152.36**	**106**	PKPbc	**PKPbc**	**17 26 11.8**	**-2.0**
	1.2nm,0.7s,baz=244,slow=2.4,SNR=9.5						
ZALV	**Zalesovo Beam**	**158.56**	**97**	PKP	**PKPdf**	**17 26 16.2**	**+1.2**
	1.1nm,0.8s,baz=164,slow=1.1,SNR=4.1						
ZALV				PKPab	**PKPab**	**17 26 49.9**	**-0.4**
	1.3nm,0.7s,baz=248,slow=4.0,SNR=4.1						
ZAA1	**Zalesovo Array**	**158.56**	**97**	*e*PKPdf	**PKPdf**	**17 26 16.2**	**+1.2**
ZAA1				*e*PKPab	**PKPab**	**17 26 49.9**	**-0.4**
SONA0	**Songino Array**	**162.51**	**141**	*e*PKPab	**PKPab**	**17 27 09.4**	**+1.6**
SONM	**Songino Array**	**162.51**	**141**	PKPab	**PKPab**	**17 27 09.4**	**+1.6**
	0.8nm,0.4s,baz=224,slow=4.1,SNR=4.6						

*ISCJB **10** 17:11:33.4±0.4, 24°.51N±0°.02×122°.21E±0°.02, h2km±3km, Error ellipse: s-maj=3.4km s-min=2.6km az=12.4*

*TAP **10** 17:11:34.4, 24°.53N×122°.10E, h7km, ML3.1, D*

*JMA **10** 17:11:34.1, 24°.46N×122°.17E, h27km, M2.7*

ISC 10 17:11:32.8±1.1, 24°.48N±0°.02×122°.21E±0°.02, h6km±9km, n50, σ0§79/93, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.36**	**292**	P	**Pg**	**17 11 40.0**	**+0.2**
	baz=289						
TWC				*e*S	**Sg**	**17 11 44.1**	**-0.4**
	baz=289						
ENA	**Nanau**	**0.43**	**264**	P	**Pb**	**17 11 42.0**	**-0.9**
	baz=251						
ENA				*e*S	**Sg**	**17 11 47.0**	**+0.1**
	baz=251						
EGS		**0.45**	**325**	*e*P	**Pg**	**17 11 42.0**	**+0.5**
	baz=335						
EGS				*e*S	**Sg**	**17 11 47.9**	**+0.5**
	baz=335						
ILA	**Ilan**	**0.51**	**304**	*e*P	**Pg**	**17 11 43.1**	**+0.4**
	baz=306						
ILA				*e*S	**Sb**	**17 11 50.4**	**-1.6**
	baz=306						
TWE	**Neicheng**	**0.56**	**296**	*i* P	**Pg**	**17 11 43.8**	**+0.2**
	baz=296						
TWE				S	**Sg**	**17 11 50.4**	**-0.4**
	baz=296						
TWB1	**Santiao Chiao**	**0.57**	**339**	*e*P	**Pb**	**17 11 44.6**	**-0.7**
	baz=349						
TWB1				*e*S	**Sb**	**17 11 52.6**	**-1.1**
	baz=349						
ENTT	**Nioudou**	**0.61**	**286**	P	**Pg**	**17 11 44.9**	**+0.2**
	baz=282						
ENTT				*e*S	**Sb**	**17 11 53.8**	**-1.1**
	baz=282						
JYNG	**Yonagunijimaku**	**0.67**	**92**	P	**Pb**	**17 11 47.3**	**+0.4**
JYNG				S	**Sb**	**17 11 57.6**	**+1.2**
TWD	**Chiawan**	**0.69**	**235**	*e*P	**Pb**	**17 11 47.4**	**+0.2**
	baz=225						
TWD				*e*S	**Sb**	**17 11 57.7**	**+0.6**
	baz=225						
NWF	**Wu-fen Shan**	**0.71**	**326**	*e*P	**Pb**	**17 11 47.7**	**0.0**
	baz=331						
NWF				*e*S	**Sg**	**17 11 56.4**	**+0.6**
	baz=331						
YOJ	**Yonaguni jima**	**0.73**	**91**	P	**Pb**	**17 11 48.4**	**+0.5**
YOJ				S	**Sb**	**17 11 59.0**	**+0.9**
HWA	**Hwalien**	**0.74**	**228**	*e*P	**Pn**	**17 11 49.6**	**-0.3**
	baz=218						
HWA				*e*S	**Sn**	**17 12 01.8**	**+0.2**
	baz=218						
TWA	**Mucha**	**0.76**	**311**	*e*P	**Pb**	**17 11 48.4**	**-0.2**
	baz=314						
TWA				*e*S	**Sg**	**17 11 57.4**	**0.0**
	baz=314						
NNS	**Nan Shan**	**0.77**	**268**	*e*P	**Pb**	**17 11 48.0**	**-0.7**
	baz=261						
NNS				*e*S	**Sb**	**17 11 58.1**	**-1.4**
	baz=261						
NSK	**Sanguang**	**0.81**	**285**	*e*P	**Pg**	**17 11 48.4**	**+0.1**
	baz=282						
NSK				*e*S	**Sg**	**17 11 58.5**	**-0.3**
	baz=282						
TAP1	**Taipei**	**0.84**	**312**	*e*P	**Pb**	**17 11 49.9**	**0.0**
	baz=313						
TAP1				*e*S	**Sg**	**17 12 00.3**	**+0.3**
	baz=313						
TAP	**Taipei**	**0.85**	**311**	*e*P	**Pb**	**17 11 50.1**	**0.0**
	baz=313						
TAP				*e*S	**Sg**	**17 12 00.5**	**+0.1**
	baz=313						
WHF	**Hehuan Shan**	**0.93**	**249**	*e*P	**Pb**	**17 11 51.4**	**-0.2**
	baz=242						
TWS1	**Kuangyinshan**	**0.95**	**311**	*e*P	**Pn**	**17 11 52.7**	**-0.1**
	baz=312						
TWS1				*e*S	**Sb**	**17 12 03.8**	**-0.9**
	baz=312						
ESL	**Shilin**	**0.97**	**227**	*e*P	**Pn**	**17 11 53.1**	**0.0**
	baz=219						
ESL				*e*S	**Sb**	**17 12 06.0**	**+0.7**
	baz=219						
TWT	**Tachien**	**0.97**	**257**	*e*P	**Pb**	**17 11 52.6**	**+0.4**
	baz=251						
TWT				*e*S	**Sb**	**17 12 05.0**	**-0.4**
	baz=251						
TWY	**Chenhua**	**0.97**	**325**	*e*P	**Pb**	**17 11 52.6**	**+0.4**
	baz=328						
TWY				*e*S	**Sg**	**17 12 04.3**	**+0.1**
	baz=328						
NCU	**National Centr**	**1.06**	**298**	*e*P	**Pn**	**17 11 54.4**	**+0.1**
	baz=297						
NCU				*e*S	**Sb**	**17 12 07.8**	**+0.1**
	baz=297						
NSTT	**Nanjuang**	**1.12**	**278**	*e*P	**Pb**	**17 11 54.6**	**0.0**
	baz=275						
NSTT				*e*S	**Sb**	**17 12 09.3**	**-0.1**
	baz=275						
PCYT	**Pengchaiyu**	**1.16**	**354**	*e*P	**Pg**	**17 11 54.5**	**-0.5**
	baz=359						
HSN	**Hsinchu**	**1.18**	**286**	*e*S	**Sb**	**17 12 11.0**	**-0.2**
	baz=286						
EHY	**Hungye**	**1.26**	**220**	*e*P	**Pn**	**17 11 57.2**	**+0.1**
	baz=214						
EHY				*e*S	**Sn**	**17 12 15.1**	**+0.7**
	baz=214						
TWQ1	**Liyutan**	**1.32**	**265**	*e*P	**Pb**	**17 11 58.0**	**-0.1**
	baz=261						
TWQ1				*e*S	**Sn**	**17 12 16.8**	**+0.9**
	baz=261						
NSY	**Sanyi**	**1.33**	**268**	*e*P	**Pb**	**17 11 58.9**	**+0.7**
	baz=264						
NSY				*e*S	**Sn**	**17 12 18.2**	**+2.2**
	baz=264						
SMLT	**Sun Moon Lake**	**1.34**	**244**	*e*P	**Pb**	**17 11 59.0**	**+0.5**
	baz=239						
SMLT				*e*S	**Sn**	**17 12 16.3**	**-0.1**
	baz=239						
TYC	**Yuchr**	**1.36**	**246**	*e*P	**Pg**	**17 11 59.6**	**+0.6**
	baz=240						
TYC				*e*S	**Sg**	**17 12 16.2**	**-0.5**
	baz=240						
TWF1	**Yuli**	**1.40**	**217**	*e*P	**Pn**	**17 11 59.0**	**+0.1**
	baz=211						
TWF1				*e*S	**Sb**	**17 12 16.5**	**-1.0**
	baz=211						
TCU	**Taichung**	**1.44**	**257**	*e*P	**Pg**	**17 12 02.5**	**+2.0**
	baz=253						
TCU				*e*S	**Sn**	**17 12 22.3**	**+3.5**
	baz=253						
CHKT	**Chengkung**	**1.57**	**210**	*e*P	**Pb**	**17 12 02.0**	**-0.4**
	baz=204						
CHKT				*e*S	**Sb**	**17 12 22.8**	**+0.2**
	baz=204						
ALS	**Alishan**	**1.61**	**234**	*e*P	**Pg**	**17 12 04.1**	**+0.4**
	baz=229						
ALS				*e*S	**Sg**	**17 12 25.2**	**+0.6**
	baz=229						
JKRS	**Kuro-shima**	**1.65**	**98**	P	**Pn**	**17 12 02.3**	**-0.1**
JKRS				S	**Sn**	**17 12 23.3**	**-0.7**
CHN5	**Tsauling**	**1.66**	**238**	*e*P	**Pg**	**17 12 04.4**	**-0.2**
	baz=234						
CHN5				*e*S	**Sg**	**17 12 26.1**	**0.0**
	baz=234						
ELDTW	**Lidau**	**1.69**	**221**	*e*P	**Pn**	**17 12 02.9**	**-0.1**
	baz=216						
ELDTW				*e*S	**Sn**	**17 12 23.0**	**-2.0**
	baz=216						
WGK	**Gukeng**	**1.70**	**243**	*e*P	**Pg**	**17 12 05.2**	**-0.3**
	baz=238						
WGK				*e*S	**Sg**	**17 12 24.2**	**-1.0**
	baz=238						
JIJ	**Ishigaki jima**	**1.76**	**93**	P	**Pn**	**17 12 03.3**	**-0.6**
CHN4	**Tsaushan**	**1.86**	**233**	*e*P	**Pb**	**17 12 07.3**	**0.0**
	baz=229						
CHN4				*e*S	**Sg**	**17 12 31.7**	**-0.9**
	baz=229						
STYT	**Tauyuan**	**1.87**	**226**	*e*P	**Pb**	**17 12 07.2**	**-0.2**
	baz=221						
STYT				*e*S	**Sg**	**17 12 32.6**	**-0.3**
	baz=221						
WTP	**Ta-pu**	**1.91**	**230**	*e*P	**Pg**	**17 12 09.0**	**-0.4**
	baz=226						
WTP				*e*S	**Sg**	**17 12 35.1**	**+0.8**
	baz=226						
JISG	**Ishigakijimahi**	**1.91**	**86**	P	**Pn**	**17 12 05.1**	**-0.9**
TWG	**Pinlang**	**1.95**	**213**	*e*P	**Pn**	**17 12 06.0**	**-0.5**
	baz=208						
TWG				*e*S	**Sn**	**17 12 32.0**	**+0.6**
	baz=208						
TWK	**Hsinying**	**1.99**	**233**	*e*S	**Sg**	**17 12 37.3**	**+0.6**
	baz=229						
WSF	**Szhu**	**2.00**	**246**	*e*S	**Sg**	**17 12 36.3**	**-0.9**
	baz=242						
CHN1	**Nanshi**	**2.01**	**231**	*e*P	**Pg**	**17 12 10.7**	**-0.7**
	baz=227						
CHN1				*e*S	**Sg**	**17 12 37.5**	**+0.1**
	baz=227						
SGST	**Jiashian**	**2.04**	**227**	*e*P	**Pn**	**17 12 09.0**	**+1.2**
	baz=223						
SGST				*e*S	**Sb**	**17 12 36.4**	**+0.4**
	baz=223						
ECL	**Taimali**	**2.20**	**212**	*e*P	**Pg**	**17 12 14.2**	**-0.8**
	baz=208						
ECL				*e*S	**Sg**	**17 12 42.7**	**-0.8**
	baz=208						

*ISCJB **10** 17:11:52.5±2.1, 35°.29S±0°.04×72°.47W±0°.10, h11km±14km, Error ellipse: s-maj=14.4km s-min=5.2km az=18.6*

*GUC **10** 17:11:53.3±0.5, 35°.28S×72°.46W, h26km±9km, ML3.6*

ISC 10 17:11:52.6±1.9, 35°.31S±0°.05×72°.51W±0°.08, h11km±13km, n13, σ1§26/20, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.72**	**97**	*e*P	**Pg**	**17 12 06.3**	**-0.1**
TALC				*e*S	**Sg**	**17 12 15.5**	**-0.3**
COCH	**Cobquecura**	**0.85**	**196**⇑	*e*P	**Pg**	**17 12 09.1**	**0.0**
COCH				*e*S	**Sb**	**17 12 21.3**	**+0.4**
COCH				IAML		17 12 23.3	
	comp=E,2μm,0.3s						
CCHI	**Chillan**	**1.34**	**165**	*e*P	**Pn**	**17 12 17.0**	**-0.2**
CCHI				*e*S	**Sb**	**17 12 34.6**	**-0.2**
CCHI				IAML		17 12 38.0	
	comp=E,3μm,0.3s						
PEL	**Peldehue**	**2.63**	**35**	*e*P	**Pn**	**17 12 35.7**	**+0.6**
PEL				*e*S	**Sn**	**17 13 07.8**	**+0.8**
ROC1	**El Roble**	**2.63**	**28**	*e*P	**Pn**	**17 12 35.2**	**-0.1**
ROC1				*e*S	**Sb**	**17 13 13.5**	**+1.1**
ROC1	**El Roble**	**2.63**	**28**	*e*P	**Pn**	**17 12 35.2**	**0.0**
	comp=E,301nm,0.5s						
ROCH	**El Roble**	**2.64**	**28**	*e*P	**Pn**	**17 12 35.2**	**-0.1**
ROCH				*e*S	**Sn**	**17 13 05.2**	**-2.2**
ARCO	**CERRO ARCO**	**3.85**	**51**	*e*P	**Pn**	**17 12 54.0**	**+2.0**
ARCO				IAML		17 13 22.2	
	comp=Z,24nm,0.6s						
AUSP	**Uspallata**	**4.03**	**41**	*e*P	**Pn**	**17 12 56.0**	**+1.5**
AUSP				*e*

CRR	**Carrizo Plain**	**0.81**	**319**	*i* P		**Pn**	**17 28 19.6**	**-0.4**
ECBX	**El Chinero**	**0.84**	**162**	*e*P		**Pb**	**17 28 19.1**	**-0.4**
ECBX				*e*S		**Sb**	**17 28 30.3**	**-0.2**
GLA	**Glamis**	**0.89**	**29**	P		**Pg**	**17 28 20.0**	**-0.5**
	baz=206,SNR=32							
GLA				S		**Sb**	**17 28 32.2**	**0.0**
	baz=206							
GLA	**Glamis**	**0.89**	**29**	*e*Pg		**Pg**	**17 28 19.8**	**-0.7**
ZAX	**El Zacaton**	**1.09**	**226**	*e*P		**Pg**	**17 28 24.3**	**0.0**
ZAX				*e*S		**Sn**	**17 28 39.2**	**+0.2**
ZAX				AML		AML	17 28 43.2	
	comp=E,717nm,0.6s							
ZAX				⇑*e*			17 28 43.2	
MONP2	**Monument Peak**	**1.10**	**304**	P		**Pg**	**17 28 24.4**	**-0.1**
	baz=126,SNR=56							
MONP2				S		**Sg**	**17 28 39.2**	**+0.4**
	baz=126							
CBX	**Cerro Bola**	**1.12**	**272**	*e*P		**Pg**	**17 28 25.1**	**+0.3**
CBX				*e*S		**Sn**	**17 28 40.1**	**+0.5**
CBX	**Cerro Bola**	**1.12**	**272**	*e*P		**Pg**	**17 28 25.1**	**+0.3**
CBX				*e*S		**Sn**	**17 28 40.1**	**+0.5**
CBX				AML		AML	17 28 46.2	
	comp=E,814nm,0.7s							
CBX				⇑*e*			17 28 46.2	
CBX	**Cerro Bola**	**1.12**	**272**	*e*Sn		**Sn**	**17 28 40.1**	**+0.5**
TJIG	**Tijuana**	**1.14**	**278**	*e*P		**Pg**	**17 28 25.2**	**+0.1**
TJIG				*i* S		**Sn**	**17 28 40.0**	**+0.1**
TJIG	**Tijuana**	**1.14**	**278**	*e*P		**Pg**	**17 28 25.2**	**+0.1**
BAR	**Barrett**	**1.19**	**290**	*e*P		**Pg**	**17 28 26.0**	**-0.2**
BAR	**Barrett**	**1.19**	**290**	*e*Pn		**Pg**	**17 28 26.2**	**0.0**
BAR				*e*Sn		**Sg**	**17 28 41.9**	**+0.2**
ECNX	**Esteban Cantu**	**1.23**	**240**	*e*P		**Pg**	**17 28 26.7**	**-0.2**
SPIG	**San Pedro Mart**	**1.23**	**185**	*e*P		**Pg**	**17 28 26.4**	**-0.5**
SPIG				*e*S		**Sn**	**17 28 42.6**	**-0.1**
SPIG	**San Pedro Mart**	**1.23**	**185**	*e*P		**Pg**	**17 28 26.4**	**-0.5**
SPIG				*e*S		**Sn**	**17 28 42.9**	**+0.1**
SPIG	**San Pedro Mart**	**1.23**	**185**	*e*Pn		**Pg**	**17 28 26.4**	**-0.5**
SPIG				*e*Sn		**Sn**	**17 28 42.6**	**-0.1**
SPX	**San Pedro Mart**	**1.23**	**185**	*e*P		**Pg**	**17 28 26.5**	**-0.5**
SPX	**San Pedro Mart**	**1.23**	**185**	*e*Sn		**Sn**	**17 28 42.6**	**-0.1**
PBX	**Punta Banda**	**1.29**	**246**	*e*P		**Pb**	**17 28 27.2**	**0.0**
BC3	**Big Chuckawall**	**1.38**	**356**	P		**Pn**	**17 28 27.2**	**-0.8**
	baz=175,SNR=14							
BC3				S		**Sn**	**17 28 44.9**	**-1.3**
	baz=175							
113A	**Mohawk Valley,**	**1.42**	**69**	*e*Pn		**Pn**	**17 28 28.1**	**-0.5**
113A				*e*Sn		**Sn**	**17 28 45.4**	**-1.6**
109C	**Camp Elliot, M**	**1.61**	**293**	Pb		**Pg**	**17 28 33.4**	**-0.7**
	baz=114							
109C				Sb		**Sg**	**17 28 54.3**	**-0.7**
	baz=114							
TPFO	**Pinon Flats**	**1.62**	**325**	P		**Pn**	**17 28 31.1**	**-0.3**
	baz=145,SNR=18							
TPFO				S		**Sn**	**17 28 51.3**	**-0.8**
	baz=145							
Y12C	**Blythe**	**1.63**	**25**	*e*Pn		**Pb**	**17 28 32.5**	**-0.4**
PFO	**Pinyon Flats O**	**1.63**	**325**	P		**Pn**	**17 28 31.1**	**-0.4**
	baz=145							
PFO				S		**Sn**	**17 28 51.4**	**-0.9**
	baz=145							
PFO	**Pinyon Flats O**	**1.63**	**325**	*e*Pn		**Pn**	**17 28 31.3**	**-0.2**
PFO				*e*Sn		**Sg**	**17 28 55.0**	**-0.7**
MURC	**Murrieta**	**2.04**	**311**	Sb		**Sg**	**17 29 07.7**	**-1.2**
	baz=131							
214A	**Organ Pipe Nat**	**2.17**	**98**	P		**Pn**	**17 28 38.1**	**-0.8**
	baz=278							
214A				Sb		**Sb**	**17 29 10.6**	**+1.5**
	baz=278							
Y14A	**Wickenburg**	**2.57**	**49**	*e*Pn		**Pn**	**17 28 46.0**	**+1.6**
MWC	**Mount Wilson**	**2.99**	**311**	*e*Pn		**Pb**	**17 28 54.3**	**-2.0**
W13A	**Hualapai Mount**	**3.07**	**23**	*e*Pn		**Pn**	**17 28 52.7**	**+1.3**
GSC	**Goldstone, Bar**	**3.25**	**338**	*e*Pn		**Pb**	**17 28 58.2**	**-2.6**
X16A	**Lo Mia Camp, P**	**3.91**	**56**	*e*Pn		**Pn**	**17 29 04.2**	**+1.3**
WUAZ	**Wupatki**	**4.62**	**45**	*e*Pn		**Pn**	**17 29 14.7**	**+2.0**
TPNV	**Topopah Spring**	**4.72**	**351**	*e*Pn		**Pn**	**17 29 17.8**	**+3.7**
U15A	**North Rim**	**4.85**	**31**	*e*Pn		**Pn**	**17 29 17.9**	**+1.9**
LCMT	**Little Creek M**	**5.03**	**20**	*e*Pn		**Pn**	**17 29 18.8**	**+0.5**
KNB	**Kanab**	**5.17**	**23**	*e*Pn		**Pn**	**17 29 22.5**	**+2.3**

IDC 10 17:31:39.4±7.4, 3°37S×103°62E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/40, mbtmp3.2/3, Error ellipse: s-maj=411.6km s-min=27.1km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.19**	**121**	P	P	17 38 26.9	0.0
	0.3nm,0.6s,baz=291,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**35.54**	**127**	P	P	17 38 38.4	-0.2
	0.3nm,0.6s,baz=302,slow=7.8,SNR=6.9						
MKAR	**Makanchi Array**	**53.38**	**342**	P	P	17 41 00.7	-0.1
	0.1nm,0.4s,baz=158,slow=4.7,SNR=2.0						

*IDC **10** 17:34:12.5±3.1, 39°12N×142°76E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/42, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=71.4km s-min=39.5km az=64.0*
*ISCJB **10** 17:34:24.8±0.8, 38°80N±0°04×141°72E±0°10, h77km±6km, mb3.4/2, Error ellipse: s-maj=12.4km s-min=6.6km az=9.0*
*JMA **10** 17:34:25.8, 38°81N×141°67E, h72km±1km, M3.1*
JMA Felt I J1.

ISC 10 17:34:25.3±1.2, 38°80N±0°04×141°75E±0°09, h71km±8km, n22, σ0s59/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.29**	**348**	P	**Pn**	**17 34 37.2**	**+0.6**
JMK	**Ichinoseki**	**0.44**	**290**	P	**Pn**	**17 34 37.8**	**+0.1**
JMK				S	**Sn**	**17 34 46.5**	**-0.2**
JIO	**Ouri**	**0.47**	**222**	P	**Pn**	**17 34 38.3**	**+0.4**
JIO				S	**Sn**	**17 34 47.1**	**0.0**
JOM	**Ohasama**	**0.76**	**332**	P	**Pn**	**17 34 41.3**	**+0.3**
JOM				S	**Sn**	**17 34 52.7**	**+0.1**
JOU	**Okura**	**0.95**	**243**	P	**Pn**	**17 34 43.3**	**0.0**
JOU				S	**Sn**	**17 34 56.8**	**+0.1**
JRG	**Rokugo**	**1.05**	**305**	P	**Pn**	**17 34 44.6**	**+0.1**
JRG				S	**Sn**	**17 34 58.6**	**-0.2**
JYK	**Kaneyama**	**1.09**	**277**	P	**Pn**	**17 34 45.0**	**0.0**
JYK				S	**Sn**	**17 34 59.4**	**-0.3**
JMM	**Marumori**	**1.20**	**219**	P	**Pn**	**17 34 46.2**	**-0.1**
JMM				S	**Sn**	**17 35 01.6**	**-0.5**
JYS	**Shirataka**	**1.44**	**247**	P	**Pn**	**17 34 49.8**	**+0.3**
JANG	**Nango**	**1.58**	**354**	P	**Pn**	**17 34 51.7**	**+0.3**
JFK	**Kawauchi**	**1.59**	**206**	P	**Pn**	**17 34 51.8**	**+0.3**
JFK				S	**Sn**	**17 35 11.2**	**-0.1**
JYA	**Atsumi**	**1.60**	**263**	P	**Pn**	**17 34 51.8**	**+0.1**
JYA				*e*S	**Sn**	**17 35 11.4**	**-0.2**
JAH	**Hinai**	**1.63**	**329**	P	**Pn**	**17 34 52.7**	**+0.7**
MJAR	**Matsushiro Arr**	**3.60**	**232**	Pn	**Pn**	**17 35 20.9**	**+2.2**
	0.5nm,0.3s,baz=41,slow=11,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	18 10 39.1	
	baz=317,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	18 10 39.1	
	baz=317,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	18 10 41.4	
	baz=317,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.64**	**126**	T	T	18 11 38.6	
	baz=319,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**29.66**	**126**	T	T	18 11 37.5	
	baz=319,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**29.66**	**126**	T	T	18 11 40.9	
	baz=319,slow=76,SNR=22						
MKAR	**Makanchi Array**	**43.43**	**301**	P	**P**	**17 42 20.9**	**0.0**
	0.2nm,0.3s,baz=88,slow=9.9,SNR=3.9						
WRA	**Warramunga Arr**	**58.84**	**188**	P	**P**	**17 44 15.8**	**-0.7**
	0.4nm,0.9s,baz=4.6,slow=7.8,SNR=4.0						

*ISCJB **10** 17:41:39.7±0.4, 56°12S±0°08×27°1W±0°1, h63km, mb4.6/23, Error ellipse: s-maj=12.5km s-min=7.6km az=26.4*
*NEIC **10** 17:41:44.8±1.2, 56°15S×27°11W, h97km±10km, mb4.8/16, Error ellipse: s-maj=10.2km s-min=6.4km az=219.0*
*IDC **10** 17:41:44.4±0.8, 56°15S×26°95W, h90km±7km, mb4.1/11, mb1 4.1/11, mb1mx3.9/24, mbtmp4.4/11, MS3.3/2, Ms1 3.2/2, ms1mx2.8/16, Error ellipse: s-maj=18.9km s-min=14.4km az=51.0*

ISC 10 17:41:41.6±0.4, 56°10S±0°09×27°03W±0°08, h63km, n58, σ1s86/52, mb4.7/23, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.72**	**285**	*e*Pn	**Pn**	**17 43 06.2**	**+2.5**
HOPE				*e*		17 44 04.2	
HOPE				*e*Sn	**Sn**	**17 44 05.8**	**-2.1**
VNA1	**Neumayer--Stat**	**16.72**	**158**	P	**P**	**17 45 35.7**	**+3.2**
SNAA	**Sanae**	**18.66**	**156**	P	**Pn**	**17 45 54.4**	**-0.6**
SNAA	**Sanae**	**18.66**	**156**	*e*P	**Pn**	**17 45 54.1**	**-0.9**
	8.6nm,0.9s						
TRQA	**Tornquist**	**29.42**	**293**	*e*P	**P**	**17 47 38.7**	**-0.2**
	25nm,1.8s						
PLCA	**Paso Flores**	**32.10**	**280**	LR	LR	18 00 42.9	
	comp=Z,53nm,21.0s,baz=180,slow=35						
QSPA	**South Pole Qui**	**34.16**	**180**	*e*P	**P**	**17 48 20.7**	**+0.4**
	20nm,1.8s						
CPUP	**Villa Florida**	**36.91**	**311**	P	**P**	**17 48 43.9**	**-0.2**
	5.4nm,1.1s,baz=167,slow=4.7,SNR=6.2						
CPUP	**Villa Florida**	**36.91**	**311**	*e*P	**P**	**17 48 44.0**	**0.0**
ROC1	**El Roble**	**38.04**	**289**	*e*P	**P**	**17 48 52.6**	**-1.3**
	18nm,1.0s						
MAW	**Mawson**	**40.06**	**143**	P	**P**	**17 49 08.9**	**-1.1**
	1.6nm,0.3s,baz=226,slow=5.4,SNR=27						
MAW				LR	LR	18 04 19.6	
	comp=Z,32nm,18.7s,baz=242,slow=34						
MAW	**Mawson**	**40.06**	**143**	*e*P	**P**	**17 49 10.3**	**+0.3**
	3.4nm,1.7s						
SUR	**Sutherland**	**40.56**	**75**	*e*P	**P**	**17 49 16.4**	**+1.6**
	59nm,1.8s						
LCO	**Las Campanas**	**41.01**	**293**	*e*P	P	17 49 11.4	-7.2
	80nm,1.7s						
BDFB	**Brasilia**	**43.45**	**330**	P	**P**	**17 49 39.7**	**+1.4**
	3.0nm,0.5s,baz=174,slow=6.1,SNR=4.0						
LVC	**Limon Verde**	**45.40**	**300**	P	**P**	**17 49 54.6**	**+0.4**
	14nm,0.4s,baz=238,slow=0.2,SNR=9.5						
VNDA	**Vanda**	**46.53**	**183**	P	**P**	**17 50 02.3**	**+0.3**
	1.0nm,0.6s,baz=194,slow=6.8,SNR=15						
VNDA				pP	**sP**	**17 50 24.3**	**-1.0**
	1.3nm,0.7s,baz=169,slow=5.5,SNR=3.9						
PB01	**IPOC Station P**	**47.01**	**300**	*e*P	**P**	**17 50 06.7**	**+0.1**
	97nm,2.0s						
H10S2	**ASCENSION HYDR**	**48.02**	**17**	T	T	18 42 26.3	
	baz=189,slow=75,SNR=41						
H10S3	**ASCENSION HYDR**	**48.02**	**17**	T	T	18 42 28.0	
	baz=189,slow=75,SNR=44						
H10S1	**ASCENSION HYDR**	**48.03**	**17**	T	T	18 42 28.0	
	baz=189,slow=75,SNR=34						
PB11	**IPOC Station P**	**48.19**	**301**	*e*P	**P**	**17 50 15.6**	**-0.1**
	27nm,1.3s						
LBTB	**Lobatse**	**48.93**	**73**	P	**P**	**17 50 19.9**	**-1.4**
	1.1nm,0.8s,baz=212,slow=8.7,SNR=5.2						
LBTB	**Lobatse**	**48.93**	**73**	*e*P	**P**	**17 50 20.8**	**-0.6**
	58nm,2.0s						
H10N1	**ASCENSION HYDR**	**49.13**	**17**	T	T	18 43 49.1	
	baz=188,slow=76,SNR=3.2						
H10N3	**ASCENSION HYDR**	**49.14**	**17**	T	T	18 43 50.2	
	baz=188,slow=76,SNR=30						
H10N2	**ASCENSION HYDR**	**49.15**	**17**	T	T	18 43 49.6	
	baz=188,slow=76,SNR=14						
LPAZ	**La Paz**	**50.48**	**305**	P	**P**	**17 50 33.8**	**+0.1**
	2.6nm,0.3s,baz=169,slow=7.1,SNR=18						
LPAZ	**La Paz**	**50.48**	**305**	*e*P	**P**	**17 50 33.5**	**-0.2**
MATP	**Matopo**	**54.21**	**72**	P	**P**	**17 51 00.7**	**-0.1**
	1.8nm,0.7s,baz=249,slow=8.6,SNR=3.2						
SAML	**Samuel**	**54.90**	**315**	*e*P	**P**	**17 51 05.8**	**+0.2**
	4.9nm,0.9s						
PTGA	**Pitinga**	**61.27**	**322**	*e*P	**P**	**17 51 49.0**	**-1.1**
	12nm,1.6s						
DBIC	**Dimbokro**	**65.17**	**24**	P	**P**	**17 52 16.6**	**+0.7**
	3.2nm,0.7s,baz=159,slow=7.1,SNR=4.2						
DBIC	**Dimbokro**	**65.17**	**24**	*e*P	**P**	**17 52 16.8**	**+0.9**
	25nm,1.5s						
ABPO	**Ambohimpanom**	**65.66**	**88**	*e*P	**P**	**17 52 17.0**	**-2.3**
	21nm,1.5s						
PRAC	**Prado**	**71.22**	**309**	*e*P	**P**	**17 52 53.8**	**0.0**
	11nm,1.1s						
TOA0	**Torodi Ar. Sit**	**73.05**	**29**	*e*P	**P**	**17 53 04.3**	**-0.3**
	3.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**73.05**	**29**	P	**P**	**17 53 05.3**	**+0.7**
	1.7nm,0.6s,baz=202,slow=6.4,SNR=10.0						
TORD				pP	**sP**	**17 53 28.8**	**+0.1**
	1.0nm,0.5s,baz=197,slow=6.4,SNR=3.7						
TOA1	**Torodi Ar. Sit**	**73.05**	**29**	*e*P	**P**	**17 53 05.3**	**+0.7**
H08S1	**Diego Garcia H**	**88.98**	**102**	T	T	19 35 03.3	
	baz=215,slow=75,SNR=5.0						
H08S2	**Diego Garcia H**	**88.99**	**102**	T	T	19 35 04.2	
	baz=215						
H08S3	**Diego Garcia H**	**89.00**	**102**	T	T	19 35 05.7	
	baz=215,slow=75,SNR=4.7						
ASAR	**Alice Springs**	**98.92**	**162**	P	**P**	**17 55 13.2**	**-1.8**
	0.4nm,0.9s,baz=193,slow=4.9,SNR=4.8						
ASAR				PKKPbc	**PKKPbc**	**18 11 37.9**	**-0.8**
	0.3nm,0.9s,baz=88,slow=7.5,SNR=4.5						
WRA	**Warramunga Arr**	**102.64**	**162**	PKKPbc	PKKPbc	18 11 27.9	-0.2
	0.4nm,0.9s,baz=359,slow=2.9,SNR=5.1						
FIA0	**FINESS Array S**	**124.38**	**28**	*e*PKPdf	**PKPdf**	**18 00 30.8**	**-1.0**
FINES	**FINESS Array B**	**124.38**	**28**	PKP	**PKPdf**	**18 00 30.8**	**-1.0**
	0.8nm,0.5s,baz=124,slow=3.4,SNR=9.7						
ARA0	**ARCESS Array S**	**130.95**	**22**	*e*PKPdf	**PKPdf**	**18 00 43.2**	**-0.9**
ARCES	**ARCESS Array B**	**130.95**	**22**	PKP	**PKPdf**	**18 00 43.2**	**-0.9**
	4.0nm,0.8s,baz=243,slow=4.0,SNR=3.9						
YKA	**Yellowknife Ar**	**136.27**	**318**	PKP	**PKPdf**	**18 00 53.3**	**-0.9**
	0.4nm,0.4s,baz=118,slow=2.9,SNR=5.3						
YKB5	**Yellowknife Ar**	**136.27**	**318**	*e*PKPdf	**PKPdf**	**18 00 53.2**	**-1.1**
DOT	**Dot Lake**	**148.74**	**310**	*e*PKPbc	**PKPbc**	**18 01 19.9**	**-0.3**
IL1	**Eielson Array**	**150.21**	**312**	*e*PKPbc	**PKPbc**	**18 01 22.7**	**-1.1**
ILAR	**Eielson Array**	**150.21**	**312**	PKPbc	**PKPbc**	**18 01 22.9**	**-0.9**
	3.4nm,0.8s,baz=132,slow=1.8,SNR=30						
SONA0	**Songino Array**	**150.64**	**86**	*e*PKPbc	**PKPbc**	**18 01 24.8**	**-0.7**
SONA0				*e*pPKPdf	**pPKPdf**	**18 01 47.9**	**+10**
SONM	**Songino Array**	**150.64**	**86**	PKPbc	**PKPbc**	**18 01 24.8**	**-0.7**
	0.3nm,0.5s,baz=201,slow=3.5,SNR=3.4						
SONM				pPKPbc	**pPKPbc**	**18 01 47.9**	**+4.2**
	0.3nm,0.6s,baz=210,slow=5.0,SNR=2.1						
MDM	**Murphy Dome**	**150.81**	**312**	*e*PKPbc	**PKPbc**	**18 01 23.6**	**-1.6**
MCK	**McKinley**	**150.87**	**309**	*e*PKPbc	**PKPbc**	**18 01 23.7**	**-1.7**
BPAW	**Bear Paw Mtn.**	**151.83**	**310**	*e*PKPbc	**PKPbc**	**18 01 26.4**	**-1.2**

*ISCJB **10** 17:46:56.7±0.3, 12°51N±0°05×47°51E±0°03, h14km, mb4.3/45, MS3.1/8, Error ellipse: s-maj=7.1km s-min=4.7km az=3.8*
*CSEM **10** 17:46:56.8±0.2, 12°51N×47°56E, h2km, mb4.4/18, Error ellipse: s-maj=7.9km s-min=5.9km az=167.0*
*IDC **10** 17:46:56.4±0.7, 12°42N×47°64E, h0km, mb4.0/25, mb1 4.1/27, mb1mx3.9/61, mbtmp4.0/27, ML3.7/2, MS3.2/8, Ms1 3.1/8, ms1mx2.9/50, Error ellipse: s-maj=17.1km s-min=15.0km az=154.0*
*NEIC **10** 17:46:57.7±0.3, 12°44N×47°61E, h10km, mb4.4/18, Error ellipse: s-maj=6.4km s-min=5.1km az=157.0*
*DHMR **10** 17:47:00.5±1.2, 12°60N×47°03E, h13km±13km, ML4.0*

ISC 10 17:46:58.6±0.4, 12°58N±0°06×47°50E±0°05, h14km, n132, σ1s46/139, mb4.3/45, MS3.1/8, 2C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**2.34**	**307**	⇑*i*P	**Pn**	**17 47 35.0**	**-1.9**
BDHA				*i* S	**Sn**	**17 48 02.5**	**-3.2**
BDHA				AML	AML	17 48 04.0	
	comp=N,4μm,0.4s						
BDHA	**Al Bayda'**	**2.34**	**307**	⇑*i*P	**Pn**	**17 47 35.0**	**-1.9**
BDHA				*i* S	**Sn**	**17 48 02.5**	**-3.2**
	comp=N,2μm,0.4s						
ADEN	**Aden**	**2.47**	**275**	*i* P	Pn	17 47 34.6	-3.8
ADEN				*i* S	**Sn**	**17 48 02.9**	**-5.4**
ADEN				AML	AML	17 48 04.1	
	comp=N,833nm,0.6s						
ADEN	**Aden**	**2.47**	**275**	*i* P	Pn	17 47 34.6	-3.8
ADEN				*i* S	**Sn**	**17 48 02.9**	**-5.4**
	comp=N,417nm,0.6s						
DAMY	**Dhamar**	**3.62**	**304**	*e*Pn	**Pn**	**17 47 54.5**	**0.0**
DAMY	**Dhamar**	**3.62**	**304**	*e*Pn	**Pn**	**17 47 54.5**	**0.0**
DHBB	**Dhamar BB**	**3.62**	**304**	*i* P	**Pn**	**17 47 54.5**	**0.0**
DHBB				*i* S	**Sn**	**17 48 35.3**	**-2.0**
DHBB	**Dhamar BB**	**3.62**	**304**	*i* P	**Pn**	**17 47 54.5**	**0.0**
DHBB				*i* S	**Sn**	**17 48 35.3**	**-2.0**
UDYN	**Al 'Udayn**	**3.71**	**292**	⇓*i*P	**Pn**	**17 47 54.4**	**-1.2**
UDYN				*i* S	**Sn**	**17 48 35.9**	**-3.4**
ATD	**Arta Tunnel**	**4.67**	**258**	Pn	**Pn**	**17 48 09.3**	**+0.5**
	comp=N,2.5nm,0.3s,baz=69,slow=15,SNR=9.4						
ATD				Sn	**Sn**	**17 49 07.2**	**+4.3**
	comp=N,0.8nm,0.3s,baz=221,slow=20,SNR=1.6						
HAJJ	**Hajjah**	**4.90**	**310**	*i* S	**Sn**	**17 49 06.4**	**-2.2**
HAJJ				AML	AML	17 49 25.9	
	comp=Z,309nm,0.6s						
FURI	**Furi**	**9.41**	**248**	*e*Pn	**Pn**	**17 49 13.8**	**-0.4**
FURI	**Furi**	**9.41**	**248**	*e*Pn	**Pn**	**17 49 13.8**	**-0.4**
KMBO	**Kilima Mbogo**	**17.00**	**217**	Pn	**P**	**17 50 57.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=35,slow=12,SNR=5.4						
KMBO	**Kilima Mbogo**	**17.00**	**217**	*e*Pn	**Pn**	**17 50 55.8**	**-0.5**
KMBO	**Kilima Mbogo**	**17.00**	**217**	*e*Pn	**Pn**	**17 50 55.8**	**-0.5**
EIL	**Eilat**	**20.62**	**328**	P	Pn	17 51 41.3	+1.4
	comp=Z,1.6nm,0.6s,baz=78,slow=9.2,SNR=2.5						
EIL				LR	LR	17 58 58.3	
	comp=Z,90nm,18.9s,baz=89,slow=35						
MMAI	**Mount Meron Ar**	**23.16**	**333**	P	**P**	**17 52 07.1**	**+2.3**
	comp=Z,0.5nm,0.5s,baz=153,slow=14,SNR=3.0						
MMAI				LR	LR	18 01 12.4	
	comp=Z,37nm,21.1s,baz=180,slow=37						
GEYT	**Alibeck**	**26.97**	**19**	P	**P**	**17 52 41.9**	**+2.1**
	comp=Z,0.7nm,0.4s,baz=185,slow=13,SNR=3.9						
GEYT				LR	LR	18 05 22.4	
	comp=Z,144nm,19.2s,baz=210,slow=41						
GNI	**Garni**	**27.57**	**355**	P	**P**	**17 52 48.4**	**+3.0**
	comp=Z,3.2nm,0.4s,baz=253,slow=19,SNR=3.8						
GNI				LR	LR	18 05 19.0	
	comp=Z,118nm,18.3s,baz=158,slow=40						
BR101	**Keskin Array S**	**29.69**	**338**	*e*P	**P**	**17 53 06.9**	**+2.7**
BR101	**Keskin Array S**	**29.69**	**338**	*e*P	**P**	**17 53 06.9**	**+2.7**
BRTR	**Keskin Array B**	**29.69**	**338**	P	**P**	**17 53 06.9**	**+2.7**
	comp=Z,0.6nm,0.8s,baz=142,slow=7.3,SNR=2.6						
BRTR				LR	LR	18 05 37.9	
	comp=Z,45nm,19.6s,baz=144,slow=38						
KBZ	**Khabaz**	**31.30**	**354**	LR	LR	18 08 32.6	
	comp=Z,9.0nm,18.1s,baz=187,slow=41						
KVAR	**Kislovodsk Arr**	**31.54**	**353**	P	**P**	**17 53 21.6**	**+1.1**
	comp=Z,6.2nm,0.9s,baz=184,slow=6.1,SNR=4.2						
KVAR				LR	LR	18 07 56.6	
	comp=Z,49nm,19.1s,baz=80,slow=40						
KIV	**Kislovodsk**	**31.54**	**353**	*e*P	**P**	**17 53 22.3**	**+1.8**
	comp=Z,6.0nm,0.9s						
KIV	**Kislovodsk**	**31.54**	**353**	*e*P	**P**	**17 53 22.3**	**+1.8**
	comp=Z,6.6nm,0.9s						
LSZ	**Lusaka**	**33.64**	**215**	*e*P	**P**	**17 53 39.2**	**+0.1**
	comp=Z,26nm,1.9s						
LSZ	**Lusaka**	**33.64**	**215**	*e*P	**P**	**17 53 39.2**	**+0.1**
	comp=Z,26nm,1.9s						
KKAR	**Karatay Array**	**36.34**	**29**	*e*P	**P**	**17 54 01.4**	**-0.7**
KKAR	**Karatay Array**	**36.34**	**29**	*e*P	**P**	**17 54 01.4**	**-0.7**
KOLN	**Koldanda**	**36.94**	**60**	*e*P	**P**	**17 54 07.3**	**-0.3**
	comp=Z,20nm,0.8s						
MLR	**Muntele Rosu**	**37.58**	**335**	LR	LR	18 10 58.3	
	comp=Z,12nm,19.3s,baz=188,slow=38						
MLR	**Muntele Rosu**	**37.58**	**335**	*e*P	**P**	**17 54 14.4**	**+1.6**
	comp=Z,6.8nm,1.3s						
MLR	**Muntele Rosu**	**37.58**	**335**	*e*P	**P**	**17 54 14.4**	**+1.6**
	comp=Z,6.8nm,1.3s						
EKS2	**Erkin-Say**	**37.64**	**32**	*e*P	**P**	**17 54 15.2**	**+1.9**
	comp=Z,2.9nm,0.8s						
EKS2	**Erkin-Say**	**37.64**	**32**	*e*P	**P**	**17 54 15.2**	**+1.9**
	comp=Z,2.9nm,0.8s						
GKN	**Gorkha**	**37.88**	**60**	*e*P	**P**	**17 54 15.3**	**-0.3**
	comp=Z,15nm,0.8s						
ABKAR	**Akbulak array**	**37.99**	**13**	*e*P	**P**	**17 54 17.1**	**+1.1**
ABKAR	**Akbulak array**	**37.99**	**13**	*e*P	**P**	**17 54 17.1**	**+1.1**
AAK	**Ala-Archa**	**38.00**	**33**	P	**P**	**17 54 18.2**	**+1.8**
	comp=Z,2.2nm,0.6s,baz=213,slow=5.8,SNR=5.5						
KKN	**Kakani**	**38.37**	**61**	*e*P	**P**	**17 54 19.2**	**-0.6**
	comp=Z,16nm,0.8s						
PKIN	**Phulchoki**	**38.41**	**61**	*e*P	**P**	**17 54 19.7**	**-0.5**
	comp=Z,6.6nm,0.7s						
TKM2	**Tokmak 2**	**38.79**	**34**	*e*P	**P**	**17 54 23.7**	**+0.6**
	comp=Z,3.5

	comp=Z,5.0nm,0.9s							
SONM	**Songino Array**	**60.02**	**42**	P		**P**	**17 57 05.6**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=248,slow=7.6,SNR=17							
SONA1	**Songino Array**	**60.03**	**42**	*eP*		**P**	**17 57 05.4**	**+0.2**
SONA1	**Songino Array**	**60.03**	**42**	*eP*		**P**	**17 57 05.4**	**+0.2**
ULN	**Ulaanbaatar**	**60.45**	**42**	*eP*		**P**	**17 57 07.9**	**-0.2**
	comp=Z,3.6nm,1.1s							
ULN	**Ulaanbaatar**	**60.45**	**42**	*eP*		**P**	**17 57 07.9**	**-0.2**
	comp=Z,3.6nm,1.1s							
XMIS	**Christmas Isla**	**62.12**	**109**	*eP*		**P**	**17 57 15.1**	**-4.6**
	comp=Z,94nm,1.2s							
CISI	**Cisompet, Garu**	**63.18**	**105**	*eP*		**P**	**17 57 25.1**	**-1.8**
	comp=Z,29nm,1.0s							
CISI	**Cisompet, Garu**	**63.18**	**105**	*eP*		**P**	**17 57 25.1**	**-1.8**
	comp=Z,29nm,1.0s							
JAGI	**Jajag, Banyuwa**	**69.44**	**104**	*eP*		**P**	**17 58 05.1**	**-1.9**
	comp=Z,57nm,1.2s							
JAGI	**Jajag, Banyuwa**	**69.44**	**104**	*eP*		**P**	**17 58 05.1**	**-1.9**
	comp=Z,57nm,1.2s							
ROSA	**Rosais**	**71.17**	**307**	*eP*		**P**	**17 58 18.9**	**+1.8**
	comp=Z,323nm,1.5s							
ROSA	**Rosais**	**71.17**	**307**	*eP*		**P**	**17 58 18.9**	**+1.8**
	comp=Z,323nm,1.5s							
KS15	**Wonju Array Si**	**74.88**	**54**	*eP*		**P**	**17 58 37.7**	**-1.5**
KS15	**Wonju Array Si**	**74.88**	**54**	*eP*		**P**	**17 58 37.7**	**-1.5**
KSAR	**Wonju Array Be**	**74.88**	**54**	P		**P**	**17 58 38.0**	**-1.2**
KSAR	**Wonju Array Be**	**74.88**	**54**	P		**P**	**17 58 38.0**	**-1.2**
KS01	**Wonju Array Si**	**74.89**	**54**	*eP*		**P**	**17 58 38.6**	**-0.6**
KS01	**Wonju Array Si**	**74.89**	**54**	*eP*		**P**	**17 58 38.6**	**-0.6**
KSRS	**Korea Array**	**74.91**	**54**	P		**P**	**17 58 38.0**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=270,slow=7.4,SNR=5.7							
TIXI	**Tiksi**	**75.43**	**19**	P		**P**	**17 58 41.3**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=276,slow=7.1,SNR=4.6							
KLR	**Kul'dur**	**76.85**	**42**	P		**P**	**17 58 49.5**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=278,slow=6.1,SNR=11							
SEY	**Seymchan**	**85.54**	**26**	P		**P**	**17 59 36.7**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=294,slow=6.9,SNR=5.5							
WRA	**Warramunga Arr**	**91.30**	**110**	P		**P**	**18 00 04.2**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=299,slow=3.6,SNR=15							
WR1	**Warramunga Arr**	**91.30**	**110**	*eP*		**P**	**18 00 04.2**	**-0.2**
	comp=Z,39nm,1.8s							
WR1	**Warramunga Arr**	**91.30**	**110**	*eP*		**P**	**18 00 04.2**	**-0.2**
	comp=Z,39nm,1.8s							
AS31	**Alice Springs**	**91.73**	**114**	*eP*		**P**	**18 00 05.0**	**-1.4**
	comp=Z,1.2nm,1.0s							
AS31	**Alice Springs**	**91.73**	**114**	*eP*		**P**	**18 00 05.0**	**-1.4**
	comp=Z,1.2nm,1.0s							
ASAR	**Alice Springs**	**91.73**	**114**	P		**P**	**18 00 06.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=288,slow=4.6,SNR=10							
NVAR	**Mina Array Bea**	**127.55**	**346**	PKP		**PKPdf**	**18 06 04.7**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=1.9,slow=2.7,SNR=2.6							

DJA 10 17:48:54.7±1.2, 3°S±3°×12°2E±°, h25km±18km, M3.9/7, mb4.2/1, MLv3.7/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**1.27**	**171**	P	Pn	17 49 16.1	-0.7
KDI				S	Sn	17 49 33.2	+0.2
LUWI	**Luwuk**	**1.68**	**12**	P	Pn	17 49 21.8	-0.8
LUWI				S	Sn	17 49 44.5	+1.1
SPSI	**Sidrap Palu**	**2.93**	**245**	P	Pn	17 49 40.0	+0.3
SPSI				S	Sn	17 50 15.1	+1.0
PCI	**Palu**	**3.14**	**305**	P	Pn	17 49 44.6	+2.0
PCI				S	Sn	17 50 20.9	+1.6
MRSI	**Marisa**	**3.19**	**351**	P	Pn	17 49 43.0	-0.3
BSSI	**Bau Bau, Buton**	**3.92**	**209**	P	Pb	17 50 02.4	-0.8
LBMI	**Labuha**	**5.48**	**68**	P	Pn	17 50 14.7	-0.1

*NIED **10** 17:59:00, 37.70N×142.50E, h23km, Mw3.4 Best double couple: M0 1.25000×10^14 NP1:φ=176.00000°, δ71.00000°, λ-19.00000°. NP2:φ=272.00000°, δ72.00000°, λ-160.00000°.*

JMA 10 17:59:02.2±0.2, 37.75N×142.49E, h20km±3km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.14**	**308**	P	Pn	17 59 22.9	-0.1
JIO				*e*S	Sn	17 59 37.9	-0.2
JFK	**Kawauchi**	**1.34**	**254**	P	Pn	17 59 25.9	+0.1
JMM	**Marumori**	**1.35**	**275**	P	Pn	17 59 25.9	0.0
JMM				*e*S	Sb	17 59 43.6	0.0
JMK	**Ichinoseki**	**1.56**	**321**	P	Pn	17 59 29.3	+0.5
JOU	**Okura**	**1.57**	**294**	P	Pn	17 59 29.7	+0.8
JFT	**Otama**	**1.73**	**263**	P	Pb	17 59 32.3	-0.9
JOM	**Ohasama**	**1.96**	**332**	P	Pn	17 59 35.7	+1.4
JYS	**Shirataka**	**1.97**	**285**	P	Pn	17 59 35.6	+1.1
JYK	**Kaneyama**	**2.04**	**305**	P	Pn	17 59 36.6	+1.2
JFY	**Yanaizu**	**2.24**	**262**	P	Pn	17 59 39.9	+1.7
JAW	**Awa shima**	**2.65**	**286**	P	Pn	17 59 46.2	+2.4
MAT	**Matsushiro**	**3.63**	**252**	P	Pb	18 00 02.5	-3.1
MAT				S	Sn	18 00 39.1	-0.4

MEX 10 18:01:07.6±1.1, 15.59N×96.45W, h4km, MD3.6, 1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.08**	**346**	*e*P	Pg	18 01 08.3	-0.9
PANG				*i* S	Sg	18 01 10.2	-0.2
HUIG	**Huatulco**	**0.38**	**62**	*e*P	Pg	18 01 14.3	-0.6
HUIG				*e*S	Sg	18 01 20.5	+0.7
VHO	**Vista Hermosa**	**1.50**	**350**	*e*P	Pn	18 01 31.3	-4.1
VHO				*e*S	Sb	18 01 50.6	-4.9
PNIG	**Pinotepa**	**1.79**	**297↓**	*e*P	Pn	18 01 35.7	-3.7
PNIG				*e*S	Sn	18 01 58.1	-4.5
PCIG		**3.12**	**88**	*e*P	Pn	18 01 46.6	-11
PCIG				*e*S	Sn	18 02 20.6	-15

*IDC **10** 18:01:11.9±1.5, 8.37S×113.76E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/43, mbtmp3.7/8, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/36, Error ellipse: s-maj=117.7km s-min=17.9km az=50.0*
*DJA **10** 18:01:14.8±0.7, 9°S±4°×11°3E±°, h23km±8km, M3.9/17, MLv3.9/17*

ISC 10 18:01:14.2±1.8, 9.15S±0.08×113.12E±0.04, h24km±14km, n26, σ1°52/28, mb3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**0.93**	**20**	P	**Pn**	**18 01 31.5**	**-0.2**
GMJI				S	**Sn**	**18 01 43.4**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.22**	**56**	P	**Pb**	**18 01 36.1**	**-0.5**
JAGI				S	**Sn**	**18 01 51.6**	**0.0**
BLJI	**Banyuglugur**	**1.47**	**19**	P	**Pb**	**18 01 41.4**	**+0.5**
BLJI				S	**Sb**	**18 02 01.5**	**+2.3**
PWJI	**Pagerwojo**	**1.72**	**311**	P	**Pn**	**18 01 42.6**	**+0.3**
PWJI				S	**Sn**	**18 02 03.2**	**-0.6**
ABJI	**Asem Bagus**	**1.74**	**39**	P	**Pb**	**18 01 45.5**	**+0.1**
DNP	**Denpasar**	**2.12**	**77**	P	**Pn**	**18 01 48.2**	**+0.1**
PCJI	**Pacitan**	**2.14**	**296**	P	**Pn**	**18 01 49.0**	**+0.6**
PCJI				S	**Sn**	**18 02 14.2**	**-0.1**
NGJI	**Ngawi**	**2.42**	**317**	P	**Pb**	**18 01 54.3**	**-2.7**
UGM	**Wanagama**	**2.85**	**295**	P	**Pn**	**18 01 59.1**	**+0.9**
UGM				S	**Sn**	**18 02 33.9**	**+2.1**
SMRI	**Semarang**	**3.38**	**308**	P	**Pn**	**18 02 06.8**	**+1.4**
TWSI	**Taliwang, Sumb**	**3.74**	**84**	P	**Pn**	**18 02 12.0**	**+1.6**
KPJI	**Karang Pucung**	**4.52**	**293**	P	**Pn**	**18 02 23.2**	**+2.0**
PLAI	**Plampang**	**4.61**	**86**	P	**Pn**	**18 02 20.4**	**-2.0**
CMJI	**Cimerak**	**4.82**	**286**	P	**Pn**	**18 02 25.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.06**	**128**	Pn	**Pn**	**18 04 44.7**	**-0.9**
	0.1nm,0.3s,baz=303,slow=12,SNR=3.5						
FITZ				Sn	Sn	18 07 19.1	-13
	0.1nm,0.3s,baz=18,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**23.14**	**120**	P	**P**	**18 06 17.3**	**-1.6**
	0.3nm,0.9s,baz=299,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**24.56**	**128**	P	**P**	**18 06 33.8**	**+1.4**
	0.4nm,0.6s,baz=301,slow=8.4,SNR=11						
ASAR				PcP	**PcP**	**18 10 13.7**	**+3.4**
	0.2nm,0.7s,baz=332,slow=1.5,SNR=3.3						
STKA	**Stephens Creek**	**34.77**	**135**	P	P	18 08 05.8	+3.0
	1.0nm,0.8s,baz=315,slow=17,SNR=2.3						
PALK	**Pallekele**	**36.19**	**296**	LR	LR	18 25 45.9	
	comp=Z,42nm,18.1s,baz=116,slow=40						
H08S2	**Diego Garcia H**	**40.21**	**269**	T	T	18 51 29.1	
	baz=95,slow=76,SNR=4.0						
H08S3	**Diego Garcia H**	**40.22**	**269**	T	T	18 51 29.1	
	baz=95,slow=76,SNR=3.7						
H08S1	**Diego Garcia H**	**40.23**	**269**	T	T	18 51 25.4	
	baz=95,slow=76,SNR=3.4						
MKAR	**Makanchi Array**	**62.11**	**337**	P	**P**	**18 11 31.9**	**-1.2**
	0.7nm,0.5s,baz=153,slow=7.0,SNR=11						
KURBB	**Kurchatov Arra**	**66.67**	**337**	P	**P**	**18 12 01.4**	**-1.4**
	0.2nm,0.8s,baz=150,slow=5.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**67.27**	**342**	P	**P**	**18 12 04.7**	**-1.8**
	1.0nm,0.5s,baz=177,slow=3.2,SNR=5.9						
BRTR	**Keskin Array B**	**87.80**	**311**	P	**P**	**18 14 01.7**	**-0.1**
	0.7nm,0.8s,baz=99,slow=4.5,SNR=3.6						

*IDC **10** 18:10:19.1±1.8, 37.85N×143.92E, h0km, mb3.6/5, mb1 3.6/9, mb1mx3.4/44, mbtmp3.6/9, ML3.4/4, MS2.6/1, Ms1 2.6/1, ms1mx2.0/38, Error ellipse: s-maj=41.7km s-min=21.5km az=75.0*
*ISCJB **10** 18:10:22.5±0.8, 37.82N±0.05×143.65E±0.07, h33km, mb3.6/5, Error ellipse: s-maj=8.3km s-min=6.4km az=14.1*
*JMA **10** 18:10:22.8±0.2, 37.89N×143.64E, h45km, M3.3*

ISC 10 18:10:24.2±1.2, 37.85N±0.05×143.70E±0.09, h35km, n24, σ1°37/30, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.95**	**289**	P	**Pn**	**18 10 53.6**	**-1.1**
JIO				*e*S	**Sn**	**18 11 16.7**	**-1.3**
OFUJ	**Ofunato**	**2.01**	**308**	P	**Pn**	**18 10 54.3**	**-1.3**
JMK	**Ichinoseki**	**2.24**	**300**	P	**Pn**	**18 10 57.8**	**-0.9**
JOM	**Ohasama**	**2.48**	**311**	P	**Pn**	**18 11 01.4**	**-0.7**
JOM				*e*S	**Sn**	**18 11 29.9**	**-1.3**
JFT	**Otama**	**2.69**	**264**	P	**Pn**	**18 11 04.8**	**-0.1**
JYK	**Kaneyama**	**2.83**	**293**	P	**Pn**	**18 11 06.6**	**-0.3**
JYK				*e*S	**Sn**	**18 11 38.9**	**-0.9**
JANG	**Nango**	**3.04**	**327**	P	**Pn**	**18 11 09.1**	**-0.6**
JAW	**Awa shima**	**3.56**	**281**	P	**Pn**	**18 11 17.2**	**+0.3**
JAG	**Ashikaga**	**3.68**	**249**	P	**Pn**	**18 11 18.0**	**-0.5**
JAG				*e*S	**Sn**	**18 11 59.6**	**-1.1**
JOT	**Ohata**	**4.08**	**331**	P	**Pn**	**18 11 24.1**	**+0.1**
JRY	**Ryogami san**	**4.26**	**246**	P	**Pn**	**18 11 26.1**	**-0.4**
JRY				*e*S	**Sn**	**18 12 13.1**	**-1.9**
JKB	**Kayabe**	**4.52**	**334**	P	**Pn**	**18 11 31.0**	**+0.9**
MJAR	**Matsushiro Arr**	**4.57**	**255**	Pn	**Pn**	**18 11 31.9**	**+1.0**
	1.9nm,0.3s,baz=90,slow=16,SNR=20						
JCH	**Churui**	**4.76**	**357**	P	**Pn**	**18 11 32.5**	**-1.0**
JCH				*e*S	**Sn**	**18 12 24.0**	**-3.4**
JOSM	**Okushiri--Mats**	**5.33**	**324**	P	**Pn**	**18 11 42.3**	**+1.1**
JHJ	**Hachijo jima 2**	**5.70**	**215**	Pn	**Pn**	**18 11 46.4**	**+0.1**
	3.1nm,0.3s,baz=158,slow=23,SNR=5.8						
JHJ				Sn	**Sn**	**18 12 47.0**	**-3.5**
	5.8nm,0.3s,baz=107,slow=19,SNR=3.1						
ASAJ	**Asahikawa**	**6.32**	**353**	Pn	**Pn**	**18 11 53.1**	**-1.6**
	0.7nm,0.3s,baz=190,slow=18,SNR=8.9						
KSRS	**Korea Array**	**12.51**	**273**	Pn	**Pn**	**18 13 19.4**	**-0.3**
	0.1nm,0.3s,baz=77,slow=13,SNR=2.8						
KLR	**Kul'dur**	**14.28**	**327**	LR	LR	18 19 51.0	
	comp=Z,24nm,18.8s,baz=144,slow=40						
SONM	**Songino Array**	**28.86**	**302**	P	**P**	**18 16 20.8**	**+1.3**
	0.3nm,0.4s,baz=104,slow=11,SNR=3.4						
ZALV	**Zalesovo Beam**	**42.72**	**312**	P	**P**	**18 18 19.0**	**+1.4**
	0.5nm,0.3s,baz=92,slow=7.3,SNR=2.1						
MKAR	**Makanchi Array**	**45.23**	**302**	P	**P**	**18 18 39.2**	**+1.3**
	0.4nm,0.6s,baz=90,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	**58.16**	**190**	P	**P**	**18 20 14.4**	**0.0**
	0.6nm,0.5s,baz=9.3,slow=7.1,SNR=6.7						
ASAR	**Alice Springs**	**61.88**	**190**	P	**P**	**18 20 40.6**	**+0.6**
	0.5nm,1.1s,baz=3.8,slow=7.0,SNR=6.4						

WEL 10 18:15:23.7±0.3, 40.45S×173.32E, h182km±2km, ML3.6/14, 12C-11D, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.58**	**128**	↑P	Pn	18 15 49.2	+0.2
QRZ	**Quartz Range**	**0.71**	**238**	PN	Pn	18 15 49.6	-0.1
QRZ				SN	Sn	18 16 08.4	-1.4
NNZ	**Nelson**	**0.77**	**176**	↑P	Pn	18 15 50.0	0.0
NNZ				SN	Sn	18 16 09.2	-1.4
TCW	**Tory Channel**	**1.05**	**137**	PN	Pn	18 15 52.3	+0.3
TCW				SN	Sn	18 16 12.1	-1.8
TCW				AML	AML	18 16 12.6	
TUWZ	**Tuamarina**	**1.09**	**154**	PN	Pn	18 15 52.3	+0.1
TUWZ				AML	AML	18 16 14.8	
TUWZ				AML	AML	18 16 15.1	
NMEZ	**Namu Road**	**1.12**	**23**	PN	Pn	18 15 52.4	-0.1
NWEZ	**Newall Road**	**1.25**	**20**	PN	Pn	18 15 53.3	-0.3
KHEZ	**Kahui Hut**	**1.27**	**25**	↓PN	Pn	18 15 53.8	-0.1
KHEZ				SN	Sn	18 16 17.0	-0.2
KIW	**Kapiti Island**	**1.28**	**109**	PN	Pn	18 15 54.0	+0.1
KIW				AML	AML	18 16 15.4	
KIW				AML	AML	18 16 15.6	
PREZ	**Palmer Road**	**1.28**	**31**	PN	Pn	18 15 53.8	-0.1
NEZ	**North Egmont**	**1.32**	**27**	PN	Pn	18 15 54.0	-0.3
BSWZ	**Blackbirch Sta**	**1.33**	**162**	PN	Pn	18 15 54.4	+0.1
BSWZ				AML	AML	18 16 19.1	
BSWZ				AML	AML	18 16 19.2	
THZ	**Tophouse**	**1.35**	**193**	↑PN	Pn	18 15 54.4	-0.1
PKE	**Pukeiti**	**1.36**	**23**	PN	Pn	18 15 54.4	-0.2
WEL	**Wellington**	**1.38**	**128**	PN	Pn	18 15 54.7	0.0
WEL				AML	AML	18 16 17.8	
WEL				AML	AML	18 16 18.3	
WAZ	**Wanganui**	**1.46**	**62**	↓PN	Pn	18 15 55.7	+0.3
OGWZ	**Otaki Gorge**	**1.46**	**105**	PN	Pn	18 15 55.6	+0.2
CAW	**Cannon Point**	**1.48**	**117**	PN	Pn	18 15 55.6	-0.1
CAW				AML	AML	18 16 19.9	
CAW				AML	AML	18 16 20.5	
BHW	**Baring Head**	**1.52**	**130**	PN	Pn	18 15 55.6	-0.3
BHW				AML	AML	18 16 19.2	
BHW				AML	AML	18 16 19.8	
DSZ	**Denniston Nort**	**1.73**	**221**	↑PN	Pn	18 15 57.7	-0.3
VRZ	**Vera Road**	**1.73**	**40**	↓PN	Pn	18 15 57.3	-0.8
HOWZ	**Holdsworth Sta**	**1.73**	**106**	PN	Pn	18 15 58.0	0.0
MRZ	**Mangatainoka R**	**1.74**	**98**	↓PN	Pn	18 15 57.9	-0.2
MSWZ	**Moikau Station**	**1.75**	**124**	PN	Pn	18 15 57.9	-0.4
MSWZ				AML	AML	18 16 22.8	
MSWZ				AML	AML	18 16 24.4	
MTW	**Mount Morrison**	**1.80**	**114**	PN	Pn	18 15 58.5	-0.3
MTW				AML	AML	18 16 25.1	
MTW				AML	AML	18 16 25.2	
PLWZ	**Palliser**	**1.84**	**128**	PN	Pn	18 15 58.8	-0.5
PAWZ	**Paruwai Farm**	**1.85**	**121**	AML	AML	18 16 26.2	
PAWZ				AML	AML	18 16 26.9	
PKVZ	**Pokaka**	**1.94**	**54**	↑PN	Pn	18 15 59.8	-0.5
KHZ	**Kahutara**	**1.97**	**175**	↑PN	Pn	18 16 00.1	-0.4
TIWZ	**Tintock**	**1.98**	**100**	PN	Pn	18 16 00.5	-0.2
TIWZ				AML	AML	18 16 28.3	
TIWZ				AML	AML	18 16 28.5	
PRWZ	**Pori Road**	**2.03**	**94**	↑PN	Pn	18 16 01.3	+0.1
TRWZ	**Traveller**	**2.03**	**119**	AML	AML	18 16 30.0	
TRWZ				AML	AML	18 16 32.5	
TSZ	**Takapari Road**	**2.06**	**80**	AML	AML	18 16 02.2	
TSZ				AML	AML	18 16 02.2	
TRVZ	**Turoa**	**2.07**	**57**	PN	Pn	18 16 00.9	-0.9
WNVZ	**Wahianoa**	**2.08**	**58**	PN	Pn	18 16 01.2	-0.8
FWVZ	**Far West T-bar**	**2.10**	**56**	PN	Pn	18 16 01.2	-0.9
MOVZ	**Moawhango**	**2.14**	**62**	PN	Pn	18 16 01.4	-1.1
NGZ	**Ngauruhoe**	**2.17**	**55**	↑PN	Pn	18 16 02.0	-0.9
DVHZ	**Dannevirke**	**2.18**	**87**	PN	Pn	18 16 02.3	-0.6
WTVZ	**West Tongariro**	**2.20**	**53**	PN	Pn	18 16 02.2	-1.1
BFZ	**Birch Farm**	**2.24**	**97**	↓PN	Pn	18 16 02.8	-0.3
BFZ				AML	AML	18 16 32.9	
BFZ				AML	AML	18 16 32.9	
BFZ				AML	AML	18 16 33.7	
BFZ				AML	AML	18 16 33.7	
HIZ	**Hauiti**	**2.27**	**32**	↓PN	Pn	18 16 03.0	-1.0
PNHZ	**Pukenui**	**2.27**	**77**	PN	Pn	18 16 03.5	-0.5
BHHZ	**Black Hill Sta**	**2.32**	**66**	PN	Pn	18 16 03.4	-1.1
ANWZ	**Angora Road**	**2.41**	**91**	PN	Pn	18 16 05.2	-0.2
WPHZ	**Waipukurau**	**2.42**	**82**	↑PN	Pn	18 16 05.3	-0.3
LTZ	**Lake Taylor**	**2.46**	**198**	↑PN	Pn	18 16 05.4	-0.6
RATZ	**Rangitukua**	**2.47**	**51**	↓PN	Pn	18 16 05.6	-0.6
KRHZ	**Kereru**	**2.48**	**72**	PN	Pn	18 16 05.4	-0.8
PRHZ	**Porangahau**	**2.54**	**87**	PN	Pn	18 16 06.7	-0.2
KWHZ	**Kaweka Forest**	**2.60**	**68**	PN	Pn	18 16 06.8	-0.9
INZ	**Inchbonnie**	**2.67**	**211**	↑PN	Pn	18 16 07.6	-0.9
PXZ	**Pawanui**	**2.75**	**82**	↓PN	Pn	18 16 08.8	-0.5
BKZ	**Black Stump Fm**	**2.76**	**63**	↓PN	Pn	18 16 08.1	-1.5
MCHZ	**McNeill Hill**	**2.79**	**70**	↑PN	Pn	18 16 09.3	-0.5
KAHZ	**Kahuranaki**	**2.81**	**78**	PN	Pn	18 16 09.7	-0.5
MRHZ	**Matea Rd**	**2.89**	**57**	PN	Pn	18 16 09.2	-1.9
OXZ	**Oxford**	**3.03**	**198**	PN	Pn	18 16 11.2	-1.5
ARHZ	**Aropaoanui**	**3.07**	**68**	PN	Pn	18 16 12.2	-1.0
CRLZ	**Canterbury Las**	**3.17**	**189**	PN	Pn	18 16 12.8	-1.5
WVZ	**Waitaha Valley**	**3.26**	**216**	↓PN	Pn	18 16 14.2	-1.3
MQZ	**McQueen's Vall**	**3.29**	**188**	PN	Pn	18 16 13.8	-2.1
SNGZ	**Shannon Statio**	**3.53**	**63**	PN	Pn	18 16 17.4	-1.5
KNZ	**Kokohu**	**3.65**	**68**	PN	Pn	18 16 18.7	-1.7
URZ	**Urewera**	**3.67**	**55**	PN	Pn	18 16 18.3	-2.4
RPZ	**Rata Peaks**	**3.67**	**207**	PN	Pn	18 16 18.9	-1.7
MWZ	**Matawai**	**3.89**	**58**	PN	Pn	18 16 21.2	-2.3
FOZ	**Fox Glacier**	**4.04**	**219**	↓PN	Pn	18 16 23.3	-2.0
HAZ	**Te Kaha**	**4.39**	**54**	PN	Pn	18 16 26.8	-3.1
PKGZ	**Pakihiroa**	**4.50**	**57**	PN	Pn	18 16 29.1	-2.2
JCZ	**Jackson Bay**	**4.94**	**221**	PN	Pn	18 16 35.1	-1.8
ODZ	**Otahua Downs**	**5.00**	**202**	PN	Pn	18 16 36.1	-1.5

*IDC **10** 18:16:52.6±1.0, 12.48N×47.59E, h0km, mb3.9/11, mb1 3.9/13, mb1mx3.7/49, mbtmp3.8/13, ML3.3/2, MS3.3/7, Ms1 3.3/7, ms1mx2.9/43, Error ellipse: s-maj=27.3km s-min=19.9km az=159.0*
*ISCJB **10** 18:16:53.0±0.4, 12.50N±0.06×47.50E±0.04, h14km, mb4.4/30, MS3.2/6, Error ellipse: s-maj=9.3km s-min=5.2km az=11.6*
*CSEM **10** 18:16:53.3±0.3, 12.53N×47.52E, h2km, mb4.7/18, Error ellipse: s-maj=12.1km s-min=7.4km az=10.0*
*NEIC **10** 18:16:54.4±0.4, 12.47N×47.65E, h10km, mb4.7/19, Error ellipse: s-maj=10.0km s-min=7.9km az=180.0*
*DHMR **10** 18:16:56.6±1.6, 12.54N×46.99E, h9km±19km, ML3.8*

ISC 10 18:16:54.0±0.5, 12.39N±0.07×47.44E±0.06, h14km, n99, σ1°55/99, mb4.4/30, MS3.2/6, 2C, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDHA	**Al Bayda'**	**2.41**	**311↑**	*i*P	**Pn**	**18 17 31.6**	**-1.7**
BDHA				*i* S	**Sn**	**18 17 59.3**	**-3.5**
BDHA				AML	AML	18 18 00.3	
	comp=N,2μm,0.3s						
BDHA	**Al Bayda'**	**2.41**	**311↑**	*i*P	**Pn**	**18 17 31.6**	**-1.7**
BDHA				*i* S	**Sn**	**18 17 59.3**	**-3.5**
	comp=N,887nm,0.3s						
ADEN	**Aden**	**2.43**	**279**	*i* P	**Pn**	**18 17 31.7**	**-1.6**
ADEN				*i* S	**Sn**	**18 17 58.4**	**-4.4**
ADEN				AML	AML	18 18 01.1	
	comp=E,544nm,0.2s						
ADEN	**Aden**	**2.43**	**279**	*i* P	**Pn**	**18 17 31.7**	**-1.6**
ADEN				*i* S	**Sn**	**18 17 58.4**	**-4.4**
	comp=E,272nm,0.2s						
DAMY	**Dhamar**	**3.67**	**307**	*e*Pn	**Pn**	**18 17 51.8**	**+1.1**
DAMY	**Dhamar**	**3.67**	**307**	*e*Pn	**Pn**	**18 17 51.8**	**+1.1**
DHBB	**Dhamar BB**	**3.67**	**307**	*i* P	**Pn**	**18 17 50.1**	**-0.6**
DHBB				*i* S	**Sn**	**18 18 33.8**	**-0.3**
DHBB	**Dhamar BB**	**3.67**	**307**	*i* P	**Pn**	**18 17 50.2**	**-0.6**
DHBB				*i* S	**Sn**	**18 18 33.8**	**-0.3**
UDYN	**Al 'Udayn**	**3.73**	**295**	*i* P	**Pn**	**18 17 50.8**	**-0.6**
UDYN				*i* S	**Sn**	**18 18 31.6**	**-3.6**
ATD	**Arta Tunnel**	**4.57**	**260**	Pn	**Pn**	**18 18 03.7**	**+0.8**
	comp=E,0.8nm,0.3s,baz=46,slow=8.2,SNR=6.6						
FURI	**Furi**	**9.28**	**249**	*e*Pn	Pn	18 19 14.7	+6.8
WSAR	**Wadi Sarin**	**15.16**	**43**	LR	LR	18 25 45.1	
	comp=E,58nm,20.2s,baz=246,slow=36						
KMBO	**Kilima Mbogo**	**16.81**	**218**	Pn	**P**	**18 20 53.1**	**+1.5**
	comp=E,0.1nm,0.3s,baz=45,slow=14,SNR=3.9						
KMBO	**Kilima Mbogo**	**16.81**	**218**	*e*Pn	**P**	**18 20 52.0**	**

FIA0	**FINESS Array S**	51.38	347	*e*P		**P**	18 25 57.7	-0.4
FIA0	**FINESS Array S**	51.38	347	*e*P		**P**	18 25 57.6	-0.4
FINES	**FINESS Array B**	51.38	347	P		**P**	18 25 57.6	-0.4
	comp=E,1.6nm,1.0s,baz=139,slow=15,SNR=3.3							
ES19	**SONSECA Array**	52.66	311	*e*P		**P**	18 26 10.6	+2.5
ES19	**SONSECA Array**	52.66	311	*e*P		**P**	18 26 10.6	+2.5
LVZ	**Lovozero**	56.09	354	*e*P		**P**	18 26 33.7	+1.1
	comp=E,74nm,1.6s							
LVZ	**Lovozero**	56.09	354	*e*P		**P**	18 26 33.7	+1.1
	comp=E,74nm,1.6s							
ARA0	**ARCESS Array S**	58.78	351	*e*P		**P**	18 26 52.6	+1.1
ARA0	**ARCESS Array S**	58.78	351	*e*P		**P**	18 26 52.6	+1.1
SONA0	**Songino Array**	60.20	42	*e*P		**P**	18 27 01.7	-0.1
	comp=E,3.4nm,1.0s							
SONA0	**Songino Array**	60.20	42	*e*P		**P**	18 27 01.7	-0.1
	comp=E,3.4nm,1.0s							
SONM	**Songino Array**	60.20	42	P		**P**	18 27 01.7	-0.1
	comp=E,2.4nm,1.0s,baz=248,slow=6.9,SNR=13							
SONA1	**Songino Array**	60.21	42	*e*P		**P**	18 27 02.6	+0.7
SONA1	**Songino Array**	60.21	42	*e*P		**P**	18 27 02.6	+0.7
ULN	**Ulaanbaatar**	60.64	42	*e*P		**P**	18 27 04.7	-0.1
	comp=E,3.0nm,1.2s							
ULN	**Ulaanbaatar**	60.64	42	*e*P		**P**	18 27 04.7	-0.1
	comp=E,3.0nm,1.2s							
NACB	**Ninganchiao**	70.71	69	*e*P		**P**	18 28 08.1	-2.0
	comp=E,18nm,0.8s							
NACB	**Ninganchiao**	70.71	69	*e*P		**P**	18 28 08.1	-2.0
	comp=E,18nm,0.8s							
KLR	**Kul'dur**	77.03	42	P		**P**	18 28 45.6	-1.0
	comp=E,0.4nm,0.6s,baz=281,slow=9.9,SNR=4.3							
MMRI	**Maumere**	77.20	102	*e*P		**P**	18 28 47.3	-1.0
	comp=E,64nm,1.1s							
MMRI	**Maumere**	77.20	102	*e*P		**P**	18 28 47.3	-1.0
	comp=E,64nm,1.1s							
WR1	**Warramunga Arr**	91.30	110	*e*P		**P**	18 30 00.7	+0.8
	comp=E,20nm,1.6s							
WR1	**Warramunga Arr**	91.30	110	*e*P		**P**	18 30 00.7	+0.8
	comp=E,20nm,1.6s							
WRA	**Warramunga Arr**	91.30	110	P		**P**	18 30 00.7	+0.8
	comp=E,0.7nm,0.7s,baz=299,slow=3.1,SNR=7.5							
ASAR	**Alice Springs**	91.71	114	P		**P**	18 30 01.3	-0.5
	comp=E,0.2nm,0.6s,baz=293,slow=5.7,SNR=4.6							

MAN 10 18:22:19.7±0.7 50N×124.4 49E, h34km, mb4.0, ML2.8, MS2.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.37**	**221**	⇑	*i*	P	Pn	18 22 29.4	+1.3
CTBH					*i*	S	Sn	18 22 36.3	+2.4
BUKP	**Musuan**	**0.68**	**56**		*e*	P	Pb	18 22 32.8	+0.2
BUKP					*e*	S	Sb	18 22 43.0	+1.3
CGP	**Cagayan de Oro**	**0.97**	**12**	⇑	*e*	P	Pn	18 22 36.1	-0.1
CGP					*e*	S	Sb	18 22 49.3	-0.5

*MOS **10** 18:30:02.7±2.1, 49.67N×157.30E, h16km, mb4.3/1, Error ellipse: s-maj=38.5km s-min=6.4km az=84.4*

KRSC 10 18:30:02.7±2.6, 49.67N×157.30E, h16km±38km, ML4.2, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.27**	**324**	⇓	*i*	PN	Pn	18 30 23.4	-2.4
SKR					*e*	S	Sb	18 30 38.1	-4.3
SKR					smax		smax		
	comp=N,886nm,0.6s								
SKR					smax		smax		
	comp=E,763nm,0.7s								
SKR	**Severo-Kuril's**	**1.27**	**324**		*e*	P	Pn	18 30 23.3	-2.5
SKR					*e*	S	Sb	18 30 38.2	-4.2
PAU	**Pauzhetka**	**1.83**	**350**			PN	Pn	18 30 34.5	+1.0
PAU						S	Sb	18 30 57.4	-1.1
PAU	**Pauzhetka**	**1.83**	**350**		*e*	P	Pn	18 30 34.5	+1.0
PAU					*e*	S	Sb	18 30 57.4	-1.1
ASAK	**Asacha**	**2.75**	**8**			PN	Pb	18 30 49.2	-2.3
ASAK	**Asacha**	**2.75**	**8**		*e*	P	Pb	18 30 49.2	-2.3
RUS	**Russkaya**	**2.88**	**15**			PN	Pb	18 30 50.8	-2.8
RUS						S	Sb	18 31 25.3	-3.2
RUS	**Russkaya**	**2.88**	**15**		*e*	P	Pb	18 30 50.8	-2.8
RUS					*e*	S	Sb	18 31 25.3	-3.2
KRMR	**Karymshinskiy**	**3.21**	**9**			PN	Pb	18 30 56.3	-3.0
KRMR						S	Sb	18 31 35.6	-2.6
KRMR	**Karymshinskiy**	**3.21**	**9**		*e*	P	Pb	18 30 56.3	-3.0
KRMR					*e*	S	Sb	18 31 35.6	-2.6
PET	**Petropavlovsk**	**3.47**	**14**		*e*	PN	Pn	18 30 59.3	+3.3
PET					*e*	S	Sb	18 31 41.5	-4.1
PET					pmax		pmax		
	comp=Z,8.0nm,0.5s								
PET					smax		smax		
	comp=N,55nm,0.4s								
PET					smax		smax		
	comp=E,41nm,0.5s								
UGLR	**Uglovaya**	**3.67**	**14**			PN	Pn	18 31 02.8	+3.8
UGLR						S	Sn	18 31 46.7	+4.7
UGLR	**Uglovaya**	**3.67**	**14**		*e*	P	Pn	18 31 02.8	+3.8
UGLR					*e*	S	Sn	18 31 46.7	+4.7
AVH	**Avacha**	**3.71**	**13**			PN	Pn	18 31 03.5	+4.0
AVH						S	Sb	18 31 48.0	-4.8
AVH	**Avacha**	**3.71**	**13**		*e*	P	Pn	18 31 03.5	+4.0
AVH					*e*	S	Sb	18 31 48.0	-4.8
SMAR	**Somma**	**3.72**	**14**			PN	Pn	18 31 03.7	+4.0
SMAR	**Somma**	**3.72**	**14**		*e*	P	Pn	18 31 03.7	+4.0
KOK	**Koryaka**	**3.73**	**12**			PN	Pb	18 31 04.7	-3.5
KOK	**Koryaka**	**3.73**	**12**		*e*	P	Pb	18 31 04.7	-3.5
NLC	**Nalytchevo**	**3.74**	**19**		*e*	S	Sn	18 31 46.5	+3.2
SDLR	**Sedlovina**	**3.75**	**15**			PN	Pn	18 31 03.1	+3.1
SDLR						S	Sn	18 31 47.2	+3.3
SDLR	**Sedlovina**	**3.75**	**15**		*e*	P	Pn	18 31 03.1	+3.1
SDLR					*e*	S	Sn	18 31 47.2	+3.3
KRER	**Koryakskii**	**3.75**	**13**			PN	Pn	18 31 04.2	+4.1
KRER	**Koryakskii**	**3.75**	**13**		*e*	P	Pn	18 31 04.2	+4.1
KRX	**Arik**	**3.79**	**12**			PN	Pn	18 31 04.7	+4.1
KRX						S	Sb	18 31 50.3	-4.8
KRX	**Arik**	**3.79**	**12**		*e*	P	Pn	18 31 04.7	+4.1
KRX					*e*	S	Sb	18 31 50.3	-4.8
GNL	**Ganaly**	**4.05**	**5**			PN	Pn	18 31 07.6	+3.4
GNL	**Ganaly**	**4.05**	**5**		*e*	P	Pn	18 31 07.6	+3.4
MKZ	**Mys Kozlova**	**5.61**	**27**			PN	Pn	18 31 28.2	+2.9
MKZ	**Mys Kozlova**	**5.61**	**27**		*e*	P	Pn	18 31 28.2	+2.9

*NIED **10** 18:33:00, 36.80N×142.30E, h20km, Mw4.7 Best double couple: M0 1.21000×10^16 NP1:φ=204.00000°, δ16.00000°, λ85.00000°. NP2:φ=29.00000°, δ74.00000°, λ91.00000°.*

*IDC **10** 18:33:19.2±0.4, 36.69N×142.21E, h0km, mb4.5/30, mb1 4.6/39, mb1mx4.5/51, mbtmp4.5/39, ML4.4/7, MS4.0/29, Ms1 4.0/29, ms1mx3.8/46, Error ellipse: s-maj=13.4km s-min=10.0km az=109.0*

*ISCJB **10** 18:33:20.5±0.7, 36.72N±0.02×142.17E±0.02, h17km±4km, mb4.7/181, MS4.2/38, Error ellipse: s-maj=4.4km s-min=2.9km az=154.8*

*JMA **10** 18:33:20.9±0.3, 36.74N×142.25E, h25km, M4.7*

JMA Felt I J1.

*NEIC **10** 18:33:22.8±1.2, 36.70N×142.14E, h23km±9km, mb4.8/121, Error ellipse: s-maj=4.5km s-min=2.9km az=141.0*

NEIC Recorded [1 JMA] in Fukushima, Ibaraki, Miyagi and Tochigi.

*BJI **10** 18:33:22.1, 36.75N×142.09E, h31km, mb4.9/72, mB4.8/46, Ms4.5/63, Ms7 4.3/60*

*MOS **10** 18:33:23.3±0.9, 37.04N×142.11E, h25km, mb5.0/61, MS4.3/19, Error ellipse: s-maj=6.5km s-min=4.2km az=109.7*

ISC 10 18:33:23.6±0.4, 36.82N±0.04×142.15E±0.04, h28km±2km, h28km:pP-P, n441, σ1s60/498, mb4.7/185, MS4.3/38, 26C-15D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.11**	**285**			P	**Pn**	**18 33 42.4**	**-0.9**
JFK	**Kawauchi**	**1.15**	**299**			P	**Pn**	**18 33 42.9**	**-1.0**
JHO	**Hitachi**	**1.28**	**261**			P	**Pn**	**18 33 44.6**	**-1.0**
JMM	**Marumori**	**1.50**	**315**			P	**Pn**	**18 33 48.5**	**-0.1**
JFT	**Otama**	**1.60**	**296**			P	**Pn**	**18 33 50.6**	**+0.6**
JIO	**Ouri**	**1.75**	**339**			P	**Pn**	**18 33 52.1**	**+0.1**
JOU	**Okura**	**1.94**	**323**			P	**Pn**	**18 33 55.3**	**+0.6**
JOU						*e*S	**Sb**	**18 34 21.7**	**-0.4**
JFY	**Yanaizu**	**2.04**	**288**			P	**Pn**	**18 33 56.6**	**+0.6**
JAG	**Ashikaga**	**2.20**	**261**			P	**Pn**	**18 33 58.1**	**-0.1**
JAG						*e*S	**Sn**	**18 34 24.8**	**+0.3**
JMK	**Ichinoseki**		**2.25**	**341**		P	**Pn**	**18 33 59.6**	**+0.7**
BSO1	**Boso 1**		**2.36**	**204**		P	**Pn**	**18 33 58.8**	**-1.1**
BSO1						S	**Sn**	**18 34 27.3**	**-0.3**
JYK	**Kaneyama**		**2.53**	**327**		P	**Pn**	**18 34 03.7**	**+1.0**
MJAR	**Matsushiro Arr**		**3.18**	**266**		Pn	**Pn**	**18 34 12.8**	**+1.2**
	124nm,0.3s,baz=88,slow=14,SNR=1048								
MAJO	**Matsushiro**		**3.18**	**266**	*d*	*i*P	**Pn**	**18 34 13.8**	**+2.1**
MAJO	**Matsushiro**		**3.18**	**266**	*e*	Pn	**Pn**	**18 34 13.2**	**+1.6**
MAT	**Matsushiro**		**3.18**	**266**		P	**Pn**	**18 34 12.9**	**+1.2**
MAT						S	**Sn**	**18 34 52.2**	**+3.6**
MJB9	**Matsu-Tunnel**		**3.18**	**266**	*e*	Pn	**Pn**	**18 34 13.2**	**+1.5**
JHJ2	**Mitsune**		**4.16**	**208**	*e*	Pn	**Pn**	**18 34 23.4**	**-1.8**
JHJ	**Hachijo jima 2**		**4.17**	**208**		Pn	**Pn**	**18 34 23.0**	**-2.2**
	111nm,0.3s,baz=77,slow=21,SNR=37								
JHJ						Sn	**Sn**	**18 35 07.3**	**-5.7**
	244nm,0.3s,baz=41,slow=19,SNR=13								
INU	**Inuyama**		**4.40**	**252**	*e*	Pn	**Pn**	**18 34 29.5**	**+1.0**
ERM	**Erimo**		**5.25**	**8**	*e*	P	**Pn**	**18 34 39.5**	**-0.6**
ERM	**Erimo**		**5.25**	**8**	*e*	Pn	**Pn**	**18 34 39.5**	**-0.6**
ASAJ	**Asahikawa**		**7.30**	**3**		Pn	**Pn**	**18 35 07.5**	**-0.7**
	16nm,0.3s,baz=218,slow=9.2,SNR=116								
ASAJ						Sn	**Sn**	**18 36 25.4**	**-4.8**
	0.8nm,0.3s,baz=168,slow=18,SNR=1.8								
ASAJ	**Asahikawa**		**7.30**	**3**	*e*	Pn	**Pn**	**18 35 07.7**	**-0.6**
ASAJ					*e*	Sn	**Sn**	**18 36 22.3**	**-7.8**
YUK	**Yuzh-Kuril'sk**		**7.75**	**20**	*i*	P	**Pn**	**18 35 13.6**	**-0.8**
KUR	**Kuril'sk**		**9.45**	**25**	*e*	P	**Pn**	**18 35 36.5**	**-1.2**
KUR					*i*	S	**Sn**	**18 37 16.6**	**-6.4**
KUR					pmax		pmax		
	comp=N,14nm,0.7s								
KUR					pmax		pmax		
	comp=E,11nm,0.7s								
KUR					pmax		pmax		
	comp=Z,24nm,0.7s								
KUR					smax		smax		
	comp=N,35nm,0.7s								
KUR					smax		smax		
	comp=E,56nm,0.7s								
CBIJ	**Chichi jima**		**9.69**	**180**	*e*	Pn	**Pn**	**18 35 37.5**	**-3.7**
CBIJ					*e*	Sn	Sn	18 37 11.9	-17
JCJ	**Chichijima**		**9.69**	**180**		Pn	**Pn**	**18 35 38.5**	**-2.6**
	comp=E,14nm,0.3s,baz=79,slow=21,SNR=12								
JCJ						Sn	Sn	18 37 16.8	-12
	comp=E,23nm,0.3s,baz=0.0,slow=20,SNR=5.4								
JCJ						LR	LR	18 41 16.2	
	comp=E,95nm,20.2s,baz=224,slow=50								
JNU	**Nakatsue**		**9.95**	**252**		Pn	**Pn**	**18 35 45.3**	**+0.6**
	comp=E,1.7nm,0.3s,baz=61,slow=1.4,SNR=2.7								
JNU						LR	LR	18 39 46.6	
	comp=E,445nm,19.8s,baz=117,slow=39								
JNU	**Nakatsue**		**9.95**	**252**	*e*	Pn	**Pn**	**18 35 46.8**	**+2.1**
VLA	**Vladivostok**		**10.08**	**312**	⇓	*e*P	**Pn**	**18 35 49.4**	**+3.1**
YSS	**Yuzh-Sakhalins**		**10.14**	**2**	⇓	*i*P	**Pn**	**18 35 47.0**	**-0.2**
YSS						pmax	pmax		
	comp=Z,40nm,0.5s								
YSS						MLR	MLR		
	comp=Z,400nm,14.0s								
YSS						MLR	MLR		
	comp=N,500nm,16.0s								
YSS	**Yuzh-Sakhalins**		**10.14**	**2**	*e*	Pn	**Pn**	**18 35 44.9**	**-2.3**
MSHR	**Mys Shultsa**		**10.23**	**308**	⇓	*i*P	**Pn**	**18 35 51.4**	**+2.9**
USRK	**Ussuriysk Ar.**		**10.68**	**317**		Pn	**Pn**	**18 35 56.2**	**+1.7**
	comp=N,0.7nm,0.3s,baz=138,slow=13,SNR=14								
USRK						LR	LR	18 39 56.1	
	comp=N,2μm,18.1s,baz=120,slow=37								
KSRS	**Korea Array**		**11.37**	**277**		Pn	**Pn**	**18 36 05.4**	**+1.3**
	comp=N,0.3nm,0.3s,baz=87,slow=13,SNR=26								
KSRS						LR	LR	18 40 21.3	
	comp=N,1μm,18.8s,baz=92,slow=37								
KS01	**Wonju Array Si**		**11.39**	**278**	*e*	Pn	**Pn**	**18 36 02.3**	**-2.1**
KS15	**Wonju Array Si**		**11.40**	**277**	*e*	Pn	**Pn**	**18 36 03.8**	**-0.7**
KSAR	**Wonju Array Be**		**11.40**	**277**		P	**Pn**	**18 36 05.4**	**+0.9**
KSAR	**Wonju Array Be**		**11.40**	**277**		Pn	**Pn**	**18 36 05.4**	**+0.9**
TJN	**Taejon**		**11.89**	**272**	⇑	*i*P	**Pn**	**18 36 14.8**	**+3.6**
MDJ	**Mudanjiang**		**12.29**	**313**		P	**Pn**	**18 36 16.9**	**+0.2**
MDJ						S	**Sn**	**18 38 28.7**	**-3.9**
MDJ						ScP	**ScP**	**18 45 29.7**	**+1.2**
MDJ						PcS	**PcS**	**18 45 32.6**	**+1.0**
MDJ						PMZ			
	comp=N,5.0nm,0.6s								
MDJ						PMZ			
	comp=N,12nm,3.2s								
MDJ						LN			
	comp=N,680nm,18.8s								
MDJ						LE			
	comp=N,560nm,18.8s								
MDJ						LZ			
	comp=N,1μm,18.8s								
MDJ	**Mudanjiang**		**12.29**	**313**	*e*	Pn	**Pn**	**18 36 19.0**	**+2.3**
HABR	**Khabarovsk**		**12.76**	**338**	*e*	P	**Pn**	**18 36 21.1**	**-1.8**
HABR					*e*	S	**Sn**	**18 38 41.6**	**-2.3**
HABR					pmax		pmax		
	comp=E,28nm,1.5s								
HABR					pmax		pmax		
	comp=Z,28nm,1.5s								
HABR					pmax		pmax		
	comp=N,10.0nm,1.5s								
HABR					MLR		MLR		
	comp=Z,897nm,13.0s								
TYV	**Tymovskoe**		**14.05**	**1**	*e*	P	**Pn**	**18 36 38.0**	**-2.5**
TYV					pmax		pmax		
	comp=Z,14nm,0.5s								
TYV					MLR		MLR		
	comp=N,2μm,16.0s								
TYV					MLR		MLR		
	comp=Z,2μm,16.0s								
CN2	**Changchun**		**14.51**	**304**	*e*	P	**Pn**	**18 36 46.0**	**-0.9**
CN2					*e*	S	**Sn**	**18 39 26.3**	**-0.5**
CN2					PMZ				
	comp=Z,10.0nm,0.7s								
CN2					PMZ				
	comp=Z,40nm,3.0s								
CN2					LN				
	comp=Z,600nm,16.0s								
CN2					LE				
	comp=Z,900nm,16.0s								
CN2					LZ				
	comp=Z,900nm,17.0s								
KLR	**Kul'dur**		**14.53**	**332**		Pn	**Pn**	**18 36 46.2**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=151,slow=10,SNR=7.3								
KLR						LR	LR	18 42 20.6	
	comp=Z,950nm,18.9s,baz=143,slow=37								
SNY	**Shenyang**		**15.21**	**295**	⇑	P	**P**	**18 37 00.0**	**-1.0**
SNY						S	**S**	**18 39 53.1**	**-6.9**
SNY					PMZ				
	comp=Z,130nm,4.6s								
SNY					LN				
	comp=Z,410nm,16.0s								
SNY					LE				
	comp=Z,2μm,15.0s								
SNY					LZ				
	comp=Z,2μm,15.0s								
DL2	**Dalian**		**16.34**	**284**		P	**Pn**	**18 37 11.1**	**+0.3**
DL2						S	**Sn**	**18 40 09.6**	**-1.6**
DL2					PMZ				
	comp=Z,30nm,0.7s								
DL2					LN				
	comp=Z,390nm,13.6s								
DL2					LE				
	comp=Z,990nm,17.7s								
DL2					LZ				
	comp=Z,1μm,18.0s								
PEA0	**Petropavlovsk-**		**19.59**	**29**	*e*	P	**P**	**18 37 50.1**	**+0.9**
PEA0B	**Petropavlovsk-**		**19.59**	**29**	*e*	P	**P**	**18 37 50.0**	**+0.7**
	comp=Z,20nm,1.0s								
PETK	**Petropavlovsk-**		**19.59**	**29**		P	**Pn**	**18 37 50.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=200,slow=9.3,SNR=20								
PEA1	**Petropavlovsk-**		**19.59**	**29**	*e*	P	**Pn**	**18 37 50.4**	**-0.3**
NJ2	**Nanjing**		**19.77**	**263**	*e*	P	**P**	**18 37 51.4**	**0.0**
NJ2						S	**S**	**18 41 30.2**	**-2.6**
NJ2					PMZ				
	comp=Z,19nm,1.2s								
NJ2					LN				
	comp=Z,570nm,13.6s								
NJ2					LE				
	comp=Z,1μm,14.6s								
NJ2					LZ				
	comp=Z,970nm,15.2s								
PET	**Petropavlovsk**		**19.90**	**30**	*e*	P	**P**	**18 37 51.6**	**-1.0**
PET					*e*	S	**S**	**18 41 27.5**	**-7.5**
PET					pmax		pmax		
	comp=Z,13nm,1.0s								
PET					MLR		MLR		
	comp=Z,300nm,21.0s								
PET					MLR		MLR		
	comp=Z,400nm,17.0s								
PET	**Petropavlovsk**		**19.90**	**30**	*e*	P	**P**	**18 37 53.4**	**+0.8**
	comp=Z,30nm,1.4s								
TIA	**Tai'an**		**20.11**	**276**	⇑	P	**P**	**18 37 54.3**	**-0.8**
TIA						pP	**pP**	**18 38 03.2**	**+0.5**
TIA						S	**S**	**18 41 36.3**	**-3.2**
TIA					PMZ				
	comp=Z,20nm,0.9s								
TIA					PMZ				
	comp=Z,180nm,3.8s								
TIA					LN				
	comp=Z,550nm,14.9s								
TIA					LE				
	comp=Z,860nm,15.5s								
TIA					LZ				
	comp=Z,910nm,17.3s								
HIA	**Hailar**		**20.47**	**314**	*e*	P	**P**	**18 37 57.1**	**-1.9**
HIA					pmax		pmax		
	comp=Z,29nm,1.1s								
HIA	**Hailar**		**20.47**	**314**	*e*	P	**P**	**18 37 57.0**	**-1.9**
	comp=Z,29nm,1.1s								
BJI	**Beijing**		**20.57**	**287**		P	**P**	**18 37 57.8**	**-2.3**
BJI						pP	**pP**	**18 38 06.6**	**-1.1**
BJI						sP	**sP**	**18 38 12.7**	**+1.4**
BJI						S	**S**	**18 41 48.2**	**-0.5**
BJI					PMZ				
	comp=Z,8.0nm,0.8s								
BJI					PMZ				
	comp=Z,55nm,4.6s								
BJI					LN				
	comp=Z,350nm,11.8s								
BJI					LE				
	comp=Z,560nm,15.0s								
BJI					LZ				
	comp=Z,320nm,23.3s								
YHNB	**Yeheng**		**21.52**	**242**	*e*	P	**P**	**18 38 08.2**	**-2.2**
	comp=Z,124nm,1.8s								
NACB	**Ninganchiao**		**21.68**	**240**	*e*	P	**P**	**18 38 09.7**	**-2.4**
	comp=Z,35nm,1.2s								
SSLB	**Suanglung**		**22.37**	**240**	*e*	P	**P**	**18 38 16.8**	**-2.9**
	comp=Z,25nm,1.1s								
YULB	**Yu-li**		**22.39**	**239**	*e*	P	**P**	**18 38 16.5**	**-3.3**
	comp=Z,25nm,1.2s								
TPUB	**Ta-pu**		**22.92**	**240**	*e*	P	**P**	**18 38 22.2**	**-3.1**
	comp=Z,108nm,1.5s								
CLNS	**Chul'man**		**23.12**	**335**	*e*	P	**P**	**18 38 29.0**	**+1.9**
CLNS					pmax		pmax		
	comp=Z,18nm,1.0s								
CLNS					pmax		pmax		
	comp=N,11nm,0.7s								
CLNS					pmax		pmax		
	comp=E,6.0nm,0.8s								
CLNS					MLR		MLR		
	comp=E,335nm,17.0s								
CLNS					MLR		MLR		
	comp=Z,815nm,15.0s								
CLNS					MLR		MLR		
	comp=N,698nm,15.0s								
GUMO	**Guam**		**23.26**	**173**		LR	LR	18 46 32.1	
	comp=N,77nm,21.4s,baz=38,slow=34								
MA2	**Magadan**		**23.45**	**11**		P	**P**	**18 38 31.1**	**+0.8**
	comp=N,19nm,0.8s,baz=208,slow=9.6,SNR=9.2								
MA2						LR	LR	18 47 30.4	
	comp=N,121nm,20.2s,baz=154,slow=36								
WHN	**Wuhan**		**23.91**	**263**		P	**P**	**18 38 33.8**	**-1.2**
WHN						pP	**pP**	**18 38 42.9**	**-0.3**
WHN						sP	**sP**	**18 38 45.1**	**-1.6**
WHN						S	**S**	**18 42 51.6**	**+1.9**
WHN						LN			
	comp=N,2μm,14.4s								
WHN						LE			
	comp=N,510nm,10.0s								
WHN						LZ			
	comp=N,2μm,13.4s								
HHC	**Hu-ho-hao-te**		**24.10**	**289**	*e*	P	**P**	**18 38 37.8**	**+1.0**
HHC						S	**S**	**18 42 51.5**	**-1.2**
HHC					PMZ				
	comp=N,18nm,1.0s								
HHC					PMZ				
	comp=N,76nm,5.2s								
HHC					LN				
	comp=N,560nm,13.9s								
HHC					LE				
	comp=N,310nm,13.2s								
HHC					LZ				
	comp=N,290nm,12.9s								
CIT	**Chita**		**25.24**	**316**	*e*	P	**P**	**18 38 48.3**	**+1.3**
CIT					*e*			18 38 53.3	
CIT					*e*			18 38 57.0	
CIT					pmax		pmax		
	comp=Z,155nm,1.3s								
YAK	**Yakutsk**		**26.41**	**347**		P	**P**	**18 38 57.8**	**+0.4**
	comp=Z,4.4nm,0.7s,baz=156,slow=19,SNR=12								
YAK						LR	LR	18 51 24.1	
	comp=Z,160nm,18.8s,baz=160,slow=41								
YAK	**Yakutsk**		**26.41**	**347**	*e*	P	**P**	**18 38 57.5**	**+0.1**
	comp=Z,72nm,0.8s								
SEY	**Seymchan**		**26.89**	**10**		P	**P**	**18 39 03.5**	**+1.7**
	comp=Z,14nm,0.8s,baz=199,slow=6.1,SNR=35								
SEY	**Seymchan**		**26.89**	**10**	⇑	*i*P	**P**	**18 39 04.2**	**+2.4**
XAN	**Xi'an**		**27.14**	**274**		P	**P**	**18 39 04.1**	**-0.3**
XAN						pP	sP	18 39 16.1	0.0
XAN					PMZ				
	comp=Z,3.0nm,0.6s								
XAN					LN				
	comp=Z,230nm,15.2s								
XAN					LE				
	comp=Z,320nm,15.2s								
XAN					LZ				
	comp=Z,390nm,16.4s								
H11N2	**WAKE ISLAND Hy**		**27.53**	**121**		T	T	19 08 28.1	
	baz=313,slow=75,SNR=59								
H11N1	**WAKE ISLAND Hy**		**27.54**	**121**		T	T	19 08 28.1	
	baz=313,slow=75,SNR=38								
H11N3	**WAKE ISLAND Hy**		**27.55**	**121**		T	T	19 08 28.1	
	baz=313,slow=75,SNR=41								
ENH

TLY eS **S** **18 44 46.1 +6.1**
TLY pmax pmax
comp=Z,26nm,1.4s
TLY MLR MLR
comp=Z,483nm,15.0s
TLY Talaya 30.91 311 *e*P **P** **18 39 39.0 +1.3**
comp=Z,34nm,1.4s
GYA Guiyang 31.76 261⇑*i*P **P** **18 39 44.8 -0.7**
GYA pP sP 18 39 56.4 -0.9
GYA PP **PnPn** **18 40 52.0 +1.9**
GYA PcP **PcP** **18 42 38.6 +2.1**
GYA S **S** **18 44 52.5 -1.5**
GYA sS sS 18 45 10.0 +2.3
GYA ScP **ScP** **18 46 16.7 -1.1**
GYA SS **SnSn** **18 46 43.2 +1.1**
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,130nm,4.9s
GYA LN
comp=Z,540nm,16.8s
GYA LE
comp=Z,510nm,17.6s
GYA LZ
comp=Z,460nm,17.5s
CD2 Chengdu 32.26 271 *e*P **P** **18 39 49.5 -0.3**
CD2 pP pP 18 39 59.7 +1.6
CD2 sP sP 18 40 04.4 +2.9
CD2 S **S** **18 45 00.5 -1.0**
CD2 sS sS 18 45 18.1 +2.9
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
MOY Mondy 32.52 310 *e*P **P** **18 39 53.0 +1.0**
MOY pmax pmax
comp=Z,21nm,1.3s
GTA Gaotai 33.19 288 *e*P **P** **18 39 58.7 +0.8**
GTA pP sP 18 40 09.1 -0.6
GTA sP pP 18 40 13.0 +6.8
GTA PcP **PcP** **18 42 40.8 +0.6**
GTA S **S** **18 45 15.2 -0.7**
GTA sS sS 18 45 31.1 +1.4
GTA SS **SnSn** **18 47 17.0 +0.6**
GTA PMZ
comp=Z,18nm,1.0s
GTA PMZ
comp=Z,80nm,5.0s
GTA LN
comp=Z,340nm,15.2s
GTA LE
comp=Z,300nm,16.6s
GTA LZ
comp=Z,270nm,16.6s
QIZ Qiongzhong 33.38 247 P **P** **18 40 00.1 +0.5**
QIZ S **S** **18 45 19.9 +1.0**
QIZ PMZ
comp=Z,18nm,1.6s
QIZ LN
comp=Z,340nm,13.6s
QIZ LE
comp=Z,190nm,15.5s
QIZ LZ
comp=Z,280nm,13.4s
BILL Bilibino 34.07 16⇓*i*P **P** **18 40 05.9 +0.8**
BILL *e* 18 40 12.9
BILL *e*PPP PPP 18 41 21.0
BILL pmax pmax
comp=Z,19nm,1.7s
BILL MLR MLR
comp=Z,165nm,19.0s
BILL Bilibino 34.07 16 *e*P **P** **18 40 05.0 0.0**
comp=Z,11nm,1.1s
KMI Kunming 35.51 262 P **P** **18 40 17.8 -0.5**
KMI pP pP 18 40 28.3 +1.7
KMI sP sP 18 40 33.8 +3.7
KMI PP **PP** **18 41 39.8 +0.7**
KMI S **S** **18 45 45.5 -6.7**
KMI sS sS 18 46 05.9 -0.1
KMI SS **SnSn** **18 48 06.7 -6.5**
KMI PMZ
comp=Z,19nm,0.7s
KMI PMZ
comp=Z,83nm,4.4s
KMI LN
comp=Z,280nm,17.4s
KMI LE
comp=Z,460nm,16.0s
KMI LZ
comp=Z,350nm,19.9s
TIXI Tiksi 35.58 353 P **P** **18 40 18.5 +0.4**
comp=Z,2.8nm,0.7s,baz=141,slow=7.4,SNR=18
TIXI Tiksi 35.58 353⇑*i*P **P** **18 40 18.4 +0.4**
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 35.58 353 *e*P **P** **18 40 17.6 -0.4**
comp=Z,4.5nm,0.8s
MYLDM Lahad Datu 38.22 220 *e*P **P** **18 40 42.9 +1.8**
comp=Z,40nm,1.2s
PANO Nakornpanom 38.44 250 P **P** **18 40 44.5 +1.6**
comp=Z,110nm,1.7s,comp=Z,11μm
UBPT Khong Chiam 38.98 246 P **P** **18 40 49.0 +1.6**
comp=Z,31nm,1.0s
NONG Nongkai 39.00 252 P **P** **18 40 49.4 +1.8**
comp=Z,86nm,1.3s,comp=Z,6μm
SKNT Sakolnakorn 39.02 250 P **P** **18 40 49.2 +1.4**
comp=Z,26nm,1.2s
FAKI Fak Fak 40.59 195 *e*P **P** **18 40 59.9 -0.9**
comp=Z,17nm,1.0s
LOEI Loei 40.76 253 P **P** **18 41 01.4 -0.9**
comp=Z,100nm,0.7s,comp=Z,6μm
CHAI Chaiyaphum 41.18 250 P **P** **18 41 06.7 +0.9**
comp=Z,7.9nm,1.0s,comp=Z,76nm
WMQ Urumqi 41.46 297 P **P** **18 41 09.8 +1.9**
WMQ pP sP 18 41 19.8 0.0
WMQ sP pP 18 41 23.8 +7.5
WMQ PP **PnPn** **18 42 49.1 +0.6**
WMQ S **S** **18 47 21.8 +0.4**
WMQ sS sS 18 47 38.5 +3.2
WMQ PMZ
comp=Z,9.0nm,0.8s
WMQ PMZ
comp=Z,70nm,3.6s
WMQ LN
comp=Z,110nm,17.2s
WMQ LE
comp=Z,170nm,17.2s
WMQ LZ
comp=Z,130nm,19.8s
LUWI Luwuk 41.74 210 *e*P **P** **18 41 08.6 -1.7**
comp=Z,38nm,1.2s
CHTO Chiang Mai 41.81 257 *e*P **P** **18 41 11.2 +0.3**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 41.81 257 *e*P **P** **18 41 11.2 +0.3**
comp=Z,7.5nm,0.9s
CM31 Chiang Mai Arr 42.01 256 *e*P **P** **18 41 14.0 +1.4**
CMAR Chiang Mai Arr 42.01 256 P **P** **18 41 13.1 +0.5**
comp=Z,1.7nm,0.7s,baz=72,slow=3.5,SNR=14
CMAR PcP **PcP** **18 43 08.0 +0.6**
comp=Z,0.4nm,0.6s,baz=56,slow=4.2,SNR=2.2
CMAR LR LR 19 00 36.5
comp=Z,160nm,19.1s,baz=40,slow=39
CM01 Chiang Mai Arr 42.02 256 *e*P **P** **18 41 13.1 +0.4**
ZAA0 Zalesovo Array 42.49 313 *e*P **P** **18 41 16.5 +0.4**
ZAA0 *e*PcP **PcP** **18 43 07.9 -0.4**
ZAA1 Zalesovo Array 42.49 313 *e*P **P** **18 41 17.1 +1.0**
ZAA1 *e*PcP **PcP** **18 43 08.8 +0.4**
ZALV Zalesovo Beam 42.49 313 P **P** **18 41 17.1 +1.0**
comp=Z,15nm,0.9s,baz=91,slow=6.7,SNR=41
ZALV PcP **PcP** **18 43 08.8 +0.4**
comp=Z,3.9nm,0.8s,baz=81,slow=3.0,SNR=4.8
ZALV LR LR 18 59 46.6
comp=Z,497nm,18.1s,baz=70,slow=37
LSA Lhasa 42.81 276 P **P** **18 41 21.0 +1.5**
LSA PMZ
comp=Z,9.0nm,1.3s
LSA Lhasa 42.81 276 *e*P **P** **18 41 20.7 +1.2**
LSA pmax pmax
comp=Z,12nm,1.0s
LSA Lhasa 42.81 276 *e*P **P** **18 41 20.7 +1.2**
comp=Z,12nm,1.0s
NVS Novosibirsk 43.41 314 *e*P **P** **18 41 23.8 +0.3**
NVS pmax pmax
comp=Z,21nm,1.4s
NVS pmax pmax
comp=E,13nm,1.0s
NRIK Noril'sk 43.71 335 P **P** **18 41 26.5 +0.8**
comp=E,4.3nm,0.4s,baz=124,slow=5.4,SNR=5.9
NRIK LR LR 19 01 03.8
comp=E,456nm,18.3s,baz=109,slow=38
CHGN Chignik 43.71 44 *e*P **P** **18 41 30.5 +4.6**
MK01 Makanchi Array 44.73 302 *e*P **P** **18 41 34.6 +0.4**
MK31 Makanchi Array 44.73 302 *i*P **P** **18 41 34.4 +0.2**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 44.73 302 *e*P **P** **18 41 34.6 +0.4**
MK32 Makanchi Array 44.73 302 *e*P **P** **18 41 34.9 +0.7**
MKAR Makanchi Array 44.73 302 P **P** **18 41 34.9 +0.6**
comp=Z,7.8nm,0.6s,baz=86,slow=9.7,SNR=93
MKAR LR LR 19 00 36.7
comp=Z,152nm,21.4s,baz=80,slow=36
MKAR PKKP PKKPdf 19 04 35.8 -12
comp=Z,0.9nm,1.0s,baz=237,slow=3.8,SNR=4.4
MAKZ Makanchi 44.94 302 P **P** **18 41 35.8 -0.1**
MAKZ pmax pmax
comp=Z,12nm,0.9s
MAKZ Makanchi 44.94 302 *e*P **P** **18 41 36.6 +0.7**
comp=Z,9.9nm,0.8s
TT01 Tatalina 45.26 35 *e*P **P** **18 41 39.2 +1.0**
TTA Tatalina 45.27 35 *e*P **P** **18 41 40.2 +1.9**
TTA pmax pmax
comp=Z,4.0nm,1.0s
TTA Tatalina 45.27 35 *e*P **P** **18 41 40.2 +1.9**
comp=Z,4.4nm,1.0s
SVW2 Sparrevohn 45.34 37 *e*P **P** **18 41 40.6 +1.8**
comp=Z,9.7nm,1.0s
KSM Kuching 45.83 227 *e*P **P** **18 41 43.9 +0.7**
comp=Z,9.1nm,0.9s
PMG Port Moresby 46.22 173 LR LR 19 00 19.8
comp=Z,34nm,20.2s,baz=44,slow=35
KURK Kurchatov 46.53 308 *e*P **P** **18 41 48.8 +0.5**
KURK Kurchatov 46.53 308 *e*P **P** **18 41 48.8 +0.5**
comp=Z,118nm,0.8s
KAPI Kappang 46.58 212 P **P** **18 41 48.7 -0.3**
comp=Z,5.3nm,0.5s,baz=64,slow=2.0,SNR=5.2
KAPI Kappang 46.58 212 *e*P **P** **18 41 49.6 +0.5**
comp=Z,19nm,0.9s
RSO Redoubt South 46.71 38 *e*P **P** **18 41 49.0 -0.8**
KDAK Kodiak Island 46.87 42 *i*P **P** **18 41 51.4 +0.5**
PPLA Purkeypile 47.01 35 *e*P **P** **18 41 53.5 +1.4**
comp=Z,11nm,1.0s
SPU Mount Spurr 47.05 37 *e*P **P** **18 41 54.0 +1.7**
CAST Castle Rocks 47.08 34 *e*P **P** **18 41 53.8 +1.3**
comp=Z,6.5nm,0.8s
BPAW Bear Paw Mtn. 47.59 33 *e*P **P** **18 41 57.7 +1.2**
comp=Z,5.7nm,1.1s
KTH Kantishna Hill 47.60 34 *e*P **P** **18 41 58.1 +1.4**
comp=Z,12nm,0.9s
SUA Susitna One 47.68 37 *e*P **P** **18 41 57.4 +0.1**
comp=Z,5.9nm,0.9s
MLY Manley 47.72 32 *e*P **P** **18 41 59.3 +1.7**
comp=Z,12nm,0.9s
GUN Gumba 47.76 276 *e*P **P** **18 41 59.2 +0.5**
comp=Z,16nm,0.6s
TRF Thorofare Moun 47.88 34 *e*P **P** **18 42 00.3 +1.3**
comp=Z,6.7nm,0.8s
COLD Coldfoot 48.06 29 *e*P **P** **18 42 01.1 +1.1**
comp=Z,2.9nm,1.0s
RC01 Rabbit Creek A 48.18 37 *e*P **P** **18 42 00.8 -0.2**
comp=Z,6.3nm,0.9s
BWN Browne 48.25 33 *e*P **P** **18 42 04.2 +2.7**
comp=Z,20nm,0.9s
PKIN Phulchoki 48.29 276 *e*P **P** **18 42 03.0 +0.3**
comp=Z,17nm,0.6s
KKN Kakani 48.29 276 *e*P **P** **18 42 03.2 +0.6**
comp=Z,12nm,0.5s
SEW Seward 48.37 39 *e*P **P** **18 42 01.8 -0.7**
comp=Z,8.6nm,0.9s
PMR Palmer 48.45 37 *e*P **P** **18 42 03.3 +0.2**
PMR pmax pmax
comp=Z,8.0nm,0.7s
PMR Palmer 48.45 37 *e*P **P** **18 42 03.3 +0.2**
comp=Z,7.6nm,0.7s
MCK McKinley 48.49 34 *e*P **P** **18 42 04.0 +0.6**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 48.49 34 *e*P **P** **18 42 04.0 +0.6**
comp=Z,6.2nm,0.8s
RND Reindeer 48.53 34 *e*P **P** **18 42 04.2 +0.4**
RND pmax pmax
comp=Z,10.0nm,0.9s
RND Reindeer 48.53 34 *e*P **P** **18 42 04.2 +0.4**
comp=Z,9.5nm,0.9s
GKN Gorkha 48.71 277 *e*P **P** **18 42 06.4 +0.6**
comp=Z,31nm,0.7s
MDM Murphy Dome 48.79 32 *e*P **P** **18 42 06.8 +1.1**
comp=Z,18nm,0.9s
SML Sawmill 48.82 36 *e*P **P** **18 42 06.7 +0.7**
SML pmax pmax
comp=Z,11nm,1.0s
SML Sawmill 48.82 36 *e*P **P** **18 42 06.7 +0.7**
comp=Z,11nm,1.0s
WRH Wood River Hil 48.85 33 *e*P **P** **18 42 06.9 +0.7**
comp=Z,5.8nm,0.8s
COLA College 48.95 32⇓*i*P **P** **18 42 08.5 +1.6**
COLA pmax pmax
comp=Z,15nm,2.0s
COLA College 48.95 32 *e*P **P** **18 42 09.0 +2.1**
comp=Z,20nm,0.3s
HNR Honiara 48.95 156 LR LR 19 01 42.2
comp=Z,100nm,20.1s,baz=358,slow=35
CCB Clear Creek Bu 48.97 32 *e*P **P** **18 42 08.2 +1.2**
comp=Z,3.9nm,1.1s
DHY Denali Highway 49.21 35 *e*P **P** **18 42 09.5 +0.4**
comp=Z,11nm,1.4s
SOEI Soe 49.28 204 P **P** **18 42 13.4 +3.3**
comp=Z,60nm,0.8s
SOEI Soe 49.28 204 *e*P **P** **18 42 12.5 +2.4**
comp=Z,42nm,0.8s
SCM Sheep Creek Mo 49.30 36 *e*P **P** **18 42 10.9 +1.2**
SCM pmax pmax
comp=Z,10.0nm,0.9s
SCM Sheep Creek Mo 49.30 36 *e*P **P** **18 42 10.9 +1.2**
comp=Z,9.8nm,0.9s
HDA Harding Lake 49.35 33 *e*P **P** **18 42 10.3 +0.3**
comp=Z,7.3nm,0.8s
IL1 Eielson Array 49.36 32 *e*P **P** **18 42 10.4 +0.3**
ILAR Eielson Array 49.36 32 P **P** **18 42 10.8 +0.7**
comp=Z,6.0nm,0.7s,baz=265,slow=6.4,SNR=60
ILB Eielson Array 49.36 32 *e*P **P** **18 42 10.4 +0.3**
KOLN Koldanda 49.64 277 *e*P **P** **18 42 13.5 +0.6**
comp=Z,6.4nm,0.4s
PYUN Piuthan 49.98 278 *e*P **P** **18 42 16.1 +0.6**
comp=Z,16nm,0.5s
KLU Klutina 49.99 37 *e*P **P** **18 42 16.1 +1.1**
comp=Z,7.7nm,0.9s
FYU Fort Yukon 50.00 30 *e*P **P** **18 42 16.7 +1.8**
comp=Z,18nm,1.2s
DIV Divide 50.10 37 *e*P **P** **18 42 16.4 +0.7**
comp=Z,10nm,0.8s
EYAK Cordova Ski Ar 50.17 38 *e*P **P** **18 42 16.3 +0.1**
comp=Z,7.1nm,0.8s
TKM2 Tokmak 2 50.25 299 *e*P **P** **18 42 18.4 +1.0**
TKM2 pmax pmax
comp=Z,14nm,0.7s
TKM2 Tokmak 2 50.25 299 *e*P **P** **18 42 18.4 +1.0**
comp=Z,14nm,0.7s
DOT Dot Lake 50.66 34 *e*P **P** **18 42 20.1 +0.1**
comp=Z,9.3nm,0.8s
BMRM Bremner River 50.68 37 *e*P **P** **18 42 21.5 +1.3**
comp=Z,8.4nm,0.9s
RAGM Ragged Mountai 50.71 38 *e*P **P** **18 42 21.6 +1.2**
comp=Z,19nm,1.4s
MENT Mentasta 50.88 35 *e*P **P** **18 42 22.7 +1.1**
comp=Z,7.0nm,0.9s
OTUK Ortayu 51.03 306 P **P** **18 42 23.6 +0.6**
OTUK pmax pmax
comp=Z,21nm,1.3s
KSH Kashi 51.03 294 P **P** **18 42 25.8 +2.6**
KSH pP sP 18 42 35.0 -0.2
KSH PcP **PcP** **18 43 40.7 +1.7**
KSH PP **PP** **18 44 21.6 +1.9**
KSH S **S** **18 49 38.2 -0.6**
KSH ScS **ScS** **18 52 08.5 -3.5**
KSH PMZ
comp=Z,4.0nm,0.6s
KSH PMZ
comp=Z,94nm,3.3s
KSH LN
comp=Z,750nm,16.2s
KSH LE
comp=Z,670nm,18.5s
KSH LZ
comp=Z,710nm,16.3s
AAK Ala-Archa 51.11 299 *e*P **P** **18 42 24.3 +0.5**
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 51.11 299 *e*P **P** **18 42 24.3 +0.5**
comp=Z,5.8nm,0.6s
BVA0 Borovoye Array 51.15 313 *i*P **P** **18 42 24.2 +0.4**
BVA0 pmax pmax
comp=Z,8.0nm,1.2s
BRVK Borovoye 51.21 313*c i*P **P** **18 42 25.1 +0.9**
BRVK pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 51.21 313 *e*P **P** **18 42 24.8 +0.6**
comp=Z,18nm,0.9s
BRVK *e*PcP **PcP** **18 43 39.5 +0.3**
CRQM Cirque 51.42 37 *e*P **P** **18 42 27.2 +1.3**
comp=Z,11nm,0.7s
CRQM *e*PcP **PcP** **18 43 41.3 +1.2**
EKS2 Erkin-Say 51.60 299 *e*P **P** **18 42 27.8 +0.3**
EKS2 pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 51.60 299 *e*P **P** **18 42 27.8 +0.3**
comp=Z,4.0nm,0.7s
EGAK Eagle 51.81 32 *e*P **P** **18 42 29.0 +0.4**
comp=Z,5.0nm,1.1s
ZRNK Zerenda 51.98 313 *e*P **P** **18 42 30.3 +0.3**
ZRNK pmax pmax
comp=Z,21nm,1.3s
ZRNK Zerenda 51.98 313 *e*P **P** **18 42 30.3 +0.3**
comp=Z,20nm,1.3s
MNAS Manas 52.55 299 P **P** **18 42 35.1 +0.5**
MNAS pmax pmax
comp=Z,11nm,0.7s
KK31 Karatay Array 53.74 300 *i*P **P** **18 42 43.7 +0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 53.74 300 *e*P **P** **18 42 43.6 +0.5**
KKAR Karatay Array 53.74 300 *e*P **P** **18 42 43.6 +0.5**
GSI Gunungsitoli 54.20 240 P **P** **18 42 47.2 +0.4**
comp=Z,47nm,1.2s
GSI Gunungsitoli 54.20 240 *e*P **P** **18 42 46.9 +0.1**
comp=Z,116nm,1.6s
INK Inuvik 54.31 27 P **P** **18 42 48.2 +1.3**
comp=Z,4.2nm,0.6s,baz=300,slow=7.7,SNR=11
INK Inuvik 54.31 27 *e*P **P** **18 42 47.4 +0.6**
comp=Z,6.5nm,0.8s
SVE Sverdlovsk 55.70 319⇓*e*P **P** **18 42 58.3 +1.2**
SVE pmax pmax
comp=Z,23nm,1.2s
SVE MLR MLR
comp=Z,528nm,18.0s
DZET Dzherino 56.47 296 P **P** **18 43 03.6 +0.6**
DZET pmax pmax
comp=Z,25nm,0.6s
FITZ Fitzroy Crossi 56.80 199 P **P** **18 43 04.3 -1.0**
comp=Z,2.9nm,0.5s,baz=340,slow=4.1,SNR=12
FITZ Fitzroy Crossi 56.80 199 *e*P **P** **18 43 04.2 -1.1**
comp=Z,56nm,2.0s
ARU Arti 56.91 319*c i*P **P** **18 43 06.3 +0.6**
ARU *PP **pP** **18 43 16.2 +1.8**
ARU 18 43 59.5
ARU 18 45 09.6
ARU S **S** **18 51 00.1 +2.6**
ARU SS **SS** **18 54 42.4 -3.0**
ARU pmax pmax
comp=Z,30nm,1.2s
ARU MLR MLR
comp=Z,446nm,18.0s
ARU Arti 56.91 319 *e*P **P** **18 43 06.5 +0.8**
comp=Z,25nm,1.1s
WRAB Tennant Creek 56.92 189⇑*i*P **P** **18 43 09.4 +3.3**
WRAB Tennant Creek 56.92 189 *e*P **P** **18 43 04.5 -1.7**
comp=Z,21nm,1.3s
WB2 Warramunga Arr 56.93 189 *e*P **P** **18 43 04.5 -1.7**
comp=Z,16nm,1.2s
WR1 Warramunga Arr 56.93 189 *e*P **P** **18 43 04.8 -1.5**
comp=Z,23nm,1.3s
WRA Warramunga Arr 56.93 189 P **P** **18 43 04.8 -1.5**
comp=Z,2.1nm,0.4s,baz=5.7,slow=7.0,SNR=32
KBL Kabul 58.04 291 *e*P **P** **18 43 14.1 -0.2**
KBL pmax pmax
comp=Z,16nm,1.0s
KBL Kabul 58.04 291 *e*P **P** **18 43 14.1 -0.2**
comp=Z,16nm,1.0s
DLBC Dease Lake 58.44 38 P **P** **18 43 16.8 +0.3**
comp=Z,1.5nm,0.6s,baz=286,slow=8.3,SNR=5.1
DLBC Dease Lake 58.44 38 *e*P **P** **18 43 18.5 +2.0**
comp=Z,5.7nm,0.9s
AB31 Akbulak array 58.53 310 *i*P **P** **18 43 17.1 -0.1**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 58.53 310 *e*P **P** **18 43 17.3 +0.1**
AS01 Alice Springs 60.65 189 *e*P **P** **18 43 30.5 -1.5**
AS31 Alice Springs 60.66 189 *e*P **P** **18 43 31.0 -1.1**
comp=Z,1.8nm,0.8s
ASAR Alice Springs 60.66 189 P **P** **18 43 31.1 -1.1**
comp=Z,3.2nm,0.8s,baz=11,slow=6.9,SNR=26
ASAR LR LR 19 10 07.1
comp=Z,34nm,19.7s,baz=26,slow=36
DZM Mont Dzumac 62.90 155 *e*LR LR 19 02 28.8
comp=Z,244nm,21.9s
YKA Yellowknife Ar 63.70 30 P **P** **18 43 52.7 +0.7**
comp=Z,1.2nm,0.6s,baz=303,slow=6.6,SNR=8.2
YKB5 Yellowknife Ar 63.70 30 *e*P **P** **18 43 52.0 0.0**
KLMR Klimovskoe 64.25 328 *e*P **P** **18 43 53.7 -2.0**
KLMR *e**PP **pP** **18 44 04.8 +0.3**
KLMR pmax pmax
comp=Z,4.0nm,0.6s
ARA0 ARCESS Array S 64.40 340 *e*P **P** **18 43 56.7 +0.1**
ARCES ARCESS Array B 64.40 340 P **P** **18 43 56.7 +0.1**
comp=Z,3.2nm,1.0s,baz=42,slow=5.6,SNR=5.1
ARCES LR LR 19 17 16.2
comp=Z,207nm,18.0s,baz=48,slow=41
GEYT Alibeck 64.45 299 P **P** **18 43 58.2 +0.8**
comp=Z,5.5nm,0.7s,baz=37,slow=3.7,SNR=16
GEYT LR LR 19 13 37.6
comp=Z,103nm,20.8s,baz=130,slow=38
MOS Moscow 67.77 324 *e*P **P** **18 44 17.6 -0.8**
MOS *i* 18 44 28.8
MOS pmax pmax
comp=Z,33nm,1.0s
SWFL Southwest Flan 68.02 48 *e*P **P** **18 44 21.4 +0.9**
VRH Novokhopyorsk 68.13 318 *e*P **P** **18 44 25.5 +4.8**
VRH pmax pmax
comp=Z,7.0nm,0.5s
STKA Stephens Creek 68.34 181 P **P** **18 44 21.2 -0.8**
comp=Z,1.1nm,0.6s,baz=356,slow=8.7,SNR=3.3
STKA Stephens Creek 68.34 181 *e*P **P** **18 44 20.9 -1.1**
comp=Z,4.5nm,1.7s
SUF Sumiainen 68.44 334 P **P** **18 44 23.6 +1.1**
SUF pmax pmax
comp=Z,16nm,1.1s
OBN Obninsk 68.62 324⇑*i*P **P** **18 44 24.5 +0.8**
OBN *i* *PP **pP** **18 44 34.4 +1.8**
OBN *e* 18 44 54.9
OBN *e* 18 46 57.4
OBN pmax pmax
comp=Z,26nm,1.7s
OBN MLR MLR
comp=Z,174nm,16.0s
OBN Obninsk 68.62 324 *e*P **P** **18 44 23.8 +0.1**
comp=Z,11nm,0.6s
LPSR Galich'ya Gora 68.84 320 *e*P **P** **18 44 25.9 +0.7**
LPSR pmax pmax
comp=Z,10.0nm,1.5s
FIA1 FINESS Array S 69.28 333 *e*P **P** **18 44 27.9 +0.2**
FIA0 FINESS Array S 69.28 333 *e*P **P** **18 44 28.3 +0.6**
FIA0 FINESS Array S 69.28 333 *e*P **P** **18 44 28.3 +0.6**
FINES FINESS Array B 69.28 333 P **P** **18 44 28.3 +0.6**
comp=Z,7.2nm,0.8s,baz=54,slow=8.0,SNR=26
FINES LR LR 19 17 06.2
comp=Z,251nm,18.9s,baz=26,slow=38
VSR Storozhevoye 69.48 319 *e*P **P** **18 44 29.0 -0.1**
VSR pmax pmax
comp=Z,30nm,1.6s
K05A Summer Lake 70.63 51 *e*P **P** **18 44 38.1 +1.5**
comp=Z,15nm,1.2s
GOF Gofitskoye 70.67 312⇑*e*P **P** **18 44 37.6 +1.0**
SUMG Summit 70.90 0 *e*P **P** **18 44 38.4 +0.4**
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG Summit 70.90 0 *e*P **P** **18 44 38.4 +0.4**
comp=Z,6.3nm,1.0s
VSU Vasula 70.94 330⇑*i*P **P** **18 44 39.0 +1.1**

VSU					*e*PP	**sP**	**18 44 49.4**	**-0.7**
VSU					pmax	pmax		
	comp=Z,31nm,1.2s							
ZEI	**Tsey**	**71.39**	**310**		*e*P	**P**	**18 44 37.2**	**-4.0**
ZEI					pmax	pmax		
	comp=Z,18nm,0.4s							
MOD	**Modoc Plateau**	**71.44**	**51**		*e*P	**P**	**18 44 44.9**	**+3.4**
	comp=Z,10nm,1.5s							
KBZ	**Khabaz**	**71.49**	**311**		P	**P**	**18 44 42.9**	**+1.4**
	comp=Z,9.0nm,0.8s,baz=66,slow=4.5,SNR=21							
KBZ					LR	LR	19 20 52.1	
	comp=Z,181nm,18.7s,baz=35,slow=40							
KIV	**Kislovodsk**	**71.49**	**311**	*d*	*i*P	**P**	**18 44 43.3**	**+1.6**
KIV					*i* *PP	**sP**	**18 44 53.2**	**-0.7**
KIV					*e*		18 45 01.5	
KIV					pmax	pmax		
	comp=Z,34nm,1.2s							
KIV					MLR	MLR		
	comp=Z,168nm,17.0s							
KIV	**Kislovodsk**	**71.49**	**311**		*e*P	**P**	**18 44 42.8**	**+1.1**
	comp=Z,22nm,0.8s							
BMO	**Blue Mountains**	**71.64**	**47**		*e*P	**P**	**18 44 42.3**	**-0.3**
	comp=Z,4.1nm,1.0s							
SWMT	**Swartz Lake**	**72.04**	**44**		*e*P	**P**	**18 44 45.7**	**+0.7**
WVOR	**Wild Horse Val**	**72.18**	**50**		*e*P	**P**	**18 44 46.6**	**+0.7**
WVOR					pmax	pmax		
	comp=Z,4.0nm,1.1s							
WVOR	**Wild Horse Val**	**72.18**	**50**		*e*P	**P**	**18 44 46.6**	**+0.7**
	comp=Z,4.1nm,1.1s							
GNI	**Garni**	**72.30**	**307**	*c*	*i*P	**P**	**18 44 48.6**	**+1.9**
GNI					pmax	pmax		
	comp=Z,41nm,1.8s							
GNI	**Garni**	**72.30**	**307**		*e*P	**P**	**18 44 46.8**	**0.0**
	comp=Z,38nm,1.9s							
UOSS	**Minazif**	**72.43**	**288**		*e*P	**P**	**18 44 48.0**	**+0.5**
	comp=Z,2.7nm,1.0s							
MSO	**Missoula**	**72.47**	**44**		*e*P	**P**	**18 44 47.4**	**-0.1**
	comp=Z,4.5nm,1.1s							
NACGM	**Naroch**	**73.23**	**327**		*e*	**P**	**18 44 52.0**	**+0.3**
NACGM					eLR	LR	19 19 14.0	
YERR	**Yerington**	**73.73**	**53**		*e*P	**P**	**18 44 56.4**	**+1.1**
	comp=Z,7.9nm,1.3s							
LRM	**Limekiln Ridge**	**73.89**	**45**		*e*P	**P**	**18 44 56.8**	**+0.7**
EGMT	**Eagleton**	**74.05**	**42**		*e*P	**P**	**18 44 57.5**	**+0.8**
	comp=Z,11nm,0.6s							
DLMT	**Dillon**	**74.08**	**45**		*e*P	**P**	**18 44 57.9**	**+0.8**
	comp=Z,6.9nm,0.8s							
HLID	**Hailey**	**74.09**	**47**		*e*P	**P**	**18 44 58.2**	**+1.0**
	comp=Z,3.6nm,1.1s							
BMN	**Battle Mountai**	**74.19**	**51**		*e*P	**P**	**18 44 58.2**	**+0.3**
BMN					pmax	pmax		
	comp=Z,4.0nm,1.1s							
BMN	**Battle Mountai**	**74.19**	**51**		*e*P	**P**	**18 44 58.2**	**+0.3**
	comp=Z,4.4nm,1.1s							
MCMT	**McKenzie Canyo**	**74.25**	**46**		*e*P	**P**	**18 44 58.4**	**+0.1**
TVH3	**East Aurora ar**	**74.36**	**54**		*e*P	**P**	**18 45 00.0**	**+1.1**
	comp=Z,3.0nm,1.0s							
TVH2	**Borealis Mine**	**74.39**	**54**		*e*P	**P**	**18 44 58.7**	**-0.4**
	comp=Z,2.7nm,0.4s							
NC405	**NORSAR Array S**	**74.40**	**337**		*e*P	**P**	**18 44 57.7**	**-0.8**
BOZ	**Bozeman (W)**	**74.46**	**44**		*e*P	**P**	**18 45 00.2**	**+0.9**
BOZ					pmax	pmax		
	comp=Z,5.0nm,0.8s							
BOZ	**Bozeman (W)**	**74.46**	**44**		*e*P	**P**	**18 45 00.2**	**+0.9**
	comp=Z,4.9nm,0.8s							
NC204	**NORSAR Array S**	**74.56**	**338**		*e*P	**P**	**18 44 59.6**	**+0.1**
NB201	**NORSAR Array S**	**74.58**	**338**		*e*P	**P**	**18 44 60.0**	**+0.4**
NB2	**NORSAR Subarra**	**74.61**	**338**		P	**P**	**18 45 00.5**	**+0.7**
	comp=Z,6.3nm,0.7s,baz=40,slow=6.2							
NB200	**NORSAR Array S**	**74.61**	**338**		*e*P	**P**	**18 45 00.2**	**+0.4**
NOA	**NORSAR Array B**	**74.61**	**338**		P	**P**	**18 45 00.2**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=40,slow=5.7,SNR=9.0							
NOA					LR	LR	19 21 28.8	
	comp=Z,184nm,18.7s,baz=40,slow=39							
NV01	**Mina Array Sit**	**74.65**	**53**		*e*P	**P**	**18 45 01.3**	**+0.7**
NVAR	**Mina Array Bea**	**74.65**	**53**		P	**P**	**18 45 01.6**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=302,slow=6.6,SNR=13							
NVAR					LR	LR	19 13 20.2	
	comp=Z,33nm,21.8s,baz=283,slow=32							
NBO02	**NORSAR Array S**	**74.71**	**338**		*e*P	**P**	**18 44 59.9**	**-0.4**
NV11	**Mina Array Sit**	**74.74**	**53**		*e*P	**P**	**18 45 01.7**	**+0.6**
	comp=Z,18nm,1.9s							
NBO00	**NORSAR Array S**	**74.75**	**338**		*e*P	**P**	**18 45 01.3**	**+0.7**
AKASG	**Malin Array Be**	**74.83**	**323**		P	**P**	**18 45 01.5**	**+0.4**
	comp=Z,5.6nm,0.6s,baz=47,slow=6.0,SNR=31							
AKASG					LR	LR	19 20 49.8	
	comp=Z,123nm,18.2s,baz=50,slow=38							
AKBB	**Malin Array Si**	**74.83**	**323**		*e*P	**P**	**18 45 01.4**	**+0.3**
AKBB					pmax	pmax		
	comp=Z,10.0nm,0.9s							
AKBB	**Malin Array Si**	**74.83**	**323**		*e*P	**P**	**18 45 01.4**	**+0.3**
	comp=Z,10.0nm,0.9s							
NAO01	**NORSAR Array S**	**74.86**	**338**		*e*P	**P**	**18 45 00.4**	**-0.8**
AK11	**Malin Array Si**	**74.87**	**323**		*e*P	**P**	**18 45 01.3**	**0.0**
SUW	**Suwalki**	**75.39**	**328**		*e*P	**P**	**18 45 05.3**	**+1.1**
SUW	**Suwalki**	**75.39**	**328**		*e*P	**P**	**18 45 05.3**	**+1.1**
H17A	**Grant Village**	**75.81**	**45**		*e*P	**P**	**18 45 10.2**	**+2.9**
	comp=Z,11nm,0.9s							
SIM	**Simferopol'**	**75.89**	**316**		*e*P	**P**	**18 45 07.4**	**0.0**
SIM					*e*		18 45 18.0	
SIM					pmax	pmax		
	comp=Z,10.0nm,0.8s							
SIM					MLR	MLR		
	comp=Z,80nm,11.2s							
IMW	**Indian Meadow**	**75.91**	**45**		*e*P	**P**	**18 45 09.4**	**+1.5**
	comp=Z,7.9nm,1.2s							
MOOW	**Moose Ponds**	**76.11**	**46**		*e*P	**P**	**18 45 10.6**	**+1.6**
	comp=Z,8.1nm,1.3s							
R11A	**Troy Canyon, C**	**76.43**	**52**		*e*P	**P**	**18 45 11.7**	**+0.8**
	comp=Z,10nm,1.6s							
LAO	**LASA Array**	**76.75**	**41**		*e*P	**P**	**18 45 13.3**	**+1.0**
	comp=Z,6.5nm,0.7s							
HWUT	**Hardware Ranch**	**76.94**	**48**		*e*P	**P**	**18 45 15.0**	**+1.4**
	comp=Z,6.5nm,1.1s							
DUG	**Dugway, Tooele**	**77.05**	**49**		*e*P	**P**	**18 45 14.0**	**-0.2**
DUG					pmax	pmax		
	comp=Z,7.0nm,1.2s							
DUG	**Dugway, Tooele**	**77.05**	**49**		*e*P	**P**	**18 45 14.0**	**-0.2**
	comp=Z,7.3nm,1.2s							
BW06	**Boulder Array**	**77.40**	**46**		*e*P	**P**	**18 45 16.8**	**+0.5**
PD31	**Pinedale Array**	**77.40**	**46**		*e*P	**P**	**18 45 16.8**	**+0.5**
PDAR	**Pinedale Array**	**77.40**	**46**		P	**P**	**18 45 17.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=249,slow=2.5,SNR=14							
CCUT	**Cedar City**	**78.32**	**52**		*e*P	**P**	**18 45 22.3**	**+0.9**
	comp=Z,3.2nm,1.0s							
TLCR		**78.63**	**319**	⇓	*i*P	**P**	**18 45 23.8**	**+1.1**
TLCR		**78.63**	**319**	⇓	P	**P**	**18 45 23.8**	**+1.1**
KWP	**Kalwaria Pacla**	**78.65**	**325**		*e*P	**P**	**18 45 24.2**	**+1.5**
KWP	**Kalwaria Pacla**	**78.65**	**325**		*e*P	**P**	**18 45 24.2**	**+1.5**
LCMT	**Little Creek M**	**78.72**	**52**		*e*P	**P**	**18 45 25.1**	**+1.5**
	comp=Z,6.6nm,1.2s							
MTPU	**Mount Pierson**	**78.75**	**51**		*e*P	**P**	**18 45 25.5**	**+1.5**
	comp=Z,19nm,1.9s							
P17A	**Butcher Ranch,**	**78.75**	**49**		*e*P	**P**	**18 45 24.4**	**+0.7**
	comp=Z,5.7nm,0.8s							
BUR08	**Bucovina Ar. S**	**78.83**	**322**		*e*P	**P**	**18 45 24.8**	**+0.8**
BURAR	**Bucovina Array**	**78.84**	**322**	⇑	*i*P	**P**	**18 45 25.3**	**+1.3**
BURAR	**Bucovina Array**	**78.84**	**322**	⇑	P	**P**	**18 45 25.3**	**+1.3**
TESR	**Tescani**	**78.87**	**321**	⇑	*i*P	**P**	**18 45 25.2**	**+1.1**
SRU	**San Rafael Swe**	**79.11**	**49**		*e*P	**P**	**18 45 26.7**	**+0.9**
SRU					pmax	pmax		
	comp=Z,6.0nm,0.7s							
SRU	**San Rafael Swe**	**79.11**	**49**		*e*P	**P**	**18 45 26.7**	**+0.9**
	comp=Z,5.8nm,0.7s							
VRI	**Vrincioaia**	**79.27**	**320**	⇑	*i*P	**P**	**18 45 27.8**	**+1.6**
VRI	**Vrincioaia**	**79.27**	**320**	⇑	P	**P**	**18 45 27.8**	**+1.6**
KOLS	**Kolonicke sedl**	**79.34**	**324**		*e*P	**P**	**18 45 27.5**	**+0.9**
KOLS					pmax	pmax		
	comp=Z,4.0nm,1.2s							
KOLS	**Kolonicke sedl**	**79.34**	**324**		*e*P	**P**	**18 45 27.5**	**+0.9**
BR101	**Keskin Array S**	**79.43**	**312**		*e*P	**P**	**18 45 28.4**	**+1.0**
BR131	**Keskin Array S**	**79.43**	**312**		*e*P	**P**	**18 45 28.9**	**+1.5**
BRTR	**Keskin Array B**	**79.43**	**312**		P	**P**	**18 45 28.4**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=115,slow=4.6,SNR=15							
BRTR					LR	LR	19 27 03.3	
	comp=Z,63nm,18.5s,baz=46,slow=40							
STHS	**Stebnicka Huta**	**79.47**	**325**		*e*P	**P**	**18 45 29.4**	**+2.1**
STHS					*e*		18 45 39.5	
STHS					pmax	pmax		
	comp=Z,5.0nm,1.0s							
STHS	**Stebnicka Huta**	**79.47**	**325**		*e*P	**P**	**18 45 29.4**	**+2.1**
STHS					*e*		18 45 39.5	
OJC	**Ojcow**	**79.54**	**327**		*e*P	**P**	**18 45 27.6**	**0.0**
OJC	**Ojcow**	**79.54**	**327**		*e*P	**P**	**18 45 28.3**	**+0.7**
OJC					pmax	pmax		
	comp=Z,21nm,1.1s							
OJC	**Ojcow**	**79.54**	**327**		*e*P	**P**	**18 45 28.3**	**+0.7**
	comp=Z,21nm,1.1s							
UZH	**Uzhgorod**	**79.54**	**324**		*e*P	**P**	**18 45 27.8**	**+0.2**
UZH					*i*		18 45 34.0	
ARCR	**ARCALIA**	**79.63**	**322**	⇑	*i*P	**P**	**18 45 30.4**	**+2.2**
CRVS	**Cervenica-Dubn**	**79.74**	**325**		*e*P	**P**	**18 45 30.0**	**+1.3**
CRVS					*e*		18 45 37.8	
CRVS	**Cervenica-Dubn**	**79.74**	**325**		*e*P	**P**	**18 45 30.0**	**+1.3**
CRVS					*e*		18 45 37.8	
BR231	**Keskin MP Arra**	**79.87**	**312**		*e*P	**P**	**18 45 28.7**	**-1.1**
DOPR	**Dopca**	**79.89**	**321**	⇑	*i*P	**P**	**18 45 31.7**	**+2.1**
NIE	**Niedzica**	**79.90**	**326**		*e*P	**P**	**18 45 31.0**	**+1.4**
NIE	**Niedzica**	**79.90**	**326**		*e*P	**P**	**18 45 31.0**	**+1.4**
MLR	**Muntele Rosu**	**79.93**	**320**	⇓	*i*P	**P**	**18 45 32.5**	**+2.5**
MLR	**Muntele Rosu**	**79.93**	**320**	⇓	P	**P**	**18 45 32.5**	**+2.5**
PV09	**Paradox Valley**	**80.34**	**49**		*e*P	**P**	**18 45 32.1**	**-0.4**
VOIR		**80.42**	**321**	⇓	*i*P	**P**	**18 45 34.0**	**+1.4**
VOIR		**80.42**	**321**	⇓	P	**P**	**18 45 34.0**	**+1.4**
LANS	**Liptovska Anna**	**80.47**	**326**		*e*P	**P**	**18 45 35.0**	**+2.3**
LANS	**Liptovska Anna**	**80.47**	**326**		*e*P	**P**	**18 45 35.0**	**+2.3**
PV10	**Paradox Valley**	**80.47**	**49**		*e*P	**P**	**18 45 34.7**	**+1.5**
KECS	**Kecovo**	**80.49**	**325**		*e*P	**P**	**18 45 34.7**	**+1.9**
KECS					pmax	pmax		
	comp=Z,2.0nm,1.0s							
KECS	**Kecovo**	**80.49**	**325**		*e*P	**P**	**18 45 34.7**	**+1.9**
OKC	**Ostrava-Krasne**	**80.55**	**327**		*e*P	**P**	**18 45 34.2**	**+1.1**
OKC					epP	**sP**	**18 45 44.8**	**-0.6**
OKC					AMS	AMS	19 24 30.0	
	comp=Z,200nm,16.9s							
OKC	**Ostrava-Krasne**	**80.55**	**327**		*e*P	**P**	**18 45 34.2**	**+1.1**
OKC					*e*		18 45 44.8	
OKC					MLR	MLR		
	comp=Z,200nm,16.9s							
KSP	**Ksiaz**	**80.59**	**329**		*e*P	**P**	**18 45 34.3**	**+1.0**
KSP	**Ksiaz**	**80.59**	**329**		*e*P	**P**	**18 45 34.3**	**+1.0**
PV05	**Paradox Valley**	**80.63**	**49**		*e*P	**P**	**18 45 35.1**	**+1.1**
N23A	**Red Feather La**	**80.67**	**45**		*e*P	**P**	**18 45 34.3**	**0.0**
	comp=Z,9.9nm,1.2s							
ARR	**Arges**	**80.68**	**321**	⇑	*i*P	**P**	**18 45 36.0**	**+2.0**
MORC	**Moravsky Berou**	**80.86**	**327**	⇑	*i*P	**P**	**18 45 36.0**	**+1.2**
MORC	**Moravsky Berou**	**80.86**	**327**		*e*P	**P**	**18 45 35.8**	**+1.0**
MORC					pmax	pmax		
	comp=Z,37nm,1.1s							
MORC	**Moravsky Berou**	**80.86**	**327**		*e*P	**P**	**18 45 35.8**	**+1.0**
	comp=Z,37nm,1.1s							
PV01	**Paradox Valley**	**80.91**	**49**		*e*P	**P**	**18 45 36.5**	**+1.0**
DPC	**Dobruska-Polom**	**80.95**	**328**		*e*P	**P**	**18 45 36.7**	**+1.4**
DPC					epP	**sP**	**18 45 46.7**	**-0.9**
DPC	**Dobruska-Polom**	**80.95**	**328**		*e*P	**P**	**18 45 36.7**	**+1.4**
DPC					*e*		18 45 46.7	
UPC	**Upice**	**80.96**	**329**		AMS	AMS	19 24 40.0	
	comp=Z,300nm,19.2s							
PSZ	**Piszkesteto**	**81.17**	**325**	⇓	*i*P	**P**	**18 45 38.4**	**+1.9**
PSZ	**Piszkesteto**	**81.17**	**325**		*e*P	**P**	**18 45 36.5**	**0.0**
PSZ					pmax	pmax		
	comp=Z,16nm,1.1s							
PSZ	**Piszkesteto**	**81.17**	**325**		*e*P	**P**	**18 45 36.5**	**0.0**
	comp=Z,16nm,1.1s							
VYHS	**Vyhne**	**81.23**	**326**		*e*P	**P**	**18 45 37.8**	**+1.0**
VYHS					*e*		18 45 46.3	
VYHS					pmax	pmax		
	comp=Z,4.0nm,1.1s							
VYHS	**Vyhne**	**81.23**	**326**		*e*P	**P**	**18 45 37.8**	**+1.0**
VYHS					*e*		18 45 46.3	
BRG	**Berggiesshubel**	**81.53**	**330**		*e*P	**P**	**18 45 39.1**	**+0.8**
	comp=Z,4.8nm,0.8s							
	comp=N,203nm,15.6s							
	comp=E,139nm,16.3s							
	comp=Z,293nm,13.8s							
BRG	**Berggiesshubel**	**81.53**	**330**		*e*P	**P**	**18 45 39.1**	**+0.8**
BRG					pmax	pmax		
	comp=Z,5.0nm,0.8s							
BRG					MLR	MLR		
	comp=N,203nm,15.6s							
BRG					MLR	MLR		
	comp=E,139nm,16.3s							
BRG					MLR	MLR		
	comp=Z,293nm,13.8s							
PVCC	**Panska Ves**	**81.55**	**329**		*e*P	**P**	**18 45 39.6**	**+1.2**
PVCC					AMS	AMS	19 24 50.0	
	comp=Z,200nm,17.1s							
PVCC	**Panska Ves**	**81.55**	**329**		*e*P	**P**	**18 45 39.6**	**+1.2**
PVCC					MLR	MLR		
	comp=Z,200nm,17.1s							
CLL	**Collm**	**81.57**	**331**	⇑	*i*P	**P**	**18 45 39.1**	**+0.6**
	comp=Z,12nm,1.0s							
CLL					*e*S	**S**	**18 55 51.0**	**+2.5**
CLL					*e*SS	SS	19 01 18.0	+14
CLL	**Collm**	**81.57**	**331**	⇑	*i*P	**P**	**18 45 39.1**	**+0.6**
CLL					*e*S	**S**	**18 55 51.0**	**+2.5**
CLL					pmax	pmax		
	comp=Z,12nm,1.0s							
GOPC	**GO Pecny, Ondr**	**81.93**	**329**		*e*P	**P**	**18 45 41.6**	**+1.2**
GOPC					AMS	AMS	19 25 10.0	
	comp=Z,300nm,15.0s							
GOPC	**GO Pecny, Ondr**	**81.93**	**329**		*e*P	**P**	**18 45 41.6**	**+1.2**
GOPC					MLR	MLR		
	comp=Z,300nm,15.0s							
PRU	**Pruhonice**	**81.97**	**329**		*e*P	**P**	**18 45 41.7**	**+1.1**
PRU					epP	**sP**	**18 45 51.9**	**-1.1**
PRU					AMS	AMS	19 25 10.0	
	comp=Z,200nm,15.6s							
PRU	**Pruhonice**	**81.97**	**329**		*e*P	**P**	**18 45 41.7**	**+1.1**
PRU					*e*		18 45 51.9	
PRU					MLR	MLR		
	comp=Z,200nm,15.6s							
TREC	**Trest**	**82.10**	**328**		*e*P	**P**	**18 45 42.5**	**+1.1**
TREC					AMS	AMS	19 27 20.0	
	comp=Z,200nm,14.2s							
TREC	**Trest**	**82.10**	**328**		*e*P	**P**	**18 45 42.5**	**+1.1**
TREC					MLR	MLR		
	comp=Z,200nm,14.2s							
S22A	**4UR Ranch, Cre**	**82.21**	**48**		*e*P	**P**	**18 45 43.9**	**+1.4**
	comp=Z,3.3nm,0.9s							
X18A	**Snowflake**	**82.36**	**52**		*e*P	**P**	**18 45 41.9**	**-1.3**
	comp=Z,8.9nm,0.9s							
NKC	**Novy Kostel**	**82.63**	**330**		AMS	AMS	19 26 00.0	
SOP	**Sopron**	**82.86**	**326**		P	**P**	**18 45 49.5**	**+4.2**
SOP					pmax	pmax		
	comp=Z,15nm,1.2s							
CONA	**Conrad Observa**	**82.98**	**327**		*i* PcP	**P**	**18 45 47.5**	**+1.5**
	comp=Z,12nm,1.4s							
SDCO	**Great Sand Dun**	**83.00**	**48**		*e*P	**P**	**18 45 47.5**	**+0.9**
	comp=Z,3.7nm,1.0s							
KHC	**Kasperske Hory**	**83.03**	**329**		*e*P	**P**	**18 45 47.3**	**+1.1**
KHC					epP	**sP**	**18 45 57.4**	**-1.2**
KHC					AMS	AMS	19 26 10.0	
	comp=Z,200nm,15.4s							
KHC	**Kasperske Hory**	**83.03**	**329**		*e*P	**P**	**18 45 47.1**	**+0.9**
KHC					pmax	pmax		
	comp=Z,4.0nm,1.0s							
KHC	**Kasperske Hory**	**83.03**	**329**		*e*P	**P**	**18 45 47.1**	**+0.9**
	comp=Z,4.1nm,1.0s							
GEC2	**GERESS Array S**	**83.20**	**329**		*e*P	**P**	**18 45 47.4**	**+0.2**
GEC2					pmax	pmax		
	comp=Z,3.0nm,0.7s							
GEC2	**GERESS Array S**	**83.20**	**329**		*e*P	**P**	**18 45 47.4**	**+0.2**
	comp=Z,3.4nm,0.7s							
GERES	**GERESS Array B**	**83.20**	**329**		P	**P**	**18 45 47.7**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=38,slow=5.0,SNR=24							
GERES					LR	LR	19 27 05.0	
	comp=Z,126nm,18.1s,baz=8.5,slow=39							
GEA0	**GERESS Array S**	**83.21**	**329**		*e*P	**P**	**18 45 47.1**	**-0.1**
ARSA	**Arzberg**	**83.64**	**327**		*i* P	**P**	**18 45 49.6**	**+0.2**
	comp=Z,1.8nm,0.6s							
MOA	**Molln**	**83.73**	**328**		*i* P	**P**	**18 45 50.7**	**+0.9**
	comp=Z,6.2nm,1.3s							
PPT	**Papeete**	**84.01**	**117**		LR	LR	19 16 34.1	
	comp=Z,81nm,21.5s,baz=348,slow=31							
PPT2	**Papeete2**	**84.03**	**117**		eLR	LR	19 12 10.0	
	comp=Z,94nm,21.8s							
T25A	**Trinidad**	**84.06**	**47**		*e*P	**P**	**18 45 52.6**	**+0.7**
	comp=Z,6.1nm,0.9s							
ANMO	**Albuquerque**	**84.28**	**50**	*ce*	P	**P**	**18 45 54.8**	**+1.7**
ANMO					*i* *PP	**sP**	**18 46 04.8**	**-0.6**
ANMO					*i* *SP	**pP**	**18 46 06.2**	**+4.0**
ANMO					pmax	pmax		
	comp=Z,4.0nm,1.2s							
ANMO	**Albuquerque**	**84.28**	**50**		*e*P	**P**	**18 45 54.3**	**+1.2**
	comp=Z,6.2nm,1.1s							
SOKA	**Soboth**	**84.30**	**327**		*i* P	**P**	**18 45 53.6**	**+0.7**
	comp=Z,11nm,1.4s							
OBKA	**Obir**	**84.64**	**327**		*i* PcP	**PcP**	**18 45 57.5**	**-0.5**
	comp=Z,4.7nm,1.1s							
KBA	**Koelnbreinsper**	**84.73**	**328**		*i* PcP	**P**	**18 45 56.7**	**+1.7**
	comp=Z,4.7nm,1.0s							
SCHQ	**Schefferville**	**85.38**	**16**		LR	LR	19 27 19.9	
	comp=Z,58nm,19.1s,baz=30,slow=38							
RETA	**Reutte**	**85.49**	**329**		*i* PcP	**P**	**18 45 59.5**	**+0.8**
	comp=Z,8.3nm,0.9s							
WLF	**Walferdange**	**85.50**	**333**		*e*P	**P**	**18 45 59.9**	**+1.3**
WLF					pmax	pmax		
	comp=Z,12nm,0.6s							
WLF	**Walferdange**	**85.50**	**333**		*e*P	**P**	**18 45 60.0**	**+1.3**
	comp=Z,12nm,0.6s							
BFO	**Black Forest**	**85.78**	**331**		*e*P	**P**	**18 46 00.1**	**-0.1**
BFO					pmax	pmax		
	comp=Z,13nm,1.0s							
BFO	**Black Forest**	**85.78**	**331**		*e*P	**P**	**18 46 00.1**	**-0.1**
	comp=Z,13nm,1.0s							
DAVA	**Damuels**	**86.01**	**330**		*i* PcP	**P**	**18 46 02.1**	**+0.7**
	comp=Z,7.5nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**86.39**	**329**		*e*P	**P**	**18 46 04.2**	**+0.7**
	comp=Z,6.1nm,0.8s							
TBI	**Tubuai**	**87.91**	**121**		eLR	LR	19 13 58.6	
	comp=Z,179nm,27.8s							
TX31	**Lajitas Ar. Si**	**89.79**	**53**		*e*P	**P**	**18 46 20.0**	**+0.2**
LTX	**Lajitas**	**89.79**	**53**		*e*P	**P**	**18 46 20.6**	**+0.8**
LTX	**Lajitas**	**89.79**	**53**		*e*P	**P**	**18 46 20.6**	**+0.8**
TXAR	**Lajitas Array**	**89.79**	**53**		P	**P**	**18 46 20.6**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=298,slow=3.4,SNR=13							
MIAR	**Mount Ida**	**92.08**	**43**		*e*P	**P**	**18 46 30.7**	**+0.5**
MIAR					pmax	pmax		
	comp=Z,5.0nm,0.8s							
MIAR	**Mount Ida**	**92.08**	**43**		*e*P	**P**	**18 46 30.7**	**+0.5**
	comp=Z,5.2nm,0.8s							
KEST	**Kesra**	**95.55**	**323**		LR	LR	19 35 17.0	
	comp=Z,134nm,18.0s,baz=262,slow=39							
ESDC	**Sonseca Array**	**97.74**	**334**		P	**P**	**18 46 56.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=5.8,slow=4.1,SNR=3.5							
ESDC					LR	LR	19 35 45.2	
	comp=Z,155nm,19.9s,baz=45,slow=38							
TOA1	**Torodi Ar. Sit**	**117.89**	**315**		*e*PKPdf	**PKPdf**	**18 52 06.8**	**-1.2**
TOA1					*e*PP	**PP**	**18 53 20.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**117.90**	**315**		PKP	**PKPdf**	**18 52 06.8**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=98,slow=0.6,SNR=3.0							
TORD					PP	**PP**	**18 53 20.7**	**-0.4**
	comp=Z,1.3nm,1.1s,baz=30,slow=6.9,SNR=5.0							
LPAZ	**La Paz**	**146.29**	**61**		PKPbc	**PKPbc**	**18 53 02.7**	**0.0**
	comp=Z,4.1nm,0.7s,baz=354,slow=5.9,SNR=19							
RCBR	**Riachuelo**	**149.10**	**356**		PKPab	**PKPab**	**18 53 13.3**	**-0.6**
	comp=Z,5.8nm,0.8s,baz=56,slow=7.5,SNR=5.0							

IDC 10 18:36:27.9±2.7, 2°.53N×128°.57E, h230km±27km, mb3.2/7, mb1 3.3/7, mb1mx3.0/36, mbtmp3.8/7, Error ellipse: s-maj=47.6km s-min=12.0km az=80.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.71**	**188**			P	P	18 40 50.8	-0.2
	5.1nm,1.2s,baz=0.0,slow=12,SNR=2.5								
WRA	**Warramunga Arr**	**23.05**	**166**			P	P	18 41 13.2	-0.1
	0.8nm,0.4s,baz=344,slow=10,SNR=16								
WRA						ScP	ScP	18 48 11.2	-0.4
	0.4nm,0.8s,baz=349,slow=3.2,SNR=2.7								
ASAR	**Alice Springs**	**26.56**	**169**			P	P	18 41 44.9	-0.1
	0.5nm,0.5s,baz=353,slow=7.5,SNR=20								
KSRS	**Korea Array**	**34.76**	**359**			P	P	18 42 56.7	+0.1
	0.5nm,0.5s,baz=174,slow=11,SNR=4.1								
STKA	**Stephens Creek**

CN2	Changchun	54.77	337	eP	P	19 16 33.9	-0.4
KMI	Kunming	56.79	305	P	P	19 16 50.9	+1.4
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,81nm,4.1s						
HHC	Hu-ho-hao-te	59.28	325	eP	P	19 17 08.8	+2.3
HHC				pP	pP	19 17 21.6	+2.3
HHC				sP	sP	19 17 27.0	+2.5
HHC				S	S	19 25 11.5	-0.2
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,77nm,6.1s						
HHC				LR	LR		
	comp=N,110nm,15.3s						
HHC				LR	LR		
	comp=E,140nm,18.6s						
HHC				LR	LR		
	comp=Z,84nm,15.0s						
SONA0	Songino Array	66.63	328	eP	P	19 17 55.2	-0.1
	comp=Z,5.0nm,1.6s						
SONM	Songino Array	66.63	328	P	P	19 17 55.2	-0.1
	comp=Z,0.5nm,0.6s,baz=141,slow=7.4,SNR=4.5						
SONA1	Songino Array	66.63	328	eP	P	19 17 54.2	-1.0
WMQ	Urumqi	75.82	318	P	P	19 18 51.8	+1.0
WMQ				pP	pP	19 19 04.8	+0.8
WMQ				sP	sP	19 19 09.8	+0.7
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,63nm,4.0s						
CNPM	China Poot	78.88	26	eP	P	19 19 08.0	+0.5
	comp=Z,14nm,0.8s						
MK32	Makanchi Array	80.44	319	eP	P	19 19 16.6	+0.3
MKAR	Makanchi Array	80.44	319	P	P	19 19 16.6	+0.3
	comp=Z,0.5nm,0.8s,baz=123,slow=4.3,SNR=3.9						
CAST	Castle Rocks	80.64	22	eP	P	19 19 16.6	-0.4
	comp=Z,2.6nm,0.9s						
SML	Sawmill	81.28	25	eP	P	19 19 19.3	-1.2
	comp=Z,6.6nm,0.9s						
KLU	Klutina	82.14	25	eP	P	19 19 25.9	+0.9
	comp=Z,7.5nm,1.2s						
KSH	Kashi	82.87	311	eP	P	19 19 30.8	+1.4
KSH				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CRQM	Cirque	83.03	27	eP	P	19 19 30.2	+0.4
	comp=Z,6.2nm,1.0s						
ILAR	Eielson Array	83.30	22	P	P	19 19 29.8	-1.1
	comp=Z,1.1nm,0.8s,baz=259,slow=5.3,SNR=13						
DOT	Dot Lake	83.88	24	eP	P	19 19 33.9	0.0
	comp=Z,10nm,1.0s						
EGAK	Eagle	85.50	23	eP	P	19 19 42.5	+0.4
	comp=Z,3.8nm,1.0s						
TORD	Torodi Ar. Bea	149.76	286	PKPbc	PKPbc	19 26 54.8	-0.5
	comp=Z,1.8nm,0.8s,baz=70,slow=2.5,SNR=8.4						

*ISCJB **10** 19:31:59.7±0.6, 44°07S±0°02×168°30E±0°04, h12km±4km, mb4.4/8, MS3.1/3, Error ellipse: s-maj=4.9km s-min=2.9km az=35.9*

*IDC **10** 19:32:00.7±1.0, 43°96S×168°36E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/20, mbtmp3.8/4, ML4.3/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/24, Error ellipse: s-maj=48.8km s-min=19.2km az=1.0*

*WEL **10** 19:32:01.4±0.2, 44°19S×168°38E, h5km, ML4.6/37, Error ellipse: s-maj=1.7km s-min=1.2km az=90.0*

WEL Felt from Auckland to Otago, maximum reported intensity MM 4.

*NEIC **10** 19:32:01.1, 44°18S×168°36E, h5km, mb4.9/6, ML4.6(WEL), After WEL.*

NEIC Felt at Fox Glacier.

ISC 10 19:32:00.8±1.2, 44°17S±0°04×168°42E±0°03, h11km±8km, n127, σ1°25/140, mb4.3/8, MS3.2/3, 9C-5D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	Jackson Bay	0.28	69	⇑PG	Pb	19 32 08.0	+0.1
JCZ				SG	Sb	19 32 11.9	-0.9
JCZ				AML	AML	19 32 12.4	
JCZ	Jackson Bay	0.28	69	ePg	Pb	19 32 08.0	+0.1
JCZ				eSg	Sb	19 32 11.9	-0.9
MSZ	Milford Sound	0.61	215	P*	Pg	19 32 12.5	-0.2
MSZ				SG	Sg	19 32 20.9	+0.2
MSZ				AML	AML	19 32 22.0	
MSZ				AML	AML	19 32 22.7	
MSZ				AML	AML	19 32 22.7	
MSZ	Milford Sound	0.61	215	ePg	Pg	19 32 12.5	-0.2
MSZ				eSg	Sg	19 32 20.9	+0.2
WKZ	Wanaka	0.78	147	⇓P*	Pb	19 32 16.5	+0.1
WKZ				AML	AML	19 32 28.0	
WKZ				AML	AML	19 32 28.0	
WKZ				AML	AML	19 32 28.2	
WKZ				AML	AML	19 32 28.2	
FOZ	Fox Glacier	1.20	58	⇑P*	Pn	19 32 24.2	+0.7
FOZ				AML	AML	19 32 42.6	
FOZ				AML	AML	19 32 42.7	
FOZ				AML	AML	19 32 43.0	
FOZ				AML	AML	19 32 43.0	
FOZ	Fox Glacier	1.20	58	ePn	Pn	19 32 24.2	+0.7
FOZ				eSn	Sn	19 32 41.0	+1.3
MLZ	Mavora Lakes	1.21	190	⇑P*	Pb	19 32 23.6	-0.2
MLZ				AML	AML	19 32 43.0	
MLZ				AML	AML	19 32 46.4	
MLZ	Mavora Lakes	1.21	190	ePn	Pb	19 32 23.3	-0.5
MLZ				eSn	Sb	19 32 39.0	-0.5
EAZ	Earnscleugh	1.23	149	⇓P*	Pg	19 32 24.7	+0.2
EAZ				AML	AML	19 32 48.0	
EAZ				AML	AML	19 32 48.0	
EAZ				AML	AML	19 32 49.0	
EAZ				AML	AML	19 32 49.0	
EAZ	Earnscleugh	1.23	149	ePn	Pg	19 32 24.7	+0.2
LBZ	Lake Benmore	1.29	100	P*	Pg	19 32 26.0	+0.5
LBZ				AML	AML	19 32 44.4	
LBZ				AML	AML	19 32 44.4	
LBZ				AML	AML	19 32 47.6	
LBZ				AML	AML	19 32 47.6	
LBZ	Lake Benmore	1.29	100	ePn	Pg	19 32 26.3	+0.8
LBZ				eSn	Sn	19 32 42.8	+0.8
DCZ	Deep Cove	1.57	214	PN	Pn	19 32 29.1	+0.4
DCZ				AML	AML	19 32 53.0	
DCZ				AML	AML	19 32 53.0	
DCZ				AML	AML	19 32 55.0	
DCZ				AML	AML	19 32 55.0	
DCZ	Deep Cove	1.57	214	ePn	Pn	19 32 29.1	+0.4
DCZ				eSn	Sn	19 32 47.8	-1.2
WHZ	Wether Hill Ro	1.75	191	PN	Pb	19 32 32.3	-0.6
WHZ				AML	AML	19 32 59.7	
WHZ				AML	AML	19 33 00.2	
WHZ	Wether Hill Ro	1.75	191	ePn	Pb	19 32 32.3	-0.6
WHZ				eSn	Sn	19 32 54.3	+0.8
ODZ	Otahua Downs	1.81	119	⇓PN	Pb	19 32 33.3	-0.7
ODZ				AML	AML	19 33 02.4	
ODZ				AML	AML	19 33 02.4	
ODZ				AML	AML	19 33 02.7	
ODZ				AML	AML	19 33 02.7	
ODZ	Otahua Downs	1.81	119	ePn	Pb	19 32 33.7	-0.3
ODZ				eSn	Sb	19 32 56.1	-0.6
RPZ	Rata Peaks	1.96	77	Pn	Pb	19 32 36.0	-0.6
	147nm,0.3s,baz=274,slow=6.0,SNR=453						
RPZ				Sn	Sb	19 33 01.0	+0.1
	215nm,0.3s,baz=323,slow=20,SNR=14						
RPZ				LR	LR	19 33 06.5	
	comp=Z,152nm,19.6s,baz=260,slow=34						
RPZ	Rata Peaks	1.96	77	PN	Pb	19 32 35.9	-0.6
RPZ				AML	AML	19 33 09.7	
RPZ				AML	AML	19 33 10.5	
RPZ	Rata Peaks	1.96	77	ePn	Pb	19 32 35.9	-0.6
RPZ				eSn	Sb	19 33 01.0	+0.1
RPZ				eSn	Sg	19 33 03.0	-0.7
TUZ	Tuapeka	1.98	155	PN	Pb	19 32 35.5	-1.2
TUZ				AML	AML	19 33 04.8	
TUZ				AML	AML	19 33 04.8	
TUZ				AML	AML	19 33 10.2	
TUZ				AML	AML	19 33 10.2	
WVZ	Waitaha Valley	2.01	58	PN	Pn	19 32 35.0	+0.3
WVZ				AML	AML	19 33 08.5	
WVZ				AML	AML	19 33 09.5	
HHSZ	Highcliff Hill	2.31	139	⇑PN	Pb	19 32 40.6	-1.8
PYZ	Puysegur Point	2.34	211	PN	Pn	19 32 41.5	+2.3
PYZ	Puysegur Point	2.34	211	ePn	Pn	19 32 41.2	+1.9
SYZ	Scrubby Hill	2.42	168	PN	Pn	19 32 41.7	+1.4
SYZ				AML	AML	19 33 16.8	
SYZ				AML	AML	19 33 16.8	
SYZ				AML	AML	19 33 21.1	
SYZ				AML	AML	19 33 21.1	
INZ	Inchbonnie	2.64	58	⇑PN	Pn	19 32 43.7	+0.5
APZ	The Paps	2.68	186	PN	Pn	19 32 45.6	+1.7
APZ				AML	AML	19 33 21.4	
APZ				AML	AML	19 33 23.5	
APZ	The Paps	2.68	186	ePn	Pn	19 32 45.6	+1.7
OXZ	Oxford	2.76	73	⇑PN	Pn	19 32 45.4	+0.5
OXZ	Oxford	2.76	73	ePn	Pn	19 32 45.4	+0.5
MQZ	McQueen's Vall	3.09	83	⇑PN	Pn	19 32 50.1	+0.6
MQZ				AML	AML	19 33 45.9	
MQZ				AML	AML	19 33 46.3	
MQZ	McQueen's Vall	3.09	83	ePn	Pn	19 32 50.2	+0.6
CRLZ	Canterbury Las	3.10	80	⇑PN	Pn	19 32 50.4	+0.8
CRLZ				AML	AML	19 33 49.5	
CRLZ				AML	AML	19 33 51.3	
CRLZ	Canterbury Las	3.10	80	ePn	Pn	19 32 50.2	+0.6
LTZ	Lake Taylor	3.13	65	PN	Pn	19 32 51.0	+0.9
LTZ				AML	AML	19 33 49.3	
LTZ				AML	AML	19 33 51.4	
LTZ	Lake Taylor	3.13	65	ePn	Pn	19 32 50.8	+0.7
DSZ	Denniston Nort	3.47	47	⇓PN	Pn	19 32 55.1	+0.2
DSZ				AML	AML	19 33 58.3	
DSZ				AML	AML	19 33 59.7	
DSZ				AML	AML	19 33 59.8	
DSZ				AML	AML	19 34 00.4	
DSZ	Denniston Nort	3.47	47	ePn	Pn	19 32 55.1	+0.2
THZ	Tophouse	4.08	55	⇑PN	Pn	19 33 04.1	+0.9
THZ				AML	AML	19 33 10.7	
THZ				AML	AML	19 34 00.7	
THZ	Tophouse	4.08	55	ePn	Pn	19 33 04.1	+0.9
KHZ	Kahutara	4.13	67	PN	Pn	19 33 04.1	+0.3
KHZ	Kahutara	4.13	67	ePn	Pn	19 33 04.7	+0.9
QRZ	Quartz Range	4.52	44	PN	Pn	19 33 09.6	+0.4
QRZ				AML	AML	19 33 16.2	
QRZ				AML	AML	19 33 17.5	
QRZ				AML	AML	19 34 33.7	
QRZ				AML	AML	19 34 42.5	
QRZ	Quartz Range	4.52	44	ePn	Pn	19 33 09.6	+0.4
BSWZ	Blackbirch Sta	4.70	60	ePN	Pn	19 33 11.7	+0.1
BSWZ				AML	AML	19 34 57.8	
NNZ	Nelson	4.70	53	PN	Pn	19 33 12.5	+0.9
NNZ				AML	AML	19 33 15.5	
NNZ				AML	AML	19 33 16.2	
NNZ				AML	AML	19 34 15.1	
NNZ				AML	AML	19 34 19.1	
CMWZ	Cape Campbell	4.89	62	ePN	Pn	19 33 17.2	+2.9
CMWZ				AML	AML	19 33 23.9	
TUWZ	Tuamarina	4.90	58	PN	Pn	19 33 14.8	+0.3
TUWZ				AML	AML	19 33 18.8	
TUWZ				AML	AML	19 33 19.2	
TUWZ	Tuamarina	4.90	58	ePn	Pn	19 33 14.8	+0.3
TCW	Tory Channel	5.23	58	PN	Pn	19 33 20.2	+1.2
TCW				AML	AML	19 33 23.7	
TCW				AML	AML	19 33 24.8	
TCW	Tory Channel	5.23	58	ePn	Pn	19 33 20.2	+1.2
DUWZ	D'Urville Isla	5.28	52	PN	Pn	19 33 21.2	+1.5
DUWZ	D'Urville Isla	5.28	52	ePn	Pn	19 33 21.2	+1.5
SNZO	South Karori	5.44	60	ePn	Pn	19 33 22.3	+0.5
BHW	Baring Head	5.49	62	PN	Pn	19 33 22.2	-0.3
BHW	Baring Head	5.49	62	ePn	Pn	19 33 22.2	-0.3
WEL	Wellington	5.50	60	PN	Pn	19 33 23.3	+0.8
PLWZ	Palliser	5.66	65	PN	Pn	19 33 24.6	-0.2
CAW	Cannon Point	5.78	60	PN	Pn	19 33 25.7	-0.8
CAW				AML	AML	19 33 38.0	
CAW				AML	AML	19 33 38.2	
CAW	Cannon Point	5.78	60	ePn	Pn	19 33 25.7	-0.8
KIW	Kapiti Island	5.83	58	PN	Pn	19 33 26.7	-0.4
KIW				AML	AML	19 33 38.4	
KIW				AML	AML	19 34 41.9	
KIW	Kapiti Island	5.83	58	ePn	Pn	19 33 26.7	-0.4
OGWZ	Otaki Gorge	6.01	58	PN	Pn	19 33 29.2	-0.5
MTW	Mount Morrison	6.03	62	PN	Pn	19 33 28.1	-1.8
MTW				AML	AML	19 33 39.4	
MTW				AML	AML	19 33 40.4	
MTW	Mount Morrison	6.03	62	ePn	Pn	19 33 28.1	-1.8
HOWZ	Holdsworth Sta	6.18	60	PN	Pn	19 33 31.0	-1.0
NMEZ	Namu Road	6.26	42	PN	Pn	19 33 34.4	+1.2
MRZ	Mangatainoka R	6.36	59	PN	Pn	19 33 31.9	-2.5
MRZ	Mangatainoka R	6.36	59	ePn	Pn	19 33 31.9	-2.5
NWEZ	Newall Road	6.37	42	⇓PN	Pn	19 33 35.6	+1.0
KHEZ	Kahui Hut	6.42	43	PN	Pn	19 33 36.4	+1.0
NEZ	North Egmont	6.48	43	PN	Pn	19 33 37.1	+0.9
PKE	Pukeiti	6.49	42	PN	Pn	19 33 37.0	+0.7
PKE				AML	AML	19 33 40.6	
PKE				AML	AML	19 33 42.3	
PKE	Pukeiti	6.49	42	ePn	Pn	19 33 37.0	+0.7
WAZ	Wanganui	6.59	50	PN	Pn	19 33 39.2	+1.6
WAZ				AML	AML	19 33 52.8	
WAZ				AML	AML	19 33 57.1	
BFZ	Birch Farm	6.76	62	ePn	Pn	19 33 40.0	0.0
VRZ	Vera Road	6.93	45	PN	Pn	19 33 43.3	+1.1
VRZ				AML	AML	19 33 52.4	
VRZ				AML	AML	19 33 57.5	
PKVZ	Pokaka	7.12	49	PN	Pn	19 33 46.2	+1.3
PKVZ				AML	AML	19 33 59.0	
TRVZ	Turoa	7.22	50	PN	Pn	19 33 47.6	+1.1
TRVZ				AML	AML	19 33 52.1	
TRVZ				AML	AML	19 34 01.7	
TRVZ	Turoa	7.22	50	ePn	Pn	19 33 47.6	+1.1
FWVZ	Far West T-bar	7.25	50	PN	Pn	19 33 48.3	+1.4
FWVZ				AML	AML	19 34 04.3	
FWVZ				AML	AML	19 34 09.4	
FWVZ	Far West T-bar	7.25	50	ePn	Pn	19 33 48.3	+1.4
TWVZ	Taurewa	7.32	48	PN	Pn	19 33 48.8	+1.0
TWVZ	Taurewa	7.32	48	ePn	Pn	19 33 48.8	+1.0
NGZ	Ngauruhoe	7.33	50	PN	Pn	19 33 48.4	+0.4
NGZ				AML	AML	19 34 04.5	
NGZ				AML	AML	19 34 17.6	
NGZ	Ngauruhoe	7.33	50	ePn	Pn	19 33 48.4	+0.4
HIZ	Hauiti	7.44	43	PN	Pn	19 33 49.6	+0.2
HIZ				AML	AML	19 35 17.4	
HIZ	Hauiti	7.44	43	ePn	Pn	19 33 49.5	+0.2
BKZ	Black Stump Fm	7.84	53	ePn	Pn	19 33 52.9	-2.0
TLZ	Tolley Road	7.92	45	PN	Pn	19 33 56.6	+0.7
AWAZ	Awhitu Peninsu	8.53	36	PN	Pn	19 34 04.7	+0.5
WTAZ	Waiatarua	8.61	35	PN	Pn	19 34 06.5	+1.1
MKAZ	Moumakai	8.72	38	PN	Pn	19 34 08.3	+1.4
MKAZ	Moumakai	8.72	38	ePn	Pn	19 34 08.3	+1.4
URZ	Urewera	8.82	51	Pn	Pn	19 34 09.1	+0.9
	3.4nm,0.3s,baz=254,slow=7.4,SNR=11						
URZ				Sn	Sn	19 35 41.6	-5.9
	1.1nm,0.3s,baz=123,slow=17,SNR=2.0						
URZ	Urewera	8.82	51	ePn	Pn	19 34 08.7	+0.5
WIAZ	Waiheke Island	8.97	37	PN	Pn	19 34 11.8	+1.5
ABAZ	Army Bay	9.01	35	ePN	Pn	19 34 11.4	+0.7
KUZ	Kuaotunu	9.27	39	PN	Pn	19 34 14.8	+0.5
KUZ	Kuaotunu	9.27	39	ePn	Pn	19 34 14.8	+0.5
OUZ	Omahuta	9.79	26	ePn	Pn	19 34 22.6	+1.1
MXZ	Matakaoa Point	9.98	52	ePn	Pn	19 34 20.7	-3.4
TAU	Tasmania Unive	15.35	267	ePn	Pn	19 35 36.7	-0.6
	81nm,1.4s						
CAN	Canberra	17.32	294	ePn	Pn	19 35 59.9	-2.7
	122nm,1.9s						
STKA	Stephens Creek	24.32	291	LR	LR	19 44 52.6	
	comp=Z,34nm,20.1s,baz=35,slow=32						
MSVF	Nonsavu	27.58	20	eP	P	19 37 45.9	-2.1
	65nm,1.9s						
VNDA	Vanda	33.56	183	LR	LR	19 50 02.3	
	comp=Z,47nm,18.8s,baz=344,slow=32						
AS31	Alice Springs	34.83	295	eP	P	19 38 51.3	-0.6
	1.2nm,1.1s						
ASAR	Alice Springs	34.83	295	P	P	19 38 52.4	+0.5
	0.3nm,0.6s,baz=129,slow=7.2,SNR=7.1						
HNR	Honiara	35.38	345	eP	P	19 38 57.4	+0.8
	100nm,1.1s						
WR1	Warramunga Arr	37.24	299	eP	P	19 39 13.6	+1.1
	14nm,1.2s						
WRA	Warramunga Arr	37.24	299	P	P	19 39 13.6	+1.1
	0.6nm,0.5s,baz=136,slow=7.9,SNR=13						
WRAB	Tennant Creek	37.24	299	eP	P	19 39 09.3	-3.2
	11nm,0.5s						
QSPA	South Pole Qui	45.95	180	eP	P	19 40 27.2	+3.7
MAW	Mawson	55.42	207	LR	LR	20 02 38.7	
	comp=Z,31nm,20.2s,baz=174,slow=33						
CMAR	Chiang Mai Arr	88.80	297	P	P	19 44 56.4	+1.6
	0.5nm,0.6s,baz=134,slow=3.9,SNR=2.6						
KURBB	Kurchatov Arra	122.31	311	PKP	PKPdf	19 50 53.9	-1.1
	0.1nm,0.6s,baz=164,slow=0.7,SNR=3.5						
KURK	Kurchatov	122.31	311	ePKPdf	PKPdf	19 50 53.9	-1.1
BR101	Keskin Array S	146.40	278	ePKPdf	PKPbc	19 51 42.6	+1.0
BRTR	Keskin Array B	146.40	278	PKPbc	PKPbc	19 51 42.6	+1.0
	0.5nm,0.7s,baz=159,slow=7.0,SNR=3.1						
TORD	Torodi Ar. Bea	147.05	204	PKP	PKPbc	19 51 43.7	-0.3
	0.3nm,0.9s,baz=180,slow=3.8,SNR=3.9						
TORD				PKPbc	PKPab	19 51 46.4	+0.9
	0.4nm,0.5s,baz=130,slow=2.1,SNR=12						
TOA1	Torodi Ar. Sit	147.06	204	ePKPdf	PKPbc	19 51 43.7	-0.3
TOA1				ePKPbc	PKPab	19 51 46.4	+0.9
FIA0	FINESS Array S	151.97	321	ePKPbc	PKPbc	19 51 54.1	-0.7
FINES	FINESS Array B	151.97	321	PKPbc	PKPbc	19 51 54.1	-0.7
	0.4nm,0.5s,baz=73,slow=6.2,SNR=3.6						

*ISCJB **10** 19:32:38.4±0.5, 39°13N±0°04×29°05E±0°03, h8km±5km, Error ellipse: s-maj=6.1km s-min=4.1km az=168.3*

*CSEM **10** 19:32:38.5±0.1, 39°13N×29°05E, h8km, MD2.7, Error ellipse: s-maj=2.5km s-min=1.9km az=162.0*

*ISK **10** 19:32:38.1, 39°16N×29°05E, h5km, MD2.8*

*DDA **10** 19:32:38.4, 39°14N×29°06E, h7km, Md2.7*

ISC 10 19:32:38.8±1.0, 39°15N±0°03×29°06E±0°02, h8km±11km, n30, σ0°40/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.28	249	P	Pg	19 32 44.6	+0.1
DEMI				S	Sg	19 32 48.7	+0.4
DEMI	Demirci	0.28	249	*i* P	Pg	19 32 44.6	+0.1
DEMI				*i* S	Sg	19 32 48.7	+0.4
GEDZ	Gediz	0.29	110	ePG	Pg	19 32 44.6	0.0
GEDZ				eSG	Sg	19 32 48.6	0.0
GEDZ	Gediz	0.29	110	ePg	Pg	19 32 44.6	0.0
GEDZ				eSg	Sg	19 32 48.6	0.0
GDZ	Gediz	0.34	100	P	Pg	19 32 45.4	-0.1
GDZ				S	Sg	19 32 49.9	0.0
GDZ	Gediz	0.34	100	*i* P	Pg	19 32 45.4	-0.1
GDZ				*i* S	Sg	19 32 49.9	0.0
TVSB	Tavsanli	0.44	46	ePG	Pg	19 32 46.9	-0.4
TVSB				eSG	Sg	19 32 53.3	+0.2
TVSB	Tavsanli	0.44	46	ePg	Pg	19 32 46.9	-0.4
TVSB				eSg	Sg	19 32 53.3	+0.2
MANT	Manisa	0.76	211	P	Pg	19 32 52.9	-0.5
MANT				S	Sg	19 33 02.7	-0.7
MANT	Manisa	0.76	211	*i* P	Pg	19 32 52.9	-0.5
MANT				*i* S	Sg	19 33 02.7	-0.7
AKS	Akhisar	1.00	255	ePG	Pb	19 32 58.0	-0.4
AKS	Akhisar	1.00	255	ePg	Pb	19 32 58.0	-0.4
BALB	Balikesir	1.03	299	ePG	Pg	19 32 58.3	-0.4
BALB				eSG	Sb	19 33 13.1	+0.5
BALB	Balikesir	1.03	299	ePg	Pg	19 32 58.3	-0.4
BALB				eSg	Sb	19 33 13.1	+0.5
CAVI	Cavuskoy	1.22	30	ePN	Pg	19 33 01.6	-0.6
CAVI	Cavuskoy	1.22	30	ePn	Pg	19 33 01.6	-0.6
MDNY	Mudanya-Bursa	1.23	354	ePN	Pb	19 33 01.8	-0.4
MDNY	Mudanya-Bursa	1.23	354	ePn	Pb	19 33 01.8	-0.4
IZI	Iznik	1.23	15	ePN	Pg	19 33 02.0	-0.4
IZI	Iznik	1.23	15	ePn	Pg	19 33 02.0	-0.4
KCTX	Karacabey (Bur	1.24	334	ePN	Pg	19 32 52.3	-0.3
KCTX	Karacabey (Bur	1.24	334	ePn	Pg	19 33 02.3	-0.3
ADVT	Abdulvahap	1.39	22	ePN	Pb	19 33 04.6	-0.3
ADVT	Abdulvahap	1.39	22	ePn	Pb	19 33 04.6	-0.3
ARMT	Armutlu	1.43	354	ePN	Pb	19 33 05.3	-0.3
ARMT	Armutlu	1.43	354	ePn	Pb	19 33 05.3	-0.3
GULT	Gulveren	1.71	41	ePN	Pn	19 33 09.3	+0.4
GULT	Gulveren	1.71	41	ePn	Pn	19 33 09.3	+0.4
SVRH	Sivrihisar-ESK	1.94	80	ePN	Pn	19 33 12.6	+0.6
SVRH	Sivrihisar-ESK	1.94	80	ePn	Pn	19 33 12.6	+0.6

*IDC **10** 19:41:12.1±3.2, 15°59N×98°49W, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.1/51, mbtmp4.2/11, ML3.8/2, MS3.6/22, Ms1 3.5/22, ms1mx3.4/37, Error ellipse: s-maj=63.2km s-min=18.6km az=178.0*

*ISCJB **10** 19:41:15.1±0.3, 16°08N±0°03×98°40W±0°02, h10km, mb4.5/88, MS3.6/19, Error ellipse: s-maj=4.8km s-min=3.2km az=16.3*

*MEX **10** 19:41:17.3±1.1, 15°94N×98°63W, h10km, MD4.6*

*NEIC **10** 19:41:19.7±1.1, 16°13N×98°39W, h25km±7km, mb4.5/111, MD4.6(MEX), Error ellipse: s-maj=7.9km s-min=4.2km az=195.0*

ISC 10 19:41:15.0±1.4, 15°98N±0°05×98°60W±0°03, h5km±8km, n400, σ1°65/405, mb4.6/89, MS3.6/19, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.61	48	eP	Pb	19 41 28.4	0.0
PNIG				*i* S	Sb	19 41 37.1	-0.2
PNIG	Pinotepa	0.61	48	ePg	Pb	19 41 28.4	0.0
PNIG				eSg	Sb	19 41 37.1	-0.2
ACX	Acapulco	1.49	306	eP	Pg	19 41 44.8	+1.2
ACX				eS	Sg	19 42 03.6	+0.6
ACX	Acapulco	1.49	306	ePn	Pg	19 41 44.8	+1.2
TLIG	Tlapa	1.57	1	eP	Pn	19 41 42.0	-1.8
TLIG				*i* S	Sn	19 42 02.5	-2.2
TLIG	Tlapa	1.57	1	ePn	Pn	19 41 42.0	-1.8
TLIG				eSn	Sn	19 42 01.5	-3.2
CAIG	El Cayaco	1.92	304	eP	Pn	19 41 46.6	-1.8
CAIG				eS	Sn	19 42 10.0	-2.9
CAIG	El Cayaco	1.92	304	eSn	Sn	19 42 10.0	-2.9
VHO	Vista Hermosa	2.10	59	eP	Pn	19 41 50.9	-0.2
VHO				eS	Sn	19 42 16.0	-1.8
VHO	Vista Hermosa	2.10	59	ePn	Pn	19 41 50.9	-0.2
VHO				eSn	Sn	19 42 16.0	-1.8
MEIG	Mezcala	2.17	333	eP	Pn	19 41 50.6	-1.3
MEIG				*i* S	Sn	19 42 17.3	-1.9
HUIG	Huatulco	2.41	95	eP	Pn	19 41 55.1	-0.5
PLIG	Platanillo	2.55	340	eP

ZAIG Zacatecas 7.72 332 ePn Pn 19 43 09.5 +1.0
TEIG Tepich 10.69 65 Pn Pn 19 43 47.6 -1.3
0.8nm,0.3s,baz=270,slow=20,SNR=3.6
TEIG Sn Sn 19 45 41.3 -7.8
1.0nm,0.3s,baz=169,slow=23,SNR=4.4
TEIG LR LR 19 48 36.9
comp=Z,179nm,19.7s,baz=189,slow=41
TEIG Tepich 10.69 65 ePn Pn 19 43 48.9 -0.1
TEIG eSn Sn 19 45 41.0 -8.1
TGUH Tegucigalpa,Un 11.11 98 ePn Pn 19 43 53.5 -1.2
H06E1 SOCORRO T-PHAS 12.09 285 T T 19 56 16.0
SNR=31
H06S1 SOCORRO T 12.11 285 T T 19 56 17.2
SNR=10
H06N1 SOCORRO T-PHAS 12.16 285 T T 19 56 20.7
SNR=4.3
833A Chaparral WMA, 12.31 357 P Pn 19 44 13.8 +2.7
baz=175
733A Divot King Ran 12.70 357 P Pn 19 44 17.9 +1.5
baz=176
HPIG 12.72 330 ePn Pn 19 44 14.2 -2.8
LPIG La Paz 13.64 308 LR LR 19 48 41.8
comp=Z,232nm,21.5s,baz=48,slow=32
LTX Lajitas 14.09 342 ePn Pn 19 44 37.1 +1.7
TX31 Lajitas Ar. Si 14.09 342 ePn Pn 19 44 35.8 +0.3
TXAR Lajitas Array 14.09 342 Pn Pn 19 44 37.1 +1.7
0.0nm,0.3s,baz=163,slow=14,SNR=10
TXAR Lg Lg 19 48 47.8
0.0nm,0.3s,baz=164,slow=19,SNR=6.9
TXAR LR LR 19 50 55.3
comp=Z,620nm,19.5s,baz=0.0,slow=40
HKT Hockley 14.14 10 ePn Pn 19 44 38.8 +2.8
JCT Junction City 14.47 356 P Pn 19 44 42.2 +1.5
baz=174
539A Cross D Ranch, 14.51 14 P Pn 19 44 41.3 +0.1
baz=194
433A Art 14.71 358 P Pn 19 44 46.0 +2.0
baz=177
434A Burnet 14.77 1 P Pn 19 44 47.3 +2.6
baz=180
439A Center Grove, 15.16 13 P Pn 19 44 51.5 +1.5
baz=194
333A Richland Sprin 15.28 359 P Pn 19 44 53.5 +1.9
baz=178
336A Riesel 15.42 6 P Pn 19 44 54.2 +0.8
baz=186
234A Clairette 15.96 1 P Pn 19 45 01.0 +0.6
baz=181,SNR=5.1
233A Rising Star 15.97 359 P Pn 19 45 02.8 +2.2
baz=178,SNR=7.2
WHTX Lake Whitney, 15.97 4 P Pn 19 45 02.6 +2.0
baz=183,SNR=7.3
WHTX Lake Whitney, 15.97 4 ePn Pn 19 45 02.6 +2.0
42nm,1.0s
236A Katherine and 16.06 6 P Pn 19 45 03.5 +1.8
baz=186
NATX Nacogdoches 16.11 12 ePn P 19 45 04.7 -1.1
57nm,1.3s
238A Jacksonville 16.26 11 P Pn 19 45 05.8 +1.4
baz=191
239A Gary 16.40 13 P Pn 19 45 07.2 +1.1
baz=194
134A White-Moore Ra 16.53 2 P P 19 45 09.5 -0.9
baz=181,SNR=5.7
135A Vickery Place, 16.54 4 P P 19 45 09.6 -0.9
baz=183
133A Hamilton Ranch 16.56 359 P P 19 45 10.6 -0.1
baz=178,SNR=13
ABTX Abilene, Hawle 16.60 357 P P 19 45 11.3 +0.1
baz=176,SNR=8.4
ABTX Abilene, Hawle 16.60 357 ePn P 19 45 11.4 +0.2
56nm,1.3s
137A Heron Place, G 16.75 8 P P 19 45 12.6 -0.1
baz=189
MNTX Cornudas Mount 16.82 340 P P 19 45 13.1 -0.6
baz=156,SNR=5.7
MNTX Cornudas Mount 16.82 340 ePn Pn 19 45 11.6 +0.1
18nm,1.4s
344A Westbrook Farm 17.00 24 P Pn 19 45 13.1 -0.5
baz=206
140A Cam and Jess, 17.20 14 P Pn 19 45 17.0 +0.8
baz=196
Z33A Whitaker Ranch 17.23 360 P Pn 19 45 17.7 +1.1
baz=179
HSIG 17.26 321 ePn P 19 45 18.8 +0.3
13nm,1.0s
Z36A Blue Ridge 17.33 6 P Pn 19 45 18.0 +0.2
baz=186
142A Monroe 17.57 19 P Pn 19 45 21.0 +0.2
baz=201
VBMS Vicksburg 17.76 23 ePn Pn 19 45 21.5 -1.6
37nm,0.4s
Z40A Long Farm, Mag 17.84 14 P Pn 19 45 24.2 +0.1
baz=196
Y35A Marietta 17.91 4 P Pn 19 45 25.3 +0.3
baz=184
Y34A Reagan Ranch, 17.92 2 P Pn 19 45 25.0 -0.1
baz=182
319A Douglas 18.16 329 ePn P 19 45 29.6 +1.1
17nm,1.0s
WLAR White Oak Lake 18.32 15 ePn Pn 19 45 28.8 -1.2
26nm,0.5s
X35A Drake 18.40 4 P P 19 45 29.2 -1.9
baz=184
247A Quitman 18.40 28 P P 19 45 30.9 -0.2
baz=211
121A Cookes Peak, D 18.47 335 P P 19 45 32.2 +0.2
baz=150
PAYG Puerto Ayora 18.48 153 eP Pn 19 45 33.5 +1.4
60nm,1.1s
X34A Smith Ranch, M 18.56 2 P P 19 45 32.0 -0.8
baz=182
X36A Centrahoma 18.62 6 P P 19 45 32.4 -1.2
baz=186
WMOK Wichita Mounta 18.68 360 P P 19 45 32.9 -1.2
baz=179
WMOK Wichita Mounta 18.68 360 eP P 19 45 32.4 -1.8
4.8nm,1.0s
X37A Clayton 18.76 8 P P 19 45 34.0 -1.0
baz=189
248A Dixon Mills 18.84 30 P P 19 45 34.3 -1.6
baz=214
X39A Fountain Ranch 18.89 12 P P 19 45 35.5 -0.9
baz=193
CCAR Cane Creek 18.89 18 eP P 19 45 33.5 -3.0
39nm,0.5s
X38A Whitesboro 18.92 10 P P 19 45 35.9 -0.8
baz=191
AMTX Amarillo 19.03 352 P P 19 45 38.0 0.0
baz=170
AMTX Amarillo 19.03 352 eP P 19 45 37.5 -0.5
32nm,1.3s
MIAR Mount Ida 19.03 13 P P 19 45 37.4 -0.6
baz=194
MIAR Mount Ida 19.03 13 eP P 19 45 37.7 -0.3
9.1nm,0.9s
W32A Sentinel 19.07 358 P P 19 45 38.1 -0.5
baz=178
147A Livingston 19.08 28 P P 19 45 37.5 -1.1
baz=211
W33A Caddo, Fort Co 19.09 0 P P 19 45 38.0 -0.7
baz=180
X40A Basin Creek Fa 19.15 15 P P 19 45 38.2 -1.1
baz=197
W35A Tecumseh 19.16 4 P P 19 45 38.3 -1.1
baz=184
W34A Bridge Creek, 19.19 2 eP P 19 45 38.6 -1.1
26nm,1.2s
W36A Wetumka 19.20 6 P P 19 45 39.1 -0.7
baz=186
W37B Quinton 19.29 8 P P 19 45 39.9 -1.0
baz=189
BNM Barren Site 19.48 340 eP Pn 19 45 44.2 -0.2
UALR University of 19.54 16 eP P 19 45 42.7 -0.9
20nm,1.1s
Y45A Yeager Farm, C 19.59 23 P P 19 45 43.4 -0.7
baz=206
Z47A Carrollton 19.61 27 P P 19 45 43.6 -0.8
baz=211
W39A Magazine 19.62 12 P P 19 45 44.2 -0.3
baz=193,SNR=6.9
LPM Los Pinos Moun 19.63 340 eP Pn 19 45 47.3 +1.2
TUC Tucson 19.66 328 P Pn 19 45 47.4 +1.0
baz=142
TUC Tucson 19.66 328 eP Pn 19 45 46.6 +0.1
16nm,1.6s
V35A Meyer Ranch, C 19.77 4 P P 19 45 45.0 -1.1
baz=184
V34A Guthrie 19.80 3 P P 19 45 45.7 -0.6
baz=182
V34A Guthrie 19.80 3 eP P 19 45 45.8 -0.6
17nm,0.8s
V36A Jenks 19.87 6 P P 19 45 46.3 -0.9
baz=187,SNR=6.1
Y46A Houston 19.88 24 P P 19 45 46.4 -0.8
baz=208,SNR=9.1
LAZ Ladron 19.89 339 eP P 19 45 46.0 -1.5
W41B Gary Mavity, V 19.95 15 P P 19 45 47.3 -0.7
baz=198
LRAL Lakeview Retre 19.97 30 eP P 19 45 46.6 -1.6
12nm,0.9s
X301 Greenbrier Sit 19.97 15 eP P 19 45 47.3 -0.9
31nm,1.4s
Z48A Northport 19.99 28 P P 19 45 48.0 -0.5
baz=212,SNR=12
TUL1 Leonard 20.01 7 P P 19 45 47.5 -1.1
baz=187
TUL1 Leonard 20.01 7 eP P 19 45 47.7 -1.0
22nm,0.9s
X201 Greenbrier Sit 20.03 15 eP P 19 45 49.0 +0.1
32nm,1.2s
WHAR Wooly Hollow 20.05 15 eP P 19 45 48.0 -1.1
22nm,1.0s
V37A Hulbert 20.06 8 P P 19 45 48.1 -1.2
baz=189
V38A Canehill 20.15 10 P P 19 45 49.0 -1.3
baz=191
ANMO Albuquerque 20.16 341 P Pn 19 45 52.2 -0.2
5.7nm,0.9s,baz=158,slow=12,SNR=15
ANMO LR LR 19 54 15.7
comp=Z,336nm,21.3s,baz=156,slow=38
ANMO Albuquerque 20.16 341 P P 19 45 51.4 +0.8
baz=157
ANMO Albuquerque 20.16 341 eP Pn 19 45 51.9 -0.5
19nm,1.4s
OXF Oxford 20.22 22 eP P 19 45 50.7 -0.3
42nm,1.0s
MTDJ Mount Denham 20.26 81 eP Pn 19 45 55.9 +2.3
286nm,1.9s
V39A Pettigrew 20.27 12 P P 19 45 50.9 -0.7
baz=193,SNR=9.1
Y47A UCPARC, Winfie 20.31 27 P P 19 45 50.6 -1.4
baz=211
U33A Lingnau Farm, Me 20.38 1 P P 19 45 52.2 -0.5
baz=181
U35A Pawnee 20.38 4 P P 19 45 51.8 -0.9
baz=185
U34A Anderson Ranch 20.40 2 P P 19 45 52.1 -0.8
baz=182
U34A Anderson Ranch 20.40 2 eP P 19 45 52.5 -0.4
45nm,1.3s
214A Organ Pipe Nat 20.49 323 P Pn 19 45 55.4 -0.8
baz=137
V41A Mountainview 20.55 15 P P 19 45 53.5 -1.1
baz=197,SNR=6.2
U37A Salina 20.58 8 P P 19 45 54.2 -0.7
baz=189
TIGA Tifton 20.60 39 eP P 19 45 53.9 -1.2
74nm,1.8s
HHAR Hobbs 20.64 11 eP P 19 45 51.3 -4.3
14nm,1.1s
U38A Gravette 20.72 10 P P 19 45 55.9 -0.6
baz=191
V42A Cord 20.77 17 P P 19 45 55.5 -1.4
baz=199
U39A Green Forest 20.83 12 P P 19 45 56.5 -1.1
baz=193
U40A Yellville 20.93 13 P P 19 45 57.7 -1.0
baz=195,SNR=8.7
T35A Sooner Cattle 20.94 5 P P 19 45 57.4 -1.4
baz=185,SNR=6.5
T34A McClaskey Farm 21.00 3 P P 19 45 57.2 -2.3
baz=183
T33A Patterson Ranc 21.02 1 P P 19 45 58.5 -1.2
baz=180
X18A Snowflake 21.10 333 eP P 19 46 03.2 +2.5
24nm,1.3s
T32A Huddler Ranch, 21.12 359 P P 19 45 59.7 -1.0
baz=179
T36A Boggs Farm, Ca 21.14 6 P P 19 45 59.5 -1.4
baz=187
PLAL Pickwick Lake 21.15 25 eP P 19 45 59.1 -1.9
78nm,1.4s
T37A Cheneyville 18 21.31 8 P P 19 46 01.2 -1.6
baz=189
T38A Diamond 21.32 10 P P 19 46 01.7 -1.2
baz=191
T39A Clever 21.47 11 P P 19 46 02.6 -1.9
baz=193,SNR=5.5
W18A Petrified Fore 21.51 334 eP P 19 46 07.2 +2.0
8.4nm,0.7s
113A Mohawk Valley, 21.64 323 eP P 19 46 08.2 +1.9
9.3nm,1.0s
S34A Willow Spring 21.68 3 P P 19 46 05.7 -1.1
baz=183
X16A Lo Mia Camp, P 21.69 330 eP P 19 46 01.6 -5.5
20nm,1.0s
T25A Trinidad 21.70 347 P P 19 46 07.3 +0.1
baz=184
T25A Trinidad 21.70 347 eP P 19 46 08.4 +1.2
47nm,1.4s
S35A Otter Creek Ra 21.71 5 P P 19 46 05.7 -1.4
baz=185,SNR=6.4
T40A Mansfield 21.77 13 P P 19 46 06.2 -1.5
baz=195,SNR=11
S36A Lake Cedric, C 21.82 6 P P 19 46 07.4 -0.9
baz=187,SNR=6.1
T41A Mountain View 21.84 15 P P 19 46 07.5 -1.0
baz=197,SNR=7.1
S37A Fort Scott 21.95 8 P P 19 46 08.6 -1.0
baz=189
PBMO Poplar Bluff 21.95 18 eP P 19 46 11.8 +2.2
44nm,0.9s
S38A Stockton 21.96 10 P P 19 46 08.9 -0.9
baz=192
Y14A Wickenburg 22.09 327 eP P 19 46 13.7 +2.4
110n,1.3s
GOGA Godfrey 22.10 35 eP P 19 46 09.6 -1.6
12nm,0.9s
S39A Bolivar 22.12 11 P P 19 46 10.4 -1.2
baz=193
S40A Lebanon 22.20 13 P P 19 46 10.9 -1.5
baz=195
WVT Waverly 22.25 24 eP P 19 46 12.2 -0.7
40nm,0.9s
SWET Sewanee 22.27 28 eP P 19 46 12.2 -1.0
6.3nm,0.9s
R34A Isabella, Hill 22.27 3 P P 19 46 11.9 -1.2
baz=183,SNR=11
R36A Gordon, Harris 22.43 6 P P 19 46 13.3 -1.5
baz=187,SNR=5.4
GLA Glamis 22.46 322 eP P 19 46 16.9 +1.7
41nm,1.5s
R37A Teagarden Farm 22.50 8 P P 19 46 14.1 -1.4
baz=189
R38A Fenwick Farm, 22.51 10 P P 19 46 13.7 -2.0
baz=191
SDCO Great Sand Dun 22.52 346 eP P 19 46 16.8 +0.6
10nm,1.2s
WUAZ Wupatki 22.56 332 P P 19 46 18.7 +2.3
baz=146
WUAZ Wupatki 22.56 332 eP P 19 46 18.8 +2.3
29nm,1.0s
R39A Chumley, Stover 22.78 11 P P 19 46 17.1 -1.4
baz=193,SNR=7.2
Y12C Blythe 22.79 324 eP P 19 46 20.1 +1.5
5.4nm,0.8s
S22A 4UR Ranch, Cre 22.87 343 P P 19 46 19.9 +0.1
baz=159,SNR=9.1
S22A 4UR Ranch, Cre 22.87 343 eP P 19 46 21.1 +1.3
19nm,1.4s
MVCO Mesa Verde 22.89 339 P P 19 46 20.6 +0.6
baz=154,SNR=14
MVCO Mesa Verde 22.89 339 eP P 19 46 21.0 +1.0
45nm,1.3s
Q34A Chapman 22.90 3 P P 19 46 19.4 -0.4
baz=184
Q35A Mercer Eighty, 22.90 5 P P 19 46 19.0 -0.8
baz=186
R40A Maddies Statio 22.92 13 P P 19 46 19.6 -0.3
baz=195,SNR=15
PDMCI Parker Dam,Lak 22.98 325 P P 19 46 22.4 +1.7
baz=138
CPCT Cooper Cave 23.12 30 eP P 19 46 20.4 -1.8
11nm,0.9s
S44A Carbondale 23.15 19 P P 19 46 22.1 -0.3
baz=203,SNR=5.4
SIUC Southern Illin 23.18 19 eP P 19 46 22.9 +0.2
48nm,0.9s
KSCO Kaye Shedlock' 23.21 352 eP P 19 46 23.5 +0.3
61nm,1.3s
BC3 Big Chuckawall 23.26 322 P P 19 46 25.2 +1.6
baz=135
Q38A Cooks Store, C 23.31 10 P P 19 46 22.5 -1.5
baz=192
S45A Carrier Mills 23.36 20 P P 19 46 23.7 -0.8
baz=204,SNR=7.0
IRM Iron Mountain 23.44 324 P P 19 46 26.5 +1.1
baz=136
W13A Hualapai Mount 23.45 327 eP P 19 46 27.4 +1.7
11nm,1.2s
Q39A Willow Grove F 23.50 11 P P 19 46 24.5 -1.4
baz=193
P35A Duane Minner, 23.57 5 P P 19 46 26.0 -0.6
baz=186
Q24A Divide 23.61 347 P P 19 46 26.8 -0.6
baz=164
Q24A Divide 23.61 347 eP P 19 46 27.7 +0.4
14nm,1.1s
Q40A Laux Farm, Aux 23.63 13 P P 19 46 26.2 -1.0
baz=195
TKL Tuckaleechee C 23.66 31 eP P 19 46 25.8 -1.6
16nm,1.3s
R44A Waltonville 23.72 19 P P 19 46 26.4 -1.6
baz=203,SNR=5.2
U15A North Rim 23.73 332 eP P 19 46 30.6 +2.0
30nm,1.8s
SLM Saint Louis 23.74 16 eP P 19 46 28.7 +0.4
62nm,1.3s
P36A Good Intent, A 23.74 7 P P 19 46 27.3 -0.9
baz=188
PV01 Paradox Valley 23.75 340 eP P 19 46 29.6 +0.9
BELC Belle Mtn. Jos 23.82 322 P P 19 46 30.3 +1.1
baz=134
PFO Pinyon Flats O 23.83 321 LR LR 19 56 10.9
comp=Z,237nm,19.3s,baz=136,slow=37
CSU Charleston Sou 23.83 41 eP P 19 46 29.6 +0.3
NHSC New Hope 23.84 41 eP P 19 46 30.4 +1.1
109nm,1.3s
PV05 Paradox Valley 23.88 339 eP P 19 46 30.9 +1.0
Q42A Golden Eagle 23.92 16 P P 19 46 28.7 -1.3
baz=199
USIN University of 23.93 22 eP P 19 46 30.1 0.0
88nm,1.2s
P38A Dawn 23.97 10 P P 19 46 29.4 -1.0
baz=192,SNR=5.6
P39B Salisbury 23.97 11 P P 19 46 29.1 -1.4
baz=194,SNR=5.3
PV10 Paradox Valley 24.13 340 eP P 19 46 32.8 +0.5
P40A Paris 24.15 12 P P 19 46 31.4 -0.8
baz=195,SNR=13
O34A Beatrice 24.17 4 P P 19 46 31.3 -1.0
baz=184
Q43A New Douglas 24.17 17 P P 19 46 31.3 -1.1
baz=201
GMRC Granite Mounta 24.18 324 P P 19 46 34.0 +1.3
baz=136
SMCO Snowmass 24.25 344 eP P 19 46 34.8 +1.2
22nm,1.1s
PV09 Paradox Valley 24.27 340 eP P 19 46 34.9 +1.2
O36A Bolckow 24.27 7 P P 19 46 31.8 -1.4
baz=188
O35A Humboldt 24.31 5 P P 19 46 33.2 -0.4
baz=186
Q44A Meyer Farm, Va 24.34 18 P P 19 46 33.2 -0.7
baz=202
O37A Wolven Farm, M 24.41 8 P P 19 46 34.2 -0.3
baz=190
KNB Kanab 24.45 332 eP P 19 46 37.3 +2.1
12nm,1.0s
O38A Galt 24.47 10 P P 19 46 34.3 -0.7
baz=192
TZTN Tazewell 24.47 30 eP P 19 46 34.9 -0.2
45nm,1.4s
OLIL Olney 24.48 20 eP P 19 46 35.1 -0.1
58nm,1.4s
ISCO Idaho Springs 24.51 347 P P 19 46 36.6 +0.8
baz=163,SNR=11
ISCO Idaho Springs 24.51 347 eP P 19 46 36.6 +0.8
32nm,1.4s
P41A Barry, Barry 24.51 14 P P 19 46 34.2 -1.3
baz=197
KMSC Kings Mountain 24.56 36 eP P 19 46 35.5 -0.5
32nm,1.4s
WCI Wyandotte Cave 24.68 24 eP P 19 46 36.4 -0.6
47nm,1.1s
N32A Stulken Farm, 24.70 1 P P 19 46 37.5 +0.3
baz=180
O39A Kirksville 24.76 11 P P 19 46 37.2 -0.5
baz=194
O40A La Belle 24.76 12 P P 19 46 36.8 -0.9
baz=195,SNR=8.3
TUQ Turquoise Moun 24.80 325 P P 19 46 40.4 +2.0
baz=136
BFSC Mount Baldy Ra 24.99 320 P P 19 46 41.5 +1.5
baz=132
MTPU Mount Pierson 25.03 334 eP P 19 46 42.8 +2.2
17nm,1.2s
OGNE Ogallala 25.05 354 P P 19 46 40.5 +0.1
baz=172
OGNE Ogallala 25.05 354 eP P 19 46 39.9 -0.5
59nm,1.0s
CCUT Cedar City 25.14 332 eP P 19 46 43.5 +2.1
4.4nm,1.0s
N38A Joes South For 25.16 10 P P 19 46 41.2 -0.1
baz=192
SHPR Sheep Range 25.19 327 eP P 19 46 43.9 +2.1
6.0nm,1.1s
GSC Goldstone, Bar 25.21 323 P P 19 46 44.5 +2.6
baz=135
GSC Goldstone, Bar 25.21 323 eP P 19 46 44.0 +2.1
10nm,1.3s
SRU San Rafael Swe 25.30 338 eP P 19 46 43.9 +1.1
18nm,1.2s
SHOC Shoshone, Teco 25.34 325 P P 19 46 45.7 +2.7
baz=136
N39A Derby Farms, D 25.37 11 P P 19 46 43.5 +0.3
baz=193
BLO Bloomington 25.41 22 eP P 19 46 43.6 -0.1
24nm,0.9s
MSU Marysvale 25.42 335 eP P 19 46 46.2 +2.2
O20A White River Ci 25.49 343 eP P 19 46 45.7 +1.1
59nm,1.6s
EDW2 Edwards Air Fo 25.62 321 P P 19 46 48.3 +2.6
baz=132
N23A Red Feather La 25.63 347 P P 19 46 46.3 +0.4
baz=163,SNR=9.0
N23A Red Feather La 25.63 347 eP P 19 46 47.1 +1.2
21nm,1.2s
P18A Preston Nutter 25.66 339 eP P 19 46 47.7 +1.5
16nm,1.1s
M38A Pleasantville 25.78 9 P P 19 46 46.4 -0.5
baz=192
HDIL Hopedale 25.79 16 P P 19 46 46.7 -0.3
baz=200
TPNV Topopah Spring 26.10 326 P P 19 46 51.9 +1.8
baz=138
TPNV Topopah Spring 26.10 326 eP P 19 46 51.4 +1.3
12nm,1.3s
L31A Butterfield Fa 26.11 360 P P 19 46 49.9 0.0
baz=179
MPMC Manual Prospec 26.14 323 P P 19 46 52.1 +1.6
baz=135
SDDR Presa de Saban 26.21 79 eP P 19 46 51.0 -0.2
26nm,1.3s
SCIA State Center 26.25 9 eP P 19 46 49.4 -1.8
43nm,0.9s
SFIN Lafayette 26.29 20 P P 19 46 51.6 +0.1
baz=205
DAC Darwin (Calif) 26.35 324 eP P 19 46 54.0 +1.6
6.1nm,1.3s
L38A Oak Wood Farm, 26.52 9 P P 19 46 54.1 +0.5
baz=192
R11A Troy Canyon, C 26.83 329 P P 19 46 58.1 +1.4
baz=141
R11A Troy Canyon, C 26.83 329 eP P 19 46 58.9 +2.1
6.5nm,1.5s
K37A Belmond 27.03 8 P P 19 46 57.8 -0.5
baz=190
DUG Dugway, Tooele 27.11 336 P P 19 47 00.4 +1.2
baz=148,SNR=5.9
DUG Dugway, Tooele 27.11 336 eP P 19 46 59.9 +0.7
5.6nm,1.0s
TCUT Toone Canyon 27.39 339 eP P 19 47 03.3 +1.5

	15nm,0.9s							
K22A	**Casper**	**27.43**	**347**	P	**P**	**19 47 01.8**	**-0.3**
	baz=163							
J36A	**Seneca 1, Swea**	**27.50**	**7**	P	**P**	**19 47 01.5**	**-1.0**
	baz=188							
J37A	**Redenius Farm,**	**27.58**	**8**	P	**P**	**19 47 01.7**	**-1.4**
	baz=190							
ECSD	**EROS Data Cent**	**27.71**	**3**	P	**P**	**19 47 03.2**	**-1.1**
	baz=184							
J38A	**Wedel Dairy, R**	**27.75**	**10**	P	**P**	**19 47 03.9**	**-0.7**
	baz=192							
BGU	**Big Grassy Mou**	**27.82**	**336**	*eP*	**P**	**19 47 07.7**	**+2.1**
	12nm,1.6s							
SDV	**Santo Domingo**	**28.19**	**101**	LR	LR	20 00 07.1		
	comp=Z,149nm,18.0s,baz=300,slow=40							
NV11	**Mina Array Sit**	**28.21**	**326**	*eP*	**P**	**19 47 11.5**	**+2.5**
	8.8nm,1.1s							
NV01	**Mina Array Sit**	**28.29**	**326**	*eP*	**P**	**19 47 11.9**	**+2.1**
NVAR	**Mina Array Bea**	**28.29**	**326**	P	**P**	**19 47 12.5**	**+2.7**
	3.1nm,0.9s,baz=155,slow=9.4,SNR=19							
NVAR				LR	LR	19 59 56.8		
	comp=Z,274nm,19.4s,baz=150,slow=39							
BW06	**Boulder Array**	**28.30**	**343**	P	**P**	**19 47 10.7**	**+0.9**
	baz=157,SNR=7.2							
BW06	**Boulder Array**	**28.30**	**343**	*eP*	**P**	**19 47 10.5**	**+0.6**
PD31	**Pinedale Array**	**28.30**	**343**	*eP*	**P**	**19 47 11.0**	**+1.1**
PDAR	**Pinedale Array**	**28.30**	**343**	P	**P**	**19 47 11.3**	**+1.5**
	2.6nm,0.9s,baz=142,slow=7.5,SNR=14							
PDAR				LR	LR	19 59 58.0		
	comp=Z,170nm,20.4s,baz=170,slow=39							
PCCM	**Crazy Canyon**	**28.37**	**319**	*eP*	**P**	**19 47 13.8**	**+3.4**
RSSD	**Black Hills**	**28.43**	**352**	P	**P**	**19 47 10.8**	**-0.1**
	baz=168							
RSSD	**Black Hills**	**28.43**	**352**	*eP*	**P**	**19 47 11.9**	**+1.0**
	10.0nm,1.4s							
H32A	**Carlson Farm,**	**28.45**	**2**	P	**P**	**19 47 10.9**	**0.0**
	baz=182							
I38A	**Scanlan Farm,**	**28.47**	**10**	P	**P**	**19 47 10.3**	**-0.9**
	baz=192							
G29A	**Hoven**	**29.14**	**358**	P	**P**	**19 47 16.9**	**-0.2**
	baz=177							
REDW	**Red Top Meadow**	**29.22**	**342**	*eP*	**P**	**19 47 18.9**	**+0.8**
	6.4nm,1.0s							
TPAW	**Teton Pass**	**29.37**	**342**	*eP*	**P**	**19 47 19.9**	**+0.5**
	7.4nm,1.1s							
LOHW	**Long Hollow**	**29.38**	**342**	*eP*	**P**	**19 47 20.5**	**+1.1**
	6.1nm,1.1s							
MOOW	**Moose Ponds**	**29.54**	**342**	*eP*	**P**	**19 47 22.1**	**+1.2**
	4.5nm,1.1s							
IMW	**Indian Meadow**	**29.74**	**342**	*eP*	**P**	**19 47 23.4**	**+0.7**
	5.1nm,1.3s							
RLMT	**Red Lodge**	**30.41**	**345**	P	**P**	**19 47 28.8**	**+0.3**
	baz=159							
RLMT	**Red Lodge**	**30.41**	**345**	*eP*	**P**	**19 47 29.8**	**+1.2**
	8.7nm,1.3s							
ATAH	**Atahualpa**	**30.46**	**137**	LR	LR	19 57 59.3		
	comp=Z,81nm,18.2s,baz=297,slow=34							
E29A	**Napoleon**	**30.51**	**359**	P	**P**	**19 47 29.1**	**-0.1**
	baz=178							
D29A	**Pettibone, Tap**	**31.00**	**359**	P	**P**	**19 47 33.4**	**-0.2**
	baz=178							
D30A	**Buchanan**	**31.04**	**360**	P	**P**	**19 47 33.5**	**-0.4**
	baz=179							
MGL	**Magalia**	**31.05**	**324**	*eP*	**P**	**19 47 31.7**	**-2.5**
D26A	**Manning**	**31.12**	**355**	P	**P**	**19 47 34.4**	**-0.2**
	baz=172							
MCMT	**McKenzie Canyo**	**31.17**	**340**	*eP*	**P**	**19 47 36.6**	**+1.3**
D35A	**Remer**	**31.24**	**6**	P	**P**	**19 47 35.1**	**-0.5**
	baz=188							
D25A	**Fairfield**	**31.33**	**354**	P	**P**	**19 47 36.9**	**+0.4**
	baz=171							
D36A	**Goodland**	**31.43**	**7**	P	**P**	**19 47 37.4**	**+0.1**
	baz=190							
WVOR	**Wild Horse Val**	**31.47**	**331**	*eP*	**P**	**19 47 39.0**	**+1.1**
D37A	**Cotton**	**31.51**	**8**	P	**P**	**19 47 37.1**	**-0.9**
	baz=191							
BOZ	**Bozeman (W)**	**31.53**	**342**	P	**P**	**19 47 38.5**	**+0.1**
	baz=155							
BOZ	**Bozeman (W)**	**31.53**	**342**	*eP*	**P**	**19 47 38.5**	**+0.1**
	4.5nm,1.1s							
DLMT	**Dillon**	**31.57**	**341**	*eP*	**P**	**19 47 40.9**	**+2.2**
	9.0nm,1.1s							
C30A	**Mose, Pekin**	**31.63**	**0**	P	**P**	**19 47 38.9**	**-0.2**
	baz=180							
LUPA	**Lehigh Univers**	**31.75**	**35**	*eP*	**P**	**19 47 39.3**	**-0.9**
	43nm,1.9s							
MDND	**Maddock**	**31.79**	**359**	P	**P**	**19 47 40.0**	**-0.5**
	baz=178							
MDND	**Maddock**	**31.79**	**359**	*eP*	**P**	**19 47 40.1**	**-0.3**
	116nm,1.4s							
C35A	**Jirik Farms, M**	**31.86**	**6**	P	**P**	**19 47 40.1**	**-1.0**
	baz=188							
LRM	**Limekiln Ridge**	**31.94**	**342**	*eP*	**P**	**19 47 42.2**	**+0.1**
C36A	**Pine Crest Far**	**32.05**	**7**	P	**P**	**19 47 41.5**	**-1.1**
	baz=190							
KCPM	**Cahto Peak**	**32.13**	**322**	*eS*	**S**	**19 52 59.5**	**+2.6**
AGMN	**Agassiz Nation**	**32.31**	**3**	P	**P**	**19 47 44.4**	**-0.6**
	baz=185,SNR=6.0							
AGMN	**Agassiz Nation**	**32.31**	**3**	*eP*	**P**	**19 47 44.4**	**-0.6**
	15nm,1.0s							
B32A	**Ashes, Strandq**	**32.37**	**3**	P	**P**	**19 47 45.6**	**+0.1**
	baz=183							
B30A	**Myrvik Farm, E**	**32.38**	**0**	P	**P**	**19 47 45.0**	**-0.7**
	baz=180							
B35A	**Bob, Littlefor**	**32.54**	**6**	P	**P**	**19 47 45.7**	**-1.3**
	baz=188							
B34A	**Aery, Baudette**	**32.58**	**5**	P	**P**	**19 47 46.2**	**-1.2**
	baz=187							
M04C	**Macdoel**	**32.58**	**327**	P	**P**	**19 47 48.6**	**+0.9**
	baz=135							
A29A	**Manning Farm,**	**32.86**	**359**	P	**P**	**19 47 49.8**	**0.0**
	baz=178							
A28A	**Rude Farm, Bot**	**32.87**	**358**	P	**P**	**19 47 50.4**	**+0.5**
	baz=177							
A26A	**Wade Farm, Ken**	**32.95**	**356**	P	**P**	**19 47 50.8**	**+0.2**
	baz=174							
A33A	**Warroad**	**32.97**	**4**	P	**P**	**19 47 50.6**	**-0.2**
	baz=185							
BUOR	**Burton Butte**	**33.15**	**327**	*e*PcP	**PcP**	**19 50 37.6**	**+1.9**
BUOR				*e*S	**S**	**19 53 14.8**	**+2.1**
F10A	**Beach Ranch, E**	**33.72**	**336**	*eP*	**P**	**19 47 58.0**	**+0.6**
	9.1nm,1.0s							
ULM	**Lac du Bonnet**	**34.25**	**3**	P	**P**	**19 48 01.4**	**-0.5**
	5.1nm,0.9s,baz=182,slow=8.0,SNR=4.6							
ULM				LR	LR	20 04 14.8		
	comp=Z,44nm,20.1s,baz=201,slow=40							
ULM	**Lac du Bonnet**	**34.25**	**3**	*eP*	**P**	**19 48 01.3**	**-0.6**
	12nm,1.2s							
NNA	**Nana**	**35.15**	**141**	LR	LR	19 59 47.4		
	comp=Z,95nm,18.1s,baz=344,slow=32							
EMMW	**East Machias**	**38.85**	**36**	*eS*	**S**	**19 54 42.0**	**+2.4**
SCHQ	**Schefferville**	**45.87**	**25**	P	**P**	**19 49 37.9**	**-0.5**
	8.5nm,0.8s,baz=260,slow=14,SNR=5.0							
SCHQ				LR	LR	20 12 07.7		
	comp=Z,77nm,18.5s,baz=180,slow=40							
SCHQ	**Schefferville**	**45.87**	**25**	*eP*	**P**	**19 49 37.5**	**-0.8**
	11nm,0.9s							
YKA	**Yellowknife Ar**	**47.81**	**350**	P	**P**	**19 49 53.2**	**-0.1**
	1.7nm,1.0s,baz=162,slow=7.6,SNR=8.3							
YKA				LR	LR	20 13 30.4		
	comp=Z,11nm,19.2s,baz=180,slow=40							
YKB5	**Yellowknife Ar**	**47.81**	**350**	*eP*	**P**	**19 49 53.2**	**-0.1**
DLBC	**Dease Lake**	**48.36**	**338**	*eP*	**P**	**19 50 00.5**	**+2.7**
	3.6nm,0.8s							
RKT	**Rikitea**	**52.68**	**223**	*e*T	T	20 47 04.5		
	13nm,0.2s							
BMRM	**Bremner River**	**55.61**	**335**	*eP*	**P**	**19 50 53.9**	**+2.1**
	12nm,1.2s							
KLU	**Klutina**	**56.43**	**335**	*eP*	**P**	**19 50 59.9**	**+2.2**
	4.7nm,1.0s							
EGAK	**Eagle**	**56.58**	**340**	*eP*	**P**	**19 50 59.3**	**+0.8**
	3.2nm,0.8s							
INK	**Inuvik**	**56.82**	**345**	*eP*	**P**	**19 51 01.1**	**+0.9**
	5.9nm,1.0s							
DOT	**Dot Lake**	**56.91**	**338**	*eP*	**P**	**19 51 02.5**	**+1.6**
	18nm,1.1s							
SUA	**Susitna One**	**58.44**	**334**	*eP*	**P**	**19 51 13.5**	**+1.7**
	6.0nm,0.8s							
IL1	**Eielson Array**	**58.57**	**338**	*eP*	**P**	**19 51 13.1**	**+0.6**
ILAR	**Eielson Array**	**58.57**	**338**	P	**P**	**19 51 13.8**	**+1.3**
	3.5nm,1.0s,baz=143,slow=5.1,SNR=26							
ILAR				LR	LR	20 18 31.0		
	comp=Z,99nm,18.9s,baz=144,slow=38							
ILB	**Eielson Array**	**58.57**	**338**	*eP*	**P**	**19 51 13.2**	**+0.7**
RND	**Reindeer**	**58.59**	**336**	*eP*	**P**	**19 51 14.7**	**+1.9**
	14nm,1.2s							
WRH	**Wood River Hil**	**58.85**	**337**	*eP*	**P**	**19 51 15.7**	**+1.3**
	2.6nm,1.0s							
SPU	**Mount Spurr**	**58.88**	**333**	*eP*	**P**	**19 51 16.0**	**+1.1**
RSO	**Redoubt South**	**58.88**	**332**	*eP*	**P**	**19 51 16.6**	**+1.5**
TRF	**Thorofare Moun**	**59.18**	**336**	*eP*	**P**	**19 51 18.1**	**+1.1**
	15nm,1.1s							
BWN	**Browne**	**59.21**	**337**	*eP*	**P**	**19 51 17.8**	**+0.8**
	29nm,1.0s							
BPAW	**Bear Paw Mtn.**	**59.76**	**336**	*eP*	**P**	**19 51 21.3**	**+0.4**
	12nm,1.7s							
CAST	**Castle Rocks**	**59.88**	**335**	*eP*	**P**	**19 51 21.6**	**-0.1**
	7.4nm,1.0s							
MLY	**Manley**	**60.11**	**337**	*eP*	**P**	**19 51 24.2**	**+0.9**
	8.9nm,1.2s							
PPT2	**Papeete2**	**60.30**	**239**	*e*LR	LR	20 09 04.1		
	66nm,23.0s							
TTA	**Tatalina**	**61.29**	**334**	*eP*	**P**	**19 51 32.3**	**+0.9**
	6.0nm,1.1s							
EKA	**Eskdalemuir Ar**	**80.07**	**35**	P	**P**	**19 53 23.8**	**-2.0**
	0.9nm,0.8s,baz=288,slow=5.9,SNR=3.6							
ES19	**SONSECA Array**	**83.50**	**51**	*eP*	**P**	**19 53 44.9**	**+0.5**
NOA	**NORSAR Array B**	**85.39**	**27**	LR	LR	20 36 30.3		
	comp=Z,7.5nm,18.3s,baz=265,slow=39							
ARCES	**ARCESS Array B**	**86.19**	**17**	LR	LR	20 36 59.7		
	comp=Z,30nm,18.7s,baz=358,slow=39							
TIXI	**Tiksi**	**86.93**	**346**	P	**P**	**19 54 01.0**	**+0.3**
	0.7nm,0.9s,baz=92,slow=5.5,SNR=4.5							
TIXI	**Tiksi**	**86.93**	**346**	*eP*	**P**	**19 54 00.4**	**-0.4**
	5.4nm,1.4s							
RAO	**Raoul Island**	**88.69**	**239**	LR	LR	20 25 14.2		
	comp=Z,52nm,19.0s,baz=354,slow=30							
FINES	**FINESS Array B**	**91.32**	**23**	LR	LR	20 35 56.9		
	comp=Z,23nm,20.8s,baz=304,slow=36							
GERES	**GERESS Array B**	**92.05**	**38**	LR	LR	20 37 34.4		
	comp=Z,19nm,18.1s,baz=296,slow=37							
NRIK	**Noril'sk**	**94.80**	**358**	LR	LR	20 41 01.0		
	comp=Z,33nm,18.6s,baz=96,slow=38							
URZ	**Urewera**	**95.35**	**232**	LR	LR	20 27 17.5		
	comp=Z,40nm,20.7s,baz=96,slow=29							
AKASG	**Malin Array Be**	**99.44**	**31**	LR	LR	20 42 19.4		
	comp=Z,12nm,18.1s,baz=320,slow=37							

*ISCJB **10** 19:44:54.6±0.5,50.23N±0.03×18.95E±0.03,h0km, Error ellipse: s-maj=5.1km s-min=2.7km az=13.0*
*PRU **10** 19:44:55.9,50.23N×18.96E,h0km*
*CSEM **10** 19:44:55.4±0.3,50.23N×18.99E,h2km,ML2.6/5, Error ellipse: s-maj=6.9km s-min=3.7km az=12.0*

ISC 10 19:44:55.7±0.8,50.20N±0.03×19.03E±0.02,h0km,n29, σ0.87/50,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.09**	**345**	*e*Pg	**Pg**	**19 44 57.6**	**+0.1**
OJC	**Ojcow**	**0.49**	**88**	*e*Pg	**Pg**	**19 45 04.8**	**-0.3**
OJC				*e*Sg	**Sg**	**19 45 11.5**	**0.0**
OJC	**Ojcow**	**0.49**	**88**	*e*Pg	**Pg**	**19 45 04.8**	**-0.3**
OJC				*e*Sg	**Sg**	**19 45 11.5**	**0.0**
OKC	**Ostrava-Krasne**	**0.68**	**238**	*e*PG	**Pb**	**19 45 10.0**	**-0.4**
OKC				*e*SG	**Sg**	**19 45 17.9**	**+0.5**
OKC	**Ostrava-Krasne**	**0.68**	**238**	Pg	**Pb**	**19 45 10.0**	**-0.4**
OKC				Sg	**Sg**	**19 45 17.9**	**+0.5**
MORC	**Moravsky Berou**	**1.05**	**247**	*e*Pg	**Pg**	**19 45 15.2**	**-0.6**
MORC				*e*Sg	**Sg**	**19 45 29.9**	**+0.5**
LANS	**Liptovska Anna**	**1.09**	**165**	*e*Pg	**Pg**	**19 45 16.7**	**+0.1**
LANS				*e*Sg	**Sb**	**19 45 31.9**	**-0.3**
LANS	**Liptovska Anna**	**1.09**	**165**	*e*PG	**Pg**	**19 45 16.7**	**+0.1**
LANS				*e*SG	**Sb**	**19 45 31.9**	**-0.3**
NIE	**Niedzica**	**1.14**	**133**	*e*Pg	**Pg**	**19 45 17.1**	**-0.3**
NIE				*e*Sg	**Sb**	**19 45 33.6**	**+0.1**
NIE	**Niedzica**	**1.14**	**133**	*e*Pg	**Pg**	**19 45 17.1**	**-0.3**
NIE				*e*Sg	**Sb**	**19 45 33.6**	**+0.1**
STHS	**Stebnicka Huta**	**1.64**	**118**	*e*Pn	**Pb**	**19 45 26.6**	**-0.1**
STHS				*e*Sn	**Sg**	**19 45 50.3**	**+2.1**
STHS	**Stebnicka Huta**	**1.64**	**118**	*e*PN	**Pb**	**19 45 26.6**	**-0.1**
STHS				*e*SN	**Sg**	**19 45 50.3**	**+2.1**
STHS				*e*LG	Lg	19 45 52.9	
VYHS	**Vyhne**	**1.71**	**184**	*e*Pn	**Pn**	**19 45 25.5**	**-1.3**
VYHS				*e*Sn	**Sb**	**19 45 50.3**	**+0.2**
VYHS	**Vyhne**	**1.71**	**184**	*e*PN	**Pn**	**19 45 25.5**	**-1.3**
VYHS				*e*SN	**Sb**	**19 45 50.3**	**+0.2**
VYHS				*e*LG	Lg	19 45 55.5	
DPC	**Dobruska-Polom**	**1.74**	**276**	*e*PG	**Pn**	**19 45 26.6**	**-0.7**
DPC				*e*SG	**Sn**	**19 45 50.2**	**0.0**
	7.6nm,0.5s						
DPC	**Dobruska-Polom**	**1.74**	**276**	Pg	**Pn**	**19 45 26.6**	**-0.7**
DPC				Sg	**Sn**	**19 45 50.2**	**0.0**
	7.6nm,0.5s						
VRAC	**Vranov**	**1.82**	**241**	*e*Pn	**Pn**	**19 45 28.3**	**+0.1**
VRAC				*e*Sg	**Sn**	**19 45 52.1**	**+0.2**
KSP	**Ksiaz**	**1.86**	**291**	*e*Pg	**Pg**	**19 45 30.9**	**-0.4**
KSP				*e*Sg	**Sg**	**19 45 55.7**	**+0.3**
KSP	**Ksiaz**	**1.86**	**291**	*e*Pg	**Pg**	**19 45 30.9**	**-0.4**
KSP				*e*Sg	**Sg**	**19 45 55.7**	**+0.3**
UPC	**Upice**	**1.96**	**280**	*e*SG	**Sb**	**19 45 57.6**	**+0.4**
	4.6nm,0.5s						
UPC	**Upice**	**1.96**	**280**	Sg	**Sb**	**19 45 57.6**	**+0.4**
	4.6nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.75**	**266**	*e*PG	**Pb**	**19 45 44.7**	**-1.0**
GOPC				*e*SG	**Sb**	**19 46 21.4**	**+1.4**
	2.9nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.75**	**266**	Sg	**Sb**	**19 46 21.4**	**+1.4**
	2.9nm,0.3s						
PVCC	**Panska Ves**	**2.88**	**278**	*e*SG	**Sg**	**19 46 26.6**	**-1.4**
	5.3nm,0.4s						
PVCC	**Panska Ves**	**2.88**	**278**	Sg	**Sg**	**19 46 26.6**	**-1.4**
	5.3nm,0.4s						
PRU	**Pruhonice**	**2.90**	**267**	*e*SG	**Sb**	**19 46 25.6**	**+1.4**
	2.3nm,0.4s						
PRU	**Pruhonice**	**2.90**	**267**	Sg	**Sb**	**19 46 25.6**	**+1.4**
	2.3nm,0.4s						
KHC	**Kasperske Hory**	**3.70**	**255**	*e*PN	**Pn**	**19 45 54.1**	**0.0**
KHC				*ex*	x	19 46 01.0	
KHC				*e*PG	**Pb**	**19 46 02.9**	**+1.0**
KHC				*e*SG	**Sb**	**19 46 49.6**	**+2.3**
	3.3nm,0.4s						
KHC	**Kasperske Hory**	**3.70**	**255**	Pn	**Pn**	**19 45 54.1**	**0.0**

IDC 10 19:53:11.2±1.8,0.88N×124.05E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/38,mbtmpb3.3/3,Error ellipse: s-maj=200.8km s-min=26.0km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.02**	**155**	P	P	19 58 18.8	+0.7
	0.6nm,0.4s,baz=333,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.21**	**159**	P	P	19 58 47.2	-0.7
	0.2nm,0.8s,baz=331,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**58.43**	**328**	P	P	20 03 08.9	+0.1
	0.2nm,0.4s,baz=131,slow=8.8,SNR=4.5						

PRU 10 19:53:42.1,49.79N×18.49E,h0km,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.23**	**282**	*e*PG	Pg	19 53 46.4	0.0
OKC				*e*SG	Sg	19 53 49.5	+0.1
	5.0nm,0.3s						

*CSEM **10** 19:54:01.9±0.2,51.52N×6.42E,h1km,ML2.7/13, Error ellipse: s-maj=4.8km s-min=3.2km az=127.0*
*LDG **10** 19:54:01.7±0.2,51.60N×6.51E,h1km,Md3.0/2,Ml2.8/9, Error ellipse: s-maj=3.9km s-min=2.7km az=2.0, Suspected Mining induced.*
*ISCJB **10** 19:54:01.0±0.4,51.51N±0.02×6.38E±0.04,h0km, Error ellipse: s-maj=3.9km s-min=2.5km az=34.2*
*BNS **10** 19:54:02.9±1.1,51.53N×6.53E,h1km,ML1.8*
*BGR **10** 19:54:03.3±0.3,51.51N×6.51E,h1km,ML2.2/8, Error ellipse: s-maj=5.6km s-min=2.2km az=119.0*
*BUG **10** 19:54:03.2,51.47N×6.58E,h1km,ML1.8*
BUG Felt III EMS.
*STR **10** 19:54:09.3±0.7,51.25N×7.95E,h10km,Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 10 19:54:01.0±0.8,51.52N±0.02×6.41E±0.02,h0km,n80, σ0.97/129,1C,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAUG	**Laupendahl**	**0.38**	**117**	*e*Pg	**Pg**	**19 54 08.9**	**+0.7**
LAUG				*e*Sg	**Sg**	**19 54 13.6**	**+0.5**
	95nm,0.6s						
LAUG	**Laupendahl**	**0.38**	**117**	Pg	**Pg**	**19 54 08.9**	**+0.7**
LAUG				Sg	**Sg**	**19 54 13.6**	**+0.5**
	95nm,0.6s						
HES	**Velbert-Hesper**	**0.42**	**111**	*e*Pg	**Pg**	**19 54 09.1**	**-0.1**
HES	**Velbert-Hesper**	**0.42**	**111**	Pg	**Pg**	**19 54 09.1**	**-0.1**
RWB	**Wassenberg**	**0.45**	**201**	*e*Sg	**Sb**	**19 54 18.7**	**-0.3**
	113nm,0.2s						
RWB	**Wassenberg**	**0.45**	**201**	Sg	**Sb**	**19 54 18.7**	**-0.3**
	113nm,0.2s						
WTSB	**Winterswijk**	**0.51**	**28**	*e*Pg	**Pb**	**19 54 12.5**	**-0.2**
WTSB				*e*Sg	**Sg**	**19 54 19.1**	**+1.8**
WTSB	**Winterswijk**	**0.51**	**28**	*e*Pg	**Pb**	**19 54 12.6**	**-0.2**
WTSB				*e*Sg	**Sg**	**19 54 19.1**	**+1.8**
WTSB	**Winterswijk**	**0.51**	**28**	Pg	**Pb**	**19 54 12.6**	**-0.2**
WTSB				Sg	**Sg**	**19 54 19.1**	**+1.8**
BUG	**Bochum--Univer**	**0.54**	**98**	*i*Pg	**Pg**	**19 54 12.2**	**+0.8**
BUG				Sg	**Sg**	**19 54 18.9**	**+0.4**
PLH	**Pulheim**	**0.58**	**153**	*e*Pg	**Pg**	**19 54 13.1**	**+1.0**
PLH				*e*Sg	**Sg**	**19 54 20.9**	**+1.3**
	251nm,0.2s						
PLH	**Pulheim**	**0.58**	**153**	Pg	**Pg**	**19 54 13.1**	**+1.0**
PLH				Sg	**Sg**	**19 54 20.9**	**+1.3**
	251nm,0.2s						
GSH	**Grosshau**	**0.79**	**181**	*e*Pg	**Pb**	**19 54 17.8**	**+0.2**
GSH				*e*Sg	**Sb**	**19 54 28.7**	**-0.1**
	26nm,0.2s						
GSH	**Grosshau**	**0.79**	**181**	Pg	**Pb**	**19 54 17.8**	**+0.2**
GSH				Sg	**Sb**	**19 54 28.7**	**-0.1**
	26nm,0.2s						
HOBG	**Hohbusch**	**0.79**	**132**	*e*Pg	**Pb**	**19 54 17.4**	**-0.3**
HOBG	**Hohbusch**	**0.79**	**132**	Pg	**Pb**	**19 54 17.4**	**-0.3**
HGN	**Heimansgroeve**	**0.82**	**202**	*e*Pn	**Pb**	**19 54 18.5**	**+0.5**
HGN				*e*Pg	**Pn**	**19 54 20.0**	**+0.2**
	41nm,0.2s						
HGN				*e*Sn	**Sb**	**19 54 29.7**	**+0.1**
HGN				*e*Sg	**Sn**	**19 54 32.4**	**-0.1**
HGN	**Heimansgroeve**	**0.82**	**202**	*e*Pg	**Pb**	**19 54 18.6**	**+0.5**
HGN				*e*Sg	**Sb**	**19 54 29.9**	**+0.3**
HGN	**Heimansgroeve**	**0.82**	**202**	Pg	**Pb**	**19 54 18.6**	**+0.5**
HGN				Sg	**Sb**	**19 54 29.9**	**+0.3**
BEBN	**Eben Emael**	**0.86**	**213**	P	**Pn**	**19 54 20.1**	**-0.3**
KLL	**Kalltalsperre**	**0.88**	**184**	*e*Pg	**Pb**	**19 54 19.1**	**0.0**
KLL	**Kalltalsperre**	**0.88**	**184**	Pg	**Pb**	**19 54 19.1**	**0.0**
MEM	**Membach**	**0.95**	**196**	P	**Pb**	**19 54 20.8**	**+0.5**
MEM	**Membach**	**0.95**	**196**	*e*Pg	**Pb**	**19 54 20.8**	**+0.5**
MEM				*e*Sg	**Sb**	**19 54 33.6**	**+0.2**
MEM	**Membach**	**0.95**	**196**	Pg	**Pb**	**19 54 20.8**	**+0.5**
MEM				Sg	**Sb**	**19 54 33.6**	**+0.2**
STB	**Steinbach**	**0.97**	**164**	*e*Pg	**Pn**	**19 54 21.5**	**-0.4**
STB				*e*Sg	**Sb**	**19 54 34.7**	**+0.7**
	48nm,0.4s						
STB	**Steinbach**	**0.97**	**164**	Pg	**Pn**	**19 54 21.5**	**-0.4**
STB				Sg	**Sb**	**19 54 34.7**	**+0.7**
	48nm,0.4s						
OLFT	**Oleftalsperre**	**1.03**	**180**	*e*Pg	**Pb**	**19 54 22.1**	**+0.4**
OLFT				*e*Sg	**Sb**	**19 54 36.2**	**+0.4**
OLFT	**Oleftalsperre**	**1.03**	**180**	Pg	**Pb**	**19 54 22.1**	**+0.4**
OLFT				Sg	**Sb**	**19 54 36.2**	**+0.4**
AHRW	**Bad Neuenahr-A**	**1.07**	**157**	*e*Pg	**Pn**	**19 54 23.2**	**0.0**
AHRW				*e*Sg	**Sb**	**19 54 37.7**	**+0.9**
IBBN	**Ibbenburen**	**1.15**	**46**	*e*Pg	**Pn**	**19 54 24.5**	**+0.2**
IBBN				*e*Sg	**Sb**	**19 54 39.7**	**+0.6**
IBBN	**Ibbenburen**	**1.15**	**46**	Pg	**Pn**	**19 54 24.5**	**+0.2**
IBBN				Sg	**Sb**	**19 54 39.7**	**+0.6**
HILG	**Hillesheim**	**1.24**	**172**	*e*Pg	**Pn**	**19 54 26.1**	**+0.4**
HILG	**Hillesheim**	**1.24**	**172**	Pg	**Pn**	**19 54 26.1**	**+0.4**
BCLA	**Clavier**	**1.31**	**213**	P	**Pn**	**19 54 27.9**	**+1.3**
BCLA	**Clavier**	**1.31**	**213**	P	**Pn**	**19 54 27.8**	**+1.3**
KOE	**Koeppel**	**1.38**	**142**	*e*Pg	**Pg**	**19 54 27.7**	**+0.3**
KOE	**Koeppel**	**1.38**	**142**	Pg	**Pg**	**19 54 27.7**	**+0.3**
SNF	**Seneffe**	**1.68**	**234**	P	**Pg**	**19 54 34.0**	**+0.8**
SNF	**Seneffe**	**1.68**	**234**	P	**Pg**	**19 54 34.0**	**+0.8**
ABH	**Alteburg**	**1.79**	**156**	Pn	**Pn**	**19 54 34.2**	**+0.9**
ABH	**Alteburg**	**1.79**	**156**	Pg	**Pg**	**19 54 35.4**	**0.0**
ABH				Sg	**Sn**	**19 54 55.6**	**-1.1**
TNS	**Taunus Mts**	**1.83**	**134**	*e*Pn	**Pb**	**19 54 35.1**	**-0.3**
TNS				*e*Sg	**Sb**	**19 54 59.5**	**+0.6**
TNS	**Taunus Mts**	**1.83**	**134**	Pn	**Pb**

IDC ***10*** *19:56:57.9±1.1, 6.64S×150.13E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.7/34, mbtmp3.9/8, ML1.5/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/34, Error ellipse: s-maj=64.4km s-min=19.1km az=129.0*

ISCJB ***10*** *19:57:01.0±0.5, 6.37S±0.08×149.89E±0.10, h43km, mb4.2/13, MS2.3/1, Error ellipse: s-maj=16.8km s-min=6.6km az=39.1*

NEIC ***10*** *19:57:02.1±0.5, 6.35S×149.89E, h35km, mb4.6/10, Error ellipse: s-maj=17.2km s-min=7.2km az=129.0*

ISC 10 19:57:02.4±0.7, 6.4S±0.1×150.0E±0.1, h43km, n30, σ1§38/30, mb4.3/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.06**	**45**	*e*Pn	**Pn**	**19 57 48.0**	**-0.4**
PMG	**Port Moresby**	**4.12**	**222**	Pn	**Pn**	**19 58 02.9**	**+0.1**
	2.3nm,0.3s,baz=45,slow=8.0,SNR=12						
PMG				Sn	**Sn**	**19 58 51.1**	**+1.3**
	5.3nm,0.3s,baz=23,slow=18,SNR=7.2						
PMG	**Port Moresby**	**4.12**	**222**	*e*Pn	**Pn**	**19 58 04.0**	**+1.1**
PMG				*e*Sn	**Sn**	**19 58 50.5**	**+0.7**
FAKI	**Fak Fak**	**17.99**	**280**	*e*P	**P**	**20 01 07.5**	**-2.2**
	20nm,1.1s						
SAUI	**Saumlaki**	**18.60**	**264**	*e*P	**P**	**20 01 15.4**	**-0.9**
	832nm,1.3s						
WB2	**Warramunga Arr**	**20.31**	**227**	*e*P	**P**	**20 01 33.5**	**-1.6**
WR1	**Warramunga Arr**	**20.32**	**227**	*e*P	**P**	**20 01 34.8**	**-0.3**
	18nm,1.4s						
WRA	**Warramunga Arr**	**20.32**	**227**	P	**P**	**20 01 34.8**	**-0.3**
	3.7nm,0.7s,baz=55,slow=11,SNR=18						
GUMO	**Guam**	**20.46**	**346**	LR	LR	20 08 29.2	
	comp=Z,15nm,21.1s,baz=117,slow=33						
AS01	**Alice Springs**	**23.10**	**220**	*e*P	**P**	**20 02 04.2**	**-0.6**
AS31	**Alice Springs**	**23.13**	**220**	*e*P	**P**	**20 02 03.6**	**-1.5**
	1.3nm,0.9s						
ASAR	**Alice Springs**	**23.13**	**220**	P	**P**	**20 02 04.0**	**-1.0**
	0.8nm,0.7s,baz=55,slow=8.2,SNR=8.5						
SARN	**Sarigan**	**23.29**	**357**	*e*P	**P**	**20 02 05.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**26.45**	**242**	P	**P**	**20 02 36.6**	**+1.0**
	4.6nm,0.9s,baz=78,slow=15,SNR=3.9						
FITZ	**Fitzroy Crossi**	**26.45**	**242**	*e*P	**P**	**20 02 37.0**	**+1.3**
	20nm,1.5s						
STKA	**Stephens Creek**	**26.57**	**196**	P	**P**	**20 02 35.2**	**-1.3**
	1.2nm,0.7s,baz=15,slow=17,SNR=2.8						
STKA	**Stephens Creek**	**26.57**	**196**	*e*P	**P**	**20 02 35.5**	**-1.0**
	4.9nm,1.9s						
MBWA	**Marble Bar**	**32.76**	**240**	*e*P	**P**	**20 03 32.0**	**+0.4**
	50nm,1.5s						
CM01	**Chiang Mai Arr**	**56.01**	**297**	*e*P	**P**	**20 06 37.3**	**+0.1**
PALK	**Pallekele**	**70.42**	**280**	*e*P	**P**	**20 08 13.3**	**+0.4**
	84nm,1.7s						
KTH	**Kantishna Hill**	**82.52**	**23**	*e*P	**P**	**20 09 21.0**	**+0.5**
	24nm,2.0s						
SML	**Sawmill**	**82.70**	**25**	*e*P	**P**	**20 09 21.7**	**+0.3**
	6.6nm,1.1s						
QSPA	**South Pole Qui**	**83.61**	**180**	*e*P	**P**	**20 09 23.4**	**-2.8**
MDM	**Murphy Dome**	**84.24**	**22**	*e*P	**P**	**20 09 29.0**	**-0.3**
	2.6nm,0.8s						
CCB	**Clear Creek Bu**	**84.25**	**23**	*e*P	**P**	**20 09 29.6**	**+0.3**
	9.6nm,2.0s						
IL1	**Eielson Array**	**84.66**	**23**	*e*P	**P**	**20 09 32.4**	**+1.1**
ILAR	**Eielson Array**	**84.66**	**23**	P	**P**	**20 09 33.5**	**+2.1**
	0.6nm,0.8s,baz=254,slow=5.5,SNR=7.1						
NVAR	**Mina Array Bea**	**95.25**	**52**	P	**P**	**20 10 26.2**	**+3.9**
	0.1nm,0.3s,baz=260,slow=8.1,SNR=2.7						
YKA	**Yellowknife Ar**	**98.11**	**28**	P	Pdif	20 10 36.2	+1.8
	0.4nm,0.7s,baz=273,slow=2.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.04**	**285**	PKPbc	**PKPab**	**20 16 46.9**	**-0.3**
	0.2nm,0.3s,baz=83,slow=2.7,SNR=3.5						

IDC 10 19:59:51.8±2.0, 6.72S×150.67E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/31, mbtmp3.8/5, ML1.7/1, Error ellipse: s-maj=93.3km s-min=26.9km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.39**	**232**	Pn	Pn	20 01 00.3	+0.6
	3.2nm,0.3s,baz=47,slow=20,SNR=6.7						
PMG				Sn	Sn	20 01 48.1	-3.4
	7.0nm,0.3s,baz=143,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**20.60**	**229**	P	P	20 04 32.5	-0.1
	3.1nm,0.7s,baz=55,slow=11,SNR=15						
ASAR	**Alice Springs**	**23.32**	**222**	P	P	20 05 01.1	-0.5
	1.8nm,1.0s,baz=54,slow=9.2,SNR=14						
FITZ	**Fitzroy Crossi**	**26.90**	**243**	P	P	20 05 34.1	-0.6
	5.5nm,1.2s,baz=56,slow=12,SNR=4.8						
ILAR	**Eielson Array**	**84.73**	**22**	P	P	20 12 27.0	-0.4
	0.2nm,0.6s,baz=238,slow=5.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**148.81**	**284**	PKPbc	PKPbc	20 19 43.0	+0.6
	0.4nm,0.4s,baz=79,slow=2.8,SNR=5.6						

CASC 10 20:11:39.1±1.7, 8.60N×83.23W, h8km±17km, MD3.7, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QCR	**Quepos**	**1.23**	**312**	*e*P	Pn	20 12 01.2	-1.5
QCR				*e*S	Sb	20 12 17.8	-0.9
URSC	**Urasca**	**1.34**	**336**	*i*P	Pn	20 12 02.5	-1.9
CGA2	**Cerro Gallo 2**	**1.86**	**319**	*e*P	Pb	20 12 12.5	-0.9
CGA2				*e*S	Sn	20 12 35.7	+0.4

ISCJB ***10*** *20:13:00.7±0.6, 36.98N±0.05×28.27E±0.04, h9km±7km, Error ellipse: s-maj=8.6km s-min=4.6km az=30.5*

ISK ***10*** *20:13:00.8, 36.98N×28.24E, h7km, MD2.6*

DDA ***10*** *20:13:01.0, 36.97N×28.26E, h7km, Md2.5*

CSEM ***10*** *20:13:01.2±0.2, 36.99N×28.25E, h10km, MD2.6, Error ellipse: s-maj=6.2km s-min=3.4km az=27.0*

ISC 10 20:13:00.7±1.2, 36.95N±0.04×28.26E±0.03, h5km±14km, n19, σ0§51/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.18**	**6**	*e*PG	**Pg**	**20 13 04.4**	**+0.1**
YER				*e*SG	**Sg**	**20 13 07.4**	**+0.6**
YER	**Yerkesik**	**0.18**	**6**	*e*Pg	**Pg**	**20 13 04.4**	**+0.1**
YER				*e*Sg	**Sg**	**20 13 07.4**	**+0.6**
TURN	**Turunc**	**0.29**	**106**	*i*P	**Pg**	**20 13 05.1**	**-1.2**
TURN				*i*S	**Sg**	**20 13 08.7**	**-1.3**
DALY	**Dalyan (Mu¨la**	**0.34**	**113**	*e*PG	**Pg**	**20 13 07.8**	**+0.5**
DALY				*e*SG	**Sb**	**20 13 14.8**	**-0.2**
DALY	**Dalyan (Mu¨la**	**0.34**	**113**	*e*Pg	**Pg**	**20 13 07.8**	**+0.5**
DALY				*e*Sg	**Sb**	**20 13 14.8**	**-0.2**
BDRM	**Kayabasi**	**0.66**	**280**	P	**Pg**	**20 13 13.4**	**0.0**
BDRM				S	**Sb**	**20 13 24.1**	**-0.1**
BDRM	**Kayabasi**	**0.66**	**280**	*i*P	**Pg**	**20 13 13.4**	**0.0**
BDRM				*i*S	**Sb**	**20 13 24.1**	**-0.1**
FETY	**Fethiye**	**0.73**	**115**	*e*PG	**Pb**	**20 13 16.2**	**+0.2**
FETY	**Fethiye**	**0.73**	**115**	*e*Pg	**Pb**	**20 13 16.2**	**+0.2**
BODT	**Bodrum**	**0.77**	**279**	*e*PG	**Pg**	**20 13 15.7**	**+0.3**
BODT	**Bodrum**	**0.77**	**279**	*e*Pg	**Pg**	**20 13 15.7**	**+0.3**
AYDN	**Tasoluk**	**0.77**	**337**	P	**Pg**	**20 13 15.2**	**-0.3**
AYDN				S	**Sg**	**20 13 25.0**	**-0.4**
AYDN	**Tasoluk**	**0.77**	**337**	*i*P	**Pg**	**20 13 15.2**	**-0.3**
AYDN				*i*S	**Sg**	**20 13 25.0**	**-0.4**
GLHS	**Glhisar (BURDU**	**1.01**	**78**	*e*PG	**Pg**	**20 13 20.3**	**+0.2**
GLHS	**Glhisar (BURDU**	**1.01**	**78**	*e*Pg	**Pg**	**20 13 20.3**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**344**	*e*PG	**Pb**	**20 13 21.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**344**	*e*Pg	**Pb**	**20 13 21.2**	**0.0**
ELL	**Elmali**	**1.34**	**98**	*e*PN	**Pg**	**20 13 27.0**	**+0.7**
ELL	**Elmali**	**1.34**	**98**	*e*Pn	**Pg**	**20 13 27.0**	**+0.7**

IDC 10 20:14:15.5±7.3, 5.69S×152.18E, h52km±59km, mb3.0/3, mb1 3.4/4, mb1mx3.1/37, mbtmp3.4/4, ML1.4/1, Error ellipse: s-maj=113.5km s-min=37.0km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.20**	**233**	P	Pn	20 15 44.3	-0.2
	0.5nm,0.3s,baz=85,slow=5.2,SNR=2.5						
PMG				S	Sn	20 16 54.8	+0.8
	1.3nm,0.3s,baz=59,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**22.40**	**229**	P	P	20 19 10.0	+0.2
	0.5nm,0.6s,baz=55,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**25.08**	**223**	P	P	20 19 35.8	+0.4
	0.5nm,0.7s,baz=63,slow=8.6,SNR=8.8						
ILAR	**Eielson Array**	**83.21**	**22**	P	P	20 26 36.9	+0.9
	0.3nm,0.7s,baz=243,slow=4.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.98**	**286**	PKPbc	PKPbc	20 33 59.4	-1.9
	0.2nm,0.5s,baz=96,slow=1.4,SNR=3.8						

NEIC ***10*** *20:22:38.8±0.4, 17.29S×173.20W, h10km, mb5.3/23, Error ellipse: s-maj=17.8km s-min=7.2km az=122.0*

IDC ***10*** *20:22:38.4±1.4, 17.32S×173.24W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/26, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=57.1km s-min=22.4km az=131.0*

ISCJB ***10*** *20:22:40.7±0.3, 17.31S±0.07×173.2W±0.1, h35km, mb5.0/31, Error ellipse: s-maj=16.3km s-min=6.8km az=32.5*

ISC 10 20:22:42.7±0.8, 17.2S±0.1×173.2W±0.2, h35km, n38, σ1§80/40, mb5.2/31, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.50**	**23**	Pn	**Pn**	**20 23 36.2**	**+1.4**
	1.8nm,0.3s,baz=252,slow=20,SNR=2.1						
AFI				Sn	**Sn**	**20 24 11.6**	**-3.5**
	6.8nm,0.3s,baz=333,slow=23,SNR=4.3						
AFI	**Afiamalu**	**3.50**	**23**	*e*Pn	**Pn**	**20 23 31.9**	**-2.8**
AFI				*e*Sn	**Sn**	**20 24 11.6**	**-3.5**
URZ	**Urewera**	**22.68**	**200**	P	**P**	**20 27 39.9**	**-1.1**
	8.1nm,0.9s,baz=102,slow=21,SNR=3.4						
BKZ	**Black Stump Fm**	**23.70**	**200**	*e*P	**P**	**20 27 49.3**	**-2.1**
	80nm,1.8s						
BFZ	**Birch Farm**	**25.16**	**199**	*e*P	**P**	**20 28 00.7**	**-4.0**
	191nm,1.9s						
SNZO	**South Karori**	**26.23**	**201**	*e*P	**P**	**20 28 13.1**	**-1.2**
	166nm,1.5s						
KHZ	**Kahutara**	**27.61**	**202**	*e*P	**P**	**20 28 25.0**	**-1.7**
	55nm,1.4s						
RPZ	**Rata Peaks**	**29.65**	**203**	*e*P	**P**	**20 28 43.7**	**-1.2**
	167nm,1.8s						
WHZ	**Wether Hill Ro**	**32.68**	**205**	*e*P	**P**	**20 29 10.5**	**-1.0**
	192nm,1.9s						
PYZ	**Puysegur Point**	**33.42**	**206**	*e*P	**P**	**20 29 15.8**	**-2.2**
	76nm,1.1s						
JOHN	**Johnston Islan**	**33.88**	**6**	*e*P	**P**	**20 29 21.3**	**-0.8**
	193nm,0.9s						
KKH	**Kailua Kona**	**40.28**	**25**	*e*P	**P**	**20 30 18.0**	**+1.4**
HPAH	**Hawaii Prepara**	**40.75**	**26**	*e*P	**P**	**20 30 20.2**	**-0.3**
	266nm,1.7s						
MIDW	**Midway**	**45.30**	**355**	*e*P	**P**	**20 30 58.4**	**+1.3**
	24nm,0.8s						
WB2	**Warramunga Arr**	**49.67**	**258**	*e*P	**P**	**20 31 29.3**	**-2.2**
	43nm,1.9s						
WR1	**Warramunga Arr**	**49.69**	**258**	*e*P	**P**	**20 31 31.5**	**0.0**
	29nm,1.6s						
WRA	**Warramunga Arr**	**49.69**	**258**	P	**P**	**20 31 31.5**	**0.0**
	0.5nm,0.6s,baz=95,slow=8.4,SNR=7.6						
AS01	**Alice Springs**	**49.76**	**253**	*e*P	**P**	**20 31 30.8**	**-1.3**
AS31	**Alice Springs**	**49.80**	**253**	*e*P	**P**	**20 31 32.2**	**-0.3**
	1.4nm,1.1s						
ASAR	**Alice Springs**	**49.80**	**253**	P	**P**	**20 31 32.4**	**-0.1**
	2.1nm,0.7s,baz=88,slow=8.4,SNR=29						
FAKI	**Fak Fak**	**55.38**	**278**	*e*P	**P**	**20 32 13.6**	**-0.2**
	39nm,1.3s						
NIKH	**Nikolski High**	**69.95**	**3**	*e*P	**P**	**20 33 53.1**	**+3.0**
	117nm,1.2s						
SAO	**San Andreas Ge**	**72.49**	**41**	*e*P	**P**	**20 34 06.4**	**+0.5**
	34nm,1.4s						
PMPB	**Monarch Peak**	**72.57**	**42**	*e*P	**P**	**20 34 06.2**	**-0.3**
	68nm,1.7s						
PAGB	**Antelope Grade**	**72.63**	**43**	*e*P	**P**	**20 34 09.2**	**+2.4**
	29nm,1.6s						
MWC	**Mount Wilson**	**73.21**	**45**	*e*P	**P**	**20 34 12.2**	**+1.8**
	22nm,1.6s						
KMRM	**Mail Ridge**	**73.31**	**37**	*e*P	**P**	**20 34 11.6**	**+0.8**
	90nm,1.7s						
KHMM	**Horse Mountain**	**73.73**	**37**	*e*P	**P**	**20 34 14.9**	**+1.6**
	37nm,1.4s						
PET	**Petropavlovsk**	**74.03**	**343**	*e*P	**P**	**20 34 14.6**	**0.0**
	76nm,2.0s						
CHGN	**Chignik**	**74.23**	**8**	*e*P	**P**	**20 34 16.6**	**+1.0**
MGL	**Magalia**	**74.32**	**39**	*e*P	**P**	**20 34 16.2**	**-0.5**
NVAR	**Mina Array Bea**	**75.49**	**42**	P	**P**	**20 34 25.2**	**+1.5**
	0.3nm,0.7s,baz=224,slow=7.5,SNR=3.0						
TPNV	**Topopah Spring**	**75.97**	**44**	*e*P	**P**	**20 34 25.2**	**-1.2**
	4.4nm,0.8s						
Y14A	**Wickenburg**	**76.56**	**48**	*e*P	**P**	**20 34 30.6**	**+1.0**
	20nm,1.4s						
TUC	**Tucson**	**77.33**	**50**	*e*P	**P**	**20 34 35.3**	**+1.2**
	2.9nm,1.1s						
HOM	**Homer**	**78.53**	**11**	*e*P	**P**	**20 34 38.5**	**-1.5**
	689nm,0.2s						
SPU	**Mount Spurr**	**79.89**	**10**	*e*P	**P**	**20 34 49.1**	**+1.6**
ILAR	**Eielson Array**	**84.13**	**11**	P	**P**	**20 35 12.4**	**+2.8**
	0.2nm,0.7s,baz=211,slow=5.1,SNR=2.6						

GUC 10 20:24:50.0±0.4, 35.27S×72.47W, h30km±5km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.69**	**101**	*e*P	Pn	20 25 04.0	+0.3
TALC				*e*S	Sn	20 25 14.1	+0.6
COCH	**Cobquecura**	**0.90**	**197**	*e*P	Pb	20 25 06.9	-0.2
COCH				*e*S	Sb	20 25 19.9	+1.2
COCH				IAML		20 25 21.5	
	comp=E,2μm,0.5s						
CHPI	**Pichilemu**	**0.96**	**24**	*e*P	Pb	20 25 07.9	-0.1
CHPI				*e*S	Sb	20 25 21.6	+1.2
CCHI	**Chillan**	**1.37**	**167**	*e*P	Pb	20 25 14.5	-0.4
CCHI				*e*S	Sb	20 25 33.2	+1.1
CCHI				IAML		20 25 36.6	
	comp=E,3μm,0.4s						

MEX 10 20:28:17.8±0.4, 16.16N×98.53W, h3km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.45**	**59**	*i*P	Pg	20 28 26.0	-0.4
PNIG				*e*S	Sg	20 28 32.8	+0.6
ACX	**Acapulco**	**1.46**	**299**	*e*P	Pg	20 28 47.6	+1.8
ACX				*i*S	Sn	20 29 05.7	+1.0
CAIG	**El Cayaco**	**1.89**	**298**	*e*P	Pn	20 28 43.2	-7.7
VHO	**Vista Hermosa**	**1.94**	**62**	*i*P	Pn	20 28 48.7	-3.2
VHO				*i*S	Sn	20 29 13.4	-3.6

IDC ***10*** *20:40:39.6±2.5, 38.65N×143.51E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/46, mbtmp3.4/5, ML2.8/1, MS2.5/2, Ms1 2.5/2, ms1mx2.2/28, Error ellipse: s-maj=67.6km s-min=28.8km az=63.0*

ISCJB ***10*** *20:40:43.8±1.9, 38.48N±0.07×142.82E±0.09, h25km±13km, mb3.5/4, Error ellipse: s-maj=13.2km s-min=10.5km az=140.3*

JMA ***10*** *20:40:44.3±0.3, 38.48N×142.81E, h31km, M3.0*

ISC 10 20:40:44.9±1.7, 38.51N±0.07×142.8E±0.2, h21km±7km, n21, σ0§63/18, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.01**	**304**	P	**Pn**	**20 41 03.4**	**-0.5**
OFUJ				*e*S	**Sb**	**20 41 16.7**	**0.0**
JIO	**Ouri**	**1.10**	**267**	P	**Pn**	**20 41 04.4**	**-0.6**
JIO				*e*S	**Sb**	**20 41 19.7**	**+0.7**
JMK	**Ichinoseki**	**1.27**	**291**	P	**Pn**	**20 41 07.4**	**0.0**
JMK				*e*S	**Sb**	**20 41 24.7**	**+0.7**
JOM	**Ohasama**	**1.48**	**311**	P	**Pn**	**20 41 10.2**	**-0.2**
JOM				*e*S	**Sn**	**20 41 28.4**	**-0.8**
JOU	**Okura**	**1.64**	**266**	P	**Pn**	**20 41 12.3**	**-0.3**
JMM	**Marumori**	**1.67**	**248**	P	**Pn**	**20 41 13.0**	**+0.1**
JMM				*e*S	**Sn**	**20 41 33.2**	**-0.4**
JRG	**Rokugo**	**1.87**	**299**	P	**Pb**	**20 41 17.9**	**-0.4**
JFK	**Kawauchi**	**1.87**	**233**	P	**Pn**	**20 41 15.3**	**-0.4**
JYK	**Kaneyama**	**1.91**	**283**	P	**Pn**	**20 41 16.0**	**-0.2**
MJAR	**Matsushiro Arr**	**4.11**	**243**	Pn	Pn	20 41 51.6	+5.1
	0.5nm,0.3s,baz=68,slow=11,SNR=6.1						
MJAR				LR	LR	20 43 39.8	
	comp=Z,39nm,18.3s,baz=75,slow=38						
PETK	**Petropavlovsk-**	**17.88**	**30**	LR	LR	20 51 35.4	
	comp=Z,18nm,20.0s,baz=14,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.06**	**125**	T	T	21 15 43.6	
	baz=318,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**28.07**	**125**	T	T	21 15 43.6	
	baz=318,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**28.08**	**125**	T	T	21 15 45.1	
	baz=318,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**28.84**	**127**	T	T	21 16 42.5	
	baz=319,slow=76,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**28.84**	**127**	T	T	21 16 42.5	
	baz=319,slow=76,SNR=9.0						
H11S2	**WAKE ISLAND Hy**	**28.86**	**127**	T	T	21 16 43.1	
	baz=319,slow=76,SNR=7.1						
MKAR	**Makanchi Array**	**44.25**	**301**	P	**P**	**20 48 53.7**	**+1.0**
	0.1nm,0.2s,baz=77,slow=9.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**45.94**	**307**	P	**P**	**20 49 07.2**	**+1.1**
	0.3nm,0.5s,baz=84,slow=8.2,SNR=3.0						
WRA	**Warramunga Arr**	**58.68**	**189**	P	**P**	**20 50 40.2**	**-0.6**
	0.4nm,0.5s,baz=8.4,slow=7.1,SNR=6.5						
ASAR	**Alice Springs**	**62.40**	**189**	P	**P**	**20 51 06.1**	**-0.1**
	0.3nm,0.7s,baz=21,slow=8.0,SNR=3.8						

GUC 10 20:42:45.9±0.5, 34.47S×70.77W, h108km±4km, ML4.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJCH	**San Jose de Ma**	**0.90**	**22**	*e*P	Pn	20 43 06.0	-0.1
SJCH				*e*S	Sn	20 43 21.2	0.0
ANTU	**Antumapu**	**0.91**	**7**	*e*P	Pn	20 43 05.9	-0.2
ANTU				*e*S	Sn	20 43 20.9	-0.4
ANTU				IAML		20 43 22.4	
	comp=N,5μm,0.2s						
RCDM	**Rinconada Maip**	**0.98**	**358**	*e*P	Pn	20 43 06.6	-0.2
RCDM				*e*S	Sn	20 43 22.1	-0.5
RCDM				IAML		20 43 22.5	
	comp=E,8μm,0.4s						
CHPI	**Pichilemu**	**1.03**	**274**	*e*P	Pn	20 43 07.3	+0.1
CHPI				*e*S	Sn	20 43 22.9	-0.3
CLCH	**Cerro Calan**	**1.09**	**10**	*e*P	Pn	20 43 08.0	0.0
CLCH				*e*S	Sn	20 43 24.4	-0.2
CLCH				IAML		20 43 25.2	
	comp=N,4μm,0.8s						
TALC	**Talca**	**1.17**	**217**	*e*S	Sn	20 43 25.5	-0.5
FCH	**Farellones**	**1.21**	**19**	*e*P	Pn	20 43 09.6	0.0
FCH				*e*S	Sn	20 43 26.9	-0.5
FCH				IAML		20 43 28.8	
	comp=N,5μm,0.2s						
PEL	**Peldehue**	**1.33**	**3**	*e*P	Pn	20 43 10.7	0.0
PEL				*e*S	Sn	20 43 29.2	-0.2
PEL				IAML		20 43 30.5	
	comp=N,2μm,0.5s						
ROCH	**El Roble**	**1.51**	**352**	*e*P	Pn	20 43 12.9	-0.1
ROCH				*e*S	Sn	20 43 32.8	-0.7

DDA ***10*** *21:13:24.8, 39.13N×28.99E, h7km, Ml3.0*

ISK ***10*** *21:13:24.9, 39.14N×28.97E, h5km, MD3.0*

ISCJB ***10*** *21:13:25.4±0.3, 39.13N±0.03×28.98E±0.03, h9km, Error ellipse: s-maj=4.3km s-min=3.7km az=148.5*

CSEM ***10*** *21:13:25.1±0.1, 39.14N×28.99E, h2km, ML3.0, Error ellipse: s-maj=1.7km s-min=1.6km az=128.0*

ISC 10 21:13:25.9±0.8, 39.15N±0.02×28.98E±0.02, h9km, n74, σ1§09/78, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**243**	P	**Pg**	**21 13 30.0**	**-0.6**
DEMI				S	**Sg**	**21 13 33.3**	**-0.5**
DEMI	**Demirci**	**0.23**	**243**	*i*P	**Pg**	**21 13 30.0**	**-0.6**
DEMI				*i*S	**Sg**	**21 13 33.3**	**-0.5**
GEDZ	**Gediz**	**0.35**	**107**	*e*PG	**Pg**	**21 13 31.9**	**-0.9**
GEDZ	**Gediz**	**0.35**	**107**	*e*Pg	**Pg**	**21 13 31.9**	**-0.9**
GDZ	**Gediz**	**0.39**	**98**	P	**Pg**	**21 13 32.6**	**-1.0**
GDZ	**Gediz**	**0.39**	**98**	*i*P	**Pg**	**21 13 32.6**	**-1.0**
TVSB	**Tavsanli**	**0.48**	**51**	*e*PG	**Pg**	**21 13 34.4**	**-0.8**
TVSB	**Tavsanli**	**0.48**	**51**	*e*Pg	**Pg**	**21 13 34.4**	**-0.8**
DST	**Dursunbey**	**0.54**	**329**	*e*PG	**Pg**	**21 13 35.8**	**-0.5**
DST	**Dursunbey**	**0.54**	**329**	*e*Pg	**Pg**	**21 13 35.8**	**-0.5**
KULA	**Kula-Manisa**	**0.68**	**202**	*e*PG	**Pg**	**21 13 37.8**	**-1.2**
KULA	**Kula-Manisa**	**0.68**	**202**	*e*Pg	**Pg**	**21 13 37.8**	**-1.2**
MANT	**Manisa**	**0.73**	**207**	P	**Pg**	**21 13 38.8**	**-1.3**
MANT	**Manisa**	**0.73**	**207**	*i*P	**Pg**	**21 13 38.8**	**-1.3**
KHL	**Karahalli**	**0.93**	**153**	*e*PG	**Pg**	**21 13 43.0**	**-0.7**
KHL	**Karahalli**	**0.93**	**153**	*e*Pg	**Pg**	**21 13 43.0**	**-0.7**
AKS	**Akhisar**	**0.95**	**254**	*e*PG	**Pg**	**21 13 43.2**	**-0.9**
AKS	**Akhisar**	**0.95**	**254**	*e*Pg	**Pg**	**21 13 43.2**	**-0.9**
BALB	**Balikesir**	**0.98**	**300**	*e*PG	**Pg**	**21 13 44.6**	**-0.2**
BALB				*e*SG	**Sb**	**21 13 58.1**	**-0.1**
BALB	**Balikesir**	**0.98**	**300**	*e*Pg	**Pg**	**21 13 44.6**	**-0.2**
BALB				*e*Sg	**Sb**	**21 13 58.1**	**-0.1**
IGD	**Bursa**	**1.13**	**9**	*i*P	**Pb**	**21 13 45.7**	**-1.8**
BALY	**Balya**	**1.21**	**300**	P	**Pn**	**21 13 48.7**	**-0.3**
BALY	**Balya**	**1.21**	**300**	*i*P	**Pn**	**21 13 48.7**	**-0.3**
KCTX	**Karacabey (Bur**	**1.22**	**337**	*e*PN	**Pn**	**21 13 48.8**	**-0.3

	comp=Z,62nm,19.0s,baz=81,slow=30							
PMSA				Lg	Lg	21 16 28.8		
	35nm,0.3s,baz=289,slow=17,SNR=14							
USHA	**Ushuaia**	**8.91**	**322**	LR	LR	21 19 44.6		
	comp=Z,3μm,21.2s,baz=102,slow=34							
VNA1	**Neumayer--Stat**	**21.26**	**135**	P	**P**	**21 19 29.2**	**+5.0**	
PLCA	**Paso Flores**	**22.63**	**337**	LR	LR	21 28 47.4		
	comp=Z,199nm,19.6s,baz=178,slow=38							
SNAA	**Sanae**	**22.96**	**138**	P	**P**	**21 19 45.7**	**+3.2**	
SNAA	**Sanae**	**22.96**	**138**	*e*P	**P**	**21 19 39.8**	**-2.7**	
	2μm,1.2s							
QSPA	**South Pole Qui**	**28.01**	**180**	*e*P	**P**	**21 20 29.6**	**+0.4**	
	28nm,0.9s							
CPUP	**Villa Florida**	**35.90**	**2**	P	**P**	**21 21 38.6**	**+0.2**	
	2.8nm,1.1s,baz=188,slow=20,SNR=2.2							
CPUP				LR	LR	21 36 47.2		
	comp=Z,46nm,19.0s,baz=168,slow=37							
VNDA	**Vanda**	**38.27**	**193**	LR	LR	21 36 44.4		
	comp=Z,58nm,21.1s,baz=146,slow=35							
MAW	**Mawson**	**43.83**	**152**	P	**P**	**21 22 42.3**	**-1.5**	
	1.5nm,0.8s,baz=298,slow=15,SNR=2.5							
MAW				LR	LR	21 40 54.4		
	comp=Z,156nm,18.4s,baz=240,slow=36							
LPAZ	**La Paz**	**46.34**	**348**	P	**P**	**21 23 06.7**	**+1.6**	
	1.0nm,0.7s,baz=178,slow=6.3,SNR=2.4							
LPAZ				LR	LR	21 44 45.9		
	comp=Z,68nm,18.4s,baz=164,slow=39							
BDFB	**Brasilia**	**47.16**	**14**	P	**P**	**21 23 11.2**	**+0.3**	
	2.6nm,0.7s,baz=129,slow=7.8,SNR=3.0							
BDFB				LR	LR	21 44 08.0		
	comp=Z,23nm,18.5s,baz=214,slow=38							
BOSA	**Boshof**	**62.43**	**99**	P	**P**	**21 25 02.6**	**+1.1**	
	6.2nm,1.0s,baz=125,slow=6.0,SNR=4.8							
BOSA				LR	LR	21 45 24.0		
	comp=Z,12nm,21.3s,baz=194,slow=30							
H10N3	**ASCENSION HYDR**	**63.17**	**51**	T	T	22 33 37.6		
	baz=201,slow=75,SNR=8.7							
H10N1	**ASCENSION HYDR**	**63.17**	**51**	T	T	22 33 37.5		
	baz=201,slow=75,SNR=6.4							
H10N2	**ASCENSION HYDR**	**63.18**	**51**	T	T	22 33 38.9		
	baz=201,slow=75,SNR=7.8							
OTAV	**Otavalo**	**64.03**	**338**	*e*P	**P**	**21 25 12.3**	**-0.2**	
	2.3nm,0.8s							
LBTB	**Lobatse**	**65.66**	**98**	P	**P**	**21 25 23.2**	**+0.5**	
	3.9nm,0.9s,baz=228,slow=10,SNR=3.1							
URZ	**Urewera**	**70.21**	**224**	*e*P	**P**	**21 25 50.1**	**-0.9**	
	6.4nm,1.1s							
DBIC	**Dimbokro**	**80.14**	**55**	LR	LR	21 55 34.3		
	comp=Z,15nm,18.3s,baz=126,slow=31							
TORD	**Torodi Ar. Bea**	**88.60**	**58**	P	**P**	**21 27 29.4**	**-1.9**	
	1.4nm,1.1s,baz=237,slow=5.1,SNR=4.1							
ASAR	**Alice Springs**	**93.80**	**192**	P	**P**	**21 27 55.9**	**+0.3**	
	1.0nm,1.0s,baz=185,slow=5.6,SNR=4.0							
TXAR	**Lajitas Array**	**98.05**	**322**	LR	LR	22 05 50.5		
	comp=Z,8.9nm,20.6s,baz=0.0,slow=31							
GERES	**GERESS Array B**	**124.80**	**50**	PKP	**PKPdf**	**21 33 36.9**	**-0.3**	
	0.5nm,0.7s,baz=242,slow=2.9,SNR=5.4							
BRTR	**Keskin Array B**	**125.34**	**71**	PKP	**PKPdf**	**21 33 37.7**	**-0.9**	
	0.9nm,0.8s,baz=230,slow=3.1,SNR=4.2							
AKASG	**Malin Array Be**	**132.23**	**59**	PKP	**PKPdf**	**21 33 49.9**	**-1.3**	
	0.1nm,0.3s,baz=259,slow=1.0,SNR=4.6							
CMAR	**Chiang Mai Arr**	**133.63**	**150**	PKP	**PKPdf**	**21 33 56.8**	**+1.9**	
	1.0nm,0.8s,baz=208,slow=3.8,SNR=4.9							
ILAR	**Eielson Array**	**142.29**	**316**	PKhKP	PKPpre	21 34 06.3		
	0.7nm,0.9s,baz=134,slow=2.7,SNR=4.9							
BPAW	**Bear Paw Mtn.**	**143.24**	**313**	*e*PKPdf	PKPbc	21 34 09.0	+0.8	
ARCES	**ARCESS Array B**	**144.19**	**37**	PKP	PKPbc	21 34 10.3	-0.5	
	3.3nm,0.9s,baz=239,slow=8.4,SNR=4.4							
ABKAR	**Akbulak array**	**144.64**	**83**	*e*PKPdf	**PKPab**	**21 34 10.5**	**-2.1**	
COLD	**Coldfoot**	**144.87**	**317**	*e*PKPbc	**PKPdf**	**21 34 15.2**	**+1.5**	
KKAR	**Karatay Array**	**145.03**	**99**	*e*PKPdf	**PKPab**	**21 34 13.2**	**-1.1**	
EKS2	**Erkin-Say**	**146.18**	**103**	*e*PKPdf	**PKPdf**	**21 34 16.1**	**-0.9**	
ARU	**Arti**	**148.72**	**72**	*e*PKPdf	**PKPdf**	**21 34 20.8**	**+0.3**	
MKAR	**Makanchi Array**	**153.23**	**107**	PKP	**PKPdf**	**21 34 27.4**	**-0.5**	
	3.9nm,0.9s,baz=207,slow=0.3,SNR=4.0							
MKAR				PKPbc	**PKiKP**	**21 34 35.1**	**-0.3**	
	4.1nm,0.9s,baz=251,slow=3.2,SNR=20							
ZALV	**Zalesovo Beam**	**159.37**	**97**	PKP	**PKPdf**	**21 34 35.7**	**+0.2**	
	0.3nm,0.3s,baz=121,slow=0.8,SNR=3.0							
ZALV				PKPab	**PKPab**	**21 35 14.0**	**+0.6**	
	0.7nm,0.7s,baz=282,slow=6.8,SNR=2.8							
SONM	**Songino Array**	**163.37**	**143**	PKP	**PKPdf**	**21 34 40.5**	**+0.3**	
	0.7nm,1.1s,baz=202,slow=0.8,SNR=3.1							
SONM				PKPab	**PKPab**	**21 35 30.3**	**-1.0**	
	1.2nm,0.9s,baz=196,slow=2.9,SNR=5.9							

*TAP **10** 21:21:26.9, 24°.29N×122°.78E, h12km, ML2.5, D*
*ISCJB **10** 21:21:27.5±0.6, 24°.22N±0°.06×122°.81E±0°.02, h15km±11km, Error ellipse: s-maj=10.2km s-min=3.2km az=5.0*
*JMA **10** 21:21:27.3±0.1, 24°.20N×122°.81E, h20km±3km, M2.2*

ISC 10 21:21:26.9±1.2, 24°.25N±0°.05×122°.81E±0°.02, h14km±11km, n18, σ0°68/31, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JYNG	**Yonagunijimaku**	**0.24**	**31**	P	**Pb**	**21 21 33.5**		**+0.4**
JYNG				*e*S	**Sb**	**21 21 37.9**		**+0.7**
YOJ	**Yonaguni jima**	**0.28**	**41**	P	**Pb**	**21 21 34.2**		**+0.4**
YOJ				S	**Sb**	**21 21 39.0**		**+0.5**
IRIF	**Iriomote-Funau**	**0.85**	**84**	P	**Pb**	**21 21 43.1**		**-0.3**
IRIF				*e*S	**Sg**	**21 21 55.7**		**+1.3**
HATJ	**Hateruma jima**	**0.93**	**101**	P	**Pb**	**21 21 44.4**		**-0.4**
HATJ				S	**Sb**	**21 21 56.6**		**-0.4**
TWC	**Suao**	**0.95**	**293**	P	**Pb**	**21 21 44.5**		**-0.6**
	baz=290							
TWC				*e*S	**Sg**	**21 21 57.5**		**-0.1**
	baz=290							
ENA	**Nanau**	**0.99**	**281**	⇑*i*P	**Pb**	**21 21 45.4**		**-0.4**
	baz=278							
ENA				*e*S	**Sg**	**21 21 59.0**		**0.0**
	baz=278							
JKRS	**Kuro-shima**	**1.10**	**90**	P	**Pb**	**21 21 47.7**		**0.0**
JKRS				S	**Sb**	**21 22 02.5**		**+0.6**
TWE	**Neicheng**	**1.14**	**295**	*e*P	**Pb**	**21 21 48.1**		**-0.3**
	baz=293							
TWE				*e*S	**Sg**	**21 22 04.0**		**+0.1**
	baz=293							
ENTT	**Nioudou**	**1.20**	**289**	*e*P	**Pb**	**21 21 49.4**		**-0.1**
	baz=287							
ENTT				*e*S	**Sg**	**21 22 05.5**		**-0.2**
	baz=287							
JIJ	**Ishigaki jima**	**1.22**	**84**	P	**Pn**	**21 21 49.0**		**-0.6**
JIJ				S	**Sb**	**21 22 05.5**		**0.0**
NSK	**Sanguang**	**1.39**	**288**	*e*P	**Pn**	**21 21 51.7**		**-0.3**
	baz=286							
NSK				*e*S	**Sn**	**21 22 09.7**		**-0.5**
	baz=286							
JISG	**Ishigakijimahi**	**1.41**	**76**	P	**Pn**	**21 21 51.8**		**-0.4**
JISG				S	**Sn**	**21 22 09.4**		**-1.2**
TWT	**Tachien**	**1.49**	**271**	*e*P	**Pg**	**21 21 55.1**		**-0.4**
	baz=268							
SMLT	**Sun Moon Lake**	**1.78**	**259**	*e*P	**Pn**	**21 21 58.2**		**+0.8**
	baz=256							
TYC	**Yuchr**	**1.81**	**260**	*e*P	**Pb**	**21 21 59.1**		**-0.8**
	baz=257							
ALS	**Alishan**	**1.97**	**249**	*e*P	**Pn**	**21 22 01.1**		**+0.9**
	baz=246							
CHN5	**Tsauling**	**2.05**	**252**	*e*P	**Pn**	**21 22 01.8**		**+0.7**
	baz=250							
CHN4	**Tsaushan**	**2.21**	**247**	*e*P	**Pn**	**21 22 04.7**		**+1.4**
	baz=244							
CHN4				*e*S	**Sn**	**21 22 31.4**		**+0.9**
	baz=244							

*NIED **10** 21:22:00, 36°.50N×140°.90E, h5km, Mw3.9 Best double couple: M₀6.91000×10¹⁴ NP1:φ₀22.00000°, δ34.00000°, λ-47.00000°. NP2:φ₀154.00000°, δ66.00000°, λ-114.00000°.*
*JMA **10** 21:22:31.1, 36°.52N×140°.94E, h16km±1km, M3.8*
JMA Felt I J1.
*IDC **10** 21:22:31.6±0.8, 36°.14N×140°.72E, h0km, mb3.6/9, mb1 3.7/12, mb1mx3.6/41, mbtmp3.5/12, ML3.2/2, MS3.0/5, Ms1 3.1/5, ms1mx2.6/39, Error ellipse: s-maj=21.8km s-min=14.2km az=17.0*

ISC 10 21:22:31.0±2.0, 36°.54N±0°.05×140°.95E±0°.08, h4km±11km, n27, σ1°39/22, mb3.6/9, MS3.1/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JHO	**Hitachi**	**0.31**	**284**	P	**Pg**	**21 22 37.5**		**+0.5**
JHO				S	**Sg**	**21 22 42.0**		**+0.8**
ONAJ	**Iwakimizuishiy**	**0.58**	**348**	P	**Pg**	**21 22 42.6**		**+0.5**
ONAJ				S	**Sb**	**21 22 51.2**		**-1.1**
JYT	**Yasato**	**0.68**	**243**	P	**Pg**	**21 22 43.8**		**-0.2**
JYT				S	**Sg**	**21 22 53.0**		**+0.1**
JFK	**Kawauchi**	**0.83**	**356**	P	**Pb**	**21 22 46.4**		**-1.6**
JFK				S	**Sb**	**21 22 58.3**		**-1.2**
JSB	**Shiboa**	**0.93**	**298**	P	**Pg**	**21 22 49.1**		**+0.3**
JFT	**Otama**	**1.10**	**334**	P	**Pb**	**21 22 51.8**		**-0.7**
JFT				S	**Sn**	**21 23 06.9**		**-1.8**
MJAR	**Matsushiro Arr**	**2.21**	**271**	Pn	**Pn**	**21 23 08.2**		**-0.2**
	10nm,0.3s,baz=87,slow=9.2,SNR=48							
MJAR				Lg	Lg	21 23 36.8		
	18nm,0.3s,baz=87,slow=28,SNR=7.8							
MJAR				LR	LR	21 24 12.1		
	comp=Z,269nm,18.8s,baz=95,slow=49							
MAT	**Matsushiro**	**2.21**	**271**	P	**Pn**	**21 23 07.9**		**-0.5**
MAT				S	**Sb**	**21 23 38.1**		**-1.0**
USRK	**Ussuriysk Ar.**	**10.26**	**321**	Pn	Pn	21 25 04.3		+5.5
	0.0nm,0.3s,baz=106,slow=14,SNR=2.4							
KSRS	**Korea Array**	**10.46**	**279**	Pn	**Pn**	**21 25 01.1**		**-0.5**
	0.2nm,0.3s,baz=31,slow=22,SNR=3.8							
KSRS				LR	LR	21 28 57.2		
	comp=Z,46nm,21.3s,baz=83,slow=37							
SONM	**Songino Array**	**27.76**	**305**	P	**P**	**21 28 23.8**		**+3.0**
	0.4nm,0.7s,baz=106,slow=9.1,SNR=3.6							
SONM				LR	LR	21 39 33.9		
	comp=Z,32nm,18.2s,baz=87,slow=37							
H11N2	**WAKE ISLAND Hy**	**28.22**	**119**	T	T	21 58 12.4		
	baz=80,slow=74,SNR=108							
H11N1	**WAKE ISLAND Hy**	**28.23**	**119**	T	T	21 57 58.7		
	baz=314,slow=74,SNR=107							
H11S1	**WAKE ISLAND Hy**	**28.91**	**121**	T	T	21 58 44.0		
	baz=314,slow=76,SNR=303							
H11S3	**WAKE ISLAND Hy**	**28.91**	**122**	T	T	21 58 44.7		
	baz=314,slow=76,SNR=340							
H11S2	**WAKE ISLAND Hy**	**28.93**	**122**	T	T	21 58 43.3		
	baz=314,slow=76,SNR=272							
CMAR	**Chiang Mai Arr**	**41.01**	**255**	LR	LR	21 49 29.6		
	comp=Z,28nm,18.7s,baz=70,slow=40							
ZALV	**Zalesovo Beam**	**41.98**	**313**	P	**P**	**21 30 23.4**		**+0.6**
	0.9nm,0.5s,baz=100,slow=6.0,SNR=5.7							
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**21 30 40.3**		**+0.4**
	0.2nm,0.3s,baz=72,slow=9.7,SNR=4.7							
ILAR	**Eielson Array**	**50.12**	**32**	P	P	21 31 30.6		+3.8
	0.4nm,0.8s,baz=270,slow=5.6,SNR=4.5							
WRA	**Warramunga Arr**	**56.52**	**187**	P	**P**	**21 32 12.3**		**-2.0**
	0.7nm,0.7s,baz=2.6,slow=7.3,SNR=6.7							
ASAR	**Alice Springs**	**60.24**	**187**	P	**P**	**21 32 38.8**		**-1.6**
	0.4nm,0.8s,baz=355,slow=7.4,SNR=3.4							
AKASG	**Malin Array Be**	**74.46**	**322**	P	**P**	**21 34 12.0**		**+1.8**
	0.4nm,0.4s,baz=47,slow=5.0,SNR=3.5							
NOA	**NORSAR Array B**	**74.50**	**337**	LR	LR	22 09 30.2		
	comp=Z,10nm,21.8s,baz=35,slow=38							
NVAR	**Mina Array Bea**	**75.59**	**53**	P	P	21 34 20.5		+3.3
	0.4nm,0.7s,baz=284,slow=9.2,SNR=3.4							
GERES	**GERESS Array B**	**82.94**	**328**	P	P	21 35 01.0		+4.0
	0.2nm,0.3s,baz=345,slow=6.1,SNR=2.4							
LPAZ	**La Paz**	**147.27**	**60**	PKPbc	**PKPab**	**21 42 20.4**		**+1.9**
	0.6nm,0.5s,baz=352,slow=8.4,SNR=3.2							

*CSEM **10** 21:23:15.4±0.3, 76°.17N×24°.28E, h15km, ML2.4, Error ellipse: s-maj=7.7km s-min=6.5km az=62.0*
*NAO **10** 21:23:15.5±1.1, 76°.15N×24°.41E, h16km±10km, ML2.4*
*BER **10** 21:23:16.7±4.2, 76°.13N×24°.46E, h14km±18km, MD2.2, ML1.6, ML2.4(NAO)*

ISC 10 21:23:15.0±1.4, 76°.14N±0°.06×24°.26E±0°.06, h18km±8km, n18, σ1°48/35, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
HOPEN	**Hopen**	**0.41**	**25**	Pg	**Pg**	**21 23 23.6**		**+0.1**
HOPEN				Lg	Lg	21 23 29.1		
HOPEN	**Hopen**	**0.41**	**25**	⇑*i*P	**Pg**	**21 23 23.6**		**+0.1**
HOPEN				*e*Sg	**Sg**	**21 23 29.0**		**-0.2**
HOPEN	**Hopen**	**0.41**	**25**	⇑*i*P	**Pg**	**21 23 23.6**		**+0.1**
	SNR=96							
HOPEN				*e*Sg	**Sg**	**21 23 29.0**		**-0.2**
	SNR=96							
HSP	**Hornsund**	**2.21**	**297**	Pn	**Pn**	**21 23 52.2**		**+1.5**
HSP				Pg	**Pg**	**21 23 58.7**		**+1.3**
HSP				Sn	**Sn**	**21 24 19.1**		**+1.5**
HSP				Lg	Lg	21 24 25.0		
HSPB	**Hornsund (broa**	**2.21**	**297**	Pn	**Pn**	**21 23 52.2**		**+1.5**
HSPB				Sn	**Sn**	**21 24 18.2**		**+0.7**
HSPB				Lg	Lg	21 24 25.0		
HSPB				IAML		21 24 26.7		
	comp=Z,6.6nm,0.3s							
HSPB	**Hornsund (broa**	**2.21**	**297**	Pn	**Pn**	**21 23 52.2**		**+1.5**
HSPB	**Hornsund (broa**	**2.21**	**297**	Pg	**Pg**	**21 23 58.7**		**+1.3**
HSPB				Sn	**Sn**	**21 24 19.1**		**+1.5**
HSPB				Lg	Lg	21 24 25.0		
SPA0	**Spitsbergen Ar**	**2.70**	**323**	Pn	**Pn**	**21 23 58.5**		**+1.1**
	baz=139,slow=16							
SPA0				Pg	**Pg**	**21 24 06.7**		**0.0**
	baz=140,slow=22							
SPA0				Sn	**Sn**	**21 24 29.8**		**+0.2**
	baz=135,slow=18							
SPA0				Lg	Lg	21 24 39.1		
	baz=128,slow=28							
SPA0	**Spitsbergen Ar**	**2.70**	**323**	Pn	**Pn**	**21 23 58.5**		**+1.1**
	baz=139,slow=16							
SPA0				Pg	**Pg**	**21 24 06.7**		**0.0**
	baz=140,slow=22							
SPA0				Sn	**Sn**	**21 24 29.8**		**+0.2**
	baz=135,slow=18							
SPA0				Lg	Lg	21 24 39.1		
	baz=128,slow=28							
SPA0	**Spitsbergen Ar**	**2.70**	**323**	Pn	**Pn**	**21 23 58.5**		**+1.1**
	SNR=303							
SPA0	**Spitsbergen Ar**	**2.70**	**323**	Pg	**Pg**	**21 24 06.7**		**0.0**
SPA0				Sn	**Sn**	**21 24 29.8**		**+0.2**
SPA0				Lg	Lg	21 24 39.1		
	SNR=6.6							
BRBA	**Barentsburg A**	**2.96**	**315**	Lg	Lg	21 24 47.1		
	SNR=50							
KBS	**Kingsbay**	**3.86**	**322**	Pn	**Pn**	**21 24 13.5**		**+0.2**
KBS				Sn	**Sn**	**21 24 57.2**		**-1.0**
KBS				Lg	Lg	21 25 16.6		
KBS	**Kingsbay**	**3.86**	**322**	Pn	**Pn**	**21 24 13.5**		**+0.2**
KBS				*e*S	**Sn**	**21 24 57.3**		**-0.9**
KBS				*e*Sg	**Sg**	**21 25 16.1**		**-2.6**
KBS	**Kingsbay**	**3.86**	**322**	Pn	**Pn**	**21 24 13.5**		**+0.2**
KBS				*e*S	**Sn**	**21 24 57.3**		**-0.9**
	SNR=53							
KBS				*e*Sg	**Sg**	**21 25 16.1**		**-2.6**
	SNR=90							
ARA0	**ARCESS Array S**	**6.65**	**176**	Pn	**Pn**	**21 24 52.3**		**+0.7**
	baz=1.7,slow=11							
ARA0				Sn	**Sn**	**21 26 02.9**		**-3.9**
	baz=6.3,slow=22							
ARA0	**ARCESS Array S**	**6.65**	**176**	Pn	**Pn**	**21 24 52.3**		**+0.7**
	baz=1.7,slow=11							
ARA0				Sn	**Sn**	**21 26 02.9**		**-3.9**
	baz=6.3,slow=22							
ARA0	**ARCESS Array S**	**6.65**	**176**	Pn	**Pn**	**21 24 52.3**		**+0.7**
	SNR=1.3							

*NIED **10** 21:23:00, 37°.40N×141°.50E, h50km, Mw3.9 Best double couple: M₀7.09000×10¹⁴ NP1:φ₀188.00000°, δ14.00000°, λ73.00000°. NP2:φ₀25.00000°, δ77.00000°, λ94.00000°.*
*ISCJB **10** 21:23:48.0±0.8, 37°.38N±0°.03×141°.48E±0°.08, h50km±6km, mb3.7/10, Error ellipse: s-maj=11.4km s-min=5.4km az=11.4*
*JMA **10** 21:23:49.2±0.1, 37°.41N×141°.40E, h46km±1km, M3.9*
JMA Felt II J1.
*IDC **10** 21:23:52.1±2.5, 37°.35N×141°.46E, h74km±23km, mb3.5/10, mb1 3.6/14, mb1mx3.5/43, mbtmp3.8/14, MS2.7/1, Ms1 2.7/1, ms1mx2.3/28, Error ellipse: s-maj=20.6km s-min=12.7km az=68.0*

ISC 10 21:23:47.4±1.5, 37°.43N±0°.04×141°.56E±0°.07, h30km±10km, n30, σ1°48/36, mb3.7/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JFK	**Kawauchi**	**0.55**	**264**	P	**Pn**	**21 23 59.2**		**0.0**
JFK				S	**Sb**	**21 24 06.0**		**-0.4**
ONAJ	**Iwakimizuishiy**	**0.69**	**242**	P	**Pn**	**21 24 01.1**		**-0.1**
ONAJ				S	**Sb**	**21 24 09.4**		**-0.8**
JMM	**Marumori**	**0.75**	**306**	P	**Pn**	**21 24 02.2**		**+0.2**
JMM				S	**Sb**	**21 24 11.6**		**-0.3**
JFT	**Otama**	**0.98**	**276**	P	**Pn**	**21 24 05.5**		**+0.4**
JFT				S	**Sn**	**21 24 16.8**		**-1.1**
JIO	**Ouri**	**1.04**	**351**	P	**Pb**	**21 24 07.2**		**+0.3**
JIO				S	**Sn**	**21 24 19.8**		**+0.3**
JHO	**Hitachi**	**1.14**	**225**	P	**Pn**	**21 24 07.0**		**-0.3**
JHO				S	**Sn**	**21 24 19.4**		**-2.4**
JOU	**Okura**	**1.18**	**323**	P	**Pb**	**21 24 08.7**		**-0.5**
JOU				*e*S	**Sn**	**21 24 23.3**		**+0.4**
JYS	**Shirataka**	**1.43**	**304**	P	**Pn**	**21 24 11.9**		**+0.6**
JFY	**Yanaizu**	**1.48**	**270**	P	**Pn**	**21 24 12.0**		**0.0**
JFY				S	**Sn**	**21 24 29.1**		**-1.2**
JMK	**Ichinoseki**	**1.55**	**350**	P	**Pb**	**21 24 14.7**		**-0.7**
MJAR	**Matsushiro Arr**	**2.83**	**253**	P	**Pn**	**21 24 32.8**		**+2.2**
	baz=182,slow=31,SNR=1.5							
MJAR				S	**Sn**	**21 25 06.9**		**+3.4**
	6.1nm,0.3s,baz=252,slow=40,SNR=3.2							
MAT	**Matsushiro**	**2.83**	**253**	P	**Pn**	**21 24 30.9**		**+0.4**
MAT				S	**Sn**	**21 25 06.2**		**+2.6**
JHJ	**Hachijo jima 2**	**4.54**	**199**	P	**Pn**	**21 24 55.9**		**+1.9**
	16nm,0.3s,baz=98,slow=21,SNR=3.4							
JHJ				S	**Sn**	**21 25 44.9**		**-0.8**
	29nm,0.3s,baz=103,slow=24,SNR=4.8							
JNU	**Nakatsue**	**9.73**	**247**	LR	LR	21 29 30.1		
	comp=Z,49nm,21.8s,baz=120,slow=35							
USRK	**Ussuriysk Ar.**	**9.92**	**316**	P	Pn	21 26 12.9		+5.1
	0.2nm,0.3s,baz=128,slow=12,SNR=7.4							
KSRS	**Korea Array**	**10.85**	**274**	P	**Pn**	**21 26 25.3**		**+4.8**
	0.2nm,0.3s,baz=91,slow=13,SNR=5.9							
SONM	**Songino Array**	**27.67**	**303**	P	**P**	**21 29 30.9**		**-1.7**
	0.9nm,0.6s,baz=95,slow=8.2,SNR=8.0							
H11N2	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	21 59 54.0		
	baz=314,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	21 59 54.3		
	baz=314,slow=75,SNR=4.1							
H11N3	**WAKE ISLAND Hy**	**28.27**	**122**	T	T	21 59 52.2		
	baz=314,slow=75,SNR=145							
ZALV	**Zalesovo Beam**	**41.74**	**312**	P	**P**	**21 31 33.0**		**-0.5**
	2.5nm,0.7s,baz=93,slow=7.8,SNR=10							
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**21 31 51.6**		**-0.4**
	1.4nm,0.6s,baz=90,slow=9.8,SNR=14							
ILAR	**Eielson Array**	**49.10**	**33**	P	**P**	**21 32 32.6**		**+1.0**
	0.6nm,0.7s,baz=269,slow=6.5,SNR=6.3							
WRA	**Warramunga Arr**	**57.46**	**188**	P	**P**	**21 33 33.9**		**+0.3**
	0.4nm,0.6s,baz=2.4,slow=7.3,SNR=3.8							
ASAR	**Alice Springs**	**61.19**	**188**	P	**P**	**21 33 59.3**		**0.0**
	0.3nm,0.7s,baz=4.6,slow=5.8,SNR=3.0							
FINES	**FINESS Array B**	**68.52**	**332**	P	**P**	**21 34 45.5**		**-1.1**
	2.3nm,0.9s,baz=60,slow=11,SNR=5.9							
AKASG	**Malin Array Be**	**74.06**	**322**	P	**P**	**21 35 18.7**		**-1.6**
	0.6nm,0.4s,baz=46,slow=6.7,SNR=3.9							
PDAR	**Pinedale Array**	**77.31**	**46**	P	**P**	**21 35 39.4**		**+0.1**
	0.2nm,0.4s,baz=70,slow=27,SNR=2.1							
TXAR	**Lajitas Array**	**89.79**	**52**	P	**P**	**21 36 43.9**		**+0.5**
	0.1nm,0.4s,baz=329,slow=4.7,SNR=2.1							
LPAZ	**La Paz**	**146.39**	**59**	PKPbc	**PKPbc**	**21 43 26.6**		**+0.1**
	0.4nm,0.5s,baz=45,slow=11,SNR=2.5							

*NSSP **10** 21:34:47.7, 40°.40N×45°.50E, h5km, Ms3.1*
*AZER **10** 21:34:47.1±0.2, 40°.59N×45°.54E, h4km, Error ellipse: s-maj=0.9km s-min=0.7km az=232.0*
*MOS **10** 21:34:48.3±1.3, 40°.23N×45°.60E, h14km, mb4.3/2, Error ellipse: s-maj=15.2km s-min=5.8km az=104.6*
*ISK **10** 21:34:49.5, 40°.42N×45°.84E, h35km, ML2.9*
*CSEM **10** 21:34:49.0±0.2, 40°.47N×45°.50E, h2km, ML3.1, Error ellipse: s-maj=5.0km s-min=4.0km az=168.0*
*TEH **10** 21:34:53.6, 40°.26N×45°.71E, h18km, ML3.1*

ISC 10 21:34:49.3±0.8, 40°.42N±0°.01×45°.54E±0°.01, h6km±5km, n99, σ1°39/167, 35C-25D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
VADZ	**Vardenis**	**0.29**	**147**	⇑*i*P	**Pb**	**21 34 56.0**		**-1.1**
VADZ				⇓*i*S	**Sb**	**21 35 01.0**		**-1.3**
VADZ	**Vardenis**	**0.29**	**147**	⇑P	**Pb**	**21 34 56.0**		**-1.1**
VADZ				S	**Sb**	**21 35 01.0**		**-1.3**
GDB	**GEDABAY**	**0.35**	**29**	⇓P	**Pg**	**21 34 55.1**		**-1.0**
	SNR=2201							
GDB				⇓S	**Sg**	**21 34 59.8**		**-0.9**
GDB	**GEDABAY**	**0.35**	**29**	P	**Pg**	**

SNR=21
QBL Sn Sg 21 35 47.3 -0.7
AKH Akhalkalaki 1.84 303 P Pn 21 35 21.9 +0.3
AKH S Sb 21 35 46.2 -0.6
AKH Akhalkalaki 1.84 303 PN Pn 21 35 21.9 +0.3
KARS Kars 1.88 277 *e*PN Pb 21 35 23.2 -0.9
KARS *e*SN Sb 21 35 47.9 -0.2
KARS Kars 1.88 277 *e*Pn Pb 21 35 23.3 -0.9
KARS *e*Sn Sb 21 35 47.9 -0.2
AKT Akhty 1.97 57⇑*i*PN Pn 21 35 23.4 0.0
KDMR Kurdemir 2.02 90 Pn Pn 21 35 24.7 +0.8
SNR=3.9
KDMR ⇓Sn Sg 21 35 53.6 -0.7
KDMR Kurdemir 2.02 90 Pn Pn 21 35 24.7 +0.8
SNR=3.9
KDMR Sn Sg 21 35 53.6 -0.7
IML Ismayilli 2.05 79⇑Pn Pn 21 35 23.8 -0.6
SNR=7.7
IML ⇓Sn Sg 21 35 53.9 -1.3
IML Ismayilli 2.05 79 Pn Pn 21 35 23.8 -0.6
SNR=7.7
IML Sn Sg 21 35 53.9 -1.3
XNQ Khinaliq 2.12 68⇑Pn Pn 21 35 25.0 -0.5
SNR=18
XNQ ⇑Sn Sb 21 35 54.1 -0.8
XNQ Khinaliq 2.12 68 Pn Pn 21 35 25.0 -0.5
SNR=18
XNQ Sn Sb 21 35 54.1 -0.8
ISHB Shabestar 2.13 178 *e*Pn Pn 21 35 26.7 +1.0
ISHB *e*Sg Sb 21 35 55.7 +0.4
ISHB *e*AMB AMB 21 35 59.4
comp=Z,1μm,0.1s
GUDG Gudauri 2.19 339 P Pn 21 35 27.7 +1.1
GUDG S Sb 21 35 57.5 +0.4
ITBZ Tabriz 2.23 168 *e*Pn Pn 21 35 27.5 +0.5
ITBZ *e*AMB AMB 21 35 29.7
comp=Z,533nm,0.1s
ITBZ *e*Sg Sb 21 35 58.2 +0.1
ITBZ Tabriz 2.23 168 *e*Pn Pn 21 35 27.5 +0.5
ITBZ *e*Sg Sb 21 35 58.2 +0.1
QSAR Qusar 2.34 61⇓Pn Pn 21 35 29.9 +1.5
SNR=26
QSAR ⇓Sn Sb 21 36 01.0 -0.1
PQL Pirkuli 2.36 80⇓Pn Pn 21 35 28.6 -0.2
SNR=15
PQL ⇓Sn Sb 21 36 02.4 +0.7
PQL Pirkuli 2.36 80 Pn Pn 21 35 28.6 -0.2
SNR=15
PQL Sn Sb 21 36 02.4 +0.7
IHRS Heris 2.40 150 *e*Pn Pn 21 35 30.1 +0.7
IHRS *e*AMB AMB 21 35 36.1
comp=Z,849nm,0.1s
IHRS *e*Sg Sb 21 36 02.1 -0.9
IHRS Heris 2.40 150 *e*Pn Pn 21 35 30.1 +0.7
QUBA Quba, Azerbaij 2.43 66⇑Pn Pn 21 35 30.8 +1.2
QUBA Quba, Azerbaij 2.43 66 Pn Pn 21 35 30.8 +1.2
SENK Senkaya-Erzuru 2.43 274 *e*PN Pb 21 35 32.0 -1.6
SENK Senkaya-Erzuru 2.43 274 *e*Pn Pb 21 35 32.0 -1.6
GLBA Clilabad 2.49 117⇑Pn Pn 21 35 31.6 +1.2
SNR=10
GLBA ⇑Sn Sb 21 36 05.4 -0.1
GLBA Clilabad 2.49 117 Pn Pn 21 35 31.6 +1.2
SNR=10
GLBA Sn Sb 21 36 05.4 -0.1
LACR Lac 2.58 339⇓*i*PN Pn 21 35 33.0 +1.2
LACR *e*S Sb 21 36 08.1 0.0
GBS Qobustan 2.60 86⇓Pn Pb 21 35 34.2 -2.2
GBS Qobustan 2.60 86 Pn Pb 21 35 34.2 -2.2
ZEI Tsey 2.67 333 *e*PN Pn 21 35 34.2 +1.1
ZEI *e*S Sb 21 36 10.0 -0.7
ONI Oni 2.68 325 P Pb 21 35 35.5 -2.3
ONI S Sb 21 36 11.1 +0.3
ONI Oni 2.68 325 PN Pb 21 35 35.4 -2.3
ONI S Sb 21 36 11.1 +0.3
KMGR Komgaron 2.69 349 *e*PN Pn 21 35 34.2 +1.0
KMGR *e*S Sb 21 36 10.4 -0.7
VLKR Vladikavkaz 2.71 347 *e*PN Pn 21 35 34.0 +0.6
VLKR *e*S Sb 21 36 10.9 -0.7
GROC Groznyy 2.79 4 *e*Pn Pn 21 35 36.5 +2.0
GROC *e* 21 36 14.8
GROC pmax pmax
comp=Z,12nm,0.4s
GROC smax smax
comp=E,23nm,0.6s
GROC smax smax
comp=E,27nm,0.4s
GROC smax smax
comp=N,24nm,0.6s
LRK Lerik 2.80 128⇑Pn Pb 21 35 37.4 -2.5
SNR=41
LRK ⇑Sn Sb 21 36 14.9 +0.4
LRK Lerik 2.80 128 Pn Pb 21 35 37.3 -2.5
SNR=41
LRK Sn Sb 21 36 14.9 +0.4
DIGR Digorskoe uzhe 2.88 330 *e*PN Pb 21 35 38.7 -2.5
DIGR *e*S Sb 21 36 16.2 -0.6
DIGR pmax pmax
comp=Z,3.0nm,0.1s
KORR Kora 2.88 338 *i* PN Pb 21 35 39.1 -2.1
KORR *e*S Sb 21 36 16.8 0.0
KORR pmax pmax
comp=Z,23nm,0.4s
ARNR Ardon 2.92 342 *e*PN Pb 21 35 39.8 -1.9
ARNR *e*S Sb 21 36 17.2 -0.4
ARNR pmax pmax
comp=Z,4.0nm,0.2s
LKRN Lenkeran, Azer 3.03 123⇑Pn Pn 21 35 40.2 +2.4
LKRN ⇓Sn Sb 21 36 19.2 -1.7
LKRN Lenkeran, Azer 3.03 123 Pn Pn 21 35 40.2 +2.4
LKRN Sn Sb 21 36 19.2 -1.7
ASTR Astara 3.13 125⇓Pn Pn 21 35 41.1 +1.9
SNR=9.2
ASTR ⇑Sn Sb 21 36 23.1 -0.6
ASTR Astara 3.13 125 Pn Pn 21 35 41.1 +1.9
SNR=9.2
ASTR Sn Sb 21 36 23.1 -0.6
LSNR Lesken 3.13 336 *i* PN Pb 21 35 44.6 -0.8
LSNR *i* S Sb 21 36 25.5 +1.6
LSNR pmax pmax
comp=Z,6.0nm,0.3s
BCA Borcka 3.14 290 *e*PN Pn 21 35 41.2 +1.8
BCA Borcka 3.14 290 *e*Pn Pn 21 35 41.2 +1.8
CHVG Ch'k'valeri 3.46 313 *e*PN Pn 21 35 41.6 -2.2
CHVG Ch'k'valeri 3.46 313 *e*Pn Pn 21 35 41.6 -2.2
CUKT Cukurca 3.50 206 *e*PN Pn 21 35 44.9 +0.4
CUKT Cukurca 3.50 206 *e*Pn Pn 21 35 44.9 +0.4
NEY Neytrino 3.52 324⇑*e*PN Pb 21 35 49.5 -2.7
SIRT Sirnak 3.78 221 *e*PN Pn 21 35 49.1 +0.9
SIRT Sirnak 3.78 221 *e*Pn Pn 21 35 49.1 +0.9
KIV Kislovodsk 4.12 330 PN Pn 21 35 55.4 +2.5
KIV pmax pmax
comp=Z,1.0nm,0.4s
GOF Gofitskoye 4.99 339 *e*PN Pg 21 36 26.0 +1.2
ARU Arti 18.15 24⇑*i*P P 21 39 03.7 +1.5
ARU pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 21.03 45⇑*i*P P 21 39 34.3 +0.7
BRVK *e**PP sP 21 39 38.5 +2.6
BRVK pmax pmax
comp=Z,5.0nm,0.8s
VSU Vasula 21.67 333*ce*P P 21 39 44.1 +3.6
VSU pmax pmax
comp=Z,15nm,1.2s

IDC 10 21:35:53.7±3.1, 33°57'S×176°15'W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/22, mbtmp3.4/2, ML5.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/15, Error ellipse: s-maj=69.9km s-min=46.4km az=127.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.57**	**340**	Pn	Pn	21 37 05.5	+1.4
	142nm,0.3s,baz=117,slow=9.9,SNR=9.3						
ASAR	**Alice Springs**	**44.58**	**269**	P	P	21 44 08.5	+0.7
	0.7nm,1.0s,baz=110,slow=5.0,SNR=3.9						
WRA	**Warramunga Arr**	**45.85**	**274**	P	P	21 44 16.8	-1.1
	0.4nm,0.3s,baz=110,slow=8.1,SNR=14						
GUMO	**Guam**	**59.83**	**315**	LR	LR	22 06 34.2	
	comp=Z,32nm,21.6s,baz=86,slow=31						
FINES	**FINESS Array B**	**148.66**	**340**	PKPbc	PKPbc	21 55 41.2	-0.8
	1.3nm,0.8s,baz=58,slow=4.3,SNR=8.2						

JMA 10 21:40:02.3±0.1, 39°.11N×142°.45E, h35km±1km, M3.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.61**	**267**	P	Pn	21 40 14.4	-0.1
MIYJ	**Miyakonagasawa**	**0.68**	**314**	P	Pn	21 40 15.1	-0.3
JTH	**Tanohata**	**0.94**	**331**	P	Pn	21 40 19.1	0.0
JOM	**Ohasama**	**0.97**	**292**	P	Pn	21 40 19.8	+0.4
JOM				*e*S	Sn	21 40 32.4	+0.5
JMK	**Ichinoseki**	**0.97**	**261**	P	Pn	21 40 19.7	+0.3
JIO	**Ouri**	**1.08**	**233**	P	Pn	21 40 20.9	0.0
JKZ	**Kuzumaki**	**1.23**	**316**	P	Pn	21 40 23.8	+0.8
JRG	**Rokugo**	**1.44**	**282**	P	Pn	21 40 27.4	+1.5
JANG	**Nango**	**1.45**	**331**	P	Pn	21 40 27.3	+1.2
JOU	**Okura**	**1.58**	**243**	P	Pn	21 40 29.4	+1.5

NIED ***10*** *21:40:00, 39°.10N×142°.50E, h32km, Mw3.6 Best double couple: M₀2.62000×10¹⁴ NP1:φs=332.00000°, δ17.00000°, λ=-117.00000°. NP2:φs=180.00000°, δ75.00000°, λ=-82.00000°.*
IDC ***10*** *21:40:06.4±1.0, 38°.95N×142°.20E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/42, mbtmp3.5/9, ML2.3/2, MS2.4/2, Ms1 2.4/2, ms1mx2.2/34, Error ellipse: s-maj=23.3km s-min=15.9km az=119.0*
ISCJB ***10*** *21:40:09.0±1.2, 39°.07N±0°.04×142°.47E±0°.07, h30km±7km, mb3.6/7, Error ellipse: s-maj=8.9km s-min=7.1km az=15.6*
JMA ***10*** *21:40:10.0±0.2, 39°.11N×142°.43E, h23km±2km, M3.9*
JMA Felt I J1.

ISC 10 21:40:09.7±1.3, 39°.09N±0°.05×142°.4E±0°.1, h22km±8km, n25, σ1s40/25, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.59**	**269**	P	Pb	**21 40 22.0**	**+0.6**
MIYJ	**Miyakonagasawa**	**0.67**	**316**	P	Pb	**21 40 22.7**	**-0.1**
MIYJ				S	Sb	**21 40 31.4**	**-0.3**
JMK	**Ichinoseki**	**0.95**	**262**	P	Pb	**21 40 27.4**	**0.0**
JMK				S	Sb	**21 40 39.6**	**+0.1**
JOM	**Ohasama**	**0.96**	**294**	P	Pb	**21 40 27.6**	**0.0**
JOM				S	Sb	**21 40 40.0**	**+0.2**
JIO	**Ouri**	**1.05**	**233**	P	Pn	**21 40 28.6**	**-0.6**
JIO				S	Sb	**21 40 41.4**	**-1.2**
JKZ	**Kuzumaki**	**1.23**	**317**	P	Pn	**21 40 31.8**	**+0.2**
JKZ				*e*S	Sn	**21 40 46.9**	**-0.7**
JRG	**Rokugo**	**1.42**	**283**	S	Sb	**21 40 53.7**	**+0.5**
JANG	**Nango**	**1.46**	**332**	P	Pn	**21 40 34.8**	**0.0**
JANG				*e*S	Sn	**21 40 53.5**	**+0.3**
MAT	**Matsushiro**	**4.20**	**234**	P	Pn	**21 41 16.0**	**+3.5**
MAT				S	Sn	**21 42 02.2**	**+1.4**
MJAR	**Matsushiro Arr**	**4.20**	**234**	Pn	Pn	**21 41 08.3**	**-4.1**
	0.3nm,0.3s,baz=41,slow=11,SNR=8.4						
MJAR				Pg	Pb	21 41 16.7	-6.1
	1.6nm,0.3s,baz=40,slow=11,SNR=44						
MJAR				Lg	Lg	21 42 11.2	
	0.2nm,0.3s,baz=95,slow=16,SNR=2.3						
MJAR				LR	LR	21 43 04.5	
	comp=Z,69nm,20.2s,baz=40,slow=45						
USRK	**Ussuriysk Ar.**	**9.33**	**307**	Pn	**Pn**	**21 42 22.2**	**-0.5**
	0.2nm,0.3s,baz=138,slow=41,SNR=2.5						
KSRS	**Korea Array**	**11.52**	**266**	LR	LR	21 46 57.5	
	comp=Z,16nm,20.0s,baz=130,slow=36						
SEY	**Seymchan**	**24.62**	**11**	P	**P**	**21 45 29.7**	**+1.5**
	0.7nm,0.4s,baz=176,slow=12,SNR=3.7						
SONM	**Songino Array**	**27.36**	**300**	P	**P**	**21 45 53.3**	**0.0**
	0.2nm,0.5s,baz=105,slow=9.3,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.60**	**125**	T	T	22 16 29.0	
	baz=318,slow=75,SNR=158						
H11N1	**WAKE ISLAND Hy**	**28.61**	**125**	T	T	22 16 29.8	
	baz=318,slow=75,SNR=229						
H11N3	**WAKE ISLAND Hy**	**28.62**	**125**	T	T	22 16 30.3	
	baz=318,slow=75,SNR=193						
H11S1	**WAKE ISLAND Hy**	**29.39**	**127**	T	T	22 17 27.5	
	baz=319,slow=76,SNR=77						
H11S3	**WAKE ISLAND Hy**	**29.39**	**127**	T	T	22 17 27.7	
	baz=319,slow=76,SNR=93						
H11S2	**WAKE ISLAND Hy**	**29.41**	**127**	T	T	22 17 28.8	
	baz=319,slow=76,SNR=68						
ZALV	**Zalesovo Beam**	**41.15**	**311**	P	**P**	**21 47 50.6**	**-1.5**
	0.6nm,0.4s,baz=107,slow=7.1,SNR=3.6						
MKAR	**Makanchi Array**	**43.73**	**300**	P	**P**	**21 48 13.3**	**+0.1**
	0.3nm,0.3s,baz=88,slow=8.6,SNR=6.8						
ILAR	**Eielson Array**	**47.34**	**33**	P	**P**	**21 48 42.2**	**+0.8**
	0.7nm,0.6s,baz=269,slow=6.0,SNR=8.1						
WRA	**Warramunga Arr**	**59.21**	**189**	P	**P**	**21 50 08.4**	**-0.8**
	1.0nm,0.4s,baz=6.5,slow=6.9,SNR=23						
ASAR	**Alice Springs**	**62.94**	**189**	P	**P**	**21 50 34.0**	**-0.5**
	0.4nm,0.7s,baz=21,slow=11,SNR=4.9						

TRN 10 21:47:25.8, 15°.92N×60°.88W, h24km, MD4.3, 4C-18D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGG	**Marie-Galante**	**0.42**	**270**	*e*P	Pn	21 47 37.9	+1.5
DEG	**La Desirade**	**0.43**	**336**	*e*P	Pn	21 47 36.3	-0.2
SFG	**Saint Francois**	**0.45**	**318**	*e*P	Pn	21 47 37.3	+0.5
DWS	**Wesley**	**0.54**	**230**	*e*P	Pn	21 47 39.2	+1.1
DLPL	**La Plaine**	**0.68**	**211**	*e*P	Pn	21 47 40.9	+0.9
DLPL				*e*S	Sn	21 47 52.1	+2.2
BBL	**Barber's Block**	**0.69**	**235**	*e*P	Pn	21 47 41.2	+1.0
BBL				*e*S	Sn	21 47 52.4	+2.3
DOG	**Dongo Capester**	**0.72**	**279**⇓*i*P		Pn	21 47 42.3	+1.8
PHG	**Guadaloupe-2**	**0.74**	**277**⇓*i*P		Pn	21 47 42.7	+1.8
TBG	**Guadaloupe-3**	**0.74**	**265** *i* P		Pn	21 47 42.5	+1.7
TBG				*e*S	Sn	21 47 53.9	+2.6
ECG	**Echelle**	**0.75**	**279**⇓*i*P		Pn	21 47 42.9	+1.8
LKG	**Breislack**	**0.76**	**280**⇓*i*P		Pn	21 47 42.9	+1.7
SEG	**Port Louis**	**0.77**	**309**⇑*i*P		Pn	21 47 42.3	+1.1
MDN	**Morne-Daniel**	**0.77**	**219**⇓*i*P		Pn	21 47 43.6	+2.3
MDN				*e*S	Sn	21 47 55.3	+3.1
SCG	**Saint Claude**	**0.78**	**278**⇓*i*P		Pn	21 47 43.1	+1.7
SSG	**Sans Toucher**	**0.78**	**282**⇓*i*P		Pn	21 47 43.2	+1.7
FNG	**Fond-Bernard**	**0.79**	**280**⇓*i*P		Pn	21 47 43.2	+1.6
HMG	**Houelmont**	**0.79**	**275**⇓*i*P		Pn	21 47 43.2	+1.7
MLG	**Mont-d'or**	**0.81**	**280**⇓*i*P		Pn	21 47 43.6	+1.8
DSHT	**Scott's Head**	**0.85**	**214** *e*P		Pn	21 47 44.8	+2.5
DSHT				*e*S	Sn	21 47 58.2	+4.2
SVN	**Savane Anatole**	**1.11**	**194** *e*P		Pb	21 47 46.6	+0.3
BAMF	**Morne Balai**	**1.13**	**193**⇓*e*P		Pb	21 47 47.0	+0.2
CXM	**Morne La Croix**	**1.14**	**194**⇓*e*P		Pb	21 47 47.2	+0.3
CXM				*e*S	Sn	21 48 02.0	+0.7
PCM	**Pelee Case Pet**	**1.14**	**196**⇓*e*P		Pb	21 47 47.0	0.0
PCM	**Pelee Case Pet**	**1.14**	**196**⇓*e*P		Pb	21 47 47.2	+0.2
GBMF	**Grand Be**	**1.15**	**194**⇓*e*P		Pb	21 47 47.2	+0.1
PML	**Morne Lenard**	**1.17**	**194**⇓*e*P		Pb	21 47 47.5	0.0
FDF	**Fort de France**	**1.21**	**192** *e*P		Pb	21 47 48.0	-0.1
FDF				*e*S	Sb	21 48 03.5	+0.2
LPMF	**Morne Lapointe**	**1.34**	**183**⇑*e*P		Pb	21 47 49.9	-0.5
ZAM	**Aeronautique**	**1.35**	**186**⇓*e*P		Pb	21 47 50.0	-0.4
TRMF	**Trois Ilets**	**1.39**	**187** *e*P		Pb	21 47 50.7	-0.3
BIM	**Bigot**	**1.41**	**187** *e*P		Pb	21 47 51.3	-0.1
BIM				*e*S	Sb	21 48 08.8	-0.2
MBRY		**1.45**	**303** *e*P		Pb	21 47 52.5	+0.4
MBRY				*e*S	Sb	21 48 12.3	+2.1
BPA	**Boggy Peak**	**1.46**	**320** *e*P		Pb	21 47 52.3	-0.1
BPA				*e*S	Sb	21 48 11.5	+1.0
MBLG		**1.47**	**303** *i* P		Pb	21 47 52.5	+0.1
MBLG				*e*S	Sb	21 48 12.1	+1.4
MBBY		**1.48**	**302** *i* P		Pb	21 47 53.0	+0.3
MBBY				*e*S	Sb	21 48 12.3	+1.0
MLYT	**Lee's Yard**	**1.49**	**303**⇑*i*P		Pb	21 47 52.9	+0.1
MLYT				*e*S	Sb	21 48 12.1	+0.7
MBWH		**1.50**	**303**⇑*i*P		Pb	21 47 53.0	-0.1
MBWH				*e*S	Sb	21 48 12.2	+0.5
MBGB		**1.52**	**302**⇓*i*P		Pb	21 47 53.3	-0.1
MBGB		**1.52**	**302** *e*P		Pb	21 47 53.6	+0.1
MBGB				*i* S	Sb	21 48 14.1	+1.7
ANWB	**Willy Bob**	**1.94**	**334** *e*P		Pb	21 47 59.1	-1.4
ANWB				*e*S	Sb	21 48 23.5	-0.9
NEV	**Hard Times**	**2.02**	**307** *e*P		Pn	21 48 00.0	+1.6
NEV				*e*S	Sn	21 48 24.4	+1.4
MCLT	**Moule a Chique**	**2.20**	**182** *e*P		Pb	21 48 03.7	-1.3
MCLT				*e*S	Sb	21 48 29.7	-2.1
SEUS	**St. Eustatius**	**2.55**	**308** *e*P		Pb	21 48 08.8	-2.1
SEUS				*e*S	Sn	21 48 38.2	+2.2
SVV	**Soufriere Volc**	**2.61**	**187** *e*P		Pn	21 48 08.8	+2.2
SVV				*e*S	Sn	21 48 40.0	+2.6
SVB	**Belmont**	**2.66**	**188** *e*P		Pn	21 48 09.2	+1.9
SVB				*e*S	Sn	21 48 41.1	+2.4
FCV	**Fort Charlotte**	**2.77**	**187** *e*P		Pn	21 48 11.5	+2.7
FCV				*e*S	Sn	21 48 43.1	+1.6
SABA	**Saba**	**2.82**	**307** *e*P		Pn	21 48 10.7	+1.2
SMRT	**St. Maarten**	**2.98**	**316** *e*P		Pn	21 48 14.1	+2.4
SMRT				*e*S	Sn	21 48 48.9	+2.2
BBGH	**Gun Hill**	**3.04**	**155** *e*P		Pn	21 48 14.4	+1.8
BBGH				*e*S	Sn	21 48 51.0	+2.7
GRSS	**Sisters**	**3.67**	**191** *e*P		Pn	21 48 22.6	+1.5
GRSS				*e*S	Sn	21 49 06.1	+2.4
GRHS	**Sauteurs**	**3.75**	**191** *e*P		Pn	21 48 25.0	+2.7
GRHS				*e*S	Sn	21 49 06.7	+1.1
GRW	**Mount Saint Ca**	**3.81**	**192** *e*P		Pn	21 48 25.0	+1.8
GRW				*e*S	Sn	21 49 09.2	+1.9
TOSP	**Speyside**	**4.61**	**176** *e*P		Pn	21 48 37.3	+3.3

IDC 10 22:08:20.0±9.5, 21°.29S×172°.98E, h45km±64km, mb3.4/2, mb1 3.7/3, mb1mx3.3/31, mbtmp3.6/3, ML3.5/1, MS3.2/7, Ms1 3.2/7, ms1mx3.0/24, Error ellipse: s-maj=151.4km s-min=65.5km az=1.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.13**	**262**	P	Pn	22 09 48.1	0.0
	1.2nm,0.3s,baz=116,slow=11,SNR=28						
DZM				S	Sn	22 10 57.2	+0.3
	2.4nm,0.3s,baz=304,slow=23,SNR=8.7						
DZM				LR	LR	22 11 33.7	
	comp=Z,96nm,18.3s,baz=62,slow=32						
RAO	**Raoul Island**	**11.43**	**136**	LR	LR	22 14 05.4	
	comp=Z,145nm,19.6s,baz=337,slow=30						
AFI	**Afiamalu**	**16.27**	**66**	LR	LR	22 16 50.0	
	comp=Z,38nm,18.1s,baz=90,slow=31						
HNR	**Honiara**	**17.21**	**311**	LR	LR	22 18 42.7	
	comp=Z,56nm,19.4s,baz=120,slow=36						
RPZ	**Rata Peaks**	**22.42**	**184**	LR	LR	22 20 53.8	
	comp=Z,94nm,18.4s,baz=331,slow=34						
STKA	**Stephens Creek**	**29.88**	**243**	LR	LR	22 24 44.1	
	comp=Z,42nm,20.9s,baz=26,slow=33						
ASAR	**Alice Springs**	**36.11**	**259**	P	P	22 15 17.7	-0.1
	0.9nm,0.8s,baz=91,slow=9.4,SNR=6.4						
WRA	**Warramunga Arr**	**36.13**	**265**	P	P	22 15 18.3	+0.2
	0.3nm,0.3s,baz=96,slow=8.6,SNR=7.0						
VNDA	**Vanda**	**56.54**	**183**	LR	LR	22 38 51.8	
	comp=Z,33nm,19.0s,baz=26,slow=32						
TORD	**Torodi Ar. Bea**	**168.39**	**227**	PKPab	PKPab	22 29 30.9	-0.7
	0.5nm,0.9s,baz=122,slow=4.6,SNR=2.6						

IDC ***10*** *22:12:33.7±1.6, 34°.64N×135°.79E, h361km±21km, mb2.8/4, mb1 3.0/6, mb1mx2.7/42, mbtmp3.6/6, Error ellipse: s-maj=28.1km s-min=18.1km az=75.0*
JMA ***10*** *22:12:34.9±0.1, 34°.84N×135°.82E, h362km±1km, M2.9*

ISC 10 22:12:34.3±1.0, 34°.8N±0°.1×135°.83E±0°.1, h350km, n16, σ1s88/18, mb3.1/4, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**0.57**	**200**	P	**Pn**	**22 13 21.1**	**+2.2**
JWY				S	**S**	**22 13 57.3**	**+2.7**
JWT	**Wachi**	**0.64**	**326**	P	**Pn**	**22 13 20.6**	**+1.8**
JWT				S	**S**	**22 13 56.6**	**+2.1**
JIE	**Ise**	**0.81**	**116**	P	**Pn**	**22 13 21.6**	**+2.2**
JKG	**Kaga**	**1.57**	**15**	P	**Pn**	**22 13 24.3**	**+1.5**
JHS	**Saijyo**	**2.25**	**277**	P	**Pn**	**22 13 29.0**	**+1.6**
JYN	**Shimob**	**2.34**	**71**	P	**Pn**	**22 13 29.5**	**+1.3**
JOI	**OKI**	**2.61**	**307**	P	**Pn**	**22 13 32.1**	**+1.9**
MAT	**Matsushiro**	**2.63**	**47**	P	**Pn**	**22 13 31.8**	**+1.3**
MJAR	**Matsushiro Arr**	**2.63**	**47**	P	**Pn**	**22 13 31.9**	**+1.4**
	1.6nm,0.3s,baz=224,slow=7.4,SNR=36						
JRY	**Ryogami san**	**2.81**	**62**	P	**Pn**	**22 13 33.6**	**+1.6**
JSZ	**Suzu**	**2.96**	**24**	P	**Pn**	**22 13 34.4**	**+1.2**
USRK	**Ussuriysk Ar.**	**9.89**	**344**	P	**Pn**	**22 14 51.0**	**+0.2**
	0.7nm,0.3s,baz=166,slow=12,SNR=12						
PETK	**Petropavlovsk-**	**24.02**	**33**	P	**P**	**22 17 18.0**	**-0.5**
	0.9nm,0.5s,baz=230,slow=9.0,SNR=2.2						
MKAR	**Makanchi Array**	**41.54**	**304**	P	**P**	**22 19 47.2**	**-1.5**
	0.4nm,0.4s,baz=85,slow=9.0,SNR=5.0						
KURBB	**Kurchatov Arra**	**43.88**	**309**	P	**P**	**22 20 05.8**	**-1.4**
	0.1nm,0.3s,baz=97,slow=6.6,SNR=4.1						
WRA	**Warramunga Arr**	**54.41**	**182**	P	**P**	**22 21 23.9**	**-2.6**
	0.6nm,0.3s,baz=0.2,slow=7.7,SNR=16						

MEX 10 22:13:27.6±0.8, 16°.24N×98°.67W, h10km±27km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.55**	**74**	*i* P	Pg	22 13 37.0	-1.3
PNIG				*e*S	Sg	22 13 45.0	-0.5
ACX	**Acapulco**	**1.29**	**299**	*e*P	Pn	22 13 43.1	-8.6
CAIG	**El Cayaco**	**1.72**	**298**	*e*P	Pn	22 13 54.4	-3.2
CAIG				*e*S	Sn	22 14 13.6	-6.1
VHO	**Vista Hermosa**	**2.04**	**66**	*e*P	Pn	22 13 59.5	-2.6
VHO				*e*S	Sn	22 14 23.5	-4.2

NNC ***10*** *22:20:51.9±3.2, 39°.24N×70°.86E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=45.2km s-min=11.1km az=141.0*
KRNET ***10*** *22:20:52.6±0.1, 39°.70N×70°.30E, mb2.8*

ISC 10 22:20:53.7±1.5, 39°.62N±0°.06×70°.47E±0°.06, h1km±12km, n17, σ1s55/34, 31C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.52**	**31**⇓*e*P		Pg	**22 21 03.4**	**-0.2**
	baz=48						
BTK				⇓*e*S	Sg	**22 21 11.0**	**+0.7**
	baz=48						
DRK	**Karamyk**	**1.04**	**97**⇑*e*P		Pn	**22 21 15.8**	**+0.1**
	baz=100						
DRK				⇑*e*S	Sn	**22 21 32.5**	**+1.4**
	baz=100						
DZET	**Dzherino**	**1.51**	**238**⇑Pn		Pn	**22 21 19.8**	**-2.2**
	11nm,0.3s						
DZET				⇑Sn	Sg	**22 21 46.3**	**+4.2**
	70nm,0.4s						
ARK	**Arkit**	**2.46**	**27**⇑*e*P		Pb	**22 21 36.8**	**-2.0**
	baz=31						
ARK				⇑*e*S	Sb	**22 22 07.8**	**-1.8**
	baz=31						
ARSB	**Arslanbob**	**2.57**	**48**⇑*e*P		Pb	**22 21 38.1**	**-2.5**
	baz=50						
ARSB				⇑*e*S	Sb	**22 22 11.3**	**-1.5**
	baz=50						
MNAS	**Manas**	**3.26**	**28**⇑*e*P		Pn	**22 21 47.0**	**+0.9**
	baz=30						
MNAS				⇑*e*S	Sn	**22 22 26.8**	**+1.2**
	baz=30						
MNAS	**Manas**	**3.26**	**28**

KZA				⇑*i*S		**Sn**	**22 22 55.1**	**+1.4**
	baz=56								
KBK	**Karagaybulak**	**4.55**	**47**	⇑*i*P		**Pn**	**22 22 04.1**	**+0.3**
	baz=48								
KBK				⇑*i*S		**Sn**	**22 22 57.8**	**+0.4**
	baz=48								
TKM2	**Tokmak 2**	**5.08**	**48**	⇑Pn		**Pn**	**22 22 11.3**	**0.0**
	2.1nm,0.7s								
TKM2				⇑Sn		**Sn**	**22 23 09.7**	**-1.0**
	2.0nm,0.7s								

IDC 10 22:26:25.6±2.1,0˚81N×127˚43E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/46, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=123.4km s-min=26.3km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	**Fitzroy Crossi**	**18.88**	**185**	P		Pn	22 30 47.9	-0.2
	0.1nm,0.3s,baz=14,slow=12,SNR=3.4							
WRA	**Warramunga Arr**	**21.71**	**162**	P		P	22 31 18.4	0.0
	0.8nm,0.8s,baz=340,slow=11,SNR=4.5							
ASAR	**Alice Springs**	**25.13**	**166**	P		P	22 31 52.4	-0.1
	0.2nm,0.6s,baz=349,slow=8.8,SNR=3.7							
MKAR	**Makanchi Array**	**60.34**	**326**	P		P	22 36 36.4	0.0
	0.3nm,0.6s,baz=127,slow=2.8,SNR=3.8							

NIED ***10*** *22:35:00, 38˚.40N×142˚.20E, h35km, Mw4.9 Best double couple: M₀2.70000×10¹⁶ NP1:φ₉100.00000°, δ42.00000°, λ-95.00000°. NP2:φ₉287.00000°, δ48.00000°, λ-86.00000°.*

JMA ***10*** *22:35:53.9±0.1, 38˚.36N×142˚.22E, h36km±1km, M5.0*

JMA Felt III J1.

BJI ***10*** *22:35:54.1, 38˚.21N×142˚.08E, h45km, mb5.0/78, mB4.9/50, Ms4.6/76, Ms7 4.5/71*

MOS ***10*** *22:35:54.5±0.7, 38˚.51N×142˚.12E, h34km, mb5.3/87, MS4.5/19, Error ellipse: s-maj=5.8km s-min=3.7km az=101.8*

ISCJB ***10*** *22:35:54.1±0.3, 38˚.31N±0˙.02×142˚.16E±0˙.02, h37km±2km, mb5.1/300, MS4.4/50, Error ellipse: s-maj=3.0km s-min=2.3km az=149.8*

GCMT ***10*** *22:35:55.1±0.2, 38˚.42N×142˚.26E, h30km, MW5.0/93, Moment Tensor Solution. s62,c93; s93,c135; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.11±.12; Mθθ3.58±.08; Mφφ0.52±.08; Mrθ0.21±.10; Mrφ-0.22±.06; Mθφ-0.11±.11; Best double couple: M₀3.86000×10¹⁶ NP1:φ₉275.00000°, δ47.00000°, λ-88.00000°. NP2: φ₉93.00000°, δ43.00000°, λ-92.00000°. Principal axes: T 3.6020, Plg2.0000°, Azm4.0000°; N 0.5100, Plg1.0000°, Azm94.0000°; P -4.1180, Plg88.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *22:35:55.1±0.5, 38˚.32N×142˚.16E, h32km±3km, mb5.1/190 Error ellipse: s-maj=3.1km s-min=2.0km az=146.0*

NEIC Felt at Ichinoseki. Recorded [3 JMA] in Iwate and Miyagi.

IDC ***10*** *22:35:57.3±2.1, 38˚.33N×142˚.17E, h52km±18km, mb4.6/51, mb1 4.7/55, mb1mx4.7/66, mbtmp4.9/55, ML4.2/3, MS4.2/33, Ms1 4.2/33, ms1mx4.2/44, Error ellipse: s-maj=11.1km s-min=9.4km az=118.0*

ISC 10 22:35:54.1±0.3, 38˚.31N±0˙.03×142˚.23E±0˙.03, h29km±1km, h28km:pP-P,n1000,σ1ˢ25/1118, mb5.1/300, MS4.5/51, 66C-40D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JIO	**Ouri**	**0.71**	**282**	⇑P		**Pb**	**22 36 07.2**	**-0.7**
JIO				S		**Sb**	**22 36 16.3**	**-1.1**
OFUJ	**Ofunato**	**0.89**	**330**	⇑P		**Pn**	**22 36 09.4**	**-1.3**
OFUJ				S		**Sb**	**22 36 20.3**	**-2.2**
JMK	**Ichinoseki**	**1.02**	**309**	⇑P		**Pn**	**22 36 11.6**	**-0.9**
JMM	**Marumori**	**1.22**	**249**	⇑P		**Pn**	**22 36 14.3**	**-0.8**
JMM				*e*S		**Sn**	**22 36 29.0**	**-1.7**
JOU	**Okura**	**1.23**	**273**	⇓P		**Pn**	**22 36 15.4**	**0.0**
JOU				*e*S		**Sn**	**22 36 31.0**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.31**	**346**	⇑P		**Pn**	**22 36 15.0**	**-1.4**
JOM	**Ohasama**	**1.38**	**328**	⇑P		**Pn**	**22 36 16.9**	**-0.5**
JOM				*e*S		**Sn**	**22 36 33.7**	**-0.9**
JFK	**Kawauchi**	**1.43**	**229**	⇑P		**Pn**	**22 36 16.9**	**-1.2**
JFK				*e*S		**Sn**	**22 36 33.5**	**-2.4**
JYK	**Kaneyama**	**1.59**	**293**	⇑P		**Pn**	**22 36 20.3**	**0.0**
ONAJ	**Iwakimizuishiy**	**1.66**	**224**	⇑P		**Pn**	**22 36 20.0**	**-1.2**
JTH	**Tanohata**	**1.66**	**350**	⇑P		**Pn**	**22 36 19.8**	**-1.4**
JRG	**Rokugo**	**1.66**	**312**	⇑P		**Pn**	**22 36 21.0**	**-0.2**
JFT	**Otama**	**1.69**	**243**	⇑P		**Pn**	**22 36 21.8**	**+0.1**
JYS	**Shirataka**	**1.71**	**268**	⇑P		**Pn**	**22 36 21.9**	**0.0**
JYS				*e*S		**Sn**	**22 36 42.6**	**-0.2**
JYW	**Yuwa**	**2.00**	**309**	⇑P		**Pn**	**22 36 26.5**	**+0.6**
JANG	**Nango**	**2.14**	**345**	⇑P		**Pn**	**22 36 27.2**	**-0.6**
JHO	**Hitachi**	**2.15**	**219**	⇑P		**Pn**	**22 36 26.6**	**-1.4**
JFY	**Yanaizu**	**2.19**	**247**	⇑P		**Pn**	**22 36 28.9**	**+0.3**
JSB	**Shiboa**	**2.27**	**235**	⇑P		**Pn**	**22 36 29.8**	**+0.1**
JAW	**Awa shima**	**2.35**	**275**	⇑P		**Pn**	**22 36 31.3**	**+0.6**
JNS	**Sasagawa**	**2.35**	**259**	⇑P		**Pn**	**22 36 31.1**	**+0.3**
JOG2	**Oga 2**	**2.49**	**311**	⇑P		**Pn**	**22 36 32.5**	**-0.2**
JHK	**Hiroka**	**2.76**	**248**	⇑P		**Pn**	**22 36 36.8**	**+0.5**
JKT	**Katashina**	**2.83**	**238**	⇑P		**Pn**	**22 36 38.3**	**+0.9**
JAG	**Ashikaga**	**2.90**	**231**	⇑P		**Pn**	**22 36 38.3**	**0.0**
JSI2	**Shiura 2**	**3.09**	**333**	⇑P		**Pn**	**22 36 41.7**	**+0.9**
JSD	**Sado**	**3.14**	**266**	⇑P		**Pn**	**22 36 41.5**	**-0.1**
JGK	**Kuni**	**3.35**	**240**	⇑P		**Pn**	**22 36 45.6**	**+1.1**
JJN	**Nakama**	**3.44**	**251**	⇑P		**Pn**	**22 36 47.0**	**+1.2**
JRY	**Ryogami san**	**3.51**	**230**	⇑P		**Pn**	**22 36 46.8**	**+0.1**
BSO4	**Boso 4**	**3.64**	**205**	⇓P		**Pn**	**22 36 49.7**	**+1.3**
MJAR	**Matsushiro Arr**	**3.66**	**242**	P		**Pn**	**22 36 49.7**	**+1.0**
	36nm,0.3s,baz=55,slow=9.9,SNR=178							
MJAR				S		**Sn**	**22 37 35.4**	**+4.5**
	57nm,0.3s,baz=107,slow=17,SNR=3.6							
MJAR				LR		LR	22 38 16.6	
	comp=Z,2μm,20.7s,baz=70,slow=39							
MAJO	**Matsushiro**	**3.66**	**242**	*d*iP		**Pn**	**22 36 52.4**	**+3.7**
MAJO	**Matsushiro**	**3.66**	**242**	*e*Pn		**Pn**	**22 36 49.9**	**+1.2**
MAT	**Matsushiro**	**3.66**	**242**	P		**Pn**	**22 36 49.8**	**+1.1**
MAT				S		**Sn**	**22 37 35.8**	**+4.9**
MAT	**Matsushiro**	**3.66**	**242**	P		**Pn**	**22 36 49.9**	**+1.2**
MJB9	**Matsu-Tunnel**	**3.66**	**243**	*e*Pn		**Pn**	**22 36 49.9**	**+1.2**
BSO3	**Boso 3**	**3.76**	**202**	P		**Pn**	**22 36 50.3**	**+0.4**
ERM	**Erimo**	**3.77**	**11**	*d*iP		**Pn**	**22 36 50.0**	**-0.3**
ERM				pmax	pmax			
	comp=Z,191nm,0.6s							
ERM	**Erimo**	**3.77**	**11**	*e*Pn		**Pn**	**22 36 49.7**	**-0.6**
BSO1	**Boso 1**	**3.78**	**196**	P		**Pn**	**22 36 50.0**	**+0.1**
JNG	**Nsakai**	**3.80**	**241**	⇑P		**Pn**	**22 36 51.9**	**+1.2**
JNT	**Takato**	**4.07**	**235**	P		**Pn**	**22 36 56.6**	**+2.0**
JHG	**Hegura jima**	**4.22**	**265**	⇑P		**Pn**	**22 36 56.8**	**+0.4**
JIM2	**Oshima 3**	**4.23**	**213**	P		**Pn**	**22 36 57.0**	**+0.4**
JYZW	**Yoshizawa**	**4.90**	**229**	P		**Pn**	**22 37 07.1**	**+1.3**
HMMJ	**Hamamatsu 2**	**5.00**	**228**	P		**Pn**	**22 37 09.3**	**+2.1**
INU	**Inuyama**	**5.12**	**236**	*e*Pn		**Pn**	**22 37 10.5**	**+1.7**
JHJ2	**Mitsune**	**5.54**	**201**	P		**Pn**	**22 37 13.9**	**-0.7**
JHJ2	**Mitsune**	**5.54**	**201**	*e*Pn		**Pn**	**22 37 14.1**	**-0.5**
JHJ	**Hachijo jima 2**	**5.54**	**202**	P		**Pn**	**22 37 13.9**	**-0.8**
	comp=Z,645nm,0.3s,baz=103,slow=1.6,SNR=83							
JHJ				S		**Sn**	**22 38 15.7**	**-1.8**
	comp=Z,420nm,0.3s,baz=243,slow=21,SNR=4.6							
JHJ				LR		LR	22 39 52.8	
	comp=Z,3μm,19.5s,baz=50,slow=42							
ASAJ	**Asahikawa**	**5.81**	**3**	P		**Pn**	**22 37 18.2**	**-0.1**
	comp=Z,17nm,0.3s,baz=210,slow=12,SNR=90							
ASAJ				S		**Sn**	**22 38 26.0**	**+2.0**
	baz=345,slow=32,SNR=2.3							
ASAJ	**Asahikawa**	**5.81**	**3**	*e*Pn		**Pn**	**22 37 17.7**	**-0.6**
ASAJ				S		**Sn**	**22 38 26.0**	**+2.0**
YUK	**Yuzh-Kuril'sk**	**6.34**	**24**	⇑*i*P		**Pn**	**22 37 24.1**	**-1.5**
KUR	**Kuril'sk**	**8.10**	**29**	⇑*e*P		**Pn**	**22 37 48.6**	**-1.1**
KUR				*e*S		**Sn**	**22 39 14.2**	**-6.0**
KUR				pmax	pmax			
	comp=N,45nm,0.5s							
KUR				pmax	pmax			
	comp=E,60nm,0.5s							
KUR				pmax	pmax			
	comp=Z,119nm,0.5s							
KUR				smax	smax			
	comp=N,80nm,0.4s							
KUR				smax	smax			
	comp=E,187nm,0.4s							
KUR				smax	smax			
	comp=N,537nm,2.1s							
KUR				smax	smax			
	comp=E,368nm,2.1s							
YSS	**Yuzh-Sakhalins**	**8.65**	**2**	⇑*i*P		**Pn**	**22 37 57.7**	**+0.5**
YSS				*e*S		**Sn**	**22 39 30.4**	**-3.4**
YSS				pmax	pmax			
	comp=Z,120nm,0.8s							
YSS				MLR	MLR			
	comp=Z,1μm,17.0s							
YSS				MLR	MLR			
	comp=N,1μm,13.0s							
YSS				MLR	MLR			
	comp=E,1μm,18.0s							
YSS	**Yuzh-Sakhalins**	**8.65**	**2**	*e*Pn		**Pn**	**22 37 56.4**	**-0.9**
VLA	**Vladivostok**	**9.21**	**305**	*c*iP		**Pn**	**22 38 09.5**	**+4.6**
MSHR	**Mys Shultsa**	**9.46**	**300**	*c*iP		**Pn**	**22 38 10.8**	**+2.5**
USRK	**Ussuriysk Ar.**	**9.70**	**311**	P		**Pn**	**22 38 13.7**	**+2.0**
	comp=E,1.2nm,0.3s,baz=145,slow=40,SNR=34							
USRK				LR		LR	22 41 41.3	
	comp=E,2μm,19.3s,baz=110,slow=36							
JNU	**Nakatsue**	**10.58**	**244**	P		**Pn**	**22 38 26.9**	**+3.2**
	comp=E,1.8nm,0.3s,baz=61,slow=6.6,SNR=5.1							
JNU				LR		LR	22 42 56.4	
	comp=E,3μm,18.6s,baz=115,slow=40							
JNU	**Nakatsue**	**10.58**	**244**	*e*Pn		**Pn**	**22 38 25.4**	**+1.6**
UGL	**Uglegorsk**	**10.77**	**359**	P		**Pn**	**22 38 26.0**	**-0.2**
UGL				*e*			22 40 30.0	
UGL				MLR	MLR			
	comp=N,1μm,16.0s							
UGL				MLR	MLR			
	comp=E,900nm,16.0s							
UGL				MLR	MLR			
	comp=Z,2μm,16.0s							
CBIJ	**Chichi jima**	**11.18**	**180**	*e*Pn		**Pn**	**22 38 28.7**	**-3.2**
CBIJ				S		**Sn**	**22 40 27.5**	**-8.5**
JCJ	**Chichijima**	**11.18**	**180**	P		**Pn**	**22 38 28.6**	**-3.3**
	comp=Z,36nm,0.3s,baz=278,slow=23,SNR=27							
JCJ				S		**Sn**	**22 40 27.5**	**-8.5**
	comp=Z,44nm,0.3s,baz=111,slow=21,SNR=6.0							
KSRS	**Korea Array**	**11.34**	**270**	P		**Pn**	**22 38 37.0**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=83,slow=13,SNR=21							
KSRS				LR		LR	22 42 31.8	
	comp=Z,1μm,21.6s,baz=74,slow=35							
KSRS				PcP		**PcP**	**22 44 27.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=172,slow=1.0,SNR=4.5							
KS01	**Wonju Array Si**	**11.36**	**270**	*e*Pn		**Pn**	**22 38 36.5**	**+2.0**
KS15	**Wonju Array Si**	**11.38**	**270**	*e*Pn		**Pn**	**22 38 35.9**	**+1.4**
KSAR	**Wonju Array Be**	**11.38**	**270**	P		**Pn**	**22 38 37.1**	**+2.5**
KSAR	**Wonju Array Be**	**11.38**	**270**	P		**Pn**	**22 38 37.0**	**+2.5**
KSAR				PcP		**PcP**	**22 44 27.8**	**+0.7**
MDJ	**Mudanjiang**	**11.38**	**308**	P		**Pn**	**22 38 37.1**	**+2.4**
MDJ				S		**Sn**	**22 40 43.9**	**+3.1**
MDJ				ScP		**ScP**	**22 47 57.6**	**+0.1**
MDJ				PMZ				
	comp=Z,9.0nm,1.3s							
MDJ				LN				
	comp=Z,1μm,16.6s							
MDJ				LE				
	comp=Z,790nm,16.6s							
MDJ				LZ				
	comp=Z,1μm,17.6s							
HABR	**Khabarovsk**	**11.42**	**335**	*e*P		**Pn**	**22 38 34.1**	**-1.0**
HABR				*e*S		**Sn**	**22 40 41.0**	**-0.6**
HABR				pmax	pmax			
	comp=E,19nm,1.5s							
HABR				pmax	pmax			
	comp=N,22nm,1.5s							
HABR				pmax	pmax			
	comp=Z,39nm,1.5s							
HABR				MLR	MLR			
	comp=Z,656nm,10.0s							
TJN	**Taejon**	**11.99**	**265**	*d*iP		Pn	22 38 48.2	+5.2
INCN	**Inchon**	**12.35**	**271**	*e*Pn		**Pn**	**22 38 49.0**	**+1.0**
TYV	**Tymovskoe**	**12.56**	**1**	*e*P		**Pn**	**22 38 49.8**	**-0.9**
TYV				*e*			22 41 18.0	
TYV				pmax	pmax			
	comp=Z,26nm,0.8s							
TYV				MLR	MLR			
	comp=N,2μm,18.0s							
TYV				MLR	MLR			
	comp=Z,2μm,20.0s							
KLR	**Kul'dur**	**13.28**	**329**	P		**Pn**	**22 38 59.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=130,slow=12,SNR=14							
KLR				LR		LR	22 44 06.9	
	comp=Z,2μm,19.3s,baz=146,slow=37							
KLR				PcP		**PcP**	**22 44 28.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=3.8,slow=18,SNR=2.9							
CN2	**Changchun**	**13.80**	**299**	*e*P		**Pn**	**22 39 08.8**	**+1.2**
CN2				*e*sP		P	22 39 19.9	+4.1
CN2				*e*S		**Sn**	**22 41 41.5**	**+1.7**
CN2				*e*SS		**S**	**22 41 58.3**	**-3.2**
CN2				PMZ				
	comp=Z,10.0nm,0.7s							
CN2				PMZ				
	comp=Z,100nm,3.0s							
CN2				LN				
	comp=Z,600nm,17.0s							
CN2				LE				
	comp=Z,1μm,17.0s							
SNY	**Shenyang**	**14.71**	**290**	⇑P		**P**	**22 39 27.0**	**+1.1**
SNY				S		**S**	**22 42 20.0**	**-0.2**
SNY				pmax	pmax			
	comp=Z,32nm,0.5s							
SNY				LR	LR			
	comp=N,360nm,12.8s							
SNY				LR	LR			
	comp=E,2μm,16.7s							
SNY				LR	LR			
	comp=Z,3μm,17.1s							
SKR	**Severo-Kuril's**	**15.82**	**34**	*e*P		**Pn**	**22 39 33.4**	**-1.1**
SKR				pmax	pmax			
	comp=Z,99nm,1.0s							
DL2	**Dalian**	**16.12**	**279**	P		**P**	**22 39 40.3**	**-1.3**
DL2				S		**Sn**	**22 42 36.4**	**0.0**
DL2				PMZ				
	comp=Z,140nm,1.0s							
DL2				LN				
	comp=Z,590nm,15.9s							
DL2				LE				
	comp=Z,930nm,15.3s							
DL2				LZ				
	comp=Z,900nm,18.5s							
JOW	**Kunigami**	**16.39**	**230**	*e*Pn		**P**	**22 39 43.5**	**-1.1**
	comp=Z,53nm,1.3s							
PEA0	**Petropavlovsk-**	**18.26**	**31**	*e*P		**P**	**22 40 02.3**	**-2.9**
PEA0				*e*Pn		**Pn**	**22 40 05.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**18.26**	**31**	*e*P		**Pn**	**22 40 05.9**	**+0.7**
	comp=Z,140nm,1.6s							
PETK	**Petropavlovsk-**	**18.26**	**31**	P		**P**	**22 40 01.6**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=189,slow=9.2,SNR=6.7							
PETK				LR		LR	22 46 43.7	
	comp=Z,615nm,21.5s,baz=216,slow=35							
PET	**Petropavlovsk**	**18.59**	**32**	⇓*i*P		**Pn**	**22 40 10.4**	**+1.2**
PET				*e*S		**Sn**	**22 43 36.4**	**+0.3**
PET				pmax	pmax			
	comp=Z,39nm,1.4s							
PET				pmax	pmax			
	comp=Z,400nm,13.5s							
PET				pmax	pmax			
	comp=Z,200nm,12.3s							
PET				smax	smax			
	comp=E,500nm,8.8s							
PET				smax	smax			
	comp=E,400nm,10.1s							
PET				MLR	MLR			
	comp=Z,1μm,21.0s							
PET				MLR	MLR			
	comp=Z,900nm,17.0s							
PET	**Petropavlovsk**	**18.59**	**32**	*e*P		**Pn**	**22 40 09.9**	**+0.7**
	comp=Z,59nm,1.1s							
SSE	**Sheshan**	**18.72**	**254**	P		**Pn**	**22 40 10.9**	**+0.1**
SSE				S		**Sn**	**22 43 39.5**	**+0.1**
SSE				PMZ				
	comp=Z,53nm,0.8s							
SSE				PMZ				
	comp=Z,180nm,5.2s							
SSE				LN				
	comp=Z,390nm,15.0s							
SSE				LE				
	comp=Z,1μm,15.0s							
SSE				LZ				
	comp=Z,2μm,15.7s							
NJ2	**Nanjing**	**20.08**	**259**	*e*P		**P**	**22 40 24.5**	**-0.7**
NJ2				PMZ				
	comp=Z,24nm,0.8s							
NJ2				LN				
	comp=Z,710nm,16.8s							
NJ2				LE				
	comp=Z,1μm,18.4s							
NJ2				LZ				
	comp=Z,2μm,17.3s							
TIA	**Tai'an**	**20.08**	**272**	⇑P		**P**	**22 40 23.9**	**-1.3**
TIA				S		**S**	**22 44 05.9**	**-3.4**
TIA				PMZ				
	comp=Z,50nm,1.1s							
TIA				LN				
	comp=Z,350nm,16.1s							
TIA				LE				
	comp=Z,770nm,14.3s							
TIA				LZ				
	comp=Z,940nm,14.9s							
BJI	**Beijing**	**20.26**	**283**	P		**P**	**22 40 26.1**	**-1.0**
BJI				pP		**sP**	**22 40 36.8**	**-1.7**
BJI				sP		pP	22 40 43.2	+8.4
BJI				S		**S**	**22 44 05.7**	**-7.0**
BJI				sS		**sS**	**22 44 27.1**	**+2.0**
BJI				PMZ				
	comp=Z,26nm,0.9s							
BJI				PMZ				
	comp=Z,150nm,3.4s							
BJI				LN				
	comp=Z,530nm,15.2s							
BJI				LE				
	comp=Z,610nm,17.0s							
BJI				LZ				
	comp=Z,410nm,20.3s							
BJT	**Baijiatuan**	**20.26**	**283**	*e*P		**P**	**22 40 25.5**	**-1.7**
BJT				pmax	pmax			
	comp=Z,25nm,0.5s							
BJT	**Baijiatuan**	**20.26**	**283**	*e*P		**P**	**22 40 25.5**	**-1.7**
	comp=Z,26nm,0.5s							
CLNS	**Chul'man**	**21.81**	**334**	*e*P		**P**	**22 40 50.1**	**+6.4**
CLNS				*e**PP		sP	22 41 03.1	+7.9
CLNS				*e*			22 41 10.3	
CLNS				*e*			22 44 45.2	
CLNS				*e*SS		SS	22 45 13.5	
CLNS				*e*			22 52 03.4	
CLNS				pmax	pmax			
	comp=E,9.0nm,1.2s							
CLNS				pmax	pmax			
	comp=Z,38nm,1.0s							
CLNS				pmax	pmax			
	comp=N,36nm,1.2s							
CLNS				pmax	pmax			
	comp=E,13nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,25nm,1.1s							
CLNS				pmax	pmax			
	comp=N,45nm,1.3s							
CLNS				MLR	MLR			
	comp=N,752nm,16.0s							
CLNS				MLR	MLR			
	comp=Z,955nm,15.0s							
CLNS				MLR	MLR			
	comp=E,377nm,13.0s							
MA2	**Magadan**	**21.98**	**12**	P		**P**	**22 40 45.6**	**+0.2**
	comp=E,34nm,0.8s,baz=214,slow=9.9,SNR=11							
MA2				LR		LR	22 49 13.9	
	comp=E,414nm,21.9s,baz=216,slow=36							
MA2	**Magadan**	**21.98**	**12**	*e*P		**P**	**22 40 46.0**	**+0.5**
	comp=E,229nm,0.8s							
SSLB	**Suanglung**	**23.20**	**238**	*e*P		**P**	**22 40 57.5**	**-1.2**
	comp=E,23nm,0.7s							
YULB	**Yu-li**	**23.25**	**236**	*e*P		**P**	**22 40 59.0**	**-0.1**
	comp=E,121nm,2.0s							
HHC	**Hu-ho-hao-te**	**23.72**	**286**	*e*P		**P**	**22 41 02.6**	**-1.1**
HHC				pP		sP	22 41 13.4	-2.1
HHC				sP		pP	22 41 20.0	+8.1
HHC				S		**S**	**22 45 11.8**	**-5.2**
HHC				sS		sS	22 45 26.3	-4.6
HHC				PMZ				
	comp=E,15nm,1.2s							
HHC				PMZ				
	comp=E,72nm,4.9s							
HHC				LN				
	comp=E,410nm,14.7s							
HHC				LE				
	comp=E,1μm,15.7s							
HHC				LZ				
	comp=E,1μm,15.3s							
TPUB	**Ta-pu**	**23.75**	**237**	*e*P		**P**	**22 41 04.0**	**0.0**
	comp=E,206nm,1.8s							
TWG	**Pinlang**	**23.80**	**236**	*e*P		**P**	**22 41 04.5**	**+0.1**
	comp=E,198nm,0.9s							
QZH	**Quanzhou**	**24.05**	**243**	P		**P**	**22 41 06.5**	**-0.3**
QZH				S		**S**	**22 45 14.9**	**-7.4**
QZH				LN				
	comp=E,860nm,13.2s							
QZH				LE				
	comp=E,3μm,20.9s							
QZH				LZ				
	comp=E,1μm,21.7s							
WHN	**Wuhan**	**24.20**	**260**	⇑*i*P		**P**	**22 41 07.8**	**-0.3**
WHN				pP		**pP**	**22 41 17.0**	**+0.4**
WHN				S		**S**	**22 45 24.1**	**-0.6**
WHN				PMZ				
	comp=E,95nm,0.9s							
WHN				LN				
	comp=E,4μm,24.6s							
WHN				LE				
	comp=E,2μm,12.4s							
WHN				LZ				
	comp=E,3μm,17.8s							
CIT	**Chita**	**24.24**	**314**	*e*P		**P**	**22 41 08.2**	**-0.2**
CIT				*e*			22 41 17.6	
CIT				*e*			22 41 24.8	
CIT				pmax	pmax			
	comp=Z,139nm,1.2s							
YAK	**Yakutsk**	**24.98**	**346**	P		**P**	**22 41 15.3**	**+0.4**
	comp=Z,6.3nm,0.4s,baz=329,slow=22,SNR=5.0							
YAK	**Yakutsk**	**24.98**	**346**	*e*P		**P**	**22 41 13.8**	**-1.1**
YAK				*e**PP		**pP**	**22 41 24.5**	**+1.2**
YAK				*e*PPP		PPP	22 41 53.3	
YAK				*e*S		**S**	**22 45 32.9**	**-3.8**
YAK				*e**SS		**sS**	**22 45 49.8**	**-0.7**
YAK				*e*SSS		SSS	22 46 35.1	
YAK				pmax	pmax			
	comp=E,23nm,1.1s							
YAK				pmax	pmax			
	comp=N,31nm,1.1s							
YAK				pmax	pmax			
	comp=Z,107nm,1.0s							
YAK				smax	smax			
	comp=E,375nm,4.1s							
YAK				smax	smax			
	comp=N,82nm,2.0s							
YAK				MLR	MLR			
	comp=Z,942nm,13.0s							
YAK				MLR	MLR			
	comp=N,885nm,14.0s							
YAK				MLR	MLR			
	comp=E,298nm,16.0s							
YAK	**Yakutsk**	**24.98**	**346**	*e*P		**P**	**22 41 14.7**	**-0.2**
	comp=E,99nm,0.9s							
SEY	**Seymchan**	**25.42**	**11**	P		**P**	**22 41 20.9**	**+2.0**
	comp=E,31nm,0.8s,baz=193,slow=6.8,SNR=66							
SEY	**Seymchan**	**25.42**	**11**	⇑*i*P		**P**	**22 41 20.5**	**+1.6**
BOD	**Bodaibo**	**26.82**	**326**	*e*P		**P**	**22 41 30.8**	**-0.8**
BOD				pmax	pmax			
	comp

SONM LR LR 22 53 07.9
comp=Z,670nm,18.1s,baz=94,slow=37
ENH Enshi 28.11 263 *e*P **P 22 41 42.7 -0.7**
comp=Z,142nm,0.9s
H11N2 WAKE ISLAND Hy 28.28 124 T T 23 11 32.1
SNR=5394
H11N1 WAKE ISLAND Hy 28.29 124 T T 23 12 05.9
baz=197,slow=74,SNR=6764
H11N3 WAKE ISLAND Hy 28.30 124 T T 23 11 36.0
baz=316,slow=74,SNR=5539
H11S1 WAKE ISLAND Hy 29.04 126 T T 23 12 29.7
SNR=2483
H11S3 WAKE ISLAND Hy 29.04 126 T T 23 13 03.7
baz=316,slow=74,SNR=3240
H11S2 WAKE ISLAND Hy 29.06 126 T T 23 13 04.6
baz=253,slow=74,SNR=2508
IRK Irkutsk 29.75 310 *e*P **P 22 41 57.3 -0.5**
IRK pmax pmax
comp=Z,32nm,1.2s
TLY Talaya 30.01 309 P **P 22 42 00.7 +0.6**
comp=Z,11nm,0.7s,baz=106,slow=6.1,SNR=8.2
TLY LR LR 22 54 37.0
comp=Z,854nm,18.6s,baz=99,slow=37
TLY Talaya 30.01 309 *e*P **P 22 42 00.9 +0.8**
TLY *e* 22 43 16.5
TLY *e*S **S 22 46 55.5 -0.7**
TLY *e*SSS SSS 22 48 45.7
TLY pmax pmax
comp=Z,14nm,0.8s
TLY MLR MLR
comp=Z,628nm,15.0s
TLY Talaya 30.01 309 *e*P **P 22 42 00.8 +0.6**
comp=Z,15nm,0.8s
ZAK Zakamensk 30.02 306 *e*P **P 22 41 59.0 -1.3**
ZAK *e* 22 44 58.1
ZAK pmax pmax
comp=Z,16nm,1.0s
LZH Lanzhou 30.52 278 *e*P **P 22 42 05.3 +0.4**
LZH pP sP 22 42 16.3 -0.6
LZH sP pP 22 42 21.9 +8.5
LZH PP **PnPn 22 43 07.0 +2.8**
LZH *e*S **S 22 46 57.1 -7.6**
LZH SS **SnSn 22 48 41.0 -1.0**
LZH PMZ
comp=Z,35nm,1.0s
LZH PMZ
comp=Z,91nm,4.2s
LZH LN
comp=Z,550nm,14.0s
LZH LE
comp=Z,820nm,14.8s
LZH LZ
comp=Z,1µm,15.3s
TGY Tagaytay City 30.61 224 P **P 22 42 06.8 +1.1**
comp=Z,93nm,0.3s,baz=235,slow=9.5,SNR=2.8
MOY Mondy 31.64 308 *e*P **P 22 42 14.6 0.0**
MOY pmax pmax
comp=Z,15nm,2.1s
GYA Guiyang 32.09 259⇓ *i*P **P 22 42 17.8 -1.0**
GYA pP sP 22 42 33.0 +2.2
GYA PP **PP 22 43 28.4 -3.1**
GYA PcP **PcP 22 45 10.6 +2.8**
GYA S S 22 47 26.9 -2.5
GYA sS sS 22 47 50.0 +6.6
GYA ScP **ScP 22 48 49.2 0.0**
GYA SS **SnSn 22 49 23.0 +2.6**
GYA ScS **ScS 22 52 45.6 -2.6**
GYA PMZ
comp=Z,50nm,0.6s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,640nm,16.8s
GYA LE
comp=Z,580nm,17.6s
GYA LZ
comp=Z,600nm,17.5s
CD2 Chengdu 32.34 269 *e*P **P 22 42 20.5 -0.4**
CD2 pP sP 22 42 32.5 -0.4
CD2 sP pP 22 42 38.1 +8.7
CD2 S **S 22 47 31.5 -1.6**
CD2 sS sS 22 47 52.3 +5.2
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.0s
CD2 LN
comp=Z,410nm,14.2s
CD2 LE
comp=Z,580nm,16.2s
CD2 LZ
comp=Z,620nm,15.2s
BILL Bilibino 32.62 17⇑ *i*P **P 22 42 23.4 +0.5**
BILL *e**PP **sP 22 42 33.2 -1.7**
BILL *e*PPP PPP 22 43 37.4
BILL pmax pmax
comp=Z,20nm,1.2s
BILL MLR MLR
comp=Z,342nm,24.0s
BILL Bilibino 32.62 17 *e*P **P 22 42 22.2 -0.7**
comp=Z,17nm,0.9s
GTA Gaotai 32.83 285 *e*P **P 22 42 25.7 +0.5**
GTA pP pP 22 42 33.3 -0.4
GTA PcP **PcP 22 45 10.4 +0.8**
GTA S **S 22 47 39.4 -1.4**
GTA ScP **ScP 22 48 51.4 -0.2**
GTA PcS **PcS 22 48 55.2 +0.2**
GTA SS **SnSn 22 49 37.5 -0.6**
GTA PMZ
comp=Z,15nm,0.8s
GTA PMZ
comp=Z,69nm,5.2s
GTA LN
comp=Z,370nm,19.5s
GTA LE
comp=Z,940nm,16.6s
GTA LZ
comp=Z,1µm,18.1s
QIZ Qiongzhong 34.05 245 P **P 22 42 37.3 +1.5**
QIZ sP **sP 22 42 53.4 +5.5**
QIZ S **S 22 48 02.3 +2.6**
QIZ PMZ
comp=Z,19nm,2.3s
QIZ LN
comp=Z,170nm,16.0s
QIZ LE
comp=Z,400nm,16.0s
QIZ LZ
comp=Z,570nm,16.6s
TIXI Tiksi 34.11 352 P **P 22 42 35.2 -0.6**
comp=Z,3.1nm,0.4s,baz=141,slow=6.3,SNR=17
TIXI Tiksi 34.11 352⇑ *i*P **P 22 42 35.7 -0.1**
TIXI *i**PP **pP 22 42 44.9 +0.6**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 34.11 352 *e*P **P 22 42 35.2 -0.6**
comp=Z,9.0nm,1.0s
TIXI *e* 22 42 46.5
DAV Davao City (W) 34.56 210 LR LR 22 56 01.9
comp=Z,274nm,20.8s,baz=56,slow=35
MIDW Midway 35.01 94 *e*P **P 22 42 44.2 +0.2**
comp=Z,33nm,0.9s
KMI Kunming 35.81 260 P **P 22 42 51.0 -0.2**
KMI pP sP 22 43 06.1 +2.8
KMI sP pP 22 43 10.4 +11
KMI PP **PP 22 44 15.4 +2.6**
KMI S **S 22 48 22.4 -4.7**
KMI sS sS 22 48 47.4 +6.2
KMI SS **SnSn 22 50 47.3 -3.4**
KMI PMZ
comp=Z,40nm,0.9s
KMI PMZ
comp=Z,150nm,4.3s
KMI LN
comp=Z,590nm,17.0s
KMI LE
comp=Z,660nm,16.3s
KMI LZ
comp=Z,890nm,17.1s
MYLDM Lahad Datu 39.41 219 *e*P **P 22 43 22.0 +0.6**
comp=Z,38nm,1.0s
TNA Tin City 39.43 30 *e*P **P 22 43 22.0 +0.9**
comp=Z,28nm,1.1s
NONG Nongkai 39.54 250 P **P 22 43 23.3 +0.7**
comp=Z,52nm,1.3s

SWI Sorong 40.27 197 P P 22 43 22.4 -6.2
WMQ Urumqi 40.86 296 P **P 22 43 34.6 +1.2**
WMQ pP sP 22 43 45.3 -0.2
WMQ sP pP 22 43 52.3 +10
WMQ PcP **PcP 22 45 34.1 +0.4**
WMQ S **S 22 49 42.1 -0.7**
WMQ SS **SS 22 52 39.6 -4.8**
WMQ PMZ
comp=Z,47nm,0.6s
WMQ PMZ
comp=Z,87nm,3.6s
WMQ LN
comp=Z,190nm,13.6s
WMQ LE
comp=Z,130nm,14.2s
WMQ LZ
comp=Z,100nm,18.2s
LOEI Loei 41.28 251 P **P 22 43 34.5 -2.5**
comp=Z,151nm,1.0s,comp=Z,7µm
SDPT Sand Point 41.45 47 *e*P **P 22 43 38.2 +0.3**
comp=Z,115nm,1.4s
ZAA0 Zalesovo Array 41.55 311 *e*P **P 22 43 38.7 -0.1**
ZALV Zalesovo Beam 41.55 311 P **P 22 43 39.0 +0.3**
comp=Z,22nm,0.4s,baz=84,slow=7.5,SNR=86
ZALV PcP **PcP 22 45 35.5 -0.1**
comp=Z,14nm,0.6s,baz=96,slow=2.9,SNR=8.3
ZALV LR LR 23 01 32.4
comp=Z,596nm,18.1s,baz=68,slow=37
UTTA Uttaradit 41.67 252 P **P 22 43 40.9 +0.7**
comp=Z,5.9nm,1.0s,comp=Z,51nm
CHAI Chaiyaphum 41.77 249 P **P 22 43 41.4 +0.4**
comp=Z,6.2nm,1.2s
LAMP Lampang 41.89 254 P **P 22 43 43.0 +1.0**
comp=Z,8.0nm,1.0s
MRSI Marisa 42.01 211 P **P 22 43 43.9 +1.0**
comp=Z,45nm,1.2s,comp=Z,6µm
FAKI Fak Fak 42.05 195 *e*P **P 22 43 44.2 +1.0**
comp=Z,30nm,0.9s
PBKT Sadao Pong 42.09 251 P **P 22 43 44.0 +0.4**
comp=Z,18nm,1.3s
CHTO Chiang Mai 42.24 255 P **P 22 43 44.8 -0.1**
comp=Z,123nm,0.9s
CHTO Chiang Mai 42.24 255 *e*P **P 22 43 45.0 +0.1**
CHTO pmax pmax
comp=Z,18nm,0.8s
CHTO Chiang Mai 42.24 255 *e*P **P 22 43 45.0 +0.1**
comp=Z,18nm,0.8s
NRIK Noril'sk 42.39 335 P **P 22 43 45.4 -0.1**
comp=Z,3.3nm,0.3s,baz=94,slow=3.8,SNR=8.3
NRIK PcP **PcP 22 45 38.8 +0.6**
comp=Z,6.5nm,0.6s,baz=93,slow=3.9,SNR=4.0
NVS Novosibirsk 42.45 313 *e*P **P 22 43 45.2 -0.9**
NVS *e*S **S 22 50 03.8 -2.0**
NVS pmax pmax
comp=Z,28nm,1.3s
NVS pmax pmax
comp=E,27nm,1.5s
NVS smax smax
comp=E,32nm,2.0s
CM31 Chiang Mai Arr 42.45 255 *e*P **P 22 43 47.0 +0.5**
CMAR Chiang Mai Arr 42.45 255 P **P 22 43 46.8 +0.2**
comp=E,8.7nm,0.9s,baz=44,slow=5.8,SNR=41
CMAR PcP **PcP 22 45 40.0 +0.8**
comp=E,4.1nm,0.8s,baz=15,slow=2.9,SNR=7.6
CMAR LR LR 23 02 57.6
comp=E,266nm,18.0s,baz=40,slow=38
CM01 Chiang Mai Arr 42.46 255 *e*P **P 22 43 46.4 -0.3**
SUKH Sukhothai 42.52 253 P **P 22 43 47.6 +0.5**
comp=E,12nm,0.9s,comp=E,106nm
CHGN Chignik 42.60 45 *e*P **P 22 43 47.7 +0.3**
LSA Lhasa 42.75 274 P **P 22 43 50.3 +0.8**
LSA PMZ
comp=E,18nm,1.1s
LSA Lhasa 42.75 274 *e*P **P 22 43 50.2 +0.8**
LSA pmax pmax
comp=E,25nm,0.6s
LSA Lhasa 42.75 274 *e*P **P 22 43 50.2 +0.8**
comp=E,25nm,0.6s
SANI Sanana 42.87 204 P **P 22 43 49.8 -0.1**
comp=Z,73nm,0.8s
LUWI Luwuk 43.07 209 *e*P **P 22 43 51.8 +0.3**
comp=Z,45nm,0.9s
UMPA Umpang Tak 43.89 252 P **P 22 44 01.1 +2.9**
comp=Z,14nm,1.2s
TT01 Tatalina 44.00 35 *e*P **P 22 43 59.3 +0.7**
MK01 Makanchi Array 44.01 301 *e*P **P 22 43 58.5 -0.3**
MK31 Makanchi Array 44.01 301 *e*P **P 22 43 58.9 0.0**
MK31 Makanchi Array 44.01 301 *e*P **P 22 43 58.9 0.0**
MKAR Makanchi Array 44.01 301 P **P 22 43 58.9 0.0**
comp=Z,11nm,0.7s,baz=86,slow=9.7,SNR=67
MKAR LR LR 23 02 55.2
comp=Z,207nm,18.2s,baz=80,slow=37
TTA Tatalina 44.01 35 *e*P **P 22 43 58.8 +0.1**
TTA pmax pmax
comp=Z,32nm,1.8s
TTA Tatalina 44.01 35 *e*P **P 22 43 58.8 +0.1**
comp=Z,32nm,1.8s
SHL Shillong 44.08 269 *e*P **P 22 43 58.0 -1.9**
SHL *e*P **P 22 43 58.0 -1.9**
SVW2 Sparrevohn 44.12 38 *e*P **P 22 44 00.6 +1.1**
comp=Z,15nm,1.2s
PCI Palu 44.14 213 P **P 22 44 00.3 +0.1**
comp=Z,64nm,1.1s
MAKZ Makanchi 44.22 301 *e*P **P 22 44 00.6 +0.1**
MAKZ pmax pmax
comp=Z,27nm,0.9s
MAKZ Makanchi 44.22 301 *e*P **P 22 44 00.6 +0.1**
comp=Z,26nm,0.9s
RSO Redoubt South 45.51 39 *e*P **P 22 44 12.0 +1.2**
KURK Kurchatov 45.67 307 P **P 22 44 12.4 +0.4**
KURK Kurchatov 45.67 307 P **P 22 44 12.4 +0.4**
KDAK Kodiak Island 45.72 43 *e*P **P 22 44 12.8 +0.5**
KDAK pmax pmax
comp=Z,19nm,0.8s
KDAK Kodiak Island 45.72 43 *e*P **P 22 44 12.8 +0.5**
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 45.74 307 P **P 22 44 12.4 -0.2**
comp=Z,57nm,0.7s,baz=83,slow=8.2,SNR=379
PPLA Purkeypile 45.76 36 *e*P **P 22 44 14.5 +1.8**
comp=Z,56nm,1.7s
CAST Castle Rocks 45.81 35 *e*P **P 22 44 14.5 +1.6**
comp=Z,53nm,1.9s
SPU Mount Spurr 45.83 38 *e*P **P 22 44 14.6 +1.4**
HOM Homer 46.09 40 *e*P **P 22 44 17.0 +1.8**
comp=Z,58nm,0.8s
TARA Tarawa 46.30 135 *e*P **P 22 44 18.4 +1.0**
comp=Z,262nm,1.3s
BPAW Bear Paw Mtn. 46.31 34 *e*P **P 22 44 18.1 +1.2**
comp=Z,20nm,1.5s
CNPM China Poot 46.31 40 *e*P **P 22 44 17.9 +1.0**
comp=Z,21nm,1.3s
KTH Kantishna Hill 46.33 35 *e*P **P 22 44 18.5 +1.3**
comp=Z,21nm,1.0s
MLY Manley 46.43 33 *e*P **P 22 44 19.4 +1.5**
comp=Z,38nm,1.6s
SUA Susitna One 46.45 38 *e*P **P 22 44 19.3 +1.1**
comp=Z,18nm,1.0s
BRLK Bradley Lake 46.47 40 *e*P **P 22 44 18.4 +0.2**
comp=Z,29nm,1.3s
TRF Thorofare Moun 46.62 35 *e*P **P 22 44 20.2 +0.7**
comp=Z,11nm,0.9s
COLD Coldfoot 46.73 30 *e*P **P 22 44 21.5 +1.4**
comp=Z,9.4nm,1.1s
PDGK Podgornoye 46.77 297 P **P 22 44 20.5 -0.2**
PDGK pmax pmax
comp=Z,21nm,0.6s
KSM Kuching 46.90 226 *e*P **P 22 44 23.0 +1.0**
comp=Z,23nm,1.1s
SPSI Sidrap Palu 46.93 211 P **P 22 44 22.2 0.0**
comp=Z,21nm,1.2s
RC01 Rabbit Creek A 46.96 38 *e*P **P 22 44 23.1 +1.2**
comp=Z,19nm,0.9s
BWN Browne 46.97 34 *e*P **P 22 44 25.0 +2.9**
comp=Z,92nm,1.2s
SAUI Saumlaki 47.16 195 *e*P **P 22 44 24.9 +0.9**
comp=Z,707nm,1.1s
SEW Seward 47.17 39 *e*P **P 22 44 23.7 +0.2**
comp=Z,23nm,1.1s
MCK McKinley 47.22 34 *e*P **P 22 44 24.7 +0.7**
MCK *e**PP **sP 22 44 35.9 -0.3**
MCK McKinley 47.22 34 *e*P **P 22 44 24.7 +0.7**
MCK epP **sP 22 44 35.9 -0.3**
PMR Palmer 47.22 37 *e*P **P 22 44 24.5 +0.5**
PMR pmax pmax
comp=Z,13nm,0.9s
PMR Palmer 47.22 37 *e*P **P 22 44 24.5 +0.5**
comp=Z,13nm,0.9s
JOHN Johnston Islan 47.26 103 *e*P **P 22 44 24.8 0.0**
comp=Z,259nm,1.1s
RND Reindeer 47.26 35 *e*P **P 22 44 24.9 +0.5**
RND pmax pmax
comp=Z,22nm,1.1s
RND Reindeer 47.26 35 *e*P **P 22 44 24.9 +0.5**
comp=Z,22nm,1.1s
MDM Murphy Dome 47.50 33 *e*P **P 22 44 27.5 +1.3**
comp=Z,41nm,1.3s
WRH Wood River Hil 47.57 33 *e*P **P 22 44 27.6 +0.9**
comp=Z,20nm,0.9s
SML Sawmill 47.59 37 *e*P **P 22 44 27.9 +1.0**
SML pmax pmax
comp=Z,57nm,1.4s
SML Sawmill 47.59 37 *e*P **P 22 44 27.9 +1.0**
comp=Z,58nm,1.4s
COLA College 47.66 33*d* *i*P **P 22 44 28.6 +1.2**
COLA pmax pmax
comp=Z,8.0nm,1.1s
COLA College 47.66 33 *e*P **P 22 44 28.5 +1.2**
comp=Z,219nm,0.3s
CCB Clear Creek Bu 47.69 33 *e*P **P 22 44 28.5 +0.9**
comp=Z,7.6nm,1.0s
PMG Port Moresby 47.69 173 *e*P **P 22 44 28.1 0.0**
PMG pmax pmax
comp=Z,15nm,1.0s
PMG Port Moresby 47.69 173 *e*P **P 22 44 28.1 0.0**
comp=Z,15nm,1.0s
GUN Gumba 47.69 275 *e*Pn **P 22 44 28.9 +0.4**
comp=Z,290nm,0.9s
KAPI Kappang 47.89 211 P **P 22 44 31.8 +2.2**
comp=Z,6.8nm,0.2s,baz=34,slow=9.1,SNR=8.6
KAPI Kappang 47.89 211 *e*P **P 22 44 31.7 +2.0**
comp=Z,40nm,0.9s
DHY Denali Highway 47.95 35 *e*P **P 22 44 30.6 +0.7**
comp=Z,15nm,1.2s
SCM Sheep Creek Mo 48.06 37 *e*P **P 22 44 31.8 +1.2**
SCM pmax pmax
comp=Z,22nm,1.0s
SCM Sheep Creek Mo 48.06 37 *e*P **P 22 44 31.8 +1.2**
comp=Z,22nm,1.0s
HDA Harding Lake 48.06 33 *e*P **P 22 44 31.3 +0.8**
comp=Z,35nm,1.5s
IL1 Eielson Array 48.08 33 *e*P **P 22 44 30.6 0.0**
ILAR Eielson Array 48.08 33 P **P 22 44 30.8 +0.1**
comp=Z,6.6nm,0.8s,baz=268,slow=6.4,SNR=78
ILAR LR LR 23 07 11.0
comp=Z,109nm,18.1s,baz=288,slow=39
ILB Eielson Array 48.08 33 *e*P **P 22 44 30.7 +0.1**
KKN Kakani 48.21 275 *e*Pn **P 22 44 32.7 +0.3**
comp=Z,235nm,0.8s
PKIN Phulchoki 48.22 275 *e*Pn **P 22 44 32.3 -0.2**
comp=Z,64nm,0.8s
DMN Daman 48.43 275 *e*Pn **P 22 44 34.4 +0.2**
comp=Z,57nm,0.7s
GKN Gorkha 48.62 276 *e*Pn **P 22 44 35.7 +0.2**
comp=Z,338nm,1.0s
BBKI Banjar Baru 48.68 218 P **P 22 44 36.0 +0.2**
comp=Z,73nm,1.2s
KLU Klutina 48.76 37 *e*P **P 22 44 37.3 +1.3**
KLU epP **sP 22 44 48.0 -0.3**
PAX Paxson 48.82 35 *e*P **P 22 44 37.1 +0.6**
PAX pmax pmax
comp=Z,10.0nm,0.8s
PAX Paxson 48.82 35 *e*P **P 22 44 37.1 +0.6**
comp=Z,10.0nm,0.8s
DIV Divide 48.87 38 *e*P **P 22 44 38.2 +1.4**
comp=Z,15nm,0.8s
EYAK Cordova Ski Ar 48.95 39 *e*P **P 22 44 38.3 +0.9**
EYAK epP **sP 22 44 51.0 +1.3**
DOT Dot Lake 49.39 34 *e*P **P 22 44 40.6 -0.1**
comp=Z,18nm,0.7s
BMRM Bremner River 49.46 38 *e*P **P 22 44 42.3 +1.0**
comp=Z,22nm,1.1s
RAGM Ragged Mountai 49.50 39 *e*P **P 22 44 43.2 +1.5**
comp=Z,23nm,1.1s
KOLN Koldanda 49.54 276 *e*Pn **P 22 44 42.9 +0.3**
comp=Z,46nm,0.6s
TKM2 Tokmak 2 49.61 298 *e*P **P 22 44 43.5 +0.6**
TKM2 pmax pmax
comp=Z,31nm,0.6s
TKM2 Tokmak 2 49.61 298 *e*P **P 22 44 43.5 +0.6**
comp=Z,32nm,0.6s
MENT Mentasta 49.62 35 *e*P **P 22 44 43.5 +0.9**
comp=Z,25nm,1.2s
PYUN Piuthan 49.86 277 *e*Pn **P 22 44 45.4 +0.4**
comp=Z,330nm,1.0s
CRQM Cirque 50.20 38 *e*P **P 22 44 48.8 +1.7**
comp=Z,21nm,0.9s
BVAR Borovoye Array 50.21 312 P **P 22 44 47.1 0.0**
comp=Z,7.1nm,0.5s,baz=75,slow=8.0,SNR=40
BVAR PcP **PcP 22 46 06.1 +0.2**
comp=Z,14nm,0.5s,baz=93,slow=2.9,SNR=11
OTUK Ortayu 50.22 305 P **P 22 44 47.0 -0.3**
OTUK pmax pmax
comp=Z,93nm,1.0s
BRVK Borovoye 50.26 312*d* *i*P **P 22 44 47.3 -0.2**
BRVK *i**PP **pP 22 44 57.2 +0.9**
BRVK pmax pmax
comp=Z,38nm,0.8s
BRVK Borovoye 50.26 312 *e*P **P 22 44 47.2 -0.2**
comp=Z,39nm,0.6s
FRU Bishkek 50.32 298 *e*P **P 22 44 48.0 -0.1**
FRU pmax pmax
comp=Z,540nm,2.0s
IPM Ipoh 50.36 239 *e*P **P 22 44 48.8 +0.1**
comp=Z,53nm,1.1s
AAK Ala-Archa 50.47 298 *e*P **P 22 44 49.5 +0.1**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 50.47 298 *e*P **P 22 44 49.5 +0.1**
comp=Z,11nm,0.8s
KSH Kashi 50.49 293 P P 22 44 54.5 +4.9
KSH pP sP 22 45 06.3 +4.5
KSH PcP **PcP 22 46 10.4 +3.0**
KSH PP **PP 22 46 49.1 +3.9**
KSH S **S 22 52 04.8 +3.1**
KSH ScS **ScS 22 54 36.2 -2.4**
KSH SS **SS 22 55 34.5 -1.0**
KSH PMZ
comp=Z,11nm,0.6s
KSH PMZ
comp=Z,70nm,3.5s
KSH LN
comp=Z,98nm,6.7s
KSH LE
comp=Z,440nm,14.4s
KSH LZ
comp=Z,330nm,17.3s
EGAK Eagle 50.52 33 *e*P **P 22 44 49.5 +0.3**
comp=Z,13nm,1.2s
BALM Baldy 50.53 38 *e*P **P 22 44 50.5 +0.9**
BALM pmax pmax
comp=Z,8.0nm,0.8s
BALM Baldy 50.53 38 *e*P **P 22 44 50.5 +0.9**
comp=Z,8.1nm,0.8s
MYKOM Kota Tinggi 50.54 234 *e*P **P 22 44 50.6 +0.6**
comp=Z,14nm,0.8s
SOEI Soe 50.67 203 P **P 22 44 50.0 -1.0**
comp=Z,72nm,1.2s
EKS2 Erkin-Say 50.96 298 *e*P **P 22 44 52.4 -0.7**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 50.96 298 *e*P **P 22 44 52.4 -0.7**
comp=Z,9.1nm,0.8s
ZRNK Zerenda 51.04 312 *e*P **P 22 44 53.5 +0.2**
ZRNK pmax pmax
comp=Z,27nm,0.9s
ZRNK Zerenda 51.04 312 *e*P **P 22 44 53.5 +0.2**
comp=Z,27nm,0.9s
MNAS Manas 51.90 298 P **P 22 45 00.4 +0.3**
MNAS pmax pmax
comp=Z,23nm,0.8s
INK Inuvik 52.96 28 P **P 22 45 08.6 +1.2**
comp=Z,5.3nm,0.7s,baz=274,slow=8.0,SNR=7.2
PSI Prapat 53.00 239 *e*P **P 22 45 08.9 +0.4**
PSI pmax pmax
comp=Z,17nm,0.8s
PSI Prapat 53.00 239 *e*P **P 22 45 08.9 +0.4**
comp=Z,17nm,0.8s
KKAR Karatay Array 53.06 300 *e*P **P 22 45 08.4 -0.2**
KKAR Karatay Array 53.06 300 *e*P **P 22 45 08.4 -0.2**
PWJI Pagerwojo 54.11 218 P **P 22 45 15.2 -1.2**
comp=Z,89nm,0.8s
SDSI Sungai Dareh 54.16 234 P **P 22 45 17.7 +0.8**
comp=Z,54nm,1.0s,comp=Z,25µm

SVE	**Sverdlovsk**	**54.63**	**318**	⇑	*i*P		**P**		**22 45 20.4**	**+0.6**
SVE					pmax		pmax			
	comp=Z,78nm,1.2s									
SVE					MLR		MLR			
	comp=Z,713nm,17.0s									
KPJI	**Karang Pucung**	**54.97**	**222**		P		**P**		**22 45 22.5**	**-0.2**
	comp=Z,64nm,1.0s									
GSI	**Gunungsitoli**	**55.01**	**239**		P		**P**		**22 45 23.9**	**+0.8**
	comp=Z,82nm,1.1s,comp=Z,2um									
GSI	**Gunungsitoli**	**55.01**	**239**		*e*P		**P**		**22 45 23.4**	**+0.3**
	comp=Z,66nm,1.0s									
ARU	**Arti**	**55.84**	**318**		P		**P**		**22 45 28.6**	**0.0**
	comp=Z,41nm,0.8s,baz=76,slow=4.6,SNR=83									
ARU	**Arti**	**55.84**	**318**	*d*	*i*P		**P**		**22 45 28.5**	**0.0**
ARU									22 46 25.4	
ARU									22 47 36.3	
ARU					S		**S**		**22 53 13.4**	**-0.3**
ARU									22 55 19.6	
ARU					SS		**SS**		**22 56 59.2**	**+0.2**
ARU					pmax		pmax			
	comp=Z,72nm,1.2s									
ARU					MLR		MLR			
	comp=Z,741nm,19.0s									
ARU	**Arti**	**55.84**	**318**		*e*P		**P**		**22 45 28.6**	**0.0**
	comp=Z,50nm,0.9s									
DLBC	**Dease Lake**	**57.23**	**39**		P		**P**		**22 45 40.5**	**+2.0**
	comp=Z,7.4nm,0.9s,baz=285,slow=6.9,SNR=8.3									
KBL	**Kabul**	**57.57**	**291**		*e*P		**P**		**22 45 41.1**	**-0.4**
KBL					pmax		pmax			
	comp=Z,56nm,1.0s									
KBL	**Kabul**	**57.57**	**291**		*e*P		**P**		**22 45 41.1**	**-0.4**
	comp=Z,56nm,1.0s									
ABKAR	**Akbulak array**	**57.62**	**310**		*e*P		**P**		**22 45 41.1**	**-0.2**
H02N1	**VAN INLET T-PH**	**57.81**	**45**		P		**P**		**22 45 43.0**	**+0.4**
H02S1	**DAWSON INLET T**	**57.86**	**45**		P		**P**		**22 45 43.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**58.23**	**199**		*e*P		**P**		**22 45 46.9**	**+1.1**
	comp=Z,23nm,1.0s									
AKTO	**Aktyubinsk**	**58.31**	**312**		P		**P**		**22 45 45.8**	**-0.3**
	comp=Z,23nm,0.7s,baz=71,slow=12,SNR=56									
AKTO					PcP		**PcP**		**22 46 36.3**	**-0.6**
	comp=Z,9.2nm,0.6s,baz=35,slow=2.3,SNR=2.2									
WRAB	**Tennant Creek**	**58.40**	**189**	⇑	*i*P		**P**		**22 45 47.0**	**+0.1**
WRAB					pmax		pmax			
	comp=Z,104nm,1.1s									
WRAB	**Tennant Creek**	**58.40**	**189**		*e*P		**P**		**22 45 46.8**	**-0.2**
	comp=Z,38nm,1.0s									
WB2	**Warramunga Arr**	**58.41**	**189**		*e*P		**P**		**22 45 46.6**	**-0.4**
	comp=Z,38nm,1.0s									
WRA	**Warramunga Arr**	**58.41**	**189**		P		**P**		**22 45 46.7**	**-0.3**
	comp=Z,23nm,0.9s,baz=7.3,slow=7.2,SNR=87									
WRA					LR		LR		23 10 49.5	
	comp=Z,148nm,21.2s,baz=190,slow=36									
HYB	**Hyderabad**	**58.89**	**268**		*i* P		**P**		**22 45 51.0**	**+0.4**
SPA0	**Spitsbergen Ar**	**59.40**	**349**		*e*P		**P**		**22 45 54.6**	**+1.3**
SPITS	**Spitsbergen Ar**	**59.40**	**349**		P		**P**		**22 45 52.5**	**-0.8**
	comp=Z,3.1nm,0.5s,baz=216,slow=47,SNR=7.8									
KBS	**Kingsbay**	**59.52**	**350**		*e*P		**P**		**22 45 55.0**	**+1.0**
KBS					pmax		pmax			
	comp=Z,22nm,0.8s									
KBS	**Kingsbay**	**59.52**	**350**		*e*P		**P**		**22 45 55.0**	**+1.0**
	comp=Z,22nm,0.8s									
BBB	**Bella Bella**	**60.70**	**45**		P		**P**		**22 46 02.8**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=260,slow=7.5,SNR=4.0									
APA	**Apatity**	**61.80**	**336**	⇑	*i*P		**P**		**22 46 09.0**	**-0.7**
APA					pmax		pmax			
	comp=Z,24nm,0.8s									
APA					MLR		MLR			
	comp=Z,400nm,19.0s									
AS01	**Alice Springs**	**62.13**	**189**		*e*P		**P**		**22 46 11.7**	**-0.7**
AS31	**Alice Springs**	**62.14**	**189**		*e*P		**P**		**22 46 12.6**	**+0.1**
	comp=Z,4.2nm,0.8s									
ASAR	**Alice Springs**	**62.14**	**189**		P		**P**		**22 46 12.6**	**+0.1**
	comp=Z,12nm,0.7s,baz=10,slow=6.3,SNR=93									
ASAR					LR		LR		23 13 15.0	
	comp=Z,138nm,21.6s,baz=3.0,slow=36									
ASAR					PKP2bc				23 15 27.8	
	comp=Z,0.9nm,0.8s,baz=167,slow=1.8,SNR=7.6									
YKA	**Yellowknife Ar**	**62.38**	**31**		P		**P**		**22 46 13.9**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=297,slow=6.6,SNR=20									
YKA					LR		LR		23 16 55.7	
	comp=Z,9.6nm,18.7s,baz=0.0,slow=39									
KLMR	**Klimovskoe**	**63.03**	**328**		*e*P		**P**		**22 46 16.5**	**-1.5**
KLMR					*e**PP		**pP**		**22 46 27.3**	**+0.3**
KLMR					*e**SP		**sP**		**22 46 31.6**	**+1.1**
KLMR					*e*				22 48 33.3	
KLMR					pmax		pmax			
	comp=Z,27nm,1.0s									
ARCES	**ARCESS Array B**	**63.04**	**339**		P		**P**		**22 46 18.0**	**0.0**
	comp=Z,3.4nm,0.5s,baz=57,slow=7.1,SNR=28									
ARCES					LR		LR		23 20 03.4	
	comp=Z,177nm,18.0s,baz=38,slow=42									
GEYT	**Alibeck**	**63.79**	**299**		P		**P**		**22 46 23.6**	**+0.1**
	comp=Z,19nm,0.7s,baz=29,slow=3.4,SNR=51									
GEYT					LR		LR		23 16 04.6	
	comp=Z,299nm,19.2s,baz=65,slow=38									
DZM	**Mont Dzumac**	**64.22**	**155**		*e*LR		LR		23 05 39.1	
	comp=Z,795nm,21.9s									
DZM	**Mont Dzumac**	**64.22**	**155**		LR		LR		23 11 09.2	
	comp=Z,464nm,21.6s,baz=358,slow=33									
DZM	**Mont Dzumac**	**64.22**	**155**		*e*P		**P**		**22 46 26.6**	**+0.2**
	comp=Z,56nm,1.3s									
DZM					*e*				22 46 37.0	
DAG	**Danmarks Havn**	**64.56**	**355**		*i* P		**P**		**22 46 27.6**	**-0.3**
DAG					pmax		pmax			
	comp=Z,34nm,1.1s									
DAG	**Danmarks Havn**	**64.56**	**355**		*i* P		**P**		**22 46 27.6**	**-0.3**
	comp=Z,27nm,1.1s									
NLWA	**Neilton Lookou**	**65.38**	**48**		*e*P		**P**		**22 46 35.8**	**+2.0**
	comp=Z,29nm,0.9s									
A04D	**Lummi Island**	**65.38**	**47**		P		**P**		**22 46 34.8**	**+1.1**
	baz=301									
MBW	**Mount Baker**	**65.81**	**46**		P		**P**		**22 46 37.7**	**+1.0**
B05A	**Bryant**	**65.96**	**47**		P		**P**		**22 46 38.5**	**+1.1**
	baz=301									
E03A	**Lebam**	**65.99**	**49**		*e*P		**P**		**22 46 39.7**	**+2.1**
	comp=Z,30nm,1.0s									
B06A	**Marblemount**	**66.18**	**46**		*e*P		**P**		**22 46 40.1**	**+1.3**
	comp=Z,47nm,1.3s									
D05A	**Enumclaw**	**66.58**	**48**		*e*P		**P**		**22 46 43.4**	**+2.0**
	comp=Z,116nm,1.8s									
MOS	**Moscow**	**66.62**	**323**		*e*P		**P**		**22 46 41.3**	**-0.2**
MOS					pmax		pmax			
	comp=Z,79nm,1.3s									
MOS					MLR		MLR			
	comp=Z,800nm,15.0s									
OBSR	**Observation Ro**	**66.84**	**48**		P		**P**		**22 46 45.0**	**+1.6**
TDL	**Tradedollar La**	**66.89**	**49**		P		**P**		**22 46 45.0**	**+1.4**
VRH	**Novokhopyorsk**	**67.08**	**318**		*e*P		**P**		**22 46 43.7**	**-0.8**
VRH					pmax		pmax			
	comp=Z,40nm,0.6s									
VRH					pmax		pmax			
	comp=Z,50nm,0.6s									
VRH					MLR		MLR			
	comp=Z,860nm,22.0s									
TWW	**Teanaway**	**67.26**	**47**		P		**P**		**22 46 47.6**	**+1.7**
OBN	**Obninsk**	**67.47**	**323**		P		**P**		**22 46 46.8**	**-0.1**
	comp=Z,27nm,0.7s,baz=40,slow=2.5,SNR=12									
OBN	**Obninsk**	**67.47**	**323**	*d*	*i*P		**P**		**22 46 46.8**	**-0.1**
OBN					*e*				22 47 11.2	
OBN					*e*				22 49 11.3	
OBN					*e*PPP		PPP		22 50 52.6	
OBN					pmax		pmax			
	comp=Z,38nm,0.8s									
OBN					MLR		MLR			
	comp=Z,392nm,15.0s									
OBN	**Obninsk**	**67.47**	**323**		*e*P		**P**		**22 46 46.9**	**0.0**
	comp=Z,39nm,0.9s									
B08A	**Colville Reser**	**67.48**	**46**		*e*P		**P**		**22 46 48.4**	**+1.2**
B08A					*e*pP		**sP**		**22 46 57.7**	**-2.0**
WTV	**Waterville**	**67.49**	**46**		P		**P**		**22 46 47.7**	**+0.5**
I03D	**Drain, OR**	**67.61**	**51**		P		**P**		**22 46 49.8**	**+1.8**
	baz=302									
LPSR	**Galich'ya Gora**	**67.74**	**320**		*e*P		**P**		**22 46 48.8**	**+0.1**
LPSR					pmax		pmax			
	comp=Z,20nm,0.6s									
LPSR					pmax		pmax			
	comp=Z,10.0nm,0.6s									
LPSR					MLR		MLR			
	comp=Z,680nm,22.0s									
SAW	**Saint Andrews**	**67.80**	**46**		P		**P**		**22 46 49.7**	**+0.5**
FIA1	**FINESS Array S**	**67.99**	**332**		*e*P		**P**		**22 46 50.1**	**0.0**
FINES	**FINESS Array B**	**67.99**	**332**		P		**P**		**22 46 50.0**	**-0.1**
	comp=Z,35nm,0.7s,baz=47,slow=8.4,SNR=128									
FINES					LR		LR		23 18 17.3	
	comp=Z,290nm,21.9s,baz=28,slow=37									
I04A	**Tendick Farm,**	**68.13**	**51**		P		**P**		**22 46 52.7**	**+1.4**
	baz=303									
L02D	**Cave Junction,**	**68.27**	**53**		P		**P**		**22 46 53.3**	**+1.1**
	baz=302									
VSR	**Storozhevoye**	**68.41**	**319**		*e*P		**P**		**22 46 52.5**	**-0.4**
VSR					pmax		pmax			
	comp=Z,50nm,0.5s									
VSR					pmax		pmax			
	comp=Z,50nm,0.5s									
VSR					MLR		MLR			
	comp=Z,680nm,18.0s									
HUMO	**Hull Mountain**	**68.43**	**52**		*e*P		**P**		**22 46 55.1**	**+1.8**
	comp=Z,25nm,1.8s									
I05D	**Terrebonne, OR**	**68.49**	**50**		P		**P**		**22 46 55.3**	**+1.7**
	baz=303									
NEW	**Newport**	**68.77**	**45**		P		**P**		**22 46 56.0**	**+0.7**
	comp=Z,9.9nm,0.8s,baz=308,slow=5.8,SNR=11									
NEW	**Newport**	**68.77**	**45**		P		**P**		**22 46 56.4**	**+1.2**
	baz=304									
NEW	**Newport**	**68.77**	**45**		*e*P		**P**		**22 46 56.5**	**+1.2**
NEW					pmax		pmax			
	comp=Z,24nm,1.1s									
NEW	**Newport**	**68.77**	**45**		*e*P		**P**		**22 46 56.5**	**+1.2**
	comp=Z,24nm,1.1s									
YBH	**Yreka Blue Hor**	**69.06**	**53**		*e*P		**P**		**22 46 58.7**	**+1.4**
YBH					pmax		pmax			
	comp=Z,12nm,0.8s									
YBH	**Yreka Blue Hor**	**69.06**	**53**		*e*P		**P**		**22 46 58.7**	**+1.4**
	comp=Z,12nm,0.8s									
J05D	**Fort Rock, OR**	**69.12**	**51**		P		**P**		**22 46 59.3**	**+1.6**
	baz=303									
M02C	**Callahan**	**69.15**	**53**		P		**P**		**22 46 59.6**	**+1.8**
	baz=303									
SUMG	**Summit**	**69.42**	**0**		*i* P		**P**		**22 46 59.5**	**+0.2**
SUMG					pmax		pmax			
	comp=Z,19nm,0.7s									
SUMG	**Summit**	**69.42**	**0**		*i* P		**P**		**22 46 59.5**	**+0.2**
	comp=Z,19nm,0.7s									
SUMG	**Summit**	**69.42**	**0**		*e*P		**P**		**22 46 59.4**	**+0.1**
	comp=Z,37nm,1.2s									
N02D	**Trinity Center**	**69.47**	**54**		P		**P**		**22 47 01.0**	**+1.2**
	baz=303									
M04C	**Macdoel**	**69.57**	**53**		P		**P**		**22 47 01.8**	**+1.3**
	baz=304									
K05A	**Summer Lake**	**69.64**	**51**		*e*P		**P**		**22 47 02.7**	**+1.8**
	comp=Z,35nm,1.0s									
VSU	**Vasula**	**69.69**	**330**	*d*	*i*P		**P**		**22 47 00.9**	**+0.2**
VSU					pmax		pmax			
	comp=Z,149nm,0.9s									
GOF	**Gofitskoye**	**69.73**	**312**	⇓	*i*P		**P**		**22 47 01.5**	**+0.3**
GOF					pmax		pmax			
	comp=Z,89nm,0.9s									
WDC	**Whiskeytown Da**	**69.79**	**54**		*e*P		**P**		**22 47 02.8**	**+1.1**
WDC					*e**PP		**sP**		**22 47 13.8**	**-0.4**
WDC	**Whiskeytown Da**	**69.79**	**54**		*e*P		**P**		**22 47 02.8**	**+1.1**
WDC					*e*pP		**sP**		**22 47 13.8**	**-0.4**
STKA	**Stephens Creek**	**69.83**	**181**		P		**P**		**22 47 02.0**	**+0.4**
	comp=Z,7.3nm,0.7s,baz=347,slow=8.3,SNR=13									
STKA					LR		LR		23 24 50.6	
	comp=Z,51nm,18.1s,baz=25,slow=42									
STKA	**Stephens Creek**	**69.83**	**181**		*e*P		**P**		**22 47 02.1**	**+0.4**
STKA					pmax		pmax			
	comp=Z,2.0nm,0.8s									
STKA	**Stephens Creek**	**69.83**	**181**		*e*P		**P**		**22 47 02.0**	**+0.4**
	comp=Z,1.9nm,0.8s									
WALA	**Waterton Lakes**	**70.06**	**43**		*e*P		**P**		**22 47 04.3**	**+1.0**
WALA					*e*pP		**sP**		**22 47 14.6**	**-1.3**
DUS	**Dusheti**	**70.40**	**308**		P		**P**		22 47 10.3	+4.8
DUS	**Dusheti**	**70.40**	**308**		P		**P**		**22 47 10.2**	**+4.7**
O03D	**Paynes Creek**	**70.42**	**54**		P		**P**		**22 47 06.3**	**+0.6**
	baz=304									
MOD	**Modoc Plateau**	**70.46**	**52**		*e*P		**P**		**22 47 06.9**	**+1.0**
	comp=Z,8.7nm,0.8s									
MOD					*e*pP		**pP**		**22 47 16.1**	**+1.1**
ZEI	**Tsey**	**70.50**	**309**		*e*P		**P**		**22 47 04.8**	**-1.4**
ZEI					pmax		pmax			
	comp=Z,28nm,0.6s									
KVAR	**Kislovodsk Arr**	**70.56**	**311**		P		**P**		**22 47 07.0**	**+0.5**
	comp=Z,65nm,1.0s,baz=315,slow=1.4,SNR=45									
KIV	**Kislovodsk**	**70.57**	**311**	*c*	*i*P		**P**		**22 47 07.5**	**+1.0**
KIV					*e*				22 47 16.8	
KIV					*e*				22 47 29.8	
KIV					*e*				22 49 41.7	
KIV					*e*PPP		PPP		22 51 23.7	
KIV					pmax		pmax			
	comp=Z,106nm,0.9s									
KIV					MLR		MLR			
	comp=Z,112nm,17.0s									
KIV	**Kislovodsk**	**70.57**	**311**		*e*P		**P**		**22 47 07.0**	**+0.5**
	comp=Z,94nm,0.9s									
KBZ	**Khabaz**	**70.57**	**311**		P		**P**		**22 47 06.8**	**+0.4**
	comp=Z,33nm,0.9s,baz=35,slow=3.5,SNR=71									
KBZ					LR		LR		23 22 45.7	
	comp=Z,174nm,18.3s,baz=30,slow=40									
TBLG	**Delisi**	**70.58**	**308**		P		**P**		**22 47 06.7**	**+0.1**
TBLG	**Delisi**	**70.58**	**308**		P		**P**		**22 47 06.6**	**+0.1**
BMO	**Blue Mountains**	**70.59**	**48**		*e*P		**P**		**22 47 07.7**	**+1.0**
	comp=Z,28nm,1.7s									
JTMT	**Jette**	**70.63**	**44**		*e*P		**P**		**22 47 08.0**	**+1.2**
JTMT					*e*pP		**sP**		**22 47 18.9**	**-0.4**
YBMT	**Yellow Bay**	**70.71**	**44**		*e*P		**P**		**22 47 08.4**	**+1.1**
ONI	**Oni**	**70.88**	**309**		P		**P**		**22 47 09.0**	**+0.6**
ONI	**Oni**	**70.88**	**309**		P		**P**		**22 47 09.0**	**+0.6**
SWMT	**Swartz Lake**	**70.92**	**44**		*e*P		**P**		**22 47 09.5**	**+0.9**
BBOO	**Buckleboo**	**70.99**	**185**		*e*P		**P**		**22 47 09.5**	**+0.7**
	comp=Z,21nm,0.8s									
WVOR	**Wild Horse Val**	**71.18**	**51**		*e*P		**P**		**22 47 11.4**	**+1.1**
WVOR					pmax		pmax			
	comp=Z,13nm,1.2s									
WVOR	**Wild Horse Val**	**71.18**	**51**		*e*P		**P**		**22 47 11.4**	**+1.1**
	comp=Z,13nm,1.2s									
MSO	**Missoula**	**71.36**	**45**		P		**P**		**22 47 11.7**	**+0.5**
	baz=306									
MSO	**Missoula**	**71.36**	**45**		*e*P		**P**		**22 47 12.1**	**+0.8**
MSO					*e*pP		**sP**		**22 47 22.6**	**-1.2**
GNI	**Garni**	**71.47**	**307**		P		**P**		**22 47 13.0**	**+0.8**
	comp=Z,5.6nm,0.7s,baz=66,slow=1.2,SNR=9.5									
GNI	**Garni**	**71.47**	**307**	*d*	*i*P		**P**		**22 47 12.9**	**+0.8**
GNI					pmax		pmax			
	comp=Z,83nm,1.5s									
GNI	**Garni**	**71.47**	**307**		*e*P		**P**		**22 47 13.4**	**+1.3**
	comp=Z,28nm,1.2s									
AKH	**Akhalkalaki**	**71.53**	**308**		P		**P**		**22 47 13.2**	**+0.7**
AKH	**Akhalkalaki**	**71.53**	**308**		P		**P**		**22 47 13.1**	**+0.7**
BGD	**Bogdanovka**	**71.55**	**308**		*e*		**P**		**22 47 13.6**	**+1.0**
CHMT	**Chamberlain Mo**	**71.69**	**44**		*e*P		**P**		**22 47 14.0**	**+0.6**
NACGM	**Naroch**	**72.02**	**327**		*e*		**P**		**22 47 15.0**	**+0.1**
NACGM					*e*LR		LR		23 19 24.0	
PAHR	**Pah Rah Range**	**72.28**	**53**		*e*P		**P**		**22 47 18.3**	**+1.3**
PAHR					*e*pP		**sP**		**22 47 27.6**	**-2.0**
MFID	**Camas Ranch**	**72.29**	**48**		*e*P		**P**		**22 47 17.9**	**+0.9**
	comp=Z,24nm,1.3s									
MFID					*e*				22 47 28.8	
SOC	**Sochi**	**72.53**	**312**		*e*P		**P**		**22 47 16.7**	**-1.5**
FCC	**Fort Churchill**	**72.58**	**27**		*e*P		**P**		**22 47 18.5**	**+0.4**
FCC					*e**PP		**sP**		**22 47 29.1**	**-1.6**
FCC	**Fort Churchill**	**72.58**	**27**		*e*P		**P**		**22 47 18.5**	**+0.4**
FCC					*e*pP		**sP**		**22 47 29.1**	**-1.6**
HRY	**Holter Researc**	**72.59**	**44**		*e*P		**P**		**22 47 20.0**	**+1.3**
CMB	**Columbia Colle**	**72.61**	**55**		*e*P		**P**		**22 47 19.7**	**+0.9**
CMB					pmax		pmax			
	comp=Z,8.0nm,0.8s									
CMB	**Columbia Colle**	**72.61**	**55**		*e*P		**P**		**22 47 19.7**	**+0.9**
	comp=Z,8.4nm,0.8s									
LRM	**Limekiln Ridge**	**72.79**	**45**		*e*P		**P**		**22 47 20.9**	**+0.9**
EGMT	**Eagleton**	**72.89**	**42**		P		**P**		**22 47 20.8**	**+0.5**
	baz=309									
DLMT	**Dillon**	**72.98**	**45**		*e*P		**P**		**22 47 22.1**	**+1.0**
	comp=Z,23nm,1.2s									
HLID	**Hailey**	**73.03**	**48**		P		**P**		**22 47 22.3**	**+0.9**
	baz=307									
HLID	**Hailey**	**73.03**	**48**		*e*P		**P**		**22 47 22.6**	**+1.1**
	comp=Z,10nm,1.1s									
NC405	**NORSAR Array S**	**73.06**	**337**		*e*P		**P**		**22 47 21.2**	**+0.2**
NC303	**NORSAR Array S**	**73.07**	**338**		*e*P		**P**		**22 47 21.3**	**+0.2**
ANN	**Anapa**	**73.12**	**314**		*e*P		**P**		**22 47 18.8**	**-2.8**
ANN					*e*S		**S**		**22 56 44.3**	**-2.9**
ANN					pmax		pmax			
	comp=Z,30nm,1.1s									
ANN					MLR		MLR			
	comp=E,119nm,17.0s									
ANN					MLR		MLR			
	comp=N,116nm,17.0s									
ANN					MLR		MLR			
	comp=Z,240nm,17.0s									
BMN	**Battle Mountai**	**73.21**	**52**		*e*P		**P**		**22 47 23.9**	**+1.4**
BMN					*e**PP		**sP**		**22 47 34.9**	**-0.1**
BMN	**Battle Mountai**	**73.21**	**52**		*e*P		**P**		**22 47 23.9**	**+1.4**
BMN					*e*pP		**sP**		**22 47 34.9**	**-0.1**
NC204	**NORSAR Array S**	**73.21**	**338**		*e*P		**P**		**22 47 22.1**	**+0.1**
NB201	**NORSAR Array S**	**73.23**	**337**		*e*P		**P**		**22 47 22.3**	**+0.2**
NB2	**NORSAR Subarra**	**73.27**	**337**		P		**P**		**22 47 22.0**	**-0.3**
	comp=Z,39nm,1.0s,baz=40,slow=6.2									
NB2	**NORSAR Subarra**	**73.27**	**337**		P		**P**		**22 47 22.0**	**-0.3**
	baz=40,slow=6.2									
NB2	**NORSAR Subarra**	**73.27**	**337**		P		**P**		**22 47 21.9**	**-0.3**
NB2					pmax		pmax			
	comp=Z,30nm,1.0s									
NOA	**NORSAR Array B**	**73.27**	**337**		P		**P**		**22 47 22.2**	**0.0**
	comp=Z,19nm,0.8s,baz=39,slow=5.9,SNR=63									
NOA					LR		LR		23 24 35.1	
	comp=Z,230nm,18.9s,baz=45,slow=40									
BOZ	**Bozeman (W)**	**73.35**	**45**		P		**P**		**22 47 24.2**	**+1.0**
	baz=308									
BOZ	**Bozeman (W)**	**73.35**	**45**		*e*P		**P**		**22 47 24.4**	**+1.2**
BOZ					pmax		pmax			
	comp=Z,40nm,1.5s									
BOZ	**Bozeman (W)**	**73.35**	**45**		*e*P		**P**		**22 47 24.4**	**+1.2**
	comp=Z,40nm,1.5s									
NBO02	**NORSAR Array S**	**73.36**	**338**		*e*P		**P**		**22 47 22.8**	**0.0**
NBO00	**NORSAR Array S**	**73.40**	**338**		*e*P		**P**		**22 47 23.3**	**+0.2**
NC602	**NORSAR Array S**	**73.41**	**337**		*e*P		**P**		**22 47 23.1**	**0.0**
NAO01	**NORSAR Array S**	**73.52**	**337**		*e*P		**P**		**22 47 23.5**	**-0.2**
AKASG	**Malin Array Be**	**73.69**	**322**		P		**P**		**22 47 24.6**	**-0.3**
	comp=Z,31nm,0.7s,baz=46,slow=6.1,SNR=121									
AKASG					LR		LR		23 22 37.3	
	comp=Z,466nm,18.1s,baz=60,slow=38									
AKBB	**Malin Array Si**	**73.69**	**322**		*e*P		**P**		**22 47 24.7**	**-0.2**
AKBB					pmax		pmax			
	comp=Z,44nm,0.8s									
AKBB	**Malin Array Si**	**73.69**	**322**		*e*P		**P**		**22 47 24.7**	**-0.2**
	comp=Z,44nm,0.8s									
KIEV	**Kiev**	**73.70**	**322**		*e*P		**P**		**22 47 24.5**	**-0.4**
KIEV					*e*				22 47 35.3	
KIEV					pmax		pmax			
	comp=Z,40nm,0.8s									
KIEV	**Kiev**	**73.70**	**322**		*e*P		**P**		**22 47 24.5**	**-0.4**
	comp=Z,40nm,0.8s									
KIEV					*e*				22 47 35.3	
NV01	**Mina Array Sit**	**73.71**	**54**		*e*P		**P**		**22 47 25.9**	**+0.4**
NVAR	**Mina Array Bea**	**73.71**	**54**		P		**P**		**22 47 26.7**	**+1.1**
	comp=Z,7.5nm,0.9s,baz=290,slow=7.0,SNR=31									
NVAR					LR		LR		23 13 51.7	
	comp=Z,89nm,21.9s,baz=268,slow=31									
AK11	**Malin Array Si**	**73.73**	**322**		*e*P		**P**		**22 47 24.8**	**-0.4**
NV11	**Mina Array Sit**	**73.80**	**54**		*e*P		**P**		**22 47 27.2**	**+1.2**
	comp=Z,8.8nm,1.1s									
SUW	**Suwalki**	**74.17**	**328**		*e*P		**P**		**22 47 27.3**	**-0.3**
SUW	**Suwalki**	**74.17**	**328**		*e*P		**P**		**22 47 27.3**	**-0.3**
ELK	**Elko**	**74.24**	**50**		*e*P		**P**		**22 47 29.9**	**+1.3**
ELK					*e**PP		**sP**		**22 47 39.7**	**-1.5**
ELK	**Elko**	**74.24**	**50**		*e*P		**P**		**22 47 29.9**	**+1.3**
ELK					*e*pP		**sP**		**22 47 39.7**	**-1.5**
GCMT	**Greycliff**	**74.33**	**44**		*e*P		**P**		**22 47 30.1**	**+1.2**
YFT	**Old Faithful**	**74.53**	**45**		*e*P		**P**		**22 47 33.3**	**+3.0**
	comp=Z,8.8nm,0.9s									
H17A	**Grant Village**	**74.71**	**45**		P		**P**		**22 47 33.4**	**+2.1**
	baz=309									
H17A	**Grant Village**	**74.71**	**45**	

LVV **L'vov** 76.73 324 *e*P P 22 47 42.5 0.0
LVV MLR MLR
comp=N,250nm,15.0s
LVV MLR MLR
comp=E,170nm,15.0s
LVV MLR MLR
comp=Z,210nm,15.0s
BEL Belsk 76.74 327 *e*P P 22 47 42.9 +0.5
BEL Belsk 76.74 327 *e*P P 22 47 42.9 +0.5
D25A Fairfield 76.77 40 P P 22 47 43.5 +0.8
baz=313
SHPR Sheep Range 76.86 54 *e*P P 22 47 45.2 +1.6
comp=Z,12nm,1.0s
TUQ Turquoise Moun 77.03 55 P P 22 47 45.6 +1.0
baz=308
A28A Rude Farm, Bot 77.04 37 P P 22 47 45.0 +0.8
baz=314
HEC Hector,Ludlow 77.13 56 P P 22 47 46.0 +0.9
baz=308
E25A Miller Ranch, 77.17 40 P P 22 47 45.7 +0.6
baz=313
D26A Manning 77.29 39 P P 22 47 46.2 +0.5
baz=313
B28A Dugan Ranch, T 77.32 37 P P 22 47 46.6 +0.8
baz=314
CCUT Cedar City 77.34 52 *e*P P 22 47 47.8 +1.3
comp=Z,21nm,1.3s
MSU Marysvale 77.47 51 *e*P P 22 47 48.7 +1.6
MSU Marysvale 77.47 51 *e*P P 22 47 48.7 +1.6
KWP Kalwaria Pacla 77.47 325 *e*P P 22 47 47.3 +0.7
KWP Kalwaria Pacla 77.47 325⇑*i*P P 22 47 47.4 +0.7
KWP Kalwaria Pacla 77.47 325 ⇑P P 22 47 47.4 +0.7
A29A Manning Farm, 77.52 36 P P 22 47 47.6 +0.6
baz=315
TMUT Trail Mountain 77.56 50 *e*P P 22 47 49.1 +1.4
comp=Z,29nm,1.5s
TLCR 77.57 318⇓*i*P P 22 47 47.9 +0.7
TLCR 77.57 318 ⇓P P 22 47 47.9 +0.7
GMRC Granite Mounta 77.60 55 P P 22 47 48.2 +0.4
baz=308
E26A Carlson Angus 77.66 40 P P 22 47 48.4 +0.6
baz=313
BUR08 Bucovina Ar. S 77.70 322 *e*P P 22 47 48.5 +0.4
BURAR Bucovina Array 77.72 322⇓*i*P P 22 47 48.4 +0.3
BURAR Bucovina Array 77.72 322 ⇓P P 22 47 48.4 +0.3
P17A Butcher Ranch, 77.73 49 *e*P P 22 47 49.8 +1.3
comp=Z,72nm,1.6s
MTPU Mount Pierson 77.76 51 *e*P P 22 47 50.6 +1.7
comp=Z,10nm,0.8s
TESR Tescani 77.77 320⇓*i*P P 22 47 48.6 +0.2
B29A Wagenman Farm, 77.79 37 P P 22 47 48.8 +0.3
baz=315
PFO Pinyon Flats O 77.80 57 P P 22 47 48.9 0.0
baz=308
PFO Pinyon Flats O 77.80 57 *e*P P 22 47 49.3 +0.4
PFO *e* 22 47 59.4
PFO pmax pmax
comp=Z,6.0nm,1.0s
PFO Pinyon Flats O 77.80 57 *e*P P 22 47 49.3 +0.4
comp=Z,6.1nm,1.0s
PFO *e*PcP **PcP** 22 47 59.4 +0.5
TPFO Pinon Flats 77.80 57 P P 22 47 49.5 +0.6
baz=308
C28A Hausauer Farms 77.82 38 P P 22 47 49.6 +0.9
baz=314
Q16A Castle Valley 77.82 50 *e*P P 22 47 50.4 +1.4
comp=Z,28nm,1.3s
BELC Belle Mtn. Jos 77.86 56 P P 22 47 49.4 +0.1
baz=308
P18A Preston Nutter 77.92 49 *e*P P 22 47 51.1 +1.4
comp=Z,10nm,0.8s
CFR Carcaliu 77.92 319⇑*i*P P 22 47 49.4 +0.2
CFR Carcaliu 77.92 319 ⇑P P 22 47 49.4 +0.2
A30A Hoffart Farm, 77.94 36 P P 22 47 49.3 0.0
baz=316
F26A Lodgepole 77.98 40 P P 22 47 50.1 +0.5
baz=313
KNB Kanab 78.02 52 *e*P P 22 47 52.0 +1.9
KNB pmax pmax
comp=Z,41nm,1.5s
KNB Kanab 78.02 52 *e*P P 22 47 52.0 +1.9
comp=Z,40nm,1.5s
ULM Lac du Bonnet 78.09 34 P P 22 47 49.9 -0.1
comp=Z,7.8nm,0.8s,baz=320,slow=7.1,SNR=9.8
ULM LR LR 23 25 36.1
comp=Z,85nm,18.8s,baz=8.0,slow=38
ULM Lac du Bonnet 78.09 34 *e*P P 22 47 49.7 -0.3
ULM *e*pP **PcP** 22 47 59.6 0.0
K22A Casper 78.09 45 P P 22 47 50.2 -0.2
baz=312
K22A Casper 78.09 45 *e*P P 22 47 50.9 +0.5
comp=Z,26nm,1.3s
SRU San Rafael Swe 78.09 49 *e*P P 22 47 51.5 +1.0
SRU pmax pmax
comp=Z,22nm,0.7s
SRU San Rafael Swe 78.09 49 *e*P P 22 47 51.5 +1.0
comp=Z,22nm,0.7s
D28A Regan 78.10 38 P P 22 47 50.4 +0.2
baz=314
MDND Maddock 78.11 37 P P 22 47 50.5 +0.3
baz=315
MDND Maddock 78.11 37 *e*P P 22 47 50.9 +0.7
MDND *e*pP **sP** 22 48 01.7 -1.1
KOLS Kolonicke sedl 78.17 324 *e*P P 22 47 50.7 +0.2
KOLS pmax pmax
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 78.17 324 *e*P P 22 47 50.7 +0.2
VRI Vrincioaia 78.18 320⇑*i*P P 22 47 51.0 +0.4
VRI Vrincioaia 78.18 320 ⇑P P 22 47 51.0 +0.4
PLOR Plostina 78.23 320⇑*i*P P 22 47 51.7 +0.8
PLOR Plostina 78.23 320 ⇑P P 22 47 51.7 +0.8
B30A Myrvik Farm, E 78.28 36 P P 22 47 51.8 +0.6
baz=316
STHS Stebnicka Huta 78.29 325 *e*P P 22 47 52.2 +1.0
STHS pmax pmax
comp=Z,14nm,0.8s
STHS Stebnicka Huta 78.29 325 *e*P P 22 47 52.2 +1.0
STHS *e*PP PP 22 50 36.3 -11
IRM Iron Mountain 78.32 56 P P 22 47 52.5 +0.8
baz=309
H25A Fruitdale 78.34 42 P P 22 47 51.8 +0.1
baz=313
OJC Ojcow 78.34 326 *e*P P 22 47 52.0 +0.6
OJC Ojcow 78.34 326 *e*P P 22 47 51.8 +0.4
OJC pmax pmax
comp=Z,43nm,1.0s
OJC Ojcow 78.34 326 *e*P P 22 47 51.8 +0.4
comp=Z,43nm,1.0s
UZH Uzhgorod 78.38 324⇑*i*P P 22 47 51.4 -0.3
UZH *e* 22 48 01.2
BC3 Big Chuckawall 78.43 56 P P 22 47 53.0 +0.6
baz=308
RSSD Black Hills 78.45 42 P P 22 47 52.4 0.0
baz=313
RSSD Black Hills 78.45 42 *e*P P 22 47 52.8 +0.3
RSSD pmax pmax
comp=Z,16nm,1.0s
RSSD Black Hills 78.45 42 *e*P P 22 47 52.8 +0.3
comp=Z,16nm,1.0s
BR131 Keskin Array S 78.49 312 *e*P P 22 47 52.8 +0.2
BRTR Keskin Array B 78.49 312 P P 22 47 52.7 0.0
comp=Z,2.6nm,0.4s,baz=106,slow=3.2,SNR=25
BRTR LR LR 23 26 58.7
comp=Z,73nm,19.8s,baz=38,slow=39
W13A Hualapai Mount 78.55 54 *e*P P 22 47 54.4 +1.2
comp=Z,6.6nm,1.0s
CRVS Cervenica-Dubn 78.57 325 *e*P P 22 47 53.0 +0.3
CRVS Cervenica-Dubn 78.57 325 *e*P P 22 47 53.0 +0.3
MANR Mangalia 78.61 317⇓*i*P P 22 47 59.2 +6.2
IKP In-Ko-Pah, Jac 78.62 57 P P 22 47 53.6 +0.2
baz=308
TRPA Tarpa 78.63 324 *e*P P 22 47 53.8 +0.8
SWSC Sam W. Stewart 78.64 57 P P 22 47 53.7 +0.3
baz=308
NIE Niedzica 78.71 326 *e*P P 22 47 54.4 +0.9
NIE Niedzica 78.71 326 *e*P P 22 47 54.4 +0.9
U15A North Rim 78.72 52 *e*P P 22 47 55.5 +1.4
comp=Z,18nm,1.0s
C30A Mose, Pekin 78.74 37 P P 22 47 53.7 0.0
baz=316
O20A White River Ci 78.77 47 P P 22 47 54.6 +0.3
baz=311
O20A White River Ci 78.77 47 *e*P P 22 47 55.2 +1.0
comp=Z,52nm,1.8s
DOPR Dopca 78.78 321⇑*i*P P 22 47 55.3 +1.3
A32A Rocking H Ranc 78.78 35 P P 22 47 53.5 -0.4
baz=317
MLR Muntele Rosu 78.83 320 P P 22 47 54.9 +0.5
comp=Z,1.1nm,0.6s,baz=346,slow=12,SNR=12
MLR Muntele Rosu 78.83 320⇑*i*P P 22 47 54.7 +0.3
MLR Muntele Rosu 78.83 320 *e*P P 22 47 54.4 0.0
MLR pmax pmax
comp=Z,135nm,1.1s
MLR Muntele Rosu 78.83 320 *e*P P 22 47 54.4 0.0
comp=Z,135nm,1.1s
PDMCI Parker Dam,Lak 78.88 55 P P 22 47 55.3 +0.6
baz=309
ANTO Ankara 78.89 312 *e*P P 22 47 55.3 +0.5
ANTO Ankara 78.89 312 *e*P P 22 47 55.3 +0.5
comp=Z,438nm,0.8s
BR231 Keskin MP Arra 78.92 312 *e*P P 22 47 55.8 +0.8
Y12C Blythe 78.98 56 P P 22 47 56.1 +0.9
baz=309
Y12C Blythe 78.98 56 *e*P P 22 47 56.6 +1.3
Y12C *e*pP **sP** 22 48 05.9 -1.9
C31A Landman Farms, 79.03 36 P P 22 47 55.3 0.0
baz=316
D30A Buchanan 79.03 37 P P 22 47 55.7 +0.3
baz=316
B32A Ashes, Strandq 79.14 35 P P 22 47 55.6 -0.3
baz=317
GLA Glamis 79.22 56 P P 22 47 57.3 +0.7
baz=309
SULR 79.24 319⇓*i*P P 22 47 57.1 +0.7
A33A Warroad 79.26 35 P P 22 47 56.3 -0.3
baz=318
LANS Liptovska Anna 79.28 326 *e*P P 22 47 57.8 +1.1
LANS Liptovska Anna 79.28 326 *e*P P 22 47 57.8 +1.1
PV09 Paradox Valley 79.31 49 *e*P P 22 47 58.8 +1.4
KECS Kecovo 79.31 325 *e*P P 22 47 57.7 +0.9
KECS pmax pmax
comp=Z,4.0nm,1.2s
KECS Kecovo 79.31 325 *e*P P 22 47 57.7 +0.9
VOIR 79.32 320⇑*i*P P 22 47 57.8 +0.8
VOIR 79.32 320 ⇑P P 22 47 57.8 +0.8
OKC Ostrava-Krasne 79.34 327⇓*e*P P 22 47 57.4 +0.5
OKC AMS AMS 23 25 50.0
comp=Z,400nm,16.8s
OKC Ostrava-Krasne 79.34 327 *e*P P 22 47 57.4 +0.5
OKC MLR MLR
comp=Z,400nm,16.8s
KSP Ksiaz 79.36 329 *e*P P 22 47 57.6 +0.6
KSP Ksiaz 79.36 329 *e*P P 22 47 57.6 +0.6
E30A Jud 79.39 38 P P 22 47 57.2 -0.1
baz=316
F29A Eureka 79.42 39 P P 22 47 57.3 -0.1
baz=315
DRGR 79.51 323⇑*i*P P 22 47 58.2 +0.2
DRGR 79.51 323 ⇑P P 22 47 58.2 +0.2
PV04 Paradox Valley 79.52 49 *e*P P 22 47 59.6 +1.3
AGMN Agassiz Nation 79.52 35 P P 22 47 57.7 -0.3
baz=317
AGMN Agassiz Nation 79.52 35 *e*P P 22 47 58.0 0.0
comp=Z,18nm,1.0s
AGMN *e* 22 48 08.4
ARR Arges 79.58 321⇑*i*P P 22 47 59.9 +1.5
N23A Red Feather La 79.58 46 P P 22 47 59.7 +1.0
baz=312
N23A Red Feather La 79.58 46 *e*P P 22 48 00.1 +1.3
comp=Z,28nm,1.1s
PV05 Paradox Valley 79.61 49 *e*P P 22 48 00.0 +1.1
MORC Moravsky Berou 79.65 327⇑*i*P P 22 47 59.2 +0.6
MORC Moravsky Berou 79.65 327 *e*P P 22 47 59.3 +0.6
MORC pmax pmax
comp=Z,89nm,0.9s
MORC Moravsky Berou 79.65 327 *e*P P 22 47 59.3 +0.6
comp=Z,89nm,0.9s
DPC Dobruska-Polom 79.72 328⇓*i*P P 22 47 59.9 +0.8
DPC *e*pP **pP** 22 48 08.0 -0.3
DPC *e*PP PP 22 51 08.2 +8.6
DPC Dobruska-Polom 79.72 328⇓*i*P P 22 47 59.9 +0.8
DPC *e* 22 48 08.0
DPC *e* 22 51 08.2
UPC Upice 79.73 328⇓*e*P P 22 47 59.8 +0.7
UPC *e*pP **pP** 22 48 09.0 +0.7
UPC AMS AMS 23 26 10.0
comp=Z,300nm,15.3s
UPC Upice 79.73 328 *e*P P 22 47 59.8 +0.7
UPC *e* 22 48 09.0
UPC MLR MLR
comp=Z,300nm,15.3s
F30A Leola 79.81 39 P P 22 47 59.6 0.0
baz=316
G29A Hoven 79.83 39 P P 22 47 59.7 0.0
baz=315
Y14A Wickenburg 79.84 55 *e*P P 22 48 00.9 +0.9
comp=Z,55nm,0.9s
E31A Nome 79.84 37 P P 22 47 59.5 -0.3
baz=316
WUAZ Wupatki 79.87 53 P P 22 48 01.7 +1.4
baz=310
WUAZ Wupatki 79.87 53 *e*P P 22 48 01.9 +1.6
comp=Z,19nm,1.1s
PV01 Paradox Valley 79.89 49 *e*P P 22 48 01.1 +0.7
comp=Z,2nm,1.3s
B34A Aery, Baudette 79.93 34 P P 22 47 59.6 -0.6
baz=318
PSZ Piszkesteto 80.00 325⇓*i*P P 22 48 01.1 +0.5
PSZ Piszkesteto 80.00 325 *e*P P 22 48 01.3 +0.7
PSZ Piszkesteto 80.00 325 *e*P P 22 48 01.3 +0.7
PSZ pmax pmax
comp=Z,30nm,1.0s
PSZ Piszkesteto 80.00 325 *e*P P 22 48 01.3 +0.7
comp=Z,30nm,1.0s
VYHS Vyhne 80.05 326 *e*P P 22 48 01.3 +0.4
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 80.05 326 *e*P P 22 48 01.2 +0.4
113A Mohawk Valley, 80.09 56 *e*P P 22 48 02.0 +0.7
113A *e*pP **pP** 22 48 11.6 +1.1
SMCO Snowmass 80.14 48 *e*P P 22 48 03.0 +1.0
comp=Z,21nm,1.4s
F31A Hecla 80.17 38 P P 22 48 01.9 +0.3
baz=316
G30A Faulkton 80.26 39 P P 22 48 02.2 +0.2
baz=316
BRG Berggiesshubel 80.29 330 *e*P P 22 48 02.2 +0.2
comp=Z,15nm,0.9s
BRG *e* 22 48 12.9
comp=Z,18nm,1.0s
BRG Berggiesshubel 80.29 330 *e*P P 22 48 02.2 +0.2
BRG *e* 22 48 12.9
BRG pmax pmax
comp=Z,15nm,0.9s
BRG pmax pmax
comp=Z,18nm,1.0s
PVCC Panska Ves 80.31 329⇓*e*P P 22 48 02.8 +0.7
PVCC *e*pP **pP** 22 48 10.8 -0.6
PVCC *ex* x 22 48 13.7
PVCC AMS AMS 23 26 10.0
comp=Z,400nm,20.0s
PVCC Panska Ves 80.31 329 *e*P P 22 48 02.8 +0.7
PVCC *e* 22 48 13.7
PVCC MLR MLR
comp=Z,400nm,20.0s
CLL Collm 80.32 330⇓*i*P P 22 48 02.0 -0.2
comp=Z,32nm,1.0s
CLL *i* pP **sP** 22 48 12.8 -2.0
comp=Z,27nm,0.9s
CLL *e*PP PP 22 51 12.0 +7.7
CLL *e*SS SS 23 03 36.0 +20
CLL *e*SSS SSS 23 06 42.0
CLL *e*SSSS 23 09 36.0
CLL Lm MLR 23 25 00.0
comp=N,100nm,21.3s
CLL Lm MLR 23 25 00.0
comp=E,200nm,18.6s
CLL Collm 80.32 330 *e*P P 22 48 02.0 -0.2
CLL pmax pmax
comp=Z,32nm,1.0s
CLL Collm 80.32 330 *e*P P 22 48 02.0 -0.2
comp=Z,32nm,1.0s
RAR Rarotonga 80.39 127 LR LR 23 17 00.3
comp=Z,93nm,21.3s,baz=286,slow=31
VRAC Vranov 80.41 327 P P 22 48 03.4 +0.7
comp=Z,18nm,1.0s,baz=49,slow=5.8,SNR=32
VRAC Vranov 80.41 327⇓*i*P P 22 48 03.4 +0.7
B35A Bob, Littlefor 80.43 34 P P 22 48 02.7 -0.1
baz=319
I29A Vivian Onida 80.46 40 P P 22 48 03.5 +0.3
baz=315
ISCO Idaho Springs 80.50 46 P P 22 48 04.6 +0.8
baz=312
ISCO Idaho Springs 80.50 46 *e*P P 22 48 04.9 +1.1
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO Idaho Springs 80.50 46 *e*P P 22 48 04.9 +1.1
comp=Z,11nm,1.1s
X16A Lo Mia Camp, P 80.53 54 *e*P P 22 48 05.3 +1.4
comp=Z,13nm,1.0s
MVCO Mesa Verde 80.54 50 P P 22 48 04.6 +0.6
baz=311
MVCO Mesa Verde 80.54 50 *e*P P 22 48 05.2 +1.3
MVCO *e*pP **sP** 22 48 15.4 -1.1
G31A Conde 80.65 39 P P 22 48 04.4 +0.3
baz=316
GOPC GO Pecny, Ondr 80.69 329⇓*e*P P 22 48 05.0 +0.7
GOPC *e*pP **pP** 22 48 14.2 +0.7
GOPC AMS AMS 23 29 20.0
comp=Z,300nm,14.8s
GOPC GO Pecny, Ondr 80.69 329 *e*P P 22 48 05.0 +0.7
GOPC *e* 22 48 14.2
GOPC MLR MLR
comp=Z,300nm,14.8s
D34A Park Rapids 80.72 36 P P 22 48 04.3 -0.2
baz=318
PRU Pruhonice 80.74 329⇓*e*P P 22 48 05.0 +0.5
PRU *e*pP **pP** 22 48 14.4 +0.7
PRU AMS AMS 23 26 50.0
comp=Z,300nm,16.4s
PRU Pruhonice 80.74 329 *e*P P 22 48 05.0 +0.5
PRU *e* 22 48 14.4
PRU MLR MLR
comp=Z,300nm,16.4s
E33A Westby DABS, E 80.78 37 P P 22 48 04.9 +0.2
baz=318
C35A Jirik Farms, M 80.81 35 P P 22 48 04.6 -0.3
baz=319
SUSD Miller 80.84 39 P P 22 48 05.3 +0.2
baz=316
BZS Buzias 80.88 322⇓*i*P P 22 48 04.6 -0.7
BZS Buzias 80.88 322 ⇓P P 22 48 04.6 -0.7
TREC Trest 80.88 328⇓*e*P P 22 48 05.8 +0.5
TREC AMS AMS 23 27 30.0
comp=Z,400nm,17.4s
TREC Trest 80.88 328 *e*P P 22 48 05.8 +0.5
TREC MLR MLR
comp=Z,400nm,17.4s
G32A Webster 80.97 38 P P 22 48 06.0 +0.1
baz=317
I30A Oacoma 80.98 40 P P 22 48 06.3 +0.3
baz=316
H31A Wolsey 81.05 39 P P 22 48 06.5 +0.2
baz=316
F33A 5 Mile Ranch, 81.13 37 P P 22 48 06.8 +0.2
baz=317
W18A Petrified Fore 81.15 52 P P 22 48 08.5 +1.3
baz=311
S22A 4UR Ranch, Cre 81.17 49 P P 22 48 08.5 +1.1
baz=312
S22A 4UR Ranch, Cre 81.17 49 *e*P P 22 48 08.7 +1.2
comp=Z,11nm,1.0s
214A Organ Pipe Nat 81.23 56 P P 22 48 07.5 +0.1
baz=310
D35A Remer 81.25 35 P P 22 48 06.8 -0.5
baz=319
C36A Pine Crest Far 81.28 34 P P 22 48 07.1 -0.3
baz=319
Q24A Divide 81.33 47 P P 22 48 08.7 +0.5
baz=313
ASF Jabal al Asfar 81.34 304 P P 22 48 08.7 +0.6
comp=Z,7.0nm,0.8s,baz=356,slow=2.5,SNR=15
J30A Dallas 81.37 41 P P 22 48 08.2 +0.2
baz=316
NKC Novy Kostel 81.38 330⇓*e*P P 22 48 08.1 +0.2
NKC *e*PCP **PcP** 22 48 14.0 0.0
NKC *e*pP **sP** 22 48 18.7 -1.8
NKC AMS AMS 23 27 40.0
comp=Z,300nm,13.8s
NKC Novy Kostel 81.38 330 *e*P P 22 48 08.1 +0.2
NKC *e* 22 48 18.7
NKC MLR MLR
comp=Z,300nm,13.8s
X18A Snowflake 81.40 53 *e*P P 22 48 09.6 +1.1
MDVR Moldovita 81.44 322⇑*i*P P 22 48 08.5 +0.1
E35A Pequot Lakes 81.48 36 P P 22 48 08.0 -0.5
baz=318
G33A Ortonville 81.53 38 P P 22 48 09.3 +0.5
baz=317
D36A Goodland 81.57 35 P P 22 48 08.4 -0.6
baz=319
C37A Embarrass 81.59 34 P P 22 48 08.4 -0.6
baz=320
SOP Sopron 81.66 326 *e*P P 22 48 10.2 +0.8
SOP Sopron 81.66 326 P P 22 48 10.5 +1.1
EYMN Ely 81.72 33 P P 22 48 09.3 -0.5
baz=320
EYMN Ely 81.72 33 *e*P P 22 48 09.6 -0.1
comp=Z,20nm,1.0s
KUBS Kucevo 81.73 321 *e*Pn P 22 48 08.3 -1.6
MMAI Mount Meron Ar 81.76 306 P P 22 48 10.9 +0.6
comp=Z,12nm,0.7s,baz=43,slow=6.2,SNR=29
H33A Prehn Over Nor 81.76 38 P P 22 48 10.3 +0.3
baz=317
K30A Basset 81.77 41 P P 22 48 10.6 +0.4
baz=316
CONA Conrad Observa 81.78 327 *i* P P 22 48 11.0 +0.9
comp=Z,18nm,1.1s,SNR=15
KHC Kasperske Hory 81.80 329⇓*e*P P 22 48 10.6 +0.4
KHC *e*PCP **PcP** 22 48 14.8 -1.0
KHC *e*pP **pP** 22 48 19.6 +0.2
KHC AMS AMS 23 27 10.0
comp=Z,400nm,17.0s
KHC Kasperske Hory 81.80 329 *e*P P 22 48 10.6 +0.4
KHC pmax pmax
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 81.80 329 *e*P P 22 48 10.6 +0.4
comp=Z,8.1nm,1.0s
G34A Benson 81.88 37 P P 22 48 11.1 +0.5
baz=318
D37A Cotton 81.92 34 P P 22 48 10.3 -0.5
baz=320
SDCO Great Sand Dun 81.95 48 P P 22 48 12.2 +0.7
baz=313
SDCO Great Sand Dun 81.95 48 *e*P P 22 48 12.5 +1.0
comp=Z,10nm,1.2s
GEC2 GERESS Array S 81.97 329 *e*P P 22 48 11.1 -0.1
GEC2 pmax pmax
comp=Z,8.0nm,0.9s
GEC2 GERESS Array S 81.97 329 *e*P P 22 48 11.1 -0.1
comp=Z,8.1nm,0.9s
GERES GERESS Array B 81.97 329 P P 22 48 11.1 -0.1
comp=Z,4.7nm,0.8s,baz=39,slow=5.1,SNR=47
GERES PKKPbc **PKKPbc** 23 06 40.7 +0.6
comp=Z,0.1nm,0.3s,baz=246,slow=8.1,SNR=3.5
GERES LR LR 23 27 39.9
comp=Z,296nm,18.9s,baz=18,slow=38
GEA0 GERESS Array S 81.98 329 *e*P P 22 48 11.0 -0.2
C38A Sawbill Land. 81.99 33 P P 22 48 10.8 -0.3
baz=320
BOLS Boljevac 82.02 321 *e*Pn P 22 48 09.5 -1.9
E36A McGregor 82.03 35 P P 22 48 11.4 0.0
baz=319
ZAPS Zavoj 82.08 320 *e*Pn P 22 48 12.5 +0.7
FRGS Fruska Gora 82.08 323 *e*Pn P 22 48 10.2 -1.5
EKA Eskdalemuir Ar 82.15 341 P P 22 48 12.1 +0.3
comp=Z,2.7nm,0.6s,baz=32,slow=5.1,SNR=18
J32A Parkston 82.17 40 P P 22 48 12.4 +0.2
baz=317
I33A Coleman 82.20 39 P P 22 48 12.5 +0.1
baz=317
BOVS Bovan 82.28 321 *e*Pn P 22 48 12.2 -0.5
GRFO Grafenberg 82.29 330 *e*P P 22 48 13.4 +0.7
GRFO pmax pmax
comp=Z,28nm,1.0s
GRFO Grafenberg 82.29 330 *e*P P 22 48 13.3 +0.7
comp=Z,28nm,1.0s
TUC Tucson 82.31 55 P P 22 48 14.1 +0.9
baz=311
TUC Tucson 82.31 55 *e*P P 22 48 14.2 +0.9
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC Tucson 82.31 55 *e*P P 22 48 14.2 +0.9
comp=Z,6.6nm,0.9s
F36A Milaca 82.40 36 P P 22 48 12.7 -0.6
baz=319
ARSA Arzberg 82.44 327 *i* P P 22 48 13.8 +0.3

comp=Z,8.8nm,1.1s,SNR=6.2
TRUS Trudelj 82.49 322 ePn P 22 48 13.7 -0.1
MOA Molln 82.52 328 iP P 22 48 14.4 +0.4
comp=Z,15nm,1.3s,SNR=8.8
ECSD EROS Data Cent 82.52 39 P P 22 48 14.2 +0.2
baz=317
ECSD EROS Data Cent 82.52 39 eP P 22 48 14.4 +0.4
comp=Z,19nm,0.8s
L31A Butterfield Fa 82.53 41 P P 22 48 14.6 +0.4
baz=316
GRUS Gruza 82.58 322 ePn P 22 48 14.4 +0.1
H35A Sunnyside Ranc 82.67 37 P P 22 48 15.1 +0.3
baz=318
TEKS Tekeris 82.67 323 ePn P 22 48 14.9 +0.1
DIVS Divibare 82.78 322 ePn P 22 48 15.3 -0.2
BARS Barje 82.82 320 ePn P 22 48 15.0 -0.6
T25A Trinidad 83.00 48 P P 22 48 17.8 +0.9
baz=314
T25A Trinidad 83.00 48 eP P 22 48 17.9 +0.9
comp=Z,13nm,0.9s
L32A Elgin 83.08 41 P P 22 48 17.0 0.0
baz=317
IVAS Ivanjica 83.09 322 ePn P 22 48 18.6 +1.6
SOKA Soboth 83.10 326 iP P 22 48 17.3 +0.2
comp=Z,30nm,1.3s,SNR=26
K33A Hardington 83.15 40 P P 22 48 17.3 0.0
baz=317
H36A Jessenland, He 83.18 37 P P 22 48 17.4 0.0
baz=319
SPMN Marine on St. 83.22 36 P P 22 48 17.6 0.0
baz=320
SPMN Marine on St. 83.22 36 eP P 22 48 17.8 +0.2
SPMN ePP sP 22 48 28.6 -1.7
I35A Creekview Farm 83.22 38 P P 22 48 17.8 +0.1
baz=318
LAZ Ladron 83.22 51 eP P 22 48 19.6 +1.5
BBLS Lazići 83.24 322 ePn P 22 48 18.1 +0.3
ANMO Albuquerque 83.27 50 P P 22 48 19.6 +1.3
baz=313
ANMO Albuquerque 83.27 50 diP P 22 48 19.7 +1.4
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO Albuquerque 83.27 50 eP P 22 48 19.4 +1.1
comp=Z,17nm,1.2s
SJES Sjenica 83.41 322 ePn P 22 48 19.1 +0.3
BEBN Eben Emael 83.42 334 P P 22 48 18.6 +0.2
BEBN AP pP 22 48 28.9 +1.1
BGNE Belgrade 83.44 41 eP P 22 48 19.0 +0.1
comp=Z,56nm,1.0s
BGNE e 22 48 29.8
OBKA Obir 83.44 327 iP P 22 48 18.6 -0.2
comp=Z,8.3nm,1.0s
MEM Membach 83.47 334 P P 22 48 18.8 +0.1
comp=Z,11nm,1.1s
MEM AP pP 22 48 28.9 +0.9
J35A Milford 83.48 38 P P 22 48 19.1 +0.1
baz=318
KBA Koelnbreinsper 83.51 328 iP P 22 48 19.2 -0.1
comp=Z,13nm,0.8s,SNR=9.7
KBA Koelnbreinsper 83.51 328 P P 22 48 20.2 +0.9
K34A Le Mars 83.55 39 P P 22 48 19.0 -0.3
baz=318
I36A Fitzsimmons Fa 83.56 37 P P 22 48 19.5 +0.2
baz=319
SKO Skopje 83.63 320 iPn P 22 48 20.1 +0.3
H37A Dierke Farm, C 83.65 36 P P 22 48 20.0 +0.1
baz=320
BNM Barren Site 83.71 51 eP P 22 48 21.6 +1.0
MYKA Terra Mystica 83.74 327 iP P 22 48 19.9 -0.4
comp=Z,7.7nm,0.5s,SNR=6.5
LJU Ljubljana 83.81 326 iP P 22 48 19.7 -1.0
STU Stuttgart 83.82 331 eP P 22 48 20.7 +0.1
STU pmax pmax
comp=Z,8.0nm,0.6s
STU Stuttgart 83.82 331 eP P 22 48 20.7 +0.1
comp=Z,8.3nm,0.6s
I37A Lemond, Waseca 83.86 37 P P 22 48 21.0 +0.1
baz=319
VISS Visnje 83.86 326 iP P 22 48 20.1 -0.8
BCLA Clavier 83.87 334 P P 22 48 20.6 -0.2
BCLA AP pP 22 48 31.3 +1.2
BOJS Bojanci 83.91 326 iP P 22 48 20.5 -0.6
J36A Seneca 1, Swea 83.93 38 P P 22 48 21.3 0.0
baz=319
L34A Svendsen Farm, 83.94 40 P P 22 48 21.2 -0.1
baz=318
SCHQ Schefferville 83.94 16 P P 22 48 21.0 -0.1
comp=Z,4.8nm,0.6s,baz=0.7,slow=8.2,SNR=6.2
SCHQ LR LR 23 26 60.0
comp=Z,166nm,21.8s,baz=304,slow=36
K35A Storm Lake 83.95 39 P P 22 48 21.5 +0.1
baz=318
CWF Charnwood Fore 83.95 339 eP P 22 48 21.6 +0.4
comp=Z,12nm,0.8s
WATA Walderalm 84.04 329 iP P 22 48 21.9 0.0
comp=Z,3.0nm,0.5s
WTTA Wattenberg 84.07 329 iP P 22 48 22.4 +0.2
comp=Z,7.2nm,0.9s
121A Cookes Peak, D 84.07 53 P P 22 48 23.3 +0.9
baz=312
121A Cookes Peak, D 84.07 53 eP P 22 48 22.9 +0.4
comp=Z,22nm,0.9s
121A e 22 48 33.8
ABTA Abfaltersbach 84.12 328 iP P 22 48 21.8 -0.5
comp=Z,12nm,1.2s
JAVS Javornik 84.13 326 iP P 22 48 21.1 -1.3
SNF Seneffe 84.14 335 P P 22 48 22.0 -0.2
SNF AP pP 22 48 32.4 +1.0
WLF Walferdange 84.20 333 P P 22 48 24.2 +1.6
comp=Z,15nm,1.8s
MOTA Moosalm 84.22 329 iP P 22 48 22.9 -0.1
comp=Z,24nm,1.3s,SNR=14
EIL Elat 84.23 303 P P 22 48 23.1 +0.1
comp=Z,13nm,0.9s,baz=5.3,slow=5.1,SNR=15
RETA Reutte 84.25 329 iP P 22 48 23.2 +0.2
comp=Z,30nm,1.2s,SNR=12
J37A Redenius Farm, 84.32 37 P P 22 48 23.3 0.0
baz=319
I38A Scanlan Farm, 84.34 36 P P 22 48 23.2 -0.2
baz=320
DOU Dourbes 84.39 334 P P 22 48 23.4 0.0
K36A Gilmore City 84.39 38 P P 22 48 23.5 -0.2
baz=319
TRI Trieste 84.41 327 eP P 22 48 22.1 -1.5
TRI e*PP pP 22 48 32.5 -0.4
TRI pmax pmax
comp=Z,14nm,1.0s
TRI Trieste 84.41 327 eP P 22 48 22.1 -1.5
comp=Z,14nm,1.0s
TRI epP pP 22 48 32.5 -0.4
CBKS Cedar Bluff 84.46 44 P P 22 48 23.5 -0.6
baz=316
BFO Black Forest 84.51 331 iP P 22 48 24.4 +0.2
BFO Black Forest 84.51 331 eP P 22 48 24.2 0.0
comp=Z,27nm,1.1s
FNA Florina 84.53 319 P P 22 48 24.6 +0.1
OHR Ohrid 84.59 320 iPn P 22 48 20.2 -4.5
PPT Papeete 84.63 117 LR LR 23 17 30.9
comp=Z,142nm,21.8s,baz=348,slow=29
FETA Feichten 84.64 329 iP P 22 48 25.0 0.0
comp=Z,16nm,1.2s,SNR=8.0
PPT2 Papeete2 84.64 117 eLR LR 23 14 57.4
comp=Z,295nm,23.6s
PPT2 Papeete2 84.64 117 eT T 00 21 44.1
comp=Z,11nm,0.3s
M35A Neola 84.65 40 P P 22 48 25.0 0.0
baz=318
K37A Belmond 84.69 38 P P 22 48 25.0 -0.2
baz=319
L36A Harm Buss Farm 84.69 39 P P 22 48 25.2 0.0
baz=319
N34A Lincoln 84.70 41 P P 22 48 24.8 -0.4
baz=318
DAVA Damuels 84.76 330 iP P 22 48 25.8 +0.1
comp=Z,15nm,0.8s,SNR=12
TIAR Tiarei 84.78 117 eT T 00 21 53.9
comp=Z,5.5nm,0.3s
J38A Wedel Dairy, R 84.82 37 P P 22 48 25.8 0.0
baz=320
CDF Champ du Feu 84.84 332 eP P 22 48 25.3 -0.6
CDF pmax pmax
comp=Z,29nm,1.3s
Q32A Meitler Ranch, 84.97 43 P P 22 48 26.4 -0.3
baz=317
ECH Echery 85.05 332 eP P 22 48 26.5 -0.4
O34A Beatrice 85.09 41 P P 22 48 26.2 -1.1
baz=318
M36A Felix, Anita 85.11 39 P P 22 48 27.7 +0.4
baz=319
P33A Williams Farm, 85.11 42 P P 22 48 27.1 -0.3
baz=317
L37A Phoenix Point, 85.12 38 P P 22 48 27.5 +0.1
baz=319
N35A Tabor 85.12 40 P P 22 48 27.8 +0.5
baz=318
FUORN Ofenpass-Fuorn 85.15 329 eP P 22 48 28.0 +0.3
comp=Z,27nm,0.7s
DAVOX Davos/Dischmat 85.17 329 P P 22 48 27.8 0.0
comp=Z,5.9nm,0.5s,baz=74,slow=1.1,SNR=11
Q33A Connelly Farm, 85.36 43 P P 22 48 28.2 -0.4
baz=317
MOF Molkenrain 85.36 332 eP P 22 48 28.2 -0.3
P34A Walnut Farm, R 85.49 42 P P 22 48 28.9 -0.3
baz=318
HINF Hinteralfeld 85.49 332 eP P 22 48 28.1 -1.0
HINF pmax pmax
comp=Z,24nm,1.6s
N36A Muff Farm, Cla 85.50 40 P P 22 48 29.6 +0.3
baz=319
TUE Stuetta 85.64 329 eP P 22 48 30.3 +0.2
comp=Z,14nm,0.9s
S32A Newby Ranch, P 85.70 44 P P 22 48 30.4 0.0
baz=316
R33A Olander Ranch, 85.78 43 P P 22 48 31.0 +0.3
baz=317
Q34A Chapman 85.89 42 P P 22 48 31.4 +0.2
baz=318
LOMF Lomont 85.89 331 eP P 22 48 31.0 -0.2
P35A Duane Minner, 85.92 41 P P 22 48 31.1 -0.3
baz=318
N37A Lee Faris, Mou 85.92 39 P P 22 48 31.7 +0.3
baz=319
M38A Pleasantville 85.92 38 P P 22 48 31.5 +0.1
baz=320
KSU1 Kansas State U 85.93 42 P P 22 48 31.0 -0.4
baz=318
KSU1 Kansas State U 85.93 42 eP P 22 48 31.6 +0.1
KSU1 epP sP 22 48 42.2 -1.9
O36A Bolckow 86.01 40 P P 22 48 32.0 +0.2
baz=319
T32A Huddler Ranch, 86.08 45 P P 22 48 32.1 -0.1
baz=316
MNTX Comudas Mount 86.14 52 P P 22 48 33.0 +0.5
baz=313
MNTX Cornudas Mount 86.14 52 eP P 22 48 33.1 +0.5
comp=Z,6.4nm,0.9s
AMTX Amarillo 86.16 48 P P 22 48 33.6 +0.9
baz=315
AMTX Amarillo 86.16 48 eP P 22 48 33.7 +1.0
comp=Z,26nm,0.9s
P36A Good Intent, A 86.27 41 P P 22 48 33.1 0.0
baz=318
N38A Joes South For 86.38 39 P P 22 48 33.7 +0.1
baz=320
O37A Wolven Farm, M 86.40 40 P P 22 48 34.2 +0.5
baz=319
Q35A Mercer Eighty, 86.41 42 P P 22 48 33.5 -0.3
baz=318
SENIN Lac Senin/Sane 86.53 331 eP P 22 48 34.4 -0.1
comp=Z,6.9nm,0.8s
N39A Derby Farms, D 86.67 38 P P 22 48 35.3 +0.3
baz=320
S34A Willow Spring 86.69 43 P P 22 48 35.2 0.0
baz=318
L41A Preston 86.71 36 P P 22 48 34.5 -0.6
baz=321
R35A Emporia Munici 86.72 42 P P 22 48 35.8 +0.5
baz=318
P37A Lathrop 86.73 40 P P 22 48 35.2 -0.2
baz=319
O38A Galt 86.77 39 P P 22 48 35.7 +0.1
baz=320
CABF La Chapelle 86.79 331 eP P 22 48 34.8 -0.8
CABF pmax pmax
comp=Z,17nm,1.4s
V32A Arapaho 87.07 46 P P 22 48 38.2 +1.1
baz=316
U33A Lingo Farm, Me 87.07 45 P P 22 48 37.1 0.0
baz=317
R36A Gegon, Harris 87.08 42 P P 22 48 37.1 0.0
baz=318
DAMY Dhamar 87.11 286 eP P 22 48 38.8 +0.9
comp=Z,29nm,1.1s
P38A Dawn 87.12 40 P P 22 48 37.1 -0.2
baz=320
S35A Otter Creek Ra 87.13 43 P P 22 48 37.8 +0.5
baz=318
O39A Kirksville 87.13 39 P P 22 48 37.0 -0.3
baz=320
T34A McClaskey Farm 87.15 44 P P 22 48 38.2 +0.8
baz=318
AQU L'Aquila 87.21 325 eP P 22 48 40.2 +2.5
AQU pmax pmax
comp=Z,11nm,0.9s
AQU L'Aquila 87.21 325 eP P 22 48 40.1 +2.5
comp=Z,11nm,0.9s
Q37A Longview Farm, 87.22 41 P P 22 48 37.7 0.0
baz=319
W32A Sentinel 87.39 46 P P 22 48 39.4 +0.8
baz=316
U34A Anderson Ranch 87.39 44 P P 22 48 39.4 +0.8
baz=317
R37A Teagarden Farm 87.44 41 P P 22 48 38.4 -0.4
baz=319
LPL La Plagne 87.45 330 eP P 22 48 38.6 -0.4
LPL pmax pmax
comp=Z,8.0nm,0.8s
LPG La Plagne 87.46 330 eP P 22 48 38.7 -0.5
LPG pmax pmax
comp=Z,7.0nm,0.8s
S36A Lake Cedric, C 87.48 42 P P 22 48 39.2 +0.2
baz=318
O40A La Belle 87.56 38 P P 22 48 39.6 +0.3
baz=320
Q38A Cooks Store, C 87.58 40 P P 22 48 39.6 +0.2
baz=320
T35A Sooner Cattle 87.59 43 P P 22 48 40.1 +0.5
baz=318
P39B Salisbury 87.61 39 P P 22 48 39.5 -0.2
baz=320
AVF Avril sur Loir 87.64 333 eP P 22 48 39.0 -0.6
AVF pmax pmax
comp=Z,16nm,0.9s
T36A Boggs Farm, Ca 87.82 43 P P 22 48 40.9 +0.2
baz=318
V34A Guthrie 87.84 45 P P 22 48 41.0 +0.2
baz=317
Q39A Willow Grove F 87.84 40 P P 22 48 41.2 +0.5
baz=320
S37A Fort Scott 87.86 42 P P 22 48 39.9 -0.9
baz=319
X32A Elmer 87.87 47 P P 22 48 39.8 -1.2
baz=316
U35A Pawnee 87.87 44 P P 22 48 41.0 0.0
baz=318
WMOK Wichita Mounta 87.93 46 P P 22 48 41.0 -0.3
baz=317
WMOK Wichita Mounta 87.93 46 eP P 22 48 41.5 +0.2
WMOK pmax pmax
comp=Z,12nm,1.0s
WMOK Wichita Mounta 87.93 46 eP P 22 48 41.5 +0.2
comp=Z,12nm,1.0s
P40A Paris 87.93 39 P P 22 48 41.1 0.0
baz=320
R38A Fenwick Farm, 88.02 41 P P 22 48 40.8 -0.8
baz=319
O41A Paisleys Farm, 88.05 38 P P 22 48 42.1 +0.4
baz=321
T37A Cheneyville 18 88.29 42 P P 22 48 42.6 -0.3
baz=319
P41A Barry, Barry 88.30 38 P P 22 48 42.6 -0.3
baz=321
Q40A Laux Farm, Aux 88.33 39 P P 22 48 43.2 +0.1
baz=320
R39A Chumby, Stover 88.36 40 P P 22 48 42.9 -0.3
baz=320
S38A Stockton 88.44 41 P P 22 48 43.0 -0.6
baz=319
HDIL Hopedale 88.46 37 P P 22 48 43.1 -0.5
baz=322
HDIL Hopedale 88.46 37 eP P 22 48 43.9 +0.3
comp=Z,33nm,0.9s
Y33A Hilltop Ranch, 88.54 47 P P 22 48 43.5 -0.7
baz=317
X34A Smith Ranch, M 88.56 46 P P 22 48 44.6 +0.3
baz=317
T38A Diamond 88.68 42 P P 22 48 44.8 0.0
baz=319
S39A Bolivar 88.69 41 P P 22 48 44.3 -0.5
baz=320
U37A Salina 88.72 43 P P 22 48 44.9 0.0
baz=319
TUL1 Leonard 88.72 44 P P 22 48 44.5 -0.4
baz=318
V36A Jenks 88.74 44 P P 22 48 45.0 0.0
baz=318
R40A Maddies Statio 88.77 40 P P 22 48 44.7 -0.5
baz=320
VIVF Saint-Julien-l 88.80 331 eP P 22 48 44.8 -0.4
VIVF pmax pmax
comp=Z,17nm,1.5s
TX31 Lajitas Ar. Si 88.83 53 eP P 22 48 46.0 +0.2
TXAR Lajitas Array 88.83 53 P P 22 48 46.1 +0.4
comp=Z,5.4nm,0.6s,baz=296,slow=3.2,SNR=109
ABTX Abilene, Hawle 88.95 48 P P 22 48 46.0 -0.1
baz=316
W36A Wetumka 89.06 44 P P 22 48 47.0 +0.5
baz=318
U38A Gravette 89.08 42 P P 22 48 46.9 +0.3
baz=319
V37A Hulbert 89.10 43 P P 22 48 46.9 +0.2
baz=319
Q42A Golden Eagle 89.15 38 P P 22 48 47.0 +0.1
baz=321
T39A Clever 89.17 41 P P 22 48 47.0 0.0
baz=320
S40A Lebanon 89.18 40 P P 22 48 46.9 -0.2
baz=320
X35A Drake 89.19 45 P P 22 48 47.5 +0.3
baz=318
133A Hamilton Ranch 89.39 48 P P 22 48 47.8 -0.4
baz=317
X36A Centrahoma 89.41 45 P P 22 48 48.4 +0.2
baz=318
Z34A Collier Ranch, 89.41 47 P P 22 48 48.4 +0.2
baz=317
HHAR Hobbs 89.44 42 eP P 22 48 48.5 +0.2
HHAR epP sP 22 48 59.2 -1.8
W37B Quinton 89.50 44 P P 22 48 48.8 +0.2
baz=318
V38A Canehill 89.51 43 P P 22 48 48.6 0.0
baz=319
T40A Mansfield 89.52 41 P P 22 48 48.5 -0.2
baz=320
U39A Green Forest 89.60 42 P P 22 48 48.2 -0.9
baz=320
TRQ Mont Tremblant 89.61 25 eP P 22 48 49.1 +0.1
TRQ epP pP 22 48 58.9 +0.5
SFIN Lafayette 89.62 35 P P 22 48 49.0 -0.1
baz=324
SFIN Lafayette 89.62 35 eP P 22 48 49.4 +0.4
comp=Z,59nm,1.7s
SFIN e 22 48 59.8
CAF Calviac 89.70 333 eP P 22 48 49.4 0.0
CAF pmax pmax
comp=Z,5.0nm,0.8s
LMQ La Malbaie 89.72 21 eP P 22 48 49.4 -0.1
comp=Z,33nm,1.5s
Z35A Perchaven, San 89.82 46 P P 22 48 50.2 0.0
baz=318
233A Rising Star 89.83 48 P P 22 48 50.4 +0.2
baz=317
Q44A Meyer Farm, Va 89.89 37 P P 22 48 50.0 -0.3
baz=322
134A White-Moore Ra 89.90 47 P P 22 48 50.4 -0.1
baz=317
V39A Pettigrew 89.93 42 P P 22 48 49.7 -1.0
baz=320
X37A Clayton 89.94 44 P P 22 48 50.4 -0.3
baz=319
Y36A Durant 89.94 45 P P 22 48 50.9 +0.2
baz=318
U40A Yellville 89.95 41 P P 22 48 50.2 -0.5
baz=320
T41A Mountain View 89.99 40 P P 22 48 50.7 -0.2
baz=321
W38A Poteau 90.04 43 P P 22 48 51.0 -0.1
baz=319
X38A Whitesboro 90.17 44 P P 22 48 52.1 +0.3
baz=319
ATD Arta Tunnel 90.18 285 P P 22 48 53.1 +1.0
comp=Z,14nm,1.0s,baz=89,slow=2.8,SNR=6.0
333A Richland Sprin 90.28 49 P P 22 48 52.2 -0.1
baz=317
234A Clairette 90.28 48 P P 22 48 52.7 +0.3
baz=317
Z36A Blue Ridge 90.33 46 P P 22 48 53.1 +0.6
baz=318
W39A Magazine 90.34 43 P P 22 48 52.2 -0.3
baz=320
JCT Junction City 90.40 50 P P 22 48 52.8 -0.1
baz=316
JCT Junction City 90.40 50 eP P 22 48 53.1 +0.2
JCT e*PP sP 22 49 04.0 -1.7
JCT Junction City 90.40 50 eP P 22 48 53.1 +0.2
JCT epP sP 22 49 04.0 -1.7
OLIL Olney 90.47 37 eP P 22 48 50.3 -2.7
OLIL epP sP 22 49 04.0 -1.7
433A Art 90.62 49 P P 22 48 54.2 +0.2
baz=316
X39A Fountain Ranch 90.68 43 P P 22 48 54.0 -0.2
baz=319
WHTX Lake Whitney, 90.68 47 P P 22 48 54.4 +0.2
baz=317
WHTX Lake Whitney, 90.68 47 eP P 22 48 55.0 +0.8
comp=Z,5.9nm,0.6s
WHTX e 22 49 05.9
334A Lometa 90.71 48 P P 22 48 54.5 +0.2
baz=317
W40A Fergueson Farm, 90.72 42 P P 22 48 54.5 +0.2
baz=320
V41A Mountainview 90.75 41 P P 22 48 54.1 -0.4
baz=320
PBMO Poplar Bluff 90.87 40 eP P 22 48 55.6 +0.7
comp=Z,23nm,1.0s
MIAR Mount Ida 90.94 43 P P 22 48 55.8 +0.4
baz=320
MIAR Mount Ida 90.94 43 eP P 22 48 56.0 +0.6
MIAR pmax pmax
comp=Z,18nm,0.8s
MIAR Mount Ida 90.94 43 eP P 22 48 56.0 +0.6
comp=Z,18nm,0.8s
X201 Greenbrier Sit 91.02 42 eP P 22 48 55.9 +0.2
comp=Z,13nm,0.9s
X301 Greenbrier Sit 91.04 42 eP P 22 48 55.9 +0.2
comp=Z,27nm,1.4s
WHAR Wooly Hollow 91.06 42 eP P 22 48 56.0 +0.1
comp=Z,24nm,0.9s
434A Burnet 91.07 48 P P 22 48 55.8 -0.3
baz=317
Y39A Lockesburg 91.12 44 P P 22 48 56.1 -0.1
baz=319
V42A Cord 91.13 41 P P 22 48 55.7 -0.5
baz=321
W41B Gary Mavity, V 91.17 42 P P 22 48 56.2 -0.2
baz=320
X40A Basin Creek Fa 91.39 43 P P 22 48 57.5 +0.1
baz=320
633A Saathoff Ranch 91.51 50 P P 22 48 58.6 +0.5
baz=316
534A Blanco 91.52 49 P P 22 48 58.3 +0.2
baz=317
Z40A Long Farm, Mag 92.02 44 P P 22 49 00.9 +0.6
baz=320
933A Laredo 92.78 51 P P 22 49 05.3 +1.3
baz=316
O56A Blue Knob Stat 93.34 30 P P 22 49 06.7 +0.3
baz=329
034A Hebbronville 93.53 51 P P 22 49 08.4 +1.0
baz=317
SWET Sewanee 94.32 38 epP pP 22 49 21.2 +0.9
CPCT Cooper Cave 94.80 37 eP P 22 49 13.4 +0.2
comp=Z,4.9nm,0.5s
TKL Tuckaleechee C 94.98 36 eP P 22 49 14.0 0.0
TKL pmax pmax
comp=Z,10.0nm,0.6s
TKL Tuckaleechee C 94.98 36 eP P 22 49 13.9 0.0
comp=Z,9.5nm,0.6s
FURI Furi 95.01 285 eP P 22 49 17.3 +2.5
comp=Z,45nm,1.4s
ES19 SONSECA Array 96.39 334 eP P 22 49 20.1 -0.3

ES19				*e*pP		**pP**		22 49 29.8	+0.1
ESDC	**Sonseca Array**	**96.43**	**334**	P		**P**		22 49 20.7	+0.1
	comp=Z,0.6nm,0.6s,baz=18,slow=5.0,SNR=7.5								
ESDC				LR		LR		23 37 50.3	
	comp=Z,178nm,18.4s,baz=50,slow=38								
VNDA	**Vanda**	**116.19**	**175**	PKP		**PKPdf**		22 54 32.5	-0.6
	comp=Z,0.7nm,0.6s,baz=300,slow=4.7,SNR=3.9								
TORD	**Torodi Ar. Bea**	**116.88**	**316**	PKP		**PKPdf**		22 54 35.9	-0.5
	comp=Z,0.6nm,0.6s,baz=35,slow=2.6,SNR=4.7								
TORD				PP		**PP**		22 55 40.8	-3.6
	comp=Z,1.8nm,0.9s,baz=41,slow=4.3,SNR=4.2								
MAW	**Mawson**	**120.97**	**206**	PKP		**PKPdf**		22 54 42.1	-0.4
	comp=Z,1.6nm,0.8s,baz=334,slow=11,SNR=4.3								
SDV	**Santo Domingo**	**123.94**	**40**	*e*PKPdf		**PKPdf**		22 54 49.7	-0.5
SDV				*e*pPKPdf		**pPKPdf**		22 55 01.4	+1.6
DBIC	**Dimbokro**	**125.79**	**318**	PKP		**PKPdf**		22 54 52.0	-1.5
	comp=Z,7.0nm,1.1s,baz=85,slow=4.6,SNR=3.6								
DBIC	**Dimbokro**	**125.79**	**318**	PKIKP		**PKPdf**		22 54 52.0	-1.5
BOSA	**Boshof**	**127.44**	**261**	PKP		**PKPdf**		22 54 56.4	0.0
	comp=Z,5.7nm,1.0s,baz=1.8,slow=6.1,SNR=4.0								
SNAA	**Sanae**	**142.15**	**197**	PKP	PKPpre			22 55 16.6	
VNA1	**Neumayer--Stat**	**144.12**	**196**	PKP		PKPbc		22 55 24.0	+0.1
LPAZ	**La Paz**	**145.49**	**59**	PKPbc		**PKPbc**		22 55 30.6	0.0
	comp=Z,17nm,0.5s,baz=346,slow=4.1,SNR=49								
RCBR	**Riachuelo**	**147.63**	**357**	*e*PKPbc		**PKPbc**		22 55 36.7	+0.5
RCBR				*e*				22 55 48.4	
LVC	**Limon Verde**	**149.11**	**69**	*e*PKPdf		**PKPdf**		22 55 37.5	+1.4
LVC				*e*PKPbc		**PKiKP**		22 55 41.4	-0.1
LVC				*e*				22 55 52.2	
LCO	**Las Campanas**	**151.19**	**81**	*e*PKPbc		**PKPbc**		22 55 45.8	+0.7
LCO				*e*PKPab		**PKPab**		22 55 54.9	+2.0

IDC ***10*** *22:47:04.0±0.6,39.06N×28.37E, h0km, mb3.9/14, mb1 4.0/21,mb1mx3.9/47, mbtmp3.9/21, ML3.9/7, MS3.4/9, Ms1 3.4/9, ms1mx3.1/48, Error ellipse: s-maj=12.0km s-min=11.3km az=88.0*

MOS ***10*** *22:47:04.6±1.0,39.12N×28.39E, h17km, mb4.3/8, Error ellipse: s-maj=5.6km s-min=3.8km az=99.5*

ISK ***10*** *22:47:04.9, 39.09N×28.36E, h14km, ML4.6*

DDA ***10*** *22:47:04.7, 39.10N×28.34E, h34km, Ml4.7*

ISCJB ***10*** *22:47:05.8±0.3,39.11N±0.01×28.37E±0.02, h24km±3km, mb4.0/19, MS3.5/4, Error ellipse: s-maj=2.3km s-min=2.0km az=173.2*

NEIC ***10*** *22:47:05.1,39.09N×28.35E, h16km, mb4.4/3, ML4.6(ISK), After ISK.*

CSEM ***10*** *22:47:05.3±0.1,39.10N×28.36E, h10km, ML4.7, Error ellipse: s-maj=1.7km s-min=1.6km az=70.0*

THE ***10*** *22:47:06.3,39.07N×28.38E, h11km±2km, ML4.3/7, Error ellipse: s-maj=3.0km s-min=0.7km az=82.0*

ISC 10 22:47:06.2±0.9, 39.11N±0.02×28.36E±0.02, h13km±6km, n345,σ1♀40/414, mb4.0/19, MS3.7/4, 17C-24D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.28**	**103**	P		**Pg**	22 47 11.9	-0.2
DEMI				S		**Sg**	22 47 16.2	+0.1
DEMI	**Demirci**	**0.28**	**103**	⇓*i*P		**Pg**	22 47 11.9	-0.2
DEMI				*i* S		**Sg**	22 47 16.2	+0.1
AKS	**Akhisar**	**0.48**	**242**	PG		**Pg**	22 47 14.9	-0.7
AKS	**Akhisar**	**0.48**	**242**	*i* Pg		**Pg**	22 47 14.9	-0.7
DST	**Dursunbey**	**0.54**	**22**	PG		**Pg**	22 47 16.4	-0.3
DST	**Dursunbey**	**0.54**	**22**	*i* Pg		**Pg**	22 47 16.4	-0.3
MANT	**Manisa**	**0.63**	**166**	P		**Pg**	22 47 17.8	-0.8
MANT				S		**Sg**	22 47 25.5	-1.5
MANT	**Manisa**	**0.63**	**166**	⇑*i*P		**Pg**	22 47 17.8	-0.8
MANT				*i* S		**Sg**	22 47 25.5	-1.5
KULA	**Kula-Manisa**	**0.64**	**158**	PG		**Pg**	22 47 17.8	-0.8
KULA				SG		**Sg**	22 47 25.9	-1.1
KULA	**Kula-Manisa**	**0.64**	**158**	P		**Pg**	22 47 18.0	-0.6
KULA				S		**Sg**	22 47 25.9	-1.1
KULA	**Kula-Manisa**	**0.64**	**158**	*i* Pg		**Pg**	22 47 17.8	-0.8
KULA				*i* S		**Sg**	22 47 25.9	-1.1
BALB	**Balikesir**	**0.65**	**325**	PG		**Pg**	22 47 18.7	-0.1
BALB				SG		**Sb**	22 47 28.9	+0.6
BALB	**Balikesir**	**0.65**	**325**	*i* Pg		**Pg**	22 47 18.7	-0.1
BALB				*i* Sg		**Sb**	22 47 28.9	+0.6
GEDZ	**Gediz**	**0.82**	**94**	*e*PG		**Pg**	22 47 22.0	0.0
GEDZ	**Gediz**	**0.82**	**94**	*e*Pg		**Pg**	22 47 22.0	0.0
BALY	**Balya**	**0.85**	**318**	P		**Pg**	22 47 21.8	-0.9
BALY	**Balya**	**0.85**	**318**	⇑*i*P		**Pg**	22 47 21.8	-0.9
BALY				*i* S		**Sn**	22 47 36.8	+0.5
GDZ	**Gediz**	**0.87**	**91**	P		**Pg**	22 47 22.7	-0.4
GDZ				S		**Sg**	22 47 34.4	-0.1
GDZ	**Gediz**	**0.87**	**91**	⇑*i*P		**Pg**	22 47 22.7	-0.4
GDZ				*i* S		**Sg**	22 47 34.4	-0.1
TVSB	**Tavsanli**	**0.92**	**68**	*e*PG		**Pg**	22 47 23.7	-0.3
TVSB				*e*SG		**Sg**	22 47 36.2	+0.1
TVSB	**Tavsanli**	**0.92**	**68**	*e*Pg		**Pg**	22 47 23.7	-0.3
TVSB				*e*Sg		**Sg**	22 47 36.2	+0.1
GONE	**Gonen-Balikesi**	**1.07**	**331**	*e*PN		**Pb**	22 47 26.1	-0.5
GONE	**Gonen-Balikesi**	**1.07**	**331**	*e*Pn		**Pb**	22 47 26.1	-0.5
IZM	**Izmir**	**1.11**	**231**	*e*PN		**Pb**	22 47 26.0	-1.2
IZM	**Izmir**	**1.11**	**231**	P		**Pb**	22 47 25.8	-1.5
IZM	**Izmir**	**1.11**	**231**	*e*Pn		**Pb**	22 47 26.0	-1.2
DKL	**Dikili**	**1.13**	**269**	*e*PN		**Pb**	22 47 26.8	-0.7
DKL	**Dikili**	**1.13**	**269**	*e*Pn		**Pb**	22 47 26.8	-0.7
KCTX	**Karacabey (Bur**	**1.16**	**360**	*e*PN		**Pb**	22 47 27.4	-0.7
KCTX	**Karacabey (Bur**	**1.16**	**360**	*e*Pn		**Pb**	22 47 27.4	-0.7
KHL	**Karahalli**	**1.20**	**130**	*e*PN		**Pn**	22 47 27.7	-1.0
KHL	**Karahalli**	**1.20**	**130**	*e*Pn		**Pn**	22 47 27.7	-1.0
AYDB	**Zeytinkoy-Aydi**	**1.21**	**198**	*e*PN		**Pn**	22 47 27.5	-1.5
AYDB	**Zeytinkoy-Aydi**	**1.21**	**198**	*e*Pn		**Pn**	22 47 27.5	-1.5
EDC	**Edincik**	**1.30**	**343**	*e*PN		**Pn**	22 47 29.5	-0.5
EDC	**Edincik**	**1.30**	**343**	P		**Pn**	22 47 29.4	-0.5
EDC	**Edincik**	**1.30**	**343**	*e*Pn		**Pn**	22 47 29.5	-0.5
AYVA	**Ayvalik**	**1.31**	**279**	P		**Pn**	22 47 29.4	-0.7
AYVA				S		**Sb**	22 47 47.0	-0.4
AYVA	**Ayvalik**	**1.31**	**279**	⇓*i*P		**Pn**	22 47 29.4	-0.7
AYVA				*i* S		**Sb**	22 47 47.0	-0.4
MDNY	**Mudanya-Bursa**	**1.32**	**18**	*e*PN		**Pn**	22 47 29.9	-0.5
MDNY	**Mudanya-Bursa**	**1.32**	**18**	*e*Pn		**Pn**	22 47 29.9	-0.5
IGD	**Bursa**	**1.33**	**29**	⇑*i*P		**Pn**	22 47 28.8	-1.6
IGD				*i* S		**Sb**	22 47 47.4	-0.5
KNL	**Bal¯-kesir**	**1.33**	**331**	⇑*i*P		**Pn**	22 47 29.0	-1.4
KNL				*i* S		**Sb**	22 47 46.9	-1.0
DENT	**Denizli**	**1.45**	**158**	*e*PN		**Pn**	22 47 31.3	-0.8
DENT	**Denizli**	**1.45**	**158**	*e*Pn		**Pn**	22 47 31.3	-0.8
GEMT	**Gemlik**	**1.47**	**25**	*e*PN		**Pn**	22 47 32.0	-0.4
GEMT	**Gemlik**	**1.47**	**25**	*e*Pn		**Pn**	22 47 32.0	-0.4
AYDN	**Tasoluk**	**1.49**	**195**	P		**Pn**	22 47 31.2	-1.5
AYDN				S		**Sg**	22 47 53.5	-0.7
AYDN	**Tasoluk**	**1.49**	**195**	⇓*i*P		**Pn**	22 47 31.2	-1.5
AYDN				*i* S		**Sg**	22 47 53.5	-0.7
IZI	**Iznik**	**1.50**	**35**	*e*PN		**Pn**	22 47 32.4	-0.4
IZI	**Iznik**	**1.50**	**35**	*e*Pn		**Pn**	22 47 32.4	-0.4
ARMT	**Armutlu**	**1.51**	**15**	*e*PN		**Pn**	22 47 32.4	-0.5
ARMT	**Armutlu**	**1.51**	**15**	*e*Pn		**Pn**	22 47 32.4	-0.5
DNZL	**Cakiroluk**	**1.51**	**159**	P		**Pn**	22 47 32.2	-0.9
DNZL	**Cakiroluk**	**1.51**	**159**	⇓*i*P		**Pn**	22 47 32.2	-0.9
DNZL				*i* S		**Sg**	22 47 55.7	+0.8
KRBG	**Karabiga-Canak**	**1.52**	**328**	*e*PN		**Pn**	22 47 32.7	-0.4
KRBG	**Karabiga-Canak**	**1.52**	**328**	*e*Pn		**Pn**	22 47 32.7	-0.4
DGB	**¯zmir**	**1.56**	**228**	⇓*i*P		**Pn**	22 47 31.8	-1.8
DGB				*i* S		**Sn**	22 47 51.7	-2.0
URLA	**Izmir**	**1.57**	**242**	P		**Pn**	22 47 32.2	-1.5
URLA				S		**Sb**	22 47 54.7	-0.1
URLA	**Izmir**	**1.57**	**242**	⇓*i*P		**Pn**	22 47 32.2	-1.5
URLA				*i* S		**Sb**	22 47 54.6	-0.1
CAVI	**Cavuskoy**	**1.58**	**46**	*e*PN		**Pn**	22 47 33.6	-0.3
CAVI	**Cavuskoy**	**1.58**	**46**	*e*Pn		**Pn**	22 47 33.6	-0.3
MRMT	**Marmara Adasi**	**1.61**	**339**	*e*PN		**Pn**	22 47 34.0	-0.3
MRMT	**Marmara Adasi**	**1.61**	**339**	*e*Pn		**Pn**	22 47 34.0	-0.3
PRK	**Paraskevi**	**1.63**	**276**	P		**Pn**	22 47 34.0	-0.5
PRK				S		**Sn**	22 47 55.1	-0.2
PRK	**Paraskevi**	**1.63**	**276**	P		**Pn**	22 47 34.0	-0.5
PRK	**Paraskevi**	**1.63**	**276**	P		**Pn**	22 47 34.0	-0.5
PRK				S		**Sn**	22 47 55.1	-0.2
GCAM	**G?zelcaml?**	**1.66**	**213**	P		**Pn**	22 47 32.8	-2.1
GCAM				S		**Sn**	22 47 56.3	+0.2
GCAM	**G?zelcaml?**	**1.66**	**213**	⇓*i*P		**Pn**	22 47 32.8	-2.1
GCAM				*i* S		**Sn**	22 47 56.3	+0.2
ZEY	**¯zmir**	**1.69**	**240**	⇓*i*P		**Pn**	22 47 33.9	-1.5
ZEY				*i* S		**Sn**	22 47 56.1	-0.8
ADVT	**Abdulvahap**	**1.70**	**38**	*e*PN		**Pn**	22 47 35.1	-0.4
ADVT	**Abdulvahap**	**1.70**	**38**	*e*Pn		**Pn**	22 47 35.1	-0.4
EZN	**Ezine**	**1.73**	**295**	*e*PN		**Pn**	22 47 35.7	-0.3
EZN	**Ezine**	**1.73**	**295**	P		**Pn**	22 47 35.4	-0.5
EZN				S		**Sn**	22 47 57.8	-0.1
EZN	**Ezine**	**1.73**	**295**	P		**Pn**	22 47 35.4	-0.5
EZN	**Ezine**	**1.73**	**295**	*e*Pn		**Pn**	22 47 35.7	-0.3
EZN				S		**Sn**	22 47 57.8	-0.1
LPK	**Lapseki**	**1.77**	**316**	*e*PN		**Pn**	22 47 36.4	0.0
LPK	**Lapseki**	**1.77**	**316**	*e*Pn		**Pn**	22 47 36.4	0.0
SART	**Tekirdag**	**1.82**	**331**	P		**Pn**	22 47 36.9	-0.4
SART				S		**Sn**	22 47 59.2	-1.1
SART	**Tekirdag**	**1.82**	**331**	⇑*i*P		**Pn**	22 47 36.9	-0.4
SART				*i* S		**Sn**	22 47 59.2	-1.1
SMG	**Samos**	**1.84**	**221**	P		**Pn**	22 47 35.4	-2.0
SMG	**Samos**	**1.84**	**221**	P		**Pn**	22 47 35.4	-2.0
BUY	**Buyukada**	**1.84**	**18**	P		**Pn**	22 47 36.4	-1.0
BUY	**Buyukada**	**1.84**	**18**	⇑*i*P		**Pn**	22 47 36.4	-1.0
BUY				*i* S		**Sg**	22 48 04.6	-0.8
GPA	**Golpazari**	**1.91**	**51**	*e*PN		**Pn**	22 47 38.4	-0.1
GPA	**Golpazari**	**1.91**	**51**	P		**Pn**	22 47 38.3	-0.1
GPA	**Golpazari**	**1.91**	**51**	*e*Pn		**Pn**	22 47 38.4	-0.1
BOZC	**Bozcaada**	**1.93**	**293**	⇓*i*P		**Pn**	22 47 38.0	-0.7
BOZC				*i* S		**Sn**	22 48 02.4	-0.4
CHOS	**Chios island**	**1.94**	**249**	*e*PN		**Pn**	22 47 38.1	-0.8
CHOS	**Chios island**	**1.94**	**249**	P		**Pn**	22 47 37.9	-1.0
CHOS				S		**Sn**	22 48 03.0	-0.1
CHOS	**Chios island**	**1.94**	**249**	*e*Pn		**Pn**	22 47 38.1	-0.8
CHOS				S		**Sn**	22 48 03.0	-0.1
GELI	**Tayfur-Gelibol**	**1.94**	**312**	*e*PN		**Pn**	22 47 38.4	-0.5
GELI	**Tayfur-Gelibol**	**1.94**	**312**	*e*Pn		**Pn**	22 47 38.4	-0.5
SIGR	**SIGRI**	**1.95**	**274**	*e*PN		**Pn**	22 47 38.7	-0.2
SIGR	**SIGRI**	**1.95**	**274**	P		**Pn**	22 47 38.0	-0.9
SIGR				S		**Sn**	22 48 03.4	+0.2
SIGR	**SIGRI**	**1.95**	**274**	P		**Pn**	22 47 38.0	-0.9
SIGR	**SIGRI**	**1.95**	**274**	*e*Pn		**Pn**	22 47 38.7	-0.2
SIGR				S		**Sn**	22 48 03.4	+0.2
YER	**Yerkesik**	**1.97**	**182**	*e*PN		**Pn**	22 47 38.3	-1.0
YER	**Yerkesik**	**1.97**	**182**	P		**Pn**	22 47 38.2	-1.1
YER	**Yerkesik**	**1.97**	**182**	P		**Pn**	22 47 38.3	-1.0
YER	**Yerkesik**	**1.97**	**182**	*e*Pn		**Pn**	22 47 38.3	-1.0
ESKT	**Eskisehir**	**1.98**	**77**	*e*PN		**Pn**	22 47 39.0	-0.5
ESKT	**Eskisehir**	**1.98**	**77**	*e*Pn		**Pn**	22 47 39.0	-0.5
ESKT	**Eskisehir**	**1.98**	**77**	⇑*i*P		**Pn**	22 47 39.1	-0.3
ESKT				*i* S		**Sg**	22 48 13.7	+3.9
SEYT	**Eskypehyr**	**1.98**	**77**	P		**Pn**	22 47 39.1	-0.3
TKR	**Tekirdag**	**1.98**	**342**	*e*PN		**Pn**	22 47 39.0	-0.5
TKR	**Tekirdag**	**1.98**	**342**	*e*Pn		**Pn**	22 47 39.0	-0.5
HRT	**Hereke**	**1.99**	**30**	*e*PN		**Pn**	22 47 39.0	-0.6
HRT	**Hereke**	**1.99**	**30**	P		**Pn**	22 47 38.9	-0.6
HRT	**Hereke**	**1.99**	**30**	*e*Pn		**Pn**	22 47 39.0	-0.6
ISK	**Istanbul-Kandi**	**2.03**	**15**	*e*PN		**Pn**	22 47 39.2	-0.9
ISK	**Istanbul-Kandi**	**2.03**	**15**	P		**Pn**	22 47 38.8	-1.2
ISK	**Istanbul-Kandi**	**2.03**	**15**	P		**Pn**	22 47 39.3	-2.7
ISK	**Istanbul-Kandi**	**2.03**	**15**	P		**Pn**	22 47 38.8	-1.2
ISK	**Istanbul-Kandi**	**2.03**	**15**	*e*Pn		**Pn**	22 47 39.2	-0.9
ELBA	**Catalca**	**2.04**	**2**	P		**Pn**	22 47 39.0	-1.2
ELBA				S		**Sn**	22 48 03.7	-1.8
ELBA	**Catalca**	**2.04**	**2**	⇑*i*P		**Pn**	22 47 39.0	-1.2
ELBA				*i* S		**Sn**	22 48 03.7	-1.8
BOLV	**Bolvadin**	**2.06**	**100**	P		**Pn**	22 47 40.9	+0.3
BOLV	**Bolvadin**	**2.06**	**100**	⇓*i*P		**Pn**	22 47 40.9	+0.3
BOLV				*i* S		**Sg**	22 48 13.4	+1.0
CRLT	**Corlu**	**2.08**	**347**	*e*PN		**Pn**	22 47 40.4	-0.3
CRLT	**Corlu**	**2.08**	**347**	*e*Pn		**Pn**	22 47 40.4	-0.3
GOLH	**Golhisar**	**2.09**	**153**	P		**Pn**	22 47 41.0	0.0
GOLH	**Golhisar**	**2.09**	**153**	⇓*i*P		**Pn**	22 47 41.0	0.0
GOLH				*i* S		**Sg**	22 48 18.1	+4.6
BGKT	**Bogazkoy**	**2.10**	**9**	*e*PN		**Pn**	22 47 40.7	-0.2
BGKT	**Bogazkoy**	**2.10**	**9**	*e*Pn		**Pn**	22 47 40.7	-0.2
ERIK	**Erikli-Kesan**	**2.11**	**318**	*e*PN		**Pn**	22 47 41.1	0.0
ERIK	**Erikli-Kesan**	**2.11**	**318**	*e*Pn		**Pn**	22 47 41.1	0.0
GULT	**Gulveren**	**2.12**	**51**	*e*PN		**Pn**	22 47 41.1	-0.3
GULT	**Gulveren**	**2.12**	**51**	*e*Pn		**Pn**	22 47 41.1	-0.3
CTKS	**Kestanelik-??a**	**2.13**	**3**	*e*PN		**Pn**	22 47 40.5	-0.9
CTKS	**Kestanelik-??a**	**2.13**	**3**	*e*Pn		**Pn**	22 47 40.5	-0.9
GLHS	**Glhisar (BURDU**	**2.14**	**155**	*e*PN		**Pn**	22 47 41.1	-0.6
GLHS	**Glhisar (BURDU**	**2.14**	**155**	*e*Pn		**Pn**	22 47 41.1	-0.6
KESN	**Edirne-Kesan**	**2.15**	**324**	P		**Pn**	22 47 41.5	-0.5
KESN	**Edirne-Kesan**	**2.15**	**324**	⇑*i*P		**Pn**	22 47 41.5	-0.5
KESN				*i* S		**Sn**	22 48 05.5	-3.2
SPNC	**Sapanca-Adapaz**	**2.18**	**43**	*e*PN		**Pn**	22 47 42.1	+0.1
SPNC	**Sapanca-Adapaz**	**2.18**	**43**	*e*Pn		**Pn**	22 47 42.1	+0.1
GADA	**Gvkgeada**	**2.19**	**300**	*e*PN		**Pn**	22 47 41.7	-0.5
GADA	**Gvkgeada**	**2.19**	**300**	P		**Pn**	22 47 42.3	+0.1
GADA				S		**Sn**	22 48 09.6	+0.5
GADA	**Gvkgeada**	**2.19**	**300**	*e*Pn		**Pn**	22 47 41.7	-0.5
GADA	**Gvkgeada**	**2.19**	**300**	P		**Pn**	22 47 42.3	+0.1
GADA				S		**Sn**	22 48 09.6	+0.5
BODT	**Bodrum**	**2.20**	**202**	*e*PN		**Pn**	22 47 41.9	-0.5
BODT	**Bodrum**	**2.20**	**202**	P		**Pn**	22 47 40.7	-1.7
BODT	**Bodrum**	**2.20**	**202**	P		**Pn**	22 47 40.7	-1.7
BODT	**Bodrum**	**2.20**	**202**	*e*Pn		**Pn**	22 47 41.9	-0.5
KLYT	**Kilyos**	**2.21**	**13**	*e*PN		**Pn**	22 47 41.7	-0.8
KLYT	**Kilyos**	**2.21**	**13**	*e*Pn		**Pn**	22 47 41.7	-0.8
SILT	**Sile**	**2.27**	**25**	*e*PN		**Pn**	22 47 43.5	+0.2
SILT	**Sile**	**2.27**	**25**	*e*Pn		**Pn**	22 47 43.5	+0.2
DALY	**Dalyan (Mu¯la**	**2.30**	**174**	*e*PN		**Pn**	22 47 43.4	-0.3
DALY	**Dalyan (Mu¯la**	**2.30**	**174**	*e*Pn		**Pn**	22 47 43.4	-0.3
ENEZ	**Enez**	**2.35**	**315**	*e*PN		**Pn**	22 47 44.5	0.0
ENEZ	**Enez**	**2.35**	**315**	P		**Pn**	22 47 44.7	+0.2
ENEZ				S		**Sn**	22 48 12.9	-0.3
ENEZ	**Enez**	**2.35**	**315**	*e*Pn		**Pn**	22 47 44.5	0.0
ENEZ				S		**Sn**	22 48 12.9	-0.3
CTYL	**Yalikoy Yolu**	**2.37**	**359**	*e*PN		**Pn**	22 47 44.0	-0.7
CTYL	**Yalikoy Yolu**	**2.37**	**359**	*e*Pn		**Pn**	22 47 44.0	-0.7
BCK	**Bucak**	**2.40**	**132**	*e*PN		**Pn**	22 47 44.9	-0.4
BCK	**Bucak**	**2.40**	**132**	*e*Pn		**Pn**	22 47 44.9	-0.4
KAND	**Kocaeli-Kandir**	**2.43**	**35**	P		**Pn**	22 47 45.1	-0.5
KAND	**Kocaeli-Kandir**	**2.43**	**35**	⇑*i*P		**Pn**	22 47 45.1	-0.5
KAND				*i* S		**Sb**	22 48 22.0	+2.4
BTAS	**Taskesti**	**2.50**	**53**	P		**Pn**	22 47 45.8	-0.8
BTAS	**Taskesti**	**2.50**	**53**	⇑*i*P		**Pn**	22 47 45.8	-0.8
BTAS				*i* S		**Sg**	22 48 27.4	+0.8
ALN	**Alexandroupoli**	**2.52**	**316**	*e*PN		**Pn**	22 47 46.7	-0.1
ALN	**Alexandroupoli**	**2.52**	**316**	P		**Pn**	22 47 46.7	-0.1
ALN				S		**Sn**	22 48 18.0	+0.6
ALN	**Alexandroupoli**	**2.52**	**316**	P		**Pn**	22 47 48.5	+1.7
ALN	**Alexandroupoli**	**2.52**	**316**	P		**Pn**	22 47 46.7	-0.1
ALN				S		**Sn**	22 48 18.0	+0.6
FETY	**Fethiye**	**2.53**	**167**	*e*PN		**Pn**	22 47 46.7	-0.3
FETY	**Fethiye**	**2.53**	**167**	P		**Pn**	22 47 47.2	+0.2
FETY				S		**Sn**	22 48 16.2	-1.5
FETY	**Fethiye**	**2.53**	**167**	*e*Pn		**Pn**	22 47 46.7	-0.3
FETY	**Fethiye**	**2.53**	**167**	P		**Pn**	22 47 47.2	+0.2
FETY				S		**Sn**	22 48 16.2	-1.5
SMTH	**Samothraki Isl**	**2.57**	**303**	P		**Pn**	22 47 47.5	0.0
SMTH				S		**Sn**	22 48 17.9	-0.7
SMTH	**Samothraki Isl**	**2.57**	**303**	P		**Pn**	22 47 47.5	0.0
SMTH				S		**Sn**	22 48 17.9	-0.7
LIA	**Limnos Island**	**2.58**	**289**	P		**Pn**	22 47 47.3	-0.3
LIA				S		**Sn**	22 48 18.4	-0.4
LIA	**Limnos Island**	**2.58**	**289**	P		**Pn**	22 47 47.3	-0.3
LIA				S		**Sn**	22 48 18.4	-0.4
SAHE	**Sakarya_HENDEK**	**2.59**	**47**	P		**Pn**	22 47 47.2	-0.6
SAHE	**Sakarya_HENDEK**	**2.59**	**47**	⇑*i*P		**Pn**	22 47 47.2	-0.6
SAHE				*i* S		**Sg**	22 48 29.0	-0.4
KORT	**Korkueli**	**2.62**	**143**	P		**Pn**	22 47 48.7	+0.3
KORT	**Korkueli**	**2.62**	**143**	⇓*i*P		**Pn**	22 47 48.7	+0.3
KORT				*i* S		**Sg**	22 48 34.9	+4.4
ELL	**Elmali**	**2.65**	**152**	*e*PN		**Pn**	22 47 48.6	-0.1
ELL	**Elmali**	**2.65**	**152**	P		**Pn**	22 47 48.0	-0.7
ELL	**Elmali**	**2.65**	**152**	*e*Pn		**Pn**	22 47 48.7	-0.1
NIS1	**Nisyros Isl.**	**2.67**	**201**	*e*PN		**Pn**	22 47 48.8	0.0
NIS1	**Nisyros Isl.**	**2.67**	**201**	P		**Pn**	22 47 47.8	-1.1
NIS1	**Nisyros Isl.**	**2.67**	**201**	P		**Pn**	22 47 47.8	-1.1
NIS1	**Nisyros Isl.**	**2.67**	**201**	*e*Pn		**Pn**	22 47 48.8	0.0
ARG	**Arkhangelos**	**2.89**	**184**	P		**Pn**	22 47 51.1	-0.8
ARG	**Arkhangelos**	**2.89**	**184**	P		**Pn**	22 47 51.3	-0.6
ARG	**Arkhangelos**	**2.89**	**184**	P		**Pn**	22 47 51.1	-0.8
EDRB	**Edirne**	**3.00**	**336**	P		**Pn**	22 47 53.1	-0.3
EDRB	**Edirne**	**3.00**	**336**	P		**Pn**	22 47 53.1	-0.3
APE	**Apeiranthos**	**3.02**	**229**	*e*PN		**Pn**	22 47 53.5	-0.1
APE	**Apeiranthos**	**3.02**	**229**	P		**Pn**	22 47 52.1	-1.6
APE	**Apeiranthos**	**3.02**	**229**	*i* P		**Pn**	22 47 51.9	-1.8
APE	**Apeiranthos**	**3.02**	**229**	P		**Pn**	22 47 52.1	-1.6
APE	**Apeiranthos**	**3.02**	**229**	*e*Pn		**Pn**	22 47 53.6	-0.1
KDZ	**Kurdzhali**	**3.39**	**319**	P		**Pn**	22 47 59.3	+0.5
KDZ				S		**Sn**	22 48 38.1	-0.8
KAVA	**Kavala**	**3.50**	**304**	P		**Pn**	22 48 00.1	-0.2
KAVA	**Kavala**	**3.50**	**304**	P		**Pn**	22 48 00.1	-0.2
SANT	**Santorini**	**3.57**	**221**	*e*Pn		**Pn**	22 48 00.1	-1.2
SANT	**Santorini**	**3.57**	**221**	*e*Pb		**Pb**	22 48 11.4	+2.2
SANT				*e*Pb		**Pb**	22 48 11.4	+2.2
SANT				*e*Sn		**Sn**	22 48 40.5	-2.8
OUR	**Ouranopolis**	**3.59**	**291**	P		**Pn**	22 48 01.4	-0.1
JMB	**Yambol**	**3.62**	**339**	P		**Pn**	22 48 02.1	+0.2
JMB				S		**Sn**	22 48 44.4

comp=Z,0.5nm,0.3s,baz=257,slow=5.2,SNR=3.6
EIL Sn **Sn** **22 51 38.5 -4.5**
comp=Z,0.7nm,0.3s,baz=8.5,slow=13,SNR=4.4
EIL Elat 10.87 148 Pn **Pn** **22 49 40.0 -1.4**
AKASG Malin Array Be 11.61 3 Pn **Pn** **22 49 49.3 -2.1**
comp=Z,1.5nm,0.3s,baz=184,slow=12,SNR=4.1
AKASG Sn **Sn** **22 51 58.6 -2.3**
comp=Z,0.9nm,0.3s,baz=346,slow=36,SNR=3.8
KIV Kislovodsk 11.78 61 *e*P **Pn** **22 49 56.9 +3.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s
AQU L'Aquila 11.80 291 *e*P **Pn** **22 49 56.0 +1.8**
AQU L'Aquila 11.80 291 *e*Pn **Pn** **22 49 56.0 +1.8**
AQU L'Aquila 11.80 291 *e*Pn **Pn** **22 49 56.0 +1.8**
KBZ Khabaz 11.85 62 LR LR 22 55 56.1
comp=Z,256nm,18.2s,baz=246,slow=45
GNI Garni 12.68 80 LR LR 22 55 08.2
comp=Z,174nm,18.0s,baz=278,slow=38
TBLG Delisi 12.76 73 P **Pn** **22 50 04.7 -2.5**
TBLG Delisi 12.76 73 P **Pn** **22 50 04.7 -2.5**
OKC Ostrava-Krasne 12.96 329 AMS AMS 22 56 00.0
comp=Z,300nm,11.4s
TREC Trest 13.73 322 AMS AMS 22 57 20.0
comp=Z,200nm,11.9s
DPC Dobruska-Polom 14.11 327 AMS AMS 22 57 10.0
comp=Z,300nm,10.8s
GERES GERESS Array B 14.33 318 Pn **P** **22 50 33.4 -2.5**
comp=Z,0.1nm,0.3s,baz=264,slow=40,SNR=2.3
GERES LR LR 22 57 15.7
comp=Z,74nm,18.7s,baz=129,slow=43
UPC Upice 14.36 327 AMS AMS 22 57 10.0
comp=Z,300nm,10.6s
GOPC GO Pecny, Ondr 14.48 323 AMS AMS 22 56 50.0
comp=Z,200nm,15.3s
KHC Kasperske Hory 14.57 318 AMS AMS 22 58 40.0
comp=Z,200nm,13.3s
PRU Pruhonice 14.65 322 AMS AMS 22 58 00.0
comp=Z,200nm,10.1s
PVCC Panska Ves 15.01 324 AMS AMS 22 57 20.0
comp=Z,200nm,12.1s
KEST Kesra 15.48 263 Pn **P** **22 50 51.3 +2.6**
comp=Z,0.4nm,0.3s,baz=9.3,slow=5.3,SNR=9.4
KEST LR LR 22 57 42.9
comp=Z,95nm,19.6s,baz=210,slow=41
DAVOX Davos/Dischmat 15.53 306 Pn **P** **22 50 51.5 +2.2**
comp=Z,0.1nm,0.3s,baz=130,slow=7.1,SNR=3.0
CLL Collm 16.27 324 *e*S **S** **22 54 06.0 -1.2**
CLL LmH 22 56 00.0
comp=N,100nm,20.4s
CLL LmH 22 56 00.0
comp=E,200nm,18.2s
OBN Obninsk 16.94 16 *e*P **P** **22 51 08.1 +3.5**
OBN pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 17.12 309 *i* P **P** **22 51 11.5 +4.7**
VSU Vasula 19.40 357‖ *e*P **P** **22 51 30.4 -1.3**
FINES FINESS Array B 22.41 357 P **P** **22 52 04.5 +0.3**
comp=Z,3.3nm,0.7s,baz=155,slow=10,SNR=7.8
FINES FINESS Array B 22.41 357 *e*P **P** **22 52 07.5 +3.4**
FINES pmax pmax
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 22.86 14 *e*P **P** **22 52 06.2 -2.7**
KLMR pmax pmax
comp=Z,22nm,1.5s
GEYT Alibeck 23.27 83 P **P** **22 52 16.7 +3.3**
comp=Z,2.7nm,0.9s,baz=291,slow=9.4,SNR=6.6
AKTO Aktyubinsk 23.75 52 P **P** **22 52 17.9 -0.1**
comp=Z,1.6nm,0.5s,baz=249,slow=12,SNR=6.1
NOA NORSAR Array B 24.41 340 LR LR 23 01 53.6
comp=Z,33nm,21.4s,baz=150,slow=36
ABKAR Akbulak array 24.65 55 *e*P **P** **22 52 26.0 -0.4**
ABKAR Akbulak array 24.65 55 *e*P **P** **22 52 26.0 -0.4**
ESDC Sonseca Array 24.92 282 P **P** **22 52 29.6 +0.6**
comp=Z,2.7nm,0.8s,baz=75,slow=10.0,SNR=17
TAM Tamanrasset 25.35 237 *e*P **P** **22 52 34.1 +1.0**
TAM pmax pmax
comp=Z,8.0nm,1.3s
TAM Tamanrasset 25.35 237 *e*P **P** **22 52 34.1 +1.0**
comp=Z,7.6nm,1.3s
TAM Tamanrasset 25.35 237 *e*P **P** **22 52 34.1 +1.0**
comp=Z,7.6nm,1.3s
ARU Arti 26.38 39 P **P** **22 52 42.9 +1.1**
comp=Z,2.5nm,0.6s,baz=234,slow=6.5,SNR=6.8
ARU Arti 26.38 39 *i* P **P** **22 52 43.3 +1.4**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 26.38 39 *e*P **P** **22 52 43.1 +1.2**
ARU Arti 26.38 39 *e*P **P** **22 52 43.1 +1.2**
EKA Eskdalemuir Ar 26.55 318 P **P** **22 52 45.4 +1.9**
comp=Z,0.4nm,0.4s,baz=115,slow=13,SNR=3.9
TORD Torodi Ar. Bea 34.98 230 P **P** **22 53 57.8 -0.5**
comp=Z,6.2nm,0.7s,baz=39,slow=9.0,SNR=53
MKAR Makanchi Array 39.54 61 P **P** **22 54 36.9 +0.2**
comp=Z,1.8nm,0.7s,baz=285,slow=6.3,SNR=11
ZALV Zalesovo Beam 40.46 49 P **P** **22 54 45.1 +0.9**
comp=Z,0.7nm,0.4s,baz=268,slow=9.5,SNR=3.9
ZALV Zalesovo Beam 40.46 49 *e*P **P** **22 54 47.7 +3.5**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
DBIC Dimbokro 44.02 232 P **P** **22 55 13.2 -0.4**
comp=Z,7.3nm,0.7s,baz=20,slow=7.3,SNR=8.6
SONM Songino Array 55.05 54 P **P** **22 56 36.9 -0.7**
comp=Z,0.2nm,0.3s,baz=294,slow=11,SNR=2.8
HIA Hailar 62.46 48 *e*P **P** **22 57 28.6 -0.4**
HIA pmax pmax
comp=Z,1.0nm,0.3s
HIA Hailar 62.46 48 *e*P **P** **22 57 28.6 -0.4**
comp=Z,1.4nm,0.3s
HIA Hailar 62.46 48 *e*P **P** **22 57 28.6 -0.4**
comp=Z,1.4nm,0.3s
CMAR Chiang Mai Arr 63.69 87 P **P** **22 57 37.3 -0.2**
comp=Z,0.4nm,0.3s,baz=201,slow=28,SNR=2.8
KSAR Wonju Array Be 73.87 55 P **P** **22 58 40.8 +0.1**
KSAR Wonju Array Be 73.87 55 P **P** **22 58 40.8 +0.1**
KSAR Wonju Array Be 73.87 55 P **P** **22 58 40.8 +0.1**
KSRS Korea Array 73.89 55 P **P** **22 58 40.8 0.0**
comp=Z,1.3nm,0.7s,baz=304,slow=3.4,SNR=5.8
KSRS LR LR 23 36 06.8
comp=Z,30nm,18.1s,baz=28,slow=40
YKA Yellowknife Ar 74.45 343 P **P** **22 58 42.9 -0.7**
comp=Z,0.7nm,0.7s,baz=30,slow=5.8,SNR=3.8
ILAR Eielson Array 76.39 358 P **P** **22 58 54.9 +0.1**
comp=Z,0.3nm,0.6s,baz=335,slow=4.3,SNR=3.3
PETK Petropavlovsk- **78.24 28** LR LR 23 35 54.9
comp=Z,42nm,19.8s,baz=335,slow=37
KSCO Kaye Shedlock' **90.21 324** *e*P **P** **23 00 08.0 +1.4**
comp=Z,1.2nm,0.6s
KSCO Kaye Shedlock' **90.21 324** *e*P **P** **23 00 08.0 +1.4**
comp=Z,1.2nm,0.6s
NVAR Mina Array Bea 96.99 334 LR LR 23 47 56.0
comp=Z,34nm,18.9s,baz=86,slow=38
ASAR Alice Springs 116.23 100 PKP **PKPdf** **23 05 47.8 -1.7**
comp=Z,0.5nm,0.7s,baz=317,slow=1.3,SNR=4.4

*ISCJB **10** 22:49:41.2±0.4, 4.°65N±0.°06×96.°31E±0.°09, h150km, mb3.9/14, Error ellipse: s-maj=13.6km s-min=5.6km az=149.1*
*DJA **10** 22:49:44.4±0.8, 5.°N±4.°×9.°6E±.°, h117km±5km, M3.8/10, MLv3.8/10*
*IDC **10** 22:49:46.4±5.2, 4.°85N×96.°40E, h181km±48km, mb3.6/14, mb1 3.7/15, mb1mx3.4/42, mbtmp4.1/15, Error ellipse: s-maj=26.0km s-min=12.3km az=48.0*
ISC 10 22:49:42.5±0.6, **4.°68N**±0.°06×**96.°47E**±0.°09, **h150**km, **n26, σ2$24**/32, **mb3.9**/14, **3C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.42**	**189**	P	**Pn**	**22 50 03.9**	**+0.4**
MLSI				S	**Sn**	**22 50 12.3**	**-7.2**
LHMI	**Lhok Sumawe**	**0.72**	**41**	P	**Pn**	**22 50 06.2**	**+1.0**
LHMI				S	**Sn**	**22 50 23.0**	**+0.6**
TPTI		**1.58**	**153**	P	**Pn**	**22 50 14.2**	**+1.2**
TPTI				S	**Sn**	**22 50 35.1**	**-1.2**
KCSI	**Kotacane, Aceh**	**1.74**	**132**	P	**Pn**	**22 50 15.3**	**+0.6**
KCSI				S	**Sn**	**22 50 40.4**	**+1.1**
TSI	**Tuntungan**	**2.40**	**119**	S	**Sn**	**22 50 49.7**	**-3.4**
GSI	**Gunungsitoli**	**3.53**	**162**	P	**Pn**	**22 50 37.0**	**+0.2**
GSI				S	**Sn**	**22 51 16.2**	**-2.6**
MNSI	**Mandailing Nat**	**4.95**	**141**	P	**Pn**	**22 50 56.8**	**+1.4**
MNSI				S	Sn	22 51 34.5	-18
CMAR	**Chiang Mai Arr**	**13.90**	**10**	P	**P**	**22 52 55.5**	**-1.2**
	0.6nm,0.3s,baz=199,slow=11,SNR=25						
PALK	**Pallekele**	**15.89**	**280**	P	**P**	**22 53 25.6**	**+6.8**
	0.7nm,0.3s,baz=116,slow=13,SNR=5.3						
WSAR	**Wadi Sarin**	**40.90**	**300**	P	**P**	**22 57 10.0**	**-0.3**
	3.7nm,0.7s,baz=137,slow=8.4,SNR=6.5						
KSRS	**Korea Array**	**43.47**	**37**	P	**P**	**22 57 29.6**	**-1.3**
	0.4nm,0.3s,baz=213,slow=9.0,SNR=4.2						
MKAR	**Makanchi Array**	**43.71**	**346**	P	**P**	**22 57 31.7**	**-1.0**
	1.5nm,0.3s,baz=163,slow=8.5,SNR=33						
SONM	**Songino Array**	**43.83**	**10**	P	**P**	**22 57 34.0**	**+0.2**
	2.8nm,0.6s,baz=189,slow=9.6,SNR=19						
SONM				PcP	**PcP**	**22 59 18.2**	**+0.7**
	0.4nm,0.3s,baz=201,slow=3.6,SNR=4.2						
WRA	**Warramunga Arr**	**44.54**	**125**	P	**P**	**22 57 41.5**	**+1.8**
	1.9nm,0.6s,baz=304,slow=9.6,SNR=17						
ASAR	**Alice Springs**	**46.11**	**129**	P	**P**	**22 57 54.1**	**+2.1**
	2.1nm,0.4s,baz=302,slow=7.6,SNR=44						
GEYT	**Alibeck**	**48.11**	**319**	P	**P**	**22 58 07.1**	**-0.2**
	0.8nm,0.5s,baz=134,slow=8.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**50.03**	**351**	P	**P**	**22 58 20.7**	**-0.9**
	1.0nm,0.4s,baz=188,slow=8.9,SNR=5.1						
BRTR	**Keskin Array B**	**66.26**	**311**	P	**P**	**23 00 13.8**	**-1.1**
	2.7nm,0.6s,baz=135,slow=7.7,SNR=14						
ARR	**Arges**	**73.95**	**316**‖	*i*P	**P**	**23 01 00.7**	**-0.9**
BURAR	**Bucovina Array**	**73.95**	**318**‖	*i*P	**P**	**23 01 01.5**	**-0.1**
DRGR		**75.50**	**317**‖	*i*P	**P**	**23 01 10.7**	**+0.2**
FINES	**FINESS Array B**	**76.60**	**332**	P	**P**	**23 01 14.1**	**-2.1**
	0.5nm,0.5s,baz=101,slow=5.3,SNR=6.3						
ARCES	**ARCESS Array B**	**79.03**	**340**	P	**P**	**23 01 29.2**	**-0.4**
	0.8nm,0.3s,baz=110,slow=6.8,SNR=13						
GERES	**GERESS Array B**	**81.73**	**319**	P	**P**	**23 01 44.8**	**+0.1**
	0.5nm,0.5s,baz=126,slow=5.3,SNR=9.9						
SPITS	**Spitsbergen Ar**	**83.42**	**348**	P	**P**	**23 01 52.6**	**0.0**
	1.1nm,0.5s,baz=133,slow=14,SNR=6.4						
KEST	**Kesra**	**84.96**	**305**	P	**P**	**23 02 02.0**	**+0.6**
	1.1nm,0.5s,baz=307,slow=1.3,SNR=5.7						

*NSSC **10** 22:53:45.2±1.3, 39.°10N×37.°91E, h0km±99km, ML2.9*
*ISK **10** 22:53:48.0, 38.°73N×38.°08E, h5km, ML3.5*
*DDA **10** 22:53:48.9, 38.°79N×38.°06E, h11km, Ml3.7*
*CSEM **10** 22:53:49.5±0.1, 38.°76N×38.°05E, h2km, ML3.5, Error ellipse: s-maj=3.4km s-min=2.7km az=1.0*
ISC 10 22:53:49.1±1.0, **38.°79N**±0.°02×**38.°05E**±0.°01, **h7**km±9km, **n93, σ1$27**/133, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.49**	**244**	*e*PG	**Pg**	**22 53 58.2**	**-0.5**
DARE	**Darende-Malaty**	**0.49**	**244**	*e*Pg	**Pg**	**22 53 58.2**	**-0.5**
AKCD	**Akcadag**	**0.50**	**192**	P	**Pg**	**22 53 58.3**	**-0.5**
AKCD				S	**Sb**	**22 54 06.8**	**-1.1**
AKCD	**Akcadag**	**0.50**	**192**	*i* P	**Pg**	**22 53 58.4**	**-0.5**
AKCD				*i* S	**Sb**	**22 54 06.8**	**-1.1**
CUGUR	**Gurin_S¨VAS**	**0.61**	**264**	P	**Pg**	**22 54 00.6**	**-0.3**
CUGUR				S	**Sb**	**22 54 11.0**	**-0.1**
CUGUR	**Gurin_S¨VAS**	**0.61**	**264**	*i* P	**Pg**	**22 54 00.6**	**-0.3**
CUGUR				*i* S	**Sb**	**22 54 11.0**	**-0.1**
CUKAN	**kangal_SIVAS**	**0.70**	**319**	P	**Pg**	**22 54 02.2**	**-0.3**
CUKAN				S	**Sg**	**22 54 11.7**	**+0.1**
CUKAN	**kangal_SIVAS**	**0.70**	**319**	*i* P	**Pg**	**22 54 02.2**	**-0.3**
CUKAN				*i* S	**Sg**	**22 54 11.7**	**+0.1**
ELZG	**Elazig**	**0.79**	**111**	P	**Pg**	**22 54 03.6**	**-0.6**
ELZG				S	**Sb**	**22 54 15.2**	**-0.9**
ELZG	**Elazig**	**0.79**	**111**	*i* P	**Pg**	**22 54 03.6**	**-0.6**
ELZG				*i* S	**Sb**	**22 54 15.2**	**-0.9**
REFA	**Refahiye_ERZ¨**	**0.82**	**42**	*i* P	Pn	22 54 13.1	+5.8
REFA				*i* S	Sn	22 54 31.9	+12
PTK	**Pertek**	**1.05**	**84**	*e*PG	**Pg**	**22 54 08.4**	**-0.9**
PTK				*e*SG	**Sn**	**22 54 24.8**	**-0.7**
PTK	**Pertek**	**1.05**	**84**	*e*Pg	**Pg**	**22 54 08.4**	**-0.9**
PTK				*e*Sg	**Sn**	**22 54 24.8**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.07**	**112**	*e*PG	**Pg**	**22 54 08.9**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.07**	**112**	*e*Pg	**Pg**	**22 54 08.9**	**-0.6**
CUALT	**Altinyayla-SIV**	**1.12**	**296**	P	**Pb**	**22 54 10.0**	**-0.9**
CUALT				S	**Sn**	**22 54 27.0**	**-0.1**
CUALT	**Altinyayla-SIV**	**1.12**	**296**	*i* P	**Pb**	**22 54 10.0**	**-0.9**
CUALT				*i* S	**Sn**	**22 54 27.0**	**-0.1**
TNCL	**Tunceli-Merkez**	**1.21**	**74**	P	**Pb**	**22 54 10.9**	**-1.4**
TNCL				S	**Sn**	**22 54 28.8**	**-0.4**
TNCL	**Tunceli-Merkez**	**1.21**	**74**	*i* P	**Pb**	**22 54 10.9**	**-1.4**
TNCL				*i* S	**Sn**	**22 54 28.8**	**-0.4**
SCER	**sogukcermik**	**1.29**	**327**	P	**Pb**	**22 54 13.4**	**-0.4**
SCER				S	**Sg**	**22 54 32.0**	**+1.5**
SCER	**sogukcermik**	**1.29**	**327**	*i* P	**Pb**	**22 54 13.3**	**-0.4**
SCER				*i* S	**Sg**	**22 54 32.0**	**+1.5**
ATAB	**Bozova**	**1.33**	**172**	P	**Pg**	**22 54 14.7**	**+0.1**
ATAB				S	**Sg**	**22 54 34.7**	**+2.9**
ATAB	**Bozova**	**1.33**	**172**	*i* P	**Pg**	**22 54 14.7**	**+0.1**
ATAB				*i* S	**Sg**	**22 54 34.7**	**+2.9**
SARI	**SarD1z-Kayseri**	**1.33**	**254**	*e*PN	**Pg**	**22 54 14.7**	**0.0**
SVSK	**Karacayir**	**1.39**	**324**	*e*PN	**Pg**	**22 54 16.3**	**+0.5**
SVSK	**Karacayir**	**1.39**	**324**	*e*Pn	**Pg**	**22 54 16.3**	**+0.5**
EZC	**Erzincan**	**1.40**	**46**	*e*Pn	**Pg**	**22 54 17.7**	**+1.8**
SUSE	**Susehri**	**1.42**	**5**	P	**Pg**	**22 54 16.4**	**0.0**
SUSE	**Susehri**	**1.42**	**5**	*i* P	**Pg**	**22 54 16.4**	**0.0**
SUSE				*i* S	**Sg**	**22 54 37.4**	**+2.5**
GZT	**Gaziantep**	**1.48**	**195**	*i* P	**Pg**	**22 54 17.9**	**+0.4**
GZT				*i* S	**Sg**	**22 54 38.1**	**+1.4**
ERZN	**Erzincan**	**1.52**	**58**	*e*PN	**Pg**	**22 54 17.7**	**-0.6**
CUSAR	**Sarkisla-SIVAS**	**1.54**	**295**	P	**Pb**	**22 54 17.2**	**-0.9**
CUSAR				S	**Sg**	**22 54 40.0**	**+1.4**
CUSAR	**Sarkisla-SIVAS**	**1.54**	**295**	*i* P	**Pb**	**22 54 17.2**	**-0.9**
CUSAR				*i* S	**Sg**	**22 54 40.0**	**+1.4**
EUZM	**Uzumlu**	**1.57**	**54**	P	**Pg**	**22 54 19.1**	**-0.2**
EUZM				S	**Sg**	**22 54 41.9**	**+2.2**
EUZM	**Uzumlu**	**1.57**	**54**	*i* P	**Pg**	**22 54 19.1**	**-0.2**
EUZM				*i* S	**Sg**	**22 54 41.9**	**+2.2**
KELT	**Kelkit**	**1.65**	**34**	P	**Pg**	**22 54 20.1**	**-0.6**
KELT				S	**Sg**	**22 54 42.4**	**+0.3**
KELT	**Kelkit**	**1.65**	**34**	*i* P	**Pg**	**22 54 20.1**	**-0.6**
KELT				*i* S	**Sg**	**22 54 42.4**	**+0.3**
HCB	**Kahramanmara¨**	**1.70**	**212**	*i* P	**Pg**	**22 54 21.9**	**+0.2**
HCB				*i* S	**Sg**	**22 54 44.3**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.70**	**341**	*e*PN	**Pg**	**22 54 20.9**	**-0.8**
RSDY	**Resadiye-TOKAT**	**1.70**	**341**	*e*Pn	**Pg**	**22 54 20.9**	**-0.8**
BNN	**Bunyan**	**1.72**	**273**	*e*PN	**Pb**	**22 54 20.7**	**-0.4**
BNN	**Bunyan**	**1.72**	**273**	*e*Pn	**Pb**	**22 54 20.7**	**-0.4**
GAZ	**Gaziantep**	**1.75**	**203**	*e*PN	**Pb**	**22 54 20.3**	**-1.2**
GAZ	**Gaziantep**	**1.75**	**203**	*e*Pn	**Pb**	**22 54 20.3**	**-1.2**
DYBB	**Diyarbakir**	**1.84**	**116**	*e*PN	**Pn**	**22 54 21.1**	**-0.1**
DIYA	**Diyarbakir**	**1.84**	**117**	P	**Pg**	**22 54 23.9**	**-0.5**
DIYA				S	**Sg**	**22 54 49.3**	**+1.0**
DIYA	**Diyarbakir**	**1.84**	**117**	*i* P	**Pg**	**22 54 23.9**	**-0.5**
DIYA				*i* S	**Sg**	**22 54 49.3**	**+1.0**
TOKT	**Tokat**	**1.92**	**323**	*e*PN	**Pb**	**22 54 24.0**	**-0.5**
TOKT	**Tokat**	**1.92**	**323**	*e*Pn	**Pb**	**22 54 24.0**	**-0.5**
KAMA	**Osmaniye**	**1.94**	**215**	*i* P	**Pb**	**22 54 24.4**	**-0.4**
KAMA				*i* S	**Sg**	**22 54 50.2**	**-1.1**
TOKA	**Tokat**	**1.96**	**322**	P	**Pb**	**22 54 23.7**	**-1.4**
TOKA				S	**Sg**	**22 54 51.8**	**-0.2**
TOKA	**Tokat**	**1.96**	**322**	*i* P	**Pb**	**22 54 23.7**	**-1.4**
TOKA				*i* S	**Sg**	**22 54 51.8**	**-0.2**
GUMT	**Gumushane**	**2.00**	**33**	*e*PN	**Pb**	**22 54 25.1**	**-0.8**
GUMT	**Gumushane**	**2.00**	**33**	*e*Pn	**Pb**	**22 54 25.1**	**-0.8**
YEDI	**Yedisu-Bingol**	**2.04**	**71**	*e*PN	**Pb**	**22 54 24.8**	**-1.9**
YEDI	**Yedisu-Bingol**	**2.04**	**71**	*e*Pn	**Pb**	**22 54 24.8**	**-1.9**
BGOL	**Bingol**	**2.06**	**84**	P	**Pb**	**22 54 26.0**	**-0.8**
BGOL				S	**Sg**	**22 54 56.7**	**+1.6**
BGOL	**Bingol**	**2.06**	**84**	*i* P	**Pb**	**22 54 26.0**	**-0.8**
BGOL				*i* S	**Sg**	**22 54 56.7**	**+1.6**
KUZU	**Kuzuini**	**2.15**	**201**	P	**Pb**	**22 54 26.8**	**-1.6**
KUZU	**Kuzuini**	**2.15**	**201**	*i* P	**Pb**	**22 54 26.8**	**-1.6**
KUZU				*i* S	**Sg**	**22 54 59.8**	**+1.5**
KOZT	**Kozan**	**2.19**	**234**	*e*PN	**Pn**	**22 54 26.9**	**+1.0**
KOZT	**Kozan**	**2.19**	**234**	*e*Pn	**Pn**	**22 54 26.9**	**+1.0**
ESPY	**Espiye-Giresun**	**2.19**	**14**	*e*PN	**Pb**	**22 54 27.5**	**-1.5**
ESPY	**Espiye-Giresun**	**2.19**	**14**	*e*Pn	**Pb**	**22 54 27.5**	**-1.5**
YAHY	**KAYSERI_Yahyal**	**2.22**	**253**	P	**Pb**	**22 54 28.0**	**-1.7**
YAHY				S	**Sg**	**22 54 59.4**	**-1.0**
YAHY	**KAYSERI_Yahyal**	**2.22**	**253**	*i* P	**Pb**	**22 54 28.0**	**-1.7**
YAHY				*i* S	**Sg**	**22 54 59.4**	**-1.0**
BAYT	**Ayd¨–ntepe-Bay**	**2.27**	**45**	*e*PN	**Pb**	**22 54 28.8**	**-1.8**
BAYT	**Ayd¨–ntepe-Bay**	**2.27**	**45**	*e*Pn	**Pb**	**22 54 28.8**	**-1.8**
YOZ	**Yozgat**	**2.29**	**293**	*e*PN	**Pb**	**22 54 28.8**	**-2.0**
YOZ	**Yozgat**	**2.29**	**293**	*e*Pn	**Pb**	**22 54 28.8**	**-2.0**
DRWC	**Darouich**	**2.43**	**207**	*e*P	**Pn**	**22 54 30.2**	**+0.9**
DRWC				*e*S	**Sb**	**22 55 01.3**	**-2.0**
DRWC				AML	AML	22 55 14.7	
	comp=N,77nm,0.5s						
DRWC				AML	AML	22 55 16.3	
	comp=E,76nm,0.8s						
CEYT	**Ceyhan**	**2.54**	**226**	*e*PN	**Pn**	**22 54 32.2**	**+1.4**
CEYT	**Ceyhan**	**2.54**	**226**	*e*Pn	**Pn**	**22 54 32.2**	**+1.4**
SVAN	**Silvan-Diyarba**	**2.55**	**103**	*e*PN	**Pn**	**22 54 31.4**	**+0.5**
SVAN	**Silvan-Diyarba**	**2.55**	**103**	*e*Pn	**Pn**	**22 54 31.4**	**+0.5**
KTUT	**Trabzon**	**2.56**	**30**	*e*PN	**Pb**	**22 54 33.0**	**-2.4**
KTUT	**Trabzon**	**2.56**	**30**	*e*Pn	**Pb**	**22 54 33.0**	**-2.4**
VRTB	**Varto-Mus**	**2.68**	**81**	*e*PN	**Pn**	**22 54 34.1**	**+1.3**
VRTB	**Varto-Mus**	**2.68**	**81**	*e*Pn	**Pn**	**22 54 34.1**	**+1.3**
KVT	**Kavak**	**2.76**	**327**	*e*PN	**Pb**	**22 54 35.9**	**-2.9**
KVT	**Kavak**	**2.76**	**327**	*e*Pn	**Pb**	**22 54 35.9**	**-2.9**
EZM	**Erzurum**	**2.80**	**65**	*e*PN	**Pn**	**22 54 35.7**	**+1.1**
TAHT	**Tahtakopru-Hat**	**2.83**	**212**	*e*PN	**Pn**	**22 54 35.7**	**+1.0**
TAHT	**Tahtakopru-Hat**	**2.83**	**212**	*e*Pn	**Pn**	**22 54 35.7**	**+1.0**
SFNV	**Sufian**	**2.88**	**145**	*e*P	**Pn**	**22 54 36.4**	**+0.9**
SFNV				*e*S	**Sb**	**22 55 15.1**	**-1.1**
SFNV				AML	AML	22 55 26.6	
	comp=Z,130nm,0.5s						
SFNV				AML	AML	22 55 28.8	
	comp=E,139nm,0.7s						
BTCH	**Batrach**	**3.02**	**205**	*e*P	**Pn**	**22 54 38.3**	**+0.8**
BTCH				*e*S	**Sn**	**22 55 16.3**	**+2.3**
BTCH				AML	AML	22 55 32.3	
	comp=E,115nm,0.7s						
BTCH				AML	AML	22 55 36.9	
	comp=N,178nm,0.7s						
ARNB	**Al Arnab**	**3.36**	**210**	*e*P	**Pn**	**22 54 42.7**	**+0.6**
ARNB				*e*S	**Sn**	**22 55 24.1**	**+1.8**
ARNB				AML	AML	22 55 45.7	
	comp=N,63nm,0.6s						
ARNB				AML	AML	22 55 47.9	
	comp=E,33nm,0.6s						
SIRT	**Sirnak**	**3.69**	**109**	*e*PN	**Pn**	**22 54 48.1**	**+1.4**
SIRT	**Sirnak**	**3.69**	**109**	*e*Pn	**Pn**	**22 54 48.1**	**+1.4**
SENK	**Senkaya-Erzuru**	**3.76**	**61**	*e*PN	**Pn**	**22 54 49.7**	**+2.0**
SENK	**Senkaya-Erzuru**	**3.76**	**61**	*e*Pn	**Pn**	**22 54 49.7**	**+2.0**
BCA	**Borcka**	**3.81**	**45**	*e*PN	**Pn**	**22 54 50.7**	**+2.5**
BCA	**Borcka**	**3.81**	**45**	*e*Pn	**Pn**	**22 54 50.7**	**+2.5**

IDC 10 23:00:24.1±9.1, **0.°94S**×**12.°66W, h0**km, **mb4.2**/1, **mb1 4.0**/3, **mb1mx3.4**/43, **mbtmp4.0**/3, **MLJ3.6**/2, **MS3.3**/4, **Ms1 3.3**/4, **ms1mx2.9**/38, **Error ellipse: s-maj=190.6km s-min=36.2km az=106.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**7.08**	**195**	T	T	23 09 04.6	
	baz=10,slow=74,SNR=81						
H10N1	**ASCENSION HYDR**	**7.10**	**195**	T	T	23 09 06.7	
	baz=10,slow=74,SNR=75						
H10N3	**ASCENSION HYDR**	**7.10**	**195**	T	T	23 09 07.4	
	baz=10,slow=74,SNR=76						
DBIC	**Dimbokro**	**10.85**	**46**	Pn	Pn	23 02 59.8	-1.1
	0.1nm,0.3s,baz=306,slow=2.2,SNR=8.0						
DBIC				Sn	Sn	23 05 05.3	+2.1
	0.2nm,0.3s,baz=174,slow=1.4,SNR=2.7						
DBIC				LR	LR	23 06 43.1	
	comp=Z,131nm,20.5s,baz=205,slow=35						
TORD	**Torodi Ar. Bea**	**19.96**	**45**	P	P	23 04 58.6	+0.5
	0.7nm,0.3s,baz=231,slow=11,SNR=56						
TORD				LR	LR	23 12 09.1	
	comp=Z,120nm,20.5s,baz=220,slow=35						
RCBR	**Riachuelo**	**23.70**	**258**	LR	LR	23 12 00.2	
	comp=Z,40nm,20.7s,baz=65,slow=29						
BOSA	**Boshof**	**45.47**	**131**	P	P	23 08 45.4	-0.1
	3.0nm,0.8s,baz=305,slow=12,SNR=3.2						
CPUP	**Villa Florida**	**49.81**	**236**	LR	LR	23 29 17.3	
	comp=Z,36nm,18.5s,baz=62,slow=35						

*GUC **10** 23:06:59.3±0.6, 19.°72S×70.°49W, h33km±4km, ML3.3*
*ISCJB **10** 23:07:00.0±1.2, 19.°69S±0.°03×70.°48W±0.°07, h24km±8km, mb3.5/1, Error ellipse: s-maj=11.4km s-min=5.7km az=172.0*
*IDC **10** 23:07:05.6±4.9, 19.°91S×70.°47W, h92km±29km, mb3.3/1, mb1 3.4/3, mb1mx3.1/28, mbtmp3.6/3, Error ellipse: s-maj=73.8km s-min=12.7km az=93.0*
ISC 10 23:06:57.1±1.6, **19.°75S**±0.°03×**70.°53W**±0.°08, **h23**km±13km, **n19, σ1$38**/24, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.42**	**68**	*e*P	**Pn**	**23 07 08.1**	**+0.4**
PSGC				*e*S	**Sn**	**23 07 13.7**	**-1.1**
PSGC				IAML		23 07 14.3	
	comp=E,

KUA	**Kurravaara**	**0.14**	**20**	*i* P		Pg	23 18 55.4	+0.3
KUA				*i* S		Sg	23 18 57.3	+0.4
KUA	**Kurravaara**	**0.14**	**20**	P		Pg	23 18 59.3	+4.2
KUA				S		Sg	23 19 01.2	+4.3
KUA	**Kurravaara**	**0.14**	**20**	P		Pg	23 18 55.4	+0.3
KUA				S		Sg	23 18 57.3	+0.4
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P		Pg	23 19 01.1	0.0
NIKU	**Nikkaluokta**	**0.45**	**276**	P		Pn	23 19 05.0	-1.2
NIKU	**Nikkaluokta**	**0.45**	**276**	P		Pg	23 19 01.1	+0.1
LANU	**Lannavaara**	**0.71**	**71**	*e*S		Sg	23 19 15.9	+0.7
LANU	**Lannavaara**	**0.71**	**71**	P		Pn	23 19 10.3	+0.5
LANU	**Lannavaara**	**0.71**	**71**	P		Pg	23 19 06.0	0.0
LANU				Sg		Sg	23 19 15.9	+0.7
DUNU	**Dundret**	**0.72**	**169**	P		Pg	23 19 06.0	-0.3
DUNU	**Dundret**	**0.72**	**169**	P		Pg	23 19 06.0	-0.3
SALU	**Saltoluokta**	**0.79**	**236**	*i* P		Pg	23 19 07.5	-0.1
SALU	**Saltoluokta**	**0.79**	**236**	P		Pn	23 19 11.4	+0.5
SALU	**Saltoluokta**	**0.79**	**236**	P		Pg	23 19 07.5	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB		Pb	23 19 15.9	-0.2
	baz=200							
KIF				*e*SB		Sb	23 19 31.7	-0.5
KIF	**Kilpisjarvi**	**1.21**	**10**	Pg		Pb	23 19 15.9	-0.2
KIF				Sg		Sb	23 19 31.7	-0.5
PAJU	**Pajala**	**1.38**	**124**	*e*P		Pg	23 19 17.9	-1.0
PAJU	**Pajala**	**1.38**	**124**	P		Pb	23 19 21.7	+2.6
PAJU	**Pajala**	**1.38**	**124**	P		Pg	23 19 17.9	-1.0
HEF	**Hetta**	**1.42**	**64**	*e*PG		Pn	23 19 18.7	-0.8
HEF				MSG			23 19 36.3	
	comp=Z,5.7nm,0.2s							
HEF	**Hetta**	**1.42**	**64**	Pg		Pn	23 19 18.6	-0.9
TOF	**Tornio**	**2.39**	**135**	*e*PB		Pn	23 19 34.3	+1.6
TOF				*e*SG		Sb	23 20 06.5	+0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*PG		Pg	23 19 39.3	0.0
	baz=287							
SGF	**Sodankyl**	**2.45**	**96**	Pg		Pg	23 19 39.3	0.0

*ISK **10** 23:20:13.7, 38.76N×38.06E, h6km, MD2.9*
*DDA **10** 23:20:14.4, 38.78N×38.05E, h7km, Md2.8*
*CSEM **10** 23:20:14.7±0.3, 38.78N×38.06E, h2km, MD2.9, Error ellipse: s-maj=7.3km s-min=4.7km az=9.0*

ISC 10 23:20:14.7±1.2, 38.78N±0.03×38.04E±0.02, h10km±10km, n27, σ0.72/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.48**	**245**	*e*PG	**Pg**	**23 20 23.8**	**-0.4**
DARE	**Darende-Malaty**	**0.48**	**245**	*e*Pg	**Pg**	**23 20 23.8**	**-0.4**
AKCD	**Akcadag**	**0.49**	**191**	P	**Pg**	**23 20 23.9**	**-0.4**
AKCD				S	**Sb**	**23 20 33.0**	**+0.1**
AKCD	**Akcadag**	**0.49**	**191**	*i* P	**Pg**	**23 20 23.9**	**-0.4**
AKCD				*i* S	**Sb**	**23 20 33.0**	**+0.1**
CUKAN	**kangal_SIVAS**	**0.70**	**320**	P	**Pg**	**23 20 27.8**	**-0.5**
CUKAN				S	**Sb**	**23 20 38.4**	**-0.6**
CUKAN	**kangal_SIVAS**	**0.70**	**320**	*i* P	**Pg**	**23 20 27.8**	**-0.5**
CUKAN				*i* S	**Sb**	**23 20 38.4**	**-0.6**
ELZG	**Elazig**	**0.79**	**110**	P	**Pg**	**23 20 29.3**	**-0.7**
ELZG				S	**Sb**	**23 20 41.2**	**-0.3**
ELZG	**Elazig**	**0.79**	**110**	*i* P	**Pg**	**23 20 29.3**	**-0.7**
ELZG				*i* S	**Sb**	**23 20 41.2**	**-0.3**
PTK	**Pertek**	**1.06**	**83**	*e*PG	**Sb**	**23 20 34.0**	**-1.2**
PTK				*e*SG	**Sb**	**23 20 49.3**	**0.0**
PTK	**Pertek**	**1.06**	**83**	*e*Pg	**Pg**	**23 20 34.0**	**-1.2**
PTK				*e*Sg	**Sb**	**23 20 49.3**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.07**	**112**	*e*PG	**Pg**	**23 20 34.5**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.07**	**112**	*e*Pg	**Pg**	**23 20 34.5**	**-0.8**
CUALT	**Altinyayla-SIV**	**1.12**	**297**	P	**Pg**	**23 20 34.3**	**-1.9**
CUALT				S	**Sn**	**23 20 52.3**	**+0.2**
CUALT	**Altinyayla-SIV**	**1.12**	**297**	*i* P	**Pg**	**23 20 34.4**	**-1.9**
CUALT				*i* S	**Sn**	**23 20 52.3**	**+0.2**
TNCL	**Tunceli-Merkez**	**1.22**	**73**	P	**Pb**	**23 20 37.7**	**-0.2**
TNCL				S	**Sn**	**23 20 54.5**	**0.0**
TNCL	**Tunceli-Merkez**	**1.22**	**73**	*i* P	**Pb**	**23 20 37.7**	**-0.2**
TNCL				*i* S	**Sn**	**23 20 54.5**	**0.0**
SARI	**SarD1z-Kayseri**	**1.33**	**254**	*e*PN	**Pn**	**23 20 39.1**	**-0.4**
SVSK	**Karacayir**	**1.40**	**325**	*e*PN	**Pn**	**23 20 40.7**	**+0.4**
SVSK	**Karacayir**	**1.40**	**325**	*e*Pn	**Pn**	**23 20 40.7**	**+0.4**
EZC	**Erzincan**	**1.41**	**46**	*e*Pn	**Pg**	**23 20 42.3**	**+0.5**
ERZN	**Erzincan**	**1.53**	**58**	*e*PN	**Pn**	**23 20 42.3**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**1.54**	**295**	P	**Pb**	**23 20 43.7**	**+0.3**
CUSAR				S	**Sg**	**23 21 05.7**	**+1.4**
CUSAR	**Sarkisla-SIVAS**	**1.54**	**295**	*i* P	**Pb**	**23 20 43.7**	**+0.3**
CUSAR				*i* S	**Sg**	**23 21 05.7**	**+1.4**
KELT	**Kelkit**	**1.66**	**34**	P	**Pb**	**23 20 45.2**	**-0.4**
KELT				S	**Sb**	**23 21 07.0**	**+0.4**
KELT	**Kelkit**	**1.66**	**34**	*i* P	**Pb**	**23 20 45.2**	**-0.4**
KELT				*i* S	**Sb**	**23 21 07.0**	**+0.4**
BINT	**Bingol**	**1.91**	**86**	*e*Pn	**Pb**	**23 20 50.1**	**+0.3**
BNGB	**Bing¨¶l**	**2.07**	**83**	*e*PN	**Pn**	**23 20 50.1**	**+0.4**

*NIED **10** 23:20:00, 37.20N×141.40E, h23km, Mw3.7 Best double couple: M0 3.88000×10^14 NP1:φs=231.00000°, δ=44.00000°, λ=-107.00000°. NP2:φs=74.00000°, δ=48.00000°, λ=-74.00000°.*
*ISCJB **10** 23:20:42.4±1.1, 37.21N±0.03×141.56E±0.06, h16km±7km, mb3.9/9, MS3.4/1, Error ellipse: s-maj=8.7km s-min=5.0km az=20.2*
*IDC **10** 23:20:42.1±0.9, 37.25N×141.21E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.7/51, mbtmp4.0/9, ML4.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/46, Error ellipse: s-maj=32.6km s-min=18.9km az=86.0*
*JMA **10** 23:20:46.0±0.1, 37.24N×141.31E, h34km±1km, M3.9*
JMA Felt II J1.
*NEIC **10** 23:20:46.3±0.6, 37.17N×141.51E, h35km, mb4.2/2, Error ellipse: s-maj=15.4km s-min=12.8km az=141.0*
NEIC Recorded [2 JMA] in Fukushima.

ISC 10 23:20:46.1±1.1, 37.26N±0.04×141.34E±0.05, h34km±2km, n34, σ1.9±0.40/38, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.39**	**286**	P	**Pb**	**23 20 54.5**	**-0.7**
JFK				S	**Sn**	**23 21 00.2**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.46**	**250**	P	**Pb**	**23 20 55.4**	**-0.8**
ONAJ				*e*S	**Sb**	**23 21 01.8**	**-1.4**
JMM	**Marumori**	**0.75**	**325**	P	**Pn**	**23 20 59.8**	**-0.5**
JMM				*e*S	**Sn**	**23 21 09.7**	**-0.7**
JFT	**Otama**	**0.84**	**288**	P	**Pb**	**23 21 01.9**	**-0.5**
JFT				*e*S	**Sb**	**23 21 13.0**	**-0.4**
JHO	**Hitachi**	**0.89**	**224**	P	**Pn**	**23 21 01.0**	**-1.3**
JHO				*e*S	**Sn**	**23 21 12.2**	**-1.8**
JSB	**Shiboa**	**1.17**	**256**	P	**Pb**	**23 21 07.6**	**-0.3**
JSB				S	**Sb**	**23 21 22.7**	**-0.1**
JIO	**Ouri**	**1.20**	**0**	P	**Pn**	**23 21 06.2**	**-0.2**
JIO				*e*S	**Sn**	**23 21 20.9**	**-0.6**
JOU	**Okura**	**1.23**	**334**	P	**Pn**	**23 21 07.8**	**+0.9**
JOU				*e*S	**Sb**	**23 21 23.9**	**-0.5**
JFY	**Yanaizu**	**1.31**	**277**	P	**Pb**	**23 21 09.0**	**-1.3**
MJAR	**Matsushiro Arr**	**2.61**	**255**	Pn	**Pn**	**23 21 27.9**	**+2.0**
	3.4nm,0.3s,baz=163,slow=7.9,SNR=23						
MJAR				Sn	**Sb**	**23 22 04.7**	**+0.8**
	8.7nm,0.3s,baz=78,slow=14,SNR=5.7						
MAJO	**Matsushiro**	**2.61**	**255**	*e*Pn	**Pn**	**23 21 28.4**	**+2.4**
MAT	**Matsushiro**	**2.61**	**255**	P	**Pn**	**23 21 28.3**	**+2.4**
MAT				S	**Sb**	**23 22 02.2**	**-1.7**
JHJ	**Hachijo jima 2**	**4.32**	**198**	Pn	**Pn**	**23 21 50.4**	**+0.9**
	38nm,0.3s,baz=62,slow=23,SNR=11						
JHJ				Sn	**Sn**	**23 22 40.8**	**+2.1**
	35nm,0.3s,baz=241,slow=23,SNR=4.2						
CBIJ	**Chichi jima**	**10.16**	**176**	Pn	**Pn**	**23 23 07.3**	**-2.3**
JCJ	**Chichijima**	**10.16**	**176**	Pn	**Pn**	**23 23 07.3**	**-2.3**
	8.3nm,0.3s,baz=271,slow=19,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**28.31**	**121**	T	T	23 56 10.6	
	baz=314,slow=75,SNR=89						
H11N1	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	23 56 14.2	
	baz=314,slow=75,SNR=134						
H11N3	**WAKE ISLAND Hy**	**28.33**	**121**	T	T	23 56 15.0	
	baz=314,slow=75,SNR=128						
H11S1	**WAKE ISLAND Hy**	**29.03**	**123**	T	T	23 57 08.2	
	baz=316,slow=76,SNR=93						
H11S3	**WAKE ISLAND Hy**	**29.03**	**123**	T	T	23 57 08.4	
	baz=316,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**29.05**	**123**	T	T	23 57 09.6	
	baz=316,slow=76,SNR=63						
TGY	**Tagaytay City**	**29.36**	**224**	LR	LR	23 38 12.5	
	comp=Z,92nm,20.6s,baz=166,slow=36						
ZALV	**Zalesovo Beam**	**41.72**	**312**	P	**P**	**23 28 32.4**	**+0.8**
	0.5nm,0.5s,baz=90,slow=5.8,SNR=2.7						
MKAR	**Makanchi Array**	**43.95**	**302**	P	**P**	**23 28 50.6**	**+0.8**
	0.2nm,0.3s,baz=86,slow=9.6,SNR=2.7						
COLA	**College**	**48.92**	**32**	*e*P	**P**	**23 29 28.8**	**+0.3**
	3.1nm,0.6s						
ILAR	**Eielson Array**	**49.34**	**32**	P	**P**	**23 29 33.5**	**+1.8**
	0.8nm,0.7s,baz=266,slow=6.3,SNR=8.3						
EKS2	**Erkin-Say**	**50.83**	**298**	*e*P	**P**	**23 29 44.6**	**+1.2**
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**57.27**	**188**	P	**P**	**23 30 30.8**	**+0.4**
	0.4nm,0.5s,baz=5.3,slow=7.1,SNR=5.4						
FINES	**FINESS Array B**	**68.59**	**332**	P	**P**	**23 31 45.6**	**+0.5**
	1.1nm,0.7s,baz=90,slow=1.9,SNR=5.0						
AKASG	**Malin Array Be**	**74.08**	**322**	P	**P**	**23 32 18.6**	**0.0**
	1.0nm,0.4s,baz=43,slow=5.7,SNR=6.4						
PV04	**Paradox Valley**	**80.74**	**49**	*e*P	**P**	**23 32 57.2**	**+1.0**
PV01	**Paradox Valley**	**81.11**	**49**	*e*P	**P**	**23 32 55.1**	**-3.2**
GERES	**GERESS Array B**	**82.49**	**328**	P	**P**	**23 33 05.9**	**+0.7**
	0.4nm,0.4s,baz=54,slow=6.8,SNR=4.0						
LPAZ	**La Paz**	**146.63**	**59**	PKPbc	**PKPab**	**23 40 27.0**	**+0.5**
	0.5nm,0.5s,baz=16,slow=3.1,SNR=3.8						

MEX 10 23:23:08.1±0.9, 15.99N×98.60W, h20km±12km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.61**	**49**	*e*P	Pb	23 23 17.4	-2.6
PNIG				*e*S	Sb	23 23 25.6	-2.6
TLIG	**Tlapa**	**1.56**	**1**	*e*P	Pn	23 23 31.7	-3.2
TLIG				*e*S	Sn	23 23 51.0	-3.7
CAIG	**El Cayaco**	**1.91**	**304**	*e*P	Pn	23 23 36.5	-3.1
CAIG				*i* S	Sn	23 23 59.2	-3.9
VHO	**Vista Hermosa**	**2.09**	**59**	*e*P	Pn	23 23 39.9	-2.3
VHO				*e*S	Sn	23 24 03.9	-3.9
HUIG	**Huatulco**	**2.41**	**95**	*e*P	Pn	23 23 44.4	-2.0
HUIG				*e*S	Sn	23 24 10.7	-4.7

*ATH **10** 23:24:18.0, 37.67N×21.72E, h11km±2km, ML2.1/21, Error ellipse: s-maj=2.2km s-min=0.5km az=239.0*
*THE **10** 23:24:18.0, 37.67N×21.73E, h2km±28km, ML2.4/10, Error ellipse: s-maj=28.5km s-min=0.3km az=273.0*
*CSEM **10** 23:24:18.1±0.1, 37.67N×21.72E, h2km, ML2.1, Error ellipse: s-maj=2.7km s-min=2.1km az=48.0*

ISC 10 23:24:18.1±0.9, 37.67N±0.01×21.71E±0.02, h5km±8km, n91, σ0.56/142, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.14**	**180**	P	**Pg**	**23 24 20.9**	**0.0**
AMT				S	**Sg**	**23 24 22.5**	**-0.3**
AMT	**Artemida-Makis**	**0.14**	**180**	P	**Pg**	**23 24 20.5**	**-0.4**
AMT				S	**Sg**	**23 24 22.5**	**-0.3**
AMT	**Artemida-Makis**	**0.14**	**180**	P	**Pg**	**23 24 20.6**	**-0.4**
AMT				S	**Sg**	**23 24 25.0**	**+2.3**
DRO	**Drossia**	**0.28**	**0**	P	**Pg**	**23 24 23.5**	**0.0**
DRO				S	**Sg**	**23 24 27.4**	**+0.1**
DRO	**Drossia**	**0.28**	**0**	P	**Pg**	**23 24 23.5**	**0.0**
DRO				S	**Sg**	**23 24 27.4**	**+0.1**
DRO	**Drossia**	**0.28**	**0**	P	**Pg**	**23 24 27.6**	**0.0**
DRO				S	**Sg**	**23 24 27.9**	**+0.6**
DRO				AML	AML	23 24 33.8	
	comp=N,4165μm,0.4s						
DRO				AML	AML	23 24 34.1	
	comp=E,3905μm,0.4s						
RLS	**Riolos of Patr**	**0.43**	**334**	P	**Pg**	**23 24 25.9**	**-0.5**
RLS				S	**Sg**	**23 24 32.7**	**+0.7**
RLS	**Riolos of Patr**	**0.43**	**334**	P	**Pg**	**23 24 26.3**	**-0.1**
RLS				S	**Sg**	**23 24 32.0**	**0.0**
VTN	**Vitineika**	**0.48**	**301**	P	**Pb**	**23 24 28.7**	**-0.3**
VTN				S	**Sg**	**23 24 33.8**	**+0.2**
VTN	**Vitineika**	**0.48**	**301**	P	**Pb**	**23 24 28.7**	**-0.3**
VTN				S	**Sg**	**23 24 33.8**	**+0.2**
KLV	**Kalavryta, Ach**	**0.51**	**43**	P	**Pg**	**23 24 27.4**	**-0.5**
KLV	**Kalavryta, Ach**	**0.51**	**43**	P	**Pg**	**23 24 27.4**	**-0.5**
KLV				S	**Sg**	**23 24 35.0**	**+0.4**
KLV	**Kalavryta, Ach**	**0.51**	**43**	P	**Pg**	**23 24 27.4**	**-0.5**
KLV				S	**Sg**	**23 24 35.0**	**+0.4**
KLV				AML	AML	23 24 40.0	
	comp=N,229μm,0.4s						
KLV				AML	AML	23 24 40.4	
	comp=E,157μm,0.4s						
ITM	**Ithomi**	**0.52**	**160**	P	**Pg**	**23 24 27.7**	**-0.4**
ITM				S	**Sg**	**23 24 35.0**	**+0.2**
ITM	**Ithomi**	**0.52**	**160**	P	**Pg**	**23 24 27.9**	**-0.2**
ITM				S	**Sg**	**23 24 34.1**	**-0.7**
ITM	**Ithomi**	**0.52**	**160**	P	**Pg**	**23 24 27.9**	**-0.2**
ITM				S	**Sg**	**23 24 34.1**	**-0.7**
ITM				AML	AML	23 24 40.6	
	comp=N,556μm,0.2s						
ITM				AML	AML	23 24 41.3	
	comp=E,743μm,0.4s						
GUR	**Goura**	**0.57**	**62**	P	**Pg**	**23 24 28.6**	**-0.4**
GUR	**Goura**	**0.57**	**62**	P	**Pg**	**23 24 28.6**	**-0.4**
GUR				S	**Sg**	**23 24 35.8**	**-0.6**
GUR	**Goura**	**0.57**	**62**	P	**Pg**	**23 24 28.5**	**-0.4**
GUR				S	**Sg**	**23 24 35.8**	**-0.6**
GUR				AML	AML	23 24 44.2	
	comp=E,624μm,0.5s						
GUR				AML	AML	23 24 44.9	
	comp=N,745μm,0.4s						
AXS	**Araxos**	**0.59**	**333**	P	**Pg**	**23 24 28.8**	**-0.5**
AXS	**Araxos**	**0.59**	**333**	P	**Pg**	**23 24 28.8**	**-0.5**
LAKA	**Lakka**	**0.61**	**20**	P	**Pg**	**23 24 29.0**	**-0.8**
LAKA	**Lakka**	**0.61**	**20**	P	**Pg**	**23 24 29.0**	**-0.8**
LAKA				S	**Sg**	**23 24 37.9**	**+0.3**
LAKA	**Lakka**	**0.61**	**20**	P	**Pg**	**23 24 28.9**	**-0.8**
LAKA				S	**Sg**	**23 24 37.9**	**+0.3**
LAKA				AML	AML	23 24 45.2	
	comp=N,259μm,0.5s						
LAKA				AML	AML	23 24 46.3	
	comp=E,236μm,0.4s						
VLX	**Vlachokerasia**	**0.61**	**119**	P	**Pg**	**23 24 29.5**	**-0.3**
VLX				S	**Sg**	**23 24 38.2**	**+0.4**
VLX	**Vlachokerasia**	**0.61**	**119**	P	**Pg**	**23 24 29.8**	**0.0**
VLX				S	**Sg**	**23 24 38.2**	**+0.4**
VLX	**Vlachokerasia**	**0.61**	**119**	P	**Pg**	**23 24 29.8**	**0.0**
VLX				S	**Sg**	**23 24 38.3**	**+0.4**
VLX				AML	AML	23 24 47.8	
	comp=E,491μm,0.4s						
VLX				AML	AML	23 24 48.1	
	comp=N,376μm,0.4s						
UPR	**University Cam**	**0.61**	**6**	P	**Pb**	**23 24 30.9**	**-0.4**
UPR	**University Cam**	**0.61**	**6**	P	**Pb**	**23 24 30.9**	**-0.4**
RODI	**Rodini**	**0.67**	**13**	P	**Pg**	**23 24 29.9**	**-1.0**
RODI				S	**Sg**	**23 24 40.5**	**+0.9**
RODI	**Rodini**	**0.67**	**13**	P	**Pg**	**23 24 29.9**	**-1.0**
RODI				S	**Sg**	**23 24 40.5**	**+0.9**
RODI				AML	AML	23 24 46.0	
	comp=N,705μm,0.6s						
RODI				AML	AML	23 24 46.1	
	comp=E,762μm,0.5s						
ZKS	**Zakynthos**	**0.73**	**272**	P	**Pg**	**23 24 32.2**	**0.0**
ZKS				S	**Sb**	**23 24 43.9**	**+0.2**
ZKS	**Zakynthos**	**0.73**	**272**	P	**Pg**	**23 24 32.2**	**0.0**
ZKS				S	**Sb**	**23 24 43.9**	**+0.2**
ZKS	**Zakynthos**	**0.73**	**272**	P	**Pg**	**23 24 31.8**	**-0.3**
ZKS				AML	AML	23 24 51.0	
	comp=E,1251μm,0.3s						
ZKS				AML	AML	23 24 51.3	
	comp=N,853μm,0.4s						
TRIZ	**Trizonia**	**0.75**	**22**	P	**Pg**	**23 24 32.8**	**+0.3**
TRIZ				S	**Sg**	**23 24 43.2**	**+1.0**
EFP	**Efpalio**	**0.77**	**12**	P	**Pg**	**23 24 32.2**	**-0.7**
EFP	**Efpalio**	**0.77**	**12**	P	**Pg**	**23 24 32.2**	**-0.7**
EFP				S	**Sb**	**23 24 44.6**	**-0.2**
EFP	**Efpalio**	**0.77**	**12**	P	**Pg**	**23 24 32.0**	**-0.9**
EFP				S	**Sb**	**23 24 44.6**	**-0.2**
EFP				AML	AML	23 24 47.6	
	comp=E,510μm,0.4s						
EFP				AML	AML	23 24 48.7	
	comp=N,266μm,0.4s						
PYL	**PYLOS**	**0.78**	**178**	P	**Pg**	**23 24 31.9**	**-1.0**
PYL				S	**Sg**	**23 24 43.8**	**+0.8**
PYL	**PYLOS**	**0.78**	**178**	P	**Pg**	**23 24 32.0**	**-1.0**
PYL				S	**Sg**	**23 24 43.8**	**+0.8**
PYL	**PYLOS**	**0.78**	**178**	P	**Pg**	**23 24 32.0**	**-0.9**
PYL				S	**Sg**	**23 24 43.9**	**+0.8**
PYL				AML	AML	23 24 48.6	
	comp=E,313μm,0.3s						
PYL				AML	AML	23 24 49.0	
	comp=N,377μm,0.4s						
SERG	**Sergoula**	**0.79**	**20**	P	**Pg**	**23 24 32.4**	**-0.9**
SERG				S	**Sg**	**23 24 43.7**	**+0.2**
SERG	**Sergoula**	**0.79**	**20**	P	**Pg**	**23 24 32.4**	**-0.9**
SERG				S	**Sg**	**23 24 43.7**	**+0.2**
KALE	**Kalithea**	**0.80**	**25**	P	**Pg**	**23 24 32.5**	**-0.9**
KALE				S	**Sg**	**23 24 44.7**	**+1.0**
KALE	**Kalithea**	**0.80**	**25**	P	**Pg**	**23 24 32.5**	**-0.9**
KALE				S	**Sg**	**23 24 43.8**	**+0.1**
KALE	**Kalithea**	**0.80**	**25**	P	**Pg**	**23 24 32.0**	**-1.3**
KALE				S	**Sg**	**23 24 43.8**	**+0.1**
KALE				AML	AML	23 24 53.4	
	comp=E,286μm,0.6s						
KALE				AML	AML	23 24 53.6	
	comp=N,368μm,0.4s						
THAL	**Thalero**	**0.84**	**64**	P	**Pg**	**23 24 33.8**	**-0.4**
THAL	**Thalero**	**0.84**	**64**	P	**Pg**	**23 24 33.8**	**-0.4**
ANX	**Ano Chora**	**0.94**	**10**	P	**Pg**	**23 24 35.2**	**-0.8**
ANX				S	**Sg**	**23 24 48.8**	**+0.6**
ANX	**Ano Chora**	**0.94**	**10**	P	**Pg**	**23 24 35.2**	**-0.8**
ANX				S	**Sg**	**23 24 48.8**	**+0.6**
PVO	**Paravola**	**0.95**	**351**	P	**Pg**	**23 24 36.2**	**-0.2**
PVO	**Paravola**	**0.95**	**351**	P	**Pg**	**23 24 36.2**	**-0.2**
PVO	**Paravola**	**0.95**	**351**	P	**Pg**	**23 24 35.2**	**-1.2**
PVO				AML	AML	23 24 59.1	
	comp=N,122μm,0.4s						
PVO				AML	AML	23 25 00.2	
	comp=E,155μm,0.4s						
DSF	**Desfina**	**0.98**	**41**	P	**Pg**	**23 24 37.2**	**+0.3**
DSF	**Desfina**	**0.98**	**41**	P	**Pg**	**23 24 37.1**	**+0.3**
PDO	**Prodromos**	**1.01**	**336**	P	**Pg**	**23 24 37.3**	**-0.2**
PDO	**Prodromos**	**1.01**	**336**	P	**Pg**	**23 24 37.3**	**-0.2**
PDO				S	**Sb**	**23 24 51.8**	**0.0**
PDO	**Prodromos**	**1.01**	**336**	P	**Pg**	**23 24 37.3**	**-0.2**
PDO				S	**Sb**	**23 24 51.8**	**0.0**
PDO				AML	AML	23 25 00.3	
	comp=E,410μm,0.3s						
PDO				AML	AML	23 25 02.1	
	comp=N,594μm,0.5s						
VLS	**Valsamata**	**1.02**	**300**	P	**Pg**	**23 24 38.0**	**+0.4**
VLS				S	**Sb**	**23 24 52.3**	**+0.4**
LTK	**Loutraki**	**1.06**	**70**	P	**Pg**	**23 24 37.8**	**-0.5**
LTK	**Loutraki**	**1.06**	**70**	P	**Pg**	**23 24 37.8**	**-0.5**
PROD	**Prodromos**	**1.11**	**58**	P	**Pg**	**23 24 39.4**	**0.0**
PROD				S	**Sb**	**23 24 54.7**	**+0.2**
PROD	**Prodromos**	**1.11**	**58**	P	**Pg**	**23 24 39.4**	**0.0**
PROD				S	**Sb**	**23 24 54.7**	**+0.2**
PROD				AML	AML	23 24 56.6	
	comp=E,124μm,0.3s						
PROD				AML	AML	23 24 56.9	
	comp=N,169μm,0.3s						
KRND	**KRANIDI**	**1.18**	**104**	P	**Pg**	**23 24 40.5**	**-0.2**
KRND	**KRANIDI**	**1.18**	**104**	P	**Pg**	**23 24 40.5**	**-0.2**
DID	**Didima**	**1.23**	**97**	P	**Pg**	**23 24 41.0**	**-0.6**
DID				S	**Sb**	**23 24 58.1**	**+0.2**
DID	**Didima**	**1.23**	**97**	P	**Pb**	**23 24 41.6**	**-0.2**
DID				S	**Sb**	**23 24 58.1**	**+0.2**
DID	**Didima**	**1.23**	**97**	P	**Pb**	**23 24 41.6**	**-0.2**
DID				S	**Sn**	**23 24 58.7**	**-0.1**
DID				AML	AML	23 25 07.4	
	comp=N,172μm,0.5s						
DID				AML	AML	23 25 08.6	
	comp=E,132μm,0.3s						
EVR	**Evrytania**	**1.25**	**4**	P	**Pg**	**23 24 41.5**	**-0.5**
EVR	**Evrytania**	**1.25**	**4**	P	**Pg**	**23 24 41.5**	**-0.5**
EVR	**Evrytania**	**1.25**	**4**	P	**Pg**	**23 24 41.5**	**-0.5**
EVR				AML	AML	23 25 18.3	
	comp=N,138μm,1.0s						
VIL2	**Platees**	**1.34**	**66**	P	**Pg**	**23 24 43.3**	**-0.6**
VILL	**Villia**	**1.36**	**68**	P	**Pg**	**23 24 43.3**	**-0.9**
VLI	**Veliai**	**1.37**	**134**	P	**Pn**	**23 24 43.6**	**-0.2**
VLI	**Veliai**	**1.37**	**134**	P	**Pn**	**23 24 43.6**	**-0.2**
VLI				AML	AML	23 25 12.5	
	comp=E,130μm,0.5s						
VLI				AML	AML	23 25 13.2	
	comp=N,180μm,0.8s						
LKD2	**Lefkada island**	**1.39**	**324**	P	**Pn**	**23 24 43.1**	**-1.1**
LKD2	**Lefkada island**	**1.39**	**324**	P	**Pn**	**23 24 43.1**	**-1.1**
LKR	**Lokris**	**1.41**	**46**	P	**Pn**	**23 24 44.8**	**+0.4**
LKR	**Lokris**	**1.41**	**46**	P	**Pn**	**23 24 44.8**	**+0.4**
AGG	**Agios Georgios**	**1.43**	**20**	P	**Pn**	**23 24 45.0**	**+0.2**
AGG	**Agios Georgios**	**1.43**	**20**	P	**Pn**	**23 24 45.0**	**+0.2**
AGG				AML	AML	23 25 08.4	
	comp=N,208μm,0.6s						
AGG				AML	AML	23 25 09.5	
	comp=E,158μm,0.5s			

GCAM	**G?zelcaml?**	**0.91**	**339**	P	**Pn**	**23**	**25**	**55.5 -0.7**
GCAM	**G?zelcaml?**	**0.91**	**339**	*i* P	**Pn**	**23**	**25**	**55.5 -0.7**
GCAM				*i* S	**Sn**	**23**	**26**	**08.4 -1.5**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**10**	*e*PN	**Pb**	**23**	**25**	**58.5 +0.1**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**10**	*e*Pn	**Pb**	**23**	**25**	**58.6 +0.1**
FETY	**Fethiye**	**1.18**	**100**	*e*PN	**Pb**	**23**	**26**	**00.9 +1.3**
FETY	**Fethiye**	**1.18**	**100**	*e*Pn	**Pb**	**23**	**26**	**00.9 +1.3**

*ISCJB **10** 23:27:31.9±0.3, 32°.67N±0°.02×115°.72W±0°.02, **h18**^{km}±4^{km}, Error ellipse: s-maj=3.3km s-min=3.3km az=8.4*
*ECX **10** 23:27:32.9±0.6, 32°.63N×115°.72W, h3^{km}, MD3.0, ML3.3*
*MEX **10** 23:27:32.7±1.5, 32°.81N×115°.67W, h20^{km}±112^{km}, MD3.6*
*NEIC **10** 23:27:33.0, 32°.63N×115°.73W, h3^{km}, ML3.3(PAS), ML3.3(ECX), After ECX.*
NEIC Felt at El Centro, California.

ISC 10 23:27:31.3±0.8, 32°.64N±0°.02×115°.71W±0°.02, h17^{km}±5^{km}, n41, σ1°49/66, 6C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERPC	**Ernies Place**	**0.11**	**21**	⇓	*i*	P	**Pg**	**23 27 35.5**	**+0.5**
WESC	**Westside Schoo**	**0.12**	**351**	⇓	*e*	P	**Pg**	**23 27 35.2**	**+0.1**
WESC					*e*	S	**Sg**	**23 27 37.7**	**-0.1**
YUH	**Yuha Desert**	**0.18**	**273**	⇑	*i*	P	**Pg**	**23 27 35.9**	**0.0**
COK	**Cook Ranch**	**0.21**	**356**	*i*	PS		**Pg**	**23 27 37.1**	**+0.8**
RMX	**La Rumorosa**	**0.31**	**264**	⇑	*e*	P	**Pg**	**23 27 38.0**	**-0.2**
RMX					*e*	S	**Sg**	**23 27 42.2**	**-0.5**
SWSC	**Sam W. Stewart** baz=172,SNR=218	**0.32**	**346**		P		**Pg**	**23 27 38.5**	**+0.4**
SWSC					S		**Sg**	**23 27 41.9**	**-0.8**
IKP	**In-Ko-Pah, Jac** baz=95,SNR=258	**0.34**	**272**		P		**Pb**	**23 27 38.9**	**0.0**
IKP					S		**Sg**	**23 27 43.4**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.34**	**272**	⇑	*e*	P	**Pb**	**23 27 38.9**	**0.0**
CPBX	**Cerro Prieto**	**0.41**	**123**		*e*	P	**Pg**	**23 27 38.2**	**-1.5**
CPBX					*e*	S	**Sg**	**23 27 44.3**	**-1.0**
CPBX					*e*			23 27 46.4	
CPBX	comp=N,10μm,0.3s				AML		AML	23 27 46.4	
CPBX					*e*			23 27 46.5	
CPBX	comp=E,6μm,0.2s				AML		AML	23 27 46.5	
CPBX	**Cerro Prieto**	**0.41**	**123**		*e*	P	**Pb**	**23 27 41.2**	**+1.2**
CPBX					*e*	S	**Sn**	**23 27 49.3**	**-0.3**
MBIG	**Mexicali**	**0.49**	**118**		*e*	P	Pg	23 27 30.7	-10
MBIG					*e*	S	**Sn**	**23 27 51.8**	**+0.3**
MONP2	**Monument Peak** baz=115,SNR=67	**0.65**	**293**		P		**Pg**	**23 27 44.5**	**+0.3**
MONP2					S		**Sb**	**23 27 52.6**	**-0.6**
BAR	**Barrett**	**0.81**	**273**	⇑	*e*	P	**Pg**	**23 27 47.3**	**+0.1**
TJIG	**Tijuana**	**0.84**	**256**		*e*	P	**Pg**	**23 27 47.7**	**0.0**
TJIG					*e*	S	**Sb**	**23 27 58.0**	**-0.4**
TJIG	**Tijuana**	**0.84**	**256**	⇑	*e*	P	**Pg**	**23 27 47.8**	**0.0**
GLA	**Glamis** baz=241,SNR=26	**0.85**	**61**		P		**Pb**	**23 27 48.0**	**+0.3**
GLA					S		**Sb**	**23 27 59.3**	**+0.6**
CBX	**Cerro Bola**	**0.87**	**248**		*e*	P	**Pg**	**23 27 48.5**	**+0.2**
CBX					*e*	S	**Sb**	**23 27 59.0**	**-0.3**
CBX					*i*	S	**Sg**	**23 27 59.8**	**0.0**
CBX	**Cerro Bola**	**0.87**	**248**	⇑	*e*	P	**Pg**	**23 27 48.5**	**+0.2**
CBX					*e*	S	**Sg**	**23 27 59.6**	**-0.1**
CBX	**Cerro Bola**	**0.87**	**248**		*e*	P	**Sg**	**23 27 48.5**	**+0.2**
CBX					*e*	S	**Sb**	**23 27 59.0**	**-0.3**
CBX					*i*	S	**Sg**	**23 27 59.8**	**0.0**
BC3	**Big Chuckawall** baz=194,SNR=36	**1.04**	**12**		P		**Pb**	**23 27 50.7**	**-0.2**
BC3					S		**Sb**	**23 28 03.8**	**-0.4**
SDRC	**San Diego Road**	**1.04**	**276**		*e*	P	**Pn**	**23 27 51.3**	**+0.2**
TPFO	**Pinon Flats** baz=149,SNR=34	**1.15**	**327**		P		**Pn**	**23 27 52.2**	**-0.5**
TPFO					S		**Sb**	**23 28 06.8**	**-0.7**
PFO	**Pinyon Flats O**	**1.16**	**327**		*e*	P	**Pn**	**23 27 52.3**	**-0.5**
PFO					*e*	S	**Sb**	**23 28 06.8**	**-0.8**
109C	**Camp Elliot, M** baz=103,SNR=30	**1.20**	**282**		P		**Pb**	**23 27 53.8**	**+0.2**
109C					S		**Sn**	**23 28 08.9**	**-0.2**
ZAX	**El Zacaton**	**1.22**	**203**		*e*	P	**Pb**	**23 27 54.3**	**+0.3**
ZAX					*e*	S	**Sg**	**23 28 10.5**	**-0.3**
ZAX	comp=E,524nm,0.2s				AML		AML	23 28 11.8	
ZAX					*e*			23 28 11.8	
ECNX	**Esteban Cantu**	**1.23**	**218**		*e*	P	**Pb**	**23 27 54.7**	**+0.5**
PBX	**Punta Banda**	**1.24**	**224**		*e*	P	**Pb**	**23 27 54.6**	**+0.3**
ECBX	**El Chinero**	**1.29**	**154**		*e*	P	**Pg**	**23 27 56.0**	**-0.2**
ECBX					*e*	S	**Sg**	**23 28 13.0**	**0.0**
BELC	**Belle Mtn. Jos** baz=171,SNR=37	**1.38**	**350**		P		**Pn**	**23 27 55.7**	**-0.2**
Y12C	**Blythe** baz=223	**1.49**	**42**		P		**Pn**	**23 27 57.7**	**+0.4**
Y12C					S		**Sb**	**23 28 16.9**	**-0.2**
MURC	**Murrieta** baz=128	**1.57**	**308**		P		**Pn**	**23 27 58.6**	**+0.2**
MURC					S		**Sn**	**23 28 18.4**	**0.0**
IRM	**Iron Mountain** baz=198	**1.59**	**17**		Pb		**Pb**	**23 27 59.9**	**-0.3**
SPIG	**San Pedro Mart**	**1.60**	**172**		*e*	P	**Pb**	**23 28 00.3**	**-0.3**
SPIG					*e*	S	**Sb**	**23 28 21.1**	**+0.5**
SPIG	**San Pedro Mart**	**1.60**	**172**		*e*	P	**Pb**	**23 28 00.1**	**-0.4**
SPIG	**San Pedro Mart**	**1.60**	**172**		*e*	P	**Pb**	**23 28 00.3**	**-0.3**
SPIG					*e*	S	**Sb**	**23 28 21.1**	**+0.5**
SPX	**San Pedro Mart**	**1.60**	**172**		*e*	P	**Pb**	**23 28 00.6**	**0.0**
SPX	**San Pedro Mart**	**1.60**	**172**		*e*	P	**Pb**	**23 28 00.2**	**-0.4**
SPX					*e*	S	**Sn**	**23 28 20.0**	**+0.5**
BFSC	**Mount Baldy Ra** baz=135	**2.28**	**315**		Sb		**Sb**	**23 28 41.2**	**+1.2**
214A	**Organ Pipe Nat** baz=286	**2.55**	**105**		P		**Pn**	**23 28 12.0**	**+0.1**
214A	**Organ Pipe Nat**	**2.55**	**105**		*e*Pn		**Pn**	**23 28 11.7**	**-0.2**
TUC	**Tucson**	**4.17**	**93**		*e*Pn		**Pn**	**23 28 35.2**	**+0.9**

*ATH **10** 23:30:04.2, 34°.84N×26°.19E, h27^{km}±4^{km}, ML3.3/2, Error ellipse: s-maj=9.5km s-min=1.8km az=4.0*
*THE **10** 23:30:06.7, 34°.92N×26°.08E, h0^{km}±1^{km}, ML3.3/7, Error ellipse: s-maj=3.1km s-min=1.0km az=164.0*
*IDC **10** 23:30:06.7±1.2, 34°.86N×26°.07E, h0^{km}, mb3.3/3, mb1 3.3/6, mb1mx3.2/46, mbtmp3.2/6, ML3.0/3, Error ellipse: s-maj=28.9km s-min=10.9km az=15.0*
*CSEM **10** 23:30:06.7±0.6, 34°.84N×26°.06E, h2^{km}, ML3.3, Error ellipse: s-maj=13.1km s-min=4.2km az=174.0*
*ISK **10** 23:30:09.3, 35°.04N×26°.13E, h15^{km}, ML3.0*

ISC 10 23:30:07.2±1.3, 34°.92N±0°.05×26°.08E±0°.02, h7^{km}±8^{km}, n74, σ1°33/104, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.23**	**30**		P		**Pg**	**23 30 11.7**	**0.0**
ZKR					S		**Sg**	**23 30 15.6**	**+0.8**
ZKR	**Zakros**	**0.23**	**30**		P		**Pg**	**23 30 11.7**	**0.0**
ZKR					S		**Sg**	**23 30 15.6**	**+0.8**
ZKR	**Zakros**	**0.23**	**30**		P		**Pg**	**23 30 11.4**	**-0.3**
ZKR					S		**Sg**	**23 30 15.6**	**+0.8**
ZKR	comp=N,21097μm,0.5s				AML		AML	23 30 19.1	
ZKR	comp=E,29061μm,0.8s				AML		AML	23 30 19.6	
NPS	**Neapolis**	**0.52**	**312**		P		**Pg**	**23 30 17.0**	**-0.2**
NPS					S		**Sb**	**23 30 26.0**	**-0.3**
NPS	**Neapolis**	**0.52**	**312**		P		**Pg**	**23 30 16.9**	**-0.2**
NPS					S		**Sb**	**23 30 27.3**	**+1.0**
NPS	**Neapolis**	**0.52**	**312**		P		**Pg**	**23 30 16.9**	**-0.2**
NPS					S		**Sb**	**23 30 27.3**	**+1.0**
NPS	comp=N,4519μm,0.6s				AML		AML	23 30 31.4	
NPS	comp=E,6852μm,0.5s				AML		AML	23 30 32.7	
LAST	**Lasithi**	**0.55**	**297**		P		**Pg**	**23 30 17.3**	**-0.5**
LAST					S		**Sb**	**23 30 26.9**	**-0.4**
LAST	**Lasithi**	**0.55**	**297**		P		**Pg**	**23 30 17.3**	**-0.5**
LAST					S		**Sb**	**23 30 27.2**	**-0.1**
LAST	**Lasithi**	**0.55**	**297**		P		**Pg**	**23 30 17.1**	**-0.7**
IDI	**Anoyia**	**1.04**	**291**		Pg		**Pg**	**23 30 25.7**	**-1.5**
IDI	comp=E,6.2nm,0.3s,baz=150,slow=7.3,SNR=36				Lg		Lg	23 30 42.8	
IDI	**Anoyia**	**1.04**	**291**		P		**Pg**	**23 30 26.4**	**-0.8**
IDI					S		**Sb**	**23 30 41.9**	**+0.4**
IDI	**Anoyia**	**1.04**	**291**		P		**Pg**	**23 30 26.4**	**-0.8**
IDI					S		**Sb**	**23 30 41.9**	**+0.4**
IDI	**Anoyia**	**1.04**	**291**		P		**Pg**	**23 30 25.7**	**-1.5**
SIVA	**Sivas**	**1.05**	**276**		P		**Pg**	**23 30 26.3**	**-1.0**
SIVA					S		**Sn**	**23 30 43.3**	**+0.2**
SIVA	**Sivas**	**1.05**	**276**		P		**Pg**	**23 30 26.3**	**-1.0**
SIVA	**Sivas**	**1.05**	**276**		P		**Pg**	**23 30 26.5**	**-0.7**
KARP	**Karpathos**	**1.09**	**54**		*e*PG		**Pb**	**23 30 28.7**	**+0.4**
KARP					*e*SG		**Sg**	**23 30 42.6**	**+0.5**
KARP	**Karpathos**	**1.09**	**54**		P		**Pg**	**23 30 26.9**	**-1.1**
KARP					S		**Sb**	**23 30 43.9**	**+1.2**
KARP	**Karpathos**	**1.09**	**54**		P		**Pg**	**23 30 26.9**	**-1.1**
KARP	**Karpathos**	**1.09**	**54**		*e*Pg		**Pb**	**23 30 28.7**	**+0.4**
KARP					*e*Sg		**Sg**	**23 30 42.6**	**+0.5**
KARP					S		**Sb**	**23 30 43.9**	**+1.2**
THR6	**Thira Island,**	**1.54**	**339**		P		**Pn**	**23 30 35.1**	**+0.1**
THR6	**Thira Island,**	**1.54**	**339**		P		**Pn**	**23 30 35.1**	**+0.1**
THR3	**Thira Island,**	**1.59**	**340**		P		**Pn**	**23 30 35.6**	**-0.1**
THR3	**Thira Island,**	**1.59**	**340**		P		**Pn**	**23 30 35.6**	**-0.1**
THR5	**Thira Island,**	**1.61**	**339**		*e*PN		**Pn**	**23 30 36.6**	**+0.6**
THR5	**Thira Island,**	**1.61**	**339**		*e*Pn		**Pn**	**23 30 36.6**	**+0.6**
VAM	**Vamos**	**1.61**	**288**		P		**Pn**	**23 30 36.1**	**0.0**
VAM					S		**Sn**	**23 30 56.9**	**-0.3**
VAM	**Vamos**	**1.61**	**288**		P		**Pn**	**23 30 36.1**	**0.0**
VAM					S		**Sn**	**23 30 56.9**	**-0.3**
IMMV	**Iera Moni Meta**	**1.80**	**288**		P		**Pg**	**23 30 41.0**	**-0.7**
IMMV					S		**Sn**	**23 31 01.6**	**-0.2**
IMMV	**Iera Moni Meta**	**1.80**	**288**		P		**Pg**	**23 30 41.0**	**-0.7**
IMMV					S		**Sn**	**23 31 01.6**	**-0.2**
NIS1	**Nisyros Isl.**	**1.91**	**28**		*e*PN		**Pn**	**23 30 40.6**	**+0.5**
NIS1	**Nisyros Isl.**	**1.91**	**28**		*e*Pn		**Pn**	**23 30 40.6**	**+0.5**
APE	**Apeiranthos**	**2.19**	**348**		*e*PN		**Pn**	**23 30 44.9**	**+0.8**
APE	**Apeiranthos**	**2.19**	**348**		*e*Pn		**Pn**	**23 30 44.9**	**+0.8**
BODT	**Bodrum**	**2.36**	**25**		*e*PN		**Pn**	**23 30 46.8**	**+0.4**
BODT	**Bodrum**	**2.36**	**25**		*e*Pn		**Pn**	**23 30 46.8**	**+0.4**
BDRM	**Kayabasi**	**2.41**	**27**		P		**Pb**	**23 30 49.5**	**-1.5**
BDRM					S		**Sb**	**23 31 21.2**	**+0.3**
BDRM	**Kayabasi**	**2.41**	**27**		*i* P		**Pb**	**23 30 49.5**	**-1.5**
BDRM					*i* S		**Sb**	**23 31 21.2**	**+0.3**
DALY	**Dalyan (Mu˘la**	**2.82**	**47**		*e*PN		**Pn**	**23 30 53.6**	**+0.9**
DALY	**Dalyan (Mu˘la**	**2.82**	**47**		*e*Pn		**Pn**	**23 30 53.6**	**+0.9**
TURN	**Turunc**	**2.83**	**46**		*i* P		**Pn**	**23 30 51.7**	**-1.1**
TURN					*i* S		**Sn**	**23 31 21.5**	**-5.6**
YER	**Yerkesik**	**2.84**	**38**		*e*PN		**Pn**	**23 30 54.2**	**+1.1**
YER	**Yerkesik**	**2.84**	**38**		*e*Pn		**Pn**	**23 30 54.2**	**+1.1**
FETY	**Fethiye**	**2.98**	**54**		*e*PN		**Pn**	**23 30 55.9**	**+0.9**
FETY	**Fethiye**	**2.98**	**54**		*e*Pn		**Pn**	**23 30 55.9**	**+0.9**
AYDN	**Tasoluk**	**3.10**	**27**		P		**Pb**	**23 31 00.3**	**-2.4**
AYDN					S		**Sb**	**23 31 38.3**	**-2.5**
AYDN	**Tasoluk**	**3.10**	**27**		*e*P		**Pb**	**23 31 00.3**	**-2.4**
AYDN					*i* S		**Sb**	**23 31 38.3**	**-2.5**
DGB	**˜zmir**	**3.19**	**11**		*e*P		**Pn**	**23 30 59.2**	**+1.4**
DGB					*i* S		**Sn**	**23 31 38.4**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**3.36**	**25**		*e*PN		**Pn**	**23 31 01.0**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**3.36**	**25**		*e*Pn		**Pn**	**23 31 01.0**	**+0.8**
CHOS	**Chios island**	**3.46**	**360**		*e*PN		**Pn**	**23 31 02.3**	**+0.7**
CHOS	**Chios island**	**3.46**	**360**		*e*Pn		**Pn**	**23 31 02.3**	**+0.7**
GLHS	**Glhisar (BURDU**	**3.56**	**50**		*e*PN		**Pn**	**23 31 04.2**	**+1.3**
GLHS	**Glhisar (BURDU**	**3.56**	**50**		*e*Pn		**Pn**	**23 31 04.2**	**+1.3**
ELL	**Elmali**	**3.61**	**58**		*e*PN		**Pn**	**23 31 04.7**	**+1.1**
ELL	**Elmali**	**3.61**	**58**		*e*Pn		**Pn**	**23 31 04.7**	**+1.1**
GOLH	**Golhisar**	**3.65**	**50**		P		**Pn**	**23 31 06.3**	**+2.1**
GOLH	**Golhisar**	**3.65**	**50**		*i* P		**Pn**	**23 31 06.3**	**+2.1**
GOLH					*i* S		**Sb**	**23 31 54.7**	**-1.9**
MANT	**Manisa**	**4.08**	**28**		P		**Pn**	**23 31 12.2**	**+2.0**
MANT					S		**Sn**	**23 31 59.8**	**+1.3**
MANT	**Manisa**	**4.08**	**28**		*i* P		**Pn**	**23 31 12.2**	**+2.0**
MANT					*i* S		**Sn**	**23 31 59.8**	**+1.3**
KULA	**Kula-Manisa**	**4.15**	**29**		*e*PN		**Pn**	**23 31 12.1**	**+1.1**
KULA	**Kula-Manisa**	**4.15**	**29**		*e*Pn		**Pn**	**23 31 12.1**	**+1.1**
SIGR	**SIGRI**	**4.29**	**358**		*e*PN		**Pn**	**23 31 14.6**	**+1.7**
SIGR	**SIGRI**	**4.29**	**358**		*e*Pn		**Pn**	**23 31 14.6**	**+1.7**
AGG	**Agios Georgios**	**5.08**	**325**		*e*PN		**Pn**	**23 31 26.1**	**+2.4**
AGG	**Agios Georgios**	**5.08**	**325**		*e*Pn		**Pn**	**23 31 26.1**	**+2.4**
BRTR	**Keskin Array B** comp=E,0.1nm,0.3s,baz=220,slow=15,SNR=3.1	**7.70**	**49**		Pn		**Pn**	**23 32 03.1**	**+3.3**
MMAI	**Mount Meron Ar** comp=E,0.4nm,0.3s,baz=292,slow=12,SNR=6.4	**7.97**	**101**		Pn		**Pn**	**23 32 03.3**	**-0.3**
MMAI					Sn		**Sn**	**23 33 34.8**	**+0.7**
EIL	**Elat** comp=E,0.2nm,0.3s,baz=324,slow=15,SNR=3.5	**9.15**	**122**		Pn		**Pn**	**23 32 20.9**	**+1.3**
EIL	comp=E,0.2nm,0.3s,baz=155,slow=20,SNR=3.1				Sn		**Sn**	**23 33 59.6**	**-3.3**
KVAR	**Kislovodsk Arr** baz=157,slow=23,SNR=4.2	**15.67**	**50**		Pn		**Pn**	**23 33 48.5**	**0.0**
AKASG	**Malin Array Be** baz=195,slow=11,SNR=3.9	**15.94**	**7**		Pn		**P**	**23 33 55.9**	**+0.4**
ESDC	**Sonseca Array** comp=E,0.6nm,0.9s,baz=78,slow=9.8,SNR=4.7	**24.30**	**290**		P		**P**	**23 35 27.4**	**+2.1**
TORD	**Torodi Ar. Bea** comp=E,0.4nm,0.6s,baz=36,slow=8.3,SNR=8.1	**30.92**	**232**		P		**P**	**23 36 24.6**	**-0.1**
MKAR	**Makanchi Array** comp=E,0.4nm,0.5s,baz=272,slow=5.7,SNR=4.9	**43.28**	**56**		P		**P**	**23 38 10.0**	**+0.6**

*ISK **10** 23:44:15.9, 39°.09N×29°.06E, h5^{km}, MD3.0*
*DDA **10** 23:44:15.8, 39°.10N×29°.03E, h7^{km}, Md3.2*
*ISCJB **10** 23:44:16.2±0.4, 39°.08N±0°.03×29°.04E±0°.03, h3^{km}±5^{km}, Error ellipse: s-maj=4.8km s-min=3.4km az=164.0*
*CSEM **10** 23:44:16.4±0.1, 39°.07N×29°.05E, h5^{km}, MD3.2, Error ellipse: s-maj=2.3km s-min=1.9km az=147.0*

ISC 10 23:44:16.3±0.9, 39°.10N±0°.02×29°.05E±0°.02, h9^{km}±9^{km}, n75, σ0°64/88, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**258**		P		**Pg**	**23 44 21.5**	**-0.1**
DEMI					S		**Sg**	**23 44 25.1**	**-0.1**
DEMI	**Demirci**	**0.26**	**258**		*i* P		**Pg**	**23 44 21.5**	**-0.1**
DEMI					*i* S		**Sg**	**23 44 25.1**	**-0.1**
GEDZ	**Gediz**	**0.29**	**101**		*e*PG		**Pg**	**23 44 22.2**	**+0.1**
GEDZ					*e*SG		**Sg**	**23 44 26.6**	**+0.6**
GEDZ	**Gediz**	**0.29**	**101**		*e*Pg		**Pg**	**23 44 22.2**	**+0.1**
GEDZ					*e*Sg		**Sg**	**23 44 26.6**	**+0.6**
GDZ	**Gediz**	**0.34**	**91**		P		**Pg**	**23 44 23.0**	**-0.1**
GDZ					S		**Sg**	**23 44 28.0**	**+0.4**
GDZ	**Gediz**	**0.34**	**91**		*i* P		**Pg**	**23 44 23.0**	**-0.1**
GDZ					*i* S		**Sg**	**23 44 28.0**	**+0.4**
TVSB	**Tavsanli**	**0.48**	**42**		*e*PG		**Pg**	**23 44 25.3**	**-0.3**
TVSB					*e*SG		**Sg**	**23 44 31.9**	**0.0**
TVSB	**Tavsanli**	**0.48**	**42**		*e*Pg		**Pg**	**23 44 25.3**	**-0.3**
TVSB					*e*Sg		**Sg**	**23 44 31.9**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**207**		*e*PG		**Pg**	**23 44 28.6**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**207**		*e*Pg		**Pg**	**23 44 28.6**	**-0.4**
MANT	**Manisa**	**0.72**	**212**		P		**Pg**	**23 44 29.6**	**-0.5**
MANT					S		**Sg**	**23 44 39.3**	**-0.2**
MANT	**Manisa**	**0.72**	**212**		*i* P		**Pg**	**23 44 29.6**	**-0.5**
MANT					*i* S		**Sg**	**23 44 39.4**	**-0.2**
KHL	**Karahalli**	**0.86**	**154**		*e*PG		**Pg**	**23 44 32.5**	**-0.4**
KHL	**Karahalli**	**0.86**	**154**		*e*Pg		**Pg**	**23 44 32.5**	**-0.4**
AKS	**Akhisar**	**0.98**	**258**		*e*PG		**Pb**	**23 44 35.9**	**+0.3**
AKS	**Akhisar**	**0.98**	**258**		*e*Pg		**Pb**	**23 44 35.9**	**+0.3**
BALB	**Balikesir**	**1.05**	**301**		*e*PG		**Pn**	**23 44 37.5**	**+0.2**
BALB					*e*SG		**Sn**	**23 44 52.1**	**+0.1**
BALB	**Balikesir**	**1.05**	**301**		*e*Pg		**Pn**	**23 44 37.5**	**+0.2**
BALB					*e*Sg		**Sn**	**23 44 52.2**	**+0.1**
IGD	**Bursa**	**1.17**	**6**		*i* P		**Pg**	**23 44 37.2**	**-1.6**
IGD					*i* S		**Sb**	**23 44 54.7**	**+0.7**
CAVI	**Cavuskoy**	**1.26**	**29**		*e*PN		**Pn**	**23 44 40.5**	**+0.3**
CAVI	**Cavuskoy**	**1.26**	**29**		*e*Pn		**Pn**	**23 44 40.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**354**		*e*PN		**Pb**	**23 44 40.5**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**354**		*e*Pn		**Pb**	**23 44 40.5**	**0.0**
BALY	**Balya**	**1.28**	**301**		P		**Pg**	**23 44 40.4**	**-0.4**
BALY	**Balya**	**1.28**	**301**		*i* P		**Pg**	**23 44 40.4**	**-0.4**
IZI	**Iznik**	**1.28**	**15**		*e*PN		**Pb**	**23 44 40.9**	**+0.2**
IZI	**Iznik**	**1.28**	**15**		*e*Pn		**Pb**	**23 44 40.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**		*e*PN		**Pb**	**23 44 40.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**		*e*Pn		**Pb**	**23 44 40.9**	**+0.2**
GEMT	**Gemlik**	**1.34**	**5**		*e*PN		**Pb**	**23 44 41.6**	**-0.1**
GEMT	**Gemlik**	**1.34**	**5**		*e*Pn		**Pb**	**23 44 41.6**	**-0.1**
DENT	**Denizli**	**1.34**	**180**		*e*PN		**Pg**	**23 44 41.7**	**-0.4**
DENT	**Denizli**	**1.34**	**180**		*e*Pn		**Pg**	**23 44 41.7**	**-0.4**
GONE	**Gonen-Balikesi**	**1.42**	**312**		*e*PN		**Pg**	**23 44 43.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.42**	**312**		*e*Pn		**Pg**	**23 44 43.1**	**-0.4**
ADVT	**Abdulvahap**	**1.44**	**22**		*e*PN		**Pb**	**23 44 43.3**	**0.0**
ADVT	**Abdulvahap**	**1.44**	**22**		*e*Pn		**Pb**	**23 44 43.3**	**0.0**
ESKT	**Eskisehir**	**1.46**	**73**		*e*PN		**Pb**	**23 44 43.5**	**-0.3**
ESKT	**Eskisehir**	**1.46**	**73**		*e*Pn		**Pb**	**23 44 43.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**219**		*e*PN		**Pn**	**23 44 43.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**219**		*e*Pn		**Pn**	**23 44 43.1**	**+0.1**
ARMT	**Armutlu**	**1.47**	**355**		*e*PN		**Pb**	**23 44 43.7**	**-0.2**
ARMT	**Armutlu**	**1.47**	**355**		*e*Pn		**Pb**	**23 44 43.7**	**-0.2**
EDC	**Edincik**	**1.54**	**324**		*e*PN		**Pb**	**23 44 44.7**	**-0.4**
EDC	**Edincik**	**1.54**	**324**		*e*Pn		**Pb**	**23 44 44.7**	**-0.4**
IZM	**Izmir**	**1.56**	**244**		*e*PN		**Pb**	**23 44 45.2**	**-0.2**
IZM	**Izmir**	**1.56**	**244**		*e*Pn		**Pb**	**23 44 45.2**	**-0.2**
DKL	**Dikili**	**1.67**	**270**		*e*PN		**Pb**	**23 44 46.7**	**-0.5**
DKL	**Dikili**	**1.67**	**270**		*e*Pn		**Pb**	**23 44 46.7**	**-0.5**
GULT	**Gulveren**	**1.75**	**40**		*e*PN		**Pn**	**23 44 47.3**	**+0.4**
GULT	**Gulveren**	**1.75**	**40**		*e*Pn		**Pn**	**23 44 47.3**	**+0.4**
HRT	**Hereke**	**1.79**	**15**		*e*PN		**Pb**	**23 44 49.1**	**-0.2**
HRT	**Hereke**	**1.79**	**15**		*e*Pn		**Pb**	**23 44 49.1**	**-0.2**
SPNC	**Sapanca-Adapaz**	**1.86**	**31**		*e*PN		**Pb**	**23 44 49.5**	**-1.0**
SPNC	**Sapanca-Adapaz**	**1.86**	**31**		*e*Pn		**Pb**	**23 44 49.5**	**-1.0**
KRBG	**Karabiga-Canak**	**1.87**	**314**		*e*PN		**Pn**	**23 44 49.3**	**+0.8**
KRBG	**Karabiga-Canak**	**1.87**	**314**		*e*Pn		**Pn**	**23 44 49.3**	**+0.8**
MRMT	**Marmara Adasi**	**1.87**	**324**		*e*PN		**Pb**	**23 44 49.9**	**-0.8**
MRMT	**Marmara Adasi**	**1.87**	**324**		*e*Pn		**Pb**	**23 44 49.9**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**		*e*PN		**Pb**	**23 44 50.9**	**-1.3**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**		*e*Pn		**Pb**	**23 44 50.9**	**-1.3**
ISK	**Istanbul-Kandi**	**1.96**	**0**		*e*PN		**Pb**	**23 44 51.4**	**-0.9**
ISK	**Istanbul-Kandi**	**1.96**	**0**		*e*Pn		**Pb**	**23 44 51.4**	**-0.9**
BGKT	**Bogazkoy**	**2.09**	**354**		*e*PN		**Pn**	**23 44 53.0**	**+1.4**
BGKT	**Bogazkoy**	**2.09**	**354**		*e*Pn		**Pn**	**23 44 53.0**	**+1.4**
SILT	**Sile**	**2.10**	**12**		*e*PN		**Pb**	**23 44 53.6**	**-1.1**
SILT	**Sile**	**2.10**	**12**		*e*Pn		**Pb**	**23 44 53.6**	**-1.1**
MDUB	**Mudurnu**	**2.15**	**50**		*e*PN		**Pb**	**23 44 54.0**	**-1.6**
MDUB	**Mudurnu**	**2.15**	**50**		*

baz=271

ISCJB ***10*** *23:48:33.1±0.7,51.48N±0.03×16.07E±0.04,h0km, Error ellipse: s-maj=4.8km s-min=3.1km az=12.7*
CSEM ***10*** *23:48:34.5±0.4,51.50N×16.06E,h2km,ML2.9/10, Error ellipse: s-maj=6.7km s-min=3.9km az=179.0*
PRU ***10*** *23:48:35.0,51.51N×16.07E,h0km*
VIE ***10*** *23:48:35.6±0.8,51.38N×16.00E, h0km, mb2.0/4, ML2.3/4, Error ellipse: s-maj=6.4km s-min=3.3km az=22.0, Suspected Mining induced.*

ISC 10 23:48:33.6±1.1, 51.56N±0.05×16.08E±0.02, h0km, n32, σ0s 84/67, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pg**	**23 48 48.0**	**+0.3**
KSP				*e*Sg	**Sg**	**23 48 57.6**	**+0.5**
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pg**	**23 48 48.0**	**+0.3**
KSP				*e*Sg	**Sg**	**23 48 57.6**	**+0.5**
UPC	**Upice**	**1.06**	**182**	*e*PG	**Pg**	**23 48 54.1**	**+0.2**
UPC				*e*SG	**Sg**	**23 49 07.7**	**+0.1**
	27nm,0.3s						
UPC	**Upice**	**1.06**	**182**	Pg	**Pg**	**23 48 54.1**	**+0.2**
UPC				Sg	**Sg**	**23 49 07.7**	**+0.1**
	27nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	**Pg**	**23 48 56.8**	**-0.3**
DPC				*e*SG	**Sg**	**23 49 12.3**	**-0.6**
	10nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**173**	Pg	**Pg**	**23 48 56.8**	**-0.3**
DPC				Sg	**Sg**	**23 49 12.3**	**-0.6**
	10nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**223**	*e*PG	**Pn**	**23 49 00.9**	**+0.3**
PVCC				*e*SG	**Sb**	**23 49 19.4**	**+0.1**
	45nm,0.2s						
PVCC	**Panska Ves**	**1.41**	**223**	Pg	**Pn**	**23 49 00.9**	**+0.3**
PVCC				Sg	**Sb**	**23 49 19.4**	**+0.1**
	45nm,0.2s						
BRG	**Berggiesshubel**	**1.51**	**244**	PG	**Pn**	**23 49 02.8**	**+0.8**
BRG				SG	**Sb**	**23 49 22.5**	**+0.2**
	15nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.84**	**207**	*e*PG	**Pb**	**23 49 08.2**	**0.0**
GOPC				*e*SG	**Sb**	**23 49 31.7**	**-0.2**
	5.0nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.84**	**207**	Pg	**Pb**	**23 49 08.2**	**0.0**
GOPC				Sg	**Sb**	**23 49 31.7**	**-0.2**
	5.0nm,0.2s						
PRU	**Pruhonice**	**1.86**	**212**	*e*PN	**Pn**	**23 49 06.2**	**-0.5**
PRU				*e*PG	**Pb**	**23 49 08.0**	**-0.4**
PRU				*ex*	x	23 49 24.8	
PRU				*e*SG	**Sb**	**23 49 32.2**	**+0.1**
	7.5nm,0.3s						
PRU	**Pruhonice**	**1.86**	**212**	Pn	**Pn**	**23 49 06.2**	**-0.5**
PRU	**Pruhonice**	**1.86**	**212**	Pg	**Pb**	**23 49 08.0**	**-0.4**
PRU				Sg	**Sb**	**23 49 32.2**	**+0.1**
	7.5nm,0.3s						
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**23 49 07.0**	**-0.9**
CLL				*i* Pg	**Pb**	**23 49 09.9**	**0.0**
CLL				*i*		23 49 14.2	
CLL				*e*Sg	**Sb**	**23 49 36.0**	**+1.3**
	comp=Z,6.0nm,0.5s						
MORC	**Moravsky Berou**	**2.02**	**152**	*e*Pn	**Pn**	**23 49 08.4**	**-0.5**
MORC				*e*Sg	**Sb**	**23 49 36.2**	**-0.6**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PG	**Pb**	**23 49 14.2**	**+0.5**
OKC				*e*SG	**Sg**	**23 49 42.6**	**-0.7**
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pg	**Pb**	**23 49 14.2**	**+0.5**
OKC				Sg	**Sg**	**23 49 42.6**	**-0.7**
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**23 49 12.5**	**0.0**
VRAC				*e*Sg	**Sb**	**23 49 44.1**	**-0.3**
TREC	**Trest**	**2.30**	**190**	*e*PN	**Pn**	**23 49 13.6**	**+0.7**
TREC				*e*PG	**Pb**	**23 49 16.8**	**+0.8**
TREC				*e*SG	**Sg**	**23 49 46.2**	**-1.4**
	comp=Z,5.6nm,0.2s						
TREC	**Trest**	**2.30**	**190**	Pn	**Pn**	**23 49 13.6**	**+0.7**
NKC	**Novy Kostel**	**2.66**	**241**	*e*PN	**Pn**	**23 49 18.2**	**+0.4**
NKC				*e*PG	**Pg**	**23 49 24.0**	**-0.6**
NKC				*e*SG	**Sg**	**23 49 58.7**	**-0.3**
	comp=Z,10nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**241**	Pn	**Pn**	**23 49 18.2**	**+0.4**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**23 49 25.3**	**-0.2**
OJC				*e*Sg	**Sg**	**23 50 00.7**	**0.0**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**23 49 25.3**	**-0.2**
OJC				*e*Sg	**Sg**	**23 50 00.7**	**0.0**
KHC	**Kasperske Hory**	**2.92**	**214**	*e*PN	**Pn**	**23 49 21.6**	**+0.3**
KHC				*e*PG	**Pb**	**23 49 27.4**	**+0.9**
KHC				*e*SN	**Sn**	**23 49 56.3**	**-0.7**
KHC				*e*SG	**Sg**	**23 50 06.9**	**-0.4**
	comp=Z,2.7nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**214**	Pn	**Pn**	**23 49 21.6**	**+0.3**
KHC	**Kasperske Hory**	**2.92**	**214**	Pg	**Pb**	**23 49 27.4**	**+0.9**
KHC				Sn	**Sn**	**23 49 56.3**	**-0.7**
KHC				Sg	**Sg**	**23 50 06.9**	**-0.4**
	comp=Z,2.7nm,0.3s						
CONA	**Conrad Observa**	**3.64**	**182**	Pn	**Pn**	**23 49 32.1**	**+0.8**
	comp=Z,0.4nm,0.2s						
CONA				Sg	**Sg**	**23 50 30.2**	**-0.4**
	comp=Z,4.2nm,0.4s						
MOA	**Molln**	**3.90**	**198**	Pn	**Pn**	**23 49 35.3**	**+0.5**
	comp=Z,1.6nm,0.4s						
MOA				Sg	**Sg**	**23 50 38.2**	**-0.7**
	comp=Z,1.2nm,0.2s						
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*Pg	**Pg**	**23 49 51.2**	**+2.2**
STHS				*e*Sg	**Sg**	**23 50 36.9**	**-3.0**
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PG	**Pg**	**23 49 51.2**	**+2.2**
STHS				*e*SG	**Sg**	**23 50 36.9**	**-3.0**
STHS				*e*LG	Lg	23 50 49.3	

CSEM ***10*** *23:54:28.4±0.7,37.95N×42.47E,h10km,MD2.8, Error ellipse: s-maj=20.6km s-min=16.4km az=39.0*
ISK ***10*** *23:54:28.6,37.92N×42.46E,h27km, MD2.8*
DDA ***10*** *23:54:34.5,37.28N×42.65E,h8km, Md2.9*

ISC 10 23:54:29.4±0.9, 37.93N±0.04×42.54E±0.03, h10km, n14, σ2s 11/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.43**	**191**	*e*PG	**Pb**	**23 54 38.3**	**-0.9**
SIRT				*e*SG	**Sb**	**23 54 45.2**	**-0.6**
SIRT	**Sirnak**	**0.43**	**191**	*e*Pg	**Pb**	**23 54 38.3**	**-0.9**
SIRT				*e*Sg	**Sb**	**23 54 45.2**	**-0.6**
HAKT	**HAKKARI**	**0.99**	**111**	S	**Sn**	**23 55 05.2**	**+1.3**
HAKT	**HAKKARI**	**0.99**	**111**	*i* P	**Pn**	**23 54 51.7**	**+2.0**
HAKT				*i* S	**Sn**	**23 55 05.2**	**+1.3**
BTMN	**Batman**	**1.01**	**268**	*i* P	Pn	23 54 58.1	+8.4
BTMN				*i* S	Sn	23 55 17.2	+13
HKR	**Hakkari**	**1.01**	**110**	*e*PG	**Pg**	**23 54 48.3**	**-0.6**
HKR	**Hakkari**	**1.01**	**110**	*e*Pg	**Pg**	**23 54 48.3**	**-0.6**
CUKT	**Cukurca**	**1.08**	**128**	*e*PN	**Pb**	**23 54 49.1**	**-1.2**
CUKT				*e*SN	**Sg**	**23 55 03.2**	**-1.2**
CUKT	**Cukurca**	**1.08**	**128**	*e*Pn	**Pb**	**23 54 49.1**	**-1.2**
CUKT				*e*Sn	**Sg**	**23 55 03.2**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.08**	**282**	*e*PG	**Pg**	**23 54 47.4**	**-2.9**
SVAN	**Silvan-Diyarba**	**1.08**	**282**	*e*Pg	**Pg**	**23 54 47.4**	**-2.9**
TUTA	**Tutak**	**1.49**	**8**	P	**Pb**	**23 54 56.9**	**-0.4**
TUTA	**Tutak**	**1.49**	**8**	*i* P	**Pb**	**23 54 56.9**	**-0.4**
MARD	**Mardin**	**1.53**	**247**	*i* P	Pg	23 55 02.2	+3.5
MARD				*i* S	**Sg**	**23 55 24.4**	**+5.8**

ISK ***10*** *23:55:50.9,39.80N×25.64E,h12km, MD2.9*
ATH ***10*** *23:55:50.5,39.77N×25.53E,h31km±3km, ML1.8/3, Error ellipse: s-maj=5.3km s-min=1.2km az=240.0*
THE ***10*** *23:55:51.7,39.81N×25.62E,h3km±1km, ML1.8/6, Error ellipse: s-maj=1.6km s-min=0.4km az=348.0*
ISCJB ***10*** *23:55:51.2±0.5,39.81N±0.02×25.61E±0.04,h5km±4km, Error ellipse: s-maj=4.8km s-min=3.4km az=170.4*
CSEM ***10*** *23:55:51.4±0.1,39.81N×25.61E,h10km, ML1.8, Error ellipse: s-maj=3.2km s-min=2.1km az=83.0*
DDA ***10*** *23:55:52.0,39.83N×25.64E,h6km, Ml3.1*

ISC 10 23:55:51.6±0.9, 39.81N±0.02×25.62E±0.03, h12km±8km, n54, σ0s 36/80, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.33**	**84**	*i* P	**Pg**	**23 55 58.4**	**+0.1**
BOZC				*i* S	**Sb**	**23 56 03.8**	**-0.9**
LIA	**Limnos Island**	**0.35**	**285**	P	**Pg**	**23 55 58.5**	**-0.1**
LIA				S	**Sg**	**23 56 03.6**	**+0.3**
LIA	**Limnos Island**	**0.35**	**285**	P	**Pg**	**23 55 58.7**	**+0.1**
LIA				S	**Sg**	**23 56 03.6**	**+0.3**
GADA	**Gvkgeada**	**0.44**	**29**	*e*PG	**Pg**	**23 56 00.2**	**0.0**
GADA	**Gvkgeada**	**0.44**	**29**	P	**Pg**	**23 56 00.3**	**0.0**
GADA				S	**Sg**	**23 56 06.5**	**+0.4**
GADA	**Gvkgeada**	**0.44**	**29**	*e*Pg	**Pg**	**23 56 00.2**	**0.0**
GADA				S	**Sg**	**23 56 06.5**	**+0.4**
SIGR	**SIGRI**	**0.62**	**163**	*e*PG	**Pg**	**23 56 03.1**	**-0.5**
SIGR	**SIGRI**	**0.62**	**163**	P	**Pg**	**23 56 03.3**	**-0.3**
SIGR				S	**Sb**	**23 56 12.5**	**-0.4**
SIGR	**SIGRI**	**0.62**	**163**	*e*Pg	**Pg**	**23 56 03.1**	**-0.5**
SIGR	**SIGRI**	**0.62**	**163**	P	**Pg**	**23 56 03.4**	**-0.3**
SIGR				S	**Sg**	**23 56 12.2**	**+0.4**
SIGR	**SIGRI**	**0.62**	**163**	P	**Pg**	**23 56 03.4**	**-0.3**
SIGR				S	**Sg**	**23 56 12.2**	**+0.4**
SIGR				AML	AML	23 56 12.9	
	comp=E,155μm,0.4s						
SIGR				AML	AML	23 56 12.9	
	comp=N,191μm,0.5s						
SMTH	**Samothraki Isl**	**0.67**	**354**	P	**Pg**	**23 56 04.5**	**-0.1**
SMTH				S	**Sb**	**23 56 14.1**	**-0.3**
SMTH	**Samothraki Isl**	**0.67**	**354**	P	**Pg**	**23 56 04.5**	**-0.1**
SMTH				S	**Sb**	**23 56 14.1**	**-0.3**
SMTH	**Samothraki Isl**	**0.67**	**354**	P	**Pg**	**23 56 04.2**	**-0.4**
SMTH				AML	AML	23 56 16.8	
	comp=N,110μm,0.1s						
SMTH				AML	AML	23 56 16.9	
	comp=E,110μm,0.4s						
SMTH				S	**Sn**	**23 56 17.3**	**+0.1**
PRK	**Paraskevi**	**0.75**	**138**	P	**Pg**	**23 56 06.2**	**+0.1**
PRK				S	**Sb**	**23 56 16.9**	**+0.2**
PRK	**Paraskevi**	**0.75**	**138**	P	**Pg**	**23 56 06.2**	**+0.1**
PRK				S	**Sb**	**23 56 16.5**	**-0.2**
PRK	**Paraskevi**	**0.75**	**138**	P	**Pb**	**23 56 06.5**	**-0.1**
PRK				S	**Sb**	**23 56 16.5**	**-0.2**
PRK				AML	AML	23 56 19.3	
	comp=E,365μm,0.6s						
PRK				AML	AML	23 56 20.3	
	comp=N,385μm,0.4s						
GELI	**Tayfur-Gelibol**	**0.88**	**48**	*e*PG	**Pg**	**23 56 08.2**	**-0.4**
GELI				*e*SG	**Sb**	**23 56 20.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.88**	**48**	*e*Pg	**Pg**	**23 56 08.2**	**-0.4**
GELI				*e*Sg	**Sb**	**23 56 20.6**	**+0.1**
AYVA	**Ayvalik**	**0.96**	**121**	P	**Pn**	**23 56 10.8**	**0.0**
AYVA				S	**Sn**	**23 56 25.3**	**+0.8**
AYVA	**Ayvalik**	**0.96**	**121**	*i* P	**Pn**	**23 56 10.8**	**0.0**
AYVA				*i* S	**Sn**	**23 56 25.3**	**+0.8**
ENEZ	**Enez**	**1.01**	**23**	*e*PG	**Pg**	**23 56 10.5**	**-0.6**
ENEZ	**Enez**	**1.01**	**23**	P	**Pg**	**23 56 10.9**	**-0.2**
ENEZ				S	**Sn**	**23 56 25.6**	**-0.1**
ENEZ	**Enez**	**1.01**	**23**	*e*Pg	**Pg**	**23 56 10.5**	**-0.6**
ENEZ	**Enez**	**1.01**	**23**	P	**Pg**	**23 56 10.9**	**-0.2**
ENEZ				S	**Sn**	**23 56 25.6**	**-0.1**
LPK	**Lapseki**	**1.04**	**57**	*e*PG	**Pg**	**23 56 11.0**	**-0.6**
LPK	**Lapseki**	**1.04**	**57**	*e*Pg	**Pg**	**23 56 11.0**	**-0.6**
ERIK	**Erikli-Kesan**	**1.10**	**38**	*e*PN	**Pg**	**23 56 12.7**	**0.0**
ERIK	**Erikli-Kesan**	**1.10**	**38**	*e*Pn	**Pg**	**23 56 12.7**	**0.0**
ALN	**Alexandroupoli**	**1.14**	**16**	*e*PN	**Pn**	**23 56 13.4**	**+0.1**
ALN	**Alexandroupoli**	**1.14**	**16**	P	**Pb**	**23 56 12.7**	**-0.4**
ALN				S	**Sg**	**23 56 28.4**	**+0.1**
ALN	**Alexandroupoli**	**1.14**	**16**	P	**Pb**	**23 56 12.7**	**-0.4**
ALN	**Alexandroupoli**	**1.14**	**16**	*e*Pn	**Pn**	**23 56 13.4**	**+0.1**
ALN				S	**Sg**	**23 56 28.4**	**+0.1**
ALN	**Alexandroupoli**	**1.14**	**16**	P	**Pb**	**23 56 12.6**	**-0.6**
DKL	**Dikili**	**1.23**	**126**	*e*PN	**Pn**	**23 56 14.5**	**-0.1**
DKL	**Dikili**	**1.23**	**126**	*e*Pn	**Pn**	**23 56 14.5**	**-0.1**
KESN	**Edirne-Kesan**	**1.30**	**38**	P	**Pg**	**23 56 17.2**	**+0.6**
KESN				S	**Sn**	**23 56 34.2**	**+0.9**
KESN	**Edirne-Kesan**	**1.30**	**38**	*i* P	**Pg**	**23 56 17.2**	**+0.6**
KESN				*i* S	**Sn**	**23 56 34.2**	**+0.9**
OUR	**Ouranopolis**	**1.36**	**293**	*e*PN	**Pn**	**23 56 16.5**	**+0.1**
OUR	**Ouranopolis**	**1.36**	**293**	*e*Pn	**Pn**	**23 56 16.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.41**	**65**	*e*PN	**Pn**	**23 56 16.9**	**-0.1**
KRBG	**Karabiga-Canak**	**1.41**	**65**	*e*Pn	**Pn**	**23 56 16.9**	**-0.1**
CHOS	**Chios island**	**1.46**	**166**	P	**Pn**	**23 56 17.6**	**-0.1**
CHOS				S	**Sg**	**23 56 38.6**	**+0.2**
CHOS	**Chios island**	**1.46**	**166**	P	**Pn**	**23 56 17.6**	**-0.1**
CHOS				S	**Sg**	**23 56 38.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.60**	**81**	*e*PN	**Pn**	**23 56 19.2**	**-0.4**
GONE	**Gonen-Balikesi**	**1.60**	**81**	*e*Pn	**Pn**	**23 56 19.3**	**-0.4**
MRMT	**Marmara Adasi**	**1.71**	**62**	*e*PN	**Pn**	**23 56 21.1**	**-0.1**
MRMT	**Marmara Adasi**	**1.71**	**62**	*e*Pn	**Pn**	**23 56 21.1**	**-0.1**
BALB	**Balikesir**	**1.75**	**95**	*e*PN	**Pn**	**23 56 21.6**	**0.0**
BALB	**Balikesir**	**1.75**	**95**	*e*Pn	**Pn**	**23 56 21.6**	**0.0**
EDC	**Edincik**	**1.80**	**72**	*e*PN	**Pn**	**23 56 22.4**	**0.0**
EDC	**Edincik**	**1.80**	**72**	*e*Pn	**Pn**	**23 56 22.4**	**0.0**
EDRB	**Edirne**	**2.21**	**22**	*e*PN	**Pn**	**23 56 28.3**	**+0.3**
EDRB	**Edirne**	**2.21**	**22**	*e*Pn	**Pn**	**23 56 28.3**	**+0.3**

ISK ***11*** *00:00:22.8,39.07N×29.14E,h11km, MD2.7*
ISCJB ***11*** *00:00:23.2±0.6,39.07N±0.05×29.06E±0.05,h9km, Error ellipse: s-maj=7.4km s-min=4.1km az=149.2*
DDA ***11*** *00:00:23.1,39.08N×29.05E,h7km, Md2.6*
CSEM ***11*** *00:00:23.2±0.1,39.08N×29.05E,h5km, MD2.6, Error ellipse: s-maj=2.3km s-min=1.4km az=132.0*

ISC 11 00:00:23.5±1.1, 39.09N±0.03×29.05E±0.03, h9km, n16, σ0s 36/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**260**	P	**Pg**	**00 00 28.7**	**-0.1**
DEMI				S	**Sg**	**00 00 32.5**	**+0.1**
DEMI	**Demirci**	**0.26**	**260**	*i* P	**Pg**	**00 00 28.7**	**-0.1**
DEMI				*i* S	**Sg**	**00 00 32.5**	**+0.1**
GDZ	**Gediz**	**0.34**	**90**	P	**Pg**	**00 00 30.1**	**-0.1**
GDZ				S	**Sg**	**00 00 35.0**	**+0.3**
GDZ	**Gediz**	**0.34**	**90**	*i* P	**Pg**	**00 00 30.1**	**-0.1**
GDZ				*i* S	**Sg**	**00 00 35.0**	**+0.3**
TVSB	**Tavsanli**	**0.48**	**41**	*e*PG	**Pg**	**00 00 32.5**	**-0.4**
TVSB				*e*SG	**Sg**	**00 00 38.9**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**41**	*e*Pg	**Pg**	**00 00 32.5**	**-0.4**
TVSB				*e*Sg	**Sg**	**00 00 38.9**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*PG	**Pg**	**00 00 36.0**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*Pg	**Pg**	**00 00 36.0**	**-0.1**
MANT	**Manisa**	**0.71**	**213**	P	**Pg**	**00 00 36.9**	**-0.4**
MANT				S	**Sg**	**00 00 46.0**	**-0.6**
MANT	**Manisa**	**0.71**	**213**	*i* P	**Pg**	**00 00 36.9**	**-0.4**
MANT				*i* S	**Sg**	**00 00 46.0**	**-0.6**
BALB	**Balikesir**	**1.06**	**302**	*e*PN	**Pn**	**00 00 45.1**	**+0.6**
BALB	**Balikesir**	**1.06**	**302**	*e*Pn	**Pn**	**00 00 45.1**	**+0.6**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*PN	**Pg**	**00 00 48.1**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*Pn	**Pg**	**00 00 48.1**	**-0.2**
ARMT	**Armutlu**	**1.48**	**354**	*e*PN	**Pn**	**00 00 50.6**	**+0.2**
ARMT	**Armutlu**	**1.48**	**354**	*e*Pn	**Pn**	**00 00 50.6**	**+0.2**

ISCJB ***11*** *00:01:55.6±0.5,39.10N±0.04×29.05E±0.04, h9km, Error ellipse: s-maj=5.8km s-min=3.8km az=149.2*
ISK ***11*** *00:01:55.3,39.13N×29.05E, h8km, MD2.8*
CSEM ***11*** *00:01:55.7±0.1,39.10N×29.05E, h8km, MD2.8, Error ellipse: s-maj=1.7km s-min=1.3km az=132.0*
DDA ***11*** *00:01:55.8,39.07N×29.07E, h7km, Md2.8*

ISC 11 00:01:55.9±0.9, 39.10N±0.03×29.06E±0.02, h9km, n28, σ0s 24/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**257**	P	**Pg**	**00 02 01.6**	**+0.3**
DEMI				S	**Sg**	**00 02 05.5**	**+0.5**
DEMI	**Demirci**	**0.27**	**257**	*i* P	**Pg**	**00 02 01.6**	**+0.3**
DEMI				*i* S	**Sg**	**00 02 05.5**	**+0.5**
GEDZ	**Gediz**	**0.28**	**102**	*e*PG	**Pg**	**00 02 01.8**	**+0.3**
GEDZ	**Gediz**	**0.28**	**102**	*e*Pg	**Pg**	**00 02 01.8**	**+0.3**
GDZ	**Gediz**	**0.33**	**92**	P	**Pg**	**00 02 02.5**	**0.0**
GDZ				S	**Sg**	**00 02 07.2**	**+0.3**
GDZ	**Gediz**	**0.33**	**92**	*i* P	**Pg**	**00 02 02.5**	**0.0**
GDZ				*i* S	**Sg**	**00 02 07.2**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**42**	*e*PG	**Pg**	**00 02 04.8**	**-0.2**
TVSB				*e*SG	**Sg**	**00 02 11.2**	**0.0**
TVSB	**Tavsanli**	**0.47**	**42**	*e*Pg	**Pg**	**00 02 04.8**	**-0.2**
TVSB				*e*Sg	**Sg**	**00 02 11.2**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**208**	*e*PG	**Pg**	**00 02 08.6**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**208**	*e*Pg	**Pg**	**00 02 08.6**	**-0.1**
MANT	**Manisa**	**0.72**	**213**	P	**Pg**	**00 02 09.6**	**-0.3**
MANT				S	**Sg**	**00 02 19.1**	**-0.2**
MANT	**Manisa**	**0.72**	**213**	*i* P	**Pg**	**00 02 09.6**	**-0.3**
MANT				*i* S	**Sg**	**00 02 19.1**	**-0.2**
KHL	**Karahalli**	**0.86**	**155**	*e*PG	**Pb**	**00 02 12.8**	**-0.2**
KHL	**Karahalli**	**0.86**	**155**	*e*Pg	**Pb**	**00 02 12.8**	**-0.2**
BALB	**Balikesir**	**1.06**	**301**	*e*PG	**Pg**	**00 02 16.0**	**-0.1**
BALB	**Balikesir**	**1.06**	**301**	*e*Pg	**Pg**	**00 02 16.0**	**-0.1**
IZI	**Iznik**	**1.27**	**15**	*e*PN	**Pg**	**00 02 20.4**	**+0.1**
IZI	**Iznik**	**1.27**	**15**	*e*Pn	**Pg**	**00 02 20.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pb**	**00 02 20.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pb**	**00 02 20.1**	**0.0**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*PN	**Pn**	**00 02 21.7**	**-0.3**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*Pn	**Pn**	**00 02 21.7**	**-0.3**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	**Pn**	**00 02 22.5**	**0.0**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	**Pn**	**00 02 22.5**	**0.0**
GULT	**Gulveren**	**1.74**	**40**	*e*PN	**Pn**	**00 02 26.3**	**0.0**
GULT	**Gulveren**	**1.74**	**40**	*e*Pn	**Pn**	**00 02 26.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*PN	**Pn**	**00 02 29.5**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*Pn	**Pn**	**00 02 29.5**	**+0.3**

JMA 11 00:02:36.4, 43.80N×141.59E, h8km±2km, M2.0, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHR	**Hokuryu**	**0.11**	**120**	P	Pg	00 02 38.8	-0.2
JHR				*e*S	Sg	00 02 41.3	+0.6
JAB	**Ashibetsu**	**0.55**	**123**	P	Pg	00 02 47.0	0.0
JSS	**Shosan**	**0.63**	**17**	P	Pg	00 02 48.9	+0.4
JYG	**Yagishiri**	**0.64**	**349**	P	Pg	00 02 48.5	-0.2
JYG				*e*S	Sg	00 02 57.0	0.0
JSK	**Shakotan**	**0.93**	**241**	P	Pg	00 02 53.4	-0.8
JSK				S	Sg	00 03 05.8	-0.4

JMA 11 00:04:27.0, 36.50N×138.14E, h7km±1km, M0.3, 1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.07**	**52**	‖P	Pg	00 04 28.8	0.0
MAT				S	Sg	00 04 30.3	+0.1
MAT	**Matsushiro**	**0.07**	**52**	P	Pg	00 04 28.8	0.0
MAT				S	Sg	00 04 30.0	-0.2
JNG	**Nsakai**	**0.10**	**199**	P	Pg	00 04 29.3	0.0
JNG				S	Sg	00 04 30.9	0.0

IDC 11 00:05:12.5±1.4, 12.40N×144.73E, h89km±12km, mb3.5/9, mb1 3.7/9, mb1mx3.5/40, mbtmp3.8/9, MS3.0/5, Ms1 3.1/5, ms1mx2.8/15, Error ellipse: s-maj=44.3km s-min=16.1km az=91.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.19**	**6**	P	Pn	00 05 32.4	-1.9
	134nm,0.3s,baz=206,slow=5.4,SNR=27						
GUMO				LR	LR	00 05 48.0	
	comp=Z,41nm,19.5s,baz=203,slow=30						
GUMO				S	Sn	00 05 51.0	+0.2
	167nm,0.3s,baz=355,slow=20,SNR=23						
H11N1	**WAKE ISLAND Hy 22.48**	**68**		T	T	00 34 08.9	
	baz=255,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy 22.49**	**68**		T	T	00 34 10.3	
	baz=255,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy 22.50**	**68**		T	T	00 34 14.9	
	baz=255,slow=75,SNR=21						
MJAR	**Matsushiro Arr**	**24.75**	**347**	P	P	00 10 24.9	-0.8
	0.8nm,0.5s,baz=156,slow=8.3,SNR=3.0						
MJAR				LR	LR	00 19 38.3	
	comp=Z,63nm,18.6s,baz=205,slow=35						
KSRS	**Korea Array**	**29.14**	**332**	P	P	00 11 07.2	+2.1
	1.5nm,0.6s,baz=140,slow=9.3,SNR=6.6						
KSRS				LR	LR	00 23 03.5	
	comp=Z,24nm,18.6s,baz=150,slow=37						
WRA	**Warramunga Arr**	**33.73**	**198**	P	P	00 11 45.9	+0.3
	1.1nm,0.7s,baz=20,slow=9.8,SNR=6.8						
ASAR	**Alice Springs**	**37.38**	**196**	P	P	00 12 17.2	+0.4
	0.6nm,0.6s,baz=15,slow=11,SNR=6.4						
PETK	**Petropavlovsk-**	**41.91**	**12**	LR	LR	00 29 35.0	
	comp=Z,14nm,20.1s,baz=174,slow=35					

MDNY	**Mudanya-Bursa**	**1.29**	**353**	*e*PN	**Pn**	**00 26 14.5**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**353**	*e*Pn	**Pn**	**00 26 14.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31**	**334**	*e*PN	**Pn**	**00 26 14.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.31**	**334**	*e*Pn	**Pn**	**00 26 14.4**	**-0.2**
ARMT	**Armutlu**	**1.49**	**353**	*e*PN	**Pn**	**00 26 17.2**	**+0.2**
ARMT	**Armutlu**	**1.49**	**353**	*e*Pn	**Pn**	**00 26 17.2**	**+0.2**
GULT	**Gulveren**	**1.74**	**39**	*e*PN	**Pn**	**00 26 21.9**	**+1.4**
GULT	**Gulveren**	**1.74**	**39**	*e*Pn	**Pn**	**00 26 21.9**	**+1.4**

*ISK **11** 00:42:47.8, 39°.16N×29°.07E, h5km, MD2.7*
*ISCJB **11** 00:42:48.4±0.6, 39°.15N±0°.04×29°.07E±0°.04, h7km±6km, Error ellipse: s-maj=6.7km s-min=4.6km az=153.9*
*CSEM **11** 00:42:48.4±0.1, 39°.14N×29°.08E, h8km, MD2.9, Error ellipse: s-maj=2.9km s-min=2.0km az=132.0*
*DDA **11** 00:42:48.6, 39°.13N×29°.07E, h7km, Md2.9*

ISC 11 00:42:48.8±1.0, **39°.16N**±0°.03×**29°.07E**±0°.03, **h6**km±13km, **n20**, σ0**s34**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.30**	**247**	P	**Pg**	**00 42 54.8**	**+0.1**
DEMI				S	**Sg**	**00 42 59.0**	**+0.3**
DEMI	**Demirci**	**0.30**	**247**	*i* P	**Pg**	**00 42 54.9**	**+0.1**
DEMI				*i* S	**Sg**	**00 42 59.0**	**+0.3**
GDZ	**Gediz**	**0.33**	**103**	P	**Pg**	**00 42 55.2**	**0.0**
GDZ				S	**Sg**	**00 43 00.0**	**+0.4**
GDZ	**Gediz**	**0.33**	**103**	*i* P	**Pg**	**00 42 55.2**	**0.0**
GDZ				*i* S	**Sg**	**00 42 60.0**	**+0.4**
TVSB	**Tavsanli**	**0.42**	**46**	*e*PG	**Pg**	**00 42 56.5**	**-0.4**
TVSB				*e*SG	**Sg**	**00 43 02.3**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**46**	*e*Pg	**Pg**	**00 42 56.5**	**-0.4**
TVSB				*e*Sg	**Sg**	**00 43 02.3**	**-0.1**
KULA	**Kula-Manisa**	**0.72**	**206**	*e*PG	**Pg**	**00 43 02.1**	**-0.6**
KULA	**Kula-Manisa**	**0.72**	**206**	*e*Pg	**Pg**	**00 43 02.1**	**-0.6**
MANT	**Manisa**	**0.78**	**211**	P	**Pg**	**00 43 03.6**	**-0.2**
MANT				S	**Sg**	**00 43 13.7**	**-0.3**
MANT	**Manisa**	**0.78**	**211**	*i* P	**Pg**	**00 43 03.6**	**-0.2**
MANT				*i* S	**Sg**	**00 43 13.7**	**-0.3**
BALB	**Balikesir**	**1.04**	**298**	*e*PG	**Pg**	**00 43 08.2**	**-0.5**
BALB				*e*SG	**Sb**	**00 43 23.5**	**+0.5**
BALB	**Balikesir**	**1.04**	**298**	*e*Pg	**Pg**	**00 43 08.2**	**-0.5**
BALB				*e*Sg	**Sb**	**00 43 23.5**	**+0.5**
IZI	**Iznik**	**1.21**	**15**	*e*PN	**Pg**	**00 43 11.8**	**-0.2**
IZI	**Iznik**	**1.21**	**15**	*e*Pn	**Pg**	**00 43 11.8**	**-0.2**
KCTX	**Karacabey (Bur**	**1.23**	**334**	*e*PN	**Pg**	**00 43 12.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.23**	**334**	*e*Pn	**Pg**	**00 43 12.4**	**0.0**
ADVT	**Abdulvahap**	**1.37**	**22**	*e*PN	**Pn**	**00 43 14.4**	**+0.1**
ADVT	**Abdulvahap**	**1.37**	**22**	*e*Pn	**Pn**	**00 43 14.4**	**+0.1**
ARMT	**Armutlu**	**1.41**	**353**	*e*PN	**Pb**	**00 43 15.3**	**-0.2**
ARMT	**Armutlu**	**1.41**	**353**	*e*Pn	**Pb**	**00 43 15.3**	**-0.2**

KRSC 11 00:44:30.1±1.1, **54°.65N**×**161°.98E**, **h40**km±6km, **ML3.5, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.18**	**237**	*e*P	Pn	00 44 37.9	+0.1
MKZ				*e*S	Sn	00 44 42.6	-1.6
KMNR	**Kamenistaya**	**1.49**	**319**	*e*P	Pn	00 44 56.1	+1.6
ZLN	**Zelenaya**	**1.52**	**334**	*e*P	Pn	00 44 56.8	+1.8
BZMR	**Bezymyannaya**	**1.54**	**327**	*e*P	Pn	00 44 56.6	+1.3
KIRR	**Kirishev**	**1.61**	**325**	*e*P	Pn	00 44 57.7	+1.6
CIRR	**Tsirk**	**1.63**	**335**	*e*P	Pn	00 44 57.8	+1.4
KPT	**Kopyto**	**1.66**	**323**	*e*P	Pn	00 44 58.4	+1.6
KBG	**Krutoberegovo**	**1.66**	**14**	*e*S	Sn	00 45 18.7	+2.0
KRSR	**Krestovskiy**	**1.76**	**333**	*e*P	Pn	00 44 59.7	+1.4
KLY	**Klyuchi**	**1.83**	**336**	*e*P	Pn	00 45 01.5	+2.5
KOZ	**Kozyrevsk**	**1.85**	**320**	*e*P	Pn	00 45 01.6	+2.2
SMKR	**Semkarok**	**1.96**	**352**	*e*P	Pn	00 45 03.9	+3.0
SMKR				*e*S	Sn	00 45 27.2	+3.0
BDR	**Baidarnaya**	**1.97**	**347**	*e*P	Pn	00 45 02.5	+1.4
SRKR	**Sorokina**	**2.06**	**347**	*e*P	Pn	00 45 04.3	+2.0
ESO	**Esso**	**2.27**	**306**	*e*P	Pn	00 45 07.1	+2.0
SDLR	**Sedlovina**	**2.29**	**234**	*e*P	Pn	00 45 08.6	+3.1
SDLR				*e*S	Sn	00 45 35.4	+2.9
KRER	**Koryakskii**	**2.34**	**236**	*e*P	Pn	00 45 09.3	+3.1
SMAR	**Somma**	**2.34**	**235**	*e*P	Pn	00 45 08.1	+2.9
KRX	**Arik**	**2.36**	**238**	*e*P	Pn	00 45 08.6	+2.2
UGLR	**Uglovaya**	**2.36**	**234**	*e*P	Pn	00 45 09.6	+3.1
AVH	**Avacha**	**2.37**	**235**	*e*P	Pn	00 45 10.0	+3.5
AVH				*e*S	Sn	00 45 38.6	+4.3
DALK	**Dalny**	**2.51**	**231**	*e*P	Pn	00 45 11.2	+2.8
DALK				*e*S	Sn	00 45 40.6	+2.9
PET	**Petropavlovsk**	**2.56**	**232**	*e*P	Pn	00 45 12.0	+2.9
PET				*e*S	Sn	00 45 41.6	+2.7
GNL	**Ganaly**	**2.56**	**250**	*e*P	Pn	00 45 12.3	+3.1
KRMR	**Karymshinskiy**	**2.93**	**233**	*e*P	Pn	00 45 18.1	+4.0
KRMR				*e*S	Sn	00 45 51.7	+3.7
RUS	**Russkaya**	**3.04**	**224**	*e*P	Pn	00 45 17.8	+2.2
ASAK	**Asacha**	**3.33**	**229**	*e*P	Pn	00 45 23.2	+3.4

KRSC 11 00:52:48.8±1.7, **50°.81N**×**157°.20E**, **h173**km±28km, **ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.70**	**260**	*e*P	Pn	00 53 14.9	+1.2
SKR				*e*S	Sn	00 53 33.7	+0.9
PAU	**Pauzhetka**	**0.71**	**340**	*e*P	Pn	00 53 14.5	+0.8
ASAK	**Asacha**	**1.64**	**15**	*e*P	Pn	00 53 22.6	+1.0
RUS	**Russkaya**	**1.83**	**26**	*e*P	Pn	00 53 25.7	+2.3
RUS				*e*S	Sn	00 53 51.9	+1.6
KRMR	**Karymshinskiy**	**2.11**	**16**	*e*S	Sn	00 53 58.0	+2.2
UGLR	**Uglovaya**	**2.61**	**22**	*e*P	Pn	00 53 35.0	+2.6
AVH	**Avacha**	**2.64**	**21**	*e*P	Pn	00 53 35.3	+2.5
AVH				*e*S	Sn	00 54 08.8	+1.8
SMAR	**Somma**	**2.65**	**21**	*e*P	Pn	00 53 35.2	+2.1
KRER	**Koryakskii**	**2.68**	**20**	*e*P	Pn	00 53 35.7	+2.3
SDLR	**Sedlovina**	**2.69**	**22**	*e*P	Pn	00 53 35.0	+1.6
SDLR				*e*S	Sn	00 54 08.1	0.0
KRX	**Arik**	**2.71**	**19**	*e*P	Pn	00 53 34.7	+1.0
NLC	**Nalytchevo**	**2.72**	**28**	*e*P	Pn	00 53 34.8	+1.3
NLC				*e*S	Sn	00 54 07.6	-0.8
GNL	**Ganaly**	**2.93**	**9**	*e*P	Pn	00 53 35.9	-0.4
MKZ	**Mys Kozlova**	**4.66**	**35**	*e*P	Pn	00 53 59.1	+1.1
MKZ				*e*S	Sn	00 54 50.1	-2.2
BKI	**Bering**	**6.89**	**47**	*e*P	Pn	00 54 29.9	+2.7
BKI				*e*S	Sn	00 55 43.0	-1.8

*ISCJB **11** 00:59:58.9±0.5, 39°.12N±0°.04×29°.09E±0°.05, h3km±7km, Error ellipse: s-maj=7.4km s-min=4.6km az=135.5*
*ISK **11** 00:59:58.7, 39°.12N×29°.09E, h8km, MD2.8*
*CSEM **11** 00:59:59.1±0.1, 39°.13N×29°.09E, h2km, ML2.9, Error ellipse: s-maj=3.2km s-min=2.3km az=121.0*
*DDA **11** 00:59:59.2, 39°.12N×29°.11E, h7km, Ml2.9*

ISC 11 00:59:59.4±1.1, **39°.14N**±0°.02×**29°.08E**±0°.02, **h1**km±12km, **n39**, σ0**s58**/51, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.30**	**251**	P	**Pg**	**01 00 05.5**	**+0.3**
DEMI				S	**Sg**	**01 00 09.9**	**+0.8**
DEMI	**Demirci**	**0.30**	**251**	*i* P	**Pg**	**01 00 05.5**	**+0.3**
DEMI				*i* S	**Sg**	**01 00 09.8**	**+0.8**
GDZ	**Gediz**	**0.32**	**99**	P	**Pg**	**01 00 05.3**	**-0.2**
GDZ	**Gediz**	**0.32**	**99**	*i* P	**Pg**	**01 00 05.3**	**-0.2**
GDZ				*i* S	**Sb**	**01 00 16.1**	**+2.5**
TVSB	**Tavsanli**	**0.43**	**44**	*e*PG	**Pg**	**01 00 07.1**	**-0.6**
TVSB				*e*SG	**Sg**	**01 00 13.4**	**+0.2**
TVSB	**Tavsanli**	**0.43**	**44**	*e*Pg	**Pg**	**01 00 07.1**	**-0.6**
TVSB				*e*Sg	**Sg**	**01 00 13.4**	**+0.2**
DST	**Dursunbey**	**0.58**	**323**	*e*PG	**Pg**	**01 00 11.2**	**+0.5**
DST	**Dursunbey**	**0.58**	**323**	*e*Pg	**Pg**	**01 00 11.2**	**+0.5**
KULA	**Kula-Manisa**	**0.71**	**208**	*e*PG	**Pg**	**01 00 12.3**	**-0.7**
KULA				*e*SG	**Sg**	**01 00 21.8**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**208**	*e*Pg	**Pg**	**01 00 12.3**	**-0.7**
KULA				*e*Sg	**Sg**	**01 00 21.8**	**-0.3**
MANT	**Manisa**	**0.77**	**212**	P	**Pg**	**01 00 13.7**	**-0.4**
MANT				S	**Sg**	**01 00 23.5**	**-0.6**
MANT	**Manisa**	**0.77**	**212**	*i* P	**Pg**	**01 00 13.7**	**-0.4**
MANT				*i* S	**Sg**	**01 00 23.4**	**-0.6**
KHL	**Karahalli**	**0.89**	**157**	*e*PG	**Pg**	**01 00 16.6**	**+0.2**
KHL	**Karahalli**	**0.89**	**157**	*e*Pg	**Pg**	**01 00 16.6**	**+0.2**
AKS	**Akhisar**	**1.02**	**256**	*e*PG	**Pg**	**01 00 18.9**	**-0.1**
AKS	**Akhisar**	**1.02**	**256**	*e*Pg	**Pg**	**01 00 18.9**	**-0.1**
BALB	**Balikesir**	**1.05**	**299**	*e*PG	**Pg**	**01 00 20.0**	**+0.4**
BALB	**Balikesir**	**1.05**	**299**	*e*Pg	**Pg**	**01 00 20.0**	**+0.4**
IGD	**Bursa**	**1.13**	**5**	*i* P	**Pg**	**01 00 20.5**	**-0.5**
IGD				*i* S	**Sb**	**01 00 37.1**	**+0.2**
CAVI	**Cavuskoy**	**1.21**	**29**	*e*PN	**Pb**	**01 00 23.1**	**-0.1**
CAVI	**Cavuskoy**	**1.21**	**29**	*e*Pn	**Pb**	**01 00 23.1**	**-0.1**
IZI	**Iznik**	**1.23**	**14**	*e*PN	**Pn**	**01 00 23.7**	**-0.2**
IZI	**Iznik**	**1.23**	**14**	*e*Pn	**Pn**	**01 00 23.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	*e*PN	**Pb**	**01 00 23.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**353**	*e*Pn	**Pb**	**01 00 23.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*PN	**Pg**	**01 00 22.9**	**-0.6**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*Pn	**Pg**	**01 00 22.9**	**-0.6**
ADVT	**Abdulvahap**	**1.39**	**21**	*e*PN	**Pn**	**01 00 25.8**	**-0.1**
ADVT				*e*SN	**Sn**	**01 00 44.6**	**-0.3**
ADVT	**Abdulvahap**	**1.39**	**21**	*e*Pn	**Pn**	**01 00 25.8**	**-0.1**
ADVT				*e*Sn	**Sn**	**01 00 44.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.41**	**310**	*e*PN	**Pn**	**01 00 25.5**	**-0.7**
GONE	**Gonen-Balikesi**	**1.41**	**310**	*e*Pn	**Pn**	**01 00 25.5**	**-0.7**
ARMT	**Armutlu**	**1.43**	**353**	*e*PN	**Pn**	**01 00 26.3**	**-0.3**
ARMT	**Armutlu**	**1.43**	**353**	*e*Pn	**Pn**	**01 00 26.3**	**-0.3**
EDC	**Edincik**	**1.53**	**322**	*e*PN	**Pn**	**01 00 27.0**	**-0.9**
EDC	**Edincik**	**1.53**	**322**	*e*Pn	**Pn**	**01 00 27.0**	**-0.9**
GULT	**Gulveren**	**1.70**	**40**	*e*PN	**Pn**	**01 00 30.4**	**+0.1**
GULT	**Gulveren**	**1.70**	**40**	*e*Pn	**Pn**	**01 00 30.4**	**+0.1**
ISK	**Istanbul-Kandi**	**1.92**	**360**	*e*PN	**Pn**	**01 00 33.7**	**+0.4**
ISK	**Istanbul-Kandi**	**1.92**	**360**	*e*Pn	**Pn**	**01 00 33.7**	**+0.4**

*ISK **11** 01:00:30.4, 39°.01N×29°.23E, h5km, MD2.9*
*ISCJB **11** 01:00:31.0±0.6, 39°.03N±0°.05×29°.15E±0°.04, h4km±8km, Error ellipse: s-maj=8.4km s-min=4.4km az=153.3*
*DDA **11** 01:00:31.0, 39°.10N×29°.09E, h7km, Ml2.7*
*CSEM **11** 01:00:31.0±0.2, 39°.02N×29°.19E, h5km, MD2.9, Error ellipse: s-maj=4.5km s-min=3.4km az=134.0*

ISC 11 01:00:31.4±1.0, **39°.04N**±0°.03×**29°.15E**±0°.03, **h7**km±12km, **n38**, σ0**s75**/46, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.20**	**88**	*e*PG	**Pg**	**01 00 33.8**	**-1.6**
GEDZ	**Gediz**	**0.20**	**88**	*e*Pg	**Pg**	**01 00 33.8**	**-1.6**
GDZ	**Gediz**	**0.26**	**78**	P	**Pg**	**01 00 37.5**	**+0.9**
GDZ				S	**Sg**	**01 00 41.8**	**+1.7**
GDZ	**Gediz**	**0.26**	**78**	*i* P	**Pg**	**01 00 37.5**	**+0.9**
GDZ				*i* S	**Sg**	**01 00 41.8**	**+1.7**
DEMI	**Demirci**	**0.34**	**271**	P	**Pg**	**01 00 37.3**	**-0.8**
DEMI				S	**Sg**	**01 00 41.7**	**-0.8**
DEMI	**Demirci**	**0.34**	**271**	*i* P	**Pg**	**01 00 37.3**	**-0.8**
DEMI				*i* S	**Sg**	**01 00 41.7**	**-0.8**
TVSB	**Tavsanli**	**0.48**	**30**	*e*PG	**Pg**	**01 00 40.0**	**-0.6**
TVSB	**Tavsanli**	**0.48**	**30**	*e*Pg	**Pg**	**01 00 40.1**	**-0.6**
KULA	**Kula-Manisa**	**0.65**	**217**	*e*PG	**Pg**	**01 00 44.0**	**+0.1**
KULA				*e*SG	**Sg**	**01 00 53.0**	**+0.7**
KULA	**Kula-Manisa**	**0.65**	**217**	*e*Pg	**Pg**	**01 00 44.0**	**+0.1**
KULA				*e*Sg	**Sg**	**01 00 53.0**	**+0.7**
MANT	**Manisa**	**0.72**	**221**	P	**Pg**	**01 00 45.5**	**+0.3**
MANT				S	**Sg**	**01 00 55.2**	**+0.7**
MANT	**Manisa**	**0.72**	**221**	*i* P	**Pg**	**01 00 45.5**	**+0.3**
MANT				*i* S	**Sg**	**01 00 55.1**	**+0.7**
KHL	**Karahalli**	**0.77**	**158**	*e*PG	**Pg**	**01 00 45.0**	**-1.2**
KHL	**Karahalli**	**0.77**	**158**	*e*Pg	**Pg**	**01 00 45.0**	**-1.2**
AKS	**Akhisar**	**1.06**	**262**	*e*PN	**Pb**	**01 00 52.2**	**+0.2**
AKS	**Akhisar**	**1.06**	**262**	*e*Pn	**Pb**	**01 00 52.2**	**+0.2**
BALB	**Balikesir**	**1.16**	**302**	*e*PN	**Pn**	**01 00 54.3**	**+0.3**
BALB	**Balikesir**	**1.16**	**302**	*e*Pn	**Pn**	**01 00 54.3**	**+0.3**
CAVI	**Cavuskoy**	**1.28**	**24**	*e*PN	**Pn**	**01 00 55.2**	**-0.6**
CAVI	**Cavuskoy**	**1.28**	**24**	*e*Pn	**Pn**	**01 00 55.2**	**-0.6**
IZI	**Iznik**	**1.32**	**11**	*e*PN	**Pn**	**01 00 56.2**	**-0.2**
IZI	**Iznik**	**1.32**	**11**	*e*Pn	**Pn**	**01 00 56.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.35**	**351**	*e*PN	**Pn**	**01 00 56.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.35**	**351**	*e*Pn	**Pn**	**01 00 56.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.37**	**334**	*e*PN	**Pb**	**01 00 57.8**	**+0.3**
KCTX	**Karacabey (Bur**	**1.37**	**334**	*e*Pn	**Pb**	**01 00 57.8**	**+0.3**
GEMT	**Gemlik**	**1.40**	**1**	*e*PN	**Pn**	**01 00 57.3**	**0.0**
GEMT	**Gemlik**	**1.40**	**1**	*e*Pn	**Pn**	**01 00 57.3**	**0.0**
ADVT	**Abdulvahap**	**1.47**	**18**	*e*PN	**Pn**	**01 00 58.2**	**-0.1**
ADVT	**Abdulvahap**	**1.47**	**18**	*e*Pn	**Pn**	**01 00 58.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.52**	**312**	*e*PN	**Pb**	**01 00 59.9**	**0.0**
GONE	**Gonen-Balikesi**	**1.52**	**312**	*e*Pn	**Pb**	**01 00 59.9**	**0.0**
ARMT	**Armutlu**	**1.54**	**352**	*e*PN	**Pn**	**01 00 59.9**	**+0.5**
ARMT	**Armutlu**	**1.54**	**352**	*e*Pn	**Pn**	**01 00 59.9**	**+0.5**
EDC	**Edincik**	**1.64**	**323**	*e*PN	**Pb**	**01 01 01.8**	**-0.2**
EDC	**Edincik**	**1.64**	**323**	*e*Pn	**Pb**	**01 01 01.8**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.89**	**77**	*e*PN	**Pn**	**01 01 03.4**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.89**	**77**	*e*Pn	**Pn**	**01 01 03.4**	**-0.7**

*ROM **11** 01:06:55.6±0.1, 45°.96N×7°.54E, h10km, Md2.0/5, Ml1.3/4, Error ellipse: s-maj=2.0km s-min=1.6km az=20.0*
*ISCJB **11** 01:06:55.8±0.3, 45°.97N±0°.02×7°.48E±0°.03, h8km±5km, Error ellipse: s-maj=3.6km s-min=2.7km az=32.0*
*ZUR **11** 01:06:56.8, 45°.95N×7°.54E, h2km±3km, ML1.6/8*
*GEN **11** 01:06:56.3, 45°.96N×7°.52E, h3km, ML1.2*
*CSEM **11** 01:06:56.4±0.1, 45°.95N×7°.50E, h2km, ML1.8/11, Error ellipse: s-maj=3.1km s-min=2.0km az=120.0*
*LDG **11** 01:06:56.6±0.0, 45°.95N×7°.54E, h2km, Md2.0/3, Ml1.9/8, Error ellipse: s-maj=1.0km s-min=0.6km az=121.0*
*VIE **11** 01:07:05.1±1.8, 46°.10N×7°.92E, h8km, mb1.6/1, ML1.9/1, Error ellipse: s-maj=17.9km s-min=11.8km az=158.0*

ISC 11 01:06:55.9±0.8, **45°.96N**±0°.02×**7°.49E**±0°.02, **h11**km±6km, **n52**, σ0**s73**/81, **3C-2D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIX	**Grande Dixence**	**0.13**	**333**	Pg	**Pg**	**01 06 59.9**	**+0.6**
DIX				Sg	**Sg**	**01 07 01.8**	**0.0**
DIX	**Grande Dixence**	**0.13**	**333**	⇑ *i*Pg	**Pg**	**01 06 59.9**	**+0.6**
	299nm,0.2s						
DIX	**Grande Dixence**	**0.13**	**333**	⇑ *i*Pg	**Pg**	**01 06 59.9**	**+0.6**
	299nm,0.2s						
DIX				Sg	**Sg**	**01 07 01.8**	**0.0**
VANNI	**Vissoie, Val d**	**0.26**	**16**	*e*Pg	**Pb**	**01 07 02.1**	**-0.6**
	229nm,0.2s						
VANNI	**Vissoie, Val d**	**0.26**	**16**	*e*Pg	**Pb**	**01 07 02.1**	**-0.6**
	229nm,0.2s						
SATI	**Passo dei Sala**	**0.28**	**108**	Pg	**Pg**	**01 07 01.8**	**+0.1**
SATI				Sg	**Sg**	**01 07 05.3**	**-0.3**
	70nm,0.5s						
SATI	**Passo dei Sala**	**0.28**	**108**	⇑ *i*Pg	**Pg**	**01 07 01.8**	**+0.1**
	736nm,0.1s						
SATI				*i* Sg	**Sg**	**01 07 05.3**	**-0.3**
	736nm,0.1s						
SATI	**Passo dei Sala**	**0.28**	**108**	P	**Pg**	**01 07 01.8**	**+0.1**
SATI				S	**Sg**	**01 07 05.3**	**-0.3**
MMK	**Mattmark**	**0.34**	**75**	Pg	**Pb**	**01 07 03.0**	**-1.1**
MMK				Sg	**Sg**	**01 07 07.2**	**-0.2**
	11nm,0.3s						
MMK	**Mattmark**	**0.34**	**75**	*e*Pg	**Pb**	**01 07 03.0**	**-1.1**
	49nm,0.1s						
MMK	**Mattmark**	**0.34**	**75**	*e*Pg	**Pb**	**01 07 03.0**	**-1.1**
	49nm,0.1s						
MMK				Sg	**Sg**	**01 07 07.2**	**-0.2**
	11nm,0.3s						
EMBD	**Embd, Matterta**	**0.35**	**43**	⇓ *i*Pg	**Pb**	**01 07 03.3**	**-0.8**
	89nm,0.2s						
EMBD	**Embd, Matterta**	**0.35**	**43**	⇓ *i*Pg	**Pb**	**01 07 03.3**	**-0.8**
	89nm,0.2s						
MRGE	**Morge**	**0.36**	**238**	Pg	**Pg**	**01 07 03.8**	**+0.7**
MRGE				Sg	**Sb**	**01 07 09.5**	**-0.5**
	19nm,0.4s						
MRGE	**Morge**	**0.36**	**238**	*e*Pg	**Pb**	**01 07 04.0**	**-0.4**
	73nm,0.3s						
MRGE	**Morge**	**0.36**	**238**	Pg	**Pg**	**01 07 03.8**	**+0.7**
MRGE				Sg	**Sb**	**01 07 09.5**	**-0.5**
	19nm,0.4s						
LKBD2	**Leukerbad 2**	**0.43**	**14**	*e*Pg	**Pb**	**01 07 05.2**	**-0.4**
LKBD2	**Leukerbad 2**	**0.43**	**14**	*e*Pg	**Pb**	**01 07 05.2**	**-0.4**
SIMPL	**Simplonpass**	**0.46**	**53**	*e*Pg	**Pb**	**01 07 05.2**	**-0.9**
	75nm,0.2s						
SIMPL	**Simplonpass**	**0.46**	**53**	*e*Pg	**Pb**	**01 07 05.2**	**-0.9**
	75nm,0.2s						
TRAV	**Traversella**	**0.48**	**158**	Pg	**Pb**	**01 07 05.8**	**-0.6**
TRAV				Sg	**Sg**	**01 07 12.0**	**+0.2**
	23nm,0.2s						
TRAV	**Traversella**	**0.48**	**158**	P	**Pb**	**01 07 05.6**	**-0.8**
TRAV				S	**Sg**	**01 07 12.0**	**+0.2**
LSD	**Lago del Serru**	**0.56**	**207**	*e*Pg	**Pb**	**01 07 07.6**	**-0.3**
	39nm,0.3s						
LSD	**Lago del Serru**	**0.56**	**207**	P	**Pg**	**01 07 07.3**	**+0.4**
LSD	**Lago del Serru**	**0.56**	**207**	*e*Pg	**Pb**	**01 07 07.6**	**-0.3**
	39nm,0.3s						
LSD				S	**Sg**	**01 07 14.9**	**+0.6**

LPL	**La Plagne**	**0.69**	**230**	*e*Pg	**Pb**	**01 07 10.2**	**+0.1**
LPL				*e*Sg	**Sb**	**01 07 19.7**	**-0.1**
	4.0nm,0.2s						
LPL	**La Plagne**	**0.69**	**230**	*e*Pg	**Pb**	**01 07 10.2**	**+0.1**
LPL				*e*Sg	**Sb**	**01 07 19.7**	**-0.1**
	2.0nm,0.2s						
LPG	**La Plagne**	**0.70**	**228**	*e*Pg	**Pb**	**01 07 10.2**	**0.0**
LPG				*e*Sg	**Sg**	**01 07 19.7**	**+1.1**
	4.2nm,0.2s						
LPG	**La Plagne**	**0.70**	**228**	*e*Pg	**Pb**	**01 07 10.2**	**0.0**
LPG				*e*Sg	**Sg**	**01 07 19.7**	**+1.1**
	2.1nm,0.2s						
RSP	**Reno Superiore**	**0.83**	**191**	P	**Pb**	**01 07 12.1**	**-0.3**
RSP	**Reno Superiore**	**0.83**	**191**	S	**Sg**	**01 07 23.0**	**+0.3**
CABF	**La Chapelle**	**1.17**	**304**	*e*Pg	**Pg**	**01 07 19.1**	**+0.7**
CABF				*e*Sg	**Sn**	**01 07 34.9**	**+0.6**
	1.3nm,0.2s						
CABF	**La Chapelle**	**1.17**	**304**	*e*Pg	**Pg**	**01 07 19.1**	**+0.7**
CABF				*e*Sg	**Sn**	**01 07 34.9**	**+0.6**
	0.6nm,0.2s						
MBDF	**Montbardon**	**1.34**	**203**	*e*PN	**Pn**	**01 07 20.7**	**+0.1**
MBDF	**Montbardon**	**1.34**	**203**	*e*Pg	**Pg**	**01 07 21.7**	**+0.2**
MBDF				*e*Sg	**Sg**	**01 07 39.1**	**+0.2**
	2.1nm,0.2s						
MBDF	**Montbardon**	**1.34**	**203**	*e*PN	**Pn**	**01 07 20.7**	**+0.1**
MBDF	**Montbardon**	**1.34**	**203**	*e*Pg	**Pg**	**01 07 21.7**	**+0.2**
MBDF				*e*Sg	**Sg**	**01 07 39.1**	**+0.2**
	1.0nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.54**	**228**	*e*Pg	**Pg**	**01 07 25.7**	**+0.2**
ORIF				*e*Sg	**Sg**	**01 07 45.8**	**+0.3**
	1.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.54**	**228**	*e*Pg	**Pg**	**01 07 25.7**	**+0.2**
ORIF				*e*Sg	**Sg**	**01 07 45.8**	**+0.3**
	0.8nm,0.3s						
HINF	**Hinteralfeld**	**1.91**	**347**	*e*PN	**Pn**	**01 07 28.7**	**+0.3**
HINF	**Hinteralfeld**	**1.91**	**347**	*e*Pg	**Pg**	**01 07 32.4**	**0.0**
HINF				*e*Sg	**Sg**	**01 07 57.2**	**0.0**
	1.4nm,0.2s						
HINF	**Hinteralfeld**	**1.91**	**347**	*e*Pn	**Pn**	**01 07 28.7**	**+0.3**
HINF	**Hinteralfeld**	**1.91**	**347**	*e*Pg	**Pg**	**01 07 32.4**	**0.0**
HINF				*e*Sg	**Sg**	**01 07 57.2**	**0.0**
	0.7nm,0.2s						
DAVA	**Damuels**	**2.11**	**50**	Pg	**Pg**	**01 07

comp=Z,31nm,19.5s,baz=122,slow=37
MKAR Makanchi Array 43.99 301 P **P** 02 16 38.2 +0.8
0.7nm,0.9s,baz=84,slow=11,SNR=3.6
KURK Kurchatov 45.65 307 *eP* **P** 02 16 50.7 +0.1
49nm,1.0s
KURBB Kurchatov Arra 45.72 307 P **P** 02 16 51.4 +0.3
1.0nm,0.5s,baz=81,slow=8.1,SNR=16
ILAR Eielson Array 48.02 33 P **P** 02 17 08.0 -1.0
0.2nm,0.9s,baz=261,slow=5.1,SNR=2.7
EKS2 Erkin-Say 50.94 298 *eP* **P** 02 17 32.4 +0.7
0.8nm,0.4s
ABKAR Akbulak array 57.60 310 *eP* **P** 02 18 19.9 0.0
0.6nm,0.5s
AKTO Aktyubinsk 58.29 312 LR LR 02 43 43.4
comp=Z,12nm,18.6s,baz=87,slow=36
WRAB Tennant Creek 58.45 189 *eP* **P** 02 18 24.4 -1.7
1.3nm,0.6s
WRA Warramunga Arr 58.47 189 P **P** 02 18 25.4 -0.8
2.1nm,0.7s,baz=7.6,slow=7.3,SNR=9.6
ASAR Alice Springs 62.19 189 P **P** 02 18 52.2 +0.6
1.1nm,0.7s,baz=4.8,slow=5.9,SNR=9.7
NOA NORSAR Array B 73.22 337 LR LR 02 57 13.9
comp=Z,9.2nm,18.1s,baz=5.0,slow=40

IDC 11 02:11:16.9±1.7, 1°87.87N×127°26.26E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/40, mbtmp4.0/5, Error ellipse: s-maj=98.1km s-min=22.2km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.91**	**185**	P	P	02 15 50.1	-0.2
	baz=20,slow=7.8						
WRA	**Warramunga Arr**	**22.76**	**163**	P	P	02 16 21.4	+0.3
	3.0nm,0.5s,baz=342,slow=11,SNR=25						
ASAR	**Alice Springs**	**26.19**	**166**	P	P	02 16 53.2	-0.2
	0.5nm,0.4s,baz=340,slow=7.9,SNR=10						
STKA	**Stephens Creek**	**36.21**	**159**	P	P	02 18 21.3	-0.3
	2.0nm,0.7s,baz=339,slow=8.4,SNR=4.1						
MKAR	**Makanchi Array**	**59.38**	**326**	P	P	02 21 21.2	+0.1
	0.8nm,0.4s,baz=118,slow=8.8,SNR=9.1						

MAN 11 02:22:49, 13°.96N×122°.83E, h8km, mb4.4, ML3.3, MS3.1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.38**	**262**	⇓*iP*	Pg	02 22 57.1	+0.7
GQP				*i* S	Sb	02 23 03.5	-0.4
AUQP	**San Andres**	**0.65**	**193**	*eP*	Pb	02 23 02.9	+0.4
AUQP				*eS*	Sn	02 23 16.1	+1.2
BOAC	**Boac**	**1.08**	**243**	*eP*	Pg	02 23 09.8	0.0
BOAC				*eS*	Sn	02 23 29.1	+3.6
POLP	**Polilio Island**	**1.16**	**312**	*eP*	Pg	02 23 10.9	-0.3
POLP				*eS*	Sn	02 23 27.1	-0.4
LQP	**Lukban**	**1.26**	**277**	⇑*eP*	Pg	02 23 20.2	+6.9
PVCP	**Virac**	**1.33**	**105**	*eP*	Pn	02 23 12.7	-1.3
PVCP				*eS*	Sg	02 23 33.4	+1.4
OTRP	**Odiongan**	**1.77**	**207**	*eP*	Pb	02 23 21.6	-0.1
OTRP				*eS*	Sn	02 23 43.0	+0.4
BALP	**Baler**	**2.15**	**326**	*eP*	Pb	02 23 26.8	-1.4
BALP				*eS*	Sg	02 23 57.9	-0.3

MEX 11 02:25:09.6±1.1, 16°.50N×98°.48W, h8km±22km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**108**	*i* P	Pg	02 25 16.0	-0.6
PNIG				*i* S	Sg	02 25 21.1	-0.2
TLIG	**Tlapa**	**1.06**	**355**	*i* P	Pg	02 25 26.9	-3.0
TLIG				*i* S	Sg	02 25 39.8	-4.0
ACX	**Acapulco**	**1.37**	**286**	*eP*	Pg	02 25 37.6	+1.6
ACX				*eS*	Sb	02 25 52.0	-1.3
VHO	**Vista Hermosa**	**1.77**	**71**	*eP*	Pn	02 25 38.0	-2.7
VHO				*eS*	Sn	02 25 58.8	-4.7
CAIG	**El Cayaco**	**1.80**	**288**	*eP*	Pn	02 25 37.9	-3.1
CAIG				*eS*	Sn	02 26 00.2	-3.8
HUIG	**Huatulco**	**2.39**	**107**	*eP*	Pn	02 25 43.3	-5.8
ARIG	**Puente Sto Nin**	**2.51**	**315**	*eP*	Pn	02 25 48.0	-2.9
ARIG				*eS*	Sn	02 26 18.0	-3.7

*NIED **11** 02:29:00, 35°.30N×142°.30E, h5km, Mw3.7 Best double couple: M₀4.40000×10¹⁴ NP1:φ₁94.00000°, δ44.00000°, λ-99.00000°. NP2:φ₂27.00000°, δ46.00000°, λ-81.00000°.*
*IDC **11** 02:29:54.5±1.1, 35°.25N×142°.25E, h0km, mb3.5/7, mb1 3.7/11, mb1mx3.5/57, mbtmp3.6/11, ML3.7/3, MS2.6/2, Ms1 2.6/2, ms1mx2.2/44, Error ellipse: s-maj=28.5km s-min=17.6km az=83.0*
*ISCJB **11** 02:29:56.4±2.0, 35°.33N±0°.05×142°.34E±0°.06, h30km±16km, mb4.5/7, Error ellipse: s-maj=8.7km s-min=8.0km az=150.5*
*JMA **11** 02:29:57.5±0.3, 35°.31N×142°.32E, h50km, M3.5*
ISC 11 02:29:55.3±1.9, 35°.22N±0°.05×142°.33E±0°.07, h13km±11km, n21, σ1°98°/27, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.25**	**244**	P	**Pg**	**02 30 18.9**	**-0.3**
BSO1				S	**Sg**	**02 30 35.9**	**+0.6**
CHOJ	**Chosi**	**1.30**	**292**	P	**Pg**	**02 30 19.5**	**-0.7**
CHOJ				*eS*	**Sn**	**02 30 34.8**	**-1.5**
BSO3	**Boso 3**	**1.55**	**255**	P	**Pg**	**02 30 23.8**	**-1.2**
BSO4	**Boso 4**	**1.65**	**263**	P	**Pg**	**02 30 25.4**	**-1.6**
JFK	**Kawauchi**	**2.45**	**332**	P	**Pn**	**02 30 33.7**	**-1.3**
JFK				S	**Sn**	**02 31 00.5**	**-4.3**
JAG	**Ashikaga**	**2.63**	**298**	P	**Pn**	**02 30 37.7**	**+0.2**
JAG				S	**Sn**	**02 31 07.1**	**-2.2**
JOD2	**Odawara 2**	**2.66**	**272**	P	**Pn**	**02 30 38.6**	**+0.8**
JOD2				*eS*	**Sn**	**02 31 08.8**	**-1.1**
JHJ	**Hachijo jima 2**	**2.97**	**226**	Pn	**Pn**	**02 30 43.0**	**+0.8**
	18nm,0.3s,baz=72,slow=20,SNR=3.1						
JHJ				Sn	**Sn**	**02 31 15.2**	**-2.5**
	36nm,0.3s,baz=261,slow=22,SNR=7.1						
MJAR	**Matsushiro Arr**	**3.60**	**293**	Pn	**Pn**	**02 30 50.8**	**-0.1**
	2.4nm,0.3s,baz=88,slow=9.5,SNR=16						
MAT	**Matsushiro**	**3.60**	**293**	P	**Pn**	**02 30 52.5**	**+1.7**
MAT				*eS*	**Sn**	**02 31 32.4**	**-0.9**
JCJ	**Chichijima**	**8.10**	**181**	Pn	**Pn**	**02 31 53.5**	**+0.9**
	4.4nm,0.3s,baz=269,slow=23,SNR=5.3						
JCJ				Sn	**Sn**	**02 33 18.1**	**-6.0**
	2.3nm,0.3s,baz=105,slow=20,SNR=3.4						
ASAJ	**Asahikawa**	**8.89**	**1**	Pn	**Pn**	**02 32 03.2**	**-0.2**
	baz=90,slow=20						
KSRS	**Korea Array**	**11.83**	**285**	LR	LR	02 37 07.6	
	comp=Z,26nm,19.8s,baz=126,slow=37						
KLR	**Kul'dur**	**16.02**	**334**	LR	LR	02 38 53.9	
	comp=Z,26nm,20.2s,baz=72,slow=34						
SONM	**Songino Array**	**29.44**	**306**	P	**P**	**02 35 59.9**	**+1.1**
	0.3nm,0.5s,baz=122,slow=7.0,SNR=3.3						
MKAR	**Makanchi Array**	**45.73**	**304**	P	**P**	**02 38 16.1**	**0.0**
	0.2nm,0.5s,baz=99,slow=7.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**47.72**	**309**	P	**P**	**02 38 31.4**	**-0.2**
	0.5nm,0.6s,baz=85,slow=7.8,SNR=5.8						
ILAR	**Eielson Array**	**50.64**	**32**	P	**P**	**02 38 55.4**	**+1.6**
	0.2nm,0.6s,baz=235,slow=3.0,SNR=3.2						
WRA	**Warramunga Arr**	**55.39**	**189**	P	**P**	**02 39 30.1**	**+1.0**
	0.9nm,0.7s,baz=8.5,slow=7.6,SNR=9.0						
ASAR	**Alice Springs**	**59.10**	**189**	P	**P**	**02 39 57.1**	**+1.6**
	0.4nm,0.8s,baz=16,slow=13,SNR=6.1						
BRTR	**Keskin Array B**	**80.62**	**312**	P	**P**	**02 42 09.2**	**+1.2**
	0.8nm,0.8s,baz=96,slow=2.5,SNR=4.2						

KRSC 11 02:48:01.1±1.0, 49°.94N×156°.96E, h20km±12km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.92**	**325**	*eP*	Pb	02 48 17.7	-0.7
SKR				*eS*	Sb	02 48 29.9	-0.3
PAU	**Pauzhetka**	**1.54**	**357**	*eP*	Pb	02 48 28.3	-0.6
PAU				*eS*	Sb	02 48 48.8	+0.9
ASAK	**Asacha**	**2.52**	**13**	*eP*	Pn	02 48 42.7	+1.7
RUS	**Russkaya**	**2.69**	**21**	*eP*	Pn	02 48 45.3	+2.1
RUS				*eS*	Sn	02 49 17.8	+2.7
UGLR	**Uglovaya**	**3.48**	**19**	*eP*	Pb	02 48 58.3	-3.7
AVH	**Avacha**	**3.52**	**18**	*eP*	Pb	02 48 58.7	-3.9
SMAR	**Somma**	**3.53**	**18**	*eP*	Pn	02 48 58.5	+3.6
KRER	**Koryakskii**	**3.55**	**18**	*eP*	Pn	02 48 59.0	+3.7
SDLR	**Sedlovina**	**3.56**	**19**	*eP*	Pn	02 48 58.5	+3.2
KRX	**Arik**	**3.59**	**16**	*eP*	Pn	02 48 59.4	+3.7
GNL	**Ganaly**	**3.81**	**9**	*eP*	Pb	02 49 03.4	-4.4

*NIED **11** 03:00:00, 39°.50N×143°.50E, h17km, Mw4.1 Best double couple: M₀1.54000×10¹⁵ NP1:φ₁187.00000°, δ16.00000°, λ69.00000°. NP2:φ₂29.00000°, δ75.00000°, λ96.00000°.*
*ISCJB **11** 03:00:48.8±1.1, 39°.48N±0°.03×143°.42E±0°.05, h18km±7km, mb4.3/33, MS3.6/9, Error ellipse: s-maj=7.3km s-min=4.9km az=32.3*
*JMA **11** 03:00:48.7±0.2, 39°.45N×143°.47E, h25km, M4.4*
*MOS **11** 03:00:51.9±0.9, 39°.57N×143°.23E, h33km, mb4.6/18, Error ellipse: s-maj=9.9km s-min=7.4km az=104.6*
*NEIC **11** 03:00:52.7±1.7, 39°.52N×143°.31E, h31km±12km, mb4.5/9, Error ellipse: s-maj=9.4km s-min=5.2km az=115.0*
*IDC **11** 03:00:53.2±3.5, 39°.43N×143°.29E, h39km±29km, mb3.9/14, mb1 4.0/18, mb1mx3.8/46, mbtmp4.1/18, ML3.3/4, MS3.5/9, Ms1 3.5/9, ms1mx3.1/41, Error ellipse: s-maj=23.9km s-min=19.7km az=108.0*
ISC 11 03:00:52.6±0.8, 39°.52N±0°.05×143°.31E±0°.05, h32km±4km, n102, σ1°30/109, mb4.4/33, MS3.5/9, 7C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.15**	**273**	P	**Pn**	**03 01 11.2**	**-1.3**
MIYJ				*eS*	**Sn**	**03 01 26.9**	**-0.3**
JTH	**Tanohata**	**1.19**	**291**	P	**Pn**	**03 01 12.1**	**-1.0**
JTH				S	**Sn**	**03 01 28.4**	**+0.3**
OFUJ	**Ofunato**	**1.34**	**252**	P	**Pn**	**03 01 13.8**	**-1.4**
JOM	**Ohasama**	**1.56**	**269**	P	**Pn**	**03 01 17.6**	**-0.5**
JOM				*eS*	**Sb**	**03 01 39.1**	**-1.1**
JANG	**Nango**	**1.62**	**302**	P	**Pn**	**03 01 17.7**	**-1.3**
JANG				S	**Sb**	**03 01 41.4**	**-0.6**
JMK	**Ichinoseki**	**1.72**	**251**	P	**Pn**	**03 01 19.3**	**-1.0**
JMK				S	**Sn**	**03 01 41.8**	**+0.7**
JIO	**Ouri**	**1.86**	**236**	P	**Pn**	**03 01 20.6**	**-1.6**
JIO				*eS*	**Sn**	**03 01 44.8**	**+0.2**
JRG	**Rokugo**	**2.07**	**267**	P	**Pn**	**03 01 25.0**	**-0.2**
JRG				*eS*	**Sb**	**03 01 55.8**	**+0.9**
JYK	**Kaneyama**	**2.37**	**256**	P	**Pn**	**03 01 28.9**	**-0.3**
ERM	**Erimo**	**2.50**	**357**	*d iP*	**Pn**	**03 01 31.0**	**0.0**
ERM				pmax	pmax		
	comp=Z,87nm,1.2s						
ERM	**Erimo**	**2.50**	**357**	*ePn*	**Pn**	**03 01 31.1**	**0.0**
ERM				*eSn*	**Sn**	**03 01 58.8**	**-1.5**
JOT	**Ohata**	**2.54**	**318**	P	**Pn**	**03 01 31.1**	**-0.5**
JOT				*eS*	**Sn**	**03 02 02.9**	**+1.5**
JNBK	**Urakawa-nobuka**	**2.79**	**352**	P	**Pn**	**03 01 35.4**	**+0.3**
JNBK				S	**Sn**	**03 02 09.8**	**+2.2**
ASAJ	**Asahikawa**	**4.62**	**354**	*ePn*	**Pn**	**03 02 00.2**	**0.0**
MJA0	**Matsu Arr-Jizo**	**4.98**	**235**	*eP*	**Pn**	**03 02 06.0**	**+0.8**
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MAJO	**Matsushiro**	**5.00**	**235**	*c iP*	**Pn**	**03 02 06.0**	**+0.5**
MAJO	**Matsushiro**	**5.00**	**235**	*ePn*	**Pn**	**03 02 06.0**	**+0.5**
MJAR	**Matsushiro Arr**	**5.00**	**235**	Pn	**Pn**	**03 02 06.0**	**+0.5**
	comp=Z,5.6nm,0.3s,baz=36,slow=13,SNR=84						
MJB9	**Matsu-Tunnel**	**5.00**	**235**	*ePn*	**Pn**	**03 02 06.0**	**+0.5**
INU	**Inuyama**	**6.51**	**232**	*ePn*	**Pn**	**03 02 26.3**	**+0.2**
KUR	**Kuril'sk**	**6.63**	**29**	*eP*	**Pn**	**03 02 27.6**	**-0.2**
KUR				*eS*	**Sn**	**03 03 39.1**	**-3.2**
KUR				pmax	pmax		
	comp=Z,30nm,0.4s						
KUR				smax	smax		
	comp=N,83nm,0.6s						
KUR				smax	smax		
	comp=E,64nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.44**	**357**	*eP*	Pb	03 02 51.7	-9.2
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
USRK	**Ussuriysk Ar.**	**9.65**	**303**	Pn	**Pn**	**03 03 10.6**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=100,slow=13,SNR=20						
USRK				LR	LR	03 06 53.5	
	comp=Z,319nm,18.3s,baz=125,slow=37						
MDJ	**Mudanjiang**	**11.39**	**301**	P	Pn	03 03 40.3	+7.2
MDJ				pmax	pmax		
	comp=Z,13nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,63nm,4.4s						
MDJ				LR	LR		
	comp=N,53nm,11.7s						
MDJ				LR	LR		
	comp=E,250nm,13.8s						
MDJ				LR	LR		
	comp=Z,350nm,15.3s						
KSRS	**Korea Array**	**12.23**	**265**	Pn	**Pn**	**03 03 46.0**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=86,slow=13,SNR=7.7						
KSRS				LR	LR	03 08 08.7	
	comp=Z,146nm,18.3s,baz=78,slow=36						
KSRS	**Korea Array**	**12.23**	**265**	*eP*	**Pn**	**03 03 47.6**	**+3.0**
KSAR	**Wonju Array Be**	**12.27**	**265**	P	**Pn**	**03 03 46.0**	**+1.0**
KSAR	**Wonju Array Be**	**12.27**	**265**	Pn	**Pn**	**03 03 46.0**	**+1.0**
KLR	**Kul'dur**	**12.74**	**323**	Pn	**Pn**	**03 03 50.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=143,slow=12,SNR=2.7						
YAK	**Yakutsk**	**24.03**	**344**	*eP*	**P**	**03 06 04.4**	**0.0**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s						
SEY	**Seymchan**	**24.08**	**10**	P	**P**	**03 06 04.7**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=189,slow=6.8,SNR=13						
SEY	**Seymchan**	**24.08**	**10**	⇓*iP*	**P**	**03 06 06.4**	**+1.6**
SEY				*e**PP	**sP**	**03 06 16.8**	**-1.0**
HHC	**Hu-ho-hao-te**	**24.22**	**283**	*eP*	**P**	**03 06 06.0**	**-0.6**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,88nm,5.6s						
ULN	**Ulaanbaatar**	**27.30**	**300**	*c iP*	**P**	**03 06 34.5**	**+0.1**
ULN				*i* *PP	**pP**	**03 06 44.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,11nm,2.5s						
ULN	**Ulaanbaatar**	**27.30**	**300**	*eP*	**P**	**03 06 34.9**	**+0.5**
	comp=Z,4.9nm,0.9s						
SONA1	**Songino Array**	**27.74**	**300**	*eP*	**P**	**03 06 38.3**	**0.0**
SONM	**Songino Array**	**27.75**	**300**	P	**P**	**03 06 37.6**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=95,slow=9.1,SNR=15						
SONM				LR	LR	03 18 18.5	
	comp=Z,153nm,18.6s,baz=88,slow=38						
SONM	**Songino Array**	**27.75**	**300**	*eP*	**P**	**03 06 38.7**	**+0.4**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.30**	**127**	T	T	03 37 31.5	
	baz=318,slow=75,SNR=96						
H11N1	**WAKE ISLAND Hy**	**28.31**	**127**	T	T	03 37 40.7	
	baz=318,slow=75,SNR=66						
H11N3	**WAKE ISLAND Hy**	**28.32**	**127**	T	T	03 37 41.4	
	baz=318,slow=75,SNR=57						
ENH	**Enshi**	**29.09**	**262**	*eP*	**P**	**03 06 49.4**	**-0.9**
	comp=Z,3.2nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**29.11**	**129**	T	T	03 38 11.8	
	baz=314,slow=73,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.12**	**129**	T	T	03 38 15.4	
	baz=314,slow=73,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**29.13**	**129**	T	T	03 38 23.7	
	baz=314,slow=73,SNR=9.1						
ZAK	**Zakamensk**	**29.99**	**305**	*eP*	**P**	**03 06 58.3**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	**Tiksi**	**33.03**	**352**	P	**P**	**03 07 23.2**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=319,slow=13,SNR=5.2						
TIXI	**Tiksi**	**33.03**	**352**	⇑P	**P**	**03 07 24.1**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GTA	**Gaotai**	**33.33**	**284**	*eP*	**P**	**03 07 28.5**	**+0.7**
GTA				pP	pP	03 07 31.9	-5.1
GTA				sP	sP	03 07 34.5	-6.3
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ZAA0	**Zalesovo Array**	**41.39**	**310**	*eP*	**P**	**03 08 36.0**	**+0.4**
ZALV	**Zalesovo Beam**	**41.39**	**310**	P	**P**	**03 08 35.0**	**-0.7**
	comp=Z,3.9nm,0.5s,baz=87,slow=7.8,SNR=12						
ZALV				LR	LR	03 26 33.3	
	comp=Z,52nm,20.0s,baz=68,slow=37						
ZALV	**Zalesovo Beam**	**41.39**	**310**	*eP*	**P**	**03 08 35.9**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**43.59**	**254**	LR	LR	03 28 56.5	
	comp=Z,31nm,18.1s,baz=10.0,slow=39						
MK01	**Makanchi Array**	**44.11**	**300**	*eP*	**P**	**03 08 57.8**	**0.0**
MK31	**Makanchi Array**	**44.11**	**300**	*eP*	**P**	**03 08 58.2**	**+0.4**
MK31	**Makanchi Array**	**44.11**	**300**	*eP*	**P**	**03 08 58.2**	**+0.4**
MKAR	**Makanchi Array**	**44.11**	**300**	P	**P**	**03 08 57.9**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=83,slow=9.9,SNR=30						
MKAR	**Makanchi Array**	**44.11**	**300**	*eP*	**P**	**03 08 58.2**	**+0.4**
MKAR	**Makanchi Array**	**44.11**	**300**	*eP*	**P**	**03 08 58.2**	**+0.4**
MAKZ	**Makanchi**	**44.31**	**300**	*eP*	**P**	**03 08 59.9**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	**Makanchi**	**44.31**	**300**	*eP*	**P**	**03 08 59.9**	**+0.4**
	comp=Z,5.3nm,0.9s						
KURK	**Kurchatov**	**45.62**	**306**	*eP*	**P**	**03 09 09.5**	**-0.2**
KURK	**Kurchatov**	**45.62**	**306**	*eP*	**P**	**03 09 09.5**	**-0.2**
	comp=Z,58nm,0.5s						
ILAR	**Eielson Array**	**46.60**	**34**	P	**P**	**03 09 18.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=261,slow=6.4,SNR=11						
DOT	**Dot Lake**	**47.92**	**35**	*eP*	**P**	**03 09 27.9**	**+0.4**
	comp=Z,1.9nm,0.6s						
GUN	**Gumba**	**48.42**	**274**	*eP*	**P**	**03 09 33.5**	**+1.2**
	comp=Z,28nm,0.4s						
KKN	**Kakani**	**48.94**	**275**	*eP*	**P**	**03 09 36.6**	**+0.4**
	comp=Z,26nm,0.6s						
GKN	**Gorkha**	**49.33**	**275**	*eP*	**P**	**03 09 40.4**	**+1.3**
	comp=Z,9.9nm,0.4s						
TKM2	**Tokmak 2**	**49.79**	**297**	*eP*	**P**	**03 09 42.7**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TKM2	**Tokmak 2**	**49.79**	**297**	*eP*	**P**	**03 09 42.7**	**+0.2**
	comp=Z,4.7nm,0.6s						
BRVK	**Borovoye**	**50.09**	**311**	⇓*iP*	**P**	**03 09 44.9**	**+0.6**
BRVK				*e**PP	**pP**	**03 09 52.2**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BRVK	**Borovoye**	**50.09**	**311**	*eP*	**P**	**03 09 44.2**	**0.0**
	comp=Z,15nm,1.0s						
KOLN	**Koldanda**	**50.25**	**276**	*eP*	**P**	**03 09 46.6**	**+0.5**
PYUN	**Piuthan**	**50.55**	**276**	*eP*	**P**	**03 09 49.0**	**+0.6**
	comp=Z,21nm,0.6s						
ZRNK	**Zerenda**	**50.86**	**311**	*eP*	**P**	**03 09 50.7**	**+0.6**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZRNK	**Zerenda**	**50.86**	**311**	*eP*	**P**	**03 09 50.7**	**+0.6**
	comp=Z,5.0nm,0.8s						
SVE	**Sverdlovsk**	**54.29**	**318**	*eP*	**P**	**03 10 16.6**	**+1.2**
SVE				pmax	pmax		
	comp=Z,13nm,0.9s						
ARU	**Arti**	**55.51**	**318**	*c iP*	**P**	**03 10 24.4**	**+0.2**
ARU						03 11 27.1	
ARU						03 12 27.7	
ARU				S	**S**	**03 18 08.4**	**+1.3**
ARU				SS	**SS**	**03 21 46.7**	**-4.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARU				MLR	MLR		
	comp=Z,117nm,16.0s						
ARU	**Arti**	**55.51**	**318**	*eP*	**P**	**03 10 24.6**	**+0.4**
	comp=Z,2.1nm,0.3s						
ABKAR	**Akbulak array**	**57.50**	**309**	*eP*	**P**	**03 10 38.6**	**+0.1**
WRAB	**Tennant Creek**	**59.73**	**190**	*eP*	**P**	**03 10 55.0**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**59.73**	**190**	*eP*	**P**	**03 10 55.0**	**+0.7**
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**59.74**	**190**	P	**P**	**03 10 52.5**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=8.6,slow=6.8,SNR=7.8						
WRA	**Warramunga Arr**	**59.74**	**190**	*eP*	**P**	**03 10 51.3**	**-3.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**62.20**	**339**	P	**P**	**03 11 12.6**	**+2.0**
	comp=Z,4.3nm,1.0s,baz=36,slow=10,SNR=4.1						
ARCES				LR	LR	03 41 24.4	
	comp=Z,34nm,19.9s,baz=41,slow=39						
OBN	**Obninsk**	**67.00**	**323**	⇑*eP*	**P**	**03 11 42.6**	**+0.6**
OBN				*e*		03 14 11.8	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,68nm,15.0s						
FINES	**FINESS Array B**	**67.31**	**332**	P	**P**	**03 11 44.2**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=53,slow=7.9,SNR=13						
FINES				LR	LR	03 44 01.3	
	comp=Z,71nm,18.3s,baz=354,slow=38						
SUMG	**Summit**	**68.20**	**1**	*eP*	**P**	**03 11 50.3**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SUMG	**Summit**	**68.20**	**1**	*eP*	**P**	**03 11 50.3**	**+0.4**
	comp=Z,3.5nm,0.9s						
KIV	**Kislovodsk**	**70.40**	**311**	⇑*eP*	**P**	**03 12 05.4**	**+1.8**
KIV				*e*		03 14 39.9	
KIV				*eS*	**S**	**03 21 06.8**	**-7.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBZ	**Khabaz**	**70.41**	**311**	P	**P**	**03 12 03.9**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=85,slow=4.2,SNR=6.3						
NB2	**NORSAR Subarra**	**72.46**	**338**	P	**P**	**03 12 15.8**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**72.46**	**339**	P	**P**	**03 12 16.0**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=39,slow=6.0,SNR=12						
NOA				LR	LR	03 49 50.9	
	comp=Z,21nm,18.8s,baz=35,slow=40						
AKASG	**Malin Array Be**	**73.24**	**323**	P	**P**	**03 12 20.3**	**0.0**
	comp=Z,0.7nm,0.4s,baz=47,slow=5.0,SNR=5.8						
BRTR	**Keskin Array B**	**78.31**	**312**	P	**P**	**03 12 49.9**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=72,slow=6.2,SNR=3.6						
CLL	**Collm**	**79.67**	**331**	*eP*	**P**	**03 12 57.0**

Error ellipse: s-maj=12.8km s-min=7.2km az=135.0

ISC 11 03:09:45.3±1.5, 39°58N±0°04×73°10E±0°03, h10km±11km, n19, σ1°57/36, 32C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.97**	**346**	⇑*i*P	**Pn**	**03 10 06.0**	**+0.9**
	baz=350						
OHH				⇑*i*S	**Sn**	**03 10 18.8**	**-0.1**
	baz=350						
DRK	**Karamyk**	**1.01**	**265**	⇑*e*P	**Pn**	**03 10 06.4**	**+0.7**
	baz=260						
DRK				⇑*e*S	**Sn**	**03 10 19.7**	**-0.4**
	baz=260						
ARSB	**Arslanbob**	**1.74**	**357**	⇑*e*P	**Pg**	**03 10 20.0**	**+1.2**
	baz=360						
ARSB				⇑*i*S	**Sg**	**03 10 43.5**	**+2.1**
	baz=360						
BTK	**Batken**	**1.82**	**286**	⇑*e*P	**Pg**	**03 10 20.3**	**+0.1**
	baz=285						
BTK				⇑*e*S	**Sg**	**03 10 44.1**	**+0.3**
	baz=285						
KSH	**Kashi**	**2.23**	**91**	Pn	**Pb**	**03 10 23.6**	**-2.1**
KSH				Sn	**Sn**	**03 10 50.7**	**+0.7**
KSH				smax	smax		
	comp=N,41nm,0.6s						
KSH				smax	smax		
	comp=E,72nm,1.0s						
TOKL	**Toktogul**	**2.36**	**356**	⇑*e*P	**Pg**	**03 10 30.0**	**-0.6**
	baz=358						
TOKL				⇑*i*S	**Sg**	**03 11 01.8**	**+0.5**
	baz=358						
ARK	**Arkit**	**2.38**	**339**	⇑*e*P	**Pg**	**03 10 29.7**	**-1.2**
	baz=341						
ARK				⇑*i*S	**Sg**	**03 11 00.7**	**-1.0**
	baz=341						
ARLS	**Aral**	**2.46**	**22**	⇓*e*P	**Pg**	**03 10 32.5**	**0.0**
	baz=24						
ARLS				⇓*i*S	**Sg**	**03 11 05.3**	**+0.9**
	baz=24						
AML	**Almayashu**	**2.59**	**10**	⇑*i*P	**Pb**	**03 10 33.0**	**+1.0**
	baz=12						
AML				⇑*i*S	**Sb**	**03 11 06.5**	**+2.5**
	baz=12						
UCH	**Uchtor**	**2.85**	**22**	⇑*i*P	**Pb**	**03 10 36.8**	**+0.2**
	baz=24						
UCH				⇑*i*S	**Sb**	**03 11 11.2**	**-0.5**
	baz=24						
MNAS	**Manas**	**2.94**	**351**	⇑*e*P	**Pb**	**03 10 38.1**	**+0.3**
	baz=353						
MNAS				⇑*e*S	**Sb**	**03 11 15.3**	**+1.5**
	baz=353						
MNAS	**Manas**	**2.94**	**351**	⇑Pn	**Pb**	**03 10 37.8**	**-0.1**
	comp=E,2.7nm,0.4s						
MNAS				⇑Lg	Lg	03 11 22.7	
	comp=E,25nm,0.7s						
KZA	**Kyzart**	**2.98**	**33**	⇑*i*P	**Pb**	**03 10 38.8**	**0.0**
	baz=35						
AAK	**Ala-Archa**	**3.23**	**19**	⇓Pn	**Pb**	**03 10 42.0**	**-0.8**
	comp=E,6.8nm,0.5s						
AAK				⇑Lg	Lg	03 11 31.8	
	comp=E,20nm,0.6s						
DZET	**Dzherino**	**3.41**	**258**	⇑Pn	**Pn**	**03 10 40.9**	**+2.3**
	comp=E,6.2nm,0.4s						
DZET				⇑Pg	**Pg**	**03 10 51.3**	**+0.7**
	comp=E,13nm,0.5s						
DZET				⇓Lg	Lg	03 11 38.2	
	comp=E,40nm,0.6s						
FRU1	**Bishkek**	**3.43**	**19**	⇑*e*P	**Pb**	**03 10 44.8**	**-1.3**
	baz=21						
FRU1				⇑*e*S	**Sb**	**03 11 27.1**	**-0.8**
	baz=21						
BOOM	**Boomskoye usch**	**3.62**	**36**	⇑*e*P	**Pb**	**03 10 47.5**	**-1.9**
	baz=37						
BOOM				⇑*e*S	**Sb**	**03 11 33.0**	**-0.4**
	baz=37						
TKM2	**Tokmak 2**	**3.83**	**29**	⇑Pn	**Pb**	**03 10 49.4**	**-3.8**
	comp=E,0.8nm,0.3s						
TKM2				⇓Pg	**Pg**	**03 10 58.2**	**-0.5**
	comp=E,2.8nm,0.5s						
TKM2				⇑Lg	Lg	03 11 50.9	
	comp=E,11nm,0.7s						
KK31	**Karatay Array**	**4.02**	**332**	Pn	**Pb**	**03 10 52.1**	**-4.1**
	comp=E,0.7nm,0.3s,baz=137,slow=12,SNR=35						
KK31				⇑Pg	**Pg**	**03 11 02.5**	**+0.1**
	comp=E,2.2nm,0.5s,baz=165,slow=15,SNR=4.8						
KK31				⇑Sn	**Sb**	**03 11 41.8**	**-3.0**
	comp=E,6.6nm,0.6s						
KK31				⇓Lg	Lg	03 11 58.3	
	comp=E,2.5nm,0.4s,baz=158,slow=32,SNR=3.6						

*IDC **11** 03:17:17.9±1.0, 36°40N×141°17E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.4/56, mbtmp3.4/7, ML2.9/1, Error ellipse: s-maj=23.5km s-min=17.6km az=18.0*
*ISCJB **11** 03:17:20.8±0.8, 36°45N±0°07×141°02E±0°08, h32km, mb3.5/6, Error ellipse: s-maj=11.4km s-min=8.7km az=150.2*
*JMA **11** 03:17:21.1±0.1, 36°47N×140°98E, h15km±1km, M3.4*

ISC 11 03:17:22.5±1.1, 36°52N±0°08×140°95E±0°08, h32km, n16, σ1°52/16, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.32**	**286**	P	**Pb**	**03 17 28.2**	**-2.2**
JHO				S	**Sb**	**03 17 33.7**	**-2.1**
ONAJ	**Iwakimizuishiy**	**0.59**	**348**	P	**Pb**	**03 17 33.5**	**-1.1**
JYT	**Yasato**	**0.68**	**245**	P	**Pb**	**03 17 33.9**	**-2.0**
JYT				S	**Sb**	**03 17 43.9**	**-1.1**
JFK	**Kawauchi**	**0.85**	**356**	P	**Pn**	**03 17 37.5**	**-0.7**
JSB	**Shiboa**	**0.94**	**299**	P	**Pn**	**03 17 39.9**	**+0.4**
MJAR	**Matsushiro Arr**	**2.21**	**271**	Pn	**Pn**	**03 17 58.2**	**+1.3**
	3.3nm,0.3s,baz=85,slow=9.9,SNR=34						
MJAR				Lg	Lg	03 18 33.3	
	8.2nm,0.3s,baz=102,slow=29,SNR=11						
MAT	**Matsushiro**	**2.21**	**271**	P	**Pn**	**03 17 58.6**	**+1.7**
MAT				S	**Sb**	**03 18 29.5**	**+0.7**
H11N2	**WAKE ISLAND Hy 28.21**	**119**		T	T	03 52 37.5	
	baz=312,slow=75,SNR=362						
H11N1	**WAKE ISLAND Hy 28.22**	**119**		T	T	03 52 38.1	
	baz=312,slow=75,SNR=355						
H11N3	**WAKE ISLAND Hy 28.23**	**119**		T	T	03 52 38.8	
	baz=312,slow=75,SNR=335						
ZALV	**Zalesovo Beam**	**41.99**	**313**	P	**P**	**03 25 12.4**	**+2.1**
	1.3nm,0.6s,baz=91,slow=7.2,SNR=4.6						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**03 25 29.1**	**+1.7**
	0.1nm,0.3s,baz=96,slow=7.4,SNR=2.4						
KURBB	**Kurchatov Arra**	**46.03**	**308**	P	**P**	**03 25 43.8**	**+1.0**
	0.6nm,0.5s,baz=86,slow=7.6,SNR=4.9						
ILAR	**Eielson Array**	**50.12**	**32**	P	**P**	**03 26 14.8**	**+0.6**
	0.2nm,0.8s,baz=259,slow=5.6,SNR=3.2						
WRA	**Warramunga Arr**	**56.50**	**187**	P	**P**	**03 27 01.2**	**-0.4**
	0.7nm,0.9s,baz=4.0,slow=7.3,SNR=3.3						
ASAR	**Alice Springs**	**60.23**	**187**	P	**P**	**03 27 27.0**	**-0.5**
	0.2nm,0.7s,baz=13,slow=8.9,SNR=3.0						

GUC 11 03:21:40.7±0.6, 36°00S×72°88W, h32km±4km, ML3.5, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.15**	**153**	*i* P	Pn	03 21 46.9	0.0
COCH				*i* S	Sn	03 21 50.6	+0.1
COCH				IAML		03 21 50.9	
	comp=N,25μm,0.1s						
CCSP	**San Pedro de C**	**0.87**	**192**	*e*P	Pn	03 21 56.2	-0.5
CCSP				*e*S	Sn	03 22 08.0	-0.2
CCSP				IAML		03 22 10.4	
	comp=N,2μm,0.3s						
CCHI	**Chillan**	**0.88**	**133**	⇓*i*P	Pn	03 21 57.0	0.0
CCHI				IAML		03 22 17.3	
	comp=E,1μm,0.2s						
TALC	**Talca**	**1.17**	**60**	⇓*i*P	Pn	03 22 01.1	+0.2
TALC				*i* S	Sn	03 22 16.5	+0.7
CLCH	**Cerro Calan**	**3.23**	**37**	*e*P	Pn	03 22 30.7	+1.4
CLCH				IAML		03 23 27.1	
	comp=N,138nm,0.8s						
PEL	**Peldehue**	**3.37**	**33**	⇑*i*P	Pn	03 22 32.6	+1.4
PEL				IAML		03 23 32.3	
	comp=N,78nm,0.7s						

*ISCJB **11** 03:24:26.3±0.9, 23°54S±0°10×179°1E±0°2, h555km, mb3.8/8, Error ellipse: s-maj=19.0km s-min=12.6km az=173.4*

*IDC **11** 03:24:27.1±2.6, 23°59S×179°21E, h558km±26km, mb3.2/8, mb1 3.4/9, mb1mx3.1/31, mbtmp4.2/9, Error ellipse: s-maj=24.4km s-min=21.8km az=21.0*

ISC 11 03:24:26.2±0.7, 23°6S±0°1×179°3E±0°1, h555km, n19, σ1°47/21, mb3.7/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.69**	**187**	P	**P**	**03 27 32.8**	**+0.6**
	1.5nm,0.3s,baz=312,slow=6.0,SNR=6.7						
URZ				S	**S**	**03 30 03.8**	**-1.6**
	0.8nm,0.3s,baz=77,slow=22,SNR=8.7						
CTA	**Charters Tower**	**30.82**	**270**	P	**P**	**03 29 58.1**	**+0.5**
	4.0nm,0.8s,baz=111,slow=7.2,SNR=6.0						
PMG	**Port Moresby**	**33.79**	**289**	P	**P**	**03 30 23.1**	**+0.3**
	5.9nm,0.2s,baz=115,slow=6.0,SNR=5.3						
STKA	**Stephens Creek**	**34.21**	**248**	P	**P**	**03 30 26.5**	**+0.3**
	1.5nm,0.7s,baz=3.1,slow=7.1,SNR=3.2						
ASAR	**Alice Springs**	**41.43**	**260**	P	**P**	**03 31 25.4**	**+0.3**
	1.3nm,0.8s,baz=90,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**41.77**	**266**	P	**P**	**03 31 27.2**	**-0.5**
	1.5nm,0.8s,baz=90,slow=5.7,SNR=51						
MAW	**Mawson**	**77.76**	**201**	P	**P**	**03 35 26.9**	**+1.1**
	2.2nm,0.5s,baz=132,slow=9.7,SNR=6.5						
TXAR	**Lajitas Array**	**90.85**	**58**	P	**P**	**03 36 33.1**	**+1.9**
	0.6nm,0.8s,baz=210,slow=7.1,SNR=8.3						
ILAR	**Eielson Array**	**91.94**	**14**	P	**P**	**03 36 35.0**	**-0.3**
	0.2nm,0.6s,baz=231,slow=5.4,SNR=4.4						
ARCES	**ARCESS Array B**	**131.50**	**348**	PKP	**PKPdf**	**03 42 35.5**	**+0.2**
	1.8nm,0.8s,baz=34,slow=0.8,SNR=7.1						
FINES	**FINESS Array B**	**137.99**	**341**	PKP	**PKPdf**	**03 42 48.4**	**+0.8**
	0.6nm,0.5s,baz=0.0,slow=2.1,SNR=5.1						
FINES				SKPbc	**SKPbc**	**03 45 29.3**	**-0.3**
	0.3nm,0.4s,baz=80,slow=2.3,SNR=5.0						
NB2	**NORSAR Subarra**	**141.72**	**351**	PKP	**PKPdf**	**03 42 49.5**	**-4.9**
	comp=Z,0.4nm,0.5s,baz=15,slow=3.1						
NOA	**NORSAR Array B**	**141.72**	**351**	PKhKP	PKPpre	03 42 49.9	
	comp=Z,0.7nm,0.6s,baz=16,slow=4.7,SNR=4.4						
AKASG	**Malin Array Be**	**144.40**	**327**	PKP	**PKPdf**	**03 42 58.1**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=46,slow=4.2,SNR=7.0						
BRTR	**Keskin Array B**	**146.90**	**307**	PKPbc	**PKPbc**	**03 43 06.2**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=150,slow=5.1,SNR=4.7						
CLL	**Collm**	**150.42**	**342**	*i* P	**PKPbc**	**03 43 15.3**	**+0.2**
	comp=Z,6.0nm,0.8s						
BRG	**Bergqiesshubel**	**150.53**	**341**	*i* P	**PKPbc**	**03 43 16.1**	**+0.7**
	comp=Z,4.2nm,0.5s						
GERES	**GERESS Array B**	**152.39**	**339**	PKPbc	**PKPbc**	**03 43 18.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=354,slow=4.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**169.31**	**193**	PKP	**PKPdf**	**03 43 29.6**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=97,slow=1.2,SNR=4.0						
TORD				PKPab	**PKPab**	**03 44 48.0**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=169,slow=3.8,SNR=5.7						

IDC 11 03:38:17.6±1.7, 16°77S×178°28W, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.8/31, mbtmp4.2/4, Error ellipse: s-maj=152.8km s-min=29.2km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.29**	**240**	P	P	03 45 48.9	+0.5
	1.6nm,0.4s,baz=94,slow=14,SNR=7.0						
WRA	**Warramunga Arr**	**44.97**	**258**	P	P	03 46 34.4	-0.5
	1.0nm,0.5s,baz=95,slow=7.9,SNR=37						
ASAR	**Alice Springs**	**45.23**	**253**	P	P	03 46 36.7	-0.3
	8.6nm,0.4s,baz=89,slow=8.1,SNR=204						
TXAR	**Lajitas Array**	**85.29**	**58**	P	P	03 50 56.9	0.0
	0.4nm,0.7s,baz=217,slow=5.6,SNR=6.9						

*IDC **11** 03:38:45.0±1.2, 35°89N×141°19E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/39, mbtmp3.2/5, ML3.1/1, Error ellipse: s-maj=30.5km s-min=23.6km az=55.0*
*ISCJB **11** 03:38:46.3±1.2, 35°95N±0°05×141°29E±0°08, h27km±7km, mb3.4/4, Error ellipse: s-maj=11.4km s-min=7.3km az=165.8*
*JMA **11** 03:38:46.2±0.2, 35°95N×141°30E, h30km±3km, M3.2*

ISC 11 03:38:46.9±1.7, 35°97N±0°07×141°26E±0°07, h18km±7km, n17, σ1°23/16, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.42**	**231**	P	**Pg**	**03 38 55.5**	**-0.1**
CHOJ				S	**Sg**	**03 39 01.9**	**+0.4**
JHO	**Hitachi**	**0.85**	**319**	P	**Pb**	**03 39 02.1**	**-1.0**
JHO				S	**Sb**	**03 39 14.6**	**+0.4**
JYT	**Yasato**	**0.90**	**287**	P	**Pb**	**03 39 02.9**	**-1.1**
JYT				S	**Sb**	**03 39 16.2**	**+0.5**
ONAJ	**Iwakimizuishiy**	**1.19**	**342**	P	**Pn**	**03 39 07.1**	**-1.6**
BSO1	**Boso 1**	**1.34**	**190**	S	**Sn**	**03 39 25.8**	**-1.4**
MJAR	**Matsushiro Arr**	**2.53**	**284**	Pn	**Pn**	**03 39 26.7**	**-0.5**
	3.8nm,0.3s,baz=105,slow=8.4,SNR=45						
MJAR				Sn	**Sn**	**03 39 59.0**	**+1.5**
	1.9nm,0.3s,baz=122,slow=13,SNR=5.1						
MAT	**Matsushiro**	**2.53**	**284**	P	**Pn**	**03 39 27.5**	**+0.3**
MAT				S	**Sn**	**03 39 56.0**	**-1.6**
H11N2	**WAKE ISLAND Hy 27.73**	**119**		T	T	04 13 30.4	
	baz=312,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy 27.73**	**119**		T	T	04 13 29.2	
	baz=312,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy 27.74**	**119**		T	T	04 13 31.4	
	baz=312,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy 28.40**	**121**		T	T	04 14 19.0	
	baz=314,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy 28.40**	**121**		T	T	04 14 18.3	
	baz=314,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy 28.42**	**121**		T	T	04 14 19.4	
	baz=314,slow=75,SNR=16						
MKAR	**Makanchi Array**	**44.59**	**303**	P	**P**	**03 46 58.3**	**+0.4**
	0.3nm,0.5s,baz=89,slow=11,SNR=3.0						
ILAR	**Eielson Array**	**50.45**	**32**	P	**P**	**03 47 44.9**	**+1.7**
	0.2nm,0.7s,baz=282,slow=4.5,SNR=4.6						
WRA	**Warramunga Arr**	**56.00**	**188**	P	**P**	**03 48 23.5**	**-0.9**
	0.3nm,0.6s,baz=5.0,slow=7.4,SNR=2.9						
ASAR	**Alice Springs**	**59.72**	**188**	P	**P**	**03 48 51.9**	**+1.3**
	0.3nm,0.6s,baz=16,slow=12,SNR=3.6						

JMA 11 03:39:18.9±0.3, 38°29N×144°47E, h28km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.33**	**291**	P	Pn	03 39 56.7	+1.4
OFUJ				S	Sn	03 40 25.0	+2.0
MIYJ	**Miyakonagasawa**	**2.43**	**303**	P	Pn	03 39 57.8	+1.0
MIYJ				*e*S	Sn	03 40 26.8	+1.2
JIO	**Ouri**	**2.46**	**275**	S	Sn	03 40 27.5	+1.3
JMK	**Ichinoseki**	**2.63**	**286**	P	Pn	03 40 01.1	+1.6
JMK				*e*S	Sn	03 40 32.5	+2.1
JOM	**Ohasama**	**2.75**	**296**	P	Pn	03 40 02.7	+1.6
JOM				S	Sn	03 40 35.9	+2.6
JANG	**Nango**	**3.10**	**313**	P	Pn	03 40 07.9	+2.0
JANG				*e*S	Sn	03 40 42.9	+1.0
JYK	**Kaneyama**	**3.28**	**282**	P	Pn	03 40 11.3	+2.9
JYK				*e*S	Sn	03 40 49.1	+2.6
JCH	**Churui**	**4.40**	**349**	P	Pn	03 40 23.8	0.0
JCH				*e*S	Sn	03 41 12.1	-2.0
JKB	**Kayabe**	**4.46**	**325**	P	Pn	03 40 27.4	+2.8
JKB				*e*S	Sn	03 41 16.4	+0.9
NEM2	**Nemuro 2**	**5.16**	**10**	P	Pn	03 40 30.8	-3.4
NEM2				S	Sn	03 41 26.2	-6.6

*IDC **11** 03:41:33.6±2.7, 35°06N×83°21E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/37, mbtmp3.5/6, ML3.1/1, Error ellipse: s-maj=62.9km s-min=29.8km az=142.0*
*ISCJB **11** 03:41:37.5±1.9, 35°2N±0°2×83°2E±0°3, h33km, mb3.4/4, Error ellipse: s-maj=38.4km s-min=22.1km az=136.6*

ISC 11 03:41:39.1±2.2, 35°1N±0°2×83°2E±0°3, h35km, n6, σ0°14/6, mb3.5/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.66**	**357**	Pn	**Pn**	**03 44 22.9**	**-0.1**
	0.1nm,0.3s,baz=182,slow=13,SNR=5.5						
ZALV	**Zalesovo Beam**	**18.84**	**3**	P	**P**	**03 45 55.9**	**+0.2**
	baz=186,slow=12,SNR=1.6						
SONM	**Songino Array**	**21.39**	**47**	P	**P**	**03 46 23.8**	**0.0**
	0.8nm,0.8s,baz=247,slow=11,SNR=4.9						
GERES	**GERESS Array B**	**51.72**	**308**	P	**P**	**03 50 42.9**	**0.0**
	0.6nm,0.7s,baz=78,slow=7.0,SNR=5.4						
ESDC	**Sonseca Array**	**66.71**	**303**	P	**P**	**03 52 26.8**	**+0.1**
	0.2nm,0.5s,baz=54,slow=6.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**75.70**	**276**	P	**P**	**03 53 21.2**	**-0.1**
	0.5nm,0.9s,baz=43,slow=5.1,SNR=3.8						

MEX 11 03:41:41.5±0.4, 14°93N×93°36W, h32km±4km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.78**	**10**	*e*P	Pn	03 41 53.9	-2.4
PCIG				*i* S	Sn	03 42 04.2	-2.7
CCIG	**Comitan**	**1.79**	**41**	*e*P	Pn	03 42 08.3	-2.1
CCIG				*e*S	Sn	03 42 28.2	-3.8

*ISK **11** 03:52:33.9, 39°16N×29°04E, h8km, MD2.6*
*ISCJB **11** 03:52:34.2±0.5, 39°11N±0°04×29°07E±0°04, h9km, Error ellipse: s-maj=7.0km s-min=4.0km az=148.6*
*DDA **11** 03:52:34.1, 39°12N×29°09E, h7km, Md2.6*
*CSEM **11** 03:52:34.3±0.1, 39°12N×29°06E, h10km, MD2.6, Error ellipse: s-maj=3.3km s-min=2.2km az=134.0*

ISC 11 03:52:34.3±0.9, 39°12N±0°04×29°07E±0°03, h9km, n18, σ0°45/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.28**	**106**	*e*PG	**Pg**	**03 52 40.6**	**+0.7**
GEDZ	**Gediz**	**0.28**	**106**	*e*Pg	**Pg**	**03 52 40.6**	**+0.7**
DEMI	**Demirci**	**0.29**	**254**	P	**Pg**	**03 52 40.6**	**+0.5**
DEMI				S	**Sg**	**03 52 44.8**	**+0.9**
DEMI	**Demirci**	**0.29**	**254**	*i* P	**Pg**	**03 52 40.6**	**+0.5**
DEMI				*i* S	**Sg**	**03 52 44.8**	**+0.9**
GDZ	**Gediz**	**0.32**	**96**	P	**Pg**	**03 52 41.0**	**+0.2**
GDZ				S	**Sg**	**03 52 45.3**	**+0.2**
GDZ	**Gediz**	**0.32**	**96**	*i* P	**Pg**	**03 52 41.0**	**+0.2**
GDZ				*i* S	**Sg**	**03 52 45.3**	**+0.2**
TVSB	**Tavsanli**	**0.45**	**43**	*e*PG	**Pg**	**03 52 43.0**	**-0.1**
TVSB				*e*SG	**Sg**	**03 52 49.3**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**43**	*e*Pg	**Pg**	**03 52 43.0**	**-0.1**
TVSB				*e*Sg	**Sg**	**03 52 49.3**	**+0.3**
KULA	**Kula-Manisa**	**0.69**	**208**	*e*PG	**Pg**	**03 52 47.8**	**+0.2**
KULA	**Kula-Manisa**	**0.69**	**208**	*e*Pg	**Pg**	**03 52 47.8**	**+0.2**
MANT	**Manisa**	**0.75**	**212**	P	**Pg**	**03 52 48.7**	**-0.1**
MANT				S	**Sg**	**03 52 57.9**	**-0.6**
MANT	**Manisa**	**0.75**	**212**	*i* P	**Pg**	**03 52 48.7**	**-0.1**
MANT				*i* S	**Sg**	**03 52 57.9**	**-0.6**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*PN	**Pn**	**03 52 57.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*Pn	**Pn**	**03 52 57.9**	**-0.3**
ADVT	**Abdulvahap**	**1.41**	**21**	*e*PN	**Pn**	**03 53 00.1**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**21**	*e*Pn	**Pn**	**03 53 00.1**	**0.0**
ARMT	**Armutlu**	**1.45**	**354**	*e*PN	**Pb**	**03 53 01.1**	**-0.3**
ARMT	**Armutlu**	**1.45**	**354**	*e*Pn	**Pb**	**03 53 01.2**	**-0.3**

*SJA **11** 04:07:16.9±0.9, 31°24S×69°22W, h110km±7km, ML3.0, MW3.5*
*GUC **11** 04:07:16.6±0.4, 31°15S×69°82W, h149km±25km, ML3.3*
*ISCJB **11** 04:07:17.1±1.0, 31°22S±0°06×69°27W±0°09, h111km±12km, Error ellipse: s-maj=15.0km s-min=6.0km az=34.9*

ISC 11 04:07:17.9±1.9, 31°23S±0°06×69°27W±0°08, h107km±17km, n17, σ0°67/27, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.57**	**182**	*i* P	**Pn**	**04 07 35.4**	**+0.1**
SJA	**San Juan**	**0.68**	**117**	*i* P	**Pn**	**04 07 35.9**	**+0.1**
RTLL	**Cerro Villicun**	**0.69**	**99**	*i* P	**Pn**	**04 07 35.3**	**-0.5**
RTLL				*i* S	**Sn**	**04 07 49.3**	**-0.1**
AMOG	**MOGNA**	**0.72**	**67**	*i* P	**Pn**	**04 07 36.0**	**-0.2**
AMOG				*i* S	**Sn**	**04 07 50.3**	**+0.3**
RTCV	**Cerro Valdivia**	**0.89**	**136**	*i* P	**Pn**	**04 07 37.5**	**-0.2**
RTCV				*i* S	**Sn**	**04 07 52.4**	**-0.2**
AUSP	**Uspallata**	**1.00**	**186**	*i* P	**Pn**	**04 07 39.1**	**0.0**
ASAL	**Salagasta**	**1.41**	**165**	*i* P	**Pn**	**04 07 43.5**	**0.0**
ASAL				*i* S	**Sn**	**04 08 02.5**	**-0.4**
ARCO	**CERRO ARCO**	**1.64**	**170**	*i* P	**Pn**	**04 07 46.2**	**-0.1**
ARCO				*i* S	**Sn**	**04 08 08.6**	**+0.7**
ARCO				IAML		04 08 10.9	
	comp=Z,232nm,0.3s						
AVFE	**Valle Fertil**	**1.66**	**71**	*i* P	**Pn**	**04 07 45.9**	**-0.6**
AVFE				IAML		04 08 09.8	
	comp=Z,85nm,0.3s						
AGUA	**GUANDACOL**	**1.86**	**21**	*i* P	**Pn**	**04 07 49.6**	**+0.6**
AAGR	**Agrelo**	**1.89**	**169**	*i* P	**Pn**	**04 07 49.2**	**-0.3**
AAGR				*i* S	**Sn**	**04 08 13.9**	**+0.3**
PEL	**Peldehue**	**2.26**	**212**	⇑*i*P	**Pn**	**04 07 53.5**	**-0.6**
PEL				*i* S	**Sn**	**04 08 21.9**	**+0.1**
PEL				IAML		04 08 23.6	
	comp=E,90nm,0.4s						
FCH	**Farellones**	**2.27**	**202**	*e*P	**Pn**	**04 07 55.2**	**+0.8**
FCH				*i* S	**Sn**	**04 08 24.6**	**+2.2**
FCH				IAML		04 08 26.3	
	comp=E,157nm,0.3s						
ROCH	**El Roble**	**2.29**	**220**	*e*P	**Pn**	**04 07 53.8**	**-0.8**
ROCH				*i* S	**Sn**	**04 08 21.6**	**-1.1**
ROCH				IAML		04 08 25.5	
	comp=N,141nm,0.3s						
CLCH	**Cerro Calan**	**2.42**	**206**	*e*P	**Pn**	**04 07 56.3**	**+0.1**
CLCH				*i* S	**Sn**	**04 08 26.0**	**+0.5**
CLCH				IAML		04 08 27.8	
	comp=E,141nm,0.5s						
RCDM	**Rinconada Maip**	**2.61**	**210**	*e*P	**Pn**	**04 07 57.9**	**-0.7**
RCDM				*i* S	**Sn**	**04 08 29.6**	**-0.3**
ANTU	**Antumapu**	**2.61**	**206**	IAML		04 08 32.0	
	comp=E,166nm,0.3s	

BSO4 Boso 4 0.90 245 P **Pn** 04 17 17.0 -1.5
JCN Nagara 0.92 273 P **Pn** 04 17 17.8 -1.1
JYT Yasato 1.25 313 P **Pn** 04 17 21.3 -2.1
JHO Hitachi 1.38 334 P **Pn** 04 17 23.2 -2.0
JHJ2 Mitsune 2.58 209 *e*Pn **Pn** 04 17 40.7 -1.0
JHJ Hachijo jima 2 2.59 210 P **Pn** 04 17 41.5 -0.3
95nm,0.3s,baz=276,slow=22,SNR=17
JHJ S **Sn** 04 18 12.4 0.0
88nm,0.3s,baz=158,slow=3.1,SNR=4.1
JHJ LR LR 04 18 48.3
comp=Z,2µm,19.1s,baz=84,slow=41
MJAR Matsushiro Arr 2.79 296 P **Pn** 04 17 44.5 -0.1
6.4nm,0.3s,baz=100,slow=7.7,SNR=46
MJAR LR LR 04 18 23.4
comp=Z,644nm,20.2s,baz=100,slow=29
MAJO Matsushiro 2.79 296 *d i*P **Pn** 04 17 44.4 -0.2
MAJO Matsushiro 2.79 296 *e*Pn **Pn** 04 17 44.1 -0.4
MAT Matsushiro 2.79 296 P **Pn** 04 17 44.0 -0.6
MAT *e*S **Sn** 04 18 18.8 +1.5
MJB9 Matsu-Tunnel 2.79 296 *e*Pn **Pn** 04 17 45.5 +0.9
INU Inuyama 3.53 271 *e*Pg **Pn** 04 17 57.9 +3.2
ERM Erimo 6.78 12 ⇓*i*P **Pn** 04 18 38.7 -0.7
ERM Erimo 6.78 12 *e*Pn **Pn** 04 18 36.2 -3.1
ERM *e*Sn **Sn** 04 19 53.2 -2.4
CBIJ Chichi jima 8.29 175 *e*Pn **Pn** 04 18 57.7 -2.4
CBIJ *e*Sn **Sn** 04 20 28.5 -4.3
JCJ Chichijima 8.29 175 P **Pn** 04 18 57.2 -2.9
23nm,0.3s,baz=330,slow=7.6,SNR=14
JCJ S **Sn** 04 20 28.0 -4.9
8.6nm,0.3s,baz=107,slow=19,SNR=2.1
JCJ LR LR 04 22 26.5
comp=Z,572nm,21.6s,baz=324,slow=39
ASAJ Asahikawa 8.78 6 P **Pn** 04 19 03.5 -3.3
baz=233,slow=9.2
ASAJ Asahikawa 8.78 6 *e*Pn **Pn** 04 19 03.4 -3.5
ASAJ *e*Sn **Sn** 04 20 41.4 -3.5
JNU Nakatsue 8.94 258 LR LR 04 22 39.0
comp=Z,841nm,18.7s,baz=117,slow=38
KSRS Korea Array 11.00 285 P **Pn** 04 19 38.6 +1.3
0.3nm,0.3s,baz=102,slow=14,SNR=9.0
KSRS LR LR 04 24 08.0
comp=Z,2µm,18.9s,baz=94,slow=38
KSAR Wonju Array Be 11.03 285 P **Pn** 04 19 38.6 +0.9
KSAR Wonju Array Be 11.03 285 P **Pn** 04 19 38.6 +0.9
USRK Ussuriysk Ar. 11.36 324 P **Pn** 04 19 42.1 0.0
0.3nm,0.3s,baz=143,slow=14,SNR=8.0
USRK LR LR 04 23 57.1
comp=Z,2µm,18.4s,baz=128,slow=36
YSS Yuzh-Sakhalins 11.62 5 *e*P **Pn** 04 19 45.2 -0.4
YSS Yuzh-Sakhalins 11.62 5 *e*Pn **Pn** 04 19 45.2 -0.4
MDJ Mudanjiang 12.88 319 P **Pn** 04 20 04.7 +1.8
MDJ S **Sn** 04 22 28.2 +3.0
MDJ PcP **PcP** 04 25 38.7 +2.1
MDJ ScP **ScP** 04 29 11.5 +3.7
MDJ PcS **PcS** 04 29 13.0 +2.2
MDJ ScS **ScS** 04 32 48.2 +4.1
MDJ PMZ
6.0nm,0.6s
MDJ PMZ
110nm,6.3s
MDJ LN
820nm,13.8s
MDJ LE
520nm,15.7s
MDJ LZ
1µm,17.2s
CN2 Changchun 14.84 309 *e*P **Pn** 04 20 30.5 +0.9
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SNY Shenyang 15.29 300 ⇓P **P** 04 20 40.2 0.0
SNY S **Sn** 04 23 31.0 +7.0
SNY pmax pmax
comp=Z,6.0nm,0.5s
SNY LR LR
comp=N,430nm,14.6s
SNY LR LR
comp=E,550nm,13.5s
SNY LR LR
comp=Z,860nm,15.0s
TYV Tymovskoe 15.51 3 *e*P **Pn** 04 20 36.0 -2.4
TYV pmax pmax
comp=Z,11nm,0.8s
TYV MLR MLR
comp=N,2µm,14.0s
TYV MLR MLR
comp=Z,2µm,14.0s
KLR Kul'dur 15.53 336 P **Pn** 04 20 36.4 -2.3
comp=Z,0.1nm,0.3s,baz=37,slow=20,SNR=3.0
KLR LR LR 04 26 29.4
comp=Z,824nm,18.9s,baz=142,slow=36
DL2 Dalian 16.10 288 ⇓P **P** 04 20 54.6 +5.4
DL2 S **S** 04 23 56.6 0.0
DL2 pmax pmax
comp=Z,33nm,1.0s
DL2 pmax pmax
comp=Z,230nm,5.6s
DL2 LR LR
comp=N,970nm,12.6s
DL2 LR LR
comp=E,490nm,13.1s
DL2 LR LR
comp=Z,1µm,16.9s
SSE Sheshan 17.38 261 P **Pn** 04 21 00.7 -1.6
SSE S **Sn** 04 24 11.4 -3.5
SSE PMZ
comp=Z,31nm,0.7s
SSE PMZ
comp=Z,68nm,3.6s
SSE LN
comp=Z,700nm,13.2s
SSE LE
comp=Z,1µm,13.2s
SSE LZ
comp=Z,2µm,13.6s
BJI Beijing 20.41 291 P **P** 04 21 32.8 -3.8
BJI S **S** 04 25 17.3 -6.5
BJI PMZ
comp=Z,8.0nm,1.7s
BJI PMZ
comp=Z,120nm,3.4s
BJI LN
comp=Z,160nm,16.3s
BJI LE
comp=Z,490nm,11.9s
BJI LZ
comp=Z,330nm,23.9s
BJT Baijiatuau 20.42 291 *e*P **P** 04 21 33.6 -3.0
BJT pmax pmax
comp=Z,13nm,0.8s
BJT Baijiatuau 20.42 291 *e*P **P** 04 21 33.6 -3.0
comp=Z,13nm,0.8s
PEA0 Petropavlovsk- 21.16 28 *e*P **P** 04 21 48.6 +4.0
PEA0B Petropavlovsk- 21.16 28 *e*P **P** 04 21 51.0 +6.4
comp=Z,61nm,1.3s
PETK Petropavlovsk- 21.16 28 P **P** 04 21 45.2 +0.6
comp=Z,3.0nm,0.6s,baz=203,slow=11,SNR=3.6
PETK LR LR 04 31 47.8
comp=Z,264nm,18.6s,baz=217,slow=42
HHC Hu-ho-hao-te 23.98 292 *e*P **P** 04 22 12.4 -1.7
HHC PP **PnPn** 04 22 41.6 -1.4
HHC S **S** 04 26 31.6 +2.3
HHC SS **SnSn** 04 27 15.1 +4.8
HHC PMZ
comp=Z,21nm,1.1s
HHC PMZ
comp=Z,95nm,5.4s
HHC LN
comp=Z,410nm,11.3s
HHC LE
comp=Z,340nm,12.3s
HHC LZ
comp=Z,190nm,10.0s
CLNS Chul'man 24.18 338 *e*P **P** 04 22 14.2 -1.4
CLNS pmax pmax
comp=Z,18nm,1.2s
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.9s
MA2 Magadan 24.99 11 P **P** 04 22 23.7 +0.8
comp=E,5.5nm,0.4s,baz=194,slow=22,SNR=3.6
MA2 LR LR 04 33 34.5
comp=E,197nm,18.2s,baz=186,slow=40
XAN Xi'an 26.62 277 P **P** 04 22 34.5 -3.4
XAN pP pP 04 22 40.2 -5.8
XAN PP **PnPn** 04 23 22.6 +3.6
XAN S **S** 04 27 15.3 +4.1
XAN PMZ
comp=E,5.0nm,1.2s
XAN PMZ
comp=E,75nm,6.6s
XAN LN
comp=E,890nm,17.2s
XAN LE
comp=E,880nm,18.6s
XAN LZ
comp=E,880nm,17.8s
ENH Enshi 27.17 268 *e*P **P** 04 22 42.2 -0.7
comp=E,32nm,1.2s
H11N2 WAKE ISLAND Hy 27.39 118 T T 04 51 27.1
baz=311,slow=76,SNR=415
H11N1 WAKE ISLAND Hy 27.40 118 T T 04 51 27.7
baz=311,slow=76,SNR=456
H11N3 WAKE ISLAND Hy 27.41 118 T T 04 51 30.6
baz=311,slow=76,SNR=408
YAK Yakutsk 27.67 348 LR LR 04 34 03.2
comp=E,521nm,18.7s,baz=164,slow=37
YAK Yakutsk 27.67 348 *e*P **P** 04 22 45.8 -1.2
YAK pmax pmax
comp=Z,21nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=N,22nm,1.7s
H11S1 WAKE ISLAND Hy 28.05 120 T T 04 52 15.2
baz=312,slow=76,SNR=2173
H11S3 WAKE ISLAND Hy 28.05 120 T T 04 52 15.2
baz=312,slow=76,SNR=1769
H11S2 WAKE ISLAND Hy 28.07 120 T T 04 52 18.6
baz=312,slow=76,SNR=1442
ULN Ulaanbaatar 28.26 307 ⇑*i*P **P** 04 22 52.9 +0.2
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 28.26 307 *e*P **P** 04 22 52.3 -0.4
comp=Z,2.5nm,0.6s
SEY Seymchan 28.43 11 P **P** 04 22 54.0 +0.3
comp=Z,4.3nm,0.8s,baz=218,slow=10,SNR=4.4
SEY Seymchan 28.43 11 ⇑*e*P **P** 04 22 53.0 -0.8
SONA1 Songino Array 28.68 307 *e*P **P** 04 22 55.9 -0.5
SONM Songino Array 28.68 307 P **P** 04 22 56.1 -0.3
comp=Z,1.5nm,0.8s,baz=97,slow=7.3,SNR=7.8
SONM LR LR 04 34 51.3
comp=Z,469nm,18.1s,baz=104,slow=37
LZH Lanzhou 30.32 282 *e*P **P** 04 23 09.2 -1.9
LZH pP pP 04 23 13.9 -5.2
LZH sP sP 04 23 17.3 -5.2
LZH PP **PnPn** 04 24 10.7 +1.2
LZH *e*S **S** 04 28 09.0 -0.7
LZH sS sS 04 28 14.5 -8.5
LZH PMZ
comp=Z,21nm,1.2s
LZH PMZ
comp=Z,120nm,4.2s
LZH LN
comp=Z,1µm,15.6s
LZH LE
comp=Z,2µm,15.0s
LZH LZ
comp=Z,2µm,16.3s
GYA Guiyang 30.91 263 *e*P **P** 04 23 16.8 +0.4
GYA PP **PnPn** 04 24 16.4 -1.0
GYA PcP **PcP** 04 26 13.6 +1.1
GYA S **S** 04 28 17.0 -2.1
GYA ScP **ScP** 04 29 54.8 +1.4
GYA ScS **ScS** 04 33 50.0 -0.5
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,90nm,5.2s
ZAK Zakamensk 31.27 311 *e*P **P** 04 23 18.6 -0.6
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 31.39 313 LR LR 04 36 34.8
comp=Z,312nm,19.1s,baz=105,slow=37
TLY Talaya 31.39 313 *e*P **P** 04 23 17.7 -2.5
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,476nm,17.0s
CD2 Chengdu 31.65 273 *e*P **P** 04 23 21.0 -1.7
QIZ Qiongzhong 32.22 248 P **P** 04 23 27.9 +0.2
QIZ pP **pP** 04 23 31.0 -4.8
QIZ S **S** 04 28 41.0 +1.8
QIZ PMZ
comp=Z,12nm,1.6s
QIZ LN
comp=Z,330nm,18.0s
QIZ LE
comp=Z,290nm,14.8s
QIZ LZ
comp=Z,470nm,15.2s
GTA Gaotai 33.02 290 *e*P **P** 04 23 36.1 +1.4
GTA pP pP 04 23 41.9 -0.9
GTA sP sP 04 23 44.9 -1.3
GTA S **S** 04 28 53.5 +1.8
GTA sS sS 04 29 02.5 -2.6
GTA SS **SnSn** 04 30 52.7 +2.0
GTA PMZ
comp=Z,8.0nm,0.8s
GTA PMZ
comp=Z,51nm,4.1s
GTA LN
comp=Z,300nm,18.5s
GTA LE
comp=Z,310nm,14.7s
GTA LZ
comp=Z,420nm,14.3s
KMI Kunming 34.68 264 P **P** 04 23 52.5 +3.1
KMI sP sP 04 24 01.8 +0.9
KMI S **S** 04 29 19.7 +1.9
KMI sS sS 04 29 29.8 -1.4
KMI SS **SnSn** 04 31 25.7 -5.6
KMI PMZ
comp=Z,10.0nm,0.9s
KMI PMZ
comp=Z,41nm,3.3s
KMI LN
comp=Z,650nm,13.7s
KMI LE
comp=Z,970nm,14.5s
KMI LZ
comp=Z,1µm,15.2s
BILL Bilibino 35.63 16 ⇑*e*P **P** 04 23 56.2 -0.7
BILL *e* 04 25 13.8
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL MLR MLR
comp=Z,170nm,17.0s
TIXI Tiksi 36.92 353 P **P** 04 24 05.9 -1.9
comp=Z,3.9nm,0.9s,baz=142,slow=2.9,SNR=9.1
TIXI Tiksi 36.92 353 ⇑*i*P **P** 04 24 07.2 -0.6
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 36.92 353 *e*P **P** 04 24 06.7 -1.1
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 41.04 257 LR LR 04 42 12.1
comp=Z,200nm,20.1s,baz=64,slow=37
WMQ Urumqi 41.55 299 P **P** 04 24 47.7 +0.8
WMQ pP pP 04 24 54.2 -0.9
WMQ sP sP 04 24 57.0 -1.5
WMQ S **S** 04 31 01.4 +0.3
WMQ ScS **ScS** 04 34 48.4 -0.1
WMQ PMZ
comp=Z,14nm,1.2s
WMQ PMZ
comp=Z,81nm,4.2s
WMQ LN
comp=Z,230nm,17.2s
WMQ LE
comp=Z,53nm,17.2s
ZAA0 Zalesovo Array 42.99 314 *e*P **P** 04 24 57.5 -1.0
ZALV Zalesovo Beam 42.99 314 P **P** 04 24 57.8 -0.7
comp=Z,3.5nm,0.6s,baz=90,slow=7.3,SNR=12
ZALV pP **sP** 04 25 11.6 +1.6
comp=Z,6.0nm,0.8s,baz=90,slow=6.3,SNR=6.7
ZALV LR LR 04 41 49.6
comp=Z,111nm,19.8s,baz=70,slow=35
NVS Novosibirsk 43.95 315 *e*P **P** 04 25 03.1 -3.0
NVS pmax pmax
comp=Z,18nm,1.2s
NRIK Noril'sk 44.75 336 P **P** 04 25 11.6 -0.7
comp=Z,1.3nm,0.3s,baz=117,slow=8.2,SNR=3.6
NRIK LR LR 04 44 45.9
comp=Z,236nm,18.5s,baz=102,slow=37
MK01 Makanchi Array 44.95 303 *e*P **P** 04 25 13.2 -1.1
MK31 Makanchi Array 44.96 304 *e*P **P** 04 25 14.3 -0.1
MK31 Makanchi Array 44.96 304 *e*P **P** 04 25 14.3 -0.1
MKAR Makanchi Array 44.96 304 P **P** 04 25 13.9 -0.4
comp=Z,4.9nm,0.7s,baz=87,slow=9.8,SNR=28
MKAR pP **sP** 04 25 28.6 +2.6
comp=Z,9.6nm,0.8s,baz=91,slow=9.7,SNR=11
MKAR LR LR 04 44 35.2
comp=Z,158nm,19.1s,baz=90,slow=37
MKAR Makanchi Array 44.96 304 *e*P **P** 04 25 14.3 -0.1
MKAR pP **sP** 04 25 28.6 +2.6
KAPI Kappang 45.01 211 *e*P **P** 04 25 16.7 +1.7
comp=Z,35nm,1.3s
MAKZ Makanchi 45.17 304 *e*P **P** 04 25 15.6 -0.4
MAKZ pmax pmax
comp=Z,13nm,0.9s
MAKZ Makanchi 45.17 304 *e*P **P** 04 25 15.6 -0.4
comp=Z,13nm,0.9s
SVW2 Sparrevohn 46.88 36 *e*P **P** 04 25 33.0 +3.7
comp=Z,6.1nm,0.9s
KURK Kurchatov 46.91 309 P **P** 04 25 29.3 -0.3
KURK *PP **sP** 04 25 43.2 +1.9
KURK pmax pmax
comp=Z,3.0nm,0.5s
KURK pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 46.91 309 *e*P **P** 04 25 28.4 -1.2
comp=Z,116nm,0.9s
KURBB Kurchatov Arra 46.98 309 P **P** 04 25 29.2 -0.9
comp=Z,2.6nm,0.5s,baz=85,slow=8.1,SNR=34
KURBB pP **sP** 04 25 43.2 +1.4
comp=Z,12nm,0.9s,baz=83,slow=7.6,SNR=12
RSO Redoubt South 48.25 37 *e*P **P** 04 25 42.8 +2.7
KDAK Kodiak Island 48.38 41 *ce*P **P** 04 25 41.9 +1.0
SPU Mount Spurr 48.60 36 *e*P **P** 04 25 43.6 +1.0
CAST Castle Rocks 48.64 33 *e*P **P** 04 25 44.0 +1.1
comp=Z,8.8nm,1.3s
COEN Coen 49.09 178 *e*P **P** 04 25 46.8 0.0
comp=Z,18nm,0.9s
BPAW Bear Paw Mtn. 49.15 32 *e*P **P** 04 25 47.6 +0.8
comp=Z,0.3nm,0.7s
KTH Kantishna Hill 49.16 33 *e*P P 04 25 52.1 +5.1
comp=Z,11nm,1.1s
MLY Manley 49.29 31 *e*P **P** 04 25 49.6 +1.7
comp=Z,9.2nm,1.0s
TRF Thorofare Moun 49.44 33 *e*P **P** 04 25 51.0 +1.8
comp=Z,5.3nm,1.0s
COLD Coldfoot 49.63 28 *e*P **P** 04 25 52.4 +2.0
comp=Z,2.1nm,0.8s
PMR Palmer 50.00 36 *e*P **P** 04 25 53.1 -0.1
PMR pmax pmax
comp=Z,16nm,1.2s
PMR Palmer 50.00 36 *e*P **P** 04 25 53.1 -0.1
comp=Z,16nm,1.2s
MCK McKinley 50.05 33 *e*P **P** 04 25 54.7 +1.0
MCK pmax pmax
comp=Z,4.0nm,0.8s
MCK McKinley 50.05 33 *e*P **P** 04 25 54.6 +1.0
comp=Z,4.0nm,0.8s
RND Reindeer 50.09 33 *e*P **P** 04 25 54.6 +0.6
RND pmax pmax
comp=Z,7.0nm,0.9s
RND Reindeer 50.09 33 *e*P **P** 04 25 54.6 +0.6
comp=Z,7.4nm,0.9s
MDM Murphy Dome 50.36 31 *e*P **P** 04 25 56.8 +0.8
comp=Z,16nm,1.1s
SML Sawmill 50.37 35 *e*P **P** 04 25 57.2 +1.1
SML pmax pmax
comp=Z,2.0nm,0.8s
SML Sawmill 50.37 35 *e*P **P** 04 25 57.2 +1.1
comp=Z,1.7nm,0.8s
TKM2 Tokmak 2 50.37 300 *e*P **P** 04 25 56.7 0.0
TKM2 pmax pmax
comp=Z,17nm,1.1s
TKM2 Tokmak 2 50.37 300 *e*P **P** 04 25 56.7 0.0
comp=Z,17nm,1.1s
WRH Wood River Hil 50.42 32 *e*P **P** 04 25 57.9 +1.5
comp=Z,6.9nm,1.2s
COLA College 50.52 31 *e*P **P** 04 25 58.2 +1.1
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 50.52 31 *e*P **P** 04 25 58.2 +1.1
comp=Z,4.6nm,0.8s
SCM Sheep Creek Mo 50.84 35 *e*P **P** 04 26 03.3 +3.6
SCM pmax pmax
comp=Z,18nm,1.2s
SCM Sheep Creek Mo 50.84 35 *e*P **P** 04 26 03.3 +3.6
comp=Z,18nm,1.2s
IL1 Eielson Array 50.93 32 *e*P **P** 04 25 59.5 -0.8
ILAR Eielson Array 50.93 32 P **P** 04 25 58.4 -1.9
comp=Z,1.8nm,0.8s,baz=268,slow=6.4,SNR=25
ILAR LR LR 04 51 58.0
comp=Z,40nm,18.1s,baz=294,slow=41
ILB Eielson Array 50.93 32 *e*P **P** 04 26 00.5 +0.2
KSH Kashi 51.04 295 P **P** 04 26 05.2 +3.6
KSH pP sP 04 26 12.2 -1.1
KSH PcP **PcP** 04 27 20.1 +2.8
KSH PP **PP** 04 28 02.2 +4.1
KSH S **S** 04 33 21.8 +4.5
KSH ScS **ScS** 04 35 50.5 0.0
KSH SS **SS** 04 36 54.9 +2.7
KSH PMZ
comp=Z,5.0nm,0.8s
KSH PMZ
comp=Z,54nm,6.4s
KSH LN
comp=Z,150nm,6.1s
KSH LE
comp=Z,96nm,7.3s
KSH LZ
comp=Z,290nm,15.4s
FRU Bishkek 51.09 300 *e*P **P** 04 26 00.0 -1.9
FRU *e* 04 26 16.0
AAK Ala-Archa 51.23 300 *e*P **P** 04 26 02.3 -0.8
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 51.23 300 *e*P **P** 04 26 02.3 -0.8
comp=Z,5.5nm,1.0s
KLU Klutina 51.54 36 *e*P **P** 04 26 06.3 +1.3
comp=Z,6.4nm,0.9s
PAX Paxson 51.64 34 *e*P **P** 04 26 06.0 +0.3
PAX pmax pmax
comp=Z,8.0nm,1.2s
PAX Paxson 51.64 34 *e*P **P** 04 26 06.0 +0.3
comp=Z,8.0nm,1.2s
DIV Divide 51.64 36 *e*P **P** 04 26 06.1 +0.4
comp=Z,21nm,1.2s
BVAR Borovoye Array 51.65 313 P **P** 04 26 04.5 -1.3
comp=Z,2.1nm,0.8s,baz=74,slow=7.9,SNR=13
BRVK Borovoye 51.70 313 ⇑*i*P **P** 04 26 05.6 -0.6
BRVK pmax pmax
comp=Z,43nm,2.5s
BRVK Borovoye 51.70 313 *e*P **P** 04 26 05.8 -0.5
comp=Z,18nm,0.5s
DOT Dot Lake 52.22 33 *e*P **P** 04 26 08.9 -1.1
comp=Z,11nm,0.9s
BMRM Bremner River 52.22 36 *e*P **P** 04 26 10.5 +0.4
comp=Z,17nm,1.0s
ZRNK Zerenda 52.48 313 *e*P **P** 04 26 11.5 -0.5
ZRNK Zerenda 52.48 313 *e*P **P** 04 26 11.5 -0.5
comp=Z,16nm,1.2s
GSI Gunungsitoli 52.91 240 *e*P **P** 04 26 14.0 -1.6
comp=Z,44nm,1.2s
CRQM Cirque 52.96 37 *e*P **P** 04 26 17.2 +1.5
comp=Z,17nm,1.1s
EGAK Eagle 53.38 31 *e*P **P** 04 26 18.1 -0.4
comp=Z,8.9nm,1.4s
KKAR Karatay Array 53.91 301 *e*P **P** 04 26 22.2 -0.5
KKAR Karatay Array 53.91 301 *e*P **P** 04 26 22.2 -0.5
FITZ Fitzroy Crossi 55.23 198 *e*P **P** 04 26 31.5 -0.9
comp=Z,21nm,1.3s
WRAB Tennant Creek 55.40 188 ⇑*i*P **P** 04 26 34.3 +0.7
WRAB pmax pmax
comp=Z,57nm,1.1s
WRAB Tennant Creek 55.40 188 *e*P **P** 04 26 32.6 -1.0
comp=Z,25nm,1.1s
WB2 Warramunga Arr 55.41 188 *e*P **P** 04 26 33.0 -0.7
comp=Z,18nm,0.9s
WRA Warramunga Arr 55.41 188 P **P** 04 26 32.5 -1.1
comp=Z,19nm,1.0s,baz=5.6,slow=7.5,SNR=29
INK Inuvik 55.89 27 P **P** 04 26 34.1 -2.4
comp=Z,1.3nm,0.9s,baz=194,slow=4.2,SNR=2.4
INK Inuvik 55.89 27 *e*P **P** 04 26 37.1 +0.5
INK pmax pmax

comp=Z,7.0nm,1.1s
INK Inuvik 55.89 27 *e*P P **04 26 37.1 +0.5**
comp=Z,7.3nm,1.1s
SVE Sverdlovsk 56.35 319‖ *e*P P **04 26 40.0 -0.1**
SVE pmax pmax
comp=Z,18nm,1.1s
ARU Arti 57.56 319 *c i*P P **04 26 48.1 -0.5**
ARU 04 28 54.1
ARU S S **04 34 44.0 -0.5**
ARU SS SS **04 38 29.0 -5.1**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU MLR MLR
comp=Z,278nm,18.0s
ARU Arti 57.56 319 *e*P P **04 26 47.4 -1.3**
comp=Z,21nm,1.1s
HYB Hyderabad 58.11 269 *i* P P **04 26 53.0 -0.1**
ABKAR Akbulak array 58.96 311 *e*P P **04 26 57.8 -0.7**
comp=Z,7.5nm,0.8s
AS01 Alice Springs 59.13 188 *e*P P **04 26 57.9 -2.1**
AS31 Alice Springs 59.14 188 *e*P P **04 27 01.5 +1.5**
comp=Z,9.3nm,1.8s
ASAR Alice Springs 59.14 188 P P **04 26 58.6 -1.3**
comp=Z,2.9nm,0.8s,baz=4.1,slow=7.8,SNR=16
MBWA Marble Bar 59.84 203 *e*P P **04 27 03.9 -0.9**
DLBC Dease Lake 59.97 37 *e*P P **04 27 07.0 +1.5**
comp=Z,6.9nm,1.2s
GEYT Alibeck 64.59 300 P P **04 27 33.7 -2.9**
comp=Z,3.7nm,0.7s,baz=85,slow=3.1,SNR=6.4
KLMR Klimovskoe 65.12 328 *e*P P **04 27 36.3 -3.4**
KLMR *e* 04 29 59.8
KLMR pmax pmax
comp=Z,16nm,1.5s
YKA Yellowknife Ar 65.27 30 P P **04 27 39.2 -1.4**
comp=Z,0.9nm,0.8s,baz=298,slow=6.1,SNR=3.8
ARCES ARCESS Array B 65.52 340 LR LR 05 00 37.1
comp=Z,169nm,18.2s,baz=38,slow=40
STKA Stephens Creek 66.90 180 P P **04 27 49.6 -1.7**
comp=Z,3.5nm,0.7s,baz=358,slow=7.5,SNR=7.4
STKA LR LR 04 58 44.0
comp=Z,75nm,19.2s,baz=23,slow=37
STKA Stephens Creek 66.90 180 *e*P P **04 27 51.8 +0.5**
STKA Stephens Creek 66.90 180 *e*P P **04 27 51.9 +0.5**
comp=Z,3.6nm,1.5s
DAG Danmarks Havn 67.42 355 *i* P P 04 27 59.0 +4.9
DAG pmax pmax
comp=Z,11nm,1.0s
DAG Danmarks Havn 67.42 355 *i* P P 04 27 59.0 +4.9
comp=Z,11nm,1.0s
BBOO Buckleboo 68.01 185 *e*P P **04 27 56.9 -1.4**
comp=Z,14nm,1.0s
VRH Novokhopyorsk 68.77 318 *e*P P 04 28 10.6 +7.6
VRH pmax pmax
comp=Z,6.0nm,0.5s
LPSR Galich'ya Gora 69.53 321 *e*P P **04 28 07.8 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
VSR Storozhevoye 70.14 319 *e*P P **04 28 09.7 -1.8**
VSR pmax pmax
comp=Z,6.0nm,0.8s
FIA1 FINESS Array S 70.25 332 *e*P P **04 28 13.1 +1.1**
FINES FINESS Array B 70.25 332 P P **04 28 10.6 -1.4**
comp=Z,4.6nm,0.8s,baz=57,slow=7.0,SNR=14
FINES LR LR 05 00 12.2
comp=Z,205nm,20.5s,baz=26,slow=37
ZEI Tsey 71.80 310 *e*P P 04 28 15.0 -7.0
KBZ Khabaz 71.93 311 P P **04 28 21.7 -0.8**
comp=Z,3.6nm,0.9s,baz=64,slow=5.4,SNR=8.7
KBZ pP **sP** **04 28 36.7 +2.3**
comp=Z,8.5nm,0.9s,baz=126,slow=1.1,SNR=7.3
KIV Kislovodsk 71.94 311‖ *e*P P **04 28 22.7 0.0**
KIV *e* 04 31 03.0
KIV *e*S S **04 37 45.3 +3.1**
KIV *e*SS SS **04 42 15.4 -2.9**
KIV pmax pmax
comp=Z,28nm,2.5s
KIV MLR MLR
comp=Z,139nm,18.0s
K05A Summer Lake 72.05 50 *e*P P **04 28 25.6 +2.1**
comp=Z,38nm,1.6s
NEY Neytrino 72.30 311 P P **04 28 25.2 +0.2**
NEY pmax pmax
comp=Z,1.0nm,1.4s
SUMG Summit 72.34 360 *i* P P **04 28 25.1 +0.1**
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 72.34 360 *i* P P **04 28 25.1 +0.1**
comp=Z,12nm,1.0s
SUMG Summit 72.34 360 *e*P P **04 28 25.0 +0.1**
comp=Z,12nm,1.0s
BMO Blue Mountains 73.11 47 *e*P P **04 28 31.1 +1.4**
BMO pmax pmax
comp=Z,2.0nm,0.7s
BMO Blue Mountains 73.11 47 *e*P P **04 28 31.1 +1.4**
comp=Z,1.9nm,0.7s
MFID Camas Ranch 74.79 47 *e*P P **04 28 39.3 -0.3**
comp=Z,1.2nm,0.6s
LRM Limekiln Ridge 75.38 44 *e*P P **04 28 44.3 +1.2**
DLMT Dillon 75.57 44 *e*P P **04 28 44.3 +0.3**
comp=Z,6.7nm,1.1s
AKASG Malin Array Be 75.57 323 P P **04 28 41.9 -1.8**
comp=Z,1.6nm,0.5s,baz=47,slow=6.1,SNR=14
AKASG LR LR 05 04 56.9
comp=Z,383nm,19.0s,baz=40,slow=38
AKASG Malin Array Be 75.57 323 P P **04 28 41.9 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG MLR MLR
comp=Z,383nm,19.0s
BMN Battle Mountai 75.61 51 *e*P P **04 28 45.4 +1.0**
BMN pmax pmax
comp=Z,4.0nm,0.9s
BMN Battle Mountai 75.61 51 *e*P P **04 28 45.4 +1.0**
comp=Z,4.4nm,0.9s
NB2 NORSAR Subarra 75.69 337 P P **04 28 43.3 -1.0**
comp=Z,6.7nm,1.1s,baz=42,slow=5.9
NOA NORSAR Array B 75.69 337 P P **04 28 42.4 -1.9**
comp=Z,3.0nm,0.9s,baz=40,slow=5.7,SNR=8.1
NOA LR LR 05 05 20.6
comp=Z,230nm,18.8s,baz=40,slow=38
NBO02 NORSAR Array S 75.79 338 *e*P P **04 28 46.3 +1.5**
BOZ Bozeman (W) 75.95 44 *e*P P **04 28 46.0 -0.2**
BOZ pmax pmax
comp=Z,10.0nm,1.5s
BOZ Bozeman (W) 75.95 44 *e*P P **04 28 46.0 -0.2**
comp=Z,9.9nm,1.5s
NV01 Mina Array Sit 76.04 53 *e*P P **04 28 47.4 +0.5**
NVAR Mina Array Bea 76.04 53 P P **04 28 46.0 -0.9**
comp=Z,0.9nm,0.7s,baz=302,slow=5.9,SNR=5.7
NVAR LR LR 05 00 58.7
comp=Z,29nm,18.3s,baz=267,slow=35
H17A Grant Village 77.30 44 *e*P P **04 28 55.6 +1.7**
comp=Z,13nm,1.4s
MOOW Moose Ponds 77.59 45 *e*P P **04 28 57.4 +1.8**
comp=Z,11nm,1.7s
R11A Troy Canyon, C 77.84 52 *e*P P **04 28 58.0 +0.9**
comp=Z,16nm,2.0s
TPNV Topopah Spring 78.22 53 *e*P P **04 29 01.7 +2.6**
TPNV pmax pmax
comp=Z,14nm,1.6s
TPNV Topopah Spring 78.22 53 *e*P P **04 29 01.7 +2.6**
comp=Z,14nm,1.6s
HWUT Hardware Ranch 78.40 47 *e*P P **04 29 00.7 +0.6**
comp=Z,4.6nm,1.0s
DUG Dugway, Tooele 78.49 49 *e*P P **04 29 01.4 +0.8**
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 78.49 49 *e*P P **04 29 01.4 +0.8**
comp=Z,4.3nm,1.0s
BW06 Boulder Array 78.88 45 *e*P P **04 29 01.9 -0.8**
PDAR Pinedale Array 78.88 45 P P **04 29 02.2 -0.6**
comp=Z,0.7nm,0.6s,baz=278,slow=2.6,SNR=6.1
SHPR Sheep Range 79.19 53 *e*P P **04 29 07.3 +2.8**
comp=Z,12nm,1.7s
KWP Kalwaria Pacla 79.44 325 *e*P P **04 29 05.7 +0.3**
KWP Kalwaria Pacla 79.44 325 *e*P P **04 29 05.7 +0.3**
BUR08 Bucovina Ar. S 79.56 322 *e*P P **04 29 06.5 +0.3**
BR131 Keskin Array S 79.90 312 *e*P P **04 29 09.5 +1.3**
BRTR Keskin Array B 79.90 312 P P **04 29 07.4 -0.9**
comp=Z,2.2nm,0.9s,baz=92,slow=3.7,SNR=8.6
BRTR LR LR 05 09 03.8
comp=Z,86nm,19.2s,baz=48,slow=39
LCMT Little Creek M 80.12 52 *e*P P **04 29 10.9 +1.4**
comp=Z,5.3nm,1.2s
MTPU Mount Pierson 80.18 50 *e*P P **04 29 14.0 +3.9**
comp=Z,8.0nm,1.4s

STHS Stebnicka Huta 80.27 325 *e*P P **04 29 10.6 +0.7**
STHS *e* 04 29 18.6
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 80.27 325 *e*P P **04 29 10.6 +0.7**
STHS *e* 04 29 18.6
UZH Uzhgorod 80.32 324 *e*P P **04 29 09.7 -0.5**
UZH *i* 04 29 21.5
BR231 Keskin MP Arra 80.35 312 *e*P P **04 29 08.6 -2.0**
OJC Ojcow 80.38 326 *e*P P **04 29 10.6 +0.2**
OJC Ojcow 80.38 326 *e*P P **04 29 10.6 +0.2**
KNB Kanab 80.39 51 *e*P P **04 29 12.5 +1.5**
KNB pmax pmax
comp=Z,9.0nm,1.1s
KNB Kanab 80.39 51 *e*P P **04 29 12.5 +1.5**
comp=Z,8.8nm,1.1s
CRVS Cervenica-Dubn 80.53 325 *e*P P **04 29 11.3 0.0**
CRVS Cervenica-Dubn 80.53 325 *e*P P **04 29 11.3 0.0**
SRU San Rafael Swe 80.55 49 *e*P P **04 29 13.5 +1.6**
SRU pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael Swe 80.55 49 *e*P P **04 29 13.5 +1.6**
comp=Z,3.7nm,0.9s
KECS Kecovo 81.28 325 *e*P P **04 29 11.3 -4.0**
LANS Liptovska Anna 81.29 326 *e*P P **04 29 16.6 +1.2**
LANS *e* 04 29 29.6
LANS Liptovska Anna 81.29 326 *e*P P **04 29 16.6 +1.2**
LANS *e* 04 29 29.6
OKC Ostrava-Krasne 81.39 327 AMS AMS 05 09 00.0
comp=Z,200nm,13.6s
DPC Dobruska-Polom 81.82 328 *e*P P **04 29 18.6 +0.4**
DPC *es*P **sP** **04 29 33.8 +3.6**
DPC AMS AMS 05 10 00.0
comp=Z,200nm,14.2s
DPC Dobruska-Polom 81.82 328 *e*P P **04 29 18.6 +0.4**
DPC *e* 04 29 33.8
DPC MLR MLR
comp=Z,200nm,14.2s
UPC Upice 81.84 328 AMS AMS 05 10 00.0
comp=Z,200nm,13.8s
PV10 Paradox Valley 81.92 48 *e*P P **04 29 20.4 +1.1**
PSZ Piszkesteto 81.97 325 *e*P P **04 29 19.4 +0.4**
PSZ pmax pmax
comp=Z,16nm,1.3s
PSZ Piszkesteto 81.97 325 *e*P P **04 29 19.4 +0.4**
comp=Z,16nm,1.3s
VYHS Vyhne 82.05 325 *e*P P **04 29 19.6 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,1.3s
VYHS Vyhne 82.05 325 *e*P P **04 29 19.6 +0.2**
PV05 Paradox Valley 82.07 49 *e*P P **04 29 21.4 +1.5**
Y14A Wickenburg 82.13 54 *e*P P **04 29 21.1 +1.0**
comp=Z,20nm,1.2s
PV01 Paradox Valley 82.36 48 *e*P P **04 29 22.2 +0.7**
PVCC Panska Ves 82.44 329 *e*P P **04 29 22.2 +0.8**
PVCC AMS AMS 05 08 50.0
comp=Z,200nm,15.9s
PVCC Panska Ves 82.44 329 *e*P P **04 29 22.2 +0.8**
PVCC MLR MLR
comp=Z,200nm,15.9s
BRG Berggiesshubel 82.44 329 *e*P P 04 29 27.6 +6.3
comp=Z,7.7nm,1.2s
BRG *e* 04 29 35.1
comp=Z,5.4nm,1.1s
comp=N,236nm,15.7s
comp=E,141nm,14.0s
comp=Z,267nm,14.4s
BRG Berggiesshubel 82.44 329 *e*P P 04 29 27.6 +6.2
BRG *e* 04 29 35.1
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG MLR MLR
comp=N,236nm,15.7s
BRG MLR MLR
comp=E,141nm,14.0s
BRG MLR MLR
comp=Z,267nm,14.4s
VRAC Vranov 82.47 327 LR LR 05 08 08.9
comp=Z,116nm,20.6s,baz=24,slow=37
CLL Collm 82.50 330 *e*P P **04 29 20.0 -1.6**
comp=Z,5.0nm,1.2s
CLL *i* 04 29 25.2
comp=Z,8.0nm,1.2s
CLL *i* 04 29 29.3
CLL *i* 04 29 37.0
comp=Z,10.0nm,1.1s
CLL *e* 04 49 30.0
CLL Collm 82.50 330 *e*P P **04 29 20.0 -1.6**
CLL *i* 04 29 29.3
CLL pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 82.50 330 *e*P P **04 29 23.4 +1.8**
comp=Z,9.9nm,1.1s
GOPC GO Pecny, Ondr 82.81 328 AMS AMS 05 10 40.0
comp=Z,200nm,14.7s
PRU Pruhonice 82.86 329 *e*P P **04 29 23.6 0.0**
PRU *ep*P **sP** **04 29 37.5 +1.9**
PRU AMS AMS 05 10 00.0
comp=Z,200nm,13.1s
PRU Pruhonice 82.86 329 *e*P P **04 29 23.6 0.0**
PRU *e* 04 29 37.5
PRU MLR MLR
comp=Z,200nm,13.1s
TREC Trest 82.97 328 AMS AMS 05 10 20.0
comp=Z,200nm,14.7s
NKC Novy Kostel 83.55 330 AMS AMS 05 09 50.0
comp=Z,200nm,17.1s
S22A 4UR Ranch, Cre 83.66 48 *e*P P **04 29 31.2 +2.9**
comp=Z,3.5nm,1.1s
CONA Conrad Observa 83.82 327 *i* P P **04 29 28.9 +0.2**
comp=Z,9.0nm,1.7s
KHC Kasperske Hory 83.92 329 *e*P P **04 29 29.1 0.0**
KHC *e*PCP **PcP** **04 29 33.7 +0.6**
KHC *ep*P **sP** **04 29 42.9 +1.8**
KHC AMS AMS 05 11 30.0
comp=Z,200nm,21.1s
KHC Kasperske Hory 83.92 329 *e*P P **04 29 29.1 0.0**
KHC *e* 04 29 42.9
KHC MLR MLR
comp=Z,200nm,21.1s
KHC Kasperske Hory 83.92 329 *e*P P **04 29 28.8 -0.3**
comp=Z,3.0nm,1.1s
PPT Papeete 83.96 116 LR LR 05 02 08.9
comp=Z,70nm,21.6s,baz=354,slow=32
GERES GERESS Array B 84.08 328 P P **04 29 28.8 -1.2**
comp=Z,0.9nm,0.8s,baz=30,slow=6.2,SNR=7.5
GERES LR LR 05 11 14.5
comp=Z,109nm,18.2s,baz=24,slow=39
GEA0 GERESS Array S 84.09 328 *e*P P **04 29 29.7 -0.3**
GRFO Grafenberg 84.47 330 *e*P P **04 29 31.3 -0.6**
GRFO pmax pmax
comp=Z,2.0nm,0.4s
GRFO Grafenberg 84.47 330 *e*P P **04 29 31.3 -0.6**
comp=Z,2.2nm,0.4s
ARSA Arzberg 84.48 326 *i* P P **04 29 30.9 -1.1**
comp=Z,3.5nm,1.0s
MOA Molln 84.59 327 *i* P P **04 29 32.0 -0.5**
comp=Z,7.6nm,2.1s
SOKA Soboth 85.13 326 *i* PcP P **04 29 35.1 -0.2**
comp=Z,15nm,2.0s
KBA Koelnbreinsper 85.58 327 *i* PcP P **04 29 38.7 +1.0**
comp=Z,3.7nm,1.1s
ANMO Albuquerque 85.70 50‖ *i*P P **04 29 40.0 +1.4**
ANMO pmax pmax
comp=Z,3.0nm,1.7s
ANMO Albuquerque 85.70 50 *e*P P **04 29 41.8 +3.3**
comp=Z,3.6nm,1.1s
MYKA Terra Mystica 85.79 327 *i* PcP P **04 29 40.7 +2.1**
comp=Z,2.5nm,0.6s
RETA Reutte 86.38 329 *i* PcP P **04 29 41.4 -0.1**
comp=Z,3.8nm,1.1s
BFO Black Forest 86.71 331 *ce*P P **04 29 43.5 +0.4**
DAVA Damuels 86.91 329 *i* PcP P **04 29 43.5 -0.7**
comp=Z,7.0nm,1.4s
DAVOX Davos/Dischmat 87.31 329 LR LR 05 12 23.9
comp=Z,202nm,18.3s,baz=7.0,slow=38
WMOK Wichita Mounta 90.48 46 *e*P P **04 30 04.3 +3.1**
WMOK pmax pmax
comp=Z,8.0nm,1.4s
WMOK Wichita Mounta 90.48 46 *e*P P **04 30 04.3 +3.1**
comp=Z,8.1nm,1.4s
TX31 Lajitas Ar. Si 91.18 52 *e*P P **04 30 05.7 +1.0**
TXAR Lajitas Array 91.18 52 P P **04 30 03.6 -1.0**
comp=Z,0.7nm,0.8s,baz=295,slow=3.4,SNR=8.6
TXAR LR LR 05 07 36.7
comp=Z,65nm,19.9s,baz=0.0,slow=33

KEST Kesra 96.30 323 LR LR 05 18 53.8
comp=Z,149nm,18.2s,baz=301,slow=38
ESDC Sonseca Array 98.74 334 LR LR 05 19 35.6
comp=Z,100nm,20.3s,baz=260,slow=38
TORD Torodi Ar. Bea 118.44 314 PKP **PKPdf** **04 35 45.0 -2.3**
comp=Z,0.5nm,1.0s,baz=211,slow=1.7,SNR=3.6
SAML Samuel 145.45 46 *e*PKPbc **PKPbc** **04 36 36.1 -1.6**
LPAZ La Paz 147.56 62 PKPbc **PKPdf** **04 36 43.2 +1.2**
comp=Z,3.2nm,0.7s,baz=7.3,slow=5.6,SNR=19
LVC Limon Verde 150.77 72 *e*PKPbc **PKPbc** **04 36 53.2 +0.9**
LVC *e*PKPab **PKPab** **04 37 00.2 +0.8**
LCO Las Campanas 152.24 86 *e*PKPbc **PKPbc** **04 36 56.3 +0.9**

ISK ***11*** *04:29:17.9,39.09N×29.08E,h6km,MD2.8*
ISCJB ***11*** *04:29:18.4±0.6,39.08N±0.06×29.04E±0.04,h9km,Error ellipse: s-maj=8.4km s-min=4.4km az=160.4*
CSEM ***11*** *04:29:18.4±0.1,39.10N×29.03E,h5km,MD2.8,Error ellipse: s-maj=2.8km s-min=1.9km az=144.0*
DDA ***11*** *04:29:18.2,39.07N×29.03E,h7km,Md2.6*

ISC 11 04:29:18.6±1.0, 39.10N±0.04×29.03E±0.03, h9km, n22, σ 0.5 26/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
DEMI	**Demirci**	**0.25**	**258**	P		**Pg**	**04 29 23.6**	**-0.1**
DEMI				S		**Sg**	**04 29 27.1**	**0.0**
DEMI	**Demirci**	**0.25**	**258**	*i* P		**Pg**	**04 29 23.6**	**-0.1**
DEMI				*i* S		**Sg**	**04 29 27.1**	**0.0**
GDZ	**Gediz**	**0.35**	**91**	P		**Pg**	**04 29 25.5**	**-0.1**
GDZ				S		**Sg**	**04 29 30.6**	**+0.3**
GDZ	**Gediz**	**0.35**	**91**	*i* P		**Pg**	**04 29 25.5**	**-0.1**
GDZ				*i* S		**Sg**	**04 29 30.6**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**43**	*e*PG		**Pg**	**04 29 27.6**	**-0.5**
TVSB				*e*SG		**Sg**	**04 29 34.3**	**-0.3**
TVSB	**Tavsanli**	**0.49**	**43**	*e*Pg		**Pg**	**04 29 27.7**	**-0.5**
TVSB				*e*Sg		**Sg**	**04 29 34.3**	**-0.3**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*PG		**Pg**	**04 29 31.0**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*Pg		**Pg**	**04 29 31.0**	**-0.1**
BALB	**Balikesir**	**1.04**	**302**	*e*PN		**Pn**	**04 29 39.1**	**-0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*Pn		**Pn**	**04 29 39.2**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN		**Pn**	**04 29 42.4**	**-0.2**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*Pn		**Pn**	**04 29 42.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*PN		**Pb**	**04 29 42.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn		**Pb**	**04 29 42.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN		**Pg**	**04 29 43.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn		**Pg**	**04 29 43.4**	**+0.2**
IZI	**Iznik**	**1.29**	**15**	*e*PN		**Pg**	**04 29 43.2**	**-0.1**
IZI	**Iznik**	**1.29**	**15**	*e*Pn		**Pg**	**04 29 43.2**	**-0.1**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN		**Pn**	**04 29 45.7**	**+0.3**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn		**Pn**	**04 29 45.7**	**+0.3**
GULT	**Gulveren**	**1.76**	**40**	*e*PN		**Pn**	**04 29 49.7**	**+0.4**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn		**Pn**	**04 29 49.7**	**+0.4**

KRSC 11 04:40:55.1±1.1, 53.06N×160.00E, h70km±13km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
NLC	**Nalytchevo**	**0.41**	**286**	*i* P		Pn	04 41 08.8	+1.7
NLC				*i* S		Sn	04 41 17.1	+1.2
SDLR	**Sedlovina**	**0.71**	**289**	*i* P		Pn	04 41 11.6	+1.4
SDLR				*e*S		Sn	04 41 22.5	+1.2
UGLR	**Uglovaya**	**0.72**	**282**	*i* P		Pn	04 41 12.1	+1.7
UGLR				*e*S		Sn	04 41 22.9	+1.2
SMAR	**Somma**	**0.75**	**286**	*e*P		Pn	04 41 12.1	+1.3
DALK	**Dalny**	**0.75**	**268**	*e*P		Pn	04 41 11.8	+1.3
DALK				*e*S		Sn	04 41 22.7	+0.7
AVH	**Avacha**	**0.79**	**286**	*i* P		Pn	04 41 12.9	+1.8
AVH				*e*S		Sn	04 41 24.4	+1.5
KRER	**Koryakskii**	**0.79**	**289**	*i* P		Pn	04 41 12.8	+1.6
KRER				*i* S		Sn	04 41 24.7	+1.5
PET	**Petropavlovsk**	**0.81**	**268**	*e*P		Pn	04 41 12.5	+1.2
PET				*e*S		Sn	04 41 23.7	+0.4
KOK	**Koryaka**	**0.85**	**286**	*i* P		Pn	04 41 13.5	+1.6
KOK				*i* S		Sn	04 41 25.8	+1.5
RUS	**Russkaya**	**1.10**	**236**	*i* P		Pn	04 41 16.4	+1.6
RUS				*e*S		Sn	04 41 30.5	+1.0
KRMR	**Karymshinskiy**	**1.16**	**259**	*i* P		Pn	04 41 16.9	+1.4
KRMR				*i* S		Sn	04 41 31.4	+0.6
GNL	**Ganaly**	**1.39**	**298**	*e*P		Pn	04 41 19.8	+1.2
GNL				*i* S		Sn	04 41 36.5	+0.1
ASAK	**Asacha**	**1.45**	**243**	*e*P		Pn	04 41 21.8	+2.4
ASAK				*e*S		Sn	04 41 40.1	+2.4
MKZ	**Mys Kozlova**	**1.82**	**34**	*e*P		Pn	04 41 27.0	+2.8
MKZ				*e*S		Sn	04 41 49.3	+3.0
KMNR	**Kamenistaya**	**2.71**	**3**	*e*P		Pn	04 41 39.6	+3.3
ZLN	**Zelenaya**	**3.00**	**9**	*e*P		Pn	04 41 43.8	+3.5
LGNR	**Loginova**	**3.06**	**7**	*e*P		Pn	04 41 43.3	+2.1
CIRR	**Tsirk**	**3.09**	**8**	*e*P		Pn	04 41 45.0	+3.4
KBG	**Krutoberegovo**	**3.57**	**25**	S		Sn	04 42 31.7	+2.9
SMKR	**Semkarok**	**3.63**	**13**	*e*P		Pn	04 41 52.4	+3.5
SRKR	**Sorokina**	**3.67**	**10**	*e*P		Pn	04 41 52.4	+3.1
BKI	**Bering**	**4.12**	**56**	*e*P		Pn	04 41 57.6	+2.2
BKI				*e*S		Sn	04 42 41.3	-0.9

MAN 11 04:47:50, 8.50N×124.68E, h38km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
CGP	**Cagayan de Oro**	**0.05**	**157**‖	*i*P		Pn	04 47 57.2	+1.0
CGP				*i* S		Sn	04 48 00.8	+0.3
BUKP	**Musuan**	**0.72**	**148**	*e*P		Pn	04 48 04.7	+0.9
BUKP				*e*S		Sn	04 48 15.9	+2.2
PAGZ	**Pagadian**	**1.44**	**243**	*e*P		Pn	04 48 13.4	-0.1
PAGZ				*e*S		Sn	04 48 32.3	+1.2

NIED ***11*** *04:50:00,36.90N×141.10E,h26km,Mw3.5 Best double couple: M0 1.80000×10^14 NP1:φ=309.00000°,δ=61.00000°, λ=151.00000°. NP2:φ=54.00000°,δ=65.00000°,λ=33.00000°.*
ISCJB ***11*** *04:50:01.7±1.2,36.87N±0.06×141.1E±0.1,h50km±7km, mb3.4/3,Error ellipse: s-maj=15.1km s-min=8.3km az=18.9*
JMA ***11*** *04:50:02.7±0.1,36.88N×141.06E,h50km±1km,M3.7*
JMA Felt I J1.
IDC ***11*** *04:50:04.4±7.7,36.99N×141.06E,h58km±60km,mb3.3/3, mb1 3.4/4,mb1mx3.1/34,mbtmp3.5/4,ML3.3/1,Error ellipse: s-maj=55.5km s-min=25.7km az=68.0*

ISC 11 04:50:02.3±1.7, 36.88N±0.06×141.1E±0.1, h41km±11km, n10, σ 0.8 98/16, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
ONAJ	**Iwakimizuishiy**	**0.35**	**310**	P		**Pn**	**04 50 11.7**	**+0.3**
ONAJ				S		**Sn**	**04 50 17.9**	**+0.2**
JHO	**Hitachi**	**0.53**	**240**	P		**Pn**	**04 50 13.5**	**0.0**
JHO				S		**Sn**	**04 50 21.1**	**-0.3**
JFK	**Kawauchi**	**0.53**	**337**	P		**Pn**	**04 50 13.6**	**0.0**
JFK				S		**Sn**	**04 50 21.2**	**-0.4**
JFT	**Otama**	**0.91**	**315**	P		**Pn**	**04 50 19.2**	**+0.6**
JFT				S		**Sn**	**04 50 30.4**	**-0.1**
JSB	**Shiboa**	**0.98**	**276**	S		**Sn**	**04 50 32.1**	**-0.3**
JYT	**Yasato**	**1.00**	**230**	P		**Pn**	**04 50 19.7**	**-0.1**
JYT				S		**Sn**	**04 50 31.6**	**-1.1**
MJAR	**Matsushiro Arr**	**2.38**	**263**	P		**Pn**	**04 50 39.3**	**+0.5**
MJAR	7.2nm,0.3s,baz=86,slow=15,SNR=35			S		**Sn**	**04 51 08.1**	**+1.3**
SONM	**Songino Array**	**27.69**	**304**	P		**P**	**04 55 46.8**	**+0.3**
MKAR	**Makanchi Array**	**44.02**	**302**	P		**P**	**04 58 03.6**	**-2.1**
WRA	**Warramunga Arr**	**56.87**	**188**	P		**P**	**04 59 44.6**	**+1.7**

16nm,0.3s,baz=84,slow=25,SNR=13
0.6nm,0.6s,baz=110,slow=9.4,SNR=5.0
0.1nm,0.2s,baz=92,slow=8.7,SNR=2.8
0.6nm,0.9s,baz=0.6,slow=7.4,SNR=3.5

IDC 11 05:02:23.1±1.2, 57.67N×32.78W, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.5/49, mbtmp3.6/7, ML3.9/1, MS3.2/7, Ms1 3.2/7, ms1mx2.8/43, Error ellipse: s-maj=39.0km s-min=20.6km az=31.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
SFJD	**Kangerlussuaq**	**12.44**	**326**	Pn		Pn	05 05 19.3	-1.9
	0.6nm,0.3s,baz=142,slow=20,SNR=3.6							
FRB	**Frobisher Bay**	**18.33**	**304**	LR		LR	05 12 27.5	

	comp=Z,58nm,18.2s,baz=195,slow=33							
ESDC	**Sonseca Array**	**25.89**	**122**	P	P	05 07 55.6	-0.8	
	0.5nm,0.7s,baz=322,slow=10,SNR=5.2							
AKASG	**Malin Array Be**	**35.78**	**74**	P	P	05 09 21.5	-2.0	
	1.0nm,0.7s,baz=304,slow=8.5,SNR=5.4							
OBN	**Obninsk**	**36.95**	**63**	LR	LR	05 23 47.6		
	comp=Z,48nm,21.7s,baz=269,slow=35							
YKA	**Yellowknife Ar**	**38.52**	**312**	LR	LR	05 25 00.1		
	comp=Z,7.1nm,18.2s,baz=0.0,slow=35							
ILAR	**Eielson Array**	**48.10**	**328**	P	P	05 11 03.9	-0.1	
	0.6nm,0.9s,baz=34,slow=6.3,SNR=6.3							
PDAR	**Pinedale Array**	**48.62**	**287**	P	P	05 11 08.1	-0.4	
	0.2nm,0.5s,baz=56,slow=6.7,SNR=2.4							
PDAR				LR	LR	05 29 42.8		
	comp=Z,34nm,19.1s,baz=48,slow=34							
GNI	**Garni**	**50.90**	**75**	LR	LR	05 33 13.6		
	comp=Z,11nm,19.9s,baz=352,slow=36							
TORD	**Torodi Ar. Bea**	**51.53**	**135**	P	P	05 11 31.4	+0.9	
	0.5nm,0.7s,baz=345,slow=8.1,SNR=3.7							
TORD				LR	LR	05 31 14.2		
	comp=Z,56nm,21.3s,baz=110,slow=34							
NVAR	**Mina Array Bea**	**56.29**	**290**	LR	LR	05 34 19.8		
	comp=Z,50nm,18.1s,baz=84,slow=34							
MKAR	**Makanchi Array**	**62.85**	**44**	P	P	05 12 51.9	+1.6	
	0.1nm,0.3s,baz=330,slow=5.5,SNR=3.0							

*IDC **11** 05:05:42.4±0.7, 13°.23N×145°.66E, h0km, mb4.2/19, mb1 4.3/19, mb1mx4.2/46, mbtmp4.2/19, MS3.4/12, Ms1 3.5/12, ms1mx3.1/40, Error ellipse: s-maj=17.5km s-min=15.0km az=55.0*

*ISCJB **11** 05:05:47.0±0.5, 13°.16N±0°.07×145°.47E±0°.10, h43km, mb4.3/29, MS3.4/12, Error ellipse: s-maj=13.8km s-min=10.1km az=0.2*

*NEIC **11** 05:05:48.6±1.9, 13°.18N×145°.46E, h40km±16km, mb4.6/12, Error ellipse: s-maj=16.4km s-min=9.5km az=97.0*

ISC 11 05:05:48.6±0.7, 13°.2N±0°.1×145°.6E±0°.1, h43km, n52, σ1§06/44, mb4.2/29, MS3.4/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.81**	**301**	Pn	**Pn**	**05 06 02.6**	**-1.0**
	384nm,0.3s,baz=100,slow=6.1,SNR=76						
GUMO				Sn	**Sn**	**05 06 16.4**	**+1.9**
	941nm,0.3s,baz=0.0,slow=20,SNR=24						
GUMO	**Guam**	**0.81**	**301**	*e*Pg	**Pn**	**05 06 02.5**	**-1.1**
JHJ	**Hachijo jima 2**	**20.55**	**346**	LR	LR	05 16 01.0	
	comp=Z,790nm,20.8s,baz=116,slow=30						
DAV	**Davao City (W)**	**20.59**	**255**	LR	LR	05 17 13.0	
	comp=Z,66nm,20.0s,baz=48,slow=33						
H11S2	**WAKE ISLAND Hy**	**21.00**	**73**	T	T	05 33 12.6	
	SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**21.45**	**69**	T	T	05 32 59.1	
	baz=257,slow=74,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**21.46**	**70**	T	T	05 33 06.9	
	baz=17,slow=74,SNR=12						
MJAR	**Matsushiro Arr**	**24.20**	**345**	P	**P**	**05 10 58.9**	**-2.3**
	2.2nm,0.8s,baz=122,slow=10,SNR=3.8						
MAJO	**Matsushiro**	**24.20**	**345**	*e*P	**P**	**05 11 01.5**	**+0.4**
	7.5nm,0.9s						
HNR	**Honiara**	**26.61**	**147**	LR	LR	05 21 03.5	
	comp=Z,96nm,19.0s,baz=333,slow=35						
KSRS	**Korea Array**	**28.87**	**330**	P	**P**	**05 11 43.2**	**+0.1**
	1.4nm,0.8s,baz=141,slow=8.7,SNR=4.5						
KSAR	**Wonju Array Be**	**28.88**	**330**	P	**P**	**05 11 43.2**	**0.0**
USRK	**Usuriysk Ar.**	**33.04**	**342**	P	**P**	**05 12 19.7**	**-0.2**
	1.0nm,0.7s,baz=132,slow=8.0,SNR=5.1						
WRAB	**Tennant Creek**	**34.70**	**199**	*e*P	**P**	**05 12 33.9**	**-0.7**
	32nm,1.7s						
WRA	**Warramunga Arr**	**34.71**	**199**	P	**P**	**05 12 33.9**	**-0.8**
	1.8nm,0.6s,baz=22,slow=9.7,SNR=14						
FITZ	**Fitzroy Crossi**	**36.78**	**213**	*e*P	**P**	**05 12 52.6**	**+0.2**
	49nm,1.8s						
KLR	**Kul'dur**	**37.72**	**345**	P	**P**	**05 12 57.8**	**-2.3**
	1.3nm,0.6s,baz=131,slow=20,SNR=4.8						
ASAR	**Alice Springs**	**38.35**	**197**	P	**P**	**05 13 05.5**	**-0.2**
	1.0nm,0.6s,baz=21,slow=10,SNR=18						
STKA	**Stephens Creek**	**44.95**	**185**	LR	LR	05 34 10.9	
	comp=Z,42nm,18.1s,baz=18,slow=38						
CMAR	**Chiang Mai Arr**	**45.08**	**283**	P	**P**	**05 14 01.4**	**+0.5**
	1.6nm,0.3s,baz=86,slow=6.9,SNR=5.0						
CMAR				PcP	**PcP**	**05 15 43.0**	**+1.7**
	0.7nm,0.3s,baz=114,slow=1.3,SNR=5.2						
CMAR				LR	LR	05 30 05.4	
	comp=Z,28nm,21.9s,baz=115,slow=32						
SONM	**Songino Array**	**47.47**	**325**	P	**P**	**05 14 19.3**	**0.0**
	0.4nm,0.4s,baz=148,slow=11,SNR=3.6						
SONM				PcP	**PcP**	**05 15 50.4**	**+1.2**
	1.4nm,0.6s,baz=154,slow=2.2,SNR=5.4						
TLY	**Talaya**	**51.08**	**328**	LR	LR	05 34 25.4	
	comp=Z,27nm,21.6s,baz=118,slow=34						
MKAR	**Makanchi Array**	**62.27**	**316**	P	**P**	**05 16 06.8**	**+0.4**
	1.0nm,0.3s,baz=89,slow=8.8,SNR=12						
ZALV	**Zalesovo Beam**	**66.32**	**26**	P	**P**	**05 16 06.7**	**-0.1**
	0.5nm,0.4s,baz=67,slow=3.7,SNR=3.1						
ZALV				PcP	**PcP**	**05 16 45.4**	**-0.6**
	1.7nm,0.6s,baz=113,slow=3.6,SNR=6.5						
ZALV				LR	LR	05 43 46.7	
	comp=Z,38nm,19.2s,baz=68,slow=37						
KURK	**Kurchatov**	**65.35**	**320**	*e*P	**P**	**05 16 26.0**	**-0.5**
	52nm,0.9s						
KURBB	**Kurchatov Arra**	**65.39**	**320**	P	**P**	**05 16 26.7**	**0.0**
	5.2nm,0.7s,baz=101,slow=6.7,SNR=6.3						
NRIK	**Noril'sk**	**66.75**	**341**	LR	LR	05 45 15.6	
	comp=Z,40nm,20.7s,baz=117,slow=36						
BPAW	**Bear Paw Mtn.**	**66.75**	**25**	*e*P	**P**	**05 16 36.6**	**+1.4**
	0.6nm,0.7s						
PMR	**Palmer**	**66.83**	**28**	*e*P	**P**	**05 16 36.5**	**+0.8**
	5.7nm,0.9s						
AAK	**Ala-Archa**	**67.31**	**311**	LR	LR	05 46 58.0	
	comp=Z,16nm,20.3s,baz=38,slow=37						
ILAR	**Eielson Array**	**68.65**	**25**	P	**P**	**05 16 47.0**	**-0.2**
	1.1nm,0.5s,baz=250,slow=6.0,SNR=21						
BVAR	**Borovoye Array**	**70.68**	**322**	P	**P**	**05 16 59.9**	**0.0**
	6.0nm,0.4s,baz=101,slow=7.6,SNR=13						
BRVK	**Borovoye**	**70.75**	**322**	*e*P	**P**	**05 17 00.2**	**-0.1**
	12nm,0.3s						
PPT	**Papeete**	**70.91**	**114**	LR	LR	05 43 19.3	
	comp=Z,56nm,20.4s,baz=291,slow=32						
EGAK	**Eagle**	**71.05**	**26**	*e*P	**P**	**05 17 05.2**	**+3.3**
	2.0nm,0.9s						
INK	**Inuvik**	**74.49**	**22**	P	**P**	**05 17 21.9**	**-0.4**
	2.7nm,0.9s,baz=256,slow=6.7,SNR=4.8						
INK	**Inuvik**	**74.49**	**22**	*e*P	**P**	**05 17 22.7**	**+0.5**
	2.8nm,0.8s						
ARU	**Arti**	**77.50**	**325**	P	**P**	**05 17 39.6**	**-0.1**
	3.1nm,0.4s,baz=225,slow=1.4,SNR=4.1						
ARU	**Arti**	**77.50**	**325**	*e*P	**P**	**05 17 39.5**	**-0.1**
	5.3nm,0.7s						
YKA	**Yellowknife Ar**	**82.91**	**27**	P	**P**	**05 18 08.6**	**0.0**
	1.3nm,0.6s,baz=288,slow=5.5,SNR=7.3						
NVAR	**Mina Array Bea**	**86.64**	**51**	P	**P**	**05 18 29.4**	**+1.1**
	0.8nm,0.7s,baz=283,slow=5.5,SNR=3.9						
ARCES	**ARCESS Array B**	**87.69**	**342**	P	**P**	**05 18 32.3**	**-0.1**
	1.7nm,0.6s,baz=52,slow=7.9,SNR=6.9						
ARCES				LR	LR	06 00 49.2	
	comp=Z,18nm,20.1s,baz=85,slow=38						
HLID	**Hailey**	**88.14**	**46**	*e*P	**P**	**05 18 36.1**	**+0.8**
	3.5nm,1.3s						
ELK	**Elko**	**88.33**	**49**	*e*P	**P**	**05 18 36.3**	**-0.1**
	2.8nm,0.9s						
FINES	**FINESS Array B**	**91.83**	**335**	P	**P**	**05 18 50.4**	**-1.5**
	0.7nm,0.4s,baz=63,slow=8.8,SNR=9.7						
NOA	**NORSAR Array B**	**97.68**	**339**	LR	LR	06 04 35.2	
	comp=Z,13nm,21.2s,baz=40,slow=36						
TORD	**Torodi Ar. Bea**	**135.67**	**305**	PKP	**PKPdf**	**05 25 06.9**	**+1.5**
	0.4nm,0.5s,baz=33,slow=1.8,SNR=7.7						
DBIC	**Dimbokro**	**144.63**	**302**	PKP	**PKPdf**	**05 25 20.7**	**-0.9**
	5.8nm,0.4s,baz=40,slow=3.9,SNR=18						
KIC	**Kosan Boka**	**144.70**	**302**	*e*PKP2	**PKPdf**	**05 25 20.8**	**-1.0**
	64nm,1.1s						
TIC	**Toumodi**	**144.78**	**302**	*e*PKP2	**PKPdf**	**05 25 21.2**	**-0.7**
LIC	**Lamto**	**145.02**	**302**	*e*PKP2	**PKPdf**	**05 25 22.1**	**-0.2**
LPAZ	**La Paz**	**147.27**	**100**	PKPbc	**PKPab**	**05 25 30.4**	**-0.6**
	0.6nm,0.5s,baz=260,slow=5.6,SNR=6.4						

MEX 11 05:11:10.8±1.2, 14°.23N×93°.81W, h16km±312km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.57**	**21**	*e*P	Pn	05 11 33.9	-4.1
PCIG				*i* S	Sn	05 11 53.2	-4.8
CCIG	**Comitan**	**2.60**	**38**	*e*P	Pn	05 11 51.1	-1.2
CCIG				*i* S	Sn	05 12 19.8	-3.9

IDC 11 05:22:07.1±2.8, 54°.15N×86°.59E, h0km, mb1 3.2/2, mb1mx3.0/39, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=23.0km s-min=14.6km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**260**	*i*		05 28 50.0	
	baz=80,slow=317,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.07**	**260**	Pg	Pg	05 22 26.2	-1.3
	1.0nm,0.3s,baz=77,slow=16,SNR=6.8						
ZALV				Lg	Lg	05 22 42.1	
	1.6nm,0.3s,baz=75,slow=26,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.07**	**238**	Pn	Pn	05 23 39.5	+1.5
	0.2nm,0.3s,baz=55,slow=14,SNR=7.0						
KURBB				Lg	Lg	05 25 20.9	
	baz=54,slow=33,SNR=3.2						
MKAR	**Makanchi Array**	**7.86**	**202**	Pn	Pn	05 24 03.2	+0.6
	0.1nm,0.3s,baz=24,slow=14,SNR=2.5						
MKAR				Lg	Lg	05 26 17.3	
	0.1nm,0.3s,baz=19,slow=32,SNR=3.6						

*ISCJB **11** 05:28:18.7±0.5, 39°.10N±0°.02×29°.10E±0°.02, h1km±5km, Error ellipse: s-maj=3.5km s-min=3.0km az=144.1*

*DDA **11** 05:28:18.1, 39°.12N×29°.09E, h17km, Ml3.8*

*ISK **11** 05:28:18.6, 39°.09N×29°.12E, h5km, ML3.4*

*CSEM **11** 05:28:19.7±0.1, 39°.07N×29°.12E, h10km, ML3.4, Error ellipse: s-maj=3.1km s-min=2.8km az=128.0*

ISC 11 05:28:19.0±0.9, 39°.11N±0°.02×29°.11E±0°.02, h11km±8km, n105, σ1§10/128, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.24**	**106**	PG	**Pg**	**05 28 24.0**	**0.0**
GEDZ	**Gediz**	**0.24**	**106**	*i* Pg	**Pg**	**05 28 24.0**	**0.0**
GDZ	**Gediz**	**0.29**	**94**	P	**Pg**	**05 28 24.9**	**0.0**
GDZ				S	**Sg**	**05 28 29.3**	**+0.5**
GDZ	**Gediz**	**0.29**	**94**	*i* P	**Pg**	**05 28 24.9**	**0.0**
GDZ				*i* S	**Sg**	**05 28 29.3**	**+0.5**
DEMI	**Demirci**	**0.32**	**258**	P	**Pg**	**05 28 25.1**	**-0.3**
DEMI				S	**Sg**	**05 28 29.5**	**-0.2**
DEMI	**Demirci**	**0.32**	**258**	*i* P	**Pg**	**05 28 25.1**	**-0.3**
DEMI				*i* S	**Sg**	**05 28 29.5**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**39**	PG	**Pg**	**05 28 27.5**	**0.0**
TVSB				*e*SG	**Sg**	**05 28 33.7**	**+0.4**
TVSB	**Tavsanli**	**0.43**	**39**	*i* Pg	**Pg**	**05 28 27.5**	**0.0**
TVSB				*e*Sg	**Sg**	**05 28 33.7**	**+0.4**
KULA	**Kula-Manisa**	**0.69**	**211**	PG	**Pg**	**05 28 32.2**	**-0.2**
KULA				*e*SG	**Sb**	**05 28 41.5**	**-1.2**
KULA	**Kula-Manisa**	**0.69**	**211**	*i* Pg	**Pg**	**05 28 32.2**	**-0.2**
KULA				*e*Sg	**Sb**	**05 28 41.5**	**-1.2**
MANT	**Manisa**	**0.76**	**215**	S	**Sg**	**05 28 42.5**	**-1.0**
MANT	**Manisa**	**0.76**	**215**	*i* P	**Pg**	**05 28 33.1**	**-0.5**
MANT				*i* S	**Sg**	**05 28 42.5**	**-1.0**
KHL	**Karahalli**	**0.85**	**158**	*e*PG	**Pb**	**05 28 35.3**	**-0.5**
KHL				*e*SG	**Sb**	**05 28 46.7**	**-0.6**
KHL	**Karahalli**	**0.85**	**158**	*e*Pg	**Pb**	**05 28 35.3**	**-0.5**
KHL				*e*Sg	**Sb**	**05 28 46.7**	**-0.6**
AKS	**Akhisar**	**1.04**	**257**	*e*PG	**Pb**	**05 28 39.0**	**0.0**
AKS	**Akhisar**	**1.04**	**257**	*e*Pg	**Pb**	**05 28 39.0**	**0.0**
BALB	**Balikesir**	**1.09**	**299**	*e*PN	**Pn**	**05 28 40.2**	**+0.1**
BALB	**Balikesir**	**1.09**	**299**	*e*Pn	**Pn**	**05 28 40.3**	**+0.1**
IGD	**Bursa**	**1.15**	**3**	*i* P	**Pb**	**05 28 39.0**	**-1.9**
IGD				*i* S	**Sb**	**05 28 53.3**	**-2.6**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*PN	**Pg**	**05 28 42.7**	**+0.1**
CAVI	**Cavuskoy**	**1.23**	**27**	*e*Pn	**Pg**	**05 28 42.7**	**+0.1**
IZI	**Iznik**	**1.25**	**13**	*e*PN	**Pg**	**05 28 43.1**	**0.0**
IZI	**Iznik**	**1.25**	**13**	*e*Pn	**Pg**	**05 28 43.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**352**	*e*PN	**Pb**	**05 28 42.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**352**	*e*Pn	**Pb**	**05 28 42.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*PN	**Pb**	**05 28 43.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**333**	*e*Pn	**Pb**	**05 28 43.3**	**0.0**
BALY	**Balya**	**1.32**	**299**	P	**Pn**	**05 28 43.5**	**+0.1**
BALY				S	**Sn**	**05 29 01.1**	**+0.1**
BALY	**Balya**	**1.32**	**299**	*i* P	**Pn**	**05 28 43.5**	**+0.1**
BALY				*i* S	**Sn**	**05 29 01.1**	**+0.1**
GEMT	**Gemlik**	**1.32**	**3**	*e*PN	**Pg**	**05 28 44.8**	**+0.4**
GEMT	**Gemlik**	**1.32**	**3**	*e*Pn	**Pg**	**05 28 44.8**	**+0.4**
DENT	**Denizli**	**1.36**	**183**	*e*PN	**Pg**	**05 28 44.3**	**-0.8**
DENT	**Denizli**	**1.36**	**183**	*e*Pn	**Pg**	**05 28 44.3**	**-0.8**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*PN	**Pg**	**05 28 46.0**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*Pn	**Pg**	**05 28 46.0**	**0.0**
ESKT	**Eskisehir**	**1.41**	**73**	*e*PN	**Pg**	**05 28 45.3**	**-0.7**
ESKT	**Eskisehir**	**1.41**	**73**	*e*Pn	**Pg**	**05 28 45.3**	**-0.7**
DNZL	**Cakiroluk**	**1.42**	**182**	S	**Sg**	**05 29 07.4**	**+2.7**
DNZL	**Cakiroluk**	**1.42**	**182**	*i* P	**Pn**	**05 28 44.6**	**-0.4**
DNZL				*i* S	**Sg**	**05 29 07.4**	**+2.7**
ARMT	**Armutlu**	**1.47**	**352**	*e*PN	**Pg**	**05 28 46.7**	**-0.4**
ARMT	**Armutlu**	**1.47**	**352**	*e*Pn	**Pg**	**05 28 46.7**	**-0.4**
BOLV	**Bolvadin**	**1.49**	**105**	P	**Pg**	**05 28 46.6**	**-0.9**
BOLV				S	**Sg**	**05 29 06.3**	**-0.5**
BOLV	**Bolvadin**	**1.49**	**105**	*i* P	**Pg**	**05 28 46.6**	**-0.9**
BOLV				*i* S	**Sg**	**05 29 06.3**	**-0.5**
GPA	**Golpazari**	**1.50**	**38**	*e*PN	**Pg**	**05 28 47.1**	**-0.6**
GPA	**Golpazari**	**1.50**	**38**	*e*Pn	**Pg**	**05 28 47.1**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*e*PN	**Pb**	**05 28 46.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*e*Pn	**Pb**	**05 28 46.9**	**-0.2**
EDC	**Edincik**	**1.56**	**322**	*e*PN	**Pb**	**05 28 48.1**	**+0.1**
EDC	**Edincik**	**1.56**	**322**	*e*Pn	**Pb**	**05 28 48.1**	**+0.1**
IZM	**Izmir**	**1.61**	**244**	*e*PN	**Pb**	**05 28 48.8**	**0.0**
IZM	**Izmir**	**1.61**	**244**	*e*Pn	**Pb**	**05 28 48.8**	**0.0**
KNL	**Bal¯¯kesir**	**1.69**	**314**	*i* P	**Pn**	**05 28 49.1**	**+0.7**
KNL				*i* S	**Sb**	**05 29 11.9**	**+0.6**
GULT	**Gulveren**	**1.71**	**39**	*e*PN	**Pb**	**05 28 50.1**	**-0.3**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pb**	**05 28 50.1**	**-0.3**
DKL	**Dikili**	**1.72**	**269**	*e*PN	**Pb**	**05 28 50.3**	**-0.3**
DKL	**Dikili**	**1.72**	**269**	*e*Pn	**Pb**	**05 28 50.3**	**-0.3**
AYDN	**Tasoluk**	**1.74**	**214**	P	**Pn**	**05 28 48.9**	**-0.3**
AYDN				S	**Sg**	**05 29 14.9**	**-0.1**
AYDN	**Tasoluk**	**1.74**	**214**	*i* P	**Pn**	**05 28 48.9**	**-0.3**
AYDN				*i* S	**Sg**	**05 29 14.9**	**-0.1**
HRT	**Hereke**	**1.76**	**14**	*e*PN	**Pb**	**05 28 50.9**	**-0.4**
HRT	**Hereke**	**1.76**	**14**	*e*Pn	**Pb**	**05 28 50.9**	**-0.4**
SPNC	**Sapanca-Adapaz**	**1.82**	**30**	*e*PN	**Pb**	**05 28 51.6**	**-0.7**
SPNC	**Sapanca-Adapaz**	**1.82**	**30**	*e*Pn	**Pb**	**05 28 51.6**	**-0.7**
MRMT	**Marmara Adasi**	**1.89**	**322**	*e*PN	**Pb**	**05 28 52.8**	**-0.8**
MRMT	**Marmara Adasi**	**1.89**	**322**	*e*Pn	**Pb**	**05 28 52.8**	**-0.8**
KRBG	**Karabiga-Canak**	**1.90**	**313**	*e*PN	**Pb**	**05 28 52.7**	**-0.9**
KRBG	**Karabiga-Canak**	**1.90**	**313**	*e*Pn	**Pb**	**05 28 52.7**	**-0.9**
GOLH	**Golhisar**	**1.91**	**169**	*i* P	**Pn**	**05 28 51.7**	**+0.2**
GOLH				*i* S	**Sg**	**05 29 24.3**	**+4.0**
ISK	**Istanbul-Kandi**	**1.95**	**359**	*e*PN	**Pb**	**05 28 54.1**	**-0.4**
ISK	**Istanbul-Kandi**	**1.95**	**359**	*e*Pn	**Pb**	**05 28 54.1**	**-0.4**
BTAS	**Taskesti**	**2.06**	**44**	P	**Pb**	**05 28 57.1**	**+0.7**
BTAS				S	**Sg**	**05 29 25.9**	**+0.8**
BTAS	**Taskesti**	**2.06**	**44**	*i* P	**Pb**	**05 28 57.1**	**+0.7**
BTAS				*i* S	**Sg**	**05 29 25.9**	**+0.8**
SILT	**Sile**	**2.08**	**11**	*e*PN	**Pb**	**05 28 55.8**	**-0.9**
SILT	**Sile**	**2.08**	**11**	*e*Pn	**Pb**	**05 28 55.8**	**-0.9**
YER	**Yerkesik**	**2.08**	**199**	*e*PN	**Pn**	**05 28 54.8**	**+0.9**
YER	**Yerkesik**	**2.08**	**199**	*e*Pn	**Pn**	**05 28 54.8**	**+0.9**
BGKT	**Bogazkoy**	**2.08**	**353**	*e*PN	**Pb**	**05 28 55.6**	**-1.2**
BGKT	**Bogazkoy**	**2.08**	**353**	*e*Pn	**Pb**	**05 28 55.6**	**-1.2**
MDUB	**Mudurnu**	**2.10**	**49**	*e*PN	**Pb**	**05 28 55.6**	**-1.6**
MDUB	**Mudurnu**	**2.10**	**49**	*e*Pn	**Pb**	**05 28 55.6**	**-1.6**
KLYT	**Kilyos**	**2.14**	**359**	*e*PN	**Pb**	**05 28 56.7**	**-1.1**
KLYT	**Kilyos**	**2.14**	**359**	*e*Pn	**Pb**	**05 28 56.7**	**-1.1**
KIZT	**Kizilcal**	**2.17**	**95**	*e*PN	**Pn**	**05 28 56.2**	**+1.1**
KIZT	**Kizilcal**	**2.17**	**95**	*e*Pn	**Pn**	**05 28 56.2**	**+1.1**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*PN	**Pb**	**05 28 57.3**	**-1.0**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*Pn	**Pb**	**05 28 57.3**	**-1.0**
SUTC	**Sutluce-Ispart**	**2.21**	**137**	*e*PN	**Pn**	**05 28 56.7**	**+1.0**
SUTC	**Sutluce-Ispart**	**2.21**	**137**	*e*Pn	**Pn**	**05 28 56.7**	**+1.0**
LPK	**Lapseki**	**2.21**	**306**	*e*PN	**Pb**	**05 28 57.4**	**-1.5**
LPK	**Lapseki**	**2.21**	**306**	*e*Pn	**Pb**	**05 28 57.4**	**-1.5**
GELI	**Tayfur-Gelibol**	**2.41**	**303**	*e*PN	**Pb**	**05 29 00.3**	**-2.0**
GELI	**Tayfur-Gelibol**	**2.41**	**303**	*e*Pn	**Pb**	**05 29 00.3**	**-2.0**
CTYL	**Yalikoy Yolu**	**2.44**	**345**	*e*PN	**Pb**	**05 29 00.9**	**-2.0**
CTYL	**Yalikoy Yolu**	**2.44**	**345**	*e*Pn	**Pb**	**05 29 00.9**	**-2.0**
FETY	**Fethiye**	**2.47**	**181**	*e*PN	**Pb**	**05 28 59.9**	**+0.6**
FETY	**Fethiye**	**2.47**	**181**	*e*Pn	**Pn**	**05 28 59.9**	**+0.6**
SIGR	**SIGRI**	**2.53**	**273**	*e*PN	**Pn**	**05 29 02.0**	**+1.9**
SIGR	**SIGRI**	**2.53**	**273**	*e*Pn	**Pn**	**05 29 02.0**	**+1.9**
ERIK	**Erikli-Kesan**	**2.54**	**309**	*e*PN	**Pn**	**05 29 02.0**	**+1.9**
ERIK	**Erikli-Kesan**	**2.54**	**309**	*e*Pn	**Pn**	**05 29 02.0**	**+1.9**
GADA	**Gvkgeada**	**2.71**	**294**	*e*PN	**Pn**	**05 29 04.7**	**+2.3**
GADA	**Gvkgeada**	**2.71**	**294**	*e*Pn	**Pn**	**05 29 04.7**	**+2.3**
ENEZ	**Enez**	**2.79**	**306**	*e*PN	**Pn**	**05 29 05.8**	**+2.2**
ENEZ	**Enez**	**2.79**	**306**	*e*Pn	**Pn**	**05 29 05.8**	**+2.2**
ALN	**Alexandroupoli**	**2.95**	**308**	*e*PN	**Pn**	**05 29 08.2**	**+2.4**
ALN	**Alexandroupoli**	**2.95**	**308**	*e*Pn	**Pn**	**05 29 08.2**	**+2.4**

*IDC **11** 05:33:34.9±2.5, 53°.52N×87°.80E, h0km, mb1 3.6/2, mb1mx3.2/36, mbtmp3.6/2, ML3.3/2, Error ellipse: s-maj=21.8km s-min=14.6km az=62.0*

*NNC **11** 05:33:39.6±3.0, 53°.26N×87°.41E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=21.5km s-min=17.5km az=36.0*

ISC 11 05:33:38.8±3.7, 53°.6N±0°.1×87°.8E±0°.2, h35km, n8, σ1§30/13, 7C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**284**	*i*		05 45 00.0	
	baz=100,slow=317,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.78**	**284**	Pn	**Pn**	**05 34 06.8**	**-0.3**
	7.8nm,0.3s,baz=104,slow=14,SNR=61						
ZALV				Lg	Lg	05 34 33.4	
	9.6nm,0.3s,baz=101,slow=26,SNR=21						
KURK	**Kurchatov**	**6.30**	**247**	⇑Pn	**Pn**	**05 35 09.2**	**+0.1**
	7.2nm,0.4s						
KURK				⇓Sn	**Sn**	**05 36 19.6**	**-0.1**
	11nm,0.6s						
KURK				⇑Lg	Lg	05 36 52.6	
	25nm,0.6s						
KURBB	**Kurchatov Arra**	**6.39**	**246**	Pn	**Pn**	**05 35 11.1**	**+0.7**
	0.5nm,0.3s,baz=61,slow=14,SNR=40						
KURBB				Sn	**Sn**	**05 36 22.4**	**+0.3**
	0.1nm,0.3s,baz=60,slow=28,SNR=5.1						
KURBB				Lg	Lg	05 36 57.9	
	0.1nm,0.3s,baz=64,slow=32,SNR=9.3						
KURBB	**Kurchatov Arra**	**6.39**	**246**	⇑Pn	**Pn**	**05 35 10.8**	**+0.4**
	3.3nm,0.3s						
KURBB				⇓Sn	**Sn**	**05 36 22.0**	**-0.1**
	9.6nm,0.6s						
KURBB				⇑Lg	Lg	05 36 54.3	
	10nm,0.6s						
MK31	**Makanchi Array**	**7.62**	**210**	⇑Pn	**Pn**	**05 35 27.7**	**+0.4**
	0.5nm,0.5s,baz=33,slow=14,SNR=14						
MK31				⇓Sn	**Sn**	**05 36 52.6**	**+0.3**
	0.4nm,0.5s,baz=31,slow=24,SNR=4.0						
MK31				⇑Lg	Lg	05 37 32.0	
	2.7nm,0.8s,baz=44,slow=31,SNR=5.6						
MKAR	**

JHO	**Hitachi**	**0.76**	**330**	P		**Pg**	**06 19 09.2**	**+0.5**
JHO				S		**Sb**	**06 19 19.8**	**+0.1**
JCN	**Nagara**	**0.86**	**232**	P		**Pn**	**06 19 11.6**	**-0.5**
BSO4	**Boso 4**	**1.11**	**211**	P		**Pn**	**06 19 15.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.36**	**285**	Pn		**Pn**	**06 19 32.1**	**-0.7**
	29nm,0.3s,baz=99,slow=8.8,SNR=227							
MJAR				LR		LR	06 20 10.4	
	comp=Z,60nm,21.7s,baz=100,slow=34							
MAJO	**Matsushiro**	**2.36**	**285**	*e*P		**Pn**	**06 19 32.6**	**-0.2**
MAT	**Matsushiro**	**2.36**	**285**	P		**Pn**	**06 19 32.4**	**-0.4**
MAT				S		**Sn**	**06 20 01.3**	**-0.5**
JHJ2	**Mitsune**	**3.00**	**200**	*e*Pn		**Pn**	**06 19 44.0**	**+2.4**
JHJ	**Hachijo jima 2**	**3.01**	**200**	Pn		**Pn**	**06 19 43.5**	**+1.8**
	37nm,0.3s,baz=262,slow=23,SNR=4.8							
JHJ				Sn		**Sn**	**06 20 18.3**	**+0.6**
	39nm,0.3s,baz=306,slow=19,SNR=3.6							
ERM	**Erimo**	**6.28**	**15**	*e*Pn		**Pn**	**06 20 26.1**	**-0.4**
ERM				*e*Sn		**Sn**	**06 21 38.5**	**+0.2**
ASAJ	**Asahikawa**	**8.24**	**8**	Pn		**Pn**	**06 20 52.7**	**-0.9**
JNU	**Nakatsue**	**8.84**	**254**	LR		LR	06 24 40.0	
	comp=Z,55nm,19.7s,baz=125,slow=40							
CBIJ	**Chichi jima**	**8.88**	**173**	Pn		**Pn**	**06 21 01.0**	**-1.3**
JCJ	**Chichijima**	**8.88**	**173**	Pn		**Pn**	**06 21 01.0**	**-1.3**
	11nm,0.3s,baz=281,slow=22,SNR=8.4							
KSRS	**Korea Array**	**10.64**	**282**	LR		LR	06 25 24.4	
	comp=Z,33nm,18.2s,baz=122,slow=37							
USRK	**Ussuriysk Ar.**	**10.76**	**323**	LR		LR	06 25 00.5	
	comp=Z,46nm,20.2s,baz=114,slow=34							
PETK	**Petropavlovsk-**	**20.78**	**29**	P		Pn	06 23 38.1	+0.7
	1.5nm,0.6s,baz=203,slow=11,SNR=2.6							
H11N2	**WAKE ISLAND Hy**	**27.88**	**119**	T		T	06 53 48.4	
	baz=311,slow=75,SNR=683							
H11N1	**WAKE ISLAND Hy**	**27.88**	**119**	T		T	06 53 50.4	
	baz=311,slow=75,SNR=527							
H11N3	**WAKE ISLAND Hy**	**27.89**	**119**	T		T	06 53 48.5	
	baz=311,slow=75,SNR=470							
SONM	**Songino Array**	**28.15**	**306**	P		**P**	**06 24 47.4**	**+1.0**
	0.5nm,0.5s,baz=126,slow=9.1,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**28.55**	**121**	T		T	06 54 40.2	
	baz=313,slow=76,SNR=372							
H11S3	**WAKE ISLAND Hy**	**28.55**	**121**	T		T	06 54 41.9	
	baz=313,slow=76,SNR=231							
H11S2	**WAKE ISLAND Hy**	**28.56**	**121**	T		T	06 54 37.5	
	baz=313,slow=76,SNR=248							
TLY	**Talaya**	**30.82**	**312**	LR		LR	06 37 25.3	
	comp=Z,23nm,18.3s,baz=76,slow=36							
TIXI	**Tiksi**	**36.33**	**354**	LR		LR	06 41 10.1	
	comp=Z,20nm,18.6s,baz=6.5,slow=37							
ZALV	**Zalesovo Beam**	**42.43**	**313**	P		**P**	**06 26 49.0**	**+0.4**
	1.2nm,0.5s,baz=78,slow=9.0,SNR=3.6							
ZALV	**Zalesovo Beam**	**42.43**	**313**	P		**P**	**06 26 49.0**	**+0.4**
MKAR	**Makanchi Array**	**44.45**	**303**	P		**P**	**06 27 05.0**	**0.0**
	0.9nm,0.5s,baz=86,slow=9.8,SNR=13							
KURK	**Kurchatov**	**46.37**	**309**	*e*P		**P**	**06 27 19.7**	**-0.4**
	19nm,0.6s							
ILAR	**Eielson Array**	**50.57**	**32**	P		**P**	**06 27 53.0**	**+0.6**
	0.7nm,0.7s,baz=261,slow=6.2,SNR=11							
WRAB	**Tennant Creek**	**55.94**	**188**	*e*P		**P**	**06 28 32.1**	**-0.1**
	2.5nm,0.6s							
WRA	**Warramunga Arr**	**55.95**	**188**	P		**P**	**06 28 31.4**	**-0.9**
	3.2nm,0.6s,baz=6.0,slow=7.3,SNR=23							
ARU	**Arti**	**56.97**	**319**	LR		LR	06 55 50.8	
	comp=Z,14nm,19.4s,baz=156,slow=39							
ABKAR	**Akbulak array**	**58.41**	**311**	*e*P		**P**	**06 28 48.9**	**-0.6**
	0.9nm,0.5s							
ASAR	**Alice Springs**	**59.67**	**188**	P		**P**	**06 28 58.1**	**-0.4**
	1.6nm,0.6s,baz=16,slow=7.9,SNR=21							
YKA	**Yellowknife Ar**	**64.90**	**30**	P		**P**	**06 29 33.7**	**+0.6**
	0.6nm,0.7s,baz=300,slow=6.8,SNR=3.4							
STKA	**Stephens Creek**	**67.47**	**179**	LR		LR	06 59 17.9	
	comp=Z,29nm,19.1s,baz=217,slow=36							
FINES	**FINESS Array B**	**69.63**	**332**	P		**P**	**06 30 02.9**	**-0.2**
	1.6nm,0.8s,baz=93,slow=12,SNR=4.6							
AKASG	**Malin Array Be**	**74.97**	**322**	P		**P**	**06 30 34.5**	**-0.6**
	0.6nm,0.5s,baz=46,slow=6.1,SNR=4.6							
NB2	**NORSAR Subarra**	**75.07**	**337**	P		**P**	**06 30 35.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**75.07**	**337**	P		**P**	**06 30 35.7**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=40,slow=5.9,SNR=4.7							
NVAR	**Mina Array Bea**	**75.88**	**53**	P		**P**	**06 30 41.5**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=313,slow=7.0,SNR=3.9							
PDAR	**Pinedale Array**	**78.64**	**45**	P		**P**	**06 30 56.9**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=266,slow=1.8,SNR=6.2							
TORD	**Torodi Ar. Bea**	**117.87**	**314**	PKP		**PKPdf**	**06 37 40.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=130,slow=36,SNR=3.7							
QSPA	**South Pole Qui**	**125.69**	**180**	*e*PKPdf		**PKPdf**	**06 37 54.8**	**0.0**
LPAZ	**La Paz**	**147.50**	**61**	PKPbc		**PKPbc**	**06 38 40.4**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=320,slow=2.0,SNR=13							

*IDC **11** 06:20:39.7±7.1,32.°11S×69.°11W,h77km±52km,mb3.4/5, mb1 3.7/8,mb1mx3.6/20,mbtmp3.7/8,ML3.9/3,Error ellipse: s-maj=65.6km s-min=28.3km az=20.0*
*ISCJB **11** 06:20:43.5±0.4,31.°90S±0.°04×69.°11W±0.°05,h116km±4km, mb3.5/5,Error ellipse: s-maj=9.5km s-min=3.7km az=137.4*
*SJA **11** 06:20:43.4±0.8,31.°92S×69.°12W,h110km±4km,ML3.6, MW4.2*
*GUC **11** 06:20:43.8±0.6,31.°75S×69.°59W,h133km±22km,ML3.6*

ISC 11 06:20:44.1±0.7,31.°87S±0.°05×69.°17W±0.°05,h110km±6km, n32,σ1°38/48,mb3.4/5,3C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.13**	**304**	*i* P	**Pn**	**06 20 59.7**	**-0.1**
AUSP	**Uspallata**	**0.40**	**208**	*i* P	**Pn**	**06 21 00.4**	**-0.3**
RTCV	**Cerro Valdivia**	**0.54**	**89**	*i* P	**Pn**	**06 21 01.0**	**-0.2**
RTCV				*i* S	**Sn**	**06 21 13.5**	**-0.7**
SJA	**San Juan**	**0.62**	**57**	*i* P	**Pn**	**06 21 01.9**	**0.0**
SJA				*i* S	**Sn**	**06 21 15.8**	**+0.5**
SJA				IAML		06 21 18.0	
	comp=Z,964nm,0.3s						
ASAL	**Salagasta**	**0.77**	**159**	*i* P	**Pn**	**06 21 03.1**	**-0.2**
ASAL				*i* S	**Sn**	**06 21 17.0**	**-0.6**
RTLL	**Cerro Villicun**	**0.80**	**48**	*i* P	**Pn**	**06 21 03.5**	**0.0**
RTLL				*i* S	**Sn**	**06 21 18.3**	**+0.3**
ARCO	**CERRO ARCO**	**0.99**	**168**	*i* P	**Pn**	**06 21 05.2**	**-0.1**
ARCO				*i* S	**Sn**	**06 21 21.1**	**-0.3**
ARCO				IAML		06 21 23.3	
	comp=Z,1μm,0.2s						
AMOG	**MOGNA**	**1.09**	**32**	*i* P	**Pn**	**06 21 06.9**	**+0.5**
AAGR	**Agrelo**	**1.24**	**167**	*i* P	**Pn**	**06 21 07.8**	**-0.3**
AAGR				*i* S	**Sn**	**06 21 25.2**	**-1.0**
ACAN	**Cantantal**	**1.73**	**104**	*i* P	**Pn**	**06 21 13.8**	**0.0**
ACAN				*i* S	**Sn**	**06 21 35.3**	**-1.0**
FCH	**Farellones**	**1.73**	**213**	*e*P	**Pn**	**06 21 15.0**	**+0.9**
FCH				*i* S	**Sn**	**06 21 38.9**	**+2.0**
FCH				IAML		06 21 39.2	
	comp=N,354nm,0.6s						
PEL	**Peldehue**	**1.80**	**225**	⇑*i*P	**Pn**	**06 21 14.4**	**-0.3**
PEL				*i* S	**Sn**	**06 21 37.9**	**-0.1**
PEL				IAML		06 21 40.2	
	comp=N,548nm,0.3s						
AVFE	**Valle Fertil**	**1.90**	**51**	*i* P	**Pn**	**06 21 15.8**	**-0.1**
AVFE				*i* S	**Sn**	**06 21 40.7**	**+0.5**
AVFE				IAML		06 21 42.1	
	comp=Z,268nm,0.3s						
ROCH	**El Roble**	**1.91**	**234**	⇑*i*P	**Pn**	**06 21 15.5**	**-0.6**
ROCH				*i* S	**Sn**	**06 21 39.6**	**-0.9**
ROCH				IAML		06 21 43.3	
	comp=N,650nm,0.5s						
CLCH	**Cerro Calan**	**1.91**	**217**	*e*P	**Pn**	**06 21 16.5**	**+0.5**
CLCH				*i* S	**Sn**	**06 21 41.6**	**+1.2**
CLCH				IAML		06 21 48.1	
	comp=E,695nm,0.5s						
FSR	**Penalolen**	**1.97**	**215**	*e*P	**Pn**	**06 21 17.5**	**+0.7**
FSR				*i* S	**Sn**	**06 21 43.0**	**+1.3**
STL	**Santa Lucia**	**1.99**	**218**	*e*P	**Pn**	**06 21 17.3**	**+0.3**
STL				*e*S	**Sn**	**06 21 42.2**	**0.0**
ANTU	**Antumapu**	**2.10**	**216**	*i* S	**Sn**	**06 21 44.9**	**+0.4**
ANTU				IAML		06 21 46.6	
	comp=N,370nm,0.5s						
RCDM	**Rinconada Maip**	**2.12**	**220**	⇑*i*P	**Pn**	**06 21 18.6**	**-0.1**
RCDM				*i* S	**Sn**	**06 21 45.1**	**0.0**
TLL	**Tololo Astrono**	**2.20**	**320**	IAML		06 21 50.0	
	comp=N,681nm,0.4s						
ACHE	**Chepes**	**2.25**	**72**	*i* P	**Pn**	**06 21 20.4**	**-0.1**
ACHE				*i* S	**Sn**	**06 21 48.2**	**-0.2**
LVC	**Limon Verde**	**9.23**	**1**	P	**Pn**	**06 22 52.9**	**-1.8**
	comp=N,9.0nm,0.3s,baz=175,slow=12,SNR=3.0						
CPUP	**Villa Florida**	**11.73**	**65**	P	**Pn**	**06 23 25.6**	**-2.4**
	comp=N,0.1nm,0.3s,baz=239,slow=13,SNR=3.7						
CPUP				S	**Sn**	**06 25 44.5**	**+7.4**
	comp=N,0.2nm,0.3s,baz=149,slow=18,SNR=2.1						
LPAZ	**La Paz**	**15.54**	**4**	P	**P**	**06 24 18.9**	**-1.0**
	comp=N,0.1nm,0.3s,baz=168,slow=7.7,SNR=3.4						
BDFB	**Brasilia**	**25.14**	**55**	P	**P**	**06 25 58.3**	**-1.0**
	comp=N,2.1nm,0.8s,baz=300,slow=3.4,SNR=3.5						
TXAR	**Lajitas Array**	**69.14**	**328**	P	**P**	**06 31 39.6**	**+0.9**
	comp=N,0.3nm,0.6s,baz=149,slow=8.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	**81.20**	**69**	P	**P**	**06 32 47.6**	**-0.5**
	comp=N,0.9nm,0.7s,baz=258,slow=4.0,SNR=11						
PDAR	**Pinedale Array**	**83.01**	**331**	P	**P**	**06 32 58.1**	**+0.9**
	comp=N,0.3nm,0.7s,baz=139,slow=5.2,SNR=2.6						
NVAR	**Mina Array Bea**	**83.57**	**323**	P	**P**	**06 33 00.2**	**0.0**
	comp=N,0.2nm,0.3s,baz=141,slow=5.8,SNR=2.2						
WRA	**Warramunga Arr**	**123.77**	**207**	PKP	**PKPdf**	**06 39 28.5**	**-1.2**
	comp=N,0.4nm,0.5s,baz=158,slow=1.6,SNR=5.4						
KURBB	**Kurchatov Arra**	**149.67**	**42**	PKPbc	**PKPbc**	**06 40 20.7**	**+0.1**
	comp=N,0.3nm,0.4s,baz=292,slow=2.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**151.14**	**32**	PKPbc	**PKPbc**	**06 40 23.6**	**-0.3**
	comp=N,0.8nm,0.5s,baz=305,slow=3.0,SNR=4.8						

MEX 11 06:27:10.3±1.2,14.°39N×92.°10W,h7km±24km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.70**	**321**	*e*P	Pn	06 27 37.7	-2.7
PCIG				*e*S	Sn	06 27 58.3	-4.1
CCIG	**Comitan**	**1.88**	**359**	*e*P	Pn	06 27 38.6	-4.5

JMA 11 06:33:26.0,37.°67N×139.°94E,h9km±1km,M2.0,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFY	**Yanaizu**	**0.32**	**216**	P	Pg	06 33 32.5	+0.1
JFY				S	Sg	06 33 36.9	+0.2
JNS	**Sasagawa**	**0.52**	**287**	P	Pg	06 33 36.0	0.0
JNS				S	Sg	06 33 42.8	0.0
JYS	**Shirataka**	**0.56**	**10**	S	Sg	06 33 44.7	+0.5
JFK	**Kawauchi**	**0.80**	**112**	P	Pg	06 33 41.3	-0.2

*NIED **11** 06:33:00,36.°90N×140.°70E,h5km,Mw4.0 Best double couple: M₀1.10000×10¹⁵ NP1:φs359.00000°,δ33.00000°, λ76.00000°. NP2:φs196.00000°,δ58.00000°,λ99.00000°.*
*ISCJB **11** 06:33:49.7±0.6,36.°93N±0.°03×140.°78E±0.°06,h18km±4km, mb3.6/11,Error ellipse: s-maj=9.1km s-min=4.7km az=22.8*
*IDC **11** 06:33:49.2±0.9,36.°91N×140.°58E,h0km,mb3.7/11, mb1 3.9/12,mb1mx3.7/45,mbtmp3.7/12,ML3.7/1,Error ellipse: s-maj=26.5km s-min=19.1km az=77.0*
*JMA **11** 06:33:50.4,36.°95N×140.°66E,h6km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φs301.00000°,δ55.00000°,λ-79.00000°. NP2: φs102.00000°,δ37.00000°,λ-105.00000°. Principal axes: T Plg9.0000°, Azm23.0000°; N Plg9.0000°, Azm114.0000°; P Plg77.0000°, Azm248.0000°;*

ISC 11 06:33:50.5±1.0,36.°94N±0.°03×140.°71E±0.°05,h10km±6km, n21,σ0°56/28,mb3.8/11,5C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.18**	**24**	⇑P	**Pg**	**06 33 54.3**	**-0.1**
ONAJ				*e*S	**Sg**	**06 33 57.5**	**+0.4**
JHO	**Hitachi**	**0.34**	**199**	⇑P	**Pg**	**06 33 57.1**	**-0.2**
JHO				S	**Sg**	**06 34 02.0**	**+0.1**
JFK	**Kawauchi**	**0.45**	**17**	⇑P	**Pg**	**06 33 59.0**	**-0.3**
JFK				S	**Sg**	**06 34 05.2**	**0.0**
JSB	**Shiboa**	**0.63**	**273**	⇓P	**Pg**	**06 34 02.8**	**+0.1**
JSB				S	**Sg**	**06 34 11.4**	**+0.4**
JFT	**Otama**	**0.65**	**333**	⇑P	**Pg**	**06 34 02.6**	**-0.5**
JFT				S	**Sg**	**06 34 11.2**	**-0.5**
JYT	**Yasato**	**0.82**	**210**	⇑P	**Pg**	**06 34 05.7**	**-0.6**
JYT				S	**Sg**	**06 34 16.9**	**-0.1**
MJAR	**Matsushiro Arr**	**2.04**	**260**	Pn	**Pn**	**06 34 25.1**	**+0.2**
	23nm,0.3s,baz=78,slow=16,SNR=50						
MAT	**Matsushiro**	**2.05**	**260**	P	**Pn**	**06 34 25.9**	**+0.9**
MAT				S	**Sn**	**06 34 51.0**	**+0.4**
ASAJ	**Asahikawa**	**7.31**	**11**	Pn	**Pn**	**06 35 37.6**	**+0.3**
	1.2nm,0.3s,baz=249,slow=10,SNR=6.0						
SONM	**Songino Array**	**27.37**	**304**	P	**P**	**06 39 35.8**	**-0.1**
	0.6nm,0.7s,baz=92,slow=9.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**41.56**	**312**	P	**P**	**06 41 37.5**	**-0.6**
	0.4nm,0.3s,baz=86,slow=7.5,SNR=3.0						
MKAR	**Makanchi Array**	**43.69**	**302**	P	**P**	**06 41 55.4**	**-0.1**
	0.3nm,0.5s,baz=81,slow=8.9,SNR=2.0						
KURBB	**Kurchatov Arra**	**45.62**	**308**	P	**P**	**06 42 09.8**	**-0.9**
	0.5nm,0.4s,baz=83,slow=7.6,SNR=4.8						
WRA	**Warramunga Arr**	**56.89**	**187**	P	**P**	**06 43 35.2**	**-0.4**
	1.2nm,0.5s,baz=2.8,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**60.62**	**187**	P	**P**	**06 44 00.9**	**-0.6**
	0.7nm,0.8s,baz=10,slow=7.4,SNR=5.7						
ARCES	**ARCESS Array B**	**63.89**	**339**	P	**P**	**06 44 23.6**	**+0.7**
	1.4nm,0.8s,baz=59,slow=7.4,SNR=3.3						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**06 44 52.9**	**-0.5**
	0.7nm,0.7s,baz=82,slow=11,SNR=3.3						
AKASG	**Malin Array Be**	**74.03**	**322**	P	**P**	**06 45 25.7**	**-0.5**
	0.1nm,0.3s,baz=46,slow=6.2,SNR=3.5						
NOA	**NORSAR Array B**	**74.06**	**337**	P	**P**	**06 45 26.9**	**+0.6**
	0.9nm,0.8s,baz=40,slow=5.6,SNR=2.8						
TXAR	**Lajitas Array**	**90.63**	**52**	P	**P**	**06 46 54.9**	**+1.3**
	0.2nm,0.7s,baz=287,slow=4.6,SNR=3.3						
LPAZ	**La Paz**	**147.23**	**59**	PKPbc	**PKPab**	**06 53 37.0**	**0.0**
	1.0nm,0.6s,baz=309,slow=2.3,SNR=5.2						

*NIED **11** 06:34:00,36.°90N×140.°70E,h5km,Mw4.0 Best double couple: M₀1.19000×10¹⁵ NP1:φs10.00000°,δ42.00000°, λ-76.00000°. NP2:φs172.00000°,δ50.00000°, λ-102.00000°.*
*ISCJB **11** 06:34:12.9±0.6,36.°93N±0.°03×140.°76E±0.°05,h18km±3km, mb4.2/25,Error ellipse: s-maj=7.1km s-min=4.3km az=25.8*
*JMA **11** 06:34:13.5,36.°95N×140.°66E,h5km±1km,M4.2*
JMA Felt II J1.
*NEIC **11** 06:34:17.5±0.4,36.°99N×140.°58E,h35km,mb4.6/5,Error ellipse: s-maj=10.1km s-min=7.6km az=115.0*
NEIC Recorded [2 JMA] in Fukushima, Ibaraki and Tochigi.
*IDC **11** 06:34:19.4±1.7,36.°92N×140.°60E,h56km±15km,mb3.8/20, mb1 4.0/23,mb1mx3.8/47,mbtmp4.1/23,MS2.9/1, Ms1 2.9/1,ms1mx2.3/38,Error ellipse: s-maj=12.4km s-min=9.8km az=78.0*

ISC 11 06:34:12.7±1.2,36.°97N±0.°04×140.°51E±0.°03,h3km±8km, n50,σ1°16/48,mb4.2/25,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.27**	**61**	P	**Pg**	**06 34 17.3**	**-0.6**
ONAJ				S	**Sg**	**06 34 20.3**	**-1.2**
JHO	**Hitachi**	**0.36**	**172**	P	**Pb**	**06 34 20.2**	**-1.7**
JHO				S	**Sg**	**06 34 24.6**	**+0.2**
JSB	**Shiboa**	**0.47**	**270**	P	**Pn**	**06 34 25.7**	**-0.7**
JSB				S	**Sb**	**06 34 34.3**	**+3.3**
JFK	**Kawauchi**	**0.49**	**37**	P	**Pg**	**06 34 22.3**	**+0.1**
JFK				S	**Sg**	**06 34 28.3**	**-0.4**
JFT	**Otama**	**0.56**	**346**	S	**Sb**	**06 34 34.2**	**+0.4**
MJAR	**Matsushiro Arr**	**1.89**	**258**	P	**Pg**	**06 34 48.5**	**-0.5**
	42nm,0.3s,baz=79,slow=16,SNR=11						
MJAR				S	**Sg**	**06 35 14.1**	**+0.6**
	203nm,0.3s,baz=79,slow=29,SNR=25						
MJAR				LR	LR	06 35 50.8	
	comp=Z,434nm,20.3s,baz=70,slow=47						
MAJO	**Matsushiro**	**1.89**	**258**	*e*Pn	**Pg**	**06 34 48.9**	**-0.2**
MAJO				*e*Sn	**Sg**	**06 35 14.5**	**+0.9**
JHJ	**Hachijo jima 2**	**3.89**	**189**	P	**Pn**	**06 35 14.9**	**+1.5**
	22nm,0.3s,baz=73,slow=23,SNR=3.0						
JHJ				S	**Sn**	**06 35 59.6**	**0.0**
	41nm,0.3s,baz=232,slow=19,SNR=4.9						
JHJ2	**Mitsune**	**3.89**	**189**	*e*Pn	**Pn**	**06 35 16.9**	**+3.5**
ERM	**Erimo**	**5.44**	**21**	Pn	Pn	06 35 40.8	+6.1
ASAJ	**Asahikawa**	**7.31**	**12**	P	**Pn**	**06 36 02.9**	**+2.4**
	1.2nm,0.3s,baz=153,slow=9.0,SNR=5.1						
ASAJ				S	**Sn**	**06 37 26.7**	**+2.7**
	0.4nm,0.3s,baz=163,slow=20,SNR=3.1						
JNU	**Nakatsue**	**8.78**	**247**	P	Pn	06 36 25.6	+4.9
	0.9nm,0.3s,baz=28,slow=7.6,SNR=4.0						
JNU				LR	LR	06 40 15.8	
	comp=Z,80nm,20.5s,baz=122,slow=40						
USRK	**Ussuriysk Ar.**	**9.70**	**321**	P	Pn	06 36 39.5	+6.3
	0.3nm,0.3s,baz=124,slow=12,SNR=15						
KSRS	**Korea Array**	**10.05**	**277**	P	Pn	06 36 45.5	+7.5
	0.1nm,0.3s,baz=95,slow=14,SNR=11						
KSAR	**Wonju Array Be**	**10.08**	**276**	P	Pn	06 36 45.5	+7.1
KLR	**Kul'dur**	**13.81**	**335**	P	**P**	**06 37 36.9**	**-1.1**
	0.1nm,0.3s,baz=140,slow=13,SNR=5.1						
SONM	**Songino Array**	**27.22**	**304**	P	**P**	**06 39 58.1**	**+0.2**
	1.8nm,0.7s,baz=101,slow=8.0,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**28.75**	**119**	T	T	07 09 56.7	
	baz=313,slow=75,SNR=108						
H11N1	**WAKE ISLAND Hy**	**28.75**	**119**	T	T	07 09 57.3	
	baz=313,slow=75,SNR=146						
H11N3	**WAKE ISLAND Hy**	**28.76**	**119**	T	T	07 09 58.0	
	baz=313,slow=75,SNR=98						
H11S1	**WAKE ISLAND Hy**	**29.44**	**122**	T	T	07 10 48.4	
	baz=314,slow=75,SNR=150						
H11S3	**WAKE ISLAND Hy**	**29.44**	**122**	T	T	07 10 50.4	
	baz=314,slow=75,SNR=130						
H11S2	**WAKE ISLAND Hy**	**29.46**	**122**	T	T	07 10 49.6	
	baz=314,slow=75,SNR=114						
ZALV	**Zalesovo Beam**	**41.42**	**312**	P	**P**	**06 41 59.7**	**-0.6**
	1.9nm,0.7s,baz=96,slow=7.4,SNR=6.6						
MKAR	**Makanchi Array**	**43.54**	**302**	P	**P**	**06 42 17.6**	**-0.1**
	0.8nm,0.6s,baz=88,slow=9.0,SNR=4.2						
KURK	**Kurchatov**	**45.40**	**308**	*e*P	**P**	**06 42 32.1**	**-0.3**
	32nm,0.9s						
KURBB	**Kurchatov Arra**	**45.47**	**308**	P	**P**	**06 42 32.8**	**-0.2**
	1.5nm,0.4s,baz=85,slow=7.8,SNR=8.8						
KAPI	**Kappang**	**46.04**	**209**	P	**P**	**06 42 37.6**	**-0.3**
	11nm,0.8s,baz=32,slow=15,SNR=5.5						
ILAR	**Eielson Array**	**49.94**	**32**	P	**P**	**06 43 06.6**	**-0.9**
	0.9nm,0.9s,baz=270,slow=5.4,SNR=4.3						
BVAR	**Borovoye Array**	**50.08**	**312**	P	**P**	**06 43 08.3**	**-0.4**
	1.3nm,0.7s,baz=54,slow=7.5,SNR=5.3						
ARU	**Arti**	**55.93**	**318**	P	**P**	**06 43 51.8**	**-0.1**
	4.7nm,0.2s,baz=116,slow=3.9,SNR=4.1						
WRAB	**Tennant Creek**	**56.89**	**187**	*e*P	**P**	**06 43 57.8**	**-1.2**
	7.8nm,1.0s						
WRA	**Warramunga Arr**	**56.90**	**187**	P	**P**	**06 43 57.9**	**-1.3**
	4.5nm,0.6s,baz=2.9,slow=7.4,SNR=28						
WRA				PcP	**PcP**	**06 44 53.6**	**-1.1**
	1.5nm,0.7s,baz=1.6,slow=4.6,SNR=5.5						
ABKAR	**Akbulak array**	**57.42**	**310**	*e*P	**P**	**06 44 02.1**	**-0.5**
	1.8nm,0.7s						
ASAR	**Alice Springs**	**60.63**	**187**	P	**P**	**06 44 23.9**	**-1.1**
	2.7nm,0.8s,baz=4.1,slow=6.6,SNR=15						
GEYT	**Alibeck**	**63.23**	**299**	P	**P**	**06 44 42.9**	**+0.3**
	1.9nm,0.6s,baz=80,slow=8.9,SNR=2.7						
ARCES	**ARCESS Array B**	**63.80**	**339**	P	**P**	**06 44 46.3**	**+0.5**
	2.2nm,0.8s,baz=65,slow=9.0,SNR=2.9						
FINES	**FINESS Array B**	**68.53**	**332**	P	**P**	**06 45 15.8**	**-0.5**
	2.1nm,0.8s,baz=72,slow=8.9,SNR=7.7						
SUMG	**Summit**	**70.75**	**360**	*i* P	**P**	**06 45 30.7**	**+0.4**
	6.8nm,0.9s						
SUMG	**Summit**	**70.75**	**360**	*e*P	**P**	**06 45 30.7**	**+0.4**
	8.1nm,1.0s						
AKASG	**Malin Array Be**	**73.90**	**322**	P	**P**	**06 45 47.8**	**-1.2**
	0.7nm,0.5s,baz=46,slow=6.0,SNR=7.9						
KIEV	**Kiev**	**73.91**	**322**	*e*P	**P**	**06 45 48.2**	**-0.8**
	2.0nm,0.8s						
NOA	**NORSAR Array B**	**73.96**	**337**	P	**P**	**06 45 48.7**	**-0.6**
	1.3nm,0.8s,baz=40,slow=5.8,SNR=3.7						
NVAR	**Mina Array Bea**	**75.61**	**53**	P	**P**	**06 46 00.1**	**+0.7**
	0.5nm,0.6s,baz=305,slow=5.2,SNR=4.2						
PDAR	**Pinedale Array**	**78.23**	**45**	P	**P**	**06 46 14.6**	**+0.5**
	0.3nm,0.5s,baz=245,slow=6.4,SNR=3.1						
BRTR	**Keskin Array B**	**78.35**	**311**	P	**P**	**06 46 14.6**	**-0.1**
	0.6nm,0.8s,baz=42,slow=4.5

n35,σ0ᵍ70/62, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.36**	**267**	*e*Pg	**Pg**	**06 40 53.0**	**-0.2**
SELS				*e*Sg	**Sg**	**06 40 57.7**	**-0.3**
SELS	**Selova**	**0.36**	**267**	*e*Pg	**Pg**	**06 40 53.0**	**-0.2**
SELS				*e*Sg	**Sg**	**06 40 57.7**	**-0.3**
BOVS	**Bovan**	**0.40**	**9**	*e*Pg	**Pb**	**06 40 54.8**	**-0.7**
BOVS				*e*Sg	**Sg**	**06 41 00.4**	**+1.3**
BOVS	**Bovan**	**0.40**	**9**	*e*Pg	**Pb**	**06 40 54.8**	**-0.7**
BOVS				*e*Sg	**Sg**	**06 41 00.4**	**+1.3**
BARS	**Barje**	**0.45**	**161**	*e*Pg	**Pg**	**06 40 54.8**	**+0.1**
BARS				*e*Sg	**Sg**	**06 41 00.6**	**0.0**
BARS	**Barje**	**0.45**	**161**	*e*Pg	**Pg**	**06 40 54.8**	**+0.1**
BARS				*e*Sg	**Sg**	**06 41 00.6**	**0.0**
BOLS	**Boljevac**	**0.64**	**23**	*e*Pg	**Pg**	**06 40 58.2**	**-0.1**
BOLS				*e*Sg	**Sg**	**06 41 06.8**	**+0.2**
BOLS	**Boljevac**	**0.64**	**23**	*e*Pg	**Pg**	**06 40 58.2**	**-0.1**
BOLS				*e*Sg	**Sg**	**06 41 06.8**	**+0.2**
ZAPS	**Zavoj**	**0.74**	**87**	*e*Pg	**Pb**	**06 41 01.6**	**+0.3**
ZAPS	**Zavoj**	**0.74**	**87**	*e*Pg	**Pb**	**06 41 01.6**	**+0.3**
GRUS	**Gruza**	**0.92**	**315**	*e*Pg	**Pb**	**06 41 04.3**	**0.0**
GRUS				*e*Sg	**Sb**	**06 41 17.1**	**+0.3**
GRUS	**Gruza**	**0.92**	**315**	*e*Pg	**Pb**	**06 41 04.3**	**0.0**
GRUS				*e*Sg	**Sb**	**06 41 17.1**	**+0.3**
IVAS	**Ivanjica**	**1.12**	**288**	*e*Pg	**Pn**	**06 41 08.3**	**+0.1**
IVAS				*e*Sg	**Sb**	**06 41 22.3**	**-0.2**
IVAS	**Ivanjica**	**1.12**	**288**	*e*Pg	**Pn**	**06 41 08.3**	**+0.1**
IVAS				*e*Sg	**Sb**	**06 41 22.3**	**-0.2**
KUBS	**Kucevo**	**1.17**	**2**	*e*Pg	**Pg**	**06 41 07.9**	**-0.6**
KUBS				*e*Sg	**Sb**	**06 41 24.1**	**+0.1**
KUBS	**Kucevo**	**1.17**	**2**	*e*Pg	**Pg**	**06 41 07.9**	**-0.6**
KUBS				*e*Sg	**Sb**	**06 41 24.1**	**+0.1**
SJES	**Sjenica**	**1.20**	**272**	*e*Pg	**Pn**	**06 41 09.9**	**+0.6**
SJES				*e*Sg	**Sn**	**06 41 25.9**	**0.0**
SKO	**Skopje**	**1.27**	**186**	*e*Pg	**Pn**	**06 41 10.9**	**+0.7**
SKO				*i* Sg	**Sn**	**06 41 27.7**	**+0.1**
SKO	**Skopje**	**1.27**	**186**	*e*Pg	**Pn**	**06 41 10.9**	**+0.7**
SKO				*i* Sg	**Sn**	**06 41 27.7**	**+0.1**
TRUS	**Trudelj**	**1.32**	**319**	*e*Pg	**Pb**	**06 41 11.1**	**0.0**
TRUS				*e*Sg	**Sn**	**06 41 30.1**	**+1.4**
TRUS	**Trudelj**	**1.32**	**319**	*e*Pg	**Pb**	**06 41 11.1**	**0.0**
TRUS				*e*Sg	**Sn**	**06 41 30.1**	**+1.4**
DIVS	**Divibare**	**1.46**	**307**	*e*Pg	**Pb**	**06 41 13.1**	**-0.4**
DIVS				*e*Sg	**Sg**	**06 41 33.6**	**+0.7**
DIVS	**Divibare**	**1.46**	**307**	*e*Pg	**Pb**	**06 41 13.1**	**-0.4**
DIVS				*e*Sg	**Sg**	**06 41 33.6**	**+0.7**
MDVR	**Moldovita**	**1.54**	**3**	⫴ *i* P	**Pb**	**06 41 14.5**	**-0.5**
MDVR	**Moldovita**	**1.54**	**3**	S	**Sg**	**06 41 36.7**	**+1.1**
BBLS	**Lazići**	**1.73**	**292**	*e*Pg	**Pg**	**06 41 19.0**	**-0.1**
BBLS				*e*Sg	**Sg**	**06 41 42.1**	**+0.6**
BBLS	**Lazići**	**1.73**	**292**	*e*Pg	**Pg**	**06 41 19.0**	**-0.1**
BBLS				*e*Sg	**Sg**	**06 41 42.1**	**+0.6**
TEKS	**Tekeris**	**2.00**	**312**	*e*Pn	**Pb**	**06 41 22.3**	**-0.4**
TEKS				*e*Sn	**Sb**	**06 41 48.2**	**+0.4**
TEKS	**Tekeris**	**2.00**	**312**	*e*Pn	**Pb**	**06 41 22.3**	**-0.4**
TEKS				*e*Sn	**Sb**	**06 41 48.2**	**+0.4**
VAY	**Valandovo**	**2.04**	**159**	*e*Pn	**Pg**	**06 41 24.2**	**-1.0**
VAY	**Valandovo**	**2.04**	**159**	*e*Pn	**Pg**	**06 41 24.2**	**-1.0**
FGSL	**Fruska Gora**	**2.31**	**326**	*e*Pn	**Pb**	**06 41 26.4**	**-1.7**
FGSL				*e*Sn	**Sb**	**06 41 55.9**	**-1.0**
FRGS	**Fruska Gora**	**2.31**	**326**	*e*Pn	**Pb**	**06 41 26.4**	**-1.7**
FRGS				*e*Sn	**Sb**	**06 41 55.9**	**-1.0**
BZS	**Buzias**	**2.38**	**0**	⫴ *i* P	**Pn**	**06 41 25.3**	**-0.1**
BZS	**Buzias**	**2.38**	**0**	S	**Sn**	**06 41 53.1**	**-1.7**

*IDC **11** 06:46:32.6±1.4, 36.˚48N×143.˚97E, h0ᵏᵐ, mb3.4/4, mb1 3.7/7, mb1mx3.5/50, mbtmp3.5/7, ML3.3/3, Error ellipse: s-maj=34.4km s-min=27.3km az=174.0*
*JMA **11** 06:46:36.4±0.3, 36.˚65N×143.˚67E, h55ᵏᵐ, M3.6*
*ISCJB **11** 06:46:37.1±1.1, 36.˚64N±0.˚04×143.˚61E±0.˚07, h42ᵏᵐ±12ᵏᵐ, mb3.5/4, Error ellipse: s-maj=9.7km s-min=7.1km az=13.5*

ISC 11 06:46:39.3±1.8, 36.˚66N±0.˚05×143.˚62E±0.˚09, h44ᵏᵐ±19ᵏᵐ, n26,σ1ᵍ27/26, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.30**	**282**	P	**Pn**	06 47 13.8	-1.0
ONAJ				*e*S	**Sn**	**06 47 41.3**	**-0.7**
JFK	**Kawauchi**	**2.31**	**289**	P	**Pn**	06 47 13.6	-1.3
JFK				*e*S	**Sn**	**06 47 41.0**	**-1.0**
CHOJ	**Chosi**	**2.43**	**248**	P	**Pn**	**06 47 15.6**	**-0.9**
JHO	**Hitachi**	**2.45**	**270**	P	**Pn**	06 47 15.5	-1.3
JHO				*e*S	**Sn**	**06 47 44.3**	**-1.3**
JFT	**Otama**	**2.76**	**289**	P	**Pn**	**06 47 20.8**	**-0.3**
JFT				S	**Sn**	**06 47 53.3**	**+0.1**
BSO1	**Boso 1**	**2.94**	**228**	P	**Pn**	06 47 21.2	-1.8
BSO1				*e*S	**Sn**	**06 47 56.5**	**-0.2**
JMK	**Ichinoseki**	**2.97**	**321**	P	**Pn**	06 47 22.8	-1.2
JMK				*e*S	**Sn**	**06 47 56.7**	**-1.7**
JOM	**Ohasama**	**3.35**	**328**	P	**Pn**	**06 47 28.3**	**-0.9**
JOM				S	**Sn**	**06 48 05.8**	**-2.0**
JAG	**Ashikaga**	**3.36**	**267**	P	**Pn**	**06 47 28.8**	**-0.5**
JAG				S	**Sn**	**06 48 07.1**	**-0.9**
JYK	**Kaneyama**	**3.43**	**312**	P	**Pn**	**06 47 29.6**	**-0.6**
JYK				*e*S	**Sn**	**06 48 09.9**	**+0.3**
JRY	**Ryogami san**	**3.86**	**262**	P	**Pn**	06 47 35.2	-1.0
JRY				*e*S	**Sn**	**06 48 18.3**	**-2.0**
JOD2	**Odawara 2**	**3.93**	**251**	P	**Pn**	**06 47 36.6**	**-0.5**
JOD2				S	**Sn**	**06 48 20.6**	**-1.4**
MJAR	**Matsushiro Arr** 4.5nm,0.3s,baz=90,slow=15,SNR=21	**4.35**	**270**	Pn	**Pn**	**06 47 43.0**	**0.0**
MAT	**Matsushiro**	**4.36**	**270**	P	**Pn**	**06 47 43.5**	**+0.5**
MAT				S	**Sn**	**06 48 32.5**	**0.0**
USRK	**Ussuriysk Ar.** 0.3nm,0.3s,baz=129,slow=14,SNR=4.3	**11.62**	**314**	Pn	**Pn**	**06 49 24.8**	**+2.4**
KSRS	**Korea Array** 0.2nm,0.3s,baz=89,slow=14,SNR=3.5	**12.57**	**278**	Pn	**Pn**	**06 49 37.2**	**+1.8**
H11N2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=15	**26.45**	**123**	T	T	07 19 13.9	
H11N1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=7.0	**26.46**	**123**	T	T	07 19 14.5	
H11N3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=9.5	**26.47**	**123**	T	T	07 19 12.6	
H11S1	**WAKE ISLAND Hy** baz=318	**27.19**	**125**	T	T	07 20 10.9	
H11S3	**WAKE ISLAND Hy** baz=318	**27.19**	**126**	T	T	07 20 11.1	
H11S2	**WAKE ISLAND Hy** baz=318	**27.20**	**126**	T	T	07 20 11.8	
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=84,slow=9.1,SNR=3.2	**45.81**	**303**	P	**P**	**06 54 58.6**	**+1.9**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=263,slow=6.5,SNR=4.6	**48.87**	**32**	P	**P**	**06 55 19.1**	**-1.1**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=15,slow=7.5,SNR=3.0	**56.97**	**190**	P	**P**	**06 56 19.0**	**-1.4**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=282,slow=4.5,SNR=3.8	**88.93**	**54**	P	**P**	**06 59 29.1**	**-0.4**

IDC 11 06:54:03.6±7.5, 20.˚19S×179.˚67E, h0ᵏᵐ, mb3.5/2, mb1 3.8/2, mb1mx3.5/35, mbtmp3.5/2, Error ellipse: s-maj=319.0km s-min=63.8km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.2nm,0.4s,baz=99,slow=7.4,SNR=3.8	**42.46**	**257**	P	P	07 01 59.0	-1.8
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=92,slow=8.3,SNR=22	**42.48**	**262**	P	P	07 02 01.8	+0.9
BRTR	**Keskin Array B** 0.4nm,0.4s,baz=48,slow=2.1,SNR=2.9	**145.00**	**311**	PKPbc	PKPbc	07 13 42.1	-0.5

*PGC **11** 06:58:12.9±1.7, 60.˚01N×140.˚65W, h13ᵏᵐ, ML3.4/5, 103km Wnw of Yakutat, Ak Southeastern Alaska*
*NEIC **11** 06:58:13.7, 60.˚04N×140.˚77W, h3ᵏᵐ, ML3.4(OTT), ML3.2(AEIC), After AEIC.*

ISC 11 06:58:12.9±1.0, 60.˚00N±0.˚03×140.˚70W±0.˚03, h10ᵏᵐ±7ᵏᵐ, n56,σ1ᵍ04/69, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.14**	**344**	P	**Pg**	**06 58 16.2**	**+0.1**
SAMH				S	**Sg**	**06 58 18.9**	**+0.5**
CHX	**Chaix Hills**	**0.22**	**288**	P	**Pg**	**06 58 17.2**	**-0.2**
RKAV	**Rock Avalanche**	**0.44**	**314**	P	**Pg**	**06 58 21.6**	**-0.1**
RKAV				S	**Sg**	**06 58 28.5**	**+1.0**
TABL	**Table Mountain**	**0.50**	**334**	P	**Pg**	**06 58 22.7**	**+0.1**
TABL				S	**Sb**	**06 58 31.8**	**+0.5**
YAH	**Yahtse**	**0.64**	**306**	P	**Pg**	**06 58 25.1**	**-0.2**
MESA	**MESA**	**0.65**	**287**	P	**Pg**	**06 58 25.8**	**+0.3**
MESA				S	**Sb**	**06 58 36.0**	**+0.3**
YKU2	**Yakutat**	**0.71**	**132**	P	**Pn**	**06 58 28.5**	**-0.5**
YKU2				S	**Sn**	**06 58 40.6**	**+0.6**
LOGN	**Logan Glacier**	**0.84**	**350**	P	**Pg**	**06 58 28.9**	**-0.3**
BAGL	**Bagley Icefiel**	**0.85**	**306**	P	**Pg**	**06 58 29.1**	**-0.1**
GRNC	**Granite Creek**	**0.90**	**325**	P	**Pg**	**06 58 29.8**	**-0.5**
BARK	**Barkley Ridge**	**0.98**	**295**	P	**Pb**	**06 58 31.2**	**-0.9**
BARK				S	**Sg**	**06 58 45.7**	**+1.2**
ISLE	**Juniper Island**	**1.02**	**307**	P	**Pb**	**06 58 31.6**	**-1.1**
CTGM	**Chitina Glacie**	**1.02**	**342**	P	**Pb**	**06 58 31.6**	**-1.2**
CTGM				S	**Sb**	**06 58 45.3**	**-1.0**
CTGM	**Chitina Glacie**	**1.02**	**342**	P	**Pb**	**06 58 31.6**	**-1.2**
KULT	**Kultieth River**	**1.04**	**285**	P	**Pb**	**06 58 31.9**	**-1.2**
BARN	**Barnard Glacie**	**1.17**	**337**	P	**Pb**	**06 58 33.9**	**-1.4**
KIAG	**Kiagna River**	**1.24**	**319**	P	**Pn**	**06 58 35.2**	**-1.4**
KIAG				S	**Sb**	**06 58 52.3**	**-0.4**
TGL	**Tana Glacier**	**1.30**	**307**	P	**Pn**	**06 58 36.0**	**-1.3**
BALM	**Baldy**	**1.32**	**323**	P	**Pn**	**06 58 36.4**	**-1.3**
BALM				S	**Sb**	**06 58 54.2**	**-0.8**
BALM	**Baldy**	**1.32**	**323**	P	**Pn**	**06 58 36.3**	**-1.3**
GRIN	**Grindle Hills**	**1.34**	**283**	P	**Pn**	**06 58 36.8**	**-0.9**
KHIT	**Khitrov Hills**	**1.35**	**291**	P	**Pn**	**06 58 36.9**	**-1.0**
CRQM	**Cirque**	**1.43**	**303**	P	**Pn**	**06 58 37.7**	**-1.4**
SUCK	**Suckling Hills**	**1.54**	**274**	P	**Pn**	**06 58 40.5**	**-0.1**
BERG	**Berg Lake**	**1.55**	**286**	P	**Pn**	**06 58 40.0**	**-0.6**
DHAK	**Deception Hill**	**1.56**	**125**	P	**Pb**	**06 58 40.9**	**-1.0**
DHAK				S	**Sg**	**06 59 02.7**	**-0.3**
NICHA	**Nichawak Mount**	**1.65**	**280**	P	**Pn**	**06 58 41.8**	**-0.2**
YUK3	**Moose Creek**	**1.79**	**4**	Pn	**Pn**	**06 58 43.0**	**-1.1**
YUK3				Pg	**Pb**	**06 58 45.4**	**-0.6**
YUK3				Sn	**Sn**	**06 59 06.2**	**-0.8**
HYT	**Haines Junctio**	**1.79**	**61**	Pg	**Pb**	**06 58 45.3**	**-0.6**
HYT	**Haines Junctio**	**1.79**	**61**	P	**Pb**	**06 58 45.5**	**-0.4**
YUK2	**White River**	**1.80**	**358**	Pg	**Pb**	**06 58 45.3**	**-0.7**
MCARA	**McCarthy VSAT**	**1.80**	**322**	P	**Pn**	**06 58 44.2**	**+0.1**
VRDI	**Verde Repeater**	**1.83**	**314**	P	**Pn**	**06 58 44.2**	**-0.5**
RAGM	**Ragged Mountai**	**2.02**	**283**	P	**Pn**	**06 58 46.8**	**-0.4**
BMRM	**Bremner River**	**2.16**	**298**	P	**Pn**	**06 58 48.9**	**-0.2**
YUK1	**Sand Pete Hill**	**2.17**	**2**	Pg	**Pb**	**06 58 51.0**	**-1.3**
PLBC	**Pleasant Camp**	**2.26**	**102**	Pg	**Pb**	**06 58 52.5**	**-1.4**
PLBC	**Pleasant Camp**	**2.26**	**102**	P	**Pb**	**06 58 52.3**	**-1.6**
BVCY	**Beaver Creek**	**2.43**	**358**	Pg	**Pb**	**06 58 55.7**	**-1.0**
DIV	**Divide**	**2.75**	**297**	Pn	**Pn**	**06 58 56.7**	**-0.4**
DIV	**Divide**	**2.75**	**297**	P	**Pn**	**06 58 56.7**	**-0.4**
DIV				eSn	**Sn**	**06 59 32.6**	**+2.1**
SKAG	**Skagway**	**2.77**	**99**	P	**Pn**	**06 58 59.0**	**+1.6**
KLU	**Klutina**	**2.97**	**303**	P	**Pn**	**06 59 00.2**	**+0.1**
BCA3	**Beaver Creek A**	**3.12**	**351**	P	**Pn**	**06 59 03.2**	**+0.9**
SCM	**Sheep Creek Mo**	**3.72**	**303**	P	**Pn**	**06 59 11.0**	**+0.5**
PAX	**Paxson**	**3.76**	**325**	*e*Pn	**Pn**	**06 59 12.4**	**+1.3**
DOT	**Dot Lake**	**4.00**	**338**	*e*Pn	**Pn**	**06 59 15.2**	**+0.9**
SML	**Sawmill**	**4.15**	**299**	*e*Pn	**Pn**	**06 59 17.8**	**+1.5**
PMR	**Palmer**	**4.43**	**295**	*e*Pn	**Pn**	**06 59 21.4**	**+1.3**
RC01	**Rabbit Creek A**	**4.59**	**288**	*e*Pn	**Pn**	**06 59 23.8**	**+1.4**
EGAK	**Eagle**	**4.80**	**358**	*e*Pn	**Pn**	**06 59 26.7**	**+1.4**
DLBC	**Dease Lake**	**5.70**	**101**	Pn	**Pn**	**06 59 37.8**	**+0.1**
TRF	**Thorofare Moun** 15nm,0.6s	**5.72**	**311**	*e*Pn	**Pn**	**06 59 39.9**	**+1.8**
KTH	**Kantishna Hill** 11nm,0.6s	**6.02**	**311**	*e*Pn	**Pn**	**06 59 44.5**	**+2.5**
PPLA	**Purkeypile** 13nm,0.9s	**6.23**	**303**	*e*Pn	**Pn**	**06 59 47.1**	**+2.2**
BPAW	**Bear Paw Mtn.** 1.0nm,0.7s	**6.35**	**315**	*e*Pn	**Pn**	**06 59 46.4**	**0.0**

*SKHL **11** 07:19:36.3±0.7, 51.˚79N×142.˚84E, h10ᵏᵐ, mb4.2/7, msh4.3/2*
SKHL Felt (II) at Nysh.
*IDC **11** 07:19:39.9±0.9, 51.˚62N×142.˚79E, h0ᵏᵐ, mb3.6/8, mb1 3.8/9, mb1mx3.6/43, mbtmp3.6/9, ML2.9/1, MS2.7/4, Ms1 2.7/4, ms1mx2.4/45, Error ellipse: s-maj=25.1km s-min=20.1km az=158.0*
*MOS **11** 07:19:39.8±2.4, 51.˚78N×142.˚88E, h12ᵏᵐ, mb4.1/5, Error ellipse: s-maj=21.9km s-min=8.8km az=87.2*
MOS Felt (II) at Nysh.

ISC 11 07:19:39.2±1.3, 51.˚72N±0.˚03×142.˚84E±0.˚05, h5ᵏᵐ±9ᵏᵐ, n31,σ2ᵍ20/30, mb3.6/9, 1C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**0.87**	**188**	*e*PN	**Pb**	**07 19 55.0**	**-1.7**
TYV				pmax	pmax		
	comp=Z,345nm,0.4s						
TYV	**Tymovskoe**	**0.87**	**188**	*e*Pg	**Pn**	**07 19 55.2**	**-2.8**
TYV				AMB	AMB	07 19 57.2	
	comp=Z,440nm,0.3s						
TYV				*e*Sg	**Sn**	**07 20 08.3**	**-2.8**
TYV				A	A	07 20 11.0	
	comp=Z,4μm,0.4s						
TYV				A	A	07 20 11.0	
	comp=Z,2μm,0.4s						
OKH	**Okha**	**1.83**	**2**	⫴ *i* PN	**Pg**	**07 20 14.0**	**-0.2**
OKH				*e*S	**Sg**	**07 20 40.0**	**+2.1**
OKH				smax	smax		
	comp=N,1.0nm,0.5s						
OKH				smax	smax		
	comp=E,1.0nm,0.5s						
OKH	**Okha**	**1.83**	**2**	*i* Pg	**Pg**	**07 20 14.0**	**-0.2**
OKH				AMB	AMB	07 20 14.8	
	comp=E,200nm,0.5s						
OKH				*e*Sg	**Sg**	**07 20 40.0**	**+2.1**
OKH				A	A	07 20 41.4	
	comp=E,500nm,0.5s						
OKH				A	A	07 20 41.4	
	comp=E,700nm,0.5s						
NKL	**Nikolayevsk**	**1.94**	**318**	*e*PN	**Pg**	**07 20 14.3**	**-2.1**
NKL				*e*S	**Sg**	**07 20 44.2**	**+2.6**
NKL				pmax	pmax		
	comp=Z,100nm,0.5s						
NKL				smax	smax		
	comp=N,350nm,0.5s						
NKL	**Nikolayevsk**	**1.94**	**318**	*e*Pg	**Pg**	**07 20 14.3**	**-2.1**
NKL				AMB	AMB	07 20 17.5	
	comp=N,100nm,0.5s						
NKL				*e*Sg	**Sg**	**07 20 41.7**	**+0.1**
NKL				A	A	07 20 48.0	
	comp=N,350nm,0.5s						
UGL	**Uglegorsk**	**2.69**	**191**	PN	**Pg**	**07 20 31.5**	**+0.7**
UGL				S	**Sg**	**07 21 05.5**	**-0.2**
UGL				pmax	pmax		
	comp=Z,77nm,0.5s						
UGL				smax	smax		
	comp=N,64nm,0.6s						
UGL				smax	smax		
	comp=E,130nm,0.6s						
UGL				smax	smax		
	comp=N,250nm,2.0s						
UGL				smax	smax		
	comp=E,350nm,2.0s						
UGL	**Uglegorsk**	**2.69**	**191**	*e*Pg	**Pg**	**07 20 31.5**	**+0.7**
UGL				AMB	AMB	07 20 39.0	
	comp=E,80nm,0.4s						
UGL				*e*Sg	**Sg**	**07 21 10.0**	**+4.3**
UGL				A	A	07 21 13.0	
	comp=E,140nm,0.4s						
UGL				A	A	07 21 13.0	
	comp=E,150nm,0.4s						
UGL				A	A	07 21 13.3	
	comp=E,360nm,3.0s						
UGL				A	A	07 21 13.3	
	comp=E,530nm,3.0s						
GRNR	**Gornyy**	**4.14**	**259**	*e*Pg	**Pg**	**07 20 59.0**	**+0.5**
GRNR				*e*Sg	**Sg**	**07 21 55.0**	**+2.9**
YSS	**Yuzh-Sakhalins**	**4.78**	**181**	*e*PN	**Pn**	**07 20 53.3**	**+1.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.78**	**181**	*e*P	**Pn**	**07 20 53.3**	**+1.6**
YSS				AMB	AMB	07 20 53.7	
	comp=Z,20nm,0.5s						
YSS				*e*S	**Sn**	**07 21 46.6**	**-0.8**
YSS				A	A	07 21 47.3	
	comp=Z,20nm,0.3s						
YSS				A	A	07 21 50.0	
	comp=Z,90nm,2.0s						
EKMR	**Ekimchan**	**6.20**	**286**	*e*Pg	**Pg**	**07 21 37.5**	**-0.4**
EKMR				AMB	AMB	07 21 45.0	
	comp=Z,4.0nm,0.5s						
EKMR				AMB	AMB	07 21 45.0	
	comp=Z,5.0nm,0.5s						
EKMR				AMB	AMB	07 21 45.0	
	comp=Z,8.0nm,0.5s						
EKMR				*e*Sg	**Sg**	**07 23 02.0**	**+3.9**
EKMR				A	A	07 23 04.7	
	comp=Z,64nm,0.7s						
EKMR				A	A	07 23 04.7	
	comp=Z,41nm,0.7s						
EKMR				A	A	07 23 04.7	
	comp=Z,38nm,0.7s						
KLR	**Kul'dur** comp=Z,0.2nm,0.3s,baz=93,slow=17,SNR=2.7	**7.50**	**255**	Pn	Pn	07 21 31.2	+2.0
KLR				Pg	**Pg**	**07 21 59.4**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=78,slow=17,SNR=5.0						
KLR				Lg	Lg	07 23 36.7	
	comp=Z,0.9nm,0.3s,baz=164,slow=22,SNR=4.1						
TEY	**Ternei**	**7.87**	**214**	*e*Sg	Sg	07 24 09.0	+17
TEY				A	A	07 24 12.0	
	comp=Z,19nm,0.6s						
BMKR	**Bomnak**	**8.91**	**295**	*e*Sg	**Sg**	**07 24 23.5**	**-1.5**
BMKR				A	A	07 24 33.0	
	comp=Z,8.0nm,0.8s						
MA2	**Magadan** comp=Z,33nm,18.1s,baz=228,slow=38	**9.05**	**27**	LR	LR	07 25 28.3	
PETK	**Petropavlovsk-** comp=Z,33nm,21.9s,baz=301,slow=35	**9.19**	**76**	LR	LR	07 25 04.4	
YASR	**Yasnyy**	**9.20**	**286**	*e*Pg	Pn	07 22 21.2	+29
YASR				AMB	AMB	07 22 21.7	
	comp=Z,3.0nm,0.6s						
YASR				*e*S	**Sn**	**07 23 40.3**	**+4.1**
YASR				*e*Sg		07 24 14.1	
YASR				A	A	07 24 14.5	
	comp=Z,6.0nm,0.6s						
ZEA	**Zeya**	**9.67**	**288**	*e*Sg		07 24 53.5	
KROS	**Kirovskiy**	**9.93**	**292**	*e*Sg		07 25 08.0	
KROS				A	A	07 25 09.0	
	comp=Z,22nm,1.0s						
SEY	**Seymchan**	**12.34**	**21**	⫴ *e*PN	**Pn**	**07 22 34.7**	**-0.6**
KSRS	**Korea Array** comp=Z,34nm,18.8s,baz=44,slow=36	**17.73**	**222**	LR	LR	07 30 18.1	
SONM	**Songino Array** comp=Z,0.3nm,0.4s,baz=56,slow=8.9,SNR=2.9	**23.69**	**275**	P	**P**	**07 24 52.1**	**+0.4**
COLA	**College**	**36.69**	**42**	⫴ *e*P	**P**	**07 26 45.9**	**-0.5**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=288,slow=7.6,SNR=5.3	**37.12**	**42**	P	P	07 26 52.5	+2.4
MKAR	**Makanchi Array** comp=Z,0.7nm,0.7s,baz=65,slow=7.5,SNR=9.2	**38.83**	**287**	P	P	07 27 06.7	+1.9
MKAR				LR	LR	07 45 31.1	
	comp=Z,20nm,18.4s,baz=177,slow=40						
FINES	**FINESS Array B** comp=Z,2.3nm,0.6s,baz=45,slow=7.4,SNR=11	**56.49**	**329**	P	P	07 29 23.8	+2.2
AKASG	**Malin Array Be** comp=Z,0.7nm,0.6s,baz=35,slow=6.7,SNR=5.0	**63.52**	**319**	P	P	07 30 11.3	+1.3
WRA	**Warramunga Arr** comp=Z,0.4nm,0.8s,baz=3.1,slow=6.9,SNR=3.7	**71.75**	**188**	P	**P**	**07 31 02.5**	**+0.4**
ASAR	**Alice Springs** comp=Z,0.9nm,0.8s,baz=1.8,slow=5.5,SNR=7.4	**75.47**	**188**	P	**P**	**07 31 25.3**	**+1.3**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.8s,baz=297,slow=4.0,SNR=2.9	**80.50**	**54**	P	P	07 31 54.6	+2.4

*ISCJB **11** 07:25:38.6±0.6, 32.˚34N±0.˚04×115.˚33W±0.˚04, h13ᵏᵐ, Error ellipse: s-maj=6.3km s-min=5.3km az=21.1*
*MEX **11** 07:25:39.8±1.0, 32.˚46N×115.˚17W, h16ᵏᵐ±5ᵏᵐ, MD3.8*
*ECX **11** 07:25:40.1±0.4, 32.˚32N×115.˚37W, h5ᵏᵐ, MD2.4, ML2.6*

ISC 11 07:25:38.3±1.0, 32.˚32N±0.˚06×115.˚34W±0.˚05, h13ᵏᵐ, n12,σ0ᵍ21/16, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.11**	**18**	*e*P	Pg	07 25 34.0	-7.4
CPBX				*e*S	Sg	07 25 35.6	-7.9
CPBX				*e*		07 25 36.0	
CPBX				IAML		07 25 36.0	
	comp=E,9μm,0.3s						
CPBX				*e*		07 25 36.9	
CPBX				IAML		07 25 36.9	
	comp=N,8μm,0.2s						
MBIG	**Mexicali**	**0.15**	**53**	*e*P	**Pg**	**07 25 41.9**	**-0.1**
MBIG				*e*S	**Sg**	**07 25 44.5**	**-0.1**
WESC	**Westside Schoo**	**0.55**	**323**	*e*P	**Pg**	**07 25 49.6**	**+0.5**
IKP	**In-Ko-Pah, Jac**	**0.73**	**297**	*e*P	**Pg**	**07 25 52.4**	**-0.1**
ECBX	**El Chinero**	**0.88**	**164**	*e*P	**Pn**	**07 25 55.5**	**+0.1**
CBX	**Cerro Bola**	**1.12**	**270**	*e*P	**Pn**	**07 25 59.8**	**0.0**
CBX				*e*S	**Sb**	**07 26 14.3**	**+0.2**
CBX

PLBC	**Pleasant Camp**	**2.31**	**102**	Pn		**Pn**	**07 37 13.0**	**0.0**
PLBC				Sn		**Sn**	**07 37 42.3**	**+0.8**
PLBC	**Pleasant Camp**	**2.31**	**102**	P		**Pn**	**07 37 12.9**	**-0.1**
DIV	**Divide**	**2.71**	**297**	Pn		**Pn**	**07 37 18.1**	**-0.3**
DIV				Sn		**Sn**	**07 37 51.0**	**-0.4**
DIV	**Divide**	**2.71**	**297**	*e*Pn		**Pn**	**07 37 17.9**	**-0.5**
DIV				*e*Sn		**Sn**	**07 37 53.3**	**+2.0**
KLU	**Klutina**	**2.93**	**303**	P		**Pn**	**07 37 21.9**	**+0.4**
BCA3	**Beaver Creek A**	**3.12**	**352**	P		**Pn**	**07 37 24.6**	**+0.4**
PAX	**Paxson**	**3.73**	**325**	*e*Pn		**Pn**	**07 37 36.0**	**+3.4**
DOT	**Dot Lake**	**3.98**	**339**	*e*Pn		**Pn**	**07 37 36.6**	**+0.7**
SML	**Sawmill**	**4.10**	**300**	*e*Pn		**Pn**	**07 37 39.6**	**+2.0**
PMR	**Palmer**	**4.38**	**295**	*e*Pn		**Pn**	**07 37 44.5**	**+3.1**
EGAK	**Eagle**	**4.80**	**358**	*e*Pn		**Pn**	**07 37 48.6**	**+1.4**
TRF	**Thorofare Moun**	**5.69**	**312**	*e*Pn		**Pn**	**07 38 01.0**	**+1.6**
	6.7nm,0.8s							
DLBC	**Dease Lake**	**5.75**	**101**	*e*Pn		**Pn**	**07 38 01.6**	**+1.3**
	1.9nm,0.6s							
KTH	**Kantishna Hill**	**5.98**	**311**	*e*Pn		**Pn**	**07 38 05.4**	**+2.0**
	5.4nm,0.6s							

IDC 11 07:50:43.3±12.0, 4°.27S×143°.40E, h170km±131km, mb3.1/4, mb1 3.2/5, mb1mx3.0/29, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=86.2km s-min=37.2km az=105.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.90**	**209**	P	P	07 54 39.5	-0.7
	0.2nm,0.3s,baz=32,slow=10,SNR=11						
ASAR	**Alice Springs**	**21.35**	**205**	P	P	07 55 18.5	+1.2
	0.9nm,0.7s,baz=35,slow=9.7,SNR=14						
FITZ	**Fitzroy Crossi**	**22.15**	**230**	P	P	07 55 25.0	-0.5
	2.1nm,0.7s,baz=57,slow=10.0,SNR=16						
KSRS	**Korea Array**	**43.94**	**342**	P	P	07 58 33.6	+0.2
	0.6nm,0.5s,baz=159,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**73.90**	**321**	P	P	08 01 59.4	-0.4
	0.2nm,0.5s,baz=110,slow=6.3,SNR=3.0						

*ISCJB **11** 08:03:27.9±0.5, 39.07N±0.04×29.02E±0.04, h7km±9km, Error ellipse: s-maj=7.5km s-min=4.3km az=146.1*
*ISK **11** 08:03:27.5, 39.07N×29.04E, h7km, MD2.3*
*DDA **11** 08:03:28.0, 39.06N×29.02E, h7km, Md2.6*
*CSEM **11** 08:03:28.0±0.1, 39.07N×29.02E, h5km, MD2.6, Error ellipse: s-maj=3.5km s-min=2.5km az=131.0*
ISC 11 08:03:28.3±1.0, 39.07N±0.03×29.03E±0.03, h11km±10km, n22, σ 0.50/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**264**	P	**Pg**	**08 03 33.2**	**-0.1**
DEMI				S	**Sg**	**08 03 36.7**	**-0.1**
DEMI	**Demirci**	**0.24**	**264**	*i* P	**Pg**	**08 03 33.2**	**-0.1**
DEMI				*i* S	**Sg**	**08 03 36.7**	**-0.1**
GEDZ	**Gediz**	**0.30**	**95**	*e*PG	**Pg**	**08 03 34.3**	**-0.1**
GEDZ	**Gediz**	**0.30**	**95**	*e*Pg	**Pg**	**08 03 34.3**	**-0.1**
GDZ	**Gediz**	**0.35**	**87**	P	**Pg**	**08 03 35.7**	**+0.3**
GDZ				S	**Sg**	**08 03 40.5**	**+0.3**
GDZ	**Gediz**	**0.35**	**87**	*i* P	**Pg**	**08 03 35.6**	**+0.3**
GDZ				*i* S	**Sg**	**08 03 40.5**	**+0.3**
TVSB	**Tavsanli**	**0.51**	**42**	PG	**Pg**	**08 03 37.9**	**-0.3**
TVSB				*e*SG	**Sg**	**08 03 44.6**	**-0.4**
TVSB	**Tavsanli**	**0.51**	**42**	*i* Pg	**Pg**	**08 03 37.9**	**-0.3**
TVSB				*e*Sg	**Sg**	**08 03 44.6**	**-0.4**
KULA	**Kula-Manisa**	**0.62**	**207**	PG	**Pg**	**08 03 40.6**	**+0.2**
KULA				*e*SG	**Sg**	**08 03 48.6**	**0.0**
KULA	**Kula-Manisa**	**0.62**	**207**	*i* Pg	**Pg**	**08 03 40.6**	**+0.2**
KULA				*e*Sg	**Sg**	**08 03 48.7**	**0.0**
MANT	**Manisa**	**0.69**	**213**	P	**Pg**	**08 03 41.6**	**0.0**
MANT				S	**Sg**	**08 03 50.8**	**+0.2**
MANT	**Manisa**	**0.69**	**213**	*i* P	**Pg**	**08 03 41.6**	**0.0**
MANT				*i* S	**Sg**	**08 03 50.8**	**+0.2**
KHL	**Karahalli**	**0.84**	**152**	*e*PG	**Pg**	**08 03 43.1**	**-1.4**
KHL	**Karahalli**	**0.84**	**152**	*e*Pg	**Pg**	**08 03 43.1**	**-1.4**
BALB	**Balikesir**	**1.06**	**303**	*e*PG	**Pg**	**08 03 47.9**	**-0.7**
BALB	**Balikesir**	**1.06**	**303**	*e*Pg	**Pg**	**08 03 47.9**	**-0.7**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*PN	**Pb**	**08 03 52.7**	**0.0**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*Pn	**Pb**	**08 03 52.7**	**0.0**
ADVT	**Abdulvahap**	**1.47**	**22**	*e*PN	**Pn**	**08 03 55.0**	**+0.3**
ADVT	**Abdulvahap**	**1.47**	**22**	*e*Pn	**Pn**	**08 03 55.0**	**+0.3**
ARMT	**Armutlu**	**1.50**	**355**	*e*PN	**Pn**	**08 03 55.7**	**+0.5**
ARMT	**Armutlu**	**1.50**	**355**	*e*Pn	**Pn**	**08 03 55.7**	**+0.5**

*NIED **11** 08:04:00, 39.30N×142.30E, h68km, Mw4.1 Best double couple: M01.87000×10^15 NP1:φs316.00000°, δ36.00000°, λ158.00000°. NP2:φs63.00000°, δ77.00000°, λ56.00000°.*
JMA 11 08:04:16.5±0.1, 39.29N×142.34E, h30km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.49**	**306**	P	Pb	08 04 26.6	-0.2
MIYJ				S	Sb	08 04 33.5	-0.4
OFUJ	**Ofunato**	**0.56**	**248**	P	Pb	08 04 27.6	-0.3
OFUJ				S	Sb	08 04 35.3	-0.4
JTH	**Tanohata**	**0.74**	**331**	P	Pb	08 04 30.5	-0.5
JTH				*e*S	Sb	08 04 40.4	-0.5
JOM	**Ohasama**	**0.83**	**283**	P	Pn	08 04 32.1	-0.1
JOM				S	Sb	08 04 43.2	-0.1
JMK	**Ichinoseki**	**0.94**	**249**	P	Pn	08 04 33.3	-0.3
JMK				S	Sn	08 04 45.4	-0.5
JKZ	**Kuzumaki**	**1.04**	**312**	P	Pn	08 04 35.5	+0.4
JKZ				S	Sb	08 04 49.2	-0.2
JIO	**Ouri**	**1.14**	**223**	P	Pn	08 04 35.8	-0.6
JIO				S	Sn	08 04 50.0	-0.9
JANG	**Nango**	**1.25**	**330**	P	Pn	08 04 38.2	+0.2
JANG				S	Sn	08 04 54.2	+0.3
JRG	**Rokugo**	**1.33**	**275**	P	Pb	08 04 40.4	-0.4
JRG				*e*S	Sb	08 04 57.4	0.0

*NIED **11** 08:17:00, 36.70N×143.70E, h5km, Mw3.5 Best double couple: M02.22000×10^14 NP1:φs32.00000°, δ29.00000°, λ-77.00000°. NP2:φs197.00000°, δ62.00000°, λ-97.00000°.*
JMA 11 08:17:45.7±0.3, 36.70N×143.65E, h49km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.32**	**288**	S	Sn	08 18 49.7	+1.0
ONAJ	**Iwakimizuishiy**	**2.32**	**281**	*e*S	Sn	08 18 50.3	+1.5
JIO	**Ouri**	**2.53**	**314**	P	Pn	08 18 25.4	+1.1
JIO				S	Sn	08 18 54.9	+1.0
JMM	**Marumori**	**2.56**	**298**	P	Pn	08 18 25.6	+0.9
JMM				S	Sn	08 18 56.0	+1.4
JFT	**Otama**	**2.77**	**288**	P	Pn	08 18 29.1	+1.5
JFT				*e*S	Sn	08 19 02.1	+2.2
JMK	**Ichinoseki**	**2.96**	**320**	P	Pn	08 18 31.8	+1.6
JMK				*e*S	Sn	08 19 05.3	+0.9
JOM	**Ohasama**	**3.33**	**327**	P	Pn	08 18 37.3	+2.0
JOM				*e*S	Sn	08 19 13.5	-0.2
JAG	**Ashikaga**	**3.39**	**267**	P	Pn	08 18 37.8	+1.7
JAG				*e*S	Sn	08 19 15.9	+0.9
JYK	**Kaneyama**	**3.42**	**311**	P	Pn	08 18 38.4	+1.9
JYK				*e*S	Sn	08 19 17.5	+1.7
JRY	**Ryogami san**	**3.89**	**261**	P	Pn	08 18 44.3	+1.3
JRY				*e*S	Sn	08 19 27.2	-0.3
JANG	**Nango**	**4.03**	**336**	P	Pn	08 18 45.6	+0.7
JANG				*e*S	Sn	08 19 29.1	-1.7
JYN	**Shimob**	**4.30**	**255**	P	Pn	08 18 51.6	+2.9
JYN				*e*S	Sn	08 19 39.8	+2.1
MAT	**Matsushiro**	**4.38**	**270**	P	Pn	08 18 52.0	+2.3
MAT				S	Sn	08 19 42.0	+2.5

*ATH **11** 08:19:21.4, 34.99N×28.91E, h30km±31km, ML2.8/4, Error ellipse: s-maj=31.6km s-min=3.7km az=0.0*
*DDA **11** 08:19:21.7, 35.29N×28.63E, h5km, Md3.1*
*CSEM **11** 08:19:21.7±0.9, 35.03N×28.91E, h10km, MD3.1, Error ellipse: s-maj=22.6km s-min=6.4km az=148.0*
ISC 11 08:19:22.9±3.5, 35.1N±0.1×28.86E±0.07, h13km±24km, n29, σ 1.30/44, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.28**	**333**	P	**Pb**	**08 19 47.1**	**+0.3**
AKAS	**Kas**	**1.30**	**28**	P	**Pn**	**08 19 45.3**	**-1.6**
AKAS				S	**Sb**	**08 20 03.8**	**-0.2**
AKAS	**Kas**	**1.30**	**28**	*i* P	**Pn**	**08 19 45.3**	**-1.6**
AKAS				*i* S	**Sb**	**08 20 03.8**	**-0.2**
KARP	**Karpathos**	**1.46**	**289**	P	**Pb**	**08 19 50.1**	**+0.1**
KARP				S	**Sb**	**08 20 09.9**	**+1.4**
KARP	**Karpathos**	**1.46**	**289**	P	**Pb**	**08 19 50.1**	**+0.1**
KARP				S	**Sb**	**08 20 09.9**	**+1.4**
TURN	**Turunc**	**1.80**	**354**	*i* P	**Pn**	**08 19 50.5**	**-3.1**
ZKR	**Zakros**	**2.16**	**272**	P	**Pn**	**08 19 58.2**	**-0.5**
ZKR				S	**Sn**	**08 20 26.7**	**+1.4**
ZKR	**Zakros**	**2.16**	**272**	P	**Pn**	**08 19 58.2**	**-0.5**
ZKR				S	**Sn**	**08 20 26.7**	**+1.4**
ZKR				AML	AML	08 20 27.9	
	comp=E,141μm,0.4s						
ZKR				AML	AML	08 20 29.5	
	comp=N,172μm,0.4s						
GOLH	**Golhisar**	**2.22**	**15**	P	**Pn**	**08 20 00.2**	**+0.6**
GOLH				S	**Sn**	**08 20 29.2**	**+2.2**
GOLH	**Golhisar**	**2.22**	**15**	*i* P	**Pn**	**08 20 00.2**	**+0.6**
GOLH				*i* S	**Sn**	**08 20 29.2**	**+2.2**
KORT	**Korkueli**	**2.27**	**32**	P	**Pn**	**08 19 59.0**	**-1.2**
KORT				S	**Sn**	**08 20 29.1**	**+1.0**
KORT	**Korkueli**	**2.27**	**32**	*i* P	**Pn**	**08 19 59.0**	**-1.2**
KORT				*i* S	**Sn**	**08 20 29.1**	**+1.0**
DNZL	**Cakiroluk**	**2.61**	**3**	P	**Pn**	**08 20 04.9**	**0.0**
DNZL	**Cakiroluk**	**2.61**	**3**	*i* P	**Pn**	**08 20 04.9**	**0.0**
NPS	**Neapolis**	**2.66**	**275**	P	**Pn**	**08 20 06.8**	**+1.2**
NPS	**Neapolis**	**2.66**	**275**	P	**Pn**	**08 20 06.8**	**+1.2**
NPS				AML	AML	08 20 43.3	
	comp=E,116μm,0.5s						
NPS				AML	AML	08 20 43.8	
	comp=N,78μm,0.4s						
LAST	**Lasithi**	**2.77**	**273**	P	**Pn**	**08 20 07.8**	**+0.8**
LAST				S	**Sn**	**08 20 39.2**	**-1.2**
LAST	**Lasithi**	**2.77**	**273**	P	**Pn**	**08 20 07.8**	**+0.8**
IDI	**Anoyia**	**3.25**	**275**	P	**Pn**	**08 20 13.1**	**-0.6**
IDI				S	**Sn**	**08 20 51.1**	**-1.3**
IDI	**Anoyia**	**3.25**	**275**	P	**Pn**	**08 20 13.1**	**-0.6**
IDI				S	**Sn**	**08 20 51.1**	**-1.3**
IDI				AML	AML	08 20 55.1	
	comp=E,89μm,0.5s						
IDI				AML	AML	08 20 56.0	
	comp=N,82μm,0.3s						
APE	**Apeiranthos**	**3.34**	**307**	P	**Pn**	**08 20 15.1**	**+0.2**
APE	**Apeiranthos**	**3.34**	**307**	P	**Pn**	**08 20 15.1**	**+0.2**
VAM	**Vamos**	**3.82**	**276**	P	**Pn**	**08 20 22.6**	**+1.1**
IMMV	**Iera Moni Meta**	**4.00**	**277**	P	**Pn**	**08 20 23.5**	**-0.5**
IMMV	**Iera Moni Meta**	**4.00**	**277**	P	**Pn**	**08 20 23.5**	**-0.5**
KYTH	**Kithira**	**4.87**	**286**	P	**Pn**	**08 20 34.1**	**-1.9**
KYTH	**Kithira**	**4.87**	**286**	P	**Pn**	**08 20 34.1**	**-1.9**
VLI	**Veliai**	**5.07**	**290**	P	**Pn**	**08 20 37.7**	**-0.9**
VLI				S	**Sn**	**08 21 35.0**	**-2.2**
VLI	**Veliai**	**5.07**	**290**	P	**Pn**	**08 20 37.7**	**-0.9**
VLI				S	**Sn**	**08 21 35.0**	**-2.2**
VLI				AML	AML	08 21 38.5	
	comp=N,66μm,0.4s						
VLI				AML	AML	08 21 40.1	
	comp=E,50μm,0.6s						

*NIED **11** 08:26:00, 37.40N×143.60E, h5km, Mw3.7 Best double couple: M03.68000×10^14 NP1:φs41.00000°, δ17.00000°, λ-83.00000°. NP2:φs214.00000°, δ73.00000°, λ-92.00000°.*
*IDC **11** 08:26:11.2±1.2, 37.20N×143.75E, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.6/43, mbtmp3.6/8, ML2.6/3, Error ellipse: s-maj=29.3km s-min=21.8km az=87.0*
*JMA **11** 08:26:15.3±0.2, 37.41N×143.55E, h51km, M3.5*
ISC 11 08:26:14.7±3.6, 37.40N±0.06×143.62E±0.07, h24km±29km, n25, σ 1.91/24, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.09**	**301**	P	Pn	08 26 48.1	0.0
JIO				*e*S	Sn	08 27 11.8	-1.5
JFK	**Kawauchi**	**2.19**	**270**	P	Pn	08 26 49.3	-0.3
JFK				S	**Sn**	**08 27 14.5**	**-1.4**
ONAJ	**Iwakimizuishiy**	**2.27**	**263**	S	**Sn**	**08 27 16.8**	**-1.2**
JMM	**Marumori**	**2.30**	**283**	P	Pn	08 26 51.1	+0.1
JMM				S	**Sn**	**08 27 17.7**	**-0.8**
JMK	**Ichinoseki**	**2.45**	**310**	P	Pn	08 26 53.2	+0.1
JFT	**Otama**	**2.62**	**274**	P	**Pn**	**08 26 56.4**	**+0.9**
JFT				S	**Sn**	**08 27 26.8**	**+0.3**
JOM	**Ohasama**	**2.77**	**319**	P	Pn	08 26 57.7	+0.2
JOM				*e*S	**Sn**	**08 27 29.6**	**-0.5**
JYK	**Kaneyama**	**2.99**	**302**	P	Pn	08 27 01.1	+0.6
JANG	**Nango**	**3.40**	**332**	P	Pn	08 27 06.0	-0.1
JANG				*e*S	**Sn**	**08 27 44.6**	**-1.1**
JAG	**Ashikaga**	**3.48**	**255**	P	**Pn**	**08 27 07.5**	**+0.2**
JAG				S	**Sn**	**08 27 46.4**	**-1.3**
JRY	**Ryogami san**	**4.04**	**251**	P	**Pn**	**08 27 15.0**	**0.0**
JRY				*e*S	Sn	08 27 58.3	-3.2
JOD2	**Odawara 2**	**4.24**	**241**	*e*S	**Sn**	**08 28 03.0**	**-3.4**
MJAR	**Matsushiro Arr**	**4.42**	**260**	Pn	**Pn**	**08 27 21.3**	**+1.1**
	2.5nm,0.3s,baz=87,slow=25,SNR=22						
MJAR				Sn	**Sn**	**08 28 11.5**	**+0.6**
	2.6nm,0.3s,baz=156,slow=20,SNR=7.9						
MAT	**Matsushiro**	**4.42**	**261**	P	**Pn**	**08 27 21.9**	**+1.7**
MAT				S	**Sn**	**08 28 10.8**	**-0.2**
JOT	**Ohata**	**4.45**	**334**	P	**Pn**	**08 27 21.3**	**+0.7**
JKB	**Kayabe**	**4.91**	**337**	P	**Pn**	**08 27 27.5**	**+0.6**
JCH	**Churui**	**5.21**	**358**	P	Pn	08 27 30.1	-1.0
JCH				S	**Sn**	**08 28 27.6**	**-2.8**
ASAJ	**Asahikawa**	**6.76**	**354**	Pn	**Pn**	**08 27 52.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**11.13**	**311**	Pn	Pn	08 28 52.7	+0.5
	0.1nm,0.3s,baz=152,slow=41,SNR=3.4						
KSRS	**Korea Array**	**12.48**	**275**	Pn	**Pn**	**08 29 13.6**	**+2.8**
	0.0nm,0.3s,baz=92,slow=12,SNR=5.9						
KLR	**Kul'dur**	**14.63**	**328**	Pn	Pn	08 29 39.2	-0.7
	0.1nm,0.3s,baz=138,slow=14,SNR=7.5						
MKAR	**Makanchi Array**	**45.42**	**302**	P	**P**	**08 34 33.3**	**+1.9**
	0.2nm,0.6s,baz=92,slow=9.1,SNR=2.9						
ILAR	**Eielson Array**	**48.24**	**33**	P	**P**	**08 34 55.1**	**+2.0**
	0.5nm,0.9s,baz=271,slow=6.4,SNR=6.1						
WRA	**Warramunga Arr**	**57.70**	**190**	P	**P**	**08 36 02.1**	**-1.2**
	1.5nm,0.6s,baz=7.8,slow=7.2,SNR=21						
ASAR	**Alice Springs**	**61.42**	**190**	P	**P**	**08 36 27.7**	**-1.2**
	0.6nm,0.7s,baz=2.0,slow=6.7,SNR=6.2						

*NIED **11** 08:30:00, 37.60N×142.60E, h23km, Mw3.5 Best double couple: M02.34000×10^14 NP1:φs17.00000°, δ32.00000°, λ-98.00000°. NP2:φs206.00000°, δ58.00000°, λ-85.00000°.*
*IDC **11** 08:30:09.5±1.0, 37.49N×142.64E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/40, mbtmp3.6/9, ML3.2/1, Error ellipse: s-maj=26.5km s-min=23.3km az=73.0*
*ISCJB **11** 08:30:11.0±0.7, 37.52N±0.07×142.57E±0.06, h21km, mb3.6/8, Error ellipse: s-maj=9.4km s-min=7.3km az=179.9*
*JMA **11** 08:30:11.2±0.2, 37.60N×142.55E, h18km, M3.8*
ISC 11 08:30:12.9±1.0, 37.54N±0.07×142.43E±0.07, h21km, n25, σ 1.91/24, mb3.6/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.25**	**263**	P	**Pb**	**08 30 35.2**	**-0.6**
JFK				*e*S	**Sb**	**08 30 52.8**	**+1.4**
JIO	**Ouri**	**1.25**	**317**	P	**Pn**	**08 30 34.1**	**-1.1**
JIO				*e*S	**Sn**	**08 30 50.0**	**-0.8**
JMM	**Marumori**	**1.34**	**285**	P	**Pn**	**08 30 36.2**	**-0.2**
JMM				*e*S	**Sb**	**08 30 54.6**	**+0.6**
ONAJ	**Iwakimizuishiy**	**1.37**	**252**	P	**Pn**	**08 30 36.9**	**0.0**
JOU	**Okura**	**1.62**	**301**	P	**Pn**	**08 30 40.6**	**+0.3**
JFT	**Otama**	**1.66**	**270**	P	**Pb**	**08 30 42.0**	**-0.8**
JFT				*e*S	**Sb**	**08 31 03.7**	**+0.3**
JMK	**Ichinoseki**	**1.70**	**326**	P	**Pn**	**08 30 40.6**	**-0.8**
JYS	**Shirataka**	**1.99**	**291**	P	**Pb**	**08 30 46.8**	**-1.6**
JOM	**Ohasama**	**2.13**	**336**	P	**Pn**	**08 30 47.5**	**+0.3**
MJAR	**Matsushiro Arr**	**3.52**	**255**	Pn	**Pn**	**08 31 05.7**	**-0.7**
	2.1nm,0.3s,baz=84,slow=9.1,SNR=13						
MAT	**Matsushiro**	**3.52**	**255**	P	**Pn**	**08 31 06.0**	**-0.4**
MAT				S	**Sb**	**08 31 54.8**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**27.73**	**123**	T	T	09 04 54.9	
	baz=316,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**27.73**	**123**	T	T	09 04 55.6	
	baz=316,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**27.74**	**123**	T	T	09 04 56.4	
	baz=316,slow=75,SNR=32						
SONM	**Songino Array**	**28.18**	**303**	P	**P**	**08 36 06.0**	**+2.0**
	0.4nm,0.6s,baz=93,slow=7.9,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**28.47**	**125**	T	T	09 05 56.6	
	baz=317,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.47**	**125**	T	T	09 05 56.5	
	baz=317,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**28.48**	**125**	T	T	09 05 53.1	
	baz=317,slow=76,SNR=17						
ZALV	**Zalesovo Beam**	**42.18**	**312**	P	**P**	**08 38 06.3**	**+2.5**
	0.6nm,0.3s,baz=69,slow=8.0,SNR=2.5						
MKAR	**Makanchi Array**	**44.54**	**302**	P	**P**	**08 38 23.8**	**+0.8**
	0.4nm,0.7s,baz=98,slow=8.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**46.33**	**308**	P	**P**	**08 38 37.5**	**+0.4**
	0.8nm,0.3s,baz=81,slow=8.0,SNR=8.4						
ILAR	**Eielson Array**	**48.63**	**33**	P	**P**	**08 38 53.8**	**-1.0**
	0.4nm,0.7s,baz=266,slow=7.0,SNR=6.1						
WRA	**Warramunga Arr**	**57.68**	**189**	P	**P**	**08 40 01.5**	**-0.4**
	0.3nm,0.4s,baz=6.9,slow=7.1,SNR=6.7						
ASAR	**Alice Springs**	**61.40**	**189**	P	**P**	**08 40 27.8**	**+0.3**
	0.4nm,0.8s,baz=10,slow=5.7,SNR=3.8						
TXAR	**Lajitas Array**	**89.17**	**53**	P	**P**	**08 43 06.9**	**-0.5**
	0.1nm,0.5s,baz=281,slow=2.5,SNR=4.0						

IDC 11 08:31:39.6±3.2, 54.17N×87.34E, h0km, mb1 3.0/2, mb1mx2.9/41, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=29.7km s-min=19.8km az=34.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**263**	*i*		08 40 50.0	
	baz=82,slow=307,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.50**	**263**	Pn	Pn	08 32 06.2	-1.5
	5.5nm,0.3s,baz=81,slow=15,SNR=36						
ZALV				Lg	Lg	08 32 28.4	
	2.8nm,0.3s,baz=73,slow=26,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	08 33 16.6	+0.8
	0.1nm,0.3s,baz=53,slow=13,SNR=9.0						
KURBB				Sn	Sn	08 34 28.4	-1.7
	0.0nm,0.3s,baz=77,slow=34,SNR=2.6						
MKAR	**Makanchi Array**	**8.05**	**206**	Pn	Pn	08 33 39.2	+1.5
	0.2nm,0.3s,baz=27,slow=14,SNR=8.3						

KRSC 11 08:35:19.6±1.2, 53.49N×157.39E, h290km±10km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.39**	**58**	*e*P	Pn	08 35 57.5	+0.7
KRX	**Arik**	**0.76**	**100**	*e*P	Pn	08 35 59.4	+1.4
KRMR	**Karymshinskiy**	**0.80**	**146**	*e*P	Pn	08 35 58.5	+0.5
KRER	**Koryakskii**	**0.83**	**102**	*e*P	Pn	08 35 59.7	+1.4
AVH	**Avacha**	**0.84**	**105**	*e*P	Pn	08 35 59.6	+1.4
UGLR	**Uglovaya**	**0.90**	**108**	*e*P	Pn	08 36 00.2	+1.7
SDLR	**Sedlovina**	**0.92**	**103**	*e*P	Pn	08 35 59.8	+1.2
DALK	**Dalny**	**0.94**	**119**	*e*P	Pn	08 35 59.5	+1.0
DALK				*e*S	S	08 36 30.1	+0.7
ASAK	**Asacha**	**1.15**	**164**	*e*P	Pn	08 36 00.6	+0.8
NLC	**Nalytchevo**	**1.21**	**105**	*e*P	Pn	08 36 01.0	+1.1
NLC				*e*S	S	08 36 32.7	+0.8
RUS	**Russkaya**	**1.26**	**147**	*e*P	Pn	08 36 00.4	+0.2
RUS				*e*S	S	08 36 31.8	-0.7
MKZ	**Mys Kozlova**	**2.77**	**66**	*e*P	Pn	08 36 13.7	+1.5
MKZ				*e*S	S	08 36 52.6	-1.6
BKI	**Bering**	**5.30**	**68**	*e*P	Pn	08 36 41.8	+1.7
BKI				*e*S	S	08 37 44.8	0.0

*NIED **11** 09:04:00, 37.60N×142.80E, h11km, Mw4.4 Best double couple: M04.73000×10^15 NP1:φs239.00000°, δ39.00000°, λ-56.00000°. NP2:φs18.00000°, δ59.00000°, λ-114.00000°.*
*BJI **11** 09:04:54.8, 37.49N×142.95E, h10km, mb4.6/56, mB4.8/38, Ms4.3/41, Ms7 4.1/39*
*ISCJB **11** 09:04:57.9±1.0, 37.57N±0.03×142.73E±0.03, h15km±6km, mb4.6/97, MS3.9/24, Error ellipse: s-maj=5.3km s-min=3.6km az=157.0*
*JMA **11** 09:04:57.0±0.4, 37.60N×142.76E, h7km±5km, M4.5*
JMA Felt I J1.
*MOS **11** 09:05:00.8±1.2, 37.67N×142.67E, h33km, mb4.8/53, Error ellipse: s-maj=7.4km s-min=4.8km az=104.3*
*NEIC **11** 09:05:02.5±0.5, 37.57N×142.71E, h36km±4km, mb4.6/50, Error ellipse: s-maj=4.6km s-min=3.2km az=138.0*
NEIC Recorded [1 JMA] in Miyagi.
*IDC **11** 09:05:02.5±2.3, 37.52N×142.69E, h38km±19km, mb4.2/27, mb1 4.4/34, mb1mx4.3/52, mbtmp4.4/34, ML4.1/5, MS3.6/20, Ms1 3.6/20, ms1mx3.3/43, Error ellipse: s-maj=14.0km s-min=10.9km az=107.0*
ISC 11 09:05:00.3±0.6, 37.50N±0.04×142.91E±0.04, h25km±3km, n263, σ 1.85/287, mb4.6/97, MS3.9/24, 15C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.56**	**308**	P	**Pn**	**09 05 22.9**	**-3.6**
JIO				*e*S	**Sn**	**09 05 41.7**	**-4

USRK LR LR 09 11 04.4
comp=E,310nm,18.5s,baz=93,slow=34
JNU Nakatsue 10.76 250 Pn **Pn 09 07 32.7 -0.1**
comp=E,0.9nm,0.3s,baz=78,slow=6.6,SNR=5.5
JNU LR LR 09 11 55.2
comp=E,134nm,18.6s,baz=310,slow=39
KSRS Korea Array 11.91 274 Pn **Pn 09 07 49.6 +1.0**
comp=E,0.2nm,0.3s,baz=89,slow=13,SNR=19
KSRS LR LR 09 12 12.7
comp=E,430nm,18.0s,baz=78,slow=37
KS01 Wonju Array Si 11.93 274 *e*Pn **Pn 09 07 50.8 +2.0**
KS15 Wonju Array Si 11.95 274 *e*Pn **Pn 09 07 46.6 -2.3**
KSAR Wonju Array Be 11.95 274 P **Pn 09 07 49.6 +0.6**
KSAR Wonju Array Be 11.95 274 Pn **Pn 09 07 49.6 +0.6**
MDJ Mudanjiang 12.31 309 P **Pn 09 07 57.8 +3.9**
MDJ S **Sn 09 10 16.6 +6.4**
MDJ PcP **PcP 09 13 36.2 +1.3**
MDJ ScP **ScP 09 17 08.1 +1.9**
MDJ PcS **PcS 09 17 10.4 +1.5**
MDJ ScS **ScS 09 20 44.0 +1.9**
MDJ PMZ
comp=E,13nm,0.7s
MDJ PMZ
comp=E,84nm,3.8s
MDJ LN
comp=E,300nm,10.5s
MDJ LE
comp=E,300nm,11.6s
MDJ LZ
comp=E,670nm,15.2s
MDJ Mudanjiang 12.31 309 *e*Pn **Pn 09 07 57.6 +3.7**
comp=E,20nm,0.8s
TJN Taejon 12.49 270⇑ *e*P **Pn 09 07 53.9 -2.6**
TYV Tymovskoe 13.36 359 *e*P **Pn 09 08 06.8 -1.4**
TYV pmax pmax
comp=Z,5.0nm,0.6s
KLR Kul'dur 14.24 329 Pn **Pn 09 08 16.6 -3.6**
comp=Z,0.7nm,0.3s,baz=134,slow=12,SNR=19
KLR LR LR 09 13 39.3
comp=Z,233nm,18.7s,baz=148,slow=37
CN2 Changchun 14.67 301 *e*P **Pn 09 08 26.0 -0.1**
CN2 PMZ
comp=Z,10.0nm,0.5s
SNY Shenyang 15.50 292 ⇓P P 09 08 48.3 +6.9
SNY S **S 09 11 52.1 +8.7**
SNY pmax pmax
comp=Z,15nm,0.5s
SNY LR LR
comp=N,260nm,9.3s
SNY LR LR
comp=E,780nm,16.0s
SNY LR LR
comp=Z,1μm,16.4s
SKR Severo-Kuril's 16.20 31 *e*P **P 09 08 47.8 -1.3**
PETK Petropavlovsk- 18.70 29 P **Pn 09 09 17.1 0.0**
comp=Z,0.1nm,0.3s,baz=170,slow=9.0,SNR=4.8
PETK LR LR 09 17 12.3
comp=Z,79nm,18.9s,baz=225,slow=39
HIA Hailar 20.45 312 *e*P Pn 09 09 38.8 +0.7
HIA pmax pmax
comp=Z,19nm,0.9s
HIA Hailar 20.45 312 *e*P Pn 09 09 38.8 +0.8
comp=Z,19nm,0.9s
TIA Tai'an 20.66 274⇑P **P 09 09 35.7 -2.5**
TIA LN
comp=Z,170nm,12.5s
TIA LE
comp=Z,460nm,13.1s
TIA LZ
comp=Z,500nm,13.1s
BJI Beijing 20.98 285 P **P 09 09 38.3 -3.3**
BJI S **S 09 13 32.0 -2.0**
BJI PMZ
comp=Z,9.0nm,1.6s
BJI PMZ
comp=Z,110nm,4.0s
BJI LN
comp=Z,210nm,13.8s
BJI LE
comp=Z,160nm,13.8s
MA2 Magadan 22.67 10 LR LR 09 19 45.5
comp=Z,117nm,19.0s,baz=191,slow=39
MA2 Magadan 22.67 10 *e*P **P 09 09 59.2 -0.3**
CLNS Chul'man 22.77 334 *e*P **P 09 09 59.1 -1.6**
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=Z,18nm,1.0s
CLNS pmax pmax
comp=N,13nm,0.8s
HHC Hu-ho-hao-te 24.46 288 *e*P **P 09 10 15.4 -2.0**
HHC S **S 09 14 28.6 -7.5**
HHC sS sS 09 14 41.2 -6.9
HHC PMZ
comp=N,23nm,1.2s
HHC PMZ
comp=N,85nm,5.7s
HHC LN
comp=N,210nm,11.0s
HHC LE
comp=N,380nm,11.5s
HHC LZ
comp=N,360nm,13.3s
WHN Wuhan 24.61 262⇑ *i*P **P 09 10 17.7 -0.9**
WHN PMZ
comp=N,64nm,0.9s
CIT Chita 25.19 315 *e*P **P 09 10 23.0 -0.7**
CIT *e* 09 10 38.4
CIT *e* 09 10 53.1
CIT pmax pmax
comp=Z,288nm,1.0s
YAK Yakutsk 25.90 346 *e*P **P 09 10 29.5 -0.4**
YAK pmax pmax
comp=Z,30nm,1.3s
YAK pmax pmax
comp=N,13nm,1.4s
YAK Yakutsk 25.90 346 *e*P **P 09 10 28.9 -1.0**
comp=N,33nm,0.7s
SEY Seymchan 26.12 10 P **P 09 10 32.9 +1.0**
comp=N,10nm,0.6s,baz=189,slow=9.4,SNR=21
SEY Seymchan 26.12 10⇑ *e*P **P 09 10 33.1 +1.2**
H11N2 WAKE ISLAND Hy 27.38 124 T T 09 39 43.3
baz=316,slow=75,SNR=324
H11N1 WAKE ISLAND Hy 27.39 124 T T 09 39 44.8
baz=316,slow=75,SNR=223
H11N3 WAKE ISLAND Hy 27.40 124 T T 09 39 43.0
baz=316,slow=75,SNR=242
XAN Xi'an 27.71 273 P **P 09 10 45.2 -1.5**
XAN sP pP 09 10 54.1 +0.2
XAN PP **PnPn 09 11 35.7 +3.0**
XAN S **S 09 15 25.4 -2.2**
XAN SS **SnSn 09 16 45.6 +5.4**
XAN PMZ
comp=N,12nm,1.0s
XAN PMZ
comp=N,43nm,5.0s
XAN LN
comp=N,120nm,10.7s
XAN LE
comp=N,200nm,14.5s
XAN LZ
comp=N,200nm,11.1s
BOD Bodaibo 27.79 326 *e*P **P 09 10 48.6 +1.5**
BOD pmax pmax
comp=Z,30nm,1.1s
ULN Ulaanbaatar 28.09 303 *d i*P **P 09 10 49.2 -0.9**
ULN pmax pmax
comp=Z,13nm,1.2s
ULN Ulaanbaatar 28.09 303 *e*P **P 09 10 49.7 -0.4**
comp=Z,23nm,1.5s
H11S1 WAKE ISLAND Hy 28.13 126 T T 09 40 40.5
baz=318,slow=75,SNR=209
H11S3 WAKE ISLAND Hy 28.13 126 T T 09 40 35.4
baz=318,slow=75,SNR=226
H11S2 WAKE ISLAND Hy 28.15 126 T T 09 40 36.4
baz=318,slow=75,SNR=162
SONA1 Songino Array 28.52 303 *e*P **P 09 10 53.1 -0.8**
SONM Songino Array 28.53 303 P **P 09 10 53.3 -0.7**
comp=Z,7.0nm,0.9s,baz=101,slow=9.4,SNR=34
SONM LR LR 09 22 29.3
comp=Z,131nm,18.5s,baz=114,slow=37
ENH Enshi 28.56 265 *e*P **P 09 10 52.9 -1.4**
comp=Z,43nm,0.9s
ZAK Zakamensk 30.93 307 *e*P **P 09 11 13.4 -1.7**
ZAK pmax pmax
comp=Z,11nm,1.0s

TLY Talaya 30.94 310 P **P 09 11 15.0 -0.1**
comp=Z,2.0nm,0.7s,baz=99,slow=21,SNR=3.1
TLY Talaya 30.94 310 *e*P **P 09 11 16.0 +0.9**
TLY pmax pmax
comp=Z,9.0nm,1.1s
TLY MLR MLR
comp=Z,293nm,15.0s
TLY Talaya 30.94 310 *e*P **P 09 11 12.7 -2.4**
comp=Z,6.3nm,0.9s
LZH Lanzhou 31.17 279 *e*P **P 09 11 20.0 +2.5**
LZH pP pP 09 11 24.3 -0.5
LZH sP sP 09 11 27.1 -0.7
LZH PMZ
comp=Z,22nm,1.0s
LZH PMZ
comp=Z,140nm,4.5s
LZH LN
comp=Z,270nm,12.9s
LZH LE
comp=Z,250nm,11.9s
LZH LZ
comp=Z,240nm,14.1s
GYA Guiyang 32.48 261⇑ *i*P **P 09 11 27.2 -1.8**
GYA PP **PnPn 09 12 38.0 +1.6**
GYA PcP **PcP 09 14 17.8 +2.1**
GYA S **S 09 16 41.2 -1.4**
GYA ScP **ScP 09 17 59.2 +1.3**
GYA ScS **ScS 09 21 57.3 -0.2**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,90nm,5.2s
MOY Mondy 32.56 309 *e*P P 09 11 36.8 +7.3
CD2 Chengdu 32.87 270 *e*P **P 09 11 30.6 -1.7**
BILL Bilibino 33.25 16⇑ *e*P **P 09 11 35.0 -0.1**
BILL *e* 09 12 43.1
BILL *e*SS **SnSn 09 18 52.5 -1.7**
BILL pmax pmax
comp=Z,10.0nm,1.7s
BILL MLR MLR
comp=Z,84nm,16.0s
GTA Gaotai 33.57 287 *e*P **P 09 11 37.5 -1.0**
GTA pP pP 09 11 42.6 -3.2
GTA sP sP 09 11 45.6 -3.2
GTA S **S 09 16 56.2 -3.2**
GTA sS sS 09 17 06.1 -5.4
GTA SS **SnSn 09 19 00.1 -2.8**
GTA PMZ
comp=Z,6.0nm,1.1s
GTA PMZ
comp=Z,67nm,4.4s
GTA LN
comp=Z,150nm,18.1s
GTA LE
comp=Z,210nm,15.7s
GTA LZ
comp=Z,250nm,17.1s
QIZ Qiongzhong 34.21 247 P **P 09 11 44.0 0.0**
QIZ S **S 09 17 09.6 +0.3**
QIZ PMZ
comp=Z,6.0nm,1.3s
QIZ PMZ
comp=Z,39nm,4.8s
QIZ LZ
comp=Z,150nm,14.0s
KMI Kunming 36.21 262 P **P 09 12 00.7 -0.8**
KMI pP pP 09 12 08.7 -0.2
KMI sP sP 09 12 11.7 -0.2
KMI S **S 09 17 37.3 -3.2**
KMI PMZ
comp=Z,12nm,1.1s
KMI PMZ
comp=Z,89nm,6.1s
KMI LN
comp=Z,260nm,16.3s
KMI LE
comp=Z,240nm,16.8s
KMI LZ
comp=Z,220nm,18.0s
WMQ Urumqi 41.70 297 P **P 09 12 47.5 +0.5**
WMQ pP pP 09 12 53.5 -1.0
WMQ sP sP 09 12 55.6 -1.9
WMQ PMZ
comp=Z,18nm,0.6s
WMQ PMZ
comp=Z,66nm,6.0s
WMQ LN
comp=Z,120nm,13.4s
WMQ LE
comp=Z,100nm,14.8s
ZAA0 Zalesovo Array 42.49 312 *e*P **P 09 12 52.6 -0.7**
ZAA0 *e*PcP **PcP 09 14 45.8 +0.2**
ZALV Zalesovo Beam 42.49 312 P **P 09 12 52.2 -1.1**
comp=Z,8.1nm,0.9s,baz=90,slow=7.4,SNR=18
ZALV PcP **PcP 09 14 45.4 -0.3**
comp=Z,8.6nm,0.8s,baz=88,slow=3.7,SNR=9.2
ZALV LR LR 09 30 46.5
comp=Z,45nm,19.0s,baz=72,slow=36
CMAR Chiang Mai Arr 42.77 256 LR LR 09 31 50.1
comp=Z,52nm,18.3s,baz=270,slow=38
CM01 Chiang Mai Arr 42.78 256 *e*P **P 09 12 55.7 -0.3**
NRIK Noril'sk 43.35 335 LR LR 09 31 54.2
comp=Z,146nm,19.8s,baz=110,slow=37
NVS Novosibirsk 43.39 313 *e*P **P 09 12 57.3 -3.2**
MK01 Makanchi Array 44.88 302 *e*P **P 09 13 11.9 -0.8**
MK31 Makanchi Array 44.89 302 *e*P **P 09 13 12.3 -0.4**
MK31 Makanchi Array 44.89 302 *e*P **P 09 13 12.3 -0.4**
MKAR Makanchi Array 44.89 302 P **P 09 13 11.4 -1.3**
comp=Z,6.0nm,0.8s,baz=88,slow=8.5,SNR=38
MKAR LR LR 09 32 05.8
comp=Z,24nm,18.5s,baz=81,slow=36
MKAR Makanchi Array 44.89 302 *e*P **P 09 13 12.3 -0.4**
MAKZ Makanchi 45.10 302 *e*P **P 09 13 13.6 -0.8**
MAKZ pmax pmax
comp=Z,13nm,0.8s
MAKZ Makanchi 45.10 302 *e*P **P 09 13 13.6 -0.8**
comp=Z,13nm,0.8s
KURK Kurchatov 46.59 308 *e*P **P 09 13 24.8 -1.2**
KURK 09 14 59.4
KURK pmax pmax
comp=Z,204nm,0.8s
KURK Kurchatov 46.59 308 *e*P **P 09 13 24.8 -1.2**
comp=Z,204nm,0.8s
KURK PcP **PcP 09 14 59.4 -0.3**
KURBB Kurchatov Arra 46.66 308 P **P 09 13 25.2 -1.3**
comp=Z,10nm,0.8s,baz=82,slow=8.1,SNR=54
KURBB PcP **PcP 09 14 59.4 -0.6**
comp=Z,0.8nm,0.6s,baz=86,slow=3.5,SNR=4.4
BPAW Bear Paw Mtn. 46.68 33 *e*P **P 09 13 26.9 +0.3**
comp=Z,2.4nm,0.7s
KTH Kantishna Hill 46.69 34 *e*P **P 09 13 27.7 +0.9**
comp=Z,5.7nm,1.0s
KTH *e*PcP **PcP 09 14 59.9 -0.1**
MLY Manley 46.82 32 *e*P **P 09 13 29.7 +2.0**
comp=Z,7.6nm,1.2s
MLY *e*PcP **PcP 09 15 01.9 +1.5**
KAPI Kappang 47.48 212 P **P 09 13 33.5 +0.2**
comp=Z,8.1nm,0.8s,baz=342,slow=7.0,SNR=4.3
PMR Palmer 47.54 37 *e*P **P 09 13 34.2 +0.9**
PMR pmax pmax
comp=Z,5.0nm,0.8s
PMR Palmer 47.54 37 *e*P **P 09 13 34.1 +0.9**
comp=Z,4.9nm,0.8s
RND Reindeer 47.62 34 *e*P **P 09 13 34.1 +0.1**
RND pmax pmax
comp=Z,5.0nm,0.8s
RND Reindeer 47.62 34 *e*P **P 09 13 34.1 +0.1**
comp=Z,5.3nm,0.8s
MDM Murphy Dome 47.88 32 *e*P **P 09 13 37.2 +1.2**
comp=Z,8.2nm,0.8s
WRH Wood River Hil 47.95 33 *e*P **P 09 13 37.6 +1.2**
comp=Z,5.5nm,0.9s
COLA College 48.05 32 *d i*P **P 09 13 38.8 +1.7**
COLA pmax pmax
comp=Z,2.0nm,0.7s
GUN Gumba 48.30 276 *e*P **P 09 13 39.5 -0.6**
comp=Z,28nm,0.8s
IL1 Eielson Array 48.46 33 *e*P **P 09 13 41.0 +0.6**
ILAR Eielson Array 48.46 33 P **P 09 13 40.9 +0.5**
comp=Z,5.0nm,0.7s,baz=265,slow=6.6,SNR=96
ILB Eielson Array 48.46 33 *e*P **P 09 13 41.1 +0.8**
KKN Kakani 48.83 276 *e*P **P 09 13 43.4 -0.6**
comp=Z,8.4nm,0.4s
PKIN Phulchoki 48.83 276 *e*P **P 09 13 46.2 +2.1**
comp=Z,7.3nm,0.5s
KLU Klutina 49.08 37 *e*P **P 09 13 46.5 +1.2**
comp=Z,4.4nm,0.7s
GKN Gorkha 49.24 277 *e*P **P 09 13 46.4 -0.7**
comp=Z,67nm,1.0s
EYAK Cordova Ski Ar 49.25 38 *e*P **P 09 13 46.9 +0.5**
comp=Z,5.8nm,0.7s
DOT Dot Lake 49.75 34 *e*P **P 09 13 51.0 +0.7**
comp=Z,8.4nm,0.7s
BMRM Bremner River 49.77 38 *e*P **P 09 13 52.4 +1.9**
comp=Z,7.6nm,1.0s
RAGM Ragged Mountai 49.80 38 *e*P **P 09 13 52.4 +1.7**
comp=Z,7.4nm,1.0s
MENT Mentasta 49.97 35 *e*P **P 09 13 53.3 +1.3**
comp=Z,4.6nm,0.7s
TKM2 Tokmak 2 50.46 298 *e*P **P 09 13 56.2 0.0**
TKM2 pmax pmax
comp=Z,19nm,0.8s
TKM2 Tokmak 2 50.46 298 *e*P **P 09 13 56.2 0.0**
comp=Z,19nm,0.8s
PYUN Piuthan 50.49 278 *e*P **P 09 13 55.9 -0.8**
comp=Z,66nm,1.1s
CRQM Cirque 50.50 38 *e*P **P 09 13 57.7 +1.4**
comp=Z,9.2nm,0.8s
EGAK Eagle 50.91 32 *e*P **P 09 13 59.9 +0.9**
comp=Z,17nm,1.8s
FRU Bishkek 51.17 299 *e*P P 09 14 09.0 +7.6
BRVK Borovoye 51.20 312 *c i*P **P 09 14 00.7 -0.7**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 51.20 312 *e*P **P 09 14 00.6 -0.7**
BRVK *es*P **pP 09 14 09.3 +0.3**
KSH Kashi 51.31 294 P P 09 14 07.0 +4.5
KSH pP sP 09 14 14.8 +1.7
KSH PcP **PcP 09 15 22.3 +5.0**
KSH PP **PP 09 16 05.7 +6.3**
KSH S **S 09 21 23.4 +3.2**
KSH ScS **ScS 09 23 53.6 +2.1**
KSH SS **SS 09 24 56.9 +1.3**
KSH PMZ
comp=Z,4.0nm,0.7s
KSH PMZ
comp=Z,94nm,4.9s
KSH LN
comp=Z,140nm,11.3s
KSH LE
comp=Z,190nm,12.7s
KSH LZ
comp=Z,280nm,13.9s
AAK Ala-Archa 51.32 298⇑ *i*P **P 09 14 02.2 -0.5**
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 51.32 298 *e*P **P 09 14 01.8 -0.8**
EKS2 Erkin-Say 51.81 299 *e*P **P 09 14 05.8 -0.5**
EKS2 pmax pmax
comp=Z,10.0nm,1.3s
EKS2 Erkin-Say 51.81 299 *e*P **P 09 14 05.8 -0.5**
comp=Z,9.6nm,1.3s
ZRNK Zerenda 51.98 312 *e*P **P 09 14 06.8 -0.4**
ZRNK pmax pmax
comp=Z,10.0nm,0.8s
ZRNK Zerenda 51.98 312 *e*P **P 09 14 06.8 -0.4**
comp=Z,9.8nm,0.8s
INK Inuvik 53.43 27 P **P 09 14 18.8 +1.2**
comp=Z,3.3nm,0.7s,baz=300,slow=5.4,SNR=8.8
KKAR Karatay Array 53.93 300 *e*P **P 09 14 21.3 -0.4**
KKAR Karatay Array 53.93 300 *e*P **P 09 14 21.3 -0.4**
SVE Sverdlovsk 55.59 319⇓ *i*P **P 09 14 33.6 +0.1**
SVE pmax pmax
comp=Z,21nm,0.9s
SVE MLR MLR
comp=Z,344nm,16.0s
ARU Arti 56.80 319 *d i*P **P 09 14 41.5 -0.7**
ARU 09 15 36.7
ARU 09 16 48.6
ARU S **S 09 22 32.3 -1.4**
ARU SS **SS 09 26 19.8 -1.5**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU MLR MLR
comp=Z,228nm,17.0s
ARU Arti 56.80 319 *e*P **P 09 14 41.2 -1.0**
comp=Z,10nm,0.9s
DLBC Dease Lake 57.52 39 P **P 09 14 49.7 +2.3**
comp=Z,2.3nm,0.8s,baz=280,slow=7.2,SNR=6.8
DLBC Dease Lake 57.52 39 *e*P **P 09 14 49.1 +1.8**
comp=Z,3.5nm,0.9s
FITZ Fitzroy Crossi 57.65 200 P **P 09 14 48.6 +0.1**
comp=Z,6.0nm,1.0s,baz=17,slow=11,SNR=3.4
WRAB Tennant Creek 57.69 190 *c i*P **P 09 14 49.0 +0.2**
WRAB pmax pmax
comp=Z,40nm,1.2s
WRAB Tennant Creek 57.69 190 *e*P **P 09 14 49.0 +0.2**
comp=Z,14nm,0.9s
WB2 Warramunga Arr 57.70 190 *e*P **P 09 14 49.4 +0.5**
comp=Z,14nm,0.8s
WRA Warramunga Arr 57.70 190 P **P 09 14 48.6 -0.2**
comp=Z,13nm,0.9s,baz=8.9,slow=7.4,SNR=56
KBL Kabul 58.36 291 *e*P **P 09 14 52.9 -0.9**
KBL pmax pmax
comp=Z,14nm,1.1s
KBL Kabul 58.36 291 *e*P **P 09 14 52.9 -0.9**
comp=Z,14nm,1.1s
ABKAR Akbulak array 58.55 310 *e*P **P 09 14 53.7 -0.9**
comp=Z,2.4nm,0.5s
AS01 Alice Springs 61.42 189 *e*P **P 09 15 15.2 +0.7**
AS31 Alice Springs 61.42 189 *e*P **P 09 15 15.7 +1.2**
comp=Z,1.7nm,0.8s
ASAR Alice Springs 61.43 189 P **P 09 15 14.9 +0.3**
comp=Z,4.7nm,0.8s,baz=8.6,slow=6.5,SNR=35
YKA Yellowknife Ar 62.80 31 P **P 09 15 23.7 +0.3**
comp=Z,1.9nm,0.7s,baz=305,slow=6.7,SNR=8.8
DZM Mont Dzumac 63.26 156 LR LR 09 42 06.9
comp=Z,30nm,18.2s,baz=3.0,slow=35
ARCES ARCESS Array B 63.98 340 P **P 09 15 30.5 -0.5**
comp=Z,2.6nm,0.8s,baz=65,slow=6.8,SNR=5.1
ARCES LR LR 09 48 47.0
comp=Z,54nm,18.4s,baz=45,slow=41
KLMR Klimovskoe 64.00 328 *e*P **P 09 15 28.6 -2.7**
KLMR *e**PP **pP 09 15 39.4 +0.4**
KLMR *e**SP **sP 09 15 42.3 +0.3**
KLMR *e* 09 17 48.7
KLMR pmax pmax
comp=Z,8.0nm,1.1s
GEYT Alibeck 64.65 299 P **P 09 15 35.3 -0.7**
comp=Z,2.1nm,0.5s,baz=2.3,slow=7.4,SNR=5.2
DAG Danmarks Havn 65.41 355 *i* P **P 09 15 40.3 +0.1**
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 65.41 355 *i* P **P 09 15 40.3 +0.1**
comp=Z,7.4nm,1.0s
VRH Novokhopyorsk 68.03 318 *e*P **P 09 15 56.3 -1.1**
VRH pmax pmax
comp=Z,8.0nm,0.5s
OBN Obninsk 68.44 324⇑ *e*P **P 09 15 59.7 -0.1**
OBN *e* 09 18 30.5
OBN pmax pmax
comp=Z,12nm,1.2s
OBN MLR MLR
comp=Z,141nm,14.0s
LPSR Galich'ya Gora 68.71 321 *e*P **P 09 16 00.8 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
FIA1 FINESS Array S 68.95 333 *e*P **P 09 16 02.6 -0.4**
comp=Z,14nm,1.0s
FINES FINESS Array B 68.96 333 P **P 09 16 02.6 -0.3**
comp=Z,7.0nm,0.9s,baz=54,slow=9.7,SNR=21
FINES LR LR 09 51 11.3
comp=Z,69nm,18.8s,baz=18,slow=40
STKA Stephens Creek 69.03 181 P **P 09 16 04.0 +0.3**
comp=Z,1.7nm,0.8s,baz=318,slow=11,SNR=3.3
STKA Stephens Creek 69.03 181 P **P 09 16 04.0 +0.3**
STKA pmax pmax
comp=Z,2.0nm,0.8s
VSR Storozhevoye 69.37 319 *e*P **P 09 16 04.0 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.4s
K05A Summer Lake 69.72 51 *e*P **P 09 16 10.6 +2.3**
comp=Z,8.7nm,0.9s
SUMG Summit 70.22 0 *i* P **P 09 16 11.7 +0.6**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 70.22 0 *i* P **P 09 16 11.7 +0.6**
comp=Z,6.6nm,0.8s
SUMG Summit 70.22 0 *e*P **P 09 16 11.3 +0.2**
comp=Z,6.4nm,0.8s
VSU Vasula 70.66 330⇓ *e*P **P 09 16 14.0 +0.6**
VSU pmax pmax

comp=Z,42nm,2.5s
KIV Kislovodsk 71.50 311 *ce*P **P 09 16 19.6 +0.6**
KIV *e* 09 18 56.4
KIV *e*SS SS 09 30 09.7 -0.9
KIV pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 71.50 311 P **P 09 16 18.8 0.0**
comp=Z,4.4nm,0.9s,baz=20,slow=3.3,SNR=8.2
SCO Scoresbysund 71.77 355 *i* P P 09 16 06.8 -13
comp=Z,26nm,1.2s
GNI Garni 72.38 307⇑ *e*P **P 09 16 25.8 +1.4**
GNI pmax pmax
comp=Z,25nm,1.2s
BOZ Bozeman (W) 73.54 45 *e*P **P 09 16 32.4 +1.2**
BOZ pmax pmax
comp=Z,3.0nm,1.1s
BOZ Bozeman (W) 73.54 45 *e*P **P 09 16 32.4 +1.2**
comp=Z,3.2nm,1.1s
NV01 Mina Array Sit 73.75 54 *e*P **P 09 16 34.3 +1.7**
NVAR Mina Array Bea 73.75 54 P **P 09 16 34.0 +1.4**
comp=Z,2.0nm,0.8s,baz=280,slow=7.0,SNR=14
NC204 NORSAR Array S 74.16 338 *e*P **P 09 16 34.6 +0.2**
NB201 NORSAR Array S 74.18 338 *e*P **P 09 16 34.7 +0.2**
NB2 NORSAR Subarra 74.22 338 P **P 09 16 34.1 -0.6**
comp=Z,12nm,1.1s,baz=39,slow=6.2
NOA NORSAR Array B 74.22 338 P **P 09 16 34.1 -0.6**
comp=Z,5.2nm,0.8s,baz=39,slow=5.8,SNR=15
NOA LR LR 09 52 14.0
comp=Z,60nm,19.6s,baz=30,slow=38
NBO02 NORSAR Array S 74.31 338 *e*P **P 09 16 35.3 0.0**
NC602 NORSAR Array S 74.36 337 *e*P **P 09 16 36.6 +1.2**
AKASG Malin Array Be 74.66 323 P **P 09 16 36.6 -0.8**
comp=Z,3.3nm,0.5s,baz=44,slow=6.1,SNR=19
AKASG LR LR 09 54 05.6
comp=Z,47nm,18.9s,baz=55,slow=40
AK11 Malin Array Si 74.70 323 *e*P **P 09 16 37.3 -0.3**
H17A Grant Village 74.90 45 *e*P **P 09 16 41.6 +2.4**
comp=Z,3.8nm,0.8s
IMW Indian Meadow 74.99 46 *e*P **P 09 16 42.5 +2.6**
comp=Z,3.0nm,0.8s
MOOW Moose Ponds 75.20 46 *e*P **P 09 16 42.5 +1.6**
comp=Z,1.3nm,0.8s
R11A Troy Canyon, C 75.53 53 *e*P **P 09 16 44.9 +2.0**
comp=Z,2.5nm,0.9s
DUG Dugway, Tooele 76.14 50 *e*P **P 09 16 48.3 +2.0**
DUG pmax pmax
comp=Z,2.0nm,0.7s
DUG Dugway, Tooele 76.14 50 *e*P **P 09 16 48.3 +2.0**
comp=Z,2.5nm,0.7s
BW06 Boulder Array 76.48 46 *e*P **P 09 16 49.2 +0.8**
PDAR Pinedale Array 76.48 46 P **P 09 16 48.9 +0.5**
comp=Z,1.5nm,0.6s,baz=257,slow=2.8,SNR=12
BORG Borgarnes 77.34 353 *i* P **P 09 16 53.5 +1.1**
LCMT Little Creek M 77.82 53 *e*P **P 09 16 57.5 +1.7**
comp=Z,3.4nm,1.1s
MTPU Mount Pierson 77.85 51 *e*P **P 09 16 57.9 +1.7**
comp=Z,1.9nm,0.8s
KNB Kanab 78.08 52 *e*P **P 09 16 58.7 +1.4**
KNB pmax pmax
comp=Z,10.0nm,1.5s
KNB Kanab 78.08 52 *e*P **P 09 16 58.7 +1.4**
comp=Z,9.5nm,1.5s
SRU San Rafael Swe 78.20 50 *e*P **P 09 16 59.1 +1.1**
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 78.20 50 *e*P **P 09 16 59.0 +1.1**
comp=Z,3.7nm,0.8s
BUR08 Bucovina Ar. S 78.67 322 *e*P **P 09 17 00.8 +0.5**
U15A North Rim 78.78 53 *e*P **P 09 17 02.5 +1.2**
comp=Z,2.8nm,0.8s
STHS Stebnicka Huta 79.26 326 *e*P **P 09 17 01.3 -2.1**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 79.26 326 *e*P **P 09 17 01.3 -2.1**
OJC Ojcow 79.31 327 *e*P **P 09 17 04.4 +0.8**
OJC Ojcow 79.31 327 *e*P **P 09 17 04.4 +0.8**
UZH Uzhgorod 79.35 324 *e*P **P 09 17 01.9 -1.9**
BRTR Keskin Array B 79.43 312 P **P 09 17 04.4 -0.3**
comp=Z,2.9nm,1.1s,baz=67,slow=3.2,SNR=11
BRTR LR LR 09 57 57.1
comp=Z,20nm,18.2s,baz=70,slow=40
CRVS Cervenica-Dubn 79.53 325 *e*P **P 09 17 05.1 +0.2**
CRVS Cervenica-Dubn 79.53 325 *e*P **P 09 17 05.1 +0.2**
PV10 Paradox Valley 79.57 49 *e*P **P 09 17 06.4 +0.8**
BR231 Keskin MP Arra 79.86 313 *e*P **P 09 17 05.6 -1.4**
PV01 Paradox Valley 80.00 49 *e*P **P 09 17 09.0 +1.1**
KECS Kecovo 80.28 325 *e*P **P 09 17 05.1 -3.8**
OKC Ostrava-Krasne 80.31 327 AMS AMS 09 56 50.0
comp=Z,100nm,12.5s
MORC Moravsky Berou 80.62 328 *e*P **P 09 17 11.5 +0.7**
MORC pmax pmax
comp=Z,25nm,1.1s
MORC Moravsky Berou 80.62 328 *e*P **P 09 17 11.4 +0.7**
comp=Z,25nm,1.1s
DPC Dobruska-Polom 80.69 329 *e*P **P 09 17 12.1 +1.0**
DPC AMS AMS 09 58 10.0
comp=Z,100nm,11.3s
DPC Dobruska-Polom 80.69 329 *e*P **P 09 17 12.1 +1.0**
DPC MLR MLR
comp=Z,100nm,11.3s
UPC Upice 80.70 329 AMS AMS 09 58 20.0
comp=Z,100nm,11.5s
VYHS Vyhne 81.02 326 *e*P **P 09 17 11.8 -1.1**
VYHS pmax pmax
comp=Z,2.0nm,1.3s
VYHS Vyhne 81.02 326 *e*P **P 09 17 11.8 -1.1**
BRG Berggiesshubel 81.25 330 *e*P **P 09 17 13.8 -0.2**
comp=Z,2.5nm,0.8s
comp=N,157nm,13.9s
comp=E,74nm,13.0s
comp=Z,159nm,13.9s
BRG Berggiesshubel 81.25 330 *e*P **P 09 17 13.8 -0.2**
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=N,157nm,13.9s
BRG MLR MLR
comp=E,74nm,13.0s
BRG MLR MLR
comp=Z,159nm,13.9s
PVCC Panska Ves 81.27 330 AMS AMS 09 56 30.0
comp=Z,200nm,13.9s
CLL Collm 81.28 331⇑ *i*P **P 09 17 14.2 0.0**
comp=Z,9.0nm,1.1s
CLL Collm 81.28 331⇑ *i*P **P 09 17 14.2 0.0**
CLL pmax pmax
comp=Z,9.0nm,1.1s
GOPC GO Pecny, Ondr 81.66 329 *e*P **P 09 17 16.9 +0.6**
GOPC AMS AMS 09 59 10.0
comp=Z,100nm,15.2s
GOPC GO Pecny, Ondr 81.66 329 *e*P **P 09 17 16.9 +0.6**
GOPC MLR MLR
comp=Z,100nm,15.2s
PRU Pruhonice 81.70 329 *e*P **P 09 17 17.1 +0.7**
PRU AMS AMS 09 57 50.0
comp=Z,100nm,14.5s
PRU Pruhonice 81.70 329 *e*P **P 09 17 17.1 +0.7**
PRU MLR MLR
comp=Z,100nm,14.5s
TREC Trest 81.85 328 AMS AMS 09 59 00.0
comp=Z,100nm,17.8s
KHC Kasperske Hory 82.77 329 *e*P **P 09 17 22.6 +0.5**
KHC *e*PCP **PcP 09 17 25.9 -1.0**
KHC *e*pP **pP 09 17 31.0 +0.9**
KHC AMS AMS 09 59 30.0
comp=Z,200nm,14.2s
KHC Kasperske Hory 82.77 329 *e*P **P 09 17 22.6 +0.5**
KHC *e* 09 17 31.0
KHC MLR MLR
comp=Z,200nm,14.2s
KHC Kasperske Hory 82.77 329 *e*P **P 09 17 21.9 -0.2**
comp=Z,1.9nm,1.0s
ECSD EROS Data Cent 82.81 39 *e*P **P 09 17 23.0 +0.7**
comp=Z,3.3nm,1.0s
GERES GERESS Array B 82.94 329 P **P 09 17 22.5 -0.6**
comp=Z,0.8nm,0.6s,baz=35,slow=4.9,SNR=10
GERES LR LR 09 57 10.7
comp=Z,61nm,18.4s,baz=24,slow=38
GEA0 GERESS Array S 82.95 329 *e*P **P 09 17 21.9 -1.2**
ANMO Albuquerque 83.37 51⇑ *e*P **P 09 17 27.9 +2.2**
ANMO pmax pmax
comp=Z,3.0nm,1.7s
BFO Black Forest 85.47 332 *i* P **P 09 17 36.5 +0.6**
BFO Black Forest 85.47 332 *e*P **P 09 17 36.2 +0.4**
comp=Z,8.7nm,1.2s
AMTX Amarillo 86.30 48 *e*P **P 09 17 41.6 +1.3**
comp=Z,4.6nm,0.8s
TX31 Lajitas Ar. Si 88.89 53 *e*P **P 09 17 54.0 +1.1**
TXAR Lajitas Array 88.89 53 P **P 09 17 53.9 +1.0**
comp=Z,1.2nm,0.7s,baz=299,slow=3.1,SNR=20
KEST Kesra 95.37 324 LR LR 10 05 45.6
comp=Z,64nm,18.1s,baz=310,slow=38
ES19 SONSECA Array 97.34 335 *e*P Pdif 09 18 31.7 +0.1
ESDC Sonseca Array 97.39 335 P **P 09 18 31.4 -0.4**
comp=Z,0.1nm,0.3s,baz=32,slow=3.3,SNR=4.0
TORD Torodi Ar. Bea 117.84 316 PKP **PKPdf 09 23 44.5 -0.7**
comp=Z,0.6nm,0.8s,baz=48,slow=2.1,SNR=3.2
LPAZ La Paz 145.42 61 PKPbc **PKPab 09 24 37.8 +0.3**
comp=Z,3.8nm,0.8s,baz=343,slow=5.1,SNR=17

*ISCJB **11** 09:06:25.6±0.9, 32.4N±0.1×115.32W±0.07, h23km±7km, Error ellipse: s-maj=19.0km s-min=8.3km az=16.1*
*MEX **11** 09:06:26.0±1.1, 32.52N×115.14W, h26km±13km, MD3.7*
*ECX **11** 09:06:27.0±0.5, 32.31N×115.38W, h6km, MD2.0, ML2.1*

ISC 11 09:06:25.5±1.3, 32.4N±0.1×115.3W±0.1, h24km±9km, n10, σ0 66/15, 1C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.01**	**111**	⇓*e*P		**Pn**		**09 06 29.2**	**-0.4**
CPBX				*e*S		**Sn**		**09 06 31.8**	**-0.6**
CPBX				⇓*e*				09 06 32.5	
CPBX				IAML				09 06 32.5	
	comp=E,2μm,0.3s								
CPBX				IAML				09 06 32.7	
	comp=N,2μm,0.1s								
CPBX				⇑*e*				09 06 32.7	
MBIG	**Mexicali**	**0.10**	**98**	*i* P		**Pb**		**09 06 30.4**	**+0.4**
MBIG				*e*S		**Sb**		**09 06 33.6**	**+0.5**
MBIG	**Mexicali**	**0.10**	**98**	*e*P		**Pb**		**09 06 30.5**	**+0.4**
WESC	**Westside Schoo**	**0.49**	**314**	*e*P		**Pn**		**09 06 36.8**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**0.71**	**289**	*e*P		**Pn**		**09 06 39.3**	**-0.8**
IKP				*e*S		**Sn**		**09 06 48.9**	**-1.4**
CBX	**Cerro Bola**	**1.15**	**265**	*e*P		**Pn**		**09 06 45.8**	**-0.4**
CBX				*e*S		**Sn**		**09 07 01.2**	**+0.1**
CBX	**Cerro Bola**	**1.15**	**265**	*e*P		**Pn**		**09 06 46.2**	**+0.1**
TJIG	**Tijuana**	**1.15**	**271**	*e*P		**Pn**		**09 06 46.1**	**0.0**
TJIG				*e*S		**Sn**		**09 07 01.7**	**+0.6**
BAR	**Barrett**	**1.17**	**283**	*e*P		**Pn**		**09 06 47.0**	**+0.5**
SPIG	**San Pedro Mart**	**1.38**	**185**	*e*P		**Pn**		**09 06 49.1**	**-0.5**

IDC 11 09:10:34.1±2.7, 4.43S×100.64E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.5/37, mbtmp3.6/6, Error ellipse: s-maj=98.3km s-min=21.6km az=56.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.17**	**262**	T		T	T	09 46 15.2	
	baz=84,slow=75,SNR=42								
H08S3	**Diego Garcia H**	**28.17**	**262**	T		T	T	09 46 19.9	
	baz=84,slow=75,SNR=62								
H08S1	**Diego Garcia H**	**28.18**	**262**	T		T	T	09 46 23.3	
	baz=84,slow=75,SNR=43								
H01W3	**Cape Leeuwin H**	**32.78**	**159**	T		T	T	09 51 53.2	
	baz=337,slow=76,SNR=16								
H01W2	**Cape Leeuwin H**	**32.80**	**159**	T		T	T	09 52 00.8	
	baz=337,slow=76,SNR=13								
H01W1	**Cape Leeuwin H**	**32.80**	**159**	T		T	T	09 51 51.5	
	baz=337,slow=76,SNR=13								
WRA	**Warramunga Arr**	**36.26**	**118**	P		P	P	09 17 39.0	-0.5
	0.5nm,0.8s,baz=295,slow=9.8,SNR=3.6								
ASAR	**Alice Springs**	**37.34**	**124**	P		P	P	09 17 48.5	-0.2
	0.3nm,0.9s,baz=301,slow=8.1,SNR=3.0								
SONM	**Songino Array**	**52.29**	**5**	P		P	P	09 19 47.7	+0.2
	0.3nm,0.4s,baz=203,slow=6.3,SNR=2.6								
MKAR	**Makanchi Array**	**53.52**	**344**	P		P	P	09 19 57.0	+0.5
	0.4nm,0.7s,baz=157,slow=8.9,SNR=3.9								
USRK	**Ussuriysk Ar.**	**56.00**	**27**	P		P	P	09 20 14.3	-0.2
	0.6nm,0.6s,baz=239,slow=7.5,SNR=2.9								
ZALV	**Zalesovo Beam**	**59.66**	**349**	P		P	P	09 20 38.6	-1.4
	0.4nm,0.3s,baz=157,slow=7.8,SNR=2.7								
TXAR	**Lajitas Array**	**146.18**	**40**	PKPbc		PKPab	PKPab	09 30 18.2	+0.3
	0.1nm,0.6s,baz=238,slow=1.2,SNR=3.5								

*MAN **11** 09:34:02, 9.41N×124.01E, h24km, mb4.5, ML3.4, MS3.3*
MAN INTENSITY III - LOBOC BOHOL; INTENSITY II - TAGBILARAN CITY; DUMAGUETE CITY; CORTES BOHOL; INTENSITY I - MAMBAJAO CAMIGUIN; MANDAUE CITY.
*ISCJB **11** 09:34:03.1±0.3, 9.39N±0.02×124.02E±0.03, h45km±4km, mb4.0/18, MS3.5/13, Error ellipse: s-maj=5.8km s-min=3.7km az=4.8*
*IDC **11** 09:34:13.5±2.3, 9.32N×124.06E, h129km±21km, mb3.7/18, mb1 3.8/19, mb1mx3.7/37, mbtmp4.1/19, MS3.4/15, Ms1 3.5/15, ms1mx3.2/32, Error ellipse: s-maj=26.1km s-min=10.9km az=64.0*

ISC 11 09:34:02.7±1.0, 9.34N±0.03×124.01E±0.04, h31km±7km, n49, σ1 9 44/58, mb4.1/18, MS3.6/13, 5C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.38**	**338**	*e*P		**Pb**		**09 34 10.7**	**-0.7**
TBP				*e*S		**Sb**		**09 34 16.6**	**-0.6**
SNPH	**Sibulan**	**0.76**	**270**⇓	*i*P		Pn		09 34 05.7	-12
SNPH				*i* S		**Sb**		**09 34 26.4**	**-1.3**
LLP	**Lapu-Lapu**	**0.97**	**358**⇓	*i*P		**Pn**		**09 34 19.5**	**-0.8**
LLP				*i* S		**Sn**		**09 34 32.4**	**-0.7**
DCPH	**Dipolog City**	**0.99**	**221**⇓	*i*P		**Pn**		**09 34 21.1**	**+0.6**
DCPH				*i* S		**Sb**		**09 34 34.4**	**+0.4**
CGP	**Cagayan de Oro**	**1.11**	**142**⇑	*e*P		**Pn**		**09 34 20.9**	**-1.2**
CGP				*i* S		**Sn**		**09 34 35.2**	**-1.2**
PAGZ	**Pagadian**	**1.60**	**203**	*e*P		**Pb**		**09 34 30.7**	**-1.0**
PAGZ				*e*S		**Sb**		**09 34 52.0**	**+0.4**
BUKP	**Musuan**	**1.79**	**144**	*e*P		**Pn**		**09 34 33.0**	**+1.5**
BUKP				*e*S		**Sb**		**09 34 58.2**	**+1.4**
OCLP	**Ormoc**	**1.80**	**19**	*e*P		**Pn**		**09 34 31.9**	**+0.2**
OCLP				*e*S		**Sn**		**09 34 54.4**	**+0.9**
GUIM	**Jordan**	**1.90**	**313**	*e*P		**Pn**		**09 34 33.7**	**+0.7**
GUIM				*e*S		**Sb**		**09 35 03.1**	**+3.2**
PLP	**Palo**	**2.05**	**28**⇓	*e*P		**Pn**		**09 34 35.5**	**+0.4**
PLP				*i* S		**Sn**		**09 34 59.7**	**0.0**
IPIL	**Ipil**	**2.10**	**223**	*e*P		**Pb**		**09 34 38.2**	**-1.9**
IPIL				*e*S		**Sb**		**09 35 05.6**	**0.0**
CTBH	**Cotabato--PC H**	**2.12**	**174**⇑	*e*P		**Pn**		**09 34 37.9**	**+1.9**
CTBH				*i* S		**Sb**		**09 35 04.4**	**-1.9**
JAP	**San Jose, Anti**	**2.47**	**305**⇑	*e*P		**Pn**		**09 34 43.5**	**+2.7**
JAP				*e*S		Sb		09 35 30.6	+14
RCP	**Roxas**	**2.53**	**331**⇑	*e*P		**Pn**		**09 34 43.1**	**+1.3**
KCP	**Kidapawan**	**2.55**	**155**⇓	*e*P		**Pn**		**09 34 44.5**	**+2.4**
BESP	**Borongan**	**2.65**	**32**	*e*P		**Pn**		**09 34 44.0**	**+0.6**
BESP				*e*S		**Sn**		**09 35 14.7**	**+0.2**
DMPH	**Davao City--Mi**	**2.69**	**146**⇑	*e*P		**Pb**		**09 34 49.6**	**-0.5**
DMPH				*e*S		**Sb**		**09 35 27.7**	**+5.0**
DAV	**Davao City (W)**	**2.74**	**145**	P		Pb		09 34 57.0	+6.0
	81nm,0.3s,baz=299,slow=4.8,SNR=6.5								
DAV				LR		LR		09 36 10.7	
	comp=Z,846nm,19.9s,baz=336,slow=44								
CUYO	**Cuyo Island**	**3.31**	**297**	*e*P		**Pn**		**09 34 53.7**	**+1.3**
CUYO				*e*S		**Sn**		**09 35 31.5**	**+0.8**
OTRP	**Odiongan**	**3.58**	**327**	*e*P		**Pn**		**09 34 57.5**	**+1.3**
OTRP				*e*S		Sb		09 35 58.5	+10
SJMP	**San Jose**	**4.21**	**318**	*e*P		**Pn**		**09 35 06.2**	**+1.5**
PVCP	**Virac**	**4.23**	**2**	*e*P		**Pn**		**09 35 05.4**	**+0.3**
BUSP	**Coron**	**4.59**	**306**	*e*P		**Pn**		**09 35 11.2**	**+1.3**
TGY	**Tagaytay City**	**5.61**	**328**	LR		LR		09 37 54.9	
	comp=Z,350nm,19.4s,baz=214,slow=39								
CMAR	**Chiang Mai Arr**	**25.93**	**293**	P		**P**		**09 39 34.8**	**+2.2**
	1.5nm,0.3s,baz=117,slow=8.3,SNR=8.7								
CMAR				LR		LR		09 48 40.7	
	comp=Z,24nm,20.7s,baz=105,slow=33								
FITZ	**Fitzroy Crossi**	**27.31**	**177**	P		**P**		**09 39 45.3**	**+0.4**
	2.0nm,0.3s,baz=8.1,slow=10,SNR=12								
KSRS	**Korea Array**	**28.21**	**7**	P		**P**		**09 39 53.5**	**+0.7**
	0.9nm,0.7s,baz=192,slow=10,SNR=4.2								
KSRS				LR		LR		09 51 03.0	
	comp=Z,88nm,20.0s,baz=202,slow=36								
WRA	**Warramunga Arr**	**30.82**	**161**	P		**P**		**09 40 15.3**	**-0.8**
	1.2nm,1.0s,baz=341,slow=9.2,SNR=5.5								
WRA				PcP		**PcP**		**09 43 11.3**	**-1.6**
	1.2nm,0.9s,baz=328,slow=3.0,SNR=4.5								
ASAR	**Alice Springs**	**34.20**	**164**	P		**P**		**09 40 46.1**	**+0.4**
	0.7nm,0.4s,baz=341,slow=7.0,SNR=22								
ASAR				PcP		**PcP**		**09 43 20.7**	**-1.6**
	0.5nm,0.5s,baz=335,slow=2.5,SNR=4.2								
SONM	**Songino Array**	**41.16**	**342**	P		**P**		**09 41 45.5**	**+1.1**
	0.3nm,0.4s,baz=148,slow=6.5,SNR=3.0								
SONM				LR		LR		09 59 28.9	
	comp=Z,82nm,20.6s,baz=148,slow=37								
NWAO	**Narrogin (SRO)**	**42.52**	**188**	LR		LR		10 02 28.4	
	comp=Z,28nm,18.1s,slow=40								
PALK	**Pallekele**	**42.88**	**271**	LR		LR		10 01 06.5	
	comp=Z,32nm,19.6s,baz=116,slow=38								
STKA	**Stephens Creek**	**44.30**	**158**	P		**P**		**09 42 10.4**	**+0.5**
	2.1nm,0.7s,baz=323,slow=10,SNR=4.9								
PETK	**Petropavlovsk-**	**51.41**	**25**	LR		LR		10 03 10.1	
	comp=Z,39nm,21.3s,baz=227,slow=34								
MKAR	**Makanchi Array**	**51.45**	**324**	P		**P**		**09 43 05.7**	**+0.6**
	1.2nm,0.8s,baz=123,slow=8.8,SNR=10								
MKAR				LR		LR		10 06 30.7	
	comp=Z,69nm,18.2s,baz=111,slow=38								
DZM	**Mont Dzumac**	**52.02**	**127**	P		**P**		**09 43 11.2**	**+1.4**
	11nm,0.8s,baz=274,slow=9.2,SNR=8.6								
MA2	**Magadan**	**54.04**	**16**	LR		LR		10 09 47.2	
	comp=Z,23nm,18.3s,baz=182,slow=40								
ZALV	**Zalesovo Beam**	**54.40**	**333**	P		**P**		**09 43 26.8**	**+0.1**
	0.5nm,0.3s,baz=132,slow=8.0,SNR=3.1								
ZALV				LR		LR		10 08 16.9	
	comp=Z,73nm,18.4s,baz=70,slow=38								
GEYT	**Alibeck**	**65.33**	**307**	P		**P**		**09 44 43.5**	**+1.2**
	2.4nm,0.4s,baz=105,slow=4.9,SNR=5.2								
ILAR	**Eielson Array**	**81.24**	**26**	P		**P**		**09 46 13.7**	**-1.9**
	0.4nm,0.8s,baz=263,slow=3.7,SNR=7.6								
ARCES	**ARCESS Array B**	**84.28**	**340**	P		**P**		**09 46 31.0**	**-0.2**
	2.4nm,1.0s,baz=98,slow=6.2,SNR=8.3								
ARCES				LR		LR		10 28 17.0	
	comp=Z,24nm,18.8s,baz=70,slow=38								
BRTR	**Keskin Array B**	**84.39**	**309**	P		**P**		**09 46 32.2**	**-0.3**
	1.1nm,0.8s,baz=141,slow=4.7,SNR=5.2								
FINES	**FINESS Array B**	**85.64**	**331**	P		**P**		**09 46 37.6**	**-0.6**
	0.7nm,0.4s,baz=66,slow=4.2,SNR=11								
FINES				LR		LR		10 27 56.9	
	comp=Z,42nm,20.1s,baz=218,slow=38								
AKASG	**Malin Array Be**	**85.87**	**321**	P		**P**		**09 46 38.4**	**-1.1**
	1.2nm,0.6s,baz=69,slow=4.4,SNR=5.3								
VNDA	**Vanda**	**89.30**	**172**	P		**P**		**09 46 54.4**	**-1.0**
	2.3nm,0.9s,baz=334,slow=4.2,SNR=6.7								
PPT	**Papeete**	**89.40**	**108**	LR		LR		10 20 47.7	
	comp=Z,28nm,18.9s,baz=322,slow=31								
NOA	**NORSAR Array B**	**92.59**	**333**	P		**P**		**09 47 09.4**	**-1.8**
	0.9nm,0.9s,baz=66,slow=4.5,SNR=3.6								
NOA				LR		LR		10 32 36.6	
	comp=Z,21nm,18.1s,baz=210,slow=38								
TORD	**Torodi Ar. Bea**	**118.52**	**290**	PKP		**PKPdf**		**09 52 47.4**	**-1.1**
	1.2nm,0.7s,baz=54,slow=1.0,SNR=8.4								
TXAR	**Lajitas Array**	**120.11**	**48**	PKP		**PKPdf**		**09 52 51.1**	**-0.3**
	0.2nm,0.8s,baz=184,slow=1.9,SNR=3.6								

IDC 11 09:51:34.9±2.9, 6.61S×129.89E, h113km±31km, mb3.6/3, mb1 3.9/6, mb1mx3.5/33, mbtmp4.2/6, MS2.5/1, Ms1 2.5/1, ms1mx2.1/26, Error ellipse: s-maj=51.0km s-min=18.5km az=87.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.87**	**14**	P		P	Pn	09 53 00.3	+0.8
	12nm,0.3s,baz=0.8,slow=11,SNR=2.7								
SIJI				S		S	Sn	09 54 00.9	-4.7
	23nm,0.3s,baz=89,slow=24,SNR=7.9								
JAY	**Jayapura**	**11.52**	**70**	LR		LR	LR	09 59 04.0	
	comp=Z,28nm,21.9s,baz=0.0,slow=39								
FITZ	**Fitzroy Crossi**	**12.15**	**200**	P		P	Pn	09 54 22.8	-1.5
	1.3nm,0.3s,baz=35,slow=13,SNR=44								
FITZ				S		S	Sn	09 56 28.9	-9.1
	3.9nm,0.3s,baz=86,slow=21,SNR=12								
WRA	**Warramunga Arr**	**13.94**	**162**	P		P	Pn	09 54 44.9	-2.7
	2.5nm,0.3s,baz=337,slow=13,SNR=64								
WRA				S		S	Sn	09 57 09.6	-12
	3.2nm,0.3s,baz=342,slow=22,SNR=9.1								
ASAR	**Alice Springs**	**17.39**	**168**	P		P	Pn	09 55 31.2	+0.6
	1.2nm,0.3s,baz=340,slow=8.7,SNR=66								
ASAR				S		S	Sn	09 58 33.0	-12
	0.5nm,0.3s,baz=348,slow=27,SNR=4.8								
STKA	**Stephens Creek**	**27.41**	**158**	P		P	P	09 57 10.1	+0.2
	1.0nm,0.6s,baz=344,slow=11,SNR=3.0								
MJAR	**Matsushiro Arr**	**43.63**	**10**	P		P	P	09 59 26.8	-1.3
	1.3nm,0.8s,baz=182,slow=11,SNR=4.4								
MKAR	**Makanchi Array**	**67.84**	**327**	P		P	P	10 02 21.4	+0.4
	1.3nm,0.5s,baz=122,slow=8.1,SNR=16								

KRSC 11 09:52:40.4±1.6, 49.32N×157.13E, h14km±7km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.51**	**335**	*e*P		Pn		09 53 07.6	+0.5
SKR				S		Sn		09 53 26.5	0.0
PAU	**Pauzhetka**	**2.16**	**355**	S		Sb		09 53 44.9	-0.9
RUS	**Russkaya**	**3.23**	**15**	P		Pn		09 53 33.7	+2.9
UGLR	**Uglovaya**	**4.03**	**15**	P		Pb		09 53 46.6	-4.7
AVH	**Avacha**	**4.07**	**14**	P		Pn		09 53 45.6	+3.2
SMAR	**Somma**	**4.08**	**14**	P		Pn		09 53 46.3	+3.7
SDLR	**Sedlovina**	**4.11**	**15**	P		Pn		09 53 45.8	+2.9

SJA 11 09:57:29.2±0.8, 24.86S×65.75W, h7km±4km, ML2.8, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.26**	**58**	*i* P		Pb		09 57 35.5	-0.8
SLA				*i* S		Sb		09 57 39.9	-1.3
SLA				IAML				09 57 41.2	
	comp=Z,2μm,0.5s								
AZAP	**Zapla**	**0.89**	**45**	*i* P		Pb		09 57 47.6	+0.6
FSA	**Cafayete**	**1.26**	**189**	*i* P		Pg		09 57 54.0	+0.5
ASTB	**Santa Barbara**	**1.49**	**53**	*i* P		Pg		09 57 58.5	+0.7
HJA	**Humahuaca**	**1.68**	**11**	*i* P		Pg		09 58 01.7	+0.3
HJA				*i* S		Sg		09 58 25.5	+2.4
HJA				IAML				09 58 32.7	
	comp=Z,113nm,0.2s								
AHML	**Horco Molle**	**1.95**	**169**	*i* P		Pb		09 58 04.9	-0.2
AHML				*i* S		Sg		09 58 31.1	-0.8
AHML				IAML				09 58 37.2	
	comp=Z,66nm,0.2s								
YJA	**Yavi**	**2.68**	**5**	*i* P		Pb		09 58 16.1	-1.7

**IDC 11 10:07:35.3±2.8, 5.96S×147.80E, h0km, mb4.3/3, mb1 4.4/5, mb1mx3.8/35, mbtmp4.3/5, ML4.1/1, MS2.4/1, Ms1 2.4/1, ms1m

GDZ					S		**Sg**	**10 17 16.4**	**+0.6**
GDZ	**Gediz**	**0.33**	**87**	*i*	P		**Pg**	**10 17 11.1**	**-0.4**
GDZ					*i* S		**Sg**	**10 17 16.4**	**+0.6**
TVSB	**Tavsanli**	**0.49**	**39**		PG		**Pg**	**10 17 14.6**	**+0.1**
TVSB	**Tavsanli**	**0.49**	**39**	*i*	Pg		**Pg**	**10 17 14.6**	**+0.1**
KULA	**Kula-Manisa**	**0.64**	**210**		PG		**Pg**	**10 17 18.0**	**+0.7**
KULA	**Kula-Manisa**	**0.64**	**210**	*i*	Pg		**Pg**	**10 17 18.0**	**+0.7**
MANT	**Manisa**	**0.70**	**214**		P		**Pg**	**10 17 18.0**	**-0.5**
MANT					S		**Sg**	**10 17 27.8**	**+0.2**
MANT	**Manisa**	**0.70**	**214**	*i*	P		**Pg**	**10 17 18.0**	**-0.5**
MANT					*i* S		**Sg**	**10 17 27.8**	**+0.2**
KHL	**Karahalli**	**0.83**	**154**	*e*	PG		**Pb**	**10 17 22.1**	**+0.5**
KHL	**Karahalli**	**0.83**	**154**	*e*	Pg		**Pb**	**10 17 22.1**	**+0.5**
AKS	**Akhisar**	**0.99**	**259**	*e*	PG		**Pb**	**10 17 25.2**	**+0.8**
AKS	**Akhisar**	**0.99**	**259**	*e*	Pg		**Pb**	**10 17 25.2**	**+0.8**
BALB	**Balikesir**	**1.08**	**302**	*e*	PN		**Pn**	**10 17 26.9**	**+0.5**
BALB	**Balikesir**	**1.08**	**302**	*e*	Pn		**Pn**	**10 17 26.9**	**+0.5**
IGD	**Bursa**	**1.20**	**5**	*i*	P		**Pg**	**10 17 26.1**	**-1.9**
IGD					*i* S		**Sg**	**10 17 42.1**	**-1.4**
CAVI	**Cavuskoy**	**1.28**	**28**	*e*	PN		**Pn**	**10 17 29.8**	**+0.6**
CAVI	**Cavuskoy**	**1.28**	**28**	*e*	Pn		**Pn**	**10 17 29.8**	**+0.6**
IZI	**Iznik**	**1.30**	**14**	*e*	PN		**Pb**	**10 17 30.2**	**+0.4**
IZI	**Iznik**	**1.30**	**14**	*e*	Pn		**Pb**	**10 17 30.2**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.30**	**354**	*e*	PN		**Pg**	**10 17 30.4**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.30**	**354**	*e*	Pn		**Pg**	**10 17 30.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*	PN		**Pg**	**10 17 30.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*	Pn		**Pg**	**10 17 30.4**	**+0.2**
DENT	**Denizli**	**1.31**	**181**	*e*	PN		**Pg**	**10 17 30.7**	**+0.5**
DENT	**Denizli**	**1.31**	**181**	*e*	Pn		**Pg**	**10 17 30.7**	**+0.5**
GEMT	**Gemlik**	**1.37**	**4**	*e*	PN		**Pg**	**10 17 31.4**	**+0.2**
GEMT	**Gemlik**	**1.37**	**4**	*e*	Pn		**Pg**	**10 17 31.4**	**+0.2**
GONE	**Gonen-Balikesi**	**1.44**	**313**	*e*	PN		**Pb**	**10 17 32.5**	**+0.4**
GONE	**Gonen-Balikesi**	**1.44**	**313**	*e*	Pn		**Pb**	**10 17 32.5**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**220**	*e*	PN		**Pg**	**10 17 33.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**220**	*e*	Pn		**Pg**	**10 17 33.3**	**+0.5**
ADVT	**Abdulvahap**	**1.46**	**21**	*e*	PN		**Pg**	**10 17 32.8**	**-0.1**
ADVT	**Abdulvahap**	**1.46**	**21**	*e*	Pn		**Pg**	**10 17 32.8**	**-0.1**
ESKT	**Eskisehir**	**1.46**	**71**	*e*	PN		**Pg**	**10 17 33.5**	**+0.6**
ESKT	**Eskisehir**	**1.46**	**71**	*e*	Pn		**Pg**	**10 17 33.5**	**+0.6**
ESKT	**Eskisehir**	**1.46**	**71**	*i*	P		**Pg**	**10 17 33.9**	**+1.0**
ESKT					*i* S		**Sg**	**10 17 52.3**	**+0.4**
SEYT	**Eskypehyr**	**1.46**	**71**		P		**Pg**	**10 17 33.9**	**+1.0**
SEYT					S		**Sg**	**10 17 52.3**	**+0.4**
ARMT	**Armutlu**	**1.50**	**354**	*e*	PN		**Pg**	**10 17 33.9**	**+0.1**
ARMT	**Armutlu**	**1.50**	**354**	*e*	Pn		**Pg**	**10 17 33.9**	**+0.1**
GPA	**Golpazari**	**1.55**	**38**	*e*	PN		**Pg**	**10 17 34.9**	**+0.1**
GPA	**Golpazari**	**1.55**	**38**	*e*	Pn		**Pg**	**10 17 34.9**	**+0.1**
IZM	**Izmir**	**1.56**	**245**	*e*	PN		**Pb**	**10 17 34.6**	**+0.5**
IZM	**Izmir**	**1.56**	**245**	*e*	Pn		**Pb**	**10 17 34.6**	**+0.5**
EDC	**Edincik**	**1.57**	**324**	*e*	PN		**Pb**	**10 17 35.0**	**+0.6**
EDC	**Edincik**	**1.57**	**324**	*e*	Pn		**Pb**	**10 17 35.0**	**+0.6**
DKL	**Dikili**	**1.68**	**271**	*e*	PN		**Pg**	**10 17 37.4**	**+0.2**
DKL	**Dikili**	**1.68**	**271**	*e*	Pn		**Pg**	**10 17 37.4**	**+0.2**
AYDN	**Tasoluk**	**1.69**	**214**		P		**Pn**	**10 17 35.4**	**+0.6**
AYDN					S		**Sg**	**10 17 59.4**	**+0.2**
AYDN	**Tasoluk**	**1.69**	**214**	*i*	P		**Pn**	**10 17 35.4**	**+0.6**
AYDN					*i* S		**Sg**	**10 17 59.4**	**+0.2**
GULT	**Gulveren**	**1.76**	**39**	*e*	PN		**Pb**	**10 17 37.7**	**+0.1**
GULT	**Gulveren**	**1.76**	**39**	*e*	Pn		**Pb**	**10 17 37.7**	**+0.1**
HRT	**Hereke**	**1.81**	**15**	*e*	PN		**Pb**	**10 17 39.0**	**+0.7**
HRT	**Hereke**	**1.81**	**15**	*e*	Pn		**Pb**	**10 17 39.0**	**+0.7**
SPNC	**Sapanca-Adapaz**	**1.88**	**30**	*e*	PN		**Pb**	**10 17 39.4**	**-0.1**
SPNC	**Sapanca-Adapaz**	**1.88**	**30**	*e*	Pn		**Pb**	**10 17 39.4**	**-0.1**
KRBG	**Karabiga-Canak**	**1.90**	**315**	*e*	PN		**Pb**	**10 17 40.3**	**+0.5**
KRBG	**Karabiga-Canak**	**1.90**	**315**	*e*	Pn		**Pb**	**10 17 40.3**	**+0.5**
MRMT	**Marmara Adasi**	**1.90**	**324**	*e*	PN		**Pb**	**10 17 40.8**	**+0.9**
MRMT	**Marmara Adasi**	**1.90**	**324**	*e*	Pn		**Pb**	**10 17 40.8**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.95**	**78**	*e*	PN		**Pb**	**10 17 40.5**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.95**	**78**	*e*	Pn		**Pb**	**10 17 40.5**	**-0.2**
ISK	**Istanbul-Kandi**	**1.99**	**360**	*e*	PN		**Pb**	**10 17 41.1**	**-0.3**
ISK	**Istanbul-Kandi**	**1.99**	**360**	*e*	Pn		**Pb**	**10 17 41.2**	**-0.3**
YER	**Yerkesik**	**2.03**	**198**	*e*	PN		**Pb**	**10 17 41.5**	**-0.6**
YER	**Yerkesik**	**2.03**	**198**	*e*	PN		**Pb**	**10 17 41.5**	**-0.6**
BGKT	**Bogazkoy**	**2.12**	**354**	*e*	PN		**Pb**	**10 17 43.4**	**-0.2**
BGKT	**Bogazkoy**	**2.12**	**354**	*e*	Pn		**Pb**	**10 17 43.4**	**-0.2**
SILT	**Sile**	**2.13**	**12**	*e*	PN		**Pb**	**10 17 43.4**	**-0.3**
SILT	**Sile**	**2.13**	**12**	*e*	Pn		**Pb**	**10 17 43.4**	**-0.3**
MDUB	**Mudurnu**	**2.16**	**49**	*e*	PN		**Pb**	**10 17 43.6**	**-0.8**
MDUB	**Mudurnu**	**2.16**	**49**	*e*	Pn		**Pb**	**10 17 43.6**	**-0.8**
KLYT	**Kilyos**	**2.18**	**360**	*e*	PN		**Pn**	**10 17 43.3**	**+1.8**
KLYT	**Kilyos**	**2.18**	**360**	*e*	Pn		**Pn**	**10 17 43.3**	**+1.8**
LPK	**Lapseki**	**2.20**	**307**	*e*	PN		**Pb**	**10 17 45.0**	**0.0**
LPK	**Lapseki**	**2.20**	**307**	*e*	Pn		**Pb**	**10 17 45.0**	**0.0**
KIZT	**Kizilcal**	**2.20**	**94**	*e*	PN		**Pb**	**10 17 44.6**	**-0.5**
KIZT	**Kizilcal**	**2.20**	**94**	*e*	Pn		**Pb**	**10 17 44.6**	**-0.5**
SUTC	**Sutluce-Ispart**	**2.20**	**136**	*e*	PN		**Pb**	**10 17 44.6**	**-0.5**
SUTC	**Sutluce-Ispart**	**2.20**	**136**	*e*	Pn		**Pb**	**10 17 44.6**	**-0.5**
CTKS	**Kestanelik-??a**	**2.21**	**349**	*e*	PN		**Pb**	**10 17 44.8**	**-0.3**
CTKS	**Kestanelik-??a**	**2.21**	**349**	*e*	Pn		**Pb**	**10 17 44.8**	**-0.3**
TKR	**Tekirdag**	**2.25**	**329**	*e*	PN		**Pb**	**10 17 45.5**	**-0.3**
TKR	**Tekirdag**	**2.25**	**329**	*e*	Pn		**Pb**	**10 17 45.5**	**-0.3**
EZN	**Ezine**	**2.25**	**290**	*e*	PN		**Pb**	**10 17 45.5**	**-0.3**
EZN	**Ezine**	**2.25**	**290**	*e*	Pn		**Pb**	**10 17 45.5**	**-0.3**
CRLT	**Corlu**	**2.29**	**334**	*e*	PN		**Pb**	**10 17 45.8**	**-0.8**
CRLT	**Corlu**	**2.29**	**334**	*e*	Pn		**Pb**	**10 17 45.8**	**-0.8**
GELI	**Tayfur-Gelibol**	**2.40**	**304**	*e*	PN		**Pb**	**10 17 47.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**2.40**	**304**	*e*	Pn		**Pb**	**10 17 47.8**	**-0.5**
ELL	**Elmali**	**2.41**	**164**	*e*	PN		**Pb**	**10 17 47.6**	**-1.1**
ELL	**Elmali**	**2.41**	**164**	*e*	Pn		**Pb**	**10 17 47.6**	**-1.1**
FETY	**Fethiye**	**2.43**	**180**	*e*	PN		**Pb**	**10 17 47.4**	**-1.5**
FETY	**Fethiye**	**2.43**	**180**	*e*	Pn		**Pb**	**10 17 47.4**	**-1.5**
BODT	**Bodrum**	**2.44**	**215**	*e*	PN		**Pb**	**10 17 48.1**	**-0.9**
BODT	**Bodrum**	**2.44**	**215**	*e*	Pn		**Pb**	**10 17 48.1**	**-0.9**
CHOS	**Chios island**	**2.45**	**255**	*e*	PN		**Pb**	**10 17 48.3**	**-1.0**
CHOS	**Chios island**	**2.45**	**255**	*e*	Pn		**Pb**	**10 17 48.3**	**-1.0**
CTYL	**Yalikoy Yolu**	**2.47**	**346**	*e*	PN		**Pb**	**10 17 48.0**	**-1.6**
CTYL	**Yalikoy Yolu**	**2.47**	**346**	*e*	Pn		**Pb**	**10 17 48.0**	**-1.6**
SIGR	**SIGRI**	**2.50**	**274**	*e*	PN		**Pb**	**10 17 49.1**	**-0.9**
SIGR	**SIGRI**	**2.50**	**274**	*e*	Pn		**Pb**	**10 17 49.1**	**-0.9**
ERIK	**Erikli-Kesan**	**2.53**	**310**	*e*	PN		**Pb**	**10 17 49.5**	**-1.1**
ERIK	**Erikli-Kesan**	**2.53**	**310**	*e*	Pn		**Pb**	**10 17 49.5**	**-1.1**
GADA	**Gvkgeada**	**2.69**	**296**	*e*	PN		**Pb**	**10 17 51.5**	**-1.7**
GADA	**Gvkgeada**	**2.69**	**296**	*e*	Pn		**Pb**	**10 17 51.6**	**-1.7**
ENEZ	**Enez**	**2.79**	**308**	*e*	PN		**Pb**	**10 17 53.0**	**-2.0**
ENEZ	**Enez**	**2.79**	**308**	*e*	Pn		**Pb**	**10 17 53.0**	**-2.0**
ALN	**Alexandroupoli**	**2.95**	**309**	*e*	PN		**Pb**	**10 17 55.5**	**-2.2**
ALN	**Alexandroupoli**	**2.95**	**309**	*e*	Pn		**Pb**	**10 17 55.5**	**-2.2**

*ISCJB **11** 10:17:14.4±0.9, 18°.33N±0°.07×145°.5E±0°.3, h150km, mb3.6/6, Error ellipse: s-maj=46.4km s-min=9.2km az=4.3*
*IDC **11** 10:17:16.8±2.2, 18°.21N×145°.75E, h166km±20km, mb3.5/6, mb1 3.6/9, mb1mx3.2/45, mbtmp3.9/8, Error ellipse: s-maj=42.2km s-min=13.7km az=95.0*

ISC 11 10:17:15.8±0.9, **18°.30N**±0°.09×**145°.6E**±0°.3, **h150**km, **n9,** σ1§**19**/10, **mb3.8/6, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.74**	**189**		P	**Pn**	**10 18 27.1**	**+1.2**
	12nm,0.3s,baz=301,slow=9.2,SNR=7.0							
GUMO					S	**Sn**	**10 19 20.9**	**+0.5**
	12nm,0.3s,baz=31,slow=22,SNR=2.9							
MJAR	**Matsushiro Arr**	**19.32**	**342**		P	**P**	**10 21 28.9**	**-0.4**
	0.2nm,0.3s,baz=164,slow=9.6,SNR=3.6							
ASAJ	**Asahikawa**	**25.87**	**355**		P	**P**	**10 22 34.1**	**+0.7**
	2.2nm,0.5s,baz=180,slow=15,SNR=5.7							
WRA	**Warramunga Arr**	**39.59**	**197**		P	**P**	**10 24 31.1**	**-1.5**
	1.5nm,0.7s,baz=14,slow=8.3,SNR=21							
FITZ	**Fitzroy Crossi**	**41.17**	**210**		P	**P**	**10 24 45.1**	**-0.5**
	2.9nm,0.9s,baz=19,slow=8.2,SNR=9.0							
ASAR	**Alice Springs**	**43.26**	**196**		P	**P**	**10 25 01.0**	**-1.5**
	0.5nm,0.6s,baz=14,slow=6.9,SNR=11							
NVAR	**Mina Array Bea**	**83.43**	**52**		P	**P**	**10 29 26.2**	**-0.8**
	0.3nm,0.5s,baz=268,slow=6.8,SNR=4.0							
FINES	**FINESS Array B**	**87.22**	**335**		P	**P**	**10 29 46.1**	**+1.1**
	0.5nm,0.6s,baz=83,slow=6.1,SNR=4.0							
LPAZ	**La Paz**	**147.72**	**92**		PKPbc	**PKPdf**	**10 36 42.3**	**+0.8**
	1.0nm,0.5s,baz=15,slow=3.9,SNR=6.8							

*AZER **11** 10:54:18.0±0.0, 40°.56N×45°.58E, h4km, Error ellipse: s-maj=1.6km s-min=0.9km az=312.0*
*TIF **11** 10:54:18.4, 40°.51N×45°.55E, h1km±1km*
*NSSP **11** 10:54:18.6, 40°.42N×45°.50E, h10km, Ms3.8*
*MOS **11** 10:54:19.8±1.1, 40°.29N×45°.53E, h11km, mb3.9/3, Error ellipse: s-maj=10.5km s-min=4.9km az=101.8*
*DDA **11** 10:54:20.4, 40°.45N×45°.36E, h10km, Ml3.6*
*ISCJB **11** 10:54:21.0±0.2, 40°.40N±0°.02×45°.52E±0°.02, h10km, mb3.4/7, MS2.7/4, Error ellipse: s-maj=2.5km s-min=1.9km az=28.9*
*CSEM **11** 10:54:20.3±0.2, 40°.47N×45°.55E, h5km, ML3.8, Error ellipse: s-maj=4.4km s-min=3.5km az=27.0*
*IDC **11** 10:54:21.1±0.9, 40°.50N×45°.32E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.4/35, mbtmp3.5/9, ML2.8/3, MS2.8/6, Ms1 2.8/6, ms1mx2.4/40, Error ellipse: s-maj=13.6km s-min=7.2km az=130.0*
*TEH **11** 10:54:33.2, 39°.58N×45°.35E, h21km, ML3.4*

ISC 11 10:54:20.0±0.6, **40°.45N**±0°.01×**45°.52E**±0°.01, **h10**km, **n152,** σ1§**77**/209, **mb3.6/7, MS2.7/4, 36C-34D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GDB	**GEDABAY**	**0.33**	**34**	⇑	P	**Pg**	**10 54 25.6**	**-1.0**
	SNR=4449							
GDB				⇑	S	**Sg**	**10 54 30.6**	**-0.3**
GDB	**GEDABAY**	**0.33**	**34**		P	**Pg**	**10 54 25.6**	**-1.0**
	SNR=1000							
GDB					S	**Sg**	**10 54 30.6**	**-0.3**
VADZ	**Vardenis**	**0.33**	**148**	⇓	*i*P	**Pb**	**10 54 27.0**	**-1.1**
VADZ				⇑	*i*S	**Sg**	**10 54 32.0**	**+1.0**
VADZ	**Vardenis**	**0.33**	**148**	⇓	P	**Pb**	**10 54 27.0**	**-1.1**
VADZ					S	**Sg**	**10 54 32.0**	**+1.0**
QZX	**Qazax, Azerbai**	**0.62**	**350**	⇑	P	**Pb**	**10 54 31.5**	**-1.4**
	SNR=1425							
QZX				⇑	S	**Sb**	**10 54 40.5**	**-1.2**
QZX	**Qazax, Azerbai**	**0.62**	**350**		P	**Pb**	**10 54 31.5**	**-1.4**
	SNR=1000							
QZX					S	**Sb**	**10 54 40.5**	**-1.2**
GANJ	**Ganja**	**0.64**	**72**	⇓	P	**Pg**	**10 54 30.6**	**-1.9**
	SNR=519							
GANJ	**Ganja**	**0.64**	**72**		P	**Pg**	**10 54 30.6**	**-1.9**
	SNR=519							
GNI	**Garni**	**0.67**	**243**		Pg	**Pg**	**10 54 32.1**	**-0.8**
	136nm,0.3s,baz=45,slow=4.2,SNR=99							
GNI					Lg	Lg	10 54 42.2	
	352nm,0.3s,baz=357,slow=23,SNR=32							
GNI	**Garni**	**0.67**	**243**	*c*	*i*PG	**Pg**	**10 54 31.9**	**-1.0**
DGRG	**David-gareji**	**1.00**	**354**		P	**Pn**	**10 54 39.1**	**-1.1**
DGRG					S	**Sn**	**10 54 54.9**	**+0.4**
DGRG	**David-gareji**	**1.00**	**354**		PG	**Pn**	**10 54 39.1**	**-1.1**
DGRG					S	**Sn**	**10 54 54.9**	**+0.4**
DGRG	**David-gareji**	**1.00**	**354**		P	**Pn**	**10 54 39.1**	**-1.1**
DGRG					S	**Sn**	**10 54 58.8**	**+0.4**
STEZ	**Stepenevan**	**1.01**	**303**	⇑	*i*P	**Pg**	**10 54 36.5**	**-3.0**
STEZ				⇑	*i*S	**Sg**	**10 54 51.5**	**-1.2**
MTKZ	**Martakert**	**1.03**	**104**	⇓	*i*P	**Pn**	**10 54 39.6**	**-0.9**
MTKZ				⇑	*i*S	**Sb**	**10 54 52.6**	**-0.8**
MTKZ	**Martakert**	**1.03**	**104**	⇓	P	**Pn**	**10 54 39.6**	**-0.9**
MTKZ					S	**Sb**	**10 54 52.6**	**-0.8**
STE	**Stepanavan**	**1.03**	**303**	⇑	P	**Pg**	**10 54 36.5**	**-3.3**
STE					S	**Sg**	**10 54 51.5**	**-1.8**
GRS	**Goris**	**1.14**	**146**	⇑	*i*P	**Pb**	**10 54 38.0**	**-3.9**
GRS				⇓	*i*S	**Sg**	**10 54 53.0**	**-3.7**
GRS	**Goris**	**1.14**	**146**	⇑	P	**Pb**	**10 54 38.0**	**-3.9**
GRS					S	**Sg**	**10 54 53.0**	**-3.7**
STKZ		**1.14**	**124**	⇓	P	**Pn**	**10 54 41.4**	**-0.7**
STKZ				⇑	*i*S	**Sb**	**10 54 55.8**	**-1.0**
STKZ		**1.14**	**124**	⇓	P	**Pn**	**10 54 41.4**	**-0.7**
STKZ					S	**Sb**	**10 54 55.8**	**-1.0**
MNGR	**Mingechevir, A**	**1.24**	**74**	⇓	P	**Pn**	**10 54 42.3**	**-1.0**
	SNR=66							
MNGR				⇑	S	**Sn**	**10 55 00.9**	**+0.8**
MNGR	**Mingechevir, A**	**1.24**	**74**		P	**Pn**	**10 54 42.3**	**-1.0**
	SNR=66							
MNGR					S	**Sn**	**10 55 00.9**	**+0.8**
KZR	**Kazreti**	**1.25**	**318**		P	**Pn**	**10 54 42.2**	**-1.4**
KZR					S	**Sb**	**10 54 58.8**	**-1.1**
KZR	**Kazreti**	**1.25**	**318**		P	**Pn**	**10 54 42.2**	**-1.4**
KZR					S	**Sb**	**10 54 58.4**	**-1.5**
NAX	**Nakhchivan**	**1.27**	**181**	⇑	Pg	**Pn**	**10 54 42.7**	**-1.3**
	SNR=50							
NAX				⇓	Sg	**Sb**	**10 55 00.4**	**-0.2**
NAX	**Nakhchivan**	**1.27**	**181**		Pg	**Pn**	**10 54 42.7**	**-1.3**
	SNR=50							
NAX					Sg	**Sb**	**10 55 00.4**	**-0.2**
BRDA	**Brd**	**1.28**	**98**	⇓	P	**Pg**	**10 54 43.8**	**-0.8**
	SNR=21							
BRDA				⇑	S	**Sg**	**10 55 03.7**	**+2.3**
BRDA	**Brd**	**1.28**	**98**		P	**Pg**	**10 54 43.8**	**-0.8**
	SNR=21							
TBLG	**Delisi**	**1.41**	**336**		P	**Pn**	**10 54 44.6**	**-1.1**
TBLG					S	**Sg**	**10 55 04.0**	**-1.3**
TBLG	**Delisi**	**1.41**	**336**		PG	**Pn**	**10 54 44.6**	**-1.1**
TBLG	**Delisi**	**1.41**	**336**		P	**Pn**	**10 54 44.7**	**-1.1**
TBLG					S	**Sg**	**10 55 04.0**	**-1.3**
ZKTA	**Zakatala**	**1.45**	**35**	⇓	P	**Pb**	**10 54 45.8**	**-1.4**
	SNR=176							
ZKTA				⇓	S	**Sg**	**10 55 06.0**	**-0.7**
EAK	**Akyaka**	**1.47**	**280**		P	**Pb**	**10 54 46.8**	**-0.8**
EAK	**Akyaka**	**1.47**	**280**	*i*	P	**Pb**	**10 54 46.8**	**-0.8**
SEKA	**Sheki**	**1.48**	**59**	⇓	P	**Pn**	**10 54 45.9**	**-0.9**
	SNR=76							
SEKA				⇑	S	**Sg**	**10 55 06.6**	**-1.2**
SEKA	**Sheki**	**1.48**	**59**		P	**Pn**	**10 54 45.9**	**-0.9**
	SNR=76							
SEKA					S	**Sg**	**10 55 06.6**	**-1.2**
DIGO	**Kars**	**1.64**	**269**		P	**Pn**	**10 54 48.8**	**-0.3**
DIGO	**Kars**	**1.64**	**269**	*i*	P	**Pn**	**10 54 48.8**	**-0.3**
ZRD	**Zardab**	**1.67**	**95**	⇑	P	**Pb**	**10 54 49.4**	**-1.3**
	SNR=134							
ZRD				⇓	S	**Sg**	**10 55 14.6**	**+1.1**
ZRD	**Zardab**	**1.67**	**95**		P	**Pb**	**10 54 49.4**	**-1.3**
	SNR=134							
BGD	**Bogdanovka**	**1.67**	**300**		P	**Pg**	**10 54 50.7**	**-1.3**
BGD					S	**Sg**	**10 55 12.5**	**-1.1**
BGD	**Bogdanovka**	**1.67**	**300**		P	**Pg**	**10 54 50.6**	**-1.4**
BGD					S	**Sg**	**10 55 12.6**	**-1.1**
IMRD	**Marand**	**1.74**	**175**	*e*	Pg	**Pn**	**10 54 50.0**	**-0.5**
IMRD				*e*	AMB	AMB	10 54 55.6	
	comp=Z,16µm,0.2s							
IMRD	**Marand**	**1.74**	**175**	*e*	Pg	**Pn**	**10 54 50.0**	**-0.5**
DUS	**Dusheti**	**1.75**	**340**		P	**Pg**	**10 54 51.9**	**-1.7**
DUS					S	**Sg**	**10 55 15.4**	**-0.9**
DUS	**Dusheti**	**1.75**	**340**		PN	**Pg**	**10 54 52.3**	**-1.3**
DUS	**Dusheti**	**1.75**	**340**		P	**Pg**	**10 54 52.3**	**-1.3**
DUS					S	**Sg**	**10 55 16.8**	**+0.5**
CLDR	**Caldiran**	**1.79**	**224**	*e*	PN	**Pn**	**10 54 50.2**	**-1.1**
CLDR	**Caldiran**	**1.79**	**224**	*e*	Pn	**Pn**	**10 54 50.2**	**-1.1**
AKH	**Akhalkalaki**	**1.81**	**303**		P	**Pb**	**10 54 52.8**	**-0.6**
AKH					S	**Sg**	**10 55 16.8**	**-1.4**
AKH	**Akhalkalaki**	**1.81**	**303**		PN	**Pb**	**10 54 52.2**	**-1.1**
AKH	**Akhalkalaki**	**1.81**	**303**		P	**Pb**	**10 54 52.2**	**-1.1**
AKH					S	**Sg**	**10 55 16.8**	**-1.4**
QBL	**Gabala**	**1.83**	**74**	⇓	P	**Pb**	**10 54 51.7**	**-1.9**
	SNR=48							
QBL				⇓	S	**Sg**	**10 55 17.4**	**-1.5**
QBL	**Gabala**	**1.83**	**74**		P	**Pb**	**10 54 51.7**	**-1.9**
	SNR=48							
QBL					S	**Sg**	**10 55 17.4**	**-1.5**
KARS	**Kars**	**1.87**	**276**	*e*	PN	**Pb**	**10 54 53.3**	**-1.0**
KARS	**Kars**	**1.87**	**276**	*e*	Pn	**Pb**	**10 54 53.3**	**-1.0**
AKT	**Akhty**	**1.97**	**58**	⇑	*i*PN	**Pb**	**10 54 53.9**	**-2.1**
AKT					pmax	pmax		
	comp=Z,503nm,0.7s							
KDMR	**Kurdemir**	**2.04**	**91**	⇓	P	**Pb**	**10 54 55.3**	**-1.8**
	SNR=7.3							
KDMR				⇑	S	**Sg**	**10 55 24.1**	**-1.4**
KDMR	**Kurdemir**	**2.04**	**91**		P	**Pb**	**10 54 55.3**	**-1.8**
	SNR=7.3							
IML	**Ismayilli**	**2.06**	**80**	⇓	P	**Pn**	**10 54 54.9**	**+0.2**
	SNR=9.4							
IML				⇓	S	**Sg**	**10 55 23.9**	**-2.2**
IML	**Ismayilli**	**2.06**	**80**		P	**Pn**	**10 54 54.9**	**+0.2**
	SNR=9.4							
VMUR	**Van-Muradiye**	**2.09**	**226**		P	**Pb**	**10 54 58.3**	**+0.1**
VMUR	**Van-Muradiye**	**2.09**	**226**	*i*	P	**Pb**	**10 54 58.3**	**+0.1**
XNQ	**Khinaliq**	**2.12**	**69**	⇑	Pn	**Pn**	**10 54 55.6**	**-0.1**
	SNR=68							
XNQ				⇓	Sn	**Sb**	**10 55 23.2**	**-1.8**
XNQ	**Khinaliq**	**2.12**	**69**		Pn	**Pn**	**10 54 55.6**	**-0.1**
	SNR=68							
XNQ					Sn	**Sb**	**10 55 23.2**	**-1.8**
AGRB	**Hanur-Agry**	**2.13**	**247**	*e*	PN	**Pb**	**10 54 58.3**	**-0.4**
AGRB	**Hanur-Agry**	**2.13**	**247**	*e*	Pn	**Pb**	**10 54 58.3**	**-0.4**
GUDG	**Gudauri**	**2.16**	**339**		P	**Pb**	**10 54 58.3**	**-1.0**
GUDG					S	**Sg**	**10 55 28.1**	**-1.3**
GUDG	**Gudauri**	**2.16**	**339**		P	**Pb**	**10 54 58.3**	**-1.0**
GUDG					S	**Sg**	**10 55 28.1**	**-1.3**
ISHB	**Shabestar**	**2.17**	**178**	*e*	Pn	**Pn**	**10 54 56.9**	**+0.5**
ISHB				*e*	AMB	AMB	10 55 02.3	
	comp=Z,6µm,0.2s							
GNBR	**Gunib**	**2.22**	**29**	⇓	*i*PN	**Pb**	**10 54 58.8**	**-1.5**
GNBR				*e*			10 55 28.8	
GNBR					pmax	pmax		
	comp=Z,104nm,0.6s							
GNBR					smax	smax		
	comp=E,644nm,0.6s							
GNBR					smax	smax		
	comp=N,535nm,0.7s							
GNBR					smax	smax		
	comp=E,679nm,0.7s							
ITBZ	**Tabriz**	**2.27**	**167**	*e*	Pn	**Pn**	**10 54 58.4**	**+0.7**
ITBZ				*e*	AMB	AMB	10 55 00.4	
	comp=Z,4µm,0.2s							
ITBZ	**Tabriz**	**2.27**	**167**	*e*	Pn	**Pn**	**10 54 58.4**	**+0.7**
QSAR	**Qusar**	**2.33**	**62**	⇑	Pn	**Pb**	**10 55 00.6**	**-1.7**
	SNR=25							
QSAR				⇑	Sn	**Sb**	**10 55 30.7**	**-0.5**
EPOS	**Posof**	**2.36**	**297**		P	**Pb**	**10 55 02.9**	**+0.2**
EPOS	**Posof**	**2.36**	**297**	*i*	P	**Pb**	**10 55 02.9**	**+0.2**
EPOS				*i*	S	**Sg**	**10 55 34.6**	**-1.2**
PQL	**Pirkuli**	**2.37**	**81**	⇓	Pn	**Pn**	**10 54 59.1**	**0.0**
	SNR=3.4							
PQL		

ARU				S	S	11 02 01.6	+2.1
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
UZH	**Uzhgorod**	**18.41**	**304**	*e*P	**P**	**10 58 33.3**	**-1.9**
WSAR	**Wadi Sarin**	**20.42**	**143**	LR	LR	11 08 58.3	
	comp=Z,36nm,18.4s,baz=268,slow=43						
BRVK	**Borovoye**	**21.01**	**45**‖	*e*P	**P**	**10 59 03.6**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	**Borovoye Array**	**21.05**	**45**	P	**P**	**10 59 07.7**	**+3.7**
	comp=Z,0.6nm,0.5s,baz=264,slow=8.2,SNR=4.5						
AAK	**Ala-Archa**	**21.75**	**75**	P	**P**	**10 59 15.9**	**+4.0**
	comp=Z,2.3nm,0.5s,baz=242,slow=10,SNR=4.7						
AAK	**Ala-Archa**	**21.75**	**75**‖	*e*P	**P**	**10 59 12.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VRAC	**Vranov**	**22.21**	**303**	LR	LR	11 10 17.3	
	comp=Z,18nm,19.2s,baz=88,slow=43						
GERES	**GERESS Array B**	**24.00**	**301**	P	**P**	**10 59 36.1**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=96,slow=9.5,SNR=4.1						
FINES	**FINESS Array B**	**24.14**	**337**	P	**P**	**10 59 38.7**	**+2.9**
	comp=Z,1.8nm,0.9s,baz=158,slow=12,SNR=4.0						
KURBB	**Kurchatov Array**	**25.07**	**55**	P	**P**	**10 59 47.6**	**+3.2**
	comp=Z,1.1nm,0.8s,baz=264,slow=9.5,SNR=7.8						
KURK	**Kurchatov**	**25.14**	**55**	P	**P**	**10 59 47.6**	**+2.5**
MKAR	**Makanchi Array**	**27.18**	**64**	P	**P**	**11 00 08.4**	**+4.8**
	comp=Z,0.8nm,0.7s,baz=267,slow=7.3,SNR=5.7						
ARCES	**ARCESS Array B**	**31.00**	**346**	LR	LR	11 12 32.3	
	comp=Z,1.8nm,21.4s,baz=72,slow=35						
NRIK	**Noril'sk**	**36.36**	**24**	LR	LR	11 19 24.8	
	comp=Z,13nm,18.2s,baz=113,slow=41						

*ISCJB **11** 11:05:18.2±0.6,24.°80N±0.°04×121.°98E±0.°02,h94km±5km, Error ellipse: s-maj=7.1km s-min=3.4km az=168.1*
*TAP **11** 11:05:18.5,24.°78N×121.°95E,h93km,ML3.1,C*
*JMA **11** 11:05:18.0±0.2,24.°75N×121.°94E,h94km±2km,M2.3*
ISC 11 11:05:18.6±1.6,24.°79N±0.°05×121.°98E±0.°03,h93km±9km, n42,σ0s54/68,1C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.07**	**324**	P	**Pn**	**11 05 31.7**	**+0.1**
	baz=356						
TWC	**Suao**	**0.21**	**213**	P	**Pn**	**11 05 32.1**	**+0.1**
	baz=209						
TWC				*e*S	**Sn**	**11 05 41.8**	**-0.1**
	baz=209						
TWB1	**Santiao Chiao**	**0.22**	**3**⇑	*i*P	**Pn**	**11 05 32.0**	**0.0**
	baz=16						
TWB1				*i* S	**Sn**	**11 05 41.4**	**-0.5**
	baz=16						
TWE	**Neicheng**	**0.29**	**256**	*e*P	**Pn**	**11 05 32.6**	**+0.3**
	baz=256						
TWE				S	**Sn**	**11 05 42.6**	**+0.2**
	baz=256						
NWF	**Wu-fen Shan**	**0.33**	**328**	P	**Pn**	**11 05 32.4**	**-0.3**
	baz=331						
NWF				*e*S	**Sn**	**11 05 42.2**	**-0.8**
	baz=331						
ENTT	**Nioudou**	**0.40**	**248**⇓	*i*P	**Pn**	**11 05 33.6**	**+0.7**
	baz=258						
ENTT				*e*S	**Sn**	**11 05 44.0**	**+0.3**
	baz=258						
ENA	**Nanau**	**0.42**	**211**	*e*P	**Pn**	**11 05 33.5**	**+0.4**
	baz=202						
ENA				*e*S	**Sn**	**11 05 44.5**	**+0.7**
	baz=202						
NSK	**Sanguang**	**0.57**	**259**	P	**Pn**	**11 05 34.1**	**-0.2**
	baz=259						
NSK				S	**Sn**	**11 05 45.3**	**-0.7**
	baz=259						
TWY	**Chenhua**	**0.59**	**325**	*e*P	**Pn**	**11 05 34.3**	**-0.1**
	baz=332						
TWY				S	**Sn**	**11 05 45.9**	**-0.2**
	baz=332						
TWS1	**Kuangyinshan**	**0.59**	**301**	*e*P	**Pn**	**11 05 34.2**	**-0.2**
	baz=308						
TWS1				*e*S	**Sn**	**11 05 46.5**	**+0.3**
	baz=308						
NNS	**Nan Shan**	**0.65**	**238**	*e*P	**Pn**	**11 05 35.2**	**+0.1**
	baz=241						
NNS				S	**Sn**	**11 05 47.3**	**0.0**
	baz=241						
NCU	**National Centr**	**0.74**	**284**	*e*P	**Pn**	**11 05 36.0**	**+0.3**
	baz=276						
NCU				*e*S	**Sn**	**11 05 49.0**	**+0.5**
	baz=276						
TWD	**Chiawan**	**0.79**	**206**	*e*P	**Pn**	**11 05 35.7**	**-0.5**
	baz=214						
TWD				*e*S	**Sn**	**11 05 48.6**	**-0.7**
	baz=214						
NSTT	**Nanjuang**	**0.90**	**260**	P	**Pn**	**11 05 37.2**	**-0.2**
	baz=259						
NSTT				*e*S	**Sn**	**11 05 50.9**	**-0.6**
	baz=259						
TWT	**Tachien**	**0.90**	**234**	P	**Pn**	**11 05 38.1**	**+0.5**
	baz=228						
TWT				*e*S	**Sn**	**11 05 53.3**	**+1.4**
	baz=228						
WHF	**Hehuan Shan**	**0.91**	**225**	*e*P	**Pn**	**11 05 37.8**	**-0.2**
	baz=218						
HSN	**Hsinchu**	**0.92**	**271**	*e*P	**Pn**	**11 05 37.2**	**-0.3**
	baz=264						
HSN				*e*S	**Sn**	**11 05 51.3**	**-0.4**
	baz=264						
JYNG	**Yonaguni jima**	**0.94**	**111**	P	**Pn**	**11 05 37.8**	**-0.1**
JYNG				S	**Sn**	**11 05 52.5**	**+0.2**
YOJ	**Yonaguni jima**	**1.00**	**109**	P	**Pn**	**11 05 38.4**	**0.0**
ESL	**Shilin**	**1.09**	**207**	*e*P	**Pn**	**11 05 38.4**	**-1.2**
	baz=206						
NSY	**Sanyi**	**1.17**	**252**	*e*P	**Pn**	**11 05 40.7**	**+0.2**
	baz=250						
TWQ1	**Liyutan**	**1.18**	**248**	*e*P	**Pn**	**11 05 40.6**	**0.0**
	baz=247						
TWQ1				*e*S	**Sn**	**11 05 56.4**	**-0.8**
	baz=247						
WDT	**Danda**	**1.29**	**217**	P	**Pn**	**11 05 42.2**	**0.0**
	baz=212						
WDT				*e*S	**Sn**	**11 06 00.9**	**+1.0**
	baz=212						
SMLT	**Sun Moon Lake**	**1.33**	**228**	*e*P	**Pn**	**11 05 42.8**	**+0.2**
	baz=234						
TYC	**Yuchr**	**1.35**	**229**	*e*P	**Pn**	**11 05 42.9**	**+0.3**
	baz=235						
EHY	**Hungye**	**1.41**	**205**	*e*P	**Pn**	**11 05 43.7**	**+0.3**
	baz=197						
TWF1	**Yuli**	**1.56**	**204**	*e*P	**Pn**	**11 05 44.8**	**-0.5**
	baz=196						
IRIF	**Iriomote-Funau**	**1.66**	**105**	P	**Pn**	**11 05 46.2**	**-0.3**
IRIF				S	**Sn**	**11 06 07.3**	**-0.4**
ALS	**Alishan**	**1.66**	**220**	*e*P	**Pn**	**11 05 47.7**	**+0.9**
	baz=227						
CHN5	**Tsauling**	**1.68**	**225**	*e*P	**Pn**	**11 05 46.9**	**0.0**
	baz=225						
CHN5				*e*S	**Sn**	**11 06 08.8**	**+0.5**
	baz=225						
CHKT	**Chengkung**	**1.77**	**198**	*e*P	**Pn**	**11 05 46.9**	**-1.1**
	baz=198						
ELDTW	**Lidau**	**1.82**	**209**	*e*P	**Pn**	**11 05 48.5**	**-0.2**
	baz=203						
HATJ	**Hateruma jima**	**1.82**	**113**	P	**Pn**	**11 05 48.9**	**+0.3**
HATJ				*e*S	**Sn**	**11 06 11.4**	**0.0**
CHN4	**Tsaushan**	**1.91**	**222**	*e*P	**Pn**	**11 05 49.4**	**-0.3**
	baz=221						
CHN4				*e*S	**Sn**	**11 06 14.0**	**+0.5**
	baz=221						
JKRS	**Kuro-shima**	**1.93**	**106**	P	**Pn**	**11 05 50.5**	**+0.5**
JKRS				S	**Sn**	**11 06 14.0**	**+0.1**
STYT	**Tauyuan**	**1.97**	**215**	*e*P	**Pn**	**11 05 51.2**	**+0.6**
	baz=213						
WTP	**Ta-pu**	**1.98**	**219**	*e*P	**Pn**	**11 05 50.7**	**0.0**
	baz=226						
JIJ	**Ishigaki jima**	**2.02**	**102**	P	**Pn**	**11 05 51.2**	**+0.1**
JIJ				S	**Sn**	**11 06 14.9**	**-1.1**
CHN1	**Nanshi**	**2.08**	**220**	*e*P	**Pn**	**11 05 52.4**	**+0.5**
	baz=219						
CHN1				*e*S	**Sn**	**11 06 17.2**	**-0.2**
	baz=219						
TWG	**Pinlang**	**2.13**	**203**	*e*P	**Pn**	**11 05 51.2**	**-1.4**
	baz=195						
JISG	**Ishigakijimahi**	**2.13**	**95**	P	**Pn**	**11 05 53.0**	**+0.4**
JISG				S	**Sn**	**11 06 18.9**	**+0.2**
JTJ	**Tarama**	**2.48**	**93**	*e*S	**Sn**	**11 06 27.8**	**+0.9**

*NEIC **11** 11:09:27.7,17.°29N×94.°67W,h154km,MD4.2(MEX),After MEX.*
MEX 11 11:09:27.7±0.8,17.°29N×94.°67W,h154km±7km,MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.28**	**226**	*i* P	Pn	11 09 47.1	-1.6
CMIG				*i* S	Sn	11 10 02.5	-2.1
CMIG	**Matias Romero**	**0.28**	**226**	*i* P	Pn	11 09 47.1	-1.6
CMIG				*i* S	Sn	11 10 02.5	-2.1
VHO	**Vista Hermosa**	**1.98**	**264**	*e*P	Pn	11 10 02.5	-0.6
VHO				*i* S	Sn	11 10 28.6	-1.7
VHO	**Vista Hermosa**	**1.98**	**264**	*e*P	Pn	11 10 02.5	-0.6
VHO				*i* S	Sn	11 10 28.6	-1.7
HUIG	**Huatulco**	**2.05**	**223**	*e*P	Pn	11 10 01.2	-2.4
HUIG				*e*S	Sn	11 10 30.0	-1.3
HUIG	**Huatulco**	**2.05**	**223**	*e*P	Pn	11 10 01.2	-2.4
HUIG				*e*S	Sn	11 10 30.0	-1.3
PCIG		**2.10**	**138**	*i* P	Pn	11 10 03.1	-1.1
PCIG				*i* S	Sn	11 10 30.9	-1.6
PCIG		**2.10**	**138**	*i* P	Pn	11 10 03.1	-1.1
PCIG				*i* S	Sn	11 10 30.9	-1.6

*IDC **11** 11:10:45.1±0.8,18.°97N×121.°42E,h0km,mb3.8/10, mb1 4.0/11,mb1mx3.8/33,mbtmp3.8/11,ML3.8/1,MS3.3/7, Ms1 3.3/7,ms1mx3.0/31,Error ellipse: s-maj=36.0km s-min=16.8km az=75.0*
*NEIC **11** 11:10:47.2±0.4,18.°97N×121.°31E,h15km,mb3.8/2,Error ellipse: s-maj=12.5km s-min=6.4km az=82.0*
NEIC Felt [II PIVS] at Calayan.
*MAN **11** 11:10:49,19.°17N×121.°26E,h3km,mb5.1,ML4.1,MS4.2*
MAN INTENSITY II - CALAYAN CAGAYAN.
*ISCJB **11** 11:10:51.4±0.3,19.°27N±0.°02×121.°29E±0.°09,h46km, mb3.7/12,MS3.3/5,Error ellipse: s-maj=11.8km s-min=3.0km az=174.2*
ISC 11 11:10:53.0±0.6,19.°27N±0.°03×121.°46E±0.°09,h46km,n42, σ1s84/38,mb3.6/12,MS3.3/5,3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.16**	**151**	*e*P	**Pn**	**11 11 12.8**	**0.0**
SGCP				*e*S	**Sn**	**11 11 29.4**	**+1.9**
APYP	**Conner**	**1.41**	**189**	*e*P	**Pn**	**11 11 13.1**	**-3.2**
APYP				*e*S	**Sn**	**11 11 32.7**	**-1.0**
CVP	**Callao Caves**	**1.59**	**168**‖	*i*P	**Pn**	**11 11 17.4**	**-1.4**
CVP				*i* S	**Sn**	**11 11 36.5**	**-1.6**
CAUP	**Cauayan**	**2.33**	**172**	*e*P	**Pn**	**11 11 29.9**	**+0.9**
CAUP				*e*S	Sn	11 12 18.4	+22
BOLP	**Bolinao**	**3.23**	**207**	*e*P	**Pn**	**11 11 39.4**	**-1.8**
BOLP				*e*S	**Sn**	**11 12 21.1**	**+2.7**
BALP	**Baler**	**3.51**	**178**	*e*P	**Pn**	**11 11 43.9**	**-1.1**
BALP				*e*S	**Sn**	**11 12 28.3**	**+2.9**
TWG	**Pinlang**	**3.56**	**354**	*e*Pn	**Pn**	**11 11 45.8**	**+0.1**
TWG				*e*Sn	**Sn**	**11 12 26.1**	**-0.4**
SCZP	**Santa Cruz**	**3.77**	**203**	*e*P	**Pn**	**11 11 47.7**	**-1.0**
SCZP				*e*S	**Sn**	**11 12 38.2**	**+6.3**
TPUB	**Ta-pu**	**4.09**	**349**	*e*Pn	**Pn**	**11 11 53.0**	**-0.1**
TPUB				*e*Sn	**Sn**	**11 12 36.8**	**-2.9**
YULB	**Yu-li**	**4.11**	**358**	*e*Pn	**Pn**	**11 11 53.9**	**+0.6**
YULB				*e*Sn	**Sn**	**11 12 43.2**	**+3.1**
SSLB	**Suanglung**	**4.52**	**354**	*e*Pn	**Pn**	**11 11 58.8**	**-0.2**
SSLB				*e*Sn	**Sn**	**11 12 49.8**	**-0.6**
NACB	**Ninganchiao**	**4.88**	**1**	*e*Pn	**Pn**	**11 12 03.5**	**-0.5**
NACB				*e*Sn	**Sn**	**11 12 59.9**	**+0.7**
YHNB	**Yeheng**	**5.38**	**359**	*e*Pn	**Pn**	**11 12 09.9**	**-0.9**
	26nm,0.6s						
YHNB				*e*Sn	**Sn**	**11 13 12.8**	**+1.3**
QIZ	**Qiongzhong**	**10.99**	**271**	*e*Pn	Pn	11 13 20.8	-6.8
	11nm,0.6s						
QIZ				*e*Sn	Sn	11 15 12.5	-17
DAV	**Davao City (W)**	**12.77**	**161**	LR	LR	11 18 31.2	
	comp=Z,87nm,21.1s,baz=7.5,slow=37						
DAV	**Davao City (W)**	**12.77**	**161**	*e*Pn	Pn	11 13 45.7	-6.3
KSAR	**Wonju Array Be**	**18.96**	**16**	P	**Pn**	**11 15 12.1**	**+0.6**
KSRS	**Korea Array**	**18.98**	**16**	P	**Pn**	**11 15 12.1**	**+0.4**
	0.3nm,0.3s,baz=196,slow=12,SNR=10						
KSRS				LR	LR	11 23 39.6	
	comp=Z,53nm,18.4s,baz=198,slow=40						
CMAR	**Chiang Mai Arr**	**21.33**	**272**	LR	LR	11 24 39.6	
	comp=Z,55nm,18.1s,baz=90,slow=39						
MJAR	**Matsushiro Arr**	**22.64**	**37**	P	**P**	**11 15 51.2**	**+1.0**
	1.1nm,0.7s,baz=227,slow=10,SNR=4.8						
SONM	**Songino Array**	**31.02**	**340**	P	**P**	**11 17 05.7**	**-0.7**
	0.3nm,0.4s,baz=160,slow=8.9,SNR=2.6						
SONM				LR	LR	11 30 45.7	
	comp=Z,65nm,18.2s,baz=200,slow=38						
WRAB	**Tennant Creek**	**40.95**	**161**	*e*P	P	11 18 26.3	-5.1
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**40.96**	**161**	P	P	11 18 26.7	-4.8
	0.7nm,0.7s,baz=341,slow=9.1,SNR=11						
MKAR	**Makanchi Array**	**42.14**	**320**	P	**P**	**11 18 41.5**	**+0.5**
	0.4nm,0.6s,baz=114,slow=8.1,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**42.71**	**83**	T	T	12 04 31.7	
	baz=279,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**42.72**	**83**	T	T	12 04 31.5	
	baz=279,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**42.72**	**83**	T	T	12 04 31.6	
	baz=279,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**42.73**	**82**	T	T	12 04 48.4	
	baz=277,slow=75,SNR=46						
H11N2	**WAKE ISLAND Hy**	**42.73**	**82**	T	T	12 04 48.6	
	baz=277,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**42.74**	**82**	T	T	12 04 49.7	
	baz=277,slow=75,SNR=18						
YAK	**Yakutsk**	**43.11**	**6**	LR	LR	11 37 11.9	
	comp=Z,24nm,20.2s,baz=186,slow=37						
ASAR	**Alice Springs**	**44.36**	**164**	P	**P**	**11 18 55.8**	**-3.2**
	0.9nm,0.5s,baz=342,slow=7.3,SNR=25						
ZALV	**Zalesovo Beam**	**44.55**	**330**	P	**P**	**11 19 00.9**	**+0.7**
	0.4nm,0.3s,baz=93,slow=5.8,SNR=2.1						
TIXI	**Tiksi**	**52.57**	**3**	LR	LR	11 44 35.3	
	comp=Z,24nm,18.6s,baz=180,slow=38						
NRIK	**Noril'sk**	**54.20**	**346**	P	**P**	**11 20 14.3**	**+0.7**
	5.5nm,0.7s,baz=148,slow=5.8,SNR=4.5						
NRIK				LR	LR	11 45 31.9	
	comp=Z,54nm,18.3s,baz=315,slow=38						
ABKAR	**Akbulak array**	**57.12**	**317**	P	**P**	**11 20 35.5**	**+0.7**
	0.7nm,0.5s						
ILAR	**Eielson Array**	**73.46**	**27**	P	**P**	**11 22 20.0**	**-0.4**
	0.5nm,0.8s,baz=277,slow=4.8,SNR=6.0						
ARCES	**ARCESS Array B**	**74.18**	**339**	P	**P**	**11 22 24.3**	**-0.3**
	0.8nm,0.5s,baz=76,slow=5.1,SNR=6.7						
VRI	**Vrincioaia**	**79.62**	**315**‖	*i*P	P	11 23 00.6	+5.0
PLOR	**Plostina**	**79.68**	**315**‖	*i*P	P	11 23 01.5	+5.5
YKA	**Yellowknife Ar**	**87.38**	**23**	P	**P**	**11 23 35.6**	**+0.5**
	1.4nm,0.6s,baz=321,slow=5.2,SNR=6.6						
TXAR	**Lajitas Array**	**114.97**	**43**	PKP	**PKPdf**	**11 29 29.9**	**+0.2**
	0.2nm,0.6s,baz=187,slow=2.0,SNR=5.3						

*IDC **11** 11:21:50.4±0.5,58.°24S×14.°07W,h0km,mb4.8/13, mb1 4.8/13,mb1mx4.7/21,mbtmp4.8/13,MS4.6/17, Ms1 4.6/17,ms1mx4.6/17,Error ellipse: s-maj=18.1km s-min=14.2km az=177.0*
*ISCJB **11** 11:21:50.1±0.3,58.°30S±0.°05×14.°07W±0.°09,h10km, mb5.0/35,MS4.7/19,Error ellipse: s-maj=8.6km s-min=5.1km az=40.0*
*GCMT **11** 11:21:51.9±0.1,58.°47S×13.°87W,h15km,MW5.4/126, Moment Tensor Solution. s98,c169; s126,c233; Duration: 1s3 Moment tensor: Scale 10^17^Nm; Mrr-0.06±.02; Mθθ-0.44±.03; Mϕϕ0.49±.02; Mrθ-0.10±.07; Mθϕ1.64±.02; Mϕr-0.04±.06; Best double couple: M0 1.70800×10^17^ NP1:ϕs262.00000°,δ89.00000°, λ3.00000°. NP2:ϕs172.00000°,δ87.00000°,λ179.00000°. Principal axes: T 1.7380, Plg3.0000°, Azm127.0000°; N -0.0600, Plg86.0000°, Azm274.0000°; P -1.6780, Plg2.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 11:21:51.9±0.2,58.°28S×14.°02W,h10km,mb5.3/25 Error ellipse: s-maj=8.3km s-min=6.4km az=207.0*
*BJI **11** 11:21:52.2,58.°30S×14.°00W,h10km,mB5.4/14,Ms5.1/12, Ms7 4.7/12*
*MOS **11** 11:21:54.2±2.0,58.°38S×14.°14W,h30km,mb4.8/14,Error ellipse: s-maj=25.2km s-min=12.0km az=101.1*
ISC 11 11:21:52.0±0.3,58.°30S±0.°07×14.°16W±0.°06,h10km,n141, σ1s33/129,mb5.1/35,MS4.6/19,8C-4D,East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.64**	**171**	P	**Pn**	**11 24 51.5**	**-0.1**
HOPE	**Hope Point**	**13.02**	**278**	*e*Pn	**Pn**	**11 24 56.2**	**-0.6**
SNAA	**Sanae**	**14.20**	**165**	P	**Pn**	**11 25 12.1**	**-1.0**
SNAA	**Sanae**	**14.20**	**165**	*d* P	**Pn**	**11 25 11.6**	**-1.5**
SNAA	**Sanae**	**14.20**	**165**	*e*Pn	**Pn**	**11 25 11.5**	**-1.5**
SNAA				*e*Sn	Sn	11 27 34.9	-16
NVL	**N'lazarevskaya**	**16.56**	**149**	*e*P	**Pn**	**11 25 42.9**	**-1.0**
NVL				*e*S	**Sn**	**11 28 46.2**	**-1.2**
PMSA	**Palmer Station**	**24.07**	**233**	P	**P**	**11 27 07.5**	**+0.5**
	36nm,0.8s,baz=71,slow=7.5,SNR=6.3						
PMSA				LR	LR	11 34 16.5	
	comp=Z,2μm,19.3s,baz=84,slow=31						
SYO	**Syowa Base**	**25.22**	**137**‖	*e*P	**P**	**11 27 15.0**	**-2.4**
SYO	**Syowa Base**	**25.22**	**137**‖	*i*P	**P**	**11 27 16.2**	**-1.2**
EFI	**East Falkland**	**25.66**	**266**‖	*e*P	**P**	**11 27 20.4**	**-1.2**
EFI				pmax	pmax		
	comp=Z,44nm,1.0s						
USHA	**Ushuaia**	**29.42**	**253**	LR	LR	11 36 07.5	
	comp=Z,9μm,21.7s,baz=80,slow=29						
QSPA	**South Pole Qui**	**31.94**	**180**	*e*P	**P**	**11 28 18.4**	**+0.8**
	comp=Z,160nm,0.8s						
QSPA				*e*PcP	**PcP**	**11 31 07.8**	**+0.4**
MAW	**Mawson**	**33.92**	**138**	P	**P**	**11 28 34.7**	**+0.1**
	comp=Z,14nm,0.8s,baz=237,slow=6.5,SNR=18						
MAW				LR	LR	11 40 37.5	
	comp=Z,1μm,19.6s,baz=252,slow=33						
MAW	**Mawson**	**33.92**	**138**	*e*P	**P**	**11 28 34.9**	**+0.3**
	comp=Z,8.8nm,1.1s						
SUR	**Sutherland**	**35.04**	**58**	P	**P**	**11 28 44.9**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=202,slow=11,SNR=6.9						
TRQA	**Tornquist**	**36.76**	**282**	*e*P	**P**	**11 28 59.7**	**+0.3**
	comp=Z,56nm,1.0s						
PLCA	**Paso Flores**	**39.28**	**271**	P	**P**	**11 29 21.2**	**+0.5**
	comp=Z,39nm,1.1s,baz=178,slow=8.5,SNR=11						
PLCA				LR	LR	11 43 31.2	
	comp=Z,1μm,21.0s,baz=156,slow=33						
PLCA	**Paso Flores**	**39.28**	**271**	*e*P	**P**	**11 29 20.9**	**+0.2**
	comp=Z,91nm,1.3s						
BOSA	**Boshof**	**40.25**	**60**	P	**P**	**11 29 28.4**	**-0.6**
	comp=Z,5.5nm,0.5s,baz=213,slow=6.5,SNR=16						
BOSA				LR	LR	11 42 39.5	
	comp=Z,605nm,18.5s,baz=204,slow=31						
BOSA	**Boshof**	**40.25**	**60**	P	**P**	**11 29 28.4**	**-0.6**
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BOSA	**Boshof**	**40.25**	**60**	*e*P	**P**	**11 29 28.2**	**-0.8**
	comp=Z,53nm,1.8s						
SUCO	**SUCO**	**41.89**	**284**	*i* P	**P**	**11 29 41.5**	**-0.9**
SUCO				IAML		11 29 43.8	
	comp=Z,6.9nm,0.5s						
SPB	**Sao Paulo**	**42.02**	**311**	*e*P	**P**	**11 29 45.2**	**+1.8**
	comp=Z,69nm,1.5s						
MRA	**San Martin**	**43.05**	**284**	*i* P	**P**	**11 29 49.1**	**-2.8**
LBTB	**Lobatse**	**43.50**	**57**	P	**P**	**11 29 54.8**	**-0.7**
	comp=Z,5.5nm,0.5s,baz=218,slow=8.7,SNR=16						
LBTB	**Lobatse**	**43.50**	**57**	*e*P	**P**	**11 29 54.8**	**-0.7**
	comp=Z,39nm,1.6s						
CPUP	**Villa Florida**	**43.93**	**298**	P	**P**	**11 29 58.6**	**-0.2**
	comp=Z,45nm,0.9s,baz=144,slow=7.8,SNR=74						
CPUP				LR	LR	11 47 29.4	
	comp=Z,1μm,19.2s,baz=156,slow=35						
SBA	**Scott Base**	**44.10**	**180**	*e*P	**P**	**11 30 02.0**	**+2.4**
SBA				pmax	pmax		
	comp=Z,16nm,0.9s						
SBA	**Scott Base**	**44.10**	**180**	*e*P	**P**	**11 30 02.0**	**+2.4**
	comp=Z,16nm,0.9s						
AAGR	**Agrelo**	**44.13**	**280**	*i* P	**P**	**11 30 01.1**	**+0.5**
MIR	**Mirnyy**	**44.28**	**147**	*e*P	**P**	**11 30 01.0**	**-0.2**
MIR				pmax	pmax		
	comp=Z,6.0nm,1.5s						
VNDA	**Vanda**	**44.41**	**179**	P	**P**	**11 30 04.0**	**+1.9**
	comp=Z,4.0nm,0.6s,baz=202,slow=6.9,SNR=40						
VNDA				LR	LR	11 47 44.0	
	comp=Z,718nm,21.0s,baz=184,slow=35						
VNDA	**Vanda**	**44.41**	**179**	*e*P	**P**	**11 30 03.8**	**+1.6**
	comp=Z,6.3nm,0.8s						
ASAL	**Salagasta**	**44.52**	**281**	*i* P	**P**	**11 30 03.6**	**-0.1**
RTCV	**Cerro Valdivia**	**44.95**	**282**	*i* P	**P**	**11 30 06.7**	**-0.3**
AUSP	**Uspallata**	**45.10**	**281**	*i* P	**P**	**11 30 08.9**	**+0.3**
RTLL	**Cerro Villicun**	**45.34**	**282**	*i* P	**P**	**11 30 09.5**	**-0.6**
AVFE	**Valle Fertil**	**45.35**	**284**	*i* P	**P**	**11 30 10.1**	**-0.2**
ROC1	**El Roble**	**45.36**	**278**	*e*P	**P**	**11 30 10.6**	**+0.1**
	comp=Z,28nm,0.7s						
RTLS	**Leoncito**	**45.39**	**281**	*i* P	**P**	**11 30 10.5**	**-0.3**
TSUM	**Tsumeb**	**45.41**	**44**	P	**P**	**11 30 11.2**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=192,slow=8.2,SNR=7.9						
AMOG	**MOGNA**	**45.66**	**283**	*i* P	**P**	**11 30 13.0**	**+0.3**
AGUA	**GUANDACOL**	**46.82**	**284**	*i* P	**P**	**11 30 22.3**	**+0.4**
VCA	**Vinchina**	**47.28**	**285**	*i* P	**P**	**11 30 26.5**	**+0.9**
LCO	**Las Campanas**	**48.34**	**282**	*e*P	**P**	**11 30 33.9**	**0.0**
	comp=Z,64nm,1.3s						
CASY	**Casey**	**49.07**	**154**	*e*P	**P**	**11 30 39.3**	**+0.5**
	comp=Z,20nm,1.0s						
H10S2	**ASCENSION HYDR**	**49.23**	**359**	T	T	12 24 04.3	
	baz=180,slow=75,SNR=33						
H10S3	**ASCENSION HYDR**	**49.24**	**359**	T	T	12 24 02.1	
	baz=180,slow=75,SNR=26						
H10S1	**ASCENSION HYDR**	**49.25**	**359**	T	T	12 24 02.9	
	baz=180,slow=75,SNR=32						
BDFB	**Brasilia**	**49.46**	**315**	P	**P**	**11

RKT Rikitea 85.27 232 *e*LR LR 12 01 30.0
comp=Z,632nm,26.5s
STKA Stephens Creek 87.89 160 LR LR 12 11 25.0
comp=Z,378nm,19.2s,baz=185,slow=34
TBI Tubuai 90.59 220 *e*S **S 11 45 51.1 +1.2**
comp=Z,161nm,29.2s
TBI Tubuai 90.59 220 *e*LR LR 12 04 07.1
comp=Z,267nm,25.8s
ASAR Alice Springs 94.12 151 P **P 11 35 09.5 -1.2**
comp=Z,1.0nm,1.0s,baz=206,slow=3.8,SNR=4.9
ASAR LR LR 12 12 14.0
comp=Z,319nm,21.7s,baz=194,slow=32
AS01 Alice Springs 94.13 151 *e*P **P 11 35 08.7 -2.1**
PPT2 Papeete2 95.95 222 *e*S **S 11 46 37.1 -0.6**
comp=Z,169nm,29.2s
PPT2 Papeete2 95.95 222 *e*LR LR 12 06 37.3
comp=Z,309nm,23.0s
PPT Papeete 95.97 222 LR LR 12 09 10.7
comp=Z,187nm,20.2s,baz=174,slow=30
WRA Warramunga Arr 97.79 150 LR LR 12 18 08.6
comp=Z,147nm,18.5s,baz=270,slow=34
WRAB Tennant Creek 97.80 150⇑ *e*P **P 11 35 27.1 -0.4**
WRAB pmax pmax
comp=Z,4.0nm,0.8s
ESDC Sonseca Array 97.99 8 LR LR 12 15 31.9
comp=Z,116nm,19.3s,baz=195,slow=33
DZM Mont Dzumac 99.93 181 *e*LR LR 12 08 30.1
comp=Z,326nm,23.8s
KHC Kasperske Hory 109.47 19 *e*SS SS 11 56 18.5 +3.9
TREC Trest 109.97 20 AMS AMS 12 25 50.0
GOPC GO Pecny, Ondr 110.44 20 *e*SS SS 11 56 33.8 +6.3
PRU Pruhonice 110.47 19 *e*PS PS 11 50 34.6 +5.7
PRU *e*SS SS 11 56 32.1 +4.3
PRU AMS AMS 12 29 30.0
comp=Z,100nm,18.8s
DPC Dobruska-Polom 111.14 20 *e*PS PS 11 50 43.7 +8.6
DPC *e*SS SS 11 56 42.2 +5.3
BRG Berggiesshubel 111.22 19 *e*(P) 11 50 46.0
UPC Upice 111.23 20 *e*PS PS 11 50 40.7 +4.9
UPC *e*SS SS 11 56 41.0 +3.0
UPC AMS AMS 12 30 40.0
comp=Z,100nm,17.6s
ANN Anapa 111.28 37 *i* PKIKP **PKiKP 11 40 27.6 +2.6**
ANN pmax pmax
comp=Z,75nm,1.5s
CLL Collm 111.48 18 *e*PS PS 11 50 42.0 +3.9
CLL *e*SS SS 11 58 00.0 +79
OBN Obninsk 120.20 31⇑ *i* PKIKP **PKPdf 11 40 42.1 +0.4**
OBN *e*SS SS 11 58 37.8 +2.4
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,90nm,19.0s
KSH Kashi 122.62 67 PKP **PKPdf 11 40 48.0 +0.8**
KSH PP **PP 11 42 29.2 +4.0**
KSH PKS **PKSdf 11 44 25.7 +1.9**
KSH SKS **SKSdf 11 48 00.7 +1.8**
KSH PPMZ
comp=Z,99nm,4.1s
KSH LN
comp=Z,190nm,13.5s
KSH LE
comp=Z,97nm,11.2s
KSH LZ
comp=Z,100nm,11.2s
FINES FINESS Array B 123.44 22 PKP **PKPdf 11 40 47.1 -0.7**
comp=Z,1.4nm,0.6s,baz=112,slow=2.1,SNR=6.3
FINES FINESS Array B 123.44 22 PKIKP **PKPdf 11 40 47.1 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.6s
QIZ Qiongzhong 123.68 110 PKP **PKPdf 11 40 49.7 +0.1**
QIZ PP **PP 11 42 32.3 +0.3**
QIZ SS SS 11 59 22.1 +2.2
QIZ PPMZ
comp=Z,67nm,7.3s
QIZ LN
comp=Z,190nm,23.4s
QIZ LZ
comp=Z,240nm,37.5s
AAK Ala-Archa 124.33 63⇓ *i* PKIKP **PKPdf 11 40 51.8 +1.4**
KMI Kunming 125.11 99 PKP **PKPdf 11 40 50.9 -1.6**
KMI LN
comp=Z,130nm,18.1s
KMI LE
comp=Z,140nm,18.4s
KMI LZ
comp=Z,150nm,17.2s
PDAR Pinedale Array 127.67 292 PKP **PKPdf 11 40 54.8 -2.1**
comp=Z,0.2nm,0.5s,baz=90,slow=4.8,SNR=2.8
GYA Guiyang 128.23 101 *e*Pdif **Pdif 11 37 43.0 +0.3**
GYA PKP **PKiKP 11 40 58.8 -0.1**
GYA PP **PP 11 43 06.5 +4.0**
GYA PPMZ
comp=Z,130nm,7.8s
ARU Arti 128.24 42 *i* PKIKP **PKPdf 11 40 59.1 +1.9**
ARU 11 43 03.7
ARU 11 48 09.9
ARU SS SS 12 00 10.7 -6.2
ARU MLR MLR
comp=Z,186nm,20.0s
MOOW Moose Ponds 128.98 292 *e*PKPdf **PKPdf 11 40 59.0 -0.3**
CD2 Chengdu 130.28 95 PKP **PKPdf 11 41 02.5 +0.5**
CD2 sPKP 11 41 07.1
CD2 PP **PP 11 43 16.3 +0.4**
CD2 SKS **SKSdf 11 48 14.0 +0.7**
CD2 SKKS **SKKSac 11 50 11.8 -0.3**
CD2 SS **SS 12 00 45.0 +2.5**
CD2 PPMZ
comp=Z,220nm,6.2s
ARCES ARCESS Array B 130.70 17 PKP **PKPdf 11 41 00.8 -0.7**
comp=Z,3.5nm,1.1s,baz=192,slow=2.2,SNR=3.5
WMQ Urumqi 131.64 71 PKP **PKPdf 11 41 05.1 +0.9**
WMQ LN
comp=Z,120nm,27.4s
WMQ LE
comp=Z,120nm,29.8s
WMQ LZ
comp=Z,82nm,26.8s
LZH Lanzhou 134.33 91 *e*PKP **PKPdf 11 41 09.0 -0.6**
HHC Hu-ho-hao-te 141.92 93 *e*PKP **PKPdf 11 41 20.2 -3.1**
HHC PP **PP 11 44 27.7 -1.4**
HHC SS SS 12 02 57.6 -4.2
HHC PPMZ
comp=Z,66nm,8.7s
HHC LN
comp=Z,100nm,19.6s
HHC LE
comp=Z,110nm,16.5s
HHC LZ
comp=Z,120nm,17.1s
YKA Yellowknife Ar 142.81 311 PKhKP PKPpre 11 41 18.4
comp=Z,0.3nm,0.5s,baz=116,slow=2.9,SNR=4.5
YKA PP **PP 11 44 31.4 -2.6**
comp=Z,3.2nm,1.1s,baz=123,slow=6.4,SNR=6.2
MOY Mondy 143.53 72 *e*PKHKP PKPpre 11 41 14.4
BJI Beijing 143.76 98 PKP PKPbc 11 41 25.1 +1.0
BJI SS SS 12 03 20.0 -2.6
BJI LN
comp=Z,210nm,18.2s
BJI LE
comp=Z,150nm,21.0s
BJI LZ
comp=Z,160nm,28.9s
SONM Songino Array 143.94 80 PKhKP PKPpre 11 41 23.1
comp=Z,1.7nm,0.8s,baz=205,slow=2.8,SNR=5.5
ULN Ulaanbaatar 144.30 81⇑ *e*PKIKP **PKPab 11 41 25.3 -0.1**
TLY Talaya 144.87 73 PKP **PKPab 11 41 26.8 -0.4**
comp=Z,1.1nm,0.3s,baz=216,slow=12,SNR=5.9
TLY Talaya 144.87 73 *e*PKIKP **PKPdf 11 41 27.9 -0.1**
TLY pmax pmax
comp=Z,21nm,1.6s
DL2 Dalian 145.74 105 PKPbc **PKPbc 11 41 30.2 -0.1**
TJN Taejon 146.62 114⇑ *e*PKP2 **PKPbc 11 41 32.8 -0.3**
DLBC Dease Lake 147.51 298 PKPbc **PKPbc 11 41 34.2 -0.8**
comp=Z,1.6nm,0.5s,baz=72,slow=7.0,SNR=5.0
DLBC Dease Lake 147.51 298 *e*PKPdf **PKPdf 11 41 32.4 0.0**
DLBC *e*PKPbc **PKPbc 11 41 34.8 -0.2**
KSAR Wonju Array Be 147.72 114 PKP2 **PKPbc 11 41 35.8 -0.3**
KSAR Wonju Array Be 147.72 114 PKPbc **PKPbc 11 41 35.8 -0.3**
KSRS Korea Array 147.75 114 PKPbc **PKPbc 11 41 35.8 -0.4**
comp=Z,4.5nm,0.9s,baz=218,slow=3.1,SNR=20
CN2 Changchun 151.27 103 *e*PKPbc **PKPdf 11 41 35.1 -3.6**
CN2 *ep*PKP PKiKP 11 41 45.0 -0.2
CN2 PP **PP 11 45 22.6 -1.4**
CN2 PPMZ
comp=Z,300nm,6.0s
CN2 LN
comp=Z,200nm,19.0s
CN2 LE
comp=Z,200nm,19.0s
CN2 LZ
comp=Z,100nm,21.0s
MAJO Matsushiro 151.66 128⇑ *e*PKIKP **PKPdf 11 41 40.7 +1.1**
MJAR Matsushiro Arr 151.66 128 PKPbc **PKPbc 11 41 44.8 -1.1**
comp=Z,3.4nm,0.7s,baz=194,slow=2.8,SNR=9.1
INK Inuvik 152.21 316 PKPbc **PKPbc 11 41 45.0 -1.1**
comp=Z,3.1nm,0.5s,baz=45,slow=2.7,SNR=18
INK Inuvik 152.21 316 PKIKP **PKPbc 11 41 45.0 -1.1**
INK pmax pmax
comp=Z,3.0nm,0.5s
ILAR Eielson Array 157.05 306 PKPbc PKPdf 11 41 56.2 +10
comp=Z,0.3nm,0.8s,baz=5.2,slow=2.3,SNR=4.2
ILAR PKPab **PKPab 11 42 16.8 -0.1**
comp=Z,2.6nm,0.9s,baz=103,slow=2.8,SNR=15
BILL Bilibino 170.22 359⇑ *e*PKIKP **PKPdf 11 42 03.2 +4.9**
BILL *e* 11 47 08.4
BILL pmax pmax
comp=Z,10.0nm,1.9s

NNC 11 11:29:27.9±3.1, 36.94N×71.15E, h0km, mb4.0, mpv3.6, 4C-3D, Error ellipse: s-maj=25.6km s-min=14.3km az=177.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.61**	**316**	⇑Pn	Pn	11 30 11.3	-0.1
DZET	12nm,0.2s			⇑Sn	Sn	11 30 45.2	+1.2
	50nm,0.4s						
MNAS	**Manas**	**5.64**	**10**	⇓Pn	Pn	11 30 53.7	+0.6
MNAS	1.8nm,0.3s			⇓Sn	Sn	11 32 01.0	+2.4
	8.1nm,0.7s						
KK31	**Karatay Array**	**6.17**	**356**	⇑Pn	Pn	11 30 59.4	-0.9
KK31	1.2nm,0.3s			⇓Sn	Sn	11 32 11.1	-0.5
	3.8nm,0.7s,baz=185,slow=21,SNR=4.1						
TKM2	**Tokmak 2**	**6.88**	**28**	⇑Pn	Pn	11 31 10.3	+0.1
	1.9nm,0.5s						

MAN 11 11:29:57, 11.12N×124.65E, h10km, mb4.6, ML3.5, MS3.4, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.07**	**210**	*e*P	Pg	11 30 01.3	+2.0
OCLP				*e*S	Sg	11 30 08.4	+7.5
PLP	**Palo**	**0.33**	**81**⇓	*e*P	Pb	11 30 04.5	-0.5
PLP				*i* S	Sb	11 30 12.5	+2.1
LLP	**Lapu-Lapu**	**1.04**	**220**	*e*P	Pg	11 30 16.5	-0.5
LLP				*e*S	Sn	11 30 32.2	-0.1
RCP	**Roxas**	**1.92**	**283**⇓	*e*P	Pn	11 30 30.6	+0.9
GUIM	**Jordan**	**2.08**	**257**	*e*P	Pb	11 30 35.5	+0.6
GUIM				*e*S	Sn	11 30 57.1	-0.9
BUKP	**Musuan**	**3.24**	**173**	*e*P	Pn	11 30 51.4	+3.4
BUKP				*e*S	Sg	11 31 52.1	+11

MEX 11 11:30:17.8±0.5, 15.29N×93.55W, h78km±111km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.52**	**37**	*e*P	Pn	11 30 30.2	-1.4
PCIG				*i* S	Sn	11 30 40.3	-1.5

*IDC **11** 11:39:51.2±8.2, 17.03N×93.85W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.6/25, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=204.6km s-min=113.1km az=26.0*
*ISCJB **11** 11:39:52.9±0.6, 15.85N±0.08×95.07W±0.04, h49km, mb3.5/2, Error ellipse: s-maj=12.1km s-min=5.1km az=2.0*
*NEIC **11** 11:39:55.5, 15.88N×95.07W, h19km, MD4.3(MEX), After MEX.*
*MEX **11** 11:39:55.5±0.9, 15.88N×95.07W, h19km±24km, MD4.3*
ISC 11 11:39:54.1±1.0, 15.85N±0.07×95.07W±0.03, h49km, n17, σ0s99/24, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.00**	**265**	*i* P	**Pn**	**11 40 11.3**	**-0.5**
HUIG				*i* S	**Sn**	**11 40 23.9**	**-1.0**
HUIG	**Huatulco**	**1.00**	**265**	*i* P	**Pn**	**11 40 11.3**	**-0.5**
HUIG				*i* S	**Sn**	**11 40 23.9**	**-1.0**
PANG	**Puerto Angel**	**1.36**	**262**	*i* P	**Pn**	**11 40 15.9**	**-0.8**
PANG				*e*S	**Sn**	**11 40 32.2**	**-1.4**
PCIG		**1.79**	**94**	*i* P	**Pn**	**11 40 22.5**	**-0.1**
PCIG				*i* S	**Sn**	**11 40 43.1**	**-1.1**
PCIG		**1.79**	**94**	*i* P	**Pn**	**11 40 22.5**	**-0.1**
PCIG				*i* S	**Sn**	**11 40 43.1**	**-1.1**
VHO	**Vista Hermosa**	**2.00**	**308**	*i* P	**Pn**	**11 40 26.0**	**+0.3**
VHO				*i* S	**Sn**	**11 40 48.3**	**-1.4**
VHO	**Vista Hermosa**	**2.00**	**308**	*i* P	**Pn**	**11 40 26.0**	**+0.3**
VHO				*i* S	**Sn**	**11 40 48.3**	**-1.4**
TUIG	**Tuzandepetl**	**2.26**	**16**	*e*P	**Pn**	**11 40 27.8**	**-1.2**
TUIG	**Tuzandepetl**	**2.26**	**16**	*e*P	**Pn**	**11 40 27.8**	**-1.2**
CCIG	**Comitan**	**2.85**	**81**	*e*P	**Pn**	**11 40 37.3**	**-0.1**
CCIG	**Comitan**	**2.85**	**81**	*e*P	**Pn**	**11 40 37.3**	**-0.1**
PNIG	**Pinotepa**	**2.98**	**281**	*i* P	**Pn**	**11 40 38.5**	**-0.4**
PNIG	**Pinotepa**	**2.98**	**281**	*i* P	**Pn**	**11 40 38.5**	**-0.4**
TLIG	**Tlapa**	**3.75**	**297**	*e*P	**Pn**	**11 40 50.9**	**+1.3**
TXAR	**Lajitas Array**	**15.58**	**331**	Pn	**Pn**	**11 43 31.0**	**+0.4**
	0.0nm,0.3s,baz=153,slow=14,SNR=9.4						
NVAR	**Mina Array Bea**	**30.38**	**322**	P	**P**	**11 46 03.9**	**+2.0**
	1.1nm,0.7s,baz=134,slow=9.0,SNR=8.8						
ILAR	**Eielson Array**	**59.98**	**337**	P	**P**	**11 49 55.0**	**-0.3**
	0.3nm,0.8s,baz=125,slow=7.8,SNR=3.3						

*ISCJB **11** 11:54:24.4±0.6, 22.71N±0.02×122.07E±0.02, h30km±5km, Error ellipse: s-maj=4.0km s-min=2.4km az=152.7*
*JMA **11** 11:54:24.5±0.3, 22.82N×121.99E, h23km±5km, M3.3*
*TAP **11** 11:54:25.8, 22.73N×121.98E, h36km, ML3.6, C*
ISC 11 11:54:22.9±1.2, 22.74N±0.02×122.01E±0.03, h14km±9km, n61, σ0s84/109, 11C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.70**	**301**	⇑*i* P	**Pn**	**11 54 37.9**	**-0.6**
CHKT	baz=304			*i* S	**Sb**	**11 54 46.6**	**+0.2**
	baz=304						
TTN	**Taitung**	**0.80**	**271**	*e*P	**Pb**	**11 54 38.6**	**-0.1**
TTN	baz=278			*e*S	**Sb**	**11 54 49.5**	**+0.1**
	baz=278						
LAY	**Lan-yu**	**0.82**	**212**⇓	*i* P	**Pb**	**11 54 39.4**	**+0.4**
LAY	baz=209			*e*S	**Sg**	**11 54 49.0**	**-0.5**
	baz=209						
TWG	**Pinlang**	**0.87**	**276**	*e*P	**Pn**	**11 54 40.5**	**-0.3**
TWG	baz=282			*e*S	**Sb**	**11 54 51.5**	**0.0**
	baz=282						
TWF1	**Yuli**	**0.90**	**313**	⇑P	**Pn**	**11 54 41.1**	**-0.1**
TWF1	baz=323			*e*S	**Sb**	**11 54 52.7**	**+0.5**
	baz=323						
ECL	**Taimali**	**0.99**	**262**	*e*P	**Pb**	**11 54 42.0**	**+0.2**
ECL	baz=275			*e*S	**Sg**	**11 54 53.7**	**-1.3**
	baz=275						
EHY	**Hungye**	**0.99**	**320**	*e*P	**Pb**	**11 54 42.3**	**+0.3**
EHY	baz=327			*e*S	**Sb**	**11 54 55.4**	**+0.4**
	baz=327						
ELDTW	**Lidau**	**1.02**	**296**⇑	*i* P	**Pb**	**11 54 42.6**	**+0.1**
	baz=297						
TAW	**Tawu**	**1.10**	**250**	*e*P	**Pn**	**11 54 44.6**	**+0.6**
TAW	baz=260			*e*S	**Sg**	**11 54 58.0**	**-0.6**
	baz=260						
EAST	**Anshuo**	**1.13**	**252**	P	**Pn**	**11 54 45.0**	**+0.6**
EAST	baz=262			*e*S	**Sg**	**11 54 58.7**	**-0.9**
	baz=262						
ESL	**Shilin**	**1.20**	**334**	P	**Pn**	**11 54 45.5**	**+0.2**
ESL	baz=344			S	**Sb**	**11 54 60.0**	**-0.9**
	baz=344						
YUS	**Yu-Shan**	**1.23**	**308**	⇑P	**Pg**	**11 54 46.8**	**+0.1**
STYT	**Tauyuan**	**1.23**	**290**⇑	*i* P	**Pg**	**11 54 46.5**	**-0.2**
	baz=291						
HWA	**Hwalien**	**1.29**	**343**	*e*P	**Pn**	**11 54 46.9**	**+0.3**
WDT	**Danda**	**1.30**	**322**⇑	*i* P	**Pb**	**11 54 47.6**	**+0.2**
WDT	baz=332			S	**Sb**	**11 55 02.8**	**-1.2**
	baz=332						
TSEB	**Hengchuen, Pin**	**1.33**	**231**	*e*P	**Pg**	**11 54 50.5**	**+2.0**
TSEB	baz=232			*e*S	**Sn**	**11 55 04.3**	**-0.2**
	baz=232						
SCZT	**Fangliau**	**1.34**	**254**	*e*P	**Pg**	**11 54 48.8**	**+0.1**
SCZT	baz=254			*e*S	**Sg**	**11 55 05.0**	**-1.1**
	baz=254						
ALS	**Alishan**	**1.35**	**305**⇑	*i* P	**Pg**	**11 54 49.1**	**+0.1**
SGST	**Jiashian**	**1.36**	**285**	P	**Pg**	**11 54 49.3**	**+0.2**
SGST	baz=287			S	**Sn**	**11 55 05.7**	**+0.2**
	baz=287						
TWK1	**Hengchun**	**1.37**	**235**	*e*P	**Pb**	**11 54 48.3**	**-0.1**
TWK1	baz=226			*e*S	**Sb**	**11 55 04.0**	**-1.8**
	baz=226						
WTP	**Ta-pu**	**1.39**	**292**⇑	*i* P	**Pg**	**11 54 49.7**	**+0.1**
WTP	baz=301			*e*S	**Sg**	**11 55 07.3**	**-0.4**
	baz=301						
HEN	**Hengchun**	**1.39**	**239**	*e*P	**Pg**	**11 54 49.2**	**-0.4**
HEN	baz=231			*e*S	**Sb**	**11 55 05.6**	**-0.7**
	baz=231						
TWD	**Chiawan**	**1.39**	**344**	*e*P	**Pn**	**11 54 48.4**	**+0.4**
TWD	baz=346			*e*S	**Sn**	**11 55 04.8**	**-1.4**
	baz=346						
SGLT	**Jiouru**	**1.41**	**270**	*e*P	**Pb**	**11 54 49.1**	**+0.1**
SGLT	baz=262			*e*S	**Sg**	**11 55 07.3**	**-0.9**
	baz=262						
CHN1	**Nanshi**	**1.44**	**288**⇑	*i* P	**Pg**	**11 54 50.9**	**+0.3**
CHN1	baz=297			*e*S	**Sg**	**11 55 08.9**	**-0.5**
	baz=297						
CHN4	**Tsaushan**	**1.44**	**295**	⇑P	**Pg**	**11 54 50.8**	**0.0**
CHN4	baz=304			S	**Sg**	**11 55 09.7**	**+0.2**
	baz=304						
TWM1	**Shoushan**	**1.47**	**274**	*e*P	**Pg**	**11 54 51.7**	**+0.4**
TWM1	baz=274			*e*S	**Sg**	**11 55 10.2**	**-0.2**
	baz=274						
CHN5	**Tsauling**	**1.50**	**305**	P	**Pg**	**11 54 51.9**	**+0.1**
CHN5	baz=306			*e*S	**Sg**	**11 55 11.5**	**+0.3**
	baz=306						
TWK	**Hsinying**	**1.50**	**291**	*e*P	**Pb**	**11 54 50.9**	**+0.2**
TWK	baz=303			*e*S	**Sg**	**11 55 11.3**	**0.0**
	baz=303						
SMLT	**Sun Moon Lake**	**1.53**	**318**	⇑P	**Pb**	**11 54 51.4**	**+0.2**
SMLT	baz=326			*e*S	**Sn**	**11 55 10.1**	**+0.3**
	baz=326						
CHN3	**Shinhua**	**1.56**	**283**	*e*P	**Pg**	**11 54 53.8**	**+1.0**
CHN3	baz=283			*e*S	**Sg**	**11 55 14.9**	**+1.7**
	baz=283						
WHF	**Hehuan Shan**	**1.56**	**334**	⇓P	**Pn**	**11 54 51.3**	**+0.6**
WHF	baz=346			*e*S	**Sn**	**11 55 09.1**	**-1.9**
	baz=346						
TYC	**Yuchr**	**1.57**	**318**	P	**Pb**	**11 54 52.2**	**+0.3**
TYC	baz=324			S	**Sb**	**11 55 11.9**	**+0.2**
	baz=324						
WGK	**Gukeng**	**1.64**	**306**	*e*P	**Pg**	**11 54 54.1**	**-0.3**
WGK	baz=307			*e*S	**Sg**	**11 55 14.7**	**-1.0**
	baz=307						
CHY	**Chiayi**	**1.65**	**298**	*e*P	**Pg**	**11 54 54.3**	**-0.3**
	baz=298						
WNT	**Mingjian**	**1.67**	**313**	*e*P	**Pg**	**11 54 54.3**	**-0.7**
WNT	baz=314			*e*S	**Sb**	**11 55 15.2**	**+0.8**
	baz=314						
TWT	**Tachien**	**1.69**	**333**	*e*P	**Pn**	**11 54 53.2**	**+0.9**
	baz=340						
ENA	**Nanau**	**1.70**	**352**	*e*P	**Pn**	**11 54 52.8**	**+0.5**
ENA	baz=353			*e*S	**Sn**	**11 55 12.5**	**-1.3**
	baz=353						
NNS	**Nan Shan**	**1.79**	**341**	*e*P	**Pb**	**11 54 55.0**	**-0.6**
	baz=341						
TCU	**Taichung**	**1.86**	**319**	*e*P	**Pb**	**11 54 57.4**	**+0.5**
	baz=319						
TWC	**Suao**	**1.87**	**355**	*e*P	**Pn**	**11 54 56.1**	**+1.6**
TWC	baz=357			*e*S	**Sn**	**11 55 18.0**	**0.0**
	baz=357						
JYNG	**Yonagunijimaku**	**1.91**	**26**	P	**Pn**	**11 54 55.9**	**+0.8**
JYNG				*e*S	**Sn**	**11 55 18.2**	**-0.7**
ENTT	**Nioudou**	**1.94**	**348**	*e*P	**Pn**	**11 54 57.2**	**+1.7**
ENTT	baz=349			*e*S	**Sn**	**11 55 19.7**	**0.0**
	baz=349						
YOJ	**Yonaguni jima**	**1.94**	**28**	P	**Pn**	**11 54 56.8**	**+1.2**
TWQ1	**Liyutan**	**1.97**	**325**	*e*P	**Pb**	**11 54 59.1**	**+0.5**
TWQ1	baz=337			*e*S	**Sb**	**11 55 22.9**	**0.0**
	baz=337						
TWE	**Neicheng**	**2.00**	**351**	*e*P	**Pb**	**11 54 58.2**	**-0.9**
TWE	baz=352			*e*S	**Sn**	**11 55 21.6**	**+0.5**
	baz=352						
NSK	**Sanguang**	**2.02**	**343**	*e*P	**Pn**	**11 54 58.4**	**+1.7**
NSK	baz=344			*e*S	**Sn**	**11 55 21.4**	**-0.4**
	baz=344						
NSY	**Sanyi**	**2.03**	**326**	*e*P	**Pb**	**11 54 59.1**	**-0.5**
NSY	baz=338			*e*S	**Sb**	**11 55 25.1**	**+0.3**
	baz=338						
EGS		**2.10**	**358**	*e*P	**Pn**	**11 54 59.3**	**+1.6**
EGS	baz=8.0			*e*S	**Sn**	**11 55 24.6**	**+1.0**
	baz=8.0						
NSTT	**Nanjuang**	**2.10**	**334**	*e*P	**Pb**	**11 55 00.4**	**-0.5**
	baz=341						
HATJ	**Hateruma jima**	**2.10**	**51**	P	**Pn**	**11 54 58.9**	**+1.1**
HATJ				*e*S	**Sn**	**11 55 22.9**	**-0.9**
IRIF	**Iriomote-Funau**	**2.24**	**44**	P	**Pn**	**11 55 01.0**	**+1.4**
IRIF				S	**Sn**	**11 55 26.7**	**-0.4**
TWB1	**Santiao Chiao**	**2.26**	**359**	*e*P	**Pn**	**11 55 01.3**	**+1.3**
	baz=10.0						
TWB1	baz=10.0			*e*S	**Sn**	**11 55 28.3**	**+0.7**
NWF	**Wu-fen Shan**	**2.33**	**355**	*e*P	**Pb**	**11 55 03.9**	**-0.9**
	baz=346						
NWF	baz=346			*e*S	**Sn**	**11 55 30.4**	**+0.9**
JKRS	**Kuro-shima**	**2.36**	**50**	P	**Pn**	**11 55 02.8**	**+1.5**
JKRS				*e*S	**Sn**	**11 55 29.5**	**-0.7**
JIJ	**Ishigaki jima**	**2.54**	**50**	P	**Pn**	**11 55 04.5**	**+0.8**
JIJ				S	**Sn**	**11 55 32.9**	**-1.6**
JISG	**Ishigakijimahi**	**2.80**	**48**	P	**Pn**	**11 55 07.7**	**+0.4**
JISG				S	**Sn**	**11 55 39.2**	**-1.7**
JTJ	**Tarama**	**3.11**	**52**	P	**Pn**	**11 55 12.8**	**+1.2**
JTJ				S	**Sn**	**11 55 47.5**	**-1.0**
JIRB	**Irabujima**	**3.56**	**54**	*e*S	**Sn**	**11 55 58.4**	**-1.4**
JIKM	**Ikemajima**	**3.67**	**53**	*e*S	**Sn**	**11 56 01.8**	**-0.7**
JOGS	**Gusukube**	**3.70**	**56**	P	**Pn**	**11 55 21.1**	**+1.3**
JOGS				*e*S	**Sn**	**11 56 02.7**	**-0.5**

*KRSC **11** 12:19:26.1±1.1, 55.34N×163.94E, h49km±24km, ML4.2*
*MOS **11** 12:19:27.7±0.9, 55.42N×164.02E, h44km, mb4.0/5, Error ellipse: s-maj=8.1km s-min=7.1km az=140.0*
*ISCJB **11** 12:19:28.1±0.5, 55.36N±0.03×163.95E±0.05, h41km±7km, mb3.7/9, Error ellipse: s-maj=5.3km s-min=5.1km az=33.9*

*IDC **11** 12:19:30.9±0.8, 55.60N×163.83E, h44km±8km, mb3.3/7, mb1 3.6/9, mb1mx3.3/60, mbtmp3.6/9, ML3.1/2, Error ellipse: s-maj=30.4km s-min=11.1km az=152.0*

ISC 11 12:19:28.6±0.7, **55.42N**±0.04°×**164.01E**±0.03, **h31**km±4km, **n74**, σ**1.33**/101, **mb3.5/9, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**1.11**	**319**	PN	**Pn**	**12 19 45.0**	**-3.0**
KBG				S	**Sn**	**12 19 58.5**	**-3.8**
KBG	**Krutoberegovo**	**1.11**	**319**	*e*P	**Pn**	**12 19 45.0**	**-3.0**
KBG				*e*S	**Sn**	**12 19 58.5**	**-3.8**
BKI	**Bering**	**1.14**	**100**	PN	**Pn**	**12 19 47.3**	**-1.1**
BKI				S	**Sn**	**12 20 02.7**	**-0.3**
BKI	**Bering**	**1.14**	**100**	*e*P	**Pn**	**12 19 47.3**	**-1.1**
BKI				*e*S	**Sn**	**12 20 02.7**	**-0.3**
MKZ	**Mys Kozlova**	**1.57**	**238**	PN	**Pn**	**12 19 52.3**	**-2.0**
MKZ				S	**Sn**	**12 20 10.6**	**-3.0**
MKZ	**Mys Kozlova**	**1.57**	**238**	*e*P	**Pn**	**12 19 52.3**	**-2.0**
MKZ				*e*S	**Sn**	**12 20 10.6**	**-3.0**
SMKR	**Semkarok**	**1.84**	**310**	PN	**Pn**	**12 19 57.7**	**-0.4**
SMKR				S	**Sn**	**12 20 19.4**	**-1.0**
SMKR	**Semkarok**	**1.84**	**310**	*i* P	**Pn**	**12 19 57.7**	**-0.4**
SMKR				*e*S	**Sn**	**12 20 19.4**	**-1.0**
ZLN	**Zelenaya**	**1.91**	**290**	PN	**Pn**	**12 19 59.0**	**-0.1**
ZLN				S	**Sn**	**12 20 23.1**	**+1.0**
ZLN	**Zelenaya**	**1.91**	**290**	*i* P	**Pn**	**12 19 59.0**	**-0.1**
ZLN				*e*S	**Sn**	**12 20 23.1**	**+1.0**
BDR	**Baidarnaya**	**1.95**	**307**	PN	**Pn**	**12 19 59.5**	**-0.1**
BDR				S	**Sn**	**12 20 23.4**	**+0.3**
BDR	**Baidarnaya**	**1.95**	**307**	*i* P	**Pn**	**12 19 59.5**	**-0.1**
BDR				*e*S	**Sn**	**12 20 23.4**	**+0.3**
CIRR	**Tsirk**	**1.97**	**292**	PN	**Pn**	**12 19 59.7**	**-0.2**
CIRR	**Tsirk**	**1.97**	**292**	*e*P	**Pn**	**12 19 59.7**	**-0.2**
LGNR	**Loginova**	**1.99**	**291**	PN	**Pn**	**12 20 00.2**	**-0.2**
LGNR	**Loginova**	**1.99**	**291**	*e*P	**Pn**	**12 20 00.2**	**-0.2**
SRKR	**Sorokina**	**2.02**	**309**	PN	**Pn**	**12 20 00.2**	**-0.3**
SRKR				S	**Sn**	**12 20 24.8**	**+0.1**
SRKR	**Sorokina**	**2.02**	**309**	*e*P	**Pn**	**12 20 00.2**	**-0.3**
SRKR				*e*S	**Sn**	**12 20 24.8**	**+0.1**
BZMR	**Bezymyannaya**	**2.06**	**286**	PN	**Pn**	**12 20 00.7**	**-0.5**
BZMR	**Bezymyannaya**	**2.06**	**286**	*e*P	**Pn**	**12 20 00.7**	**-0.5**
KLY	**Klyuchi**	**2.09**	**297**	PN	**Pn**	**12 20 00.1**	**-1.4**
KLY				S	**Sn**	**12 20 25.1**	**-1.3**
KLY	**Klyuchi**	**2.09**	**297**	*e*P	**Pn**	**12 20 00.1**	**-1.4**
KLY				*e*S	**Sn**	**12 20 25.1**	**-1.3**
KRSR	**Krestovskiy**	**2.10**	**294**	PN	**Pn**	**12 20 01.2**	**-0.5**
KRSR				S	**Sn**	**12 20 26.6**	**-0.2**
KRSR	**Krestovskiy**	**2.10**	**294**	*e*P	**Pn**	**12 20 01.2**	**-0.5**
KRSR				*e*S	**Sn**	**12 20 26.6**	**-0.2**
KMNR	**Kamenistaya**	**2.17**	**281**	PN	**Pn**	**12 20 03.2**	**+0.6**
KMNR	**Kamenistaya**	**2.17**	**281**	*e*P	**Pn**	**12 20 03.2**	**+0.6**
TUMR	**Tumrok**	**2.21**	**268**	PN	**Pn**	**12 20 04.3**	**+1.1**
TUMR	**Tumrok**	**2.21**	**268**	*e*P	**Pn**	**12 20 04.3**	**+1.1**
KPT	**Kopyto**	**2.21**	**286**	PN	**Pn**	**12 20 03.5**	**+0.3**
KPT	**Kopyto**	**2.21**	**286**	*i* P	**Pn**	**12 20 03.5**	**+0.3**
KOZ	**Kozyrevsk**	**2.42**	**287**	PN	**Pn**	**12 20 06.9**	**+0.8**
KOZ				S	**Sn**	**12 20 35.8**	**+1.1**
KOZ	**Kozyrevsk**	**2.42**	**287**	*i* P	**Pn**	**12 20 06.9**	**+0.8**
KOZ				*e*S	**Sn**	**12 20 35.8**	**+1.1**
ESO	**Esso**	**3.05**	**282**	PN	**Pn**	**12 20 14.8**	**+0.2**
ESO	**Esso**	**3.05**	**282**	*e*P	**Pn**	**12 20 14.8**	**+0.2**
SDLR	**Sedlovina**	**3.69**	**237**	PN	**Pn**	**12 20 23.4**	**-0.1**
SDLR				S	**Sn**	**12 21 04.1**	**-1.8**
SDLR	**Sedlovina**	**3.69**	**237**	*e*P	**Pn**	**12 20 23.4**	**-0.1**
SDLR				S	**Sn**	**12 21 04.1**	**-1.8**
KRER	**Koryakskii**	**3.73**	**238**	PN	**Pn**	**12 20 24.5**	**+0.3**
KRER				S	**Sn**	**12 21 05.6**	**-1.6**
KRER	**Koryakskii**	**3.73**	**238**	*e*P	**Pn**	**12 20 24.5**	**+0.3**
KRER				S	**Sn**	**12 21 05.6**	**-1.6**
SMAR	**Somma**	**3.73**	**237**	PN	**Pn**	**12 20 24.0**	**-0.3**
SMAR	**Somma**	**3.73**	**237**	*e*P	**Pn**	**12 20 24.0**	**-0.3**
KRX	**Arik**	**3.75**	**239**	PN	**Pn**	**12 20 25.1**	**+0.7**
KRX	**Arik**	**3.75**	**239**	*e*P	**Pn**	**12 20 25.1**	**+0.7**
UGLR	**Uglovaya**	**3.76**	**236**	PN	**Pn**	**12 20 24.5**	**0.0**
UGLR	**Uglovaya**	**3.76**	**236**	*e*P	**Pn**	**12 20 24.5**	**0.0**
AVH	**Avacha**	**3.76**	**237**	PN	**Pn**	**12 20 25.1**	**+0.6**
AVH	**Avacha**	**3.76**	**237**	*e*P	**Pn**	**12 20 25.1**	**+0.6**
DALK	**Dalny**	**3.90**	**234**	PN	**Pn**	**12 20 25.8**	**-0.5**
DALK	**Dalny**	**3.90**	**234**	*e*P	**Pn**	**12 20 25.8**	**-0.5**
DALK				*e*S	**Sn**	**12 21 08.3**	**-2.7**
GNL	**Ganaly**	**3.93**	**246**	PN	**Pn**	**12 20 27.5**	**+0.6**
GNL	**Ganaly**	**3.93**	**246**	*e*P	**Pn**	**12 20 27.5**	**+0.6**
PET	**Petropavlovsk**	**3.95**	**235**	*e*PN	**Pn**	**12 20 27.1**	**+0.1**
PET				pmax	pmax		
	comp=Z,15nm,0.5s						
PET	**Petropavlovsk**	**3.95**	**235**	*e*P	**Pn**	**12 20 27.8**	**+0.8**
PET				S	**Sn**	**12 21 10.3**	**-2.0**
KRMR	**Karymshinskiy**	**4.32**	**236**	PN	**Pn**	**12 20 33.5**	**+1.4**
KRMR	**Karymshinskiy**	**4.32**	**236**	P	**Pn**	**12 20 33.5**	**+1.4**
PETK	**Petropavlovsk-**	**4.36**	**241**	P	**Pn**	**12 20 34.2**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=69,slow=18,SNR=11						
PETK				S	**Sn**	**12 21 25.7**	**+3.2**
	comp=Z,0.7nm,0.3s,baz=74,slow=12,SNR=5.9						
RUS	**Russkaya**	**4.41**	**230**	PN	**Pn**	**12 20 32.7**	**-0.7**
RUS	**Russkaya**	**4.41**	**230**	*e*P	**Pn**	**12 20 32.7**	**-0.7**
RUS				S	**Sn**	**12 21 20.1**	**-3.6**
ASAK	**Asacha**	**4.72**	**232**	PN	**Pn**	**12 20 38.8**	**+1.1**
ASAK	**Asacha**	**4.72**	**232**	*e*P	**Pn**	**12 20 38.8**	**+1.1**
ASAJ	**Asahikawa**	**17.78**	**239**	P	**P**	**12 23 33.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=77,slow=13,SNR=4.1						
ILAR	**Eielson Array**	**25.55**	**49**	P	**P**	**12 24 53.7**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=261,slow=8.3,SNR=14						
MJAR	**Matsushiro Arr**	**25.79**	**234**	P	**P**	**12 24 57.0**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=208,slow=17,SNR=4.4						
MJAR				pP	**sP**	**12 25 10.1**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=19,slow=9.8,SNR=9.9						
DLBC	**Dease Lake**	**34.83**	**57**	P	**P**	**12 26 18.5**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=277,slow=8.1,SNR=3.8						
SONM	**Songino Array**	**35.62**	**282**	P	**P**	**12 26 22.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=60,slow=8.7,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**35.70**	**175**	T	T	13 04 34.5	
	baz=358,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**35.71**	**175**	T	T	13 04 32.5	
	baz=358						
H11N1	**WAKE ISLAND Hy**	**35.71**	**175**	T	T	13 04 32.5	
	baz=358						
SPITS	**Spitsbergen Ar**	**45.20**	**351**	pP	pP	12 27 54.3	+3.1
	comp=Z,3.9nm,0.7s,baz=76,slow=7.0,SNR=2.7						
KURK	**Kurchatov**	**48.45**	**302**	P	**P**	**12 28 07.0**	**-0.6**
KURK				*PP	**sP**	**12 28 20.6**	**0.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**48.55**	**302**	P	**P**	**12 28 07.0**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=51,slow=7.9,SNR=4.1						
KURBB				pP	**sP**	**12 28 20.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=55,slow=8.1,SNR=4.4						
MKAR	**Makanchi Array**	**49.20**	**296**	P	**P**	**12 28 12.2**	**-1.4**
	comp=Z,0.1nm,0.2s,baz=46,slow=4.2,SNR=2.6						
TXAR	**Lajitas Array**	**67.65**	**71**	P	**P**	**12 30 23.9**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=298,slow=5.5,SNR=4.2						
TXAR				pP	**sP**	**12 30 35.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=298,slow=5.1,SNR=11						
ASAR	**Alice Springs**	**82.86**	**208**	pP	pP	12 32 05.4	+5.9
	comp=Z,0.6nm,0.8s,baz=20,slow=5.9,SNR=4.2						
VAE	**Valguarnera**	**83.88**	**336**	P	**P**	**12 31 56.6**	**+1.5**
	comp=Z,4.9nm,0.3s,baz=23,slow=7.7,SNR=3.2						

MAN 11 12:21:18, 8.43N×124.61E, **h34**km, **mb4.4, ML3.2, MS3.1, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.09**	**73**	*i* P	Pb	12 21 25.6	+1.7
CGP				*i* S	Sb	12 21 29.2	+1.3
BUKP	**Musuan**	**0.71**	**140**	*e*P	Pb	12 21 32.6	+0.5
BUKP				*e*S	Sb	12 21 43.0	+1.4
DCPH	**Dipolog City**	**1.25**	**277**	*e*P	Pn	12 21 39.7	+0.6
IPIL	**Ipil**	**2.11**	**253**	*e*P	Pn	12 21 45.1	-5.9
IPIL				*e*S	Sb	12 22 20.9	-0.7

MEX 11 12:23:47.4±0.5, **16.08N**×**98.59W**, **h3**km, **MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.54**	**55**	*i* P	Pg	12 23 57.2	-0.7
PNIG				*i* S	Sg	12 24 05.5	+0.5
ACX	**Acapulco**	**1.45**	**303**	*e*P	Pg	12 24 19.1	+4.0
ACX				*e*S	Sb	12 24 33.3	-0.6
TLIG	**Tlapa**	**1.47**	**1**	*e*P	Pn	12 24 11.1	-3.9
TLIG				*i* S	Sb	12 24 29.9	-4.9
VHO	**Vista Hermosa**	**2.04**	**61**	*e*P	Pn	12 24 19.9	-3.0
VHO				*e*S	Sn	12 24 45.0	-3.9

IDC 11 12:30:24.4±2.8, **5.07S**×**151.05E**, **h202**km±26km, **mb3.4/7, mb1 3.6/9, mb1mx3.3/39, mbtmp4.0/9, Error ellipse: s-maj=25.4km s-min=17.7km az=116.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.79**	**222**	P	Pn	12 31 48.1	-0.8
	16nm,0.3s,baz=49,slow=6.7,SNR=39						
PMG				S	S	12 32 57.3	+1.7
	7.6nm,0.3s,baz=145,slow=23,SNR=7.4						
CTA	**Charters Tower**	**15.65**	**197**	P	Pn	12 33 55.9	+1.5
	0.3nm,0.3s,baz=23,slow=13,SNR=5.5						
WRA	**Warramunga Arr**	**21.98**	**226**	P	P	12 35 01.9	-0.6
	2.4nm,0.7s,baz=52,slow=9.8,SNR=32						
DZM	**Mont Dzumac**	**22.53**	**140**	P	P	12 35 07.2	-0.4
	2.2nm,0.5s,baz=308,slow=19,SNR=6.1						
ASAR	**Alice Springs**	**24.80**	**220**	P	P	12 35 28.3	+0.2
	1.3nm,0.8s,baz=53,slow=8.7,SNR=23						
STKA	**Stephens Creek**	**28.11**	**197**	P	P	12 35 57.6	0.0
	1.0nm,0.4s,baz=25,slow=14,SNR=5.6						
PETK	**Petropavlovsk-**	**58.23**	**5**	P	P	12 39 57.7	+0.3
	1.4nm,0.6s,baz=181,slow=5.8,SNR=3.4						
ILAR	**Eielson Array**	**83.06**	**22**	P	P	12 42 25.4	-1.6
	0.2nm,0.5s,baz=248,slow=5.3,SNR=5.3						
NVAR	**Mina Array Bea**	**93.61**	**52**	P	P	12 43 19.4	+1.1
	0.2nm,0.4s,baz=251,slow=5.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.73**	**287**	PKPbc	PKPbc	12 49 48.4	-0.5
	0.3nm,0.5s,baz=70,slow=4.6,SNR=4.7						

*ATH **11** 12:34:08.9, 37.99N×20.90E, h21km±2km, ML1.6/7, Error ellipse: s-maj=2.4km s-min=0.9km az=254.0*
*THE **11** 12:34:08.1, 37.96N×20.92E, h28km±2km, ML2.1/2, Error ellipse: s-maj=2.6km s-min=0.8km az=280.0*
*ISCJB **11** 12:34:09.5±0.5, 37.93N±0.02°×20.91E±0.03, h8km±3km, Error ellipse: s-maj=4.5km s-min=3.5km az=142.6*
*CSEM **11** 12:34:09.0±0.3, 37.91N×20.92E, h10km, ML2.1, Error ellipse: s-maj=5.9km s-min=4.9km az=55.0*

ISC 11 12:34:09.5±0.9, **37.93N**±0.02°×**20.92E**±0.02, **h18**km±2km, **n39**, σ**0.96**/73, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KFL	**Anninata**	**0.21**	**330**	P	**Pb**	**12 34 13.5**	**-0.8**
KFL				S	**Sb**	**12 34 17.8**	**+0.4**
KFL	**Anninata**	**0.21**	**330**	P	**Pb**	**12 34 13.7**	**-0.6**
KFL				S	**Sb**	**12 34 17.0**	**-0.4**
KFL	**Anninata**	**0.21**	**330**	P	**Pb**	**12 34 13.7**	**-0.6**
KFL				S	**Sb**	**12 34 16.9**	**-0.4**
VTN	**Vitineika**	**0.21**	**94**	P	**Pb**	**12 34 13.6**	**-0.8**
VTN				S	**Sg**	**12 34 19.2**	**+1.0**
VTN	**Vitineika**	**0.21**	**94**	P	**Pb**	**12 34 13.7**	**-0.8**
VTN				S	**Sg**	**12 34 19.2**	**+1.0**
ZKS	**Zakynthos**	**0.26**	**204**	P	**Pg**	**12 34 14.7**	**-0.7**
ZKS				S	**Sg**	**12 34 20.6**	**+1.1**
ZKS	**Zakynthos**	**0.26**	**204**	P	**Pg**	**12 34 14.7**	**-0.7**
ZKS				S	**Sg**	**12 34 20.5**	**+1.1**
ZKS	**Zakynthos**	**0.26**	**204**	P	**Pg**	**12 34 15.1**	**-0.4**
ZKS				S	**Sg**	**12 34 20.5**	**+1.1**
ZKS				AML	AML	12 34 26.5	
	comp=E,1092μm,0.3s						
ZKS				AML	AML	12 34 26.7	
	comp=N,1080μm,0.4s						
VLS	**Valsamata**	**0.36**	**314**	P	**Pg**	**12 34 15.7**	**-1.4**
VLS				S	**Sg**	**12 34 22.1**	**-0.2**
VLS	**Valsamata**	**0.36**	**314**	P	**Pg**	**12 34 15.9**	**-1.2**
VLS				S	**Sg**	**12 34 22.9**	**+0.6**
AXS	**Araxos**	**0.45**	**54**	P	**Pg**	**12 34 17.1**	**-1.6**
AXS				S	**Sg**	**12 34 24.3**	**-0.6**
AXS	**Araxos**	**0.45**	**54**	P	**Pg**	**12 34 16.8**	**-1.9**
AXS				S	**Sg**	**12 34 24.3**	**-0.6**
AXS	**Araxos**	**0.45**	**54**	P	**Pg**	**12 34 16.8**	**-1.9**
AXS				S	**Sg**	**12 34 17.4**	**-1.4**
RLS	**Riolos of Patr**	**0.45**	**73**	P	**Pg**	**12 34 17.4**	**-1.4**
RLS				S	**Sg**	**12 34 25.1**	**+0.1**
RLS	**Riolos of Patr**	**0.45**	**73**	S	**Sg**	**12 34 25.1**	**+0.1**
RLS				AML	AML	12 34 26.9	
	comp=E,137μm,0.3s						
RLS				AML	AML	12 34 27.2	
	comp=N,162μm,0.2s						
DRO	**Drossia**	**0.63**	**88**	P	**Pb**	**12 34 21.4**	**-0.5**
DRO				S	**Sn**	**12 34 32.8**	**-0.3**
DRO	**Drossia**	**0.63**	**88**	P	**Pb**	**12 34 21.4**	**-0.5**
DRO				S	**Sn**	**12 34 32.8**	**-0.3**
DRO				AML	AML	12 34 34.5	
	comp=E,279μm,0.3s						
DRO				AML	AML	12 34 37.5	
	comp=N,233μm,0.3s						
PDO	**Prodromos**	**0.70**	**17**	P	**Pb**	**12 34 22.4**	**-0.8**
PDO				S	**Sn**	**12 34 34.3**	**-0.5**
PDO	**Prodromos**	**0.70**	**17**	P	**Pb**	**12 34 22.4**	**-0.8**
PDO				S	**Sn**	**12 34 34.3**	**-0.5**
PDO				AML	AML	12 34 41.7	
	comp=E,124μm,0.3s						
PDO				AML	AML	12 34 43.3	
	comp=N,151μm,0.4s						
PVO	**Paravola**	**0.83**	**35**	P	**Pb**	**12 34 25.6**	**+0.1**
PVO				S	**Sn**	**12 34 38.1**	**-0.1**
PVO	**Paravola**	**0.83**	**35**	P	**Pb**	**12 34 25.6**	**+0.1**
PVO				S	**Sn**	**12 34 38.1**	**-0.1**
LKD2	**Lefkada island**	**0.88**	**347**	P	**Pb**	**12 34 25.0**	**-1.3**
LKD2				S	**Sg**	**12 34 39.3**	**+0.9**
LKD2	**Lefkada island**	**0.88**	**347**	P	**Pb**	**12 34 25.0**	**-1.3**
LKD2				S	**Sg**	**12 34 39.3**	**+0.9**
LAKA	**Lakka**	**0.89**	**69**	P	**Pb**	**12 34 25.4**	**-1.1**
LAKA				S	**Sg**	**12 34 39.5**	**+0.8**
LAKA	**Lakka**	**0.89**	**69**	P	**Pb**	**12 34 25.4**	**-1.1**
LAKA				S	**Sg**	**12 34 39.5**	**+0.8**
LAKA				AML	AML	12 34 42.2	
	comp=E,44μm,0.3s						
LAKA				AML	AML	12 34 43.1	
	comp=N,34μm,0.4s						
KLV	**Kalavryta, Ach**	**0.98**	**83**	P	**Pb**	**12 34 26.3**	**-1.7**
KLV				S	**Sn**	**12 34 42.2**	**+0.3**
KLV	**Kalavryta, Ach**	**0.98**	**83**	P	**Pb**	**12 34 26.3**	**-1.7**
KLV				S	**Sn**	**12 34 42.2**	**+0.3**
ANX	**Ano Chora**	**1.03**	**50**	P	**Pb**	**12 34 28.2**	**-0.7**
ANX				S	**Sb**	**12 34 42.3**	**+0.2**
ANX	**Ano Chora**	**1.03**	**50**	S	**Sb**	**12 34 42.3**	**+0.2**
ANX				AML	AML	12 34 53.2	
	comp=N,59μm,0.6s						
ANX				AML	AML	12 34 59.7	
	comp=E,61μm,0.6s						
KALE	**Kalithea**	**1.07**	**64**	P	**Pb**	**12 34 29.0**	**-0.5**
KALE				S	**Sg**	**12 34 46.5**	**+2.2**
KALE	**Kalithea**	**1.07**	**64**	P	**Pb**	**12 34 29.0**	**-0.5**
KALE				S	**Sg**	**12 34 46.5**	**+2.2**
ITM	**Ithomi**	**1.10**	**133**	P	**Pb**	**12 34 28.8**	**-1.1**
ITM				S	**Sg**	**12 34 45.8**	**+0.6**
ITM	**Ithomi**	**1.10**	**133**	P	**Pb**	**12 34 28.8**	**-1.1**
ITM				S	**Sg**	**12 34 45.8**	**+0.6**
ITM				AML	AML	12 34 49.3	
	comp=E,33μm,0.2s						
ITM				AML	AML	12 34 51.6	
	comp=N,29μm,0.2s						
DSL	**Palaion Diasel**	**1.21**	**7**	P	**Pg**	**12 34 34.5**	**+1.5**
DSL				S	**Sb**	**12 34 47.8**	**+0.6**
DSL	**Palaion Diasel**	**1.21**	**7**	P	**Pg**	**12 34 34.5**	**+1.5**
DSL				S	**Sb**	**12 34 47.8**	**+0.6**
PYL	**PYLOS**	**1.22**	**147**	P	**Pn**	**12 34 32.4**	**+0.7**
PYL				S	**Sb**	**12 34 48.1**	**+0.6**
PYL	**PYLOS**	**1.22**	**147**	P	**Pn**	**12 34 32.4**	**+0.7**
PYL				S	**Sb**	**12 34 48.1**	**+0.6**
AGG	**Agios Georgios**	**1.55**	**45**	P	**Pg**	**12 34 39.4**	**-0.1**
AGG	**Agios Georgios**	**1.55**	**45**	P	**Pg**	**12 34 39.4**	**-0.1**

*DDA **11** 12:36:46.6, 36.70N×28.75E, h7km, Md2.7*
*ISK **11** 12:36:46.9, 36.49N×28.66E, h29km, ML2.3*
*CSEM **11** 12:36:47.3±0.7, 36.55N×28.69E, h20km, ML2.3, Error ellipse: s-maj=17.2km s-min=7.9km az=16.0*
*ISCJB **11** 12:36:48.2±0.8, 36.62N±0.06°×28.76E±0.05, h47km±7km, Error ellipse: s-maj=10.2km s-min=5.4km az=25.8*

ISC 11 12:36:47.6±1.2, **36.57N**±0.05°×**28.73E**±0.03, **h29**km±13km, **n26**, σ**1.21**/42, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mu˘la**	**0.25**	**345**	*e*PG	**Pn**	**12 36 55.3**	**-0.1**
DALY				*e*SG	**Sn**	**12 37 01.5**	**+1.1**
DALY	**Dalyan (Mu˘la**	**0.25**	**345**	*e*Pg	**Pn**	**12 36 55.3**	**-0.1**
DALY				*e*Sg	**Sn**	**12 37 01.5**	**+1.1**
FETY	**Fethiye**	**0.29**	**77**	*e*PG	**Pn**	**12 36 55.9**	**0.0**
FETY				*e*SG	**Sn**	**12 37 02.1**	**+0.9**
FETY	**Fethiye**	**0.29**	**77**	*e*Pg	**Pn**	**12 36 55.9**	**0.0**
FETY				*e*Sg	**Sn**	**12 37 02.2**	**+0.9**
TURN	**Turunc**	**0.32**	**341**	*i* P	**Pn**	**12 36 58.0**	**+1.7**
TURN				*i* S	**Sn**	**12 37 06.3**	**+4.4**
YER	**Yerkesik**	**0.67**	**327**	*e*PG	**Pb**	**12 37 00.9**	**+0.1**
YER				*e*SG	**Sn**	**12 37 11.5**	**+0.8**
YER	**Yerkesik**	**0.67**	**327**	*e*Pg	**Pb**	**12 37 00.9**	**+0.1**
YER				*e*Sg	**Sn**	**12 37 11.5**	**+0.8**
AKAS	**Kas**	**0.78**	**115**	P	**Pb**	**12 37 02.5**	**-0.2**
AKAS	**Kas**	**0.78**	**115**	S	**Sn**	**12 37 14.5**	**+0.9**
AKAS	**Kas**	**0.78**	**115**	*i* P	**Pb**	**12 37 02.5**	**-0.2**
AKAS				*i* S	**Sn**	**12 37 14.5**	**+1.0**
GLHS	**Glhisar (BURDU**	**0.85**	**46**	*e*PG	**Pb**	**12 37 04.8**	**+1.0**
GLHS	**Glhisar (BURDU**	**0.85**	**46**	*e*Pg	**Pb**	**12 37 04.8**	**+1.0**
GOLH	**Golhisar**	**0.94**	**45**	P	**Pn**	**12 37 03.5**	**-1.5**
GOLH				S	**Sn**	**12 37 17.5**	**+0.1**
GOLH	**Golhisar**	**0.94**	**45**	*i* P	**Pn**	**12 37 03.5**	**-1.5**
GOLH				*i* S	**Sn**	**12 37 17.6**	**+0.1**
ELL	**Elmali**	**0.96**	**79**	*e*PG	**Pb**	**12 37 06.3**	**+0.6**
ELL	**Elmali**	**0.96**	**79**	*e*Pg	**Pb**	**12 37 06.3**	**+0.6**
DNZL	**Cakiroluk**	**1.14**	**13**	P	**Pn**	**12 37 06.3**	**-1.5**
DNZL				S	**Sn**	**12 37 20.1**	**-2.5**
DNZL	**Cakiroluk**	**1.14**	**13**	*i* P	**Pn**	**12 37 06.3**	**-1.5**
DNZL				*i* S	**Sn**	**12 37 20.1**	**-2.5**
BDRM	**Kayabasi**	**1.15**	**296**	P	**Pb**	**12 37 08.1**	**-0.7**
BDRM				S	**Sb**	**12 37 23.1**	**-0.2**
BDRM	**Kayabasi**	**1.15**	**296**	*i* P	**Pb**	**12 37 08.1**	**-0.7**
BDRM				*i* S	**Sb**	**12 37 23.1**	**-0.2**
BODT	**Bodrum**	**1.24**	**294**	*e*PN	**Pn**	**12 37 08.5**	**-0.5**
BODT	**Bodrum**	**1.24**	**294**	*e*Pn	**Pn**	**12 37 08.5**	**-0.5**
AYDN	**Tasoluk**	**1.28**	**328**	P	**Pn**	**12 37 10.1**	**+0.4**
AYDN				S	**Sn**	**12 37 25.5**	**-0.4**
AYDN	**Tasoluk**	**1.28**	**328**	*i* P	**Pn**	**12 37 10.1**	**+0.4**
AYDN				*i* S	**Sn**	**12 37 25.5**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**334**	*e*PN	**Pn**	**12 37 13.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**334**	*e*Pn	**Pn**	**12 37 13.0**	**-0.1**

*ISK **11** 12:53:46.9, 39.03N×29.16E, h15km, MD2.0*
*ISCJB **11** 12:53:47.5±0.5, 39.07N±0.04°×29.08E±0.04, h9km±6km, Error ellipse: s-maj=7.6km s-min=4.3km az=145.0*
*CSEM **11** 12:53:47.5±0.2, 39.07N×29.08E, h10km, MD2.0, Error ellipse: s-maj=5.3km s-min=3.2km az=137.0*
*DDA **11** 12:53:48.0, 39.09N×29.03E, h7km, Md2.6*

ISC 11 12:53:47.4±0.9, **39.06N**±0.03°×**29.10E**±0.03, **h9**km±10km, **n18**, σ**0.47**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.24**	**94**	*e*PG	**Pg**	**12 53 52.1**	**-0.2**
GEDZ				*e*SG	**Sg**	**12 53 55.2**	**-0.4**
GEDZ	**Gediz**	**0.24**	**94**	*e*Pg	**Pg**	**12 53 52.1**	**-0.2**
GEDZ				*e*Sg	**Sg**	**12 53 55.2**	**-0.4**
GDZ	**Gediz**	**0.30**	**85**	P	**Pb**	**12 53 55.0**	**0.0**
GDZ				S	**Sb**	**12 54 00.2**	**+0.1**
GDZ	**Gediz**	**0.30**	**85**	*i* P	**Pb**	**12 53 55.0**	**0.0**
GDZ				*i* S	**Sb**	**12 54 00.2**	**+0.1**
DEMI	**Demirci**	**0.30**	**267**	P	**Pg**	**12 53 53.4**	**+0.1**
DEMI				S	**Sg**	**12 53

DOL				S	Sn	13 20 32.2	+0.4	
PLK4	Peulik 4	2.20	32	P	Pn	13 20 12.1	+1.4	
PLK4				S	Sn	13 20 38.1	+1.2	
DTNA	Dutton South F	2.21	255	P	Pn	13 20 10.7	0.0	
DT1	Dutton Round H	2.24	254	P	Pn	13 20 11.0	0.0	
PLK3	Peulik 3	2.28	32	P	Pn	13 20 13.1	+1.4	
PLK1	Peulik 1	2.28	27	P	Pn	13 20 12.7	+1.1	
BALA	Baldy Mountain	2.49	258	P	Pn	13 20 16.2	+1.7	
CAHL	Cahill	2.88	37	P	Pn	13 20 20.6	+0.8	
KABR	Katmai Barrier	3.06	38	P	Pn	13 20 23.0	+0.8	
KELA	Mount Kelaz	3.06	29	P	Pn	13 20 23.0	+0.7	
KVTA	Katmai Vly 10	3.14	33	P	Pn	13 20 24.5	+1.1	
KAKN	Katmai Knife C	3.15	36	P	Pn	13 20 24.9	+1.3	
OHAK	Old Harbor	3.25	62	ePn	Pn	13 20 23.7	-1.1	
OHAK				eSn	Sn	13 21 01.3	-0.8	
KAWH	Katmai	3.31	37	P	Pn	13 20 26.1	+0.4	
SSLW	Shishaldin Wes	3.35	255	P	Pn	13 20 26.7	+0.4	
KAHC	Katmai Hardscr	3.45	32	P	Pn	13 20 28.6	+0.9	
KDAK	Kodiak Island	3.84	56	ePn	Pn	13 20 32.4	-0.4	
KDAK				eSn	Sn	13 21 15.8	-0.8	
FOPK	Fourpeaked Vol	4.05	41	P	Pn	13 20 36.4	+0.6	
CDD	Cape Douglas	4.12	38	P	Pn	13 20 37.7	+1.0	
AHB	Akutan Harbor	4.52	251	P	Pn	13 20 43.5	+1.3	
UNV	Unalaska Valle	5.00	250	P	Pn	13 20 48.1	-0.6	
CNPM	China Poot	5.42	43	P	Pn	13 20 54.5	0.0	
RDWB	Redoubt West	5.59	30	P	Pn	13 20 57.9	+1.0	
SEW	Seward	6.49	44	ePn	Pn	13 21 09.1	+0.1	
	4.9nm,0.5s							
PMR	Palmer	7.60	36	ePn	Pn	13 21 24.5	+0.2	
	3.6nm,0.7s							
PPLA	Purkeypile	7.83	22	ePn	Pn	13 21 30.1	+2.6	
	11nm,0.4s							
KTH	Kantishna Hill	8.68	23	ePn	Pn	13 21 40.0	+0.9	
	12nm,0.3s							
TRF	Thorofare Moun	8.74	25	ePn	Pn	13 21 41.0	+1.0	
	8.7nm,0.5s							
BPAW	Bear Paw Mtn.	9.15	21	ePn	Pn	13 21 44.5	-0.9	
	0.7nm,0.6s							
PAX	Paxson	9.80	37	ePn	Pn	13 21 52.8	-1.6	
	7.7nm,0.9s							
ILAR	Eielson Array	10.68	28	P	Pn	13 22 03.7	-2.6	
	0.4nm,0.3s,baz=216,slow=13,SNR=27							
ILAR				S	Sn	13 24 01.5	-2.6	
	0.2nm,0.3s,baz=222,slow=21,SNR=5.3							
DOT	Dot Lake	10.72	37	ePn	Pn	13 22 08.0	+1.1	
	3.7nm,0.4s							
INK	Inuvik	16.99	33	P	Pn	13 23 25.8	-3.5	
	0.4nm,0.3s,baz=216,slow=15,SNR=10							
INK				S	S	13 26 40.8	-2.8	
	0.1nm,0.3s,baz=40,slow=32,SNR=3.1							
PETK	Petropavlovsk-	25.27	282	LR	LR	13 35 14.3		
	comp=Z,15nm,20.7s,baz=105,slow=37							
NVAR	Mina Array Bea	31.85	106	P	P	13 25 57.1	+2.0	
	0.5nm,0.6s,baz=312,slow=9.2,SNR=4.7							
TIXI	Tiksi	33.25	327	P	P	13 26 06.1	-0.6	
	1.3nm,0.3s,baz=92,slow=8.9,SNR=4.5							
PDAR	Pinedale Array	33.77	92	P	P	13 26 13.3	+1.4	
	0.4nm,0.6s,baz=302,slow=10,SNR=3.4							
TXAR	Lajitas Array	46.69	101	P	P	13 27 59.8	+1.3	
	0.2nm,0.4s,baz=307,slow=6.3,SNR=4.2							
SONM	Songino Array	54.81	305	P	P	13 28 59.8	+0.4	
	2.4nm,0.6s,baz=42,slow=6.7,SNR=14							
ARCES	ARCESS Array B	54.95	358	P	P	13 28 59.2	-0.6	
	2.4nm,0.8s,baz=22,slow=6.9,SNR=5.4							
ZALV	Zalesovo Beam	58.94	322	P	P	13 29 29.3	+1.0	
	0.4nm,0.4s,baz=19,slow=6.3,SNR=3.7							
FINES	FINESS Array B	63.05	358	P	P	13 29 55.4	-0.6	
	1.3nm,0.5s,baz=11,slow=9.4,SNR=18							
NB2	NORSAR Subarra	63.23	6	P	P	13 29 46.9	-10	
	comp=Z,0.9nm,0.6s,baz=355,slow=6.9							
NOA	NORSAR Array B	63.23	6	P	P	13 29 56.7	-0.6	
	comp=Z,1.0nm,0.7s,baz=353,slow=6.7,SNR=5.1							
BVAR	Borovoye Array	64.31	330	P	P	13 30 04.6	+0.2	
	comp=Z,1.4nm,0.6s,baz=39,slow=7.6,SNR=10							
MKAR	Makanchi Array	65.76	319	P	P	13 30 13.4	-0.6	
	comp=Z,0.6nm,0.5s,baz=37,slow=4.8,SNR=7.5							
AKASG	Malin Array Be	73.68	355	P	P	13 31 02.1	-0.4	
	comp=Z,1.4nm,0.4s,baz=7.8,slow=5.7,SNR=8.4							
GERES	GERESS Array B	75.53	5	P	P	13 31 14.1	+0.7	
	comp=Z,0.4nm,0.6s,baz=10,slow=6.0,SNR=3.4							
CMAR	Chiang Mai Arr	81.75	291	P	P	13 31 48.0	+0.1	
	comp=Z,0.5nm,0.4s,baz=9.5,slow=6.0,SNR=4.1							
BRTR	Keskin Array B	84.29	351	P	P	13 32 01.8	+0.9	
	comp=Z,0.8nm,0.8s,baz=5.3,slow=3.9,SNR=3.3							
CTA	Charters Tower	88.79	231	LR	LR	14 04 56.6		
	comp=Z,118nm,21.8s,baz=82,slow=31							

*IDC **11** 13:27:21.8±0.7, 16°.34S×173°.39W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.2/26, mbtmp4.2/12, MS3.2/4, Ms1 3.3/4, ms1mx3.1/35, Error ellipse: s-maj=30.8km s-min=16.0km az=137.0*
*NEIC **11** 13:27:22.6±0.6, 16°.34S×173°.22W, h10km, mb4.2/2, Error ellipse: s-maj=22.9km s-min=10.8km az=136.0*
*ISCJB **11** 13:27:24.6±0.6, 16°.3S±0°.1×173°.4W±0°.1, h32km, mb4.1/13, MS3.6/2, Error ellipse: s-maj=20.6km s-min=10.3km az=138.6*

ISC 11 13:27:25.9±0.7, 16°.2S±0°.1×173°.2W±0°.1, h32km, n57, σ1s26/51, mb4.1/13, 7C-11D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.68	32	Pn	Pn	13 28 05.3	-1.7
	19nm,0.3s,baz=198,slow=3.7,SNR=37						
AFI				Sn	Sn	13 28 34.9	-3.6
	48nm,0.3s,baz=31,slow=21,SNR=11						
AFI				LR	LR	13 29 20.4	
	comp=Z,209nm,21.9s,baz=304,slow=41						
MSVF	Nonsavu	8.48	258	ePn	Pn	13 29 28.4	+1.7
	37nm,1.0s						
RAR	Rarotonga	13.68	113	LR	LR	13 34 59.9	
	comp=Z,79nm,20.4s,baz=290,slow=33						
DZM	Mont Dzumac	20.06	250	eP	P	13 31 54.8	-2.0
	17nm,0.8s						
URZ	Urewera	23.55	199	P	P	13 32 32.2	-1.3
	7.7nm,0.7s,baz=8.1,slow=3.0,SNR=4.7						
ODZ	Otahua Downs	31.79	202	eP	P	13 33 45.4	-2.0
CTA	Charters Tower	38.63	258	P	P	13 34 46.0	-0.6
	4.8nm,1.0s,baz=98,slow=11						
H11S2	WAKE ISLAND Hy	39.75	329	T	T	14 17 05.5	
	baz=148,slow=74,SNR=6.5						
H11S3	WAKE ISLAND Hy	39.76	329	T	T	14 16 59.9	
	baz=148,slow=74,SNR=3.2						
H11S1	WAKE ISLAND Hy	39.76	329	T	T	14 17 08.0	
	baz=148						
H11N3	WAKE ISLAND Hy	40.70	331	T	T	14 18 40.9	
	baz=150,slow=76,SNR=4.7						
H11N1	WAKE ISLAND Hy	40.72	331	T	T	14 18 34.1	
	baz=150,slow=76,SNR=4.6						
H11N2	WAKE ISLAND Hy	40.72	331	T	T	14 18 40.0	
	baz=150,slow=76,SNR=4.1						
STKA	Stephens Creek	43.78	241	P	P	13 35 27.6	-1.3
	2.8nm,0.8s,baz=67,slow=11,SNR=8.3						
WRAB	Tennant Creek	49.82	257	eP	P	13 36 15.3	-1.0
	1.0nm,0.7s						
WRA	Warramunga Arr	49.83	257	P	P	13 36 14.5	-1.9
	0.8nm,0.4s,baz=96,slow=7.9,SNR=34						
ASAR	Alice Springs	50.02	253	P	P	13 36 16.2	-1.6
	7.7nm,0.6s,baz=89,slow=8.1,SNR=146						
MJAR	Matsushiro Arr	69.67	320	P	P	13 38 33.7	+1.1
	0.8nm,0.7s,baz=128,slow=7.9,SNR=3.6						
PETK	Petropavlovsk-	73.45	342	P	P	13 38 57.0	+2.0
	5.6nm,0.7s,baz=114,slow=8.9,SNR=7.1						
NVAR	Mina Array Bea	74.82	42	P	P	13 39 05.7	+2.1
	1.3nm,0.8s,baz=233,slow=10,SNR=8.6						
NVAR				LR	LR	14 05 03.9	
	comp=Z,29nm,18.7s,baz=238,slow=30						
TXAR	Lajitas Array	80.92	56	P	P	13 39 39.5	+1.9
	0.3nm,0.8s,baz=219,slow=7.0,SNR=3.1						
PDAR	Pinedale Array	82.76	42	P	P	13 39 48.5	+1.4
	1.6nm,0.7s,baz=219,slow=3.8,SNR=13						
PDAR				LR	LR	14 11 06.8	
	comp=Z,26nm,20.3s,baz=268,slow=32						
ILAR	Eielson Array	83.21	11	P	P	13 39 49.4	+0.7
	0.8nm,0.7s,baz=230,slow=6.2,SNR=15						
MAW	Mawson	87.08	199	P	P	13 40 08.9	+0.8
	1.4nm,0.6s,baz=107,slow=20,SNR=3.1						
MKAR	Makanchi Array	111.52	314	PKiKP	PKiKP	13 45 57.0	-0.2
	0.2nm,0.6s,baz=280,slow=0.4,SNR=2.9						
AKASG	Malin Array Be	141.15	337	PKhKP	PKPpre	13 46 51.4	
	0.2nm,0.3s,baz=54,slow=3.1,SNR=5.2						
KWP	Kalwaria Pacla	144.25	342	↑/ iP	PKPab	13 46 55.3	-1.2
DPC	Dobruska-Polom	145.09	349	ePKP	PKPdf	13 47 01.2	+1.0
DPC				ex	x	13 47 14.8	
BURAR	Bucovina Array	145.18	338	↓/ iP	PKPdf	13 46 59.9	-0.6
OKC	Ostrava-Krasne	145.22	347	ePKP	PKPdf	13 47 01.4	+1.1
OKC				ex	x	13 47 14.9	
KMBO	Kilima Mbogo	145.33	243	PKPbc	PKPdf	13 47 02.8	+0.8
	1.1nm,0.2s,baz=331,slow=2.6,SNR=5.9						
MORC	Moravsky Berou	145.40	348	↑/ iP	PKPab	13 47 01.3	+0.5
TESR	Tescani	145.56	335	↑/ iP	PKPab	13 47 02.1	+0.7
TLCR		145.69	332	↓/ iP	PKPab	13 47 03.0	+1.1
PRU	Pruhonice	145.73	351	ePKP	PKPab	13 47 03.2	+1.3
PRU				ex	x	13 47 13.7	
GOPC	GO Pecny, Ondr	145.76	351	ePKP	PKPab	13 47 03.2	+1.1
GOPC				epPKP	pPKPdf	13 47 12.7	+0.8
GOPC				ex	x	13 47 16.7	
CFR	Carcaliu	146.00	333	↓/ iP	PKPab	13 47 03.7	+0.6
VRI	Vrincioaia	146.05	335	↓/ iP	PKPab	13 47 04.2	+0.9
PLOR	Plostina	146.09	335	↑/ iP	PKPab	13 47 03.8	+0.3
DOPR	Dopca	146.50	336	↓/ iP	PKPab	13 47 06.0	+0.9
PSZ	Piszkesteto	146.59	344	↓/ iP	PKPab	13 47 05.3	-0.1
MLR	Muntele Rosu	146.68	335	↑/ iP	PKPab	13 47 06.7	+0.8
KHC	Kasperske Hory	146.71	352	ePKP	PKPab	13 47 06.2	+0.4
KHC				ex	x	13 47 16.8	
KHC				ex	x	13 47 19.4	
ISR	Istrita	146.73	334	↑/ iP	PKPab	13 47 06.4	+0.4
DRGR		146.76	340	↓/ iP	PKPab	13 47 05.9	-0.2
BRTR	Keskin Array B	146.89	320	PKPbc	PKPab	13 47 06.8	-0.1
	5.1nm,0.8s,baz=100,slow=2.5,SNR=26						
GERES	GERESS Array B	146.97	352	PKPbc	PKPab	13 47 06.5	-0.3
	1.7nm,0.6s,baz=29,slow=3.0,SNR=17						
VOIR		147.07	336	↓/ iP	PKPab	13 47 07.8	+0.4
ARR	Arges	147.29	336	↓/ iP	PKPab	13 47 08.9	+0.7
CONA	Conrad Observa	147.50	349	/ iPKPab	PKPab	13 47 08.7	-0.3
	4.2nm,0.7s						
SIRR	Siria	147.56	341	↑/ iP	PKPab	13 47 08.3	-0.9
BZS	Buzias	148.15	340	↓/ iP	PKPab	13 47 10.1	-1.4
BANR	Banloc	148.52	340	↓/ iP	PKPab	13 47 13.0	0.0
MOTA	Moosalm	148.75	354	/ iPKiKP	PKiKP	13 47 11.2	-0.6
	4.2nm,1.0s						
DAVA	Damuels	148.91	356	/ iPKiKP	PKPab	13 47 12.8	-1.9
	3.8nm,0.7s						
FETA	Feichten	149.11	355	/ iPKiKP	PKiKP	13 47 12.2	-0.4
	3.1nm,1.0s						
ABTA	Abfaltersbach	149.18	352	/ sPKPdf	PKPbc	13 47 11.7	+0.3
	2.9nm,0.6s						

WEL 11 13:34:27.8±0.4, 39°.21S×174°.81E, h222km±3km, ML3.6/11, 2C-10D, Error ellipse: s-maj=2.8km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKVZ	Pokaka	0.42	102	PN	Pn	13 34 57.0	-0.3
MTVZ	Mangateitei	0.54	110	PN	Pn	13 34 57.5	-0.2
WAZ	Wanganui	0.56	166	PN	Pn	13 34 58.0	+0.3
FWVZ	Far West T-bar	0.58	95	↓PN	Pn	13 34 57.7	-0.4
TRVZ	Turoa	0.58	100	PN	Pn	13 34 57.7	-0.3
WTVZ	West Tongariro	0.61	82	PN	Pn	13 34 57.6	-0.4
NGZ	Ngauruhoe	0.61	87	↓PN	Pn	13 34 57.7	-0.4
WNVZ	Wahianoa	0.62	102	PN	Pn	13 34 57.9	-0.3
TUVZ	Tukino	0.66	96	PN	Pn	13 34 58.1	-0.1
MOVZ	Moawhango	0.76	106	PN	Pn	13 34 58.1	-0.5
BHHZ	Black Hill Sta	1.01	107	PN	Pn	13 34 59.6	-0.4
TSZ	Takapari Road	1.23	134	↓PN	Pn	13 35 01.7	+0.3
TSZ				AML	AML	13 35 01.9	
TSZ				SN	S	13 35 27.1	-0.5
KWHZ	Kaweka Forest	1.27	100	PN	Pn	13 35 01.9	+0.1
KRHZ	Kereru	1.28	110	PN	Pn	13 35 01.8	0.0
PNHZ	Pukenui	1.28	124	↓PN	Pn	13 35 02.0	+0.1
MRHZ	Matea Rd	1.30	74	↓PN	Pn	13 35 00.7	-1.3
BKZ	Black Stump Fm	1.31	89	↓PN	Pn	13 35 01.3	-0.7
BKZ				SN	S	13 35 26.3	-2.3
POWZ	Post Office Ro	1.40	148	PN	Pn	13 35 02.6	0.0
MCHZ	McNeill Hill	1.48	100	PN	Pn	13 35 03.8	+0.5
MCHZ				SN	S	13 35 31.3	+0.4
DVHZ	Dannevirke	1.51	137	PN	Pn	13 35 03.6	0.0
WPHZ	Waipukurau	1.52	125	PN	Pn	13 35 03.9	+0.3
NMHZ	Naumai	1.55	87	↓PN	Pn	13 35 04.2	+0.2
MRZ	Mangatainoka R	1.57	158	↓PN	Pn	13 35 03.8	-0.2
OGWZ	Otaki Gorge	1.63	170	PN	Pn	13 35 04.7	+0.1
OGWZ				SN	S	13 35 32.4	-0.8
KIW	Kapiti Island	1.66	177	PN	Pn	13 35 04.6	-0.1
ARHZ	Aropaoanui	1.70	93	PN	Pn	13 35 05.2	0.0
KAHZ	Kahuranaki	1.70	111	PN	Pn	13 35 05.7	+0.5
DUWZ	D'Urville Isla	1.73	203	PN	Pn	13 35 05.1	-0.4
PRHZ	Porangahau	1.76	128	PN	Pn	13 35 05.9	+0.2
TIWZ	Tintock	1.77	153	PN	Pn	13 35 05.7	-0.2
HOWZ	Holdsworth Sta	1.77	163	PN	Pn	13 35 05.5	-0.3
PXZ	Pawanui	1.79	118	↓PN	Pn	13 35 06.1	+0.2
ANWZ	Angora Road	1.79	135	PN	Pn	13 35 06.3	+0.3
RTZ	Ruatahuna	1.79	71	↓PN	Pn	13 35 04.8	-1.3
RAHZ	Arahi	1.79	81	PN	Pn	13 35 05.7	-0.4
CKHZ	Cape Kidnapper	1.81	105	PN	Pn	13 35 06.6	+0.4
BFZ	Birch Farm	1.84	144	PN	Pn	13 35 06.3	-0.2
BFZ				AML	AML	13 36 03.4	
CAW	Cannon Point	1.91	174	PN	Pn	13 35 06.8	-0.2
CAW				AML	AML	13 35 38.6	
CAW				AML	AML	13 35 38.7	
SNGZ	Shannon Statio	2.01	79	PN	Pn	13 35 07.3	-0.8
MTW	Mount Morrison	2.02	165	PN	Pn	13 35 07.7	-0.5
URZ	Urewera	2.03	63	↑PN	Pn	13 35 06.3	-2.0
TCW	Tory Channel	2.04	191	PN	Pn	13 35 08.2	-0.2
TCW				AML	AML	13 35 41.0	
TMWZ	Te Maipa	2.07	157	PN	Pn	13 35 08.4	-0.3
WEL	Wellington	2.08	181	PN	Pn	13 35 08.4	-0.3
PAWZ	Paruwai Farm	2.22	168	PN	Pn	13 35 09.8	-0.5
KNZ	Kokohu	2.23	86	↑PN	Pn	13 35 09.6	-0.7
MSWZ	Moikau Station	2.23	172	PN	Pn	13 35 09.7	-0.5
NNZ	Nelson	2.29	208	PN	Pn	13 35 09.9	-0.9
TUWZ	Tuamarina	2.32	196	PN	Pn	13 35 10.7	-0.4
RIGZ	Rimuhau	2.35	79	PN	Pn	13 35 10.7	-0.9
PLWZ	Palliser	2.38	172	PN	Pn	13 35 11.3	-0.6
QRZ	Quartz Range	2.39	227	PN	Pn	13 35 10.1	-1.7
MHGZ	Mahia Peninsul	2.41	90	PN	Pn	13 35 11.7	-0.4
TKGZ	Te Karaka	2.49	73	PN	Pn	13 35 11.8	-1.2
BSWZ	Blackbirch Sta	2.61	196	PN	Pn	13 35 13.8	-0.4

IDC 11 13:35:40.9±14.0, 17°.35S×169°.04E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/25, mbtmp3.9/5, ML4.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/25, Error ellipse: s-maj=229.8km s-min=58.5km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	5.30	207	eLR	LR	13 37 36.6	
	280nm,25.6s						
DZM	Mont Dzumac	5.30	207	Pn	Pn	13 37 00.4	-1.0
	9.3nm,0.3s,baz=346,slow=7.9,SNR=104						
RAO	Raoul Island	16.83	137	LR	LR	13 44 10.7	
	comp=Z,59nm,21.0s,baz=78,slow=30						
CTA	Charters Tower	21.75	259	P	P	13 40 34.3	+0.1
	3.7nm,0.9s,baz=71,slow=15,SNR=2.6						
STKA	Stephens Creek	28.74	235	P	P	13 41 41.3	+1.1
	0.9nm,0.5s,baz=78,slow=9.7,SNR=4.1						
WRA	Warramunga Arr	32.95	260	P	P	13 42 16.9	-0.6
	0.5nm,0.7s,baz=89,slow=7.7,SNR=9.1						
ASAR	Alice Springs	33.44	253	P	P	13 42 21.8	-0.1
	0.7nm,0.4s,baz=81,slow=8.5,SNR=15						

*ISCJB **11** 13:35:52.9±0.4, 49°.88N±0°.04×18°.37E±0°.03, h0km, Error ellipse: s-maj=5.3km s-min=2.4km az=12.1*
*IPEC **11** 13:35:53.5±0.2, 49°.84N×18°.55E, h2km..3km, ML1.7/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
*CSEM **11** 13:35:54.0±0.2, 49°.87N×18°.41E, h2km, ML2.7/9, Error ellipse: s-maj=6.6km s-min=2.9km az=10.0*
*PRU **11** 13:35:55.1, 49°.86N×18°.41E, h0km*

ISC 11 13:35:53.8±0.8, 49°.86N±0°.03×18°.48E±0°.02, h0km, n32, σ0s79/60, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	Ostrava-Krasne	0.22	264	ePG	Pg	13 35 59.1	+1.2
OKC				eSG	Sg	13 36 02.5	+1.8
	87nm,0.4s						
OKC	Ostrava-Krasne	0.22	264	Pg	Pg	13 35 59.1	+1.2
MORC	Moravsky Berou	0.61	262	ePg	Pg	13 36 05.7	+0.2
	baz=84						
MORC				eSg	Sg	13 36 14.1	+0.7
	17nm,0.3s,baz=84						
OJC	Ojcow	0.92	67	ePg	Pg	13 36 11.6	+0.2
OJC				eSg	Sb	13 36 24.6	-0.9
OJC	Ojcow	0.92	67	ePg	Pg	13 36 11.6	+0.2
OJC				eSg	Sb	13 36 24.6	-0.9
LANS	Liptovska Anna	0.96	137	ePg	Pb	13 36 13.1	-0.2
LANS				eSg	Sb	13 36 27.3	+0.7
LANS	Liptovska Anna	0.96	137	ePG	Pb	13 36 13.1	-0.2
LANS				eSG	Sb	13 36 27.3	+0.7
NIE	Niedzica	1.26	110	ePg	Pn	13 36 18.7	0.0
NIE				eSg	Sn	13 36 37.7	+1.3
NIE	Niedzica	1.26	110	ePg	Pn	13 36 18.7	0.0
NIE				eSg	Sn	13 36 37.7	+1.3
VRAC	Vranov	1.35	246	ePg	Pg	13 36 19.2	-0.4
	baz=67						
VRAC				eSg	Sg	13 36 36.5	-0.5
	12nm,0.3s,baz=67						
VYHS	Vyhne	1.39	170	ePn	Pg	13 36 20.2	-0.2
VYHS				eSn	Sn	13 36 39.2	-0.3
VYHS	Vyhne	1.39	170	ePN	Pg	13 36 20.2	-0.2
VYHS				eSN	Sn	13 36 39.2	-0.3
VYHS				eLG	Lg	13 36 41.2	
DPC	Dobruska-Polom	1.47	290	ePG	Pn	13 36 21.4	-0.2
DPC				eSG	Sb	13 36 41.5	+0.2
	5.4nm,0.3s						
DPC	Dobruska-Polom	1.47	290	Pg	Pn	13 36 21.4	-0.2
DPC				Sg	Sb	13 36 41.5	+0.2
	5.4nm,0.3s						
KRUC	Moravsky	1.58	240	ePg	Pn	13 36 22.7	-0.3
	baz=60						
KRUC				eSg	Sn	13 36 43.9	-0.2
	7.0nm,0.3s,baz=60						
UPC	Upice	1.71	293	ePG	Pb	13 36 25.7	-0.4
UPC				eSG	Sb	13 36 48.5	+0.3
	3.5nm,0.2s						
UPC	Upice	1.71	293	Pg	Pb	13 36 25.7	-0.4
UPC				Sg	Sb	13 36 48.5	+0.3
	3.5nm,0.2s						
STHS	Stebnicka Huta	1.85	103	ePn	Pg	13 36 29.6	+0.4
STHS	Stebnicka Huta	1.85	103	ePN	Pg	13 36 29.6	+0.4
STHS				eLG	Lg	13 36 59.3	
KECS	Kecovo	1.91	136	eSn	Sb	13 36 53.8	0.0
KECS	Kecovo	1.91	136	eSN	Sb	13 36 53.8	0.0
KECS				eLG	Lg	13 36 59.8	
GOPC	GO Pecny, Ondr	2.39	273	ePN	Pn	13 36 33.8	-0.4
GOPC				ePG	Pb	13 36 36.6	-1.0
GOPC				eSG	Sb	13 37 07.9	+0.3
GOPC	GO Pecny, Ondr	2.39	273	Pn	Pn	13 36 33.8	-0.4
GOPC	GO Pecny, Ondr	2.39	273	Pg	Pb	13 36 36.6	-1.0
GOPC				Sg	Sb	13 37 07.9	+0.3
PRU	Pruhonice	2.55	274	ePG	Pb	13 36 41.2	+0.9
PRU				eSG	Sb	13 37 13.6	+1.4
	2.3nm,0.2s						
PRU	Pruhonice	2.55	274	Pg	Pb	13 36 41.2	+0.9
PRU				Sg	Sb	13 37 13.6	+1.4
	2.3nm,0.2s						
PVCC	Panska Ves	2.60	286	ePG	Pg	13 36 43.6	0.0
PVCC				eSG	Sg	13 37 17.5	+0.2
	8.1nm,0.2s						
PVCC	Panska Ves	2.60	286	Pg	Pg	13 36 43.6	0.0
PVCC				Sg	Sg	13 37 17.5	+0.2
	8.1nm,0.2s						
KHC	Kasperske Hory	3.28	259	ePN	Pn	13 36 46.3	-0.1
KHC				ePG	Pb	13 36 53.5	+0.7
KHC				eSN	Sn	13 37 24.2	-1.9
KHC				eSG	Sg	13 37 37.4	-1.6
	2.4nm,0.3s						
KHC	Kasperske Hory	3.28	259	Pn	Pn	13 36 46.3	-0.1
KHC				Sn	Sn	13 37 24.2	-1.9
KHC				Sg	Sg	13 37 37.4	-1.6
	2.4nm,0.3s						
NKC	Novy Kostel	3.91	278	eSG	Sg	13 37 59.4	+0.2
	3.2nm,0.4s						
NKC	Novy Kostel	3.91	278	Sg	Sg	13 37 59.4	+0.2
	3.2nm,0.4s						

*IDC **11** 13:50:49.2±0.7, 7°.69S×118°.95E, h0km, mb4.1/9, mb1 4.3/12, mb1mx3.9/42, mbtmp4.1/12, ML4.0/3, Error ellipse: s-maj=32.5km s-min=13.3km az=77.0*
*NEIC **11** 13:50:50.5±0.5, 7°.78S×118°.90E, h10km, mb4.0/2, Error ellipse: s-maj=11.4km s-min=7.7km az=64.0*
*ISCJB **11** 13:50:51.9±0.3, 7°.81S±0°.03×

*BJI **11** 14:02:40.8, 38°.27N×144°.76E, h33km, mb4.6/59, mB4.8/34, Ms4.2/50, Ms7 4.0/45*
*MOS **11** 14:02:42.0±1.1, 38°.29N×144°.62E, h33km, mb4.7/44, Error ellipse: s-maj=7.7km s-min=5.1km az=107.2*
*NEIC **11** 14:02:42.5±0.2, 37°.99N×144°.63E, h35km, mb4.7/56, Error ellipse: s-maj=6.5km s-min=4.0km az=162.0*

ISC 11 14:02:40.6±0.6, 38°.08N±0°.04×144°.76E±0°.04, h20km±2km, n277, σ2°02/314, mb4.6/96, MS3.6/19, 10C-13D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.62**	**293**	P		**Pn**		**14 03 20.2**	**-1.6**
OFUJ				eS		**Sn**		**14 03 49.5**	**-3.5**
JIO	**Ouri**	**2.71**	**279**	P		**Pn**		**14 03 21.1**	**-1.9**
JIO				S		**Sn**		**14 03 50.9**	**-4.3**
MIYJ	**Miyakonagasawa**	**2.74**	**304**	P		**Pn**		**14 03 22.0**	**-1.4**
MIYJ				eS		**Sn**		**14 03 52.6**	**-3.3**
JMK	**Ichinoseki**	**2.91**	**288**	P		**Pn**		**14 03 24.3**	**-1.4**
JMK				eS		**Sn**		**14 03 56.8**	**-3.3**
JOM	**Ohasama**	**3.05**	**298**	P		**Pn**		**14 03 26.5**	**-1.1**
JOM				eS		**Sn**		**14 04 00.8**	**-2.7**
JANG	**Nango**	**3.40**	**313**	P		**Pn**		**14 03 31.3**	**-1.3**
JANG				eS		**Sn**		**14 04 08.9**	**-3.4**
JFT	**Otama**	**3.55**	**262**	P		**Pn**		**14 03 32.9**	**-1.7**
JFT				S		**Sn**		**14 04 11.6**	**-4.4**
JYK	**Kaneyama**	**3.55**	**285**	P		**Pn**		**14 03 33.5**	**-1.1**
JYK				eS		**Sn**		**14 04 12.8**	**-3.2**
ERM	**Erimo**	**4.12**	**343**	*d* iP		**Pn**		**14 03 42.3**	**0.0**
ERM				pmax	pmax				
	comp=Z,140nm,0.5s								
ERM	**Erimo**	**4.12**	**343**	*e*Pn		**Pn**		**14 03 41.6**	**-0.7**
ERM				eSn		**Sn**		**14 04 24.8**	**-5.1**
JOT	**Ohata**	**4.36**	**320**	P		**Pn**		**14 03 44.7**	**-1.0**
JOT				eS		**Sn**		**14 04 31.9**	**-4.1**
BSO1	**Boso 1**	**4.59**	**223**	P		**Pn**		**14 03 44.9**	**-3.4**
JCH	**Churui**	**4.65**	**347**	P		**Pn**		**14 03 48.3**	**-1.4**
JCH				eS		**Sn**		**14 04 39.8**	**-3.3**
JKB	**Kayabe**	**4.76**	**324**	P		**Pn**		**14 03 50.0**	**-1.1**
JKB				eS		**Sn**		**14 04 40.9**	**-4.8**
JRY	**Ryogami san**	**5.12**	**248**	P		**Pn**		**14 03 53.6**	**-2.6**
JRY				eS		**Sn**		**14 04 47.1**	**-7.6**
NEM2	**Nemuro 2**	**5.33**	**8**	P		**Pn**		**14 03 56.3**	**-2.7**
NEM2				eS		**Sn**		**14 04 54.0**	**-5.7**
JOD2	**Odawara 2**	**5.36**	**240**	P		**Pn**		**14 03 56.6**	**-2.8**
JOD2				S		**Sn**		**14 04 52.4**	**-8.2**
MJAR	**Matsushiro Arr**	**5.44**	**256**	Pn		**Pn**		**14 03 59.5**	**-1.1**
	comp=Z,28nm,0.3s,baz=83,slow=14,SNR=213								
MJAR				Sn		**Sn**		**14 04 59.6**	**-3.1**
	comp=Z,25nm,0.3s,baz=89,slow=27,SNR=12								
MAJO	**Matsushiro**	**5.45**	**256**	*d* iP		**Pn**		**14 03 59.9**	**-0.7**
MAJO	**Matsushiro**	**5.45**	**256**	*e*Pn		**Pn**		**14 03 59.9**	**-0.7**
MAJO				eSn		**Sn**		**14 05 00.8**	**-1.9**
MAT	**Matsushiro**	**5.45**	**256**	P		**Pn**		**14 03 59.8**	**-0.8**
MAT				S		**Sn**		**14 04 59.4**	**-3.3**
MJB9	**Matsu-Tunnel**	**5.45**	**256**	*e*Pn		**Pn**		**14 04 00.2**	**-0.5**
JOSM	**Okushiri--Mats**	**5.69**	**316**	P		**Pn**		**14 04 03.2**	**-0.7**
JOSM				eS		**Sn**		**14 05 04.2**	**-4.5**
JTKR	**Abashiri--Toko**	**5.92**	**354**	P		**Pn**		**14 04 05.8**	**-1.2**
JTKR				eS		**Sn**		**14 05 09.8**	**-4.4**
YUK	**Yuzh-Kuril'sk**	**6.00**	**8**	*e*P		**Pn**		**14 04 05.7**	**-2.5**
JHR	**Hokuryu**	**6.10**	**339**	P		**Pn**		**14 04 10.5**	**+0.9**
JHR				eS		**Sn**		**14 05 17.3**	**-1.6**
ASAJ	**Asahikawa**	**6.25**	**346**	Pn		**Sn**		**14 04 11.6**	**0.0**
ASAJ				Sn		**Sn**		**14 05 19.8**	**-2.6**
	comp=Z,5.8nm,0.3s,baz=66,slow=21,SNR=7.3								
ASAJ	**Asahikawa**	**6.25**	**346**	*e*Pn		**Pn**		**14 04 10.8**	**-0.8**
ASAJ				eSn		**Sn**		**14 05 19.2**	**-3.1**
JHJ2	**Mitsune**	**6.39**	**221**	P		Pn		14 04 08.8	-4.8
JHJ2				eS		Sn		14 05 15.6	-10
JHJ	**Hachijo jima 2**	**6.40**	**221**	Pn		Pn		14 04 08.5	-5.3
	comp=Z,153nm,0.3s,baz=192,slow=22,SNR=13								
JHJ				Sn		Sn		14 05 15.2	-11
	comp=Z,116nm,0.3s,baz=104,slow=22,SNR=8.0								
JHJ				LR		LR		14 06 34.8	
	comp=Z,150nm,21.9s,baz=36,slow=38								
INU	**Inuyama**	**6.79**	**249**	*e*Pn		**Pn**		**14 04 18.1**	**-1.0**
JIE	**Ise**	**7.48**	**243**	P		**Pn**		**14 04 26.7**	**-1.8**
JIE				eS		**Sn**		**14 05 48.4**	**-4.3**
KUR	**Kuril'sk**	**7.51**	**17**	⇑ *i*P		**Pn**		**14 04 26.6**	**-2.3**
KUR				eS		**Sn**		**14 05 46.1**	**-7.4**
KUR				pmax	pmax				
	comp=Z,64nm,0.6s								
KUR				pmax	pmax				
	comp=N,212nm,0.3s								
KUR				pmax	pmax				
	comp=E,44nm,0.3s								
KUR				smax	smax				
	comp=N,101nm,0.2s								
KUR				smax	smax				
	comp=E,73nm,0.2s								
JWK2	**Keihoku**	**7.54**	**344**	P		**Pn**		**14 04 30.4**	**+1.1**
YSS	**Yuzh-Sakhalins**	**8.99**	**351**	⇓ *e*P		**Pn**		**14 04 48.0**	**-1.2**
YSS				eS		**Sn**		**14 06 31.2**	**+1.4**
YSS				pmax	pmax				
	comp=Z,20nm,0.3s								
YSS				MLR	MLR				
	comp=Z,400nm,19.0s								
YSS				MLR	MLR				
	comp=N,200nm,14.0s								
YSS				MLR	MLR				
	comp=E,400nm,14.0s								
YSS	**Yuzh-Sakhalins**	**8.99**	**351**	*e*Pn		**Pn**		**14 04 47.9**	**-1.2**
VLA	**Vladivostok**	**11.00**	**301**	*c* iP		**Pn**		**14 05 17.3**	**+0.5**
CBIJ	**Chichi jima**	**11.17**	**192**	Pn		Pn		14 05 12.0	-7.2
CBIJ				Sn		Sn		14 07 07.0	-16
JCJ	**Chichijima**	**11.17**	**192**	Pn		Pn		14 05 12.0	-7.2
	comp=E,11nm,0.3s,baz=94,slow=21,SNR=14								
JCJ				Sn		Sn		14 07 07.0	-16
	comp=E,18nm,0.3s,baz=291,slow=22,SNR=8.5								
MSHR	**Mys Shultsa**	**11.31**	**298**	*c*eP		**Pn**		**14 05 22.0**	**+1.0**
USRK	**Ussuriysk Ar.**	**11.40**	**306**	Pn		**Pn**		**14 05 22.4**	**+0.2**
	comp=E,2.3nm,0.3s,baz=115,slow=14,SNR=37								
USRK				LR		LR		14 09 25.8	
	comp=E,341nm,18.2s,baz=115,slow=36								
JNU	**Nakatsue**	**12.33**	**251**	Pn		**Pn**		**14 05 34.7**	**-0.4**
	comp=E,0.5nm,0.3s,baz=47,slow=6.6,SNR=4.4								
JNU				LR		LR		14 10 39.0	
	comp=E,357nm,19.2s,baz=122,slow=39								
JNU	**Nakatsue**	**12.33**	**251**	*e*Pn		**Pn**		**14 05 35.1**	**+0.1**
HABR	**Khabarovsk**	**12.55**	**329**	*e*P		**Pn**		**14 05 34.6**	**-3.3**
HABR				eS		**Sn**		**14 07 51.4**	**-5.7**
HABR				pmax	pmax				
	comp=N,18nm,1.1s								
HABR				pmax	pmax				
	comp=E,22nm,1.1s								
HABR				pmax	pmax				
	comp=Z,47nm,1.1s								
HABR				MLR	MLR				
	comp=Z,178nm,16.0s								
TYV	**Tymovskoe**	**12.87**	**354**	*e*P		**Pn**		**14 05 42.0**	**-0.2**
TYV				pmax	pmax				
	comp=Z,9.0nm,0.8s								
TYV				MLR	MLR				
	comp=E,1μm,16.0s								
TYV				MLR	MLR				
	comp=Z,500nm,15.0s								
MDJ	**Mudanjiang**	**13.12**	**305**	P		**Pn**		**14 05 45.6**	**-0.2**
MDJ				S		**Sn**		**14 08 11.9**	**+0.8**
MDJ				PcP		**PcP**		**14 11 17.5**	**+0.6**
MDJ				ScP		**ScP**		**14 14 48.4**	**-0.6**
MDJ				PcS		**PcS**		**14 14 51.9**	**+0.7**
MDJ				ScS		**ScS**		**14 18 25.0**	**-0.4**
MDJ				PMZ					
	comp=Z,49nm,1.2s								
MDJ				PMZ					
	comp=Z,82nm,5.3s								
MDJ				LN					
	comp=Z,140nm,17.5s								
MDJ				LE					
	comp=Z,280nm,13.3s								
MDJ				LZ					
	comp=Z,420nm,13.8s								
MDJ	**Mudanjiang**	**13.12**	**305**	*e*Pn		**Pn**		**14 05 44.4**	**-1.3**
	comp=Z,77nm,1.2s								
KSRS	**Korea Array**	**13.34**	**272**	Pn		**Pn**		**14 05 48.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=85,slow=13,SNR=28								
KS01	**Wonju Array Si**	**13.36**	**273**	*e*Pn		**Pn**		**14 05 49.0**	**0.0**
KS15	**Wonju Array Si**	**13.37**	**272**	*e*Pn		**Pn**		**14 05 50.2**	**+1.0**
KSAR	**Wonju Array Be**	**13.37**	**272**	P		**Pn**		**14 05 48.7**	**-0.5**
KSAR	**Wonju Array Be**	**13.37**	**272**	Pn		**Pn**		**14 05 48.7**	**-0.5**
TJN	**Taejon**	**13.97**	**268**	⇑ *e*P		**Pn**		**14 05 58.9**	**+1.6**
KLR	**Kul'dur**	**14.56**	**324**	Pn		**Pn**		**14 06 04.8**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=139,slow=12,SNR=12								
KLR				LR		LR		14 11 44.8	
	comp=Z,196nm,20.7s,baz=139,slow=37								
CN2	**Changchun**	**15.66**	**297**	*e*P		**P**		**14 06 24.0**	**0.0**
CN2				PMZ					
	comp=Z,10.0nm,0.6s								
PETK	**Petropavlovsk-**	**17.50**	**27**	LR		LR		14 14 59.3	
	comp=Z,128nm,18.0s,baz=217,slow=42								
PET	**Petropavlovsk**	**17.78**	**28**	*e*P		**Pn**		**14 06 44.8**	**-1.9**
PET				pmax	pmax				
	comp=Z,13nm,1.1s								
DL2	**Dalian**	**18.12**	**280**	P		**Pn**		**14 06 49.8**	**-1.2**
DL2				*e*S		**Sn**		**14 10 10.4**	**-2.3**
DL2				PMZ					
	comp=Z,43nm,0.9s								
DL2				PMZ					
	comp=Z,150nm,4.8s								
DL2				LN					
	comp=Z,320nm,15.9s								
DL2				LE					
	comp=Z,290nm,14.0s								
DL2				LZ					
	comp=Z,410nm,14.4s								
HIA	**Hailar**	**21.17**	**310**	*e*P		**P**		**14 07 21.9**	**-2.6**
HIA				pmax	pmax				
	comp=Z,4.0nm,0.3s								
HIA	**Hailar**	**21.17**	**310**	*e*P		**P**		**14 07 21.9**	**-2.6**
	comp=Z,3.9nm,0.3s								
MA2	**Magadan**	**21.85**	**8**	LR		LR		14 17 05.1	
	comp=Z,65nm,18.5s,baz=234,slow=39								
NJ2	**Nanjing**	**22.01**	**262**	*e*P		**P**		**14 07 34.6**	**+1.1**
NJ2				PMZ					
	comp=Z,17nm,0.8s								
BJI	**Beijing**	**22.25**	**284**	P		**P**		**14 07 35.7**	**-0.4**
BJI				pP		**sP**		**14 07 43.3**	**-0.9**
BJI				S		**S**		**14 11 37.9**	**-2.0**
BJI				sS		**sS**		**14 11 46.2**	**-2.9**
BJI				PMZ					
	comp=Z,7.0nm,1.1s								
BJI				PMZ					
	comp=Z,170nm,4.1s								
BJI				LN					
	comp=Z,140nm,10.6s								
BJI				LE					
	comp=Z,340nm,14.8s								
BJI				LZ					
	comp=Z,150nm,25.9s								
SEY	**Seymchan**	**25.31**	**8**	P		**P**		**14 08 07.0**	**+1.4**
	comp=Z,7.6nm,0.8s,baz=184,slow=6.1,SNR=13								
SEY	**Seymchan**	**25.31**	**8**	⇓ *e*P		**P**		**14 08 06.7**	**+1.1**
HHC	**Hu-ho-hao-te**	**25.69**	**287**	*e*P		**P**		**14 08 10.7**	**+1.3**
HHC				sP		sP		14 08 24.0	+6.2
HHC				S		**S**		**14 12 35.6**	**-1.5**
HHC				sS		sS		14 12 44.6	-2.4
HHC				PMZ					
	comp=Z,24nm,1.1s								
HHC				PMZ					
	comp=Z,140nm,5.2s								
HHC				LN					
	comp=Z,150nm,13.3s								
HHC				LE					
	comp=Z,380nm,14.1s								
YAK	**Yakutsk**	**25.72**	**344**	LR		LR		14 19 31.0	
	comp=Z,103nm,18.9s,baz=158,slow=39								
YAK	**Yakutsk**	**25.72**	**344**	*e*P		**P**		**14 08 10.1**	**+0.8**
YAK				*e*PPP		PPP		14 08 50.9	
YAK				*e*S		**S**		**14 12 39.2**	**+2.3**
YAK				*e*SS		**SnSn**		**14 13 34.6**	**+2.5**
YAK				*e*SSS		SSS		14 13 54.1	
YAK				pmax	pmax				
	comp=N,9.0nm,1.4s								
YAK				pmax	pmax				
	comp=E,6.0nm,1.3s								
YAK				pmax	pmax				
	comp=Z,20nm,1.1s								
YAK				pmax	pmax				
	comp=Z,101nm,2.9s								
YAK				pmax	pmax				
	comp=N,48nm,2.2s								
YAK				pmax	pmax				
	comp=E,30nm,2.8s								
YAK				smax	smax				
	comp=N,174nm,2.3s								
YAK				smax	smax				
	comp=E,75nm,2.3s								
YAK				MLR	MLR				
	comp=Z,202nm,19.0s								
WHN	**Wuhan**	**26.14**	**262**	⇓ P		**P**		**14 08 13.4**	**0.0**
WHN				LN					
	comp=Z,700nm,10.1s								
WHN				LE					
	comp=Z,690nm,15.0s								
WHN				LZ					
	comp=Z,980nm,17.0s								
H11N2	**WAKE ISLAND Hy**	**26.53**	**127**	T		T		14 35 18.3	
	baz=318,slow=75,SNR=36								
H11N1	**WAKE ISLAND Hy**	**26.54**	**127**	T		T		14 35 18.8	
	baz=318,slow=75,SNR=30								
H11N3	**WAKE ISLAND Hy**	**26.55**	**127**	T		T		14 35 26.9	
	baz=318,slow=75,SNR=38								
H11S1	**WAKE ISLAND Hy**	**27.33**	**129**	T		T		14 36 17.0	
	baz=319,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**27.33**	**129**	T		T		14 36 27.3	
	baz=319,slow=76,SNR=5.8								
H11S2	**WAKE ISLAND Hy**	**27.34**	**129**	T		T		14 36 23.6	
	baz=319,slow=76,SNR=9.3								
ULN	**Ulaanbaatar**	**29.02**	**302**	⇑ *e*P		**P**		**14 08 40.0**	**+0.8**
ULN				pmax	pmax				
	comp=Z,10.0nm,1.7s								
ULN	**Ulaanbaatar**	**29.02**	**302**	*e*P		P		14 08 45.3	+6.1
	comp=Z,7.4nm,1.1s								
XAN	**Xi'an**	**29.14**	**273**	P		**P**		**14 08 44.3**	**+4.0**
XAN				pP		sP		14 08 54.6	+5.8
XAN				PP		**PnPn**		**14 09 39.2**	**+6.3**
XAN				S		**S**		**14 13 34.2**	**+2.8**
XAN				SS		**SnSn**		**14 15 04.1**	**+8.0**
XAN				PMZ					
	comp=Z,16nm,1.2s								
XAN				PMZ					
	comp=Z,87nm,6.5s								
XAN				LN					
	comp=Z,280nm,15.9s								
XAN				LE					
	comp=Z,140nm,17.0s								
XAN				LZ					
	comp=Z,220nm,14.9s								
SONA1	**Songino Array**	**29.45**	**302**	*e*P		**P**		**14 08 43.9**	**+0.8**
SONM	**Songino Array**	**29.45**	**302**	P		**P**		**14 08 44.3**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=91,slow=8.1,SNR=5.3								
SONM				LR		LR		14 20 37.2	
	comp=Z,110nm,19.8s,baz=80,slow=37								
ENH	**Enshi**	**30.07**	**266**	P		**P**		**14 08 45.7**	**-2.8**
	comp=Z,6.5nm,0.6s								
ZAK	**Zakamensk**	**31.75**	**306**	*e*P		**P**		**14 09 01.3**	**-2.0**
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.3s								
BILL	**Bilibino**	**32.30**	**15**	⇑ *e*P		**P**		**14 09 07.3**	**-0.5**
BILL				*e*				14 10 11.4	
BILL				*e*S		S		14 14 10.7	-9.4
BILL				pmax	pmax				
	comp=Z,8.0nm,1.5s								
BILL				MLR	MLR				
	comp=Z,102nm,17.0s								
LZH	**Lanzhou**	**32.52**	**279**	*e*P		**P**		**14 09 14.7**	**+4.4**
LZH				pP		sP		14 09 22.9	+4.2
LZH				sP		pP		14 09 26.7	+10
LZH				PMZ					
	comp=Z,30nm,1.2s								
LZH				PMZ					
	comp=Z,91nm,4.5s								
LZH				LN					
	comp=Z,130nm,10.2s								
LZH				LE					
	comp=Z,230nm,14.8s								
LZH				LZ					
	comp=Z,250nm,16.1s								
CD2	**Chengdu**	**34.33**	**271**	*e*P		**P**		**14 09 24.9**	**-1.0**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
TIXI	**Tiksi**	**34.61**	**351**	P		**P**		**14 09 26.9**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=166,slow=7.4,SNR=2.8								
GAOT	**Gaotai**	**34.81**	**287**	P		**P**		**14 09 31.0**	**+0.9**
GTA				pP		sP		14 09 42.2	+3.6
GTA				sP		pP		14 09 47.8	+12
GTA				S		**S**		**14 14 59.5**	**-0.4**
GTA				sS		sS		14 15 19.1	+9.3
GTA				SS		**SnSn**		**14 17 15.9**	**+2.1**
GTA				PMZ					
	comp=Z,6.0nm,1.2s								
GTA				PMZ					
	comp=Z,79nm,5.1s								
GTA				LN					
	comp=Z,130nm,16.6s								
GTA				LE					
	comp=Z,300nm,17.6s								
GTA				LZ					
	comp=Z,360nm,16.2s								
QIZ	**Qiongzhong**	**35.79**	**248**	P		**P**		**14 09 38.6**	**+0.1**
QIZ				S		**S**		**14 15 14.3**	**-0.6**
QIZ				LN					
	comp=Z,230nm,22.8s								
QIZ				LE					
	comp=Z,190nm,21.7s								
QIZ				LZ					
	comp=Z,180nm,15.9s								
KMI	**Kunming**	**37.74**	**262**	P		**P**		**14 09 55.2**	**-0.2**
KMI				pP		sP		14 10 05.7	+1.7
KMI				sP		pP		14 10 10.7	+9.2
KMI				S		**S**		**14 15 41.8**	**-3.4**
KMI				sS		ScP		14 16 00.6	+2.0
KMI				PMZ					
	comp=Z,9.0nm,0.9s								
KMI				PMZ					
	comp=Z,54nm,3.6s								
KMI				LN					
	comp=Z,230nm,19.1s								
KMI				LE					
	comp=Z,89nm,22.7s								
KMI				LZ					
	comp=Z,210nm,25.1s								
WMQ	**Urumqi**	**42.75**	**296**	P		**P**		**14 10 37.8**	**+1.3**
WMQ				pP		sP		14 10 48.8	+3.7
WMQ				sP		pP		14 10 52.4	+10
WMQ				PMZ					
	comp=Z,7.0nm,1.2s								
WMQ				PMZ					
	comp=Z,69nm,4.8s								
WMQ				LN					
	comp=Z,76nm,12.2s								
WMQ				LE					
	comp=Z,52nm,12.8s								
WMQ				LZ					
	comp=Z,38nm,20.8s								
ZAA0	**Zalesovo Array**	**43.19**	**312**	*e*P		**P**		**14 10 40.2**	**+0.3**
ZALV	**Zalesovo Beam**	**43.19**	**312**	P		**P**		**14 10 40.1**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=91,slow=7.2,SNR=9.1								
ZALV				PcP		**PcP**		**14 12 28.5**	**-0.5**
	comp=Z,4.1nm,0.5s,baz=97,slow=2.9,SNR=8.5								
ZALV				LR		LR		14 29 24.5	
	comp=Z,138nm,18.1s,baz=70,slow=37								
NRIK	**Noril'sk**	**43.45**	**334**	P		**P**		**14 10 42.2**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=95,slow=9.9,SNR=2.4								
NRIK				LR		LR		14 30 02.5	
	comp=Z,104nm,18.5s,baz=107,slow=38								
CMAR	**Chiang Mai Arr**	**44.33**	**257**	P		**P**		**14 10 49.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=42,slow=7.2,SNR=5.6								
KDAK	**Kodiak Island**	**44.53**	**43**	*i* P		**P**		**14 10 50.5**	**-0.1**
PPLA	**Purkeypile**	**44.78**	**35**	*e*P		**P**		**14 10 54.3**	**+1.6**
	comp=Z,10nm,1.1s								
KTH	**Kantishna Hill**	**45.38**	**35**	*e*P		**P**		**14 10 58.7**	**+1.3**
	comp=Z,19nm,1.4s								
SUA	**Susitna One**	**45.42**	**37**	*e*P		**P**		**14 11 01.4**	**+3.7**
	comp=Z,7.0nm,0.8s								
MLY	**Manley**	**45.54**	**32**	*e*P		**P**		**14 11 00.0**	**+1.4**
MK01	**Makanchi Array**	**45.82**	**302**	*e*P		**P**		**14 11 00.7**	**-0.3**
MK31	**Makanchi Array**	**45.82**	**302**	*e*P		**P**		**14 11 01.4**	**+0.3**
MK31	**Makanchi Array**	**45.82**	**302**	*e*P		**P**		**14 11 01.4**	**+0.3**
MKAR	**Makanchi Array**	**45.82**	**302**	P		**P**		**14 11 00.7**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=84,slow=9.6,SNR=36								
MKAR				LR		LR		14 30 44.9	
	comp=Z,73nm,19.3s,baz=72,slow=37								
MKAR	**Makanchi Array**	**45.82**	**302**	*e*P		**P**		**14 11 01.4**	**+0.3**
MAKZ	**Makanchi**	**46.03**	**302**	*e*P		**P**		**14 11 02.9**	**+0.2**
MAKZ				pmax	pmax				
	comp=Z,8.0nm,0.9s								
MAKZ	**Makanchi**	**46.03**	**302**	*e*P		**P**		**14 11 02.9**	**+0.2**
	comp=Z,7.6nm,0.9s								
SEW	**Seward**	**46.08**	**39**	*e*P		**P**		**14 11 07.2**	**+4.4**
	comp=Z,14nm,1.1s								
PMR	**Palmer**	**46.19**	**37**	*e*P		**P**		**14 11 03.8**	**+0.1**
PMR				pmax	pmax				
	comp=Z,17nm,1.1s								
PMR	**Palmer**	**46.19**	**37**	*e*P		**P**		**14 11 03.8**	**+0.1**
	comp=Z,17nm,1.1s								
RND	**Reindeer**	**46.31**	**35**	*e*P		**P**		**14 11 04.9**	**+0.2**
RND				pmax	pmax				
	comp=Z,11nm,1.2s								
RND	**Reindeer**	**46.31**	**35**	*e*P		**P**		**14 11 04.9**	**+0.2**
	comp=Z,11nm,1.2s								
SML	**Sawmill**	**46.56**	**37**	*e*P		**P**		**14 11 10.8**	**+4.1**
SML				pmax	pmax				
	comp=Z,14nm,0.9s								
SML	**Sawmill**	**46.56**	**37**	*e*P		**P**		**14 11 10.8**	**+4.1**
	comp=Z,14nm,0.9s								
MDM	**Murphy Dome**	**46.61**	**33**	*e*P		**P**		**14 11 07.9**	**+1.0**
	comp=Z,10nm,1.1s								
WRH	**Wood River Hil**	**46.66**	**33**	*e*P		**P**		**14 11 08.0**	**+0.7**
	comp=Z,2.7nm,1.0s								
SCM	**Sheep Creek Mo**	**47.04**	**37**	*e*P		**P**		**14 11 10.4**	**-0.1**
SCM				pmax	pmax				
	comp=Z,17nm,1.1s								
SCM	**Sheep Creek Mo**	**47.04**	**37**	*e*P		**P**		**14 11 10.4**	**-0.1**
	comp=Z,17nm,1.1s								
IL1	**Eielson Array**	**47.18**	**33**	*e*P		**P**		**14 11 10.9**	**-0.5**
ILAR	**Eielson Array**	**47.18**	**33**	P		**P**		**14 11 10.7**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=259,slow=6.8,SNR=26								
ILB	**Eielson Array**	**47.18**	**33**	*e*P		**P**		**14 11 11.4**	**+0.1**
KURK	**Kurchatov**	**47.39**	**308**	*e*P		**P**		**14 11 12.4**	**-0.8**
KURK	**Kurchatov**	**47.39**	**308**	*e*P		**P**		**14 11 12.4**	**-0.8**
	comp=Z,114nm,0.6s								
KLU	**Klutina**	**47.73**	**37**	*e*P		**P**		**14 11 16.8**	**+1.0**
	comp=Z,13nm,1.0s								
DIV	**Divide**	**47.83**	**38**	*e*P		**P**

KSH LE
comp=Z,130nm,5.4s
ZRNK Zerenda 52.66 312 *e*P **P** **14 11 53.8 +0.6**
ZRNK pmax pmax
comp=Z,14nm,1.1s
ZRNK Zerenda 52.66 312 *e*P **P** **14 11 53.8 +0.6**
comp=Z,14nm,1.1s
SVE Sverdlovsk 56.12 319⇓*i*P **P** **14 12 19.0 +0.7**
SVE pmax pmax
comp=Z,17nm,1.0s
DLBC Dease Lake 56.15 39 P **P** **14 12 19.9 +1.3**
comp=Z,1.9nm,0.9s,baz=267,slow=4.0,SNR=3.7
DLBC Dease Lake 56.15 39 *e*P **P** **14 12 20.4 +1.8**
comp=Z,12nm,1.5s
GSI Gunungsitoli 56.63 241 *e*P **P** **14 12 23.5 +1.1**
comp=Z,18nm,1.1s
ARU Arti 57.33 319*d i*P **P** **14 12 26.7 -0.2**
ARU 14 14 30.0
ARU S **S** **14 20 22.3 +0.3**
ARU SS **SS** **14 24 08.5 -2.4**
ARU pmax pmax
comp=Z,26nm,1.7s
ARU Arti 57.33 319 *e*P **P** **14 12 26.6 -0.3**
comp=Z,14nm,1.0s
WRAB Tennant Creek 58.53 191*de*P **P** **14 12 32.6 -3.1**
WRAB pmax pmax
comp=Z,60nm,2.5s
WRAB Tennant Creek 58.53 191 *e*P **P** **14 12 32.6 -3.1**
comp=Z,11nm,0.8s
WB2 Warramunga Arr 58.54 191 *e*P **P** **14 12 31.9 -3.9**
comp=Z,10nm,0.8s
WRA Warramunga Arr 58.54 192 P **P** **14 12 32.7 -3.0**
comp=Z,6.6nm,0.5s,baz=8.4,slow=6.9,SNR=69
ABKAR Akbulak array 59.29 311 *e*P **P** **14 12 40.1 -0.6**
YKA Yellowknife Ar 61.55 31 P **P** **14 12 55.9 0.0**
comp=Z,0.7nm,0.7s,baz=289,slow=6.1,SNR=3.9
AS01 Alice Springs 62.25 191 *e*P **P** **14 12 58.2 -2.8**
AS31 Alice Springs 62.26 191 *e*P **P** **14 12 58.7 -2.4**
comp=Z,1.4nm,0.6s
ASAR Alice Springs 62.26 191 P **P** **14 12 58.3 -2.8**
comp=Z,2.8nm,0.8s,baz=16,slow=8.7,SNR=30
ARCES ARCESS Array B 63.94 340 LR LR 14 46 02.9
comp=Z,45nm,18.8s,baz=57,slow=41
KLMR Klimovskoe 64.28 328 *e*P **P** **14 13 10.6 -3.4**
KLMR *e**PP **pP** **14 13 20.8 +0.4**
KLMR pmax pmax
comp=Z,4.0nm,0.8s
GEYT Alibeck 65.64 300 P **P** **14 13 22.6 -0.7**
comp=Z,3.2nm,0.7s,baz=37,slow=3.7,SNR=5.9
GEYT LR LR 14 43 44.4
comp=Z,42nm,18.4s,baz=85,slow=38
K05A Summer Lake 68.21 52 *e*P **P** **14 13 42.5 +2.6**
comp=Z,19nm,1.6s
OBN Obninsk 68.83 324⇓*e*P **P** **14 13 43.0 -0.2**
OBN *e* 14 16 14.3
OBN *e*PPP PPP 14 17 52.9
OBN pmax pmax
comp=Z,4.0nm,0.4s
OBN MLR MLR
comp=Z,123nm,16.0s
FIA1 FINESS Array S 69.10 333 *e*P **P** **14 13 44.3 -0.5**
FINES FINESS Array B 69.10 333 P **P** **14 13 44.7 -0.1**
comp=Z,4.7nm,0.7s,baz=54,slow=9.7,SNR=18
FINES LR LR 14 47 09.1
comp=Z,175nm,18.3s,baz=36,slow=39
SUMG Summit 69.61 1 *e*P **P** **14 13 48.9 +0.6**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 69.61 1 *e*P **P** **14 13 48.9 +0.6**
comp=Z,5.8nm,0.8s
STKA Stephens Creek 69.66 183 P **P** **14 13 46.8 -1.8**
comp=Z,1.8nm,0.8s,baz=336,slow=5.5,SNR=6.0
LRM Limekiln Ridge 71.52 46 *e*P **P** **14 14 00.8 +0.5**
BOZ Bozeman (W) 72.09 46 *e*P **P** **14 14 04.3 +0.7**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 72.09 46 *e*P **P** **14 14 04.3 +0.7**
comp=Z,2.7nm,0.9s
KIV Kislovodsk 72.20 312*c i*P **P** **14 14 05.1 +0.9**
KIV *e* 14 16 41.2
KIV *e*SSS SSS 14 31 12.7
KIV pmax pmax
comp=Z,25nm,1.0s
KIV Kislovodsk 72.20 312 *e*P **P** **14 14 05.8 +1.7**
comp=Z,18nm,0.8s
KBZ Khabaz 72.21 312 P **P** **14 14 05.0 +1.0**
comp=Z,7.5nm,0.9s,baz=66,slow=2.7,SNR=15
NV01 Mina Array Sit 72.22 55 *e*P **P** **14 14 04.9 +0.3**
NVAR Mina Array Bea 72.22 55 P **P** **14 14 05.2 +0.7**
comp=Z,2.0nm,1.0s,baz=292,slow=6.5,SNR=7.9
NVAR LR LR 14 41 02.5
comp=Z,24nm,21.7s,baz=288,slow=32
NEY Neytrino 72.60 312⇑*e*P **P** **14 14 07.9 +1.2**
NEY pmax pmax
comp=Z,1.0nm,0.8s
YFT Old Faithful 73.26 46 *e*P **P** **14 14 11.9 +1.2**
comp=Z,6.0nm,1.1s
H17A Grant Village 73.44 46 *e*P **P** **14 14 14.2 +2.4**
comp=Z,7.3nm,1.0s
IMW Indian Meadow 73.53 47 *e*P **P** **14 14 13.8 +1.5**
comp=Z,5.0nm,0.9s
MOOW Moose Ponds 73.73 47 *e*P **P** **14 14 14.7 +1.2**
comp=Z,3.4nm,1.0s
TPAW Teton Pass 73.77 47 *e*P **P** **14 14 15.0 +1.3**
comp=Z,7.5nm,1.1s
REDW Red Top Meadow 73.90 47 *e*P **P** **14 14 15.6 +1.1**
comp=Z,6.4nm,1.1s
R11A Troy Canyon, C 74.01 54 *e*P **P** **14 14 15.8 +0.7**
comp=Z,4.4nm,1.4s
NB2 NORSAR Subarra 74.22 338 P **P** **14 14 15.0 -0.6**
comp=Z,1.3nm,1.4s,baz=40,slow=5.9
NOA NORSAR Array B 74.22 338 P **P** **14 14 15.1 -0.6**
comp=Z,3.4nm,0.8s,baz=37,slow=5.9,SNR=8.4
NOA LR LR 14 50 34.8
comp=Z,34nm,21.6s,baz=25,slow=39
NOA NORSAR Array B 74.22 338 P **P** **14 14 15.1 -0.6**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA MLR MLR
comp=Z,34nm,21.6s
NBO02 NORSAR Array S 74.31 339 *e*P **P** **14 14 16.4 +0.2**
TPNV Topopah Spring 74.40 55 *e*P **P** **14 14 18.0 +0.6**
TPNV pmax pmax
comp=Z,4.0nm,1.1s
TPNV Topopah Spring 74.40 55 *e*P **P** **14 14 17.9 +0.6**
comp=Z,4.1nm,1.1s
HWUT Hardware Ranch 74.55 49 *e*P **P** **14 14 19.2 +1.1**
comp=Z,12nm,1.5s
DUG Dugway, Tooele 74.64 51 *e*P **P** **14 14 19.6 +0.9**
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway, Tooele 74.64 51 *e*P **P** **14 14 19.6 +0.9**
comp=Z,4.5nm,1.0s
BW06 Boulder Array 75.02 47 *e*P **P** **14 14 21.2 +0.2**
PD31 Pinedale Array 75.02 47 *e*P **P** **14 14 21.1 +0.2**
PDAR Pinedale Array 75.02 47 P **P** **14 14 20.9 0.0**
comp=Z,1.5nm,0.6s,baz=259,slow=3.0,SNR=14
PDAR LR LR 14 42 58.4
comp=Z,12nm,21.5s,baz=312,slow=32
AKASG Malin Array Be 75.07 324 P **P** **14 14 19.9 -0.8**
comp=Z,1.8nm,0.5s,baz=46,slow=6.2,SNR=14
AKASG LR LR 14 51 29.1
comp=Z,52nm,18.4s,baz=35,slow=39
CCUT Cedar City 75.89 53 *e*P **P** **14 14 27.0 +0.9**
comp=Z,5.2nm,1.0s
LCMT Little Creek M 76.30 54 *e*P **P** **14 14 29.3 +1.0**
comp=Z,4.1nm,0.9s
MTPU Mount Pierson 76.34 52 *e*P **P** **14 14 30.0 +1.2**
comp=Z,3.8nm,0.9s
Q16A Castle Valley 76.43 51 *e*P **P** **14 14 30.5 +1.5**
comp=Z,13nm,1.4s
KNB Kanab 76.56 53 *e*P **P** **14 14 31.0 +1.2**
KNB pmax pmax
comp=Z,7.0nm,1.1s
KNB Kanab 76.56 53 *e*P **P** **14 14 31.0 +1.2**
comp=Z,6.6nm,1.1s
SRU San Rafael Swe 76.70 51 *e*P **P** **14 14 31.2 +0.6**
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 76.70 51 *e*P **P** **14 14 31.2 +0.6**
comp=Z,7.7nm,0.9s
ULM Lac du Bonnet 77.14 35 P **P** **14 14 31.9 -0.6**
comp=Z,4.0nm,0.8s,baz=318,slow=12,SNR=3.7
ULM Lac du Bonnet 77.14 35 P **P** **14 14 32.0 -0.6**
ULM pmax pmax
comp=Z,1.0nm,0.5s
U15A North Rim 77.26 54 *e*P **P** **14 14 34.8 +1.0**

PV09 Paradox Valley 77.94 50 *e*P **P** **14 14 38.9 +1.2**
PV10 Paradox Valley 78.07 50 *e*P **P** **14 14 39.3 +1.0**
PV05 Paradox Valley 78.22 51 *e*P **P** **14 14 40.0 +0.9**
N23A Red Feather La 78.29 47 *e*P **P** **14 14 40.8 +1.3**
WUAZ Wupatki 78.41 54 *e*P **P** **14 14 41.0 +0.9**
comp=Z,6.0nm,0.9s
PV01 Paradox Valley 78.51 50 *e*P **P** **14 14 41.4 +0.7**
SMCO Snowmass 78.80 49 *e*P **P** **14 14 43.2 +0.6**
comp=Z,4.2nm,1.1s
BUR08 Bucovina Ar. S 79.09 323 *e*P **P** **14 14 44.0 +0.4**
KOLS Kolonicke sedl 79.50 326 *e*P **P** **14 14 45.5 -0.2**
KOLS pmax pmax
comp=Z,7.0nm,1.4s
KOLS Kolonicke sedl 79.50 326 *e*P **P** **14 14 45.5 -0.2**
STHS Stebnicka Huta 79.60 326 *e*P **P** **14 14 47.4 +1.2**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 79.60 326 *e*P **P** **14 14 47.4 +1.2**
OJC Ojcow 79.62 328 *e*P **P** **14 14 46.3 0.0**
OJC Ojcow 79.62 328 *e*P **P** **14 14 46.3 0.0**
UZH Uzhgorod 79.71 325 *e*P **P** **14 14 46.7 -0.1**
S22A 4UR Ranch, Cre 79.81 50 *e*P **P** **14 14 48.9 +1.0**
CRVS Cervenica-Dubn 79.88 326 *e*P **P** **14 14 48.0 +0.2**
CRVS Cervenica-Dubn 79.88 326 *e*P **P** **14 14 48.0 +0.2**
NIE Niedzica 80.00 327 *e*P **P** **14 14 49.1 +0.7**
NIE Niedzica 80.00 327 *e*P **P** **14 14 49.1 +0.7**
BRTR Keskin Array B 80.11 313 P **P** **14 14 49.2 -0.1**
comp=Z,1.6nm,1.0s,baz=58,slow=4.7,SNR=6.4
BRTR LR LR 14 55 35.1
comp=Z,18nm,18.5s,baz=44,slow=40
MLR Muntele Rosu 80.27 321 P **P** **14 14 49.4 -0.7**
comp=Z,0.3nm,0.3s,baz=147,slow=19,SNR=2.8
BR231 Keskin MP Arra 80.53 314 *e*P **P** **14 14 49.7 -1.8**
LANS Liptovska Anna 80.56 327 *e*P **P** **14 14 52.4 +0.9**
LANS Liptovska Anna 80.56 327 *e*P **P** **14 14 52.4 +0.9**
KSP Ksiaz 80.57 330 *e*P **P** **14 14 51.8 +0.4**
KSP Ksiaz 80.57 330 *e*P **P** **14 14 51.8 +0.4**
SDCO Great Sand Dun 80.61 49 *e*P **P** **14 14 52.4 +0.1**
KECS Kecovo 80.63 326 *e*P **P** **14 14 48.0 -3.7**
DGAR Diego Garcia 80.84 253⇓*e*P **P** **14 14 54.8 +1.5**
MORC Moravsky Berou 80.90 328 *e*P **P** **14 14 54.0 +0.8**
MORC pmax pmax
comp=Z,39nm,1.2s
MORC Moravsky Berou 80.90 328 *e*P **P** **14 14 54.0 +0.8**
comp=Z,39nm,1.2s
DPC Dobruska-Polom 80.95 329 *e*P **P** **14 14 54.3 +0.8**
DPC Dobruska-Polom 80.95 329 *e*P **P** **14 14 54.3 +0.8**
VYHS Vyhne 81.34 327 *e*P **P** **14 14 56.1 +0.5**
VYHS pmax pmax
comp=Z,5.0nm,1.4s
VYHS Vyhne 81.34 327 *e*P **P** **14 14 56.0 +0.5**
ECSD EROS Data Cent 81.43 40 *e*P **P** **14 14 55.6 -0.5**
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 81.47 331 *e*P **P** **14 14 56.2 +0.1**
comp=Z,7.4nm,1.4s
BRG Berggiesshubel 81.47 331 *e*P **P** **14 14 56.2 +0.1**
BRG pmax pmax
comp=Z,7.0nm,1.4s
CLL Collm 81.47 332⇓*i*P **P** **14 14 55.6 -0.6**
comp=Z,6.0nm,0.9s
CLL *e* 14 14 59.0
CLL *i* 14 15 06.9
CLL Collm 81.47 332⇓*i*P **P** **14 14 55.6 -0.6**
CLL *i* 14 15 06.9
CLL pmax pmax
comp=Z,6.0nm,0.9s
PVCC Panska Ves 81.50 330 AMS AMS 14 55 20.0
comp=Z,100nm,14.4s
VRAC Vranov 81.65 329 P **P** **14 14 57.5 +0.3**
comp=Z,2.4nm,0.6s,baz=47,slow=4.8,SNR=6.6
LAZ Ladron 81.79 53 *e*P **P** **14 15 03.2 +4.8**
ANMO Albuquerque 81.86 52⇑*e*P **P** **14 14 59.4 +0.6**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO Albuquerque 81.86 52 *e*P **P** **14 14 59.9 +1.1**
comp=Z,3.8nm,1.0s
GOPC GO Pecny, Ondr 81.90 330 *e*P **P** **14 14 58.7 +0.2**
GOPC AMS AMS 14 56 10.0
GOPC GO Pecny, Ondr 81.90 330 *e*P **P** **14 14 58.7 +0.2**
PRU Pruhonice 81.94 330 *e*P **P** **14 14 59.1 +0.4**
PRU AMS AMS 14 57 20.0
comp=Z,100nm,10.2s
PRU Pruhonice 81.94 330 *e*P **P** **14 14 59.1 +0.4**
PRU MLR MLR
comp=Z,100nm,10.2s
TREC Trest 82.11 329 AMS AMS 14 55 20.0
comp=Z,100nm,14.7s
KHC Kasperske Hory 83.00 330 *e*P **P** **14 15 04.6 +0.3**
KHC *e*pP **sP** **14 15 15.1 +1.9**
KHC AMS AMS 14 56 50.0
comp=Z,100nm,9.6s
KHC Kasperske Hory 83.00 330 *e*P **P** **14 15 04.6 +0.3**
KHC *e* 14 15 15.1
KHC MLR MLR
comp=Z,100nm,9.6s
KHC Kasperske Hory 83.00 330 *e*P **P** **14 15 04.2 -0.1**
comp=Z,2.2nm,1.1s
GERES GERESS Array B 83.18 330 P **P** **14 15 05.2 -0.1**
comp=Z,0.6nm,0.7s,baz=35,slow=4.9,SNR=4.9
GERES LR LR 14 56 27.7
comp=Z,50nm,18.1s,baz=38,slow=39
SCHQ Schefferville 83.56 18 LR LR 14 53 08.4
comp=Z,30nm,21.7s,baz=262,slow=36
MNTX Cornudas Mount 84.68 54 *e*P **P** **14 15 13.2 0.0**
comp=Z,3.4nm,0.9s
BFO Black Forest 85.65 333 *i* P **P** **14 15 18.2 +0.5**
BFO Black Forest 85.65 333 *e*P **P** **14 15 17.9 +0.2**
FUORN Ofenpass-Fuorn 86.34 330 *e*P **P** **14 15 22.2 +0.8**
WMOK Wichita Mounta 86.62 48 *e*P **P** **14 15 23.0 +0.2**
WMOK Wichita Mounta 86.62 48 *e*P **P** **14 15 23.0 +0.2**
TX31 Lajitas Ar. Si 87.36 54 *e*P **P** **14 15 25.7 -0.9**
TXAR Lajitas Array 87.36 54 P **P** **14 15 26.6 0.0**
comp=Z,1.2nm,1.0s,baz=270,slow=3.6,SNR=8.3
TORD Torodi Ar. Bea 118.40 318 PKP **PKPdf** **14 21 25.6 -1.6**
comp=Z,0.3nm,0.4s,baz=25,slow=2.7,SNR=5.2
SNAA Sanae 142.51 196 PKP PKPpre 14 22 05.2
VNA1 Neumayer--Stat 144.44 195 PKP **PKPab** **14 22 11.6 -0.9**

*MOS **11** 14:03:43.3±2.4,49.75N×157.37E,h48km,mb4.3/1,Error ellipse: s-maj=38.4km s-min=6.1km az=83.7*
KRSC 11 14:03:43.3±3.1,**49.75N×157.37E,h48**km±26km,**ML4.2,**
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.23**	**320**	*e*PN		Pn	14 04 03.0	-1.1
SKR				*e*S		Sn	14 04 16.2	-3.4
SKR				pmax	pmax			
	comp=Z,389nm,0.6s							
SKR				smax	smax			
	comp=N,1μm,0.5s							
SKR				smax	smax			
	comp=E,1μm,0.2s							
SKR	**Severo-Kuril's**	**1.23**	**320**	*i* P		Pn	14 04 03.0	-1.1
SKR				*e*S		Sn	14 04 16.3	-3.3
PAU	**Pauzhetka**	**1.75**	**348**	PN		Pn	14 04 13.2	+2.0
PAU				S		Sn	14 04 33.9	+1.5
PAU	**Pauzhetka**	**1.75**	**348**	*e*P		Pn	14 04 13.2	+2.0
PAU				*e*S		Sn	14 04 33.9	+1.5
ASAK	**Asacha**	**2.66**	**7**	PN		Pn	14 04 27.4	+3.7
ASAK	**Asacha**	**2.66**	**7**	*i* P		Pn	14 04 27.4	+3.7
RUS	**Russkaya**	**2.78**	**15**	PN		Pn	14 04 28.9	+3.6
RUS				S		Sn	14 05 01.5	+4.0
RUS	**Russkaya**	**2.78**	**15**	*e*P		Pn	14 04 28.9	+3.6
RUS				*e*S		Sn	14 05 01.5	+4.0
KRMR	**Karymshinskiy**	**3.12**	**8**	PN		Pn	14 04 33.9	+4.0
KRMR				S		Sn	14 05 10.4	+4.5
KRMR	**Karymshinskiy**	**3.12**	**8**	P		Pn	14 04 33.9	+4.0
KRMR				S		Sn	14 05 10.4	+4.5
PET	**Petropavlovsk**	**3.37**	**13**	*e*PN		Pn	14 04 37.1	+3.7
PET				*e*S		Sn	14 05 17.0	+4.9
PET				smax	smax			
	comp=E,75nm,0.6s							
PET				smax	smax			
	comp=N,123nm,0.5s							
PET	**Petropavlovsk**	**3.37**	**13**	*e*P		Pn	14 04 37.4	+4.0
PET				*e*S		Sn	14 05 17.3	+5.2
DALK	**Dalny**	**3.40**	**14**	PN		Pn	14 04 37.9	+4.2
DALK				S		Sn	14 05 18.0	+5.3
DALK	**Dalny**	**3.40**	**14**	*e*P		Pn	14 04 37.9	+4.2
DALK				S		Sn	14 05 18.0	+5.3
UGLR	**Uglovaya**	**3.58**	**14**	PN		Pn	14 04 40.9	+4.5
UGLR				S		Sn	14 05 22.5	+5.1
UGLR	**Uglovaya**	**3.58**	**14**	*e*P		Pn	14 04 40.9	+4.5
UGLR				S		Sn	14 05 22.5	+5.1
AVH	**Avacha**	**3.62**	**13**	PN		Pn	14 04 41.8	+4.9
AVH				S		Sn	14 05 24.8	+6.4
AVH	**Avacha**	**3.62**	**13**	*e*P		Pn	14 04 41.8	+4.9
AVH				S		Sn	14 05 24.8	+6.4
SMAR	**Somma**	**3.63**	**14**	PN		Pn	14 04 41.5	+4.4
SMAR				S		Sn	14 05 24.1	+5.4
SMAR	**Somma**	**3.63**	**14**	*e*P		Pn	14 04 41.5	+4.4
SMAR				S		Sn	14 05 24.1	+5.4
NLC	**Nalytchevo**	**3.64**	**19**	PN		Pn	14 04 40.1	+3.1
NLC				S		Sn	14 05 21.4	+2.7
NLC	**Nalytchevo**	**3.64**	**19**	*e*P		Pn	14 04 40.1	+3.1
NLC				*e*S		Sn	14 05 21.4	+2.7
SDLR	**Sedlovina**	**3.66**	**14**	PN		Pn	14 04 41.4	+4.0
SDLR				S		Sn	14 05 23.6	+4.3
SDLR	**Sedlovina**	**3.66**	**14**	*e*P		Pn	14 04 41.4	+4.0
SDLR				*e*S		Sn	14 05 23.6	+4.3
KRER	**Koryakskii**	**3.66**	**13**	PN		Pn	14 04 42.1	+4.6
KRER				S		Sn	14 05 25.4	+5.9
KRER	**Koryakskii**	**3.66**	**13**	*e*P		Pn	14 04 42.1	+4.6
KRER				*e*S		Sn	14 05 25.4	+5.9
KRX	**Arik**	**3.70**	**12**	PN		Pn	14 04 42.3	+4.3
KRX				S		Sn	14 05 25.7	+5.3
KRX	**Arik**	**3.70**	**12**	*e*P		Pn	14 04 42.3	+4.3
KRX				S		Sn	14 05 25.7	+5.3
GNL	**Ganaly**	**3.96**	**5**	PN		Pn	14 04 44.7	+3.1
GNL	**Ganaly**	**3.96**	**5**	*e*P		Pn	14 04 44.7	+3.1
MKZ	**Mys Kozlova**	**5.51**	**27**	PN		Pn	14 05 06.3	+3.6
MKZ				S		Sn	14 06 07.0	+2.4
MKZ	**Mys Kozlova**	**5.51**	**27**	*e*P		Pn	14 05 06.3	+3.6
MKZ				*i* S		Sn	14 06 07.0	+2.4
BKI	**Bering**	**7.57**	**41**	*e*S		Sn	14 06 56.5	+1.2

*DJA **11** 14:21:03.6±0.8,3°S±5°×10°E±°,h18km±6km,M4.5/12, mb4.4/10,MLv4.6/12*
*BJI **11** 14:21:03.8,2.80S×100.28E,h18km,mb4.6/9,mB4.8/6, Ms4.3/3,Ms7.4 1/3*
*ISCJB **11** 14:21:05.6±0.9,2.78S±0.05×100.11E±0.07,h30km±6km, mb4.3/18,MS3.5/9,Error ellipse: s-maj=13.0km s-min=6.5km az=150.2*
*IDC **11** 14:21:07.8±1.0,2.77S×100.20E,h26km±3km,mb4.1/12, mb1 4.2/12,mb1mx3.9/34,mbtmp4.2/12,MS3.5/9, Ms1 3.5/9,ms1mx3.2/41,Error ellipse: s-maj=31.1km s-min=12.9km az=58.0*
*NEIC **11** 14:21:08.2±0.7,2.76S×100.14E,h35km,mb4.5/6,Error ellipse: s-maj=19.4km s-min=7.5km az=56.0*
ISC 11 14:21:07.3±0.6,**2.71S**±0.05×**100.11E**±0.06,**h26**km±3km, **n56,σ1$49/53,mb4.4/18,MS3.5/9,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.11**	**241**	P		**Pb**	**14 21 11.1**	**-1.1**
PDSI	**Padang**	**1.82**	**11**	P		**Pn**	**14 21 38.2**	**+1.2**
SDSI	**Sungai Dareh**	**2.20**	**37**	P		**Pb**	**14 21 44.7**	**-1.8**
PPI	**Padang Panjang**	**2.25**	**7**	P		**Pn**	**14 21 44.0**	**+1.1**
KSI	**Kapahiang**	**2.65**	**111**	P		**Pb**	**14 21 56.9**	**+2.8**
BKNI	**Bangkinang**	**3.15**	**17**	P		**Pb**	**14 22 00.6**	**-2.1**
BKNI	**Bangkinang**	**3.15**	**17**	*e*Pn		**Pn**	**14 21 57.0**	**+1.7**
BKNI				*e*Sn		**Sn**	**14 22 32.6**	**+0.5**
MNAI	**Manna**	**3.28**	**120**	P		**Pn**	**14 21 53.2**	**-3.9**
MNAI	**Manna**	**3.28**	**120**	Pn		**Pn**	**14 21 57.5**	**+0.5**
MNSI	**Mandailing Nat**	**3.52**	**351**	P		**Pn**	**14 22 00.6**	**+0.3**
GSI	**Gunungsitoli**	**4.72**	**328**	P		**Pn**	**14 22 16.7**	**-0.2**
GSI	**Gunungsitoli**	**4.72**	**328**	*e*Pn		**Pn**	**14 22 15.9**	**-0.9**
GSI				*e*Sn		**Sn**	**14 23 12.1**	**+1.2**
KASI	**Kota Agung** 66nm,1.0s,0.3nm	**5.19**	**123**	P		**Pn**	**14 22 22.7**	**-0.7**
TPTI 30nm,1.1s		**6.61**	**334**	P		**Pn**	**14 22 44.4**	**+1.5**
CGJI	**Cibinong** 48nm,0.8s,0.2nm	**6.78**	**125**	P		**Pn**	**14 22 43.5**	**-1.7**
IPM	**Ipoh** 13nm,0.8s	**7.20**	**7**	*e*Pn		**Pn**	**14 22 52.0**	**+1.0**
CBJI	**Citeko**	**7.66**	**119**	P		Pb	14 23 09.6	-10
KULM	**Kulim** 5.7nm,0.6s	**7.96**	**4**	*e*Pn		**Pn**	**14 23 01.5**	**+0.1**
CNJI	**Cibinong** 91nm,1.5s	**8.35**	**123**	P		**Pn**	**14 23 02.7**	**-4.1**
CISI	**Cisompet, Garu**	**9.06**	**122**	P		**Pn**	**14 23 13.4**	**-3.1**
CISI	**Cisompet, Garu** 59nm,0.5s	**9.06**	**122**	*e*Pn		**Pn**	**14 23 13.1**	**-3.4**
CMAR	**Chiang Mai Arr** 1.9nm,0.4s,baz=189,slow=9.5,SNR=9.7	**21.06**	**357**	P		**P**	**14 25 49.0**	**-0.6**
TGY	**Tagaytay City** comp=Z,72nm,18.8s,baz=173,slow=40	**26.56**	**50**	LR		LR	14 38 36.8	
H08S2	**Diego Garcia H** baz=81,slow=76,SNR=4741	**27.93**	**259**	T		T	14 55 49.3	
H08S3	**Diego Garcia H** baz=81,slow=76,SNR=2971	**27.93**	**259**	T		T	14 55 49.6	
H08S1	**Diego Carcia H** baz=81,slow=76,SNR=2855	**27.95**	**259**	T		T	14 55 50.7	
H08N1	**Diego Carcia H** baz=132,slow=74,SNR=45	**29.22**	**262**	T		T	14 58 01.5	
H08N2	**Diego Garcia H** baz=132,slow=74,SNR=45	**29.23**	**262**	T		T	14 58 10.8	
H08N3	**Diego Garcia H** baz=132,slow=74,SNR=45	**29.25**	**262**	T		T	14 58 00.5	
FITZ	**Fitzroy Crossi** comp=Z,121nm,19.1s,baz=310,slow=40	**29.33**	**123**	LR		LR	14 40 24.6	
H01W3	**Cape Leeuwin H** baz=335,slow=76,SNR=29	**34.57**	**159**	T		T	15 04 16.4	
H01W2	**Cape Leeuwin H** baz=335,slow=76,SNR=33	**34.58**	**159**	T		T	15 04 16.5	
H01W1	**Cape Leeuwin H** baz=335,slow=76,SNR=27	**34.58**	**159**	T		T	15 04 14.6	
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=310,slow=8.9,SNR=11	**37.55**	**120**	P		**P**	**14 28 18.8**	**-0.9**
WRA	1.5nm,0.8s,baz=304,slow=8.8,SNR=4.3			pP		**pP**	**14 28 26.7**	**-0.8**
WRA	0.5nm,0.6s,baz=314,slow=1.9,SNR=4.0			PcP		**PcP**	**14 30 37.8**	**+0.2**
WRA	0.5nm,0.8s,baz=305,slow=2.3,SNR=5.2			pPcP			14 30 45.7	
WRAB	**Tennant Creek** 0.8nm,0.4s	**37.55**	**120**	*e*P		**P**	**14 28 19.5**	**-0.2**
ASAR	**Alice Springs** 1.8nm,0.7s,baz=300,slow=7.7,SNR=15	**38.75**	**125**	P		**P**	**14 28 29.2**	**-0.6**
ASAR	1.0nm,0.4s,baz=301,slow=7.9,SNR=6.2			pP		**pP**	**14 28 36.3**	**-1.3**
ASAR	comp=Z,79nm,20.4s,baz=312,slow=39			LR		LR	14 46 28.2	
KSAR	**Wonju Array Be**	**47.54**	**30**	P		**P**	**14 29 41.1**	**+0.5**
KSRS	**Korea Array** 1.9nm,0.8s,baz=225,slow=8.7,SNR=15	**47.57**	**30**	P		**P**	**14 29 41.1**	**+0.3**
KSRS	0.2nm,0.4s,baz=320,slow=8.1,SNR=3.3			pP		**pP**	**14 29 49.6**	**+0.8**
KSRS	comp=Z,25nm,18.1s,baz=254,slow=37			LR		LR	14 50 38.6	
STKA	**Stephens Creek** 2.9nm,0.9s,baz=321,slow=13,SNR=3.9	**48.60**	**131**	P		**P**	**14 29 48.9**	**0.0**
STKA	comp=Z,86nm,20.6s,baz=5.7,slow=38			LR		LR	14 51 45.5	
TKM2	**Tokmak 2** 5.3nm,0.8s	**50.52**	**337**	*e*P		**P**	**14 30 04.2**	**+0.6**
SONM	**Songino Array** 4.8nm,0.9s,baz=190,slow=8.2,SNR=20	**50.63**	**5**	P		**P**	**14 30 05.4**	**+1.1**
SONM	1.0nm,0.4s,baz=12,slow=40,SNR=4.7			pP		**pP**	**14 30 13.9**	**+1.6**
ULN	**Ulaanbaatar** 5.6nm,1.0s	**50.73**	**6**	*e*P		**P**	**14 30 05.2**	**+0.2**
EKS2	**Erkin-Say** 6.9nm,0.8s	**51.05**	**335**	*e*P		**P**	**14 30 07.7**	**+0.2**
MKAR	**Makanchi Array** 11nm,0.7s,baz=147,slow=8.2,SNR=112	**51.74**	**344**	P		**P**	**14 30 13.6**	**+1.1**
MKAR	2.4nm,0.6s,baz=147,slow=8.0,SNR=8.4			pP		**pP**	**14 30 21.5**	**+1.0**
MJAR	**Matsushiro Arr** 2.6nm,1.0s,baz=205,slow=8.0,SNR=7.1	**52.76**	**39**	P		**P**	**14 30 19.9**	**-0.4**
MJAR	1.6nm,0.9s,baz=221,slow=7.6,SNR=3.5			pP		**pP**	**14 30 27.8**	**-0.4**
MJAR	comp=Z,26nm,18.2s,baz=100,slow=37			LR		LR	14 53 52.8	
TLY	**Talaya** comp=Z,31nm,18.6s,baz=184,slow=38	**54.27**	**3**	LR		LR	14 55 17.4	
USRK	**Ussuriysk Ar.** 10nm,0.8s,baz=214,slow=7.0,SNR=20	**54.73**	**28**	P		**P**	**14 30 35.4**	**+0.9**
USRK	4.5nm,0.8s,baz=231,slow=6.3,SNR=5.5			pP		**pP**	**14 30 43.3**	**+0.7**
ZALV	**Zalesovo Beam** 5.6nm,0.8s,baz=179,slow=6.4,SNR=21	**57.88**	**349**	P		**P**	**14 30 57.1**	**+0.3**

BVAR Borovoye Array 60.88 340 LR LR 15 02 12.7
comp=Z,64nm,21.1s,baz=74,slow=40
ABKAR Akbulak array 62.31 331 *e*P **P** **14 31 26.8 -0.5**
2.9nm,0.6s
KBZ Khabaz 68.91 319 P **P** **14 32 10.7 +0.7**
0.6nm,0.4s,baz=139,slow=4.8,SNR=4.1
NRIK Noril'sk 72.41 355 LR LR 15 08 05.8
comp=Z,29nm,18.9s,baz=96,slow=39
TIXI Tiksi 76.53 9 *e*P **P** **14 32 52.4 -2.3**
4.7nm,0.9s
KOLS Kolonicke sedl 84.06 320 *e*P **P** **14 33 37.0 +1.2**
FINES FINESS Array B 84.79 332 P **P** **14 33 39.9 +0.8**
0.3nm,0.4s,baz=90,slow=6.3,SNR=5.6
FINES pP **pP** **14 33 48.8 +1.3**
0.7nm,0.5s,baz=116,slow=8.7,SNR=2.4
TXAR Lajitas Array 145.19 38 PKPbc **PKPdf** **14 40 44.1 +0.6**
3.1nm,0.7s,baz=270,slow=1.0,SNR=4.1
TXAR pPKP **pPKPdf** **14 40 52.0 -0.2**
1.6nm,0.6s,baz=312,slow=1.4,SNR=9.5

IDC 11 14:29:24.7±7.1, 6°53'S×125°61'E, h495km±106km, mb3.0/2, mb1 3.1/5, mb1mx2.8/28, mbtmp3.9/5, Error ellipse: s-maj=114.4km s-min=39.5km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi 11.50 180**			P	P	14 31 57.3	-0.6
	1.2nm,0.3s,baz=357,slow=7.3,SNR=95						
WRA	**Warramunga Arr 15.80 148**			P	P	14 32 44.1	+0.7
	0.4nm,0.3s,baz=327,slow=11,SNR=23						
ASAR	**Alice Springs 18.81 156**			P	P	14 33 12.8	0.0
	0.4nm,0.3s,baz=327,slow=9.3,SNR=28						
MKAR	**Makanchi Array 65.51 329**			P	P	14 39 18.6	+0.2
	0.3nm,0.4s,baz=142,slow=6.1,SNR=4.9						
ZALV	**Zalesovo Beam 69.30 336**			P	P	14 39 41.4	-0.1
	0.6nm,0.4s,baz=131,slow=6.2,SNR=2.9						

*ISCJB **11** 14:53:01.4±2.5, 26°.8S±0°.4×114°.9W±0°.5, h10km, mb4.0/7, MS3.9/13, Error ellipse: s-maj=80.7km s-min=21.2km az=141.0*
*IDC **11** 14:53:02.1±0.9, 26°.74S×114°.69W, h0km, mb4.0/7, mb1 4.4/7, mb1mx4.2/30, mbtmp4.0/7, MS3.9/13, Ms1 3.9/13, ms1mx3.8/20, Error ellipse: s-maj=37.7km s-min=25.0km az=51.0*
ISC 11 14:53:03.5±0.9, 26°.8S±0°.2×114°.7W±0°.2, h10km, n31, σ0s67/17, mb4.2/7, MS3.9/13, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete 33.47 279**			LR	LR	15 09 21.9	
	comp=Z,351nm,18.2s,baz=107,slow=29						
PLCA	**Paso Flores 38.87 122**			P	**P**	**15 00 29.2**	**0.0**
	4.0nm,0.8s,baz=257,slow=19,SNR=2.5						
RAR	**Rarotonga 41.38 268**			LR	LR	15 13 48.9	
	comp=Z,98nm,20.3s,baz=128,slow=30						
LPAZ	**La Paz 44.36 86**			P	**P**	**15 01 15.0**	**0.0**
	0.7nm,0.3s,baz=231,slow=13,SNR=7.2						
LPAZ				LR	LR	15 15 48.7	
	comp=Z,100nm,20.4s,baz=257,slow=31						
CPUP	**Villa Florida 50.95 103**			LR	LR	15 19 42.8	
	comp=Z,119nm,20.4s,baz=232,slow=31						
TXAR	**Lajitas Array 56.77 12**			P	**P**	**15 02 48.3**	**+0.4**
	0.6nm,0.9s,baz=190,slow=11,SNR=6.4						
TXAR				LR	LR	15 22 19.6	
	comp=Z,85nm,18.1s,baz=0.0,slow=31						
URZ	**Urewera 57.46 240**			LR	LR	15 21 14.3	
	comp=Z,228nm,19.2s,baz=136,slow=29						
RPZ	**Rata Peaks 61.02 233**			LR	LR	15 25 03.6	
	comp=Z,76nm,20.5s,baz=48,slow=32						
BDFB	**Brasilia 62.56 94**			LR	LR	15 27 00.7	
	comp=Z,68nm,21.7s,baz=237,slow=33						
VNDA	**Vanda 62.66 194**			LR	LR	15 24 30.1	
	comp=Z,85nm,19.3s,baz=85,slow=30						
NVAR	**Mina Array Bea 64.93 357**			P	**P**	**15 03 44.2**	**+0.8**
	1.8nm,0.8s,baz=175,slow=9.5,SNR=11						
NVAR				LR	LR	15 25 45.4	
	comp=Z,56nm,18.2s,baz=183,slow=30						
PDAR	**Pinedale Array 69.34 4**			P	**P**	**15 04 10.9**	**-0.4**
	2.4nm,1.0s,baz=188,slow=6.0,SNR=7.5						
ULM	**Lac du Bonnet 78.47 12**			P	**P**	**15 05 03.9**	**-0.5**
	2.1nm,0.7s,baz=232,slow=3.9,SNR=3.0						
STKA	**Stephens Creek 86.83 236**			LR	LR	15 37 19.5	
	comp=Z,78nm,18.4s,baz=35,slow=31						
H11S2	**WAKE ISLAND Hy 88.46 291**			T	T	16 43 55.2	
	baz=119,slow=76,SNR=9.9						
H11S1	**WAKE ISLAND Hy 88.48 291**			T	T	16 44 00.2	
	baz=119,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy 88.48 291**			T	T	16 43 56.6	
	baz=119,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy 88.88 293**			T	T	16 44 29.5	
	baz=112						
H11N1	**WAKE ISLAND Hy 88.90 293**			T	T	16 44 33.4	
	baz=112,slow=74,SNR=4.8						
H11N2	**WAKE ISLAND Hy 88.90 293**			T	T	16 44 31.5	
	baz=112,slow=74,SNR=4.7						
YKA	**Yellowknife Ar 88.94 0**			P	**P**	**15 05 57.1**	**-0.6**
	0.5nm,0.7s,baz=171,slow=4.4,SNR=4.1						
SCHQ	**Schefferville 91.05 25**			LR	LR	15 44 51.3	
	comp=Z,30nm,18.8s,baz=280,slow=34						
ASAR	**Alice Springs 96.90 239**			LR	LR	15 44 38.5	
	comp=Z,135nm,19.9s,baz=136,slow=32						
KSRS	**Korea Array 126.74 298**			PKP	**PKPdf**	**15 12 08.2**	**+0.8**
	0.3nm,0.6s,baz=96,slow=1.3,SNR=5.3						
SONM	**Songino Array 141.71 314**			PKhKP	PKPpre	15 12 31.5	
	1.0nm,0.8s,baz=64,slow=3.4,SNR=5.4						
SONM				PKP	**PKPdf**	**15 12 35.9**	**+0.6**
	1.0nm,0.8s,baz=56,slow=2.6,SNR=5.8						
CMAR	**Chiang Mai Arr 147.93 262**			PKPbc	**PKPbc**	**15 12 48.7**	**-1.0**
	1.3nm,0.8s,baz=117,slow=1.2,SNR=6.7						
ZALV	**Zalesovo Beam 149.24 337**			PKP	**PKPdf**	**15 12 47.2**	**-0.5**
	2.2nm,0.6s,baz=172,slow=3.0,SNR=3.6						
ZALV				PKPbc	**PKPbc**	**15 12 51.7**	**-0.3**
	2.2nm,0.6s,baz=20,slow=2.8,SNR=11						
BRTR	**Keskin Array B 150.70 56**			PKPbc	**PKPbc**	**15 12 55.8**	**-0.4**
	3.9nm,1.1s,baz=192,slow=2.4,SNR=9.4						
BVAR	**Borovoye Array 153.49 353**			PKP	**PKPdf**	**15 12 55.3**	**+1.0**
	0.7nm,0.6s,baz=238,slow=39,SNR=2.8						
BVAR				PKPbc	**PKPbc**	**15 13 02.1**	**+0.2**
	1.7nm,0.7s,baz=240,slow=1.2,SNR=5.4						
MKAR	**Makanchi Array 155.90 331**			PKP	**PKPdf**	**15 12 57.1**	**-0.7**
	0.1nm,0.3s,baz=46,slow=3.5,SNR=3.6						
MKAR				PKPbc	PKPbc	15 13 06.9	
	1.1nm,0.9s,baz=27,slow=3.0,SNR=4.5						
GEYT	**Alibeck 167.33 27**			PKP	**PKPdf**	**15 13 10.8**	**+0.8**
	0.6nm,0.4s,baz=263,slow=2.3,SNR=3.2						

*IDC **11** 14:53:49.0±0.7, 6°.39S×148°.95E, h0km, mb4.1/12, mb1 4.3/15, mb1mx4.1/33, mbtmp4.1/15, ML3.7/3, MS3.4/10, Ms1 3.4/10, ms1mx3.1/29, Error ellipse: s-maj=23.9km s-min=14.2km az=100.0*
*ISCJB **11** 14:53:54.8±0.6, 6°.45S±0°.06×148°.8E±0°.1, h53km, mb4.0/13, MS3.4/9, Error ellipse: s-maj=19.9km s-min=7.2km az=17.9*
*NEIC **11** 14:53:56.0±1.8, 6°.43S×148°.77E, h46km±17km, mb4.4/2, Error ellipse: s-maj=20.6km s-min=12.0km az=106.0*
ISC 11 14:53:56.5±0.6, 6°.54S±0°.08×149°.0E±0°.1, h53km, n25, σ2s68/25, mb4.1/13, MS3.4/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby 3.38 212**			Pn	**Pn**	**14 54 46.2**	**-0.5**
	107nm,0.3s,baz=34,slow=6.2,SNR=273						
PMG				Sn	**Sn**	**14 55 25.7**	**+0.1**
	117nm,0.3s,baz=53,slow=19,SNR=24						
HNR	**Honiara 11.22 106**			LR	LR	15 00 30.7	
	comp=Z,70nm,19.4s,baz=302,slow=36						
CTA	**Charters Tower 13.73 191**			Pn	**Pn**	**14 57 08.6**	**+0.1**
	0.2nm,0.3s,baz=13,slow=14,SNR=2.6						
WRAB	**Tennant Creek 19.48 225**			*e*P	**P**	**14 58 18.4**	**-0.9**
	8.2nm,0.6s						
WRA	**Warramunga Arr 19.50 225**			P	**P**	**14 58 18.7**	**-0.7**
	0.9nm,0.3s,baz=53,slow=11,SNR=66						
WRA				ScP	**ScP**	**15 06 17.6**	**+7.2**
	0.1nm,0.3s,baz=47,slow=2.6,SNR=11						
ASAR	**Alice Springs 22.37 219**			P	**P**	**14 58 49.6**	**-0.8**
	2.9nm,0.4s,baz=55,slow=9.2,SNR=57						
ASAR				ScP	**ScP**	**15 06 25.4**	**+8.0**
	1.4nm,1.0s,baz=20,slow=1.5,SNR=6.7						
ASAR				LR	LR	15 08 07.4	
	comp=Z,99nm,18.1s,baz=48,slow=38						
DZM	**Mont Dzumac 22.86 134**			P	**P**	**14 58 54.1**	**-1.5**
	21nm,0.8s,baz=143,slow=23,SNR=16						
DZM				LR	LR	15 06 13.0	
	comp=Z,133nm,19.2s,baz=290,slow=32						
DZM	**Mont Dzumac 22.86 134** *e*P				**P**	**14 58 51.5**	**-4.1**
	17nm,0.9s						
FITZ	**Fitzroy Crossi 25.51 241**			P	**P**	**14 59 19.9**	**-0.3**
	4.3nm,0.5s,baz=62,slow=8.7,SNR=26						
FITZ				LR	LR	15 10 17.8	
	comp=Z,85nm,18.2s,baz=76,slow=39						
FITZ	**Fitzroy Crossi 25.51 241** *e*P				**P**	**14 59 20.7**	**+0.5**
STKA	**Stephens Creek 26.14 194**			P	**P**	**14 59 26.4**	**+0.7**
	1.6nm,0.7s,baz=346,slow=7.6,SNR=4.3						
STKA				LR	LR	15 10 12.4	
	comp=Z,108nm,18.8s,baz=20,slow=37						
MJAR	**Matsushiro Arr 44.03 347**			P	**P**	**15 01 57.2**	**-1.9**
	1.4nm,0.9s,baz=168,slow=7.1,SNR=4.4						
MJAR				LR	LR	15 18 52.0	
	comp=Z,36nm,18.1s,baz=165,slow=34						
KSRS	**Korea Array 47.98 337**			P	**P**	**15 02 29.0**	**-1.1**
	0.5nm,0.6s,baz=151,slow=8.1,SNR=3.4						
KSAR	**Wonju Array Be 47.99 337**			P	**P**	**15 02 29.0**	**-1.2**
PETK	**Petropavlovsk- 59.88 6**			P	**P**	**15 03 58.4**	**+1.8**
	9.4nm,0.5s,baz=158,slow=6.5,SNR=45						
PETK				LR	LR	15 25 59.3	
	comp=Z,20nm,21.7s,baz=182,slow=32						
SONM	**Songino Array 65.85 330**			LR	LR	15 32 41.2	
	comp=Z,34nm,20.9s,baz=104,slow=36						
VNDA	**Vanda 71.27 177**			P	**P**	**15 05 10.3**	**+0.5**
	1.5nm,0.8s,baz=342,slow=7.1,SNR=7.2						
MKAR	**Makanchi Array 79.18 320**			P	**P**	**15 05 53.9**	**-1.9**
	0.1nm,0.3s,baz=115,slow=5.4,SNR=3.4						
ZALV	**Zalesovo Beam 80.53 327**			P	**P**	**15 06 01.1**	**-1.9**
	0.6nm,0.4s,baz=116,slow=10,SNR=3.6						
ZALV				LR	LR	15 41 46.7	
	comp=Z,39nm,20.3s,baz=70,slow=36						
ILAR	**Eielson Array 85.20 23**			P	**P**	**15 06 27.0**	**+0.1**
	1.8nm,0.7s,baz=248,slow=5.0,SNR=34						
BVAR	**Borovoye Array 88.37 324**			P	**P**	**15 06 41.9**	**-0.8**
	0.5nm,0.3s,baz=97,slow=12,SNR=4.6						
ARU	**Arti 95.64 326**			LR	LR	15 49 17.9	
	comp=Z,18nm,18.5s,baz=108,slow=35						
NVAR	**Mina Array Bea 96.13 52**			P	**P**	**15 07 20.7**	**+1.5**
	0.4nm,0.7s,baz=260,slow=5.2,SNR=3.1						
GERES	**GERESS Array B 123.46 326**			PKP	**PKPdf**	**15 12 47.5**	**-0.6**
	0.9nm,0.6s,baz=72,slow=0.4,SNR=11						
TORD	**Torodi Ar. Bea 147.15 284**			PKPbc	**PKPbc**	**15 13 35.0**	**+0.1**
	6.5nm,0.7s,baz=87,slow=2.9,SNR=58						

*ISCJB **11** 14:57:47.5±0.6, 24°.86N±0°.03×122°.20E±0°.02, h100km±4km, Error ellipse: s-maj=5.6km s-min=3.2km az=165.1*
*JMA **11** 14:57:47.3±0.2, 24°.82N×122°.16E, h100km±2km, M2.1*
*TAP **11** 14:57:47.5, 24°.85N×122°.17E, h100km, ML3.4, C*
ISC 11 14:57:48.3±1.5, 24°.83N±0°.05×122°.20E±0°.03, h95km±9km, n49, σ0s67/84, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS			**0.25 273**	*e*P	**Pn**	**14 58 02.1**	**0.0**
	baz=258						
TWB1	**Santiao Chiao 0.26 312**			*i* P	**Pn**	**14 58 02.1**	**-0.1**
	baz=305						
TWB1				*i* S	**Sn**	**14 58 12.3**	**-0.2**
	baz=305						
TWC	**Suao 0.39 235**			P	**Pn**	**14 58 02.6**	**-0.2**
	baz=230						
TWC				*e*S	**Sn**	**14 58 12.9**	**-0.8**
	baz=230						
ILA	**Ilan 0.42 261**			*e*P	**Pn**	**14 58 03.8**	**+0.8**
	baz=257						
NWF	**Wu-fen Shan 0.45 302**			P	**Pn**	**14 58 02.8**	**-0.5**
	baz=293						
NWF				*e*S	**Sn**	**14 58 14.6**	**0.0**
	baz=293						
TWE	**Neicheng 0.50 257**			P	**Pn**	**14 58 03.5**	**-0.1**
	baz=255						
TWE				S	**Sn**	**14 58 14.7**	**-0.3**
	baz=255						
ENA	**Nanau 0.58 226**			*e*P	**Pn**	**14 58 04.5**	**+0.2**
	baz=215						
ENA				*e*S	**Sn**	**14 58 17.2**	**+1.0**
	baz=215						
ENTT	**Nioudou 0.61 252**			P	**Pn**	**14 58 04.6**	**+0.1**
	baz=246						
ENTT				*e*S	**Sn**	**14 58 17.7**	**+1.1**
	baz=246						
TWY	**Chenhua 0.70 309**			P	**Pn**	**14 58 05.0**	**-0.3**
	baz=302						
TWS1	**Kuangyinshan 0.76 291**			P	**Pn**	**14 58 05.5**	**-0.4**
	baz=290						
TWS1				*e*S	**Sn**	**14 58 18.4**	**-0.6**
	baz=290						
JYNG	**Yonagunijimaku 0.78 119**			P	**Pn**	**14 58 05.9**	**-0.1**
JYNG				S	**Sn**	**14 58 19.6**	**+0.4**
NSK	**Sanguang 0.79 259**			P	**Pn**	**14 58 06.2**	**0.0**
	baz=256						
NSK				S	**Sn**	**14 58 19.3**	**-0.2**
	baz=256						
PCYT	**Pengchaiyu 0.80 351**			P	**Pn**	**14 58 06.2**	**-0.1**
	baz=350						
PCYT				*e*S	**Sn**	**14 58 19.1**	**-0.6**
	baz=350						
YOJ	**Yonaguni jima 0.82 117**			P	**Pn**	**14 58 06.3**	**-0.2**
YOJ				S	**Sn**	**14 58 21.0**	**+0.9**
NNS	**Nan Shan 0.85 243**			*e*P	**Pn**	**14 58 07.2**	**+0.3**
	baz=245						
NNS				S	**Sn**	**14 58 20.8**	**-0.1**
	baz=245						
TWD	**Chiawan 0.93 217**			*e*P	**Pn**	**14 58 07.7**	**0.0**
	baz=224						
TWD				*e*S	**Sn**	**14 58 21.7**	**-0.5**
	baz=224						
NCU	**National Centr 0.93 279**			*e*P	**Pn**	**14 58 07.5**	**-0.2**
	baz=283						
NCU				*e*S	**Sn**	**14 58 22.8**	**+0.6**
	baz=283						
HWA	**Hwalien 1.01 213**			*e*P	**Pn**	**14 58 08.3**	**-0.2**
	baz=202						
TWT	**Tachien 1.10 239**			*e*P	**Pn**	**14 58 10.6**	**+0.9**
	baz=228						
TWT				*e*S	**Sn**	**14 58 26.1**	**+0.3**
	baz=228						
NSTT	**Nanjuang 1.11 260**			*e*P	**Pn**	**14 58 09.4**	**-0.3**
	baz=257						
NSTT				*e*S	**Sn**	**14 58 25.3**	**-0.5**
	baz=257						
ESL	**Shilin 1.24 215**			*e*P	**Pn**	**14 58 10.1**	**-1.0**
	baz=218						
TWQ1	**Liyutan 1.39 250**			*e*P	**Pn**	**14 58 13.0**	**0.0**
	baz=247						
TWQ1				*e*S	**Sn**	**14 58 31.0**	**-0.6**
	baz=247						
IRIF	**Iriomote-Funau 1.48 109**			P	**Pn**	**14 58 13.5**	**-0.5**
IRIF				*e*S	**Sn**	**14 58 34.0**	**+0.6**
SMLT	**Sun Moon Lake 1.52 232**			*e*P	**Pn**	**14 58 15.1**	**+0.4**
	baz=222						
SMLT				*e*S	**Sn**	**14 58 35.6**	**+0.9**
	baz=222						
TYC	**Yuchr 1.54 233**			*e*P	**Pn**	**14 58 15.0**	**+0.2**
	baz=237						
TYC				*e*S	**Sn**	**14 58 35.6**	**+0.8**
	baz=237						
EHY	**Hungye 1.55 212**			*e*P	**Pn**	**14 58 14.9**	**0.0**
	baz=208						
TCU	**Taichung 1.55 244**			*e*P	**Pn**	**14 58 14.5**	**-0.5**
	baz=242						
HATJ	**Hateruma jima 1.65 118**			*e*S	**Sn**	**14 58 37.9**	**+0.5**
WNT	**Mingjian 1.68 236**			*e*P	**Pn**	**14 58 18.1**	**+1.4**
	baz=242						
TWF1	**Yuli 1.69 210**			*e*P	**Pn**	**14 58 15.4**	**-1.4**
	baz=211						
JKRS	**Kuro-shima 1.75 109**			P	**Pn**	**14 58 17.6**	**+0.2**
JKRS				S	**Sn**	**14 58 39.9**	**+0.3**
YUS	**Yu-Shan 1.76 221**			*e*P	**Pn**	**14 58 18.6**	**+0.5**
	baz=207						
YUS				*e*S	**Sn**	**14 58 40.7**	**+0.1**
	baz=207						
JIJ	**Ishigaki jima 1.83 104**			P	**Pn**	**14 58 18.2**	**-0.3**
JIJ				*e*S	**Sn**	**14 58 41.3**	**-0.1**
ALS	**Alishan 1.84 224**			*e*P	**Pn**	**14 58 19.8**	**+0.9**
	baz=229						
ALS				*e*S	**Sn**	**14 58 43.4**	**+1.3**
	baz=229						
CHN5	**Tsauling 1.86 229**			*e*P	**Pn**	**14 58 19.6**	**+0.6**
	baz=224						
CHN5				*e*S	**Sn**	**14 58 43.0**	**+0.6**
	baz=224						
WGK	**Gukeng 1.89 233**			*e*P	**Pn**	**14 58 20.5**	**+1.2**
	baz=228						
WGK				*e*S	**Sn**	**14 58 43.0**	**+0.3**
	baz=228						
CHKT	**Chengkung 1.89 204**			*e*P	**Pn**	**14 58 18.1**	**-1.2**
	baz=192						
JISG	**Ishigakijimahi 1.93 97**			P	**Pn**	**14 58 19.8**	**0.0**
JISG				*e*S	**Sn**	**14 58 44.4**	**+0.6**
ELDTW	**Lidau 1.96 214**			*e*P	**Pn**	**14 58 19.7**	**-0.7**
	baz=202						
ELDTW				*e*S	**Sn**	**14 58 44.0**	**-0.9**
	baz=202						
CHN4	**Tsaushan 2.08 225**			*e*P	**Pn**	**14 58 21.9**	**0.0**
	baz=219						
CHN4				*e*S	**Sn**	**14 58 48.3**	**+0.8**
	baz=219						
STYT	**Tauyuan 2.13 219**			*e*P	**Pn**	**14 58 23.0**	**+0.5**
	baz=205						
STYT				*e*S	**Sn**	**14 58 49.6**	**+1.1**
	baz=205						
WTP	**Ta-pu 2.15 223**			*e*P	**Pn**	**14 58 22.8**	**+0.1**
	baz=228						
WTP				*e*S	**Sn**	**14 58 49.7**	**+0.7**
	baz=228						
TWK	**Hsinying 2.21 226**			*e*P	**Pn**	**14 58 23.0**	**-0.6**
	baz=220						
TWK				*e*S	**Sn**	**14 58 51.0**	**+0.5**
	baz=220						
CHN1	**Nanshi 2.25 223**			*e*P	**Pn**	**14 58 24.1**	**+0.1**
	baz=228						
CHN1				*e*S	**Sn**	**14 58 51.6**	**+0.4**
	baz=228						
TWG	**Pinlang 2.26 208**			*e*P	**Pn**	**14 58 23.0**	**-1.2**
	baz=196						
TWG				*e*S	**Sn**	**14 58 50.0**	**-1.5**
	baz=196						
JTJ	**Tarama 2.28 94**			P	**Pn**	**14 58 24.6**	**+0.2**
SGST	**Jiashian 2.29 221**			*e*P	**Pn**	**14 58 24.9**	**+0.3**
	baz=226						
SGST				*e*S	**Sn**	**14 58 52.6**	**+0.4**
	baz=226						
ECL	**Taimali 2.50 207**			*e*P	**Pn**	**14 58 25.8**	**-1.6**
	baz=199						
EAST	**Anshuo 2.74 207**			*e*P	**Pn**	**14 58 29.2**	**-1.3**
	baz=199						

*DDA **11** 14:58:36.1, 39°.10N×29°.03E, h13km, Md2.6*
*ISK **11** 14:58:36.0, 39°.06N×29°.03E, h3km, MD2.2, ML2.1*
*CSEM **11** 14:58:37.0±0.1, 39°.04N×29°.04E, h10km, MD2.6, Error ellipse: s-maj=4.6km s-min=2.7km az=147.0*
ISC 11 14:58:36.4±0.9, 39°.07N±0°.03×29°.03E±0°.02, h15km±7km, n36, σ0s32/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**		**0.25 264**	P	**Pg**	**14 58 41.9**	**0.0**
DEMI				S	**Sg**	**14 58 45.7**	**0.0**
DEMI	**Demirci**		**0.25 264**	*i* P	**Pg**	**14 58 41.9**	**0.0**
DEMI				*i* S	**Sg**	**14 58 45.6**	**0.0**
GEDZ	**Gediz**		**0.29 94**	*e*PG	**Pg**	**14 58 42.8**	**+0.1**
GEDZ				*e*SG	**Sb**	**14 58 47.8**	**-0.3**
GEDZ	**Gediz**		**0.29 94**	*e*Pg	**Pg**	**14 58 42.8**	**+0.1**
GEDZ				*e*Sg	**Sb**	**14 58 47.8**	**-0.3**
GDZ	**Gediz**		**0.35 86**	P	**Pg**	**14 58 43.5**	**-0.1**
GDZ				S	**Sg**	**14 58 48.5**	**-0.1**
GDZ	**Gediz**		**0.35 86**	*i* P	**Pg**	**14 58 43.5**	**-0.1**
GDZ				*i* S	**Sg**	**14 58 48.5**	**-0.1**
TVSB	**Tavsanli**		**0.51 41**	*e*PG	**Pg**	**14 58 45.9**	**-0.6**
TVSB	**Tavsanli**		**0.51 41**	*e*Pg	**Pg**	**14 58 45.9**	**-0.6**
KULA	**Kula-Manisa**		**0.62 208**	*e*PG	**Pb**	**14 58 48.9**	**-0.1**
KULA				*e*SG	**Sb**	**14 58 57.6**	**0.0**
KULA	**Kula-Manisa**		**0.62 208**	*e*Pg	**Pb**	**14 58 48.9**	**-0.1**
KULA				*e*Sg	**Sb**	**14 58 57.6**	**0.0**
MANT	**Manisa**		**0.69 213**	P	**Pb**	**14 58 50.3**	**+0.1**
MANT				S	**Sb**	**14 58 59.3**	**-0.2**
MANT	**Manisa**		**0.69 213**	*i* P	**Pb**	**14 58 50.3**	**+0.1**
MANT				*i* S	**Sb**	**14 58 59.4**	**-0.2**
KHL	**Karahalli**		**0.84 153**	*e*PG	**Pb**	**14 58 53.0**	**+0.3**
AKHS	**Akhisar**		**0.97 259**	P	**Pn**	**14 58 55.4**	**-0.1**
AKHS				S	**Sn**	**14 58 08.8**	**-0.2**
AKHS	**Akhisar**		**0.97 259**	*i* P	**Pn**	**14 58 55.4**	**-0.1**
AKHS				*i* S	**Sn**	**14 59 08.8**	**-0.2**
AKS	**Akhisar**		**0.97 259**	*e*PG	**Pn**	**14 58 55.4**	**-0.1**
AKS	**Akhisar**		**0.97 259**	*e*Pg	**Pn**	**14 58 55.4**	**-0.1**
BALB	**Balikesir**		**1.06 303**	*e*PG	**Pn**	**14 58 57.6**	**+0.9**
BALB	**Balikesir**		**1.06 303**	*e*Pg	**Pn**	**14 58 57.6**	**+0.9**
IGD	**Bursa**		**1.20 6**	*i* P	**Pb**	**14 58 58.1**	**-0.8**
IGD				*i* S	**Sg**	**14 59 14.9**	**-0.4**
CAVI	**Cavuskoy**		**1.29 29**	*e*PN	**Pg**	**14 59 01.4**	**0.0**
CAVI	**Cavuskoy**		**1.29 29**	*e*Pn	**Pg**	**14 59 01.4**	**0.0**
KCTX	**Karacabey (Bur**		**1.31 337**	*e*PN	**Pg**	**14 59 01.8**	**+0.2**
KCTX	**Karacabey (Bur**		**1.31 337**	*e*Pn	**Pg**	**14 59 01.8**	**+0.2**
IZI	**Iznik**		**1.31 15**	*e*PN	**Pg**	**14 59 01.9**	**+0.2**
IZI	**Iznik**		**1.31 15**	*e*Pn	**Pg**	**14 59 01.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**		**1.43 219**	*e*PN	**Pg**	**14 59 03.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**		**1.43 219**	*e*Pn	**Pg**	**14 59 03.8**	**-0.2**
ADVT	**Abdulvahap**		**1.47 22**	*e*PN	**Pg**	**14 59 04.7**	**0.0**
ADVT	**Abdulvahap**		**1.47 22**	*e*Pn	**Pg**	**14 59 04.7**	**0.0**
ESKT	**Eskisehir**		**1.48 72**	*e*PN	**Pb**	**14 59 04.0**	**+0.3**
ESKT	**Eskisehir**		**1.48 72**	*e*Pn	**Pb**	**14 59 04.0**	**+0.3**
ARMT	**Armutlu**		**1.50 355**	*e*PN	**Pg**	**14 59 05.2**	**-0.1**
ARMT	**Armutlu**		**1.50 355**	*e*Pn	**Pg**	**14 59 05.2**	**-0.1**
GULT	**Gulveren**		**1.78 39**	*e*PN	**Pb**	**14 59 09.1**	**+0.4**
GULT	**Gulveren**		**1.78 39**	*e*Pn	**Pb**	**14 59 09.1**	**+0.

DPC eSG Sg 15 44 42.3 -1.1
57nm,0.3s
DPC Dobruska-Polom 1.22 173 Pg Pg 15 44 27.5 -0.2
DPC Sg Sg 15 44 42.3 -1.1
57nm,0.3s
PVCC Panska Ves 1.41 224↓ePG Pb 15 44 31.5 0.0
PVCC eSG Sn 15 44 50.6 +0.1
149nm,0.2s
PVCC Panska Ves 1.41 224 Pg Pb 15 44 31.5 0.0
PVCC Sg Sn 15 44 50.6 +0.1
149nm,0.2s
BRG Berggiesshubel 1.51 244 PN Pn 15 44 32.7 -0.1
BRG PG Pg 15 44 34.2 +0.8
BRG SG Sn 15 44 54.2 +1.1
69nm,0.4s
GOPC GO Pecny, Ondr 1.84 207↓ePN Pn 15 44 37.1 -0.1
GOPC ePG Pb 15 44 39.1 +0.2
GOPC eSG Sn 15 45 01.4 +0.2
33nm,0.3s
GOPC GO Pecny, Ondr 1.84 207 Pn Pn 15 44 37.1 -0.1
GOPC GO Pecny, Ondr 1.84 207 Pg Pb 15 44 39.1 +0.2
GOPC Sg Sn 15 45 01.4 +0.2
33nm,0.3s
PRU Pruhonice 1.85 213↓ePN Pn 15 44 37.2 -0.2
PRU ePG Pb 15 44 39.1 0.0
PRU ex x 15 44 56.4
PRU eSG Sb 15 45 02.7 -0.1
33nm,0.4s
PRU Pruhonice 1.85 213 Pn Pn 15 44 37.2 -0.2
PRU Pruhonice 1.85 213 Pg Pb 15 44 39.1 0.0
PRU Sg Sb 15 45 02.7 -0.1
33nm,0.4s
CLL Collm 1.95 264 ePn Pn 15 44 39.0 +0.3
CLL ePg Pg 15 44 42.0 +0.3
CLL e 15 44 46.0
CLL eSg Sg 15 45 08.0 +1.1
comp=Z,25nm,0.5s
MORC Moravsky Berou 2.01 152 ePn Pn 15 44 39.2 -0.4
MORC eSg Sb 15 45 06.4 -0.9
OKC Ostrava-Krasne 2.16 142↓ePN Pn 15 44 41.1 -0.5
OKC ePG Pg 15 44 45.4 -0.4
OKC eSG Sb 15 45 11.7 0.0
comp=Z,47nm,0.5s
OKC Ostrava-Krasne 2.16 142 Pn Pn 15 44 41.1 -0.5
VRAC Vranov 2.27 172 Pn Pn 15 44 43.8 +0.6
comp=Z,2.4nm,0.3s,baz=332,slow=15,SNR=12
VRAC Lg Lg 15 45 15.4
comp=Z,8.8nm,0.3s,baz=260,slow=20,SNR=12
VRAC Vranov 2.27 172 ePn Pn 15 44 43.4 +0.2
VRAC eSg Sb 15 45 15.6 +0.7
TREC Trest 2.30 190↓ePN Pn 15 44 44.1 +0.6
TREC ePG Pb 15 44 47.4 +0.7
TREC eSG Sb 15 45 16.5 +0.9
comp=Z,34nm,0.3s
TREC Trest 2.30 190 Pn Pn 15 44 44.1 +0.6
TREC Trest 2.30 190 Pg Pb 15 44 47.4 +0.7
TREC Sg Sb 15 45 16.5 +0.9
comp=Z,34nm,0.3s
NKC Novy Kostel 2.66 242↓ePN Pn 15 44 49.5 +1.0
NKC ePG Pg 15 44 55.4 +0.1
NKC eSG Sg 15 45 30.9 +1.2
comp=Z,39nm,0.4s
NKC Novy Kostel 2.66 242 Pn Pn 15 44 49.5 +1.0
OJC Ojcow 2.70 118 ePg Pg 15 44 56.1 -0.1
OJC eSg Sg 15 45 31.8 +0.6
OJC Ojcow 2.70 118 ePg Pg 15 44 56.1 -0.1
OJC eSg Sg 15 45 31.8 +0.6
OJC Ojcow 2.70 118 ePg Pg 15 44 56.1 -0.1
OJC eSg Sg 15 45 31.8 +0.6
KHC Kasperske Hory 2.91 214↓ePN Pn 15 44 52.1 +0.1
KHC ePG Pb 15 44 58.5 +1.3
KHC eSN Sn 15 45 26.8 -0.9
KHC eSG Sg 15 45 36.3 -1.6
comp=Z,21nm,0.5s
KHC Kasperske Hory 2.91 214 Pn Pn 15 44 52.1 +0.1
GERES GERESS Array B 3.12 210 Pn Pn 15 44 55.5 +0.6
comp=Z,1.7nm,0.3s,baz=33,slow=12,SNR=42
GERES Pg Pb 15 45 01.8 +1.1
comp=Z,3.8nm,0.3s,baz=30,slow=18,SNR=32
GERES Lg Lg 15 45 43.4
comp=Z,6.1nm,0.3s,baz=31,slow=27,SNR=12
LANS Liptovska Anna 3.24 137 ePg Pg 15 45 04.7 -1.7
LANS eSg Sg 15 45 46.6 -1.7
LANS Liptovska Anna 3.24 137 ePG Pg 15 45 04.7 -1.7
LANS eSG Sg 15 45 46.6 -1.7
NIE Niedzica 3.44 127 eP Pg 15 45 08.6 -1.7
NIE eS Sg 15 45 54.5 -0.3
NIE Niedzica 3.44 127 eP Pg 15 45 08.6 -1.6
NIE eS Sg 15 45 54.5 -0.2
VYHS Vyhne 3.54 149 ePg Pg 15 45 12.0 -0.2
VYHS eSg Sb 15 45 53.1 +1.7
VYHS Vyhne 3.54 149 e Pn 15 45 00.6 0.0
VYHS Vyhne 3.54 149 ePG Pg 15 45 12.0 -0.2
VYHS eSG Sb 15 45 53.1 +1.7
VYHS eLG Lg 15 46 07.6
BSD Bornholm Skovb 3.63 349 i P Pn 15 45 02.6 +0.8
BSD eS Sn 15 45 43.7 -1.7
BSD Bornholm Skovb 3.63 349 i P Pn 15 45 02.6 +0.8
BSD eS Sn 15 45 43.7 -1.7
CONA Conrad Observa 3.63 182 Pn Pn 15 45 02.6 +0.6
comp=Z,1.1nm,0.2s
CONA Sg Sg 15 45 57.8 -3.3
comp=Z,25nm,0.4s
MOA Molln 3.89 198 Pn Pn 15 45 06.2 +0.7
comp=Z,4.2nm,0.4s
MOA Sg Sg 15 46 09.3 -0.1
comp=Z,20nm,0.6s
STHS Stebnicka Huta 3.93 121 ePg Pg 15 45 20.5 +0.9
STHS eSg Sg 15 46 14.0 +3.5
STHS Stebnicka Huta 3.93 121 e Pn 15 45 07.1 +1.2
STHS Stebnicka Huta 3.93 121 ePG Pg 15 45 20.5 +0.9
STHS eSG Sg 15 46 14.0 +3.5
STHS eLG Lg 15 46 16.8
KECS Kecovo 4.18 136 eSg Sg 15 46 20.9 +2.2
KECS Kecovo 4.18 136 eSG Sg 15 46 20.9 +2.2
KECS eLG Lg 15 46 34.2
ARSA Arzberg 4.33 185 Pn Pn 15 45 12.2 +0.8
comp=Z,1.7nm,0.3s
ARSA Sg Sg 15 46 20.1 -3.2
comp=Z,10nm,0.5s
CRVS Cervenica-Dubn 4.35 126 ePg Pg 15 45 30.1 +2.3
CRVS eSg Sg 15 46 24.5 +0.3
CRVS Cervenica-Dubn 4.35 126 ePG Pg 15 45 30.0 +2.3
CRVS eSG Sg 15 46 24.5 +0.3
LUNU Lund 4.38 340 P Pn 15 45 11.7 -0.4
LUNU Lund 4.38 340 P Pn 15 45 11.7 -0.4
BLEU Blekinge 4.76 358 P Pn 15 45 18.1 +0.8
BLEU S Sn 15 46 11.6 -1.6
BLEU Blekinge 4.76 358 P Pn 15 45 18.1 +0.8
BLEU S Sn 15 46 11.6 -1.6
KBA Koelnbreinsper 4.83 203 Pn Pn 15 45 19.3 +0.9
comp=Z,1.0nm,0.0s
BJUU Bjuv 4.88 339 P Pn 15 45 18.2 -0.7
BJUU Bjuv 4.88 339 P Pn 15 45 18.2 -0.7
VXJU Vaexsjoe 5.42 353 P Pn 15 45 26.9 +0.6
VXJU Vaexsjoe 5.42 353 P Pn 15 45 26.9 +0.6
BYXU Byxelkrok 5.77 5 P Pn 15 45 32.2 +1.0
BYXU Byxelkrok 5.77 5 P Pn 15 45 32.2 +1.0
FABU Falkenberg 5.80 341 P Pn 15 45 31.7 +0.1
FABU Falkenberg 5.80 341 P Pn 15 45 31.7 +0.1
ASPU Aespoe 5.88 3 P Pn 15 45 34.1 +1.4
ASPU Aespoe 5.88 3 P Pn 15 45 34.1 +1.4
GNOU Gnosjoe 5.91 348 P Pn 15 45 33.5 +0.4
GNOU Gnosjoe 5.91 348 P Pn 15 45 33.5 +0.4
EKSU Eksjoe 6.05 356 P Pn 15 45 35.9 +0.9
EKSU Eksjoe 6.05 356 P Pn 15 45 35.9 +0.9
VSTU Vaestervik 6.12 2 P Pn 15 45 37.2 +1.2
VSTU Vaestervik 6.12 2 P Pn 15 45 37.2 +1.2
DAVOX Davos/Dischmat 6.28 223 Pn Pn 15 45 40.4 +2.0
comp=Z,0.4nm,0.3s,baz=20,slow=12,SNR=3.6
DAVOX Lg Lg 15 47 25.4
comp=Z,0.5nm,0.3s,baz=348,slow=24,SNR=3.7
FINES FINESS Array B 11.33 25 Pn Pn 15 46 46.7 -0.6
comp=Z,0.1nm,0.3s,baz=203,slow=11,SNR=4.6
FINES Sn Sn 15 48 48.8 -5.6
comp=Z,0.2nm,0.3s,baz=205,slow=20,SNR=4.5
FINES Lg Lg 15 50 07.4
comp=Z,0.0nm,0.3s,baz=219,slow=28,SNR=2.1
EKA Eskdalemuir Ar 12.07 296 Pn Pn 15 46 58.8 +1.3
baz=100,slow=14,SNR=3.4
ARCES ARCESS Array B 18.58 10 Pn P 15 48 20.1 -2.6
comp=Z,0.1nm,0.3s,baz=191,slow=12,SNR=4.0

*IDC **11** 16:08:46.8±8.1,23.°90S×178.°89E,h568km±68km,mb3.2/5, mb1 3.3/6,mb1mx2.9/38,mbtmp4.2/6,Error ellipse: s-maj=84.7km s-min=35.2km az=116.0*

ISC 11 16:08:43.6±1.8,24.°05S±0.°4×179.°2E±0.°2,h548km,n11, σ0.°51/11,mb3.9/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.91**	**277**	P	**P**	**16 11 21.7**	**+0.3**
	0.5nm,0.3s,baz=76,slow=19,SNR=7.9						
CTA	**Charters Tower**	**30.75**	**271**	P	**P**	**16 14 14.8**	**+0.1**
	3.6nm,0.3s,baz=96,slow=9.8,SNR=20						
STKA	**Stephens Creek**	**34.00**	**248**	P	**P**	**16 14 42.4**	**+0.2**
	1.9nm,0.5s,baz=97,slow=11,SNR=12						
ASAR	**Alice Springs**	**41.30**	**261**	P	**P**	**16 15 41.6**	**-0.2**
	1.9nm,0.8s,baz=94,slow=8.9,SNR=20						
WRA	**Warramunga Arr**	**41.67**	**267**	P	**P**	**16 15 43.9**	**-0.9**
	2.4nm,0.6s,baz=91,slow=8.4,SNR=41						
MJAR	**Matsushiro Arr**	**71.59**	**326**	P	**P**	**16 19 09.7**	**0.0**
	0.8nm,0.8s,baz=139,slow=7.8,SNR=3.1						
ARCES	**ARCESS Array B**	**131.85**	**348**	PKP	**PKPdf**	**16 26 54.4**	**+0.5**
	1.7nm,0.9s,baz=90,slow=1.9,SNR=3.0						
FINES	**FINESS Array B**	**138.32**	**341**	PKP	**PKPdf**	**16 27 05.9**	**-0.2**
	1.0nm,0.9s,baz=57,slow=5.1,SNR=4.0						
AKASG	**Malin Array Be**	**144.67**	**327**	PKP	**PKPdf**	**16 27 17.4**	**-0.4**
	0.6nm,0.4s,baz=48,slow=4.4,SNR=8.0						
BRTR	**Keskin Array B**	**147.07**	**307**	PKPbc	**PKPbc**	**16 27 25.5**	**0.0**
	0.8nm,0.9s,baz=31,slow=34,SNR=2.5						
MMAI	**Mount Meron Ar**	**147.09**	**294**	PKPbc	**PKPbc**	**16 27 26.3**	**+0.7**
	1.3nm,0.5s,baz=114,slow=6.5,SNR=2.8						

WEL 11 16:20:56.5±0.4,37.°19S×177.°24E,h159km±3km,ML3.7/5, 11C-5D,Error ellipse: s-maj=2.2km s-min=2.0km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.72**	**143**	↑P	Pn	16 21 19.8	-0.3
HAZ				S	Sn	16 21 37.5	-0.6
OPRZ	**Ohinepanea**	**0.85**	**219**	PN	Pn	16 21 21.2	+0.2
MXZ	**Matakaoa Point**	**0.93**	**114**	↑P	Pn	16 21 21.3	-0.3
MXZ				AML	AML	16 21 21.7	
MXZ				AML	AML	16 21 42.6	
PKGZ	**Pakihiroa**	**0.97**	**137**	↑PN	Pn	16 21 22.0	+0.1
URZ	**Urewera**	**1.08**	**185**	↑PN	Pn	16 21 22.6	-0.2
URZ				AML	AML	16 21 44.0	
URZ				AML	AML	16 21 44.5	
WMGZ	**Waiomatatini S**	**1.13**	**124**	↑PN	Pn	16 21 23.2	0.0
WMGZ				SN	Sn	16 21 44.2	+0.5
TWGZ	**Tauwhareparae**	**1.15**	**149**	↑PN	Pn	16 21 24.0	+0.5
MWZ	**Matawai**	**1.17**	**169**	↑PN	Pn	16 21 23.5	-0.1
MWZ				AML	AML	16 21 45.9	
MWZ				AML	AML	16 21 46.0	
MWZ				AML	AML	16 21 46.7	
PUZ	**Puketiti**	**1.20**	**138**	PN	Pn	16 21 23.4	-0.4
PUZ				AML	AML	16 21 44.8	
PUZ				AML	AML	16 21 47.0	
RRRZ	**Republican Roa**	**1.28**	**206**	PN	Pn	16 21 25.0	+0.3
KUZ	**Kuaotunu**	**1.29**	**289**	↓PN	Pn	16 21 24.7	0.0
RAGZ	**Rawiri**	**1.32**	**174**	PN	Pn	16 21 25.1	+0.1
MUGZ	**Murupara**	**1.34**	**196**	↑PN	Pn	16 21 25.1	-0.1
TKGZ	**Te Karaka**	**1.34**	**159**	↑PN	Pn	16 21 25.1	0.0
RTZ	**Ruatahuna**	**1.44**	**188**	↓PN	Pn	16 21 25.8	-0.4
CNGZ	**Carnagh Station**	**1.51**	**150**	↑PN	Pn	16 21 27.2	+0.4
RIGZ	**Rimuhau**	**1.57**	**165**	PN	Pn	16 21 27.5	0.0
SNGZ	**Shannon Statio**	**1.59**	**177**	PN	Pn	16 21 27.7	0.0
GRZ	**Great Barrier**	**1.71**	**303**	↓PN	Pn	16 21 28.8	-0.1
RAHZ	**Arahi**	**1.73**	**184**	PN	Pn	16 21 29.4	+0.1
MRHZ	**Matea Rd**	**1.77**	**201**	PN	Pn	16 21 29.1	-0.5
PRGZ	**Paritu Road**	**1.81**	**164**	PN	Pn	16 21 29.8	-0.3
KNZ	**Kokohu**	**1.86**	**169**	PN	Pn	16 21 30.2	-0.4
WHHZ	**Waihua**	**1.89**	**180**	PN	Pn	16 21 30.8	-0.1
NMHZ	**Naumai**	**1.94**	**190**	PN	Pn	16 21 31.7	+0.2
MHGZ	**Mahia Peninsul**	**2.03**	**165**	PN	Pn	16 21 32.3	-0.3
BKZ	**Black Stump Fm**	**2.06**	**196**	↑PN	Pn	16 21 32.1	-0.8
ARHZ	**Aropaoanui**	**2.08**	**185**	↓PN	Pn	16 21 32.9	-0.2
MCHZ	**McNeill Hill**	**2.29**	**190**	PN	Pn	16 21 35.1	-0.5
KWHZ	**Kaweka Forest**	**2.33**	**196**	PN	Pn	16 21 35.2	-0.8
TUVZ	**Tukino**	**2.42**	**210**	PN	Pn	16 21 38.6	+1.4
FWVZ	**Far West T-bar**	**2.45**	**212**	PN	Pn	16 21 37.6	-0.1
CKHZ	**Cape Kidnapper**	**2.47**	**183**	PN	Pn	16 21 36.8	-0.8
BHHZ	**Black Hill Sta**	**2.48**	**201**	PN	Pn	16 21 36.6	-1.2
WNVZ	**Wahianoa**	**2.50**	**211**	PN	Pn	16 21 37.6	-0.6
KRHZ	**Kereru**	**2.55**	**195**	PN	Pn	16 21 37.4	-1.3
KAHZ	**Kahuranaki**	**2.62**	**186**	PN	Pn	16 21 38.6	-1.0
PNHZ	**Pukenui**	**2.84**	**196**	PN	Pn	16 21 40.6	-1.6
PXZ	**Pawanui**	**2.86**	**186**	PN	Pn	16 21 40.8	-1.6
PXZ				AML	AML	16 22 16.4	
PXZ				AML	AML	16 22 16.4	
PXZ				AML	AML	16 22 16.6	
WPHZ	**Waipukurau**	**2.94**	**192**	PN	Pn	16 21 42.0	-1.4
PRHZ	**Porangahau**	**3.11**	**188**	PN	Pn	16 21 43.9	-1.7
DVHZ	**Dannevirke**	**3.22**	**195**	PN	Pn	16 21 44.6	-2.4
ANWZ	**Angora Road**	**3.32**	**190**	PN	Pn	16 21 46.3	-2.0
PRWZ	**Pori Road**	**3.51**	**196**	PN	Pn	16 21 48.8	-1.8
BFZ	**Birch Farm**	**3.58**	**192**	PN	Pn	16 21 48.9	-2.6
MRZ	**Mangatainoka R**	**3.70**	**200**	↓PN	Pn	16 21 50.2	-2.9
TIWZ	**Tintock**	**3.74**	**196**	PN	Pn	16 21 50.8	-2.7
CPWZ	**Castlepoint**	**3.81**	**192**	PN	Pn	16 21 52.4	-2.0
HOWZ	**Holdsworth Sta**	**3.94**	**199**	PN	Pn	16 21 52.9	-3.3
OGWZ	**Otaki Gorge**	**3.97**	**203**	PN	Pn	16 21 53.5	-3.0
TMWZ	**Te Maipa**	**4.05**	**195**	PN	Pn	16 21 54.7	-2.9
KWZ	**Kapiti Island**	**4.09**	**206**	PN	Pn	16 21 55.0	-3.2
MTW	**Mount Morrison**	**4.19**	**198**	PN	Pn	16 21 55.7	-3.7
CAW	**Cannon Point**	**4.26**	**203**	PN	Pn	16 21 56.7	-3.6
MSWZ	**Moikau Station**	**4.50**	**199**	PN	Pn	16 21 59.5	-3.9
TCW	**Tory Channel**	**4.63**	**209**	PN	Pn	16 22 01.5	-3.6
PLWZ	**Palliser**	**4.64**	**199**	PN	Pn	16 22 01.1	-4.2
TUWZ	**Tuamarina**	**4.95**	**210**	PN	Pn	16 22 05.3	-4.0
NNZ	**Nelson**	**5.02**	**215**	PN	Pn	16 22 06.3	-3.9
KHZ	**Kahutara**	**5.95**	**207**	PN	Pn	16 22 18.1	-4.4

*IDC **11** 16:26:23.0±3.6,36.°16N×70.°47E,h177km±24km,mb3.4/9, mb1 3.4/15,mb1mx3.1/63,mbtmp3.9/15,Error ellipse: s-maj=39.2km s-min=15.2km az=152.0*
*ISCJB **11** 16:26:26.9±0.4,36.°56N±0.°03×70.°42E±0.°05,h204km, mb3.6/8,Error ellipse: s-maj=6.2km s-min=4.0km az=161.3*
*NNC **11** 16:26:30.7±1.2,36.°76N×70.°49E,h182km±11km,mb3.2, mpv4.2,Error ellipse: s-maj=13.0km s-min=7.5km az=146.0*

ISC 11 16:26:27.3±0.6,36.°49N±0.°05×70.°46E±0.°06,h204km,n34, σ1.°84/44,mb3.7/8,8C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.65**	**331**	↓P	**Pn**	**16 27 12.9**	**-0.3**
	44nm,0.3s						
DZET				↑S	**S**	**16 27 45.8**	**-2.7**
	378nm,0.7s						
CEP	**Cherat**	**2.92**	**156**	↑P	**Pn**	**16 27 17.6**	**+1.2**
CEP				S	**S**	**16 27 55.0**	**+1.0**
CHCP	**Chirah Chowk**	**3.65**	**140**	P	**Pn**	**16 27 26.5**	**+1.6**
THW	**Thamme Wali**	**3.84**	**164**	P	**Pn**	**16 27 28.2**	**+0.9**
SARP	**Sargodha**	**4.91**	**157**	P	**Pn**	**16 27 40.9**	**+0.2**
THN	**Thein Dam**	**5.94**	**131**	eP	**Pn**	**16 27 50.0**	**-3.8**
THN				eS	**S**	**16 28 55.7**	**-6.2**
MNAS	**Manas**	**6.19**	**14**	↓P	**Pn**	**16 27 57.3**	**+0.2**
	3.3nm,0.3s						
MNAS				↑S	**S**	**16 29 05.6**	**-2.6**
	25nm,0.4s						
KK31	**Karatay Array**	**6.60**	**0**	P	**Pn**	**16 28 01.9**	**-0.4**
	6.3nm,0.4s,baz=189,slow=13,SNR=76						
KK31				↓S	**S**	**16 29 14.2**	**-3.4**
	6.2nm,0.3s						
AAK	**Ala-Archa**	**6.88**	**26**	P	**Pn**	**16 28 06.8**	**+0.7**
	7.1nm,0.3s,baz=190,slow=7.6,SNR=41						
AAK				S	**S**	**16 29 23.8**	**-0.5**
	2.0nm,0.3s,baz=314,slow=22,SNR=11						
AAK	**Ala-Archa**	**6.88**	**26**	↑P	**Pn**	**16 28 06.5**	**+0.5**
	11nm,0.4s						
AAK				↑S	**S**	**16 29 21.9**	**-2.5**
	15nm,0.7s						
TKM2	**Tokmak 2**	**7.54**	**30**	↓P	**Pn**	**16 28 14.7**	**0.0**
	26nm,0.6s						
TKM2				↑S	**S**	**16 29 37.5**	**-2.6**
	4.6nm,0.7s						
GEYT	**Alibeck**	**9.95**	**282**	P	**Pn**	**16 28 43.6**	**-2.2**
	1.0nm,0.3s,baz=101,slow=10,SNR=9.0						
GEYT				S	**S**	**16 30 35.0**	**-2.3**
	0.4nm,0.3s,baz=225,slow=48,SNR=2.8						
PYUN	**Piuthan**	**13.49**	**125**	eP	**Pn**	**16 29 30.9**	**-0.1**
	6.0nm,0.3s						
MK31	**Makanchi Array**	**13.56**	**37**	↓P	**Pn**	**16 29 31.5**	**+0.1**
	0.5nm,0.4s,baz=216,slow=9.8,SNR=9.4						
MKAR	**Makanchi Array**	**13.56**	**37**	P	**Pn**	**16 29 32.0**	**+0.6**
	0.2nm,0.3s,baz=213,slow=15,SNR=9.6						
KOLN	**Koldanda**	**14.12**	**124**	eP	**Pn**	**16 29 38.6**	**-0.1**
	5.5nm,0.4s						
GKN	**Gorkha**	**14.67**	**121**	eP	**P**	**16 29 47.4**	**+0.9**
	15nm,0.5s						
AB31	**Akbulak array**	**14.88**	**332**	↓P	**P**	**16 29 49.7**	**+1.2**
	1.5nm,0.4s,baz=152,slow=11,SNR=48						
AB31				↑S	**S**	**16 32 34.7**	**+2.0**
	0.4nm,0.4s						
KKN	**Kakani**	**15.25**	**120**	eP	**P**	**16 29 54.5**	**+1.6**
	20nm,0.5s						
KURBB	**Kurchatov Arra**	**15.27**	**20**	P	**Pn**	**16 29 51.6**	**-0.9**
	0.1nm,0.3s,baz=209,slow=11,SNR=7.9						
PKIN	**Phulchoki**	**15.46**	**121**	eP	**P**	**16 29 56.3**	**+1.0**
	7.4nm,0.4s						
GUN	**Gumba**	**15.59**	**119**	eP	**Pn**	**16 29 59.4**	**+2.5**
	12nm,0.5s						
BVAR	**Borovoye Array**	**16.53**	**360**	P	**Pn**	**16 30 07.8**	**+0.2**
	0.3nm,0.3s,baz=177,slow=7.2,SNR=4.9						
AKTO	**Aktyubinsk**	**16.57**	**331**	P	**Pn**	**16 30 08.3**	**+0.3**
	0.4nm,0.3s,baz=146,slow=9.4,SNR=12						
AKTO	**Aktyubinsk**	**16.57**	**331**	↑P	**Pn**	**16 30 07.9**	**-0.2**
	5.8nm,0.9s						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**16 30 46.1**	**+0.8**
	1.7nm,0.4s,baz=215,slow=10,SNR=10						
ARU	**Arti**	**21.50**	**342**	P	**P**	**16 31 01.1**	**+1.2**
	1.2nm,0.3s,baz=165,slow=8.7,SNR=4.6						
NRIK	**Noril'sk**	**34.21**	**11**	P	**P**	**16 32 54.8**	**+1.7**
	2.4nm,0.5s,baz=212,slow=6.0,SNR=3.2						
FINES	**FINESS Array B**	**37.25**	**326**	P	**P**	**16 33 19.1**	**+0.1**
	1.6nm,0.7s,baz=125,slow=12,SNR=6.9						
ARCES	**ARCESS Array B**	**40.99**	**338**	P	**P**	**16 33 50.1**	**+0.3**
	3.0nm,0.7s,baz=120,slow=7.4,SNR=13						
NOA	**NORSAR Array B**	**44.12**	**323**	P	**P**	**16 34 15.3**	**+0.1**
	1.1nm,0.8s,baz=98,slow=7.9,SNR=3.6						
SPITS	**Spitsbergen Ar**	**47.40**	**347**	P	**P**	**16 34 42.2**	**+1.7**
	0.5nm,0.5s,baz=111,slow=12,SNR=4.2						
TORD	**Torodi Ar. Bea**	**65.28**	**268**	P	**P**	**16 36 45.6**	**-2.0**
	0.6nm,0.5s,baz=52,slow=6.0,SNR=9.8						
ILAR	**Eielson Array**	**74.91**	**16**	P	**P**	**16 37 45.4**	**+0.2**
	1.7nm,1.2s,baz=317,slow=6.5,SNR=4.0						

*MOS **11** 16:26:34.0±0.9,50.°39N×159.°53E,h49km,mb4.7/37,Error ellipse: s-maj=7.3km s-min=3.0km az=94.1*
*ISCJB **11** 16:26:35.8±0.6,50.°51N±0.°03×159.°46E±0.°04,h58km±4km, mb4.5/78,MS3.3/5,Error ellipse: s-maj=5.8km s-min=3.8km az=143.9*
*BJI **11** 16:26:35.3,50.°43N×159.°16E,h45km,mb4.6/36,mB4.7/24, Ms4.4/16,Ms7 4.1/16*
*KRSC **11** 16:26:36.5±2.3,50.°74N×159.°82E,h41km±26km,ML5.0, FELT [III] at lighthouse Krugliy.*
*NEIC **11** 16:26:37.0±0.8,50.°51N×159.°46E,h54km±6km,mb4.6/27, Error ellipse: s-maj=7.4km s-min=4.6km az=162.0*
*IDC **11** 16:26:38.2±2.2,50.°54N×159.°42E,h64km±17km,mb4.0/30, mb1 4.1/35,mb1mx4.0/60,mbtmp4.3/35,MS3.3/8, Ms1 3.3/8,ms1mx3.0/38,Error ellipse: s-maj=14.2km s-min=11.4km az=135.0*

ISC 11 16:26:35.5±0.5,50.°47N±0.°05×159.°62E±0.°04,h42km±3km, h42km:pP-P,n258,σ1.°59/315,mb4.5/78,MS3.2/6,7C-10D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**2.04**	**300**	PN	**Pn**	**16 27 07.9**	**+0.7**
PAU				S	**Sn**	**16 27 31.6**	**+0.2**
PAU	**Pauzhetka**	**2.04**	**300**	*i* P	**Pn**	**16 27 07.9**	**+0.7**
PAU				*i* S	**Sn**	**16 27 31.6**	**+0.2**
RUS	**Russkaya**	**2.08**	**341**	PN	**Pn**	**16 27 08.2**	**+0.3**
RUS				S	**Sn**	**16 27 31.9**	**-0.7**
RUS	**Russkaya**	**2.08**	**341**	*i* P	**Pn**	**16 27 08.2**	**+0.3**
RUS				*i* S	**Sn**	**16 27 31.9**	**-0.7**
ASAK	**Asacha**	**2.20**	**331**	PN	**Pn**	**16 27 10.5**	**+1.0**
ASAK				S	**Sn**	**16 27 35.5**	**0.0**
ASAK	**Asacha**	**2.20**	**331**	*i* P	**Pn**	**16 27 10.5**	**+1.0**
ASAK				*i* S	**Sn**	**16 27 35.5**	**0.0**
SKR	**Severo-Kuril's**	**2.24**	**277**	↓*i*PN	**Pn**	**16 27 10.3**	**+0.2**
SKR				eS	**Sn**	**16 27 35.2**	**-1.3**
SKR				pmax	pmax		
	comp=Z,5μm,0.5s						
SKR				smax	smax		
	comp=N,49μm,0.6s						
GRL	**Gorelyy**	**2.30**	**336**	PN	**Pn**	**16 27 12.2**	**+1.3**
GRL				S	**Sn**	**16 27 37.7**	**-0.3**
GRL	**Gorelyy**	**2.30**	**336**	*e*P	**Pn**	**16 27 12.2**	**+1.3**
GRL				eS	**Sn**	**16 27 37.7**	**-0.3**
KRMR	**Karymshinskiy**	**2.54**	**339**	PN	**Pn**	**16 27 15.1**	**+1.0**
KRMR				S	**Sn**	**16 27 43.8**	**0.0**
KRMR	**Karymshinskiy**	**2.54**	**339**	*i* P	**Pn**	**16 27 15.1**	**+1.0**
KRMR				eS	**Sn**	**16 27 43.8**	**0.0**
DALK	**Dalny**	**2.62**	**348**	PN	**Pn**	**16 27 15.7**	**+0.5**
DALK				S	**Sn**	**16 27 44.3**	**-1.5**
DALK	**Dalny**	**2.62**	**348**	*i* P	**Pn**	**16 27 15.7**	**+0.5**
DALK				eS	**Sn**	**16 27 44.3**	**-1.5**
PET	**Petropavlovsk**	**2.63**	**347**	↓*i*PN	**Pn**	**16 27 15.8**	**+0.4**
PET				eS	**Sn**	**16 27 45.1**	**-0.8**
PET				pmax	pmax		
	comp=Z,363nm,0.3s						
PET				smax	smax		
	comp=N,3μm,0.4s						
PET				smax	smax		
	comp=E,2μm,0.4s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET	**Petropavlovsk**	**2.63**	**347**	*e*Pn	**Pn**	**16 27 15.5**	**+0.2**
PET				*e*Sn	**Sn**	**16 27 45.3**	**-0.6**
PET	**Petropavlovsk**	**2.63**	**347**	*i* P	**Pn**	**16 27 15.7**	**+0.4**
INSR	**Institute**	**2.67**	**347**	PN	**Pn**	**16 27 17.3**	**+1.3**
INSR	**Institute**	**2.67**	**347**	*e*P	**Pn**	**16 27 17.3**	**+1.3**
NLC	**Nalytchevo**	**2.71**	**356**	PN	**Pn**	**16 27 16.7**	**+0.2**
NLC				S	**Sn**	**16 27 47.2**	**-0.8**
NLC	**Nalytchevo**	**2.71**	**356**	*e*P	**Pn**	**16 27 16.7**	**+0.2**
N

KMNR Kamenistaya 5.31 4 PN **Pn** **16 27 55.4 +3.2**
KMNR Kamenistaya 5.31 4 *i* P **Pn** **16 27 55.4 +3.2**
ESO Esso 5.49 355 PN **Pn** **16 27 56.5 +1.8**
ESO Esso 5.49 355 *i* P **Pn** **16 27 56.5 +1.8**
BZMR Bezymyannaya 5.50 5 PN **Pn** **16 27 57.6 +2.7**
BZMR Bezymyannaya 5.50 5 P **Pn** **16 27 57.6 +2.7**
KPT Kopyto 5.52 4 PN **Pn** **16 27 57.8 +2.7**
KPT Kopyto 5.52 4 P **Pn** **16 27 57.8 +2.7**
KOZ Kozyrevsk 5.60 1 PN **Pn** **16 27 58.5 +2.4**
KOZ Kozyrevsk 5.60 1 P **Pn** **16 27 58.5 +2.4**
ZLN Zelenaya 5.60 7 PN **Pn** **16 27 59.4 +3.1**
ZLN Zelenaya 5.60 7 P **Pn** **16 27 59.4 +3.1**
LGNR Loginova 5.66 6 PN **Pn** **16 28 00.5 +3.3**
LGNR Loginova 5.66 6 P **Pn** **16 28 00.5 +3.3**
CIRR Tsirk 5.70 6 PN **Pn** **16 28 00.3 +2.7**
CIRR Tsirk 5.70 6 *e*P **Pn** **16 28 00.3 +2.7**
KRSR Krestovskiy 5.78 5 PN **Pn** **16 28 00.9 +2.1**
KRSR Krestovskiy 5.78 5 P **Pn** **16 28 00.9 +2.1**
KLY Klyuchi 5.88 6 PN **Pn** **16 28 02.2 +2.2**
KLY Klyuchi 5.88 6 P **Pn** **16 28 02.2 +2.2**
KLY S **Sn** **16 29 05.8 -0.3**
KBG Krutoberegovo 6.08 16 PN **Pn** **16 28 04.0 +1.3**
KBG Krutoberegovo 6.08 16 P **Pn** **16 28 04.0 +1.3**
KBG S **Sn** **16 29 07.1 -3.8**
BKI Bering 6.11 37 PN **Pn** **16 28 03.6 +0.6**
BKI Bering 6.11 37 *e*P **Pn** **16 28 03.6 +0.6**
BKI *e*S **Sn** **16 29 06.2 -5.3**
BDR Baidarnaya 6.18 8 PN **Pn** **16 28 06.3 +2.1**
BDR Baidarnaya 6.18 8 P **Pn** **16 28 06.3 +2.1**
SMKR Semkarok 6.22 9 PN **Pn** **16 28 06.8 +2.1**
SMKR Semkarok 6.22 9 P **Pn** **16 28 06.8 +2.1**
SRKR Sorokina 6.26 8 PN **Pn** **16 28 07.1 +1.8**
SRKR Sorokina 6.26 8 P **Pn** **16 28 07.1 +1.8**
OSSR Ossora 9.02 11 PN **Pn** **16 28 45.5 +2.6**
OSSR Ossora 9.02 11 P **Pn** **16 28 45.5 +2.6**
SMY Shemya 9.29 70 *e*PN **Pn** **16 28 47.3 +0.6**
SMY Shemya 9.29 70 *e*Pn **Pn** **16 28 47.3 +0.6**
SMY *e*Sn **Sn** **16 30 25.6 -4.2**
KUR Kuril'sk 9.48 241 *e*PN **Pn** **16 28 50.5 +1.2**
KUR pmax pmax
comp=N,12nm,0.5s
KUR pmax pmax
comp=Z,16nm,0.5s
KUR pmax pmax
comp=E,5.0nm,0.4s
MA2 Magadan 10.43 334 LR LR 16 34 31.2
comp=E,83nm,19.2s,baz=235,slow=46
MA2 Magadan 10.43 334 *e*PN **Pn** **16 29 03.2 +0.9**
TYV Tymovskoe 10.78 279 *e*PN **Pn** **16 29 08.8 +1.7**
TYV pmax pmax
comp=Z,18nm,1.0s
SHO Shikotan 10.92 238 *e*PN **Pn** **16 29 05.5 -3.5**
SHO pmax pmax
comp=Z,38nm,0.9s
SHO pmax pmax
comp=N,11nm,0.4s
YUK Yuzh-Kuril'sk 11.34 241 PN **Pn** **16 29 13.1 -1.7**
UGL Uglegorsk 11.44 270 *e*PN **Pn** **16 29 12.9 -3.2**
SEY Seymchan 13.10 345 P **Pn** **16 29 41.0 +2.4**
comp=N,0.1nm,0.3s,baz=345,slow=20,SNR=2.0
ERM Erimo 14.16 240‖ *e*P **Pn** **16 29 53.6 +0.3**
HABR Khabarovsk 16.08 272 *e*P **Pn** **16 30 15.5 -2.8**
HABR *e*S **Sn** **16 33 11.8 -3.5**
HABR pmax pmax
comp=E,3.0nm,0.6s
HABR pmax pmax
comp=N,9.0nm,1.1s
HABR pmax pmax
comp=Z,8.0nm,1.1s
HABR MLR MLR
comp=Z,114nm,17.0s
BILL Bilibino 17.93 8‖ *e*P **P** **16 30 44.0 +2.6**
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,66nm,25.0s
BILL Bilibino 17.93 8 *e*Pn **Pn** **16 30 40.5 -0.7**
comp=Z,4.4nm,0.4s
KLR Kul'dur 17.98 277 P **P** **16 30 42.9 +0.7**
comp=Z,0.4nm,0.3s,baz=67,slow=11,SNR=18
KLR LR LR 16 38 59.4
comp=Z,136nm,18.9s,baz=84,slow=42
USRK Ussuriysk Ar. 19.68 262 P **P** **16 30 59.4 -1.4**
comp=Z,0.1nm,0.3s,baz=70,slow=12,SNR=3.5
YAK Yakutsk 20.05 317 P **P** **16 31 02.5 -2.1**
comp=Z,0.0nm,0.3s,baz=286,slow=22,SNR=19
YAK LR LR 16 39 16.2
comp=Z,112nm,19.1s,baz=140,slow=38
YAK Yakutsk 20.05 317 *e*P **P** **16 31 02.1 -2.5**
YAK pmax pmax
comp=E,21nm,1.3s
YAK pmax pmax
comp=Z,55nm,0.8s
YAK pmax pmax
comp=N,11nm,1.4s
YAK Yakutsk 20.05 317 *e*P **P** **16 31 01.6 -3.0**
comp=N,77nm,0.7s
YAK *e*PcP **PcP** **16 35 18.4 -0.2**
VLA Vladivostok 20.28 259‖ *i*P **P** **16 31 04.9 -2.4**
VLA *i* *SP **pP** **16 31 19.2 +1.6**
VLA *i* S **S** **16 34 49.8 -2.4**
VLA pmax pmax
comp=Z,10.0nm,1.0s
MAJO Matsushiro 20.76 236 P **P** **16 31 10.6 -1.9**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 20.76 236 P **P** **16 31 10.6 -1.9**
comp=Z,8.9nm,0.8s
MAT Matsushiro 20.76 236 P **P** **16 31 12.1 -0.5**
MJAR Matsushiro Arr 20.76 236 P **P** **16 31 12.3 -0.3**
comp=Z,6.0nm,0.9s,baz=31,slow=10,SNR=8.2
MJAR Matsushiro Arr 20.76 236 P **P** **16 31 12.3 -0.3**
MJAR pmax pmax
comp=Z,7.0nm,1.0s
MDJ Mudanjiang 21.01 265 P **P** **16 31 13.1 -2.1**
MDJ pP pP 16 31 22.9 -2.7
MDJ sP sP 16 31 28.1 -2.8
MDJ S **S** **16 35 06.9 +0.2**
MDJ ScP **ScP** **16 38 53.9 0.0**
MDJ PcS **PcS** **16 38 58.8 +0.2**
MDJ PMZ
comp=Z,4.0nm,0.8s
MDJ PMZ
comp=Z,37nm,5.1s
MDJ LN
comp=Z,140nm,11.9s
MDJ LE
comp=Z,360nm,14.1s
MDJ LZ
comp=Z,470nm,14.1s
CN2 Changchun 24.03 267 *e*P **P** **16 31 44.5 -1.7**
CN2 PMZ
comp=Z,10.0nm,0.6s
TIXI Tiksi 25.37 338 P **P** **16 31 58.5 +0.3**
comp=Z,43nm,0.8s,baz=126,slow=10.0,SNR=104
TIXI LR LR 16 42 49.0
comp=Z,58nm,19.9s,baz=174,slow=38
KSRS Korea Array 26.04 252 P **P** **16 32 05.8 +1.2**
comp=Z,9.6nm,0.9s,baz=52,slow=9.0,SNR=49
KS01 Wonju Array Si 26.05 252 *e*P **P** **16 32 05.0 +0.3**
KS15 Wonju Array Si 26.07 252 *e*P **P** **16 32 05.8 +0.9**
KSAR Wonju Array Be 26.07 252 P **P** **16 32 05.8 +0.9**
KSAR Wonju Array Be 26.07 252 P **P** **16 32 05.8 +0.9**
TJN Taejon 27.09 251‖ *e*P **P** **16 32 15.0 +1.0**
BPAW Bear Paw Mtn. 29.11 43 *e*P **P** **16 32 31.3 -0.5**
comp=Z,0.6nm,0.7s
TRF Thorofare Moun 29.38 45 P **P** **16 32 34.8 +0.4**
comp=Z,4.3nm,0.8s
BWN Browne 29.78 43 *e*P **P** **16 32 40.5 +2.8**
comp=Z,14nm,1.0s
RND Reindeer 30.02 45 *e*P **P** **16 32 41.2 +1.2**
RND pmax pmax
comp=Z,7.0nm,0.8s
RND Reindeer 30.02 45 *e*P **P** **16 32 41.2 +1.2**
comp=Z,7.4nm,0.8s
SML Sawmill 30.28 48 *e*P **P** **16 32 43.1 +0.9**
SML pmax pmax
comp=Z,17nm,0.6s
SML Sawmill 30.28 48 *e*P **P** **16 32 43.1 +0.9**
comp=Z,17nm,0.6s
WRH Wood River Hil 30.39 43 *e*P **P** **16 32 45.8 +2.7**
comp=Z,3.9nm,0.8s
CCB Clear Creek Bu 30.52 42 *e*P **P** **16 32 48.5 +4.3**
comp=Z,11nm,1.5s

ILAR Eielson Array 30.92 42 P **P** **16 32 48.5 +0.7**
comp=Z,0.6nm,0.8s,baz=244,slow=7.7,SNR=9.3
ILAR LR LR 16 44 47.8
comp=Z,32nm,21.3s,baz=258,slow=35
BJI Beijing 31.89 268 P **P** **16 32 52.7 -3.8**
BJI S **S** **16 38 07.2 +2.9**
BJI PMZ
comp=Z,12nm,0.5s
BJI PMZ
comp=Z,110nm,4.0s
BJI LN
comp=Z,140nm,13.1s
BJI LE
comp=Z,290nm,17.6s
BJI LZ
comp=Z,180nm,16.6s
DOT Dot Lake 32.17 44 *e*P **P** **16 32 59.4 +0.6**
comp=Z,9.8nm,0.7s
DOT *e*PcP **PcP** **16 35 45.6 -1.0**
H11S1 WAKE ISLAND Hy 32.39 167 T T 17 08 28.2
baz=349,slow=76,SNR=7.8
H11S3 WAKE ISLAND Hy 32.40 167 T T 17 08 43.6
baz=349,slow=76,SNR=7.9
H11S2 WAKE ISLAND Hy 32.41 167 T T 17 08 34.2
baz=349,slow=76,SNR=6.7
EGAK Eagle 33.37 42 *e*P **P** **16 33 08.8 -0.4**
comp=Z,7.1nm,0.7s
ULN Ulaanbaatar 33.88 286↑ *e*P **P** **16 33 13.6 -0.4**
ULN pmax pmax
comp=Z,6.0nm,2.5s
SONM Songino Array 34.29 287 P **P** **16 33 16.6 -1.0**
comp=Z,0.6nm,0.5s,baz=64,slow=8.2,SNR=5.2
HHC Hu-ho-hao-te 34.39 273 *e*P **P** **16 33 18.3 -0.2**
HHC S **S** **16 38 39.6 -3.8**
HHC sS sS 16 39 01.8 -0.8
HHC PMZ
comp=Z,17nm,0.9s
HHC PMZ
comp=Z,120nm,6.1s
HHC LN
comp=Z,140nm,13.6s
HHC LE
comp=Z,270nm,14.2s
HHC LZ
comp=Z,270nm,14.7s
ZAK Zakamensk 35.15 292 *e*P **P** **16 33 24.1 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
WRAK Wrangell Islan 39.44 54 *e*P P 16 34 07.0 +6.0
comp=Z,6.0nm,0.8s
LZH Lanzhou 42.08 272 *e*P **P** **16 34 22.8 -0.5**
LZH pP pP 16 34 36.5 +1.5
LZH sP sP 16 34 41.6 +1.6
LZH PMZ
comp=Z,24nm,1.3s
ENH Enshi 42.25 261 *e*P **P** **16 34 23.8 -0.8**
comp=Z,1.9nm,0.4s
GTA Gaotai 42.66 279 *e*P **P** **16 34 29.1 +1.2**
GTA pP pP 16 34 40.0 +0.3
GTA sP sP 16 34 43.7 -1.0
GTA PcP **PcP** **16 36 21.2 +2.0**
GTA PMZ
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 43.99 305 *e*P **P** **16 34 37.6 -0.6**
ZALV Zalesovo Beam 43.99 305 P **P** **16 34 37.1 -1.2**
comp=Z,1.8nm,0.6s,baz=58,slow=6.6,SNR=8.1
NVS Novosibirsk 44.40 307 *e*P **P** **16 34 41.3 -0.2**
CD2 Chengdu 45.46 266 *e*P **P** **16 34 48.6 -1.7**
WMQ Urumqi 47.60 291 P **P** **16 35 07.7 +0.7**
WMQ pP pP 16 35 20.2 +1.3
WMQ sP sP 16 35 25.2 +1.4
WMQ PMZ
comp=Z,6.0nm,0.6s
WMQ PMZ
comp=Z,43nm,5.0s
WMQ LN
comp=Z,72nm,10.4s
WMQ LE
comp=Z,61nm,16.8s
KURK Kurchatov 48.91 304 P **P** **16 35 16.8 0.0**
KURK pmax pmax
comp=Z,7.0nm,0.7s
KURK Kurchatov 48.91 304 *e*P **P** **16 35 14.6 -2.2**
comp=Z,35nm,0.9s
KURBB Kurchatov Arra 49.00 304 P **P** **16 35 16.8 -0.8**
comp=Z,6.7nm,0.7s,baz=63,slow=7.8,SNR=34
MK31 Makanchi Array 49.07 297 *e*P **P** **16 35 17.3 -0.9**
MK31 Makanchi Array 49.07 297 *e*P **P** **16 35 17.3 -0.9**
MKAR Makanchi Array 49.07 297 P **P** **16 35 17.2 -0.9**
comp=Z,2.0nm,0.4s,baz=59,slow=6.7,SNR=34
MKAR LR LR 16 56 22.8
comp=Z,62nm,20.9s,baz=52,slow=36
MKAR Makanchi Array 49.07 297 *e*P **P** **16 35 17.5 -0.7**
MKAR Makanchi Array 49.07 297 *e*P **P** **16 35 17.4 -0.7**
MK01 Makanchi Array 49.07 297 *e*P **P** **16 35 17.2 -1.1**
MAKZ Makanchi 49.23 298 P **P** **16 35 17.9 -1.6**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 49.23 298 *e*P **P** **16 35 19.1 -0.4**
comp=Z,3.5nm,0.8s
SPITS Spitsbergen Ar 49.68 351 P **P** **16 35 22.4 0.0**
comp=Z,1.6nm,0.5s,baz=61,slow=6.9,SNR=11
KMI Kunming 50.11 262 P **P** **16 35 26.6 0.0**
KMI pP pP 16 35 39.6 +1.0
KMI sP sP 16 35 46.1 +2.6
KMI S **S** **16 42 37.4 +2.1**
KMI PMZ
comp=Z,6.0nm,1.2s
KMI PMZ
comp=Z,86nm,6.4s
KMI LN
comp=Z,140nm,17.3s
KMI LE
comp=Z,130nm,20.4s
KMI LZ
comp=Z,120nm,21.2s
QIZ Qiongzhong 50.23 250 P **P** **16 35 25.8 -1.5**
QIZ pP **pP** **16 35 37.9 -1.4**
QIZ sP **sP** **16 35 42.9 -1.3**
QIZ S **S** **16 42 35.7 -0.9**
QIZ sS **sS** **16 42 54.8 -1.7**
QIZ PMZ
comp=Z,11nm,1.9s
QIZ PMZ
comp=Z,48nm,5.5s
QIZ LN
comp=Z,120nm,6.0s
QIZ LE
comp=Z,130nm,11.6s
QIZ LZ
comp=Z,140nm,14.5s
HUMO Hull Mountain 51.57 67 *e*P **P** **16 35 38.7 +1.6**
BVA0 Borovoye Array 51.82 310 P **P** **16 35 37.4 -1.4**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 51.82 310 P **P** **16 35 37.9 -0.9**
comp=Z,4.2nm,0.6s,baz=58,slow=8.5,SNR=6.5
BRVK Borovoye 51.85 310 *de*P **P** **16 35 38.7 -0.3**
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 51.85 310 *e*P **P** **16 35 38.4 -0.6**
comp=Z,17nm,0.7s
ZRNK Zerenda 52.54 310 P **P** **16 35 42.9 -1.2**
ZRNK pmax pmax
comp=Z,8.0nm,0.9s
ZRNK Zerenda 52.54 310 *e*P **P** **16 35 43.7 -0.5**
comp=Z,7.6nm,0.8s
MOD Modoc Plateau 53.56 66 *e*P **P** **16 35 51.0 -1.1**
comp=Z,1.6nm,0.6s
OTUK Ortayu 53.68 304 P **P** **16 35 52.2 -0.4**
OTUK pmax pmax
comp=Z,8.0nm,1.1s
SVE Sverdlovsk 54.01 318↑ *i*P **P** **16 35 55.0 +0.1**
SVE pmax pmax
comp=Z,12nm,1.1s
WVOR Wild Horse Val 54.19 65 *e*P **P** **16 35 58.3 +1.7**
WVOR pmax pmax
comp=Z,2.0nm,0.9s
WVOR Wild Horse Val 54.19 65 *e*P **P** **16 35 58.3 +1.7**
comp=Z,2.4nm,0.9s
LVZ Lovozero 55.01 338 *ce*P **P** **16 36 01.8 -0.3**
LVZ pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 55.15 318 P **P** **16 36 02.4 -0.7**
comp=Z,4.6nm,0.5s,baz=49,slow=5.1,SNR=12
ARU Arti 55.15 318 *c i*P **P** **16 36 02.3 -0.8**

ARU 16 36 58.2
ARU S **S** **16 43 42.7 0.0**
ARU SS **SS** **16 47 21.1 -5.2**
ARU pmax pmax
comp=Z,16nm,1.7s
ARU Arti 55.15 318 *e*P **P** **16 36 02.4 -0.7**
comp=Z,6.9nm,0.6s
TKM2 Tokmak 2 55.19 297 P **P** **16 36 03.9 -0.1**
TKM2 pmax pmax
comp=Z,4.0nm,0.7s
TKM2 Tokmak 2 55.19 297 *e*P **P** **16 36 04.1 +0.1**
comp=Z,4.7nm,0.8s
ARCES ARCESS Array B 55.69 342 P **P** **16 36 06.2 -0.7**
comp=Z,2.9nm,0.9s,baz=44,slow=7.2,SNR=5.6
FRU Bishkek 55.81 298 *e*P **P** **16 36 07.0 -1.1**
AAK Ala-Archa 56.00 298 *c i*P **P** **16 36 09.6 -0.1**
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 56.00 298 *e*P **P** **16 36 09.4 -0.3**
comp=Z,8.8nm,0.9s
EKS2 Erkin-Say 56.39 298 *e*P **P** **16 36 12.7 +0.3**
EKS2 pmax pmax
comp=Z,11nm,0.9s
EKS2 Erkin-Say 56.39 298 *e*P **P** **16 36 12.7 +0.3**
comp=Z,11nm,0.9s
NVAR Mina Array Bea 56.95 68 P **P** **16 36 18.5 +1.9**
comp=Z,1.1nm,0.6s,baz=306,slow=7.8,SNR=11
NVAR LR LR 16 59 20.1
comp=Z,13nm,19.3s,baz=269,slow=34
KSH Kashi 57.17 294 P **P** **16 36 22.2 +4.2**
KSH pP sP 16 36 35.7 +0.7
KSH PcP **PcP** **16 37 15.9 +3.7**
KSH PP **PP** **16 38 29.7 +4.8**
KSH S **S** **16 44 12.7 +2.4**
KSH ScS **ScS** **16 46 05.0 +1.3**
KSH SS **SS** **16 48 01.1 +2.0**
KSH PMZ
comp=Z,13nm,0.8s
KSH LN
comp=Z,440nm,12.0s
KSH LE
comp=Z,190nm,10.5s
KSH LZ
comp=Z,150nm,12.1s
MNAS Manas 57.22 299 P **P** **16 36 18.4 +0.1**
MNAS pmax pmax
comp=Z,9.0nm,0.8s
CMAR Chiang Mai Arr 57.38 259 P **P** **16 36 20.8 +1.3**
comp=Z,1.1nm,0.6s,baz=31,slow=6.9,SNR=12
YMP Mirror Lake Pl 57.47 58 *e*P P 16 36 25.3 +5.1
KK31 Karatay Array 57.93 300 *i* P **P** **16 36 22.6 -0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 57.93 300 *e*P **P** **16 36 22.8 -0.3**
KKAR Karatay Array 57.93 300 *e*P **P** **16 36 22.8 -0.3**
GUN Gumba 58.90 277 *e*P **P** **16 36 30.8 +0.3**
comp=Z,12nm,0.5s
KLMR Klimovskoe 59.08 330 *e*P **P** **16 36 29.3 -1.5**
KLMR *e**PP **pP** **16 36 41.1 -1.9**
KLMR *e* 16 37 16.9
KLMR pmax pmax
comp=Z,8.0nm,0.8s
BW06 Boulder Array 59.09 59 *e*P **P** **16 36 33.6 +2.1**
PDAR Pinedale Array 59.09 59 P **P** **16 36 33.0 +1.4**
comp=Z,0.6nm,0.6s,baz=298,slow=3.2,SNR=5.6
RAMN Ramite 59.11 276 *e*P **P** **16 36 32.1 +0.2**
comp=Z,42nm,0.6s
AB31 Akbulak array 59.29 311 *i* P **P** **16 36 31.9 -0.6**
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 59.29 311 *e*P **P** **16 36 32.3 -0.2**
KKN Kakani 59.37 278 *e*P **P** **16 36 34.1 +0.5**
comp=Z,27nm,0.8s
AKTO Aktyubinsk 59.39 313 P **P** **16 36 32.4 -0.8**
comp=Z,1.7nm,0.5s,baz=32,slow=6.7,SNR=8.4
PKIN Phulchoki 59.44 277 *e*P **P** **16 36 34.3 +0.1**
comp=Z,8.3nm,0.5s
DMN Daman 59.60 277 *e*P **P** **16 36 35.9 +0.6**
comp=Z,34nm,0.7s
GKN Gorkha 59.62 278 *e*P **P** **16 36 35.6 +0.3**
comp=Z,17nm,0.6s
KOLN Koldanda 60.44 279 *e*P **P** **16 36 41.0 0.0**
comp=Z,15nm,0.5s
PYUN Piuthan 60.60 279 *e*P **P** **16 36 42.3 +0.3**
comp=Z,50nm,0.9s
FINES FINESS Array B 62.41 337 P **P** **16 36 53.0 -0.5**
comp=Z,1.8nm,0.4s,baz=36,slow=6.8,SNR=23
KBL Kabul 64.61 294 *e*P **P** **16 37 07.7 -1.0**
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 64.61 294 *e*P **P** **16 37 07.7 -1.0**
comp=Z,9.9nm,0.8s
LPSR Galich'ya Gora 65.76 325 *e*P **P** **16 37 15.6 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VRH Novokhopyorsk 65.81 322 *e*P **P** **16 37 14.6 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
NB2 NORSAR Subarra 65.98 344 P **P** **16 37 16.3 -0.6**
comp=Z,3.8nm,0.6s,baz=29,slow=6.5
NOA NORSAR Array B 65.98 344 P **P** **16 37 16.4 -0.6**
comp=Z,1.7nm,0.8s,baz=23,slow=6.6,SNR=6.5
ANMO Albuquerque 66.25 64‖ *e*P **P** **16 37 21.0 +1.7**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
VSR Storozhevoye 66.78 324 *e*P **P** **16 37 20.9 -1.2**
VSR pmax pmax
comp=Z,8.0nm,0.8s
GEYT Alibeck 68.28 303 P **P** **16 37 32.2 +0.3**
comp=Z,16nm,0.8s,baz=34,slow=3.9,SNR=32
AKASG Malin Array Be 70.71 329 P **P** **16 37 45.3 -1.3**
comp=Z,4.1nm,0.6s,baz=32,slow=6.4,SNR=11
NCK Nalchik 71.12 316‖ *e*P **P** **16 37 48.9 -0.4**
NCK pmax pmax
comp=Z,10.0nm,0.8s
KVAR Kislovodsk Arr 71.15 317 P **P** **16 37 49.7 +0.1**
comp=Z,4.3nm,0.6s,baz=250,slow=3.8,SNR=3.7
KBZ Khabaz 71.25 317 P **P** **16 37 49.7 -0.2**
comp=Z,7.1nm,0.9s,baz=52,slow=4.0,SNR=13
ZEI Tsey 71.55 316 *e*P **P** **16 37 51.1 -1.0**
ZEI pmax pmax
comp=Z,14nm,0.6s
TX31 Lajitas Ar. Si 71.96 66 *e*P **P** **16 37 55.7 +1.1**
TXAR Lajitas Array 71.96 66 P **P** **16 37 55.2 +0.6**
comp=Z,1.1nm,0.5s,baz=301,slow=5.0,SNR=24
WRAB Tennant Creek 73.56 205↑ *e*P **P** **16 38 03.5 -0.4**
WRAB pmax pmax
comp=Z,55nm,2.5s
WB2 Warramunga Arr 73.57 205 *e*P **P** **16 38 03.9 -0.1**
comp=Z,10nm,0.8s
WRA Warramunga Arr 73.57 205 P **P** **16 38 03.5 -0.5**
comp=Z,8.0nm,0.7s,baz=20,slow=6.3,SNR=28
WRA LR LR 17 07 56.2
comp=Z,60nm,21.3s,baz=325,slow=34
STHS Stebnicka Huta 74.30 333 *e*P **P** **16 38 09.1 +1.1**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 74.30 333 *e*P **P** **16 38 09.1 +1.1**
STHS *e* 16 38 11.6
KOLS Kolonicke sedl 74.44 332 *e*P **P** **16 38 08.6 -0.2**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 74.44 332 *e*P **P** **16 38 08.6 -0.2**
BUR08 Bucovina Ar. S 74.68 330 *e*P **P** **16 38 10.3 -0.1**
CLL Collm 74.70 339‖ *i*P **P** **16 38 10.0 -0.3**
comp=Z,6.0nm,1.2s
CLL *i* 16 38 23.7
CLL *e* 16 38 30.0
CLL *i* 16 38 34.1
CLL Collm 74.70 339‖ *i*P **P** **16 38 10.0 -0.3**
CLL *i* 16 38 23.7
CLL *e* 16 38 30.0
CLL pmax pmax
comp=Z,6.0nm,1.2s
CRVS Cervenica-Dubn 74.70 333 *e*P **P** **16 38 10.4 0.0**
CRVS Cervenica-Dubn 74.70 333 *e*P **P** **16 38 10.4 0.0**
DPC Dobruska-Polom 74.79 337 *e*P **P** **16 38 10.9 0.0**
DPC *ep*P **PcP** **16 38 24.9 +0.1**
DPC *es*P **sP** **16 38 31.3 +3.1**
DPC Dobruska-Polom 74.79 337 *e*P **P** **16 38 10.9 0.0**
DPC *e* 16 38 24.9
DPC *e* 16 38 31.3
BRG Berggiesshubel 74.89 338 *e*P pP 16 38 26.0 +2.1
comp=Z,7.8nm,1.4s
BRG Berggiesshubel 74.89 338 *e*P **pP** **16 38 26.0 +2.1**

BRG				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MORC	**Moravsky Berou**	**75.00**	**336**	*e*P	**P**	**16 38 12.5**	**+0.4**
MORC				pmax	pmax		
	comp=Z,17nm,0.9s						
MORC	**Moravsky Berou**	**75.00**	**336**	*e*P	**P**	**16 38 12.5**	**+0.4**
	comp=Z,16nm,0.9s						
LANS	**Liptovska Anna**	**75.05**	**334**	*e*P	**P**	**16 38 13.4**	**+1.0**
LANS	**Liptovska Anna**	**75.05**	**334**	*e*P	**P**	**16 38 13.4**	**+1.0**
KECS	**Kecovo**	**75.36**	**333**	*e*P	**P**	**16 38 10.4**	**-3.7**
VRAC	**Vranov**	**75.67**	**336**	P	**P**	**16 38 16.0**	**0.0**
	baz=18,slow=6.4						
VRAC	**Vranov**	**75.67**	**336**	P	**P**	**16 38 16.0**	**0.0**
VYHS	**Vyhne**	**75.82**	**334**	*e*P	**P**	**16 38 17.2**	**+0.4**
VYHS				*e*		16 38 31.1	
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.1s						
VYHS	**Vyhne**	**75.82**	**334**	*e*P	**P**	**16 38 17.2**	**+0.4**
VYHS				*e*		16 38 31.1	
KHC	**Kasperske Hory**	**76.59**	**338**	*e*P	**P**	**16 38 21.4**	**+0.2**
KHC				*e*pP	**pP**	**16 38 35.6**	**+1.8**
KHC				*e*sP	**sP**	**16 38 41.9**	**+3.3**
KHC	**Kasperske Hory**	**76.59**	**338**	*e*P	**P**	**16 38 21.4**	**+0.2**
KHC				*e*		16 38 35.6	
KHC				*e*		16 38 41.9	
KHC	**Kasperske Hory**	**76.59**	**338**	*e*P	**P**	**16 38 21.4**	**+0.2**
	comp=Z,2.0nm,1.0s						
GERES	**GERESS Array B**	**76.83**	**338**	P	**P**	**16 38 22.1**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=38,slow=6.8,SNR=10						
GEA0	**GERESS Array S**	**76.84**	**338**	*e*P	**P**	**16 38 22.3**	**-0.3**
GEA0				*e*PcP	**PcP**	**16 38 36.5**	**+2.8**
CONA	**Conrad Observa**	**77.14**	**336**	*i* P	**P**	**16 38 25.1**	**+0.8**
	comp=Z,1.9nm,0.9s						
AS01	**Alice Springs**	**77.23**	**204**	*e*P	**P**	**16 38 25.1**	**+0.2**
ASAR	**Alice Springs**	**77.24**	**204**	P	**P**	**16 38 25.2**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=18,slow=5.3,SNR=50						
BRTR	**Keskin Array B**	**78.46**	**320**	P	**P**	**16 38 31.8**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=42,slow=4.7,SNR=3.5						
SOKA	**Soboth**	**78.51**	**336**	*i* P	**P**	**16 38 32.4**	**+0.4**
	comp=Z,7.3nm,1.3s						
KBA	**Koelnbreinsper**	**78.56**	**337**	*i* P	**P**	**16 38 33.4**	**+1.0**
	comp=Z,8.4nm,0.9s						
OBKA	**Obir**	**78.79**	**336**	*i* P	**P**	**16 38 33.9**	**+0.4**
	comp=Z,5.9nm,1.2s						
MMAI	**Mount Meron Ar**	**83.38**	**316**	P	**P**	**16 38 58.1**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=49,slow=5.6,SNR=4.1						
ES19	**SONSECA Array**	**89.05**	**347**	*e*P	**P**	**16 39 25.4**	**-0.5**
ESDC	**Sonseca Array**	**89.08**	**347**	P	**P**	**16 39 25.2**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=357,slow=4.4,SNR=9.1						
KEST	**Kesra**	**90.25**	**336**	P	**P**	**16 39 31.5**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=9.5,slow=12,SNR=2.9						

IDC ***11*** *16:27:59.9±6.4, 39.˚43N×144.˚30E, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.5/60, mbtmp3.7/7, ML2.9/3, Error ellipse: s-maj=107.6km s-min=46.4km az=120.0*

NIED ***11*** *16:28:00, 39.˚60N×143.˚70E, h26km, Mw3.7 Best double couple: M0 3.81000×10¹⁴ NP1:φ=190.00000°, δ31.00000°, λ66.00000°. NP2:φ=37.00000°, δ62.00000°, λ103.00000°.*

ISCJB ***11*** *16:28:04.7±1.6, 39.˚60N±0.˚08×143.˚6E±0.˚2, h11km, mb3.7/4, Error ellipse: s-maj=21.6km s-min=6.5km az=27.0*

JMA ***11*** *16:28:04.6±0.2, 39.˚59N×143.˚69E, h31km, M3.7*

ISC 11 16:28:06.7±2.1, 39.˚6N±0.˚1×143.˚5E±0.˚2, h11km, n18, σ1=55/20, mb3.8/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.31**	**269**	P		**Pn**	**16 28 29.3**	**-1.6**
JTH	**Tanohata**	**1.31**	**285**	P		**Pn**	**16 28 29.3**	**-1.7**
OFUJ	**Ofunato**	**1.52**	**250**	P		**Pn**	**16 28 32.3**	**-1.6**
JANG	**Nango**	**1.71**	**297**	P		**Pn**	**16 28 34.9**	**-1.6**
JOM	**Ohasama**	**1.72**	**266**	P		**Pn**	**16 28 35.8**	**-0.8**
JMK	**Ichinoseki**	**1.90**	**250**	P		**Pn**	**16 28 37.8**	**-1.2**
JIO	**Ouri**	**2.04**	**236**	P		**Pn**	**16 28 39.2**	**-1.8**
JYK	**Kaneyama**	**2.54**	**255**	P		**Pn**	**16 28 47.3**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.73**	**348**	P		**Pn**	**16 28 50.6**	**+0.1**
JCH	**Churui**	**3.00**	**358**	P		**Pn**	**16 28 53.7**	**-0.5**
JCH				S		**Sn**	**16 29 28.1**	**-2.1**
MJAR	**Matsushiro Arr**	**5.18**	**235**	Pn		**Pn**	**16 29 24.6**	**+0.4**
	1.0nm,0.3s,baz=38,slow=12,SNR=44							
MAT	**Matsushiro**	**5.18**	**235**	P		**Pn**	**16 29 24.4**	**+0.2**
MAT				*e*S		**Sn**	**16 30 23.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**9.73**	**302**	Pn		**Pn**	**16 30 29.9**	**+3.2**
	0.2nm,0.3s,baz=108,slow=12,SNR=6.9							
KSRS	**Korea Array**	**12.40**	**265**	Pn		**Pn**	**16 31 06.0**	**+2.9**
	0.1nm,0.3s,baz=87,slow=12,SNR=4.6							
SONM	**Songino Array**	**27.84**	**299**	P		**P**	**16 33 56.0**	**-0.2**
	0.4nm,0.4s,baz=100,slow=7.5,SNR=2.6							
ZALV	**Zalesovo Beam**	**41.45**	**310**	P		**P**	**16 35 53.4**	**+0.1**
	0.8nm,0.6s,baz=93,slow=6.1,SNR=2.4							
MKAR	**Makanchi Array**	**44.20**	**300**	P		**P**	**16 36 15.5**	**-0.2**
	1.0nm,0.6s,baz=67,slow=9.5,SNR=2.0							
KURBB	**Kurchatov Arra**	**45.76**	**306**	P		**P**	**16 36 27.0**	**-1.0**
	1.5nm,0.6s,baz=79,slow=8.5,SNR=2.5							

NIED ***11*** *16:31:00, 39.˚60N×143.˚70E, h23km, Mw4.2 Best double couple: M0 2.44000×10¹⁵ NP1:φ=195.00000°, δ30.00000°, λ80.00000°. NP2:φ=27.00000°, δ60.00000°, λ96.00000°.*

ISCJB ***11*** *16:31:13.6±0.4, 39.˚59N±0.˚03×143.˚46E±0.˚05, h11km, mb4.4/46, MS3.8/7, Error ellipse: s-maj=6.5km s-min=3.6km az=37.5*

JMA ***11*** *16:31:13.4±0.3, 39.˚62N×143.˚72E, h33km, M4.5*

IDC ***11*** *16:31:14.2±0.8, 39.˚62N×143.˚42E, h0km, mb4.2/22, mb1 4.4/26, mb1mx4.2/60, mbtmp4.2/26, ML3.8/4, MS3.4/5, Ms1 3.4/5, ms1mx2.9/39, Error ellipse: s-maj=19.5km s-min=14.7km az=106.0*

BJI ***11*** *16:31:16.3, 39.˚66N×143.˚39E, h33km, mb4.6/55, mB4.7/36, Ms4.1/34, Ms7 3.9/37*

MOS ***11*** *16:31:17.5±1.1, 39.˚66N×143.˚34E, h34km, mb4.7/26, Error ellipse: s-maj=7.9km s-min=5.4km az=103.2*

NEIC ***11*** *16:31:19.1±0.5, 39.˚66N×143.˚39E, h35km, mb4.8/11, Error ellipse: s-maj=10.7km s-min=6.1km az=121.0*

ISC 11 16:31:15.1±0.5, 39.˚64N±0.˚05×143.˚40E±0.˚05, h11km, n134, σ2=8/08/168, mb4.5/46, MS4.0/7, 14C-8D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.22**	**285**	P		**Pg**	**16 31 38.4**	**-0.2**
JTH				S		**Sn**	**16 31 57.4**	**+2.8**
MIYJ	**Miyakonagasawa**	**1.22**	**268**	P		**Pg**	**16 31 38.4**	**-0.2**
OFUJ	**Ofunato**	**1.45**	**248**	P		**Pn**	**16 31 41.4**	**+0.1**
JANG	**Nango**	**1.62**	**298**	P		**Pn**	**16 31 43.7**	**0.0**
JOM	**Ohasama**	**1.63**	**265**	P		**Pb**	**16 31 44.8**	**-0.5**
JMK	**Ichinoseki**	**1.82**	**249**	P		**Pn**	**16 31 46.9**	**+0.5**
ERM	**Erimo**	**2.38**	**356**	*e*P		**Pn**	**16 31 55.1**	**+1.0**
ERM	**Erimo**	**2.38**	**356**	*e*Pn		**Pn**	**16 31 55.1**	**+1.0**
ERM				*e*Sn		**Sn**	**16 32 23.5**	**+0.1**
JYK	**Kaneyama**	**2.46**	**254**	P		**Pn**	**16 31 56.4**	**+1.2**
JOT	**Ohata**	**2.50**	**315**	P		**Pn**	**16 31 57.0**	**+1.3**
JNBK	**Urakawa-nobuka**	**2.69**	**350**	P		**Pn**	**16 31 59.8**	**+1.5**
ASAJ	**Asahikawa**	**4.52**	**353**	Pn		**Pn**	**16 32 25.1**	**+1.6**
	2.9nm,0.3s,baz=202,slow=18,SNR=26							
ASAJ	**Asahikawa**	**4.52**	**353**	*e*Pn		**Pn**	**16 32 24.9**	**+1.4**
ASAJ				*e*Sn		**Sn**	**16 33 13.4**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**4.77**	**22**	*i* P		**Pn**	**16 32 26.2**	**-0.7**
MJAR	**Matsushiro Arr**	**5.12**	**235**	Pn		**Pn**	**16 32 33.4**	**+1.6**
	5.3nm,0.3s,baz=39,slow=12,SNR=58							
MJAR				LR		LR	16 34 45.3	
	comp=Z,277nm,19.2s,baz=25,slow=41							
MAJO	**Matsushiro**	**5.13**	**235**	*c i*P		**Pn**	**16 32 33.3**	**+1.5**
MAJO	**Matsushiro**	**5.13**	**235**	*e*Pn		**Pn**	**16 32 33.4**	**+1.5**
MAJO				*e*Sn		**Sn**	**16 33 31.1**	**0.0**
MAT	**Matsushiro**	**5.13**	**235**	P		**Pn**	**16 32 33.4**	**+1.5**
MAT				*e*S		**Sn**	**16 33 31.3**	**+0.3**
MJB9	**Matsu-Tunnel**	**5.13**	**235**	*e*Pn		**Pn**	**16 32 33.5**	**+1.6**
KUR	**Kuril'sk**	**6.50**	**29**	*e*P		**Pn**	**16 32 51.3**	**+0.7**
KUR				*i* S		**Sn**	**16 34 01.1**	**-3.6**
KUR				pmax	pmax			
	comp=Z,19nm,0.5s							
KUR				pmax	pmax			
	comp=E,12nm,0.4s							
KUR				smax	smax			
	comp=N,46nm,0.6s							
KUR				smax	smax			
	comp=E,31nm,0.6s							
INU	**Inuyama**	**6.63**	**232**	*e*Pn		**Pn**	**16 32 53.4**	**+0.8**
JHJ	**Hachijo jima 2**	**7.12**	**205**	Pn		**Pn**	**16 32 59.8**	**+0.5**
	comp=E,21nm,0.3s,baz=113,slow=23,SNR=3.8							
JHJ				Sn		**Sn**	**16 34 13.9**	**-6.3**
	comp=E,28nm,0.3s,baz=41,slow=22,SNR=5.6							
YSS	**Yuzh-Sakhalins**	**7.33**	**357**	*e*P		**Pn**	**16 33 03.6**	**+1.5**
YSS				*e*S		**Sn**	**16 34 22.3**	**-2.9**
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS				MLR	MLR			
	comp=Z,200nm,14.0s							
YSS				MLR	MLR			
	comp=N,200nm,15.0s							
YSS				MLR	MLR			
	comp=E,300nm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.33**	**357**	*e*Pn		**Pn**	**16 33 02.7**	**+0.6**
VLA	**Vladivostok**	**9.33**	**296**	*i*P		**Pn**	**16 33 33.3**	**+3.9**
VLA				*e*S		**Sn**	**16 35 17.8**	**+3.5**
VLA				pmax	pmax			
	comp=Z,17nm,1.3s							
VLA	**Vladivostok**	**9.33**	**296**	*i*		**Sn**	**16 35 18.0**	**+3.7**
USRK	**Ussuriysk Ar.**	**9.65**	**302**	Pn		**Pn**	**16 33 37.3**	**+3.5**
	comp=Z,0.8nm,0.3s,baz=101,slow=12,SNR=26							
USRK				LR		LR	16 37 20.5	
	comp=Z,344nm,20.3s,baz=59,slow=38							
HABR	**Khabarovsk**	**10.68**	**329**	*e*P		**Pn**	**16 33 46.3**	**-1.6**
HABR				*e*SS		Sn	16 35 56.7	+9.4
HABR				pmax	pmax			
	comp=E,12nm,2.0s							
HABR				pmax	pmax			
	comp=N,12nm,2.0s							
HABR				pmax	pmax			
	comp=Z,15nm,2.0s							
HABR				MLR	MLR			
	comp=Z,161nm,16.0s							
TYV	**Tymovskoe**	**11.24**	**358**	*e*P		**Pn**	**16 33 57.0**	**+1.4**
MDJ	**Mudanjiang**	**11.39**	**300**	P		**Pn**	**16 34 00.5**	**+2.8**
MDJ				PMZ				
	comp=Z,11nm,1.0s							
MDJ				PMZ				
	comp=Z,110nm,5.2s							
MDJ				LN				
	comp=Z,51nm,8.2s							
MDJ				LE				
	comp=Z,360nm,13.6s							
MDJ				LZ				
	comp=Z,470nm,16.4s							
MDJ	**Mudanjiang**	**11.39**	**300**	Pn		**Pn**	**16 33 57.4**	**-0.4**
	comp=Z,10nm,0.9s							
KSRS	**Korea Array**	**12.31**	**265**	Pn		**Pn**	**16 34 14.8**	**+4.4**
	comp=Z,0.3nm,0.3s,baz=88,slow=13,SNR=15							
KSAR	**Wonju Array Be**	**12.34**	**265**	P		**Pn**	**16 34 14.8**	**+4.0**
KSAR	**Wonju Array Be**	**12.34**	**265**	Pn		**Pn**	**16 34 14.8**	**+4.0**
KLR	**Kul'dur**	**12.69**	**323**	Pn		**Pn**	**16 34 17.6**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=120,slow=13,SNR=3.7							
TJN	**Taejon**	**13.06**	**261**	*e*P		**Pn**	**16 34 21.0**	**+0.5**
CN2	**Changchun**	**14.03**	**293**	*e*P		**Pn**	**16 34 35.0**	**+1.2**
CN2				*e*sP		P	16 34 45.0	+3.3
CN2				*e*S		**Sn**	**16 37 07.7**	**-1.8**
CN2				PMZ				
	comp=Z,10.0nm,0.6s							
CN2				PMZ				
	comp=Z,100nm,3.0s							
CN2				LN				
	comp=Z,300nm,11.0s							
CN2				LE				
	comp=Z,200nm,11.0s							
CN2				LZ				
	comp=Z,200nm,13.0s							
SKR	**Severo-Kuril's**	**14.21**	**35**	*e*P		**Pn**	**16 34 39.0**	**+2.8**
PETK	**Petropavlovsk-**	**16.66**	**31**	LR		LR	16 41 11.1	
	comp=E,60nm,18.7s,baz=202,slow=36							
PET	**Petropavlovsk**	**16.99**	**33**	*e*P		**P**	**16 35 16.5**	**+2.1**
PET				pmax	pmax			
	comp=Z,12nm,1.2s							
HIA	**Hailar**	**19.37**	**308**	*e*P		**P**	**16 35 40.5**	**-0.2**
HIA				pmax	pmax			
	comp=Z,11nm,0.8s							
MA2	**Magadan**	**20.50**	**11**	P		**P**	**16 35 54.0**	**+1.1**
	comp=Z,7.1nm,0.8s,baz=204,slow=9.7,SNR=4.2							
MA2				LR		LR	16 44 45.9	
	comp=Z,48nm,18.3s,baz=146,slow=40							
MA2	**Magadan**	**20.50**	**11**	P		**P**	**16 35 54.0**	**+1.1**
MA2				pmax	pmax			
	comp=Z,13nm,0.8s							
MA2				MLR	MLR			
	comp=Z,48nm,18.3s							
BJI	**Beijing**	**20.88**	**280**	P		**P**	**16 35 55.9**	**-1.3**
BJI				PMZ				
	comp=Z,8.0nm,1.0s							
TIA	**Tai'an**	**20.98**	**269**	P		**P**	**16 35 58.5**	**+0.2**
TIA				pP		**sP**	**16 36 06.8**	**+3.9**
TIA				sP		pP	16 36 10.3	+8.8
TIA				PP		**PnPn**	**16 36 24.0**	**+7.0**
TIA				PMZ				
	comp=Z,20nm,0.7s							
TIA				PMZ				
	comp=Z,130nm,4.2s							
TIA				LN				
	comp=Z,180nm,14.9s							
TIA				LE				
	comp=Z,400nm,12.5s							
TIA				LZ				
	comp=Z,430nm,12.5s							
YAK	**Yakutsk**	**23.94**	**344**	P		**P**	**16 36 28.5**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=333,slow=20,SNR=3.0							
YAK	**Yakutsk**	**23.94**	**344**	*e*P		**P**	**16 36 28.1**	**-0.8**
YAK				pmax	pmax			
	comp=Z,11nm,0.9s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.1s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK	**Yakutsk**	**23.94**	**344**	*e*P		**P**	**16 36 27.5**	**-1.4**
	comp=E,17nm,0.7s							
SEY	**Seymchan**	**23.95**	**10**	P		**P**	**16 36 30.1**	**+1.0**
	comp=E,8.2nm,0.8s,baz=193,slow=8.0,SNR=14							
SEY	**Seymchan**	**23.95**	**10**	*e*P		**P**	**16 36 30.4**	**+1.3**
HHC	**Hu-ho-hao-te**	**24.26**	**283**	*e*P		**P**	**16 36 32.4**	**+0.1**
HHC				pP		sP	16 36 40.3	+3.2
HHC				S		**S**	**16 40 49.0**	**-1.9**
HHC				sS		sS	16 41 00.5	+4.1
HHC				PMZ				
	comp=E,15nm,1.0s							
HHC				PMZ				
	comp=E,80nm,5.6s							
HHC				LN				
	comp=E,130nm,12.6s							
HHC				LE				
	comp=E,260nm,13.1s							
HHC				LZ				
	comp=E,270nm,14.1s							
WHN	**Wuhan**	**25.35**	**258**	P		**P**	**16 36 42.7**	**+0.6**
WHN				pP		**sP**	**16 36 47.2**	**+0.4**
WHN				S		**S**	**16 40 59.2**	**-9.1**
WHN				PMZ				
	comp=E,54nm,0.7s							
WHN				LZ				
	comp=E,350nm,16.4s							
ULN	**Ulaanbaatar**	**27.31**	**300**	*c i*P		**P**	**16 37 00.7**	**+0.8**
ULN				pmax	pmax			
	comp=Z,13nm,1.2s							
ULN	**Ulaanbaatar**	**27.31**	**300**	P		**P**	**16 36 59.5**	**-0.4**
	comp=Z,11nm,1.1s							
SONA1	**Songino Array**	**27.74**	**299**	*e*P		**P**	**16 37 04.1**	**+0.4**
SONM	**Songino Array**	**27.75**	**299**	P		**P**	**16 37 05.1**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=87,slow=8.1,SNR=18							
ENH	**Enshi**	**29.18**	**262**	*e*P		**P**	**16 37 15.8**	**-0.7**
	comp=Z,14nm,0.8s							
TLY	**Talaya**	**29.91**	**307**	*e*P		**P**	**16 37 21.7**	**-1.1**
TLY				pmax	pmax			
	comp=Z,10.0nm,0.6s							
ZAK	**Zakamensk**	**29.98**	**304**	*e*P		**P**	**16 37 22.8**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
BILL	**Bilibino**	**31.09**	**16**	*e*P		**P**	**16 37 36.3**	**+3.2**
BILL				*e*			16 38 38.3	
BILL				*e*SS		SS	16 44 46.4	-4.3
BILL				pmax	pmax			
	comp=Z,7.0nm,1.8s							
BILL				MLR	MLR			
	comp=Z,62nm,15.0s							
LZH	**Lanzhou**	**31.25**	**276**	*e*P		**P**	**16 37 38.0**	**+3.0**
LZH				pP		sP	16 37 47.3	+7.5
LZH				sP		pP	16 37 51.2	+13
LZH				PP		**PnPn**	**16 38 40.3**	**+3.4**
LZH				*e*S		S	16 42 31.7	-10
LZH				PMZ				
	comp=E,18nm,1.0s							
LZH				PMZ				
	comp=E,94nm,4.6s							
LZH				LN				
	comp=Z,1μm,13.2s							
LZH				LE				
	comp=Z,1μm,13.1s							
LZH				LZ				
	comp=Z,1μm,15.6s							
GYA	**Guiyang**	**33.24**	**258**	*i*P		**P**	**16 37 52.0**	**-0.5**
GYA				pP		sP	16 38 03.2	+6.0
GYA				PP		**PP**	**16 39 06.7**	**-0.9**
GYA				PcP		**PcP**	**16 40 37.0**	**+2.1**
GYA				S		**S**	**16 43 08.5**	**-4.1**
GYA				sS		sS	16 43 26.2	+8.1
GYA				ScP		**ScP**	**16 44 18.9**	**-0.2**
GYA				ScS		**ScS**	**16 48 16.2**	**-3.7**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,5.0s							
GYA				LN				
	comp=Z,420nm,16.9s							
GYA				LE				
	comp=Z,390nm,17.0s							
GYA				LZ				
	comp=Z,450nm,17.2s							
CD2	**Chengdu**	**33.29**	**267**	*e*P		**P**	**16 37 52.5**	**-0.3**
CD2				sP		sP	16 38 06.1	+8.5
CD2				S		**S**	**16 43 09.8**	**-3.3**
CD2				sS		sS	16 43 25.9	+7.2
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.4s							
GTA	**Gaotai**	**33.37**	**284**	*e*P		**P**	**16 37 54.6**	**+1.1**
GTA				pP		sP	16 38 03.6	+5.3
GTA				sP		pP	16 38 07.7	+11
GTA				S		**S**	**16 43 14.3**	**-0.1**
GTA				sS		sS	16 43 28.1	+8.1
GTA				SS		**SnSn**	**16 45 16.8**	**+1.6**
GTA				PMZ				
	comp=Z,10.0nm,0.9s							
GTA				PMZ				
	comp=Z,100nm,5.3s							
GTA				LN				
	comp=Z,160nm,16.2s							
GTA				LE				
	comp=Z,240nm,16.6s							
GTA				LZ				
	comp=Z,330nm,17.1s							
QIZ	**Qiongzhong**	**35.44**	**244**	P		**P**	**16 38 12.2**	**+0.8**
QIZ				S		**S**	**16 43 46.2**	**-0.1**
QIZ				PMZ				
	comp=Z,5.0nm,0.9s							
QIZ				LN				
	comp=Z,120nm,6.0s							
QIZ				LE				
	comp=Z,130nm,12.5s							
QIZ				LZ				
	comp=Z,140nm,13.8s							
KMI	**Kunming**	**36.94**	**259**	P		**P**	**16 38 24.7**	**+0.2**
KMI				pP		sP	16 38 36.0	+6.8
KMI				sP		pP	16 38 40.9	+13
KMI				PMZ				
	comp=Z,8.0nm,0.9s							
KMI				LN				
	comp=Z,130nm,13.6s							
KMI				LE				
	comp=Z,66nm,13.6s							
KMI				LZ				
	comp=Z,130nm,15.7s							
WMQ	**Urumqi**	**41.12**	**295**	P		**P**	**16 39 00.6**	**+1.5**
WMQ				pP		sP	16 39 10.0	+6.1
WMQ				sP		pP	16 39 14.6	+12
WMQ				PMZ				
	comp=Z,10.0nm,0.8s							
WMQ				PMZ				
	comp=Z,45nm,4.6s							
WMQ				LN				
	comp=Z,74nm,9.2s							
WMQ				LE				
	comp=Z,59nm,11.8s							
WMQ				LZ				
	comp=Z,24nm,22.4s							
ZAA0	**Zalesovo Array**	**41.37**	**310**	*e*P		**P**	**16 39 01.2**	**+0.3**
ZALV	**Zalesovo Beam**	**41.37**	**310**	P		**P**	**16 39 01.9**	**+1.0**
	comp=Z,4.0nm,0.6s,baz=85,slow=7.1,SNR=14							
CMAR	**Chiang Mai Arr**	**43.68**	**254**	P		**P**	**16 39 20.5**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=39,slow=7.6,SNR=7.4							
MK01	**Makanchi Array**	**44.11**	**300**	*e*P		**P**	**16 39 23.5**	**+0.1**
MK31	**Makanchi Array**	**44.11**	**300**	*e*P		**P**	**16 39 23.9**	**+0.6**
MK31	**Makanchi Array**	**44.11**	**300**	*e*P		**P**	**16 39 23.9**	**+0.6**
MKAR	**Makanchi Array**	**44.11**	**300**	P		**P**	**16 39 23.9**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=83,slow=9.5,SNR=30							
MAKZ	**Makanchi**	**44.31**	**300**	P		**P**	**16 39 24.7**	**-0.3**
MAKZ				pmax	pmax			
	comp=Z,8.0nm,1.1s							
MAKZ	**Makanchi**	**44.31**	**300**	*e*P		**P**	**16 39 25.5**	**+0.5**
	comp=Z,7.4nm,1.0s							
KURK	**Kurchatov**	**45.60**	**306**	P		**P**	**16 39 36.2**	**+1.1**
KURK				pmax	pmax			
	comp=Z,11nm,0.8s							
KURK	**Kurchatov**	**45.60**	**306**	*e*P		**P**	**16 39 34.8**	**-0.4**
	comp=Z,48nm,1.0s							
KURBB	**Kurchatov Arra**	**45.68**	**306**	P		**P**	**16 39 36.2**	**+0.5**
	comp=Z,11nm,0.8s,baz=81,slow=8.2,SNR=53							
SCM	**Sheep Creek Mo**	**46.45**	**38**	*e*P		**P**	**16 39 39.5**	**-2.3**
SCM				pmax	pmax			
	comp=Z,16nm,0.7s							
SCM	**Sheep Creek Mo**	**46.45**	**38**	*e*P		**P**	**16 39 39.5**	**-2.3**
	comp=Z,16nm,0.7s							
ILAR	**Eielson Array**	**46.47**	**34**	P		**P**	**16 39 42.7**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=263,slow=6.6,SNR=8.6							
RAMN	**Ramite**	**48.40**	**273**	*e*P		**P**	**16 39 56.6**	**-1.0**
GUN	**Gumba**	**48.48**	**274**	*e*P		**P**	**16 39 59.1**	**+0.8**
	comp=Z,35nm,0.5s							
KKN	**Kakani**	**49.00**	**275**	*e*P		**P**	**16 40 03.1**	**+0.9**
	comp=Z,38nm,0.8s							
GKN	**Gorkha**	**49.39**	**275**	*e*P		**P**	**16 40 05.4**	**+0.3**
	comp=Z,17nm,0.6s							
TKM2	**Tokmak 2**	**49.80**	**297**	P		**P**	**16 40 08.9**	**+0.8**
TKM2				pmax	pmax			
	comp=Z,11nm,0.8s							
**TKM

EKS2	**Erkin-Say**	**51.14**	**297**	*e*P		**P**	**16 40 18.5**	**+0.4**
EKS2				pmax		pmax		
	comp=Z,4.0nm,0.8s							
EKS2	**Erkin-Say**	**51.14**	**297**	*e*P		**P**	**16 40 18.5**	**+0.4**
	comp=Z,4.4nm,0.8s							
MNAS	**Manas**	**52.08**	**298**	P		**P**	**16 40 25.5**	**+0.3**
MNAS				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KKAR	**Karatay Array**	**53.20**	**299**	*e*P		**P**	**16 40 32.8**	**-0.5**
KKAR	**Karatay Array**	**53.20**	**299**	*e*P		**P**	**16 40 32.8**	**-0.5**
SVE	**Sverdlovsk**	**54.25**	**318**⇑	*i*P		**P**	**16 40 42.4**	**+1.7**
SVE				pmax		pmax		
	comp=Z,10.0nm,0.9s							
SVE				MLR		MLR		
	comp=Z,244nm,15.0s							
ARU	**Arti**	**55.47**	**318**	P		**P**	**16 40 50.2**	**+0.6**
	comp=Z,8.7nm,0.8s,baz=84,slow=2.9,SNR=12							
ARU	**Arti**	**55.47**	**318***c*	*i*P		**P**	**16 40 50.1**	**+0.6**
ARU							16 41 48.3	
ARU							16 42 50.7	
ARU				S		**S**	**16 48 34.7**	**+0.6**
ARU				SS		**SS**	**16 52 14.9**	**-3.4**
ARU				pmax		pmax		
	comp=Z,12nm,1.0s							
ARU				MLR		MLR		
	comp=Z,168nm,16.0s							
ARU	**Arti**	**55.47**	**318**	*e*P		**P**	**16 40 49.8**	**+0.3**
	comp=Z,8.9nm,0.8s							
AB31	**Akbulak array**	**57.48**	**309**	*i* P		**P**	**16 41 04.6**	**+0.6**
AB31				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ABKAR	**Akbulak array**	**57.48**	**309**	*e*P		**P**	**16 41 02.9**	**-1.1**
WRA	**Warramunga Arr**	**59.87**	**190**	P		**P**	**16 41 20.9**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=8.2,slow=6.9,SNR=6.1							
KLMR	**Klimovskoe**	**62.40**	**328**	*e*P		**P**	**16 41 36.8**	**-0.8**
KLMR				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ASAR	**Alice Springs**	**63.59**	**190**	P		**P**	**16 41 47.0**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=12,slow=8.4,SNR=4.5							
GEYT	**Alibeck**	**63.95**	**299**	P		**P**	**16 41 49.1**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=284,slow=6.0,SNR=4.3							
GEYT				LR		LR	17 12 25.0	
	comp=Z,61nm,18.2s,baz=0.0,slow=39							
PALK	**Pallekele**	**64.45**	**258**	*i* P		**P**	**16 41 51.6**	**-0.3**
OBN	**Obninsk**	**66.95**	**323**⇑	*e*P		**P**	**16 42 07.6**	**+0.3**
OBN				*e*			16 44 34.8	
OBN				*e*PPP		PPP	16 46 12.1	
OBN				*e*S		**S**	**16 50 54.8**	**-5.3**
OBN				*e*SS		**SS**	**16 55 15.3**	**-2.4**
OBN				pmax		pmax		
	comp=Z,9.0nm,0.7s							
OBN				MLR		MLR		
	comp=Z,81nm,16.0s							
FINES	**FINESS Array B**	**67.24**	**332**	P		**P**	**16 42 09.8**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=64,slow=8.7,SNR=15							
VSU	**Vasula**	**69.00**	**330**⇑	*e*P		**P**	**16 42 20.5**	**+0.3**
VSU				pmax		pmax		
	comp=Z,13nm,0.6s							
KVAR	**Kislovodsk Arr**	**70.37**	**311**	P		**P**	**16 42 31.7**	**+2.6**
	comp=Z,7.0nm,0.8s,baz=257,slow=5.8,SNR=3.9							
KIV	**Kislovodsk**	**70.38**	**311***d*	*i*P		**P**	**16 42 30.7**	**+1.6**
KIV				*e*			16 45 05.0	
KIV				*e*S		**SKSac**	**16 52 27.8**	**-3.0**
KIV				*e*SSS		SSS	16 59 13.8	
KIV				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,67nm,16.0s							
KBZ	**Khabaz**	**70.39**	**311**	P		**P**	**16 42 30.7**	**+1.7**
	comp=Z,4.1nm,0.7s,baz=67,slow=3.9,SNR=11							
NEY	**Neytrino**	**70.78**	**310**⇓	*e*P		**P**	**16 42 33.2**	**+1.5**
NEY				pmax		pmax		
	comp=Z,1.0nm,0.9s							
NVAR	**Mina Array Bea**	**72.20**	**55**	P		**P**	**16 42 41.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=280,slow=7.2,SNR=2.2							
NB2	**NORSAR Subarra**	**72.38**	**338**	P		**P**	**16 42 41.0**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=37,slow=6.2							
NOA	**NORSAR Array B**	**72.38**	**338**	P		**P**	**16 42 41.6**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=39,slow=6.0,SNR=11							
AKASG	**Malin Array Be**	**73.19**	**323**	P		**P**	**16 42 46.0**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=44,slow=6.0,SNR=13							
BUR08	**Bucovina Ar. S**	**77.21**	**322**	*e*P		**P**	**16 43 08.7**	**-0.4**
BRTR	**Keskin Array B**	**78.28**	**312**	P		**P**	**16 43 16.3**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=46,slow=10,SNR=3.0							
CLL	**Collm**	**79.60**	**331**⇓	*i*P		**P**	**16 43 22.8**	**+0.7**
	comp=Z,4.0nm,0.9s							
CLL				*i*			16 43 37.8	
CLL	**Collm**	**79.60**	**331**⇓	*i*P		**P**	**16 43 22.8**	**+0.7**
CLL				*i*			16 43 37.8	
CLL				pmax		pmax		
	comp=Z,4.0nm,0.9s							
VRAC	**Vranov**	**79.77**	**328**	P		**P**	**16 43 24.8**	**+1.7**
	comp=Z,2.6nm,0.8s,baz=32,slow=9.5,SNR=3.7							
KHC	**Kasperske Hory**	**81.13**	**329**	*e*P		**P**	**16 43 31.5**	**+1.1**
KHC	**Kasperske Hory**	**81.13**	**329**	*e*P		**P**	**16 43 31.5**	**+1.1**
GERES	**GERESS Array B**	**81.31**	**329**	P		**P**	**16 43 32.3**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=49,slow=4.1,SNR=6.6							

TAP ***11*** *16:35:31.6,24°.82N×121°.95E,h9km,ML3.3,C*
JMA ***11*** *16:35:32.1±0.1,24°.79N×121°.92E,h17km,M2.4*
ISC 11 16:35:31.5±0.9,24°.85N±0°.02×122°.01E±0°.02,h10km±6km,
n51,σ0s92/86,3C-7D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGS		**0.07**	**267**⇑	*i*P	**Pg**	**16 35 33.6**	**0.0**
	baz=338						
TWB1	**Santiao Chiao**	**0.16**	**354**	⇓*i*P	**Pg**	**16 35 36.0**	**+1.0**
TWB1	baz=12			*i* S	**Sg**	**16 35 38.6**	**+1.2**
	baz=12						
ILA	**Ilan**	**0.25**	**251**	*e*P	**Pg**	**16 35 36.1**	**-0.4**
ILA	baz=252			*e*S	**Sg**	**16 35 39.9**	**0.0**
	baz=252						
TWC	**Suao**	**0.28**	**211**	⇓*i*P	**Pg**	**16 35 36.6**	**-0.4**
TWC	baz=202			*i* S	**Sg**	**16 35 39.5**	**-1.3**
	baz=202						
NWF	**Wu-fen Shan**	**0.30**	**317**	⇓*i*P	**Pb**	**16 35 38.4**	**-0.6**
NWF	baz=318			*i* S	**Sb**	**16 35 42.8**	**-1.4**
	baz=318						
TWE	**Neicheng**	**0.33**	**248**⇑	*i*P	**Pg**	**16 35 37.6**	**-0.5**
TWE	baz=247			*e*S	**Sg**	**16 35 41.5**	**-1.1**
	baz=247						
ENTT	**Nioudou**	**0.45**	**243**	P	**Pg**	**16 35 39.7**	**-0.6**
ENTT	baz=242			S	**Sg**	**16 35 45.2**	**-1.0**
	baz=242						
TAP1	**Taipei**	**0.48**	**294**	*i* P	**Pb**	**16 35 41.5**	**-0.5**
TAP1	baz=298			*i* S	**Sb**	**16 35 47.7**	**-1.3**
	baz=298						
ENA	**Nanau**	**0.48**	**210**	⇓*i*P	**Pg**	**16 35 40.2**	**-0.7**
ENA	baz=212			*e*S	**Sg**	**16 35 46.6**	**-0.7**
	baz=212						
TAP	**Taipei**	**0.49**	**293**	P	**Pb**	**16 35 41.4**	**-0.8**
TAP	baz=298			*i* S	**Sb**	**16 35 47.8**	**-1.6**
	baz=298						
TWY	**Chenhua**	**0.56**	**319**	⇓*i*P	**Pb**	**16 35 43.4**	**0.0**
	baz=325						
TWS1	**Kuangyinshan**	**0.59**	**295**	⇓*i*P	**Pb**	**16 35 44.0**	**+0.1**
	baz=300						
NSK	**Sanguang**	**0.61**	**254**	⇓*i*P	**Pg**	**16 35 42.6**	**-0.8**
NSK	baz=264			*e*S	**Sg**	**16 35 48.8**	**-2.6**
	baz=264						
NNS	**Nan Shan**	**0.70**	**235**	*e*P	**Pg**	**16 35 44.3**	**-0.8**
	baz=234						
NCU	**National Centr**	**0.75**	**279**	*e*P	**Pb**	**16 35 46.8**	**+0.2**
NCU	baz=281			*e*S	**Sb**	**16 35 56.8**	**-0.3**
	baz=281						
TWD	**Chiawan**	**0.85**	**206**⇑	*i*P	**Pg**	**16 35 47.3**	**-0.6**
TWD	baz=203			S	**Sg**	**16 35 57.4**	**-1.5**
	baz=203						
NSTT	**Nanjuang**	**0.94**	**257**	*e*P	**Pb**	**16 35 49.6**	**-0.2**
NSTT	baz=257			*e*S	**Sb**	**16 36 02.6**	**+0.2**
	baz=257						

HWA	**Hwalien**	**0.94**	**203**	*e*P		**Pg**	**16 35 49.1**	**-0.5**
	baz=200							
JYNG	**Yonagunijimaku**	**0.94**	**115**	P		**Pn**	**16 35 50.2**	**-0.5**
JYNG				*e*S		**Sb**	**16 36 03.1**	**+0.7**
HSN	**Hsinchu**	**0.94**	**267**	*e*P		**Pn**	**16 35 50.3**	**-0.5**
	baz=287							
HSN				*e*S		**Sb**	**16 36 03.1**	**+0.6**
	baz=287							
TWT	**Tachien**	**0.96**	**232**	*e*P		**Pg**	**16 35 49.9**	**-0.1**
	baz=223							
WHF	**Hehuan Shan**	**0.97**	**224**	*e*P		**Pg**	**16 35 49.0**	**-1.2**
	baz=223							
YOJ	**Yonaguni jima**	**0.99**	**113**	P		**Pb**	**16 35 50.7**	**0.0**
YOJ				*e*S		**Sb**	**16 36 04.1**	**+0.2**
ESL	**Shilin**	**1.16**	**207**	*e*P		**Pg**	**16 35 52.1**	**-1.5**
	baz=205							
ESL				*e*S		**Sg**	**16 36 07.4**	**-1.2**
	baz=205							
NSY	**Sanyi**	**1.21**	**249**	*e*P		**Pn**	**16 35 55.5**	**+1.0**
	baz=249							
NSY				*e*S		**Sn**	**16 36 12.0**	**+1.0**
	baz=249							
TWQ1	**Liyutan**	**1.23**	**246**	*e*P		**Pn**	**16 35 55.3**	**+0.6**
	baz=246							
TWQ1				*e*S		**Sb**	**16 36 11.3**	**+0.6**
	baz=246							
TCU	**Taichung**	**1.40**	**240**	*e*P		**Pg**	**16 35 58.2**	**-0.1**
	baz=258							
TYC	**Yuchr**	**1.41**	**228**	*e*P		**Pb**	**16 35 58.0**	**+0.1**
	baz=219							
TYC				*e*S		**Sb**	**16 36 16.0**	**+0.1**
	baz=219							
EHY	**Hungye**	**1.48**	**205**	*e*P		**Pn**	**16 35 58.5**	**+0.4**
	baz=202							
EHY				*e*S		**Sn**	**16 36 18.0**	**+0.5**
	baz=202							
WNT	**Mingjian**	**1.54**	**232**	*e*P		**Pg**	**16 36 00.9**	**-0.2**
	baz=215							
WNT				*e*S		**Sg**	**16 36 21.6**	**+0.4**
	baz=215							
TWF1	**Yuli**	**1.62**	**204**	*e*P		**Pb**	**16 36 02.0**	**+0.5**
	baz=212							
TWF1				*e*S		**Sn**	**16 36 21.9**	**+0.8**
	baz=212							
IRIF	**Iriomote-Funau**	**1.65**	**108**	P		**Pb**	**16 36 02.0**	**0.0**
YUS	**Yu-Shan**	**1.66**	**216**	*e*P		**Pb**	**16 36 02.3**	**-0.2**
	baz=213							
ALS	**Alishan**	**1.73**	**220**	*e*P		**Pb**	**16 36 03.3**	**-0.2**
	baz=201							
ALS				*e*S		**Sg**	**16 36 27.0**	**0.0**
	baz=201							
CHN5	**Tsauling**	**1.74**	**225**	*e*P		**Pb**	**16 36 04.0**	**+0.5**
	baz=223							
CHN5				*e*S		**Sb**	**16 36 26.8**	**+1.3**
	baz=223							
WGK	**Gukeng**	**1.75**	**229**	*e*P		**Pb**	**16 36 03.8**	**0.0**
	baz=242							
WGK				*e*S		**Sg**	**16 36 27.7**	**-0.2**
	baz=242							
ELDTW	**Lidau**	**1.88**	**209**	*e*P		**Pb**	**16 36 05.1**	**-0.9**
	baz=206							
ELDTW				*e*S		**Sn**	**16 36 27.9**	**+0.2**
	baz=206							
CHN2	**Minshiung**	**1.92**	**227**	*e*P		**Pb**	**16 36 06.1**	**-0.4**
	baz=243							
JKRS	**Kuro-shima**	**1.92**	**108**	P		**Pb**	**16 36 05.3**	**-1.3**
CHN4	**Tsaushan**	**1.97**	**221**	*e*P		**Pb**	**16 36 07.7**	**+0.2**
	baz=219							
CHN4				*e*S		**Sb**	**16 36 33.8**	**+1.7**
	baz=219							
JIJ	**Ishigaki jima**	**2.00**	**103**	P		**Pn**	**16 36 05.9**	**+0.5**
JIJ				S		**Sn**	**16 36 30.7**	**+0.2**
WSF	**Szhu**	**2.03**	**234**	*e*P		**Pn**	**16 36 05.8**	**+0.1**
	baz=246							
WSF				*e*S		**Sb**	**16 36 33.4**	**-0.2**
	baz=246							
STYT	**Tauyuan**	**2.03**	**215**	*e*P		**Pb**	**16 36 08.6**	**+0.1**
	baz=200							
STYT				*e*S		**Sb**	**16 36 35.5**	**+1.6**
	baz=200							
WTP	**Ta-pu**	**2.04**	**219**	*e*P		**Pb**	**16 36 08.2**	**-0.5**
	baz=201							
WTP				*e*S		**Sb**	**16 36 35.9**	**+1.8**
	baz=201							
TWK	**Hsinying**	**2.10**	**222**	*e*P		**Pn**	**16 36 07.5**	**+0.7**
	baz=218							
TWK				*e*S		**Sb**	**16 36 35.9**	**+0.1**
	baz=218							
JISG	**Ishigakijimahi**	**2.11**	**97**	P		**Pn**	**16 36 06.0**	**-0.8**
CHN1	**Nanshi**	**2.14**	**220**	*e*P		**Pb**	**16 36 09.8**	**-0.5**
	baz=202							
CHN1				*e*S		**Sn**	**16 36 35.8**	**+1.9**
	baz=202							
SGST	**Jiashian**	**2.19**	**217**	*e*P		**Pn**	**16 36 09.4**	**+1.4**
	baz=198							
TWG	**Pinlang**	**2.19**	**203**	*e*P		**Pb**	**16 36 10.3**	**-0.9**
	baz=200							
TWG				*e*S		**Sn**	**16 36 37.0**	**+1.8**
	baz=200							
ECL	**Taimali**	**2.44**	**203**	*e*P		**Pb**	**16 36 14.0**	**-1.5**
	baz=191							
EAST	**Anshuo**	**2.67**	**204**	*e*P		**Pn**	**16 36 16.4**	**+1.8**
	baz=193							

IDC ***11*** *16:43:21.8±1.1,12°.41N×91°.89E,h0km,mb3.7/9,*
mb1 3.7/10,mb1mx3.5/59,mbtmp3.6/10,ML3.3/1,Error
ellipse: s-maj=34.4km s-min=16.8km az=58.0
ISCJB ***11*** *16:43:25.5±0.7,12°.52N±0°.08×92°.10E±0°.08,h33km,*
mb3.6/10,Error ellipse: s-maj=11.7km s-min=10.2km
az=29.4
ISC 11 16:43:27.7±1.0,12°.5N±0°.1×92°.0E±0°.1,h35km,n18,
σ0s97/16,mb3.6/10,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.91**	**48**	Pn	**Pn**	**16 45 34.5**	**+0.3**
	0.1nm,0.3s,baz=241,slow=13,SNR=3.9						
CMAR				Sn	**Sn**	**16 47 13.4**	**0.0**
	0.1nm,0.3s,baz=234,slow=32,SNR=3.6						
PKIN	**Phulchoki**	**16.23**	**338**	*e*P	**Pn**	**16 47 12.7**	**-0.7**
	7.5nm,0.6s						
GKN	**Gorkha**	**16.90**	**337**	*e*P	**Pn**	**16 47 20.4**	**-1.3**
	5.0nm,0.3s						
KOLN	**Koldanda**	**17.11**	**334**	*e*P	**Pn**	**16 47 23.9**	**-0.6**
	6.3nm,0.5s						
PYUN	**Piuthan**	**17.67**	**333**	*e*P	**P**	**16 47 31.5**	**-0.5**
H08S3	**Diego Garcia H**	**27.88**	**225**	T	T	17 18 51.4	
	baz=44,slow=76,SNR=70						
H08S2	**Diego Garcia H**	**27.89**	**225**	T	T	17 18 54.2	
	baz=44,slow=76,SNR=77						
H08S1	**Diego Carcia H**	**27.90**	**225**	T	T	17 18 52.8	
	baz=44,slow=76,SNR=45						
MKAR	**Makanchi Array**	**35.15**	**348**	P	**P**	**16 50 17.9**	**-0.2**
	1.2nm,0.8s,baz=153,slow=8.2,SNR=11						
SONM	**Songino Array**	**37.22**	**16**	P	**P**	**16 50 35.7**	**-0.2**
	0.5nm,0.5s,baz=204,slow=10.0,SNR=4.0						
GEYT	**Alibeck**	**39.41**	**316**	P	**P**	**16 50 57.0**	**+2.6**
	0.7nm,0.5s,baz=126,slow=7.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**39.58**	**347**	P	**P**	**16 50 55.3**	**-0.2**
	0.9nm,0.7s,baz=160,slow=8.0,SNR=11						
KSRS	**Korea Array**	**40.55**	**46**	P	**P**	**16 51 04.3**	**+0.5**
	0.2nm,0.3s,baz=229,slow=6.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**41.74**	**354**	P	**P**	**16 51 12.8**	**-0.5**
	0.6nm,0.5s,baz=172,slow=12,SNR=5.1						
FITZ	**Fitzroy Crossi**	**45.00**	**132**	P	**P**	**16 51 40.0**	**-0.1**
	1.7nm,0.9s,baz=328,slow=9.5,SNR=2.6						
WRA	**Warramunga Arr**	**52.67**	**127**	P	**P**	**16 52 38.1**	**-0.9**
	0.6nm,0.7s,baz=307,slow=8.2,SNR=3.3						
ASAR	**Alice Springs**	**54.49**	**131**	P	**P**	**16 52 51.9**	**-0.4**
	0.4nm,0.7s,baz=306,slow=7.2,SNR=9.1						
BRTR	**Keskin Array B**	**57.88**	**309**	P	**P**	**16 53 15.6**	**-0.9**
	0.3nm,0.5s,baz=102,slow=8.8,SNR=2.5						

NAO ***11*** *16:43:52.2±2.2,78°.40N×8°.53E,ML3.4*
CSEM ***11*** *16:43:52.8±0.5,78°.34N×8°.85E,h8km,ML3.4,Error*
ellipse: s-maj=9.6km s-min=4.8km az=99.0
IDC ***11*** *16:43:53.5±1.4,77°.95N×8°.43E,h0km,mb3.6/3,mb1 3.8/4,*
mb1mx3.3/56,mbtmp3.6/4,ML2.9/1,MS2.3/1,Ms1 2.3/1,
ms1mx2.0/29,Error ellipse: s-maj=32.7km s-min=22.0km
az=31.0
BER ***11*** *16:43:53.3±2.1,78°.40N×8°.32E,h10km,MD2.3,ML3.0,*
ML3.4(NAO)
ISC 11 16:43:54.3±1.3,78°.25N±0°.05×9°.26E±0°.09,h10km,n20,
σ1s61/30,mb3.5/3,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**0.86**	**37**	Pg	**Pg**	**16 44 09.0**	**-1.9**
KBS				Lg	Lg	16 44 21.1	
KBS	**Kingsbay**	**0.86**	**37**	*e*P	**Pg**	**16 44 08.9**	**-2.0**
KBS				*e*S	**Sg**	**16 44 21.0**	**-1.1**
KBS				IAML		16 44 21.8	
	comp=Z,1μm,0.2s						
KBS	**Kingsbay**	**0.86**	**37**	*e*P	**Pg**	**16 44 08.9**	**-2.0**
	SNR=70						
KBS				*e*S	**Sg**	**16 44 21.0**	**-1.1**
	SNR=70						
BRBA	**Barentsburg A**	**1.04**	**98**	Pg	**Pn**	**16 44 15.2**	**+0.3**
BRBA				Lg	Lg	16 44 32.0	
SPA0	**Spitsbergen Ar**	**1.46**	**89**	Pg	**Pb**	**16 44 21.7**	**+0.1**
	baz=276,slow=14						
SPA0				Lg	Lg	16 44 43.8	
SPA0	**Spitsbergen Ar**	**1.46**	**89**	Pg	**Pb**	**16 44 21.7**	**+0.1**
	baz=276,slow=14						
SPA0				Lg	Lg	16 44 43.8	
SPA0	**Spitsbergen Ar**	**1.46**	**89**	Pg	**Pb**	**16 44 21.7**	**+0.1**
	SNR=963						
SPA0				Lg	Lg	16 44 43.8	
HSPB	**Hornsund (broa**	**1.85**	**130**	*e*P	**Pn**	**16 44 26.3**	**+0.3**
HSPB				*e*S	**Sb**	**16 44 50.9**	**-0.3**
HSPB				IAML		16 44 53.4	
	comp=Z,102nm,0.4s						
HSPB	**Hornsund (broa**	**1.85**	**130**	*e*P	**Pn**	**16 44 26.3**	**+0.3**
	SNR=50						
HSPB				*e*S	**Sb**	**16 44 50.8**	**-0.3**
	SNR=50						
HOPEN	**Hopen**	**3.87**	**109**	Pn	**Pn**	**16 44 54.1**	**+0.4**
HOPEN				Sn	**Sn**	**16 45 41.2**	**+2.2**
HOPEN	**Hopen**	**3.87**	**109**	*e*P	**Pn**	**16 44 54.1**	**+0.4**
HOPEN				*e*S	**Sn**	**16 45 40.8**	**+1.7**
HOPEN				IAML		16 45 43.0	
	comp=Z,60nm,0.4s						
HOPEN	**Hopen**	**3.87**	**109**	Pn	**Pn**	**16 44 54.1**	**+0.4**
HOPEN				*e*S	**Sn**	**16 45 40.8**	**+1.7**
	SNR=49						
HOPEN				Sn	**Sn**	**16 45 41.2**	**+2.2**
JMIC	**Jan Mayen**	**8.63**	**222**	Pn	Pn	16 45 52.8	-6.3
	comp=Z,12nm,0.3s,baz=12,slow=2.0,SNR=19						
JMIC				Sn	Sn	16 47 23.3	-13
	comp=Z,6.2nm,0.3s,baz=281,slow=24,SNR=5.5						
JMIC				LR	LR	16 48 12.5	
	comp=Z,21nm,19.9s,baz=30,slow=31						
ARA0	**ARCESS Array S**	**9.79**	**145**	Pn	**Pn**	**16 46 15.9**	**+1.0**
	baz=352,slow=12						
ARA0				Sn	**Sn**	**16 48 02.0**	**-2.7**
	baz=338,slow=22						
ARA0	**ARCESS Array S**	**9.79**	**145**	Pn	**Pn**	**16 46 15.9**	**+1.0**
	baz=352,slow=12						
ARA0				Sn	**Sn**	**16 48 02.0**	**-2.7**
	baz=338,slow=22						
ARA0	**ARCESS Array S**	**9.79**	**145**	Pn	**Pn**	**16 46 15.9**	**+1.0**
	SNR=9.9						
ARCES	**ARCESS Array B**	**9.79**	**145**	Pn	**Pn**	**16 46 11.7**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=349,slow=18,SNR=2.9						
ARCES				Sn	**Sn**	**16 48 02.3**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=350,slow=20,SNR=3.5						
KURBB	**Kurchatov Arra**	**36.80**	**96**	P	**P**	**16 51 03.1**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=342,slow=8.0,SNR=6.3						
MKAR	**Makanchi Array**	**41.21**	**94**	P	**P**	**16 51 40.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=338,slow=6.7,SNR=7.3						
TXAR	**Lajitas Array**	**65.96**	**298**	P	**P**	**16 54 41.8**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=12,slow=4.6,SNR=4.1						

IDC 11 16:54:20.7±11.0,5°.55S×127°.90E,h264km±123km,
mb3.1/2,mb1 3.4/5,mb1mx3.0/29,mbtmp4.0/5,Error
ellipse: s-maj=120.3km s-min=32.8km az=51.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.67**	**190**	P	P	16 57 13.5	-0.5
	0.2nm,0.3s,baz=17,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**15.62**	**157**	P	P	16 57 46.7	+0.1
	1.4nm,0.3s,baz=335,slow=11,SNR=95						
WRA				S	S	17 00 25.6	-12
	0.1nm,0.3s,baz=336,slow=18,SNR=4.5						
ASAR	**Alice Springs**	**18.92**	**163**	P	P	16 58 21.2	-1.2
	1.0nm,0.3s,baz=344,slow=11,SNR=135						
STKA	**Stephens Creek**	**29.16**	**156**	P	P	16 59 58.6	+0.8
	1.2nm,0.7s,baz=324,slow=7.1,SNR=3.3						
MKAR	**Makanchi Array**	**65.89**	**327**	P	P	17 04 38.4	0.0
	0.2nm,0.4s,baz=117,slow=8.5,SNR=4.3						

SJA 11 17:16:03.8±0.8,28°.34S×69°.01W,h112km±5km,ML3.4,
MW3.5,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.81**	**120**	*i* P	Pn	17 16 24.8	+1.2
VCA				*i* S	Sn	17 16 39.5	+1.1
VCA				IAML		17 16 43.4	
	comp=Z,704nm,0.7s						
LCO	**Las Campanas**	**1.63**	**245**	*i* P	Pn	17 16 33.4	+0.9
LCO				*i* S	Sn	17 16 55.4	+1.0
AVFE	**Valle Fertil**	**2.69**	**150**	*i* P	Pn	17 16 46.9	+1.1
AVFE				*i* S	Sn	17 17 19.3	+1.2
AVFE				IAML		17 17 20.4	
	comp=Z,98nm,0.5s						
CYA	**Choya**	**2.83**	**93**	*i* P	Pn	17 16 48.7	+1.1
CYA				*i* S	Sn	17 17 21.9	+0.5
CYA				IAML		17 17 23.2	
	comp=Z,163nm,0.4s						
RTLL	**Cerro Villicun**	**3.02**	**171**	*i* P	Pn	17 16 51.7	+1.5
RTLL				*i* S	Sn	17 17 26.2	+0.3
RTLS	**Leoncito**	**3.46**	**184**	*i* P	Pn	17 16 57.9	+1.7
RTLS				*i* S	Sn	17 17 38.6	+1.9
ACHE	**Chepes**	**3.48**	**145**	*i* P	Pn	17 16 57.4	+1.0
FSA	**Cafayete**	**3.49**	**51**	*i* P	Pn	17 16 58.4	+1.8
RTCV	**Cerro Valdivia**	**3.54**	**173**	*i* P	Pn	17 16 58.6	+1.6
RTCV				*i* S	S

ZAX	**El Zacaton**	**1.06 237**	*e*P	**Pn**	**17 20 04.3 +0.2**	
ZAX			*e*S	**Sn**	**17 20 18.3 -0.7**	
SPIG	**San Pedro Mart**	**1.06 191**	*e*P	**Pb**	**17 20 04.5 +0.7**	
SPIG			*e*S	**Sn**	**17 20 19.6 +0.1**	
SPIG	**San Pedro Mart**	**1.06 191**	*e*Sn	**Sn**	**17 20 19.6 +0.1**	
SPX	**San Pedro Mart**	**1.06 191**	*e*P	**Pb**	**17 20 04.5 +0.7**	
SPX	**San Pedro Mart**	**1.06 191**	*e*Pn	**Pb**	**17 20 04.5 +0.7**	
CBX	**Cerro Bola**	**1.23 281**	*e*P	**Pg**	**17 20 06.6 -0.1**	
CBX			*e*S	**Sn**	**17 20 22.8 -0.6**	
CBX	**Cerro Bola**	**1.23 281**	*e*P	**Pg**	**17 20 06.6 -0.1**	
CBX			IAML		17 20 29.2	
	comp=E,660nm,0.4s					
CBX			⇑*e*		17 20 29.2	
CBX	**Cerro Bola**	**1.23 281**	*e*Pn	**Pg**	**17 20 06.6 -0.1**	
CBX			*e*Sn	**Sn**	**17 20 22.8 -0.6**	
ECNX	**Esteban Cantu**	**1.24 250**	*e*P	**Pg**	**17 20 07.1 +0.3**	
TJIG	**Tijuana**	**1.27 286**	*e*P	**Pn**	**17 20 06.8 -0.1**	
TJIG			*e*S	**Sb**	**17 20 22.7 -0.8**	
TJIG	**Tijuana**	**1.27 286**	*e*P	**Pn**	**17 20 06.8 -0.1**	
MONP2	**Monument Peak**	**1.28 309**	P	**Pn**	**17 20 06.6 -0.8**	
	baz=126,SNR=78					
MONP2			S	**Sb**	**17 20 23.7 -0.4**	
	baz=126					
PBX	**Punta Banda**	**1.31 255**	*e*P	**Pb**	**17 20 07.9 0.0**	
BAR	**Barrett**	**1.35 296**⇑	*e*P	**Pn**	**17 20 07.9 -0.1**	
BAR	**Barrett**	**1.35 296**	*e*Pn	**Pn**	**17 20 07.8 -0.3**	
BAR			*e*Sn	**Sb**	**17 20 25.3 -0.6**	
113A	**Mohawk Valley,**	**1.41 61**	*e*Pn	**Pn**	**17 20 07.5 -1.4**	
BC3	**Big Chuckawall**	**1.57 353**	P	**Pn**	**17 20 09.7 -1.5**	
	baz=171,SNR=18					
Y12C	**Blythe**	**1.76 20**	Sb	**Sn**	**17 20 36.7 +0.6**	
	baz=198					
Y12C	**Blythe**	**1.76 20**	*e*Pn	**Pn**	**17 20 15.0 +1.3**	
109C	**Camp Elliot, M**	**1.77 297**	P	**Pn**	**17 20 14.1 +0.3**	
	baz=115,SNR=19					
109C			Sb	**Sg**	**17 20 39.2 -0.7**	
	baz=115					
TPFO	**Pinon Flats**	**1.82 326**	P	**Pn**	**17 20 13.6 -1.1**	
	baz=144					
TPFO			Sb	**Sb**	**17 20 40.6 +0.9**	
	baz=144					
PFO	**Pinyon Flats O**	**1.83 326**	Pb	**Pb**	**17 20 16.4 -0.3**	
	baz=144					
PFO			Sb	**Sb**	**17 20 39.3 -0.6**	
	baz=144					
PFO	**Pinyon Flats O**	**1.83 326**	*e*Pn	**Pn**	**17 20 13.8 -1.0**	
BELC	**Belle Mtn. Jos**	**2.01 342**	Pb	**Pb**	**17 20 19.0 -0.8**	
	baz=159					
214A	**Organ Pipe Nat**	**2.06 93**	P	**Pn**	**17 20 16.5 -1.4**	
	baz=275					
Y14A	**Wickenburg**	**2.62 45**	*e*Pn	**Pn**	**17 20 25.4 -0.3**	
LDFC	**Landfair**	**2.98 2**	*e*Pn	**Pn**	**17 20 33.1 +2.6**	
MWC	**Mount Wilson**	**3.18 313**	*e*Pn	**Pb**	**17 20 37.8 -2.1**	
W13A	**Hualapai Mount**	**3.20 20**	*e*Pn	**Pn**	**17 20 35.2 +1.4**	
PASC	**Pasadena Art C**	**3.23 311**	*e*Pn	**Pn**	**17 20 36.0 +2.1**	
GSC	**Goldstone, Bar**	**3.46 338**	*e*Pn	**Pn**	**17 20 39.5 +2.4**	
OSI	**Osito Audit: C**	**3.85 312**	*e*Pn	**Pn**	**17 20 42.8 +0.2**	
X16A	**Lo Mia Camp, P**	**3.93 53**	*e*Pn	**Pn**	**17 20 43.7 0.0**	
SHPR	**Sheep Range**	**4.40 1**	*e*Pn	**Pn**	**17 20 51.6 +1.4**	
SHPR			*e*Pg	**Pg**	**17 21 09.8 +2.4**	
WUAZ	**Wupatki**	**4.69 42**	*e*Pn	**Pn**	**17 20 55.3 +1.2**	
TPNV	**Topopah Spring**	**4.92 350**	*e*Pn	**Pn**	**17 20 58.9 +1.6**	
U15A	**North Rim**	**4.96 29**	*e*Pn	**Pn**	**17 20 59.4 +1.4**	
319A	**Douglas**	**5.12 96**	*e*Pn	Pn	17 20 53.5 -6.6	
LCMT	**Little Creek M**	**5.17 18**	*e*Pn	**Pn**	**17 20 58.6 -2.2**	
KNB	**Kanab**	**5.30 21**	*e*Pn	**Pn**	**17 21 03.8 +1.3**	
CCUT	**Cedar City**	**5.66 15**	*e*Pn	**Pn**	**17 21 08.5 +1.0**	
R11A	**Troy Canyon, C**	**6.25 357**	*e*Pn	**Pn**	**17 21 16.6 +1.1**	
R11A			*e*Pg	**Pg**	**17 21 43.0 +0.3**	

NIED ***11*** *17:35:00,39.˚60N×142.˚80E,h35km,Mw3.7 Best double couple: M₀4.00000×10¹⁴ NP1:φ₀186.00000°,δ25.00000°, λ101.00000°. NP2:φ₀355.00000°,δ65.00000°,λ85.00000°.*
JMA ***11*** *17:35:50.5±0.1,39.˚62N×142.˚76E,h30km±2km,M3.7*
IDC ***11*** *17:35:53.2±3.4,39.˚56N×143.˚02E,h57km±26km,mb3.4/7, mb1 3.5/11,mb1mx3.3/40,mbtmp3.6/11,ML2.8/3,MS2.8/4, Ms1 2.8/4,ms1mx2.4/31,Error ellipse: s-maj=40.4km s-min=18.1km az=81.0*

ISC 11 17:35:47.8±2.0,39˚61N±0˚04×142˚79E±0˚07,h5km±11km, n30,σ1⁰31/32,mb3.7/7,MS2.8/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.75**	**268**	P	**Pb**	**17 36 04.2**	**+0.9**
MIYJ				*e*S	**Sb**	**17 36 13.7**	**-0.2**
JTH	**Tanohata**	**0.79**	**295**	P	**Pb**	**17 36 04.9**	**+0.9**
JTH				*e*S	**Sb**	**17 36 15.5**	**+0.6**
OFUJ	**Ofunato**	**1.01**	**239**	P	**Pn**	**17 36 08.5**	**-0.2**
OFUJ				*e*S	**Sb**	**17 36 21.5**	**0.0**
JOM	**Ohasama**	**1.17**	**264**	P	**Pn**	**17 36 11.0**	**+0.2**
JOM				*e*S	**Sb**	**17 36 25.7**	**-0.1**
JKZ	**Kuzumaki**	**1.19**	**289**	P	**Pn**	**17 36 11.3**	**+0.2**
JKZ				*e*S	**Sg**	**17 36 25.8**	**-0.1**
JANG	**Nango**	**1.24**	**308**	P	**Pg**	**17 36 11.1**	**-0.5**
JMK	**Ichinoseki**	**1.38**	**242**	P	**Pg**	**17 36 14.3**	**0.0**
JMK				*e*S	**Sg**	**17 36 31.4**	**-0.8**
JIO	**Ouri**	**1.61**	**225**	P	**Pb**	**17 36 17.4**	**-0.5**
JIO				*e*S	**Sn**	**17 36 37.1**	**-0.8**
JRG	**Rokugo**	**1.68**	**264**	P	**Pg**	**17 36 19.7**	**-0.3**
JRG				*e*S	**Sg**	**17 36 41.7**	**-0.1**
JAH	**Hinai**	**1.76**	**290**	P	**Pb**	**17 36 22.1**	**-0.4**
JAH				*e*S	**Sn**	**17 36 42.2**	**+0.6**
JTM	**Tenmabayashi**	**1.77**	**312**	P	**Pn**	**17 36 19.6**	**+0.5**
JTM				*e*S	**Sn**	**17 36 41.4**	**-0.5**
ASAJ	**Asahikawa**	**4.51**	**358**	P	**Pn**	**17 36 59.2**	**+2.5**
	baz=90,slow=20						
MJAR	**Matsushiro Arr**	**4.73**	**231**	P	**Pn**	**17 37 03.0**	**+3.1**
	1.2nm,0.3s,baz=35,slow=12,SNR=26						
MJAR				LR	LR	17 39 07.2	
	comp=Z,71nm,19.0s,baz=85,slow=40						
MAT	**Matsushiro**	**4.74**	**231**	P	**Pn**	**17 37 03.1**	**+3.2**
MAT				*e*S	**Sn**	**17 37 58.0**	**+2.8**
USRK	**Ussuriysk Ar.**	**9.27**	**303**	P	Pn	17 38 07.1	+5.1
	0.1nm,0.3s,baz=108,slow=14,SNR=3.6						
KSRS	**Korea Array**	**11.84**	**264**	P	Pn	17 38 43.3	+6.0
	0.1nm,0.3s,baz=85,slow=14,SNR=4.3						
SONM	**Songino Array**	**27.35**	**300**	P	**P**	**17 41 34.2**	**+0.4**
	0.4nm,0.5s,baz=100,slow=7.8,SNR=4.3						
SONM				LR	LR	17 52 53.8	
	comp=Z,22nm,18.1s,baz=72,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.67**	**127**	T	T	18 12 24.4	
	baz=318,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**28.68**	**127**	T	T	18 12 24.4	
	baz=318,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**28.69**	**127**	T	T	18 12 25.1	
	baz=318,slow=75,SNR=68						
H11S1	**WAKE ISLAND Hy**	**29.48**	**129**	T	T	18 13 31.7	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**29.48**	**129**	T	T	18 13 33.0	
	baz=316,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.50**	**129**	T	T	18 13 33.0	
	baz=316,slow=74						
TLY	**Talaya**	**29.55**	**307**	LR	LR	17 54 04.8	
	comp=Z,21nm,18.2s,baz=187,slow=37						
ZALV	**Zalesovo Beam**	**41.03**	**310**	P	**P**	**17 43 31.5**	**-0.3**
	1.0nm,0.5s,baz=97,slow=8.3,SNR=5.4						
MKAR	**Makanchi Array**	**43.72**	**300**	P	**P**	**17 43 53.6**	**-0.2**
	0.5nm,0.5s,baz=84,slow=10,SNR=9.7						
MKAR				LR	LR	18 01 47.8	
	comp=Z,13nm,19.4s,baz=38,slow=35						
WRA	**Warramunga Arr**	**59.76**	**189**	P	**P**	**17 45 51.1**	**-2.7**
	0.4nm,0.6s,baz=6.9,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**63.49**	**189**	P	**P**	**17 46 18.4**	**-0.5**
	0.3nm,0.8s,baz=8.9,slow=6.6,SNR=6.1						
FINES	**FINESS Array B**	**67.05**	**332**	P	**P**	**17 46 41.2**	**-0.3**
	0.8nm,0.7s,baz=69,slow=7.6,SNR=3.3						
AKASG	**Malin Array Be**	**72.92**	**322**	P	**P**	**17 47 17.4**	**-0.5**
	0.5nm,0.4s,baz=43,slow=6.1,SNR=5.2						

ISCJB ***11*** *18:02:28.5±0.4,43.˚72N±0.˚04×105.˚19W±0.˚06,h0km, mb4.0/3,Error ellipse: s-maj=6.7km s-min=5.4km az=147.6*
IDC ***11*** *18:02:29.1±1.9,43.˚63N×105.˚40W,h0km,mb3.9/3, mb1 3.9/6,mb1mx3.5/45,mbtmp3.8/6,ML3.2/2,Error ellipse: s-maj=55.3km s-min=7.3km az=149.0*
NEIC ***11*** *18:02:30.2±0.4,43.˚70N×105.˚20W,h0km,ML3.3,Error ellipse: s-maj=6.8km s-min=5.2km az=146.0,Suspected Mining explosion.*

NEIC 72 km [45 miles] SSE of Gillette.

ISC 11 18:02:29.5±0.9,43˚73N±0˚06×105˚22W±0˚07,h0km,n32, σ1⁰27/32,mb3.8/3,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.94**	**65**	*e*Pg	**Pb**	**18 02 49.3**	**+0.5**
K22A	**Casper**	**1.44**	**222**	*e*Pn	**Pn**	**18 02 54.6**	**-2.4**
PHWY	**Pilot Hill**	**2.43**	**184**	*e*Pn	**Pn**	**18 03 11.2**	**+0.4**
LAO	**LASA Array**	**3.04**	**347**	*e*Pn	**Pn**	**18 03 20.8**	**+1.9**
RLMT	**Red Lodge**	**3.22**	**297**	*e*Pn	**Pn**	**18 03 22.3**	**+0.8**
BW06	**Boulder Array**	**3.31**	**255**	*e*Pn	**Pn**	**18 03 22.2**	**-0.6**
PDAR	**Pinedale Array**	**3.31**	**255**	Pn	**Pn**	**18 03 23.0**	**+0.1**
	21nm,0.3s,baz=76,slow=16,SNR=30						
PDAR				Lg	Lg	18 04 08.1	
	71nm,0.3s,baz=76,slow=26,SNR=20						
OGNE	**Ogallala**	**3.65**	**139**	*e*Pn	**Pn**	**18 03 28.0**	**+0.7**
LOHW	**Long Hollow**	**3.91**	**270**	*e*Pn	**Pn**	**18 03 31.4**	**+0.3**
H17A	**Grant Village**	**3.92**	**282**	*e*Pn	**Pn**	**18 03 32.8**	**+1.7**
ISCO	**Idaho Springs**	**3.94**	**184**	*e*Pn	**Pn**	**18 03 32.2**	**+0.7**
MOOW	**Moose Ponds**	**4.01**	**272**	*e*Pn	**Pn**	**18 03 34.0**	**+1.6**
REDW	**Red Top Meadow**	**4.11**	**267**	*e*Pn	**Pn**	**18 03 34.1**	**+0.3**
IMW	**Indian Meadow**	**4.14**	**274**	*e*Pn	**Pn**	**18 03 36.5**	**+2.2**
TPAW	**Teton Pass**	**4.17**	**269**	*e*Pn	**Pn**	**18 03 35.4**	**+0.7**
O20A	**White River Ci**	**4.24**	**213**	*e*Pn	**Pn**	**18 03 36.2**	**+0.6**
AHID	**Auburn Hatcher**	**4.41**	**259**	*e*Pn	**Pn**	**18 03 38.6**	**+0.8**
DGMT	**Dagmar**	**4.79**	**8**	*e*Pn	**Pn**	**18 03 46.0**	**+3.0**
BOZ	**Bozeman (W)**	**4.96**	**295**	*e*Pn	**Pn**	**18 03 45.3**	**0.0**
HWUT	**Hardware Ranch**	**5.14**	**248**	*e*Pn	**Pn**	**18 03 47.8**	**0.0**
EGMT	**Eagleton**	**5.34**	**325**	*e*Pn	**Pn**	**18 03 51.3**	**+0.9**
	13nm,0.3s						
PV04	**Paradox Valley**	**6.02**	**209**	*e*Pn	**Pn**	**18 04 00.7**	**+0.8**
PV01	**Paradox Valley**	**6.14**	**206**	*e*Pn	**Pn**	**18 04 02.9**	**+1.3**
	340nm,0.4s						
ECSD	**EROS Data Cent**	**6.23**	**87**	*e*Pn	**Pn**	**18 04 03.9**	**+1.2**
	6.7nm,0.3s						
DUG	**Dugway, Tooele**	**6.67**	**241**	*e*Pn	**Pn**	**18 04 08.9**	**0.0**
	3.0nm,0.4s						
AGMN	**Agassiz Nation**	**7.95**	**52**	*e*Pn	**Pn**	**18 04 24.7**	**-1.6**
	12nm,0.3s						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**18 04 42.2**	**-0.1**
	4.0nm,0.3s,baz=237,slow=12,SNR=14						
ULM				Sn	**Sn**	**18 06 23.4**	**-2.2**
	1.1nm,0.3s,baz=169,slow=1.0,SNR=6.4						
ULM				Lg	Lg	18 07 17.2	
	0.4nm,0.3s,baz=306,slow=0.6,SNR=4.8						
I56US	**NEWPORT INFRAS**	**9.45**	**303**	*i*		18 54 30.0	
	baz=116,slow=316,SNR=2.7						
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	**Pn**	**18 05 12.2**	**+1.2**
	0.1nm,0.3s,baz=59,slow=21,SNR=4.4						
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**18 12 46.7**	**-0.3**
	2.1nm,0.7s,baz=321,slow=6.2,SNR=5.7						
FINES	**FINESS Array B**	**68.02**	**23**	P	**P**	**18 13 30.2**	**+0.1**
	0.3nm,0.4s,baz=330,slow=8.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**82.32**	**354**	P	**P**	**18 14 51.8**	**-0.9**
	0.3nm,0.4s,baz=354,slow=7.4,SNR=2.7						

IDC 11 18:10:06.9±6.8,18˚78N×146˚01E,h206km±66km,mb2.9/6, mb1 3.1/7,mb1mx2.9/41,mbtmp3.4/7,Error ellipse: s-maj=37.6km s-min=14.8km az=90.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**18.98**	**340**	P	P	18 14 12.6	-0.4
	0.4nm,0.3s,baz=160,slow=10,SNR=10						
KSRS	**Korea Array**	**24.43**	**323**	P	P	18 15 06.8	+0.2
	0.3nm,0.7s,baz=149,slow=9.8,SNR=2.8						
WRA	**Warramunga Arr**	**40.15**	**197**	P	P	18 17 22.6	-0.5
	0.4nm,0.7s,baz=13,slow=8.7,SNR=7.1						
ASAR	**Alice Springs**	**43.81**	**196**	P	P	18 17 52.8	+0.2
	0.3nm,0.9s,baz=11,slow=6.1,SNR=3.5						
MKAR	**Makanchi Array**	**58.62**	**314**	P	P	18 19 42.5	+0.1
	0.1nm,0.5s,baz=87,slow=6.9,SNR=2.7						
ILAR	**Eielson Array**	**63.45**	**26**	P	P	18 20 14.6	+0.1
	0.2nm,0.4s,baz=270,slow=5.3,SNR=3.7						
FINES	**FINESS Array B**	**86.94**	**335**	P	P	18 22 28.0	-0.4
	0.7nm,0.7s,baz=35,slow=5.1,SNR=6.1						

IDC ***11*** *18:10:07.9±13.0,14.˚62S×165.˚80E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.5/35,mbtmp3.8/4,ML4.1/1,Error ellipse: s-maj=233.8km s-min=36.6km az=56.0*
NEIC ***11*** *18:10:11.8±3.7,14.˚68S×166.˚01E,h35km,mb4.7/5,Error ellipse: s-maj=71.3km s-min=15.5km az=48.0*

ISC 11 18:10:10.8±3.2,14˚6S±0˚2×166˚1E±0˚4,h35km,n13, σ1⁰93/15,mb3.9/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.49**	**177**	Pn	**Pn**	**18 11 58.0**	**+0.2**
	2.7nm,0.3s,baz=126,slow=21,SNR=30						
DZM				Sn	**Sn**	**18 13 23.1**	**+1.5**
	2.1nm,0.3s,baz=303,slow=23,SNR=6.2						
DZM	**Mont Dzumac**	**7.49**	**177**	*e*Pn	**Pn**	**18 11 55.9**	**-1.9**
DZM				*e*Sn	**Sn**	**18 13 20.4**	**-1.2**
STKA	**Stephens Creek**	**28.25**	**228**	P	**P**	**18 16 01.0**	**+0.2**
	0.7nm,0.4s,baz=50,slow=9.6,SNR=6.7						
STKA	**Stephens Creek**	**28.25**	**228**	*e*P	**P**	**18 16 01.2**	**+0.5**
	7.1nm,1.8s						
WB2	**Warramunga Arr**	**30.74**	**255**	*e*P	**P**	**18 16 22.7**	**-0.3**
	56nm,1.9s						
WR1	**Warramunga Arr**	**30.75**	**255**	*e*P	**P**	**18 16 23.2**	**+0.1**
	39nm,1.8s						
WRA	**Warramunga Arr**	**30.75**	**255**	P	**P**	**18 16 23.2**	**+0.1**
	0.7nm,1.0s,baz=84,slow=8.5,SNR=2.9						
WHZ	**Wether Hill Ro**	**31.29**	**177**	*e*P	**P**	**18 16 28.4**	**+0.9**
AS01	**Alice Springs**	**31.62**	**248**	*e*P	**P**	**18 16 32.0**	**+1.2**
AS31	**Alice Springs**	**31.66**	**248**	*e*P	**P**	**18 16 31.2**	**0.0**
	1.6nm,1.3s						
ASAR	**Alice Springs**	**31.66**	**248**	P	**P**	**18 16 30.1**	**-1.1**
	0.2nm,0.3s,baz=80,slow=9.6,SNR=17						
FITZ	**Fitzroy Crossi**	**38.92**	**259**	*e*P	**P**	**18 17 34.6**	**+1.1**
	54nm,2.0s						
JAGI	**Jajag, Banyuwa**	**51.15**	**271**	*e*P	**P**	**18 19 10.2**	**-0.7**

ISCJB ***11*** *18:13:07.5±0.5,39.˚11N±0.˚03×29.˚02E±0.˚03,h2km±5km, Error ellipse: s-maj=5.1km s-min=3.3km az=162.9*
DDA ***11*** *18:13:07.2,39.˚11N×29.˚03E,h7km,Md2.6*
CSEM ***11*** *18:13:07.8±0.1,39.˚10N×29.˚02E,h5km,MD2.6,Error ellipse: s-maj=2.3km s-min=1.8km az=161.0*
ISK ***11*** *18:13:07.4,39.˚13N×29.˚02E,h5km,MD2.9*

ISC 11 18:13:07.9±0.9,39˚11N±0˚02×29˚02E±0˚02,h9km±10km, n57,σ0⁰50/72,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**253**	P	**Pg**	**18 13 12.9**	**0.0**
DEMI				S	**Sg**	**18 13 16.5**	**+0.2**
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**18 13 12.9**	**0.0**
DEMI				*i* S	**Sg**	**18 13 16.5**	**+0.2**
GEDZ	**Gediz**	**0.31**	**103**	*e*Pg	**Pg**	**18 13 14.2**	**+0.1**
GEDZ				*e*Sg	**Sg**	**18 13 19.1**	**+0.9**
GEDZ	**Gediz**	**0.31**	**103**	*e*Pg	**Pg**	**18 13 14.2**	**+0.1**
GEDZ				*e*Sg	**Sg**	**18 13 19.1**	**+0.9**
GDZ	**Gediz**	**0.36**	**94**	P	**Pg**	**18 13 14.5**	**-0.5**
GDZ				S	**Sg**	**18 13 19.3**	**-0.4**
GDZ	**Gediz**	**0.36**	**94**	*i* P	**Pg**	**18 13 14.5**	**-0.5**
GDZ				*i* S	**Sg**	**18 13 19.3**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**45**	*e*PG	**Pg**	**18 13 16.8**	**-0.4**
TVSB				*e*SG	**Sg**	**18 13 23.4**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**45**	*e*Pg	**Pg**	**18 13 16.8**	**-0.4**
TVSB				*e*Sg	**Sg**	**18 13 23.4**	**-0.2**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*PG	**Pg**	**18 13 20.5**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*Pg	**Pg**	**18 13 20.5**	**-0.1**
MANT	**Manisa**	**0.72**	**210**	P	**Pg**	**18 13 21.1**	**-0.7**
MANT				S	**Sg**	**18 13 30.4**	**-0.8**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**18 13 21.1**	**-0.7**
MANT				*i* S	**Sg**	**18 13 30.4**	**-0.8**
KHL	**Karahalli**	**0.88**	**153**	*e*PG	**Pb**	**18 13 24.9**	**-0.5**
KHL	**Karahalli**	**0.88**	**153**	*e*Pg	**Pb**	**18 13 24.9**	**-0.5**
AKHS	**Akhisar**	**0.97**	**256**	P	**Pg**	**18 13 26.1**	**-0.4**
AKHS				S	**Sb**	**18 13 39.7**	**-0.1**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pg**	**18 13 26.1**	**-0.4**
AKHS				*i* S	**Sb**	**18 13 39.7**	**-0.1**
AKS	**Akhisar**	**0.97**	**256**	*e*PG	**Pb**	**18 13 26.4**	**-0.4**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg	**Pb**	**18 13 26.5**	**-0.4**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pb**	**18 13 28.0**	**+0.1**
BALB				*e*SG	**Sb**	**18 13 41.8**	**+0.3**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pb**	**18 13 28.0**	**+0.1**
BALB				*e*Sg	**Sb**	**18 13 41.8**	**+0.3**
IGD	**Bursa**	**1.16**	**7**	*i* P	**Pg**	**18 13 28.6**	**-1.6**
IGD				*i* S	**Sb**	**18 13 45.5**	**+0.3**
BALY	**Balya**	**1.25**	**300**	P	**Pb**	**18 13 31.6**	**-0.2**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pb**	**18 13 31.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pn**	**18 13 31.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pn**	**18 13 31.7**	**0.0**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pn**	**18 13 31.7**	**0.0**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pn**	**18 13 31.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pn**	**18 13 32.0**	**+0.3**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pn**	**18 13 32.0**	**+0.3**
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pb**	**18 13 31.9**	**-0.2**
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pb**	**18 13 31.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*PN	**Pg**	**18 13 34.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*Pn	**Pg**	**18 13 34.1**	**-0.4**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN	**Pb**	**18 13 34.5**	**-0.2**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn	**Pb**	**18 13 34.5**	**-0.2**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pb**	**18 13 34.8**	**-0.4**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pb**	**18 13 34.8**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pb**	**18 13 35.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*Pn	**Pb**	**18 13 35.3**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**73**	*i* P	**Pg**	**18 13 36.2**	**0.0**
SEYT	**Eskypehyr**	**1.48**	**73**	P	**Pg**	**18 13 36.2**	**0.0**
EDC	**Edincik**	**1.52**	**324**	*e*PN	**Pb**	**18 13 36.2**	**0.0**
EDC	**Edincik**	**1.52**	**324**	*e*Pn	**Pb**	**18 13 36.3**	**0.0**
IZM	**Izmir**	**1.55**	**243**	*e*PN	**Pb**	**18 13 36.8**	**0.0**
IZM	**Izmir**	**1.55**	**243**	*e*Pn	**Pb**	**18 13 36.8**	**0.0**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pn**	**18 13 39.1**	**+0.6**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pn**	**18 13 39.1**	**+0.6**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*PN	**Pn**	**18 13 40.3**	**+0.6**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*Pn	**Pn**	**18 13 40.3**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*PN	**Pn**	**18 13 41.8**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*Pn	**Pn**	**18 13 41.8**	**+0.2**
CTKS	**Kestanelik-??a**	**2.16**	**350**	*e*PN	**Pn**	**18 13 45.4**	**+1.4**
CTKS	**Kestanelik-??a**	**2.16**	**350**	*e*Pn	**Pn**	**18 13 45.4**	**+1.4**
MDUB	**Mudurnu**	**2.16**	**50**	*e*PN	**Pn**	**18 13 45.1**	**+1.0**
MDUB	**Mudurnu**	**2.16**	**50**	*e*Pn	**Pn**	**18 13 45.1**	**+1.0**
KIZT	**Kizilcal**	**2.24**	**95**	*e*PN	**Pn**	**18 13 45.6**	**+0.3**
KIZT	**Kizilcal**	**2.24**	**95**	*e*Pn	**Pn**	**18 13 45.6**	**+0.3**

IDC 11 18:14:51.2±3.0,19˚02S×177˚78W,h552km±27km, mb2.6/3,mb1 3.0/4,mb1mx2.7/29,mbtmp3.7/4,Error ellipse: s-maj=127.8km s-min=20.7km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.68**	**49**	P	P	18 16 45.8	-0.3
	2.0nm,0.3s,baz=247,slow=13,SNR=2.9						
AFI				S	S	18 18 18.3	-1.9
	1.6nm,0.3s,baz=29,slow=23,SNR=2.5						
WRA	**Warramunga Arr**	**45.02**	**261**	P	P	18 22 18.1	-0.2
	0.2nm,0.3s,baz=97,slow=7.5,SNR=

MABI eSg Sg 18 33 19.6 -0.8
4µm,0.1s
MABI Malga Bissina 0.28 45⇑*i*Pg Pg 18 33 15.7 -0.3
4µm,0.1s
MABI Sg Sg 18 33 19.5 -0.8
896nm,0.1s
MAGA Magasa 0.29 105 Pg Pg 18 33 15.9 -0.2
MAGA Sg Sg 18 33 20.2 -0.2
873nm,0.5s
MAGA Magasa 0.29 105 Pg Pg 18 33 15.9 -0.2
MAGA Sg Sg 18 33 20.2 -0.2
873nm,0.5s
RNI Roncone 0.30 65⇑*e*Pg Pg 18 33 16.1 -0.2
RNI eSg Sg 18 33 20.5 -0.4
RNI Roncone 0.30 65 *e*Pg Pg 18 33 16.1 -0.2
RNI eSg Sg 18 33 20.5 -0.4
SALO Salr 0.31 138 Pg Pg 18 33 16.0 -0.4
SALO Sg Sb 18 33 22.0 +0.2
237nm,0.4s
SALO Salr 0.31 138⇓*i*Pg Pg 18 33 16.0 -0.4
312nm,0.1s
SALO eSg Sg 18 33 21.2 +0.3
312nm,0.1s
SALO Salr 0.31 138⇓*i*Pg Pg 18 33 16.0 -0.4
312nm,0.1s
SALO eSg Sg 18 33 21.2 +0.3
312nm,0.1s
BALD Monte Baldo 0.45 112⇓*e*Pg Pg 18 33 18.4 -0.4
BALD eSg Sg 18 33 25.0 0.0
BALD Monte Baldo 0.45 112 *e*Pg Pg 18 33 18.4 -0.4
BALD eSg Sg 18 33 25.0 0.0
BERNI Berninapass 0.58 346 Pg Pg 18 33 21.4 +0.1
BERNI Sg Sg 18 33 28.9 -0.2
88nm,0.1s
BERNI Berninapass 0.58 346⇓*i*Pg Pg 18 33 21.4 +0.1
384nm,0.1s
BERNI Berninapass 0.58 346⇓*i*Pg Pg 18 33 21.4 +0.1
384nm,0.1s
BERNI Sg Sg 18 33 28.9 -0.2
88nm,0.1s
ROVR Rover¨¤ Verone 0.63 109 Pg Pg 18 33 22.1 0.0
ROVR Sg Sg 18 33 31.3 +0.8
144nm,0.2s
ROVR Rover¨¤ Verone 0.63 109 Pg Pg 18 33 22.1 0.0
ROVR Sg Sg 18 33 31.3 +0.8
144nm,0.2s
BRMO Bormio 0.63 9 Pg Pg 18 33 22.3 +0.1
BRMO Sg Sg 18 33 30.8 +0.1
119nm,0.2s
BRMO Bormio 0.63 9 Pg Pg 18 33 22.3 +0.1
BRMO Sg Sg 18 33 30.8 +0.1
119nm,0.2s
CARE Lago del Cares 0.66 29⇑*e*Pg Pg 18 33 22.4 -0.4
CARE eSg Sg 18 33 31.1 -0.5
CARE Lago del Cares 0.66 29 *e*Pg Pg 18 33 22.4 -0.4
CARE eSg Sg 18 33 31.1 -0.5
DDS Dosso del Somm 0.67 87⇓*e*Pg Pg 18 33 22.6 -0.3
DDS eSg Sg 18 33 32.0 +0.1
MARN Marana (Italy) 0.72 107 *e*Pg Pb 18 33 23.4 -0.4
MARN eSg Sg 18 33 34.4 +1.0
MARN Marana (Italy) 0.72 107 *e*Pg Pb 18 33 23.5 -0.4
MARN eSg Sg 18 33 34.4 +1.0
FUORN Ofenpass-Fuorn 0.77 2 Pg Pb 18 33 24.7 -0.2
FUORN Sg Sb 18 33 34.9 -0.3
63nm,0.4s
FUORN Ofenpass-Fuorn 0.77 2⇓*i*Pg Pb 18 33 24.6 -0.3
201nm,0.7s
FUORN Ofenpass-Fuorn 0.77 2 Pg Pb 18 33 24.7 -0.2
FUORN Sg Sb 18 33 34.9 -0.3
63nm,0.4s
MOSI Grossmontoni 0.80 16 Pg Pb 18 33 25.5 +0.1
MOSI Sg Sb 18 33 35.3 -0.6
450nm,0.3s
MOSI Grossmontoni 0.80 16⇓*i*Pg Pb 18 33 25.4 +0.1
2µm,0.3s
MOSI Grossmontoni 0.80 16⇓*i*Pg Pb 18 33 25.4 +0.1
2µm,0.3s
MOSI Sg Sb 18 33 35.3 -0.6
450nm,0.3s
OZOL Ozolo 0.80 46⇑*e*Pg Pb 18 33 24.7 -0.5
OZOL eSg Sb 18 33 35.3 -0.6
PANI Panarotta 0.80 75 *e*Pg Pb 18 33 24.8 -0.5
PANI eSg Sb 18 33 35.5 -0.4
VDL Val di Lei 0.83 320⇓*i*P Pb 18 33 25.7 -0.2
183nm,0.2s
VDL Val di Lei 0.83 320⇓*i*P Pb 18 33 25.7 -0.2
183nm,0.2s
MUGIO Muggio 0.83 275 Pg Pb 18 33 25.4 -0.3
MUGIO Sg Sg 18 33 37.8 +0.9
48nm,0.3s
MUGIO Muggio 0.83 275⇓*i*Pg Pb 18 33 25.5 -0.3
174nm,0.3s
MUGIO Muggio 0.83 275⇓*i*Pg Pb 18 33 25.5 -0.3
174nm,0.3s
MUGIO Sg Sg 18 33 37.8 +0.9
48nm,0.3s
TUE Stuetta 0.87 316 Pg Pb 18 33 26.4 -0.2
TUE Sg Sb 18 33 38.4 +0.3
93nm,0.2s
TUE Stuetta 0.87 316 Pg Pb 18 33 26.4 -0.2
TUE Sg Sb 18 33 38.4 +0.3
93nm,0.2s
APPI Appiano 0.94 48 Pg Pb 18 33 27.3 -0.3
APPI Sg Sb 18 33 39.4 -0.5
APPI Appiano 0.94 48 Pg Pb 18 33 27.3 -0.3
APPI Sg Sb 18 33 39.4 -0.5
DAVOX Davos/Dischmat 0.96 346 Pg Pb 18 33 28.3 +0.2
DAVOX Sg Sb 18 33 40.7 +0.1
41nm,0.4s
DAVOX Davos/Dischmat 0.96 346⇓*i*P Pb 18 33 28.3 +0.2
145nm,0.5s
DAVOX Davos/Dischmat 0.96 346⇓*i*P Pb 18 33 28.3 +0.2
145nm,0.5s
DAVOX Sg Sb 18 33 40.7 +0.1
41nm,0.4s
KOSI Kohlern 1.01 52 Pg Pb 18 33 28.9 0.0
KOSI Sg Sb 18 33 41.5 -0.4
34nm,0.5s
KOSI Kohlern 1.01 52 Pg Pb 18 33 28.9 0.0
KOSI Sg Sb 18 33 41.5 -0.4
34nm,0.5s
CGRP Cima Grappa 1.10 88 Pg Pb 18 33 30.5 0.0
CGRP Sg Sb 18 33 45.3 +0.7
70nm,0.4s
CGRP Cima Grappa 1.10 88⇑*e*Pg Pb 18 33 30.5 0.0
CGRP eSg Sb 18 33 45.4 +0.7
CGRP Cima Grappa 1.10 88 Pg Pb 18 33 30.5 0.0
CGRP Sg Sb 18 33 45.3 +0.7
70nm,0.4s
TEOL Teolo 1.13 115⇓*e*Pg Pn 18 33 31.3 +0.5
TEOL eSg Sb 18 33 45.8 +0.6
TEOL Teolo 1.13 115 *e*Pg Pn 18 33 31.3 +0.5
TEOL eSg Sb 18 33 45.8 +0.6
ABSI Aberstueckl 1.16 40 Pg Pn 18 33 31.2 -0.3
ABSI Sg Sb 18 33 45.5 -0.9
41nm,0.6s
ABSI Aberstueckl 1.16 40 Pg Pn 18 33 31.2 -0.3
ABSI Sg Sb 18 33 45.5 -0.9
41nm,0.6s
FETA Feichten 1.22 16 Sg Sb 18 33 48.0 -0.1
13nm,0.3s,SNR=9.5
FUSIO Fusio 1.24 300 Pg Pn 18 33 32.9 +0.3
FUSIO Sg Sb 18 33 49.5 +0.8
74nm,0.6s
FUSIO Fusio 1.24 300⇑*i*P Pn 18 33 31.2 -1.4
241nm,0.4s
FUSIO Fusio 1.24 300⇑*i*P Pn 18 33 31.2 -1.4
241nm,0.4s
FUSIO Fusio 1.24 300 Pg Pn 18 33 32.9 +0.3
FUSIO Sg Sb 18 33 49.5 +0.8
74nm,0.6s
MTLO Montello 1.31 91⇑*e*Pg Pb 18 33 35.0 +1.1
MTLO Montello 1.31 91 *e*Pg Pb 18 33 35.0 +1.1
CURA Stauanlage Cun 1.31 307⇓*i*P Pn 18 33 32.9 -0.7
262nm,0.4s
CURA Stauanlage Cun 1.31 307⇓*i*P Pn 18 33 32.9 -0.7
262nm,0.4s
VARN Col Varnada, M 1.32 83 *e*Pg Pb 18 33 34.8 +0.7
VARN Col Varnada, M 1.32 83 *e*Pg Pb 18 33 34.8 +0.7
PLONS Plons/SG 1.33 334 Pg Pb 18 33 34.9 +0.5
PLONS Sg Sn 18 33 51.9 +0.7
AGOR Agordo 1.34 71 Pg Pn 18 33 33.8 0.0
AGOR Sg Sn 18 33 51.4 +0.1
36nm,0.3s
ROSI Rosskopf 1.35 37 Pg Pn 18 33 34.5 +0.4
ROSI Sg Sn 18 33 51.8 -0.1
36nm,0.7s
ROSI Rosskopf 1.35 37 Pg Pn 18 33 34.5 +0.4
ROSI Sg Sn 18 33 51.8 -0.1
36nm,0.7s
GRAM Graiana 1.37 185 P Pb 18 33 35.8 +0.9
GRAM S Sb 18 33 53.4 +1.2
DAVA Damuels 1.45 351 Pg Pb 18 33 37.6 +1.1
4.0nm,0.2s,SNR=14
DAVA Sg Sg 18 33 57.3 +0.6
23nm,0.4s
SC2M Scurtabo 1.53 199 P Pb 18 33 38.2 +0.5
POLC Polcenigo 1.60 83 Pg Pb 18 33 38.7 -0.1
POLC Sg Sb 18 33 59.6 +0.9
14µm,0.6s
POLC Polcenigo 1.60 83 *e*Pg Pb 18 33 39.5 +0.7
POLC Polcenigo 1.60 83 Pg Pb 18 33 38.7 -0.1
POLC Sg Sb 18 33 59.6 +0.9
14µm,0.6s
BNALP Bannalp 1.61 310 Pg Pb 18 33 39.9 +0.7
BNALP Sg Sb 18 34 00.6 +1.3
20nm,0.3s
BNALP Bannalp 1.61 310 Pg Pb 18 33 39.9 +0.7
BNALP Sg Sb 18 34 00.6 +1.3
20nm,0.3s
MOTA Moosalm 1.61 22 Pg Pb 18 33 40.0 +0.8
3.7nm,0.3s,SNR=11
MOTA Sg Sb 18 34 00.5 +1.2
6.3nm,0.2s
SATI Passo dei Sala 1.65 272 P Pb 18 33 40.2 +0.3
RETA Reutte 1.68 13 Pg Pg 18 33 43.3 +1.3
1.6nm,0.1s
RETA Sg Sg 18 34 03.5 -0.3
4.2nm,0.3s
RISI Rein 1.69 49 Pg Pn 18 33 39.6 +0.9
RISI Sg Sb 18 34 02.3 +0.8
58nm,0.2s
RISI Rein 1.69 49 Pg Pn 18 33 39.6 +0.9
RISI Sg Sb 18 34 02.3 +0.8
58nm,0.2s
WATA Walderalm 1.75 32 Pg Pg 18 33 43.4 0.0
1.0nm,0.2s
WATA Sg Sg 18 34 05.8 -0.4
1.5nm,0.1s
PCP Piancastagn 1.77 223 P Pn 18 33 41.2 +1.5
TRAV Traversella 1.77 260 Pg Pn 18 33 41.3 +1.5
23nm,0.2s
ABTA Abfaltersbach 1.82 60 Pg Pb 18 33 43.3 +0.6
3.9nm,0.2s,SNR=11
ABTA Sg Sb 18 34 07.0 +1.7
2.8nm,0.1s
LPG La Plagne 2.46 263 *e*P Pn 18 33 50.7 +1.2
LPG *e*Sn Sn 18 34 16.6 -2.7
3.4nm,0.3s
LPG La Plagne 2.46 263 *e*P Pn 18 33 50.7 +1.2
LPG *e*Sn Sn 18 34 16.6 -2.7
1.7nm,0.3s
LPL La Plagne 2.47 263 *e*P Pn 18 33 50.9 +1.4
LPL *e*Sn Sn 18 34 16.6 -2.9
6.7nm,0.4s
LPL La Plagne 2.47 263 *e*P Pn 18 33 50.9 +1.4
LPL *e*Sn Sn 18 34 16.6 -2.9
3.3nm,0.4s
KBA Koelnbreinsper 2.48 59 Pg Pb 18 33 55.5 +1.5
1.7nm,0.2s
KBA Sg Sb 18 34 27.1 +2.8
3.8nm,0.3s
MBDF Montbardon 2.69 246 *e*Pn Pn 18 33 51.0 -1.4
MBDF *e*Sn Sn 18 34 21.7 -3.0
3.0nm,0.3s
SBF Sospel 2.81 226 *e*Pn Pn 18 33 52.4 -1.6
SBF Sospel 2.81 226 *e*P Pn 18 33 55.1 +1.1
SBF Sospel 2.81 226 *e*Pn Pn 18 33 52.4 -1.6
SBF Sospel 2.81 226 *e*P Pn 18 33 55.1 +1.1
CABF La Chapelle 2.97 286 *e*P Pn 18 33 58.0 +1.7
CABF La Chapelle 2.97 286 *e*P Pn 18 33 58.0 +1.7
HINF Hinteralfeld 3.04 312 *e*P Pn 18 33 58.9 +1.8
HINF *e*Sn Sn 18 34 31.4 -1.8
HINF *e*Sg Sb 18 34 44.2 +4.0
4.1nm,0.3s
HINF Hinteralfeld 3.04 312 *e*P Pn 18 33 58.9 +1.8
HINF *e*Sn Sn 18 34 31.4 -1.8
HINF *e*Sg Sb 18 34 44.2 +4.0
2.0nm,0.3s
ORIF Oris-en-Rattie 3.20 255 *e*P Pn 18 34 02.4 +2.9
ORIF Oris-en-Rattie 3.20 255 *e*P Pn 18 34 02.4 +2.9
CDF Champ du Feu 3.26 323 *e*P Pn 18 34 02.3 +2.1
CDF *e*Sn Sn 18 34 36.5 -2.2
CDF *e*Sg Sg 18 34 52.5 -1.9
2.8nm,0.3s
HAU Haudompre 3.42 310 *e*P Pn 18 34 04.2 +1.8
HAU *e*Sn Sn 18 34 40.1 -2.5
6.8nm,0.4s
HAU Haudompre 3.42 310 *e*P Pn 18 34 04.2 +1.8
HAU *e*Sn Sn 18 34 40.1 -2.5
3.4nm,0.4s
FRF La Foret Royal 3.43 229 *e*P Pn 18 34 03.6 +1.1
FRF *e*Sn Sn 18 34 39.0 -3.8
1.9nm,0.3s
FRF La Foret Royal 3.43 229 *e*P Pn 18 34 03.6 +1.1
LMR La Mourre 3.66 228 *e*Pn Pn 18 34 04.7 -0.9
LMR La Mourre 3.66 228 *e*Pn Pn 18 34 04.7 -0.9
SMRF Simiane la Rot 3.80 242 *e*P Pn 18 34 09.8 +2.2
SMRF Simiane la Rot 3.80 242 *e*P Pn 18 34 09.8 +2.2
VIVF Saint-Julien-l 4.04 258 *e*Pn Pn 18 34 09.2 -1.7
VIVF Saint-Julien-l 4.04 258 *e*P Pn 18 34 12.3 +1.4
VIVF Saint-Julien-l 4.04 258 *e*P Pn 18 34 12.3 +1.4
SMF Signal de Mont 4.50 282 *e*P Pn 18 34 18.7 +1.5
SMF *e*Sn Sn 18 35 04.8 -4.4
3.2nm,0.3s
LOR Lormes 4.62 290 *e*P Pn 18 34 20.2 +1.4
LOR *e*Sn Sn 18 35 07.6 -4.4
2.4nm,0.3s
AVF Avril sur Loir 4.85 284 *e*P Pn 18 34 23.3 +1.3
BGF Bois d'Agland 5.17 280 *e*P Pn 18 34 27.8 +1.4

NIED ***11*** *18:41:00,40.˚80N×142.˚70E,h35km,Mw4.1 Best double couple: M₀1.38000×10¹⁵ NP1:φ₀200.00000°,δ18.00000°, λ96.00000°. NP2:φ₀14.00000°,δ72.00000°,λ88.00000°.*
JMA ***11*** *18:41:09.8±0.2,40.˚76N×142.˚66E,h25km,M4.0*
JMA Felt I J1.
ISCJB ***11*** *18:41:10.9±0.5,40.˚79N±0.˚04×142.˚62E±0.˚06,h53km±4km, mb4.2/36,MS3.2/7,Error ellipse: s-maj=8.4km s-min=4.4km az=33.1*
MOS ***11*** *18:41:10.2±1.0,40.˚77N×142.˚62E,h49km,mb4.4/17,Error ellipse: s-maj=9.8km s-min=6.4km az=101.7*
IDC ***11*** *18:41:12.8±0.7,40.˚77N×142.˚53E,h52km±4km,mb3.6/18, mb1 3.8/22,mb1mx3.7/51,mbtmp3.9/22,MS3.0/11, Ms1 3.0/11,ms1mx2.8/57,Error ellipse: s-maj=17.2km s-min=13.6km az=95.0*

ISC 11 18:41:12.3±0.6, 40.˚79N±0.˚04×142.˚62E±0.˚05, h48km±4km, h48km:pP-P,n85,σ1s49/93,mb4.3/36,MS3.2/7,8C-13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.94**	**244**	⇓P	**Pn**	**18 41 27.4**	**-1.7**
JTH	**Tanohata**	**1.02**	**215**	⇓P	**Pn**	**18 41 27.9**	**-2.4**
JTM	**Tenmabayashi**	**1.18**	**271**	⇓P	**Pn**	**18 41 31.3**	**-1.1**
ERM	**Erimo**	**1.29**	**18**	*ce*P	**Pn**	**18 41 33.4**	**-0.5**
JEM	**Erimo**	**1.29**	**18**	P	**Pn**	**18 41 33.2**	**-0.7**
JOT	**Ohata**	**1.33**	**297**	⇓P	**Pn**	**18 41 33.2**	**-1.2**
JNBK	**Urakawa-nobuka**	**1.50**	**4**	⇑P	**Pn**	**18 41 36.4**	**-0.3**
JKB	**Kayabe**	**1.62**	**313**	⇓P	**Pn**	**18 41 37.4**	**-1.0**
JKB				*e*S	**Sn**	**18 41 57.9**	**-0.3**
JAH	**Hinai**	**1.63**	**249**	⇓P	**Pn**	**18 41 38.4**	**-0.1**
JAH				*e*S	**Sn**	**18 41 59.4**	**+1.2**
JOM	**Ohasama**	**1.66**	**218**	⇓P	**Pn**	**18 41 37.9**	**-1.1**
JSR	**Shiriuchi**	**1.82**	**295**	⇓P	**Pn**	**18 41 40.8**	**-0.3**
JCH	**Churui**	**1.91**	**17**	⇑P	**Pn**	**18 41 41.7**	**-0.6**
JCH				*e*S	**Sn**	**18 42 04.9**	**-0.3**
ASAJ	**Asahikawa**	**3.33**	**360**	P	**Pn**	**18 42 02.0**	**+0.2**
ASAJ	**Asahikawa**	**3.33**	**360**	P	**Pn**	**18 42 02.0**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**4.04**	**35**	*e*P	**Pn**	**18 42 09.7**	**-1.8**
MAJO	**Matsushiro**	**5.47**	**221**	*d*iP	**Pn**	**18 42 32.5**	**+1.3**
MAT	**Matsushiro**	**5.47**	**221**	P	**Pn**	**18 42 32.9**	**+1.7**
MAT				*e*S	**Sn**	**18 43 34.3**	**+1.6**
MJAR	**Matsushiro Arr**	**5.47**	**221**	P	**Pn**	**18 42 32.4**	**+1.3**
MJAR	2.4nm,0.3s,baz=30,slow=14,SNR=55			LR	LR	18 44 53.4	
	comp=Z,119nm,21.6s,baz=60,slow=41						

KUR Kuril'sk 5.88 39⇑*i*P Pn 18 42 35.8 -0.9
KUR *e*S Sn 18 43 39.0 -3.7
KUR pmax pmax
comp=Z,56nm,0.6s
KUR pmax pmax
comp=N,11nm,0.3s
KUR pmax pmax
comp=E,10.0nm,0.6s
KUR smax smax
comp=N,34nm,0.4s
KUR smax smax
comp=E,20nm,0.2s
YSS Yuzh-Sakhalins 6.17 1 *e*P Pn 18 42 42.3 +1.6
YSS *e*S Sn 18 43 53.5 +3.7
YSS pmax pmax
comp=Z,10.0nm,0.4s
YSS MLR MLR
comp=Z,100nm,15.0s
UGL Uglegorsk 8.30 357 *e*P Pn 18 43 05.4 -4.5
UGL *e*SS Sn 18 44 47.8 +5.6
VLA Vladivostok 8.33 290⇓*e*P Pn 18 43 10.2 -0.2
VLA *i* S Sn 18 44 41.7 -1.4
VLA pmax pmax
comp=Z,25nm,1.4s
USRK Ussuriysk Ar. 8.56 297 P Pn 18 43 14.2 +0.7
comp=Z,1.7nm,0.3s,baz=101,slow=15,SNR=27
USRK LR LR 18 46 28.7
comp=Z,99nm,18.5s,baz=125,slow=37
MSHR Mys Shultsa 8.76 286⇑*e*P Pn 18 43 14.9 -1.4
HABR Khabarovsk 9.38 327 *e*P Pn 18 43 19.4 -5.4
HABR *e*SS Sn 18 45 12.7 +3.9
HABR pmax pmax
comp=Z,4.0nm,0.9s
HABR pmax pmax
comp=N,5.0nm,0.9s
HABR pmax pmax
comp=E,6.0nm,0.8s
HABR MLR MLR
comp=Z,64nm,12.0s
KLR Kul'dur 11.41 321 P Pn 18 43 54.1 +1.6
comp=Z,0.1nm,0.3s,baz=120,slow=13,SNR=6.5
KLR LR LR 18 48 33.2
comp=Z,76nm,18.3s,baz=123,slow=39
KSRS Korea Array 11.89 258 P Pn 18 44 00.8 +1.7
comp=Z,0.3nm,0.3s,baz=66,slow=14,SNR=11
KSRS LR LR 18 47 57.7
comp=Z,79nm,21.6s,baz=73,slow=34
JNU Nakatsue 12.11 235 LR LR 18 48 54.5
comp=Z,48nm,19.4s,baz=122,slow=38
PETK Petropavlovsk- 16.02 35 LR LR 18 51 31.3
comp=Z,24nm,20.0s,baz=247,slow=38
MA2 Magadan 19.49 12 LR LR 18 54 11.2
comp=Z,22nm,20.8s,baz=168,slow=40
YAK Yakutsk 22.67 344 *e*P P 18 46 05.4 -3.7
YAK pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 22.93 11 P P 18 46 10.1 -1.8
comp=Z,1.6nm,0.7s,baz=185,slow=15,SNR=4.7
SEY Seymchan 22.93 11 P P 18 46 10.1 -1.8
SEY pmax pmax
comp=Z,1.0nm,0.5s
ULN Ulaanbaatar 26.23 298⇓*e*P P 18 46 42.9 +0.2
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 26.68 298 P P 18 46 46.6 -0.1
comp=Z,0.9nm,0.4s,baz=88,slow=8.6,SNR=9.7
SONM LR LR 18 57 47.5
comp=Z,56nm,19.1s,baz=73,slow=37
TLY Talaya 28.75 305 LR LR 18 58 53.3
comp=Z,24nm,20.2s,baz=112,slow=37
H11N2 WAKE ISLAND Hy 29.49 128 T T 19 18 51.9
baz=320,slow=75,SNR=132
H11N1 WAKE ISLAND Hy 29.50 128 T T 19 18 28.8
baz=320,slow=75,SNR=98
H11N3 WAKE ISLAND Hy 29.51 128 T T 19 18 58.0
baz=320,slow=75,SNR=71
BILL Bilibino 30.17 17⇑*e*P P 18 47 18.1 +0.7
BILL *e* 18 48 16.6
BILL pmax pmax
comp=Z,42nm,17.5s
BILL MLR MLR
comp=Z,42nm,18.0s
H11S1 WAKE ISLAND Hy 30.33 130 T T 19 19 56.6
baz=322,slow=76,SNR=76
H11S3 WAKE ISLAND Hy 30.33 130 T T 19 19 57.8
baz=322,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 30.35 130 T T 19 19 57.8
baz=322,slow=76,SNR=23
ZALV Zalesovo Beam 40.18 309 P P 18 48 43.6 +0.2
comp=Z,6.6nm,0.6s,baz=96,slow=8.4,SNR=22
ZALV LR LR 19 06 13.0
comp=Z,32nm,18.1s,baz=68,slow=37
MKAR Makanchi Array 43.02 299 P P 18 49 06.9 0.0
comp=Z,1.5nm,0.5s,baz=85,slow=9.7,SNR=26
MKAR LR LR 19 08 01.9
comp=Z,40nm,18.4s,baz=178,slow=37
MAKZ Makanchi 43.23 299 P P 18 49 08.3 -0.3
MAKZ pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 43.44 252 P P 18 49 10.0 -0.6
comp=Z,0.7nm,0.8s,baz=38,slow=7.1,SNR=3.8
CMAR Chiang Mai Arr 43.44 252 P P 18 49 10.0 -0.6
CMAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 45.84 34 P P 18 49 29.4 +0.2
comp=Z,0.3nm,0.6s,baz=270,slow=7.1,SNR=3.8
GUN Gumba 47.81 273 *e*P P 18 49 45.8 +0.3
KKN Kakani 48.33 273 *e*P P 18 49 49.9 +0.6
comp=Z,22nm,0.7s
PKIN Phulchoki 48.35 273 *e*P P 18 49 49.5 0.0
comp=Z,6.8nm,0.5s
VOSK Vostochnaya 48.55 310 P P 18 49 49.6 -0.8
VOSK pmax pmax
comp=Z,3.0nm,0.9s
GKN Gorkha 48.71 274 *e*P P 18 49 52.4 +0.3
comp=Z,13nm,0.5s
TKM2 Tokmak 2 48.76 296 P P 18 49 52.6 +0.2
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
BVA0 Borovoye Array 48.81 310 *i* P P 18 49 52.7 +0.3
BVA0 pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 48.86 310⇑*e*P P 18 49 52.9 +0.2
BRVK pmax pmax
comp=Z,14nm,2.5s
OTUK Ortayu 49.06 304 P P 18 49 53.6 -0.8
OTUK pmax pmax
comp=Z,3.0nm,1.1s
KOLN Koldanda 49.61 274 *e*P P 18 49 59.5 +0.4
ZRNK Zerenda 49.63 310 P P 18 49 58.8 +0.2
ZRNK pmax pmax
comp=Z,5.0nm,1.0s
PYUN Piuthan 49.91 275 *e*P P 18 50 02.1 +0.8
INK Inuvik 50.63 29 P P 18 50 07.2 +1.2
comp=Z,1.4nm,0.5s,baz=263,slow=5.5,SNR=6.8
MNAS Manas 51.03 297 P P 18 50 09.2 -0.3
MNAS pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 54.22 317*d*iP P 18 50 31.1 -1.6
ARU 18 51 32.1
ARU S S 18 58 03.7 -2.4
ARU SS SKiKP 19 01 41.5 +2.3
ARU pmax pmax
comp=Z,7.0nm,1.7s
AB31 Akbulak array 56.29 309 P P 18 50 47.4 -0.3
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 60.83 339 P P 18 51 20.0 +1.0
comp=Z,4.8nm,1.1s,baz=62,slow=6.6,SNR=2.7
ARCES ARCESS Array B 60.83 339 P P 18 51 20.0 +1.0
ARCES pmax pmax
comp=Z,5.0nm,1.1s
WRA Warramunga Arr 60.91 189 P P 18 51 19.5 -0.6
comp=Z,0.7nm,0.5s,baz=7.0,slow=6.8,SNR=6.6
KLMR Klimovskoe 61.11 327 *e*P P 18 51 21.5 +0.5
KLMR *e**SP pP 18 51 34.3 -0.3
KLMR pmax pmax
comp=Z,7.0nm,1.3s
GEYT Alibeck 62.88 298 P P 18 51 32.9 -0.4
comp=Z,1.1nm,0.5s,baz=82,slow=5.0,SNR=2.9
GEYT pP pP 18 51 46.0 -1.0
comp=Z,1.7nm,0.6s,baz=26,slow=3.8,SNR=3.9
ASAR Alice Springs 64.63 189 P P 18 51 44.3 -0.5
comp=Z,0.6nm,0.6s,baz=2.0,slow=7.7,SNR=8.1
ASAR pP pP 18 51 59.6 +1.1
comp=Z,0.4nm,0.6s,baz=15,slow=10,SNR=2.9

VRH	**Novokhopyorsk**	**65.45**	**317**	*e*P	**pP**	**18 52 02.4**	**-1.2**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
OBN	**Obninsk**	**65.67**	**323**ĥ	*e*P	**P**	**18 51 50.8**	**-0.4**
OBN				*e*		18 54 19.6	
OBN				*e*S	**S**	**19 00 34.3**	**+1.1**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,19nm,17.0s						
FINES	**FINESS Array B**	**65.94**	**332**	P	**P**	**18 51 52.5**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=50,slow=7.0,SNR=32						
FINES				pP	**pP**	**18 52 07.1**	**+0.5**
	comp=Z,3.4nm,0.5s,baz=42,slow=8.3,SNR=8.1						
LPSR	**Galich'ya Gora**	**66.04**	**320**	*e*P	**pP**	**18 52 05.7**	**-1.7**
LPSR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VSR	**Storozhevoye**	**66.75**	**318**	*e*P	**pP**	**18 52 11.7**	**-0.2**
VSR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KIV	**Kislovodsk**	**69.18**	**310**	*de*P	**P**	**18 52 14.6**	**+0.9**
KIV				*e*		18 54 49.5	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,15nm,17.0s						
KBZ	**Khabaz**	**69.19**	**310**	P	**P**	**18 52 13.2**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=333,slow=7.6,SNR=4.0						
NB2	**NORSAR Subarra**	**71.09**	**337**	P	**P**	**18 52 24.4**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**71.09**	**337**	P	**P**	**18 52 24.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=38,slow=6.1,SNR=5.0						
NOA				pP	**pP**	**18 52 39.4**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=37,slow=6.1,SNR=3.9						
AKASG	**Malin Array Be**	**71.91**	**322**	P	**P**	**18 52 29.4**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=45,slow=6.7,SNR=5.5						
AKASG				pP	**pP**	**18 52 44.4**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=44,slow=6.6,SNR=6.9						
PDAR	**Pinedale Array**	**74.39**	**47**	P	**P**	**18 52 46.6**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=347,slow=7.4,SNR=2.5						
BRTR	**Keskin Array B**	**77.07**	**312**	P	**P**	**18 53 00.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=82,slow=4.8,SNR=2.8						
GERES	**GERESS Array B**	**80.01**	**329**	P	**P**	**18 53 15.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=22,slow=4.3,SNR=3.6						
GERES				pP	**pP**	**18 53 32.4**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=33,slow=6.4,SNR=3.9						
TXAR	**Lajitas Array**	**87.10**	**53**	P	**P**	**18 53 54.4**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=352,slow=1.3,SNR=2.5						

*ISCJB **11** 18:41:59.2±0.4,6°.77S±0°.05×150°.35E±0°.06, h26km, mb4.4/31, MS3.0/3, Error ellipse: s-maj=9.6km s-min=5.7km az=31.4*
*NEIC **11** 18:42:01.8±1.0, 6°.88S×150°.49E, h34km±7km, mb4.8/23, Error ellipse: s-maj=11.1km s-min=6.9km az=112.0*
*IDC **11** 18:42:02.2±0.6, 6°.79S×150°.39E, h37km±4km, mb3.9/17, mb1 4.1/18, mb1mx3.8/53, mbtmp4.1/18, ML2.3/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/29, Error ellipse: s-maj=20.5km s-min=11.8km az=109.0*

ISC 11 18:42:01.1±0.4, 6°.83S±0°.06×150°.47E±0°.07, h26km, n61,
σ1§61/72, mb4.4/31, MS3.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.12**	**33**	*e*Pn		**Pn**	**18 42 48.4**	**-0.2**
PMG	**Port Moresby**	**4.16**	**232**	Pn		**Pn**	**18 43 04.2**	**+1.3**
	14nm,0.3s,baz=60,slow=8.3,SNR=37							
PMG				Sn		**Sn**	**18 43 51.2**	**+0.5**
	54nm,0.3s,baz=171,slow=16,SNR=11							
PMG	**Port Moresby**	**4.16**	**232**	*e*Pn		**Pn**	**18 43 03.1**	**+0.2**
PMG				*e*Sn		**Sn**	**18 43 49.5**	**-1.2**
MANU	**Manus Island**	**5.67**	**327**	*e*Pn		**Pn**	**18 43 26.9**	**+3.2**
HNR	**Honiara**	**9.73**	**106**	LR		LR	18 47 02.0	
	comp=Z,57nm,20.2s,baz=256,slow=30							
FAKI	**Fak Fak**	**18.56**	**281**	*e*P		**Pn**	**18 46 16.8**	**+0.3**
	52nm,1.3s							
SAUI	**Saumlaki**	**19.04**	**265**	*e*P		**P**	**18 46 16.9**	**-4.6**
	534nm,1.0s							
MTN	**Manton Dam**	**19.96**	**251**	*e*P		**P**	**18 46 31.4**	**-0.1**
	201nm,1.9s							
WRAB	**Tennant Creek**	**20.36**	**229**	*e*P		**P**	**18 46 35.5**	**-0.4**
	24nm,0.7s							
WB2	**Warramunga Arr**	**20.36**	**229**	*e*P		**P**	**18 46 35.6**	**-0.3**
	22nm,0.6s							
WR1	**Warramunga Arr**	**20.37**	**229**	*e*P		**P**	**18 46 35.2**	**-0.8**
	22nm,0.6s							
WR1				*e*PcP		**PcP**	**18 50 46.5**	**-2.0**
WRA	**Warramunga Arr**	**20.37**	**229**	P		**P**	**18 46 35.2**	**-0.8**
	22nm,0.7s,baz=54,slow=11,SNR=50							
WRA				pP		**sP**	**18 46 45.7**	**-0.7**
	9.1nm,0.6s,baz=55,slow=11,SNR=7.1							
WRA				PcP		**PcP**	**18 50 46.5**	**-2.0**
	0.7nm,0.6s,baz=61,slow=2.1,SNR=3.5							
GUMO	**Guam**	**21.03**	**345**	LR		LR	18 53 32.5	
	comp=Z,38nm,21.8s,baz=141,slow=33							
DZM	**Mont Dzumac**	**21.62**	**136**	P		**P**	**18 46 51.0**	**+1.5**
	3.8nm,0.6s,baz=252,slow=6.4,SNR=4.0							
AS01	**Alice Springs**	**23.07**	**222**	*e*P		**P**	**18 47 03.7**	**-1.1**
AS31	**Alice Springs**	**23.10**	**222**	*e*P		**P**	**18 47 04.2**	**-1.0**
	2.3nm,0.8s							
ASAR	**Alice Springs**	**23.10**	**222**	P		**P**	**18 47 04.3**	**-0.9**
	3.3nm,0.5s,baz=53,slow=9.4,SNR=65							
ASAR				PcP		**PcP**	**18 50 52.6**	**-1.2**
	0.3nm,0.6s,baz=45,slow=2.3,SNR=2.8							
ASAR				LR		LR	18 57 06.0	
	comp=Z,62nm,18.1s,baz=62,slow=39							
ARMA	**Armidale**	**23.50**	**177**	*e*P		**P**	**18 47 07.7**	**-1.4**
	48nm,1.3s							
SOEI	**Soe**	**26.09**	**262**	*e*P		**P**	**18 47 36.1**	**+3.1**
	82nm,1.2s							
STKA	**Stephens Creek**	**26.27**	**197**	P		**P**	**18 47 33.4**	**-0.9**
	5.1nm,0.7s,baz=18,slow=10,SNR=13							
STKA				LR		LR	18 58 09.5	
	comp=Z,60nm,19.1s,baz=26,slow=37							
STKA	**Stephens Creek**	**26.27**	**197**	*e*P		**P**	**18 47 33.6**	**-0.7**
	9.8nm,2.0s							
FITZ	**Fitzroy Crossi**	**26.67**	**243**	P		**P**	**18 47 37.2**	**-1.0**
	9.3nm,0.7s,baz=61,slow=8.2,SNR=19							
FITZ				pP		**sP**	**18 47 49.2**	**+0.2**
	8.0nm,0.7s,baz=104,slow=6.7,SNR=4.5							
FITZ	**Fitzroy Crossi**	**26.67**	**243**	*e*P		**P**	**18 47 37.7**	**-0.4**
	13nm,1.0s							
MMRI	**Maumere**	**28.03**	**264**	*e*P		**P**	**18 47 51.5**	**+1.1**
	73nm,1.2s							
LUWI	**Luwuk**	**28.21**	**281**	*e*P		**P**	**18 47 56.3**	**+4.3**
	41nm,1.1s							
BBOO	**Buckleboo**	**29.12**	**206**	*e*P		**P**	**18 48 00.7**	**+0.7**
	27nm,1.4s							
JAGI	**Jajag, Banyuwa**	**36.02**	**265**	*e*P		**P**	**18 49 00.1**	**-0.5**
	33nm,1.0s							
KKM	**Kota Kinabalu**	**36.49**	**290**	*e*P		**P**	**18 49 07.2**	**+2.5**
	96nm,1.6s							
RAO	**Raoul Island**	**37.21**	**131**	*e*P		**P**	**18 49 13.6**	**+3.1**
	297nm,0.8s							
MJAR	**Matsushiro Arr**	**44.65**	**346**	P		**P**	**18 50 10.8**	**-0.8**
	1.0nm,0.9s,baz=166,slow=9.3,SNR=3.0							
KSRS	**Korea Array**	**48.83**	**336**	P		**P**	**18 50 43.0**	**-1.2**
	0.7nm,0.6s,baz=154,slow=8.1,SNR=6.0							
KSRS				pP		**sP**	**18 50 54.5**	**-0.9**
	2.7nm,0.6s,baz=154,slow=8.2,SNR=13							
KS15	**Wonju Array Si**	**48.83**	**336**	*e*P		**P**	**18 50 47.0**	**+2.7**
KSAR	**Wonju Array Be**	**48.83**	**336**	P		**P**	**18 50 43.0**	**-1.3**
KS01	**Wonju Array Si**	**48.86**	**336**	*e*P		**P**	**18 50 47.2**	**+2.7**
PSI	**Prapat**	**52.33**	**279**	*e*P		**P**	**18 51 09.3**	**-2.1**
	4.7nm,0.7s							
GSI	**Gunungsitoli**	**53.40**	**277**	*e*P		**P**	**18 51 17.8**	**-1.4**
	23nm,1.1s							
PETK	**Petropavlovsk-**	**60.02**	**5**	P		**P**	**18 52 06.0**	**+0.6**
	2.8nm,0.9s,baz=165,slow=6.0,SNR=3.2							
PEA1	**Petropavlovsk-**	**60.02**	**5**	*e*P		**P**	**18 52 06.0**	**+0.6**
CASY	**Casey**	**65.42**	**197**	*e*P		**P**	**18 52 44.0**	**+2.8**
	9.9nm,1.3s							
ULN	**Ulaanbaatar**	**66.52**	**330**	*e*P		**P**	**18 52 48.8**	**0.0**
	1.4nm,0.7s							
SONA0	**Songino Array**	**66.83**	**329**	*e*P		**P**	**18 52 49.8**	**-1.0**
	3.4nm,1.4s							
SONM	**Songino Array**	**66.83**	**329**	P		**P**	**18 52 49.8**	**-1.0**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=3.2							
SONM				pP		**sP**	**18 53 00.8**	**-1.3**
	1.0nm,0.6s,baz=153,slow=6.6,SNR=7.3							
SONA1	**Songino Array**	**66.84**	**329**	*e*P		**P**	**18 52 49.9**	**-1.0**
YAK	**Yakutsk**	**70.52**	**350**	P		**P**	**18 53 13.0**	**-0.2**
	1.4nm,0.4s,baz=158,slow=19,SNR=6.7							
YAK	**Yakutsk**	**70.52**	**350**	*e*P		**P**	**18 53 13.3**	**0.0**
	10nm,0.4s							
VNDA	**Vanda**	**70.91**	**177**	P		**P**	**18 53 14.6**	**-1.0**
	1.0nm,0.6s,baz=333,slow=6.3,SNR=8.2							
VNDA	**Vanda**	**70.91**	**177**	*e*P		**P**	**18 53 15.8**	**+0.3**
	18nm,1.9s							
MK32	**Makanchi Array**	**80.34**	**320**	*e*P		**P**	**18 54 09.3**	**-0.8**
MKAR	**Makanchi Array**	**80.34**	**320**	P		**P**	**18 54 09.3**	**-0.8**
	0.4nm,0.7s,baz=102,slow=6.8,SNR=3.8							
QSPA	**South Pole Qui**	**83.15**	**180**	*e*P		**P**	**18 54 24.6**	**0.0**
KURK	**Kurchatov**	**83.94**	**323**	pP		pP	18 54 38.7	+1.5
KURBB	**Kurchatov Arra**	**83.97**	**322**	P		**P**	**18 54 27.4**	**-1.5**
	0.7nm,0.9s,baz=102,slow=4.2,SNR=7.3							
KURBB				pP		**pP**	**18 54 38.7**	**+1.3**
	0.6nm,0.9s,baz=114,slow=3.6,SNR=3.6							
ILAR	**Eielson Array**	**84.90**	**22**	P		**P**	**18 54 32.5**	**-0.9**
	2.4nm,0.9s,baz=252,slow=4.8,SNR=15							
ILAR				pP		**sP**	**18 54 43.6**	**-1.3**
	3.6nm,0.7s,baz=252,slow=5.3,SNR=15							
MENT	**Mentasta**	**85.35**	**25**	*e*P		**P**	**18 54 33.0**	**-2.8**
	3.9nm,0.7s							
BVAR	**Borovoye Array**	**89.47**	**323**	P		**P**	**18 54 53.4**	**-2.4**
	0.4nm,0.8s,baz=134,slow=4.2,SNR=2.8							
BVAR				pP		**pP**	**18 55 04.9**	**+0.6**
	0.5nm,0.7s,baz=79,slow=7.7,SNR=3.2							
NVAR	**Mina Array Bea**	**95.15**	**52**	P		**P**	**18 55 23.6**	**+0.9**
	0.5nm,0.7s,baz=267,slow=5.9,SNR=4.0							
YKA	**Yellowknife Ar**	**98.29**	**28**	P		**P**	**18 55 35.9**	**-0.1**
	0.3nm,0.6s,baz=270,slow=4.3,SNR=3.5							
GERES	**GERESS Array B**	**124.51**	**327**	PKP		**PKPdf**	**19 00 57.5**	**-0.7**
	0.4nm,0.6s,baz=85,slow=2.8,SNR=6.0							
GERES				pPKP		**pPKPdf**	**19 01 08.8**	**+1.8**
	0.8nm,0.6s,baz=48,slow=2.0,SNR=7.2							
TORD	**Torodi Ar. Bea**	**148.63**	**284**	PKPbc		**PKPbc**	**19 01 46.6**	**-0.3**
	3.4nm,0.7s,baz=94,slow=2.6,SNR=20							
TORD				pPKPbc		**pPKPbc**	**19 01 59.0**	**+3.4**
	5.2nm,0.6s,baz=33,slow=3.0,SNR=16							
TOA1	**Torodi Ar. Sit**	**148.63**	**284**	*e*PKPdf		**PKPbc**	**19 01 46.6**	**-0.3**
TOA1				*e*			19 01 59.0	
BDFB	**Brasilia**	**151.13**	**141**	PKPbc		**PKPbc**	**19 01 52.9**	**-0.2**
	1.2nm,0.5s,baz=139,slow=5.3,SNR=3.8							

*NIED **11** 18:51:00,39°.50N×144°.00E, h14km, Mw4.0 Best double couple: M0 1.17000×10^15 NP1:φs183.00000°, δ38.00000°, λ67.00000°. NP2:φs32.00000°, δ56.00000°, λ107.00000°.*
*JMA **11** 18:51:27.3±0.2, 39°.47N×143°.98E, h29km, M4.3*
*ISCJB **11** 18:51:29.2±0.6, 39°.45N±0°.05×143°.67E±0°.08, h11km, mb3.7/15, MS2.8/1, Error ellipse: s-maj=9.4km s-min=6.3km az=36.9*
*IDC **11** 18:51:33.4±0.8, 39°.34N×143°.54E, h29km±5km, mb3.6/15, mb1 3.8/18, mb1mx3.6/61, mbtmp3.8/18, ML3.0/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/50, Error ellipse: s-maj=17.3km s-min=16.3km az=115.0*

ISC 11 18:51:31.9±0.7, 39°.51N±0°.06×143°.56E±0°.09, h11km, n38,
σ1§82/36, mb3.8/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.35**	**273**	P		**Pn**	**18 51 55.6**	**-1.0**
JTH	**Tanohata**	**1.38**	**289**	P		**Pn**	**18 51 56.0**	**-1.0**
OFUJ	**Ofunato**	**1.53**	**254**	P		**Pn**	**18 51 57.8**	**-1.3**
JOM	**Ohasama**	**1.75**	**269**	P		**Pn**	**18 52 01.7**	**-0.5**
JANG	**Nango**	**1.79**	**299**	P		**Pn**	**18 52 01.5**	**-1.2**
JMK	**Ichinoseki**	**1.90**	**254**	P		**Pn**	**18 52 03.3**	**-0.9**
JYK	**Kaneyama**	**2.56**	**258**	P		**Pn**	**18 52 12.9**	**-0.3**
JFT	**Otama**	**3.22**	**233**	P		**Pn**	**18 52 20.9**	**-1.4**
JAW	**Awa shima**	**3.52**	**254**	P		**Pn**	**18 52 26.4**	**-0.1**
JEW	**Eniwo**	**3.69**	**335**	*e*S		**Sn**	**18 53 12.3**	**+0.1**
JAR	**Ashorobuto**	**3.79**	**2**	*e*S		**Sn**	**18 53 11.0**	**-3.6**
MAT	**Matsushiro**	**5.16**	**237**	P		**Pn**	**18 52 49.1**	**0.0**
MAT				*e*S		**Sn**	**18 53 49.2**	**+0.6**
MJAR	**Matsushiro Arr**	**5.16**	**237**	Pn		**Pn**	**18 52 49.0**	**0.0**
	3.0nm,0.3s,baz=33,slow=14,SNR=79							
USRK	**Ussuriysk Ar.**	**9.82**	**302**	Pn		**Pn**	**18 53 55.4**	**+2.5**
	0.3nm,0.3s,baz=102,slow=12,SNR=14							
KSRS	**Korea Array**	**12.43**	**265**	Pn		**Pn**	**18 54 31.4**	**+2.8**
	0.1nm,0.3s,baz=80,slow=13,SNR=12							
KSRS				LR		LR	18 58 37.5	
	comp=Z,48nm,19.0s,baz=107,slow=34							
KLR	**Kul'dur**	**12.86**	**323**	Pn		**Pn**	**18 54 36.4**	**+1.9**
	0.1nm,0.3s,baz=130,slow=15,SNR=4.6							
KLR				LR		LR	18 59 51.2	
	comp=Z,90nm,19.2s,baz=101,slow=38							
MA2	**Magadan**	**20.60**	**10**	LR		LR	19 05 51.1	
	comp=Z,37nm,18.5s,baz=130,slow=41							
SEY	**Seymchan**	**24.05**	**10**	P		**P**	**18 56 46.6**	**-0.1**
	3.3nm,0.8s,baz=192,slow=9.4,SNR=5.4							
SONM	**Songino Array**	**27.92**	**300**	P		**P**	**18 57 22.1**	**+0.1**
	0.7nm,0.5s,baz=101,slow=8.5,SNR=8.3							
H11N2	**WAKE ISLAND Hy**	**28.14**	**128**	T		T	19 26 38.0	
	baz=320,slow=75							
H11N1	**WAKE ISLAND Hy**	**28.15**	**128**	T		T	19 26 35.3	
	baz=320,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.16**	**128**	T		T	19 26 39.8	
	baz=320,slow=75							
H11S1	**WAKE ISLAND Hy**	**28.96**	**130**	T		T	19 27 47.6	
	baz=322							
H11S3	**WAKE ISLAND Hy**	**28.96**	**130**	T		T	19 27 47.3	
	baz=322							
H11S2	**WAKE ISLAND Hy**	**28.98**	**130**	T		T	19 27 39.8	
	baz=322							
ZALV	**Zalesovo Beam**	**41.55**	**310**	P		**P**	**18 59 18.9**	**-0.2**
	2.7nm,0.5s,baz=93,slow=7.8,SNR=13							
CMAR	**Chiang Mai Arr**	**43.77**	**255**	P		**P**	**18 59 35.0**	**-2.7**
	0.4nm,0.7s,baz=40,slow=7.3,SNR=2.9							
MKAR	**Makanchi Array**	**44.28**	**300**	P		**P**	**18 59 40.5**	**-1.0**
	1.8nm,0.8s,baz=83,slow=9.3,SNR=20							
KURBB	**Kurchatov Arra**	**45.85**	**306**	P		**P**	**18 59 53.0**	**-0.8**
	3.3nm,0.7s,baz=80,slow=8.3,SNR=40							
ILAR	**Eielson Array**	**46.50**	**34**	P		**P**	**18 59 58.8**	**0.0**
	0.2nm,0.6s,baz=320,slow=34,SNR=2.9							
ILAR				pP		**sP**	**19 00 07.9**	**+4.3**
	0.6nm,0.8s,baz=266,slow=7.1,SNR=5.5							
BVAR	**Borovoye Array**	**50.19**	**311**	P		**P**	**19 00 26.9**	**-0.4**
	1.5nm,0.6s,baz=72,slow=9.5,SNR=9.4							
BVAR				pP		**sP**	**19 00 35.0**	**+2.8**
	1.4nm,0.6s,baz=66,slow=8.5,SNR=6.4							
ARU	**Arti**	**55.64**	**318**	P		**P**	**19 01 07.3**	**-0.2**
	0.9nm,0.4s,baz=69,slow=5.6,SNR=4.2							
WRA	**Warramunga Arr**	**59.77**	**190**	P		**P**	**19 01 33.8**	**-3.1**
	0.4nm,0.5s,baz=8.9,slow=7.0,SNR=5.5							
WRA				pP		**sP**	**19 01 43.0**	**+1.2**
	0.4nm,0.6s,baz=8.6,slow=6.9,SNR=2.7							
ASAR	**Alice Springs**	**63.49**	**190**	P		**P**	**19 02 00.7**	**-1.3**
	0.2nm,0.8s,baz=6.7,slow=8.7,SNR=3.0							
FINES	**FINESS Array B**	**67.41**	**333**	P		**P**	**19 02 26.4**	**-0.5**
	1.1nm,0.7s,baz=70,slow=9.0,SNR=4.8							
NVAR	**Mina Array Bea**	**72.17**	**55**	P		**P**	**19 02 57.1**	**+0.2**
	0.4nm,0.6s,baz=297,slow=8.0,SNR=3.2							
NVAR				pP		**sP**	**19 03 06.2**	**+4.3**
	0.7nm,0.6s,baz=296,slow=6.6,SNR=5.0							
AKASG	**Malin Array Be**	**73.36**	**323**	P		**P**	**19 03 02.1**	**-1.4**
	0.2nm,0.4s,baz=46,slow=6.5,SNR=5.1							
PDAR	**Pinedale Array**	**74.74**	**47**	P		**P**	**19 03 10.8**	**-1.2**
	0.3nm,0.5s,baz=310,slow=4.5,SNR=2.6							

*IDC **11** 18:51:53.4±2.1, 15°.47N×104°.92W, h0km, mb3.8/5, mb1 4.2/6, mb1mx3.8/43, mbtmp3.8/6, ML3.2/1, MS3.8/22, Ms1 3.8/22, ms1mx3.7/31, Error ellipse: s-maj=100.5km s-min=25.4km az=59.0*
*NEIC **11** 18:51:56.4±0.8, 15°.47N×104°.78W, h10km, mb4.3/64, Error ellipse: s-maj=12.7km s-min=8.5km az=199.0*
*ISCJB **11** 18:51:58.5±0.8, 15°.53N±0°.08×104°.76W±0°.06, h33km, mb4.3/49, MS3.9/18, Error ellipse: s-maj=12.4km s-min=8.2km az=22.2*

ISC 11 18:51:59.5±1.1, 15°.5N±0°.1×104°.9W±0°.1, h35km, n111,
σ1§35/85, mb4.3/49, MS3.8/18, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**5.42**	**40**	*e*Pn		**Pn**	**18 53 15.3**	**-2.8**
H06E1	**SOCORRO T-PHAS**	**6.65**	**300**	T		T	19 00 04.4	
	SNR=8.9							
ZAIG	**Zacatecas**	**7.53**	**16**	*e*Pn		**Pn**	**18 53 48.4**	**+1.3**
SLBS	**Sierra La Lagu**	**9.43**	**330**	*e*Pn		**Pn**	**18 54 15.9**	**+2.9**
CMIG	**Matias Romero**	**9.70**	**79**	LR		LR	18 57 27.1	
	comp=Z,301nm,18.2s,baz=252,slow=34							
LPIG	**La Paz**	**9.96**	**330**	LR		LR	18 57 10.4	
	comp=Z,1μm,18.2s,baz=180,slow=32							
HPIG		**11.38**	**356**	*e*Pn		**Pn**	**18 54 37.4**	**-2.5**
SRIG	**Santa Rosalia**	**13.60**	**331**	*e*Pn		**Pn**	**18 55 08.3**	**-1.7**
LTX	**Lajitas**	**13.79**	**4**	*e*Pn		**Pn**	**18 55 13.2**	**+0.5**
TXAR	**Lajitas Array**	**13.79**	**4**	Pn		**Pn**	**18 55 13.2**	**+0.5**
	0.0nm,0.3s,baz=181,slow=12,SNR=16							
TXAR				LR		LR	18 59 46.4	
	comp=Z,169nm,20.4s,baz=0.0,slow=34							
TX31	**Lajitas Ar. Si**	**13.79**	**4**	*e*Pn		**Pn**	**18 55 12.9**	**+0.3**
JCT	**Junction City**	**15.60**	**16**	*e*Pn		**Pn**	**18 55 37.9**	**+1.1**
	58nm,1.9s							
MNTX	**Cornudas Mount**	**16.11**	**358**	*e*Pn		**Pn**	**18 55 44.1**	**+0.7**
	19nm,1.5s							
319A	**Douglas**	**16.29**	**346**	*e*Pn		**P**	**18 55 47.8**	**-0.7**
	50nm,1.6s							
HKT	**Hockley**	**16.59**	**28**	*e*Pn		**Pn**	**18 55 50.0**	**+0.7**
	58nm,2.0s							
TUC	**Tucson**	**17.56**	**343**	*e*Pn		**Pn**	**18 56 02.3**	**+0.6**
	5.8nm,1.3s							
ABTX	**Abilene, Hawle**	**17.67**	**15**	*e*Pn		**Pn**	**18 56 02.5**	**-0.6**
	14nm,1.2s							
BNM	**Barren Site**	**18.62**	**355**	*e*P		**Pn**	**18 56 16.2**	**+1.4**
113A	**Mohawk Valley,**	**18.98**	**336**	*e*P		**Pn**	**18 56 19.3**	**+0.4**
	21nm,1.4s							
ANMO	**Albuquerque**	**19.40**	**356**	LR		LR	19 04 38.2	
	comp=Z,66nm,18.4s,baz=185,slow=39							
ANMO	**Albuquerque**	**19.40**	**356**	*e*P		**Pn**	**18 56 26.7**	**+2.6**
	17nm,1.6s							
X18A	**Snowflake**	**19.48**	**347**	*e*P		**Pn**	**18 56 26.4**	**+1.4**
	36nm,1.9s							
AMTX	**Amarillo**	**19.49**	**8**	*e*P		**P**	**18 56 21.7**	**-2.0**
	17nm,1.2s							
GLA	**Glamis**	**19.66**	**334**	*e*P		**P**	**18 56 25.0**	**-0.5**
	7.3nm,0.7s							
X16A	**Lo Mia Camp, P**	**19.73**	**344**	*e*P		**Pn**	**18 56 28.4**	**+0.3**
	3.7nm,0.8s							
Y14A	**Wickenburg**	**19.76**	**340**	*e*P		**Pn**	**18 56 28.4**	**+0.1**
	19nm,1.1s							
WMOK	**Wichita Mounta**	**19.90**	**15**	*e*P		**P**	**18 56 27.7**	**-0.4**
	19nm,1.3s							
Y12C	**Blythe**	**20.14**	**336**	*e*P		Pn	18 56 32.5	-0.2
	14nm,1.3s							
W34A	**Bridge Creek,**	**20.63**	**17**	*e*P		**P**	**18 56 35.9**	**-0.2**
	33nm,1.6s							
WUAZ	**Wupatki**	**20.75**	**345**	*e*P		**P**	**18 56 38.8**	**+1.4**
	36nm,1.7s							
PFO	**Pinyon Flats O**	**20.84**	**332**	P		**P**	**18 56 40.1**	**+1.6**
	4.9nm,1.0s,baz=157,slow=8.3,SNR=4.8							
PFO				LR		LR	19 03 28.5	
	comp=Z,634nm,20.3s,baz=140,slow=33							
PFO	**Pinyon Flats O**	**20.84**	**332**	*e*P		Pn	18 56 40.7	-0.4
	17nm,1.4s							
WLAR	**White Oak Lake**	**20.97**	**28**	*e*P		**P**	**18 56 40.6**	**+1.0**
	25nm,0.9s							
W13A	**Hualapai Mount**	**21.11**	**339**	*e*P		**P**	**18 56 44.1**	**+2.7**
	6.0nm,1.2s							
VBMS	**Vicksburg**	**21.13**	**36**	*e*P		**P**	**18 56 42.6**	**+1.2**
	21nm,0.8s							
V34A	**Guthrie**	**21.27**	**17**	*e*P		**P**	**18 56 43.0**	**+0.1**
	15nm,1.0s							
MIAR	**Mont Ida**	**21.49**	**26**	*e*P		**P**	**18 56 43.3**	**-2.0**
	12nm,1.3s							
T25A	**Trinidad**	**21.54**	**1**	*e*P		**P**	**18 56 46.4**	**+0.5**
	18nm,1.4s							
LDFC	**Landfair**	**21.54**	**337**	*e*P		**P**	**18 56 46.7**	**+0.8**
	90nm,1.8s							
CCAR	**Cane Creek**	**21.80**	**30**	*e*P		**P**	**18 56 49.7**	**+1.2**
	37nm,1.1s							
U34A	**Anderson Ranch**	**21.83**	**16**	*e*P		**P**	**18 56 50.6**	**+1.7**
	40nm,1.4s							
MVCO

PPT **Papeete** 55.00 235 LR LR 19 17 33.7
comp=Z,81nm,21.9s,baz=4.5,slow=28
PPT2 **Papeete2** 55.01 235 eLR LR 19 17 05.0
226nm,25.2s
PAX **Paxson** 55.19 339 eP P 19 01 28.0 -0.7
13nm,1.6s
RND **Reindeer** 56.66 338 eP P 19 01 39.9 +0.8
12nm,1.4s
IL1 **Eielson Array** 56.83 340 eP P 19 01 38.1 -2.1
ILAR **Eielson Array** 56.83 340 P P 19 01 38.1 -2.1
2.7nm,1.0s,baz=154,slow=5.8,SNR=17
TBI **Tubuai** 58.27 229 eLR LR 19 18 32.6
278nm,29.0s
CPUP **Villa Florida** 62.17 132 LR LR 19 28 09.3
comp=Z,97nm,18.9s,baz=303,slow=35
BDFB **Brasilia** 64.11 116 LR LR 19 29 32.5
comp=Z,116nm,18.9s,baz=302,slow=35
PLCA **Paso Flores** 64.39 152 LR LR 19 23 55.7
comp=Z,290nm,20.7s,baz=320,slow=30
RAO **Raoul Island** 83.33 237 LR LR 19 32 03.6
comp=Z,50nm,21.6s,baz=16,slow=29
ARCES **ARCESS Array B** 88.32 16 LR LR 19 43 47.9
comp=Z,65nm,21.6s,baz=286,slow=35
NOA **NORSAR Array B** 88.50 26 LR LR 19 46 05.0
comp=Z,34nm,18.1s,baz=290,slow=37
FINES **FINESS Array B** 94.03 21 LR LR 19 47 45.4
comp=Z,57nm,20.7s,baz=313,slow=36
DZM **Mont Dzumac** 94.53 248 eLR LR 19 35 15.8
318nm,29.2s
GERES **GERESS Array B** 96.02 36 LR LR 19 49 37.3
comp=Z,25nm,18.5s,baz=305,slow=36

JMA 11 18:56:18.6±0.2,35.60N×140.97E,h15km±1km,M3.1,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	0.14	319	P	Pg	18 56 22.3	0.0
JCN	**Nagara**	0.65	254	P	Pb	18 56 32.0	+0.3
JCN				S	Sn	18 56 42.9	-0.4
KTR	**Katsuura**	0.70	230	P	Pg	18 56 31.8	-0.5
KTR				S	Sb	18 56 42.1	+0.2
BSO4	**Boso 4**	0.80	221	P	Pg	18 56 34.1	0.0
MAT	**Matsushiro**	2.43	294	P	Pn	18 56 59.3	+1.5
MAT				eS	Sb	18 57 31.6	-0.1

*IDC **11** 18:59:56.7±0.7,6.69S×129.47E,h0km,mb4.0/12,*
mb1 4.1/13,mb1mx4.0/31,mbtmp4.0/13,ML4.5/2,MS3.3/15,
Ms1 3.3/15,ms1mx3.1/43,Error ellipse: s-maj=28.2km
s-min=13.9km az=76.0
*ISCJB **11** 18:59:59.0±0.2,6.88S±0.03×129.41E±0.04,h35km,*
mb4.3/24,MS3.4/10,Error ellipse: s-maj=5.5km
s-min=3.4km az=156.4
*NEIC **11** 19:00:01.6±2.4,6.81S×129.36E,h33km±19km,mb4.3/14,*
Error ellipse: s-maj=10.2km s-min=7.4km az=224.0
*DJA **11** 19:00:03.2±0.3,7.7S±4.7×12.9E±7.1,h63km±40km,M4.7/10,*
mb4.8/10,mB5.1/5,MLv4.7/8,Mw(mB)4.5/5
ISC 11 19:00:01.7±0.4,6.91S±0.04×129.37E±0.05,h35km,n102,
σ2821/104,mb4.3/24,MS3.4/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	2.19	119	P	Pn	19 00 39.4	+3.8
SAUI	**Saumlaki**	2.19	119	ePn	Pn	19 00 39.0	+3.4
FAKI	**Fak Fak**	4.90	36	P	Pn	19 01 11.1	-1.7
FAKI				S	Sn	19 02 05.8	-2.5
FAKI	**Fak Fak**	4.90	36	ePn	Pn	19 01 10.9	-1.9
SOEI	**Soe**	5.78	240	P	Pn	19 01 28.3	+3.2
98nm,1.0s,0.5nm							
SOEI	**Soe**	5.78	240	ePn	Pn	19 01 28.1	+2.9
SANI	**Sanana**	5.89	325	P	Pn	19 01 24.7	-1.7
40nm,0.7s,0.1nm							
MTN	**Manton Dam**	6.15	164	P	Pn	19 01 29.9	-0.1
baz=6.2,SNR=34							
MTN	**Manton Dam**	6.15	164	ePn	Pn	19 01 33.1	+3.0
SWI	**Sorong**	6.30	18	P	Pn	19 01 29.3	-2.8
61nm,0.9s,709nm0.2nm							
MMRI	**Maumere**	7.27	256	ePn	Pn	19 01 47.5	+2.0
KDI	**Kendari**	7.33	293	P	Pn	19 01 45.6	-0.7
46nm,1.0s,0.2nm							
KNRA	**Kununurra**	8.73	184	P	Pn	19 02 06.2	+0.7
baz=8.8							
LUWI	**Luwuk**	8.79	311	ePn	Pn	19 02 06.9	+0.6
BSSI	**Bau Bau, Buton**	8.85	274	P	Pn	19 02 07.2	0.0
131nm,0.5s,2μm							
KAPI	**Kappang**	9.75	281	Pn	Pn	19 02 20.1	+0.7
8.9nm,0.3s,baz=128,slow=6.7,SNR=62							
KAPI				Sn	Sn	19 04 07.2	-0.5
0.5nm,0.3s,baz=252,slow=20,SNR=3.3							
KAPI				LR	LR	19 05 56.5	
comp=Z,314nm,18.2s,baz=106,slow=37							
KAPI	**Kappang**	9.75	281	ePn	Pn	19 02 19.7	+0.3
KAPI				Sn	Sn	19 04 07.2	-0.5
SPSI	**Sidrap Palu**	9.99	287	P	Pn	19 02 22.8	0.0
60nm,0.8s,491nm							
TTSI	**Tana Toraja**	10.26	292	P	Pn	19 02 30.2	+3.8
MRSI	**Marisa**	10.43	314	P	Pn	19 02 28.8	0.0
FITZ	**Fitzroy Crossi**	11.70	198	Pn	Pn	19 02 44.3	-1.9
1.9nm,0.3s,baz=33,slow=11,SNR=38							
FITZ				Sn	Sn	19 04 52.3	-3.4
1.8nm,0.3s,baz=96,slow=19,SNR=3.6							
FITZ				LR	LR	19 07 59.0	
comp=Z,115nm,18.6s,baz=22,slow=40							
FITZ	**Fitzroy Crossi**	11.70	198	P	Pn	19 02 44.3	-1.9
baz=12,SNR=35							
FITZ	**Fitzroy Crossi**	11.70	198	ePn	Pn	19 02 44.8	-1.4
FITZ				eSn	Sn	19 04 50.9	-4.8
WB8	**Warramunga Arr**	13.72	160	P	Pn	19 03 11.5	-2.4
baz=14							
WRAB	**Tennant Creek**	13.82	160	ePn	Pn	19 03 13.3	-1.9
WRAB				eSn	Sn	19 05 41.7	-5.9
WR1	**Warramunga Arr**	13.82	160	P	Pn	19 03 13.2	-2.1
baz=14							
WR1	**Warramunga Arr**	13.82	160	ePn	Pn	19 03 12.7	-2.6
WR1				eSn	Sn	19 05 41.3	-6.3
WRA	**Warramunga Arr**	13.82	160	Pn	Pn	19 03 12.7	-2.6
1.4nm,0.3s,baz=334,slow=14,SNR=46							
WRA				Sn	Sn	19 05 41.3	-6.3
0.9nm,0.3s,baz=341,slow=21,SNR=6.8							
WB2	**Warramunga Arr**	13.83	160	ePn	Pn	19 03 12.5	-2.8
WB2				eSn	Sn	19 05 36.0	-12
WR0	**Warramunga Arr**	13.91	159	P	Pn	19 03 14.0	-2.4
baz=14							
DAV	**Davao City (W)**	14.39	345	LR	LR	19 09 09.4	
comp=Z,62nm,20.7s,baz=42,slow=39							
COEN	**Coen**	15.27	118	P	Pn	19 03 33.7	-1.1
baz=15,SNR=10							
COEN	**Coen**	15.27	118	ePn	Pn	19 03 33.2	-1.6
15nm,0.8s							
MYLDM	**Lahad Datu**	16.18	318	ePn	Pn	19 03 45.0	-1.5
22nm,1.2s							
QIS	**Mount Isa**	16.81	145	P	Pn	19 03 53.5	-1.0
baz=17,SNR=11							
AS31	**Alice Springs**	17.22	166	ePn	Pn	19 03 58.4	-1.2
6.3nm,0.6s							
AS31				eSn	Sn	19 07 07.1	-3.1
ASAR	**Alice Springs**	17.22	166	P	Pn	19 03 59.6	0.0
0.8nm,0.3s,baz=338,slow=8.5,SNR=37							
ASAR				S	Sn	19 07 05.8	-4.4
0.3nm,0.3s,baz=350,slow=25,SNR=4.4							
ASAR				LR	LR	19 10 57.6	
comp=Z,163nm,18.7s,baz=342,slow=38							
AS01	**Alice Springs**	17.23	166	ePn	Pn	19 03 59.7	0.0
PMG	**Port Moresby**	17.79	99	P	P	19 04 09.2	+2.1
0.8nm,0.3s,baz=252,slow=6.7,SNR=3.6							
PMG				LR	LR	19 11 59.0	
comp=Z,98nm,18.7s,baz=212,slow=41							
WRKA	**Warakurna**	18.05	183	P	Pn	19 04 08.7	-1.3
baz=18,SNR=9.4							
MTSU	**Mount Surprise**	18.35	129	P	P	19 04 12.1	-1.3
baz=18,SNR=9.5							
MANU	**Manus Island**	18.58	76	eP	Pn	19 04 18.2	+1.8
90nm,1.9s							
SBUM	**Sibu**	19.48	298	eP	Pn	19 04 26.2	-0.9
23nm,1.2s							
CTA	**Charters Tower**	20.98	130	P	P	19 04 42.8	+0.8
8.1nm,1.1s,baz=309,slow=3.5,SNR=2.4							
KMBL	**Kambalda**	25.32	195	P	P	19 05 27.0	+1.8
baz=26,SNR=8.4							
MORW	**Morawa**	25.38	208	P	P	19 05 27.7	+1.9
baz=26,SNR=13							
GUMO	**Guam**	25.53	37	LR	LR	19 16 59.7	
comp=Z,19nm,19.2s,baz=126,slow=40							
BLDU	**Ballidu**	26.40	205	P	P	19 05 35.8	+0.8
baz=27,SNR=24							
BBOO	**Buckleboo**	26.51	167	P	P	19 05 36.5	+0.5
baz=27,SNR=5.7							
KLBR	**Kellerberrin**	26.85	202	P	P	19 05 40.6	+1.6
baz=27,SNR=21							
STKA	**Stephens Creek**	27.34	157	P	P	19 05 45.6	+2.3
2.3nm,0.6s,baz=331,slow=8.3,SNR=8.5							
STKA				LR	LR	19 17 39.9	
comp=Z,71nm,20.0s,baz=37,slow=39							
STKA	**Stephens Creek**	27.34	157	P	P	19 05 45.5	+2.1
baz=27,SNR=7.9							
STKA	**Stephens Creek**	27.34	157	eP	P	19 05 45.8	+2.3
1.2nm,0.9s							
NWAO	**Narrogin (SRO)**	28.24	202	P	P	19 05 53.2	+1.8
16nm,0.6s,baz=277,slow=8.3,SNR=14							
NWAO				LR	LR	19 16 11.1	
comp=Z,52nm,21.9s,baz=75,slow=34							
NWAO	**Narrogin (SRO)**	28.24	202	P	P	19 05 53.3	+1.8
baz=28,SNR=10							
CMSA	**Cobar Meteorol**	28.86	150	P	P	19 05 58.8	+1.7
baz=29,SNR=12							
RKGY	**Rocky Gully**	29.84	201	P	P	19 06 08.8	+3.2
baz=30							
ARPS	**Mount Arapiles**	31.83	161	P	P	19 06 26.0	+2.8
baz=32,SNR=11							
PSI	**Prapat**	31.88	287	eP	P	19 06 22.0	-2.0
16nm,1.1s							
PATS	**Pohnpei**	31.94	65	eP	P	19 06 27.8	+3.3
277nm,1.6s							
GSI	**Gunungsitoli**	32.76	283	eP	P	19 06 29.8	-1.9
29nm,1.3s							
CM01	**Chiang Mai Arr**	39.16	310	eP	P	19 07 26.0	-0.4
CM31	**Chiang Mai Arr**	39.19	310	eP	P	19 07 24.5	-2.1
CMAR	**Chiang Mai Arr**	39.19	310	P	P	19 07 26.0	-0.7
1.3nm,0.7s,baz=139,slow=7.4,SNR=10							
CMAR				LR	LR	19 25 56.0	
comp=Z,32nm,18.9s,baz=120,slow=40							
CHTO	**Chiang Mai**	39.41	311	eP	P	19 07 28.3	-0.1
3.7nm,1.0s							
KMI	**Kunming**	41.05	322	P	P	19 07 45.0	+2.7
KMI				pmax	pmax		
comp=Z,3.0nm,0.7s							
MJAR	**Matsushiro Arr**	44.01	10	P	P	19 08 03.2	-2.6
comp=Z,1.5nm,0.9s,baz=189,slow=9.8,SNR=4.0							
KSAR	**Wonju Array Be**	44.14	358	P	P	19 08 05.9	-1.0
KSRS	**Korea Array**	44.15	358	P	P	19 08 05.9	-1.1
comp=Z,0.5nm,0.5s,baz=173,slow=9.4,SNR=5.5							
KS01	**Wonju Array Si**	44.18	358	eP	P	19 08 06.2	-0.9
HHC	**Hu-ho-hao-te**	50.27	342	eP	P	19 08 57.5	+2.8
HHC				pmax	pmax		
comp=Z,19nm,1.0s							
HHC				pmax	pmax		
comp=Z,140nm,6.8s							
PALK	**Pallekele**	50.54	285	LR	LR	19 30 01.8	
comp=Z,43nm,19.0s,baz=116,slow=36							
USRK	**Usuriysk Ar.**	50.93	2	P	P	19 08 59.4	-0.1
comp=Z,0.8nm,0.5s,baz=187,slow=5.8,SNR=3.0							
GTA	**Gaotai**	53.59	332	eP	P	19 09 21.7	+2.1
GTA				pP	sP	19 09 32.6	-1.6
GTA				sP	pP	19 09 36.6	+6.5
GTA				pmax	pmax		
comp=Z,3.0nm,1.0s							
ULN	**Ulaanbaatar**	57.99	342	eP	P	19 09 51.1	+0.2
comp=Z,5.0nm,1.2s							
SONA0	**Songino Array**	58.16	342	eP	P	19 09 51.3	-0.8
comp=Z,3.3nm,1.0s							
SONM	**Songino Array**	58.16	342	P	P	19 09 51.3	-0.8
comp=Z,0.8nm,1.0s,baz=158,slow=5.4,SNR=4.4							
SONA1	**Songino Array**	58.17	342	eP	P	19 09 51.6	-0.6
WMQ	**Urumqi**	62.98	327	P	P	19 10 26.6	+1.6
MK01	**Makanchi Array**	67.79	327	eP	P	19 10 55.0	-1.0
MK31	**Makanchi Array**	67.81	327	eP	P	19 10 55.4	-0.7
MK32	**Makanchi Array**	67.81	327	eP	P	19 10 55.5	-0.6
MKAR	**Makanchi Array**	67.81	327	P	P	19 10 55.5	-0.6
comp=Z,3.8nm,0.8s,baz=122,slow=8.1,SNR=17							
MKAR	**Makanchi Array**	67.81	327	eP	P	19 10 55.3	-0.9
MAKZ	**Makanchi**	67.99	327	eP	P	19 10 56.1	-1.2
comp=Z,3.2nm,1.0s							
TKM2	**Tokmak 2**	69.52	321	eP	P	19 11 09.8	+2.6
comp=Z,2.3nm,0.8s							
RAR	**Rarotonga**	69.71	110	LR	LR	19 36 15.1	
comp=Z,48nm,20.4s,baz=84,slow=31							
AAK	**Ala-Archa**	70.07	320	LR	LR	19 44 53.9	
comp=Z,41nm,21.6s,baz=268,slow=39							
AAK	**Ala-Archa**	70.07	320	eP	P	19 11 10.8	+0.3
ZAA0	**Zalesovo Array**	71.23	334	eP	P	19 11 19.0	+1.9
ZALV	**Zalesovo Beam**	71.23	334	P	P	19 11 16.2	-0.8
comp=Z,1.9nm,0.8s,baz=129,slow=4.0,SNR=7.9							
ZAA1	**Zalesovo Array**	71.23	334	eP	P	19 11 16.2	-0.9
KURK	**Kurchatov**	72.11	329	eP	P	19 11 24.6	+2.1
comp=Z,22nm,0.9s							
VNDA	**Vanda**	72.61	173	P	P	19 11 26.6	+1.6
comp=Z,1.1nm,0.9s,baz=253,slow=2.7,SNR=4.6							
MAW	**Mawson**	74.80	201	P	P	19 11 40.2	+2.2
comp=Z,3.1nm,0.9s,baz=85,slow=8.3,SNR=4.1							
GNI	**Garni**	90.31	310	LR	LR	20 03 30.0	
comp=Z,18nm,18.0s,baz=339,slow=42							
KBZ	**Khabaz**	92.18	314	LR	LR	20 00 24.2	
comp=Z,22nm,19.5s,baz=4.0,slow=39							
KVAR	**Kislovodsk Ar**	92.35	314	LR	LR	20 01 23.5	
comp=Z,12nm,18.9s,slow=40							
ILAR	**Eielson Array**	93.53	25	P	P	19 13 11.6	-2.1
comp=Z,0.3nm,0.6s,baz=235,slow=3.2,SNR=3.4							
TORD	**Torodi Ar. Bea**	128.18	281	PKP	PKPdf	19 19 06.8	+1.5
comp=Z,0.4nm,0.6s,baz=96,slow=2.2,SNR=3.3							
TOA1	**Torodi Ar. Sit**	128.18	281	ePKPdf	PKPdf	19 19 06.8	+1.5
CPUP	**Villa Florida**	146.32	169	PKPbc	PKPab	19 19 40.6	+0.4
comp=Z,0.8nm,0.5s,baz=146,slow=3.6,SNR=2.8							

*BJI **11** 19:17:46.3,6.80S×129.40E,h10km,mb4.4/21,mB4.9/17,*
Ms4.2/4,Ms7 4.1/4
*IDC **11** 19:17:47.0±0.6,6.78S×129.15E,h0km,mb4.2/13,*
mb1 4.4/16,mb1mx4.2/42,mbtmp4.3/16,ML2.7/2,MS3.6/18,
Ms1 3.6/18,ms1mx3.3/41,Error ellipse: s-maj=23.8km
s-min=13.0km az=75.0
*ISCJB **11** 19:17:49.2±0.2,6.91S±0.03×129.32E±0.03,h35km,*
mb4.6/37,MS3.5/13,Error ellipse: s-maj=5.2km
s-min=3.2km az=150.3
*NEIC **11** 19:17:50.3±2.0,6.87S×129.32E,h24km±15km,mb4.6/32,*
Error ellipse: s-maj=7.6km s-min=6.5km az=47.0
*DJA **11** 19:17:52.8±0.4,7.7S±3.7×12.9E±7.1,h88km±22km,M4.7/14,*
mb5.0/14,mB5.1/7,MLv4.9/7,Mw(mB)4.5/7
ISC 11 19:17:51.9±0.3,6.95S±0.04×129.37E±0.05,h35km,n144,
σ2901/150,mb4.7/36,MS3.5/13,2D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	2.18	118	P	Pn	19 18 29.6	+3.9
SAUI	**Saumlaki**	2.18	118	ePn	Pn	19 18 29.8	+4.2
FAKI	**Fak Fak**	4.92	36	P	Pn	19 19 00.7	-2.8
FAKI	**Fak Fak**	4.92	36	ePn	Pn	19 19 00.8	-2.8
SOEI	**Soe**	5.77	241	P	Pn	19 19 18.1	+2.9
191nm,0.8s,2μm1.1nm							
SOEI	**Soe**	5.77	241	ePn	Pn	19 19 16.2	+1.1
SANI	**Sanana**	5.92	325	P	Pn	19 19 14.9	-2.2
57nm,0.8s,0.2nm							
MTN	**Manton Dam**	6.11	164	P	Pn	19 19 18.3	-1.6
baz=6.0,SNR=11							
MTN	**Manton Dam**	6.11	164	ePn	Pn	19 19 18.5	-1.4
LBMI	**Labuha**	6.54	343	P	Pn	19 19 23.7	-2.0
MMRI	**Maumere**	7.26	256	P	Pn	19 19 41.2	+5.6
MMRI	**Maumere**	7.26	256	ePn	Pn	19 19 35.9	+0.3
KDI	**Kendari**	7.34	293	P	Pn	19 19 34.6	-2.1
99nm,0.9s,608nm0.3nm							
BSSI	**Bau Bau, Buton**	8.85	275	P	Pn	19 19 56.8	-0.7
216nm,0.7s,2μm							
KAPI	**Kappang**	9.75	281	Pn	Pn	19 20 09.4	-0.4
8.3nm,0.3s,baz=123,slow=6.0,SNR=69							
KAPI				Sn	Sn	19 21 56.1	-2.1
0.4nm,0.3s,baz=232,slow=19,SNR=2.3							
KAPI				LR	LR	19 23 46.6	
comp=Z,613nm,18.5s,baz=116,slow=38							
SPSI	**Sidrap Palu**	10.00	287	P	Pn	19 20 12.5	-0.7
119nm,0.8s,812nm							
MRSI	**Marisa**	10.45	315	P	Pn	19 20 18.6	-0.8
59nm,1.0s							
PCI	**Palu**	11.24	302	P	Pn	19 20 34.5	+4.3
GENI	**Genyem**	11.60	69	P	Pn	19 20 35.6	+0.5
FITZ	**Fitzroy Crossi**	11.67	198	Pn	Pn	19 20 34.1	-1.9
3.2nm,0.3s,baz=32,slow=12,SNR=59							
FITZ				Sn	Sn	19 22 41.9	-3.3
3.0nm,0.3s,baz=95,slow=12,SNR=3.0							
FITZ				LR	LR	19 25 48.4	
comp=Z,258nm,18.7s,baz=22,slow=41							
FITZ	**Fitzroy Crossi**	11.67	198	P	Pn	19 20 34.0	-2.1
baz=12,SNR=50							
FITZ	**Fitzroy Crossi**	11.67	198	ePn	Pn	19 20 34.1	-1.9
FITZ				eSn	Sn	19 22 41.4	-3.7
JAY	**Jayapura**	12.12	69	Pn	Pn	19 20 42.6	+0.2
0.1nm,0.3s,baz=261,slow=23,SNR=5.4							
JAY	**Jayapura**	12.12	69	P	Pn	19 20 41.7	-0.7
19nm,1.0s							
WB8	**Warramunga Arr**	13.69	160	P	Pn	19 21 01.4	-2.2
baz=14							
WRAB	**Tennant Creek**	13.79	160	ePn	Pn	19 21 02.5	-2.5
WRAB				eSn	Sn	19 23 23.2	-14
WR1	**Warramunga Arr**	13.79	160	ePn	Pn	19 21 02.0	-3.1
WR1				eSn	Sn	19 23 31.4	-5.7
WRA	**Warramunga Arr**	13.79	160	Pn	Pn	19 21 02.0	-3.1
2.7nm,0.3s,baz=333,slow=13,SNR=87							
WRA				Sn	Sn	19 23 31.4	-5.7
3.2nm,0.3s,baz=333,slow=22,SNR=7.7							
WB2	**Warramunga Arr**	13.80	160	ePn	Pn	19 21 02.5	-2.7
WB2				eSn	Sn	19 23 21.1	-16
WR7	**Warramunga Arr**	13.85	160	P	Pn	19 21 03.6	-2.3
baz=14							
DAV	**Davao City (W)**	14.43	345	LR	LR	19 27 09.9	
comp=Z,176nm,19.9s,baz=214,slow=40							
DAV	**Davao City (W)**	14.43	345	ePn	Pn	19 21 12.5	-1.2
COEN	**Coen**	15.26	118	P	Pn	19 21 24.0	-0.9
baz=15,SNR=12							
COEN	**Coen**	15.26	118	ePn	Pn	19 21 23.9	-1.0
29nm,1.1s							
MYLDM	**Lahad Datu**	16.21	318	ePn	P	19 21 40.6	+0.7
31nm,1.0s							
QIS	**Mount Isa**	16.78	145	P	Pn	19 21 43.5	-0.9
baz=17,SNR=18							
MBWA	**Marble Bar**	16.93	212	ePn	P	19 21 48.1	+0.3
145nm,1.6s							
AS31	**Alice Springs**	17.19	166	ePn	Pn	19 21 48.4	-1.1
12nm,0.6s							
AS31				eSn	Sn	19 24 56.5	-3.2
ASAR	**Alice Springs**	17.19	166	P	Pn	19 21 48.5	-0.9
0.9nm,0.3s,baz=339,slow=8.4,SNR=77							
ASAR				S	Sn	19 24 56.0	-3.7
0.9nm,0.3s,baz=353,slow=26,SNR=5.5							
ASAR				LR	LR	19 29 08.8	
comp=Z,353nm,19.5s,baz=340,slow=39							
AS01	**Alice Springs**	17.20	166	ePn	Pn	19 21 48.2	-1.4
PMG	**Port Moresby**	17.78	99	P	P	19 21 59.1	+1.7
0.7nm,0.3s,baz=288,slow=7.0,SNR=5.9							
PMG				LR	LR	19 29 57.8	
comp=Z,232nm,19.9s,baz=242,slow=41							
PMG	**Port Moresby**	17.78	99	ePn	P	19 21 58.5	+1.1
34nm,1.0s							
WRKA	**Warakurna**	18.02	183	P	Pn	19 21 58.6	-1.2
baz=18,SNR=60							
MTSU	**Mount Surprise**	18.33	129	P	Pn	19 22 03.6	+0.1
baz=18,SNR=8.9							
MANU	**Manus Island**	18.59	76	eP	Pn	19 22 07.4	+0.7
44nm,1.2s							
SBUM	**Sibu**	19.49	298	eP	P	19 22 16.1	-0.1
60nm,1.3s							
KSM	**Kuching**	20.78	293	eP	P	19 22 29.3	-0.9
16nm,0.7s							
CTA	**Charters Tower**	20.95	130	P	Pn	19 22 35.2	+0.4
3.2nm,0.6s,baz=306,slow=16,SNR=3.9							
CTA				LR	LR	19 32 21.3	
comp=Z,269nm,20.3s,baz=310,slow=41							
RABL	**Rabaul**	22.85	84	eP	P	19 22 50.0	-2.5
22nm,0.8s							
KMBL	**Kambalda**	25.29	195	P	P	19 23 16.7	+1.5
baz=25,SNR=17							
MORW	**Morawa**	25.34	208	P	P	19 23 17.0	+1.3
baz=25,SNR=22							
GUMO	**Guam**	25.56	37	LR	LR	19 33 00.3	
comp=Z,55nm,20.1s,baz=84,slow=36							
BLDU	**Ballidu**	26.37	205	P	P	19 23 26.0	+1.0
baz=26,SNR=31							
BBOO	**Buckleboo**	26.48	167	P	P	19 23 27.4	+1.4
baz=26,SNR=12							
BBOO	**Buckleboo**	26.48	167	eP	P	19 23 27.2	+1.3
36nm,1.3s							
KLBR	**Kellerberrin**	26.81	202	P	P	19 23 30.5	+1.5
baz=27,SNR=40							
MYKOM	**Kota Tinggi**	26.90	288	eP	P	19 23 32.2	+2.2
28nm,1.4s							
STKA	**Stephens Creek**	27.30	157	P	P	19 23 35.2	+1.8
4.3nm,0.8s,baz=338,slow=10,SNR=13							
STKA				LR	LR	19 35 39.7	
comp=Z,138nm,20.1s,baz=335,slow=39							
STKA	**Stephens Creek**	27.30	157	P	P	19 23 35.1	+1.8
baz=27,SNR=11							
STKA	**Stephens Creek**	27.30	157	eP	P	19 23 34.9	+1.5
3.2nm,1.1s							
MUN	**Mundaring**	27.77	205	P	P	19 23 38.3	+0.8
baz=28							
HTT	**Hallett**	27.80	163	P	P	19 23 40.7	+2.8
baz=28,SNR=7.0							
NWAO	**Narrogin (SRO)**	28.20	202	P	P	19 23 43.0	+1.6
29nm,0.7s,baz=62,slow=4.4,SNR=3.1							
NWAO				LR	LR	19 36 43.7	
comp=Z,68nm,19.2s,baz=288,slow=40							
NWAO	**Narrogin (SRO)**	28.20	202	P	P	19 23 42.8	+1.4
baz=28,SNR=21							
NWAO	**Narrogin (SRO)**	28.20	202	eP	P	19 23 42.8	+1.4
30nm,0.8s							
CMSA	**Cobar Meteorol**	28.83	150	P	P	19 23 48.9	+1.8
baz=29,SNR=28							
BKNI	**Bangkinang**	29.17	283	eP	P	19 23 49.0	-1.2
51nm,1.1s							
RKGY	**Rocky Gully**	29.81	201	P	P	19 23 58.0	+2.4
baz=30,SNR=11							
HNR	**Honiara**	30.36	97

	comp=Z,13nm,1.1s								
HHC					PMZ				
	comp=Z,69nm,5.5s								
HHC					LN				
	comp=Z,93nm,15.3s								
HHC					LE				
	comp=Z,110nm,16.1s								
USRK	**Ussuriysk Ar.**	**50.96**	**2**	P		**P**		**19 26 49.2**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=180,slow=14,SNR=3.5								
LSA	**Lhasa**	**51.73 317**		*e*P		**P**		**19 26 55.3**	**-1.3**
	comp=Z,5.2nm,1.0s								
GTA	**Gaotai**	**53.62 332**		P		**P**		**19 27 08.4**	**-1.7**
GTA				pP		pP		19 27 14.1	-6.5
GTA				sP		sP		19 27 16.5	-8.2
GTA				PMZ					
	comp=Z,4.0nm,1.0s								
GUN	**Gumba**	**54.44 312**		*e*P		**P**		**19 27 14.8**	**-1.7**
	comp=Z,42nm,0.7s								
PKIN	**Phulchoki**	**54.63 311**		*e*P		**P**		**19 27 15.6**	**-2.2**
	comp=Z,8.3nm,0.7s								
KKN	**Kakani**	**54.83 311**		*e*P		**P**		**19 27 17.3**	**-1.9**
	comp=Z,17nm,0.7s								
GKN	**Gorkha**	**55.42 311**		*e*P		**P**		**19 27 21.5**	**-1.9**
	comp=Z,16nm,0.7s								
KLR	**Kul'dur**	**55.98**	**2**	P		**P**		**19 27 26.9**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=178,slow=4.3,SNR=5.8								
KOLN	**Koldanda**	**56.08 310**		*e*P		**P**		**19 27 26.0**	**-2.2**
	comp=Z,25nm,0.9s								
PYUN	**Piuthan**	**56.72 310**		*e*P		**P**		**19 27 31.3**	**-1.4**
	comp=Z,65nm,1.0s								
ULN	**Ulaanbaatar**	**58.02 342**		*e*P		**P**		**19 27 40.5**	**-0.9**
	comp=Z,19nm,1.6s								
SONA0	**Songino Array**	**58.19 342**		*e*P		**P**		**19 27 41.8**	**-0.8**
	comp=Z,6.8nm,1.0s								
SONM	**Songino Array**	**58.19 342**		P		**P**		**19 27 41.8**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=161,slow=6.1,SNR=13								
SONA1	**Songino Array**	**58.20 342**		*e*P		**P**		**19 27 41.3**	**-1.4**
CASY	**Casey**	**60.66 189**		*e*P		**P**		**19 28 01.2**	**+2.0**
	comp=Z,6.0nm,1.0s								
WMQ	**Urumqi**	**63.01 327**		P		**P**		**19 28 16.9**	**+1.4**
WMQ				pP		pP		19 28 21.9	-4.3
WMQ				sP		sP		19 28 23.9	-6.4
WMQ				PMZ					
	comp=Z,10.0nm,0.6s								
WMQ				PMZ					
	comp=Z,57nm,4.0s								
PETK	**Petropavlovsk-**	**64.47**	**18**	LR		LR		19 54 43.4	
	comp=Z,19nm,21.1s,baz=209,slow=34								
KSH	**Kashi**	**67.55 318**		*e*P		**P**		**19 28 46.3**	**+1.2**
KSH				pP		pP		19 28 51.1	-4.8
KSH				PcP		**PcP**		**19 29 12.8**	**+0.6**
KSH				PP		**PP**		**19 31 17.7**	**+3.2**
KSH				S		**S**		**19 37 41.4**	**+1.8**
KSH				ScS		**SKSac**		**19 38 40.3**	**-0.3**
KSH				SS		**SS**		**19 42 02.9**	**+2.0**
KSH				PMZ					
	comp=Z,4.0nm,0.5s								
KSH				PMZ					
	comp=Z,68nm,4.8s								
MK01	**Makanchi Array**	**67.82 327**		*e*P		**P**		**19 28 44.5**	**-1.9**
MK31	**Makanchi Array**	**67.84 327**		*e*P		**P**		**19 28 45.1**	**-1.5**
MK32	**Makanchi Array**	**67.84 327**		*e*P		**P**		**19 28 45.4**	**-1.3**
MKAR	**Makanchi Array**	**67.84 327**		P		**P**		**19 28 45.4**	**-1.3**
	comp=Z,6.6nm,0.7s,baz=128,slow=7.9,SNR=32								
MKAR	**Makanchi Array**	**67.84 327**		*e*P		**P**		**19 28 45.1**	**-1.5**
MAKZ	**Makanchi**	**68.02 327**		*e*P		**P**		**19 28 45.9**	**-1.8**
	comp=Z,8.1nm,1.1s								
MA2	**Magadan**	**68.47**	**12**	LR		LR		19 57 53.6	
	comp=Z,23nm,20.2s,baz=300,slow=35								
YAK	**Yakutsk**	**68.77**	**0**	*e*P		**P**		**19 28 50.5**	**-1.6**
	comp=Z,14nm,0.4s								
TKM2	**Tokmak 2**	**69.54 321**		*e*P		**P**		**19 28 56.7**	**-0.9**
	comp=Z,3.8nm,0.8s								
AAK	**Ala-Archa**	**70.09 320**		*e*P		**P**		**19 29 00.5**	**-0.4**
	comp=Z,5.0nm,1.1s								
EKS2	**Erkin-Say**	**70.56 320**		*e*P		**P**		**19 29 02.3**	**-1.4**
	comp=Z,4.4nm,1.0s								
ZAA0	**Zalesovo Array**	**71.26 334**		*e*P		**P**		**19 29 05.5**	**-2.0**
ZALV	**Zalesovo Beam**	**71.26 334**		P		**P**		**19 29 05.5**	**-2.0**
	comp=Z,2.0nm,0.8s,baz=123,slow=4.7,SNR=11								
ZAA1	**Zalesovo Array**	**71.26 334**		*e*P		**P**		**19 29 05.5**	**-2.1**
KURBB	**Kurchatov Arra**	**72.14 329**		P		**P**		**19 29 11.4**	**-1.5**
	comp=Z,7.6nm,0.8s,baz=136,slow=5.3,SNR=26								
KURK	**Kurchatov**	**72.14 329**		*e*P		**P**		**19 29 11.8**	**-1.1**
	comp=Z,40nm,0.9s								
VNDA	**Vanda**	**72.58 173**		P		**P**		**19 29 16.3**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=325,slow=6.6,SNR=10								
VNDA				LR		LR		20 00 42.0	
	comp=Z,54nm,20.0s,baz=326,slow=35								
VNDA	**Vanda**	**72.58 173**		*e*P		**P**		**19 29 16.6**	**+1.4**
	comp=Z,5.5nm,1.1s								
MAW	**Mawson**	**74.77 201**		P		**P**		**19 29 29.9**	**+1.8**
	comp=Z,4.1nm,0.7s,baz=68,slow=7.0,SNR=9.5								
MAW				LR		LR		20 00 53.0	
	comp=Z,41nm,18.5s,baz=52,slow=35								
MAW	**Mawson**	**74.77 201**		P		**P**		**19 29 30.1**	**+2.0**
	baz=75								
MAW	**Mawson**	**74.77 201**		*e*P		**P**		**19 29 29.8**	**+1.7**
	comp=Z,4.7nm,1.5s								
ZRNK	**Zerenda**	**78.38 328**		*e*P		**P**		**19 29 51.1**	**+2.3**
	comp=Z,4.7nm,1.1s								
PPT	**Papeete**	**79.44 107**		LR		LR		20 02 53.0	
	comp=Z,38nm,18.0s,baz=0.5,slow=34								
GEYT	**Alibeck**	**79.70 310**		LR		LR		20 10 34.9	
	comp=Z,30nm,19.2s,baz=165,slow=40								
ABKAR	**Akbulak array**	**82.08 322**		*e*P		**P**		**19 30 10.8**	**+2.0**
QSPA	**South Pole Qui**	**83.03 180**		*e*P		**P**		**19 30 14.0**	**+0.4**
SYO	**Syowa Base**	**83.48 201**‖		*e*P		**P**		**19 30 15.6**	**-0.1**
SYO	**Syowa Base**	**83.48 201**‖		*e*PcP		**PcP**		**19 30 19.4**	**-0.6**
ILAR	**Eielson Array**	**93.57**	**25**	P		**P**		**19 31 05.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=253,slow=4.4,SNR=4.6								
LTX	**Lajitas**	**125.44**	**59**	*e*PKPdf		**PKPdf**		**19 36 50.6**	**+0.5**
TXAR	**Lajitas Array**	**125.44**	**59**	PKP		**PKPdf**		**19 36 50.6**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=226,slow=2.4,SNR=3.2								
TORD	**Torodi Ar. Bea**	**128.18 281**		PKP		**PKPdf**		**19 36 55.7**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=86,slow=2.2,SNR=3.8								
TOA1	**Torodi Ar. Sit**	**128.18 281**		*e*PKPdf		**PKPdf**		**19 36 55.7**	**+0.1**
CPUP	**Villa Florida**	**146.29 169**		PKPbc		**PKPab**		**19 37 30.5**	**+0.1**
	comp=Z,5.8nm,1.1s,baz=186,slow=1.6,SNR=7.5								

*ISCJB **11** 19:40:47.7±0.5, 46.°96N×0.°08×155.°4E±0.°1, h18km, mb3.9/20, Error ellipse: s-maj=12.6km s-min=8.3km az=138.6*
*IDC **11** 19:40:47.0±1.0, 46.°86N×155.°33E, h0km, mb3.8/13, mb1 3.8/14, mb1mx3.6/43, mbtmp3.7/14, ML2.2/1, Error ellipse: s-maj=28.7km s-min=19.5km az=81.0*
*MOS **11** 19:40:50.7±1.7, 46.°97N×155.°29E, h36km, mb4.1/7, Error ellipse: s-maj=16.1km s-min=12.8km az=87.8*
*NEIC **11** 19:40:52.3±0.5, 47.°01N×155.°45E, h35km, mb4.5/6, Error ellipse: s-maj=11.3km s-min=8.6km az=135.0*
ISC 11 19:40:49.9±0.9, 47.°0N±0.°1×155.°4E±0.°1, h18km, n37, σ1s08/37, mb3.9/20, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**5.52**	**255**	‖ *i* PN		**Pn**	**19 42 10.1**	**-1.0**
KUR				pmax		pmax		
	comp=Z,17nm,0.7s							
PEA0	**Petropavlovsk-**	**6.34**	**13**	*e*Pn		**Pn**	**19 42 20.3**	**-2.0**
PETK	**Petropavlovsk-**	**6.34**	**13**	Pn		**Pn**	**19 42 22.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=179,slow=9.8,SNR=4.1							
PEA1	**Petropavlovsk-**	**6.34**	**13**	*e*Pn		**Pn**	**19 42 22.1**	**-0.3**
SHO	**Shikotan**	**6.78**	**246**	*e*PN		**Pn**	**19 42 26.4**	**-2.0**
SHO				pmax		pmax		
	comp=Z,17nm,0.5s							
KSRS	**Korea Array**	**22.37**	**255**	P		**P**	**19 45 49.2**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=57,slow=10,SNR=7.6							
KSAR	**Wonju Array Be**	**22.40**	**255**	P		**P**	**19 45 49.3**	**+2.1**
KSAR	**Wonju Array Be**	**22.40**	**255**	P		**P**	**19 45 49.2**	**+2.1**
TIXI	**Tiksi**	**27.74**	**342**	P		**P**	**19 46 36.9**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=129,slow=11,SNR=5.9							
SONA0	**Songino Array**	**32.75**	**290**	*e*P		**P**	**19 47 21.1**	**-0.5**
	comp=Z,2.2nm,1.3s							
SONM	**Songino Array**	**32.75**	**290**	P		**P**	**19 47 21.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=86,slow=5.9,SNR=2.7							
ZAA1	**Zalesovo Array**	**43.77**	**306**	*e*P		**P**	**19 48 53.5**	**-0.4**
ZALV	**Zalesovo Beam**	**43.77**	**306**	P		**P**	**19 48 53.5**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=64,slow=7.7,SNR=3.5							
MK32	**Makanchi Array**	**48.24**	**298**	*e*P		**P**	**19 49 29.0**	**-0.4**
MKAR	**Makanchi Array**	**48.24**	**298**	P		**P**	**19 49 29.0**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=70,slow=8.2,SNR=4.1							
KURK	**Kurchatov**	**48.56**	**304**	P		**P**	**19 49 32.2**	**+0.5**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**48.56**	**304**	*e*P		**P**	**19 49 32.2**	**+0.5**
KURBB	**Kurchatov Arra**	**48.65**	**304**	P		**P**	**19 49 32.2**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=68,slow=8.4,SNR=12							
BVAR	**Borovoye Array**	**51.94**	**310**	P		**P**	**19 49 57.3**	**0.0**
	comp=Z,1.9nm,0.5s,baz=66,slow=7.7,SNR=14							
ARU	**Arti**	**55.92**	**318**	P		**P**	**19 50 25.9**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=55,slow=8.0,SNR=5.9							
ARU	**Arti**	**55.92**	**318**	*e*P		**P**	**19 50 25.2**	**-1.1**
ARU				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ARU	**Arti**	**55.92**	**318**	*e*P		**P**	**19 50 25.2**	**-1.1**
	comp=Z,3.0nm,0.7s							
ABKAR	**Akbulak array**	**59.50**	**311**	*e*P		**P**	**19 50 51.8**	**+0.2**
IMW	**Indian Meadow**	**61.85**	**55**	*e*P		**P**	**19 51 08.2**	**+0.2**
	comp=Z,3.8nm,1.1s							
MPU	**Maple Canyon**	**63.93**	**59**	*e*P		**P**	**19 51 20.5**	**-1.4**
	comp=Z,9.8nm,1.7s							
FIA0	**FINESS Array S**	**64.52**	**336**	*e*P		**P**	**19 51 25.5**	**+0.5**
FIA0	**FINESS Array S**	**64.52**	**336**	*e*P		**P**	**19 51 25.5**	**+0.5**
FINES	**FINESS Array B**	**64.52**	**336**	P		**P**	**19 51 25.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=28,slow=7.2,SNR=9.2							
LCMT	**Little Creek M**	**64.93**	**62**	*e*P		**P**	**19 51 28.1**	**-0.3**
	comp=Z,2.5nm,0.7s							
NAO01	**NORSAR Array S**	**68.78**	**342**	*e*P		**P**	**19 51 50.7**	**-1.6**
SDCO	**Great Sand Dun**	**69.01**	**57**	*e*P		**P**	**19 51 55.6**	**+1.1**
WR1	**Warramunga Arr**	**69.24**	**201**	*e*P		**P**	**19 51 54.9**	**-0.6**
	comp=Z,35nm,1.7s							
WRA	**Warramunga Arr**	**69.24**	**201**	P		**P**	**19 51 54.9**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=12,slow=16,SNR=3.4							
AKASG	**Malin Array**	**72.24**	**327**	P		**P**	**19 52 15.1**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=32,slow=6.0,SNR=3.4							
ASAR	**Alice Springs**	**72.92**	**201**	P		**P**	**19 52 17.4**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=17,slow=6.0,SNR=9.6							
TXAR	**Lajitas Array**	**76.01**	**62**	P		**P**	**19 52 36.4**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=308,slow=4.1,SNR=3.7							
GERES	**GERESS Array B**	**78.95**	**335**	P		**P**	**19 52 53.7**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=30,slow=8.0,SNR=2.9							

*ISCJB **11** 19:44:26.6±0.8, 39.°59N±0.°04×37.°95E±0.°06, h1km±11km, Error ellipse: s-maj=8.6km s-min=4.9km az=42.1*
*CSEM **11** 19:44:26.6±0.2, 39.°58N×37.°95E, h10km, MD2.4, Error ellipse: s-maj=6.4km s-min=4.9km az=146.0*
*ISK **11** 19:44:26.1, 39.°62N×37.°95E, h5km, MD2.8*
*DDA **11** 19:44:27.5, 39.°70N×37.°67E, h7km, Md2.4*
ISC 11 19:44:26.6±1.2, 39.°62N±0.°03×37.°96E±0.°03, h5km±11km, n19, σ0s57/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CUKAN	**kangal_SIVAS**	**0.48**	**232**	P		**Pg**	**19 44 35.1**	**-0.8**
CUKAN				S		**Sg**	**19 44 42.7**	**+0.5**
CUKAN	**kangal_SIVAS**	**0.48**	**232**	*i* P		**Pg**	**19 44 35.1**	**-0.8**
CUKAN				*i* S		**Sg**	**19 44 42.7**	**+0.5**
SUSE	**Susehri**	**0.62**	**18**	P		**Pb**	**19 44 40.0**	**0.0**
SUSE				S		**Sb**	**19 44 50.2**	**+1.1**
SUSE	**Susehri**	**0.62**	**18**	*i* P		**Pb**	**19 44 40.0**	**0.0**
SUSE				*i* S		**Sb**	**19 44 50.2**	**+1.1**
REFA	**Refahiye_ERZ**	**0.67**	**109**	P		**Pg**	**19 44 39.3**	**-0.1**
REFA	**Refahiye_ERZ**	**0.67**	**109**	*i* P		**Pg**	**19 44 39.3**	**-0.1**
SVSK	**Karacayir**	**0.80**	**292**	*e*PG		**Pg**	**19 44 42.0**	**+0.1**
SVSK				*e*SG		**Sb**	**19 44 53.3**	**-0.6**
SVSK	**Karacayir**	**0.80**	**292**	*e*Pg		**Pg**	**19 44 42.0**	**+0.1**
SVSK				*e*Sg		**Sb**	**19 44 53.3**	**-0.6**
DARE	**Darende-Malaty**	**1.11**	**200**	*e*PN		**Pg**	**19 44 47.4**	**-0.4**
DARE	**Darende-Malaty**	**1.11**	**200**	*e*Pn		**Pg**	**19 44 47.4**	**-0.4**
KELT	**Kelkit**	**1.13**	**62**	P		**Pg**	**19 44 47.6**	**-0.7**
KELT				S		**Sn**	**19 45 04.6**	**-0.7**
KELT	**Kelkit**	**1.13**	**62**	*i* P		**Pg**	**19 44 47.6**	**-0.7**
KELT				*i* S		**Sn**	**19 45 04.6**	**-0.7**
AKCD	**Akcadag**	**1.32**	**181**	P		**Pg**	**19 44 51.9**	**0.0**
AKCD	**Akcadag**	**1.32**	**181**	*i* P		**Pg**	**19 44 51.9**	**0.0**
AKCD				*i* S		**Sn**	**19 45 10.3**	**+0.5**
PTK	**Pertek**	**1.33**	**123**	*e*PN		**Pn**	**19 44 51.9**	**-0.1**
PTK	**Pertek**	**1.33**	**123**	*e*Pn		**Pn**	**19 44 51.9**	**-0.1**
GUMT	**Gumushane**	**1.44**	**54**	*e*PN		**Pn**	**19 44 53.5**	**+0.1**
GUMT	**Gumushane**	**1.44**	**54**	*e*Pn		**Pn**	**19 44 53.5**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.70**	**225**	*e*PN		**Pn**	**19 44 57.4**	**+0.3**

*NIED **11** 19:46:00, 37.°90N×143.°60E, h8km, Mw3.5 Best double couple: M0 2.19000×10^14 NP1:φs351.00000°, δ15.00000°, λ-130.00000°. NP2:φs212.00000°, δ79.00000°, λ-80.00000°.*
*IDC **11** 19:46:54.7±1.2, 37.°92N×144.°08E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.5/46, mbtmp3.6/9, ML3.5/3, Error ellipse: s-maj=30.3km s-min=22.0km az=91.0*
*ISCJB **11** 19:46:59.4±0.8, 37.°85N±0.°05×143.°65E±0.°07, h33km, mb3.6/7, Error ellipse: s-maj=8.8km s-min=6.0km az=153.7*
*JMA **11** 19:46:59.3±0.2, 37.°92N×143.°65E, h36km, M3.6*
ISC 11 19:47:00.5±1.0, 37.°83N±0.°05×143.°75E±0.°09, h35km, n22, σ1s89/32, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.99**	**289**	P		**Pn**	**19 47 30.3**	**-1.4**
JIO				*e*S		**Sn**	**19 47 52.9**	**-2.5**
OFUJ	**Ofunato**	**2.06**	**308**	P		**Pn**	**19 47 31.0**	**-1.6**
JMK	**Ichinoseki**	**2.28**	**300**	P		**Pn**	**19 47 34.5**	**-1.1**
JMK				*e*S		**Sn**	**19 48 00.4**	**-2.1**
JOU	**Okura**	**2.49**	**283**	P		**Pn**	**19 47 38.0**	**-0.6**
JOM	**Ohasama**	**2.53**	**311**	P		**Pn**	**19 47 38.1**	**-1.0**
JOM				S		**Sn**	**19 48 06.7**	**-1.9**
JFT	**Otama**	**2.73**	**264**	P		**Pn**	**19 47 41.4**	**-0.4**
JFT				*e*S		**Sn**	**19 48 11.8**	**-1.7**
JYK	**Kaneyama**	**2.88**	**293**	P		**Pn**	**19 47 43.3**	**-0.6**
JYK				*e*S		**Sn**	**19 48 16.2**	**-1.0**
JRG	**Rokugo**	**2.90**	**304**	P		**Pn**	**19 47 43.3**	**-0.8**
JRG				*e*S		**Sn**	**19 48 16.2**	**-1.6**
JANG	**Nango**	**3.08**	**326**	P		**Pn**	**19 47 46.3**	**-0.3**
JANG				*e*S		**Sn**	**19 48 20.1**	**-2.1**
JAH	**Hinai**	**3.38**	**315**	P		**Pn**	**19 47 50.3**	**-0.5**
JAH				*e*S		**Sn**	**19 48 27.3**	**-2.3**
JAG	**Ashikaga**	**3.71**	**249**	P		**Pn**	**19 47 54.7**	**-0.6**
MJAR	**Matsushiro Arr**	**4.61**	**255**	Pn		**Pn**	**19 48 08.5**	**+0.9**
	2.6nm,0.3s,baz=90,slow=16,SNR=46							
MAT	**Matsushiro**	**4.61**	**255**	P		**Pn**	**19 48 08.8**	**+1.1**
MAT				*e*S		**Sn**	**19 48 57.1**	**-2.9**
JHJ	**Hachijo jima 2**	**5.71**	**216**	Pn		**Pn**	**19 48 22.4**	**-0.3**
	5.6nm,0.3s,baz=80,slow=18,SNR=3.6							
JHJ				Sn		**Sn**	**19 49 22.7**	**-4.4**
	7.3nm,0.3s,baz=76,slow=19,SNR=2.4							
KSRS	**Korea Array**	**12.55**	**273**	Pn		**Pn**	**19 49 58.8**	**+2.3**
	0.1nm,0.3s,baz=82,slow=14,SNR=3.8							
SONM	**Songino Array**	**28.91**	**302**	P		**P**	**19 53 00.4**	**+4.2**
	0.3nm,0.5s,baz=94,slow=8.8,SNR=4.6							
MKAR	**Makanchi Array**	**45.27**	**302**	P		**P**	**19 55 15.0**	**+0.4**
	0.7nm,0.6s,baz=99,slow=7.5,SNR=3.6							
KURBB	**Kurchatov Arra**	**76.98**	**309**	P		**P**	**19 55 28.3**	**+0.4**
	0.6nm,0.6s,baz=81,slow=8.0,SNR=9.4							
ILAR	**Eielson Array**	**47.82**	**33**	P		**P**	**19 55 31.1**	**-3.2**
	0.2nm,0.5s,baz=257,slow=7.4,SNR=3.2							
WRA	**Warramunga Arr**	**58.14**	**190**	P		**P**	**19 56 50.9**	**+0.2**
	0.8nm,0.5s,baz=9.4,slow=7.1,SNR=7.5							
ASAR	**Alice Springs**	**61.87**	**190**	P		**P**	**19 57 17.2**	**+0.9**
	0.2nm,0.5s,baz=3.6,slow=6.8,SNR=7.3							
FINES	**FINESS Array B**	**68.97**	**333**	P		**P**	**19 58 02.3**	**+0.6**
	0.9nm,0.9s,baz=80,slow=8.6,SNR=2.3							

*DDA **11** 20:06:36.9, 39.°11N×29.°03E, h6km, Md2.8*
*ISCJB **11** 20:06:37.5±0.4, 39.°10N±0.°03×29.°04E±0.°03, h4km±6km, Error ellipse: s-maj=5.5km s-min=3.6km az=170.4*
*CSEM **11** 20:06:37.7±0.1, 39.°10N×29.°06E, h2km, MD2.8, Error ellipse: s-maj=2.8km s-min=2.5km az=179.0*
*ISK **11** 20:06:37.4, 39.°12N×29.°06E, h4km, MD2.8*
ISC 11 20:06:37.5±1.0, 39.°10N±0.°02×29.°05E±0.°02, h8km±9km, n48, σ0s60/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**257**	P		**Pg**	**20 06 42.9**	**+0.2**
DEMI				S		**Sg**	**20 06 46.5**	**+0.2**
DEMI	**Demirci**	**0.26**	**257**	*i* P		**Pg**	**20 06 42.9**	**+0.2**
DEMI				*i* S		**Sg**	**20 06 46.5**	**+0.2**
GEDZ	**Gediz**	**0.29**	**101**	*e*PG		**Pg**	**20 06 43.1**	**-0.1**
GEDZ				*e*SG		**Sb**	**20 06 48.9**	**-1.1**
GEDZ	**Gediz**	**0.29**	**101**	*e*Pg		**Pg**	**20 06 43.1**	**-0.1**
GEDZ				*e*Sg		**Sb**	**20 06 48.9**	**-1.1**
GDZ	**Gediz**	**0.34**	**92**	P		**Pg**	**20 06 44.5**	**+0.3**
GDZ				S		**Sg**	**20 06 48.9**	**+0.2**
GDZ	**Gediz**	**0.34**	**92**	*i* P		**Pg**	**20 06 44.5**	**+0.3**
GDZ				*i* S		**Sg**	**20 06 48.9**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**43**	*e*PG		**Pg**	**20 06 46.6**	**-0.1**
TVSB				*e*SG		**Sg**	**20 06 53.1**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**43**	*e*Pg		**Pg**	**20 06 46.6**	**-0.1**
TVSB				*e*Sg		**Sg**	**20 06 53.1**	**+0.1**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG		**Pg**	**20 06 50.5**	**+0.3**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg		**Pg**	**20 06 50.5**	**+0.3**
MANT	**Manisa**	**0.72**	**212**	P		**Pg**	**20 06 50.9**	**-0.4**
MANT				S		**Sg**	**20 06 59.8**	**-0.9**
MANT	**Manisa**	**0.72**	**212**	*i* P		**Pg**	**20 06 50.9**	**-0.4**
MANT				*i* S		**Sg**	**20 06 59.8**	**-0.9**
KHL	**Karahalli**	**0.86**	**154**	*e*PG		**Pb**	**20 06 54.8**	**0.0**
KHL	**Karahalli**	**0.86**	**154**	*e*Pg		**Pb**	**20 06 54.8**	**0.0**
BALB	**Balikesir**	**1.05**	**301**	*e*PG		**Pb**	**20 06 58.5**	**+0.5**
BALB				*e*SG		**Sn**	**20 07 13.6**	**+0.2**
BALB	**Balikesir**	**1.05**	**301**	*e*Pg		**Pb**	**20 06 58.5**	**+0.5**
BALB				*e*Sg		**Sn**	**20 07 13.6**	**+0.2**
IGD	**Bursa**	**1.17**	**6**	*i* P		**Pg**	**20 06 59.4**	**-0.5**
IGD				*i* S		**Sg**	**20 07 14.1**	**-0.9**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN		**Pn**	**20 07 01.8**	**+0.4**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*Pn		**Pn**	**20 07 01.8**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN		**Pn**	**20 07 02.3**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn		**Pn**	**20 07 02.3**	**+0.8**
BALY	**Balya**	**1.28**	**300**	P		**Pg**	**20 07 01.7**	**-0.3**
BALY				S		**Sg**	**20 07 17.5**	**-1.0**
BALY	**Balya**	**1.28**	**300**	*i* P		**Pg**	**20 07 01.7**	**-0.3**
BALY				*i* S		**Sg**	**20 07 17.5**	**-1.0**
IZI	**Iznik**	**1.28**	**15**	*e*PN		**Pb**	**20 07 01.9**	**+0.1**
IZI	**Iznik**	**1.28**	**15**	*e*Pn		**Pb**	**20 07 01.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN		**Pn**	**20 07 02.7**	**+1.0**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn		**Pn**	**20 07 02.7**	**+1.0**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN		**Pg**	**20 07 04.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn		**Pg**	**20 07 04.6**	**0.0**
ESKT	**Eskisehir**	**1.46**	**73**	*i* P		**Pn**	**20 07 04.1**	**-0.2**
SEYT	**Eskypehyr**	**1.46**	**73**	P		**Pn**	**20 07 04.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**219**	*e*PN		**Pg**	**20 07 05.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**219**	*e*Pn		**Pg**	**20 07 05.8**	**+0.2**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN		**Pg**	**20 07 05.6**	**-0.1**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn		**Pg**	**20 07 05.6**	**-0.1**
EDC	**Edincik**	**1.54**	**324**	*e*PN		**Pb**	**20 07 06.6**	**+0.3**
EDC	**Edincik**	**1.54**	**324**	*e*Pn		**Pb**	**20 07 06.6**	**+0.3**
KNL	**Bal¯kesir**	**1.66**	**315**	*i* P	

1.0nm,0.3s,baz=130,slow=14,SNR=27
USRK LR LR 20 14 55.1
comp=Z,241nm,20.2s,baz=161,slow=36
KSRS Korea Array 10.72 276 Pn **Pn 20 11 32.5 +1.8**
0.4nm,0.3s,baz=88,slow=13,SNR=17
KSRS LR LR 20 15 20.4
comp=Z,106nm,21.9s,baz=75,slow=36
KS01 Wonju Array Si 10.74 276 *e*Pn **Pn 20 11 33.0 +2.0**
KS15 Wonju Array Si 10.75 276 *e*Pn **Pn 20 11 33.0 +1.9**
KSAR Wonju Array Be 10.75 276 Pn **Pn 20 11 32.5 +1.4**
MDJ Mudanjiang 11.65 314 P **Pn 20 11 45.4 +2.0**
MDJ S **Sn 20 13 55.4 +2.0**
MDJ PcP **PcP 20 17 33.2 -0.2**
MDJ ScP **ScP 20 21 04.9 -1.0**
MDJ PcS **PcS 20 21 07.0 -0.2**
MDJ ScS **ScS 20 24 41.8 +0.4**
MDJ PMZ
6.0nm,0.9s
MDJ PMZ
80nm,5.5s
MDJ Mudanjiang 11.65 314 *e*Pn **Pn 20 11 45.3 +1.8**
CN2 Changchun 13.84 304 *e*P **Pn 20 12 15.5 +2.2**
CN2 PMZ
10.0nm,0.5s
SNY Shenyang 14.53 294 ||P **Pn 20 12 19.7 -3.0**
SNY PMZ
75nm,5.0s
SNY LN
210nm,8.5s
SNY LE
460nm,13.5s
SNY LZ
720nm,13.2s
PETK Petropavlovsk- 19.66 30 LR LR 20 21 03.8
comp=Z,24nm,18.9s,baz=211,slow=37
BJI Beijing 19.90 286 P **P 20 13 27.7 -1.0**
BJI PMZ
5.0nm,0.4s
BJI LN
130nm,12.6s
BJI LE
100nm,14.2s
SSLB Suanglung 21.98 239 *e*P **P 20 13 50.2 -1.1**
60nm,2.0s
MA2 Magadan 23.30 12 LR LR 20 23 39.5
comp=Z,27nm,18.7s,baz=247,slow=38
HHC Hu-ho-hao-te 23.41 288 *e*P **P 20 14 06.1 -0.3**
HHC PP **PnPn 20 14 40.9 +8.3**
HHC S **S 20 18 19.5 0.0**
HHC PMZ
17nm,1.0s
HHC PMZ
73nm,6.3s
YAK Yakutsk 26.00 347 P **P 20 14 28.3 -1.5**
1.6nm,0.3s,baz=153,slow=18,SNR=7.1
YAK Yakutsk 26.00 347 *e*P **P 20 14 28.9 -1.0**
17nm,0.8s
SEY Seymchan 26.74 11 P **P 20 14 38.5 +2.0**
4.9nm,0.9s,baz=204,slow=9.4,SNR=7.2
ULN Ulaanbaatar 27.29 304 *e*P **P 20 14 41.3 -0.5**
3.0nm,0.9s
ENH Enshi 27.30 265 *e*P **P 20 14 41.5 -0.5**
7.6nm,0.9s
SONA1 Songino Array 27.71 304 *e*P **P 20 14 44.6 -1.1**
SONA0 Songino Array 27.72 304 *e*P **P 20 14 43.8 -1.9**
3.0nm,0.6s
SONA0 *e*PcP **PcP 20 18 02.0 -0.3**
SONM Songino Array 27.72 304 P **P 20 14 43.8 -1.9**
1.6nm,0.5s,baz=108,slow=9.0,SNR=22
SONM PcP **PcP 20 18 02.0 -0.3**
0.4nm,0.5s,baz=124,slow=2.0,SNR=4.4
SONM LR LR 20 26 06.5
comp=Z,69nm,18.7s,baz=71,slow=37
H11N2 WAKE ISLAND Hy 28.21 121 T T 20 44 24.2
baz=314,slow=75,SNR=1446
H11N1 WAKE ISLAND Hy 28.22 121 T T 20 44 27.8
baz=314,slow=75,SNR=1932
H11N3 WAKE ISLAND Hy 28.23 121 T T 20 44 28.5
baz=314,slow=75,SNR=1675
H11S1 WAKE ISLAND Hy 28.93 123 T T 20 45 19.1
baz=316,slow=74
H11S3 WAKE ISLAND Hy 28.93 123 T T 20 45 48.4
baz=316
H11S2 WAKE ISLAND Hy 28.94 123 T T 20 45 23.2
baz=316,slow=74
LZH Lanzhou 30.02 280 *e*P **P 20 15 10.1 +3.8**
LZH pP sP 20 15 14.2 +2.9
LZH sP pP 20 15 17.0 +7.2
LZH PMZ
12nm,1.0s
LZH PMZ
46nm,4.5s
LZH LN
160nm,10.3s
LZH LE
170nm,11.4s
LZH LZ
230nm,13.5s
TLY Talaya 30.26 311 *e*P **P 20 15 07.6 -0.5**
4.1nm,1.2s
GYA Guiyang 31.19 260 *e*P **P 20 15 17.8 +1.1**
GYA PMZ
10.0nm,0.8s
CD2 Chengdu 31.63 270 *e*P **P 20 15 18.9 -1.6**
GTA Gaotai 32.51 287 *e*P **P 20 15 30.0 +1.8**
GTA pP sP 20 15 34.2 +1.0
GTA sP pP 20 15 37.0 +5.3
GTA S **S 20 20 45.6 +2.5**
GTA sS sS 20 20 51.0 +2.0
GTA SS **SnSn 20 22 40.1 +3.7**
GTA PMZ
3.0nm,0.8s
GTA PMZ
24nm,4.8s
GTA LN
90nm,14.7s
GTA LE
120nm,15.2s
GTA LZ
99nm,15.7s
QIZ Qiongzhong 32.92 246 P **P 20 15 31.4 -0.3**
QIZ S **S 20 20 49.3 -0.2**
QIZ LN
140nm,17.7s
QIZ LE
240nm,13.7s
QIZ LZ
140nm,15.0s
KMI Kunming 34.93 261 P **P 20 15 50.1 +0.6**
KMI pP pP 20 15 53.5 +0.5
KMI sP sP 20 15 54.9 +0.4
KMI PMZ
3.0nm,0.5s
KMI LN
84nm,15.1s
KMI LE
120nm,12.0s
KMI LZ
160nm,14.8s
WMQ Urumqi 40.78 297 P **P 20 16 38.5 0.0**
WMQ pP pP 20 16 42.0 -0.1
WMQ sP sP 20 16 44.7 +1.2
WMQ PMZ
8.0nm,0.6s
WMQ PMZ
61nm,3.6s
CMAR Chiang Mai Arr 41.47 255 pP pP 20 16 49.8 +1.8
0.8nm,0.6s,baz=45,slow=7.8,SNR=4.0
ZAA0 Zalesovo Array 41.84 312 *e*P **P 20 16 45.6 -1.4**
ZAA1 Zalesovo Array 41.84 312 *e*P **P 20 16 45.6 -1.4**
ZAA1 *e*PcP **PcP 20 18 47.9 +5.2**
ZALV Zalesovo Beam 41.84 312 P **P 20 16 45.6 -1.4**
4.9nm,0.8s,baz=89,slow=7.0,SNR=9.4
ZALV pP **pP 20 16 51.0 +0.4**
9.3nm,0.7s,baz=106,slow=6.9,SNR=20
ZALV pPcP 20 18 47.9
1.2nm,0.6s,baz=104,slow=3.8,SNR=3.6
ZALV LR LR 20 34 45.7
comp=Z,55nm,19.0s,baz=70,slow=37
LSA Lhasa 42.16 275 *e*P **P 20 16 50.8 +0.3**
3.4nm,0.8s
MK01 Makanchi Array 44.05 302 *e*P **P 20 17 04.4 -0.6**
MK31 Makanchi Array 44.05 302 *e*P **P 20 17 04.0 -1.0**
MK32 Makanchi Array 44.05 302 *e*P **P 20 17 03.1 -2.0**
MKAR Makanchi Array 44.05 302 P **P 20 17 03.1 -2.0**
4.4nm,0.7s,baz=86,slow=9.7,SNR=18
MKAR pP **pP 20 17 09.3 +0.6**
7.1nm,0.7s,baz=84,slow=9.7,SNR=20
MKAR LR LR 20 35 03.3
comp=Z,22nm,19.8s,baz=56,slow=36
MKAR Makanchi Array 44.05 302 *e*P **P 20 17 03.8 -1.3**
MAKZ Makanchi 44.26 302 *e*P **P 20 17 05.9 -0.8**
2.2nm,0.8s
TT01 Tatalina 45.39 35 *e*P **P 20 17 13.6 -1.9**
TTA Tatalina 45.40 35 *e*P **P 20 17 15.3 -0.2**
21nm,1.8s
KURK Kurchatov 45.86 308 *e*P **P 20 17 17.8 -1.6**
66nm,0.8s
RAMN Ramite 46.96 274 *e*P **P 20 17 27.9 -0.7**
KKN Kakani 47.64 276 *e*P **P 20 17 33.2 -0.7**
11nm,0.5s
PKIN Phulchoki 47.64 275 *e*P **P 20 17 33.5 -0.4**
6.5nm,0.6s
MLY Manley 47.82 32 *e*P **P 20 17 35.0 +0.4**
2.9nm,0.8s
GKN Gorkha 48.06 276 *e*P **P 20 17 36.5 -0.5**
20nm,0.7s
COLD Coldfoot 48.12 29 *e*P **P 20 17 37.6 +0.8**
6.3nm,1.6s
RND Reindeer 48.65 34 *e*P **P 20 17 41.5 +0.5**
19nm,1.9s
MDM Murphy Dome 48.89 32 *e*P **P 20 17 42.9 +0.2**
6.0nm,0.9s
WRH Wood River Hil 48.96 33 *e*P **P 20 17 43.5 +0.2**
2.9nm,0.9s
SML Sawmill 48.97 36 *e*P **P 20 17 43.9 +0.5**
7.3nm,0.8s
KOLN Koldanda 48.98 277 *e*P **P 20 17 44.0 -0.2**
6.5nm,0.6s
CCB Clear Creek Bu 49.08 33 *e*P **P 20 17 43.8 -0.3**
2.1nm,0.6s
PYUN Piuthan 49.32 277 *e*P **P 20 17 46.5 -0.3**
13nm,0.4s
SCM Sheep Creek Mo 49.44 36 *e*P **P 20 17 46.0 -1.1**
6.1nm,0.9s
ILAR Eielson Array 49.47 32 P **P 20 17 47.5 +0.3**
3.2nm,0.6s,baz=267,slow=6.4,SNR=19
ILB Eielson Array 49.47 32 *e*P **P 20 17 47.1 -0.1**
IL1 Eielson Array 49.47 32 *e*P **P 20 17 46.7 -0.5**
TKM2 Tokmak 2 49.57 298 *e*P **P 20 17 48.7 +0.2**
5.7nm,0.6s
KLU Klutina 50.14 37 *e*P **P 20 17 53.0 +0.5**
3.2nm,0.7s
DIV Divide 50.25 37 *e*P **P 20 17 54.7 +1.5**
6.1nm,1.1s
KSH Kashi 50.34 294 *e*P **P 20 17 55.7 +1.3**
KSH PMZ
1.0nm,0.3s
BVAR Borovoye Array 50.50 312 LR LR 20 39 13.9
comp=Z,70nm,19.3s,baz=254,slow=36
BRVK Borovoye 50.56 312 *e*P **P 20 17 57.1 +1.5**
8.7nm,0.7s
DOT Dot Lake 50.78 34 *e*P **P 20 17 57.7 +0.5**
6.8nm,0.8s
BMRM Bremner River 50.84 37 *e*P **P 20 17 58.9 +1.2**
4.9nm,0.9s
EKS2 Erkin-Say 50.92 299 *e*P **P 20 17 58.5 -0.2**
1.7nm,0.9s
ZRNK Zerenda 51.34 312 *e*P **P 20 18 01.0 -0.4**
3.4nm,0.6s
EGAK Eagle 51.91 32 *e*P **P 20 18 05.5 0.0**
3.4nm,0.9s
KKAR Karatay Array 53.06 300 *e*P **P 20 18 14.9 +0.4**
GSI Gunungsitoli 53.80 239 *e*P **P 20 18 19.9 -0.2**
9.3nm,0.7s
INK Inuvik 54.35 27 P **P 20 18 23.9 +0.4**
2.2nm,0.5s,baz=335,slow=33,SNR=10
INK Inuvik 54.35 27 *e*P **P 20 18 24.0 +0.6**
9.9nm,1.6s
ARU Arti 56.29 319 *e*P **P 20 18 39.9 +2.3**
4.8nm,0.6s
WR1 Warramunga Arr 57.11 188 *e*P **P 20 18 43.8 -0.1**
24nm,1.5s
WRA Warramunga Arr 57.11 188 P **P 20 18 43.8 -0.1**
3.3nm,0.6s,baz=5.5,slow=7.3,SNR=65
ABKAR Akbulak array 57.87 310 *e*P **P 20 18 47.4 -1.5**
SPA0 Spitsbergen Ar 60.46 349 *e*P **P 20 19 08.1 +1.6**
KBS Kingsbay 60.59 350 *e*P **P 20 19 08.2 +0.9**
20nm,1.3s
AS01 Alice Springs 60.84 188 *e*P **P 20 19 09.4 -0.2**
AS31 Alice Springs 60.84 188 *e*P **P 20 19 07.9 -1.8**
2.4nm,1.4s
ASAR Alice Springs 60.84 188 P **P 20 19 10.1 +0.4**
1.4nm,0.8s,baz=9.3,slow=9.6,SNR=13
GEYT Alibeck 63.77 299 P **P 20 19 27.4 -1.9**
1.0nm,0.6s,baz=28,slow=3.4,SNR=3.2
GEYT pP **pP 20 19 33.3 +0.2**
2.6nm,0.8s,baz=14,slow=6.7,SNR=5.5
YKA Yellowknife Ar 63.78 30 P **P 20 19 28.7 -0.2**
0.8nm,0.7s,baz=192,slow=20,SNR=4.2
YKA pP **pP 20 19 33.7 +1.0**
1.1nm,0.7s,baz=303,slow=6.5,SNR=5.1
ARA0 ARCESS Array S 63.93 339 *e*P **P 20 19 28.8 -1.0**
ARCES ARCESS Array B 63.93 339 P **P 20 19 28.8 -1.0**
0.8nm,0.4s,baz=56,slow=7.4,SNR=12
ARCES LR LR 20 50 09.5
comp=Z,18nm,18.8s,baz=88,slow=39
STKA Stephens Creek 68.61 180 P **P 20 19 60.0 -0.2**
2.7nm,0.9s,baz=336,slow=7.4,SNR=4.0
STKA Stephens Creek 68.61 180 *e*P **P 20 19 59.5 -0.7**
5.2nm,1.6s
FIA1 FINESS Array S 68.74 332 *e*P **P 20 19 59.5 -1.2**
6.9nm,1.0s
FIA0 FINESS Array S 68.74 332 *e*P **P 20 20 00.0 -0.7**
FINES FINESS Array B 68.74 332 P **P 20 20 00.0 -0.7**
2.0nm,0.7s,baz=40,slow=10,SNR=9.9
KBZ Khabaz 70.83 311 P **P 20 20 13.1 -0.8**
1.1nm,0.6s,baz=27,slow=4.5,SNR=3.3
KIV Kislovodsk 70.84 311 *e*P **P 20 20 14.3 +0.2**
8.2nm,0.8s
NB2 NORSAR Subarra 74.12 337 P **P 20 20 32.8 -0.5**
comp=Z,6.0nm,1.1s,baz=37,slow=6.2
NB200 NORSAR Array S 74.12 337 *e*P **P 20 20 32.1 -1.2**
NB200 *e*PcP **pP 20 20 37.5 +0.4**
NOA NORSAR Array B 74.12 337 P **P 20 20 32.1 -1.2**
comp=Z,0.9nm,0.9s,baz=257,slow=20,SNR=4.0
NOA pP **pP 20 20 37.5 +0.4**
comp=Z,2.6nm,0.9s,baz=38,slow=5.8,SNR=7.6
NOA LR LR 20 56 04.9
comp=Z,32nm,19.2s,baz=90,slow=38
LRM Limekiln Ridge 74.13 44 *e*P **P 20 20 34.6 +0.7**
NBO02 NORSAR Array S 74.22 337 *e*P **P 20 20 33.5 -0.4**
AKASG Malin Array Be 74.23 322 P **P 20 20 32.7 -1.3**
comp=Z,1.1nm,0.3s,baz=47,slow=5.9,SNR=13
AKASG pP **pP 20 20 38.6 +0.7**
comp=Z,1.8nm,0.4s,baz=47,slow=6.3,SNR=9.4
AKBB Malin Array Si 74.23 322 *e*P **P 20 20 32.9 -1.1**
comp=Z,13nm,1.5s
BOZ Bozeman (W) 74.70 44 *e*P **P 20 20 36.9 -0.2**
comp=Z,2.5nm,0.8s
NV01 Mina Array Sit 74.98 53 *e*P **P 20 20 39.6 +0.6**
NVAR Mina Array Bea 74.98 53 P **P 20 20 40.5 +1.6**
comp=Z,1.1nm,0.6s,baz=302,slow=5.2,SNR=2.8
BW06 Boulder Array 77.65 45 *e*P **P 20 20 54.7 +0.6**
PD31 Pinedale Array 77.65 45 *e*P **P 20 20 54.3 +0.2**
PDAR Pinedale Array 77.65 45 P **P 20 20 54.6 +0.6**
comp=Z,0.7nm,0.6s,baz=260,slow=2.9,SNR=7.3
PDAR pP **sP 20 21 00.2 +0.9**
comp=Z,0.6nm,0.6s,baz=265,slow=3.4,SNR=3.1
BR101 Keskin Array S 78.78 312 *e*P **P 20 20 58.9 -1.3**
BRTR Keskin Array B 78.78 312 P **P 20 20 58.9 -1.3**
comp=Z,0.3nm,0.5s,baz=122,slow=3.0,SNR=2.7
BRTR pP **sP 20 21 05.6 +0.1**
comp=Z,1.3nm,0.7s,baz=93,slow=2.9,SNR=5.2
MORC Moravsky Berou 80.29 327 *e*P **P 20 21 12.4 +4.3**
comp=Z,18nm,1.2s
DPC Dobruska-Polom 80.39 328 *e*P P 20 21 13.8 +5.1
DPC *ex* x 20 21 29.6
BRG Berggiesshubel 80.98 329 *e*P P 20 21 16.9 +5.1
comp=Z,1.9nm,0.8s
CLL Collm 81.03 330 *e*P **P 20 21 16.0 +4.0**
comp=Z,5.0nm,1.1s
CLL Collm 81.03 330 *e*P **P 20 21 15.4 +3.4**
comp=Z,4.7nm,1.1s
SMCO Snowmass 81.46 47 *e*P **P 20 21 15.5 +0.4**
comp=Z,5.5nm,0.8s
X16A Lo Mia Camp, P 81.81 53 *e*P **P 20 21 17.7 +1.0**
comp=Z,3.7nm,0.8s
KHC Kasperske Hory 82.47 328 *e*P P 20 21 24.5 +4.8
KHC Kasperske Hory 82.47 328 *e*P **P 20 21 19.1 -0.6**
comp=Z,2.7nm,1.2s
GERES GERESS Array B 82.64 328 P **P 20 21 19.8 -0.9**
comp=Z,0.5nm,0.4s,baz=38,slow=5.9,SNR=9.8
GERES pP **pP 20 21 25.6 +1.1**
comp=Z,0.8nm,0.5s,baz=38,slow=6.8,SNR=7.7
BFO Black Forest 85.23 331 *e*P **P 20 21 33.2 -0.7**
comp=Z,8.0nm,1.3s
TOA1 Torodi Ar. Sit 117.26 315 *e*PKPdf **PKPdf 20 27 41.5 -1.8**
TORD Torodi Ar. Bea 117.26 315 PKP **PKPdf 20 27 41.5 -1.8**
comp=Z,0.2nm,0.5s,baz=34,slow=2.5,SNR=4.4
VNA1 Neumayer--Stat 142.76 196 PKP **PKPdf 20 28 29.3 -0.2**
LPAZ La Paz 146.70 59 PKPbc **PKPbc 20 28 40.7 +0.3**
comp=Z,3.1nm,0.6s,baz=26,slow=1.1,SNR=15
SIV San Ignacio 151.07 49 PKPbc **PKPbc 20 28 51.3 +0.4**
comp=Z,3.0nm,0.6s,baz=277,slow=4.0,SNR=7.4
SIV pPKPbc **PKPab 20 28 57.9 -0.6**
comp=Z,2.7nm,0.7s,baz=331,slow=4.2,SNR=3.9

DDA ***11*** *20:21:09.3, 39.07N×29.12E, h7km, Md2.6*
CSEM ***11*** *20:21:09.6±0.2, 39.04N×29.17E, h2km, MD2.3, Error ellipse: s-maj=5.6km s-min=3.2km az=135.0*
ISK ***11*** *20:21:09.1, 39.02N×29.22E, h5km, MD2.3*
ISC 11 20:21:09.6±1.0, 39.04N±0.03×29.15E±0.03, h7km±11km, n18, σ0.8s66/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.20**	**89**	*e*PG	**Pg**	**20 21 12.6**	**-1.2**
GEDZ	**Gediz**	**0.20**	**89**	*e*Pg	**Pg**	**20 21 12.6**	**-1.2**
GDZ	**Gediz**	**0.26**	**79**	P	**Pg**	**20 21 14.8**	**-0.1**
GDZ				S	**Sg**	**20 21 19.9**	**+1.4**
GDZ	**Gediz**	**0.26**	**79**	*i* P	**Pg**	**20 21 14.8**	**-0.1**
GDZ				*i* S	**Sg**	**20 21 19.9**	**+1.4**
DEMI	**Demirci**	**0.34**	**270**	P	**Pg**	**20 21 15.6**	**-0.6**
DEMI				S	**Sg**	**20 21 20.9**	**+0.2**
DEMI	**Demirci**	**0.34**	**270**	*i* P	**Pg**	**20 21 15.6**	**-0.6**
DEMI				*i* S	**Sg**	**20 21 20.9**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**31**	*e*PG	**Pg**	**20 21 18.8**	**-0.1**
TVSB				*e*SG	**Sg**	**20 21 25.4**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**31**	*e*Pg	**Pg**	**20 21 18.8**	**-0.1**
TVSB				*e*Sg	**Sg**	**20 21 25.4**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**216**	*e*PG	**Pg**	**20 21 22.6**	**+0.4**
KULA				*e*SG	**Sb**	**20 21 31.9**	**-0.7**
KULA	**Kula-Manisa**	**0.65**	**216**	*e*Pg	**Pg**	**20 21 22.6**	**+0.4**
KULA				*e*Sg	**Sb**	**20 21 31.9**	**-0.7**
MANT	**Manisa**	**0.72**	**220**	P	**Pb**	**20 21 24.4**	**-0.2**
MANT				S	**Sg**	**20 21 33.7**	**+0.9**
MANT	**Manisa**	**0.72**	**220**	*i* P	**Pb**	**20 21 24.4**	**-0.2**
MANT				*i* S	**Sg**	**20 21 33.7**	**+0.9**
KCTX	**Karacabey (Bur**	**1.37**	**334**	*e*PN	**Pg**	**20 21 36.1**	**+0.2**
KCTX	**Karacabey (Bur**	**1.37**	**334**	*e*Pn	**Pg**	**20 21 36.1**	**+0.2**
ARMT	**Armutlu**	**1.54**	**352**	*e*PN	**Pb**	**20 21 38.5**	**0.0**
ARMT				*e*SN	**Sg**	**20 21 59.5**	**+0.4**
ARMT	**Armutlu**	**1.54**	**352**	*e*Pn	**Pb**	**20 21 38.5**	**0.0**
ARMT				*e*Sn	**Sg**	**20 21 59.5**	**+0.4**
GULT	**Gulveren**	**1.74**	**37**	*e*PN	**Pn**	**20 21 40.4**	**0.0**
GULT	**Gulveren**	**1.74**	**37**	*e*Pn	**Pn**	**20 21 40.4**	**0.0**

IDC ***11*** *20:23:06.4±0.5, 6.59S×106.37E, h0km, mb4.3/23, mb1 4.4/23, mb1mx4.3/41, mbtmp4.3/23, MS3.5/11, Ms1 3.5/11, ms1mx3.1/45, Error ellipse: s-maj=20.3km s-min=11.7km az=59.0*
NEIC ***11*** *20:23:08.5±0.5, 6.62S×106.34E, h14km±3km, mb4.7/21, Error ellipse: s-maj=10.4km s-min=5.3km az=224.0*
NEIC Felt [II] at Banten, Cisarua, Lebak and Sukabumi. Also felt at Curug and Jakarta.
ISCJB ***11*** *20:23:09.9±0.2, 6.72S±0.04×106.33E±0.03, h33km, mb4.5/58, MS3.5/16, Error ellipse: s-maj=6.9km s-min=3.3km az=33.2*
MOS ***11*** *20:23:10.4±1.3, 6.47S×106.51E, h33km, mb4.9/24, Error ellipse: s-maj=14.6km s-min=7.1km az=118.3*
DJA ***11*** *20:23:10.1±0.3, 7°S±4'×10°6E±°, h10km, M4.9/21, mB5.7/1, mb5.0/10, MLv4.8/21, Mw(mB)5.2/1*
ISC 11 20:23:12.1±0.3, 6.76S±0.05×106.33E±0.05, h35km, n219, σ1s53/199, mb4.5/58, MS3.5/16, 24C-8D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.33**	**137**	P	Pn	20 23 15.2	-5.2
CBJI	**Citeko**	**0.62**	**57**	P	**Pn**	**20 23 22.1**	**-2.3**
CGJI	**Cibinong**	**0.65**	**283**	P	**Pn**	**20 23 22.9**	**-1.9**
TNG	**Tangerang**	**0.67**	**28**	P	**Pn**	**20 23 24.4**	**-0.7**
SBJI	**Serang**	**0.67**	**343**	P	**Pn**	**20 23 24.4**	**-0.7**
CNJI	**Cibinong**	**0.96**	**124**	P	**Pn**	**20 23 25.3**	**-3.8**
CISI	**Cisompet, Garu**	**1.67**	**118**	P	**Pn**	**20 23 37.3**	**-1.6**
CISI	**Cisompet, Garu**	**1.67**	**118**	*e*Pn	**Pn**	**20 23 36.8**	**-2.1**
CISI				*e*Sn	**Sn**	**20 23 58.4**	**-0.8**
JCJI	**Jatiwangi**	**1.95**	**82**	P	**Pn**	**20 23 43.6**	**+0.9**
KASI	**Kota Agung**	**2.20**	**304**	P	**Pn**	**20 23 48.9**	**+2.8**
CMJI	**Cimerak**	**2.33**	**116**	P	**Pn**	**20 23 47.3**	**-0.7**
KPJI	**Karang Pucung**	**2.65**	**102**	P	**Pn**	**20 23 53.3**	**+1.1**
LWLI	**Liwa**	**2.85**	**307**	P	**Pn**	**20 23 57.5**	**+2.3**
PMBI	**Palembang**	**4.12**	**338**	P	**Pn**	**20 24 15.7**	**+3.2**
UGM	**Wanagama**	**4.32**	**106**	P	**Pn**	**20 24 15.6**	**+0.3**
UGM	**Wanagama**	**4.32**	**106**	*e*Pn	**Pn**	**20 24 16.2**	**+0.9**
PPBI	**Pangkal Pinang**	**4.58**	**358**	P	Pn	20 24 22.2	+3.3
KSI	**Kapahiang**	**4.84**	**310**	P	Pn	20 24 27.0	+4.5
PCJI	**Pacitan**	**5.01**	**107**	P	**Pn**	**20 24 25.2**	**+0.3**
NGJI	**Ngawi**	**5.13**	**97**	P	**Pn**	**20 24 29.5**	**+3.0**
	98nm,0.7s,0.7nm						
PWJI	**Pagerwojo**	**5.57**	**103**	P	**Pn**	**20 24 33.6**	**+1.1**
	187nm,0.7s						
GRJI	**Gresik**	**6.11**	**92**	P	**Pn**	**20 24 39.5**	**-0.4**
	104nm,0.9s						
PBKI	**Pangkalan Bun**	**6.68**	**53**	P	**Pn**	**20 24 50.8**	**+3.0**
	144nm,0.9s						
GMJI	**Gumukmas**	**7.21**	**102**	P	**Pn**	**20 24 55.8**	**+0.7**
	41nm,0.8s,0.2nm						
ABJI	**Asem Bagus**	**7.91**	**98**	P	**Pn**	**20 25 04.3**	**-0.4**
	216nm,0.8s,0.6nm						
JAGI	**Jajag, Banyuwa**	**7.94**	**103**	P	**Pn**	**20 25 05.3**	**+0.2**
	71nm,0.9s						
JAGI	**Jajag, Banyuwa**	**7.94**	**103**	*e*Pn	**Pn**	**20 25 08.5**	**+3.4**
PDSI	**Padang**	**8.25**	**315**	P	Pn	20 25 20.1	+11
PPI	**Padang Panjang**	**8.62**	**316**	P	Pn	20 25 23.0	+8.6
BKNI	**Bangkinang**	**8.80**	**323**	P	Pn	20 25 29.3	+12
MYKOM	**Kota Tinggi**	**8.85**	**344**	*e*Pn	Pn	20 25 23.1	+5.5
MYKOM				*e*Lg	Lg	20 27 49.7	
KSM	**Kuching**	**9.10**	**26**	*e*Pn	**Pn**	**20 25 22.4**	**+1.4**
KSM				*e*Lg	Lg	20 27 58.6	
MNSI	**Mandailing Nat**	**10.09**	**318**	P	Pn	20 25 40.0	+5.5
	36nm,1.3s,3μm						
SBUM	**Sibu**	**10.88**	**33**	*e*Pn	**Pn**	**20 25 43.9**	**-1.5**
GSI	**Gunungsitoli**	**11.86**	**312**	P	**Pn**	**20 25 59.1**	**+0.3**
GSI	**Gunungsitoli**	**11.86**	**312**	*e*Pn	**Pn**	**20 25 57.6**	**-1.2**
IPM	**Ipoh**	**12.36**	**335**	*e*Pn	Pn	20 26 10.1	+4.4
KAPI	**Kappang**	**13.47**	**83**	LR	LR	20 32 10.5	
	comp=Z,229nm,19.9s,baz=273,slow=41						
SOEI	**Soe**	**18.00**	**101**	*e*Pn	**P**	**20 27 20.2**	**+0.2**
	67nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.94**	**123**	P	**P**	**20 28 02.0**	**-0.8**
	10nm,1.0s,baz=323,slow=9.5,SNR=10						
FITZ				LR	LR	20 36 25.1	
	comp=Z,72nm,21.1s,baz=306,slow=36						
FITZ	**Fitzroy Crossi**	**21.94**	**123**	*e*P	**P**	**20 28 02.3**	**-0.5**
	36nm,1.7s						
QIZ	**Qiongzhong**	**25.86**	**8**	P	**P**	**20 28 41.7**	**+1.1**
QIZ				S	**S**	**20 33 13.6**	**+5.3**
QIZ				LR	LR		
	comp=N,140nm,15.9s						
QIZ				LR	LR		
	comp=E,240nm,15.5s						
QIZ				LR	LR		
	comp=Z,140nm,14.2s						
CMAR	**Chiang Mai Arr**	**26.10**	**344**	P	**P**	**20 28 42.2**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=183,slow=9.5,SNR=3.6						
CMAR				LR	LR	20 40 46.6	
	comp=Z,114nm,19.0s,baz=153,slow=41						
NWAO	**Narrogin (SRO)**	**27.94**	**160**	LR	LR	20 39 08.3	
	comp=Z,62nm,20.4s,baz=199,slow=34						
H01W3	**Cape Leeuwin H**	**28.89**	**167**	T	T	20 59 34.2	
	baz=344,slow=76,SNR=20						
H01W1	**Cape Leeuwin H**	**28.91**	**167**	T	T	20 59 35.0	
	baz=344,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**28.91**	**167**	T	T	20 59 35.2	
	baz=344,slow=76,SNR=21						
PALK	**Pallekele**	**29.12**	**298**	LR	LR	20 39 21.4	
	comp=Z,114nm,19.5s,baz=116,slow=34						
WRA	**Warramunga Arr**	**30.17**	**118**	P	**P**	**20 29 19.0**	**-0.3**
	comp=Z,1nm,0.7s,baz=303,slow=8.6,SNR=50						
WRA				PcP	**PcP**	**20 32 20.4**	**+0.3**
	comp=Z,2.8nm,0.5s,baz=311,slow=1.9,SNR=21						
WRA				LR	LR	20 44 18.0	

comp=Z,66nm,18.3s,baz=120,slow=42
WR1 Warramunga Arr 30.17 118 *e*P **P** **20 29 19.0 -0.3**
comp=Z,14nm,0.8s
WR1 *e*PcP **PcP** **20 32 20.4 +0.3**
WRAB Tennant Creek 30.18 118*d* *i*P **P** **20 29 18.1 -1.2**
WRAB pmax pmax
comp=Z,28nm,0.8s
WRAB Tennant Creek 30.18 118 *e*P **P** **20 29 18.8 -0.5**
comp=Z,12nm,0.7s
WB2 Warramunga Arr 30.18 118 *e*P **P** **20 29 18.8 -0.6**
comp=Z,15nm,0.8s
AS31 Alice Springs 31.37 125 *e*P **P** **20 29 28.9 -0.9**
comp=Z,1.6nm,0.6s
ASAR Alice Springs 31.37 125 P **P** **20 29 29.5 -0.3**
comp=Z,3.9nm,0.6s,baz=301,slow=8.9,SNR=26
ASAR PcP **PcP** **20 32 23.6 +0.4**
comp=Z,1.9nm,0.7s,baz=326,slow=2.2,SNR=12
AS01 Alice Springs 31.41 125 *e*P **P** **20 29 29.8 -0.3**
KMI Kunming 31.89 354 P **P** **20 29 36.0 +1.5**
KMI pP pP 20 29 39.3 -5.3
KMI sP sP 20 29 40.4 -8.4
KMI pmax pmax
comp=Z,4.0nm,0.7s
KMI LR LR
comp=N,92nm,9.8s
KMI LR LR
comp=E,460nm,13.6s
KMI LR LR
comp=Z,210nm,15.1s
GYA Guiyang 33.03 1 *e*P **P** **20 29 44.2 -0.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
H08S2 Diego Garcia H 33.57 266 T T 21 05 21.2
baz=91,slow=76,SNR=301
H08S3 Diego Garcia H 33.58 266 T T 21 05 21.9
baz=91,slow=76,SNR=188
H08S1 Diego Garcia H 33.59 266 T T 21 05 22.6
baz=91,slow=76,SNR=171
CD2 Chengdu 37.54 356 *e*P **P** **20 30 23.0 0.0**
PMG Port Moresby 40.49 97 *e*P **P** **20 30 48.1 +0.1**
PMG pmax pmax
comp=Z,28nm,0.8s
PMG Port Moresby 40.49 97 *e*P **P** **20 30 48.1 +0.1**
comp=Z,28nm,0.8s
STKA Stephens Creek 41.29 132 P **P** **20 30 54.5 +0.2**
comp=Z,13nm,0.8s,baz=307,slow=8.8,SNR=21
STKA PcP **PcP** **20 32 53.0 +0.4**
comp=Z,2.6nm,0.7s,baz=317,slow=4.3,SNR=3.5
STKA Stephens Creek 41.29 132 *e*P **P** **20 30 54.2 -0.2**
STKA 20 32 53.0
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 41.29 132 *e*P **P** **20 30 54.2 -0.2**
comp=Z,2.9nm,0.8s
STKA PcP **PcP** **20 32 53.0 +0.4**
LZH Lanzhou 42.69 357 *e*P **P** **20 31 09.1 +3.3**
LZH pP sP 20 31 19.5 -0.8
LZH sP pP 20 31 24.3 +8.2
LZH pmax pmax
comp=Z,10.0nm,1.0s
GTA Gaotai 46.34 353 P **P** **20 31 34.2 -0.7**
GTA pP pP 20 31 38.6 -6.7
GTA sP sP 20 31 41.3 -8.1
GTA S **S** **20 38 23.6 +3.7**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,54nm,4.1s
GTA LR LR
comp=N,87nm,18.6s
GTA LR LR
comp=E,150nm,18.1s
GTA LR LR
comp=Z,100nm,15.7s
TJN Taejon 47.24 23‖ *e*P **P** **20 31 41.4 -0.4**
HHC Hu-ho-hao-te 47.62 5 *e*P **P** **20 31 45.8 +0.9**
HHC S **S** **20 38 43.8 +5.6**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,55nm,5.2s
HHC LR LR
comp=N,100nm,16.6s
HHC LR LR
comp=E,140nm,15.6s
HHC LR LR
comp=Z,65nm,13.5s
KSAR Wonju Array Be 48.37 23 P **P** **20 31 49.4 -1.2**
KSAR Wonju Array Be 48.37 23 P **P** **20 31 49.4 -1.2**
KSRS Korea Array 48.39 23 P **P** **20 31 49.4 -1.4**
comp=Z,0.3nm,0.5s,baz=267,slow=14,SNR=4.5
MJAR Matsushiro Arr 52.43 32 P **P** **20 32 21.4 +0.1**
comp=Z,0.5nm,0.6s,baz=105,slow=8.2,SNR=4.2
WMQ Urumqi 53.10 343 P **P** **20 32 26.4 +0.2**
WMQ LR LR
comp=N,19nm,21.0s
WMQ LR LR
comp=E,26nm,23.2s
WMQ LR LR
comp=Z,19nm,23.2s
CN2 Changchun 53.22 17 *e*P **P** **20 32 27.6 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KSH Kashi 53.93 331 *e*P **P** **20 32 34.9 +2.4**
KSH pmax pmax
comp=Z,3.0nm,0.4s
SONA0 Songino Array 54.36 0 *e*P **P** **20 32 34.4 -1.0**
comp=Z,1.8nm,0.9s
SONM Songino Array 54.36 0 P **P** **20 32 34.4 -1.0**
comp=Z,1.4nm,0.8s,baz=174,slow=7.7,SNR=10
SONA1 Songino Array 54.38 0 *e*P **P** **20 32 35.0 -0.5**
ULN Ulaanbaatar 54.40 1‖ *e*P **P** **20 32 34.3 -1.4**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 54.40 1 *e*P **P** **20 32 34.8 -0.9**
comp=Z,2.5nm,1.0s
PDGK Podgornoye 55.48 336 P **P** **20 32 41.8 -1.6**
TKM2 Tokmak 2 56.79 333 *e*P **P** **20 32 50.7 -2.4**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 56.79 333 *e*P **P** **20 32 50.7 -2.4**
comp=Z,3.3nm,0.8s
MK01 Makanchi Array 57.42 341 *e*P **P** **20 32 54.8 -2.4**
EKS2 Erkin-Say 57.42 332 *e*P **P** **20 32 55.3 -2.2**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 57.42 332 *e*P **P** **20 32 55.3 -2.2**
comp=Z,2.3nm,0.8s
MK31 Makanchi Array 57.44 341 *e*P **P** **20 32 55.3 -2.1**
MK31 Makanchi Array 57.44 341 *e*P **P** **20 32 55.3 -2.1**
MK32 Makanchi Array 57.44 341 *e*P **P** **20 32 55.3 -2.1**
MKAR Makanchi Array 57.44 341 P **P** **20 32 55.3 -2.1**
comp=Z,2.7nm,0.8s,baz=146,slow=7.6,SNR=25
MKAR Makanchi Array 57.44 341 *e*P **P** **20 32 55.4 -2.0**
MKAR Makanchi Array 57.44 341 *e*P **P** **20 32 55.4 -2.0**
MNAS Manas 57.89 331 P **P** **20 33 00.0 -0.8**
KLR Kul'dur 60.02 19 P **P** **20 33 13.2 -2.0**
comp=Z,0.7nm,0.6s,baz=176,slow=4.9,SNR=2.8
KURK Kurchatov 62.05 340 *e*P **P** **20 33 27.0 -2.0**
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 62.05 340 *e*P **P** **20 33 27.0 -2.0**
comp=Z,9.0nm,0.9s
OTUK Ortayu 62.39 335 P **P** **20 33 29.6 -1.8**
ZALV Zalesovo Beam 63.14 346 P **P** **20 33 33.9 -2.3**
comp=Z,0.6nm,0.4s,baz=126,slow=2.0,SNR=4.7
GEYT Ailbeck 63.15 319 P **P** **20 33 35.6 -1.0**
comp=Z,3.0nm,0.9s,baz=165,slow=6.2,SNR=7.5
ZAA1 Zalesovo Array 63.15 346 *e*P **P** **20 33 33.9 -2.3**
DAMY Dhamar 64.97 289 *e*P **P** **20 33 50.4 +1.0**
comp=Z,13nm,0.9s
BVAR Borovoye Array 66.89 337 P **P** **20 33 58.4 -2.2**
comp=Z,2.3nm,0.6s,baz=116,slow=6.6,SNR=14
RPZ Rata Peaks 67.17 135 LR LR 21 04 44.0
comp=Z,38nm,18.2s,baz=256,slow=37
ZRNK Zerenda 67.37 337 *e*P **P** **20 34 01.5 -2.2**
ZRNK pmax pmax
comp=Z,2.0nm,0.6s
ZRNK Zerenda 67.37 337 *e*P **P** **20 34 01.5 -2.2**
comp=Z,1.6nm,0.6s
MAW Mawson 67.40 197 P **P** **20 34 04.2 +0.6**
comp=Z,2.8nm,0.7s,baz=65,slow=7.6,SNR=7.2
MAW Mawson 67.40 197 *e*P **P** **20 34 04.8 +1.2**
MAW pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 67.40 197 *e*P **P** **20 34 04.8 +1.2**

comp=Z,0.9nm,0.8s
ABKAR Akbulak array 68.87 329 *e*P **P** **20 34 11.0 -2.2**
KMBO Kilima Mbogo 69.09 271 P **P** **20 34 16.5 +1.0**
comp=Z,0.8nm,0.3s,baz=61,slow=13,SNR=5.4
KMBO Kilima Mbogo 69.09 271 *e*P **P** **20 34 16.5 +1.0**
KMBO pmax pmax
comp=Z,11nm,1.7s
KMBO Kilima Mbogo 69.09 271 *e*P **P** **20 34 16.5 +1.0**
comp=Z,11nm,1.7s
YAK Yakutsk 70.93 11 *e*P **P** **20 34 23.1 -2.4**
YAK pmax pmax
comp=Z,3.0nm,0.7s
PETK Petropavlovsk- 73.71 29 P **P** **20 34 41.0 -1.4**
comp=Z,1.8nm,0.7s,baz=295,slow=7.8,SNR=2.4
PETK Petropavlovsk- 73.71 29 P **P** **20 34 41.0 -1.4**
PEA1 Petropavlovsk- 73.72 29 *e*P **P** **20 34 41.0 -1.4**
ARU Arti 74.12 335*d* *i*P **P** **20 34 43.8 -0.8**
ARU 20 37 24.1
ARU S **S** **20 44 15.8 +0.6**
ARU SS **SS** **20 48 59.0 -2.0**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 74.12 335 *e*P **P** **20 34 44.2 -0.5**
comp=Z,5.1nm,1.1s
ZEI Tsey 74.98 317 *e*P **P** **20 34 49.0 -1.2**
ZEI pmax pmax
comp=Z,12nm,0.5s
NCK Nalchik 75.47 318‖ *e*P **P** **20 34 52.6 -0.2**
NCK pmax pmax
comp=Z,8.0nm,0.9s
NEY Neytrino 75.95 318‖ *e*P **P** **20 34 57.3 +1.5**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 76.03 318 P **P** **20 34 55.9 0.0**
comp=Z,7.5nm,0.9s,baz=100,slow=4.6,SNR=15
KIV Kislovodsk 76.26 318*de* **P** **20 34 57.8 +0.4**
KIV *e* 20 37 50.2
KIV *eS* S 20 44 53.2 +14
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,16nm,17.0s
VNDA Vanda 76.32 169 P **P** **20 34 57.4 +0.4**
comp=Z,2.5nm,0.9s,baz=304,slow=5.3,SNR=8.2
VNDA Vanda 76.32 169 *e*P **P** **20 34 57.9 +0.9**
VNDA pmax pmax
comp=Z,22nm,1.8s
VNDA Vanda 76.32 169 *e*P **P** **20 34 57.9 +0.9**
comp=Z,22nm,1.8s
MMAI Mount Meron Ar 77.92 306 LR LR 21 09 56.6
comp=Z,27nm,20.9s,baz=200,slow=36
TIXI Tiksi 79.66 7 P **P** **20 35 12.5 -3.0**
comp=Z,1.5nm,0.6s,baz=154,slow=3.0,SNR=3.8
VRH Novokhopyorsk 79.81 325 *e*P **P** **20 35 15.8 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.8s
BR101 Keskin Array S 81.17 312 *e*P **P** **20 35 23.7 -0.9**
BR131 Keskin Array S 81.17 312 *e*P **P** **20 35 23.8 -0.7**
BRTR Keskin Array B 81.17 312 P **P** **20 35 23.7 -0.9**
comp=Z,2.6nm,0.7s,baz=139,slow=7.0,SNR=16
BRTR LR LR 21 13 48.8
comp=Z,27nm,18.3s,baz=104,slow=38
VSR Storozhevoye 81.29 324 *e*P **P** **20 35 23.2 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.6s
BR231 Keskin MP Arra 81.85 312 *e*P **P** **20 35 24.6 -3.5**
LPSR Galich'ya Gora 81.95 325 *e*P **P** **20 35 27.3 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
QSPA South Pole Qui 83.22 180 *e*P **P** **20 35 35.4 +0.6**
OBN Obninsk 84.17 327*ce* **P** **20 35 39.1 -0.4**
OBN *e* 20 38 54.9
OBN pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 84.87 333 *e*P **P** **20 35 41.9 -1.1**
KLMR pmax pmax
comp=Z,6.0nm,1.2s
MILM Milestii Mici 86.45 318⇑ *i*P **P** **20 35 51.1 0.0**
CFR Carcaliu 86.50 316⇑ *i*P **P** **20 35 51.8 +0.4**
CFR Carcaliu 86.50 316⇑ **P** **20 35 51.8 +0.4**
AKASG Malin Array Be 87.10 322 P **P** **20 35 53.0 -1.3**
comp=Z,3.9nm,0.7s,baz=85,slow=5.0,SNR=18
AKASG Malin Array Be 87.10 322 P **P** **20 35 53.0 -1.3**
AKBB Malin Array Si 87.10 322 *e*P **P** **20 35 52.7 -1.5**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 87.10 322 *e*P **P** **20 35 52.7 -1.5**
comp=Z,7.1nm,0.8s
AK11 Malin Array Si 87.13 322 *e*P **P** **20 35 53.1 -1.3**
VRI Vrincioaia 87.62 317⇑ *i*P **P** **20 35 57.9 +1.0**
VRI Vrincioaia 87.62 317⇑ **P** **20 35 57.9 +1.0**
PLOR Plostina 87.67 317⇑ *i*P **P** **20 35 58.2 +1.0**
PLOR Plostina 87.67 317⇑ **P** **20 35 58.2 +1.0**
TESR Tescani 87.81 317⇑ *i*P **P** **20 35 57.8 0.0**
MLR Muntele Rosu 88.08 316⇑ *i*P **P** **20 36 00.0 +0.7**
MLR Muntele Rosu 88.08 316⇑ **P** **20 36 00.0 +0.7**
MLR Muntele Rosu 88.08 316 *e*P **P** **20 35 59.6 +0.3**
comp=Z,33nm,1.4s
PRAR RASCA 88.27 318⇑ *i*P **P** **20 36 00.2 +0.2**
DOPR Dopca 88.55 316⇑ *i*P **P** **20 36 02.0 +0.6**
VOIR 88.69 316⇓ *i*P **P** **20 36 01.6 -0.5**
VOIR 88.69 316⇓ **P** **20 36 01.6 -0.5**
ARR Arges 88.96 316⇑ *i*P **P** **20 36 03.2 -0.2**
BURAR Bucovina Array 88.99 318⇑ *i*P **P** **20 36 04.4 +0.9**
BURAR Bucovina Array 88.99 318⇑ **P** **20 36 04.4 +0.9**
BUR08 Bucovina Ar. S 89.00 318 *e*P **P** **20 36 04.2 +0.6**
SNAA Sanae 89.55 197⇑ *e*P **P** **20 36 07.7 +2.1**
VSU Vasula 90.30 329*de* **P** **20 36 10.6 +1.4**
VSU pmax pmax
comp=Z,65nm,2.5s
KWP Kalwaria Pacla 90.98 320⇑ *i*P P 20 36 20.9 +8.3
KWP Kalwaria Pacla 90.98 320⇑ P P 20 36 20.9 +8.3
BZS Buzias 91.09 316⇑ *i*P **P** **20 36 13.3 +0.1**
BZS Buzias 91.09 316⇑ **P** **20 36 13.3 +0.1**
KOLS Kolonicke sedl 91.15 319 *e*P **P** **20 36 13.8 +0.4**
KOLS *e* 20 36 24.4
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 91.15 319 *e*P **P** **20 36 13.8 +0.4**
KOLS *e* 20 36 24.4
FIA0 FINESS Array S 91.25 332 *e*P **P** **20 36 12.6 -0.9**
FIA0 FINESS Array S 91.25 332 *e*P **P** **20 36 12.6 -0.9**
FINES FINESS Array B 91.25 332 P **P** **20 36 12.6 -0.9**
comp=Z,2.2nm,0.8s,baz=108,slow=6.2,SNR=7.5
STHS Stebnicka Huta 91.89 319 *e*P **P** **20 36 17.3 +0.4**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 91.89 319 *e*P **P** **20 36 17.2 +0.4**
ARCES ARCESS Array B 93.08 340 LR LR 21 22 06.9
comp=Z,38nm,19.9s,baz=104,slow=38
GERES GERESS Array B 96.77 318 P **P** **20 36 39.8 +0.4**
comp=Z,0.3nm,0.6s,baz=90,slow=4.3,SNR=4.5
NOA NORSAR Array B 98.35 331 LR LR 21 25 39.3
comp=Z,12nm,19.1s,baz=60,slow=38
PDAR Pinedale Array 132.20 36 PKP **PKPdf** **20 42 23.9 +1.0**
comp=Z,0.5nm,0.6s,baz=219,slow=1.2,SNR=3.6
SRU San Rafael Swe 133.77 40 *e*PKHKP PKPpre 20 42 09.4
SRU San Rafael Swe 133.77 40 *e*PKPpre PKPpre 20 42 09.4
SDCO Great Sand Dun 137.75 38 *e*PKPpre PKPpre 20 42 21.4
SDCO *e*PKPdf **PKiKP** **20 42 35.8 +0.3**
ANMO Albuquerque 138.82 42*c* *i*PKIKP **PKPdf** **20 42 41.4 +5.9**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
CPUP Villa Florida 143.48 205 PKP PKPbc 20 42 41.6 +0.6
comp=Z,3.0nm,0.8s,baz=113,slow=3.4,SNR=6.3
CPUP Villa Florida 143.48 205 *e*PKIKP PKPbc 20 42 42.0 +1.0
CPUP Villa Florida 143.48 205 *e*PKPdf PKPbc 20 42 42.0 +0.9
TX31 Lajitas Ar. Si 143.91 48 *e*PKPpre PKPpre 20 42 40.8
LTX Lajitas 143.91 48 *e*PKIKP PKPbc 20 42 42.1 -0.3
LTX Lajitas 143.91 48 *e*PKPdf PKPbc 20 42 42.1 -0.3
TXAR Lajitas Array 143.91 48 PKP PKPbc 20 42 42.1 -0.3
comp=Z,0.7nm,0.6s,baz=255,slow=1.7,SNR=13
HHAR Hobbs 145.26 29 *e*PKPbc **PKPbc** **20 42 44.4 -2.0**
JCT Junction City 145.97 43 *e*PKP2 **PKPdf** **20 42 48.0 -0.1**
JCT Junction City 145.97 43 *e*PKPdf **PKPdf** **20 42 48.0 -0.1**
BDFB Brasilia 146.21 229 PKPbc **PKPab** **20 42 50.8 +0.1**
comp=Z,5.6nm,0.8s,baz=144,slow=4.0,SNR=3.3
WCI Wyandotte Cave 146.65 18 *e*PKP2 **PKPbc** **20 42 49.4 -1.2**
WCI Wyandotte Cave 146.65 18 *e*PKPdf **PKPbc** **20 42 49.4 -1.2**
MIAR Mount Ida 146.81 31 *e*PKP2 **PKPdf** **20 42 49.7 +0.4**
MIAR Mount Ida 146.81 31 *e*PKPdf **PKPdf** **20 42 49.7 +0.4**
PSUB Penn St. - Bra 146.94 3 *e*PKPdf **PKPbc** **20 42 50.3 -1.0**
WVT Waverly 148.02 22 *e*PKP2 **PKPbc** **20 42 53.5 -0.9**
WVT Waverly 148.02 22 *e*PKPbc **PKPbc** **20 42 53.5 -0.9**
PLAL Pickwick Lake 148.94 23 *e*PKPbc **PKPbc** **20 42 55.5 -1.3**
JSRW J. Sargeant Re 148.97 6 *e*PKPbc **PKPbc** **20 42 56.1 -0.7**
TZTN Tazewell 149.01 16 *e*PKPbc **PKPbc** **20 42 56.1 -0.9**
SWET Sewanee 149.52 20 *e*PKPbc **PKPbc** **20 42 57.2 -1.1**
CPCT Cooper Cave 149.76 18 *ep*PKPdf **PKPbc** **20 42 58.4 -0.4**
TKL Tuckaleechee C 149.78 16 PKPbc **PKPbc** **20 42 58.4 -0.5**
comp=Z,19nm,0.7s,baz=110,slow=2.5,SNR=12
TKL Tuckaleechee C 149.78 16 *e*PKP2 **PKPbc** **20 42 58.2 -0.7**
TKL Tuckaleechee C 149.78 16 *ep*PKPdf **PKPbc** **20 42 58.2 -0.7**
LVC Limon Verde 150.44 189 *e*PKPbc **PKPbc** **20 43 02.8 +1.5**
LRAL Lakeview Retre 151.08 24 *ep*PKPdf **PKPbc** **20 43 00.5 -1.6**
GOGA Godfrey 151.97 18 *e*PKIKP **PKPbc** **20 43 03.5 -0.6**
GOGA Godfrey 151.97 18 *e*PKPbc **PKPbc** **20 43 03.5 -0.6**
LPAZ La Paz 156.45 193 PKP **PKPdf** **20 43 05.5 +0.4**
comp=Z,1.2nm,0.8s,baz=154,slow=4.5,SNR=4.5
LPAZ PKPab **PKPab** **20 43 32.3 -0.2**
comp=Z,1.2nm,0.8s,baz=53,slow=4.9,SNR=3.7
LPAZ La Paz 156.45 193 *e*PKIKP **PKPdf** **20 43 06.6 +1.5**
LPAZ La Paz 156.45 193 *e*PKPdf **PKPdf** **20 43 06.6 +1.5**
LPAZ *e*PKPab **PKPab** **20 43 33.2 -0.2**

DDA **11** *20:28:14.5, 39.09N×29.04E, h8km, Md2.8*
CSEM **11** *20:28:14.9±0.1, 39.09N×29.01E, h2km, MD2.8, Error ellipse: s-maj=1.9km s-min=1.6km az=165.0*
ISK **11** *20:28:14.1, 39.09N×29.01E, h3km, MD3.0*
ISC 11 20:28:15.1±0.9**, 39.10N**±0.02×**29.02E**±0.02**, h8**km±10km**, n79**,σ0**s67/92, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DEMI	**Demirci**	**0.24**	**257**		P	**Pg**	**20 28 20.2**	**+0.2**
DEMI					S	**Sg**	**20 28 23.8**	**+0.5**
DEMI	**Demirci**	**0.24**	**257**	*i*	P	**Pg**	**20 28 20.2**	**+0.2**
DEMI				*i*	S	**Sg**	**20 28 23.8**	**+0.5**
GEDZ	**Gediz**	**0.31**	**100**	*e*	PG	**Pg**	**20 28 21.0**	**-0.3**
GEDZ				*e*	SG	**Sg**	**20 28 26.0**	**+0.6**
GEDZ	**Gediz**	**0.31**	**100**	*e*	Pg	**Pg**	**20 28 21.0**	**-0.3**
GEDZ				*e*	Sg	**Sg**	**20 28 26.0**	**+0.6**
GDZ	**Gediz**	**0.36**	**91**		P	**Pg**	**20 28 21.5**	**-0.8**
GDZ					S	**Sg**	**20 28 26.5**	**-0.5**
GDZ	**Gediz**	**0.36**	**91**	*i*	P	**Pg**	**20 28 21.5**	**-0.8**
GDZ				*i*	S	**Sg**	**20 28 26.5**	**-0.5**
TVSB	**Tavsanli**	**0.49**	**44**	*e*	PG	**Pg**	**20 28 24.0**	**-0.7**
TVSB	**Tavsanli**	**0.49**	**44**	*e*	Pg	**Pg**	**20 28 24.0**	**-0.7**
DST	**Dursunbey**	**0.59**	**329**	*e*	PG	**Pg**	**20 28 26.7**	**+0.1**
DST	**Dursunbey**	**0.59**	**329**	*e*	Pg	**Pg**	**20 28 26.7**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*	PG	**Pg**	**20 28 27.2**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*	Pg	**Pg**	**20 28 27.2**	**-0.4**
MANT	**Manisa**	**0.70**	**211**		P	**Pg**	**20 28 28.2**	**-0.5**
MANT					S	**Sg**	**20 28 37.5**	**-0.4**
MANT	**Manisa**	**0.70**	**211**	*i*	P	**Pg**	**20 28 28.2**	**-0.5**
MANT				*i*	S	**Sg**	**20 28 37.5**	**-0.4**
KHL	**Karahalli**	**0.87**	**153**	*e*	PG	**Pb**	**20 28 31.8**	**-0.6**
KHL	**Karahalli**	**0.87**	**153**	*e*	Pg	**Pb**	**20 28 31.8**	**-0.6**
AKS	**Akhisar**	**0.96**	**257**	*e*	PG	**Pg**	**20 28 33.2**	**-0.4**
AKS	**Akhisar**	**0.96**	**257**	*e*	Pg	**Pg**	**20 28 33.2**	**-0.4**
BALB	**Balikesir**	**1.04**	**302**	*e*	PG	**Pg**	**20 28 34.3**	**-0.7**
BALB	**Balikesir**	**1.04**	**302**	*e*	Pg	**Pg**	**20 28 34.3**	**-0.7**
IGD	**Bursa**	**1.18**	**7**	*i*	P	**Pg**	**20 28 36.4**	**-1.2**
IGD				*i*	S	**Sb**	**20 28 53.1**	**+0.1**
BALY	**Balya**	**1.26**	**301**		P	**Pn**	**20 28 39.3**	**+0.3**
BALY	**Balya**	**1.26**	**301**	*i*	P	**Pn**	**20 28 39.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*	PN	**Pn**	**20 28 39.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*	Pn	**Pn**	**20 28 39.3**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*	PN	**Pb**	**20 28 39.2**	**-0.2**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*	Pn	**Pb**	**20 28 39.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*	PN	**Pn**	**20 28 39.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*	Pn	**Pn**	**20 28 39.5**	**+0.3**
IZI	**Iznik**	**1.29**	**16**	*e*	PN	**Pb**	**20 28 39.5**	**-0.1**
IZI	**Iznik**	**1.29**	**16**	*e*	Pn	**Pb**	**20 28 39.5**	**-0.1**
GEMT	**Gemlik**	**1.34**	**6**	*e*	PN	**Pb**	**20 28 40.5**	**0.0**
GEMT	**Gemlik**	**1.34**	**6**	*e*	Pn	**Pb**	**20 28 40.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*	PN	**Pb**	**20 28 41.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*	Pn	**Pb**	**20 28 41.2**	**-0.2**
ADVT	**Abdulvahap**	**1.45**	**22**	*e*	PN	**Pg**	**20 28 42.4**	**-0.4**
ADVT	**Abdulvahap**	**1.45**	**22**	*e*	Pn	**Pg**	**20 28 42.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*	PN	**Pg**	**20 28 42.2**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*	Pn	**Pg**	**20 28 42.2**	**-0.7**
ARMT	**Armutlu**	**1.47**	**355**	*e*	PN	**Pb**	**20 28 42.4**	**-0.3**
ARMT	**Armutlu**	**1.47**	**355**	*e*	Pn	**Pb**	**20 28 42.4**	**-0.3**
ESKT	**Eskisehir**	**1.48**	**73**	*e*	PN	**Pg**	**20 28 43.4**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**73**	*e*	Pn	**Pg**	**20 28 43.4**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**73**	*i*	P	**Pg**	**20 28 43.1**	**-0.5**
ESKT				*i*	S	**Sb**	**20 29 01.7**	**-0.3**
SEYT	**Eskypehyr**	**1.48**	**73**		P	**Pg**	**20 28 43.1**	**-0.5**
SEYT					S	**Sb**	**20 29 01.7**	**-0.3**
EDC	**Edincik**	**1.53**	**325**	*e*	PN	**Pn**	**20 28 43.0**	**+0.3**
EDC	**Edincik**	**1.53**	**325**	*e*	Pn	**Pn**	**20 28 43.0**	**+0.3**
IZM	**Izmir**	**1.54**	**244**	*e*	PN	**Pn**	**20 28 43.0**	**+0.1**
IZM	**Izmir**	**1.54**	**244**	*e*	Pn	**Pn**	**20 28 43.0**	**+0.1**
KNL	**Bal¯kesir**	**1.64**	**316**	*i*	P	**Pg**	**20 28 46.1**	**-0.5**
KNL				*i*	S	**Sg**	**20 29 07.8**	**-0.1**
DKL	**Dikili**	**1.64**	**270**	*e*	PN	**Pb**	**20 28 44.9**	**-0.7**
DKL	**Dikili**	**1.64**	**270**	*e*	Pn	**Pb**	**20 28 44.9**	**-0.7**
AYDN	**Tasoluk**	**1.69**	**212**		P	**Pg**	**20 28 47.3**	**-0.2**
AYDN	**Tasoluk**	**1.69**	**212**	*i*	P	**Pg**	**20 28 47.3**	**-0.2**
AYDN				*i*	S	**Sg**	**20 29 11.5**	**+2.0**
GULT	**Gulveren**	**1.76**	**40**	*e*	PN	**Pn**	**20 28 46.8**	**+0.8**
GULT	**Gulveren**	**1.76**	**40**	*e*	Pn	**Pn**	**20 28 46.8**	**+0.8**
HRT	**Hereke**	**1.79**	**16**	*e*	PN	**Pn**	**20 28 47.1**	**+0.7**
HRT	**Hereke**	**1.79**	**16**	*e*	Pn	**Pn**	**20 28 47.1**	**+0.7**
KRBG	**Karabiga-Canak**	**1.85**	**315**	*e*	PN	**Pn**	**20 28 47.8**	**+0.7**
KRBG	**Karabiga-Canak**	**1.85**	**315**	*e*	Pn	**Pn**	**20 28 47.8**	**+0.7**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*	PN	**Pb**	**20 28 48.4**	**-1.0**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*	Pn	**Pb**	**20 28 48.4**	**-1.0**
ISK	**Istanbul-Kandi**	**1.97**	**1**	*e*	PN	**Pn**	**20 28 49.2**	**+0.6**
ISK	**Istanbul-Kandi**	**1.97**	**1**	*e*	Pn	**Pn**	**20 28 49.3**	**+0.6**
DGB	**¯zmir**	**1.97**	**239**	*i*	P	**Pg**	**20 28 53.2**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*	PN	**Pn**	**20 28 49.8**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*	Pn	**Pn**	**20 28 49.8**	**+0.9**
BGKT	**Bogazkoy**	**2.09**	**355**	*e*	PN	**Pn**	**20 28 51.1**	**+0.8**
BGKT	**Bogazkoy**	**2.09**	**355**	*e*	Pn	**Pn**	**20 28 51.1**	**+0.8**
KLYT	**Kilyos**	**2.15**	**0**	*e*	PN	**Pn**	**20 28 52.5**	**+1.3**
KLYT	**Kilyos**	**2.15**	**0**	*e*	Pn	**Pn**	**20 28 52.5**	**+1.3**
MDUB	**Mudurnu**	**2.17**	**50**	*e*	PN	**Pn**	**20 28 53.1**	**+1.5**
MDUB	**Mudurnu**	**2.17**	**50**	*e*	Pn	**Pn**	**20 28 53.1**	**+1.5**
CTKS	**Kestanelik-??a**	**2.17**	**350**	*e*	PN	**Pn**	**20 28 52.5**	**+1.0**
CTKS	**Kestanelik-??a**	**2.17**	**350**	*e*	Pn	**Pn**	**20 28 52.5**	**+1.0**
KIZT	**Kizilcal**	**2.24**	**95**	*e*	PN	**Pn**	**20 28 53.3**	**+0.8**
KIZT	**Kizilcal**	**2.24**	**95**	*e*	Pn	**Pn**	**20 28 53.3**	**+0.8**
CTYL	**Yalikoy Yolu**	**2.44**	**347**	*e*	PN	**Pn**	**20 28 56.0**	**+0.9**
CTYL	**Yalikoy Yolu**	**2.44**	**347**	*e*	Pn	**Pn**	**20 28 56.1**	**+0.9**

ISCJB **11** *20:29:27.4±1.1, 10.14N±0.03×73.02W±0.03, h5km±7km, mb3.6/2, Error ellipse: s-maj=6.4km s-min=3.5km az=147.0*
IDC **11** *20:29:28.7±1.1, 10.26N×75.20W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.5/36, mbtmp3.9/3, ML2.9/1, Error ellipse: s-maj=57.7km s-min=21.1km az=90.0*
FUNV **11** *20:29:28.4, 10.14N×73.09W, h2km, MW3.6*
RSNC **11** *20:29:29.0±0

SDV	**Santo Domingo**	**2.67**	**118**	*e*P		**Pn**	**20 30 12.4**	**+0.5**
SDV				*i*			20 31 07.5	
	comp=Z,280nm,0.5s							
SDV	**Santo Domingo**	**2.67**	**118**	*e*P		**Pn**	**20 30 12.1**	**+0.3**
SDV				*e*S		**Sn**	**20 30 45.1**	**+1.0**
PAMC	**Pamplona, Colo**	**2.80**	**173**	*e*P		**Pn**	**20 30 13.3**	**-0.5**
SOCV	**Socops**	**2.83**	**130**	*e*P		**Pn**	**20 30 14.2**	**+0.4**
SOCV				*e*S		**Sn**	**20 30 48.5**	**+0.7**
MOTC	**Monteria, Cord**	**2.93**	**243**	*e*P		**Pn**	**20 30 14.9**	**-0.2**
MOTC				*e*S		**Sn**	**20 30 50.3**	**+0.2**
MOTC				AML		AML	20 31 15.5	
	comp=Z,96nm,0.9s							
CURV	**Curarigua**	**3.03**	**92**	*e*P		**Pn**	**20 30 17.2**	**+0.6**
CURV				*e*S		**Sn**	**20 30 53.6**	**+0.9**
GIRC	**Giron, Santand**	**3.04**	**183**	*e*P		**Pn**	**20 30 16.7**	**-0.2**
BRRC	**Barranca, Sant**	**3.09**	**193**	*e*P		**Pn**	**20 30 16.8**	**-0.5**
BRRC				*i*			20 30 26.6	
	comp=Z,155nm,0.3s							
BRRC				*e*S		**Sn**	**20 30 55.1**	**+1.1**
BTLC	**Betulia, Santa**	**3.21**	**184**	*e*P		**Pn**	**20 30 19.6**	**+0.4**
SIQV	**Siquisique**	**3.21**	**81**	*e*P		**Pn**	**20 30 19.5**	**+0.4**
SIQV				*e*S		**Sn**	**20 30 57.7**	**+0.5**
SANV	**Sanarito**	**3.50**	**100**	*e*P		**Pn**	**20 30 24.1**	**+0.9**
SANV				*e*S		**Sn**	**20 31 04.7**	**+0.2**
MONV	**Montecano**	**3.51**	**59**	*e*P		**Pn**	**20 30 23.3**	**+0.2**
MONV				*e*S		**Sn**	**20 31 04.0**	**-0.4**
TEPV	**Terepaima**	**3.79**	**92**	*e*P		**Pn**	**20 30 27.8**	**+0.8**
TEPV				*e*S		**Sn**	**20 31 11.1**	**-0.3**
RUSC	**La Rusia**	**4.22**	**181**	*e*P		**Pn**	**20 30 33.5**	**+0.2**
RUSC				*i*			20 31 41.3	
	comp=Z,56nm,0.6s							
MAPV	**Macapo**	**4.52**	**93**	*e*P		**Pn**	**20 30 37.8**	**+0.7**
MAPV				*e*S		**Sn**	**20 31 27.9**	**-1.5**
ELOV	**Elorza**	**4.70**	**131**	*e*P		**Pn**	**20 30 39.7**	**+0.3**
ELOV				*e*S		**Sn**	**20 31 31.4**	**-2.3**
BAUV	**El Baul**	**5.06**	**103**	*e*P		**Pn**	**20 30 44.1**	**-0.4**
TURV	**Turiamo**	**5.12**	**86**	*e*P		**Pn**	**20 30 44.9**	**-0.4**
ROSC	**El Rosal**	**5.42**	**194**	Pn		**Pn**	**20 30 51.4**	**+1.6**
	comp=Z,7.2nm,0.3s,baz=23,slow=15,SNR=13							
ROSC				Sn		**Sn**	**20 31 57.7**	**+5.6**
	comp=Z,1.8nm,0.3s,baz=90,slow=20,SNR=1.6							
ROSC				Lg		Lg	20 32 22.0	
	comp=Z,6.0nm,0.3s,baz=15,slow=22,SNR=2.9							
BIRV	**Birongo**	**6.66**	**87**	*e*P		**Pn**	**20 31 06.2**	**-0.4**
BIRV				*e*S		**Sn**	**20 32 18.3**	**-4.0**
CUPV	**Cœpira**	**7.13**	**90**	*e*P		**Pn**	**20 31 12.1**	**-1.0**
CUPV				*e*S		**Sn**	**20 32 29.1**	**-4.9**
PCRV	**Puerto La Cruz**	**8.27**	**89**	*e*P		**Pn**	**20 31 28.4**	**-0.2**
NOA	**NORSAR Array B**	**78.42**	**30**	P		P	20 41 37.5	+8.3
	comp=Z,0.8nm,0.7s,baz=272,slow=5.8,SNR=3.1							
GERES	**GERESS Array B**	**80.31**	**42**	P		P	20 41 47.6	+7.8
	comp=Z,0.3nm,0.5s,baz=291,slow=3.0,SNR=3.7							
ASAR	**Alice Springs**	**151.00**	**239**	PKPbc		**PKPdf**	**20 49 19.4**	**+2.8**
	comp=Z,1.0nm,0.7s,baz=116,slow=4.2,SNR=5.7							
WRA	**Warramunga Arr**	**151.87**	**247**	PKPbc		**PKPbc**	**20 49 21.6**	**-2.8**
	comp=Z,1.2nm,0.4s,baz=104,slow=2.9,SNR=7.3							

*ISCJB **11** 20:29:40.2±0.9,21°.91S±0°.06×68°.7W±0°.1,h128km±9km, mb3.4/1,Error ellipse: s-maj=17.4km s-min=9.1km az=3.3*
*IDC **11** 20:29:40.7±1.2,22°.12S×68°.11W,h102km±21km,mb3.5/1, mb1 3.2/3,mb1mx3.0/29,mbtmp3.6/3,Error ellipse: s-maj=64.7km s-min=25.7km az=122.0*
*GUC **11** 20:29:41.0±0.5,21°.84S×68°.79W,h126km±4km,ML3.7*

ISC 11 20:29:41.3±1.1,21°.92S±0°.05×68°.7W±0°.1,h119km±9km, n12,σ0s76/19,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.53**	**283**	*e*P		**Pn**	**20 29 59.7**	**+0.1**
PB09				*e*S		**Sn**	**20 30 14.1**	**+0.9**
PB09				IAML			20 30 15.9	
	comp=N,4μm,0.5s							
LVC	**Limon Verde**	**0.72**	**197**	P		**Pn**	**20 30 00.9**	**-0.2**
	comp=N,3μm,0.3s,baz=26,slow=10.0,SNR=1207							
LVC				S		**Sn**	**20 30 16.0**	**-0.1**
	comp=N,4μm,0.3s,baz=72,slow=20,SNR=81							
LVC	**Limon Verde**	**0.72**	**197**	*e*P		**Pn**	**20 30 01.3**	**+0.1**
LVC				*e*S		**Sn**	**20 30 16.0**	**-0.1**
PB07	**IPOC Station P**	**1.14**	**279**	*e*P		**Pn**	**20 30 04.8**	**0.0**
PB07				*e*S		**Sn**	**20 30 22.7**	**+0.1**
PB06	**IPOC Station P**	**1.14**	**226**	*e*P		**Pn**	**20 30 05.3**	**+0.5**
PB06				*e*S		**Sn**	**20 30 23.6**	**+1.0**
PB06				IAML			20 30 24.2	
	comp=E,2μm,0.5s							
PB01	**IPOC Station P**	**1.15**	**319**	*e*P		**Pn**	**20 30 04.2**	**-0.6**
PB01				*e*S		**Sn**	**20 30 22.0**	**-0.7**
PB01				IAML			20 30 23.6	
	comp=N,2μm,0.2s							
PB04	**IPOC Station P**	**1.42**	**253**	*e*P		**Pn**	**20 30 08.1**	**+0.2**
PB04				*e*S		**Sn**	**20 30 28.2**	**+0.1**
PB04				IAML			20 30 29.5	
	comp=E,1μm,0.3s							
PB08	**IPOC Station P**	**1.82**	**346**	*e*P		**Pn**	**20 30 13.0**	**+0.1**
PB08				*e*S		**Sn**	**20 30 37.0**	**0.0**
PB08				IAML			20 30 38.0	
	comp=E,563nm,0.7s							
LPAZ	**La Paz**	**5.63**	**5**	P		**Pn**	**20 31 04.8**	**+1.5**
	comp=E,0.4nm,0.3s,baz=186,slow=5.9,SNR=7.3							
SIV	**San Ignacio**	**9.30**	**52**	P		Pn	20 31 48.3	-4.2
	comp=E,0.5nm,0.3s,baz=243,slow=12,SNR=4.6							
SIV				S		Sn	20 33 23.3	-12
	comp=E,0.1nm,0.3s,baz=255,slow=12,SNR=3.3							
TORD	**Torodi Ar. Bea**	**77.30**	**70**	P		**P**	**20 41 21.8**	**-1.5**
	comp=E,0.4nm,0.4s,baz=262,slow=5.3,SNR=3.8							
MKAR	**Makanchi Array**	**145.84**	**36**	PKPbc		**PKPdf**	**20 49 07.2**	**+1.2**
	comp=E,0.1nm,0.2s,baz=288,slow=1.4,SNR=2.4							

IDC 11 20:40:25.3±4.0,6°.39S×133°.43E,h0km,mb3.3/1, mb1 3.8/3,mb1mx3.4/32,mbtmp3.6/3,ML3.9/2,Error ellipse: s-maj=227.2km s-min=32.0km az=77.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.50**	**176**	Pn		Pn	20 43 38.4	+0.1
	0.5nm,0.3s,baz=355,slow=13,SNR=47							
WRA				Sn		Sn	20 45 58.3	-11
	0.7nm,0.3s,baz=354,slow=24,SNR=6.9							
ASAR	**Alice Springs**	**17.18**	**179**	P		Pn	20 44 27.0	0.0
	0.5nm,0.3s,baz=11,slow=12,SNR=38							
ASAR				S		Sn	20 47 23.5	-15
	0.1nm,0.3s,baz=2.1,slow=28,SNR=4.3							
MKAR	**Makanchi Array**	**69.63**	**325**	P		P	20 51 36.7	0.0
	0.2nm,0.6s,baz=128,slow=5.9,SNR=2.6							

KRSC 11 20:43:11.2±3.0,50°.44N×157°.90E,h67km±24km,ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.16**	**283**	*i* P		Pn	20 43 31.8	+0.2
SKR				*i* S		Sn	20 43 45.3	-1.5
PAU	**Pauzhetka**	**1.24**	**327**	*e*P		Pn	20 43 34.7	+2.1
PAU				*e*S		Sn	20 43 49.7	+1.1
ASAK	**Asacha**	**1.95**	**0**	*e*P		Pn	20 43 45.0	+2.9
RUS	**Russkaya**	**2.04**	**11**	*e*P		Pn	20 43 45.8	+2.6
RUS				*e*S		Sn	20 44 09.4	+1.8
KRMR	**Karymshinskiy**	**2.40**	**3**	*e*P		Pn	20 43 51.7	+3.6
KRMR				*e*S		Sn	20 44 21.1	+4.6
PET	**Petropavlovsk**	**2.63**	**10**	*e*P		Pn	20 43 54.5	+3.2
PET				*e*S		Sn	20 44 24.8	+2.7
DALK	**Dalny**	**2.65**	**11**	*e*P		Pn	20 43 54.8	+3.3
DALK				*e*S		Sn	20 44 25.2	+2.7
UGLR	**Uglovaya**	**2.84**	**11**	*e*P		Pn	20 43 57.8	+3.6
AVH	**Avacha**	**2.88**	**10**	*e*P		Pn	20 43 58.7	+4.0
AVH				S		Sn	20 44 32.7	+4.4
NLC	**Nalytchevo**	**2.88**	**18**	P		Pn	20 43 56.5	+1.8
NLC				*e*S		Sn	20 44 28.5	+0.4
SMAR	**Somma**	**2.89**	**11**	*e*P		Pn	20 43 58.6	+3.7
SDLR	**Sedlovina**	**2.91**	**12**	*e*P		Pn	20 43 58.2	+3.0
KRER	**Koryakskii**	**2.92**	**10**	*e*P		Pn	20 43 59.2	+3.8
KRX	**Arik**	**2.96**	**9**	*e*P		Pn	20 43 59.9	+4.0
GNL	**Ganaly**	**3.26**	**0**	*e*P		Pn	20 44 03.8	+3.8
MKZ	**Mys Kozlova**	**4.74**	**28**	P		Pn	20 44 23.0	+3.0
BKI	**Bering**	**6.83**	**43**	S		Sn	20 46 02.7	-2.2

*ISCJB **11** 20:44:23.3±0.4,41°.75N±0°.02×15°.96E±0°.02,h20km±2km, Error ellipse: s-maj=4.1km s-min=2.2km az=36.8*

*ROM **11** 20:44:23.3±0.1,41°.71N×15°.94E,h19km,Md2.6/44, Ml2.7/29,Error ellipse: s-maj=1.1km s-min=0.7km az=41.0*
*CSEM **11** 20:44:23.1±0.1,41°.74N×15°.95E,h20km,ML3.6/26,Error ellipse: s-maj=2.5km s-min=1.4km az=39.0*

ISC 11 20:44:23.4±0.9,41.72N±0°.03×15.95E±0°.02,h18km±2km, n101,σ0s58/183,2C,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MS1	**Monte Sant'Ang**	**0.01**	**195**	*i* Pg		**Pg**	**20 44 27.3**	**+0.6**
MS1				Sg		**Sg**	**20 44 29.9**	**+1.0**
MSAG	**Monte S. Angel**	**0.03**	**259**	⇑*i*Pg		**Pg**	**20 44 27.3**	**+0.6**
MSAG				Sg		**Sg**	**20 44 29.9**	**+0.9**
	4μm,0.2s							
MSAG	**Monte S. Angel**	**0.03**	**259**	⇑*i*Pg		**Pg**	**20 44 27.3**	**+0.6**
MSAG				Sg		**Sg**	**20 44 29.9**	**+0.9**
	4μm,0.2s							
SGRT	**San Giovanni R**	**0.16**	**284**	Pg		**Pb**	**20 44 27.9**	**+0.6**
SGRT				Sg		**Sg**	**20 44 31.0**	**+0.1**
	3μm,0.3s							
SGRT	**San Giovanni R**	**0.16**	**284**	Pg		**Pb**	**20 44 27.9**	**+0.6**
SGRT				Sg		**Sg**	**20 44 31.0**	**+0.1**
	3μm,0.3s							
CDT	**Castel del Mon**	**0.68**	**159**	*i* Pg		**Pb**	**20 44 36.5**	**-0.3**
CDT				Sg		**Sg**	**20 44 46.9**	**+1.0**
MRVN	**Minervino Murg**	**0.68**	**164**	Pg		**Pb**	**20 44 36.1**	**-0.7**
MRVN				Sg		**Sb**	**20 44 45.8**	**-0.1**
	187nm,0.3s							
MRVN	**Minervino Murg**	**0.68**	**164**	Pg		**Pb**	**20 44 36.1**	**-0.7**
MRVN				Sg		**Sb**	**20 44 45.8**	**-0.1**
	187nm,0.3s							
MOCO	**Biccari - m.te**	**0.69**	**240**	Pg		**Pb**	**20 44 36.4**	**-0.5**
MOCO				Sg		**Sg**	**20 44 45.3**	**-0.8**
	151nm,0.8s							
PALZ	**Palazzo San Ge**	**0.77**	**179**	Pg		**Pb**	**20 44 38.2**	**-0.1**
PALZ				Sg		**Sb**	**20 44 48.7**	**+0.2**
	433nm,1.3s							
PALZ	**Palazzo San Ge**	**0.77**	**179**	Pg		**Pb**	**20 44 38.2**	**-0.1**
PALZ				Sg		**Sb**	**20 44 48.7**	**+0.2**
	433nm,1.3s							
CIGN	**Sant'Elia a Pi**	**0.78**	**266**	Pg		**Pb**	**20 44 38.4**	**-0.1**
CIGN				Sg		**Sb**	**20 44 49.0**	**+0.2**
	97nm,0.4s							
CIGN	**Sant'Elia a Pi**	**0.78**	**266**	Pg		**Pb**	**20 44 38.4**	**-0.1**
CIGN				Sg		**Sb**	**20 44 49.0**	**+0.2**
	97nm,0.4s							
VULT	**Monte Vulture**	**0.80**	**198**	Pg		**Pb**	**20 44 38.6**	**-0.3**
VULT				Sg		**Sb**	**20 44 49.1**	**-0.3**
	532nm,0.3s							
VULT	**Monte Vulture**	**0.80**	**198**	Pg		**Pb**	**20 44 38.6**	**-0.3**
VULT				Sg		**Sb**	**20 44 49.1**	**-0.3**
	532nm,0.3s							
GATE	**Gambatesa**	**0.80**	**256**	Pg		**Pb**	**20 44 39.2**	**+0.3**
GATE				Sg		**Sb**	**20 44 49.9**	**+0.5**
	171nm,0.3s							
GATE	**Gambatesa**	**0.80**	**256**	Pg		**Pb**	**20 44 39.2**	**+0.3**
GATE				Sg		**Sb**	**20 44 49.9**	**+0.5**
	171nm,0.3s							
CAFE	**Carife**	**0.87**	**218**	Pg		**Pb**	**20 44 39.5**	**-0.6**
CAFE				Sg		**Sb**	**20 44 51.6**	**+0.2**
	934nm,0.2s							
CAFE	**Carife**	**0.87**	**218**	Pg		**Pb**	**20 44 39.5**	**-0.6**
CAFE				Sg		**Sb**	**20 44 51.6**	**+0.2**
	934nm,0.2s							
BAI	**Bari**	**0.93**	**131**	*i* Pg		**Pb**	**20 44 40.8**	**-0.2**
BAI				Sg		**Sg**	**20 44 54.4**	**+0.6**
ACER	**Acerenza**	**0.93**	**180**	Pg		**Pb**	**20 44 41.1**	**+0.1**
ACER				Sg		**Sb**	**20 44 52.9**	**-0.2**
	336nm,0.4s							
ACER	**Acerenza**	**0.93**	**180**	Pg		**Pb**	**20 44 41.1**	**+0.1**
ACER				Sg		**Sb**	**20 44 52.9**	**-0.2**
	336nm,0.4s							
MRB1	**Monte Rocchett**	**0.94**	**231**	Pg		**Pb**	**20 44 40.8**	**-0.4**
MRB1				Sg		**Sb**	**20 44 54.1**	**+0.7**
	126nm,0.4s							
MRB1	**Monte Rocchett**	**0.94**	**231**	Pg		**Pb**	**20 44 40.8**	**-0.4**
MRB1				Sg		**Sb**	**20 44 54.1**	**+0.7**
	126nm,0.4s							
AMUR	**Altamura**	**0.95**	**148**	Pg		**Pb**	**20 44 40.7**	**-0.7**
AMUR				Sg		**Sb**	**20 44 53.5**	**-0.1**
	121nm,0.4s							
AMUR	**Altamura**	**0.95**	**148**	Pg		**Pb**	**20 44 40.7**	**-0.7**
AMUR				Sg		**Sb**	**20 44 53.5**	**-0.1**
	121nm,0.4s							
SNAL	**S. Angelo Dei**	**0.97**	**215**	Pg		**Pb**	**20 44 40.6**	**-1.1**
SNAL				Sg		**Sb**	**20 44 54.1**	**0.0**
SNAL	**S. Angelo Dei**	**0.97**	**215**	Pg		**Pb**	**20 44 40.6**	**-1.1**
SNAL				Sg		**Sb**	**20 44 54.1**	**0.0**
SACR	**S. Croce Del S**	**0.98**	**251**	Pg		**Pb**	**20 44 41.4**	**-0.6**
SACR				Sg		**Sb**	**20 44 55.2**	**+0.5**
SACR	**S. Croce Del S**	**0.98**	**251**	Pg		**Pb**	**20 44 41.4**	**-0.6**
SACR				Sg		**Sb**	**20 44 55.2**	**+0.5**
PSB1	**Pescosannita**	**0.99**	**240**	Pg		**Pb**	**20 44 41.4**	**-0.6**
PSB1				Sg		**Sb**	**20 44 54.6**	**-0.1**
PSB1	**Pescosannita**	**0.99**	**240**	Pg		**Pb**	**20 44 41.4**	**-0.6**
PSB1				Sg		**Sb**	**20 44 54.6**	**-0.1**
FRES	**Fresagrandinar**	**0.99**	**285**	Pg		**Pb**	**20 44 41.5**	**-0.5**
FRES				Sg		**Sb**	**20 44 54.9**	**+0.2**
FRES	**Fresagrandinar**	**0.99**	**285**	Pg		**Pb**	**20 44 41.5**	**-0.5**
FRES				Sg		**Sb**	**20 44 54.9**	**+0.2**
MRLC	**Muro Lucano**	**1.02**	**200**	Pg		**Pb**	**20 44 42.1**	**-0.5**
MRLC				Sg		**Sb**	**20 44 56.6**	**+1.0**
	133nm,0.3s							
MRLC	**Muro Lucano**	**1.02**	**200**	Pg		**Pb**	**20 44 42.1**	**-0.5**
MRLC				Sg		**Sb**	**20 44 56.6**	**+1.0**
	133nm,0.3s							
BSSO	**Busso**	**1.03**	**261**	Pg		**Pb**	**20 44 42.1**	**-0.7**
BSSO				Sg		**Sb**	**20 44 56.0**	**+0.1**
BSSO	**Busso**	**1.03**	**261**	Pg		**Pb**	**20 44 42.1**	**-0.7**
BSSO				Sg		**Sb**	**20 44 56.0**	**+0.1**
SG1	**Sgolgore (BA)**	**1.04**	**148**	*i* Pg		**Pb**	**20 44 42.7**	**-0.1**
SG1				Sg		**Sb**	**20 44 56.4**	**+0.3**
TRIV	**Trivento**	**1.05**	**273**	Pg		**Pb**	**20 44 42.6**	**-0.4**
TRIV				Sg		**Sg**	**20 44 57.6**	**+0.1**
	146nm,0.6s							
TRIV	**Trivento**	**1.05**	**273**	Pg		**Pb**	**20 44 42.6**	**-0.4**
TRIV				Sg		**Sg**	**20 44 57.6**	**+0.1**
	146nm,0.6s							
MCRV	**Calabrutti - M**	**1.10**	**212**	Pg		**Pb**	**20 44 42.7**	**-1.3**
MCRV				Sg		**Sb**	**20 44 57.9**	**-0.2**
	89nm,0.3s							
MCRV	**Calabrutti - M**	**1.10**	**212**	Pg		**Pb**	**20 44 42.7**	**-1.3**
MCRV				Sg		**Sb**	**20 44 57.9**	**-0.2**
	89nm,0.3s							
PTRJ	**Pietraroja**	**1.12**	**252**	Pg		**Pn**	**20 44 43.3**	**-1.0**
PTRJ				Sg		**Sb**	**20 44 58.5**	**-0.1**
	174nm,0.3s							
PTRJ	**Pietraroja**	**1.12**	**252**	Pg		**Pn**	**20 44 43.3**	**-1.0**
PTRJ				Sg		**Sb**	**20 44 58.5**	**-0.1**
	174nm,0.3s							
MIGL	**Miglionico**	**1.17**	**161**	Pg		**Pn**	**20 44 45.1**	**+0.1**
MIGL				Sg		**Sb**	**20 45 00.4**	**+0.4**
MIGL	**Miglionico**	**1.17**	**161**	Pg		**Pn**	**20 44 45.1**	**+0.1**
MIGL				Sg		**Sb**	**20 45 00.4**	**+0.4**
MATE	**Matera**	**1.21**	**152**	Pg		**Pn**	**20 44 45.6**	**+0.2**
MATE				Sg		**Sn**	**20 45 02.2**	**+0.9**
	96nm,0.2s							
MATE	**Matera**	**1.21**	**152**	Pg		**Pn**	**20 44 45.6**	**+0.2**
MATE				Sg		**Sn**	**20 45 02.2**	**+0.9**
	96nm,0.2s							
PAOL	**Paolisi**	**1.24**	**237**	Pg		**Pn**	**20 44 45.4**	**-0.6**
PAOL				Sg		**Sb**	**20 45 02.4**	**+0.3**
	40nm,0.4s							
PAOL	**Paolisi**	**1.24**	**237**	Pg		**Pn**	**20 44 45.4**	**-0.6**
PAOL				Sg		**Sb**	**20 45 02.4**	**+0.3**
	40nm,0.4s							
NOCI	**Noci**	**1.25**	**137**	Pg		**Pn**	**20 44 45.3**	**-0.8**
NOCI				Sg		**Sb**	**20 45 02.9**	**+0.6**
	142nm,0.2s							
NOCI	**Noci**	**1.25**	**137**	Pg		**Pn**	**20 44 45.3**	**-0.8**
NOCI				Sg		**Sb**	**20 45 02.9**	**+0.6**
	142nm,0.2s							
MIDA	**Miranda**	**1.27**	**267**	Pg		**Pb**	**20 44 47.1**	**+0.2**
MIDA				Sg		**Sb**	**20 45 03.1**	**+0.2**
MIDA	**Miranda**	**1.27**	**267**	Pg		**Pb**	**20 44 47.1**	**+0.2**
MIDA				Sg		**Sb**	**20 45 03.1**	**+0.2**
LTRZ	**Laterza**	**1.29**	**149**	Pg		**Pn**	**20 44 46.9**	**+0.3**
LTRZ				Sg		**Sb**	**20 45 04.8**	**+1.3**
	20μm,12.0s							
LTRZ	**Laterza**	**1.29**	**149**	Pg		**Pn**	**20 44 46.9**	**+0.3**
LTRZ				Sg		**Sb**	**20 45 04.8**	**+1.3**
	20μm,12.0s							
CDRU	**Civita di Ruta**	**1.32**	**202**	Pg		**Pn**	**20 44 46.9**	**-0.1**
CDRU				Sg		**Sb**	**20 45 05.4**	**+1.1**
	32nm,0.3s							
CDRU	**Civita di Ruta**	**1.32**	**202**	Pg		**Pn**	**20 44 46.9**	**-0.1**
CDRU				Sg		**Sb**	**20 45 05.4**	**+1.1**
	32nm,0.3s							
VAGA	**Valle Agricola**	**1.32**	**257**	Pg		**Pn**	**20 44 46.7**	**-0.3**
VAGA				Sg		**Sb**	**20 45 04.7**	**+0.4**
	91nm,0.3s							
VAGA	**Valle Agricola**	**1.32**	**257**	Pg		**Pn**	**20 44 46.7**	**-0.3**
VAGA				Sg		**Sb**	**20 45 04.7**	**+0.4**
	91nm,0.3s							
RNI2	**Rionero Sannit**	**1.34**	**270**	Pg		**Pn**	**20 44 47.0**	**-0.4**
RNI2				Sg		**Sn**	**20 45 05.1**	**+0.3**
RNI2	**Rionero Sannit**	**1.34**	**270**	Pg		**Pn**	**20 44 47.0**	**-0.4**
RNI2				Sg		**Sn**	**20 45 05.1**	**+0.3**
SLCN	**Sala Consilina**	**1.35**	**190**	Pg		**Pn**	**20 44 47.7**	**+0.3**
SLCN				Sg		**Sb**	**20 45 05.7**	**+0.6**
	71nm,0.5s							
SLCN	**Sala Consilina**	**1.35**	**190**	Pg		**Pn**	**20 44 47.7**	**+0.3**
SLCN				Sg		**Sb**	**20 45 05.7**	**+0.6**
	71nm,0.5s							
LPEL	**Lama dei Pelig**	**1.36**	**285**	Pg		**Pn**	**20 44 47.5**	**0.0**
LPEL				Sg		**Sb**	**20 45 06.6**	**+1.2**
	84nm,0.3s							
LPEL	**Lama dei Pelig**	**1.36**	**285**	Pg		**Pn**	**20 44 47.5**	**0.0**
LPEL				Sg		**Sb**	**20 45 06.6**	**+1.2**
	84nm,0.3s							
MCEL	**Monticello**	**1.40**	**185**	Pg		**Pn**	**20 44 48.3**	**+0.2**
MCEL				Sg		**Sn**	**20 45 06.7**	**+0.6**
MCEL	**Monticello**	**1.40**	**185**	Pg		**Pn**	**20 44 48.3**	**+0.2**
MCEL				Sg		**Sn**	**20 45 06.7**	**+0.6**
CRAC	**Craco**	**1.40**	**165**	Pg		**Pb**	**20 44 49.2**	**+0.1**
CRAC				Sg		**Sb**	**20 45 07.2**	**+0.6**
	4μm,0.4s							
CRAC	**Craco**	**1.40**	**165**	Pg		**Pb**	**20 44 49.2**	**+0.1**
CRAC				Sg		**Sb**	**20 45 07.2**	**+0.6**
	4μm,0.4s							
CERA	**Filignano**	**1.45**	**266**	Pg		**Pn**	**20 44 49.4**	**+0.6**
CERA	**Filignano**	**1.45**	**266**	Pg		**Pn**	**20 44 49.4**	**+0.6**
CMPR	**Campora**	**1.48**	**199**	Pg		**Pn**	**20 44 49.6**	**+0.4**
CMPR	**Campora**	**1.48**	**199**	Pg		**Pn**	**20 44 49.6**	**+0.4**
SCHR	**S. Chirico Rap**	**1.52**	**176**	Pg		**Pn**	**20 44 50.1**	**+0.3**
SCHR				Sg		**Sn**	**20 45 09.8**	**+0.7**
SIRI	**Monte Sirino -**	**1.54**	**182**	Pg		**Pn**	**20 44 49.8**	**-0.2**
SIRI				Sg		**Sn**	**20 45 10.0**	**+0.5**
SIRI	**Monte Sirino -**	**1.54**	**182**	Pg		**Pn**	**20 44 49.8**	**-0.2**
SIRI				Sg		**Sn**	**20 45 10.0**	**+0.5**
INTR	**Introdacqua**	**1.55**	**282**	Pg		**Pn**	**20 44 51.0**	**+0.7**
INTR				Sg		**Sn**	**20 45 10.0**	**0.0**
	80nm,0.6s							
INTR	**Introdacqua**	**1.55**	**282**	Pg		**Pn**	**20 44 51.0**	**+0.7**
INTR				Sg		**Sn**	**20 45 10.0**	**0.0**
	80nm,0.6s							
TAR1	**Taranto**	**1.56**	**139**	*e*Pg		**Pb**	**20 44 52.0**	**+0.2**
POFI	**Posta Fibreno**	**1.67**	**271**	Pg		**Pn**	**20 44 51.9**	**0.0**
POFI	**Posta Fibreno**	**1.67**	**271**	Pg		**Pn**	**20 44 51.9**	**0.0**
VCEL	**Villa Celiera**	**1.71**	**294**	Pg		**Pn**	**20 44 52.7**	**+0.3**
VCEL				Sg		**Sn**	**20 45 14.8**	**+1.0**
	43nm,0.5s							
VCEL	**Villa Celiera**	**1.71**	**294**	Pg		**Pn**	**20 44 52.7**	**+0.3**
VCEL				Sg		**Sn**	**20 45 14.8**	**+1.0**
	43nm,0.5s							
CUC	**Castrocucco**	**1.73**	**183**	Pg		**Pn**	**20 44 52.7**	**+0.1**
CUC	**Castrocucco**	**1.73**	**183**	Pg		**Pn**	**20 44 52.7**	**+0.1**
VVLD	**Villa Vallelon**	**1.75**	**276**	Pg		**Pn**	**20 44 53.7**	**+0.8**
VVLD				Sg		**Sn**	**20 45 15.5**	**+0.8**
	30nm,0.5s							
VVLD	**Villa Vallelon**	**1.75**	**276**	Pg		**Pn**	**20 44 53.

ASAO	**Ashtian**	**3.85**	**355**	*e*Pn	**Pn**	**21 04 12.5**	**+0.6**
IKOM	**Komasi**	**4.27**	**325**	*e*Pn	**Pn**	**21 04 19.4**	**+1.9**
IKOM				*e*AMB	AMB	21 05 50.2	
	comp=Z,2μm,0.4s						
IKOM	**Komasi**	**4.27**	**325**	*e*Pn	**Pn**	**21 04 19.4**	**+1.9**
IBAF	**Bafgh**	**4.46**	**77**	*e*Pn	**Pn**	**21 04 21.9**	**+1.7**
IBAF				*e*AMB	AMB	21 05 42.4	
	comp=Z,891nm,0.5s						
IBAF	**Bafgh**	**4.46**	**77**	*e*Pn	**Pn**	**21 04 21.9**	**+1.7**
IVIS	**Veis**	**4.88**	**322**	*e*Pn	**Pn**	**21 04 27.2**	**+1.3**
IVIS				*e*AMB	AMB	21 05 32.5	
	comp=Z,571nm,0.3s						
IVIS	**Veis**	**4.88**	**322**	*e*Pn	**Pn**	**21 04 27.2**	**+1.3**
BOQSS		**4.92**	**192**	P	**Pn**	**21 04 30.1**	**+3.8**
SNGE	**Sanandaj**	**5.10**	**330**	*e*Pn	**Pn**	**21 04 31.0**	**+2.0**
SNGE	**Sanandaj**	**5.10**	**330**	*e*Pn	**Pn**	**21 04 31.0**	**+2.0**
SLWS		**5.89**	**178**	P	Pn	21 04 44.8	+5.1
ASYS		**6.24**	**241**	P	**Pn**	**21 04 46.6**	**+2.1**
BTHS		**6.64**	**177**	P	**Pn**	**21 04 52.9**	**+2.9**
GEYT	**Alibeck**	**9.58**	**39**	Pn	**Pn**	**21 05 29.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=224,slow=12,SNR=13						
WSAR	**Wadi Sarin**	**10.40**	**134**	Pn	**Pn**	**21 05 41.2**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=320,slow=8.8,SNR=12						
WSAR				Sn	**Sn**	**21 07 31.5**	**-6.0**
	comp=Z,0.6nm,0.3s,baz=173,slow=14,SNR=4.7						
ASF	**Jabal al Asfar**	**11.68**	**281**	Pn	**Pn**	**21 05 56.0**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=58,slow=7.2,SNR=2.0						
ASF				Sn	**Sn**	**21 08 02.4**	**-6.5**
	comp=Z,0.1nm,0.3s,baz=43,slow=10,SNR=2.7						
MMAI	**Mount Meron Ar**	**13.01**	**284**	Pn	**Pn**	**21 06 19.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=78,slow=14,SNR=3.1						
BRTR	**Keskin Array B**	**16.41**	**308**	Pn	**Pn**	**21 07 02.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=123,slow=9.1,SNR=12						
AKTO	**Aktyubinsk**	**20.50**	**14**	P	**P**	**21 07 50.2**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=182,slow=12,SNR=3.4						
AKTO				LR	LR	21 17 38.5	
	comp=Z,25nm,20.3s,baz=175,slow=42						
IDI	**Anoyia**	**21.91**	**289**	P	**P**	**21 08 06.2**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=75,slow=6.6,SNR=6.7						
AAK	**Ala-Archa**	**22.57**	**52**	P	**P**	**21 08 13.8**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=279,slow=7.2,SNR=2.2						
MLR	**Mumtele Rosu**	**24.17**	**315**	P	**P**	**21 08 29.9**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=94,slow=2.9,SNR=5.5						
AKASG	**Malin Array Be**	**25.49**	**328**	P	**P**	**21 08 39.1**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=132,slow=8.9,SNR=7.0						
BVAR	**Borovoye Array**	**26.61**	**27**	P	**P**	**21 08 51.0**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=227,slow=7.7,SNR=19						
KURBB	**Kurchatov Arra**	**28.86**	**38**	P	**P**	**21 09 11.3**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=240,slow=9.3,SNR=5.5						
MKAR	**Makanchi Array**	**29.31**	**48**	P	**P**	**21 09 15.3**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=243,slow=10,SNR=3.9						
MKAR				LR	LR	21 22 41.7	
	comp=Z,55nm,18.5s,baz=205,slow=40						
MOA	**Molln**	**32.47**	**312**	*e*P	**P**	**21 09 42.3**	**0.0**
	comp=Z,3.6nm,1.4s						
GERES	**GERESS Array B**	**33.15**	**314**	P	**P**	**21 09 46.7**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=117,slow=10.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**33.88**	**37**	P	**P**	**21 09 54.0**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=249,slow=7.8,SNR=8.8						
ZALV				LR	LR	21 25 43.6	
	comp=Z,34nm,18.7s,baz=252,slow=40						
MOTA	**Moosalm**	**34.37**	**310**	*i* P	**P**	**21 09 58.8**	**-0.2**
	comp=Z,3.4nm,0.7s						
FINES	**FINESS Array B**	**34.66**	**340**	P	**P**	**21 10 00.4**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=142,slow=8.7,SNR=14						
DAVA	**Damuels**	**35.17**	**310**	*e*P	**P**	**21 10 05.2**	**-0.7**
	comp=Z,4.3nm,0.5s						
NOA	**NORSAR Array B**	**39.78**	**331**	P	**P**	**21 10 43.1**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=109,slow=9.4,SNR=2.8						
TLY	**Talaya**	**44.03**	**46**	LR	LR	21 31 31.9	
	comp=Z,48nm,19.1s,baz=249,slow=39						
NRIK	**Noril'sk**	**44.04**	**18**	LR	LR	21 33 25.6	
	comp=Z,29nm,19.6s,baz=260,slow=41						
CMAR	**Chiang Mai Arr**	**45.42**	**94**	P	**P**	**21 11 30.1**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=285,slow=7.0,SNR=3.9						
CMAR				LR	LR	21 32 20.2	
	comp=Z,21nm,18.1s,baz=160,slow=38						
TORD	**Torodi Ar. Bea**	**46.10**	**260**	P	**P**	**21 11 52.9**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=58,slow=8.5,SNR=20						
DBIC	**Dimbokro**	**56.95**	**257**	LR	LR	21 41 27.1	
	comp=Z,29nm,19.1s,baz=60,slow=40						
KSRS	**Korea Array**	**62.83**	**61**	P	**P**	**21 13 37.8**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=273,slow=6.5,SNR=6.1						

*IDC **11** 21:16:47.2±1.3, 37.00N×140.89E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/39, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=28.8km s-min=20.3km az=111.0*
*ISCJB **11** 21:16:48.4±1.8, 37.07N±0.03×140.78E±0.05, h15km±13km, mb3.6/3, Error ellipse: s-maj=6.6km s-min=4.3km az=25.2*
*JMA **11** 21:16:48.6, 37.10N×140.69E, h9km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕs=14.00000°, δ49.00000°, λ-107.00000°. NP2: ϕs219.00000°, δ43.00000°, λ-71.00000°. Principal axes: T Plg3.0000°, Azm116.0000°; N Plg13.0000°, Azm25.0000°; P Plg77.0000°, Azm219.0000°;*
JMA Felt II J1.

ISC 11 21:16:48.6±0.9, 37.09N±0.03×140.72E±0.04, h11km±6km, n17, σ0s60/23, mb3.5/3, 6C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.06**	**82**	⇑P	**Pg**	**21 16 50.8**	**-0.1**
ONAJ				S	**Sg**	**21 16 52.4**	**-0.2**
JFK	**Kawauchi**	**0.30**	**24**	⇑P	**Pg**	**21 16 54.7**	**0.0**
JFK				S	**Sg**	**21 16 58.9**	**+0.2**
JHO	**Hitachi**	**0.50**	**195**	P	**Pg**	**21 16 57.7**	**-0.6**
JHO				S	**Sg**	**21 17 04.8**	**-0.1**
JFT	**Otama**	**0.53**	**324**	⇑P	**Pg**	**21 16 58.7**	**-0.2**
JFT				S	**Sg**	**21 17 05.6**	**-0.2**
JSB	**Shiboa**	**0.66**	**259**	⇑P	**Pg**	**21 17 01.6**	**+0.2**
JSB				S	**Sg**	**21 17 10.4**	**+0.4**
JMM	**Marumori**	**0.77**	**4**	⇑P	**Pg**	**21 17 03.0**	**-0.6**
JMM				S	**Sg**	**21 17 13.6**	**-0.1**
JFY	**Yanaizu**	**0.87**	**291**	⇑P	**Pg**	**21 17 04.9**	**-0.6**
JFY				S	**Sg**	**21 17 15.9**	**-0.9**
MJAR	**Matsushiro Arr**	**2.09**	**255**	Pn	**Pn**	**21 17 24.7**	**+1.0**
	6.0nm,0.3s,baz=78,slow=15,SNR=44						
MJAR				Sn	**Sb**	**21 17 52.1**	**-0.6**
	12nm,0.3s,baz=79,slow=31,SNR=15						
MAT	**Matsushiro**	**2.09**	**256**	P	**Pn**	**21 17 24.8**	**+1.1**
MAT				S	**Sb**	**21 17 53.2**	**+0.5**
JHJ	**Hachijo jima 2**	**4.04**	**191**	Pn	**Pn**	**21 17 51.5**	**+1.0**
	2.3nm,0.3s,baz=253,slow=19,SNR=2.3						
JHJ				Sn	**Sn**	**21 18 37.2**	**-0.6**
	2.3nm,0.3s,baz=233,slow=20,SNR=2.7						
KSRS	**Korea Array**	**10.21**	**276**	Pn	Pn	21 19 21.4	+6.3
	0.2nm,0.3s,baz=92,slow=12,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	21 53 28.7	
	baz=314,slow=76,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	21 53 27.5	
	baz=314,slow=76,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**29.37**	**122**	T	T	21 53 28.8	
	baz=314,slow=76,SNR=5.5						
ILAR	**Eielson Array**	**49.74**	**32**	P	**P**	**21 25 40.7**	**+0.1**
	0.3nm,1.0s,baz=256,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**57.05**	**187**	P	**P**	**21 26 34.1**	**-0.6**
	1.1nm,0.7s,baz=4.7,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**60.77**	**187**	P	**P**	**21 27 00.4**	**-0.3**
	0.3nm,0.8s,baz=10.0,slow=9.4,SNR=4.2						

*ISCJB **11** 21:24:24.6±0.4, 39.15N±0.03×29.06E±0.03, h9km±4km, Error ellipse: s-maj=4.8km s-min=3.5km az=173.6*
*CSEM **11** 21:24:24.5±0.1, 39.15N×29.06E, h10km, MD2.7, Error ellipse: s-maj=2.9km s-min=2.4km az=15.0*
*ISK **11** 21:24:24.2, 39.17N×29.04E, h9km, MD2.8*
*DDA **11** 21:24:24.3, 39.14N×29.07E, h10km, Md2.7*

ISC 11 21:24:24.5±0.9, 39.16N±0.02×29.06E±0.02, h14km±8km, n39, σ0s49/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**247**	P	**Pg**	**21 24 30.8**	**+0.1**
DEMI				S	**Sg**	**21 24 35.0**	**+0.2**
DEMI	**Demirci**	**0.29**	**247**	*i* P	**Pg**	**21 24 30.8**	**+0.1**
DEMI				*i* S	**Sg**	**21 24 35.0**	**+0.2**
GEDZ	**Gediz**	**0.29**	**112**	*e*PG	**Pg**	**21 24 30.6**	**-0.1**
GEDZ				*e*SG	**Sb**	**21 24 36.5**	**+0.2**
GEDZ	**Gediz**	**0.29**	**112**	*e*Pg	**Pg**	**21 24 30.6**	**-0.1**
GEDZ				*e*Sg	**Sb**	**21 24 36.5**	**+0.2**
GDZ	**Gediz**	**0.33**	**101**	P	**Pg**	**21 24 31.0**	**-0.4**
GDZ				*i* P	**Pg**	**21 24 31.0**	**-0.4**
GDZ				*i* S	**Sg**	**21 24 36.0**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**46**	*e*PG	**Pg**	**21 24 33.2**	**+0.2**
TVSB				*e*SG	**Sg**	**21 24 38.5**	**-0.4**
TVSB	**Tavsanli**	**0.43**	**46**	*e*Pg	**Pg**	**21 24 33.2**	**+0.2**
TVSB				*e*Sg	**Sg**	**21 24 38.5**	**-0.4**
DST	**Dursunbey**	**0.56**	**323**	*e*PG	**Pg**	**21 24 35.4**	**-0.2**
DST	**Dursunbey**	**0.56**	**323**	*e*Pg	**Pg**	**21 24 35.4**	**-0.2**
KULA	**Kula-Manisa**	**0.71**	**206**	*e*PG	**Pb**	**21 24 38.6**	**-0.1**
MANT	**Manisa**	**0.77**	**211**	P	**Pg**	**21 24 39.5**	**0.0**
MANT				S	**Sg**	**21 24 49.5**	**-0.2**
MANT	**Manisa**	**0.77**	**211**	*i* P	**Pg**	**21 24 39.5**	**0.0**
MANT				*i* S	**Sg**	**21 24 49.5**	**-0.2**
KHL	**Karahalli**	**0.91**	**156**	*e*PG	**Pg**	**21 24 41.8**	**-0.3**
KHL	**Karahalli**	**0.91**	**156**	*e*Pg	**Pg**	**21 24 41.8**	**-0.3**
BALB	**Balikesir**	**1.04**	**298**	*e*PG	**Pn**	**21 24 44.8**	**+0.2**
BALB				*e*SG	**Sn**	**21 24 59.1**	**+0.2**
IGD	**Bursa**	**1.11**	**5**	*i* P	**Pb**	**21 24 45.7**	**+0.2**
IGD				*i* S	**Sg**	**21 25 00.3**	**-0.1**
CAVI	**Cavuskoy**	**1.21**	**30**	*e*PN	**Pg**	**21 24 47.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.22**	**354**	*e*PN	**Pn**	**21 24 47.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.22**	**354**	*e*Pn	**Pn**	**21 24 47.5**	**+0.4**
IZI	**Iznik**	**1.22**	**15**	*e*PN	**Pg**	**21 24 48.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.23**	**334**	*e*PN	**Pb**	**21 24 48.0**	**+0.4**
KCTX	**Karacabey (Bur**	**1.23**	**334**	*e*Pn	**Pb**	**21 24 48.0**	**+0.4**
BALY	**Balya**	**1.26**	**298**	P	**Pg**	**21 24 49.1**	**+0.3**
BALY				S	**Sb**	**21 25 02.6**	**-1.6**
BALY	**Balya**	**1.26**	**298**	*i* P	**Pg**	**21 24 49.1**	**+0.3**
BALY				*i* S	**Sb**	**21 25 02.6**	**-1.6**
ADVT	**Abdulvahap**	**1.38**	**22**	*e*PN	**Pb**	**21 24 50.3**	**+0.3**
GONE	**Gonen-Balikesi**	**1.39**	**310**	*e*PN	**Pb**	**21 24 50.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.39**	**310**	*e*Pn	**Pb**	**21 24 50.3**	**+0.1**
ARMT	**Armutlu**	**1.42**	**354**	*e*PN	**Pn**	**21 24 50.3**	**+0.4**
ARMT	**Armutlu**	**1.42**	**354**	*e*Pn	**Pn**	**21 24 50.3**	**+0.4**
ESKT	**Eskisehir**	**1.43**	**75**	*i* P	**Pn**	**21 24 50.3**	**+0.1**
ESKT				*i* S	**Sg**	**21 25 10.1**	**-0.6**
SEYT	**Eskypehyr**	**1.43**	**75**	P	**Pn**	**21 24 50.3**	**+0.2**
SEYT				S	**Sg**	**21 25 10.1**	**-0.6**
EDC	**Edincik**	**1.51**	**323**	*e*PN	**Pn**	**21 24 51.9**	**+0.8**
EDC	**Edincik**	**1.51**	**323**	*e*Pn	**Pn**	**21 24 51.9**	**+0.8**
KNL	**Bal¨¨kesir**	**1.63**	**314**	*i* P	**Pg**	**21 24 55.2**	**-0.5**
KNL				*i* S	**Sg**	**21 25 16.1**	**-0.8**
GULT	**Gulveren**	**1.70**	**41**	*e*PN	**Pn**	**21 24 54.4**	**+0.7**
URLA	**Izmir**	**2.09**	**248**	P	**Pn**	**21 24 59.7**	**+0.6**
URLA	**Izmir**	**2.09**	**248**	*i* P	**Pn**	**21 24 59.7**	**+0.6**
BOZC	**Bozcaada**	**2.43**	**287**	*i* P	Pg	21 25 20.4	+9.4
BOZC				*i* S	Sn	21 25 24.8	-8.4

IDC 11 21:24:34.2±9.1, 3.86S×101.71E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/40, mbtmp3.6/3, Error ellipse: s-maj=468.3km s-min=27.9km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**29.30**	**261**	T	T	22 00 47.3	
	baz=79						
H08S3	**Diego Garcia H**	**29.31**	**261**	T	T	22 00 47.3	
	baz=79						
H08S1	**Diego Carcia H**	**29.32**	**261**	T	T	22 00 46.5	
	baz=79						
ASAR	**Alice Springs**	**36.79**	**125**	P	P	21 31 44.6	+0.5
	0.1nm,0.3s,baz=301,slow=7.5,SNR=7.7						
MKAR	**Makanchi Array**	**53.27**	**343**	P	P	21 33 55.4	+0.5
	0.4nm,0.4s,baz=155,slow=9.2,SNR=5.4						
ZALV	**Zalesovo Beam**	**59.31**	**348**	P	P	21 34 37.9	+0.1
	0.6nm,0.4s,baz=152,slow=6.3,SNR=2.5						
TXAR	**Lajitas Array**	**145.06**	**41**	PKPbc	PKPbc	21 44 11.4	-2.4
	0.3nm,0.4s,baz=288,slow=1.1,SNR=8.3						

*IDC **11** 21:36:38.4±7.3, 14.41S×167.19E, h112km±75km, mb3.8/7, mb1 3.9/8, mb1mx3.6/34, mbtmp4.2/8, ML3.6/1, Error ellipse: s-maj=73.4km s-min=29.8km az=153.0*
*ISCJB **11** 21:36:39.9±0.6, 14.66S±0.07×167.35E±0.1, h150km, mb4.0/12, Error ellipse: s-maj=14.0km s-min=9.1km az=8.8*
*NEIC **11** 21:36:39.3±3.0, 14.50S×167.36E, h130km±30km, mb4.2/7, Error ellipse: s-maj=23.8km s-min=10.9km az=174.0*

ISC 11 21:36:40.8±0.8, 14.68S±0.09×167.4E±0.1, h150km, n16, σ0s80/16, mb4.1/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.41**	**187**	P	**Pn**	**21 38 27.4**	**+0.9**
	1.0nm,0.3s,baz=113,slow=22,SNR=10						
DZM				S	**Sn**	**21 39 48.9**	**-0.6**
	0.3nm,0.3s,baz=139,slow=19,SNR=2.3						
EIDS	**Eidsvold**	**18.67**	**233**	*e*P	**Pn**	**21 40 48.8**	**-0.7**
	15nm,0.7s						
RAO	**Raoul Island**	**19.84**	**139**	*e*P	**Pn**	**21 41 02.1**	**-1.1**
	282nm,0.6s						
CTA	**Charters Tower**	**20.91**	**252**	P	**P**	**21 41 11.7**	**0.0**
	5.3nm,0.8s,baz=67,slow=13,SNR=3.6						
STKA	**Stephens Creek**	**29.15**	**230**	P	**P**	**21 42 29.3**	**+1.4**
	4.4nm,0.8s,baz=58,slow=9.8,SNR=15						
WRA	**Warramunga Arr**	**31.99**	**256**	P	**P**	**21 42 51.9**	**-1.2**
	1.5nm,0.7s,baz=82,slow=7.1,SNR=7.9						
ASAR	**Alice Springs**	**32.84**	**249**	P	**P**	**21 42 59.8**	**-0.7**
	3.3nm,0.8s,baz=77,slow=9.4,SNR=42						
FITZ	**Fitzroy Crossi**	**40.18**	**259**	P	**P**	**21 44 02.8**	**+0.1**
	6.5nm,0.9s,baz=73,slow=9.6,SNR=6.3						
MAJO	**Matsushiro**	**57.94**	**332**	*e*P	**P**	**21 46 16.5**	**-0.9**
	0.9nm,0.4s						
CHTO	**Chiang Mai**	**75.20**	**294**	*e*P	**P**	**21 48 07.8**	**+0.4**
	0.7nm,0.6s						
CMB	**Columbia Colle**	**85.45**	**49**	*e*P	**P**	**21 49 01.9**	**+0.1**
	2.8nm,0.4s						
LSA	**Lhasa**	**85.67**	**302**	*e*P	**P**	**21 49 03.9**	**+0.3**
	0.6nm,0.5s						
ILAR	**Eielson Array**	**86.43**	**18**	P	**P**	**21 49 06.5**	**+0.6**
	0.3nm,0.7s,baz=232,slow=4.5,SNR=4.5						
HWUT	**Hardware Ranch**	**93.04**	**48**	*e*P	**P**	**21 49 37.6**	**-0.2**
	0.9nm,0.5s						
WALA	**Waterton Lakes**	**93.69**	**40**	*e*P	**P**	**21 49 40.6**	**+0.1**
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**97.28**	**316**	P	Pdif	21 49 58.3	+1.5
	0.6nm,0.7s,baz=108,slow=5.2,SNR=4.2						

*ISCJB **11** 21:42:23.3±0.5, 39.14N±0.05×29.07E±0.04, h4km±9km, Error ellipse: s-maj=8.3km s-min=4.3km az=154.4*
*CSEM **11** 21:42:23.5±0.1, 39.13N×29.09E, h8km, MD2.8, Error ellipse: s-maj=1.9km s-min=1.4km az=143.0*
*DDA **11** 21:42:23.6, 39.12N×29.07E, h7km, Md2.4*
*ISK **11** 21:42:23.0, 39.15N×29.11E, h7km, MD2.8*

ISC 11 21:42:23.7±1.0, 39.15N±0.03×29.08E±0.02, h7km±12km, n33, σ0s29/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.28**	**112**	*e*PG	**Pg**	**21 42 28.7**	**-0.5**
GEDZ	**Gediz**	**0.28**	**112**	*e*Pg	**Pg**	**21 42 28.7**	**-0.5**
DEMI	**Demirci**	**0.30**	**250**	P	**Pg**	**21 42 29.8**	**+0.2**
DEMI				S	**Sg**	**21 42 33.3**	**-0.3**
DEMI	**Demirci**	**0.30**	**250**	*i* P	**Pg**	**21 42 29.8**	**+0.2**
DEMI				*i* S	**Sg**	**21 42 33.4**	**-0.3**
GDZ	**Gediz**	**0.32**	**101**	P	**Pg**	**21 42 30.4**	**+0.4**
GDZ				S	**Sg**	**21 42 35.0**	**+0.8**
GDZ	**Gediz**	**0.32**	**101**	*i* P	**Pg**	**21 42 30.4**	**+0.4**
GDZ				*i* S	**Sg**	**21 42 35.0**	**+0.8**
TVSB	**Tavsanli**	**0.42**	**45**	*e*PG	**Pg**	**21 42 31.6**	**-0.3**
TVSB				*e*SG	**Sg**	**21 42 37.4**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**45**	*e*Pg	**Pg**	**21 42 31.6**	**-0.3**
TVSB				*e*Sg	**Sg**	**21 42 37.4**	**-0.1**
KULA	**Kula-Manisa**	**0.71**	**207**	*e*PG	**Pg**	**21 42 37.3**	**-0.1**
KULA	**Kula-Manisa**	**0.71**	**207**	*e*Pg	**Pg**	**21 42 37.3**	**-0.1**
MANT	**Manisa**	**0.77**	**212**	P	**Pg**	**21 42 38.6**	**0.0**
MANT				S	**Sg**	**21 42 48.2**	**-0.4**
MANT	**Manisa**	**0.77**	**212**	*i* P	**Pg**	**21 42 38.6**	**0.0**
MANT				*i* S	**Sg**	**21 42 48.2**	**-0.4**
AKS	**Akhisar**	**1.02**	**255**	*e*PG	**Pg**	**21 42 43.3**	**0.0**
AKS	**Akhisar**	**1.02**	**255**	*e*Pg	**Pg**	**21 42 43.3**	**0.0**
BALB	**Balikesir**	**1.05**	**298**	*e*PG	**Pb**	**21 42 44.1**	**-0.1**
BALB	**Balikesir**	**1.05**	**298**	*e*Pg	**Pb**	**21 42 44.1**	**-0.1**
IGD	**Bursa**	**1.12**	**5**	*i* P	**Pg**	**21 42 44.9**	**-0.2**
IGD				*i* S	**Sb**	**21 43 00.3**	**+0.2**
IZI	**Iznik**	**1.23**	**14**	*e*PN	**Pg**	**21 42 47.0**	**-0.2**
IZI	**Iznik**	**1.23**	**14**	*e*Pn	**Pg**	**21 42 47.0**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.23**	**353**	*e*PN	**Pb**	**21 42 47.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.23**	**353**	*e*Pn	**Pb**	**21 42 47.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*PN	**Pg**	**21 42 47.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*Pn	**Pg**	**21 42 47.7**	**+0.1**
BALY	**Balya**	**1.27**	**298**	P	**Pg**	**21 42 48.4**	**+0.3**
BALY	**Balya**	**1.27**	**298**	*i* P	**Pg**	**21 42 48.4**	**+0.3**
ADVT	**Abdulvahap**	**1.38**	**21**	*e*PN	**Pn**	**21 42 49.2**	**-0.2**
ADVT	**Abdulvahap**	**1.38**	**21**	*e*Pn	**Pn**	**21 42 49.2**	**-0.2**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*PN	**Pn**	**21 42 49.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*Pn	**Pn**	**21 42 49.8**	**+0.2**
ARMT	**Armutlu**	**1.43**	**353**	*e*PN	**Pn**	**21 42 50.1**	**+0.1**
ARMT	**Armutlu**	**1.43**	**353**	*e*Pn	**Pn**	**21 42 50.1**	**+0.1**
GULT	**Gulveren**	**1.69**	**40**	*e*PN	**Pn**	**21 42 53.6**	**-0.2**
GULT	**Gulveren**	**1.69**	**40**	*e*Pn	**Pn**	**21 42 53.6**	**-0.2**

IDC 11 21:50:51.0±3.5, 50.40S×112.84E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/26, mbtmp3.6/3, Error ellipse: s-maj=145.0km s-min=29.4km az=101.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.52**	**4**	T	T	22 10 11.2	
	baz=183,slow=74,SNR=45						
H01W1	**Cape Leeuwin H**	**15.53**	**4**	T	T	22 10 11.7	
	baz=183,slow=74,SNR=53						
H01W3	**Cape Leeuwin H**	**15.53**	**4**	T	T	22 10 12.4	
	baz=183,slow=74,SNR=47						
ASAR	**Alice Springs**	**31.32**	**39**	P	P	21 57 12.9	0.0
	0.6nm,0.9s,baz=197,slow=9.2,SNR=3.1						
VNDA	**Vanda**	**32.72**	**162**	P	P	21 57 24.4	-0.3
	1.3nm,0.9s,baz=290,slow=6.9,SNR=4.0						
WRA	**Warramunga Arr**	**34.84**	**37**	P	P	21 57 43.6	-0.1
	0.4nm,0.7s,baz=203,slow=8.9,SNR=3.0						
TXAR	**Lajitas Array**	**145.46**	**114**	PKPbc	PKPab	22 10 31.1	+0.1
	0.2nm,0.6s,baz=194,slow=6.1,SNR=3.7						
YKA	**Yellowknife Ar**	**151.82**	**46**	PKPbc	PKPbc	22 10 45.3	-0.9
	0.4nm,0.6s,baz=304,slow=2.2,SNR=4.1						

*IDC **11** 21:54:20.5±3.0, 29.71N×130.78E, h0km, mb3.6/5, mb1 3.5/9, mb1mx3.4/60, mbtmp3.5/9, ML3.0/4, MS2.7/2, Ms1 2.7/2, ms1mx2.3/35, Error ellipse: s-maj=55.9km s-min=31.3km az=163.0*
*ISCJB **11** 21:54:25.8±1.2, 30.10N±0.06×130.85E±0.08, h28km±5km, mb3.5/5, Error ellipse: s-maj=13.7km s-min=6.9km az=44.6*
*JMA **11** 21:54:26.4±0.1, 30.13N×130.83E, h20km±1km, M3.2*

ISC 11 21:54:26.4±1.4, 30.1N±0.1×130.82E±0.08, h22km±4km, n16, σ1s19/22, mb3.5/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYAK	**Yakushimahirau**	**0.30**	**295**	P	**Pb**	**21 54 32.9**	**-0.2**
JYAK				S	**Sb**	**21 54 37.7**	**0.0**
JTN	**Tanegashima 3**	**0.56**	**14**	P	**Pb**	**21 54 37.0**	**-0.6**
JTN				S	**Sb**	**21 54 44.9**	**-0.3**
JKC	**Kuchinoerabu**	**0.64**	**303**	P	**Pb**	**21 54 39.1**	**+0.1**
JKC				*e*S	**Sb**	**21 54 47.4**	**-0.1**
JNN	**Nakanoshima**	**0.86**	**252**	P	**Pn**	**21 54 43.1**	**-0.2**
JNN				*e*S	**Sn**	**21 54 55.0**	**-0.2**
JTSR	**Tashiro 2**	**1.05**	**5**	P	**Pn**	**21 54 45.3**	**-0.6**
JTSR				*e*S	**Sn**	**21 54 59

7.6nm,1.0s
MIAR Mount Ida 46.27 340 *e*P P 22 24 23.1 +0.4
1.1nm,0.5s
WMOK Wichita Mounta 48.43 335 *e*P P 22 24 40.1 +0.5
0.4nm,0.5s
ANMO Albuquerque 52.23 328 *e*P P 22 25 08.1 -0.4
0.6nm,0.6s
RSSD Black Hills 58.53 337 *e*P P 22 25 53.9 +0.1
0.9nm,0.5s
HWUT Hardware Ranch 59.90 330 *e*P P 22 26 03.7 +0.5
0.7nm,0.5s
BOZ Bozeman (W) 62.98 333 *e*P P 22 26 24.2 +0.3
1.8nm,0.5s
DLMT Dillon 63.21 332 *e*P P 22 26 26.5 +1.0
5.5nm,0.6s
DLBC Dease Lake 79.91 334 *e*P P 22 28 06.4 +0.6
0.3nm,0.5s
SUMG Summit 84.83 11 *e*P P 22 28 31.9 +0.3
1.2nm,0.7s
COLA College 90.40 336 *e*P P 22 28 58.2 +0.2
2.0nm,0.5s
MCK McKinley 90.46 335 *e*P P 22 28 58.2 -0.2
1.5nm,0.5s

IDC ***11*** *22:23:31.2±1.7, 12°.81N×88°.08W, h54km±14km, mb4.1/18, mb1 4.4/20, mb1mx4.2/38, mbtmp4.4/20, MS3.3/4, Ms1 3.3/4, ms1mx3.1/13, Error ellipse: s-maj=22.1km s-min=10.7km az=58.0*

CASC ***11*** *22:23:31.7±2.1, 12°.51N×88°.55W, h38km±253km, MD4.4, ML4.5, mb4.7(NEIC)*

ISCJB ***11*** *22:23:32.0±0.3, 12°.63N±0°.03×88°.46W±0°.02, h83km±2km, mb4.7/172, Error ellipse: s-maj=5.5km s-min=2.4km az=37.3*

NEIC ***11*** *22:23:35.4±0.5, 12°.72N×88°.40W, h94km±5km, mb4.7/171, MD5.0(SNET), Error ellipse: s-maj=4.9km s-min=3.0km az=216.0*

NEIC Felt [III] at San Salvador. Also felt at Antiguo Cuscatlan and Ozatlan.

ISC 11 22:23:33.1±0.5, 12°.63N±0°.04×88°.49W±0°.04, h74km±4km, n615, σ1°43/650, mb4.7/172, 15C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LCY	**Lacayo**	**0.81**	**14**	⇑*i*P	**Pn**	**22 23 48.8**	**-0.9**
VSM	**San Miguel**	**0.82**	**15**	*e*P	**Pn**	**22 23 49.2**	**-0.8**
VSM				⇑*i*P	**Pn**	**22 23 49.2**	**-0.8**
BLLM	**Bellamira**	**0.84**	**17**	⇑*i*P	**Pn**	**22 23 49.2**	**-0.8**
PACA	**Pacayal**	**0.85**	**11**	⇑*i*P	**Pn**	**22 23 49.2**	**-0.9**
SMIG	**San Miguel**	**0.86**	**22**	*e*P	**Pn**	**22 23 49.7**	**-0.5**
UCHI	**Chinameca**	**0.89**	**9**	*e*P	**Pn**	**22 23 49.5**	**-1.1**
UCHI				*e*S	**Sn**	**22 24 03.0**	**-0.4**
UCHI				AML	AML	22 24 07.8	
	comp=Z,49μm,0.4s						
CNCH	**Conchagua**	**0.91**	**45**	*e*P	**Pn**	**22 23 49.8**	**-1.0**
CNCH				⇑*e*P	**Pn**	**22 23 50.0**	**-0.8**
SNVI	**San Vicente**	**1.03**	**341**	*e*P	**Pn**	**22 23 51.2**	**-1.2**
SNVI				⇑*i*P	**Pn**	**22 23 51.2**	**-1.2**
LFRS	**El Faro**	**1.13**	**331**	⇑*i*P	**Pn**	**22 23 51.9**	**-1.7**
CAHU	**Cacacuatique**	**1.16**	**13**	*e*P	**Pn**	**22 23 53.6**	**-0.4**
CAHU				⇑*i*P	**Pn**	**22 23 53.7**	**-0.4**
CAHU				*e*S	**Sn**	**22 24 11.3**	**+1.6**
LBRS	**Las Brisas**	**1.22**	**334**	⇑*i*P	**Pn**	**22 23 53.6**	**-1.1**
LFU	**La Fuente**	**1.27**	**331**	⇑*i*P	**Pn**	**22 23 54.0**	**-1.3**
SNET	**Serv Nac Est T**	**1.27**	**326**	⇑*e*P	**Pn**	**22 23 53.8**	**-1.6**
SNET				AML	AML	22 24 12.2	
	comp=Z,25μm,0.3s						
COLS	**Colinas**	**1.29**	**323**	*e*P	**Pn**	**22 23 54.0**	**-1.7**
BOQS	**Boqueron**	**1.34**	**325**	⇓*i*P	**Pn**	**22 23 55.0**	**-1.4**
CRIN	**San Cristobal**	**1.41**	**87**	*e*P	**Pn**	**22 23 57.0**	**-0.1**
TEL3	**Telica 3**	**1.61**	**92**	*e*P	**Pn**	**22 23 58.6**	**-1.0**
SONS	**Sonsonate**	**1.62**	**313**	*e*P	**Pn**	**22 23 58.4**	**-1.5**
SONS				*e*S	**Sn**	**22 24 17.9**	**-2.2**
SONS				AML	AML	22 24 22.2	
	comp=Z,9μm,0.3s						
SBLS	**San Blas**	**1.63**	**318**	⇑*i*P	**Pn**	**22 23 59.0**	**-1.2**
SNJE	**San Jose**	**1.64**	**319**	⇑*i*P	**Pn**	**22 23 59.0**	**-1.3**
MONT	**Ecomontaæa**	**1.66**	**317**	⇓*e*P	**Pn**	**22 23 59.3**	**-1.2**
RTR	**El Retiro**	**1.69**	**318**	⇑*i*P	**Pn**	**22 23 60.0**	**-0.9**
CNGN	**Cerro Negro**	**1.75**	**94**	*e*P	**Pn**	**22 24 00.5**	**-1.1**
RBDL	**Robledal**	**1.88**	**322**	⇑*i*P	**Pn**	**22 24 02.5**	**-0.9**
CUS1	**Cusmapa**	**1.91**	**312**	*e*P	**Pn**	**22 24 02.5**	**-1.2**
COPN	**Copaltepe**	**1.91**	**103**	*e*P	**Pn**	**22 24 02.5**	**-1.2**
MOMN	**Momotombo**	**1.92**	**96**	*e*P	**Pn**	**22 24 02.7**	**-1.1**
ESTN	**Estel**	**2.12**	**77**	*e*P	**Pn**	**22 24 06.1**	**-0.4**
XAVN	**Gruta Xavier**	**2.17**	**103**	*e*P	**Pn**	**22 24 06.5**	**-0.6**
TISN	**Laguna Tiscapa**	**2.22**	**102**	*e*P	**Pn**	**22 24 06.8**	**-1.0**
MGAN	**Managua**	**2.24**	**102**	*e*P	**Pn**	**22 24 07.2**	**-0.9**
MGAN				*e*S	**Sn**	**22 24 34.3**	**-0.6**
MGAN				AML	AML	22 24 36.5	
	comp=E,583nm,0.4s						
MGAN	**Managua**	**2.24**	**102**	*e*Pn	**Pn**	**22 24 08.9**	**+0.8**
BOAB	**BOACO BROADBAN**	**2.76**	**93**	*e*P	**Pn**	**22 24 14.2**	**-0.9**
BOAB				*e*S	**Sn**	**22 24 46.1**	**-1.4**
BOAB				AML	AML	22 25 04.4	
	comp=N,195nm,0.5s						
ESPN	**Las Esperanzas**	**4.12**	**96**	*e*P	**Pn**	**22 24 33.1**	**-0.4**
CGA2	**Cerro Gallo 2**	**4.73**	**123**	*e*P	**Pn**	**22 24 43.2**	**+1.2**
CGA2				*e*S	**Sn**	**22 25 33.5**	**-2.2**
HDC	**Heredia**	**5.03**	**121**	*e*Pn	**Pn**	**22 24 48.4**	**+2.3**
HDC				*e*Sn	**Sn**	**22 25 47.2**	**+4.2**
CCIG	**Comitan**	**5.06**	**316**	*e*Pn	**Pn**	**22 24 47.6**	**+0.9**
QCR	**Quepos**	**5.31**	**126**	*e*P	**Pn**	**22 24 51.3**	**+1.4**
QCR				*e*S	**Sn**	**22 25 46.8**	**-3.0**
URSC	**Urasca**	**5.39**	**121**	*e*P	**Pn**	**22 24 53.0**	**+1.8**
URSC				*e*S	**Sn**	**22 25 50.1**	**-2.0**
BUS	**Buena Vista**	**5.56**	**123**	*e*P	**Pn**	**22 24 55.3**	**+1.6**
BUS				*e*S	**Sn**	**22 25 55.1**	**-1.4**
BRU2	**Volcan**	**6.86**	**123**	*e*P	**Pn**	**22 25 13.9**	**+2.7**
BRU2				*e*S	**Sn**	**22 26 28.8**	**+0.9**
TBS2		**6.88**	**123**	*e*P	**Pn**	**22 25 12.6**	**+1.0**
TBS2				*e*S	**Sn**	**22 26 24.7**	**-3.9**
TEIG	**Tepich**	**7.55**	**2**	P	**Pn**	**22 25 22.5**	**+1.9**
	comp=N,8.3nm,0.3s,baz=177,slow=23,SNR=208						
TEIG	**Tepich**	**7.55**	**2**	*e*P	**Pn**	**22 25 21.1**	**+0.6**
CMIG	**Matias Romero**	**7.61**	**306**	P	**Pn**	**22 25 20.8**	**-0.5**
	comp=N,2.2nm,0.3s,baz=107,slow=11,SNR=22						
CMIG				S	**Sn**	**22 26 40.5**	**-5.5**
	comp=N,3.6nm,0.3s,baz=333,slow=21,SNR=4.1						
CMIG				LR	LR	22 27 34.5	
	comp=N,60nm,21.8s,baz=134,slow=31						
TLIG	**Tlapa**	**10.89**	**298**	*e*Pn	**Pn**	**22 26 07.8**	**+1.5**
MTDJ	**Mount Denham**	**11.94**	**61**	*e*Pn	**Pn**	**22 26 21.6**	**+1.1**
PAYG	**Puerto Ayora**	**13.34**	**188**	*e*Pn	**P**	**22 26 44.3**	**-2.0**
GTBY	**Guantanamo Bay**	**14.74**	**59**	*e*Pn	**Pn**	**22 26 58.6**	**+0.9**
OTAV	**Otavalo**	**15.84**	**140**	*e*Pn	**P**	**22 27 13.7**	**-0.9**
	comp=N,8.2nm,1.1s						
ROSC	**El Rosal**	**15.99**	**118**	*e*P	**P**	**22 27 16.7**	**+0.4**
	comp=N,10.0nm,0.9s						
PRAC	**Prado**	**16.11**	**122**	*e*Pn	**Pn**	**22 27 15.4**	**+0.2**
	comp=N,16nm,1.1s						
035Z	**Hargill**	**16.44**	**328**	P	**P**	**22 27 21.5**	**+0.8**
	baz=145,SNR=7.7						
DWPF	**Disney Wildern**	**16.75**	**22**	*e*Pn	**Pn**	**22 27 21.7**	**-1.3**
	comp=N,266nm,1.7s						
ZAIG	**Zacatecas**	**16.76**	**309**	*e*Pn	**Pn**	**22 27 23.9**	**+0.3**
	comp=N,10nm,1.0s						
035A	**Encino**	**16.85**	**329**	P	**P**	**22 27 26.2**	**+1.0**
	baz=146						
034A	**Hebbronville**	**17.25**	**328**	P	**P**	**22 27 31.2**	**+1.6**
	baz=144,SNR=16						
934A	**Benavides**	**17.61**	**329**	P	**P**	**22 27 34.9**	**+1.3**
	baz=146,SNR=14						
934A				S	**S**	**22 30 53.5**	**+1.6**
	baz=146						
SDDR	**Presa de Saban**	**17.71**	**67**	*e*P	**P**	**22 27 34.0**	**-0.8**
	comp=N,46nm,1.5s						
835A	**Beeville**	**17.85**	**332**	P	**Pn**	**22 27 37.5**	**+1.0**
	baz=149						
541A	**Lake Charles**	**17.88**	**347**	P	**Pn**	**22 27 39.7**	**+2.9**
	baz=165						
SDV	**Santo Domingo**	**17.93**	**100**	P	**P**	**22 27 34.4**	**-3.1**
	comp=N,1.1nm,0.3s,baz=249,slow=8.3,SNR=4.3						
SDV				LR	LR	22 35 17.4	
	comp=N,81nm,18.5s,baz=266,slow=40						
SDV	**Santo Domingo**	**17.93**	**100**	*e*P	**P**	**22 27 37.3**	**-0.2**
	comp=N,17nm,0.9s						
933A	**Laredo**	**18.00**	**328**	P	**Pn**	**22 27 38.6**	**+0.3**
	baz=144,SNR=8.6						
834A	**Tilden**	**18.05**	**330**	P	**Pn**	**22 27 39.7**	**+0.7**
	baz=146,SNR=23						
447A	**Lucedale**	**18.08**	**360**	P	**Pn**	**22 27 41.4**	**+2.1**
	baz=179						
446A	**Poplarville**	**18.09**	**358**	P	**Pn**	**22 27 41.5**	**+2.2**
	baz=177						
736A	**Circle Diamond**	**18.10**	**335**	P	**Pn**	**22 27 40.5**	**+1.0**
	baz=152,SNR=6.1						
540A	**Vidor**	**18.22**	**345**	P	**Pn**	**22 27 44.6**	**+3.7**
	baz=162						
637A	**Eagle Lake**	**18.24**	**338**	P	**Pn**	**22 27 43.2**	**+2.0**
	baz=155						
539A	**Cross D Ranch,**	**18.33**	**343**	P	**Pn**	**22 27 45.3**	**+3.1**
	baz=160						
HKT	**Hockley**	**18.53**	**340**	*e*P	**Pn**	**22 27 44.4**	**-0.2**
	comp=N,53nm,1.5s						
441A	**DeRidder**	**18.55**	**347**	P	**Pn**	**22 27 47.6**	**+2.7**
	baz=165						
636A	**Smothers Creek**	**18.56**	**336**	P	**Pn**	**22 27 45.7**	**+0.7**
	baz=153,SNR=18						
833A	**Chaparral WMA,**	**18.64**	**329**	P	**Pn**	**22 27 45.6**	**-0.4**
	baz=144,SNR=41						
345A	**Thompson Farm,**	**18.64**	**356**	P	**Pn**	**22 27 47.0**	**+1.0**
	baz=175						
734A	**La Parita Cree**	**18.66**	**331**	P	**Pn**	**22 27 46.8**	**+0.5**
	baz=148						
538A	**Harpers Horsep**	**18.67**	**341**	P	**Pn**	**22 27 47.1**	**+0.7**
	baz=158						
347A	**Saraland**	**18.68**	**360**	P	**Pn**	**22 27 46.7**	**+0.2**
	baz=180						
346A	**Big Creek Wild**	**18.69**	**357**	P	**Pn**	**22 27 48.1**	**+1.5**
	baz=177						
440A	**Kirbyville**	**18.72**	**345**	P	**Pn**	**22 27 47.9**	**+1.0**
	baz=163						
635A	**Leesville**	**18.77**	**334**	P	**Pn**	**22 27 47.8**	**+0.2**
	baz=150,SNR=5.3						
SDD	**Santo Domingo**	**18.80**	**70**	*e*P	**P**	**22 27 46.5**	**-0.4**
	comp=N,290nm,1.2s						
537A	**Green Hill Far**	**18.82**	**339**	P	**Pn**	**22 27 48.1**	**0.0**
	baz=155						
344A	**Westbrook Farm**	**18.84**	**354**	P	**Pn**	**22 27 50.4**	**+1.9**
	baz=173,SNR=10						
832A	**Faith Ranch, C**	**18.91**	**327**	P	**P**	**22 27 48.3**	**+0.4**
	baz=143,SNR=27						
733A	**Divot King Ran**	**18.91**	**329**	P	**Pn**	**22 27 48.7**	**-0.5**
	baz=145,SNR=68						
439A	**Center Grove,**	**18.98**	**343**	P	**Pn**	**22 27 50.6**	**+0.5**
	baz=161,SNR=6.8						
342A	**Flagon Creek P**	**18.99**	**350**	P	**Pn**	**22 27 50.6**	**+0.5**
	baz=168						
634A	**China Grove, S**	**19.02**	**333**	P	**Pn**	**22 27 50.0**	**-0.5**
	baz=149						
536A	**Bastrop**	**19.09**	**337**	P	**Pn**	**22 27 52.0**	**+0.6**
	baz=153						
341A	**Kurthwood**	**19.11**	**348**	P	**Pn**	**22 27 52.3**	**+0.8**
	baz=166,SNR=6.8						
438A	**Sam Houston St**	**19.15**	**341**	P	**Pn**	**22 27 52.2**	**+0.1**
	baz=159						
535A	**Dale**	**19.25**	**335**	P	**P**	**22 27 52.4**	**+0.8**
	baz=152,SNR=8.8						
TIGA	**Tifton**	**19.25**	**13**	P	**Pn**	**22 27 53.5**	**+0.1**
	baz=194,SNR=12						
TIGA	**Tifton**	**19.25**	**13**	*e*P	**Pn**	**22 27 53.1**	**-0.3**
	comp=N,78nm,0.9s						
246A	**Jackson Lee, B**	**19.30**	**358**	P	**Pn**	**22 27 54.0**	**+0.1**
	baz=178						
247A	**Quitman**	**19.33**	**360**	P	**Pn**	**22 27 54.5**	**+0.3**
	baz=179,SNR=11						
340A	**Bronson**	**19.35**	**346**	P	**Pn**	**22 27 54.2**	**-0.2**
	baz=164,SNR=23						
245A	**Little AP, Sta**	**19.35**	**356**	P	**Pn**	**22 27 55.0**	**+0.5**
	baz=176,SNR=6.5						
243A	**Waterproof**	**19.36**	**352**	P	**Pn**	**22 27 55.1**	**+0.6**
	baz=171						
248A	**Dixon Mills**	**19.38**	**2**	P	**Pn**	**22 27 55.1**	**+0.3**
	baz=182						
244A	**Avery, Jackson**	**19.42**	**354**	P	**Pn**	**22 27 55.8**	**+0.5**
	baz=173,SNR=19						
339A	**Huntington**	**19.43**	**344**	P	**Pn**	**22 27 55.7**	**+0.3**
	baz=162						
437A	**Phantom Ranch,**	**19.44**	**340**	P	**P**	**22 27 54.4**	**+0.8**
	baz=157						
633A	**Seathoff Ranch**	**19.47**	**331**	P	**P**	**22 27 54.2**	**+0.2**
	baz=147,SNR=48						
534A	**Blanco**	**19.63**	**333**	P	**P**	**22 27 55.8**	**0.0**
	baz=150,SNR=46						
338A	**Crockett**	**19.67**	**342**	P	**Pn**	**22 27 58.4**	**+0.2**
	baz=160,SNR=22						
241A	**Mo Tay, Goldon**	**19.72**	**349**	P	**Pn**	**22 27 59.2**	**+0.3**
	baz=167						
337A	**Centerville**	**19.81**	**341**	P	**Pn**	**22 27 59.0**	**-0.8**
	baz=158,SNR=7.3						
NATX	**Nacogdoches**	**19.87**	**344**	P	**Pn**	**22 28 00.2**	**-0.3**
	baz=162,SNR=6.1						
NATX	**Nacogdoches**	**19.87**	**344**	*e*P	**Pn**	**22 28 00.0**	**-0.5**
	comp=N,120nm,0.8s						
240A	**Hunter Patters**	**19.91**	**347**	P	**Pn**	**22 28 00.6**	**-0.5**
	baz=164						
533A	**Kerrville**	**19.92**	**332**	P	**P**	**22 27 58.9**	**0.0**
	baz=148,SNR=47						
146A	**Union**	**19.92**	**359**	P	**Pn**	**22 28 00.7**	**-0.4**
	baz=178,SNR=7.8						
145A	**Houston Renfro**	**19.92**	**356**	P	**Pn**	**22 28 01.0**	**-0.1**
	baz=176,SNR=5.2						
435B	**Jarrell**	**19.92**	**336**	P	**P**	**22 27 59.1**	**+0.2**
	baz=153,SNR=9.8						
147A	**Livingston**	**19.95**	**1**	P	**Pn**	**22 28 00.9**	**-0.6**
	baz=180,SNR=18						
239A	**Gary**	**20.06**	**345**	P	Pn	22 28 01.9	-0.9
	baz=162						
142A	**Monroe**	**20.08**	**351**	P	**P**	**22 28 01.1**	**+0.6**
	baz=170						
143A	**Socs Landing,**	**20.16**	**353**	P	Pn	22 28 02.8	-1.1
	baz=172						
336A	**Riesel**	**20.19**	**339**	P	**P**	**22 28 02.1**	**+0.3**
	baz=156,SNR=6.6						
238A	**Jacksonville**	**20.22**	**344**	P	**P**	**22 28 03.3**	**+1.2**
	baz=161						
434A	**Burnet**	**20.23**	**335**	P	**P**	**22 28 01.9**	**-0.4**
	baz=151,SNR=20						
141A	**Papa Simpson,**	**20.29**	**349**	P	**P**	**22 28 03.9**	**+1.1**
	baz=167						
335A	**Moody**	**20.31**	**337**	P	**P**	**22 28 03.5**	**+0.5**
	baz=154,SNR=11						
LRAL	**Lakeview Retre**	**20.36**	**4**	*e*P	Pn	22 28 05.0	-1.2
	comp=N,43nm,1.1s						
237A	**Washetta, Mont**	**20.42**	**342**	P	Pn	22 28 08.2	+1.2
	baz=159,SNR=8.3						
140A	**Cam and Jess,**	**20.45**	**348**	P	Pn	22 28 06.3	-1.1
	baz=165						
Z46A	**Louisville**	**20.47**	**359**	P	Pn	22 28 06.6	-1.0
	baz=178,SNR=15						
Z47A	**Carrollton**	**20.48**	**1**	P	**P**	**22 28 06.1**	**+1.3**
	baz=181,SNR=16						
433A	**Art**	**20.52**	**333**	P	**P**	**22 28 05.0**	**-0.5**
	baz=149,SNR=40						
JCT	**Junction City**	**20.61**	**331**	P	**P**	**22 28 06.7**	**+0.2**
	baz=147,SNR=11						
JCT	**Junction City**	**20.61**	**331**	*e*P	**P**	**22 28 06.7**	**+0.2**
	comp=N,30nm,0.6s						
Z44A	**Pea Ridge, Bel**	**20.63**	**355**	P	Pn	22 28 08.2	-1.3
	baz=174,SNR=6.5						
Z43A	**Armstrong Fami**	**20.64**	**353**	P	**P**	**22 28 07.6**	**+1.0**
	baz=172						
334A	**Lometa**	**20.67**	**336**	P	**P**	**22 28 06.6**	**-0.4**
	baz=152,SNR=21						
Z48A	**Northport**	**20.67**	**2**	P	**P**	**22 28 07.8**	**+0.9**
	baz=182,SNR=12						
Z45A	**Winona**	**20.67**	**357**	P	**P**	**22 28 07.4**	**+0.5**
	baz=176						
Z42A	**Norrel Spur, H**	**20.79**	**352**	P	Pn	22 28 09.9	-1.4
	baz=170						
Z41A	**Richland Creek**	**20.91**	**350**	P	Pn	22 28 11.8	-0.9
	baz=168,SNR=5.9						
WHTX	**Lake Whitney,**	**20.96**	**338**	P	**P**	**22 28 10.4**	**+0.3**
	baz=155						
WHTX	**Lake Whitney,**	**20.96**	**338**	*e*P	**P**	**22 28 10.3**	**+0.2**
	comp=N,115nm,0.9s						
WHTX				*e*		22 28 26.8	
137A	**Heron Place, G**	**20.96**	**343**	P	Pn	22 28 13.6	+0.2
	baz=160,SNR=5.8						
333A	**Richland Sprin**	**20.97**	**334**	P	**P**	**22 28 10.0**	**-0.3**
	baz=150,SNR=46						
Z40A	**Long Farm, Mag**	**21.02**	**348**	P	**P**	**22 28 12.3**	**+1.6**
	baz=166,SNR=5.3						
136A	**Ennis**	**21.08**	**341**	P	**P**	**22 28 13.2**	**+1.8**
	baz=158,SNR=6.2						
Y46A	**Houston**	**21.16**	**359**	P	**P**	**22 28 13.1**	**+1.0**
	baz=179,SNR=18						
Z39A	**Irene McRaven,**	**21.16**	**347**	P	**P**	**22 28 12.8**	**+0.5**
	baz=164						
Y47A	**UCPARC, Winfie**	**21.18**	**1**	P	**P**	**22 28 13.4**	**+1.0**
	baz=182,SNR=24						
GOGA	**Godfrey**	**21.19**	**12**	*e*P	**P**	**22 28 13.4**	**+0.9**
	comp=N,66nm,1.1s						
234A	**Clairette**	**21.22**	**337**	P	**P**	**22 28 12.8**	**-0.1**
	baz=153,SNR=15						
Y44A	**Strider, Charl**	**21.29**	**356**	P	**P**	**22 28 14.5**	**+0.9**
	baz=175						
Y43A	**Makayla and Ka**	**21.30**	**354**	P	**P**	**22 28 14.8**	**+1.1**
	baz=173						
Y42A	**Garnett, Star**	**21.32**	**352**	P	**P**	**22 28 15.2**	**+1.3**
	baz=171						
Z38A	**Mt. Pleasant**	**21.36**	**345**	P	**P**	**22 28 15.9**	**+1.6**
	baz=162						
WLAR	**White Oak Lake**	**21.38**	**349**	*e*P	**P**	**22 28 14.7**	**+0.2**
	comp=N,63nm,1.0s						
CCAR	**Cane Creek**	**21.40**	**353**	*e*P	**P**	**22 28 17.1**	**+2.3**
	comp=N,185nm,1.5s						
135A	**Vickery Place,**	**21.45**	**339**	P	**P**	**22 28 17.1**	**+1.7**
	baz=155						
Y41A	**Eaglette Beard**	**21.48**	**351**	P	**P**	**22 28 17.0**	**+1.3**
	baz=169						
Z37A	**Pogue Cattle C**	**21.48**	**343**	P	**P**	**22 28 17.0**	**+1.3**
	baz=160						
HPIG		**21.49**	**314**	*e*P	**P**	**22 28 17.4**	**+1.3**
	comp=N,8.4nm,1.0s						
233A	**Rising Star**	**21.54**	**335**	P	**P**	**22 28 16.2**	**-0.1**
	baz=151,SNR=23						
RGRS	**Roger Stewart**	**21.56**	**19**	*e*P	**P**	**22 28 18.2**	**+1.7**
	comp=N,562nm,0.6s						
CSU	**Charleston Sou**	**21.68**	**19**	*e*P	**P**	**22 28 17.7**	**0.0**
134A	**White-Moore Ra**	**21.71**	**338**	P	**P**	**22 28 18.8**	**+0.7**
	baz=154,SNR=7.0						
X45A	**UM Field Stati**	**21.71**	**358**	P	**P**	**22 28 18.0**	**-0.1**
	baz=177						
Y40A	**Okolona**	**21.73**	**349**	P	**P**	**22 28 19.3**	**+1.0**
	baz=167,SNR=6.1						
NHSC	**New Hope**	**21.75**	**19**	*e*P	**P**	**22 28 19.6**	**+1.1**
	comp=N,96nm,1.0s						
Z36A	**Blue Ridge**	**21.79**	**342**	P	**P**	**22 28 19.3**	**+0.4**
	baz=158,SNR=6.4						
OXF	**Oxford**	**21.80**	**358**	*e*P	**P**	**22 28 18.7**	**-0.3**
	comp=N,22nm,0.6s						
OXF				*e*		22 28 34.7	
TXAR	**Lajitas Array**	**21.80**	**322**	P	**P**	**22 28 20.1**	**+0.9**
	comp=N,7.2nm,0.6s,baz=146,slow=13,SNR=79						
TXAR				PcP	**PcP**	**22 32 19.1**	**+2.1**
	comp=N,1.6nm,1.1s,baz=133,slow=3.8,SNR=3.2						
TXAR				ScP	**ScP**	**22 35 51.6**	**+3.9**
	comp=N,2.0nm,0.8s,baz=148,slow=6.1,SNR=19						
TX31	**Lajitas Ar. Si**	**21.80**	**322**	*e*P	**P**	**22 28 19.7**	**+0.5**
TX31				*e*S	**S**	**22 32 22.9**	**+6.6**
TX31				*e*ScP	**ScP**	**22 35 51.9**	**+4.1**
CELP	**Cerrillos**	**21.80**	**73**	*e*P	**P**	**22 28 19.2**	**-0.1**
Y39A	**Lockesburg**	**21.82**	**347**	P	**P**	**22 28 19.6**	**+0.4**
	baz=165,SNR=6.2						
X44A	**Crenshaw**	**21.82**	**356**	P	**P**	**22 28 19.7**	**+0.4**
	baz=175						
Y38A	**Idabel**	**21.95**	**346**	P	**P**	**22 28 21.2**	**+0.6**
	baz=163,SNR=9.9						
ATAH	**Atahualpa**	**22.05**	**152**	LR	LR	22 36 28.1	
	comp=N,121nm,18.5s,baz=312,slow=35						
133A	**Hamilton Ranch**	**22.06**	**336**	P	**P**	**22 28 21.5**	**-0.4**
	baz=152,SNR=16						
X41A	**Haden, Bauxite**	**22.07**	**351**	P	**P**	**22 28 22.7**	**+0.8**
	baz=169,SNR=9.9						
Z35A	**Perchaven, San**	**22.11**	**340**	P	**P**	**22 28 22.7**	**+0.4**
	baz=156						
X40A	**Basin Creek Fa**	**22.11**	**350**	P	**P**	**22 28 23.6**	**+1.2**
	baz=168,SNR=10						
SJG	**San Juan**	**22.21**	**73**	*e*P	**P**	**22 28 24.1**	**+0.4**
	comp=N,23nm,1.2s						
Y37A	**Hugo**	**22.22**	**344**	P	**P**	**22 28 24.2**	**+0.7**
	baz=161,SNR=11						
PLAL	**Pickwick Lake**	**22.25**	**1**	*e*P	**P**	**22 28 23.7**	**-0.2**
	comp=N,19nm,1.0s						
MIAR	**Mount Ida**	**22.30**	**349**	P	**P**	**22 28 24.7**	**+0.3**
	baz=167,SNR=21						
MIAR	**Mount Ida**	**22.30**	**349**	*e*P	**P**	**22 28 24.6**	**+0.2**
	comp=N,38nm,0.9s						
UALR	**University of**	**22.32**	**352**	*e*P	**P**	**22 28 24.7**	**+0.1**
	comp=N,52nm,1.0s						
Y36A	**Durant**	**22.33**	**343**	P	**P**	**22 28 25.1**	**+0.4**
	baz=159,SNR=8.0						
Z34A	**Collier Ranch,**	**22.37**	**339**	P	**P**	**22 28 26.0**	**+0.8**
	baz=155,SNR=5.0						
ABTX	**Abilene, Hawle**	**22.37**	**335**	P	**P**	**22 28 24.5**	**-0.8**
	baz=150,SNR=10						
ABTX	**Abilene, Hawle**	**22.37**	**335**	*e*P	**P**	**22 28 24.4**	**-0.8**
	comp=N,30nm,0.7s						
X39A	**Fountain Ranch**	**22.37**	**348**	P	**P**	**22 28 25.4**	**+0.2**
	baz=165,SNR=11						
W45A	**Hickory Valley**	**22.43**	**359**	P	**P**	**22 28 26.4**	**+0.5**
	baz=178						
HUMP	**Col San Antoni**	**22.50**	**73**	*e*P	**P**	**22 28 26.2**	**-0.5**
	comp=N,15nm,0.9s						
CBYP	**Canovanas**	**22.51**	**73**	*e*P	**P**	**22 28 26.1**	**-0.8**
	comp=N,20nm,1.1s						
JSC	**Jenkinsville**	**22.53**	**16**	*e*P	**P**	**22 28 27.5**	**+0.6**
	comp=N,74nm,1.0s						
Y35A	**Marietta**	**22.57**	**341**	P	**P**	**22 28 26.9**	**-0.3**
	baz=158,SNR=9.0	

	comp=N,91nm,0.9s										
X33A	**Lawton**	23.63	339	P		P		22	28	37.3	-0.3
	baz=155,SNR=49										
W35A	**Tecumseh**	23.67	343	P		P		22	28	37.2	-0.8
	baz=159,SNR=9.3										
V38A	**Canehill**	23.74	348	P		P		22	28	38.4	-0.2
	baz=165,SNR=17										
X32A	**Elmer**	23.81	337	P		P		22	28	39.6	+0.4
	baz=153,SNR=26										
WMOK	**Wichita Mounta**	23.91	339	P		P		22	28	39.4	-0.8
	baz=154,SNR=16										
WMOK	**Wichita Mounta**	23.91	339	*eP*		P		22	28	39.3	-0.8
	comp=N,84nm,1.8s										
V37A	**Hulbert**	23.92	347	P		P		22	28	39.7	-0.5
	baz=164,SNR=32										
U40A	**Yellville**	23.95	351	P		P		22	28	40.5	+0.1
	baz=169,SNR=82										
V36A	**Jenks**	24.02	345	P		P		22	28	40.7	-0.3
	baz=162,SNR=7.1										
ABVI	**Anegada Island**	24.02	72	*eP*		P		22	28	40.8	-0.5
	comp=N,128nm,1.1s										
W34A	**Bridge Creek,**	24.02	341	P		P		22	28	41.4	+0.2
	baz=157,SNR=33										
W34A	**Bridge Creek,**	24.02	341	*eP*		P		22	28	41.1	0.0
	comp=N,160nm,0.6s										
HHAR	**Hobbs**	24.05	349	*eP*		P		22	28	41.5	+0.1
	comp=N,25nm,0.6s										
HHAR				*eScP*		ScP		22	35	56.6	+3.2
U39A	**Green Forest**	24.07	350	P		P		22	28	41.6	+0.1
	baz=168,SNR=29										
TUL1	**Leonard**	24.10	345	P		P		22	28	41.4	-0.4
	baz=162,SNR=10										
PBMO	**Poplar Bluff**	24.11	356	*eP*		P		22	28	41.1	-0.7
	comp=N,24nm,0.9s										
W33A	**Caddo, Fort Co**	24.17	340	P		P		22	28	43.3	+0.8
	baz=155										
TZTN	**Tazewell**	24.22	10	*eP*		P		22	28	42.8	-0.1
	comp=N,34nm,1.1s										
V35A	**Meyer Ranch, C**	24.23	343	P		P		22	28	42.3	-0.7
	baz=160,SNR=13										
U38A	**Gravette**	24.29	348	P		P		22	28	43.2	-0.3
	baz=166,SNR=15										
U37A	**Salina**	24.41	347	P		P		22	28	44.5	-0.1
	baz=164,SNR=26										
W32A	**Sentinel**	24.42	338	P		P		22	28	44.8	0.0
	baz=154,SNR=18										
CNNC	**Cliffs of the**	24.47	21	*eP*		P		22	28	45.0	-0.1
	comp=N,81nm,1.5s										
T41A	**Mountain View**	24.48	354	P		P		22	28	44.5	-0.8
	baz=172,SNR=23										
V34A	**Guthrie**	24.50	342	P		P		22	28	44.7	-0.7
	baz=158,SNR=15										
V34A	**Guthrie**	24.50	342	*eP*		P		22	28	44.8	-0.7
	comp=N,85nm,0.6s										
MNTX	**Cornudas Mount**	24.53	323	P		P		22	28	46.0	+0.2
	baz=137,SNR=31										
MNTX	**Cornudas Mount**	24.53	323	*eP*		P		22	28	46.1	+0.3
	comp=N,34nm,1.3s										
U36A	**Oologah**	24.54	346	P		P		22	28	45.5	-0.3
	baz=163										
T40A	**Mansfield**	24.68	352	P		P		22	28	46.9	-0.2
	baz=170,SNR=9.8										
T39A	**Clever**	24.68	351	P		P		22	28	46.9	-0.2
	baz=168,SNR=35										
V33A	**Lossen Ranch,**	24.72	341	P		P		22	28	47.2	-0.3
	baz=156,SNR=10										
U35A	**Pawnee**	24.77	344	P		P		22	28	47.7	-0.3
	baz=160,SNR=12										
T38A	**Diamond**	24.85	349	P		P		22	28	48.1	-0.6
	baz=166,SNR=22										
S43A	**Fulton Ridge,**	24.88	357	P		P		22	28	47.8	-1.0
	baz=176,SNR=11										
V32A	**Arapaho**	24.89	339	P		P		22	28	48.5	-0.5
	baz=155,SNR=8.1										
S45A	**Carrier Mills**	24.94	360	P		P		22	28	48.4	-1.0
	baz=180,SNR=5.1										
S44A	**Carbondale**	24.97	359	P		P		22	28	48.9	-0.8
	baz=178,SNR=8.9										
SIUC	**Southern Illin**	24.99	359	*eP*		P		22	28	49.2	-0.6
	comp=N,28nm,0.6s										
T37A	**Cheneyville 18**	25.06	348	P		P		22	28	50.1	-0.4
	baz=165,SNR=14										
U34A	**Anderson Ranch**	25.06	343	P		P		22	28	49.8	-0.8
	baz=159,SNR=11										
U34A	**Anderson Ranch**	25.06	343	*eP*		P		22	28	49.8	-0.8
	comp=N,59nm,0.6s										
U34A				*epP*		pP		22	29	12.0	+4.2
U34A				*esP*		sP		22	29	22.4	+5.7
SMRT	**St. Maarten**	25.08	74	*eP*		P		22	28	50.3	-0.7
	comp=N,117nm,1.6s										
S40A	**Lebanon**	25.12	352	P		P		22	28	50.6	-0.5
	baz=171,SNR=18										
AMTX	**Amarillo**	25.18	334	P		P		22	28	52.0	+0.3
	baz=148										
AMTX	**Amarillo**	25.18	334	*eP*		P		22	28	51.8	0.0
	comp=N,85nm,1.3s										
T36A	**Boggs Farm, Ca**	25.21	346	P		P		22	28	51.6	-0.4
	baz=163,SNR=16										
T35A	**Sooner Cattle**	25.23	345	P		P		22	28	52.0	-0.1
	baz=161,SNR=7.5										
U33A	**Lingo Farm, Me**	25.23	342	P		P		22	28	51.4	-0.7
	baz=157,SNR=5.9										
USIN	**University of**	25.24	2	*eP*		P		22	28	50.9	-1.3
	comp=N,17nm,0.7s										
S39A	**Bolivar**	25.33	351	P		P		22	28	52.6	-0.3
	baz=169,SNR=57										
S38A	**Stockton**	25.36	350	P		P		22	28	53.3	0.0
	baz=167,SNR=14										
U32A	**Winter Ranch,**	25.47	340	P		P		22	28	54.2	-0.1
	baz=155,SNR=5.5										
T34A	**McClaskey Farm**	25.51	344	P		P		22	28	54.0	-0.7
	baz=160,SNR=7.3										
R44A	**Waltonville**	25.52	359	P		P		22	28	53.6	-1.0
	baz=178										
BLA	**Blacksburg**	25.52	15	*eP*		P		22	28	55.1	+0.3
	comp=N,40nm,1.0s										
WCI	**Wyandotte Cave**	25.57	4	*eP*		P		22	28	54.2	-0.9
	comp=N,21nm,0.6s										
WCI				*eScP*		ScP		22	35	59.3	+1.6
S37A	**Fort Scott**	25.66	348	P		P		22	28	55.3	-0.7
	baz=165,SNR=17										
VWCC	**Virginia Weste**	25.67	16	*eP*		P		22	28	56.4	+0.3
R40A	**Maddies Statio**	25.77	353	P		P		22	28	56.4	-0.6
	baz=171,SNR=23										
S36A	**Lake Cedric, C**	25.78	347	P		P		22	28	56.5	-0.6
	baz=164,SNR=25										
T33A	**Patterson Ranc**	25.87	342	P		P		22	28	57.2	-0.7
	baz=158										
R39A	**Chumby, Stover**	25.90	352	P		P		22	28	57.5	-0.6
	baz=170,SNR=37										
R38A	**Fenwick Farm,**	25.90	350	P		P		22	28	57.5	-0.7
	baz=168,SNR=16										
S35A	**Otter Creek Ra**	25.91	346	P		P		22	28	57.5	-0.8
	baz=162,SNR=22										
OLIL	**Olney**	26.00	1	*eP*		P		22	28	58.4	-0.6
	comp=N,16nm,0.7s										
GDHS	**Morne Mazeau,**	26.12	79	*eP*		P		22	29	00.9	+0.4
	comp=N,71nm,1.0s										
T32A	**Huddler Ranch,**	26.17	341	P		P		22	29	00.3	-0.4
	baz=156										
R37A	**Teagarden Farm**	26.19	349	P		P		22	29	00.4	-0.4
	baz=166										
Q42A	**Golden Eagle**	26.24	356	P		P		22	29	00.5	-0.7
	baz=175										
ANWB	**Willy Bob**	26.24	76	*eP*		P		22	29	01.3	-0.1
	comp=N,41nm,1.0s										
S33A	**Kaszmaul Farm,**	26.27	343	P		P		22	29	00.8	-0.8
	baz=158										
R36A	**Gordon, Harris**	26.34	347	P		P		22	29	01.2	-0.9
	baz=164,SNR=6.1										
Q40A	**Laux Farm, Aux**	26.45	354	P		P		22	29	02.1	-1.0
	baz=172,SNR=8.4										
BLO	**Bloomington**	26.49	3	*eP*		P		22	29	02.9	-0.6
	comp=N,74nm,1.7s										
R35A	**Emporia Munici**	26.49	346	P		P		22	29	03.2	-0.3
	baz=163										
SVB	**Belmont**	26.55	86	*eP*		P		22	29	04.1	-0.1
	comp=N,84nm,1.1s										
121A	**Cookes Peak, D**	26.55	321	P		P		22	29	07.6	+3.3
	baz=134,SNR=11										
121A	**Cookes Peak, D**	26.55	321	*eP*		P		22	29	05.2	+0.8
	comp=N,16nm,1.0s										
Q39A	**Willow Grove F**	26.61	352	P		P		22	29	03.7	-0.8
	baz=170,SNR=19										
SRIG	**Santa Rosalia**	26.61	307	*eP*		P		22	29	06.1	+1.5
	comp=N,41nm,0.8s										
Q38A	**Cooks Store, C**	26.61	351	P		P		22	29	04.1	-0.5
	baz=169,SNR=18										
FDF	**Fort de France**	26.64	82	*eP*		P		22	29	05.7	+0.6
	comp=N,106nm,1.3s										
Q37A	**Longview Farm,**	26.67	350	P		P		22	29	04.1	-1.0
	baz=167										
R34A	**Isabella, Hill**	26.73	345	P		P		22	29	05.1	-0.5
	baz=161,SNR=6.1										
R33A	**Olander Ranch,**	26.93	343	P		P		22	29	06.8	-0.7
	baz=159										
Q36A	**Arnold C. Orve**	26.94	348	P		P		22	29	07.1	-0.4
	baz=165										
Q35A	**Mercer Eighty,**	26.97	347	P		P		22	29	06.9	-0.8
	baz=163										
P40A	**Paris**	26.98	354	P		P		22	29	06.9	-0.9
	baz=172,SNR=6.7										
P39B	**Salisbury**	27.01	353	P		P		22	29	07.2	-0.9
	baz=171,SNR=9.9										
BNM	**Barren Site**	27.04	325	*eP*		P		22	29	10.7	+1.9
NNA	**Nana**	27.05	154	LR		LR		22	37	59.3	
	comp=N,142nm,19.9s,baz=330,slow=32										
NNA	**Nana**	27.05	154	*eP*		P		22	29	09.6	+0.8
	comp=N,138nm,1.6s										
Y22D	**IRIS PASSCAL I**	27.15	325	P		P		22	29	09.3	-0.3
	baz=137										
Y22D	**IRIS PASSCAL I**	27.15	325	*eP*		P		22	29	12.0	+2.4
	comp=N,38nm,0.8s										
LPM	**Los Pinos Moun**	27.16	326	*eP*		P		22	29	12.5	+2.7
Q34A	**Chapman**	27.24	345	P		P		22	29	09.3	-0.9
	baz=162,SNR=5.5										
R32A	**Long Quarter,**	27.25	342	P		P		22	29	09.5	-0.9
	baz=158										
P38A	**Dawn**	27.25	351	P		P		22	29	09.4	-0.9
	baz=169,SNR=7.5										
CBN	**Corbin Frederi**	27.33	19	*eP*		P		22	29	10.8	-0.1
	comp=N,25nm,0.8s										
KSU1	**Kansas State U**	27.33	346	P		P		22	29	10.1	-0.9
	baz=162,SNR=5.4										
KSU1	**Kansas State U**	27.33	346	*eP*		P		22	29	10.2	-0.7
KSU1				*esP*		sP		22	29	51.1	+14
P37A	**Lathrop**	27.34	350	P		P		22	29	10.1	-1.0
	baz=167,SNR=6.2										
LAZ	**Ladron**	27.51	325	*eP*		P		22	29	13.0	+0.1
P36A	**Good Intent, A**	27.53	349	P		P		22	29	12.4	-0.3
	baz=166										
Q33A	**Connelly Farm,**	27.54	344	P		P		22	29	12.4	-0.5
	baz=160,SNR=5.8										
ANMO	**Albuquerque**	27.54	327	P		P		22	29	15.4	+2.2
	comp=N,3.9nm,1.0s,baz=153,slow=12,SNR=11										
ANMO	**Albuquerque**	27.54	327	P		P		22	29	14.3	+1.1
	baz=139										
ANMO	**Albuquerque**	27.54	327	*eP*		P		22	29	13.8	+0.6
	comp=N,7.2nm,1.1s										
O40A	**La Belle**	27.54	354	P		P		22	29	11.9	-1.0
	baz=173,SNR=7.3										
P35A	**Duane Minner,**	27.61	347	P		P		22	29	12.9	-0.6
	baz=164,SNR=11										
O38A	**Galt**	27.73	352	P		P		22	29	13.7	-0.9
	baz=169										
Q32A	**Meitler Ranch,**	27.73	343	P		P		22	29	14.1	-0.5
	baz=158										
O39A	**Kirksville**	27.75	353	P		P		22	29	13.8	-0.9
	baz=171										
P34A	**Walnut Farm, R**	27.80	346	P		P		22	29	14.9	-0.3
	baz=162,SNR=12										
HDIL	**Hopedale**	27.82	359	*eP*		P		22	29	15.1	-0.3
	comp=N,12nm,0.9s										
O37A	**Wolven Farm, M**	27.88	351	P		P		22	29	15.1	-0.8
	baz=168,SNR=5.8										
ACSO	**Alum Creek Sta**	27.92	9	*eP*		P		22	29	15.6	-0.6
	comp=N,15nm,0.8s										
CBKS	**Cedar Bluff**	27.92	341	*eP*		P		22	29	16.3	-0.1
	comp=N,31nm,1.1s										
MCWV	**Mont Chateau**	27.98	14	*eP*		P		22	29	16.0	-0.9
	comp=N,29nm,2.0s										
T25A	**Trinidad**	28.27	332	P		P		22	29	20.5	+0.8
	baz=145,SNR=7.8										
T25A	**Trinidad**	28.27	332	*eP*		P		22	29	19.1	-0.5
	comp=N,13nm,0.6s										
TUC	**Tucson**	28.32	317	*eP*		P		22	29	19.9	0.0
	comp=N,5.7nm,1.0s										
N39A	**Derby Farms, D**	28.36	354	P		P		22	29	19.3	-0.8
	baz=172,SNR=6.5										
N38A	**Joes South For**	28.36	352	P		P		22	29	19.6	-0.6
	baz=170,SNR=7.8										
O34A	**Bee**	28.38	347	P		P		22	29	19.7	-0.6
	baz=163,SNR=11										
N37A	**Lee Faris, Mou**	28.46	351	P		P		22	29	20.6	-0.5
	baz=168										
O33A	**Hebron**	28.49	345	P		P		22	29	21.1	-0.2
	baz=161,SNR=13										
SDMD	**Soldier's Deli**	28.60	19	*eP*		P		22	29	21.8	-0.5
	comp=N,12nm,0.9s										
O32A	**Brockman Farm,**	28.84	344	P		P		22	29	23.4	-1.1
	baz=160										
N34A	**Lincoln**	28.96	347	P		P		22	29	25.1	-0.4
	baz=164										
M38A	**Pleasantville**	28.97	353	P		P		22	29	24.5	-1.1
	baz=170,SNR=16										
O31A	**Woolen Ranch,**	29.03	343	P		P		22	29	26.3	+0.1
	baz=158										
M37A	**Trindle Farm,**	29.07	351	P		P		22	29	25.9	-0.6
	baz=169,SNR=5.9										
N33A	**J Bar K, Exete**	29.08	346	P		P		22	29	26.4	-0.2
	baz=162,SNR=5.2										
KSCO	**Kaye Shedlock'**	29.11	337	*eP*		P		22	29	27.3	+0.3
	comp=N,73nm,1.4s										
N54A	**Moraine State**	29.19	13	P		P		22	29	26.4	-1.1
	baz=197										
X18A	**Snowflake**	29.23	322	*eP*		P		22	29	28.0	-0.3
	comp=N,9.3nm,1.3s										
SDCO	**Great Sand Dun**	29.26	332	P		P		22	29	29.9	+1.3
	baz=144,SNR=10										
SDCO	**Great Sand Dun**	29.26	332	*eP*		P		22	29	30.0	+1.4
	comp=N,16nm,1.4s										
BBSR	**BB Station**	29.36	44	*eP*		P		22	29	29.1	0.0
	comp=N,15nm,0.8s										
SSPA	**Standing Stone**	29.41	17	*eP*		P		22	29	28.7	-0.8
	comp=N,14nm,1.1s										
214A	**Organ Pipe Nat**	29.48	315	P		P		22	29	32.2	+2.0
	baz=125										
L38A	**Oak Wood Farm,**	29.66	353	P		P		22	29	30.6	-1.1
	baz=171,SNR=19										
L37A	**Phoenix Point,**	29.74	352	P		P		22	29	31.5	-0.9
	baz=169										
M54A	**Oil Creek Stat**	29.78	13	P		P		22	29	32.1	-0.7
	baz=197										
ALLY	**Alegheny Colle**	29.81	13	*eP*		P		22	29	31.5	-1.6
	comp=N,14nm,1.1s										
L36A	**Harm Buss Farm**	29.85	351	P		P		22	29	32.7	-0.7
	baz=168,SNR=5.7										
AAM	**Ann Arbor**	29.86	7	*eP*		P		22	29	32.7	-0.7
	comp=N,18nm,0.5s										
S22A	**4UR Ranch, Cre**	29.89	330	P		P		22	29	35.5	+1.3
	baz=142										
S22A	**4UR Ranch, Cre**	29.89	330	*eP*		P		22	29	33.7	-0.5
S22A				*esP*		sP		22	30	02.7	+2.3
S22A				*eScP*		ScP		22	36	17.1	+5.8
M31A	**Lambtecht Ranc**	30.04	344	P		P		22	29	35.2	+0.1
	baz=159										
X16A	**Lo Mia Camp, P**	30.08	320	*eP*		P		22	29	38.8	+3.1
	comp=N,3.0nm,0.8s										
Q24A	**Divide**	30.10	334	P		P		22	29	37.1	+1.1
	baz=146										
Q24A	**Divide**	30.10	334	*eP*		P		22	29	35.6	-0.4
	comp=N,4.5nm,0.6s										
K38A	**Parkersburg**	30.14	354	P		P		22	29	35.0	-0.9
	baz=172										
JFWS	**Jewell Farm**	30.21	357	*eP*		P		22	29	35.4	-1.1
	comp=N,13nm,0.6s										
JFWS				*eS*		S		22	34	30.2	-0.4
ERPA	**Erie**	30.30	13	*eP*		P		22	29	36.3	-1.0
	comp=N,17nm,0.8s										
N59A	**State Game Lan**	30.31	19	P		P		22	29	37.3	-0.2
	baz=205										
MVCO	**Mesa Verde**	30.33	327	P		P		22	29	37.4	-0.6
	baz=138										
MVCO	**Mesa Verde**	30.33	327	*eP*		P		22	29	37.6	-0.4
	comp=N,9.7nm,1.0s										
K36A	**Gilmore City**	30.34	351	P		P		22	29	37.1	-0.6
	baz=168										
K37A	**Belmond**	30.36	352	P		P		22	29	36.6	-1.2
	baz=170,SNR=33										
L33A	**Hoskins**	30.40	347	P		P		22	29	37.9	-0.3
	baz=163										
L32A	**Elgin**	30.42	346	P		P		22	29	38.5	+0.1
	baz=161										
K35A	**Storm Lake**	30.55	350	P		P		22	29	38.8	-0.7
	baz=167										
K34A	**Le Mars**	30.66	349	P		P		22	29	39.4	-1.1
	baz=165,SNR=5.7										
WUAZ	**Wupatki**	30.76	322	*eP*		P		22	29	42.1	+0.4
	comp=N,10nm,1.0s										
J38A	**Wedel Dairy, R**	30.77	354	P		P		22	29	40.4	-1.1
	baz=172,SNR=9.0										
L31A	**Butterfield Fa**	30.78	345	P		P		22	29	41.8	+0.1
	baz=160										
Y14A	**Wickenburg**	30.78	318	*eP*		P		22	29	41.6	-0.2
	comp=N,8.9nm,1.0s										
Y14A				*eScP*		ScP		22	36	19.8	+5.8
J37A	**Redenius Farm,**	30.88	353	P		P		22	29	41.5	-0.9
	baz=170,SNR=39										
ISCO	**Idaho Springs**	31.00	334	P		P		22	29	43.2	-0.7
	baz=146										
ISCO	**Idaho Springs**	31.00	334	*eP*		P		22	29	42.7	-1.2
	comp=N,2.6nm,0.6s										
J36A	**Seneca 1, Swea**	31.00	352	P		P		22	29	42.5	-1.0
	baz=169,SNR=10.0										
PAL	**Palisades**	31.02	22	*eP*		P		22	29	42.3	-1.4
	comp=N,72nm,1.5s										
K32A	**Verdigre**	31.03	346	P		P		22	29	43.4	-0.4
	baz=162,SNR=6.3										
PV01	**Paradox Valley**	31.07	328	*eP*		P		22	29	44.4	0.0
SMCO	**Snowmass**	31.10	332	*eP*		P		22	29	44.8	-0.1
	comp=N,5.2nm,0.8s										
SMCO				*eScP*		ScP		22	36	23.7	+8.3
PV05	**Paradox Valley**	31.30	328	*eP*		P		22	29	45.7	-0.8
MMNY	**Mt. Morris Dam**	31.36	15	*eP*		P		22	29	46.1	-0.6
BINY	**Binghamton**	31.40	18	*eP*		P		22	29	46.1	-1.0
	comp=N,43nm,1.5s										
K30A	**Basset**	31.45	344	P		P		22	29	47.9	+0.4
	baz=159,SNR=6.7										
I38A	**Scanlan Farm,**	31.47	355	P		P		22	29	46.4	-1.2
	baz=173,SNR=6.1										
GLA	**Glamis**	31.50	315	*eP*		P		22	29	47.8	-0.3
	comp=N,4.6nm,1.0s										
I37A	**Lemond, Waseca**	31.56	353	P		P		22	29	47.6	-0.8
	baz=171,SNR=12										
I35A	**Creekview Farm**	31.61	351	P		P		22	29	48.1	-0.8
	baz=168										
I36A	**Fitzsimmons Fa**	31.64	352	P		P		22	29	48.1	-1.0
	baz=170										
ECSD	**EROS Data Cent**	31.77	349	P		P		22	29	48.7	-1.5
	baz=165,SNR=8.8										
ECSD	**EROS Data Cent**	31.77	349	*eP*		P		22	29	48.8	-1.5
	comp=N,20nm,1.4s										
ECSD				*eScP*		ScP		22	36	19.6	+2.6
U15A	**North Rim**	31.92	322	*eP*		P		22	29	51.9	-0.2
	comp=N,3.6nm,0.9s										
J30A	**Dallas**	32.03	345	P		P		22	29	52.0	-0.6
	baz=159										
N23A	**Red Feather La**	32.05	335	*eP*		P		22	29	52.7	-0.4
	comp=N,5.2nm,1.0s										
H37A	**Dierke Farm, C**	32.06	354	P		P		22	29	52.3	-0.5
	baz=172,SNR=5.7										
H36A	**Jessenland, He**	32.17	353	P		P		22	29	53.2	-0.6
	baz=170,SNR=26										
IKP	**In-Ko-Pah, Jac**	32.19	313	P		P		22	29	53.4	-0.8
	baz=122										
PHWY	**Pilot Hill**	32.19	336	*eP*		P		22	29	55.2	+0.8
	comp=N,7.2nm,0.9s										
H35A	**Sunnyside Ranc**	32.41	352	P		P		22	29	54.7	-1.2
	baz=168,SNR=22										
O20A	**White River Ci**	32.45	331	P		P		22	29	57.7	+1.1
	baz=142,SNR=6.9										
O20A	**White River Ci**	32.45	331	*eP*		P		22	29	58.8	+2.2
	comp=N,76nm,1.8s										
I30A	**Oacoma**	32.56	345	P		P		22	29	56.8	-0.4
	baz=160										
T

comp=N,8,8nm,0.8s
LPAZ La Paz 35.09 144 P **P** 22 30 19.2 -0.8
comp=N,1,9nm,0.7s,baz=338,slow=10,SNR=9.6
LPAZ La Paz 35.09 144 *eP* **P** 22 30 21.0 +0.9
comp=N,16nm,1.9s
C39A Grand Marais 35.10 358 P **P** 22 30 17.0 -2.2
baz=177,SNR=5.6
C37A Embarrass 35.12 356 P **P** 22 30 17.9 -1.4
baz=174,SNR=6.6
BW06 Boulder Array 35.14 333 P **P** 22 30 18.8 -1.1
baz=142
BW06 Boulder Array 35.14 333 *eP* **P** 22 30 19.7 -0.2
comp=N,0.2nm,1.1s
BW06 *e*ScP **ScP** 22 36 30.9 +1.7
PD31 Pinedale Array 35.14 333 *eP* **P** 22 30 19.1 -0.7
PDAR Pinedale Array 35.14 333 P **P** 22 30 20.2 +0.3
comp=N,1.2nm,0.6s,baz=116,slow=10,SNR=9.6
PDAR PcP **PcP** 22 32 50.0 +0.1
comp=N,1.1nm,0.7s,baz=131,slow=2.9,SNR=5.2
PDAR ScP **ScP** 22 36 31.9 +2.7
comp=N,0.4nm,0.7s,baz=116,slow=3.4,SNR=5.3
R11A Troy Canyon, C 35.16 322 *eP* **P** 22 30 20.4 +0.3
comp=N,11nm,1.8s
R11A *e*ScP **ScP** 22 36 34.5 +5.2
D31A Mcclaflin, Tow 35.17 349 P **P** 22 30 18.6 -1.2
baz=164
HWUT Hardware Ranch 35.20 329 *eP* **P** 22 30 22.2 +1.9
comp=N,14nm,1.1s
C36A Pine Crest Far 35.20 355 P **P** 22 30 19.2 -0.9
baz=172,SNR=12
F26A Lodgepole 35.23 343 P **P** 22 30 20.5 +0.1
baz=155
C35A Jirik Farms, M 35.26 354 P **P** 22 30 18.9 -1.7
baz=171,SNR=18
EYMN Ely 35.29 357 P **P** 22 30 18.8 -2.0
baz=175,SNR=15
EYMN Ely 35.29 357 *eP* **P** 22 30 18.8 -2.0
comp=N,13nm,0.9s
EYMN *e*S **S** 22 35 46.0 -3.4
C34A RKJ Ranch, Bem 35.32 352 P **P** 22 30 19.5 -1.5
baz=169,SNR=6.3
SPUT South Promonto 35.42 328 *eP* **P** 22 30 21.7 -0.6
comp=N,5.5nm,1.0s
D30A Buchanan 35.44 348 P **P** 22 30 21.1 -0.9
baz=162,SNR=7.8
BGU Big Grassy Mou 35.45 327 *eP* **P** 22 30 22.3 -0.2
comp=N,7.1nm,1.2s
BGU *e*ScP **ScP** 22 36 34.3 +4.1
TRQ Mont Tremblant 35.50 17 *eP* **P** 22 30 21.6 -1.1
F25A Bowman 35.53 342 P **P** 22 30 23.1 +0.1
baz=154
C33A Trail 35.54 352 P **P** 22 30 21.2 -1.8
baz=168
AHID Auburn Hatcher 35.85 331 *eP* **P** 22 30 27.1 +1.2
comp=N,11nm,0.5s
B35A Bob, Littefor 35.88 354 P **P** 22 30 24.2 -1.7
baz=171,SNR=5.2
C31A Landman Farms, 35.90 349 P **P** 22 30 24.8 -1.2
baz=164
D28A Regan 35.92 346 P **P** 22 30 25.9 -0.3
baz=160
C30A Mose, Pekin 35.95 348 P **P** 22 30 25.6 -0.8
baz=163,SNR=7.8
B33A Robert and Kas 36.02 352 P **P** 22 30 25.9 -1.1
baz=168
AGMN Agassiz Nation 36.08 352 P **P** 22 30 26.5 -1.1
baz=168,SNR=17
AGMN Agassiz Nation 36.08 352 *eP* **P** 22 30 26.3 -1.3
comp=N,31nm,0.6s
AGMN *e*S **S** 22 36 00.0 -1.5
B34A Aery, Baudette 36.11 353 P **P** 22 30 26.5 -1.3
baz=170,SNR=27
REDW Red Top Meadow 36.19 332 *eP* **P** 22 30 29.4 +0.5
comp=N,20nm,0.8s
SNOW Snow King Moun 36.23 332 *eP* **P** 22 30 30.8 +1.5
comp=N,24nm,0.6s
D26A Manning 36.24 344 P **P** 22 30 28.5 -0.5
baz=156
LOHW Long Hollow 36.28 332 *eP* **P** 22 30 30.5 +1.0
comp=N,8.4nm,0.8s
B32A Ashes, Strandq 36.28 351 P **P** 22 30 28.5 -0.8
baz=166,SNR=21
MDND Maddock 36.32 347 P **P** 22 30 29.1 -0.5
baz=161
MDND Maddock 36.32 347 *eP* **P** 22 30 29.3 -0.3
comp=N,50nm,0.7s
TPAW Teton Pass 36.34 332 *eP* **P** 22 30 29.4 -0.8
comp=N,12nm,0.9s
C28A Hausauer Farms 36.37 346 P **P** 22 30 29.7 -0.4
baz=160
PKME Peaks-Kenny Pk 36.40 23 *eP* **P** 22 30 29.3 -1.0
comp=N,48nm,1.8s
MOOW Moose Ponds 36.45 332 *eP* **P** 22 30 31.7 +0.7
comp=N,4.1nm,0.7s
FXWY Fox Creek 36.49 332 *eP* **P** 22 30 32.5 +1.1
comp=N,3.0nm,0.8s
B31A Greenbush Farm 36.49 350 P **P** 22 30 30.0 -1.1
baz=165
ELK Elko 36.53 325 *eP* **P** 22 30 31.4 -0.4
comp=N,2.6nm,1.1s
ELK *e*ScP **ScP** 22 36 38.2 +4.0
B30A Myrvik Farm, E 36.64 349 P **P** 22 30 31.4 -0.9
baz=164
A33A Warroad 36.65 352 P **P** 22 30 31.3 -1.1
baz=168,SNR=33
IMW Indian Meadow 36.65 332 *eP* **P** 22 30 34.1 +1.3
comp=N,3.6nm,0.6s
EMMW East Machias 36.68 25 *eP* **P** 22 30 31.7 -1.0
comp=N,14nm,0.9s
FLWY Flagg Ranch 36.69 333 *eP* **P** 22 30 32.0 -1.1
comp=N,14nm,1.1s
A32A Rocking H Ranc 36.78 351 P **P** 22 30 32.2 -1.3
baz=167,SNR=6.3
NV11 Mina Array Sit 36.81 320 *eP* **P** 22 30 37.2 +3.1
comp=N,4.9nm,1.0s
B29A Wagenman Farm, 36.85 348 P **P** 22 30 33.4 -0.7
baz=162,SNR=5.7
NV01 Mina Array Sit 36.90 319 *eP* **P** 22 30 37.6 +2.6
NV01 *e*PcP **PcP** 22 32 56.7 +1.5
NV01 *e*ScP **ScP** 22 36 40.4 +4.7
NVAR Mina Array Bea 36.90 319 P **P** 22 30 38.0 +3.0
comp=N,4.4nm,0.9s,baz=133,slow=7.2,SNR=17
NVAR PcP **PcP** 22 32 56.8 +1.5
comp=N,1.5nm,0.7s,baz=125,slow=2.4,SNR=5.3
NVAR ScP **ScP** 22 36 39.0 +3.3
comp=N,2.1nm,0.8s,baz=130,slow=3.8,SNR=9.0
RLMT Red Lodge 36.91 335 P **P** 22 30 35.0 0.0
baz=145,SNR=7.6
RLMT Red Lodge 36.91 335 *eP* **P** 22 30 35.3 +0.4
comp=N,9.3nm,0.9s
B28A Dugan Ranch, T 37.05 347 P **P** 22 30 35.3 -0.5
baz=160,SNR=5.0
A29A Manning Farm, 37.26 348 P **P** 22 30 36.8 -0.8
baz=162,SNR=7.2
A26A Wade Farm, Ken 37.86 345 P **P** 22 30 42.1 -0.6
baz=158
ULM Lac du Bonnet 38.00 352 P **P** 22 30 41.9 -1.9
comp=N,28nm,0.5s,baz=168,slow=9.1,SNR=24
ULM Lac du Bonnet 38.00 352 *eP* **P** 22 30 42.0 -1.8
comp=N,33nm,0.6s
DGMT Dagmar 38.04 343 P **P** 22 30 44.2 -0.1
baz=154,SNR=6.9
DGMT Dagmar 38.04 343 *eP* **P** 22 30 44.4 +0.1
comp=N,64nm,0.7s
HLID Hailey 38.06 329 P **P** 22 30 45.4 +0.8
baz=136
HLID Hailey 38.06 329 *eP* **P** 22 30 46.5 +1.9
comp=N,2.1nm,0.8s
A25A Svangstu Ranch 38.17 344 P **P** 22 30 45.2 -0.1
baz=156
MCMT McKenzie Canyo 38.24 332 *eP* P 22 30 41.4 -4.8
BOZ Bozeman (W) 38.33 334 P **P** 22 30 47.2 +0.4
baz=142,SNR=14
BOZ Bozeman (W) 38.33 334 *eP* **P** 22 30 47.5 +0.7
comp=N,6.9nm,0.8s
DLMT Dillon 38.53 332 *eP* **P** 22 30 51.4 +2.9
comp=N,12nm,1.1s
MFID Camas Ranch 38.68 328 *eP* **P** 22 30 52.0 +2.2
comp=N,4.0nm,1.0s
MFID *e*S **S** 22 36 46.1 +4.9
LMN Caledonia Moun 38.72 27 *eP* **P** 22 30 49.4 -0.5
comp=N,24nm,0.9s
LRM Limekiln Ridge 38.82 333 *eP* **P** 22 30 52.1 +1.0
EGMT Eagleton 39.49 337 P **P** 22 30 56.9 +0.4
baz=146,SNR=7.8
EGMT Eagleton 39.49 337 *eP* **P** 22 30 56.5 +0.1
comp=N,14nm,0.8s
LVC Limon Verde 39.94 151 P **P** 22 31 01.2 +0.5
comp=N,24nm,0.9s,baz=277,slow=11,SNR=4.7
CHMT Chamberlain Mo 40.02 333 *eP* **P** 22 31 01.7 +0.7
MSO Missoula 40.26 333 P **P** 22 31 03.8 +0.9
baz=139,SNR=9.0
MSO Missoula 40.26 333 *eP* **P** 22 31 04.8 +1.9
comp=N,22nm,1.4s
BMO Blue Mountains 40.44 328 *eP* **P** 22 31 01.3 -3.1
comp=N,4.5nm,0.7s
F10A Beach Ranch, E 41.18 329 *eP* **P** 22 31 11.5 +1.1
comp=N,8.5nm,0.9s
SCHQ Schefferville 45.40 17 P **P** 22 31 42.0 -2.2
comp=N,16nm,0.8s,baz=216,slow=7.3,SNR=17
SCHQ Schefferville 45.40 17 *eP* **P** 22 31 42.2 -2.0
comp=N,14nm,0.8s
FCC Fort Churchill 46.23 356 *eP* **P** 22 31 49.2 -1.4
comp=N,22nm,0.8s
BDFB Brasilia 48.92 124 P **P** 22 32 10.9 -1.3
comp=N,2.0nm,0.5s,baz=278,slow=5.6,SNR=4.4
CPUP Villa Florida 49.18 142 P **P** 22 32 12.8 -1.0
comp=N,3.7nm,0.9s,baz=320,slow=8.1,SNR=8.0
CPUP Villa Florida 49.18 142 *eP* **P** 22 32 13.7 -0.2
YKA Yellowknife Ar 53.17 345 P **P** 22 32 42.1 -1.2
comp=N,8.7nm,0.8s,baz=139,slow=7.7,SNR=41
YKA pP **pP** 22 32 58.9 -3.2
comp=N,7.3nm,0.9s,baz=141,slow=7.6,SNR=8.3
YKA ScP **ScP** 22 37 42.3 +0.8
comp=N,0.7nm,0.9s,baz=136,slow=4.2,SNR=5.1
DLBC Dease Lake 55.31 335 *eP* **P** 22 32 59.9 +0.9
comp=N,9.9nm,0.7s
PLCA Paso Flores 55.63 164 P **P** 22 33 01.6 +0.2
comp=N,5.4nm,0.9s,baz=12,slow=7.0,SNR=4.4
RKT Rikitea 57.73 232 *e*T T 23 35 16.5
comp=N,4.0nm,0.3s
EGAK Eagle 63.26 338 *eP* **P** 22 33 53.4 -0.2
comp=N,2.8nm,0.8s
KLU Klutina 63.72 333 *eP* **P** 22 33 57.8 +1.0
comp=N,8.1nm,1.2s
DOT Dot Lake 63.85 336 *eP* **P** 22 33 57.9 +0.3
comp=N,9.6nm,0.6s
IL1 Eielson Array 65.45 336 *eP* **P** 22 34 05.8 -2.1
ILAR Eielson Array 65.45 336 P **P** 22 34 07.4 -0.5
comp=N,3.1nm,0.9s,baz=113,slow=5.1,SNR=23
ILAR PP **PP** 22 36 33.2 +0.7
comp=N,0.9nm,0.9s,baz=122,slow=6.6,SNR=4.1
ILB Eielson Array 65.45 336 *eP* **P** 22 34 08.0 +0.1
RND Reindeer 65.71 335 *eP* **P** 22 34 09.7 -0.1
comp=N,12nm,0.8s
CCB Clear Creek Bu 65.76 336 *eP* **P** 22 34 10.0 +0.1
comp=N,9.3nm,1.7s
WRH Wood River Hil 65.80 336 *eP* **P** 22 34 09.4 -0.8
comp=N,3.3nm,0.8s
MCK McKinley 65.87 335 *eP* **P** 22 34 11.2 +0.5
comp=N,7.1nm,1.2s
BWN Browne 66.25 335 *eP* **P** 22 34 13.2 +0.1
comp=N,25nm,0.9s
TRF Thorofare Moun 66.33 334 *eP* **P** 22 34 13.7 -0.1
comp=N,6.0nm,0.9s
BPAW Bear Paw Mtn. 66.85 335 *eP* **P** 22 34 16.1 -0.8
comp=N,5.2nm,0.8s
MLY Manley 67.07 336 *eP* **P** 22 34 18.1 -0.2
comp=N,4.4nm,0.7s
PPT2 Papeete2 67.36 245 *e*LR LR 22 54 43.3
comp=N,150nm,25.8s
COLD Coldfoot 67.65 338 *eP* **P** 22 34 22.7 +0.8
comp=N,4.0nm,0.9s
TBI Tubuai 69.53 239 *e*LR LR 22 55 56.7
comp=N,158nm,29.5s
ESDC Sonseca Array 77.88 52 P **P** 22 35 20.7 -2.4
comp=N,0.9nm,0.8s,baz=289,slow=5.4,SNR=6.3
ES19 SONSECA Array 77.92 52 *eP* **P** 22 35 20.8 -2.6
ARCES ARCESS Array B 86.34 19 P **P** 22 36 04.7 -2.0
comp=N,2.8nm,0.9s,baz=332,slow=4.4,SNR=4.0
TORD Torodi Ar. Bea 87.36 77 P **P** 22 36 11.1 -1.6
comp=N,0.4nm,0.6s,baz=291,slow=5.7,SNR=3.8
GERES GERESS Array B 88.45 40 P **P** 22 36 16.1 -1.3
comp=N,0.1nm,0.3s,baz=270,slow=3.9,SNR=5.3
SNAA Sanae 100.53 161 PKiKP PKiKP 22 41 47.3 +9.2
DZM Mont Dzumac 108.45 251 *e*LR LR 23 13 59.1
comp=N,166nm,27.9s
ZALV Zalesovo Beam 113.44 4 PKiKP **PKiKP** 22 42 01.5 -1.0
comp=N,0.6nm,0.4s,baz=284,slow=4.1,SNR=4.2
SONM Songino Array 118.36 349 PKP **PKPdf** 22 42 12.3 -0.1
comp=N,0.6nm,0.6s,baz=4.1,slow=2.0,SNR=3.0
MATP Matopo 119.40 106 PKP **PKPdf** 22 42 15.5 +0.4
comp=N,2.7nm,1.0s,baz=246,slow=3.0,SNR=4.7
KSRS Korea Array 119.57 327 PKP **PKPdf** 22 42 15.4 +0.7
comp=N,0.8nm,0.7s,baz=352,slow=1.9,SNR=7.1
KSAR Wonju Array Be 119.60 327 PKP **PKPdf** 22 42 15.4 +0.6
MKAR Makanchi Array 120.27 7 PKP **PKPdf** 22 42 14.6 -1.4
comp=N,0.3nm,0.4s,baz=301,slow=3.4,SNR=7.2
GEYT Alibeck 120.76 30 PKP **PKPdf** 22 42 16.5 -0.7
comp=N,1.0nm,0.5s,baz=308,slow=7.1,SNR=3.3
KSH Kashi 126.14 15 *e*PKPbc **PKPdf** 22 42 29.5 +1.9
KSH sPKP 22 43 03.8
KSH PP PP 22 44 30.1 +9.1
KSH PKS **PKSdf** **22 46 03.6 -0.7**
KSH SKS **SKSdf** **22 49 26.3 -6.9**
KSH Kashi 126.14 15 SS SS 23 01 18.4 +1.2
KSH AMB AMB
comp=Z,60nm,4.3s
KSH LR LR
comp=N,100nm,7.3s
KSH LR LR
comp=E,110nm,5.4s
KSH LR LR
comp=Z,480nm,14.9s
WRA Warramunga Arr 138.34 254 PKhKP PKPpre 22 42 41.5
comp=Z,0.9nm,0.9s,baz=96,slow=2.8,SNR=4.4
WRA PKP **PKPdf** **22 42 51.6 +0.8**
comp=Z,2.5nm,0.8s,baz=88,slow=2.1,SNR=7.4
ASAR Alice Springs 138.39 249 PKhKP PKPpre 22 42 41.2
comp=Z,0.8nm,0.7s,baz=85,slow=2.3,SNR=7.7
ASAR PKP **PKPdf** **22 42 51.1 +0.2**
comp=Z,1.7nm,0.8s,baz=89,slow=1.7,SNR=9.5
ASAR SKPbc **SKiKP** **22 46 23.7 +0.9**
comp=Z,0.9nm,0.9s,baz=89,slow=3.9,SNR=2.5
QIZ Qiongzhong 143.72 330 PKPbc PKPbc 22 42 58.6 +0.4
QIZ PP **PP** **22 46 11.9 -0.5**
QIZ SKS **SKSdf** **22 49 57.8 -6.3**
FITZ Fitzroy Crossi 146.68 256 PKPbc **PKPbc** **22 43 07.9 +0.6**
comp=Z,13nm,0.9s,baz=108,slow=5.5,SNR=6.9
CMAR Chiang Mai Arr 148.25 347 PKPbc **PKPdf** **22 43 09.5 +1.3**
comp=Z,0.6nm,0.3s,baz=203,slow=29,SNR=4.3
NWAO Narrogin (SRO) 149.00 225 PKPbc **PKPbc** **22 43 13.7 +0.5**
comp=Z,16nm,0.8s,baz=6.9,slow=4.5,SNR=6.4

*IDC **11** 22:24:32.2±13.0, 13˚.30N×87˚.65W, h0km, mb3.9/4, mb1 4.4/4, mb1mx3.8/36, mbtmp4.0/4, MS3.5/1, Ms1 3.5/1, ms1mx2.9/13, Error ellipse: s-maj=273.2km s-min=96.7km az=2.0*
*NEIC **11** 22:24:33.4±1.4, 13˚.27N×87˚.69W, h10km, mb4.1/10, Error ellipse: s-maj=37.3km s-min=8.6km az=205.0*
*ISCJB **11** 22:24:34.7±2.1, 13˚.3N±0˚.4×87˚.7W±0˚.2, h33km, mb4.2/15, MS3.5/1, Error ellipse: s-maj=58.1km s-min=12.4km az=25.9*
ISC 11 22:24:36.4±2.7, 13˚.2N±0˚.4×87˚.7W±0˚.2, h35km, n16, σ0s62/16, mb4.1/15, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo** 4.4nm,0.6s	**17.29**	**103**	*e*Pn		**Pn**	**Pn**	**22 28 35.0**	**-0.5**
SJG	**San Juan** 5.1nm,0.8s	**21.32**	**74**	*e*P		**P**	**P**	**22 29 20.4**	**-0.1**
TXAR	**Lajitas Array** 3.2nm,1.0s,baz=127,slow=12,SNR=1.6	**21.85**	**320**	P		**P**	**P**	**22 29 25.8**	**-0.4**
MIAR	**Mount Ida** 15nm,0.9s	**21.92**	**347**	*e*P		**P**	**P**	**22 29 25.9**	**-0.9**
ANMO	**Albuquerque** 0.5nm,0.5s	**27.51**	**325**	*e*P		**P**	**P**	**22 30 20.3**	**+0.3**
PV10	**Paradox Valley** 184nm,0.5s	**31.44**	**327**	*e*P		**P**	**P**	**22 30 53.7**	**-1.2**
RSSD	**Black Hills** 1.5nm,0.6s	**33.86**	**339**	*e*P		**P**	**P**	**22 31 15.2**	**-0.7**
PDAR	**Pinedale Array** 2.1nm,0.9s,baz=131,slow=9.7,SNR=2.1	**35.01**	**331**	P		**P**	**P**	**22 31 26.4**	**+0.5**
PDAR				LR		LR	LR	22 49 14.6	
HWUT	**Hardware Ranch** 4.4nm,0.7s	**35.12**	**328**	*e*P		**P**	**P**	**22 31 27.3**	**+0.4**
NVAR	**Mina Array Bea** 1.7nm,0.6s,baz=124,slow=7.7,SNR=3.8	**36.99**	**318**	P		**P**	**P**	**22 31 43.1**	**+0.2**
HLID	**Hailey** 0.7nm,0.6s	**37.99**	**328**	*e*P		**P**	**P**	**22 31 51.4**	**+0.1**
NEW	**Newport**	**42.65**	**331**	*e*P		**P**	**P**	**22 32 29.7**	**+0.1**
YKA	**Yellowknife Ar** 1.6nm,0.8s,baz=143,slow=7.0,SNR=3.5	**52.84**	**345**	P		**P**	**P**	**22 33 48.5**	**+0.3**
WRAK	**Wrangell Islan** 18nm,0.5s	**55.00**	**332**	*e*P		**P**	**P**	**22 34 04.2**	**0.0**
DLBC	**Dease Lake** 1.3nm,0.5s	**55.14**	**334**	*e*P		**P**	**P**	**22 34 04.8**	**-0.5**
SUMG	**Summit** 2.2nm,0.9s	**65.94**	**14**	*e*P		**P**	**P**	**22 35 20.2**	**+1.1**

*IDC **11** 22:32:06.0±1.0, 0˚.36N×127˚.55E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/34, mbtmp3.8/8, ML3.8/2, Error ellipse: s-maj=48.0km s-min=17.1km az=79.0*
*ISCJB **11** 22:32:09.0±0.5, 0˚.31N±0˚.06×127˚.5E±0˚.1, h35km, mb4.3/16, Error ellipse: s-maj=14.9km s-min=8.8km az=179.0*
*NEIC **11** 22:32:12.0±1.5, 0˚.30N×127˚.48E, h45km±16km, mb4.4/9, Error ellipse: s-maj=11.0km s-min=6.5km az=69.0*
ISC 11 22:32:10.8±0.6, 0˚.27N±0˚.09×127˚.4E±0˚.1, h35km, n19, σ1s29/20, mb4.2/16, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang** 1.8nm,0.3s,baz=222,slow=19,SNR=3.6	**9.25**	**235**	P		n	**Pn**	**22 34 24.3**	**+2.6**
KAPI				S		n	**Sn**	**22 36 00.6**	**-4.1**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=8.7,slow=13,SNR=3.2	**18.34**	**185**	P		**P**	**P**	**22 36 23.4**	**+1.1**
WRAB	**Tennant Creek** 4.3nm,0.7s	**21.21**	**162**	*e*P		**P**	**P**	**22 36 54.2**	**+0.6**
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=342,slow=11,SNR=9.1	**21.21**	**162**	P		**P**	**P**	**22 36 53.9**	**+0.2**
GUMO	**Guam** 5.8nm,0.3s	**21.80**	**52**	*e*P		**P**	**P**	**22 36 59.2**	**-0.7**
ASAR	**Alice Springs** 1.1nm,0.8s,baz=349,slow=12,SNR=12	**24.62**	**166**	P		**P**	**P**	**22 37 28.7**	**+0.6**
HNR	**Honiara** 20nm,0.4s	**33.83**	**107**	*e*P		**P**	**P**	**22 38 49.4**	**-0.7**
KSAR	**Wonju Array Be**	**36.99**	**1**	P		**P**	**P**	**22 39 17.1**	**+0.1**
KSRS	**Korea Array** 0.5nm,0.4s,baz=182,slow=9.7,SNR=3.9	**37.00**	**1**	P		**P**	**P**	**22 39 17.1**	**0.0**
MAJO	**Matsushiro** 1.6nm,0.5s	**37.46**	**14**	*e*P		**P**	**P**	**22 39 21.0**	**0.0**
SONM	**Songino Array** 0.5nm,0.7s,baz=157,slow=8.0,SNR=3.7	**50.76**	**342**	P		**P**	**P**	**22 41 08.2**	**+0.6**
TLY	**Talaya** 1.1nm,0.6s	**55.00**	**342**	*e*P		**P**	**P**	**22 41 38.2**	**-0.3**
RAO	**Raoul Island** 193nm,0.7s	**59.83**	**124**	*e*P		**P**	**P**	**22 42 12.7**	**-0.3**
MKAR	**Makanchi Array** 0.7nm,0.4s,baz=114,slow=8.1,SNR=16	**60.76**	**326**	P		**P**	**P**	**22 42 19.7**	**+0.6**
YAK	**Yakutsk** 20nm,0.5s	**61.63**	**1**	*e*P		**P**	**P**	**22 42 23.9**	**-0.7**
MA2	**Magadan** 1.5nm,0.3s	**61.89**	**13**	*e*P		**P**	**P**	**22 42 27.1**	**+0.6**
ZALV	**Zalesovo Beam** 0.6nm,0.7s,baz=125,slow=9.0,SNR=3.0	**63.95**	**334**	P		**P**	**P**	**22 42 40.1**	**-0.1**
PMR	**Palmer** 0.7nm,0.3s	**86.66**	**28**	*e*P		**P**	**P**	**22 44 50.4**	**-0.2**
MCK	**McKinley** 0.7nm,0.3s	**86.95**	**26**	P		**P**	**P**	**22 44 51.5**	**-0.6**

*ISCJB **11** 22:38:17.1±0.7, 31˚.2N±0˚.2×115˚.7W±0˚.1, h10km±12km, Error ellipse: s-maj=31.4km s-min=6.9km az=32.2*
*ECX **11** 22:38:18.1±0.5, 31˚.16N×115˚.70W, h5km, MD2.2, ML2.4*
*MEX **11** 22:38:19.5±0.7, 31˚.15N×115˚.56W, h16km±999km, MD3.6*
ISC 11 22:38:16.5±1.1, 31˚.17N±0˚.10×115˚.69W±0˚.08, h17km±9km, n10, σ0s35/16, 1C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.22**	**122**	*e*P		**P**	**Pb**	**22 38 22.6**	**+0.2**
SPIG				*e*S		**S**	**Sg**	**22 38 25.7**	**0.0**
SPIG	**San Pedro Mart**	**0.22**	**122**	*e*P		**P**	**Pb**	**22 38 22.3**	**0.0**
SPIG				*e*S		**S**	**Sg**	**22 38 25.9**	**+0.1**
ZAX	**El Zacaton**	**0.61**	**305**	*e*P		**P**	**Pg**	**22 38 28.5**	**-0.2**
ZAX				*e*S		**S**	**Sb**	**22 38 37.2**	**+0.1**
ZAX				IAML				22 38 37.6	
	comp=E,161nm,0.3s								
ZAX				⇑*e*				22 38 37.6	
ZAX				*e*				22 38 39.2	
ZAX				IAML				22 38 39.2	
	comp=N,210nm,0.5s								
ECNX	**Esteban Cantu**	**0.92**	**302**	*e*P		**P**	**Pb**	**22 38 34.4**	**+0.2**
PBX	**Punta Banda**	**1.06**	**303**	*e*P		**P**	**Pb**	**22 38 36.6**	**+0.2**
CBX	**Cerro Bola**	**1.42**	**324**	*i* P		**P**	**Pb**	**22 38 42.6**	**0.0**
CBX				*e*S		**S**	**Sn**	**22 38 59.2**	**-0.8**
CBX	**Cerro Bola**	**1.42**	**324**	*e*P		**P**	**Pb**	**22 38 42.6**	**0.0**
CBX				*e*S		**S**	**Sb**	**22 39 01.2**	**+0.8**
CBX				IAML				22 39 04.1	
	comp=N,97nm,0.6s								
CBX				⇓*e*				22 39 04.1	
RMX	**La Rumorosa**	**1.47**	**347**	*e*P		**P**	**Pb**	**22 38 43.7**	**+0.1**
TJIG	**Tijuana**	**1.52**	**327**	*i* P		**P**	**Pb**	**22 38 44.2**	**-0.1**
TJIG				*e*S		**S**	**Sn**	**22 39 02.3**	**0.0**
IKP	**In-Ko-Pah, Jac**	**1.52**	**346**	*e*P		**P**	**Pb**	**22 38 44.5**	**+0.1**

TAP 11 22:38:58.7, 24˚.23N×121˚.78E, h16km±1km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENA	**Nanau** baz=351	**0.20**	**350**	*i* P			Pb	22 39 04.1	+0.1
ENA				S			Sb	22 39 07.9	+0.2
TWD	**Chiawan** baz=227	**0.22**	**229**	*i* P			Pb	22 39 04.1	-0.3
ENTT	**Nioudou** baz=335	**0.46**	**335**	P			Pb	22 39 08.5	+0.1
WHF	**Hehuan Shan** baz=259	**0.48**	**260**	*e*P			Pg	22 39 06.8	-1.6
TWE	**Neicheng** baz=349	**0.50**	**348**	*e*P			Pb	22 39 09.4	+0.3

TAP 11 22:39:05.4, 24˚.18N×121˚.71E, h6km, ML2.6, 2C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=22	**0.14**	**14**	*e*P			Pg	22 39 08.9	+0.6
TWD	**Chiawan** baz=227	**0.14**	**226**	*i* P			Pg	22 39 08.5	+0.3
TWD				*i* S			Sg	22 39 10.8	+0.6
TWD	**Chiawan** baz=227	**0.14**	**226**	*i* S			Sg	22 39 08.5	+0.3
ENA	**Nanau** baz=22	**0.25**	**7**	P			Pg	22 39 10.8	+0.4
ENA				S			Sg	22 39 14.6	+0.8
NNS	**Nan Shan** baz=312	**0.40**	**311**	*e*P			Pg	22 39 13.6	+0.3
NNS				*i* S			Sg	22 39 19.4	+0.9
WHF	**Hehuan Shan** baz=263	**0.40**	**266**	*e*P			Pg	22 39 13.4	0.0
WHF				*e*S			Sg	22 39 19.2	+0.5
ESL	**Shilin** baz=213	**0.44**	**215**	*e*P			Pg	22 39 13.7	-0.1
TWC	**Suao** baz=21	**0.45**	**17**	*e*P			Pg	22 39 14.4	+0.3
TWC				S			Sg	22 39 20.8	+0.8
ENTT	**Nioudou** baz=348	**0.48**	**345**	⇑*i* P			Pg	22 39 15.3	+0.7
ENTT				S			Sg	22 39 22.1	+1.2
ENTT	**Nioudou** baz=335	**0.48**	**345**	S			Pg	22 39 15.3	+0.6
TWT	**Tachien** baz=277	**0.49**	**279**	*e*P			Pg	22 39 15.5	+0.6
TWT				*e*S			Sg	22 39 22.5	+1.2
TWE	**Neicheng** baz=12	**0.54**	**356**	⇑P			Pg	22 39 16.4	+0.5
TWE				*e*S			Sg	22 39 23.4	+0.4
NSK	**Sanguang**	**0.59**	**328**	P			Pg	22 39 17.3	+0.5

baz=329
NSK eS Sg 22 39 25.4 +1.0
baz=329
EGS **0.70 17** eP Pn 22 39 20.9 -0.9
baz=28
EHY **Hungye** **0.75 208** eP Pg 22 39 20.0 +0.1
baz=208
TYC **Yuchr** **0.82 251** eP Pg 22 39 21.6 +0.4
baz=250
TWB1 **Santiao Chiao** **0.87 17** eP Pn 22 39 24.6 +0.4
baz=9.0
TWQ1 **Liyutan** **0.87 282** eP Pn 22 39 24.0 -0.2
baz=280
TWF1 **Yuli** **0.90 205** eP Pg 22 39 22.5 -0.2
baz=218
YUS **Yu-Shan** **0.97 225** eP Pg 22 39 24.3 +0.2
baz=237
ALS **Alishan** **1.06 231** eP Pg 22 39 25.6 -0.2
baz=240
CHN5 **Tsauling** **1.10 239** eP Pn 22 39 27.5 0.0
baz=224
CHN5 eS Sn 22 39 43.1 +0.1
baz=224
ELDTW **Lidau** **1.17 213** eP Pg 22 39 26.1 -1.7
baz=202
CHN4 **Tsaushan** **1.31 231** eP Pg 22 39 30.9 +0.4
baz=232
CHN1 **Nanshi** **1.46 228** eP Pg 22 39 33.6 +0.1
baz=229

IDC 11 22:39:53.3±2.4, 8°46S×121°48E, h51km±27km, mb3.4/2, mb1 3.6/5, mb1mx3.3/35, mbtmp3.7/5, ML3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/25, Error ellipse: s-maj=155.6km s-min=15.4km az=63.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.83**	**333**	P		Pn		22 40 48.3	-1.5
	2.1nm,0.3s,baz=152,slow=8.2,SNR=7.3								
KAPI				S		Sn		22 41 34.8	+1.2
	2.5nm,0.3s,baz=17,slow=16,SNR=3.7								
KAPI				LR		LR		22 42 25.3	
	comp=Z,131nm,19.8s,baz=113,slow=40								
FITZ	**Fitzroy Crossi**	**10.40**	**158**	P		Pn		22 42 19.7	-0.2
	0.2nm,0.3s,baz=359,slow=12,SNR=5.0								
FITZ				S		Sn		22 44 07.8	-7.3
	0.1nm,0.3s,baz=159,slow=17,SNR=1.5								
FITZ				LR		LR		22 47 04.0	
	comp=Z,42nm,19.1s,baz=326,slow=41								
WRA	**Warramunga Arr**	**16.89**	**134**	P		Pn		22 43 42.0	-4.2
	0.2nm,0.3s,baz=309,slow=15,SNR=5.3								
WRA				S		Sn		22 46 40.3	-13
	0.2nm,0.3s,baz=309,slow=24,SNR=6.0								
ASAR	**Alice Springs**	**19.24**	**143**	P		P		22 44 14.1	+0.5
	0.3nm,0.3s,baz=328,slow=13,SNR=21								
ASAR				S		S		22 47 37.3	-12
	0.0nm,0.3s,baz=318,slow=22,SNR=3.2								
SONM	**Songino Array**	**57.62**	**348**	P		P		22 49 38.3	+0.1
	0.3nm,0.4s,baz=168,slow=7.6,SNR=4.8								
MKAR	**Makanchi Array**	**65.13**	**331**	P		P		22 50 28.6	-0.3
	0.5nm,0.6s,baz=120,slow=7.3,SNR=5.0								

NIED ***11*** *23:13:00, 36°.70N×142°.30E, h23km, Mw4.6 Best double couple: M0 7.79000×10^15 NP1:φs209.00000°, δ21.00000°, λ93.00000°. NP2:φs26.00000°, δ69.00000°, λ89.00000°.*

ISCJB ***11*** *23:13:51.6±1.2, 36°.66N±0°.03×142°.30E±0°.03, h14km±7km, mb4.4/52, MS4.0/24, Error ellipse: s-maj=5.6km s-min=4.2km az=155.1*

BJI ***11*** *23:13:52.0, 36°.68N×142°.24E, h25km, mb4.6/36, mB4.8/25, Ms4.4/27, Ms7 4.3/23*

JMA ***11*** *23:13:52.0±0.3, 36°.72N×142°.28E, h18km±4km, M4.4*

NEIC ***11*** *23:13:54.0±1.7, 36°.61N×142°.34E, h21km±12km, mb4.7/9, Error ellipse: s-maj=7.5km s-min=5.8km az=122.0*

MOS ***11*** *23:13:55.6±0.9, 37°.03N×141°.96E, h21km, mb4.7/32, MS4.0/17, Error ellipse: s-maj=9.1km s-min=6.0km az=113.9*

IDC ***11*** *23:13:56.2±3.2, 36°.59N×142°.24E, h35km±25km, mb4.0/22, mb1 4.1/29, mb1mx4.0/51, mbtmp4.2/29, ML3.7/4, MS3.8/22, Ms1 3.8/22, ms1mx3.7/33, Error ellipse: s-maj=16.0km s-min=13.1km az=91.0*

ISC 11 23:13:54.5±0.7, 36°.60N±0°.04×142°.23E±0°.04, h25km±4km, n164, σ2s23/176, mb4.5/52, MS4.0/24, 12C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.25**	**294**	P		Pn		**23 14 14.4**	**-2.0**
ONAJ				S		Sn		**23 14 31.5**	**-1.0**
JFK	**Kawauchi**	**1.33**	**306**	P		Pn		**23 14 15.0**	**-2.4**
JHO	**Hitachi**	**1.34**	**271**	P		Pn		**23 14 16.4**	**-1.1**
JHO				eS		Sn		**23 14 34.4**	**0.0**
CHOJ	**Chosi**	**1.43**	**232**	P		Pn		**23 14 19.4**	**+0.7**
JYT	**Yasato**	**1.68**	**258**	P		Pn		**23 14 22.2**	**0.0**
JYT				S		Sb		**23 14 44.2**	**-1.3**
JMM	**Marumori**	**1.71**	**318**	P		Pn		**23 14 20.7**	**-1.9**
JMM				eS		Sn		**23 14 41.9**	**-1.7**
JFT	**Otama**	**1.77**	**302**	P		Pn		**23 14 22.7**	**-0.8**
JFT				S		Sn		**23 14 44.7**	**-0.5**
JSB	**Shiboa**	**1.89**	**282**	P		Pn		**23 14 25.0**	**-0.1**
JSB				S		Sn		**23 14 48.4**	**+0.2**
JIO	**Ouri**	**1.98**	**340**	P		Pn		**23 14 24.7**	**-1.6**
JIO				eS		Sn		**23 14 47.4**	**-2.9**
JOU	**Okura**	**2.16**	**325**	P		Pn		**23 14 26.9**	**-1.9**
JAG	**Ashikaga**	**2.24**	**266**	P		Pn		**23 14 30.0**	**0.0**
MJAR	**Matsushiro Arr**	**3.24**	**270**	P		Pn		**23 14 44.7**	**+1.1**
	28nm,0.3s,baz=97,slow=8.1,SNR=452								
MJAR				S		Sb		**23 15 25.9**	**-4.3**
	13nm,0.3s,baz=81,slow=18,SNR=3.5								
MJAR				LR		LR		23 16 13.3	
	comp=Z,2μm,18.4s,baz=120,slow=43								
MAJO	**Matsushiro**	**3.24**	**270**	*c i* P		Pn		**23 14 44.8**	**+1.1**
MAJO	**Matsushiro**	**3.24**	**270**	*e* Pn		Pn		**23 14 45.3**	**+1.6**
MAT	**Matsushiro**	**3.24**	**270**	P		Pn		**23 14 44.9**	**+1.2**
MAT				eS		Sn		**23 15 24.8**	**+3.4**
JHJ	**Hachijo jima 2**	**4.01**	**211**	Pn		Pn		**23 14 54.8**	**+0.5**
	22nm,0.3s,baz=340,slow=22,SNR=26								
JHJ				Sn		Sn		**23 15 39.1**	**-1.3**
	65nm,0.3s,baz=55,slow=20,SNR=9.6								
JHJ				LR		LR		23 15 51.3	
	comp=Z,124nm,21.0s,baz=298,slow=29								
ERM	**Erimo**	**5.46**	**7**	*de* P		Pn		**23 15 11.4**	**-2.7**
ERM	**Erimo**	**5.46**	**7**	*e* Pn		Pn		**23 15 12.2**	**-1.9**
	74nm,1.0s								
ERM				*e* Sn		Sn		**23 16 16.1**	**+0.1**
ASAJ	**Asahikawa**	**7.51**	**2**	*e* Pn		Pn		**23 15 41.4**	**-0.9**
	28nm,1.4s								
YUK	**Yuzh-Kuril'sk**	**7.93**	**19**	eP		Pn		**23 15 51.1**	**+3.1**
CBIJ	**Chichi jima**	**9.47**	**180**	Pn		Pn		**23 16 08.7**	**-0.7**
CBIJ				Sn		Sn		**23 17 48.0**	**-7.0**
JCJ	**Chichijima**	**9.47**	**180**	Pn		Pn		**23 16 08.7**	**-0.7**
	baz=90,slow=20								
JCJ				Sn		Sn		**23 17 48.0**	**-7.1**
JCJ				LR		LR		23 20 54.7	
	comp=Z,68nm,19.8s,baz=67,slow=44								
KUR	**Kuril'sk**	**9.62**	**25**	eP		Pn		**23 16 13.6**	**+2.4**
JNU	**Nakatsue**	**9.95**	**253**	Pn		Pn		**23 16 17.7**	**+1.8**
	0.4nm,0.3s,baz=103,slow=4.3,SNR=2.9								
JNU				LR		LR		23 20 17.9	
	comp=Z,440nm,19.1s,baz=113,slow=38								
JNU	**Nakatsue**	**9.95**	**253**	*e* Pn		Pn		**23 16 17.9**	**+2.0**
VLA	**Vladivostok**	**10.27**	**313**	*i* P		Pn		**23 16 17.7**	**-2.5**
VLA				eS		Sn		23 18 00.3	-14
VLA				pmax		pmax			
	comp=Z,35nm,1.7s								
YSS	**Yuzh-Sakhalins**	**10.35**	**2**	eP		Pn		**23 16 20.1**	**-1.2**
YSS				MLR		MLR			
	comp=Z,400nm,15.0s								
USRK	**Ussuriysk Ar.**	**10.88**	**317**	Pn		Pn		**23 16 30.6**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=155,slow=14,SNR=26								
USRK				LR		LR		23 20 28.6	
	comp=Z,1μm,18.1s,baz=122,slow=36								
KSRS	**Korea Array**	**11.47**	**279**	Pn		Pn		**23 16 39.9**	**+3.3**
	comp=Z,0.2nm,0.3s,baz=91,slow=14,SNR=38								
KSRS				LR		LR		23 20 52.9	
	comp=Z,1μm,18.9s,baz=94,slow=36								
KSAR	**Wonju Array Be**	**11.50**	**278**	P		Pn		**23 16 39.9**	**+2.9**
KSAR	**Wonju Array Be**	**11.50**	**278**	Pn		Pn		**23 16 39.9**	**+2.9**
TJN	**Taejon**	**11.97**	**273**	*i* P		Pn		**23 16 42.1**	**-1.3**
MDJ	**Mudanjiang**	**12.49**	**314**	P		P		**23 16 58.1**	**-4.0**
MDJ				pmax		pmax			
	comp=Z,16nm,1.1s								
MDJ				LR		LR			
	comp=Z,72nm,5.1s								
MDJ				LR		LR			
	comp=N,460nm,14.0s								
MDJ				LR		LR			
	comp=E,310nm,18.2s								
MDJ				LR		LR			
	comp=Z,750nm,16.8s								
MDJ	**Mudanjiang**	**12.49**	**314**	*e* Pn		**Pn**		**23 16 51.9**	**+1.4**
	comp=Z,6.1nm,0.4s								
TYV	**Tymovskoe**	**14.26**	**1**	*e* P		Pn		23 17 07.0	-7.6
TYV				pmax		pmax			
	comp=Z,13nm,0.8s								
TYV				MLR		MLR			
	comp=N,1μm,18.0s								
TYV				MLR		MLR			
	comp=Z,500nm,18.0s								
PETK	**Petropavlovsk-**	**19.75**	**28**	P		**P**		**23 18 23.1**	**+0.9**
	baz=195,slow=10,SNR=3.4								
PETK				LR		LR		23 26 25.6	
	comp=Z,107nm,19.7s,baz=202,slow=38								
NJ2	**Nanjing**	**19.82**	**264**	*e* P		**Pn**		**23 18 28.0**	**+3.2**
NJ2				S		**S**		**23 22 00.2**	**-4.8**
NJ2				PMZ					
	comp=Z,12nm,0.5s								
NJ2				LN					
	comp=Z,260nm,10.8s								
NJ2				LE					
	comp=Z,420nm,12.1s								
NJ2				LZ					
	comp=Z,870nm,11.4s								
BJI	**Beijing**	**20.70**	**287**	P		**P**		**23 18 28.9**	**-3.8**
BJI				pP		**pP**		**23 18 38.6**	**-1.0**
BJI				S		**S**		**23 22 24.2**	**+1.5**
BJI				PMZ					
	comp=Z,8.0nm,1.3s								
BJI				PMZ					
	comp=Z,64nm,3.7s								
BJI				LN					
	comp=Z,400nm,14.3s								
BJI				LE					
	comp=Z,280nm,17.4s								
BJI				LZ					
	comp=Z,230nm,23.3s								
CLNS	**Chul'man**	**23.35**	**336**	*e* P		**P**		**23 18 54.7**	**-6.0**
CLNS				pmax		pmax			
	comp=Z,11nm,0.8s								
CLNS				pmax		pmax			
	comp=N,14nm,1.4s								
CLNS				pmax		pmax			
	comp=E,8.0nm,1.6s								
WHN	**Wuhan**	**23.95**	**264**	P		**P**		**23 19 06.9**	**+0.2**
YAK	**Yakutsk**	**26.64**	**347**	P		**P**		**23 19 30.1**	**-0.6**
	comp=E,2.2nm,0.3s,baz=334,slow=18,SNR=5.9								
YAK	**Yakutsk**	**26.64**	**347**	*c i* P		**P**		**23 19 30.2**	**-0.6**
YAK				*e*				23 20 11.4	
YAK				*e* SS				23 25 26.3	
YAK				pmax		pmax			
	comp=Z,41nm,1.0s								
YAK				pmax		pmax			
	comp=N,17nm,1.1s								
YAK				pmax		pmax			
	comp=E,6.0nm,1.3s								
YAK				pmax		pmax			
	comp=Z,80nm,2.7s								
YAK				pmax		pmax			
	comp=E,17nm,1.6s								
YAK				pmax		pmax			
	comp=N,46nm,2.8s								
YAK				MLR		MLR			
	comp=Z,566nm,15.0s								
YAK				MLR		MLR			
	comp=N,412nm,13.0s								
YAK				MLR		MLR			
	comp=E,201nm,15.0s								
YAK	**Yakutsk**	**26.64**	**347**	*e* P		**P**		**23 19 30.7**	**0.0**
SEY	**Seymchan**	**27.10**	**10**	P		**P**		**23 19 35.6**	**+0.7**
	comp=E,5.4nm,1.0s,baz=179,slow=6.5,SNR=6.1								
SEY	**Seymchan**	**27.10**	**10**	*i e* P		**P**		**23 19 35.9**	**+1.0**
XAN	**Xi'an**	**27.22**	**275**	P		**P**		**23 19 36.3**	**-0.1**
XAN				sP		sP		23 19 49.5	+2.5
XAN				PP		**PnPn**		**23 20 23.3**	**+3.1**
XAN				S		**S**		**23 24 10.8**	**-3.1**
XAN				SS		**SnSn**		**23 25 26.6**	**+4.1**
XAN				PMZ					
	comp=E,16nm,1.4s								
XAN				PMZ					
	comp=E,48nm,8.3s								
XAN				LN					
	comp=E,300nm,16.0s								
XAN				LE					
	comp=E,240nm,16.2s								
XAN				LZ					
	comp=E,280nm,13.5s								
H11N2	**WAKE ISLAND Hy**	**27.36**	**121**	T		T		23 49 06.9	
	baz=313,slow=75,SNR=37								
H11N1	**WAKE ISLAND Hy**	**27.37**	**121**	T		T		23 49 09.4	
	baz=313,slow=75,SNR=27								
H11N3	**WAKE ISLAND Hy**	**27.38**	**121**	T		T		23 49 10.5	
	baz=313,slow=75,SNR=41								
ENH	**Enshi**	**27.95**	**267**	*e* P		**P**		**23 19 42.9**	**-0.1**
	comp=E,82nm,1.2s								
H11S1	**WAKE ISLAND Hy**	**28.07**	**123**	T		T		23 50 08.8	
	baz=315,slow=75,SNR=37								
H11S3	**WAKE ISLAND Hy**	**28.07**	**123**	T		T		23 50 11.7	
	baz=315,slow=75,SNR=27								
H11S2	**WAKE ISLAND Hy**	**28.09**	**123**	T		T		23 50 10.5	
	baz=315,slow=75,SNR=17								
ULN	**Ulaanbaatar**	**28.14**	**305**	*c i* P		**P**		**23 19 44.8**	**+0.2**
ULN				pmax		pmax			
	comp=Z,19nm,1.2s								
ULN	**Ulaanbaatar**	**28.14**	**305**	*e* P		**P**		**23 19 45.0**	**+0.4**
	comp=Z,17nm,1.1s								
SONM	**Songino Array**	**28.57**	**304**	P		**P**		**23 19 48.9**	**+0.5**
	comp=Z,14nm,0.9s,baz=99,slow=9.0,SNR=75								
SONM				LR		LR		23 31 21.8	
	comp=Z,225nm,18.0s,baz=74,slow=37								
LZH	**Lanzhou**	**30.79**	**281**	*e* P		**P**		**23 20 09.0**	**+0.8**
LZH				pP		sP		23 20 19.8	+1.0
LZH				sP		pP		23 20 23.8	+8.1
LZH				PMZ					
	comp=Z,48nm,1.2s								
LZH				PMZ					
	comp=Z,92nm,4.5s								
LZH				LN					
	comp=Z,290nm,15.1s								
LZH				LE					
	comp=Z,690nm,14.6s								
LZH				LZ					
	comp=Z,930nm,17.2s								
ZAK	**Zakamensk**	**31.05**	**309**	*e* P		**P**		**23 20 09.4**	**-0.9**
ZAK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
TLY	**Talaya**	**31.11**	**311**	*e* P		**P**		**23 20 08.5**	**-2.2**
TLY				pmax		pmax			
	comp=Z,14nm,1.3s								
TLY				MLR		MLR			
	comp=Z,415nm,18.0s								
GTA	**Gaotai**	**33.32**	**288**	*e* P		**P**		**23 20 30.9**	**+0.6**
GTA				pP		pP		23 20 34.9	-3.0
GTA				sP		sP		23 20 37.9	-3.1
GTA				PMZ					
	comp=Z,9.0nm,1.1s								
BILL	**Bilibino**	**34.26**	**16**	*e* P		**P**		**23 20 38.6**	**+0.6**
BILL				*e*				23 21 53.8	
BILL				pmax		pmax			
	comp=Z,3.0nm,1.3s								
BILL				MLR		MLR			
	comp=Z,124nm,19.0s								
KMI	**Kunming**	**35.55**	**263**	P		**P**		**23 20 49.8**	**-0.1**
KMI				pP		sP		23 20 59.4	-1.1
KMI				sP		pP		23 21 02.7	+5.3
KMI				PMZ					
	comp=Z,11nm,1.5s								
KMI				PMZ					
	comp=Z,77nm,5.8s								
KMI				LN					
	comp=Z,190nm,15.5s								
KMI				LE					
	comp=Z,360nm,15.2s								
KMI				LZ					
	comp=Z,300nm,18.1s								
TIXI	**Tiksi**	**35.80**	**353**	P		**P**		**23 20 50.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=156,slow=5.3,SNR=4.7								
TIXI	**Tiksi**	**35.80**	**353**	*e* P		**P**		**23 20 51.0**	**-0.2**
TIXI	**Tiksi**	**35.80**	**353**	*e* P		**P**		**23 20 51.0**	**-0.2**
UBPT	**Khong Chiam**	**38.95**	**247**	P		**P**		**23 21 21.1**	**+2.6**
	comp=Z,21nm,1.4s,comp=Z,707nm								
NONG	**Nongkai**	**38.99**	**252**	P		P		23 21 24.4	+5.5
	comp=Z,44nm,0.7s,comp=Z,6μm								
SKNT	**Sakolnakorn**	**39.01**	**250**	P		**P**		**23 21 21.5**	**+2.5**
	comp=Z,24nm,1.3s								
LOEI	**Loei**	**40.77**	**253**	P		P		23 21 38.6	+4.9
	comp=Z,28nm,0.7s								
CHAI	**Chaiyaphum**	**41.17**	**251**	P		**P**		**23 21 39.5**	**+2.5**
	comp=Z,5.8nm,1.0s,comp=Z,193nm								
CMAR	**Chiang Mai Arr**	**42.02**	**256**	P		**P**		**23 21 44.9**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=50,slow=7.7,SNR=6.6								
CMAR	**Chiang Mai Arr**	**42.02**	**256**	P		**P**		**23 21 44.9**	**+0.9**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**42.69**	**313**	P		**P**		**23 21 49.3**	**+0.3**
	comp=Z,8.2nm,0.9s,baz=90,slow=6.4,SNR=25								
ZALV				PcP		**PcP**		**23 23 40.7**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=74,slow=5.1,SNR=4.1								
ZALV				LR		LR		23 40 10.1	
	comp=Z,254nm,19.3s,baz=70,slow=37								
ZALV	**Zalesovo Beam**	**42.69**	**313**	P		**P**		**23 21 49.3**	**+0.3**
ZALV								23 23 40.7	
ZALV				pmax		pmax			
	comp=Z,9.0nm,0.9s								
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ZALV				MLR		MLR			
	comp=Z,254nm,19.3s								
LSA	**Lhasa**	**42.90**	**276**	*e* P		**P**		**23 21 53.1**	**+1.5**
LSA				pmax		pmax			
	comp=Z,15nm,1.3s								
LSA	**Lhasa**	**42.90**	**276**	*e* P		**P**		**23 21 53.1**	**+1.5**
	comp=Z,16nm,1.3s								
NVS	**Novosibirsk**	**43.61**	**314**	*e* P		**P**		**23 21 56.8**	**+0.4**
NRIK	**Noril'sk**	**43.93**	**335**	P		**P**		**23 21 58.7**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=118,slow=8.0,SNR=5.3								
NRIK				LR		LR		23 41 36.8	
	comp=Z,320nm,18.4s,baz=91,slow=38								
MKAR	**Makanchi Array**	**44.90**	**303**	P		**P**		**23 22 07.1**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=90,slow=9.7,SNR=29								
MKAR				LR		LR		23 41 19.3	
	comp=Z,101nm,19.7s,baz=54,slow=37								
KURK	**Kurchatov**	**46.71**	**309**	*e* P		**P**		**23 22 20.8**	**-0.3**
KURK	**Kurchatov**	**46.71**	**309**	*e* P		**P**		**23 22 20.8**	**-0.3**
	comp=Z,98nm,0.8s								
BPAW	**Bear Paw Mtn.**	**47.73**	**33**	*e* P		**P**		**23 22 26.8**	**-2.0**
GUN	**Gumba**	**47.85**	**276**	*e* P		**P**		**23 22 31.9**	**+1.2**
	comp=Z,52nm,0.9s								
PKIN	**Phulchoki**	**48.38**	**276**	*e* P		**P**		**23 22 36.2**	**+1.5**
KKN	**Kakani**	**48.38**	**277**	*e* P		**P**		**23 22 35.7**	**+1.1**
	comp=Z,27nm,0.9s								
HNR	**Honiara**	**48.72**	**156**	LR		LR		23 40 07.7	
	comp=Z,91nm,21.6s,baz=346,slow=32								
GKN	**Gorkha**	**48.80**	**277**	*e* P		**P**		**23 22 37.9**	**+0.1**
	comp=Z,55nm,0.9s								
COLA	**College**	**49.10**	**32**	*e* P		P		23 22 46.9	+7.6
COLA				pmax		pmax			
	comp=Z,6.0nm,1.0s								
ILAR	**Eielson Array**	**49.51**	**32**	P		**P**		**23 22 43.2**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=268,slow=6.8,SNR=13								
ILAR				LR		LR		23 43 48.9	
	comp=Z,34nm,21.8s,baz=278,slow=36								
KOLN	**Koldanda**	**49.73**	**277**	*e* P		**P**		**23 22 45.3**	**+0.3**
PYUN	**Piuthan**	**50.08**	**278**	*e* P		**P**		**23 22 47.4**	**-0.2**
	comp=Z,65nm,1.0s								
TKM2	**Tokmak 2**	**50.41**	**299**	*e* P		**P**		**23 22 50.9**	**+0.9**
TKM2				pmax		pmax			
	comp=Z,15nm,1.1s								
TKM2	**Tokmak 2**	**50.41**	**299**	*e* P		**P**		**23 22 50.9**	**+0.9**
	comp=Z,15nm,1.1s								
FRU	**Bishkek**	**51.13**	**299**	*e* P		**P**		**23 22 54.0**	**-1.1**
FRU				*e*				23 23 05.0	
AAK	**Ala-Archa**	**51.27**	**299**	*ce* P		**P**		**23 22 56.7**	**+0.3**
AAK				pmax		pmax			
	comp=Z,7.0nm,1.1s								
BRVK	**Borovoye**	**51.40**	**313**	*ce* P		**P**		**23 22 56.9**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,27nm,2.5s								
KKAR	**Karatay Array**	**53.91**	**301**	*e* P		**P**		**23 23 16.3**	**+0.6**
KKAR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KKAR	**Karatay Array**	**53.91**	**301**	*e* P		**P**		**23 23 16.3**	**+0.6**
	comp=Z,5.0nm,0.9s								
INK	**Inuvik**	**54.48**	**27**	LR		LR		23 49 33.6	
	comp=Z,52nm,18.5s,baz=316,slow=39								
SVE	**Sverdlovsk**	**55.91**	**319**	*i* P		**P**		**23 23 30.8**	**+0.9**
SVE				pmax		pmax			
	comp=Z,18nm,1.2s								
SVE				MLR		MLR			
	comp=Z,421nm,18.0s								
WRA	**Warramunga Arr**	**56.73**	**189**	P		**P**		**23 23 36.1**	**0.0**
	comp=Z,1.8nm,1.0s,baz=7.8,slow=7.0,SNR=5.6								
ARU	**Arti**	**57.12**	**319**	*c i* P		**S**		**23 23 38.5**	**0.0**
ARU				S		**S**		**23 31 25.6**	**-6.3**
ARU				SS		**SS**		**23 35 10.6**	**-10**
ARU				pmax		pmax			
	comp=Z,16nm,1.2s								
ARU				MLR		MLR			
	comp=Z,289nm,18.0s								
ARU	**Arti**	**57.12**	**319**	*e* P		**P**		**23 23 38.2**	**-0.3**
	comp=Z,14nm,1.1s								
ARU				*e*				23 23 48.8	
ABKAR	**Akbulak array**	**58.72**	**311**	*e* P		**P**		**23 23 49.8**	**-0.1**
	comp=Z,5.1nm,0.8s								
ASAR	**Alice Springs**	**60.45**	**189**	P		**P**		**23 24 01.8**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=16,slow=8.7,SNR=6.5								
ASAR				LR		LR		23 50 47.0	
	comp=Z,37nm,18.4s,baz=32,slow=37								
KLMR	**Klimovskoe**	**64.47**	**328**	*e* P		**P**		**23 24 27.7**	**-0.7**
KLMR				*e* * PP		**pP**		**23 24 37.2**	**+0.8**
KLMR				*e*				23 26 46.4	
KLMR				pmax		pmax			
	comp=Z,12nm,1.5s								
GEYT	**Alibeck**	**64.62**	**299**	P		**P**		**23 24 30.6**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=321,slow=2.1,SNR=7.0								
ARCES	**ARCESS Array B**	**64.63**	**340**	LR		LR		23 56 02.2	
	comp=Z,71nm,19.7s,baz=40,slow=39								
STKA	**Stephens Creek**	**68.12**	**181**	P		**P**		**23 24 52.3**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=338,slow=11,SNR=3.2								
OBN	**Obninsk**	**68.83**	**324**	*e* P		**P**		**23 24 56.7**	**+0.3**
OBN				*e*				23 27 24.4	
OBN				*e* PPP		PPP		23 29 04.2	
OBN				eS		**S**		**23 34 04.5**	**+6.1**
OBN				pmax		pmax			
	comp=Z,12nm,1.7s								
OBN				MLR		MLR			
	comp=Z,145nm,16.0s								
FINES	**FINESS Array B**	**69.50**	**333**	P		**P**		**23 25 00.7**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=53,slow=7.6,SNR=

KOLS				*e*			23 26 09.8		
BRTR	**Keskin Array B**	**79.63**	**312**	P		**P**	**23 26 00.8**	**+1.0**
	comp=Z,2.5nm,1.0s,baz=95,slow=2.0,SNR=8.1								
STHS	**Stebnicka Huta**	**79.69**	**325**	*eP*		**P**	**23 26 01.6**	**+1.8**
STHS				*e*			23 26 11.9		
STHS				pmax	pmax				
	comp=Z,3.0nm,1.0s								
STHS	**Stebnicka Huta**	**79.69**	**325**	*eP*		**P**	**23 26 01.6**	**+1.8**
STHS				*e*			23 26 11.9		
OJC	**Ojcow**	**79.76**	**327**	*eP*		**P**	**23 26 01.3**	**+1.1**
OJC	**Ojcow**	**79.76**	**327**	*eP*		**P**	**23 26 01.3**	**+1.1**
CRVS	**Cervenica-Dubn**	**79.95**	**325**	*eP*		**P**	**23 26 02.2**	**+1.0**
CRVS	**Cervenica-Dubn**	**79.95**	**325**	*eP*		**P**	**23 26 02.2**	**+1.0**
NIE	**Niedzica**	**80.12**	**326**	*eP*		**P**	**23 26 03.0**	**+0.9**
NIE	**Niedzica**	**80.12**	**326**	*eP*		**P**	**23 26 03.0**	**+0.9**
LANS	**Liptovska Anna**	**80.69**	**326**	*eP*		**P**	**23 26 06.8**	**+1.6**
LANS	**Liptovska Anna**	**80.69**	**326**	*eP*		**P**	**23 26 06.8**	**+1.6**
KECS	**Kecovo**	**80.71**	**325**	*eP*		**P**	**23 26 02.2**	**-3.1**
OKC	**Ostrava-Krasne**	**80.77**	**327**	*eP*		**P**	**23 26 06.4**	**+0.8**
OKC	**Ostrava-Krasne**	**80.77**	**327**	*eP*		**P**	**23 26 06.4**	**+0.8**
KSP	**Ksiaz**	**80.81**	**329**	*eP*		**P**	**23 26 06.9**	**+1.1**
KSP	**Ksiaz**	**80.81**	**329**	*eP*		**P**	**23 26 06.9**	**+1.1**
DPC	**Dobruska-Polom**	**81.17**	**328**	*eP*		**P**	**23 26 09.1**	**+1.3**
DPC	**Dobruska-Polom**	**81.17**	**328**	*eP*		**P**	**23 26 09.1**	**+1.3**
VYHS	**Vyhne**	**81.45**	**326**	*eP*		**P**	**23 26 10.4**	**+1.1**
VYHS				pmax	pmax				
	comp=Z,3.0nm,1.1s								
VYHS	**Vyhne**	**81.45**	**326**	*eP*		**P**	**23 26 10.4**	**+1.1**
BRG	**Berggiesshubel**	**81.76**	**330**	*eP*		**P**	**23 26 11.6**	**+0.8**
	comp=Z,6.0nm,1.1s								
	comp=N,139nm,13.3s								
	comp=E,100nm,12.7s								
	comp=Z,179nm,15.4s								
BRG	**Berggiesshubel**	**81.76**	**330**	*eP*		**P**	**23 26 11.6**	**+0.8**
BRG				pmax	pmax				
	comp=Z,6.0nm,1.1s								
BRG				MLR	MLR				
	comp=N,139nm,13.3s								
BRG				MLR	MLR				
	comp=E,100nm,12.7s								
BRG				MLR	MLR				
	comp=Z,179nm,15.4s								
PVCC	**Panska Ves**	**81.77**	**329**	*eP*		**P**	**23 26 12.0**	**+1.1**
PVCC	**Panska Ves**	**81.77**	**329**	*eP*		**P**	**23 26 12.0**	**+1.1**
CLL	**Collm**	**81.80**	**331**	*i* P		**P**	**23 26 11.4**	**+0.4**
	comp=Z,6.0nm,1.0s								
CLL				*e*S		**S**	**23 36 29.0**	**+6.6**
CLL				*e*SS		SS	23 42 18.0	+39
CLL	**Collm**	**81.80**	**331**	*i* P		**P**	**23 26 11.4**	**+0.4**
CLL				*e*S		**S**	**23 36 29.0**	**+6.6**
CLL				pmax	pmax				
	comp=Z,6.0nm,1.0s								
PRU	**Pruhonice**	**82.19**	**329**	*eP*		**P**	**23 26 14.1**	**+1.0**
PRU	**Pruhonice**	**82.19**	**329**	*eP*		**P**	**23 26 14.1**	**+1.0**
KHC	**Kasperske Hory**	**83.25**	**329**	*eP*		**P**	**23 26 19.5**	**+0.8**
KHC				*ep*P		**pP**	**23 26 26.1**	**-0.8**
KHC				*es*P		**sP**	**23 26 30.1**	**+0.2**
KHC	**Kasperske Hory**	**83.25**	**329**	*eP*		**P**	**23 26 19.5**	**+0.8**
KHC				*e*			23 26 26.1		
KHC				*e*			23 26 30.1		
KHC	**Kasperske Hory**	**83.25**	**329**	*eP*		**P**	**23 26 19.2**	**+0.5**
	comp=Z,2.6nm,1.1s								
GERES	**GERESS Array B**	**83.42**	**329**	P		**P**	**23 26 19.8**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=41,slow=4.3,SNR=13								
GERES				LR		LR	00 05 57.1		
	comp=Z,69nm,21.5s,baz=12,slow=37								
PPT	**Papeete**	**83.85**	**117**	LR		LR	23 58 57.2		
	comp=Z,65nm,21.9s,baz=4.0,slow=32								
ANMO	**Albuquerque**	**84.36**	**50**	*eP*		P	23 26 32.8	+7.9	
ANMO				pmax	pmax				
	comp=Z,2.0nm,1.1s								
SCHQ	**Schefferville**	**85.57**	**16**	LR		LR	00 08 02.7		
	comp=Z,31nm,19.1s,baz=34,slow=38								
BFO	**Black Forest**	**86.00**	**331**	*i* P		**P**	**23 26 33.3**	**+0.7**
TXAR	**Lajitas Array**	**89.86**	**53**	P		**P**	**23 26 53.0**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=291,slow=2.8,SNR=5.2								
TXAR				LR		LR	00 02 50.9		
	comp=Z,30nm,19.9s,baz=0.0,slow=33								
TXAR	**Lajitas Array**	**89.86**	**53**	P		**P**	**23 26 53.0**	**+1.5**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
LPAZ	**La Paz**	**146.34**	**61**	PKPbc		**PKPab**	**23 33 35.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=288,slow=4.3,SNR=4.5								

*IDC **11** 23:17:40.9±1.7,3°.50S×101°.30E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/38, mbtmp4.1/6, Error ellipse: s-maj=74.3km s-min=19.8km az=51.0*
*ISCJB **11** 23:17:45.4±0.5,3°.59S±0°.06×101°.26E±0°.08, h50km, mb4.3/20, Error ellipse: s-maj=13.3km s-min=7.1km az=147.5*
*NEIC **11** 23:17:46.0±0.4,3°.49S×101°.35E, h35km, mb4.3/11, Error ellipse: s-maj=12.1km s-min=7.4km az=72.0*
NEIC Felt [III] at Ketaun.
*DJA **11** 23:17:49.0±0.7,3°S±5°×10°1E±°, h18km±9km, M4.2/12, mb4.4/2, MLv4.0/12*

ISC 11 23:17:47.2±0.7,3°.56S±0°.08×101°.30E±0°.09, h50km±9km, n34, σ1s30/30, mb4.4/20, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.29**	**94**	P	**Pn**	**23 18 08.3**	**-0.6**
PPSI	**Pulau Pagai**	**1.52**	**301**	P	Pn	23 18 16.9	+5.0
SDSI	**Sungai Dareh**	**2.61**	**3**	P	**Pn**	**23 18 27.8**	**+0.8**
PDSI	**Padang**	**2.76**	**342**	P	**Pn**	**23 18 30.1**	**+1.1**
LWLI	**Liwa**	**3.10**	**118**	P	**Pn**	**23 18 37.7**	**+3.9**
PPI	**Padang Panjang**	**3.21**	**344**	P	**Pn**	**23 18 36.9**	**+1.7**
KASI	**Kota Agung**	**3.73**	**122**	P	**Pn**	**23 18 44.6**	**+2.3**
MNSI	**Mandailing Nat**	**4.66**	**338**	P	**Pn**	**23 18 53.9**	**-1.1**
GSI	**Gunungsitoli**	**6.10**	**322**	P	**Pn**	**23 19 17.5**	**+2.6**
COCO	**West Island**	**9.65**	**207**	*e*Pn	**Pn**	**23 20 03.3**	**-0.1**
CHTO	**Chiang Mai**	**22.36**	**354**	P	**P**	**23 22 40.6**	**-0.6**
	0.8nm,0.6s						
H08S2	**Diego Garcia H**	**28.95**	**261**	T	T	23 53 37.7	
	baz=84,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**28.96**	**261**	T	T	23 53 40.3	
	baz=84,slow=75,SNR=25						
H08S1	**Diego Garcia H**	**28.97**	**261**	T	T	23 53 37.0	
	baz=84,slow=75,SNR=20						
LSA	**Lhasa**	**34.47**	**344**	*eP*	**P**	**23 24 31.0**	**+0.1**
	2.8nm,0.5s						
ENH	**Enshi**	**34.54**	**13**	*eP*	**P**	**23 24 30.4**	**-0.7**
	2.5nm,0.4s						
WRA	**Warramunga Arr**	**36.09**	**119**	P	**P**	**23 24 44.9**	**+0.4**
	0.8nm,0.4s,baz=308,slow=9.1,SNR=8.9						
WRAB	**Tennant Creek**	**36.10**	**119**	*eP*	**P**	**23 24 45.4**	**+0.8**
	2.1nm,0.7s						
ASAR	**Alice Springs**	**37.29**	**125**	P	**P**	**23 24 55.2**	**+0.5**
	0.5nm,0.4s,baz=301,slow=8.0,SNR=9.0						
BJT	**Baijiatuau**	**45.47**	**16**	*eP*	**P**	**23 25 58.8**	**-2.6**
	3.0nm,0.5s						
SONM	**Songino Array**	**51.38**	**4**	P	**P**	**23 26 47.1**	**+0.1**
	1.4nm,0.7s,baz=182,slow=8.7,SNR=10						
ULN	**Ulaanbaatar**	**51.46**	**5**	*eP*	**P**	**23 26 47.5**	**-0.1**
	1.1nm,0.5s						
EKS2	**Erkin-Say**	**52.32**	**334**	*eP*	**P**	**23 26 54.5**	**+0.4**
	3.4nm,0.8s						
MAJO	**Matsushiro**	**52.69**	**37**	*eP*	**P**	**23 26 56.8**	**0.0**
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**52.88**	**344**	P	**P**	**23 26 58.2**	**+0.2**
	3.1nm,0.7s,baz=144,slow=8.3,SNR=21						
HIA	**Hailar**	**55.00**	**15**	*eP*	**P**	**23 27 13.9**	**+0.5**
	4.7nm,0.8s						
TLY	**Talaya**	**55.07**	**2**	*eP*	**P**	**23 27 14.3**	**+0.4**
	1.1nm,0.7s						
HNR	**Honiara**	**58.50**	**99**	*eP*	**P**	**23 27 39.8**	**+0.9**
	23nm,0.5s						
ZALV	**Zalesovo Beam**	**58.94**	**349**	P	**P**	**23 27 40.8**	**-0.4**
	5.0nm,0.4s,baz=178,slow=5.1,SNR=26						
YSS	**Yuzh-Sakhalins**	**62.13**	**31**	P	**P**	**23 28 02.9**	**-0.1**
	3.8nm,0.5s						
ABKAR	**Akbulak array**	**63.63**	**331**	*eP*	**P**	**23 28 13.1**	**+0.1**
	0.7nm,0.4s						
BRTR	**Keskin Array B**	**75.33**	**312**	P	**P**	**23 29 26.4**	**+0.7**
	0.6nm,0.7s,baz=134,slow=6.2,SNR=4.4						
RAO	**Raoul Island**	**80.22**	**119**	*eP*	**P**	**23 29 51.8**	**-1.2**
	109nm,0.4s						
TXAR	**Lajitas Array**	**145.10**	**40**	PKPbc	**PKPdf**	**23 37 19.8**	**-0.2**
	1.0nm,0.7s,baz=279,slow=0.9,SNR=16						

*ISCJB **11** 23:29:02.3±0.8,35°.65N±0°.05×140°.25E±0°.09, h75km±5km, mb3.7/3, Error ellipse: s-maj=12.9km s-min=7.8km az=152.7*
*JMA **11** 23:29:03.3±0.2,35°.67N×140°.20E, h64km±2km, M3.1*
*IDC **11** 23:29:07.1±3.5,35°.28N×139°.70E, h78km±35km, mb3.3/3, mb1 3.6/3, mb1mx3.1/44, mbtmp3.7/3, Error ellipse: s-maj=41.0km s-min=28.8km az=70.0*

ISC 11 23:29:03.5±1.1,35°.66N±0°.06×140°.22E±0°.08, h67km±9km, n10, σ0s95/15, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.24**	**183**	*e*S	**Sn**	**23 29 22.9**	**+1.3**
JYT	**Yasato**	**0.57**	**358**	P	**Pn**	**23 29 16.3**	**-0.5**
JYT				S	**Sn**	**23 29 25.9**	**-0.6**
BSO3	**Boso 3**	**0.89**	**164**	*e*S	**Sn**	**23 29 33.5**	**+1.0**
JAG	**Ashikaga**	**0.99**	**321**	P	**Pn**	**23 29 21.7**	**0.0**
JAG				S	**Sn**	**23 29 34.7**	**-0.5**
JOD2	**Odawara 2**	**1.00**	**247**	P	**Pn**	**23 29 21.2**	**-0.7**
JOD2				S	**Sn**	**23 29 34.2**	**-1.4**
JRY	**Ryogami san**	**1.13**	**289**	P	**Pn**	**23 29 23.7**	**+0.1**
JRY				*e*S	**Sn**	**23 29 39.2**	**+0.7**
MJAR	**Matsushiro Arr**	**1.85**	**299**	P	**Pn**	**23 29 33.5**	**+0.3**
	18nm,0.3s,baz=140,slow=14,SNR=51						
MJAR				S	**Sn**	**23 29 56.9**	**+1.3**
	25nm,0.3s,baz=136,slow=23,SNR=13						
MKAR	**Makanchi Array**	**44.05**	**303**	P	**P**	**23 37 05.2**	**+0.6**
	0.5nm,0.7s,baz=93,slow=7.5,SNR=3.9						
WRA	**Warramunga Arr**	**55.58**	**187**	P	**P**	**23 38 31.1**	**-1.1**
	0.8nm,0.4s,baz=2.9,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**59.30**	**187**	P	**P**	**23 38 58.5**	**+0.1**
	0.3nm,0.4s,baz=18,slow=12,SNR=12						

*IDC **11** 23:34:03.8±3.6, 15°.43S×173°.80W, h54km±42km, mb4.0/3, mb1 4.3/4, mb1mx3.6/33, mbtmp4.3/4, ML4.4/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/31, Error ellipse: s-maj=56.5km s-min=28.2km az=127.0*
*ISCJB **11** 23:34:04.6±0.5, 15°.39S±0°.10×173°.5W±0°.1, h100km, mb4.8/16, Error ellipse: s-maj=19.5km s-min=7.8km az=40.5*
*NEIC **11** 23:34:05.6±1.3, 15°.38S×173°.49W, h93km±13km, mb4.5/10, Error ellipse: s-maj=23.4km s-min=9.5km az=120.0*

ISC 11 23:34:05.9±0.6, 15°.4S±0°.1×173°.4W±0°.1, h100km, n22, σ1s19/24, mb4.4/16, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.15**	**45**	P	**Pn**	**23 34 41.8**	**+1.3**
	79nm,0.3s,baz=0.4,slow=3.3,SNR=83						
AFI				S	**Sn**	**23 35 05.7**	**-1.4**
	494nm,0.3s,baz=346,slow=20,SNR=28						
AFI				LR	LR	23 35 38.1	
	comp=Z,122nm,18.6s,baz=53,slow=38						
AFI	**Afiamalu**	**2.15**	**45**	*e*Pn	**Pn**	**23 34 41.6**	**+1.0**
AFI				*e*Sn	**Sn**	**23 35 05.3**	**-1.8**
RAO	**Raoul Island**	**14.37**	**196**	*e*Pn	**Pn**	**23 37 23.6**	**-1.1**
URZ	**Urewera**	**24.24**	**199**	P	**P**	**23 39 14.5**	**+1.2**
	5.9nm,0.7s,baz=282,slow=0.9,SNR=5.7						
POHA	**Pohakuloa**	**39.12**	**27**	*eP*	**P**	**23 41 24.4**	**+0.3**
	270nm,0.2s						
MIDW	**Midway**	**43.58**	**355**	*eP*	**P**	**23 41 59.5**	**-0.6**
	14nm,0.7s						
WRA	**Warramunga Arr**	**49.88**	**257**	P	**P**	**23 42 49.1**	**-0.4**
	1.3nm,0.5s,baz=93,slow=6.7,SNR=22						
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**23 42 50.9**	**-0.7**
	4.6nm,0.7s,baz=85,slow=7.9,SNR=56						
CMB	**Columbia Colle**	**72.77**	**41**	P	**P**	**23 45 24.0**	**+0.5**
	3.2nm,0.5s						
QSPA	**South Pole Qui**	**74.60**	**180**	*eP*	**P**	**23 45 36.3**	**+2.4**
	4.7nm,0.7s						
PMR	**Palmer**	**79.15**	**12**	*eP*	**P**	**23 45 59.1**	**-0.1**
	2.7nm,0.4s						
COLA	**College**	**82.40**	**11**	*eP*	**P**	**23 46 16.3**	**-0.1**
	2.4nm,0.6s						
BILL	**Bilibino**	**84.56**	**352**	*eP*	**P**	**23 46 27.3**	**-0.1**
	1.3nm,0.3s						
RSSD	**Black Hills**	**86.46**	**42**	*eP*	**P**	**23 46 37.9**	**+0.1**
	2.5nm,0.4s						
COCO	**West Island**	**86.64**	**258**	*eP*	**P**	**23 46 39.1**	**+0.2**
	378nm,0.6s						
INK	**Inuvik**	**88.30**	**14**	*eP*	**P**	**23 46 46.2**	**+0.5**
	3.9nm,1.0s						
YAK	**Yakutsk**	**89.17**	**337**	*eP*	**P**	**23 46 49.0**	**-0.8**
	8.3nm,0.4s						
SYO	**Syowa Base**	**92.56**	**191**	*eP*	**P**	**23 47 03.0**	**-2.7**
CHTO	**Chiang Mai**	**92.77**	**289**	*eP*	**P**	**23 47 08.0**	**+0.4**
	0.7nm,0.4s						
SFIN	**Lafayette**	**97.04**	**50**	*eP*	**P**	**23 47 25.9**	**-0.7**
	119nm,0.5s						
GERES	**GERESS Array B**	**146.19**	**352**	PKPbc	**PKPab**	**23 53 37.0**	**+1.4**
	0.2nm,0.4s,baz=29,slow=3.0,SNR=3.9						
BRTR	**Keskin Array B**	**146.22**	**321**	PKPbc	**PKPab**	**23 53 37.4**	**+1.3**
	1.0nm,0.6s,baz=82,slow=2.4,SNR=6.9						

JMA 11 23:44:16.3, 37°.02N×140°.68E, h9km±1km, M2.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.12**	**49**	P	Pg	23 44 19.3	+0.1
ONAJ				S	Sg	23 44 21.4	+0.1
JFK	**Kawauchi**	**0.38**	**24**	P	Pg	23 44 23.8	0.0
JFK				S	Sg	23 44 29.0	+0.2
JHO	**Hitachi**	**0.42**	**192**	P	Pg	23 44 24.3	-0.2
JHO				S	Sg	23 44 30.2	+0.2
JFT	**Otama**	**0.57**	**331**	P	Pg	23 44 27.6	+0.3
JFT				S	Sg	23 44 35.3	+0.5
JSB	**Shiboa**	**0.61**	**265**	P	Pb	23 44 28.8	-0.4
JSB				S	Sb	23 44 37.5	-0.4
JMM	**Marumori**	**0.85**	**6**	P	Pg	23 44 32.1	-0.6
JMM				S	Sg	23 44 43.5	-0.2
JFY	**Yanaizu**	**0.87**	**297**	P	Pg	23 44 33.1	+0.1
JFY				S	Sg	23 44 44.3	-0.1
JYT	**Yasato**	**0.88**	**206**	P	Pg	23 44 32.6	-0.7
MAT	**Matsushiro**	**2.04**	**257**	P	Pn	23 44 52.2	+1.3
MAT				S	Sb	23 45 18.5	-0.6

IDC 11 23:45:46.2±6.3, 7°.53S×150°.00E, h94km±53km, mb3.2/2, mb1 3.6/4, mb1mx3.2/26, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=114.4km s-min=35.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.37**	**236**	P	Pn	23 46 36.4	-0.4
	2.4nm,0.3s,baz=50,slow=9.2,SNR=6.5						
PMG				S	Sn	23 47 22.7	+6.7
	3.5nm,0.3s,baz=133,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**19.57**	**229**	P	P	23 50 06.8	0.0
	0.2nm,0.3s,baz=55,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.27**	**222**	P	P	23 50 35.5	-0.3
	0.6nm,0.7s,baz=57,slow=8.8,SNR=9.6						
ILAR	**Eielson Array**	**85.73**	**23**	P	P	23 58 14.9	+0.4
	0.6nm,0.7s,baz=247,slow=5.0,SNR=6.0						

BKK 11 23:49:06.0±1.0, 21°N±5°×99°E±°, h10km, M4.0/5, MLv4.0/5, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYA	**Payao**	**1.93**	**158**	P	Pn	23 49 38.0	-0.9
CHTO	**Chiang Mai**	**2.33**	**183**	P	Pb	23 49 47.3	-0.8
CHTO				S	Sb	23 50 17.0	+0.1
CHTO	**Chiang Mai**	**2.33**	**183**	P	Pb	23 49 47.1	-1.0
CMMT	**Chiang Mai**	**2.33**	**183**	P	Pb	23 49 47.1	-1.0
CMMT				S	Sb	23 50 16.8	-0.2
CMMT	**Chiang Mai**	**2.33**	**183**	P	Pb	23 49 47.0	-1.1
SUKH	**Sukhothai**	**3.68**	**172**	P	Pn	23 50 03.0	0.0
SUKH				S	Sn	23 50 48.2	+1.6
SUKH	**Sukhothai**	**3.68**	**172**	P	Pn	23 50 05.5	+2.5
LOEI	**Loei**	**4.16**	**150**	P	Pn	23 50 09.0	-0.7
LOEI				S	Sn	23 51 00.7	+2.3
LOEI	**Loei**	**4.16**	**150**	P	Pb	23 50 18.0	-1.4
PBKT	**Sadao Pong**	**4.89**	**158**	P	Pn	23 50 18.1	-1.5
PBKT				S	Sn	23 51 21.0	+4.7
PBKT	**Sadao Pong**	**4.89**	**158**	P	Pb	23 50 31.1	-0.7
NONG	**Nongkai**	**4.90**	**128**	P	Pn	23 50 21.5	+1.7
NONG	**Nongkai**	**4.90**	**128**	P	Pb	23 50 30.5	-1.5
CHAI	**Chaiyaphum**	**5.90**	**152**	S	Sn	23 51 47.3	+6.1
KHON	**Khomkaen**	**5.95**	**143**	S	Sn	23 51 47.5	+5.0
SKNT	**Sakolnakorn**	**6.22**	**131**	S	Sn	23 51 55.6	+6.5

*ISK **11** 23:52:13.3, 39°.07N×29°.06E, h5km, MD2.6*
*ISCJB **11** 23:52:14.3±0.5, 39°.07N±0°.05×29°.05E±0°.05, h6km±9km, Error ellipse: s-maj=8.9km s-min=4.3km az=145.2*
*DDA **11** 23:52:14.4, 39°.08N×29°.04E, h7km, Md2.2*
*CSEM **11** 23:52:14.2±0.1, 39°.08N×29°.05E, h5km, MD2.2, Error ellipse: s-maj=3.8km s-min=2.5km az=133.0*

ISC 11 23:52:14.6±1.1, 39°.08N±0°.04×29°.05E±0°.03, h6km±11km, n16, σ0s57/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**262**	P	**Pg**	**23 52 20.0**	**+0.1**
DEMI				S	**Sg**	**23 52 23.7**	**+0.3**
DEMI	**Demirci**	**0.27**	**262**	*i* P	**Pg**	**23 52 19.9**	**+0.1**
DEMI				*i* S	**Sg**	**23 52 23.7**	**+0.3**
GEDZ	**Gediz**	**0.28**	**98**	*e*PG	**Pg**	**23 52 19.4**	**-0.7**
GEDZ	**Gediz**	**0.28**	**98**	*e*Pg	**Pg**	**23 52 19.4**	**-0.7**
GDZ	**Gediz**	**0.33**	**89**	P	**Pg**	**23 52 21.6**	**+0.4**
GDZ				S	**Sg**	**23 52 26.6**	**+1.0**
GDZ	**Gediz**	**0.33**	**89**	*i* P	**Pg**	**23 52 21.6**	**+0.4**
GDZ				*i* S	**Sg**	**23 52 26.6**	**+1.0**
TVSB	**Tavsanli**	**0.48**	**41**	*e*PG	**Pg**	**23 52 23.1**	**-0.9**
TVSB				*e*SG	**Sg**	**23 52 30.5**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**41**	*e*Pg	**Pg**	**23 52 23.1**	**-0.9**
TVSB				*e*Sg	**Sg**	**23 52 30.5**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*PG	**Pg**	**23 52 26.3**	**-0.7**
KULA				*e*SG	**Sg**	**23 52 35.3**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*Pg	**Pg**	**23 52 26.3**	**-0.7**
KULA				*e*Sg	**Sg**	**23 52 35.3**	**-0.1**
MANT	**Manisa**	**0.71**	**213**	P	**Pg**	**23 52 28.1**	**-0.1**
MANT				S	**Sg**	**23 52 37.6**	**+0.2**
MANT	**Manisa**	**0.71**	**213**	*i* P	**Pg**	**23 52 28.1**	**-0.1**
MANT				*i* S	**Sg**	**23 52 37.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*PN	**Pn**	**23 52 39.0**	**-0.3**
KCTX				*e*SN	**Sn**	**23 52 57.6**	**+0.7**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*Pn	**Pn**	**23 52 39.0**	**-0.3**
KCTX				*e*Sn	**Sn**	**23 52 57.6**	**+0.7**
ARMT	**Armutlu**	**1.49**	**354**	*e*PN	**Pn**	**23 52 41.6**	**-0.3**
ARMT	**Armutlu**	**1.49**	**354**	*e*Pn	**Pn**	**23 52 41.6**	**-0.3**

*ISCJB **12** 00:19:17.6±0.5, 39°.10N±0°.04×29°.03E±0°.04, h5km±7km, Error ellipse: s-maj=7.1km s-min=4.2km az=159.4*
*ISK **12** 00:19:17.8, 39°.13N×29°.06E, h5km, MD2.8*
*CSEM **12** 00:19:17.8±0.1, 39°.11N×29°.03E, h2km, MD2.7, Error ellipse: s-maj=2.8km s-min=2.4km az=171.0*
*DDA **12** 00:19:17.1, 39°.08N×29°.05E, h9km, Md2.7*

ISC 12 00:19:17.7±0.9, 39°.10N±0°.03×29°.03E±0°.02, h13km±9km, n33, σ0s54/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**257**	P	**Pg**	**00 19 23.1**	**+0.1**
DEMI				S	**Sg**	**00 19 26.8**	**+0.2**
DEMI	**Demirci**	**0.25**	**257**	*i* P	**Pg**	**00 19 23.1**	**+0.1**
DEMI				*i* S	**Sg**	**00 19 26.8**	**+0.2**
GEDZ	**Gediz**	**0.30**	**101**	*e*PG	**Pg**	**00 19 24.1**	**+0.1**
GEDZ	**Gediz**	**0.30**	**101**	*e*Pg	**Pg**	**00 19 24.1**	**+0.1**
GDZ	**Gediz**	**0.35**	**92**	P	**Pg**	**00 19 24.6**	**-0.3**
GDZ				S	**Sg**	**00 19 29.2**	**-0.5**
GDZ	**Gediz**	**0.35**	**92**	*i* P	**Pg**	**00 19 24.6**	**-0.3**
GDZ				*i* S	**Sg**	**00 19 29.2**	**-0.5**
TVSB	**Tavsanli**	**0.48**	**44**	*e*PG	**Pg**	**00 19 27.0**	**-0.3**
TVSB				*e*SG	**Sg**	**00 19 33.2**	**-0.5**
TVSB	**Tavsanli**	**0.48**	**44**	*e*Pg	**Pg**	**00 19 27.0**	**-0.3**
TVSB				*e*Sg	**Sg**	**00 19 33.3**	**-0.5**
DST	**Dursunbey**	**0.59**	**328**	*e*PG	**Pg**	**00 19 29.4**	**0.0**
DST	**Dursunbey**	**0.59**	**328**	*e*Pg	**Pg**	**00 19 29.4**	**0.0**
MANT	**Manisa**	**0.71**	**211**	P	**Pg**	**00 19 31.3**	**-0.3**
MANT				S	**Sg**	**00 19 40.4**	**-0.5**
MANT	**Manisa**	**0.71**	**211**	*i* P	**Pg**	**00 19 31.3**	**-0.3**
MANT				*i* S	**Sg**	**00 19 40.4**	**-0.5**
KHL	**Karahalli**	**0.87**	**153**	*e*PG	**Pb**	**00 19 35.1**	**+0.4**
KHL	**Karahalli**	**0.87**	**153**	*e*Pg	**Pb**	**00 19 35.1**	**+0.4**
AKS	**Akhisar**	**0.97**	**257**	*e*PG	**Pn**	**00 19 37.4**	**+0.3**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg	**Pn**	**00 19 37.4**	**+0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pn**	**00 19 38.4**	**+0.4**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pn**	**00 19 38.4**	**+0.4**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pg**

mb4.6/92,MS3.9/7,Error ellipse: s-maj=4.0km s-min=3.5km az=162.1
JMA ***12*** *00:37:56.2±0.1,35°.79N×140°.88E,h11km±1km,M4.4*
JMA Felt III J1.
NEIC ***12*** *00:37:59.7±1.8,35°.75N×140°.61E,h21km±13km,mb4.7/64, Error ellipse: s-maj=6.3km s-min=4.6km az=134.0*
NEIC Felt at Chiba, Kashiwa and Narita. Recorded [3 JMA] in Chiba and Ibaraki.
MOS ***12*** *00:38:00.5±1.4,36°.00N×140°.63E,h33km,mb4.5/36,Error ellipse: s-maj=8.0km s-min=5.7km az=105.8*

ISC 12 00:37:58.2±0.6,35.76N±0.03×140.76E±0.03,h14km±3km, n216,σ1§70/228,mb4.6/92,MS3.8/7,12C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
CHOJ	**Chosi**	**0.10**	**127**	⇑P		**Pg**	**00 37 58.5**	**-2.9**
CHOJ					S	**Sg**	**00 38 00.5**	**-3.0**
JCN	**Nagara**	**0.57**	**233**	⇑P		**Pb**	**00 38 10.0**	**0.0**
JCN					eS	**Sb**	**00 38 18.6**	**+0.7**
JYT	**Yasato**	**0.65**	**315**	⇑P		**Pg**	**00 38 09.5**	**-1.5**
JYT					S	**Sg**	**00 38 19.0**	**-0.7**
TOK	**Tokyo**	**0.82**	**265**	⇑P		**Pb**	**00 38 13.9**	**-0.3**
BSO4	**Boso 4**	**0.84**	**204**	⇑P		**Pb**	**00 38 13.7**	**-0.9**
JHO	**Hitachi**	**0.86**	**350**	P		**Pb**	**00 38 12.8**	**-2.2**
JHO					S	**Sb**	**00 38 24.6**	**-1.7**
BSO3	**Boso 3**	**0.98**	**192**	⇓P		**Pb**	**00 38 14.9**	**-1.9**
MJAR	**Matsushiro Arr**	**2.21**	**291**	Pn		**Pn**	**00 38 32.9**	**-1.6**
	19nm,0.3s,baz=94,slow=8.3,SNR=211							
MJAR				LR		LR	00 39 00.8	
	comp=Z,166nm,21.2s,baz=140,slow=29							
MJAR				Sn		**Sb**	**00 39 04.1**	**-1.0**
	29nm,0.3s,baz=82,slow=15,SNR=6.9							
MAJO	**Matsushiro**	**2.21**	**291**	*c iP*		**Pn**	**00 38 32.9**	**-1.6**
MAJO	**Matsushiro**	**2.21**	**291**	ePn		**Pn**	**00 38 33.3**	**-1.1**
MAT	**Matsushiro**	**2.21**	**291**	P		**Pn**	**00 38 33.0**	**-1.5**
MAT				S		**Sn**	**00 39 03.1**	**+1.5**
MJB9	**Matsu-Tunnel**	**2.21**	**291**	ePn		**Pn**	**00 38 33.5**	**-1.1**
JHJ2	**Mitsune**	**2.76**	**197**	ePn		**Pn**	**00 38 42.5**	**+0.5**
JHJ	**Hachijo jima 2**	**2.76**	**197**	Pn		**Pn**	**00 38 39.0**	**-3.0**
	35nm,0.3s,baz=311,slow=18,SNR=22							
JHJ					Sn	**Sn**	**00 39 13.3**	**-1.8**
	63nm,0.3s,baz=263,slow=23,SNR=7.4							
INU	**Inuyama**	**3.08**	**263**	ePn		**Pn**	**00 38 47.4**	**+0.9**
ERM	**Erimo**	**6.52**	**16**	*i* P		**Pn**	**00 39 29.8**	**-3.8**
ERM	**Erimo**	**6.52**	**16**	ePn		**Pn**	**00 39 33.3**	**-0.3**
ASAJ	**Asahikawa**	**8.46**	**9**	Pn		**Pn**	**00 39 58.1**	**-2.2**
	1.3nm,0.3s,baz=222,slow=9.5,SNR=14							
ASAJ					Sn	**Sn**	**00 41 36.5**	**+0.9**
	0.3nm,0.3s,baz=26,slow=18,SNR=2.3							
ASAJ	**Asahikawa**	**8.46**	**9**	ePn		**Pn**	**00 39 58.4**	**-1.9**
ASAJ					Sn	**Sn**	**00 41 36.5**	**+0.9**
JNU	**Nakatsue**	**8.58**	**255**	Pn		**Pn**	**00 40 01.0**	**-1.0**
	0.4nm,0.3s,baz=233,slow=5.1,SNR=1.6							
JNU					LR	LR	00 43 20.3	
	comp=Z,315nm,18.1s,baz=125,slow=38							
CBIJ	**Chichi jima**	**8.73**	**172**	ePn		**Pn**	**00 40 04.3**	**+0.3**
JCJ	**Chichijima**	**8.73**	**172**	Pn		Pn	00 39 59.1	-4.9
	14nm,0.3s,baz=281,slow=23,SNR=11							
VLA	**Vladivostok**	**10.05**	**320**	⇑eP		**Pn**	**00 40 22.0**	**-0.1**
KSRS	**Korea Array**	**10.46**	**283**	Pn		**Pn**	**00 40 29.9**	**+2.3**
	0.1nm,0.3s,baz=98,slow=13,SNR=5.3							
KSRS					LR	LR	00 44 43.3	
	comp=Z,150nm,18.6s,baz=92,slow=39							
KS01	**Wonju Array Si**	**10.48**	**283**	ePn		**Pn**	**00 40 27.2**	**-0.8**
KS15	**Wonju Array Si**	**10.49**	**283**	ePn		**Pn**	**00 40 27.5**	**-0.6**
KSAR	**Wonju Array Be**	**10.49**	**283**	P		**Pn**	**00 40 30.0**	**+1.9**
KSAR	**Wonju Array Be**	**10.49**	**283**	Pn		**Pn**	**00 40 29.9**	**+1.9**
USRK	**Ussuriysk Ar.**	**10.78**	**324**	Pn		**Pn**	**00 40 34.5**	**+2.4**
	0.2nm,0.3s,baz=106,slow=14,SNR=4.6							
USRK					LR	LR	00 44 26.3	
	comp=Z,184nm,18.0s,baz=123,slow=36							
TJN	**Taejon**	**10.86**	**277**	⇑eP		**Pn**	**00 40 32.7**	**-0.5**
KUR	**Kuril'sk**	**10.89**	**28**	eP		**Pn**	**00 40 32.3**	**-1.3**
YSS	**Yuzh-Sakhalins**	**11.28**	**7**	eP		Pn	00 40 30.0	-8.9
YSS					pmax	pmax		
	comp=Z,10.0nm,0.3s							
YSS					MLR	MLR		
	comp=Z,400nm,16.0s							
YSS					MLR	MLR		
	comp=N,400nm,17.0s							
YSS	**Yuzh-Sakhalins**	**11.28**	**7**	ePn		**Pn**	**00 40 38.9**	**-0.1**
CN2	**Changchun**	**14.23**	**309**	eP		**Pn**	**00 41 21.4**	**+2.1**
SNY	**Shenyang**	**14.69**	**300**	P		**P**	**00 41 31.3**	**-0.4**
SNY				PMZ				
	comp=N,8.0nm,0.4s							
SNY				LN				
	comp=N,350nm,15.0s							
SNY				LE				
	comp=N,290nm,15.7s							
SNY				LZ				
	comp=N,310nm,17.4s							
KLR	**Kul'dur**	**14.99**	**337**	Pn		**Pn**	**00 41 29.4**	**-0.2**
	comp=N,0.1nm,0.3s,baz=106,slow=15,SNR=2.1							
KLR					LR	LR	00 46 58.9	
	comp=N,90nm,19.8s,baz=133,slow=36							
TYV	**Tymovskoe**	**15.16**	**5**	eP		**Pn**	**00 41 29.0**	**-2.7**
TYV					pmax	pmax		
	comp=Z,22nm,1.0s							
TYV					MLR	MLR		
	comp=N,500nm,14.0s							
TYV					MLR	MLR		
	comp=Z,500nm,14.0s							
SSE	**Sheshan**	**16.98**	**260**	P		**Pn**	**00 41 55.2**	**-0.2**
SSE				S		**Sn**	**00 45 01.8**	**-2.1**
SSE				PMZ				
	comp=Z,36nm,0.8s							
SSE				LN				
	comp=Z,130nm,23.1s							
SSE				LE				
	comp=Z,230nm,23.6s							
SSE				LZ				
	comp=Z,300nm,19.3s							
NJ2	**Nanjing**	**18.55**	**265**	eP		**Pn**	**00 42 17.5**	**+2.8**
NJ2				PMZ				
	comp=Z,23nm,0.5s							
BJI	**Beijing**	**19.84**	**290**	P		**P**	**00 42 28.1**	**-0.5**
BJI				S		**S**	**00 46 08.3**	**-3.3**
BJI				PMZ				
	comp=Z,6.0nm,1.1s							
BJI				PMZ				
	comp=Z,100nm,4.4s							
BJI				LN				
	comp=Z,180nm,16.5s							
BJI				LE				
	comp=Z,130nm,14.9s							
NACB	**Ninganchiao**	**20.18**	**240**	eP		**P**	**00 42 32.9**	**+0.5**
	comp=Z,16nm,0.7s							
YULB	**Yu-li**	**20.89**	**239**	eP		**P**	**00 42 39.9**	**-0.3**
	comp=Z,20nm,1.2s							
PETK	**Petropavlovsk-**	**21.05**	**29**	P		**P**	**00 42 38.6**	**-3.0**
	comp=Z,2.9nm,0.9s,baz=231,slow=10,SNR=2.5							
PETK					LR	LR	00 51 48.0	
	comp=Z,41nm,18.2s,baz=209,slow=40							
PET	**Petropavlovsk**	**21.38**	**31**	eP		**P**	**00 42 45.0**	**0.0**
PET					pmax	pmax		
	comp=Z,37nm,1.0s							
PET	**Petropavlovsk**	**21.38**	**31**	eP		**P**	**00 42 45.0**	**0.0**
	comp=Z,37nm,1.0s							
TWG	**Pinlang**	**21.42**	**238**	eP		**P**	**00 42 45.0**	**-0.9**
	comp=Z,93nm,1.1s							
HHC	**Hu-ho-hao-te**	**23.41**	**291**	eP		**P**	**00 43 06.7**	**-0.1**
HHC				pP		sP	00 43 14.6	+1.8
HHC				S		**S**	**00 47 12.9**	**-6.7**
HHC				PMZ				
	comp=Z,19nm,0.9s							
HHC				PMZ				
	comp=Z,78nm,4.8s							
HHC				LN				
	comp=Z,220nm,14.8s							
HHC				LE				
	comp=Z,290nm,14.8s							
HHC				LZ				
	comp=Z,320nm,14.8s							
MA2	**Magadan**	**24.70**	**12**	P		**P**	**00 43 17.8**	**-0.8**
	comp=Z,3.9nm,0.6s,baz=239,slow=19,SNR=2.1							
ENH	**Enshi**	**26.72**	**267**	eP		**P**	**00 43 36.4**	**-0.9**
YAK	**Yakutsk**	**27.20**	**349**	eP		**P**	**00 43 41.9**	**+0.7**
YAK					pmax	pmax		
	comp=Z,12nm,1.1s							
YAK					pmax	pmax		
	comp=N,5.0nm,0.9s							
YAK					pmax	pmax		
	comp=E,3.0nm,1.3s							
ULN	**Ulaanbaatar**	**27.66**	**306**	⇑eP		**P**	**00 43 45.8**	**+0.2**
ULN					pmax	pmax		
	comp=Z,2.0nm,1.0s							
ULN	**Ulaanbaatar**	**27.66**	**306**	eP		**P**	**00 43 45.1**	**-0.6**
	comp=Z,2.2nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**27.99**	**118**	T		T	01 12 45.5	
	baz=311,slow=75,SNR=520							
H11N1	**WAKE ISLAND Hy**	**27.99**	**118**	T		T	01 12 47.4	
	baz=311,slow=75,SNR=374							
H11N3	**WAKE ISLAND Hy**	**28.00**	**118**	T		T	01 12 48.0	
	baz=311,slow=75,SNR=598							
SONA1	**Songino Array**	**28.08**	**306**	eP		**P**	**00 43 49.2**	**-0.2**
SONM	**Songino Array**	**28.08**	**306**	P		**P**	**00 43 47.7**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=100,slow=8.0,SNR=3.4							
SEY	**Seymchan**	**28.14**	**11**	P		**P**	**00 43 50.6**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=172,slow=6.3,SNR=3.8							
SEY	**Seymchan**	**28.14**	**11**	P		**P**	**00 43 50.6**	**+1.0**
SEY					pmax	pmax		
	comp=Z,3.0nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**28.65**	**120**	T		T	01 13 38.2	
	baz=312,slow=75,SNR=855							
H11S1	**WAKE ISLAND Hy**	**28.65**	**120**	T		T	01 13 38.2	
	baz=312,slow=75,SNR=1078							
H11S2	**WAKE ISLAND Hy**	**28.66**	**120**	T		T	01 13 39.4	
	baz=312,slow=75,SNR=803							
LZH	**Lanzhou**	**29.78**	**282**	eP		**P**	**00 44 05.2**	**+0.5**
LZH				pP		sP	00 44 15.0	+4.2
LZH				sP		pP	00 44 20.2	+11
LZH				eS		**S**	**00 48 58.3**	**-2.5**
LZH				PMZ				
	comp=Z,24nm,1.2s							
LZH				PMZ				
	comp=Z,71nm,4.2s							
LZH				LN				
	comp=Z,1μm,16.6s							
LZH				LE				
	comp=Z,1μm,14.1s							
LZH				LZ				
	comp=Z,2μm,17.9s							
GYA	**Guiyang**	**30.50**	**262**	eP		**P**	**00 44 11.8**	**+0.7**
GYA				pP		sP	00 44 21.4	+4.2
GYA				PP		**PnPn**	**00 45 12.0**	**+2.1**
GYA				PcP		**PcP**	**00 47 11.8**	**+1.7**
GYA				S		**S**	**00 49 08.7**	**-3.5**
GYA				sS		sS	00 49 26.0	+6.6
GYA				ScS		**ScS**	**00 54 44.4**	**-4.1**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
GYA				PMZ				
	comp=Z,110nm,4.9s							
GYA				LN				
	comp=Z,440nm,17.4s							
GYA				LE				
	comp=Z,410nm,17.6s							
GYA				LZ				
	comp=Z,420nm,17.8s							
CD2	**Chengdu**	**31.17**	**272**	eP		**P**	**00 44 16.4**	**-0.4**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.4s							
QIZ	**Qiongzhong**	**31.93**	**247**	P		**P**	**00 44 24.0**	**+0.4**
QIZ				pP		**sP**	**00 44 33.1**	**+3.4**
QIZ				S		**S**	**00 49 34.0**	**-0.4**
QIZ				PMZ				
	comp=Z,4.0nm,1.2s							
QIZ				LN				
	comp=Z,110nm,16.0s							
QIZ				LE				
	comp=Z,230nm,17.8s							
QIZ				LZ				
	comp=Z,230nm,19.7s							
GTA	**Gaotai**	**32.45**	**289**	eP		**P**	**00 44 28.1**	**-0.1**
GTA				PMZ				
	comp=Z,4.0nm,0.8s							
KMI	**Kunming**	**34.26**	**263**	P		**P**	**00 44 45.8**	**+1.6**
KMI				PMZ				
	comp=Z,7.0nm,1.0s							
KMI				LN				
	comp=Z,150nm,13.6s							
KMI				LE				
	comp=Z,280nm,14.6s							
KMI				LZ				
	comp=Z,320nm,15.0s							
BILL	**Bilibino**	**35.39**	**16**	*i* P		**P**	**00 44 52.9**	**-0.3**
BILL					pmax	pmax		
	comp=Z,4.0nm,1.1s							
BILL					MLR	MLR		
	comp=Z,71nm,16.0s							
BILL	**Bilibino**	**35.39**	**16**	eP		**P**	**00 44 55.0**	**+1.8**
	comp=Z,22nm,1.8s							
MIDW	**Midway**	**36.09**	**90**	eP		**P**	**00 45 01.8**	**+2.2**
	comp=Z,114nm,1.5s							
TIXI	**Tiksi**	**36.49**	**354**	P		**P**	**00 45 02.7**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=134,slow=6.9,SNR=3.6							
TIXI	**Tiksi**	**36.49**	**354**	eP		**P**	**00 45 03.0**	**+0.6**
	comp=Z,1.9nm,0.8s							
MANU	**Manus Island**	**38.11**	**169**	eP		**P**	**00 45 18.2**	**+1.4**
	comp=Z,59nm,1.9s							
NIKH	**Nikolski High**	**39.01**	**48**	eP		**P**	**00 45 25.6**	**+1.6**
	comp=Z,132nm,1.0s							
LUWI	**Luwuk**	**40.28**	**209**	eP		**P**	**00 45 35.4**	**+0.5**
	comp=Z,47nm,0.8s							
CHTO	**Chiang Mai**	**40.48**	**257**	eP		**P**	**00 45 36.6**	**-0.1**
CHTO					pmax	pmax		
	comp=Z,9.0nm,1.5s							
CHTO	**Chiang Mai**	**40.48**	**257**	eP		**P**	**00 45 36.6**	**-0.1**
	comp=Z,9.1nm,1.5s							
WMQ	**Urumqi**	**40.96**	**298**	P		**P**	**00 45 41.0**	**+0.6**
WMQ				pP		sP	00 45 51.8	+5.2
WMQ				sP		pP	00 45 55.8	+11
WMQ				PMZ				
	comp=Z,7.0nm,0.6s							
WMQ				PMZ				
	comp=Z,32nm,5.0s							
WMQ				LN				
	comp=Z,110nm,13.6s							
WMQ				LE				
	comp=Z,21nm,21.6s							
TNA	**Tin City**	**42.22**	**29**	eP		**P**	**00 45 51.6**	**+1.3**
	comp=Z,17nm,0.9s							
ZAA0	**Zalesovo Array**	**42.39**	**313**	eP		**P**	**00 45 52.4**	**+0.4**
ZALV	**Zalesovo Beam**	**42.39**	**313**	P		**P**	**00 45 51.5**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=92,slow=6.1,SNR=10							
ZALV	**Zalesovo Beam**	**42.39**	**313**	P		**P**	**00 45 51.5**	**-0.4**
ZALV					pmax	pmax		
	comp=Z,3.0nm,0.8s							
SDPT	**Sand Point**	**44.07**	**45**	eP		**P**	**00 46 07.2**	**+1.8**
	comp=Z,98nm,1.5s							
KSM	**Kuching**	**44.30**	**227**	eP		**P**	**00 46 07.5**	**-0.3**
	comp=Z,16nm,1.1s							
MK01	**Makanchi Array**	**44.35**	**303**	eP		**P**	**00 46 07.1**	**-0.9**
MK31	**Makanchi Array**	**44.36**	**303**	eP		**P**	**00 46 08.0**	**0.0**
MK31	**Makanchi Array**	**44.36**	**303**	eP		**P**	**00 46 08.0**	**0.0**
MKAR	**Makanchi Array**	**44.36**	**303**	P		**P**	**00 46 07.3**	**-0.7**
	comp=Z,3.2nm,1.0s,baz=89,slow=9.6,SNR=13							
MKAR	**Makanchi Array**	**44.36**	**303**	eP		**P**	**00 46 08.0**	**0.0**
MKAR	**Makanchi Array**	**44.36**	**303**	eP		**P**	**00 46 08.0**	**0.0**
MAKZ	**Makanchi**	**44.57**	**303**	eP		**P**	**00 46 09.3**	**-0.3**
MAKZ					pmax	pmax		
	comp=Z,5.0nm,1.0s							
MAKZ	**Makanchi**	**44.57**	**303**	eP		**P**	**00 46 09.3**	**-0.3**
	comp=Z,5.4nm,1.0s							
PMG	**Port Moresby**	**45.33**	**171**	eP		**P**	**00 46 17.1**	**+1.2**
PMG					pmax	pmax		
	comp=Z,19nm,1.1s							
PMG	**Port Moresby**	**45.33**	**171**	eP		**P**	**00 46 17.1**	**+1.2**
	comp=Z,19nm,1.1s							
KURK	**Kurchatov**	**46.31**	**309**	eP		**P**	**00 46 22.6**	**-0.8**
KURK					pmax	pmax		
	comp=Z,35nm,0.9s							
KURK	**Kurchatov**	**46.31**	**309**	eP		**P**	**00 46 22.6**	**-0.8**
	comp=Z,35nm,0.9s							
TT01	**Tatalina**	**46.76**	**34**	eP		**P**	**00 46 28.2**	**+1.5**
IPM	**Ipoh**	**48.03**	**239**	eP		**P**	**00 46 36.8**	**-0.5**
	comp=Z,25nm,1.6s							
RSO	**Redoubt South**	**48.23**	**38**	eP		**P**	**00 46 41.1**	**+2.7**
KDAK	**Kodiak Island**	**48.40**	**41**	*i* P		**P**	**00 46 41.7**	**+2.2**
PPLA	**Purkeypile**	**48.51**	**34**	eP		**P**	**00 46 43.3**	**+2.8**
	comp=Z,23nm,1.7s							
SPU	**Mount Spurr**	**48.56**	**37**	eP		**P**	**00 46 43.0**	**+2.1**
CAST	**Castle Rocks**	**48.57**	**34**	eP		**P**	**00 46 42.8**	**+2.0**
	comp=Z,3.0nm,1.0s							
HOM	**Homer**	**48.80**	**39**	eP		**P**	**00 46 45.0**	**+2.4**
	comp=Z,177nm,0.9s							
KTH	**Kantishna Hill**	**49.09**	**33**	eP		**P**	**00 46 46.6**	**+1.7**
	comp=Z,28nm,2.0s							
SUA	**Susitna One**	**49.19**	**36**	eP		**P**	**00 46 47.4**	**+1.7**
	comp=Z,6.1nm,0.9s							
MLY	**Manley**	**49.21**	**31**	eP		**P**	**00 46 47.2**	**+1.5**
	comp=Z,5.5nm,0.9s							
TRF	**Thorofare Moun**	**49.38**	**34**	eP		**P**	**00 46 49.9**	**+2.7**
	comp=Z,3.9nm,1.0s							
BWN	**Browne**	**49.74**	**33**	eP		**P**	**00 46 51.9**	**+2.2**
	comp=Z,15nm,0.8s							
TKM2	**Tokmak 2**	**49.78**	**299**	eP		**P**	**00 46 50.4**	**-0.2**
TKM2					pmax	pmax		
	comp=Z,7.0nm,1.1s							
TKM2	**Tokmak 2**	**49.78**	**299**	eP		**P**	**00 46 50.4**	**-0.2**
	comp=Z,7.2nm,1.1s							
SEW	**Seward**	**49.89**	**38**	eP		**P**	**00 46 53.5**	**+2.6**
	comp=Z,54nm,1.7s							
PMR	**Palmer**	**49.96**	**36**	eP		**P**	**00 46 53.4**	**+2.0**
PMR					pmax	pmax		
	comp=Z,5.0nm,0.9s							
PMR	**Palmer**	**49.96**	**36**	eP		**P**	**00 46 53.4**	**+2.0**
	comp=Z,5.1nm,0.9s							
MCK	**McKinley**	**49.98**	**33**	eP		**P**	**00 46 51.6**	**0.0**
MCK					pmax	pmax		
	comp=Z,7.0nm,1.1s							
MCK	**McKinley**	**49.98**	**33**	eP		**P**	**00 46 51.6**	**0.0**
	comp=Z,6.5nm,1.1s							
RND	**Reindeer**	**50.02**	**34**	eP		**P**	**00 46 54.3**	**+2.3**
RND					pmax	pmax		
	comp=Z,5.0nm,0.8s							
RND	**Reindeer**	**50.02**	**34**	eP		**P**	**00 46 54.3**	**+2.3**
	comp=Z,5.4nm,0.8s							
MDM	**Murphy Dome**	**50.27**	**32**	eP		**P**	**00 46 53.2**	**-0.6**
	comp=Z,10.0nm,0.8s							
SML	**Sawmill**	**50.33**	**36**	eP		**P**	**00 46 56.4**	**+2.1**
SML					pmax	pmax		
	comp=Z,5.0nm,0.8s							
SML	**Sawmill**	**50.33**	**36**	eP		**P**	**00 46 56.4**	**+2.1**
	comp=Z,4.9nm,0.8s							
WRH	**Wood River Hil**	**50.34**	**32**	eP		**P**	**00 46 56.6**	**+2.4**
	comp=Z,2.8nm,0.8s							
LHMI	**Lhok Sumawe**	**50.42**	**243**	eP		**P**	**00 46 56.1**	**+0.6**
	comp=Z,132nm,1.1s							
COLA	**College**	**50.43**	**32**	⇑eP		**P**	**00 46 57.3**	**+2.4**
COLA					pmax	pmax		
	comp=Z,4.0nm,0.6s							
COLA	**College**	**50.43**	**32**	eP		**P**	**00 46 57.1**	**+2.2**
	comp=Z,7.7nm,0.8s							
KSH	**Kashi**	**50.45**	**295**	P		P	00 47 00.6	+5.0
KSH				pP		sP	00 47 10.7	+8.8
KSH				PcP		**PcP**	**00 48 17.5**	**+3.7**
KSH				PP		**PP**	**00 48 56.6**	**+5.5**
KSH				S		**S**	**00 54 10.8**	**+1.9**
KSH				ScS		**ScS**	**00 56 46.6**	**+0.1**
KSH				SS		**SS**	**00 57 41.4**	**-1.1**
KSH				PMZ				
	comp=Z,2.0nm,0.4s							
KSH				PMZ				
	comp=Z,71nm,4.9s							
KSH				LN				
	comp=Z,140nm,9.8s							
KSH				LE				
	comp=Z,140nm,12.7s							
KSH				LZ				
	comp=Z,120nm,6.0s							
CCB	**Clear Creek Bu**	**50.46**	**32**	eP		**P**	**00 46 58.1**	**+3.0**
	comp=Z,13nm,2.0s							
AAK	**Ala-Archa**	**50.64**	**299**	⇑eP		**P**	**00 46 56.9**	**-0.1**
AAK					pmax	pmax		
	comp=Z,2.0nm,1.0s							
AAK	**Ala-Archa**	**50.64**	**299**	eP		**P**	**00 46 57.2**	**+0.1**
	comp=Z,3.0nm,0.9s							
DHY	**Denali Highway**	**50.71**	**34**	eP		**P**	**00 46 59.0**	**+1.8**
	comp=Z,13nm,1.7s							
IL1	**Eielson Array**	**50.85**	**32**	eP		**P**	**00 46 55.3**	**-2.8**
ILAR	**Eielson Array**	**50.85**	**32**	P		**P**	**00 46 56.6**	**-1.5**
	comp=Z,3.7nm,0.8s,baz=270,slow=6.6,SNR=23							
ILB	**Eielson Array**	**50.85**	**32**	eP		**P**	**00 46 58.6**	**+0.6**
BRVK	**Borovoye**	**51.10**	**313**	⇓eP		**P**	**00 47 00.7**	**+0.6**
BRVK					pmax	pmax		
	comp=Z,8.0nm,1.0s							
BRVK	**Borovoye**	**51.10**	**313**	eP		**P**	**00 47 00.4**	**+0.2**
	comp=Z,11nm,1.2s							
EKS2	**Erkin-Say**	**51.14**	**299**	eP		**P**	**00 47 00.4**	**-0.4**
EKS2					pmax	pmax		
	comp=Z,2.0nm,0.8s							
EKS2	**Erkin-Say**	**51.14**	**299**	eP		**P**	**00 47 00.4**	**-0.4**
	comp=Z,1.9nm,0.8s							
KLU	**Klutina**	**51.50**	**36**	eP		**P**	**00 47 04.5**	**+1.3**
	comp=Z,5.5nm,0.8s							
PAX	**Paxson**	**51.58**	**34**	eP		**P**	**00 47 05.0**	**+1.3**
PAX					pmax	pmax		
	comp=Z,3.0nm,0.6s							
PAX	**Paxson**	**51.58**	**34**	eP		**P**	**00 47 05.0**	**+1.3**
	comp=Z,2.9nm,0.6s							
DIV	**Divide**	**51.61**	**36**	eP		**P**	**00 47 05.2**	**+1.3**
	comp=Z,8.4nm,0.8s							
EYAK	**Cordova Ski Ar**	**51.68**	**37**	eP		**P**	**00 47 05.4**	**+1.1**
	comp=Z,7.1nm,1.0s							
ZRNK	**Zerenda**	**51.88**	**313**	eP		**P**	**00 47 05.6**	**-0.4**
ZRNK					pmax	pmax		
	comp=Z,9.0nm,1.1s							
ZRNK	**Zerenda**	**51.88**	**313**	eP		**P**	**00 47 05.6**	**-0.4**
	comp=Z,8.8nm,1.1s							
DOT	**Dot Lake**	**52.15**	**33**	eP		**P**	**00 47 09.5**	**+1.5**
	comp=Z,5.7nm,0.9s							
BMRM	**Bremner River**	**52.19**	**37**	eP		**P**	**00 47 09.4**	**+1.2**
	comp=Z,8.6nm,0.9s							
RAGM	**Ragged Mountai**	**52.23**	**37**	eP		**P**	**00 47 09.7**	**+1.2**
	comp=Z,12nm,1.2s							
MENT	**Mentasta**	**52.38**	**34**	eP		**P**	**00 47 11.7**	**+2.1**
	comp=Z,12nm,1.3s							
GSI	**Gunungsitoli**	**52.70**	**239**	eP		**P**	**00 47 12.6**	**+0.1**
	comp=Z,36nm,0.3s							
CRQM	**Cirque**	**52.93**	**37**	eP		**P**	**00 47 15.3**	**+1.4**
	comp=Z,8.6nm,0.9s							
EGAK	**Eagle**	**53.30**	**32**	eP		**P**	**00 47 17.6**	**+1.3**
	comp=Z,5.1nm,1.0s							
KKAR	**Karatay Array**	**53.31**	**301**	eP		**P**	**00 47 16.6**	**-0.2**
KKAR	**Karatay Array**	**53.31**	**301**	eP		**P**	**00 47 16.6**	**-0.2**
OPA	**Opana**	**54.70**	**87**	e

YKA	Yellowknife Ar	65.17	30	P		P	00 48 36.8	-1.6
	comp=Z,1.7nm,0.9s,baz=298,slow=5.2,SNR=4.3							
STKA	Stephens Creek	67.29	179	P		P	00 48 49.3	-3.0
	comp=Z,4.0nm,0.8s,baz=326,slow=7.5,SNR=6.0							
FIA1	FINESS Array S	69.69	332	*e*P		P	00 49 07.5	+0.4
FINES	FINESS Array B	69.69	332	P		P	00 49 05.6	-1.4
	comp=Z,3.7nm,0.9s,baz=59,slow=5.5,SNR=8.6							
KBZ	Khabaz	71.33	311	P		P	00 49 16.1	-1.2
	comp=Z,1.5nm,0.9s,baz=93,slow=3.1,SNR=2.9							
KIV	Kislovodsk	71.34	311	*e*P		P	00 49 17.3	-0.3
KIV				pmax	pmax			
	comp=Z,9.0nm,1.3s							
E09A	Wood Farm, Sta	71.78	46	*e*P		P	00 49 22.2	+2.1
	comp=Z,16nm,0.6s							
AKASG	Malin Array Be	74.98	322	P		P	00 49 39.4	+0.5
	comp=Z,0.7nm,0.4s,baz=46,slow=6.6,SNR=6.9							
NB2	NORSAR Subarra	75.15	337	P		P	00 49 38.3	-1.4
	comp=Z,4.3nm,1.0s,baz=40,slow=5.9							
NOA	NORSAR Array B	75.15	337	P		P	00 49 37.9	-1.8
	comp=Z,2.9nm,0.9s,baz=87,slow=7.8,SNR=3.0							
LRM	Limekiln Ridge	75.42	44	*e*P		P	00 49 42.7	+0.9
DLMT	Dillon	75.62	44	*e*P		P	00 49 43.5	+0.6
	comp=Z,1.8nm,0.6s							
BOZ	Bozeman (W)	75.99	44	*e*P		P	00 49 48.1	+3.1
BOZ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BOZ	Bozeman (W)	75.99	44	*e*P		P	00 49 48.0	+3.1
	comp=Z,2.8nm,1.0s							
NVAR	Mina Array Bea	76.17	53	P		P	00 49 45.4	-0.8
	comp=Z,0.9nm,0.6s,baz=296,slow=5.2,SNR=5.3							
BW06	Boulder Array	78.93	45	*e*P		P	00 50 02.8	+1.2
PDAR	Pinedale Array	78.93	45	P		P	00 49 59.7	-1.9
	comp=Z,0.8nm,0.6s,baz=246,slow=2.1,SNR=7.6							
BRTR	Keskin Array B	79.30	311	P		P	00 50 04.5	+1.0
	comp=Z,0.3nm,0.5s,baz=80,slow=4.0,SNR=3.8							
BAR	Barrett	80.59	57	*e*P		P	00 50 12.2	+1.6
	comp=Z,20nm,0.4s							
MORC	Moravsky Berou	81.13	327	*e*P		P	00 50 14.6	+1.5
MORC				pmax	pmax			
	comp=Z,15nm,1.2s							
MORC	Moravsky Berou	81.13	327	*e*P		P	00 50 14.6	+1.5
	comp=Z,15nm,1.2s							
DPC	Dobruska-Polom	81.25	328	*e*P		P	00 50 13.0	-0.7
DPC				*ex*		x	00 50 16.6	
DPC	Dobruska-Polom	81.25	328	*e*P		P	00 50 13.0	-0.7
VYHS	Vyhne	81.47	325	*e*P		P	00 50 13.8	-1.1
PVCC	Panska Ves	81.87	329	AMS		AMS	01 40 20.0	
	comp=Z,100nm,17.4s							
BRG	Berggiesshubel	81.87	329	*e*P		P	00 50 18.6	+1.7
BRG				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CLL	Collm	81.93	330	*i* P		P	00 50 16.9	-0.3
CLL				MLR	MLR			
	comp=Z,200nm,18.1s							
CLL	Collm	81.93	330	*e*P		P	00 50 17.0	-0.3
	comp=Z,3.9nm,0.8s							
GOPC	GO Pecny, Ondr	82.24	328	AMS		AMS	01 39 20.0	
PRU	Pruhonice	82.29	328	*e*P		P	00 50 21.6	+2.5
PRU				AMS		AMS	01 39 20.0	
	comp=Z,200nm,14.0s							
PRU	Pruhonice	82.29	328	*e*P		P	00 50 21.6	+2.5
PRU				MLR	MLR			
	comp=Z,200nm,14.0s							
TREC	Trest	82.39	327	AMS		AMS	01 39 40.0	
NKC	Novy Kostel	82.98	329	AMS		AMS	01 41 00.0	
KHC	Kasperske Hory	83.34	328	*e*P		P	00 50 25.3	+0.6
KHC				*ex*		x	00 50 35.2	
KHC				AMS		AMS	01 39 50.0	
	comp=Z,200nm,14.1s							
KHC	Kasperske Hory	83.34	328	*e*P		P	00 50 25.3	+0.6
KHC				*e*			00 50 35.2	
KHC				MLR	MLR			
	comp=Z,200nm,14.1s							
GERES	GERESS Array B	83.51	328	P		P	00 50 25.1	-0.5
	comp=Z,0.5nm,0.7s,baz=46,slow=3.9,SNR=6.5							
GEA0	GERESS Array S	83.52	328	*e*P		P	00 50 26.3	+0.7
PPT	Papeete	84.55	116	LR		LR	01 21 14.0	
	comp=Z,41nm,19.8s,baz=164,slow=31							
TXAR	Lajitas Array	91.32	52	P		P	00 51 02.9	-0.9
	comp=Z,0.6nm,0.7s,baz=304,slow=3.5,SNR=7.2							
MET	Memphis--Engin	95.11	40	*e*P		P	00 51 22.5	+1.5
	comp=Z,133nm,0.5s							
LPAZ	La Paz	147.78	60	PKPbc		PKPdf	00 57 42.2	+1.2
	comp=Z,2.7nm,0.8s,baz=328,slow=4.6,SNR=17							

ISCJB ***12*** *00:43:47.2±0.5, 39°.13N±0°.04×29°.03E±0°.03, h3km±8km, Error ellipse: s-maj=7.3km s-min=4.0km az=159.2*
DDA ***12*** *00:43:47.1, 39°.13N×29°.01E, h7km, Md2.7*
CSEM ***12*** *00:43:47.4±0.1, 39°.13N×29°.04E, h5km, MD2.7, Error ellipse: s-maj=2.3km s-min=2.0km az=153.0*
ISK ***12*** *00:43:47.2, 39°.15N×29°.04E, h5km, MD2.8*
ISC 12 00:43:47.6±1.0, 39°.14N±0°.02×29°.02E±0°.02, h8km±11km, n39, σ0$43/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.26	249	P	Pg	00 43 53.0	+0.3
DEMI				*i* S	Sg	00 43 56.7	+0.5
DEMI	Demirci	0.26	249	*i* P	Pg	00 43 53.0	+0.3
DEMI				*i* S	Sg	00 43 56.7	+0.5
GEDZ	Gediz	0.32	107	*e*PG	Pg	00 43 53.8	0.0
GEDZ	Gediz	0.32	107	*e*Pg	Pg	00 43 53.8	0.0
GDZ	Gediz	0.36	97	P	Pg	00 43 54.5	-0.2
GDZ				S	Sg	00 43 59.5	0.0
GDZ	Gediz	0.36	97	*i* P	Pg	00 43 54.5	-0.2
GDZ				*i* S	Sg	00 43 59.5	0.0
TVSB	Tavsanli	0.46	47	*e*PG	Pg	00 43 56.6	0.0
TVSB				*e*SG	Sg	00 44 02.7	0.0
TVSB	Tavsanli	0.46	47	*e*Pg	Pg	00 43 56.6	0.0
TVSB				*e*Sg	Sg	00 44 02.7	0.0
KULA	Kula-Manisa	0.68	205	*e*PG	Pg	00 44 00.3	-0.5
KULA	Kula-Manisa	0.68	205	*e*Pg	Pg	00 44 00.3	-0.5
MANT	Manisa	0.74	210	P	Pg	00 44 01.4	-0.5
MANT				S	Sg	00 44 10.6	-0.9
MANT	Manisa	0.74	210	*i* P	Pg	00 44 01.4	-0.5
MANT				*i* S	Sg	00 44 10.6	-0.9
KHL	Karahalli	0.90	154	*e*PG	Pb	00 44 05.2	-0.3
KHL	Karahalli	0.90	154	*e*Pg	Pb	00 44 05.2	-0.3
AKS	Akhisar	0.98	255	*e*PG	Pb	00 44 06.7	-0.1
AKS	Akhisar	0.98	255	*e*Pg	Pb	00 44 06.7	-0.1
BALB	Balikesir	1.02	300	*e*PG	Pb	00 44 07.3	-0.2
BALB	Balikesir	1.02	300	*e*Pg	Pb	00 44 07.3	-0.2
IGD	Bursa	1.14	7	*i* P	Pg	00 44 08.8	-0.6
IGD				*i* S	Sg	00 44 23.3	-0.8
MDNY	Mudanya-Bursa	1.24	355	*e*PN	Pg	00 44 11.0	-0.3
MDNY	Mudanya-Bursa	1.24	355	*e*Pn	Pg	00 44 11.0	-0.3
CAVI	Cavuskoy	1.24	30	*e*PN	Pg	00 44 10.9	-0.5
CAVI	Cavuskoy	1.24	30	*e*Pn	Pg	00 44 10.9	-0.5
KCTX	Karacabey (Bur	1.24	336	*e*PN	Pn	00 44 11.5	+0.2
KCTX	Karacabey (Bur	1.24	336	*e*Pn	Pn	00 44 11.5	+0.2
BALY	Balya	1.24	299	P	Pn	00 44 11.8	+0.5
BALY				S	Sb	00 44 27.9	+0.3
BALY	Balya	1.24	299	*i* P	Pn	00 44 11.8	+0.5
BALY				*i* S	Sb	00 44 27.9	+0.3
IZI	Iznik	1.25	16	*e*PN	Pg	00 44 10.9	-0.7
IZI	Iznik	1.25	16	*e*Pn	Pg	00 44 10.9	-0.7
GONE	Gonen-Balikesi	1.38	312	*e*PN	Pg	00 44 13.9	0.0
GONE	Gonen-Balikesi	1.38	312	*e*Pn	Pg	00 44 14.0	0.0
ARMT	Armutlu	1.43	355	*e*PN	Pn	00 44 14.2	+0.3
ARMT	Armutlu	1.43	355	*e*Pn	Pn	00 44 14.2	+0.3
ESKT	Eskisehir	1.47	74	*i* P	Pg	00 44 16.4	+0.6
SEYT	Eskypehyr	1.47	74	P	Pg	00 44 16.4	+0.6
EDC	Edincik	1.50	324	*e*PN	Pb	00 44 15.5	-0.3
EDC	Edincik	1.50	324	*e*Pn	Pb	00 44 15.5	-0.3
GULT	Gulveren	1.73	41	*e*PN	Pn	00 44 18.6	+0.5
GULT	Gulveren	1.73	41	*e*Pn	Pn	00 44 18.6	+0.5

ISCJB ***12*** *00:45:54.9±0.6, 39°.05N±0°.05×29°.10E±0°.05, h9km, Error ellipse: s-maj=7.8km s-min=4.1km az=147.5*
DDA ***12*** *00:45:54.5, 39°.07N×29°.11E, h7km, Md2.5*
ISK ***12*** *00:45:54.6, 39°.04N×29°.19E, h11km, MD2.6*
CSEM ***12*** *00:45:55.0±0.2, 39°.07N×29°.11E, h2km, MD2.5, Error ellipse: s-maj=5.6km s-min=3.0km az=131.0*
ISC 12 00:45:54.5±1.0, 39°.05N±0°.04×29°.13E±0°.03, h9km, n14, σ0$41/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	Gediz	0.28	81	P	Pg	00 46 00.0	-0.1
GDZ				S	Sb	00 46 06.0	-0.6
GDZ	Gediz	0.28	81	*i* P	Pg	00 45 60.0	-0.1
GDZ				*i* S	Sb	00 46 06.0	-0.6
DEMI	Demirci	0.32	270	P	Pg	00 46 01.2	+0.2
DEMI				S	Sg	00 46 05.1	-0.2
DEMI	Demirci	0.32	270	*i* P	Pg	00 46 01.2	+0.2
DEMI				*i* S	Sg	00 46 05.1	-0.2
TVSB	Tavsanli	0.48	32	*e*PG	Pg	00 46 04.2	+0.3
TVSB				*e*SG	Sg	00 46 11.0	+0.8
TVSB	Tavsanli	0.48	32	*e*Pg	Pg	00 46 04.2	+0.3
TVSB				*e*Sg	Sg	00 46 11.0	+0.8
KULA	Kula-Manisa	0.65	215	*e*PG	Pb	00 46 07.9	-0.1
KULA	Kula-Manisa	0.65	215	*e*Pg	Pb	00 46 07.9	-0.1
MANT	Manisa	0.71	219	P	Pb	00 46 09.3	0.0
MANT				S	Sg	00 46 18.2	+0.6
MANT	Manisa	0.71	219	*i* P	Pb	00 46 09.3	0.0
MANT				*i* S	Sg	00 46 18.2	+0.6
KCTX	Karacabey (Bur	1.36	334	*e*PN	Pg	00 46 20.4	-0.2
KCTX	Karacabey (Bur	1.36	334	*e*Pn	Pg	00 46 20.4	-0.2
ARMT	Armutlu	1.53	352	*e*PN	Pb	00 46 23.0	-0.1
ARMT	Armutlu	1.53	352	*e*Pn	Pb	00 46 23.0	-0.1

NIED ***12*** *00:46:00, 29°.30N×130°.60E, h20km, Mw4.4 Best double couple: M₀5.10000×10¹⁵ NP1:φ₁322.00000°, δ13.00000°, λ-156.00000°. NP2:φ₂209.00000°, δ85.00000°, λ-78.00000°*
JMA ***12*** *00:46:50.7±0.1, 29°.33N×130°.63E, h32km, M4.1*
IDC ***12*** *00:47:04.3±2.5, 30°.22N×130°.41E, h112km±21km, mb3.5/14, mb1 3.7/15, mb1mx3.6/34, mbtmp3.9/15, MS3.6/12, Ms1 3.6/12, ms1mx3.4/27, Error ellipse: s-maj=22.3km s-min=16.0km az=71.0*
ISC 12 00:46:48.6±1.4, 29°.32N±0°.04×130°.63E±0°.07, h17km±8km, n40, σ1$09/38, mb3.9/14, MS3.6/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	Nakanoshima	0.84	309	P	Pn	00 47 06.1	+0.5
JNN				*e*S	Sn	00 47 18.2	+0.6
JYAK	Yakushimahirau	0.92	354	P	Pn	00 47 07.5	+0.7
JYAK				*e*S	Sn	00 47 20.3	+0.7
JZK	Kikaishima	1.15	210	P	Pg	00 47 11.7	+0.8
JKC	Kuchinoerabu	1.20	342	P	Pb	00 47 11.4	+0.5
JKC				*e*S	Sb	00 47 26.9	+0.8
JTAJ	Takarajima	1.26	263	P	Pg	00 47 13.3	+0.4
JAM	Amami Oshima	1.27	225	P	Pg	00 47 12.7	-0.5
JAM				*e*S	Sg	00 47 30.0	+0.2
JTN	Tanegashima 3	1.37	13	P	Pg	00 47 14.2	-0.8
JAMN	Amaminishikomi	1.67	230	P	Pb	00 47 18.3	-0.5
JTSR	Tashiro 2	1.86	8	P	Pb	00 47 21.5	-0.7
JTSR				*e*S	Sn	00 47 43.6	+0.8
JTK	Tokunoshima	2.12	224	P	Pb	00 47 25.1	-1.5
JTK				*e*S	Sn	00 47 49.3	+0.1
JOKE	Okinoerabujima	2.66	223	P	Pn	00 47 32.1	+1.4
JOW	Kunigami	3.23	221	P	Pn	00 47 39.7	+1.1
JNTH	Nagotoyohara	3.62	220	P	Pn	00 47 45.0	+1.2
JNTH				*e*S	Sn	00 48 27.2	+1.1
JNU	Nakatsue	3.80	3	P	Pn	00 47 48.7	+2.3
	1.4nm,0.3s,baz=156,slow=5.9,SNR=19						
JNU				S	Sn	00 48 30.1	-0.6
	2.2nm,0.3s,baz=188,slow=15,SNR=2.1						
JKE	Kume jima 2	4.52	230	P	Pn	00 47 57.1	+0.8
KSRS	Korea Array	8.42	345	P	Pn	00 48 51.6	+1.8
	0.1nm,0.3s,baz=161,slow=15,SNR=6.5						
JHJ	Hachijo jima 2	8.71	62	LR	LR	00 51 58.0	
	comp=Z,237nm,21.0s,baz=252,slow=34						
JCJ	Chichijima	10.43	99	LR	LR	00 52 44.9	
	comp=Z,155nm,20.5s,baz=7,slow=32						
USRK	Ussuriysk Ar.	14.89	4	LR	LR	00 56 02.5	
	comp=Z,159nm,20.4s,baz=173,slow=38						
KLR	Kul'dur	19.91	2	P	P	00 51 17.8	-1.4
	0.1nm,0.3s,baz=199,slow=5.2,SNR=12						
GUMO	Guam	20.48	137	LR	LR	00 57 35.9	
	comp=Z,104nm,19.8s,baz=14,slow=30						
SONM	Songino Array	26.29	321	P	P	00 52 22.9	-0.3
	2.6nm,0.7s,baz=132,slow=8.7,SNR=15						
SONM				LR	LR	01 04 03.2	
	comp=Z,210nm,21.9s,baz=126,slow=40						
CMAR	Chiang Mai Arr	30.83	257	LR	LR	01 07 14.9	
	comp=Z,96nm,18.8s,baz=73,slow=39						
PETK	Petropavlovsk-	30.96	32	LR	LR	01 05 33.4	
	comp=Z,90nm,20.4s,baz=245,slow=37						
MKAR	Makanchi Array	41.16	309	P	P	00 54 32.0	0.0
	0.9nm,0.7s,baz=91,slow=11,SNR=7.0						
ZALV	Zalesovo Beam	41.17	320	P	P	00 54 30.1	-1.8
	0.7nm,0.4s,baz=101,slow=7.7,SNR=4.2						
ZALV				LR	LR	01 13 39.6	
	comp=Z,149nm,18.6s,baz=68,slow=40						
NRIK	Noril'sk	47.01	341	P	P	00 55 16.6	-2.0
	1.8nm,0.7s,baz=120,slow=11,SNR=4.6						
WRA	Warramunga Arr	49.10	175	P	P	00 55 47.5	+12
	1.4nm,1.0s,baz=353,slow=8.2,SNR=3.2						
ASAR	Alice Springs	52.77	176	P	P	00 56 14.6	+12
	1.2nm,1.0s,baz=0.8,slow=6.4,SNR=5.6						
ILAR	Eielson Array	60.72	29	P	P	00 56 59.2	+0.4
	0.8nm,0.8s,baz=274,slow=5.9,SNR=11						
ILAR				LR	LR	01 24 22.1	
	comp=Z,33nm,18.5s,baz=292,slow=37						
WSAR	Wadi Sarin	63.94	283	LR	LR	01 27 11.4	
	comp=Z,46nm,20.3s,slow=38						
FINES	FINESS Array B	71.23	331	P	P	00 58 05.8	-0.6
	0.4nm,0.4s,baz=67,slow=3.6,SNR=6.5						
AKASG	Malin Array Be	74.56	320	P	P	00 58 26.1	-0.3
	0.3nm,0.4s,baz=58,slow=6.1,SNR=3.1						
AKASG				LR	LR	01 34 29.8	
	comp=Z,86nm,18.9s,baz=50,slow=39						
YKA	Yellowknife Ar	74.84	26	P	P	00 58 28.6	+0.9
	0.9nm,0.9s,baz=294,slow=6.4,SNR=5.1						
BRTR	Keskin Array B	76.81	308	P	P	00 58 40.1	+0.4
	1.4nm,0.8s,baz=99,slow=6.4,SNR=8.7						
NB2	NORSAR Subarra	77.48	334	P	P	00 58 41.4	-1.5
	comp=Z,1.0nm,0.6s,baz=47,slow=5.9						
NOA	NORSAR Array B	77.48	334	P	P	00 58 41.7	-1.2
	comp=Z,1.1nm,0.7s,baz=48,slow=5.5,SNR=5.4						
NVAR	Mina Array Bea	86.85	47	P	P	00 59 33.9	+1.2
	comp=Z,0.2nm,0.3s,baz=291,slow=5.7,SNR=6.4						
PDAR	Pinedale Array	89.44	40	P	P	00 59 46.3	+1.4
	comp=Z,0.6nm,0.8s,baz=281,slow=2.3,SNR=5.2						
ESDC	Sonseca Array	99.41	326	LR	LR	01 49 60.0	
	comp=Z,37nm,18.9s,baz=250,slow=38						

ISCJB ***12*** *01:03:24.9±0.4, 39°.11N±0°.04×29°.01E±0°.04, h6km±8km, Error ellipse: s-maj=7.6km s-min=4.1km az=159.8*
ISK ***12*** *01:03:24.7, 39°.13N×29°.02E, h7km, MD2.8*
DDA ***12*** *01:03:25.2, 39°.08N×29°.05E, h7km, Md2.4*
CSEM ***12*** *01:03:25.0±0.1, 39°.11N×29°.01E, h6km±1km, MD2.4, Error ellipse: s-maj=2.4km s-min=1.6km az=162.0*
ISC 12 01:03:25.0±1.0, 39°.11N±0°.03×29°.02E±0°.02, h15km±10km, n34, σ0$31/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.24	255	P	Pg	01 03 30.6	+0.2
DEMI				S	Sg	01 03 34.0	-0.1
DEMI	Demirci	0.24	255	*i* P	Pg	01 03 30.6	+0.2
DEMI				*i* S	Sg	01 03 34.0	-0.1
GEDZ	Gediz	0.31	101	*e*PG	Pg	01 03 31.6	0.0
GEDZ				*e*SG	Sg	01 03 36.2	+0.1
GEDZ	Gediz	0.31	101	*e*Pg	Pg	01 03 31.6	0.0
GEDZ				*e*Sg	Sg	01 03 36.2	+0.1
GDZ	Gediz	0.36	93	P	Pg	01 03 31.9	-0.5
GDZ				S	Sg	01 03 37.4	-0.2
GDZ	Gediz	0.36	93	*i* P	Pg	01 03 31.9	-0.5
GDZ				*i* S	Sg	01 03 37.4	-0.2
TVSB	Tavsanli	0.49	45	*e*PG	Pg	01 03 34.3	-0.4
TVSB				*e*SG	Sg	01 03 41.1	-0.1
TVSB	Tavsanli	0.49	45	*e*Pg	Pg	01 03 34.3	-0.4
TVSB				*e*Sg	Sg	01 03 41.2	-0.1
KULA	Kula-Manisa	0.65	205	*e*PG	Pg	01 03 38.1	+0.3
KULA	Kula-Manisa	0.65	205	*e*Pg	Pg	01 03 38.1	+0.3
MANT	Manisa	0.71	210	P	Pg	01 03 38.9	0.0
MANT				S	Sg	01 03 47.8	-0.6
MANT	Manisa	0.71	210	*i* P	Pg	01 03 38.9	0.0
MANT				*i* S	Sg	01 03 47.8	-0.6
KHL	Karahalli	0.88	153	*e*PG	Pb	01 03 42.4	+0.5
KHL	Karahalli	0.88	153	*e*Pg	Pb	01 03 42.4	+0.5
AKS	Akhisar	0.96	257	*e*PG	Pb	01 03 43.0	-0.4
AKS	Akhisar	0.96	257	*e*Pg	Pb	01 03 43.0	-0.4
BALB	Balikesir	1.03	301	*e*PG	Pb	01 03 44.6	+0.1
BALB	Balikesir	1.03	301	*e*Pg	Pb	01 03 44.6	+0.1
KCTX	Karacabey (Bur	1.26	336	*e*PN	Pb	01 03 49.1	+0.6
KCTX	Karacabey (Bur	1.26	336	*e*Pn	Pb	01 03 49.1	+0.6
MDNY	Mudanya-Bursa	1.27	355	*e*PN	Pg	01 03 49.4	0.0
MDNY	Mudanya-Bursa	1.27	355	*e*Pn	Pg	01 03 49.4	0.0
CAVI	Cavuskoy	1.27	30	*e*PN	Pg	01 03 49.4	0.0
CAVI	Cavuskoy	1.27	30	*e*Pn	Pg	01 03 49.4	0.0
IZI	Iznik	1.28	16	*e*PN	Pb	01 03 49.1	+0.3
IZI	Iznik	1.28	16	*e*Pn	Pb	01 03 49.1	+0.3
GONE	Gonen-Balikesi	1.39	313	*e*PN	Pb	01 03 50.8	+0.1
GONE	Gonen-Balikesi	1.39	313	*e*Pn	Pb	01 03 50.8	+0.1
ADVT	Abdulvahap	1.44	23	*e*PN	Pb	01 03 51.6	+0.2
ADVT	Abdulvahap	1.44	23	*e*Pn	Pb	01 03 51.6	+0.2
ARMT	Armutlu	1.46	355	*e*PN	Pb	01 03 52.1	+0.2
ARMT	Armutlu	1.46	355	*e*Pn	Pb	01 03 52.1	+0.2
EDC	Edincik	1.52	325	*e*PN	Pb	01 03 52.9	0.0
EDC	Edincik	1.52	325	*e*Pn	Pb	01 03 52.9	0.0

ISK ***12*** *01:07:14.8, 38°.97N×30°.13E, h25km, MD2.9*
CSEM ***12*** *01:07:21.9±0.4, 39°.11N×29°.08E, h15km, MD2.5, Error ellipse: s-maj=11.7km s-min=7.6km az=138.0*
ISCJB ***12*** *01:07:22.3±0.7, 39°.14N±0°.05×29°.02E±0°.05, h22km±8km, Error ellipse: s-maj=9.9km s-min=5.5km az=149.2*
DDA ***12*** *01:07:23.2, 39°.05N×29°.05E, h7km, Md2.5*
ISC 12 01:07:21.3±1.3, 39°.09N±0°.04×29°.06E±0°.03, h14km±10km, n16, σ0$91/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEDZ	Gediz	0.27	100	*e*PG	Pg	01 07 26.9	-0.3
GEDZ				*e*SG	Sn	01 07 35.8	-1.2
GEDZ	Gediz	0.27	100	*e*Pg	Pg	01 07 26.9	-0.3
GEDZ				*e*Sg	Sn	01 07 35.8	-1.2
DEMI	Demirci	0.28	259	P	Pb	01 07 28.7	+0.6
DEMI				S	Sb	01 07 32.3	-0.4
DEMI	Demirci	0.28	259	*i* P	Pb	01 07 28.7	+0.6
DEMI				*i* S	Sb	01 07 32.3	-0.4
GDZ	Gediz	0.32	91	P	Pb	01 07 30.0	+1.0
GDZ				S	Sb	01 07 35.4	+1.3
GDZ	Gediz	0.32	91	*i* P	Pb	01 07 30.0	+1.0
GDZ				*i* S	Sb	01 07 35.4	+1.3
TVSB	Tavsanli	0.47	41	*e*PG	Pg	01 07 29.7	-1.0
TVSB				*e*SG	Sb	01 07 39.2	+0.9
TVSB	Tavsanli	0.47	41	*e*Pg	Pg	01 07 29.7	-1.0
TVSB				*e*Sg	Sb	01 07 39.2	+0.9
KULA	Kula-Manisa	0.66	209	*e*PN	Pn	01 07 36.2	-0.1
KULA	Kula-Manisa	0.66	209	*e*Pn	Pn	01 07 36.2	-0.1
MANT	Manisa	0.72	213	P	Pn	01 07 36.7	-0.6
MANT				S	Sb	01 07 46.3	+0.7
MANT	Manisa	0.72	213	*i* P	Pn	01 07 36.7	-0.6
MANT				*i* S	Sb	01 07 46.3	+0.7
KCTX	Karacabey (Bur	1.29	335	*e*PN	Pg	01 07 47.1	+0.9
KCTX	Karacabey (Bur	1.29	335	*e*Pn	Pg	01 07 47.1	+0.9
ARMT	Armutlu	1.48	354	*e*PN	Pn	01 07 46.6	-1.0
ARMT	Armutlu	1.48	354	*e*Pn	Pn	01 07 46.6	-1.0

IDC ***12*** *01:16:40.9±0.9, 56°.83S×24°.60W, h0km, mb4.7/6, mb1 4.7/6, mb1mx4.1/25, mbtmp4.6/6, MS3.6/1, Ms1 3.6/1, ms1mx2.9/14, Error ellipse: s-maj=36.2km s-min=22.9km az=45.0*
ISCJB ***12*** *01:16:43.2±1.2, 56°.8S±0°.2×24°.9W±0°.4, h22km, mb4.5/9, MS3.4/1, Error ellipse: s-maj=40.6km s-min=10.7km az=142.8*
NEIC ***12*** *01:16:49.0±3.4, 56°.87S×24°.92W, h60km±29km, mb4.4/4, Error ellipse: s-maj=27.6km s-min=9.8km az=223.0*
ISC 12 01:16:44.2±0.8, 56°.8S±0°.2×24°.8W±0°.2, h22km, n27, σ0$93/20, mb4.4/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	15.59	159	P	P	01 20 24.3	-2.0
SNAA	Sanae	17.50	157	P	P	01 20 49.0	+1.6
SNAA	Sanae	17.50	157	*e*Pn	P	01 20 48.5	+1.0
	270nm,0.5s						
PMSA	Palmer Station	20.44	231	LR	LR	01 27 28.5	
	comp=Z,144nm,18.8s,baz=327,slow=32						
USHA	Ushuaia	24.31	256	P	P	01 21 59.6	-0.2
	21nm,0.6s,baz=83,slow=10,SNR=4.3						
TRQA	Tornquist	30.87	291	*e*P	P	01 22

BRTR				LR	LR	01 35 08.7	
	comp=Z,44nm,21.1s,baz=137,slow=34						
KBZ	**Khabaz**	**31.45**	**354**	LR	LR	01 38 52.9	
	comp=Z,33nm,19.6s,baz=82,slow=39						
PALK	**Pallekele**	**33.41**	**96**	LR	LR	01 34 58.1	
	comp=Z,32nm,19.1s,baz=295,slow=30						
AKASG	**Malin Array Be**	**40.93**	**343**	P	**P**	**01 26 07.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=147,slow=7.4,SNR=3.0						
MKAR	**Makanchi Array**	**45.26**	**34**	P	**P**	**01 26 42.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=216,slow=7.5,SNR=7.6						
GERES	**GERESS Array B**	**45.70**	**329**	P	**P**	**01 26 46.0**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=138,slow=8.2,SNR=7.9						
BOSA	**Boshof**	**45.94**	**207**	LR	LR	01 46 18.3	
	comp=Z,55nm,19.5s,baz=2.0,slow=36						
CMAR	**Chiang Mai Arr**	**50.14**	**76**	P	**P**	**01 27 18.3**	**-1.8**
	comp=Z,3.6nm,0.3s,baz=271,slow=7.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**51.01**	**28**	P	**P**	**01 27 25.2**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=245,slow=6.2,SNR=3.4						
ZALV				LR	LR	01 50 24.3	
	comp=Z,16nm,19.1s,baz=70,slow=38						
ARCES	**ARCESS Array B**	**58.74**	**351**	LR	LR	01 57 38.9	
	comp=Z,22nm,19.4s,baz=104,slow=40						
SONM	**Songino Array**	**60.38**	**42**	P	**P**	**01 28 33.9**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=262,slow=7.2,SNR=4.9						
NRIK	**Noril'sk**	**62.39**	**15**	LR	LR	02 00 43.5	
	comp=Z,29nm,20.6s,baz=116,slow=41						

CSEM ***12*** *01:19:38.0±0.4,34.96°N×29.01°E, h10km, ML3.4, Error ellipse: s-maj=9.2km s-min=3.8km az=156.0*
DDA ***12*** *01:19:39.4,35.13°N×28.84°E, h16km, MI3.4*
ISK ***12*** *01:19:39.4,35.00°N×28.99°E, h72km, MD3.3*
ATH ***12*** *01:19:41.4,34.91°N×28.66°E, h40km±31km, ML2.5/6, Error ellipse: s-maj=31.6km s-min=2.4km az=0.0*

ISC 12 01:19:36.2±2.1, 34.84°N±0.06°×28.99°E±0.03, h14km±14km, n92, σ1.89/124, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.48**	**20**	P	**Pn**	**01 20 03.1**	**+0.5**
AKAS				S	**Sg**	**01 20 21.8**	**-2.2**
AKAS	**Kas**	**1.48**	**20**	*i* P	**Pn**	**01 20 03.1**	**+0.5**
AKAS				*i* S	**Sg**	**01 20 21.8**	**-2.2**
ARG	**Arkhangelos**	**1.54**	**333**	P	**Pn**	**01 20 07.1**	**+2.2**
ARG				S	**Sn**	**01 20 23.2**	**+0.1**
KARP	**Karpathos**	**1.65**	**296**	*e*PN	**Pn**	**01 20 07.1**	**+2.2**
KARP	**Karpathos**	**1.65**	**296**	*e*Pn	**Pn**	**01 20 07.1**	**+2.2**
KARP	**Karpathos**	**1.65**	**296**	P	**Pb**	**01 20 07.9**	**+1.4**
KARP	**Karpathos**	**1.65**	**296**	P	**Pb**	**01 20 07.9**	**+1.4**
FETY	**Fethiye**	**1.79**	**2**	*e*PN	**Pn**	**01 20 07.1**	**+0.3**
FETY				*e*SN	**Sn**	**01 20 28.1**	**-1.2**
FETY	**Fethiye**	**1.79**	**2**	*e*Pn	**Pn**	**01 20 07.1**	**+0.3**
FETY				*e*Sn	**Sn**	**01 20 28.1**	**-1.2**
DALY	**Dalyan (Mu¨la**	**1.99**	**352**	*e*PN	**Pn**	**01 20 09.6**	**+0.1**
DALY	**Dalyan (Mu¨la**	**1.99**	**352**	*e*Pn	**Pn**	**01 20 09.6**	**+0.1**
ELL	**Elmali**	**2.05**	**21**	*e*PN	**Pn**	**01 20 11.2**	**+0.9**
ELL	**Elmali**	**2.05**	**21**	*e*Pn	**Pn**	**01 20 11.2**	**+0.9**
TURN	**Turunc**	**2.05**	**351**	*i* P	**Pn**	**01 20 11.3**	**+1.0**
ZKR	**Zakros**	**2.29**	**278**	P	**Pn**	**01 20 14.0**	**+0.4**
ZKR				S	**Sn**	**01 20 39.8**	**-1.8**
ZKR	**Zakros**	**2.29**	**278**	P	**Pn**	**01 20 14.0**	**+0.4**
ZKR				S	**Sn**	**01 20 39.8**	**-1.8**
ZKR				AML	AML	01 20 43.8	
	comp=E,148μm,0.7s						
ZKR				AML	AML	01 20 45.0	
	comp=N,165μm,0.7s						
NIS1	**Nisyros Isl.**	**2.29**	**321**	*e*PN	**Pn**	**01 20 14.4**	**+0.8**
NIS1	**Nisyros Isl.**	**2.29**	**321**	*e*Pn	**Pn**	**01 20 14.4**	**+0.8**
GLHS	**Glhisar (BURDU**	**2.35**	**10**	*e*PN	**Pn**	**01 20 15.3**	**+0.8**
GLHS	**Glhisar (BURDU**	**2.35**	**10**	*e*Pn	**Pn**	**01 20 15.3**	**+0.8**
YER	**Yerkesik**	**2.36**	**346**	*e*PN	**Pn**	**01 20 15.3**	**+0.7**
YER	**Yerkesik**	**2.36**	**346**	*e*Pn	**Pn**	**01 20 15.3**	**+0.7**
KORT	**Korkueli**	**2.42**	**27**	P	**Pn**	**01 20 16.2**	**+0.7**
KORT				S	**Sn**	**01 20 46.3**	**+1.2**
KORT	**Korkueli**	**2.42**	**27**	*i* P	**Pn**	**01 20 16.2**	**+0.7**
KORT				*i* S	**Sn**	**01 20 46.3**	**+1.2**
GOLH	**Golhisar**	**2.44**	**11**	P	**Pn**	**01 20 17.7**	**+2.0**
GOLH				S	**Sn**	**01 20 46.6**	**+1.2**
GOLH	**Golhisar**	**2.44**	**11**	*i* P	**Pn**	**01 20 17.7**	**+2.0**
GOLH				*i* S	**Sn**	**01 20 46.6**	**+1.2**
ANTB	**Antalya**	**2.46**	**33**	*e*PN	**Pn**	**01 20 17.1**	**+1.2**
ANTB	**Antalya**	**2.46**	**33**	*e*Pn	**Pn**	**01 20 17.1**	**+1.2**
BDRM	**Kayabasi**	**2.55**	**331**	P	**Pn**	**01 20 19.2**	**+2.1**
BDRM	**Kayabasi**	**2.55**	**331**	*i* P	**Pn**	**01 20 19.2**	**+2.1**
BODT	**Bodrum**	**2.60**	**329**	*e*PN	**Pn**	**01 20 18.8**	**+0.9**
BODT	**Bodrum**	**2.60**	**329**	*e*Pn	**Pn**	**01 20 18.8**	**+0.9**
NPS	**Neapolis**	**2.80**	**280**	P	**Pn**	**01 20 24.1**	**+3.5**
NPS				S	**Sn**	**01 20 52.0**	**-2.1**
NPS	**Neapolis**	**2.80**	**280**	P	**Pn**	**01 20 24.1**	**+3.5**
NPS				S	**Sn**	**01 20 52.0**	**-2.1**
NPS				AML	AML	01 20 57.5	
	comp=E,138μm,0.5s						
NPS				AML	AML	01 20 58.4	
	comp=N,64μm,0.3s						
DNZL	**Cakiroluk**	**2.84**	**1**	P	**Pn**	**01 20 22.7**	**+1.3**
DNZL	**Cakiroluk**	**2.84**	**1**	*i* P	**Pn**	**01 20 22.7**	**+1.3**
LAST	**Lasithi**	**2.90**	**277**	P	**Pn**	**01 20 24.6**	**+2.6**
LAST	**Lasithi**	**2.90**	**277**	P	**Pn**	**01 20 24.6**	**+2.6**
BCK	**Bucak**	**2.92**	**26**	*e*PN	**Pn**	**01 20 23.1**	**+0.8**
BCK	**Bucak**	**2.92**	**26**	*e*Pn	**Pn**	**01 20 23.1**	**+0.8**
AYDN	**Tasoluk**	**2.96**	**343**	P	**Pn**	**01 20 24.6**	**+1.8**
AYDN				S	**Sn**	**01 20 58.7**	**+0.7**
AYDN	**Tasoluk**	**2.96**	**343**	*i* P	**Pn**	**01 20 24.6**	**+1.8**
AYDN				*i* S	**Sn**	**01 20 58.7**	**+0.7**
SUTC	**Sutluce-Ispart**	**3.10**	**31**	*e*PN	**Pn**	**01 20 26.0**	**+1.3**
SUTC	**Sutluce-Ispart**	**3.10**	**31**	*e*Pn	**Pn**	**01 20 26.0**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**3.23**	**344**	*e*PN	**Pn**	**01 20 27.5**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**3.23**	**344**	*e*Pn	**Pn**	**01 20 27.5**	**+0.9**
SANT	**Santorini**	**3.25**	**299**	P	**Pn**	**01 20 29.0**	**+2.1**
SANT				S	**Sn**	**01 21 03.1**	**-2.3**
SANT	**Santorini**	**3.25**	**299**	P	**Pn**	**01 20 28.9**	**+2.1**
SANT				S	**Sn**	**01 21 03.1**	**-2.3**
SMG	**Samos**	**3.35**	**329**	P	**Pn**	**01 20 27.7**	**-0.4**
SMG				S	**Sn**	**01 21 08.3**	**+0.6**
SMG	**Samos**	**3.35**	**329**	P	**Pn**	**01 20 27.7**	**-0.4**
SMG				S	**Sn**	**01 21 08.3**	**+0.6**
SMG				AML	AML	01 21 08.5	
	comp=N,58μm,0.4s						
SMG				AML	AML	01 21 08.8	
	comp=E,52μm,0.5s						
IDI	**Anoyia**	**3.39**	**279**	P	**Pn**	**01 20 31.5**	**+2.7**
IDI	**Anoyia**	**3.39**	**279**	P	**Pn**	**01 20 31.5**	**+2.7**
IDI				S	**Sn**	**01 21 04.8**	**-4.0**
IDI				AML	AML	01 21 11.9	
	comp=E,60μm,0.5s						
IDI				AML	AML	01 21 12.8	
	comp=N,100μm,0.3s						
SIVA	**Sivas**	**3.44**	**274**	P	**Pn**	**01 20 32.0**	**+2.7**
SIVA	**Sivas**	**3.44**	**274**	P	**Pn**	**01 20 32.0**	**+2.7**
SIVA				S	**Sn**	**01 21 05.0**	**-4.8**
SIVA				AML	AML	01 21 11.6	
	comp=E,297μm,0.8s						
SIVA				AML	AML	01 21 13.1	
	comp=N,198μm,0.5s						
HDMB	**Hadim**	**3.54**	**52**	*e*PN	**Pn**	**01 20 32.5**	**+1.5**
HDMB	**Hadim**	**3.54**	**52**	*e*Pn	**Pn**	**01 20 32.5**	**+1.5**
APE	**Apeiranthos**	**3.58**	**309**	*e*PN	**Pn**	**01 20 33.0**	**+1.7**
APE	**Apeiranthos**	**3.58**	**309**	P	**Pn**	**01 20 31.5**	**+0.2**
APE	**Apeiranthos**	**3.58**	**309**	*e*Pn	**Pn**	**01 20 33.0**	**+1.7**
APE				S	**Sn**	**01 21 13.9**	**+0.5**
APE	**Apeiranthos**	**3.58**	**309**	P	**Pn**	**01 20 31.5**	**+0.2**
APE				S	**Sn**	**01 21 13.9**	**+0.5**
APE				AML	AML	01 21 14.9	
	comp=N,23μm,0.2s						
APE				AML	AML	01 21 15.5	
	comp=E,28μm,0.2s						
MANT	**Manisa**	**3.66**	**355**	P	**Pn**	**01 20 33.3**	**+0.7**
MANT				S	**Sn**	**01 21 13.7**	**-2.0**
MANT	**Manisa**	**3.66**	**355**	*i* P	**Pn**	**01 20 33.3**	**+0.7**
MANT				*i* S	**Sn**	**01 21 13.7**	**-2.0**
ERMK	**Ermenek**	**3.67**	**59**	P	**Pn**	**01 20 33.3**	**+0.6**
ERMK				S	**Sn**	**01 21 14.8**	**-1.0**
ERMK	**Ermenek**	**3.67**	**59**	*i* P	**Pn**	**01 20 33.3**	**+0.6**
ERMK				*i* S	**Sn**	**01 21 14.8**	**-1.0**
VAM	**Vamos**	**3.96**	**280**	P	**Pn**	**01 20 39.8**	**+3.2**
KONT	**Konya--Tatoy**	**4.12**	**40**	*e*PN	**Pn**	**01 20 40.9**	**+2.1**
KONT	**Konya--Tatoy**	**4.12**	**40**	*e*Pn	**Pn**	**01 20 40.9**	**+2.1**
IMMV	**Iera Moni Meta**	**4.15**	**280**	P	**Pn**	**01 20 42.8**	**+3.7**
IMMV	**Iera Moni Meta**	**4.15**	**280**	P	**Pn**	**01 20 42.8**	**+3.7**
IMMV				S	**Sn**	**01 21 22.8**	**-4.6**
KDHN	**Kadinhani**	**4.45**	**33**	P	**Pn**	**01 20 43.9**	**+0.5**
KDHN				S	**Sn**	**01 21 32.6**	**-2.5**
KDHN	**Kadinhani**	**4.45**	**33**	*i* P	**Pn**	**01 20 43.9**	**+0.5**
KDHN				*i* S	**Sn**	**01 21 32.6**	**-2.5**
TVSB	**Tavsanli**	**4.62**	**5**	*e*PN	**Pn**	**01 20 46.1**	**+0.5**
TVSB	**Tavsanli**	**4.62**	**5**	*e*Pn	**Pn**	**01 20 46.1**	**+0.5**
KERG	**Konya-Eregli**	**4.89**	**57**	*i* P	**Pn**	**01 20 48.3**	**-1.1**
KERG				*i* S	**Sn**	**01 21 43.0**	**-2.9**
KYTH	**Kithira**	**5.05**	**288**	P	**Pn**	**01 20 51.3**	**-0.2**
KYTH	**Kithira**	**5.05**	**288**	P	**Pn**	**01 20 51.3**	**-0.2**
VLI	**Veliai**	**5.26**	**293**	P	**Pn**	**01 20 54.2**	**-0.2**
VLI	**Veliai**	**5.26**	**293**	P	**Pn**	**01 20 54.2**	**-0.2**
VLI				S	**Sn**	**01 21 50.1**	**-4.8**
DID	**Didima**	**5.36**	**301**	P	**Pn**	**01 20 56.9**	**+1.1**
DID	**Didima**	**5.36**	**301**	P	**Pn**	**01 20 56.9**	**+1.1**
KRND	**KRANIDI**	**5.36**	**300**	P	**Pn**	**01 20 57.5**	**+1.7**
KRND	**KRANIDI**	**5.36**	**300**	P	**Pn**	**01 20 57.5**	**+1.7**
TRIP	**Tripoli**	**6.06**	**298**	P	**Pn**	**01 21 07.3**	**+1.9**
TRIP	**Tripoli**	**6.06**	**298**	P	**Pn**	**01 21 07.3**	**+1.9**
ITM	**Ithomi**	**6.18**	**294**	P	**Pn**	**01 21 08.2**	**+1.2**
ITM	**Ithomi**	**6.18**	**294**	P	**Pn**	**01 21 08.2**	**+1.2**
KLV	**Kalavryta, Ach**	**6.37**	**302**	P	**Pn**	**01 21 12.6**	**+2.9**
KLV	**Kalavryta, Ach**	**6.37**	**302**	P	**Pn**	**01 21 12.7**	**+2.9**
LAKA	**Lakka**	**6.58**	**303**	P	**Pn**	**01 21 15.1**	**+2.5**
LAKA	**Lakka**	**6.58**	**303**	P	**Pn**	**01 21 15.1**	**+2.5**
DRO	**Drossia**	**6.64**	**300**	P	**Pn**	**01 21 16.5**	**+3.1**
DRO	**Drossia**	**6.64**	**300**	P	**Pn**	**01 21 16.5**	**+3.1**

ISCJB ***12*** *01:25:43.5±0.4, 0.07°N±0.04°×123.12°E±0.04, h162km, mb4.0/16, Error ellipse: s-maj=6.0km s-min=5.2km az=9.9*
IDC ***12*** *01:25:46.7±2.3, 0.01°S×123.05°E, h183km±23km, mb3.6/15, mb1 3.8/17, mb1mx3.6/42, mbtmp4.1/17, Error ellipse: s-maj=20.4km s-min=10.2km az=76.0*
DJA ***12*** *01:25:48.5±0.6, 0.5°S±5.1°×12.3°E±.9°, h111km±9km, M4.3/12, mB5.1/3, mb4.5/4, MLv4.2/12, MLv4.2/12, Mw(mB)4.4/3, Mwp6.4/1, Mwp6.4/1*

ISC 12 01:25:44.8±0.5, 0.01°N±0.05°×123.12°E±0.05, h162km, n31, σ1.40/39, mb4.0/16, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.63**	**350**	P	**Pn**	**01 26 09.9**	**+1.7**
KMSI	**Cibinong**	**1.03**	**57**	P	**Pn**	**01 26 12.0**	**+1.1**
LUWI	**Luwuk**	**1.10**	**199**	P	**Pn**	**01 26 11.1**	**-0.4**
MRSI	**Marisa**	**1.27**	**291**	P	**Pn**	**01 26 12.2**	**-0.8**
PCI	**Palu**	**3.41**	**255**	P	**Pn**	**01 26 39.5**	**+1.7**
PCI				S	**Sn**	**01 27 19.3**	**+0.3**
SANI	**Sanana**	**3.52**	**126**	P	**Pn**	**01 26 39.6**	**+0.4**
SANI				S	**Sn**	**01 27 20.7**	**-0.8**
KDI	**Kendari**	**3.97**	**187**	P	**Pn**	**01 26 44.8**	**-0.2**
LBMI	**Labuha**	**4.43**	**98**	P	**Pn**	**01 26 53.8**	**+2.9**
LBMI				S	**Sn**	**01 27 44.1**	**+1.6**
TTSI	**Tana Toraja**	**4.48**	**227**	P	**Pn**	**01 26 51.8**	**+0.1**
NLAI	**Namlea**	**5.12**	**129**	P	**Pn**	**01 27 02.3**	**+2.3**
	69nm,1.1s,1μm1.2nm						
NLAI				S	**Sn**	**01 27 58.8**	**-0.1**
	69nm,1.1s,1μm1.2nm						
SPSI	**Sidrap Palu**	**5.18**	**220**	P	**Pn**	**01 27 00.1**	**-0.7**
	26nm,0.8s,0.1nm						
KAPI	**Kappang**	**6.02**	**214**	P	**Pn**	**01 27 13.2**	**+1.3**
	1.4nm,0.3s,baz=32,slow=10,SNR=12						
KAPI				S	**Sn**	**01 28 21.6**	**+1.3**
	1.0nm,0.3s,baz=191,slow=12,SNR=2.5						
MTKI	**Muara Teweh, K**	**8.28**	**263**	P	**Pn**	**01 27 45.6**	**+3.7**
FITZ	**Fitzroy Crossi**	**18.17**	**172**	P	**P**	**01 29 45.8**	**+0.7**
	1.3nm,0.3s,baz=3.4,slow=8.0,SNR=28						
WRA	**Warramunga Arr**	**22.67**	**152**	P	**P**	**01 30 32.6**	**0.0**
	3.7nm,0.6s,baz=326,slow=11,SNR=25						
ASAR	**Alice Springs**	**25.76**	**157**	P	**P**	**01 31 01.0**	**+0.4**
	0.7nm,0.5s,baz=344,slow=14,SNR=9.9						
ASAR				pP	**pP**	**01 31 35.0**	**+0.8**
	1.2nm,0.7s,baz=334,slow=8.3,SNR=4.8						
ASAR				PcP	**PcP**	**01 34 26.4**	**0.0**
	0.5nm,0.4s,baz=345,slow=2.1,SNR=7.7						
CMAR	**Chiang Mai Arr**	**30.01**	**309**	P	**P**	**01 31 40.1**	**+1.6**
	1.2nm,0.3s,baz=139,slow=7.5,SNR=6.5						
JCJ	**Chichijima**	**32.58**	**33**	P	**P**	**01 32 01.1**	**+0.2**
	32nm,0.5s,baz=98,slow=22,SNR=4.9						
NWAO	**Narrogin (SRO)**	**33.23**	**189**	P	**P**	**01 32 05.6**	**-0.9**
	8.5nm,0.7s,baz=323,slow=5.1						
STKA	**Stephens Creek**	**36.21**	**153**	P	**P**	**01 32 32.8**	**+0.7**
	3.1nm,0.5s,baz=323,slow=8.4,SNR=8.0						
MJAR	**Matsushiro Arr**	**38.95**	**19**	P	**P**	**01 32 54.6**	**-0.5**
	1.5nm,0.6s,baz=189,slow=9.0,SNR=8.5						
USRK	**Ussuriysk Ar.**	**44.70**	**9**	P	**P**	**01 33 42.8**	**+1.2**
	0.9nm,0.5s,baz=216,slow=7.1,SNR=3.8						
SONM	**Songino Array**	**49.81**	**345**	P	**P**	**01 34 21.6**	**+0.4**
	0.6nm,0.6s,baz=157,slow=8.3,SNR=5.5						
MKAR	**Makanchi Array**	**58.67**	**328**	P	**P**	**01 35 24.7**	**-0.5**
	0.9nm,0.4s,baz=124,slow=8.4,SNR=16						
MKAR				PcP	**PcP**	**01 36 11.8**	**-1.6**
	0.6nm,0.5s,baz=131,slow=4.5,SNR=3.9						
PETK	**Petropavlovsk-**	**60.23**	**23**	P	**P**	**01 35 36.8**	**+1.0**
	1.9nm,0.7s,baz=201,slow=6.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**62.35**	**336**	P	**P**	**01 35 48.4**	**-1.6**
	0.4nm,0.3s,baz=98,slow=8.0,SNR=3.4						
VNDA	**Vanda**	**80.24**	**172**	P	**P**	**01 37 36.7**	**-0.1**
	1.1nm,0.8s,baz=331,slow=7.3,SNR=6.5						
ILAR	**Eielson Array**	**89.99**	**25**	P	**P**	**01 38 23.5**	**-2.1**
	0.2nm,0.6s,baz=237,slow=5.0,SNR=4.5						
ARCES	**ARCESS Array B**	**92.66**	**340**	P	**P**	**01 38 35.9**	**-1.9**
	1.7nm,0.8s,baz=90,slow=4.5,SNR=3.7						
FINES	**FINESS Array B**	**93.37**	**331**	P	**P**	**01 38 38.8**	**-2.4**
	1.9nm,1.1s,baz=73,slow=4.8,SNR=4.1						
TXAR	**Lajitas Array**	**126.71**	**53**	PKP	**PKPdf**	**01 44 30.0**	**+0.2**
	0.2nm,0.6s,baz=147,slow=1.8,SNR=3.4						

BJI ***12*** *01:30:32.0, 1.30°N×127.46°E, h35km, mb4.9/8, mB4.5/3*
NEIC ***12*** *01:30:41.6±0.7, 1.84°N×127.43°E, h78km±7km, mb4.7/20, Error ellipse: s-maj=6.6km s-min=3.6km az=65.0*
ISCJB ***12*** *01:30:44.9±0.3, 1.78°N±0.03°×127.35°E±0.06, h128km, mb4.5/32, Error ellipse: s-maj=8.2km s-min=4.6km az=176.4*
IDC ***12*** *01:30:44.7±2.5, 1.81°N×127.49°E, h108km±23km, mb4.2/14, mb1 4.3/16, mb1mx4.0/39, mbtmp4.5/16, MS2.8/3, Ms1 2.8/3, ms1mx2.4/31, Error ellipse: s-maj=25.0km s-min=9.4km az=84.0*
DJA ***12*** *01:30:55.9±0.6, 1.1°N±4.4°×12.7°E±.8°, h46km±23km, M4.7/6, mb4.9/6, MLv4.7/6*

ISC 12 01:30:46.5±0.5, 1.66°N±0.05°×127.27°E±0.06, h128km, n67, σ1.91/71, mb4.5/32, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.30**	**174**	P	**Pn**	**01 31 25.3**	**+1.2**
LBMI				S	**Sn**	**01 31 45.8**	**-7.2**
SGSI	**Sangihe**	**2.66**	**319**	P	**Pn**	01 31 40.3	+12
KMSI	**Cibinong**	**3.46**	**252**	P	**Pn**	**01 31 40.0**	**+0.9**
SANI	**Sanana**	**3.91**	**199**	P	**Pn**	**01 31 44.8**	**-0.2**
SANI				S	**Sn**	**01 32 22.8**	**-7.6**
NLAI	**Namlea**	**4.87**	**182**	P	**Pn**	**01 31 57.9**	**0.0**
LUWI	**Luwuk**	**5.24**	**239**	P	**Pn**	**01 32 03.1**	**+0.3**
LUWI				S	**Sn**	**01 32 58.8**	**-3.5**
LUWI	**Luwuk**	**5.24**	**239**	*e*Pn	**Pn**	**01 32 00.2**	**-2.6**
LUWI				*e*Sn	**Sn**	**01 32 58.3**	**-4.0**
DAV	**Davao City (W)**	**5.63**	**343**	LR	LR	01 33 46.8	
	comp=Z,60nm,20.9s,baz=118,slow=33						
FAKI	**Fak Fak**	**6.75**	**132**	*e*Pn	Pn	01 32 17.7	-5.4
TTSI	**Tana Toraja**	**8.80**	**238**	P	**Pn**	**01 32 50.8**	**0.0**
	28nm,0.6s						
TTSI				S	**Pn**	**01 32 51.0**	**+0.2**
	28nm,0.6s						
SPSI	**Sidrap Palu**	**9.35**	**233**	P	**Pn**	**01 32 58.8**	**+0.5**
	35nm,0.8s						
KAPI	**Kappang**	**10.02**	**229**	P	**Pn**	**01 33 09.6**	**+2.4**
	3.5nm,0.3s,baz=8.0,slow=5.1,SNR=13						
KAPI				S	**Sn**	**01 34 56.7**	**-1.3**
	1.1nm,0.3s,baz=146,slow=23,SNR=11						
KAPI				LR	LR	01 37 21.1	
	comp=Z,72nm,18.2s,baz=53,slow=38						
KAPI	**Kappang**	**10.02**	**229**	*e*Pn	**Pn**	**01 33 05.5**	**-1.8**
KAPI				*e*Sn	**Sn**	**01 34 55.5**	**-2.5**
PLAI	**Plampang**	**14.08**	**222**	P	**Pn**	**01 34 03.1**	**+2.7**
	83nm,1.0s						
TWSI	**Taliwang, Sumb**	**14.63**	**225**	P	**P**	**01 34 10.6**	**+0.3**
	40nm,1.0s						
MTN	**Manton Dam**	**14.91**	**165**	*e*Pn	**Pn**	**01 34 10.8**	**-0.2**
	40nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.71**	**185**	P	**P**	**01 35 06.8**	**+0.7**
	1.4nm,0.3s,baz=17,slow=9.0,SNR=30						
FITZ	**Fitzroy Crossi**	**19.71**	**185**	*e*P	**P**	**01 35 07.7**	**+1.7**
	14nm,0.8s						

GUMO	**Guam**	**21.06**	**55**	LR	LR	01 41 47.3	
	comp=Z,28nm,19.0s,baz=96,slow=32						
COEN	**Coen**	**22.12**	**135**	*e*P	**P**	**01 35 31.9**	**+0.1**
	7.3nm,0.9s						
WRAB	**Tennant Creek**	**22.56**	**162**	*e*P	**P**	**01 35 36.7**	**+0.5**
	47nm,0.8s						
WRA	**Warramunga Arr**	**22.57**	**162**	P	**P**	**01 35 36.5**	**+0.3**
	51nm,0.6s,baz=342,slow=11,SNR=152						
WB2	**Warramunga Arr**	**22.57**	**162**	*e*P	**P**	**01 35 36.8**	**+0.5**
	59nm,0.8s						
PMG	**Port Moresby**	**22.66**	**119**	*e*P	**P**	**01 35 35.9**	**-1.3**
	10nm,0.9s						
SSLB	**Suanglung**	**22.83**	**345**	*e*P	**P**	**01 35 36.7**	**-2.1**
	22nm,0.7s						
MBWA	**Marble Bar**	**23.85**	**198**	*e*P	**P**	**01 35 49.3**	**+1.2**
	40nm,0.6s						
AS31	**Alice Springs**	**25.99**	**166**	*e*P	**P**	**01 36 08.3**	**+0.7**
	4.3nm,0.6s						
ASAR	**Alice Springs**	**25.99**	**166**	P	**P**	**01 36 08.2**	**+0.6**
	6.6nm,0.6s,baz=352,slow=7.3,SNR=87						
ASAR				ScP	**ScP**	**01 43 02.6**	**+1.8**
	0.7nm,0.7s,baz=355,slow=3.0,SNR=5.6						
AS01	**Alice Springs**	**26.00**	**166**	*e*P	**P**	**01 36 08.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**32.41**	**303**	P	**P**	**01 37 05.3**	**+0.8**
	1.3nm,0.4s,baz=129,slow=8.3,SNR=3.6						
KSAR	**Wonju Array Be**	**35.61**	**1**	P	**P**	**01 37 31.1**	**-0.8**
KSRS	**Korea Array**	**35.62**	**1**	P	**P**	**01 37 31.1**	**-0.9**
	3.0nm,0.7s,baz=176,slow=9.7,SNR=11						
NWAO	**Narrogin (SRO)**	**35.69**	**195**	P	**P**	**01 37 34.0**	**+1.4**
	9.8nm,0.8s,baz=242,slow=7.1,SNR=4.9						
NWAO	**Narrogin (SRO)**	**35.69**	**195**	P	**P**	**01 37 34.0**	**+1.4**
STKA	**Stephens Creek**	**36.02**	**159**	P	**P**	**01 37 36.6**	**+1.2**
	44nm,0.7s,baz=334,slow=8.8,SNR=72						
STKA	**Stephens Creek**	**36.02**	**159**	*e*P	**P**	**01 37 36.7**	**+1.2**
	8.0nm,0.7s						
MAJO	**Matsushiro**	**36.15**	**15**	*e*P	**P**	**01 37 34.0**	**-2.6**
	5.1nm,0.5s						
MAT	**Matsushiro**	**36.15**	**15**	P	**P**	**01 37 34.0**	**-2.5**
MJAR	**Matsushiro Arr**	**36.15**	**15**	P	**P**	**01 37 34.1**	**-2.5**
	3.4nm,0.5s,baz=191,slow=8.7,SNR=18						
XAN	**Xi'an**	**36.49**	**334**	P	**P**	**01 37 38.8**	**-0.8**
XAN				sP	pP	01 37 50.1	-18
XAN				PMZ			
	15nm,1.0s						
XAN				PMZ			
	39nm,4.6s						
LZH	**Lanzhou**	**40.55**	**330**	*e*P	**P**	**01 38 14.8**	**+1.2**
LZH				pP	pP	01 38 24.3	-18
LZH				sP	sP	01 38 28.6	-28
LZH				PMZ			
	25nm,1.0s						
HHC	**Hu-ho-hao-te**	**41.52**	**342**	*e*P	**P**	**01 38 22.2**	**+0.9**
HHC				PMZ			
	28nm,1.1s						
HHC				PMZ			
	120nm,5.4s						
CAN	**Canberra**	**42.03**	**153**	*e*P	**P**

FINES	**FINESS Array B** 1.5nm,0.9s,baz=115,slow=9.4,SNR=5.0	**37.82**	**326**	P	**P**	**01 58 11.8 +3.2**
ARCES	**ARCESS Array B** 1.9nm,0.9s,baz=116,slow=8.1,SNR=3.9	**41.50**	**338**	P	P	01 58 43.3 +4.3
NOA	**NORSAR Array B** 0.5nm,0.6s,baz=98,slow=7.6,SNR=2.4	**44.71**	**323**	P	**P**	**01 59 08.5 +3.5**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=7.8,slow=5.0,SNR=3.8	**81.59**	**3**	P	**P**	**02 03 11.2 +2.7**

ISCJB ***12*** *01:58:19.8±0.3,25°.47N±0'.04×122°.37E±0'.03, h265km±2km, mb3.4/12, Error ellipse: s-maj=7.3km s-min=4.1km az=160.5*
TAP ***12*** *01:58:19.9,25°.51N×122°.43E, h272km, ML4.3, C*
JMA ***12*** *01:58:22.1±0.3,25°.33N×122°.30E, h249km±3km, M4.1*
IDC ***12*** *01:58:22.3±4.1,25°.50N×122°.25E, h286km±42km, mb3.2/12, mb1 3.3/13, mb1mx3.1/38, mbtmp3.8/13, Error ellipse: s-maj=22.8km s-min=12.5km az=74.0*
ISC 12 01:58:19.9±0.6, 25°.44N±0'.06×122°.36E±0'.04, h263km±5km, n72, σ0°99/118, mb3.5/12, 18C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu** baz=290	**0.32**	**305**	*eP*		**Pn**		**01 58 55.4**	**+1.5**
TWB1	**Santiao Chiao** baz=218	**0.55**	**218**	⇑*iP*		**Pn**		**01 58 55.4**	**+0.9**
TWB1	baz=218			S		**S**		**01 59 22.0**	**+0.2**
NWF	**Wu-fen Shan** baz=244	**0.65**	**235**	P		**Pn**		**01 58 55.7**	**+0.8**
NWF	baz=244			S		**S**		**01 59 21.7**	**-0.7**
TWY	**Chenhua** baz=242	**0.71**	**257**	*eP*		**Pn**		**01 58 56.1**	**+1.1**
TWY	baz=242			*eS*		**S**		**01 59 22.7**	**+0.1**
EGS	baz=205	**0.71**	**213**	P		**Pn**		**01 58 56.2**	**+1.2**
EGS	baz=205			*eS*		**S**		**01 59 21.9**	**-0.9**
ILA	**Ilan** baz=225	**0.88**	**220**	*eP*		**Pn**		**01 58 57.2**	**+1.5**
TWS1	**Kuangyinshan** baz=246	**0.92**	**248**	*eP*		**Pn**		**01 58 56.9**	**+0.9**
TWS1	baz=246			*eS*		**S**		**01 59 24.4**	**0.0**
TWC	**Suao** baz=205	**0.95**	**209**	⇑P		**Pn**		**01 58 56.7**	**+0.5**
TWC	baz=205			*eS*		**S**		**01 59 23.8**	**-1.0**
TWE	**Neicheng** baz=223	**0.96**	**221**	*eP*		**Pn**		**01 58 57.2**	**+1.0**
TWE	baz=223			*eS*		**S**		**01 59 24.1**	**-0.6**
ENTT	**Nioudou** baz=226	**1.08**	**222**	⇑P		**Pn**		**01 58 57.7**	**+0.9**
ENTT	baz=226			*eS*		**S**		**01 59 25.6**	**-0.4**
JYNG	**Yonaguni jima**	**1.12**	**152**	P		**Pn**		**01 58 57.3**	**+0.3**
JYNG				S		**S**		**01 59 25.5**	**-0.9**
YOJ	**Yonaguni jima**	**1.14**	**149**	P		**Pn**		**01 58 57.5**	**+0.3**
ENA	**Nanau** baz=205	**1.16**	**209**	⇑P		**Pn**		**01 58 58.4**	**+1.1**
ENA	baz=205			*eS*		**S**		**01 59 26.9**	**+0.1**
NCU	**National Centr** baz=244	**1.17**	**246**	*eP*		**Pn**		**01 58 58.2**	**+0.9**
NCU	baz=244			*eS*		**S**		**01 59 26.7**	**-0.1**
NSK	**Sanguang** baz=223	**1.19**	**230**	⇑*iP*		**Pn**		**01 58 57.9**	**+0.4**
NSK	baz=223			*eS*		**S**		**01 59 25.6**	**-1.7**
NNS	**Nan Shan** baz=226	**1.34**	**222**	P		**Pn**		**01 58 59.5**	**+0.8**
NNS	baz=226			*eS*		**S**		**01 59 28.9**	**-0.3**
NSTT	**Nanjuang** baz=231	**1.48**	**237**	⇑*iP*		**Pn**		**01 59 00.1**	**+0.8**
NSTT	baz=231			*eS*		**S**		**01 59 29.8**	**-0.7**
TWD	**Chiawan** baz=216	**1.53**	**207**	*eP*		**Pn**		**01 59 00.4**	**+0.6**
TWD	baz=216			*eS*		**S**		**01 59 29.7**	**-1.5**
TWT	**Tachien** baz=226	**1.60**	**223**	*eP*		**Pn**		**01 59 01.5**	**+1.0**
TWT	baz=226			*eS*		**S**		**01 59 32.3**	**-0.2**
HWA	**Hwalien** baz=201	**1.61**	**205**	*eP*		**Pn**		**01 59 01.3**	**+0.9**
HWA	baz=201			*eS*		**S**		**01 59 32.1**	**-0.3**
WHF	**Hehuan Shan** baz=221	**1.63**	**218**	⇑*iP*		**Pn**		**01 59 02.2**	**+1.2**
WHF	baz=221			*eS*		**S**		**01 59 32.4**	**-1.1**
IRIF	**Iriomote-Funau**	**1.66**	**131**	P		**Pn**		**01 59 01.6**	**+0.9**
IRIF				S		**S**		**01 59 31.4**	**-1.5**
NSY	**Sanyi** baz=234	**1.78**	**235**	P		**Pn**		**01 59 03.0**	**+1.3**
NSY	baz=234			*eS*		**S**		**01 59 34.4**	**-0.3**
TWQ1	**Liyutan** baz=229	**1.81**	**233**	⇑P		**Pn**		**01 59 02.9**	**+1.0**
TWQ1	baz=229			*eS*		**S**		**01 59 34.0**	**-1.1**
ESL	**Shilin** baz=212	**1.83**	**208**	*eP*		**Pn**		**01 59 03.9**	**+1.8**
HATJ	**Hateruma jima**	**1.90**	**136**	P		**Pn**		**01 59 04.2**	**+1.5**
HATJ				*eS*		**S**		**01 59 35.8**	**-0.7**
JKRS	**Kuro-shima**	**1.92**	**128**	P		**Pn**		**01 59 04.1**	**+1.3**
JKRS				S		**S**		**01 59 35.9**	**-0.8**
JIJ	**Ishigaki jima**	**1.94**	**123**	P		**Pn**		**01 59 03.8**	**+0.8**
JIJ				S		**S**		**01 59 35.0**	**-2.1**
JISG	**Ishigakijimahi**	**1.96**	**115**	P		**Pn**		**01 59 04.2**	**+1.1**
JISG				S		**S**		**01 59 35.9**	**-1.4**
TCU	**Taichung** baz=230	**2.00**	**230**	*eP*		**Pn**		**01 59 04.7**	**+1.2**
TCU	baz=230			*eS*		**S**		**01 59 37.8**	**-0.3**
WDT	**Danda** baz=217	**2.02**	**214**	⇑*iP*		**Pn**		**01 59 05.6**	**+1.6**
WDT	baz=217			*eS*		**S**		**01 59 39.4**	**+0.4**
SMLT	**Sun Moon Lake** baz=226	**2.05**	**221**	⇑*iP*		**Pn**		**01 59 05.1**	**+1.0**
SMLT	baz=226			*eS*		**S**		**01 59 38.8**	**-0.2**
TYC	**Yuchr** baz=227	**2.06**	**222**	⇑*iP*		**Pn**		**01 59 05.1**	**+1.1**
TYC	baz=227			S		**S**		**01 59 38.7**	**-0.2**
EHY	**Hungye** baz=210	**2.15**	**206**	*eP*		**Pn**		**01 59 05.1**	**+0.2**
EHY	baz=210			*eS*		**S**		**01 59 39.8**	**-0.7**
WNT	**Mingjian** baz=224	**2.18**	**225**	*eP*		**Pn**		**01 59 06.3**	**+1.2**
WNT	baz=224			*eS*		**S**		**01 59 41.0**	**+0.1**
JTJ	**Tarama**	**2.27**	**110**	P		**Pn**		**01 59 07.4**	**+1.5**
JTJ				S		**S**		**01 59 42.4**	**+0.1**
TWF1	**Yuli** baz=210	**2.30**	**205**	*eP*		**Pn**		**01 59 06.4**	**+0.2**
TWF1	baz=210			*eS*		**S**		**01 59 43.0**	**0.0**
YUS	**Yu-Shan** baz=212	**2.33**	**214**	⇑*iP*		**Pn**		**01 59 08.5**	**+1.4**
YUS	baz=212			*eS*		**S**		**01 59 44.3**	**-0.1**
ALS	**Alishan** baz=223	**2.39**	**217**	⇑*iP*		**Pn**		**01 59 08.7**	**+1.3**
ALS	baz=223			*eS*		**S**		**01 59 44.5**	**-0.6**
CHN5	**Tsauling** baz=225	**2.40**	**220**	⇑*iP*		**Pn**		**01 59 08.7**	**+1.4**
CHN5	baz=225			*eS*		**S**		**01 59 44.3**	**-0.5**
WGK	**Gukeng** baz=223	**2.40**	**224**	*eP*		**Pn**		**01 59 08.5**	**+1.3**
WGK	baz=223			*eS*		**S**		**01 59 44.0**	**-0.6**
CHKT	**Chengkung** baz=207	**2.51**	**202**	*eP*		**Pn**		**01 59 08.7**	**+0.5**
ELDTW	**Lidau** baz=207	**2.56**	**209**	*eP*		**Pn**		**01 59 10.3**	**+1.4**
JIRB	**Irabujima**	**2.62**	**103**	P		**Pn**		**01 59 10.7**	**+1.4**
JIRB				*eS*		**S**		**01 59 47.5**	**-0.9**
CHY	**Chiayi** baz=222	**2.62**	**223**	*eP*		**Pn**		**01 59 10.3**	**+1.0**
CHN4	**Tsaushan** baz=223	**2.64**	**218**	⇑*iP*		**Pn**		**01 59 10.7**	**+1.2**
CHN4	baz=223			*eS*		**S**		**01 59 48.6**	**-0.2**
JIKM	**Ikemajima**	**2.66**	**101**	P		**Pn**		**01 59 12.0**	**+2.3**
JIKM				*eS*		**S**		**01 59 49.4**	**+0.2**
STYT	**Tauyuan** baz=217	**2.70**	**213**	P		**Pn**		**01 59 11.6**	**+1.3**
STYT	baz=217			*eS*		**S**		**01 59 49.4**	**-0.8**
WTP	**Ta-pu** baz=222	**2.71**	**216**	⇑P		**Pn**		**01 59 11.2**	**+0.9**
WTP	baz=222			*eS*		**S**		**01 59 49.3**	**-0.9**
TWK	**Hsinying** baz=223	**2.76**	**219**	*eP*		**Pn**		**01 59 12.0**	**+1.2**
TWK	baz=223			*eS*		**S**		**01 59 50.7**	**-0.5**
CHN1	**Nanshi** baz=223	**2.80**	**217**	⇑*iP*		**Pn**		**01 59 12.4**	**+1.2**
CHN1	baz=223			*eS*		**S**		**01 59 51.3**	**-0.7**
SGST	**Jiashian** baz=222	**2.86**	**215**	⇑P		**Pn**		**01 59 13.2**	**+1.4**
SGST	baz=222			*eS*		**S**		**01 59 52.7**	**-0.3**
TWG	**Pinlang** baz=202	**2.87**	**205**	*eP*		**Pn**		**01 59 11.9**	**0.0**
PNG	**Penghu** baz=234	**3.17**	**234**	*eP*		**Pn**		**01 59 15.6**	**+0.5**
WDGT	**Dungji** baz=224	**3.29**	**229**	*eP*		**Pn**		**01 59 17.2**	**+0.8**
EAST	**Anshuo** baz=210	**3.35**	**205**	*eP*		**Pn**		**01 59 18.4**	**+1.4**
SCZT	**Fangliau** baz=203	**3.45**	**208**	P		**Pn**		**01 59 19.4**	**+1.3**
SCZT	baz=203			*eS*		**S**		**02 00 03.2**	**-1.3**
LAY	**Lan-yu** baz=188	**3.47**	**193**	*eP*		**Pn**		**01 59 19.4**	**+1.1**
KNM	**Kinmen** baz=254	**3.71**	**255**	*eP*		**Pn**		**01 59 22.8**	**+1.7**
KSRS	**Korea Array** 0.3nm,0.3s,baz=197,slow=12,SNR=7.8	**12.88**	**20**	P		**P**		**02 01 14.4**	**-0.9**
ASAJ	**Asahikawa** 1.5nm,0.3s,baz=233,slow=5.1,SNR=6.5	**24.85**	**36**	P		**P**		**02 03 19.8**	**+1.3**
KLR	**Kul'dur** 1.0nm,0.5s,baz=208,slow=9.9,SNR=6.6	**24.85**	**15**	P		**P**		**02 03 18.9**	**+0.5**
SONM	**Songino Array** 0.8nm,0.4s,baz=153,slow=8.3,SNR=6.7	**25.66**	**335**	P		**P**		**02 03 25.7**	**-0.2**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=101,slow=8.6,SNR=5.3	**38.20**	**314**	P		**P**		**02 05 14.2**	**-0.3**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=129,slow=8.9,SNR=4.5	**39.79**	**326**	P		**P**		**02 05 26.3**	**-1.2**
WRA	**Warramunga Arr** 1.1nm,0.4s,baz=347,slow=8.7,SNR=9.7	**46.59**	**164**	P		**P**		**02 06 22.6**	**+0.6**
ASAR	**Alice Springs** 0.6nm,0.5s,baz=348,slow=6.7,SNR=8.1	**50.08**	**166**	P		**P**		**02 06 49.6**	**+1.1**
ILAR	**Eielson Array** 0.2nm,0.4s,baz=270,slow=5.3,SNR=4.0	**67.61**	**28**	P		**P**		**02 08 47.7**	**-0.4**
ARCES	**ARCESS Array B** 1.2nm,0.8s,baz=76,slow=3.8,SNR=2.6	**68.78**	**338**	P		**P**		**02 08 55.4**	**+0.1**
FINES	**FINESS Array B** 0.5nm,0.4s,baz=57,slow=5.5,SNR=19	**70.91**	**330**	P		**P**		**02 09 08.0**	**-0.2**
NOA	**NORSAR Array B** 0.4nm,0.6s,baz=254,slow=9.2,SNR=2.7	**77.61**	**332**	P		**P**		**02 09 45.9**	**-1.0**
YKA	**Yellowknife Ar** 0.5nm,0.7s,baz=310,slow=4.9,SNR=8.0	**81.40**	**23**	P		**P**		**02 10 07.0**	**-0.1**

ISCJB ***12*** *02:16:11.5±0.6,32°.89N±0'.02×35°.00E±0'.05, h9km±3km, Error ellipse: s-maj=6.9km s-min=3.1km az=21.7*
CSEM ***12*** *02:16:11.1±0.2,32°.90N×34°.95E, h5km, MD2.1, Error ellipse: s-maj=4.8km s-min=1.8km az=107.0*
GII ***12*** *02:16:11.1±0.4,32°.87N×35°.02E, h3km, MD2.1/6*
GRAL ***12*** *02:16:12.6±0.3,32°.90N×35°.00E, h1km±5km, MD3.1*
NSSC ***12*** *02:16:13.3±0.5,32°.95N×35°.10E, h8km±2km, MD1.3, ML2.0*
ISC 12 02:16:11.7±0.9, 32°91N±0'.02×35°04E±0'.04, h14km±7km, n43, σ0°86/67, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.21**	**32**	Pg		**Pg**		**02 16 16.7**	**+0.3**
HNTI	**Hanita**	**0.21**	**32**	Pg		**Pg**		**02 16 16.7**	**+0.3**
BLGI	**Bet Lehem HaGe**	**0.21**	**144**	Pg		**Pg**		**02 16 16.2**	**-0.3**
BLGI	**Bet Lehem HaGe**	**0.21**	**144**	Pg		**Pg**		**02 16 16.2**	**-0.3**
NAQL	**Naqoura**	**0.23**	**21**	*eP*		**Pg**		**02 16 16.9**	**+0.2**
NAQL				*eS*		**Sg**		**02 16 20.3**	**+0.2**
NAQL	**Naqoura**	**0.23**	**21**	*eP*		**Pg**		**02 16 16.9**	**+0.2**
NAQL				*eS*		**Sg**		**02 16 20.3**	**+0.2**
OFRI	**'Ofer**	**0.29**	**190**	Pg		**Pg**		**02 16 16.9**	**-0.9**
OFRI	**'Ofer**	**0.29**	**190**	Pg		**Pg**		**02 16 16.9**	**-0.9**
MMC7	**Mount Meron ar**	**0.32**	**69**	Pg		**Pb**		**02 16 18.8**	**-0.5**
MMC7	**Mount Meron ar**	**0.32**	**69**	Pg		**Pb**		**02 16 18.8**	**-0.5**
MMA0B	**Mount Meron ar**	**0.32**	**70**	Pg		**Pb**		**02 16 18.8**	**-0.6**
MMA0B				Sg		**Sb**		**02 16 24.4**	**-0.1**
MMA0B	**Mount Meron ar**	**0.32**	**70**	Pg		**Pb**		**02 16 18.8**	**-0.6**
MMA0B				Sg		**Sb**		**02 16 24.4**	**-0.1**
MMLI	**Mount Malkishu**	**0.57**	**146**	Pg		**Pb**		**02 16 22.6**	**-0.9**
MMLI	**Mount Malkishu**	**0.57**	**146**	Pg		**Pb**		**02 16 22.6**	**-0.9**
KSDI	**Kefar Szold**	**0.59**	**61**	Pg		**Pb**		**02 16 23.9**	**0.0**
KSDI				Sg		**Sb**		**02 16 33.4**	**+1.3**
KSHT	**Keshet**	**0.65**	**83**	Pg		**Pn**		**02 16 25.4**	**-1.2**
KSHT	**Keshet**	**0.65**	**83**	Pg		**Pn**		**02 16 25.4**	**-1.2**
SLTI	**Sal'it**	**0.66**	**180**	Pg		**Pb**		**02 16 23.9**	**-1.2**
SLTI				Sg		**Sb**		**02 16 33.1**	**-1.1**
SLTI	**Sal'it**	**0.66**	**180**	Pg		**Pb**		**02 16 23.9**	**-1.2**
SLTI				Sg		**Sb**		**02 16 33.1**	**-1.1**
HMDT	**Nahal Hemdat**	**0.77**	**148**	Pg		**Pb**		**02 16 26.7**	**-0.2**
HMDT				Sg		**Sb**		**02 16 37.8**	**+0.6**
HMDT	**Nahal Hemdat**	**0.77**	**148**	Pg		**Pb**		**02 16 26.7**	**-0.2**
HMDT				Sg		**Sb**		**02 16 37.8**	**+0.6**
TCHB	**Talchebab**	**0.81**	**107**	*eP*		**Pn**		**02 16 28.0**	**-0.9**
TCHB				*eS*		**Sb**		**02 16 39.3**	**+0.7**
TCHB					AML	AML		02 16 42.2	
	comp=N,49nm,0.3s								
TCHB					AML	AML		02 16 45.1	
	comp=E,116nm,0.2s								
RCY	**Rachaya**	**0.89**	**48**	*eP*		**Pn**		**02 16 29.1**	**-0.9**
DQRL	**Deir Qamar**	**0.91**	**29**	*eP*		**Pn**		**02 16 29.3**	**-1.0**
DQRL				*eS*		**Sb**		**02 16 41.7**	**+0.2**
DQRL	**Deir Qamar**	**0.91**	**29**	*eP*		**Pn**		**02 16 29.3**	**-1.0**
DQRL				*eS*		**Sb**		**02 16 41.7**	**+0.2**
BRBR	**Barbar**	**0.91**	**56**	*eP*		**Pn**		**02 16 29.7**	**-0.7**
BRBR				*eS*		**Sb**		**02 16 41.2**	**-0.4**
BRBR					AML	AML		02 16 44.5	
	comp=N,136nm,0.6s								
BRBR					AML	AML		02 16 44.8	
	comp=E,112nm,0.4s								
BHL	**Bhannes**	**1.12**	**27**	*eP*		**Pn**		**02 16 33.1**	**0.0**
BHL	**Bhannes**	**1.12**	**27**	*eP*		**Pn**		**02 16 33.1**	**0.0**
TOTH	**TOTAH**	**1.25**	**68**	*eP*		**Pn**		**02 16 35.6**	**+0.8**
TOTH				*eS*		**Sb**		**02 16 51.0**	**-0.2**
TOTH					AML	AML		02 16 56.3	
	comp=N,41nm,0.3s								
TOTH					AML	AML		02 16 56.4	
	comp=E,33nm,0.2s								
DSI	**Dead Sea**	**1.36**	**168**	Pn		**Pn**		**02 16 35.9**	**-0.5**
DSI				Sn		**Sn**		**02 16 55.2**	**+0.9**
DSI	**Dead Sea**	**1.36**	**168**	Pn		**Pn**		**02 16 35.9**	**-0.5**
DSI				Sn		**Sn**		**02 16 55.2**	**+0.9**
AMAZ	**Amatzia**	**1.37**	**185**	Pn		**Pn**		**02 16 36.3**	**-0.3**
AMAZ				Sn		**Sn**		**02 16 55.5**	**+0.9**
AMAZ	**Amatzia**	**1.37**	**185**	Pn		**Pn**		**02 16 36.3**	**-0.3**
AMAZ				Sn		**Sn**		**02 16 55.5**	**+0.9**
SALA	**Sala**	**1.44**	**97**	*eP*		**Pg**		**02 16 38.8**	**-0.6**
SALA				*eS*		**Sn**		**02 16 56.8**	**+0.5**
SALA					AML	AML		02 17 01.2	
	comp=E,11nm,0.5s								
SALA					AML	AML		02 17 02.2	
	comp=N,58nm,0.5s								
HWQ	**Hawqa**	**1.56**	**29**	*eP*		**Pg**		**02 16 40.4**	**-1.4**
HWQ	**Hawqa**	**1.56**	**29**	*eP*		**Pg**		**02 16 40.4**	**-1.4**
MZDA	**Masada**	**1.61**	**170**	Pn		**Pn**		**02 16 39.9**	**+0.1**
MZDA				Sn		**Sb**		**02 17 01.6**	**0.0**
MZDA	**Masada**	**1.61**	**170**	Pn		**Pn**		**02 16 39.9**	**+0.1**
MZDA				Sn		**Sb**		**02 17 01.6**	**0.0**
ZALF	**Zalf**	**1.93**	**89**	*eP*		**Pb**		**02 16 46.0**	**-0.7**
ZALF				*eS*		**Sn**		**02 17 09.3**	**+1.0**
ZALF				AML		AML		02 17 18.7	
	comp=E,19nm,0.6s								
ZALF				AML		AML		02 17 23.0	
	comp=N,31nm,0.6s								
PRNI	**Paran**	**2.55**	**181**	Pn		**Pn**		**02 16 53.7**	**+1.0**
PRNI				Sn		**Sn**		**02 17 25.8**	**+2.3**
PRNI	**Paran**	**2.55**	**181**	Pn		**Pn**		**02 16 53.7**	**+1.0**
PRNI				Sn		**Sn**		**02 17 25.8**	**+2.3**
MBRI	**Mt Berech**	**3.10**	**182**	Pn		**Pn**		**02 17 01.7**	**+1.3**
MBRI	**Mt Berech**	**3.10**	**182**	Pn		**Pn**		**02 17 01.7**	**+1.3**

ISCJB ***12*** *02:21:41.4±1.3,7°.04S±0'.07×106°.23E±0'.05, h14km±9km, mb3.8/3, MS2.9/2, Error ellipse: s-maj=13.8km s-min=5.1km az=27.3*
DJA ***12*** *02:21:41.9±0.3,7°.5S±4'×10°6E±°, h10km, M4.3/19, mb4.2/1, MLv4.3/19*
IDC ***12*** *02:21:58.4±42.0,7°.84S×108°.29E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.5/45, mbtmp4.0/3, MS3.0/2, Ms1 3.0/2, ms1mx2.4/37, Error ellipse: s-maj=722.2km s-min=177.9km az=132.0*
ISC 12 02:21:40.9±3.6, 7°.01S±0'.08×106°.24E±0'.05, h4km±26km, n28, σ1°12/18, mb3.9/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.31**	**90**	P		**Pn**		**02 21 48.3**	**-0.7**
CGJI	**Cibinong**	**0.67**	**305**	P		**Pb**		**02 21 55.8**	**+0.6**
CGJI				S		**Sb**		**02 22 03.5**	**-1.4**
CBJI	**Citeko**	**0.84**	**46**	P		Pb		02 21 54.8	-3.2
SBJI	**Serang**	**0.89**	**353**	P		**Pb**		**02 21 57.6**	**-1.3**
TNG	**Tangerang**	**0.92**	**26**	P		**Pb**		**02 21 59.4**	**0.0**
CNJI	**Cibinong**	**0.93**	**109**	P		**Pb**		**02 21 58.4**	**-1.2**
CNJI				S		**Sb**		**02 22 12.2**	**-0.1**
LEM	**Lembang**	**1.38**	**83**	P		**Pb**		**02 22 08.3**	**+1.0**
CISI	**Cisompet, Garu**	**1.65**	**109**	P		**Pn**		**02 22 10.0**	**-0.8**
JCJI	**Jatiwangi**	**2.08**	**76**	P		**Pn**		**02 22 16.4**	**-0.1**
JCJI				S		**Sn**		**02 22 42.9**	**0.0**
KASI	**Kota Agung**	**2.28**	**310**	P		Pn		02 22 19.2	-0.1
KASI				S		**Sb**		**02 22 52.2**	**+1.1**
CMJI	**Cimerak**	**2.32**	**110**	P		**Pn**		**02 22 20.3**	**+0.4**
KLI	**Kotabumi**	**2.54**	**327**	P		Pn		02 22 26.9	+4.0
KPJI	**Karang Pucung**	**2.69**	**97**	P		**Pn**		**02 22 27.1**	**+2.2**
LWLI	**Liwa**	**2.94**	**312**	P		Pn		02 22 30.8	+2.3
MNAI	**Manna**	**4.20**	**309**	P		Pn		02 22 43.9	-1.8
UGM	**Wanagama**	**4.34**	**102**	P		**Pn**		**02 22 48.3**	**+0.6**
PCJI	**Pacitan**	**5.03**	**104**	P		**Pn**		**02 22 57.7**	**+0.5**
FITZ	**Fitzroy Crossi** comp=Z,29nm,20.5s,baz=4.0,slow=37	**21.88**	**122**	LR		LR		02 34 14.2	
NWAO	**Narrogin (SRO)** comp=Z,47nm,21.9s,baz=331,slow=34	**27.74**	**160**	LR		LR		02 36 58.8	
H01W3	**Cape Leeuwin H** baz=348	**28.68**	**166**	T		T		02 57 21.9	
H01W1	**Cape Leeuwin H** baz=348	**28.69**	**166**	T		T		02 57 21.8	
H01W2	**Cape Leeuwin H** baz=348	**28.70**	**166**	T		T		02 57 20.5	
WRA	**Warramunga Arr** 1.4nm,0.8s,baz=294,slow=9.8,SNR=5.6	**30.13**	**118**	P		**P**		**02 27 51.4**	**-0.8**
ASAR	**Alice Springs** 0.8nm,0.9s,baz=301,slow=8.1,SNR=4.6	**31.30**	**125**	P		**P**		**02 28 00.9**	**-1.5**
H08S2	**Diego Garcia H** baz=68,slow=76,SNR=30	**33.48**	**267**	T		T		03 07 18.8	
H08S3	**Diego Garcia H** baz=68,slow=76,SNR=24	**33.49**	**267**	T		T		03 07 12.3	
H08S1	**Diego Garcia H** baz=68,slow=76,SNR=28	**33.49**	**267**	T		T		03 07 20.1	
STKA	**Stephens Creek** 1.8nm,0.5s,baz=305,slow=9.5,SNR=7.7	**41.20**	**132**	P		**P**		**02 29 28.1**	**+1.1**

ISCJB ***12*** *02:23:44.7±1.0,31°.43S±0'.06×68°.47W±0'.09, h100km±9km, Error ellipse: s-maj=14.7km s-min=7.3km az=38.3*
SJA ***12*** *02:23:44.3±0.4,31°.45S×68°.45W, h96km±2km, ML3.3, MW3.6*
GUC ***12*** *02:23:45.2±0.4,31°.19S×68°.99W, h144km±30km, ML3.3*
ISC 12 02:23:45.6±1.8, 31°44S±0'.06×68°45W±0'.08, h94km±11km, n16, σ0°75/24, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.11**	**350**	*i* P		**Pn**		**02 23 58.5**	**-0.4**
SJA	**San Juan**	**0.13**	**225**	*i* P		**Pn**		**02 23 58.8**	**-0.1**
SJA				*i* S		**Sn**		**02 24 08.8**	**0.0**
SJA					IAML			02 24 10.8	
	comp=Z,1μm,0.1s								
RTCV	**Cerro Valdivia**	**0.43**	**190**	*i* P		**Pn**		**02 23 59.9**	**-0.4**
AMOG	**MOGNA**	**0.50**	**356**	*i* P		**Pn**		**02 24 00.8**	**0.0**
RTLS	**Leoncito**	**0.81**	**243**	*i* P		**Pn**		**02 24 04.0**	**+0.2**
AUSP	**Uspallata**	**1.12**	**225**	*i* P		**Pn**		**02 24 07.2**	**0.0**
AUSP				*i* S		**Sn**		**02 24 24.4**	**+1.0**
ASAL	**Salagasta**	**1.20**	**196**	*i* P		**Pn**		**02 24 07.6**	**-0.3**
ACAN	**Cantantal**	**1.36**	**128**	*i* P		**Pn**		**02 24 09.7**	**-0.2**
ARCO	**CERRO ARCO**	**1.46**	**196**	*i* P		**Pn**		**02 24 10.8**	**-0.4**
ARCO				*i* S		**Sn**		**02 24 30.7**	**+0.2**
ARCO					IAML			02 24 33.2	
	comp=Z,195nm,0.6s								
AAGR	**Agrelo**	**1.67**	**191**	*i* P		**Pn**		**02 24 13.7**	**-0.1**
AGUA	**GUANDACOL**	**1.94**	**359**	*i* P		**Pn**		**02 24 17.4**	**+0.1**
FCH	**Farellones**	**2.44**	**219**	*i* P		**Pn**		**02 24 25.0**	**+1.0**
FCH				*i* S		**Sn**		**02 24 55.6**	**+2.1**
FCH					IAML			02 25 07.0	
	comp=E,73nm,0.3s								
PEL	**Peldehue**	**2.54**	**227**	*i* P		**Pn**		**02 24 24.7**	**-0.4**
PEL				*i* S		**Sn**		**02 24 54.5**	**-1.0**
PEL					IAML			02 24 59.8	
	comp=N,83nm,0.4s								
CLCH	**Cerro Calan**	**2.63**	**222**	*i* P		**Pn**		**02 24 26.6**	**+0.3**
CLCH				*i* S		**Sn**		**02 24 58.0**	**+0.4**
CLCH					IAML			02 25 05.7	
	comp=E,153nm,0.4s								
ROCH	**El Roble**	**2.65**	**234**	*i* P		**Pn**		**02 24 26.0**	**-0.8**
ROCH				*i* S		**Sn**		**02 24 57.1**	**-1.3**
ROCH					IAML			02 24 58.9	
	comp=N,139nm,0.4s								
RCDM	**Rinconada Maip**	**2.85**	**224**	*eP*		**Pn**		**02 24 29.1**	**-0.1**
RCDM				*eS*		**Sn**		**02 25 02.3**	**-0.6**
RCDM					IAML			02 25 05.7	
	comp=E,

MLZ				AML	AML	02 28 55.3			
MLZ				AML	AML	02 29 00.6			
MLZ	**Mavora Lakes**	**1.06**	**183**	⇑P*	**Pg**	**02 28 38.5**	**-0.7**		
EAZ	**Earnscleugh**	**1.22**	**140**	⇓P*	**Pg**	**02 28 41.4**	**-0.8**		
EAZ				AML	AML	02 29 00.9			
EAZ				AML	AML	02 29 00.9			
EAZ				AML	AML	02 29 01.2			
EAZ				AML	AML	02 29 01.2			
EAZ	**Earnscleugh**	**1.22**	**140**	P*	**Pg**	**02 28 41.4**	**-0.8**		
DCZ	**Deep Cove**	**1.37**	**212**	PN	**Pn**	**02 28 43.0**	**-1.3**		
DCZ				S*	**Sb**	**02 29 01.6**	**-1.0**		
DCZ				AML	AML	02 29 08.5			
DCZ				AML	AML	02 29 08.6			
DCZ				AML	AML	02 29 08.6			
DCZ	**Deep Cove**	**1.37**	**212**	Pn	**Pn**	**02 28 43.0**	**-1.3**		
DCZ				S*	**Sb**	**02 29 01.6**	**-1.0**		
FOZ	**Fox Glacier**	**1.41**	**57**	⇑PN	**Pn**	**02 28 44.4**	**-0.4**		
FOZ				AML	AML	02 29 05.4			
FOZ				AML	AML	02 29 05.4			
FOZ				AML	AML	02 29 05.6			
FOZ				AML	AML	02 29 05.7			
FOZ	**Fox Glacier**	**1.41**	**57**	Pn	**Pn**	**02 28 44.4**	**-0.4**		
LBZ	**Lake Benmore**	**1.43**	**94**	PN	**Pn**	**02 28 44.9**	**-0.3**		
LBZ				AML	AML	02 29 05.0			
LBZ				AML	AML	02 29 05.0			
LBZ				AML	AML	02 29 05.1			
LBZ				AML	AML	02 29 05.2			
LBZ	**Lake Benmore**	**1.43**	**94**	Pn	**Pn**	**02 28 44.9**	**-0.3**		
WHZ	**Wether Hill Ro**	**1.60**	**186**	PN	**Pn**	**02 28 46.9**	**-0.5**		
WHZ				AML	AML	02 29 12.6			
WHZ				AML	AML	02 29 13.5			
WHZ	**Wether Hill Ro**	**1.60**	**186**	Pn	**Pn**	**02 28 46.9**	**-0.5**		
ODZ	**Otahua Downs**	**1.90**	**114**	⇓PN	**Pn**	**02 28 51.9**	**+0.3**		
ODZ				AML	AML	02 29 20.8			
ODZ				AML	AML	02 29 20.8			
ODZ				AML	AML	02 29 21.6			
ODZ				AML	AML	02 29 21.6			
ODZ	**Otahua Downs**	**1.90**	**114**	Pn	**Pn**	**02 28 51.9**	**+0.3**		
TUZ	**Tuapeka**	**1.94**	**149**	PN	**Pn**	**02 28 52.7**	**+0.6**		
TUZ				AML	AML	02 29 20.9			
TUZ				AML	AML	02 29 20.9			
TUZ				AML	AML	02 29 21.5			
TUZ				AML	AML	02 29 21.5			
TUZ	**Tuapeka**	**1.94**	**149**	Pn	**Pn**	**02 28 52.7**	**+0.6**		
PYZ	**Puysegur Point**	**2.15**	**209**	PN	**Pb**	**02 28 56.5**	**-1.4**		
PYZ	**Puysegur Point**	**2.15**	**209**	Pn	**Pb**	**02 28 56.5**	**-1.4**		
RPZ	**Rata Peaks**	**2.15**	**75**	Pn	**Pn**	**02 28 55.7**	**+0.6**		
	319nm,0.3s,baz=225,slow=4.7,SNR=585								
RPZ				Sn	**Sb**	**02 29 24.3**	**-0.6**		
	162nm,0.3s,baz=189,slow=18,SNR=8.6								
RPZ	**Rata Peaks**	**2.15**	**75**	PN	**Pn**	**02 28 55.7**	**+0.6**		
RPZ				AML	AML	02 29 27.3			
RPZ				AML	AML	02 29 30.2			
WVZ	**Waitaha Valley**	**2.22**	**57**	⇑PN	**Pn**	**02 28 55.2**	**-0.8**		
WVZ				AML	AML	02 29 31.8			
WVZ				AML	AML	02 29 32.7			
WVZ	**Waitaha Valley**	**2.22**	**57**	Pn	**Pn**	**02 28 55.2**	**-0.8**		
HHSZ	**Highcliff Hill**	**2.32**	**134**	PN	**Pn**	**02 28 58.4**	**+1.0**		
HHSZ	**Highcliff Hill**	**2.32**	**134**	Pn	**Pn**	**02 28 58.4**	**+1.0**		
SYZ	**Scrubby Hill**	**2.33**	**164**	PN	**Pn**	**02 28 57.9**	**+0.4**		
SYZ				SN	**Sn**	**02 29 27.2**	**+0.8**		
SYZ				AML	AML	02 29 34.3			
SYZ				AML	AML	02 29 44.3			
SYZ				AML	AML	02 29 44.3			
SYZ	**Scrubby Hill**	**2.33**	**164**	Pn	**Pn**	**02 28 57.9**	**+0.4**		
SYZ				Sn	**Sn**	**02 29 27.2**	**+0.8**		
APZ	**The Paps**	**2.53**	**183**	PN	**Pn**	**02 29 00.7**	**+0.3**		
APZ				AML	AML	02 29 36.8			
APZ				AML	AML	02 29 38.7			
APZ	**The Paps**	**2.53**	**183**	Pn	**Pn**	**02 29 00.7**	**+0.3**		
INZ	**Inchbonnie**	**2.85**	**57**	⇑PN	**Pn**	**02 29 03.9**	**-0.7**		
OXZ	**Oxford**	**2.95**	**72**	PN	**Pn**	**02 29 05.6**	**-0.5**		
OXZ	**Oxford**	**2.95**	**72**	Pn	**Pn**	**02 29 05.6**	**-0.5**		
MQZ	**McQueen's Vall**	**3.28**	**81**	⇑PN	**Pn**	**02 29 10.1**	**-0.4**		
MQZ				AML	AML	02 30 10.3			
MQZ				AML	AML	02 30 16.5			
MQZ	**McQueen's Vall**	**3.28**	**81**	Pn	**Pn**	**02 29 10.1**	**-0.4**		
CRLZ	**Canterbury Las**	**3.29**	**79**	⇓PN	**Pn**	**02 29 10.6**	**0.0**		
CRLZ				AML	AML	02 30 13.6			
CRLZ				AML	AML	02 30 16.3			
CRLZ	**Canterbury Las**	**3.29**	**79**	Pn	**Pn**	**02 29 10.6**	**0.0**		
LTZ	**Lake Taylor**	**3.34**	**64**	PN	**Pn**	**02 29 11.1**	**-0.3**		
LTZ				AML	AML	02 29 55.3			
LTZ				AML	AML	02 29 56.9			
LTZ	**Lake Taylor**	**3.34**	**64**	Pn	**Pn**	**02 29 11.1**	**-0.3**		
DSZ	**Denniston Nort**	**3.68**	**47**	⇓PN	**Pn**	**02 29 15.1**	**-1.1**		
DSZ				AML	AML	02 30 24.1			
DSZ				AML	AML	02 30 24.1			
DSZ				AML	AML	02 30 25.8			
DSZ				AML	AML	02 30 25.8			
DSZ	**Denniston Nort**	**3.68**	**47**	Pn	**Pn**	**02 29 15.1**	**-1.1**		
THZ	**Tophouse**	**4.29**	**55**	⇑PN	**Pn**	**02 29 24.5**	**-0.1**		
THZ				AML	AML	02 30 16.7			
THZ				AML	AML	02 30 19.2			
THZ	**Tophouse**	**4.29**	**55**	Pn	**Pn**	**02 29 24.4**	**-0.1**		
KHZ	**Kahutara**	**4.33**	**66**	PN	**Pn**	**02 29 24.1**	**-0.9**		
KHZ	**Kahutara**	**4.33**	**66**	Pn	**Pn**	**02 29 24.1**	**-0.9**		
QRZ	**Quartz Range**	**4.73**	**44**	PN	**Pn**	**02 29 29.9**	**-0.6**		
QRZ				AML	AML	02 30 27.9			
QRZ				AML	AML	02 30 27.9			
QRZ				AML	AML	02 31 02.3			
QRZ				AML	AML	02 31 02.3			
QRZ	**Quartz Range**	**4.73**	**44**	Pn	**Pn**	**02 29 29.9**	**-0.6**		
BSWZ	**Blackbirch Sta**	**4.91**	**60**	*e*PN	**Pn**	**02 29 33.2**	**+0.3**		
BSWZ				AML	AML	02 30 36.7			
BSWZ				AML	AML	02 30 39.0			
BSWZ	**Blackbirch Sta**	**4.91**	**60**	*e*Pn	**Pn**	**02 29 33.2**	**+0.3**		
NNZ	**Nelson**	**4.91**	**53**	PN	**Pn**	**02 29 32.5**	**-0.5**		
NNZ				AML	AML	02 30 32.7			
NNZ				AML	AML	02 30 32.7			
NNZ				AML	AML	02 30 34.9			
NNZ				AML	AML	02 30 34.9			
NNZ	**Nelson**	**4.91**	**53**	Pn	**Pn**	**02 29 32.5**	**-0.5**		
TUWZ	**Tuamarina**	**5.11**	**58**	*e*PN	**Pn**	**02 29 35.6**	**-0.1**		
TUWZ				AML	AML	02 30 39.2			
TUWZ				AML	AML	02 30 39.8			
TUWZ	**Tuamarina**	**5.11**	**58**	*e*Pn	**Pn**	**02 29 35.6**	**-0.1**		
TCW	**Tory Channel**	**5.44**	**57**	PN	**Pn**	**02 29 40.0**	**-0.3**		
TCW				AML	AML	02 30 46.6			
TCW				AML	AML	02 30 51.8			
TCW	**Tory Channel**	**5.44**	**57**	Pn	**Pn**	**02 29 40.0**	**-0.3**		
DUWZ	**D'Urville Isla**	**5.49**	**52**	PN	**Pn**	**02 29 40.9**	**-0.1**		
DUWZ	**D'Urville Isla**	**5.49**	**52**	Pn	**Pn**	**02 29 41.0**	**-0.1**		
SNZO	**South Karori**	**5.65**	**60**	*e*Pn	**Pn**	**02 29 44.7**	**+1.6**		
	344nm,0.9s								
CAW	**Cannon Point**	**5.99**	**60**	*e*PN	**Pn**	**02 29 45.6**	**-2.2**		
CAW				AML	AML	02 30 57.5			
CAW				AML	AML	02 31 08.8			
CAW	**Cannon Point**	**5.99**	**60**	*e*Pn	**Pn**	**02 29 45.6**	**-2.2**		
KIW	**Kapiti Island**	**6.04**	**58**	*e*PN	**Pn**	**02 29 46.5**	**-1.9**		
KIW				AML	AML	02 31 03.5			
KIW				AML	AML	02 31 04.5			
KIW	**Kapiti Island**	**6.04**	**58**	*e*Pn	**Pn**	**02 29 46.5**	**-1.9**		
OGWZ	**Otaki Gorge**	**6.22**	**58**	*e*PN	**Pn**	**02 29 50.4**	**-0.6**		
OGWZ	**Otaki Gorge**	**6.22**	**58**	*e*Pn	**Pn**	**02 29 50.4**	**-0.6**		
NMEZ	**Namu Road**	**6.47**	**43**	*e*PN	**Pn**	**02 29 54.0**	**-0.4**		
NMEZ	**Namu Road**	**6.47**	**43**	*e*Pn	**Pn**	**02 29 54.0**	**-0.4**		
NWEZ	**Newall Road**	**6.58**	**42**	PN	**Pn**	**02 29 55.4**	**-0.5**		
NWEZ	**Newall Road**	**6.58**	**42**	Pn	**Pn**	**02 29 55.4**	**-0.5**		
KHEZ	**Kahui Hut**	**6.63**	**43**	PN	**Pn**	**02 29 56.4**	**-0.3**		
KHEZ	**Kahui Hut**	**6.63**	**43**	Pn	**Pn**	**02 29 56.4**	**-0.3**		
NEZ	**North Egmont**	**6.69**	**43**	PN	**Pn**	**02 29 56.9**	**-0.6**		
NEZ	**North Egmont**	**6.69**	**43**	Pn	**Pn**	**02 29 56.9**	**-0.6**		
PKE	**Pukeiti**	**6.70**	**42**	PN	**Pn**	**02 29 57.1**	**-0.5**		
PKE				AML	AML	02 31 15.7			
PKE				AML	AML	02 31 18.0			
PKE	**Pukeiti**	**6.70**	**42**	Pn	**Pn**	**02 29 57.1**	**-0.5**		
WAZ	**Wanganui**	**6.80**	**50**	PN	**Pn**	**02 29 59.4**	**+0.5**		
WAZ				AML	AML	02 31 28.2			
WAZ				AML	AML	02 31 29.3			
WAZ	**Wanganui**	**6.80**	**50**	Pn	**Pn**	**02 29 59.5**	**+0.5**		
VRZ	**Vera Road**	**7.14**	**46**	PN	**Pn**	**02 30 03.4**	**-0.2**		
VRZ				AML	AML	02 31 41.6			
VRZ				AML	AML	02 32 16.4			
VRZ	**Vera Road**	**7.14**	**46**	Pn	**Pn**	**02 30 03.4**	**-0.2**		
HIZ	**Hauiti**	**7.65**	**43**	PN	**Pn**	**02 30 09.7**	**-1.0**		
HIZ				AML	AML	02 31 46.7			
HIZ				AML	AML	02 31 46.9			
HIZ	**Hauiti**	**7.65**	**43**	Pn	**Pn**	**02 30 09.7**	**-1.0**		

URZ	**Urewera**	**9.03**	**51**	Pn	**Pn**	**02 30 29.3**	**-0.2**		
	1.2nm,0.3s,baz=250,slow=8.5,SNR=5.3								
URZ				Sn	**Sn**	**02 32 03.5**	**-7.9**		
	6.3nm,0.3s,baz=104,slow=17,SNR=10								
URZ				LR	LR	02 34 11.3			
	comp=Z,139nm,20.9s,baz=218,slow=39								
DZM	**Mont Dzumac**	**22.22**	**356**	LR	LR	02 41 58.8			
	comp=Z,78nm,18.3s,baz=260,slow=37								
STKA	**Stephens Creek**	**24.21**	**292**	P	**P**	**02 33 38.2**	**+2.2**		
	1.6nm,0.8s,baz=128,slow=17,SNR=2.0								
VNDA	**Vanda**	**33.42**	**182**	LR	LR	02 46 46.4			
	comp=Z,75nm,18.0s,baz=342,slow=33								
ASAR	**Alice Springs**	**34.74**	**295**	P	**P**	**02 35 10.5**	**+0.9**		
	0.8nm,0.7s,baz=145,slow=8.4,SNR=7.1								
WRA	**Warramunga Arr**	**37.16**	**300**	P	**P**	**02 35 30.9**	**+0.5**		
	1.5nm,0.9s,baz=136,slow=7.9,SNR=19								
WRAB	**Tennant Creek**	**37.16**	**300**	*e*P	**P**	**02 35 29.7**	**-0.7**		
	4.2nm,0.7s								
FITZ	**Fitzroy Crossi**	**44.11**	**292**	P	**P**	**02 36 30.9**	**+3.1**		
	2.5nm,0.6s,baz=120,slow=9.4,SNR=5.0								
SNAA	**Sanae**	**64.16**	**183**	*e*P	**P**	**02 38 54.0**	**+0.6**		
	86nm,0.6s								
SPITS	**Spitsbergen Ar**	**144.25**	**350**	PKP	PKPbc	02 47 53.0	+0.7		
	4.7nm,1.0s,baz=160,slow=4.6,SNR=3.4								
BRTR	**Keskin Array B**	**146.26**	**278**	PKPbc	**PKPab**	**02 48 00.9**	**+0.3**		
	1.5nm,0.7s,baz=140,slow=5.3,SNR=4.9								
ARCES	**ARCESS Array B**	**148.48**	**336**	PKPbc	**PKPbc**	**02 48 06.2**	**+1.3**		
	2.0nm,0.7s,baz=46,slow=2.6,SNR=6.9								
FINES	**FINESS Array B**	**151.97**	**321**	PKPbc	**PKPbc**	**02 48 13.3**	**-0.2**		
	1.4nm,0.6s,baz=76,slow=0.6,SNR=10								

IDC ***12*** *02:32:17.0±1.8,34.87N×29.08E,h0km,mb3.2/2, mb1 3.4/6,mb1mx3.2/48,mbtmp3.2/6,ML3.1/2,Error ellipse: s-maj=30.7km s-min=24.2km az=31.0*
DDA ***12*** *02:32:22.5,34.97N×29.05E,h27km,Ml3.6*
CSEM ***12*** *02:32:22.1±0.2,34.73N×29.06E,h40km,ML3.6,Error ellipse: s-maj=5.7km s-min=3.8km az=80.0*
HLW ***12*** *02:32:24.2,34.49N×29.12E,h32km±21km,Md3.8,Ml2.8*
ISK ***12*** *02:32:24.2,35.05N×29.02E,h59km,MD3.5*

ISC 12 02:32:19.8±1.6,34.72N±0.04×29.08E±0.04,h24km±15km, n111,σ1s70/129,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AKAS	**Kas**	**1.57**	**16**	P	**Pb**	**02 32 47.5**		**-0.8**
AKAS				S	**Sn**	**02 33 05.6**		**-0.4**
AKAS	**Kas**	**1.57**	**16**	*i* P	**Pb**	**02 32 47.5**		**-0.8**
AKAS				*i* S	**Sn**	**02 33 05.6**		**-0.4**
KARP	**Karpathos**	**1.78**	**298**	*e*PN	**Pb**	**02 32 51.3**		**-0.4**
KARP	**Karpathos**	**1.78**	**298**	*e*Pn	**Pb**	**02 32 51.3**		**-0.4**
FETY	**Fethiye**	**1.92**	**0**	*e*PN	**Pn**	**02 32 50.8**		**-0.1**
FETY				*e*SN	**Sn**	**02 33 10.9**		**-3.4**
FETY	**Fethiye**	**1.92**	**0**	*e*Pn	**Pn**	**02 32 50.8**		**-0.1**
FETY				*e*Sn	**Sn**	**02 33 10.9**		**-3.4**
DALY	**Dalyan (Mu¨la**	**2.12**	**351**	*e*PN	**Pn**	**02 32 54.1**		**+0.4**
DALY	**Dalyan (Mu¨la**	**2.12**	**351**	*e*Pn	**Pn**	**02 32 54.1**		**+0.4**
ELL	**Elmali**	**2.14**	**18**	*e*PN	**Pn**	**02 32 54.7**		**+0.7**
ELL	**Elmali**	**2.14**	**18**	*e*Pn	**Pn**	**02 32 54.7**		**+0.7**
TURN	**Turunc**	**2.19**	**350**	*i* P	**Pn**	**02 32 56.0**		**+1.4**
TURN				*i* S	**Sn**	**02 33 18.4**		**-2.5**
NIS1	**Nisyros Isl.**	**2.44**	**321**	*e*PN	**Pn**	**02 32 59.0**		**+0.9**
NIS1	**Nisyros Isl.**	**2.44**	**321**	*e*Pn	**Pn**	**02 32 59.0**		**+0.9**
GLHS	**Glhisar (BURDU**	**2.46**	**8**	*e*PN	**Pn**	**02 32 58.6**		**+0.1**
GLHS	**Glhisar (BURDU**	**2.46**	**8**	*e*Pn	**Pn**	**02 32 58.6**		**+0.1**
YER	**Yerkesik**	**2.50**	**345**	*e*PN	**Pn**	**02 32 58.8**		**-0.1**
YER	**Yerkesik**	**2.50**	**345**	*e*Pn	**Pn**	**02 32 58.8**		**-0.1**
KORT	**Korkueli**	**2.50**	**24**	P	**Pn**	**02 33 01.2**		**+2.1**
KORT				S	**Sn**	**02 33 30.3**		**+1.4**
KORT	**Korkueli**	**2.50**	**24**	*i* P	**Pn**	**02 33 01.2**		**+2.1**
KORT				*i* S	**Sn**	**02 33 30.3**		**+1.4**
ANTB	**Antalya**	**2.53**	**30**	*e*PN	**Pn**	**02 33 00.5**		**+1.2**
ANTB	**Antalya**	**2.53**	**30**	*e*Pn	**Pn**	**02 33 00.5**		**+1.2**
GOLH	**Golhisar**	**2.54**	**9**	P	**Pn**	**02 33 02.1**		**+2.4**
GOLH				S	**Sn**	**02 33 31.2**		**+1.3**
GOLH	**Golhisar**	**2.54**	**9**	*i* P	**Pn**	**02 33 02.1**		**+2.4**
GOLH				*i* S	**Sn**	**02 33 31.2**		**+1.3**
BDRM	**Kayabasi**	**2.69**	**331**	P	**Pn**	**02 33 04.5**		**+2.9**
BDRM	**Kayabasi**	**2.69**	**331**	*i* P	**Pn**	**02 33 04.5**		**+2.9**
BODT	**Bodrum**	**2.75**	**329**	*e*PN	**Pn**	**02 33 03.2**		**+0.9**
BODT	**Bodrum**	**2.75**	**329**	*e*Pn	**Pn**	**02 33 03.2**		**+0.9**
DNZL	**Cakiroluk**	**2.97**	**359**	P	**Pn**	**02 33 07.0**		**+1.5**
DNZL	**Cakiroluk**	**2.97**	**359**	*i* P	**Pn**	**02 33 07.0**		**+1.5**
BCK	**Bucak**	**3.00**	**24**	*e*PN	**Pn**	**02 33 07.4**		**+1.5**
BCK	**Bucak**	**3.00**	**24**	*e*Pn	**Pn**	**02 33 07.4**		**+1.5**
DENT	**Denizli**	**3.03**	**359**	*e*PN	**Pn**	**02 33 06.3**		**0.0**
DENT	**Denizli**	**3.03**	**359**	*e*Pn	**Pn**	**02 33 06.3**		**0.0**
GAZI	**Gazipasa**	**3.04**	**59**	P	**Pn**	**02 33 06.3**		**-0.1**
GAZI				S	**Sn**	**02 33 40.9**		**-1.2**
GAZI	**Gazipasa**	**3.04**	**59**	*i* P	**Pn**	**02 33 06.3**		**-0.1**
GAZI				*i* S	**Sn**	**02 33 40.9**		**-1.2**
AYDN	**Tasoluk**	**3.10**	**342**	P	**Pn**	**02 33 08.8**		**+1.6**
AYDN				S	**Sn**	**02 33 41.9**		**-1.5**
AYDN	**Tasoluk**	**3.10**	**342**	*i* P	**Pn**	**02 33 08.8**		**+1.6**
AYDN				*i* S	**Sn**	**02 33 41.9**		**-1.5**
LEF	**Lefka**	**3.16**	**82**	*e*PN	**Pb**	**02 33 13.2**		**-2.0**
LEF	**Lefka**	**3.16**	**82**	*e*Pn	**Pb**	**02 33 13.2**		**-2.0**
SUTC	**Sutluce-Ispart**	**3.16**	**29**	*e*PN	**Pn**	**02 33 09.6**		**+1.4**
SUTC	**Sutluce-Ispart**	**3.16**	**29**	*e*Pn	**Pn**	**02 33 09.6**		**+1.4**
GCAM	**G?zelcaml?**	**3.33**	**334**	P	**Pn**	**02 33 10.3**		**0.0**
GCAM	**G?zelcaml?**	**3.33**	**334**	*i* P	**Pn**	**02 33 10.3**		**0.0**
AYDB	**Zeytinkoy-Aydi**	**3.36**	**344**	*e*PN	**Pn**	**02 33 11.8**		**+0.9**
AYDB	**Zeytinkoy-Aydi**	**3.36**	**344**	*e*Pn	**Pn**	**02 33 11.8**		**+0.9**
HDMB	**Hadim**	**3.56**	**50**	*e*PN	**Pn**	**02 33 16.7**		**+3.0**
HDMB	**Hadim**	**3.56**	**50**	*e*Pn	**Pn**	**02 33 16.7**		**+3.0**
KHL	**Karahalli**	**3.62**	**6**	*e*PN	**Pn**	**02 33 15.1**		**+0.7**
KHL	**Karahalli**	**3.62**	**6**	*e*Pn	**Pn**	**02 33 15.1**		**+0.7**
APE	**Apeiranthos**	**3.72**	**310**	*e*PN	**Pn**	**02 33 17.6**		**+1.9**
APE	**Apeiranthos**	**3.72**	**310**	*e*Pn	**Pn**	**02 33 17.6**		**+1.9**
DGB	**¨zmir**	**3.77**	**333**	*i* P	**Pn**	**02 33 17.7**		**+1.3**
DGB				*i* S	**Sn**	**02 33 57.7**		**-2.3**
MANT	**Manisa**	**3.79**	**354**	P	**Pn**	**02 33 17.6**		**+0.7**
MANT	**Manisa**	**3.79**	**354**	*i* P	**Pn**	**02 33 17.6**		**+0.7**
MANT				*i* S	**Sn**	**02 33 57.3**		**-3.5**
KULA	**Kula-Manisa**	**3.81**	**355**	*e*PN	**Pn**	**02 33 17.6**		**+0.6**
KULA	**Kula-Manisa**	**3.81**	**355**	*e*Pn	**Pn**	**02 33 17.6**		**+0.6**
IZM	**Izmir**	**3.96**	**339**	*e*PN	**Pn**	**02 33 19.8**		**+0.8**
IZM	**Izmir**	**3.96**	**339**	*e*Pn	**Pn**	**02 33 19.8**		**+0.8**
ZEY	**¨zmir**	**4.08**	**330**	*i* P	**Pn**	**02 33 19.5**		**-1.2**
KONT	**Konya--Tatoy**	**4.17**	**38**	*e*PN	**Pn**	**02 33 24.5**		**+2.6**
KONT	**Konya--Tatoy**	**4.17**	**38**	*e*Pn	**Pn**	**02 33 24.5**		**+2.6**
DEMI	**Demirci**	**4.33**	**356**	P	**Pn**	**02 33 23.5**		**-0.6**
DEMI	**Demirci**	**4.33**	**356**	*i* P	**Pn**	**02 33 23.5**		**-0.6**
LADK	**Ladik-KONYA**	**4.37**	**36**	*e*PN	**Pn**	**02 33 26.7**		**+1.9**
LADK	**Ladik-KONYA**	**4.37**	**36**	*e*Pn	**Pn**	**02 33 26.7**		**+1.9**
CHOS	**Chios island**	**4.40**	**327**	*e*PN	**Pn**	**02 33 26.6**		**+1.5**
CHOS	**Chios island**	**4.40**	**327**	*e*Pn	**Pn**	**02 33 26.6**		**+1.5**
KDHN	**Kadinhani**	**4.51**	**32**	P	**Pn**	**02 33 28.5**		**+1.8**
KDHN	**Kadinhani**	**4.51**	**32**	*i* P	**Pn**	**02 33 28.5**		**+1.8**
SLUM	**Salum**	**4.57**	**226**	P	**Pn**	**02 33 29.5**		**+2.1**
	baz=229							
SLUM				AMP		02 34 00.0		
	comp=E,20μm,0.2s,logA/T=4.9,baz=229							
SLUM				S	**Sn**	**02 34 17.0**		**-2.7**
	baz=229							
SLUM	**Salum**	**4.57**	**226**	P	**Pn**	**02 33 29.5**		**+2.1**
SLUM				S	**Sn**	**02 34 17.0**		**-2.7**
DKL	**Dikili**	**4.68**	**339**	*e*PN	**Pn**	**02 33 30.8**		**+1.9**
DKL	**Dikili**	**4.68**	**339**	*e*Pn	**Pn**	**02 33 30.8**		**+1.9**
KIZT	**Kizilcal**	**4.72**	**28**	*e*PN	**Pn**	**02 33 32.2**		**+2.6**
KIZT	**Kizilcal**	**4.72**	**28**	*e*Pn	**Pn**	**02 33 32.2**		**+2.6**
TVSB	**Tavsanli**	**4.73**	**4**	*e*PN	**Pn**	**02 33 31.1**		**+1.4**
TVSB	**Tavsanli**	**4.73**	**4**	*e*Pn	**Pn**	**02 33 31.1**		**+1.4**
KERG	**Konya-Eregli**	**4.89**	**55**	P	**Pn**	**02 33 33.3**		**+1.4**
KERG	**Konya-Eregli**	**4.89**	**55**	*i* P	**Pn**	**02 33 33.3**		**+1.4**
BALB	**Balikesir**	**5.01**	**349**	*e*PN	**Pn**	**02 33 35.2**		**+1.8**
BALB	**Balikesir**	**5.01**	**349**	*e*Pn	**Pn**	**02 33 35.2**		**+1.8**
GULE	**Gulek**	**5.28**	**59**	P	**Pn**	**02 33 41.4**		**+4.1**
GULE	**Gulek**	**5.28**	**59**	*i* P	**Pn**	**02 33 41.4**		**+4.1**
KOT	**Kottamia**	**5.31**	**153**	AMP		02 34 00.0		
	comp=N,20μm,0.3s,logA/T=4.8,baz=152							
RSH		**5.41**	**133**	P	**Pn**	**02 33 40.2**		**+1.2**
	baz=131							
RSH		**5.41**	**133**	P	**Pn**	**02 33 40.2**		**+1.2**
MMAI	**Mount Meron Ar**	**5.53**	**106**	Sn	**Sn**	**02 34 41.4**		**-2.0**
	comp=N,6.1nm,0.3s,baz=297,slow=11,SNR=4.4							
GLL	**Jalalah**	**5.59**	**156**	P	**Pn**	**02 33 42.4**		**+1.0**
	baz=155							
GLL	**Jalalah**	**5.59**	**156**	P	**Pn**	**02 33 42.4**		**+1.0**
SUZ	**Suez**	**5.81**	**146**	P	**Pn**	**02 33 45.9**		**+1.5**
	baz=144							
SUZ	**Suez**	**5.81**	**146**	P	**Pn**	**02 33 45.9**		**+1.5**
ZAF	**Zafarana**	**6.17**	**151**	P	**Pn**	**02 33 50.3**		**+1.0**
	baz=149							
ZAF	**Zafarana**	**6.17**	**151**	P	**Pn**	**02 33 50.3**		**+1.0**
BRTR	**Keskin Array B**	**6.18**	**35**	Pn	**Pn**	**02 33 51.3**		**+1.7**
	comp=N,0.2nm,0.3s,baz=221,slow=16,SNR=8.0							
BRTR				Sn	**Sn**	**02 34 58.7**		**-0.9**
	comp=N,0.4nm,0.3s,baz=205,slow=26,SNR=12							
SWA2		**6.26**	**210**	P	**Pn**	**02 33 51.9**		**+1.2**
	baz=212							
SWA2				AMP		02 35 00.0		
	comp=N,10μm,0.2s,logA/T=4.7,baz=212							
SWA2		**6.26**	**210**	P	**Pn**	**02 33 51.9**		**+1.2**
HNKL	**Nakhl**	**6.32**	**138**	P	**Pn**	**02 33 52.8**		**+1.3**
	baz=136							
HNKL	**Nakhl**	**6.32**	**138**	P	**Pn**	**02 33 52.8**		**+1.3**
AWBH		**6.38**	**181**	P	**Pn**	**02 33 52.9**		**+0.6**
	baz=182							
AWBH		**6.38**	**181**	P	**Pn**	**02 33 52.9**		**+0.6**
ASF	**Jabal al Asfar**	**7.01**	**109**	Pn	**Pn**	**02 34 02.0**		**+1.0**
	baz=286,slow=18							
ASF				Sn	**Sn**	**02 35 19.8**		**-0.2**
	comp=N,0.2nm,0.3s,baz=293,slow=21,SNR=2.5							
EIL	**Elat**	**7.08**	**134**	Pn	**Pn**	**02 34 03.1**		**+1.3**
	baz=342,slow=13							
EIL				Sn	**Sn**	**02 35 17.2**		**-4.2**
	comp=N,3.7nm,0.3s,baz=74,slow=15,SNR=9.5							
HBST	**Basata**	**7.29**	**137**	P	**Pn**	**02 34 06.5**		**+1.8**
	baz=136							
HBST	**Basata**	**7.29**	**137**	P	**Pn**	**02 34 06.5**		**+1.8**
NUB		**7.39**	**139**	P	**Pn**	**02 34

AB31	**Akbulak array**	**14.62**	**337**	Pn		**Pn**	**02 38 17.1**	**-2.0**
	1.2nm,0.3s,baz=155,slow=12,SNR=77							
AB31				Sn		**Sn**	**02 40 53.1**	**-6.9**
	2.3nm,0.7s,baz=154,slow=22,SNR=5.8							
ABKAR	**Akbulak array**	**14.62**	**337**	*e*Pn		**Pn**	**02 38 16.7**	**-2.3**
	3.1nm,0.4s							
MKAR	**Makanchi Array**	**14.74**	**39**	Pn		**Pn**	**02 38 19.7**	**-1.0**
	0.1nm,0.3s,baz=225,slow=12,SNR=5.3							
KOLN	**Koldanda**	**15.12**	**119**	*e*P		**Pn**	**02 38 26.3**	**+0.1**
	13nm,0.7s							
GKN	**Gorkha**	**15.73**	**116**	*e*P		**Pn**	**02 38 34.6**	**+0.6**
GKN				*e*S		**Sn**	**02 41 19.7**	**-7.8**
KURBB	**Kurchatov Arra**	**16.15**	**23**	Pn		**Pn**	**02 38 36.4**	**-2.7**
	0.0nm,0.3s,baz=214,slow=12,SNR=4.6							
KURK	**Kurchatov**	**16.26**	**23**	*e*Pn		**Pn**	**02 38 42.1**	**+1.6**
AKTO	**Aktyubinsk**	**16.27**	**335**	Pn		**Pn**	**02 38 41.0**	**+0.3**
	0.3nm,0.3s,baz=92,slow=6.3,SNR=5.1							
AKTO				Sn		**Sn**	**02 41 32.1**	**-8.1**
	0.2nm,0.3s,baz=334,slow=22,SNR=3.4							
AKTO				LR		LR	02 46 39.4	
	comp=Z,11nm,18.4s,baz=106,slow=43							
AKTO	**Aktyubinsk**	**16.27**	**335**	⇑Pn		**Pn**	**02 38 40.7**	**+0.1**
	5.1nm,0.9s							
AKTO				⇑Sn		**Sn**	**02 41 32.5**	**-7.7**
	3.5nm,0.9s							
PKIN	**Phulchoki**	**16.53**	**116**	*e*P		**P**	**02 38 46.1**	**-0.6**
	15nm,0.5s							
BVAR	**Borovoye Array**	**16.96**	**4**	P		**Pn**	**02 38 49.1**	**-0.2**
	0.4nm,0.3s,baz=178,slow=13,SNR=5.4							
BVAR				S		Sn	02 41 46.8	-10
	0.2nm,0.3s,baz=176,slow=26,SNR=3.0							
BRVK	**Borovoye**	**16.99**	**3**	*e*Pn		**Pn**	**02 38 51.2**	**+1.6**
GNI	**Garni**	**19.26**	**289**	LR		LR	02 47 51.1	
	comp=Z,14nm,21.3s,baz=312,slow=40							
ZALV	**Zalesovo Beam**	**21.08**	**27**	P		**P**	**02 39 36.6**	**+0.6**
	5.4nm,0.4s,baz=219,slow=11,SNR=34							
ZALV				LR		LR	02 48 51.1	
	comp=Z,33nm,19.8s,baz=48,slow=40							
ARU	**Arti**	**21.46**	**345**	P		**P**	**02 39 43.6**	**+3.5**
	3.4nm,0.5s,baz=155,slow=7.4,SNR=7.6							
ARU	**Arti**	**21.46**	**345**	*e*P		**P**	**02 39 44.1**	**+4.1**
	3.1nm,0.6s							
OBN	**Obninsk**	**29.05**	**321**	LR		LR	02 53 05.1	
	comp=Z,26nm,19.5s,baz=91,slow=37							
SONM	**Songino Array**	**30.09**	**55**	P		**P**	**02 41 02.7**	**+1.5**
	0.7nm,0.6s,baz=276,slow=9.3,SNR=4.6							
SONM				LR		LR	02 55 00.3	
	comp=Z,28nm,21.8s,baz=234,slow=40							
AKASG	**Malin Array Be**	**31.75**	**310**	LR		LR	02 56 07.3	
	comp=Z,23nm,20.9s,baz=35,slow=40							
FINES	**FINESS Array B**	**36.79**	**327**	P		**P**	**02 42 00.8**	**+1.7**
	0.8nm,0.7s,baz=116,slow=4.4,SNR=4.6							
ARCES	**ARCESS Array B**	**40.81**	**338**	P		**P**	**02 42 34.0**	**+1.3**
	1.7nm,0.8s,baz=118,slow=7.6,SNR=3.8							
NOA	**NORSAR Array B**	**43.58**	**323**	P		**P**	**02 42 56.4**	**+0.9**
	0.5nm,0.7s,baz=98,slow=7.9,SNR=3.1							
WLF	**Walferdange**	**46.48**	**307**	*e*P		**P**	**02 43 19.3**	**+0.7**
	2.8nm,0.6s							
TIXI	**Tiksi**	**46.84**	**22**	*e*P		**P**	**02 43 21.7**	**+0.6**
	7.8nm,0.9s							
SPITS	**Spitsbergen Ar**	**47.46**	**347**	P		**P**	**02 43 28.0**	**+2.1**
	2.8nm,0.9s,baz=58,slow=22,SNR=3.6							
ESDC	**Sonseca Array**	**55.99**	**297**	P		**P**	**02 44 32.2**	**+2.0**
	0.5nm,0.6s,baz=61,slow=8.0,SNR=7.4							
YKA	**Yellowknife Ar**	**81.71**	**2**	P		**P**	**02 47 09.9**	**+0.3**
	0.7nm,0.8s,baz=356,slow=4.7,SNR=5.2							
WRA	**Warramunga Arr**	**83.38**	**120**	P		**P**	**02 47 17.9**	**-1.0**
	0.6nm,0.8s,baz=328,slow=4.7,SNR=4.1							
ASAR	**Alice Springs**	**85.57**	**123**	P		**P**	**02 47 29.3**	**-0.7**
	0.3nm,0.8s,baz=313,slow=4.9,SNR=4.3							

*ISCJB **12** 02:35:16.5±1.4,2.4N±0.1×96.2E±0.1,h37km,mb3.7/3, Error ellipse: s-maj=23.2km s-min=13.7km az=150.6*
*DJA **12** 02:35:16.1±4.9,2.1N±6.9×96E±4.7,h14km±19km,M3.6/5, mb4.0/2,MLv3.4/5*
*IDC **12** 02:35:17.4±8.1,3.2N×97.4E,h0km,mb3.7/3,mb1 3.8/3, mb1mx3.3/57,mbtmp3.7/3,Error ellipse: s-maj=394.8km s-min=28.5km az=55.0*

ISC 12 02:35:18.6±1.7,**2.6N**±0.9×**96.3E**±0.2,**h37km,n10,**
σ0§75/7,mb3.9/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.17**	**47**	P	**Pn**	**02 35 37.7**	**-0.8**
GSI	**Gunungsitoli**	**1.70**	**132**	P	**Pn**	**02 35 45.3**	**-0.5**
KCSI	**Kotacane, Aceh**	**1.79**	**54**	P	**Pn**	**02 35 47.5**	**+0.5**
MNSI	**Mandailing Nat**	**3.66**	**117**	P	**Pn**	**02 36 13.4**	**+0.8**
H01W3	**Cape Leeuwin H**	**40.74**	**157**	T	T	03 26 09.9	
	baz=332,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**40.75**	**157**	T	T	03 26 10.1	
	baz=332,slow=76,SNR=14						
H01W1	**Cape Leeuwin H**	**40.75**	**157**	T	T	03 26 10.2	
	baz=332,slow=76,SNR=14						
WRA	**Warramunga Arr**	**43.45**	**123**	P	**P**	**02 43 17.9**	**-0.5**
	0.3nm,0.4s,baz=302,slow=9.1,SNR=3.4						
MKAR	**Makanchi Array**	**45.82**	**347**	P	**P**	**02 43 37.5**	**+0.6**
	1.3nm,0.8s,baz=148,slow=7.1,SNR=8.1						
ZALV	**Zalesovo Beam**	**52.19**	**351**	P	**P**	**02 44 25.6**	**+0.1**
	0.9nm,0.6s,baz=169,slow=8.7,SNR=4.1						

*SOF **12** 02:39:37.8,42.71N×23.06E,h1km,MD2.5*
*CSEM **12** 02:39:38.4±0.4,42.76N×23.14E,h2km,ML2.2, Error ellipse: s-maj=8.4km s-min=6.4km az=70.0*
*BEO **12** 02:39:39.0±0.7,42.72N×23.15E,h7km±2km,M2.2/1*

ISC 12 02:39:38.6±1.2,**42.74N**±0.03×**23.14E**±0.02,**h6km**±10km,
n51,σ1§04/72,4C-2D,Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOF	**Sofiya**	**0.15**	**111**	Pg	**Pg**	**02 39 42.9**	**+1.1**
ZAPS	**Zavoj**	**0.65**	**325**	*e*Pg	**Pb**	**02 39 52.2**	**-0.2**
MPEP	**Malo Peshtene**	**0.76**	**35**	Pg	**Pb**	**02 39 54.2**	**0.0**
PGB	**Panagyurishte**	**0.78**	**104**	Pg	**Pg**	**02 39 53.9**	**+0.3**
KKB	**Krupnik**	**0.87**	**183**	Pg	**Pg**	**02 39 55.1**	**-0.3**
BARS	**Barje**	**0.98**	**275**	*e*Pg	**Pg**	**02 39 57.3**	**0.0**
BARS				*e*Sg	**Sb**	**02 40 10.7**	**-0.4**
BARS	**Barje**	**0.98**	**275**	*e*Pg	**Pg**	**02 39 57.3**	**0.0**
BARS				*e*Sg	**Sb**	**02 40 10.7**	**-0.4**
MMB	**Musomiste**	**1.23**	**159**	P	**Pn**	**02 40 02.4**	**0.0**
BOVS	**Bovan**	**1.38**	**311**	*e*Pg	**Pn**	**02 40 03.3**	**-1.0**
BOVS				*e*Sn	**Sn**	**02 40 23.6**	**+0.7**
BOVS	**Bovan**	**1.38**	**311**	*e*Pg	**Pn**	**02 40 03.3**	**-1.0**
BOVS				*e*Sn	**Sn**	**02 40 23.6**	**+0.7**
BOLS	**Boljevac**	**1.39**	**322**	*e*Pg	**Pn**	**02 40 03.7**	**-0.8**
BOLS				*e*Sg	**Sg**	**02 40 23.0**	**-0.3**
BOLS	**Boljevac**	**1.39**	**322**	*e*Pg	**Pn**	**02 40 03.7**	**-0.8**
BOLS				*e*Sg	**Sg**	**02 40 23.0**	**-0.3**
VAY	**Valandovo**	**1.48**	**197**	*e*Pn	**Pb**	**02 40 06.0**	**-0.4**
VAY	**Valandovo**	**1.48**	**197**	*e*Pn	**Pb**	**02 40 06.0**	**-0.4**
SELS	**Selova**	**1.56**	**289**	*e*Pg	**Pn**	**02 40 06.6**	**-0.2**
SELS				*e*Sg	**Sn**	**02 40 28.1**	**+0.8**
SELS	**Selova**	**1.56**	**289**	*e*Pg	**Pn**	**02 40 06.6**	**-0.2**
SELS				*e*Sg	**Sn**	**02 40 28.1**	**+0.8**
RZN	**Rozhen**	**1.57**	**131**	P	**Pb**	**02 40 07.9**	**-0.3**
SRE	**Strehaia**	**1.92**	**1**	⇑*i*P	**Pg**	**02 40 15.4**	**0.0**
SRE	**Strehaia**	**1.92**	**1**	S	**Sb**	**02 40 39.8**	**+1.5**
KUBS	**Kucevo**	**1.98**	**328**	*e*Pn	**Pn**	**02 40 12.7**	**+0.1**
KUBS				*e*Sn	**Sn**	**02 40 39.1**	**+1.3**
KUBS	**Kucevo**	**1.98**	**328**	*e*Pn	**Pn**	**02 40 12.7**	**+0.1**
KUBS				*e*Sn	**Sn**	**02 40 39.1**	**+1.3**
KDZ	**Kurdzhali**	**2.01**	**122**	P	**Pb**	**02 40 15.0**	**-0.6**
GRUS	**Gruza**	**2.11**	**304**	*e*Pn	**Pn**	**02 40 14.7**	**+0.3**
GRUS				*e*Sn	**Sn**	**02 40 41.0**	**+0.1**
GRUS	**Gruza**	**2.11**	**304**	*e*Pn	**Pn**	**02 40 14.7**	**+0.3**
GRUS				*e*Sn	**Sn**	**02 40 41.0**	**+0.1**
SZH	**Strazhica**	**2.12**	**75**	P	**Pb**	**02 40 16.3**	**-1.0**
HUMR	**Humele**	**2.23**	**36**	⇑*i*P	**Pg**	**02 40 21.3**	**-0.1**
HUMR	**Humele**	**2.23**	**36**	S	**Sg**	**02 40 51.1**	**+0.8**
MDVR	**Moldovita**	**2.29**	**334**	⇓*i*P	**Pn**	**02 40 17.5**	**+0.6**
MDVR	**Moldovita**	**2.29**	**334**	S	**Sn**	**02 40 45.2**	**-0.2**
IVAS	**Ivanjica**	**2.34**	**292**	*e*Pn	**Pn**	**02 40 17.9**	**+0.3**
IVAS				*e*Sn	**Sn**	**02 40 47.6**	**+0.9**
IVAS	**Ivanjica**	**2.34**	**292**	*e*Pn	**Pn**	**02 40 17.9**	**+0.3**
IVAS				*e*Sn	**Sn**	**02 40 47.6**	**+0.9**
SJES	**Sjenica**	**2.38**	**284**	*e*Pn	**Pn**	**02 40 19.4**	**+1.2**
SJES				*e*Sn	**Sn**	**02 40 48.5**	**+0.8**
TRUS	**Trudelj**	**2.48**	**308**	*e*Pn	**Pn**	**02 40 20.5**	**+1.0**
TRUS				*e*Sn	**Sn**	**02 40 51.8**	**+1.7**
TRUS	**Trudelj**	**2.48**	**308**	*e*Pn	**Pn**	**02 40 20.5**	**+1.0**
TRUS				*e*Sn	**Sn**	**02 40 51.8**	**+1.7**
DIVS	**Divibare**	**2.66**	**302**	*e*Pn	**Pn**	**02 40 22.4**	**+0.3**
DIVS				*e*Sn	**Sn**	**02 40 54.7**	**0.0**
DIVS	**Divibare**	**2.66**	**302**	*e*Pn	**Pn**	**02 40 22.4**	**+0.3**
DIVS				*e*Sn	**Sn**	**02 40 54.7**	**0.0**
BBLS	**Lazići**	**2.95**	**294**	*e*Pn	**Pn**	**02 40 27.3**	**+1.3**
BBLS				*e*Sn	**Sn**	**02 41 01.6**	**-0.1**
BBLS	**Lazići**	**2.95**	**294**	*e*Pn	**Pn**	**02 40 27.3**	**+1.3**
BBLS				*e*Sn	**Sn**	**02 41 01.6**	**-0.1**
BZS	**Buzias**	**3.08**	**340**	⇓*i*P	**Pn**	**02 40 27.9**	**+0.2**
BZS	**Buzias**	**3.08**	**340**	S	**Sn**	**02 41 05.0**	**+0.2**
BZS	**Buzias**	**3.08**	**340**	*e*Pn	**Pn**	**02 40 27.9**	**+0.2**
BZS	**Buzias**	**3.08**	**340**	*e*Pn	**Pn**	**02 40 27.9**	**+0.2**
DEV	**Deva**	**3.15**	**357**	S	**Sn**	**02 41 08.8**	**+2.3**
TEKS	**Tekeris**	**3.18**	**306**	*e*Pn	**Pn**	**02 40 28.9**	**-0.3**
TEKS	**Tekeris**	**3.18**	**306**	*e*Pn	**Pn**	**02 40 28.9**	**-0.3**
MLR	**Muntele Rosu**	**3.41**	**35**	⇑*i*P	**Pb**	**02 40 37.0**	**-2.5**
MLR	**Muntele Rosu**	**3.41**	**35**	S	**Sb**	**02 41 19.4**	**-1.9**
MSAB	**Monastry St. A**	**3.67**	**67**	S	**Sb**	**02 41 28.9**	**+0.3**
DRGR		**4.06**	**356**	⇑*i*P	**Pn**	**02 40 43.2**	**+1.9**
DRGR		**4.06**	**356**	S	**Sn**	**02 41 32.0**	**+2.8**
CFR	**Carcaliu**	**4.35**	**54**	S	**Sb**	**02 41 44.4**	**-3.8**

*IDC **12** 02:43:39.9±1.2,34.89N×29.18E,h0km,mb3.7/7, mb1 3.8/16,mb1mx3.7/44,mbtmp3.7/16,ML3.8/9,MS2.9/4, Ms1 2.9/4,ms1mx2.3/39,Error ellipse: s-maj=24.3km s-min=15.0km az=10.0*
*ISCJB **12** 02:43:41.9±0.2,34.68N±0.02×29.04E±0.03,h33km, mb3.5/7,MS2.8/3,Error ellipse: s-maj=3.4km s-min=2.6km az=136.8*
*THE **12** 02:43:42.8,34.74N×29.08E,h7km±28km,Error ellipse: s-maj=28.3km s-min=1.6km az=177.0*
*CSEM **12** 02:43:42.6±0.1,34.71N×29.03E,h20km,ML3.7,Error ellipse: s-maj=3.7km s-min=2.6km az=61.0*
*ISK **12** 02:43:42.6,34.86N×29.03E,h20km,ML3.5*
*DDA **12** 02:43:45.5,35.09N×28.93E,h25km,MI3.7*
*HLW **12** 02:43:45.6,34.52N×29.10E,h45km±27km,Md3.9,MI3.5*
*NIC **12** 02:43:48.8±0.4,34.68N×29.50E,h56km,mb4.1,ML3.7*

ISC 12 02:43:43.0±0.7,**34.72N**±0.04×**29.07E**±0.03,**h35km,n184,**
σ1§58/198,mb3.4/7,MS2.9/3,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.57**	**16**	P	**Pn**	**02 44 09.5**	**+0.9**
AKAS	**Kas**	**1.57**	**16**	*i* P	**Pn**	**02 44 09.5**	**+0.9**
KARP	**Karpathos**	**1.77**	**298**	*e*PN	**Pn**	**02 44 11.6**	**+0.5**
KARP	**Karpathos**	**1.77**	**298**	*e*Pn	**Pn**	**02 44 11.6**	**+0.5**
FETY	**Fethiye**	**1.91**	**0**	*e*PN	**Pn**	**02 44 13.2**	**+0.1**
FETY				*e*SN	**Sn**	**02 44 35.3**	**-0.7**
FETY	**Fethiye**	**1.91**	**0**	P	**Pn**	**02 44 13.4**	**+0.3**
FETY	**Fethiye**	**1.91**	**0**	P	**Pn**	**02 44 13.4**	**+0.3**
FETY				*e*Sn	**Sn**	**02 44 35.3**	**-0.7**
DALY	**Dalyan (Mu¨la**	**2.12**	**351**	*e*PN	**Pn**	**02 44 16.2**	**+0.3**
DALY	**Dalyan (Mu¨la**	**2.12**	**351**	*e*Pn	**Pn**	**02 44 16.2**	**+0.3**
ELL	**Elmali**	**2.14**	**18**	*e*Pn	**Pn**	**02 44 16.2**	**-0.1**
ELL	**Elmali**	**2.14**	**18**	*e*Pn	**Pn**	**02 44 16.2**	**-0.1**
TURN	**Turunc**	**2.18**	**350**	*i* P	**Pn**	**02 44 17.8**	**+1.1**
NIS1	**Nisyros Isl.**	**2.43**	**321**	*e*PN	**Pn**	**02 44 20.9**	**+0.8**
NIS1	**Nisyros Isl.**	**2.43**	**321**	*e*Pn	**Pn**	**02 44 21.0**	**+0.8**
GLHS	**Glhisar (BURDU**	**2.46**	**8**	*e*PN	**Pn**	**02 44 21.3**	**+0.6**
GLHS	**Glhisar (BURDU**	**2.46**	**8**	*e*Pn	**Pn**	**02 44 21.3**	**+0.6**
YER	**Yerkesik**	**2.49**	**345**	*e*PN	**Pn**	**02 44 21.3**	**+0.2**
YER	**Yerkesik**	**2.49**	**345**	P	**Pn**	**02 44 22.3**	**+1.2**
YER	**Yerkesik**	**2.49**	**345**	*e*Pn	**Pn**	**02 44 21.3**	**+0.2**
YER	**Yerkesik**	**2.49**	**345**	P	**Pn**	**02 44 22.3**	**+1.2**
KORT	**Korkueli**	**2.50**	**24**	P	**Pn**	**02 44 23.0**	**+1.7**
KORT	**Korkueli**	**2.50**	**24**	*i* P	**Pn**	**02 44 23.0**	**+1.7**
ANTB	**Antalya**	**2.53**	**30**	*e*PN	**Pn**	**02 44 22.3**	**+0.8**
ANTB	**Antalya**	**2.53**	**30**	*e*Pn	**Pn**	**02 44 22.3**	**+0.8**
GOLH	**Golhisar**	**2.54**	**9**	P	**Pn**	**02 44 23.9**	**+2.0**
GOLH	**Golhisar**	**2.54**	**9**	*i* P	**Pn**	**02 44 23.9**	**+2.0**
BDRM	**Kayabasi**	**2.69**	**331**	P	**Pn**	**02 44 24.3**	**+0.6**
BDRM	**Kayabasi**	**2.69**	**331**	*i* P	**Pn**	**02 44 24.3**	**+0.6**
AKMC	**Akamas**	**2.70**	**83**	P	**Pn**	**02 44 25.2**	**+1.2**
	baz=262						
AKMC	**Akamas**	**2.70**	**83**	P	**Pn**	**02 44 25.2**	**+1.2**
PPCY	**Paphos**	**2.70**	**86**	P	**Pn**	**02 44 25.0**	**+1.1**
	baz=265						
PPCY	**Paphos**	**2.70**	**86**	P	**Pn**	**02 44 25.0**	**+1.1**
BODT	**Bodrum**	**2.74**	**329**	*e*PN	**Pn**	**02 44 24.9**	**+0.5**
BODT	**Bodrum**	**2.74**	**329**	P	**Pn**	**02 44 24.8**	**+0.4**
BODT	**Bodrum**	**2.74**	**329**	*e*Pn	**Pn**	**02 44 24.9**	**+0.5**
ALFC	**Alefka**	**2.94**	**80**	P	**Pn**	**02 44 29.6**	**+2.4**
	baz=260						
ALFC				S	**Sn**	**02 44 59.4**	**-1.8**
ALFC	**Alefka**	**2.94**	**80**	P	**Pn**	**02 44 29.6**	**+2.4**
ALFC				S	**Sn**	**02 44 59.4**	**-1.8**
DNZL	**Cakiroluk**	**2.96**	**360**	P	**Pn**	**02 44 28.7**	**+1.0**
DNZL	**Cakiroluk**	**2.96**	**360**	*i* P	**Pn**	**02 44 28.7**	**+1.0**
BCK	**Bucak**	**3.00**	**24**	*e*PN	**Pn**	**02 44 28.9**	**+0.8**
BCK	**Bucak**	**3.00**	**24**	*e*Pn	**Pn**	**02 44 28.9**	**+0.8**
DENT	**Denizli**	**3.03**	**360**	*e*PN	**Pn**	**02 44 29.8**	**+1.3**
DENT	**Denizli**	**3.03**	**360**	*e*Pn	**Pn**	**02 44 29.8**	**+1.3**
GAZI	**Gazipasa**	**3.05**	**59**	P	**Pn**	**02 44 29.8**	**+1.0**
GAZI	**Gazipasa**	**3.05**	**59**	*i* P	**Pn**	**02 44 29.8**	**+1.0**
AYDN	**Tasoluk**	**3.09**	**342**	P	**Pn**	**02 44 30.9**	**+1.6**
AYDN	**Tasoluk**	**3.09**	**342**	*i* P	**Pn**	**02 44 30.9**	**+1.6**
SZAC	**Souni**	**3.14**	**88**	P	**Pn**	**02 44 31.4**	**+1.4**
	baz=269						
SZAC				S	**Sn**	**02 45 05.2**	**-1.2**
SZAC	**Souni**	**3.14**	**88**	P	**Pn**	**02 44 31.4**	**+1.4**
SZAC				S	**Sn**	**02 45 05.2**	**-1.2**
SUTC	**Sutluce-Ispart**	**3.17**	**29**	*e*PN	**Pn**	**02 44 31.0**	**+0.5**
SUTC	**Sutluce-Ispart**	**3.17**	**29**	*e*Pn	**Pn**	**02 44 31.0**	**+0.5**
LEF	**Lefka**	**3.17**	**82**	*e*PN	**Pn**	**02 44 32.5**	**+2.2**
LEF	**Lefka**	**3.17**	**82**	*e*Pn	**Pn**	**02 44 32.5**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**3.36**	**344**	*e*PN	**Pn**	**02 44 33.7**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**3.36**	**344**	*e*Pn	**Pn**	**02 44 33.7**	**+0.6**
THR6	**Thira Island,**	**3.41**	**300**	P	**Pn**	**02 44 34.2**	**+0.6**
THR6	**Thira Island,**	**3.41**	**300**	P	**Pn**	**02 44 34.2**	**+0.6**
THR2	**Thira island,**	**3.42**	**301**	P	**Pn**	**02 44 34.8**	**+0.9**
THR2	**Thira island,**	**3.42**	**301**	P	**Pn**	**02 44 34.8**	**+0.9**
THR3	**Thira Island,**	**3.43**	**300**	P	**Pn**	**02 44 35.1**	**+1.2**
THR3	**Thira Island,**	**3.43**	**300**	P	**Pn**	**02 44 35.1**	**+1.2**
MAMC	**Mammari**	**3.44**	**81**	P	**Pn**	**02 44 35.9**	**+1.8**
	baz=261						
MAMC	**Mammari**	**3.44**	**81**	P	**Pn**	**02 44 35.9**	**+1.8**
CMBO	**Columbo, Santo**	**3.46**	**301**	P	**Pn**	**02 44 35.3**	**+1.0**
CMBO	**Columbo, Santo**	**3.46**	**301**	P	**Pn**	**02 44 35.3**	**+1.0**
IDI	**Anoyia**	**3.47**	**281**	Pn	**Pn**	**02 44 37.3**	**+2.7**
	4.1nm,0.3s,baz=18,slow=8.2,SNR=45						
IDI				Sn	**Sn**	**02 45 14.4**	**-0.1**
	11nm,0.3s,baz=333,slow=23,SNR=16						
CSS	**Mathiatis**	**3.52**	**85**	P	**Pn**	**02 44 36.6**	**+1.4**
	baz=265						
CSS				S	**Sn**	**02 45 14.4**	**-1.1**
CSS	**Mathiatis**	**3.52**	**85**	P	**Pn**	**02 44 35.9**	**+0.7**
CSS	**Mathiatis**	**3.52**	**85**	P	**Pn**	**02 44 35.9**	**+0.7**
CSS				S	**Sn**	**02 45 14.4**	**-1.1**
HDMB	**Hadim**	**3.57**	**50**	*e*PN	**Pn**	**02 44 37.6**	**+1.5**
HDMB	**Hadim**	**3.57**	**50**	*e*Pn	**Pn**	**02 44 37.6**	**+1.5**
KHL	**Karahalli**	**3.62**	**6**	*e*PN	**Pn**	**02 44 37.1**	**+0.5**
KHL	**Karahalli**	**3.62**	**6**	*e*Pn	**Pn**	**02 44 37.1**	**+0.5**
ERMK	**Ermenek**	**3.67**	**57**	P	**Pn**	**02 44 39.8**	**+2.3**
ERMK	**Ermenek**	**3.67**	**57**	*i* P	**Pn**	**02 44 39.8**	**+2.3**
APE	**Apeiranthos**	**3.71**	**310**	*e*PN	**Pn**	**02 44 39.1**	**+1.3**
APE	**Apeiranthos**	**3.71**	**310**	*e*Pn	**Pn**	**02 44 39.1**	**+1.3**
LFK	**Lefkose**	**3.71**	**80**	*e*PN	**Pn**	**02 44 40.6**	**+2.8**
LFK	**Lefkose**	**3.71**	**80**	*e*Pn	**Pn**	**02 44 40.6**	**+2.8**
DGB	**¨zmir**	**3.76**	**333**	*i* P	**Pn**	**02 44 39.6**	**+1.1**
MANT	**Manisa**	**3.79**	**354**	P	**Pn**	**02 44 39.3**	**+0.2**
MANT	**Manisa**	**3.79**	**354**	P	**Pn**	**02 44 39.3**	**+0.2**
KULA	**Kula-Manisa**	**3.80**	**355**	*e*PN	**Pn**	**02 44 39.6**	**+0.5**
KULA	**Kula-Manisa**	**3.80**	**355**	P	**Pn**	**02 44 39.3**	**+0.2**
KULA	**Kula-Manisa**	**3.80**	**355**	P	**Pn**	**02 44 39.3**	**+0.2**
KULA	**Kula-Manisa**	**3.80**	**355**	*e*Pn	**Pn**	**02 44 39.6**	**+0.5**
IZM	**Izmir**	**3.95**	**339**	*e*PN	**Pn**	**02 44 41.4**	**+0.3**
IZM	**Izmir**	**3.95**	**339**	*e*Pn	**Pn**	**02 44 41.4**	**+0.3**
KONT	**Konya--Tatoy**	**4.18**	**39**	*e*PN	**Pn**	**02 44 46.5**	**+2.2**
KONT	**Konya--Tatoy**	**4.18**	**39**	*e*Pn	**Pn**	**02 44 46.5**	**+2.2**
BOLV	**Bolvadin**	**4.27**	**20**	P	**Pn**	**02 44 48.0**	**+2.4**
BOLV	**Bolvadin**	**4.27**	**20**	*i* P	**Pn**	**02 44 48.0**	**+2.4**
DEMI	**Demirci**	**4.33**	**356**	P	**Pn**	**02 44 46.5**	**+0.2**
DEMI	**Demirci**	**4.33**	**356**	*i* P	**Pn**	**02 44 46.5**	**+0.2**
GDZ	**Gediz**	**4.37**	**4**	P	**Pn**	**02 44 47.3**	**+0.3**
GDZ	**Gediz**	**4.37**	**4**	*i* P	**Pn**	**02 44 47.3**	**+0.3**
LADK	**Ladik-KONYA**	**4.38**	**36**	*e*PN	**Pn**	**02 44 49.0**	**+2.0**
LADK	**Ladik-KONYA**	**4.38**	**36**	*e*Pn	**Pn**	**02 44 49.0**	**+2.0**
CHOS	**Chios island**	**4.39**	**327**	*e*PN	**Pn**	**02 44 48.1**	**+0.9**
CHOS	**Chios island**	**4.39**	**327**	*e*Pn	**Pn**	**02 44 48.1**	**+0.9**
KDHN	**Kadinhani**	**4.52**	**32**	P	**Pn**	**02 44 50.3**	**+1.3**
KDHN	**Kadinhani**	**4.52**	**32**	*i* P	**Pn**	**02 44 50.3**	**+1.3**
SLUM	**Salum**	**4.56**	**226**	P	**Pn**	**02 44 50.9**	**+1.4**
	baz=229						
SLUM				S	**Sn**	**02 45 38.5**	**-2.8**
	baz=229						
SLUM	**Salum**	**4.56**	**226**	P	**Pn**	**02 44 50.9**	**+1.4**
SLUM				S	**Sn**	**02 45 38.5**	**-2.8**
DKL	**Dikili**	**4.68**	**339**	*e*PN	**Pn**	**02 44 52.8**	**+1.8**
DKL	**Dikili**	**4.68**	**339**	*e*Pn	**Pn**	**02 44 52.8**	**+1.8**
KIZT	**Kizilcal**	**4.73**	**28**	*e*PN	**Pn**	**02 44 53.8**	**+1.9**
KIZT	**Kizilcal**	**4.73**	**28**	*e*Pn	**Pn**	**02 44 53.8**	**+1.9**
TVSB	**Tavsanli**	**4.73**	**4**	*e*PN	**Pn**	**02 44 51.7**	**-0.3**
TVSB	**Tavsanli**	**4.73**	**4**	*e*Pn	**Pn**	**02 44 51.7**	**-0.3**
MERS	**Mersin**	**4.93**	**63**	*e*PN	**Pn**	**02 44 57.9**	**+3.3**
MERS	**Mersin**	**4.93**	**63**	*e*Pn	**Pn**	**02 44 57.9**	**+3.3**
CHBY	**Cihanbeyli**	**4.93**	**37**	*e*PN	**Pn**	**02 44 57.5**	**+2.8**
CHBY	**Cihanbeyli**	**4.93**	**37**	*e*Pn	**Pn**	**02 44 57.5**	**+2.8**
BALB	**Balikesir**	**5.00**	**349**	*e*PN	**Pn**	**02 44 57.4**	**+1.9**
BALB	**Balikesir**	**5.00**	**349**	*e*Pn	**Pn**	**02 44 57.4**	**+1.9**
SVRH	**Sivrihisar-ESK**	**5.11**	**22**	*e*PN	**Pn**	**02 44 59.2**	**+2.0**
SVRH	**Sivrihisar-ESK**	**5.11**	**22**	*e*Pn	**Pn**	**02 44 59.2**	**+2.0**
SIGR	**SIGRI**	**5.17**	**331**	*e*PN	**Pn**	**02 44 58.5**	**+0.7**
SIGR	**SIGRI**	**5.17**	**331**	*e*Pn	**Pn**	**02 44 58.5**	**+0.7**

SC2M	**Scurtabo**	**0.12**	**107**	Pg	**Pg**	02 50 26.6	-0.7
SC2M				Sg	**Sg**	02 50 29.4	-0.5
	25µm,0.3s						
SC2M	**Scurtabo**	**0.12**	**107**	P	**Pg**	02 50 26.6	-0.7
SC2M				S	**Sg**	02 50 29.3	-0.6
MSSA	**Maissana**	**0.16**	**140**⇑	*i*Pg	**Pg**	02 50 27.9	+0.1
MSSA				Sg	**Sg**	02 50 31.8	+1.0
	8µm,0.4s						
MSSA	**Maissana**	**0.16**	**140**⇑	*i*Pg	**Pg**	02 50 27.9	+0.1
MSSA				Sg	**Sg**	02 50 31.8	+1.0
	8µm,0.4s						
BOB	**Bobbio (Coli)**	**0.33**	**9**⇑	*i*Pg	**Pg**	02 50 27.9	-2.6
BOB				Sg	**Sg**	02 50 31.6	-3.7
	8µm,0.5s						
CODM	**Codolo**	**0.35**	**98**	P	**Pg**	02 50 29.5	-1.2
CODM				S	**Sg**	02 50 34.5	-1.2
GRAM	**Graiana**	**0.50**	**84**	P	**Pg**	02 50 31.7	-1.8
GRAM				S	**Sg**	02 50 38.0	-2.2
PCP	**Piancastagn**	**0.60**	**280**	Pg	**Pb**	02 50 35.1	-0.4
PCP				Sg	**Sb**	02 50 44.0	+0.3
	779nm,0.3s						
PCP	**Piancastagn**	**0.60**	**280**	P	**Pb**	02 50 35.1	-0.4
PCP				S	**Sb**	02 50 43.5	-0.2
PCP				Sg	**Sb**	02 50 44.0	+0.3
	779nm,0.3s						
QLNO	**Quiliano**	**0.74**	**261**	Pg	**Pb**	02 50 38.3	+0.4
	496nm,0.3s						
QLNO	**Quiliano**	**0.74**	**261**	Pg	**Pb**	02 50 38.3	+0.4
	496nm,0.3s						
ERBM	**Eremo**	**0.75**	**91**	Pg	**Pg**	02 50 37.1	-0.9
ERBM				Sg	**Sg**	02 50 47.1	-0.8
	890nm,1.0s						
ERBM	**Eremo**	**0.75**	**91**	Pg	**Pg**	02 50 37.1	-0.9
ERBM				Sg	**Sg**	02 50 47.1	-0.8
	890nm,1.0s						
PRMA	**PARMA**	**0.75**	**64**	Pg	**Pg**	02 50 37.2	-0.8
	3µm,0.5s						
PRMA	**PARMA**	**0.75**	**64**	Pg	**Pg**	02 50 37.2	-0.8
	3µm,0.5s						
VLC	**Villacollemand**	**0.78**	**111**	Pg	**Pb**	02 50 37.9	-0.6
	311nm,0.7s						
VLC	**Villacollemand**	**0.78**	**111**	Pg	**Pb**	02 50 37.9	-0.6
	311nm,0.7s						
SARO	**Sassoroso**	**0.78**	**109**	P	**Pg**	02 50 37.7	-1.0
FINB	**Finale Ligure**	**0.80**	**251**	Pg	**Pn**	02 50 39.6	-0.2
	3µm,0.3s						
FINB	**Finale Ligure**	**0.80**	**251**	Pg	**Pn**	02 50 39.6	-0.2
	3µm,0.3s						
ROTM	**Rocchetta Tana**	**0.83**	**300**	Pg	**Pb**	02 50 39.8	+0.4
	2µm,0.5s						
ROTM	**Rocchetta Tana**	**0.83**	**300**	Pg	**Pb**	02 50 39.8	+0.4
	2µm,0.5s						
ROTM	**Rocchetta Tana**	**0.83**	**300**	P	**Pb**	02 50 40.5	+1.1
CTL8	**Castelleone**	**0.88**	**18**	Pg	**Pg**	02 50 39.7	-0.9
	967nm,0.6s						
CTL8	**Castelleone**	**0.88**	**18**	Pg	**Pg**	02 50 39.7	-0.9
	967nm,0.6s						
BDI	**Bagni Di Lucca**	**0.96**	**113**	Pg	**Pg**	02 50 40.7	-1.3
BDI				Sg	**Sb**	02 50 55.0	+1.1
	477nm,0.5s						
BDI	**Bagni Di Lucca**	**0.96**	**113**	Pg	**Pg**	02 50 40.7	-1.3
BDI				Sg	**Sb**	02 50 55.0	+1.1
	477nm,0.5s						
MAIM	**Mastiano**	**0.96**	**123**	Pg	**Pb**	02 50 41.3	-0.3
MAIM				Sg	**Sb**	02 50 54.8	+0.8
	497nm,0.6s						
MAIM	**Mastiano**	**0.96**	**123**	Pg	**Pb**	02 50 41.3	-0.3
MAIM				S	**Sb**	02 50 54.2	+0.2
MAIM				Sg	**Sb**	02 50 54.8	+0.8
	497nm,0.6s						
RORO	**Rocca Rossa**	**0.99**	**251**	Pg	**Pb**	02 50 42.1	0.0
RORO				Sg	**Sn**	02 50 56.9	+0.8
	67µm,0.2s						
RORO	**Rocca Rossa**	**0.99**	**251**	Pg	**Pb**	02 50 42.1	0.0
RORO	**Rocca Rossa**	**0.99**	**251**	P	**Pn**	02 50 42.5	0.0
RORO				S	**Sn**	02 50 56.2	+0.1
RORO				Sg	**Sn**	02 50 56.9	+0.8
	67µm,0.2s						
NOVE	**Novellara**	**1.02**	**69**	Pg	**Pb**	02 50 43.3	+0.7
	1µm,0.3s						
NOVE	**Novellara**	**1.02**	**69**	Pg	**Pb**	02 50 43.3	+0.7
	1µm,0.3s						
POPM	**Popiglio**	**1.07**	**111**	P	**Pb**	02 50 43.2	-0.3
POPM				S	**Sb**	02 50 57.4	+0.3
GROG	**Isola di Gorgo**	**1.08**	**159**	Pg	**Pn**	02 50 43.8	+0.1
	409nm,0.3s						
GROG	**Isola di Gorgo**	**1.08**	**159**	Pg	**Pn**	02 50 43.8	+0.1
	409nm,0.3s						
IMI	**Imperia**	**1.19**	**244**	Pg	**Pn**	02 50 45.4	+0.2
IMI				Sg	**Sn**	02 51 02.2	+1.2
	343nm,0.5s						
IMI	**Imperia**	**1.19**	**244**	P	**Pn**	02 50 45.5	+0.2
IMI				Sg	**Sn**	02 51 02.2	+1.2
	343nm,0.5s						
SBPO	**S.Benedetto Po**	**1.26**	**60**	Pg	**Pg**	02 50 47.6	-0.2
SBPO	**S.Benedetto Po**	**1.26**	**60**	Pg	**Pg**	02 50 47.6	-0.2
FNVD	**Fontana Vidola**	**1.29**	**102**	Pg	**Pb**	02 50 47.6	+0.4
	457nm,0.8s						
FNVD	**Fontana Vidola**	**1.29**	**102**	Pg	**Pb**	02 50 47.6	+0.4
	457nm,0.8s						
PTF	**Prato**	**1.31**	**111**	*e*Pg	**Pb**	02 50 47.4	-0.2
PTF	**Prato**	**1.31**	**111**	Pg	**Pg**	02 50 47.6	-1.1
	190µm,0.6s						
PTF	**Prato**	**1.31**	**111**	*e*Pg	**Pb**	02 50 47.4	-0.2
CRMI	**Carmignano**	**1.32**	**119**	Pg	**Pn**	02 50 47.2	+0.1
	85nm,0.5s						
CRMI	**Carmignano**	**1.32**	**119**	Pg	**Pn**	02 50 47.2	+0.1
	85nm,0.5s						
NEGI	**Seborga**	**1.34**	**244**	Pg	**Pg**	02 50 47.7	-1.5
	232nm,0.4s						
NEGI	**Seborga**	**1.34**	**244**	P	**Pg**	02 50 47.9	-1.3
ENR	**Entracque**	**1.42**	**262**	Pg	**Pn**	02 50 48.8	+0.4
ENR				Sg	**Sn**	02 51 08.4	+1.7
	225nm,0.5s						
ENR	**Entracque**	**1.42**	**262**	P	**Pn**	02 50 48.9	+0.5
ENR				Sg	**Sn**	02 51 08.4	+1.7
	225nm,0.5s						
SALO	**Salr**	**1.43**	**34**	Pg	**Pn**	02 50 48.9	+0.3
	796nm,0.7s						
SALO	**Salr**	**1.43**	**34**	Pg	**Pn**	02 50 48.9	+0.3
	796nm,0.7s						
SEI	**Scarperia**	**1.48**	**104**	Pg	**Pg**	02 50 51.2	-0.7
	200µm,0.4s						
SEI	**Scarperia**	**1.48**	**104**	Pg	**Pg**	02 50 51.2	-0.7
	200µm,0.4s						
STV	**Sant Anna di V**	**1.48**	**263**	Pg	**Pn**	02 50 49.7	+0.4
	103nm,0.4s						
STV	**Sant Anna di V**	**1.48**	**263**	P	**Pn**	02 50 49.7	+0.4
MUGIO	**Muggio**	**1.50**	**351**	Pg	**Pn**	02 50 49.5	-0.1
	367nm,0.7s						
MUGIO	**Muggio**	**1.50**	**351**	Pg	**Pn**	02 50 49.5	-0.1
	367nm,0.7s						
SBF	**Sospel**	**1.51**	**248**	*e*Pn	**Pb**	02 50 50.2	-0.7
	SNR=1.0						
SBF				*e*Sn	**Sg**	02 51 11.3	-0.8
	300nm,0.3s,SNR=1.0						
SBF	**Sospel**	**1.51**	**248**	*e*Pn	**Pb**	02 50 50.2	-0.7
	SNR=1.0						
SBF				*e*Sn	**Sg**	02 51 11.3	-0.8
	150nm,0.3s,SNR=1.0						
SASS	**Sassa**	**1.52**	**141**	Pg	**Pn**	02 50 50.1	+0.4
	89nm,0.4s						
SASS	**Sassa**	**1.52**	**141**	Pg	**Pn**	02 50 50.1	+0.4
	89nm,0.4s						
DOI	**San Damiano**	**1.52**	**273**	Pg	**Pn**	02 50 50.6	+0.7
	664nm,0.6s						
DOI	**San Damiano**	**1.52**	**273**	Pg	**Pn**	02 50 50.6	+0.7
	664nm,0.6s						
LUCF	**Luceram**	**1.56**	**250**	P	**Pg**	02 50 52.2	-1.2
LUCF				S	**Sg**	02 51 13.0	-0.7
LUCF	**Luceram**	**1.56**	**250**	P	**Pg**	02 50 52.2	-1.2
LUCF				S	**Sg**	02 51 13.0	-0.7
TRAV	**Traversella**	**1.57**	**314**	Pg	**Pn**	02 50 51.4	+0.8
	358nm,0.3s						
TRAV	**Traversella**	**1.57**	**314**	Pg	**Pn**	02 50 51.4	+0.8
	358nm,0.3s						
MAGA	**Magasa**	**1.60**	**33**	Pg	**Pn**	02 50 50.5	-0.6
	2µm,0.4s						
MAGA	**Magasa**	**1.60**	**33**	Pg	**Pn**	02 50 50.5	-0.6
	2µm,0.4s						
REVF	**Revere**	**1.60**	**245**	P	**Pg**	02 50 53.5	-0.8
REVF				S	**Sg**	02 51 15.3	+0.1
REVF	**Revere**	**1.60**	**245**	P	**Pg**	02 50 53.5	-0.8
REVF				S	**Sg**	02 51 15.3	+0.1
BALD	**Monte Baldo**	**1.61**	**39**⇑	*e*Pg	**Pn**	02 50 51.0	-0.2
BALD				*e*Sg	**Sn**	02 51 12.3	+0.6
BALD	**Monte Baldo**	**1.61**	**39**	*e*Pg	**Pn**	02 50 51.0	-0.2
BALD				*e*Sg	**Sn**	02 51 12.3	+0.6
RSP	**Reno Superiore**	**1.66**	**296**	Pg	**Pn**	02 50 52.8	+1.0
	162nm,0.5s						
RSP	**Reno Superiore**	**1.66**	**296**	P	**Pn**	02 50 52.4	+0.6
RSP	**Reno Superiore**	**1.66**	**296**	Pg	**Pn**	02 50 52.8	+1.0
	162nm,0.5s						
MVIF	**Mont Vial**	**1.69**	**252**	P	**Pg**	02 50 54.6	-1.3
MVIF				S	**Sg**	02 51 16.5	-1.3
MVIF	**Mont Vial**	**1.69**	**252**	P	**Pg**	02 50 54.6	-1.3
MVIF				S	**Sg**	02 51 16.5	-1.3
ROVR	**Rover˜¤ Verone**	**1.71**	**44**	Pg	**Pn**	02 50 52.1	-0.3
	600nm,0.4s						
ROVR	**Rover˜¤ Verone**	**1.71**	**44**	Pg	**Pn**	02 50 52.1	-0.3
	600nm,0.4s						
MARN	**Marana (Italy)**	**1.77**	**47**	*e*Pg	**Pn**	02 50 52.9	-0.3
MARN				*e*Sg	**Sn**	02 51 17.1	+1.7
MARN	**Marana (Italy)**	**1.77**	**47**	*e*Pg	**Pn**	02 50 52.9	-0.3
MARN				*e*Sg	**Sn**	02 51 17.1	+1.7
OG22	**Abries**	**1.77**	**283**	P	**Pb**	02 50 55.2	-0.4
OG22				S	**Sb**	02 51 18.5	+0.9
OG22	**Abries**	**1.77**	**283**	P	**Pb**	02 50 55.2	-0.4
OG22				S	**Sb**	02 51 18.5	+0.9
RNI	**Roncone**	**1.78**	**29**	*e*Pg	**Pn**	02 50 53.4	-0.1
RNI	**Roncone**	**1.78**	**29**	*e*Pg	**Pn**	02 50 53.4	-0.1
SATI	**Passo dei Sala**	**1.79**	**324**	Pg	**Pn**	02 50 54.2	+0.4
	113nm,0.6s						
SATI	**Passo dei Sala**	**1.79**	**324**	Pg	**Pn**	02 50 54.2	+0.4
	113nm,0.6s						
SATI	**Passo dei Sala**	**1.79**	**324**	P	**Pn**	02 50 54.7	+0.9
MABI	**Malga Bissina**	**1.81**	**26**	Pg	**Pn**	02 50 53.6	-0.3
	225nm,0.6s						
MABI	**Malga Bissina**	**1.81**	**26**	Pg	**Pn**	02 50 53.6	-0.3
	225nm,0.6s						
ASQU	**Asqua**	**1.86**	**109**	Pg	**Pb**	02 50 56.0	-0.9
	90nm,0.5s						
ASQU	**Asqua**	**1.86**	**109**	Pg	**Pb**	02 50 56.0	-0.9
	90nm,0.5s						
TEOL	**Teolo**	**1.88**	**60**	*e*Pg	**Pn**	02 50 54.8	+0.2
TEOL	**Teolo**	**1.88**	**60**	*e*Pg	**Pn**	02 50 54.8	+0.2
MBDF	**Montbardon**	**1.88**	**280**	*e*Pn	**Pn**	02 50 55.8	+0.9
	SNR=1.0						
MBDF				*e*Sn	**Sn**	02 51 19.8	+1.6
	158nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**1.88**	**280**	*e*Pn	**Pn**	02 50 55.8	+0.9
	SNR=1.0						
MBDF				*e*Sn	**Sn**	02 51 19.8	+1.6
	79nm,0.4s,SNR=1.0						
LSD	**Lago del Serru**	**1.89**	**303**	Pg	**Pn**	02 50 55.9	+0.8
	74nm,0.3s						
MMK	**Mattmark**	**1.89**	**329**	Pg	**Pn**	02 50 55.0	-0.1
	103nm,0.5s						
MMK	**Mattmark**	**1.89**	**329**	Pg	**Pn**	02 50 55.0	-0.1
	103nm,0.5s						
RRL	**Rocca Remolon**	**1.90**	**286**	Pg	**Pb**	02 50 57.1	-0.7
RRL	**Rocca Remolon**	**1.90**	**286**	P	**Pb**	02 50 57.3	-0.5
PGF	**Pioggiola**	**1.91**	**188**	*e*Pn	**Pn**	02 50 54.9	-0.3
	SNR=1.0						
PGF				*e*Sn	**Sb**	02 51 20.2	-1.2
	42nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	**1.91**	**188**	*e*Pn	**Pn**	02 50 54.9	-0.3
	SNR=1.0						
PGF				*e*Sn	**Sb**	02 51 20.2	-1.2
	21nm,0.3s,SNR=1.0						
CALN	**Calern**	**1.92**	**250**	P	**Pg**	02 50 58.3	-1.9
CALN				S	**Sg**	02 51 22.8	-2.3
CALN	**Calern**	**1.92**	**250**	P	**Pg**	02 50 58.3	-1.9
CALN				S	**Sg**	02 51 22.8	-2.3
DDS	**Dosso del Somm**	**1.93**	**41**	*e*Pn	**Pn**	02 50 55.3	-0.3
DDS	**Dosso del Somm**	**1.93**	**41**	*e*Pn	**Pn**	02 50 55.3	-0.3
BERNI	**Berninapass**	**2.03**	**13**	Pg	**Pn**	02 50 57.3	+0.3
	104nm,0.5s						
BERNI	**Berninapass**	**2.03**	**13**	Pg	**Pn**	02 50 57.3	+0.3
	104nm,0.5s						
TUE	**Stuetta**	**2.03**	**360**	Pg	**Pn**	02 50 57.6	+0.6
	111nm,0.5s						
TUE	**Stuetta**	**2.03**	**360**	Pg	**Pn**	02 50 57.6	+0.6
	111nm,0.5s						
FUSIO	**Fusio**	**2.08**	**346**	Pg	**Pn**	02 50 57.3	-0.3
	86nm,0.5s						
FUSIO	**Fusio**	**2.08**	**346**	Pg	**Pn**	02 50 57.3	-0.3
	86nm,0.5s						
MRGE	**Morge**	**2.11**	**310**	Pg	**Pn**	02 50 59.3	+1.3
	135nm,0.6s						
MRGE	**Morge**	**2.11**	**310**	Pg	**Pn**	02 50 59.3	+1.3
	135nm,0.6s						
PANI	**Monarotta**	**2.12**	**40**	*e*Pn	**Pn**	02 50 58.0	-0.2
LPG	**La Plagne**	**2.14**	**301**	*e*Pn	**Pn**	02 51 00.4	+1.8
	SNR=1.0						
LPG				*e*Sn	**Sn**	02 51 26.1	+1.3
	105nm,0.5s,SNR=1.0						
LPG	**La Plagne**	**2.14**	**301**	*e*Pn	**Pn**	02 51 00.4	+1.8
	SNR=1.0						
LPG				*e*Sn	**Sn**	02 51 26.1	+1.3
	52nm,0.5s,SNR=1.0						
DIX	**Grande Dixence**	**2.15**	**320**	Pg	**Pn**	02 50 59.8	+1.1
	103nm,0.7s						
DIX	**Grande Dixence**	**2.15**	**320**	Pg	**Pn**	02 50 59.8	+1.1
	103nm,0.7s						
FRF	**La Foret Royal**	**2.15**	**247**	*e*Pn	**Pn**	02 50 59.0	+0.5
FRF	**La Foret Royal**	**2.15**	**247**	*e*P	**Pg**	02 51 02.7	-2.0
	SNR=1.0						
FRF				*e*Sn	**Sn**	02 51 25.5	+0.7
	135nm,0.5s,SNR=1.0						
FRF	**La Foret Royal**	**2.15**	**247**	*e*Pn	**Pn**	02 50 59.0	+0.5
FRF	**La Foret Royal**	**2.15**	**247**	*e*P	**Pg**	02 51 02.7	-2.0
	SNR=1.0						
FRF				*e*Sn	**Sn**	02 51 25.5	+0.7
	67nm,0.5s,SNR=1.0						
BRMO	**Bormio**	**2.15**	**19**	Pg	**Pn**	02 50 59.4	+0.8
	103nm,1.0s						
BRMO	**Bormio**	**2.15**	**19**	Pg	**Pn**	02 50 59.4	+0.8
	103nm,1.0s						
LPL	**La Plagne**	**2.16**	**301**	*e*Pn	**Pn**	02 51 00.4	+1.6
	SNR=1.0						
LPL				*e*Sn	**Sn**	02 51 26.3	+1.0
	SNR=1.0						
LPL				*e*Sg	**Sg**	02 51 33.4	+0.4
	78nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**2.16**	**301**	*e*Pn	**Pn**	02 51 00.4	+1.6
	SNR=1.0						
LPL				*e*Sn	**Sn**	02 51 26.3	+1.0
	SNR=1.0						
CARE	**Lago del Cares**	**2.19**	**25**	*e*Pn	**Pn**	02 50 59.4	+0.1
CARE	**Lago del Cares**	**2.19**	**25**	*e*Pn	**Pn**	02 50 59.4	+0.1
PARC	**Parchiule**	**2.21**	**110**	Pg	**Pn**	02 51 00.5	+1.2
PARC	**Parchiule**	**2.21**	**110**	Pg	**Pn**	02 51 00.5	+1.2
CGRP	**Cima Grappa**	**2.24**	**49**	Pg	**Pn**	02 50 59.6	-0.3
	250nm,0.5s						
CGRP	**Cima Grappa**	**2.24**	**49**	*e*Pn	**Pn**	02 51 00.1	+0.2
CGRP	**Cima Grappa**	**2.24**	**49**	Pg	**Pn**	02 50 59.6	-0.3
	250nm,0.5s						
CGRP	**Cima Grappa**	**2.24**	**49**	*e*Pn	**Pn**	02 51 00.1	+0.2
ATMC	**Monte Cedrone**	**2.27**	**115**	Pg	**Pn**	02 51 01.5	+1.4
	87nm,0.7s						
ATMC	**Monte Cedrone**	**2.27**	**115**	Pg	**Pn**	02 51 01.5	+1.4
	87nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**2.27**	**16**	Pg	**Pn**	02 51 01.5	+1.2
	117nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**2.27**	**16**	Pg	**Pn**	02 51 01.5	+1.2
	117nm,0.6s						
OZOL	**Ozolo**	**2.29**	**30**	*e*Pn	**Pn**	02 51 01.0	+0.5
OZOL	**Ozolo**	**2.29**	**30**	*e*Pn	**Pn**	02 51 01.0	+0.5
RSL	**Roselend**	**2.31**	**304**	P	**Pn**	02 51 03.0	+2.2
RSL				S	**Sn**	02 51 32.0	+3.1
RSL	**Roselend**	**2.31**	**304**	P	**Pn**	02 51 03.0	+2.2
RSL				S	**Sn**	02 51 32.0	+3.1
MOSI	**Grossmontoni**	**2.33**	**20**	Pg	**Pn**	02 51 02.3	+1.2
	379nm,0.6s						
MOSI	**Grossmontoni**	**2.33**	**20**	Pg	**Pn**	02 51 02.3	+1.2
	379nm,0.6s						
LMR	**La Mourre**	**2.35**	**243**	*e*Pn	**Pn**	02 51 01.5	+0.4
	SNR=1.0						
LMR				*e*Sn	**Sn**	02 51 30.0	+0.5
	63nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**2.35**	**243**	*e*Pn	**Pn**	02 51 01.5	+0.4
	SNR=1.0						
LMR				*e*Sn	**Sn**	02 51 30.0	+0.5
	32nm,0.3s,SNR=1.0						
DAVOX	**Davos/Dischmat**	**2.37**	**8**	Pn	**Pn**	02 51 02.3	+0.7
	4.5nm,0.3s,baz=196,slow=7.3,SNR=39						
DAVOX				Sn	**Sn**	02 51 31.4	+1.0
	8.0nm,0.3s,baz=129,slow=16,SNR=7.1						
DAVOX	**Davos/Dischmat**	**2.37**	**8**	Pg	**Pn**	02 51 02.9	+1.3
	77nm,0.6s						
DAVOX	**Davos/Dischmat**	**2.37**	**8**	Pg	**Pn**	02 51 02.9	+1.3
	77nm,0.6s						
APPI	**Appiano**	**2.42**	**32**	Pg	**Pn**	02 51 02.5	+0.2
	238nm,0.7s						
APPI	**Appiano**	**2.42**	**32**	Pg	**Pn**	02 51 02.5	+0.2
	238nm,0.7s						
ATPC	**Poggio Castell**	**2.42**	**112**	Pg	**Pn**	02 51 03.1	+0.9
	66nm,0.6s						
ATPC	**Poggio Castell**	**2.42**	**112**	Pg	**Pn**	02 51 03.1	+0.9
	66nm,0.6s						
GDM	**Grand'Maison**	**2.44**	**289**	P	**Pn**	02 51 05.1	+2.5
GDM				S	**Sb**	02 51 36.3	-0.4
GDM	**Grand'Maison**	**2.44**	**289**	P	**Pn**	02 51 05.1	+2.5
GDM				S	**Sb**	02 51 36.3	-0.4
PIEI	**Pieia**	**2.46**	**110**	Pg	**Pn**	02 51 04.5	+1.8
PIEI	**Pieia**	**2.46**	**110**	Pg	**Pn**	02 51 04.5	+1.8
VARN	**Col Varnada, M**	**2.48**	**50**	*e*Pn	**Pn**	02 51 03.5	+0.5
VARN	**Col Varnada, M**	**2.48**	**50**	*e*Pn	**Pn**	02 51 03.5	+0.5
ATTE	**AVT- Monte Tez**	**2.49**	**119**	Pg	**Pn**	02 51 04.2	+1.0
	48nm,0.5s						
ATTE	**AVT- Monte Tez**	**2.49**	**119**	Pg	**Pn**	02 51 04.2	+1.0
	48nm,0.5s						
MGAB	**Montegabbione**	**2.51**	**127**	Pg	**Pn**	02 51 04.5	+1.1
	33nm,0.7s						
MGAB	**Montegabbione**	**2.51**	**127**	Pg	**Pn**	02 51 04.5	+1.1
	33nm,0.7s						
BNALP	**Bannalp**	**2.52**	**345**	Pg	**Pn**	02 51 04.4	+0.7
	88nm,0.6s						
BNALP	**Bannalp**	**2.52**	**345**	Pg	**Pn**	02 51 04.4	+0.7
	88nm,0.6s						
ORIF	**Oris-en-Rattie**	**2.54**	**282**	*e*Pn	**Pn**	02 51 06.4	+2.6
	SNR=1.0						
ORIF				*e*Sn	**Sn**	02 51 35.9	+1.6
	114nm,0.5s						
ORIF	**Oris-en-Rattie**	**2.54**	**282**	*e*Pn	**Pn**	02 51 06.4	+2.6
	SNR=1.0						
ORIF				*e*Sn	**Sn**	02 51 35.9	+1.6
	57nm,0.5s						
FRON	**Frontone**	**2.59**	**110**	Pg	**Pn**	02 51 05.9	+1.4
	53nm,0.8s						
FRON	**Frontone**	**2.59**	**110**	Pg	**Pn**	02 51 05.9	+1.4
	53nm,0.8s						
PLONS	**Plons/SG**	**2.61**	**0**	Pg	**Pn**	02 51 06.2	+1.4
	54nm,0.5s						
OG01	**Vacheresse**	**2.68**	**316**	P	**Pn**	02 51 08.0	+2.2
OG01				S	**Sn**	02 51 41.5	+3.7
OG01	**Vacheresse**	**2.68**	**316**	P	**Pn**	02 51 08.0	+2.2
OG01				S	**Sn**	02 51 41.5	+3.7
GRN	**Grenoble**	**2.70**	**289**	P	**Pn**	02 51 08.3	+2.2
GRN	**Grenoble**	**2.70**	**289**	P	**Pn**	02 51 08.3	+2.2
FETA	**Feichten**	**2.75**	**20**	*e*Pn	**Pn**	02 51 08.8	+1.9
	2.9nm,0.2s						
FETA				Sn	**Sn**	02 51 44.0	+4.3
	43nm,0.7s						
FETA	**Feichten**	**2.75**	**20**	*e*Pn	**Pn**	02 51 08.8	+1.9
	2.9nm,0.2s						
FETA				Sn	**Sn**	02 51 44.0	+4.3
	43nm,0.7s						
FETA	**Feichten**	**2.75**	**20**	Pn	**Pn**	02 51 08.8	+1.9
	2.9nm,0.2s						
FETA				Sn	**Sn**	02 51 44.0	+4.3
	43nm,0.7s						
SMRF	**Simiane la Rot**	**2.77**	**262**	*e*Pn	**Pn**	02 51 09.0	+2.0
	SNR=1.0						
SMRF				*e*Sn	**Sn**	02 51 40.6	+0.6
	75nm,0.5s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.77**	**262**	*e*Pn	**Pn**	02 51 09.0	+2.0
	SNR=1.0						
SMRF				*e*Sn	**Sn**	02 51 40.6	+0.6
	37nm,0.5s,SNR=1.0						
CIMO	**Cimolais**	**2.86**	**48**	*e*Pn	**Pn**	02 51 09.0	+0.8
CIMO	**Cimolais**	**2.86**	**48**	*e*Pn	**Pn**	02 51 09.0	+0.8
DAVA	**Damuels**	**2.87**	**7**	*e*Pn	**Pn**	02 51 10.1	+1.6
	12nm,0.2s,SNR=8.0						
DAVA				Sn	**Sn**	02 51 44.5	+1.8
	45nm,0.3s						
DAVA	**Damuels**	**2.87**	**7**	*e*Pn	**Pn**	02 51 10.1	+1.6
	12nm,0.2s,SNR=8.0						
DAVA				Sn	**Sn**	02 51 44.5	+1.8
	45nm,0.3s						
DAVA	**Damuels**	**2.87**	**7**	Pn	**Pn**	02 51 10.1	+1.6
	12nm,0.2s,SNR=8.0						
DAVA				Sn	**Sn**	02 51 44.5	+1.8
	45nm,0.3s						
OG26	**St.-Nazaire-De**	**2.92**	**274**	P	**P

FELD	**Feldberg im Sc**	**3.57**	**345**	P		**Pn**	**02 51 20.0**	**+2.0**
MOF	**Molkenrain**	**3.75**	**336**	P		**Pn**	**02 51 22.5**	**+2.0**
MOF				S		**Sn**	**02 52 08.6**	**+4.3**
MOF	**Molkenrain**	**3.75**	**336**	P		**Pn**	**02 51 22.5**	**+2.0**
HINF	**Hinteralfeld**	**3.81**	**333**	*e*Pn		**Pn**	**02 51 22.0**	**+0.8**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**02 52 05.1**	**-0.4**
	17nm,0.3s,SNR=1.0							
HINF	**Hinteralfeld**	**3.81**	**333**	*e*Pn		**Pn**	**02 51 22.0**	**+0.8**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**02 52 05.1**	**-0.4**
	8.6nm,0.3s,SNR=1.0							
NVLJ	**Novalja**	**3.94**	**86**	*e*Pn		**Pn**	**02 51 23.9**	**+1.0**
NVLJ				Sn		**Sn**	**02 52 08.3**	**-0.3**
NVLJ	**Novalja**	**3.94**	**86**	*e*Pn		**Pn**	**02 51 23.9**	**+1.0**
NVLJ				Sn		**Sn**	**02 52 08.3**	**-0.3**
LASF	**Ste Croix**	**3.98**	**267**	*e*Pn		**Pn**	**02 51 24.2**	**+0.6**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**02 52 09.6**	**-0.2**
	14nm,0.5s,SNR=1.0							
LASF	**Ste Croix**	**3.98**	**267**	*e*Pn		**Pn**	**02 51 24.2**	**+0.6**
	SNR=1.0							
LASF				*e*Sn		**Sn**	**02 52 09.6**	**-0.2**
	6.9nm,0.5s,SNR=1.0							
MOZS	**Mozjanca**	**4.03**	**61**	*i* Pn		**Pn**	**02 51 25.3**	**+1.0**
MOZS	**Mozjanca**	**4.03**	**61**	*i* Pn		**Pn**	**02 51 25.3**	**+1.0**
ECH	**Echery**	**4.08**	**339**	P		**Pn**	**02 51 26.4**	**+1.5**
ECH				S		**Sn**	**02 52 16.3**	**+4.1**
ECH	**Echery**	**4.08**	**339**	P		**Pn**	**02 51 26.4**	**+1.5**
ECH				S		**Sn**	**02 52 16.3**	**+4.1**
HAU	**Haudompre**	**4.14**	**331**	*e*Pn		**Pn**	**02 51 26.5**	**+0.7**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**02 52 13.4**	**-0.3**
	97nm,0.5s							
HAU	**Haudompre**	**4.14**	**331**	*e*Pn		**Pn**	**02 51 26.5**	**+0.7**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**02 52 13.4**	**-0.3**
	49nm,0.5s							
OBKA	**Obir**	**4.19**	**59**	*i* Pn		**Pn**	**02 51 27.9**	**+1.4**
	1.1nm,0.2s							
OBKA	**Obir**	**4.19**	**59**	*i* Pn		**Pn**	**02 51 27.9**	**+1.4**
	1.1nm,0.2s							
OBKA	**Obir**	**4.19**	**59**	Pn		**Pn**	**02 51 27.9**	**+1.4**
	1.1nm,0.2s							
CDF	**Champ du Feu**	**4.23**	**341**	*e*Pn		**Pn**	**02 51 27.3**	**+0.2**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**02 52 13.7**	**-2.4**
	16nm,0.4s,SNR=1.0							
CDF	**Champ du Feu**	**4.23**	**341**	*e*Pn		**Pn**	**02 51 27.3**	**+0.2**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**02 52 13.7**	**-2.4**
	8.0nm,0.4s,SNR=1.0							
PLDF	**La Plantade**	**4.34**	**293**	P		**Pn**	**02 51 31.2**	**+2.6**
PLDF				S		**Sn**	**02 52 24.0**	**+5.1**
PLDF	**La Plantade**	**4.34**	**293**	P		**Pn**	**02 51 31.2**	**+2.6**
PLDF				S		**Sn**	**02 52 24.0**	**+5.1**
LBL	**Lubilhac**	**4.43**	**282**	P		**Pn**	**02 51 32.0**	**+2.2**
LBL				S		**Sn**	**02 52 26.6**	**+5.6**
LBL	**Lubilhac**	**4.43**	**282**	P		**Pn**	**02 51 32.0**	**+2.2**
SMF	**Signal de Mont**	**4.47**	**302**	*e*Pn		**Pn**	**02 51 32.4**	**+2.1**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**02 52 21.2**	**-0.6**
	50nm,0.4s,SNR=1.0							
SMF	**Signal de Mont**	**4.47**	**302**	*e*Pn		**Pn**	**02 51 32.4**	**+2.1**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**02 52 21.2**	**-0.6**
	25nm,0.4s,SNR=1.0							
SOKA	**Soboth**	**4.56**	**59**	*i* Pn		**Pn**	**02 51 32.9**	**+1.2**
	0.6nm,0.2s							
SOKA	**Soboth**	**4.56**	**59**	*i* Pn		**Pn**	**02 51 32.9**	**+1.2**
	0.6nm,0.2s							
SOKA	**Soboth**	**4.56**	**59**	Pn		**Pn**	**02 51 32.9**	**+1.2**
	0.6nm,0.2s							
UDBI	**Udbina**	**4.58**	**87**	*e*Pn		**Pn**	**02 51 33.0**	**+1.2**
UDBI				Sn		**Sn**	**02 52 24.3**	**-0.3**
UDBI	**Udbina**	**4.58**	**87**	*e*Pn		**Pn**	**02 51 33.0**	**+1.2**
UDBI				Sn		**Sn**	**02 52 24.2**	**-0.3**
PERS	**Pernice**	**4.59**	**59**	*i* Pn		**Pn**	**02 51 33.0**	**+0.9**
PERS	**Pernice**	**4.59**	**59**	*i* Pn		**Pn**	**02 51 33.0**	**+0.9**
AGO	**Saint Agoulin**	**4.69**	**292**	P		**Pn**	**02 51 35.9**	**+2.5**
AGO				S		**Sn**	**02 52 32.5**	**+5.1**
AGO	**Saint Agoulin**	**4.69**	**292**	P		**Pn**	**02 51 35.9**	**+2.5**
AGO				S		**Sn**	**02 52 32.5**	**+5.1**
PYM	**Petit Puy Mans**	**4.69**	**288**	P		**Pn**	**02 51 36.1**	**+2.6**
PYM	**Petit Puy Mans**	**4.69**	**288**	P		**Pn**	**02 51 36.1**	**+2.6**
LOR	**Lormes**	**4.78**	**308**	*e*Pn		**Pn**	**02 51 36.5**	**+1.9**
	baz=132,SNR=1.0							
LOR				*e*Sn		**Sn**	**02 52 28.2**	**-1.3**
	58nm,0.4s,SNR=1.0							
LOR	**Lormes**	**4.78**	**308**	*e*Pn		**Pn**	**02 51 36.5**	**+1.9**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**02 52 28.2**	**-1.3**
	29nm,0.4s,SNR=1.0							
MOA	**Molln**	**4.82**	**43**	*i* Pn		**Pn**	**02 51 36.0**	**+0.9**
	2.2nm,0.3s							
MOA				*i* Sn		**Sn**	**02 52 29.2**	**-1.2**
	10nm,0.6s							
MOA	**Molln**	**4.82**	**43**	*i* Pn		**Pn**	**02 51 36.0**	**+0.9**
	2.2nm,0.3s							
MOA				*i* Sn		**Sn**	**02 52 29.2**	**-1.2**
	10nm,0.6s							
MOA	**Molln**	**4.82**	**43**	Pn		**Pn**	**02 51 36.0**	**+0.9**
	2.2nm,0.3s							
MOA				Sn		**Sn**	**02 52 29.2**	**-1.2**
	10nm,0.6s							
SFTF	**Sexfontaines**	**4.82**	**323**	*e*Pn		**Pn**	**02 51 36.8**	**+1.7**
	baz=133							
SFTF				*e*Sn		**Sn**	**02 52 29.3**	**-1.1**
	12nm,0.4s							
SFTF	**Sexfontaines**	**4.82**	**323**	*e*Pn		**Pn**	**02 51 36.8**	**+1.7**
SFTF				*e*Sn		**Sn**	**02 52 29.3**	**-1.1**
	6.2nm,0.4s							
PAGF	**Fort de Pagny**	**4.83**	**330**	*e*Pn		**Pn**	**02 51 36.6**	**+1.4**
	baz=142							
PAGF				*e*Sn		**Sn**	**02 52 29.0**	**-1.6**
	4.0nm,0.3s							
PAGF	**Fort de Pagny**	**4.83**	**330**	*e*Pn		**Pn**	**02 51 36.6**	**+1.4**
AVF	**Avril sur Loir**	**4.83**	**301**	*e*Pn		**Pn**	**02 51 36.8**	**+1.5**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**02 52 29.2**	**-1.6**
	9.9nm,0.5s,SNR=1.0							
AVF	**Avril sur Loir**	**4.83**	**301**	*e*Pn		**Pn**	**02 51 36.8**	**+1.5**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**02 52 29.2**	**-1.6**
	4.9nm,0.5s,SNR=1.0							
SSF	**Saint Saulge**	**4.87**	**305**	*e*Pn		**Pn**	**02 51 37.7**	**+1.9**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**02 52 30.7**	**-1.1**
	16nm,0.5s							
SSF	**Saint Saulge**	**4.87**	**305**	*e*Pn		**Pn**	**02 51 37.7**	**+1.9**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**02 52 30.7**	**-1.1**
	8.2nm,0.5s							
MEZF	**Maizieres J'vi**	**5.04**	**325**	*e*Pn		**Pn**	**02 51 39.7**	**+1.6**
	baz=151,SNR=1.0							
MEZF				*e*Sn		**Sn**	**02 52 34.9**	**-1.0**
	12nm,0.4s,SNR=1.0							
MEZF	**Maizieres J'vi**	**5.04**	**325**	*e*Pn		**Pn**	**02 51 39.7**	**+1.6**
	SNR=1.0							
BGF	**Bois d'Agland**	**5.05**	**297**	*e*Pn		**Pn**	**02 51 40.0**	**+1.7**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**02 52 35.8**	**-0.4**
	60nm,0.4s							
BGF	**Bois d'Agland**	**5.05**	**297**	*e*Pn		**Pn**	**02 51 40.0**	**+1.7**
	SNR=1.0							
BGF				*e*Sn		**Sn**	**02 52 35.8**	**-0.4**
	30nm,0.4s							
ARSA	**Arzberg**	**5.13**	**55**	*i* Pn		**Pn**	**02 51 39.7**	**+0.2**
	1.7nm,0.3s							
ARSA	**Arzberg**	**5.13**	**55**	*i* Pn		**Pn**	**02 51 39.7**	**+0.2**
	1.7nm,0.3s							
ARSA	**Arzberg**	**5.13**	**55**	Pn		**Pn**	**02 51 39.7**	**+0.2**
	1.7nm,0.3s							
CAF	**Calviac**	**5.23**	**278**	*e*Pn		**Pn**	**02 51 42.6**	**+1.8**
	SNR=1.0							
CAF	**Calviac**	**5.23**	**278**	*e*Pn		**Pn**	**02 51 42.6**	**+1.8**
	SNR=1.0							
MTLF	**Montolieu**	**5.29**	**261**	*e*Pn		**Pn**	**02 51 42.6**	**+1.1**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**02 52 40.3**	**-1.7**
	4.8nm,0.4s,SNR=1.0							
MTLF	**Montolieu**	**5.29**	**261**	*e*Pn		**Pn**	**02 51 42.6**	**+1.1**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**02 52 40.3**	**-1.7**
	2.4nm,0.4s,SNR=1.0							
GERES	**GERESS Array B**	**5.32**	**33**	Pn		**Pn**	**02 51 41.4**	**-0.7**
	1.1nm,0.3s,baz=214,slow=13,SNR=31							
GERES				Sn		**Sn**	**02 52 39.7**	**-3.2**
	3.9nm,0.3s,baz=213,slow=23,SNR=20							
GERES				Lg		Lg	02 53 07.2	
	0.5nm,0.3s,baz=207,slow=25,SNR=2.8							
TCF	**Toulx Ste Croi**	**5.38**	**293**	*e*Pn		**Pn**	**02 51 45.6**	**+2.8**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**02 52 43.5**	**-0.7**
	8.4nm,0.4s							
TCF	**Toulx Ste Croi**	**5.38**	**293**	*e*Pn		**Pn**	**02 51 45.6**	**+2.8**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**02 52 43.5**	**-0.7**
	4.2nm,0.4s							
HYF	**Humbligny**	**5.49**	**303**	*e*Pn		**Pn**	**02 51 45.7**	**+1.4**
HYF				*e*Sn		**Sn**	**02 52 45.9**	**-1.1**
HYF	**Humbligny**	**5.49**	**303**	*e*Pn		**Pn**	**02 51 45.7**	**+1.4**
HYF				*e*Sn		**Sn**	**02 52 45.9**	**-1.1**
KHC	**Kasperske Hory**	**5.51**	**30**	*e*PN		**Pn**	**02 51 44.0**	**-0.6**
KHC				*e*SN		**Sn**	**02 52 44.0**	**-3.5**
KHC				*ex*		x	02 53 00.2	
KHC	**Kasperske Hory**	**5.51**	**30**	Pn		**Pn**	**02 51 44.0**	**-0.6**
RJF	**Les Rejaudoux**	**5.65**	**282**	*e*Pn		**Pn**	**02 51 49.4**	**+2.9**
RJF				*e*Sn		**Sn**	**02 52 50.3**	**-0.7**
	3.2nm,0.4s							
RJF	**Les Rejaudoux**	**5.65**	**282**	*e*Pn		**Pn**	**02 51 49.4**	**+2.9**
CONA	**Conrad Observa**	**5.70**	**50**	*i* Pn		**Pn**	**02 51 48.0**	**+0.7**
	1.4nm,0.2s							
CONA	**Conrad Observa**	**5.70**	**50**	*i* Pn		**Pn**	**02 51 48.0**	**+0.7**
	1.4nm,0.2s							
CONA	**Conrad Observa**	**5.70**	**50**	Pn		**Pn**	**02 51 48.0**	**+0.7**
	1.4nm,0.2s							
NKC	**Novy Kostel**	**6.16**	**19**	*e*PN		**Pn**	**02 51 54.3**	**+0.8**
NKC				*e*SN		**Sn**	**02 52 58.2**	**-5.4**
NKC	**Novy Kostel**	**6.16**	**19**	Pn		**Pn**	**02 51 54.3**	**+0.8**
LFF	**La Frestale**	**6.17**	**278**	*e*Pn		**Pn**	**02 51 56.5**	**+2.8**
LFF	**La Frestale**	**6.17**	**278**	*e*Pn		**Pn**	**02 51 56.5**	**+2.8**
TREC	**Trest**	**6.41**	**39**	*e*PN		**Pn**	**02 51 56.2**	**-0.8**
TREC	**Trest**	**6.41**	**39**	Pn		**Pn**	**02 51 56.2**	**-0.8**
GIVF	**Givet**	**6.45**	**333**	*e*Pn		**Pn**	**02 51 58.5**	**+1.0**
GIVF	**Givet**	**6.45**	**333**	*e*Pn		**Pn**	**02 51 58.5**	**+1.0**
PRU	**Pruhonice**	**6.57**	**31**	*e*PN		**Pn**	**02 51 57.9**	**-1.3**
PRU				*e*SN		Sn	02 53 07.3	-6.3
PRU	**Pruhonice**	**6.57**	**31**	Pn		**Pn**	**02 51 57.9**	**-1.3**
GOPC	**GO Pecny, Ondr**	**6.60**	**32**	*e*PN		**Pn**	**02 51 58.9**	**-0.7**
GOPC				*e*SN		Sn	02 53 08.1	-6.3
GOPC				*ex*		x	02 53 23.2	
GOPC	**GO Pecny, Ondr**	**6.60**	**32**	Pn		**Pn**	**02 51 58.9**	**-0.7**
BAIF	**Baives**	**6.63**	**330**	*e*Pn		**Pn**	**02 52 02.6**	**+2.7**
	SNR=1.0							
BAIF	**Baives**	**6.63**	**330**	*e*Pn		**Pn**	**02 52 02.6**	**+2.7**
	SNR=1.0							
EPF	**Esparros**	**6.69**	**261**	*e*Pn		**Pn**	**02 52 02.2**	**+1.3**
EPF				*e*Sn		**Sn**	**02 53 15.2**	**-1.5**
	1.6nm,0.3s							
EPF	**Esparros**	**6.69**	**261**	*e*Pn		**Pn**	**02 52 02.2**	**+1.3**
EPF				*e*Sn		**Sn**	**02 53 15.2**	**-1.5**
	0.8nm,0.3s							
VRAC	**Vranov**	**6.94**	**43**	Sn		**Sn**	**02 53 18.0**	**-4.8**
	0.3nm,0.3s,baz=156,slow=20,SNR=3.2							
VRAC				Lg		Lg	02 53 58.5	
	0.3nm,0.3s,baz=126,slow=17,SNR=2.6							
MFF	**Saint Martin d**	**7.03**	**291**	*e*Pn		**Pn**	**02 52 08.0**	**+2.6**
	SNR=1.0							
MFF				*e*Sn		**Sn**	**02 53 22.7**	**-2.1**
	1.6nm,0.3s							
MFF	**Saint Martin d**	**7.03**	**291**	*e*Pn		**Pn**	**02 52 08.0**	**+2.6**
	SNR=1.0							
BRG	**Berggiesshubel**	**7.14**	**24**	SN		**Sn**	**02 53 23.9**	**-3.6**
BRG				SG		**Sg**	**02 54 06.0**	**-6.3**
	4.1nm,1.0s							
CLL	**Collm**	**7.29**	**18**	*e*Pn		**Pn**	**02 52 06.0**	**-3.0**
CLL				*e*Pg		**Pg**	**02 52 45.0**	**+2.1**
CLL				*e*Sn		Sn	02 53 19.0	-12
CLL				*i*			02 53 28.1	
CLL				*e*Sg		**Sg**	**02 54 18.0**	**+0.8**
ETSF	**Etsaut**	**7.36**	**261**	*e*Pn		**Pn**	**02 52 11.4**	**+1.3**
ETSF				*e*Sn		**Sn**	**02 53 31.5**	**-1.8**
	1.5nm,0.3s							
ETSF	**Etsaut**	**7.36**	**261**	*e*Pn		**Pn**	**02 52 11.4**	**+1.3**
ETSF				*e*Sn		**Sn**	**02 53 31.5**	**-1.8**
	0.8nm,0.3s							
UPC	**Upice**	**7.55**	**34**	*e*PN		**Pn**	**02 52 11.4**	**-1.2**
UPC				*e*SN		**Sn**	**02 53 32.3**	**-5.5**
UPC	**Upice**	**7.55**	**34**	Pn		**Pn**	**02 52 11.4**	**-1.2**
DPC	**Dobruska-Polom**	**7.56**	**36**	*e*PN		**Pn**	**02 52 12.5**	**-0.3**
DPC				*e*SN		**Sn**	**02 53 33.1**	**-4.9**
DPC				*ex*		x	02 53 45.9	
DPC	**Dobruska-Polom**	**7.56**	**36**	Pn		**Pn**	**02 52 12.5**	**-0.3**
LDF	**La Druitiere**	**7.75**	**306**	*e*Pn		**Pn**	**02 52 16.2**	**+0.8**
LDF	**La Druitiere**	**7.75**	**306**	*e*Pn		**Pn**	**02 52 16.2**	**+0.8**
SJPF	**Ste Jean**	**7.78**	**264**	*e*Pn		**Pn**	**02 52 16.5**	**+0.7**
SJPF	**Ste Jean**	**7.78**	**264**	*e*Pn		**Pn**	**02 52 16.5**	**+0.7**
FLN	**La Foliniere**	**8.04**	**306**	*e*Pn		**Pn**	**02 52 19.6**	**+0.3**
FLN	**La Foliniere**	**8.04**	**306**	*e*Pn		**Pn**	**02 52 19.6**	**+0.3**
GRR	**Gorron**	**8.10**	**303**	*e*Pn		**Pn**	**02 52 20.8**	**+0.7**
GRR	**Gorron**	**8.10**	**303**	*e*Pn		**Pn**	**02 52 20.8**	**+0.7**
KEST	**Kesra**	**8.70**	**180**	Pn		Pn	02 52 33.4	+4.9
	0.2nm,0.3s,baz=13,slow=18,SNR=7.6							
ESDC	**Sonseca Array**	**11.00**	**249**	Pn		**Pn**	**02 53 01.6**	**+1.7**
	0.1nm,0.3s,baz=55,slow=13,SNR=4.5							
EKA	**Eskdalemuir Ar**	**13.54**	**328**	Pn		**Pn**	**02 53 36.1**	**+1.6**
	baz=141,slow=15,SNR=2.8							
FINES	**FINESS Array B**	**19.68**	**24**	P		**P**	**02 54 52.3**	**+1.0**
	0.1nm,0.3s,baz=210,slow=8.0,SNR=2.9							

IDC ***12*** *02:55:30.8±1.3, 34°.82N×29°.21E, h0km, mb3.5/3, mb1 3.8/11, mb1mx3.5/41, mbtmp3.6/11, ML3.8/8, MS2.9/1, Ms1 2.9/1, ms1mx2.0/35, Error ellipse: s-maj=25.9km s-min=16.2km az=17.0*

ISCJB ***12*** *02:55:32.7±0.5, 34°.68N±0°.04×29°.11E±0°.03, h37km, mb3.2/3, Error ellipse: s-maj=5.3km s-min=3.5km az=18.3*

CSEM ***12*** *02:55:34.9±0.4, 34°.79N×29°.00E, h30km, ML3.5, Error ellipse: s-maj=8.9km s-min=4.1km az=6.0*

DDA ***12*** *02:55:34.9, 34°.96N×28°.99E, h30km, Ml3.5*

ISK ***12*** *02:55:34.1, 34°.82N×29°.02E, h33km, ML3.4*

ISC 12 02:55:35.1±0.9, 34°.76N±0°.05×29°.08E±0°.04, h37km, n99, σ0s98/115, mb3.3/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
AKAS	**Kas**	**1.54**	**16**	P		**Pn**	**02 56 00.1**			**0.0**
AKAS				S		**Sn**	**02 56 18.9**			**+0.1**
AKAS	**Kas**	**1.54**	**16**	*i* P		**Pn**	**02 56 00.1**			**0.0**
AKAS				*i* S		**Sn**	**02 56 18.9**			**+0.1**
KARP	**Karpathos**	**1.76**	**297**	*e*PN		**Pn**	**02 56 02.3**			**-0.7**
KARP	**Karpathos**	**1.76**	**297**	*e*Pn		**Pn**	**02 56 02.3**			**-0.7**
FETY	**Fethiye**	**1.88**	**0**	*e*PN		**Pn**	**02 56 03.9**			**-0.7**
FETY				*e*SN		**Sn**	**02 56 25.1**			**-1.9**
FETY	**Fethiye**	**1.88**	**0**	*e*Pn		**Pn**	**02 56 03.9**			**-0.7**
FETY				*e*Sn		**Sn**	**02 56 25.1**			**-1.9**
DALY	**Dalyan (Mu¨la**	**2.09**	**351**	*e*PN		**Pn**	**02 56 06.9**			**-0.5**
DALY	**Dalyan (Mu¨la**	**2.09**	**351**	*e*Pn		**Pn**	**02 56 06.9**			**-0.5**
ELL	**Elmali**	**2.10**	**19**	*e*PN		**Pn**	**02 56 07.8**			**0.0**
ELL	**Elmali**	**2.10**	**19**	*e*Pn		**Pn**	**02 56 07.8**			**0.0**
TURN	**Turunc**	**2.15**	**350**	*i* P		**Pn**	**02 56 08.7**			**+0.4**
NIS1	**Nisyros Isl.**	**2.41**	**321**	*e*PN		**Pn**	**02 56 11.0**			**-0.9**
NIS1	**Nisyros Isl.**	**2.41**	**321**	*e*Pn		**Pn**	**02 56 11.0**			**-0.9**
GLHS	**Glhisar (BURDU**	**2.42**	**8**	*e*PN		**Pn**	**02 56 11.9**			**-0.2**
GLHS	**Glhisar (BURDU**	**2.42**	**8**	*e*Pn		**Pn**	**02 56 11.9**			**-0.2**
YER	**Yerkesik**	**2.46**	**345**	*e*PN		**Pn**	**02 56 11.6**			**-1.1**
YER	**Yerkesik**	**2.46**	**345**	*e*Pn		**Pn**	**02 56 11.6**			**-1.1**
KORT	**Korkueli**	**2.47**	**24**	P		**Pn**	**02 56 13.8**			**+1.0**
KORT				S		**Sn**	**02 56 43.1**			**+1.3**
KORT	**Korkueli**	**2.47**	**24**	*i* P		**Pn**	**02 56 13.8**			**+1.0**
KORT				*i* S		**Sn**	**02 56 43.1**			**+1.3**
ANTB	**Antalya**	**2.50**	**30**	*e*PN		**Pn**	**02 56 13.2**			**+0.1**
ANTB	**Antalya**	**2.50**	**30**	*e*Pn		**Pn**	**02 56 13.2**			**+0.1**
GOLH	**Golhisar**	**2.51**	**9**	P		**Pn**	**02 56 14.6**			**+1.2**
GOLH				S		**Sn**	**02 56 43.4**			**+0.7**
GOLH	**Golhisar**	**2.51**	**9**	*i* P		**Pn**	**02 56 14.6**			**+1.2**
GOLH				*i* S		**Sn**	**02 56 43.4**			**+0.7**
BDRM	**Kayabasi**	**2.66**	**331**	P		**Pn**	**02 56 15.0**			**-0.3**
BDRM	**Kayabasi**	**2.66**	**331**	*i* P		**Pn**	**02 56 15.0**			**-0.3**
BODT	**Bodrum**	**2.71**	**329**	*e*PN		**Pn**	**02 56 15.5**			**-0.6**
BODT	**Bodrum**	**2.71**	**329**	*e*Pn		**Pn**	**02 56 15.5**			**-0.6**
DNZL	**Cakiroluk**	**2.93**	**360**	P		**Pn**	**02 56 19.5**			**+0.3**
DNZL	**Cakiroluk**	**2.93**	**360**	*i* P		**Pn**	**02 56 19.5**			**+0.3**
BCK	**Bucak**	**2.96**	**24**	*e*PN		**Pn**	**02 56 19.5**			**-0.1**
BCK	**Bucak**	**2.96**	**24**	*e*Pn		**Pn**	**02 56 19.5**			**-0.1**
DENT	**Denizli**	**2.99**	**359**	*e*PN		**Pn**	**02 56 19.8**			**-0.2**
DENT	**Denizli**	**2.99**	**359**	*e*Pn		**Pn**	**02 56 19.8**			**-0.2**
AYDN	**Tasoluk**	**3.06**	**342**	P		**Pn**	**02 56 21.5**			**+0.7**
AYDN	**Tasoluk**	**3.06**	**342**	*i* P		**Pn**	**02 56 21.6**			**+0.7**
SUTC	**Sutluce-Ispart**	**3.13**	**29**	*e*PN		**Pn**	**02 56 22.1**			**+0.1**
SUTC	**Sutluce-Ispart**	**3.13**	**29**	*e*Pn		**Pn**	**02 56 22.1**			**+0.1**
LEF	**Lefka**	**3.15**	**82**	*e*PN		**Pn**	**02 56 22.3**			**+0.2**
LEF	**Lefka**	**3.15**	**82**	*e*Pn		**Pn**	**02 56 22.3**			**+0.2**
AYDB	**Zeytinkoy-Aydi**	**3.33**	**344**	*e*PN		**Pn**	**02 56 24.6**			**0.0**
AYDB	**Zeytinkoy-Aydi**	**3.33**	**344**	*e*Pn		**Pn**	**02 56 24.6**			**0.0**
IDI	**Anoyia**	**3.48**	**280**	Pn		**Pn**	**02 56 28.1**			**+1.4**
	8.0nm,0.3s,baz=6.9,slow=11,SNR=34									
IDI				Sn		**Sn**	**02 57 06.9**			**+0.4**
	13nm,0.3s,baz=321,slow=22,SNR=14									
HDMB	**Hadim**	**3.54**	**51**	*e*PN		**Pn**	**02 56 28.5**			**+0.9**
HDMB	**Hadim**	**3.54**	**51**	*e*Pn		**Pn**	**02 56 28.5**			**+0.9**
KHL	**Karahalli**	**3.58**	**6**	*e*PN		**Pn**	**02 56 27.2**			**-0.9**
KHL	**Karahalli**	**3.58**	**6**	*e*Pn		**Pn**	**02 56 27.2**			**-0.9**
ERMK	**Ermenek**	**3.65**	**58**	P		**Pn**	**02 56 30.2**			**+1.1**
ERMK	**Ermenek**	**3.65**	**58**	*i* P		**Pn**	**02 56 30.2**			**+1.1**
ERMK				*i* S		**Sn**	**02 57 09.3**			**-1.6**
APE	**Apeiranthos**	**3.69**	**310**	*e*PN		**Pn**	**02 56 29.2**			**-0.4**
APE	**Apeiranthos**	**3.69**	**310**	*e*Pn		**Pn**	**02 56 29.2**			**-0.4**
DGB	**¯zmir**	**3.74**	**332**	*i* P		**Pn**	**02 56 29.2**			**-0.9**
DGB				*i* S		**Sn**	**02 57 10.1**			**-2.7**
MANT	**Manisa**	**3.75**	**354**	P		**Pn**	**02 56 30.0**			**-0.5**
MANT	**Manisa**	**3.75**	**354**	*i* P		**Pn**	**02 56 30.0**			**-0.5**
KULA	**Kula-Manisa**	**3.77**	**355**	*e*PN		**Pn**	**02 56 30.2**			**-0.4**
KULA	**Kula-Manisa**	**3.77**	**355**	*e*Pn		**Pn**	**02 56 30.3**			**-0.4**
IZM	**Izmir**	**3.92**	**339**	*e*PN		**Pn**	**02 56 32.7**			**0.0**
IZM	**Izmir**	**3.92**	**339**	*e*Pn		**Pn**	**02 56 32.7**			**0.0**
URLA	**Izmir**	**4.12**	**332**	P		**Pn**	**02 56 35.1**			**-0.3**
URLA	**Izmir**	**4.12**	**332**	*i* P		**Pn**	**02 56 35.1**			**-0.3**
KONT	**Konya--Tatoy**	**4.14**	**39**	*e*PN		**Pn**	**02 56 36.9**			**+1.1**
KONT	**Konya--Tatoy**	**4.14**	**39**	*e*Pn		**Pn**	**02 56 36.9**			**+1.1**
BOLV	**Bolvadin**	**4.23**	**20**	P		**Pn**	**02 56 37.6**			**+0.5**
BOLV	**Bolvadin**	**4.23**	**20**	*i* P		**Pn**	**02 56 37.6**			**+0.5**
AKS	**Akhisar**	**4.24**	**347**	*e*PN		**Pn**	**02 56 36.

MBDF	**Montbardon**	**1.91**	**278**	*e*Pn	**Pn**	**02 57 31.7**	**+0.4**
MBDF				*e*Sn	**Sn**	**02 57 55.5**	**+0.4**
	1.8nm,0.3s						
PGF	**Pioggiola**	**1.97**	**189**	*e*Pn	**Pn**	**02 57 30.6**	**-1.5**
PGF				*e*Sn	**Sn**	**02 57 56.1**	**-0.5**
	1.3nm,0.3s						
PGF	**Pioggiola**	**1.97**	**189**	*e*Pn	**Pn**	**02 57 30.6**	**-1.5**
PGF				*e*Sn	**Sn**	**02 57 56.1**	**-0.5**
	0.6nm,0.3s						
LPG	**La Plagne**	**2.14**	**299**	*e*Pn	**Pn**	**02 57 36.2**	**+1.6**
LPG	**La Plagne**	**2.14**	**299**	*e*Pn	**Pn**	**02 57 36.2**	**+1.6**
LPL	**La Plagne**	**2.16**	**299**	*e*Pn	**Pn**	**02 57 36.2**	**+1.4**
LPL	**La Plagne**	**2.16**	**299**	*e*Pn	**Pn**	**02 57 36.2**	**+1.4**
FRF	**La Foret Royal**	**2.21**	**246**	*e*Pn	**Pn**	**02 57 34.8**	**-0.5**
FRF	**La Foret Royal**	**2.21**	**246**	*e*P	**Pb**	**02 57 38.7**	**-0.1**
FRF				*e*Sn	**Sn**	**02 58 01.4**	**-1.0**
	2.8nm,0.3s						
FRF	**La Foret Royal**	**2.21**	**246**	*e*Pn	**Pn**	**02 57 34.8**	**-0.5**
FRF	**La Foret Royal**	**2.21**	**246**	*e*P	**Pb**	**02 57 38.7**	**-0.1**
FRF				*e*Sn	**Sn**	**02 58 01.4**	**-1.0**
	1.4nm,0.3s						
LMR	**La Mourre**	**2.41**	**242**	*e*Pn	**Pn**	**02 57 37.6**	**-0.4**
LMR				*e*Sn	**Sn**	**02 58 05.9**	**-1.3**
	1.9nm,0.2s						
LMR	**La Mourre**	**2.41**	**242**	*e*Pn	**Pn**	**02 57 37.6**	**-0.4**
LMR				*e*Sn	**Sn**	**02 58 05.9**	**-1.3**
	0.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.56**	**281**	*e*Pn	**Pn**	**02 57 42.4**	**+2.2**
ORIF	**Oris-en-Rattie**	**2.56**	**281**	*e*Pn	**Pn**	**02 57 42.4**	**+2.2**
SMRF	**Simiane la Rot**	**2.82**	**261**	*e*Pn	**Pn**	**02 57 44.6**	**+1.0**
SMRF	**Simiane la Rot**	**2.82**	**261**	*e*Pn	**Pn**	**02 57 44.6**	**+1.0**
CABF	**La Chapelle**	**3.16**	**313**	*e*Pn	**Pn**	**02 57 50.4**	**+2.1**
CABF	**La Chapelle**	**3.16**	**313**	*e*Pn	**Pn**	**02 57 50.4**	**+2.1**
HINF	**Hinteralfeld**	**3.77**	**333**	*e*Pn	**Pn**	**02 57 58.3**	**+1.6**
HINF	**Hinteralfeld**	**3.77**	**333**	*e*Pn	**Pn**	**02 57 58.3**	**+1.6**
HAU	**Haudompre**	**4.11**	**330**	*e*Pn	**Pn**	**02 58 02.6**	**+1.3**
HAU	**Haudompre**	**4.11**	**330**	*e*Pn	**Pn**	**02 58 02.6**	**+1.3**
CDF	**Champ du Feu**	**4.19**	**340**	*e*Pn	**Pn**	**02 58 03.0**	**+0.5**
CDF	**Champ du Feu**	**4.19**	**340**	*e*Pn	**Pn**	**02 58 03.0**	**+0.5**
SMF	**Signal de Mont**	**4.47**	**301**	*e*Pn	**Pn**	**02 58 08.2**	**+1.9**
SMF	**Signal de Mont**	**4.47**	**301**	*e*Pn	**Pn**	**02 58 08.2**	**+1.9**
LOR	**Lormes**	**4.77**	**307**	*e*Pn	**Pn**	**02 58 12.7**	**+2.2**
LOR	**Lormes**	**4.77**	**307**	*e*Pn	**Pn**	**02 58 12.7**	**+2.2**
AVF	**Avril sur Loir**	**4.83**	**300**	*e*Pn	**Pn**	**02 58 12.1**	**+0.8**
AVF	**Avril sur Loir**	**4.83**	**300**	*e*Pn	**Pn**	**02 58 12.1**	**+0.8**
BGF	**Bois d'Agland**	**5.06**	**296**	*e*Pn	**Pn**	**02 58 16.1**	**+1.7**
BGF	**Bois d'Agland**	**5.06**	**296**	*e*Pn	**Pn**	**02 58 16.1**	**+1.7**

ROM ***12*** *02:57:31.9±0.1, 44.˚54N×9.˚41E, h6km±2km, Ml2.6/2, Error ellipse: s-maj=2.2km s-min=1.4km az=84.0*
ISCJB ***12*** *02:57:32.0±0.3, 44.˚50N±0.˚02×9.˚40E±0.˚02, h12km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=174.1*
GEN ***12*** *02:57:32.5, 44.˚56N×9.˚44E, h4km, ML2.5*
CSEM ***12*** *02:57:32.4±0.1, 44.˚49N×9.˚41E, h5km, ML2.8/20, Error ellipse: s-maj=3.6km s-min=2.7km az=178.0*
LDG ***12*** *02:57:34.0±0.2, 44.˚43N×9.˚38E, h2km, Ml2.8/19, Error ellipse: s-maj=4.0km s-min=3.1km az=74.0*

ISC 12 02:57:32.8±0.8, 44˚48N±0˚02×9˚40E±0˚02, h14km±5km, n101, σ1°26/169, 1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.12**	**129**	Pg	**Pg**	**02 57 35.8**	**-0.5**
SC2M				Sg	**Sg**	**02 57 38.7**	**0.0**
SC2M	**Scurtabo**	**0.12**	**129**	P	**Pg**	**02 57 35.8**	**-0.5**
SC2M				S	**Sg**	**02 57 38.6**	**-0.1**
MSSA	**Maissana**	**0.18**	**153**	Pg	**Pg**	**02 57 37.1**	**-0.1**
MSSA				Sg	**Sg**	**02 57 41.1**	**+0.9**
MSSA	**Maissana**	**0.18**	**153**	Pg	**Pg**	**02 57 37.1**	**-0.1**
MSSA				Sg	**Sg**	**02 57 41.1**	**+0.9**
BOB	**Bobbio (Coli)**	**0.29**	**7**	Pg	**Pg**	**02 57 37.1**	**-1.8**
BOB				Sg	**Sg**	**02 57 40.7**	**-2.4**
CODM	**Codolo**	**0.33**	**106**	P	**Pg**	**02 57 38.8**	**-0.9**
CODM				S	**Sg**	**02 57 43.4**	**-1.0**
GRAM	**Graiana**	**0.48**	**89**	P	**Pg**	**02 57 41.1**	**-1.2**
PCP	**Piancastagn**	**0.62**	**276**	Pg	**Pg**	**02 57 44.9**	**0.0**
PCP				Sg	**Sg**	**02 57 53.2**	**+0.1**
PCP	**Piancastagn**	**0.62**	**276**	Pg	**Pg**	**02 57 44.9**	**0.0**
PCP				Sg	**Sg**	**02 57 53.2**	**+0.1**
QLNO	**Quiliano**	**0.77**	**259**	Pg	**Pg**	**02 57 47.5**	**-0.3**
QLNO				Sg	**Sb**	**02 57 59.0**	**+0.6**
	65nm,0.3s						
QLNO	**Quiliano**	**0.77**	**259**	Pg	**Pg**	**02 57 47.5**	**-0.3**
QLNO				Sg	**Sb**	**02 57 59.0**	**+0.6**
	65nm,0.3s						
SARO	**Sassorosso**	**0.78**	**112**	P	**Pg**	**02 57 47.5**	**-0.4**
SARO				S	**Sg**	**02 57 58.0**	**-0.1**
FINB	**Finale Ligure**	**0.83**	**249**	Pg	**Pg**	**02 57 49.0**	**+0.1**
	399nm,0.3s						
FINB	**Finale Ligure**	**0.83**	**249**	Pg	**Pg**	**02 57 49.0**	**+0.1**
	399nm,0.3s						
BDI	**Bagni Di Lucca**	**0.95**	**116**	Pg	**Pb**	**02 57 51.9**	**+0.8**
BDI	**Bagni Di Lucca**	**0.95**	**116**	Pg	**Pb**	**02 57 51.9**	**+0.8**
MAIM	**Mastiano**	**0.97**	**125**	Pg	**Pg**	**02 57 50.5**	**-1.0**
MAIM				Sg	**Sg**	**02 58 04.3**	**+0.2**
MAIM	**Mastiano**	**0.97**	**125**	Pg	**Pg**	**02 57 50.5**	**-1.0**
MAIM	**Mastiano**	**0.97**	**125**	P	**Pg**	**02 57 50.8**	**-0.7**
MAIM				Sg	**Sg**	**02 58 04.3**	**+0.2**
RORO	**Rocca Rossa**	**1.03**	**249**	Pg	**Pg**	**02 57 52.1**	**-0.5**
RORO				Sg	**Sg**	**02 58 06.0**	**-0.1**
	10µm,0.4s						
RORO	**Rocca Rossa**	**1.03**	**249**	P	**Pg**	**02 57 52.1**	**-0.5**
RORO				Sg	**Sg**	**02 58 06.0**	**-0.1**
	10µm,0.4s						
POPM	**Popiglio**	**1.07**	**114**	P	**Pg**	**02 57 52.5**	**-0.9**
IMI	**Imperia**	**1.23**	**243**	P	**Pg**	**02 57 55.0**	**-1.4**
NEGI	**Seborga**	**1.38**	**243**	P	**Pn**	**02 57 57.5**	**-0.1**
ENR	**Entracque**	**1.44**	**261**	P	**Pn**	**02 57 58.6**	**0.0**
MUGIO	**Muggio**	**1.46**	**350**	Pg	**Pb**	**02 57 59.1**	**-0.7**
MUGIO	**Muggio**	**1.46**	**350**	Pg	**Pb**	**02 57 59.1**	**-0.7**
SBF	**Sospel**	**1.54**	**247**	*e*Pn	**Pn**	**02 57 59.7**	**-0.2**
	SNR=1.0						
SBF	**Sospel**	**1.54**	**247**	*e*P	**Pb**	**02 58 01.7**	**+0.5**
SBF				*e*Sn	**Sn**	**02 58 20.6**	**+0.8**
	42nm,0.3s,SNR=1.0						
SBF	**Sospel**	**1.54**	**247**	*e*Pn	**Pn**	**02 57 59.7**	**-0.2**
	SNR=1.0						
SBF	**Sospel**	**1.54**	**247**	*e*P	**Pb**	**02 58 01.7**	**+0.5**
SBF				*e*Sn	**Sn**	**02 58 20.6**	**+0.8**
	21nm,0.3s,SNR=1.0						
MAGA	**Magasa**	**1.56**	**33**	Pg	**Pb**	**02 58 01.0**	**-0.5**
MAGA	**Magasa**	**1.56**	**33**	Pg	**Pb**	**02 58 01.0**	**-0.5**
BALD	**Monte Baldo**	**1.57**	**39**	*e*Pg	**Pg**	**02 58 01.6**	**-1.3**
BALD				*e*Sg	**Sg**	**02 58 21.8**	**-1.5**
BALD	**Monte Baldo**	**1.57**	**39**	*e*Pg	**Pg**	**02 58 01.6**	**-1.3**
BALD				*e*Sg	**Sg**	**02 58 21.8**	**-1.5**
ROVR	**Rover˜¤ Verone**	**1.66**	**45**	Pg	**Pn**	**02 58 01.3**	**-0.3**
ROVR	**Rover˜¤ Verone**	**1.66**	**45**	Pg	**Pn**	**02 58 01.3**	**-0.3**
RNI	**Roncone**	**1.73**	**29**	*e*Pg	**Pn**	**02 58 03.2**	**+0.6**
RNI	**Roncone**	**1.73**	**29**	*e*Pg	**Pn**	**02 58 03.2**	**+0.6**
MBDF	**Montbardon**	**1.90**	**278**	*e*Pn	**Pn**	**02 58 05.1**	**+0.3**
MBDF				*e*Sn	**Sn**	**02 58 29.0**	**+0.4**
	19nm,0.3s						
MBDF	**Montbardon**	**1.90**	**278**	*e*Pn	**Pn**	**02 58 05.1**	**+0.3**
MBDF				*e*Sn	**Sn**	**02 58 29.0**	**+0.4**
	9.6nm,0.3s						
PGF	**Pioggiola**	**1.95**	**189**	*e*Pn	**Pn**	**02 58 04.4**	**-1.2**
PGF				*e*Sn	**Sn**	**02 58 29.3**	**-0.6**
	3.5nm,0.2s						
PGF	**Pioggiola**	**1.95**	**189**	*e*Pn	**Pn**	**02 58 04.4**	**-1.2**
PGF				*e*Sn	**Sn**	**02 58 29.3**	**-0.6**
	1.8nm,0.2s						
LPG	**La Plagne**	**2.14**	**299**	*e*Pn	**Pn**	**02 58 09.8**	**+1.5**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**02 58 35.3**	**+0.6**
	15nm,0.5s						
LPG	**La Plagne**	**2.14**	**299**	*e*Pn	**Pn**	**02 58 09.8**	**+1.5**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**02 58 35.3**	**+0.6**
	7.4nm,0.5s						
CARE	**Lago del Cares**	**2.15**	**25**	*e*Pn	**Pn**	**02 58 09.2**	**+0.8**
CARE	**Lago del Cares**	**2.15**	**25**	*e*Pn	**Pn**	**02 58 09.2**	**+0.8**
LPL	**La Plagne**	**2.16**	**300**	*e*Pn	**Pn**	**02 58 09.6**	**+1.1**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**02 58 35.6**	**+0.4**
	11nm,0.3s						
LPL	**La Plagne**	**2.16**	**300**	*e*Pn	**Pn**	**02 58 09.6**	**+1.1**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**02 58 35.6**	**+0.4**
	5.4nm,0.3s						
FRF	**La Foret Royal**	**2.19**	**246**	*e*Pn	**Pn**	**02 58 08.2**	**-0.5**
FRF	**La Foret Royal**	**2.19**	**246**	*e*P	**Pb**	**02 58 11.7**	**-0.5**
FRF				*e*Sn	**Sn**	**02 58 34.7**	**-0.9**
	10nm,0.3s						
FRF	**La Foret Royal**	**2.19**	**246**	*e*Pn	**Pn**	**02 58 08.2**	**-0.5**
FRF	**La Foret Royal**	**2.19**	**246**	*e*P	**Pb**	**02 58 11.7**	**-0.5**
FRF				*e*Sn	**Sn**	**02 58 34.7**	**-0.9**
	5.2nm,0.3s						
LMR	**La Mourre**	**2.38**	**242**	*e*Pn	**Pn**	**02 58 10.7**	**-0.7**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**02 58 39.3**	**-1.1**
	8.7nm,0.2s						
LMR	**La Mourre**	**2.38**	**242**	*e*Pn	**Pn**	**02 58 10.7**	**-0.7**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**02 58 39.3**	**-1.1**
	4.3nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.55**	**281**	*e*Pn	**Pn**	**02 58 15.9**	**+2.1**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**02 58 45.1**	**+0.5**
	17nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.55**	**281**	*e*Pn	**Pn**	**02 58 15.9**	**+2.1**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**02 58 45.1**	**+0.5**
	8.4nm,0.4s						
SMRF	**Simiane la Rot**	**2.80**	**261**	*e*Pn	**Pn**	**02 58 18.2**	**+1.1**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**02 58 49.8**	**-0.8**
	4.5nm,0.4s						
SMRF	**Simiane la Rot**	**2.80**	**261**	*e*Pn	**Pn**	**02 58 18.2**	**+1.1**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**02 58 49.8**	**-0.8**
	2.2nm,0.4s						
DAVA	**Damuels**	**2.83**	**7**	*e*Pn	**Pn**	**02 58 19.9**	**+2.3**
	1.5nm,0.2s						
DAVA				*e*Sn	**Sn**	**02 58 53.5**	**+2.0**
	8.2nm,0.3s						
DAVA	**Damuels**	**2.83**	**7**	Pn	**Pn**	**02 58 19.9**	**+2.3**
	1.5nm,0.2s						
DAVA				Sn	**Sn**	**02 58 53.5**	**+2.0**
	8.2nm,0.3s						
MOTA	**Moosalm**	**3.10**	**22**	*i* Pn	**Pn**	**02 58 23.5**	**+2.1**
	1.1nm,0.2s						
MOTA				Sn	**Sn**	**02 59 01.2**	**+2.9**
	7.4nm,0.4s						
MOTA	**Moosalm**	**3.10**	**22**	Pn	**Pn**	**02 58 23.5**	**+2.1**
	1.1nm,0.2s						
MOTA				Sn	**Sn**	**02 59 01.2**	**+2.9**
	7.4nm,0.4s						
RETA	**Reutte**	**3.15**	**17**	*i* Pn	**Pn**	**02 58 23.6**	**+1.5**
	1.2nm,0.2s						
RETA				*i* Sn	**Sn**	**02 59 01.4**	**+1.9**
	2.7nm,0.3s						
RETA	**Reutte**	**3.15**	**17**	Pn	**Pn**	**02 58 23.6**	**+1.5**
	1.2nm,0.2s						
RETA				Sn	**Sn**	**02 59 01.4**	**+1.9**
	2.7nm,0.3s						
CABF	**La Chapelle**	**3.16**	**314**	*e*Pn	**Pn**	**02 58 23.8**	**+1.7**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**02 58 59.0**	**-0.6**
	3.1nm,0.3s						
CABF	**La Chapelle**	**3.16**	**314**	*e*Pn	**Pn**	**02 58 23.8**	**+1.7**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**02 58 59.0**	**-0.6**
	1.5nm,0.3s						
WATA	**Walderalm**	**3.23**	**27**	*i* Pn	**Pn**	**02 58 25.4**	**+2.2**
	0.8nm,0.2s						
WATA				*i* Sn	**Sn**	**02 59 02.7**	**+1.2**
	2.7nm,0.3s						
WATA	**Walderalm**	**3.23**	**27**	Pn	**Pn**	**02 58 25.4**	**+2.2**
	0.8nm,0.2s						
WATA				Sn	**Sn**	**02 59 02.7**	**+1.2**
	2.7nm,0.3s						
VIVF	**Saint-Julien-l**	**3.39**	**278**	*e*Pn	**Pn**	**02 58 27.1**	**+1.8**
VIVF				*e*Sn	**Sn**	**02 59 04.7**	**-0.7**
	2.8nm,0.4s						
VIVF	**Saint-Julien-l**	**3.39**	**278**	*e*Pn	**Pn**	**02 58 27.1**	**+1.8**
VIVF				*e*Sn	**Sn**	**02 59 04.7**	**-0.7**
	1.4nm,0.4s						
HINF	**Hinteralfeld**	**3.78**	**333**	*e*Pn	**Pn**	**02 58 31.4**	**+0.8**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**02 59 14.2**	**-0.6**
	5.1nm,0.3s						
HINF	**Hinteralfeld**	**3.78**	**333**	*e*Pn	**Pn**	**02 58 31.4**	**+0.8**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**02 59 14.2**	**-0.6**
	2.5nm,0.3s						
NVLJ	**Novalja**	**3.91**	**87**	*e*Pn	**Pn**	**02 58 32.4**	**0.0**
NVLJ				Sn	**Sn**	**02 59 17.0**	**-1.1**
NVLJ	**Novalja**	**3.91**	**87**	*e*Pn	**Pn**	**02 58 32.4**	**0.0**
NVLJ				Sn	**Sn**	**02 59 16.9**	**-1.1**
HAU	**Haudompre**	**4.11**	**330**	*e*Pn	**Pn**	**02 58 36.1**	**+0.9**
HAU				*e*Sn	**Sn**	**02 59 23.2**	**+0.1**
	19nm,0.4s						
HAU	**Haudompre**	**4.11**	**330**	*e*Pn	**Pn**	**02 58 36.1**	**+0.9**
HAU				*e*Sn	**Sn**	**02 59 23.2**	**+0.1**
	9.4nm,0.4s						
CDF	**Champ du Feu**	**4.20**	**340**	*e*Pn	**Pn**	**02 58 36.4**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**02 59 23.5**	**-1.7**
	3.3nm,0.3s						
CDF	**Champ du Feu**	**4.20**	**340**	*e*Pn	**Pn**	**02 58 36.4**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**02 59 23.5**	**-1.7**
	1.6nm,0.3s						
SMF	**Signal de Mont**	**4.46**	**301**	*e*Pn	**Pn**	**02 58 41.6**	**+1.6**
SMF				*e*Sn	**Sn**	**02 59 30.8**	**-0.9**
	7.9nm,0.4s						
SMF	**Signal de Mont**	**4.46**	**301**	*e*Pn	**Pn**	**02 58 41.6**	**+1.6**
SMF				*e*Sn	**Sn**	**02 59 30.8**	**-0.9**
	4.0nm,0.4s						
UDBI	**Udbina**	**4.55**	**87**	*e*Pn	**Pn**	**02 58 41.9**	**+0.7**
UDBI				Sn	**Sn**	**02 59 35.6**	**+1.6**
UDBI	**Udbina**	**4.55**	**87**	*e*Pn	**Pn**	**02 58 41.9**	**+0.7**
UDBI				Sn	**Sn**	**02 59 35.5**	**+1.6**
LOR	**Lormes**	**4.77**	**308**	*e*Pn	**Pn**	**02 58 45.8**	**+1.6**
LOR				*e*Sn	**Sn**	**02 59 37.4**	**-1.8**
	8.0nm,0.3s						
LOR	**Lormes**	**4.77**	**308**	*e*Pn	**Pn**	**02 58 45.8**	**+1.6**
LOR				*e*Sn	**Sn**	**02 59 37.4**	**-1.8**
	4.0nm,0.3s						
SFTF	**Sexfontaines**	**4.79**	**322**	*e*Pn	**Pn**	**02 58 46.0**	**+1.5**
SFTF	**Sexfontaines**	**4.79**	**322**	*e*Pn	**Pn**	**02 58 46.0**	**+1.5**
PAGF	**Fort de Pagny**	**4.80**	**329**	*e*Pn	**Pn**	**02 58 45.8**	**+1.2**
PAGF				*e*Sn	**Sn**	**02 59 38.2**	**-1.8**
	0.6nm,0.3s						
PAGF	**Fort de Pagny**	**4.80**	**329**	*e*Pn	**Pn**	**02 58 45.8**	**+1.2**
PAGF				*e*Sn	**Sn**	**02 59 38.2**	**-1.8**
	0.3nm,0.3s						
AVF	**Avril sur Loir**	**4.83**	**301**	*e*Pn	**Pn**	**02 58 46.5**	**+1.5**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**02 59 38.5**	**-2.2**
	1.0nm,0.3s						
AVF	**Avril sur Loir**	**4.83**	**301**	*e*Pn	**Pn**	**02 58 46.5**	**+1.5**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**02 59 38.5**	**-2.2**
	0.5nm,0.3s						
SSF	**Saint Saulge**	**4.87**	**304**	*e*Pn	**Pn**	**02 58 46.9**	**+1.4**
SSF	**Saint Saulge**	**4.87**	**304**	*e*Pn	**Pn**	**02 58 46.9**	**+1.4**
MEZF	**Maizieres J'vi**	**5.02**	**325**	*e*Pn	**Pn**	**02 58 48.8**	**+1.2**
MEZF	**Maizieres J'vi**	**5.02**	**325**	*e*Pn	**Pn**	**02 58 48.8**	**+1.2**
BGF	**Bois d'Agland**	**5.05**	**297**	*e*Pn	**Pn**	**02 58 49.3**	**+1.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**02 59 45.1**	**-1.1**
	7.4nm,0.4s						
BGF	**Bois d'Agland**	**5.05**	**297**	*e*Pn	**Pn**	**02 58 49.3**	**+1.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**02 59 45.1**	**-1.1**
	3.7nm,0.4s						
CAF	**Calviac**	**5.25**	**277**	*e*Pn	**Pn**	**02 58 52.7**	**+1.9**
CAF	**Calviac**	**5.25**	**277**	*e*Pn	**Pn**	**02 58 52.7**	**+1.9**
KHC	**Kasperske Hory**	**5.46**	**30**	*e*PN	**Pn**	**02 58 56.9**	**+3.2**
KHC				*e*SN	**Sn**	**02 59 53.6**	**-2.8**
KHC	**Kasperske Hory**	**5.46**	**30**	Pn	**Pn**	**02 58 56.9**	**+3.2**

IDC ***12*** *03:17:37.3±3.5, 37.˚53S×178.˚68E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/18, mbtmp3.6/2, Error ellipse: s-maj=90.2km s-min=39.1km az=138.0*
ISCJB ***12*** *03:17:40.5±0.9, 37.˚42S±0.˚05×178.˚23E±0.˚06, h10km, mb3.4/2, Error ellipse: s-maj=9.0km s-min=6.0km az=40.8*
WEL ***12*** *03:17:41.5±0.6, 37.˚46S×178.˚21E, h5km, ML3.7/5, Error ellipse: s-maj=4.1km s-min=2.3km az=0.0*
WEL Felt in the Gisborne region, maximum reported intensity MM 4.

ISC 12 03:17:41.0±1.3, 37˚46S±0˚08×178˚25E±0˚05, h10km, n40, σ0°97/43, 2C-6D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.11**	**154**	⇑P	**Pg**	**03 17 44.4**	**+0.7**
MXZ				SG	**Sg**	**03 17 46.2**	**+0.6**
MXZ				AML	AML	03 17 46.4	
MXZ				AML	AML	03 17 46.4	
WMGZ	**Waiomatatini S**	**0.38**	**159**	⇓PG	**Pg**	**03 17 49.3**	**+0.8**
HAZ	**Te Kaha**	**0.47**	**231**	⇑PG	**Pg**	**03 17 50.7**	**+0.6**
HAZ				SG	**Sg**	**03 17 56.6**	**+0.3**
PUZ	**Puketiti**	**0.61**	**179**	⇓P*	**Pg**	**03 17 53.4**	**+0.6**
PUZ				AML	AML	03 18 07.2	
PUZ				AML	AML	03 18 08.0	
TWGZ	**Tauwhareparae**	**0.74**	**196**	⇓P*	**Pb**	**03 17 56.2**	**+0.2**
CNGZ	**Carnagh Statio**	**1.02**	**182**	⇓P*	**Pn**	**03 18 01.9**	**+0.6**
TKGZ	**Te Karaka**	**1.02**	**198**	⇓P*	**Pn**	**03 18 01.7**	**+0.3**
MWZ	**Matawai**	**1.04**	**213**	⇓P*	**Pg**	**03 18 00.9**	**0.0**
MWZ				AML	AML	03 18 21.7	
MWZ				AML	AML	03 18 22.4	
URZ	**Urewera**	**1.20**	**228**	Pn	**Pg**	**03 18 04.2**	**+0.2**
	53nm,0.3s,baz=294,slow=2.1,SNR=177						
URZ				Sn	**Sb**	**03 18 18.8**	**-0.5**
	29nm,0.3s,baz=198,slow=23,SNR=16						
URZ	**Urewera**	**1.20**	**228**	P*	**Pb**	**03 18 03.5**	**-0.2**
URZ				AML	AML	03 18 27.9	
URZ				AML	AML	03 18 28.9	
RAGZ	**Rawiri**	**1.22**	**212**	P*	**Pb**	**03 18 04.5**	**+0.3**
RIGZ	**Rimuhau**	**1.30**	**197**	P*	**Pn**	**03 18 05.6**	**+0.4**
EDRZ	**Edgecumbe**	**1.36**	**241**	P*	**Pg**	**03 18 07.6**	**+0.6**
EDRZ				AML	AML	03 18 35.8	
EDRZ				AML	AML	03 18 36.0	
OPRZ	**Ohinepanea**	**1.40**	**254**	*e*PN	**Pn**	**03 18 06.2**	**-0.3**
PRGZ	**Paritu Road**	**1.48**	**191**	PN	**Pn**	**03 18 07.6**	**-0.2**
SNGZ	**Shannon Statio**	**1.50**	**208**	PN	**Pb**	**03 18 08.9**	**0.0**
RTZ	**Ruatahuna**	**1.52**	**221**	PN	**Pn**	**03 18 08.7**	**+0.4**
MUGZ	**Murupara**	**1.54**	**229**	PN	**Pn**	**03 18 08.6**	**+0.1**
KNZ	**Kokohu**	**1.62**	**196**	PN	**Pn**	**03 18 08.9**	**-0.7**
MHGZ	**Mahia Peninsul**	**1.71**	**189**	PN	**Pn**	**03 18 10.3**	**-0.5**
RAHZ	**Arahi**	**1.71**	**212**	PN	**Pb**	**03 18 12.4**	**-0.2**
NMHZ	**Naumai**	**1.99**	**214**	PN	**Pn**	**03 18 16.3**	**+1.7**
ARHZ	**Aropaoanui**	**2.05**	**208**	PN	**Pn**	**03 18 16.4**	**+1.0**
KUZ	**Kuaotunu**	**2.14**	**289**	PN	**Pn**	**03 18 16.0**	**-0.7**
MCHZ	**McNeill Hill**	**2.32**	**211**	PN	**Pn**	**03 18 19.7**	**+0.4**
MKAZ	**Moumakai**	**2.49**	**277**	PN	**Pn**	**03 18 21.3**	**-0.2**
KAHZ	**Kahuranaki**	**2.56**	**204**	PN	**Pn**	**03 18 22.0**	**-0.6**
KRHZ	**Kereru**	**2.63**	**213**	*e*PN	**Pn**	**03 18 23.3**	**-0.2**
MOVZ	**Moawhango**	**2.76**	**225**	PN	**Pn**	**03 18 26.1**	**+0.8**
PXZ	**Pawanui**	**2.78**	**202**	PN	**Pn**	**03 18 24.0**	**-1.5**
WNVZ	**Wahianoa**	**2.79**	**227**	PN	**Pn**	**03 18 27.2**	**+1.4**
PNHZ	**Pukenui**	**2.92**	**213**	*e*PN	**Pn**	**03 18 26.6**	**-0.9**
TSZ	**Takapari Road**	**3.15**	**214**	PN	**Pn**	**03 18 29.7**	**-0.9**
WAZ	**Wanganui**	**3.43**	**227**	PN	**Pn**	**03 18 36.2**	**+1.7**
BFZ	**Birch Farm**	**3.57**	**205**	PN	**Pn**	**03 18 34.4**	**-2.0**
THZ	**Tophouse**	**5.95**	**222**	*e*PN	**Pn**	**03 19 06.4**	**-2.8**
CTZ	**Chatham Island**	**7.38**	**150**	*e*PN	**Pn**	**03 19 27.4**	**-1.3**
ASAR	**Alice Springs**	**40.22**	**277**	P	**P**	**03 25 18.8**	**+0.9**
	0.4nm,0.6s,baz=123,slow=8.3,SNR=9.5						
WRA	**Warramunga Arr**	**41.87**	**282**	P	**P**	**03 25 32.3**	**+0.8**
	0.5nm,0.4s,baz=120,slow=8.4,SNR=13						
FINES	**FINESS Array B

	2.8nm,0.5s							
WRA	**Warramunga Arr**	**45.39**	**267**	P		**P**	**03 39 05.1**	**-3.0**
	1.7nm,0.5s,baz=104,slow=8.0,SNR=12							
WRA				LR		LR	03 58 03.1	
	comp=Z,182nm,18.1s,baz=110,slow=36							
VNDA	**Vanda**	**52.91**	**186**	P		**P**	**03 40 06.3**	**+1.7**
	1.5nm,0.6s,baz=2.1,slow=6.7,SNR=12							
VNDA				LR		LR	03 58 54.6	
	comp=Z,112nm,20.8s,baz=22,slow=32							
VNDA	**Vanda**	**52.91**	**186**	*e*P		**P**	**03 40 07.2**	**+2.5**
	6.3nm,1.1s							
GUMO	**Guam**	**54.15**	**312**	LR		LR	04 00 38.1	
	comp=Z,174nm,21.9s,baz=128,slow=33							
CASY	**Casey**	**59.90**	**207**	*e*P		**P**	**03 40 52.9**	**-1.6**
	26nm,1.6s							
QSPA	**South Pole Qui**	**64.42**	**180**	*e*P		**P**	**03 41 25.7**	**+0.6**
	39nm,1.1s							
JHJ	**Hachijo jima 2**	**71.71**	**322**	LR		LR	04 06 04.5	
	comp=Z,128nm,21.0s,baz=140,slow=30							
MJAR	**Matsushiro Arr**	**75.13**	**324**	P		**P**	**03 42 26.8**	**-4.3**
	1.1nm,0.8s,baz=151,slow=6.3,SNR=6.0							
MAW	**Mawson**	**77.16**	**200**	P		**P**	**03 42 43.4**	**+1.2**
	3.8nm,0.7s,baz=148,slow=8.8,SNR=5.6							
MAW				LR		LR	04 15 40.5	
	comp=Z,154nm,19.5s,baz=68,slow=35							
MAW	**Mawson**	**77.16**	**200**	*e*P		**P**	**03 42 43.4**	**+1.2**
	2.3nm,0.8s							
NIKH	**Nikolski High**	**78.60**	**5**	*e*P		**P**	**03 42 51.8**	**+1.6**
	193nm,0.7s							
PETK	**Petropavlovsk-**	**81.58**	**345**	P		**P**	**03 43 03.3**	**-3.1**
	2.3nm,0.6s,baz=106,slow=4.7,SNR=4.4							
PETK				LR		LR	04 16 39.1	
	comp=Z,44nm,18.7s,baz=155,slow=34							
KSRS	**Korea Array**	**81.61**	**318**	P		**P**	**03 43 04.4**	**-2.4**
	0.4nm,0.5s,baz=131,slow=3.7,SNR=3.8							
KSRS				LR		LR	04 17 38.7	
	comp=Z,33nm,18.5s,baz=135,slow=35							
KSAR	**Wonju Array Be**	**81.62**	**318**	P		**P**	**03 43 04.4**	**-2.5**
SNAA	**Sanae**	**82.82**	**178**	P		**P**	**03 43 12.5**	**-0.4**
SNAA	**Sanae**	**82.82**	**178**	*e*P		**P**	**03 43 13.4**	**+0.5**
	10nm,1.2s							
WDC	**Whiskeytown Da**	**82.86**	**38**	*e*P		**P**	**03 43 13.3**	**0.0**
	7.6nm,1.3s							
YBH	**Yreka Blue Hor**	**83.54**	**37**	*e*P		**P**	**03 43 17.8**	**+0.8**
	9.7nm,1.1s							
NV01	**Mina Array Sit**	**83.92**	**42**	*e*P		**P**	**03 43 19.1**	**-0.1**
NVAR	**Mina Array Bea**	**83.92**	**42**	P		**P**	**03 43 16.2**	**-2.9**
	0.7nm,0.7s,baz=224,slow=8.7,SNR=2.9							
NVAR				LR		LR	04 13 40.1	
	comp=Z,91nm,21.0s,baz=265,slow=31							
USRK	**Ussuriysk Ar.**	**83.95**	**326**	P		**P**	**03 43 15.1**	**-3.7**
	2.5nm,0.9s,baz=192,slow=4.1,SNR=3.7							
HUMO	**Hull Mountain**	**84.00**	**37**	*e*P		**P**	**03 43 18.8**	**-0.4**
	11nm,1.4s							
NV11	**Mina Array Sit**	**84.01**	**42**	*e*P		**P**	**03 43 21.5**	**+2.0**
	14nm,1.7s							
QIZ	**Qiongzhong**	**84.16**	**294**	P		**P**	**03 43 21.3**	**+0.8**
QIZ	**Qiongzhong**	**84.16**	**294**	S		**S**	**03 53 45.5**	**+2.3**
QIZ				LR		LR		
	comp=N,30nm,46.9s							
QIZ				LR		LR		
	comp=E,200nm,96.1s							
QIZ				LR		LR		
	comp=Z,55nm,37.5s							
TPNV	**Topopah Spring**	**84.27**	**44**	*e*P		**P**	**03 43 21.8**	**+0.9**
	comp=Z,4.2nm,0.9s							
Y14A	**Wickenburg**	**84.59**	**48**	*e*P		**P**	**03 43 23.1**	**+0.7**
	comp=Z,25nm,1.2s							
W13A	**Hualapai Mount**	**84.68**	**47**	*e*P		**P**	**03 43 24.6**	**+1.5**
	comp=Z,6.6nm,1.3s							
SHPR	**Sheep Range**	**84.69**	**45**	*e*P		**P**	**03 43 24.6**	**+1.6**
	comp=Z,7.1nm,1.4s							
PLCA	**Paso Flores**	**84.80**	**133**	LR		LR	04 12 00.2	
	comp=Z,70nm,21.5s,baz=304,slow=29							
MOD	**Modoc Plateau**	**85.00**	**39**	*e*P		**P**	**03 43 24.3**	**-0.1**
	comp=Z,5.1nm,0.9s							
TUC	**Tucson**	**85.18**	**51**	*e*P		**P**	**03 43 26.0**	**+0.6**
	comp=Z,4.7nm,1.0s							
K05A	**Summer Lake**	**85.21**	**38**	*e*P		**P**	**03 43 25.6**	**+0.1**
	comp=Z,20nm,1.3s							
X16A	**Lo Mia Camp, P**	**85.92**	**49**	*e*P		**P**	**03 43 31.0**	**+1.7**
	comp=Z,9.3nm,1.4s							
LCMT	**Little Creek M**	**86.23**	**46**	*e*P		**P**	**03 43 31.4**	**+0.8**
	comp=Z,4.0nm,1.1s							
CCUT	**Cedar City**	**86.47**	**45**	*e*P		**P**	**03 43 32.9**	**+1.0**
	comp=Z,3.6nm,1.0s							
CN2	**Changchun**	**87.17**	**322**	*e*P		**P**	**03 43 35.6**	**+0.7**
KLR	**Kul'dur**	**87.62**	**329**	LR		LR	04 17 32.9	
	comp=Z,57nm,20.0s,baz=150,slow=32							
MFID	**Camas Ranch**	**88.50**	**39**	*e*P		**P**	**03 43 42.2**	**+0.8**
	comp=Z,3.8nm,0.5s							
MNTX	**Cornudas Mount**	**88.71**	**54**	*e*P		**P**	**03 43 43.4**	**+0.8**
	comp=Z,5.4nm,1.3s							
TX31	**Lajitas Ar. Si**	**88.77**	**57**	*e*P		**P**	**03 43 43.2**	**+0.2**
TXAR	**Lajitas Array**	**88.77**	**57**	P		**P**	**03 43 39.5**	**-3.6**
	comp=Z,0.4nm,0.8s,baz=242,slow=7.0,SNR=3.6							
TXAR				LR		LR	04 17 37.9	
	comp=Z,36nm,19.3s,baz=0.0,slow=32							
CRAG	**Craig**	**88.92**	**23**	*e*P		**P**	**03 43 44.1**	**+1.2**
	comp=Z,3.6nm,0.7s							
MA2	**Magadan**	**89.09**	**344**	LR		LR	04 20 26.4	
	comp=Z,26nm,19.6s,baz=169,slow=34							
SPUT	**South Promonto**	**89.24**	**43**	*e*P		**P**	**03 43 46.7**	**+1.6**
	comp=Z,3.4nm,1.0s							
ANMO	**Albuquerque**	**89.64**	**51**	*e*P		**P**	**03 43 46.7**	**-0.4**
	comp=Z,4.6nm,1.0s							
TTA	**Tatalina**	**89.81**	**9**	*e*P		**P**	**03 43 47.7**	**+0.7**
	comp=Z,8.4nm,1.2s							
CAST	**Castle Rocks**	**90.88**	**11**	*e*P		**P**	**03 43 52.8**	**+0.8**
	comp=Z,12nm,1.6s							
MCMT	**McKenzie Canyo**	**91.06**	**40**	*e*P		**P**	**03 43 55.3**	**+1.7**
IMW	**Indian Meadow**	**91.65**	**41**	*e*P		**P**	**03 43 57.3**	**+1.0**
	comp=Z,4.3nm,1.1s							
BW06	**Boulder Array**	**91.84**	**43**	*e*P		**P**	**03 43 56.2**	**-1.0**
	comp=Z,3.5nm,1.1s							
PDAR	**Pinedale Array**	**91.84**	**43**	P		**P**	**03 43 54.8**	**-2.4**
	comp=Z,1.4nm,1.0s,baz=204,slow=3.3,SNR=5.0							
PDAR				LR		LR	04 19 11.7	
	comp=Z,51nm,18.8s,baz=261,slow=32							
BOZ	**Bozeman (W)**	**92.24**	**39**	*e*P		**P**	**03 43 58.1**	**-0.8**
	comp=Z,6.4nm,1.1s							
KMI	**Kunming**	**92.83**	**296**	P		**P**	**03 44 03.4**	**+1.2**
KMI				pP		pP	03 44 13.9	+0.3
KMI				sP		sP	03 44 18.2	+0.5
KMI				pmax		pmax		
	comp=Z,6.0nm,1.2s							
KMI				LR		LR		
	comp=N,85nm,15.5s							
KMI				LR		LR		
	comp=E,130nm,14.3s							
KMI				LR		LR		
	comp=Z,110nm,27.3s							
CMAR	**Chiang Mai Arr**	**93.04**	**289**	P		**P**	**03 44 01.6**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=116,slow=4.1,SNR=4.1							
CMAR				LR		LR	04 26 47.0	
	comp=Z,9.1nm,19.0s,baz=200,slow=36							
ILAR	**Eielson Array**	**93.06**	**12**	P		**P**	**03 43 58.8**	**-3.2**
	comp=Z,0.3nm,0.5s,baz=215,slow=4.8,SNR=6.8							
ILAR				LR		LR	04 18 33.8	
	comp=Z,56nm,21.9s,baz=230,slow=31							
HHC	**Hu-ho-hao-te**	**93.87**	**314**	*e*P		**P**	**03 44 07.9**	**+1.5**
HHC				sP		pP	03 44 17.7	-0.2
HHC	**Hu-ho-hao-te**	**93.87**	**314**	S		**S**	**03 55 13.8**	**+0.1**
HHC				pmax		pmax		
	comp=Z,15nm,1.2s							
HHC				pmax		pmax		
	comp=Z,68nm,5.2s							
HHC				LR		LR		
	comp=N,160nm,15.5s							
HHC				LR		LR		
	comp=E,170nm,17.1s							
HHC				LR		LR		
	comp=Z,63nm,16.5s							
CD2	**Chengdu**	**94.64**	**302**	*e*P		**P**	**03 44 10.5**	**+0.3**
LZH	**Lanzhou**	**96.91**	**307**	*e*P		**P**	**03 44 24.6**	**+4.1**
LZH				pP		sP	03 44 34.3	-1.8
LZH				sP		pP	03 44 38.1	+6.1
LZH				pmax		pmax		
	comp=Z,26nm,1.3s							
YAK	**Yakutsk**	**97.37**	**337**	LR		LR	04 26 00.2	
	comp=Z,19nm,20.8s,baz=109,slow=34							
LPAZ	**La Paz**	**98.87**	**113**	LR		LR	04 22 40.8	
	comp=Z,46nm,18.6s,baz=208,slow=32							
MKAR	**Makanchi Array**	**115.64**	**312**	PKP		**PKPdf**	**03 49 28.5**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=152,slow=0.9,SNR=2.9							
KSH	**Kashi**	**118.83**	**303**	PKPbc		**PKPdf**	**03 49 38.8**	**+1.4**
KSH				sPKP			03 49 54.0	
KSH				PP		**PP**	**03 51 02.6**	**+5.9**
KSH				PKS		**PKSdf**	**03 53 14.8**	**+0.6**
KSH				SKS		**SKSdf**	**03 56 46.0**	**-0.9**
KSH				SKKS		**SKKSac**	**03 57 51.7**	**-2.3**
KSH	**Kashi**	**118.83**	**303**	SS		SS	04 07 17.5	+3.5
KSH				AMB		AMB		
	comp=Z,77nm,4.0s							
KSH				LR		LR		
	comp=N,120nm,10.9s							
KSH				LR		LR		
	comp=E,100nm,6.2s							
ARCES	**ARCESS Array B**	**134.22**	**349**	PKP		**PKPdf**	**03 50 03.8**	**-1.9**
	comp=E,2.0nm,0.8s,baz=290,slow=5.0,SNR=4.2							
FINES	**FINESS Array B**	**141.08**	**343**	PKhKP	PKPpre		03 50 11.1	
	comp=E,0.7nm,0.6s,baz=32,slow=5.4,SNR=8.3							
H10S3	**ASCENSION HYDR**	**141.35**	**151**	T		T	06 28 47.0	
	baz=205,slow=74,SNR=6.6							
H10S2	**ASCENSION HYDR**	**141.35**	**151**	T		T	06 28 46.4	
	baz=205,slow=74,SNR=10							
H10S1	**ASCENSION HYDR**	**141.36**	**151**	T		T	06 28 51.1	
	baz=205,slow=74,SNR=7.6							
ASCN	**Ascension**	**142.39**	**150**	*e*PKPdf		**PKPdf**	**03 50 21.5**	**-0.9**
H10N3	**ASCENSION HYDR**	**142.41**	**150**	T		T	06 30 15.2	
	baz=202,slow=75,SNR=4.7							
H10N1	**ASCENSION HYDR**	**142.41**	**150**	T		T	06 30 21.8	
	baz=202,slow=75,SNR=11							
H10N2	**ASCENSION HYDR**	**142.42**	**150**	T		T	06 30 09.9	
	baz=202,slow=75,SNR=9.8							
NB2	**NORSAR Subarra**	**144.25**	**354**	PKP		**PKPab**	**03 50 19.6**	**-2.5**
	comp=Z,1.6nm,0.6s,baz=13,slow=3.5							
NOA	**NORSAR Array B**	**144.25**	**354**	PKP		**PKPab**	**03 50 19.9**	**-2.2**
	comp=Z,2.3nm,0.7s,baz=9.2,slow=2.3,SNR=9.1							
NACGM	**Naroch**	**146.12**	**336**	*e*		**PKPdf**	**03 50 26.0**	**-1.6**
AKASG	**Malin Array Be**	**148.12**	**328**	PKPbc		**PKPdf**	**03 50 31.4**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=44,slow=3.8,SNR=7.3							
AKBB	**Malin Array Si**	**148.12**	**328**	*e*PKPbc		**PKPbc**	**03 50 34.1**	**-0.1**
KIEV	**Kiev**	**148.13**	**328**	*e*PKPbc		**PKPbc**	**03 50 33.3**	**-1.0**
AK11	**Malin Array Si**	**148.16**	**328**	*e*PKPdf		**PKPdf**	**03 50 32.2**	**+1.1**
BRTR	**Keskin Array B**	**151.12**	**307**	PKPbc		**PKPbc**	**03 50 40.1**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=121,slow=3.6,SNR=7.1							
ANTO	**Ankara**	**151.68**	**307**	*e*PKPbc		**PKPbc**	**03 50 44.6**	**+1.1**
BR231	**Keskin MP Arra**	**151.70**	**307**	*e*PKPdf		**PKPbc**	**03 50 40.8**	**-2.7**
BURAR	**Bucovina Array**	**152.15**	**327**	⇓*e*iP		**PKPbc**	**03 50 43.8**	**-0.5**
TESR	**Tescani**	**152.16**	**324**	⇓*e*iP		**PKPab**	**03 50 50.1**	**-3.9**
KOLS	**Kolonicke sedl**	**152.50**	**332**	*e*PKP		**PKPbc**	**03 50 44.1**	**-0.8**
KOLS				*e*			03 50 49.1	
KOLS				*e*			03 50 57.4	
STHS	**Stebnicka Huta**	**152.54**	**334**	*e*PKP		**PKPbc**	**03 50 49.0**	**+4.0**
STHS				*e*			03 50 55.6	
CRVS	**Cervenica-Dubn**	**152.86**	**333**	*e*PKP		**PKPbc**	**03 50 51.4**	**+5.7**
CRVS				*e*			03 51 02.0	
DOPR	**Dopca**	**153.18**	**325**	⇓*e*iP		**PKPbc**	**03 50 44.9**	**-1.6**
MLR	**Muntele Rosu**	**153.20**	**323**	⇓*e*iP		**PKPdf**	**03 50 33.7**	**-5.6**
DPC	**Dobruska-Polom**	**153.43**	**341**	*e*PKPDF		**PKPdf**	**03 50 43.1**	**+3.8**
DPC				⇑*e*PKP		**PKiKP**	**03 50 48.5**	**+1.4**
DPC				*e*pPKP		**PKPab**	**03 50 55.4**	**-3.8**
BRG	**Berggiesshubel**	**153.57**	**345**	*e*PKP		**PKPbc**	**03 50 43.7**	**-3.5**
	comp=Z,4.6nm,1.0s							
KECS	**Kecovo**	**153.59**	**334**	*e*PKP		**PKPab**	**03 51 05.5**	**+5.6**
DRGR		**153.93**	**329**	⇑*e*iP		**PKPbc**	**03 50 46.6**	**-1.6**
ARR	**Arges**	**153.98**	**324**	⇓*e*iP		**PKPbc**	**03 50 47.0**	**-1.4**
VYHS	**Vyhne**	**154.21**	**336**	*e*PKP		**PKPab**	**03 51 07.8**	**+5.3**
VRAC	**Vranov**	**154.27**	**340**	⇑*e*iP		**PKPab**	**03 51 01.3**	**-1.4**
PSZ	**Piszkesteto**	**154.28**	**334**	⇓*e*iP		**PKPab**	**03 51 09.1**	**+6.2**
KHC	**Kasperske Hory**	**155.28**	**344**	⇑*e*PKP		**PKPdf**	**03 50 48.5**	**+6.5**
KHC				*e*pPKP		**pPKPdf**	**03 50 58.2**	**+4.5**
KHC				*e*PKPAB		**PKPab**	**03 51 04.8**	**-2.3**
KHC				*ex*		x	03 51 09.5	
GERES	**GERESS Array B**	**155.51**	**343**	PKPab		**PKPab**	**03 51 05.1**	**-3.1**
	comp=Z,0.6nm,0.8s,baz=18,slow=3.4,SNR=4.4							
MDVR	**Moldovita**	**155.87**	**327**	⇓*e*iP		**PKPab**	**03 51 14.0**	**+4.2**
TORD	**Toddi Ar. Bea**	**167.44**	**172**	PKPab		**PKPab**	**03 52 00.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=185,slow=4.4,SNR=9.8							

JMA 12 03:47:58.9±0.2, 38°43N×144°52E, h27km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.32**	**287**	P	Pn	03 48 36.8	+1.5
OFUJ				*e*S	Sn	03 49 04.3	+1.3
MIYJ	**Miyakonagasawa**	**2.40**	**299**	P	Pn	03 48 37.6	+1.3
MIYJ				S	Sn	03 49 06.9	+2.1
JIO	**Ouri**	**2.49**	**272**	P	Pn	03 48 38.9	+1.3
JIO				S	Sn	03 49 08.1	+1.0
JMK	**Ichinoseki**	**2.63**	**282**	P	Pn	03 48 41.3	+1.7
JMK				*e*S	Sn	03 49 12.7	+2.0
JOM	**Ohasama**	**2.72**	**293**	P	Pn	03 48 42.6	+1.7
JOM				S	Sn	03 49 14.6	+1.7
JOU	**Okura**	**3.03**	**270**	P	Pn	03 48 47.1	+2.0
JOU				S	Sn	03 49 22.7	+2.2
JANG	**Nango**	**3.03**	**311**	P	Pn	03 48 46.3	+1.2
JANG				*e*S	Sn	03 49 21.7	+1.2
JRG	**Rokugo**	**3.18**	**289**	P	Pn	03 48 49.6	+2.5
JRG				S	Sn	03 49 27.9	+3.7
JYK	**Kaneyama**	**3.29**	**280**	P	Pn	03 48 50.9	+2.2
JYK				*e*S	Sn	03 49 29.4	+2.4
JFT	**Otama**	**3.43**	**256**	P	Pn	03 48 52.7	+2.1
JFT				S	Sn	03 49 32.1	+1.8
JTM	**Tenmabayashi**	**3.56**	**313**	P	Pn	03 48 54.3	+2.0
JTM				S	Sn	03 49 34.4	+1.0

*NIED **12** 03:51:00, 37°.90N×142°.00E, h56km, Mw3.6 Best double couple: M₀3.07000×10¹⁴ NP1:φ₀202.00000°, δ35.00000°, λ28.00000°. NP2:φ₀88.00000°, δ74.00000°, λ121.00000°.*
*IDC **12** 03:51:07.4±2.0, 37°.72N×142°.50E, h0km, mb3.5/2, mb1 3.6/6, mb1mx3.3/40, mbtmp3.6/6, ML3.0/3, MS2.2/1, Ms1 2.2/1, ms1mx2.0/34, Error ellipse: s-maj=38.3km s-min=24.6km az=89.0*
*ISCJB **12** 03:51:10.7±1.2, 37°.85N±0°.04×142°.00E±0°.07, h25km±7km, mb3.5/2, Error ellipse: s-maj=10.4km s-min=6.3km az=25.6*
*JMA **12** 03:51:12.3±0.1, 37°.89N×141°.93E, h41km±2km, M3.9*
JMA Felt I J1.

ISC 12 03:51:10.6±2.0, 37°.84N±0°.05×142°.00E±0°.08, h15km±11km, n24, σ1°47/28, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.80**	**320**	P	**Pg**	**03 51 26.3**	**+0.2**
JIO				*e*S	**Sg**	**03 51 35.7**	**-1.0**
JMM	**Marumori**	**0.95**	**272**	P	**Pb**	**03 51 28.7**	**-0.1**
JMM				S	**Sb**	**03 51 40.1**	**-1.1**
JFK	**Kawauchi**	**1.01**	**242**	P	**Pb**	**03 51 29.7**	**0.0**
JFK				S	**Sb**	**03 51 42.1**	**-0.7**
JOU	**Okura**	**1.18**	**297**	P	**Pn**	**03 51 32.0**	**-0.5**
JMK	**Ichinoseki**	**1.27**	**331**	P	**Pn**	**03 51 32.8**	**-0.9**
JFT	**Otama**	**1.36**	**257**	P	**Pn**	**03 51 35.4**	**+0.5**
JFT				S	**Sn**	**03 51 52.0**	**-0.6**
JYS	**Shirataka**	**1.57**	**285**	S	**Sn**	**03 51 56.5**	**-1.5**
JYK	**Kaneyama**	**1.68**	**310**	P	**Pn**	**03 51 38.9**	**-0.5**
JOM	**Ohasama**	**1.72**	**342**	P	**Pn**	**03 51 39.7**	**-0.3**
JFY	**Yanaizu**	**1.87**	**257**	P	**Pn**	**03 51 42.5**	**+0.5**
JFY				*e*S	**Sn**	**03 52 04.7**	**-0.7**
JRG	**Rokugo**	**1.89**	**326**	P	**Pn**	**03 51 41.9**	**-0.3**
JRG				*e*S	**Sn**	**03 52 04.7**	**-1.0**
JYA	**Atsumi**	**1.95**	**293**	P	**Pn**	**03 51 42.8**	**-0.3**
MJAR	**Matsushiro Arr**	**3.29**	**248**	Pn	**Pn**	**03 52 03.3**	**+1.7**
	1.4nm,0.3s,baz=77,slow=16,SNR=12						
MJAR				Sn	**Sb**	**03 52 48.9**	**+0.4**
	1.7nm,0.3s,baz=346,slow=5.1,SNR=5.0						
MJAR				LR	LR	03 53 35.2	
	comp=Z,36nm,19.8s,baz=340,slow=41						
MAT	**Matsushiro**	**3.29**	**248**	P	**Pn**	**03 52 04.7**	**+3.1**
MAT				*e*S	**Sn**	**03 52 39.6**	**-0.8**
JHJ	**Hachijo jima 2**	**5.04**	**202**	Pn	**Pn**	**03 52 25.9**	**+0.3**
	5.0nm,0.3s,baz=324,slow=17,SNR=2.0						
JHJ				Sn	**Sn**	**03 53 20.8**	**-2.8**
	5.1nm,0.3s,baz=246,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**6.29**	**4**	Pn	**Pn**	**03 52 42.3**	**-0.4**
	baz=219,slow=9.4						
USRK	**Ussuriysk Ar.**	**9.87**	**313**	Pn	**Pn**	**03 53 35.1**	**+3.3**
	0.3nm,0.3s,baz=123,slow=15,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**28.18**	**123**	T	T	04 26 38.4	
	baz=319,slow=75,SNR=60						
H11N3	**WAKE ISLAND Hy**	**28.19**	**123**	T	T	04 26 49.1	
	baz=315,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.92**	**125**	T	T	04 27 31.0	
	baz=317,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**28.92**	**125**	T	T	04 27 37.5	
	baz=317,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.94**	**125**	T	T	04 27 38.4	
	baz=317,slow=76,SNR=26						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**03 59 20.8**	**+2.9**
	0.2nm,0.4s,baz=76,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**57.92**	**189**	P	**P**	**04 01 00.7**	**-1.4**
	0.7nm,0.8s,baz=7.6,slow=6.9,SNR=5.2						

*DDA **12** 03:55:04.5, 39°.09N×29°.01E, h7km, Md3.0*
*ISK **12** 03:55:04.5, 39°.09N×29°.06E, h5km, MD2.8*
*ISCJB **12** 03:55:05.0±0.4, 39°.08N±0°.04×29°.04E±0°.03, h9km, Error ellipse: s-maj=5.4km s-min=3.7km az=165.1*
*CSEM **12** 03:55:05.0±0.1, 39°.10N×29°.04E, h2km, MD3.0, Error ellipse: s-maj=2.9km s-min=2.5km az=169.0*

ISC 12 03:55:04.9±0.9, 39°.09N±0°.03×29°.03E±0°.02, h9km, n46, σ0°31/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**259**	P	**Pg**	**03 55 09.8**	**-0.2**
DEMI				S	**Sg**	**03 55 13.4**	**0.0**
DEMI	**Demirci**	**0.25**	**259**	*i* P	**Pg**	**03 55 09.8**	**-0.2**
DEMI				*i* S	**Sg**	**03 55 13.4**	**0.0**
GEDZ	**Gediz**	**0.30**	**99**	*e*PG	**Pg**	**03 55 10.4**	**-0.5**
GEDZ	**Gediz**	**0.30**	**99**	*e*Pg	**Pg**	**03 55 10.4**	**-0.5**
GDZ	**Gediz**	**0.35**	**90**	P	**Pg**	**03 55 11.6**	**-0.3**
GDZ				S	**Sg**	**03 55 16.6**	**+0.1**
GDZ	**Gediz**	**0.35**	**90**	*i* P	**Pg**	**03 55 11.6**	**-0.3**
GDZ				*i* S	**Sg**	**03 55 16.6**	**+0.1**
TVSB	**Tavsanli**	**0.49**	**43**	*e*PG	**Pg**	**03 55 14.2**	**-0.2**
TVSB				*e*SG	**Sg**	**03 55 21.1**	**+0.2**
TVSB	**Tavsanli**	**0.49**	**43**	*e*Pg	**Pg**	**03 55 14.2**	**-0.2**
TVSB				*e*Sg	**Sg**	**03 55 21.1**	**+0.2**
DST	**Dursunbey**	**0.61**	**328**	*e*PG	**Pg**	**03 55 17.0**	**+0.3**
DST	**Dursunbey**	**0.61**	**328**	*e*Pg	**Pg**	**03 55 17.0**	**+0.3**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*PG	**Pg**	**03 55 17.4**	**0.0**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*Pg	**Pg**	**03 55 17.4**	**0.0**
KHL	**Karahalli**	**0.86**	**153**	*e*PG	**Pg**	**03 55 21.4**	**0.0**
KHL	**Karahalli**	**0.86**	**153**	*e*Pg	**Pg**	**03 55 21.4**	**0.0**
AKS	**Akhisar**	**0.97**	**258**	*e*PG	**Pb**	**03 55 24.1**	**+0.2**
AKS	**Akhisar**	**0.97**	**258**	*e*Pg	**Pb**	**03 55 24.2**	**+0.2**
BALB	**Balikesir**	**1.05**	**302**	*e*PG	**Pb**	**03 55 25.5**	**+0.3**
BALB	**Balikesir**	**1.05**	**302**	*e*Pg	**Pb**	**03 55 25.5**	**+0.3**
IGD	**Bursa**	**1.18**	**6**	*i* P	**Pb**	**03 55 26.9**	**-0.6**
BALY	**Balya**	**1.27**	**301**	P	**Pn**	**03 55 28.7**	**-0.2**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pn**	**03 55 28.7**	**-0.2**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN	**Pb**	**03 55 29.1**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*Pn	**Pb**	**03 55 29.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*PN	**Pg**	**03 55 29.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pg**	**03 55 29.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pg**	**03 55 29.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pg**	**03 55 29.7**	**+0.1**
IZI	**Iznik**	**1.29**	**15**	*e*PN	**Pg**	**03 55 29.7**	**0.0**
IZI	**Iznik**	**1.29**	**15**	*e*Pn	**Pg**	**03 55 29.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*PN	**Pg**	**03 55 31.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*Pn	**Pg**	**03 55 31.9**	**-0.1**
ADVT	**Abdulvahap**	**1.45**	**22**	*e*PN	**Pb**	**03 55 31.9**	**-0.2**
ADVT	**Abdulvahap

ellipse: s-maj=2.6km s-min=2.1km az=172.0
DDA ***12*** *04:25:45.4, 39.09N×29.03E, h7km, Md2.4*
ISC 12 04:25:44.1±0.9, 39.14N±0.06×29.03E±0.04, h9km, n14, σ0.59/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**248**	P	**Pb**	**04 25 50.8**	**-0.2**
DEMI				S	**Sg**	**04 25 54.4**	**+1.4**
DEMI	**Demirci**	**0.26**	**248**	*i* P	**Pb**	**04 25 50.8**	**-0.2**
DEMI				*i* S	**Sg**	**04 25 54.4**	**+1.4**
GEDZ	**Gediz**	**0.31**	**108**	*e*PG	**Pb**	**04 25 51.9**	**0.0**
GEDZ				*e*SG	**Sb**	**04 25 57.3**	**+0.2**
GEDZ	**Gediz**	**0.31**	**108**	*e*Pg	**Pb**	**04 25 51.9**	**0.0**
GEDZ				*e*Sg	**Sb**	**04 25 57.3**	**+0.2**
GDZ	**Gediz**	**0.36**	**99**	P	**Pb**	**04 25 52.8**	**+0.2**
GDZ				S	**Sb**	**04 25 58.0**	**-0.4**
GDZ	**Gediz**	**0.36**	**99**	*i* P	**Pb**	**04 25 52.9**	**+0.2**
GDZ				*i* S	**Sb**	**04 25 58.0**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**48**	*e*PG	**Pb**	**04 25 54.5**	**+0.2**
TVSB	**Tavsanli**	**0.45**	**48**	*e*Pg	**Pb**	**04 25 54.5**	**+0.2**
KULA	**Kula-Manisa**	**0.69**	**205**	*e*PG	**Pg**	**04 25 57.0**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**205**	*e*Pg	**Pg**	**04 25 57.0**	**-0.4**
KCTX	**Karacabey (Bur**	**1.23**	**335**	*e*PN	**Pn**	**04 26 07.2**	**-0.3**
KCTX	**Karacabey (Bur**	**1.23**	**335**	*e*Pn	**Pn**	**04 26 07.2**	**-0.3**
ARMT	**Armutlu**	**1.43**	**355**	*e*PN	**Pn**	**04 26 09.7**	**-0.5**
ARMT	**Armutlu**	**1.43**	**355**	*e*Pn	**Pn**	**04 26 09.7**	**-0.5**

IDC ***12*** *04:32:25.8±2.4, 26.88S×70.64W, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, ML4.1/3, Error ellipse: s-maj=107.5km s-min=32.8km az=98.0*
GUC ***12*** *04:32:30.0±0.6, 26.61S×70.41W, h59km±19km, ML3.7*
ISC 12 04:32:28.9±0.9, 26.66S±0.04×70.89W±0.07, h34km, n17, σ3.58/26, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.84**	**145**	*i* P	**Pn**	**04 32 44.9**	**+0.5**
CPCH				*i* S	**Sn**	**04 32 55.9**	**+0.3**
VACH	**Vallenar**	**1.91**	**177**	*i* P	**Pb**	**04 33 02.2**	**-0.9**
VACH				*i* S	**Sb**	**04 33 26.1**	**-0.6**
PB14	**IPOC Station P**	**2.08**	**12**	*e*P	**Pn**	**04 32 58.6**	**-3.0**
PB14				*i* S	**Sn**	**04 33 24.9**	**-1.6**
PB14				IAML		04 33 35.4	
	comp=E,606nm,0.5s						
LCO	**Las Campanas**	**2.34**	**176**	*i* P	**Pn**	**04 33 06.5**	**+1.2**
LCO				*i* S	**Sn**	**04 33 34.1**	**+1.0**
LCO				IAML		04 33 48.5	
	comp=E,302nm,0.3s						
VCA	**Vinchina**	**3.15**	**132**	*i* P	**Pb**	**04 33 23.2**	**-1.1**
VCA				*i* S	**Sb**	**04 34 11.0**	**+8.6**
VCA				IAML		04 34 12.9	
	comp=Z,64nm,0.3s						
TLL	**Tololo Astrono**	**3.49**	**179**	*i* P	**Pn**	**04 33 24.2**	**+3.2**
TLL				*e*S	**Sn**	**04 34 02.9**	**+1.6**
TLL				IAML		04 34 26.5	
	comp=E,212nm,0.7s						
AGUA	**GUANDACOL**	**3.52**	**144**	*i* P	**Pb**	**04 33 27.5**	**-3.1**
LVC	**Limon Verde**	**4.42**	**24**	Pn	**Pn**	**04 33 36.6**	**+2.7**
	comp=E,36nm,0.3s,baz=169,slow=9.4,SNR=21						
LVC				Sn	**Sb**	**04 34 38.1**	**-1.0**
	comp=E,553nm,0.3s,baz=169,slow=18,SNR=9.7						
FSA	**Cafayete**	**4.44**	**84**	*i* P	**Pn**	**04 33 38.1**	**+4.0**
AMOG	**MOGNA**	**4.75**	**154**	*i* P	**Pn**	**04 33 41.3**	**+3.1**
CYA	**Choya**	**4.85**	**113**	*i* P	**Pn**	**04 33 42.9**	**+3.3**
CYA				*i* S	**Sb**	**04 34 44.6**	**-6.5**
AVFE	**Valle Fertil**	**4.99**	**144**	*i* P	**Pn**	**04 33 45.7**	**+4.1**
AVFE				*i* S	**Sb**	**04 34 47.4**	**-7.9**
AVFE				IAML		04 34 55.5	
	comp=Z,47nm,0.7s						
LPAZ	**La Paz**	**10.64**	**14**	Pn	**Pn**	**04 35 01.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=176,slow=15,SNR=6.5						
PLCA	**Paso Flores**	**14.04**	**179**	Pn	**Pn**	**04 35 43.0**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=321,slow=15,SNR=5.4						
TORD	**Torodi Ar. Bea**	**80.79**	**70**	P	**P**	**04 44 41.0**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=255,slow=4.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**147.37**	**27**	PKPbc	**PKPab**	**04 52 10.9**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=319,slow=3.8,SNR=3.7						
MKAR	**Makanchi Array**	**150.81**	**39**	PKPbc	**PKPbc**	**04 52 19.7**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=304,slow=2.2,SNR=4.9						

TIR ***12*** *05:01:11.3±3.1, 40.23N×19.98E, h5km±999km, ML2.5*
CSEM ***12*** *05:01:18.8±0.4, 40.16N×20.37E, h10km, ML2.4, Error ellipse: s-maj=9.8km s-min=6.1km az=101.0*
THE ***12*** *05:01:20.3, 40.10N×20.46E, h10km±2km, ML2.4/4, Error ellipse: s-maj=2.5km s-min=0.6km az=307.0*
ISC 12 05:01:18.7±1.5, 40.19N±0.04×20.45E±0.05, h2km±14km, n12, σ0.52/21, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.59**	**196**	P	**Pg**	**05 01 30.1**	**0.0**
SGD				S	**Sg**	**05 01 38.3**	**+0.5**
SGD	**Sagiada**	**0.59**	**196**	P	**Pg**	**05 01 30.1**	**0.0**
SGD				S	**Sg**	**05 01 38.3**	**+0.5**
IGT	**Igoumenitsa**	**0.66**	**188**	P	**Pg**	**05 01 31.3**	**0.0**
IGT				S	**Sg**	**05 01 40.1**	**+0.3**
IGT	**Igoumenitsa**	**0.66**	**188**	P	**Pg**	**05 01 31.3**	**0.0**
IGT				S	**Sg**	**05 01 40.1**	**+0.3**
KPRO	**Kipourio**	**0.74**	**108**	P	**Pg**	**05 01 33.2**	**+0.3**
KPRO				S	**Sb**	**05 01 44.2**	**-0.7**
KPRO	**Kipourio**	**0.74**	**108**	P	**Pg**	**05 01 33.2**	**+0.3**
KPRO				S	**Sb**	**05 01 44.2**	**-0.7**
FNA	**Florina**	**0.93**	**50**	P	**Pn**	**05 01 38.7**	**-0.1**
FNA				S	**Sn**	**05 01 53.3**	**+0.6**
FNA	**Florina**	**0.93**	**50**	P	**Pn**	**05 01 38.7**	**-0.1**
FNA				S	**Sn**	**05 01 53.3**	**+0.6**
OHR	**Ohrid**	**0.96**	**16**	*e*Pn	Pn	05 01 44.1	+4.8
DSL	**Palaion Diasel**	**1.16**	**154**	P	**Pg**	**05 01 40.1**	**-0.9**
DSL				S	**Sb**	**05 01 56.8**	**-0.3**
DSL	**Palaion Diasel**	**1.16**	**154**	P	**Pg**	**05 01 40.1**	**-0.9**
DSL				S	**Sb**	**05 01 56.8**	**-0.3**
TIR	**Tirane**	**1.24**	**339**	*i* PG	**Pg**	**05 01 42.1**	**-0.4**

JMA ***12*** *05:10:24.4±0.4, 34.37N×141.09E, h37km±3km, M3.2*
ISCJB ***12*** *05:10:25.8±0.9, 34.37N±0.04×140.94E±0.09, h35km, mb3.4/3, MS3.9/1, Error ellipse: s-maj=10.5km s-min=5.9km az=165.5*
IDC ***12*** *05:10:26.3±5.2, 33.91N×140.05E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/41, mbtmp3.3/4, ML2.8/1, MS3.9/1, Ms1 3.9/1, ms1mx2.4/21, Error ellipse: s-maj=205.1km s-min=24.1km az=68.0*
ISC 12 05:10:27.1±1.3, 34.39N±0.05×141.0E±0.1, h35km, n17, σ1.16/19, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.26**	**2**	P	**Pn**	**05 10 32.3**	**-1.8**
BSO1				X		05 10 37.2	
BSO3	**Boso 3**	**0.56**	**318**	P	**Pn**	**05 10 37.7**	**-0.7**
BSO3				X		05 10 46.8	
BSO4	**Boso 4**	**0.79**	**319**	P	**Pn**	**05 10 41.4**	**-0.3**
BSO4				X		05 10 53.2	
KTR	**Katsuura**	**0.93**	**325**	P	**Pn**	**05 10 42.7**	**-1.0**
KTR				S	**Sn**	**05 10 55.2**	**-0.5**
TATJ	**Tateyama 2**	**1.09**	**306**	P	**Pn**	**05 10 45.7**	**-0.2**
TATJ				*e*S	**Sn**	**05 10 59.9**	**+0.1**
JCN	**Nagara**	**1.20**	**329**	P	**Pn**	**05 10 46.7**	**-0.8**
JIM2	**Oshima 3**	**1.31**	**285**	P	**Pn**	**05 10 47.9**	**-1.0**
JIM2				S	**Sn**	**05 11 03.1**	**-2.1**
JHJ2	**Mitsune**	**1.59**	**217**	P	**Pn**	**05 10 52.2**	**-0.6**
JHJ2				*e*S	**Sn**	**05 11 10.9**	**-1.3**
MJAR	**Matsushiro Arr**	**3.11**	**314**	Pn	**Pn**	**05 11 13.3**	**-0.4**
	1.3nm,0.3s,baz=140,slow=12,SNR=14						
MJAR				Sn	**Sn**	**05 11 48.6**	**-1.0**
	3.2nm,0.3s,baz=82,slow=32,SNR=9.8						
MAT	**Matsushiro**	**3.11**	**314**	P	**Pn**	**05 11 13.5**	**-0.2**
MAT				S	**Sn**	**05 11 48.7**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**27.22**	**116**	T	T	05 45 13.6	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**27.22**	**116**	T	T	05 45 11.8	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**27.24**	**116**	T	T	05 45 14.6	
	baz=311						
PMG	**Port Moresby**	**43.95**	**171**	LR	LR	05 37 17.0	
	comp=Z,130nm,18.1s,baz=12,slow=37						
MKAR	**Makanchi Array**	**45.26**	**304**	P	**P**	**05 18 43.5**	**+2.4**
	0.2nm,0.6s,baz=87,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	**54.40**	**188**	P	**P**	**05 19 50.4**	**-0.3**
	0.3nm,0.3s,baz=2.2,slow=7.7,SNR=9.1						
ASAR	**Alice Springs**	**58.12**	**188**	P	**P**	**05 20 17.8**	**+0.5**
	0.3nm,0.5s,baz=3.0,slow=6.6,SNR=6.8						

JMA 12 05:15:30.6±0.3, 37.33N×144.14E, h40km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.48**	**298**	P	Pn	05 16 09.9	+1.5
JIO				S	Sn	05 16 39.2	+1.8
JFK	**Kawauchi**	**2.60**	**272**	S	Sn	05 16 41.7	+1.1
OFUJ	**Ofunato**	**2.62**	**313**	P	Pn	05 16 11.5	+1.2
OFUJ				S	Sn	05 16 42.1	+1.2
JMK	**Ichinoseki**	**2.81**	**306**	P	Pn	05 16 14.6	+1.5
JMK				*e*S	Sn	05 16 47.7	+2.0
JOU	**Okura**	**2.94**	**292**	P	Pn	05 16 17.1	+2.3
JFT	**Otama**	**3.03**	**275**	P	Pn	05 16 18.7	+2.6
JFT				S	Sn	05 16 53.9	+2.7
JOM	**Ohasama**	**3.10**	**315**	P	Pn	05 16 18.6	+1.7
JOM				S	Sn	05 16 54.2	+1.5
JYK	**Kaneyama**	**3.38**	**299**	P	Pn	05 16 23.2	+2.4
JYK				*e*S	Sn	05 17 02.1	+2.5
JRG	**Rokugo**	**3.44**	**308**	P	Pn	05 16 24.0	+2.3
JRG				*e*S	Sn	05 17 04.7	+3.5
JRY	**Ryogami san**	**4.41**	**254**	P	Pn	05 16 36.1	+1.1
JRY				S	Sn	05 17 24.5	-0.7
JCH	**Churui**	**5.31**	**354**	S	Sn	05 17 43.8	-3.4
NEM2	**Nemuro 2**	**6.15**	**11**	*e*S	Sn	05 18 01.5	-6.4

IDC 12 05:18:34.1±2.0, 17.76S×178.18W, h615km±27km, mb3.1/8, mb1 3.4/9, mb1mx3.1/28, mbtmp4.1/9, Error ellipse: s-maj=80.6km s-min=13.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.25**	**59**	P	P	05 20 27.2	-0.1
	2.7nm,0.3s,baz=178,slow=11,SNR=4.6						
CTA	**Charters Tower**	**33.69**	**260**	P	P	05 24 26.4	0.0
	1.9nm,0.4s,baz=94,slow=11,SNR=7.1						
STKA	**Stephens Creek**	**38.89**	**241**	P	P	05 25 08.6	-0.3
	1.6nm,0.4s,baz=88,slow=10,SNR=7.5						
WRA	**Warramunga Arr**	**44.87**	**259**	P	P	05 25 55.9	+0.1
	3.1nm,0.4s,baz=97,slow=7.2,SNR=96						
ASAR	**Alice Springs**	**45.04**	**254**	P	P	05 25 57.0	0.0
	6.4nm,0.8s,baz=91,slow=7.8,SNR=124						
NVAR	**Mina Array Bea**	**79.17**	**44**	P	P	05 29 37.4	+0.5
	0.5nm,0.6s,baz=225,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**85.70**	**13**	P	P	05 30 08.8	0.0
	0.2nm,0.4s,baz=222,slow=4.8,SNR=5.2						
TXAR	**Lajitas Array**	**85.73**	**58**	P	P	05 30 10.5	+0.6
	0.8nm,0.7s,baz=222,slow=5.4,SNR=8.1						
PDAR	**Pinedale Array**	**87.10**	**43**	P	P	05 30 14.9	-1.3
	0.3nm,0.5s,baz=224,slow=7.0,SNR=2.9						

BJI ***12*** *05:24:24.0, 14.30S×171.30E, h611km, mb4.7/8, mB4.8/14*
ISCJB ***12*** *05:24:25.2±0.7, 14.36S±0.05×171.27E±0.03, h619km±9km, mb4.7/111, Error ellipse: s-maj=7.4km s-min=4.6km az=169.3*
NEIC ***12*** *05:24:25.6±0.1, 14.34S×171.33E, mb5.2/40, Error ellipse: s-maj=5.3km s-min=3.5km az=150.0*
IDC ***12*** *05:24:26.3±0.9, 14.42S×171.41E, h624km±10km, mb4.1/29, mb1 4.2/32, mb1mx4.1/37, mbtmp5.1/32, Error ellipse: s-maj=10.0km s-min=7.7km az=76.0*
MOS ***12*** *05:24:26.0±0.8, 14.30S×171.26E, h630km, mb4.8/18, Error ellipse: s-maj=9.0km s-min=8.4km az=140.8*
ISC 12 05:24:26.2±0.4, 14.34S±0.05×171.40E±0.05, h622km±4km, h623km:pP-P,n401, σ1.16/423, mb4.7/109, 6C-7D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.23**	**119**	*e*P	**P**	**05 26 21.0**	**+1.6**
MSVF	**Nonsavu**	**7.23**	**119**	*e*P	**P**	**05 26 21.0**	**+1.6**
DZM	**Mont Dzumac**	**9.02**	**211**	P	**P**	**05 26 37.2**	**+1.3**
	12nm,0.3s,baz=81,slow=19,SNR=52						
DZM				S	**S**	**05 28 22.8**	**+0.4**
	baz=108,slow=20,SNR=3.7						
DZM	**Mont Dzumac**	**9.02**	**211**	*e*P	**P**	**05 26 35.9**	**-0.1**
DZM				*e*S	**S**	**05 28 22.2**	**-0.1**
FUNA	**Funafuti**	**9.58**	**54**	*e*P	**P**	**05 26 40.5**	**-1.0**
HNR	**Honiara**	**12.22**	**292**	P	**P**	**05 27 07.4**	**+0.2**
	20nm,0.3s,baz=128,slow=19,SNR=5.1						
HNR	**Honiara**	**12.22**	**292**	*e*P	**P**	**05 27 07.1**	**-0.1**
HNR	**Honiara**	**12.22**	**292**	*e*P	**P**	**05 27 07.1**	**-0.1**
AFI	**Afiamalu**	**16.32**	**91**	P	**P**	**05 27 45.3**	**-0.5**
	3.4nm,0.3s,baz=83,slow=4.7,SNR=6.1						
AFI	**Afiamalu**	**16.32**	**91**	*e*P	**P**	**05 27 46.4**	**+0.7**
AFI				pmax	pmax		
	comp=Z,59nm,1.0s						
AFI	**Afiamalu**	**16.32**	**91**	*e*P	**P**	**05 27 46.4**	**+0.7**
	comp=Z,59nm,1.0s						
EIDS	**Eidsvold**	**22.00**	**237**	*e*P	**P**	**05 28 36.6**	**-0.3**
	comp=Z,40nm,0.6s						
PMG	**Port Moresby**	**24.21**	**279**	P	**P**	**05 28 57.1**	**+0.5**
	comp=Z,56nm,0.8s,baz=58,slow=6.6,SNR=13						
PMG	**Port Moresby**	**24.21**	**279**	*e*P	**P**	**05 28 56.2**	**-0.4**
PMG				pmax	pmax		
	comp=Z,261nm,0.8s						
PMG	**Port Moresby**	**24.21**	**279**	*e*P	**P**	**05 28 57.1**	**+0.5**
	comp=Z,64nm,0.8s						
URZ	**Urewera**	**24.36**	**169**	P	**P**	**05 28 57.0**	**-0.5**
	comp=Z,11nm,0.4s,baz=301,slow=0.8,SNR=18						
URZ				S	**S**	**05 32 32.2**	**-2.8**
	comp=Z,4.2nm,0.3s,baz=258,slow=4.2,SNR=16						
URZ	**Urewera**	**24.36**	**169**	*e*P	**P**	**05 28 56.6**	**-0.8**
	comp=Z,19nm,0.6s						
URZ				S	**S**	**05 32 32.2**	**-2.8**
CTA	**Charters Tower**	**24.67**	**253**	P	**P**	**05 29 00.8**	**+0.1**
	comp=Z,43nm,0.6s,baz=83,slow=12,SNR=76						
CTAO	**Charters Tower**	**24.67**	**253**	*e*P	**P**	**05 29 00.7**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,47nm,0.8s						
CTAO	**Charters Tower**	**24.67**	**253**	*e*P	**P**	**05 29 00.7**	**+0.1**
	comp=Z,48nm,0.8s						
BKZ	**Black Stump Fm**	**25.14**	**171**	*e*P	**P**	**05 29 03.9**	**-0.6**
	comp=Z,54nm,0.8s						
MANU	**Manus Island**	**26.70**	**295**	*e*P	**P**	**05 29 18.5**	**0.0**
	comp=Z,20nm,0.6s						
THZ	**Tophouse**	**27.36**	**178**	*e*P	**P**	**05 29 24.2**	**+0.4**
	comp=Z,39nm,0.5s						
THZ				*e*S	**S**	**05 33 20.7**	**-1.1**
COEN	**Coen**	**27.36**	**267**	*e*P	**P**	**05 29 24.5**	**+0.2**
	comp=Z,41nm,0.6s						
KHZ	**Kahutara**	**28.04**	**177**	*e*P	**P**	**05 29 28.8**	**-0.9**
	comp=Z,50nm,0.4s						
RPZ	**Rata Peaks**	**29.28**	**181**	P	**P**	**05 29 39.7**	**-0.6**
	comp=Z,18nm,0.5s,baz=309,slow=1.9,SNR=15						
RPZ	**Rata Peaks**	**29.28**	**181**	*e*P	**P**	**05 29 40.1**	**-0.2**
	comp=Z,164nm,1.8s						
STKA	**Stephens Creek**	**32.34**	**232**	P	**P**	**05 30 07.3**	**+0.7**
	comp=Z,89nm,0.5s,baz=58,slow=8.1,SNR=211						
STKA				ScP	**ScP**	**05 35 21.4**	**+0.5**
	comp=Z,6.9nm,0.6s,baz=68,slow=3.1,SNR=6.3						
STKA	**Stephens Creek**	**32.34**	**232**	*e*P	**P**	**05 30 07.4**	**+0.7**
STKA				pmax	pmax		
	comp=Z,21nm,0.6s						
STKA	**Stephens Creek**	**32.34**	**232**	*e*P	**P**	**05 30 07.3**	**+0.7**
	comp=Z,21nm,0.6s						
STKA				ScP	**ScP**	**05 35 21.4**	**+0.5**
GENI	**Genyem**	**32.96**	**288**	P	**P**	**05 30 12.6**	**+0.5**
	comp=Z,63nm,0.6s						
WB2	**Warramunga Arr**	**35.78**	**256**	*e*P	**P**	**05 30 34.6**	**-0.8**
	comp=Z,111nm,0.8s						
WRAB	**Tennant Creek**	**35.79**	**256**	*c i*P	**P**	**05 30 34.5**	**-1.0**
WRAB	**Tennant Creek**	**35.79**	**256**	*e*P	**P**	**05 30 34.6**	**-1.0**
	comp=Z,122nm,0.9s						
WRA	**Warramunga Arr**	**35.80**	**256**	P	**P**	**05 30 34.8**	**-0.8**
	comp=Z,136nm,0.8s,baz=86,slow=8.9,SNR=457						
WRA				ScP	**ScP**	**05 35 34.3**	**+0.7**
	comp=Z,14nm,0.7s,baz=86,slow=3.9,SNR=24						
AS01	**Alice Springs**	**36.51**	**250**	*e*P	**P**	**05 30 40.5**	**-0.9**
AS31	**Alice Springs**	**36.55**	**250**	*e*P	**P**	**05 30 41.2**	**-0.5**
	comp=Z,81nm,0.5s						
ASAR	**Alice Springs**	**36.55**	**250**	P	**P**	**05 30 41.4**	**-0.4**
	comp=Z,154nm,0.5s,baz=76,slow=9.2,SNR=2047						
ASAR				ScP	**ScP**	**05 35 37.7**	**+1.4**
	comp=Z,9.5nm,0.6s,baz=89,slow=3.5,SNR=20						
BBOO	**Buckleboo**	**37.01**	**234**	*e*P	**P**	**05 30 45.6**	**+0.3**
	comp=Z,223nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**37.62**	**100**	P	**P**	**05 30 51.5**	**+1.1**
	comp=Z,31nm,0.6s,baz=62,slow=5.7,SNR=8.4						
MTN	**Manton Dam**	**39.13**	**267**	*e*P	**P**	**05 31 02.3**	**-0.4**
	comp=Z,110nm,0.6s						
FITZ	**Fitzroy Crossi**	**44.01**	**259**	*e*P	**P**	**05 31 41.2**	**+0.3**
SOEI	**Soe**	**46.26**	**270**	*e*P	**P**	**05 31 59.0**	**+0.9**
	comp=Z,106nm,0.8s						
MLOA	**Mauna Loa Obse**	**46.79**	**45**	*e*P	**P**	**05 32 03.0**	**+0.6**
POHA	**Pohakuloa**	**46.98**	**45**	*e*P	**P**	**05 32 04.3**	**+0.8**
	comp=Z,88nm,0.6s						
HPAH	**Hawaii Prepara**	**47.05**	**44**	*e*P	**P**	**05 32 04.7**	**+0.8**
	comp=Z,142nm,0.6s						
MMRI	**Maumere**	**48.44**	**271**	*e*P	**P**	**05 32 13.9**	**-0.4**
	comp=Z,185nm,0.6s						
LUWI	**Luwuk**	**49.84**	**281**	*e*P	**P**	**05 32 24.3**	**-0.2**
	comp=Z,69nm,0.9s						
KAPI	**Kappang**	**51.65**	**275**	*e*P	**P**	**05 32 37.6**	**0.0**
	comp=Z,31nm,0.9s						
NWAO	**Narrogin (SRO)**	**52.38**	**239**	*e*P	**P**	**05 32 42.1**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,130nm,0.7s						
NWAO	**Narrogin (SRO)**	**52.38**	**239**	*e*P	**P**	**05 32 42.1**	**-0.4**
	comp=Z,130nm,0.7s						
JAGI	**Jajag, Banyuwa**	**56.31**	**269**	*e*P	**P**	**05 33 08.7**	**-1.6**
	comp=Z,59nm,0.6s						
PCJI	**Pacitan**	**59.24**	**269**	P	**P**	**05 33 29.5**	**-0.5**
	comp=Z,128nm,0.9s						
MJAR	**Matsushiro Arr**	**59.51**	**329**	P	**P**	**05 33 31.3**	**-0.1**
	comp=Z,6.0nm,0.4s,baz=157,slow=6.4,SNR=39						
MAJO	**Matsushiro**	**59.52**	**329**	*d i*P	**P**	**05 33 31.2**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,87nm,1.0s						
MAJO	**Matsushiro**	**59.52**	**329**	*e*P	**P**	**05 33 31.4**	**0.0**
	comp=Z,21nm,1.1s						
MJB9	**Matsu-Tunnel**	**59.52**	**329**	*e*P	**P**	**05 33 31.6**	**+0.2**
	comp=Z,5.4nm,1.1s						
UGM	**Wanagama**	**59.94**	**269**	*e*P	**P**	**05 33 34.6**	**-0.1**
	comp=Z,542nm,1.8s						
SBUM	**Sibu**	**60.94**	**281**	*e*P	**P**	**05 33 42.3**	**+1.1**
	comp=Z,16nm,0.9s						
KPJI	**Karang Pucung**	**61.60**	**269**	P	**P**	**05 33 45.2**	**-0.3**
	comp=Z,56nm,0.8s						
ERM	**Erimo**	**61.82**	**336**	*e*P	**P**	**05 33 47.0**	**+0.7**
ERM				pmax	pmax		
	comp=Z,15nm,1.0s						
NACB	**Ninganchiao**	**61.89**	**308**	*e*P	**P**	**05 33 47.0**	**-0.1**
	comp=Z,8.5nm,0.3s						
TPUB	**Ta-pu**	**62.17**	**306**	*e*P	**P**	**05 33 47.3**	**-1.7**
KSM	**Kuching**	**62.48**	**279**	*e*P	**P**	**05 33 51.4**	**+0.2**
CISI	**Cisompet, Garu**	**62.63**	**269**	P	**P**	**05 33 51.4**	**-0.8**
	comp=Z,91nm,0.6s,comp=Z,5μm						
CISI	**Cisompet, Garu**	**62.63**	**269**	*e*P	**P**	**05 33 51.1**	**-1.1**
VNDA	**Vanda**	**63.38**	**182**	P	**P**	**05 33 55.8**	**0.0**
	comp=Z,4.7nm,0.5s,baz=352,slow=6.4,SNR=6.6						
SBA	**Scott Base**	**63.57**	**181**	*e*P	**P**	**05 33 58.4**	**+1.4**
SBA				pmax	pmax		
	comp=Z,12nm,1.0s						
SBA	**Scott Base**	**63.57**	**181**	*e*P	**P**	**05 33 58.4**	**+1.4**
	comp=Z,12nm,1.0s						
ASAJ	**Asahikawa**	**63.83**	**337**	P	**P**	**05 34 00.2**	**+1.1**
	comp=Z,20nm,0.8s,baz=217,slow=9.5,SNR=26						
ASAJ	**Asahikawa**	**63.83**	**337**	*e*P	**P**	**05 34 00.5**	**+1.4**
CASY	**Casey**	**65.42**	**203**	*e*P	**P**	**05 34 08.9**	**+0.1**
KSRS	**Korea Array**	**65.75**	**323**	P	**P**	**05 34 11.9**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=134,slow=6.6,SNR=11						
KSAR	**Wonju Array Be**	**65.77**	**323**	P	**P**	**05 34 12.0**	**+0.6**
KSAR	**Wonju Array Be**	**65.77**	**323**	P	**P**	**05 34 11.9**	**+0.6**
YSS	**Yuzh-Sakhalins**	**66.21**	**339**	*e*P	**P**	**05 34 15.0**	**+1.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS	**Yuzh-Sakhalins**	**66.21**	**339**	*e*P	**P**	**05 34 15.4**	**+1.5**
PET	**Petropavlovsk**	**67.98**	**352**	P	**P**	**05 34 25.0**	**+0.5**
PET				pmax	pmax		
	comp=Z,58nm,1.4s						
PETK	**Petropavlovsk-**	**68.20**	**351**	P	**P**	**05 34 26.6**	**+0.6**
	comp=Z,26nm,0.7s,baz=123,slow=5.4,SNR=42						
NJ2	**Nanjing**	**68.25**	**313**	*e*P	**P**	**05 34 26.9**	**+0.2**
NJ2				PMZ			
	comp=Z,13nm,0.5s						
USRK	**Ussuriysk Ar.**	**68.43**	**331**

CD2 S **S** 05 44 37.0 +0.1
CD2 SKS **SKSac** 05 44 43.0 -2.0
CD2 PMZ
comp=Z,160nm,5.2s
CNPM China Poot 79.58 18 *e*P **P** 05 35 30.9 +1.1
SVW2 Sparrevohn 79.65 16 *e*P **P** 05 35 30.7 +0.5
BRLK Bradley Lake 79.88 18 *e*P **P** 05 35 32.0 +0.5
SPU Mount Spurr 80.68 17 *e*P **P** 05 35 35.4 -0.2
KMRM Mail Ridge 80.99 45 *e*P **P** 05 35 39.8 +2.0
SAO San Andreas Ge 81.05 49 *e*P **P** 05 35 39.0 +1.0
SAO pmax pmax
comp=Z,12nm,0.7s
SAO San Andreas Ge 81.05 49 *e*P **P** 05 35 39.0 +1.0
comp=Z,12nm,0.7s
LZH Lanzhou 81.06 311 *e*P **P** 05 35 39.9 +1.6
LZH pP pP 05 37 45.0 -3.3
LZH sP sP 05 38 46.2 -4.8
TTA Tatalina 81.10 14 *e*P **P** 05 35 39.0 +1.3
TTA Tatalina 81.10 14 *e*P **P** 05 35 39.0 +1.3
SCZ2 Santa Cruz Isl 81.26 52 P **P** 05 35 40.3 +1.2
baz=246
KHMM Horse Mountain 81.28 44 *e*P **P** 05 35 40.9 +1.7
RC01 Rabbit Creek A 81.28 18 *e*P **P** 05 35 39.1 +0.5
comp=Z,47nm,1.0s
PKM Mcpherson Peak 81.48 51 P **P** 05 35 41.9 +1.4
baz=246
SMMC Simmler 81.52 50 P **P** 05 35 42.0 +1.5
baz=246
BLG Laguna Peak, P 81.73 52 P **P** 05 35 42.5 +0.9
baz=246
PMR Palmer 81.86 18 *e*P **P** 05 35 41.0 -0.5
PMR pmax pmax
comp=Z,21nm,0.8s
PMR Palmer 81.86 18 *e*P **P** 05 35 41.0 -0.5
comp=Z,21nm,0.8s
WDC Whiskeytown Da 81.95 45 *e*P **P** 05 35 43.7 +1.2
WDC Whiskeytown Da 81.95 45 *e*P **P** 05 35 43.7 +1.2
L02D Cave Junction, 81.95 43 P **P** 05 35 43.8 +1.3
baz=242,SNR=9.5
N02D Trinity Center 82.01 44 P **P** 05 35 44.3 +1.4
baz=243,SNR=22
M02C Callahan 82.10 44 P **P** 05 35 44.9 +1.6
baz=243,SNR=38
ORV Oroville 82.21 46 *e*P **P** 05 35 45.1 +1.3
ORV Oroville 82.21 46 *e*P **P** 05 35 45.1 +1.3
BILL Bilibino 82.24 358 *d i*P **P** 05 35 43.2 -0.1
BILL *i* *PP **pP** 05 37 54.2 +0.3
BILL *i* 05 39 11.5
BILL pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 82.24 358 *e*P **P** 05 35 43.2 -0.1
SML Sawmill 82.26 18 *e*P **P** 05 35 43.5 -0.1
SML pmax pmax
comp=Z,3.0nm,0.6s
SML Sawmill 82.26 18 *e*P **P** 05 35 43.5 -0.1
comp=Z,3.2nm,0.6s
ARVC Arvin 82.31 51 P **P** 05 35 45.8 +1.4
baz=247,SNR=6.8
AFDM Forest Hills D 82.32 47 *e*P **P** 05 35 45.4 +1.0
O03D Paynes Creek 82.33 45 P **P** 05 35 45.4 +0.9
baz=244,SNR=18
DECC Green Verdugo 82.35 52 P **P** 05 35 45.2 +0.5
baz=247
YBH Yreka Blue Hor 82.35 44 *e*P **P** 05 35 45.7 +1.1
YBH Yreka Blue Hor 82.35 44 *e*P **P** 05 35 45.7 +1.1
CMB Columbia Colle 82.36 48 *e*P **P** 05 35 45.3 +0.6
CMB pmax pmax
comp=Z,88nm,0.9s
CMB Columbia Colle 82.36 48 *e*P **P** 05 35 45.3 +0.6
comp=Z,88nm,0.9s
VES Vestal, Richgr 82.41 50 P **P** 05 35 45.8 +0.9
baz=246,SNR=8.7
PASC Pasadena Art C 82.43 52 *e*P **P** 05 35 45.8 +0.7
comp=Z,26nm,1.1s
RCTC Rector, Farmer 82.48 50 P **P** 05 35 46.0 +0.8
baz=246
DIV Divide 82.54 19 *e*P **P** 05 35 44.9 -0.2
comp=Z,32nm,0.7s
MWC Mount Wilson 82.55 52 *e*P **P** 05 35 46.9 +1.0
MWC Mount Wilson 82.55 52 *e*P **P** 05 35 46.9 +1.0
109C Camp Elliot, M 82.77 54 P **P** 05 35 47.6 +0.9
baz=248
ISA Isabella, Lake 82.79 51 P **P** 05 35 48.3 +1.3
baz=247,SNR=7.1
I03D Drain, OR 82.83 42 P **P** 05 35 48.0 +1.2
baz=242,SNR=7.5
EDW2 Edwards Air Fo 82.85 51 P **P** 05 35 48.6 +1.4
baz=247,SNR=13
BFSC Mount Baldy Ra 82.86 52 P **P** 05 35 48.1 +0.7
baz=247,SNR=15
YAK Yakutsk 82.87 342 P **P** 05 35 47.2 +0.6
comp=Z,2.0nm,0.3s,baz=142,slow=19,SNR=2.5
YAK Yakutsk 82.87 342 *e*P **P** 05 35 46.4 -0.2
YAK *e*S **S** 05 45 09.6 -5.0
YAK *e*SS **SS** 05 50 56.2 -1.2
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax smax
comp=N,68nm,4.2s
YAK smax smax
comp=E,37nm,3.6s
M04C Macdoel 82.96 44 P **P** 05 35 48.9 +1.2
baz=244,SNR=15
MURC Murrieta 82.97 53 P **P** 05 35 48.8 +1.0
baz=248,SNR=5.2
TRF Thorofare Moun 83.00 16 *e*P **P** 05 35 46.4 -1.0
comp=E,12nm,0.6s
MONP2 Monument Peak 83.31 54 P **P** 05 35 51.1 +1.4
baz=248,SNR=13
MLAC Mammoth, Mammo 83.31 49 P **P** 05 35 50.7 +1.1
baz=246
BPAW Bear Paw Mtn. 83.33 16 *e*P **P** 05 35 47.5 -1.4
comp=E,0.6nm,0.4s
K04D Chiloquin, OR 83.38 43 P **P** 05 35 50.9 +1.1
baz=244
CWC Cottonwood Cre 83.39 50 P **P** 05 35 51.4 +1.4
baz=247
IKP In-Ko-Pah, Jac 83.46 54 P **P** 05 35 51.5 +1.2
baz=248,SNR=6.8
I04A Tendick Farm, 83.48 42 P **P** 05 35 51.0 +0.9
baz=243,SNR=12
TIN Tinemaha, Big 83.52 49 P **P** 05 35 52.0 +1.4
baz=247
PFO Pinyon Flats O 83.54 53 P **P** 05 35 51.7 +0.9
baz=248
PFO Pinyon Flats O 83.54 53 *i* P **P** 05 35 52.2 +1.4
TPFO Pinon Flats 83.55 53 P **P** 05 35 51.5 +0.7
baz=248
MCK McKinley 83.59 17 *e*P **P** 05 35 49.4 -0.8
MCK pmax pmax
comp=Z,8.0nm,0.5s
MCK McKinley 83.59 17 *e*P **P** 05 35 49.4 -0.8
comp=Z,7.7nm,0.5s
MPMC Manual Prospec 83.68 50 P **P** 05 35 52.5 +1.0
baz=247,SNR=17
DAC Darwin (Calif) 83.69 50 *e*P **P** 05 35 52.6 +1.1
DAC Darwin (Calif) 83.69 50 *e*P **P** 05 35 52.6 +1.1
MAW Mawson 83.72 201 P **P** 05 35 51.3 +0.5
comp=Z,5.2nm,0.8s,baz=100,slow=8.5,SNR=6.4
PAHR Pah Rah Range 83.76 47 *e*P **P** 05 35 52.8 +1.1
SWSC Sam W. Stewart 83.81 54 P **P** 05 35 53.1 +1.1
baz=249,SNR=9.8
GSC Goldstone, Bar 83.91 51 P **P** 05 35 53.3 +0.8
baz=248,SNR=5.7
GSC Goldstone, Bar 83.91 51 *e*P **P** 05 35 53.5 +1.0
GSC Goldstone, Bar 83.91 51 *e*P **P** 05 35 53.5 +1.0
K05A Summer Lake 84.00 43 *e*P **P** 05 35 54.2 +1.3
NVAR Mina Array Bea 84.01 48 P **P** 05 35 54.2 +1.1
comp=Z,21nm,0.7s,baz=235,slow=8.5,SNR=123
J05D Fort Rock, OR 84.02 43 P **P** 05 35 54.4 +1.5
baz=244,SNR=33
E03A Lebam 84.02 39 *e*P **P** 05 35 53.8 +1.2
H04A Detroit Lake 84.02 41 *e*P **P** 05 35 53.6 +0.9
MOD Modoc Plateau 84.04 44 *e*P **P** 05 35 54.1 +1.0
BELC Belle Mtn. Jos 84.04 53 P **P** 05 35 54.2 +0.9
baz=248,SNR=25
HEC Hector,Ludlow 84.09 52 P **P** 05 35 54.5 +1.1
baz=248,SNR=5.5
GRAC Grapevine Rang 84.14 50 P **P** 05 35 55.0 +1.5
baz=247,SNR=6.8
F04D Rainier, OR 84.14 40 P **P** 05 35 54.9 +1.6
baz=242

ULN Ulaanbaatar 84.23 322⇑ *e*P **P** 05 35 54.2 +0.4
ULN pmax pmax
comp=Z,8.0nm,1.7s
NLWA Neilton Lookou 84.23 38 *e*P **P** 05 35 55.3 +1.6
FURC Furnace Creek, 84.31 50 P **P** 05 35 55.6 +1.4
baz=248,SNR=5.9
BC3 Big Chukawall 84.34 53 P **P** 05 35 55.9 +1.2
baz=249,SNR=9.1
I05D Terrebonne, OR 84.41 42 P **P** 05 35 55.9 +1.3
baz=244,SNR=5.7
SHOC Shoshone, Teco 84.53 51 P **P** 05 35 56.8 +1.3
baz=248
GMRC Granite Mounta 84.59 52 P **P** 05 35 56.8 +0.9
baz=248,SNR=11
SONM Songino Array 84.60 322 P **P** 05 35 55.9 +0.2
comp=Z,0.8nm,0.5s,baz=120,slow=5.3,SNR=5.1
GLA Glamis 84.61 54 P **P** 05 35 57.5 +1.5
baz=249,SNR=12
CCB Clear Creek Bu 84.62 16 *e*P **P** 05 35 53.7 -1.4
TUQ Turquoise Moun 84.63 52 P **P** 05 35 57.3 +1.2
baz=248
IRM Iron Mountain 84.76 53 P **P** 05 35 57.7 +1.1
baz=249,SNR=14
COLA College 84.78 16 *d i*P **P** 05 35 54.4 -1.5
COLA pmax pmax
comp=Z,17nm,0.9s
COLA College 84.78 16 *e*P **P** 05 35 54.8 -1.1
comp=Z,20nm,0.9s
TPNV Topopah Spring 84.95 50 P **P** 05 35 58.9 +1.2
baz=248,SNR=33
TPNV Topopah Spring 84.95 50 *e*P **P** 05 35 58.8 +1.2
TPNV Topopah Spring 84.95 50 *e*P **P** 05 35 58.8 +1.2
DOT Dot Lake 84.95 18 *e*P **P** 05 35 56.0 -0.8
comp=Z,34nm,0.6s
ILAR Eielson Array 84.97 17 P **P** 05 35 55.7 -1.1
comp=Z,20nm,0.6s,baz=235,slow=5.0,SNR=128
Y12C Blythe 85.10 54 P **P** 05 35 59.6 +1.4
baz=249,SNR=5.4
D05A Emumclaw 85.27 39 *e*P **P** 05 36 00.4 +1.7
GTA Gaotai 85.32 312 *e*P **P** 05 36 00.6 +1.3
GTA pP pP 05 38 10.6 -0.6
GTA sP sP 05 39 07.5 -5.9
GTA S **S** 05 45 41.1 +1.5
GTA PMZ
comp=Z,46nm,5.6s
NEE2 Needles Airpor 85.39 53 P **P** 05 36 01.1 +1.5
baz=249
WVOR Wild Horse Val 85.39 44 *e*P **P** 05 36 00.6 +1.0
WVOR Wild Horse Val 85.39 44 *e*P **P** 05 36 00.6 +1.0
A04D Lummi Island 85.54 37 P **P** 05 36 01.4 +1.5
baz=242,SNR=8.1
BMN Battle Mountai 85.57 47 *e*P **P** 05 36 01.7 +1.2
BMN Battle Mountai 85.57 47 *e*P **P** 05 36 01.7 +1.2
PDMCI Parker Dam,Lak 85.59 53 P **P** 05 36 01.7 +1.2
baz=249,SNR=11
SHPR Sheep Range 85.60 51 *e*P **P** 05 36 02.1 +1.4
B05A Bryant 85.69 38 P **P** 05 36 01.9 +1.2
baz=243,SNR=11
214A Organ Pipe Nat 85.84 56 P **P** 05 36 03.1 +1.4
baz=250
214A Organ Pipe Nat 85.84 56 *e*P **P** 05 36 03.2 +1.4
comp=Z,43nm,0.8s
R11A Troy Canyon, C 85.95 49 P **P** 05 36 03.5 +1.1
baz=248,SNR=21
R11A Troy Canyon, C 85.95 49 *e*P **P** 05 36 03.3 +0.9
comp=Z,7.4nm,0.8s
R11A *e*PP **PP** 05 39 34.6 -0.1
COLD Coldfoot 86.04 14 *e*P **P** 05 36 02.2 +0.3
comp=Z,8.0nm,0.7s
G08A Pilot Rock 86.35 42 *e*P **P** 05 36 05.3 +1.3
HAWA Hanford 86.44 40 *e*P **P** 05 36 05.4 +1.1
comp=Z,19nm,1.0s
EGAK Eagle 86.65 18 *e*P **P** 05 36 04.0 -0.7
comp=Z,11nm,0.7s
ELK Elko 87.09 47 *e*P **P** 05 36 08.7 +0.9
ELK pmax pmax
comp=Z,8.0nm,0.6s
ELK Elko 87.09 47 *e*P **P** 05 36 08.7 +0.9
comp=Z,8.3nm,0.6s
BMO Blue Mountains 87.24 42 *e*P **P** 05 36 09.3 +1.1
BMO Blue Mountains 87.24 42 *e*P **P** 05 36 09.2 +1.1
B08A Colville Reser 87.39 39 *e*P **P** 05 36 09.3 +0.6
TUC Tucson 87.58 56 P **P** 05 36 11.6 +1.6
baz=251
MFID Camas Ranch 87.67 44 *e*P **P** 05 36 11.2 +1.0
TLY Talaya 87.94 325 P **P** 05 36 09.5 -1.7
comp=Z,4.1nm,0.7s,baz=184,slow=6.1,SNR=3.7
WUAZ Wupatki 88.14 53 P **P** 05 36 14.1 +1.4
baz=251
DUG Dugway, Tooele 88.62 48 P **P** 05 36 15.9 +1.1
baz=250
DUG Dugway, Tooele 88.62 48 *e*P **P** 05 36 15.2 +0.4
DUG *e**PP **pP** 05 38 26.1 -1.9
DUG pmax pmax
comp=Z,9.0nm,0.9s
DUG Dugway, Tooele 88.62 48 *e*P **P** 05 36 15.2 +0.4
comp=Z,9.4nm,0.9s
DUG *e*pP **pP** 05 38 26.1 -1.9
HLID Hailey 88.68 44 P **P** 05 36 16.2 +1.2
baz=249
NEW Newport 88.70 39 P **P** 05 36 15.7 +0.8
baz=247,SNR=6.4
HWUT Hardware Ranch 89.98 47 *e*P **P** 05 36 21.6 +0.5
comp=Z,6.7nm,0.6s
121A Cookes Peak, D 90.06 57 P **P** 05 36 23.0 +1.3
baz=253,SNR=10.0
121A Cookes Peak, D 90.06 57 *e*P **P** 05 36 22.8 +1.1
comp=Z,12nm,1.0s
MSO Missoula 90.17 41 P **P** 05 36 22.4 +0.7
baz=249
TIXI Tiksi 90.41 348 P **P** 05 36 21.0 -1.1
comp=Z,1.4nm,0.4s,baz=112,slow=3.9,SNR=5.4
TIXI Tiksi 90.41 348 P **P** 05 36 21.0 -1.1
DLMT Dillon 90.53 43 *e*P **P** 05 36 24.4 +0.9
comp=Z,9.0nm,0.6s
MVCO Mesa Verde 90.87 52 P **P** 05 36 26.3 +0.9
baz=253
PV04 Paradox Valley 90.92 51 *e*P **P** 05 36 26.4 +0.9
TPAW Teton Pass 91.03 45 *e*P **P** 05 36 27.0 +1.0
comp=Z,4.4nm,0.7s
REDW Red Top Meadow 91.05 45 *e*P **P** 05 36 26.8 +0.7
comp=Z,11nm,1.1s
PV01 Paradox Valley 91.09 51 *e*P **P** 05 36 26.4 0.0
comp=Z,154nm,0.6s
SNOW Snow King Moun 91.15 45 *e*P **P** 05 36 27.4 +0.8
comp=Z,5.1nm,0.6s
IMW Indian Meadow 91.17 45 *e*P **P** 05 36 27.4 +0.8
comp=Z,6.7nm,0.6s
MOOW Moose Ponds 91.25 45 *e*P **P** 05 36 27.8 +0.9
comp=Z,3.4nm,0.9s
BOZ Bozeman (W) 91.27 43 P **P** 05 36 27.8 +0.9
baz=251,SNR=12
BOZ Bozeman (W) 91.27 43 *e*P **P** 05 36 27.5 +0.6
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ Bozeman (W) 91.27 43 *e*P **P** 05 36 27.5 +0.6
comp=Z,4.7nm,0.6s
LOHW Long Hollow 91.30 45 *e*P **P** 05 36 28.1 +0.9
comp=Z,4.1nm,0.6s
H17A Grant Village 91.57 45 P **P** 05 36 29.5 +1.0
baz=252,SNR=9.8
H17A Grant Village 91.57 45 *e*P **P** 05 36 30.6 +2.1
comp=Z,7.9nm,0.8s
BW06 Boulder Array 91.77 46 P **P** 05 36 29.5 +0.1
baz=252,SNR=7.7
BW06 Boulder Array 91.77 46 *e*P **P** 05 36 29.3 -0.1
comp=Z,4.0nm,0.7s
PDAR Pinedale Array 91.77 46 P **P** 05 36 29.4 +0.1
comp=Z,2.6nm,0.5s,baz=221,slow=2.9,SNR=17
MNTX Cornudas Mount 91.78 58 P **P** 05 36 30.2 +0.7
baz=254,SNR=9.7
MNTX Cornudas Mount 91.78 58 *e*P **P** 05 36 30.1 +0.7
comp=Z,3.1nm,0.7s
ANMO Albuquerque 91.81 55 P **P** 05 36 30.3 +0.6
baz=254
ANMO Albuquerque 91.81 55 *d i*P **P** 05 36 29.9 +0.2
ANMO *i* *PP **pP** 05 38 44.0 +0.5
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO Albuquerque 91.81 55 *e*P **P** 05 36 30.6 +0.9
comp=Z,3.0nm,0.7s
O20A White River Ci 91.92 49 P **P** 05 36 30.9 +0.8
baz=253,SNR=8.2
O20A White River Ci 91.92 49 *e*P **P** 05 36 30.9 +0.8
comp=Z,5.4nm,0.5s
S22A 4UR Ranch, Cre 92.30 52 P **P** 05 36 33.2 +1.2
baz=254

TXAR Lajitas Array 92.59 61 P **P** 05 36 34.4 +1.1
comp=Z,5.1nm,0.7s,baz=221,slow=5.5,SNR=48
TXAR PP **PP** 05 40 25.3 -1.2
comp=Z,0.4nm,0.9s,baz=203,slow=6.7,SNR=2.6
RLMT Red Lodge 92.68 44 P **P** 05 36 34.4 +0.9
baz=252
RLMT Red Lodge 92.68 44 *e*P **P** 05 36 34.5 +1.0
comp=Z,2.0nm,0.7s
N23A Red Feather La 93.82 49 P **P** 05 36 39.7 +0.9
baz=254,SNR=5.2
K22A Casper 93.88 47 P **P** 05 36 39.4 +0.5
baz=254
T25A Trinidad 93.99 53 P **P** 05 36 39.6 -0.1
baz=255
SNAA Sanae 94.11 182⇑ *e*P **P** 05 36 40.0 +0.7
LAO LASA Array 95.16 43 P **P** 05 36 45.0 +0.4
baz=255
WMQ Urumqi 95.33 314 P **P** 05 36 45.5 +0.1
WMQ pP pP 05 39 00.5 +1.0
WMQ PMZ
comp=Z,5.0nm,0.6s
YKA Yellowknife Ar 95.39 27 P **P** 05 36 45.1 +0.1
comp=Z,12nm,0.6s,baz=258,slow=4.9,SNR=140
YKA PKiKP **PKiKP** 05 41 20.5 -0.6
comp=Z,0.2nm,0.7s,baz=260,slow=1.3,SNR=4.2
832A Faith Ranch, C 95.48 62 P **P** 05 36 47.0 +0.6
baz=257
RSSD Black Hills 96.01 46 P **P** 05 36 48.6 0.0
baz=256
JCT Junction City 96.12 60 P **P** 05 36 49.4 +0.2
baz=257
JCT Junction City 96.12 60 *e*P **P** 05 36 49.4 +0.2
JCT pmax pmax
comp=Z,3.0nm,0.8s
JCT Junction City 96.12 60 *e*P **P** 05 36 49.4 +0.2
comp=Z,3.2nm,0.8s
633A Saathoff Ranch 96.43 61 P **P** 05 36 51.5 +0.9
baz=257
H25A Fruitdale 96.43 46 P **P** 05 36 51.4 +1.2
baz=256
433A Art 96.78 60 P **P** 05 36 52.3 +0.1
baz=257
333A Richland Sprin 97.00 60 P **P** 05 36 53.7 +0.6
baz=258
534A Blanco 97.15 61 P **P** 05 36 54.6 +0.8
baz=258
233A Rising Star 97.21 59 P **P** 05 36 54.7 +0.7
baz=258
133A Hamilton Ranch 97.33 58 P **P** 05 36 55.0 +0.5
baz=258
434A Burnet 97.49 60 P Pdif 05 36 55.1 -0.2
baz=258
334A Lometa 97.62 60 P **P** 05 36 56.0 +0.2
baz=258
ZALV Zalesovo Beam 99.46 323 P **Pdif** 05 37 02.3 -1.1
comp=Z,1.0nm,0.7s,baz=113,slow=3.9,SNR=3.9
MKAR Makanchi Array 99.70 316 P **Pdif** 05 37 05.0 +0.3
comp=Z,1.0nm,0.7s,baz=83,slow=6.5,SNR=10
MKAR PKKPbc **PKKPbc** 05 53 21.2 -3.1
comp=Z,0.4nm,0.5s,baz=259,slow=3.4,SNR=4.4
KURK Kurchatov 102.70 319 PKKPbc PKKPbc 05 53 13.2 -2.6
KURBB Kurchatov Arra 102.75 319 PKKPbc PKKPbc 05 53 13.2 -2.5
comp=Z,0.2nm,0.3s,baz=281,slow=3.8,SNR=4.0
LPAZ La Paz 113.79 115 PKiKP **PKiKP** 05 41 56.2 -1.0
comp=Z,0.9nm,0.5s,baz=292,slow=9.3,SNR=7.8
ARU Arti 114.43 326 *i* PKiKP PKPdf 05 41 55.9 -0.5
ARU 05 43 04.4
ARU 05 48 09.8
ARU SS SS 05 58 05.8 -6.0
CPUP Villa Florida 117.72 130 PKP **PKPdf** 05 42 02.9 -0.9
comp=Z,1.4nm,0.7s,baz=26,slow=6.8,SNR=4.2
SCHQ Schefferville 119.73 35 PKP **PKPdf** 05 42 05.5 -1.2
comp=Z,4.4nm,0.6s,baz=246,slow=3.5,SNR=13
ARCES ARCESS Array B 120.84 347 PKP **PKPdf** 05 42 08.0 -0.4
comp=Z,11nm,0.6s,baz=82,slow=1.4,SNR=90
KLMR Klimovskoe 122.10 335 *e*PKiKP **PKPdf** 05 42 08.5 -2.5
KLMR *e* 05 43 53.2
KLMR pmax pmax
comp=Z,4.0nm,0.6s
VRH Novokhopyorsk 125.49 324 *e*PKiKP **PKPdf** 05 42 17.3 -0.5
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 126.44 330 *c i*PKiKP **PKPdf** 05 42 19.5 0.0
OBN pmax pmax
comp=Z,8.0nm,1.0s
LPSR Galich'ya Gora 126.45 326 *e*PKiKP **PKPdf** 05 42 19.1 -0.5
LPSR pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 126.78 340 PKP **PKPdf** 05 42 19.8 -0.2
comp=Z,2.1nm,0.4s,baz=47,slow=2.8,SNR=26
FINES SKPbc SKPbc 05 44 38.3
comp=Z,1.2nm,0.5s,baz=60,slow=4.0,SNR=7.2
ZEI Tsey 126.93 313 *i* PKiKP **PKPdf** 05 42 23.2 +2.0
VSR Storozhevoye 126.95 324 *e*PKiKP **PKPdf** 05 42 19.0 -1.6
VSR pmax pmax
comp=Z,7.0nm,0.8s
PTGA Pitinga 127.01 102 PKP **PKPdf** 05 42 21.5 -0.4
comp=Z,4.5nm,0.5s,baz=160,slow=4.9,SNR=9.9
BDFB Brasilia 130.96 126 PKP **PKPdf** 05 42 28.7 -0.7
comp=Z,1.1nm,0.3s,baz=177,slow=2.9,SNR=5.2
BDFB SKPbc **SKPbc** 05 44 55.2 -1.8
comp=Z,2.2nm,0.7s,baz=309,slow=6.5,SNR=2.8
NB2 NORSAR Subarra 131.21 347 PKPdf **PKPdf** 05 42 28.1 -0.4
comp=Z,1.1nm,0.5s,baz=31,slow=1.9
NOA NORSAR Array B 131.21 347 PKP **PKPdf** 05 42 28.1 -0.4
comp=Z,2.4nm,0.8s,baz=32,slow=2.0,SNR=9.5
NOA SKPbc **SKPbc** 05 44 56.3 -0.2
comp=Z,4.0nm,0.7s,baz=29,slow=2.7,SNR=12
KMBO Kilima Mbogo 132.08 255 SKPbc **SKPbc** 05 45 01.9 +0.6
comp=Z,3.9nm,0.7s,baz=74,slow=7.1,SNR=11
AKASG Malin Array Be 132.59 328 PKP **PKPdf** 05 42 30.6 -0.8
comp=Z,0.8nm,0.5s,baz=47,slow=3.2,SNR=6.4
AKASG SKPbc **SKPbc** 05 45 01.1 -0.4
comp=Z,1.5nm,0.5s,baz=46,slow=4.3,SNR=8.4
BRTR Keskin Array B 135.24 313 PKP **PKPdf** 05 42 36.4 -0.5
comp=Z,1.5nm,0.9s,baz=356,slow=3.7,SNR=4.2
KOLS Kolonicke sedl 137.19 330 *e*PKiKP **PKPdf** 05 42 40.7 +0.7
CRVS Cervenica-Dubn 137.60 331 *e*PKiKP **PKPdf** 05 42 41.2 +0.4
CLL Collm 139.22 339 *i* PKHKP PKPpre 05 42 34.9
CLL *i* 05 42 43.5
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL pmax pmax
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 139.25 338 *e*PKiKP **PKPdf** 05 42 42.2 -1.5
BRG pmax pmax
comp=Z,2.0nm,0.6s
KHC Kasperske Hory 140.81 337 *e*PKPpre PKPpre 05 42 41.6
KHC *ex* x 05 42 45.6
KHC *e*SKP 05 45 27.6
KHC Kasperske Hory 140.81 337 *e*PKHKP PKPpre 05 42 41.6
KHC *e* 05 42 45.6
CONA Conrad Observa 140.85 334 *e*PKPdf **PKPdf** 05 42 43.2 -3.6
comp=Z,4.5nm,1.2s
GERES GERESS Array B 141.00 337 PKhKP PKPpre 05 42 41.6
comp=Z,0.8nm,0.6s,baz=33,slow=3.2,SNR=11
GERES SKPbc **SKPbc** 05 45 26.8 +0.5
comp=Z,0.7nm,0.6s,baz=110,slow=3.1,SNR=7.1
MOA Molln 141.58 335 *i* PKPdf **PKPdf** 05 42 44.6 -3.4
comp=Z,5.9nm,1.1s
VAY Valandovo 141.86 321 *e*PKiKP **PKPdf** 05 42 55.1 +6.4
SOKA Soboth 142.17 333 *i* PKPdf **PKPdf** 05 42 45.7 -3.4
comp=Z,4.4nm,0.6s
KBA Koelnbreinsper 142.57 335 *i* PKPdf **PKPdf** 05 42 46.6 -3.4
comp=Z,3.7nm,0.5s
STU Stuttgart 142.66 341 *e*PKiKP **PKPdf** 05 42 47.9 -2.0
STU Stuttgart 142.66 341 *e*PKPdf **PKPdf** 05 42 47.9 -2.0
WLF Walferdange 142.76 344 *e*PKiKP **PKPdf** 05 42 48.7 -1.3
WLF Walferdange 142.76 344 *e*PKPdf **PKPdf** 05 42 48.7 -1.3
MYKA Terra Mystica 142.80 334 *i* PKPdf **PKPdf** 05 42 47.1 -3.2
comp=Z,6.7nm,0.6s,SNR=9.0
WATA Walderalm 143.05 337 *i* PKPab PKPab 05 42 48.8 0.0
comp=Z,6.9nm,0.4s,SNR=15
WTTA Wattenberg 143.09 337 *i* PKPab PKPab 05 42 49.1 +0.2
comp=Z,6.1nm,0.7s
ABTA Abfaltersbach 143.17 336 *i* PKPab PKPab 05 42 48.4 -0.7
comp=Z,9.8nm,0.7s,SNR=7.6
JAVS Javornik 143.20 333 *i* PKPbc PKPab 05 42 49.0 -0.3
MOTA Moosalm 143.22 337 *i* PKPab PKPab 05 42 49.4 0.0
comp=Z,12nm,0.7s,SNR=15
RETA Reutte 143.23 338 *i* PKPdf PKPbc 05 42 49.6 0.0
comp=Z,11nm,0.5s,SNR=5.4
BFO Black Forest 143.33 341 *i* PKiKP PKPbc 05 42 50.1 +0.3
BFO Black Forest 143.33 341 *e*PKPdf PKPbc 05 42 49.9 +0.1
UDBI Udbina 143.47 330 P PKPab 05 42 50.3 0.0
FETA Feichten 143.63 338 *i* PKPdf PKPab 05 42 51.2 +0.2

comp=Z,28nm,0.7s,SNR=23
DAVA Damuels 143.72 339 *i* PKPdf PKPab 05 42 51.5 +0.2
comp=Z,40nm,0.6s,SNR=19
NVLJ Novalja 143.86 331 P PKPbc 05 42 51.0 -0.5
DAVOX Davos/Dischmat 144.15 338 PKP **PKPab 05 42 53.2 +0.2**
comp=Z,43nm,0.6s,baz=250,slow=1.3,SNR=82
TUE Stuetta 144.60 338 *e*PKPdf PKPbc 05 42 54.1 +0.1
OG01 Vacheresse 145.62 341 PKP **PKPbc 05 42 57.5 +0.7**
RSL Roselend 146.21 341 PKP **PKPbc 05 42 59.0 +0.4**
RCBR Riachuelo 146.31 125 PKPbc **PKPbc 05 43 00.0 +0.4**
comp=Z,23nm,0.6s,baz=238,slow=5.8,SNR=26
PLDF La Plantade 146.83 344 PKP **PKPab 05 43 01.9 -1.6**
AGO Saint Agoulin 146.88 345 PKP **PKPbc 05 43 01.7 +1.5**
PYM Petit Puy Mans 147.19 345 PKP **PKPbc 05 43 02.8 +1.7**
SSB Saint Sauveur 147.21 343 *e*PKIKP **PKPdf 05 42 58.3 +0.5**
SSB *e* 05 43 01.7
SSB Saint Sauveur 147.21 343 *e*PKPdf **PKPdf 05 42 58.3 +0.5**
SSB *e*PKPbc **PKPbc 05 43 01.7 +0.6**
LBL Lubilhac 147.61 344 PKP **PKPbc 05 43 04.2 +2.0**
CLTB Caltabellotta 149.81 324 *e*PKPbc **PKPbc 05 43 07.9 +0.1**
PGAV Gavieira, Arco 152.47 359 *e*PKPbc **PKPbc 05 43 14.7 +1.0**
PBRG Braganca 152.59 357 *e*PKPbc **PKPbc 05 43 14.0 +0.1**
PBRG Braganca 152.59 357 *e*PKPab **PKPab 05 43 27.9 +0.4**
PCAB Cabril 152.72 359 *e*PKPbc **PKPbc 05 43 14.3 +0.1**
POLO Lamas de Olo 153.06 359 *e*PKPbc **PKPbc 05 43 15.2 +0.2**
POLO Lamas de Olo 153.06 359 *e*PKPab **PKPab 05 43 30.1 +0.5**
PVRL Vila Real 153.15 359 *e*PKPbc **PKPbc 05 43 15.5 +0.4**
PVRL Vila Real 153.15 359 *e*PKPab **PKPab 05 43 30.5 +0.6**
MVO Moncorvo 153.24 357 *e*PKPbc **PKPbc 05 43 15.7 +0.4**
MVO Moncorvo 153.24 357 *e*PKPab **PKPab 05 43 31.0 +0.7**
KEST Kesra 153.29 326 PKP **PKPdf 05 43 07.7 +0.2**
comp=Z,2.2nm,0.7s,baz=118,slow=17,SNR=2.3
KEST PKPbc **PKiKP 05 43 14.3 -1.3**
comp=Z,3.7nm,0.8s,baz=66,slow=2.6,SNR=5.4
PVIS Viseu 153.71 359 *e*PKPbc **PKPbc 05 43 16.5 +0.2**
PVIS Viseu 153.71 359 *e*PKPab **PKPab 05 43 33.2 +0.8**
MTE Manteigas 154.02 358 *e*PKPbc **PKPbc 05 43 17.3 +0.3**
MTE Manteigas 154.02 358 *e*PKPab **PKPab 05 43 34.5 +0.8**
PCAS Casmilo, Conde 154.38 360 *e*PKPab **PKPab 05 43 35.7 +0.5**
ESDC Sonseca Array 154.43 352 PKP **PKPdf 05 43 06.9 -2.0**
comp=Z,0.1nm,0.4s,baz=316,slow=0.8,SNR=5.4
ESDC PKPbc **PKiKP 05 43 17.6 -0.3**
comp=Z,0.3nm,0.4s,baz=354,slow=4.4,SNR=5.3
ESDC PKPab **PKPab 05 43 36.0 +0.6**
comp=Z,1.5nm,0.5s,baz=0.3,slow=3.8,SNR=16
PCBR Castelo Branco 154.58 358 *e*PKPab **PKPab 05 43 36.4 +0.4**
PTOM Tomar 154.82 360 *e*PKPab **PKPab 05 43 37.8 +0.8**
PMRV Marv??o 154.99 358 *e*PKPab **PKPab 05 43 38.4 +0.6**
PMTG Montargil 155.36 359 *e*PKPab **PKPab 05 43 39.3 -0.1**
PMAFR Mafra 155.47 1 *e*PKPab **PKPab 05 43 40.9 +1.0**
PESTR Estremoz 155.55 358 *e*PKPab **PKPab 05 43 40.3 0.0**
EVO Evora 155.90 359 *e*PKPab **PKPab 05 43 42.5 +0.8**
PBAR Barrancos 156.22 357 *e*PKPab **PKPab 05 43 44.0 +0.9**
PBEJ Beja 156.40 359 *e*PKPab **PKPab 05 43 44.9 +1.0**
PCVE Castro Verde 156.80 359 *e*PKPab **PKPab 05 43 46.7 +1.1**
PVAQ Vaqueiros 157.01 358 *e*PKPab **PKPab 05 43 47.6 +1.0**
MDT Midelt 161.25 350 PKPab **PKPab 05 44 05.9 +0.5**
comp=Z,3.3nm,0.7s,baz=26,slow=4.6,SNR=8.9
TORD Torodi Ar. Bea 169.93 264 PKP **PKPdf 05 43 22.6 -2.0**
comp=Z,1.4nm,1.0s,baz=33,slow=2.2,SNR=5.0

NIED ***12*** *05:47:00, 37.˙40N×144.˙00E, h5km, Mw4.1 Best double couple: M₀1.60000×10¹⁵ NP1:φ=33.00000°, δ25.00000°, λ-94.00000°. NP2:φ=217.00000°, δ65.00000°, λ-88.00000°.*
IDC ***12*** *05:47:49.0±0.6, 37.˙20N×144.˙13E, h0km, mb4.1/22, mb1 4.3/30, mb1mx4.1/55, mbtmp4.1/30, ML3.5/7, MS3.1/13, Ms1 3.1/13, ms1mx2.9/41, Error ellipse: s-maj=15.7km s-min=13.4km az=120.0*
BJI ***12*** *05:47:49.0, 37.˙62N×144.˙32E, h10km, mb4.3/10, mB4.6/6, Ms4.5/3, Ms7 4.4/3*
NEIC ***12*** *05:47:50.7±0.4, 37.˙29N×144.˙13E, h10km, mb4.4/13, Error ellipse: s-maj=7.7km s-min=5.6km az=126.0*
JMA ***12*** *05:47:52.8±0.3, 37.˙39N×143.˙97E, h39km, M4.3*
MOS ***12*** *05:47:54.2±1.0, 37.˙59N×143.˙93E, h29km, mb4.5/32, Error ellipse: s-maj=9.7km s-min=6.1km az=110.0*
ISCJB ***12*** *05:47:54.3±0.3, 37.˙51N×0.˙04×143.˙94E±0.˙03, h33km, mb4.2/42, MS3.2/9, Error ellipse: s-maj=5.1km s-min=3.6km az=170.6*

ISC 12 05:47:55.0±0.6, 37.43N±0.˙05×144.˙07E±0.˙06, h35km, n147, σ1§85/160, mb4.3/42, MS3.2/9, 12C-8D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.38**	**296**	P	**Pn**	**05 48 30.2**	**-1.3**
JIO				*e*S	**Sn**	**05 48 57.7**	**-1.8**
OFUJ	**Ofunato**	**2.51**	**312**	P	**Pn**	**05 48 31.7**	**-1.5**
OFUJ				*e*S	**Sn**	**05 49 00.8**	**-1.8**
JFK	**Kawauchi**	**2.54**	**270**	P	**Pn**	**05 48 31.7**	**-2.1**
JFK				*e*S	**Sn**	**05 49 00.4**	**-3.1**
JMK	**Ichinoseki**	**2.71**	**305**	P	**Pn**	**05 48 35.0**	**-1.0**
JMK				*e*S	**Sn**	**05 49 05.9**	**-1.7**
JOU	**Okura**	**2.85**	**290**	P	**Pn**	**05 48 37.2**	**-0.8**
JFT	**Otama**	**2.97**	**273**	P	**Pn**	**05 48 38.7**	**-0.9**
JFT				*e*S	**Sn**	**05 49 12.7**	**-1.3**
JOM	**Ohasama**	**2.99**	**314**	P	**Pn**	**05 48 38.9**	**-0.9**
JOM				*e*S	**Sn**	**05 49 13.1**	**-1.3**
JYK	**Kaneyama**	**3.28**	**298**	P	**Pn**	**05 48 43.1**	**-0.8**
JYK				*e*S	**Sn**	**05 49 21.2**	**-0.4**
JRG	**Rokugo**	**3.34**	**307**	P	**Pn**	**05 48 44.7**	**0.0**
JRG				S	**Sn**	**05 49 23.6**	**+0.5**
JANG	**Nango**	**3.55**	**327**	P	**Pn**	**05 48 46.7**	**-0.9**
JANG				*e*S	**Sn**	**05 49 25.5**	**-2.9**
JTM	**Tenmabayashi**	**4.09**	**326**	*e*S	**Sn**	**05 49 39.4**	**-2.1**
JRY	**Ryogami san**	**4.38**	**253**	P	**Pn**	**05 48 57.1**	**-1.9**
JRY				*e*S	**Sn**	**05 49 44.2**	**-4.7**
ERM	**Erimo**	**4.64**	**352**	*i* P	**Pn**	**05 49 00.7**	**-1.8**
ERM	**Erimo**	**4.64**	**352**	*e*Pn	**Pn**	**05 49 00.7**	**-1.8**
ERM				*e*Sn	**Sn**	**05 49 52.1**	**-2.9**
MJAR	**Matsushiro Arr**	**4.77**	**261**	Pn	**Pn**	**05 49 03.5**	**-0.9**
	7.6nm,0.3s,baz=89,slow=15,SNR=67						
MJAR				Sn	**Sn**	**05 49 58.4**	**-0.1**
	1.5nm,0.3s,baz=97,slow=28,SNR=7.2						
MJAR				LR	LR	05 51 03.5	
	comp=Z,156nm,21.5s,baz=80,slow=41						
MAJO	**Matsushiro**	**4.77**	**261**↑	*e*P	**Pn**	**05 49 03.4**	**-1.0**
MAJO	**Matsushiro**	**4.77**	**261**	*e*Pn	**Pn**	**05 49 02.9**	**-1.5**
MAJO				*e*Sn	**Sn**	**05 49 58.1**	**-0.4**
MAT	**Matsushiro**	**4.77**	**261**	P	**Pn**	**05 49 03.6**	**-0.8**
MAT				S	**Sn**	**05 49 56.5**	**-2.0**
JKB	**Kayabe**	**5.03**	**333**	P	**Pn**	**05 49 07.6**	**-0.3**
JKB				*e*S	**Sn**	**05 50 01.4**	**-3.4**
JCH	**Churui**	**5.21**	**354**	P	**Pn**	**05 49 08.6**	**-1.8**
JCH				*e*S	**Sn**	**05 50 05.6**	**-3.6**
JHJ2	**Mitsune**	**5.53**	**220**	*e*Pn	**Pn**	**05 49 11.8**	**-3.1**
JHJ2				*e*Sn	**Sn**	**05 50 10.2**	**-7.0**
JHJ	**Hachijo jima 2**	**5.54**	**220**	Pn	**Pn**	**05 49 10.7**	**-4.3**
	7.5nm,0.3s,baz=57,slow=18,SNR=6.1						
JHJ				Sn	Sn	05 50 08.1	-9.4
	11nm,0.3s,baz=53,slow=20,SNR=3.0						
JOSM	**Okushiri--Mats**	**5.84**	**324**	P	**Pn**	**05 49 18.8**	**-0.2**
NEM2	**Nemuro 2**	**6.07**	**12**	P	**Pn**	**05 49 18.5**	**-3.6**
NEM2				*e*S	**Sn**	**05 50 23.7**	**-6.6**
JTKR	**Abashiri--Toko**	**6.54**	**359**	P	**Pn**	**05 49 26.4**	**-2.2**
JTKR				*e*S	**Sn**	**05 50 36.8**	**-5.1**
JHR	**Hokuryu**	**6.56**	**345**	P	**Pn**	**05 49 28.9**	**0.0**
YUK	**Yuzh-Kuril'sk**	**6.74**	**11**	*i* P	**Pn**	**05 49 28.1**	**-3.3**
ASAJ	**Asahikawa**	**6.78**	**351**	Pn	**Pn**	**05 49 31.1**	**-0.8**
	baz=90,slow=20						
ASAJ				Sn	**Sn**	**05 50 45.0**	**-2.7**
	1.1nm,0.3s,baz=240,slow=20,SNR=3.6						
ASAJ	**Asahikawa**	**6.78**	**351**	*e*Pn	**Pn**	**05 49 30.8**	**-1.1**
	12nm,0.5s						
ASAJ				*e*Sn	**Sn**	**05 50 44.3**	**-3.4**
ASAJ				Sn	Sn	05 50 45.0	-2.7
KUR	**Kuril'sk**	**8.31**	**19**	*e*P	**Pn**	**05 49 49.4**	**-3.4**
KUR				*e*S	**Sn**	**05 51 23.7**	**-1.6**
KUR				pmax	pmax		
	comp=Z,14nm,0.9s						
KUR				smax	smax		
	comp=N,11nm,0.7s						
KUR				smax	smax		
	comp=E,18nm,0.7s						
YSS	**Yuzh-Sakhalins**	**9.57**	**355**	*e*P	**Pn**	**05 50 05.9**	**-4.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.57**	**355**	*e*Pn	**Pn**	**05 50 08.3**	**-1.9**
CBIJ	**Chichi jima**	**10.42**	**189**	Pn	Pn	05 50 14.7	-7.2
CBIJ				Sn	Sn	05 52 00.5	-17
JCJ	**Chichijima**	**10.42**	**189**	Pn	Pn	05 50 14.7	-7.2
	comp=Z,2.7nm,0.3s,baz=307,slow=20,SNR=3.8						
JCJ				Sn	Sn	05 52 00.5	-17
	comp=Z,2.3nm,0.3s,baz=100,slow=16,SNR=2.4						
USRK	**Ussuriysk Ar.**	**11.38**	**310**	Pn	**Pn**	**05 50 35.9**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=117,slow=13,SNR=12						
JNU	**Nakatsue**	**11.60**	**252**	LR	LR	05 55 55.4	
	comp=Z,46nm,18.4s,baz=120,slow=42						
KSRS	**Korea Array**	**12.84**	**275**	Pn	**Pn**	**05 50 56.0**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=86,slow=14,SNR=16						
KSRS				LR	LR	05 55 26.2	
	comp=Z,56nm,21.3s,baz=48,slow=35						
KSAR	**Wonju Array Be**	**12.87**	**275**	P	**Pn**	**05 50 56.1**	**+0.8**
KSAR	**Wonju Array Be**	**12.87**	**275**	Pn	**Pn**	**05 50 56.0**	**+0.8**
MDJ	**Mudanjiang**	**13.07**	**308**	*e*Pn	**Pn**	**05 50 58.2**	**+0.2**
TYV	**Tymovskoe**	**13.47**	**356**	*e*P	**Pn**	**05 51 02.8**	**-0.7**
KLR	**Kul'dur**	**14.79**	**327**	Pn	**Pn**	**05 51 20.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=66,slow=14,SNR=2.8						
KLR				LR	LR	05 56 53.8	
	comp=Z,80nm,20.1s,baz=140,slow=36						
JOW	**Kunigami**	**17.02**	**236**	*e*P	**Pn**	**05 51 46.5**	**-3.8**
	comp=Z,16nm,1.3s						
PETK	**Petropavlovsk-**	**18.33**	**27**	P	**Pn**	**05 52 07.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=195,slow=10,SNR=2.6						
PET	**Petropavlovsk**	**18.62**	**28**	*e*P	**P**	**05 52 08.5**	**-0.7**
PET				pmax	pmax		
	comp=Z,51nm,1.1s						
PET	**Petropavlovsk**	**18.62**	**28**	*e*P	**P**	**05 52 08.5**	**-0.7**
	comp=Z,51nm,1.1s						
HIA	**Hailar**	**21.18**	**312**	*e*P	**P**	**05 52 37.0**	**-0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**21.18**	**312**	*e*P	**P**	**05 52 37.0**	**-0.2**
	comp=Z,8.5nm,0.8s						
GUMO	**Guam**	**23.75**	**178**	LR	LR	06 00 31.6	
	comp=Z,24nm,20.8s,baz=92,slow=32						
SEY	**Seymchan**	**26.04**	**9**	P	**P**	**05 53 26.1**	**+1.5**
	comp=Z,8.9nm,0.7s,baz=190,slow=7.7,SNR=18						
SEY	**Seymchan**	**26.04**	**9**	*e*P	**P**	**05 53 25.8**	**+1.2**
YAK	**Yakutsk**	**26.20**	**345**	LR	LR	06 04 27.1	
	comp=Z,41nm,19.3s,baz=168,slow=38						
YAK	**Yakutsk**	**26.20**	**345**	*e*P	**P**	**05 53 26.4**	**+0.4**
YAK				pmax	pmax		
	comp=Z,15nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK	**Yakutsk**	**26.20**	**345**	*e*P	**P**	**05 53 26.4**	**+0.4**
	comp=N,11nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**26.58**	**125**	T	T	06 21 07.7	
	baz=317,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**26.59**	**125**	T	T	06 21 08.3	
	baz=317,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**26.60**	**125**	T	T	06 21 07.9	
	baz=317,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**27.35**	**127**	T	T	06 22 03.9	
	baz=326						
H11S3	**WAKE ISLAND Hy**	**27.35**	**127**	T	T	06 22 05.4	
	baz=326						
H11S2	**WAKE ISLAND Hy**	**27.37**	**127**	T	T	06 22 03.3	
	baz=326						
ULN	**Ulaanbaatar**	**28.90**	**303**	*i* P	**P**	**05 53 50.6**	**0.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.4s						
ULN	**Ulaanbaatar**	**28.90**	**303**	P	**P**	**05 53 51.4**	**+0.8**
	comp=Z,4.9nm,1.0s						
SONM	**Songino Array**	**29.34**	**303**	P	**P**	**05 53 55.6**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=77,slow=6.2,SNR=3.7						
SONM				LR	LR	06 05 05.9	
	comp=Z,33nm,19.8s,baz=134,slow=35						
ENH	**Enshi**	**29.47**	**266**	*e*P	**P**	**05 53 59.5**	**+3.8**
	comp=Z,12nm,1.1s						
BILL	**Bilibino**	**33.08**	**15**	*e*P	**P**	**05 54 27.1**	**+0.2**
BILL				*i*		05 57 19.8	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA	**Gaotai**	**34.47**	**287**	*e*P	**P**	**05 54 41.4**	**+1.8**
GTA				pP	pP	05 54 46.6	-3.1
GTA				sP	sP	05 54 49.9	-4.0
GTA				PMZ			
	comp=Z,3.0nm,0.9s						
TIXI	**Tiksi**	**35.18**	**352**	P	**P**	**05 54 45.3**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=96,slow=10,SNR=2.7						
ZALV	**Zalesovo Beam**	**43.22**	**312**	P	**P**	**05 55 53.1**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=87,slow=7.6,SNR=5.4						
ZALV				PcP	**PcP**	**05 57 41.4**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=90,slow=3.4,SNR=5.5						
ZALV				LR	LR	06 14 32.0	
	comp=Z,48nm,18.5s,baz=68,slow=37						
CMAR	**Chiang Mai Arr**	**43.65**	**257**	P	**P**	**05 55 55.6**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=52,slow=7.2,SNR=4.3						
NRIK	**Noril'sk**	**43.81**	**335**	LR	LR	06 15 18.0	
	comp=Z,43nm,19.5s,baz=105,slow=38						
KDAK	**Kodiak Island**	**45.39**	**42**	*i* P	**P**	**05 56 11.0**	**+1.3**
MKAR	**Makanchi Array**	**45.70**	**302**	P	**P**	**05 56 13.1**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=86,slow=9.7,SNR=15						
KURK	**Kurchatov**	**47.36**	**308**	*e*P	**P**	**05 56 25.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,29nm,0.9s						
KURK	**Kurchatov**	**47.36**	**308**	*e*P	**P**	**05 56 25.3**	**0.0**
	comp=Z,28nm,0.9s						
KURBB	**Kurchatov Arra**	**47.43**	**308**	P	**P**	**05 56 26.2**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=81,slow=8.1,SNR=19						
ILAR	**Eielson Array**	**48.03**	**33**	P	**P**	**05 56 31.0**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=265,slow=6.6,SNR=27						
TKM2	**Tokmak 2**	**51.30**	**299**	*e*P	**P**	**05 56 57.1**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TKM2	**Tokmak 2**	**51.30**	**299**	*e*P	**P**	**05 56 57.0**	**+1.3**
	comp=Z,6.0nm,1.2s						
BVAR	**Borovoye Array**	**51.87**	**313**	P	**P**	**05 57 00.5**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=95,slow=7.4,SNR=5.2						
BVAR				PcP	**PcP**	**05 58 11.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=116,slow=3.4,SNR=4.2						
BRVK	**Borovoye**	**51.93**	**313**	*ce*P	**P**	**05 57 01.5**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
INK	**Inuvik**	**53.07**	**27**	P	**P**	**05 57 09.2**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=296,slow=10,SNR=5.1						
KKAR	**Karatay Array**	**54.75**	**301**	*e*P	**P**	**05 57 21.3**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KKAR	**Karatay Array**	**54.75**	**301**	*e*P	**P**	**05 57 21.3**	**+0.3**
	comp=Z,3.4nm,1.1s						
ARU	**Arti**	**57.46**	**319**	P	**P**	**05 57 40.8**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=109,slow=22,SNR=6.4						
ARU	**Arti**	**57.46**	**319**	*d* /P	**P**	**05 57 41.0**	**+0.9**
ARU						05 59 45.9	
ARU				S	**S**	**06 05 36.7**	**+2.1**
ARU				SS	**SS**	**06 09 21.3**	**-2.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ARU	**Arti**	**57.46**	**319**	*e*P	**P**	**05 57 40.4**	**+0.3**
	comp=Z,7.3nm,1.2s						
WRAB	**Tennant Creek**	**57.78**	**191**	*e*P	**P**	**05 57 40.6**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRAB	**Tennant Creek**	**57.78**	**191**	*e*P	**P**	**05 57 40.6**	**-2.1**
	comp=Z,6.6nm,0.7s						
WRA	**Warramunga Arr**	**57.79**	**191**	P	**P**	**05 57 40.5**	**-2.2**
	comp=Z,3.9nm,0.7s,baz=9.2,slow=7.0,SNR=27						
ABKAR	**Akbulak array**	**59.30**	**311**	*e*P	**P**	**05 57 53.5**	**+0.5**
	comp=Z,0.7nm,0.6s						
AKTO	**Aktyubinsk**	**59.98**	**313**	P	**P**	**05 57 57.9**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=65,slow=6.6,SNR=5.6						
ASAR	**Alice Springs**	**61.52**	**191**	P	**P**	**05 58 06.5**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=11,slow=7.1,SNR=9.2						
KLMR	**Klimovskoe**	**64.55**	**328**	*e*P	**P**	**05 58 28.1**	**+0.1**
KLMR				*e*		05 59 01.8	
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.5s						
FINES	**FINESS Array B**	**69.44**	**333**	P	**P**	**05 58 59.8**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=46,slow=11,SNR=6.7						
FINES				LR	LR	06 32 52.8	
	comp=Z,24nm,18.4s,baz=341,slow=39						
KIV	**Kislovodsk**	**72.23**	**312**	*i* P	**P**	**05 59 17.5**	**+0.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ	**Khabaz**	**72.24**	**312**	P	**P**	**05 59 17.6**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=122,slow=1.6,SNR=6.9						
NVAR	**Mina Array Bea**	**73.05**	**54**	P	**P**	**05 59 22.9**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=305,slow=5.8,SNR=4.9						
NB2	**NORSAR Subarra**	**74.62**	**338**	P	**P**	**05 59 30.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.62**	**338**	P	**P**	**05 59 30.1**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=37,slow=5.9,SNR=4.3						
NOA				LR	LR	06 37 26.2	
	comp=Z,10nm,18.8s,baz=70,slow=40						
AKASG	**Malin Array Be**	**75.27**	**323**	P	**P**	**05 59 34.4**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=46,slow=5.5,SNR=7.6						
AKASG				LR	LR	06 35 36.7	
	comp=Z,16nm,18.3s,baz=10.0,slow=38						
SFJD	**Kangerlussuaq**	**75.30**	**6**	LR	LR	06 35 20.9	
	comp=Z,9.6nm,18.4s,baz=117,slow=38						
PDAR	**Pinedale Array**	**75.87**	**47**	P	**P**	**05 59 37.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=222,slow=2.0,SNR=3.9						
KWP	**Kalwaria Pacla**	**79.03**	**326**	*e*P	**P**	**05 59 57.2**	**+2.0**
KWP	**Kalwaria Pacla**	**79.03**	**326**	*e*P	**P**	**05 59 57.2**	**+2.0**
BURAR	**Bucovina Array**	**79.30**	**323**↑	*i* P	**P**	**05 59 58.2**	**+1.3**
BURAR	**Bucovina Array**	**79.30**	**323**↑	P	**P**	**05 59 58.2**	**+1.3**
TESR	**Tescani**	**79.37**	**321**	*i* P	**P**	**05 59 58.2**	**+1.0**
KOLS	**Kolonicke sedl**	**79.73**	**325**	*e*P	**P**	**06 00 00.4**	**+1.3**
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KOLS	**Kolonicke sedl**	**79.73**	**325**	*e*P	**P**	**06 00 00.4**	**+1.3**
STHS	**Stebnicka Huta**	**79.84**	**326**	*e*P	**P**	**06 00 01.7**	**+2.0**
STHS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
STHS	**Stebnicka Huta**	**79.84**	**326**	*e*P	**P**	**06 00 01.7**	**+2.0**
OJC	**Ojcow**	**79.87**	**327**	*e*P	**P**	**06 00 01.6**	**+1.8**
OJC	**Ojcow**	**79.87**	**327**	*e*P	**P**	**06 00 01.6**	**+1.8**
CRVS	**Cervenica-Dubn**	**80.12**	**326**	*e*P	**P**	**06 00 02.8**	**+1.6**
CRVS	**Cervenica-Dubn**	**80.12**	**326**	*e*P	**P**	**06 00 02.8**	**+1.6**
LANS	**Liptovska Anna**	**80.81**	**327**	*e*P	**P**	**06 00 06.1**	**+1.1**
LANS	**Liptovska Anna**	**80.81**	**327**	*e*P	**P**	**06 00 06.1**	**+1.1**
KSP	**Ksiaz**	**80.86**	**329**	*e*P	**P**	**06 00 06.6**	**+1.5**
KSP	**Ksiaz**	**80.86**	**329**	*e*P	**P**	**06 00 06.6**	**+1.5**
KECS	**Kecovo**	**80.86**	**326**	*e*P	**P**	**06 00 07.0**	**+1.8**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KECS	**Kecovo**	**80.86**	**326**	*e*P	**P**	**06 00 07.0**	**+1.8**
VOIR		**80.92**	**321**↑	*i* P	**P**	**06 00 07.1**	**+1.5**
VOIR		**80.92**	**321**↑	P	**P**	**06 00 07.1**	**+1.5**
DRGR		**81.08**	**324**↑	*i* P	**P**	**06 00 07.7**	**+1.2**
DRGR		**81.08**	**324**↑	P	**P**	**06 00 07.7**	**+1.2**
MORC	**Moravsky Berou**	**81.17**	**328**↓	*i* P	**P**	**06 00 07.7**	**+0.9**
MORC	**Moravsky Berou**	**81.17**	**328**↓	P	**P**	**06 00 07.7**	**+0.9**
ARR	**Arges**	**81.17**	**322**↑	*i* P	**P**	**06 00 09.2**	**+2.2**
DPC	**Dobruska-Polom**	**81.23**	**329**	*e*P	**P**	**06 00 08.7**	**+1.5**
DPC	**Dobruska-Polom**	**81.23**	**329**	*e*P	**P**	**06 00 08.7**	**+1.5**
PSZ	**Piszkesteto**	**81.55**	**326**↑	*i* P	**P**	**06 00 09.9**	**+1.0**
PSZ	**Piszkesteto**	**81.55**	**326**↑	P	**P**	**06 00 09.9**	**+1.0**
VYHS	**Vyhne**	**81.58**	**327**	*e*P	**P**	**06 00 10.2**	**+1.2**
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.1s						
VYHS	**Vyhne**	**81.58**	**327**	*e*P	**P**	**06 00 10.2**	**+1.2**
BRG	**Berggiesshubel**	**81.77**	**331**	*e*P	**P**	**06 00 10.9**	**+1.0**
	comp=Z,6.8nm,1.5s						
BRG	**Berggiesshubel**	**81.77**	**331**	*e*P	**P**	**06 00 10.9**	**+1.0**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.5s						
CLL	**Collm**	**81.79**	**331**	*i* P	**P**	**06 00 10.6**	**+0.6**
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**81.79**	**331**	*i* P	**P**	**06 00 10.6**	**+0.6**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VRAC	**Vranov**	**81.92**	**328**	*i* P	**P**	**06 00 12.5**	**+1.7**
VRAC	**Vranov**	**81.92**	**328**	P	**P**	**06 00 12.5**	**+1.7**
KHC	**Kasperske Hory**	**83.29**	**330**	*e*P	**P**	**06 00 19.1**	**+1.1**
KHC	**Kasperske Hory**	**83.29**	**330**	*e*P	**P**	**06 00 19.1**	**+1.1**
KHC	**Kasperske Hory**	**83.29**	**330**	*e*P	**P**	**06 00 19.0**	**+1.0

SNR=7.9
EGOR Sierra Gorda, 3.65 315 P **Pn** 06 19 34.4 +1.1
0.4nm,0.2s,SNR=7.9
EGOR S **Sn** 06 20 17.6 +1.1
SNR=7.9
EQES Quesada 3.69 332 P **Pn** 06 19 35.2 +1.4
0.5nm,0.1s,SNR=7.9
EQES S **Sn** 06 20 18.2 +0.9
1.2nm,0.2s,SNR=7.9
EQES Quesada 3.69 332 P **Pn** 06 19 35.2 +1.4
0.5nm,0.1s,SNR=7.9
EQES S **Sn** 06 20 18.2 +0.9
1.2nm,0.2s,SNR=7.9
SESP Santiago Espad 3.79 340 P **Pn** 06 19 35.9 +0.6
2.2nm,0.2s,SNR=7.9
SESP S **Sn** 06 20 20.7 +0.7
5.6nm,0.2s,SNR=7.9
SESP Santiago Espad 3.79 340 P **Pn** 06 19 35.9 +0.6
2.2nm,0.2s,SNR=7.9
SESP S **Sn** 06 20 20.7 +0.7
5.6nm,0.2s,SNR=7.9
ETOB Tobarra 4.11 353 P **Pn** 06 19 40.1 +0.6
1.5nm,0.2s,SNR=6.0
ETOB S **Sn** 06 20 29.0 +1.4
SNR=7.9
ETOB Tobarra 4.11 353 P **Pn** 06 19 40.1 +0.6
1.5nm,0.2s,SNR=6.0
ETOB S **Sn** 06 20 29.0 +1.4
SNR=7.9
EVIA Vianos 4.27 343 P **Pn** 06 19 43.7 +1.9
1.7nm,0.2s,SNR=4.0
EVIA S **Sn** 06 20 30.6 -1.1
2.3nm,0.3s,SNR=7.9
EVIA Vianos 4.27 343 P **Pn** 06 19 43.7 +1.9
1.7nm,0.2s,SNR=4.0
EVIA S **Sn** 06 20 30.6 -1.1
2.3nm,0.3s,SNR=7.9
EIBI Ibiza 4.79 21 P **Pn** 06 19 49.9 +1.0
1.1nm,0.2s,SNR=7.9
EIBI S **Sn** 06 20 44.0 -0.5
4.4nm,0.5s,SNR=7.9
EIBI Ibiza 4.79 21 P **Pn** 06 19 49.9 +1.0
1.1nm,0.2s,SNR=7.9
EIBI S **Sn** 06 20 44.0 -0.5
4.4nm,0.5s,SNR=7.9

IDC ***12*** *06:24:04.5±0.4, 3°.96N×126°.39E, h0km, mb4.5/25, mb1 4.5/26, mb1mx4.5/34, mbtmp4.4/26, ML3.2/1, MS3.3/2, Ms1 3.4/2, ms1mx2.6/34, Error ellipse: s-maj=23.0km s-min=9.0km az=76.0*

ISCJB ***12*** *06:24:08.4±0.2, 4°.04N±0°.03×126°.55E±0°.04, h33km, mb4.6/57, Error ellipse: s-maj=6.2km s-min=3.6km az=163.8*

MOS ***12*** *06:24:09.5±1.0, 3°.99N×126°.46E, h46km, mb5.0/18, Error ellipse: s-maj=16.5km s-min=6.6km az=115.3*

NEIC ***12*** *06:24:10.2±0.7, 3°.98N×126°.37E, h36km±6km, mb4.7/26, Error ellipse: s-maj=7.7km s-min=4.2km az=64.0*

BJI ***12*** *06:24:14.9, 4°.36N×126°.20E, h62km, mb4.7/35, mB4.8/21, Ms4.3/12, Ms7 4.2/10*

DJA ***12*** *06:24:15.0±1.0, 4°.N±6°×12°.7E±°, h20km±10km, M4.7/19, mb4.8/19, mB5.2/7, MLv4.8/8, Mw(mB)4.5/7*

ISC 12 06:24:09.9±0.6, 4°.07N±0°.04×126°.52E±0°.05, h33km±3km, n166, σ1°.77/184, mb4.7/57, 12C-11D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.06**	**249**	P		**P**	**Pb**	**06 24 31.6**	**+1.9**
MATI	**Mati**	**2.87**	**355**	*e*P		**P**	**Pb**	**06 24 57.7**	**-2.9**
DAV	**Davao City (W)**	**3.13**	**343**	Pn		**P**	**Pn**	**06 24 59.9**	**+2.9**
	43nm,0.3s,baz=231,slow=18,SNR=2.4								
DAV				Lg		Lg		06 25 48.4	
	59nm,0.3s,baz=189,slow=23,SNR=4.2								
DAV	**Davao City (W)**	**3.13**	**343**	*e*Pn		**P**	**Pn**	**06 24 58.3**	**+1.4**
DAV				Lg		Lg		06 25 48.4	
KCP	**Kidapawan**	**3.25**	**334**	ǁ *e*P		**P**	**Pb**	**06 25 05.1**	**-2.0**
CTBH	**Cotabato--PC H**	**3.87**	**324**	ǁ *i*P		**P**	**Pb**	**06 25 15.5**	**-2.0**
CTBH				*i* S			**Sb**	**06 26 03.7**	**-0.2**
BUKP	**Musuan**	**4.06**	**339**	*e*P		**P**	**Pn**	**06 25 14.5**	**+4.7**
LBMI	**Labuha**	**4.77**	**168**	P		**P**	**Pn**	**06 25 19.3**	**-0.3**
GTOI	**Gorontalo**	**4.89**	**226**	P		**P**	**Pn**	**06 25 24.8**	**+3.6**
MRSI	**Marisa**	**5.80**	**232**	P		**P**	**Pn**	**06 25 37.4**	**+3.7**
	220nm,0.6s,4μm0.9nm								
SANI	**Sanana**	**6.10**	**185**	P		**P**	**Pn**	**06 25 37.9**	**+0.1**
	54nm,0.8s,1μm0.3nm								
LUWI	**Luwuk**	**6.30**	**217**	P		**P**	**Pn**	**06 25 43.0**	**+2.3**
	206nm,0.7s,3μm0.7nm								
LUWI	**Luwuk**	**6.30**	**217**	Pn		**P**	**Pn**	**06 25 39.5**	**-1.2**
SWI	**Sorong**	**6.81**	**136**	P		**P**	**Pn**	**06 25 48.2**	**+0.5**
	83nm,0.9s,2μm0.3nm								
SWI				S			**Sn**	**06 27 03.7**	**-0.4**
	83nm,0.9s,2μm0.3nm								
NLAI	**Namlea**	**7.28**	**175**	P		**P**	**Pn**	**06 25 53.9**	**-0.1**
	56nm,0.7s,2μm0.4nm								
NLAI				S			**Sn**	**06 27 10.1**	**-5.5**
	56nm,0.7s,2μm0.4nm								
MYLDM	**Lahad Datu**	**8.07**	**278**	*e*Pn		**P**	**Pn**	**06 26 02.6**	**-2.3**
FAKI	**Fak Fak**	**9.00**	**140**	P		**P**	**Pn**	**06 26 18.2**	**+0.5**
	80nm,0.7s								
FAKI	**Fak Fak**	**9.00**	**140**	*e*Pn		**P**	**Pn**	**06 26 18.7**	**+1.1**
TTSI	**Tana Toraja**	**9.73**	**224**	P		**P**	**Pn**	**06 26 30.7**	**+3.0**
	30nm,1.1s,494nm								
SPSI	**Sidrap Palu**	**10.45**	**220**	P		**P**	**Pn**	**06 26 40.0**	**+2.5**
	12nm,0.7s								
KKM	**Kota Kinabalu**	**10.45**	**281**	*e*Pn		**P**	**Pn**	**06 26 34.8**	**-2.9**
TGY	**Tagaytay City**	**11.39**	**331**	LR		LR	LR	06 31 50.7	
	comp=Z,319nm,21.1s,baz=183,slow=41								
SOEI	**Soe**	**13.91**	**189**	*e*Pn		**P**	**Pn**	**06 27 23.1**	**-1.9**
SBUM	**Sibu**	**14.36**	**264**	*e*Pn		**P**	**Pn**	**06 27 29.1**	**-2.1**
GENI	**Genyem**	**15.16**	**116**	P		**P**	**Pn**	**06 27 44.1**	**+2.3**
	75nm,0.8s								
PLAI	**Plampang**	**15.49**	**214**	P		**P**	**P**	**06 27 48.4**	**-1.8**
	79nm,0.9s								
JAY	**Jayapura**	**15.61**	**115**	Pn		**P**	**Pn**	**06 27 48.1**	**+0.4**
	0.1nm,0.3s,baz=106,slow=23,SNR=3.8								
TWSI	**Taliwang, Sumb**	**15.94**	**217**	P		**P**	**P**	**06 27 54.6**	**-0.6**
	28nm,1.0s								
KSM	**Kuching**	**16.39**	**261**	*e*Pn		**P**	**P**	**06 28 03.9**	**+3.6**
	27nm,0.9s								
JAGI	**Jajag, Banyuwa**	**17.53**	**225**	P		**P**	**P**	**06 28 15.3**	**+2.5**
	42nm,1.2s								
GMJI	**Gumukmas**	**17.90**	**227**	P		**P**	**P**	**06 28 20.1**	**+3.2**
TPUB	**Ta-pu**	**19.95**	**344**	*e*P		**P**	**P**	**06 28 39.9**	**+0.5**
	30nm,0.7s								
SSLB	**Suanglung**	**20.33**	**345**	*e*P		**P**	**P**	**06 28 43.4**	**-0.1**
	14nm,0.6s								
FITZ	**Fitzroy Crossi**	**22.04**	**182**	P		**P**	**P**	**06 29 00.6**	**-1.3**
	3.9nm,0.3s,baz=12,slow=8,9,SNR=24								
FITZ	**Fitzroy Crossi**	**22.04**	**182**	*e*P		**P**	**P**	**06 29 01.3**	**-0.7**
	13nm,0.6s								
QIZ	**Qiongzhong**	**22.06**	**314**	P		**P**	**P**	**06 29 01.8**	**-0.3**
QIZ				pP		**sP**	**P**	**06 29 15.0**	**-0.1**
QIZ				sP		pP		06 29 23.4	+12
UBPT	**Khong Chiam**	**23.52**	**300**	P		**P**	**P**	**06 29 18.3**	**+0.9**
	46nm,1.1s								
COEN	**Coen**	**24.37**	**138**	*e*P		**P**	**P**	**06 29 26.2**	**+1.0**
	4.6nm,0.8s								
WRAB	**Tennant Creek**	**25.06**	**162**	*e*P		**P**	**P**	**06 29 30.6**	**-0.9**
WRAB				pmax		pmax			
	comp=Z,13nm,0.6s								
WRAB	**Tennant Creek**	**25.06**	**162**	*e*P		**P**	**P**	**06 29 30.6**	**-0.9**
	comp=Z,13nm,0.6s								
WRA	**Warramunga Arr**	**25.07**	**162**	P		**P**	**P**	**06 29 30.1**	**-1.4**
	comp=Z,4.3nm,0.4s,baz=340,slow=11,SNR=30								
WRA				S			**S**	**06 33 55.5**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=339,slow=20,SNR=4.3								
WB2	**Warramunga Arr**	**25.07**	**162**	*e*P		**P**	**P**	**06 29 31.6**	**0.0**
	comp=Z,17nm,0.8s								
IPM	**Ipoh**	**25.43**	**272**	*e*P		**P**	**P**	**06 29 30.2**	**-4.8**
	comp=Z,22nm,1.2s								
SKNT	**Sakolnakorn**	**25.56**	**302**	P		**P**	**P**	**06 29 37.4**	**+1.3**
	comp=Z,36nm,0.9s								
CHAI	**Chaiyaphum**	**26.83**	**298**	P		**P**	**P**	**06 29 50.4**	**+2.8**
	comp=Z,4.3nm,0.7s								
AS31	**Alice Springs**	**28.49**	**166**	*e*P		**P**	**P**	**06 30 02.7**	**+0.3**
	comp=Z,1.8nm,0.4s								
ASAR	**Alice Springs**	**28.49**	**166**	P		**P**	**P**	**06 30 01.1**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=343,slow=6.8,SNR=23								
ASAR				S			**S**	**06 34 50.8**	**+2.7**
	comp=Z,0.5nm,1.0s,baz=352,slow=19,SNR=3.2								
AS01	**Alice Springs**	**28.50**	**166**	*e*P		**P**	**P**	**06 30 02.5**	**0.0**
GYA	**Guiyang**	**29.28**	**321**	*e*P		**P**	**P**	**06 30 11.0**	**+1.5**
GYA				PMZ					
	comp=Z,10.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**30.52**	**300**	P		**P**	**P**	**06 30 20.3**	**-0.2**
	comp=Z,2.2nm,0.2s,baz=116,slow=6.6,SNR=8.1								
CMAR				LR		LR		06 43 01.3	
	comp=Z,34nm,20.7s,baz=134,slow=37								
ENH	**Enshi**	**30.63**	**330**	*e*P		**P**	**P**	**06 30 21.2**	**-0.1**
	comp=Z,8.5nm,0.7s								
KMI	**Kunming**	**31.00**	**315**	P		**P**	**P**	**06 30 25.2**	**+0.4**
KMI				pP		sP		06 30 39.0	+0.7
KMI				sP		pP		06 30 47.0	+13
KMI				PMZ					
	comp=Z,8.0nm,0.6s								
KMI				LN					
	comp=Z,150nm,16.0s								
KMI				LE					
	comp=Z,96nm,17.9s								
KMI				LZ					
	comp=Z,190nm,20.4s								
KSAR	**Wonju Array Be**	**33.24**	**2**	P		**P**	**P**	**06 30 45.8**	**+1.7**
KSAR								06 33 26.9	
KSAR	**Wonju Array Be**	**33.24**	**2**	P		**P**	**P**	**06 30 45.8**	**+1.7**
KSAR				PcP		**PcP**		**06 33 26.9**	**+0.7**
KSRS	**Korea Array**	**33.26**	**2**	P		**P**	**P**	**06 30 45.8**	**+1.6**
	comp=Z,4.7nm,0.8s,baz=179,slow=10,SNR=18								
KSRS				PcP		**PcP**		**06 33 26.9**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=198,slow=2.8,SNR=5.3								
XAN	**Xi'an**	**34.02**	**333**	P		**P**	**P**	**06 30 50.8**	**-0.2**
XAN				pP		sP		06 31 09.0	+4.4
XAN				PMZ					
	comp=Z,20nm,0.8s								
XAN				PMZ					
	comp=Z,58nm,5.5s								
MJAR	**Matsushiro Arr**	**34.06**	**17**	P		**P**	**P**	**06 30 51.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=196,slow=9.5,SNR=4.8								
CD2	**Chengdu**	**34.25**	**324**	*e*P		**P**	**P**	**06 30 53.0**	**-0.1**
BJT	**Baijiatuan**	**36.99**	**347**	*e*P		**P**	**P**	**06 31 17.7**	**+1.3**
BJT				pmax		pmax			
	comp=Z,24nm,0.8s								
BJT	**Baijiatuan**	**36.99**	**347**	*e*P		**P**	**P**	**06 31 17.7**	**+1.3**
	comp=Z,24nm,0.8s								
BJI	**Beijing**	**37.01**	**347**	P		**P**	**P**	**06 31 17.7**	**+1.2**
BJI				PMZ					
	comp=Z,32nm,1.0s								
LZH	**Lanzhou**	**38.11**	**330**	*e*P		**P**	**P**	**06 31 27.9**	**+1.8**
LZH				pP		sP		06 31 42.3	+2.6
LZH				sP		pP		06 31 49.2	+13
LZH				PMZ					
	comp=Z,13nm,1.0s								
STKA	**Stephens Creek**	**38.52**	**159**	P		**P**	**P**	**06 31 28.8**	**-0.6**
	comp=Z,3.6nm,0.4s,baz=342,slow=10,SNR=12								
STKA	**Stephens Creek**	**38.52**	**159**	*e*P		**P**	**P**	**06 31 29.1**	**-0.3**
STKA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
STKA	**Stephens Creek**	**38.52**	**159**	*e*P		**P**	**P**	**06 31 29.1**	**-0.3**
	comp=Z,1.6nm,0.8s								
HHC	**Hu-ho-hao-te**	**39.02**	**342**	*e*P		**P**	**P**	**06 31 35.8**	**+2.2**
HHC				pP		sP		06 31 53.3	+6.1
HHC				S		**S**		**06 37 33.1**	**+2.5**
HHC				PMZ					
	comp=Z,12nm,1.0s								
HHC				PMZ					
	comp=Z,76nm,5.6s								
HHC				LN					
	comp=Z,130nm,12.4s								
HHC				LE					
	comp=Z,92nm,13.1s								
HHC				LZ					
	comp=Z,110nm,15.2s								
SHL	**Shillong**	**39.51**	**306**	*e*P		**P**	**P**	**06 31 35.0**	**-3.0**
SHL				*e*P		**P**	**P**	**06 31 35.0**	**-3.0**
CN2	**Changchun**	**39.58**	**359**	*e*P		**P**	**P**	**06 31 41.8**	**+3.7**
USRK	**Ussuriysk Ar.**	**40.26**	**6**	P		**P**	**P**	**06 31 44.8**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=194,slow=5.4,SNR=8.6								
MDJ	**Mudanjiang**	**40.48**	**3**	P		**P**	**P**	**06 31 47.8**	**+2.3**
MDJ				PP		**PnPn**		**06 33 22.7**	**-0.5**
MDJ				S		**S**		**06 37 53.2**	**+1.0**
MDJ				PMZ					
	comp=Z,14nm,0.8s								
MDJ				PMZ					
	comp=Z,68nm,5.1s								
MDJ				LN					
	comp=Z,40nm,31.3s								
MDJ				LE					
	comp=Z,73nm,33.3s								
KLR	**Kul'dur**	**45.22**	**5**	*e*P		**P**	**P**	**06 32 24.5**	**+0.6**
HIA	**Hailar**	**45.41**	**354**	*e*P		**P**	**P**	**06 32 27.3**	**+1.9**
HIA				pmax		pmax			
	comp=Z,24nm,1.3s								
HIA	**Hailar**	**45.41**	**354**	*e*P		**P**	**P**	**06 32 27.3**	**+1.9**
	comp=Z,24nm,1.3s								
ULN	**Ulaanbaatar**	**46.74**	**342**	*ce*P		**P**	**P**	**06 32 36.7**	**+0.6**
ULN				pmax		pmax			
	comp=Z,9.0nm,1.0s								
ULN	**Ulaanbaatar**	**46.74**	**342**	*e*P		**P**	**P**	**06 32 37.0**	**+0.9**
	comp=Z,12nm,1.2s								
SONM	**Songino Array**	**46.91**	**341**	P		**P**	**P**	**06 32 38.1**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=155,slow=9.1,SNR=11								
SONM				PcP		**PcP**		**06 34 10.4**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=139,slow=2.2,SNR=3.8								
SONA1	**Songino Array**	**46.92**	**342**	*e*P		**P**	**P**	**06 32 38.0**	**+0.5**
MOY	**Mondy**	**52.00**	**340**	*e*P		**P**	**P**	**06 33 17.5**	**+1.3**
WMQ	**Urumqi**	**52.33**	**325**	P		**P**	**P**	**06 33 19.8**	**+1.1**
WMQ				pP		sP		06 33 35.3	+2.7
WMQ				sP		pP		06 33 40.9	+12
WMQ				PMZ					
	comp=Z,6.0nm,0.6s								
WMQ				PMZ					
	comp=Z,48nm,5.2s								
WMQ				LN					
	comp=Z,26nm,25.0s								
WMQ				LE					
	comp=Z,48nm,28.8s								
PETK	**Petropavlovsk-**	**55.20**	**22**	P		**P**	**P**	**06 33 40.6**	**+1.1**
	comp=Z,6.4nm,0.7s,baz=185,slow=4.3,SNR=9.9								
MK01	**Makanchi Array**	**57.14**	**325**	*e*P		**P**	**P**	**06 33 53.4**	**-0.1**
MK31	**Makanchi Array**	**57.16**	**325**	*e*P		**P**	**P**	**06 33 53.5**	**-0.2**
MK31	**Makanchi Array**	**57.16**	**325**	*e*P		**P**	**P**	**06 33 53.5**	**-0.2**
MKAR	**Makanchi Array**	**57.16**	**325**	P		**P**	**P**	**06 33 53.5**	**-0.1**
	comp=Z,4.7nm,0.4s,baz=117,slow=7.4,SNR=49								
MKAR				PcP		**PcP**		**06 34 48.6**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=121,slow=4.7,SNR=5.5								
MAKZ	**Makanchi**	**57.35**	**325**	*e*P		**P**	**P**	**06 33 54.8**	**-0.1**
MAKZ				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MAKZ	**Makanchi**	**57.35**	**325**	*e*P		**P**	**P**	**06 33 54.8**	**-0.1**
	comp=Z,5.2nm,0.6s								
KSH	**Kashi**	**57.66**	**315**	P		P		06 34 02.6	+5.2
KSH				pP		sP		06 34 17.7	+6.4
KSH				PcP		**PcP**		**06 34 52.9**	**+2.6**
KSH				PP		**PP**		**06 36 12.5**	**+7.0**
KSH				S		**S**		**06 41 53.7**	**-0.2**
KSH				ScS		**ScS**		**06 43 41.3**	**-3.5**
KSH				PMZ					
	comp=Z,5.0nm,0.2s								
KSH				PMZ					
	comp=Z,100nm,4.1s								
KSH				LN					
	comp=Z,100nm,8.0s								
KSH				LE					
	comp=Z,98nm,5.9s								
KSH				LZ					
	comp=Z,120nm,6.1s								
YAK	**Yakutsk**	**57.88**	**2**	*e*P		**P**	**P**	**06 33 59.1**	**+0.8**
YAK				pmax		pmax			
	comp=Z,14nm,0.9s								
YAK				pmax		pmax			
	comp=E,3.0nm,1.1s								
YAK				pmax		pmax			
	comp=N,6.0nm,1.0s								
TKM2	**Tokmak 2**	**59.36**	**318**	*e*P		**P**	**P**	**06 34 10.6**	**+1.3**
TKM2	**Tokmak 2**	**59.36**	**318**	*e*P		**P**	**P**	**06 34 10.7**	**+1.3**
	comp=N,3.6nm,0.9s								
AAK	**Ala-Archa**	**59.97**	**318**	*i* P		**P**	**P**	**06 34 11.5**	**-2.0**
AAK				pmax		pmax			
	comp=Z,7.0nm,0.9s								
ZALV	**Zalesovo Beam**	**60.20**	**333**	P		**P**	**P**	**06 34 12.9**	**-1.7**
	comp=Z,2.7nm,0.3s,baz=149,slow=21,SNR=4.6								
EKS2	**Erkin-Say**	**60.46**	**318**	*e*P		**P**	**P**	**06 34 16.9**	**+0.1**
EKS2				pmax		pmax			
	comp=Z,5.0nm,0.8s								
EKS2	**Erkin-Say**	**60.46**	**318**	*e*P		**P**	**P**	**06 34 16.9**	**+0.1**
	comp=Z,5.2nm,0.8s								
KURK	**Kurchatov**	**61.35**	**327**	*e*P		**P**	**P**	**06 34 22.2**	**-0.3**
KURK				pmax		pmax			
	comp=Z,53nm,0.6s								
KURK	**Kurchatov**	**61.35**	**327**	*e*P		**P**	**P**	**06 34 22.1**	**-0.3**
	comp=Z,52nm,0.6s								
SEY	**Seymchan**	**61.76**	**13**	P		**P**	**P**	**06 34 24.5**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=220,slow=6.6,SNR=8.3								
SEY	**Seymchan**	**61.76**	**13**	*ce*P		**P**	**P**	**06 34 26.5**	**+1.5**
KKAR	**Karatay Array**	**62.84**	**317**	*e*P		**P**	**P**	**06 34 33.5**	**+0.8**
KKAR	**Karatay Array**	**62.84**	**317**	*e*P		**P**	**P**	**06 34 33.5**	**+0.8**
BRVK	**Borovoye**	**67.00**	**327**	*ce*P		**P**	**P**	**06 35 01.0**	**+1.5**
BRVK					pmax	pmax			
	comp=Z,17nm,1.0s								
BRVK	**Borovoye**	**67.00**	**327**	*e*P		**P**	**P**	**06 34 59.5**	**-0.1**
BRVK					epP	**sP**		**06 35 14.5**	**+1.0**
TIXI	**Tiksi**	**67.51**	**1**	P		P	**P**	**06 35 02.3**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=193,slow=3.2,SNR=13								
ZRNK	**Zerenda**	**67.65**	**327**	*e*P		**P**	**P**	**06 35 03.2**	**-0.4**
ZRNK	**Zerenda**	**67.65**	**327**	*e*P		**P**	**P**	**06 35 03.3**	**-0.4**
	comp=Z,6.2nm,0.8s								
NRIK	**Noril'sk**	**70.06**	**346**	P		**P**	**P**	**06 35 18.6**	**+0.3**
	comp=Z,15nm,0.7s,baz=126,slow=6.3,SNR=31								
GEYT	**Alibeck**	**70.52**	**309**	P		**P**	**P**	**06 35 20.8**	**-1.1**
	comp=Z,3.7nm,0.8s,baz=141,slow=5.0,SNR=5.9								
ABKAR	**Akbulak array**	**71.76**	**321**	*e*P		**P**	**P**	**06 35 28.6**	**-0.4**
SVE	**Sverdlovsk**	**73.57**	**328**	*e*P		**P**	**P**	**06 35 38.4**	**-1.2**
SVE				pmax		pmax			
	comp=Z,8.0nm,0.7s								
ARU	**Arti**	**74.54**	**328**	*c i*P		**P**	**P**	**06 35 45.3**	**0.0**
ARU				*PP		**PcP**		**06 36 03.1**	**+3.4**
ARU								06 38 29.6	
ARU				S		**S**		**06 45 18.0**	**-0.4**
ARU				SS		**SS**		**06 50 03.1**	**-2.4**
ARU				pmax		pmax			
	comp=Z,4.0nm,0.6s								
ARU	**Arti**	**74.54**	**328**	*e*P		**P**	**P**	**06 35 43.8**	**-1.5**
	comp=Z,5.9nm,0.5s								
CAST	**Castle Rocks**	**82.53**	**27**	*e*P		**P**	**P**	**06 36 29.9**	**+0.7**
	comp=Z,3.3nm,0.7s								
KBZ	**Khabaz**	**82.60**	**313**	P		**P**	**P**	**06 36 30.3**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=87,slow=16,SNR=2.9								
BPAW	**Bear Paw Mtn.**	**83.08**	**26**	*e*P		**P**	**P**	**06 36 33.6**	**+1.5**
	comp=Z,9.3nm,1.4s								
MLY	**Manley**	**83.27**	**25**	*e*P		**P**	**P**	**06 36 34.4**	**+1.3**
	comp=Z,8.0nm,1.4s								
COLD	**Coldfoot**	**83.67**	**23**	*e*P		**P**	**P**	**06 36 37.4**	**+2.3**
	comp=Z,6.9nm,1.1s								
VNDA	**Vanda**	**83.78**	**173**	P		**P**	**P**	**06 36 34.8**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=323,slow=7.2,SNR=8.1								
MCK	**McKinley**	**83.96**	**26**	*e*P		**P**	**P**	**06 36 34.3**	**-2.3**
MCK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MCK	**McKinley**	**83.96**	**26**	*e*P		**P**	**P**	**06 36 34.3**	**-2.3**
	comp=Z,6.5nm,1.0s								
CCB	**Clear Creek Bu**	**84.50**	**26**	*e*P		**P**	**P**	**06 36 36.6**	**-2.7**
	comp=Z,8.2nm,1.5s								
ILAR	**Eielson Array**	**84.89**	**25**	P		**P**	**P**	**06 36 41.9**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=240,slow=6.5,SNR=9.4								
KLMR	**Klimovskoe**	**85.01**	**331**	*e*P		**P**	**P**	**06 36 39.1**	**-2.8**
KLMR				*e*PP		**sP**		**06 36 55.1**	**-1.1**
KLMR				pmax		pmax			
	comp=Z,34nm,1.4s								
OBN	**Obninsk**	**86.67**	**325**	⇑ *i*P		**P**	**P**	**06 36 48.9**	**-1.4**
OBN				pmax		pmax			
	comp=Z,33nm,1.7s								
KMBO	**Kilima Mbogo**	**89.35**	**269**	P		**P**	**P**	**06 37 04.6**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=56,slow=9.0,SNR=6.7								
KMBO	**Kilima Mbogo**	**89.35**	**269**	*e*P		**P**	**P**	**06 36 59.7**	**-4.6**
KMBO				pmax		pmax			
	comp=Z,5.0nm,1.1s								
KMBO	**Kilima Mbogo**	**89.35**	**269**	*e*P		**P**	**P**	**06 36 59.7**	**-4.6**
	comp=Z,5.2nm,1.1s								
BRTR	**Keskin Array B**	**89.64**	**310**	P		**P**	**P**	**06 37 03.4**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=135,slow=4.4,SNR=7.1								
ARCES	**ARCESS Array B**	**90.06**	**340**	P		**P**	**P**	**06 37 05.3**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=83,slow=6.2,SNR=15								
BR231	**Keskin MP Arra**	**90.30**	**310**	*e*P		P		06 37 03.0	-5.0
FINES	**FINESS Array B**	**91.44**	**332**	P		**P**	**P**	**06 37 12.2**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=52,slow=5.3,SNR=23								
AKASG	**Malin Array Be**	**91.50**	**321**	P		**P**	**P**	**06 37 12.3**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=68,slow=4.8,SNR=10.0								
TESR	**Tescani**	**93.85**	**317**	ǁ *i*P		**P**	**P**	**06 37 24.1**	**-0.1**
VRI	**Vrincioaia**	**93.91**	**316**	ǁ *i*P		**P**	**P**	**06 37 24.2**	**-0.3**
VRI	**Vrincioaia**	**93.91**	**316**	ǁ P		**P**	**P**	**06 37 24.2**	**-0.3**
PLOR	**Plostina**	**93.96**	**316**	ǁ *i*P		**P**	**P**	**06 37 23.8**	**-1.0**
PLOR	**Plostina**	**93.96**	**316**	ǁ P		**P**	**P**	**06 37 23.8**	**-1.0**
MLR	**Muntele Rosu**	**94.51**	**316**	⇑ *i*P		**P**	**P**	**06 37 26.7**	**-0.7**
MLR	**Muntele Rosu**	**94.51**	**316**	⇑ P		**

COEN Coen 9.62 216 *e*Pn **Pn 06 36 55.8 +0.8**
HNR Honiara 11.36 107 P **Pn 06 37 20.5 +1.8**
comp=Z,2.8nm,0.3s,baz=228,slow=6.1,SNR=17
HNR LR LR 06 41 21.0
comp=Z,347nm,20.3s,baz=266,slow=35
HNR Honiara 11.36 107 *e*P **Pn 06 37 20.0 +1.3**
HNR Honiara 11.36 107 *e*P **Pn 06 37 21.1 +2.4**
HNR Honiara 11.36 107 *e*Pn **Pn 06 37 21.1 +2.4**
CTA Charters Tower 14.09 191 P **Pn 06 37 58.3 +2.6**
comp=Z,0.2nm,0.3s,baz=22,slow=15,SNR=5.1
RKPI Ransiki, Papua 15.46 287 P **P 06 38 19.7 +3.1**
comp=Z,231nm,0.8s,comp=Z,6µm
MTN Manton Dam 18.79 248 *e*P **P 06 38 52.8 -0.6**
comp=Z,192nm,1.4s
EIDS Eidsvold 19.21 174 *e*P **Pn 06 38 59.1 -0.3**
comp=Z,20nm,0.8s
WRAB Tennant Creek 19.73 225*c e*P **P 06 39 04.4 +0.8**
WRAB pmax pmax
comp=Z,270nm,0.6s
WRAB Tennant Creek 19.73 225 *e*P **Pn 06 39 04.9 -0.7**
comp=Z,124nm,0.6s
WRAB *e*S **S 06 42 38.7 -3.9**
WB2 Warramunga Arr 19.73 225 *e*P **Pn 06 39 04.9 -0.8**
comp=Z,135nm,0.6s
WRA Warramunga Arr 19.74 225 P **Pn 06 39 05.0 -0.8**
comp=Z,13nm,0.3s,baz=46,slow=11,SNR=262
WRA S **S 06 42 34.8 -8.1**
comp=Z,0.8nm,0.3s,baz=34,slow=23,SNR=4.4
WRA PcP **PcP 06 43 20.1 -0.1**
comp=Z,0.8nm,0.3s,baz=49,slow=2.2,SNR=8.5
WRA ScP **ScP 06 46 49.4 -1.3**
comp=Z,0.2nm,0.3s,baz=48,slow=2.6,SNR=8.6
WRA LR LR 06 47 46.3
comp=Z,342nm,19.6s,baz=35,slow=40
GUMO Guam 20.04 348 P **P 06 39 07.9 +0.9**
comp=Z,13nm,0.3s,baz=151,slow=9.8,SNR=11
GUMO LR LR 06 45 35.3
comp=Z,190nm,21.2s,baz=156,slow=33
NLAI Namlea 21.98 277 P **P 06 39 31.8 +3.9**
comp=Z,54nm,0.7s
AS01 Alice Springs 22.62 218 *e*P **P 06 39 35.8 +1.0**
AS01 *e*PcP **PcP 06 43 25.5 -0.2**
AS01 *e*ScP **ScP 06 46 57.5 -0.2**
AS31 Alice Springs 22.65 218 *e*P **P 06 39 36.2 +1.1**
comp=Z,12nm,0.5s
AS31 *e*S **S 06 43 42.0 +3.6**
ASAR Alice Springs 22.65 218 P **P 06 39 36.4 +1.3**
comp=Z,15nm,0.5s,baz=51,slow=9.5,SNR=169
ASAR PcP **PcP 06 43 26.1 +0.4**
comp=Z,9.6nm,0.8s,baz=40,slow=2.9,SNR=11
ASAR S **S 06 43 38.9 +0.5**
comp=Z,17nm,1.0s,baz=29,slow=21,SNR=16
ASAR ScP **ScP 06 46 57.1 -0.8**
comp=Z,2.3nm,0.8s,baz=42,slow=3.8,SNR=4.7
ASAR LR LR 06 49 08.7
comp=Z,241nm,21.8s,baz=63,slow=38
DZM Mont Dzumac 23.14 135 *e*P **P 06 39 47.2 +7.1**
comp=Z,80nm,1.1s
DZM *e*LR LR 06 45 32.7
comp=Z,1µm,25.4s
DZM Mont Dzumac 23.14 135 P **P 06 39 40.7 +0.6**
comp=Z,7.3nm,0.5s,baz=251,slow=11,SNR=24
DZM PcP **PcP 06 43 26.5 -0.4**
comp=Z,10nm,0.9s,baz=126,slow=9.9,SNR=3.5
DZM LR LR 06 47 31.0
comp=Z,545nm,21.4s,baz=264,slow=33
DZM Mont Dzumac 23.14 135 *e*P **P 06 39 40.3 +0.2**
comp=Z,38nm,1.0s
DZM PcP **PcP 06 43 26.5 -0.4**
SANI Sanana 23.27 279 P **P 06 39 45.1 +3.7**
comp=Z,79nm,0.6s
ARMA Armidale 24.26 174 *e*P **P 06 39 51.3 +1.0**
comp=Z,36nm,0.8s
SOEI Soe 24.71 260 P **P 06 39 55.4 +0.8**
comp=Z,211nm,0.9s
SOEI Soe 24.71 260 *e*P **P 06 39 55.2 +0.6**
comp=Z,148nm,0.8s
FITZ Fitzroy Crossi 25.67 240 P **P 06 40 03.8 +0.7**
comp=Z,127nm,0.8s,baz=69,slow=9.3,SNR=82
FITZ ScP **ScP 06 47 04.3 -1.8**
comp=Z,10nm,1.0s,baz=105,slow=7.4,SNR=3.0
FITZ LR LR 06 51 12.5
comp=Z,315nm,18.0s,baz=80,slow=39
FITZ Fitzroy Crossi 25.67 240 *e*P **P 06 40 03.9 +0.7**
comp=Z,101nm,0.7s
FITZ ScP **ScP 06 47 04.3 -1.8**
STKA Stephens Creek 26.50 194 P **P 06 40 10.5 0.0**
comp=Z,26nm,1.1s,baz=350,slow=9.7,SNR=12
STKA PcP **PcP 06 43 34.0 0.0**
comp=Z,3.6nm,0.9s,baz=164,slow=1.9,SNR=3.7
STKA LR LR 06 50 31.0
comp=Z,160nm,20.4s,baz=16,slow=36
STKA Stephens Creek 26.50 194 *e*P **P 06 40 11.0 +0.6**
STKA 06 43 34.0
STKA pmax pmax
comp=Z,6.0nm,1.1s
STKA Stephens Creek 26.50 194 *e*P **P 06 40 11.0 +0.6**
comp=Z,6.0nm,1.1s
STKA PcP **PcP 06 43 34.0 0.0**
MMRI Maumere 26.62 263 P **P 06 40 10.7 -1.0**
MMRI Maumere 26.62 263 *e*P **P 06 40 10.7 -1.0**
comp=Z,182nm,0.8s
GTOI Gorontalo 26.77 284 P **P 06 40 17.9 +4.8**
comp=Z,21nm,1.3s
MRSI Marisa 27.77 283 P **P 06 40 26.5 +4.4**
comp=Z,11nm,1.0s
BSSI Bau Bau, Buton 28.31 268 P **P 06 40 29.8 +2.9**
comp=Z,51nm,1.1s
WSI Waingapu 28.60 261 P **P 06 40 31.3 +1.8**
comp=Z,906nm,0.8s
KAPI Kappang 29.09 271 P **P 06 40 34.5 +0.6**
comp=Z,7.2nm,0.9s,baz=39,slow=6.5,SNR=2.6
KAPI Kappang 29.09 271 P **P 06 40 35.5 +1.6**
comp=Z,33nm,0.8s
BBOO Buckleboo 29.11 203 *e*P **P 06 40 34.2 +0.4**
comp=Z,20nm,1.0s
MSVF Nonsavu 30.64 115 *e*P **P 06 40 47.7 +0.1**
MSVF *e**PP **sP 06 41 08.6 -2.9**
MSVF Nonsavu 30.64 115 *e*P **P 06 40 47.7 +0.1**
MSVF *e*pP **sP 06 41 08.6 -2.9**
JCJ Chichijima 33.70 349 LR LR 06 53 16.3
comp=Z,96nm,21.7s,baz=84,slow=33
KSM Kuching 39.33 280 *e*P **P 06 42 00.5 -1.9**
KSM *e*pP **pP 06 42 12.0 -6.9**
AFI Afiamalu 39.37 104 P **P 06 42 03.3 +0.5**
comp=Z,22nm,0.8s,baz=70,slow=13,SNR=4.7
NWAO Narrogin (SRO) 39.74 224 P **P 06 42 05.8 +0.3**
comp=Z,9.8nm,0.7s,baz=12,slow=6.3,SNR=4.9
YHNB Yeheng 40.76 320 *e*P **P 06 42 11.6 -2.5**
comp=Z,358nm,2.4s
URZ Urewera 40.90 145 P **P 06 42 15.1 +0.2**
comp=Z,4.2nm,0.5s,baz=243,slow=5.0,SNR=5.1
URZ PcP **PcP 06 44 12.5 -2.0**
comp=Z,6.2nm,0.7s,baz=11,slow=3.0,SNR=3.6
URZ LR LR 06 57 06.0
comp=Z,161nm,19.4s,baz=311,slow=33
RPZ Rata Peaks 42.14 156 P **P 06 42 25.5 +0.4**
comp=Z,14nm,0.6s,baz=335,slow=4.1,SNR=7.9
BFZ Birch Farm 42.16 149 *e*P **P 06 42 26.3 +1.0**
INU Inuyama 42.79 346 *e*P **P 06 42 30.6 +0.2**
INU *e*pP **pP 06 42 48.1 +1.0**
MJAR Matsushiro Arr 43.66 347 P **P 06 42 36.5 -0.9**
comp=Z,9.1nm,0.8s,baz=166,slow=7.5,SNR=38
MAJO Matsushiro 43.66 347 *i* P **P 06 42 36.5 -0.9**
MAJO pmax pmax
comp=Z,78nm,0.8s
MAJO Matsushiro 43.66 347 *e*P **P 06 42 36.8 -0.6**
MAJO *e*pP **pP 06 42 55.6 +1.5**
MAT Matsushiro 43.66 347 P **P 06 42 35.8 -1.6**
MAT *e*S **S 06 49 02.4 0.0**
MJB9 Matsu-Tunnel 43.66 347 *e*P **P 06 42 36.9 -0.6**
MJB9 *e*pP **pP 06 42 55.7 +1.5**
MYKOM Kota Tinggi 45.73 279 *e*P **P 06 42 51.5 -2.8**
MYKOM *e*pP **pP 06 43 05.0 -6.2**
QIZ Qiongzhong 45.96 304 P **P 06 42 56.8 +0.8**
QIZ pP **pP 06 43 14.2 +1.4**
QIZ sP **sP 06 43 22.7 +2.3**
QIZ S **S 06 49 37.9 +1.7**
QIZ LN
comp=Z,92nm,4.5s
QIZ LE
comp=Z,89nm,3.4s
KSRS Korea Array 47.63 337 P **P 06 43 08.0 -0.7**
comp=Z,2.3nm,0.6s,baz=154,slow=9.0,SNR=12
KSRS LR LR 07 01 40.4
comp=Z,68nm,21.5s,baz=154,slow=34
KSAR Wonju Array Be 47.63 337 P **P 06 43 08.0 -0.7**
KSAR Wonju Array Be 47.63 337 P **P 06 43 08.0 -0.7**
KS01 Wonju Array Si 47.66 337 *e*P **P 06 43 07.9 -1.0**
KS01 *e*pP **pP 06 43 25.3 -0.5**
WHN Wuhan 49.30 320 P **P 06 43 23.4 +1.7**
GYA Guiyang 52.27 310 *e*P **P 06 43 46.2 +2.0**
GYA pP sP 06 44 05.8 -3.1
GYA PP **PP 06 45 46.4 +3.0**
GYA ScP **ScP 06 48 45.0 -1.4**
GYA S **S 06 51 04.7 -0.1**
GYA PMZ
comp=Z,10.0nm,0.9s
USRK Ussuriysk Ar. 52.41 345 P **P 06 43 42.4 -2.4**
comp=Z,3.4nm,0.5s,baz=186,slow=4.3,SNR=12
USRK LR LR 07 03 33.7
comp=Z,39nm,21.6s,baz=164,slow=33
YSS Yuzh-Sakhalins 53.17 355 *e*P P 06 44 05.3 +15
CN2 Changchun 54.08 339 *e*P **P 06 44 01.1 +4.0**
KMI Kunming 54.65 307 P **P 06 44 03.6 +1.7**
KMI pP sP 06 44 27.0 +0.3
KMI PMZ
comp=Z,7.0nm,0.9s
KMI LN
comp=Z,130nm,17.1s
KMI LE
comp=Z,81nm,17.1s
CMAR Chiang Mai Arr 55.05 297 LR LR 07 08 27.5
comp=Z,34nm,19.9s,baz=140,slow=37
CD2 Chengdu 56.80 313 *e*P **P 06 44 16.4 -0.5**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
TYV Tymovskoe 57.05 355 *e*P **P 06 44 19.0 +0.7**
TYV pmax pmax
comp=Z,40nm,1.2s
KLR Kul'dur 57.17 347 *i* P **P 06 44 19.1 -0.1**
HHC Hu-ho-hao-te 58.01 327 *e*P **P 06 44 27.7 +2.3**
HHC sP sP 06 44 55.9 +5.6
HHC S **S 06 52 19.9 -1.2**
HHC PMZ
comp=Z,17nm,1.1s
HHC PMZ
comp=Z,59nm,5.9s
HHC LN
comp=Z,170nm,18.6s
HHC LE
comp=Z,130nm,15.2s
HHC LZ
comp=Z,120nm,15.9s
PEA0 Petropavlovsk- 59.51 6 *e*P **P 06 44 35.4 0.0**
PEA0B Petropavlovsk- 59.51 6 *e*P **P 06 44 35.7 +0.3**
comp=Z,44nm,0.9s
PETK Petropavlovsk- 59.51 6 P **P 06 44 35.3 0.0**
comp=Z,71nm,1.1s,baz=156,slow=4.9,SNR=27
PETK LR LR 07 04 44.5
comp=Z,37nm,20.9s,baz=190,slow=30
PPT2 Papeete2 60.98 107 *e*LR LR 07 03 07.8
comp=Z,152nm,29.5s
TBI Tubuai 61.51 113 *e*LR LR 07 03 18.3
comp=Z,269nm,35.8s
GTA Gaotai 64.12 319 *e*P **P 06 45 11.2 +4.3**
GTA pP sP 06 45 31.1 -0.9
GTA sP PcP 06 45 39.5 -2.0
GTA PMZ
comp=Z,5.0nm,0.5s
ULN Ulaanbaatar 65.20 330*c e*P **P 06 45 13.7 0.0**
ULN pmax pmax
comp=Z,4.0nm,1.7s
SONM Songino Array 65.51 330 P **P 06 45 13.8 -1.9**
comp=Z,0.9nm,0.6s,baz=134,slow=4.2,SNR=4.6
SONM LR LR 07 12 13.3
comp=Z,42nm,21.3s,baz=130,slow=34
SONM PKP2bc 07 13 59.8
comp=Z,1.5nm,1.0s,baz=267,slow=2.5,SNR=4.8
SONA1 Songino Array 65.51 330 *e*P **P 06 45 14.7 -1.0**
MA2 Magadan 65.54 1 LR LR 07 14 05.1
comp=Z,11nm,18.8s,baz=156,slow=36
MA2 Magadan 65.54 1 *e*P **P 06 45 17.6 +2.1**
CASY Casey 65.63 196 *e*P **P 06 45 15.9 -0.1**
comp=Z,22nm,0.6s
ZAK Zakamensk 68.73 331 *e*P **P 06 45 32.5 -3.5**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
SEY Seymchan 68.94 2*c e*P **P 06 45 38.4 +1.5**
YAK Yakutsk 69.61 350 LR LR 07 13 05.1
comp=Z,19nm,21.6s,baz=161,slow=33
MIR Mirnyy 71.31 200 *i* P **P 06 45 52.5 +1.1**
MIR pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 71.65 177 P **P 06 45 54.2 +0.9**
comp=Z,8.6nm,0.6s,baz=335,slow=6.7,SNR=65
VNDA Vanda 71.65 177 *e*P **P 06 45 53.5 +0.2**
VNDA pmax pmax
comp=Z,10.0nm,0.6s
VNDA Vanda 71.65 177 *e*P **P 06 45 53.5 +0.2**
comp=Z,9.5nm,0.6s
WMQ Urumqi 74.19 319 P **P 06 46 09.7 +0.7**
WMQ pP pP 06 46 29.7 +2.6
WMQ sP sP 06 46 37.7 +3.3
BILL Bilibino 75.03 7 *i* P **P 06 46 14.6 +1.3**
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,205nm,20.0s
BILL Bilibino 75.03 7 *e*P **P 06 46 13.8 +0.6**
comp=Z,11nm,1.0s
TIXI Tiksi 78.78 354 LR LR 07 17 13.2
comp=Z,16nm,21.5s,baz=100,slow=32
MKAR Makanchi Array 78.87 320 P **P 06 46 33.1 -2.2**
comp=Z,0.4nm,0.5s,baz=105,slow=7.2,SNR=5.3
MKAR PKKPbc **PKKPbc 07 05 28.6 -2.2**
comp=Z,0.8nm,0.6s,baz=295,slow=2.0,SNR=10
MKAR PKPPKP **P'P'df 07 13 36.1 +4.4**
comp=Z,0.6nm,0.9s,baz=298,slow=2.6,SNR=4.0
MKAR LR LR 07 18 55.1
comp=Z,22nm,21.8s,baz=97,slow=34
ZALV Zalesovo Beam 80.19 327 LR LR 07 21 19.8
comp=Z,48nm,21.5s,baz=70,slow=35
TT01 Tatalina 80.43 22 *e*P **P 06 46 43.5 +0.1**
TTA Tatalina 80.44 22 *e*P **P 06 46 44.2 +0.6**
TTA pmax pmax
comp=Z,8.0nm,1.2s
TTA Tatalina 80.44 22 *e*P **P 06 46 44.2 +0.6**
comp=Z,7.8nm,1.2s
CNPM China Poot 80.61 27 *e*P **P 06 46 44.6 +0.1**
comp=Z,29nm,0.9s
KSH Kashi 80.94 311 P **P 06 46 50.4 +3.6**
KSH pP sP 06 47 11.8 -0.6
KSH PP **PP 06 49 59.6 +7.3**
KSH S **S 06 56 50.0 -0.8**
KSH SKS **SKSac 06 56 57.2 -2.9**
KSH SS **SS 07 02 11.9 +5.5**
KSH PMZ
comp=Z,4.0nm,0.4s
KSH PMZ
comp=Z,73nm,4.9s
RC01 Rabbit Creek A 82.02 25 *e*P **P 06 46 49.7 -2.1**
comp=Z,18nm,1.0s
CAST Castle Rocks 82.21 23 *e*P **P 06 46 52.3 -0.5**
comp=Z,14nm,0.9s
KURK Kurchatov 82.51 323 *e*P **P 06 46 52.0 -2.6**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK Kurchatov 82.51 323 *e*P **P 06 46 52.0 -2.6**
comp=Z,8.5nm,0.8s
PMR Palmer 82.51 25 *e*P **P 06 46 53.6 -0.8**
PMR pmax pmax
comp=Z,9.0nm,1.0s
PMR Palmer 82.51 25 *e*P **P 06 46 53.6 -0.8**
comp=Z,8.5nm,1.0s
KTH Kantishna Hill 82.73 23 *e*P **P 06 46 54.6 -1.0**
comp=Z,12nm,0.9s
AAK Ala-Archa 82.85 314 *i* P **P 06 46 54.6 -2.2**
MAW Mawson 82.85 203 P **P 06 46 56.2 +0.1**
comp=Z,6.0nm,0.7s,baz=77,slow=4.4,SNR=9.7
MAW LR LR 07 22 09.6
comp=Z,53nm,19.5s,baz=52,slow=34
MAW Mawson 82.85 203 *e*P **P 06 46 56.0 -0.1**
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 82.85 203 *e*P **P 06 46 56.0 -0.1**
comp=Z,1.7nm,0.8s
TRF Thorofare Moun 82.93 23 *e*P **P 06 46 56.0 -0.7**
comp=Z,8.8nm,0.9s
SML Sawmill 82.95 25 *e*P **P 06 46 56.6 -0.2**
SML pmax pmax
comp=Z,20nm,0.9s
SML Sawmill 82.95 25 *e*P **P 06 46 56.6 -0.2**
comp=Z,20nm,0.9s
SCM Sheep Creek Mo 83.39 25 *e*P **P 06 46 59.1 +0.1**
SCM pmax pmax
comp=Z,18nm,1.0s
SCM Sheep Creek Mo 83.39 25 *e*P **P 06 46 59.1 +0.1**
comp=Z,18nm,1.0s
RND Reindeer 83.47 24 *e*P **P 06 46 58.6 -0.9**
RND pmax pmax
comp=Z,21nm,0.8s
RND Reindeer 83.47 24 *e*P **P 06 46 58.6 -0.9**
comp=Z,20nm,0.8s
MLY Manley 83.53 22 *e*P **P 06 46 59.7 0.0**
comp=Z,11nm,0.8s
MCK McKinley 83.59 23 *e*P **P 06 46 59.1 -0.9**
MCK pmax pmax
comp=Z,31nm,1.0s
MCK McKinley 83.59 23 *e*P **P 06 46 59.1 -0.9**
comp=Z,31nm,1.0s
BWN Browne 83.60 23 *e*P **P 06 47 00.5 +0.5**
comp=Z,85nm,1.8s
DIV Divide 83.76 26 *e*P **P 06 47 01.0 +0.1**
comp=Z,12nm,1.0s
QSPA South Pole Qui 83.81 180 *e*P **P 06 47 01.3 0.0**
comp=Z,130nm,0.8s
KLU Klutina 83.85 26 *e*P **P 06 47 01.6 +0.2**
comp=Z,20nm,1.0s
DHY Denali Highway 83.92 24 *e*P **P 06 47 01.0 -0.8**
comp=Z,12nm,0.9s
RAGM Ragged Mountai 83.94 27 *e*P **P 06 47 02.0 +0.1**
comp=Z,15nm,1.1s
BMRM Bremner River 84.21 27 *e*P **P 06 47 03.2 -0.1**
comp=Z,12nm,1.1s
WRH Wood River Hil 84.27 23 *e*P **P 06 47 02.3 -1.1**
comp=Z,15nm,1.0s
MDM Murphy Dome 84.44 22 *e*P **P 06 47 03.4 -0.9**
comp=Z,8.1nm,1.2s
CCB Clear Creek Bu 84.46 23 *e*P **P 06 47 03.1 -1.2**
comp=Z,11nm,0.9s
COLA College 84.54 23*c i*P **P 06 47 03.7 -1.0**
COLA pmax pmax
comp=Z,17nm,0.9s
COLA College 84.54 23 *e*P **P 06 47 03.5 -1.2**
comp=Z,17nm,0.9s
PAX Paxson 84.66 25 *e*P **P 06 47 05.6 +0.1**
PAX pmax pmax
comp=Z,5.0nm,1.2s
PAX Paxson 84.66 25 *e*P **P 06 47 05.6 +0.1**
comp=Z,5.0nm,1.2s
CRQM Cirque 84.79 27 *e*P **P 06 47 06.5 +0.2**
comp=Z,9.5nm,0.7s
COLD Coldfoot 84.81 20 *e*P **P 06 47 06.2 +0.1**
comp=Z,4.9nm,1.0s
IL1 Eielson Array 84.86 23 *e*P **P 06 47 04.8 -1.6**
ILAR Eielson Array 84.86 23 P **P 06 47 05.0 -1.4**
comp=Z,9.5nm,0.8s,baz=252,slow=5.2,SNR=89
ILAR LR LR 07 19 03.3
comp=Z,21nm,20.4s,baz=258,slow=31
ILB Eielson Array 84.86 23 *e*P **P 06 47 05.0 -1.4**
MENT Mentasta 85.38 25 *e*P **P 06 47 09.0 0.0**
comp=Z,5.0nm,0.9s
DOT Dot Lake 85.52 24 *e*P **P 06 47 07.3 -2.4**
DOT *e*PcP **PcP 06 47 09.4 -3.1**
NRIK Noril'sk 86.03 342 P **P 06 47 10.8 -1.2**
comp=Z,2.8nm,0.8s,baz=102,slow=5.1,SNR=4.0
EGAK Eagle 87.12 24 *e*P **P 06 47 17.7 +0.2**
comp=Z,13nm,1.0s
BRVK Borovoye 88.12 324 *i* P **P 06 47 22.2 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 91.09 21 *e*P **P 06 47 36.0 -0.1**
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 91.09 21 *e*P **P 06 47 36.0 -0.1**
comp=Z,4.4nm,1.0s
SYO Syowa Base 91.11 200† *e*P **P 06 47 34.6 -1.7**
GEYT Alibeck 94.41 308 LR LR 07 32 25.4
comp=Z,39nm,21.9s,baz=220,slow=37
ARU Arti 95.31 326*c i*P **P 06 47 55.6 -0.2**
ARU *PP **sP 06 48 18.1 -3.5**
ARU 06 51 46.6
ARU S **SKSac 06 58 23.8 -2.0**
ARU SS **SS 07 05 27.0 -7.4**
ARU pmax pmax
comp=Z,4.0nm,1.7s
NVAR Mina Array Bea 95.92 52 P **P 06 47 59.0 -0.4**
comp=Z,0.2nm,0.3s,baz=270,slow=8.1,SNR=3.2
NVAR LR LR 07 23 59.0
comp=Z,50nm,21.9s,baz=265,slow=31
YKA Yellowknife Ar 98.40 28 P **P 06 48 08.4 -1.2**
comp=Z,0.5nm,0.8s,baz=267,slow=6.0,SNR=4.3
YKA PKKPbc **PKKPbc 07 04 38.6 -4.1**
comp=Z,1.6nm,0.7s,baz=90,slow=2.8,SNR=12
TXAR Lajitas Array 108.13 61 PKKPbc PKKPbc 07 04 11.9 -0.9
comp=Z,0.3nm,0.6s,baz=113,slow=6.8,SNR=4.7
TXAR PKKP **PKKPab 07 04 24.9 -1.0**
comp=Z,0.4nm,0.7s,baz=114,slow=7.2,SNR=5.2
PLCA Paso Flores 120.91 146 PKP **PKPdf 06 53 24.4 -0.1**
comp=Z,8.3nm,1.0s,baz=252,slow=4.0,SNR=7.1
KHC Kasperske Hory 123.04 327 *e*PKPdf **PKPdf 06 53 27.8 -0.5**
KHC Kasperske Hory 123.04 327 *e*PKIKP **PKPdf 06 53 27.8 -0.5**
GERES GERESS Array B 123.13 326 PKP **PKPdf 06 53 27.0 -1.5**
comp=Z,0.7nm,0.7s,baz=96,slow=2.7,SNR=7.7
GERES PKKPbc **PKKPab 07 03 18.2 -1.3**
comp=Z,0.1nm,0.3s,baz=275,slow=5.8,SNR=4.3
GERES PKKP **PKKPdf 07 03 55.6 -3.3**
comp=Z,0.1nm,0.3s,baz=232,slow=1.5,SNR=3.9
ROC1 El Roble 125.64 138 *e*PKPdf **PKPdf 06 53 33.9 -0.2**
LCO Las Campanas 128.24 135 *e*PKPdf **PKPdf 06 53 39.7 +0.5**
PB01 IPOC Station P 133.58 127 *e*PKPdf **PKPdf 06 53 49.7 +0.4**
PRAC Prado 136.25 91 *e*PKPpre PKPpre 06 53 45.0
LPAZ La Paz 137.05 122 PKhKP PKPpre 06 53 43.5
comp=Z,1.5nm,0.6s,baz=271,slow=0.1,SNR=13
LPAZ PKP **PKPdf 06 53 57.0 +0.5**
comp=Z,6.1nm,0.6s,baz=239,slow=1.3,SNR=13
CPUP Villa Florida 138.85 143 PKhKP PKPpre 06 53 49.0
comp=Z,1.2nm,0.6s,baz=197,slow=2.3,SNR=5.5
CPUP PKP **PKPdf 06 53 59.3 +0.6**
comp=Z,5.9nm,0.7s,baz=302,slow=1.5,SNR=8.6
SAML Samuel 144.61 115 *e*PKPdf **PKPab 06 54 07.3 -0.7**
TORD Torodi Ar. Bea 147.02 285 PKP **PKPdf 06 54 13.1 -0.3**
comp=Z,4.2nm,0.6s,baz=52,slow=3.1,SNR=30
TORD PKPbc **PKPbc 06 54 14.8 -0.8**
comp=Z,4.2nm,0.6s,baz=72,slow=2.3,SNR=32
TORD SKPbc **SKPbc 06 57 45.1 -3.3**
comp=Z,1.0nm,0.7s,baz=51,slow=1.6,SNR=3.5
BDFB Brasilia 152.58 142 PKP **PKPdf 06 54 22.7 +0.4**
comp=Z,10.0nm,0.9s,baz=242,slow=2.1,SNR=13
BDFB PKPbc **PKPbc 06 54 29.2 -0.1**
comp=Z,50nm,0.5s,baz=236,slow=1.3,SNR=124
DBIC Dimbokro 153.98 273 PKPbc **PKPbc 06 54 32.9 +0.5**
comp=Z,4.1nm,0.7s,baz=72,slow=3.1,SNR=5.0

ISCJB **12** *06:46:40.7±4.3, 6°.71S±0°.09×150°.3E±0°.1, h15km±27km, mb4.0/14, MS2.9/2, Error ellipse: s-maj=22.9km s-min=9.5km az=33.4*
NEIC **12** *06:46:45.3±0.3, 6°.72S×150°.33E, h35km, mb4.5/4, Error ellipse: s-maj=14.0km s-min=5.7km az=118.0*
IDC **12** *06:46:46.0±0.6, 6°.71S×150°.30E, h38km±4km, mb3.8/12, mb1 4.1/13, mb1mx3.9/32, mbtmp4.1/13, ML2.3/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/25, Error ellipse: s-maj=23.8km s-min=13.3km az=111.0*

ISC 12 06:46:44.5±0.6, 6.73S±0°.10×150°.2E±0°.1, h26km±3km, h26km:pP-P, n28, σ1°.73/37, mb4.0/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**4.02**	**228**	Pn	**Pn**	**06 47 47.1**	**+2.8**
	13nm,0.3s,baz=70,slow=8.5,SNR=34						
PMG				Sn	**Sn**	**06 48 32.4**	**+1.8**
	7.2nm,0.3s,baz=105,slow=19,SNR=3.7						
PMG	**Port Moresby**	**4.02**	**228**	*e*Pn	**Pn**	**06 47 46.0**	**+1.6**
PMG				Sn	**Sn**	**06 48 32.4**	**+1.8**
PMG				*e*Sn	**Sb**	**06 48 36.1**	**-6.7**
COEN	**Coen**	**9.96**	**223**	*e*Pn	**Pn**	**06 49 07.4**	**+1.3**
HNR	**Honiara**	**10.02**	**106**	LR	LR	06 52 31.2	
	comp=Z,62nm,18.5s,baz=261,slow=35						
JAY	**Jayapura**	**10.35**	**293**	LR	LR	06 53 21.1	
	comp=Z,35nm,21.2s,baz=12,slow=38						
CTAO	**Charters Tower**	**13.82**	**196**	*e*Pn	**Pn**	**06 49 58.8**	**-0.1**
WRAB	**Tennant Creek**	**20.22**	**228**	*e*P	**P**	**06 51 18.6**	**+0.8**
	25nm,0.8s						

WRA	**Warramunga Arr**	**20.24**	**228**	P		**P**	**06 51 18.8**	**+0.9**
	20nm,0.7s,baz=54,slow=11,SNR=80							
WRA				PcP		**PcP**	**06 55 32.3**	**+0.6**
	0.4nm,0.6s,baz=44,slow=1.8,SNR=4.6							
GUMO	**Guam**		**20.87**	**345**	LR	LR	06 59 48.9	
	comp=Z,23nm,18.9s,baz=96,slow=38							
DZM	**Mont Dzumac**		**21.87**	**136**	LR	LR	06 58 50.0	
	comp=Z,96nm,19.0s,baz=262,slow=33							
ASAR	**Alice Springs**		**23.00**	**221**	P	**P**	**06 51 47.8**	**+0.3**
	2.4nm,0.4s,baz=55,slow=8.7,SNR=33							
ASAR					PcP	**PcP**	**06 55 36.6**	**-0.4**
	0.5nm,0.8s,baz=35,slow=3.4,SNR=3.5							
STKA	**Stephens Creek**		**26.28**	**197**	P	**P**	**06 52 17.6**	**-0.2**
	4.2nm,0.7s,baz=358,slow=9.5,SNR=11							
FITZ	**Fitzroy Crossi**		**26.48**	**242**	P	**P**	**06 52 20.8**	**+1.0**
	9.0nm,0.7s,baz=52,slow=9.8,SNR=13							
MJAR	**Matsushiro Arr**		**44.49**	**346**	P	**P**	**06 54 52.2**	**-1.6**
	0.4nm,0.6s,baz=167,slow=7.5,SNR=2.9							
MJAR					pP	**sP**	**06 55 04.4**	**-0.5**
	1.0nm,0.7s,baz=159,slow=6.4,SNR=3.2							
KSRS	**Korea Array**		**48.63**	**336**	P	**P**	**06 55 26.5**	**+0.3**
	0.4nm,0.3s,baz=155,slow=8.4,SNR=3.3							
KSRS					pP	**sP**	**06 55 37.6**	**+0.3**
	1.4nm,0.7s,baz=154,slow=7.9,SNR=4.2							
KSAR	**Wonju Array Be**		**48.64**	**336**	P	**P**	**06 55 26.5**	**+0.3**
KSAR					pP	**sP**	**06 55 37.6**	**+0.2**
SONM	**Songino Array**		**66.62**	**329**	P	**P**	**06 57 32.4**	**-0.4**
	0.5nm,0.5s,baz=116,slow=3.4,SNR=2.8							
VNDA	**Vanda**		**71.02**	**177**	P	**P**	**06 57 59.3**	**-0.2**
	0.3nm,0.5s,baz=338,slow=6.7,SNR=6.2							
MKAR	**Makanchi Array**		**80.10**	**320**	P	**P**	**06 58 52.9**	**+0.7**
	0.2nm,0.5s,baz=108,slow=4.7,SNR=2.7							
KTH	**Kantishna Hill**		**82.78**	**23**	*eP*	**P**	**06 59 04.8**	**-1.2**
	2.5nm,0.8s							
MCK	**McKinley**		**83.63**	**23**	*eP*	**P**	**06 59 08.8**	**-1.7**
	3.9nm,1.1s							
COLA	**College**		**84.60**	**22**	*eP*	**P**	**06 59 14.2**	**-1.0**
	3.7nm,0.7s							
ILAR	**Eielson Array**		**84.92**	**23**	P	**P**	**06 59 15.9**	**-0.9**
	1.3nm,0.8s,baz=252,slow=5.4,SNR=17							
ILAR					pP	**sP**	**06 59 27.4**	**-1.1**
	3.0nm,0.7s,baz=252,slow=5.4,SNR=18							
NVAR	**Mina Array Bea**		**95.30**	**52**	P	**P**	**07 00 07.5**	**+0.7**
	0.1nm,0.3s,baz=260,slow=5.3,SNR=2.2							
NVAR					pP	**sP**	**07 00 18.4**	**0.0**
	0.7nm,0.7s,baz=256,slow=6.0,SNR=3.3							
YKA	**Yellowknife Ar**		**98.33**	**28**	P	**P**	**07 00 18.7**	**-0.9**
	0.3nm,0.7s,baz=260,slow=3.7,SNR=3.0							
YKA					pP	**sP**	**07 00 30.8**	**-0.4**
	0.9nm,0.8s,baz=270,slow=4.2,SNR=5.2							
GERES	**GERESS Array B**		**124.29**	**327**	PKP	**PKPdf**	**07 05 41.5**	**+0.2**
	0.4nm,0.6s,baz=62,slow=3.2,SNR=4.8							
GERES					pPKP	**pPKPdf**	**07 05 52.4**	**+2.4**
	0.7nm,0.7s,baz=90,slow=1.7,SNR=5.2							
TORD	**Torodi Ar. Bea**		**148.35**	**284**	PKPbc	**PKPbc**	**07 06 29.8**	**+0.2**
	2.7nm,0.6s,baz=90,slow=2.5,SNR=20							
TORD					pPKPbc	**pPKPbc**	**07 06 42.0**	**+3.6**
	3.5nm,0.7s,baz=52,slow=2.8,SNR=9.0							
BDFB	**Brasilia**		**151.37**	**141**	PKPbc	**PKPbc**	**07 06 36.1**	**-0.9**
	2.1nm,0.9s,baz=175,slow=0.5,SNR=5.3							

SJA ***12*** *07:01:32.2±0.5, 27.˚24S×69.˚91W, h182km±7km, ML2.9, MW3.1*

ISCJB ***12*** *07:01:34.5±1.4, 27.˚40S±0.˚06×70.˚26W±0.˚08, h104km±11km, Error ellipse: s-maj=12.2km s-min=10.8km az=176.7*

GUC ***12*** *07:01:35.5±0.4, 27.˚44S×70.˚16W, h97km±3km, ML3.0*

ISC 12 07:01:32.6±2.7, 27.˚27S±0.˚10×70.˚22W±0.˚08, h116km±19km, n10, σ1°92/19, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
CPCH	**Copiapo**	**0.15**	**233**	*i*	P		**Pn**	**07 01 48.8**	**+0.2**
CPCH				*i*	S		**Sn**	**07 01 58.7**	**-2.0**
CDCH	**Caldera**	**0.57**	**290**	*i*	P		**Pn**	**07 01 52.3**	**+1.7**
CDCH				*i*	S		**Sn**	**07 02 04.8**	**+0.7**
CDCH					IAML			07 02 06.3	
	comp=E,640nm,0.1s								
VACH	**Vallenar**	**1.39**	**200**	*i*	P		**Pn**	**07 01 58.3**	**-0.2**
VACH				*i*	S		**Sn**	**07 02 15.8**	**-2.3**
LCO	**Las Campanas**	**1.79**	**194**	*i*	P		**Pn**	**07 02 03.8**	**+0.3**
LCO				*i*	S		**Sn**	**07 02 25.6**	**-1.4**
LCO					IAML			07 02 27.3	
	comp=E,162nm,0.3s								
VCA	**Vinchina**	**2.31**	**130**	*i*	P		**Pn**	**07 02 11.7**	**+1.9**
VCA				*i*	S		**Sn**	**07 02 40.6**	**+2.1**
VCA					IAML			07 02 41.3	
	comp=Z,76nm,0.3s								
AGUA	**GUANDACOL**	**2.69**	**146**	*i*	P		**Pn**	**07 02 16.4**	**+1.7**
AGUA				*i*	S		**Sn**	**07 02 49.6**	**+2.5**
TLL	**Tololo Astrono**	**2.93**	**190**	*i*	P		**Pn**	**07 02 19.0**	**+0.9**
TLL				*i*	S		**Sn**	**07 02 51.6**	**-1.6**
TLL					IAML			07 02 54.2	
	comp=N,90nm,0.3s								
AMOG	**MOGNA**	**3.96**	**158**	*i*	P		**Pn**	**07 02 33.1**	**+1.6**
CYA	**Choya**	**4.08**	**108**	*i*	P		**Pn**	**07 02 32.0**	**-1.2**
CYA				*i*	S		**Sn**	**07 03 16.4**	**-3.8**
CYA					IAML			07 03 17.8	
	comp=Z,3.8nm,0.2s								
AVFE	**Valle Fertil**	**4.16**	**145**	*i*	P		**Pn**	**07 02 34.8**	**+0.6**
AVFE				*i*	S		**Sn**	**07 03 20.8**	**-1.2**
AVFE					IAML			07 03 22.5	
	comp=Z,46nm,0.6s								

CSEM ***12*** *07:49:59.7, 36.˚41N×25.˚42E, h3km, ML1.5/2*

THE 12 07:49:59.7, 36.˚41N×25.˚42E, h3km±1km, ML1.5/2, Error ellipse: s-maj=1.3km s-min=0.3km az=102.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
THR3	**Thira Island,**	**0.01**	**246**		P		Pg	07 50 00.3	0.0
THR3	**Thira Island,**	**0.01**	**246**		P		Pg	07 50 00.3	0.0
THR7	**Fira-Santorini**	**0.01**	**52**		P		Pg	07 50 00.6	+0.2
THR7	**Fira-Santorini**	**0.01**	**52**		P		Pg	07 50 00.6	+0.2
THT1	**Athinios (Pele**	**0.03**	**158**		P		Pg	07 50 00.5	0.0
THT1					S		Sg	07 50 01.3	+0.3
THT1	**Athinios (Pele**	**0.03**	**158**		P		Pg	07 50 00.5	0.0
THT1					S		Sg	07 50 01.3	+0.3
THR2	**Thira island,**	**0.04**	**26**		P		Pg	07 50 00.7	+0.1
THR2	**Thira island,**	**0.04**	**26**		P		Pg	07 50 00.7	+0.1
THR5	**Thira Island,**	**0.06**	**273**		P		Pg	07 50 01.1	+0.2
THR5	**Thira Island,**	**0.06**	**273**		P		Pg	07 50 01.1	+0.2
CMBO	**Columbo, Santo**	**0.06**	**352**		P		Pg	07 50 01.1	+0.2
CMBO					S		Sg	07 50 02.2	+0.4
CMBO	**Columbo, Santo**	**0.06**	**352**		P		Pg	07 50 01.1	+0.2
CMBO					S		Sg	07 50 02.2	+0.4
THR6	**Thira Island,**	**0.06**	**194**		P		Pg	07 50 01.3	+0.3
THR6	**Thira Island,**	**0.06**	**194**		P		Pg	07 50 01.3	+0.3

IDC 12 07:51:49.2±6.8, 25.˚53S×178.˚33W, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/24, mbtmp3.3/3, Error ellipse: s-maj=271.2km s-min=39.7km az=152.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
CTA	**Charters Tower**	**33.03**	**272**		P		P	07 58 27.5	+1.0
	14nm,1.3s,baz=80,slow=6.1,SNR=2.5								
ASAR	**Alice Springs**	**43.29**	**262**		P		P	07 59 53.0	-0.1
	0.1nm,0.5s,baz=100,slow=7.3,SNR=4.5								
WRA	**Warramunga Arr**	**43.83**	**267**		P		P	07 59 56.0	-1.4
	0.2nm,0.3s,baz=101,slow=8.3,SNR=4.5								
ILAR	**Eielson Array**	**93.26**	**13**		P		P	08 05 05.1	0.0
	0.2nm,0.8s,baz=215,slow=6.1,SNR=3.1								

KRNET ***12*** *07:54:06.3±0.1, 42.˚79N×76.˚48E, h12km, mb2.3*

NNC ***12*** *07:54:07.4±0.6, 42.˚72N×76.˚44E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=9.8km s-min=3.0km az=4.0*

SOME ***12*** *07:54:08.5, 42.˚85N×76.˚47E, h10km*

ISC 12 07:54:07.2±1.0, 42.˚78N±0.˚02×76.˚48E±0.˚02, h8km±10km, n38, σ0°80/73, 34C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
IZV	**Izvestkoviy**	**0.27**	**21**	*eP*			**Pb**	**07 54 13.8**	**-0.6**
	43nm,0.3s								
IZV				*eS*			**Sg**	**07 54 17.7**	**+1.4**
	262nm,0.2s								

MTBS	**Maitube**	**0.35**	**353**	*eP*		**Pg**	**07 54 14.2**	**+0.1**
	9.4nm,0.3s							
MTBS				*eS*		**Sg**	**07 54 18.2**	**-0.5**
	313nm,0.3s							
TNSS	**Tian-Shan**	**0.42**	**53**	*eP*		**Pg**	**07 54 15.4**	**-0.2**
	60nm,0.2s							
TNSS				*eS*		**Sg**	**07 54 21.4**	**+0.1**
	40nm,0.3s							
KST	**Kastek**	**0.46**	**304**	*eP*		**Pg**	**07 54 16.3**	**+0.1**
	14nm,0.2s							
KST				*eS*		**Sg**	**07 54 22.9**	**+0.7**
	44nm,0.3s							
BOOM	**Boomskoye usch**	**0.50**	**234**	⇑*eP*		**Pg**	**07 54 16.5**	**-0.4**
	baz=233							
BOOM				⇑*iS*		**Sg**	**07 54 23.4**	**0.0**
	baz=233							
MDOK	**Medeo**	**0.56**	**47**	*eP*		**Pg**	**07 54 17.8**	**-0.3**
	34nm,0.3s							
MDOK				*eS*		**Sg**	**07 54 24.3**	**-1.2**
	32nm,0.6s							
ULHL	**Ulahol**	**0.57**	**198**	⇓*iP*		**Pg**	**07 54 17.9**	**-0.3**
	baz=198							
ULHL				⇓*iS*		**Sg**	**07 54 26.1**	**+0.4**
	baz=198							
AAA	**Alma-Ata**	**0.59**	**35**	⇓*iP*		**Pg**	**07 54 17.7**	**-1.0**
	146nm,0.2s							
AAA				⇓*iS*		**Sg**	**07 54 25.4**	**-1.1**
	90nm,0.2s							
KOTS	**Kotyrbulak**	**0.64**	**46**	*eP*		**Pb**	**07 54 20.7**	**-0.1**
KOTS				*eS*		**Sb**	**07 54 29.5**	**-0.5**
TKM2	**Tokmak 2**	**0.67**	**282**	⇑*iP*		**Pg**	**07 54 19.9**	**-0.2**
	baz=281							
TKM2				⇑*iS*		**Sg**	**07 54 29.3**	**+0.5**
	baz=281							
TKM2	**Tokmak 2**	**0.67**	**282**	⇑P		**Pg**	**07 54 19.8**	**-0.3**
	7.9nm,0.5s							
TKM2				⇑S		**Sg**	**07 54 29.5**	**+0.7**
	55nm,0.3s							
DGS	**Degeres**	**0.69**	**311**	*eP*		**Pb**	**07 54 21.5**	**-0.1**
	24nm,0.2s							
DGS				*eS*		**Sb**	**07 54 30.9**	**-0.5**
	38nm,0.4s							
KTBS	**Karatobe**	**0.94**	**9**	*eP*		**Pb**	**07 54 25.9**	**+0.2**
KTBS				*eS*		**Sb**	**07 54 38.4**	**0.0**
CHKK	**Chushkaly**	**1.15**	**19**	⇓*iP*		**Pg**	**07 54 28.1**	**-1.2**
	7.7nm,0.1s							
CHKK				*eS*		**Sg**	**07 54 43.2**	**-1.0**
	26nm,0.2s							
KZA	**Kyzart**	**1.16**	**233**	⇑*iP*		**Pg**	**07 54 28.9**	**-0.5**
	baz=232							
KZA				⇑*iS*		**Sb**	**07 54 45.0**	**+0.1**
	baz=232							
CHMS	**Chumysh**	**1.29**	**280**	⇑*iP*		**Pn**	**07 54 30.8**	**-0.7**
	baz=280							
CHMS				⇑*iS*		**Sb**	**07 54 48.0**	**-0.5**
	baz=280							
KURS	**Kuram**	**1.42**	**60**	⇓*eP*		**Pb**	**07 54 34.2**	**+0.2**
	2.7nm,0.2s							
KURS				⇓*eS*		**Sb**	**07 54 52.5**	**+0.3**
	11nm,0.3s							
PRZ	**Przheval'sk**	**1.45**	**101**	⇑*eP*		**Pb**	**07 54 34.3**	**-0.1**
	baz=102							
PRZ				⇑*iS*		**Sg**	**07 54 53.9**	**+0.2**
	baz=102							
AAK	**Ala-Archa**	**1.47**	**265**	⇑*iP*		**Pn**	**07 54 34.3**	**+0.1**
	baz=264							
AAK				⇑*iS*		**Sb**	**07 54 53.9**	**0.0**
	baz=264							
AAK	**Ala-Archa**	**1.47**	**265**	⇑P		**Pn**	**07 54 34.3**	**+0.1**
	1.6nm,0.4s							
AAK				⇑S		**Sb**	**07 54 53.9**	**0.0**
	7.1nm,0.7s							
ZHN	**Zhinishke**	**1.48**	**74**	⇓*iP*		**Pb**	**07 54 35.4**	**+0.3**
	6.1nm,0.1s							
ZHN				⇑*iS*		**Sb**	**07 54 54.4**	**+0.3**
	70nm,0.3s							
USP	**Ospenovka**	**1.53**	**289**	⇑*iP*		**Pn**	**07 54 35.1**	**+0.2**
	baz=289							
USP				⇑*iS*		**Sg**	**07 54 56.2**	**-0.3**
	baz=289							
UCH	**Uchtor**	**1.56**	**250**	⇓*iP*		**Pb**	**07 54 36.1**	**-0.5**
	baz=249							
UCH				⇓*iS*		**Sg**	**07 54 57.3**	**-0.1**
	baz=249							
ARXS	**Arharly**	**1.73**	**34**	*eP*		**Pb**	**07 54 39.6**	**+0.3**
	14nm,0.1s							
ARXS				*eS*		**Sb**	**07 55 02.0**	**+0.8**
	26nm,0.2s							
KPKS	**Kokpek**	**1.75**	**66**	⇑*iP*		**Pb**	**07 54 39.0**	**-0.6**
	15nm,0.2s							
KPKS				⇑*iS*		**Sb**	**07 55 01.5**	**-0.3**
	53nm,0.3s							
ARLS	**Aral**	**1.85**	**241**	⇑*iP*		**Pb**	**07 54 41.2**	**-0.1**
	baz=241							
ARLS				⇑*eS*		**Sg**	**07 55 06.1**	**-0.5**
	baz=241							
UZB	**Uzynbulak**	**1.90**	**78**	⇑*iP*		**Pb**	**07 54 41.7**	**-0.4**
	4.0nm,0.2s							
UZB				⇑*iS*		**Sb**	**07 55 06.4**	**+0.3**
	20nm,0.2s							
MNBS	**Baschi**	**1.90**	**47**	*eP*		**Pb**	**07 54 42.4**	**+0.1**
MNBS				*eS*		**Sb**	**07 55 06.7**	**+0.5**
EKS2	**Erkin-Say**	**2.00**	**267**	⇑*iP*		**Pb**	**07 54 43.5**	**-0.3**
	baz=267							
EKS2				⇑*iS*		**Sg**	**07 55 10.7**	**-0.7**
	baz=267							
AML	**Almayashu**	**2.17**	**253**	⇑*iP*		**Pb**	**07 54 47.5**	**+0.7**
	baz=253							
AML				⇑*iS*		**Sg**	**07 55 15.6**	**-1.2**
	baz=253							
PDGK	**Podgornoye**	**2.27**	**75**	⇑*eP*		**Pb**	**07 54 47.6**	**-0.7**
	baz=75							
PDGK				⇑*eS*		**Sb**	**07 55 17.2**	**+0.8**
	baz=75							
PDGK	**Podgornoye**	**2.27**	**75**	⇓Pn		**Pb**	**07 54 47.8**	**-0.5**
	1.4nm,0.3s							
PDGK				⇓Sn		**Sb**	**07 55 16.8**	**+0.3**
	11nm,0.6s							
MRKS	**Merke**	**2.40**	**270**	*eP*		**Pg**	**07 54 51.9**	**-1.3**
	6.4nm,0.4s							
MRKS				⇑*iS*		**Sb**	**07 55 22.0**	**+1.6**
	19nm,0.3s							
SHLS	**Shalkode**	**2.52**	**80**	*eP*		**Pb**	**07 54 53.6**	**+0.8**
	5.7nm,0.3s							
SHLS				*eS*		**Sb**	**07 55 26.3**	**+2.2**
	21nm,0.4s							
DJR	**Jarkent**	**2.86**	**56**	*eP*		**Pg**	**07 55 01.0**	**-0.9**
	5.7nm,0.4s							
DJR				*eS*		**Sb**	**07 55 36.4**	**+2.7**
	15nm,0.5s							
MNAS	**Manas**	**2.95**	**266**	⇓Lg		Lg	07 55 38.4	
	2.1nm,0.4s							
KAPS	**Kapalarasan**	**3.25**	**39**	*eP*		**Pb**	**07 55 06.6**	**+1.5**
	1.6nm,0.3s							
KAPS				⇓*iS*		**Sb**	**07 55 46.3**	**+1.5**
	3.6nm,0.4s							
KK31	**Karatay Array**	**4.40**	**276**	⇑Pg		**Pb**	**07 55 26.3**	**+1.6**
	0.5nm,0.6s,baz=98,slow=16,SNR=4.7							
KK31				⇑Lg		Lg	07 56 28.0	
	1.7nm,0.6s,baz=90,slow=30,SNR=8.6							

ISCJB ***12*** *07:57:57.7±0.5, 16.˚66S±0.˚09×174.˚0W±0.˚1, h50km, mb4.4/16, MS3.2/3, Error ellipse: s-maj=18.3km s-min=7.6km az=40.7*

NEIC ***12*** *07:58:00.3±0.4, 16.˚71S×173.˚94W, h60km±4km, mb4.6/5, Error ellipse: s-maj=16.2km s-min=9.9km az=125.0*

IDC ***12*** *07:58:01.3±0.8, 16.˚60S×173.˚87W, h67km±6km, mb4.1/9, mb1 4.2/11, mb1mx3.9/34, mbtmp4.3/11, MS3.0/4, Ms1 3.0/4, ms1mx2.8/33, Error ellipse: s-maj=27.8km s-min=10.6km az=129.0*

ISC 12 07:57:59.7±0.6, 16.˚7S±0.˚1×173.˚9W±0.˚1, h50km, n27, σ1°39/26, mb4.4/16, MS3.4/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
AFI	**Afiamalu**	**3.44**	**37**	P			**Pn**	**07 58 52.5**	**+1.5**
	10nm,0.3s,baz=216,slow=5.5,SNR=29								
AFI				S			**Sn**	**07 59 28.6**	**-1.9**
	56nm,0.3s,baz=198,slow=20,SNR=5.1								
AFI				LR			LR	07 59 34.4	
	comp=Z,46nm,18.4s,baz=262,slow=28								
DZM	**Mont Dzumac**	**19.29**	**251**	P			**P**	**08 02 21.3**	**+0.7**
	0.1nm,0.3s,baz=92,slow=18,SNR=3.6								
URZ	**Urewera**	**22.89**	**198**	P			**P**	**08 02 56.6**	**-2.5**
	4.7nm,0.3s,baz=306,slow=1.4,SNR=9.6								
PPT	**Papeete**	**23.26**	**96**	LR			LR	08 09 43.6	

	comp=Z,16nm,18.2s,baz=177,slow=30							
RPZ	**Rata Peaks**	**29.81**	**202**	P		**P**	**08 04 03.6**	**+1.7**
	21nm,1.1s,baz=65,slow=19,SNR=2.5							
EIDS	**Eidsvold**	**33.73**	**249**	*eP*		**P**	**08 04 34.7**	**-1.8**
	0.5nm,0.3s							
ARMA	**Armidale**	**34.28**	**240**	*eP*		**P**	**08 04 41.3**	**-0.1**
	3.5nm,0.5s							
CTAO	**Charters Tower**	**37.90**	**259**	*eP*		**P**	**08 05 12.2**	**-0.2**
	4.8nm,0.4s							
COEN	**Coen**	**41.43**	**268**	*eP*		**P**	**08 05 39.7**	**-2.1**
	62nm,2.1s							
STKA	**Stephens Creek**	**42.98**	**241**	P		**P**	**08 05 53.8**	**-0.5**
	6.4nm,0.9s,baz=96,slow=12,SNR=10							
WRAB	**Tennant Creek**	**49.08**	**258**	*eP*		**P**	**08 06 41.7**	**-0.8**
	2.5nm,0.6s							
WRA	**Warramunga Arr**	**49.09**	**258**	P		**P**	**08 06 41.9**	**-0.6**
	2.6nm,0.6s,baz=93,slow=7.0,SNR=53							
WRA					PcP	**PcP**	**08 08 06.0**	**+0.3**
	0.3nm,0.5s,baz=100,slow=3.5,SNR=3.0							
ASAR	**Alice Springs**	**49.27**	**253**	P		**P**	**08 06 43.3**	**-0.5**
	16nm,0.7s,baz=88,slow=8.6,SNR=145							
ASAR					sP	**sP**	**08 07 07.0**	**+3.8**
	3.6nm,0.7s,baz=87,slow=8.2,SNR=3.4							
ASAR					PcP	**PcP**	**08 08 06.5**	**+0.3**
	0.7nm,0.5s,baz=107,slow=3.7,SNR=4.2							
JCJ	**Chichijima**	**60.92**	**315**	LR		LR	08 29 01.8	
	comp=Z,56nm,19.3s,baz=152,slow=31							
VNDA	**Vanda**	**62.05**	**186**	P		**P**	**08 08 14.8**	**+0.2**
	1.7nm,0.6s,baz=358,slow=7.1,SNR=12							
NWAO	**Narrogin (SRO)**	**63.57**	**241**	LR		LR	08 34 09.5	
	comp=Z,28nm,21.1s,baz=191,slow=34							
MJAR	**Matsushiro Arr**	**69.62**	**320**	P		**P**	**08 09 03.9**	**0.0**
	0.5nm,0.5s,baz=154,slow=7.4,SNR=4.7							
QSPA	**South Pole Qui**	**73.36**	**180**	*eP*		**P**	**08 09 25.6**	**-0.6**
	26nm,1.3s							
PETK	**Petropavlovsk-**	**73.71**	**343**	P		**P**	**08 09 28.2**	**+0.1**
	2.7nm,0.6s,baz=120,slow=8.5,SNR=3.2							
NVAR	**Mina Array Bea**	**75.61**	**42**	sP		sP	08 10 02.9	+3.2
	1.1nm,0.7s,baz=232,slow=9.8,SNR=4.8							
TXAR	**Lajitas Array**	**81.73**	**56**	sP		sP	08 10 36.2	+2.7
	0.8nm,0.9s,baz=207,slow=5.2,SNR=5.4							
PDAR	**Pinedale Array**	**83.54**	**42**	sP		sP	08 10 45.6	+2.8
	2.2nm,0.7s,baz=214,slow=3.3,SNR=11							
ILAR	**Eielson Array**	**83.80**	**11**	P		**P**	**08 10 23.1**	**-0.2**
	0.4nm,0.6s,baz=231,slow=6.2,SNR=8.5							
ILAR					pP	**sP**	**08 10 42.4**	**-1.0**
	0.4nm,0.7s,baz=226,slow=6.3,SNR=3.2							
MAW	**Mawson**	**86.42**	**199**	P		**P**	**08 10 36.1**	**-0.4**
	1.2nm,0.5s,baz=156,slow=20,SNR=3.8							
KMBO	**Kilima Mbogo**	**144.53**	**243**	PKP		**PKPab**	**08 17 30.4**	**0.0**
	1.9nm,0.5s,baz=68,slow=5.0,SNR=6.3							
BRTR	**Keskin Array B**	**146.84**	**319**	PKPbc		**PKPdf**	**08 17 34.8**	**-0.3**
	1.7nm,0.7s,baz=139,slow=3.0,SNR=9.4							
BRTR					pPKPbc	pPKPbc	08 17 55.9	+3.9
	0.4nm,0.6s,baz=90,slow=2.9,SNR=1.5							
GERES	**GERESS Array B**	**147.34**	**351**	PKPbc		**PKPdf**	**08 17 37.2**	**+1.6**
	0.4nm,0.5s,baz=350,slow=5.0,SNR=3.1							

NIED ***12*** *08:09:00, 36.˚50N×141.˚20E, h32km, Mw4.6 Best double couple: M0 7.98000×10^15 NP1:φs22.00000°, δ17.00000°, λ-103.00000°. NP2:φs215.00000°, δ74.00000°, λ-86.00000°.*

BJI ***12*** *08:09:42.7, 36.˚33N×141.˚37E, h44km, mb4.7/56, mB4.7/40, Ms4.2/48, Ms7 4.0/45*

JMA ***12*** *08:09:45.4±0.1, 36.˚41N×141.˚08E, h47km±1km, M4.6*

JMA Felt III J1.

ISCJB ***12*** *08:09:45.7±0.4, 36.˚41N±0.˚02×141.˚05E±0.˚02, h44km±3km, mb4.7/178, MS3.8/31, Error ellipse: s-maj=4.2km s-min=3.1km az=154.6*

IDC ***12*** *08:09:46.1±2.3, 36.˚39N×141.˚12E, h40km±20km, mb4.3/29, mb1 4.5/33, mb1mx4.4/44, mbtmp4.6/33, ML4.5/4, MS3.8/31, Ms1 3.8/31, ms1mx3.7/43, Error ellipse: s-maj=14.6km s-min=10.6km az=93.0*

NEIC ***12*** *08:09:47.2±0.4, 36.˚41N×141.˚00E, h46km±3km, mb4.9/135, Error ellipse: s-maj=3.8km s-min=2.6km az=145.0*

NEIC Felt at Chiba. Recorded [3 JMA] in Ibaraki.

MOS ***12*** *08:09:47.4±0.8, 36.˚82N×141.˚02E, h44km, mb4.9/73, Error ellipse: s-maj=6.4km s-min=4.7km az=104.9*

ISC 12 08:09:46.1±0.4, 36.˚40N±0.˚03×141.˚13E±0.˚04, h42km±2km, h41km:pP-P, n391, σ1°53/443, mb4.8/178, MS3.8/31, 16C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
JHO	**Hitachi**	**0.49**	**295**		P		**Pn**	**08 09 55.8**	**-1.1**
JHO					S		**Sn**	**08 10 02.7**	**-1.8**
ONAJ	**Iwakimizuishiy**	**0.74**	**339**		P		**Pn**	**08 09 59.1**	**-1.2**
ONAJ					S		**Sn**	**08 10 08.4**	**-2.1**
JYT	**Yasato**	**0.77**	**257**		P		**Pn**	**08 09 59.6**	**-1.0**
JYT					S		**Sn**	**08 10 09.3**	**-1.8**
**J

comp=Z,30nm,0.6s
YSS pmax pmax
comp=N,30nm,0.7s
YSS MLR MLR
comp=Z,400nm,18.0s
YSS MLR MLR
comp=N,400nm,15.0s
YSS Yuzh-Sakhalins 10.61 6 *e*Pn **Pn 08 12 14.5 -1.0**
KSRS Korea Array 10.62 280 Pn Pn 08 12 20.1 +4.3
comp=N,1.7nm,0.3s,baz=93,slow=14,SNR=37
KSRS LR LR 08 16 15.8
comp=N,736nm,19.6s,baz=84,slow=37
KS01 Wonju Array Si 10.65 280 *e*Pn **Pn 08 12 13.9 -2.1**
KS15 Wonju Array Si 10.65 280 *e*Pn Pn 08 12 19.9 +3.7
KSAR Wonju Array Be 10.65 280 P Pn 08 12 20.1 +4.0
KSAR Wonju Array Be 10.65 280 Pn Pn 08 12 20.1 +3.9
TJN Taejon 11.10 274 *i* P Pn 08 12 26.4 +4.2
MDJ Mudanjiang 12.01 317 P **Pn 08 12 36.2 +1.6**
MDJ S Sn 08 14 54.7 +7.7
MDJ PMZ
comp=N,23nm,1.5s
MDJ PMZ
comp=N,50nm,3.2s
MDJ LN
comp=N,250nm,19.8s
MDJ LE
comp=N,300nm,21.4s
MDJ LZ
comp=N,590nm,17.0s
MDJ Mudanjiang 12.01 317 *e*Pn **Pn 08 12 36.3 +1.8**
comp=N,24nm,0.7s
CN2 Changchun 14.08 306 *e*P **Pn 08 13 04.6 +1.7**
CN2 *es*P P 08 13 16.8 +7.0
CN2 *e*S **Sn 08 15 39.4 +1.7**
CN2 PMZ
comp=N,10.0nm,1.2s
CN2 LN
comp=N,200nm,15.0s
CN2 LE
comp=N,400nm,15.0s
CN2 LZ
comp=N,300nm,15.0s
TYV Tymovskoe 14.49 4 *e*P **Pn 08 13 05.8 -2.6**
TYV pmax pmax
comp=Z,26nm,0.8s
TYV MLR MLR
comp=N,400nm,18.0s
TYV MLR MLR
comp=Z,600nm,18.0s
KLR Kul'dur 14.53 335 Pn **Pn 08 13 07.0 -1.9**
comp=Z,0.3nm,0.3s,baz=128,slow=13,SNR=6.2
KLR LR LR 08 18 52.5
comp=Z,463nm,18.2s,baz=178,slow=38
SNY Shenyang 14.65 297 ⇑P **P 08 13 12.6 -3.5**
SNY S **S 08 16 03.8 -5.4**
SNY PMZ
comp=Z,21nm,1.8s
SNY LN
comp=Z,410nm,15.7s
SNY LE
comp=Z,560nm,16.7s
SNY LZ
comp=Z,780nm,18.9s
TIA Tai'an 19.34 277 ⇓P **Pn 08 14 07.1 -2.2**
TIA S **S 08 17 40.4 -4.2**
TIA PMZ
comp=Z,30nm,1.0s
TIA LN
comp=Z,290nm,17.0s
TIA LE
comp=Z,270nm,16.0s
TIA LZ
comp=Z,440nm,18.0s
BJI Beijing 19.92 288 P **Pn 08 14 13.7 -2.4**
BJI S **S 08 17 52.3 -3.7**
BJI PMZ
comp=Z,11nm,0.8s
BJI PMZ
comp=Z,55nm,5.0s
BJI LN
comp=Z,200nm,15.2s
BJI LE
comp=Z,230nm,14.3s
BJT Baijiatuau 19.92 288 *e*P **Pn 08 14 14.0 -2.2**
BJT pmax pmax
comp=Z,13nm,0.6s
BJT Baijiatuau 19.92 288 *e*P **Pn 08 14 14.0 -2.2**
comp=Z,13nm,0.6s
PEA0 Petropavlovsk- 20.35 30 *e*P Pn 08 14 20.5 -0.6
PETK Petropavlovsk- 20.35 30 P **P 08 14 18.4 -0.4**
comp=Z,11nm,1.0s,baz=214,slow=10.0,SNR=7.4
PETK LR LR 08 21 46.4
comp=Z,141nm,21.8s,baz=218,slow=35
WHN Wuhan 23.05 263 P **P 08 14 49.9 +2.1**
WHN S S 08 18 42.2 -13
WHN LN
comp=Z,1μm,19.6s
WHN LE
comp=Z,820nm,17.3s
WHN LZ
comp=Z,770nm,14.6s
CLNS Chul'man 23.17 337 *e*P **P 08 14 49.5 +0.7**
CLNS pmax pmax
comp=Z,16nm,0.9s
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,1.1s
HHC Hu-ho-hao-te 23.46 290 *e*P **P 08 14 53.3 +1.3**
HHC sP sP 08 15 10.7 +2.8
HHC S **S 08 19 01.3 -1.2**
HHC PMZ
comp=E,14nm,1.1s
HHC PMZ
comp=E,86nm,5.6s
HHC LN
comp=E,130nm,10.4s
HHC LE
comp=E,250nm,12.4s
HHC LZ
comp=E,200nm,13.6s
MA2 Magadan 24.02 12 P **P 08 14 55.8 -1.0**
comp=E,18nm,0.7s,baz=219,slow=20,SNR=4.3
MA2 LR LR 08 24 29.0
comp=E,129nm,21.2s,baz=192,slow=37
XAN Xi'an 26.35 274 P **P 08 15 17.6 -0.8**
XAN sP sP 08 15 34.6 0.0
XAN PP **PnPn 08 15 59.8 +0.8**
XAN S **S 08 19 42.9 -5.8**
XAN PMZ
comp=E,10.0nm,0.5s
XAN PMZ
comp=E,74nm,5.0s
XAN LE
comp=E,210nm,15.2s
XAN LZ
comp=E,290nm,16.6s
YAK Yakutsk 26.63 348 P **P 08 15 20.2 -0.2**
comp=E,1.4nm,0.3s,baz=327,slow=23,SNR=8.1
YAK LR LR 08 26 08.2
comp=E,232nm,18.9s,baz=146,slow=37
YAK Yakutsk 26.63 348 *e*P **P 08 15 19.7 -0.8**
YAK *e* 08 15 56.4
YAK *e*S **S 08 19 53.9 +1.5**
YAK *e*SS **SnSn 08 20 59.5 +1.8**
YAK *e* 08 26 10.7
YAK pmax pmax
comp=Z,40nm,1.2s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=N,26nm,1.2s
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=N,20nm,1.1s
YAK smax smax
comp=E,213nm,3.1s
YAK smax smax
comp=N,354nm,2.7s
YAK MLR MLR
comp=Z,227nm,20.0s
YAK MLR MLR
comp=N,168nm,17.0s
YAK MLR MLR
comp=E,126nm,22.0s
YAK Yakutsk 26.63 348 *e*P **P 08 15 20.3 -0.2**
comp=E,41nm,0.5s
ENH Enshi 27.06 266 *e*P **P 08 15 24.0 -0.7**
comp=E,20nm,0.6s
SEY Seymchan 27.45 11 P **P 08 15 28.4 +0.6**
comp=E,5.4nm,0.8s,baz=185,slow=9.6,SNR=11
ULN Ulaanbaatar 27.52 305 *ce*P **P 08 15 28.3 -0.6**
ULN pmax pmax
comp=Z,26nm,1.2s
ULN Ulaanbaatar 27.52 305 *e*P **P 08 15 28.4 -0.4**
comp=Z,16nm,0.8s
SONA1 Songino Array 27.95 305 *e*P **P 08 15 32.4 -0.2**
SONM Songino Array 27.95 305 P **P 08 15 32.4 -0.2**
comp=Z,16nm,0.7s,baz=102,slow=9.0,SNR=35
SONM LR LR 08 27 03.2
comp=Z,178nm,20.1s,baz=112,slow=37
H11N2 WAKE ISLAND Hy 28.03 119 T T 08 45 11.8
baz=313,slow=75,SNR=374
H11N1 WAKE ISLAND Hy 28.04 119 T T 08 45 13.5
baz=313,slow=75,SNR=529
H11N3 WAKE ISLAND Hy 28.05 119 T T 08 45 12.4
baz=313,slow=75,SNR=379
H11S1 WAKE ISLAND Hy 28.72 122 T T 08 46 03.5
baz=314,slow=76,SNR=388
H11S3 WAKE ISLAND Hy 28.72 122 T T 08 46 02.3
baz=314,slow=76,SNR=480
H11S2 WAKE ISLAND Hy 28.73 122 T T 08 46 02.9
baz=314,slow=76,SNR=414
LZH Lanzhou 29.95 281 *e*P **P 08 15 51.1 +0.5**
LZH pP pP 08 16 01.7 -0.2
LZH sP sP 08 16 07.6 +0.7
LZH PP **PnPn 08 16 48.6 +0.6**
LZH *e*S **S 08 20 42.0 -3.5**
LZH sS sS 08 21 00.3 -4.1
LZH SS **ScP 08 22 23.4 -7.7**
LZH PMZ
comp=Z,17nm,1.1s
LZH PMZ
comp=Z,64nm,4.1s
LZH LN
comp=Z,1μm,13.7s
LZH LE
comp=Z,1μm,12.9s
LZH LZ
comp=Z,2μm,15.5s
ZAK Zakamensk 30.48 309 *e*P **P 08 15 55.5 +0.4**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 30.57 312 *e*P **P 08 15 56.1 +0.4**
TLY *e*S **S 08 20 53.9 -0.8**
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,167nm,14.0s
TLY Talaya 30.57 312 *e*P **P 08 15 55.6 -0.2**
comp=Z,3.5nm,0.7s
GYA Guiyang 30.89 261 ⇑*i*P **P 08 15 57.9 -1.0**
GYA pP sP 08 16 12.8 -2.4
GYA PP **PnPn 08 17 02.4 +1.9**
GYA PcP **PcP 08 18 56.0 +1.1**
GYA S **S 08 20 58.1 -2.2**
GYA sS sS 08 21 19.6 +0.4
GYA ScP **ScP 08 22 34.2 -0.1**
GYA ScS **ScS 08 26 29.0 -2.4**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,540nm,17.4s
GYA LE
comp=Z,510nm,17.6s
GYA LZ
comp=Z,520nm,17.8s
CD2 Chengdu 31.45 271 *e*P **P 08 16 03.0 -0.7**
CD2 pP pP 08 16 15.0 -0.1
CD2 sP sP 08 16 20.7 +0.7
CD2 S **S 08 21 07.3 -1.5**
CD2 sS sS 08 21 28.2 +0.5
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
CD2 LN
comp=Z,290nm,15.1s
CD2 LE
comp=Z,350nm,13.7s
CD2 LZ
comp=Z,370nm,18.3s
QIZ Qiongzhong 32.46 246 P **P 08 16 12.6 0.0**
QIZ pP **pP 08 16 23.6 -0.4**
QIZ sP **sP 08 16 28.9 -0.1**
QIZ S **S 08 21 25.2 +0.5**
QIZ sS **sS 08 21 43.3 -0.3**
QIZ LN
comp=Z,140nm,18.0s
QIZ LE
comp=Z,150nm,17.8s
QIZ LZ
comp=Z,110nm,11.1s
DAV Davao City (W) 32.47 210 LR LR 08 29 16.5
comp=Z,102nm,19.6s,baz=41,slow=36
GTA Gaotai 32.53 288 P **P 08 16 16.3 +3.0**
GTA pP sP 08 16 27.0 -2.6
GTA sP pP 08 16 31.2 +6.6
GTA S **S 08 21 31.2 +5.5**
GTA sS sS 08 21 47.4 +2.7
GTA PMZ
comp=Z,9.0nm,0.9s
GTA PMZ
comp=Z,64nm,6.3s
GTA LN
comp=Z,120nm,18.1s
GTA LE
comp=Z,160nm,17.8s
GTA LZ
comp=Z,200nm,17.1s
KMI Kunming 34.64 262 P **P 08 16 34.2 +2.4**
KMI pP pP 08 16 44.9 +1.6
KMI sP sP 08 16 50.2 +2.0
KMI S **S 08 21 56.8 -2.0**
KMI sS sS 08 22 16.4 -1.4
KMI PMZ
comp=Z,14nm,1.0s
KMI PMZ
comp=Z,76nm,5.2s
KMI LN
comp=Z,150nm,20.2s
KMI LE
comp=Z,250nm,17.0s
KMI LZ
comp=Z,230nm,20.5s
BILL Bilibino 34.69 16 ⇑*i*P **P 08 16 31.9 +0.4**
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,2μm,23.0s
TIXI Tiksi 35.89 353 *e*P **P 08 16 41.4 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.5s
TIXI Tiksi 35.89 353 *e*P **P 08 16 41.4 -0.3**
comp=Z,4.0nm,0.5s
WMQ Urumqi 40.92 297 P **P 08 17 25.6 +1.1**
WMQ pP pP 08 17 37.9 +1.8
WMQ sP sP 08 17 44.0 +3.0
WMQ S **S 08 23 33.1 -0.2**
WMQ SS **SS 08 26 30.6 -5.1**
WMQ PMZ
comp=Z,11nm,0.8s
WMQ PMZ
comp=Z,53nm,4.0s
WMQ LN
comp=Z,72nm,18.6s
WMQ LE
comp=Z,120nm,18.6s
CMAR Chiang Mai Arr 41.12 256 LR LR 08 35 09.3
comp=Z,98nm,18.6s,baz=46,slow=37
ZAA0 Zalesovo Array 42.17 313 *e*P **P 08 17 34.5 +0.1**
ZALV Zalesovo Beam 42.17 313 P **P 08 17 34.8 +0.3**
comp=Z,8.6nm,0.5s,baz=93,slow=6.6,SNR=24
ZALV PcP **PcP 08 19 27.4 -0.7**
comp=Z,2.3nm,0.6s,baz=100,slow=2.9,SNR=3.2
ZALV LR LR 08 36 01.0
comp=Z,146nm,18.2s,baz=70,slow=37
NVS Novosibirsk 43.11 314 *e*P **P 08 17 42.1 +0.1**
NRIK Noril'sk 43.74 336 P **P 08 17 47.7 +0.7**
comp=Z,2.1nm,0.6s,baz=82,slow=5.2,SNR=5.3
NRIK PcP **PcP 08 19 33.2 +0.1**
comp=Z,4.0nm,0.7s,baz=116,slow=2.5,SNR=3.7
NRIK LR LR 08 37 08.0
comp=Z,196nm,18.1s,baz=116,slow=38
MK01 Makanchi Array 44.26 303 *e*P **P 08 17 51.6 +0.1**
MK31 Makanchi Array 44.26 303 *i* P **P 08 17 51.4 -0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 44.26 303 *e*P **P 08 17 51.7 +0.2**
MKAR Makanchi Array 44.26 303 P **P 08 17 51.8 +0.3**
comp=Z,3.1nm,0.7s,baz=85,slow=10,SNR=16
MKAR LR LR 08 37 08.2
comp=Z,143nm,18.7s,baz=78,slow=37
MKAR Makanchi Array 44.26 303 *e*P **P 08 17 52.1 +0.6**
MKAR Makanchi Array 44.26 303 *e*P **P 08 17 52.1 +0.6**
MAKZ Makanchi 44.47 303 P **P 08 17 53.6 +0.4**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
KAPI Kappang 45.80 210 P **P 08 18 04.0 0.0**
comp=Z,10nm,0.9s,baz=24,slow=20,SNR=5.6
KAPI LR LR 08 35 17.9
comp=Z,33nm,21.6s,baz=56,slow=34
KAPI Kappang 45.80 210 *e*P **P 08 18 04.6 +0.6**
comp=Z,14nm,0.8s
TT01 Tatalina 46.06 34 *e*P **P 08 18 06.5 +1.0**
TTA Tatalina 46.07 34 *e*P **P 08 18 07.5 +1.8**
TTA pmax pmax
comp=Z,6.0nm,0.9s
TTA Tatalina 46.07 34 *e*P **P 08 18 07.5 +1.8**
comp=Z,5.7nm,0.9s
KURK Kurchatov 46.14 309 *e*P **P 08 18 06.2 -0.1**
KURK Kurchatov 46.14 309 *e*P **P 08 18 06.2 -0.1**
comp=Z,90nm,0.8s
SVW2 Sparrevohn 46.16 37 *e*P **P 08 18 08.4 +2.1**
comp=Z,14nm,0.9s
PDGK Podgornoye 46.87 298 P **P 08 18 12.1 0.0**
PDGK pmax pmax
comp=Z,13nm,0.9s
GUN Gumba 46.99 276 *e*P **P 08 18 14.1 +0.4**
comp=Z,22nm,0.4s
KKN Kakani 47.52 276 *e*P **P 08 18 17.9 +0.2**
RSO Redoubt South 47.54 38 *e*P **P 08 18 18.9 +1.6**
KDAK Kodiak Island 47.72 42 *i* P **P 08 18 19.0 +0.5**
KDAK Kodiak Island 47.72 42 *e*P **P 08 18 19.5 +1.0**
comp=Z,31nm,0.8s
PPLA Purkeypile 47.82 35 *e*P **P 08 18 21.6 +2.2**
comp=Z,45nm,1.6s
SPU Mount Spurr 47.87 37 *e*P **P 08 18 21.4 +1.6**
GKN Gorkha 47.95 277 *e*P **P 08 18 21.0 +0.1**
comp=Z,55nm,0.8s
BPAW Bear Paw Mtn. 48.38 33 *e*P **P 08 18 25.1 +1.6**
comp=Z,36nm,2.0s
KTH Kantishna Hill 48.40 34 *e*P **P 08 18 25.8 +2.0**
comp=Z,18nm,0.9s
BRLK Bradley Lake 48.50 39 *e*P **P 08 18 26.2 +1.6**
comp=Z,98nm,2.0s
SUA Susitna One 48.50 37 *e*P **P 08 18 25.2 +0.5**
comp=Z,18nm,1.0s
MLY Manley 48.50 32 *e*P **P 08 18 26.4 +1.9**
comp=Z,17nm,1.0s
IPM Ipoh 48.62 239 *e*P **P 08 18 26.1 +0.1**
comp=Z,13nm,0.9s
TRF Thorofare Moun 48.68 34 *e*P **P 08 18 27.5 +1.4**
comp=Z,8.4nm,0.7s
COLD Coldfoot 48.81 29 *e*P **P 08 18 28.0 +1.2**
comp=Z,2.7nm,0.9s
KOLN Koldanda 48.88 277 *e*P **P 08 18 28.6 +0.5**
comp=Z,10nm,0.5s
HNR Honiara 48.91 155 LR LR 08 36 54.7
comp=Z,71nm,21.6s,baz=338,slow=33
BWN Browne 49.04 33 *e*P **P 08 18 30.5 +1.9**
comp=Z,46nm,1.0s
SEW Seward 49.20 38 *e*P **P 08 18 30.8 +0.9**
comp=Z,18nm,0.6s
PYUN Piuthan 49.23 278 *e*P **P 08 18 31.2 +0.4**
comp=Z,38nm,0.5s
PMR Palmer 49.27 36 *e*P **P 08 18 31.0 +0.7**
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 49.27 36 *e*P **P 08 18 31.0 +0.7**
comp=Z,15nm,1.0s
MCK McKinley 49.28 33 *e*P **P 08 18 31.5 +1.0**
MCK pmax pmax
comp=Z,11nm,0.8s
MCK McKinley 49.28 33 *e*P **P 08 18 31.5 +1.0**
comp=Z,11nm,0.8s
RND Reindeer 49.33 34 *e*P **P 08 18 32.0 +1.1**
RND pmax pmax
comp=Z,16nm,0.8s
RND Reindeer 49.33 34 *e*P **P 08 18 32.0 +1.1**
comp=Z,16nm,0.8s
MDM Murphy Dome 49.57 32 *e*P **P 08 18 34.3 +1.6**
comp=Z,32nm,0.8s
SML Sawmill 49.63 36 *e*P **P 08 18 34.7 +1.5**
SML pmax pmax
comp=Z,21nm,0.8s
SML Sawmill 49.63 36 *e*P **P 08 18 34.7 +1.5**
comp=Z,22nm,0.8s
WRH Wood River Hil 49.64 32 *e*P **P 08 18 34.0 +0.8**
comp=Z,9.4nm,0.7s
TKM2 Tokmak 2 49.73 299 P **P 08 18 34.7 +0.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 49.73 299 *e*P **P 08 18 35.9 +1.4**
comp=Z,12nm,0.8s
COLA College 49.73 32 ⇓*i*P **P 08 18 34.1 +0.3**
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 49.73 32 *e*P **P 08 18 35.7 +1.8**
comp=Z,17nm,0.7s
CCB Clear Creek Bu 49.76 32 *e*P **P 08 18 35.3 +1.3**
comp=Z,3.4nm,0.7s
DHY Denali Highway 50.01 34 *e*P **P 08 18 37.2 +1.0**
comp=Z,6.5nm,0.9s
SCM Sheep Creek Mo 50.11 36 *e*P **P 08 18 38.0 +1.1**
SCM pmax pmax
comp=Z,23nm,1.0s
SCM Sheep Creek Mo 50.11 36 *e*P **P 08 18 38.0 +1.1**
comp=Z,23nm,1.0s
IL1 Eielson Array 50.15 32 *e*P **P 08 18 37.4 +0.4**
ILAR Eielson Array 50.15 32 P **P 08 18 37.9 +0.9**
comp=Z,15nm,0.7s,baz=269,slow=6.4,SNR=200
ILB Eielson Array 50.15 32 *e*P **P 08 18 37.7 +0.7**
FRU Bishkek 50.45 299 *e*P **P 08 18 39.0 -0.6**
KSH Kashi 50.45 294 *e*P **P 08 18 42.8 +2.9**
KSH pP sP 08 18 55.7 -0.9
KSH PcP **PcP 08 20 00.8 +3.2**
KSH PP **PP 08 20 40.1 +4.5**
KSH S **S 08 25 53.4 +2.7**
KSH ScS **ScS 08 28 27.1 -0.4**
KSH SS **SS 08 29 26.5 +1.9**
KSH PMZ
comp=Z,5.0nm,0.4s
KSH PMZ
comp=Z,45nm,2.9s
KSH LN
comp=Z,340nm,9.0s
KSH LE
comp=Z,230nm,11.0s
KSH LZ
comp=Z,190nm,16.9s
AAK Ala-Archa 50.59 299 P **P 08 18 39.7 -1.2**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 50.59 299 *e*P **P 08 18 41.8 +0.9**
comp=Z,7.2nm,0.7s
KLU Klutina 50.81 36 *e*P **P 08 18 43.4 +1.2**
comp=Z,13nm,0.6s
BVA0 Borovoye Array 50.83 313 *i* P **P 08 18 42.4 +0.1**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 50.88 313 *ce*P **P 08 18 42.4 -0.3**
BRVK pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 50.88 313 *e*P **P 08 18 43.0 +0.2**
comp=Z,16nm,0.7s
PAX Paxson 50.88 34 *e*P **P 08 18 43.8 +1.1**
PAX pmax pmax
comp=Z,11nm,1.2s
PAX Paxson 50.88 34 *e*P **P 08 18 43.8 +1.1**
comp=Z,11nm,1.2s
DIV Divide 50.92 37 *e*P **P 08 18 44.3 +1.4**
comp=Z,19nm,0.8s

EYAK **Cordova Ski Ar** 50.99 37 *eP* P 08 18 45.0 +1.6
comp=Z,19nm,0.8s
EKS2 **Erkin-Say** 51.09 299 *eP* P 08 18 45.1 +0.5
EKS2 pmax pmax
comp=Z,6.0nm,0.7s
EKS2 **Erkin-Say** 51.09 299 *eP* P 08 18 45.1 +0.5
comp=Z,5.8nm,0.7s
PSI **Prapat** 51.27 239 *eP* P 08 18 45.8 -0.5
PSI pmax pmax
comp=Z,9.0nm,0.7s
PSI **Prapat** 51.27 239 *eP* P 08 18 45.8 -0.5
comp=Z,8.8nm,0.7s
DOT **Dot Lake** 51.45 33 *eP* P 08 18 47.7 +0.8
comp=Z,29nm,0.8s
BMRM **Bremner River** 51.50 37 *eP* P 08 18 49.0 +1.7
comp=Z,20nm,0.9s
RAGM **Ragged Mountai** 51.54 38 *eP* P 08 18 49.5 +1.9
comp=Z,13nm,0.7s
ZRNK **Zerenda** 51.66 313 P P 08 18 48.1 -0.5
ZRNK pmax pmax
comp=Z,17nm,1.3s
ZRNK **Zerenda** 51.66 313 *eP* P 08 18 48.8 +0.2
comp=Z,11nm,0.8s
MENT **Mentasta** 51.68 34 *eP* P 08 18 50.4 +1.8
comp=Z,11nm,0.7s
MNAS **Manas** 52.04 299 P P 08 18 52.3 +0.6
MNAS pmax pmax
comp=Z,13nm,0.7s
CRQM **Cirque** 52.24 37 *eP* P 08 18 54.7 +1.7
comp=Z,20nm,0.8s
EGAK **Eagle** 52.59 32 *eP* P 08 18 56.1 +0.8
comp=Z,8.7nm,0.6s
KK31 **Karatay Array** 53.24 300 P P 08 19 00.9 +0.4
KK31 pmax pmax
comp=Z,19nm,1.2s
KKAR **Karatay Array** 53.24 300 *eP* P 08 19 00.8 +0.3
KKAR **Karatay Array** 53.24 300 *eP* P 08 19 00.8 +0.3
GSI **Gunungsitoli** 53.28 239 *eP* P 08 19 01.4 +0.4
comp=Z,92nm,1.2s
INK **Inuvik** 55.05 27 *eP* P 08 19 14.6 +1.4
INK **Inuvik** 55.05 27 *eP* P 08 19 14.6 +1.4
SVE **Sverdlovsk** 55.47 319 *eP* P 08 19 17.2 +0.8
SVE pmax pmax
comp=Z,9.0nm,0.6s
FITZ **Fitzroy Crossi** 56.15 198 P P 08 19 21.7 0.0
comp=Z,3.2nm,0.6s,baz=20,slow=8.1,SNR=8.5
FITZ LR LR 08 44 39.4
comp=Z,24nm,18.1s,slow=37
SKAG **Skagway** 56.33 38 *eP* P 08 19 22.3 -0.2
comp=Z,12nm,1.0s
WRAB **Tennant Creek** 56.40 188 *ce*P P 08 19 22.0 -1.4
WRAB pmax pmax
comp=Z,42nm,1.2s
WRAB **Tennant Creek** 56.40 188 *eP* P 08 19 23.0 -0.3
comp=Z,15nm,0.8s
WB2 **Warramunga Arr** 56.41 188 *eP* P 08 19 23.1 -0.3
comp=Z,13nm,0.8s
WRA **Warramunga Arr** 56.41 188 P P 08 19 22.6 -0.8
comp=Z,12nm,0.7s,baz=5,9,slow=7.4,SNR=101
ARU **Arti** 56.68 319 *d* iP P 08 19 24.8 -0.2
ARU *PP pP 08 19 37.2 +0.2
ARU 08 20 20.5
ARU 08 21 26.1
ARU S S 08 27 13.6 -0.7
ARU SS SS 08 30 53.7 -8.1
ARU pmax pmax
comp=Z,20nm,1.7s
ARU **Arti** 56.68 319 *eP* P 08 19 24.9 -0.1
comp=Z,15nm,0.7s
AB31 **Akbulak array** 58.17 310 *i* P P 08 19 35.4 -0.2
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR **Akbulak array** 58.17 310 *eP* P 08 19 35.8 +0.1
AKTO **Aktyubinsk** 58.92 312 P P 08 19 40.2 -0.7
AKTO pmax pmax
comp=Z,8.0nm,1.0s
DLBC **Dease Lake** 59.26 38 *eP* P 08 19 45.6 +2.4
comp=Z,11nm,1.3s
AS01 **Alice Springs** 60.13 188 *eP* P 08 19 49.4 0.0
AS31 **Alice Springs** 60.13 188 *eP* P 08 19 49.6 +0.1
comp=Z,2.2nm,0.8s
ASAR **Alice Springs** 60.13 188 P P 08 19 49.5 +0.1
comp=Z,5.8nm,0.7s,baz=13,slow=5.6,SNR=46
MBWA **Marble Bar** 60.72 203 *eP* P 08 19 53.7 +0.3
comp=Z,69nm,1.1s
DZM **Mont Dzumac** 62.89 154 *e*LR LR 08 38 48.1
comp=Z,134nm,21.7s
GEYT **Alibeck** 63.94 299 P P 08 20 14.9 -0.1
comp=Z,1.1nm,0.4s,baz=2.9,slow=3.0,SNR=4.4
GEYT LR LR 08 49 58.8
comp=Z,82nm,19.8s,baz=20,slow=38
YKA **Yellowknife Ar** 64.47 30 P P 08 20 18.5 +0.6
comp=Z,3.9nm,0.7s,baz=301,slow=6.7,SNR=24
ARCES **ARCESS Array B** 64.50 339 P P 08 20 18.4 +0.2
comp=Z,2.1nm,0.7s,baz=64,slow=8.4,SNR=6.2
ARCES LR LR 08 51 14.4
comp=Z,57nm,20.9s,baz=84,slow=39
ARCES **ARCESS Array B** 64.50 339 P P 08 20 18.4 +0.2
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES MLR MLR
comp=Z,57nm,20.9s
DAG **Danmarks Havn** 66.38 355 *i* P P 08 20 29.8 -0.3
DAG pmax pmax
comp=Z,4.0nm,0.8s
AFI **Afiamalu** 66.91 129 LR LR 08 42 48.8
comp=Z,82nm,21.2s,baz=294,slow=30
NLWA **Neilton Lookou** 67.31 47 *eP* P 08 20 37.9 +1.3
comp=Z,15nm,1.0s
STKA **Stephens Creek** 67.93 180 P P 08 20 40.5 +0.1
comp=Z,8.0nm,0.8s,baz=344,slow=7.3,SNR=14
STKA LR LR 08 51 14.9
comp=Z,25nm,19.6s,baz=24,slow=37
STKA **Stephens Creek** 67.93 180 *eP* P 08 20 41.0 +0.6
comp=Z,1.8nm,0.8s
OBN **Obninsk** 68.46 323⇑ *i* P P 08 20 43.0 -0.6
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,90nm,15.0s
F04A **Amboy** 68.91 48 *eP* P 08 20 48.5 +1.9
comp=Z,19nm,0.9s
FIA1 **FINESS Array S** 69.26 332 *eP* P 08 20 48.8 +0.3
FINES **FINESS Array B** 69.26 332 P P 08 20 48.6 +0.1
comp=Z,4.5nm,0.8s,baz=54,slow=9.7,SNR=17
FINES LR LR 08 53 28.3
comp=Z,128nm,18.6s,baz=70,slow=38
KBZ **Khabaz** 71.14 311 P P 08 21 00.8 +0.6
comp=Z,3.1nm,0.8s,baz=9.0,slow=5.0,SNR=7.5
KBZ LR LR 08 56 59.6
comp=Z,72nm,18.1s,baz=41,slow=40
KIV **Kislovodsk** 71.14 311 *eP* P 08 21 01.7 +1.2
KIV pmax pmax
comp=Z,9.0nm,1.3s
KIV **Kislovodsk** 71.14 311 *eP* P 08 21 01.1 +0.6
comp=Z,10nm,0.6s
SUMG **Summit** 71.31 360 *i* P P 08 21 02.6 +1.2
SUMG pmax pmax
comp=Z,6.0nm,0.7s
SUMG **Summit** 71.31 360 *eP* P 08 21 02.5 +1.1
comp=Z,7.4nm,0.9s
NEY **Neytrino** 71.50 310 *i* P P 08 21 05.7 +2.9
NEY pmax pmax
comp=Z,3.0nm,2.1s
K05A **Summer Lake** 71.52 50 *eP* P 08 21 04.5 +1.5
comp=Z,13nm,1.0s
BMO **Blue Mountains** 72.53 47 *eP* P 08 21 10.4 +1.6
BMO pmax pmax
comp=Z,7.0nm,0.9s
BMO **Blue Mountains** 72.53 47 *eP* P 08 21 10.4 +1.6
comp=Z,7.3nm,0.9s
SWMT **Swartz Lake** 72.90 43 *eP* P 08 21 12.4 +1.5
WVOR **Wild Horse Val** 73.08 50 *eP* P 08 21 13.4 +1.3
WVOR pmax pmax
comp=Z,14nm,1.6s
WVOR **Wild Horse Val** 73.08 50 *eP* P 08 21 13.4 +1.3
comp=Z,14nm,1.6s
MSO **Missoula** 73.33 44 *eP* P 08 21 14.6 +1.1
comp=Z,4.8nm,0.9s
PAHR **Pah Rah Range** 74.13 52 *eP* P 08 21 19.9 +1.5
comp=Z,8.0nm,0.9s
MFID **Camas Ranch** 74.22 48 *eP* P 08 21 20.5 +1.7
comp=Z,7.1nm,1.0s
NC405 **NORSAR Array S** 74.46 337 *eP* P 08 21 20.3 +0.6
HRY **Holter Researc** 74.57 43 *eP* P 08 21 22.4 +1.6
NC204 **NORSAR Array S** 74.64 338 *eP* P 08 21 21.5 +0.7

NB201 **NORSAR Array S** 74.64 337 *eP* P 08 21 21.4 +0.5
AKASG **Malin Array Be** 74.65 322 P P 08 21 20.8 -0.2
comp=Z,2.0nm,0.5s,baz=47,slow=5.9,SNR=13
AKASG LR LR 08 57 05.0
comp=Z,146nm,19.7s,baz=75,slow=38
KIEV **Kiev** 74.67 322 *eP* P 08 21 21.0 -0.1
KIEV pmax pmax
comp=Z,6.0nm,0.6s
KIEV **Kiev** 74.67 322 *eP* P 08 21 21.0 -0.1
comp=Z,6.1nm,0.6s
NB2 **NORSAR Subarra** 74.68 337 P P 08 21 21.0 0.0
comp=Z,8.8nm,0.7s,baz=41,slow=5.9
NOA **NORSAR Array B** 74.68 337 P P 08 21 21.3 +0.3
comp=Z,4.4nm,0.7s,baz=39,slow=5.8,SNR=18
NOA LR LR 08 57 25.9
comp=Z,140nm,19.5s,baz=15,slow=38
LRM **Limekiln Ridge** 74.76 44 *eP* P 08 21 23.2 +1.2
NBO02 **NORSAR Array S** 74.78 337 *eP* P 08 21 21.6 0.0
EGMT **Eagleton** 74.89 41 *eP* P 08 21 23.4 +0.9
comp=Z,13nm,0.9s
DLMT **Dillon** 74.95 44 *eP* P 08 21 24.0 +1.0
comp=Z,14nm,0.6s
HLID **Hailey** 74.97 47 *eP* P 08 21 24.5 +1.3
comp=Z,3.4nm,0.9s
BMN **Battle Mountai** 75.09 51 *eP* P 08 21 25.6 +1.7
BMN *e*PP sP 08 21 39.2 -1.9
BMN pmax pmax
comp=Z,9.0nm,0.8s
BMN **Battle Mountai** 75.09 51 *eP* P 08 21 25.6 +1.7
comp=Z,8.9nm,0.8s
BMN *ep*P sP 08 21 39.2 -1.9
MCMT **McKenzie Canyo** 75.13 45 *eP* P 08 21 25.1 +1.0
BOZ **Bozeman (W)** 75.32 44 *eP* P 08 21 26.6 +1.4
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BOZ **Bozeman (W)** 75.32 44 *eP* P 08 21 26.6 +1.4
comp=Z,9.5nm,0.8s
NVAR **Mina Array Bea** 75.55 53 P P 08 21 26.0 -0.7
comp=Z,6.7nm,0.7s,baz=297,slow=6.4,SNR=25
NVAR LR LR 08 47 43.2
comp=Z,22nm,21.0s,baz=256,slow=30
NV01 **Mina Array Sit** 75.55 53 *eP* P 08 21 28.1 +1.4
NV11 **Mina Array Sit** 75.64 53 *eP* P 08 21 28.6 +1.5
comp=Z,4.7nm,0.8s
ELK **Elko** 76.13 50 *eP* P 08 21 30.2 +0.2
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK **Elko** 76.13 50 *eP* P 08 21 30.2 +0.2
comp=Z,4.0nm,0.8s
YMR **Madison River** 76.29 44 *eP* P 08 21 31.3 +0.5
comp=Z,39nm,1.8s
GCMT **Greycliff** 76.32 43 *eP* P 08 21 32.2 +1.4
YFT **Old Faithful** 76.50 44 *eP* P 08 21 34.8 +2.8
comp=Z,5.6nm,0.7s
H17A **Grant Village** 76.68 44 *eP* P 08 21 35.5 +2.4
comp=Z,14nm,0.8s
IMW **Indian Meadow** 76.78 45 *eP* P 08 21 35.7 +2.0
comp=Z,8.4nm,0.8s
FXWY **Fox Creek** 76.89 45 *eP* P 08 21 35.9 +1.7
comp=Z,2.2nm,1.2s
RLMT **Red Lodge** 76.96 43 *eP* P 08 21 36.1 +1.5
comp=Z,27nm,1.6s
HVU **Hansel Valley** 77.00 48 *eP* P 08 21 36.8 +2.0
HVU pmax pmax
comp=Z,7.0nm,0.8s
HVU **Hansel Valley** 77.00 48 *eP* P 08 21 36.8 +2.0
comp=Z,7.2nm,0.8s
TPAW **Teton Pass** 77.02 45 *eP* P 08 21 37.0 +1.9
comp=Z,30nm,1.8s
SNOW **Snow King Moun** 77.15 45 *eP* P 08 21 37.5 +1.8
comp=Z,7.7nm,1.1s
REDW **Red Top Meadow** 77.16 45 *eP* P 08 21 36.9 +1.2
comp=Z,12nm,1.3s
DAC **Darwin (Calif)** 77.26 54 *eP* P 08 21 37.0 +0.6
DAC pmax pmax
comp=Z,4.0nm,0.8s
DAC **Darwin (Calif)** 77.26 54 *eP* P 08 21 37.0 +0.6
comp=Z,3.8nm,0.8s
R11A **Troy Canyon, C** 77.33 52 *eP* P 08 21 37.9 +1.2
comp=Z,4.1nm,0.7s
BGU **Big Grassy Mou** 77.37 48 *eP* P 08 21 38.6 +1.8
comp=Z,4.6nm,0.8s
LAO **LASA Array** 77.60 41 *eP* P 08 21 39.5 +1.6
comp=Z,12nm,0.9s
LAO *ep*P pP 08 21 51.5 +1.1
TPNV **Topopah Spring** 77.73 53 *eP* P 08 21 40.2 +1.2
TPNV pmax pmax
comp=Z,10.0nm,0.9s
TPNV **Topopah Spring** 77.73 53 *eP* P 08 21 40.2 +1.2
comp=Z,10nm,0.9s
HWUT **Hardware Ranch** 77.83 47 *eP* P 08 21 40.9 +1.5
comp=Z,9.9nm,1.0s
DUG **Dugway, Tooele** 77.94 49 *eP* P 08 21 41.6 +1.5
DUG pmax pmax
comp=Z,11nm,0.9s
DUG **Dugway, Tooele** 77.94 49 *eP* P 08 21 41.6 +1.5
comp=Z,11nm,0.9s
TCUT **Toone Canyon** 78.22 47 *eP* P 08 21 43.6 +1.9
comp=Z,13nm,0.7s
BW06 **Boulder Array** 78.27 45 *eP* P 08 21 42.6 +0.7
PD31 **Pinedale Array** 78.27 45 *eP* P 08 21 42.7 +0.8
PDAR **Pinedale Array** 78.27 45 P P 08 21 42.7 +0.8
comp=Z,3.8nm,0.6s,baz=256,slow=2.2,SNR=39
JLU **Jordanelle** 78.51 48 *eP* P 08 21 44.3 +1.0
comp=Z,6.9nm,1.1s
BUR08 **Bucovina Ar. S** 78.65 322 *eP* P 08 21 44.5 +0.7
BURAR **Bucovina Array** 78.66 322 ⇑P P 08 21 44.5 +0.7
SHPR **Sheep Range** 78.70 53 *eP* P 08 21 45.9 +1.6
comp=Z,6.1nm,0.9s
VRI **Vrincioaia** 79.06 320 ⇓ *i* P P 08 21 47.5 +1.6
VRI **Vrincioaia** 79.06 320 ⇓P P 08 21 47.6 +1.7
BRTR **Keskin Array B** 79.10 311 P P 08 21 46.9 +0.5
comp=Z,1.3nm,0.9s,baz=123,slow=4.6,SNR=6.3
BRTR LR LR 09 01 01.1
comp=Z,33nm,18.7s,baz=47,slow=39
PLOR **Plostina** 79.11 320 ⇓ *i* P P 08 21 50.0 +3.8
PLOR **Plostina** 79.11 320 ⇓P P 08 21 50.0 +3.8
KOLS **Kolonicke sedl** 79.19 324 *eP* P 08 21 47.0 +0.4
KOLS pmax pmax
comp=Z,3.0nm,1.0s
CCUT **Cedar City** 79.21 51 *eP* P 08 21 48.3 +1.1
comp=Z,8.2nm,1.2s
STHS **Stebnicka Huta** 79.34 325 *eP* P 08 21 48.5 +1.1
STHS pmax pmax
comp=Z,4.0nm,0.8s
MSU **Marysvale** 79.36 50 *eP* P 08 21 49.8 +1.8
MSU **Marysvale** 79.36 50 *eP* P 08 21 49.8 +1.8
OJC **Ojcow** 79.43 326 *eP* P 08 21 48.7 +0.8
OJC *e*PP pP 08 22 01.8 +1.4
OJC **Ojcow** 79.43 326 *eP* P 08 21 48.7 +0.8
OJC *ep*P pP 08 22 01.8 +1.4
TMUT **Trail Mountain** 79.47 49 *eP* P 08 21 49.5 +0.9
comp=Z,4.2nm,0.7s
BR231 **Teskin MP Arra** 79.54 312 *eP* P 08 21 47.6 -1.2
PFO **Pinon Flats O** 79.58 56 *i* P P 08 21 50.8 +1.6
LCMT **Little Creek M** 79.62 52 *eP* P 08 21 50.1 +0.8
comp=Z,7.8nm,0.8s
P17A **Butcher Ranch,** 79.64 48 *eP* P 08 21 51.0 +1.5
comp=Z,14nm,0.7s
MTPU **Mount Pierson** 79.65 50 *eP* P 08 21 51.3 +1.6
comp=Z,7.1nm,0.8s
DOPR **Dopca** 79.68 320 ⇑ *i* P P 08 21 50.8 +1.4
MLR **Muntele Rosu** 79.72 320 ⇑ *i* P P 08 21 52.8 +3.1
MLR **Muntele Rosu** 79.72 320 ⇑P P 08 21 52.8 +3.1
Q16A **Castle Valley** 79.73 49 *eP* P 08 21 51.8 +1.9
comp=Z,9.8nm,1.1s
P18A **Preston Nutter** 79.84 48 *eP* P 08 21 52.0 +1.3
comp=Z,27nm,1.6s
KNB **Kanab** 79.88 51 *eP* P 08 21 52.3 +1.5
KNB pmax pmax
comp=Z,10.0nm,0.9s
KNB **Kanab** 79.88 51 *eP* P 08 21 52.3 +1.5
comp=Z,10.0nm,0.9s
SRU **San Rafael Swe** 80.00 49 *eP* P 08 21 52.7 +1.3
SRU pmax pmax
comp=Z,16nm,0.7s
SRU **San Rafael Swe** 80.00 49 *eP* P 08 21 52.7 +1.3
comp=Z,16nm,0.7s
ULM **Lac du Bonnet** 80.15 33 P P 08 21 51.5 -0.2
comp=Z,4.9nm,0.9s,baz=327,slow=5.2,SNR=5.1
W13A **Hualapai Mount** 80.38 53 *eP* P 08 21 55.0 +1.4
comp=Z,3.3nm,0.8s
RSSD **Black Hills** 80.45 42 *eP* P 08 21 54.6 +0.8
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD **Black Hills** 80.45 42 *eP* P 08 21 54.6 +0.8
comp=Z,5.0nm,0.6s
DRGR 80.47 322 ⇓P P 08 21 53.2 -0.5
KSP **Ksiaz** 80.51 328 *eP* P 08 21 54.5 +0.8
U15A **North Rim** 80.58 52 *eP* P 08 21 55.7 +1.0
comp=Z,7.1nm,0.8s
O20A **White River Ci** 80.71 47 *eP* P 08 21 56.1 +0.9
comp=Z,9.5nm,0.9s
MORC **Moravsky Berou** 80.76 327 ⇓P P 08 21 55.8 +0.7
MORC **Moravsky Berou** 80.76 327 *eP* P 08 21 55.1 0.0
MORC *ep*P pP 08 22 09.1 +1.5
Y12C **Blythe** 80.78 55 *eP* P 08 21 57.1 +1.6
comp=Z,9.7nm,1.0s
DPC **Dobruska-Polom** 80.87 328 *eP* P 08 21 56.8 +1.1
DPC *ep*P pP 08 22 06.0 -2.2
DPC **Dobruska-Polom** 80.87 328 *eP* P 08 21 56.8 +1.1
DPC *e* 08 22 06.0
VYHS **Vyhne** 81.11 325 *eP* P 08 21 57.1 +0.1
VYHS *e* 08 22 09.8
VYHS pmax pmax
comp=Z,3.0nm,1.1s
PV09 **Paradox Valley** 81.23 48 *eP* P 08 21 59.8 +1.7
PV10 **Paradox Valley** 81.36 48 *eP* P 08 22 00.5 +1.7
PV04 **Paradox Valley** 81.43 48 *eP* P 08 21 59.6 +0.6
BRG **Berggiesshubel** 81.47 329 *eP* P 08 21 59.2 +0.4
BRG *e* 08 22 10.8
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG MLR MLR
comp=N,86nm,14.3s
BRG MLR MLR
comp=E,70nm,13.0s
BRG MLR MLR
comp=Z,131nm,20.0s
PV05 **Paradox Valley** 81.52 49 *eP* P 08 22 01.4 +1.8
CLL **Collm** 81.53 330 ⇑ *i* P P 08 21 59.3 +0.2
CLL *i* *PP pP 08 22 11.7 +0.1
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL **Collm** 81.53 330 *eP* P 08 21 59.5 +0.4
comp=Z,11nm,0.9s
N23A **Red Feather La** 81.54 45 *eP* P 08 22 01.2 +1.5
comp=Z,12nm,1.0s
N23A *ep*P pP 08 22 14.4 +2.1
AGMN **Agassiz Nation** 81.58 34 *eP* P 08 21 59.6 +0.1
comp=Z,10.0nm,1.2s
Y14A **Wickenburg** 81.66 54 *eP* P 08 22 01.0 +0.8
comp=Z,16nm,0.6s
WUAZ **Wupatki** 81.73 52 *eP* P 08 22 02.4 +1.7
comp=Z,8.6nm,0.9s
PV01 **Paradox Valley** 81.80 48 *eP* P 08 22 02.2 +1.1
BZS **Buzias** 81.84 322 ⇓P P 08 22 00.9 +0.1
GOPC **GO Pecny, Ondr** 81.85 328 *eP* P 08 22 01.7 +0.9
GOPC *ep*P pP 08 22 12.9 -0.5
GOPC AMS AMS 09 01 40.0
comp=Z,100nm,18.4s
GOPC **GO Pecny, Ondr** 81.85 328 *eP* P 08 22 01.7 +0.9
GOPC *e* 08 22 12.9
GOPC MLR MLR
comp=Z,100nm,18.4s
PRU **Pruhonice** 81.90 328 *eP* P 08 22 01.8 +0.7
PRU **Pruhonice** 81.90 328 *eP* P 08 22 01.8 +0.7
X16A **Lo Mia Camp, P** 82.38 53 *eP* P 08 22 04.9 +0.8
comp=Z,3.3nm,0.9s
X16A *ep*P pP 08 22 18.8 +2.1
MVCO **Mesa Verde** 82.44 49 *eP* P 08 22 05.5 +1.1
comp=Z,5.1nm,0.8s
ISCO **Idaho Springs** 82.45 46 *eP* P 08 22 05.7 +1.1
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO **Idaho Springs** 82.45 46 *eP* P 08 22 05.7 +1.1
comp=Z,3.8nm,0.8s
KHC **Kasperske Hory** 82.96 328 *eP* P 08 22 07.3 +0.6
KHC *ep*P pP 08 22 17.0 -2.2
KHC *ex* x 08 22 19.7
KHC AMS AMS 09 02 20.0
KHC **Kasperske Hory** 82.96 328 *eP* P 08 22 07.3 +0.6
KHC *e* 08 22 19.7
KHC **Kasperske Hory** 82.96 328 *eP* P 08 22 06.5 -0.1
comp=Z,3.2nm,1.0s
S22A **4UR Ranch, Cre** 83.10 48 *eP* P 08 22 08.3 +0.3
comp=Z,3.9nm,0.8s
GEC2 **GERESS Array S** 83.12 328 *eP* P 08 22 07.8 +0.2
GEC2 *e*PP pP 08 22 21.0 +0.8
GEC2 **GERESS Array S** 83.12 328 *eP* P 08 22 07.8 +0.2
GEC2 *ep*P pP 08 22 21.0 +0.8
GERES **GERESS Array B** 83.12 328 P P 08 22 07.2 -0.4
comp=Z,1.7nm,0.7s,baz=30,slow=6.2,SNR=16
GERES LR LR 09 02 43.4
comp=Z,54nm,18.5s,baz=27,slow=38
GEA0 **GERESS Array S** 83.13 328 *eP* P 08 22 07.5 -0.2
Q24A **Ivide** 83.28 46 *eP* P 08 22 08.1 -0.8
comp=Z,5.8nm,0.8s
GRFO **Grafenberg** 83.50 330 *eP* P 08 22 09.1 -0.3
GRFO pmax pmax
comp=Z,12nm,0.9s
GRFO **Grafenberg** 83.50 330 *eP* P 08 22 09.1 -0.3
comp=Z,12nm,0.9s
EYMN **Ely** 83.79 33 *eP* P 08 22 11.0 +0.1
EYMN *ep*P pP 08 22 23.8 +0.3
SDCO **Great Sand Dun** 83.89 47 *eP* P 08 22 12.5 +0.6
comp=Z,4.7nm,1.0s
TUC **Tucson** 84.13 54 *eP* P 08 22 14.1 +1.0
TUC pmax pmax
comp=Z,4.0nm,0.8s
TUC **Tucson** 84.13 54 *eP* P 08 22 14.1 +1.0
comp=Z,3.9nm,0.8s
ECSD **EROS Data Cent** 84.55 38 *eP* P 08 22 15.0 +0.1
comp=Z,7.2nm,0.8s
ECSD *ep*P pP 08 22 26.7 -0.8
PPT **Papeete** 84.56 116 LR LR 08 54 00.6
comp=Z,67nm,20.2s,baz=334,slow=31
PPT2 **Papeete2** 84.57 116 *e*LR LR 08 48 55.7
comp=Z,97nm,21.2s
T25A **Trinidad** 84.94 47 *eP* P 08 22 18.4 +1.2
comp=Z,11nm,0.8s
T25A *ep*P pP 08 22 29.9 +0.1
ANMO **Albuquerque** 85.17 50 *ce*P P 08 22 20.0 +1.6
ANMO pmax pmax
comp=Z,9.0nm,1.2s
ANMO **Albuquerque** 85.17 50 *eP* P 08 22 19.6 +1.2
comp=Z,8.2nm,1.1s
LPM **Los Pinos Moun** 85.48 50 *eP* P 08 22 20.5 +0.6
BFO **Black Forest** 85.74 331 *i* P P 08 22 21.3 +0.5
BFO **Black Forest** 85.74 331 *eP* P 08 22 20.1 -0.7
comp=Z,8.2nm,1.0s
121A **Cookes Peak, D** 85.92 52 *eP* P 08 22 23.2 +1.0
comp=Z,4.6nm,1.1s
SCHQ **Schefferville** 86.00 16 P P 08 22 22.0 +0.1
comp=Z,4.3nm,0.7s,baz=16,slow=7.4,SNR=8.3
SCHQ LR LR 09 02 44.7
comp=Z,37nm,21.1s,baz=32,slow=37
TAOE **Nuku Hiva Isla** 86.24 104 *e*LR LR 08 49 42.5
comp=Z,192nm,25.1s
FUORN **Ofenpass-Fuorn** 86.31 329 *eP* P 08 22 24.2 +0.3
FUORN *ep*P pP 08 22 37.3 +0.7
KSU1 **Kansas State U** 87.93 41 *eP* P 08 22 32.1 +0.5
comp=Z,11nm,0.7s
KSU1 *ep*P pP 08 22 45.0 +0.8
JFWS **Jewell Farm** 88.23 35 *eP* P 08 22 33.1 +0.2
JFWS *e*PP pP 08 22 46.1 +0.5
JFWS *ep*P pP 08 22 46.0 +0.5
TBI **Tubuai** 88.40 121 *e*LR LR 08 50 41.3
comp=Z,168nm,26.8s
V34A **Guthrie** 89.81 44 *eP* P 08 22 41.1 +0.6
comp=Z,9.3nm,0.8s
TX31 **Lajitas Ar. Si** 90.69 52 *eP* P 08 22 45.7 +0.9
TXAR **Lajitas Array** 90.69 52 P P 08 22 45.5 +0.7
comp=Z,3.5nm,0.8s,baz=289,slow=3.7,SNR=44
TXAR LR LR 08 57 30.7
comp=Z,30nm,21.9s,baz=0.0,slow=32
HHAR **Hobbs** 91.44 42 *eP* P 08 22 48.3 +0.3
comp=Z,5.4nm,0.9s
PBMO **Poplar Bluff** 92.89 39 *eP* P 08 22 55.2 +0.5
comp=Z,4.1nm,0.8s
MIAR **Mount Ida** 92.94 42 *eP* P 08 22 55.9 +0.9
MIAR *e*PP pP 08 23 08.4 +0.7
MIAR pmax pmax
comp=Z,8.0nm,1.0s
MIAR **Mount Ida** 92.94 42 *eP* P 08 22 55.9 +0.9
comp=Z,7.7nm,1.0s
MIAR *ep*P pP 08 23 08.4 +0.7
X201 **Greenbrier Sit** 93.03 41 *eP* P 08 22 56.2 +0.8
comp=Z,7.7nm,1.0s
WHAR **Wooly Hollow** 93.07 41 *eP* P 08 22 56.1 +0.5

comp=Z,11nm,1.2s

KEST	**Kesra**	**95.38**	**322**	P	**P**	**08 23 07.0**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=0.0,slow=13,SNR=2.8							
TORD	**Torodi Ar. Bea**	**117.61**	**314**	PKP	**PKPdf**	**08 28 27.2**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=360,slow=2.4,SNR=3.5							
QSPA	**South Pole Qui**	**126.15**	**180**	*e*PKPdf	**PKPdf**	**08 28 43.2**	**+0.2**
BOSA	**Boshof**	**126.23**	**259**	PKP	**PKPdf**	**08 28 44.2**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=26,slow=1.9,SNR=4.4							
SAML	**Samuel**	**144.85**	**45**	*e*PKPbc	**PKPdf**	**08 29 19.1**	**0.0**
LPAZ	**La Paz**	**147.21**	**60**	*e*PKPbc	**PKPab**	**08 29 26.4**	**-1.5**
	comp=Z,8.4nm,0.7s,baz=339,slow=2.8,SNR=44							
LPAZ	**La Paz**	**147.21**	**60**	*e*PKPbc	**PKPab**	**08 29 26.8**	**-1.0**
PB01	**IPOC Station P**	**149.26**	**69**	*e*PKPdf	**PKPdf**	**08 29 26.6**	**+0.1**
PB01				*e*PKPbc	**PKiKP**	**08 29 31.4**	**-0.6**
LVC	**Limon Verde**	**150.60**	**70**	*e*PKPbc	**PKPbc**	**08 29 35.6**	**+1.3**
LCO	**Las Campanas**	**152.31**	**84**	*e*PKPbc	**PKPbc**	**08 29 38.7**	**+0.7**
BDFB	**Brasilia**	**157.77**	**24**	PKPab	**PKPab**	**08 30 12.3**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=268,slow=5.3,SNR=3.5							

IDC ***12*** *08:11:27.7±1.3, 0.°29S×99.°24E, h0km, mb3.9/7, mb1 3.9/7, mb1mx3.7/41, mbtmp3.9/7, Error ellipse: s-maj=42.5km s-min=21.6km az=71.0*

ISCJB ***12*** *08:11:29.3±1.0, 0.°07S±0.°08×98.°28E±0.°07, h35km, mb3.9/7, Error ellipse: s-maj=14.4km s-min=5.8km az=43.0*

DJA ***12*** *08:11:29.1±0.5, 0.°N±5.°×9.°9E±.°, h160km±11km, M3.8/14, MLv3.8/14*

ISC 12 08:11:29.5±1.0, 0.°21S±0.°07×98.°21E±0.°07, h35km, n29, σ2§19/22, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.63**	**337**	P	Pn	08 12 01.5	+5.8
MNSI	**Mandailing Nat**	**1.70**	**54**	P	**Pn**	**08 11 57.7**	**+1.0**
MNSI				S	**Sn**	**08 12 21.2**	**+4.0**
SBSI	**Sibolga**	**1.88**	**21**	P	**Pn**	**08 12 01.6**	**+2.5**
PPI	**Padang Panjang**	**2.21**	**96**	P	**Pn**	**08 12 05.3**	**+1.6**
PPI				S	**Sn**	**08 12 29.6**	**-0.1**
PDSI	**Padang**	**2.36**	**107**	P	**Pn**	**08 12 07.1**	**+1.3**
BKNI	**Bangkinang**	**2.88**	**79**	P	**Pn**	**08 12 11.8**	**-1.2**
BKNI				S	**Sn**	**08 12 44.8**	**-1.7**
PPSI	**Pulau Pagai**	**3.11**	**145**	P	**Pn**	**08 12 18.6**	**+2.4**
SDSI	**Sungai Dareh**	**3.30**	**103**	P	**Pn**	**08 12 18.0**	**-0.8**
TPTI		**3.59**	**343**	P	**Pn**	**08 12 22.9**	**+0.1**
TPTI				S	**Sn**	**08 13 04.0**	**0.0**
TSI	**Tuntungan**	**3.70**	**6**	P	**Pn**	**08 12 22.7**	**-1.5**
KCSI	**Kotacane, Aceh**	**3.73**	**353**	P	**Pn**	**08 12 23.8**	**-0.9**
H08S2	**Diego Garcia H**	**26.68**	**253**	T	T	08 44 36.2	
	baz=75,slow=75,SNR=316						
H08S3	**Diego Garcia H**	**26.68**	**253**	T	T	08 44 37.9	
	baz=75,slow=75,SNR=518						
H08S1	**Diego Garcia H**	**26.70**	**253**	T	T	08 44 37.4	
	baz=75,slow=75,SNR=395						
H08N1	**Diego Garcia H**	**27.81**	**257**	T	T	08 46 43.8	
	baz=177						
H08N2	**Diego Garcia H**	**27.82**	**257**	T	T	08 46 50.6	
	baz=177						
H08N3	**Diego Garcia H**	**27.83**	**257**	T	T	08 46 48.9	
	baz=177						
H01W3	**Cape Leeuwin H**	**37.57**	**158**	T	T	08 58 30.9	
	baz=328						
H01W2	**Cape Leeuwin H**	**37.59**	**158**	T	T	08 58 32.6	
	baz=328						
H01W1	**Cape Leeuwin H**	**37.59**	**158**	T	T	08 58 33.0	
	baz=329						
WRA	**Warramunga Arr**	**40.45**	**121**	P	**P**	**08 19 00.8**	**-4.2**
	0.9nm,0.9s,baz=301,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**41.75**	**127**	P	**P**	**08 19 12.4**	**-3.3**
	0.5nm,0.5s,baz=295,slow=8.1,SNR=6.8						
KSRS	**Korea Array**	**46.45**	**33**	P	**P**	**08 19 52.3**	**-0.8**
	0.7nm,0.8s,baz=231,slow=9.3,SNR=3.5						
SONM	**Songino Array**	**48.38**	**7**	P	**P**	**08 20 11.6**	**+3.5**
	1.2nm,0.5s,baz=192,slow=6.9,SNR=5.0						
MKAR	**Makanchi Array**	**48.84**	**346**	P	P	08 20 18.8	+7.3
	0.5nm,0.5s,baz=157,slow=5.9,SNR=3.9						
USRK	**Ussuriysk Ar.**	**53.47**	**30**	P	**P**	**08 20 46.0**	**-0.3**
	3.6nm,0.8s,baz=226,slow=5.6,SNR=8.3						
KLR	**Kul'dur**	**57.07**	**26**	P	**P**	**08 21 12.0**	**-0.2**
	2.9nm,0.8s,baz=240,slow=6.8,SNR=10						
TXAR	**Lajitas Array**	**144.30**	**34**	PKhKP	PKPpre	08 31 00.2	
	0.1nm,0.3s,baz=191,slow=2.8,SNR=4.6						
TXAR				PKP	**PKiKP**	**08 31 05.6**	**-0.8**
	0.3nm,0.5s,baz=110,slow=0.5,SNR=8.9						
CPUP	**Villa Florida**	**144.61**	**220**	PKPbc	**PKPdf**	**08 31 05.9**	**+2.6**
	1.1nm,0.8s,baz=47,slow=9.7,SNR=2.9						

IDC 12 08:25:27.5±5.3, 16.°40S×175.°43W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/39, mbtmp4.0/3, MS3.5/2, Ms1 3.5/2, ms1mx2.6/36, Error ellipse: s-maj=202.6km s-min=55.0km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.85**	**240**	P	P	08 33 20.0	+0.5
	2.1nm,0.8s,baz=101,slow=16,SNR=4.7						
WRA	**Warramunga Arr**	**47.72**	**258**	P	P	08 34 05.7	-0.8
	0.3nm,0.4s,baz=95,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**47.95**	**253**	P	P	08 34 08.4	+0.1
	3.5nm,0.6s,baz=88,slow=8.4,SNR=64						
JCJ	**Chichijima**	**59.68**	**316**	LR	LR	08 54 39.1	
	comp=Z,89nm,21.9s,baz=187,slow=-						
SONM	**Songino Array**	**94.30**	**319**	LR	LR	09 18 54.3	
	comp=Z,13nm,20.4s,baz=108,slow=34						
BRTR	**Keskin Array B**	**145.66**	**318**	PKPbc	PKPdf	08 45 07.8	-0.6
	0.3nm,0.7s,baz=116,slow=3.4,SNR=2.4						

NIED ***12*** *08:27:00, 36.°80N×140.°60E, h5km, Mw3.7 Best double couple: M0 3.53000×10^14 NP1:φs334.00000°, δ25.00000°, λ-113.00000°. NP2:φs179.00000°, δ67.00000°, λ-80.00000°.*

IDC ***12*** *08:27:45.7±1.3, 36.°94N×140.°55E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/49, mbtmp3.6/9, ML3.3/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/46, Error ellipse: s-maj=31.0km s-min=18.8km az=155.0*

ISCJB ***12*** *08:27:46.4±0.5, 36.°84N±0.°03×140.°61E±0.°04, h18km±4km, mb3.5/6, MS2.4/1, Error ellipse: s-maj=5.9km s-min=3.9km az=25.8*

JMA ***12*** *08:27:46.9, 36.°85N×140.°53E, h7km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs2.00000°, δ47.00000°, λ-89.00000°. NP2:φs180.00000°, δ43.00000°, λ-91.00000°. Principal axes: T Plg2.0000°, Azm91.0000°; N Plg1.0000°, Azm181.0000°; P Plg88.0000°, Azm298.0000°;*

JMA Felt II J1.

ISC 12 08:27:46.2±1.2, 36.°87N±0.°05×140.°56E±0.°04, h7km±9km, n26, σ0§89/30, mb3.6/6, 6C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.26**	**179**	↑↑P	**Pg**	**08 27 51.8**	**+0.5**
JHO				S	**Sg**	**08 27 55.1**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.30**	**40**	↑↑P	**Pb**	**08 27 53.4**	**-0.5**
ONAJ				S	**Sb**	**08 27 58.0**	**-1.0**
JSB	**Shiboa**	**0.52**	**281**	↑↑P	**Pb**	**08 27 57.3**	**-0.4**
JSB				S	**Sb**	**08 28 04.3**	**-1.2**
JFK	**Kawauchi**	**0.55**	**27**	↑↑P	**Pb**	**08 27 57.8**	**-0.4**
JFK				S	**Sb**	**08 28 05.7**	**-0.7**
JFT	**Otama**	**0.67**	**344**	P	**Pb**	**08 28 00.2**	**0.0**
JFT				S	**Sb**	**08 28 09.1**	**-0.6**
JYT	**Yasato**	**0.71**	**205**	↑P	**Pg**	**08 27 59.6**	**-0.2**
JYT				S	**Sg**	**08 28 09.0**	**0.0**
JFY	**Yanaizu**	**0.87**	**308**	||P	**Pb**	**08 28 03.4**	**-0.2**
JFY				S	**Sb**	**08 28 14.5**	**-0.9**
JAG	**Ashikaga**	**1.00**	**244**	↑P	**Pg**	**08 28 04.5**	**-0.8**
JAG				*e*S	**Sg**	**08 28 18.1**	**-0.2**
MJAR	**Matsushiro Arr**	**1.92**	**261**	Pn	**Pn**	**08 28 19.9**	**+0.6**
	36nm,0.3s,baz=81,slow=17,SNR=24						
MJAR				Sn	**Sn**	**08 28 44.5**	**+0.8**
	29nm,0.3s,baz=84,slow=28,SNR=12						
MAT	**Matsushiro**	**1.92**	**261**	P	**Pn**	**08 28 19.5**	**+0.2**
MAT				S	**Sn**	**08 28 44.8**	**+1.1**
JHJ	**Hachijo jima 2**	**3.80**	**190**	Pn	**Pn**	**08 28 46.1**	**+1.0**
	6.6nm,0.3s,baz=41,slow=18,SNR=2.2						
JHJ				Sn	**Sn**	**08 29 27.6**	**-2.4**
	baz=79,slow=16,SNR=2.0						
ASAJ	**Asahikawa**	**7.40**	**11**	Pn	**Pn**	**08 29 35.1**	**+0.6**
	0.9nm,0.3s,baz=157,slow=16,SNR=8.5						
KSRS	**Korea Array**	**10.11**	**277**	Pn	**Pn**	**08 30 13.2**	**+1.6**
	0.1nm,0.3s,baz=90,slow=15,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	09 03 29.6	
	baz=312,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	09 03 30.7	
	baz=312,slow=75,SNR=66						
H11N3	**WAKE ISLAND Hy**	**28.68**	**119**	T	T	09 03 29.5	
	baz=312,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hy**	**29.35**	**121**	T	T	09 04 21.4	
	baz=314,slow=75,SNR=187						
H11S3	**WAKE ISLAND Hy**	**29.35**	**122**	T	T	09 04 21.2	
	baz=314,slow=75,SNR=149						
H11S2	**WAKE ISLAND Hy**	**29.37**	**121**	T	T	09 04 21.8	
	baz=314,slow=75,SNR=139						
JAY	**Jayapura**	**39.19**	**180**	LR	LR	08 48 52.6	
	comp=Z,5.4nm,21.2s,slow=32						
ZALV	**Zalesovo Beam**	**41.52**	**313**	P	**P**	**08 35 33.8**	**0.0**
	0.5nm,0.4s,baz=100,slow=8.1,SNR=2.8						
MKAR	**Makanchi Array**	**43.63**	**302**	P	**P**	**08 35 51.3**	**+0.2**
	0.3nm,0.5s,baz=80,slow=9.1,SNR=3.7						
ILAR	**Eielson Array**	**49.99**	**32**	P	**P**	**08 36 40.6**	**-0.1**
	0.2nm,0.9s,baz=272,slow=6.0,SNR=4.7						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**08 38 48.7**	**-0.9**
	0.8nm,0.7s,baz=89,slow=6.3,SNR=3.4						
NVAR	**Mina Array Bea**	**75.63**	**53**	P	**P**	**08 39 33.7**	**+1.5**
	0.3nm,0.4s,baz=297,slow=6.0,SNR=2.5						
TXAR	**Lajitas Array**	**90.76**	**52**	P	**P**	**08 40 50.4**	**0.0**
	0.2nm,0.5s,baz=320,slow=1.9,SNR=5.4						

IDC ***12*** *08:44:10.5±1.7, 5.°79S×148.°14E, h0km, mb4.1/3, mb1 4.3/5, mb1mx3.7/36, mbtmp4.1/5, ML4.3/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/26, Error ellipse: s-maj=66.5km s-min=25.3km az=119.0*

NEIC ***12*** *08:44:15.2±0.6, 5.°84S×148.°06E, h35km, mb4.0/1, Error ellipse: s-maj=14.4km s-min=10.3km az=131.0*

ISCJB ***12*** *08:44:16.6±1.0, 6.°2S±0.°1×148.°2E±0.°1, h60km, mb4.5/4, Error ellipse: s-maj=18.9km s-min=11.2km az=39.2*

ISC 12 08:44:17.3±1.0, 6.°06S±0.°09×148.°1E±0.°1, h60km, n11, σ2§04/14, mb4.3/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.45**	**195**	Pn	**Pn**	**08 45 11.4**	**+2.8**
	6.7nm,0.3s,baz=26,slow=5.4,SNR=17						
PMG				Sn	**Sn**	**08 45 47.2**	**-1.0**
	42nm,0.3s,baz=5.8,slow=20,SNR=17						
PMG				LR	LR	08 46 32.3	
	comp=Z,54nm,20.9s,baz=16,slow=38						
PMG	**Port Moresby**	**3.45**	**195**	*e*Pn	**Pn**	**08 45 08.8**	**+0.2**
PMG				*e*Sn	**Sn**	**08 45 47.0**	**-1.2**
PMG				Sn	Sn	08 45 47.2	-1.0
COEN	**Coen**	**9.21**	**211**	*e*Pn	**Pn**	**08 46 28.0**	**+0.5**
COEN				*e*Sn	**Sn**	**08 48 05.5**	**-4.2**
HNR	**Honiara**	**12.24**	**107**	*e*Pn	**Pn**	**08 47 08.3**	**-0.8**
WRAB	**Tennant Creek**	**19.18**	**223**	*e*P	**P**	**08 48 37.7**	**+1.4**
	4.2nm,0.4s						
WRA	**Warramunga Arr**	**19.19**	**223**	P	**P**	**08 48 37.5**	**+1.1**
	1.0nm,0.3s,baz=48,slow=10,SNR=58						
ASAR	**Alice Springs**	**22.18**	**216**	P	**P**	**08 49 10.3**	**+1.6**
	4.8nm,0.5s,baz=52,slow=9.2,SNR=115						
FITZ	**Fitzroy Crossi**	**24.94**	**239**	P	**P**	**08 49 37.9**	**+2.6**
	11nm,0.6s,baz=63,slow=9.9,SNR=34						
BJT	**Baijiatuau**	**54.46**	**330**	*e*P	**P**	**08 53 36.7**	**-2.0**
	56nm,0.9s						
ILAR	**Eielson Array**	**85.12**	**23**	P	**P**	**08 56 46.7**	**+0.2**
	0.3nm,0.7s,baz=231,slow=5.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**146.13**	**285**	PKPbc	**PKPab**	**09 03 53.2**	**+0.6**
	0.1nm,0.4s,baz=78,slow=4.4,SNR=3.4						

JMA ***12*** *08:52:35.8±0.4, 37.°69N×134.°97E, h403km±4km, M2.9*

IDC ***12*** *08:52:36.3±1.3, 37.°72N×134.°89E, h393km±21km, mb2.7/2, mb1 2.8/5, mb1mx2.5/42, mbtmp3.3/5, Error ellipse: s-maj=44.5km s-min=27.1km az=39.0*

ISCJB ***12*** *08:52:37.1±0.8, 37.°8N±0.°1×134.°9E±0.°1, h378km, mb3.0/2, Error ellipse: s-maj=17.2km s-min=12.4km az=42.2*

ISC 12 08:52:36.7±1.2, 37.°7N±0.°1×134.°8E±0.°1, h378km, n10, σ1§58/11, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSZ	**Suzu**	**2.04**	**97**	P	**Pn**	**08 53 31.9**	**+1.1**
JWT	**Wachi**	**2.49**	**169**	P	**Pn**	**08 53 35.4**	**+1.3**
JWT				*e*S	**S**	**08 54 21.7**	**+1.3**
MJAR	**Matsushiro Arr**	**2.95**	**113**	P	**Pn**	**08 53 38.5**	**+0.7**
	0.3nm,0.3s,baz=293,slow=9.7,SNR=10						
JRY	**Ryogami san**	**3.69**	**116**	P	**Pn**	**08 53 46.4**	**+1.9**
JOD2	**Odawara 2**	**4.23**	**124**	P	**Pn**	**08 53 50.2**	**+0.5**
JFT	**Otama**	**4.38**	**91**	P	**Pn**	**08 53 51.7**	**+0.5**
KSRS	**Korea Array**	**5.49**	**269**	P	**Pn**	**08 54 04.2**	**+1.5**
	0.1nm,0.3s,baz=87,slow=11,SNR=8.2						
USRK	**Ussuriysk Ar.**	**6.81**	**343**	P	**Pn**	**08 54 17.5**	**+0.2**
	0.3nm,0.3s,baz=160,slow=11,SNR=6.5						
WRA	**Warramunga Arr**	**57.37**	**181**	P	**P**	**09 01 44.5**	**-2.5**
	0.6nm,0.9s,baz=355,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**61.08**	**181**	P	**P**	**09 02 10.5**	**-1.6**
	0.5nm,0.9s,baz=0.0,slow=6.5,SNR=3.1						

ISCJB ***12*** *09:00:19.8±0.5, 39.°12N±0.°04×29.°01E±0.°04, h5km±7km, Error ellipse: s-maj=7.6km s-min=4.3km az=151.0*

DDA ***12*** *09:00:19.6, 39.°12N×29.°02E, h7km, Md2.5*

CSEM ***12*** *09:00:19.9±0.1, 39.°12N×29.°02E, h6km, MD2.3, Error ellipse: s-maj=2.0km s-min=1.3km az=154.0*

ISK ***12*** *09:00:19.2, 39.°11N×29.°02E, h5km, MD2.3, ML2.2*

ISC 12 09:00:20.1±1.0, 39.°12N±0.°03×29.°02E±0.°03, h8km±10km, n25, σ0§42/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**251**	P	**Pg**	**09 00 25.2**	**+0.2**
DEMI				S	**Sg**	**09 00 28.6**	**+0.3**
DEMI	**Demirci**	**0.25**	**251**	*i* P	**Pg**	**09 00 25.2**	**+0.2**
DEMI				*i* S	**Sg**	**09 00 28.6**	**+0.3**
GEDZ	**Gediz**	**0.32**	**104**	*e*PG	**Pg**	**09 00 26.1**	**-0.3**
GEDZ	**Gediz**	**0.32**	**104**	*e*Pg	**Pg**	**09 00 26.1**	**-0.3**
GDZ	**Gediz**	**0.36**	**95**	P	**Pg**	**09 00 27.5**	**+0.2**
GDZ				S	**Sg**	**09 00 32.4**	**+0.3**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**09 00 27.5**	**+0.2**
GDZ				*i* S	**Sg**	**09 00 32.4**	**+0.3**
TVSB	**Tavsanli**	**0.48**	**47**	PG	**Pg**	**09 00 29.2**	**-0.1**
TVSB				*e*SG	**Sg**	**09 00 35.8**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**47**	*i* Pg	**Pg**	**09 00 29.2**	**-0.1**
TVSB				*e*Sg	**Sg**	**09 00 35.8**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**205**	PG	**Pg**	**09 00 32.5**	**-0.4**
KULA				*e*SG	**Sg**	**09 00 41.7**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**205**	*i* Pg	**Pg**	**09 00 32.5**	**-0.4**
KULA				*e*Sg	**Sg**	**09 00 41.7**	**+0.1**
AKS	**Akhisar**	**0.97**	**256**	*e*PG	**Pb**	**09 00 39.1**	**-0.1**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg	**Pb**	**09 00 39.1**	**-0.1**
BALB	**Balikesir**	**1.02**	**301**	*e*PG	**Pb**	**09 00 39.5**	**-0.5**
BALB	**Balikesir**	**1.02**	**301**	*e*Pg	**Pb**	**09 00 39.5**	**-0.5**
IGD	**Bursa**	**1.15**	**7**	*i* P	**Pg**	**09 00 41.2**	**-0.9**
IGD				*i* S	**Sb**	**09 00 57.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pn**	**09 00 43.9**	**0.0**
KCTX				*e*SN	**Sn**	**09 01 01.8**	**+0.8**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pn**	**09 00 43.9**	**0.0**
KCTX				*e*Sn	**Sn**	**09 01 01.8**	**+0.8**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*PN	**Pn**	**09 00 44.0**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*Pn	**Pn**	**09 00 44.0**	**0.0**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pb**	**09 00 46.8**	**-0.5**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pb**	**09 00 46.8**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*PN	**Pb**	**09 00 47.0**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*Pn	**Pb**	**09 00 47.0**	**-0.7**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pn**	**09 00 51.1**	**+0.3**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pn**	**09 00 51.1**	**+0.3**

DDA ***12*** *09:04:22.8, 39.°15N×29.°09E, h7km, Md2.6*

ISK ***12*** *09:04:22.5, 39.°18N×29.°07E, h5km, ML2.4*

ISCJB ***12*** *09:04:23.9±0.4, 39.°17N±0.°03×29.°09E±0.°04, h9km, Error ellipse: s-maj=4.7km s-min=4.4km az=19.3*

CSEM ***12*** *09:04:23.3±0.2, 39.°19N×29.°07E, h0km±1km, ML2.4, Error ellipse: s-maj=2.9km s-min=2.5km az=151.0*

ISC 12 09:04:23.7±0.9, 39.°17N±0.°02×29.°10E±0.°03, h9km, n33, σ0§49/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.28**	**118**	*e*PG	**Pg**	**09 04 29.7**	**+0.4**
GEDZ	**Gediz**	**0.28**	**118**	*e*Pg	**Pg**	**09 04 29.7**	**+0.4**
GDZ	**Gediz**	**0.31**	**106**	P	**Pg**	**09 04 29.4**	**-0.6**
GDZ				S	**Sg**	**09 04 33.7**	**-0.4**
GDZ	**Gediz**	**0.31**	**106**	*i* P	**Pg**	**09 04 29.4**	**-0.6**
GDZ				*i* S	**Sg**	**09 04 33.7**	**-0.4**
DEMI	**Demirci**	**0.32**	**246**	P	**Pg**	**09 04 29.8**	**-0.4**
DEMI				S	**Sg**	**09 04 34.2**	**-0.3**
DEMI	**Demirci**	**0.32**	**246**	*i* P	**Pg**	**09 04 29.8**	**-0.4**
DEMI				*i* S	**Sg**	**09 04 34.2**	**-0.3**
TVSB	**Tavsanli**	**0.40**	**46**	*e*PG	**Pg**	**09 04 31.5**	**-0.1**
TVSB	**Tavsanli**	**0.40**	**46**	*e*Pg	**Pg**	**09 04 31.5**	**-0.1**
KHL	**Karahalli**	**0.91**	**158**	*e*PG	**Pg**	**09 04 40.9**	**-0.4**
KHL	**Karahalli**	**0.91**	**158**	*e*Pg	**Pg**	**09 04 40.9**	**-0.4**
IGD	**Bursa**	**1.09**	**4**	*i* P	**Pg**	**09 04 43.3**	**-1.4**
CAVI	**Cavuskoy**	**1.18**	**29**	*e*PN	**Pn**	**09 04 46.7**	**+0.3**
CAVI	**Cavuskoy**	**1.18**	**29**	*e*Pn	**Pn**	**09 04 46.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.21**	**352**	*e*PN	**Pb**	**09 04 46.5**	**-0.2**
MDNY				*e*SN	**Sn**	**09 05 04.3**	**+1.1**
MDNY	**Mudanya-Bursa**	**1.21**	**352**	*e*Pn	**Pb**	**09 04 46.5**	**-0.2**
MDNY				*e*Sn	**Sn**	**09 05 04.3**	**+1.1**
KCTX	**Karacabey (Bur**	**1.23**	**333**	*e*PN	**Pb**	**09 04 47.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.23**	**333**	*e*Pn	**Pb**	**09 04 47.1**	**-0.1**
ADVT	**Abdulvahap**	**1.35**	**21**	*e*PN	**Pg**	**09 04 49.4**	**-0.3**
ADVT	**Abdulvahap**	**1.35**	**21**	*e*Pn	**Pg**	**09 04 49.4**	**-0.3**
GONE	**Gonen-Balikesi**	**1.40**	**309**	*e*PN	**Pb**	**09 04 49.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.40**	**309**	*e*Pn	**Pb**	**09 04 49.9**	**-0.1**
ARMT	**Armutlu**	**1.40**	**353**	*e*PN	**Pb**	**09 04 50.1**	**0.0**
ARMT	**Armutlu**	**1.40**	**353**	*e*Pn	**Pb**	**09 04 50.1**	**0.0**
ESKT	**Eskisehir**	**1.40**	**75**	*e*PN	**Pg**	**09 04 50.8**	**+0.1**
ESKT	**Eskisehir**	**1.40**	**75**	*e*Pn	**Pg**	**09 04 50.8**	**+0.1**
DNZL	**Cakiroluk**	**1.48**	**182**	P	**Pb**	**09 04 51.3**	**-0.3**
DNZL				S	**Sg**	**09 05 11.7**	**+0.3**
DNZL	**Cakiroluk**	**1.48**	**182**	*i* P	**Pb**	**09 04 51.3**	**-0.3**
DNZL				*i* S	**Sg**	**09 05 11.7**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**218**	*e*PN	**Pb**	**09 04 52.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**218**	*e*Pn	**Pb**	**09 04 52.3**	**-0.3**
GULT	**Gulveren**	**1.67**	**41**	*e*PN	**Pb**	**09 04 54.2**	**-0.4**
GULT	**Gulveren**	**1.67**	**41**	*e*Pn	**Pb**	**09 04 54.2**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.90**	**81**	*e*PN	**Pb**	**09 04 57.9**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.90**	**81**	*e*Pn	**Pb**	**09 04 57.9**	**-0.8**

CSEM ***12*** *09:07:03.8±0.1, 44.°62N×10.°34E, h12km, ML2.8/23, Error ellipse: s-maj=3.0km s-min=2.7km az=115.0*

GEN ***12*** *09:07:03.9, 44.°63N×10.°40E, h0km, ML2.4*

ISCJB ***12*** *09:07:04.6±0.2, 44.°57N±0.°02×10.°32E±0.°02, h26km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=145.0*

LDG ***12*** *09:07:04.8±0.1, 44.°57N×10.°34E, h2km, Ml2.8/16, Error ellipse: s-maj=1.9km s-min=1.4km az=55.0*

ROM ***12*** *09:07:04.4±0.1, 44.°59N×10.°34E, h22km±2km, Md2.6/25, Ml2.4/22, Error ellipse: s-maj=1.7km s-min=1.4km az=74.0*

ISC 12 09:07:04.4±0.8, 44.°58N±0.°01×10.°34E±0.°02, h19km±2km, n130, σ1§13/206, 1C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERBM	**Eremo**	**0.17**	**163**	Pg	**Pg**	**09 07 09.2**	**+0.1**
ERBM				Sg	**Sg**	**09 07 14.0**	**+1.8**
	1µm,1.0s						
ERBM	**Eremo**	**0.17**	**163**	Pg	**Pg**	**09 07 09.2**	**+0.1**
PRMA	**PARMA**	**0.18**	**353**	||*i*Pg	**Pb**	**09 07 09.3**	**+0.9**
PRMA				Sg	**Sg**	**09 07 14.7**	**+2.4**
	1µm,0.2s						
PRMA	**PARMA**	**0.18**	**353**	||*i*Pg	**Pb**	**09 07 09.3**	**+0.9**
GRAM	**Graiana**	**0.22**	**245**	P	**Pb**	**09 07 09.8**	**+0.3**

ASQU	**Asqua**	**1.30**	**127**	Pg	**Pb**	**09 07 28.6**	**+0.2**
	33nm,1.0s							
RNI	**Roncone**	**1.41**	**8**	*e*Pg	**Pn**	**09 07 29.1**	**-0.2**
RNI				*e*Sg	**Sb**	**09 07 48.1**	**+0.2**
RNI	**Roncone**	**1.41**	**8**	*e*Pg	**Pn**	**09 07 29.1**	**-0.2**
RNI				*e*Sg	**Sb**	**09 07 48.2**	**+0.2**
DDS	**Dosso del Somm**	**1.43**	**24**	*e*Pg	**Pn**	**09 07 28.9**	**-0.6**
DDS				*e*Sg	**Sb**	**09 07 48.7**	**+0.2**
DDS	**Dosso del Somm**	**1.43**	**24**	*e*Pg	**Pn**	**09 07 28.9**	**-0.6**
DDS				*e*Sg	**Sb**	**09 07 48.7**	**+0.2**
MABI	**Malga Bissina**	**1.48**	**5**	Pg	**Pn**	**09 07 30.0**	**-0.2**
	82nm,0.6s							
MABI	**Malga Bissina**	**1.48**	**5**	Pg	**Pn**	**09 07 30.0**	**-0.2**
	82nm,0.6s							
FINB	**Finale Ligure**	**1.50**	**255**	Pg	**Pn**	**09 07 30.8**	**+0.4**
FINB	**Finale Ligure**	**1.50**	**255**	Pg	**Pn**	**09 07 30.8**	**+0.4**
MUGIO	**Muggio**	**1.62**	**326**	Pg	**Pn**	**09 07 32.2**	**+0.1**
	27nm,0.4s							
MUGIO	**Muggio**	**1.62**	**326**	Pg	**Pn**	**09 07 32.2**	**+0.1**
	27nm,0.4s							
PANI	**Panarotta**	**1.62**	**25**	*e*Pg	**Pn**	**09 07 31.7**	**-0.5**
CGRP	**Cima Grappa**	**1.66**	**38**	*e*Pg	**Pn**	**09 07 32.8**	**+0.1**
CGRP	**Cima Grappa**	**1.66**	**38**	*e*Pg	**Pn**	**09 07 32.8**	**+0.1**
MTLO	**Montello**	**1.75**	**45**⇑	*e*Pg	**Pn**	**09 07 33.3**	**-0.5**
MTLO	**Montello**	**1.75**	**45**	*e*Pg	**Pn**	**09 07 33.3**	**-0.5**
CARE	**Lago del Cares**	**1.86**	**8**	*e*Pn	**Pn**	**09 07 35.8**	**+0.3**
CARE	**Lago del Cares**	**1.86**	**8**	*e*Pn	**Pn**	**09 07 35.8**	**+0.3**
IMI	**Imperia**	**1.89**	**250**	S	**Sn**	**09 07 57.6**	**-1.4**
OZOL	**Ozolo**	**1.89**	**15**	*e*Pn	**Pn**	**09 07 35.9**	**+0.1**
OZOL	**Ozolo**	**1.89**	**15**	*e*Pn	**Pn**	**09 07 35.9**	**+0.1**
KOSI	**Kohlern**	**2.02**	**21**	Pg	**Pn**	**09 07 37.6**	**0.0**
	44nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**2.04**	**358**	Pg	**Pn**	**09 07 39.1**	**+1.1**
	14nm,0.7s							
SBF	**Sospel**	**2.21**	**252**	*e*Pn	**Pn**	**09 07 40.7**	**+0.5**
	SNR=1.0							
SBF				*e*Sn	**Sn**	**09 08 07.5**	**+0.4**
	41nm,0.6s,SNR=1.0							
FUSIO	**Fusio**	**2.21**	**328**	Pg	**Pn**	**09 07 40.4**	**+0.1**
ABSI	**Aberstueckl**	**2.25**	**17**	Pg	**Pn**	**09 07 41.3**	**+0.4**
	102nm,0.8s							
PGF	**Pioggiola**	**2.26**	**206**	*e*Pn	**Pn**	**09 07 40.9**	**0.0**
	SNR=1.0							
PGF				*e*Sn	**Sn**	**09 08 08.0**	**-0.2**
	8.1nm,0.2s							
PGF	**Pioggiola**	**2.26**	**206**	*e*Pn	**Pn**	**09 07 40.9**	**0.0**
	SNR=1.0							
PGF				*e*Sn	**Sn**	**09 08 08.0**	**-0.2**
	4.1nm,0.2s							
MBDF	**Montbardon**	**2.55**	**274**	*e*Pn	**Pn**	**09 07 45.9**	**+0.9**
MBDF				*e*Sn	**Sn**	**09 08 15.5**	**-0.1**
MBDF				*e*Sg	**Sg**	**09 08 25.5**	**-1.0**
	12nm,0.6s,SNR=1.0							
ABTA	**Abfaltersbach**	**2.65**	**34**	*e*Pn	**Pn**	**09 07 48.2**	**+2.0**
	1.6nm,0.2s							
ABTA	**Abfaltersbach**	**2.65**	**34**	Pn	**Pn**	**09 07 48.2**	**+2.0**
	1.6nm,0.2s							
LPG	**La Plagne**	**2.71**	**291**	*e*Pn	**Pn**	**09 07 46.7**	**-0.5**
	SNR=1.0							
LPG				*e*Sn	**Sn**	**09 08 19.6**	**0.0**
LPG				*e*Sg	**Sg**	**09 08 29.7**	**-1.7**
	5.3nm,0.4s,SNR=1.0							
DAVA	**Damuels**	**2.72**	**353**	*e*Pn	**Pn**	**09 07 49.2**	**+1.9**
	5.1nm,0.2s,SNR=11							
DAVA				*e*Sn	**Sn**	**09 08 22.1**	**+2.3**
	16nm,0.5s							
DAVA	**Damuels**	**2.72**	**353**	Pn	**Pn**	**09 07 49.2**	**+1.9**
	5.1nm,0.2s,SNR=11							
DAVA				Sn	**Sn**	**09 08 22.1**	**+2.3**
	16nm,0.5s							
LPL	**La Plagne**	**2.72**	**291**	*e*Pn	**Pn**	**09 07 47.8**	**+0.4**
LPL	**La Plagne**	**2.72**	**291**	*e*P	**Pn**	**09 07 50.4**	**+3.0**
	SNR=1.0							
LPL				*e*Sn	**Sn**	**09 08 19.7**	**-0.2**
LPL				*e*Sg	**Sg**	**09 08 30.6**	**-1.4**
	5.2nm,0.3s							
MOTA	**Moosalm**	**2.81**	**11**	*e*Pn	**Pn**	**09 07 50.5**	**+1.9**
	2.5nm,0.3s,SNR=4.9							
MOTA	**Moosalm**	**2.81**	**11**	Pn	**Pn**	**09 07 50.5**	**+1.9**
	2.5nm,0.3s,SNR=4.9							
WTTA	**Wattenberg**	**2.83**	**18**	*e*Pn	**Pn**	**09 07 51.5**	**+2.7**
	2.1nm,0.1s,SNR=5.7							
WTTA				*i* Sn	**Sb**	**09 08 26.3**	**-2.4**
	6.6nm,0.3s							
WTTA	**Wattenberg**	**2.83**	**18**	Pn	**Pn**	**09 07 51.5**	**+2.7**
	2.1nm,0.1s,SNR=5.7							
WTTA				Sn	**Sb**	**09 08 26.3**	**-2.4**
	6.6nm,0.3s							
FRF	**La Foret Royal**	**2.85**	**250**	*e*Pn	**Pn**	**09 07 48.9**	**-0.1**
	SNR=1.0							
FRF				*e*Sn	**Sn**	**09 08 22.7**	**-0.1**
	16nm,0.2s,SNR=1.0							
FRF	**La Foret Royal**	**2.85**	**250**	*e*Pn	**Pn**	**09 07 48.9**	**-0.1**
	SNR=1.0							
FRF				*e*Sn	**Sn**	**09 08 22.7**	**-0.1**
	8.1nm,0.2s,SNR=1.0							
WATA	**Walderalm**	**2.88**	**17**	*e*Pn	**Pn**	**09 07 51.4**	**+1.9**
	4.9nm,0.3s,SNR=6.0							
WATA				*i* Sn	**Sn**	**09 08 26.8**	**+3.1**
	3.8nm,0.2s							
WATA	**Walderalm**	**2.88**	**17**	Pn	**Pn**	**09 07 51.4**	**+1.9**
	4.9nm,0.3s,SNR=6.0							
WATA				Sn	**Sn**	**09 08 26.8**	**+3.1**
	3.8nm,0.2s							
RETA	**Reutte**	**2.92**	**6**	*e*Pn	**Pn**	**09 07 51.5**	**+1.6**
	1.4nm,0.2s,SNR=5.9							
RETA				*e*Sn	**Sn**	**09 08 25.3**	**+0.8**
	2.8nm,0.2s							
RETA	**Reutte**	**2.92**	**6**	Pn	**Pn**	**09 07 51.5**	**+1.6**
	1.4nm,0.2s,SNR=5.9							
RETA				Sn	**Sn**	**09 08 25.3**	**+0.8**
	2.8nm,0.2s							
KNDS	**Knezji Dol**	**3.01**	**70**	*i* Sn	**Sn**	**09 08 25.3**	**-1.6**
KNDS	**Knezji Dol**	**3.01**	**70**	*i* Sn	**Sn**	**09 08 25.3**	**-1.6**
LMR	**La Mourre**	**3.04**	**247**	*e*Pn	**Pn**	**09 07 51.6**	**+0.1**
	SNR=1.0							
LMR				*e*Sn	**Sn**	**09 08 26.6**	**-0.7**
	22nm,0.3s							
LMR	**La Mourre**	**3.04**	**247**	*e*Pn	**Pn**	**09 07 51.6**	**+0.1**
	SNR=1.0							
LMR				*e*Sn	**Sn**	**09 08 26.6**	**-0.7**
	11nm,0.3s							
ORIF	**Oris-en-Rattie**	**3.20**	**278**	*e*Pn	**Pn**	**09 07 54.4**	**+0.6**
ORIF	**Oris-en-Rattie**	**3.20**	**278**	*e*P	**Pn**	**09 07 57.3**	**+3.5**
	SNR=1.0							
ORIF				*e*Sn	**Sn**	**09 08 31.3**	**-0.1**
	7.1nm,0.4s							
ORIF	**Oris-en-Rattie**	**3.20**	**278**	*e*P	**Pn**	**09 07 57.3**	**+3.5**
	SNR=1.0							
ORIF				*e*Sn	**Sn**	**09 08 31.3**	**-0.1**
	3.5nm,0.4s							
NVLJ	**Novalja**	**3.24**	**89**	*e*Pn	**Pn**	**09 07 53.7**	**-0.5**
NVLJ				Sn	**Sn**	**09 08 30.5**	**-1.7**
NVLJ	**Novalja**	**3.24**	**89**	*e*Pn	**Pn**	**09 07 53.6**	**-0.5**
NVLJ				Sn	**Sn**	**09 08 30.5**	**-1.7**
MOZS	**Mozjanca**	**3.35**	**58**	*i* Sn	**Sn**	**09 08 35.0**	**-0.2**
MOZS	**Mozjanca**	**3.35**	**58**	*i* Sn	**Sn**	**09 08 35.0**	**-0.2**
SMRF	**Simiane la Rot**	**3.48**	**262**	*e*Pn	**Pn**	**09 07 59.4**	**+1.8**
	SNR=1.0							
SMRF				*e*Sn	**Sn**	**09 08 37.5**	**-0.8**
	3.5nm,0.5s							
SMRF	**Simiane la Rot**	**3.48**	**262**	*e*Pn	**Pn**	**09 07 59.4**	**+1.8**
	SNR=1.0							
SMRF				*e*Sn	**Sn**	**09 08 37.5**	**-0.8**
	1.8nm,0.5s							
CABF	**La Chapelle**	**3.61**	**306**	*e*Pn	**Pn**	**09 08 00.4**	**+1.0**
	SNR=1.0							
CABF				*e*Sn	**Sn**	**09 08 40.1**	**-1.5**
	SNR=1.0							
CABF				*e*Sg	**Sg**	**09 08 59.1**	**-1.2**
	3.9nm,0.6s,SNR=1.0							
CABF	**La Chapelle**	**3.61**	**306**	*e*Pn	**Pn**	**09 08 00.4**	**+1.0**
	SNR=1.0							
CABF				*e*Sn	**Sn**	**09 08 40.1**	**-1.5**
	SNR=1.0							
CABF				*e*Sg	**Sg**	**09 08 59.1**	**-1.2**
	2.0nm,0.6s,SNR=1.0							
HINF	**Hinteralfeld**	**4.04**	**324**	*e*Pn	**Pn**	**09 08 04.9**	**-0.4**
	SNR=1.0							
HINF				*e*Sn	**Sn**	**09 08 50.4**	**-1.7**
	8.3nm,0.3s,SNR=1.0							
HINF	**Hinteralfeld**	**4.04**	**324**	*e*Pn	**Pn**	**09 08 04.9**	**-0.4**
	SNR=1.0							
HINF				*e*Sn	**Sn**	**09 08 50.4**	**-1.7**
	4.2nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.05**	**276**	*e*Pn	**Pn**	**09 08 06.3**	**+0.9**
	SNR=1.0							
VIVF				*e*Sn	**Sn**	**09 08 51.2**	**-1.2**
	1.0nm,0.2s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.05**	**276**	*e*Pn	**Pn**	**09 08 06.3**	**+0.9**
	SNR=1.0							
VIVF				*e*Sn	**Sn**	**09 08 51.2**	**-1.2**
	0.5nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**4.38**	**332**	*e*Pn	**Pn**	**09 08 09.8**	**-0.2**
	SNR=1.0							
CDF				*e*Sn	**Sn**	**09 08 58.3**	**-2.2**
	5.4nm,0.3s							
CDF	**Champ du Feu**	**4.38**	**332**	*e*Pn	**Pn**	**09 08 09.8**	**-0.2**
	SNR=1.0							
CDF				*e*Sn	**Sn**	**09 08 58.3**	**-2.2**
	2.7nm,0.3s							
HAU	**Haudompre**	**4.40**	**322**	*e*Pn	**Pn**	**09 08 10.4**	**+0.1**
HAU				*e*Sn	**Sn**	**09 08 59.4**	**-1.6**
	13nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**4.40**	**322**	*e*Pn	**Pn**	**09 08 10.4**	**+0.1**
HAU				*e*Sn	**Sn**	**09 08 59.4**	**-1.6**
	6.7nm,0.3s,SNR=1.0							
SMF	**Signal de Mont**	**5.00**	**297**	*e*Pn	**Pn**	**09 08 18.8**	**+0.3**
SMF				*e*Sn	**Sn**	**09 09 14.5**	**-1.4**
	1.9nm,0.3s							
SMF	**Signal de Mont**	**5.00**	**297**	*e*Pn	**Pn**	**09 08 18.8**	**+0.3**
SMF				*e*Sn	**Sn**	**09 09 14.5**	**-1.4**
	0.9nm,0.3s							
KHC	**Kasperske Hory**	**5.06**	**25**	*e*PN	**Pn**	**09 08 18.9**	**-0.4**
KHC				*ex*	x	09 08 40.5		
KHC				*e*SN	**Sn**	**09 09 14.6**	**-2.7**
KHC				*ex*	x	09 09 30.0		
KHC				*ex*	x	09 09 43.6		
KHC	**Kasperske Hory**	**5.06**	**25**	Pn	**Pn**	**09 08 18.9**	**-0.4**
KHC				Sn	**Sn**	**09 09 14.6**	**-2.7**
SFTF	**Sexfontaines**	**5.16**	**317**	*e*Pn	**Pn**	**09 08 21.0**	**+0.4**
SFTF	**Sexfontaines**	**5.16**	**317**	*e*Pn	**Pn**	**09 08 21.0**	**+0.4**
LOR	**Lormes**	**5.26**	**303**	*e*Pn	**Pn**	**09 08 22.2**	**+0.2**
LOR				*e*Sn	**Sn**	**09 09 19.7**	**-2.4**
	4.6nm,0.4s,SNR=1.0							
LOR	**Lormes**	**5.26**	**303**	*e*Pn	**Pn**	**09 08 22.2**	**+0.2**
LOR				*e*Sn	**Sn**	**09 09 19.7**	**-2.4**
	2.3nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**5.62**	**293**	*e*Pn	**Pn**	**09 08 27.3**	**+0.3**
	SNR=1.0							
BGF	**Bois d'Agland**	**5.62**	**293**	*e*Pn	**Pn**	**09 08 27.3**	**+0.3**
	SNR=1.0							
MTLF	**Montolieu**	**6.00**	**261**	*e*Pn	**Pn**	**09 08 33.5**	**+1.4**
MTLF	**Montolieu**	**6.00**	**261**	*e*Pn	**Pn**	**09 08 33.5**	**+1.4**
GRR	**Gorron**	**8.61**	**300**	*e*Pn	**Pn**	**09 09 07.8**	**-0.2**
	SNR=1.0							
GRR	**Gorron**	**8.61**	**300**	*e*Pn	**Pn**	**09 09 07.8**	**-0.2**
	SNR=1.0							

BEO **12** *09:11:19.0±0.9,40°.38N×22°.80E,h11km±4km,M3.7/5*
PRU **12** *09:11:21.3,40°.57N×23°.53E,h0km*
IDC **12** *09:11:22.0±0.9,40°.42N×22°.62E,h0km,mb3.5/9, mb1 3.7/15,mb1mx3.5/44,mbtmp3.5/15,ML3.6/6,MS2.8/7, Ms1 2.8/7,ms1mx2.5/43,Error ellipse: s-maj=14.0km s-min=13.5km az=20.0*
SKO **12** *09:11:23.6,40°.63N×22°.45E,h20km,M2.8,ML3.6*
ISK **12** *09:11:24.6,40°.73N×22°.48E,h26km,ML3.7*
THE **12** *09:11:24.8,40°.61N×22°.46E,h16km,ML3.8/20,Error ellipse: s-maj=1.0km s-min=0.6km az=353.0*
SOF **12** *09:11:24.4,40°.63N×22°.48E,h16km,MD3.9*
CSEM **12** *09:11:24.4±0.1,40°.63N×22°.46E,h10km,ML3.7,Error ellipse: s-maj=2.1km s-min=1.8km az=44.0*
ATH **12** *09:11:24.3,40°.60N×22°.51E,h28km,ML3.6/37,Error ellipse: s-maj=1.2km s-min=0.5km az=347.0*
PDG **12** *09:11:25.0±0.6,40°.71N×22°.51E,h20km±1km,ML3.5/8, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
DDA **12** *09:11:38.1,40°.52N×24°.04E,h13km,Ml3.6*

ISC 12 09:11:24.0±0.9,40°.60N×0°.01×22°.49E×0°.01,h12km±6km, n393,σ1s15/527,mb3.5/7,26C-19D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THE	**Thessaloniki**	**0.36**	**84**	P	**Pb**	**09 11 32.5**	**+0.1**
THE				S	**Sb**	**09 11 38.3**	**+0.3**
THE	**Thessaloniki**	**0.36**	**84**	P	**Pb**	**09 11 32.5**	**+0.1**
THE				S	**Sb**	**09 11 38.3**	**+0.3**
THE	**Thessaloniki**	**0.36**	**84**	P	**Pb**	**09 11 32.8**	**+0.4**
THE				S	**Sb**	**09 11 39.0**	**+0.9**
THE				AML	AML	09 11 39.4	
	comp=N,20169μm,0.3s						
THE				AML	AML	09 11 40.3	
	comp=E,14642μm,0.2s						
GRG	**Griva**	**0.37**	**350**	*e*PG	**Pg**	**09 11 31.2**	**-0.2**
GRG	**Griva**	**0.37**	**350**	P	**Pg**	**09 11 31.4**	**0.0**
GRG				S	**Sg**	**09 11 37.4**	**+0.7**
GRG	**Griva**	**0.37**	**350**	P	**Pg**	**09 11 31.4**	**0.0**
GRG				S	**Sg**	**09 11 36.8**	**+0.4**
GRG	**Griva**	**0.37**	**350**	P	**Pg**	**09 11 30.3**	**-1.1**
GRG				S	**Sg**	**09 11 36.8**	**+0.4**
GRG				AML	AML	09 11 37.8	
	comp=N,51412μm,0.6s						
GRG				AML	AML	09 11 40.6	
	comp=E,37809μm,0.5s						
HORT	**Hortiatis**	**0.47**	**90**	*e*PG	**Pn**	**09 11 35.5**	**-1.1**
HORT				*e*SG	**Sn**	**09 11 43.2**	**+3.8**
HORT	**Hortiatis**	**0.47**	**90**	P	**Pb**	**09 11 34.4**	**+0.2**
HORT				S	**Sb**	**09 11 41.7**	**+0.7**
HORT	**Hortiatis**	**0.47**	**90**	P	**Pb**	**09 11 34.4**	**+0.2**
HORT	**Hortiatis**	**0.47**	**90**	*e*Pg	**Pn**	**09 11 35.5**	**-1.1**
HORT				S	**Sb**	**09 11 41.7**	**+0.7**
HORT				*e*Sg	**Sn**	**09 11 43.2**	**+3.8**
HORT	**Hortiatis**	**0.47**	**90**	P	**Pb**	**09 11 34.9**	**+0.7**
HORT				S	**Sb**	**09 11 42.7**	**+1.6**
HORT				AML	AML	09 11 43.1	
	comp=E,14254μm,0.4s						
HORT				AML	AML	09 11 44.3	
	comp=N,18230μm,0.3s						
LIT	**Litokhoron**	**0.50**	**180**	P	**Pb**	**09 11 34.9**	**+0.2**
LIT				S	**Sb**	**09 11 42.4**	**+0.6**
LIT	**Litokhoron**	**0.50**	**180**	P	**Pb**	**09 11 34.9**	**+0.2**
LIT				S	**Sg**	**09 11 40.8**	**+0.4**
LIT	**Litokhoron**	**0.50**	**180**	P	**Pb**	**09 11 32.5**	**+0.6**
LIT				S	**Sg**	**09 11 40.8**	**+0.4**
LIT				AML	AML	09 11 49.5	
	comp=N,11756μm,0.6s						
LIT				AML	AML	09 11 49.6	
	comp=E,15370μm,0.2s						
KZN	**Kozani**	**0.62**	**242**	P	**Pg**	**09 11 36.2**	**+0.1**
KZN				S	**Sb**	**09 11 45.5**	**0.0**
KZN	**Kozani**	**0.62**	**242**	P	**Pg**	**09 11 36.2**	**+0.1**
KZN				S	**Sb**	**09 11 45.5**	**0.0**
SOH	**Sokhos**	**0.69**	**71**	P	**Pb**	**09 11 38.3**	**+0.2**
SOH				S	**Sn**	**09 11 49.1**	**-1.3**
SOH	**Sokhos**	**0.69**	**71**	P	**Pb**	**09 11 38.3**	**+0.2**
SOH				S	**Sn**	**09 11 49.1**	**-1.3**
SOH	**Sokhos**	**0.69**	**71**	P	**Pb**	**09 11 38.8**	**+0.7**
SOH				S	**Sn**	**09 11 49.9**	**-0.5**
SOH				AML	AML	09 11 51.1	
	comp=N,24869μm,0.3s						
SOH				AML	AML	09 11 51.3	
	comp=E,22253μm,0.5s						
VAY	**Valandovo**	**0.73**	**5**	P	**Pg**	**09 11 37.7**	**-0.4**
VAY				S	**Sb**	**09 11 48.5**	**0.0**
VAY	**Valandovo**	**0.73**	**5**⇑	*i* Pg	**Pg**	**09 11 37.8**	**-0.4**
VAY				*i* Sg	**Sb**	**09 11 49.1**	**+0.6**
VAY				*e*Lg	Lg	09 11 49.4	
	comp=N,3μm,0.5s						
VAY				*e*Lg	Lg	09 11 49.5	
	comp=E,8μm,1.1s						
VAY	**Valandovo**	**0.73**	**5**	*e*Pg	**Pg**	**09 11 37.6**	**-0.5**
VAY				*e*Sg	**Sb**	**09 11 48.9**	**+0.4**
VAY	**Valandovo**	**0.73**	**5**	P	**Pg**	**09 11 37.7**	**-0.4**
VAY				S	**Sb**	**09 11 48.5**	**0.0**
VAY				*e*Lg	Lg	09 11 49.3	
	comp=E,3μm,0.5s						
PLG	**Polygyros**	**0.76**	**107**	P	**Pb**	**09 11 39.9**	**+0.7**
PLG				S	**Sn**	**09 11 51.0**	**-1.0**
PLG	**Polygyros**	**0.76**	**107**	P	**Pb**	**09 11 39.9**	**+0.7**
PLG				S	**Sb**	**09 11 50.0**	**+0.5**
PLG	**Polygyros**	**0.76**	**107**	P	**Pn**	**09 11 40.9**	**+0.3**
PLG				S	**Sb**	**09 11 50.0**	**+0.5**
PLG				AML	AML	09 11 52.7	
	comp=N,14184μm,0.5s						
PLG				AML	AML	09 11 55.4	
	comp=E,8735μm,0.3s						
FNA	**Florina**	**0.87**	**283**	P	**Pg**	**09 11 39.7**	**-1.1**
FNA				S	**Sg**	**09 11 52.0**	**-0.1**
FNA	**Florina**	**0.87**	**283**	P	**Pg**	**09 11 39.7**	**-1.1**
FNA				S	**Sg**	**09 11 52.0**	**-0.1**
FNA	**Florina**	**0.87**	**283**	P	**Pg**	**09 11 39.6**	**-1.2**
FNA				S	**Sn**	**09 11 54.3**	**-0.3**
FNA				AML	AML	09 11 55.1	
	comp=E,5986μm,0.7s						
FNA				AML	AML	09 11 55.4	
	comp=N,8408μm,0.7s						
SRS	**Serrai**	**0.98**	**58**	P	**Pb**	**09 11 42.8**	**-0.2**
SRS				S	**Sn**	**09 11 57.8**	**+0.3**
SRS	**Serrai**	**0.98**	**58**	P	**Pb**	**09 11 43.0**	**0.0**
SRS				S	**Sn**	**09 11 57.8**	**+0.3**
SRS	**Serrai**	**0.98**	**58**	P	**Pb**	**09 11 43.0**	**0.0**
SRS				S	**Sn**	**09 11 58.0**	**+0.5**
SRS				AML	AML	09 11 59.2	
	comp=N,5166μm,0.3s						
SRS				AML	AML	09 12 01.1	
	comp=E,5936μm,0.4s						
KPRO	**Kipourio**	**1.07**	**234**	P	**Pb**	**09 11 44.4**	**-0.1**
KPRO				S	**Sb**	**09 11 58.9**	**+0.4**
KPRO	**Kipourio**	**1.07**	**234**	P	**Pb**	**09 11 44.5**	**-0.1**
KPRO				S	**Sb**	**09 11 58.9**	**+0.4**
KPRO	**Kipourio**	**1.07**	**234**	P	**Pb**	**09 11 44.5**	**0.0**
KPRO				S	**Sn**	**09 12 01.0**	**+1.3**
KPRO				AML	AML	09 12 06.1	
	comp=N,4207μm,0.8s						
KPRO				AML	AML	09 12 09.1	
	comp=E,4438μm,0.5s						
THL	**Klokotos Trika**	**1.09**	**200**	P	**Pb**	**09 11 45.1**	**+0.3**
THL				S	**Sg**	**09 12 00.0**	**+0.7**
THL	**Klokotos Trika**	**1.09**	**200**	P	**Pb**	**09 11 45.1**	**+0.3**
THL				S	**Sg**	**09 11 59.7**	**+0.4**
PENT	**Pentalofos**	**1.11**	**249**	P	**Pb**	**09 11 44.8**	**-0.3**
PENT				S	**Sn**	**09 12 01.1**	**+0.5**
PENT	**Pentalofos**	**1.11**	**249**	P	**Pb**	**09 11 44.8**	**-0.3**
PENT				S	**Sn**	**09 12 01.1**	**+0.5**
PENT	**Pentalofos**	**1.11**	**249**	P	**Pb**	**09 11 44.1**	**-1.0**
PENT				S	**Sn**	**09 12 03.5**	**+2.9**
PENT				AML	AML	09 12 06.5	
	comp=E,2343μm,0.4s						
PENT				AML	AML	09 12 09.2	
	comp=N,4201μm,0.8s						
PAIG	**Paliouri**	**1.13**	**126**	P	**Pb**	**09 11 45.2**	**-0.3**
PAIG				S	**Sn**	**09 12 01.4**	**+0.4**
PAIG	**Paliouri**	**1.13**	**126**	P	**Pb**	**09 11 45.2**	**-0.3**
PAIG				S	**Sn**	**09 12 01.4**	**+0.4**
PAIG	**Paliouri**	**1.13**	**126**	P	**Pb**	**09 11 45.0**	**-0.4**
PAIG				S	**Sn**	**09 12 02.1**	**+1.1**
PAIG				AML	AML	09 12 05.4	
	comp=N,9213μm,0.6s						
PAIG				AML	AML	09 12 05.4	
	comp=E,8290μm,0.3s						
OUR	**Ouranopolis**	**1.17**	**102**	*e*PN	**Pg**	**09 11 47.0**	**+0.5**
OUR	**Ouranopolis**	**1.17**	**102**	P	**Pg**	**09 11 46.5**	**0.0**
OUR				S	**Sg**	**09 12 03.0**	**+1.3**
OUR	**Ouranopolis**	**1.17**	**102**	*e*Pn	**Pg**	**09 11 47.0**	**+0.5**
OUR	**Ouranopolis**	**1.17**	**102**	P	**Pg**	**09 11 47.5**	**+1.0**
OUR				S	**Sg**	**09 12 03.0**	**+1.3**
OUR	**Ouranopolis**	**1.17**	**102**	P	**Pg**	**09 11 47.5**	**+1.0**
OUR				S	**Sg**	**09 12 02.6**	**+0.9**
OUR				AML	AML	09 12 07.9	
	comp=N,12922μm,0.3s						
OUR				AML	AML	09 12 08.1	
	comp=E,11244μm,0.4s						
FYTO	**Fytoko, Volos**	**1.24**	**164**	P	**Pn**	**09 11 47.2**	**+0.1**
FYTO				S	**Sn**	**09 12 03.8**	**+0.2**
FYTO	**Fytoko, Volos**	**1.24**	**164**	P	**Pn**	**09 11 47.2**	**+0.1**
FYTO				S	**Sn**	**09 12 03.8**	**+0.2**
NVR	**Nevrokopi**	**1.28**	**54**	P	**Pn**	**09 11 47.9**	**+0.1**
NVR	**Nevrokopi**	**1.28**	**54**	P	**Pn**	**09 11 47.9**	**+0.1**
NVR				S	**Sg**	**09 12 05.9**	**+0.5**
XOR	**Xorichti**	**1.34**	**156**	P	**Pn**	**09 11 48.5**	**-0.1**
XOR				S	**Sn**	**09 12 05.7**	**-0.6**
XOR	**Xorichti**	**1.34**	**156**	P	**Pn**	**09 11 48.5**	**-0.1**
XOR				S	**Sn**	**09 12 05.7**	**-0.6**
XOR	**Xorichti**	**1.34**	**156**	P	**Pn**	**09 11 48.2**	**-0.3**
XOR				S	**Sn**	**09 12 05.0**	**-1.4**
XOR				AML	AML	09 12 06.2	
	comp=E,8732μm,0.5s						
XOR				AML	AML	09 12 08.9	
	comp=N,7380μm,0.7s						
KKB	**Krupnik**	**1.34**	**19**	*i* P	**Pn**	**09 11 48.2**	**-0.4**
MMB	**Musomiste**	**1.36**	**43**	*i* P	**Pn**	**09 11 48.8**	**-0.1**
OHR	**Ohrid**	**1.38**	**292**⇑	*i* Pg	**Pn**	**09 11 48.7**	**-0.5**
OHR				*i* Sg	**Sb**	**09 12 07.9**	**+0.5**
OHR				*e*Lg	Lg	09 12 12.5	
	comp=E,642nm,0.7s						
OHR				*e*Lg

SMIA S Sn 09 12 18.5 +0.8
SMIA Simia 1.80 162 P Pn 09 11 54.9 0.0
SMIA S Sn 09 12 18.5 +0.8
SMIA AML AML 09 12 23.5
comp=E,3032µm,0.6s
SMIA AML AML 09 12 36.2
comp=N,5065µm,0.6s
DSL Palaion Diasel 1.81 217 P Pb 09 11 57.7 +0.6
DSL S Sb 09 12 20.5 +0.7
DSL Palaion Diasel 1.81 217 P Pb 09 11 57.7 +0.6
DSL S Sb 09 12 20.5 +0.7
DSL AML AML 09 12 30.2
comp=N,2172µm,0.4s
DSL AML AML 09 12 31.1
comp=E,2344µm,0.6s
ATAL Atalanti 1.95 168 P Pn 09 11 56.8 0.0
ATAL Atalanti 1.95 168 P Pn 09 11 56.8 0.0
IGT Igoumenitsa 1.97 238 P Pg 09 12 03.2 +1.4
LKR Lokris 1.98 168 P Pn 09 11 58.0 +0.7
LKR S Sn 09 12 20.9 -1.2
LKR Lokris 1.98 168 P Pn 09 11 58.0 +0.7
LKR S Sn 09 12 20.9 -1.2
LKR AML AML 09 12 42.3
comp=E,442µm,0.8s
LKR AML AML 09 12 45.3
comp=N,444µm,0.8s
SGD Sagiada 1.99 241 P Pb 09 12 00.5 +0.4
SGD Sagiada 1.99 241 P Pb 09 12 00.5 +0.4
RZN Rozhen 2.00 56 *i* P Pn 09 11 58.7 +0.9
ANX Ano Chora 2.05 193 P Pb 09 12 00.6 -0.6
ANX S Sn 09 12 23.6 -0.2
ANX Ano Chora 2.05 193 S Sn 09 12 23.6 -0.2
ANX AML AML 09 12 37.2
comp=E,3840µm,0.7s
ANX AML AML 09 12 40.4
comp=N,4609µm,1.0s
PVO Paravola 2.11 201 P Pb 09 12 02.9 +0.7
PVO Paravola 2.11 201 P Pb 09 12 02.9 +0.7
LIA Limnos Island 2.18 108 P Pn 09 12 00.1 +0.1
LIA S Sn 09 12 27.1 +0.3
DSF Desfina 2.18 179 P Pn 09 12 00.5 +0.3
DSF S Sb 09 12 29.0 -1.5
DSF Desfina 2.18 179 P Pn 09 12 00.5 +0.3
DSF S Sb 09 12 29.0 -1.5
DSF AML AML 09 12 42.1
comp=N,746µm,1.0s
DSF AML AML 09 12 46.7
comp=E,1112µm,1.0s
SERG Sergoula 2.21 189 P Pn 09 12 01.8 +1.4
SERG S Sb 09 12 30.9 -0.2
EFP Efpalio 2.21 192 P Pb 09 12 04.3 +0.3
EFP Efpalio 2.21 192 P Pb 09 12 04.3 +0.3
KALE Kalithea 2.22 187 P Pn 09 12 02.2 +1.5
KALE S Sb 09 12 30.1 -1.4
KALE Kalithea 2.22 187 P Pn 09 12 02.1 +1.5
KALE S Sb 09 12 30.1 -1.4
KALE AML AML 09 12 38.5
comp=N,2319µm,0.6s
KALE AML AML 09 12 40.1
comp=E,1330µm,0.6s
PDO Prodromos 2.24 207 P Pg 09 12 06.2 -0.7
PDO Prodromos 2.24 207 P Pg 09 12 06.2 -0.7
KEK Kerkira 2.24 248 P Pb 09 12 03.9 -0.5
PLD Plovdiv 2.25 47 *i* P Pn 09 12 02.2 +1.2
TRIZ Trizonia 2.25 188 P Pn 09 12 02.2 +1.2
BARS Barje 2.27 347 *e*Pn Pn 09 12 00.8 -0.6
BARS *e*Sn Sb 09 12 32.2 -0.9
BARS Barje 2.27 347 *e*Pn Pn 09 12 00.8 -0.6
BARS *e*Sn Sb 09 12 32.2 -0.9
LKD2 Lefkada island 2.29 219 P Pb 09 12 06.4 +1.1
LKD2 Lefkada island 2.29 219 P Pb 09 12 06.4 +1.1
SMTH Samothraki Isl 2.32 92 P Pn 09 12 01.3 -0.7
SMTH S Sn 09 12 31.5 +1.0
SMTH Samothraki Isl 2.32 92 P Pn 09 12 01.3 -0.7
SMTH S Sn 09 12 31.5 +1.0
SMTH AML AML 09 12 44.8
comp=N,734µm,0.6s
SMTH AML AML 09 12 47.7
comp=E,741µm,0.6s
PGB Panagyurishte 2.32 32 *i* P Pn 09 12 02.4 +0.3
PROD Prodromos 2.36 172 P Pn 09 12 03.3 +0.8
PROD Prodromos 2.36 172 P Pn 09 12 03.3 +0.8
UPR University Cam 2.37 193 P Pn 09 12 02.0 -0.7
UPR University Cam 2.37 193 P Pn 09 12 02.0 -0.7
LAKA Lakka 2.39 190 P Pn 09 12 04.9 +2.0
LAKA S Sn 09 12 32.7 +0.6
LAKA Lakka 2.39 190 P Pn 09 12 04.9 +2.0
LAKA S Sn 09 12 32.7 +0.6
LAKA AML AML 09 12 44.0
comp=E,798µm,0.8s
LAKA AML AML 09 12 46.1
comp=N,735µm,0.9s
EREA Eretria 2.44 152 P Pn 09 12 04.1 +0.4
EREA S Sn 09 12 32.2 -1.3
EREA Eretria 2.44 152 P Pn 09 12 04.1 +0.4
EREA S Sn 09 12 32.2 -1.3
EREA AML AML 09 12 33.8
comp=E,776µm,0.7s
EREA AML AML 09 12 34.0
comp=N,1340µm,0.4s
KDZ Kurdzhali 2.45 64 *i* P Pn 09 12 03.3 -0.5
VIL2 Platees 2.46 166 P Pn 09 12 04.6 +0.7
VIL2 S Sn 09 12 35.3 +1.4
VIL2 AML AML 09 13 00.8
comp=E,645µm,0.6s
VIL2 AML AML 09 13 02.0
comp=N,957µm,0.9s
VILL Villia 2.51 165 P Pn 09 12 04.6 -0.1
VILL S Sn 09 12 35.3 +0.1
AXS Araxos 2.55 200 P Pb 09 12 07.8 -1.8
AXS Araxos 2.55 200 P Pb 09 12 07.8 -1.8
THAL Thalero 2.56 177 P Pb 09 12 08.4 -1.5
THAL Thalero 2.56 177 P Pb 09 12 08.3 -1.5
KLV Kalavryta, Ach 2.56 186 P Pn 09 12 06.4 +1.0
KLV S Sn 09 12 36.0 -0.5
KLV Kalavryta, Ach 2.56 186 P Pn 09 12 06.4 +1.0
KLV S Sn 09 12 36.0 -0.5
KLV AML AML 09 12 39.3
comp=E,640µm,1.0s
KLV AML AML 09 12 44.9
comp=N,500µm,0.7s
LTK Loutraki 2.60 172 P Pn 09 12 05.8 0.0
LTK Loutraki 2.60 172 P Pn 09 12 05.8 0.0
GADA Gvkgeada 2.63 98 *e*PN Pn 09 12 07.2 +0.9
GADA Gvkgeada 2.63 98 *e*Pn Pn 09 12 07.2 +0.9
RLS Riolos of Patr 2.66 198 P Pn 09 12 07.8 +1.2
ZAPS Zavoj 2.68 2 *e*Pn Pn 09 12 06.2 -0.7
ZAPS *e*Sn Sn 09 12 40.1 +0.8
DRO Drossia 2.71 193 P Pb 09 12 11.2 -1.2
DRO Drossia 2.71 193 P Pb 09 12 11.2 -1.2
DIM Dimitrovgrad 2.71 57 *i* P Pn 09 12 08.2 +0.8
ALN Alexandroupoli 2.72 83 *e*PN Pn 09 12 07.8 +0.3
ALN Alexandroupoli 2.72 83 P Pn 09 12 07.5 +0.1
ALN Alexandroupoli 2.72 83 *e*Pn Pn 09 12 07.8 +0.3
ALN S Sn 09 12 38.9 -1.3
ALN Alexandroupoli 2.72 83 P Pn 09 12 07.5 +0.1
ALN S Sn 09 12 38.9 -1.3
ALN AML AML 09 12 56.4
comp=N,880µm,0.7s
ALN AML AML 09 12 59.3
comp=E,971µm,0.7s
PVY Plav 2.75 317 ⇑*i* Pn Pn 09 12 08.3 +0.2
PVY *e*Sn Sn 09 12 41.3 0.0
PTL Penteli 2.76 157 P Pn 09 12 08.4 +0.3
PTL Penteli 2.76 157 P Pn 09 12 08.3 +0.3
ATH Athens Observa 2.79 160 P Pn 09 12 08.4 +0.7
ATH S Sn 09 12 40.5 -1.4
ENEZ Enez 2.79 86 *e*PN Pn 09 12 08.9 +0.5
ENEZ Enez 2.79 86 *e*Pn Pn 09 12 08.9 +0.5
ATHU Athens Univers 2.81 159 P Pn 09 12 08.2 -0.6
ATHU Athens Univers 2.81 159 P Pn 09 12 08.2 -0.6
ATHU AML AML 09 12 42.4
comp=E,164µm,0.5s
ATHU AML AML 09 13 00.0
comp=N,149µm,0.6s
KFL Anninata 2.81 209 P Pn 09 12 10.0 +1.2
KFL Anninata 2.81 209 P Pn 09 12 10.0 +1.2
SELS Selova 2.81 339 *e*Pn Pn 09 12 07.4 -1.4
VLS Valsamata 2.83 212 P Pn 09 12 10.3 +1.3
BOZC Bozcaada 2.83 104 *i* P Pn 09 12 09.6 +0.6
BOZC *i* S Sg 09 12 54.1 -0.8
MPEP Malo Peshtene 2.91 18 *i* P Pn 09 12 10.4 +0.3

VLY Voula,Athens 2.92 159 P Pn 09 12 11.5 +1.2
VLY S Sn 09 12 44.4 -0.9
VLY Voula,Athens 2.92 159 P Pn 09 12 11.5 +1.2
VLY S Sn 09 12 44.4 -0.9
VLY AML AML 09 12 46.9
comp=E,688µm,0.6s
VLY AML AML 09 13 02.8
comp=N,602µm,0.8s
SIGR SIGRI 2.94 117 *e*PN Pn 09 12 12.1 +1.7
SIGR SIGRI 2.94 117 P Pn 09 12 11.0 +0.6
SIGR SIGRI 2.94 117 *e*Pn Pn 09 12 12.1 +1.7
SIGR SIGRI 2.94 117 P Pn 09 12 11.0 +0.6
DRME Dracevica, Mon 2.95 304 ⇑*i* Pn Pn 09 12 12.0 +1.3
DRME *e*Sn Sn 09 12 46.7 +0.7
DRME Dracevica, Mon 2.95 304 ⇑*i* Pn Pn 09 12 12.0 +1.3
DRME *e*Sn Sn 09 12 46.7 +0.7
KARY Karystos 2.97 149 P Pn 09 12 11.1 +0.1
KARY Karystos 2.97 149 P Pn 09 12 11.1 +0.1
BEY Berane 2.99 320 ⇓*i* Pn Pn 09 12 11.6 +0.3
BEY *e*Sn Sn 09 12 47.2 +0.1
IVA Berane 2.99 320 ⇓*i* Pn Pn 09 12 11.6 +0.3
IVA *e*Sn Sn 09 12 47.2 +0.1
EZN Ezine 3.04 103 *e*PN Pn 09 12 13.6 +1.8
EZN Ezine 3.04 103 *e*Pn Pn 09 12 13.6 +1.8
PDG Podgorica 3.04 308 ⇑*i* Pn Pn 09 12 12.5 +0.6
PDG *e*Sn Sn 09 12 48.7 +0.5
TTG Podgorica 3.04 308 ⇑*i* Pn Pn 09 12 12.5 +0.6
TTG *e*Sn Sn 09 12 48.7 +0.5
GELI Tayfur-Gelibol 3.04 92 *e*PN Pn 09 12 13.1 +1.2
GELI Tayfur-Gelibol 3.04 92 *e*Pn Pn 09 12 13.1 +1.2
ERIK Erikli-Kesan 3.06 87 *e*PN Pn 09 12 12.8 +0.7
ERIK Erikli-Kesan 3.06 87 *e*Pn Pn 09 12 12.9 +0.7
TRIP Tripoli 3.07 183 P Pn 09 12 14.9 +2.5
TRIP S Sn 09 12 49.2 +0.2
TRIP Tripoli 3.07 183 P Pn 09 12 14.9 +2.5
TRIP S Sn 09 12 49.2 +0.2
TRIP AML AML 09 13 02.3
comp=E,384µm,0.6s
TRIP AML AML 09 13 16.4
comp=N,342µm,0.8s
BOVS Bovan 3.09 349 *e*Pn Pn 09 12 11.7 -0.9
BOVS *e*Sn Sn 09 12 50.5 +1.1
BOVS Bovan 3.09 349 *e*Pn Pn 09 12 11.7 -0.9
BOVS *e*Sn Sn 09 12 50.5 +1.1
DID Didima 3.14 169 P Pn 09 12 13.5 +0.2
DID S Sn 09 12 48.8 -1.9
DID Didima 3.14 169 P Pn 09 12 13.5 +0.2
DID S Sn 09 12 48.8 -1.9
DID AML AML 09 12 57.5
comp=N,219µm,23.3s
DID AML AML 09 12 58.9
comp=E,463µm,1.0s
ZKS Zakynthos 3.18 205 P Pn 09 12 14.1 +0.2
ZKS Zakynthos 3.18 205 P Pn 09 12 14.1 +0.2
BUM Brajici-Budva 3.19 303 ⇓*i* Pn Pn 09 12 14.7 +0.6
BUM *e*Sn Sn 09 12 52.7 +0.6
BUM Brajici-Budva 3.19 303 ⇓*i* Pn Pn 09 12 14.7 +0.6
BUM *e*Sn Sn 09 12 52.7 +0.6
KESN Edirne-Kesan 3.19 85 P Pn 09 12 14.6 +0.3
KESN Edirne-Kesan 3.19 85 *i* P Pn 09 12 14.6 +0.3
PRK Paraskevi 3.21 114 P Pn 09 12 16.8 +2.7
PRK Paraskevi 3.21 114 P Pn 09 12 16.8 +2.7
VLX Vlachokerasia 3.22 182 P Pn 09 12 15.7 +1.2
VLX Vlachokerasia 3.22 182 P Pn 09 12 15.7 +1.2
KRND KRANIDI 3.25 171 P Pn 09 12 15.6 +0.9
KRND KRANIDI 3.25 171 P Pn 09 12 15.6 +0.9
KRND AML AML 09 12 58.7
comp=E,470µm,0.5s
KRND AML AML 09 12 58.9
comp=N,664µm,0.7s
SJES Sjenica 3.26 326 *e*Pn Pn 09 12 14.5 -0.5
SJES *e*Sn Sn 09 12 56.1 +2.4
LPK Lapseki 3.27 93 *e*PN Pn 09 12 15.3 +0.3
LPK Lapseki 3.27 93 *e*Pn Pn 09 12 15.3 +0.3
CEME Cevo 3.31 307 *e*Pn Pn 09 12 16.4 +0.7
CEME *e*Sn Sn 09 12 55.5 +0.5
CEME Cevo 3.31 307 *e*Pn Pn 09 12 16.4 +0.7
CEME *e*Sn Sn 09 12 55.5 +0.5
NKME Niksic 3.42 310 ⇓*i* Pn Pn 09 12 18.3 +1.1
NKME *e*Sn Sn 09 12 58.1 +0.4
NKME Niksic 3.42 310 ⇓*i* Pn Pn 09 12 18.3 +1.1
NKME *e*Sn Sn 09 12 58.1 +0.4
NKY Niksic 3.43 311 ⇓*i* Pn Pn 09 12 17.8 +0.5
NKY *e*Sn Sn 09 12 58.0 +0.1
NKY Niksic 3.43 311 ⇓*i* Pn Pn 09 12 17.8 +0.5
NKY *e*Sn Sn 09 12 58.0 +0.1
EDRB Edirne 3.44 67 *e*PN Pn 09 12 17.8 +0.4
EDRB Edirne 3.44 67 *e*Pn Pn 09 12 17.8 +0.4
IVAS Ivanjica 3.45 330 *e*PN Pn 09 12 16.6 -1.0
IVAS Ivanjica 3.45 330 *e*Pn Pn 09 12 16.6 -1.0
AYVA Ayvalik 3.48 110 P Pn 09 12 20.0 +2.1
AYVA S Sn 09 12 57.4 -1.5
AYVA Ayvalik 3.48 110 *i* P Pn 09 12 20.0 +2.1
AYVA *i* S Sn 09 12 57.4 -1.5
HCY Herceg Novi 3.52 303 ⇑*i* Pn Pn 09 12 19.4 +0.9
HCY *e*Sn Sn 09 13 00.8 +0.7
HCY Herceg Novi 3.52 303 ⇑*i* Pn Pn 09 12 19.4 +0.9
HCY *e*Sn Sn 09 13 00.8 +0.7
CHOS Chios island 3.53 128 *e*PN Pn 09 12 20.2 +1.5
CHOS Chios island 3.53 128 P Pn 09 12 20.2 +1.5
CHOS S Sn 09 13 00.0 -0.4
CHOS Chios island 3.53 128 P Pn 09 12 20.2 +1.5
CHOS S Sn 09 13 00.0 -0.4
GRUS Gruza 3.54 339 *e*Pn Pn 09 12 17.9 -0.9
GRUS Gruza 3.54 339 *e*Pn Pn 09 12 17.9 -0.9
SART Tekirdag 3.57 87 P Pn 09 12 20.3 +1.1
SART Tekirdag 3.57 87 *i* P Pn 09 12 20.3 +1.1
PLE Pljevlja 3.58 321 ⇑*i* Pn Pn 09 12 19.8 +0.4
PLE *e*Sn Sn 09 13 01.4 -0.2
PLE Pljevlja 3.58 321 ⇑*i* Pn Pn 09 12 19.8 +0.4
PLE *e*Sn Sn 09 13 01.4 -0.2
JMB Yambol 3.60 57 *i* P Pn 09 12 19.4 -0.1
KRBG Karabiga-Canak 3.67 92 *e*PN Pn 09 12 21.0 +0.4
KRBG Karabiga-Canak 3.67 92 *e*Pn Pn 09 12 21.0 +0.4
SZH Strazhica 3.70 43 *i* P Pn 09 12 21.7 +0.7
DKL Dikili 3.73 113 *e*PN Pn 09 12 23.7 +2.4
DKL Dikili 3.73 113 *e*Pn Pn 09 12 23.7 +2.4
UPM Unac-Piva 3.73 315 ⇓*i* Pn Pn 09 12 21.9 +0.3
UPM *e*Sn Sn 09 13 05.4 -0.1
UPM Unac-Piva 3.73 315 ⇓*i* Pn Pn 09 12 21.9 +0.3
UPM *e*Sn Sn 09 13 05.4 -0.1
PYL PYLOS 3.74 189 P Pb 09 12 26.1 -3.9
PYL S Sn 09 13 04.7 -0.8
PYL PYLOS 3.74 189 P Pb 09 12 26.1 -3.9
PYL S Sn 09 13 04.7 -0.8
BRY Bratogost 3.75 309 ⇓*i* Pn Pn 09 12 22.3 +0.6
BRY *e*Sn Sn 09 13 05.9 +0.1
BRY Bratogost 3.75 309 ⇓*i* Pn Pn 09 12 22.3 +0.6
BRY *e*Sn Sn 09 13 05.9 +0.1
SERI Serifos 3.77 155 P Pn 09 12 21.2 -0.7
SERI Serifos 3.77 155 P Pn 09 12 21.2 -0.7
KNL Bal¯kesir 3.86 93 *i* P Pn 09 12 23.8 +0.7
KUBS Kucevo 3.86 351 *e*Pn Pn 09 12 20.5 -2.7
KUBS Kucevo 3.86 351 *e*Pn Pn 09 12 20.5 -2.7
URLA Izmir 3.88 124 P Pn 09 12 25.2 +1.7
URLA Izmir 3.88 124 *i* P Pn 09 12 25.2 +1.7
MRMT Marmara Adasi 3.89 88 *e*PN Pn 09 12 22.7 -0.9
MRMT Marmara Adasi 3.89 88 *e*Pn Pn 09 12 22.7 -0.9
VLI Veliai 3.89 175 P Pn 09 12 23.2 -0.3
VLI S Sn 09 13 09.1 0.0
VLI Veliai 3.89 175 P Pn 09 12 23.2 -0.3
VLI S Sn 09 13 09.1 0.0
VLI AML AML 09 13 16.1
comp=N,383µm,0.9s
VLI AML AML 09 13 20.8
comp=E,222µm,0.9s
ZEY ¯zmir 3.90 126 *i* P Pn 09 12 25.5 +1.8
TRUS Trudelj 3.94 338 *e*Pn Pn 09 12 23.1 -1.1
TRUS Trudelj 3.94 338 *e*Pn Pn 09 12 23.1 -1.1
PHSR Pinarhisar 3.94 73 *e*PN Pn 09 12 25.2 +0.9
PHSR Pinarhisar 3.94 73 *e*Pn Pn 09 12 25.2 +0.9
DIVS Divibare 3.96 333 *e*PN Pn 09 12 23.6 -1.0
DIVS Divibare 3.96 333 *e*Pn Pn 09 12 23.6 -1.0
TAR1 Taranto 3.97 271 *e*Pn Pn 09 12 25.4 +0.8
BBLS Lazići 3.99 326 *e*Pn Pn 09 12 24.5 -0.5
BBLS Lazići 3.99 326 *e*Pn Pn 09 12 24.5 -0.5
CRLT Corlu 4.01 81 *e*PN Pn 09 12 26.2 +0.9
CRLT Corlu 4.01 81 *e*Pn Pn 09 12 26.2 +0.9
BALY Balya 4.02 101 P Pn 09 12 27.3 +1.8
BALY Balya 4.02 101 *i* P Pn 09 12 27.3 +1.8

SRE Strehaia 4.10 7 ⇑*i* P Pg 09 12 41.1 -1.4
MDVR Moldovita 4.22 352 ⇓*i* P Pn 09 12 26.9 -1.3
BALB Balikesir 4.24 101 *e*PN Pn 09 12 29.6 +1.2
BALB Balikesir 4.24 101 *e*Pn Pn 09 12 29.6 +1.2
APE Apeiranthos 4.25 145 P Pn 09 12 28.6 +0.1
APE Apeiranthos 4.25 145 P Pn 09 12 28.6 +0.1
IZM Izmir 4.30 119 *e*PN Pn 09 12 30.9 +1.7
IZM Izmir 4.30 119 *e*Pn Pn 09 12 30.9 +1.7
HUMR Humele 4.34 24 ⇑*i* P Pn 09 12 29.9 +0.2
KYTH Kithira 4.35 174 P Pn 09 12 31.9 +2.0
KYTH Kithira 4.35 174 P Pn 09 12 31.9 +2.0
SMG Samos 4.44 129 P Pn 09 12 32.5 +1.3
SMG Samos 4.44 129 P Pn 09 12 32.5 +1.3
AKS Akhisar 4.45 111 *e*PN Pn 09 12 32.9 +1.6
AKS Akhisar 4.45 111 *e*Pn Pn 09 12 32.9 +1.6
CTYL Yalikoy Yolu 4.47 77 *e*PN Pn 09 12 32.9 +1.3
CTYL Yalikoy Yolu 4.47 77 *e*Pn Pn 09 12 32.9 +1.3
KCTX Karacabey (Bur 4.49 92 *e*PN Pn 09 12 32.6 +0.8
KCTX Karacabey (Bur 4.49 92 *e*Pn Pn 09 12 32.6 +0.8
TEKS Tekeris 4.51 332 *e*Pn Pn 09 12 31.5 -0.7
TEKS Tekeris 4.51 332 *e*Pn Pn 09 12 31.5 -0.7
CTKS Kestanelik-??a 4.60 80 *e*PN Pn 09 12 34.5 +1.1
CTKS Kestanelik-??a 4.60 80 *e*Pn Pn 09 12 34.5 +1.1
BGKT Bogazkoy 4.80 81 *e*PN Pn 09 12 38.0 +2.0
BGKT Bogazkoy 4.80 81 *e*Pn Pn 09 12 38.0 +2.0
ARMT Armutlu 4.85 88 *e*PN Pn 09 12 38.4 +1.6
ARMT Armutlu 4.85 88 *e*Pn Pn 09 12 38.4 +1.6
LOT Lotru 4.94 11 ⇑*i* P Pn 09 12 37.8 -0.3
AYDB Zeytinkoy-Aydi 4.96 121 *e*PN Pn 09 12 41.2 +2.9
AYDB Zeytinkoy-Aydi 4.96 121 *e*Pn Pn 09 12 41.2 +2.9
ISK Istanbul-Kandi 5.01 82 *e*PN Pn 09 12 39.5 +0.6
ISK Istanbul-Kandi 5.01 82 *e*Pn Pn 09 12 39.5 +0.6
KLYT Kilyos 5.01 80 *e*PN Pn 09 12 39.8 +0.9
KLYT Kilyos 5.01 80 *e*Pn Pn 09 12 39.8 +0.9
ARR Arges 5.02 18 ⇑*i* P Pn 09 12 38.9 -0.3
DEMI Demirci 5.04 106 P Pn 09 12 41.9 +2.4
DEMI Demirci 5.04 106 *i* P Pn 09 12 41.9 +2.4
BUY Buyukada 5.04 85 P Pn 09 12 40.4 +1.0
BUY Buyukada 5.04 85 *i* P Pn 09 12 40.4 +1.0
BZS Buzias 5.06 353 ⇓*i* P Pn 09 12 38.3 -1.3
AYDN Tasoluk 5.11 123 P Pn 09 12 42.4 +1.9
AYDN Tasoluk 5.11 123 *i* P Pn 09 12 42.4 +1.9
IGD Bursa 5.13 92 *i* P Pn 09 12 40.1 -0.5
VOIR 5.19 20 ⇓*i* P Pn 09 12 42.2 +0.7
ISR Istrita 5.41 32 ⇑*i* P Pn 09 12 45.7 +1.2
SILT Sile 5.45 82 *e*PN Pn 09 12 46.2 +1.2
SILT Sile 5.45 82 *e*Pn Pn 09 12 46.2 +1.2
HRT Hereke 5.46 85 *e*PN Pn 09 12 47.2 +2.0
HRT Hereke 5.46 85 *e*Pn Pn 09 12 47.2 +2.0
TVSB Tavsanli 5.47 100 *e*PN Pn 09 12 47.7 +2.3
TVSB Tavsanli 5.47 100 *e*Pn Pn 09 12 47.7 +2.3
MLR Muntele Rosu 5.51 26 Pn Pn 09 12 47.3 +1.4
comp=E,0.5nm,0.3s,baz=199,slow=7.3,SNR=21
MLR Lg Lg 09 14 21.9
baz=285,slow=20,SNR=2.7
MLR Muntele Rosu 5.51 26 ⇑*i* P Pn 09 12 47.3 +1.4
ADVT Abdulvahap 5.53 89 *e*PN Pn 09 12 47.9 +1.8
ADVT Abdulvahap 5.53 89 *e*Pn Pn 09 12 47.9 +1.8
MANR Mangalia 5.55 53 ⇑*i* P Pn 09 12 47.8 +1.4
GDZ Gediz 5.59 103 P Pn 09 12 49.4 +2.4
GDZ Gediz 5.59 103 *i* P Pn 09 12 49.4 +2.4
IDI Anoyia 5.63 160 Pn Pn 09 12 50.1 +2.6
comp=E,1.6nm,0.3s,baz=26,slow=9.7,SNR=7.3
IDI Sn Sn 09 13 54.9 +2.8
baz=249,slow=12,SNR=2.6
IDI LR LR 09 15 01.9
comp=E,56nm,21.3s,baz=80,slow=40
SIRR Siria 5.70 354 ⇑*i* P Pn 09 12 47.5 -1.0
BLY Banja Luka 5.70 318 *e*Pn Pn 09 12 50.6 +2.2
DOPR Dopca 5.77 21 ⇑*i* P Pn 09 12 50.1 +0.7
TIRR Tirgusor 5.83 47 ⇓*i* P Pn 09 12 50.9 +0.7
KAND Kocaeli-Kandir 5.86 83 P Pn 09 12 51.8 +1.2
KAND Kocaeli-Kandir 5.86 83 *i* P Pn 09 12 51.8 +1.2
DNZL Cakiroluk 5.87 118 P Pn 09 12 53.6 +2.7
DNZL Cakiroluk 5.87 118 *i* P Pn 09 12 53.6 +2.7
KHL Karahalli 5.90 110 *e*PN Pn 09 12 53.6 +2.4
KHL Karahalli 5.90 110 *e*Pn Pn 09 12 53.6 +2.4
PLOR Plostina 6.07 29 ⇑*i* P Pn 09 12 54.7 +1.2
VRI Vrincioaia 6.11 29 ⇑*i* P Pn 09 12 55.1 +1.0
GULT Gulveren 6.12 89 *e*PN Pn 09 12 56.6 +2.3
GULT Gulveren 6.12 89 *e*Pn Pn 09 12 56.6 +2.3
CFR Carcaliu 6.18 40 ⇑*i* P Pn 09 12 55.9 +1.0
DRGR 6.20 1 ⇑*i* P Pn 09 12 54.7 -0.6
UDBI Udbina 6.33 311 *e*Pn Pn 09 12 57.5 +0.4
UDBI Udbina 6.33 311 *e*Pn Pn 09 12 57.5 +0.4
SAHE Sakarya_HENDEK 6.36 85 P Pn 09 12 59.0 +1.5
SAHE Sakarya_HENDEK 6.36 85 *i* P Pn 09 12 59.0 +1.5
ESKT Eskisehir 6.50 97 *i* P Pn 09 13 01.8 +2.2
SEYT Eskypehyr 6.50 97 P Pn 09 13 01.8 +2.2
TLCR 6.53 43 ⇑*i* P Pn 09 13 00.7 +0.9
TESR Tescani 6.64 26 ⇓*i* P Pn 09 13 02.2 +0.9
NVLJ Novalja 6.88 308 *e*Pn Pn 09 13 03.8 -0.8
NVLJ Sn Sn 09 14 19.1 -3.5
NVLJ Novalja 6.88 308 *e*Pn Pn 09 13 03.7 -0.8
BURAR Bucovina Array 7.29 15 ⇓*i* P Pn 09 13 11.3 +1.0
CRES Cresnjev 7.33 318 *e*Pn Pn 09 13 09.4 -1.4
PSZ Piszkesteto 7.55 347 ⇓*i* P Pn 09 13 12.6 -1.3
CEY Cerknica 7.82 314 *e*Pn Pn 09 13 17.1 -0.4
KECS Kecovo 8.01 350 *e*Pn Pn 09 13 21.7 +1.5
KECS Kecovo 8.01 350 *e*PN Pn 09 13 21.7 +1.5
VYHS Vyhne 8.31 343 *e*Pn Pn 09 13 26.5 +2.2
VYHS Vyhne 8.31 343 *e*PN Pn 09 13 26.5 +2.2
ARSA Arzberg 8.33 325 *i* Pn Pn 09 13 24.5 -0.1
comp=E,4.7nm,0.5s
ARSA Arzberg 8.33 325 Pn Pn 09 13 24.5 -0.1
comp=E,4.7nm,0.5s
KOLS Kolonicke sedl 8.34 359 *e*Pn Pn 09 13 25.1 +0.5
KOLS Kolonicke sedl 8.34 359 *e*PN Pn 09 13 25.1 +0.5
KOLS Kolonicke sedl 8.34 359 *e*SG Sg 09 15 49.6 -1.8
BRTR Keskin Array B 8.58 92 Pn Pn 09 13 28.6 +0.4
comp=E,0.6nm,0.3s,baz=268,slow=13,SNR=17
CONA Conrad Observa 8.73 329 *e*Pn Pn 09 13 28.6 -1.5
comp=E,0.6nm,0.2s
CONA Conrad Observa 8.73 329 Pn Pn 09 13 28.6 -1.5
comp=E,0.6nm,0.2s
MOA Molln 9.35 324 *i* Pn Pn 09 13 38.5 +0.1
comp=E,0.4nm,0.2s
MOA Molln 9.35 324 Pn Pn 09 13 38.5 +0.1
comp=E,0.4nm,0.2s
VRAC Vranov 9.66 336 Pn Pn 09 13 47.6 +4.9
comp=E,0.3nm,0.3s,baz=116,slow=11,SNR=3.3
VRAC LR LR 09 18 15.2
comp=E,66nm,20.9s,baz=130,slow=42
OKC Ostrava-Krasne 9.73 343 AMS AMS 09 18 30.0
comp=E,200nm,13.2s
TREC Trest 10.01 333 AMS AMS 09 18 10.0
comp=E,200nm,7.9s
GERES GERESS Array B 10.34 326 Pn Pn 09 13 56.0 +3.8
comp=E,0.1nm,0.3s,baz=150,slow=14,SNR=8.7
GERES LR LR 09 18 44.6
comp=E,55nm,19.0s,baz=126,slow=42
KHC Kasperske Hory 10.61 326 *e*P Pn 09 14 03.7 +7.9
KHC *ex* x 09 14 10.3
KHC AMS AMS 09 18 30.0
comp=E,200nm,8.4s
DPC Dobruska-Polom 10.67 338 *e*P Pn 09 14 01.8 +5.2
DPC *ex* x 09 14 09.0
DPC AMS AMS 09 18 50.0
comp=E,200nm,6.8s
UPC Upice 10.90 338 AMS AMS 09 18 50.0
comp=E,200nm,11.8s
PRU Pruhonice 10.93 332 AMS AMS 09 18 40.0
comp=E,100nm,8.1s
DAVOX Davos/Dischmat 11.02 308 LR LR 09 19 22.6
comp=E,66nm,18.3s,baz=32,slow=43
AKASG Malin Array Be 11.14 23 Pn Pn 09 14 04.2 +1.1
comp=E,0.9nm,0.3s,baz=207,slow=14,SNR=2.6
PVCC Panska Ves 11.37 334 AMS AMS 09 19 00.0
comp=E,100nm,12.2s
NKC Novy Kostel 11.93 327 AMS AMS 09 19 10.0
comp=E,100nm,8.4s
MMAI Mount Meron Ar 12.81 122 Pn Pn 09 14 22.6 -3.4
comp=E,0.9nm,0.3s,baz=275,slow=16,SNR=2.4
MMAI LR LR 09 20 07.3
comp=E,40nm,21.3s,baz=115,slow=42
ESDC Sonseca Array 20.23 276 P P 09 15 58.3 -0.6
comp=E,0.1nm,0.3s,baz=75,slow=10,SNR=2.8
FINES FINESS Array B 20.99 5 P P 09 16 06.6 -0.2
comp=E,0.7nm,0.6s,baz=175,slow=7.1,SNR=5.0
FINES LR LR 09 25 03.3
comp=E,53nm,21.2s,baz=112,slow=39
NB2 NORSAR Subarra 21.61 345 P P 09 16 12.9 -0.7
comp=Z,1.5nm,0.7s,baz=156,slow=9.3

NB2	**NORSAR Subarra**	**21.61**	**345**	P	**P**	**09 16 12.9**	**-0.7**
	comp=Z,1.5nm,0.7s,SNR=0.8						
NOA	**NORSAR Array B**	**21.61**	**345**	P	**P**	**09 16 13.6**	**0.0**
	comp=Z,3.3nm,0.8s,baz=158,slow=10,SNR=10						
NOA				LR	LR	09 25 58.1	
	comp=Z,18nm,18.1s,baz=180,slow=40						
EKA	**Eskdalemuir Ar**	**22.45**	**320**	P	**P**	**09 16 23.7**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=118,slow=10,SNR=4.2						
TORD	**Torodi Ar. Bea**	**32.87**	**220**	P	**P**	**09 17 58.0**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=32,slow=9.0,SNR=32						
TORD				PcP	**PcP**	**09 20 41.8**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=52,slow=4.4,SNR=2.7						
MKAR	**Makanchi Array**	**42.77**	**61**	P	**P**	**09 19 19.9**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=258,slow=4.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**42.96**	**50**	P	**P**	**09 19 22.3**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=282,slow=10,SNR=3.2						
ZALV				PcP	**PcP**	**09 21 11.7**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=251,slow=4.4,SNR=2.2						
YKA	**Yellowknife Ar**	**71.63**	**341**	P	**P**	**09 22 45.5**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=51,slow=8.3,SNR=2.9						
ILAR	**Eielson Array**	**74.64**	**355**	P	**P**	**09 23 03.3**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=45,slow=2.7,SNR=3.4						

JMA 12 09:12:47.6±0.5, 36.88N×144.18E, h28km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.69**	**281**	*e*S	Sn	09 14 02.1	+1.5
JIO	**Ouri**	**2.74**	**306**	P	Pn	09 13 31.2	+1.5
JIO				*e*S	Sn	09 14 03.9	+2.0
JMK	**Ichinoseki**	**3.12**	**312**	P	Pn	09 13 37.3	+2.3
JMK				S	Sn	09 14 14.0	+2.7
JFT	**Otama**	**3.13**	**283**	*e*S	Sn	09 14 14.7	+3.1
JOU	**Okura**	**3.16**	**299**	P	Pn	09 13 39.2	+3.7
JOU				*e*S	Sn	09 14 16.3	+4.0
BSO1	**Boso 1**	**3.42**	**230**	*e*S	Sn	09 14 19.0	+1.0
JOM	**Ohasama**	**3.45**	**320**	P	Pn	09 13 41.8	+2.4
JOM				*e*S	Sn	09 14 20.3	+1.0
JYK	**Kaneyama**	**3.64**	**305**	P	Pn	09 13 42.9	+0.8
JYK				*e*S	Sn	09 14 27.1	+2.9
JRG	**Rokugo**	**3.76**	**313**	P	Pn	09 13 46.1	+2.4
JRG				*e*S	Sn	09 14 31.0	+4.0
JRY	**Ryogami san**	**4.34**	**260**	P	Pn	09 13 52.3	+0.6
JCH	**Churui**	**5.76**	**354**	P	Pn	09 14 10.0	-1.2
JCH				*e*S	Sn	09 15 11.5	-4.8

NEIC 12 09:19:49.1, 16.93N×94.21W, h163km, MD4.3(MEX), After MEX.
MEX 12 09:19:49.1±0.8, 16.93N×94.21W, h163km±19km, MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.55**	**142**	*e*P	Pn	09 20 19.3	-0.9
PCIG				*e*S	Sn	09 20 42.1	-2.0
PCIG		**1.55**	**142**	*e*P	Pn	09 20 19.3	-0.9
PCIG				*e*S	Sn	09 20 42.1	-2.0
CCIG	**Comitan**	**2.09**	**108**	*i* P	Pn	09 20 24.1	-2.2
CCIG				*i* S	Sn	09 20 52.4	-2.6
CCIG	**Comitan**	**2.09**	**108**	*i* P	Pn	09 20 24.1	-2.2
CCIG				*i* S	Sn	09 20 52.4	-2.6
HUIG	**Huatulco**	**2.15**	**238**	*e*P	Pn	09 20 24.5	-2.3
HUIG				*e*S	Sn	09 20 53.8	-2.1
HUIG	**Huatulco**	**2.15**	**238**	*e*P	Pn	09 20 24.5	-2.3
HUIG				*e*S	Sn	09 20 53.8	-2.1
VHO	**Vista Hermosa**	**2.42**	**274**	*e*P	Pn	09 20 29.6	-0.4
VHO				*e*S	Sn	09 21 00.1	-1.6
VHO	**Vista Hermosa**	**2.42**	**274**	*e*P	Pn	09 20 29.6	-0.4
VHO				*e*S	Sn	09 21 00.1	-1.6
TEIG	**Tepich**	**6.52**	**59**	*e*Pn	Pn	09 21 17.3	-5.5

TAP 12 09:20:44.9, 24.80N×122.54E, h17km±1km, ML3.2, C
ISCJB 12 09:20:45.5±0.5, 24.74N±0.03×122.50E±0.02, h3km±4km, Error ellipse: s-maj=5.3km s-min=2.4km az=8.5
JMA 12 09:20:45.2, 24.73N×122.48E, h0km, M2.7
ISC 12 09:20:45.4±1.0, 24.75N±0.03×122.51E±0.02, h14km±9km, n34, σ0.49/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.50**	**127**	P	**Pg**	**09 20 55.5**	**+0.3**
JYNG				*e*S	**Sb**	**09 21 03.1**	**0.0**
EGS		**0.53**	**280**	*e*P	**Pb**	**09 20 56.5**	**+0.1**
	baz=274						
TWB1	**Santiao Chiao**	**0.54**	**299**	*i* P	**Pg**	**09 20 55.9**	**0.0**
	baz=293						
TWB1				*i* S	**Sb**	**09 21 03.5**	**-0.6**
	baz=293						
YOJ	**Yonaguni jima**	**0.54**	**122**	P	**Pb**	**09 20 56.4**	**-0.3**
YOJ				S	**Sg**	**09 21 03.8**	**+0.6**
TWC	**Suao**	**0.61**	**257**	*e*P	**Pg**	**09 20 56.9**	**-0.5**
	baz=262						
TWC				*e*S	**Sg**	**09 21 06.0**	**+0.4**
	baz=262						
NWF	**Wu-fen Shan**	**0.73**	**296**	P	**Pb**	**09 20 59.9**	**-0.1**
	baz=292						
NWF				S	**Sb**	**09 21 09.8**	**-0.1**
	baz=292						
TWE	**Neicheng**	**0.77**	**268**	P	**Pg**	**09 21 00.2**	**0.0**
	baz=264						
TWE				S	**Sb**	**09 21 11.1**	**+0.3**
	baz=264						
ENA	**Nanau**	**0.77**	**245**	*e*P	**Pg**	**09 20 59.8**	**-0.5**
	baz=256						
ENA				*e*S	**Sb**	**09 21 10.8**	**0.0**
	baz=256						
ENTT	**Nioudou**	**0.86**	**263**	*e*P	**Pb**	**09 21 02.2**	**0.0**
	baz=259						
ENTT				S	**Sb**	**09 21 13.9**	**+0.3**
	baz=259						
PCYT	**Pengchaiyu**	**0.96**	**336**	*e*P	**Pn**	**09 21 04.8**	**+0.4**
	baz=334						
TWY	**Chenhua**	**0.97**	**303**	*e*P	**Pn**	**09 21 04.9**	**+0.2**
	baz=300						
TWY				*e*S	**Sb**	**09 21 17.1**	**+0.3**
	baz=300						
NSK	**Sanguang**	**1.05**	**266**	P	**Pb**	**09 21 05.4**	**+0.1**
	baz=263						
NSK				S	**Sb**	**09 21 19.2**	**+0.2**
	baz=263						
TWS1	**Kuangyinshan**	**1.05**	**290**	*e*P	**Pn**	**09 21 05.8**	**+0.1**
	baz=287						
TWD	**Chiawan**	**1.07**	**231**	*e*P	**Pb**	**09 21 06.1**	**+0.5**
	baz=236						
TWD				*e*S	**Sb**	**09 21 20.0**	**+0.5**
	baz=236						
NNS	**Nan Shan**	**1.08**	**253**	P	**Pb**	**09 21 06.1**	**+0.2**
	baz=250						
NNS				S	**Sb**	**09 21 20.8**	**+0.9**
	baz=250						
IRIF	**Iriomote-Funau**	**1.19**	**110**	P	**Pn**	**09 21 08.5**	**+0.9**
IRIF				*e*S	**Sg**	**09 21 23.8**	**0.0**
WHF	**Hehuan Shan**	**1.28**	**242**	P	**Pg**	**09 21 09.9**	**-0.2**
	baz=250						
WHF				*e*S	**Sg**	**09 21 26.4**	**-0.5**
	baz=250						
TWT	**Tachien**	**1.31**	**248**	*e*P	**Pg**	**09 21 11.3**	**+0.7**
	baz=246						
HATJ	**Hateruma jima**	**1.37**	**120**	*e*S	**Sg**	**09 21 29.3**	**-0.3**
NSTT	**Nanjuang**	**1.38**	**265**	*e*P	**Pg**	**09 21 11.7**	**-0.1**
	baz=263						
NSTT				*e*S	**Sg**	**09 21 29.5**	**-0.2**
	baz=263						
JKRS	**Kuro-shima**	**1.46**	**110**	P	**Pn**	**09 21 11.2**	**-0.2**
JKRS				*e*S	**Sn**	**09 21 30.2**	**-0.1**
JIJ	**Ishigaki jima**	**1.54**	**104**	P	**Pb**	**09 21 14.1**	**+0.4**
JIJ				*e*S	**Sg**	**09 21 34.5**	**-0.5**
WDT	**Danda**	**1.60**	**232**	*e*P	**Pb**	**09 21 15.2**	**+0.3**
	baz=211						
WDT				*e*S	**Sb**	**09 21 35.5**	**+0.4**
	baz=211						
TWQ1	**Liyutan**	**1.63**	**256**	*e*P	**Pb**	**09 21 15.3**	**+0.1**
	baz=273						
TWQ1				*e*S	**Sb**	**09 21 36.2**	**+0.5**
	baz=273						
EHY	**Hungye**	**1.65**	**221**	*e*P	**Pn**	**09 21 14.7**	**+0.8**
	baz=218						
EHY				*e*S	**Sn**	**09 21 34.6**	**-0.3**
	baz=218						
JISG	**Ishigakijimahi**	**1.65**	**95**	P	**Pg**	**09 21 16.4**	**-0.6**
TYC	**Yuchr**	**1.73**	**241**	*e*P	**Pb**	**09 21 17.0**	**+0.1**
	baz=245						
TYC				*e*S	**Sg**	**09 21 40.8**	**-0.2**
	baz=245						
TWF1	**Yuli**	**1.78**	**219**	*e*P	**Pn**	**09 21 16.4**	**+0.7**
	baz=216						
TWF1				*e*S	**Sn**	**09 21 37.7**	**-0.5**
	baz=216						
YUS	**Yu-Shan**	**1.90**	**229**	*e*P	**Pg**	**09 21 21.2**	**-0.6**
	baz=211						
ALS	**Alishan**	**1.99**	**232**	*e*P	**Pb**	**09 21 21.4**	**-0.1**
	baz=213						
CHN5	**Tsauling**	**2.03**	**236**	*e*P	**Pb**	**09 21 21.5**	**-0.6**
	baz=216						
CHN5				*e*S	**Sb**	**09 21 47.6**	**+0.3**
	baz=216						
CHN4	**Tsaushan**	**2.24**	**232**	*e*P	**Pb**	**09 21 24.9**	**-0.7**
	baz=213						
CHN4				*e*S	**Sb**	**09 21 52.9**	**-0.3**
	baz=213						
STYT	**Tauyuan**	**2.25**	**226**	*e*P	**Pn**	**09 21 23.3**	**+1.0**
	baz=209						
STYT				*e*S	**Sb**	**09 21 52.8**	**-0.9**
	baz=209						
CHN1	**Nanshi**	**2.39**	**230**	*e*P	**Pb**	**09 21 27.6**	**-0.6**
	baz=212						
CHN1				*e*S	**Sb**	**09 21 56.3**	**-1.3**
	baz=212						

ISCJB 12 09:22:37.5±0.4, 24.75N±0.04×122.52E±0.02, h22km±5km, Error ellipse: s-maj=6.4km s-min=3.0km az=8.3
JMA 12 09:22:37.6±0.1, 24.72N×122.50E, h28km±3km, M2.3
TAP 12 09:22:38.1, 24.77N×122.43E, h17km±1km, ML2.8, D
ISC 12 09:22:35.9±1.1, 24.68N±0.04×122.54E±0.02, h10km±10km, n20, σ0.72/38, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.44**	**122**	P	**Pn**	**09 22 47.3**	**-1.0**
JYNG				S	**Sb**	**09 22 54.4**	**+2.1**
YOJ	**Yonaguni jima**	**0.48**	**117**	P	**Pn**	**09 22 48.3**	**-0.6**
YOJ				S	**Sb**	**09 22 55.5**	**+1.8**
EGS		**0.57**	**287**	P	**Pb**	**09 22 47.9**	**-0.2**
	baz=279						
EGS				S	**Sg**	**09 22 54.9**	**+0.3**
	baz=279						
TWB1	**Santiao Chiao**	**0.60**	**303**	*i* P	**Pg**	**09 22 47.7**	**+0.2**
	baz=301						
TWB1				S	**Sg**	**09 22 55.2**	**-0.1**
	baz=301						
TWC	**Suao**	**0.63**	**264**	*i* P	**Pb**	**09 22 49.3**	**+0.3**
	baz=252						
TWC				S	**Sb**	**09 22 57.8**	**-0.1**
	baz=252						
ENA	**Nanau**	**0.77**	**251**	P	**Pb**	**09 22 51.9**	**+0.6**
	baz=241						
ENA				S	**Sb**	**09 23 01.9**	**0.0**
	baz=241						
NWF	**Wu-fen Shan**	**0.79**	**300**	P	**Pb**	**09 22 51.7**	**-0.1**
	baz=297						
NWF				*i* S	**Sg**	**09 23 01.4**	**-0.1**
	baz=297						
TWE	**Neicheng**	**0.79**	**273**	*i* P	**Pb**	**09 22 52.0**	**+0.2**
	baz=265						
TWE				*i* S	**Sg**	**09 23 01.9**	**+0.4**
	baz=265						
ENTT	**Nioudou**	**0.89**	**268**	*i* P	**Pb**	**09 22 54.2**	**+0.8**
	baz=260						
ENTT				S	**Sb**	**09 23 05.0**	**-0.2**
	baz=260						
PCYT	**Pengchaiyu**	**1.03**	**336**	*e*P	**Pg**	**09 22 55.8**	**0.0**
	baz=339						
PCYT				*e*S	**Sg**	**09 23 08.4**	**-0.8**
	baz=339						
NSK	**Sanguang**	**1.07**	**270**	P	**Pb**	**09 22 56.9**	**+0.3**
	baz=264						
NSK				S	**Sg**	**09 23 10.1**	**-0.4**
	baz=264						
NNS	**Nan Shan**	**1.09**	**257**	*e*P	**Pn**	**09 22 57.6**	**+0.2**
	baz=250						
NNS				*e*S	**Sb**	**09 23 11.9**	**+0.7**
	baz=250						
IRIF	**Iriomote-Funau**	**1.14**	**107**	P	**Pn**	**09 22 58.1**	**+0.2**
IRIF				*e*S	**Sn**	**09 23 13.6**	**0.0**
JKRS	**Kuro-shima**	**1.41**	**108**	*e*S	**Sb**	**09 23 20.1**	**-0.3**
JIJ	**Ishigaki jima**	**1.50**	**102**	P	**Pg**	**09 23 04.1**	**-0.5**
JIJ				*e*S	**Sn**	**09 23 21.4**	**-1.1**
WDT	**Danda**	**1.58**	**235**	*e*P	**Pg**	**09 23 05.9**	**-0.4**
	baz=229						
WDT				*e*S	**Sg**	**09 23 26.1**	**-0.7**
	baz=229						
JISG	**Ishigakijimahi**	**1.62**	**93**	P	**Pg**	**09 23 07.5**	**+0.6**
TYC	**Yuchr**	**1.72**	**244**	*e*P	**Pn**	**09 23 06.7**	**+0.8**
	baz=238						
TYC				*e*S	**Sn**	**09 23 27.1**	**-0.8**
	baz=238						
ALS	**Alishan**	**1.97**	**234**	*e*P	**Pb**	**09 23 11.3**	**-0.7**
	baz=229						
ALS				*e*S	**Sn**	**09 23 33.8**	**-0.7**
	baz=229						
CHN5	**Tsauling**	**2.01**	**238**	*e*P	**Pb**	**09 23 12.4**	**-0.3**
	baz=233						
CHN5				*e*S	**Sn**	**09 23 36.3**	**+0.9**
	baz=233						

JMA 12 10:04:43.9±0.1, 23.95N×121.64E, h0km, M2.9
TAP 12 10:04:45.1, 23.96N×121.61E, h9km, ML3.7, B
ISC 12 10:04:44.7±1.0, 23.92N±0.02×121.69E±0.02, h6km±8km, n57, σ0.55/96, 8C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.10**	**305**	⇑*i*P	**Pg**	**10 04 47.1**	**+0.3**
	baz=17						
ESF	**Shoufeng Towns**	**0.18**	**254**	*e*P	**Pg**	**10 04 48.8**	**+0.6**
	baz=237						
ESF				*e*S	**Sg**	**10 04 51.1**	**+0.5**
	baz=237						
TWD	**Chiawan**	**0.18**	**331**	⇑*i*P	**Pg**	**10 04 48.4**	**+0.1**
	baz=359						
TWD				*i* S	**Sg**	**10 04 50.6**	**-0.2**
	baz=359						
TEGC	**Jichi Village**	**0.25**	**213**	*e*P	**Pb**	**10 04 52.4**	**+0.7**
	baz=180						
ESL	**Shilin**	**0.26**	**246**	⇓*i*P	**Pg**	**10 04 49.6**	**-0.2**
	baz=235						
ESL				*e*S	**Sg**	**10 04 52.6**	**-0.7**
	baz=235						
ENA	**Nanau**	**0.51**	**5**	⇑*i*P	**Pg**	**10 04 55.0**	**+0.5**
	baz=14						
ENA				*e*S	**Sg**	**10 05 01.7**	**+0.6**
	baz=14						
EHY	**Hungye**	**0.54**	**219**	⇓P	**Pg**	**10 04 55.2**	**+0.2**
	baz=222						
EHY				*e*S	**Sg**	**10 05 02.4**	**+0.4**
	baz=222						
WDT	**Danda**	**0.54**	**252**	⇓*i*P	**Pg**	**10 04 55.0**	**-0.1**
	baz=248						
WDT				S	**Sg**	**10 05 01.1**	**-1.0**
	baz=248						
TWT	**Tachien**	**0.58**	**305**	⇑*i*P	**Pg**	**10 04 55.6**	**-0.2**
	baz=306						
TWT				S	**Sg**	**10 05 02.7**	**-0.7**
	baz=306						
NNS	**Nan Shan**	**0.59**	**331**	⇑*i*P	**Pg**	**10 04 56.0**	**-0.2**
	baz=336						
NNS				S	**Sg**	**10 05 02.7**	**-1.2**
	baz=336						
TWF1	**Yuli**	**0.67**	**213**	*e*P	**Pg**	**10 04 57.9**	**+0.3**
	baz=219						
TWF1				*e*S	**Sg**	**10 05 06.9**	**+0.5**
	baz=219						
TWC	**Suao**	**0.70**	**12**	*e*P	**Pg**	**10 04 58.7**	**+0.5**
	baz=10.0						
TWC				*e*S	**Sb**	**10 05 08.8**	**-0.5**
	baz=10.0						
ENTT	**Nioudou**	**0.72**	**351**	⇑*i*P	**Pg**	**10 04 58.9**	**+0.2**
	baz=356						
ENTT				*e*S	**Sg**	**10 05 08.6**	**+0.5**
	baz=356						
TYC	**Yuchr**	**0.76**	**269**	⇓*i*P	**Pg**	**10 04 58.9**	**-0.5**
	baz=268						
TYC				*e*S	**Sg**	**10 05 07.5**	**-1.8**
	baz=268						
TWE	**Neicheng**	**0.80**	**358**	⇑P	**Pg**	**10 05 00.5**	**+0.4**
	baz=4.0						
TWE				*e*S	**Sg**	**10 05 11.2**	**+0.8**
	baz=4.0						
YUS	**Yu-Shan**	**0.80**	**238**	P	**Pg**	**10 05 00.5**	**+0.3**
	baz=245						
NSK	**Sanguang**	**0.81**	**338**	⇑*i*P	**Pg**	**10 05 00.3**	**0.0**
	baz=342						
NSK				*e*S	**Sg**	**10 05 10.3**	**-0.6**
	baz=342						
CHKT	**Chengkung**	**0.87**	**200**	*e*P	**Pb**	**10 05 02.4**	**+0.1**
	baz=184						
CHKT				*e*S	**Sn**	**10 05 15.9**	**-0.7**
	baz=184						
ALS	**Alishan**	**0.91**	**243**	⇓P	**Pg**	**10 05 02.3**	**+0.1**
	baz=242						
ALS				S	**Sg**	**10 05 14.6**	**+0.5**
	baz=242						
WNT	**Mingjian**	**0.92**	**268**	*e*P	**Pb**	**10 05 03.1**	**-0.1**
	baz=267						
WNT				*e*S	**Sb**	**10 05 15.4**	**-0.4**
	baz=267						
TWQ1	**Liyutan**	**0.94**	**297**	*e*P	**Pb**	**10 05 03.4**	**-0.1**
	baz=298						
TWQ1				*e*S	**Sg**	**10 05 14.1**	**-0.9**
	baz=298						
EGS		**0.94**	**13**	*e*P	**Pb**	**10 05 03.5**	**0.0**
	baz=16						
NSTT	**Nanjuang**	**0.95**	**318**	⇓P	**Pg**	**10 05 03.1**	**+0.2**
	baz=321						
NSTT				*e*S	**Sg**	**10 05 14.7**	**-0.5**
	baz=321						
TCU	**Taichung**	**0.96**	**284**	*e*P	**Pg**	**10 05 03.4**	**+0.3**
	baz=279						
TCU				*e*S	**Sb**	**10 05 16.5**	**-0.1**
	baz=279						
ELDTW	**Lidau**	**0.96**	**220**	*e*P	**Pg**	**10 05 02.5**	**-0.6**
	baz=220						
NSY	**Sanyi**	**0.98**	**300**	*e*P	**Pb**	**10 05 04.4**	**+0.2**
	baz=313						
NSY				*e*S	**Sb**	**10 05 17.9**	**+0.4**
	baz=313						
CHN5	**Tsauling**	**0.98**	**251**	⇓P	**Pb**	**10 05 04.1**	**-0.1**
	baz=240						
CHN5				*e*S	**Sb**	**10 05 18.2**	**+0.7**
	baz=240						
WGK	**Gukeng**	**1.06**	**257**	*e*P	**Pb**	**10 05 05.5**	**0.0**
	baz=258						
HSN	**Hsinchu**	**1.10**	**323**	*e*P	**Pg**	**10 05 05.9**	**+0.1**
	baz=328						
HSN				*e*S	**Sb**	**10 05 20.9**	**+0.2**
	baz=328						
TWB1	**Santiao Chiao**	**1.11**	**14**	*e*P	**Pb**	**10 05 06.6**	**+0.2**
	baz=8.0						
NCU	**National Centr**	**1.14**	**336**	*e*P	**Pn**	**10 05 07.2**	**-0.1**
	baz=337						
STYT	**Tauyuan**	**1.14**	**229**	P	**Pb**	**10 05 07.0**	**+0.1**
	baz=229						
STYT				*e*S	**Sn**	**10 05 22.9**	**-0.5**
	baz=229						
NWF	**Wu-fen Shan**	**1.15**	**4**	*e*P	**Pb**	**10 05 07.2**	**+0.1**
	baz=7.0						
NWF				*e*S	**Sg**	**10 05 21.6**	**-0.1**
	baz=7.0						
CHN4	**Tsaushan**	**1.16**	**241**	⇓*i*P	**Pn**	**10 05 07.5**	**0.0**
	baz=233						
CHN4				S	**Sn**	**10 05 23.1**	**-0.5**
	baz=233						
CHN2	**Minshiung**	**1.18**	**251**	*e*P	**Pn**	**10 05 08.1**	**+0.3**
	baz=266						
CHN2				*e*S	**Sn**	**10 05 24.8**	**+0.6**
	baz=266						
WTP	**Ta-pu**	**1.20**	**236**	⇓P	**Pn**	**10 05 08.0**	**-0.1**
	baz=237						
WTP				S	**Sn**	**10 05 24.3**	**-0.4**
	baz=237						
TWS1	**Kuangyinshan**	**1.20**	**348**	*e*P	**Pn**	**10 05 08.5**	**+0.4**
	baz=358						
TWS1				*e*S	**Sn**	**10 05 25.5**	**+0.8**
	baz=358						
TWG	**Pinlang**	**1.23**	**208**	*e*P	**Pb**	**10 05 07.2**	**-1.3**
	baz=209						
CHY	**Chiayi**	**1.24**	**250**	*e*P	**Pn**	**10 05 08.3**	**-0.3**
	baz=265						
CHY				*e*S	**Sn**	**10 05 25.5**	**-0.1**
	baz=265						
TWK	**Hsinying**	**1.28**	**240**	*e*P	**Pg**	**10 05 09.8**	**+0.5**
	baz=230						
TWK				*e*S	**Sn**	**10 05 26.6**	**-0.3**
	baz=230						
WTCT	**Ta-ch'eng**	**1.29**	**268**	*e*P	**Pn**	**10 05 09.3**	**-0.1**
	baz=269						
CHN1	**Nanshi**	**1.30**	**236**	P	**Pg**	**10 05 10.1**	**+0.5**
	baz=237						
CHN1				S	**Sn**	**10 05 27.8**	**+0.7**
	baz=237						
SGST	**Jiashian**	**1.32**	**231**	*e*P	**Pg**	**10 05 10.6**	**+0.6**
	baz=232						
SGST				*e*S	**Sn**	**10 05 28.8**	**+1.2**
	baz=232						
YOJ	**Yonaguni jima**	**1.32**	**66**	P	**Pg**	**10 05 10.4**	**+0.4**
YOJ	**Yonaguni jima**	**1.32**	**66**	*e*P	**Pg**	**10 05 10.2**	**+0.1**
	baz=69						
TWY	**Chenhua**	**1.35**	**356**	*e*P	**Pg**	**10 05 10.9**	**+0.2**
	baz=345						
WSF	**Szhu**	**1.38**	**258**	*e*P	**Pg**	**10 05 11.1**	**0.0**
	baz=260						
WSF				*e*S	**Sg**	**10 05 29.1**	**+0.2**
	baz=260						
TWM1	**Shoushan**	**1.60**	**227**	*e*P	**Pg**	**10 05 16.1**	**+0.8**
	baz=229						
EAST	**Anshuo**	**1.72**	**207**	*e*P	**Pn**	**10 05 15.5**	**+0.2**
	baz=191						
SCZT	**Fangliau**	**1.83**	**213**	*e*P	**Pb**	**10 05 18.8**	**+0.2**
	baz=201						
IRIF	**Iriomote-Funau**	**1.91**	**77**	P	**Pb**	**10 05 18.8**	**-1.1**
WDGT	**Dungji**	**1.98**	**251**	*e*P	**Pn**	**10 05 18.5**	**-0.2**
	baz=255						
WDGT				*e*S	**Sn**	**10 05 44.5**	**+0.6**
	baz=255						
PNG	**Penghu**	**1.99**	**260**	*e*P	**Pn**	**10 05 18.9**	**0.0**
	baz=262						
PNG				*e*S	**Sn**	**10 05 44.0**	**-0.2**
	baz=262						
TWK1	**Hengchun**	**2.13**	**203**	*e*P	**Pn**	**10 05 21.6**	**+0.6**
	baz=207						
JKRS	**Kuro-shima**	**2.14**	**81**	P	**Pb**	**10 05 22.6**	**-1.3**
JKRS				*e*S	**Sb**	**10 05 51.1**	**+0.3**
JIJ	**Ishigaki jima**	**2.28**	**78**	P	**Pn**	**10 05 23.4**	**+0.4**
JIJ				*e*S	**Sb**	**10 05 53.6**	**-1.2**
JISG	**Ishigakijimahi**	**2.48**	**74**	P	**Pn**	**10 05 26.3**	**+0.6**
JISG				S	**Sn**	**10 05 56.2**	**-0.1**

KRNET 12 10:05:03.8±0.1, 41.40N×72.89E, h16km, mb2.6
SOME 12 10:05:04.2, 41.40N×72.85E, h10km
NNC 12 10:05:05.3±1.5, 41.47N×72.88E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=11.0km s-min=6.1km az=33.0
ISC 12 10:05:03.2±1.0, 41.41N±0.05×72.89E±0.02, h11km±9km, n27, σ1.22/53, 36C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.11**	**141**	⇑*i*P	**Pg**	**10 05 06.2**	**-0.1**
	baz=139						
ARSB				⇑*e*S	**Sg**	**10 05 08.3**	**-0.2**
	baz=139						
TOKL	**Toktogul**	**0.53**	**358**	⇑*i*P	**Pb**	**10 05 14.8**	**+0.2**
	baz=358						
TOKL				⇑*i*S	**Sb**	**10 05 22.9**	**+0.6**
	baz=358						
ARK	**Arkit**	**0.80**	**299**	⇑*e*P	**Pg**	**10 05 19.0**	**+0.3**
	baz=299						
ARK				⇑*i*S	**Sg**	**10 05 29.3**	**+0.2**
	baz=299						
AML	**Almayashu**	**0.94**	**

ARLS				⇑*e*S		**Sn**	**10 05 42.1**	**+0.5**
	baz=66							
MRKS	**Merke**	**1.36**	**10**	⇑*i*P		**Pg**	**10 05 29.4**	**0.0**
	18nm,0.4s							
MRKS				⇑*i*S		**Sg**	**10 05 48.1**	**+1.1**
	35nm,0.3s							
EKS2	**Erkin-Say**	**1.42**	**28**	⇑*i*P		**Pb**	**10 05 30.2**	**+0.5**
	baz=27							
EKS2				⇑*i*S		**Sg**	**10 05 48.9**	**+0.1**
	baz=27							
UCH	**Uchtor**	**1.46**	**55**	⇑*i*P		**Pg**	**10 05 32.1**	**+0.7**
	baz=55							
UCH				⇑*i*S		**Sg**	**10 05 51.2**	**+0.8**
	baz=55							
AAK	**Ala-Archa**	**1.71**	**44**	⇑*i*P		**Pg**	**10 05 36.0**	**-0.1**
	baz=44							
AAK				⇑*i*S		**Sg**	**10 05 58.2**	**-0.1**
	baz=44							
AAK	**Ala-Archa**	**1.71**	**44**	⇑P		**Pg**	**10 05 36.3**	**+0.2**
	4.4nm,0.3s							
AAK				⇑S		**Sg**	**10 05 58.8**	**+0.5**
	20nm,0.6s							
KZA	**Kyzart**	**1.89**	**68**	⇑*i*P		**Pb**	**10 05 38.9**	**+1.0**
	baz=68							
KZA				⇑*i*S		**Sg**	**10 06 03.7**	**-0.3**
	baz=68							
KBK	**Karagaybulak**	**1.98**	**50**	⇑*i*P		**Pg**	**10 05 40.5**	**-0.6**
	baz=50							
KBK				⇑*i*S		**Sg**	**10 06 05.7**	**-1.1**
	baz=50							
CHMS	**Chumysh**	**2.10**	**40**	⇑*i*P		**Pb**	**10 05 41.9**	**+0.5**
	baz=40							
CHMS				⇑*i*S		**Sb**	**10 06 09.2**	**+1.6**
	baz=40							
USP	**Ospenovka**	**2.21**	**32**	⇑*i*P		**Pb**	**10 05 43.5**	**+0.3**
	baz=32							
USP				⇑*i*S		**Sb**	**10 06 11.9**	**+1.4**
	baz=32							
IUG	**luzhnay**	**2.26**	**290**	*e*P		**Pb**	**10 05 44.7**	**+0.5**
	8.4nm,0.3s							
IUG				*e*S		**Sg**	**10 06 14.6**	**-1.4**
	61nm,0.4s							
KK31	**Karatay Array**	**2.45**	**315**	⇑Pn		**Pb**	**10 05 47.1**	**-0.1**
	0.2nm,0.3s,baz=125,slow=12,SNR=58							
KK31				⇑Pg		**Pg**	**10 05 48.5**	**-1.7**
	0.6nm,0.2s,baz=122,slow=16,SNR=6.4							
KK31				⇑Lg		Lg	10 06 21.3	
	6.9nm,0.3s,baz=130,slow=28,SNR=17							
TKM2	**Tokmak 2**	**2.52**	**52**	⇑*i*P		**Pb**	**10 05 48.5**	**0.0**
	baz=52							
TKM2				⇑*i*S		**Sb**	**10 06 20.5**	**+0.9**
	baz=52							
TKM2	**Tokmak 2**	**2.52**	**52**	⇑Pg		**Pb**	**10 05 49.9**	**+1.4**
	6.0nm,0.8s							
TKM2				⇑Lg		Lg	10 06 23.6	
	16nm,0.5s							
DGS	**Degeres**	**2.81**	**48**	*e*P		**Pb**	**10 05 55.0**	**+1.5**
	3.5nm,0.4s							
DGS				*e*S		**Sg**	**10 06 32.1**	**-1.5**
	12nm,0.6s							
IZV	**Izvestkoviy**	**3.21**	**58**	*e*P		**Pg**	**10 06 03.2**	**-1.5**
	4.7nm,0.5s							
IZV				*e*S		**Sg**	**10 06 45.2**	**-1.0**
	6.4nm,0.6s							
TNSS	**Tian-Shan**	**3.42**	**60**	*e*P		**Pg**	**10 06 06.9**	**-2.0**
	3.3nm,0.5s							
TNSS				*e*S		**Sg**	**10 06 51.2**	**-2.0**
	7.1nm,0.5s							
MDOK	**Medeo**	**3.55**	**59**	*e*P		**Pg**	**10 06 09.2**	**-2.1**
	1.9nm,0.7s							
MDOK				*e*S		**Sg**	**10 06 54.6**	**-2.6**
	8.2nm,0.8s							
KTBS	**Karatobe**	**3.62**	**49**	*e*P		**Pg**	**10 06 10.6**	**-2.1**
KTBS				*e*S		**Sg**	**10 06 57.1**	**-2.5**
CHKK	**Chushkaly**	**3.90**	**50**	*e*P		**Pb**	**10 06 14.4**	**+2.4**
	1.8nm,0.4s							
CHKK				*e*S		**Sg**	**10 07 05.7**	**-2.9**
	12nm,0.5s							
ARXS	**Arharly**	**4.59**	**51**	*e*P		**Pg**	**10 06 29.4**	**-1.7**
	5.0nm,0.7s							
ARXS				*e*S		**Sg**	**10 07 31.0**	**+0.6**
	15nm,0.7s							

NIED **12** *10:06:00, 46˚.90N×153˚.50E, h14km, Mw3.8 Best double couple: M₀4.99000×10¹⁴ NP1:φs221.00000°, δ75.00000°, λ-172.00000°. NP2:φs129.00000°, δ82.00000°, λ-15.00000°.*

ISCJB **12** *10:06:14.6±0.6, 46˚.59N±0˚.08×153˚.42E±0˚.09, h24km, mb3.9/14, MS3.0/2, Error ellipse: s-maj=13.7km s-min=6.0km az=144.3*

SKHL **12** *10:06:14.9±0.8, 46˚.37N×153˚.74E, h43km±9km, mb4.5/4*

MOS **12** *10:06:17.3±1.7, 46˚.70N×153˚.25E, h43km, mb4.3/12, Error ellipse: s-maj=10.3km s-min=9.3km az=55.5*

IDC **12** *10:06:18.5±4.1, 46˚.57N×153˚.40E, h40km±36km, mb3.6/13, mb1 3.8/15, mb1mx3.6/60, mbtmp3.8/15, ML2.5/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/45, Error ellipse: s-maj=24.3km s-min=17.1km az=124.0*

ISC 12 10:06:16.4±0.8, 46˚.6N±0˚.1×153˚.45E±0˚.09, h24km, n56, σ1§67/51, mb3.9/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.13**	**253**	*e*PN	**Pn**	**10 07 19.0**	**+1.2**
KUR				*e*S	**Sn**	**10 08 07.5**	**+2.2**
KUR				pmax	pmax		
	comp=Z,60nm,0.4s						
KUR				pmax	pmax		
	comp=N,18nm,0.2s						
KUR				pmax	pmax		
	comp=E,23nm,0.2s						
KUR				smax	smax		
	comp=E,69nm,0.5s						
KUR				smax	smax		
	comp=N,129nm,0.4s						
KUR	**Kuril'sk**	**4.13**	**253**	*e*P	**Pn**	**10 07 19.6**	**+1.8**
KUR				AMB	AMB	10 07 20.0	
	comp=N,11nm,0.4s						
KUR				AMB	AMB	10 07 20.0	
	comp=N,9.0nm,0.4s						
KUR				AMB	AMB	10 07 20.0	
	comp=N,29nm,0.4s						
KUR				*e*S	**Sn**	**10 08 07.5**	**+2.2**
KUR				A	A	10 08 14.1	
	comp=N,69nm,0.5s						
KUR				A	A	10 08 14.1	
	comp=N,130nm,0.5s						
SKR	**Severo-Kuril's**	**4.45**	**22**	*i* PN	**Pn**	**10 07 23.3**	**+1.0**
SKR	**Severo-Kuril's**	**4.45**	**22**	*e*P	**Pn**	**10 07 23.3**	**+1.0**
SHO	**Shikotan**	**5.41**	**242**	*e*PN	**Pn**	**10 07 33.0**	**-2.5**
SHO				pmax	pmax		
	comp=Z,39nm,0.5s						
SHO				pmax	pmax		
	comp=E,23nm,0.3s						
SHO				pmax	pmax		
	comp=N,9.0nm,0.5s						
SHO	**Shikotan**	**5.41**	**242**	*e*P	**Pn**	**10 07 33.0**	**-2.5**
SHO				AMB	AMB	10 07 35.6	
	comp=N,29nm,0.5s						
SHO				*e*S	**Sn**	**10 08 32.2**	**-4.8**
SHO				A	A	10 08 47.4	
	comp=N,84nm,0.5s						
SHO				A	A	10 08 47.4	
	comp=N,37nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.93**	**247**	PN	**Pn**	**10 07 43.5**	**+0.9**
YUK				pmax	pmax		
	comp=Z,78nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.93**	**247**	*e*P	**Pn**	**10 07 43.5**	**+0.9**
YUK				AMB	AMB	10 07 46.4	
	comp=Z,38nm,0.6s						
YUK				*e*S	**Sn**	**10 08 48.5**	**-1.3**
YUK				A	A	10 08 57.4	
	comp=Z,84nm,0.7s						
YUK				A	A	10 08 57.4	
	comp=Z,69nm,0.7s						
PETK	**Petropavlovsk-**	**7.07**	**21**	P	**Pn**	**10 07 59.5**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=178,slow=11,SNR=6.2						
YSS	**Yuzh-Sakhalins**	**7.35**	**277**	*e*PN	**Pn**	**10 08 06.2**	**+4.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.35**	**277**	*e*P	**Pn**	**10 08 06.2**	**+4.1**
YSS				AMB	AMB	10 08 07.7	
	comp=Z,10.0nm,0.4s						
UGL	**Uglegorsk**	**8.05**	**292**	*e*PN	**Pn**	**10 08 09.9**	**-1.7**
TYV	**Tymovskoe**	**8.31**	**305**	*e*PN	**Pn**	**10 08 17.0**	**+1.8**
TYV				pmax	pmax		
	comp=Z,26nm,1.0s						
TYV	**Tymovskoe**	**8.31**	**305**	*e*P	**Pn**	**10 08 17.0**	**+1.8**
ERM	**Erimo**	**8.68**	**242**	*i* PN	**Pn**	**10 08 22.1**	**+1.7**
ERM	**Erimo**	**8.68**	**242**	*e*P	**Pn**	**10 08 22.1**	**+1.7**
HABR	**Khabarovsk**	**12.57**	**285**	*e*PN	**Pn**	**10 09 11.8**	**-1.8**
HABR				pmax	pmax		
	comp=N,6.0nm,1.1s						
HABR				pmax	pmax		
	comp=E,9.0nm,1.1s						
HABR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
HABR				MLR	MLR		
	comp=Z,56nm,14.0s						
KLR	**Kul'dur**	**14.78**	**288**	LR	LR	10 15 36.4	
	comp=Z,66nm,18.9s,baz=109,slow=38						
KLR	**Kul'dur**	**14.78**	**288**	*i* P	**Pn**	**10 09 42.9**	**-0.7**
KLR	**Kul'dur**	**14.78**	**288**	*e*P	**Pn**	**10 09 42.9**	**-0.7**
MJAR	**Matsushiro Arr**	**15.18**	**234**	P	**P**	**10 09 52.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=37,slow=9.1,SNR=6.6						
USRK	**Ussuriysk Ar.**	**15.26**	**269**	P	**Pn**	**10 09 51.3**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=69,slow=12,SNR=2.4						
YAK	**Yakutsk**	**20.57**	**327**	LR	LR	10 18 55.9	
	comp=Z,44nm,19.0s,baz=127,slow=37						
KSRS	**Korea Array**	**20.97**	**253**	P	**P**	**10 10 58.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=63,slow=9.4,SNR=8.4						
KSRS	**Korea Array**	**20.97**	**253**	*e*P	**P**	**10 10 58.4**	**+0.8**
KSRS	**Korea Array**	**20.97**	**253**	*e*P	**P**	**10 10 58.4**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**28.98**	**153**	T	T	10 43 52.2	
	baz=340,slow=76,SNR=36						
H11N1	**WAKE ISLAND Hy**	**29.00**	**153**	T	T	10 43 55.8	
	baz=340,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**29.00**	**153**	T	T	10 43 52.6	
	baz=340,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**30.07**	**154**	T	T	10 45 10.4	
	baz=341,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**30.08**	**154**	T	T	10 45 09.1	
	baz=341,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**30.09**	**154**	T	T	10 45 11.3	
	baz=341,slow=76,SNR=28						
SONM	**Songino Array**	**31.60**	**290**	LR	LR	10 26 13.8	
	comp=Z,42nm,19.0s,baz=98,slow=38						
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**	**10 14 46.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=70,slow=9.1,SNR=8.3						
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**10 15 15.9**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=306,slow=7.3,SNR=3.4						
CMAR	**Chiang Mai Arr**	**52.56**	**257**	P	**P**	**10 15 28.9**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=41,slow=7.5,SNR=5.3						
CMAR	**Chiang Mai Arr**	**52.56**	**257**	*e*P	**P**	**10 15 29.1**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.56**	**257**	*e*P	**P**	**10 15 29.1**	**+1.2**
KLMR	**Klimovskoe**	**60.35**	**329**	*e*P	**P**	**10 16 20.3**	**-2.5**
KLMR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**64.27**	**335**	P	**P**	**10 16 48.4**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=38,slow=9.6,SNR=8.1						
NB2	**NORSAR Subarra**	**68.44**	**341**	P	**P**	**10 17 15.3**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.44**	**341**	P	**P**	**10 17 15.8**	**0.0**
	comp=Z,1.6nm,0.6s,baz=30,slow=6.6,SNR=6.7						
NOA	**NORSAR Array B**	**68.44**	**341**	*e*P	**P**	**10 17 16.2**	**+0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**68.44**	**341**	*e*P	**P**	**10 17 16.2**	**+0.4**
WRA	**Warramunga Arr**	**68.45**	**199**	P	**P**	**10 17 15.1**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=24,slow=7.4,SNR=4.4						
AKASG	**Malin Array Be**	**71.80**	**326**	P	**P**	**10 17 35.7**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=30,slow=5.9,SNR=4.8						
AKASG	**Malin Array Be**	**71.80**	**326**	*e*P	**P**	**10 17 34.8**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**72.14**	**199**	P	**P**	**10 17 38.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=14,slow=4.7,SNR=7.4						
CLL	**Collm**	**76.69**	**336**	*i* P	**P**	**10 18 05.4**	**+0.4**
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**76.69**	**336**	*i* P	**P**	**10 18 05.4**	**+0.4**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CLL	**Collm**	**76.69**	**336**	*e*P	**P**	**10 18 05.4**	**+0.4**
MLR	**Muntele Rosu**	**77.32**	**325**	P	**P**	**10 18 09.9**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=314,slow=11,SNR=4.4						
TXAR	**Lajitas Array**	**77.36**	**61**	P	**P**	**10 18 09.6**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=286,slow=4.7,SNR=7.3						
BRTR	**Keskin Array B**	**78.65**	**317**	P	**P**	**10 18 16.9**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=62,slow=2.6,SNR=3.6						
BRTR	**Keskin Array B**	**78.65**	**317**	*e*P	**P**	**10 18 16.8**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**78.69**	**334**	P	**P**	**10 18 16.4**	**0.0**
	comp=Z,0.2nm,0.5s,baz=38,slow=6.8,SNR=3.7						

CSEM **12** *10:15:51.4, 43˚.89N×11˚.99E, h8km, MD2.1/9*

ROM 12 10:15:51.4±0.1, 43˚.89N×11˚.99E, h8km±1km, Md2.1/9, Ml1.4/5, Error ellipse: s-maj=2.5km s-min=1.1km az=17.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.10**	**280**	Pg	Pg	10 15 54.3	+0.4
SFI				Sg	Sg	10 15 56.5	+0.9
	69nm,0.2s						
SFI	**Santa Sofia**	**0.10**	**280**	Pg	Pg	10 15 54.3	+0.4
SFI				Sg	Sg	10 15 56.5	+0.9
	69nm,0.2s						
T0502	**Localit˜ San**	**0.11**	**83**	Pg	Pg	10 15 54.3	+0.3
T0502				Sg	Sg	10 15 56.6	+0.8
	157nm,0.2s						
ASQU	**Asqua**	**0.17**	**237**	Pg	Pg	10 15 55.6	+0.6
ASQU				Sg	Sg	10 15 58.9	+1.5
	134nm,0.2s						
ASQU	**Asqua**	**0.17**	**237**	Pg	Pg	10 15 55.6	+0.6
ASQU				Sg	Sg	10 15 58.9	+1.5
	134nm,0.2s						
CPGN	**Carpegna, Ital**	**0.26**	**110**	Pg	Pb	10 15 57.8	-0.6
CPGN				Sg	Sb	10 16 02.7	-0.3
	79nm,0.8s						
CPGN	**Carpegna, Ital**	**0.26**	**110**	Pg	Pb	10 15 57.8	-0.6
CPGN				Sg	Sb	10 16 02.7	-0.3
	79nm,0.8s						
PARC	**Parchiule**	**0.30**	**143**	Pg	Pg	10 15 57.8	+0.4
PARC				Sg	Sb	10 16 03.1	-1.0
	37nm,0.3s						
PARC	**Parchiule**	**0.30**	**143**	Pg	Pg	10 15 57.8	+0.4
PARC				Sg	Sb	10 16 03.1	-1.0
	37nm,0.3s						
VMG	**Vicchio**	**0.33**	**283**	Pg	Pb	10 15 58.7	-0.8
VMG				Sg	Sb	10 16 04.2	-0.7
	186µm,0.3s						
VMG	**Vicchio**	**0.33**	**283**	Pg	Pb	10 15 58.7	-0.8
VMG				Sg	Sb	10 16 04.2	-0.7
	186µm,0.3s						
SEI	**Scarperia**	**0.48**	**290**	Pg	Pg	10 16 01.2	+0.4
SEI				Sg	Sb	10 16 09.2	-0.2
	184µm,0.2s						
SEI	**Scarperia**	**0.48**	**290**	Pg	Pg	10 16 01.2	+0.4
SEI				Sg	Sb	10 16 09.2	-0.2
	184µm,0.2s						
PIEI	**Pieia**	**0.53**	**131**	Pg	Pg	10 16 01.6	-0.1
PIEI				Sg	Sb	10 16 10.4	-0.4
PIEI	**Pieia**	**0.53**	**131**	Pg	Pg	10 16 01.6	-0.1
PIEI				Sg	Sb	10 16 10.4	-0.4
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	Pg	10 16 01.7	0.0
ATPC				Sg	Sb	10 16 11.0	+0.2
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	Pg	10 16 01.7	0.0
ATPC				Sg	Sb	10 16 11.0	+0.2

IDC **12** *10:17:51.6±0.6, 12˚.97N×88˚.31W, h38km±4km, mb4.4/25, mb1 4.6/26, mb1mx4.4/46, mbtmp4.6/26, ML4.0/1, MS4.0/20, Ms1 4.0/20, ms1mx3.9/34, Error ellipse: s-maj=18.6km s-min=9.6km az=55.0*

ISCJB **12** *10:17:56.0±0.2, 12˚.77N±0˚.03×88˚.54W±0˚.02, h100km, mb4.7/225, Error ellipse: s-maj=4.5km s-min=2.5km az=34.9*

GCMT **12** *10:17:57.0±0.3, 12˚.58N×88˚.96W, h43km±1km, MW5.0/60, Moment Tensor Solution. s60,c75; s54,c71; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.36±.15; Mθθ-2.33±.10; Mφφ-1.03±.12; Mrθ0.77±.12; Mφθ1.85±.09; Mφr-0.57±.11; Best double couple: M₀3.62900×10¹⁶ NP1:φs126.00000°, δ53.00000°, λ91.00000°. NP2: φs305.00000°, δ37.00000°, λ89.00000°. Principal axes: T 3.4880, Plg82.0000°, Azm39.0000°; N 0.2810, Plg0.0000°, Azm305.0000°; P -3.7690, Plg8.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **12** *10:17:57.0±0.5, 12˚.79N×88˚.48W, h91km±4km, mb4.8/215, MD4.6(SNET) Error ellipse: s-maj=4.3km s-min=2.4km az=217.0*

NEIC Felt [I] at San Salvador.

ISC 12 10:17:56.4±0.9, 12˚.84N±0˚.06×88˚.52W±0˚.05, h85km±8km, n791, σ1§00/803, mb4.8/224, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**1.71**	**45**	*e*Pn	**Pn**	**10 18 23.6**	**-1.1**
CCIG	**Comitan**	**4.90**	**315**	*e*Pn	**Pn**	**10 19 05.1**	**-2.7**
CCIG				*i* S	Sn	10 19 49.9	-13
HDC	**Heredia**	**5.16**	**123**	*e*Pn	**Pn**	**10 19 09.7**	**-1.6**
HDC				*e*Sn	**Sn**	**10 20 10.2**	**+0.6**
PCIG		**5.38**	**303**	*e*P	**Pn**	**10 19 10.1**	**-4.1**
PCIG				*e*S	Sn	10 19 59.7	-15
TEIG	**Tepich**	**7.35**	**2**	Pn	**Pn**	**10 19 41.1**	**+0.1**
	5.6nm,0.3s,baz=92,slow=23,SNR=30						
TEIG				Lg	Lg	10 21 33.0	
	1.0nm,0.3s,baz=297,slow=20,SNR=3.1						
TEIG				LR	LR	10 23 07.5	
	comp=Z,966nm,18.8s,baz=181,slow=44						
CMIG	**Matias Romero**	**7.47**	**305**	Pn	**Pn**	**10 19 39.4**	**-3.3**
	2.3nm,0.3s,baz=124,slow=7.4,SNR=31						
CMIG				Sn	**Sn**	**10 21 05.2**	**-0.6**
	4.0nm,0.3s,baz=135,slow=14,SNR=3.7						
CMIG				LR	LR	10 22 53.9	
	comp=Z,2µm,21.9s,baz=114,slow=40						
BCIP	**Isla Barro Col**	**9.27**	**112**	*e*Pn	**Pn**	**10 20 05.5**	**-1.8**
	43nm,0.6s						
TLIG	**Tlapa**	**10.78**	**297**	*e*Pn	**Pn**	**10 20 25.0**	**-3.0**
CAPC	**Capurgana**	**11.74**	**110**	*e*P	**Pn**	**10 20 41.7**	**+0.8**
MTDJ	**Mount Denham**	**11.86**	**62**	*e*Pn	**Pn**	**10 20 44.3**	**+1.7**
MOTC	**Monteria, Cord**	**13.25**	**106**	*e*P	**Pn**	**10 21 01.4**	**+0.2**
MORG	**Morelia**	**13.93**	**301**	*e*Pn	**Pn**	**10 21 09.2**	**-1.2**
GTBY	**Guantanamo Bay**	**14.66**	**60**	*e*Pn	**Pn**	**10 21 19.0**	**-0.6**
NORC	**Norcasia**	**15.28**	**117**	*e*P	**P**	**10 21 30.3**	**-0.2**
TOLC	**Tolima**	**15.40**	**121**	*e*P	**P**	**10 21 30.9**	**-1.2**
OCAC	**Ocana**	**15.62**	**106**	*e*P	**P**	**10 21 34.3**	**-0.2**
OTAV	**Otavalo**	**16.01**	**141**	*e*P	**P**	**10 21 41.6**	**+2.6**
OTAV	**Otavalo**	**16.01**	**141**	*e*Pn	**P**	**10 21 40.9**	**+1.9**
	77nm,1.8s						
CRUC	**La Cruz**	**16.02**	**133**	*e*P	**P**	**10 21 42.2**	**+3.1**
ROSC	**El Rosal**	**16.11**	**118**	Pn	**Pn**	**10 21 38.2**	**-0.1**
	0.9nm,0.3s,baz=133,slow=19,SNR=2.4						
ROSC	**El Rosal**	**16.11**	**118**	*e*Pn	**Pn**	**10 21 38.0**	**-0.3**
	14nm,0.8s						
PRAC	**Prado**	**16.24**	**123**	*e*Pn	**Pn**	**10 21 39.7**	**+0.1**
	35nm,0.6s						
035Z	**Hargill**	**16.25**	**328**	P	**Pn**	**10 21 40.3**	**+0.6**
	baz=145						
CBRI	**Barrientos, No**	**16.28**	**107**	*e*P	**P**	**10 21 42.3**	**+0.5**
BARC	**Barichara**	**16.33**	**111**	*e*P	**P**	**10 21 43.9**	**+1.5**
DWPF	**Disney Wildern**	**16.57**	**22**	*e*Pn	**P**	**10 21 46.3**	**+1.6**
	42nm,0.8s						
ZAIG	**Zacatecas**	**16.62**	**308**	*e*Pn	**P**	**10 21 45.9**	**+0.4**
	9.3nm,1.0s						
035A	**Encino**	**16.66**	**329**	P	**P**	**10 21 45.3**	**-0.4**
	baz=146						
034A	**Hebbronville**	**17.06**	**328**	P	**P**	**10 21 50.2**	**+0.1**
	baz=145,SNR=7.3						
546A	**Slidell**	**17.35**	**357**	P	**P**	**10 21 54.2**	**+1.0**
	baz=176						
544A	**White Castle**	**17.36**	**352**	P	**P**	**10 21 54.1**	**+0.8**
	baz=172						
934A	**Benavides**	**17.41**	**329**	P	**P**	**10 21 54.8**	**+0.8**
	baz=146,SNR=8.1						
542A	**Morse**	**17.60**	**348**	P	**Pn**	**10 21 57.7**	**+1.5**
	baz=167						
835A	**Beeville**	**17.66**	**332**	P	**Pn**	**10 21 58.6**	**+1.7**
	baz=149,SNR=10						
541A	**Lake Charles**	**17.68**	**347**	P	**Pn**	**10 21 59.0**	**+1.9**
	baz=165						
638A	**Rosharon**	**17.71**	**340**	P	**Pn**	**10 21 57.8**	**+0.3**
	baz=158						
933A	**Laredo**	**17.81**	**327**	P	**Pn**	**10 21 58.8**	**0.0**
	baz=144,SNR=6.9						
834A	**Tilden**	**17.86**	**330**	P	**Pn**	**10 21 59.5**	**+0.2**
	baz=147,SNR=8.2						
447A	**Lucedale**	**17.87**	**360**	P	**Pn**	**10 22 01.2**	**+1.7**
	baz=180						
446A	**Poplarville**	**17.88**	**358**	P	**Pn**	**10 22 00.2**	**+0.6**
	baz=177						
445A	**Amite**	**17.89**	**355**	P	**Pn**	**10 22 00.7**	**+1.1**
	baz=174						
736A	**Circle Diamond**	**17.90**	**335**	P	**Pn**	**10 22 01.3**	**+1.4**
	baz=152,SNR=5.4						
736A				S	**S**	**10 25 21.4**	**+1.5**
	baz=152						
444A	**Pine Grove**	**17.91**	**354**	P	**Pn**	**10 22 01.6**	**+1.7**
	baz=173						
SDV	**Santo Domingo**	**17.99**	**101**	P	**Pn**	**10 22 01.2**	**-0.1**
	3.7nm,0.3s,baz=30,slow=7.8,SNR=6.7						
SDV	**Santo Domingo**	**17.99**	**101**	*e*P	**P**	**10 22 00.8**	**0.0**
	46nm,0.6s						
540A	**Vidor**	**18.01**	**345**	P	**Pn**	**10 22 01.2**	**+0.1**
	baz=163						
448A	**Bay Minette**	**18.02**	**2**	P	**Pn**	**10 22 02.9**	**+1.8**
	baz=182						
637A	**Eagle Lake**	**18.04**	**337**	P	**Pn**	**10 22 03.5**	**+2.0**
	baz=155,SNR=7.7						
443A	**Delano Plantat**	**18.09**	**351**	P	**Pn**	**10 22 03.7**	**+1.6**
	baz=170						
539A	**Cross D Ranch,**	**18.12**	**342**	P	**Pn**	**10 22 03.7**	**+1.2**
	baz=160						
735A	**Kenedy**	**18.13**	**333**	P	**Pn**	**10 22 03.7**	**+1.1**
	baz=150						
442A	**Mamou**	**18.15**	**349**	P	**Pn**	**10 22 03.9**	**+1.1**
	baz=168						
HKT	**Hockley**	**

247A Quitman 19.12 360 P Pn 10 22 15.7 +1.3
baz=180,SNR=12
340A Bronson 19.14 346 P Pn 10 22 14.7 +0.1
baz=164,SNR=8.8
245A Little AP, Sta 19.15 356 P Pn 10 22 15.9 +1.2
baz=176,SNR=8.0
243A Waterproof 19.15 352 P Pn 10 22 16.6 +1.9
baz=171
248A Dixon Mills 19.18 2 P Pn 10 22 16.2 +1.1
baz=182,SNR=10
244A Avery, Jackson 19.22 354 P Pn 10 22 16.4 +0.9
baz=174,SNR=16
339A Huntington 19.23 344 P Pn 10 22 15.5 -0.2
baz=162,SNR=11
633A Saathoff Ranch 19.27 331 P P 10 22 14.3 -0.1
baz=147,SNR=38
436A Wall Ranch, Ga 19.41 338 P P 10 22 16.6 +0.7
baz=155
242A Grayson 19.42 351 P Pn 10 22 18.6 +0.7
baz=170,SNR=30
534A Blanco 19.44 333 P P 10 22 16.2 0.0
baz=150,SNR=59
338A Crockett 19.46 342 P P 10 22 17.4 +0.9
baz=160,SNR=6.4
241A Mo Tay, Goldon 19.52 349 P Pn 10 22 19.9 +0.9
baz=167
337A Centerville 19.60 341 P Pn 10 22 19.9 -0.2
baz=158,SNR=7.6
NATX Nacogdoches 19.66 344 P Pn 10 22 22.0 +1.3
baz=162,SNR=14
NATX Nacogdoches 19.66 344 eP Pn 10 22 22.1 +1.3
56nm,0.6s
146A Union 19.71 359 P Pn 10 22 21.6 +0.3
baz=178,SNR=16
145A Houston Renfro 19.72 356 P Pn 10 22 21.4 0.0
baz=176,SNR=8.3
533A Kerrville 19.72 332 P P 10 22 19.0 -0.3
baz=149,SNR=80
435B Jarrell 19.73 336 P P 10 22 19.6 +0.3
baz=153,SNR=26
147A Livingston 19.75 1 P Pn 10 22 21.8 +0.1
baz=181,SNR=16
144A Alexander Plac 19.78 355 P P 10 22 20.2 +0.4
baz=175
239A Gary 19.86 345 P Pn 10 22 22.4 -0.7
baz=163
143A Socs Landing, 19.95 353 P Pn 10 22 23.8 -0.3
baz=172,SNR=6.1
336A Riesel 19.99 339 P Pn 10 22 24.0 -0.6
baz=156,SNR=16
238A Jacksonville 20.02 343 P Pn 10 22 25.9 +1.0
baz=161,SNR=9.1
434A Burnet 20.03 335 P P 10 22 22.3 -0.3
baz=152,SNR=21
141A Papa Simpson, 20.08 349 P Pn 10 22 25.4 -0.2
baz=168
335A Moody 20.11 337 P Pn 10 22 25.2 -0.8
baz=154,SNR=10
LRAL Lakeview Retre 20.15 4 eP Pn 10 22 26.2 -0.2
21nm,0.8s
237A Washetta, Mont 20.22 342 P Pn 10 22 28.7 +1.5
baz=159,SNR=14
140A Cam and Jess, 20.25 348 P Pn 10 22 27.1 -0.5
baz=166,SNR=15
Z46A Louisville 20.27 359 P Pn 10 22 27.8 0.0
baz=179,SNR=16
Z47A Carrollton 20.27 1 P Pn 10 22 27.3 -0.6
baz=181,SNR=31
433A Art 20.33 333 P P 10 22 25.2 -0.7
baz=149,SNR=42
Z44A Pea Ridge, Bel 20.42 355 P Pn 10 22 29.2 -0.4
baz=175,SNR=7.8
JCT Junction City 20.42 331 P P 10 22 26.7 -0.2
baz=147,SNR=23
JCT Junction City 20.42 331 eP P 10 22 26.5 -0.4
28nm,0.8s
Z43A Armstrong Fami 20.43 353 P Pn 10 22 30.5 +0.8
baz=172,SNR=8.8
236A Katherine and 20.44 340 P P 10 22 27.7 +0.6
baz=157
Z48A Northport 20.46 2 P Pn 10 22 29.0 -1.1
baz=183,SNR=33
Z45A Winona 20.47 357 P Pn 10 22 29.7 -0.4
baz=177
334A Lometa 20.47 336 P P 10 22 27.6 +0.3
baz=152,SNR=36
Z42A Norrel Spur, H 20.58 352 P Pn 10 22 30.8 -0.7
baz=171
138A Matatall Enter 20.63 344 P Pn 10 22 31.1 -0.9
baz=162
Z41A Richland Creek 20.70 350 P Pn 10 22 33.3 +0.5
baz=168,SNR=9.2
137A Heron Place, G 20.76 343 P Pn 10 22 34.8 +1.2
baz=160,SNR=7.7
WHTX Lake Whitney, 20.76 338 P P 10 22 31.4 +0.9
baz=155
WHTX Lake Whitney, 20.76 338 eP P 10 22 30.4 0.0
39nm,0.7s
333A Richland Sprin 20.77 334 P P 10 22 30.5 -0.2
baz=150,SNR=54
Z40A Long Farm, Mag 20.81 348 P Pn 10 22 33.4 -0.8
baz=167,SNR=15
136A Ennis 20.88 341 P Pn 10 22 33.5 -1.5
baz=158,SNR=15
Y46A Houston 20.95 359 P P 10 22 34.1 +1.6
baz=179,SNR=76
Y45A Yeager Farm, C 20.95 358 P Pn 10 22 34.9 -1.0
baz=177
Z39A Irene McRaven, 20.96 347 P Pn 10 22 34.6 -1.4
baz=165
Y47A UCPARC, Winfie 20.98 2 P Pn 10 22 34.7 -1.5
baz=182,SNR=61
GOGA Godfrey 20.99 12 eP Pn 10 22 34.8 -1.5
34nm,0.6s
234A Clairette 21.02 337 P P 10 22 33.3 0.0
baz=153,SNR=24
Y44A Strider, Charl 21.09 356 P P 10 22 35.9 +2.0
baz=176,SNR=10
Y43A Makayla and Ka 21.09 354 P P 10 22 36.2 +2.2
baz=174
Y42A Garnett, Star 21.11 352 P P 10 22 37.7 +3.5
baz=171,SNR=8.1
Z38A Mt. Pleasant 21.16 345 P P 10 22 38.6 +3.9
baz=162,SNR=12
WLAR White Oak Lake 21.17 349 eP P 10 22 37.3 +2.4
56nm,1.0s
CCAR Cane Creek 21.19 352 eP P 10 22 37.7 +2.6
70nm,0.9s
135A Vickery Place, 21.25 339 P P 10 22 37.6 +1.9
baz=156
Y41A Eaglette Beard 21.28 351 P P 10 22 38.8 +2.9
baz=169
Z37A Pogue Cattle C 21.28 343 P P 10 22 39.1 +3.1
baz=161,SNR=9.5
AGP Aguadilla 21.31 72 eP P 10 22 38.1 +1.6
151nm,1.3s
HPIG 21.33 314 eP P 10 22 36.5 -0.4
23nm,0.7s
233A Rising Star 21.34 335 P P 10 22 36.0 -0.8
baz=152,SNR=36
RGRS Roger Stewart 21.38 20 eP P 10 22 38.8 +1.8
408nm,0.8s
CSU Charleston Sou 21.49 20 eP P 10 22 41.0 +2.8
X45A UM Field Stati 21.50 358 P P 10 22 39.9 +1.6
baz=178
134A White-Moore Ra 21.51 338 P P 10 22 40.4 +1.9
baz=154,SNR=29
Y40A Okolona 21.52 349 P P 10 22 39.9 +1.4
baz=167,SNR=26
NHSC New Hope 21.57 19 eP P 10 22 41.5 +2.4
68nm,0.8s
Z36A Blue Ridge 21.59 342 P P 10 22 41.8 +2.5
baz=159
OXF Oxford 21.59 358 eP P 10 22 40.4 +1.1
104nm,1.3s
Y39A Lockesburg 21.61 347 P P 10 22 40.6 +1.1
baz=165,SNR=22
X44A Crenshaw 21.62 356 P P 10 22 40.3 +0.8
baz=176
TXAR Lajitas Array 21.62 322 P P 10 22 40.0 +0.2
12nm,0.7s,baz=145,slow=11,SNR=146
TXAR PcP PcP 10 26 39.3 +0.7
2.2nm,0.9s,baz=144,slow=4.5,SNR=6.3
TXAR pPcP 10 26 51.9
2.1nm,1.0s,baz=116,slow=2.9,SNR=4.9
TXAR pScP 10 30 17.5
0.6nm,0.8s,baz=149,slow=5.8,SNR=4.5
TXAR LR LR 10 32 45.9
comp=Z,163nm,20.0s,baz=0.0,slow=41
TX31 Lajitas Ar. Si 21.62 322 eP P 10 22 39.6 -0.2
TX31 eS S 10 26 39.5 +4.7
X43A Marvell 21.69 355 P P 10 22 41.9 +1.5
baz=174
Y38A Idabel 21.74 346 P P 10 22 41.5 +0.6
baz=164,SNR=29
CELP Cerrillos 21.77 73 eP P 10 22 41.5 +0.2
133A Hamilton Ranch 21.86 336 P P 10 22 42.4 +0.1
baz=152,SNR=24
X41A Kaden, Bauxite 21.86 351 P P 10 22 43.4 +1.2
baz=170,SNR=14
Z35A Perchaven, San 21.90 340 P P 10 22 44.5 +1.9
baz=157,SNR=6.9
X40A Basin Creek Fa 21.91 350 P P 10 22 44.5 +1.8
baz=169,SNR=10
Y37A Hugo 22.02 344 P P 10 22 46.0 +2.2
baz=162,SNR=41
PLAL Pickwick Lake 22.05 1 eP P 10 22 44.6 +0.4
12nm,0.8s
PLAL eS S 10 26 39.8 -2.6
MIAR Mount Ida 22.09 349 P P 10 22 45.5 +0.8
baz=167,SNR=56
MIAR Mount Ida 22.09 349 eP P 10 22 45.5 +0.8
44nm,0.6s
UALR University of 22.11 352 eP P 10 22 45.9 +1.0
47nm,0.6s
Y36A Durant 22.13 343 P P 10 22 46.3 +1.3
baz=160,SNR=20
X39A Fountain Ranch 22.17 348 P P 10 22 45.7 +0.2
baz=166,SNR=5.7
Z34A Collier Ranch, 22.17 339 P P 10 22 46.9 +1.4
baz=155,SNR=8.4
ABTX Abilene, Hawle 22.18 334 P P 10 22 45.3 -0.3
baz=150,SNR=26
ABTX Abilene, Hawle 22.18 334 eP P 10 22 44.5 -1.1
45nm,0.6s
SJG San Juan 22.18 74 P P 10 22 45.4 -0.3
10nm,0.6s,baz=302,slow=6.8,SNR=9.0
SJG PcP PcP 10 26 39.9 +0.2
5.4nm,0.6s,baz=327,slow=2.8,SNR=5.6
SJG San Juan 22.18 74 eP P 10 22 45.8 +0.1
48nm,1.3s
SJG PcP PcP 10 26 39.9 +0.2
W45A Hickory Valley 22.23 359 P P 10 22 47.2 +1.1
baz=178,SNR=5.1
ATAH Atahualpa 22.25 153 P P 10 22 48.0 +1.1
14nm,0.8s,baz=357,slow=6.0,SNR=9.4
JSC Jenkinsville 22.34 16 eP P 10 22 49.2 +1.8
78nm,1.1s
Y35A Marietta 22.36 341 P P 10 22 47.7 +0.2
baz=158,SNR=26
SWET Sewanee 22.40 6 eP P 10 22 48.7 +0.7
6.3nm,0.7s
Z33A Whitaker Ranch 22.40 337 P P 10 22 47.6 -0.4
baz=153,SNR=36
HUMP Col San Antoni 22.46 74 eP P 10 22 48.4 -0.4
37nm,1.3s
X38A Whitesboro 22.48 346 P P 10 22 49.9 +1.1
baz=164,SNR=23
CBYP Canovanas 22.48 73 eP P 10 22 48.5 -0.5
26nm,1.1s
W41B Gary Mavity, V 22.49 352 P P 10 22 49.7 +0.8
baz=171,SNR=25
X37A Clayton 22.53 345 P P 10 22 49.7 +0.4
baz=153,SNR=20
X301 Greenbrier Sit 22.58 352 eP P 10 22 50.7 +0.9
130nm,2.0s
WHAR Wooly Hollow 22.61 352 eP P 10 22 51.1 +0.9
133nm,1.8s
X201 Greenbrier Sit 22.62 352 eP P 10 22 51.2 +0.9
24nm,0.6s
X201 ePcP PcP 10 26 41.8 +1.4
W40A Ferguson Farm, 22.63 350 P P 10 22 50.7 +0.3
baz=169,SNR=27
Y34A Reagan Ranch, 22.64 340 P P 10 22 50.2 -0.3
baz=156,SNR=13
HBAR Harrisburg 22.70 355 eP P 10 22 52.0 +0.9
W39A Magazine 22.76 349 P P 10 22 52.3 +0.6
baz=167,SNR=18
X36A Centrahoma 22.77 343 P P 10 22 52.4 +0.6
baz=160,SNR=22
W38A Poteau 22.79 347 P P 10 22 52.5 +0.5
baz=165,SNR=27
X35A Drake 22.80 342 P P 10 22 52.5 +0.3
baz=159,SNR=24
CPCT Cooper Cave 22.80 8 eP P 10 22 53.0 +0.8
14nm,1.1s
V45A Humboldt 22.81 359 P P 10 22 52.8 +0.7
baz=179
V44A Blytheville 22.92 357 P P 10 22 54.0 +0.7
baz=177
Y33A Hilltop Ranch, 23.00 338 P P 10 22 54.5 +0.4
baz=154,SNR=9.2
SLBS Sierra La Lagu 23.00 301 eP P 10 22 56.7 +2.3
99nm,1.9s
V42A Cord 23.02 354 P P 10 22 53.9 -0.3
baz=173,SNR=20
GNAR Gosnell 23.07 357 eP P 10 22 56.3 +1.6
W37B Quinton 23.07 345 P P 10 22 55.2 +0.5
baz=163,SNR=57
V41A Mountainview 23.08 352 P P 10 22 55.4 +0.5
baz=171,SNR=79
TKL Tuckaleechee C 23.12 10 P P 10 22 56.0 +0.7
42nm,0.7s,baz=181,slow=12,SNR=102
TKL Tuckaleechee C 23.12 10 eP P 10 22 56.1 +0.8
47nm,0.8s
KMSC Kings Mountain 23.14 15 P P 10 22 56.4 +1.0
baz=198,SNR=18
KMSC Kings Mountain 23.14 15 eP P 10 22 56.6 +1.1
172nm,1.8s
WVT Waverly 23.20 1 eP P 10 22 55.8 -0.2
15nm,0.8s
WVT ePcP PcP 10 26 41.9 +0.4
X34A Smith Ranch, M 23.26 340 P P 10 22 57.6 +1.0
baz=157,SNR=56
W36A Wetumka 23.27 344 P P 10 22 56.4 -0.3
baz=161,SNR=9.8
STVI Saint Thomas 23.34 73 eP P 10 22 56.9 -0.6
98nm,0.6s
GLAT Glass 23.34 358 eP P 10 22 57.6 +0.3
V39A Pettigrew 23.36 349 P P 10 22 58.0 +0.3
baz=168
UTMT University of 23.41 359 eP P 10 22 59.4 +1.5
148nm,1.3s
CDVI St. Croix 23.41 75 eP P 10 22 57.2 -0.9
75nm,0.7s
X33A Lawton 23.43 339 P P 10 22 58.4 +0.2
baz=155,SNR=266
W35A Tecumseh 23.47 343 P P 10 22 58.4 -0.2
baz=159,SNR=23
V38A Canehill 23.53 348 P P 10 22 59.3 +0.2
baz=166,SNR=29
PCRV Puerto La Cruz 23.55 94 P P 10 22 58.9 -0.6
24nm,0.7s,baz=198,slow=4.0,SNR=17
X32A Elmer 23.61 337 P P 10 23 00.4 +0.6
baz=153,SNR=64
WMOK Wichita Mounta 23.71 339 P P 10 23 00.7 0.0
baz=155,SNR=42
WMOK Wichita Mounta 23.71 339 eP P 10 23 00.3 -0.4
24nm,0.7s
V37A Hulbert 23.71 347 P P 10 23 00.4 -0.2
baz=164,SNR=21
U40A Yellville 23.74 351 P P 10 23 01.5 +0.5
baz=170,SNR=105
PARMO Parma 23.75 358 eP P 10 23 02.0 +1.1
V36A Jenks 23.81 345 P P 10 23 01.5 -0.1
baz=162
W34A Bridge Creek, 23.82 341 P P 10 23 01.9 +0.2
baz=157,SNR=68
W34A Bridge Creek, 23.82 341 eP P 10 23 02.0 +0.4
180nm,0.6s
HHAR Hobbs 23.85 349 eP P 10 23 01.9 0.0
43nm,0.7s
U39A Green Forest 23.86 350 P P 10 23 02.9 +0.9
baz=168,SNR=47
TUL1 Leonard 23.89 345 P P 10 23 02.2 0.0
baz=162,SNR=15
TUL1 Leonard 23.89 345 eP P 10 23 02.1 -0.2
29nm,0.8s
PBMO Poplar Bluff 23.90 356 eP P 10 23 02.3 0.0
34nm,0.8s
PBMO ePcP PcP 10 26 43.4 +0.4
W33A Caddo, Fort Co 23.97 340 P P 10 23 03.5 +0.5
baz=156,SNR=27
ABVI Anegada Island 23.98 73 eP P 10 23 02.7 -0.5
91nm,0.7s
TZTN Tazewell 24.02 10 eP P 10 23 04.3 +0.8
24nm,1.0s
V35A Meyer Ranch, C 24.03 343 P P 10 23 03.3 -0.2
baz=160,SNR=12
U38A Gravette 24.09 348 P P 10 23 03.6 -0.4
baz=166,SNR=18
U37A Salina 24.21 347 P P 10 23 05.5 +0.4
baz=164,SNR=36
W32A Sentinel 24.22 338 P P 10 23 05.6 +0.3
baz=154,SNR=97
T41A Mountain View 24.28 354 P P 10 23 05.9 +0.1
baz=172,SNR=33
CNNC Cliffs of the 24.29 22 eP P 10 23 06.5 +0.7
26nm,0.7s
V34A Guthrie 24.29 342 P P 10 23 05.8 -0.1
baz=158,SNR=14
V34A Guthrie 24.29 342 eP P 10 23 05.8 -0.1
63nm,0.8s
U36A Oologah 24.34 346 P P 10 23 07.1 +0.8
baz=163
MNTX Cornudas Mount 24.35 323 P P 10 23 05.6 -0.8
baz=137,SNR=40
MNTX Cornudas Mount 24.35 323 eP P 10 23 05.8 -0.7
14nm,0.8s
T40A Mansfield 24.47 352 P P 10 23 07.5 -0.1
baz=171,SNR=48
T39A Clever 24.48 351 P P 10 23 08.1 +0.6
baz=169,SNR=70
V33A Lossen Ranch, 24.52 341 P P 10 23 08.1 +0.1
baz=157,SNR=25
U35A Pawnee 24.57 344 P P 10 23 08.1 -0.3
baz=161,SNR=7.5
T38A Diamond 24.64 349 P P 10 23 09.5 +0.4
baz=167,SNR=28
S43A Fulton Ridge, 24.67 357 P P 10 23 08.9 -0.3
baz=176,SNR=14
V32A Arapaho 24.68 339 P P 10 23 09.9 +0.4
baz=155,SNR=9.9
S45A Carrier Mills 24.74 360 P P 10 23 09.2 -0.6
baz=180
S44A Carbondale 24.76 359 P P 10 23 10.1 0.0
baz=178,SNR=6.6
SIUC Southern Illin 24.78 359 eP P 10 23 10.7 +0.4
37nm,0.7s
T37A Cheneyville 18 24.85 348 P P 10 23 11.0 0.0
baz=165,SNR=24
U34A Anderson Ranch 24.86 342 P P 10 23 10.6 -0.5
baz=159,SNR=23
U34A Anderson Ranch 24.86 342 eP P 10 23 10.5 -0.5
55nm,0.9s
S40A Lebanon 24.91 352 P P 10 23 11.6 +0.1
baz=171,SNR=52
AMTX Amarillo 24.98 334 P P 10 23 12.5 +0.3
baz=149
AMTX Amarillo 24.98 334 eP P 10 23 12.4 +0.1
88nm,1.0s
T36A Boggs Farm, Ca 25.01 346 P P 10 23 12.5 +0.2
baz=163,SNR=9.4
T35A Sooner Cattle 25.03 345 P P 10 23 12.5 -0.1
baz=162,SNR=7.6
U33A Lingo Farm, Me 25.03 341 P P 10 23 12.2 -0.4
baz=158,SNR=19
USIN University of 25.03 2 eP P 10 23 12.8 +0.2
28nm,0.6s
SMRT St. Maarten 25.05 75 eP P 10 23 11.5 -1.5
29nm,0.6s
S39A Bolivar 25.12 351 P P 10 23 13.7 +0.3
baz=169,SNR=121
S38A Stockton 25.16 350 P P 10 23 14.4 +0.7
baz=168,SNR=15
U32A Winter Ranch, 25.27 340 P P 10 23 14.4 -0.4
baz=156,SNR=15
T34A McCluskey Farm 25.31 344 P P 10 23 14.9 -0.3
baz=160,SNR=17
R44A Waltonville 25.31 359 P P 10 23 15.1 0.0
baz=179
BLA Blacksburg 25.33 15 eP P 10 23 16.5 +1.1
27nm,0.9s
WCI Wyandotte Cave 25.36 4 eP P 10 23 15.6 0.0
42nm,0.7s
S37A Fort Scott 25.45 348 P P 10 23 16.3 -0.1
baz=166,SNR=25
VWCC Virginia Weste 25.48 16 eP P 10 23 18.1 +1.5
R40A Maddies Statio 25.57 353 P P 10 23 17.3 -0.1
baz=172,SNR=26
S36A Lake Cedric, C 25.58 347 P P 10 23 17.4 -0.1
baz=164,SNR=92
T33A Patterson Ranc 25.67 342 P P 10 23 17.9 -0.5
baz=158
R39A Chumby, Stover 25.69 352 P P 10 23 18.6 0.0
baz=170,SNR=50
R38A Fenwick Farm, 25.70 350 P P 10 23 18.5 -0.1
baz=168,SNR=13
S35A Otter Creek Ra 25.70 346 P P 10 23 18.6 -0.2
baz=162,SNR=18
SLM Saint Louis 25.74 357 eP P 10 23 19.2 +0.2
18nm,0.7s
OLIL Olney 25.79 1 eP P 10 23 19.4 -0.1
22nm,0.7s
S34A Willow Spring 25.92 344 P P 10 23 20.4 -0.3
baz=161
Q44A Meyer Farm, Va 25.96 359 P P 10 23 20.7 -0.3
baz=179
T32A Huddler Ranch, 25.97 341 P P 10 23 21.2 0.0
baz=156,SNR=13
R37A Teagarden Farm 25.99 349 P P 10 23 21.0 -0.2
baz=166
Q43A New Douglas 26.02 358 P P 10 23 21.0 -0.5
baz=177
Q42A Golden Eagle 26.03 356 P P 10 23 21.4 -0.2
baz=176
S33A Kaszmaul Farm, 26.07 343 P P 10 23 21.5 -0.5
baz=159,SNR=5.6
R36A Gordon, Harris 26.13 347 P P 10 23 22.2 -0.4
baz=165,SNR=12
Q40A Laux Farm, Aux 26.24 354 P P 10 23 23.5 0.0
baz=172,SNR=31
R35A Emporia Munici 26.29 346 P P 10 23 24.4 +0.5
baz=163
BLO Bloomington 26.29 4 eP P 10 23 23.4 -0.5
12nm,0.8s
HSIG 26.35 311 eP P 10 23 24.6 0.0
5.5nm,0.7s
121A Cookes Peak, D 26.38 321 P P 10 23 25.8 +0.7
baz=134,SNR=14
121A Cookes Peak, D 26.38 321 eP P 10 23 26.1 +1.0
12nm,0.7s
Q39A Willow Grove F 26.40 352 P P 10 23 24.7 -0.3
baz=170,SNR=25
Q38A Cooks Store, C 26.41 351 P P 10 23 25.1 +0.1
baz=169,SNR=12
S32A Newby Ranch, P 26.45 341 P P 10 23 25.4 -0.1
baz=157,SNR=8.1
Q37A Longview Farm, 26.46 350 P P 10 23 25.3 -0.2
baz=167,SNR=5.4
R34A Isabella, Hill 26.52 344 P P 10 23 25.9 -0.2
baz=161,SNR=8.3
319A Douglas 26.57 317 eP P 10 23 28.1 +1.4
8.2nm,0.8s
FDF Fort de France 26.64 83 eP P 10 23 27.2 -0.3
47nm,1.1s
R33A Olander Ranch, 26.73 343 P P 10 23 28.0 0.0
baz=159,SNR=10
Q36A Arnold C. Orve 26.74 348 P P 10 23 27.9 -0.1
baz=165
Q35A Mercer Eighty, 26.76 347 P P 10 23 28.0 -0.2
baz=164,SNR=5.7
P40A Paris 26.77 354 P P 10 23 28.2 -0.1
baz=172,SNR=33
P39B Salisbury 26.81 353 P P 10 23 28.4 -0.2
baz=171,SNR=7.5
P41A Barry, Barry 26.82 356 P P 10 23 28.3 -0.4
baz=175
BNM Barren Site 26.86 325 eP P 10 23 30.1 +0.7
Y22D IRIS PASSCAL I 26.96 325 P P 10 23 30.8 +0.5
baz=138,SNR=11
Y22D IRIS PASSCAL I 26.96 325 eP P 10 23 32.5 +2.2
49nm,0.7s
LPM Los Pinos Moun 26.98 325 eP P 10 23 31.1 +0.7
Q34A Chapman 27.03 345 P P 10 23 30.4 -0.3
baz=162,SNR=5.6
P38A Dawn 27.05 351 P P 10 23 30.5 -0.3
baz=169,SNR=13
R32A Long Quarter, 27.05 342 P P 10 23 30.9 0.0
baz=158,SNR=5.9
KSU1 Kansas State U 27.12 346 P P 10 23 31.5 0.0
baz=163,SNR=10
KSU1 Kansas State U 27.12 346 eP P 10 23 31.4 0.0
30nm,0.7s

P37A Lathrop 27.14 350 P P 10 23 30.9 -0.6
baz=168,SNR=7.7
CBN Corbin Frederi 27.14 19 eP P 10 23 33.3 +1.7
35nm,0.8s
O41A Passleys Farm, 27.25 356 P P 10 23 32.0 -0.5
baz=175
P36A Good Intent, A 27.32 349 P P 10 23 34.1 +0.9
baz=166
LAZ Ladron 27.33 325 eP P 10 23 34.9 +1.3
Q33A Connelly Farm, 27.33 344 P P 10 23 33.2 -0.2
baz=160,SNR=5.5
O40A La Belle 27.34 354 P P 10 23 33.6 +0.2
baz=173,SNR=9.9
ANMO Albuquerque 27.36 327 P P 10 23 35.0 +1.1
4.6nm,0.6s,baz=142,slow=10,SNR=28
ANMO PcP PcP 10 26 52.6 +1.4
3.7nm,0.8s,baz=96,slow=3.2,SNR=5.8
ANMO pPcP 10 27 04.2
3.8nm,1.0s,baz=162,slow=8.1,SNR=4.9
ANMO Albuquerque 27.36 327 P P 10 23 34.7 +0.8
baz=140
ANMO Albuquerque 27.36 327 eP P 10 23 35.1 +1.3
4.9nm,0.6s
ANMO ePcP PcP 10 26 53.0 +1.8
ANMO pPcP 10 27 04.2
P35A Duane Minner, 27.40 347 P P 10 23 33.6 -0.4
baz=164,SNR=26
SFIN Lafayette 27.46 2 P P 10 23 33.6 -0.9
baz=183,SNR=6.3
SFIN Lafayette 27.46 2 eP P 10 23 33.5 -0.9
16nm,0.6s
O38A Galt 27.52 352 P P 10 23 34.9 -0.1
baz=170
Q32A Meitler Ranch, 27.53 343 P P 10 23 34.7 -0.4
baz=159,SNR=6.0
O39A Kirksville 27.54 353 P P 10 23 35.1 -0.1
baz=172,SNR=8.3
P34A Walnut Farm, R 27.60 346 P P 10 23 35.9 +0.2
baz=162,SNR=26
HDIL Hopedale 27.62 359 P P 10 23 35.7 -0.2
baz=178
HDIL Hopedale 27.62 359 eP P 10 23 35.7 -0.2
13nm,0.7s
HDIL ePcP PcP 10 26 52.3 +0.8
O37A Wolven Farm, M 27.67 351 P P 10 23 35.8 -0.5
baz=168
P33A Williams Farm, 27.71 345 P P 10 23 36.9 +0.2
baz=161
ACSO Alum Creek Sta 27.72 9 eP P 10 23 37.1 +0.3
34nm,0.6s
CBKS Cedar Bluff 27.72 341 P P 10 23 37.3 +0.4
baz=156
CBKS Cedar Bluff 27.72 341 eP P 10 23 37.2 +0.4
36nm,0.7s
MCWV Mont Chateau 27.79 14 eP P 10 23 38.4 +0.9
6.3nm,0.6s
T25A Trinidad 28.07 332 P P 10 23 41.2 +1.0
baz=146,SNR=43
T25A Trinidad 28.07 332 eP P 10 23 41.3 +1.0
36nm,0.7s
P32A Huiting Farm, 28.13 343 P P 10 23 40.7 +0.2
baz=159,SNR=9.7
TUC Tucson 28.15 317 P P 10 23 40.7 -0.1
baz=129
TUC Tucson 28.15 317 eP P 10 23 41.2 +0.4
6.3nm,1.0s
N39A Derby Farms, D 28.15 354 P P 10 23 40.4 -0.2
baz=172,SNR=21
N38A Joes South For 28.15 352 P P 10 23 40.6 0.0
baz=170,SNR=10
O34A Beatrice 28.17 347 P P 10 23 40.4 -0.4
baz=163,SNR=50
N37A Lee Faris, Mou 28.26 351 P P 10 23 41.3 -0.3
baz=168
O33A Hebron 28.28 345 P P 10 23 42.1 +0.3
baz=161,SNR=23
SDMD Soldier's Deli 28.41 19 eP P 10 23 44.3 +1.4
9.4nm,0.7s
N36A Muff Farm, Cla 28.44 350 P P 10 23 43.0 -0.2
baz=167,SNR=5.7
N35A Tabor 28.61 349 P P 10 23 44.3 -0.3
baz=166
O32A Brockman Farm, 28.64 344 P P 10 23 45.2 +0.2
baz=160
O56A Blue Knob Stat 28.69 16 P P 10 23 46.1 +0.6
baz=200
N34A Lincoln 28.76 347 P P 10 23 45.9 -0.1
baz=164,SNR=9.3
M38A Pleasantville 28.76 353 P P 10 23 45.8 -0.2
baz=171,SNR=19
O31A Woolen Ranch, 28.82 343 P P 10 23 46.7 0.0
baz=158,SNR=12
M37A Trindle Farm, 28.87 351 P P 10 23 47.2 +0.2
baz=169
N33A J Bar K, Exete 28.88 346 P P 10 23 47.7 +0.6
baz=162,SNR=5.9
KSCO Kaye Shedlock' 28.91 337 P P 10 23 48.3 +0.7
baz=151,SNR=5.9
KSCO Kaye Shedlock' 28.91 337 eP P 10 23 48.3 +0.7
73nm,0.6s
N54A Moraine State 29.00 13 P P 10 23 48.1 0.0
baz=197,SNR=7.3
M36A Felix, Anita 29.03 350 P P 10 23 48.5 +0.1
baz=167,SNR=16
X18A Snowflake 29.06 322 eP P 10 23 50.3 +1.3
3.6nm,0.7s
X18A ePcP PcP 10 26 57.6 +2.2
SDCO Great Sand Dun 29.07 332 P P 10 23 49.8 +0.7
baz=144,SNR=18
SDCO Great Sand Dun 29.07 332 eP P 10 23 50.1 +0.9
8.2nm,0.9s
N32A Stulken Farm, 29.11 345 P P 10 23 49.0 -0.2
baz=160
M35A Neola 29.20 349 P P 10 23 50.0 +0.1
baz=166,SNR=5.4
SSPA Standing Stone 29.22 17 eP P 10 23 51.2 +1.1
12nm,0.9s
BBSR BB Station 29.23 44 eP P 10 23 51.9 +1.6
19nm,0.8s
214A Organ Pipe Nat 29.32 314 P P 10 23 51.8 +0.6
baz=125,SNR=5.4
214A Organ Pipe Nat 29.32 314 eP P 10 23 51.4 +0.3
25nm,0.7s
M34A Aspy Farms, Fr 29.41 348 P P 10 23 52.1 +0.3
baz=164
L38A Oak Wood Farm, 29.45 353 P P 10 23 51.8 -0.3
baz=171,SNR=15
L37A Phoenix Point, 29.53 352 P P 10 23 52.9 0.0
baz=170
M54A Oil Creek Stat 29.59 14 P P 10 23 53.6 +0.2
baz=198,SNR=6.0
M33A Taylor Creek F 29.61 347 P P 10 23 54.4 +0.8
baz=163
L36A Harm Buss Farm 29.64 351 P P 10 23 54.1 +0.2
baz=168
AAM Ann Arbor 29.66 7 eP P 10 23 53.6 -0.3
35nm,1.4s
BGNE Belgrade 29.68 345 P P 10 23 54.3 +0.1
baz=161
BGNE Belgrade 29.68 345 eP P 10 23 54.5 +0.3
44nm,0.8s
S22A 4UR Ranch, Cre 29.70 330 P P 10 23 55.6 +0.8
baz=142,SNR=34
S22A 4UR Ranch, Cre 29.70 330 eP P 10 23 55.8 +1.0
13nm,0.6s
S22A ePcP PcP 10 26 59.3 +2.2
L35A Bielow Farm, R 29.80 349 P P 10 23 55.2 0.0
baz=166
L34A Svendsen Farm, 29.82 348 P P 10 23 55.2 -0.2
baz=165
M31A Lambtecht Ranc 29.84 344 P P 10 23 55.9 +0.3
baz=159,SNR=6.3
X16A Lo Mia Camp, P 29.91 320 eP P 10 23 57.4 +0.9
5.4nm,0.8s
X16A ePcP PcP 10 26 59.8 +2.2
Q24A Divide 29.91 333 P P 10 23 56.1 -0.6
baz=146
Q24A Divide 29.91 333 eP P 10 23 57.4 +0.8
6.9nm,0.8s
K38A Parkersburg 29.93 354 P P 10 23 56.2 -0.1
baz=172,SNR=9.5
LUPA Lehigh Univers 29.97 20 eP P 10 23 57.1 +0.4
89nm,1.8s
JFWS Jewell Farm 30.00 357 eP P 10 23 56.7 -0.4
14nm,0.6s
ERPA Erie 30.10 13 eP P 10 23 57.4 -0.5
17nm,0.7s
N59A State Game Lan 30.12 19 P P 10 23 57.5 -0.6
baz=205
K36A Gilmore City 30.13 351 P P 10 23 59.0 +0.8
baz=169
MVCO Mesa Verde 30.15 327 P P 10 23 58.8 +0.2
baz=139,SNR=13
MVCO Mesa Verde 30.15 327 eP P 10 23 59.3 +0.6
8.3nm,0.7s
K37A Belmond 30.15 352 P P 10 23 58.1 -0.2
baz=170,SNR=26
L33A Hoskins 30.20 347 P P 10 23 58.5 -0.3
baz=163
L32A Elgin 30.21 346 P P 10 24 00.1 +1.2
baz=162
BRNJ Basking Ridge 30.32 21 eP P 10 24 01.0 +1.2
135nm,1.6s
K35A Storm Lake 30.34 350 P P 10 24 00.8 +0.8
baz=167
OGNE Ogallala 30.40 340 P P 10 24 01.6 +0.8
baz=154
OGNE Ogallala 30.40 340 eP P 10 24 01.5 +0.8
23nm,0.8s
K34A Le Mars 30.46 349 P P 10 24 00.6 -0.5
baz=166,SNR=7.0
K33A Hardington 30.56 348 P P 10 24 01.8 -0.1
baz=164
J38A Wedel Dairy, R 30.56 354 P P 10 24 01.6 -0.4
baz=172,SNR=14
L31A Butterfield Fa 30.58 345 P P 10 24 02.1 -0.1
baz=160
WUAZ Wupatki 30.59 321 P P 10 24 03.2 +0.8
baz=132,SNR=8.3
WUAZ Wupatki 30.59 321 eP P 10 24 03.5 +1.0
8.7nm,0.8s
Y14A Wickenburg 30.61 317 eP P 10 24 03.0 +0.4
12nm,0.7s
Y14A ePcP PcP 10 27 01.6 +2.4
ODNJ Ogdensburg 30.66 21 eP P 10 24 03.4 +0.6
43nm,1.6s
J37A Redenius Farm, 30.67 353 P P 10 24 02.7 -0.2
baz=170,SNR=22
J36A Seneca 1, Swea 30.80 352 P P 10 24 03.5 -0.5
baz=169,SNR=5.7
ISCO Idaho Springs 30.80 334 P P 10 24 05.2 +0.7
baz=146,SNR=18
ISCO Idaho Springs 30.80 334 eP P 10 24 05.0 +0.5
12nm,0.9s
K32A Verdigre 30.82 346 P P 10 24 04.3 0.0
baz=162,SNR=6.3
PV01 Paradox Valley 30.88 328 eP P 10 24 05.9 +0.8
SMCO Snowmass 30.91 331 eP P 10 24 06.0 +0.5
12nm,0.8s
K31A O'Neill 30.98 345 P P 10 24 06.7 +1.1
baz=160
PV05 Paradox Valley 31.11 328 eP P 10 24 07.7 +0.5
MMNY Mt. Morris Dam 31.17 15 eP P 10 24 07.7 +0.4
BINY Binghamton 31.22 18 eP P 10 24 08.3 +0.6
31nm,1.3s
K30A Basset 31.25 344 P P 10 24 08.9 +0.9
baz=159,SNR=10
PV04 Paradox Valley 31.25 328 eP P 10 24 08.7 +0.4
I38A Scanlan Farm, 31.27 355 P P 10 24 08.0 -0.2
baz=173,SNR=19
PV10 Paradox Valley 31.30 328 eP P 10 24 08.8 -0.1
PV10 ePcP PcP 10 27 03.0 +1.8
GLA Glamis 31.34 314 P P 10 24 09.6 +0.7
baz=124
GLA Glamis 31.34 314 eP P 10 24 10.0 +1.0
17nm,1.3s
I37A Lemond, Waseca 31.35 353 P P 10 24 08.6 -0.2
baz=171,SNR=12
PTGA Pitinga 31.37 113 eP P 10 24 08.4 -0.9
6.5nm,0.7s
I35A Creekview Farm 31.41 351 P P 10 24 09.2 -0.2
baz=168
I36A Fitzsimmons Fa 31.43 352 P P 10 24 09.7 +0.2
baz=170
J32A Parkston 31.47 347 P P 10 24 09.6 -0.3
baz=162,SNR=5.6
Y12C Blythe 31.52 316 P P 10 24 10.8 +0.3
baz=126
Y12C Blythe 31.52 316 eP P 10 24 11.4 +0.9
6.3nm,0.8s
ECSD EROS Data Cent 31.57 349 P P 10 24 10.1 -0.7
baz=165,SNR=10
ECSD EROS Data Cent 31.57 349 eP P 10 24 10.1 -0.7
7.6nm,0.8s
PDMCI Parker Dam,Lak 31.59 317 P P 10 24 11.8 +0.7
baz=127,SNR=13
J31A Geddes 31.60 346 P P 10 24 11.4 +0.3
baz=161
U15A North Rim 31.75 322 eP P 10 24 13.9 +1.1
3.7nm,0.7s
U15A ePcP PcP 10 27 04.3 +1.8
J30A Dallas 31.82 345 P P 10 24 13.1 +0.1
baz=160,SNR=17
N23A Red Feather La 31.85 335 P P 10 24 14.4 +0.7
baz=147,SNR=19
N23A Red Feather La 31.85 335 eP P 10 24 14.4 +0.7
18nm,0.6s
H37A Dierke Farm, C 31.86 354 P P 10 24 13.4 +0.1
baz=172
W13A Hualapai Mount 31.90 318 eP P 10 24 15.1 +1.0
6.0nm,0.8s
W13A ePcP PcP 10 27 04.9 +2.0
SWSC Sam W. Stewart 31.97 313 P P 10 24 14.5 +0.1
baz=123
H36A Jessenland, He 31.97 353 P P 10 24 14.6 +0.3
baz=170,SNR=21
PHWY Pilot Hill 31.99 336 eP P 10 24 15.7 +0.8
17nm,0.8s
IKP In-Ko-Pah, Jac 32.03 313 P P 10 24 16.1 +1.0
baz=122
BC3 Big Chuckawall 32.11 315 P P 10 24 16.4 +0.6
baz=124,SNR=6.9
IRM Iron Mountain 32.18 316 P P 10 24 17.3 +0.9
baz=125
H35A Sunnyside Ranc 32.21 352 P P 10 24 15.8 -0.6
baz=168,SNR=19
I31A Royce, Wessing 32.25 346 P P 10 24 16.5 -0.3
baz=162
O20A White River Ci 32.26 331 P P 10 24 18.5 +1.3
baz=142,SNR=24
O20A White River Ci 32.26 331 eP P 10 24 18.2 +1.0
31nm,0.8s
I30A Oacoma 32.36 345 P P 10 24 18.0 +0.2
baz=160,SNR=6.7
MONP2 Monument Peak 32.38 313 P P 10 24 19.4 +1.0
baz=122,SNR=8.0
BAR Barrett 32.45 312 eP P 10 24 19.5 +0.7
9.7nm,1.0s
KNB Kanab 32.46 322 eP P 10 24 20.1 +1.2
4.2nm,0.9s
H32A Carlson Farm, 32.47 348 P P 10 24 18.3 -0.5
baz=164,SNR=7.0
SPMN Marine on St. 32.48 354 P P 10 24 18.3 -0.5
baz=172,SNR=44
SPMN Marine on St. 32.48 354 eP P 10 24 18.1 -0.7
69nm,0.4s
H33A Prehn Over Nor 32.51 349 P P 10 24 18.8 -0.2
baz=165
BRYW Bryant College 32.53 24 eP P 10 24 20.6 +1.4
318nm,2.0s
G36A St. Michael 32.59 353 P P 10 24 19.4 -0.3
baz=171,SNR=20
SRU San Rafael Swe 32.62 327 eP P 10 24 20.9 +0.5
9.1nm,0.7s
H31A Wolsey 32.67 347 P P 10 24 20.1 -0.3
baz=162
BELC Belle Mtn. Jos 32.68 315 P P 10 24 21.6 +0.7
baz=124,SNR=5.8
I29A Vivian Onida 32.68 344 P P 10 24 21.3 +0.7
baz=158,SNR=6.4
LDFC Landfair 32.69 317 eP P 10 24 23.1 +2.2
18nm,0.8s
LCMT Little Creek M 32.71 322 eP P 10 24 22.0 +0.9
4.5nm,0.7s
SUSD Miller 32.74 346 P P 10 24 20.8 -0.3
baz=161,SNR=6.0
MTPU Mount Pierson 32.78 324 eP P 10 24 23.5 +1.6
10nm,0.7s
TPFO Pinon Flats 32.78 314 P P 10 24 23.2 +1.4
baz=123
PFO Pinyon Flats O 32.79 314 P P 10 24 22.2 +0.5
4.1nm,0.8s,baz=112,slow=7.1,SNR=5.7
PFO LR LR 10 39 08.2
comp=Z,274nm,20.3s,baz=159,slow=39
PFO Pinyon Flats O 32.79 314 P P 10 24 22.7 +0.9
baz=123
PFO Pinyon Flats O 32.79 314 eP P 10 24 22.8 +1.0
6.0nm,0.9s
SADO Sadowa 32.82 12 P P 10 24 21.2 -0.5
18nm,0.6s,baz=220,slow=9.0,SNR=23
P18A Preston Nutter 32.86 328 eP P 10 24 23.2 +0.6
8.3nm,0.7s
109C Camp Elliot, M 32.87 312 P P 10 24 23.2 +0.8
baz=121
GMRC Granite Mounta 32.89 316 P P 10 24 23.3 +0.6
baz=125,SNR=5.8
G33A Ortonville 32.95 350 P P 10 24 21.9 -1.0
baz=166,SNR=13
P17A Butcher Ranch, 33.00 327 eP P 10 24 24.2 +0.6
17nm,0.7s
MSU Marysvale 33.10 325 eP P 10 24 25.5 +1.0
TMUT Trail Mountain 33.12 327 eP P 10 24 25.8 +0.9
12nm,0.4s
CCUT Cedar City 33.13 322 eP P 10 24 26.2 +1.3
3.3nm,0.9s
COWI Conover 33.16 359 eP P 10 24 23.6 -1.0
20nm,0.7s
F36A Milaca 33.19 354 P P 10 24 23.8 -1.1
baz=171,SNR=17
SAML Samuel 33.19 129 eP P 10 24 24.7 -0.7
34nm,0.8s
MURC Murrieta 33.30 313 P P 10 24 25.9 -0.3
baz=122
F35A Swanville 33.31 352 P P 10 24 25.6 -0.3
baz=169,SNR=10
G31A Conde 33.32 347 P P 10 24 25.4 -0.7
baz=163,SNR=6.1
F34A Alexandria 33.34 351 P P 10 24 25.8 -0.5
baz=168,SNR=6.6
G30A Faulkton 33.43 346 P P 10 24 26.7 -0.4
baz=161,SNR=12
F33A 5 Mile Ranch, 33.55 350 P P 10 24 27.3 -0.7
baz=166,SNR=26
K22A Casper 33.55 336 P P 10 24 28.8 +0.4
baz=147,SNR=14
K22A Casper 33.55 336 eP P 10 24 28.8 +0.4
23nm,0.8s
SHPR Sheep Range 33.58 319 eP P 10 24 30.0 +1.3
1.7nm,0.7s
G29A Hoven 33.68 345 P P 10 24 28.7 -0.6
baz=160
F32A Veblen 33.72 349 P P 10 24 29.4 -0.2
baz=165
E37A Wrenshall 33.78 355 P P 10 24 29.3 -0.7
baz=173
E36A McGregor 33.81 354 P P 10 24 29.6 -0.7
baz=172,SNR=24
LONY Lake Ozonia 33.84 18 eP P 10 24 30.5 -0.2
9.2nm,0.8s
RSSD Black Hills 33.90 340 P P 10 24 32.4 +1.0
baz=152
RSSD Black Hills 33.90 340 eP P 10 24 32.2 +0.8
31nm,0.7s
F31A Hecla 33.93 348 P P 10 24 30.5 -0.9
baz=163
GSC Goldstone, Bar 33.95 316 P P 10 24 31.8 -0.1
baz=124
BFSC Mount Baldy Ra 33.97 314 P P 10 24 33.1 +1.1
baz=122
E35A Pequot Lakes 33.98 353 P P 10 24 31.6 -0.2
baz=170,SNR=5.8
PSUT Pine Spring 34.07 323 eP P 10 24 34.7 +1.7
8.3nm,0.8s
E33A Westby DABS, E 34.15 351 P P 10 24 32.5 -0.8
baz=167,SNR=9.4
H25A Fruitdale 34.20 341 P P 10 24 35.2 +1.3
baz=153,SNR=6.6
JLU Jordanelle 34.20 328 eP P 10 24 34.8 +0.6
4.7nm,0.7s
MWC Mount Wilson 34.24 313 eP P 10 24 36.0 +1.5
25nm,1.4s
F29A Eureka 34.26 346 P P 10 24 33.3 -1.0
baz=160,SNR=6.3
PASC Pasadena Art C 34.30 313 eP P 10 24 36.1 +1.3
10nm,1.0s
FRNY Flat Rock 34.34 19 eP P 10 24 35.9 +1.0
63nm,1.9s
D37A Cotton 34.37 355 P P 10 24 34.2 -1.0
baz=173,SNR=25
D35A Remer 34.45 353 P P 10 24 34.9 -1.0
baz=170,SNR=14
D36A Goodland 34.45 354 P P 10 24 34.9 -1.0
baz=172,SNR=24
DECC Green Verdugo 34.45 313 P P 10 24 38.4 +2.3
baz=121
E31A Nome 34.53 349 P P 10 24 35.8 -0.8
baz=164,SNR=6.8
EDW2 Edwards Air Fo 34.54 314 P P 10 24 37.7 +0.8
baz=122
TPNV Topopah Spring 34.54 319 P P 10 24 37.8 +0.8
baz=127,SNR=7.8
TPNV Topopah Spring 34.54 319 eP P 10 24 38.4 +1.4
4.7nm,0.8s
TCUT Toone Canyon 34.56 329 eP P 10 24 38.4 +1.2
23nm,0.7s
D34A Park Rapids 34.60 352 P P 10 24 36.4 -0.8
baz=169,SNR=9.0
DUG Dugway, Tooele 34.63 326 P P 10 24 38.8 +1.1
baz=135
DUG Dugway, Tooele 34.63 326 eP P 10 24 38.5 +0.8
4.1nm,0.9s
FURC Furnace Creek, 34.66 318 P P 10 24 38.0 +0.3
baz=126
E30A Jud 34.68 347 P P 10 24 37.5 -0.4
baz=162,SNR=6.5
D33A AnnSam, Waubun 34.74 351 P P 10 24 37.6 -0.8
baz=168,SNR=16
MPMC Manual Prospec 34.84 317 P P 10 24 38.9 -0.7
baz=125,SNR=5.8
C38A Sawbill Land. 34.85 357 P P 10 24 37.7 -1.6
baz=175,SNR=17
C39A Grand Marais 34.90 358 P P 10 24 38.3 -1.4
baz=177,SNR=10
E29A Napoleon 34.91 347 P P 10 24 38.5 -1.4
baz=161
C37A Embarrass 34.92 356 P P 10 24 38.9 -1.0
baz=174
BW06 Boulder Array 34.95 333 P P 10 24 40.3 -0.2
baz=143,SNR=11
BW06 Boulder Array 34.95 333 eP P 10 24 40.4 -0.2
5.5nm,0.9s
PD31 Pinedale Array 34.95 333 eP P 10 24 40.4 -0.1
PDAR Pinedale Array 34.95 333 P P 10 24 40.2 -0.3
4.2nm,0.8s,baz=132,slow=8.6,SNR=21
PDAR PcP PcP 10 27 11.7 +0.3
3.8nm,0.6s,baz=140,slow=5.0,SNR=15
PDAR pPcP 10 27 23.8
1.5nm,0.5s,baz=140,slow=6.5,SNR=4.0
RSUT Red Spur Mount 34.95 329 eP P 10 24 40.8 +0.1
D31A Mcclaflin, Tow 34.97 349 P P 10 24 39.6 -0.7
baz=164,SNR=5.7
R11A Troy Canyon, C 34.99 321 P P 10 24 40.8 -0.1
baz=130,SNR=6.9
R11A Troy Canyon, C 34.99 321 eP P 10 24 41.9 +1.1
1.8nm,0.7s
C36A Pine Crest Far 35.00 355 P P 10 24 40.5 -0.1
baz=173,SNR=12
HWUT Hardware Ranch 35.01 329 eP P 10 24 41.2 +0.3
11nm,0.8s
HWUT ePcP PcP 10 27 12.6 +1.2
F26A Lodgepole 35.03 343 P P 10 24 41.2 +0.3
baz=156,SNR=30
C35A Jirik Farms, M 35.05 354 P P 10 24 40.1 -1.0
baz=171,SNR=36
EYMN Ely 35.09 357 eP P 10 24 40.0 -1.4
12nm,0.6s
BMUT Black Mountain 35.11 330 eP P 10 24 41.7 -0.2
C34A RKJ Ranch, Bem 35.11 352 P P 10 24 40.4 -1.2
baz=169,SNR=10
D30A Buchanan 35.23 348 P P 10 24 42.4 -0.2
baz=163,SNR=11
SPUT South Promonto 35.24 328 eP P 10 24 43.8 +0.9
18nm,0.9s
ARVC Arvin 35.25 314 P P 10 24 43.9 +0.9
baz=122
HDU Hyde Park 35.25 329 eP P 10 24 43.2 +0.1
BGU Big Grassy Mou 35.26 327 eP P 10 24 44.1 +1.0
5.4nm,0.8s
LPAZ La Paz 35.27 145 P P 10 24 44.1 +0.1
6.0nm,0.6s,baz=337,slow=5.5,SNR=36
LPAZ LR LR 10 39 32.6
comp=Z,282nm,20.0s,baz=310,slow=37
LPAZ La Paz 35.27 145 eP P 10 24 44.2 +0.2
6.6nm,0.7s

ISA	Isabella, Lake	35.29	315	P		P	10 24 43.6	+0.3	
	baz=123								
GRAC	Grapevine Rang	35.29	318	P		P	10 24 44.4	+1.1	
	baz=126								
TRQ	Mont Tremblant	35.31	17	*e*P		P	10 24 43.5	+0.2	
F25A	Bowman	35.33	342	P		P	10 24 44.3	+0.8	
	baz=154,SNR=16								
E26A	Carlson Angus	35.53	343	P		P	10 24 45.4	+0.2	
	baz=156,SNR=9.5								
AHID	Auburn Hatcher	35.66	331	*e*P		P	10 24 46.8	+0.2	
	19nm,0.7s								
B35A	Bob, Littlefor	35.68	354	P		P	10 24 45.6	-0.8	
	baz=171,SNR=12								
C31A	Landman Farms,	35.69	349	P		P	10 24 45.6	-0.9	
	baz=165								
D28A	Regan	35.71	346	P		P	10 24 47.1	+0.4	
	baz=160								
C30A	Mose, Pekin	35.74	348	P		P	10 24 46.6	-0.4	
	baz=163,SNR=7.3								
HVU	Hansel Valley	35.75	328	*e*P		P	10 24 47.6	+0.3	
	7.4nm,0.7s								
VES	Vestal, Richgr	35.80	315	P		P	10 24 47.1	-0.5	
	baz=122								
PKM	Mcpherson Peak	35.82	313	P		P	10 24 47.1	-1.0	
	baz=120								
E25A	Miller Ranch,	35.83	342	P		P	10 24 48.5	+0.7	
	baz=155,SNR=27								
AGMN	Agassiz Nation	35.88	352	P		P	10 24 47.8	-0.3	
	baz=168,SNR=16								
AGMN	Agassiz Nation	35.88	352	*e*P		P	10 24 47.4	-0.7	
	24nm,0.7s								
NPI	North Pocatell	35.88	329	*e*P		P	10 24 48.4	0.0	
B34A	Aery, Baudette	35.90	353	P		P	10 24 47.6	-0.7	
	baz=170,SNR=22								
REDW	Red Top Meadow	36.00	332	*e*P		P	10 24 49.7	+0.2	
	30nm,0.7s								
SNOW	Snow King Moun	36.03	332	*e*P		P	10 24 50.1	+0.3	
	36nm,0.6s								
D26A	Manning	36.04	344	P		P	10 24 49.7	+0.1	
	baz=157,SNR=12								
B32A	Ashes, Strandq	36.07	351	P		P	10 24 49.3	-0.5	
	baz=167,SNR=37								
LOHW	Long Hollow	36.08	332	*e*P		P	10 24 50.5	+0.3	
	10.0nm,0.6s								
MDND	Maddock	36.11	347	P		P	10 24 50.2	0.0	
	baz=162,SNR=10								
MDND	Maddock	36.11	347	*e*P		P	10 24 50.0	-0.2	
	110nm,0.7s								
TPAW	Teton Pass	36.15	332	*e*P		P	10 24 51.3	+0.5	
	12nm,0.8s								
RCTC	Rector, Farmer	36.16	316	P		P	10 24 51.0	+0.3	
	baz=123								
C28A	Hausauer Farms	36.16	346	P		P	10 24 50.4	-0.1	
	baz=160,SNR=7.2								
MOOW	Moose Ponds	36.25	332	*e*P		P	10 24 51.7	0.0	
	7.6nm,0.6s								
MOOW					*e*PcP	PcP	10 27 16.1	+0.9	
B31A	Greenbush Farm	36.28	350	P		P	10 24 50.7	-0.8	
	baz=165,SNR=6.1								
ELK	Elko	36.35	325	*e*P		P	10 24 53.3	+0.8	
	5.0nm,0.8s								
D25A	Fairfield	36.40	343	P		P	10 24 52.6	0.0	
	baz=155								
B30A	Myrvik Farm, E	36.43	349	P		P	10 24 52.0	-0.8	
	baz=164,SNR=9.9								
A33A	Warroad	36.44	352	P		P	10 24 52.6	-0.3	
	baz=169,SNR=42								
IMW	Indian Meadow	36.46	332	*e*P		P	10 24 54.4	+0.9	
	11nm,0.6s								
IMW					*e*PcP	PcP	10 27 17.2	+1.3	
FLWY	Flagg Ranch	36.49	333	*e*P		P	10 24 54.2	+0.5	
	10nm,0.8s								
FLWY					*e*PcP	PcP	10 27 17.8	+1.9	
A32A	Rocking H Ranc	36.57	351	P		P	10 24 53.4	-0.6	
	baz=167,SNR=6.9								
NV11	Mina Array Sit	36.64	319	*e*P		P	10 24 56.2	+1.3	
	5.3nm,0.8s								
NV11					*e*PcP	PcP	10 27 17.9	+1.5	
B29A	Wagenman Farm,	36.65	348	P		P	10 24 54.8	+0.1	
	baz=162,SNR=11								
H17A	Grant Village	36.69	333	P		P	10 24 56.1	+0.8	
	baz=142								
H17A	Grant Village	36.69	333	*e*P		P	10 24 56.3	+1.0	
	6.7nm,0.8s								
H17A					*e*PcP	PcP	10 27 19.1	+2.6	
RLMT	Red Lodge	36.71	335	P		P	10 24 55.7	+0.2	
	baz=145,SNR=26								
RLMT	Red Lodge	36.71	335	*e*P		P	10 24 55.7	+0.2	
	24nm,0.8s								
RLMT					*e*PcP	PcP	10 27 17.7	+1.2	
NV01	Mina Array Sit	36.73	319	*e*P		P	10 24 56.7	+0.9	
NV01					*e*PcP	PcP	10 27 18.4	+1.6	
NVAR	Mina Array Bea	36.73	319	P		P	10 24 56.6	+0.8	
	6.2nm,0.7s,baz=127,slow=6.3,SNR=44								
NVAR					PcP	PcP	10 27 18.3	+1.6	
	8.1nm,0.7s,baz=128,slow=3.5,SNR=26								
NVAR					pPcP		10 27 30.4		
	5.8nm,0.8s,baz=133,slow=3.4,SNR=8.5								
NVAR					pScP		10 31 04.1		
	0.6nm,0.5s,baz=124,slow=3.1,SNR=5.3								
YFT	Old Faithful	36.84	333	*e*P		P	10 24 58.7	+2.0	
	12nm,0.8s								
YFT					*e*PcP	PcP	10 27 20.1	+3.1	
B28A	Dugan Ranch, T	36.84	347	P		P	10 24 56.2	-0.1	
	baz=161,SNR=11								
C25A	Freed Ranch, W	36.89	343	P		P	10 24 57.2	+0.4	
	baz=156,SNR=25								
LAO	LASA Array	36.89	340	P		P	10 24 57.0	+0.1	
	baz=151,SNR=15								
LAO	LASA Array	36.89	340	*e*P		P	10 24 57.3	+0.4	
	21nm,0.8s								
A30A	Hoffart Farm,	36.90	349	P		P	10 24 56.4	-0.4	
	baz=164,SNR=7.9								
A29A	Manning Farm,	37.06	348	P		P	10 24 57.6	-0.5	
	baz=163,SNR=25								
YMR	Madison River	37.07	333	*e*P		P	10 24 59.8	+1.2	
	23nm,0.8s								
A28A	Rude Farm, Bot	37.26	347	P		P	10 24 59.5	-0.4	
	baz=161								
BMN	Battle Mountai	37.29	323	*e*P		P	10 25 01.0	+0.6	
	6.1nm,0.6s								
B25A	Knox Farm, Ray	37.37	344	P		P	10 25 00.9	0.0	
	baz=156,SNR=6.4								
GCMT	Greycliff	37.42	335	*e*P		P	10 25 01.5	0.0	
A27A	Ledoux Ranch,	37.52	346	P		P	10 25 02.2	+0.2	
	baz=160								
A26A	Wade Farm, Ken	37.66	345	P		P	10 25 03.5	+0.2	
	baz=158,SNR=5.5								
ULM	Lac du Bonnet	37.79	352	P		P	10 25 03.0	-1.3	
	22nm,0.6s,baz=166,slow=9.2,SNR=29								
ULM					PcP	PcP	10 27 19.3	-0.1	
	5.5nm,0.7s,baz=218,slow=0.8,SNR=3.6								
ULM					LR	LR	10 41 57.1		
	comp=Z,359nm,21.9s,baz=157,slow=38								
ULM	Lac du Bonnet	37.79	352	*e*P		P	10 25 03.0	-1.3	
	25nm,0.6s								
ULM					PcP	PcP	10 27 19.3	-0.1	
LMQ	La Malbaie	37.80	20	*e*P		P	10 25 04.5	0.0	
DGMT	Dagmar	37.84	343	P		P	10 25 05.4	+0.6	
	baz=155,SNR=38								
DGMT	Dagmar	37.84	343	*e*P		P	10 25 05.3	+0.5	
	155nm,0.6s								
HLID	Hailey	37.87	329	P		P	10 25 05.3	0.0	
	baz=136,SNR=14								
HLID	Hailey	37.87	329	*e*P		P	10 25 05.4	0.0	
	5.0nm,0.7s								
HLID					*e*PcP	PcP	10 27 22.0	+1.9	
A25A	Svangstu Ranch	37.97	344	P		P	10 25 06.2	+0.3	
	baz=157,SNR=12								
MCMT	McKenzie Canyo	38.05	332	*e*P		P	10 25 07.9	+1.1	
BOZ	Bozeman (W)	38.13	334	P		P	10 25 07.5	0.0	
	baz=142,SNR=28								
BOZ	Bozeman (W)	38.13	334	*e*P		P	10 25 07.7	+0.2	
	13nm,0.8s								
PAHR	Pah Rah Range	38.16	320	*e*P		P	10 25 09.0	+1.2	
	2.1nm,0.7s								
DLMT	Dillon	38.34	332	*e*P		P	10 25 10.2	+1.0	
	7.8nm,0.8s								
MFID	Camas Ranch	38.49	328	*e*P		P	10 25 10.7	+0.2	
	4.0nm,0.8s								
MFID					*e*PcP	PcP	10 27 23.8	+1.9	
PB01	IPOC Station P	38.51	151	*e*P		P	10 25 11.5	+0.7	
	17nm,1.4s								
LMN	Caledonia Moun	38.55	27	*e*P		P	10 25 11.5	+0.7	
	15nm,0.8s								
LRM	Limekiln Ridge	38.63	333	*e*P		P	10 25 11.9	+0.2	
HRY	Holter Researc	39.06	334	*e*P		P	10 25 15.8	+0.7	
EGMT	Eagleton	39.29	337	*e*P		P	10 25 17.8	+0.8	
	326nm,0.8s								
WVOR	Wild Horse Val	39.38	324	*e*P		P	10 25 18.0	+0.1	
	7.6nm,0.8s								
CHMT	Chamberlain Mo	39.82	333	*e*P		P	10 25 21.6	0.0	
O03D	Paynes Creek	40.02	319	P		P	10 25 22.8	-0.4	
	baz=124								
MSO	Missoula	40.06	333	P		P	10 25 23.5	0.0	
	baz=140,SNR=9.6								
MSO	Missoula	40.06	333	*e*P		P	10 25 23.6	+0.2	
	6.6nm,0.8s								
SWMT	Swartz Lake	40.61	333	*e*P		P	10 25 27.9	-0.1	
M04C	Macdoel	40.88	321	P		P	10 25 29.1	-1.3	
	baz=125								
YBMT	Yellow Bay	40.88	334	*e*P		P	10 25 30.5	+0.2	
F10A	Beach Ranch, E	40.99	329	*e*P		P	10 25 31.1	0.0	
	9.2nm,0.8s								
BSMT	Bassoo Peak	41.21	333	*e*P		P	10 25 33.2	+0.2	
WALA	Waterton Lakes	41.77	335	*e*P		P	10 25 38.0	+0.6	
	7.7nm,0.8s								
I05D	Terrebonne, OR	42.11	325	P		P	10 25 40.4	+0.2	
	baz=128								
I04A	Tendick Farm,	42.40	323	P		P	10 25 42.1	-0.5	
	baz=126								
NEW	Newport	42.57	332	P		P	10 25 43.0	-0.9	
	baz=137								
NEW	Newport	42.57	332	*e*P		P	10 25 44.0	+0.1	
	4.8nm,0.7s								
H04A	Detroit Lake	42.80	324	*e*P		P	10 25 45.9	+0.1	
	8.8nm,0.7s								
I03D	Drain, OR	42.89	323	P		P	10 25 46.6	+0.1	
	baz=125								
G03D	McMinnville, O	43.73	324	P		P	10 25 53.2	0.0	
	baz=127								
B05A	Bryant	44.99	328	P		P	10 26 03.4	+0.2	
	baz=130								
SCHQ	Schefferville	45.22	18	P		P	10 26 04.0	-0.9	
	15nm,0.6s,baz=216,slow=6.4,SNR=34								
SCHQ					pP	pP	10 26 15.4	-10	
	13nm,1.0s,baz=226,slow=8.7,SNR=3.6								
SCHQ					PcP	PcP	10 27 43.3	-0.4	
	3.6nm,0.6s,baz=242,slow=3.3,SNR=4.0								
SCHQ					LR	LR	10 46 20.5		
	comp=Z,464nm,18.5s,baz=206,slow=38								
SCHQ	Schefferville	45.22	18	*e*P		P	10 26 04.1	-0.9	
	17nm,0.7s								
SCHQ					pP	pP	10 26 15.4	-10	
SCHQ					PcP	PcP	10 27 43.3	-0.4	
NLWA	Neilton Lookou	45.37	326	*e*P		P	10 26 06.5	+0.2	
	7.4nm,1.0s								
A04D	Lummi Island	45.60	329	P		P	10 26 07.4	-0.6	
	baz=130								
FCC	Fort Churchill	46.03	356	*e*P		P	10 26 10.9	-0.3	
	25nm,0.6s								
BDFB	Brasilia	49.05	124	P		P	10 26 35.0	-0.4	
	19nm,0.6s,baz=288,slow=9.3,SNR=37								
BDFB					LR	LR	10 50 30.5		
	comp=Z,148nm,20.2s,baz=300,slow=40								
BDFB	Brasilia	49.05	124	*e*P		P	10 26 34.9	-0.6	
	36nm,0.7s								
CPUP	Villa Florida	49.35	142	P		P	10 26 36.8	-0.6	
	6.2nm,0.6s,baz=334,slow=8.8,SNR=23								
CPUP					LR	LR	10 48 54.0		
	comp=Z,187nm,19.3s,baz=326,slow=38								
YKA	Yellowknife Ar	52.97	345	P		P	10 27 03.2	-0.7	
	29nm,0.7s,baz=138,slow=7.8,SNR=236								
YKA					PcP	PcP	10 28 11.2	-0.4	
	3.1nm,0.6s,baz=148,slow=3.8,SNR=7.9								
YKA					LR	LR	10 52 02.6		
	comp=Z,23nm,21.5s,baz=180,slow=39								
CRAG	Craig	54.77	331	*e*P		P	10 27 17.5	+0.3	
	24nm,1.8s								
DLBC	Dease Lake	55.12	335	*e*P		P	10 27 20.8	+1.0	
	19nm,0.8s								
TAOE	Nuku Hiva Isla	55.63	250	*e*LR		LR	10 43 21.1		
	361nm,24.8s								
PLCA	Paso Flores	55.84	164	P		P	10 27 25.1	-0.1	
	4.3nm,0.8s,baz=25,slow=10,SNR=5.3								
PLCA					PcP	PcP	10 28 24.1	+1.0	
	3.0nm,0.7s,baz=52,slow=2.0,SNR=3.3								
PLCA					LR	LR	10 46 12.2		
	comp=Z,121nm,18.9s,baz=344,slow=30								
TRQA	Tornquist	56.41	155	*e*P		P	10 27 29.2	0.0	
	49nm,1.8s								
RKT	Rikitea	57.84	232	*e*T		T	11 29 26.9		
	7.0nm,0.3s								
RES	Resolute Bay	61.94	358	*e*P		P	10 28 06.1	-0.7	
	16nm,0.8s								
INK	Inuvik	62.53	343	P		P	10 28 10.4	-0.4	
	24nm,0.7s,baz=114,slow=7.7,SNR=60								
INK					pP	pP	10 28 21.9	-11	
	8.8nm,0.8s,baz=110,slow=7.1,SNR=5.2								
BMRM	Bremner River	62.73	333	*e*P		P	10 28 13.2	+0.8	
	7.1nm,0.7s								
EGAK	Eagle	63.06	338	*e*P		P	10 28 13.7	-0.8	
	6.3nm,1.0s								
EYAK	Cordova Ski Ar	63.08	332	*e*P		P	10 28 15.2	+0.6	
	15nm,1.3s								
KLU	Klutina	63.53	333	*e*P		P	10 28 17.8	+0.1	
	6.9nm,0.8s								
DOT	Dot Lake	63.65	336	*e*P		P	10 28 18.4	0.0	
	17nm,0.9s								
PAX	Paxson	63.94	335	*e*P		P	10 28 20.7	+0.4	
	3.6nm,0.8s								
SCM	Sheep Creek Mo	64.28	333	*e*P		P	10 28 22.8	+0.2	
	12nm,1.2s								
SML	Sawmill	64.71	333	*e*P		P	10 28 26.7	+1.3	
	5.8nm,0.8s								
PMR	Palmer	64.99	333	*e*P		P	10 28 27.1	0.0	
	11nm,1.4s								
RC01	Rabbit Creek A	65.09	332	*e*P		P	10 28 27.9	0.0	
	25nm,1.2s								
IL1	Eielson Array	65.25	336	*e*P		P	10 28 28.0	-0.8	
ILAR	Eielson Array	65.25	336	P		P	10 28 27.8	-1.0	
	7.3nm,0.9s,baz=112,slow=5.2,SNR=52								
ILAR					LR	LR	10 59 47.5		
	comp=Z,146nm,20.6s,baz=124,slow=39								
ILB	Eielson Array	65.25	336	*e*P		P	10 28 28.1	-0.6	
RND	Reindeer	65.52	335	*e*P		P	10 28 30.3	-0.3	
	22nm,0.8s								
CCB	Clear Creek Bu	65.56	336	*e*P		P	10 28 29.7	-1.0	
	7.7nm,0.7s								
WRH	Wood River Hil	65.61	336	*e*P		P	10 28 30.0	-1.0	
	5.7nm,0.8s								
COLA	College	65.67	336	*e*P		P	10 28 30.8	-0.6	
	8.1nm,0.8s								
MCK	McKinley	65.67	335	*e*P		P	10 28 31.3	-0.3	
	10nm,1.0s								
SUA	Susitna One	65.68	332	*e*P		P	10 28 31.5	-0.3	
	15nm,1.2s								
MDM	Murphy Dome	65.85	336	*e*P		P	10 28 31.9	-0.7	
	25nm,0.8s								
TRF	Thorofare Moun	66.14	334	*e*P		P	10 28 34.2	-0.5	
	12nm,1.0s								
RSO	Redoubt South	66.31	331	*e*P		P	10 28 35.5	-0.4	
KTH	Kantishna Hill	66.44	334	*e*P		P	10 28 35.7	-0.9	
	6.9nm,0.8s								
SUMG	Summit	66.47	15	*i* P		P	10 28 36.7	-0.3	
	4.3nm,0.7s								
SUMG				*i*			10 28 52.7		
SUMG	Summit	66.47	15	*e*P		P	10 28 36.5	-0.5	
	16nm,1.1s								
BPAW	Bear Paw Mtn.	66.65	335	*e*P		P	10 28 36.7	-1.1	
	12nm,0.9s								
PPLA	Purkeypile	66.77	333	*e*P		P	10 28 38.3	-0.5	
	19nm,1.6s								
MLY	Manley	66.87	336	*e*P		P	10 28 38.5	-0.7	
	12nm,0.8s								
PPT	Papeete	67.42	245	LR		LR	10 52 13.2		
	comp=Z,129nm,18.4s,baz=32,slow=30								
PPT2	Papeete2	67.43	245	*e*S		S	10 37 46.9	+14	
	67nm,25.0s								
PPT2	Papeete2	67.43	245	*e*LR		LR	10 49 07.8		
	350nm,24.0s								
COLD	Coldfoot	67.45	338	*e*P		P	10 28 43.3	+0.5	
	10nm,0.9s								
CHGN	Chignik	68.28	326	*e*P		P	10 28 48.5	+0.4	
TT01	Tatalina	68.46	333	*e*P		P	10 28 48.8	-0.4	
TTA	Tatalina	68.46	333	*e*P		P	10 28 48.6	-0.7	
	6.5nm,1.2s								
SDPT	Sand Point	69.28	325	*e*P		P	10 28 54.7	+0.3	
	169nm,1.8s								
TBI	Tubuai	69.62	239	*e*LR		LR	10 50 10.0		
	229nm,24.5s								
UNV	Unalaska Valle	72.65	323	*e*P		P	10 29 15.0	+0.2	
	83nm,1.3s								
DAG	Danmarks Havn	73.01	13	*i* P		P	10 29 15.1	-1.4	
	4.3nm,0.5s								
ESK	Eskdalemuir	76.89	36	*e*P		P	10 29 38.4	-0.9	
	91nm,1.9s								
EKA	Eskdalemuir Ar	76.92	36	P		P	10 29 37.9	-1.5	
	1.3nm,0.6s,baz=263,slow=6.1,SNR=6.3								
ESDC	Sonseca Array	77.77	52	P		P	10 29 43.4	-1.3	
	1.0nm,0.6s,baz=285,slow=5.9,SNR=5.6								
ESDC					LR	LR	10 58 11.6		
	comp=Z,82nm,21.5s,baz=310,slow=31								
KBS	Kingsbay	79.49	11	*e*P		P	10 29 54.2	+1.0	
	23nm,1.4s								
SPB4	Spitsbergen Ar	80.53	12	*e*P		P	10 29 59.0	+0.1	
SPA3	Spitsbergen Ar	80.54	12	*e*P		P	10 29 58.8	-0.1	
SPB3	Spitsbergen Ar	80.54	12	*e*P		P	10 29 59.1	+0.2	
SPA0	Spitsbergen Ar	80.54	12	*e*P		P	10 29 59.3	+0.3	
SPA1	Spitsbergen Ar	80.54	12	*e*P		P	10 29 59.2	+0.3	
SPA2	Spitsbergen Ar	80.54	12	*e*P		P	10 29 59.5	+0.6	
SPB1	Spitsbergen Ar	80.54	12	*e*P		P	10 29 59.1	+0.2	
SPB2	Spitsbergen Ar	80.54	12	*e*P		P	10 29 59.0	+0.1	
DBIC	Dimbokro	82.39	85	P		P	10 30 09.9	+0.1	
	5.4nm,1.0s,baz=233,slow=5.1,SNR=4.0								
DBIC					LR	LR	11 03 55.5		
	comp=Z,66nm,19.1s,baz=266,slow=34								
NB2	NORSAR Subarra	83.53	29	P		P	10 30 13.8	-1.1	
	comp=Z,1.3nm,0.7s,baz=285,slow=5.3								
NOA	NORSAR Array B	83.53	29	P		P	10 30 14.1	-0.9	
	comp=Z,0.8nm,0.7s,baz=287,slow=4.9,SNR=3.9								
NOA					LR	LR	11 03 30.1		
	comp=Z,76nm,21.9s,baz=280,slow=33								
NC602	NORSAR Array S	83.76	29	*e*P		P	10 30 17.2	+1.1	
BILL	Bilibino	83.78	339	*e*P		P	10 30 16.0	0.0	
	comp=Z,8.1nm,1.0s								
SENIN	Lac Senin/Sane	84.79	44	*e*P		P	10 30 20.9	-1.0	
	comp=Z,25nm,1.8s								
ARCES	ARCESS Array B	86.16	19	P		P	10 30 27.4	-0.4	
	comp=Z,2.7nm,0.9s,baz=278,slow=3.6,SNR=5.6								
ARCES					LR	LR	11 07 48.5		
	comp=Z,49nm,20.7s,baz=270,slow=35								
FUORN	Ofenpass-Fuorn	86.71	43	*e*P		P	10 30 30.9	-0.5	
	comp=Z,3.6nm,0.8s								
TORD	Torodi Ar, Bea	87.34	77	P		P	10 30 32.4	-2.3	
	comp=Z,0.5nm,0.7s,baz=290,slow=4.9,SNR=4.4								
GERES	GERESS Array B	88.31	40	P		P	10 30 38.4	-0.5	
	comp=Z,0.3nm,0.6s,baz=264,slow=2.0,SNR=4.0								
GERES					pP	PcP	10 30 50.9	+10	
	comp=Z,0.4nm,0.8s,baz=204,slow=2.9,SNR=1.9								
GERES					LR	LR	11 07 56.8		
	comp=Z,88nm,19.6s,baz=284,slow=34								
GEA0	GERESS Array S	88.32	40	*e*P		P	10 30 39.0	+0.1	
KEST	Kesra	88.86	54	LR		LR	11 04 43.0		
	comp=Z,56nm,21.3s,baz=234,slow=32								
SEY	Seymchan	91.18	336	P		P	10 30 51.7	0.0	
	comp=Z,5.9nm,0.7s,baz=89,slow=3.1,SNR=14								
AKASG	Malin Array Be	96.79	35	LR		LR	11 12 39.0		
	comp=Z,80nm,20.5s,baz=245,slow=34								
DZM	Mont Dzumac	108.50	251	*e*LR		LR	11 08 19.2		
	comp=Z,102nm,22.9s								
ZALV	Zalesovo Beam	113.24	4	PKiKP		PKiKP	10 36 23.8	-0.4	
	comp=Z,2.0nm,0.5s,baz=282,slow=2.5,SNR=10.0								
ZALV				PP		PP	10 37 11.1	-3.1	
	comp=Z,1.1nm,0.6s,baz=1.9,slow=4.3,SNR=4.4								
KURK	Kurchatov	115.72	9	*e*PKPdf		PKPdf	10 36 29.4	+0.4	
BOSA	Boshof	116.80	116	PKP		PKPdf	10 36 33.1	+1.3	
	comp=Z,4.6nm,0.8s,baz=333,slow=1.8,SNR=7.8								
BOSA	Boshof	116.80	116	*e*PKPdf		PKPdf	10 36 33.3	+1.5	
SONA1	Songino Array	118.14	349	*e*PKPdf		PKPdf	10 36 34.2	+0.2	
SONM	Songino Array	118.15	349	PKP		PKPdf	10 36 34.2	+0.2	
	comp=Z,2.0nm,0.6s,baz=327,slow=1.1,SNR=13								
SONM				pPKP		pPKP	10 36 46.6		
	comp=Z,1.1nm,0.8s,baz=0.0,slow=1.5,SNR=4.2								
SONM				PP		PP	10 37 46.8	-2.1	
	comp=Z,0.4nm,0.5s,baz=2.2,slow=7.6,SNR=4.3								
KS01	Wonju Array Si	119.39	327	*e*PKPdf		PKPdf	10 36 36.9	+0.4	
KSRS	Korea Array	119.39	327	PKP		PKPdf	10 36 36.9	+0.4	
	comp=Z,2.4nm,0.7s,baz=6.9,slow=1.6,SNR=14								
KSRS				pPKP		pPKP	10 36 49.0		
	comp=Z,2.5nm,0.8s,baz=6.8,slow=1.2,SNR=5.8								
KSAR	Wonju Array Be	119.42	327	PKP		PKPdf	10 36 36.9	+0.3	
KSAR				pPKP		pPKP	10 36 49.0		
MAKZ	Makanchi	120.02	8	↑Lg		Lg	10 33 34.2		
	comp=Z,0.6nm,0.3s								
MAKZ	Makanchi	120.02	8	*e*PKPdf		PKPdf	10 36 36.8	-0.7	
MKAR	Makanchi Array	120.07	7	PKP		PKPdf	10 36 36.4	-1.2	
	comp=Z,1.3nm,0.7s,baz=357,slow=2.4,SNR=11								
MK01	Makanchi Array	120.10	7	*e*PKPdf		PKPdf	10 36 36.4	-1.3	
GEYT	Alibeck	120.59	30	PKP		PKPdf	10 36 39.3	+0.5	
	comp=Z,1.2nm,0.4s,baz=20,slow=4.6,SNR=3.5								
MAW	Maw

TVSB	**Tavsanli**	**0.49**	**44**	*i* Pg	**Pb**	**10 18 23.6**	**-0.7**
TVSB				*e*Sg	**Sg**	**10 18 30.2**	**+1.0**
KULA	**Kula-Manisa**	**0.64**	**206**	PG	**Pg**	**10 18 26.0**	**+0.4**
KULA				*e*SG	**Sg**	**10 18 34.1**	**+0.2**
KULA	**Kula-Manisa**	**0.64**	**206**	*i* Pg	**Pg**	**10 18 26.0**	**+0.4**
AKS	**Akhisar**	**0.96**	**257**	*e*PG	**Pb**	**10 18 31.8**	**-0.5**
AKS	**Akhisar**	**0.96**	**257**	*e*Pg	**Pb**	**10 18 31.8**	**-0.5**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pb**	**10 18 33.5**	**0.0**
BALB				*e*SG	**Sn**	**10 18 48.0**	**-1.0**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pb**	**10 18 33.5**	**0.0**
BALB				*e*Sg	**Sn**	**10 18 48.0**	**-1.0**
IGD	**Bursa**	**1.18**	**7**	*i* P	**Pg**	**10 18 33.8**	**-2.0**
IGD				*i* S	**Sg**	**10 18 50.4**	**-0.7**
BALY	**Balya**	**1.26**	**301**	P	**Pn**	**10 18 37.4**	**0.0**
BALY				S	**Sg**	**10 18 52.2**	**-1.5**
BALY	**Balya**	**1.26**	**301**	*i* P	**Pn**	**10 18 37.4**	**0.0**
BALY				*i* S	**Sg**	**10 18 52.2**	**-1.5**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*PN	**Pg**	**10 18 37.9**	**+0.2**
KCTX				*e*SN	**Sn**	**10 18 56.0**	**+1.1**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*PN	**Pg**	**10 18 38.0**	**+0.4**
CAVI				*e*SN	**Sn**	**10 18 56.1**	**+1.1**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*Pn	**Pg**	**10 18 38.1**	**+0.4**
CAVI				*e*Sn	**Sn**	**10 18 56.1**	**+1.1**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*PN	**Pg**	**10 18 38.1**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pg**	**10 18 38.1**	**+0.4**
IZI	**Iznik**	**1.29**	**16**	*e*PN	**Pg**	**10 18 38.3**	**+0.3**
IZI	**Iznik**	**1.29**	**16**	*e*Pn	**Pg**	**10 18 38.3**	**+0.3**
GEMT	**Gemlik**	**1.35**	**6**	*e*PN	**Pg**	**10 18 38.7**	**-0.3**
GEMT	**Gemlik**	**1.35**	**6**	*e*Pn	**Pg**	**10 18 38.7**	**-0.3**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*PN	**Pg**	**10 18 40.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*Pn	**Pg**	**10 18 40.2**	**+0.1**
DNZL	**Cakiroluk**	**1.40**	**179**	P	**Pg**	**10 18 39.9**	**-0.2**
DNZL				S	**Sn**	**10 18 59.4**	**+1.1**
DNZL	**Cakiroluk**	**1.40**	**179**	*i* P	**Pg**	**10 18 39.9**	**-0.2**
DNZL				*i* S	**Sn**	**10 18 59.4**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*PN	**Pg**	**10 18 40.5**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*Pn	**Pg**	**10 18 40.6**	**-0.4**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pg**	**10 18 41.1**	**-0.4**
EDC	**Edincik**	**1.54**	**325**	*e*PN	**Pb**	**10 18 42.0**	**0.0**
EDC				*e*SN	**Sg**	**10 19 02.7**	**+0.1**
EDC	**Edincik**	**1.54**	**325**	*e*Pn	**Pb**	**10 18 42.0**	**0.0**
EDC				*e*Sn	**Sg**	**10 19 02.7**	**+0.1**
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pn**	**10 18 44.8**	**+0.5**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pn**	**10 18 44.8**	**+0.5**
HRT	**Hereke**	**1.80**	**16**	*e*PN	**Pn**	**10 18 45.3**	**+0.6**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*PN	**Pb**	**10 18 46.8**	**-0.8**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*Pn	**Pb**	**10 18 46.8**	**-0.8**
SART	**Tekirdag**	**2.13**	**319**	P	**Pb**	**10 18 52.4**	**+0.2**
SART	**Tekirdag**	**2.13**	**319**	*i* P	**Pb**	**10 18 52.4**	**+0.2**
SART				*i* S	**Sb**	**10 19 19.7**	**+0.9**

IDC 12 10:19:45.9±5.0, 19°56S×179°63W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/40, mbtmp3.9/3, Error ellipse: s-maj=268.5km s-min=69.2km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.22**	**261**	P	P	10 27 49.8	+0.6
	0.4nm,0.3s,baz=98,slow=7.9,SNR=23						
ASAR	**Alice Springs**	**43.25**	**256**	P	P	10 27 49.2	-0.3
	0.8nm,0.5s,baz=88,slow=8.1,SNR=17						
FITZ	**Fitzroy Crossi**	**51.64**	**262**	P	P	10 28 54.0	-0.7
	2.6nm,0.9s,baz=90,slow=8.1,SNR=3.5						
FINES	**FINESS Array B**	**134.43**	**343**	PKP	PKPdf	10 39 05.2	-0.3
	0.7nm,0.8s,baz=46,slow=6.0,SNR=3.9						

NIED ***12*** *10:21:00,37.40N×144.00E,h5km,Mw3.8 Best double couple: M0 5.43000×10^14 NP1:φs38.00000°,δ29.00000°, λ-84.00000°. NP2:φs211.00000°,δ62.00000°, λ-93.00000°.*

IDC ***12*** *10:21:21.6±0.8,37.19N×144.16E,h0km,mb3.7/10, mb1 3.9/16,mb1mx3.8/65,mbtmp3.8/16,ML3.6/5,MS2.7/3, Ms1 2.7/3,ms1mx2.3/46,Error ellipse: s-maj=21.5km s-min=16.7km az=107.0*

ISCJB ***12*** *10:21:25.1±0.6,37.30N±0.05×143.96E±0.04,h33km, mb3.7/10,MS2.6/1,Error ellipse: s-maj=6.8km s-min=5.1km az=176.5*

JMA ***12*** *10:21:25.4±0.2,37.37N×143.95E,h46km,M3.8*

ISC 12 10:21:26.6±0.7, 37°24N±0°06×144°01E±0°07, h35km, n33, σ1§45/40, mb3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.43**	**301**	P	**Pn**	**10 22 02.5**	**-1.3**
JIO				S	**Sn**	**10 22 30.1**	**-2.2**
JFK	**Kawauchi**	**2.51**	**274**	P	**Pn**	**10 22 04.2**	**-0.6**
JFK				S	**Sn**	**10 22 32.6**	**-1.6**
ONAJ	**Iwakimizuishiy**	**2.57**	**268**	P	**Pn**	**10 22 04.9**	**-0.9**
JMM	**Marumori**	**2.63**	**285**	P	**Pn**	**10 22 05.6**	**-1.0**
JMM				S	**Sn**	**10 22 35.7**	**-1.6**
JMK	**Ichinoseki**	**2.79**	**309**	P	**Pn**	**10 22 07.2**	**-1.5**
JMK				*e*S	**Sn**	**10 22 38.1**	**-3.0**
JFT	**Otama**	**2.94**	**276**	P	**Pn**	**10 22 11.2**	**+0.4**
JFT				S	**Sn**	**10 22 44.8**	**-0.1**
JOM	**Ohasama**	**3.09**	**317**	P	**Pn**	**10 22 11.3**	**-1.5**
JOM				S	**Sn**	**10 22 45.6**	**-2.9**
JYK	**Kaneyama**	**3.33**	**301**	P	**Pn**	**10 22 15.7**	**-0.5**
JYK				S	**Sn**	**10 22 53.6**	**-1.0**
JANG	**Nango**	**3.69**	**329**	P	**Pn**	**10 22 18.9**	**-2.1**
JAG	**Ashikaga**	**3.75**	**259**	P	**Pn**	**10 22 22.1**	**+0.2**
JAG				S	**Sn**	**10 23 04.1**	**-0.7**
JRY	**Ryogami san**	**4.29**	**255**	P	**Pn**	**10 22 29.1**	**-0.3**
MJAR	**Matsushiro Arr**	**4.71**	**263**	Pn	**Pn**	**10 22 35.9**	**+0.8**
	4.2nm,0.3s,baz=89,slow=15,SNR=50						
MJAR				Sn	**Sn**	**10 23 29.6**	**+1.2**
	1.1nm,0.3s,baz=94,slow=27,SNR=6.2						
MAT	**Matsushiro**	**4.71**	**263**	P	**Pn**	**10 22 36.2**	**+1.1**
MAT				*e*S	**Sn**	**10 23 28.5**	**+0.1**
JOT	**Ohata**	**4.73**	**332**	P	**Pn**	**10 22 34.6**	**-0.8**
JHJ	**Hachijo jima 2**	**5.38**	**221**	Pn	**Pn**	**10 22 42.7**	**-1.6**
	7.5nm,0.3s,baz=138,slow=23,SNR=6.1						
JHJ				Sn	**Sn**	**10 23 40.7**	**-4.3**
	9.8nm,0.3s,baz=99,slow=23,SNR=2.9						
JCJ	**Chichijima**	**10.23**	**189**	Pn	**Pn**	**10 23 49.0**	**-2.0**
	1.8nm,0.3s,baz=114,slow=23,SNR=1.4						
USRK	**Ussuriysk Ar.**	**11.46**	**311**	Pn	**Pn**	**10 24 07.7**	**+0.1**
	0.2nm,0.3s,baz=104,slow=15,SNR=6.0						
USRK				LR	LR	10 28 02.2	
	comp=Z,31nm,21.1s,baz=50,slow=35						
KSRS	**Korea Array**	**12.81**	**276**	Pn	**Pn**	**10 24 27.0**	**+0.9**
	0.2nm,0.3s,baz=85,slow=15,SNR=4.5						
KLR	**Kul'dur**	**14.92**	**327**	Pn	P	10 24 54.0	-6.0
	0.1nm,0.3s,baz=141,slow=6.5,SNR=3.1						
KLR				LR	LR	10 30 46.2	
	comp=Z,28nm,18.2s,baz=126,slow=38						
GUMO	**Guam**	**23.57**	**178**	LR	LR	10 34 13.3	
	comp=Z,21nm,21.0s,baz=90,slow=33						
SEY	**Seymchan**	**26.23**	**9**	P	**P**	**10 26 58.4**	**+0.5**
	3.1nm,0.7s,baz=187,slow=9.8,SNR=9.3						
H11N2	**WAKE ISLAND Hy**	**26.51**	**125**	T	T	10 54 37.6	
	baz=317,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**26.52**	**125**	T	T	10 54 39.1	
	baz=317,slow=75,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**26.53**	**125**	T	T	10 54 37.9	
	baz=317,slow=75,SNR=3.0						
ZALV	**Zalesovo Beam**	**43.31**	**312**	P	**P**	**10 29 26.3**	**+1.5**
	1.0nm,0.9s,baz=71,slow=7.9,SNR=3.5						
ZALV				PcP	**PcP**	**10 31 13.9**	**+0.8**
	1.1nm,0.7s,baz=68,slow=4.0,SNR=3.7						
MKAR	**Makanchi Array**	**45.77**	**302**	P	**P**	**10 29 45.9**	**+1.3**
	0.5nm,0.8s,baz=88,slow=9.7,SNR=4.8						
ILAR	**Eielson Array**	**48.20**	**32**	P	**P**	**10 30 03.3**	**0.0**
	0.9nm,0.8s,baz=271,slow=6.6,SNR=5.6						
WRA	**Warramunga Arr**	**57.60**	**191**	P	**P**	**10 31 12.8**	**-0.2**
	1.2nm,0.7s,baz=9.4,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**61.33**	**191**	P	**P**	**10 31 39.2**	**+0.5**
	0.6nm,0.9s,baz=7.2,slow=7.4,SNR=4.8						
FINES	**FINESS Array B**	**69.58**	**333**	P	**P**	**10 32 32.2**	**+0.6**
	0.6nm,0.6s,baz=56,slow=10,SNR=3.4						
NVAR	**Mina Array Bea**	**73.19**	**54**	P	**P**	**10 32 54.8**	**+0.7**
	0.3nm,0.6s,baz=300,slow=7.2,SNR=3.4						
GERES	**GERESS Array B**	**83.61**	**330**	P	**P**	**10 33 52.1**	**+0.9**
	0.3nm,0.5s,baz=38,slow=6.8,SNR=3.8						
TXAR	**Lajitas Array**	**88.33**	**54**	P	**P**	**10 34 14.4**	**-0.6**
	0.2nm,0.8s,baz=308,slow=4.4,SNR=2.4						

MAN 12 10:31:35,6.15N×124.13E,h45km,mb3.8,ML2.5,MS2.1, 1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.07**	**6**	⇓*i* P	Pn	10 31 54.5	+0.8
CTBH				*i* S	Sn	10 32 08.7	+1.3
DMPH	**Davao City--Mi**	**1.66**	**56**⇑	*e*P	Pn	10 32 03.0	+1.4
DMPH				*e*S	Sn	10 32 22.8	+1.0
BUKP	**Musuan**	**1.95**	**28**	*e*P	Pn	10 32 05.0	-0.7
CGP	**Cagayan de Oro**	**2.36**	**14**	⇓*i* P	Pn	10 32 12.1	+0.8
CGP				*i* S	Sn	10 32 40.5	+1.5

CASC 12 10:34:07.5±1.7, 12°85N×88°65W, h47km±36km, MD4.2, ML3.5,3C-4D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.67**	**32**⇓	*e*P	Pn	10 34 21.1	+0.3
LCY				*e*S	Sn	10 34 31.8	+1.3
VSM	**San Miguel**	**0.68**	**33**	⇓*i* P	Pn	10 34 21.6	+0.4
PACA	**Pacayal**	**0.69**	**28**	⇓*i* P	Pn	10 34 21.4	+0.2
SNVI	**San Vicente**	**0.78**	**347**⇑	*e*P	Pn	10 34 22.5	+0.2
SNVI				*e*S	Sn	10 34 33.6	+0.5
LFRS	**El Faro**	**0.86**	**333**	⇓*i* P	Pn	10 34 23.2	-0.2
LFRS				*e*S	Sn	10 34 34.9	-0.2
CNCH	**Conchagua**	**0.91**	**62**	*e*P	Pn	10 34 24.1	+0.1
LBRS	**Las Brisas**	**0.96**	**337**	*e*P	Pn	10 34 25.1	+0.4
LBRS				*e*S	Sn	10 34 37.8	+0.4
LFU	**La Fuente**	**1.00**	**333**	*e*P	Pn	10 34 25.4	+0.1
LFU				*e*S	Sn	10 34 38.5	+0.3
SNET	**Serv Nac Est T**	**1.00**	**326**	*e*P	Pn	10 34 25.1	-0.2
SNET				*e*S	Sn	10 34 38.4	0.0
SNET				AML	AML	10 34 40.0	
	comp=Z,1μm,0.3s						
CAHU	**Cacacuatique**	**1.01**	**25**	*e*P	Pn	10 34 25.9	+0.4
CAHU				*e*S	Sn	10 34 39.6	+0.9
BOQS	**Boqueron**	**1.07**	**325**⇑	*e*P	Pn	10 34 26.4	+0.1
BOQS				*e*S	Sn	10 34 40.8	+0.6
SBLS	**San Blas**	**1.36**	**316**	*e*P	Pn	10 34 31.0	+0.7
MONT	**Ecomontaæa**	**1.39**	**316**	*e*P	Pn	10 34 31.8	+1.0
RTR	**El Retiro**	**1.42**	**317**	*e*P	Pn	10 34 32.0	+0.9
RBDL	**Robledal**	**1.61**	**321**	*e*P	Pn	10 34 34.4	+0.8
TEL3	**Telica 3**	**1.79**	**99**	*e*P	Pn	10 34 35.1	-0.9
TGUH	**Tegucigalpa,Un**	**1.80**	**48**⇑	*e*P	Pn	10 34 36.4	+0.3
CNGN	**Cerro Negro**	**1.94**	**100**	*e*P	Pn	10 34 37.8	-0.3
CNGN				*e*S	Sn	10 35 01.3	+0.1
CNGN				AML	AML	10 35 07.7	
	comp=E,340nm,0.3s						
MOMN	**Momotombo**	**2.11**	**102**	*e*P	Pn	10 34 40.2	-0.2
COPN	**Copaltepe**	**2.12**	**108**	*e*P	Pn	10 34 40.1	-0.4
ESTN	**Estel**	**2.24**	**83**	*e*P	Pn	10 34 42.4	+0.2
APYN	**Apoyeque**	**2.33**	**105**	*e*P	Pn	10 34 43.4	-0.1
XAVN	**Gruta Xavier**	**2.38**	**107**	*e*P	Pn	10 34 44.0	-0.1
TISN	**Laguna Tiscapa**	**2.43**	**107**	*e*P	Pn	10 34 44.9	+0.1
MGAN	**Managua**	**2.45**	**106**	*e*P	Pn	10 34 45.3	+0.2
CGA2	**Cerro Gallo 2**	**4.98**	**124**	*e*P	Pn	10 34 22.2	+2.3
CGA2				*e*S	Sn	10 36 15.1	-1.2
URSC	**Urasca**	**5.64**	**122**	*e*P	Pn	10 35 32.2	+3.2
URSC				*e*S	Sn	10 36 35.6	+2.9

NNC ***12*** *11:01:26.1±5.1,44.30N×82.94E,h0km,mb2.6,mpv2.3, Error ellipse: s-maj=51.0km s-min=13.1km az=116.0*

SOME ***12*** *11:01:27.8,44.37N×82.87E,h5km*

ISC 12 11:01:27.9±2.7, 44°33N±0°08×82°9E±0°1, h17km, n7, σ1§34/11, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.05**	**246**	*e*P	**Pb**	**11 02 05.7**	**+0.9**
	5.5nm,0.2s						
KTMS				*e*S	**Sg**	**11 02 33.1**	**-0.8**
	18nm,0.2s						
DJR	**Jarkent**	**2.24**	**271**	*e*P	**Pb**	**11 02 09.6**	**+1.5**
	12nm,0.4s						
DJR				*e*S	**Sg**	**11 02 39.5**	**-0.5**
	11nm,0.3s						
SHLS	**Shalkode**	**2.49**	**243**	*e*P	**Pb**	**11 02 13.4**	**+1.1**
	7.3nm,0.5s						
SHLS				*e*S	**Sg**	**11 02 46.1**	**-1.8**
	23nm,0.3s						
MK31	**Makanchi Array**	**2.51**	**350**	⇑Pg	**Pb**	**11 02 13.0**	**+0.5**
	0.3nm,0.2s,baz=157,slow=15,SNR=21						
MK31				Lg	Lg	11 02 45.8	
	2.6nm,0.4s,baz=157,slow=27,SNR=8.3						
MAKZ	**Makanchi**	**2.57**	**345**	⇑Pg	**Pb**	**11 02 13.6**	**+0.1**
	1.3nm,0.8s						
MAKZ				⇑Lg	Lg	11 02 48.0	
	1.1nm,0.3s						
PDGK	**Podgornoye**	**2.67**	**249**	⇓Pg	**Pb**	**11 02 15.1**	**-0.2**
	0.4nm,0.2s						
PDGK				⇑Lg	Lg	11 02 50.5	
	2.3nm,0.4s						
KAPS	**Kapalarasan**	**2.71**	**292**	*e*P	**Pb**	**11 02 17.6**	**+1.7**
	1.6nm,0.4s						
KAPS				⇓*i* S	**Sg**	**11 02 53.4**	**-1.5**
	3.8nm,0.4s						

IDC ***12*** *11:16:34.1±0.4,56.25N×164.24E,h0km,mb4.6/36, mb1 4.7/40,mb1mx4.6/60,mbtmp4.5/40,ML3.8/4,MS4.6/34, Ms1 4.6/34,ms1mx4.4/47,Error ellipse: s-maj=12.3km s-min=8.7km az=169.0*

MOS ***12*** *11:16:34.2±1.0,56.27N×164.31E,h11km,mb5.1/80, MS4.8/47,Error ellipse: s-maj=5.2km s-min=3.9km az=78.0*

KRSC ***12*** *11:16:34.9±1.0,55.97N×164.26E,h7km±3km,ML5.8*

ISCJB ***12*** *11:16:37.3±0.3,56.19N±0.02×164.34E±0.02,h35km±3km, mb5.1/326,MS4.7/57,Error ellipse: s-maj=3.8km s-min=1.8km az=168.7*

BJI ***12*** *11:16:37.4,56.19N×163.72E,h24km,mb4.9/57,mB5.0/45, Ms5.3/61,Ms7 5.0/58*

NEIC ***12*** *11:16:38.1±0.9,56.27N×164.20E,h24km±6km,mb5.2/236, Error ellipse: s-maj=3.2km s-min=1.7km az=166.0*

GCMT ***12*** *11:16:38.2±0.1,56.34N×164.45E,h13km,MW5.2/123, Moment Tensor Solution. s84,c133; s123,c221; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.14±.01; Mθθ-0.55±.01; Mφφ0.69±.01; Mrθ-0.01±.03; Mθφ-0.53±.01; Mφr-0.01±.03; Best double couple: M0 0.81600×10^17 NP1:φs115.00000°,δ89.00000°, λ-179.00000°. NP2:φs25.00000°,δ89.00000°,λ-1.00000°. Principal axes: T 0.8850, Plg0.0000°, Azm250.0000°; N -0.1380, Plg88.0000°, Azm159.0000°; P -0.7480, Plg2.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 11:16:38.6±0.5, 56°22N±0°04×164°37E±0°03, h31km±3km, h31km:pP-P,n1077,σ1§31/1125, mb5.1/326, MS4.7/62, 34C-15D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.93**	**273**	PN	**Pn**	**11 16 52.2**	**-3.3**
KBG				S	**Sn**	**11 17 05.5**	**-2.2**
KBG	**Krutoberegovo**	**0.93**	**273**	*i* P	**Pn**	**11 16 52.2**	**-3.3**
KBG				*i* S	**Sn**	**11 17 05.5**	**-2.2**
BKI	**Bering**	**1.36**	**138**	PN	**Pn**	**11 16 58.5**	**-3.0**
BKI				S	**Sn**	**11 17 15.6**	**-2.8**
BKI	**Bering**	**1.36**	**138**	*i* P	**Pn**	**11 16 58.5**	**-3.0**
BKI				*i* S	**Sn**	**11 17 15.6**	**-2.8**
SMKR	**Semkarok**	**1.65**	**284**	PN	**Pn**	**11 17 04.4**	**-1.1**
SMKR	**Semkarok**	**1.65**	**284**	*i* P	**Pn**	**11 17 04.4**	**-1.1**
BDR	**Baidarnaya**	**1.79**	**283**	PN	**Pn**	**11 17 06.7**	**-0.7**
BDR	**Baidarnaya**	**1.79**	**283**	*i* P	**Pn**	**11 17 06.7**	**-0.7**
SRKR	**Sorokina**	**1.83**	**285**	PN	**Pn**	**11 17 07.1**	**-0.9**
SRKR	**Sorokina**	**1.83**	**285**	*i* P	**Pn**	**11 17 07.1**	**-0.9**
ZLN	**Zelenaya**	**2.00**	**266**	PN	**Pn**	**11 17 10.2**	**-0.2**
ZLN	**Zelenaya**	**2.00**	**266**	*i* P	**Pn**	**11 17 10.2**	**-0.2**
CIRR	**Tsirk**	**2.03**	**269**	PN	**Pn**	**11 17 10.5**	**-0.2**
CIRR	**Tsirk**	**2.03**	**269**	*i* P	**Pn**	**11 17 10.5**	**-0.2**
LGNR	**Loginova**	**2.06**	**268**	PN	**Pn**	**11 17 11.1**	**-0.3**
LGNR	**Loginova**	**2.06**	**268**	*i* P	**Pn**	**11 17 11.1**	**-0.3**
KLY	**Klyuchi**	**2.07**	**274**	PN	**Pn**	**11 17 09.0**	**-2.2**
KLY				S	**Sn**	**11 17 34.5**	**-1.5**
KLY	**Klyuchi**	**2.07**	**274**	*i* P	**Pn**	**11 17 09.0**	**-2.2**
KLY				*i* S	**Sn**	**11 17 34.5**	**-1.5**
KRSR	**Krestovskiy**	**2.12**	**272**	PN	**Pn**	**11 17 11.1**	**-0.9**
KRSR	**Krestovskiy**	**2.12**	**272**	*i* P	**Pn**	**11 17 11.1**	**-0.9**
BZMR	**Bezymyannaya**	**2.19**	**264**	PN	**Pn**	**11 17 12.6**	**-0.4**
BZMR				S	**Sn**	**11 17 39.9**	**+0.8**

BZMR	**Bezymyannaya**	**2.19**	**264**	*i* P	**Pn**	**11 17 12.6**	**-0.4**
BZMR				S	**Sn**	**11 17 39.9**	**+0.8**
MKZ	**Mys Kozlova**	**2.24**	**223**	PN	**Pn**	**11 17 11.6**	**-2.0**
MKZ	**Mys Kozlova**	**2.24**	**223**	*i* P	**Pn**	**11 17 11.6**	**-2.0**
MKZ				*e*S	**Sn**	**11 17 36.5**	**-3.6**
KPT	**Kopyto**	**2.34**	**266**	PN	**Pn**	**11 17 14.8**	**-0.1**
KPT	**Kopyto**	**2.34**	**266**	*i* P	**Pn**	**11 17 14.8**	**-0.1**
KMNR	**Kamenistaya**	**2.37**	**260**	PN	**Pn**	**11 17 15.3**	**-0.1**
KMNR	**Kamenistaya**	**2.37**	**260**	*i* P	**Pn**	**11 17 15.3**	**-0.1**
KOZ	**Kozyrevsk**	**2.52**	**268**	PN	**Pn**	**11 17 18.0**	**+0.6**
KOZ	**Kozyrevsk**	**2.52**	**268**	*i* P	**Pn**	**11 17 18.0**	**+0.6**
TUMR	**Tumrok**	**2.56**	**250**	PN	**Pn**	**11 17 18.1**	**0.0**
TUMR	**Tumrok**	**2.56**	**250**	*i* P	**Pn**	**11 17 18.1**	**0.0**
ESO	**Esso**	**3.19**	**267**	PN	**Pn**	**11 17 26.2**	**-0.4**
ESO				S	**Sn**	**11 18 04.7**	**+1.1**
ESO	**Esso**	**3.19**	**267**	*i* P	**Pn**	**11 17 26.2**	**-0.4**
ESO				*e*S	**Sn**	**11 18 04.7**	**+1.1**
NLC	**Nalytchevo**	**4.22**	**226**	PN	**Pn**	**11 17 39.5**	**-1.2**
NLC	**Nalytchevo**	**4.22**	**226**	*i* P	**Pn**	**11 17 39.5**	**-1.2**
SDLR	**Sedlovina**	**4.33**	**229**	PN	**Pn**	**11 17 41.9**	**-0.5**
SDLR	**Sedlovina**	**4.33**	**229**	*i* P	**Pn**	**11 17 41.9**	**-0.5**
KRER	**Koryakskii**	**4.37**	**230**	PN	**Pn**	**11 17 42.9**	**-0.1**
KRER	**Koryakskii**	**4.37**	**230**	*e*P	**Pn**	**11 17 42.9**	**-0.1**
KRX	**Arik**	**4.38**	**231**	PN	**Pn**	**11 17 42.8**	**-0.2**
KRX	**Arik**	**4.38**	**231**	*e*P	**Pn**	**11 17 42.8**	**-0.2**
SMAR	**Somma**	**4.38**	**230**	PN	**Pn**	**11 17 42.7**	**-0.4**
SMAR	**Somma**	**4.38**	**230**	*i* P	**Pn**	**11 17 42.7**	**-0.4**
AVH	**Avacha**	**4.40**	**230**	PN	**Pn**	**11 17 43.4**	**+0.1**
AVH	**Avacha**	**4.40**	**230**	*i* P	**Pn**	**11 17 43.4**	**+0.1**
UGLR	**Uglovaya**	**4.41**	**229**	PN	**Pn**	**11 17 43.1**	**-0.3**
UGLR	**Uglovaya**	**4.41**	**229**	*i* P	**Pn**	**11 17 43.1**	**-0.3**
KOK	**Koryaka**	**4.43**	**231**	PN	**Pn**	**11 17 43.5**	**-0.2**
KOK	**Koryaka**	**4.43**	**231**	*e*P	**Pn**	**11 17 43.5**	**-0.2**
GNL	**Ganaly**	**4.48**	**238**	PN	**Pn**	**11 17 44.7**	**+0.2**
GNL	**Ganaly**	**4.48**	**238**	*i* P	**Pn**	**11 17 44.7**	**+0.2**
PET	**Petropavlovsk**	**4.61**	**228**	*ce*PN	**Pn**	**11 17 45.6**	**-0.5**
PET				pmax	pmax		
	comp=Z,2μm,14.9s						
PET				pmax	pmax		
	comp=Z,800nm,9.1s						
PET				pmax	pmax		
	comp=Z,805nm,0.6s						
PET				MLR	MLR		
	comp=Z,10μm,18.0s						
PET				MLR	MLR		
	comp=Z,9μm,14.0s						
PET	**Petropavlovsk**	**4.61**	**228**	*e*Pn	**Pn**	**11 17 45.6**	**-0.5**
PET				*e*Sn	**Sn**	**11 18 39.8**	**+1.2**
PET	**Petropavlovsk**	**4.61**	**228**	*e*P	**Pn**	**11 17 45.7**	**-0.4**
PEA0	**Petropavlovsk-**	**4.97**	**234**	*e*Pn	**Pn**	**11 17 50.5**	**-0.6**
PEA0B	**Petropavlovsk-**	**4.97**	**234**	*e*Pn	**Pn**	**11 17 51.1**	**0.0**
PETK	**Petropavlovsk-**	**4.97**	**234**	PN	**Pn**	**11 17 51.0**	**-0.1**
	comp=Z,7.8nm,0.3s,baz=73,slow=16,SNR=74						
PETK				Sn	**Sn**	**11 18 48.2**	**+0.9**
	baz=57,slow=24,SNR=3.0						
PETK	**Petropavlovsk-**	**4.97**	**234**	PN	**Pn**	**11 17 51.0**	**-0.1**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KRMR	**Karymshinskiy**	**4.97**	**230**	PN	**Pn**	**11 17 51.2**	**+0.2**
KRMR	**Karymshinskiy**	**4.97**	**230**	*i* P	**Pn**	**11 17 51.2**	**+0.2**
RUS	**Russkaya**	**5.11**	**225**	PN	**Pn**	**11 17 52.3**	**-0.6**
RUS	**Russkaya**	**5.11**	**225**	*i* P	**Pn**	**11 17 52.3**	**-0.6**
ASAK	**Asacha**	**5.39**	**227**	PN	**Pn**	**11 17 57.6**	**+0.7**
ASAK	**Asacha**	**5.39**	**227**	*i* P	**Pn**	**11 17 57.6**

YSS MLR MLR
comp=E,3µm,14.0s
YSS Yuzh-Sakhalins 16.26 244 *e*Pn **Pn 11 20 24.5 0.0**
comp=E,191nm,1.2s
TNA Tin City 16.26 44 *e*Pn **P 11 20 26.6 -0.5**
comp=E,159nm,1.3s
UNV Unalaska Valle 16.81 86 *e*Pn **P 11 20 34.1 +0.8**
comp=E,116nm,1.0s
AKUT Akutan 17.12 84 *e*P **P 11 20 38.0 +1.3**
comp=E,829nm,1.8s
ASAJ Asahikawa 18.37 238 *e*P **P 11 20 49.3 -1.3**
comp=E,422nm,1.2s
YAK Yakutsk 18.55 303 P **P 11 20 51.3 -1.1**
comp=E,0.0nm,0.3s,baz=276,slow=22,SNR=7.0
YAK LR LR 11 27 48.4
comp=E,872nm,18.8s,baz=100,slow=36
YAK Yakutsk 18.55 303 *e*P **P 11 20 51.0 -1.5**
YAK *e*S **Sn 11 24 15.0 -4.0**
YAK pmax pmax
comp=E,45nm,0.9s
YAK pmax pmax
comp=E,29nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,287nm,1.8s
YAK pmax pmax
comp=N,66nm,1.5s
YAK pmax pmax
comp=E,292nm,1.5s
YAK smax smax
comp=N,329nm,2.0s
YAK smax smax
comp=E,185nm,2.2s
YAK MLR MLR
comp=Z,1µm,12.0s
YAK MLR MLR
comp=N,1µm,8.0s
YAK MLR MLR
comp=E,1µm,10.0s
YAK Yakutsk 18.55 303 *e*P **P 11 20 51.4 -1.1**
comp=E,169nm,1.1s
HABR Khabarovsk 19.40 259 *e*P **P 11 20 58.6 -3.2**
HABR *e*S **S 11 24 35.1 -4.1**
HABR pmax pmax
comp=N,32nm,1.6s
HABR pmax pmax
comp=E,73nm,1.6s
HABR pmax pmax
comp=Z,96nm,1.6s
HABR MLR MLR
comp=Z,4µm,17.0s
SDPT Sand Point 19.66 78 *e*P **P 11 21 04.2 -0.4**
comp=Z,448nm,1.4s
ERM Erimo 19.75 233 *ce*P **P 11 21 03.6 -2.1**
ERM pmax pmax
comp=Z,56nm,1.0s
ERM Erimo 19.75 233 *e*P **P 11 21 04.5 -1.2**
comp=Z,58nm,0.6s
CHGN Chignik 20.52 74 *e*P **P 11 21 14.5 +0.6**
KLR Kul'dur 20.80 264 P **P 11 21 16.1 -1.0**
comp=Z,14nm,0.9s,baz=53,slow=11,SNR=37
KLR LR LR 11 30 06.3
comp=Z,3µm,18.2s,baz=62,slow=39
TT01 Tatalina 20.87 55 *e*P Pn 11 21 19.6 -0.7
TTA Tatalina 20.87 55 *e*P Pn 11 21 19.2 -1.2
TTA pmax pmax
comp=Z,180nm,1.2s
TTA Tatalina 20.87 55 *e*P Pn 11 21 19.2 -1.2
comp=Z,181nm,1.3s
SVW2 Sparrevohn 21.14 60 *e*P **P 11 21 21.8 +1.1**
comp=Z,52nm,1.0s
TIXI Tiksi 21.45 330 P **P 11 21 24.3 +0.5**
comp=Z,42nm,0.7s,baz=115,slow=12,SNR=85
TIXI LR LR 11 30 29.4
comp=Z,2µm,21.6s,baz=126,slow=39
TIXI Tiksi 21.45 330 *e*P **P 11 21 24.0 +0.3**
comp=Z,124nm,1.0s
CLNS Chul'man 21.58 288 *e*P **P 11 21 29.3 +3.9**
CLNS *e**PP **sP 11 21 37.0 -0.7**
CLNS *e* 11 21 51.3
CLNS *e* 11 25 24.3
CLNS *e*S Sn 11 25 29.9 -2.0
CLNS *e*SS SnSn 11 26 02.7 +16
CLNS pmax pmax
comp=Z,29nm,0.8s
CLNS pmax pmax
comp=N,27nm,0.8s
CLNS pmax pmax
comp=E,38nm,0.9s
CLNS pmax pmax
comp=E,28nm,1.2s
CLNS pmax pmax
comp=N,36nm,1.0s
CLNS pmax pmax
comp=Z,39nm,1.6s
CLNS MLR MLR
comp=N,3µm,12.0s
CLNS MLR MLR
comp=E,1µm,17.0s
CLNS MLR MLR
comp=Z,2µm,15.0s
RSO Redoubt South 22.59 61 *e*P **P 11 21 37.6 +1.2**
PPLA Purkeypile 22.62 55 *e*P **P 11 21 38.1 +1.4**
comp=Z,290nm,1.6s
CAST Castle Rocks 22.65 54 *e*P **P 11 21 37.9 +1.1**
comp=Z,167nm,1.8s
SPU Mount Spurr 22.83 59 *e*P **P 11 21 40.5 +1.7**
OHAK Old Harbor 22.99 70 *e*P **P 11 21 39.5 -0.8**
comp=Z,340nm,2.0s
BPAW Bear Paw Mtn. 23.12 52 *e*P **P 11 21 41.8 +0.2**
comp=Z,189nm,1.6s
KTH Kantishna Hill 23.16 53 *e*P **P 11 21 42.5 +0.3**
comp=Z,74nm,1.1s
KDAK Kodiak Island 23.21 68 *i*P **P 11 21 42.5 -0.1**
KDAK Kodiak Island 23.21 68 *e*P **P 11 21 42.2 -0.4**
comp=Z,44nm,0.9s
MLY Manley 23.22 49 *e*P **P 11 21 42.9 +0.2**
comp=Z,98nm,1.4s
HOM Homer 23.27 63 *e*P **P 11 21 44.6 +1.4**
comp=Z,138nm,0.8s
SUA Susitna One 23.43 58 *e*P **P 11 21 45.9 +1.1**
comp=Z,61nm,1.0s
TRF Thorofare Moun 23.45 53 *e*P **P 11 21 45.7 +0.6**
comp=Z,318nm,1.6s
CNPM China Poot 23.50 63 *e*P **P 11 21 45.0 -0.5**
comp=Z,160nm,1.3s
COLD Coldfoot 23.57 44 *e*P **P 11 21 45.9 -0.1**
comp=Z,52nm,1.1s
BRLK Bradley Lake 23.63 63 *e*P **P 11 21 45.9 -0.8**
comp=Z,242nm,1.9s
USRK Ussuriysk Ar. 23.71 253 P **P 11 21 44.3 -3.3**
comp=Z,4.3nm,0.8s,baz=64,slow=11,SNR=7.9
USRK LR LR 11 31 57.3
comp=Z,2µm,18.7s,baz=55,slow=39
BWN Browne 23.78 52 *e*P **P 11 21 49.3 +1.2**
comp=Z,270nm,1.2s
RC01 Rabbit Creek A 23.96 59 *e*P **P 11 21 51.5 +1.7**
comp=Z,62nm,1.4s
MCK McKinley 24.04 53 *e*P **P 11 21 50.6 +0.1**
MCK pmax pmax
comp=Z,77nm,1.1s
MCK McKinley 24.04 53 *e*P **P 11 21 50.6 +0.1**
comp=Z,77nm,1.1s
RND Reindeer 24.10 53 *e*P **P 11 21 50.6 -0.5**
RND pmax pmax
comp=Z,77nm,1.1s
RND Reindeer 24.10 53 *e*P **P 11 21 50.6 -0.5**
comp=Z,76nm,1.2s
PMR Palmer 24.17 58 *e*P **P 11 21 52.4 +0.7**
PMR pmax pmax
comp=Z,17nm,0.9s
PMR Palmer 24.17 58 *e*P **P 11 21 52.4 +0.7**
comp=Z,17nm,0.9s
SEW Seward 24.27 62 *e*P **P 11 21 51.8 -0.8**
comp=Z,49nm,0.9s
MDM Murphy Dome 24.29 50 *e*P **P 11 21 52.8 0.0**
comp=Z,28nm,0.9s
WRH Wood River Hil 24.37 51 *e*P **P 11 21 53.3 -0.1**
comp=Z,68nm,1.0s
COLA College 24.45 50 *i*P **P 11 21 54.5 +0.3**
COLA pmax pmax
comp=Z,43nm,1.2s
COLA College 24.45 50 *e*P **P 11 21 54.6 +0.4**
comp=Z,80nm,1.2s
CCB Clear Creek Bu 24.48 50 *e*P **P 11 21 54.2 -0.3**
comp=Z,97nm,1.2s

VLA Vladivostok 24.50 251 *i*P **P 11 21 52.3 -2.6**
VLA *e* 11 22 23.8
VLA *i* 11 25 30.5
VLA *e*S **S 11 26 10.8 -2.3**
VLA pmax pmax
comp=Z,12nm,0.7s
SML Sawmill 24.52 57 *e*P **P 11 21 54.8 -0.1**
SML pmax pmax
comp=Z,53nm,0.9s
SML Sawmill 24.52 57 *e*P **P 11 21 54.8 -0.1**
comp=Z,53nm,0.9s
MDJ Mudanjiang 24.73 257 P **P 11 21 56.5 -0.5**
MDJ pP pP 11 22 04.8 -1.1
MDJ sP sP 11 22 08.8 -0.9
MDJ S **S 11 26 15.3 -1.5**
MDJ PMZ
comp=Z,11nm,0.9s
MDJ PMZ
comp=Z,78nm,5.8s
MDJ LN
comp=Z,2µm,16.9s
MDJ LE
comp=Z,3µm,18.2s
MDJ LZ
comp=Z,2µm,19.4s
MDJ Mudanjiang 24.73 257 *e*P **P 11 21 57.2 +0.2**
comp=Z,13nm,0.8s
DHY Denali Highway 24.80 54 *e*P **P 11 21 56.6 -1.0**
comp=Z,77nm,1.3s
HDA Harding Lake 24.87 51 *e*P **P 11 21 57.6 -0.5**
comp=Z,47nm,0.9s
ILAR Eielson Array 24.87 50 P **P 11 21 57.3 -0.7**
comp=Z,16nm,1.1s,baz=264,slow=7.9,SNR=59
ILAR LR LR 11 32 29.1
comp=Z,2µm,18.1s,baz=270,slow=38
ILAR Eielson Array 24.87 50 P **P 11 21 57.3 -0.7**
ILAR pmax pmax
comp=Z,15nm,1.1s
ILAR MLR MLR
comp=Z,2µm,18.1s
ILB Eielson Array 24.87 50 *e*P **P 11 21 57.7 -0.3**
IL1 Eielson Array 24.87 50 *e*P **P 11 21 57.8 -0.2**
SCM Sheep Creek Mo 24.98 57 *e*P **P 11 21 59.2 0.0**
SCM *e**PP pP 11 21 59.4 -8.7
SCM Sheep Creek Mo 24.98 57 *e*P **P 11 21 59.2 0.0**
comp=Z,144nm,0.9s
PAX Paxson 25.67 54 *e*P **P 11 22 05.4 0.0**
PAX pmax pmax
comp=Z,63nm,1.2s
PAX Paxson 25.67 54 *e*P **P 11 22 05.4 0.0**
comp=Z,63nm,1.3s
KLU Klutina 25.71 58 *e*P **P 11 22 05.7 0.0**
comp=Z,181nm,1.6s
DIV Divide 25.85 58 *e*P **P 11 22 07.1 +0.1**
comp=Z,47nm,1.0s
EYAK Cordova Ski Ar 25.98 60 *e*P **P 11 22 08.3 +0.2**
comp=Z,41nm,1.1s
DOT Dot Lake 26.21 52 *e*P **P 11 22 11.6 +1.4**
comp=Z,58nm,0.8s
MJB9 Matsu-Tunnel 26.43 233 *e*P **P 11 22 12.4 0.0**
comp=Z,37nm,1.0s
MAJO Matsushiro 26.43 233 *e*P **P 11 22 12.4 0.0**
MAJO pmax pmax
comp=Z,130nm,1.0s
MAJO Matsushiro 26.43 233 *e*P **P 11 22 12.4 0.0**
comp=Z,134nm,0.9s
MAT Matsushiro 26.43 233 P **P 11 22 12.1 -0.3**
MAT S **S 11 26 47.0 +3.2**
MJAR Matsushiro Arr 26.43 233 P **P 11 22 11.8 -0.6**
comp=Z,58nm,1.0s,baz=20,slow=8.3,SNR=186
MJAR PcP **PcP 11 25 37.6 +0.6**
comp=Z,0.6nm,0.4s,baz=66,slow=1.6,SNR=8.0
MJAR LR LR 11 33 16.1
comp=Z,2µm,20.3s,baz=60,slow=38
MJAR Matsushiro Arr 26.43 233 P **P 11 22 11.8 -0.6**
MJAR 11 25 37.6
MJAR pmax pmax
comp=Z,59nm,1.0s
MJAR MLR MLR
comp=Z,2µm,20.3s
BMRM Bremner River 26.44 58 *e*P **P 11 22 11.5 -0.8**
comp=Z,76nm,1.0s
MENT Mentasta 26.47 54 *e*P **P 11 22 14.7 +2.1**
comp=Z,54nm,1.2s
RAGM Ragged Mountai 26.54 60 *e*P **P 11 22 13.6 +0.4**
comp=Z,261nm,1.8s
BOD Bodaibo 26.95 295 *e*P **P 11 22 19.0 +2.1**
BOD pmax pmax
comp=Z,32nm,1.1s
CRQM Cirque 27.18 59 *e*P **P 11 22 19.8 +0.6**
comp=Z,59nm,0.8s
EGAK Eagle 27.31 49 *e*P **P 11 22 18.9 -1.2**
comp=Z,33nm,0.8s
CN2 Changchun 27.53 260 *e*P **P 11 22 21.5 -0.7**
CN2 *es*P pP 11 22 32.0 +0.8
CN2 *e*S **S 11 26 56.3 -4.7**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 LN
comp=Z,3µm,14.0s
CN2 LE
comp=Z,1µm,14.0s
CN2 LZ
comp=Z,2µm,14.0s
INU Inuyama 27.95 233 *e*P **P 11 22 25.4 -0.7**
comp=Z,126nm,1.4s
JHJ2 Mitsune 28.67 227 *e*P **P 11 22 31.9 -0.5**
comp=Z,941nm,1.8s
JHJ Hachijo jima 2 28.68 227 LR LR 11 34 30.4
comp=Z,444nm,19.5s,baz=172,slow=38
SNY Shenyang 29.87 259 *i*P **P 11 22 43.4 +0.4**
SNY PMZ
comp=Z,20nm,0.3s
SNY LN
comp=Z,2µm,16.0s
SNY LE
comp=Z,3µm,13.9s
SNY LZ
comp=Z,5µm,14.6s
INK Inuvik 29.88 41 P **P 11 22 43.1 +0.4**
comp=Z,4.3nm,0.6s,baz=278,slow=6.3,SNR=12
INK LR LR 11 36 19.3
comp=Z,479nm,19.6s,baz=276,slow=40
INK Inuvik 29.88 41 *e*P **P 11 22 43.0 +0.2**
INK pmax pmax
comp=Z,41nm,1.1s
INK Inuvik 29.88 41 *e*P **P 11 22 43.0 +0.2**
comp=Z,41nm,1.1s
KS01 Wonju Array Si 30.70 248 *e*P **P 11 22 48.6 -1.8**
KSRS Korea Array 30.70 248 P **P 11 22 48.3 -2.1**
comp=Z,7.2nm,0.8s,baz=36,slow=8.8,SNR=30
KSRS PcP **PcP 11 25 48.4 +0.9**
comp=Z,0.9nm,0.8s,baz=24,slow=1.2,SNR=3.2
KSRS LR LR 11 35 19.8
comp=Z,1µm,18.2s,baz=61,slow=37
KS15 Wonju Array Si 30.73 248 *e*P **P 11 22 49.1 -1.5**
KSAR Wonju Array Be 30.73 248 P **P 11 22 48.3 -2.3**
KSAR 11 25 48.4
KSAR Wonju Array Be 30.73 248 P **P 11 22 48.2 -2.3**
KSAR PcP **PcP 11 25 48.4 +0.8**
SKAG Skagway 31.30 59 *e*P **P 11 22 57.2 +1.8**
comp=Z,53nm,1.4s
JNU Nakatsue 32.64 239 LR LR 11 35 46.3
comp=Z,1µm,20.6s,baz=54,slow=35
CBIJ Chichi jima 33.18 218 *e*P **P 11 23 12.1 -0.2**
comp=Z,148nm,1.0s
JCJ Chichijima 33.18 218 P **P 11 23 12.3 +0.1**
comp=Z,46nm,0.9s,baz=276,slow=12,SNR=3.8
JCJ LR LR 11 39 16.2
comp=Z,96nm,18.8s,baz=6.5,slow=41
WRAK Wrangell Islan 33.99 63 *e*P **P 11 23 20.9 +1.9**
comp=Z,39nm,1.3s
CRAG Craig 34.04 64 *e*P **P 11 23 21.6 +2.2**
comp=Z,36nm,1.4s
DLBC Dease Lake 34.23 58 P **P 11 23 22.0 +0.8**
comp=Z,13nm,1.1s,baz=292,slow=9.5,SNR=21
DLBC Dease Lake 34.23 58 *e*P **P 11 23 22.9 +1.7**
comp=Z,24nm,0.9s
IRK Irkutsk 34.38 289 *e*P **P 11 23 24.9 +2.5**
IRK pmax pmax
comp=Z,41nm,0.8s
NRIK Noril'sk 34.85 323 P **P 11 23 26.2 -0.1**
comp=Z,2.7nm,0.3s,baz=79,slow=7.3,SNR=16
NRIK LR LR 11 38 23.6
comp=Z,1µm,21.4s,baz=78,slow=38
TLY Talaya 35.00 289 P **P 11 23 27.5 -0.4**
comp=Z,1.7nm,0.5s,baz=18,slow=8.6,SNR=3.5

BJI Beijing 35.18 263 P **P 11 23 28.4 -1.0**
BJI S **S 11 28 59.1 -1.3**
BJI PMZ
comp=Z,6.0nm,0.9s
BJI PMZ
comp=Z,83nm,4.0s
BJI LN
comp=Z,4µm,16.5s
BJI LE
comp=Z,3µm,17.1s
BJI LZ
comp=Z,1µm,32.5s
ULN Ulaanbaatar 35.28 281 *ce*P **P 11 23 28.3 -2.2**
ULN pmax pmax
comp=Z,16nm,1.2s
ULN Ulaanbaatar 35.28 281 *e*P **P 11 23 29.4 -1.1**
comp=Z,17nm,0.9s
SONA1 Songino Array 35.65 282 *e*P **P 11 23 32.9 -0.7**
SONM Songino Array 35.66 282 P **P 11 23 33.2 -0.5**
comp=Z,11nm,0.9s,baz=44,slow=9.6,SNR=12
SONM LR LR 11 40 31.7
comp=Z,491nm,20.5s,baz=51,slow=40
ZAK Zakamensk 35.90 287 *e*P P 11 23 27.1 -8.6
ZAK *e* 11 26 10.8
ZAK pmax pmax
comp=Z,4.0nm,0.9s
MOY Mondy 36.40 290 *e*P **P 11 23 40.3 +0.3**
MOY pmax pmax
comp=Z,11nm,2.2s
H11N2 WAKE ISLAND Hy 36.48 176 T T 12 02 37.1
baz=358,slow=76,SNR=7746
H11N3 WAKE ISLAND Hy 36.49 176 T T 12 02 38.1
baz=358,slow=76,SNR=8975
H11N1 WAKE ISLAND Hy 36.50 176 T T 12 02 38.1
baz=358,slow=76,SNR=8248
HHC Hu-ho-hao-te 37.19 268 *e*P **P 11 23 46.9 +0.1**
HHC sP sP 11 23 58.2 -1.5
HHC PP **PP 11 25 10.9 -0.8**
HHC S **S 11 29 30.4 -1.0**
HHC PMZ
comp=Z,23nm,0.9s
HHC PMZ
comp=Z,89nm,6.1s
HHC LN
comp=Z,3µm,15.9s
HHC LE
comp=Z,3µm,16.0s
HHC LZ
comp=Z,2µm,16.1s
SSE Sheshan 39.13 248 P **P 11 24 02.7 -0.3**
SSE S **S 11 30 00.4 -0.2**
SSE PMZ
comp=Z,23nm,0.6s
SSE PMZ
comp=Z,58nm,3.1s
SSE LN
comp=Z,900nm,18.5s
SSE LE
comp=Z,480nm,18.5s
SSE LZ
comp=Z,820nm,18.7s
YKA Yellowknife Ar 39.19 47 P **P 11 24 03.3 +0.1**
comp=Z,4.5nm,0.7s,baz=298,slow=8.1,SNR=23
YKA Yellowknife Ar 39.19 47 P **P 11 24 03.3 +0.1**
YKA pmax pmax
comp=Z,4.0nm,0.7s
WHN Wuhan 43.19 255 P **P 11 24 33.6 -2.8**
WHN S **S 11 31 03.0 +2.1**
WHN LN
comp=Z,4µm,17.0s
WHN LE
comp=Z,5µm,15.4s
WHN LZ
comp=Z,6µm,16.6s
ZAA0 Zalesovo Array 43.20 302 *e*P **P 11 24 35.8 -0.5**
ZALV Zalesovo Beam 43.20 302 P **P 11 24 34.9 -1.4**
comp=Z,1.1nm,0.8s,baz=37,slow=7.6,SNR=3.9
ZALV LR LR 11 44 19.4
comp=Z,724nm,19.2s,baz=70,slow=39
NLWA Neilton Lookou 43.34 70 *e*P **P 11 24 39.5 +2.0**
comp=Z,21nm,1.0s
NVS Novosibirsk 43.41 304 *e*P **P 11 24 37.2 -0.7**
NVS *e* 11 26 20.2
NVS pmax pmax
comp=N,20nm,1.8s
NVS pmax pmax
comp=E,34nm,1.8s
NVS pmax pmax
comp=Z,41nm,1.8s
B06A Marblemount 43.86 67 *e*P **P 11 24 43.0 +1.3**
comp=Z,16nm,0.6s
E03A Lebam 44.04 71 *e*P **P 11 24 44.8 +1.8**
comp=Z,38nm,1.0s
KBS Kingsbay 44.11 353 *e*P **P 11 24 44.6 +1.4**
KBS pmax pmax
comp=Z,38nm,1.1s
KBS Kingsbay 44.11 353 *e*P **P 11 24 44.6 +1.4**
comp=Z,38nm,1.1s
F03A Seaside 44.44 72 *e*P **P 11 24 48.5 +2.2**
comp=Z,156nm,1.8s
SPB5 Spitsbergen Ar 44.44 351 *e*P **P 11 24 46.6 +0.7**
SPB1 Spitsbergen Ar 44.44 351 *e*P **P 11 24 46.5 +0.5**
SPA1 Spitsbergen Ar 44.44 351 *e*P **P 11 24 46.6 +0.6**
SPA0 Spitsbergen Ar 44.45 351 *e*P **P 11 24 46.8 +0.8**
SPB4 Spitsbergen Ar 44.45 351 *e*P **P 11 24 46.7 +0.7**
SPA2 Spitsbergen Ar 44.45 351 *e*P **P 11 24 46.5 +0.6**
SPA3 Spitsbergen Ar 44.45 351 *e*P **P 11 24 46.5 +0.5**
SPB2 Spitsbergen Ar 44.45 351 *e*P **P 11 24 46.7 +0.7**
SPB3 Spitsbergen Ar 44.45 351 *e*P **P 11 24 46.8 +0.8**
D05A Enumclaw 44.45 69 *e*P **P 11 24 48.6 +2.2**
comp=Z,24nm,0.9s
GTA Gaotai 44.73 276 P **P 11 24 48.6 -0.3**
GTA pP pP 11 24 58.4 +0.3
GTA sP sP 11 25 02.2 +0.3
GTA S **S 11 31 20.4 -3.1**
GTA sS sS 11 31 36.7 -2.1
GTA SS ScS 11 34 32.0 -12
GTA PMZ
comp=Z,18nm,0.9s
GTA PMZ
comp=Z,100nm,4.7s
GTA LN
comp=Z,2µm,19.0s
GTA LE
comp=Z,2µm,20.8s
GTA LZ
comp=Z,1µm,18.5s
LZH Lanzhou 44.84 270 *e*P **P 11 24 51.8 +2.0**
LZH pP pP 11 25 00.7 +1.6
LZH sP sP 11 25 04.6 +1.8
LZH *e*S **S 11 31 27.4 +2.1**
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,99nm,4.0s
LZH LN
comp=Z,3µm,15.3s
LZH LE
comp=Z,3µm,14.0s
LZH LZ
comp=Z,3µm,15.4s
B08A Colville Reser 45.07 66 *e*P **P 11 24 53.0 +1.7**
comp=Z,36nm,1.3s
LTY Liberty 45.09 68 *e*P **P 11 24 53.0 +1.4**
comp=Z,27nm,1.4s
YULB Yu-li 45.38 242 *e*P **P 11 24 53.8 -0.3**
comp=Z,21nm,1.0s
QZH Quanzhou 45.45 246 *e*P **P 11 24 53.6 -0.9**
QZH S **S 11 31 29.1 -4.7**
QZH LN
comp=Z,1µm,14.2s
QZH LE
comp=Z,2µm,13.6s
QZH LZ
comp=Z,2µm,14.9s
HSPB Hornsund (broa 45.60 351 *e*P **P 11 24 56.3 +1.2**
C09A Chrisman Ranch 45.97 66 *e*P **P 11 24 59.1 +0.7**
comp=Z,36nm,1.4s
H04A Detroit Lake 45.99 72 *e*P **P 11 24 59.9 +1.2**
comp=Z,13nm,0.9s
I03D Drain, OR 46.03 74 P **P 11 24 58.2 -0.7**
baz=312
D08A Wollman Farm, 46.13 67 *e*P **P 11 25 00.5 +0.8**
comp=Z,14nm,0.9s
NEW Newport 46.26 65 P **P 11 25 00.7 -0.1**
comp=Z,6.3nm,1.0s,baz=314,slow=5.1,SNR=8.6

NEW	**Newport**	46.26	65	P		P		11 24 59.8	-1.0	
	baz=311									
NEW	**Newport**	46.26	65	*e*P		P		11 25 01.7	+0.9	
NEW					pmax	pmax				
	comp=Z,16nm,1.1s									
NEW	**Newport**	46.26	65	*e*P		P		11 25 01.6	+0.9	
	comp=Z,16nm,1.1s									
I04A	**Tendick Farm,**	46.47	73	P		P		11 25 01.4	-1.1	
	baz=313									
I05D	**Terrebonne, OR**	46.67	72	P		P		11 25 03.5	-0.6	
	baz=312									
E09A	**Wood Farm, Sta**	46.89	67	*e*P		P		11 25 06.8	+1.2	
	comp=Z,22nm,0.8s									
L02D	**Cave Junction,**	46.94	75	P		P		11 25 05.6	-0.5	
	baz=314									
DAG	**Danmarks Havn**	47.26	1	*e*P		P		11 25 09.2	+1.1	
DAG					MLR	MLR				
	comp=Z,680nm,18.0s									
DAG	**Danmarks Havn**	47.26	1	*i* P		P		11 25 09.2	+1.1	
	comp=Z,650nm,18.0s									
G08A	**Pilot Rock**	47.28	69	*e*P		P		11 25 09.9	+1.0	
	comp=Z,22nm,1.4s									
WALA	**Waterton Lakes**	47.34	62	*e*P		P		11 25 10.2	+0.8	
	comp=Z,52nm,1.2s									
J05D	**Fort Rock, OR**	47.44	73	P		P		11 25 10.3	+0.1	
	baz=313,SNR=12									
BSMT	**Bassoo Peak**	47.71	64	*e*P		P		11 25 12.8	+0.6	
F10A	**Beach Ranch, E**	47.72	67	*e*P		P		11 25 13.0	+0.7	
	comp=Z,20nm,1.1s									
KHMM	**Horse Mountain**	47.76	77	*e*P		P		11 25 14.5	+1.8	
	comp=Z,87nm,1.7s									
BLMT	**Blacktail Moun**	47.81	64	*e*P		P		11 25 14.2	+1.2	
M02C	**Callahan**	47.87	76	P		P		11 25 14.0	+0.5	
	baz=314,SNR=5.7									
K05A	**Summer Lake**	48.01	73	*e*P		P		11 25 16.3	+1.7	
	comp=Z,138nm,1.9s									
JTMT	**Jette**	48.03	64	*e*P		P		11 25 15.9	+1.2	
YBMT	**Yellow Bay**	48.09	64	*e*P		P		11 25 16.1	+1.0	
M04C	**Macdoel**	48.15	75	P		P		11 25 15.8	+0.2	
	baz=314,SNR=5.6									
KURK	**Kurchatov**	48.20	302	P		P		11 25 14.8	-0.9	
KURK					pmax	pmax				
	comp=Z,192nm,1.3s									
KURK	**Kurchatov**	48.20	302	*e*P		P		11 25 15.5	-0.2	
	comp=Z,100nm,1.1s									
N02D	**Trinity Center**	48.24	76	P		P		11 25 17.0	+0.7	
	baz=314,SNR=5.2									
WMQ	**Urumqi**	48.28	289	P		P		11 25 16.8	+0.2	
WMQ				pP		sP		11 25 28.6	-1.0	
WMQ				sP		pP		11 25 31.7	+5.8	
WMQ				PP		**PP**		**11 27 10.0**	**+1.2**	
WMQ				S		**S**		**11 32 14.2**	**+0.1**	
WMQ				sS		sS		11 32 30.7	+1.3	
WMQ				PMZ						
	comp=Z,20nm,0.8s									
WMQ				PMZ						
	comp=Z,84nm,4.8s									
WMQ				LN						
	comp=Z,3µm,18.8s									
WMQ				LE						
	comp=Z,1µm,17.6s									
WMQ				LZ						
	comp=Z,430nm,18.8s									
KURBB	**Kurchatov Arra**	48.30	302	P		P		11 25 15.4	-1.1	
	comp=Z,6.3nm,0.9s,baz=56,slow=7.9,SNR=42									
SWMT	**Swartz Lake**	48.33	64	*e*P		P		11 25 17.9	+0.9	
BMO	**Blue Mountains**	48.44	69	*e*P		P		11 25 18.4	+0.6	
	comp=Z,21nm,1.2s									
CD2	**Chengdu**	48.73	265	*e*P		P		11 25 19.2	-1.0	
CD2				pP		pP		11 25 28.7	-0.8	
CD2				PP		**PP**		**11 27 12.3**	**-0.9**	
CD2				PcS		**PcS**		**11 30 40.8**	**-0.4**	
CD2				S		**S**		**11 32 19.1**	**-1.6**	
CD2				sS		sS		11 32 35.3	-0.7	
CD2				PMZ						
	comp=Z,20nm,0.5s									
CD2				PMZ						
	comp=Z,160nm,5.6s									
CD2				LN						
	comp=Z,3µm,15.9s									
CD2				LE						
	comp=Z,2µm,16.4s									
CD2				LZ						
	comp=Z,2µm,16.9s									
MSO	**Missoula**	48.82	65	P		P		11 25 21.4	+0.6	
	baz=313,SNR=6.8									
MSO	**Missoula**	48.82	65	*e*P		P		11 25 21.6	+0.8	
	comp=Z,22nm,1.0s									
MK31	**Makanchi Array**	49.04	296	*i* P		P		11 25 21.4	-0.9	
MK31					pmax	pmax				
	comp=Z,6.0nm,0.9s									
MK31	**Makanchi Array**	49.04	296	*e*P		P		11 25 22.0	-0.3	
MKAR	**Makanchi Array**	49.04	296	P		P		11 25 20.6	-1.8	
	comp=Z,2.3nm,0.4s,baz=56,slow=6.6,SNR=28									
MKAR					LR	LR		11 47 13.2		
	comp=Z,382nm,19.1s,baz=36,slow=38									
MKAR	**Makanchi Array**	49.04	296	*e*P		P		11 25 22.0	-0.3	
MK01	**Makanchi Array**	49.05	296	*e*P		P		11 25 20.8	-1.6	
CHMT	**Chamberlain Mo**	49.11	64	*e*P		P		11 25 23.6	+0.5	
MAKZ	**Makanchi**	49.19	296	P		P		11 25 21.5	-1.9	
MAKZ					pmax	pmax				
	comp=Z,13nm,1.4s									
MAKZ	**Makanchi**	49.19	296	*e*P		P		11 25 22.9	-0.5	
	comp=Z,18nm,1.4s									
O03D	**Paynes Creek**	49.21	76	P		P		11 25 24.4	+0.6	
	baz=315,SNR=8.6									
WVOR	**Wild Horse Val**	49.41	72	*e*P		P		11 25 26.5	+1.2	
WVOR					pmax	pmax				
	comp=Z,22nm,1.3s									
WVOR	**Wild Horse Val**	49.41	72	*e*P		P		11 25 26.5	+1.2	
	comp=Z,22nm,1.3s									
HRY	**Holter Researc**	49.96	63	*e*P		P		11 25 31.2	+1.7	
EGMT	**Eagleton**	50.08	61	P		P		11 25 30.0	-0.3	
	baz=314									
EGMT	**Eagleton**	50.08	61	*e*P		P		11 25 30.3	0.0	
	comp=Z,19nm,0.9s									
MFID	**Camas Ranch**	50.20	69	*e*P		P		11 25 32.1	+0.8	
	comp=Z,25nm,1.3s									
LRM	**Limekiln Ridge**	50.26	65	*e*P		P		11 25 32.6	+0.7	
BVA0	**Borovoye Array**	50.39	309	*i* P		P		11 25 31.6	-0.8	
BVA0					pmax	pmax				
	comp=Z,26nm,1.1s									
BVAR	**Borovoye Array**	50.39	309	P		P		11 25 32.2	-0.3	
	comp=Z,17nm,0.7s,baz=54,slow=8.1,SNR=106									
BRVK	**Borovoye**	50.41	309	ǁ *i*P		P		11 25 31.6	-1.0	
BRVK					pmax	pmax				
	comp=Z,70nm,0.7s									
BRVK	**Borovoye**	50.41	309	*e*P		P		11 25 32.3	-0.3	
	comp=Z,76nm,0.6s									
DLMT	**Dillon**	50.51	65	*e*P		P		11 25 34.5	+0.9	
	comp=Z,17nm,1.0s									
SUMG	**Summit**	50.52	9	*e*P		P		11 25 33.7	0.0	
SUMG	**Summit**	50.52	9	*i* P		P		11 25 39.2	+5.5	
SUMG	**Summit**	50.52	9	*e*P		P		11 25 33.7	0.0	
	comp=Z,53nm,1.1s									
GYA	**Guiyang**	50.57	259	*e*P		P		11 25 34.3	0.0	
GYA				pP		pP		11 25 44.2	+0.5	
GYA				PP		**PP**		**11 27 31.0**	**+0.9**	
GYA				ScP		**ScP**		**11 30 45.4**	**+0.2**	
GYA				S		**S**		**11 32 45.9**	**-0.7**	
GYA				SS		**SS**		**11 36 15.2**	**-5.4**	
GYA				PMZ						
	comp=Z,20nm,1.0s									
GYA				PMZ						
	comp=Z,120nm,6.2s									
GYA				LN						
	comp=Z,540nm,18.8s									
GYA				LE						
	comp=Z,510nm,19.2s									
GYA				LZ						
	comp=Z,520nm,19.0s									
AFDM	**Forest Hills D**	50.62	77	*e*P		P		11 25 35.6	+1.2	
	comp=Z,11nm,1.1s									
MCMT	**McKenzie Canyo**	50.75	66	*e*P		P		11 25 35.9	+0.3	
LVZ	**Lovozero**	50.75	338	*e*P		P		11 25 34.7	-0.4	
LVZ					pmax	pmax				
	comp=Z,33nm,1.2s									
LVZ	**Lovozero**	50.75	338	*e*P		P		11 25 34.6	-0.4	
	comp=Z,33nm,1.2s									
BOZ	**Bozeman (W)**	50.80	64	P		P		11 25 35.0	-0.8	
	baz=314,SNR=8.9									
BOZ	**Bozeman (W)**	50.80	64	*e*P		P		11 25 36.9	+1.1	
BOZ	**Bozeman (W)**	50.80	64	*e*P		P		11 25 36.9	+1.1	
	comp=Z,31nm,1.4s									
HLID	**Hailey**	50.84	68	P		P		11 25 35.7	-0.4	
	baz=315									
HLID	**Hailey**	50.84	68	*e*P		P		11 25 37.0	+0.8	
	comp=Z,8.8nm,1.2s									
PAHR	**Pah Rah Range**	50.94	75	*e*P		P		11 25 38.0	+1.0	
	comp=Z,45nm,1.7s									
ZRNK	**Zerenda**	51.04	309	P		P		11 25 36.5	-0.9	
ZRNK					pmax	pmax				
	comp=Z,19nm,0.7s									
ZRNK	**Zerenda**	51.04	309	*e*P		P		11 25 37.2	-0.1	
	comp=Z,109nm,1.6s									
ARA0	**ARCESS Array S**	51.06	343	*e*P		P		11 25 35.4	-1.9	
ARCES	**ARCESS Array B**	51.06	343	P		P		11 25 35.3	-2.0	
	comp=Z,3.9nm,0.8s,baz=15,slow=5.1,SNR=7.1									
ARCES					LR	LR		11 51 50.4		
	comp=Z,385nm,18.1s,baz=65,slow=42									
ARE0	**ARCESS Array S**	51.06	343	*e*P		P		11 25 36.0	-1.3	
	comp=Z,76nm,1.7s									
APA	**Apatity**	51.29	338	⇑ *i*P		P		11 25 45.5	+6.5	
APA					pmax	pmax				
	comp=Z,11nm,1.2s									
APA					MLR	MLR				
	comp=Z,1µm,22.0s									
QLMT	**Earthquake Lak**	51.47	65	*e*P		P		11 25 42.1	+1.1	
BMN	**Battle Mountai**	51.58	73	*e*P		P		11 25 43.2	+1.5	
BMN	**Battle Mountai**	51.58	73	*e*P		P		11 25 43.2	+1.5	
	comp=Z,18nm,1.3s									
GCMT	**Greycliff**	51.68	63	*e*P		P		11 25 43.7	+1.3	
SVE	**Sverdlovsk**	51.69	317	ǁ *e*P		P		11 25 43.2	+1.1	
SVE				*e*				11 36 40.3		
SVE					pmax	pmax				
	comp=Z,66nm,1.5s									
SVE					MLR	MLR				
	comp=Z,1µm,13.0s									
WAKR	**Walker**	51.77	76	*e*P		P		11 25 44.6	+1.3	
YMR	**Madison River**	51.82	65	*e*P		P		11 25 44.9	+1.3	
	comp=Z,26nm,1.1s									
YFT	**Old Faithful**	52.04	65	*e*P		P		11 25 47.4	+2.1	
	comp=Z,23nm,1.0s									
H17A	**Grant Village**	52.21	65	P		P		11 25 47.0	+0.4	
	baz=315,SNR=8.4									
H17A	**Grant Village**	52.21	65	*e*P		P		11 25 48.7	+2.2	
	comp=Z,32nm,1.1s									
RLMT	**Red Lodge**	52.35	63	P		P		11 25 47.8	+0.3	
	baz=315,SNR=25									
RLMT	**Red Lodge**	52.35	63	*e*P		P		11 25 48.5	+0.9	
	comp=Z,31nm,0.9s									
FLWY	**Flagg Ranch**	52.37	65	*e*P		P		11 25 49.5	+1.8	
	comp=Z,28nm,0.9s									
IMW	**Indian Meadow**	52.38	65	*e*P		P		11 25 49.4	+1.6	
	comp=Z,30nm,1.1s									
ELK	**Elko**	52.40	71	*e*P		P		11 25 49.5	+1.5	
ELK	**Elko**	52.40	71	*e*P		P		11 25 49.5	+1.5	
	comp=Z,8.7nm,1.1s									
DGMT	**Dagmar**	52.43	57	*e*P		P		11 25 48.7	+0.9	
	comp=Z,16nm,0.8s									
NV01	**Mina Array Sit**	52.44	75	*e*P		P		11 25 49.3	+1.0	
NVAR	**Mina Array Bea**	52.44	75	P		P		11 25 49.1	+0.8	
	comp=Z,2.4nm,0.7s,baz=305,slow=7.7,SNR=17									
NVAR					LR	LR		11 46 07.9		
	comp=Z,452nm,20.0s,baz=306,slow=34									
NV11	**Mina Array Sit**	52.52	75	*e*P		P		11 25 50.0	+1.3	
	comp=Z,21nm,1.1s									
MOOW	**Moose Ponds**	52.58	65	*e*P		P		11 25 50.6	+1.3	
	comp=Z,17nm,1.1s									
A25A	**Svangstu Ranch**	52.60	56	P		P		11 25 49.5	+0.4	
	baz=316									
TPAW	**Teton Pass**	52.66	66	*e*P		P		11 25 51.4	+1.4	
	comp=Z,21nm,1.0s									
LAO	**LASA Array**	52.73	60	P		P		11 25 50.5	+0.4	
	baz=316									
LAO	**LASA Array**	52.73	60	*e*P		P		11 25 51.3	+1.2	
	comp=Z,43nm,1.1s									
LOHW	**Long Hollow**	52.75	65	*e*P		P		11 25 52.0	+1.5	
	comp=Z,26nm,1.1s									
ARU	**Arti**	52.76	318	*e*P		P		11 25 49.5	-0.6	
ARU					pmax	pmax				
	comp=Z,64nm,2.5s									
ARU	**Arti**	52.76	318	*e*P		P		11 25 50.0	-0.1	
	comp=Z,46nm,1.0s									
SNOW	**Snow King Moun**	52.78	66	*e*P		P		11 25 52.5	+1.7	
	comp=Z,19nm,1.0s									
REDW	**Red Top Meadow**	52.80	66	*e*P		P		11 25 52.4	+1.5	
	comp=Z,23nm,1.1s									
PDGK	**Podgornoye**	52.88	294	P		P		11 25 49.7	-1.4	
PDGK					pmax	pmax				
	comp=Z,24nm,1.6s									
HVU	**Hansel Valley**	52.95	68	*e*P		P		11 25 53.5	+1.6	
HVU	**Hansel Valley**	52.95	68	*e*P		P		11 25 53.5	+1.6	
	comp=Z,16nm,1.2s									
AHID	**Auburn Hatcher**	53.11	66	*e*P		P		11 25 54.3	+1.1	
	comp=Z,18nm,1.2s									
A26A	**Wade Farm, Ken**	53.13	55	P		P		11 25 53.3	+0.3	
	baz=316									
SPUT	**South Promonto**	53.46	69	*e*P		P		11 25 57.0	+1.3	
	comp=Z,18nm,1.0s									
RCTC	**Rector, Farmer**	53.48	78	P		P		11 25 56.4	+0.7	
	baz=318									
HWUT	**Hardware Ranch**	53.70	68	*e*P		P		11 25 58.9	+1.4	
	comp=Z,24nm,1.1s									
KMI	**Kunming**	53.78	261	P		P		11 25 58.3	0.0	
KMI				pP		pP		11 26 07.0	-0.7	
KMI				sP		sP		11 26 10.5	-0.9	
KMI				S		**S**		**11 33 29.7**	**-1.2**	
KMI				sS		sS		11 33 45.7	-0.7	
KMI				SS		**SKiKP**		**11 37 06.2**	**-3.3**	
KMI				PMZ						
	comp=Z,6.0nm,0.7s									
KMI				PMZ						
	comp=Z,53nm,4.8s									
KMI				LN						
	comp=Z,2µm,17.2s									
KMI				LE						
	comp=Z,1µm,16.3s									
KMI				LZ						
	comp=Z,1µm,13.9s									
D25A	**Fairfield**	53.79	58	P		P		11 25 57.6	-0.3	
	baz=316									
SMMC	**Simmler**	53.80	79	P		P		11 25 59.0	+1.0	
	baz=318									
BW06	**Boulder Array**	53.89	65	P		P		11 25 59.5	+0.6	
	baz=317,SNR=12									
BW06	**Boulder Array**	53.89	65	*e*P		P		11 25 59.9	+0.9	
	comp=Z,25nm,1.1s									
PD31	**Pinedale Array**	53.89	65	*e*P		P		11 25 59.9	+0.9	
PDAR	**Pinedale Array**	53.89	65	P		P		11 25 59.5	+0.6	
	comp=Z,2.8nm,0.7s,baz=325,slow=2.3,SNR=21									
PDAR					LR	LR		11 49 56.1		
	comp=Z,562nm,21.0s,baz=333,slow=37									
VES	**Vestal, Richgr**	53.91	78	P		P		11 25 59.4	+0.6	
	baz=318,SNR=6.0									
A28A	**Rude Farm, Bot**	53.93	54	P		P		11 25 59.3	+0.5	
	baz=317									
R11A	**Troy Canyon, C**	53.96	73	P		P		11 26 00.1	+0.8	
	baz=317,SNR=9.0									
R11A	**Troy Canyon, C**	53.96	73	*e*P		P		11 26 00.5	+1.1	
	comp=Z,13nm,1.3s									
GRAC	**Grapevine Rang**	53.99	76	P		P		11 26 00.5	+1.0	
	baz=318									
CWC	**Cottonwood Cre**	54.01	77	P		P		11 26 00.8	+1.0	
	baz=318									
DUG	**Dugway, Tooele**	54.08	70	P		P		11 26 01.1	+0.9	
	baz=317									
DUG	**Dugway, Tooele**	54.08	70	*e*P		P		11 26 01.6	+1.4	
DUG	**Dugway, Tooele**	54.08	70	*e*P		P		11 26 01.6	+1.4	
	comp=Z,31nm,1.4s									
TCUT	**Toone Canyon**	54.14	68	*e*P		P		11 26 02.2	+1.4	
	comp=Z,30nm,1.1s									
PKM	**Mcpherson Peak**	54.21	79	P		P		11 26 01.6	+0.3	
	baz=318									
B28A	**Dugan Ranch, T**	54.22	55	P		P		11 26 01.2	+0.3	
	baz=317									
E25A	**Miller Ranch,**	54.22	58	P		P		11 26 01.5	+0.5	
	baz=317									
D26A	**Manning**	54.29	57	P		P		11 26 01.7	+0.2	
	baz=317									
ISA	**Isabella, Lake**	54.37	78	P		P		11 26 02.4	+0.1	
	baz=318									
ISA	**Isabella, Lake**	54.37	78	*e*P		P		11 26 02.9	+0.6	
ISA					pmax	pmax				
	comp=Z,21nm,1.3s									
ISA	**Isabella, Lake**	54.37	78	*e*P		P		11 26 02.9	+0.6	
	comp=Z,21nm,1.3s									
A29A	**Manning Farm,**	54.38	54	P		P		11 26 02.5	+0.3	
	baz=317,SNR=6.6									
JLU	**Jordanelle**	54.49	69	*e*P		P		11 26 05.2	+1.8	
	comp=Z,16nm,1.3s									
ARVC	**Arvin**	54.58	78	P		P		11 26 04.0	+0.3	
	baz=318									
F25A	**Bowman**	54.61	59	P		P		11 26 04.5	+0.6	
	baz=317									
MPMC	**Manual Prospec**	54.62	77	P		P		11 26 05.3	+1.1	
	baz=318,SNR=8.8									
TPNV	**Topopah Spring**	54.63	75	P		P		11 26 05.5	+1.3	
	baz=318,SNR=12									
TPNV	**Topopah Spring**	54.63	75	*e*P		P		11 26 05.4	+1.1	
TPNV	**Topopah Spring**	54.63	75	*e*P		P		11 26 05.4	+1.1	
	comp=Z,27nm,1.1s									
FURC	**Furnace Creek,**	54.65	76	P		P		11 26 05.7	+1.5	
	baz=318,SNR=13									
B29A	**Wagenman Farm,**	54.66	54	P		P		11 26 04.4	+0.2	
	baz=317									
E26A	**Carlson Angus**	54.69	58	P		P		11 26 04.2	-0.2	
	baz=317									
C28A	**Hausauer Farms**	54.74	55	P		P		11 26 05.6	+0.9	
	baz=317									
PSUT	**Pine Spring**	54.74	72	*e*P		P		11 26 06.1	+1.0	
	comp=Z,64nm,1.7s									
A30A	**Hoffart Farm,**	54.79	53	P		P		11 26 04.5	-0.6	
	baz=318									
QIZ	**Qiongzhong**	54.86	250	P		P		11 26 05.6	-0.3	
QIZ				S		**S**		**11 33 44.3**	**-0.8**	
QIZ				LN						
	comp=Z,450nm,20.2s									
QIZ				LE						
	comp=Z,710nm,20.5s									
QIZ				LZ						
	comp=Z,680nm,21.0s									
ULM	**Lac du Bonnet**	54.89	51	P		P		11 26 06.2	+0.4	
	comp=Z,11nm,0.9s,baz=316,slow=8.1,SNR=8.2									
ULM					LR	LR		11 52 13.7		
	comp=Z,387nm,18.5s,baz=332,slow=39									
ULM	**Lac du Bonnet**	54.89	51	*e*P		P		11 26 06.5	+0.7	
	comp=Z,61nm,1.6s									
LRMC	**Laurel Mtn Rad**	54.94	77	P		P		11 26 06.9	+0.4	
	baz=318									
MDND	**Maddock**	55.00	55	P		P		11 26 06.3	-0.3	
	baz=318									
MDND	**Maddock**	55.00	55	*e*P		P		11 26 08.2	+1.5	
	comp=Z,172nm,1.5s									
OSI	**Osito Audit: C**	55.02	79	P		P		11 26 07.0	+0.1	
	baz=319									
F26A	**Lodgepole**	55.04	58	P		P		11 26 07.0	0.0	
	baz=317									
B30A	**Myrvik Farm, E**	55.14	54	P		P		11 26 07.5	-0.1	
	baz=318,SNR=5.0									
TKM2	**Tokmak 2**	55.14	296	P		P		11 26 07.0	-0.9	
TKM2					pmax	pmax				
	comp=Z,9.0nm,0.9s									
TKM2	**Tokmak 2**	55.14	296	*e*P		P		11 26 07.6	-0.4	
	comp=Z,11nm,1.0s									
BLG	**Laguna Peak, P**	55.20	79	P		P		11 26 08.6	+0.3	
	baz=319									
EDW2	**Edwards Air Fo**	55.22	78	P		P		11 26 09.2	+0.8	
	baz=319									
A31A	**Linda, St. Vin**	55.29	53	P		P		11 26 07.6	-1.0	
	baz=318									
SHOC	**Shoshone, Teco**	55.39	76	P		P		11 26 10.1	+0.5	
	baz=318									
KLMR	**Klimovskoe**	55.46	331	*e*P		P		11 26 06.5	-3.2	
KLMR				*e*				11 27 08.4		
KLMR					pmax	pmax				
	comp=Z,30nm,1.4s									
B31A	**Greenbush Farm**	55.46	53	P		P		11 26 10.8	+0.9	
	baz=318									
H25A	**Fruitdale**	55.50	60	P		P		11 26 10.6	+0.3	
	baz=318									
DECC	**Green Verdugo**	55.50	79	P		P		11 26 11.0	+0.6	
	baz=319									
K22A	**Casper**	55.51	64	P		P		11 26 10.3	-0.3	
	baz=318									
K22A	**Casper**	55.51	64	*e*P		P		11 26 12.0	+1.5	
	comp=Z,32nm,1.2s									
SHPR	**Sheep Range**	55.54	75	*e*P		P		11 26 12.5	+1.6	
	comp=Z,46nm,1.8s									
GSC	**Goldstone, Bar**	55.55	77	P		P		11 26 11.9	+1.1	
	baz=319,SNR=7.8									
GSC	**Goldstone, Bar**	55.55	77	*e*P		P		11 26 12.1	+1.3	
GSC	**Goldstone, Bar**	55.55	77	*e*P		P		11 26 12.1	+1.3	
	comp=Z,15nm,0.8s									
TMUT	**Trail Mountain**	55.58	69	*e*P		P		11 26 12.9	+1.7	
	comp=Z,20nm,0.9s									
A32A	**Rocking H Ranc**	55.61	52	P		P		11 26 11.4	+0.5	
	baz=318									
PASC	**Pasadena Art C**	55.64	79	*e*P		P		11 26 12.5	+1.1	
	comp=Z,36nm,1.4s									
MSU	**Marysvale**	55.65	71	*e*P		P		11 26 13.4	+1.7	
MSU	**Marysvale**	55.65	71	*e*P		P		11 26 13.4	+1.7	
RSSD	**Black Hills**	55.65	61	P		P		11 26 11.6	0.0	
	baz=318									
RSSD	**Black Hills**	55.65	61	*e*P		P		11 26 12.4	+0.7	
RSSD	**Black Hills**	55.65	61	*e*P		P		11 26 12.4	+0.7	
	comp=Z,20nm,1.0s									
MWC	**Mount Wilson**	55.67	78	*e*P		P		11 26 13.3	+1.4	
MWC	**Mount Wilson**	55.67	78	*e*P		P		11 26 13.3	+1.4	
	comp=Z,36nm,1.3s									
FRU	**Bishkek**	55.69	297	*e*P		P		11 26 11.0	-0.7	
FRU				*i*				11 26 19.0		
FRU				*e*				11 27 06.0		
FRU				*e*PPP		PPP		11 29 28.0		

comp=Z,32nm,1.1s
LSA Lhasa 56.69 275 P P 11 26 19.7 +0.2
LSA PMZ
comp=Z,22nm,0.9s
B34A Aery, Baudette 56.74 51 P P 11 26 19.4 +0.4
baz=319,SNR=8.1
E31A Nome 56.75 55 P P 11 26 19.7 +0.6
baz=319
C33A Trail 56.80 53 P P 11 26 19.9 +0.4
baz=319
G29A Hoven 56.83 57 P P 11 26 20.0 +0.3
baz=319
BELC Belle Mtn. Jos 56.96 77 P P 11 26 21.2 +0.1
baz=319
MNAS Manas 56.99 298 P P 11 26 20.5 -0.6
MNAS pmax pmax
comp=Z,20nm,0.9s
PFO Pinyon Flats O 57.01 78 P P 11 26 21.5 +0.2
baz=319
TPFO Pinon Flats 57.01 78 P P 11 26 21.5 +0.1
baz=319
N23A Red Feather La 57.10 65 P P 11 26 21.9 -0.1
baz=318
N23A Red Feather La 57.10 65 *e*P P 11 26 23.3 +1.3
comp=Z,27nm,1.2s
F31A Hecla 57.10 56 P P 11 26 21.9 +0.2
baz=319
U15A North Rim 57.14 72 *e*P P 11 26 24.0 +1.6
comp=Z,17nm,1.3s
109C Camp Elliot, M 57.20 79 P P 11 26 22.9 +0.4
baz=320
D33A AnnSam, Waubun 57.23 53 P P 11 26 21.5 -1.1
baz=319
B35A Bob, Littlefor 57.24 51 P P 11 26 22.2 -0.4
baz=320,SNR=7.0
G30A Faulkton 57.24 57 P P 11 26 22.6 -0.1
baz=319
PV09 Paradox Valley 57.25 69 *e*P P 11 26 25.2 +2.0
C34A RKJ Ranch, Bem 57.26 52 P P 11 26 21.6 -1.2
baz=320
W13A Hualapai Mount 57.28 75 *e*P P 11 26 24.8 +1.4
comp=Z,38nm,1.8s
IRM Iron Mountain 57.31 76 P P 11 26 23.8 +0.5
baz=319,SNR=7.6
PV10 Paradox Valley 57.39 69 *e*P P 11 26 25.9 +1.8
PV04 Paradox Valley 57.45 69 *e*P P 11 26 25.2 +0.8
KSH Kashi 57.47 293 P P 11 26 25.9 +1.4
KSH pP pP 11 26 35.6 +1.6
KSH PcP **PcP** 11 27 17.4 -0.5
KSH PP **PP** 11 28 33.6 +1.8
KSH S **S** 11 34 17.7 -1.8
KSH ScS **ScS** 11 36 07.8 -3.6
KSH PMZ
comp=Z,32nm,1.4s
KSH LN
comp=Z,1μm,14.0s
KSH LE
comp=Z,890nm,10.1s
KSH LZ
comp=Z,1μm,13.3s
KK31 Karatay Array 57.51 300 P P 11 26 23.6 -1.0
KK31 pmax pmax
comp=Z,15nm,0.7s
KKAR Karatay Array 57.51 300 *e*P P 11 26 23.6 -0.9
KKAR Karatay Array 57.51 300 *e*P P 11 26 23.6 -0.9
AKTO Aktyubinsk 57.51 313 P P 11 26 23.6 -0.9
AKTO pmax pmax
comp=Z,65nm,1.1s
BC3 Big Chuckawall 57.52 77 P P 11 26 25.1 +0.2
baz=320
D34A Park Rapids 57.56 53 P P 11 26 24.7 -0.2
baz=320,SNR=6.2
MONP2 Monument Peak 57.57 78 P P 11 26 25.3 -0.1
baz=320
PV05 Paradox Valley 57.59 69 *e*P P 11 26 26.9 +1.5
AB31 Akbulak array 57.63 311 *i* P P 11 26 24.7 -0.6
AB31 pmax pmax
comp=Z,35nm,0.9s
ABKAR Akbulak array 57.63 311 *e*P P 11 26 25.2 -0.1
C35A Jirik Farms, M 57.63 52 P P 11 26 24.5 -0.9
baz=320,SNR=5.4
E33A Westby DABS, E 57.64 54 P P 11 26 25.5 0.0
baz=320
PDMCI Parker Dam,Lak 57.74 75 P P 11 26 25.8 -0.5
baz=319
PV01 Paradox Valley 57.82 69 *e*P P 11 26 28.2 +1.1
SMCO Snowmass 57.86 67 *e*P P 11 26 28.9 +1.3
comp=Z,11nm,0.9s
IKP In-Ko-Pah, Jac 57.92 78 P P 11 26 28.2 +0.5
baz=320
Y12C Blythe 57.95 76 P P 11 26 28.2 +0.4
baz=320
Y12C Blythe 57.95 76 *e*P P 11 26 29.1 +1.2
comp=Z,45nm,1.6s
E34A Wadena 58.01 53 P P 11 26 28.4 +0.3
baz=320
F33A 5 Mile Ranch, 58.02 54 P P 11 26 28.1 0.0
baz=320,SNR=5.3
H31A Wolsey 58.04 57 P P 11 26 28.6 +0.3
baz=319
D35A Remer 58.07 52 P P 11 26 28.5 0.0
baz=320
C36A Pine Crest Far 58.08 51 P P 11 26 28.9 +0.3
baz=320
ISCO Idaho Springs 58.09 65 P P 11 26 29.3 +0.3
baz=319,SNR=12
ISCO Idaho Springs 58.09 65 *e*P P 11 26 30.9 +1.9
ISCO Idaho Springs 58.09 65 *e*P P 11 26 30.8 +1.8
comp=Z,22nm,1.1s
ISCO Idaho Springs 58.09 65 *e*PcP P 11 26 30.9 +1.9
FIA1 FINESS Array S 58.20 338 *e*P P 11 26 29.9 +0.8
comp=Z,20nm,1.0s
FINES FINESS Array B 58.20 338 P P 11 26 28.5 -0.6
comp=Z,3.0nm,0.7s,baz=41,slow=13,SNR=8.3
FINES LR LR 11 55 00.1
comp=Z,893nm,18.1s,baz=36,slow=40
WUAZ Wupatki 58.31 73 P P 11 26 29.5 -1.0
baz=319
WUAZ Wupatki 58.31 73 *e*P P 11 26 31.4 +0.9
comp=Z,21nm,1.4s
E35A Pequot Lakes 58.32 53 P P 11 26 30.3 +0.1
baz=320
GLA Glamis 58.32 77 P P 11 26 29.8 -0.6
baz=320
GLA Glamis 58.32 77 *e*P P 11 26 31.9 +1.5
GLA pmax pmax
comp=Z,10.0nm,0.9s
GLA Glamis 58.32 77 *e*P P 11 26 31.9 +1.5
comp=Z,9.9nm,0.9s
I31A Royce, Wessing 58.35 57 P P 11 26 31.0 +0.5
baz=320
C37A Embarrass 58.39 50 P P 11 26 30.9 +0.3
baz=321
D36A Goodland 58.39 51 P P 11 26 30.0 -0.7
baz=320
J30A Dallas 58.44 58 P P 11 26 30.0 -1.1
baz=320
G33A Ortonville 58.44 55 P P 11 26 29.9 -1.2
baz=320
H32A Carlson Farm, 58.51 56 P P 11 26 30.4 -1.2
baz=320
EYMN Ely 58.52 50 P P 11 26 31.4 -0.1
baz=321,SNR=8.6
EYMN Ely 58.52 50 *e*P P 11 26 31.6 +0.1
comp=Z,18nm,0.6s
F34A Alexandria 58.52 54 P P 11 26 30.6 -1.0
baz=320
MVCO Mesa Verde 58.55 69 P P 11 26 31.7 -0.5
baz=319
MVCO Mesa Verde 58.55 69 *e*P P 11 26 32.9 +0.6
comp=Z,33nm,1.7s
Y14A Wickenburg 58.63 75 *e*P P 11 26 34.2 +1.6
comp=Z,45nm,1.1s
H33A Prehn Over Nor 58.69 56 P P 11 26 32.1 -0.7
baz=320
D37A Cotton 58.72 51 P P 11 26 33.1 0.0
baz=321,SNR=5.6
G34A Benson 58.77 54 P P 11 26 33.3 -0.1
baz=320
F35A Swanville 58.78 53 P P 11 26 32.6 -0.8
baz=320
C38A Sawbill Land. 58.79 50 P P 11 26 33.3 -0.2
baz=321,SNR=8.5
E36A McGregor 58.85 52 P P 11 26 33.3 -0.7
baz=321
K30A Basset 58.87 59 P P 11 26 34.0 -0.2
baz=320
Q24A Divide 58.95 65 P P 11 26 35.1 0.0
baz=320
Q24A Divide 58.95 65 *e*P P 11 26 35.9 +0.8
comp=Z,7.9nm,0.9s
OGNE Ogallala 59.01 62 P P 11 26 35.6 +0.4
baz=320
OGNE Ogallala 59.01 62 *e*P P 11 26 36.6 +1.4
comp=Z,86nm,1.8s
S22A 4UR Ranch, Cre 59.01 68 P P 11 26 35.5 0.0
baz=320,SNR=6.5
S22A 4UR Ranch, Cre 59.01 68 *e*P P 11 26 37.1 +1.6
comp=Z,18nm,1.3s
X16A Lo Mia Camp, P 59.11 73 *e*P P 11 26 37.6 +1.5
comp=Z,5.4nm,0.8s
113A Mohawk Valley, 59.11 76 *e*P P 11 26 36.8 +1.0
comp=Z,16nm,1.4s
H34A Spellman Lake, 59.15 55 P P 11 26 35.6 -0.4
baz=320
J32A Parkston 59.18 57 P P 11 26 36.3 0.0
baz=320
C39A Grand Marais 59.20 49 P P 11 26 35.9 -0.3
baz=321,SNR=6.2
NONG Nongkai 59.24 256 P P 11 26 37.4 +0.5
comp=Z,25nm,1.0s
F36A Milaca 59.24 53 P P 11 26 36.5 -0.1
baz=321
G35A Watkins 59.31 54 P P 11 26 36.1 -1.0
baz=321
ECSD EROS Data Cent 59.48 56 P P 11 26 37.1 -1.2
baz=320
ECSD EROS Data Cent 59.48 56 *e*P P 11 26 38.6 +0.3
comp=Z,7.4nm,0.9s
SHL Shillong 59.48 271 *e*P P 11 26 38.0 -0.7
W18A Petrified Fore 59.49 72 P P 11 26 38.2 -0.5
baz=320
H35A Sunnyside Ranc 59.55 54 P P 11 26 38.6 -0.2
baz=321
L31A Butterfield Fa 59.62 59 P P 11 26 39.4 +0.1
baz=320
G36A St. Michael 59.63 53 P P 11 26 39.0 -0.3
baz=321
J33A Davis 59.63 57 P P 11 26 39.1 -0.2
baz=320
SKNT Sakolnakorn 59.68 255 P P 11 26 40.2 +0.2
comp=Z,48nm,1.4s
SDCO Great Sand Dun 59.70 67 P P 11 26 40.0 -0.2
baz=320,SNR=5.3
SDCO Great Sand Dun 59.70 67 *e*P P 11 26 41.7 +1.5
comp=Z,13nm,1.3s
X18A Snowflake 59.82 72 *e*P P 11 26 42.9 +1.9
comp=Z,20nm,1.2s
H36A Jessenland, He 60.05 54 P P 11 26 42.0 -0.2
baz=321
SPMN Marine on St. 60.06 53 P P 11 26 42.0 -0.2
baz=321
SPMN Marine on St. 60.06 53 *e*P P 11 26 42.8 +0.5
comp=Z,13nm,0.8s
I35A Creekview Farm 60.13 55 P P 11 26 42.9 +0.1
baz=321
K33A Hardington 60.16 57 P P 11 26 42.5 -0.5
baz=321
KSCO Kaye Shedlock' 60.19 64 P P 11 26 42.6 -0.8
baz=320
KSCO Kaye Shedlock' 60.19 64 *e*P P 11 26 43.7 +0.3
comp=Z,62nm,1.5s
M31A Lambtecht Ranc 60.19 60 P P 11 26 43.0 -0.3
baz=320
214A Organ Pipe Nat 60.25 76 P P 11 26 43.5 -0.2
baz=320
MOS Moscow 60.33 329 *e*P P 11 26 43.7 -0.2
MOS *e* 11 26 52.5
MOS *e* 11 27 26.4
MOS pmax pmax
comp=Z,31nm,0.7s
MOS MLR MLR
comp=Z,1μm,17.0s
I36A Fitzsimmons Fa 60.45 54 P P 11 26 45.3 +0.3
baz=321
H37A Dierke Farm, C 60.51 53 P P 11 26 45.3 0.0
baz=321
K34A Le Mars 60.52 57 P P 11 26 45.8 +0.3
baz=321
BGNE Belgrade 60.54 59 P P 11 26 46.0 +0.4
baz=321
BGNE Belgrade 60.54 59 *e*P P 11 26 46.1 +0.5
comp=Z,108nm,1.4s
LOEI Loei 60.71 257 P P 11 26 45.3 -1.7
comp=Z,22nm,0.9s
T25A Trinidad 60.72 66 P P 11 26 46.1 -1.1
baz=320
T25A Trinidad 60.72 66 *e*P P 11 26 48.1 +0.9
comp=Z,14nm,1.2s
I37A Lemond, Waseca 60.73 54 P P 11 26 46.7 -0.2
baz=322
VSU Vasula 60.75 336 *ce*P P 11 26 46.6 -0.1
VSU pmax pmax
comp=Z,40nm,1.0s
LAMP Lampang 60.78 259 P P 11 26 48.0 +0.5
comp=Z,18nm,0.8s,comp=Z,193nm
KHON Khomkaen 60.83 255 P P 11 26 48.6 +0.8
comp=Z,24nm,0.8s
J36A Seneca 1, Swea 60.84 55 P P 11 26 47.9 +0.3
baz=321
UTTA Uttaradit 60.91 258 P P 11 26 48.6 +0.3
comp=Z,16nm,0.8s,comp=Z,117nm
CMMT Chiang Mai 60.92 260 P P 11 26 48.4 -0.1
comp=Z,26nm,0.9s
CHTO Chiang Mai 60.92 260 P P 11 26 48.5 0.0
comp=Z,116nm,0.9s
CHTO Chiang Mai 60.92 260 *e*P P 11 26 48.8 +0.3
CHTO Chiang Mai 60.92 260 *e*P P 11 26 48.8 +0.3
comp=Z,21nm,0.9s
O31A Woolen Ranch, 60.94 61 P P 11 26 47.5 -0.9
baz=321
L34A Svendsen Farm, 60.95 57 P P 11 26 47.7 -0.7
baz=321
COWI Conover 60.97 50 *e*P P 11 26 48.4 -0.1
comp=Z,38nm,1.5s
NC303 NORSAR Array S 60.98 345 *e*P P 11 26 47.9 -0.4
GUN Gumba 60.99 277 *e*P P 11 26 48.7 -0.6
comp=Z,89nm,0.7s
NC204 NORSAR Array S 61.02 346 *e*P P 11 26 48.6 -0.1
NC405 NORSAR Array S 61.04 345 *e*P P 11 26 48.9 +0.2
TUC Tucson 61.08 74 P P 11 26 48.7 -0.8
baz=321
TUC Tucson 61.08 74 *e*P P 11 26 50.9 +1.4
TUC Tucson 61.08 74 *e*P P 11 26 50.9 +1.4
comp=Z,7.1nm,1.3s
NB201 NORSAR Array S 61.16 345 *e*P P 11 26 49.5 0.0
OBN Obninsk 61.17 329 *ci*P P 11 26 48.9 -0.7
OBN *i* 11 26 58.0
OBN pmax pmax
comp=Z,13nm,1.5s
OBN MLR MLR
comp=Z,779nm,16.0s
OBN Obninsk 61.17 329 *e*P P 11 26 49.7 0.0
comp=Z,57nm,1.2s
NB2 NORSAR Subarra 61.19 345 P P 11 26 49.2 -0.5
comp=Z,68nm,2.0s,baz=18,slow=6.9
NB2 NORSAR Subarra 61.19 345 P P 11 26 49.2 -0.5
baz=18,slow=6.9
NOA NORSAR Array B 61.19 345 P P 11 26 49.5 -0.2
comp=Z,3.9nm,0.6s,baz=18,slow=6.8,SNR=15
NOA LR LR 11 54 13.6
comp=Z,201nm,20.4s,baz=15,slow=37
I38A Scanlan Farm, 61.19 53 P P 11 26 48.5 -1.5
baz=322
J37A Redenius Farm, 61.21 55 P P 11 26 49.2 -1.0
baz=322
CM31 Chiang Mai Arr 61.21 260 *e*P P 11 26 51.2 +0.7
CMAR Chiang Mai Arr 61.21 260 P P 11 26 50.6 +0.2
comp=Z,15nm,0.8s,baz=19,slow=6.7,SNR=64
CMAR LR LR 11 55 10.6
comp=Z,854nm,19.1s,baz=52,slow=38
CMAR Chiang Mai Arr 61.21 260 P P 11 26 50.7 +0.2
CMAR pmax pmax
comp=Z,14nm,0.8s
CMAR MLR MLR
comp=Z,854nm,19.1s
M34A Aspy Farms, Fr 61.21 58 P P 11 26 49.4 -0.7
baz=321
NBO02 NORSAR Array S 61.23 346 *e*P P 11 26 49.7 -0.2
L35A Bielow Farm, R 61.23 57 P P 11 26 50.0 -0.3
baz=321
CM01 Chiang Mai Arr 61.23 260 *e*P P 11 26 50.6 0.0
NBO00 NORSAR Array S 61.25 346 *e*P P 11 26 50.8 +0.7
K36A Gilmore City 61.33 56 P P 11 26 51.2 +0.2
baz=322
ANMO Albuquerque 61.34 69 P P 11 26 52.4 +1.0
comp=Z,2.6nm,1.0s,baz=330,slow=7.7,SNR=5.4
ANMO Albuquerque 61.34 69 P P 11 26 50.3 -1.1
baz=321
ANMO Albuquerque 61.34 69 *ce*P P 11 26 51.9 +0.5
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO Albuquerque 61.34 69 *e*P P 11 26 52.4 +1.0
comp=Z,7.2nm,1.0s
LAZ Ladron 61.41 70 *e*P P 11 26 53.4 +1.6
NAO01 NORSAR Array S 61.42 346 *e*P P 11 26 51.0 -0.2
KKN Kakani 61.42 278 *e*P P 11 26 51.8 -0.2
comp=Z,66nm,0.6s
PKIN Phulchoki 61.52 278 *e*P P 11 26 52.1 -0.7
K37A Belmond 61.60 55 P P 11 26 52.0 -0.8
baz=322
GKN Gorkha 61.61 279 *e*P P 11 26 52.8 -0.4
comp=Z,84nm,1.0s
SUKH Sukhothai 61.63 259 P P 11 26 54.2 +1.0
comp=Z,5.9nm,0.9s,comp=Z,66nm
CHAI Chaiyaphum 61.64 256 P P 11 26 53.4 +0.1
comp=Z,17nm,0.8s
JAY Jayapura 61.64 207 LR LR 11 48 30.4
comp=Z,7.4nm,21.4s,slow=31
DMN Daman 61.66 278 *e*P P 11 26 53.6 -0.1
M35A Neola 61.66 57 P P 11 26 52.9 -0.3
baz=322
J38A Wedel Dairy, R 61.69 54 P P 11 26 52.9 -0.4
baz=322
P32A Huiting Farm, 61.70 61 P P 11 26 53.4 -0.1
baz=321
SCHQ Schefferville 61.71 31 LR LR 11 57 14.8
comp=Z,311nm,18.1s,baz=319,slow=40
N34A Lincoln 61.77 58 P P 11 26 53.1 -0.8
baz=321
Y22D IRIS PASSCAL I 61.77 70 P P 11 26 53.6 -0.6
baz=321
CBKS Cedar Bluff 61.78 62 P P 11 26 53.2 -0.9
baz=321
CBKS Cedar Bluff 61.78 62 *e*P P 11 26 54.0 -0.1
CBKS pmax pmax
comp=Z,13nm,0.7s
CBKS Cedar Bluff 61.78 62 *e*P P 11 26 54.0 -0.1
comp=Z,13nm,0.7s
O33A Hebron 61.84 60 P P 11 26 53.7 -0.8
baz=321
BNM Barren Site 61.87 70 *e*P P 11 26 55.6 +0.6
L37A Phoenix Point, 62.05 56 P P 11 26 54.5 -1.2
baz=322
N35A Tabor 62.16 58 P P 11 26 56.4 -0.1
baz=322
O34A Beatrice 62.19 59 P P 11 26 56.0 -0.7
baz=322
Q32A Meitler Ranch, 62.22 61 P P 11 26 56.1 -0.9
baz=321
P33A Williams Farm, 62.29 60 P P 11 26 56.7 -0.7
baz=322
KOLN Koldanda 62.37 279 *e*P P 11 26 57.8 -0.5
comp=Z,50nm,0.7s
L38A Oak Wood Farm, 62.40 55 P P 11 26 57.8 -0.4
baz=322
PYUN Piuthan 62.44 280 *e*P P 11 26 58.4 -0.5
comp=Z,159nm,0.9s
M37A Trindle Farm, 62.48 56 P P 11 26 58.3 -0.4
baz=322
121A Cookes Peak, D 62.51 72 P P 11 26 59.3 +0.1
baz=321
121A Cookes Peak, D 62.51 72 *e*P P 11 27 00.5 +1.3
comp=Z,13nm,1.3s
Q33A Connelly Farm, 62.56 60 P P 11 26 59.1 -0.2
baz=322
P34A Walnut Farm, R 62.62 59 P P 11 26 59.6 0.0
baz=322
LPSR Galich'ya Gora 62.63 326 *e*P P 11 26 57.7 -1.8
LPSR pmax pmax
comp=Z,20nm,1.4s
LPSR MLR MLR
comp=Z,810nm,17.0s
M38A Pleasantville 62.86 56 P P 11 26 59.4 -1.8
baz=322
SWI Sorong 62.91 218 P P 11 27 04.8 +3.1
comp=Z,69nm,1.2s,comp=Z,1μm
N37A Lee Faris, Mou 62.91 57 P P 11 27 01.8 +0.3
baz=322
VRH Novokhopyorsk 62.93 323 *e*P P 11 26 59.8 -1.7
VRH pmax pmax
comp=Z,10.0nm,0.7s
VRH MLR MLR
comp=Z,1μm,16.0s
P35A Duane Minner, 63.02 59 P P 11 27 02.3 0.0
baz=322
R33A Olander Ranch, 63.03 61 P P 11 27 02.3 -0.1
baz=322
Q34A Chapman 63.06 60 P P 11 27 01.6 -1.0
baz=322
KSU1 Kansas State U 63.08 60 P P 11 27 01.7 -1.0
baz=322
KSU1 Kansas State U 63.08 60 *e*P P 11 27 02.5 -0.2
comp=Z,20nm,1.1s
UMPA Umpang Tak 63.09 259 P P 11 27 05.2 +2.1
comp=Z,27nm,0.9s
P36A Good Intent, A 63.34 58 P P 11 27 03.5 -0.9
baz=322
R34A Isabella, Hill 63.40 61 P P 11 27 04.0 -0.8
baz=322
O37A Wolven Farm, M 63.41 57 P P 11 27 03.9 -1.0
baz=322
T32A Huddler Ranch, 63.45 62 P P 11 27 05.1 -0.1
baz=322
HSIG 63.54 77 *e*P P 11 27 07.0 +1.1
comp=Z,12nm,1.0s
Q35A Mercer Eighty, 63.54 59 P P 11 27 04.7 -1.1
baz=322
L41A Preston 63.57 53 P P 11 27 04.9 -0.9
baz=323
VSR Storozhevoye 63.75 325 *e*P P 11 27 05.0 -1.9
VSR *e**PP **pP** 11 27 14.1 -2.4
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=Z,970nm,15.0s
P37A Lathrop 63.77 58 P P 11 27 06.2 -1.1
baz=323
CHBT CHBT 64.06 253 P P 11 27 18.1 +8.7
P38A Dawn 64.12 57 P P 11 27 08.7 -0.8
baz=323
CPRX Cap Rock 64.18 69 *e*P P 11 27 14.9 +4.6
R36A Gordon, Harris 64.22 59 P P 11 27 09.3 -0.9
baz=323
MNTX Cornudas Mount 64.43 71 P P 11 27 11.9 +0.2
baz=322,SNR=12
MNTX Cornudas Mount 64.43 71 *e*P P 11 27 12.8 +1.0
comp=Z,33nm,1.4s
T34A McClaskey Farm 64.43 61 P P 11 27 10.7 -0.9
baz=322
U33A Lingo Farm, Me 64.44 62 P P 11 27 10.6 -1.1
baz=322
FAKI Fak Fak 64.50 216 *e*P P 11 27 11.0 -1.3
comp=Z,76nm,1.1s
O40A La Belle 64.50 56 P P 11 27 11.0 -1.1
baz=323
P39B Salisbury 64.60 57 P P 11 27 11.6 -1.1
baz=323
Q38A Cooks Store, C 64.61 58 P P 11 27 11.7 -1.0
baz=323
U34A Anderson Ranch 64.72 62 P P 11 27 12.7 -0.8
baz=322
CLNB Carlsbad 64.78 69 *e*P P 11 27 15.0 +0.9
KBL Kabul 64.83 295 *e*P P 11 27 13.5 -1.0
KBL pmax pmax
comp=Z,18nm,0.9s
KBL Kabul 64.83 295 *e*P P 11 27 13.5 -1.0
comp=Z,18nm,0.9s
T35A Sooner Cattle 64.84 61 P P 11 27 13.4 -1.0
baz=323
Q39A Willow Grove F 64.85 57 P P 11 27 13.5 -0.8
baz=323
P40A Paris 64.89 56 P P 11 27 13.6 -1.0
baz=323
W32A Sentinel 64.91 64 P P 11 27 15.0 +0.2
baz=322
O41A Passleys Farm, 64.96 55 P P 11 27 14.8 -0.2
baz=324
S37A Fort Scott 64.99 59 P P 11 27 14.5 -0.8
baz=323
R38A Fenwick Farm, 65.09 58 P P 11 27 14.7 -1.2
baz=323

V34A **Guthrie** 65.21 62 P P 11 27 16.7 0.0
baz=323
MRSI **Marisa** 65.22 228 P P 11 27 18.6 +1.7
comp=Z,41nm,0.9s
P41A **Barry, Barry** 65.23 55 P P 11 27 16.0 -0.8
baz=324
W33A **Caddo, Fort Co** 65.27 64 P P 11 27 16.6 -0.6
baz=323
Q40A **Laux Farm, Aux** 65.31 56 P P 11 27 17.3 0.0
baz=324
HDIL **Hopedale** 65.33 54 P P 11 27 17.3 -0.1
baz=324
HDIL **Hopedale** 65.33 54 *eP* P 11 27 17.6 +0.2
comp=Z,18nm,0.6s
PHET **Kaeng Krachan** 65.38 256 P P 11 27 27.6 +10
R39A **Chumby, Stover** 65.40 58 P P 11 27 17.0 -1.0
baz=323
X32A **Elmer** 65.44 65 P P 11 27 17.1 -1.1
baz=323
WMOK **Wichita Mounta** 65.44 64 P P 11 27 17.8 -0.5
baz=323,SNR=7.5
WMOK **Wichita Mounta** 65.44 64 *eP* P 11 27 18.8 +0.5
WMOK pmax pmax
comp=Z,25nm,1.1s
WMOK **Wichita Mounta** 65.44 64 *eP* P 11 27 18.8 +0.5
comp=Z,25nm,1.1s
T37A **Cheneyville 18** 65.45 60 P P 11 27 17.3 -1.0
baz=323
S38A **Stockton** 65.53 59 P P 11 27 18.2 -0.6
baz=323
W34A **Bridge Creek,** 65.55 63 P P 11 27 18.2 -0.8
baz=323
V35A **Meyer Ranch, C** 65.60 62 P P 11 27 18.6 -0.7
baz=323
SUW **Suwalki** 65.63 336 *eP* P 11 27 18.9 -0.2
SUW LMZ LR 11 53 57.6
comp=Z,600nm,26.4s
SUW **Suwalki** 65.63 336 *eP* P 11 27 18.9 -0.2
X33A **Lawton** 65.74 64 P P 11 27 20.0 -0.2
baz=323
S39A **Bolivar** 65.76 58 P P 11 27 19.5 -0.8
baz=323
R40A **Maddies Statio** 65.78 57 P P 11 27 19.7 -0.7
baz=324
T38A **Diamond** 65.83 59 P P 11 27 19.7 -1.0
baz=323
U37A **Salina** 65.93 60 P P 11 27 20.6 -0.7
baz=323
TUL1 **Leonard** 66.00 61 P P 11 27 21.0 -0.8
baz=323
V36A **Jenks** 66.02 61 P P 11 27 21.8 -0.1
baz=323
X34A **Smith Ranch, M** 66.03 63 P P 11 27 22.0 0.0
baz=323
W35A **Tecumseh** 66.06 62 P P 11 27 21.7 -0.6
baz=323
Q42A **Golden Eagle** 66.09 55 P P 11 27 21.6 -0.8
baz=324
Y33A **Hilltop Ranch,** 66.10 64 P P 11 27 21.7 -0.8
baz=323
S40A **Lebanon** 66.23 58 P P 11 27 22.5 -0.8
baz=324
U38A **Gravette** 66.26 60 P P 11 27 23.2 -0.3
baz=323
T39A **Clever** 66.27 59 P P 11 27 23.1 -0.4
baz=324
V37A **Hulbert** 66.33 61 P P 11 27 24.2 +0.2
baz=323
W36A **Wetumka** 66.40 62 P P 11 27 24.5 +0.1
baz=323
Q43A **New Douglas** 66.45 55 P P 11 27 24.4 -0.2
baz=324
SFIN **Lafayette** 66.45 52 P P 11 27 23.7 -0.9
baz=325
Y34A **Reagan Ranch,** 66.58 64 P P 11 27 25.7 +0.1
baz=323
T40A **Mansfield** 66.58 58 P P 11 27 24.8 -0.7
baz=324
Z33A **Whitaker Ranch** 66.60 65 P P 11 27 25.3 -0.5
baz=323
X35A **Drake** 66.62 63 P P 11 27 25.5 -0.3
baz=323
TRQ **Mont Tremblant** 66.63 40 *eP* P 11 27 24.9 -0.9
ABTX **Abilene, Hawle** 66.68 66 P P 11 27 25.5 -0.8
baz=323
ABTX **Abilene, Hawle** 66.68 66 *eP* P 11 27 26.8 +0.5
comp=Z,38nm,1.3s
V38A **Canehill** 66.71 60 P P 11 27 25.6 -0.8
baz=324,SNR=6.1
U39A **Green Forest** 66.74 59 P P 11 27 25.8 -0.7
baz=324,SNR=6.6
W37B **Quinton** 66.79 61 P P 11 27 26.3 -0.6
baz=324
X36A **Centrahoma** 66.79 62 P P 11 27 27.1 +0.2
baz=323
Q44A **Meyer Farm, Va** 66.79 54 P P 11 27 25.8 -1.0
baz=325
LMQ **La Malbaie** 66.96 37 *eP* P 11 27 28.0 +0.2
Z34A **Collier Ranch,** 66.96 64 P P 11 27 27.2 -0.8
baz=323
Y35A **Marietta** 66.98 63 P P 11 27 28.4 +0.3
baz=323
T41A **Mountain View** 67.02 58 P P 11 27 27.7 -0.7
baz=324
U40A **Yellville** 67.06 59 P P 11 27 28.3 -0.3
baz=324
133A **Hamilton Ranch** 67.06 66 P P 11 27 29.1 +0.4
baz=323
V39A **Pettigrew** 67.09 60 P P 11 27 28.5 -0.4
baz=324
AKASG **Malin Array Be** 67.15 331 P P 11 27 28.4 -0.5
comp=Z,4.0nm,0.6s,baz=29,slow=6.6,SNR=14
AKASG LR LR 12 00 58.9
comp=Z,1μm,18.2s,baz=15,slow=40
AKBB **Malin Array Si** 67.15 331 *eP* P 11 27 28.0 -0.9
AKBB pmax pmax
comp=Z,18nm,1.0s
AKBB **Malin Array Si** 67.15 331 *eP* P 11 27 28.0 -0.9
comp=Z,18nm,1.0s
AK11 **Malin Array Si** 67.19 331 *eP* P 11 27 29.1 0.0
TX31 **Lajitas Ar. Si** 67.20 71 *eP* P 11 27 30.6 +0.9
TXAR **Lajitas Array** 67.20 71 P P 11 27 30.4 +0.7
comp=Z,6.1nm,0.9s,baz=300,slow=4.5,SNR=31
X37A **Clayton** 67.26 62 P P 11 27 28.9 -1.0
baz=324
W38A **Poteau** 67.29 61 P P 11 27 29.7 -0.4
baz=324,SNR=6.9
R44A **Waltonville** 67.29 55 P P 11 27 28.9 -1.2
baz=325
Z35A **Perchaven, San** 67.33 64 P P 11 27 30.4 +0.1
baz=323
PCI **Palu** 67.35 229 P P 11 27 31.7 +1.1
comp=Z,56nm,1.0s
Y36A **Durant** 67.36 63 P P 11 27 31.0 +0.5
baz=324
S43A **Fulton Ridge,** 67.38 56 P P 11 27 29.8 -0.8
baz=325
GEYT **Alibeck** 67.41 305 P P 11 27 31.2 +0.4
comp=Z,10nm,0.7s,baz=29,slow=3.4,SNR=26
GEYT LR LR 11 59 36.5
comp=Z,928nm,18.6s,baz=30,slow=38
X38A **Whitesboro** 67.46 61 P P 11 27 30.2 -1.0
baz=324
134A **White-Moore Ra** 67.52 65 P P 11 27 31.9 +0.3
baz=323
233A **Rising Star** 67.54 66 P P 11 27 31.3 -0.4
baz=323
W39A **Magazine** 67.54 60 P P 11 27 31.5 -0.1
baz=324
Y37A **Hugo** 67.62 62 P P 11 27 31.7 -0.4
baz=324
S44A **Carbondale** 67.66 55 P P 11 27 32.0 -0.3
baz=325
Z36A **Blue Ridge** 67.79 63 P P 11 27 32.4 -0.8
baz=324
BUF **Buffalo** 67.79 45 *eP* P 11 27 33.1 +0.1
SBUM **Sibu** 67.81 238 *eP* P 11 27 35.1 +1.6
comp=Z,37nm,0.8s
V41A **Mountainview** 67.85 59 P P 11 27 32.7 -0.9
baz=324
PBMO **Poplar Bluff** 67.86 57 *eP* P 11 27 33.6 0.0
comp=Z,72nm,1.7s
135A **Vickery Place,** 67.87 64 P P 11 27 33.2 -0.6
baz=324
W40A **Ferguson Farm,** 67.89 60 P P 11 27 33.6 -0.2
baz=324
X39A **Fountain Ranch** 67.94 61 P P 11 27 34.1 -0.1
baz=324,SNR=9.6

234A **Clairette** 67.94 65 P P 11 27 34.3 0.0
baz=324
S45A **Carrier Mills** 67.99 55 P P 11 27 33.6 -0.8
baz=325
HPIG 68.04 74 *eP* P 11 27 34.7 -0.5
comp=Z,15nm,1.3s
333A **Richland Sprin** 68.05 66 P P 11 27 34.5 -0.5
baz=324
Y38A **Idabel** 68.10 62 P P 11 27 35.3 +0.1
baz=324
X201 **Greenbrier Sit** 68.15 59 *eP* P 11 27 35.7 +0.3
comp=Z,22nm,1.2s
USIN **University of** 68.17 54 *eP* P 11 27 35.3 -0.2
comp=Z,52nm,1.5s
MIAR **Mount Ida** 68.17 60 P P 11 27 35.0 -0.6
baz=324
MIAR **Mount Ida** 68.17 60 *eP* P 11 27 36.0 +0.4
MIAR pmax pmax
comp=Z,19nm,1.0s
MIAR **Mount Ida** 68.17 60 *eP* P 11 27 36.0 +0.4
comp=Z,19nm,1.0s
X301 **Greenbrier Sit** 68.18 59 *eP* P 11 27 35.9 +0.3
comp=Z,34nm,1.5s
WHAR **Wooly Hollow** 68.19 59 *eP* P 11 27 36.2 +0.5
comp=Z,61nm,1.7s
BEL **Belsk** 68.19 337 *eP* P 11 27 36.6 +1.2
BEL LMZ LR 11 53 38.6
comp=Z,700nm,34.9s
BEL **Belsk** 68.19 337 *eP* P 11 27 36.6 +1.2
V42A **Cord** 68.20 58 P P 11 27 34.8 -1.0
baz=324
Z37A **Pogue Cattle C** 68.25 63 P P 11 27 36.3 +0.2
baz=324
PARMO **Parma** 68.27 56 *eP* P 11 27 36.3 +0.1
WHTX **Lake Whitney,** 68.30 65 P P 11 27 36.6 +0.1
baz=324
W41B **Gary Mavity, V** 68.30 59 P P 11 27 35.8 -0.6
baz=324,SNR=5.6
JCT **Junction City** 68.31 68 P P 11 27 36.6 0.0
baz=324,SNR=6.9
JCT **Junction City** 68.31 68 *eP* P 11 27 37.0 +0.4
JCT pmax pmax
comp=Z,18nm,0.9s
JCT **Junction City** 68.31 68 *eP* P 11 27 37.0 +0.4
comp=Z,18nm,0.9s
MMNY **Mt. Morris Dam** 68.33 45 *eP* P 11 27 36.2 -0.3
ALLY **Alegheny Colle** 68.35 47 *eP* P 11 27 36.9 +0.3
comp=Z,26nm,1.0s
ACSO **Alum Creek Sta** 68.35 49 *eP* P 11 27 36.4 -0.2
comp=Z,46nm,1.4s
ESK **Eskdalemuir** 68.36 352 *i* P pP 11 27 46.5 +0.4
136A **Ennis** 68.38 64 P P 11 27 36.3 -0.6
baz=324
Y39A **Lockesburg** 68.41 61 P P 11 27 37.2 +0.1
baz=324
334A **Lometa** 68.43 66 P P 11 27 36.8 -0.5
baz=324
433A **Art** 68.45 67 P P 11 27 37.0 -0.5
baz=324,SNR=7.7
Z38A **Mt. Pleasant** 68.52 62 P P 11 27 36.9 -0.9
baz=324
X40A **Basin Creek Fa** 68.58 60 P P 11 27 37.3 -0.8
baz=324
M54A **Oil Creek Stat** 68.66 46 P P 11 27 37.6 -1.0
baz=328
X41A **Kaden, Bauxite** 68.72 60 P P 11 27 38.9 -0.1
baz=324
Y40A **Okolona** 68.74 61 P P 11 27 39.4 +0.2
baz=324
236A **Katherine and** 68.76 64 P P 11 27 39.6 +0.3
baz=324
KIV **Kislovodsk** 68.79 319 *eP* P 11 27 39.9 +0.4
KIV pmax pmax
comp=Z,11nm,1.2s
KIV **Kislovodsk** 68.79 319 *eP* P 11 27 39.3 -0.1
comp=Z,19nm,0.9s
434A **Burnet** 68.83 66 P P 11 27 39.9 +0.1
baz=324,SNR=5.5
NCK **Nalchik** 68.84 318 *i* P P 11 27 38.7 -1.0
NCK pmax pmax
comp=Z,5.0nm,0.6s
335A **Moody** 68.88 65 P P 11 27 40.2 +0.1
baz=324
KBZ **Khabaz** 68.91 318 P P 11 27 40.7 +0.7
comp=Z,7.2nm,0.9s,baz=63,slow=2.7,SNR=11
KBZ LR LR 12 01 04.5
comp=Z,979nm,21.3s,baz=26,slow=39
138A **Matatall Enter** 68.95 63 P P 11 27 39.9 -0.6
baz=324
N54A **Moraine State** 68.99 47 P P 11 27 39.7 -1.0
baz=328
533A **Kerrville** 69.03 67 P P 11 27 41.1 0.0
baz=324
WLAR **White Oak Lake** 69.09 61 *eP* P 11 27 42.2 +0.9
comp=Z,24nm,1.0s
Y41A **Eaglette Beard** 69.17 60 P P 11 27 41.9 0.0
baz=325
TTSI **Tana Toraja** 69.28 229 P P 11 27 43.8 +1.1
comp=Z,17nm,1.3s
Z40A **Long Farm, Mag** 69.30 61 P P 11 27 42.0 -0.6
baz=324
LVV **L'vov** 69.31 334 *eP* P 11 27 47.7 +5.3
LVV MLR MLR
comp=E,500nm,15.0s
LVV MLR MLR
comp=N,700nm,16.0s
LVV MLR MLR
comp=Z,1μm,17.0s
ZEI **Tsey** 69.34 317 *eP* P 11 27 41.7 -1.3
ZEI pmax pmax
comp=Z,52nm,0.9s
534A **Blanco** 69.35 67 P P 11 27 42.6 -0.5
baz=324,SNR=6.4
V45A **Humboldt** 69.39 56 P P 11 27 43.1 -0.1
baz=325
633A **Saathoff Ranch** 69.45 68 P P 11 27 43.7 0.0
baz=324
238A **Jacksonville** 69.46 63 P P 11 27 42.9 -0.7
baz=324
X43A **Marvell** 69.49 58 P P 11 27 43.9 +0.1
baz=325
KSM **Kuching** 69.58 240 *eP* P 11 27 45.8 +1.2
comp=Z,30nm,0.9s
Z41A **Richland Creek** 69.59 61 P P 11 27 43.7 -0.7
baz=325
WVT **Waverly** 69.60 55 *eP* P 11 27 44.7 +0.3
WVT pmax pmax
comp=Z,11nm,0.8s
WVT **Waverly** 69.60 55 *eP* P 11 27 44.7 +0.3
comp=Z,11nm,0.8s
Y42A **Garnett, Star** 69.61 60 P P 11 27 44.4 -0.1
baz=325
436A **Wall Ranch, Ga** 69.61 65 P P 11 27 44.0 -0.6
baz=324
337A **Centerville** 69.63 64 P P 11 27 44.3 -0.5
baz=324
140A **Cam and Jess,** 69.71 62 P P 11 27 45.2 0.0
baz=325
W45A **Hickory Valley** 69.77 57 P P 11 27 45.5 0.0
baz=325
KWP **Kalwaria Pacla** 69.80 335 *eP* P 11 27 46.5 +1.0
KWP LMZ LR 11 57 03.4
comp=Z,600nm,23.2s
KWP **Kalwaria Pacla** 69.80 335 ⇓ *i* P pP 11 27 55.8 +0.6
KWP **Kalwaria Pacla** 69.80 335 *eP* P 11 27 46.5 +1.0
X44A **Crenshaw** 69.85 58 P P 11 27 46.2 +0.1
baz=325
NATX **Nacogdoches** 69.89 63 P P 11 27 45.7 -0.6
baz=324
ANN **Anapa** 69.91 323 *eP* P 11 27 44.0 -2.2
ANN *eS* S 11 36 48.6 -5.1
ANN pmax pmax
comp=Z,44nm,1.0s
ANN MLR MLR
comp=Z,743nm,22.0s
OJC **Ojcow** 69.92 337 *eP* P 11 27 47.0 +0.7
OJC LMZ LR 11 55 28.5
comp=Z,500nm,30.2s
OJC **Ojcow** 69.92 337 *eP* P 11 27 46.6 +0.3
OJC pmax pmax
comp=Z,35nm,1.1s
OJC **Ojcow** 69.92 337 *eP* P 11 27 46.6 +0.3
comp=Z,35nm,1.1s
634A **China Grove, S** 69.94 67 P P 11 27 46.2 -0.5
baz=324
832A **Faith Ranch, C** 69.98 69 P P 11 27 47.4 +0.5
baz=324

733A **Divot King Ran** 69.98 68 P P 11 27 46.7 -0.2
baz=324
Z42A **Norrel Spur, H** 69.99 60 P P 11 27 46.4 -0.5
baz=325
536A **Bastrop** 70.04 66 P P 11 27 46.8 -0.4
baz=324
141A **Papa Simpson,** 70.07 61 P P 11 27 46.8 -0.6
baz=325
KSP **Ksiaz** 70.07 339 *eP* P 11 27 47.6 +0.5
KSP LMZ LR 11 59 42.3
comp=Z,700nm,21.4s
KSP **Ksiaz** 70.07 339 *eP* P 11 27 47.7 +0.5
KSP MLR MLR
comp=Z,700nm,21.4s
O56A **Blue Knob Stat** 70.15 46 P P 11 27 47.0 -0.9
baz=328
OXF **Oxford** 70.19 57 *eP* P 11 27 48.5 +0.4
OXF pmax pmax
comp=Z,46nm,1.0s
OXF **Oxford** 70.19 57 *eP* P 11 27 48.5 +0.4
comp=Z,46nm,1.0s
833A **Chaparral WMA,** 70.25 69 P P 11 27 48.2 -0.3
baz=324
CLL **Collm** 70.25 341 *i* P P 11 27 48.2 0.0
comp=Z,41nm,1.8s
CLL *i* pP pP 11 27 56.7 -1.2
comp=Z,30nm,1.4s
CLL *i* 11 28 03.8
CLL *i* 11 28 08.3
CLL *i* PP PP 11 30 20.5 -2.6
CLL *i* 11 30 34.9
CLL *e*S S 11 36 59.0 +1.5
CLL *e*SS SS 11 41 24.0 -2.7
CLL LmV 12 00 00.0
comp=N,500nm,21.2s
CLL LmV 12 00 00.0
comp=E,300nm,19.3s
CLL LmV 12 00 00.0
comp=Z,400nm,20.6s
CLL **Collm** 70.25 341 *i* P P 11 27 48.2 0.0
CLL *i* *PP pP 11 27 56.7 -1.2
CLL *e*S S 11 36 59.0 +1.5
CLL pmax pmax
comp=Z,41nm,1.8s
CLL MLR MLR
comp=Z,400nm,20.6s
CLL **Collm** 70.25 341 *eP* P 11 27 48.2 0.0
comp=Z,20nm,1.2s
734A **La Parita Cree** 70.26 68 P P 11 27 48.2 -0.4
baz=324
Y44A **Strider, Charl** 70.26 58 P P 11 27 48.9 +0.3
baz=325
339A **Huntington** 70.28 63 P P 11 27 48.1 -0.7
baz=325
438A **Sam Houston St** 70.30 64 P P 11 27 49.0 +0.2
baz=324
STHS **Stebnicka Huta** 70.35 335 *eP* P 11 27 50.4 +1.5
STHS *e* 11 27 59.2
STHS pmax pmax
comp=Z,21nm,1.1s
STHS **Stebnicka Huta** 70.35 335 *eP* P 11 27 50.4 +1.5
STHS *e* 11 27 59.2
Z43A **Armstrong Fami** 70.38 60 P P 11 27 48.5 -0.8
baz=325
PLAL **Pickwick Lake** 70.43 56 *eP* P 11 27 49.5 0.0
comp=Z,18nm,0.8s
UPC **Upice** 70.45 339 *eP* P 11 27 50.1 +0.6
UPC *ep*P pP 11 27 58.9 -0.2
UPC *e*S S 11 37 07.1 +7.2
UPC AMS AMS 12 02 50.0
comp=Z,600nm,15.9s
UPC **Upice** 70.45 339 *eP* P 11 27 50.1 +0.6
UPC *e**PP pP 11 27 58.9 -0.2
UPC *e*S S 11 37 07.1 +7.2
UPC MLR MLR
comp=Z,600nm,15.9s
BRG **Berggiesshubel** 70.50 341 *eP* P 11 27 50.2 +0.5
comp=Z,28nm,1.8s
BRG *e* 11 27 58.1
comp=Z,17nm,1.4s
BRG S S 11 37 00.0 -0.4
BRG SS SS 11 41 32.0 +1.5
comp=N,636nm,12.6s
comp=E,395nm,12.2s
comp=Z,706nm,14.3s
BRG **Berggiesshubel** 70.50 341 *eP* P 11 27 50.2 +0.5
BRG *e* 11 27 58.1
BRG S S 11 37 00.0 -0.4
BRG SS SS 11 41 32.0 +1.5
BRG pmax pmax
comp=Z,28nm,1.8s
BRG MLR MLR
comp=N,636nm,12.6s
BRG MLR MLR
comp=E,395nm,12.2s
BRG MLR MLR
comp=Z,706nm,14.3s
636A **Smothers Creek** 70.52 66 P P 11 27 50.1 -0.1
baz=324
241A **Mo Tay, Goldon** 70.53 62 P P 11 27 50.1 -0.1
baz=325
DPC **Dobruska-Polom** 70.53 339 *eP* P 11 27 51.0 +1.0
DPC *ex* x 11 27 55.1
DPC *ep*P pP 11 27 59.5 -0.2
DPC *e*PP PP 11 30 29.7 +4.0
DPC *e*S S 11 37 07.2 +6.2
DPC AMS AMS 12 02 50.0
comp=Z,700nm,16.1s
DPC **Dobruska-Polom** 70.53 339 *eP* P 11 27 51.0 +1.0
DPC *e* 11 27 55.1
DPC *e* 11 30 29.7
DPC *e*S S 11 37 07.2 +6.2
DPC MLR MLR
comp=Z,700nm,16.1s
340A **Bronson** 70.55 63 P P 11 27 49.7 -0.7
baz=325
KOLS **Kolonicke sedl** 70.56 335 *eP* P 11 27 51.1 +0.9
KOLS *e* 11 27 59.8
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS **Kolonicke sedl** 70.56 335 *eP* P 11 27 51.1 +0.9
KOLS *e* 11 27 59.8
NIE **Niedzica** 70.56 336 *eP* P 11 27 51.8 +1.6
NIE LMZ LR 11 57 09.9
comp=Z,300nm,27.4s
NIE **Niedzica** 70.56 336 *eP* P 11 27 51.8 +1.6
439A **Center Grove,** 70.62 64 P P 11 27 50.3 -0.5
baz=325
KIS **Kishinev** 70.63 329 *eP* P 11 27 50.0 -0.6
KIS *e*S S 11 37 01.0 -1.0
KIS **Kishinev** 70.63 329 *eP* P 11 27 50.0 -0.6
KIS *e* 11 28 13.0
KIS *e*S S 11 37 01.0 -1.0
KIS *e*SSS SSS 11 44 46.0
KIS MLR MLR
comp=Z,800nm,18.0s
OKC **Ostrava-Krasne** 70.64 338 *eP* P 11 27 51.8 +1.2
OKC *ep*P pP 11 28 00.0 -0.3
OKC *e*S S 11 36 59.3 -2.8
OKC AMS AMS 12 03 50.0
comp=Z,600nm,14.0s
OKC **Ostrava-Krasne** 70.64 338 *eP* P 11 27 51.8 +1.2
OKC *e**PP pP 11 28 00.0 -0.3
OKC *e*S S 11 36 59.3 -2.8
OKC MLR MLR
comp=Z,600nm,14.0s
Y45A **Yeager Farm, C** 70.66 58 P P 11 27 49.8 -1.1
baz=326
PVCC **Panska Ves** 70.71 340 AMS AMS 12 03 30.0
comp=Z,600nm,16.5s
N59A **State Game Lan** 70.71 44 P P 11 27 50.7 -0.5
baz=329
143A **Socs Landing,** 70.72 60 P P 11 27 50.5 -0.8
baz=325
HKT **Hockley** 70.76 65 *eP* P 11 27 51.5 -0.1
HKT pmax pmax
comp=Z,18nm,1.5s
HKT **Hockley** 70.76 65 *eP* P 11 27 51.5 -0.1
comp=Z,18nm,1.5s
CRVS **Cervenica-Dubn** 70.78 335 *eP* P 11 27 53.6 +2.1
CRVS *e* 11 28 01.0
CRVS **Cervenica-Dubn** 70.78 335 *eP* P 11 27 53.6 +2.1
CRVS *e* 11 28 01.0
MORC **Moravsky Berou** 70.83 338 ⇑ *i* P P 11 27 52.5 +0.7
MORC **Moravsky Berou** 70.83 338 ⇑ P P 11 27 52.5 +0.7

MORC	**Moravsky Berou**	**70.83**	**338**	*e*P		**P**	**11 27 52.7**	**+0.8**
	comp=Z,86nm,1.3s								
UZH	**Uzhgorod**	**70.83**	**334**	⇑*i*P		**P**	**11 27 50.0**	**-1.8**
UZH				*i* S		**S**	**11 36 58.8**	**-5.5**
UZH				*e*			11 41 47.4	
UZH				MLR		MLR		
	comp=N,1μm,13.0s								
UZH				MLR		MLR		
	comp=E,650nm,13.0s								
UZH				MLR		MLR		
	comp=Z,600nm,13.0s								
834A	**Tilden**	**70.84**	**68**	P		**P**	**11 27 51.9**	**-0.3**
	baz=324								
933A	**Laredo**	**70.88**	**69**	P		**P**	**11 27 52.0**	**-0.4**
	baz=324								
Y46A	**Houston**	**70.97**	**57**	P		**P**	**11 27 52.9**	**+0.1**
	baz=326,SNR=7.3								
Z45A	**Winona**	**70.99**	**58**	P		**P**	**11 27 52.8**	**-0.2**
	baz=326								
LANS	**Liptovska Anna**	**71.00**	**336**	*e*P		**P**	**11 27 54.8**	**+1.9**
LANS				*e*			11 28 03.7	
LANS	**Liptovska Anna**	**71.00**	**336**	*e*P		**P**	**11 27 54.8**	**+1.9**
LANS				*e*			11 28 03.7	
BUR08	**Bucovina Ar. S**	**71.02**	**332**	*e*P		**P**	**11 27 53.7**	**+0.6**
BURAR	**Bucovina Array**	**71.04**	**332**	⇑*i*P		**P**	**11 27 53.6**	**+0.4**
BURAR	**Bucovina Array**	**71.04**	**332**	⇑P		**P**	**11 27 53.6**	**+0.4**
440A	**Kirbyville**	**71.06**	**63**	P		**P**	**11 27 52.9**	**-0.5**
	baz=325								
KAPI	**Kappang**	**71.09**	**228**	*e*P		**P**	**11 27 53.3**	**-0.4**
	comp=Z,38nm,1.1s								
835A	**Beeville**	**71.09**	**67**	P		**P**	**11 27 53.9**	**+0.3**
	baz=324								
PRU	**Pruhonice**	**71.23**	**340**	*e*P		**P**	**11 27 54.8**	**+0.6**
PRU				*ep*P		**pP**	**11 28 03.3**	**-0.6**
PRU				*e*S		**S**	**11 37 15.9**	**+7.0**
PRU				AMS		AMS	12 03 40.0	
	comp=Z,700nm,15.8s								
PRU	**Pruhonice**	**71.23**	**340**	*e*P		**P**	**11 27 54.8**	**+0.6**
PRU				*e**PP		**pP**	**11 28 03.3**	**-0.6**
PRU				*e*S		**S**	**11 37 15.9**	**+7.0**
PRU				MLR		MLR		
	comp=Z,700nm,15.8s								
144A	**Alexander Plac**	**71.25**	**59**	P		**P**	**11 27 53.9**	**-0.7**
	baz=326								
GOPC	**GO Pecny, Ondr**	**71.25**	**340**	*e*P		**P**	**11 27 55.6**	**+1.2**
GOPC				*ep*P		**pP**	**11 28 04.1**	**0.0**
GOPC				*e*S		**S**	**11 37 10.9**	**+1.6**
GOPC				AMS		AMS	12 03 30.0	
	comp=Z,600nm,14.4s								
GOPC	**GO Pecny, Ondr**	**71.25**	**340**	*e*P		**P**	**11 27 55.6**	**+1.2**
GOPC				*e**PP		**pP**	**11 28 04.1**	**0.0**
GOPC				*e*S		**S**	**11 37 10.9**	**+1.6**
GOPC				MLR		MLR		
	comp=Z,600nm,14.4s								
GNI	**Garni**	**71.27**	**315**	*e*P		**P**	**11 27 55.6**	**+0.7**
GNI				pmax		pmax		
	comp=Z,159nm,1.6s								
GNI	**Garni**	**71.27**	**315**	P		P	11 28 05.0	+10
	SNR=7.5								
GNI	**Garni**	**71.27**	**315**	*e*P		**P**	**11 27 55.6**	**+0.7**
	comp=Z,159nm,1.6s								
934A	**Benavides**	**71.28**	**68**	P		**P**	**11 27 54.5**	**-0.3**
	baz=324								
243A	**Waterproof**	**71.35**	**61**	P		**P**	**11 27 54.8**	**-0.4**
	baz=325								
342A	**Flagon Creek P**	**71.35**	**61**	P		**P**	**11 27 54.6**	**-0.6**
	baz=325								
NKC	**Novy Kostel**	**71.38**	**341**	*e*P		**P**	**11 27 56.1**	**+0.9**
NKC				*ep*P		**pP**	**11 28 04.3**	**-0.6**
NKC				AMS		AMS	12 05 40.0	
	comp=Z,800nm,14.8s								
NKC	**Novy Kostel**	**71.38**	**341**	*e*P		**P**	**11 27 56.1**	**+0.9**
NKC				*e**PP		**pP**	**11 28 04.3**	**-0.6**
NKC				MLR		MLR		
	comp=Z,800nm,14.8s								
KECS	**Kecovo**	**71.40**	**336**	*e*P		**P**	**11 27 55.7**	**+0.4**
KECS				*e*			11 28 04.5	
KECS				pmax		pmax		
	comp=Z,4.0nm,1.0s								
KECS	**Kecovo**	**71.40**	**336**	*e*P		**P**	**11 27 55.7**	**+0.4**
KECS				*e*			11 28 04.5	
737A	**Port Lavaca**	**71.42**	**66**	P		**P**	**11 27 56.1**	**+0.5**
	baz=325								
Y47A	**UCPARC, Winfie**	**71.42**	**57**	P		**P**	**11 27 55.0**	**-0.6**
	baz=326								
VRAC	**Vranov**	**71.47**	**338**	⇓*i*P		**P**	**11 27 57.1**	**+1.4**
VRAC	**Vranov**	**71.47**	**338**	⇓P		**P**	**11 27 57.1**	**+1.4**
Z46A	**Louisville**	**71.49**	**58**	P		**P**	**11 27 56.0**	**0.0**
	baz=326								
145A	**Houston Renfro**	**71.51**	**59**	P		**P**	**11 27 55.5**	**-0.7**
	baz=326								
244A	**Avery, Jackson**	**71.61**	**60**	P		**P**	**11 27 56.9**	**+0.1**
	baz=326								
034A	**Hebbronville**	**71.63**	**69**	P		**P**	**11 27 57.5**	**+0.6**
	baz=324								
TESR	**Tescani**	**71.67**	**331**	⇑*i*P		P	11 27 48.0	-9.0
IPM	**Ipoh**	**71.69**	**250**	*e*P		**P**	**11 27 57.0**	**-0.4**
	comp=Z,14nm,0.7s								
TREC	**Trest**	**71.71**	**339**	AMS		AMS	12 05 20.0	
	comp=Z,700nm,14.9s								
VYHS	**Vyhne**	**71.76**	**337**	*e*P		**P**	**11 27 58.3**	**+0.8**
VYHS				*e*			11 28 06.3	
VYHS				*e*S		**S**	**11 37 19.4**	**+4.2**
VYHS				pmax		pmax		
	comp=Z,9.0nm,1.2s								
VYHS	**Vyhne**	**71.76**	**337**	*e*P		**P**	**11 27 58.3**	**+0.8**
VYHS				*e*			11 28 06.3	
VYHS				*e*S		**S**	**11 37 19.4**	**+4.2**
BSSI	**Bau Bau, Buton**	**71.81**	**227**	P		**P**	**11 27 59.2**	**+1.2**
	comp=Z,67nm,1.1s,comp=Z,1μm								
BBKI	**Banjar Baru**	**71.81**	**233**	P		**P**	**11 27 58.7**	**+0.6**
	comp=Z,83nm,0.9s								
146A	**Union**	**71.90**	**58**	P		**P**	**11 27 58.8**	**+0.3**
	baz=326,SNR=6.1								
Z47A	**Carrollton**	**71.90**	**57**	P		**P**	**11 27 58.4**	**-0.1**
	baz=326,SNR=5.4								
Z48A	**Northport**	**71.99**	**57**	P		**P**	**11 27 58.9**	**-0.2**
	baz=326								
MEM	**Membach**	**72.03**	**346**	P		**P**	**11 27 59.5**	**+0.5**
	comp=Z,22nm,1.3s								
MEM				AP		**pP**	**11 28 07.9**	**-0.9**
PSZ	**Piszkesteto**	**72.07**	**336**	*e*P		**P**	**11 27 59.9**	**+0.5**
PSZ				pmax		pmax		
	comp=Z,19nm,1.3s								
PSZ	**Piszkesteto**	**72.07**	**336**	*e*P		**P**	**11 27 59.9**	**+0.5**
	comp=Z,19nm,1.3s								
344A	**Westbrook Farm**	**72.07**	**60**	P		**P**	**11 27 59.8**	**+0.2**
	baz=326								
GRFO	**Grafenberg**	**72.12**	**342**	*e*P		**P**	**11 28 00.9**	**+1.3**
GRFO				pmax		pmax		
	comp=Z,38nm,1.3s								
GRFO	**Grafenberg**	**72.12**	**342**	*e*P		**P**	**11 28 00.8**	**+1.3**
	comp=Z,38nm,1.3s								
COEN	**Coen**	**72.13**	**202**	*e*P		**P**	**11 28 03.0**	**+3.1**
	comp=Z,53nm,1.0s								
KHC	**Kasperske Hory**	**72.23**	**340**	*e*P		**P**	**11 28 01.2**	**+0.9**
KHC				*ex*		x	11 28 05.3	
KHC				*ep*P		**pP**	**11 28 10.3**	**+0.3**
KHC				*e*S		**SKiKP**	**11 37 28.4**	**-5.0**
KHC				AMS		AMS	12 03 10.0	
	comp=Z,700nm,19.2s								
KHC	**Kasperske Hory**	**72.23**	**340**	*e*P		**P**	**11 28 01.2**	**+0.9**
KHC				*e*			11 28 05.3	
KHC				*e*S		**SKiKP**	**11 37 28.4**	**-5.0**
KHC				MLR		MLR		
	comp=Z,700nm,19.2s								
KHC	**Kasperske Hory**	**72.23**	**340**	*e*P		**P**	**11 28 01.1**	**+0.8**
	comp=Z,6.3nm,1.1s								
VRI	**Vrincioaia**	**72.25**	**330**	⇑*i*P		P	11 28 10.2	+10
VRI	**Vrincioaia**	**72.25**	**330**	⇑P		P	11 28 10.2	+10
PLOR	**Plostina**	**72.28**	**330**	⇓*i*P		P	11 28 12.5	+12
CJR	**Cluj-Napoca**	**72.30**	**333**	⇑*i*P		P	11 28 09.5	+8.8
CJR	**Cluj-Napoca**	**72.30**	**333**	⇑P		P	11 28 09.5	+8.8
BCLA	**Clavier**	**72.32**	**346**	P		**P**	**11 28 00.3**	**-0.4**
BCLA				AP		**pP**	**11 28 08.9**	**-1.5**
DRGR		**72.45**	**333**	⇑*i*P		**P**	**11 28 01.4**	**-0.3**
DRGR		**72.45**	**333**	⇑P		**P**	**11 28 01.4**	**-0.3**
CFR	**Carcaliu**	**72.48**	**329**	⇓*i*P		**P**	**11 28 01.6**	**-0.2**
CFR	**Carcaliu**	**72.48**	**329**	⇓P		**P**	**11 28 01.6**	**-0.2**
GEC2	**GERESS Array S**	**72.48**	**340**	*e*P		**P**	**11 28 02.7**	**+0.8**
GEC2				pmax		pmax		
	comp=Z,18nm,1.4s								
GEC2	**GERESS Array S**	**72.48**	**340**	*e*P		**P**	**11 28 02.7**	**+0.8**
	comp=Z,18nm,1.4s								
GERES	**GERESS Array B**	**72.48**	**340**	P		**P**	**11 28 01.9**	**0.0**
	comp=Z,1.5nm,0.9s,baz=15,slow=5.5,SNR=13								
GERES						LR	LR	12 03 48.2	
	comp=Z,604nm,19.0s,baz=22,slow=39								
GERES	**GERESS Array B**	**72.48**	**340**	P		**P**	**11 28 01.9**	**0.0**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
GERES				MLR		MLR			
	comp=Z,604nm,19.0s								
GEA0	**GERESS Array S**	**72.49**	**340**	*e*P		**P**	**11 28 02.2**	**+0.3**
DOPR	**Dopca**	**72.52**	**331**	⇑*i*P		**P**	**11 28 03.3**	**+1.3**
345A	**Thompson Farm,**	**72.53**	**60**	P		**P**	**11 28 02.3**	**+0.1**
	baz=326								
LRAL	**Lakeview Retre**	**72.54**	**57**	*e*P		**P**	**11 28 01.5**	**-0.8**
	comp=Z,15nm,0.6s								
AFI	**Afiamalu**	**72.66**	**156**	LR		LR	11 52 15.4		
	comp=Z,295nm,20.6s,baz=333,slow=29								
DOU	**Dourbes**	**72.73**	**347**	AP		pP	11 28 11.5	-1.4
MLR	**Muntele Rosu**	**72.81**	**331**	⇑*i*P		**P**	**11 28 05.3**	**+1.4**
MLR	**Muntele Rosu**	**72.81**	**331**	⇑P		**P**	**11 28 05.3**	**+1.4**
MLR	**Muntele Rosu**	**72.81**	**331**	*e*P		**P**	**11 28 05.4**	**+1.4**
	comp=Z,26nm,1.2s								
CONA	**Conrad Observa**	**72.93**	**338**	*i* P		**P**	**11 28 05.7**	**+1.2**
	comp=Z,23nm,1.4s,SNR=7.5								
WLF	**Walferdange**	**72.94**	**345**	AP		pP	11 28 11.6	-2.5
ZAIG	**Zacatecas**	**73.05**	**74**	*e*P		**P**	**11 28 07.1**	**+1.3**
	comp=Z,16nm,1.2s								
TIRR	**Tirgusor**	**73.06**	**329**	⇑*i*P		**P**	**11 28 05.8**	**+0.6**
TIRR	**Tirgusor**	**73.06**	**329**	⇑P		**P**	**11 28 05.8**	**+0.6**
VOIR		**73.10**	**331**	⇑*i*P		**P**	**11 28 06.6**	**+1.0**
VOIR		**73.10**	**331**	⇑P		**P**	**11 28 06.6**	**+1.0**
347A	**Saraland**	**73.16**	**59**	P		**P**	**11 28 06.7**	**+0.6**
	baz=326								
SIRR	**Siria**	**73.20**	**334**	⇑*i*P		**P**	**11 28 06.9**	**+0.9**
446A	**Poplarville**	**73.27**	**60**	P		**P**	**11 28 06.8**	**+0.1**
	baz=326								
ARR	**Arges**	**73.27**	**332**	⇓*i*P		P	11 28 12.0	+5.4
KMSC	**Kings Mountain**	**73.33**	**51**	P		**P**	**11 28 06.9**	**0.0**
	baz=328								
KMSC	**Kings Mountain**	**73.33**	**51**	*e*P		**P**	**11 28 06.7**	**-0.3**
	comp=Z,33nm,1.4s								
HYB	**Hyderabad**	**73.40**	**276**	*i* P		**P**	**11 28 07.0**	**-0.7**
ARSA	**Arzberg**	**73.65**	**338**	*e*P		**P**	**11 28 09.9**	**+1.2**
	comp=Z,11nm,1.1s								
BZS	**Buzias**	**73.82**	**334**	⇓*i*P		**P**	**11 28 09.9**	**+0.2**
BZS	**Buzias**	**73.82**	**334**	⇓P		**P**	**11 28 09.9**	**+0.2**
BFO	**Black Forest**	**73.91**	**344**	*i* P		P	11 28 20.0	+10
BFO	**Black Forest**	**73.91**	**344**	*e*P		**P**	**11 28 10.7**	**+0.5**
	comp=Z,13nm,1.1s								
MTN	**Manton Dam**	**74.19**	**214**	*e*P		**P**	**11 28 12.6**	**+0.5**
	comp=Z,115nm,1.4s								
PSI	**Prapat**	**74.21**	**251**	*e*P		**P**	**11 28 12.8**	**+0.3**
PSI				pmax		pmax			
	comp=Z,13nm,0.8s								
PSI	**Prapat**	**74.21**	**251**	*e*P		**P**	**11 28 12.8**	**+0.3**
	comp=Z,13nm,0.8s								
KBA	**Koelnbreinsper**	**74.25**	**340**	*i* P		**P**	**11 28 13.9**	**+1.5**
	comp=Z,46nm,1.2s,SNR=9.8								
SOKA	**Soboth**	**74.30**	**339**	*i* P		**P**	**11 28 13.6**	**+1.0**
	comp=Z,16nm,1.8s,SNR=5.1								
WTTA	**Wattenberg**	**74.39**	**341**	*e*P		**P**	**11 28 13.9**	**+0.7**
	comp=Z,16nm,1.0s								
MOTA	**Moosalm**	**74.41**	**341**	*e*P		**P**	**11 28 13.8**	**+0.5**
	comp=Z,15nm,1.0s								
GROS	**Grobnik**	**74.41**	**338**	*i* P		**P**	**11 28 13.8**	**+0.6**
OBKA	**Obir**	**74.56**	**339**	*i* P		**P**	**11 28 15.3**	**+1.2**
	comp=Z,25nm,0.9s,SNR=5.8								
MSVF	**Nonsavu**	**74.56**	**166**	*e*P		**P**	**11 28 14.8**	**+0.5**
MSVF				pmax		pmax			
	comp=Z,20nm,1.1s								
MSVF	**Nonsavu**	**74.56**	**166**	*e*P		**P**	**11 28 14.8**	**+0.5**
	comp=Z,20nm,1.1s								
MDVR	**Moldovita**	**74.57**	**333**	⇑*i*P		P	11 28 21.4	+7.2
MYKA	**Terra Mystica**	**74.62**	**340**	*e*P		**P**	**11 28 16.2**	**+1.8**
	comp=Z,20nm,1.5s								
CNNC	**Cliffs of the**	**74.72**	**49**	*e*P		**P**	**11 28 15.1**	**0.0**
	comp=Z,58nm,1.4s								
ABTA	**Abfaltersbach**	**74.72**	**340**	*i* P		**P**	**11 28 15.8**	**+0.7**
	comp=Z,28nm,1.2s,SNR=6.6								
FETA	**Feichten**	**74.78**	**342**	*e*P		**P**	**11 28 16.3**	**+0.8**
	comp=Z,29nm,1.2s								
JAVS	**Javornik**	**75.24**	**339**	*i* P		**P**	**11 28 18.3**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**75.25**	**342**	*e*P		**P**	**11 28 19.8**	**+1.4**
	comp=Z,37nm,1.5s								
BOJS	**Bojanci**	**75.37**	**338**	*i* P		**P**	**11 28 19.3**	**+0.6**
BOJS				*i*			11 28 28.4		
TIGA	**Tifton**	**75.45**	**55**	*e*P		**P**	**11 28 18.9**	**-0.4**
	comp=Z,33nm,1.0s								
TUE	**Stuetta**	**75.55**	**342**	*e*P		**P**	**11 28 21.1**	**+1.1**
	comp=Z,20nm,1.2s								
NHSC	**New Hope**	**75.56**	**51**	*e*P		**P**	**11 28 21.0**	**+1.1**
	comp=Z,58nm,1.1s								
BR131	**Keskin Array S**	**75.71**	**323**	*e*P		**P**	**11 28 21.4**	**+0.5**
BRTR	**Keskin Array B**	**75.71**	**323**	P		**P**	**11 28 21.1**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=61,slow=3.6,SNR=11								
BRTR						LR	LR	12 05 03.6	
	comp=Z,394nm,21.2s,baz=33,slow=38								
BR231	**Keskin MP Arra**	**75.89**	**324**	*e*P		**P**	**11 28 21.6**	**-0.3**
GSI	**Gunungsitoli**	**76.18**	**251**	P		**P**	**11 28 23.1**	**-0.6**
	comp=Z,36nm,0.8s								
GSI	**Gunungsitoli**	**76.18**	**251**	*e*P		**P**	**11 28 24.0**	**+0.3**
	comp=Z,20nm,0.7s								
LHSI	**Lahat**	**77.49**	**243**	P		**P**	**11 28 30.5**	**-0.5**
	comp=Z,50nm,0.9s								
DZM	**Mont Dzumac**	**78.00**	**178**	*e*LR		LR	11 52 42.1		
	comp=Z,497nm,27.6s								
UOSS	**Minazif**	**79.06**	**299**	*e*P		**P**	**11 28 38.4**	**-1.3**
	comp=Z,4.6nm,0.9s								
TAOE	**Nuku Hiva Isla**	**79.28**	**124**	*e*LR		LR	11 53 12.0		
	comp=Z,523nm,26.2s								
ASHO	**Ashiyiah**	**79.35**	**299**	P		**P**	**11 28 44.4**	**+3.0**
	SNR=5.8								
WBK	**Wadi Bi Bani Khal**	**79.63**	**295**	P		**P**	**11 28 44.0**	**+1.1**
	SNR=5.2								
WRAB	**Tennant Creek**	**79.98**	**209**	*ce*P		**P**	**11 28 47.2**	**+2.7**
WRAB				pmax		pmax			
	comp=Z,24nm,1.2s								
WRAB	**Tennant Creek**	**79.98**	**209**	*e*P		**P**	**11 28 46.7**	**+2.2**
	comp=Z,59nm,1.0s								
WB2	**Warramunga Arr**	**79.99**	**209**	*e*P		**P**	**11 28 45.6**	**+1.0**
	comp=Z,65nm,1.1s								
WRA	**Warramunga Arr**	**79.99**	**209**	P		**P**	**11 28 45.1**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=3.7,slow=6.3,SNR=16								
WRA						LR	LR	12 07 19.5	
	comp=Z,70nm,18.4s,baz=25,slow=38								
WRA	**Warramunga Arr**	**79.99**	**209**	P		**P**	**11 28 45.1**	**+0.5**
WRA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
WRA				MLR		MLR			
	comp=Z,70nm,18.4s								
JMDO	**Jabal Madar**	**80.27**	**296**	P		**P**	**11 28 46.5**	**+0.2**
	SNR=13								
BSY	**Bisa**	**80.41**	**297**	P		**P**	**11 28 47.5**	**+0.5**
	SNR=7.5								
FITZ	**Fitzroy Crossi**	**80.89**	**217**	*e*P		**P**	**11 28 50.2**	**+0.8**
	comp=Z,57nm,1.2s								
PGAV	**Gavieira, Arco**	**81.99**	**354**	*e*LR		LR	11 57 11.5		
	comp=Z,146nm,20.0s								
PBRG	**Braganca**	**82.06**	**353**	*e*P		**P**	**11 28 59.8**	**+4.2**
	comp=Z,21nm,1.6s								
POLO	**Lamas de Olo**	**82.55**	**354**	*e*P		**P**	**11 29 02.4**	**+4.2**
	comp=Z,14nm,1.4s								
PVRL	**Vila Real**	**82.64**	**354**	*e*P		**P**	**11 28 59.8**	**+1.2**
MVO	**Moncorvo**	**82.71**	**353**	*e*P		**P**	**11 29 02.3**	**+3.3**
	comp=Z,18nm,1.2s								
MVO	**Moncorvo**	**82.71**	**353**	*e*LR		LR	11 59 22.2		
	comp=Z,203nm,20.0s								
PPT	**Papeete**	**83.05**	**136**	LR		LR	11 58 04.3		
	comp=Z,248nm,21.1s,baz=11,slow=30								
PPT2	**Papeete2**	**83.07**	**136**	*e*LR		LR	11 55 03.0		
	comp=Z,901nm,23.0s,baz=335								
PPT2	**Papeete2**	**83.07**	**136**	*e*T		T	13 01 07.1		
	comp=Z,1.8nm,0.2s								
MTE	**Manteigas**	**83.51**	**354**	*e*LR		LR	11 58 16.7		
	comp=Z,255nm,16.0s								
AS01	**Alice Springs**	**83.65**	**208**	*e*P		**P**	**11 29 04.5**	**+0.7**
AS31	**Alice Springs**	**83.66**	**208**	*e*P		**P**	**11 29 06.5**	**+2.6**
	comp=Z,15nm,1.2s								
ASAR	**Alice Springs**	**83.66**	**208**	P		**P**	**11 29 04.8**	**+0.9**
	comp=Z,4.8nm,0.9s,baz=14,slow=4.9,SNR=23								
ASAR						LR	LR	12 04 15.8	
	comp=Z,169nm,21.9s,baz=20,slow=34								
PCAS	**Casmilo, Conde**	**83.91**	**354**	*e*P		**P**	**11 29 07.1**	**+2.0**
	comp=Z,39nm,1.4s								
CCIG	**Comitan**	**83.92**	**70**	*e*P		**P**	**11 29 07.0**	**+1.3**
	comp=Z,28nm,1.0s								
ES19	**SONSECA Array**	**83.93**	**351**	*e*P		**P**	**11 29 06.0**	**+0.7**
ESDC	**Sonseca Array**	**83.96**	**351**	P		**P**	**11 29 06.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=360,slow=6.3,SNR=7.9								
PCBR	**Castelo Branco**	**84.06**	**354**	*e*P		**P**	**11 29 07.8**	**+1.9**
	comp=Z,31nm,1.4s								
PMRV	**Marv??o**	**84.46**	**354**	*e*LR		LR	12 00 19.4		
	comp=Z,226nm,18.0s								
PMTG	**Montargil**	**84.87**	**354**	*e*P		**P**	**11 29 11.7**	**+1.7**
	comp=Z,28nm,1.5s								
PESTR	**Estremoz**	**85.03**	**354**	*e*P		**P**	**11 29 12.6**	**+1.7**
	comp=Z,31nm,1.3s								
PMAFR	**Mafra**	**85.04**	**355**	*e*P		**P**	**11 29 10.6**	**-0.3**
	comp=Z,69nm,1.4s								
EVO	**Evora**	**85.39**	**354**	*e*P		**P**	**11 29 14.8**	**+2.2**
	comp=Z,28nm,1.3s								
PBAR	**Barrancos**	**85.69**	**353**	*e*P		**P**	**11 29 14.8**	**+0.7**
	comp=Z,87nm,1.3s								
MBWA	**Marble Bar**	**85.79**	**221**	*e*P		**P**	**11 29 14.6**	**0.0**
	comp=Z,327nm,1.0s								
MBWA				*e*			11 29 22.2		
KEST	**Kesra**	**85.97**	**340**	LR		LR	12 13 44.3		
	comp=Z,357nm,18.6s,baz=316,slow=40								
PVAQ	**Vaqueiros**	**86.50**	**354**	*e*P		P	11 29 23.9	+5.8
	comp=Z,32nm,1.7s								
PVAQ	**Vaqueiros**	**86.50**	**354**	*e*LR		LR	11 59 20.2		
	comp=Z,236nm,20.0s								
TBI	**Tubuai**	**88.36**	**138**	*e*LR		LR	11 57 20.2		
	comp=Z,543nm,25.5s,baz=333								
STKA	**Stephens Creek**	**89.87**	**199**	P		**P**	**11 29 34.7**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=352,slow=12,SNR=3.7								
STKA						LR	LR	12 05 05.9	
	comp=Z,158nm,21.8s,baz=16,slow=32								
RKT	**Rikitea**	**94.12**	**126**	*e*LR		LR	12 00 07.3		
	comp=Z,392nm,31.8s,baz=335								
TORD	**Torodi Ar. Bea**	**109.39**	**342**	PP		PP	11 35 33.5	-1.2
	comp=Z,2.4nm,1.1s,baz=12,slow=7.9,SNR=5.8								
VNDA	**Vanda**	**133.48**	**181**	PKP		**PKPdf**	**11 35 48.3**	**-1.5**
	comp=Z,1.3nm,1.1s,baz=324,slow=8.7,SNR=3.1								
TRQA	**Tornquist**	**144.45**	**79**	*e*PKPdf		**PKPdf**	**11 36 10.5**	**-0.5**
SUR	**Sutherland**	**145.31**	**298**	*e*PKPbc		**PKPab**	**11 36 14.0**	**+1.1**
SYO	**Syowa Base**	**152.69**	**220**	⇓*e*PKPbc		**PKPab**	**11 36 41.2**	**-0.2**

ISCJB ***12*** *11:17:45.3±0.3, 17.22N±0.02×94.94W±0.02, h130km±2km, mb4.6/112, Error ellipse: s-maj=3.9km s-min=3.4km az=0.3*

IDC ***12*** *11:17:45.7±0.4, 17.28N×94.94W, h114km±3km, mb4.1/21, mb1 4.2/23, mb1mx4.1/45, mbtmp4.2/23, MS4.4/1, Ms1 4.4/1, ms1mx3.2/30, Error ellipse: s-maj=13.0km s-min=8.1km az=67.0*

MEX ***12*** *11:17:47.1±0.7, 17.19N×95.15W, h116km±14km, MD4.8*

NEIC ***12*** *11:17:47.1, 17.19N×95.15W, h116km, mb4.6/128, MD4.8(MEX), After MEX.*

ISC 12 11:17:45.6±0.5, 17.20N±0.03×95.12W±0.03, h114km±4km, h114km:pP-P, n606, σ1915/640, mb4.6/113, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time			Res ISC
							h	m	s	
CMIG	**Matias Romero**	**0.25**	**116**	P		**Pn**	**11 18 02.2**			**+0.5**
	1μm,0.3s,baz=247,slow=2.0									
CMIG				S		**Sn**	**11 18 14.6**			**+0.8**
	577nm,0.3s,baz=139,slow=19,SNR=87									
TUIG	**Tuzandepetl**	**1.06**	**39**	*e*P		**Pn**	**11 18 08.6**			**+0.9**
TUIG				*e*S		**Sn**	**11 18 24.9**			**+0.4**
TUIG	**Tuzandepetl**	**1.06**	**39**	*e*P		**Pn**	**11 18 08.6**			**+0.9**
TUIG				*e*S		**Sn**	**11 18 24.9**			**+0.4**
VHO	**Vista Hermosa**	**1.55**	**265**	*e*P		**Pn**	**11 18 14.0**			**+0.5**
VHO				*e*S		**Sn**	**11 18 35.6**			**+1.1**
VHO	**Vista Hermosa**	**1.55**	**265**	*e*P		**Pn**	**11 18 14.0**			**+0.5**
VHO				*e*S		**Sn**	**11 18 35.6**			**+1.1**
HUIG	**Huatulco**	**1.71**	**214**	*i* P		**Pn**	**11 18 14.1**			**-1.1**
HUIG				*e*S		**Sn**	**11 18 37.2**			**-0.6**
HUIG	**Huatulco**	**1.71**	**214**	*i* P		**

baz=188
442A **Mamou** 13.67 10 P Pn 11 20 54.5 -0.2
baz=191
435B **Jarrell** 13.71 351 P Pn 11 20 57.2 +2.0
baz=170,SNR=10
HPIG 13.75 317 *e*Pn P 11 21 01.2 +0.6
434A **Burnet** 13.85 349 P Pn 11 20 57.8 +0.7
baz=168,SNR=9.6
JCT **Junction City** 13.89 343 P Pn 11 20 59.6 +2.0
baz=161,SNR=8.3
JCT **Junction City** 13.89 343 *e*Pn Pn 11 20 59.2 +1.6
433A **Art** 13.97 346 P Pn 11 20 58.5 0.0
baz=164,SNR=15
444A **Pine Grove** 14.03 16 P Pn 11 20 58.8 -0.6
baz=198
339A **Huntington** 14.08 2 P Pn 11 20 59.4 -0.5
baz=182
338A **Crockett** 14.09 359 P Pn 11 21 00.0 -0.1
baz=179
445A **Amite** 14.15 17 P Pn 11 21 01.4 +0.5
baz=199
335A **Moody** 14.17 352 P Pn 11 21 01.4 +0.2
baz=171,SNR=7.4
341A **Kurthwood** 14.18 7 P Pn 11 21 01.2 -0.1
baz=188
340A **Bronson** 14.20 4 P Pn 11 21 02.2 +0.7
baz=185
336A **Riesel** 14.21 354 P Pn 11 21 02.0 +0.4
baz=173
342A **Flagon Creek P** 14.34 10 P Pn 11 21 03.1 -0.1
baz=191,SNR=9.3
334A **Lometa** 14.35 349 P Pn 11 21 03.4 -0.1
baz=168,SNR=7.3
343A **Vidalia** 14.38 12 P Pn 11 21 03.5 -0.2
baz=194
TXAR **Lajitas Array** 14.39 329 P Pn 11 21 05.6 +1.5
0.1nm,0.3s,baz=160,slow=14,SNR=15
TX31 **Lajitas Ar. Si** 14.40 329 *e*Pn Pn 11 21 05.4 +1.3
333A **Richland Sprin** 14.49 347 P P 11 21 07.7 -1.0
baz=165,SNR=5.5
NATX **Nacogdoches** 14.50 2 P Pn 11 21 05.1 -0.2
baz=182
NATX **Nacogdoches** 14.50 2 *e*Pn P 11 21 07.5 -1.2
446A **Poplarville** 14.51 20 P Pn 11 21 04.9 -0.6
baz=202,SNR=12
238A **Jacksonville** 14.74 360 P P 11 21 10.4 -0.9
baz=180
344A **Westbrook Farm** 14.74 15 P Pn 11 21 09.4 +1.1
baz=197,SNR=8.3
237A **Washetta, Mont** 14.75 358 P Pn 11 21 08.1 -0.3
baz=178
447A **Lucedale** 14.76 22 P Pn 11 21 09.7 +1.1
baz=205,SNR=5.7
239A **Gary** 14.76 2 P Pn 11 21 09.0 +0.3
baz=182
345A **Thompson Farm,** 14.79 17 P P 11 21 10.7 -1.2
baz=199,SNR=13
236A **Katherine and** 14.79 355 P Pn 11 21 08.6 -0.4
baz=175
240A **Hunter Patters** 14.82 5 P Pn 11 21 09.4 0.0
baz=185
WHTX **Lake Whitney,** 14.88 352 P Pn 11 21 10.0 -0.1
baz=171
241A **Mo Tay, Goldon** 14.89 7 P Pn 11 21 10.6 +0.4
baz=188
243A **Waterproof** 14.98 12 P Pn 11 21 10.7 -0.7
baz=194
234A **Clairette** 14.99 350 P Pn 11 21 11.5 0.0
baz=169,SNR=9.6
346A **Big Creek Wild** 15.03 19 P Pn 11 21 11.3 -0.7
baz=201,SNR=8.4
242A **Grayson** 15.04 10 P Pn 11 21 11.4 -0.7
baz=191
233A **Rising Star** 15.14 348 P Pn 11 21 14.2 +0.7
baz=166
448A **Bay Minette** 15.18 24 P P 11 21 15.1 -1.2
baz=207,SNR=6.7
136A **Ennis** 15.26 355 P P 11 21 17.3 +0.2
baz=175,SNR=5.5
244A **Avery, Jackson** 15.31 14 P Pn 11 21 14.4 -1.1
baz=196,SNR=8.4
347A **Saraland** 15.35 22 P Pn 11 21 15.9 -0.1
baz=204
138A **Matatall Enter** 15.39 0 P Pn 11 21 16.8 +0.3
baz=180
135A **Vickery Place,** 15.43 353 P Pn 11 21 16.7 -0.3
baz=172,SNR=5.2
140A **Cam and Jess,** 15.44 5 P P 11 21 19.2 +0.1
baz=186
141A **Papa Simpson,** 15.47 7 P Pn 11 21 18.1 +0.7
baz=188,SNR=12
134A **White-Moore Ra** 15.54 351 P Pn 11 21 18.3 -0.1
baz=170,SNR=14
142A **Monroe** 15.55 10 P Pn 11 21 18.0 -0.4
baz=191
348A **Jackson** 15.59 24 P Pn 11 21 17.7 -1.4
baz=206,SNR=6.5
133A **Hamilton Ranch** 15.72 348 P Pn 11 21 21.3 +0.7
baz=167,SNR=9.8
143A **Socs Landing,** 15.79 12 P Pn 11 21 20.3 -1.2
baz=193
ABTX **Abilene, Hawle** 15.89 346 P P 11 21 24.1 0.0
baz=164
ABTX **Abilene, Hawle** 15.89 346 *e*Pn Pn 11 21 23.0 +0.3
19nm,0.9s
247A **Quitman** 15.92 21 P Pn 11 21 22.4 -0.7
baz=203
Z37A **Pogue Cattle C** 15.93 358 P Pn 11 21 23.2 -0.1
baz=178
144A **Alexander Plac** 15.94 15 P Pn 11 21 22.6 -0.7
baz=197
Z38A **Mt. Pleasant** 15.98 0 P P 11 21 24.4 -0.7
baz=181,SNR=5.4
Z39A **Irene McRaven,** 15.99 3 P P 11 21 25.9 +0.6
baz=183
Z36A **Blue Ridge** 16.04 356 P Pn 11 21 24.9 +0.2
baz=176,SNR=5.8
Z40A **Long Farm, Mag** 16.06 5 P P 11 21 26.4 +0.4
baz=186
Z41A **Richland Creek** 16.12 7 P Pn 11 21 25.9 +0.3
baz=188,SNR=16
Z35A **Perchaven, San** 16.18 354 P Pn 11 21 26.1 -0.2
baz=173
Z42A **Norrel Spur, H** 16.26 10 P P 11 21 28.6 +0.4
baz=191,SNR=8.7
Z34A **Collier Ranch,** 16.30 352 P P 11 21 29.5 +0.9
baz=171
146A **Union** 16.32 18 P Pn 11 21 28.2 +0.2
baz=201
Z43A **Armstrong Fami** 16.32 12 P P 11 21 28.3 -0.5
baz=193,SNR=5.9
Z33A **Whitaker Ranch** 16.35 349 P P 11 21 29.1 -0.1
baz=168,SNR=11
WLAR **White Oak Lake** 16.52 6 *e*Pn Pn 11 21 29.9 -0.5
52nm,1.0s
Z44A **Pea Ridge, Bel** 16.55 14 P P 11 21 31.9 +0.5
baz=196,SNR=6.5
147A **Livingston** 16.60 21 P P 11 21 31.7 -0.3
baz=204
DWPF **Disney Wildern** 16.64 47 *e*Pn Pn 11 21 31.9 -0.1
88nm,0.8s
DWPF *e*Sn Sn 11 24 30.9 -6.1
Y38A **Idabel** 16.66 1 P P 11 21 32.4 -0.2
baz=181,SNR=9.8
Y36A **Durant** 16.66 357 P P 11 21 33.6 +1.0
baz=176
Y39A **Lockesburg** 16.69 3 P P 11 21 32.7 -0.2
baz=184,SNR=11
Y37A **Hugo** 16.71 359 P Pn 11 21 32.7 -0.2
baz=178,SNR=6.6
Y35A **Marietta** 16.72 354 P P 11 21 34.4 +1.0
baz=174
Y41A **Eaglette Beard** 16.76 7 P P 11 21 34.3 +0.6
baz=188
MTDJ **Mount Denham** 16.79 84 *e*Pn Pn 11 21 33.6 -0.4
100nm,1.4s
Y40A **Okolona** 16.82 5 P Pn 11 21 34.0 -0.1
baz=186
Z45A **Winona** 16.82 16 P P 11 21 34.7 +0.3
baz=198
Y42A **Garnett, Star** 16.83 10 P P 11 21 34.9 +0.4
baz=191,SNR=6.6
Y34A **Reagan Ranch,** 16.85 352 P P 11 21 35.1 +0.3
baz=171,SNR=21
Z46A **Louisville** 16.87 18 P P 11 21 35.0 +0.1
baz=201
CCAR **Cane Creek** 16.91 10 *e*Pn Pn 11 21 35.1 -0.2
54nm,0.7s

Y33A **Hilltop Ranch,** 17.03 350 P P 11 21 37.1 +0.4
baz=169
Z47A **Carrollton** 17.15 20 P P 11 21 37.9 -0.1
baz=203,SNR=13
MNTX **Cornudas Mount** 17.18 329 P Pn 11 21 39.2 +0.7
baz=145
MNTX **Cornudas Mount** 17.18 329 *e*P Pn 11 21 39.2 +0.7
3.6nm,0.8s
X35A **Drake** 17.21 355 P Pn 11 21 38.8 -0.1
baz=174,SNR=25
X39A **Fountain Ranch** 17.26 3 P P 11 21 39.1 -0.1
baz=183,SNR=12
Y44A **Strider, Charl** 17.26 14 P Pn 11 21 40.0 +0.5
baz=196,SNR=7.3
X37A **Clayton** 17.32 359 P Pn 11 21 40.3 +0.1
baz=179,SNR=16
MIAR **Mount Ida** 17.33 4 P P 11 21 39.8 -0.2
baz=185,SNR=20
MIAR **Mount Ida** 17.33 4 *e*P P 11 21 39.7 -0.3
18nm,0.8s
X36A **Centrahoma** 17.33 357 P Pn 11 21 40.2 -0.2
baz=176,SNR=11
Y45A **Yeager Farm, C** 17.33 16 P P 11 21 39.4 -0.6
baz=198
X40A **Basin Creek Fa** 17.34 6 P P 11 21 40.0 0.0
baz=187,SNR=7.1
X41A **Kaden, Bauxite** 17.38 7 P P 11 21 40.5 -0.1
baz=188,SNR=5.6
LRAL **Lakeview Retre** 17.38 23 *e*P P 11 21 39.6 -1.0
63nm,1.4s
X38A **Whitesboro** 17.40 1 P Pn 11 21 41.3 +0.1
baz=181,SNR=31
Z48A **Northport** 17.49 22 P P 11 21 40.6 -1.1
baz=205,SNR=12
X34A **Smith Ranch, M** 17.50 353 P Pn 11 21 43.4 +1.0
baz=172,SNR=8.1
X33A **Lawton** 17.53 351 P Pn 11 21 42.6 -0.2
baz=169,SNR=12
Y46A **Houston** 17.54 18 P P 11 21 42.4 +0.1
baz=200,SNR=26
X32A **Elmer** 17.55 349 P Pn 11 21 43.4 +0.4
baz=167,SNR=8.6
TIGA **Tifton** 17.62 34 P P 11 21 42.4 -0.9
baz=219,SNR=5.6
X43A **Marvell** 17.66 12 P Pn 11 21 44.1 -0.2
baz=194,SNR=8.6
UALR **University of** 17.68 8 *e*P Pn 11 21 44.4 -0.1
53nm,0.6s
UALR *e*S S 11 25 01.2 -0.4
WMOK **Wichita Mounta** 17.77 350 P Pn 11 21 45.4 -0.3
baz=169,SNR=15
WMOK **Wichita Mounta** 17.77 350 *e*P Pn 11 21 45.3 -0.4
59nm,1.9s
X44A **Crenshaw** 17.79 14 P P 11 21 45.0 -0.1
baz=196,SNR=5.9
W38A **Poteau** 17.80 2 P Pn 11 21 46.2 +0.2
baz=182,SNR=14
W37B **Quinton** 17.87 359 P Pn 11 21 47.2 +0.4
baz=179,SNR=28
Y47A **UCPARC, Winfie** 17.87 20 P P 11 21 45.2 -0.7
baz=203,SNR=16
W36A **Wetumka** 17.89 357 P Pn 11 21 46.6 -0.6
baz=177,SNR=22
W35A **Teseh** 17.95 355 P Pn 11 21 47.2 -0.6
baz=175,SNR=14
W39A **Magazine** 17.96 4 P Pn 11 21 47.5 -0.5
baz=184,SNR=18
OXF **Oxford** 17.98 15 *e*P P 11 21 46.0 -1.2
41nm,1.0s
W40A **Ferguson Farm,** 18.01 5 P P 11 21 47.8 +0.4
baz=186,SNR=14
W41B **Gary Mavity, V** 18.08 8 P P 11 21 48.4 +0.2
baz=189,SNR=12
W34A **Bridge Creek,** 18.11 353 P Pn 11 21 49.5 -0.3
baz=172
W34A **Bridge Creek,** 18.11 353 *e*P Pn 11 21 49.5 -0.3
22nm,0.6s
W33A **Caddo, Fort Co** 18.12 351 P Pn 11 21 50.4 +0.5
baz=170,SNR=7.6
X301 **Greenbrier Sit** 18.13 7 *e*P P 11 21 48.8 +0.1
32nm,0.8s
X301 *e*S S 11 25 11.4 +0.7
X201 **Greenbrier Sit** 18.18 7 *e*P P 11 21 49.2 -0.2
30nm,0.7s
X201 *e*S S 11 25 06.7 -5.1
WHAR **Wooly Hollow** 18.19 7 *e*P P 11 21 49.6 +0.2
35nm,1.0s
W32A **Sentinel** 18.22 349 P Pn 11 21 51.0 -0.1
baz=168,SNR=8.9
V36A **Jenks** 18.52 358 P P 11 21 52.9 -0.2
baz=178,SNR=33
V35A **Meyer Ranch, C** 18.55 356 P P 11 21 53.3 -0.1
baz=175,SNR=11
AMTX **Amarillo** 18.56 343 P Pn 11 21 55.5 +0.3
baz=160
AMTX **Amarillo** 18.56 343 *e*P Pn 11 21 54.8 -0.4
18nm,0.6s
V38A **Canehill** 18.60 2 P P 11 21 53.9 0.0
baz=182,SNR=75
V37A **Hulbert** 18.61 360 P P 11 21 53.7 -0.3
baz=180,SNR=48
V39A **Pettigrew** 18.61 4 P P 11 21 54.3 +0.2
baz=184
TUL1 **Leonard** 18.64 358 P P 11 21 54.2 -0.2
baz=178,SNR=20
TUL1 **Leonard** 18.64 358 *e*P P 11 21 53.9 -0.5
31nm,0.6s
W45A **Hickory Valley** 18.65 15 P P 11 21 53.9 -0.6
baz=198
V34A **Guthrie** 18.68 354 P P 11 21 54.9 +0.1
baz=173,SNR=12
V41A **Mountainview** 18.70 8 P P 11 21 54.9 -0.1
baz=189,SNR=41
HBAR **Harrisburg** 18.71 11 *e*P P 11 21 55.4 +0.3
V33A **Lossen Ranch,** 18.76 352 P P 11 21 56.3 +0.7
baz=171,SNR=22
V32A **Arapaho** 18.77 350 P Pn 11 21 56.9 -0.7
baz=168,SNR=7.3
V42A **Cord** 18.82 9 P P 11 21 56.1 -0.2
baz=191,SNR=91
HHAR **Hobbs** 19.03 3 *e*P P 11 21 58.5 -0.2
20nm,0.9s
HHAR *e*S Sn 11 25 32.1 -2.2
121A **Cookes Peak, D** 19.08 325 P Pn 11 22 01.3 -0.1
baz=140,SNR=18
121A **Cookes Peak, D** 19.08 325 *e*P Pn 11 22 00.9 -0.5
19nm,0.9s
319A **Douglas** 19.09 320 *e*P Pn 11 22 01.4 -0.1
9.9nm,0.8s
U36A **Ooloh** 19.12 358 P P 11 21 59.1 -0.5
baz=178,SNR=5.8
U37A **Salina** 19.13 0 P P 11 21 59.2 -0.5
baz=180,SNR=10
U35A **Pawnee** 19.15 356 P P 11 21 59.5 -0.4
baz=175,SNR=16
U39A **Green Forest** 19.16 4 P P 11 22 00.1 +0.1
baz=185,SNR=37
U38A **Gravette** 19.17 2 P P 11 22 00.2 0.0
baz=182,SNR=24
U40A **Yellville** 19.18 6 P P 11 22 00.3 0.0
baz=187,SNR=73
GNAR **Gosnell** 19.23 13 *e*P P 11 22 01.1 +0.4
GOGA **Godfrey** 19.25 31 *e*P P 11 21 59.5 -1.5
64nm,0.7s
GOGA *e*S S 11 25 29.0 -3.9
V45A **Humboldt** 19.26 15 P P 11 22 00.6 -0.6
baz=198
U34A **Anderson Ranch** 19.28 354 P P 11 22 00.8 -0.6
baz=173,SNR=7.9
U34A **Anderson Ranch** 19.28 354 *e*P P 11 22 01.0 -0.4
117nm,1.9s
U33A **Lingo Farm, Me** 19.34 353 P P 11 22 01.6 -0.4
baz=172,SNR=14
U32A **Winter Ranch,** 19.41 351 P P 11 22 02.8 +0.1
baz=169
T35A **Sooner Cattle** 19.68 357 P P 11 22 05.2 -0.5
baz=176,SNR=37
GLAT **Glass** 19.68 14 *e*P P 11 22 05.3 -0.4
SWET **Sewanee** 19.72 23 *e*P P 11 22 04.4 -1.8
4.7nm,0.8s
T38A **Diamond** 19.77 2 P P 11 22 06.4 -0.3
baz=182,SNR=46
BNM **Barren Site** 19.78 331 *e*P Pn 11 22 08.7 -0.9
T36A **Boggs Farm, Ca** 19.79 358 P P 11 22 06.4 -0.5
baz=178,SNR=24
T39A **Clever** 19.80 4 P P 11 22 06.7 -0.3
baz=185,SNR=9.2
T34A **McClaskey Farm** 19.83 355 P P 11 22 06.7 -0.6

baz=174,SNR=16
T37A **Cheneyville 18** 19.84 0 P P 11 22 06.9 -0.6
baz=181,SNR=47
UTMT **University of** 19.86 15 *e*P P 11 22 06.8 -0.8
51nm,0.8s
Y22D **IRIS PASSCAL I** 19.86 330 P P 11 22 08.8 +1.0
baz=145
LPM **Los Pinos Moun** 19.92 331 *e*P Pn 11 22 10.1 -1.1
WVT **Waverly** 19.93 18 *e*P P 11 22 06.4 -2.0
16nm,0.4s
PBMO **Poplar Bluff** 19.94 11 *e*P P 11 22 07.6 -0.8
68nm,0.5s
PARMO **Parma** 19.96 13 *e*P P 11 22 08.8 +0.1
T41A **Mountain View** 19.99 8 P P 11 22 08.9 -0.1
baz=190,SNR=70
T33A **Patterson Ranc** 20.00 353 P P 11 22 08.1 -1.0
baz=171
T40A **Mansfield** 20.00 6 P P 11 22 08.9 -0.2
baz=187,SNR=39
T32A **Huddler Ranch,** 20.18 351 P P 11 22 11.0 -0.1
baz=170
LAZ **Ladron** 20.23 330 *e*P Pn 11 22 13.4 -1.5
ANMO **Albuquerque** 20.36 332 P P 11 22 13.8 +0.5
3.2nm,0.8s,baz=155,slow=13,SNR=17
ANMO **Albuquerque** 20.36 332 P P 11 22 13.9 +0.5
baz=148
ANMO **Albuquerque** 20.36 332 *e*P P 11 22 14.1 +0.8
9.5nm,1.1s
S38A **Stockton** 20.38 3 P P 11 22 12.5 -0.7
baz=183,SNR=20
S35A **Otter Creek Ra** 20.43 357 P P 11 22 13.4 -0.3
baz=177,SNR=40
S36A **Lake Cedric, C** 20.45 359 P P 11 22 13.5 -0.5
baz=179
S40A **Lebanon** 20.45 6 P P 11 22 13.6 -0.4
baz=187,SNR=22
S33A **Kaszmaul Farm,** 20.47 353 P P 11 22 13.6 -0.6
baz=172
S39A **Bolivar** 20.47 4 P P 11 22 13.5 -0.7
baz=185,SNR=27
CPCT **Cooper Cave** 20.48 25 *e*P P 11 22 12.2 -2.2
12nm,0.6s
S37A **Fort Scott** 20.48 1 P P 11 22 13.6 -0.7
baz=181,SNR=15
S34A **Willow Spring** 20.50 355 P P 11 22 13.7 -0.7
baz=175,SNR=5.1
TUC **Tucson** 20.66 320 P P 11 22 17.9 +1.5
baz=133
TUC **Tucson** 20.66 320 *e*P Pn 11 22 18.0 -1.8
17nm,0.8s
S32A **Newby Ranch, P** 20.69 351 P P 11 22 16.6 0.0
baz=170
CSU **Charleston Sou** 20.76 38 *e*P P 11 22 16.6 -0.8
S43A **Fulton Ridge,** 20.77 11 P P 11 22 16.1 -1.3
baz=194,SNR=34
R38A **Fenwick Farm,** 20.93 3 P P 11 22 18.1 -1.0
baz=183,SNR=15
TKL **Tuckaleechee C** 20.97 27 P P 11 22 17.4 -2.1
13nm,0.5s,baz=185,slow=12,SNR=46
TKL S S 11 26 05.8 -1.1
1.7nm,0.7s,baz=297,slow=13,SNR=2.5
TKL **Tuckaleechee C** 20.97 27 *e*P P 11 22 17.9 -1.7
24nm,0.9s
TKL S S 11 26 05.8 -1.1
R37A **Teagarden Farm** 21.03 1 P P 11 22 19.1 -1.1
baz=181,SNR=8.9
R36A **Gordon, Harris** 21.05 359 P P 11 22 19.2 -1.2
baz=179,SNR=5.3
S44A **Carbondale** 21.06 13 P P 11 22 19.0 -1.4
baz=196,SNR=11
JSC **Jenkinsville** 21.06 34 *e*P P 11 22 19.0 -1.5
21nm,0.5s
R35A **Emporia Munici** 21.06 358 P P 11 22 20.1 -0.5
baz=177
SIUC **Southern Illin** 21.08 13 *e*P P 11 22 19.6 -1.1
50nm,1.2s
R34A **Isabella, Hill** 21.10 355 P P 11 22 20.4 -0.5
baz=174
R39A **Chumby, Stover** 21.11 5 P P 11 22 19.8 -1.3
baz=186,SNR=16
R40A **Maddies Statio** 21.16 6 P P 11 22 20.5 -1.0
baz=188,SNR=17
R33A **Olander Ranch,** 21.18 354 P P 11 22 22.0 +0.2
baz=172
S45A **Carrier Mills** 21.19 14 P P 11 22 20.5 -1.4
baz=198,SNR=9.4
R32A **Long Quarter,** 21.37 352 P P 11 22 24.5 +0.5
baz=171
T25A **Trinidad** 21.49 339 P P 11 22 26.8 +1.5
baz=155
T25A **Trinidad** 21.49 339 *e*P P 11 22 26.9 +1.6
20nm,1.0s
Q35A **Mercer Eighty,** 21.59 358 P P 11 22 25.0 -1.2
baz=178
Q37A **Longview Farm,** 21.60 1 P P 11 22 25.0 -1.3
baz=182
R44A **Waltonville** 21.62 13 P P 11 22 25.4 -1.1
baz=196,SNR=8.1
KMSC **Kings Mountain** 21.69 32 P P 11 22 26.1 -1.2
baz=218,SNR=28
USIN **University of** 21.70 16 *e*P P 11 22 27.0 -0.3
16nm,0.5s
Q34A **Chapman** 21.70 356 P P 11 22 26.4 -0.9
baz=175
Q38A **Cooks Store, C** 21.72 3 P P 11 22 26.4 -1.1
baz=184,SNR=12
214A **Organ Pipe Nat** 21.74 316 P P 11 22 29.0 +1.1
baz=129
X18A **Snowflake** 21.77 325 *e*P P 11 22 29.6 +1.2
9.9nm,1.0s
SLM **Saint Louis** 21.78 10 *e*P P 11 22 27.0 -1.2
29nm,0.5s
TZTN **Tazewell** 21.82 26 *e*P P 11 22 26.7 -1.9
17nm,0.6s
Q39A **Willow Grove F** 21.84 4 P P 11 22 27.7 -1.2
baz=186
Q33A **Connelly Farm,** 21.84 354 P P 11 22 28.8 -0.1
baz=173
KSU1 **Kansas State U** 21.86 357 P P 11 22 28.8 -0.2
baz=176
KSU1 **Kansas State U** 21.86 357 *e*P P 11 22 29.0 0.0
12nm,0.6s
Q40A **Laux Farm, Aux** 21.88 6 P P 11 22 27.5 -1.7
baz=188,SNR=12
CBKS **Cedar Bluff** 21.91 350 P P 11 22 29.5 -0.1
baz=168
CBKS **Cedar Bluff** 21.91 350 *e*P P 11 22 31.1 +1.5
17nm,0.6s
Q32A **Meitler Ranch,** 21.91 353 P P 11 22 29.5 -0.1
baz=171
Q42A **Golden Eagle** 22.00 10 P P 11 22 29.6 -0.9
baz=192,SNR=15
Q43A **New Douglas** 22.17 11 P P 11 22 31.1 -1.1
baz=194,SNR=22
P35A **Duane Minner,** 22.26 358 P P 11 22 31.8 -1.4
baz=178
P33A **Williams Farm,** 22.27 355 P P 11 22 32.5 -0.8
baz=174
Q44A **Meyer Farm, Va** 22.27 13 P P 11 22 32.0 -1.3
baz=196
P39B **Salisbury** 22.30 5 P P 11 22 32.2 -1.4
baz=186,SNR=5.9
OLIL **Olney** 22.31 15 *e*P P 11 22 32.1 -1.6
43nm,1.1s
P34A **Walnut Farm, R** 22.31 357 P P 11 22 32.3 -1.5
baz=176
P37A **Lathrop** 22.32 2 P P 11 22 31.9 -1.8
baz=182
WCI **Wyandotte Cave** 22.33 19 *e*P P 11 22 31.9 -2.1
31nm,0.6s
P38A **Dawn** 22.38 3 P P 11 22 32.7 -1.7
baz=184,SNR=5.7
P40A **Paris** 22.41 6 P P 11 22 33.1 -1.6
baz=188,SNR=15
SDCO **Great Sand Dun** 22.41 338 P P 11 22 35.6 +0.6
baz=153
SDCO **Great Sand Dun** 22.41 338 *e*P P 11 22 35.9 +0.8
7.1nm,0.9s
X16A **Lo Mia Camp, P** 22.52 323 *e*P P 11 22 37.3 +1.1
9.2nm,0.9s
P32A **Huiting Farm,** 22.54 353 P P 11 22 36.3 +0.2
baz=171
P41A **Barry, Barry** 22.67 8 P P 11 22 35.5 -1.8
baz=190
KSCO **Kaye Shedlock'** 22.70 345 P P 11 22 37.8 +0.1
baz=161
O36A **Bolckow** 22.85 0 P P 11 22 37.3 -1.7
baz=180

113A	Mohawk Valley, 18nm,1.5s	22.87	316	eP	P	11 22 40.7	+1.4
O38A	Galt baz=184	22.88	3	P	P	11 22 37.7	-1.7
O33A	Hebron baz=174	22.89	355	P	P	11 22 39.5	0.0
O37A	Wolven Farm, M baz=182	22.90	2	P	P	11 22 38.3	-1.3
S22A	4UR Ranch, Cre baz=150	22.91	336	P	P	11 22 40.2	+0.2
S22A	4UR Ranch, Cre 5.1nm,1.1s	22.91	336	eP	P	11 22 41.2	+1.2
O34A	Beatrice baz=176	22.94	357	P	P	11 22 38.9	-1.1
O35A	Humboldt baz=178	22.99	358	P	P	11 22 38.9	-1.5
O40A	La Belle baz=188,SNR=12	23.01	6	P	P	11 22 38.9	-1.7
O39A	Kirksville baz=186	23.08	5	P	P	11 22 40.0	-1.2
O41A	Passleys Farm, baz=190	23.13	8	P	P	11 22 40.4	-1.3
Y14A	Wickenburg 64nm,1.6s	23.13	319	eP	P	11 22 43.1	+1.2
BLO	Bloomington 38nm,0.6s	23.14	17	eP	P	11 22 40.5	-1.3
O32A	Brockman Farm, baz=172	23.14	354	P	P	11 22 42.0	+0.1
O31A	Woolen Ranch, baz=170	23.16	352	P	P	11 22 42.1	+0.1
MVCO	Mesa Verde baz=146	23.16	332	P	P	11 22 43.2	+0.8
MVCO	Mesa Verde 16nm,1.1s	23.16	332	eP	P	11 22 43.1	+0.8
WUAZ	Wupatki baz=138	23.28	325	P	P	11 22 44.8	+1.4
WUAZ	Wupatki 19nm,1.1s	23.28	325	eP	P	11 22 44.8	+1.4
N37A	Lee Faris, Mou baz=182	23.49	2	P	P	11 22 44.1	-0.9
N36A	Muff Farm, Cla baz=180	23.53	0	P	P	11 22 44.4	-1.1
N33A	J Bar K, Exete baz=174	23.54	356	P	P	11 22 44.9	-0.6
N38A	Joes South For baz=185	23.57	4	P	P	11 22 45.4	-0.4
N35A	Tabor baz=179	23.58	359	P	P	11 22 45.4	-0.4
N34A	Lincoln baz=177	23.58	357	P	P	11 22 45.7	-0.2
N32A	Stulken Farm, baz=172	23.64	354	P	P	11 22 46.5	+0.1
N39A	Derby Farms, D baz=186	23.70	5	P	P	11 22 46.0	-0.9
GLA	Glamis baz=127	23.75	315	P	P	11 22 48.8	+1.2
GLA	Glamis 10nm,0.7s	23.75	315	eP	P	11 22 49.0	+1.5
N31A	Bailey Ranch, baz=171	23.77	353	P	P	11 22 47.9	+0.3
BLA	Blacksburg 98nm,1.5s	23.78	30	eP	P	11 22 45.9	-1.9
HDIL	Hopedale baz=194,SNR=18	23.81	11	P	P	11 22 46.7	-1.2
HDIL	Hopedale 36nm,0.6s	23.81	11	eP	P	11 22 47.0	-1.0
PV01	Paradox Valley	23.96	333	eP	P	11 22 51.1	+1.5
Y12C	Blythe baz=129	23.98	317	P	P	11 22 50.7	+1.2
VWCC	Virginia Weste	24.02	31	eP	P	11 22 49.2	-0.7
PDMCI	Parker Dam,Lak baz=130	24.08	319	P	P	11 22 51.4	+0.9
SFIN	Lafayette baz=199,SNR=9.2	24.12	15	P	P	11 22 49.0	-1.6
SFIN	Lafayette 17nm,0.9s	24.12	15	eP	P	11 22 49.1	-1.6
M37A	Trindle Farm, baz=183	24.14	2	P	P	11 22 50.6	-0.3
PV05	Paradox Valley	24.15	332	eP	P	11 22 52.3	+1.0
M36A	Felix, Anita baz=181	24.17	1	P	P	11 22 51.2	0.0
M35A	Neola baz=179	24.19	359	P	P	11 22 51.1	-0.2
M38A	Pleasantville baz=185	24.19	4	P	P	11 22 51.0	-0.3
SMCO	Snowmass 18nm,1.0s	24.21	337	eP	P	11 22 53.8	+1.7
M34A	Aspy Farms, Fr baz=177	24.25	357	P	P	11 22 52.3	+0.4
BGNE	Belgrade baz=173	24.26	354	P	P	11 22 52.4	+0.4
M31A	Lambtecht Ranc baz=171	24.29	353	P	P	11 22 52.6	+0.3
ISCO	Idaho Springs baz=155	24.29	340	P	P	11 22 53.2	+0.5
ISCO	Idaho Springs 6.0nm,0.9s	24.29	340	eP	P	11 22 53.5	+0.8
M33A	Taylor Creek F baz=175	24.35	356	P	P	11 22 53.2	+0.4
SWSC	Sam W. Stewart baz=125	24.35	314	P	P	11 22 54.3	+1.4
PV10	Paradox Valley	24.37	333	eP	P	11 22 53.6	+0.4
IKP	In-Ko-Pah, Jac baz=124	24.40	313	P	P	11 22 55.1	+1.6
OGNE	Ogallala baz=164	24.40	347	P	P	11 22 54.2	+0.9
OGNE	Ogallala 21nm,0.6s	24.40	347	eP	P	11 22 54.0	+0.6
U15A	North Rim 3.8nm,0.8s	24.45	325	eP	P	11 22 55.6	+1.5
PV09	Paradox Valley	24.51	333	eP	P	11 22 55.9	+1.3
BC3	Big Chuckawall baz=127	24.53	316	P	P	11 22 56.0	+1.4
IRM	Iron Mountain baz=128	24.64	317	P	P	11 22 57.1	+1.6
L34A	Svendsen Farm, baz=177	24.70	358	P	P	11 22 57.1	+1.1
MONP2	Monument Peak baz=124	24.75	313	P	P	11 22 57.5	+0.7
L36A	Harm Buss Farm baz=181	24.82	1	P	P	11 22 57.6	+0.5
L37A	Phoenix Point, baz=183	24.87	2	P	P	11 22 57.4	-0.1
L38A	Oak Wood Farm, baz=185	24.92	4	P	P	11 22 57.3	-0.7
L31A	Butterfield Fa baz=172	25.09	353	P	P	11 22 60.0	+0.4
BELC	Belle Mtn. Jos baz=127	25.10	316	P	P	11 23 00.9	+1.0
L41A	Preston baz=190	25.10	8	P	P	11 22 58.7	-0.9
KNB	Kanab 6.6nm,0.9s	25.17	325	eP	P	11 23 02.1	+1.5
TPFO	Pinon Flats baz=125	25.18	314	P	P	11 23 02.1	+1.5
PFO	Pinyon Flats O 6.4nm,1.0s,baz=111,slow=7.3,SNR=5.8	25.19	314	P	P	11 23 01.9	+1.2
PFO	Pinyon Flats O baz=125	25.19	314	P	P	11 23 01.8	+1.2
PFO	Pinyon Flats O 12nm,1.2s	25.19	314	eP	P	11 23 01.7	+1.1
SDV	Santo Domingo 2.7nm,0.6s,baz=270,slow=19,SNR=2.5	25.22	106	P	P	11 23 00.5	-0.7
109C	Camp Elliot, M baz=123	25.23	312	P	P	11 23 02.0	+1.1
ACSO	Alum Creek Sta 26nm,0.8s	25.24	22	eP	P	11 22 58.8	-2.1
GMRC	Granite Mounta baz=129	25.36	318	P	P	11 23 03.6	+1.4
K36A	Gilmore City baz=182	25.36	1	P	P	11 23 01.5	-0.4
N23A	Red Feather La baz=155	25.39	341	P	P	11 23 04.2	+1.6
N23A	Red Feather La 4.9nm,1.0s	25.39	341	eP	P	11 23 02.8	+0.2
K34A	Le Mars baz=178	25.41	358	P	P	11 23 02.1	-0.4
JSRW	J. Sargeant Re	25.43	33	eP	P	11 23 00.4	-2.2
K38A	Parkersburg baz=185	25.44	4	P	P	11 23 02.2	-0.4
K37A	Belmond baz=183	25.51	3	P	P	11 23 02.8	-0.6
O20A	White River Ci baz=150	25.53	336	P	P	11 23 03.6	-0.2
MTPU	Mount Pierson 10nm,0.8s	25.60	328	eP	P	11 23 06.3	+1.7
SRU	San Rafael Swe 2.9nm,0.8s	25.63	331	eP	P	11 23 04.9	+0.2
K40A	Colesburg baz=189	25.64	7	P	P	11 23 03.5	-1.0
K30A	Basset baz=170	25.68	352	P	P	11 23 04.8	-0.1
MURC	Murrieta baz=124	25.69	314	P	P	11 23 06.5	+1.4
HEC	Hector,Ludlow baz=128	25.82	317	P	P	11 23 07.6	+1.3
CCUT	Cedar City 3.0nm,1.0s	25.86	325	eP	P	11 23 07.6	+0.8
BBRC	Big Bear Solar baz=126	25.88	315	P	P	11 23 07.5	+0.5
P18A	Preston Nutter 8.3nm,1.4s	25.93	333	eP	P	11 23 08.0	+0.5
MSU	Marysvale	25.95	328	eP	P	11 23 08.5	+0.9
JFWS	Jewell Farm 19nm,0.5s	25.96	8	eP	P	11 23 06.5	-0.9
J34A	George baz=178	26.01	359	P	P	11 23 06.9	-0.9
P17A	Butcher Ranch, 7.0nm,0.9s	26.02	332	eP	P	11 23 09.4	+1.2
J36A	Seneca 1, Swea baz=182	26.05	1	P	P	11 23 07.3	-0.9
J37A	Redenius Farm, baz=184	26.06	3	P	P	11 23 07.1	-1.1
TMUT	Trail Mountain 3.7nm,0.8s	26.10	331	eP	P	11 23 10.3	+1.2
J38A	Wedel Dairy, R baz=186	26.13	4	P	P	11 23 08.4	-0.5
SHPR	Sheep Range 4.9nm,1.0s	26.16	321	eP	P	11 23 10.9	+1.5
J32A	Parkston baz=174	26.19	355	P	P	11 23 09.6	+0.1
J30A	Dallas baz=171	26.30	353	P	P	11 23 11.3	+0.9
SCI2	San Clemente I baz=121	26.31	311	P	P	11 23 11.2	+0.6
BFSC	Mount Baldy Ra baz=125	26.36	314	P	P	11 23 11.6	+0.3
ECSD	EROS Data Cent baz=177	26.48	358	P	P	11 23 11.9	-0.1
ECSD	EROS Data Cent 6.9nm,0.9s	26.48	358	eP	P	11 23 12.6	+0.5
I35A	Creekview Farm baz=180	26.57	0	P	P	11 23 12.3	-0.5
MWC	Mount Wilson 9.1nm,0.9s	26.63	314	eP	P	11 23 15.3	+1.6
I37A	Lemond, Waseca baz=184	26.77	3	P	P	11 23 13.4	-1.2
DECC	Green Verdugo baz=124	26.84	314	P	P	11 23 16.4	+1.0
I38A	Scanlan Farm, baz=186	26.86	4	P	P	11 23 15.1	-0.3
EDW2	Edwards Air Fo baz=125	26.95	315	P	P	11 23 17.3	+0.8
N54A	Moraine State baz=213	27.04	26	P	P	11 23 15.4	-1.7
I29A	Vivian Onida baz=169	27.09	352	P	P	11 23 17.9	+0.3
TPNV	Topopah Spring baz=131	27.11	321	P	P	11 23 19.1	+1.2
TPNV	Topopah Spring 4.1nm,0.9s	27.11	321	eP	P	11 23 19.9	+2.0
K22A	Casper baz=156	27.17	341	P	P	11 23 18.7	+0.3
FURC	Furnace Creek, baz=129	27.17	319	P	P	11 23 18.9	+0.6
H32A	Carlson Farm, baz=175	27.29	356	P	P	11 23 18.8	-0.5
H36A	Jessenland, He baz=182	27.31	2	P	P	11 23 19.5	0.0
MPMC	Manual Prospec baz=128	27.32	318	P	P	11 23 20.7	+0.8
H35A	Sunnyside Ranc baz=181	27.41	0	P	P	11 23 20.3	0.0
H33A	Prehn Over Nor baz=177	27.43	357	P	P	11 23 20.5	0.0
ALLY	Alegheny Colle 19nm,0.6s	27.55	25	eP	P	11 23 19.9	-1.7
M54A	Oil Creek Stat baz=213	27.63	26	P	P	11 23 20.5	-1.8
TCUT	Toone Canyon 16nm,1.1s	27.66	333	eP	P	11 23 24.9	+2.0
R11A	Troy Canyon, C baz=134	27.66	324	P	P	11 23 24.0	+1.1
R11A	Troy Canyon, C 1.4nm,0.9s	27.66	324	eP	P	11 23 24.4	+1.5
ARVC	Arvin baz=124	27.66	315	P	P	11 23 24.3	+1.6
SSPA	Standing Stone 8.0nm,0.6s	27.70	29	eP	P	11 23 21.4	-1.5
GRAC	Grapevine Rang baz=129	27.82	320	P	P	11 23 25.6	+1.4
RSSD	Black Hills baz=162	27.87	346	P	P	11 23 25.5	+0.8
CWC	Cottonwood Cre baz=127	27.93	318	P	P	11 23 26.1	+0.8
SPMN	Marine on St. baz=185	28.00	3	P	P	11 23 25.0	-0.6
SPMN	Marine on St. 10nm,0.5s	28.00	3	eP	P	11 23 24.8	-0.8
ERPA	Erie 18nm,0.8s	28.01	24	eP	P	11 23 23.9	-1.8
G30A	Faulkton baz=172	28.05	354	P	P	11 23 25.4	-0.6
PKM	Mcpherson Peak baz=122	28.20	313	P	P	11 23 29.4	+1.6
VES	Vestal, Richgr baz=125	28.23	316	P	P	11 23 29.6	+1.8
BW06	Boulder Array	28.30	337	eP	P	11 23 27.8	-0.8
PDAR	Pinedale Array 0.7nm,0.7s,baz=131,slow=8.1,SNR=5.2	28.30	337	P	P	11 23 28.4	-0.2
PDAR	0.6nm,0.6s,baz=134,slow=11,SNR=3.0			pP	pP	11 23 55.0	+1.5
SMMC	Simmler baz=123	28.56	314	P	P	11 23 31.6	+0.8
F33A	5 Mile Ranch, baz=178	28.57	358	P	P	11 23 30.6	-0.1
F36A	Milaca baz=183	28.61	2	P	P	11 23 30.4	-0.6
RCTC	Rector, Farmer baz=126	28.61	316	P	P	11 23 32.5	+1.5
F31A	Hecla baz=174	28.69	355	P	P	11 23 32.0	+0.2
HVU	Hansel Valley 5.2nm,0.8s	28.80	332	eP	P	11 23 33.6	+0.6
F29A	Eureka baz=171	28.82	353	P	P	11 23 32.6	-0.3
NV11	Mina Array Sit 12nm,1.3s	29.22	321	eP	P	11 23 38.5	+1.8
E34A	Wadena baz=180	29.23	360	P	P	11 23 35.9	-0.6
E36A	McGregor baz=184	29.27	3	P	P	11 23 36.1	-0.7
E35A	Pequot Lakes baz=182	29.28	1	P	P	11 23 36.7	-0.3
ATAH	Atahualpa 4.5nm,0.8s,baz=131,slow=8.6,SNR=4.4	29.29	144	P	P	11 23 39.5	+1.7
REDW	Red Top Meadow 16nm,1.4s	29.30	336	eP	P	11 23 38.2	+0.8
NV01	Mina Array Sit	29.30	321	eP	P	11 23 39.2	+1.7
NVAR	Mina Array Bea 5.8nm,0.8s,baz=132,slow=8.7,SNR=44	29.30	321	P	P	11 23 39.3	+1.8
NVAR	5.3nm,0.9s,baz=126,slow=10,SNR=4.5			pP	pP	11 24 03.2	+0.5
BRNJ	Basking Ridge 224nm,1.9s	29.37	33	eP	P	11 23 36.0	-1.7
MMNY	Mt. Morris Dam	29.37	26	eP	P	11 23 35.9	-1.9
TPAW	Teton Pass 13nm,1.3s	29.44	336	eP	P	11 23 40.1	+1.3
D34A	Park Rapids baz=180	29.80	360	P	P	11 23 40.9	-0.6
BINY	Binghamton 25nm,1.3s	29.81	29	eP	P	11 23 39.9	-1.8
D35A	Remer baz=182	29.81	1	P	P	11 23 41.0	-0.6
E26A	Carlson Angus baz=166	29.82	350	P	P	11 23 41.9	+0.1
D33A	AnnSam, Waubun baz=179	29.86	359	P	P	11 23 41.4	-0.7
D36A	Goodland baz=184	29.93	3	P	P	11 23 41.9	-0.8
D37A	Cotton baz=185	29.95	4	P	P	11 23 42.1	-0.8
BMN	Battle Mountai 3.9nm,0.8s	30.02	325	eP	P	11 23 45.3	+1.6
RLMT	Red Lodge baz=152	30.26	340	P	P	11 23 46.0	+0.1
C35A	Jirik Farms, M baz=182	30.43	2	P	P	11 23 46.2	-0.9
C36A	Pine Crest Far baz=184	30.53	3	P	P	11 23 47.6	-0.4
C37A	Embarrass baz=186	30.54	4	P	P	11 23 47.9	-0.2
C31A	Landman Farms, baz=175	30.58	357	P	P	11 23 48.0	-0.4
SADO	Sadowa 3.3nm,0.3s,baz=238,slow=9.3,SNR=12	30.59	23	P	P	11 23 45.9	-2.6
SADO	Sadowa 58nm,2.0s	30.59	23	eP	P	11 23 46.1	-2.4
C38A	Sawbill Land. baz=187	30.59	5	P	P	11 23 47.5	-1.1
D25A	Fairfield baz=165	30.62	349	P	P	11 23 49.8	+0.9
MDND	Maddock baz=172	30.78	354	P	P	11 23 49.5	-0.7
MDND	Maddock 60nm,1.3s	30.78	354	eP	P	11 23 50.1	-0.1
EYMN	Ely baz=187	30.80	5	P	P	11 23 49.4	-1.0
EYMN	Ely 13nm,1.5s	30.80	5	eP	P	11 23 49.5	-0.9
C39A	Grand Marais baz=189	30.81	7	P	P	11 23 49.5	-0.9
HLID	Hailey baz=142	30.95	332	P	P	11 23 52.4	+0.5
HLID	Hailey 3.6nm,0.9s	30.95	332	eP	P	11 23 52.8	+0.9
AGMN	Agassiz Nation baz=179	31.02	359	P	P	11 23 51.3	-0.9
AGMN	Agassiz Nation 10nm,0.8s	31.02	359	eP	P	11 23 51.5	-0.8
B35A	Bob, Littlefor baz=183	31.10	2	P	P	11 23 51.9	-1.0
B32A	Ashes, Strandq baz=177	31.13	358	P	P	11 23 53.1	-0.1
B34A	Aery, Baudette baz=181	31.20	1	P	P	11 23 52.8	-1.0
B31A	Greenbush Farm baz=175	31.21	357	P	P	11 23 53.2	-0.7
B30A	Myrvik Farm, E baz=174	31.27	356	P	P	11 23 53.9	-0.6
MCMT	McKenzie Canyo	31.31	335	eP	P	11 23 56.9	+1.7
B29A	Wagenman Farm, baz=172	31.37	355	P	P	11 23 55.2	-0.1
B28A	Dugan Ranch, T baz=170	31.46	353	P	P	11 23 56.3	+0.2
BOZ	Bozeman (W) baz=149	31.53	338	P	P	11 23 57.4	+0.3
A33A	Warroad baz=180	31.65	360	P	P	11 23 57.5	-0.4
DLMT	Dillon 11nm,1.4s	31.66	336	eP	P	11 23 59.4	+1.3
B25A	Knox Farm, Ray baz=165	31.68	350	P	P	11 23 58.3	+0.2
A30A	Hoffart Farm, baz=174	31.76	356	P	P	11 23 58.7	-0.1
A29A	Manning Farm, baz=173	31.82	355	P	P	11 23 59.0	-0.2
A26A	Wade Farm, Ken baz=168	32.11	351	P	P	11 24 02.3	+0.4
WVOR	Wild Horse Val 7.7nm,1.0s	32.17	326	eP	P	11 24 03.7	+1.1
LONY	Lake Ozonia 8.9nm,0.9s	32.33	28	eP	P	11 24 02.1	-1.8
ULM	Lac du Bonnet 4.3nm,0.6s,baz=173,slow=9.1,SNR=6.3	32.97	359	P	P	11 24 08.3	-1.0
ULM	Lac du Bonnet 6.3nm,0.6s	32.97	359	eP	P	11 24 07.8	-1.6
EGMT	Eagleton baz=154	33.00	342	P	P	11 24 10.0	+0.3
M04C	Macdoel baz=129	33.52	322	P	P	11 24 15.2	+0.8
N02D	Trinity Center baz=127	33.54	321	P	P	11 24 15.9	+1.3
TRQ	Mont Tremblant	33.60	26	eP	P	11 24 13.3	-1.7
F10A	Beach Ranch, E 20nm,1.1s	34.08	332	eP	P	11 24 19.4	+0.3
KHMM	Horse Mountain 87nm,1.7s	34.11	320	eP	P	11 24 20.7	+1.1
J05D	Fort Rock, OR baz=132	34.15	325	P	P	11 24 20.3	+0.5
L02D	Cave Junction, baz=127	34.79	322	P	P	11 24 25.8	+0.6
I05D	Terrebonne, OR baz=133	34.91	326	P	P	11 24 27.0	+0.7
G05D	Wamic, OR baz=134	35.52	328	P	P	11 24 31.8	+0.4
I03D	Drain, OR baz=129	35.59	324	P	P	11 24 32.5	+0.5
NEW	Newport baz=142	35.82	335	P	P	11 24 34.5	+0.4
LMQ	La Malbaie	36.48	29	eP	P	11 24 37.9	-1.7
G03D	McMinnville, O baz=131	36.52	326	P	P	11 24 41.3	+1.4
LTY	Liberty 27nm,1.4s	36.62	330	eP	P	11 24 40.9	+0.1
LON	Longmire 16nm,1.3s	36.81	329	eP	P	11 24 43.2	+0.8
D05A	Enumclaw	37.20	329	eP	P	11 24 46.8	+1.1
E03A	Lebam 38nm,1.0s	37.55	327	eP	P	11 24 49.5	+0.8
B05A	Bryant baz=135	38.01	331	P	P	11 24 50.6	-1.9
LMN	Caledonia Moun 23nm,1.2s	38.10	35	eP	P	11 24 50.6	-2.7
LPAZ	La Paz 7.0nm,0.6s,baz=324,slow=5.3,SNR=20	42.60	140	P	P	11 25 32.0	+0.6
LPAZ	3.0nm,0.8s,baz=338,slow=7.9,SNR=3.4			pP	pP	11 25 57.3	-0.3
LPAZ	La Paz 7.7nm,0.6s	42.60	140	eP	P	11 25 31.9	+0.5
LPAZ				pP	pP	11 25 57.3	-0.3
YKA	Yellowknife Ar 2.9nm,0.7s,baz=149,slow=7.2,SNR=10	47.26	348	P	P	11 26 06.0	-0.9
YKA	1.8nm,0.8s,baz=154,slow=7.5,SNR=4.0			pP	pP	11 26 33.7	+0.1
DLBC	Dease Lake 3.1nm,0.7s,baz=146,slow=8.5,SNR=4.8	48.52	336	P	P	11 26 18.5	+1.6
DLBC	Dease Lake 28nm,1.6s	48.52	336	eP	P	11 26 18.8	+1.9
LCO	Las Campanas 113nm,1.9s	51.65	152	eP	P	11 26 42.5	+1.5
CRQM	Cirque 45nm,2.0s	55.25	334	eP	P	11 27 07.1	+0.2
BMRM	Bremner River 5.7nm,0.9s	55.98	333	eP	P	11 27 12.9	+0.9
EYAK	Cordova Ski Ar 12nm,1.3s	56.28	333	eP	P	11 27 15.3	+1.3
INK	Inuvik 9.9nm,0.7s,baz=121,slow=7.4,SNR=12	56.54	344	P	P	11 27 15.3	-0.3
INK	4.1nm,0.8s,baz=81,slow=3.6,SNR=3.8			pP	pP	11 27 43.2	+0.1
INK	Inuvik 12nm,0.8s	56.54	344	eP	P	11 27 15.7	0.0
INK				pP	pP	11 27 43.2	+0.1
EGAK	Eagle 19nm,1.8s	56.64	338	eP	P	11 27 15.9	-0.6
CPUP	Villa Florida 3.1nm,0.8s,baz=322,slow=6.8,SNR=7.8	56.76	139	P	P	11 27 16.3	-1.5
CPUP	Villa Florida	56.76	139	eP	P	11 27 17.4	-0.4
BDFB	Brasilia 6.7nm,1.1s,baz=298,slow=6.4,SNR=5.3	56.77	122	P	P	11 27 18.2	-0.1
DOT	Dot Lake 63nm,0.6s	57.10	336	eP	P	11 27 19.9	+0.1
PMR	Palmer 10nm,1.3s	58.21	333	eP	P	11 27 27.5	0.0
BRLK	Bradley Lake 68nm,1.7s	58.29	331	eP	P	11 27 29.1	+0.9
CNPM	China Poot 101nm,1.9s	58.37	330	eP	P	11 27 29.7	+1.0
HDA	Harding Lake 23nm,1.1s	58.58	336	eP	P	11 27 30.6	+0.5
OHAK	Old Harbor 69nm,1.5s	58.61	327	eP	P	11 27 30.9	+0.5
IL1	Eielson Array	58.73	337	eP	P	11 27 30.5	-0.6
ILAR	Eielson Array 2.4nm,1.0s,baz=168,slow=4.0,SNR=14	58.73	337	P	P	11 27 30.3	-0.8
ILB	Eielson Array	58.73	337	eP	P	11 27 31.0	-0.1
SUA	Susitna One 65nm,1.8s	58.87	332	eP	P	11 27 32.6	+0.4
CCB	Clear Creek Bu	59.02	336	eP	P	11 27 33.0	-0.1
MDM	Murphy Dome 13nm,0.5s	59.32	337	eP	P	11 27 35.1	-0.1
SPU	Mount Spurr	59.35	332	eP	P	11 27 36.0	+0.5
RSO	Redoubt South	59.41	331	eP	P	11 27 36.6	+0.5

BWN	**Browne**	**59.45**	**336**	*e*P		**P**		**11 27 35.9**	**-0.2**
	56nm,0.5s									
TRF	**Thorofare Moun**	**59.47**	**335**	*e*P		**P**		**11 27 36.8**	**+0.4**
	29nm,0.5s									
KTH	**Kantishna Hill**	**59.78**	**335**	*e*P		**P**		**11 27 38.3**	**-0.1**
	22nm,1.2s									
BPAW	**Bear Paw Mtn.**	**60.02**	**335**	*e*P		**P**		**11 27 40.0**	**0.0**
	10nm,0.6s									
PPLA	**Purkeypile**	**60.05**	**334**	*e*P		**P**		**11 27 40.1**	**-0.3**
	16nm,0.8s									
MLY	**Manley**	**60.31**	**336**	*e*P		**P**		**11 27 42.3**	**+0.2**
	6.6nm,0.7s									
SVW2	**Sparrevohn**	**60.93**	**331**	*e*P		**P**		**11 27 45.6**	**-0.6**
	4.1nm,0.8s									
COLD	**Coldfoot**	**61.07**	**339**	*e*P		**P**		**11 27 47.4**	**+0.3**
	3.7nm,1.0s									
TT01	**Tatalina**	**61.70**	**333**	*e*P		**P**		**11 27 51.1**	**-0.3**
TTA	**Tatalina**	**61.70**	**333**	*e*P		**P**		**11 27 51.2**	**-0.2**
	4.0nm,0.8s									
PLCA	**Paso Flores**	**62.00**	**159**	P		**P**		**11 27 54.5**	**+0.8**
	10.0nm,1.0s,baz=18,slow=8.7,SNR=5.6									
PLCA	**Paso Flores**	**62.00**	**159**	*e*P		**P**		**11 27 54.2**	**+0.5**
	10nm,0.9s									
RCBR	**Riachuelo**	**62.80**	**106**	*e*P		**P**		**11 28 00.3**	**+0.7**
	25nm,1.2s									
TRQA	**Tornquist**	**63.17**	**151**	*e*P		**P**		**11 28 01.6**	**+0.1**
	31nm,1.5s									
KBS	**Kingsbay**	**76.46**	**11**	*e*P		**P**		**11 29 23.0**	**+0.7**
	12nm,0.9s									
ESK	**Eskdalemuir**	**77.12**	**36**	*e*P		**P**		**11 29 25.5**	**-0.9**
	115nm,1.8s									
SPA0	**Spitsbergen Ar**	**77.56**	**11**	*e*P		**P**		**11 29 28.4**	**-0.1**
NB2	**NORSAR Subarra**	**82.77**	**28**	P		**P**		**11 29 56.7**	**0.0**
	comp=Z,3.6nm,1.2s,baz=291,slow=4.8									
NOA	**NORSAR Array B**	**82.77**	**28**	P		**P**		**11 29 56.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=292,slow=5.0,SNR=4.1									
NB201	**NORSAR Array S**	**82.80**	**28**	*e*P		**P**		**11 29 58.1**	**+1.2**
ARA0	**ARCESS Array S**	**84.04**	**18**	*e*P		**P**		**11 30 02.9**	**-0.1**
ARCES	**ARCESS Array B**	**84.04**	**18**	P		**P**		**11 30 02.7**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=286,slow=4.9,SNR=12									
ARE0	**ARCESS Array S**	**84.04**	**18**	*e*P		**P**		**11 30 03.0**	**-0.1**
	comp=Z,34nm,1.6s									
FINES	**FINESS Array B**	**88.86**	**24**	P		**P**		**11 30 25.6**	**-1.1**
	comp=Z,3.1nm,1.0s,baz=25,slow=9.5,SNR=3.6									
NRIK	**Noril'sk**	**93.67**	**359**	P		**P**		**11 30 49.4**	**+0.6**
	comp=Z,4.9nm,0.6s,baz=130,slow=3.6,SNR=3.9									
URZ	**Urewera**	**98.74**	**233**	LR		LR		12 07 23.7		
	comp=Z,184nm,21.4s,baz=1.0,slow=30									
MKAR	**Makanchi Array**	**116.26**	**2**	PKP		**PKPdf**		**11 36 13.7**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=5.2,slow=3.2,SNR=3.3									
SUR	**Sutherland**	**120.69**	**118**	*e*PKPdf		**PKPdf**		**11 36 22.4**	**-2.4**
KSH	**Kashi**	**122.97**	**8**	*e*PKPbc		**PKPdf**		**11 36 35.0**	**+6.0**
KSH				sPKP				11 37 11.2		
KSH				PP		PP		11 38 18.3	+11	
KSH				PKS		**PKSdf**		**11 40 07.9**	**+2.1**
KSH				SKS		**SKSdf**		**11 43 33.2**	**+2.4**
KSH	**Kashi**	**122.97**	**8**	SS		SS		11 54 52.7	+11	
KSH				LR		LR				
	comp=N,190nm,11.8s									
KSH				LR		LR				
	comp=E,130nm,5.7s									
LZH	**Lanzhou**	**124.04**	**341**	*e*PKP		PKPdf		11 36 42.2	+11	
LZH				sPKP				11 37 15.1		
STKA	**Stephens Creek**	**126.92**	**243**	PKP		**PKPdf**		**11 36 35.8**	**-0.7**
	comp=E,4.1nm,0.8s,baz=72,slow=4.2,SNR=7.0									
STKA	**Stephens Creek**	**126.92**	**243**	*e*PKPdf		**PKPdf**		**11 36 36.3**	**-0.2**
WB2	**Warramunga Arr**	**133.16**	**259**	*e*PKPdf		**PKPdf**		**11 36 48.2**	**-0.5**
WRAB	**Tennant Creek**	**133.16**	**259**	*e*PKPdf		**PKPdf**		**11 36 48.4**	**-0.2**
WRA	**Warramunga Arr**	**133.17**	**259**	PKP		**PKPdf**		**11 36 48.2**	**-0.4**
	comp=E,2.1nm,0.6s,baz=84,slow=2.6,SNR=23									
AS01	**Alice Springs**	**133.75**	**254**	*e*PKPdf		**PKPdf**		**11 36 49.7**	**0.0**
AS31	**Alice Springs**	**133.79**	**254**	*e*PKPdf		**PKPdf**		**11 36 49.6**	**-0.2**
ASAR	**Alice Springs**	**133.79**	**254**	PKP		**PKPdf**		**11 36 49.3**	**-0.5**
	comp=E,1.2nm,0.7s,baz=128,slow=1.7,SNR=4.6									
QIZ	**Qiongzhong**	**136.43**	**325**	PKPbc		**PKPdf**		**11 36 55.0**	**+0.2**
QIZ				pPKP		**pPKPdf**		**11 37 26.9**	**+1.0**
QIZ				PP		**PP**		**11 39 36.9**	**+1.0**
QIZ	**Qiongzhong**	**136.43**	**325**	SS		SS		11 57 29.1	+0.7	
QIZ				AMB		AMB				
	comp=Z,3.0nm,1.7s									
SBUM	**Sibu**	**146.70**	**303**	*e*PKPdf		**PKPbc**		**11 37 14.9**	**-0.2**
KSM	**Kuching**	**148.81**	**304**	*e*PKPbc		**PKPbc**		**11 37 20.8**	**0.0**

IDC ***12*** *11:53:55.9±1.1, 35°.28N×142°.29E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.5/38, mbtmp3.7/7, ML3.7/3, Error ellipse: s-maj=29.8km s-min=20.4km az=104.0*
JMA ***12*** *11:53:57.0±0.2, 35°.37N×142°.44E, h53km, M3.3*
ISCJB ***12*** *11:53:58.0±1.1, 35°.37N±0°.04×142°.35E±0°.07, h34km±12km, mb3.6/4, Error ellipse: s-maj=9.6km s-min=6.4km az=0.5*

ISC 12 11:53:58.5±1.2, 35°37'N±0°.05×142°38'E±0°.10, h22km±8km, n21, σ1s69/34, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.28**	**285**	P	**Pn**	**11 54 20.1**	**-1.0**
CHOJ				*e*S	**Sn**	**11 54 36.6**	**-1.0**
BSO1	**Boso 1**	**1.35**	**238**	P	**Pn**	**11 54 20.1**	**-1.5**
BSO1				S	**Sn**	**11 54 37.7**	**-0.9**
BSO3	**Boso 3**	**1.63**	**250**	P	**Pn**	**11 54 25.2**	**-0.5**
BSO3				*e*S	**Sn**	**11 54 46.0**	**+0.1**
KTR	**Katsuura**	**1.70**	**263**	*e*S	**Sn**	**11 54 47.5**	**-0.5**
BSO4	**Boso 4**	**1.71**	**258**	P	**Pn**	**11 54 27.6**	**+0.6**
BSO4				*e*S	**Sb**	**11 54 49.9**	**-0.4**
JFK	**Kawauchi**	**2.33**	**329**	S	**Sn**	**11 55 00.3**	**-3.3**
JIM2	**Oshima 3**	**2.50**	**256**	P	**Pn**	**11 54 37.3**	**-0.7**
JIM2				S	**Sn**	**11 55 06.8**	**-1.0**
JAG	**Ashikaga**	**2.59**	**295**	P	**Pn**	**11 54 38.2**	**-1.0**
JAG				S	**Sn**	**11 55 07.9**	**-2.2**
JOD2	**Odawara 2**	**2.69**	**269**	P	**Pn**	**11 54 39.4**	**-1.2**
JOD2				S	**Sn**	**11 55 10.1**	**-2.4**
JFT	**Otama**	**2.70**	**323**	P	**Pn**	**11 54 40.1**	**-0.6**
JFT				S	**Sn**	**11 55 10.6**	**-2.1**
JRY	**Ryogami san**	**2.90**	**284**	P	**Pn**	**11 54 43.3**	**-0.1**
JRY				*e*S	**Sn**	**11 55 17.0**	**-0.7**
JHJ2	**Mitsune**	**3.10**	**224**	P	**Pn**	**11 54 44.5**	**-1.6**
JHJ2				*e*S	**Sn**	**11 55 19.5**	**-2.9**
JHJ	**Hachijo jima 2**	**3.11**	**224**	Pn	**Pn**	**11 54 44.8**	**-1.5**
	14nm,0.3s,baz=267,slow=21,SNR=11						
JHJ				Sn	**Sn**	**11 55 20.2**	**-2.5**
	36nm,0.3s,baz=129,slow=24,SNR=11						
JYN	**Shimob**	**3.13**	**273**	P	**Pn**	**11 54 45.7**	**-1.0**
JYN				*e*S	**Sn**	**11 55 21.5**	**-1.9**
MJAR	**Matsushiro Arr**	**3.58**	**290**	Pn	**Pn**	**11 54 52.9**	**+0.1**
	2.0nm,0.3s,baz=109,slow=9.0,SNR=18						
MAT	**Matsushiro**	**3.58**	**290**	P	**Pn**	**11 54 52.4**	**-0.4**
MAT				S	**Sn**	**11 55 30.4**	**-4.0**
JCJ	**Chichijima**	**8.25**	**181**	Pn	**Pn**	**11 55 54.6**	**-2.3**
	5.7nm,0.3s,baz=277,slow=23,SNR=14						
JCJ				Sn	Sn	11 57 16.9	-13
	0.1nm,0.3s,baz=311,slow=19,SNR=2.4						
MKAR	**Makanchi Array**	**45.67**	**304**	P	**P**	**12 02 17.3**	**-0.3**
	0.5nm,0.8s,baz=85,slow=9.9,SNR=4.2						
ILAR	**Eielson Array**	**50.49**	**32**	P	**P**	**12 02 56.0**	**+1.5**
	0.8nm,0.8s,baz=270,slow=5.9,SNR=12						
WRA	**Warramunga Arr**	**55.54**	**189**	P	**P**	**12 03 31.8**	**-0.4**
	0.9nm,0.8s,baz=7.0,slow=7.5,SNR=5.5						
ASAR	**Alice Springs**	**59.26**	**189**	P	**P**	**12 03 59.3**	**+0.9**
	0.4nm,0.8s,baz=8.3,slow=7.0,SNR=3.4						

BJI ***12*** *11:56:02.4, 56°.79S×26°.83W, h98km, mB5.2/7*
ISCJB ***12*** *11:56:03.1±0.3, 56°.14S±0°.06×27°.4W±0°.1, h112km, mb4.8/33, Error ellipse: s-maj=9.4km s-min=6.7km az=135.4*
NEIC ***12*** *11:56:04.0±1.0, 56°.16S×27°.34W, h103km±8km, mb4.9/30, Error ellipse: s-maj=7.6km s-min=5.2km az=224.0*
IDC ***12*** *11:56:05.3±1.6, 56°.14S×27°.35W, h116km±12km, mb4.4/12, mb1 4.5/12, mb1mx4.2/21, mbtmp4.7/12, MS3.7/2, Ms1 3.7/2, ms1mx3.1/20, Error ellipse: s-maj=18.5km s-min=13.5km az=57.0*

ISC 12 11:56:04.7±0.3, 56°22'S±0°.07×27°53'W±0°.06, h112km, n117, σ1s57/134, mb4.9/33, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.48**	**287**	*e*Pn	**Pn**	**11 57 23.5**	**-0.4**
HOPE				*e*Sn	**Sn**	**11 58 23.1**	**-2.5**
VNA1	**Neumayer--Stat**	**16.71**	**158**	P	**Pn**	**11 59 51.2**	**-0.5**
EFI	**East Falkland**	**18.45**	**271**	*e*P	**P**	**12 00 12.7**	**+1.4**
	123nm,1.4s						
SNAA	**Sanae**	**18.67**	**156**	P	**P**	**12 00 13.1**	**-0.5**
SNAA	**Sanae**	**18.67**	**156**	*e*P	**P**	**12 00 13.1**	**-0.5**
	72nm,0.7s						
PMSA	**Palmer Station**	**19.65**	**229**	P	**Pn**	**12 00 29.1**	**+2.5**
	3.9nm,0.3s,baz=75,slow=6.3,SNR=15						
PMSA				LR	LR	12 06 36.3	
	comp=Z,189nm,19.7s,baz=72,slow=32						
PMSA	**Palmer Station**	**19.65**	**229**	*e*P	**Pn**	**12 00 27.6**	**+0.9**
	46nm,0.7s						
TRQA	**Tornquist**	**29.22**	**294**	*e*P	**P**	**12 01 55.2**	**-0.4**
	18nm,1.4s						
SYO	**Syowa Base**	**31.57**	**141**	*e*P	**P**	**12 02 11.9**	**-4.1**
QSPA	**South Pole Qui**	**34.03**	**180**	*e*P	**P**	**12 02 38.5**	**+0.8**
CPUP	**Villa Florida**	**36.78**	**312**	P	**P**	**12 03 00.7**	**-0.6**
	3.7nm,0.8s,baz=142,slow=6.8,SNR=10						
CPUP				ScP	**ScP**	**12 08 55.9**	**-1.4**
	2.5nm,0.8s,baz=181,slow=4.1,SNR=5.7						
MAW	**Mawson**	**40.13**	**144**	P	**P**	**12 03 29.2**	**+0.3**
	9.6nm,0.5s,baz=229,slow=8.3,SNR=23						
MAW				ScP	**ScP**	**12 09 09.3**	**0.0**
	4.7nm,0.7s,baz=271,slow=5.1,SNR=8.8						
MAW	**Mawson**	**40.13**	**144**	*e*P	**P**	**12 03 29.2**	**+0.3**
	3.2nm,0.8s						
MAW				ScP	**ScP**	**12 09 09.3**	**0.0**
BDFB	**Brasilia**	**43.41**	**331**	P	**P**	**12 03 56.5**	**+0.2**
	5.3nm,0.6s,baz=165,slow=5.2,SNR=9.5						
BDFB	**Brasilia**	**43.41**	**331**	*e*P	**P**	**12 03 57.5**	**+1.2**
	64nm,1.6s						
LVC	**Limon Verde**	**45.22**	**301**	*e*P	**P**	**12 04 11.6**	**+0.7**
	18nm,0.7s						
PB04	**IPOC Station P**	**46.05**	**299**	*e*P	**P**	**12 04 16.8**	**-0.5**
	63nm,1.3s						
BOSA	**Boshof**	**46.19**	**76**	P	**P**	**12 04 16.2**	**-2.1**
	3.1nm,0.8s,baz=178,slow=9.7,SNR=4.6						
BOSA	**Boshof**	**46.19**	**76**	*e*P	**P**	**12 04 17.4**	**-0.9**
	38nm,1.9s						
VNDA	**Vanda**	**46.40**	**183**	P	**P**	**12 04 20.2**	**+1.1**
	6.3nm,0.6s,baz=186,slow=6.6,SNR=29						
VNDA	**Vanda**	**46.40**	**183**	*e*P	**P**	**12 04 20.3**	**+1.2**
	9.0nm,0.8s						
PB01	**IPOC Station P**	**46.83**	**301**	*e*P	**P**	**12 04 23.6**	**+0.3**
	27nm,0.6s						
CRZF	**Crozet Islands**	**47.92**	**114**	*e*P	**P**	**12 04 31.0**	**-0.3**
PB11	**IPOC Station P**	**48.01**	**302**	*e*P	**P**	**12 04 32.4**	**-0.1**
	12nm,0.6s						
H10S2	**ASCENSION HYDR**	**48.21**	**17**	T	T	12 57 19.8	
	baz=189,slow=75,SNR=60						
H10S3	**ASCENSION HYDR**	**48.22**	**17**	T	T	12 57 20.1	
	baz=189,slow=75,SNR=50						
H10S1	**ASCENSION HYDR**	**48.23**	**17**	T	T	12 57 21.2	
	baz=189,slow=75,SNR=59						
LBTB	**Lobatse**	**49.24**	**73**	P	**P**	**12 04 40.9**	**-0.9**
	4.8nm,0.7s,baz=229,slow=7.4,SNR=8.8						
LBTB	**Lobatse**	**49.24**	**73**	*e*P	**P**	**12 04 41.4**	**-0.4**
	39nm,1.9s						
H10N1	**ASCENSION HYDR**	**49.33**	**17**	T	T	12 58 44.1	
	baz=182,slow=71,SNR=19						
H10N3	**ASCENSION HYDR**	**49.33**	**17**	T	T	12 58 44.8	
	baz=182,slow=71,SNR=46						
H10N2	**ASCENSION HYDR**	**49.35**	**17**	T	T	12 58 45.1	
	baz=182,slow=71,SNR=40						
TSUM	**Tsumeb**	**49.93**	**61**	*e*P	**P**	**12 04 46.8**	**-0.3**
	17nm,1.5s						
LPAZ	**La Paz**	**50.32**	**306**	P	**P**	**12 04 51.0**	**+0.4**
	6.5nm,0.4s,baz=131,slow=4.8,SNR=72						
LPAZ	**La Paz**	**50.32**	**306**	*e*P	**P**	**12 04 51.2**	**+0.6**
	9.3nm,0.6s						
RCBR	**Riachuelo**	**50.69**	**349**	*e*P	**P**	**12 04 52.4**	**-0.3**
	28nm,1.3s						
CASY	**Casey**	**53.81**	**160**	*e*P	**P**	**12 05 15.8**	**+0.6**
	15nm,0.8s						
SAML	**Samuel**	**54.79**	**315**	*e*P	**P**	**12 05 22.4**	**-0.4**
	6.6nm,0.8s						
LSZ	**Lusaka**	**58.61**	**69**	*e*P	**P**	**12 05 49.2**	**-0.8**
	2.8nm,0.8s						
PTGA	**Pitinga**	**61.19**	**322**	*e*P	**P**	**12 06 06.9**	**-0.6**
	4.0nm,0.8s						
LIC	**Lamto**	**64.93**	**25**	*e*P	**P**	**12 06 31.9**	**-0.2**
	21nm,0.6s						
KIC	**Kosan Boka**	**65.12**	**25**	*e*P	**P**	**12 06 32.9**	**-0.5**
	21nm,0.7s						
TIC	**Toumodi**	**65.33**	**25**	*e*P	**P**	**12 06 34.1**	**-0.7**
DBIC	**Dimbokro**	**65.40**	**25**	P	**P**	**12 06 34.9**	**-0.3**
	12nm,0.6s,baz=164,slow=7.5,SNR=20						
DBIC	**Dimbokro**	**65.40**	**25**	*e*P	**P**	**12 06 35.0**	**-0.1**
	93nm,1.9s						
OTAV	**Otavalo**	**69.59**	**304**	*e*P	**P**	**12 07 03.2**	**+1.0**
	4.9nm,0.8s						
PRAC	**Prado**	**71.08**	**309**	*e*P	**P**	**12 07 10.8**	**+0.1**
	44nm,1.9s						
TORD	**Torodi Ar. Bea**	**73.29**	**30**	P	**P**	**12 07 23.6**	**-0.1**
	18nm,0.6s,baz=200,slow=6.7,SNR=122						
GDHS	**Morne Mazeau,**	**77.73**	**326**	*e*P	**P**	**12 07 50.1**	**+1.1**
	30nm,0.7s						
STVI	**Saint Thomas**	**80.69**	**324**	*e*P	**P**	**12 08 04.6**	**-0.4**
	34nm,1.3s						
TAU	**Tasmania Unive**	**81.15**	**176**	*e*P	**P**	**12 08 07.5**	**+0.1**
	22nm,0.8s						
TAM	**Tamanrasset**	**83.53**	**30**	*e*P	**P**	**12 08 22.2**	**+2.2**
	9.3nm,1.2s						
NWAO	**Narrogin (SRO)**	**86.28**	**151**	*e*P	**P**	**12 08 33.0**	**-0.7**
	153nm,1.8s						
STKA	**Stephens Creek**	**91.77**	**171**	P	**P**	**12 08 59.9**	**+0.3**
	3.2nm,0.9s,baz=154,slow=6.1,SNR=6.6						
STKA	**Stephens Creek**	**91.77**	**171**	*e*P	**P**	**12 09 00.2**	**+0.6**
	5.6nm,1.9s						
ESDC	**Sonseca Array**	**97.60**	**18**	P	**P**	**12 09 25.0**	**-0.8**
	0.6nm,0.7s,baz=190,slow=5.2,SNR=6.3						
ES19	**SONSECA Array**	**97.63**	**18**	*e*P	Pdif	12 09 27.7	+1.8
ASAR	**Alice Springs**	**98.89**	**163**	P	**P**	**12 09 31.2**	**-0.9**
	2.8nm,0.8s,baz=186,slow=4.3,SNR=25						
ASAR				PP	**PP**	**12 13 29.3**	**-4.8**
	1.6nm,0.8s,baz=185,slow=7.5,SNR=11						
ASAR				LR	LR	12 52 48.0	
	comp=Z,32nm,18.1s,baz=214,slow=34						
AS31	**Alice Springs**	**98.89**	**163**	*e*P	**P**	**12 09 32.2**	**0.0**
	0.9nm,0.8s						
AS01	**Alice Springs**	**98.90**	**163**	*e*P	**P**	**12 09 31.9**	**-0.4**
WRA	**Warramunga Arr**	**102.61**	**163**	P	Pdif	**12 09 47.9**	**-0.9**
	1.0nm,0.9s,baz=196,slow=4.3,SNR=8.1						
WRA				PP	**PP**	**12 13 56.2**	**-5.9**
	2.0nm,0.9s,baz=196,slow=6.0,SNR=5.4						
MVCO	**Mesa Verde**	**115.43**	**299**	*e*PKPdf	**PKPdf**	**12 14 34.4**	**+1.6**
FINES	**FINESS Array B**	**124.62**	**28**	PKP	**PKPdf**	**12 14 48.7**	**-0.6**
	2.1nm,0.5s,baz=162,slow=1.2,SNR=19						
FIA1	**FINESS Array S**	**124.62**	**28**	*e*PKPdf	**PKPdf**	**12 14 48.6**	**-0.8**
KSH	**Kashi**	**128.79**	**75**	PKP	**PKPdf**	**12 15 01.0**	**+2.7**
KSH				sPKP		12 15 37.7	
KSH				PP	**PP**	**12 17 10.4**	**+3.5**
KSH				PKS	**PKSdf**	**12 18 34.9**	**+0.1**
KSH				SKS	**SKSdf**	**12 21 59.1**	**-0.2**
KSH				SS	**SS**	**12 34 12.6**	**-3.7**
KSH				PPMZ			
	92nm,6.0s						
KSH				LN			
	190nm,5.6s						
KSH				LE			
	160nm,5.6s						
QIZ	**Qiongzhong**	**131.12**	**122**	PKP	**PKPdf**	**12 15 03.6**	**+0.5**
QIZ				PP	**PP**	**12 17 23.8**	**+2.3**
QIZ				LN			
	430nm,15.4s						
QIZ				LE			
	210nm,15.1s						
QIZ				LZ			
	440nm,16.8s						
ARA0	**ARCESS Array S**	**131.17**	**22**	*e*PKPdf	**PKPdf**	**12 15 01.6**	**-0.1**
ARCES	**ARCESS Array B**	**131.17**	**22**	PKP	**PKPdf**	**12 15 01.4**	**-0.3**
	2.0nm,0.7s,baz=135,slow=0.7,SNR=5.8						
KMI	**Kunming**	**132.65**	**110**	PKP	**PKPdf**	**12 15 07.8**	**+1.7**
GYA	**Guiyang**	**135.78**	**113**	*e*Pdif	**Pdif**	**12 12 14.8**	**-1.2**
GYA				PKP	**PKPdf**	**12 15 12.0**	**+2.2**
GYA				sPKP		12 15 48.8	
GYA				PP	**PP**	**12 17 55.4**	**+4.0**
GYA				PPMZ			
	130nm,8.6s						
YKA	**Yellowknife Ar**	**136.17**	**318**	PKP	**PKPdf**	**12 15 11.0**	**-0.2**
	0.8nm,0.5s,baz=138,slow=1.9,SNR=8.6						
YKA				SKPbc	**SKPbc**	**12 18 30.9**	**-1.7**
	2.0nm,0.7s,baz=124,slow=3.0,SNR=12						
MKAR	**Makanchi Array**	**137.12**	**72**	PKP	**PKPdf**	**12 15 12.4**	**-1.2**
	0.3nm,0.6s,baz=173,slow=2.3,SNR=2.9						
MKAR				SKPbc	**SKPbc**	**12 18 35.1**	**-1.0**
	0.5nm,0.7s,baz=207,slow=1.4,SNR=5.0						
CD2	**Chengdu**	**137.80**	**106**	PKP	**PKPdf**	**12 15 15.8**	**+0.5**
CD2				sPKP		12 15 52.8	
CD2				PP	**PP**	**12 18 04.3**	**+0.3**
CD2				SKS	**SKSdf**	**12 22 17.4**	**+1.9**
CD2				SKKS	**SKKSac**	**12 24 47.9**	**+0.7**
CD2				PPMZ			
	160nm,6.6s						
WMQ	**Urumqi**	**138.12**	**79**	PKP	**PKPdf**	**12 15 16.5**	**+1.0**
WMQ				LN			
	260nm,13.2s						
WMQ				LE			
	240nm,13.8s						
WMQ				LZ			
	150nm,18.8s						
LZH	**Lanzhou**	**141.76**	**101**	*e*PKP	**PKPdf**	**12 15 22.7**	**+0.2**
LZH				sPKP		12 16 01.5	
LZH				PP	**PP**	**12 18 33.2**	**+4.7**
LZH				PKS	**PKSdf**	**12 18 50.8**	**-7.7**
LZH				SKS	**SKSdf**	**12 22 24.7**	**+2.7**
LZH				SKKS	**SKKSac**	**12 25 12.4**	**+1.9**
LZH				PPMZ			
	89nm,5.6s						
ZALV	**Zalesovo Beam**	**142.61**	**64**	PKhKP	PKPpre	12 15 19.2	
	0.5nm,0.5s,baz=140,slow=35,SNR=3.3						
ZALV				SKPbc	**SKPbc**	**12 18 48.8**	**-1.7**
	0.7nm,0.6s,baz=207,slow=4.8,SNR=3.1						
DHAK	**Deception Hill**	**144.31**	**304**	*e*PKPdf	**PKPdf**	**12 15 26.0**	**-0.1**
INK	**Inuvik**	**145.81**	**321**	PKPbc	**PKPbc**	**12 15 28.9**	**-0.2**
	9.9nm,0.6s,baz=79,slow=2.9,SNR=29						
INK				SKPbc	**SKPbc**	**12 18 56.2**	**-1.3**
	8.0nm,1.0s,baz=45,slow=4.9,SNR=6.5						
EGAK	**Eagle**	**147.71**	**313**	*e*PKPdf	**PKPbc**	**12 15 34.2**	**-0.4**
RAGM	**Ragged Mountai**	**147.83**	**304**	*e*PKPbc	**PKPbc**	**12 15 35.9**	**+0.7**
BMRM	**Bremner River**	**148.00**	**305**	*e*PKPbc	**PKPbc**	**12 15 36.6**	**+1.0**
MENT	**Mentasta**	**148.25**	**309**	*e*PKPbc	**PKPbc**	**12 15 37.0**	**+0.8**
EYAK	**Cordova Ski Ar**	**148.39**	**304**	*e*PKPbc	**PKPbc**	**12 15 37.2**	**+0.7**
DIV	**Divide**	**148.59**	**305**	*e*PKPbc	**PKPbc**	**12 15 37.2**	**+0.1**
DOT	**Dot Lake**	**148.61**	**310**	*e*PKPbc	**PKPbc**	**12 15 37.5**	**+0.4**
KLU	**Klutina**	**148.78**	**305**	*e*PKPbc	**PKPbc**	**12 15 38.8**	**+1.1**
HHC	**Hu-ho-hao-te**	**149.39**	**103**	*e*PKPbc	**PKPdf**	**12 15 36.7**	**+1.4**
HHC				pPKP	pPKPdf	12 16 03.0	-2.7
HHC				PP	**PP**	**12 19 17.8**	**+4.1**
HHC				PPMZ			
	42nm,10.4s						
HHC				LN			
	200nm,18.6s						
HHC				LE			
	280nm,20.1s						
HHC				LZ			
	260nm,20.1s						
SCM	**Sheep Creek Mo**	**149.52**	**306**	*e*PKPbc	**PKPbc**	**12 15 40.3**	**+0.8**
FYU	**Fort Yukon**	**149.78**	**315**	*e*PKPbc	**PKPbc**	**12 15 40.8**	**+1.0**
DHY	**Denali Highway**	**149.89**	**308**	*e*PKPbc	**PKPbc**	**12 15 41.1**	**+0.7**
SML	**Sawmill**	**149.97**	**305**	*e*PKPbc	**PKPbc**	**12 15 41.0**	**+0.5**
SEW	**Seward**	**149.98**	**302**	*e*PKPbc	**PKPbc**	**12 15 40.9**	**+0.5**
IL1	**Eielson Array**	**150.08**	**311**	*e*PKPbc	**PKPbc**	**12 15 40.8**	**+0.1**
ILAR	**Eielson Array**	**150.09**	**311**	PKPbc	**PKPbc**	**12 15 40.5**	**-0.2**
	7.7nm,0.8s,baz=136,slow=2.0,SNR=83						
ILB	**Eielson Array**	**150.09**	**311**	*e*PKPbc	**PKPbc**	**12 15 40.5**	**-0.2**
PMR	**Palmer**	**150.28**	**305**	*e*PKPbc	**PKPbc**	**12 15 41.5**	**+0.4**
CCB	**Clear Creek Bu**	**150.44**	**311**	*e*PKPbc	**PKPbc**	**12 15 41.2**	**-0.3**
COLA	**College**	**150.51**	**312**	*e*PKPbc	**PKPbc**	**12 15 41.1**	**-0.5**
WRH	**Wood River Hil**	**150.53**	**311**	*e*PKPbc	**PKPbc**	**12 15 41.8**	**+0.1**
RND	**Reindeer**	**150.62**	**308**	*e*PKPbc	**PKPbc**	**12 15 42.7**	**+0.7**
MDM	**Murphy Dome**	**150.69**	**312**	*e*PKPbc	**PKPbc**	**12 15 41.7**	**-0.4**
MCK	**McKinley**	**150.73**	**309**	*e*PKPbc	**PKPbc**	**12 15 42.6**	**+0.4**
SONM	**Songino Array**	**150.93**	**87**	PKPbc	**PKPbc**	**12 15 42.7**	**-0.6**
	0.8nm,0.5s,baz=237,slow=2.7,SNR=5.1						
SONA1	**Songino Array**	**150.94**	**87**	*e*PKPbc	**PKPbc**	**12 15 43.2**	**-0.2**
SUA	**Susitna One**	**150.98**	**304**	*e*PKPbc	**PKPbc**	**12 15 44.1**	**+1.1**
BWN	**Browne**	**151.05**

JOPP	**Joppolo**	**1.07**	**148**	Pg	**Pn**	**12 20 50.7**	**+0.3**
	46nm,0.5s						
SERS	**Sersale**	**1.28**	**112**	Pg	**Pn**	**12 20 52.6**	**+1.0**
SERS				Sg	**S**	**12 21 23.6**	**-0.1**
	57nm,0.5s						
SERS	**Sersale**	**1.28**	**112**	Pg	**Pn**	**12 20 52.6**	**+1.0**
SERS				Sg	**S**	**12 21 23.6**	**-0.1**
	57nm,0.5s						
TIP	**Timpagrande**	**1.28**	**105**	Pg	**Pn**	**12 20 52.7**	**+1.2**
TIP				Sg	**S**	**12 21 24.1**	**+0.5**
	45nm,0.5s						
TIP	**Timpagrande**	**1.28**	**105**	Pg	**Pn**	**12 20 52.7**	**+1.2**
TIP				Sg	**S**	**12 21 24.1**	**+0.5**
	45nm,0.5s						
LADO	**San Nicola del**	**1.43**	**99**	Pg	**Pn**	**12 20 53.4**	**+1.0**
	108nm,0.3s						
LADO	**San Nicola del**	**1.43**	**99**	Pg	**Pn**	**12 20 53.4**	**+1.0**
	108nm,0.3s						
GMB	**Gambarie**	**1.45**	**159**	Pg	**Pn**	**12 20 53.4**	**+0.7**
GMB				Sg	**S**	**12 21 25.3**	**-0.4**
	381nm,0.4s						
GMB	**Gambarie**	**1.45**	**159**	Pg	**Pn**	**12 20 53.4**	**+0.7**
GMB				Sg	**S**	**12 21 25.3**	**-0.4**
	381nm,0.4s						
MCSR	**Castroreale**	**1.46**	**177**	Pg	**Pn**	**12 20 53.5**	**+0.8**
	161nm,0.4s						
MCSR	**Castroreale**	**1.46**	**177**	Pg	**Pn**	**12 20 53.5**	**+0.8**
	161nm,0.4s						
PLAC	**Placanica**	**1.46**	**137**	Pg	**Pn**	**12 20 53.2**	**+0.5**
PLAC				Sg	**S**	**12 21 24.0**	**-1.6**
	67nm,0.8s						
PLAC	**Placanica**	**1.46**	**137**	Pg	**Pn**	**12 20 53.2**	**+0.5**
SOI	**Samo**	**1.60**	**154**	Pg	**Pn**	**12 20 53.9**	**+0.3**
SOI				Sg	**S**	**12 21 26.6**	**-0.8**
	103nm,1.0s						
SOI	**Samo**	**1.60**	**154**	Pg	**Pn**	**12 20 53.9**	**+0.3**
SOI				Sg	**S**	**12 21 26.6**	**-0.8**
	103nm,1.0s						
MPAZ	**Palizzi**	**1.70**	**157**	Pg	**Pn**	**12 20 54.7**	**+0.4**
MPAZ				Sg	**S**	**12 21 26.4**	**-2.3**
	82nm,0.5s						
MPAZ	**Palizzi**	**1.70**	**157**	Pg	**Pn**	**12 20 54.7**	**+0.4**
CAGR	**Agira**	**1.96**	**196**	Pg	**Pn**	**12 20 58.9**	**+2.5**
CAGR	**Agira**	**1.96**	**196**	Pg	**Pn**	**12 20 58.9**	**+2.5**
VAE	**Valguarnera**	**2.12**	**196**	P	Pn	12 21 07.3	+10
	4.5nm,0.3s,baz=42,slow=4.5,SNR=7.6						
HLNI	**Lentini**	**2.18**	**186**	Pg	**Pn**	**12 20 58.6**	**+0.4**
	76nm,1.5s						
HLNI	**Lentini**	**2.18**	**186**	Pg	**Pn**	**12 20 58.6**	**+0.4**
	76nm,1.5s						
SSY	**Sortino**	**2.36**	**182**	Pg	**Pn**	**12 21 00.1**	**+0.3**
	64nm,0.3s						
SSY	**Sortino**	**2.36**	**182**	Pg	**Pn**	**12 21 00.1**	**+0.3**
	64nm,0.3s						
HVZN	**Vizzini**	**2.36**	**189**	Pg	**Pn**	**12 21 00.8**	**+0.9**
	71nm,0.6s						
HVZN	**Vizzini**	**2.36**	**189**	Pg	**Pn**	**12 21 00.8**	**+0.9**
	71nm,0.6s						
MMGO	**Monte Magaggia**	**2.52**	**223**	Pg	**Pn**	**12 21 02.1**	**+0.8**
	13nm,0.4s						
MMGO	**Monte Magaggia**	**2.52**	**223**	Pg	**Pn**	**12 21 02.1**	**+0.8**
	13nm,0.4s						
PGF	**Pioggiola**	**5.55**	**305**	*e*P	**Pn**	**12 21 35.4**	**+0.7**
PGF	**Pioggiola**	**5.55**	**305**	*e*P	**Pn**	**12 21 35.4**	**+0.7**
KEST	**Kesra**	**5.97**	**232**	P	**Pn**	**12 21 42.5**	**+2.8**
	0.5nm,0.3s,baz=266,slow=8.9,SNR=6.0						
MBDF	**Montbardon**	**8.12**	**313**	*e*P	**Pn**	**12 22 08.3**	**+2.2**
MBDF	**Montbardon**	**8.12**	**313**	*e*P	**Pn**	**12 22 08.3**	**+2.2**
DAVOX	**Davos/Dischmat**	**8.22**	**334**	P	**Pn**	**12 22 08.6**	**+1.3**
	0.3nm,0.3s,baz=169,slow=15,SNR=4.6						
LPG	**La Plagne**	**8.62**	**317**	*e*P	**Pn**	**12 22 14.2**	**+1.9**
LPL	**La Plagne**	**8.64**	**317**	*e*P	**Pn**	**12 22 14.6**	**+2.1**
GERES	**GERESS Array B**	**9.38**	**354**	P	**Pn**	**12 22 23.5**	**+1.9**
	0.0nm,0.3s,baz=174,slow=12,SNR=3.9						
VIVF	**Saint-Julien-l**	**9.43**	**308**	*e*P	**Pn**	**12 22 23.6**	**+1.4**
VIVF	**Saint-Julien-l**	**9.43**	**308**	*e*P	**Pn**	**12 22 23.6**	**+1.4**
LASF	**Ste Croix**	**9.59**	**302**	*e*P	**Pn**	**12 22 26.0**	**+1.9**
LASF				*e*Sn	**S**	**12 24 09.4**	**-3.0**
	1.0nm,0.2s						
LASF	**Ste Croix**	**9.59**	**302**	*e*P	**Pn**	**12 22 26.0**	**+1.9**
CABF	**La Chapelle**	**9.71**	**320**	*e*P	**Pn**	**12 22 25.0**	**-0.6**
MLR	**Muntele Rosu**	**9.95**	**50**	P	**P**	**12 22 32.3**	**-0.6**
	0.3nm,0.3s,baz=321,slow=3.3,SNR=7.7						
HINF	**Hinteralfeld**	**10.24**	**327**	*e*P	**Pn**	**12 22 31.1**	**-1.1**
CDF	**Champ du Feu**	**10.54**	**330**	*e*P	**Pn**	**12 22 35.9**	**-0.1**
SMF	**Signal de Mont**	**10.91**	**314**	*e*P	**Pn**	**12 22 38.6**	**-1.8**
LOR	**Lormes**	**11.29**	**317**	*e*P	**Pn**	**12 22 44.8**	**-0.2**
SSF	**Saint Saulge**	**11.35**	**315**	*e*P	**Pn**	**12 22 44.9**	**-0.9**
BGF	**Bois d'Agland**	**11.42**	**312**	*e*P	**Pn**	**12 22 45.4**	**-1.3**
EPF	**Esparros**	**11.69**	**292**	*e*P	**Pn**	**12 22 50.8**	**+0.7**
EPF	**Esparros**	**11.69**	**292**	*e*P	**Pn**	**12 22 50.8**	**+0.7**
ETSF	**Etsaut**	**12.31**	**291**	*e*P	**P**	**12 22 59.2**	**0.0**
ETSF	**Etsaut**	**12.31**	**291**	*e*P	**P**	**12 22 59.2**	**0.0**
SJPF	**Ste Jean**	**12.83**	**292**	*e*P	**Pn**	**12 23 03.9**	**0.0**
SJPF	**Ste Jean**	**12.83**	**292**	*e*P	**Pn**	**12 23 03.9**	**0.0**
BRTR	**Keskin Array B**	**14.25**	**83**	P	**Pn**	**12 23 23.6**	**+2.4**
	0.1nm,0.3s,baz=268,slow=11,SNR=4.2						
ESDC	**Sonseca Array**	**14.75**	**277**	P	**P**	**12 23 26.0**	**-0.1**
	0.1nm,0.3s,baz=78,slow=12,SNR=6.0						
AKASG	**Malin Array Be**	**14.92**	**37**	P	**Pn**	**12 23 28.2**	**-0.6**
	1.4nm,0.3s,baz=230,slow=10,SNR=8.2						
EKA	**Eskdalemuir Ar**	**20.00**	**328**	P	**P**	**12 24 20.8**	**-1.7**
	baz=144,slow=11,SNR=14						
FINES	**FINESS Array B**	**22.96**	**13**	P	**P**	**12 24 50.6**	**0.0**
	0.8nm,0.4s,baz=183,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**48.16**	**58**	P	**P**	**12 28 23.4**	**+0.6**
	0.5nm,0.4s,baz=282,slow=6.1,SNR=7.1						

MAN 12 12:25:44, 15°.78N×119°.67E, h11km, mb4.4, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.24**	**91**	*e*P	Pb	12 25 51.2	+0.9
SCZP				*e*S	Sg	12 25 59.5	+7.3
BOLP	**Bolinao**	**0.64**	**22**	*e*P	Pg	12 25 56.6	+0.1
BOLP				*e*S	Sn	12 26 10.6	+1.4
BALP	**Baler**	**1.84**	**91**	*e*P	Pn	12 26 16.0	+0.5
ABRA	**Dolores**	**2.11**	**28**	*e*P	Pn	12 26 17.4	-1.9
CAUP	**Cauayan**	**2.37**	**61**	*e*P	Pb	12 26 24.9	-1.9
LQP	**Lukban**	**2.46**	**132↑**	*e*P	Sg	12 27 06.5	+3.5
APYP	**Conner**	**2.56**	**36**	*e*P	Pn	12 26 18.4	-7.1

MAN 12 12:32:01, 15°.75N×119°.30E, h10km, mb4.4, ML3.2, MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.59**	**87**	*e*P	Pb	12 32 13.3	0.0
SCZP				*e*S	Sb	12 32 21.6	-0.1
BOLP	**Bolinao**	**0.86**	**43**	*e*P	Pb	12 32 17.9	-0.1
BOLP				*e*S	Sn	12 32 32.7	+0.9
BALP	**Baler**	**2.19**	**90**	*e*P	Pn	12 32 38.6	+1.1

MAN 12 12:56:00, 8°.26N×124°.73E, h27km, mb4.2, ML3.0, MS2.8, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.20**	**351↑**	*i*P	Pn	12 56 07.6	+0.3
CGP				*i* S	Sb	12 56 13.7	+3.9
BUKP	**Musuan**	**0.50**	**139**	*e*P	Pn	12 56 11.1	-0.4
BUKP				*e*S	Sn	12 56 20.6	+1.3
CTBH	**Cotabato--PC H**	**1.14**	**205**	*e*P	Pn	12 56 17.3	-2.8
CTBH				*i* S	Sn	12 56 32.2	-2.6
KCP	**Kidapawan**	**1.29**	**164↓**	*e*P	Pn	12 56 22.6	+0.2
KCP				*i* S	Sb	12 56 41.3	+1.3
PAGZ	**Pagadian**	**1.39**	**253**	*e*P	Pn	12 56 23.1	-0.6
PAGZ				*e*S	Sn	12 56 41.6	+0.4
DMPH	**Davao City--Mi**	**1.40**	**146↑**	*e*P	Pb	12 56 28.5	+3.0
DMPH				*e*S	Sb	12 56 50.8	+7.8

NIED ***12*** *12:57:00.36°.20N×141°.80E, h17km, Mw4.7 Best double couple: M0 1.43000×10^16^ NP1:φs 114.00000°, δ35.00000°, λ8.00000°. NP2:φs 17.00000°, δ85.00000°, λ125.00000°.*
NEIC ***12*** *12:57:52.8±1.6, 36°.18N×141°.58E, h5km±9km, mb4.9/150, Error ellipse: s-maj=3.8km s-min=2.5km az=131.0*
NEIC Felt at Akiruno and Tokyo. Recorded [2 JMA] in Chiba and Ibaraki.
JMA ***12*** *12:57:53.4±0.3, 36°.24N×141°.75E, h29km, M4.9*
JMA Felt II J1.
BJI ***12*** *12:57:54.6, 36°.31N×141°.56E, h36km, mb5.0/78, mB4.9/49, Ms4.6/77, Ms7 4.5/73*
ISCJB ***12*** *12:57:54.1±0.7, 36°.20N±0°.02×141°.59E±0°.02, h24km±4km, mb4.9/221, MS4.3/43, Error ellipse: s-maj=3.5km s-min=2.7km az=143.1*
IDC ***12*** *12:57:55.8±3.3, 36°.20N×141°.63E, h27km±22km, mb4.6/30, mb1 4.7/36, mb1mx4.5/55, mbtmp4.7/36, ML4.4/4, MS4.1/33, Ms1 4.1/33, ms1mx4.0/43, Error ellipse: s-maj=13.1km s-min=10.4km az=110.0*
MOS ***12*** *12:57:56.5±0.9, 36°.58N×141°.52E, h28km, mb5.2/78, MS4.3/27, Error ellipse: s-maj=6.3km s-min=4.1km az=109.1*

ISC 12 12:57:55.8±0.5, 36°.25N±0°.03×141°.65E±0°.04, h28km±3km, h27km:pP-P, n544, σ1§38/580, mb5.0/230, MS4.3/44, 43C-18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.84**	**230**	P	**Pn**	**12 58 10.2**	**-1.6**
CHOJ				S	**Sb**	**12 58 22.4**	**-0.4**
JHO	**Hitachi**	**0.95**	**293**	P	**Pn**	**12 58 11.6**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.09**	**321**	P	**Pn**	**12 58 13.6**	**-1.8**
JYT	**Yasato**	**1.18**	**270**	P	**Pn**	**12 58 16.0**	**-0.4**
JFK	**Kawauchi**	**1.28**	**331**	P	**Pn**	**12 58 17.7**	**-0.2**
JFT	**Otama**	**1.65**	**321**	P	**Pn**	**12 58 22.6**	**-0.4**
BSO1	**Boso 1**	**1.68**	**199**	P	**Pn**	**12 58 22.3**	**-0.6**
BSO3	**Boso 3**	**1.72**	**213**	P	**Pn**	**12 58 23.2**	**-0.4**
JMM	**Marumori**	**1.76**	**337**	P	**Pn**	**12 58 23.5**	**-0.9**
JAG	**Ashikaga**	**1.79**	**276**	P	**Pn**	**12 58 23.6**	**-1.2**
JAG				S	**Sn**	**12 58 46.7**	**+0.1**
MJAR	**Matsushiro Arr**	**2.79**	**277**	Pn	**Pn**	**12 58 38.8**	**+0.1**
	168nm,0.3s,baz=105,slow=8.6,SNR=1801						
MJAR				LR	LR	12 59 51.0	
	comp=Z,4μm,19.1s,baz=115,slow=42						
MAJO	**Matsushiro**	**2.80**	**277**	*c i*P	**Pn**	**12 58 39.2**	**+0.5**
MAJO	**Matsushiro**	**2.80**	**277**	*e*Pn	**Pn**	**12 58 39.1**	**+0.3**
MAT	**Matsushiro**	**2.80**	**277**	P	**Pn**	**12 58 38.5**	**-0.2**
MAT				*e*S	**Sn**	**12 59 13.4**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.80**	**277**	*e*Pn	**Pn**	**12 58 39.4**	**+0.6**
JHJ2	**Mitsune**	**3.47**	**206**	*e*Pn	**Pn**	**12 59 47.0**	**-1.0**
JHJ2				*e*Sn	**Sn**	**12 59 27.3**	**-0.9**
JHJ	**Hachijo jima 2**	**3.48**	**207**	Pn	**Pn**	**12 58 47.2**	**-0.9**
	352nm,0.3s,baz=319,slow=12,SNR=93						
JHJ				Sn	**Sn**	**12 59 25.7**	**-2.7**
	253nm,0.3s,baz=345,slow=16,SNR=5.2						
INU	**Inuyama**	**3.87**	**258**	*e*Pn	**Pn**	**12 58 54.8**	**+1.3**
ERM	**Erimo**	**5.88**	**11↓**	*e*P	**Pn**	**12 59 19.3**	**-1.7**
ERM	**Erimo**	**5.88**	**11**	*e*Pn	**Pn**	**12 59 19.8**	**-1.2**
ASAJ	**Asahikawa**	**7.89**	**5**	Pn	**Pn**	**12 59 48.2**	**-0.4**
ASAJ	**Asahikawa**	**7.89**	**5**	*e*Pn	**Pn**	**12 59 47.2**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**8.42**	**21**	*i* P	**Pn**	**12 59 56.0**	**+0.1**
CBIJ	**Chichi jima**	**9.13**	**177**	*e*Pn	**Pn**	**13 00 03.5**	**-2.3**
CBIJ				Sn	Sn	13 01 36.5	-11
JCJ	**Chichijima**	**9.13**	**177**	Pn	**Pn**	**13 00 06.1**	**+0.3**
JCJ				Sn	Sn	13 01 36.5	-11
	94nm,0.3s,baz=287,slow=23,SNR=9.0						
JNU	**Nakatsue**	**9.40**	**254**	Pn	**Pn**	**13 00 10.3**	**+0.8**
	1.8nm,0.3s,baz=62,slow=9.1,SNR=14						
JNU				LR	LR	13 03 55.2	
	comp=Z,1μm,18.1s,baz=115,slow=38						
JNU	**Nakatsue**	**9.40**	**254**	*e*Pn	**Pn**	**13 00 11.1**	**+1.6**
KUR	**Kuril'sk**	**10.14**	**26**	*e*P	**Pn**	**13 00 18.1**	**-1.3**
KUR				*e*S	**Sn**	**13 02 04.0**	**-8.1**
KUR				pmax	pmax		
	comp=N,9.0nm,0.9s						
KUR				pmax	pmax		
	comp=E,6.0nm,0.9s						
KUR				pmax	pmax		
	comp=Z,14nm,0.9s						
KUR				smax	smax		
	comp=N,40nm,0.6s						
KUR				smax	smax		
	comp=E,25nm,0.6s						
VLA	**Vladivostok**	**10.18**	**315**	*c i*P	**Pn**	**13 00 22.9**	**+2.9**
MSHR	**Mys Shultsa**	**10.29**	**311**	*c*eP	**Pn**	**13 00 23.3**	**+1.8**
YSS	**Yuzh-Sakhalins**	**10.73**	**4↓**	*e*P	**Pn**	**13 00 26.1**	**-1.4**
YSS				*e*S	**Sn**	**13 02 21.3**	**-5.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				pmax	pmax		
	comp=N,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s						
YSS				MLR	MLR		
	comp=N,600nm,17.0s						
YSS	**Yuzh-Sakhalins**	**10.73**	**4**	*e*Pn	**Pn**	**13 00 26.2**	**-1.4**
USRK	**Ussuriysk Ar.**	**10.84**	**320**	Pn	**Pn**	**13 00 30.8**	**+1.7**
	comp=N,1.2nm,0.3s,baz=135,slow=12,SNR=55						
USRK				LR	LR	13 04 33.8	
	comp=N,2μm,18.4s,baz=127,slow=37						
KSRS	**Korea Array**	**11.07**	**280**	Pn	**Pn**	**13 00 36.2**	**+4.0**
	comp=N,1.4nm,0.3s,baz=92,slow=13,SNR=68						
KSRS				LR	LR	13 04 46.1	
	comp=N,1μm,19.5s,baz=81,slow=37						
KS01	**Wonju Array Si**	**11.09**	**280**	*e*Pn	**Pn**	**13 00 35.4**	**+2.8**
KS15	**Wonju Array Si**	**11.10**	**280**	*e*Pn	**Pn**	**13 00 36.4**	**+3.8**
KSAR	**Wonju Array Be**	**11.10**	**280**	P	**Pn**	**13 00 36.2**	**+3.6**
KSAR	**Wonju Array Be**	**11.10**	**280**	Pn	**Pn**	**13 00 36.2**	**+3.6**
TJN	**Taejon**	**11.53**	**275**	*c*eP	**Pn**	**13 00 41.9**	**+3.3**
MDJ	**Mudanjiang**	**12.41**	**316**	P	**Pn**	**13 00 52.4**	**+1.8**
MDJ				S	**Sn**	**13 03 10.5**	**+2.6**
MDJ				PcP	**PcP**	**13 06 30.7**	**+0.6**
MDJ				ScP	**ScP**	**13 09 59.5**	**-1.6**
MDJ				PMZ			
	comp=N,37nm,1.2s						
MDJ				PMZ			
	comp=N,140nm,6.0s						
MDJ				LN			
	comp=N,800nm,15.7s						
MDJ				LE			
	comp=N,1μm,15.7s						
MDJ				LZ			
	comp=N,2μm,17.6s						
MDJ	**Mudanjiang**	**12.41**	**316**	*e*Pn	**Pn**	**13 00 52.0**	**+1.5**
	comp=N,58nm,1.0s						
HABR	**Khabarovsk**	**13.15**	**340**	*e*P	**Pn**	**13 00 58.2**	**-2.4**
HABR				*e*S	**Sn**	**13 03 23.3**	**-2.5**
HABR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HABR				MLR	MLR		
	comp=Z,832nm,15.0s						
CN2	**Changchun**	**14.51**	**306**	*e*P	**Pn**	**13 01 18.2**	**-1.1**
CN2				*e*pP	P	13 01 25.5	-0.1
CN2				*e*S	**Sn**	**13 03 58.7**	**-0.5**
CN2				PMZ			
	comp=Z,40nm,0.8s						
CN2				LN			
	comp=Z,1μm,14.0s						
CN2				LE			
	comp=Z,1μm,14.0s						
CN2				LZ			
	comp=Z,1μm,14.0s						
TYV	**Tymovskoe**	**14.63**	**3**	*e*P	**Pn**	**13 01 18.8**	**-2.0**
TYV				pmax	pmax		
	comp=Z,24nm,0.8s						
TYV				MLR	MLR		
	comp=N,2μm,16.0s						
TYV				MLR	MLR		
	comp=Z,2μm,16.0s						
KLR	**Kul'dur**	**14.86**	**334**	Pn	**Pn**	**13 01 22.7**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=141,slow=11,SNR=16						
KLR				LR	LR	13 07 11.3	
	comp=Z,895nm,18.5s,baz=142,slow=37						
SNY	**Shenyang**	**15.10**	**297**	↓P	**Pn**	**13 01 27.1**	**-0.1**
SNY				PMZ			
	comp=Z,27nm,0.9s						
SNY				LN			
	comp=Z,840nm,15.7s						
SNY				LE			
	comp=Z,2μm,16.0s						
SNY				LZ			
	comp=Z,2μm,15.7s						
DL2	**Dalian**	**16.10**	**285**	P	**Pn**	**13 01 40.0**	**-0.1**
DL2				S	**Sn**	**13 04 36.9**	**-0.8**
DL2				PMZ			
	comp=Z,64nm,0.7s						
DL2				PMZ			
	comp=Z,250nm,7.3s						
DL2				LN			
	comp=Z,1μm,12.6s						
DL2				LE			
	comp=Z,2μm,14.1s						
DL2				LZ			
	comp=Z,2μm,14.1s						
SSE	**Sheshan**	**17.79**	**259**	P	**P**	**13 02 03.2**	**+1.3**
SSE				S	**Sn**	**13 05 16.2**	**-2.5**
SSE				PMZ			
	comp=Z,42nm,0.7s						
SSE				PMZ			
	comp=Z,92nm,3.7s						
SSE				LN			
	comp=Z,350nm,18.4s						
SSE				LE			
	comp=Z,380nm,18.4s						
SSE				LZ			
	comp=Z,520nm,21.0s						
NJ2	**Nanjing**	**19.32**	**264**	*e*P	**Pn**	**13 02 21.4**	**+1.5**
NJ2				PMZ			
	comp=Z,30nm,0.7s						
NJ2				LN			
	comp=Z,1μm,16.0s						
NJ2				LE			
	comp=Z,550nm,15.7s						
NJ2				LZ			
	comp=Z,1μm,17.9s						
TIA	**Tai'an**	**19.78**	**277**	↓P	**P**	**13 02 21.9**	**-1.9**
TIA				PMZ			
	comp=Z,40nm,1.3s						
TIA				PMZ			
	comp=Z,230nm,3.6s						
TIA				LN			
	comp=Z,320nm,19.0s						
TIA				LE			
	comp=Z,670nm,16.0s						
TIA				LZ			
	comp=Z,800nm,18.0s						
YOJ	**Yonaguni jima**	**19.88**	**239**	*e*P	**P**	**13 02 21.5**	**-3.4**
YOJ				pmax	pmax		
	comp=Z,462nm,1.9s						
YOJ	**Yonaguni jima**	**19.88**	**239**	*e*P	**P**	**13 02 21.5**	**-3.4**
	comp=Z,462nm,1.9s						
PEA0	**Petropavlovsk-**	**20.28**	**29**	*e*P	**P**	**13 02 29.7**	**+0.6**
PETK	**Petropavlovsk-**	**20.28**	**29**	P	**P**	**13 02 29.6**	**+0.5**
	comp=Z,7.0nm,0.8s,baz=205,slow=8.5,SNR=8.1						
PETK				LR	LR	13 10 32.9	
	comp=Z,200nm,20.8s,baz=214,slow=37						
BJI	**Beijing**	**20.37**	**288**	P	**P**	**13 02 28.8**	**-1.4**
BJI				S	**S**	**13 06 17.4**	**+0.4**
BJI				PMZ			
	comp=Z,32nm,0.8s						
BJI				LN			
	comp=Z,740nm,15.6s						
BJI				LE			
	comp=Z,670nm,14.0s						
BJI				LZ			
	comp=Z,430nm,19.7s						
BJT	**Baijiatuau**	**20.37**	**288**	*e*P	**P**	**13 02 29.0**	**-1.2**
BJT				pmax	pmax		
	comp=Z,33nm,0.6s						
BJT	**Baijiatuau**	**20.37**	**288**	*e*P	**P**	**13 02 29.0**	**-1.2**
	comp=Z,33nm,0.6s						
PET	**Petropavlovsk**	**20.59**	**30**	*e*P	**P**	**13 02 32.5**	**+0.1**
PET				*e*S	**S**	**13 06 18.8**	**-2.3**
PET				pmax	pmax		
	comp=Z,27nm,1.1s						
PET				MLR	MLR		
	comp=Z,400nm,13.0s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET	**Petropavlovsk**	**20.59**	**30**	*e*P	**P**	**13 02 32.2**	**-0.2**
	comp=Z,34nm,1.2s						
HIA	**Hailar**	**20.60**	**316**	*e*P	Pn	13 02 34.9	-0.1
HIA				pmax	pmax		
	comp=Z,17nm,0.6s						
HIA	**Hailar**	**20.60**	**316**	*e*P	Pn	13 02 34.9	-0.1
	comp=Z,17nm,0.6s						
TATO	**Taipei**	**20.63**	**243**	*e*P	Pn	13 02 34.6	-0.9
	comp=Z,358nm,1.8s						
YHNB	**Yeheng**	**20.90**	**242**	*e*P	**P**	**13 02 33.3**	**-2.8**
	comp=Z,31nm,0.9s						
NACB	**Ninganchiao**	**21.05**	**241**	*e*P	**P**	**13 02 34.0**	**-3.6**
	comp=Z,38nm,1.1s						
SSLB	**Suanglung**	**21.75**	**241**	*e*P	**P**	**13 02 41.2**	**-4.0**
	comp=Z,26nm,0.9s						
YULB	**Yu-li**	**21.76**	**240**	*e*P	**P**	**13 02 41.7**	**-3.7**
	comp=Z,19nm,0.6s						
TPUB	**Ta-pu**	**22.29**	**240**	*e*P	**P**	**13 02 47.5**	**-3.4**
	comp=Z,35nm,0.7s						
TWG	**Pinlang**	**22.29**	**239**	*e*P	**P**	**13 02 49.2**	**-1.8**
	comp=Z,173nm,1.0s						
GUMO	**Guam**	**22.75**	**172**	LR	LR	13 11 26.4	
	comp=Z,113nm,21.9s,baz=28,slow=36						
QZH	**Quanzhou**	**22.77**	**247**	*e*P	**P**	**13 02 55.6**	**-0.4**
QZH				*e*S	**S**	**13 06 57.8**	**-5.4**
QZH				LN			
	comp=Z,1μm,19.3s						
QZH				LE			
	comp=Z,2μm,15.5s						
QZH				LZ			
	comp=Z,2μm,18.8s						
TIY	**Taiyuan**	**23.35**	**282**	*e*P	**P**	**13 03 05.1**	**+3.1**
TIY				S	**S**	**13 07 14.2**	**+1.1**
TIY				PMZ			
	comp=Z,31nm,0.5s						
TIY				PMZ			
	comp=Z,110nm,5.2s						
TIY				LN			
	comp=Z,840nm,14.1s						
TIY				LE			
	comp=Z,1μm,12.8s						
TIY				LZ			
	comp=Z,2μm,14.0s						
WHN	**Wuhan**	**23.45**	**264**	P	**P**	**13 03 00.8**	**-2.1**
WHN				LN			
	comp=Z,1μm,14.2s						
WHN				LE			
	comp=Z,2μm,14.6s						
WHN				LZ			
	comp=Z,3μm,14.8s						
CLNS	**Chul'man**	**23.48**	**337**	*e*P	**P**	**13 03 01.3**	**-1.7**
CLNS				pmax	pmax		
	comp=Z,42nm,0.9s						
CLNS				pmax	pmax		
	comp=N,40nm,1.2s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
CLNS				MLR	MLR		
	comp=N,515nm,12.0s						
CLNS				MLR	MLR		
	comp=Z,681nm,14.0s						
CLNS				MLR	MLR		
	comp=E,428nm,12.0s						
HHC	**Hu-ho-hao-te**	**23.91**	**290**	*e*P	**P**	**13 03 08.3**	**+0.9**
HHC				pP	sP	13 03 19.0	+0.2
HHC				S	**S**	**13 07 22.1**	**-0.1**
HHC				PMZ			
	comp=

YAK eSS SnSn 13 09 14.0 -0.5
YAK e 13 14 30.8
YAK pmax pmax
comp=Z,117nm,0.9s
YAK pmax pmax
comp=E,16nm,1.0s
YAK pmax pmax
comp=N,59nm,1.1s
YAK pmax pmax
comp=Z,41nm,1.4s
YAK pmax pmax
comp=E,15nm,1.4s
YAK pmax pmax
comp=N,27nm,1.2s
YAK smax smax
comp=E,59nm,1.8s
YAK smax smax
comp=N,24nm,1.4s
YAK MLR MLR
comp=Z,480nm,15.0s
YAK MLR MLR
comp=N,367nm,15.0s
YAK MLR MLR
comp=E,234nm,12.0s
YAK Yakutsk 26.88 348 eP P **13 03 33.4 -0.5**
comp=E,125nm,1.0s
ENH Enshi 27.47 267 eP P **13 03 38.5 -1.2**
comp=E,129nm,0.7s
SEY Seymchan 27.53 11 P P **13 03 40.2 +0.5**
comp=E,7.9nm,0.9s,baz=188,slow=7.5,SNR=13
SEY Seymchan 27.53 11 i P P **13 03 40.6 +0.8**
H11N2 WAKE ISLAND Hy 27.59 120 T T 13 32 57.4
baz=311,slow=74,SNR=121
H11N1 WAKE ISLAND Hy 27.59 120 T T 13 32 57.7
baz=311,slow=74,SNR=155
H11N3 WAKE ISLAND Hy 27.60 120 T T 13 33 01.6
baz=311,slow=74,SNR=107
ULN Ulaanbaatar 27.96 305 ceP P **13 03 42.8 -1.2**
ULN pmax pmax
comp=Z,35nm,1.7s
ULN Ulaanbaatar 27.96 305 eP P **13 03 43.9 -0.1**
comp=Z,28nm,0.9s
H11S1 WAKE ISLAND Hy 28.28 122 T T 13 33 48.0
baz=313,slow=75,SNR=286
H11S3 WAKE ISLAND Hy 28.29 122 T T 13 33 48.4
baz=313,slow=75,SNR=244
H11S2 WAKE ISLAND Hy 28.29 122 T T 13 33 50.0
baz=313,slow=75,SNR=226
SONM Songino Array 28.39 305 P P **13 03 47.6 -0.2**
comp=Z,19nm,0.7s,baz=106,slow=8.9,SNR=101
SONM LR LR 13 15 34.1
comp=Z,449nm,20.1s,baz=98,slow=37
LZH Lanzhou 30.40 281 eP P **13 04 06.0 +0.2**
LZH pP sP 13 04 17.0 -0.3
LZH sP pP 13 04 21.2 +7.3
LZH PP **PnPn** **13 05 05.5 +0.9**
LZH eS **S** **13 09 06.0 +1.1**
LZH PMZ
comp=Z,35nm,1.3s
LZH PMZ
comp=Z,140nm,4.9s
LZH LN
comp=Z,470nm,12.2s
LZH LE
comp=Z,930nm,13.9s
LZH LZ
comp=Z,1μm,15.6s
IRK Irkutsk 30.77 313 eP P **13 04 08.4 -0.3**
IRK pmax pmax
comp=Z,46nm,1.3s
ZAK Zakamensk 30.91 309 eP P **13 04 08.9 -1.2**
ZAK pmax pmax
comp=Z,13nm,1.1s
TLY Talaya 31.00 312 P P **13 04 11.1 +0.4**
comp=Z,30nm,0.8s,baz=115,slow=5.5,SNR=35
TLY Talaya 31.00 312 eP P **13 04 11.5 +0.8**
TLY pmax pmax
comp=Z,45nm,0.8s
TLY Talaya 31.00 312 eP P **13 04 11.7 +1.0**
comp=Z,46nm,0.9s
GYA Guiyang 31.29 262⇑ iP P **13 04 11.9 -1.8**
GYA pP sP 13 04 24.6 -0.6
GYA PP **PnPn** **13 05 18.9 +2.6**
GYA PcP **PcP** **13 07 08.2 +0.6**
GYA S **S** **13 09 18.0 -0.9**
GYA sS sS 13 09 33.4 +1.1
GYA ScP **ScP** **13 10 47.8 -0.8**
GYA SS **SnSn** **13 11 04.5 +1.6**
GYA PMZ
comp=Z,50nm,0.9s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,430nm,14.9s
GYA LE
comp=Z,460nm,12.4s
GYA LZ
comp=Z,750nm,14.0s
CD2 Chengdu 31.88 272 eP P **13 04 18.6 -0.1**
CD2 sP sP 13 04 32.5 +2.3
CD2 S **S** **13 09 27.5 -0.4**
CD2 sS sS 13 09 43.8 +2.5
CD2 PcS **PcS** **13 10 53.6 -0.2**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,770nm,14.4s
CD2 LE
comp=Z,680nm,19.4s
CD2 LZ
comp=Z,810nm,16.9s
MOY Mondy 32.60 311 eP P **13 04 25.0 +0.1**
MOY pmax pmax
comp=Z,22nm,1.5s
QIZ Qiongzhong 32.79 247 P P **13 04 27.1 +0.3**
QIZ S **S** **13 09 42.8 +0.6**
QIZ LN
comp=Z,430nm,16.0s
QIZ LE
comp=Z,210nm,16.9s
QIZ LZ
comp=Z,440nm,17.0s
GTA Gaotai 32.99 288⇑ P P **13 04 28.5 0.0**
GTA pP sP 13 04 38.8 -1.2
GTA sP pP 13 04 42.5 +5.9
GTA PcP **PcP** **13 07 13.1 +1.1**
GTA S **S** **13 09 43.8 -1.4**
GTA sS sS 13 09 59.6 +1.0
GTA SS **SnSn** **13 11 44.6 +0.8**
GTA PMZ
comp=Z,22nm,0.9s
GTA PMZ
comp=Z,130nm,4.6s
GTA LN
comp=Z,340nm,15.7s
GTA LE
comp=Z,640nm,18.5s
GTA LZ
comp=Z,640nm,17.6s
BILL Bilibino 34.73 16 iP P **13 04 42.9 -0.2**
BILL i 13 04 54.5
BILL i 13 07 14.7
BILL iS SS SS 13 12 51.1 +9.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,257nm,16.0s
KMI Kunming 35.04 263 P P **13 04 45.5 -1.1**
KMI pP pP 13 04 55.6 +0.9
KMI sP sP 13 04 59.6 +1.5
KMI S **S** **13 10 17.2 -0.2**
KMI sS sS 13 10 31.6 +0.7
KMI PMZ
comp=Z,30nm,1.2s
KMI PMZ
comp=Z,170nm,5.7s
KMI LN
comp=Z,410nm,15.7s
KMI LE
comp=Z,690nm,16.9s
KMI LZ
comp=Z,640nm,16.3s
TIXI Tiksi 36.09 353 P P **13 04 54.7 0.0**
comp=Z,10nm,0.9s,baz=145,slow=6.9,SNR=34

TIXI Tiksi 36.09 353 eP P **13 04 54.5 -0.3**
comp=Z,13nm,0.9s
MYLDM Lahad Datu 37.53 220⇓ P P **13 05 09.9 +2.3**
MYLDM Lahad Datu 37.53 220 eP P **13 05 08.0 +0.5**
comp=Z,26nm,0.8s
SDKM Sandakan 37.83 222⇑ P P **13 05 10.6 +0.4**
UBPT Khong Chiam 38.38 247 P P **13 05 14.8 0.0**
comp=Z,42nm,0.9s
NONG Nongkai 38.45 252 P P **13 05 15.3 0.0**
comp=Z,71nm,0.9s
SKNT Sakolnakorn 38.45 250 P P **13 05 15.3 -0.1**
comp=Z,26nm,0.8s
TSM Tawau 38.60 220⇓ P P **13 05 15.9 -0.7**
GENI Genyem 38.66 182 P P **13 05 16.2 -0.9**
comp=Z,52nm,1.1s
GTOI Gorontalo 39.43 210 P P **13 05 21.7 -1.8**
comp=Z,79nm,0.8s,comp=Z,575nm
KHON Khomkaen 39.72 250 P P **13 05 27.9 +1.9**
comp=Z,16nm,0.7s,comp=Z,1μm
FAKI Fak Fak 39.94 195 eP P **13 05 28.8 +1.0**
comp=Z,86nm,1.0s
MRSI Marisa 40.02 212 P P **13 05 28.5 +0.1**
comp=Z,75nm,1.3s,comp=Z,4μm
LOEI Loei 40.22 253 P P **13 05 27.0 -3.2**
comp=Z,24nm,0.8s,comp=Z,719nm
UTTA Uttaradit 40.63 254 P P **13 05 33.5 -0.1**
comp=Z,18nm,0.8s,comp=Z,122nm
SANI Sanana 40.80 204 P P **13 05 33.2 -1.7**
comp=Z,203nm,0.8s,comp=Z,2μm
LAMP Lampang 40.91 256 P P **13 05 36.0 +0.1**
comp=Z,16nm,0.7s
LUWI Luwuk 41.05 210 eP P **13 05 36.2 -0.7**
comp=Z,65nm,0.8s
CMMT Chiang Mai 41.29 257 P P **13 05 38.8 -0.2**
comp=Z,26nm,1.1s
CHTO Chiang Mai 41.29 257 P P **13 05 38.9 -0.1**
comp=Z,98nm,1.2s
CHTO Chiang Mai 41.29 257 eP P **13 05 39.0 -0.1**
CHTO pmax pmax
comp=Z,21nm,1.0s
CHTO Chiang Mai 41.29 257 eP P **13 05 39.0 -0.1**
comp=Z,21nm,1.0s
WMQ Urumqi 41.37 298 P P **13 05 41.0 +1.5**
WMQ pP sP 13 05 50.1 -1.0
WMQ sP pP 13 05 55.8 +8.1
WMQ S **S** **13 11 54.2 +1.7**
WMQ sS sS 13 12 10.5 +4.4
WMQ ScS **ScS** **13 15 40.8 -0.6**
WMQ PMZ
comp=Z,62nm,0.8s
WMQ PMZ
comp=Z,200nm,3.6s
WMQ LN
comp=Z,260nm,15.6s
WMQ LE
comp=Z,240nm,14.8s
WMQ LZ
comp=Z,150nm,17.8s
CM31 Chiang Mai Arr 41.49 256 eP P **13 05 40.8 +0.2**
CMAR Chiang Mai Arr 41.49 256 P P **13 05 40.6 0.0**
comp=Z,7.5nm,0.7s,baz=49,slow=6.5,SNR=46
CMAR LR LR 13 24 09.6
comp=Z,186nm,19.2s,baz=58,slow=38
CM01 Chiang Mai Arr 41.50 256 eP P **13 05 40.1 -0.6**
SUKH Sukhothai 41.51 255 P P **13 05 40.8 +0.1**
comp=Z,18nm,0.7s,comp=Z,127nm
NLAI Namlea 41.57 202 P P **13 05 42.1 +0.9**
comp=Z,66nm,0.9s
PCI Palu 42.17 214 P P **13 05 44.5 -1.7**
comp=Z,71nm,0.9s,comp=Z,689nm
CHBT CHBT 42.33 247 P P 13 05 59.2 +12
LSA Lhasa 42.48 276 P P **13 05 49.8 +0.6**
LSA PMZ
comp=Z,16nm,1.1s
LSA Lhasa 42.48 276 eP P **13 05 49.7 +0.6**
LSA pmax pmax
comp=Z,26nm,0.7s
LSA Lhasa 42.48 276 eP P **13 05 49.7 +0.5**
comp=Z,26nm,0.7s
ZAA0 Zalesovo Array 42.59 313 eP P **13 05 49.6 +0.5**
ZALV Zalesovo Beam 42.59 313 P P **13 05 49.4 +0.2**
comp=Z,38nm,0.7s,baz=90,slow=6.5,SNR=149
ZALV PcP **PcP** **13 07 41.1 +0.1**
comp=Z,8.1nm,0.7s,baz=94,slow=3.5,SNR=4.9
ZALV ScP **ScP** **13 11 29.6 -0.3**
comp=Z,2.0nm,0.9s,baz=122,slow=4.2,SNR=4.9
ZALV LR LR 13 24 22.3
comp=Z,401nm,19.1s,baz=70,slow=37
UMPA Umpang Tak 42.84 254 P P **13 05 54.0 +2.3**
comp=Z,13nm,1.0s
SBUM Sibu 43.25 226⇓ P P **13 05 55.0 +0.1**
SBUM Sibu 43.25 226 eP P **13 05 55.1 +0.1**
comp=Z,9.1nm,0.8s
NVS Novosibirsk 43.52 314⇑ iP P **13 05 57.2 +0.5**
NVS pmax pmax
comp=N,11nm,1.1s
NVS pmax pmax
comp=E,33nm,1.1s
NVS pmax pmax
comp=Z,47nm,1.1s
SHL Shillong 43.60 270 eP P **13 05 57.0 -0.9**
KDI Kendari 43.78 208 P P **13 06 00.4 +1.2**
comp=Z,39nm,1.0s
NRIK Noril'sk 44.06 336 LR LR 13 24 32.2
comp=Z,74nm,20.8s,baz=120,slow=36
MK01 Makanchi Array 44.70 303 eP P **13 06 06.9 +0.6**
MK31 Makanchi Array 44.70 303 iP P **13 06 05.9 -0.4**
MK31 pmax pmax
comp=Z,43nm,0.9s
MK31 Makanchi Array 44.70 303 eP P **13 06 06.7 +0.3**
MKAR Makanchi Array 44.70 303 P P **13 06 06.5 +0.1**
comp=Z,26nm,0.7s,baz=89,slow=9.8,SNR=114
MKAR LR LR 13 25 29.5
comp=Z,363nm,19.5s,baz=92,slow=37
MKAR Makanchi Array 44.70 303 eP P **13 06 06.7 +0.3**
MAKZ Makanchi 44.91 303 P P **13 06 06.9 -1.1**
MAKZ pmax pmax
comp=Z,41nm,0.9s
MAKZ Makanchi 44.91 303 eP P **13 06 08.2 +0.2**
comp=Z,37nm,0.8s
KSM Kushiro 45.15 227 eP P **13 06 11.0 +0.8**
comp=Z,23nm,0.7s
KAPI Kappang 45.89 211 eP P **13 06 17.0 +1.1**
comp=Z,102nm,1.0s
TT01 Tatalina 45.95 34 eP P **13 06 17.4 +1.5**
SVW2 Sparrevohn 46.03 37 eP P **13 06 18.2 +1.6**
comp=Z,14nm,1.1s
KURK Kurchatov 46.57 309 eP P **13 06 20.9 -0.1**
KURK pmax pmax
comp=Z,247nm,0.7s
KURK Kurchatov 46.57 309 eP P **13 06 20.9 -0.1**
comp=Z,248nm,0.7s
BSSI Bau Bau, Buton 46.61 210 P P **13 06 21.7 +0.1**
comp=Z,42nm,1.5s
KURBB Kurchatov Arra 46.64 309 P P **13 06 21.0 -0.6**
comp=Z,42nm,0.6s,baz=86,slow=8.2,SNR=413
BBKI Banjar Baru 46.78 218 P P **13 06 21.4 -1.6**
OHAK Old Harbor 47.20 42 eP P **13 06 25.7 -0.1**
comp=Z,127nm,1.9s
RAMN Ramite 47.26 275 eP P **13 06 27.2 +0.2**
comp=Z,307nm,0.8s
RSO Redoubt South 47.40 38 eP P **13 06 29.8 +2.2**
GUN Gumba 47.43 277 eP P **13 06 28.8 +0.4**
comp=Z,125nm,0.8s
KDAK Kodiak Island 47.56 41 iP P **13 06 30.7 +2.1**
KDAK Kodiak Island 47.56 41 eP P **13 06 29.1 +0.5**
comp=Z,84nm,1.4s
PPLA Purkeypile 47.70 34 eP P **13 06 31.1 +1.3**
comp=Z,28nm,1.5s
SPU Mount Spurr 47.74 37 eP P **13 06 31.6 +1.5**
PKIN Phulchoki 47.96 276 eP P **13 06 32.2 -0.3**
comp=Z,83nm,1.0s
KKN Kakani 47.96 277 eP P **13 06 32.6 +0.2**
comp=Z,135nm,0.9s
DMN Daman 48.18 277 eP P **13 06 34.0 -0.1**
BPAW Bear Paw Mtn. 48.28 33 eP P **13 06 35.1 +1.0**
comp=Z,4.7nm,0.9s
KTH Kantishna Hill 48.29 34 eP P **13 06 36.4 +2.0**
comp=Z,11nm,1.0s
SUA Susitna One 48.37 36 eP P **13 06 35.5 +0.5**
comp=Z,8.2nm,0.9s
GKN Gorkha 48.39 277 eP P **13 06 35.9 +0.3**
comp=Z,288nm,1.0s
MLY Manley 48.41 32 eP P **13 06 37.0 +1.8**
comp=Z,6.0nm,0.8s
TRF Thorofare Moun 48.58 34 eP P **13 06 37.8 +1.2**
comp=Z,7.0nm,1.0s

KULM Kulim 48.59 241 eP P **13 06 40.1 +3.0**
comp=Z,20nm,1.2s
SOEI Soe 48.60 203 eP P **13 06 37.6 +0.4**
comp=Z,135nm,1.1s
COLD Coldfoot 48.75 29 eP P **13 06 39.4 +1.7**
comp=Z,4.6nm,1.1s
IPM Ipoh 48.90 239 eP P **13 06 38.6 -0.9**
comp=Z,21nm,0.8s
BWN Browne 48.95 33 eP P **13 06 42.8 +3.6**
comp=Z,29nm,1.0s
MYKOM Kota Tinggi 48.95 234⇑ P P **13 06 40.2 +0.3**
MYKOM Kota Tinggi 48.95 234 eP P **13 06 39.7 -0.1**
comp=Z,12nm,0.9s
SEW Seward 49.06 38 eP P **13 06 40.0 -0.1**
comp=Z,30nm,1.4s
KGM Kluang 49.14 235⇑ P P **13 06 41.6 +0.3**
PMR Palmer 49.14 36 eP P **13 06 41.1 +0.4**
PMR pmax pmax
comp=Z,12nm,1.0s
PMR Palmer 49.14 36 eP P **13 06 41.1 +0.4**
comp=Z,12nm,1.0s
MCK McKinley 49.18 33 eP P **13 06 41.2 +0.1**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 49.18 33 eP P **13 06 41.2 +0.1**
comp=Z,5.6nm,0.8s
RND Reindeer 49.22 34 eP P **13 06 42.1 +0.6**
RND pmax pmax
comp=Z,8.0nm,1.0s
RND Reindeer 49.22 34 eP P **13 06 42.1 +0.6**
comp=Z,7.7nm,1.0s
KOLN Koldanda 49.32 277 eP P **13 06 43.0 +0.2**
comp=Z,60nm,0.9s
MDM Murphy Dome 49.48 32 eP P **13 06 45.0 +1.7**
comp=Z,11nm,0.9s
SML Sawmill 49.51 36 eP P **13 06 44.7 +1.0**
SML pmax pmax
comp=Z,10.0nm,0.8s
SML Sawmill 49.51 36 eP P **13 06 44.6 +1.0**
comp=Z,9.9nm,0.8s
WRH Wood River Hil 49.54 32 eP P **13 06 45.1 +1.3**
comp=Z,14nm,1.5s
COLA College 49.64 32 iP P **13 06 45.0 +0.5**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 49.64 32 eP P **13 06 46.0 +1.5**
comp=Z,7.1nm,0.8s
CCB Clear Creek Bu 49.66 32 eP P **13 06 47.8 +3.2**
comp=Z,6.2nm,1.4s
PYUN Piuthan 49.67 278 eP P **13 06 45.8 +0.3**
comp=Z,257nm,0.8s
MTN Manton Dam 49.83 193 eP P **13 06 46.3 -0.1**
comp=Z,79nm,1.5s
COEN Coen 49.95 178 eP P **13 06 47.7 +0.3**
comp=Z,18nm,1.0s
SCM Sheep Creek Mo 49.99 36 eP P **13 06 48.5 +1.2**
SCM pmax pmax
comp=Z,12nm,0.9s
SCM Sheep Creek Mo 49.99 36 eP P **13 06 48.5 +1.2**
comp=Z,12nm,0.9s
HDA Harding Lake 50.04 32 eP P **13 06 48.1 +0.6**
comp=Z,7.1nm,0.9s
IL1 Eielson Array 50.06 32 eP P **13 06 47.7 0.0**
ILAR Eielson Array 50.06 32 P P **13 06 47.9 +0.2**
comp=Z,6.1nm,0.9s,baz=267,slow=6.2,SNR=64
ILAR LR LR 13 30 09.9
comp=Z,87nm,18.6s,baz=278,slow=39
ILB Eielson Array 50.06 32 eP P **13 06 48.2 +0.5**
TKM2 Tokmak 2 50.18 299 P P **13 06 49.4 +0.2**
TKM2 pmax pmax
comp=Z,74nm,1.5s
TKM2 Tokmak 2 50.18 299 eP P **13 06 50.2 +1.1**
comp=Z,118nm,1.5s
KLU Klutina 50.68 36 eP P **13 06 54.0 +1.4**
comp=Z,8.4nm,0.9s
FYU Fort Yukon 50.70 30 eP P **13 06 54.9 +2.4**
comp=Z,22nm,1.4s
DIV Divide 50.79 37 eP P **13 06 55.0 +1.6**
comp=Z,12nm,1.1s
EYAK Cordova Ski Ar 50.86 37 eP P **13 06 55.3 +1.5**
comp=Z,15nm,1.1s
FRU Bishkek 50.89 299⇓ eP P **13 06 53.0 -1.4**
FRU i 13 07 03.0
FRU e 13 14 26.0
FRU pmax pmax
comp=Z,60nm,1.8s
KSH Kashi 50.91 295 P P **13 06 55.9 +1.3**
KSH pP pP 13 07 05.0 +1.9
KSH PcP **PcP** **13 08 09.7 -1.2**
KSH PP **PP** **13 08 56.2 +5.3**
KSH S **S** **13 14 08.6 -0.9**
KSH ScS **ScS** **13 16 44.6 +1.0**
KSH SS **SS** **13 17 45.3 +1.1**
KSH PMZ
comp=Z,49nm,2.4s
KSH LN
comp=Z,320nm,6.3s
KSH LE
comp=Z,270nm,6.6s
KSH LZ
comp=Z,530nm,15.9s
AAK Ala-Archa 51.04 299⇑ iP P **13 06 56.1 +0.5**
AAK pmax pmax
comp=Z,40nm,0.7s
AAK Ala-Archa 51.04 299 eP P **13 06 56.1 +0.5**
comp=Z,18nm,0.8s
BVA0 Borovoye Array 51.24 313 P P **13 06 56.2 -0.6**
BVA0 pmax pmax
comp=Z,19nm,0.9s
BRVK Borovoye 51.30 313 ci P P **13 06 57.4 +0.2**
BRVK pmax pmax
comp=Z,64nm,0.7s
BRVK Borovoye 51.30 313 eP P **13 06 57.3 +0.1**
comp=Z,73nm,0.9s
DOT Dot Lake 51.35 33 eP P **13 06 58.2 +0.7**
comp=Z,11nm,0.9s
BMRM Bremner River 51.37 37 eP P **13 06 59.2 +1.5**
comp=Z,11nm,1.0s
RAGM Ragged Mountai 51.41 38 eP P **13 07 00.1 +2.1**
comp=Z,12nm,1.0s
JAGI Jajag, Banyuwa 51.45 216 eP P **13 06 58.8 0.0**
comp=Z,60nm,1.0s
EKS2 Erkin-Say 51.53 299 eP P **13 07 00.0 +0.7**
EKS2 pmax pmax
comp=Z,14nm,0.8s
EKS2 Erkin-Say 51.53 299 eP P **13 07 00.0 +0.7**
comp=Z,14nm,0.8s
PSI Prapat 51.56 240 eP P **13 06 59.4 -0.4**
PSI pmax pmax
comp=Z,18nm,0.7s
PSI Prapat 51.56 240 eP P **13 06 59.4 -0.4**
comp=Z,18nm,0.7s
BKNI Bangkinang 51.91 236 eP P **13 07 02.8 +0.6**
comp=Z,128nm,0.7s
ZRNK Zerenda 52.08 313 P P **13 07 02.7 -0.4**
ZRNK pmax pmax
comp=Z,35nm,0.9s
ZRNK Zerenda 52.08 313 eP P **13 07 03.6 +0.5**
comp=Z,33nm,0.8s
CRQM Cirque 52.11 37 eP P **13 07 05.5 +2.1**
comp=Z,27nm,1.2s
EGAK Eagle 52.50 32 eP P **13 07 06.8 +0.7**
comp=Z,19nm,1.8s
UGM Wanagama 52.77 220 eP P **13 07 07.8 -0.8**
comp=Z,559nm,1.2s
GSI Gunungsitoli 53.57 240 eP P **13 07 14.1 -0.4**
comp=Z,98nm,0.8s
THN Thein Dam 53.63 286 eP P 13 07 09.8 -5.0
KK31 Karatay Array 53.69 301 iP P **13 07 15.0 -0.1**
KK31 pmax pmax
comp=Z,17nm,0.8s
KKAR Karatay Array 53.69 301 eP P **13 07 15.3 +0.2**
KKAR Karatay Array 53.69 301 eP P **13 07 15.3 +0.2**
CISI Cisompet, Garu 53.93 223 eP P **13 07 16.1 -1.0**
comp=Z,46nm,0.7s
INK Inuvik 55.00 27 P P **13 07 24.3 +0.1**
comp=Z,4.0nm,0.6s,baz=306,slow=7.7,SNR=15
INK Inuvik 55.00 27 eP P **13 07 24.9 +0.7**
comp=Z,5.3nm,0.9s
SVE Sverdlovsk 55.87 319⇓ eP P **13 07 30.8 +0.2**
SVE pmax pmax
comp=Z,63nm,1.1s
SVE MLR MLR
comp=Z,658nm,16.0s
FITZ Fitzroy Crossi 56.14 198 eP P **13 07 33.0 +0.1**
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 56.30 188 ceP P **13 07 32.3 -1.8**

WRAB pmax pmax
comp=Z,39nm,1.7s
WRAB Tennant Creek 56.30 188 *eP* **P 13 07 33.3 -0.8**
comp=Z,42nm,1.4s
WB2 Warramunga Arr 56.31 188 *eP* **P 13 07 33.4 -0.8**
comp=Z,16nm,0.8s
WRA Warramunga Arr 56.31 188 P **P 13 07 33.0 -1.2**
comp=Z,7.3nm,0.7s,baz=5.5,slow=7.5,SNR=37
WRA Warramunga Arr 56.31 188 P **P 13 07 33.0 -1.2**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WC3 Warramunga Arr 56.32 188 *eP* **P 13 07 33.4 -0.8**
comp=Z,19nm,0.8s
ARU Arti 57.08 319*c iP* **P 13 07 39.0 -0.2**
ARU 13 08 33.2
ARU 13 09 41.3
ARU S **S 13 15 34.0 +1.9**
ARU SS **SS 13 19 18.5 -2.0**
ARU pmax pmax
comp=Z,101nm,1.7s
ARU MLR MLR
comp=Z,514nm,18.0s
ARU Arti 57.08 319 *eP* **P 13 07 39.3 +0.1**
comp=Z,45nm,0.8s
KBL Kabul 57.88 292 *eP* **P 13 07 45.5 0.0**
KBL pmax pmax
comp=Z,26nm,1.3s
KBL Kabul 57.88 292 *eP* **P 13 07 45.5 0.0**
comp=Z,26nm,1.3s
HYB Hyderabad 58.38 269 *i P* **P 13 07 49.0 0.0**
HYB *e* 13 07 59.0
AB31 Akbulak array 58.59 311 P **P 13 07 49.2 -0.8**
AB31 pmax pmax
comp=Z,19nm,0.6s
ABKAR Akbulak array 58.59 311 *eP* **P 13 07 50.2 +0.2**
DLBC Dease Lake 59.13 38 *eP* **P 13 07 55.6 +1.9**
comp=Z,2.5nm,0.9s
AKTO Aktyubinsk 59.34 312 P **P 13 07 54.1 -1.1**
AKTO pmax pmax
comp=Z,21nm,0.8s
AS01 Alice Springs 60.03 188 *eP* **P 13 07 59.3 -0.9**
AS31 Alice Springs 60.04 188 *eP* **P 13 07 59.9 -0.3**
comp=Z,3.8nm,0.6s
ASAR Alice Springs 60.04 188 P **P 13 07 59.2 -0.9**
comp=Z,2.5nm,0.8s,baz=7.8,slow=6.1,SNR=24
ASAR LR LR 13 33 51.5
comp=Z,59nm,19.8s,baz=340,slow=36
SPB5 Spitsbergen Ar 61.33 349 *eP* **P 13 08 11.1 +2.8**
SPA2 Spitsbergen Ar 61.33 349 *eP* **P 13 08 09.3 +0.9**
SPB2 Spitsbergen Ar 61.33 349 *eP* **P 13 08 10.5 +2.1**
SPA3 Spitsbergen Ar 61.33 349 *eP* **P 13 08 09.1 +0.7**
SPB4 Spitsbergen Ar 61.33 349 *eP* **P 13 08 09.5 +1.1**
SPB3 Spitsbergen Ar 61.34 349 *eP* **P 13 08 09.8 +1.4**
KBS Kingsbay 61.46 350 *eP* **P 13 08 10.6 +1.4**
KBS pmax pmax
comp=Z,15nm,0.8s
KBS Kingsbay 61.46 350 *eP* **P 13 08 10.6 +1.4**
comp=Z,15nm,0.8s
EIDS Eidsvold 61.93 170 *eP* **P 13 08 12.5 -0.4**
comp=Z,51nm,1.5s
DZM Mont Dzumac 62.56 154 *e*LR LR 13 26 56.0
comp=Z,208nm,21.4s
LVZ Lovozero 62.91 336 *eP* **P 13 08 19.4 +0.3**
LVZ pmax pmax
comp=Z,134nm,2.0s
LVZ Lovozero 62.91 336 *eP* **P 13 08 19.4 +0.3**
comp=Z,134nm,2.0s
RES Resolute Bay 63.31 14 P **P 13 08 22.2 +0.6**
comp=Z,9.1nm,0.8s,baz=306,slow=6.9,SNR=3.9
APA Apatity 63.48 336⇑*iP* **P 13 08 22.3 -0.6**
APA pmax pmax
comp=Z,14nm,0.8s
APA MLR MLR
comp=Z,400nm,12.0s
KEV Kevo 64.25 339 *eP* **P 13 08 28.4 +0.6**
KEV pmax pmax
comp=Z,17nm,0.8s
KEV Kevo 64.25 339 *eP* **P 13 08 28.4 +0.6**
comp=Z,17nm,0.8s
GEYT Alibeck 64.39 299 P **P 13 08 30.0 +0.6**
comp=Z,9.8nm,0.7s,baz=27,slow=3.6,SNR=28
GEYT LR LR 13 38 30.4
comp=Z,240nm,18.8s,baz=85,slow=38
YKA Yellowknife Ar 64.39 30 P **P 13 08 28.3 -0.6**
comp=Z,0.8nm,0.7s,baz=300,slow=6.9,SNR=6.4
KLMR Klimovskoe 64.52 328 *eP* **P 13 08 27.5 -2.3**
KLMR *e**PP **pP 13 08 37.4 -1.0**
KLMR *e**SP **sP 13 08 41.4 -0.3**
KLMR *e* 13 09 02.2
KLMR *e*PPP PPP 13 12 20.5
KLMR pmax pmax
comp=Z,25nm,0.9s
ARA0 ARCESS Array S 64.80 340 *eP* **P 13 08 31.8 +0.3**
ARCES ARCESS Array B 64.80 340 P **P 13 08 32.2 +0.7**
comp=Z,12nm,0.9s,baz=60,slow=7.2,SNR=21
ARCES LR LR 13 40 54.3
comp=Z,191nm,18.2s,baz=50,slow=40
ARE0 ARCESS Array S 64.80 340 *eP* **P 13 08 32.5 +1.0**
comp=Z,14nm,0.9s
AFI Afiamalu 66.48 130 LR LR 13 32 03.8
comp=Z,114nm,20.4s,baz=4.5,slow=31
DAG Danmarks Havn 66.57 355 *i P* **P 13 08 43.2 +0.4**
DAG pmax pmax
comp=Z,8.0nm,0.8s
DAG Danmarks Havn 66.57 355 *i P* **P 13 08 43.2 +0.4**
comp=Z,11nm,0.8s
NLWA Neilton Lookou 67.11 47 *eP* **P 13 08 48.1 +1.4**
comp=Z,21nm,0.9s
E03A Lebam 67.70 48 *eP* **P 13 08 52.0 +1.5**
comp=Z,14nm,1.0s
STKA Stephens Creek 67.77 180 P **P 13 08 50.6 -0.2**
comp=Z,2.2nm,0.7s,baz=324,slow=13,SNR=4.0
STKA Stephens Creek 67.77 180 *eP* **P 13 08 50.7 -0.2**
comp=Z,5.9nm,1.8s
MOS Moscow 68.00 324 *eP* **P 13 08 51.8 -0.3**
MOS *e* 13 09 18.7
MOS pmax pmax
comp=Z,53nm,1.0s
VRH Novokhopyorsk 68.29 318 *eP* **P 13 08 53.4 -0.7**
VRH *e**PP **pP 13 09 03.1 +0.4**
VRH pmax pmax
comp=Z,30nm,0.8s
D05A Enumclaw 68.32 47 *eP* **P 13 08 52.9 -1.4**
comp=Z,21nm,1.0s
TDL Tradedollar La 68.61 48 P **P 13 08 58.1 +1.8**
LON Longmire 68.64 47 *eP* **P 13 08 58.7 +2.2**
LON pmax pmax
comp=Z,3.0nm,0.8s
LON Longmire 68.64 47 *eP* **P 13 08 58.7 +2.2**
comp=Z,3.2nm,0.8s
OBN Obninsk 68.84 323*c iP* **P 13 08 57.4 0.0**
OBN *i* 13 09 06.5
OBN *i* S **S 13 18 02.9 +3.6**
OBN pmax pmax
comp=Z,26nm,0.9s
OBN MLR MLR
comp=Z,260nm,15.0s
OBN Obninsk 68.84 323 *eP* **P 13 08 57.6 +0.2**
comp=Z,31nm,0.8s
BBOO Buckleboo 68.90 185 *eP* **P 13 08 57.9 0.0**
comp=Z,64nm,1.6s
LPSR Galich'ya Gora 69.03 320 *eP* **P 13 08 58.5 -0.1**
LPSR *e**PP **pP 13 09 08.4 +1.1**
LPSR pmax pmax
comp=Z,30nm,0.9s
H04A Detroit Lake 69.47 49 *eP* **P 13 09 02.3 +0.7**
comp=Z,19nm,1.1s
FIA1 FINESS Array S 69.60 332 *eP* **P 13 09 02.4 +0.3**
comp=Z,31nm,0.9s
FINES FINESS Array B 69.60 332 P **P 13 09 02.4 +0.4**
comp=Z,16nm,0.8s,baz=64,slow=8.7,SNR=44
FINES LR LR 13 41 47.1
comp=Z,199nm,18.8s,baz=58,slow=38
VSR Storozhevoye 69.65 319 *eP* **P 13 09 02.1 -0.4**
VSR *e**PP **pP 13 09 11.8 +0.6**
VSR pmax pmax
comp=Z,40nm,0.9s
BUOR Burton Butte 70.68 51 P **P 13 09 11.2 +1.9**
LHEM Herd Peak 71.04 52 P **P 13 09 12.7 +1.1**
VSU Vasula 71.23 330*ce*P **P 13 09 12.0 0.0**
VSU pmax pmax
comp=Z,172nm,1.7s
NCK Nalchik 71.26 310 *i P* **P 13 09 13.5 +1.0**
NCK pmax pmax
comp=Z,10.0nm,0.9s
K05A Summer Lake 71.30 50 *eP* **P 13 09 13.4 +0.4**
comp=Z,22nm,1.0s
ZEI Tsey 71.45 310 *eP* **P 13 09 11.6 -2.3**
ZEI pmax pmax
comp=Z,25nm,0.7s
SUMG Summit 71.47 0 *i P* **P 13 09 14.9 +1.1**
SUMG pmax pmax
comp=Z,22nm,1.2s
SUMG Summit 71.47 0 *i P* **P 13 09 14.9 +1.1**
comp=Z,22nm,1.2s
SUMG Summit 71.47 0 *eP* **P 13 09 14.6 +0.9**
comp=Z,27nm,1.3s
KBZ Khabaz 71.56 311 P **P 13 09 14.7 +0.4**
comp=Z,15nm,0.9s,baz=56,slow=3.1,SNR=30
KBZ LR LR 13 42 46.5
comp=Z,204nm,21.1s,baz=14,slow=38
KIV Kislovodsk 71.57 311 *i P* **P 13 09 15.1 +0.6**
SNR=9.2
KIV Kislovodsk 71.57 311 *i P* **P 13 09 15.3 +0.8**
KIV pmax pmax
comp=Z,49nm,1.0s
KIV Kislovodsk 71.57 311 *eP* **P 13 09 15.3 +0.8**
comp=Z,41nm,0.9s
NEY Neytrino 71.93 311⇑*eP* **P 13 09 17.7 +0.9**
NEY pmax pmax
comp=Z,4.0nm,1.6s
UOSS Minazif 72.23 288 *eP* **P 13 09 18.9 +0.3**
comp=Z,1.2nm,0.6s
GNI Garni 72.33 307 P **P 13 09 20.4 +1.2**
GNI Garni 72.33 307*d iP* **P 13 09 20.6 +1.4**
GNI pmax pmax
comp=Z,48nm,0.7s
HATD Hatta, Dubai 72.35 288 *i P* **P 13 09 19.7 +0.3**
SNR=7.7
SWMT Swartz Lake 72.73 43 *eP* **P 13 09 22.6 +1.2**
FAQ Al Faqa, Dubai 72.81 288 *i P* **P 13 09 22.3 +0.2**
SNR=6.7
WVOR Wild Horse Val 72.85 50 *eP* **P 13 09 23.8 +1.5**
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 72.85 50 *eP* **P 13 09 23.8 +1.5**
comp=Z,5.3nm,1.0s
IZAR Zarasai 73.17 328 *eP* **P 13 09 24.4 +0.6**
IZAR IAmb IAmb 13 09 35.5
comp=Z,14nm,0.9s
IDID Didziasalis 73.24 327 *eP* **P 13 09 24.9 +0.8**
IDID IAmb IAmb 13 09 36.0
comp=Z,14nm,0.8s
ISAL Salakas 73.34 328 *eP* **P 13 09 25.4 +0.7**
ISAL IAmb IAmb 13 09 36.7
comp=Z,26nm,1.0s
PAHR Pah Rah Range 73.89 52 *eP* **P 13 09 30.1 +1.6**
comp=Z,8.2nm,1.0s
MFID Camas Ranch 74.01 48 *eP* **P 13 09 30.5 +1.4**
comp=Z,7.2nm,1.0s
LRM Limekiln Ridge 74.58 44 *eP* **P 13 09 33.4 +1.0**
FCC Fort Churchill 74.62 27 *eP* **P 13 09 32.5 +0.4**
FCC pmax pmax
comp=Z,34nm,1.3s
FCC Fort Churchill 74.62 27 *eP* **P 13 09 32.5 +0.4**
comp=Z,34nm,1.3s
EGMT Eagleton 74.73 41 *eP* **P 13 09 33.7 +0.5**
comp=Z,5.9nm,0.9s
DLMT Dillon 74.76 45 *eP* **P 13 09 34.9 +1.4**
comp=Z,12nm,1.1s
NC405 NORSAR Array S 74.77 337 *eP* **P 13 09 33.8 +0.8**
NC303 NORSAR Array S 74.79 338 *eP* **P 13 09 33.8 +0.7**
BMN Battle Mountai 74.86 51 *eP* **P 13 09 35.8 +1.7**
BMN pmax pmax
comp=Z,12nm,1.0s
BMN Battle Mountai 74.86 51 *eP* **P 13 09 35.8 +1.7**
comp=Z,12nm,1.0s
NC204 NORSAR Array S 74.94 338 *eP* **P 13 09 34.8 +0.7**
NB201 NORSAR Array S 74.95 337 *eP* **P 13 09 34.8 +0.7**
NB2 NORSAR Subarra 74.98 337 P **P 13 09 34.5 +0.2**
comp=Z,17nm,0.8s,baz=38,slow=5.9
NB2 NORSAR Subarra 74.98 337 P **P 13 09 34.5 +0.2**
baz=38,slow=5.9
NOA NORSAR Array B 74.98 337 P **P 13 09 34.5 +0.2**
comp=Z,14nm,0.8s,baz=39,slow=5.8,SNR=45
NOA LR LR 13 45 53.7
comp=Z,217nm,18.8s,baz=25,slow=38
AKASG Malin Array Be 75.04 323 P **P 13 09 34.5 -0.1**
comp=Z,14nm,0.6s,baz=47,slow=6.1,SNR=75
AKASG LR LR 13 45 35.1
comp=Z,469nm,18.3s,baz=30,slow=38
AKBB Malin Array Si 75.04 323 *eP* **P 13 09 34.6 -0.1**
AKBB pmax pmax
comp=Z,26nm,0.7s
AKBB Malin Array Si 75.04 323 *eP* **P 13 09 34.6 -0.1**
comp=Z,26nm,0.7s
AK11 Malin Array Si 75.08 323 *eP* **P 13 09 35.0 0.0**
NBO02 NORSAR Array S 75.09 338 *eP* **P 13 09 35.6 +0.8**
NC602 NORSAR Array S 75.12 337 *eP* **P 13 09 35.6 +0.7**
NBO00 NORSAR Array S 75.13 338 *eP* **P 13 09 36.0 +1.0**
BOZ Bozeman (W) 75.14 44 *eP* **P 13 09 37.0 +1.4**
BOZ pmax pmax
comp=Z,8.0nm,0.9s
BOZ Bozeman (W) 75.14 44 *eP* **P 13 09 37.0 +1.4**
comp=Z,7.7nm,0.9s
NAO01 NORSAR Array S 75.24 337 *eP* **P 13 09 36.1 +0.4**
NV01 Mina Array Sit 75.31 53 *eP* **P 13 09 37.6 +0.8**
NVAR Mina Array Bea 75.31 53 P **P 13 09 37.8 +1.1**
comp=Z,3.9nm,0.9s,baz=294,slow=6.6,SNR=18
NVAR LR LR 13 38 58.5
comp=Z,51nm,19.3s,baz=292,slow=33
NV11 Mina Array Sit 75.40 53 *eP* **P 13 09 38.2 +1.0**
comp=Z,9.6nm,1.1s
SUW Suwalki 75.65 328 *eP* **P 13 09 38.4 +0.3**
SUW Suwalki 75.65 328 *eP* **P 13 09 38.4 +0.3**
ELK Elko 75.91 50 *eP* **P 13 09 41.3 +1.1**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 75.91 50 *eP* **P 13 09 41.3 +1.1**
comp=Z,5.4nm,1.0s
SIM Simferopol' 76.02 316 *eP* **P 13 09 39.6 -0.9**
SIM *e* 13 09 50.0
SIM *eS* **S 13 19 17.0 -4.9**
SIM pmax pmax
comp=Z,25nm,0.9s
SIM MLR MLR
comp=N,160nm,17.2s
IMW Indian Meadow 76.59 45 *eP* **P 13 09 45.4 +1.3**
comp=N,7.1nm,0.8s
REDW Red Top Meadow 76.97 46 *eP* **P 13 09 47.4 +1.3**
comp=N,14nm,1.4s
R11A Troy Canyon, C 77.09 52 *eP* **P 13 09 48.1 +1.2**
comp=N,9.9nm,1.0s
LAO LASA Array 77.44 41 *eP* **P 13 09 49.7 +1.1**
comp=N,14nm,1.0s
TPNV Topopah Spring 77.49 53 *eP* **P 13 09 50.2 +1.1**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 77.49 53 *eP* **P 13 09 50.2 +1.1**
comp=Z,6.5nm,0.9s
HWUT Hardware Ranch 77.62 47 *eP* **P 13 09 51.7 +1.9**
comp=Z,11nm,1.0s
DUG Dugway, Tooele 77.72 49 *eP* **P 13 09 51.9 +1.6**
DUG pmax pmax
comp=Z,11nm,0.9s
DUG Dugway, Tooele 77.72 49 *eP* **P 13 09 51.9 +1.6**
comp=Z,11nm,0.9s
BW06 Boulder Array 78.08 45 *eP* **P 13 09 52.6 +0.2**
PD31 Pinedale Array 78.08 45 *eP* **P 13 09 52.7 +0.3**
PDAR Pinedale Array 78.08 45 P **P 13 09 53.0 +0.7**
comp=Z,1.7nm,0.7s,baz=252,slow=3.0,SNR=12
PDAR LR LR 13 39 01.2
comp=Z,27nm,21.9s,baz=344,slow=32
LVV L'vov 78.13 324 *eP* **P 13 09 51.7 -0.5**
LEOM Leova 78.26 320⇑*iP* P 13 09 48.1 -4.8
LEOM Leova 78.26 320⇑P P 13 09 48.1 -4.8
BORG Borgarnes 78.45 353 *eP* **P 13 09 56.8 +3.1**
BORG pmax pmax
comp=Z,196nm,1.8s
BORG Borgarnes 78.45 353 *eP* **P 13 09 56.8 +3.1**
comp=Z,196nm,1.8s
TLCR 78.79 318⇑*iP* **P 13 09 56.5 +0.6**
TLCR 78.79 318⇑P **P 13 09 56.5 +0.6**
KWP Kalwaria Pacla 78.88 325 *eP* **P 13 09 57.3 +0.9**
KWP Kalwaria Pacla 78.88 325 *eP* **P 13 09 57.3 +0.9**
CCUT Cedar City 78.98 51 *eP* **P 13 09 59.3 +1.8**
comp=Z,6.6nm,1.0s
BUR08 Bucovina Ar. S 79.04 322 *eP* **P 13 09 58.0 +0.6**
TESR Tescani 79.06 320⇓*iP* **P 13 09 58.0 +0.6**
MSU Marysvale 79.14 50 *eP* **P 13 10 00.1 +1.8**
MSU Marysvale 79.14 50 *eP* **P 13 10 00.1 +1.8**
LCMT Little Creek M 79.38 52 *eP* **P 13 10 01.1 +1.6**
comp=Z,7.9nm,0.9s
P17A Butcher Ranch, 79.43 49 *eP* **P 13 10 01.4 +1.6**
comp=Z,15nm,0.9s
VRI Vrincioaia 79.45 320⇑*iP* **P 13 10 01.5 +1.9**
VRI Vrincioaia 79.45 320⇑P **P 13 10 01.5 +1.9**
TIRR Tirgusor 79.49 318⇑*iP* **P 13 10 00.5 +0.8**
TIRR Tirgusor 79.49 318⇑P **P 13 10 00.5 +0.8**
BR131 Keskin Array S 79.52 312 *eP* **P 13 10 00.4 +0.2**
BRTR Keskin Array B 79.52 312 P **P 13 10 00.4 +0.2**
comp=Z,8.9nm,0.9s,baz=102,slow=4.0,SNR=32
BRTR LR LR 13 49 42.2
comp=Z,90nm,19.1s,baz=54,slow=39
KOLS Kolonicke sedl 79.57 324 *eP* **P 13 10 00.7 +0.5**
KOLS *e* 13 10 10.8
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 79.57 324 *eP* **P 13 10 00.7 +0.5**
KOLS *e* 13 10 10.8
P18A Preston Nutter 79.63 48 *eP* **P 13 10 02.4 +1.4**
comp=Z,21nm,1.4s
KNB Kanab 79.65 52 *eP* **P 13 10 02.9 +1.9**
KNB pmax pmax
comp=Z,11nm,1.0s
KNB Kanab 79.65 52 *eP* **P 13 10 02.9 +1.9**
comp=Z,11nm,1.0s
STHS Stebnicka Huta 79.71 325 *eP* **P 13 10 01.3 +0.4**
STHS *e* 13 10 11.3
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 79.71 325 *eP* **P 13 10 01.3 +0.4**
STHS *e* 13 10 11.3
SRU San Rafael Swe 79.78 49 *eP* **P 13 10 03.0 +1.2**
SRU pmax pmax
comp=Z,13nm,0.8s
SRU San Rafael Swe 79.78 49 *eP* **P 13 10 03.0 +1.2**
comp=Z,13nm,0.8s
OJC Ojcow 79.80 326 *eP* **P 13 10 01.9 +0.5**
OJC Ojcow 79.80 326 *eP* **P 13 10 01.5 +0.1**
OJC pmax pmax
comp=Z,21nm,0.9s
OJC Ojcow 79.80 326 *eP* **P 13 10 01.5 +0.1**
comp=Z,20nm,0.9s
MMU Miners Mountai 79.88 50 *eP* **P 13 10 03.8 +1.5**
ANTO Ankara 79.94 312 *eP* **P 13 10 03.4 +1.0**
ANTO pmax pmax
comp=Z,16nm,0.9s
ANTO Ankara 79.94 312 *eP* **P 13 10 03.4 +1.0**
comp=Z,16nm,0.9s
BR231 Keskin MP Arra 79.96 312 *eP* **P 13 10 01.6 -1.0**
CRVS Cervenica-Dubn 79.97 325 *eP* **P 13 10 03.0 +0.6**
CRVS *e* 13 10 13.1
CRVS Cervenica-Dubn 79.97 325 *eP* **P 13 10 03.0 +0.6**
CRVS *e* 13 10 13.1
ISR Istrita 80.05 319⇓*iP* **P 13 10 04.2 +1.3**
ISR Istrita 80.05 319⇓P **P 13 10 04.2 +1.3**
ULM Lac du Bonnet 80.05 33 LR LR 13 45 12.8
comp=Z,33nm,21.7s,baz=356,slow=35
DOPR Dopca 80.08 321⇑*iP* **P 13 10 02.3 -0.7**
MLR Muntele Rosu 80.11 320⇑*iP* **P 13 10 04.1 +0.8**
MLR Muntele Rosu 80.11 320⇑P **P 13 10 04.1 +0.8**
MLR Muntele Rosu 80.11 320 *eP* **P 13 10 03.9 +0.6**
comp=Z,6.9nm,1.0s
NIE Niedzica 80.15 326 *eP* **P 13 10 02.2 -1.1**
NIE Niedzica 80.15 326 *eP* **P 13 10 02.2 -1.1**
RSSD Black Hills 80.29 42 *eP* **P 13 10 06.0 +1.6**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 80.29 42 *eP* **P 13 10 06.0 +1.6**
comp=Z,4.5nm,0.8s
U15A North Rim 80.34 52 *eP* **P 13 10 06.5 +1.5**
comp=Z,6.5nm,0.8s
O20A White River Ci 80.51 47 *eP* **P 13 10 06.8 +1.2**
comp=Z,7.3nm,0.8s
VOIR 80.61 320⇑*iP* **P 13 10 07.0 +1.1**
VOIR 80.61 320⇑P **P 13 10 07.0 +1.1**
LANS Liptovska Anna 80.72 326 *eP* **P 13 10 07.5 +1.1**
LANS *e* 13 10 17.3
LANS Liptovska Anna 80.72 326 *eP* **P 13 10 07.5 +1.1**
LANS *e* 13 10 17.3
KECS Kecovo 80.73 325 *eP* **P 13 10 06.8 +0.4**
KECS *e* 13 10 14.4
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 80.73 325 *eP* **P 13 10 06.8 +0.4**
KECS *e* 13 10 14.4
OKC Ostrava-Krasne 80.81 327 AMS AMS 13 54 10.0
comp=Z,300nm,15.3s
DRGR 80.86 322⇑*iP* **P 13 10 07.6 +0.4**
DRGR 80.86 322⇑P **P 13 10 07.6 +0.4**
KSP Ksiaz 80.87 328 *eP* **P 13 10 07.8 +0.6**
KSP Ksiaz 80.87 328 *eP* **P 13 10 07.7 +0.6**
PV09 Paradox Valley 81.01 49 *eP* **P 13 10 10.0 +1.5**
MORC Moravsky Berou 81.12 327⇑*iP* **P 13 10 09.2 +0.7**
MORC Moravsky Berou 81.12 327⇑P **P 13 10 09.2 +0.7**
MORC Moravsky Berou 81.12 327 *eP* **P 13 10 09.4 +0.9**
comp=Z,44nm,0.9s
PV10 Paradox Valley 81.15 49 *eP* **P 13 10 10.4 +1.2**
PV04 Paradox Valley 81.22 49 *eP* **P 13 10 10.4 +1.0**
DPC Dobruska-Polom 81.23 328 *eP* **P 13 10 10.0 +0.9**
DPC *e*PCP **pP 13 10 17.0 -0.9**
DPC *ex* x 13 10 20.4
DPC *e*PP **PP 13 13 09.1 -4.8**
DPC AMS AMS 13 49 20.0
comp=Z,300nm,20.8s
DPC Dobruska-Polom 81.23 328 *eP* **P 13 10 10.0 +0.9**
DPC *e* 13 10 17.0
DPC *e* 13 10 20.4
DPC *e* 13 13 09.1
DPC MLR MLR
comp=Z,300nm,20.8s
UPC Upice 81.24 328 *eP* **P 13 10 09.7 +0.6**
UPC *ex* x 13 10 19.7
UPC AMS AMS 13 53 30.0
comp=Z,300nm,14.5s
UPC Upice 81.24 328 *eP* **P 13 10 09.7 +0.6**
UPC *e* 13 10 19.7
UPC MLR MLR
comp=Z,300nm,14.5s
PV05 Paradox Valley 81.30 49 *eP* **P 13 10 11.2 +1.3**
N23A Red Feather La 81.35 45 *eP* **P 13 10 12.2 +2.0**
comp=Z,12nm,1.0s
PSZ Piszkesteto 81.41 325⇑*iP* **P 13 10 10.7 +0.6**
PSZ Piszkesteto 81.41 325⇑*eP* **P 13 10 10.8 +0.6**
PSZ Piszkesteto 81.41 325⇑P **P 13 10 10.7 +0.6**
PSZ Piszkesteto 81.41 325 *eP* **P 13 10 10.7 +0.6**
comp=Z,18nm,1.0s
Y14A Wickenburg 81.41 54 *eP* **P 13 10 11.4 +1.1**
comp=Z,19nm,0.8s
VYHS Vyhne 81.48 326 *eP* **P 13 10 11.0 +0.6**
VYHS *e* 13 10 20.6
VYHS *e* 13 13 14.1
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 81.48 326 *eP* **P 13 10 11.0 +0.6**
VYHS *e* 13 10 20.6
VYHS *e*PP **PP 13 13 14.1 -2.0**
WUAZ Wupatki 81.49 52 *eP* **P 13 10 12.8 +1.9**
comp=Z,8.8nm,1.0s
PV01 Paradox Valley 81.59 49 *eP* **P 13 10 13.0 +1.6**
BRG Berggiesshubel 81.83 330 *eP* **P 13 10 12.4 +0.2**
comp=Z,6.0nm,0.7s
BRG *e* 13 10 22.7
comp=Z,6.9nm,0.9s
comp=N,173nm,11.9s
comp=E,176nm,16.6s
comp=Z,256nm,13.9s
BRG Berggiesshubel 81.83 330 *eP* **P 13 10 12.4 +0.2**
BRG *e* 13 10 22.7
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG MLR MLR
comp=N,173nm,11.9s
BRG MLR MLR
comp=E,176nm,16.6s
BRG MLR MLR
comp=Z,256nm,13.9s
PVCC Panska Ves 81.83 329 *eP* **P 13 10 13.0 +0.8**
PVCC *ex* x 13 10 23.3
PVCC AMS AMS 13 53 10.0
comp=Z,300nm,17.3s
PVCC Panska Ves 81.83 329 *eP* **P 13 10 13.0 +0.8**
PVCC *e* 13 10 23.3
PVCC MLR MLR
comp=Z,300nm,17.3s

SMCO	**Snowmass**	**81.87**	**47**	*e*P		**P**	**13 10 13.0**	**-0.1**
	comp=Z,12nm,1.4s								
CLL	**Collm**	**81.87**	**330**	⇑*i*P		**P**	**13 10 12.4**	**0.0**
	comp=Z,15nm,0.9s								
CLL				*i*			13 10 22.3		
CLL				*e*S		**S**	**13 20 20.0**	**-4.0**
CLL				*e*(SS)			13 26 12.0		
CLL				*e*SSS		SSS	13 29 24.0		
CLL				LmV			13 50 00.0		
	comp=N,200nm,18.4s								
CLL				LmV			13 50 00.0		
	comp=E,100nm,18.4s								
CLL	**Collm**	**81.87**	**330**	⇑*i*P		**P**	**13 10 12.4**	**0.0**
CLL				*i*			13 10 22.3		
CLL				*e*S		**S**	**13 20 20.0**	**-4.0**
CLL				pmax		pmax			
	comp=Z,15nm,0.9s								
CLL	**Collm**	**81.87**	**330**	*e*P		**P**	**13 10 12.6**	**+0.2**
	comp=Z,14nm,0.8s								
VRAC	**Vranov**	**81.89**	**327**	⇓*i*P		**P**	**13 10 13.7**	**+1.2**
VRAC	**Vranov**	**81.89**	**327**	⇓P		**P**	**13 10 13.7**	**+1.2**
X16A	**Lo Mia Camp, P**	**82.13**	**53**	*e*P		**P**	**13 10 15.2**	**+0.9**
	comp=Z,5.2nm,1.1s								
GOPC	**GO Pecny, Ondr**	**82.21**	**329**	*e*P		**P**	**13 10 14.8**	**+0.6**
GOPC				*e*PCP		**pP**	**13 10 21.6**	**-1.5**
GOPC				*ex*		x	13 10 25.3		
GOPC				AMS		AMS	13 51 20.0		
	comp=Z,300nm,13.8s								
GOPC	**GO Pecny, Ondr**	**82.21**	**329**	*e*P		**P**	**13 10 14.8**	**+0.6**
GOPC				*e*			13 10 21.6		
GOPC				*e*			13 10 25.3		
GOPC				MLR		MLR			
	comp=Z,300nm,13.8s								
BZS	**Buzias**	**82.22**	**322**	⇓*i*P		**P**	**13 10 14.6**	**+0.3**
BZS	**Buzias**	**82.22**	**322**	⇓P		**P**	**13 10 14.6**	**+0.3**
MVCO	**Mesa Verde**	**82.22**	**49**	*e*P		**P**	**13 10 16.1**	**+1.2**
	comp=Z,5.8nm,0.8s								
PRU	**Pruhonice**	**82.25**	**329**	*e*P		**P**	**13 10 15.0**	**+0.6**
PRU				*e*PCP		**pP**	**13 10 22.2**	**-1.1**
PRU				*ex*		x	13 10 25.4		
PRU				AMS		AMS	13 50 50.0		
	comp=Z,300nm,17.8s								
PRU	**Pruhonice**	**82.25**	**329**	*e*P		**P**	**13 10 15.0**	**+0.6**
PRU				*e*			13 10 22.2		
PRU				*e*			13 10 25.4		
PRU				MLR		MLR			
	comp=Z,300nm,17.8s								
ISCO	**Idaho Springs**	**82.26**	**46**	*e*P		**P**	**13 10 16.3**	**+1.2**
ISCO				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ISCO	**Idaho Springs**	**82.26**	**46**	*e*P		**P**	**13 10 16.3**	**+1.2**
	comp=Z,5.2nm,0.9s								
TREC	**Trest**	**82.38**	**328**	*e*P		**P**	**13 10 15.6**	**+0.5**
TREC				*e*PCP		**pP**	**13 10 22.8**	**-1.2**
TREC				*ex*		x	13 10 26.2		
TREC				AMS		AMS	13 53 50.0		
	comp=Z,200nm,15.9s								
TREC	**Trest**	**82.38**	**328**	*e*P		**P**	**13 10 15.6**	**+0.5**
TREC				*e*			13 10 22.8		
TREC				*e*			13 10 26.2		
TREC				MLR		MLR			
	comp=Z,200nm,15.9s								
MDVR	**Moldovita**	**82.77**	**322**	⇓*i*P		**P**	**13 10 17.5**	**+0.2**
S22A	**4UR Ranch, Cre**	**82.89**	**48**	*e*P		**P**	**13 10 20.0**	**+1.6**
	comp=Z,5.1nm,0.9s								
CONA	**Conrad Observa**	**83.24**	**327**	*i* pP		**P**	**13 10 20.5**	**+0.8**
	comp=Z,8.2nm,1.1s								
KHC	**Kasperske Hory**	**83.31**	**329**	*e*P		**P**	**13 10 20.4**	**+0.4**
KHC				*e*PCP		**pP**	**13 10 27.7**	**-1.2**
KHC				*ex*		x	13 10 30.9		
KHC				*e*PP		**PP**	**13 13 26.1**	**-5.0**
KHC				AMS		AMS	13 52 00.0		
	comp=Z,300nm,13.8s								
KHC	**Kasperske Hory**	**83.31**	**329**	*e*P		**P**	**13 10 20.4**	**+0.4**
KHC				*e*			13 10 27.7		
KHC				*e*			13 10 30.9		
KHC				*e*			13 13 26.1		
KHC				MLR		MLR			
	comp=Z,300nm,13.8s								
KHC	**Kasperske Hory**	**83.31**	**329**	*e*P		**P**	**13 10 20.3**	**+0.3**
	comp=Z,4.2nm,0.8s								
GEC2	**GERESS Array S**	**83.48**	**328**	*e*P		**P**	**13 10 20.9**	**-0.1**
GEC2	**GERESS Array S**	**83.48**	**328**	*e*P		**P**	**13 10 20.9**	**-0.1**
GERES	**GERESS Array B**	**83.48**	**328**	P		**P**	**13 10 20.9**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=36,slow=5.8,SNR=40								
GERES				LR		LR	13 52 09.4		
	comp=Z,183nm,19.4s,baz=18,slow=39								
GEA0	**GERESS Array S**	**83.49**	**328**	*e*P		**P**	**13 10 20.8**	**-0.2**
GRFO	**Grafenberg**	**83.85**	**330**	*e*P		**P**	**13 10 23.4**	**+0.7**
GRFO				pmax		pmax			
	comp=Z,9.0nm,1.1s								
GRFO	**Grafenberg**	**83.85**	**330**	*e*P		**P**	**13 10 23.4**	**+0.7**
	comp=Z,9.5nm,1.1s								
ARSA	**Arzberg**	**83.90**	**326**	*i* pP		**P**	**13 10 23.4**	**+0.3**
	comp=Z,2.9nm,0.7s								
MOA	**Molln**	**84.00**	**327**	*e*pP		**P**	**13 10 23.9**	**+0.4**
	comp=Z,4.9nm,1.1s								
PPT	**Papeete**	**84.11**	**117**	LR		LR	13 38 46.1		
	comp=Z,104nm,21.6s,baz=13,slow=29								
PPT2	**Papeete2**	**84.12**	**117**	*e*LR		LR	13 36 45.5		
	comp=Z,199nm,21.5s								
PPT2	**Papeete2**	**84.12**	**117**	*e*T		T	14 43 03.5		
	comp=Z,17nm,0.3s								
ECSD	**EROS Data Cent**	**84.41**	**38**	*e*P		**P**	**13 10 26.2**	**+0.5**
	comp=Z,3.9nm,0.8s								
GROS	**Grobnik**	**84.51**	**326**	*e*P		**P**	**13 10 25.1**	**-1.1**
SOKA	**Soboth**	**84.55**	**326**	*e*pP		**P**	**13 10 26.5**	**0.0**
	comp=Z,7.0nm,0.8s								
T25A	**Trinidad**	**84.73**	**47**	*e*P		**P**	**13 10 28.7**	**+1.0**
	comp=Z,8.7nm,0.8s								
OBKA	**Obir**	**84.90**	**326**	*e*P		**P**	**13 10 27.8**	**-0.4**
	comp=Z,2.9nm,0.7s								
ANMO	**Albuquerque**	**84.95**	**50**	*ce*P		**P**	**13 10 29.9**	**+1.1**
ANMO				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ANMO	**Albuquerque**	**84.95**	**50**	*e*P		**P**	**13 10 30.5**	**+1.7**
	comp=Z,5.9nm,1.1s								
MYKA	**Terra Mystica**	**85.21**	**327**	*i* P		**P**	**13 10 29.0**	**-0.8**
	comp=Z,3.4nm,0.6s								
VISS	**Visnje**	**85.31**	**326**	*i* P		**P**	**13 10 29.8**	**-0.3**
BOJS	**Bojanci**	**85.34**	**325**	*i* P		**P**	**13 10 30.4**	**+0.1**
JAVS	**Javornik**	**85.59**	**326**	*i* P		**P**	**13 10 30.8**	**-0.9**
RETA	**Reutte**	**85.77**	**329**	*e*P		**P**	**13 10 32.5**	**-0.1**
	comp=Z,7.6nm,1.1s								
TAOE	**Nuku Hiva Isla**	**85.79**	**104**	*e*LR		LR	13 37 41.2		
	comp=Z,242nm,24.1s								
SCHQ	**Schefferville**	**86.04**	**16**	P		**P**	**13 10 33.9**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=343,slow=7.4,SNR=4.6								
SCHQ				LR		LR	13 49 34.9		
	comp=Z,112nm,21.9s,baz=330,slow=36								
BFO	**Black Forest**	**86.08**	**331**	*i* P		**P**	**13 10 34.5**	**+0.5**
BFO	**Black Forest**	**86.08**	**331**	*e*P		**P**	**13 10 33.5**	**-0.5**
	comp=Z,13nm,1.0s								
DAVA	**Damuels**	**86.30**	**329**	*i* pP		**P**	**13 10 35.1**	**-0.1**
	comp=Z,8.1nm,0.8s								
FUORN	**Ofenpass-Fuorn**	**86.67**	**329**	*e*P		**P**	**13 10 37.6**	**+0.4**
	comp=Z,9.1nm,0.9s								
TBI	**Tubuai**	**87.96**	**121**	*e*LR		LR	13 38 37.4		
	comp=Z,210nm,23.2s								
TX31	**Lajitas Ar. Si**	**90.45**	**53**	*e*P		**P**	**13 10 55.5**	**+0.3**
TXAR	**Lajitas Array**	**90.45**	**53**	P		**P**	**13 10 55.9**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=303,slow=2.7,SNR=16								
TXAR				LR		LR	13 51 34.1		
	comp=Z,66nm,18.3s,baz=0.0,slow=36								
HHAR	**Hobbs**	**91.28**	**42**	*e*P		**P**	**13 10 59.5**	**+0.6**
	comp=Z,4.4nm,0.8s								
MIAR	**Mount Ida**	**92.77**	**43**	*e*P		**P**	**13 11 07.7**	**+2.0**
MIAR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MIAR	**Mount Ida**	**92.77**	**43**	*e*P		**P**	**13 11 07.7**	**+2.0**
	comp=Z,5.8nm,0.8s								
WHAR	**Wooly Hollow**	**92.91**	**41**	*e*P		**P**	**13 11 07.7**	**+1.3**
	comp=Z,7.8nm,0.9s								
KEST	**Kesra**	**95.76**	**323**	LR		LR	13 59 32.3		
	comp=Z,206nm,18.6s,baz=308,slow=39								
ESDC	**Sonseca Array**	**98.08**	**334**	LR		LR	13 59 21.7		
	comp=Z,154nm,21.7s,baz=60,slow=38								
RKT	**Rikitea**	**98.28**	**112**	*e*LR		LR	13 43 20.5		
	comp=Z,204nm,24.8s								
TORD	**Torodi Ar. Bea**	**118.02**	**315**	PKP		**PKPdf**	**13 16 39.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=36,slow=1.6,SNR=4.4								
QSPA	**South Pole Qui**	**125.99**	**180**	*e*PKPdf		**PKPdf**	**13 16 54.4**	**+0.1**
BOSA	**Boshof**	**126.61**	**259**	PKP		**PKPdf**	**13 16 57.3**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=182,slow=2.4,SNR=4.7								
SNAA	**Sanae**	**140.05**	**197**	*e*PKHKP		PKPpre	13 17 14.4		
SNAA	**Sanae**	**140.05**	**197**	*e*PKPpre		PKPpre	13 17 14.4		
LPAZ	**La Paz**	**146.92**	**61**	PKPbc		**PKPbc**	**13 17 37.0**	**+0.1**
	comp=Z,4.5nm,0.6s,baz=326,slow=2.2,SNR=17								
LPAZ	**La Paz**	**146.92**	**61**	PKP2		**PKPbc**	**13 17 37.0**	**+0.1**
LPAZ				pmax		pmax			
	comp=Z,5.0nm,0.6s								
LPAZ	**La Paz**	**146.92**	**61**	*e*PKPdf		**PKPbc**	**13 17 36.5**	**-0.4**
LPAZ				*e*PKPbc		**PKab**	**13 17 37.1**	**-1.1**
PB11	**IPOC Station P**	**148.03**	**68**	*e*PKPdf		**PKPbc**	**13 17 39.8**	**+0.5**
PB11				*e*PKPbc		**PKiKP**	**13 17 40.0**	**-1.1**
RCBR	**Riachuelo**	**149.64**	**355**	*e*PKPbc		**PKPbc**	**13 17 43.8**	**+0.3**
LVC	**Limon Verde**	**150.25**	**71**	*e*PKPbc		**PKPbc**	**13 17 46.3**	**+1.2**

CSEM ***12*** *13:00:35.9±0.2, 37.87N×27.28E, h2km, MD2.6, Error ellipse: s-maj=5.0km s-min=3.6km az=48.0*
ISK ***12*** *13:00:35.9, 37.88N×27.35E, h10km, MD2.3, ML2.3*
DDA ***12*** *13:00:35.5, 37.87N×27.28E, h7km, Md2.6*

ISC 12 13:00:35.9±0.9, 37.86N±0.03×27.28E±0.02, h9km±9km, n27, σ0.955/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcami?**	**0.17**	**193**	P		**Pg**		**13 00 39.1**	**-0.3**
GCAM				S		Sg		13 00 42.5	+0.7
GCAM	**G?zelcami?**	**0.17**	**193**	*i* P		**Pg**		**13 00 39.1**	**-0.3**
GCAM				*i* S		Sg		13 00 42.5	+0.7
DGB	**˙zmir**	**0.37**	**301**	*i* P		**Pg**		**13 00 43.4**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.49**	**80**	PG		**Pg**		**13 00 45.2**	**-0.3**
AYDB				*e*SG		**Sg**		**13 00 51.1**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**0.49**	**80**	*i* Pg		**Pg**		**13 00 45.2**	**-0.3**
AYDB				*e*Sg		**Sg**		**13 00 51.1**	**-0.9**
AYDN	**Tasoluk**	**0.52**	**113**	P		**Pg**		**13 00 45.8**	**-0.2**
AYDN				S		Sg		13 00 52.4	-0.3
AYDN	**Tasoluk**	**0.52**	**113**	*i* P		**Pg**		**13 00 45.8**	**-0.2**
AYDN				*i* S		Sg		13 00 52.4	-0.3
IZM	**Izmir**	**0.53**	**359**	PG		**Pg**		**13 00 46.3**	**0.0**
IZM	**Izmir**	**0.53**	**359**	*i* Pg		**Pg**		**13 00 46.3**	**0.0**
ZEY	**˙zmir**	**0.72**	**302**	*i* P		**Pg**		**13 00 49.8**	**+0.1**
ZEY				*i* S		**Sb**		**13 00 60.0**	**-0.6**
URLA	**Izmir**	**0.73**	**313**	P		**Pb**		**13 00 50.6**	**-0.3**
URLA				S		Sg		13 00 59.5	-0.1
URLA	**Izmir**	**0.73**	**313**	*i* P		**Pb**		**13 00 50.6**	**-0.3**
URLA				*i* S		Sg		13 00 59.5	-0.1
BODT	**Bodrum**	**0.80**	**178**	*e*PG		**Pb**		**13 00 52.0**	**+0.1**
BODT	**Bodrum**	**0.80**	**178**	*e*Pg		**Pb**		**13 00 52.1**	**+0.1**
BDRM	**Kayabasi**	**0.81**	**171**	P		**Pg**		**13 00 50.6**	**-0.9**
BDRM	**Kayabasi**	**0.81**	**171**	*i* P		**Pg**		**13 00 50.6**	**-0.9**
YER	**Yerkesik**	**1.08**	**132**	*e*PG		**Pg**		**13 00 56.5**	**-0.1**
YER				*e*SG		**Sb**		**13 01 11.5**	**+0.4**
AKS	**Akhisar**	**1.10**	**22**	*e*PG		**Pg**		**13 00 56.8**	**-0.2**
AKS	**Akhisar**	**1.10**	**22**	*e*Pg		**Pg**		**13 00 56.8**	**-0.2**
CHOS	**Chios island**	**1.10**	**299**	*e*PN		**Pn**		**13 00 58.1**	**+0.5**
CHOS	**Chios island**	**1.10**	**299**	*e*Pn		**Pn**		**13 00 58.1**	**+0.5**
DKL	**Dikili**	**1.24**	**346**	*e*PN		**Pb**		**13 00 59.6**	**0.0**
DKL	**Dikili**	**1.24**	**346**	*e*Pn		**Pb**		**13 00 59.6**	**0.0**
KULA	**Kula-Manisa**	**1.27**	**59**	*e*PN		**Pn**		**13 00 59.6**	**-0.4**
KULA	**Kula-Manisa**	**1.27**	**59**	*e*Pn		**Pn**		**13 00 59.6**	**-0.4**
DNZL	**Cakiroluk**	**1.41**	**96**	P		**Pg**		**13 01 03.9**	**+0.9**
DNZL				S		**Sg**		**13 01 22.4**	**+1.1**
DNZL	**Cakiroluk**	**1.41**	**96**	*i* P		**Pg**		**13 01 03.9**	**+0.9**
DNZL				*i* S		**Sg**		**13 01 22.4**	**+1.1**

JMA 12 13:04:00.3±0.2, 37.90N×142.59E, h24km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.12**	**300**	P		Pn		13 04 20.6	+0.1
JIO				S		Sn		13 04 35.1	-0.1
OFUJ	**Ofunato**	**1.38**	**329**	P		Pn		13 04 24.4	+0.3
JMM	**Marumori**	**1.42**	**269**	P		Pn		13 04 24.9	+0.3
JMK	**Ichinoseki**	**1.50**	**315**	P		Pn		13 04 26.5	+0.8
JOU	**Okura**	**1.59**	**288**	P		Pn		13 04 27.9	+1.0
JFT	**Otama**	**1.83**	**259**	P		Pb		13 04 32.2	-0.8
JOM	**Ohasama**	**1.87**	**328**	P		Pb		13 04 32.4	-1.4
JOM				S		Sn		13 04 55.1	+1.4
JYS	**Shirataka**	**2.02**	**280**	P		Pn		13 04 34.5	+1.7
JYK	**Kaneyama**	**2.03**	**301**	P		Pn		13 04 34.2	+1.3
JYK				*e*S		Sn		13 04 57.9	+0.4
JRG	**Rokugo**	**2.14**	**315**	P		Pb		13 04 36.7	-1.7
JANG	**Nango**	**2.61**	**342**	P		Pb		13 04 44.3	-2.0

MEX 12 13:12:21.6±0.4, 15.04N×93.52W, h56km±21km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.72**	**24**	*e*P		Pn		13 12 34.4	-1.5
PCIG				*e*S		Sn		13 12 44.5	-1.8
CCIG	**Comitan**	**1.81**	**47**	*e*P		Pn		13 12 49.1	-1.5
CCIG				*i* S		Sn		13 13 10.9	-1.8

CSEM ***12*** *13:17:06.9±0.1, 39.13N×29.10E, h2km, ML2.2, Error ellipse: s-maj=3.1km s-min=2.9km az=130.0*
DDA ***12*** *13:17:06.3, 39.12N×29.11E, h7km, Md2.6*
ISK ***12*** *13:17:06.4, 39.10N×29.10E, h5km, ML2.2*
ISCJB ***12*** *13:17:07.0±0.4, 39.09N±0.03×29.11E±0.04, h9km, Error ellipse: s-maj=4.8km s-min=3.9km az=144.7*

ISC 12 13:17:06.9±0.9, 39.12N±0.02×29.10E±0.02, h9km, n35, σ0.943/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.25**	**108**	*e*PG		**Pg**		**13 17 11.6**	**-0.5**
GEDZ	**Gediz**	**0.25**	**108**	*e*Pg		**Pg**		**13 17 11.6**	**-0.5**
GDZ	**Gediz**	**0.30**	**96**	P		**Pg**		**13 17 13.0**	**+0.1**
GDZ				S		**Sg**		**13 17 17.1**	**+0.2**
GDZ	**Gediz**	**0.30**	**96**	*i* P		**Pg**		**13 17 13.0**	**+0.1**
GDZ				*i* S		**Sg**		**13 17 17.1**	**+0.2**
DEMI	**Demirci**	**0.31**	**255**	P		**Pg**		**13 17 13.4**	**+0.2**
DEMI				S		**Sg**		**13 17 17.9**	**+0.6**
DEMI	**Demirci**	**0.31**	**255**	*i* P		**Pg**		**13 17 13.4**	**+0.2**
DEMI				*i* S		**Sg**		**13 17 17.9**	**+0.6**
TVSB	**Tavsanli**	**0.43**	**40**	*e*PG		**Pg**		**13 17 15.3**	**-0.1**
TVSB	**Tavsanli**	**0.43**	**40**	*e*Pg		**Pg**		**13 17 15.3**	**-0.1**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*PG		**Pg**		**13 17 19.8**	**-0.6**
KULA				*e*SG		**Sg**		**13 17 29.5**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*Pg		**Pg**		**13 17 19.8**	**-0.6**
KULA				*e*Sg		**Sg**		**13 17 29.5**	**0.0**
KHL	**Karahalli**	**0.86**	**157**	*e*PG		**Pb**		**13 17 23.7**	**-0.4**
KHL	**Karahalli**	**0.86**	**157**	*e*Pg		**Pb**		**13 17 23.7**	**-0.4**
AKS	**Akhisar**	**1.03**	**257**	*e*PG		**Pg**		**13 17 26.4**	**-0.4**
AKS	**Akhisar**	**1.03**	**257**	*e*Pg		**Pg**		**13 17 26.4**	**-0.4**
BALB	**Balikesir**	**1.08**	**299**	*e*PN		**Pn**		**13 17 28.6**	**+0.4**
BALB	**Balikesir**	**1.08**	**299**	*e*Pn		**Pn**		**13 17 28.6**	**+0.4**
IGD	**Bursa**	**1.14**	**4**	*i* P		**Pb**		**13 17 28.2**	**-0.7**
IGD				*i* S		**Sb**		**13 17 44.2**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*PN		**Pg**		**13 17 30.7**	**+0.3**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*Pn		**Pg**		**13 17 30.7**	**+0.3**
IZI	**Iznik**	**1.25**	**13**	*e*PN		**Pg**		**13 17 31.1**	**+0.2**
IZI	**Iznik**	**1.25**	**13**	*e*Pn		**Pg**		**13 17 31.1**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*PN		**Pg**		**13 17 31.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*Pn		**Pg**		**13 17 31.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*PN		**Pg**		**13 17 31.9**	**+0.4**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn		**Pg**		**13 17 31.9**	**+0.4**
BALY	**Balya**	**1.30**	**299**	P		**Pn**		**13 17 31.4**	**0.0**
BALY	**Balya**	**1.30**	**299**	*i* P		**Pn**		**13 17 31.4**	**0.0**
DNZL	**Cakiroluk**	**1.43**	**182**	P		**Pg**		**13 17 35.4**	**+1.0**
DNZL	**Cakiroluk**	**1.43**	**182**	*i* P		**Pg**		**13 17 35.4**	**+1.0**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*PN		**Pg**		**13 17 34.1**	**-0.3**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*Pn		**Pg**		**13 17 34.1**	**-0.3**
ARMT	**Armutlu**	**1.45**	**353**	*e*PN		**Pg**		**13 17 34.8**	**0.0**
ARMT	**Armutlu**	**1.45**	**353**	*e*Pn		**Pg**		**13 17 34.8**	**0.0**
GULT	**Gulveren**	**1.70**	**39**	*e*PN		**Pb**		**13 17 37.8**	**-0.7**
GULT	**Gulveren**	**1.70**	**39**	*e*Pn		**Pb**		**13 17 37.8**	**-0.7**

IDC 12 13:25:40.0±13.0, 15.37S×165.81E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/35, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=227.9km s-min=35.6km az=56.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.70**	**175**	Pn		Pn		13 27 20.1	+0.3
	0.7nm,0.3s,baz=99,slow=17,SNR=18								
DZM						Sn	Sn	13 28 36.1	-0.7
STKA	**Stephens Creek**	**27.51**	**229**	P		P		13 31 28.2	-0.2
	1.2nm,0.5s,baz=50,slow=8.5,SNR=6.0								
WRA	**Warramunga Arr**	**30.30**	**257**	P		P		13 31 53.2	-0.2
	0.6nm,0.6s,baz=86,slow=9.1,SNR=24								
ASAR	**Alice Springs**	**31.13**	**250**	P		P		13 32 01.0	+0.3
	1.4nm,0.4s,baz=75,slow=9.1,SNR=62								

NIED ***12*** *13:33:00, 36.80N×140.50E, h5km, Mw3.4 Best double couple: M0 1.26000×10^14 NP1:ϕs296.00000°, δ32.00000°, λ-145.00000°. NP2:ϕs175.00000°, δ72.00000°, λ-63.00000°.*
IDC ***12*** *13:33:57.0±3.0, 36.77N×140.70E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/34, mbtmp3.6/3, ML3.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/36, Error ellipse: s-maj=48.5km s-min=29.1km az=29.0*
ISCJB ***12*** *13:33:59.1±0.6, 36.76N±0.03×140.64E±0.05, h19km±5km, mb3.5/2, MS3.8/1, Error ellipse: s-maj=7.6km s-min=4.8km az=16.4*
JMA ***12*** *13:33:59.9, 36.79N×140.54E, h8km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕs174.00000°, δ51.00000°, λ-73.00000°. NP2: ϕs328.00000°, δ42.00000°, λ-110.00000°. Principal axes: T Plg5.0000°, Azm252.0000°; N Plg13.0000°, Azm343.0000°; P Plg76.0000°, Azm142.0000°;*
JMA Felt II /1.

ISC 12 13:33:59.2±1.0, 36.79N±0.03×140.59E±0.05, h13km±7km, n20, σ0.974/21, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.18**	**185**	⇑P		**Pg**		**13 34 03.7**	**+0.3**
JHO				S		**Sg**		**13 34 06.4**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.35**	**29**	⇑P		**Pb**		**13 34 07.1**	**-0.3**
ONAJ				S		**Sb**		**13 34 12.4**	**-0.5**
JSB	**Shiboa**	**0.56**	**288**	⇑P		**Pb**		**13 34 10.7**	**-0.3**
JSB				S		**Sg**		**13 34 18.1**	**+0.3**
JFK	**Kawauchi**	**0.61**	**22**	⇑P		**Pb**		**13 34 11.6**	**-0.3**
JFK				S		**Sb**		**13 34 20.1**	**-0.4**
JYT	**Yasato**	**0.65**	**209**	⇑P		**Pb**		**13 34 11.7**	**-0.7**
JFT	**Otama**	**0.75**	**344**	⇑P		**Pb**		**13 34 14.0**	**-0.2**
JFT				S		**Sg**		**13 34 24.2**	**+0.5**
JFY	**Yanaizu**	**0.94**	**311**	P		**Pg**		**13 34 16.9**	**-0.4**
JAG	**Ashikaga**	**0.98**	**248**	⇑P		**Pg**		**13 34 17.0**	**-1.2**
MJAR	**Matsushiro Arr**	**1.93**	**263**	Pn		**Pn**		**13 34 32.4**	**+0.6**
	21nm,0.3s,baz=86,slow=15,SNR=191								
MJAR						Sn	**Sn**	**13 34 57.5**	**+1.5**
	22nm,0.3s,baz=74,slow=25,SNR=12								
MAT	**Matsushiro**	**1.93**	**263**	P		**Pn**		**13 34 32.4**	**+0.6**
MAT				S		**Sn**		**13 34 57.1**	**+1.1**
JHJ	**Hachijo jima 2**	**3.73**	**190**	Pn		**Pn**		**13 34 57.0**	**+0.6**
	3.8nm,0.3s,baz=105,slow=20,SNR=3.5								
JHJ						Sn	**Sn**	**13 35 41.1**	**+0.9**
	6.9nm,0.3s,baz=270,slow=20,SNR=2.4								
H11N2	**WAKE ISLAND Hy 28.60**	**119**		T		T		14 09 43.3	
	baz=312,slow=75,SNR=23								
H11N1	**WAKE ISLAND Hy 28.61**	**119**		T		T		14 09 43.5	
	baz=312,slow=75,SNR=21								
H11N3	**WAKE ISLAND Hy 28.62**	**119**		T		T		14 09 43.7	
	baz=312,slow=75,SNR=26								
H11S1	**WAKE ISLAND Hy 29.29**	**121**		T		T		14 10 34.0	
	baz=314,slow=76,SNR=78								
H11S3	**WAKE ISLAND Hy 29.29**	**121**		T		T		14 10 34.2	

comp=Z,2µm,19.7s,baz=80,slow=41
KAPI Kappang 3.14 258 *e*Pn **Pn 14 31 36.5 -0.8**
KAPI Sn **Sn 14 32 13.0 -0.6**
TTSI Tana Toraja 3.28 293 P **Pn 14 31 39.1 -0.2**
LUWI Luwuk 3.30 359 P **Pn 14 31 37.8 -1.8**
LUWI Luwuk 3.30 359 *e*Pn **Pn 14 31 37.7 -1.8**
SANI Sanana 3.90 54 P **Pn 14 31 46.8 -1.1**
MMRI Maumere 4.29 188 P **Pn 14 31 52.5 -0.7**
MMRI Maumere 4.29 188 *e*Pn **Pn 14 31 52.9 -0.3**
SOEI Soe 5.55 165 *e*Pn **Pn 14 32 13.9 +3.3**
FAKI Fak Fak 9.51 82 *e*Pn **Pn 14 33 05.7 +0.7**
MYLDM Lahad Datu 10.42 335 *e*Pn **Pn 14 33 17.3 -0.1**
DAV Davao City (W) 11.68 14 LR LR 14 38 16.3
comp=Z,452nm,20.8s,baz=205,slow=39
MTN Manton Dam 11.76 136 *e*Pn **Pn 14 33 35.7 -0.1**
FITZ Fitzroy Crossi 13.93 169 Pn **Pn 14 34 02.4 -3.0**
0.2nm,0.3s,baz=344,slow=6.2,SNR=10.0
FITZ LR LR 14 39 28.9
comp=Z,215nm,21.3s,baz=350,slow=37
JAY Jayapura 17.94 85 P **Pn 14 34 54.2 -3.1**
0.0nm,0.3s,baz=270,slow=20,SNR=2.3
TGY Tagaytay City 18.44 354 P **P 14 35 01.9 -1.2**
8.3nm,0.3s,baz=218,slow=6.6,SNR=3.9
TGY LR LR 14 43 58.4
comp=Z,233nm,18.0s,baz=120,slow=43
WRAB Tennant Creek 19.12 145 *e*P **P 14 35 08.8 -1.8**
18nm,0.9s
WRA Warramunga Arr 19.12 145 P **P 14 35 09.2 -1.4**
0.5nm,0.3s,baz=314,slow=13,SNR=27
WB2 Warramunga Arr 19.13 145 *e*P **P 14 35 09.3 -1.4**
20nm,0.9s
AS31 Alice Springs 21.97 152 *e*P **P 14 35 41.9 +0.4**
4.9nm,0.9s
ASAR Alice Springs 21.97 152 P **P 14 35 41.8 +0.3**
19nm,1.1s,baz=322,slow=8.6,SNR=55
ASAR PcP **PcP 14 39 40.0 +0.5**
0.3nm,0.6s,baz=345,slow=2.0,SNR=5.1
ASAR LR LR 14 44 42.8
comp=Z,285nm,18.6s,baz=328,slow=38
AS01 Alice Springs 21.99 152 *e*P **P 14 35 41.7 +0.1**
PSI Prapat 24.93 286 *e*P **P 14 36 09.8 -0.9**
18nm,0.9s
GSI Gunungsitoli 25.86 282 *e*P **P 14 36 18.8 -0.3**
11nm,0.8s
UBPT Khong Chiam 26.01 319 P **P 14 36 24.8 +4.4**
27nm,1.1s
QIZ Qiongzhong 26.53 332 P **P 14 36 25.9 +0.8**
QIZ S **S 14 40 59.4 +2.0**
QIZ LN
69nm,7.1s
QIZ LE
210nm,16.8s
QIZ LZ
310nm,18.1s
NWAO Narrogin (SRO) 28.90 190 LR LR 14 48 39.9
comp=Z,212nm,20.4s,baz=230,slow=37
STKA Stephens Creek 32.55 149 P **P 14 37 19.0 +0.6**
2.4nm,0.6s,baz=296,slow=8.0,SNR=7.1
STKA LR LR 14 51 33.7
comp=Z,227nm,18.0s,baz=344,slow=38
CM01 Chiang Mai Arr 32.65 315 *e*P **P 14 37 19.7 +0.2**
CMAR Chiang Mai Arr 32.69 315 P **P 14 37 21.2 +1.5**
1.7nm,0.7s,baz=138,slow=6.0,SNR=7.3
CMAR LR LR 14 53 33.2
comp=Z,109nm,18.2s,baz=120,slow=42
KMI Kunming 35.21 327 P **P 14 37 42.5 +0.6**
KMI pP sP 14 37 53.7 -1.8
KMI sP pP 14 37 56.9 +5.4
KMI S **S 14 43 18.9 +5.4**
KMI SS **SnSn 14 45 32.1 -0.5**
KMI PMZ
4.0nm,0.9s
KMI PMZ
76nm,5.6s
KMI LN
120nm,16.7s
KMI LE
110nm,14.6s
KMI LZ
170nm,22.7s
JNU Nakatsue 38.05 11 LR LR 14 53 59.8
comp=Z,59nm,21.1s,baz=122,slow=37
CD2 Chengdu 39.52 334 *e*P **P 14 38 18.3 +0.2**
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
120nm,5.4s
KSAR Wonju Array Be 41.85 6 P **P 14 38 37.3 +0.1**
KSRS Korea Array 41.87 6 P **P 14 38 37.3 0.0**
4.3nm,1.0s,baz=183,slow=11,SNR=17
KSRS LR LR 14 54 54.9
comp=Z,43nm,22.0s,baz=199,slow=35
KS01 Wonju Array Si 41.89 6 *e*P **P 14 38 37.5 0.0**
MAT Matsushiro 43.16 18 P **P 14 38 47.1 -0.7**
MJAR Matsushiro Arr 43.16 18 P **P 14 38 46.5 -1.4**
1.6nm,0.6s,baz=192,slow=8.5,SNR=9.7
PALK Pallekele 43.60 285 LR LR 14 56 23.3
comp=Z,102nm,21.5s,baz=116,slow=35
LZH Lanzhou 43.99 338 *e*P P 14 39 00.3 +5.5
LZH pP sP 14 39 10.5 +2.0
LZH sP pP 14 39 14.1 +10
LZH PMZ
28nm,1.1s
HHC Hu-ho-hao-te 46.16 348 *e*P **P 14 39 11.9 0.0**
HHC pP pP 14 39 21.2 -0.5
HHC sP sP 14 39 24.9 -0.7
HHC S **S 14 45 56.6 +0.7**
HHC PMZ
29nm,1.0s
HHC PMZ
64nm,5.4s
HHC LN
150nm,16.0s
HHC LE
150nm,17.3s
HHC LZ
120nm,16.0s
CN2 Changchun 48.00 3 *e*P P 14 39 30.4 +4.4
GTA Gaotai 48.45 336 *e*P **P 14 39 30.0 +0.2**
GTA pP pP 14 39 39.8 +0.1
GTA sP sP 14 39 43.6 0.0
GTA PMZ
4.0nm,1.5s
USRK Ussuriysk Ar. 49.04 9 P **P 14 39 34.0 0.0**
4.7nm,0.7s,baz=199,slow=5.7,SNR=13
USRK LR LR 15 01 18.7
comp=Z,49nm,21.0s,baz=187,slow=38
MDJ Mudanjiang 49.13 6 P **P 14 39 36.2 +1.5**
MDJ pP pP 14 39 45.3 +0.7
MDJ sP sP 14 39 48.8 +0.3
MDJ PcP **PcP 14 40 58.1 +0.3**
MDJ PP **PP 14 41 24.3 -4.4**
MDJ ScP **ScP 14 44 51.3 +0.5**
MDJ PcS **PcS 14 44 54.8 +0.7**
MDJ S **S 14 46 41.4 +3.6**
MDJ PMZ
18nm,1.0s
MDJ PMZ
68nm,4.5s
MDJ LN
66nm,32.7s
MDJ LE
11nm,30.0s
MDJ LZ
83nm,32.7s
MDJ Mudanjiang 49.13 6 *e*P **P 14 39 35.7 +1.0**
14nm,0.8s
HIA Hailar 53.48 357 *e*P **P 14 40 08.1 +0.9**
32nm,1.4s
ULN Ulaanbaatar 53.82 347 *e*P **P 14 40 09.9 0.0**
5.5nm,0.9s
SONM Songino Array 53.95 346 P **P 14 40 11.1 +0.3**
1.6nm,0.8s,baz=175,slow=8.7,SNR=10
SONM LR LR 15 05 25.6
comp=Z,68nm,18.4s,baz=154,slow=39
SONA1 Songino Array 53.95 346 *e*P **P 14 40 10.5 -0.5**
WMQ Urumqi 57.44 330 P **P 14 40 36.6 +0.6**
WMQ pP pP 14 40 45.6 -0.4
WMQ PMZ
7.0nm,0.6s
WMQ PMZ
75nm,5.0s
WMQ LN
49nm,23.6s
WMQ LE
34nm,26.2s
WMQ LZ
36nm,21.0s
KSH Kashi 61.34 320 P **P 14 41 00.4 -2.7**
KSH pP pP 14 41 11.3 -1.9
KSH PcP **PcP 14 41 42.2 -3.0**
KSH PP **PP 14 43 18.1 -0.4**
KSH ScS **ScS 14 50 43.7 -8.6**
KSH PMZ
8.0nm,1.2s
KSH LN
190nm,8.0s
KSH LE
190nm,7.8s
MK01 Makanchi Array 62.22 330 *e*P **P 14 41 08.9 +0.2**
MKAR Makanchi Array 62.24 330 P **P 14 41 09.3 +0.4**
2.7nm,0.8s,baz=138,slow=7.2,SNR=19
PETK Petropavlovsk- 64.34 22 LR LR 15 09 04.7
comp=Z,13nm,21.4s,baz=217,slow=36
EKS2 Erkin-Say 64.47 322 *e*P **P 14 41 22.6 -1.2**
7.1nm,1.3s
AFI Afiamalu 65.09 103 LR LR 15 11 07.8
comp=Z,25nm,20.1s,baz=299,slow=37
ZAA0 Zalesovo Array 66.20 337 *e*P **P 14 41 33.1 -1.5**
ZALV Zalesovo Beam 66.20 337 P **P 14 41 33.1 -1.6**
6.4nm,0.8s,baz=124,slow=4.6,SNR=17
ZALV LR LR 15 12 49.1
comp=Z,36nm,20.1s,baz=72,slow=38
KURK Kurchatov 66.67 331 *e*P **P 14 41 37.9 +0.2**
53nm,1.0s
BRVK Borovoye 72.19 330 *e*P **P 14 42 11.9 +0.1**
23nm,1.1s
ZRNK Zerenda 72.78 329 *e*P **P 14 42 15.2 0.0**
7.4nm,0.8s
GEYT Alibeck 73.11 312 P **P 14 42 19.6 +2.0**
0.7nm,0.3s,baz=115,slow=6.7,SNR=6.4
GEYT LR LR 15 18 45.7
comp=Z,46nm,21.8s,baz=285,slow=39
MAW Mawson 74.87 200 LR LR 15 14 19.4
comp=Z,69nm,18.1s,baz=70,slow=35
VNDA Vanda 75.98 172 P **P 14 42 35.1 +1.6**
1.1nm,0.9s,baz=313,slow=7.1,SNR=3.5
VNDA LR LR 15 14 31.6
comp=Z,67nm,20.9s,baz=335,slow=34
NRIK Noril'sk 77.39 348 LR LR 15 20 06.9
comp=Z,51nm,18.5s,baz=128,slow=38
SYO Syowa Base 83.53 201⇓ *e*P **P 14 43 15.8 +1.3**
PPT Papeete 86.41 107 LR LR 15 22 17.9
comp=Z,14nm,18.2s,baz=295,slow=36
TORD Torodi Ar. Bea 121.29 283 PKP **PKPdf 14 49 40.8 -0.2**
0.4nm,0.6s,baz=85,slow=2.5,SNR=2.9

MEX 12 14:34:46.0±0.4, 16°.06N×98°.02W, h4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**343**	*i* P	Pg	14 34 52.2	-0.4
PNIG				*i* S	Sg	14 34 57.4	+0.3
TLIG	**Tlapa**	**1.58**	**341**	*e*P	Pn	14 35 11.7	-3.2
TLIG				*e*S	Sn	14 35 31.6	-4.2
VHO	**Vista Hermosa**	**1.59**	**51**	*e*P	Pn	14 35 11.7	-3.5
VHO				*e*S	Sn	14 35 31.2	-5.1

*KRNET **12** 14:35:40.4±0.1, 39°.62N×71°.47E, h6km, mb2.4*
*NNC **12** 14:35:44.6±1.7, 39°.64N×71°.46E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=25.1km s-min=6.8km az=134.0*
*SOME **12** 14:35:50.5, 39°.97N×71°.53E, h5km*
ISC 12 14:35:40.4±1.2, 39°.58N±0°.04×71°.48E±0°.03, h5km±12km, n15,σ1°65/27, 19C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.27**	**113**⇑	*e*P	**Pg**	**14 35 46.4**	**+0.7**
DRK	baz=117			⇑*i*S	**Sg**	**14 35 50.5**	**+1.2**
BTK	**Batken**	**0.70**	**313**⇑	*e*P	**Pg**	**14 35 53.7**	**-0.1**
BTK	baz=312			⇑*e*S	**Sg**	**14 36 02.8**	**0.0**
OHH	**Osh**	**1.37**	**46**⇑	*e*P	**Pg**	**14 36 06.6**	**-0.1**
OHH	baz=48			⇑*e*S	**Sn**	**14 36 25.4**	**+0.5**
ARSB	**Arslanbob**	**2.08**	**33**⇑	*e*P	**Pb**	**14 36 18.1**	**-0.7**
ARSB	baz=33			⇑*e*S	**Sb**	**14 36 44.6**	**-0.4**
DZET	**Dzherino**	**2.20**	**250**	⇑Pn	**Pg**	**14 36 21.8**	**-0.9**
DZET	18nm,0.5s			⇓Sn	**Sg**	**14 36 52.0**	**+0.8**
IUG	**Iuzhnay**	**2.79**	**337**	*e*P	**Pg**	**14 36 37.1**	**+3.4**
IUG	13nm,0.3s			*e*S	**Sg**	**14 37 10.9**	**+1.0**
MNAS	**Manas**	**3.00**	**15**⇓	*i*P	**Pb**	**14 36 33.2**	**-1.2**
MNAS	baz=15			⇓*i*S	**Sb**	**14 37 10.7**	**-0.8**
MNAS	**Manas**	**3.00**	**15**	⇑Pg	**Pg**	**14 36 38.2**	**+0.3**
MNAS	2.1nm,0.6s			⇓Lg	Lg	14 37 16.3	
AML	**Almayashu**	**3.05**	**33**⇑	*i*P	**Pb**	**14 36 34.1**	**-1.3**
AML	baz=33			⇑*i*S	**Sb**	**14 37 12.1**	**-0.9**
ARLS	**Aral**	**3.14**	**43**⇑	*e*P	**Pn**	**14 36 32.4**	**+1.7**
ARLS	baz=43			⇑*i*S	**Sn**	**14 37 10.6**	**+2.0**
MRKS	**Merke**	**3.42**	**22**	*e*P	**Pg**	**14 36 47.3**	**+1.4**
MRKS	6.5nm,0.5s			*e*S	**Sg**	**14 37 27.0**	**-3.3**
UCH	**Uchtor**	**3.50**	**40**⇑	*i*P	**Pb**	**14 36 40.0**	**-3.1**
UCH	baz=41			⇑*i*S	**Sb**	**14 37 24.0**	**-2.1**
KK31	**Karatay Array**	**3.59**	**349**	⇑Pn	**Pb**	**14 36 42.3**	**-2.1**
KK31	0.6nm,0.4s,baz=178,slow=14,SNR=13			⇓Pg	**Pg**	**14 36 50.3**	**+1.1**
KK31	1.3nm,0.5s			⇑Lg	Lg	14 37 35.0	
AAK	**Ala-Archa**	**3.80**	**36**	⇓Pg	**Pg**	**14 36 54.5**	**+1.3**
AAK	4.1nm,0.8s			⇓Lg	Lg	14 37 41.8	
TKM2	**Tokmak 2**	**4.55**	**42**	⇑Pg	**Pg**	**14 37 08.2**	**+0.6**
TKM2	1.5nm,0.7s			⇓Lg	Lg	14 38 06.5	
	3.7nm,0.8s						

*IDC **12** 14:45:09.2±2.3, 36°.25N×141°.13E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/40, mbtmp3.2/4, ML3.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/26, Error ellipse: s-maj=53.9km s-min=24.3km az=47.0*
*ISCJB **12** 14:45:12.7±0.8, 36°.35N±0°.04×141°.05E±0°.07, h41km±9km, mb3.3/3, MS2.9/2, Error ellipse: s-maj=9.8km s-min=6.7km az=8.0*
*JMA **12** 14:45:13.7±0.1, 36°.34N×140°.96E, h45km±1km, M3.0*
ISC 12 14:45:12.7±1.9, 36°.37N±0°.04×141°.02E±0°.06, h25km±14km, n19,σ0°80/19, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.44**	**304**	P	**Pn**	**14 45 23.4**	**+0.1**
JHO				*e*S	**Sn**	**14 45 30.2**	**-0.3**
CHOJ	**Chosi**	**0.68**	**191**	P	**Pn**	**14 45 26.4**	**-0.2**
CHOJ				S	**Sb**	**14 45 35.0**	**+0.2**
JYT	**Yasato**	**0.68**	**258**	P	**Pn**	**14 45 26.4**	**-0.3**
JYT				S	**Sb**	**14 45 35.1**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.75**	**346**	P	**Pn**	**14 45 27.8**	**0.0**
ONAJ				S	**Sb**	**14 45 37.4**	**+0.3**
JFK	**Kawauchi**	**1.00**	**353**	P	**Pn**	**14 45 31.1**	**-0.1**
JFK				S	**Sn**	**14 45 43.5**	**-1.1**
JAG	**Ashikaga**	**1.26**	**273**	P	**Pn**	**14 45 34.7**	**0.0**
JAG				S	**Sn**	**14 45 49.9**	**-1.0**
MJAR	**Matsushiro Arr**	**2.27**	**275**	Pn	**Pn**	**14 45 49.5**	**+0.9**
	6.1nm,0.3s,baz=97,slow=19,SNR=79						
MJAR				Sn	**Sb**	**14 46 19.0**	**-1.7**
	2.6nm,0.3s,baz=180,slow=30,SNR=7.9						
MAT	**Matsushiro**	**2.27**	**275**	P	**Pn**	**14 45 50.0**	**+1.4**
MAT				S	**Sn**	**14 46 15.9**	**+0.1**
MA2	**Magadan**	**24.07**	**12**	LR	LR	15 00 34.3	
	comp=Z,19nm,18.5s,baz=320,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.09**	**119**	T	T	15 20 38.2	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**28.10**	**119**	T	T	15 20 39.8	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**28.11**	**119**	T	T	15 20 44.7	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**28.77**	**121**	T	T	15 21 17.9	
	baz=314,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.77**	**121**	T	T	15 21 30.7	
	baz=314,slow=76,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**28.79**	**121**	T	T	15 21 25.0	
	baz=314,slow=76,SNR=8.3						
TLY	**Talaya**	**30.53**	**312**	LR	LR	15 03 23.4	
	comp=Z,46nm,20.6s,baz=146,slow=36						
MKAR	**Makanchi Array**	**44.21**	**303**	P	**P**	**14 53 20.7**	**+1.1**
	0.4nm,0.8s,baz=98,slow=7.4,SNR=3.7						
WRA	**Warramunga Arr**	**56.36**	**188**	P	**P**	**14 54 51.4**	**-0.3**
	0.2nm,0.4s,baz=4.9,slow=7.4,SNR=6.6						
ASAR	**Alice Springs**	**60.09**	**188**	P	**P**	**14 55 17.3**	**-0.4**
	0.2nm,0.8s,baz=10,slow=5.8,SNR=3.0						

*IDC **12** 14:51:48.2±0.6, 16°.78N×122°.58E, h0km, mb4.1/21, mb1 4.2/22, mb1mx4.1/46, mbtmp4.1/22, ML4.7/1, MS3.3/3, Ms1 3.4/3, ms1mx2.7/47, Error ellipse: s-maj=19.4km s-min=12.0km az=90.0*
*MAN **12** 14:51:50, 16°.78N×122°.66E, h6km, mb5.2, ML4.2, MS4.4*
*NEIC **12** 14:51:52.6±1.9, 16°.79N×122°.48E, h29km±14km, mb4.4/14, Error ellipse: s-maj=11.8km s-min=5.7km az=99.0*
*BJI **12** 14:51:57.1, 16°.97N×121°.66E, h26km, mb4.3/20, mb4.4/9, Ms3.8/3, Ms7 3.6/3*
ISC 12 14:51:51.1±1.4, 16°.79N±0°.03×122°.59E±0°.05, h17km±8km, n91,σ2°.01/91, mb4.3/34, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.75**	**282**	*e*P	**Pg**	**14 52 05.5**	**-0.3**
CAUP				*e*S	**Sb**	**14 52 17.9**	**+2.3**
CVP	**Callao Caves**	**1.17**	**321**⇑	*e*P	**Pg**	**14 52 13.0**	**-0.7**
CVP				*i* S	**Sn**	**14 52 30.5**	**+2.4**
BALP	**Baler**	**1.43**	**223**	*e*P	**Pn**	**14 52 16.4**	**+0.2**
BALP				*e*S	**Sg**	**14 52 37.5**	**+0.4**
SGCP	**Mt. Cagua**	**1.54**	**340**	*e*P	**Pb**	**14 52 18.9**	**-0.1**
APYP	**Conner**	**1.67**	**310**	*e*P	**Pn**	**14 52 20.2**	**+0.7**
APYP				*e*S	**Sn**	**14 52 43.4**	**+2.9**
ABRA	**Dolores**	**1.99**	**296**	*e*P	**Pn**	**14 52 23.9**	**+0.1**
ABRA				*e*S	**Sn**	**14 52 51.3**	**+2.9**
PIP	**Pasuquin**	**2.42**	**309**⇓	*i*P	**Pn**	**14 52 30.9**	**+1.0**
PIP				*e*S	**Sn**	**14 52 53.1**	**-6.0**
BOLP	**Bolinao**	**2.60**	**261**	*e*P	**Pn**	**14 52 35.5**	**+3.3**
BOLP				*e*S	**Sb**	**14 53 11.7**	**+2.9**
SCZP	**Santa Cruz**	**2.76**	**249**	*e*P	**Pn**	**14 52 37.1**	**+2.5**
LQP	**Lukban**	**2.85**	**201**⇑	*e*P	**Pn**	**14 52 37.3**	**+1.4**
GQP	**Guinayangan**	**2.87**	**183**⇓	*e*P	**Pn**	**14 52 37.7**	**+1.6**
GQP				*e*S	**Sn**	**14 53 11.7**	**+1.6**
TGY	**Tagaytay City**	**3.11**	**211**	Pn	**Pn**	**14 52 37.4**	**-2.0**
	91nm,0.3s,baz=7.8,slow=13,SNR=4.5						
TGY				Lg	Lg	14 53 27.6	
	42nm,0.3s,baz=306,slow=19,SNR=2.5						
TGY	**Tagaytay City**	**3.11**	**211**⇑	*e*P	**Pg**	**14 52 48.4**	**-2.4**
BOAC	**Boac**	**3.39**	**192**	*e*P	**Pn**	**14 52 45.0**	**+1.8**
AUQP	**San Andres**	**3.45**	**179**	*e*P	**Pb**	**14 52 50.9**	**-0.7**
PVCP	**Virac**	**3.52**	**154**	*e*P	**Pn**	**14 52 45.5**	**+0.6**
LUBP	**Lubang**	**3.79**	**217**	*e*P	**Pn**	**14 52 50.8**	**+2.2**
OTRP	**Odiongan**	**4.43**	**187**	*e*P	**Pn**	**14 52 58.4**	**+0.8**
SJMP	**San Jose**	**4.53**	**198**	*e*P	**Pn**	**14 53 01.6**	**+2.7**
BESP	**Borongan**	**5.85**	**151**	*e*P	**Pn**	**14 53 18.5**	**+1.5**
PLP	**Palo**	**6.05**	**157**⇓	*e*P	**Pn**	**14 53 22.8**	**+3.0**
PLP				*e*S	**Sn**	**14 54 27.1**	**-1.6**
GUIM	**Jordan**	**6.13**	**180**	*e*P	**Pn**	**14 53 24.0**	**+3.2**
TWG	**Pinlang**	**6.17**	**347**	*e*Pn	Pn	14 53 16.3	-5.1
YULB	**Yu-li**	**6.68**	**350**	*e*Pn	**Pn**	**14 53 29.0**	**+0.6**
TPUB	**Ta-pu**	**6.74**	**344**	*e*Pn	**Pn**	**14 53 26.2**	**-2.9**
SSLB	**Suanglung**	**7.13**	**348**	*e*Pn	**Pn**	**14 53 36.9**	**+2.3**
NACB	**Ninganchiao**	**7.41**	**353**	*e*Pn	**Pn**	**14 53 38.3**	**-0.1**
YOJ	**Yonaguni jima**	**7.64**	**3**	*e*Pn	**Pn**	**14 53 43.1**	**+1.5**
YHNB	**Yeheng**	**7.92**	**352**	*e*Pn	**Pn**	**14 53 44.8**	**-0.7**
DAV	**Davao City (W)**	**10.09**	**163**	LR	LR	14 58 49.2	
	comp=Z,337nm,19.4s,baz=170,slow=42						
SBUM	**Sibu**	**17.52**	**217**	*e*Pn	**Pn**	**14 55 55.5**	**+0.8**
	8.2nm,0.9s						
GYA	**Guiyang**	**17.64**	**306**	*e*P	**Pn**	**14 55 51.9**	**-4.3**
GYA				PMZ			
	10.0nm,0.7s						
KSM	**Kuching**	**19.43**	**220**	*e*P	**P**	**14 56 18.1**	**+1.3**
	12nm,1.0s						
KMI	**Kunming**	**20.29**	**297**	P	**P**	**14 56 27.1**	**+0.8**
KMI				pP	sP	14 56 33.8	+0.3
KMI				sP	Pn	14 56 36.8	+8.5
KMI				S	S	15 00 04.2	-9.2
KMI				sS	sS	15 00 13.8	-7.5
KMI				PMZ			
	6.0nm,1.2s						
KMI				PMZ			
	71nm,4.0s						
KMI				LN			
	190nm,16.1s						
KMI				LE			
	140nm,19.2s						
KMI				LZ			
	120nm,16.9s						
KSAR	**Wonju Array Be**	**21.10**	**12**	P	**P**	**14 56 35.2**	**+0.6**
XAN	**Xi'an**	**21.11**	**327**	P	**P**	**14 56 35.6**	**+0.6**
XAN				sP	sP	14 56 43.0	+0.8
XAN				PMZ			
	14nm,0.8s						
KSRS	**Korea Array**	**21.12**	**12**	P	**P**	**14 56 35.2**	**+0.4**
	1.8nm,0.8s,baz=196,slow=11,SNR=8.5						
KSRS				LR	LR	15 04 55.2	
	comp=Z,46nm,21.1s,baz=207,slow=37						
CD2	**Chengdu**	**22.18**	**313**	*e*P	**P**	**14 56 42.4**	**-4.1**
CMAR	**Chiang Mai Arr**	**22.59**	**278**	P	**P**	**14 56 51.2**	**+0.2**
	1.7nm,0.7s,baz=82,slow=8.8,SNR=11						
CMAR				LR	LR	15 06 14.4	
	comp=Z,80nm,18.8s,baz=95,slow=38						
MYKOM	**Kota Tinggi**	**23.71**	**233**	*e*P	**P**	**14 57 01.3**	**-1.0**
	12nm,1.0s						
IPM	**Ipoh**	**24.43**	**242**	*e*P	**P**	**14 57 08.3**	**-0.8**
	8.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**25.80**	**341**	*e*P	**P**	**14 57 22.0**	**+0.6**
HHC				sP	sP	14 57 40.8	+12
HHC				PP	**PnPn**	**14 58 02.9**	**+4.5**
HHC				S	**S**	**15 01 46.6**	**-3.5**
HHC				SS	**SnSn**	**15 02 46.4**	**+0.3**
HHC				PMZ			
	19nm,0.9s						
HHC				PMZ			
	76nm,5.5s						
CN2	**Changchun**	**27.04**	**5**	*e*P	**P**	**14 57 38.9**	**+6.6**
USRK	**Ussuriysk Ar.**	**28.46**	**14**	P	**P**	**14 57 44.8**	**-0.2**
	1.6nm,0.6s,baz=198,slow=7.7,SNR=5.9						
ULN	**Ulaanbaatar**	**33.52**	**341**	*e*P	**P**	**14 58 29.8**	**0.0**
	4.3nm,1.0s						
SONM	**Songino Array**	**33.70**	**340**	P	**P**	**14 58 31.9**	**+0.5**
	3.3nm,0.9s,baz=159,slow=8.7,SNR=14						
SONA1	**Songino Array**	**33.71**	**340**	*e*P	**P**	**14 58 30.3**	**-1.2**
TLY	**Talaya**	**37.93**	**341**	P	**P**	**14 59 07.9**	**+0.4**
	2.8nm,0.6s,baz=251,slow=2.9,SNR=4.7						
WRA	**Warramunga Arr**	**38.28**	**162**	P	**P**	**14 59 09.7**	**-1.0**
	2.2nm,1.0s,baz=343,slow=9.1,SNR=2.4						
WMQ	**Urumqi**	**39.93**	**320**	P	**P**	**14 59 22.6**	**-1.9**
WMQ				pP	sP	14 59 32.6	+0.6
WMQ				sP	pP	14 59 36.6	+6.8
ASAR	**Alice Springs**	**41.70**	**164**	P	**P**	**14 59 39.4**	**+0.3**
	1.0nm,0.6s,baz=344,slow=7.0,SNR=21						
H11S3	**WAKE ISLAND Hy**	**41.98**	**81**	T	T	15 44 33.7	
	baz=275,slow=75,SNR=1441						
H11S1	**WAKE ISLAND Hy**	**41.99**	**81**	T	T	15 44 34.6	
	baz=275,slow=75,SNR=1557						
H11S2	**WAKE ISLAND Hy**	**42.00**	**81**	T	T	15 44 34.9	
	baz=275,slow=75,SNR=1081						
H11N1	**WAKE ISLAND Hy**	**42.09**	**79**	T	T	15 44 43.8	
	baz=273,slow=74,SNR=480						
H11N2	**WAKE ISLAND Hy**	**42.09**	**79**	T	T	15 44 41.8	
	baz=273,slow=74,SNR=480						
H11N3	**WAKE ISLAND Hy**	**42.11**	**79**	T	T	15 44 42.6	
	baz=273,slow=74,SNR=431						

MK01	Makanchi Array	44.70	321	*e*P	P	15 00 01.4	-1.8
MKAR	Makanchi Array	44.72	321	P	P	15 00 03.1	-0.2
	1.0nm,0.8s,baz=116,slow=8.4,SNR=9.4						
PEA0	Petropavlovsk-	45.46	29	*e*P	P	15 00 09.9	+0.9
PETK	Petropavlovsk-	45.46	29	P	P	15 00 10.3	+1.2
	2.6nm,0.6s,baz=208,slow=4.3,SNR=4.3						
ZAA0	Zalesovo Array	47.22	330	*e*P	P	15 00 21.7	-1.2
ZALV	Zalesovo Beam	47.22	330	P	P	15 00 21.4	-1.6
	1.3nm,0.7s,baz=101,slow=7.7,SNR=6.7						
KURK	Kurchatov	48.71	324	*e*P	P	15 00 34.1	-0.4
	25nm,1.1s						
KURBB	Kurchatov Arra	48.72	324	P	P	15 00 34.4	-0.1
	3.2nm,0.8s,baz=122,slow=7.7,SNR=29						
KKAR	Karatay Array	51.20	312	*e*P	P	15 00 52.3	-1.3
STKA	Stephens Creek	51.71	159	P	P	15 00 57.4	0.0
	2.5nm,1.0s,baz=356,slow=7.0,SNR=3.8						
BRVK	Borovoye	54.38	324	*e*P	P	15 01 16.4	-0.5
	10nm,0.9s						
ZRNK	Zerenda	55.07	324	*e*P	P	15 01 20.9	-1.0
	4.7nm,0.8s						
NRIK	Noril'sk	56.85	346	P	P	15 01 34.2	-0.2
	3.5nm,0.6s,baz=126,slow=5.6,SNR=9.4						
BILL	Bilibino	58.23	18	*e*P	P	15 01 49.3	+5.2
	3.2nm,0.8s						
ABKAR	Akbulak array	59.65	318	*e*P	P	15 01 53.3	-1.0
GEYT	Alibeck	59.86	304	P	P	15 01 56.9	+0.9
	4.1nm,0.8s,baz=205,slow=3.1,SNR=9.7						
ARU	Arti	61.85	325	*e*P	P	15 02 07.8	-1.4
	4.9nm,0.9s						
AFI	Afiamalu	71.63	111	*e*P	P	15 03 20.0	+7.7
	67nm,0.9s						
MLY	Manley	73.53	26	*e*P	P	15 03 28.5	+5.8
	2.1nm,0.8s						
RND	Reindeer	74.50	28	*e*P	P	15 03 33.2	+4.7
	5.0nm,1.0s						
ILAR	Eielson Array	75.19	26	P	P	15 03 31.3	-1.0
	0.1nm,0.5s,baz=275,slow=4.6,SNR=3.7						
DOT	Dot Lake	76.59	27	*e*P	P	15 03 45.8	+5.4
	12nm,1.2s						
ARCES	ARCESS Array B	76.87	339	P	P	15 03 41.1	-0.7
	2.3nm,0.9s,baz=64,slow=8.2,SNR=4.7						
EGAK	Eagle	77.60	26	*e*P	P	15 03 50.5	+4.4
	2.4nm,1.0s						
FINES	FINESS Array B	78.49	331	P	P	15 03 50.7	-0.2
	2.3nm,0.5s,baz=46,slow=5.5,SNR=16						
AKASG	Malin Array Be	79.29	320	P	P	15 03 54.8	-0.8
	1.2nm,0.6s,baz=59,slow=5.2,SNR=4.6						
BUR08	Bucovina Ar. S	82.63	317	*e*P	P	15 04 13.2	-0.5
NC405	NORSAR Array S	85.11	333	*e*P	P	15 04 25.7	-0.2
NB2	NORSAR Subarra	85.36	333	P	P	15 04 26.3	-0.9
	comp=Z,2.7nm,0.7s,baz=63,slow=5.1						
NOA	NORSAR Array B	85.36	333	P	P	15 04 26.6	-0.6
	comp=Z,3.4nm,0.7s,baz=64,slow=5.0,SNR=14						
VYHS	Vyhne	86.39	320	*e*P	P	15 04 32.4	-0.2
VYHS				*e*		15 04 37.5	
YKA	Yellowknife Ar	89.24	23	P	P	15 04 46.6	+0.7
	comp=Z,1.3nm,0.6s,baz=305,slow=4.3,SNR=11						
GERES	GERESS Array B	89.39	321	P	P	15 04 46.6	-0.4
	comp=Z,0.5nm,0.7s,baz=77,slow=5.1,SNR=4.3						
TXAR	Lajitas Array	116.00	45	PKP	PKPdf	15 10 34.4	+0.6
	comp=Z,0.3nm,0.6s,baz=301,slow=0.7,SNR=4.2						

*ISCJB **12** 15:01:51.8±0.7, 18°.23N±0°.04×120°.33E±0°.07, h42km±9km, mb4.5/6, Error ellipse: s-maj=11.1km s-min=6.8km az=4.9*
*MAN **12** 15:01:51, 18°.20N×120°.36E, h22km, mb4.8, ML3.7, MS3.7*
*IDC **12** 15:01:58.1±2.4, 17°.94N×120°.56E, h112km±26km, mb3.2/8, mb1 3.4/9, mb1mx3.2/43, mbtmp3.6/9, Error ellipse: s-maj=30.8km s-min=14.1km az=68.0*

ISC 12 15:01:51.5±1.7, 18°.20N±0°.05×120°.35E±0°.06, h28km±13km, n18, σ1ş86/25, mb3.6/6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.28	64	⇑*i*P	Pn	15 01 60.0	+0.2
PIP				*e*S	Sn	15 02 06.6	+1.5
ABRA	Dolores	0.65	148	*e*P	Pb	15 02 03.3	-1.0
ABRA				*e*S	Sn	15 02 13.6	-0.6
APYP	Conner	0.91	112	*e*P	Pb	15 02 07.9	-0.8
APYP				*e*S	Sn	15 02 20.8	+0.1
CVP	Callao Caves	1.49	109	*e*P	Pb	15 02 17.1	-1.3
CVP				*i* S	Sb	15 02 38.2	+1.3
BOLP	Bolinao	1.86	193	*e*P	Pn	15 02 21.2	-0.3
BOLP				*e*S	Sb	15 02 46.0	-1.6
CAUP	Cauayan	1.88	131	*e*P	Pb	15 02 24.1	-1.1
CAUP				*e*S	Sb	15 02 50.6	+2.3
BALP	Baler	2.71	154	*e*P	Pn	15 02 34.5	+1.3
BALP				*e*S	Sn	15 03 07.5	+2.4
POLP	Polilio Island	3.77	156	*e*P	Pn	15 02 48.1	+0.3
TGY	Tagaytay City	4.12	172	P	Pn	15 02 54.5	+1.9
	28nm,0.3s,baz=319,slow=20,SNR=2.2						
TGY				S	Sn	15 03 41.2	+1.3
	15nm,0.3s,baz=323,slow=20,SNR=1.1						
LUBP	Lubang	4.44	181	*e*P	Pn	15 03 01.1	+4.1
KSRS	Korea Array	20.30	18	P	P	15 06 25.4	+0.3
	1.1nm,0.8s,baz=197,slow=11,SNR=4.7						
CMAR	Chiang Mai Arr	20.32	274	P	P	15 06 26.7	+1.1
	1.3nm,0.7s,baz=90,slow=8.9,SNR=7.9						
SONM	Songino Array	31.68	342	P	P	15 08 14.1	+1.4
	0.2nm,0.4s,baz=147,slow=8.6,SNR=1.4						
WRA	Warramunga Arr	40.32	159	P	P	15 09 20.8	-5.8
	0.5nm,0.6s,baz=344,slow=9.0,SNR=8.0						
MKAR	Makanchi Array	42.28	321	P	P	15 09 43.5	+0.9
	1.8nm,0.9s,baz=122,slow=8.5,SNR=15						
ASAR	Alice Springs	43.67	162	P	P	15 09 49.5	-4.5
	0.7nm,0.4s,baz=338,slow=7.1,SNR=35						
ZALV	Zalesovo Beam	44.95	331	P	P	15 10 04.7	+0.8
	0.6nm,0.6s,baz=126,slow=7.4,SNR=4.0						
ILAR	Eielson Array	74.88	26	P	P	15 13 27.9	-1.5
	0.2nm,0.6s,baz=260,slow=5.4,SNR=2.0						

*DJA **12** 15:15:32.2±1.1, 5°.S±9°.×14°.7E±1°.1, h172km±7km, M4.6/12, mB4.8/2, mb4.5/12, ML4.7/3, Mw(mB)4.1/2*
*ISCJB **12** 15:15:33.2±0.5, 5°.43S±0°.05×147°.05E±0°.07, h195km, mb4.1/16, Error ellipse: s-maj=9.4km s-min=7.5km az=174.3*
*NEIC **12** 15:15:33.6±0.4, 5°.45S×147°.14E, mb4.1/4, Error ellipse: s-maj=13.5km s-min=7.1km az=96.0*
*IDC **12** 15:15:33.9±1.6, 5°.51S×147°.08E, h190km±14km, mb3.8/11, mb1 4.0/14, mb1mx3.6/36, mbtmp4.4/14, Error ellipse: s-maj=19.1km s-min=9.7km az=109.0*

ISC 12 15:15:34.0±0.7, 5°.51S±0°.07×147°.08E±0°.10, h195km, n30, σ1ş59/35, mb3.9/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.87	179	P	Pn	15 16 32.6	-1.5
	24nm,0.3s,baz=18,slow=7.9,SNR=113						
PMG				S	Sn	15 17 16.7	-4.5
	20nm,0.3s,baz=264,slow=23,SNR=7.0						
JAY	Jayapura	7.02	295	P	Pn	15 17 14.7	+0.1
	0.5nm,0.3s,baz=98,slow=21,SNR=22						
JAY				S	Sn	15 18 30.9	-3.4
	0.2nm,0.3s,baz=270,slow=20,SNR=2.3						
JAY	Jayapura	7.02	295	P	Pn	15 17 14.5	0.0
	29nm,1.3s,393nm0.1nm						
GENI	Genyem	7.48	293	P	Pn	15 17 18.3	-2.2
	68nm,1.2s,0.3nm						
COEN	Coen	9.23	204	*e*P	Pn	15 17 44.7	+1.3
CTA	Charters Tower	14.52	183	P	P	15 18 51.9	-0.1
	0.6nm,0.3s,baz=6,slow=13,SNR=12						
CTAO	Charters Tower	14.52	183	*e*P	P	15 18 54.0	+2.1
WRAB	Tennant Creek	18.94	220	*e*P	P	15 19 41.5	+1.0
	44nm,0.8s						
WRA	Warramunga Arr	18.96	220	P	P	15 19 41.6	+1.0
	3.5nm,0.3s,baz=45,slow=9.9,SNR=165						
WRA				S	S	15 23 04.6	-1.1
	0.1nm,0.3s,baz=43,slow=19,SNR=9.0						
ASAR	Alice Springs	22.07	214	P	P	15 20 14.6	+1.2
	24nm,0.7s,baz=47,slow=8.2,SNR=471						
ASAR				S	S	15 24 05.0	+2.4
	7.0nm,0.9s,baz=27,slow=21,SNR=8.3						
FITZ	Fitzroy Crossi	24.39	237	P	P	15 20 35.9	+1.3
	19nm,0.5s,baz=54,slow=9.0,SNR=59						
FITZ	Fitzroy Crossi	24.39	237	*e*P	P	15 20 36.0	+1.4
KDI	Kendari	24.42	273	P	P	15 20 37.8	+2.9
	72nm,0.7s,1μm						
MMRI	Maumere	24.84	261	P	P	15 20 38.9	+0.2
	70nm,1.0s						
STKA	Stephens Creek	26.73	190	P	P	15 20 55.5	0.0
	1.6nm,0.7s,baz=29,slow=19,SNR=6.1						
ULN	Ulaanbaatar	63.72	331	*e*P	P	15 25 46.4	+1.4
SONM	Songino Array	64.02	331	P	P	15 25 47.3	+0.4
	1.0nm,0.8s,baz=152,slow=7.6,SNR=5.4						
VNDA	Vanda	72.39	177	P	P	15 26 38.9	+0.6
	3.9nm,0.7s,baz=323,slow=7.0,SNR=15						
MKAR	Makanchi Array	77.17	320	P	P	15 27 06.7	+0.4
	0.3nm,0.5s,baz=130,slow=3.8,SNR=4.1						
MKAR				pP	pP	15 27 52.1	-1.1
	0.7nm,0.9s,baz=98,slow=6.0,SNR=3.1						
ZALV	Zalesovo Beam	78.64	328	P	P	15 27 14.5	+0.4
	1.0nm,0.5s,baz=108,slow=3.3,SNR=5.0						
MAW	Mawson	82.73	203	P	P	15 27 36.1	+0.5
	0.9nm,0.4s,baz=59,slow=5.9,SNR=4.0						
QSPA	South Pole Qui	84.46	180	*e*P	P	15 27 44.2	-0.4
COLA	College	84.67	23	*e*P	P	15 27 45.1	-0.3
	5.2nm,1.0s						
NRIK	Noril'sk	84.83	342	P	P	15 27 45.8	-0.4
	0.8nm,0.4s,baz=121,slow=6.1,SNR=3.9						
COLD	Coldfoot	84.85	20	*e*P	P	15 27 47.3	+1.0
	1.9nm,0.9s						
ILAR	Eielson Array	85.00	23	P	P	15 27 46.5	-0.6
	2.4nm,0.8s,baz=252,slow=5.1,SNR=32						
ILAR				pP	pP	15 28 32.3	-2.7
	1.2nm,0.8s,baz=243,slow=4.0,SNR=6.1						
EGAK	Eagle	87.29	24	*e*P	P	15 27 59.0	+0.7
	1.6nm,0.9s						
NVAR	Mina Array Bea	97.01	52	P	Pdif	15 28 45.4	+1.3
	0.6nm,0.7s,baz=262,slow=6.1,SNR=3.4						
GERES	GERESS Array B	121.55	326	PKP	PKPdf	15 34 04.8	+0.3
	0.3nm,0.6s,baz=21,slow=6.3,SNR=4.1						
TORD	Torodi Ar. Bea	145.04	285	PKPbc	PKPbc	15 34 48.9	0.0
	0.9nm,0.5s,baz=67,slow=3.7,SNR=10.0						

*IDC **12** 15:26:02.2±1.0, 34°.74N×142°.79E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/49, mbtmp3.5/8, ML3.4/2, MS2.2/1, Ms1 2.2/1, ms1mx1.9/40, Error ellipse: s-maj=27.5km s-min=23.3km az=107.0*
*JMA **12** 15:26:04.1±0.4, 34°.79N×142°.80E, h56km, M3.4*
*ISCJB **12** 15:26:05.2±0.7, 34°.76N±0°.06×142°.67E±0°.07, h33km, mb3.4/6, Error ellipse: s-maj=9.4km s-min=7.3km az=30.6*

ISC 12 15:26:06.9±1.0, 34°.80N±0°.07×142°.69E±0°.08, h35km, n24, σ1ş42/21, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.42	265	P	Pn	15 26 29.1	-0.6
BSO1				S	Sn	15 26 48.6	+1.7
CHOJ	Chosi	1.75	302	*e*S	Sn	15 26 55.9	+0.1
BSO3	Boso 3	1.79	271	P	Pn	15 26 34.3	-0.8
JYT	Yasato	2.49	306	P	Pn	15 26 44.0	-0.9
JHO	Hitachi	2.50	317	P	Pn	15 26 43.6	-1.5
JHJ2	Mitsune	2.92	236	P	Pn	15 26 50.1	-0.8
JHJ	Hachijo jima 2	2.94	236	Pn	Pn	15 26 50.0	-1.2
	32nm,0.3s,baz=103,slow=23,SNR=21						
JHJ				Sn	Sn	15 27 21.8	-3.4
	30nm,0.3s,baz=68,slow=20,SNR=7.2						
JHU	Hanno	2.98	292	P	Pn	15 26 51.8	+0.1
MJAR	Matsushiro Arr	4.04	297	Pn	Pn	15 27 06.5	+0.2
	0.8nm,0.3s,baz=84,slow=27,SNR=9.6						
MJAR				Sn	Sn	15 27 51.8	-0.7
	0.9nm,0.3s,baz=111,slow=14,SNR=6.3						
MAT	Matsushiro	4.04	297	P	Pn	15 27 06.6	+0.3
MAT				*e*S	Sn	15 27 51.7	-0.8
ASAJ	Asahikawa	9.31	360	Pn	Pn	15 28 15.3	-3.2
	baz=212,slow=9.5						
KSRS	Korea Array	12.23	287	LR	LR	15 34 04.9	
	comp=Z,12nm,19.8s,baz=85,slow=39						
H11N2	WAKE ISLAND Hy	26.14	119	T	T	15 58 53.9	
	baz=309,slow=74,SNR=6.1						
H11N1	WAKE ISLAND Hy	26.15	119	T	T	15 58 56.7	
	baz=309,slow=74,SNR=4.4						
H11N3	WAKE ISLAND Hy	26.16	119	T	T	15 58 58.0	
	baz=309,slow=74,SNR=5.2						
H11S1	WAKE ISLAND Hy	26.80	121	T	T	15 59 40.4	
	baz=312,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	26.80	121	T	T	15 59 40.4	
	baz=312,slow=76,SNR=9.6						
H11S2	WAKE ISLAND Hy	26.81	121	T	T	15 59 41.6	
	baz=312,slow=76,SNR=10						
ZALV	Zalesovo Beam	44.20	314	P	P	15 34 13.0	+0.8
	0.4nm,0.5s,baz=110,slow=12,SNR=2.2						
MKAR	Makanchi Array	46.21	304	P	P	15 34 29.9	+1.6
	0.2nm,0.8s,baz=96,slow=10,SNR=2.3						
ILAR	Eielson Array	50.84	31	P	P	15 35 03.6	-0.2
	0.1nm,0.5s,baz=259,slow=1.8,SNR=2.1						
WRA	Warramunga Arr	55.01	190	P	P	15 35 35.1	+0.2
	0.7nm,0.7s,baz=7.1,slow=7.1,SNR=5.7						
ASAR	Alice Springs	58.74	189	P	P	15 36 01.5	+0.2
	0.7nm,0.9s,baz=3.3,slow=6.4,SNR=4.9						
NVAR	Mina Array Bea	75.50	53	P	P	15 37 48.9	+1.0
	0.5nm,0.6s,baz=309,slow=7.5,SNR=4.0						

*NIED **12** 15:30:00, 38°.20N×141°.70E, h47km, Mw3.4 Best double couple: M0 1.26000×10^14 NP1:φs271.00000°, δ10.00000°, λ3.00000°. NP2:φs178.00000°, δ90.00000°, λ100.00000°.*
*ISCJB **12** 15:30:21.1±0.7, 38°.17N±0°.03×141°.72E±0°.08, h64km±6km, mb3.4/5, Error ellipse: s-maj=10.7km s-min=5.3km az=10.1*
*IDC **12** 15:30:22.4±2.4, 38°.14N×141°.76E, h59km±22km, mb3.1/5, mb1 3.4/8, mb1mx3.2/51, mbtmp3.5/8, ML2.8/3, Error ellipse: s-maj=31.5km s-min=14.0km az=93.0*
*JMA **12** 15:30:22.7, 38°.21N×141°.62E, h59km±1km, M3.7*
JMA Felt I J1.

ISC 12 15:30:21.8±1.3, 38°.19N±0°.04×141°.78E±0°.09, h50km±11km, n27, σ1ş55/35, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.43	308	P	Pn	15 30 33.1	+0.8
JIO				S	Sn	15 30 40.3	+0.5
JMM	Marumori	0.85	248	P	Pn	15 30 37.2	-0.3
JMM				*e*S	Sn	15 30 47.8	-1.1
JMK	Ichinoseki	0.88	330	P	Pn	15 30 38.5	+0.6
JMK				S	Sn	15 30 49.8	+0.1
JOU	Okura	0.90	282	P	Pn	15 30 38.0	-0.2
JOU				*e*S	Sn	15 30 49.0	-1.2
JFK	Kawauchi	1.09	221	P	Pn	15 30 41.1	+0.3
JFK				*e*S	Sn	15 30 54.6	-0.3
JFT	Otama	1.33	240	P	Pn	15 30 44.2	+0.2
JFT				*e*S	Sn	15 30 59.7	-0.9
JYK	Kaneyama	1.33	303	P	Pn	15 30 43.9	-0.1
JYK				S	Sn	15 31 00.0	-0.7
JOM	Ohasama	1.34	343	P	Pn	15 30 44.9	+0.8
JOM				*e*S	Sn	15 31 01.3	+0.5
JYS	Shirataka	1.35	272	P	Pn	15 30 44.2	-0.1
JYS				*e*S	Sn	15 31 00.5	-0.7
JRG	Rokugo	1.50	324	P	Pn	15 30 46.9	+0.6
JRG				*e*S	Sn	15 31 05.4	+0.6
JYA	Atsumi	1.68	284	P	Pn	15 30 48.3	-0.4
JYA				*e*S	Sn	15 31 08.1	-0.9
MJAR	Matsushiro Arr	3.29	241	P	Pn	15 31 12.1	+1.3
	1.3nm,0.3s,baz=35,slow=14,SNR=13						
MJAR				S	Sn	15 31 53.7	+5.0
	1.0nm,0.3s,baz=16,slow=24,SNR=5.6						
MAT	Matsushiro	3.29	241	P	Pn	15 31 12.7	+1.8
MAT				*e*S	Sn	15 31 54.2	+5.4
JHJ	Hachijo jima 2	5.32	198	P	Pn	15 31 39.4	+0.7
	1.8nm,0.3s,baz=234,slow=18,SNR=4.2						
JHJ				S	Sn	15 32 37.3	-1.3
	6.8nm,0.3s,baz=97,slow=22,SNR=5.6						
ASAJ	Asahikawa	5.95	6	P	Pn	15 31 47.6	+0.3
USRK	Ussuriysk Ar.	9.51	312	P	Pn	15 32 36.7	+0.7
	0.5nm,0.3s,baz=139,slow=12,SNR=8.4						
SONM	Songino Array	27.40	302	P	P	15 36 03.1	+0.5
	0.2nm,0.5s,baz=108,slow=9.4,SNR=2.4						
H11N2	WAKE ISLAND Hy	28.51	123	T	T	16 06 28.3	
	baz=316,slow=75,SNR=55						
H11N1	WAKE ISLAND Hy	28.52	123	T	T	16 06 30.3	
	baz=316,slow=75,SNR=34						
H11N3	WAKE ISLAND Hy	28.53	123	T	T	16 06 30.9	
	baz=316,slow=75,SNR=43						
H11S1	WAKE ISLAND Hy	29.26	125	T	T	16 07 24.9	
	baz=318,slow=76,SNR=23						
H11S3	WAKE ISLAND Hy	29.26	125	T	T	16 07 24.7	
	baz=318,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy	29.28	125	T	T	16 07 25.8	
	baz=318,slow=76,SNR=24						
MKAR	Makanchi Array	43.76	301	P	P	15 38 20.9	-1.3
	0.2nm,0.4s,baz=93,slow=5.9,SNR=4.0						
ILAR	Eielson Array	48.36	33	P	P	15 38 58.5	+0.3
	0.3nm,0.7s,baz=266,slow=7.1,SNR=4.4						
WRA	Warramunga Arr	58.25	188	P	P	15 40 10.2	-1.0
	0.5nm,0.5s,baz=6.0,slow=7.3,SNR=17						
ASAR	Alice Springs	61.97	188	P	P	15 40 36.1	-0.5
	0.2nm,0.6s,baz=358,slow=4.2,SNR=7.3						

*DDA **12** 15:34:37.5, 39°.12N×29°.05E, h7km, Md2.9*
*ISCJB **12** 15:34:38.1±0.5, 39°.13N±0°.03×29°.06E±0°.03, h3km±6km, Error ellipse: s-maj=5.3km s-min=4.3km az=149.6*
*CSEM **12** 15:34:38.2±0.2, 39°.13N×29°.07E, h2km, MD2.9, Error ellipse: s-maj=3.6km s-min=3.5km az=83.0*
*ISK **12** 15:34:38.2, 39°.14N×29°.09E, h6km, MD2.5*

ISC 12 15:34:38.2±1.0, 39°.12N±0°.02×29°.05E±0°.02, h6km±10km, n35, σ0ş58/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.28	253	P	Pg	15 34 43.9	+0.3
DEMI				S	Sg	15 34 47.8	+0.6
DEMI	Demirci	0.28	253	*i* P	Pg	15 34 43.9	+0.3
DEMI				*i* S	Sg	15 34 47.8	+0.6
GEDZ	Gediz	0.29	105	*e*PG	Pg	15 34 44.1	+0.2
GEDZ	Gediz	0.29	105	*e*Pg	Pg	15 34 44.1	+0.2
GDZ	Gediz	0.33	96	P	Pg	15 34 44.6	-0.2
GDZ				S	Sg	15 34 49.4	+0.2
GDZ	Gediz	0.33	96	*i* P	Pg	15 34 44.6	-0.2
GDZ				*i* S	Sg	15 34 49.4	+0.2
TVSB	Tavsanli	0.46	44	*e*PG	Pg	15 34 46.7	-0.3
TVSB				*e*SG	Sg	15 34 52.9	-0.1
TVSB	Tavsanli	0.46	44	*e*Pg	Pg	15 34 46.7	-0.3
TVSB				*e*Sg	Sg	15 34 52.9	-0.1
KULA	Kula-Manisa	0.68	207	*e*PG	Pb	15 34 52.3	-0.2
KULA	Kula-Manisa	0.68	207	*e*Pg	Pb	15 34 52.3	-0.2
KHL	Karahalli	0.88	155	*e*PG	Pb	15 34 55.7	-0.1
KHL	Karahalli	0.88	155	*e*Pg	Pb	15 34 55.7	-0.1
AKS	Akhisar	1.00	256	*e*PG	Pb	15 34 58.2	+0.5
AKS	Akhisar	1.00	256	*e*Pg	Pb	15 34 58.3	+0.5
BALB	Balikesir	1.05	300	*e*PG	Pb	15 34 58.9	+0.3
BALB	Balikesir	1.05	300	*e*Pg	Pb	15 34 58.9	+0.3
IGD	Bursa	1.15	6	*i* P	Pg	15 34 58.5	-1.6
IGD				*i* S	Sb	15 35 15.3	-0.2
CAVI	Cavuskoy	1.24	29	*e*PN	Pn	15 35 02.2	+0.2
CAVI	Cavuskoy	1.24	29	*e*Pn	Pn	15 35 02.2	+0.2
MDNY	Mudanya-Bursa	1.25	354	*e*PN	Pn	15 35 02.3	+0.1
MDNY	Mudanya-Bursa	1.25	354	*e*Pn	Pn	15 35 02.3	+0.1
IZI	Iznik	1.26	15	*e*PN	Pn	15 35 02.5	+0.2
IZI	Iznik	1.26	15	*e*Pn	Pn	15 35 02.5	+0.2
KCTX	Karacabey (Bur	1.26	335	*e*PN	Pb	15 35 02.8	+0.4
KCTX	Karacabey (Bur	1.26	335	*e*Pn	Pb	15 35 02.8	+0.4
BALY	Balya	1.27	300	P	Pn	15 35 01.5	-1.0
BALY				S	Sg	15 35 18.7	-0.4
BALY	Balya	1.27	300	*i* P	Pn	15 35 01.5	-1.0
BALY				*i* S	Sg	15 35 18.7	-0.4
GEMT	Gemlik	1.32	4	*e*PN	Pg	15 35 03.5	+0.1
GEMT				*e*SN	Sn	15 35 22.1	+1.2
GEMT	Gemlik	1.32	4	*e*Pn	Pg	15 35 03.5	+0.1
GEMT				*e*Sn	Sn	15 35 22.1	+1.2
DNZL	Cakiroluk	1.43	180	P	Pn	15 35 03.5	-1.2
DNZL				S	Sb	15 35 24.0	+0.2
DNZL	Cakiroluk	1.43	180	*i* P	Pn	15 35 03.5	-1.2
DNZL				*i* S	Sb	15 35 24.0	+0.2
ARMT	Armutlu	1.45	354	*e*PN	Pb	15 35 05.4	-0.2
ARMT	Armutlu	1.45	354	*e*Pn	Pb	15 35 05.4	-0.2
SART	Tekirdag	2.13	318	P	Pb	15 35 16.4	-0.7
SART	Tekirdag	2.13	318	*i* P	Pb	15 35 16.4	-0.7
SART				*i* S	Sg	15 35 45.9	-0.7

NNC 12 15:35:29.4±0.9, 37°.08N×71°.10E, h193km±12km, mb2.5, mpv3.5, 4C-5D, Error ellipse: s-maj=12.4km s-min=5.8km az=137.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	Dzherino	2.48	315	⇑P	Pn	15 36 12.8	+0.1
	12nm,0.2s						
DZET				⇑S	Sn	15 36 47.1	+0.4
	24nm,0.2s						
MNAS	Manas	5.51	11	⇓P	Pn	15 36 50.7	+0.5
	2.1nm,0.4s						
MNAS				⇑S	Sn	15 37 55.2	+1.1
	23nm,0.6s						
KK31	Karatay Array	6.03	356	⇓P	Pn	15 36 56.6	-0.2
	0.3nm,0.2s,baz=178,slow=12,SNR=31						
KK31				S	Sn	15 38 06.1	0.0
	4.3nm,0.5s,baz=176,slow=18,SNR=15						
AAK	Ala-Archa	6.13	24	⇓P	Pn	15 36 58.3	0.0
	2.2nm,0.4s						
AAK				⇓S	Sn	15 38 08.7	0.0
	10nm,0.9s						
TKM2	Tokmak 2	6.78	29	⇓P	Pn	15 37 06.0	-0.8
	6.1nm,0.5s						

HAJJ *i* S **Sn** **15 38 24.2 -2.0**
HAJJ AML AML 15 38 52.9
comp=Z,6µm,0.6s
HAJJ Hajjah 2.85 38 *i* P **Pn** **15 37 49.6 -2.0**
SANA San'a 3.04 50 *i* P **Pn** **15 37 52.8 -1.5**
SANA *i* S **Sn** **15 38 30.4 -0.6**
ADEN Aden 3.19 102⇑ *i* P **Pn** **15 37 54.4 -1.7**
ADEN *i* S **Sn** **15 38 35.0 +0.6**
ADEN AML AML 15 38 59.3
comp=E,5µm,0.6s
ADEN Aden 3.19 102⇑ *i* P **Pn** **15 37 54.4 -1.7**
ADEN *i* S **Sn** **15 38 35.0 +0.6**
comp=E,3µm,0.6s
FRSS Farasan al Kab 3.29 6 S **Sn** **15 38 35.2 -1.6**
FRSS P **Pn** **15 37 55.6 -1.9**
BDHA Al Bayda' 3.72 81 *i* P **Pn** **15 38 01.7 -1.9**
BDHA *i* S **Sn** **15 38 48.0 +0.3**
BDHA AML AML 15 39 11.9
comp=N,8µm,0.6s
BDHA Al Bayda' 3.72 81 *i* S **Sn** **15 38 48.0 +0.3**
comp=N,4µm,0.6s
DJNS Zahran al Janu 4.56 22 P **Pn** **15 38 14.6 -0.7**
FURI Furi 5.45 214 P **Pn** **15 38 27.4 -0.1**
FURI S **Sb** **15 39 52.4 +5.4**
FURI Furi 5.45 214 P **Pn** **15 38 27.1 -0.4**
FURI S **Sn** **15 39 34.2 +3.6**
KMBO Kilima Mbogo 15.16 198 Pn **Pn** **15 40 39.8 -0.6**
comp=N,0.1nm,0.3s,baz=19,slow=12,SNR=18
KMBO Lg Lg 15 45 01.0
comp=N,0.2nm,0.3s,baz=274,slow=23,SNR=5.8
KMBO LR LR 15 46 21.5
comp=N,4µm,18.2s,baz=42,slow=37
KMBO Kilima Mbogo 15.16 198 *e*P **Pn** **15 40 39.8 -0.6**
KMBO pmax pmax
comp=Z,63nm,1.5s
KMBO Kilima Mbogo 15.16 198 Pn **Pn** **15 40 41.0 +0.6**
SNR=13
KMBO Kilima Mbogo 15.16 198 P **Pn** **15 40 41.0 +0.6**
SNR=13
KMBO Kilima Mbogo 15.16 198 *e*Pn **Pn** **15 40 39.8 -0.6**
comp=Z,63nm,1.5s
KMBO Kilima Mbogo 15.16 198 *e*Pn **Pn** **15 40 39.8 -0.6**
comp=Z,63nm,1.5s
FAQ Al Faqa, Dubai 17.21 47 *i* P **Pn** **15 41 06.2 -0.3**
SNR=19
FAQ Al Faqa, Dubai 17.21 47 Pn **Pn** **15 41 06.5 0.0**
SNR=19
FAQ Al Faqa, Dubai 17.21 47 P **Pn** **15 41 06.5 0.0**
SNR=19
FAQ Al Faqa, Dubai 17.21 47 P **Pn** **15 41 06.5 0.0**
SNR=19
EIL Elat 17.34 340 P **Pn** **15 41 06.8 -1.3**
comp=Z,0.3nm,0.3s,baz=42,slow=14,SNR=2.4
EIL LR LR 15 46 11.2
comp=Z,1µm,21.9s,baz=166,slow=32
EIL Lg Lg 15 46 17.5
comp=Z,0.2nm,0.3s,baz=351,slow=18,SNR=2.7
NAZ Nazwa, Dubai 17.41 47 *i* P **Pn** **15 41 08.3 -0.7**
SNR=18
NAZ Nazwa, Dubai 17.41 47 Pn **Pn** **15 41 08.8 -0.2**
SNR=9.7
NAZ Nazwa, Dubai 17.41 47 P **Pn** **15 41 08.8 -0.2**
SNR=9.7
NAZ Nazwa, Dubai 17.41 47 P **Pn** **15 41 08.8 -0.2**
SNR=9.7
ASHO Ashiyiah 17.51 48 *i* P **Pn** **15 41 10.2 -0.1**
SNR=17
ASHO Ashiyiah 17.51 48 Pn **Pn** **15 41 09.5 -0.8**
SNR=14
ASHO Ashiyiah 17.51 48 P **Pn** **15 41 09.5 -0.8**
SNR=14
ASHO Ashiyiah 17.51 48 Pn **Pn** **15 41 09.5 -0.8**
SNR=14
ASHO Ashiyiah 17.51 48 P **Pn** **15 41 10.2 -0.1**
SNR=17
HATD Hatta, Dubai 17.64 48 *i* P **Pn** **15 41 11.1 -0.8**
SNR=19
HATD Hatta, Dubai 17.64 48 Pn **Pn** **15 41 11.5 -0.5**
SNR=17
HATD Hatta, Dubai 17.64 48 P **Pn** **15 41 11.5 -0.5**
SNR=17
HATD Hatta, Dubai 17.64 48 P **Pn** **15 41 11.5 -0.5**
SNR=17
UOSS Minazif 17.77 48 *e*Pn **Pn** **15 41 12.2 -1.3**
comp=Z,15nm,1.1s
UOSS Minazif 17.77 48 P **Pn** **15 41 13.5 0.0**
SNR=17
UOSS Minazif 17.77 48 *e*Pn **Pn** **15 41 12.2 -1.3**
comp=Z,15nm,1.1s
SMDO Samad 18.15 56 Pn **Pn** **15 41 18.3 0.0**
SNR=21
SMDO Samad 18.15 56 P **Pn** **15 41 18.3 0.0**
SNR=21
SMDO Samad 18.15 56 P **Pn** **15 41 18.3 0.0**
SNR=21
BANOM Banah 18.44 46 *i* P **Pn** **15 41 22.7 +0.9**
SNR=12
BANOM Banah 18.44 46 P **P** **15 41 21.3 -0.5**
SNR=7.6
BANOM Banah 18.44 46 P **P** **15 41 21.3 -0.5**
SNR=7.6
BANOM Banah 18.44 46 P **Pn** **15 41 22.7 +0.9**
SNR=12
BIDO Bidbid 18.44 55 P **Pn** **15 41 21.9 +0.1**
SNR=11
BIDO Bidbid 18.44 55 P **Pn** **15 41 21.9 +0.1**
SNR=11
BIDO Bidbid 18.44 55 P **Pn** **15 41 21.9 +0.1**
SNR=11
WSAR Wadi Sarin 18.71 56 P **P** **15 41 24.4 -0.3**
comp=Z,0.6nm,0.3s,baz=256,slow=9.8,SNR=15
WSAR S **Sn** **15 44 54.0 -0.6**
comp=Z,0.1nm,0.3s,baz=202,slow=16,SNR=1.8
WSAR LR LR 15 49 42.1
comp=Z,5µm,19.3s,baz=244,slow=40
ASF Jabal al Asfar 19.17 347 P **Pn** **15 41 31.5 +0.8**
baz=136,slow=9.1,SNR=6.3
MMAI Mount Meron Ar 20.33 344 P Pn 15 41 44.6 +0.1
comp=Z,9.0nm,0.9s,baz=140,slow=6.6,SNR=5.9
MMAI LR LR 15 48 33.4
comp=Z,748nm,20.6s,baz=125,slow=34
IDI Anoyia 26.56 328 P **P** **15 42 46.6 +2.4**
comp=Z,11nm,0.9s,baz=158,slow=13,SNR=2.6
GNI Garni 26.73 5 P **P** **15 42 48.1 +2.3**
comp=Z,9.9nm,0.8s,baz=184,slow=1.2,SNR=8.2
GNI LR LR 15 53 26.4
comp=Z,751nm,20.0s,baz=190,slow=37
GNI Garni 26.73 5*c i*P **P** **15 42 47.5 +1.7**
GNI Garni 26.73 5 P **P** **15 42 49.6 +3.8**
SNR=9.7
GNI Garni 26.73 5 *e*P **P** **15 42 46.4 +0.6**
comp=Z,102nm,1.5s
GNI Garni 26.73 5 *e*P **P** **15 42 46.4 +0.6**
comp=Z,102nm,1.5s
BRTR Keskin Array B 27.14 346 P **P** **15 42 51.1 +1.6**
comp=Z,12nm,1.1s,baz=157,slow=6.7,SNR=28
BRTR PcP **PcP** **15 46 10.1 -0.1**
comp=Z,2.7nm,1.0s,baz=164,slow=5.0,SNR=5.5
BRTR LR LR 15 53 20.2
comp=Z,430nm,18.3s,baz=147,slow=36
BR131 Keskin Array S 27.14 346 *e*P **P** **15 42 49.7 +0.2**
BR131 Keskin Array S 27.14 346 *e*P **P** **15 42 49.7 +0.2**
BR231 Keskin MP Arra 27.46 345 *e*P **P** **15 42 51.2 -1.1**
BR231 Keskin MP Arra 27.46 345 *e*P **P** **15 42 51.2 -1.1**
ANTO Ankara 27.48 345 *e*P **P** **15 42 52.7 +0.2**
ANTO pmax pmax
comp=Z,83nm,1.7s
ANTO Ankara 27.48 345 *e*P **P** **15 42 52.7 +0.2**
comp=Z,83nm,1.7s
ANTO Ankara 27.48 345 *e*P **P** **15 42 52.7 +0.2**
comp=Z,83nm,1.7s
GEYT Alibeck 28.39 28 P **P** **15 43 02.4 +1.8**
comp=Z,2.9nm,0.8s,baz=220,slow=11,SNR=8.5
GEYT LR LR 15 55 35.9
comp=Z,1µm,18.5s,baz=200,slow=39
ZEI Tsey 29.30 3 *e*P **P** **15 43 08.4 -0.3**
ZEI pmax pmax
comp=Z,42nm,1.0s
NEY Neytrino 29.71 1⇓ *e*P **P** **15 43 14.3 +1.9**
NEY pmax pmax
comp=Z,6.0nm,1.7s
NCK Nalchik 29.99 3⇑ *e*P **P** **15 43 17.4 +2.8**
NCK pmax pmax
comp=Z,11nm,1.3s
KBZ Khabaz 30.19 2 P **P** **15 43 16.9 +0.5**
comp=Z,12nm,1.1s,baz=168,slow=7.8,SNR=10
KBZ LR LR 15 56 09.7
comp=Z,779nm,18.1s,baz=194,slow=38
KIV Kislovodsk 30.41 1 *i* P **P** **15 43 19.7 +1.2**
SNR=5.4
KIV Kislovodsk 30.41 1 *i* P **P** **15 43 20.8 +2.3**
KIV pmax pmax
comp=Z,39nm,1.3s
KIV Kislovodsk 30.41 1 P **P** **15 43 21.1 +2.6**
SNR=8.4
KIV Kislovodsk 30.41 1 *e*P **P** **15 43 19.1 +0.6**
comp=Z,24nm,0.9s
KIV Kislovodsk 30.41 1 *e*P **P** **15 43 19.1 +0.6**
comp=Z,24nm,0.9s
AGG Agios Georgios 30.74 330 *e*P **P** **15 43 20.4 -1.0**
AGG pmax pmax
comp=Z,89nm,1.2s
AGG Agios Georgios 30.74 330 *e*P **P** **15 43 20.4 -1.0**
comp=Z,89nm,1.2s
AGG Agios Georgios 30.74 330 *e*P **P** **15 43 20.4 -1.0**
comp=Z,89nm,1.2s
ANN Anapa 31.47 354 *e*P **P** **15 43 29.9 +2.3**
ANN *e*S **S** **15 48 39.2 +3.5**
ANN pmax pmax
comp=Z,38nm,0.9s
ANN MLR MLR
comp=Z,431nm,10.0s
SIM Simferopol' 32.07 350 *e*P **P** **15 43 33.6 +0.6**
SIM *e*S **S** **15 48 48.0 +2.8**
SIM pmax pmax
comp=Z,20nm,0.9s
SIM MLR MLR
comp=N,260nm,18.6s
KBL Kabul 32.40 45 *e*P **P** **15 43 37.3 +1.0**
KBL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 32.40 45 *e*P **P** **15 43 37.3 +1.0**
comp=Z,13nm,0.9s
KBL Kabul 32.40 45 *e*P **P** **15 43 37.3 +1.0**
comp=Z,13nm,0.9s
TIRR Tirgusor 32.95 342⇑ *i*P **P** **15 43 41.4 +0.7**
TIRR Tirgusor 32.95 342 *e*P **P** **15 43 40.5 -0.2**
TIRR pmax pmax
comp=Z,95nm,2.0s
TIRR Tirgusor 32.95 342 *e*P **P** **15 43 40.5 -0.2**
comp=Z,95nm,2.0s
TIRR Tirgusor 32.95 342 *e*P **P** **15 43 40.5 -0.2**
comp=Z,95nm,2.0s
TLCR 33.50 343⇑ *i*P **P** **15 43 45.6 +0.1**
CFR Carcaliu 33.69 342⇑ *i*P **P** **15 43 47.9 +0.8**
BARS Barje 33.97 333 *e*P **P** **15 43 48.9 -0.7**
MLR Muntele Rosu 34.65 340⇑ *i*P **P** **15 43 57.4 +1.7**
MLR Muntele Rosu 34.65 340 *e*P **P** **15 43 56.4 +0.8**
MLR pmax pmax
comp=Z,25nm,0.9s
MLR Muntele Rosu 34.65 340 *e*P **P** **15 43 56.4 +0.8**
comp=Z,24nm,0.9s
MLR Muntele Rosu 34.65 340 *e*P **P** **15 43 56.4 +0.8**
comp=Z,24nm,0.9s
BOVS Bovan 34.68 334 *e*P **P** **15 43 55.1 -0.6**
VRI Vrincioaia 34.74 341⇓ *i*P **P** **15 43 57.0 +0.8**
PLOR Plostina 34.75 341⇓ *i*P **P** **15 43 57.9 +1.5**
VOIR 34.91 339⇑ *i*P **P** **15 43 59.0 +1.2**
ARR Arges 34.99 339⇑ *i*P **P** **15 43 59.5 +1.0**
KIS Kishinev 35.17 345 *e*P **P** **15 44 00.0 +0.1**
KIS Kishinev 35.17 345 *e*PP PP 15 45 02.0 -18
KIS Kishinev 35.17 345 *e*PPP PPP 15 45 16.0
KIS LRM MLR 16 00 16.0
comp=Z,200nm,16.0s
KIS Kishinev 35.17 345 *e*P **P** **15 44 00.0 +0.1**
KIS *e* 15 44 05.0
KIS *e*PPP PPP 15 45 16.0
KIS MLR MLR
comp=Z,200nm,16.0s
KIS Kishinev 35.17 345 *e*P **P** **15 44 00.0 +0.1**
GRUS Gruza 35.31 333 *e*P **P** **15 44 00.8 -0.4**
TESR Tescani 35.34 342⇑ *i*P **P** **15 44 01.0 -0.4**
MDVR Moldovita 35.61 335⇓ *i*P **P** **15 44 02.8 -1.0**
TAM Tamanrasset 35.61 290 *e*P **P** **15 44 04.0 -0.2**
TAM pmax pmax
comp=Z,44nm,1.8s
TAM Tamanrasset 35.61 290 *e*P **P** **15 44 04.0 -0.2**
comp=Z,44nm,1.8s
TAM Tamanrasset 35.61 290 *e*P **P** **15 44 04.0 -0.2**
comp=Z,44nm,1.8s
TRUS Trudelj 35.71 333 *e*P **P** **15 44 05.4 +0.8**
DIVS Divibare 35.79 333 *e*P **P** **15 44 04.5 -1.0**
MATP Matopo 36.10 201 P **P** **15 44 07.9 -0.5**
comp=Z,4.6nm,1.1s,baz=8.7,slow=9.9,SNR=7.6
PRAR RASCA 36.23 342⇑ *i*P **P** **15 44 10.3 +1.2**
BZS Buzias 36.33 336⇑ *i*P **P** **15 44 09.4 -0.5**
KEST Kesra 36.64 313 P **P** **15 44 13.3 +0.5**
comp=Z,16nm,1.0s,baz=302,slow=3.1,SNR=8.3
KEST LR LR 16 01 22.9
comp=Z,725nm,19.1s,baz=81,slow=40
KEST Kesra 36.64 313 *e*P **P** **15 44 10.6 -2.2**
comp=Z,30nm,1.2s
KEST Kesra 36.64 313 *e*P **P** **15 44 10.7 -2.2**
comp=Z,30nm,1.2s
BURAR Bucovina Array 36.77 341⇓ *i*P **P** **15 44 15.2 +1.5**
DRGR 36.90 338⇑ *i*P **P** **15 44 15.0 +0.1**
VRH Novokhopyorsk 37.66 360 *e*P **P** **15 44 21.8 +0.7**
VRH pmax pmax
comp=Z,30nm,0.9s
VRH MLR MLR
comp=Z,730nm,16.0s
VSR Storozhevoye 37.73 357 *e*P **P** **15 44 21.7 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR MLR MLR
comp=Z,400nm,14.0s
AQU L'Aquila 37.85 325 *e*P **P** **15 44 19.8 -3.2**
AQU pmax pmax
comp=Z,28nm,1.0s
AQU L'Aquila 37.85 325 *e*P **P** **15 44 19.8 -3.2**
comp=Z,28nm,1.0s
TRPA Tarpa 38.10 339⇑ *e*P **P** **15 44 25.9 +1.0**
TRPA Tarpa 38.10 339⇑ *e*P **P** **15 44 25.9 +1.0**
AKASG Malin Array Be 38.54 347 P **P** **15 44 28.3 -0.2**
comp=Z,6.9nm,0.9s,baz=166,slow=7.3,SNR=32
AKASG PcP **PcP** **15 46 41.3 +0.1**
comp=Z,0.6nm,0.4s,baz=163,slow=2.3,SNR=5.1
AKASG LR LR 16 02 22.0
comp=Z,319nm,18.9s,baz=135,slow=39
AKBB Malin Array Si 38.54 347 *e*P **P** **15 44 27.9 -0.6**
AKBB pmax pmax
comp=Z,15nm,1.0s
AKBB Malin Array Si 38.54 347 *e*P **P** **15 44 27.9 -0.6**
comp=Z,15nm,1.0s
AKBB Malin Array Si 38.54 347 *e*P **P** **15 44 27.9 -0.6**
comp=Z,15nm,1.0s
KK31 Karatay Array 38.54 34 *i*P **P** **15 44 31.4 +2.6**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 38.54 34 *e*P **P** **15 44 29.9 +1.2**
KKAR Karatay Array 38.54 34 *e*P **P** **15 44 29.9 +1.2**
KKAR Karatay Array 38.54 34 *e*P **P** **15 44 29.9 +1.2**
UZH Uzhgorod 38.62 339⇓ *i*P **P** **15 44 28.2 -1.0**
UZH *e* 15 44 34.4
UZH *e* 15 45 57.8
UZH *i* S **S** **15 50 22.2 -3.4**
AB31 Akbulak array 38.72 19 *i*P **P** **15 44 31.3 +1.2**
AB31 pmax pmax
comp=Z,16nm,1.1s
ABKAR Akbulak array 38.72 19 *e*P **P** **15 44 29.5 -0.6**
comp=Z,14nm,1.0s
ABKAR Akbulak array 38.72 19 *e*P **P** **15 44 29.5 -0.6**
comp=Z,14nm,1.0s
PALK Pallekele 38.74 95 P **P** **15 44 33.0 +2.2**
comp=Z,29nm,1.0s,baz=296,slow=9.1,SNR=4.9
PALK Pallekele 38.74 95 *e*P **P** **15 44 32.7 +1.9**
PALK pmax pmax
comp=Z,48nm,1.1s
PALK Pallekele 38.74 95 *e*P **P** **15 44 32.7 +1.9**
comp=Z,48nm,1.1s
PALK Pallekele 38.74 95 *e*P **P** **15 44 32.7 +1.9**
comp=Z,48nm,1.1s
KOLS Kolonicke sedl 38.88 339 *e*P **P** **15 44 32.5 +1.0**
KOLS pmax pmax
comp=Z,25nm,1.6s
KOLS Kolonicke sedl 38.88 339 *e*P **P** **15 44 32.5 +1.0**
comp=Z,25nm,1.6s
KOLS Kolonicke sedl 38.88 339 *e*P **P** **15 44 32.5 +1.0**
PSZ Piszkesteto 38.90 336⇑ *i*P **P** **15 44 31.5 -0.2**
PSZ Piszkesteto 38.90 336⇓ *e*P **P** **15 44 32.1 +0.4**
PSZ Piszkesteto 38.90 336 *e*P **P** **15 44 31.9 +0.2**
PSZ pmax pmax
comp=Z,35nm,1.2s
PSZ Piszkesteto 38.90 336 *e*P **P** **15 44 31.9 +0.2**
comp=Z,35nm,1.2s
PSZ Piszkesteto 38.90 336 *e*P **P** **15 44 31.9 +0.2**
comp=Z,35nm,1.2s
TOA0 Torodi Ar. Sit 38.98 274 *e*P **P** **15 44 31.4 -1.4**
TOA0 Torodi Ar. Sit 38.98 274 *e*P **P** **15 44 31.4 -1.4**
TORD Torodi Ar. Bea 38.98 274 P **P** **15 44 31.5 -1.3**
comp=Z,8.1nm,1.0s,baz=90,slow=8.5,SNR=32
TORD LR LR 16 01 35.8
comp=Z,551nm,18.5s,baz=100,slow=38
BOJS Bojanci 39.06 330 *i*P **P** **15 44 33.4 +0.4**
BOJS Bojanci 39.06 330 P **P** **15 44 33.4 +0.4**
LVV L'vov 39.08 342 *e*P **P** **15 44 32.5 -0.7**
LPSR Galich'ya Gora 39.12 357 *e*P **P** **15 44 33.8 +0.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR MLR MLR
comp=Z,310nm,16.0s
CRVS Cervenica-Dubn 39.14 339 *e*P **P** **15 44 34.7 +1.1**
CRVS Cervenica-Dubn 39.14 339 *e*P **P** **15 44 34.7 +1.1**
CRVS Cervenica-Dubn 39.14 339 *e*P **P** **15 44 34.7 +1.1**
KECS Kecovo 39.14 337 *e*P **P** **15 44 35.2 +1.5**
KECS pmax pmax
comp=Z,6.0nm,0.9s
KECS Kecovo 39.14 337 *e*P **P** **15 44 35.2 +1.5**
comp=Z,6.4nm,0.9s
KECS Kecovo 39.14 337 *e*P **P** **15 44 35.2 +1.5**
AKTO Aktyubinsk 39.20 16 P **P** **15 44 35.2 +1.1**
comp=Z,17nm,1.0s,baz=213,slow=10,SNR=29
AKTO Aktyubinsk 39.20 16 P **P** **15 44 35.0 +0.9**
AKTO pmax pmax
comp=Z,26nm,1.1s
MNAS Manas 39.27 37 P **P** **15 44 36.7 +1.6**
MNAS pmax pmax
comp=Z,14nm,1.1s
KWP Kalwaria Pacla 39.34 340 *e*P **P** **15 44 36.1 +0.8**
KWP Kalwaria Pacla 39.34 340 *e*P **P** **15 44 36.1 +0.8**
KWP Kalwaria Pacla 39.34 340 *e*P **P** **15 44 36.1 +0.8**
VISS Visnje 39.48 330 *i*P **P** **15 44 36.6 0.0**
VISS Visnje 39.48 330 *i*P **P** **15 44 36.6 0.0**
GROS Grobnik 39.65 331 *i*P **P** **15 44 38.4 +0.4**
GROS Grobnik 39.65 331 *i*P **P** **15 44 38.4 +0.4**
STHS Stebnicka Huta 39.65 339 *e*P **P** **15 44 38.9 +1.0**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 39.65 339 *e*P **P** **15 44 38.9 +1.0**
comp=Z,6.2nm,0.9s
STHS Stebnicka Huta 39.65 339 *e*P **P** **15 44 38.9 +1.0**
KSH Kashi 39.74 43 *e*P P 15 44 33.7 -5.3
KSH pP pP 15 44 37.7 -3.9
KSH PP **PP** **15 46 07.7 -2.5**
KSH PcP **PcP** **15 46 42.4 -3.1**
KSH S S 15 50 33.6 -10
KSH ScS **ScS** **15 54 38.5 -9.0**
KSH PMZ
comp=Z,7.0nm,0.5s
KSH PMZ
comp=Z,68nm,5.0s
KSH LN
comp=Z,520nm,10.5s
KSH LE
comp=Z,660nm,11.7s
KSH LZ
comp=Z,970nm,11.4s
AML Almayashu 39.76 38 P **P** **15 44 41.0 +1.6**
SNR=41
VYHS Vyhne 39.78 336 *e*P **P** **15 44 39.3 +0.3**
VYHS pmax pmax
comp=Z,48nm,1.9s
VYHS Vyhne 39.78 336 *e*P **P** **15 44 39.3 +0.3**
comp=Z,48nm,1.9s
VYHS Vyhne 39.78 336 *e*P **P** **15 44 39.3 +0.3**
JAVS Javornik 39.92 330 *i*P **P** **15 44 40.5 +0.1**
JAVS Javornik 39.92 330 *i*P **P** **15 44 40.5 +0.1**
NIE Niedzica 39.98 338 *e*P **P** **15 44 41.0 +0.3**
NIE Niedzica 39.98 338 *e*P **P** **15 44 41.0 +0.3**
NIE Niedzica 39.98 338 *e*P **P** **15 44 41.0 +0.3**
SOKA Soboth 40.02 331 *es*P **P** **15 44 41.9 +0.7**
comp=Z,24nm,1.2s,SNR=13
LANS Liptovska Anna 40.07 337 *e*P **P** **15 44 42.3 +0.8**
LANS Liptovska Anna 40.07 337 *e*P **P** **15 44 42.3 +0.8**
LANS Liptovska Anna 40.07 337 *e*P **P** **15 44 42.3 +0.8**
EKS2 Erkin-Say 40.12 37 *e*P **P** **15 44 42.9 +0.7**
EKS2 pmax pmax
comp=Z,15nm,1.2s
EKS2 Erkin-Say 40.12 37 *e*P **P** **15 44 42.8 +0.7**
comp=Z,15nm,1.2s
EKS2 Erkin-Say 40.12 37 *e*P **P** **15 44 42.9 +0.7**
comp=Z,15nm,1.2s
OBKA Obir 40.13 331 *es*P **P** **15 44 42.8 +0.7**
comp=Z,26nm,1.4s,SNR=8.6
OBKA Obir 40.13 331 P **P** **15 44 42.8 +0.7**
comp=Z,26nm,1.4s,SNR=8.6
ARSA Arzberg 40.22 332 *i* sP **P** **15 44 43.3 +0.6**
comp=Z,20nm,0.8s,SNR=22
ARSA Arzberg 40.22 332 P **P** **15 44 43.3 +0.6**
comp=Z,20nm,0.8s,SNR=22
TSUM Tsumeb 40.26 217 P **P** **15 44 42.7 -0.7**
comp=Z,1.0nm,0.6s,baz=37,slow=9.7,SNR=4.0
GORS Gorjuse 40.26 330 *e*P **P** **15 44 42.8 -0.3**
GORS Gorjuse 40.26 330 *e*P **P** **15 44 42.8 -0.3**
AAK Ala-Archa 40.53 38 P **P** **15 44 47.9 +2.3**
comp=Z,10nm,1.0s,baz=238,slow=7.6,SNR=11
AAK Ala-Archa 40.53 38 P **P** **15 44 47.5 +1.9**
AAK pmax pmax
comp=Z,18nm,1.3s
AAK Ala-Archa 40.53 38 P **P** **15 44 49.0 +3.4**
SNR=7.5
AAK Ala-Archa 40.53 38 *e*P **P** **15 44 46.5 +0.9**
comp=Z,19nm,1.3s
AAK Ala-Archa 40.53 38 *e*P **P** **15 44 46.5 +0.9**
comp=Z,19nm,1.3s
CONA Conrad Observa 40.58 333 *es*P **P** **15 44 46.1 +0.4**
comp=Z,31nm,1.3s,SNR=17
MYKA Terra Mystica 40.65 330 *es*P **P** **15 44 46.9 +0.6**
comp=Z,19nm,1.4s,SNR=8.1
FRU Bishkek 40.72 38 *e*P **P** **15 44 49.0 +2.0**
FRU *e* 15 46 22.0
FRU pmax pmax
comp=Z,160nm,3.0s
OJC Ojcow 40.83 338 *e*P **P** **15 44 47.3 -0.4**
OJC Ojcow 40.83 338 *e*P **P** **15 44 47.0 -0.7**
OJC pmax pmax
comp=Z,13nm,1.0s
OJC Ojcow 40.83 338 *e*P **P** **15 44 47.0 -0.7**
comp=Z,13nm,1.0s
OJC Ojcow 40.83 338 *e*P **P** **15 44 47.0 -0.7**
comp=Z,13nm,1.0s
PYUN Piuthan 40.98 63 *e*P **P** **15 44 51.1 +1.5**
comp=Z,20nm,1.1s
OKC Ostrava-Krasne 41.13 337 *e*P **P** **15 44 50.3 +0.1**
OKC *ex* x 15 44 56.3
OKC Ostrava-Krasne 41.13 337 *e*P **P** **15 44 50.3 +0.1**
OKC *e* 15 44 56.3
OKC Ostrava-Krasne 41.13 337 P **P** **15 44 50.3 +0.1**
MOA Molln 41.24 332 *e*pP **P** **15 44 51.4 +0.3**
comp=Z,31nm,1.4s,SNR=16
MOA Molln 41.24 332 P **P** **15 44 51.4 +0.3**
comp=Z,31nm,1.4s,SNR=16
ABTA Abfaltersbach 41.29 329 *es*P **P** **15 44 52.0 +0.4**
comp=Z,24nm,1.6s,SNR=9.9
MORC Moravsky Berou 41.32 336⇓ *i*P **P** **15 44 52.0 +0.2**
MORC Moravsky Berou 41.32 336 *e*P **P** **15 44 51.6 -0.2**
VRAC Vranov 41.33 335⇓ *i*P **P** **15 44 52.1 +0.3**
VRAC Vranov 41.33 335 *e*P **P** **15 44 51.5 -0.3**
LBTB Lobatse 41.36 203 P **P** **15 44 53.2 +0.8**
comp=Z,4.2nm,1.0s,baz=6.2,slow=7.5,SNR=5.1
LBTB Lobatse 41.36 203 *e*P **P** **15 44 52.4 0.0**
LBTB pmax pmax
comp=Z,47nm,1.6s
LBTB Lobatse 41.36 203 *e*P **P** **15 44 52.4 0.0**
comp=Z,47nm,1.6s
LBTB Lobatse 41.36 203 *e*P **P** **15 44 52.4 0.0**
comp=Z,47nm,1.6s
TKM2 Tokmak 2 41.36 38 P **P** **15 44 54.1 +1.7**
TKM2 pmax pmax
comp=Z,7.0nm,1.2s
TKM2 Tokmak 2 41.36 38 *e*P **P** **15 44 51.9 -0.5**
comp=Z,6.7nm,1.0s
TKM2 Tokmak 2 41.36 38 *e*P **P** **15 44 51.9 -0.5**
comp=Z,6.7nm,1.0s
KOLN Koldanda 41.45 63 *e*P **P** **15 44 54.6 +1.3**
comp=Z,63nm,0.9s
OBN Obninsk 41.77 356⇓ *i*P **P** **15 44 55.9 +0.6**

OBN *i* 15 46 39.6
OBN *eS* **S** **15 51 09.5 -3.2**
OBN pmax pmax
comp=Z,82nm,1.7s
OBN MLR MLR
comp=Z,363nm,16.0s
OBN Obninsk 41.77 356 *eP* **P** **15 44 54.9 -0.4**
comp=Z,110nm,1.6s
OBN Obninsk 41.77 356 *eP* **P** **15 44 54.9 -0.4**
comp=Z,110nm,1.6s
TREC Trest 41.78 334 *eP* **P** **15 44 55.3 -0.2**
TREC *ex* x 15 45 01.1
TREC AMS AMS 16 09 20.0
comp=Z,100nm,14.2s
TREC Trest 41.78 334 *eP* **P** **15 44 55.3 -0.2**
TREC *e* 15 45 01.1
TREC MLR MLR
comp=Z,100nm,14.2s
TREC Trest 41.78 334 P **P** **15 44 55.3 -0.2**
WTTA Wattenberg 42.08 329 *es*P **P** **15 44 58.5 +0.3**
comp=Z,28nm,1.9s
WTTA Wattenberg 42.08 329 P **P** **15 44 58.5 +0.3**
comp=Z,28nm,1.9s
WATA Walderalm 42.16 329 *eP* **P** **15 44 58.0 -0.8**
comp=Z,16nm,1.3s
WATA Walderalm 42.16 329 P **P** **15 44 58.0 -0.8**
comp=Z,16nm,1.3s
GEA0 GERESS Array S 42.22 332 *eP* **P** **15 44 58.3 -0.9**
GEA0 GERESS Array S 42.22 332 *eP* **P** **15 44 58.3 -0.9**
GEC2 GERESS Array S 42.22 332 *eP* **P** **15 44 58.5 -0.8**
GEC2 pmax pmax
comp=Z,25nm,1.1s
GEC2 GERESS Array S 42.22 332 *eP* **P** **15 44 58.5 -0.8**
comp=Z,25nm,1.1s
GEC2 GERESS Array S 42.22 332 *eP* **P** **15 44 58.5 -0.8**
comp=Z,25nm,1.1s
GERES GERESS Array B 42.22 332 P **P** **15 44 59.0 -0.3**
comp=Z,4.2nm,0.6s,baz=134,slow=7.6,SNR=34
GERES GERESS Array B 42.22 332 P **P** **15 44 59.0 -0.3**
GERES GERESS Array B 42.22 332 P **P** **15 44 59.0 -0.3**
DPC Dobruska-Polom 42.25 336 *eP* **P** **15 44 59.2 -0.2**
DPC *ex* x 15 45 05.1
DPC *eS* **S** **15 51 21.8 +1.7**
DPC AMS AMS 16 10 50.0
DPC Dobruska-Polom 42.25 336 *eP* **P** **15 44 59.2 -0.2**
DPC *e* 15 45 05.1
DPC *eS* **S** **15 51 21.8 +1.7**
DPC Dobruska-Polom 42.25 336 P **P** **15 44 59.2 -0.2**
DPC S **S** **15 51 21.8 +1.7**
MOS Moscow 42.32 357 *eP* **P** **15 45 00.4 +0.6**
MOS pmax pmax
comp=Z,200nm,1.8s
MOS pmax pmax
comp=Z,143nm,1.6s
FUORN Ofenpass-Fuorn 42.35 328 *eP* **P** **15 44 59.6 -0.9**
comp=Z,58nm,1.6s
FUORN Ofenpass-Fuorn 42.35 328 *eP* **P** **15 44 59.6 -0.9**
comp=Z,58nm,1.6s
FETA Feichten 42.37 328 *ep*P **P** **15 45 00.5 -0.1**
comp=Z,17nm,1.4s,SNR=7.4
GKN Gorkha 42.39 63 *eP* **P** **15 45 01.7 +0.7**
comp=Z,75nm,1.0s
MOTA Moosalm 42.40 329 *eP* **P** **15 44 59.6 -1.2**
comp=Z,4.6nm,0.6s,SNR=6.7
MOTA Moosalm 42.40 329 P **P** **15 44 59.6 -1.2**
comp=Z,4.6nm,0.6s,SNR=6.7
KHC Kasperske Hory 42.49 333 *eP* **P** **15 45 00.7 -0.6**
KHC *ex* x 15 45 06.7
KHC *eS* **S** **15 51 25.9 +2.3**
KHC AMS AMS 16 08 30.0
comp=Z,200nm,15.1s
KHC Kasperske Hory 42.49 333 *eP* **P** **15 45 00.7 -0.6**
KHC *e* 15 45 06.7
KHC *eS* **S** **15 51 25.9 +2.3**
KHC MLR MLR
comp=Z,200nm,15.1s
KHC Kasperske Hory 42.49 333 *eP* **P** **15 45 00.3 -1.1**
comp=Z,11nm,1.4s
KHC S **S** **15 51 25.9 +2.3**
KHC Kasperske Hory 42.49 333 *eP* **P** **15 45 00.3 -1.1**
comp=Z,11nm,1.4s
UPC Upice 42.50 336 *eP* **P** **15 45 01.6 +0.2**
UPC *ex* x 15 45 07.3
UPC *eS* **S** **15 51 26.1 +2.5**
UPC Upice 42.50 336 *eP* **P** **15 45 01.6 +0.2**
UPC *e* 15 45 07.3
UPC *eS* **S** **15 51 26.1 +2.5**
UPC Upice 42.50 336 P **P** **15 45 01.6 +0.2**
UPC S **S** **15 51 26.1 +2.5**
GOPC GO Pecny, Ondr 42.55 334 *eP* **P** **15 45 01.3 -0.5**
GOPC *ex* x 15 45 07.4
GOPC *eS* **S** **15 51 27.5 +3.1**
GOPC AMS AMS 16 12 10.0
comp=Z,200nm,12.7s
GOPC GO Pecny, Ondr 42.55 334 *eP* **P** **15 45 01.3 -0.5**
GOPC *e* 15 45 07.4
GOPC *eS* **S** **15 51 27.5 +3.1**
GOPC MLR MLR
comp=Z,200nm,12.7s
GOPC GO Pecny, Ondr 42.55 334 P **P** **15 45 01.3 -0.5**
KSP Ksiaz 42.65 336 *eP* **P** **15 45 02.6 0.0**
KSP Ksiaz 42.65 336 *eP* **P** **15 45 02.6 0.0**
KSP Ksiaz 42.65 336 *eP* **P** **15 45 02.6 0.0**
RETA Reutte 42.67 329 *eP* **P** **15 45 02.3 -0.6**
comp=Z,19nm,1.4s
RETA Reutte 42.67 329 P **P** **15 45 02.3 -0.6**
comp=Z,19nm,1.4s
PRU Pruhonice 42.71 334 *eP* **P** **15 45 02.8 -0.2**
PRU *ex* x 15 45 08.4
PRU *eS* **S** **15 51 29.0 +2.3**
PRU AMS AMS 16 12 10.0
comp=Z,100nm,12.5s
PRU Pruhonice 42.71 334 *eP* **P** **15 45 02.8 -0.2**
PRU *e* 15 45 08.4
PRU *eS* **S** **15 51 29.0 +2.3**
PRU MLR MLR
comp=Z,100nm,12.5s
PRU Pruhonice 42.71 334 P **P** **15 45 02.8 -0.2**
PRU S **S** **15 51 29.0 +2.3**
DMN Daman 42.73 64 *eP* **P** **15 45 05.0 +1.1**
TUE Stuetta 42.73 327 *eP* **P** **15 45 02.6 -1.0**
comp=Z,29nm,1.7s
TUE Stuetta 42.73 327 *eP* **P** **15 45 02.6 -1.0**
comp=Z,29nm,1.7s
KKN Kakani 42.91 64 *eP* **P** **15 45 06.4 +1.1**
comp=Z,70nm,1.0s
OTUK Ortayu 42.96 30 P **P** **15 45 05.7 +0.6**
OTUK pmax pmax
comp=Z,19nm,1.2s
PKIN Phulchoki 42.98 64 *eP* **P** **15 45 06.7 +0.8**
comp=Z,32nm,1.0s
DAVA Damuels 42.98 328 *eP* **P** **15 45 05.0 -0.5**
comp=Z,21nm,0.8s,SNR=12
DAVA Damuels 42.98 328 P **P** **15 45 05.0 -0.5**
comp=Z,21nm,0.8s,SNR=12
SUW Suwalki 43.05 344 *eP* **P** **15 45 06.0 +0.2**
SUW Suwalki 43.05 344 *eP* **P** **15 45 05.9 +0.2**
SUW Suwalki 43.05 344 *eP* **P** **15 45 05.9 +0.2**
PVCC Panska Ves 43.10 335 *eP* **P** **15 45 06.2 -0.1**
PVCC Panska Ves 43.10 335 *eP* **P** **15 45 06.2 -0.1**
PVCC Panska Ves 43.10 335 P **P** **15 45 06.2 -0.1**
GUN Gumba 43.45 64 *eP* **P** **15 45 10.8 +0.9**
comp=Z,134nm,1.1s
BRG Berggiesshubel 43.63 335 *eP* **P** **15 45 10.0 -0.5**
comp=Z,61nm,1.9s
BRG S **S** **15 51 44.0 +3.9**
BRG SS **SS** **15 55 00.0 +4.9**
comp=N,79nm,13.3s
comp=E,107nm,13.9s
comp=Z,237nm,13.6s
BRG Berggiesshubel 43.63 335 *eP* **P** **15 45 10.0 -0.5**
BRG S **S** **15 51 44.0 +3.9**
BRG pmax pmax
comp=Z,61nm,1.9s
BRG MLR MLR
comp=N,79nm,13.3s
BRG MLR MLR
comp=E,107nm,13.9s
BRG MLR MLR
comp=Z,237nm,13.6s
SENIN Lac Senin/Sane 43.77 325 *eP* **P** **15 45 10.6 -1.4**
comp=Z,90nm,1.8s
SENIN Lac Senin/Sane 43.77 325 *eP* **P** **15 45 10.6 -1.4**
comp=Z,90nm,1.8s
NKC Novy Kostel 43.80 333 *eP* **P** **15 45 11.6 -0.3**
NKC Novy Kostel 43.80 333 P **P** **15 45 11.6 -0.3**
GRFO Grafenberg 43.96 332 P **P** **15 45 11.0 -2.2**
GRFO pmax pmax
comp=Z,16nm,1.3s
GRFO Grafenberg 43.96 332 P **P** **15 45 11.0 -2.2**
comp=Z,16nm,1.3s
GRFO Grafenberg 43.96 332 P **P** **15 45 11.0 -2.2**
comp=Z,16nm,1.3s
PDGK Podgornoye 43.97 40 P **P** **15 45 14.0 +0.7**
PDGK pmax pmax
comp=Z,13nm,0.9s
SPAK Spaichingen-Ko 44.08 328⇑ *e*P **P** **15 45 14.3 +0.1**
FELD Feldberg im Sc 44.33 328⇑ *e*P **P** **15 45 15.9 -0.5**
BBS Basel-Blauen 44.34 327⇑ *e*P **P** **15 45 15.9 -0.4**
CLL Collm 44.34 334⇓ *i*P **P** **15 45 15.2 -1.0**
comp=Z,34nm,1.5s
CLL *i* 15 45 21.3
CLL *e* 15 45 32.0
CLL *e*PP **PcP** **15 47 00.0 -0.2**
CLL *e*S **S** **15 51 55.0 +4.4**
CLL *e*SS **SS** **15 55 06.0 -3.2**
CLL *e*SSS SSS 15 56 18.0
CLL L L 16 05 00.0
comp=Z,100nm,19.7s
CLL Collm 44.34 334⇓ *i*P **P** **15 45 15.2 -1.0**
CLL *i* 15 45 21.3
CLL *e*S **S** **15 51 55.0 +4.4**
CLL pmax pmax
comp=Z,34nm,1.5s
CLL Collm 44.34 334 *eP* **P** **15 45 14.5 -1.7**
comp=Z,39nm,1.6s
CLL Collm 44.34 334 *eP* **P** **15 45 14.5 -1.7**
comp=Z,39nm,1.6s
BFO Black Forest 44.45 328 *i* P **P** **15 45 17.7 +0.5**
BFO Black Forest 44.45 328 *eP* **P** **15 45 15.6 -1.6**
comp=Z,51nm,2.0s
BFO Black Forest 44.45 328 *eP* **P** **15 45 15.6 -1.6**
comp=Z,51nm,2.0s
FILF Fillols 44.55 318 *eP* **P** **15 45 18.4 +0.3**
FILF Fillols 44.55 318 *eP* **P** **15 45 18.4 +0.3**
LOMF Lomont 44.63 326⇑ *e*P **P** **15 45 18.5 -0.2**
LOMF Lomont 44.63 326⇑ *e*P **P** **15 45 18.5 -0.2**
SSB Saint Sauveur 44.72 323 *eP* **P** **15 45 17.9 -1.5**
SSB pmax pmax
comp=Z,10.0nm,0.9s
SSB Saint Sauveur 44.72 323 *eP* **P** **15 45 17.9 -1.5**
comp=Z,10nm,0.9s
SSB Saint Sauveur 44.72 323 *eP* **P** **15 45 17.9 -1.5**
comp=Z,10nm,0.9s
BOSA Boshof 44.76 201 P **P** **15 45 19.2 -0.8**
comp=Z,3.9nm,1.0s,baz=84,slow=7.3,SNR=4.0
MOF Molkenrain 44.77 327⇑ *e*P **P** **15 45 19.5 -0.4**
MOF Molkenrain 44.77 327⇑ *e*P **P** **15 45 19.5 -0.4**
ARU Arti 44.80 13*c i*P **P** **15 45 21.1 +1.3**
ARU 15 47 06.1
ARU PPP PPP 15 47 43.6
ARU S **S** **15 52 01.8 +4.8**
ARU SS **SS** **15 55 20.4 +2.6**
ARU pmax pmax
comp=Z,37nm,1.2s
ARU MLR MLR
comp=Z,458nm,18.0s
ARU Arti 44.80 13 *eP* **P** **15 45 18.9 -0.8**
comp=Z,26nm,1.0s
ARU Arti 44.80 13 *eP* **P** **15 45 18.9 -0.8**
comp=Z,26nm,1.0s
ZRNK Zerenda 44.97 23 P **P** **15 45 21.5 +0.3**
ZRNK pmax pmax
comp=Z,21nm,1.2s
ZRNK Zerenda 44.97 23 *eP* **P** **15 45 21.0 -0.2**
comp=Z,20nm,1.1s
ZRNK Zerenda 44.97 23 *eP* **P** **15 45 21.0 -0.2**
comp=Z,20nm,1.1s
ECH Echery 44.99 327⇑ *e*P **P** **15 45 21.3 -0.2**
ECH Echery 44.99 327⇑ *e*P **P** **15 45 21.3 -0.2**
TOD Tromm 45.05 330⇑ *e*P **P** **15 45 21.6 -0.4**
LANF Langenberg 45.14 329⇑ *e*P **P** **15 45 22.4 -0.2**
LANF Langenberg 45.14 329⇑ *e*P **P** **15 45 22.4 -0.2**
LBL Lubilhac 45.47 322⇑ *e*P **P** **15 45 26.7 +1.3**
LBL Lubilhac 45.47 322⇑ *e*P **P** **15 45 26.7 +1.3**
BRVK Borovoye 45.55 24*ce*P **P** **15 45 27.0 +1.2**
BRVK pmax pmax
comp=Z,31nm,1.2s
BRVK Borovoye 45.55 24 *eP* **P** **15 45 26.0 +0.2**
comp=Z,24nm,1.1s
BRVK Borovoye 45.55 24 *eP* **P** **15 45 26.1 +0.2**
comp=Z,24nm,1.1s
BVA0 Borovoye Array 45.57 24 *i* P **P** **15 45 27.2 +1.2**
BVA0 pmax pmax
comp=Z,12nm,1.1s
BVAR Borovoye Array 45.57 24 P **P** **15 45 27.2 +1.3**
comp=Z,8.0nm,0.8s,baz=215,slow=7.2,SNR=36
BVAR PcP **PcP** **15 47 05.1 +0.7**
comp=Z,4.7nm,0.9s,baz=207,slow=3.0,SNR=6.7
SVE Sverdlovsk 45.64 14*de*P **P** **15 45 28.0 +1.6**
SVE pmax pmax
comp=Z,36nm,1.1s
PLDF La Plantade 45.64 323⇑ *e*P **P** **15 45 27.4 +0.6**
PLDF La Plantade 45.64 323⇑ *e*P **P** **15 45 27.4 +0.6**
ABH Alteburg 45.85 330 *eP* **P** **15 45 28.0 -0.3**
MELF Melles 45.87 318⇑ *e*P **P** **15 45 29.3 +0.7**
MELF Melles 45.87 318⇑ *e*P **P** **15 45 29.3 +0.7**
RUP Ruppelstein 45.98 329⇑ *e*P **P** **15 45 29.0 -0.3**
RESF Ens 46.12 317⇑ *e*P **P** **15 45 31.3 +0.7**
RESF Ens 46.12 317⇑ *e*P **P** **15 45 31.3 +0.7**
VSU Vasula 46.34 349*ce*P **P** **15 45 33.4 +1.5**
VSU pmax pmax
comp=Z,39nm,1.0s
DBIC Dimbokro 46.35 266 P **P** **15 45 31.3 -1.4**
comp=Z,6.8nm,0.8s,baz=46,slow=8.7,SNR=6.0
DBIC LR LR 16 03 32.2
comp=Z,334nm,19.6s,baz=65,slow=34
VIEF Viey 46.36 317⇑ *e*P **P** **15 45 33.0 +0.5**
VIEF Viey 46.36 317⇑ *e*P **P** **15 45 33.0 +0.5**
MDT Midelt 46.40 303 P **P** **15 45 32.0 -1.0**
comp=Z,2.6nm,0.7s,baz=105,slow=9.7,SNR=11
MDT Midelt 46.40 303 P **P** **15 45 32.0 -1.0**
WLF Walferdange 46.41 328 P **P** **15 45 32.1 -0.6**
comp=Z,20nm,1.9s
WLF Walferdange 46.41 328 *eP* **P** **15 45 30.9 -1.8**
WLF pmax pmax
comp=Z,27nm,1.3s
WLF Walferdange 46.41 328 *eP* **P** **15 45 30.9 -1.8**
comp=Z,27nm,1.3s
WLF Walferdange 46.41 328 *eP* **P** **15 45 30.9 -1.8**
comp=Z,27nm,1.3s
REYF Montagne du Re 46.72 317⇑ *e*P **P** **15 45 35.3 0.0**
REYF Montagne du Re 46.72 317⇑ *e*P **P** **15 45 35.3 0.0**
ATE Arette 46.93 317 *eP* **P** **15 45 36.8 0.0**
ATE Arette 46.93 317 *eP* **P** **15 45 36.8 0.0**
MEM Membach 47.08 329 P **P** **15 45 38.3 +0.4**
comp=Z,15nm,1.9s
MEM Membach 47.08 329 P **P** **15 45 38.2 +0.4**
comp=Z,15nm,1.9s
LARF Larrau 47.09 317 *eP* **P** **15 45 37.9 -0.3**
LARF Larrau 47.09 317 *eP* **P** **15 45 37.9 -0.3**
HGN Heimansgroeve 47.21 330 *eP* **P** **15 45 39.2 +0.4**
MAKZ Makanchi 47.28 37 P **P** **15 45 39.8 +0.2**
MAKZ pmax pmax
comp=Z,34nm,0.8s
MAKZ Makanchi 47.28 37 *eP* **P** **15 45 40.1 +0.5**
comp=Z,34nm,0.8s
MAKZ Makanchi 47.28 37 *eP* **P** **15 45 40.1 +0.5**
comp=Z,34nm,0.8s
BCLA Clavier 47.31 329 P **P** **15 45 40.0 +0.3**
comp=Z,23nm,1.7s
BCLA Clavier 47.31 329 P **P** **15 45 39.9 +0.3**
comp=Z,23nm,1.7s
KLMR Klimovskoe 47.36 358⇑ *e*P **P** **15 45 39.4 -0.5**
KLMR *e**SP **sP** **15 45 44.4 +0.8**
KLMR *e* 15 47 08.2
KLMR pmax pmax
comp=Z,74nm,1.2s
MK01 Makanchi Array 47.45 37 *eP* **P** **15 45 41.2 +0.3**
MK01 Makanchi Array 47.45 37 *eP* **P** **15 45 41.2 +0.3**
MK31 Makanchi Array 47.46 37 P **P** **15 45 42.2 +1.2**
MK31 pmax pmax
comp=Z,40nm,0.8s
MK31 Makanchi Array 47.46 37 *eP* **P** **15 45 41.6 +0.6**
MK31 Makanchi Array 47.46 37 *eP* **P** **15 45 41.6 +0.6**
MKAR Makanchi Array 47.46 37 P **P** **15 45 42.0 +1.0**
comp=Z,42nm,0.9s,baz=234,slow=6.2,SNR=128
MKAR Makanchi Array 47.46 37 *eP* **P** **15 45 41.5 +0.5**
MKAR Makanchi Array 47.46 37 *eP* **P** **15 45 41.5 +0.5**
DOU Dourbes 47.47 328 P **P** **15 45 40.4 -0.5**
comp=Z,17nm,2.0s
DOU Dourbes 47.47 328 P **P** **15 45 40.4 -0.5**
comp=Z,17nm,2.0s
WTSB Winterswijk 47.57 331 *eP* **P** **15 45 41.5 -0.1**
WTSB Winterswijk 47.57 331 *eP* **P** **15 45 41.5 -0.1**
KURK Kurchatov 47.67 31 P **P** **15 45 42.9 +0.4**
KURK pmax pmax
comp=Z,199nm,1.0s
KURK Kurchatov 47.67 31 *eP* **P** **15 45 43.2 +0.7**
comp=Z,90nm,1.0s
KURK Kurchatov 47.67 31 *eP* **P** **15 45 43.2 +0.7**
comp=Z,90nm,1.0s
ES19 SONSECA Array 47.82 312 *eP* **P** **15 45 43.0 -0.9**
ES19 SONSECA Array 47.82 312 *eP* **P** **15 45 43.0 -0.9**
ESLA Sonseca Array 47.86 312 *eP* **P** **15 45 43.4 -0.8**
comp=Z,62nm,1.8s
ESLA Sonseca Array 47.86 312 *eP* **P** **15 45 43.4 -0.8**
comp=Z,62nm,1.8s
ESDC Sonseca Array 47.86 312 P **P** **15 45 43.9 -0.3**
comp=Z,2.7nm,0.7s,baz=112,slow=7.2,SNR=24
ESDC LR LR 16 08 26.9
comp=Z,84nm,18.0s,baz=115,slow=39
SNF Seneffe 47.88 328 P **P** **15 45 43.8 -0.4**
SNF Seneffe 47.88 328 P **P** **15 45 43.7 -0.4**
PAB San Pablo 48.10 312 *eP* **P** **15 45 45.2 -0.9**
PAB pmax pmax
comp=Z,38nm,1.4s
PAB San Pablo 48.10 312 *eP* **P** **15 45 45.2 -0.9**
comp=Z,38nm,1.4s
PAB San Pablo 48.10 312 *eP* **P** **15 45 45.2 -0.9**
comp=Z,38nm,1.4s
LSA Lhasa 48.31 62 P **P** **15 45 49.7 +1.4**
LSA PMZ
comp=Z,13nm,1.4s
LSA Lhasa 48.31 62 *eP* **P** **15 45 47.5 -0.9**
LSA pmax pmax
comp=Z,20nm,1.2s
LSA Lhasa 48.31 62 P **P** **15 45 48.9 +0.6**
SNR=7.9
LSA Lhasa 48.31 62 *eP* **P** **15 45 47.5 -0.9**
comp=Z,20nm,1.2s
FIA1 FINESS Array S 49.26 350 *eP* **P** **15 45 53.3 -1.2**
comp=Z,15nm,0.9s
FIA1 FINESS Array S 49.26 350 *eP* **P** **15 45 53.3 -1.2**
comp=Z,15nm,0.9s
FINES FINESS Array B 49.26 350 P **P** **15 45 54.4 -0.1**
comp=Z,6.5nm,0.6s,baz=157,slow=10,SNR=16
WMQ Urumqi 49.51 43 P **P** **15 45 57.7 +0.9**
WMQ pP sP 15 46 02.7 +2.2
WMQ sP pP 15 46 06.5 +7.0
WMQ S **S** **15 53 04.3 -0.5**
WMQ sS sS 15 53 11.9 +2.8
WMQ SS **SS** **15 56 32.6 -4.1**
WMQ PMZ
comp=Z,10.0nm,0.6s
WMQ PMZ
comp=Z,39nm,3.8s
WMQ LN
comp=Z,360nm,17.2s
WMQ LE
comp=Z,300nm,17.2s
WMQ LZ
comp=Z,220nm,17.2s
PBAR Barrancos 49.68 309 *eP* **P** **15 45 57.4 -0.7**
comp=Z,51nm,1.3s
PBAR Barrancos 49.68 309 *eP* **P** **15 45 57.4 -0.7**
PVAQ Vaqueiros 49.99 308 *eP* **P** **15 45 59.5 -1.0**
comp=Z,28nm,1.5s
PVAQ Vaqueiros 49.99 308 *e*PP PP 15 47 53.6 -1.9
PVAQ Vaqueiros 49.99 308 *e*LR LR 16 05 52.4
comp=Z,150nm,14.0s
PVAQ Vaqueiros 49.99 308 *eP* **P** **15 45 59.5 -1.0**
PVAQ Vaqueiros 49.99 308 *e*PP PP 15 47 53.6 -1.9
PBEJ Beja 50.26 308 *eP* **P** **15 46 02.0 -0.6**
comp=Z,46nm,1.8s
PBEJ Beja 50.26 308 *eP* **P** **15 46 02.0 -0.6**
PESTR Estremoz 50.28 310 *eP* **P** **15 46 02.2 -0.6**
comp=Z,38nm,1.6s
PESTR Estremoz 50.28 310 *eP* **P** **15 46 02.2 -0.6**
PMRV Marv??o 50.30 310 *eP* **P** **15 46 02.2 -0.7**
comp=Z,33nm,1.6s
PMRV Marv??o 50.30 310 *e*LR LR 16 08 10.4
comp=Z,188nm,20.0s
PMRV Marv??o 50.30 310 *eP* **P** **15 46 02.2 -0.7**
PCBR Castelo Branco 50.48 311 *eP* **P** **15 46 03.5 -0.7**
comp=Z,32nm,1.9s
PCBR Castelo Branco 50.48 311 *eP* **P** **15 46 03.5 -0.7**
EVO Evora 50.51 309 *eP* **P** **15 46 04.4 -0.1**
comp=Z,57nm,1.4s
EVO Evora 50.51 309 *eP* **P** **15 46 04.4 -0.1**
MVO Moncorvo 50.56 313 *e*LR LR 16 09 35.2
comp=Z,174nm,16.0s
MTE Manteigas 50.70 312 *e*LR LR 16 08 28.0
comp=Z,135nm,18.0s
PNCL Nicolau / Gran 50.79 308 *eP* **P** **15 46 05.9 -0.7**
comp=Z,36nm,1.9s
PNCL Nicolau / Gran 50.79 308 *eP* **P** **15 46 05.9 -0.7**
PVIS Viseu 51.05 312 *eP* **P** **15 46 07.9 -0.6**
comp=Z,48nm,1.6s
PVIS Viseu 51.05 312 *eP* **P** **15 46 07.9 -0.6**
PVRL Vila Real 51.09 313 *eP* **P** **15 46 07.8 -1.0**
comp=Z,26nm,1.4s
PVRL Vila Real 51.09 313 *eP* **P** **15 46 07.8 -1.0**
POLO Lamas de Olo 51.17 313 *eP* **P** **15 46 09.6 +0.1**
comp=Z,15nm,2.0s
POLO Lamas de Olo 51.17 313 *eP* **P** **15 46 09.6 +0.1**
PCAS Casmilo, Conde 51.29 311 *eP* **P** **15 46 09.4 -0.9**
comp=Z,47nm,1.4s
PCAS Casmilo, Conde 51.29 311 *eP* **P** **15 46 09.4 -0.9**
PGAV Gavieira, Arco 51.70 313 *e*LR LR 16 07 17.9
comp=Z,193nm,18.0s
NC602 NORSAR Array S 52.10 342 *eP* **P** **15 46 14.5 -1.5**
NC602 NORSAR Array S 52.10 342 *eP* **P** **15 46 14.5 -1.5**
NAO01 NORSAR Array S 52.39 341 *eP* **P** **15 46 16.7 -1.5**
NAO01 NORSAR Array S 52.39 341 *eP* **P** **15 46 16.7 -1.5**
NVS Novosibirsk 52.39 29⇑ *i*P **P** **15 46 19.7 +1.5**
NVS *e* 15 47 30.8
NVS *eS* **S** **15 53 51.2 +7.0**
NVS pmax pmax
comp=N,18nm,1.0s
NVS pmax pmax
comp=E,14nm,1.0s
NVS pmax pmax
comp=Z,37nm,1.0s
NVS pmax pmax
comp=N,13nm,1.1s
NVS pmax pmax
comp=E,5.0nm,1.1s
NVS pmax pmax
comp=Z,8.0nm,1.1s
NVS smax smax
comp=N,12nm,2.4s
NVS smax smax
comp=E,17nm,2.4s
NB2 NORSAR Subarra 52.44 342 P **P** **15 46 17.3 -1.3**
comp=Z,13nm,1.0s,baz=140,slow=7.9
NB2 NORSAR Subarra 52.44 342 P **P** **15 46 17.3 -1.3**
comp=Z,13nm,1.0s,SNR=9.1
NOA NORSAR Array B 52.44 342 P **P** **15 46 17.4 -1.2**
comp=Z,5.5nm,0.9s,baz=140,slow=7.4,SNR=9.4
NOA LR LR 16 10 59.0
comp=Z,130nm,19.4s,baz=125,slow=39
NBO02 NORSAR Array S 52.56 342 *eP* **P** **15 46 17.5 -1.9**
NBO02 NORSAR Array S 52.56 342 *eP* **P** **15 46 17.5 -1.9**
ZAA0 Zalesovo Array 52.65 30 *eP* **P** **15 46 19.7 -0.5**
ZAA0 Zalesovo Array 52.65 30 *eP* **P** **15 46 19.7 -0.5**
ZALV Zalesovo Beam 52.65 30 P **P** **15 46 20.3 +0.1**
comp=Z,33nm,0.8s,baz=238,slow=7.1,SNR=83
NC204 NORSAR Array S 52.76 342 *eP* **P** **15 46 19.8 -1.2**
NC204 NORSAR Array S 52.76 342 *eP* **P** **15 46 19.8 -1.2**
APA Apatity 54.36 356⇓ *i*P **P** **15 46 30.2 -2.3**
APA *i* 15 47 38.0
APA *i* 15 48 42.0
APA *i* PPP PPP 15 49 41.0
APA *i* S **S** **15 54 05.0 -5.5**
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,300nm,16.0s
CHTO Chiang Mai 54.98 76 P **P** **15 46 40.2 +2.3**
comp=Z,40nm,1.2s
CHTO Chiang Mai 54.98 76 *eP* **P** **15 46 38.0 +0.1**

CHTO pmax pmax
comp=Z,10.0nm,1.1s
CHTO Chiang Mai 54.98 76 *e*P **P 15 46 38.0 +0.1**
comp=Z,9.9nm,1.1s
CHTO Chiang Mai 54.98 76 *e*P **P 15 46 38.0 +0.1**
comp=Z,9.9nm,1.1s
CMMT Chiang Mai 54.99 76 P **P 15 46 40.1 +2.2**
comp=Z,8.7nm,1.2s
CM31 Chiang Mai Arr 55.01 77 *e*P **P 15 46 37.9 -0.1**
CM31 Chiang Mai Arr 55.01 77 *e*P **P 15 46 37.9 -0.1**
CMAR Chiang Mai Arr 55.01 77 P **P 15 46 38.5 +0.5**
comp=Z,29nm,1.0s,baz=277,slow=7.4,SNR=79
CMAR LR LR 16 07 25.5
comp=Z,60nm,20.2s,baz=293,slow=33
CM01 Chiang Mai Arr 55.02 77 *e*P **P 15 46 37.8 -0.4**
CM01 Chiang Mai Arr 55.02 77 *e*P **P 15 46 37.8 -0.4**
LAMP Lampang 55.66 77 P **P 15 46 44.7 +2.0**
comp=Z,18nm,0.9s
SUKH Sukhothai 55.73 78 P **P 15 46 45.3 +2.1**
comp=Z,5.7nm,1.0s
PKDT Phuket 55.76 90 P **P 15 46 47.1 +3.6**
comp=Z,114nm,1.1s,comp=Z,3µm
GSI Gunungsitoli 56.49 97 P **P 15 46 51.3 +2.5**
comp=Z,30nm,1.2s
GSI Gunungsitoli 56.49 97 *e*P **P 15 46 49.0 +0.2**
comp=Z,41nm,1.2s
GSI Gunungsitoli 56.49 97 *e*P **P 15 46 49.0 +0.2**
comp=Z,41nm,1.2s
UTTA Uttaradit 56.59 78 P **P 15 46 51.1 +1.7**
comp=Z,7.4nm,1.1s,comp=Z,96nm
PMOZ Porto Moniz, M 56.85 300 *e*LR LR 16 09 35.3
comp=Z,205nm,18.0s
GTA Gaotai 56.97 52 ⇑P **P 15 46 53.0 +1.1**
GTA pP sP 15 46 58.2 +2.5
GTA sP pP 15 47 01.7 +7.1
GTA PcP **PcP 15 47 48.3 +1.1**
GTA S **S 15 54 49.7 +3.1**
GTA sS sS 15 54 58.0 +7.0
GTA SS **SS 15 58 42.1 +7.1**
GTA PMZ
comp=Z,8.0nm,1.4s
GTA PMZ
comp=Z,140nm,5.6s
GTA LN
comp=Z,340nm,15.0s
GTA LE
comp=Z,490nm,15.2s
GTA LZ
comp=Z,520nm,14.3s
ARA0 ARCESS Array S 56.99 353 *e*P **P 15 46 50.2 -1.2**
ARA0 ARCESS Array S 56.99 353 *e*P **P 15 46 50.2 -1.2**
ARCES ARCESS Array B 56.99 353 P **P 15 46 49.7 -1.8**
comp=Z,4.5nm,0.7s,baz=175,slow=6.1,SNR=18
ARCES LR LR 16 13 39.8
comp=Z,177nm,18.5s,baz=162,slow=38
KEV Kevo 57.04 354 *e*P **P 15 46 50.1 -1.6**
KEV pmax pmax
comp=Z,19nm,0.9s
KEV Kevo 57.04 354 *e*P **P 15 46 50.1 -1.6**
comp=Z,18nm,0.9s
KEV Kevo 57.04 354 *e*P **P 15 46 50.1 -1.6**
comp=Z,18nm,0.9s
TRTT Trang 57.09 89 P **P 15 46 54.8 +1.8**
comp=Z,36nm,1.5s,comp=Z,744nm
PBKT Sadao Pong 57.09 79 P **P 15 46 54.4 +1.5**
comp=Z,29nm,1.1s
PSI Prapat 57.42 95 *e*P **P 15 46 55.4 -0.1**
PSI pmax pmax
comp=Z,19nm,1.4s
PSI Prapat 57.42 95 *e*P **P 15 46 55.4 -0.1**
comp=Z,19nm,1.4s
KMI Kunming 58.29 69 P **P 15 47 02.8 +1.2**
KMI pP sP 15 47 06.2 +0.9
KMI sP pP 15 47 07.4 +3.1
KMI S **S 15 54 58.1 -6.4**
KMI SS **SS 15 58 57.6 +1.2**
KMI PMZ
comp=Z,13nm,1.0s
KMI PMZ
comp=Z,120nm,4.9s
KMI LN
comp=Z,120nm,22.5s
KMI LE
comp=Z,120nm,20.0s
KMI LZ
comp=Z,210nm,36.6s
KULM Kulim 58.53 92 *e*P **P 15 47 03.7 +0.6**
comp=Z,18nm,1.0s
KULM Kulim 58.53 92 *e*P **P 15 47 03.7 +0.6**
comp=Z,18nm,1.0s
KHON Khomkaen 58.88 79 P **P 15 47 07.2 +1.7**
comp=Z,26nm,0.9s,comp=Z,747nm
CD2 Chengdu 59.27 62 P **P 15 47 07.2 -0.9**
CD2 sP sP 15 47 11.7 -0.2
CD2 PP **PP 15 49 18.3 -0.7**
CD2 PcS **PcS 15 51 57.1 -1.4**
CD2 S **S 15 55 16.4 -0.4**
CD2 sS sS 15 55 21.9 +0.6
CD2 SS **SS 15 59 12.5 +1.1**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
CD2 LN
comp=Z,410nm,18.4s
CD2 LE
comp=Z,300nm,11.4s
CD2 LZ
comp=Z,360nm,18.4s
LZH Lanzhou 59.69 56 *e*P **P 15 47 12.4 +1.3**
LZH pP sP 15 47 16.1 +1.3
LZH sP pP 15 47 19.1 +5.3
LZH PMZ
comp=Z,25nm,1.2s
LZH LN
comp=Z,290nm,13.6s
LZH LE
comp=Z,690nm,20.6s
LZH LZ
comp=Z,490nm,21.3s
SKNT Sakolnakorn 59.92 78 P **P 15 47 13.5 +0.8**
comp=Z,74nm,1.0s
MOY Mondy 60.60 38 *e*P **P 15 47 18.7 +1.7**
UBPT Khong Chiam 61.53 80 P **P 15 47 24.9 +1.2**
comp=Z,20nm,1.8s
ZAK Zakamensk 61.66 40 *e*P **P 15 47 24.0 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
GYA Guiyang 61.80 67 ⇑*i*P **P 15 47 25.7 +0.1**
GYA ScP **ScP 15 52 06.8 -2.2**
GYA S **S 15 55 48.0 -1.4**
GYA SS **SS 15 59 51.3 0.0**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.9s
GYA LN
comp=Z,490nm,19.9s
GYA LE
comp=Z,460nm,20.4s
GYA LZ
comp=Z,450nm,20.0s
TLY Talaya 62.20 38 *e*P **P 15 47 29.1 +1.4**
TLY *e*S **S 15 55 47.2 -6.3**
TLY pmax pmax
comp=Z,7.0nm,1.6s
TLY MLR MLR
comp=Z,869nm,15.0s
TLY Talaya 62.20 38 *e*P **P 15 47 28.6 +1.0**
comp=Z,7.1nm,1.4s
TLY Talaya 62.20 38 *e*P **P 15 47 28.6 +1.0**
comp=Z,7.1nm,1.4s
MYKOM Kota Tinggi 62.44 95 *e*P **P 15 47 29.8 -0.1**
comp=Z,53nm,1.6s
MYKOM Kota Tinggi 62.44 95 *e*P **P 15 47 29.8 -0.1**
comp=Z,53nm,1.6s
NRIK Noril'sk 62.82 17 P **P 15 47 30.4 -1.0**
comp=Z,15nm,0.9s,baz=214,slow=5.7,SNR=26
SONM Songino Array 63.14 43 P **P 15 47 35.7 +1.5**
comp=Z,15nm,0.9s,baz=248,slow=6.7,SNR=63
SONA1 Songino Array 63.15 43 *e*P **P 15 47 34.7 +0.4**
SONA1 Songino Array 63.15 43 *e*P **P 15 47 34.7 +0.4**
ULN Ulaanbaatar 63.59 43 *ce*P **P 15 47 38.2 +1.0**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 63.59 43 P **P 15 47 38.2 +1.0**
SNR=6.7
ULN Ulaanbaatar 63.59 43 P **P 15 47 38.2 +1.0**
SNR=6.7
ULN P **P 15 47 38.2 +1.0**
SNR=6.7
ULN Ulaanbaatar 63.59 43 *e*P **P 15 47 37.1 -0.1**
comp=Z,7.6nm,0.9s
ULN Ulaanbaatar 63.59 43 *e*P **P 15 47 37.1 -0.1**
comp=Z,7.6nm,0.9s
XAN Xi'an 63.73 59 P **P 15 47 38.7 +0.5**
XAN sP sP 15 47 46.3 +4.3
XAN PMZ
comp=Z,19nm,1.2s
XAN PMZ
comp=Z,35nm,8.4s
ENH Enshi 64.20 63 *e*P **P 15 47 41.2 -0.2**
comp=Z,40nm,1.3s
ENH Enshi 64.20 63 *e*P **P 15 47 41.2 -0.2**
comp=Z,40nm,1.3s
KASI Kota Agung 65.05 103 P **P 15 47 50.6 +3.5**
comp=Z,112nm,1.2s,comp=Z,1µm
QIZ Qiongzhong 65.25 75 P **P 15 47 47.1 -1.2**
QIZ S **S 15 56 32.1 -0.3**
QIZ LN
comp=Z,110nm,11.6s
QIZ LE
comp=Z,120nm,15.0s
QIZ LZ
comp=Z,190nm,50.3s
QIZ Qiongzhong 65.25 75 *e*P **P 15 47 49.1 +0.8**
comp=Z,20nm,1.0s
QIZ Qiongzhong 65.25 75 *e*P **P 15 47 49.1 +0.8**
comp=Z,20nm,1.0s
SPA0 Spitsbergen Ar 65.97 354 *e*P **P 15 47 52.0 0.0**
SPA0 Spitsbergen Ar 65.97 354 *e*P **P 15 47 52.0 0.0**
HHC Hu-ho-hao-te 66.07 51 *e*P **P 15 47 55.8 +2.4**
HHC sP sP 15 48 02.8 +5.6
HHC S **S 15 56 40.2 -1.9**
HHC SS **SS 16 00 58.1 +0.7**
HHC PMZ
comp=Z,23nm,0.9s
HHC PMZ
comp=Z,120nm,7.3s
HHC LN
comp=Z,260nm,14.8s
HHC LE
comp=Z,300nm,14.8s
HHC LZ
comp=Z,250nm,14.8s
KBS Kingsbay 67.06 354 *e*P **P 15 47 58.2 -0.7**
KBS pmax pmax
comp=Z,25nm,1.4s
KBS Kingsbay 67.06 354 *e*P **P 15 47 58.2 -0.7**
comp=Z,25nm,1.4s
KBS Kingsbay 67.06 354 *e*P **P 15 47 58.2 -0.7**
comp=Z,25nm,1.4s
WHN Wuhan 68.39 62 P **P 15 48 10.3 +2.1**
WHN PMZ
comp=Z,60nm,0.9s
KSM Kuching 68.78 94 *e*P **P 15 48 10.1 -0.8**
comp=Z,16nm,1.0s
KSM Kuching 68.78 94 *e*P **P 15 48 10.1 -0.8**
comp=Z,16nm,1.0s
BOD Bodaibo 69.26 33 *e*P **P 15 48 13.8 +0.7**
BOD pmax pmax
comp=Z,20nm,1.4s
BJI Beijing 69.58 52 P **P 15 48 16.2 +0.8**
BJI S **S 15 57 21.8 -2.0**
BJI SS **SS 16 01 51.6 +0.2**
BJI PMZ
comp=Z,12nm,1.6s
BJI PMZ
comp=Z,63nm,3.6s
BJI LN
comp=Z,360nm,19.2s
BJI LE
comp=Z,390nm,21.0s
BJI LZ
comp=Z,330nm,29.7s
SBUM Sibu 70.41 92 *e*P **P 15 48 21.5 +0.5**
comp=Z,6.9nm,1.0s
SBUM Sibu 70.41 92 *e*P **P 15 48 21.5 +0.5**
comp=Z,6.9nm,1.0s
TIA Tai'an 70.43 56 *e*P **P 15 48 21.4 +0.7**
TIA PMZ
comp=Z,20nm,1.3s
HIA Hailar 72.09 42 *e*P **P 15 48 30.8 +0.2**
HIA pmax pmax
comp=Z,27nm,1.3s
HIA Hailar 72.09 42 *e*P **P 15 48 30.8 +0.2**
comp=Z,27nm,1.3s
HIA Hailar 72.09 42 *e*P **P 15 48 30.8 +0.2**
comp=Z,27nm,1.3s
SUMG Summit 74.33 342 *i*P **P 15 48 43.7 -0.1**
SUMG pmax pmax
comp=Z,22nm,1.1s
SUMG Summit 74.33 342 *i*P **P 15 48 43.7 -0.1**
comp=Z,22nm,1.1s
SUMG Summit 74.33 342 *e*P **P 15 48 42.7 -1.1**
comp=Z,22nm,1.1s
SUMG Summit 74.33 342 *e*P **P 15 48 42.7 -1.1**
comp=Z,22nm,1.1s
CN2 Changchun 76.29 48 *e*P **P 15 48 55.8 +0.7**
CN2 *e*S **S 15 58 38.8 -1.3**
CN2 *e*SS **SS 16 03 35.2 +1.4**
CN2 PMZ
comp=Z,20nm,1.2s
CN2 LN
comp=Z,300nm,18.0s
CN2 LE
comp=Z,400nm,18.0s
CN2 LZ
comp=Z,500nm,19.0s
YAK Yakutsk 77.26 29 *e*P **P 15 49 00.1 -0.1**
YAK *e* 15 49 12.0
YAK *e* 15 51 51.0
YAK *e*S **S 15 58 51.5 +1.5**
YAK *e* 15 59 21.3
YAK *e*SS **SS 16 03 54.8 +7.3**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=N,8.0nm,1.5s
YAK pmax pmax
comp=Z,45nm,3.0s
YAK pmax pmax
comp=E,26nm,2.5s
YAK smax smax
comp=N,40nm,2.3s
YAK MLR MLR
comp=Z,493nm,16.0s
YAK MLR MLR
comp=E,404nm,17.0s
YAK MLR MLR
comp=N,65nm,20.0s
YAK Yakutsk 77.26 29 *e*P **P 15 48 58.2 -2.0**
comp=N,23nm,1.0s
YAK Yakutsk 77.26 29 *e*P **P 15 48 58.2 -2.0**
comp=N,23nm,1.0s
KSAR Wonju Array Be 78.90 54 P **P 15 49 09.9 0.0**
KSAR Wonju Array Be 78.90 54 P **P 15 49 09.9 0.0**
KSAR Wonju Array Be 78.90 54 P **P 15 49 09.9 0.0**
KS01 Wonju Array Si 78.91 54 *e*P **P 15 49 08.7 -1.2**
KS01 Wonju Array Si 78.91 54 *e*P **P 15 49 08.7 -1.2**
KSRS Korea Array 78.93 54 P **P 15 49 09.9 -0.1**
comp=N,7.0nm,1.1s,baz=278,slow=6.7,SNR=21
MDJ Mudanjiang 79.15 47 P **P 15 49 11.1 0.0**
MDJ PP **PP 15 52 10.4 +0.1**
MDJ S **S 15 59 11.7 +0.6**
MDJ SS **SS 16 04 20.3 +3.4**
MDJ PMZ
comp=N,15nm,1.1s
MDJ PMZ
comp=N,75nm,5.8s
MDJ LN
comp=N,120nm,15.0s
MDJ LE
comp=N,110nm,23.3s
MDJ LZ
comp=N,190nm,21.6s
MDJ Mudanjiang 79.15 47 *e*P **P 15 49 10.0 -1.1**
comp=N,15nm,0.9s
MDJ Mudanjiang 79.15 47 *e*P **P 15 49 10.0 -1.1**
comp=N,15nm,0.9s
KLR Kul'dur 79.93 42 *i*P **P 15 49 15.5 +0.2**
USRK Ussuriysk Ar. 80.91 47 P **P 15 49 20.0 -0.6**
comp=N,6.9nm,0.9s,baz=269,slow=5.3,SNR=19
JNU Nakatsue 82.04 58 *e*P **P 15 49 26.8 -0.1**
comp=N,65nm,1.5s
JNU Nakatsue 82.04 58 *e*P **P 15 49 26.8 -0.1**
comp=N,65nm,1.5s
HABR Khabarovsk 82.21 42 *de*P **P 15 49 26.3 -1.1**
HABR *e* 15 49 31.1
HABR *e*SP **PcP 15 49 33.1 +0.4**
HABR *e* 15 52 34.8
HABR *e*PPP PPP 15 54 25.6
HABR *e*S **S 15 59 42.5 -0.4**
HABR *e*SS **SKKSac 15 59 50.8 -1.0**
HABR *e*SS **SS 16 05 03.9 +1.6**
HABR *e*SSS SSS 16 08 32.2
HABR pmax pmax
comp=N,5.0nm,0.8s
HABR pmax pmax
comp=E,9.0nm,1.6s
HABR pmax pmax
comp=Z,32nm,1.6s
HABR MLR MLR
comp=Z,742nm,20.0s
SYO Syowa Base 82.25 181 ⇓*e*P **P 15 49 26.7 -0.3**
INU Inuyama 86.53 55 *e*P **P 15 49 49.4 -0.2**
comp=Z,32nm,1.2s
INU Inuyama 86.53 55 *e*P **P 15 49 49.4 -0.2**
comp=Z,32nm,1.2s
MJB9 Matsu-Tunnel 87.17 53 *e*P **P 15 49 52.4 -0.4**
comp=Z,3.2nm,1.1s
MJB9 Matsu-Tunnel 87.17 53 *e*P **P 15 49 52.4 -0.4**
comp=Z,3.2nm,1.1s
MAJO Matsushiro 87.18 53 *e*P **P 15 49 52.3 -0.5**
MAJO pmax pmax
comp=Z,12nm,1.1s
MAJO Matsushiro 87.18 53 *e*P **P 15 49 52.3 -0.5**
comp=Z,12nm,1.1s
MAJO Matsushiro 87.18 53 *e*P **P 15 49 52.3 -0.5**
comp=Z,12nm,1.1s
MAT Matsushiro 87.18 53 P **P 15 49 52.5 -0.3**
MAT S **S 16 00 31.8 -1.1**
MJAR Matsushiro Arr 87.18 53 P **P 15 49 52.6 -0.2**
comp=Z,10.0nm,1.1s,baz=285,slow=6.0,SNR=24
SEY Seymchan 87.20 25 *ce*P **P 15 49 53.2 +0.9**
YSS Yuzh-Sakhalins 87.63 42 ⇓*e*P **P 15 49 54.1 -0.6**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 87.63 42 *e*P **P 15 49 54.3 -0.4**
comp=Z,20nm,1.2s
YSS Yuzh-Sakhalins 87.63 42 *e*P **P 15 49 54.3 -0.4**
comp=Z,20nm,1.2s
FITZ Fitzroy Crossi 88.42 109 *e*P **P 15 49 58.9 0.0**
comp=Z,30nm,1.0s
FITZ Fitzroy Crossi 88.42 109 *e*P **P 15 49 58.9 0.0**
comp=Z,30nm,1.0s
BILL Bilibino 89.61 18 *i*P **P 15 50 04.0 +0.4**
BILL pmax pmax
comp=Z,11nm,1.3s
BILL Bilibino 89.61 18 *e*P **P 15 50 03.8 +0.2**
comp=Z,13nm,1.2s
BILL Bilibino 89.61 18 *e*P **P 15 50 03.8 +0.2**
comp=Z,13nm,1.2s
SNAA Sanae 90.00 193 *e*P **P 15 50 04.7 -0.6**
SNAA pmax pmax
comp=Z,18nm,1.5s
SNAA Sanae 90.00 193 *e*P **P 15 50 04.7 -0.6**
comp=Z,18nm,1.5s
SNAA Sanae 90.00 193 *e*P **P 15 50 04.7 -0.6**
comp=Z,18nm,1.5s
PETK Petropavlovsk- 94.13 33 P **P 15 50 24.5 -0.4**
comp=Z,2.2nm,0.9s,baz=322,slow=9.1,SNR=3.1
WRA Warramunga Arr 96.85 109 P **P 15 50 37.9 0.0**
comp=Z,4.1nm,1.0s,baz=299,slow=3.4,SNR=16
WRAB Tennant Creek 96.85 109 *ce*P **P 15 50 40.6 +2.6**
WRAB pmax pmax
comp=Z,51nm,2.5s
ASAR Alice Springs 97.20 113 P **P 15 50 39.0 -0.4**
comp=Z,1.7nm,0.9s,baz=282,slow=4.4,SNR=11
AS01 Alice Springs 97.24 113 *e*P Pdif 15 50 39.8 0.0
AS01 Alice Springs 97.24 113 *e*P Pdif 15 50 39.8 0.0
ILAR Eielson Array 101.74 4 PP PP 15 55 09.5 +0.9
comp=Z,0.8nm,0.9s,baz=339,slow=5.9,SNR=6.4
YKA Yellowknife Ar 102.08 349 PP PP 15 55 10.2 -0.9
comp=Z,1.3nm,0.9s,baz=17,slow=6.7,SNR=4.6
PDAR Pinedale Array 118.19 336 PKP **PKPdf 15 55 54.6 +0.5**
comp=Z,0.3nm,0.5s,baz=87,slow=1.9,SNR=3.1
NNA Nana 120.25 264 *i* PKIKP **PKPdf 15 55 55.3 -3.1**
PAHR Pah Rah Range 124.29 342 *e*PKIKP **PKPdf 15 56 04.2 -1.5**
PAHR Pah Rah Range 124.29 342 *e*PKPdf **PKPdf 15 56 04.2 -1.5**
NV11 Mina Array Sit 125.08 341 *e*PKIKP **PKPdf 15 56 06.2 -1.1**
NV11 Mina Array Sit 125.08 341 *e*PKPdf **PKPdf 15 56 06.2 -1.1**
NV01 Mina Array Sit 125.13 341 *e*PKIKP **PKPdf 15 56 07.3 -0.2**
NV01 Mina Array Sit 125.13 341 *e*PKPdf **PKPdf 15 56 07.3 -0.2**
NVAR Mina Array Bea 125.13 341 PKP **PKPdf 15 56 07.6 +0.1**
comp=Z,2.5nm,1.0s,baz=14,slow=0.5,SNR=11
MNTX Cornudas Mount 125.17 326 *e*PKIKP **PKPdf 15 56 06.9 -0.6**
MNTX Cornudas Mount 125.17 326 *e*PKPdf **PKPdf 15 56 06.9 -0.6**
TX31 Lajitas Ar. Si 125.95 322 *e*PKIKP **PKPdf 15 56 08.1 -1.0**
TX31 Lajitas Ar. Si 125.95 322 *e*PKPdf **PKPdf 15 56 08.1 -1.0**
TXAR Lajitas Array 125.95 322 PKP **PKPdf 15 56 08.8 -0.4**
comp=Z,0.7nm,0.9s,baz=48,slow=1.9,SNR=7.5
WSHM Spangler Hills 127.42 339 *e*PKIKP **PKPdf 15 56 11.1 -0.6**
WSHM Spangler Hills 127.42 339 *e*PKPdf **PKPdf 15 56 11.1 -0.6**
LRV Little Rabbit 127.81 342 *e*PKIKP **PKPdf 15 56 13.0 +0.6**
LRV Little Rabbit 127.81 342 *e*PKPdf **PKPdf 15 56 13.0 +0.6**
PFO Pinyon Flats O 128.81 337 *i* PKIKP **PKPdf 15 56 18.3 +3.8**

ISCJB ***12*** *15:38:50.8±0.5, 13.˚46N±0.˚07×41.˚74E±0.˚10, h10km, mb4.2/17, Error ellipse: s-maj=15.0km s-min=7.6km az=152.7*
IDC ***12*** *15:38:50.6±1.0, 13.˚38N×41.˚73E, h0km, mb4.3/16, mb1 4.3/17, mb1mx4.1/41, mbtmp4.3/17, ML4.6/1, Error ellipse: s-maj=22.0km s-min=18.6km az=37.0*
NEIC ***12*** *15:38:52.0±0.7, 13.˚34N×41.˚64E, h10km, mb4.0/1, Error ellipse: s-maj=14.4km s-min=12.0km az=201.0*
CSEM ***12*** *15:38:52.2±0.4, 13.˚38N×41.˚65E, h10km, mb4.0, Error ellipse: s-maj=16.8km s-min=13.0km az=44.0*
ISC 12 15:38:52.3±0.7, 13.˚40N±0.˚08×41.˚77E±0.˚09, h10km, n25, s0992/27, mb4.3/17, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ATD	**Arta Tunnel**	**2.14**	**150**	Pn	**Pn**	**15 39 27.5**	**-0.7**
	185nm,0.3s,baz=282,slow=20,SNR=2.1						
ATD				Sn	**Sn**	**15 39 56.3**	**+1.5**
	477nm,0.3s,baz=293,slow=17,SNR=6.2						
DAMY	**Dhamar**	**2.80**	**65**	*e*P	**Pb**	**15 39 41.8**	**-0.9**
DAMY	**Dhamar**	**2.80**	**65**	*e*P	**Pb**	**15 39 41.8**	**-0.9**
BRTR	**Keskin Array B**	**27.18**	**346**	P	**P**	**15 44 37.5**	**+1.2**
	3.3nm,1.0s,baz=160,slow=8.9,SNR=4.1						
AKASG	**Malin Array Be**	**38.58**	**347**	P	**P**	**15 46 14.8**	**-0.5**
	0.8nm,0.6s,baz=169,slow=7.1,SNR=3.8						
ABKAR	**Akbulak array**	**38.76**	**19**	P	**P**	**15 46 17.2**	**+0.3**
	3.1nm,0.8s						
ABKAR	**Akbulak array**	**38.76**	**19**	P	**P**	**15 46 17.2**	**+0.3**
	3.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**38.97**	**274**	P	**P**	**15 46 18.0**	**-1.1**
	3.1nm,1.1s,baz=92,slow=8.0,SNR=2.9						
AKTO	**Aktyubinsk**	**39.24**	**16**	P	**P**	**15 46 19.3**	**-1.6**
	5.8nm,1.0s,baz=237,slow=7.8,SNR=3.7						
GERES	**GERESS Array B**	**42.26**	**332**	P	**P**	**15 46 44.8**	**-1.1**
	3.0nm,0.8s,baz=132,slow=6.6,SNR=6.0						
DPC	**Dobruska-Polom**	**42.29**	**336**	*e*P	**P**	**15 46 47.4**	**+1.3**
DPC				*e*pP	**sP**	**15 46 51.8**	**+1.3**
KHC	**Kasperske Hory**	**42.52**	**333**	*e*P	**P**	**15 46 48.7**	**+0.7**
BVAR	**Borovoye Array**	**45.61**	**24**	P	**P**	**15 47 12.8**	**+0.1**
	4.8nm,1.1s,baz=201,slow=7.7,SNR=2.4						
DBIC	**Dimbokro**	**46.34**	**266**	P	**P**	**15 47 18.2**	**-0.8**
	6.8nm,0.9s,baz=348,slow=19,SNR=3.2						
MKAR	**Makanchi Array**	**47.50**	**37**	P	**P**	**15 47 28.4**	**+0.7**
	8.1nm,1.0s,baz=226,slow=6.5,SNR=5.4						
ESDC	**Sonseca Array**	**47.88**	**312**	P	**P**	**15 47 32.0**	**+1.2**
	0.9nm,0.7s,baz=111,slow=6.3,SNR=4.0						
FINES	**FINESS Array B**	**49.30**	**350**	P	**P**	**15 47 41.3**	**+0.1**
	2.4nm,0.7s,baz=313,slow=19,SNR=4.5						
NB2	**NORSAR Subarra**	**52.48**	**342**	P	**P**	**15 48 05.0**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=141,slow=7.4						
NB2	**NORSAR Subarra**	**52.48**	**342**	P	**P**	**15 48 05.0**	**-0.3**
	comp=Z,3.4nm,0.8s,SNR=4.0						
NOA	**NORSAR Array B**	**52.48**	**342**	P	**P**	**15 48 05.0**	**-0.3**

comp=Z,2.7nm,0.8s,baz=141,slow=7.4,SNR=4.0
ZALV Zalesovo Beam 52.69 30 P **P 15 48 06.3 -0.6**
comp=Z,8.5nm,0.9s,baz=236,slow=7.8,SNR=4.9
CMAR Chiang Mai Arr 55.03 77 P **P 15 48 24.9 +0.2**
comp=Z,6.3nm,1.1s,baz=275,slow=7.7,SNR=4.7
ARCES ARCESS Array B 57.03 353 P **P 15 48 37.1 -1.0**
comp=Z,2.0nm,0.8s,baz=173,slow=7.9,SNR=4.6
NRIK Noril'sk 62.86 17 P **P 15 49 18.6 +0.5**
comp=Z,3.4nm,0.8s,baz=217,slow=3.9,SNR=3.9
SONM Songino Array 63.19 43 P **P 15 49 21.5 +0.6**
comp=Z,1.9nm,0.7s,baz=244,slow=7.3,SNR=3.7

MAN 12 15:46:50.17̲49N×122.17E,h10km,mb4.8,ML3.7,MS3.7, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CVP	**Callao Caves**	**0.39**	**302**	⇓*i* P		Pb	15 46 59.2 +0.2
CAUP	**Cauayan**	**0.64**	**211**	*e*P		Pb	15 47 04.1 +0.9
CAUP				*e*S		Sn	15 47 16.7 +1.4
APYP	**Conner**	**0.96**	**293**	*e*P		Pg	15 47 08.2 -0.2
APYP				*e*S		Sn	15 47 24.1 +0.9
ABRA	**Dolores**	**1.40**	**277**	*e*P		Pn	15 47 15.2 -0.4
ABRA				*e*S		Sg	15 47 35.4 +0.4
BALP	**Baler**	**1.83**	**198**	*e*P		Pn	15 47 22.2 +0.7

*SJA **12** 15:47:44.2±0.4,24.̲46S×67.̲64W,h165km±9km,ML2.0, MW2.6*
*ISCJB **12** 15:47:45.1±0.5,24.̲51S±0.̲04×67.̲62W±0.̲04,h165km±7km, mb3.6/1,Error ellipse: s-maj=6.9km s-min=4.4km az=44.8*
*NEIC **12** 15:47:47.8±1.1,24.̲29S×67.̲19W,h146km±16km,mb4.0/1, Error ellipse: s-maj=22.3km s-min=14.2km az=91.0*
*IDC **12** 15:47:48.1±3.1,24.̲23S×67.̲25W,h149km±29km,mb3.8/1, mb1 3.5/4,mb1mx3.1/32,mbtmp3.9/4,MS3.5/1,Ms1 3.5/1, ms1mx2.6/31,Error ellipse: s-maj=40.9km s-min=24.0km az=158.0*

ISC 12 15:47:45.5±0.8,24.̲47S±0.̲05×67.̲56W±0.̲04, h161km±10km,n25,σ1s̲70/38,2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSA	**Cafayete**	**2.17**	**139**	*i* P		**Pn**	**15 48 24.2 +0.8**
FSA				*i* S		**Sn**	**15 48 53.4 +0.7**
FSA				IAML			15 48 56.8
	comp=Z,3.4nm,0.5s						
LVC	**Limon Verde**	**2.23**	**326**	P		**Pn**	**15 48 26.6 +2.2**
	comp=Z,2μm,0.3s,baz=150,slow=7.5,SNR=311						
LVC				S		**Sn**	**15 48 55.6 +1.3**
	comp=Z,948nm,0.3s,baz=8.8,slow=21,SNR=76						
LVC	**Limon Verde**	**2.23**	**326**	*e*Pn		**Pn**	**15 48 26.2 +1.8**
LVC				*e*Sn		**Sn**	**15 48 55.7 +1.4**
AZAP	**Zapla**	**2.29**	**84**	*i* P		**Pn**	**15 48 25.7 +0.8**
HJA	**Humahuaca**	**2.33**	**58**	*i* P		**Pn**	**15 48 26.7 +1.1**
PB06	**IPOC Station P**	**2.55**	**313**	*e*P		**Pn**	**15 48 28.6 +0.6**
PB06				*e*S		**Sn**	**15 49 00.6 -0.2**
PB14	**IPOC Station P**	**2.60**	**266**	⇓*e*P		**Pn**	**15 48 29.9 +1.3**
PB14				*e*S		**Sn**	**15 49 01.2 -0.7**
ANCH	**Antofagasta**	**2.72**	**286**	*e*P		**Pn**	**15 48 30.7 +0.9**
ANCH				*e*S		**Sn**	**15 49 02.3 -1.9**
ASTB	**Santa Barbara**	**2.88**	**80**	*i* P		**Pn**	**15 48 32.7 +0.7**
PB10	**IPOC Station P**	**2.90**	**289**	*e*P		**Pn**	**15 48 33.0 +0.9**
PB10				*e*S		**Sn**	**15 49 06.4 -1.8**
YJA	**Yavi**	**2.96**	**40**	*i* P		**Pn**	**15 48 34.1 +0.9**
AHML	**Horco Molle**	**3.05**	**139**	*i* P		**Pn**	**15 48 34.4 +0.4**
AHML				*i* S		**Sn**	**15 49 11.9 +0.2**
AHML				IAML			15 49 13.9
	comp=Z,6.8nm,0.6s						
PB09	**IPOC Station P**	**3.08**	**329**	⇓*e*P		**Pn**	**15 48 35.9 +1.4**
PB09				*e*S		**Sn**	**15 49 11.4 -1.1**
PB04	**IPOC Station P**	**3.19**	**311**	*e*P		**Pn**	**15 48 37.1 +1.2**
PB04				*e*S		**Sn**	**15 49 13.8 -1.2**
ALOL	**LOMAS DE OLMED**	**3.33**	**79**	*i* P		**Pn**	**15 48 38.1 +0.6**
PB07	**IPOC Station P**	**3.47**	**321**	*e*P		**Pn**	**15 48 41.3 +1.8**
PB07				*e*S		**Sn**	**15 49 20.8 -0.6**
CYA	**Choya**	**4.25**	**159**	*i* P		**Pn**	**15 48 49.5 +0.1**
LCO	**Las Campanas**	**5.32**	**211**	*e*Pn		**Pn**	**15 49 02.4 -1.2**
LCO				*e*S		**Sn**	**15 50 02.5 -2.1**
LPAZ	**La Paz**	**8.16**	**356**	P		**Pn**	**15 49 42.8 +1.1**
	comp=Z,0.6nm,0.3s,baz=164,slow=6.0,SNR=18						
LPAZ				S		**Sn**	**15 51 10.2 -2.9**
	comp=Z,0.1nm,0.3s,baz=276,slow=24,SNR=3.8						
SIV	**San Ignacio**	**10.40**	**37**	P		**Pn**	**15 50 07.7 -3.1**
	comp=Z,0.4nm,0.3s,baz=229,slow=11,SNR=5.7						
SIV				S		**Sn**	**15 52 00.6 -5.5**
	comp=Z,0.1nm,0.3s,baz=231,slow=13,SNR=2.0						
TRQA	**Tornquist**	**14.35**	**162**	*e*P		**P**	**15 51 05.3 +1.5**
	comp=Z,5.7nm,0.8s						
BDFB	**Brasilia**	**20.33**	**68**	P		**P**	**15 52 09.7 +0.2**
	comp=Z,0.4nm,0.3s,baz=231,slow=12,SNR=6.2						
ROSC	**El Rosal**	**29.87**	**346**	LR		LR	16 08 35.8
	comp=Z,88nm,20.3s,baz=240,slow=42						
TORD	**Torodi Ar. Bea**	**77.21**	**69**	P		**P**	**15 59 23.6 +1.4**
	comp=Z,0.9nm,0.6s,baz=258,slow=5.1,SNR=12						
MKAR	**Makanchi Array**	**147.21**	**40**	PKPbc		**PKPab**	**16 07 12.6 +0.7**
	comp=Z,0.4nm,0.6s,baz=266,slow=3.6,SNR=4.3						

*ATH **12** 15:50:49.7,36.̲60N×25.̲70E,h26km±1km,ML2.9/4, Error ellipse: s-maj=2.4km s-min=1.3km az=263.0*
*THE **12** 15:50:50.5,36.̲61N×25.̲72E,h12km,ML2.8/5,Error ellipse: s-maj=1.3km s-min=0.5km az=97.0*
*DDA **12** 15:50:50.7,36.̲67N×25.̲64E,h4km,Md3.1*
*ISCJB **12** 15:50:51.6±0.5,36.̲60N±0.̲03×25.̲63E±0.̲04,h9km±4km, Error ellipse: s-maj=6.0km s-min=4.4km az=30.4*
*CSEM **12** 15:50:51.4±0.2,36.̲59N×25.̲58E,h12km,ML2.9,Error ellipse: s-maj=6.7km s-min=4.6km az=119.0*

ISC 12 15:50:50.9±0.9,36.̲62N±0.̲02×25.̲67E±0.̲02,h16km±7km, n45,σ0s̲65/68,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBO	**Columbo, Santo**	**0.26**	**236**	P	**Pg**	**15 50 56.7 +0.2**	
CMBO				S	**Sg**	**15 51 00.9 +0.6**	
CMBO	**Columbo, Santo**	**0.26**	**236**	P	**Pg**	**15 50 56.7 +0.2**	
CMBO				S	**Sg**	**15 51 00.9 +0.6**	
CMBO				AML	AML	15 51 04.9	
	comp=E,3375μm,0.4s						
CMBO				AML	AML	15 51 04.9	
	comp=N,7036μm,0.5s						
THR8	**Santorini-Mono**	**0.26**	**216**	P	**Pg**	**15 50 56.2 -0.3**	
THR8	**Santorini-Mono**	**0.26**	**216**	P	**Pg**	**15 50 56.2 -0.3**	
THR7	**Fira-Santorini**	**0.27**	**225**	P	**Pg**	**15 50 56.6 -0.2**	
THR7	**Fira-Santorini**	**0.27**	**225**	P	**Pg**	**15 50 56.6 -0.2**	
SANT	**Santorini**	**0.30**	**215**	P	**Pg**	**15 50 57.0 -0.2**	
SANT				S	**Sb**	**15 51 02.3 -0.3**	
SANT	**Santorini**	**0.30**	**215**	P	**Pg**	**15 50 57.2 -0.1**	
SANT				S	**Sg**	**15 51 01.6 0.0**	
SANT	**Santorini**	**0.30**	**215**	P	**Pg**	**15 50 57.2 -0.1**	
SANT				S	**Sg**	**15 51 01.6 0.0**	
SANT				AML	AML	15 51 02.6	
	comp=E,4786μm,0.1s						
SANT				AML	AML	15 51 02.9	
	comp=N,2762μm,0.1s						
THR3	**Thira Island,**	**0.30**	**226**	P	**Pg**	**15 50 57.2 0.0**	
THR3	**Thira Island,**	**0.30**	**226**	P	**Pg**	**15 50 57.2 0.0**	
THT1	**Athinios (Pele**	**0.30**	**220**	P	**Pg**	**15 50 57.1 -0.1**	
THT1				S	**Sg**	**15 51 01.7 +0.1**	
THT1	**Athinios (Pele**	**0.30**	**220**	P	**Pg**	**15 50 57.1 -0.1**	
THT1				S	**Sg**	**15 51 01.7 +0.1**	
THR5	**Thira Island,**	**0.33**	**233**	P	**Pg**	**15 50 57.6 -0.1**	
THR5	**Thira Island,**	**0.33**	**233**	P	**Pg**	**15 50 57.6 -0.1**	
THR6	**Thira Island,**	**0.34**	**220**	P	**Pg**	**15 50 58.0 +0.1**	
THR6	**Thira Island,**	**0.34**	**220**	P	**Pg**	**15 50 58.0 +0.1**	
APE	**Apeiranthos**	**0.47**	**346**	P	**Pg**	**15 50 59.8 -0.5**	
APE				S	**Sb**	**15 51 07.6 +0.1**	
APE	**Apeiranthos**	**0.47**	**346**	P	**Pg**	**15 50 59.8 -0.5**	
APE				S	**Sg**	**15 51 06.0 -0.6**	
APE	**Apeiranthos**	**0.47**	**346**	P	**Pg**	**15 50 59.7 -0.6**	
APE				S	**Sg**	**15 51 06.0 -0.6**	
APE				AML	AML	15 51 08.9	
	comp=N,2437μm,0.2s						
APE				AML	AML	15 51 11.8	
	comp=E,2813μm,0.1s						
MHLO	**Agia Marina, M**	**1.02**	**275**	P	**Pb**	**15 51 09.9 -0.3**	
MHLO				S	**Sg**	**15 51 25.1 +1.0**	
MHLO	**Agia Marina, M**	**1.02**	**275**	P	**Pb**	**15 51 09.9 -0.3**	
MHLO				S	**Sg**	**15 51 25.1 +1.0**	
MHLO	**Agia Marina, M**	**1.02**	**275**	P	**Pb**	**15 51 10.1 -0.1**	
MHLO				S	**Sn**	**15 51 25.9 +1.3**	
MHLO				AML	AML	15 51 26.7	
	comp=E,3209μm,0.3s						
MHLO				AML	AML	15 51 28.0	
	comp=N,3242μm,0.3s						
SERI	**Serifos**	**1.09**	**300**	P	**Pb**	**15 51 10.8 -0.7**	
SERI	**Serifos**	**1.09**	**300**	P	**Pb**	**15 51 10.8 -0.7**	
SERI				S	**Sn**	**15 51 28.3 +1.9**	
SMG	**Samos**	**1.44**	**40**	P	**Pn**	**15 51 16.4 0.0**	
SMG	**Samos**	**1.44**	**40**	P	**Pn**	**15 51 16.4 0.0**	
IDI	**Anoyia**	**1.47**	**206**	P	**Pn**	**15 51 15.7 -1.1**	
IDI				S	**Sn**	**15 51 35.4 -0.3**	
IDI	**Anoyia**	**1.47**	**206**	P	**Pn**	**15 51 15.7 -1.1**	
IDI				S	**Sn**	**15 51 35.4 -0.3**	
IDI	**Anoyia**	**1.47**	**206**	P	**Pn**	**15 51 15.4 -1.4**	
BDRM	**Kayabasi**	**1.49**	**72**	P	**Pg**	**15 51 19.2 -0.5**	
BDRM				S	**Sg**	**15 51 40.3 +1.2**	
BDRM	**Kayabasi**	**1.49**	**72**	*i* P	**Pg**	**15 51 19.2 -0.5**	
BDRM				*i* S	**Sg**	**15 51 40.4 +1.2**	
KARP	**Karpathos**	**1.61**	**131**	P	**Pn**	**15 51 18.9 +0.1**	
KARP	**Karpathos**	**1.61**	**131**	P	**Pn**	**15 51 18.9 +0.1**	
GCAM	**G?zelcaml?**	**1.65**	**49**	P	**Pb**	**15 51 21.4 +0.3**	
GCAM	**G?zelcaml?**	**1.65**	**49**	*i* P	**Pb**	**15 51 21.4 +0.3**	
KARY	**Karystos**	**1.72**	**326**	P	**Pn**	**15 51 20.9 +0.6**	
KARY	**Karystos**	**1.72**	**326**	P	**Pn**	**15 51 20.9 +0.6**	
DGB	**¨zmir**	**1.73**	**34**	*i* P	**Pg**	**15 51 23.0 -1.1**	
DGB				*i* S	**Sg**	**15 51 46.9 +0.2**	
URLA	**Izmir**	**1.89**	**23**	P	**Pg**	**15 51 26.4 -0.9**	
URLA				S	**Sg**	**15 51 51.3 -0.5**	
URLA	**Izmir**	**1.89**	**23**	*i* P	**Pg**	**15 51 26.4 -0.9**	
URLA				*i* S	**Sg**	**15 51 51.3 -0.5**	
VLY	**Voula,Athens**	**1.94**	**310**	P	**Pn**	**15 51 23.5 +0.2**	
VLY	**Voula,Athens**	**1.94**	**310**	P	**Pn**	**15 51 23.5 +0.2**	
AYDN	**Tasoluk**	**2.05**	**59**	P	**Pb**	**15 51 27.7 -0.1**	
AYDN				S	**Sg**	**15 51 58.1 +1.1**	
AYDN	**Tasoluk**	**2.05**	**59**	*i* P	**Pb**	**15 51 27.7 -0.1**	
AYDN				*i* S	**Sg**	**15 51 58.1 +1.1**	

WBNET 12 16:00:32.6,50.̲21N×12.̲45E,h10km,Ml0.2,2C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**351**	⇓P		Pg	16 00 34.4 -0.1
NKC				S		Sg	16 00 35.7 -0.2
KVC	**Kvetna**	**0.04**	**94**	⇓P		Pg	16 00 34.5 -0.2
KVC				S		Sg	16 00 35.8 -0.3
VAC	**Vackov**	**0.06**	**298**	⇓P		Pg	16 00 34.6 -0.2
VAC				S		Sg	16 00 36.0 -0.3
LBCW	**Luby**	**0.06**	**335**	⇓P		Pg	16 00 34.7 -0.2
LBCW				S		Sg	16 00 36.4 -0.1
STCW	**Studenec**	**0.07**	**40**	⇓P		Pg	16 00 34.7 -0.2
STCW				S		Sg	16 00 36.2 -0.4
SKC	**Skalna**	**0.07**	**237**	⇓P		Pg	16 00 34.8 -0.2
SKC				S		Sg	16 00 36.3 -0.3
POCW	**Po¨¡tky**	**0.11**	**351**	⇓P		Pg	16 00 35.4 -0.1
POCW				S		Sg	16 00 37.3 -0.3
KRCW	**Kraslice**	**0.13**	**22**	⇑P		Pg	16 00 35.6 -0.2
KRCW				S		Sg	16 00 37.7 -0.3
ZHC	**Zelena Hora**	**0.17**	**214**	⇑P		Pg	16 00 36.2 -0.1
ZHC				S		Sg	16 00 38.6 -0.2

*NIED **12** 16:01:00.39̲30N×142.̲50E,h56km,Mw3.7 Best double couple: M0=4.30000×10^14 NP1:φ=330.00000°,δ=76.00000°, λ=7.00000°. NP2:φ=238.00000°,δ=83.00000°,λ=166.00000°.*
*JMA **12** 16:01:51.6±0.1,39.̲33N×142.̲48E,h52km±1km,M3.9*
JMA Felt I J1.
*IDC **12** 16:01:53.9±3.7,39.̲27N×142.̲38E,h69km±31km,mb3.4/7, mb1 3.5/10,mb1mx3.3/49,mbtmp3.6/10,ML3.5/2,Error ellipse: s-maj=36.6km s-min=18.7km az=83.0*

ISC 12 16:01:49.2±1.7,39.̲29N±0.̲04×142.̲70E±0.̲08,h32km±11km, n29,σ1s̲54/36,mb3.6/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.74**	**293**	P	**Pn**	**16 02 03.8 +0.4**	
MIYJ				S	**Sb**	**16 02 12.6 -0.9**	
OFUJ	**Ofunato**	**0.83**	**256**	P	**Pb**	**16 02 05.3 +0.2**	
OFUJ				S	**Sb**	**16 02 15.1 -0.9**	
JTH	**Tanohata**	**0.91**	**315**	P	**Pb**	**16 02 06.4 -0.2**	
JTH				S	**Sn**	**16 02 17.1 -0.8**	
JOM	**Ohasama**	**1.10**	**280**	P	**Pb**	**16 02 08.8 -1.0**	
JOM				*e*S	**Sn**	**16 02 21.4 -1.2**	
JMK	**Ichinoseki**	**1.20**	**254**	P	**Pn**	**16 02 10.4 +0.6**	
JMK				*e*S	**Sn**	**16 02 24.0 -0.9**	
JKZ	**Kuzumaki**	**1.26**	**304**	P	**Pb**	**16 02 11.2 -1.3**	
JKZ				*e*S	**Sn**	**16 02 25.4 -1.2**	
JIO	**Ouri**	**1.34**	**232**	P	**Pn**	**16 02 12.7 +0.9**	
JIO				S	**Sn**	**16 02 28.0 -0.5**	
JANG	**Nango**	**1.41**	**320**	P	**Pn**	**16 02 13.1 +0.3**	
JANG				*e*S	**Sn**	**16 02 28.9 -1.4**	
JRG	**Rokugo**	**1.60**	**274**	P	**Pn**	**16 02 15.6 +0.2**	
JAH	**Hinai**	**1.82**	**300**	P	**Pn**	**16 02 18.9 +0.5**	
JAH				*e*S	**Sn**	**16 02 33.0 -0.4**	
JOU	**Okura**	**1.84**	**240**	P	**Pn**	**16 02 19.5 +0.9**	
JYK	**Kaneyama**	**1.86**	**259**	P	**Pn**	**16 02 19.6 +0.8**	
JYK				*e*S	**Sn**	**16 02 41.0 -0.2**	
MJAR	**Matsushiro Arr**	**4.49**	**234**	P	**Pn**	**16 02 58.0 +3.0**	
	8.4nm,0.3s,baz=41,slow=11,SNR=36						
ASAJ	**Asahikawa**	**4.82**	**359**	S	**Sn**	**16 03 53.7 -0.7**	
	2.5nm,0.3s,baz=78,slow=22,SNR=4.4						
JHJ	**Hachijo jima 2**	**6.59**	**202**	S	**Sn**	**16 04 32.7 -5.3**	
	28nm,0.3s,baz=74,slow=24,SNR=8.3						
USRK	**Ussuriysk Ar.**	**9.38**	**305**	P	**Pn**	**16 04 01.9 -0.2**	
	0.1nm,0.3s,baz=112,slow=14,SNR=3.0						
KSRS	**Korea Array**	**11.74**	**266**	P	**Pn**	**16 04 38.1 +3.6**	
	0.3nm,0.3s,baz=73,slow=14,SNR=6.8						
JCJ	**Chichijima**	**12.17**	**182**	P	**Pn**	**16 04 41.0 +0.6**	
	3.1nm,0.3s,baz=282,slow=20,SNR=3.5						
JCJ				S	Sn	16 06 42.9 -12	
	2.0nm,0.3s,baz=308,slow=19,SNR=2.3						
KLR	**Kul'dur**	**12.65**	**325**	P	**Pn**	**16 04 48.1 +1.3**	
	0.1nm,0.3s,baz=134,slow=13,SNR=3.7						
SEY	**Seymchan**	**24.39**	**11**	P	**P**	**16 07 06.4 +2.1**	
	1.1nm,0.6s,baz=183,slow=9.2,SNR=4.8						
SONM	**Songino Array**	**27.45**	**300**	P	**P**	**16 07 32.4 +0.1**	
	0.4nm,0.5s,baz=91,slow=8.5,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.54**	**126**	T	T	16 38 14.6	
	baz=318,slow=75,SNR=122						
H11N1	**WAKE ISLAND Hy**	**28.55**	**126**	T	T	16 38 17.9	
	baz=318,slow=75,SNR=118						
H11N3	**WAKE ISLAND Hy**	**28.56**	**126**	T	T	16 38 15.8	
	baz=318,slow=75,SNR=115						
ZALV	**Zalesovo Beam**	**41.18**	**311**	P	**P**	**16 09 29.9 -0.6**	
	2.5nm,0.4s,baz=87,slow=7.5,SNR=13						
CMAR	**Chiang Mai Arr**	**43.07**	**254**	P	**P**	**16 09 44.6 -1.7**	
	0.5nm,0.6s,baz=52,slow=7.3,SNR=3.3						
MKAR	**Makanchi Array**	**43.82**	**300**	P	**P**	**16 09 51.1 -1.0**	
	1.1nm,0.7s,baz=86,slow=9.3,SNR=11						
WRA	**Warramunga Arr**	**59.44**	**189**	P	**P**	**16 11 48.5 -0.3**	
	0.5nm,0.7s,baz=6.1,slow=7.0,SNR=7.1						
ASAR	**Alice Springs**	**63.17**	**189**	P	**P**	**16 12 14.2 +0.1**	
	0.2nm,0.7s,baz=24,slow=9.2,SNR=3.9						

*IDC **12** 16:04:15.3±0.6,15.̲16S×173.̲55W,h0km,mb4.2/10, mb1 4.5/11,mb1mx4.2/31,mbtmp4.3/11,ML4.9/1,MS3.2/7, Ms1 3.2/7,ms1mx3.1/32,Error ellipse: s-maj=32.7km s-min=15.5km az=134.0*
*NEIC **12** 16:04:16.8±0.3,15.̲09S×173.̲56W,h10km,mb4.2/2,Error ellipse: s-maj=16.7km s-min=7.6km az=137.0*
*ISCJB **12** 16:04:18.2±0.5,15.̲1S±0.̲1×173.̲6W±0.̲1,h30km,mb4.2/12, MS3.3/5,Error ellipse: s-maj=23.7km s-min=10.3km az=137.0*

ISC 12 16:04:19.5±0.6,15.̲1S±0.̲1×173.̲4W±0.̲1,h30km,n58, σ1s̲21/41,mb4.3/12,MS3.3/5,8C-6D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.96**	**53**	Pn	**Pn**	**16 04 50.7 0.0**	
	394nm,0.3s,baz=200,slow=2.8,SNR=1068						
AFI				Sn	**Sn**	**16 05 10.5 -3.8**	
	940nm,0.3s,baz=18,slow=22,SNR=28						
AFI				LR	LR	16 05 35.6	
	comp=Z,366nm,18.4s,baz=191,slow=38						
RAR	**Rarotonga**	**14.29**	**117**	LR	LR	16 12 01.3	
	comp=Z,50nm,19.6s,baz=295,slow=32						
DZM	**Mont Dzumac**	**20.33**	**247**	*e*LR	LR	16 14 20.2	
	230nm,27.8s						
DZM	**Mont Dzumac**	**20.33**	**247**	LR	LR	16 15 39.2	
	comp=Z,136nm,21.1s,baz=40,slow=34						
PPT	**Papeete**	**22.98**	**99**	LR	LR	16 17 44.0	
	comp=Z,23nm,18.4s,baz=191,slow=35						
PPT2	**Papeete2**	**22.98**	**99**	*e*LR	LR	16 14 32.4	
	104nm,28.2s						
PPT2	**Papeete2**	**22.98**	**99**	*e*T	T	16 32 28.5	
	2.8nm,0.3s						
PAE	**Paea**	**22.98**	**100**	*e*T	T	16 32 27.5	
	1.5nm,0.2s						
TVO	**Taravao**	**23.30**	**100**	*e*T	T	16 32 51.1	
	1.7nm,0.4s						
URZ	**Urewera**	**24.55**	**198**	P	**P**	**16 09 34.3 -2.3**	
	5.9nm,0.4s,baz=343,slow=2.7,SNR=8.1						
URZ	**Urewera**	**24.55**	**198**	*e*P	**P**	**16 09 35.8 -0.8**	
HNR	**Honiara**	**26.65**	**279**	LR	LR	16 17 53.4	
	comp=Z,56nm,21.0s,baz=61,slow=31						
TAOE	**Nuku Hiva Isla**	**33.07**	**83**	*e*LR	LR	16 19 34.2	
	169nm,30.8s						
H11S2	**WAKE ISLAND Hy**	**38.71**	**329**	T	T	16 52 29.1	
	baz=147,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**38.73**	**329**	T	T	16 52 29.2	
	baz=147,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**38.73**	**329**	T	T	16 52 35.7	
	baz=147,slow=76,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**39.66**	**330**	T	T	16 53 35.8	
	baz=147,slow=75,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**39.66**	**330**	T	T	16 53 38.7	
	baz=147,slow=75,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**39.68**	**330**	T	T	16 53 45.9	
	baz=147,slow=75,SNR=3.3						
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**16 12 25.4 -0.7**	
	2.4nm,0.4s,baz=96,slow=9.2,SNR=5.7						
WRAB	**Tennant Creek**	**49.32**	**257**	*e*P	**P**	**16 13 09.4 -1.5**	
WRA	**Warramunga Arr**	**49.93**	**257**	P	**P**	**16 13 09.6 -1.4**	
	1.1nm,0.4s,baz=92,slow=6.9,SNR=40						
ASAR	**Alice Springs**	**50.22**	**252**	P	**P**	**16 13 11.8 -1.4**	
	5.2nm,0.6s,baz=89,slow=7.6,SNR=118						
VNDA	**Vanda**	**63.67**	**186**	P	**P**	**16 14 48.7 +1.2**	
	2.6nm,0.7s,baz=15,slow=5.8,SNR=10.0						
PFO	**Pinyon Flats O**	**72.71**	**47**	LR	LR	16 40 42.9	
	comp=Z,39nm,21.9s,baz=59,slow=30						
NVAR	**Mina Array Bea**	**74.10**	**42**	P	**P**	**16 15 55.2 +2.0**	
	0.9nm,0.8s,baz=233,slow=10.0,SNR=5.1						
QSPA	**South Pole Qui**	**74.94**	**180**	*e*P	**P**	**16 15 57.9 +0.2**	
HLID	**Hailey**	**79.39**	**39**	*e*P	**P**	**16 16 23.9 +1.0**	
	1.3nm,0.9s						
TXAR	**Lajitas Array**	**80.43**	**56**	P	**P**	**16 16 30.8 +1.9**	
	1.8nm,1.0s,baz=235,slow=4.4,SNR=8.6						
ANMO	**Albuquerque**	**80.60**	**50**	LR	LR	16 43 55.9	
	comp=Z,30nm,19.5s,baz=78,slow=30						
PDAR	**Pinedale Array**	**82.03**	**42**	P	**P**	**16 16 38.0 +0.8**	
	0.7nm,0.8s,baz=197,slow=1.5,SNR=5.2						
COLA	**College**	**82.06**	**11**	*e*P	**P**	**16 16 36.9 +0.4**	
	3.2nm,0.8s						
ILAR	**Eielson Array**	**82.15**	**11**	P	**P**	**16 16 37.4 +0.4**	
	0.7nm,0.7s,baz=225,slow=6.7,SNR=8.4						
SDCO	**Great Sand Dun**	**82.50**	**48**	*e*P	**P**	**16 16 41.4 +1.6**	
MAW	**Mawson**	**88.08**	**199**	P	**P**	**16 17 06.6 -0.2**	
	4.5nm,0.6s,baz=159,slow=5.6,SNR=11						
DPC	**Dobruska-Polom**	**143.97**	**349**	*e*PKP	**PKPdf**	**16 23 51.1 -1.0**	
MORC	**Moravsky Berou**	**144.28**	**348**	⇓*i* P	**PKPdf**	**16 23 52.3 -0.4**	
PRU	**Pruhonice**	**144.61**	**351**	*e*PKP	**PKPdf**	**16 23 53.1 0.0**	
VRAC	**Vranov**	**144.92**	**349**	⇓*i* P	**PKPdf**	**16 23 54.5 +0.8**	
CFR	**Carcaliu**	**144.94**	**333**	⇑*i* P	**PKPdf**	**16 23 54.8 +1.0**	
PLOR	**Plostina**	**145.02**	**335**	⇑*i* P	**PKPdf**	**16 23 54.8 +0.7**	
TIRR	**Tirgusor**	**145.38**	**332**	⇓*i* P	**PKPdf**	**16 23 55.0 +0.4**	
HARR	**Harsova**	**145.41**	**333**	⇑*i* P	**PKPdf**	**16 23 56.0 +1.3**	
DOPR	**Dopca**	**145.42**	**337**	⇑*i* P	**PKPdf**	**16 23 56.5 +1.8**	
KHC	**Kasperske Hory**	**145.59**	**352**	*e*PKP	**PKPab**	**16 23 56.1 +0.7**	
KHC				*ex*	x	16 24 11.0	
MLR	**Muntele Rosu**	**145.60**	**336**	⇑*i* P	**PKPab**	**16 23 55.8 +0.1**	
DRGR		**145.66**	**340**	⇑*i* P	**PKPab**	**16 23 56.0 +0.2**	
ISR	**Istrita**	**145.66**	**335**	⇑*i* P	**PKPab**	**16 23 55.6 -0.2**	
GERES	**GERESS Array B**	**145.85**	**352**	PKPbc	**PKPab**	**16 23 56.5 0.0**	
	1.4nm,0.8s,baz=8.5,slow=2.7,SNR=10						
BRTR	**Keskin Array B**	**145.93**	**321**

EIL	**Elat**		**17.46**	**340**	P		**P**	**16 13 36.6**	**+0.7**
	comp=E,0.1nm,0.3s,baz=78,slow=1.1,SNR=3.9								
UOSS	**Minazif**		**17.81**	**47**	*e*Pn		**Pn**	**16 13 39.4**	**+0.4**
	comp=E,4.1nm,1.4s								
UOSS	**Minazif**		**17.81**	**47**	*e*Pn		**Pn**	**16 13 39.4**	**+0.4**
	comp=E,4.1nm,1.4s								
WSAR	**Wadi Sarin**		**18.73**	**56**	P		**Pn**	**16 13 50.8**	**+0.5**
	comp=E,0.2nm,0.3s,baz=243,slow=14,SNR=3.1								
BR131	**Keskin Array S**		**27.27**	**346**	*e*P		**P**	**16 15 12.6**	**-3.1**
BR131	**Keskin Array S**		**27.27**	**346**	*e*P		**P**	**16 15 12.6**	**-3.1**
BRTR	**Keskin Array B**		**27.27**	**346**	P		**P**	**16 15 17.6**	**+1.9**
	comp=E,4.9nm,1.1s,baz=163,slow=9.0,SNR=15								
BR231	**Keskin MP Arra**		**27.59**	**345**	*e*P		**P**	**16 15 17.1**	**-1.4**
BR231	**Keskin MP Arra**		**27.59**	**345**	*e*P		**P**	**16 15 17.1**	**-1.4**
GEYT	**Alibeck**		**28.47**	**28**	P		**P**	**16 15 26.0**	**-0.4**
	comp=E,0.3nm,0.3s,baz=215,slow=14,SNR=2.4								
KBZ	**Khabaz**		**30.31**	**2**	P		**P**	**16 15 41.3**	**-1.2**
	comp=E,3.2nm,0.9s,baz=211,slow=7.1,SNR=2.6								
TIRR	**Tirgusor**		**33.08**	**342**	⇑*i*P		PcP	16 18 39.6	-11
CFR	**Carcaliu**		**33.81**	**342**	⇑*i*P		**PcP**	**16 18 45.8**	**-6.6**
MLR	**Muntele Rosu**		**34.77**	**340**	⇑*i*P		**PcP**	**16 18 55.5**	**+0.1**
MLR	**Muntele Rosu**		**34.77**	**340**	*e*P		**P**	**16 16 22.5**	**+0.7**
	comp=E,16nm,1.6s								
MLR	**Muntele Rosu**		**34.77**	**340**	*e*PcP		**PcP**	**16 18 55.5**	**+0.1**
MLR	**Muntele Rosu**		**34.77**	**340**	*e*P		**P**	**16 16 22.5**	**+0.7**
	comp=E,16nm,1.6s								
MLR					*e*PcP		**PcP**	**16 18 55.5**	**+0.1**
VOIR			**35.03**	**339**	⇑*i*P		**PcP**	**16 18 56.5**	**+0.4**
ARR	**Arges**		**35.11**	**339**	⇑*i*P		**PcP**	**16 18 56.9**	**+0.6**
MDVR	**Moldovita**		**35.73**	**335**	⇓*i*P		**PcP**	**16 19 03.5**	**+5.4**
BZS	**Buzias**		**36.46**	**336**	⇑*i*P		PcP	16 19 07.9	+7.7
KEST	**Kesra**		**36.75**	**313**	P		**P**	**16 16 38.8**	**0.0**
	comp=E,4.3nm,0.9s,baz=110,slow=19,SNR=4.3								
KKAR	**Karatay Array**		**38.61**	**34**	*e*P		**P**	**16 16 55.2**	**+0.7**
KKAR	**Karatay Array**		**38.61**	**34**	*e*PP		PP	16 18 23.8	+1.1
KKAR	**Karatay Array**		**38.61**	**34**	*e*P		**P**	**16 16 55.1**	**+0.7**
KKAR					*e*PP		**PP**	**16 18 23.8**	**+1.0**
AKASG	**Malin Array Be**		**38.66**	**347**	P		**P**	**16 16 54.4**	**-0.3**
	comp=E,1.1nm,0.8s,baz=168,slow=7.3,SNR=5.5								
ABKAR	**Akbulak array**		**38.81**	**19**	*e*P		**P**	**16 16 56.4**	**+0.4**
ABKAR	**Akbulak array**		**38.81**	**19**	*e*P		**P**	**16 16 56.4**	**+0.4**
KOLS	**Kolonicke sedl**		**39.00**	**339**	*e*P		**P**	**16 16 59.4**	**+1.8**
TOA0	**Torodi Ar. Sit**		**39.04**	**274**	*e*P		**P**	**16 16 57.0**	**-1.4**
TOA0	**Torodi Ar. Sit**		**39.04**	**274**	*e*P		**P**	**16 16 57.0**	**-1.4**
TORD	**Torodi Ar. Bea**		**39.04**	**274**	P		**P**	**16 16 57.7**	**-0.7**
	comp=E,3.0nm,1.1s,baz=83,slow=8.2,SNR=10								
CRVS	**Cervenica-Dubn**		**39.26**	**339**	*e*P		**P**	**16 17 00.5**	**+0.7**
KECS	**Kecovo**		**39.26**	**338**	*e*P		**P**	**16 17 00.5**	**+0.7**
KSH	**Kashi**		**39.79**	**43**	P		**P**	**16 17 04.3**	**-0.2**
KSH					PP		**PP**	**16 18 36.6**	**+0.7**
KSH					PcP		**PcP**	**16 19 14.7**	**+3.9**
KSH					S		**S**	**16 23 06.1**	**-3.6**
KSH					SS		**SS**	**16 25 53.1**	**-12**
KSH	**Kashi**		**39.79**	**43**	ScS		ScS	16 27 12.4	-1.3
KSH					pmax		pmax		
	comp=Z,4.0nm,0.4s								
KSH					pmax		pmax		
	comp=Z,110nm,4.4s								
KSH					LR		LR		
	comp=N,290nm,10.8s								
KSH					LR		LR		
	comp=E,320nm,12.0s								
KSH					LR		LR		
	comp=Z,530nm,17.1s								
LANS	**Liptovska Anna**		**40.19**	**337**	*e*P		**P**	**16 17 08.2**	**+0.6**
ARSA	**Arzberg**		**40.34**	**332**	*e*P		**P**	**16 17 09.6**	**+0.7**
	comp=E,5.1nm,0.8s								
ARSA	**Arzberg**		**40.34**	**332**	P		**P**	**16 17 09.6**	**+0.7**
	comp=E,5.1nm,0.8s								
CONA	**Conrad Observa**		**40.70**	**333**	*e*P		**P**	**16 17 12.3**	**+0.4**
	comp=E,5.3nm,1.2s								
MOA	**Molln**		**41.36**	**332**	*i* P		**P**	**16 17 17.8**	**+0.6**
	comp=E,7.9nm,1.1s								
MOA	**Molln**		**41.36**	**332**	P		**P**	**16 17 17.8**	**+0.6**
	comp=E,7.9nm,1.1s								
MORC	**Moravsky Berou**		**41.44**	**336**	*e*P		**P**	**16 17 17.6**	**-0.3**
MORC	**Moravsky Berou**		**41.44**	**336**	*e*P		**P**	**16 17 17.1**	**-0.8**
	comp=E,6.1nm,1.8s								
GEA0	**GERESS Array S**		**42.34**	**332**	*e*P		**P**	**16 17 24.4**	**-0.9**
GEA0	**GERESS Array S**		**42.34**	**332**	*e*P		**P**	**16 17 24.4**	**-0.9**
GEC2	**GERESS Array S**		**42.35**	**332**	*e*P		**P**	**16 17 24.5**	**-0.9**
	comp=E,5.5nm,1.0s								
GEC2	**GERESS Array S**		**42.35**	**332**	*e*P		**P**	**16 17 24.5**	**-0.9**
	comp=E,5.5nm,1.0s								
GERES	**GERESS Array B**		**42.35**	**332**	P		**P**	**16 17 24.8**	**-0.6**
	comp=E,1.5nm,0.7s,baz=132,slow=7.4,SNR=16								
DPC	**Dobruska-Polom**		**42.38**	**336**	*e*P		**P**	**16 17 25.2**	**-0.3**
FETA	**Feichten**		**42.49**	**328**	*i* P		**P**	**16 17 27.5**	**+0.8**
	comp=Z,6.6nm,1.2s								
KHC	**Kasperske Hory**		**42.61**	**333**	*e*P		**P**	**16 17 26.7**	**-0.8**
KHC	**Kasperske Hory**		**42.61**	**333**	P		**P**	**16 17 26.7**	**-0.8**
KHC	**Kasperske Hory**		**42.61**	**333**	*e*P		**P**	**16 17 26.1**	**-1.3**
	comp=Z,2.3nm,1.2s								
GOPC	**GO Pecny, Ondr**		**42.67**	**334**	*e*P		**P**	**16 17 28.6**	**+0.7**
DAVOX	**Davos/Dischmat**		**42.77**	**328**	LR		LR	16 37 20.3	
	comp=Z,70nm,21.3s,baz=91,slow=39								
PRU	**Pruhonice**		**42.83**	**334**	*e*P		**P**	**16 17 29.4**	**+0.2**
DAVA	**Damuels**		**43.10**	**328**	*e*P		**P**	**16 17 31.0**	**-0.7**
	comp=E,6.1nm,0.8s								
DAVA	**Damuels**		**43.10**	**328**	P		**P**	**16 17 31.0**	**-0.7**
	comp=E,6.1nm,0.8s								
BRG	**Berggiesshubel**		**43.75**	**335**	*e*P		**P**	**16 17 36.5**	**-0.1**
	comp=Z,9.0nm,1.5s								
CLL	**Collm**		**44.47**	**334**	*i* P		**P**	**16 17 41.8**	**-0.5**
	comp=Z,8.0nm,1.4s								
CLL	**Collm**		**44.47**	**334**	*e*P		**P**	**16 17 41.4**	**-0.9**
	comp=Z,8.5nm,1.4s								
CLL	**Collm**		**44.47**	**334**	*e*P		**P**	**16 17 41.4**	**-0.9**
	comp=Z,8.5nm,1.4s								
ARU	**Arti**		**44.90**	**13**	*e*P		**P**	**16 17 45.3**	**-0.4**
	comp=Z,7.2nm,1.1s								
ARU	**Arti**		**44.90**	**13**	*e*P		**P**	**16 17 45.3**	**-0.4**
	comp=Z,7.2nm,1.1s								
ZRNK	**Zerenda**		**45.06**	**23**	*e*P		**P**	**16 17 47.3**	**+0.3**
	comp=Z,5.7nm,1.1s								
ZRNK	**Zerenda**		**45.06**	**23**	*e*P		**P**	**16 17 47.3**	**+0.3**
	comp=Z,5.7nm,1.1s								
MAKZ	**Makanchi**		**47.34**	**37**	*e*P		**P**	**16 18 06.0**	**+0.8**
	comp=Z,4.7nm,0.8s								
MAKZ	**Makanchi**		**47.34**	**37**	*e*P		**P**	**16 18 06.0**	**+0.8**
	comp=Z,4.7nm,0.8s								
MK01	**Makanchi Array**		**47.52**	**37**	*e*P		**P**	**16 18 07.3**	**+0.8**
MK01	**Makanchi Array**		**47.52**	**37**	*e*P		**P**	**16 18 07.3**	**+0.8**
MK31	**Makanchi Array**		**47.52**	**37**	*e*P		**P**	**16 18 07.4**	**+0.8**
MK31	**Makanchi Array**		**47.52**	**37**	*e*P		**P**	**16 18 07.5**	**+0.8**
MKAR	**Makanchi Array**		**47.52**	**37**	P		**P**	**16 18 07.5**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=235,slow=6.6,SNR=39								
MKAR	**Makanchi Array**		**47.52**	**37**	*e*P		**P**	**16 18 07.3**	**+0.7**
MKAR	**Makanchi Array**		**47.52**	**37**	*e*P		**P**	**16 18 07.3**	**+0.7**
KURK	**Kurchatov**		**47.75**	**31**	*e*P		**P**	**16 18 08.8**	**+0.6**
	comp=Z,17nm,1.1s								
KURK	**Kurchatov**		**47.75**	**31**	*e*P		**P**	**16 18 08.8**	**+0.6**
	comp=Z,17nm,1.1s								
ES19	**SONSECA Array**		**47.93**	**312**	*e*P		**P**	**16 18 09.5**	**-0.4**
ES19	**SONSECA Array**		**47.93**	**312**	*e*P		**P**	**16 18 09.5**	**-0.4**
ESDC	**Sonseca Array**		**47.97**	**312**	P		**P**	**16 18 09.8**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=107,slow=7.0,SNR=9.4								
FINES	**FINESS Array B**		**49.38**	**350**	P		**P**	**16 18 20.1**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=139,slow=15,SNR=4.4								
WMQ	**Urumqi**		**49.56**	**43**	P		**P**	**16 18 24.9**	**+2.5**
WMQ					LR		LR		
	comp=N,220nm,13.8s								
WMQ					LR		LR		
	comp=E,100nm,17.2s								
WMQ					LR		LR		
	comp=Z,110nm,19.2s								
NOA	**NORSAR Array B**		**52.56**	**342**	P		**P**	**16 18 44.4**	**-0.2**
	comp=Z,4.6nm,1.1s,baz=141,slow=7.4,SNR=2.7								
ZAA0	**Zalesovo Array**		**52.72**	**30**	*e*P		**P**	**16 18 45.5**	**-0.4**
ZAA0	**Zalesovo Array**		**52.72**	**30**	*e*P		**P**	**16 18 45.5**	**-0.4**
ZALV	**Zalesovo Beam**		**52.72**	**30**	P		**P**	**16 18 45.9**	**0.0**
	comp=Z,4.9nm,0.7s,baz=241,slow=7.4,SNR=22								
CMAR	**Chiang Mai Arr**		**54.99**	**77**	P		**P**	**16 19 03.4**	**+0.4**
	comp=Z,2.1nm,1.0s,baz=281,slow=8.4,SNR=8.8								
CM01	**Chiang Mai Arr**		**55.00**	**77**	*e*P		**P**	**16 19 03.0**	**-0.2**
CM01	**Chiang Mai Arr**		**55.00**	**77**	*e*P		**P**	**16 19 03.0**	**-0.2**
KMI	**Kunming**		**58.28**	**69**	P		**P**	**16 19 24.0**	**-2.7**
KMI					pmax		pmax		
	comp=Z,3.0nm,0.9s								
LZH	**Lanzhou**		**59.71**	**56**	*e*P		**P**	**16 19 38.7**	**+2.3**
LZH					pP		sP	16 19 48.9	+11
LZH					sP		pP	16 19 54.3	+17
LZH					pmax		pmax		
	comp=Z,9.0nm,1.0s								
NRIK	**Noril'sk**		**62.91**	**17**	P		**P**	**16 19 57.9**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=210,slow=5.2,SNR=4.9								
SONM	**Songino Array**		**63.20**	**43**	P		**P**	**16 20 00.7**	**+1.0**
	comp=Z,2.1nm,1.0s,baz=255,slow=7.5,SNR=9.0								
SONA1	**Songino Array**		**63.20**	**43**	*e*P		**P**	**16 19 59.2**	**-0.6**
SONA1	**Songino Array**		**63.20**	**43**	*e*P		**P**	**16 19 59.2**	**-0.6**
QIZ	**Qiongzhong**		**65.23**	**75**	P		**P**	**16 20 13.8**	**+0.4**
QIZ					S		**S**	**16 29 01.6**	**+3.6**
QIZ					LR		LR		
	comp=N,41nm,26.4s								
QIZ					LR		LR		
	comp=E,54nm,52.7s								
QIZ					LR		LR		
	comp=Z,67nm,52.7s								
SPA0	**Spitsbergen Ar**		**66.08**	**354**	*e*P		**P**	**16 20 18.0**	**+0.1**
SPA0	**Spitsbergen Ar**		**66.08**	**354**	*e*P		**P**	**16 20 18.1**	**+0.1**
HHC	**Hu-ho-hao-te**		**66.11**	**51**	*e*P		**P**	**16 20 19.6**	**+0.8**
HHC					S		**S**	**16 29 12.5**	**+4.2**
HHC					pmax		pmax		
	comp=Z,19nm,1.0s								
HHC					pmax		pmax		
	comp=Z,160nm,6.3s								
HHC					LR		LR		
	comp=N,130nm,17.7s								
HHC					LR		LR		
	comp=E,160nm,15.1s								
HHC					LR		LR		
	comp=Z,140nm,15.7s								
CN2	**Changchun**		**76.33**	**48**	*e*P		**P**	**16 21 20.0**	**-0.5**
CN2					*e*S		**S**	**16 31 03.0**	**-3.4**
CN2					LR		LR		
	comp=N,200nm,18.0s								
CN2					LR		LR		
	comp=E,200nm,18.0s								
CN2					LR		LR		
	comp=Z,200nm,18.0s								
TGY	**Tagaytay City**		**76.47**	**79**	LR		LR	16 56 20.8	
	comp=Z,40nm,18.1s,baz=192,slow=37								
NVAR	**Mina Array Bea**		**125.25**	**341**	PKP		**PKPdf**	**16 28 33.5**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=321,slow=3.8,SNR=4.3								
TXAR	**Lajitas Array**		**126.07**	**322**	PKP		**PKPdf**	**16 28 34.6**	**0.0**
	comp=Z,0.2nm,0.8s,baz=98,slow=6.5,SNR=2.7								

MOS ***12*** *16:12:01.3±0.9, 13°.32N×41°.73E, h10km, mb4.9/39, Error ellipse: s-maj=9.7km s-min=4.9km az=84.1*
ARO ***12*** *16:12:01.1, 13°.7′×4°.2′E±°, h3km±10km, ML5.1*
IDC ***12*** *16:12:01.5±0.5, 13°.28N×41°.81′E, h0km, mb4.4/28, mb1 4.5/33, mb1mx4.4/42, mbtmp4.4/33, ML4.0/5, MS4.1/18, Ms1 4.1/18, ms1mx3.7/63, Error ellipse: s-maj=13.6km s-min=11.3km az=105.0*
ISCJB ***12*** *16:12:01.6±1.3, 13°.35N±0°.03×41°.78E±0°.03, h11km±9km, mb4.5/86, MS4.1/21, Error ellipse: s-maj=5.3km s-min=4.2km az=24.7*
DHMR ***12*** *16:12:02.2±1.1, 13°.14N×42°.05E, h7km±9km, ML4.8*
CSEM ***12*** *16:12:02.8±0.2, 13°.32N×41°.82E, h10km, mb4.5/29, Error ellipse: s-maj=6.7km s-min=5.2km az=7.0*
NEIC ***12*** *16:12:03.2±3.0, 13°.32N×41°.78E, h12km±19km, mb4.7/22, Error ellipse: s-maj=5.9km s-min=5.4km az=150.0*
DSN ***12*** *16:12:06.4±1.0, 12°.99N×42°.68E, h10km, Error ellipse: s-maj=61.4km s-min=5.0km az=122.0*
ISC 12 16:12:03.5±1.4, 13°.31N±0°.03×41°.84E±0°.04, h14km±8km, n287, σ1°.15/307, mb4.6/86, MS4.1/22, 13C-6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**1.27**	**163**	*e*P		**Pn**	**16 12 25.0**	**-1.9**
TDD	**Tadjoura Ara**	**1.83**	**145**	*e*P		**Pn**	**16 12 34.4**	**-0.1**
LDLD	**Lac de Lave**	**1.83**	**159**	*e*P		**Pn**	**16 12 34.8**	**+0.1**
OBO	**Obock**	**1.94**	**133**	*e*P		**Pn**	**16 12 35.8**	**-0.3**
SGH	**Sud-Ghoubbet**	**2.02**	**157**	*e*P		**Pn**	**16 12 37.4**	**+0.2**
ATD	**Arta Tunnel**	**2.03**	**151**	Pn		**Pn**	**16 12 37.0**	**-0.4**
	382nm,0.3s,baz=94,slow=5.3,SNR=16							
ATD				Sn		**Sg**	**16 13 07.7**	**-1.1**
	633nm,0.3s,baz=271,slow=23,SNR=11							
ATD	**Arta Tunnel**	**2.03**	**151**	*e*P		**Pn**	**16 12 37.4**	**+0.1**
ATD				*e*S		**Sb**	**16 13 07.0**	**+1.6**
MCAD	**Moucha**	**2.07**	**139**	*e*P		**Pn**	**16 12 38.2**	**+0.3**
UDYN	**Al 'Udayn**	**2.17**	**72**	*i* P		**Pn**	**16 12 39.2**	**-0.2**
UDYN				*i* S		**Sn**	**16 13 06.8**	**+0.5**
UDYN	**Al 'Udayn**	**2.17**	**72**	*i* P		**Pn**	**16 12 38.4**	**-1.1**
UDYN				*i* S		**Sn**	**16 13 07.5**	**+1.2**
GBR	**Grand-Bara**	**2.23**	**164**	*e*P		**Pn**	**16 12 40.6**	**+0.4**
ATA	**Atar**	**2.28**	**144**	*e*P		**Pn**	**16 12 41.8**	**+1.0**
DHBB	**Dhamar BB**	**2.78**	**63**	*i* P		**Pn**	**16 12 47.8**	**-0.1**
DHBB				*i* S		**Sb**	**16 13 25.3**	**-1.9**
DHBB	**Dhamar BB**	**2.78**	**63**	*i* P		**Pn**	**16 12 48.0**	**+0.1**
DHBB				*i* S		**Sb**	**16 13 25.6**	**-1.6**
DAMY	**Dhamar**	**2.78**	**63**	*e*Pn		**Pn**	**16 12 47.7**	**-0.3**
DAMY	**Dhamar**	**2.78**	**63**	*e*Pn		**Pn**	**16 12 47.7**	**-0.3**
HAJJ	**Hajjah**	**2.92**	**35**	*i* P		**Pn**	**16 12 52.5**	**+2.7**
HAJJ				*i* S		**Sb**	**16 13 31.4**	**+0.1**
HAJJ	**Hajjah**	**2.92**	**35**	*i* P		**Pn**	**16 12 50.7**	**+0.8**
HAJJ				*i* S		**Sb**	**16 13 31.9**	**+0.6**
SANA	**San'a**	**3.09**	**48**	*i* P		**Pn**	**16 12 54.0**	**+1.8**
SANA				*i* S		**Sb**	**16 13 34.3**	**-1.8**
SANA	**San'a**	**3.09**	**48**	*i* S		**Sb**	**16 13 35.4**	**-0.7**
ADEN	**Aden**	**3.11**	**99**	*i* P		**Pn**	**16 12 51.6**	**-0.6**
ADEN				*i* S		**Sn**	**16 13 29.1**	**-0.2**
ADEN				AML		AML	16 14 01.4	
	comp=E,6μm,0.6s							
ADEN	**Aden**	**3.11**	**99**	*i* P		**Pn**	**16 12 50.6**	**-1.6**
ADEN				*i* S		**Sn**	**16 13 29.3**	**+0.1**
ADEN				AML		AML	16 14 01.5	
	comp=E,6μm,0.6s							
ADEN	**Aden**	**3.11**	**99**	*i* P		**Pn**	**16 12 51.6**	**-0.6**
ADEN				*i* S		**Sn**	**16 13 29.0**	**-0.2**
	comp=E,3μm,0.6s							
BDHA	**Al Bayda'**	**3.69**	**79**	⇓*i* P		**Pn**	**16 12 59.8**	**-0.5**
BDHA				*i* S		**Sn**	**16 13 45.6**	**+1.8**
BDHA				AML		AML	16 14 08.4	
	comp=N,7μm,0.6s							
BDHA	**Al Bayda'**	**3.69**	**79**	*i* P		**Pn**	**16 12 58.8**	**-1.6**
BDHA				*i* S		**Sn**	**16 13 44.7**	**+0.9**
BDHA				AML		AML	16 14 08.5	
	comp=N,7μm,0.6s							
BDHA	**Al Bayda'**	**3.69**	**79**	⇓*i* P		**Pn**	**16 12 59.8**	**-0.5**
BDHA				*i* S		**Sn**	**16 13 45.6**	**+1.8**
	comp=N,4μm,0.6s							
KMBO	**Kilima Mbogo**	**15.05**	**198**	Pn		**Pn**	**16 15 37.2**	**+1.0**
	comp=N,0.2nm,0.3s,baz=11,slow=13,SNR=9.8							
KMBO				Lg		Lg	16 19 56.8	
	comp=N,0.3nm,0.3s,baz=269,slow=23,SNR=3.8							
KMBO				LR		LR	16 21 18.5	
	comp=N,2μm,18.4s,baz=20,slow=37							
KMBO	**Kilima Mbogo**	**15.05**	**198**	*e*P		**Pn**	**16 15 36.8**	**+0.6**
KMBO				pmax		pmax		
	comp=Z,37nm,1.5s							
KMBO	**Kilima Mbogo**	**15.05**	**198**	Pn		**Pn**	**16 15 38.3**	**+2.1**
	SNR=6.2							
KMBO	**Kilima Mbogo**	**15.05**	**198**	P		**Pn**	**16 15 38.3**	**+2.1**
	SNR=6.2							
KMBO	**Kilima Mbogo**	**15.05**	**198**	*e*Pn		**Pn**	**16 15 36.8**	**+0.6**
	comp=Z,37nm,1.5s							
KMBO	**Kilima Mbogo**	**15.05**	**198**	P		**Pn**	**16 15 38.3**	**+2.1**
	SNR=6.2							
KMBO	**Kilima Mbogo**	**15.05**	**198**	*e*Pn		**Pn**	**16 15 36.8**	**+0.6**
	comp=Z,37nm,1.5s							
KMBO				Lg		Lg	16 19 56.8	
FAQ	**Al Faqa, Dubai**	**17.26**	**47**	Pn		**Pn**	**16 16 03.1**	**-1.2**
	SNR=5.7							
FAQ	**Al Faqa, Dubai**	**17.26**	**47**	P		**Pn**	**16 16 03.1**	**-1.2**
	SNR=5.7							
FAQ	**Al Faqa, Dubai**	**17.26**	**47**	P		**Pn**	**16 16 03.1**	**-1.2**
	SNR=5.7							
NAZ	**Nazwa, Dubai**	**17.46**	**46**	*i* P		**Pn**	**16 16 05.5**	**-1.3**
	SNR=9.6							
NAZ	**Nazwa, Dubai**	**17.46**	**46**	Pn		**Pn**	**16 16 05.6**	**-1.2**
	SNR=5.3							
NAZ	**Nazwa, Dubai**	**17.46**	**46**	P		**Pn**	**16 16 05.6**	**-1.2**
	SNR=5.3							
NAZ	**Nazwa, Dubai**	**17.46**	**46**	P		**Pn**	**16 16 05.6**	**-1.2**
	SNR=5.3							
EIL	**Elat**	**17.48**	**340**	P		**P**	**16 16 08.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=14,slow=14,SNR=3.5							
EIL				LR		LR	16 21 08.8	
	comp=Z,477nm,20.0s,baz=200,slow=31							
ASHO	**Ashiyiah**	**17.55**	**48**	*i* P		**Pn**	**16 16 06.6**	**-1.5**
	SNR=16							
ASHO	**Ashiyiah**	**17.55**	**48**	Pn		**Pn**	**16 16 08.0**	**0.0**
	SNR=7.5							
ASHO	**Ashiyiah**	**17.55**	**48**	P		**Pn**	**16 16 08.0**	**0.0**
	SNR=7.5							
ASHO	**Ashiyiah**	**17.55**	**48**	P		**Pn**	**16 16 08.0**	**0.0**
	SNR=7.5							
HATD	**Hatta, Dubai**	**17.69**	**48**	*i* P		**Pn**	**16 16 09.5**	**-0.2**
	SNR=20							
HATD	**Hatta, Dubai**	**17.69**	**48**	Pn		**Pn**	**16 16 09.5**	**-0.2**
	SNR=9.9							
HATD	**Hatta, Dubai**	**17.69**	**48**	P		**Pn**	**16 16 09.5**	**-0.2**
	SNR=9.9							
HATD	**Hatta, Dubai**	**17.69**	**48**	P		**Pn**	**16 16 09.5**	**-0.2**
	SNR=9.9							
UOSS	**Minazif**	**17.82**	**47**	*e*Pn		**Pn**	**16 16 09.0**	**-2.2**
	comp=Z,6.3nm,0.9s							
UOSS	**Minazif**	**17.82**	**47**	*e*Pn		**Pn**	**16 16 09.0**	**-2.2**
	comp=Z,6.3nm,0.9s							
SMDO	**Samad**	**18.18**	**55**	Pn		**Pn**	**16 16 15.5**	**-0.3**
	SNR=13							
SMDO	**Samad**	**18.18**	**55**	P		**Pn**	**16 16 15.5**	**-0.3**
	SNR=13							
SMDO	**Samad**	**18.18**	**55**	P		**Pn**	**16 16 15.5**	**-0.3**
	SNR=13							
BANOM	**Banah**	**18.50**	**45**	*i* P		**P**	**16 16 19.2**	**-0.2**
	SNR=6.2							
BANOM	**Banah**	**18.50**	**45**	P		**P**	**16 16 19.3**	**-0.2**
BANOM	**Banah**	**18.50**	**45**	P		**P**	**16 16 19.3**	**-0.2**
WSAR	**Wadi Sarin**	**18.74**	**56**	P		**P**	**16 16 22.0**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=260,slow=9.1,SNR=14							
WSAR				LR		LR	16 24 39.7	
	comp=Z,2μm,19.5s,baz=242,slow=40							
ASF	**Jabal al Asfar**	**19.31**	**347**	P		**Pn**	**16 16 28.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=146,slow=3.6,SNR=2.4							
ASF				LR		LR	16 23 10.1	
	comp=Z,501nm,20.2s,baz=140,slow=35							
MMAI	**Mount Meron Ar**	**20.48**	**344**	P		**P**	**16 16 40.9**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=180,slow=2.9,SNR=3.2							
MMAI				LR		LR	16 23 30.8	
	comp=Z,308nm,19.4s,baz=170,slow=34							
IDI	**Anoyia**	**26.70**	**328**	P		**P**	**16 17 44.5**	**+2.0**
	comp=Z,14nm,1.0s,baz=357,slow=17,SNR=3.4							
GNI	**Garni**	**26.86**	**5**	P		**P**	**16 17 46.0**	**+2.0**
	comp=Z,8.6nm,0.8s,baz=330,slow=3.8,SNR=6.2							
GNI				LR		LR	16 28 34.5	
	comp=Z,322nm,19.3s,baz=190,slow=37							
GNI	**Garni**	**26.86**	**5**	⇑*e*P		**P**	**16 17 43.4**	**-0.6**
GNI				pmax		pmax		
	comp=Z,36nm,1.0s							
GNI	**Garni**	**26.86**	**5**	*e*P		**P**	**16 17 42.3**	**-1.7**
	comp=Z,15nm,1.0s							
GNI	**Garni**	**26.86**	**5**	*e*P		**P**	**16 17 42.3**	**-1.7**
	comp=Z,15nm,1.0s							
BR131	**Keskin Array S**	**27.29**	**346**	*e*P		**P**	**16 17 47.7**	**-0.1**
BR131	**Keskin Array S**	**27.29**	**346**	*e*P		**P**	**16 17 47.7**	**-0.1**
BRTR	**Keskin Array B**	**27.29**	**346**	P		**P**	**16 17 48.6**	**+0.8**
	comp=Z,4.5nm,0.8s,baz=164,sl

VYHS Vyhne 39.92 336 *e*P P 16 19 37.6 +0.3
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 39.92 336 *e*P P 16 19 37.6 +0.3
comp=Z,3.9nm,1.0s
VYHS Vyhne 39.92 336 *e*P P 16 19 37.6 +0.3
VYHS *e* 16 23 55.0
SOKA Soboth 40.17 331 *i* pP pP 16 19 41.4 -2.3
comp=Z,4.5nm,0.9s
TSUM Tsumeb 40.18 217 P P 16 19 40.6 +0.7
comp=Z,1.8nm,0.9s,baz=350,slow=5.5,SNR=2.8
TSUM LR LR 16 37 05.5
comp=Z,701nm,19.7s,baz=90,slow=38
EKS2 Erkin-Say 40.20 37 *e*P P 16 19 39.8 0.0
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 40.20 37 *e*P P 16 19 39.8 0.0
comp=Z,7.3nm,0.9s
EKS2 Erkin-Say 40.20 37 *e*P P 16 19 39.8 0.0
comp=Z,7.3nm,0.9s
ARSA Arzberg 40.37 332 *i* P P 16 19 41.6 +0.7
comp=Z,9.3nm,0.8s
ARSA Arzberg 40.37 332 P P 16 19 41.6 +0.7
comp=Z,9.3nm,0.8s
AAK Ala-Archa 40.60 38 LR LR 16 39 22.2
comp=Z,656nm,18.8s,baz=234,slow=40
AAK Ala-Archa 40.60 38*c* *i*P P 16 19 45.1 +1.9
AAK pmax pmax
comp=Z,21nm,1.0s
AAK Ala-Archa 40.60 38 *e*P P 16 19 44.0 +0.8
comp=Z,8.4nm,0.9s
AAK Ala-Archa 40.60 38 *e*P P 16 19 44.0 +0.8
comp=Z,8.4nm,0.9s
CONA Conrad Observa 40.72 333 *i* P P 16 19 44.5 +0.5
comp=Z,5.2nm,1.0s
CONA Conrad Observa 40.72 333 P P 16 19 44.5 +0.5
comp=Z,5.2nm,1.0s
FRU Bishkek 40.80 38 *e*P P 16 19 45.0 +0.4
FRU *e* 16 21 22.0
MYKA Terra Mystica 40.80 330 *e*pP pP 16 19 46.6 -2.3
comp=Z,3.2nm,0.7s
LBTB Lobatse 41.26 203 P P 16 19 47.7 -0.9
comp=Z,1.9nm,0.9s,baz=190,slow=19,SNR=1.9
MOA Molln 41.38 332 *i* P P 16 19 49.7 +0.4
comp=Z,6.4nm,0.8s
MOA Molln 41.38 332 P P 16 19 49.7 +0.4
comp=Z,6.4nm,0.8s
TKM2 Tokmak 2 41.43 38 *e*P P 16 19 49.9 -0.2
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
TKM2 Tokmak 2 41.43 38 *e*P P 16 19 49.9 -0.2
comp=Z,4.2nm,0.9s
TKM2 Tokmak 2 41.43 38 *e*P P 16 19 49.9 -0.2
comp=Z,4.2nm,0.9s
MORC Moravsky Berou 41.46 336⇑ *i*P P 16 19 50.0 0.0
MORC Moravsky Berou 41.46 336 *e*P P 16 19 47.8 -2.2
MORC pmax pmax
comp=Z,14nm,0.9s
MORC Moravsky Berou 41.46 336 *e*P P 16 19 47.8 -2.2
comp=Z,14nm,0.9s
MORC Moravsky Berou 41.46 336 *e*P P 16 19 47.8 -2.2
comp=Z,14nm,0.9s
VRAC Vranov 41.47 335⇓ *i*P P 16 19 50.1 +0.1
VRAC Vranov 41.47 335 *e*P P 16 19 49.8 -0.2
OBN Obninsk 41.91 355 *e*P P 16 19 53.0 -0.4
OBN *e*S S 16 26 10.3 -0.9
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,156nm,17.0s
TREC Trest 41.92 334 *e*P P 16 19 53.5 -0.2
TREC Trest 41.92 334 *e*P P 16 19 53.5 -0.2
TREC Trest 41.92 334 P P 16 19 53.5 -0.2
GEA0 GERESS Array S 42.36 332 *e*P P 16 19 56.2 -1.2
GEA0 GERESS Array S 42.36 332 *e*P P 16 19 56.2 -1.2
GEC2 GERESS Array S 42.37 332 *e*P P 16 19 56.8 -0.7
GEC2 pmax pmax
comp=Z,29nm,1.8s
GEC2 GERESS Array S 42.37 332 *e*P P 16 19 56.8 -0.7
comp=Z,29nm,1.8s
GEC2 GERESS Array S 42.37 332 *e*P P 16 19 56.8 -0.7
comp=Z,29nm,1.8s
GERES GERESS Array B 42.37 332 P P 16 19 56.8 -0.7
comp=Z,3.3nm,0.7s,baz=134,slow=6.7,SNR=22
DPC Dobruska-Polom 42.40 336 *e*P P 16 19 57.2 -0.4
DPC Dobruska-Polom 42.40 336 *e*P P 16 19 57.2 -0.4
DPC Dobruska-Polom 42.40 336 P P 16 19 57.2 -0.4
MOS Moscow 42.46 356 *e*P P 16 19 58.8 +0.9
MOS pmax pmax
comp=Z,43nm,1.0s
KHC Kasperske Hory 42.63 333 *e*P P 16 19 58.9 -0.6
KHC Kasperske Hory 42.63 333 *e*P P 16 19 58.3 -1.2
KHC pmax pmax
comp=Z,2.0nm,1.1s
KHC Kasperske Hory 42.63 333 *e*P P 16 19 58.3 -1.2
comp=Z,2.0nm,1.1s
KHC Kasperske Hory 42.63 333 *e*P P 16 19 58.3 -1.2
comp=Z,2.0nm,1.1s
UPC Upice 42.64 336 *e*P P 16 19 59.5 -0.1
UPC Upice 42.64 336 *e*P P 16 19 59.5 -0.1
UPC Upice 42.64 336 P P 16 19 59.5 -0.1
PRU Pruhonice 42.85 334 *e*P P 16 20 00.3 -0.9
PRU Pruhonice 42.85 334 *e*P P 16 20 00.3 -0.9
PRU Pruhonice 42.85 334 P P 16 20 00.3 -0.9
OTUK Ortayu 43.04 30 P P 16 20 03.2 +0.3
OTUK pmax pmax
comp=Z,6.0nm,0.8s
DAVA Damuels 43.12 328 *i* P P 16 20 03.1 -0.6
comp=Z,8.9nm,0.7s
DAVA Damuels 43.12 328 P P 16 20 03.1 -0.6
comp=Z,8.9nm,0.7s
BRG Berggiesshubel 43.77 335 *e*P P 16 20 08.0 -0.7
comp=Z,25nm,2.0s
BRG Berggiesshubel 43.77 335 *e*P P 16 20 08.0 -0.7
BRG pmax pmax
comp=Z,25nm,2.1s
SENIN Lac Senin/Sane 43.91 326 *e*P P 16 20 08.6 -1.5
comp=Z,7.8nm,0.8s
SENIN Lac Senin/Sane 43.91 326 *e*P P 16 20 08.7 -1.5
comp=Z,7.8nm,0.8s
PDGK Podgornoye 44.04 40 P P 16 20 10.6 -0.3
PDGK pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 44.49 334⇓ *i*P P 16 20 13.4 -1.0
comp=Z,4.0nm,1.1s
CLL *i* 16 20 16.0
comp=Z,11nm,1.5s
CLL Collm 44.49 334⇓ *i*P P 16 20 13.4 -1.0
CLL *i* 16 20 16.0
CLL pmax pmax
comp=Z,4.0nm,1.1s
BFO Black Forest 44.60 328 *i* P P 16 20 17.5 +2.1
BOSA Boshof 44.66 201 LR LR 16 39 12.4
comp=Z,659nm,18.6s,baz=30,slow=36
ARU Arti 44.91 13*c* *i*P P 16 20 18.2 +0.5
ARU 16 21 59.5
ARU S S 16 26 58.7 +3.5
ARU SS ScS 16 30 15.1 +0.4
ARU pmax pmax
comp=Z,14nm,0.7s
ARU Arti 44.91 13 *e*P P 16 20 17.0 -0.7
comp=Z,14nm,0.8s
ARU Arti 44.91 13 *e*P P 16 20 17.0 -0.7
comp=Z,14nm,0.8s
ZRNK Zerenda 45.07 23 P P 16 20 18.8 -0.3
ZRNK pmax pmax
comp=Z,8.0nm,0.9s
ZRNK Zerenda 45.07 23 *e*P P 16 20 18.5 -0.5
comp=Z,12nm,0.9s
ZRNK Zerenda 45.07 23 *e*P P 16 20 18.5 -0.5
comp=Z,12nm,0.9s
BRVK Borovoye 45.65 24*ce*P P 16 20 23.9 +0.3
BRVK pmax pmax
comp=Z,16nm,1.2s
BRVK Borovoye 45.65 24 *e*P P 16 20 23.6 0.0
comp=Z,8.7nm,0.7s
BRVK Borovoye 45.65 24 *e*P P 16 20 23.6 0.0
comp=Z,8.7nm,0.7s
BVA0 Borovoye Array 45.66 24 *i* P P 16 20 24.4 +0.6
BVA0 pmax pmax
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 45.66 24 P P 16 20 24.2 +0.4
comp=Z,5.3nm,0.8s,baz=208,slow=5.9,SNR=7.7
BVAR PcP PcP 16 22 02.6 +0.8
comp=Z,2.1nm,0.9s,baz=219,slow=1.8,SNR=4.0

SVE Sverdlovsk 45.76 14⇑ *e*P P 16 20 25.3 +0.9
SVE pmax pmax
comp=Z,20nm,1.2s
DBIC Dimbokro 46.40 267 P P 16 20 28.6 -1.4
comp=Z,6.5nm,0.8s,baz=67,slow=7.7,SNR=5.9
DBIC LR LR 16 40 15.9
comp=Z,120nm,19.9s,baz=62,slow=36
MAKZ Makanchi 47.35 37 P P 16 20 37.5 +0.3
MAKZ pmax pmax
comp=Z,17nm,0.8s
MAKZ Makanchi 47.35 37 *e*P P 16 20 36.8 -0.4
comp=Z,24nm,0.8s
MAKZ Makanchi 47.35 37 *e*P P 16 20 36.8 -0.4
comp=Z,24nm,0.8s
KLMR Klimovskoe 47.49 358 *e*P P 16 20 36.8 -1.1
KLMR *e* 16 22 07.4
KLMR pmax pmax
comp=Z,26nm,1.0s
MK01 Makanchi Array 47.52 37 *e*P P 16 20 38.6 +0.1
MK01 Makanchi Array 47.52 37 *e*P P 16 20 38.6 +0.1
MK31 Makanchi Array 47.53 37 *i* P P 16 20 39.2 +0.7
MK31 pmax pmax
comp=Z,16nm,0.7s
MK31 Makanchi Array 47.53 37 *e*P P 16 20 38.7 +0.2
MK31 Makanchi Array 47.53 37 *e*P P 16 20 38.7 +0.2
MKAR Makanchi Array 47.53 37 P P 16 20 39.4 +0.8
comp=Z,19nm,0.8s,baz=234,slow=6.0,SNR=59
MKAR LR LR 16 43 59.2
comp=Z,456nm,18.1s,baz=236,slow=40
MKAR Makanchi Array 47.53 37 *e*P P 16 20 38.8 +0.3
MKAR Makanchi Array 47.53 37 *e*P P 16 20 38.8 +0.3
MKAR Makanchi Array 47.53 37 *e*P P 16 20 38.8 +0.3
KURK Kurchatov 47.76 31 P P 16 20 40.4 +0.2
KURK pmax pmax
comp=Z,82nm,0.8s
KURK Kurchatov 47.76 31 *e*P P 16 20 40.1 -0.1
comp=Z,63nm,0.9s
KURK Kurchatov 47.76 31 *e*P P 16 20 40.1 -0.1
comp=Z,63nm,0.9s
ES19 SONSECA Array 47.95 312 *e*P P 16 20 40.8 -1.1
ES19 SONSECA Array 47.95 312 *e*P P 16 20 40.8 -1.1
ESDC Sonseca Array 47.99 312 P P 16 20 41.8 -0.5
comp=Z,2.0nm,0.7s,baz=104,slow=7.0,SNR=11
ESLA Sonseca Array 47.99 312 *e*P P 16 20 40.8 -1.4
comp=Z,5.7nm,1.0s
ESLA Sonseca Array 47.99 312 *e*P P 16 20 40.9 -1.4
comp=Z,5.7nm,1.0s
PAB San Pablo 48.23 312 *e*P P 16 20 42.2 -1.9
PAB pmax pmax
comp=Z,6.0nm,0.9s
PAB San Pablo 48.23 312 *e*P P 16 20 42.2 -1.9
comp=Z,5.7nm,0.9s
PAB San Pablo 48.23 312 *e*P P 16 20 42.2 -1.9
comp=Z,5.7nm,0.9s
LSA Lhasa 48.32 62 *e*P P 16 20 47.5 +2.0
LSA pmax pmax
comp=Z,7.0nm,1.0s
LSA Lhasa 48.32 62 *e*P P 16 20 47.5 +2.0
comp=Z,6.6nm,1.0s
LSA Lhasa 48.32 62 *e*P P 16 20 47.5 +2.0
comp=Z,6.6nm,1.0s
FINES FINESS Array B 49.40 350 P P 16 20 52.3 -0.3
comp=Z,3.9nm,0.7s,baz=132,slow=11,SNR=9.0
FIA1 FINESS Array S 49.40 350 *e*P P 16 20 52.1 -0.5
comp=Z,16nm,1.3s
FIA1 FINESS Array S 49.40 350 *e*P P 16 20 52.1 -0.5
comp=Z,16nm,1.3s
WMQ Urumqi 49.56 43 P P 16 20 54.7 +0.4
WMQ pP sP 16 20 59.7 -0.7
WMQ sP pP 16 21 01.7 +3.0
WMQ pmax pmax
comp=Z,6.0nm,0.6s
WMQ pmax pmax
comp=Z,67nm,4.8s
WMQ LR LR
comp=N,210nm,15.2s
WMQ LR LR
comp=E,100nm,16.4s
WMQ LR LR
comp=Z,140nm,23.0s
NVS Novosibirsk 52.48 29⇑ *i*P P 16 21 16.6 +0.7
NVS pmax pmax
comp=N,11nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
NVS pmax pmax
comp=Z,22nm,0.9s
NAO01 NORSAR Array S 52.53 342 *e*P P 16 21 15.9 -0.3
NAO01 NORSAR Array S 52.53 342 *e*P P 16 21 15.9 -0.3
NB2 NORSAR Subarra 52.59 342 P P 16 21 15.7 -1.0
comp=Z,5.0nm,0.9s,baz=142,slow=7.4
NB2 NORSAR Subarra 52.59 342 P P 16 21 15.7 -1.0
comp=Z,5.0nm,0.9s,SNR=7.0
NOA NORSAR Array B 52.59 342 P P 16 21 16.9 +0.2
comp=Z,4.3nm,0.8s,baz=140,slow=7.4,SNR=7.6
ZAA0 Zalesovo Array 52.73 30 *e*P P 16 21 17.3 -0.5
ZAA0 Zalesovo Array 52.73 30 *e*P P 16 21 17.3 -0.5
ZALV Zalesovo Beam 52.73 30 P P 16 21 17.8 -0.1
comp=Z,26nm,0.8s,baz=240,slow=6.8,SNR=55
NC204 NORSAR Array S 52.91 342 *e*P P 16 21 19.0 -0.1
NC204 NORSAR Array S 52.91 342 *e*P P 16 21 19.0 -0.1
CM31 Chiang Mai Arr 54.98 77 *e*P P 16 21 35.0 +0.1
CM31 Chiang Mai Arr 54.98 77 *e*P P 16 21 35.0 +0.1
CMAR Chiang Mai Arr 54.98 77 P P 16 21 35.1 +0.2
comp=Z,11nm,1.0s,baz=277,slow=7.7,SNR=30
CMAR LR LR 16 44 25.2
comp=Z,34nm,21.9s,baz=285,slow=35
CM01 Chiang Mai Arr 55.00 77 *e*P P 16 21 34.4 -0.6
CM01 Chiang Mai Arr 55.00 77 *e*P P 16 21 34.4 -0.6
GTA Gaotai 57.01 52 P P 16 21 50.0 +0.8
GTA pP sP 16 21 54.5 -0.8
GTA sP pP 16 21 57.1 +3.5
GTA PcP PcP 16 22 46.8 +2.5
GTA S S 16 29 45.7 +2.2
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,110nm,5.6s
GTA LR LR
comp=N,190nm,16.2s
GTA LR LR
comp=E,190nm,17.1s
GTA LR LR
comp=Z,210nm,15.7s
ARCES ARCESS Array B 57.13 353 P P 16 21 49.7 +0.3
comp=Z,3.7nm,0.9s,baz=157,slow=6.6,SNR=6.8
KMI Kunming 58.28 69 P P 16 22 00.7 +2.1
KMI pP sP 16 22 04.9 +0.2
KMI sP pP 16 22 07.9 +4.9
KMI pmax pmax
comp=Z,8.0nm,0.9s
KMI pmax pmax
comp=Z,140nm,7.8s
KMI LR LR
comp=N,120nm,16.1s
KMI LR LR
comp=E,110nm,18.5s
KMI LR LR
comp=Z,170nm,19.8s
CD2 Chengdu 59.28 62 *e*P P 16 22 04.2 -1.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
LZH Lanzhou 59.72 56 *e*P P 16 22 11.0 +2.7
LZH pP sP 16 22 16.0 +1.6
LZH sP pP 16 22 19.0 +6.3
LZH pmax pmax
comp=Z,27nm,1.1s
ZAK Zakamensk 61.73 40 *e*P P 16 22 21.9 +0.3
ZAK pmax pmax
comp=Z,2.0nm,1.6s
GYA Guiyang 61.80 67 *e*P P 16 22 24.0 +1.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
NRIK Noril'sk 62.93 17 P P 16 22 29.8 +0.6
comp=Z,8.8nm,0.8s,baz=222,slow=4.0,SNR=16
SONM Songino Array 63.20 43 P P 16 22 32.8 +1.2
comp=Z,21.1nm,0.9s,baz=244,slow=6.7,SNR=33
SONA1 Songino Array 63.21 43 *e*P P 16 22 31.6 0.0
SONA1 Songino Array 63.21 43 *e*P P 16 22 31.6 0.0
ULN Ulaanbaatar 63.65 43*ce*P P 16 22 35.3 +0.8
ULN pmax pmax
comp=Z,9.0nm,1.7s
ULN Ulaanbaatar 63.65 43 *e*P P 16 22 35.0 +0.5
comp=Z,4.1nm,0.9s

ULN Ulaanbaatar 63.65 43 *e*P P 16 22 35.0 +0.5
comp=Z,4.1nm,0.9s
XAN Xi'an 63.75 59 P P 16 22 35.6 +0.2
XAN sP sP 16 22 42.7 +1.2
XAN pmax pmax
comp=Z,11nm,1.1s
XAN pmax pmax
comp=Z,230nm,15.0s
ENH Enshi 64.21 63 *e*P P 16 22 40.3 +1.8
ENH Enshi 64.21 63 *e*P P 16 22 40.3 +1.8
QIZ Qiongzhong 65.22 75 P P 16 22 44.8 -0.4
QIZ S S 16 31 29.4 +0.8
QIZ LR LR
comp=N,41nm,28.1s
QIZ LR LR
comp=E,54nm,45.7s
QIZ LR LR
comp=Z,67nm,47.5s
SPA0 Spitsbergen Ar 66.10 354 *e*P P 16 22 49.6 -0.3
SPA0 Spitsbergen Ar 66.10 354 *e*P P 16 22 49.6 -0.3
HHC Hu-ho-hao-te 66.11 51 *e*P P 16 22 50.6 -0.1
HHC sP sP 16 22 58.0 +1.1
HHC S S 16 31 37.6 -1.4
HHC sS sS 16 31 49.9 +3.5
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,170nm,6.0s
HHC LR LR
comp=N,140nm,14.8s
HHC LR LR
comp=E,160nm,14.8s
HHC LR LR
comp=Z,120nm,14.3s
WHN Wuhan 68.40 62 P P 16 23 06.5 +1.3
SUMG Summit 74.48 342 *e*P P 16 23 40.1 -1.6
SUMG Summit 74.48 342 *e*P P 16 23 40.0 -1.6
SUMG Summit 74.48 342 *e*P P 16 23 40.0 -1.6
CN2 Changchun 76.33 48 *e*P P 16 23 53.0 +0.6
CN2 *e*S S 16 33 36.0 -1.1
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
YAK Yakutsk 77.35 29 *e*P P 16 23 58.0 +0.3
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK Yakutsk 77.35 29 *e*P P 16 23 56.0 -1.7
comp=E,9.2nm,0.8s
YAK Yakutsk 77.35 29 *e*P P 16 23 56.0 -1.7
comp=E,9.2nm,0.8s
KSAR Wonju Array Be 78.94 54 P P 16 24 08.2 +1.2
KSAR Wonju Array Be 78.94 54 P P 16 24 08.1 +1.1
KSAR Wonju Array Be 78.94 54 P P 16 24 08.2 +1.1
KSRS Korea Array 78.96 54 P P 16 24 08.1 +1.0
comp=E,2.8nm,1.0s,baz=284,slow=6.6,SNR=9.9
MDJ Mudanjiang 79.20 47 P P 16 24 09.2 +0.9
MDJ pmax pmax
comp=Z,6.0nm,1.1s
MDJ pmax pmax
comp=Z,50nm,6.2s
KLR Kul'dur 79.99 42 *i* P P 16 24 12.4 -0.2
USRK Ussuriysk Ar. 80.96 47 P P 16 24 16.6 -1.2
comp=Z,2.9nm,0.9s,baz=272,slow=5.2,SNR=6.5
SYO Syowa Base 82.12 181⇑ *e*P P 16 24 22.4 -0.9
MJAR Matsushiro Arr 87.21 53 P P 16 24 49.8 -0.2
comp=Z,4.3nm,1.2s,baz=284,slow=6.6,SNR=10
MJAR LR LR 17 09 16.9
comp=Z,69nm,18.9s,baz=350,slow=39
SEY Seymchan 87.30 25*ce*P P 16 24 50.8 +1.1
YSS Yuzh-Sakhalins 87.69 42 P P 16 24 55.7 +3.8
BILL Bilibino 89.72 18 *i* P P 16 25 00.0 -1.1
BILL pmax pmax
comp=Z,3.0nm,1.3s
WRA Warramunga Arr 96.75 109 P P 16 25 34.9 +0.4
comp=Z,0.5nm,0.8s,baz=296,slow=3.9,SNR=3.1
ILAR Eielson Array 101.87 4 PP PP 16 30 07.0 +0.5
comp=Z,0.8nm,0.9s,baz=354,slow=7.3,SNR=5.2
TXAR Lajitas Array 126.09 322 PKP PKPdf 16 31 05.7 -0.7
comp=Z,0.6nm,0.9s,baz=91,slow=5.0,SNR=6.2

DDA ***12*** *16:17:35.9,39°.11N×29°.06E,h7km,Ml3.0*
ISK ***12*** *16:17:35.8,39°.14N×29°.00E,h5km,ML2.8*
ISCJB ***12*** *16:17:37.0±0.4,39°.10N±0°.03×29°.00E±0°.04,h9km,Error ellipse: s-maj=4.3km s-min=3.9km az=178.0*
CSEM ***12*** *16:17:36.7±0.2,39°.12N×29°.02E,h2km,ML3.0,Error ellipse: s-maj=4.3km s-min=3.6km az=29.0*

ISC 12 16:17:36.6±0.8,39°.08N±0°.02×29°.03E±0°.02,h9km,n69,
σ0s78/75,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**261**	P	**Pg**	**16 17 40.3**	**-1.3**
DEMI	**Demirci**	**0.25**	**261**	*i* P	**Pg**	**16 17 40.4**	**-1.3**
GEDZ	**Gediz**	**0.30**	**97**	*e*PG	**Pg**	**16 17 43.1**	**+0.5**
GEDZ	**Gediz**	**0.30**	**97**	*e*Pg	**Pg**	**16 17 43.1**	**+0.5**
GDZ	**Gediz**	**0.35**	**89**	P	**Pg**	**16 17 42.4**	**-1.3**
GDZ	**Gediz**	**0.35**	**89**	*i* P	**Pg**	**16 17 42.4**	**-1.3**
TVSB	**Tavsanli**	**0.50**	**42**	*e*PG	**Pg**	**16 17 46.1**	**-0.2**
TVSB	**Tavsanli**	**0.50**	**42**	*e*Pg	**Pg**	**16 17 46.2**	**-0.2**
DST	**Dursunbey**	**0.61**	**329**	*e*PG	**Pg**	**16 17 47.7**	**-0.8**
DST	**Dursunbey**	**0.61**	**329**	*e*Pg	**Pg**	**16 17 47.7**	**-0.8**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*PG	**Pb**	**16 17 49.8**	**-0.1**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*Pg	**Pb**	**16 17 49.8**	**-0.1**
KHL	**Karahalli**	**0.85**	**153**	*e*PG	**Pn**	**16 17 54.7**	**-0.2**
KHL	**Karahalli**	**0.85**	**153**	*e*Pg	**Pn**	**16 17 54.7**	**-0.2**
AKS	**Akhisar**	**0.97**	**258**	*e*PG	**Pn**	**16 17 56.0**	**-0.4**
AKS	**Akhisar**	**0.97**	**258**	*e*Pg	**Pn**	**16 17 56.0**	**-0.4**
BALB	**Balikesir**	**1.05**	**302**	*e*PG	**Pg**	**16 17 56.2**	**-0.5**
BALB	**Balikesir**	**1.05**	**302**	*e*Pg	**Pg**	**16 17 56.3**	**-0.5**
IGD	**Bursa**	**1.19**	**6**	*i* P	**Pb**	**16 17 56.4**	**-2.9**
BALY	**Balya**	**1.27**	**302**	P	**Pg**	**16 18 01.1**	**0.0**
BALY	**Balya**	**1.27**	**302**	*i* P	**Pg**	**16 18 01.1**	**0.0**
CAVI	**Cavuskoy**	**1.28**	**29**	*e*PN	**Pn**	**16 18 00.5**	**-0.3**
CAVI				*e*SN	**Sn**	**16 18 19.3**	**+1.2**
CAVI	**Cavuskoy**	**1.28**	**29**	*e*Sn	**Sn**	**16 18 19.3**	**+1.2**
CAVI	**Cavuskoy**	**1.28**	**29**	*e*Pn	**Pn**	**16 18 00.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*PN	**Pn**	**16 18 00.3**	**-0.6**
KCTX				*e*SN	**Sn**	**16 18 17.8**	**-0.5**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*Pn	**Pn**	**16 18 00.3**	**-0.6**
KCTX				*e*Sn	**Sn**	**16 18 17.8**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*PN	**Pn**	**16 18 00.1**	**-0.7**
MDNY				*e*SN	**Sn**	**16 18 18.9**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*Pn	**Pn**	**16 18 00.1**	**-0.7**
MDNY				*e*Sn	**Sn**	**16 18 18.9**	**+0.7**
IZI	**Iznik**	**1.30**	**15**	*e*PN	**Pb**	**16 18 01.1**	**-0.2**
IZI	**Iznik**	**1.30**	**15**	*e*Pn	**Pg**	**16 18 01.1**	**-0.5**
GEMT	**Gemlik**	**1.36**	**5**	*e*Pn	**Pb**	**16 18 01.8**	**-0.5**
GEMT				*e*SN	**Sg**	**16 18 21.3**	**+1.0**
GEMT	**Gemlik**	**1.36**	**5**	*e*Pn	**Pb**	**16 18 01.8**	**-0.5**
GEMT				*e*Sn	**Sg**	**16 18 21.3**	**+1.0**
DNZL	**Cakiroluk**	**1.39**	**179**	P	**Pb**	**16 18 03.2**	**+0.3**
DNZL	**Cakiroluk**	**1.39**	**179**	*i* P	**Pb**	**16 18 03.2**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**219**	*e*PN	**Pg**	**16 18 04.2**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**219**	*e*Pn	**Pg**	**16 18 04.2**	**-0.1**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*PN	**Pb**	**16 18 03.6**	**-0.4**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*Pn	**Pb**	**16 18 03.6**	**-0.3**
ESKT	**Eskisehir**	**1.48**	**72**	*e*PN	**Pg**	**16 18 04.8**	**-0.2**
ESKT	**Eskisehir**	**1.48**	**72**	*e*Pn	**Pg**	**16 18 04.8**	**-0.2**
ESKT	**Eskisehir**	**1.48**	**72**	*i* P	**Pb**	**16 18 04.1**	**-0.3**
SEYT	**Eskypehyr**	**1.48**	**72**	P	**Pb**	**16 18 04.1**	**-0.3**
ARMT	**Armutlu**	**1.49**	**355**	*e*PN	**Pb**	**16 18 04.2**	**-0.3**
ARMT	**Armutlu**	**1.49**	**355**	*e*Pn	**Pb**	**16 18 04.2**	**-0.3**
IZM	**Izmir**	**1.54**	**244**	*e*PN	**Pg**	**16 18 06.0**	**-0.2**
IZM	**Izmir**	**1.54**	**244**	*e*Pn	**Pg**	**16 18 06.0**	**-0.2**
BOLV	**Bolvadin**	**1.54**	**103**	P	**Pn**	**16 18 04.2**	**-0.3**
BOLV	**Bolvadin**	**1.54**	**103**	*i* P	**Pn**	**16 18 04.2**	**-0.3**
EDC	**Edincik**	**1.55**	**325**	*e*PN	**Pb**	**16 18 05.4**	**-0.1**
EDC	**Edincik**	**1.55**	**325**	*e*Pn	**Pb**	**16 18 05.4**	**-0.1**
GPA	**Golpazari**	**1.56**	**39**	*e*PN	**Pb**	**16 18 05.1**	**-0.6**
GPA	**Golpazari**	**1.56**	**39**	*e*Pn	**Pb**	**16 18 05.1**	**-0.6**
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pb**	**16 18 08.5**	**-0.8**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pb**	**16 18 08.5**	**-0.8**
HRT	**Hereke**	**1.81**	**16**	*e*PN	**Pn**	**16 18 08.5**	**+0.5**
HRT	**Hereke**	**1.81**	**16**	*e*Pn	**Pn**	**16 18 08.5**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*PN	**Pb**	**16 18 11.8**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*Pn	**Pb**	**16 18 11.9**	**-0.9**

MDUB	**Mudurnu**	**2.17**	**50**	*e*PN	**Pn**	**16 18 14.0**	**+0.9**
MDUB	**Mudurnu**	**2.17**	**50**	*e*Pn	**Pn**	**16 18 14.0**	**+0.9**
CTKS	**Kestanelik-??a**	**2.19**	**350**	*e*PN	**Pn**	**16 18 13.7**	**+0.5**
CTKS	**Kestanelik-??a**	**2.19**	**350**	*e*Pn	**Pn**	**16 18 13.7**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.23**	**135**	*e*PN	**Pb**	**16 18 15.8**	**-1.4**
SUTC	**Sutluce-Ispart**	**2.23**	**135**	*e*Pn	**Pb**	**16 18 15.8**	**-1.4**
KIZT	**Kizilcal**	**2.23**	**94**	*e*PN	**Pb**	**16 18 16.1**	**-1.1**
KIZT	**Kizilcal**	**2.23**	**94**	*e*Pn	**Pb**	**16 18 16.1**	**-1.1**
SAHE	**Sakarya_HENDEK**	**2.26**	**38**	*i* P	Pn	16 18 05.9	-8.2
GELI	**Tayfur-Gelibol**	**2.37**	**305**	*e*PN	**Pn**	**16 18 17.1**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.37**	**305**	*e*Pn	**Pn**	**16 18 17.1**	**+1.4**

IDC 12 16:20:06.0±21.0, 12°.98N×40°.52E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.4/46, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=462.2km s-min=36.1km az=60.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.69**	**122**		Pn	Pn	16 20 50.0	-0.7
	42nm,0.3s,baz=122,slow=20,SNR=5.8							
ATD					Sn	Sn	16 21 19.5	-4.5
	72nm,0.3s,baz=239,slow=22,SNR=7.6							
MKAR	**Makanchi Array**	**48.57**	**38**	P		P	16 28 51.5	+0.3
	1.9nm,0.8s,baz=233,slow=6.1,SNR=13							
KURBB	**Kurchatov Arra**	**48.60**	**32**	P		P	16 28 49.9	-1.5
	0.7nm,0.7s,baz=235,slow=8.2,SNR=6.4							
ZALV	**Zalesovo Beam**	**53.67**	**31**	P		P	16 29 29.3	-0.1
	1.6nm,0.7s,baz=252,slow=7.6,SNR=7.5							
CMAR	**Chiang Mai Arr**	**56.31**	**76**	P		P	16 29 49.4	+0.3
	0.8nm,0.9s,baz=274,slow=8.3,SNR=5.6							
SONM	**Songino Array**	**64.32**	**43**	P		P	16 30 44.3	+0.7
	0.8nm,0.9s,baz=257,slow=5.8,SNR=4.2							

*ISCJB **12** 16:22:09.1±0.7, 13°.23N±0°.07×41°.74E±0°.04, h10km, mb3.9/13, Error ellipse: s-maj=10.0km s-min=6.1km az=2.4*
*IDC **12** 16:22:09.7±1.2, 13°.29N×41°.70E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.7/49, mbtmp3.9/13, ML4.1/2, Error ellipse: s-maj=25.3km s-min=21.0km az=24.0*
*DHMR **12** 16:22:09.0±0.8, 13°.27N×41°.92E, h11km±8km, ML4.0*
*CSEM **12** 16:22:10.0±0.3, 13°.27N×41°.80E, h2km, mb4.2, Error ellipse: s-maj=11.5km s-min=8.1km az=10.0*
*NEIC **12** 16:22:11.2±0.6, 13°.28N×41°.72E, h10km, mb4.2/2, Error ellipse: s-maj=11.3km s-min=9.4km az=41.0*

ISC 12 16:22:11.6±0.7, 13°.34N±0°.05×41°.85E±0°.06, h10km, n30, σ1§18/40, mb3.9/13, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.04**	**152**		Pn	**Pn**	**16 22 46.1**	**-0.1**
	91nm,0.3s,baz=305,slow=12,SNR=6.2							
ATD					Sn	**Sg**	**16 23 17.2**	**-0.2**
	87nm,0.3s,baz=38,slow=23,SNR=7.4							
UDYN	**Al 'Udayn**	**2.15**	**73**	*i* P		**Pn**	**16 22 46.0**	**-1.6**
UDYN				*i* S		**Sn**	**16 23 15.2**	**+0.7**
DHBB	**Dhamar BB**	**2.75**	**63**	*i* P		**Pn**	**16 22 55.7**	**-0.4**
DHBB				*i* S		**Sb**	**16 23 33.0**	**-2.0**
DHBB	**Dhamar BB**	**2.75**	**63**	*i* P		**Pn**	**16 22 55.7**	**-0.4**
DHBB				*i* S		**Sb**	**16 23 33.0**	**-2.0**
DAMY	**Dhamar**	**2.75**	**63**	*e*Pn		**Pn**	**16 22 56.6**	**+0.4**
DAMY	**Dhamar**	**2.75**	**63**	*e*Pn		**Pn**	**16 22 56.6**	**+0.4**
HAJJ	**Hajjah**	**2.89**	**36**	*i* P		**Pn**	**16 22 58.5**	**+0.5**
HAJJ				*i* S		**Sb**	**16 23 36.4**	**-2.6**
HAJJ	**Hajjah**	**2.89**	**36**	*i* P		**Pn**	**16 22 58.5**	**+0.5**
HAJJ				*i* S		**Sb**	**16 23 36.4**	**-2.6**
ADEN	**Aden**	**3.10**	**100**	*i* P		**Pn**	**16 22 59.5**	**-1.2**
ADEN				*i* S		**Sn**	**16 23 38.9**	**+1.1**
ADEN					AML	AML	16 23 56.8	
	comp=E,1μm,0.5s							
ADEN	**Aden**	**3.10**	**100**	*i* P		**Pn**	**16 22 59.5**	**-1.2**
ADEN				*i* S		**Sn**	**16 23 38.9**	**+1.1**
	comp=E,520nm,0.5s							
BDHA	**Al Bayda'**	**3.67**	**80**	*i* P		**Pn**	**16 23 08.1**	**-0.6**
BDHA					AML	AML	16 23 25.8	
	comp=E,644nm,0.6s							
BDHA				*i* S		**Sn**	**16 23 53.4**	**+1.3**
BDHA	**Al Bayda'**	**3.67**	**80**	*i* P		**Pn**	**16 23 08.1**	**-0.6**
	comp=E,322nm,0.6s							
BDHA				*i* S		**Sn**	**16 23 53.4**	**+1.3**
WSAR	**Wadi Sarin**	**18.71**	**56**	P		**Pn**	**16 26 32.3**	**+1.5**
	comp=E,0.5nm,0.3s,baz=274,slow=11,SNR=5.2							
BRTR	**Keskin Array B**	**27.26**	**346**	P		**P**	**16 27 56.4**	**+0.1**
	comp=E,1.0nm,0.9s,baz=169,slow=14,SNR=4.7							
KVAR	**Kislovodsk Arr**	**30.52**	**1**	P		**P**	**16 28 25.8**	**+0.6**
	comp=E,3.0nm,0.7s,baz=153,slow=4.5,SNR=2.7							
KKAR	**Karatay Array**	**38.59**	**34**	*e*P		**P**	**16 29 36.6**	**+1.8**
KKAR	**Karatay Array**	**38.59**	**34**	*e*P		**P**	**16 29 36.6**	**+1.8**
ABKAR	**Akbulak array**	**38.79**	**19**	*e*P		**P**	**16 29 36.8**	**+0.4**
	comp=E,0.3nm,0.4s							
ABKAR	**Akbulak array**	**38.79**	**19**	*e*P		**P**	**16 29 36.8**	**+0.4**
	comp=E,0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**39.06**	**274**	P		**P**	**16 29 37.7**	**-1.5**
	comp=E,0.8nm,0.9s,baz=104,slow=37,SNR=3.5							
AKTO	**Aktyubinsk**	**39.27**	**16**	P		**P**	**16 29 40.5**	**0.0**
	comp=E,0.9nm,0.5s,baz=225,slow=7.1,SNR=3.2							
GERES	**GERESS Array B**	**42.35**	**332**	P		**P**	**16 30 04.6**	**-1.4**
	comp=E,1.0nm,0.7s,baz=136,slow=7.7,SNR=8.7							
MKAR	**Makanchi Array**	**47.50**	**37**	P		**P**	**16 30 47.6**	**+0.7**
	comp=E,2.1nm,0.8s,baz=235,slow=7.2,SNR=18							
KURBB	**Kurchatov Arra**	**47.62**	**31**	P		**P**	**16 30 48.5**	**+0.7**
	comp=E,1.3nm,0.6s,baz=232,slow=8.1,SNR=13							
KURK	**Kurchatov**	**47.73**	**31**	*e*P		**P**	**16 30 49.2**	**+0.6**
	comp=E,9.2nm,0.7s							
KURK	**Kurchatov**	**47.73**	**31**	*e*P		**P**	**16 30 49.2**	**+0.6**
	comp=E,9.2nm,0.7s							
FINES	**FINESS Array B**	**49.37**	**350**	P		**P**	**16 31 00.5**	**-0.6**
	comp=E,1.3nm,0.7s,baz=166,slow=2.9,SNR=3.3							
ZALV	**Zalesovo Beam**	**52.70**	**30**	P		**P**	**16 31 26.1**	**-0.2**
	comp=E,2.4nm,0.6s,baz=229,slow=7.3,SNR=9.5							
CMAR	**Chiang Mai Arr**	**54.96**	**77**	P		**P**	**16 31 43.8**	**+0.3**
	comp=E,1.1nm,1.0s,baz=282,slow=9.0,SNR=4.2							
SONM	**Songino Array**	**63.17**	**43**	P		**P**	**16 32 40.5**	**+0.4**
	comp=E,0.6nm,0.8s,baz=270,slow=5.8,SNR=3.7							

*ISCJB **12** 16:22:14.2±0.8, 62°.4S±0°.1×57°.9W±0°.3, h10km, mb4.2/7, Error ellipse: s-maj=20.3km s-min=15.3km az=39.8*
*IDC **12** 16:22:14.2±0.9, 62°.44S×57°.77W, h0km, mb3.9/5, mb1 3.8/6, mb1mx3.6/30, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=52.8km s-min=28.2km az=147.0*
*NEIC **12** 16:22:18.4±5.9, 62°.48S×57°.87W, h32km±40km, mb4.3/1, Error ellipse: s-maj=21.7km s-min=20.2km az=76.0*

ISC 12 16:22:15.3±0.6, 62°.4S±0°.1×57°.9W±0°.1, h10km, n32, σ1§34/26, mb4.1/7, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**3.68**	**226**		Pn	**Pn**	**16 23 13.2**	**+1.1**
	1.4nm,0.3s,baz=150,slow=20,SNR=4.6							
PMSA					Sn	**Sb**	**16 24 06.1**	**+1.2**
	22nm,0.3s,baz=314,slow=21,SNR=6.4							
PMSA	**Palmer Station**	**3.68**	**226**	*e*Pn		**Pn**	**16 23 12.2**	**+0.1**
PMSA					Sn	**Sb**	**16 24 06.1**	**+1.2**
VNA1	**Neumayer--Stat**	**20.81**	**134**	P		P	16 27 04.9	+8.5
SNAA	**Sanae**	**22.52**	**137**	P		**P**	**16 27 16.1**	**+1.2**
SNAA	**Sanae**	**22.52**	**137**	*e*P		**P**	**16 27 14.3**	**-0.6**
	871nm,1.0s							
TRQA	**Tornquist**	**24.46**	**352**	*e*P		**P**	**16 27 34.1**	**-0.1**
	14nm,1.4s							
QSPA	**South Pole Qui**	**27.87**	**180**	*e*P		**P**	**16 28 01.6**	**-3.3**
SUR	**Sutherland**	**56.70**	**97**	P		**P**	**16 32 00.5**	**+1.5**
	0.1nm,0.6s,baz=227,slow=19,SNR=3.1							
H10S2	**ASCENSION HYDR**	**61.79**	**50**	T		T	17 40 01.3	
	baz=199							
H10S3	**ASCENSION HYDR**	**61.79**	**50**	T		T	17 40 11.0	
	baz=199							
H10S1	**ASCENSION HYDR**	**61.81**	**50**	T		T	17 39 59.0	
	baz=199							
H10N3	**ASCENSION HYDR**	**62.88**	**50**	T		T	17 41 12.7	
	baz=203							
H10N1	**ASCENSION HYDR**	**62.88**	**50**	T		T	17 41 15.3	
	baz=203							
H10N2	**ASCENSION HYDR**	**62.90**	**50**	T		T	17 41 16.5	
	baz=203							
TBI	**Tubuai**	**70.33**	**257**	*e*T		T	16 33 45.6	
	7.2nm,0.3s							
MATP	**Matopo**	**70.45**	**97**	P		**P**	**16 33 29.4**	**-0.4**
	3.0nm,0.8s,baz=116,slow=11,SNR=3.0							
TORD	**Torodi Ar. Bea**	**88.26**	**57**	P		**P**	**16 35 07.4**	**+0.8**
	0.9nm,1.0s,baz=212,slow=5.1,SNR=4.1							
ASAR	**Alice Springs**	**93.76**	**191**	P		**P**	**16 35 32.3**	**0.0**
	0.3nm,0.7s,baz=171,slow=4.5,SNR=6.3							

WRA	**Warramunga Arr**	**97.41**	**192**	P		**P**	**16 35 47.6**	**-1.4**
	0.4nm,0.8s,baz=176,slow=4.0,SNR=5.2							
YKA	**Yellowknife Ar**	**131.66**	**329**	PKP		**PKPdf**	**16 41 27.8**	**+1.2**
	0.4nm,0.5s,baz=150,slow=2.3,SNR=3.7							
ILAR	**Eielson Array**	**142.73**	**315**	PKP		**PKPdf**	**16 41 47.8**	**+0.8**
	0.4nm,0.9s,baz=101,slow=1.8,SNR=3.9							
ARCES	**ARCESS Array B**	**144.01**	**36**	PKP		**PKPdf**	**16 41 47.6**	**-1.6**
	1.2nm,0.5s,baz=207,slow=2.4,SNR=10							
AKTO	**Aktyubinsk**	**144.12**	**79**	PKP		**PKPdf**	**16 41 47.4**	**-2.5**
	1.4nm,0.8s,baz=205,slow=5.6,SNR=3.4							
ABKAR	**Akbulak array**	**144.17**	**82**	*e*PKP		PKPbc	16 41 46.9	-1.4
KKAR	**Karatay Array**	**144.52**	**98**	*e*PKP		**PKPdf**	**16 41 49.5**	**-1.4**
AAK	**Ala-Archa**	**145.98**	**103**	PKPbc		**PKPab**	**16 41 53.9**	**-1.1**
	1.3nm,0.3s,baz=230,slow=7.9,SNR=3.7							
SPITS	**Spitsbergen Ar**	**147.08**	**21**	PKPbc		**PKPab**	**16 41 56.7**	**-1.4**
	0.4nm,0.4s,baz=152,slow=6.5,SNR=6.5							
BVAR	**Borovoye Array**	**151.57**	**85**	PKPbc		**PKPbc**	**16 42 08.8**	**+0.5**
	2.0nm,0.5s,baz=180,slow=4.3,SNR=13							
MJAR	**Matsushiro Arr**	**152.29**	**209**	PKPbc		**PKPbc**	**16 42 11.7**	**+1.2**
	1.7nm,0.7s,baz=167,slow=3.4,SNR=6.9							
MKAR	**Makanchi Array**	**152.72**	**106**	PKPbc		**PKPbc**	**16 42 10.2**	**-1.0**
	1.8nm,0.8s,baz=207,slow=2.6,SNR=7.5							
MKAR				PKPab		**PKPab**	**16 42 23.1**	**+1.1**
	1.2nm,0.7s,baz=234,slow=5.1,SNR=3.7							
KURBB	**Kurchatov Arra**	**153.77**	**96**	PKPbc		**PKPbc**	**16 42 12.9**	**-0.3**
	0.5nm,0.7s,baz=229,slow=3.3,SNR=4.9							
KURK	**Kurchatov**	**153.87**	**96**	PKPbc		**PKPbc**	**16 42 12.9**	**-0.5**

*BJI **12** 16:24:39.6, 13°.03N×41°.61E, h4km, mb4.8/47, mB4.9/31, Ms4.7/19, Ms7 4.5/19*
*CSEM **12** 16:24:42.9±0.1, 13°.39N×41°.74E, h2km, mb4.6/37, Error ellipse: s-maj=6.3km s-min=4.9km az=20.0*
*MOS **12** 16:24:42.8±1.0, 13°.42N×41°.68E, h10km, mb5.0/29, MS4.3/5, Error ellipse: s-maj=10.2km s-min=5.0km az=85.2*
*ISCJB **12** 16:24:42.7±0.2, 13°.38N±0°.03×41°.74E±0°.03, h11km, mb4.6/85, MS4.4/5, Error ellipse: s-maj=4.2km s-min=3.2km az=37.6*
*ARO **12** 16:24:42.2, 13°.N±5°.×4°.2E±°, h4km±7km, ML4.9*
*IDC **12** 16:24:43.1±0.5, 13°.37N×41°.70E, h0km, mb4.5/38, mb1 4.6/41, mb1mx4.4/57, mbtmp4.5/41, ML3.9/3, Error ellipse: s-maj=13.1km s-min=10.3km az=92.0*
*DHMR **12** 16:24:43.4±0.9, 13°.23N×42°.02E, h11km±8km, ML4.8*
*NEIC **12** 16:24:44.1±0.2, 13°.40N×41°.73E, h10km, mb4.8/28, Error ellipse: s-maj=5.5km s-min=5.4km az=54.0*
*DSN **12** 16:24:47.8±0.9, 12°.50N×43°.20E, h10km, Error ellipse: s-maj=69.3km s-min=4.6km az=122.0*
*SGS **12** 16:25:22.8, 16°.15N×42°.26E, h26km*

ISC 12 16:24:43.4±0.7, 13°.37N±0°.03×41°.74E±0°.04, h6km±4km, n324, σ1§29/348, mb4.7/85, MS4.3/6, 11C-14D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**1.35**	**160**	*e*P		**Pn**	**16 25 05.4**	**-3.4**
LDLD	**Lac de Lave**	**1.92**	**157**	*e*P		**Pn**	**16 25 15.7**	**-1.0**
TDD	**Tadjoura Ara**	**1.93**	**144**	*e*P		**Pn**	**16 25 15.7**	**-1.1**
OBO	**Obock**	**2.04**	**132**	*e*P		**Pn**	**16 25 17.7**	**-0.6**
SGH	**Sud-Ghoubbet**	**2.11**	**156**	*e*P		**Pn**	**16 25 18.4**	**-1.0**
ATD	**Arta Tunnel**	**2.12**	**149**	Pn		**Pn**	**16 25 18.5**	**-1.0**
	317nm,0.3s,baz=76,slow=3.8,SNR=12							
ATD					Sn	**Sb**	**16 25 48.4**	**-0.6**
	1μm,0.3s,baz=267,slow=23,SNR=17							
ATD	**Arta Tunnel**	**2.12**	**149**	*e*P		**Pn**	**16 25 18.3**	**-1.2**
ATD				*e*S		**Sb**	**16 25 48.0**	**-1.0**
MCAD	**Moucha**	**2.17**	**139**	*e*P		**Pn**	**16 25 19.8**	**-0.3**
UDYN	**Al 'Udayn**	**2.24**	**74**	*i* P		**Pn**	**16 25 19.1**	**-2.1**
UDYN				*i* S		**Sn**	**16 25 47.3**	**-2.0**
UDYN	**Al 'Udayn**	**2.24**	**74**	*i* P		**Pn**	**16 25 19.1**	**-1.4**
UDYN				*i* S		**Sn**	**16 25 46.4**	**-2.9**
GBR	**Grand-Bara**	**2.31**	**162**	*e*P		**Pn**	**16 25 21.2**	**-1.0**
ATA	**Atar**	**2.38**	**143**	*e*P		**Pn**	**16 25 22.4**	**-0.6**
DHBB	**Dhamar BB**	**2.83**	**65**	*i* P		**Pn**	**16 25 29.8**	**+0.3**
DHBB				*i* S		**Sn**	**16 26 05.2**	**+1.1**
DHBB	**Dhamar BB**	**2.83**	**65**	*i* P		**Pn**	**16 25 29.6**	**+0.2**
DHBB				*i* S		**Sn**	**16 26 05.3**	**+1.2**
DAMY	**Dhamar**	**2.83**	**65**	*e*Pn		**Pn**	**16 25 31.3**	**+1.8**
DAMY	**Dhamar**	**2.83**	**65**	*e*Pn		**Pn**	**16 25 31.3**	**+1.8**
HAJJ	**Hajjah**	**2.93**	**38**	*i* P		**Pn**	**16 25 32.6**	**+1.9**
HAJJ				*i* S		**Sb**	**16 26 10.6**	**-1.8**
HAJJ					AML	AML	16 26 24.4	
	comp=Z,4μm,0.6s							
HAJJ	**Hajjah**	**2.93**	**38**	*i* P		**Pn**	**16 25 32.2**	**+1.5**
HAJJ				*i* S		**Sb**	**16 26 11.5**	**-0.8**
HAJJ					AML	AML	16 26 24.4	
	comp=Z,4μm,0.6s							
HAJJ	**Hajjah**	**2.93**	**38**	*i* P		**Pn**	**16 25 32.6**	**+1.9**
ADEN	**Aden**	**3.21**	**100**	*i* P		**Pn**	**16 25 32.6**	**-1.8**
ADEN				*i* S		**Sn**	**16 26 11.3**	**-1.7**
ADEN					AML	AML	16 26 30.3	
	comp=E,5μm,0.5s							
ADEN	**Aden**	**3.21**	**100**	*i* P		**Pn**	**16 25 32.8**	**-1.7**
ADEN				*i* S		**Sn**	**16 26 09.6**	**-3.4**
ADEN					AML	AML	16 26 30.3	
	comp=E,5μm,0.5s							
ADEN	**Aden**	**3.21**	**100**	*i* P		**Pn**	**16 25 32.6**	**-1.8**
ADEN				*i* S		**Sn**	**16 26 11.3**	**-1.7**
	comp=E,3μm,0.5s							
FRSS	**Farasan al Kab**	**3.37**	**6**	S		**Pb**	**16 25 42.6**	**-1.0**
FRSS				P		**Pn**	**16 25 34.0**	**-2.6**
BDHA	**Al Bayda'**	**3.76**	**80**	*i* P		**Pn**	**16 25 40.5**	**-1.7**
BDHA				*i* S		**Sn**	**16 26 25.8**	**-1.2**
BDHA					AML	AML	16 26 49.5	
	comp=N,8μm,0.6s							
BDHA	**Al Bayda'**	**3.76**	**80**	*i* P		**Pn**	**16 25 40.5**	**-1.7**
BDHA				*i* S		**Sn**	**16 26 25.8**	**-1.2**
BDHA					AML	AML	16 26 49.7	
	comp=N,8μm,0.6s							
BDHA	**Al Bayda'**	**3.76**	**80**	*i* P		**Pn**	**16 25 40.5**	**-1.7**
BDHA				*i* S		**Sn**	**16 26 25.8**	**-1.2**
	comp=N,4μm,0.6s							
DJNS	**Zahran al Janu**	**4.64**	**22**	S		**Sn**	**16 26 41.6**	**-7.2**
DJNS				P		**Pn**	**16 25 53.1**	**-1.3**
KMBO	**Kilima Mbogo**	**15.08**	**198**	Pn		**Pn**	**16 28 17.8**	**+0.4**
	comp=N,0.1nm,0.3s,baz=25,slow=13,SNR=12							
KMBO					Lg	Lg	16 32 38.5	
	comp=N,0.1nm,0.3s,baz=244,slow=23,SNR=4.7							
KMBO	**Kilima Mbogo**	**15.08**	**198**	*e*P		**Pn**	**16 28 17.5**	**+0.1**
KMBO					pmax	pmax		
	comp=Z,35nm,1.4s							
KMBO	**Kilima Mbogo**	**15.08**	**198**	P		**Pn**	**16 28 19.1**	**+1.7**
	SNR=8.7							
KMBO	**Kilima Mbogo**	**15.08**	**198**	*e*Pn		**Pn**	**16 28 17.5**	**+0.1**
	comp=Z,35nm,1.4s							
KMBO	**Kilima Mbogo**	**15.08**	**198**	*e*Pn		**Pn**	**16 28 17.5**	**+0.1**
	comp=Z,35nm,1.4s							
EIL	**Elat**	**17.40**	**340**	P		**Pn**	**16 28 46.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=90,slow=13,SNR=1.8							
ASHO	**Ashiyiah**	**17.58**	**48**	*i* P		**Pn**	**16 28 48.5**	**-0.8**
	SNR=8.6							
HATD	**Hatta, Dubai**	**17.72**	**48**	*i* P		**Pn**	**16 28 50.4**	**-0.6**
	SNR=11							
UOSS	**Minazif**	**17.84**	**48**	*e*Pn		**Pn**	**16 28 50.0**	**-2.5**
	comp=Z,4.6nm,1.0s							
SMDO	**Samad**	**18.22**	**56**	P		**Pn**	**16 28 56.7**	**-0.6**
	SNR=10							
SMDO	**Samad**	**18.22**	**56**	P		**Pn**	**16 28 56.7**	**-0.6**
	SNR=10							
WSAR	**Wadi Sarin**	**18.78**	**56**	P		**P**	**16 29 02.1**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=252,slow=7.7,SNR=13							
MMAI	**Mount Meron Ar**	**20.39**	**345**	P		Pn	16 29 23.0	-0.2
	comp=Z,3.3nm,0.7s,baz=143,slow=10,SNR=4.6							
GNI	**Garni**	**26.80**	**5**	P		**P**	**16 30 26.3**	**+1.8**
	comp=Z,7.2nm,0.6s,baz=66,slow=2.8,SNR=5.0							
GNI	**Garni**	**26.80**	**5**	*i* P		**P**	**16 30 26.2**	**+1.6**
GNI	**Garni**	**26.80**	**5**	*e*P		**P**	**16 30 22.3**	**-2.3**
	comp=Z,52nm,1.7s							
GNI	**Garni**	**26.80**	**5**	*e*P		**P**	**16 30 22.3**	**-2.3**
	comp=Z,52nm,1.7s							
BR131	**Keskin Array S**	**27.21**	**346**	*e*P		**P**	**16 30 28.8**	**+0.6**
BR131	**Keskin Array S**	**27.21**	**346**	*e*P		**P**	**16 30 28.8**	**+0.6**
BRTR	**Keskin Array B**	**27.21**	**346**	P		**P**	**16 30 30.1**	**+2.0**
	comp=Z,5.9nm,0.9s,baz=163,slow=9.0,SNR=25							
BR231	**Keskin MP Arra**	**27.53**	**345**	*e*P		**P**	**16 30 29.3**	**-1.7**
BR231	**Keskin MP Arra**	**27.53**	**345**	*e*P		**P**	**16 30 29.3**	**-1.7**
GEYT	**Alibeck**	**28.47**	**28**	P		**P**	**16 30 40.0**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=224,slow=8.3,SNR=6.5							
ZEI	**Tsey**	**29.37**	**3**	*e*P		**P**	**16 30 48.4**	**+0.9**
ZEI					pmax	pmax		
	comp=Z,19nm,0.6s							
NEY	**Neytrino**	**29.78**	**1**	*e*P		**P**	**16 30 55.3**	**+4.2**
NEY					pmax	pmax		
	comp=Z,3.0nm,1.3s							
NCK	**Nalchik**	**30.06**	**3**	*e*P		**P**	**16 30 54.5**	**+1.1**
NCK					pmax	pmax		
	comp=Z,3.0nm,0.6s							
KBZ	**Khabaz**	**30.27**	**2**	P		**P**	**16 30 55.8**	**+0.7**
	comp=Z,7.9nm,1.0s,baz=197,slow=5.2,SNR=10							
KIV	**Kislovodsk**	**30.49**	**1**	*e*P		**P**	**16 30 57.4**	**+0.1**
KIV					pmax	pmax		
	comp=Z,23nm,1.0s							
KIV	**Kislovodsk**	**30.49**	**1**	P		**P**	**16 30 57.9**	**+0.6**
	SNR=5.5							
KIV	**Kislovodsk**	**30.49**	**1**	P		**P**	**16 30 57.9**	**+0.6**
	SNR=5.5							
KVAR	**Kislovodsk Arr**	**30.49**	**1**	P		**P**	**16 30 58.6**	**+1.3**
	comp=Z,19nm,1.1s,baz=223,slow=1.1,SNR=7.6							
ANN	**Anapa**	**31.54**	**354**	*e*P		**P**	**16 31 06.6**	**+0.2**
ANN					pmax	pmax		
	comp=Z,54nm,1.1s							
ANN					MLR	MLR		
	comp=Z,199nm,15.0s							
KBL	**Kabul**	**32.48**	**45**	*e*P		**P**	**16 31 15.6**	**+0.6**
KBL					pmax	pmax		
	comp=Z,12nm,1.0s							
KBL	**Kabul**	**32.48**	**45**	*e*P		**P**	**16 31 15.6**	**+0.6**
	comp=Z,12nm,1.0s							
KBL	**Kabul**	**32.48**	**45**	*e*P		**P**	**16 31 15.6**	**+0.6**
	comp=Z,12nm,1.0s							
TIRR	**Tirgusor**	**33.01**	**342**	*i*P		**P**	**16 31 19.5**	**+0.2**
CFR	**Carcaliu**	**33.75**	**343**	*i*P		**P**	**16 31 25.8**	**+0.1**
ISR	**Istrita**	**34.18**	**341**	*i*P		**P**	**16 31 31.3**	**+1.7**
MLR	**Muntele Rosu**	**34.71**	**340**	P		**P**	**16 31 35.3**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=187,slow=5.8,SNR=15							
MLR	**Muntele Rosu**	**34.71**	**340**	*i*P		**P**	**16 31 35.4**	**+1.1**
MLR	**Muntele Rosu**	**34.71**	**340**	*e*P		**P**	**16 31 34.5**	**+0.3**
MLR					pmax	pmax		
	comp=Z,14nm,1.1s							
MLR	**Muntele Rosu**	**34.71**	**340**	*e*P		**P**	**16 31 34.5**	**+0.3**
	comp=Z,14nm,1.1s							
MLR	**Muntele Rosu**	**34.71**	**340**	*e*P		**P**	**16 31 34.5**	**+0.3**
	comp=Z,14nm,1.1s							
VRI	**Vrincioaia**	**34.80**	**342**	*i*P		**P**	**16 31 34.7**	**-0.1**
PLOR	**Plostina**	**34.80**	**341**	*i*P		**P**	**16 31 37.0**	**+2.0**
VOIR		**34.96**	**339**	*i*P		**P**	**16 31 37.4**	**+1.0**
ARR	**Arges**	**35.05**	**339**	*i*P		**P**	**16 31 37.5**	**+0.4**
KIS	**Kishinev**	**35.23**	**345**	*e*P		**P**	**16 31 39.0**	**+0.4**
KIS	**Kishinev**	**35.23**	**345**	*e*P		**P**	**16 31 39.0**	**+0.4**
KIS				*e*			16 31 43.0	
KIS	**Kishinev**	**35.23**	**345**	*e*P		**P**	**16 31 39.0**	**+0.4**
TESR	**Tescani**	**35.40**	**342**	*i*P		**P**	**16 31 40.0**	**0.0**
LOT	**Lotru**	**35.42**	**338**	*i*P		**P**	**16 31 40.8**	**+0.4**
MDVR	**Moldovita**	**35.66**	**335**	*i*P		**P**	**16 31 43.1**	**+0.7**
MATP	**Matopo**	**36.02**	**201**	P		**P**	**16 31 46.8**	**+1.0**
	comp=Z,0.6nm,0.5

AAK	**Ala-Archa**	**40.61**	**38**	P		**P**	**16 32 27.0**	**+2.6**	
	SNR=6.3								
AAK				P		**P**	**16 32 27.0**	**+2.6**	
	SNR=6.3								
AAK	**Ala-Archa**	**40.61**	**38**	*e*P		**P**	**16 32 24.4**	**+0.1**	
	comp=Z,14nm,1.2s								
AAK	**Ala-Archa**	**40.61**	**38**	*e*P		**P**	**16 32 24.4**	**+0.1**	
	comp=Z,14nm,1.2s								
CONA	**Conrad Observa**	**40.63**	**333**	*e*P		**P**	**16 32 25.3**	**+1.0**	
	comp=Z,12nm,1.2s								
CONA	**Conrad Observa**	**40.63**	**333**	P		**P**	**16 32 25.3**	**+1.0**	
	comp=Z,12nm,1.2s								
MYKA	**Terra Mystica**	**40.70**	**330**	*i* pP		**P**	**16 32 27.5**	**+2.7**	
	comp=Z,5.6nm,0.9s								
FRU	**Bishkek**	**40.80**	**38**	*e*P		**P**	**16 32 27.0**	**+1.3**	
LBTB	**Lobatse**	**41.28**	**202**	P		**P**	**16 32 31.6**	**+1.8**	
	comp=Z,3.7nm,0.9s,baz=45,slow=8.6,SNR=3.4								
MOA	**Molln**	**41.29**	**332**	*i* P		**P**	**16 32 29.9**	**+0.3**	
	comp=Z,9.1nm,0.9s								
MOA	**Molln**	**41.29**	**332**	P		**P**	**16 32 29.9**	**+0.3**	
	comp=Z,9.1nm,0.9s								
MORC	**Moravsky Berou**	**41.37**	**336**	⇓ *i* P		**P**	**16 32 30.5**	**+0.2**	
MORC	**Moravsky Berou**	**41.37**	**336**	*e*P		**P**	**16 32 29.7**	**-0.6**	
MORC				pmax	pmax				
	comp=Z,32nm,1.0s								
MORC	**Moravsky Berou**	**41.37**	**336**	*e*P		**P**	**16 32 29.7**	**-0.6**	
	comp=Z,32nm,1.0s								
MORC	**Moravsky Berou**	**41.37**	**336**	*e*P		**P**	**16 32 29.7**	**-0.6**	
	comp=Z,32nm,1.0s								
VRAC	**Vranov**	**41.38**	**335**	⇑ *i* P		**P**	**16 32 30.6**	**+0.2**	
VRAC	**Vranov**	**41.38**	**335**	*e*P		**P**	**16 32 31.7**	**+1.3**	
TKM2	**Tokmak 2**	**41.44**	**38**	*e*P		**P**	**16 32 30.6**	**-0.7**	
TKM2				pmax	pmax				
	comp=Z,4.0nm,1.0s								
TKM2	**Tokmak 2**	**41.44**	**38**	*e*P		**P**	**16 32 30.5**	**-0.7**	
	comp=Z,4.4nm,1.0s								
TKM2	**Tokmak 2**	**41.44**	**38**	*e*P		**P**	**16 32 30.6**	**-0.7**	
	comp=Z,4.4nm,1.0s								
TREC	**Trest**	**41.83**	**334**	*e*P		**P**	**16 32 33.9**	**-0.2**	
TREC				*ep*P		**pP**	**16 32 35.3**	**-0.7**	
TREC	**Trest**	**41.83**	**334**	*e*P		**P**	**16 32 33.9**	**-0.2**	
TREC				*e*			16 32 35.3		
TREC	**Trest**	**41.83**	**334**	P		**P**	**16 32 33.9**	**-0.2**	
OBN	**Obninsk**	**41.84**	**356**	P		**P**	**16 32 33.7**	**-0.3**	
	comp=Z,6.1nm,0.3s,baz=228,slow=0.4,SNR=6.3								
OBN	**Obninsk**	**41.84**	**356**	*i* P		**P**	**16 32 33.2**	**-0.8**	
OBN				*i*			16 34 14.8		
OBN				*i*			16 34 31.2		
OBN				pmax	pmax				
	comp=Z,19nm,1.1s								
OBN				MLR	MLR				
	comp=Z,177nm,16.0s								
GEA0	**GERESS Array S**	**42.27**	**332**	*e*P		**P**	**16 32 36.8**	**-0.9**	
GEA0	**GERESS Array S**	**42.27**	**332**	*e*P		**P**	**16 32 36.8**	**-0.9**	
GEC2	**GERESS Array S**	**42.27**	**333**	*e*P		**P**	**16 32 36.8**	**-1.0**	
GEC2				pmax	pmax				
	comp=Z,22nm,1.4s								
GEC2	**GERESS Array S**	**42.27**	**333**	*e*P		**P**	**16 32 36.8**	**-1.0**	
	comp=Z,22nm,1.4s								
GEC2	**GERESS Array S**	**42.27**	**333**	*e*P		**P**	**16 32 36.8**	**-1.0**	
	comp=Z,22nm,1.4s								
GERES	**GERESS Array B**	**42.27**	**333**	P		**P**	**16 32 37.7**	**-0.1**	
	comp=Z,4.0nm,0.9s,baz=131,slow=7.3,SNR=24								
DPC	**Dobruska-Polom**	**42.31**	**336**	*e*P		**P**	**16 32 38.0**	**0.0**	
DPC	**Dobruska-Polom**	**42.31**	**336**	*e*P		**P**	**16 32 38.0**	**0.0**	
DPC	**Dobruska-Polom**	**42.31**	**336**	P		**P**	**16 32 38.0**	**0.0**	
MOS	**Moscow**	**42.40**	**357**	*e*P		**P**	**16 32 40.3**	**+1.8**	
MOS				*e*			16 34 32.5		
MOS				pmax	pmax				
	comp=Z,45nm,0.9s								
MOTA	**Moosalm**	**42.45**	**329**	*i* P		**P**	**16 32 38.4**	**-0.9**	
	comp=Z,1.1nm,0.5s								
MOTA	**Moosalm**	**42.45**	**329**	P		**P**	**16 32 38.4**	**-0.9**	
	comp=Z,1.1nm,0.5s								
KHC	**Kasperske Hory**	**42.54**	**333**	*e*P		**P**	**16 32 39.3**	**-0.6**	
KHC				*ep*P		**pP**	**16 32 40.7**	**-1.1**	
KHC				*ex*		x	16 32 54.3		
KHC	**Kasperske Hory**	**42.54**	**333**	*e*P		**P**	**16 32 39.3**	**-0.6**	
KHC				*e*			16 32 40.7		
KHC	**Kasperske Hory**	**42.54**	**333**	*e*P		**P**	**16 32 38.8**	**-1.1**	
	comp=Z,3.6nm,1.2s								
KHC	**Kasperske Hory**	**42.54**	**333**	*e*P		**P**	**16 32 38.8**	**-1.1**	
	comp=Z,3.6nm,1.2s								
UPC	**Upice**	**42.55**	**336**	*e*P		**P**	**16 32 41.4**	**+1.5**	
GOPC	**GO Pecny, Ondr**	**42.60**	**334**	*e*P		**P**	**16 32 39.5**	**-0.8**	
GOPC				*ep*P		**pP**	**16 32 41.3**	**-0.9**	
GOPC	**GO Pecny, Ondr**	**42.60**	**334**	*e*P		**P**	**16 32 39.5**	**-0.8**	
GOPC				*e*			16 32 41.3		
GOPC	**GO Pecny, Ondr**	**42.60**	**334**	P		**P**	**16 32 39.5**	**-0.8**	
PRU	**Pruhonice**	**42.76**	**334**	*ex*		x	16 32 42.2		
DAVA	**Damuels**	**43.03**	**328**	*i* P		**P**	**16 32 43.9**	**-0.1**	
	comp=Z,12nm,0.8s								
DAVA	**Damuels**	**43.03**	**328**	P		**P**	**16 32 43.9**	**-0.1**	
	comp=Z,12nm,0.8s								
SENIN	**Lac Senin/Sane**	**43.81**	**326**	*e*P		**P**	**16 32 48.9**	**-1.5**	
	comp=Z,6.5nm,0.8s								
SENIN	**Lac Senin/Sane**	**43.81**	**326**	*e*P		**P**	**16 32 48.9**	**-1.5**	
	comp=Z,6.5nm,0.8s								
CLL	**Collm**	**44.40**	**334**	*i* P		**P**	**16 32 52.6**	**-2.1**	
	comp=Z,13nm,1.8s								
CLL				*i*			16 32 55.3		
	comp=Z,11nm,1.4s								
CLL				*e*SS		SS	16 42 54.0	+5.5	
CLL				Lm		MLR	16 52 00.0		
	comp=Z,100nm,21.5s								
CLL	**Collm**	**44.40**	**334**	*e*P		**P**	**16 32 52.6**	**-2.1**	
CLL				pmax	pmax				
	comp=Z,8.0nm,1.2s								
CLL	**Collm**	**44.40**	**334**	*e*P		**P**	**16 32 52.6**	**-2.1**	
	comp=Z,7.5nm,1.2s								
CLL	**Collm**	**44.40**	**334**	*e*P		**P**	**16 32 52.6**	**-2.1**	
	comp=Z,7.5nm,1.2s								
ARU	**Arti**	**44.88**	**13**	P		**P**	**16 32 59.0**	**+0.4**	
	comp=Z,12nm,0.8s,baz=210,slow=5.0,SNR=19								
ARU	**Arti**	**44.88**	**13**	*c i*P		**P**	**16 32 58.9**	**+0.4**	
ARU							16 34 41.5		
ARU				PPP		PPP	16 35 22.7		
ARU				S		**S**	**16 39 37.7**	**+1.2**	
ARU				SS		**SS**	**16 42 59.0**	**+1.4**	
ARU				pmax	pmax				
	comp=Z,16nm,0.8s								
ARU	**Arti**	**44.88**	**13**	*e*P		**P**	**16 32 57.7**	**-0.8**	
	comp=Z,18nm,1.0s								
ARU	**Arti**	**44.88**	**13**	*e*P		**P**	**16 32 57.7**	**-0.8**	
	comp=Z,18nm,1.0s								
ZRNK	**Zerenda**	**45.05**	**23**	*e*P		**P**	**16 33 00.3**	**+0.3**	
ZRNK				pmax	pmax				
	comp=Z,15nm,1.0s								
ZRNK	**Zerenda**	**45.05**	**23**	*e*P		**P**	**16 33 00.3**	**+0.3**	
	comp=Z,15nm,1.0s								
ZRNK	**Zerenda**	**45.05**	**23**	*e*P		**P**	**16 33 00.3**	**+0.3**	
	comp=Z,15nm,1.0s								
BRVK	**Borovoye**	**45.63**	**24**	*ce*P		**P**	**16 33 04.5**	**-0.1**	
BRVK				pmax	pmax				
	comp=Z,23nm,1.2s								
BRVK	**Borovoye**	**45.63**	**24**	*e*P		**P**	**16 33 04.4**	**-0.1**	
	comp=Z,15nm,0.9s								
BRVK	**Borovoye**	**45.63**	**24**	*e*P		**P**	**16 33 04.4**	**-0.1**	
	comp=Z,15nm,0.9s								
BVAR	**Borovoye Array**	**45.65**	**24**	P		**P**	**16 33 05.0**	**+0.3**	
	comp=Z,6.3nm,0.8s,baz=221,slow=5.9,SNR=31								
BVAR				PcP		**PcP**	**16 34 44.7**	**+1.9**	
	comp=Z,3.2nm,0.8s,baz=202,slow=1.6,SNR=7.2								
BVAR	**Borovoye Array**	**45.65**	**24**	P		**P**	**16 33 05.0**	**+0.3**	
SVE	**Sverdlovsk**	**45.72**	**14**	*e*P		**P**	**16 33 05.8**	**+0.6**	
SVE				pmax	pmax				
	comp=Z,23nm,1.0s								
DBIC	**Dimbokro**	**46.31**	**266**	P		**P**	**16 33 10.4**	**-0.1**	
	comp=Z,10nm,0.9s,baz=83,slow=5.2,SNR=4.6								
MAKZ	**Makanchi**	**47.36**	**37**	*e*P		**P**	**16 33 18.7**	**+0.4**	
MAKZ				pmax	pmax				
	comp=Z,28nm,0.9s								
MAKZ	**Makanchi**	**47.36**	**37**	*e*P		**P**	**16 33 18.7**	**+0.4**	
	comp=Z,28nm,0.9s								
MAKZ	**Makanchi**	**47.36**	**37**	*e*P		**P**	**16 33 18.7**	**+0.4**	
	comp=Z,28nm,0.9s								
KLMR	**Klimovskoe**	**47.43**	**359**	*e*P		**P**	**16 33 16.7**	**-1.8**	
KLMR				*e**SP		**sP**	**16 33 22.3**	**+1.1**	
KLMR				pmax	pmax				
	comp=Z,40nm,1.0s								
MK01	**Makanchi Array**	**47.53**	**37**	*e*P		**P**	**16 33 19.8**	**+0.2**	
MK01	**Makanchi Array**	**47.53**	**37**	*e*P		**P**	**16 33 19.8**	**+0.2**	
MK31	**Makanchi Array**	**47.54**	**37**	*e*P		**P**	**16 33 19.7**	**0.0**	
MK31	**Makanchi Array**	**47.54**	**37**	*e*P		**P**	**16 33 19.7**	**0.0**	
MK31	**Makanchi Array**	**47.54**	**37**	*e*P		**P**	**16 33 19.7**	**0.0**	
MKAR	**Makanchi Array**	**47.54**	**37**	P		**P**	**16 33 20.1**	**+0.5**	
	comp=Z,25nm,0.9s,baz=233,slow=4.8,SNR=93								
MKAR				PcP		**PcP**	**16 34 50.6**	**+0.9**	
	comp=Z,2.3nm,1.1s,baz=222,slow=5.8,SNR=2.8								
MKAR	**Makanchi Array**	**47.54**	**37**	*e*P		**P**	**16 33 19.7**	**0.0**	
MKAR							16 34 50.6		
MKAR	**Makanchi Array**	**47.54**	**37**	*e*P		**P**	**16 33 19.7**	**0.0**	
MKAR	**Makanchi Array**	**47.54**	**37**	*e*P		**P**	**16 33 19.7**	**0.0**	
MKAR				PcP		**PcP**	**16 34 50.6**	**+0.9**	
KURBB	**Kurchatov Arra**	**47.65**	**31**	P		**P**	**16 33 21.1**	**+0.7**	
	comp=Z,14nm,0.9s,baz=234,slow=8.2,SNR=67								
KURBB				PcP		**PcP**	**16 34 51.5**	**+1.6**	
	comp=Z,1.9nm,1.0s,baz=231,slow=4.3,SNR=4.4								
KURK	**Kurchatov**	**47.76**	**31**	*e*P		**P**	**16 33 21.3**	**+0.1**	
KURK							16 34 51.6		
KURK				pmax	pmax				
	comp=Z,72nm,1.0s								
KURK	**Kurchatov**	**47.76**	**31**	*e*P		**P**	**16 33 21.3**	**+0.1**	
	comp=Z,72nm,1.0s								
KURK	**Kurchatov**	**47.76**	**31**	PcP		**PcP**	**16 34 51.5**	**+1.2**	
KURK	**Kurchatov**	**47.76**	**31**	*e*P		**P**	**16 33 21.3**	**+0.1**	
	comp=Z,72nm,1.0s								
KURK				PcP		**PcP**	**16 34 51.5**	**+1.2**	
ES19	**SONSECA Array**	**47.84**	**312**	*e*P		**P**	**16 33 21.9**	**-0.3**	
ES19	**SONSECA Array**	**47.84**	**312**	*e*P		**P**	**16 33 21.9**	**-0.3**	
ESDC	**Sonseca Array**	**47.88**	**312**	P		**P**	**16 33 22.5**	**0.0**	
	comp=Z,1.7nm,0.8s,baz=106,slow=6.8,SNR=12								
ESLA	**Sonseca Array**	**47.88**	**312**	*e*P		**P**	**16 33 22.5**	**0.0**	
	comp=Z,20nm,1.7s								
ESLA	**Sonseca Array**	**47.88**	**312**	*e*P		**P**	**16 33 22.6**	**0.0**	
	comp=Z,20nm,1.7s								
PAB	**San Pablo**	**48.12**	**312**	*e*P		**P**	**16 33 24.3**	**-0.1**	
PAB				pmax	pmax				
	comp=Z,12nm,1.2s								
PAB	**San Pablo**	**48.12**	**312**	*e*P		**P**	**16 33 24.3**	**-0.1**	
	comp=Z,12nm,1.2s								
PAB	**San Pablo**	**48.12**	**312**	*e*P		**P**	**16 33 24.3**	**-0.1**	
	comp=Z,12nm,1.2s								
LSA	**Lhasa**	**48.37**	**62**	*e*P		**P**	**16 33 27.7**	**+0.7**	
LSA				pmax	pmax				
	comp=Z,19nm,1.4s								
LSA	**Lhasa**	**48.37**	**62**	*e*P		**P**	**16 33 27.7**	**+0.7**	
	comp=Z,19nm,1.4s								
LSA	**Lhasa**	**48.37**	**62**	*e*P		**P**	**16 33 27.7**	**+0.7**	
	comp=Z,19nm,1.4s								
FINES	**FINESS Array B**	**49.32**	**350**	P		**P**	**16 33 32.8**	**-0.3**	
	comp=Z,3.3nm,0.7s,baz=159,slow=5.7,SNR=8.8								
WMQ	**Urumqi**	**49.58**	**43**	P		**P**	**16 33 36.7**	**+1.2**	
WMQ				pP		sP	16 33 40.9	+2.7	
WMQ				sP		pP	16 33 43.7	+6.2	
WMQ				PMZ					
	comp=Z,10.0nm,0.6s								
WMQ				PMZ					
	comp=Z,46nm,4.4s								
WMQ				LN					
	comp=Z,84nm,20.0s								
WMQ				LE					
	comp=Z,73nm,23.4s								
WMQ				LZ					
	comp=Z,110nm,27.8s								
PBAR	**Barrancos**	**49.70**	**309**	*e*P		**P**	**16 33 36.0**	**-0.4**	
PBAR	**Barrancos**	**49.70**	**309**	*e*P		**P**	**16 33 36.0**	**-0.4**	
PVAQ	**Vaqueiros**	**50.01**	**308**	*e*LR		LR	17 46 10.8		
	comp=Z,115nm,18.0s								
PMRV	**Marv??o**	**50.32**	**310**	*e*LR		LR	17 47 10.3		
	comp=Z,133nm,18.0s								
EVO	**Evora**	**50.53**	**309**	*e*P		**P**	**16 33 41.3**	**-1.4**	
EVO	**Evora**	**50.53**	**309**	*e*P		**P**	**16 33 41.3**	**-1.4**	
MVO	**Moncorvo**	**50.58**	**313**	*e*LR		LR	17 50 53.1		
	comp=Z,104nm,16.0s								
MTE	**Manteigas**	**50.72**	**312**	*e*LR		LR	17 47 00.0		
	comp=Z,81nm,18.0s								
PGAV	**Gaviera, Araco**	**51.72**	**313**	*e*LR		LR	17 48 27.2		
	comp=Z,103nm,16.0s								
NAO01	**NORSAR Array S**	**52.45**	**342**	*e*P		**P**	**16 33 55.7**	**-1.0**	
NAO01	**NORSAR Array S**	**52.45**	**342**	*e*P		**P**	**16 33 55.7**	**-1.0**	
NVS	**Novosibirsk**	**52.47**	**29**	⇓ *i*P		**P**	**16 33 58.6**	**+1.6**	
NVS				*e*			16 35 09.5		
NVS				pmax	pmax				
	comp=N,10.0nm,0.9s								
NVS				pmax	pmax				
	comp=E,7.0nm,0.9s								
NVS				pmax	pmax				
	comp=Z,21nm,0.9s								
NB2	**NORSAR Subarra**	**52.50**	**342**	P		**P**	**16 33 56.2**	**-0.9**	
	comp=Z,9.8nm,1.1s,baz=142,slow=7.4								
NB2	**NORSAR Subarra**	**52.50**	**342**	P		**P**	**16 33 56.2**	**-0.9**	
	comp=Z,9.8nm,1.1s,baz=142,slow=7.4,SNR=5.1								
NOA	**NORSAR Array B**	**52.50**	**342**	P		**P**	**16 33 57.0**	**-0.1**	
	comp=Z,3.8nm,0.9s,baz=139,slow=7.5,SNR=5.0								
NBO02	**NORSAR Array S**	**52.62**	**342**	*e*P		**P**	**16 33 57.2**	**-0.8**	
NBO02	**NORSAR Array S**	**52.62**	**342**	*e*P		**P**	**16 33 57.2**	**-0.8**	
ZAA0	**Zalesovo Array**	**52.73**	**30**	*e*P		**P**	**16 33 58.3**	**-0.6**	
ZAA0	**Zalesovo Array**	**52.73**	**30**	*e*P		**P**	**16 33 58.3**	**-0.6**	
ZALV	**Zavgolovnaya Array**	**52.73**	**30**	P		**P**	**16 33 58.7**	**-0.2**	
	comp=Z,30nm,0.9s,baz=239,slow=6.9,SNR=45								
NC204	**NORSAR Array S**	**52.82**	**342**	*e*P		**P**	**16 33 58.7**	**-0.8**	
NC204	**NORSAR Array S**	**52.82**	**342**	*e*P		**P**	**16 33 58.7**	**-0.8**	
ESK	**Eskdalemuir**	**54.39**	**330**	*i* P		P	16 34 06.0	-5.1	
CM31	**Chiang Mai Arr**	**55.06**	**77**	*e*P		**P**	**16 34 17.2**	**+0.6**	
CM31	**Chiang Mai Arr**	**55.06**	**77**	*e*P		**P**	**16 34 17.2**	**+0.6**	
CMAR	**Chiang Mai Arr**	**55.06**	**77**	P		**P**	**16 34 17.8**	**+1.2**	
	comp=Z,12nm,0.9s,baz=277,slow=8.3,SNR=46								
CM01	**Chiang Mai Arr**	**55.08**	**77**	*e*P		**P**	**16 34 16.7**	**+0.1**	
CM01	**Chiang Mai Arr**	**55.08**	**77**	*e*P		**P**	**16 34 16.7**	**+0.1**	
GTA	**Gaotai**	**57.04**	**52**	P		**P**	**16 34 31.7**	**+1.1**	
GTA				pP		sP	16 34 36.9	+3.6	
GTA				sP		pP	16 34 39.8	+7.3	
GTA				PcP		**PcP**	**16 35 28.0**	**+2.4**	
GTA				S		**S**	**16 42 28.3**	**+2.4**	
GTA				PMZ					
	comp=Z,7.0nm,1.3s								
GTA				PMZ					
	comp=Z,85nm,4.7s								
GTA				LN					
	comp=Z,140nm,13.8s								
GTA				LE					
	comp=Z,200nm,14.7s								
GTA				LZ					
	comp=Z,250nm,12.8s								
ARA0	**ARCESS Array S**	**57.06**	**353**	*e*P		**P**	**16 34 29.2**	**-0.8**	
ARA0	**ARCESS Array S**	**57.06**	**353**	*e*P		**P**	**16 34 29.2**	**-0.8**	
ARCES	**ARCESS Array B**	**57.06**	**353**	P		**P**	**16 34 29.4**	**-0.7**	
	comp=Z,8.5nm,1.1s,baz=177,slow=7.3,SNR=12								
KMI	**Kunming**	**58.35**	**69**	P		**P**	**16 34 41.1**	**+1.0**	
KMI				pP		sP	16 34 44.6	+1.8	
KMI				sP		pP	16 34 46.0	+3.9	
KMI				PMZ					
	comp=Z,11nm,0.9s								
KMI				LZ					
	comp=Z,120nm,39.1s								
CD2	**Chengdu**	**59.34**	**62**	*e*P		**P**	**16 34 46.4**	**-0.3**	
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
LZH	**Lanzhou**	**59.76**	**56**	*e*P		**P**	**16 34 52.1**	**+2.4**	
LZH				pP		sP	16 34 56.1	+3.7	
LZH				sP		pP	16 34 59.2	+7.6	
LZH				PMZ					
	comp=Z,71nm,1.4s								
MOY	**Mondy**	**60.68**	**38**	*e*P		**P**	**16 34 58.0**	**+2.4**	
ZAK	**Zakamensk**	**61.74**	**40**	*e*P		**P**	**16 35 03.0**	**+0.2**	
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.4s								
GYA	**Guiyang**	**61.86**	**67**	*e*P		**P**	**16 35 05.2**	**+1.1**	
GYA				PMZ					
	comp=Z,10.0nm,1.0s								
TLY	**Talaya**	**62.27**	**38**	*e*P		**P**	**16 35 08.6**	**+2.3**	
TLY				pmax	pmax				
	comp=Z,4.0nm,1.4s								
TLY				MLR	MLR				
	comp=Z,463nm,18.0s								
NRIK	**Noril'sk**	**62.90**	**17**	P		**P**	**16 35 10.7**	**+0.6**	
	comp=Z,13nm,1.0s,baz=220,slow=4.6,SNR=13								
SONM	**Songino Array**	**63.22**	**43**	P		**P**	**16 35 13.8**	**+1.0**	
	comp=Z,10.0nm,0.9s,baz=257,slow=6.9,SNR=44								
SONA1	**Songino Array**	**63.23**	**43**	*e*P		**P**	**16 35 12.9**	**0.0**	
SONA1	**Songino Array**	**63.23**	**43**	*e*P		**P**	**16 35 12.9**	**0.0**	
ULN	**Ulaanbaatar**	**63.66**	**43**	⇓ *e*P		**P**	**16 35 16.4**	**+0.6**	
ULN				pmax	pmax				
	comp=Z,11nm,1.7s								
ULN	**Ulaanbaatar**	**63.66**	**43**	*e*P		**P**	**16 35 15.8**	**0.0**	
	comp=Z,5.8nm,1.0s								
ULN	**Ulaanbaatar**	**63.66**	**43**	*e*P		**P**	**16 35 15.8**	**0.0**	
	comp=Z,5.8nm,1.0s								
XAN	**Xi'an**	**63.80**	**59**	P		**P**	**16 35 17.3**	**+0.5**	
XAN				sP		sP	16 35 24.3	+4.8	
XAN				PMZ					
	comp=Z,12nm,1.3s								
XAN				PMZ					
	comp=Z,60nm,5.6s								
ENH	**Enshi**	**64.27**	**63**	*e*P		**P**	**16 35 20.3**	**+0.4**	
	comp=Z,23nm,1.4s								
ENH	**Enshi**	**64.27**	**63**	*e*P		**P**	**16 35 20.3**	**+0.4**	
	comp=Z,23nm,1.4s								
KASI	**Kota Agung**	**65.07**	**103**	P		**P**	**16 35 26.0**	**+0.7**	
QIZ	**Qiongzhong**	**65.30**	**75**	P		**P**	**16 35 26.1**	**-0.7**	
QIZ				S		**S**	**16 44 11.3**	**-0.1**	
QIZ				LN					
	comp=Z,47nm,28.1s								
QIZ				LE					
	comp=Z,55nm,49.2s								
QIZ				LZ					
	comp=Z,70nm,48.5s								
SPA0	**Spitsbergen Ar**	**66.04**	**354**	*e*P		**P**	**16 35 30.7**	**+0.1**	
SPA0	**Spitsbergen Ar**	**66.04**	**354**	*e*P		**P**	**16 35 30.7**	**+0.1**	
SPITS	**Spitsbergen Ar**	**66.04**	**354**	P		**P**	**16 35 30.9**	**+0.3**	
	comp=Z,27nm,1.1s,baz=143,slow=15,SNR=12								
HHC	**Hu-ho-hao-te**	**66.15**	**51**	*e*P		**P**	**16 35 33.3**	**+1.3**	
HHC				sP		sP	16 35 45.7	+11	
HHC				S		**S**	**16 44 24.1**	**+2.7**	
HHC				sS		sS	16 44 30.1	+5.5	
HHC				PMZ					
	comp=Z,27nm,1.0s								
HHC				PMZ					
	comp=Z,94nm,4.9s								
HHC				LN					
	comp=Z,140nm,13.8s								
HHC				LE					
	comp=Z,160nm,14.8s								
HHC				LZ					
	comp=Z,120nm,14.8s								
WHN	**Wuhan**	**68.46**	**62**	⇑ P		**P**	**16 35 48.8**	**+2.1**	
WHN				PMZ					
	comp=Z,58nm,1.2s								
TIA	**Tai'an**	**70.50**	**56**	*e*P		**P**	**16 36 00.9**	**+1.6**	
TIA				PMZ					
	comp=Z,10.0nm,1.3s								
SUMG	**Summit**	**74.39**	**342**	*e*P		**P**	**16 36 21.8**	**-0.5**	
SUMG				pmax	pmax				
	comp=Z,9.0nm,1.1s								
SUMG	**Summit**	**74.39**	**342**	*e*P		**P**	**16 36 21.8**	**-0.5**	
	comp=Z,8.8nm,1.1s								
SUMG	**Summit**	**74.39**	**342**	*e*P		**P**	**16 36 21.8**	**-0.5**	
	comp=Z,8.8nm,1.1s								
CN2	**Changchun**	**76.36**	**48**	*e*P		**P**	**16 36 35.0**	**+1.3**	
CN2				*es*P		sP	16 36 40.0	+3.6	
CN2				*e*S		**S**	**16 46 18.0**	**-1.3**	
CN2				PMZ					
	comp=Z,10.0nm,1.2s								
CN2				LN					
	comp=Z,200nm,18.0s								
CN2				LE					
	comp=Z,200nm,18.0s								
CN2				LZ					
	comp=Z,200nm,19.0s								
YAK	**Yakutsk**	**77.34**	**29**	*e*P		**P**	**16 36 38.7**	**-0.1**	
YAK				pmax	pmax				
	comp=Z,14nm,1.0s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.1s								
YAK				MLR	MLR				
	comp=Z,231nm,16.0s								
YAK				MLR	MLR				
	comp=E,196nm,18.0s								
YAK	**Yakutsk**	**77.34**	**29**	*e*P		**P**	**16 36 38.0**	**-0.8**	
	comp=E,15nm,1.0s								
YAK	**Yakutsk**	**77.34**	**29**	*e*P		**P**	**16 36 38.0**	**-0.8**	
	comp=E,15nm,1.0s								
KSAR	**Wonju Array Be**	**78.97**	**54**	P		**P**	**16 36 49.6**	**+1.2**	
KSAR	**Wonju Array Be**	**78.97**	**54**	P		**P**	**16 36 49.5**	**+1.2**	
KSAR	**Wonju Array Be**	**78.97**	**54**	P		**P**	**16 36 49.5**	**+1.2**	
KS01	**Wonju Array Si**	**78.98**	**54**	*e*P		**P**	**16 36 48.3**	**-0.1**	
KS01	**Wonju Array Si**

YKA Lg Lg 16 28 07.6
26nm,0.3s,baz=266,slow=30,SNR=9.0
YKB4 Yellowknife Ar 4.55 80 Pn **Pn 16 26 58.0 0.0**
YKB6 Yellowknife Ar 4.55 80 Pn **Pn 16 26 58.0 -0.1**
YKR8 Yellowknife Ar 4.55 80 Pn **Pn 16 26 57.9 -0.1**
YKB7 Yellowknife Ar 4.55 79 Pn **Pn 16 26 58.0 -0.1**
YKB8 Yellowknife Ar 4.55 79 Pn **Pn 16 26 57.7 -0.4**
YKB0 Yellowknife Ar 4.55 78 Pn **Pn 16 26 57.6 -0.5**
DLBC Dease Lake 4.60 221 Pn **Pn 16 26 59.3 +0.5**
6.8nm,0.3s,baz=28,slow=11,SNR=59
DLBC Sn **Sn 16 27 49.6 -3.1**
10nm,0.3s,baz=292,slow=25,SNR=3.2
DLBC Lg Lg 16 28 09.3
14nm,0.3s,baz=236,slow=25,SNR=4.2
DLBC Dease Lake 4.60 221 Pn **Pn 16 26 59.4 +0.5**
DLBC Sn **Sn 16 27 50.0 -2.7**
DLBC Sg **Sb 16 28 10.3 +4.8**
DLBC Dease Lake 4.60 221 *e*Pn **Pn 16 26 58.8 -0.1**
HILA High Level 5.01 131 Pn **Pn 16 27 03.6 -0.8**
CLVN Colville Lake 5.09 352 Pn **Pn 16 27 07.2 +1.7**
SKAG Skagway 6.00 250 *e*Pn **Pn 16 27 18.6 +0.6**
24nm,0.6s
SMPN Simpson Lake 6.29 352 Pn **Pn 16 27 24.4 +2.4**
HYT Haines Junctio 6.46 265 Sg **Sg 16 29 11.4 -4.5**
PLBC Pleasant Camp 6.46 252 Pn **Pn 16 27 25.5 +1.2**
PLBC Sn **Sn 16 28 35.8 -2.5**
PLBC Sg **Sg 16 29 10.6 -5.3**
YUK5 Granite Creek 6.55 268 Pn **Pn 16 27 27.3 +1.6**
YUK5 Sn **Sn 16 28 39.0 -1.7**
YUK5 Sg **Sg 16 29 14.4 -4.2**
YUK6 Outpost Mounta 6.83 267 Pn **Pn 16 27 31.1 +1.4**
YUK6 Sg **Sg 16 29 22.9 -4.9**
YUK7 Dusty Glacier 6.85 263 Pn **Pn 16 27 31.7 +1.8**
YUK7 Sn **Sn 16 28 46.0 -2.1**
YUK7 Sg **Sg 16 29 23.0 -5.3**
WRAK Wrangell Islan 6.98 220 *e*Pn **Pn 16 27 31.9 +0.4**
14nm,0.4s
KUKN Kugluktuk,NWT 7.00 30 Pn **Pn 16 27 32.3 +0.6**
KUKN Sn **Sn 16 28 48.1 -3.5**
COKN Cook Lake 7.26 73 Pn **Pn 16 27 34.5 -0.8**
COKN S **Sn 16 28 52.2 -5.7**
INK Inuvik 7.40 332 Pn **Pn 16 27 38.1 +0.9**
3.5nm,0.3s,baz=138,slow=13,SNR=61
INK Sn **Sn 16 29 02.9 +1.6**
4.0nm,0.3s,baz=346,slow=30,SNR=5.6
INK Lg Lg 16 29 46.5
baz=45,slow=19,SNR=2.9
INK Inuvik 7.40 332 Pn **Pn 16 27 38.3 +1.2**
INK Sn **Sn 16 28 58.8 -2.5**
YUK3 Moose Creek 7.64 275 Sg **Sg 16 29 49.2 -4.6**
SNLN Sandy Lake, NW 7.78 77 Pn **Pn 16 27 41.6 -0.7**
SNLN Sn **Sn 16 29 04.7 -5.9**
YUK2 White River 7.82 276 Sg **Sg 16 29 54.7 -4.8**
CRAG Craig 8.02 219 *e*Pn **Pn 16 27 49.0 +3.3**
9.5nm,0.8s
WHFN White Fish Lak 8.03 79 Pn **Pn 16 27 44.6 -1.2**
EGAK Eagle 8.05 297 *e*Pn **Pn 16 27 47.5 +1.3**
4.7nm,0.6s
CTGM Chitina Glacie 8.22 270 Pn **Pn 16 27 50.4 +1.8**
BALM Baldy 8.69 271 Pn **Pn 16 27 56.8 +1.9**
DOT Dot Lake 9.19 289 Pn **Pn 16 28 03.3 +1.6**
DOT Dot Lake 9.19 289 *e*Pn **Pn 16 28 03.9 +2.2**
7.0nm,0.7s
MNB Mounoet Dainar 10.36 159 Pn **Pn 16 28 16.5 -1.5**
BLBC Blue River 10.37 162 Pn **Pn 16 28 16.7 -1.5**
ILAR Eielson Array 10.48 295 Pn **Pn 16 28 21.9 +2.5**
0.2nm,0.3s,baz=99,slow=11,SNR=15
ILAR Lg Lg 16 31 21.1
0.2nm,0.3s,baz=86,slow=28,SNR=5.2
COLD Coldfoot 12.21 306 *e*Pn **Pn 16 28 43.1 +0.2**
2.4nm,0.7s
RES Resolute Bay 16.40 28 Pn **Pn 16 29 37.3 -1.8**
0.7nm,0.3s,baz=240,slow=15,SNR=12
RES Lg Lg 16 34 19.7
0.7nm,0.3s,baz=298,slow=15,SNR=2.4
RES Resolute Bay 16.40 28 Pn **Pn 16 29 37.5 -1.6**
ULM Lac du Bonnet 19.54 114 P **P 16 30 15.5 -1.3**
0.5nm,0.3s,baz=319,slow=14,SNR=2.7
ULM Lg Lg 16 35 46.4
0.2nm,0.3s,baz=44,slow=20,SNR=4.2
PDAR Pinedale Array 21.18 149 P **P 16 30 36.1 +1.2**
0.5nm,0.6s,baz=324,slow=4.5,SNR=7.8
K22A Casper 22.09 143 *e*P **P 16 30 45.6 +1.0**
8.2nm,0.9s
EYMN Ely 23.17 112 *e*P **P 16 30 56.2 +0.4**
NVAR Mina Array Bea 23.91 168 P **P 16 31 05.0 +1.6**
0.4nm,0.4s,baz=354,slow=7.3,SNR=5.0
TXAR Lajitas Array 35.40 148 P **P 16 32 46.4 +1.1**
0.1nm,0.3s,baz=344,slow=9.4,SNR=2.7
AKASG Malin Array Be 65.66 18 P **P 16 36 36.7 +3.4**
1.5nm,0.7s,baz=342,slow=6.3,SNR=4.8
KURBB Kurchatov Arra 66.24 344 P **P 16 36 38.8 +1.8**
0.5nm,0.7s,baz=14,slow=6.2,SNR=4.3
KBZ Khabaz 74.09 10 P **P 16 37 29.5 +4.2**
1.5nm,0.7s,baz=324,slow=7.3,SNR=3.8
CMAR Chiang Mai Arr 92.79 319 P **P 16 39 04.5 +2.4**
0.4nm,0.5s,baz=352,slow=5.6,SNR=3.9

*ISCJB **12** 16:27:48.4±0.5, 13°36N±0.04×41°70E±0.05, h10km, mb4.0/13, MS3.3/1, Error ellipse: s-maj=7.0km s-min=5.4km az=168.3*
*ARO **12** 16:27:48.0, 13°N±9°×4°2E±°, h2km, gML4.1*
*IDC **12** 16:27:48.4±1.1, 13°31N×41°70E, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.7/61, mbtmp3.9/14, ML4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/60, Error ellipse: s-maj=23.5km s-min=18.6km az=44.0*
*CSEM **12** 16:27:49.0±0.4, 13°15N×41°63E, h10km, ML4.0, Error ellipse: s-maj=14.5km s-min=12.2km az=146.0*
*NEIC **12** 16:27:49.9±0.6, 13°31N×41°65E, h10km, mb4.8/1, Error ellipse: s-maj=13.2km s-min=10.7km az=101.0*
*DHMR **12** 16:27:54.5±1.4, 13°26N×42°20E, h16km±15km, ML4.0*
ISC 12 16:27:49.9±0.7,**13°33N**±0.05×**41°76E**±0.07,**h10**km,**n39,**
σ1§27/45,mb4.1/13,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MAOD	**Malaho**	**1.31**	**159**	*e*P		**Pn**	**16 28 11.7**	**-2.5**
TDD	**Tadjoura Ara**	**1.89**	**143**	*e*P		**Pn**	**16 28 21.7**	**-0.6**
OBO	**Obock**	**2.01**	**131**	*e*P		**Pn**	**16 28 23.7**	**-0.2**
SGH	**Sud-Ghoubbet**	**2.06**	**155**	*e*P		**Pn**	**16 28 24.2**	**-0.6**
ATD	**Arta Tunnel**	**2.08**	**149**	Pn		**Pn**	**16 28 23.9**	**-1.1**
	84nm,0.3s,baz=270,slow=20,SNR=7.7							
ATD				Sn		**Sn**	**16 28 53.0**	**+2.0**
	86nm,0.3s,baz=107,slow=19,SNR=7.3							
ATD	**Arta Tunnel**	**2.08**	**149**	*e*P		**Pn**	**16 28 24.8**	**-0.1**
ATD				*e*S		**Sn**	**16 28 54.0**	**+3.0**
MCAD	**Moucha**	**2.13**	**138**	*e*P		**Pn**	**16 28 25.7**	**+0.2**
UDYN	**Al 'Udayn**	**2.24**	**73**	*i* P		**Pn**	**16 28 27.7**	**+0.5**
UDYN				*i* S		**Sn**	**16 28 52.4**	**-2.7**
UDYN				AML		AML	16 29 07.6	
	comp=E,2μm,0.5s							
GBR	**Grand-Bara**	**2.27**	**162**	*e*P		**Pn**	**16 28 27.1**	**-0.4**
ATA	**Atar**	**2.34**	**143**	*e*P		**Pn**	**16 28 28.2**	**-0.2**
DHBB	**Dhamar BB**	**2.84**	**64**	*i* P		**Pn**	**16 28 37.8**	**+2.2**
DHBB				*i* S		**Sn**	**16 29 10.9**	**+0.8**
DHBB	**Dhamar BB**	**2.84**	**64**	*i* P		**Pn**	**16 28 37.8**	**+2.2**
DHBB				*i* S		**Sn**	**16 29 10.9**	**+0.8**
DAMY	**Dhamar**	**2.84**	**64**	*e*P		**Pb**	**16 28 39.5**	**-1.5**
DAMY	**Dhamar**	**2.84**	**64**	*e*P		**Pb**	**16 28 39.5**	**-1.5**
HAJJ	**Hajjah**	**2.96**	**37**	*i* P		**Pb**	**16 28 40.5**	**-2.3**
HAJJ				AML		AML	16 28 44.1	
	comp=Z,1μm,0.6s							
HAJJ				*i* S		**Sb**	**16 29 18.3**	**-0.9**
HAJJ	**Hajjah**	**2.96**	**37**	*i* P		**Pb**	**16 28 40.5**	**-2.3**
	comp=Z,508nm,0.6s							
HAJJ				*i* S		**Sb**	**16 29 18.3**	**-0.9**
BDHA	**Al Bayda'**	**3.76**	**80**	*i* S		**Sn**	**16 29 31.9**	**-0.8**
BDHA				AML		AML	16 29 58.7	
	comp=E,1μm,0.6s							
BDHA	**Al Bayda'**	**3.76**	**80**	*i* S		**Sn**	**16 29 32.0**	**-0.8**
	comp=E,513nm,0.6s							
KMBO	**Kilima Mbogo**	**15.04**	**198**	P		**Pn**	**16 31 23.3**	**+0.4**
	comp=E,0.8nm,0.3s							
KMBO	**Kilima Mbogo**	**15.04**	**198**	P		**Pn**	**16 31 23.3**	**+0.4**
	comp=E,0.8nm,0.3s							
WSAR	**Wadi Sarin**	**18.80**	**56**	P		**P**	**16 32 10.2**	**+0.5**
	comp=E,0.3nm,0.3s,baz=292,slow=14,SNR=3.9							
MLR	**Muntele Rosu**	**34.75**	**340**	P		**P**	**16 34 41.1**	**+0.5**
	comp=E,0.5nm,0.8s,baz=234,slow=14,SNR=3.1							
AKASG	**Malin Array Be**	**38.65**	**347**	P		**P**	**16 35 13.1**	**-0.4**
	comp=E,0.3nm,0.4s,baz=150,slow=6.5,SNR=4.4							
TORD	**Torodi Ar. Bea**	**38.97**	**274**	P		**P**	**16 35 16.5**	**-0.2**
	comp=E,0.7nm,0.9s,baz=130,slow=6.6,SNR=2.6							
AKTO	**Aktyubinsk**	**39.31**	**16**	P		**P**	**16 35 18.6**	**-0.4**
	comp=E,1.9nm,0.8s,baz=218,slow=5.1,SNR=3.8							
VYHS	**Vyhne**	**39.88**	**336**	*e*P		**P**	**16 35 24.2**	**+0.4**
VYHS	**Vyhne**	**39.88**	**336**	*e*P		**P**	**16 35 24.2**	**+0.4**
GERES	**GERESS Array B**	**42.32**	**333**	P		**P**	**16 35 43.3**	**-0.7**
	comp=E,0.5nm,0.6s,baz=138,slow=7.0,SNR=4.3							
DAVOX	**Davos/Dischmat**	**42.74**	**328**	LR		LR	16 57 55.0	
	comp=E,36nm,18.4s,baz=236,slow=42							
ARU	**Arti**	**44.92**	**13**	P		**P**	**16 36 04.0**	**-0.7**
	comp=E,1.5nm,0.5s,baz=201,slow=2.2,SNR=4.1							
ARU	**Arti**	**44.92**	**13**	P		**P**	**16 36 04.0**	**-0.7**
BVAR	**Borovoye Array**	**45.68**	**24**	P		**P**	**16 36 11.5**	**+0.6**
	comp=E,1.2nm,0.7s,baz=211,slow=11,SNR=4.5							
MKAR	**Makanchi Array**	**47.57**	**37**	P		**P**	**16 36 26.1**	**+0.3**
	comp=E,3.4nm,0.7s,baz=235,slow=6.6,SNR=11							
KURBB	**Kurchatov Arra**	**47.69**	**31**	P		**P**	**16 36 27.3**	**+0.7**
	comp=E,1.9nm,0.7s,baz=231,slow=8.0,SNR=9.7							
KURK	**Kurchatov**	**47.79**	**31**	*e*P		**P**	**16 36 28.0**	**+0.7**
	comp=E,4.7nm,0.5s							
KURK	**Kurchatov**	**47.79**	**31**	*e*P		**P**	**16 36 28.0**	**+0.7**
	comp=E,4.7nm,0.5s							
ZALV	**Zalesovo Beam**	**52.76**	**30**	P		**P**	**16 37 04.5**	**-0.5**
	comp=E,4.9nm,0.7s,baz=239,slow=7.4,SNR=9.3							
CMAR	**Chiang Mai Arr**	**55.06**	**77**	P		**P**	**16 37 22.6**	**+0.1**
	comp=E,2.0nm,1.0s,baz=284,slow=8.2,SNR=6.0							
SONM	**Songino Array**	**63.25**	**43**	P		**P**	**16 38 21.1**	**+2.3**
	comp=E,1.4nm,0.9s,baz=245,slow=6.4,SNR=5.9							

*CSEM **12** 16:30:57.5±0.1, 44°49N×7°27E, h10km, ML1.5/5, Error ellipse: s-maj=3.2km s-min=2.0km az=72.0*
*GEN **12** 16:30:58.2, 44°47N×7°25E, h13km, ML1.0*
LDG 12 16:30:59.0±0.1,**44°54N×6°41E, h25**km,**Md1.4/1,Ml1.5/5,**
Error ellipse: s-maj=2.0km s-min=1.2km az=92.0,
France

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MBDF	**Montbardon**	**0.32**	**54**	*e*Pg		Pb	16 31 06.6	+0.2
MBDF				*e*Sg		Sb	16 31 12.4	+0.9
	12nm,0.2s							
MBDF	**Montbardon**	**0.32**	**54**	*e*Pg		Pb	16 31 06.6	+0.2
MBDF				*e*Sg		Sb	16 31 12.4	+0.9
	5.9nm,0.2s							
RRL	**Rocca Remolon**	**0.47**	**35**	P		Pb	16 31 08.9	+0.1
RRL				S		Sb	16 31 16.2	+0.7
ORIF	**Oris-en-Rattie**	**0.53**	**315**	*e*Pg		Pb	16 31 09.8	-0.1
ORIF				*e*Sg		Sb	16 31 17.8	+0.5
	0.3nm,0.1s							
SMRF	**Simiane la Rot**	**0.82**	**227**	*e*Pg		Pn	16 31 15.1	0.0
SMRF				*e*Sg		Sn	16 31 26.2	-0.3
	0.5nm,0.3s							
LPG	**La Plagne**	**0.99**	**14**	*e*Pg		Pb	16 31 18.2	+0.6
LPG				*e*Sg		Sn	16 31 31.4	+0.5
	1.1nm,0.3s							
LPG	**La Plagne**	**0.99**	**14**	*e*Pg		Pb	16 31 18.2	+0.6
LPG				*e*Sg		Sn	16 31 31.4	+0.5
	0.6nm,0.3s							
FRF	**La Foret Royal**	**0.99**	**170**	*e*Pg		Pb	16 31 17.8	+0.2
FRF				*e*Sg		Sn	16 31 30.6	0.0
	1.2nm,0.2s							
FRF	**La Foret Royal**	**0.99**	**170**	*e*Pg		Pb	16 31 17.8	+0.2
FRF				*e*Sg		Sn	16 31 30.6	0.0
	0.6nm,0.2s							
SBF	**Sospel**	**1.00**	**132**	*e*Pg		Pb	16 31 18.2	+0.5
SBF				*e*Sg		Sn	16 31 31.2	+0.3
	1.8nm,0.2s							
LPL	**La Plagne**	**1.00**	**13**	*e*Pg		Pb	16 31 18.5	+0.7
LPL				*e*Sg		Sn	16 31 31.4	+0.3
	0.4nm,0.2s							
LPL	**La Plagne**	**1.00**	**13**	*e*Pg		Pb	16 31 18.5	+0.7
LPL				*e*Sg		Sn	16 31 31.4	+0.3
	0.2nm,0.2s							
LMR	**La Mourre**	**1.21**	**177**	*e*Pg		Pb	16 31 22.3	+1.1
LMR				*e*Sg		Sb	16 31 37.5	+1.1
	1.9nm,0.2s							
LMR	**La Mourre**	**1.21**	**177**	*e*Pg		Pb	16 31 22.3	+1.1
LMR				*e*Sg		Sb	16 31 37.5	+1.1
	0.9nm,0.2s							

IDC 12 16:31:20.0±9.2,**12°90N×40°84E, h0**km,**mb3.6/4,**
mb1 3.6/5,mb1mx3.3/61,mbtmp3.6/5,ML3.8/1,Error
ellipse: s-maj=197.6km s-min=29.7km az=58.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ATD	**Arta Tunnel**	**2.39**	**125**	Pn		Pn	16 32 00.6	0.0
	24nm,0.3s,baz=345,slow=20,SNR=2.4							
ATD				Sn		Sn	16 32 31.7	+1.1
	51nm,0.3s,baz=311,slow=19,SNR=3.4							
MKAR	**Makanchi Array**	**48.44**	**37**	P		P	16 40 04.3	0.0
	0.8nm,0.7s,baz=231,slow=6.0,SNR=6.0							
KURBB	**Kurchatov Arra**	**48.51**	**31**	P		P	16 40 04.8	+0.2
	0.4nm,0.7s,baz=231,slow=7.9,SNR=4.5							
ZALV	**Zalesovo Beam**	**53.58**	**31**	P		P	16 40 42.4	-0.3
	0.9nm,0.7s,baz=246,slow=7.4,SNR=3.6							
SONM	**Songino Array**	**64.16**	**43**	P		P	16 41 56.5	-0.2
	0.2nm,0.5s,baz=249,slow=4.0,SNR=2.6							

*ISCJB **12** 16:33:09.6±0.5, 13°38N±0.06×41°75E±0.04, h10km, mb4.0/24, Error ellipse: s-maj=8.3km s-min=5.2km az=178.9*
*IDC **12** 16:33:09.3±1.1, 13°28N×41°73E, h0km, mb4.0/20, mb1 4.1/21, mb1mx3.9/65, mbtmp4.0/21, ML4.6/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/64, Error ellipse: s-maj=23.4km s-min=17.6km az=21.0*
*NEIC **12** 16:33:10.7±0.4, 13°29N×41°76E, h10km, mb4.3/2, Error ellipse: s-maj=8.2km s-min=6.5km az=195.0*
*CSEM **12** 16:33:10.0±0.2, 13°37N×41°79E, h2km, ML4.2, Error ellipse: s-maj=7.0km s-min=4.8km az=7.0*
*DHMR **12** 16:33:11.2±1.2, 13°49N×41°94E, h17km±15km, ML4.2*
ISC 12 16:33:11.1±0.6,**13°34N**±0.06×**41°77E**±0.06,**h10**km,**n62,**
σ0§66/69,mb4.1/24,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ATD	**Arta Tunnel**	**2.08**	**149**	Pn		**Pn**	**16 33 44.8**	**-1.4**
	206nm,0.3s,baz=82,slow=14,SNR=16							
ATD				Sn		**Sb**	**16 34 15.4**	**+0.4**
	202nm,0.3s,baz=123,slow=21,SNR=8.5							
ATD				LR		LR	16 34 36.6	
	comp=Z,142nm,21.4s,baz=350,slow=42							
UDYN	**Al 'Udayn**	**2.23**	**73**	*i* P		**Pn**	**16 33 47.1**	**-1.1**
UDYN				*i* S		**Sn**	**16 34 14.0**	**-1.9**
UDYN				AML		AML	16 34 29.4	
	comp=E,2μm,0.5s							
DHBB	**Dhamar BB**	**2.83**	**64**	*i* P		**Pn**	**16 33 56.0**	**-0.6**
DHBB				*i* S		**Sn**	**16 34 31.3**	**+0.4**
DHBB	**Dhamar BB**	**2.83**	**64**	*i* P		**Pn**	**16 33 56.0**	**-0.6**
DHBB				*i* S		**Sn**	**16 34 31.3**	**+0.4**
DAMY	**Dhamar**	**2.83**	**64**	*e*Pn		**Pn**	**16 33 56.5**	**-0.1**
DAMY	**Dhamar**	**2.83**	**64**	*e*Pn		**Pn**	**16 33 56.5**	**-0.1**
HAJJ	**Hajjah**	**2.94**	**37**	*i* P		**Pn**	**16 33 56.7**	**-1.4**
HAJJ				*i* S		**Sn**	**16 34 33.1**	**-0.5**
HAJJ				AML		AML	16 34 49.3	
	comp=Z,1μm,0.6s							
HAJJ	**Hajjah**	**2.94**	**37**	*i* P		**Pn**	**16 33 56.7**	**-1.4**
HAJJ				*i* S		**Sn**	**16 34 33.1**	**-0.5**
	comp=Z,685nm,0.6s							
BDHA	**Al Bayda'**	**3.75**	**80**	*i* P		**Pn**	**16 34 08.7**	**-0.5**
BDHA				*i* S		**Sn**	**16 34 53.0**	**-0.5**
BDHA				AML		AML	16 35 13.8	
	comp=N,2μm,0.6s							
BDHA	**Al Bayda'**	**3.75**	**80**	*i* P		**Pn**	**16 34 08.7**	**-0.5**
BDHA				*i* S		**Sn**	**16 34 53.0**	**-0.5**
	comp=N,828nm,0.6s							
KMBO	**Kilima Mbogo**	**15.05**	**198**	Lg		Lg	16 41 05.2	
	comp=N,0.1nm,0.3s,baz=100,slow=18,SNR=3.2							
BRTR	**Keskin Array B**	**27.24**	**346**	P		**P**	**16 38 55.0**	**-0.6**
	comp=N,1.6nm,0.9s,baz=164,slow=10,SNR=6.5							
BRTR	**Keskin Array B**	**27.24**	**346**	P		**P**	**16 38 55.0**	**-0.6**
BR231	**Keskin MP Arra**	**27.56**	**345**	*e*P		**P**	**16 38 57.3**	**-1.1**
BR231	**Keskin MP Arra**	**27.56**	**345**	*e*P		**P**	**16 38 57.3**	**-1.1**
GEYT	**Alibeck**	**28.49**	**28**	P		**P**	**16 39 07.1**	**+0.5**
	comp=N,0.9nm,0.4s,baz=245,slow=5.9,SNR=3.1							
KBZ	**Khabaz**	**30.30**	**2**	P		**P**	**16 39 22.6**	**+0.1**
	comp=N,4.4nm,1.3s,baz=162,slow=6.4,SNR=2.0							
KVAR	**Kislovodsk Arr**	**30.52**	**1**	P		**P**	**16 39 25.5**	**+0.9**
	comp=N,12nm,1.1s,baz=198,slow=7.1,SNR=3.1							
MLR	**Muntele Rosu**	**34.75**	**340**	P		**P**	**16 40 02.3**	**+0.7**
	comp=N,0.6nm,0.7s,baz=194,slow=13,SNR=5.7							
KEST	**Kesra**	**36.70**	**313**	P		**P**	**16 40 17.8**	**-0.7**
	comp=N,2.8nm,0.9s,baz=100,slow=17,SNR=2.6							
AKASG	**Malin Array Be**	**38.64**	**347**	P		**P**	**16 40 34.1**	**-0.4**
	comp=N,0.6nm,0.5s,baz=158,slow=6.6,SNR=2.7							
ABKAR	**Akbulak array**	**38.82**	**19**	*e*P		**P**	**16 40 35.8**	**-0.3**
ABKAR	**Akbulak array**	**38.82**	**19**	*e*P		**P**	**16 40 35.9**	**-0.3**
TOA0	**Torodi Ar. Sit**	**38.98**	**274**	*e*P		**P**	**16 40 38.2**	**+0.3**
TOA0	**Torodi Ar. Sit**	**38.98**	**274**	*e*P		**P**	**16 40 38.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**38.98**	**274**	P		**P**	**16 40 37.9**	**-0.1**
	comp=N,1.1nm,1.1s,baz=75,slow=6.1,SNR=4.3							
AKTO	**Aktyubinsk**	**39.30**	**16**	P		**P**	**16 40 40.6**	**+0.5**
	comp=N,3.1nm,1.0s,baz=228,slow=5.8,SNR=7.1							
VYHS	**Vyhne**	**39.87**	**336**	*e*P		**P**	**16 40 45.6**	**+0.6**
VYHS	**Vyhne**	**39.87**	**336**	*e*P		**P**	**16 40 45.6**	**+0.6**
GEA0	**GERESS Array S**	**42.31**	**332**	*e*P		**P**	**16 41 04.1**	**-1.0**
GEA0	**GERESS Array S**	**42.31**	**332**	*e*P		**P**	**16 41 04.0**	**-1.0**
GERES	**GERESS Array B**	**42.31**	**333**	P		**P**	**16 41 04.6**	**-0.5**
	comp=N,0.8nm,0.7s,baz=132,slow=7.4,SNR=7.7							
ARU	**Arti**	**44.90**	**13**	P		**P**	**16 41 26.1**	**+0.4**
	comp=N,1.6nm,0.5s,baz=155,slow=5.7,SNR=4.7							
ZRNK	**Zerenda**	**45.08**	**23**	*e*P		**P**	**16 41 27.6**	**+0.4**
	comp=N,2.3nm,0.9s							
ZRNK	**Zerenda**	**45.08**	**23**	*e*P		**P**	**16 41 27.6**	**+0.4**
	comp=N,2.3nm,0.9s							
BVAR	**Borovoye Array**	**45.67**	**24**	P		**P**	**16 41 32.0**	**+0.1**
	comp=N,0.8nm,0.7s,baz=224,slow=4.1,SNR=5.6							
MAKZ	**Makanchi**	**47.38**	**37**	*e*P		**P**	**16 41 45.4**	**-0.1**
	comp=N,3.9nm,0.8s							
MAKZ	**Makanchi**	**47.38**	**37**	*e*P		**P**	**16 41 45.4**	**-0.1**
	comp=N,3.9nm,0.8s							
MK01	**Makanchi Array**	**47.55**	**37**	*e*P		**P**	**16 41 46.8**	**0.0**
MK01	**Makanchi Array**	**47.55**	**37**	*e*P		**P**	**16 41 46.8**	**0.0**
MK31	**Makanchi Array**	**47.55**	**37**	*e*P		**P**	**16 41 47.0**	**+0.2**
MK31	**Makanchi Array**	**47.55**	**37**	*e*P		**P**	**16 41 47.0**	**+0.2**
MKAR	**Makanchi Array**	**47.55**	**37**	P		**P**	**16 41 47.4**	**+0.5**
	comp=N,5.5nm,0.9s,baz=235,slow=6.4,SNR=26							
MKAR	**Makanchi Array**	**47.55**	**37**	*e*P		**P**	**16 41 47.0**	**+0.2**
MKAR	**Makanchi Array**	**47.55**	**37**	*e*P		**P**	**16 41 47.0**	**+0.2**
KURBB	**Kurchatov Arra**	**47.67**	**31**	P		**P**	**16 41 48.3**	**+0.7**
	comp=N,2.2nm,0.9s,baz=227,slow=8.7,SNR=9.0							
KURK	**Kurchatov**	**47.77**	**31**	P		**P**	**16 41 48.3**	**-0.1**
KURK	**Kurchatov**	**47.77**	**31**	P		**P**	**16 41 48.3**	**-0.1**
ESDC	**Sonseca Array**	**47.92**	**312**	P		**P**	**16 41 50.5**	**+0.7**
	comp=N,0.2nm,0.4s,baz=108,slow=7.1,SNR=6.8							
FINES	**FINESS Array B**	**49.36**	**350**	P		**P**	**16 41 59.7**	**-0.7**
	comp=N,1.2nm,0.6s,baz=134,slow=5.5,SNR=3.9							
WMQ	**Urumqi**	**49.59**	**43**	P		**P**	**16 42 03.7**	**+1.1**
ZAA0	**Zalesovo Array**	**52.75**	**30**	*e*P		**P**	**16 42 25.8**	**-0.3**
ZAA0	**Zalesovo Array**	**52.75**	**30**	*e*P		**P**	**16 42 25.8**	**-0.3**
ZALV	**Zalesovo Beam**	**52.75**	**30**	P		**P**	**16 42 25.7**	**-0.4**
	comp=N,4.2nm,0.7s,baz=238,slow=7.6,SNR=17							
CMAR	**Chiang Mai Arr**	**55.04**	**77**	P		**P**	**16 42 43.2**	**-0.3**
	comp=N,1.3nm,0.8s,baz=277,slow=8.9,SNR=7.1							
KMI	**Kunming**	**58.34**	**69**	P		**P**	**16 43 07.4**	**+0.3**
KMI				pmax		pmax		
	comp=Z,13nm,0.7s							
SONM	**Songino Array**	**63.23**	**43**	P		**P**	**16 43 41.2**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=259,slow=5.1,SNR=9.0							
SONA1	**Songino Array**	**63.24**	**43**	*e*P		**P**	**16 43 40.3**	**+0.3**
SONA1	**Songino Array**	**63.24**	**43**	*e*P		**P**	**16 43 40.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**66.15**	**51**	*e*P		**P**	**16 43 59.4**	**+0.3**
HHC				pmax		pmax		
	comp=Z,19nm,1.1s							
HHC				pmax		pmax		
	comp=Z,140nm,6.2s							
CN2	**Changchun**	**76.37**	**48**	*e*P		**P**	**16 45 01.5**	**+0.8**
TIXI	**Tiksi**	**76.53**	**19**	P		**P**	**16 45 01.0**	**0.0**
	comp=Z,0.3nm,0.4s,baz=334,slow=5.0,SNR=3.6							

IDC 12 16:38:02.5±11.0,**13°19N×41°32E, h0**km,**mb3.7/4,**
mb1 3.8/5,mb1mx3.4/61,mbtmp3.8/5,ML3.7/1,Error
ellipse: s-maj=264.3km s-min=26.9km az=69.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ATD	**Arta Tunnel**	**2.22**	**138**	Pn		Pn	16 38 40.0	-0.8
	22nm,0.3s,baz=72,slow=20,SNR=3.3							
ATD				Sn		Sb	16 39 10.8	-1.0

UDYN *i* S **Sb** **16 45 44.1 -0.3**
ATD **Arta Tunnel** **2.10 155** Pn **Pn** **16 45 17.1 +0.2**
156nm,0.3s,baz=196,slow=5.4,SNR=12
ATD Sn **Sb** **16 45 45.5 -0.6**
220nm,0.3s,baz=226,slow=20,SNR=7.5
DHBB **Dhamar BB** **2.63 65** *i* P **Pn** **16 45 21.6 -2.9**
DHBB *i* S **Sb** **16 46 01.9 +0.3**
DAMY **Dhamar** **2.64 65** *e*Pn Pn 16 45 18.3 -6.2
HAJJ **Hajjah** **2.76 36** *i* P **Pn** **16 45 24.6 -1.4**
HAJJ *i* S **Sb** **16 46 05.4 +0.3**
HAJJ AML AML 16 46 31.0
comp=Z,891nm,0.6s
HAJJ **Hajjah** **2.76 36** *i* P **Pn** **16 45 24.6 -1.4**
HAJJ *i* S **Sb** **16 46 05.4 +0.3**
comp=Z,446nm,0.6s
ADEN **Aden** **3.05 102** *i* P Pn 16 45 24.2 -5.6
ADEN *i* S **Sn** **16 46 05.9 -0.5**
ADEN AML AML 16 46 41.8
comp=E,997nm,0.5s
BDHA **Al Bayda'** **3.57 81** *i* P **Pn** **16 45 33.9 -3.4**
BDHA *i* S **Sn** **16 46 21.0 +1.3**
BDHA AML AML 16 46 52.7
comp=N,1µm,0.8s
WSAR **Wadi Sarin** **18.59 56** P **Pn** **16 49 00.2 +1.0**
comp=N,0.3nm,0.3s,baz=251,slow=18,SNR=3.2
TORD **Torodi Ar. Bea** **39.13 274** P **P** **16 52 06.4 -3.2**
comp=N,1.2nm,1.1s,baz=86,slow=6.1,SNR=4.0
AKTO **Aktyubinsk** **39.15 16** P **P** **16 52 10.7 +1.3**
comp=N,1.8nm,0.7s,baz=187,slow=8.1,SNR=6.4
GERES **GERESS Array B** **42.29 332** P **P** **16 52 34.3 -1.1**
comp=N,0.2nm,0.6s,baz=132,slow=8.1,SNR=5.3
ARU **Arti** **44.76 13** P **P** **16 52 56.6 +1.5**
comp=N,0.9nm,0.2s,baz=114,slow=20,SNR=3.7
BVAR **Borovoye Array** **45.51 24** P **P** **16 53 02.3 +1.3**
comp=N,0.9nm,0.7s,baz=182,slow=7.2,SNR=5.9
MKAR **Makanchi Array** **47.37 37** P **P** **16 53 17.4 +1.6**
comp=N,2.8nm,0.8s,baz=235,slow=6.7,SNR=17
KURBB **Kurchatov Arra** **47.49 31** P **P** **16 53 18.2 +1.5**
comp=N,1.7nm,0.7s,baz=232,slow=8.2,SNR=16
KURK **Kurchatov** **47.60 31** *e*P **P** **16 53 19.1 +1.6**
comp=N,4.6nm,0.7s
KURK **Kurchatov** **47.60 31** *e*P **P** **16 53 19.1 +1.6**
comp=N,4.6nm,0.7s
FINES **FINESS Array B** **49.28 350** P **P** **16 53 30.0 -0.2**
comp=N,0.8nm,0.6s,baz=153,slow=16,SNR=2.6
ZALV **Zalesovo Beam** **52.57 30** P **P** **16 53 55.7 +0.5**
comp=N,3.7nm,0.7s,baz=234,slow=7.1,SNR=15
CMAR **Chiang Mai Arr** **54.86 77** P **P** **16 54 13.5 +0.9**
comp=N,1.6nm,0.9s,baz=283,slow=8.6,SNR=8.6
ARCES **ARCESS Array B** **57.01 353** P **P** **16 54 27.0 -0.1**
comp=N,2.6nm,0.9s,baz=156,slow=6.7,SNR=3.5
SONM **Songino Array** **63.04 43** P **P** **16 55 10.7 +1.6**
comp=N,0.9nm,0.8s,baz=260,slow=5.4,SNR=6.2

IDC 12 16:47:47.0±1.8, **9°34S**×**125°54E**, **h0**km, **mb3.5**/1, **mb1 3.9**/4, **mb1mx3.4**/55, **mbtmp3.7**/4, **ML4.0**/3, **MS2.9**/1, **Ms1 2.9**/1, **ms1mx2.9**/33, **Error ellipse: s-maj=94.2km s-min=27.5km az=67.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.18**	**306**	LR		LR	LR	16 53 25.3	
	comp=Z,94nm,18.6s,baz=51,slow=47								
FITZ	**Fitzroy Crossi**	**8.71**	**179**	Pn		Pn	Pn	16 49 53.4	-0.8
	2.5nm,0.3s,baz=358,slow=9.7,SNR=113								
FITZ				Sn		Sn	Sn	16 51 20.3	-13
	0.3nm,0.3s,baz=72,slow=5.7,SNR=3.5								
WRA	**Warramunga Arr**	**13.54**	**142**	Pn		Pn	Pn	16 51 01.4	+0.9
	0.5nm,0.3s,baz=323,slow=13,SNR=36								
WRA				Sn		Sn	Sn	16 53 28.6	-3.2
	0.5nm,0.3s,baz=314,slow=26,SNR=6.0								
ASAR	**Alice Springs**	**16.33**	**152**	Pn		Pn	Pn	16 51 37.9	0.0
	0.4nm,0.3s,baz=320,slow=11,SNR=33								
ASAR				Sn		Sn	Sn	16 54 30.8	-9.1
	0.2nm,0.3s,baz=313,slow=20,SNR=6.3								
MKAR	**Makanchi Array**	**67.87**	**329**	P		P	P	16 58 47.3	+0.1
	0.3nm,0.5s,baz=120,slow=7.1,SNR=5.5								

*ISCJB **12** 16:47:45.4±1.0, 13°.31N±0°.08×41°.78E±0°.07, h10km, mb3.6/5, Error ellipse: s-maj=11.0km s-min=9.9km az=172.3*
*IDC **12** 16:47:45.3±2.0, 13°.31N×41°.77E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.4/59, mbtmp3.7/7, ML4.0/2, Error ellipse: s-maj=48.5km s-min=22.2km az=70.0*
*DHMR **12** 16:47:48.8±0.9, 13°.38N×42°.08E, h14km±12km, ML3.6*
ISC 12 16:47:47.5±1.2, **13°.35N**±0°.07×**41°.9E**±0°.1, **h10**km, **n10**, σ1§**64**/14, **mb3.8**/5, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.04**	**152**	Pn		**Pn**	**Pn**	**16 48 20.6**	**-1.3**
	62nm,0.3s,baz=172,slow=15,SNR=10								
ATD				Sn		**Sn**	**Sn**	**16 48 50.6**	**+3.1**
	54nm,0.3s,baz=321,slow=21,SNR=6.3								
UDYN	**Al 'Udayn**	**2.12**	**73**	*i* P		**Pn**	**Pn**	**16 48 22.7**	**-0.5**
UDYN				*i* S		**Sn**	**Sn**	**16 48 49.5**	**-0.1**
UDYN				AML		AML	AML	16 49 05.7	
	comp=N,489nm,0.6s								
HAJJ	**Hajjah**	**2.87**	**35**	*i* P		**Pn**	**Pn**	**16 48 35.8**	**+2.3**
HAJJ				AML		AML	AML	16 48 47.5	
	comp=Z,601nm,0.6s								
HAJJ				*i* S		**Sb**	**Sb**	**16 49 11.2**	**-2.9**
BDHA	**Al Bayda'**	**3.63**	**80**	*i* P		**Pn**	**Pn**	**16 48 44.5**	**+0.4**
BDHA				*i* S		**Sn**	**Sn**	**16 49 28.8**	**+1.6**
WSAR	**Wadi Sarin**	**18.68**	**56**	P		**Pn**	**Pn**	**16 52 06.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=225,slow=11,SNR=3.5								
GERES	**GERESS Array B**	**42.35**	**332**	P		**P**	**P**	**16 55 41.2**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=138,slow=6.1,SNR=3.6								
BVAR	**Borovoye Array**	**45.61**	**24**	P		**P**	**P**	**16 56 08.4**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=200,slow=7.1,SNR=2.6								
MKAR	**Makanchi Array**	**47.47**	**37**	P		**P**	**P**	**16 56 22.5**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=237,slow=6.4,SNR=6.9								
KURBB	**Kurchatov Arra**	**47.60**	**31**	P		**P**	**P**	**16 56 23.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=233,slow=8.0,SNR=5.5								
ZALV	**Zalesovo Beam**	**52.68**	**30**	P		**P**	**P**	**16 57 01.0**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=231,slow=6.9,SNR=3.7								

*NIED **12** 16:48:00, 37°.30N×142°.00E, h20km, Mw3.6 Best double couple: M0 2.42000×10^14 NP1:φs=54.00000°, δ=34.00000°, λ=20.00000°. NP2:φs=308.00000°, δ=79.00000°, λ=123.00000°.*
*JMA **12** 16:48:03.1±0.2, 37°.31N×141°.99E, h36km, M3.8*
*IDC **12** 16:48:05.2±5.3, 37°.24N×141°.96E, h33km±42km, mb3.4/7, mb1 3.6/9, mb1mx3.3/64, mbtmp3.6/9, ML3.5/2, MS2.7/3, Ms1 2.7/3, ms1mx2.4/39, Error ellipse: s-maj=28.8km s-min=18.2km az=98.0*
ISC 12 16:48:01.4±2.0, **37°.29N**±0°.05×**142°.01E**±0°.07, **h10**km±11km, **n29**, σ1§**83**/28, **mb3.6**/7, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.91**	**275**	P		**Pg**	**Pg**	**16 48 19.6**	**+0.7**
JFK				*e*S		**Sg**	**Sg**	**16 48 30.6**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.99**	**259**	P		**Pg**	**Pg**	**16 48 20.6**	**+0.3**
ONAJ				*e*S		**Sg**	**Sg**	**16 48 32.7**	**-0.5**
JMM	**Marumori**	**1.13**	**301**	P		**Pb**	**Pb**	**16 48 22.5**	**-0.4**
JMM				*e*S		**Sb**	**Sb**	**16 48 36.0**	**-1.7**
JIO	**Ouri**	**1.28**	**336**	P		**Pn**	**Pn**	**16 48 24.3**	**-1.0**
JIO				*e*S		**Sb**	**Sb**	**16 48 38.8**	**-3.2**
JHO	**Hitachi**	**1.34**	**240**	P		**Pn**	**Pn**	**16 48 25.6**	**-0.5**
JHO				*e*S		**Sb**	**Sb**	**16 48 41.2**	**-2.6**
JFT	**Otama**	**1.35**	**280**	*e*S		**Sn**	**Sn**	**16 48 43.3**	**-1.1**
JOU	**Okura**	**1.51**	**316**	P		**Pn**	**Pn**	**16 48 28.6**	**0.0**
JMK	**Ichinoseki**	**1.77**	**340**	P		**Pn**	**Pn**	**16 48 31.7**	**-0.4**
JFY	**Yanaizu**	**1.84**	**274**	P		**Pn**	**Pn**	**16 48 33.7**	**+0.6**
MJAR	**Matsushiro Arr**	**3.14**	**257**	Pn		**Pn**	**Pn**	**16 48 51.4**	**+0.5**
	2.3nm,0.3s,baz=203,slow=9.6,SNR=29								
MJAR				Sn		**Sn**	**Sn**	**16 49 33.8**	**+5.4**
	4.1nm,0.3s,baz=90,slow=29,SNR=6.3								
MJAR				LR		LR	LR	16 50 22.0	
	comp=Z,133nm,18.8s,baz=70,slow=45								
MAT	**Matsushiro**	**3.14**	**257**	P		**Pn**	**Pn**	**16 48 52.6**	**+1.7**
MAT				S		**Sn**	**Sn**	**16 49 25.9**	**-2.5**
JHJ	**Hachijo jima 2**	**4.54**	**204**	Pn		**Pn**	**Pn**	**16 49 11.2**	**+1.1**
	22nm,0.3s,baz=332,slow=22,SNR=9.4								
JHJ				Sn		**Sn**	**Sn**	**16 49 59.7**	**-3.4**
	28nm,0.3s,baz=234,slow=24,SNR=7.0								
ASAJ	**Asahikawa**	**6.84**	**4**	Pn		**Pn**	**Pn**	**16 49 42.7**	**+1.0**
JNU	**Nakatsue**	**10.01**	**249**	LR		LR	LR	16 54 43.0	
	comp=Z,42nm,20.9s,baz=121,slow=40								
KSRS	**Korea Array**	**11.21**	**275**	Pn		Pn	Pn	16 50 48.2	+6.5
	0.1nm,0.3s,baz=82,slow=13,SNR=4.3								
SEY	**Seymchan**	**26.45**	**11**	P		**P**	**P**	**16 53 39.9**	**+1.7**
	0.4nm,0.3s,baz=225,slow=20,SNR=2.7								
H11N2	**WAKE ISLAND Hy**	**27.87**	**122**	T		T	T	17 23 06.3	
	baz=315,slow=75,SNR=68								
H11N1	**WAKE ISLAND Hy**	**27.88**	**122**	T		T	T	17 23 13.8	
	baz=315,slow=75,SNR=70								
H11N3	**WAKE ISLAND Hy**	**27.89**	**122**	T		T	T	17 23 19.3	
	baz=315,slow=75,SNR=51								
SONM	**Songino Array**	**28.04**	**303**	P		**P**	**P**	**16 53 53.5**	**+0.7**
	0.3nm,0.6s,baz=99,slow=9.1,SNR=2.7								
H11S1	**WAKE ISLAND Hy**	**28.60**	**124**	T		T	T	17 24 12.1	
	baz=316,slow=76,SNR=62								
H11S3	**WAKE ISLAND Hy**	**28.60**	**124**	T		T	T	17 24 12.6	
	baz=316,slow=76,SNR=46								
H11S2	**WAKE ISLAND Hy**	**28.62**	**124**	T		T	T	17 24 11.3	
	baz=316,slow=76,SNR=53								
MKAR	**Makanchi Array**	**44.39**	**302**	P		**P**	**P**	**16 56 11.6**	**-0.4**
	0.8nm,0.7s,baz=72,slow=9.3,SNR=9.3								
KURBB	**Kurchatov Arra**	**46.22**	**308**	P		**P**	**P**	**16 56 27.2**	**+0.8**
	0.4nm,0.4s,baz=84,slow=8.0,SNR=7.4								
ILAR	**Eielson Array**	**49.02**	**32**	P		**P**	**P**	**16 56 48.8**	**+0.8**
	0.4nm,0.7s,baz=265,slow=7.5,SNR=5.8								
WRA	**Warramunga Arr**	**57.38**	**189**	P		**P**	**P**	**16 57 49.9**	**-0.1**
	0.5nm,0.5s,baz=7.2,slow=7.6,SNR=5.7								
ASAR	**Alice Springs**	**61.11**	**188**	P		**P**	**P**	**16 58 15.5**	**-0.2**
	0.2nm,0.8s,baz=15,slow=12,SNR=3.7								
YKA	**Yellowknife Ar**	**63.35**	**30**	LR		LR	LR	17 30 15.3	
	comp=Z,4.5nm,18.1s,baz=0.0,slow=40								

IDC 12 16:48:31.9±20.0, **14°.74N**×**40°.60E**, **h0**km, **mb3.7**/4, **mb1 3.7**/4, **mb1mx3.3**/56, **mbtmp3.7**/4, **ML4.7**/1, **Error ellipse: s-maj=532.0km s-min=38.7km az=79.0, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.87**	**145**	Pn		Pn	Pn	16 49 33.0	+0.2
	52nm,0.3s,baz=270,slow=20,SNR=1.6								
ATD				Sn		Sn	Sn	16 50 09.6	-9.5
	baz=228,slow=21,SNR=0.9								
KURBB	**Kurchatov Arra**	**47.08**	**32**	P		P	P	16 57 06.2	+0.7
	0.5nm,0.8s,baz=235,slow=8.3,SNR=4.1								
MKAR	**Makanchi Array**	**47.15**	**39**	P		P	P	16 57 06.0	-0.2
	1.1nm,0.8s,baz=231,slow=5.9,SNR=6.6								
ZALV	**Zalesovo Beam**	**52.13**	**31**	P		P	P	16 57 43.7	-0.2
	0.7nm,0.4s,baz=239,slow=8.2,SNR=4.6								
SONM	**Songino Array**	**62.99**	**44**	P		P	P	16 59 00.1	-0.8
	0.2nm,0.5s,baz=261,slow=5.7,SNR=2.2								

*DHMR **12** 16:50:55.8±1.6, 13°.14N×41°.91E, h2km±758km, ML4.3*
*ISCJB **12** 16:50:58.7±0.7, 13°.37N±0°.09×41°.79E±0°.05, h10km, mb3.8/17, MS3.5/1, Error ellipse: s-maj=13.3km s-min=6.5km az=17.5*
*CSEM **12** 16:50:59.2±0.4, 13°.36N×41°.84E, h2km, mb4.3, Error ellipse: s-maj=15.3km s-min=9.0km az=21.0*
*IDC **12** 16:50:59.1±1.0, 13°.36N×41°.66E, h0km, mb3.8/15, mb1 4.0/16, mb1mx3.8/56, mbtmp3.9/16, ML4.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/66, Error ellipse: s-maj=23.4km s-min=17.2km az=39.0*
*NEIC **12** 16:51:00.4±0.6, 13°.35N×41°.76E, h10km, mb4.3/2, Error ellipse: s-maj=13.0km s-min=10.1km az=217.0*
ISC 12 16:51:00.5±0.7, **13°.36N**±0°.06×**41°.84E**±0°.06, **h10**km, **n28**, σ1§**09**/35, **mb3.7**/17, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.07**	**151**	Pn		**Pn**	**Pn**	**16 51 35.8**	**+0.4**
	208nm,0.3s,baz=296,slow=15,SNR=19								
ATD				Sn		**Sg**	**Sg**	**16 52 06.4**	**-0.7**
	200nm,0.3s,baz=77,slow=21,SNR=7.5								
DHBB	**Dhamar BB**	**2.75**	**64**	*i* P		**Pn**	**Pn**	**16 51 43.8**	**-1.2**
DHBB				*i* S		**Sb**	**Sb**	**16 52 23.3**	**-0.7**
DHBB	**Dhamar BB**	**2.75**	**64**	*i* P		**Pn**	**Pn**	**16 51 43.8**	**-1.2**
DHBB				*i* S		**Sb**	**Sb**	**16 52 23.3**	**-0.7**
DAMY	**Dhamar**	**2.76**	**64**	Pn		**Pn**	**Pn**	**16 51 44.0**	**-1.1**
DAMY	**Dhamar**	**2.76**	**64**	Pn		**Pn**	**Pn**	**16 51 44.0**	**-1.1**
ADEN	**Aden**	**3.12**	**100**	*i* P		**Pn**	**Pn**	**16 51 47.4**	**-2.4**
ADEN				*i* S		**Sn**	**Sn**	**16 52 27.5**	**+0.4**
ADEN				AML		AML	AML	16 52 52.5	
	comp=E,1µm,0.5s								
ADEN	**Aden**	**3.12**	**100**	*i* P		**Pn**	**Pn**	**16 51 47.4**	**-2.4**
ADEN				*i* S		**Sn**	**Sn**	**16 52 27.5**	**+0.4**
	comp=E,642nm,0.5s								
BDHA	**Al Bayda'**	**3.68**	**80**	*i* P		**Pn**	**Pn**	**16 51 56.8**	**-0.8**
BDHA				*i* S		**Sn**	**Sn**	**16 52 42.5**	**+1.3**
BDHA				AML		AML	AML	16 53 06.6	
	comp=N,1µm,0.5s								
BDHA	**Al Bayda'**	**3.68**	**80**	*i* P		**Pn**	**Pn**	**16 51 56.8**	**-0.8**
BDHA				*i* S		**Sn**	**Sn**	**16 52 42.5**	**+1.3**
	comp=N,734nm,0.5s								
BRTR	**Keskin Array B**	**27.24**	**346**	P		**P**	**P**	**16 56 46.0**	**+1.1**
	comp=N,1.1nm,1.1s,baz=165,slow=12,SNR=3.7								
MLR	**Muntele Rosu**	**34.75**	**340**	P		**P**	**P**	**16 57 51.6**	**+0.6**
	comp=N,0.5nm,0.7s,baz=132,slow=15,SNR=4.5								
AKASG	**Malin Array Be**	**38.63**	**347**	P		**P**	**P**	**16 58 23.2**	**-0.6**
	comp=N,0.1nm,0.3s,baz=158,slow=6.5,SNR=4.0								
ABKAR	**Akbulak array**	**38.78**	**19**	P		**P**	**P**	**16 58 25.8**	**+0.7**
	comp=N,0.4nm,0.4s								
ABKAR	**Akbulak array**	**38.78**	**19**	P		**P**	**P**	**16 58 25.8**	**+0.7**
	comp=N,0.4nm,0.4s								
TORD	**Torodi Ar. Bea**	**39.04**	**274**	P		**P**	**P**	**16 58 26.7**	**-1.2**
	comp=N,1.2nm,0.8s,baz=94,slow=9.9,SNR=7.0								
TORD				LR		LR	LR	17 16 09.1	
	comp=N,69nm,18.6s,baz=125,slow=39								
AKTO	**Aktyubinsk**	**39.26**	**16**	P		**P**	**P**	**16 58 30.1**	**+0.9**
	comp=N,1.1nm,0.9s,baz=204,slow=10,SNR=3.0								
GERES	**GERESS Array B**	**42.32**	**332**	P		**P**	**P**	**16 58 53.6**	**-1.0**
	comp=N,1.1nm,0.6s,baz=132,slow=7.4,SNR=10								
BVAR	**Borovoye Array**	**45.62**	**24**	P		**P**	**P**	**16 59 21.0**	**+0.1**
	comp=N,0.4nm,0.7s,baz=198,slow=9.0,SNR=3.7								
MKAR	**Makanchi Array**	**47.49**	**37**	P		**P**	**P**	**16 59 36.8**	**+1.1**
	comp=N,3.9nm,0.8s,baz=234,slow=6.1,SNR=20								
KURBB	**Kurchatov Arra**	**47.61**	**31**	P		**P**	**P**	**16 59 38.0**	**+1.4**
	comp=N,1.6nm,1.0s,baz=234,slow=8.3,SNR=10								
KURK	**Kurchatov**	**47.72**	**31**	*e*P		**P**	**P**	**16 59 37.7**	**+0.3**
	comp=N,19nm,1.0s								
KURK	**Kurchatov**	**47.72**	**31**	*e*P		**P**	**P**	**16 59 37.7**	**+0.3**
	comp=N,19nm,1.0s								
ESDC	**Sonseca Array**	**47.96**	**312**	P		**P**	**P**	**16 59 38.6**	**-0.9**
	comp=N,0.1nm,0.3s,baz=107,slow=8.6,SNR=6.2								
FINES	**FINESS Array B**	**49.35**	**350**	P		**P**	**P**	**16 59 49.5**	**-0.3**
	comp=N,1.5nm,0.6s,baz=141,slow=12,SNR=4.3								
ZALV	**Zalesovo Beam**	**52.69**	**30**	P		**P**	**P**	**17 00 15.3**	**+0.2**
	comp=N,2.0nm,0.6s,baz=240,slow=7.8,SNR=8.9								
CMAR	**Chiang Mai Arr**	**54.97**	**77**	P		**P**	**P**	**17 00 33.6**	**+1.3**
	comp=N,1.9nm,0.9s,baz=276,slow=7.7,SNR=9.1								
ARCES	**ARCESS Array B**	**57.08**	**353**	P		**P**	**P**	**17 00 45.4**	**-1.2**
	comp=N,1.5nm,0.9s,baz=181,slow=7.2,SNR=4.6								
SONM	**Songino Array**	**63.17**	**43**	P		**P**	**P**	**17 01 30.2**	**+1.3**
	comp=N,1.4nm,0.9s,baz=278,slow=10,SNR=6.0								

IDC 12 16:52:07.4±9.5, **14°.85N**×**42°.55E**, **h0**km, **mb3.8**/4, **mb1 3.9**/5, **mb1mx3.4**/55, **mbtmp3.9**/5, **ML4.3**/1, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx2.4**/64, **Error ellipse: s-maj=401.3km s-min=31.3km az=99.0, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.31**	**175**	Pn		Pn	Pn	16 53 00.7	+0.1
	34nm,0.3s,baz=174,slow=20,SNR=1.4								
ATD				Sn		Sn	Sn	16 53 36.6	-4.1
	22nm,0.3s,baz=277,slow=20,SNR=1.7								
MKAR	**Makanchi Array**	**45.90**	**38**	P		P	P	17 00 32.0	+0.2
	1.1nm,0.7s,baz=231,slow=6.3,SNR=4.9								
KURBB	**Kurchatov Arra**	**45.99**	**31**	P		P	P	17 00 33.3	+0.9
	0.5nm,0.6s,baz=234,slow=8.3,SNR=3.5								
MDT	**Midelt**	**46.29**	**301**	LR		LR	LR	17 22 05.6	
	comp=Z,47nm,18.5s,baz=139,slow=39								
ZALV	**Zalesovo Beam**	**51.07**	**31**	P		P	P	17 01 10.5	-1.0
	0.9nm,0.5s,baz=232,slow=7.3,SNR=3.7								
SONM	**Songino Array**	**61.62**	**43**	P		P	P	17 02 26.4	-0.6
	0.6nm,0.7s,baz=268,slow=6.5,SNR=2.4								

*IDC **12** 16:53:51.8±1.3, 13°.31N×41°.73E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/57, mbtmp3.7/9, ML4.0/2, Error ellipse: s-maj=27.2km s-min=21.1km az=62.0*
ISC 12 16:53:52.4±1.0, **13°.17N**±0°.10×**41°.7E**±0°.1, **h10**km, **n10**, σ0§**88**/11, **mb3.8**/8, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.96**	**146**	Pn		**Pg**	**Pg**	**16 54 29.5**	**-0.5**
	66nm,0.3s,baz=292,slow=19,SNR=4.4								
ATD				Sn		**Sg**	**Sg**	**16 54 56.4**	**+1.0**
	97nm,0.3s,baz=101,slow=22,SNR=6.6								
WSAR	**Wadi Sarin**	**18.90**	**56**	P		**P**	**P**	**16 58 13.2**	**-0.1**
	0.3nm,0.3s,baz=248,slow=7.2,SNR=3.4								
BRTR	**Keskin Array B**	**27.40**	**346**	P		**P**	**P**	**16 59 39.3**	**+1.0**
	0.6nm,0.8s,baz=140,slow=7.2,SNR=3.5								
KVAR	**Kislovodsk Arr**	**30.69**	**1**	P		**P**	**P**	**17 00 08.8**	**+1.3**
	12nm,0.7s,baz=198,slow=6.4,SNR=5.8								
TORD	**Torodi Ar. Bea**	**38.96**	**275**	P		**P**	**P**	**17 01 18.8**	**-0.2**
	1.1nm,1.0s,baz=88,slow=7.7,SNR=4.1								
BVAR	**Borovoye Array**	**45.84**	**24**	P		**P**	**P**	**17 02 14.6**	**0.0**
	0.2nm,0.4s,baz=232,slow=9.1,SNR=3.7								
MKAR	**Makanchi Array**	**47.71**	**37**	P		**P**	**P**	**17 02 29.2**	**-0.2**
	1.2nm,0.9s,baz=238,slow=6.7,SNR=5.7								
KURBB	**Kurchatov Arra**	**47.83**	**31**	P		**P**	**P**	**17 02 29.6**	**-0.6**
	0.7nm,0.8s,baz=232,slow=8.4,SNR=4.0								
ZALV	**Zalesovo Beam**	**52.91**	**30**	P		**P**	**P**	**17 03 07.2**	**-1.4**
	0.5nm,0.3s,baz=251,slow=9.0,SNR=4.1								
CMAR	**Chiang Mai Arr**	**55.12**	**77**	P		**P**	**P**	**17 03 25.3**	**0.0**
	0.7nm,0.8s,baz=252,slow=6.2,SNR=3.0								

*ISCJB **12** 16:56:18.4±0.8, 13°.27N±0°.09×41°.76E±0°.05, h10km, mb3.8/8, MS3.6/3, Error ellipse: s-maj=13.0km s-min=7.4km az=171.4*
*IDC **12** 16:56:18.3±1.3, 13°.25N×41°.73E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/57, mbtmp3.9/10, ML4.0/2, MS3.6/4, Ms1 3.6/4, ms1mx2.9/63, Error ellipse: s-maj=28.0km s-min=23.4km az=27.0*
*DHMR **12** 16:56:22.7±0.8, 13°.27N×42°.12E, h18km±8km, ML3.9*
*CSEM **12** 16:56:22.7, 13°.27N×42°.12E, h17km, ML3.9*
ISC 12 16:56:20.1±0.9, **13°.23N**±0°.06×**41°.80E**±0°.07, **h10**km, **n20**, σ1§**34**/25, **mb3.9**/8, **MS3.6**/3, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.98**	**149**	Pn		**Pn**	**Pn**	**16 56 54.7**	**+1.0**
	123nm,0.3s,baz=211,slow=22,SNR=7.5								
ATD				Sn		**Sn**	**Sb**	**16 57 24.1**	**+3.2**
	116nm,0.3s,baz=212,slow=19,SNR=5.3								
UDYN	**Al 'Udayn**	**2.23**	**71**	*i* P		**Pn**	**Pn**	**16 56 56.9**	**-0.5**
UDYN				*i* S		**Sn**	**Sn**	**16 57 22.6**	**-2.5**
UDYN				AML		AML	AML	16 57 39.9	
	comp=N,924nm,0.4s								
DHBB	**Dhamar BB**	**2.85**	**62**	*i* P		**Pn**	**Pn**	**16 57 06.4**	**+0.5**
DHBB				*i* S		**Sn**	**Sn**	**16 57 40.7**	**+0.2**
DHBB	**Dhamar BB**	**2.85**	**62**	*i* P		**Pn**	**Pn**	**16 57 06.4**	**+0.5**
DHBB				*i* S		**Sn**	**Sn**	**16 57 40.7**	**+0.2**
HAJJ	**Hajjah**	**3.01**	**35**	*i* P		**Pn**	**Pn**	**16 57 09.4**	**+1.4**
HAJJ				AML		AML	AML	16 57 16.8	
	comp=Z,840nm,0.5s								
HAJJ				*i* S		**Sn**	**Sn**	**16 57 46.7**	**+2.4**
HAJJ	**Hajjah**	**3.01**	**35**	*i* P		**Pn**	**Pn**	**16 57 09.4**	**+1.4**
	comp=Z,420nm,0.5s								
HAJJ				*i* S		**Sn**	**Sn**	**16 57 46.7**	**+2.4**
BDHA	**Al Bayda'**	**3.74**	**78**	*i* P		**Pn**	**Pn**	**16 57 18.3**	**+0.2**
BDHA				*i* S		**Sn**	**Sn**	**16 58 01.5**	**-0.9**
BDHA				AML		AML	AML	16 58 26.4	
	comp=N,814nm,0.5s								
BDHA	**Al Bayda

BUR08	**Bucovina Ar. S**	**36.98**	**341**	*eP*	**P**	**17 07 09.6**	**-0.2**
AKTO	**Aktyubinsk**	**39.46**	**16**	P	**P**	**17 07 30.1**	**-0.4**
	0.5nm,0.4s,baz=200,slow=15,SNR=3.2						
GEA0	**GERESS Array S**	**42.37**	**333**	*eP*	**P**	**17 07 54.2**	**-0.4**
GERES	**GERESS Array B**	**42.38**	**333**	P	**P**	**17 07 54.8**	**+0.1**
	1.0nm,0.7s,baz=132,slow=7.8,SNR=8.2						
BVAR	**Borovoye Array**	**45.84**	**24**	P	**P**	**17 08 21.6**	**-0.6**
	0.4nm,0.3s,baz=250,slow=12,SNR=4.2						
MAKZ	**Makanchi**	**47.55**	**37**	*eP*	**P**	**17 08 35.4**	**-0.4**
	2.9nm,1.1s						
MK01	**Makanchi Array**	**47.72**	**37**	*eP*	**P**	**17 08 36.3**	**-0.9**
MK32	**Makanchi Array**	**47.73**	**37**	*eP*	**P**	**17 08 36.6**	**-0.6**
MKAR	**Makanchi Array**	**47.73**	**37**	P	**P**	**17 08 36.6**	**-0.6**
	1.3nm,0.8s,baz=237,slow=6.9,SNR=7.1						
KURBB	**Kurchatov Arra**	**47.84**	**31**	P	**P**	**17 08 37.7**	**-0.2**
	0.6nm,0.8s,baz=234,slow=7.8,SNR=5.3						
ESDC	**Sonseca Array**	**47.92**	**312**	P	**P**	**17 08 39.2**	**+0.3**
	0.9nm,0.8s,baz=116,slow=6.8,SNR=4.9						
KURK	**Kurchatov**	**47.94**	**31**	*eP*	**P**	**17 08 37.7**	**-1.0**
ZAA0	**Zalesovo Array**	**52.92**	**30**	*eP*	**P**	**17 09 14.7**	**-1.6**
ZALV	**Zalesovo Beam**	**52.92**	**30**	P	**P**	**17 09 15.0**	**-1.3**
	0.8nm,0.5s,baz=236,slow=7.8,SNR=5.3						
ZAA1	**Zalesovo Array**	**52.92**	**30**	*eP*	**P**	**17 09 15.0**	**-1.4**
CM31	**Chiang Mai Arr**	**55.19**	**77**	*eP*	**P**	**17 09 31.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**55.19**	**77**	P	**P**	**17 09 33.2**	**-0.3**
	1.1nm,0.9s,baz=286,slow=7.8,SNR=4.0						
BBTS	**Babate**	**56.35**	**279**	LR	LR	17 33 54.4	
	comp=Z,80nm,18.1s,slow=36						

IDC 12 17:04:06.4±2.6, 13°.19N×41°.39E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/60, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=64.5km s-min=23.7km az=60.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.17**	**139**	Pn	Pn	17 04 44.0	0.0
	42nm,0.3s,baz=350,slow=11,SNR=6.0						
ATD				Sn	Sn	17 05 12.4	+0.8
	109nm,0.3s,baz=255,slow=22,SNR=8.7						
GERES	**GERESS Array B**	**42.28**	**333**	P	P	17 12 01.7	-0.1
	0.1nm,0.3s,baz=144,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**47.89**	**37**	P	P	17 12 46.4	-0.1
	1.5nm,0.9s,baz=238,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	**53.06**	**31**	P	P	17 13 24.8	-0.6
	1.3nm,0.7s,baz=242,slow=8.2,SNR=6.0						
SONM	**Songino Array**	**63.59**	**43**	P	P	17 14 39.6	+0.3
	0.5nm,0.7s,baz=275,slow=5.2,SNR=3.5						

IDC 12 17:06:04.1±2.1, 13°.17N×41°.72E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.3/57, mbtmp3.7/4, Error ellipse: s-maj=60.3km s-min=26.4km az=61.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.96**	**146**	Pn	Pn	17 06 39.0	+0.2
	baz=258,slow=19,SNR=2.5						
ATD				Sn	Sg	17 07 10.7	+3.4
	140nm,0.3s,baz=250,slow=22,SNR=11						
BRTR	**Keskin Array B**	**27.40**	**346**	P	P	17 11 52.8	+1.2
	0.4nm,0.4s,baz=180,slow=3.7,SNR=4.3						
GERES	**GERESS Array B**	**42.44**	**333**	P	P	17 13 59.9	-0.9
	0.3nm,0.6s,baz=145,slow=4.9,SNR=3.5						
MKAR	**Makanchi Array**	**47.71**	**37**	P	P	17 14 43.1	+0.4
	1.1nm,0.8s,baz=233,slow=7.2,SNR=9.2						
ZALV	**Zalesovo Beam**	**52.91**	**30**	P	P	17 15 20.8	-1.1
	1.1nm,0.6s,baz=237,slow=8.4,SNR=5.5						

IDC 12 17:06:27.1±3.0, 62°.14S×57°.73W, h0km, mb3.7/1, mb1 3.7/1, mb1mx3.4/22, mbtmp3.5/1, MS3.5/2, Ms1 3.4/2, ms1mx3.0/24, Error ellipse: s-maj=239.3km s-min=74.2km az=133.0, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**43.64**	**151**	LR	LR	17 31 27.8	
	comp=Z,81nm,19.3s,baz=240,slow=34						
BDFB	**Brasilia**	**46.95**	**13**	LR	LR	17 32 30.0	
	comp=Z,35nm,21.7s,baz=37,slow=33						
ASAR	**Alice Springs**	**93.99**	**191**	P	P	17 19 46.7	-0.1
	0.2nm,0.8s,baz=163,slow=3.6,SNR=2.7						
BVAR	**Borovoye Array**	**151.49**	**85**	PKPbc	PKPbc	17 26 21.3	-0.3
	0.9nm,0.7s,baz=264,slow=2.9,SNR=5.5						
MJAR	**Matsushiro Arr**	**152.52**	**209**	PKPbc	PKPbc	17 26 24.3	-0.1
	0.4nm,0.3s,baz=173,slow=4.9						
MKAR	**Makanchi Array**	**152.72**	**106**	PKPbc	PKPbc	17 26 24.5	0.0
	0.7nm,0.6s,baz=234,slow=2.5,SNR=5.6						

*NEIC **12** 17:06:56.8, 14°.79N×93°.00W, h58km, MD4.0(MEX), After MEX.*

MEX 12 17:06:56.8±0.3, 14°.79N×93°.00W, h58km±12km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.94**	**347**	*eP*	Pn	17 07 12.6	-1.4
PCIG				*eS*	Sn	17 07 24.5	-2.1
PCIG		**0.94**	**347**	*eP*	Pn	17 07 12.6	-1.4
PCIG				*eS*	Sn	17 07 24.5	-2.1
CCIG	**Comitan**	**1.70**	**29**	*eP*	Pn	17 07 22.9	-1.5
CCIG				*eS*	Sn	17 07 42.3	-2.8
CCIG	**Comitan**	**1.70**	**29**	*eP*	Pn	17 07 22.9	-1.5
CCIG				*eS*	Sn	17 07 42.3	-2.8
TEIG	**Tepich**	**7.04**	**39**	*e*Pn	Pn	17 08 30.8	-6.5
	5.8nm,0.3s						
TEIG				*e*Sn	Sn	17 09 47.0	-8.9
JCT	**Junction City**	**16.82**	**339**	*e*Pn	Pn	17 10 46.1	-2.4

*ISCJB **12** 17:09:06.1±1.2, 13°.20N±0°.08×41°.1E±0°.1, h10km, mb4.1/6, Error ellipse: s-maj=15.7km s-min=10.5km az=153.4*
*NEIC **12** 17:09:06.3±1.1, 12°.97N×41°.02E, h10km, mb4.5/1, Error ellipse: s-maj=24.5km s-min=17.4km az=107.0*
*IDC **12** 17:09:06.1±10.0, 13°.05N×41°.08E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.5/61, mbtmp4.0/6, ML4.3/1, Error ellipse: s-maj=226.3km s-min=26.1km az=63.0*
ISC 12 17:09:06.5±1.2, 13°.04N±0°.09×41°.1E±0°.1, h10km, n9, σ1§33/11, mb4.2/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.30**	**131**	Pn	**Pn**	**17 09 45.2**	**+0.6**
	88nm,0.3s,baz=279,slow=20,SNR=7.6						
ATD				Sn	**Sb**	**17 10 16.6**	**-0.1**
	93nm,0.3s,baz=274,slow=22,SNR=6.6						
DAMY	**Dhamar**	**3.58**	**64**	*e*Pn	**Pn**	**17 10 00.9**	**-1.5**
DAMY				*e*Sn	**Sn**	**17 10 43.9**	**-1.0**
LSZ	**Lusaka**	**30.89**	**205**	*eP*	**P**	**17 15 21.4**	**-2.2**
	2.2nm,0.3s						
MKAR	**Makanchi Array**	**48.20**	**37**	P	**P**	**17 17 48.5**	**+1.2**
	2.2nm,0.8s,baz=232,slow=6.3,SNR=21						
KURBB	**Kurchatov Arra**	**48.28**	**31**	P	**P**	**17 17 48.9**	**+1.1**
	0.8nm,0.8s,baz=234,slow=8.2,SNR=8.8						
KURK	**Kurchatov**	**48.38**	**31**	P	**P**	**17 17 48.9**	**+0.4**
ZALV	**Zalesovo Beam**	**53.35**	**31**	P	**P**	**17 18 26.5**	**+0.5**
	2.6nm,0.8s,baz=237,slow=8.5,SNR=8.6						
CMAR	**Chiang Mai Arr**	**55.78**	**76**	P	**P**	**17 18 44.6**	**+0.4**
	1.1nm,0.9s,baz=273,slow=9.3,SNR=5.5						
SONM	**Songino Array**	**63.91**	**43**	P	**P**	**17 19 41.5**	**+1.7**
	1.2nm,0.9s,baz=243,slow=6.3,SNR=5.8						

JMA 12 17:09:32.7±0.1, 37°.77N×142°.01E, h33km±3km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.86**	**323**	P	Pn	17 09 48.6	+0.1
JIO				*e*S	Sn	17 09 59.4	-0.5
JMM	**Marumori**	**0.97**	**276**	P	Pn	17 09 50.2	+0.2
JFK	**Kawauchi**	**0.99**	**246**	P	Pn	17 09 50.3	0.0
JFK				*e*S	Sn	17 10 02.6	-0.5
ONAJ	**Iwakimizuishiy**	**1.17**	**236**	P	Pn	17 09 52.8	0.0
ONAJ				*e*S	Sn	17 10 07.1	-0.6
JOU	**Okura**	**1.22**	**300**	P	Pn	17 09 54.3	+0.9
JMK	**Ichinoseki**	**1.33**	**332**	P	Pn	17 09 55.4	+0.4
JMK				*e*S	Sn	17 10 11.7	+0.1
JFT	**Otama**	**1.35**	**260**	P	Pb	17 09 56.5	-1.0
JFT				*e*S	Sb	17 10 13.4	-1.0
JYS	**Shirataka**	**1.60**	**287**	P	Pn	17 09 59.9	+1.2
JYK	**Kaneyama**	**1.73**	**312**	P	Pn	17 10 01.6	+1.1
JOM	**Ohasama**	**1.79**	**342**	P	Pn	17 10 02.1	+0.8
JRG	**Rokugo**	**1.95**	**327**	P	Pn	17 10 04.8	+1.3
JYA	**Atsumi**	**1.99**	**295**	P	Pn	17 10 05.3	+1.3
MAT	**Matsushiro**	**3.28**	**249**	P	Pn	17 10 25.7	+4.0
MAT				*e*S	Sb	17 11 05.4	-4.2

MAN 12 17:10:00, 18°.07N×120°.47E, h12km, mb4.3, ML3.2, MS3.0, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.29**	**28**	⇑*iP*	Pb	17 10 07.5	+0.3
PIP				*e*S	Sb	17 10 14.0	+2.0
ABRA	**Dolores**	**0.47**	**151**	*eP*	Pb	17 10 11.0	+0.7
ABRA				*e*S	Sb	17 10 21.1	+3.9
APYP	**Conner**	**0.76**	**106**	*eP*	Pb	17 10 15.5	+0.3
APYP				*e*S	Sn	17 10 28.3	+0.4
CVP	**Callao Caves**	**1.33**	**106**	⇑*iP*	Pn	17 10 24.6	+0.1
CVP				*i*S	Sg	17 10 46.1	+3.0
SGCP	**Mt. Cagua**	**1.50**	**83**	*eP*	Pn	17 10 27.3	+0.5
SGCP				*e*S	Sg	17 10 48.0	-0.5
CAUP	**Cauayan**	**1.71**	**131**	*eP*	Pb	17 10 31.4	+0.1
CAUP				*e*S	Sg	17 10 59.9	+5.0
BOLP	**Bolinao**	**1.76**	**198**	*eP*	Pn	17 10 29.2	-1.1
BOLP				*e*S	Sb	17 10 54.8	+0.5

*ISCJB **12** 17:10:33.0±0.6, 12°.93N±0°.08×41°.69E±0°.09, h10km, mb3.9/17, Error ellipse: s-maj=13.0km s-min=12.0km az=158.5*
*IDC **12** 17:10:33.7±1.1, 12°.96N×41°.73E, h0km, mb3.9/15, mb1 4.0/15, mb1mx3.8/60, mbtmp3.9/15, Error ellipse: s-maj=24.7km s-min=18.9km az=26.0*
*NEIC **12** 17:10:34.8±0.5, 12°.91N×41°.74E, h10km, mb4.0/2, Error ellipse: s-maj=10.8km s-min=10.1km az=80.0*
ISC 12 17:10:35.1±0.7, 12°.96N±0°.07×41°.63E±0°.10, h10km, n21, σ1§28/22, mb4.0/17, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.85**	**140**	Pn	**Pn**	**17 11 04.0**	**-3.0**
	37nm,0.3s,baz=323,slow=20,SNR=2.2						
ATD				Sn	**Sg**	**17 11 37.8**	**+3.0**
	35nm,0.3s,baz=127,slow=20,SNR=2.5						
DAMY	**Dhamar**	**3.12**	**59**	*eP*	**Pn**	**17 11 24.0**	**-0.8**
BRTR	**Keskin Array B**	**27.58**	**347**	P	**P**	**17 16 22.4**	**-0.3**
	1.0nm,0.8s,baz=148,slow=7.3,SNR=6.0						
LSZ	**Lusaka**	**31.05**	**206**	*eP*	**P**	**17 16 53.1**	**-0.5**
MLR	**Muntele Rosu**	**35.06**	**341**	P	**P**	**17 17 28.6**	**+0.2**
	0.3nm,0.4s,baz=245,slow=6.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**38.88**	**275**	P	**P**	**17 18 02.5**	**+1.4**
	0.4nm,0.6s,baz=89,slow=7.9,SNR=4.7						
ABKAR	**Akbulak array**	**39.22**	**19**	*eP*	**P**	**17 18 02.4**	**-1.2**
	0.1nm,0.2s						
AKTO	**Aktyubinsk**	**39.70**	**16**	P	**P**	**17 18 06.7**	**-0.8**
	2.2nm,0.8s,baz=223,slow=8.0,SNR=8.7						
GERES	**GERESS Array B**	**42.59**	**333**	P	**P**	**17 18 31.1**	**-0.3**
	0.8nm,0.7s,baz=132,slow=7.4,SNR=8.7						
ARU	**Arti**	**45.30**	**13**	P	**P**	**17 18 52.3**	**-0.7**
	0.8nm,0.3s,baz=77,slow=8.6,SNR=4.3						
BVAR	**Borovoye Array**	**46.07**	**24**	P	**P**	**17 18 59.7**	**+0.5**
	1.1nm,0.7s,baz=213,slow=5.1,SNR=6.2						
MKAR	**Makanchi Array**	**47.93**	**37**	P	**P**	**17 19 14.1**	**+0.2**
	4.2nm,0.8s,baz=230,slow=4.9,SNR=17						
KURBB	**Kurchatov Arra**	**48.06**	**31**	P	**P**	**17 19 14.4**	**-0.3**
	2.2nm,0.8s,baz=233,slow=8.0,SNR=4.3						
ESDC	**Sonseca Array**	**48.08**	**312**	P	**P**	**17 19 15.6**	**+0.4**
	0.3nm,0.5s,baz=113,slow=6.8,SNR=3.6						
KURK	**Kurchatov**	**48.16**	**31**	*eP*	**P**	**17 19 14.4**	**-1.1**
	6.2nm,0.8s						
FINES	**FINESS Array B**	**49.71**	**350**	P	**P**	**17 19 27.2**	**0.0**
	2.3nm,1.0s,baz=206,slow=9.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**53.14**	**30**	P	**P**	**17 19 51.4**	**-1.6**
	5.1nm,0.8s,baz=241,slow=8.2,SNR=17						
CMAR	**Chiang Mai Arr**	**55.26**	**76**	P	**P**	**17 20 09.2**	**+0.1**
	2.1nm,0.9s,baz=280,slow=8.2,SNR=7.4						
SONM	**Songino Array**	**63.60**	**43**	P	**P**	**17 21 07.2**	**+0.8**
	1.6nm,0.9s,baz=280,slow=8.9,SNR=7.5						
TIXI	**Tiksi**	**76.92**	**19**	P	**P**	**17 22 27.2**	**-0.2**
	0.2nm,0.3s,baz=301,slow=5.9,SNR=2.3						
TXAR	**Lajitas Array**	**126.24**	**322**	PKP	**PKPdf**	**17 29 40.4**	**+1.5**
	0.2nm,0.7s,baz=38,slow=4.6,SNR=3.5						

*ISCJB **12** 17:11:57.7±2.0, 13°.2N±0°.2×41°.1E±0°.3, h10km, mb3.9/6, Error ellipse: s-maj=49.8km s-min=10.2km az=147.5*
*IDC **12** 17:11:57.1±2.7, 13°.09N×41°.05E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/59, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=63.2km s-min=22.8km az=50.0*
ISC 12 17:11:58.4±2.4, 13°.1N±0°.3×41°.0E±0°.3, h10km, n7, σ0§92/8, mb4.0/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.38**	**130**	Pn	**Pn**	**17 12 37.3**	**-0.3**
	41nm,0.3s,baz=216,slow=8.7,SNR=2.6						
ATD				Sn	**Sn**	**17 13 07.5**	**+0.6**
	64nm,0.3s,baz=246,slow=20,SNR=3.6						
GERES	**GERESS Array B**	**42.20**	**333**	P	**P**	**17 19 51.8**	**+0.2**
	0.3nm,0.5s,baz=119,slow=8.0,SNR=2.2						
MKAR	**Makanchi Array**	**48.23**	**37**	P	**P**	**17 20 39.4**	**0.0**
	2.3nm,0.8s,baz=233,slow=6.9,SNR=8.1						
KURBB	**Kurchatov Arra**	**48.29**	**31**	P	**P**	**17 20 39.9**	**+0.2**
	0.8nm,0.9s,baz=234,slow=8.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**53.36**	**31**	P	**P**	**17 21 16.9**	**-1.1**
	1.4nm,0.8s,baz=246,slow=7.3,SNR=5.4						
CMAR	**Chiang Mai Arr**	**55.85**	**76**	P	**P**	**17 21 35.6**	**-1.0**
	1.6nm,0.9s,baz=276,slow=10.0,SNR=6.7						
SONM	**Songino Array**	**63.95**	**43**	P	**P**	**17 22 33.2**	**+1.2**
	0.9nm,0.9s,baz=264,slow=6.9,SNR=4.8						

IDC 12 17:14:21.1±2.3, 12°.88N×41°.58E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/59, mbtmp3.6/4, Error ellipse: s-maj=63.7km s-min=25.2km az=53.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.83**	**137**	Pn	Pn	17 14 54.1	+0.3
	32nm,0.3s,baz=168,slow=20,SNR=3.5						
BRTR	**Keskin Array B**	**27.65**	**347**	P	P	17 20 12.1	+1.4
	0.7nm,1.0s,baz=274,slow=2.3,SNR=3.2						
GERES	**GERESS Array B**	**42.63**	**333**	P	P	17 22 18.3	-1.0
	0.2nm,0.5s,baz=137,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**48.03**	**37**	P	P	17 23 02.1	-0.1
	0.7nm,0.7s,baz=244,slow=6.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**53.24**	**30**	P	P	17 23 40.5	-0.7
	0.5nm,0.3s,baz=238,slow=8.3,SNR=4.5						

IDC 12 17:14:33.8±13.0, 12°.44N×41°.68E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.4/61, mbtmp3.8/5, Error ellipse: s-maj=278.4km s-min=45.4km az=12.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**28.09**	**347**	P	P	17 20 26.9	-0.6
	1.2nm,1.0s,baz=128,slow=2.0,SNR=4.7						
MLR	**Muntele Rosu**	**35.56**	**341**	P	P	17 21 33.8	+0.9
	0.3nm,0.5s,baz=166,slow=12,SNR=4.0						
GERES	**GERESS Array B**	**43.06**	**333**	P	P	17 22 35.2	-0.3
	1.1nm,0.8s,baz=134,slow=6.9,SNR=8.3						
MKAR	**Makanchi Array**	**48.32**	**37**	P	P	17 23 17.6	+0.5
	1.2nm,0.8s,baz=234,slow=6.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.56**	**30**	P	P	17 23 55.6	-0.8
	1.7nm,0.7s,baz=237,slow=6.6,SNR=4.9						

*KRNET **12** 17:16:22.5±0.1, 40°.30N×72°.53E, h5km, mb3.7*
*SOME **12** 17:16:24.7, 40°.47N×72°.63E, h0km*
*NNC **12** 17:16:26.3±1.9, 40°.46N×72°.58E, h3km±8km, mb3.7, mpv3.4, Error ellipse: s-maj=13.1km s-min=6.4km az=9.0*
ISC 12 17:16:21.4±1.3, 40°.26N±0°.04×72°.63E±0°.03, h4km±11km, n37, σ2§22/72, 30C-23D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.29**	**24**	⇓*iP*	**Pg**	**17 16 28.1**	**+1.1**
	baz=40						
OHH				⇓*i*S	**Sg**	**17 16 32.4**	**+1.5**
	baz=40						
DRK	**Karamyk**	**1.01**	**220**	⇑*eP*	**Pn**	**17 16 42.6**	**0.0**
	baz=214						
DRK				⇑*i*S	**Sn**	**17 16 56.2**	**-1.2**
	baz=214						
ARSB	**Arslanbob**	**1.10**	**14**	⇓*iP*	**Pn**	**17 16 43.9**	**+0.1**
	baz=18						
ARSB				⇓*e*S	**Sn**	**17 16 59.4**	**-0.1**
	baz=18						
BTK	**Batken**	**1.40**	**262**	⇑*eP*	**Pg**	**17 16 48.3**	**0.0**
	baz=260						
BTK				⇑*i*S	**Sg**	**17 17 07.0**	**+0.5**
	baz=260						
ARK	**Arkit**	**1.62**	**342**	⇓*iP*	**Pg**	**17 16 52.3**	**-0.1**
	baz=344						
ARK				⇓*i*S	**Sg**	**17 17 13.5**	**+0.1**
	baz=344						
TOKL	**Toktogul**	**1.69**	**6**	⇑*eP*	**Pg**	**17 16 54.3**	**+0.5**
	baz=9.0						
TOKL				⇑*i*S	**Sg**	**17 17 16.9**	**+1.2**
	baz=9.0						
AML	**Almayashu**	**2.04**	**23**	⇑*iP*	**Pb**	**17 16 59.3**	**+0.1**
	baz=25						
AML				⇑*i*S	**Sg**	**17 17 26.5**	**-0.3**
	baz=25						
MNAS	**Manas**	**2.23**	**358**	⇑*eP*	**Pb**	**17 17 01.9**	**-0.5**
	baz=360						
MNAS				⇑*e*S	**Sg**	**17 17 31.2**	**-1.8**
	baz=360						
MNAS	**Manas**	**2.23**	**358**	⇑Pn	**Pb**	**17 17 01.7**	**-0.6**
	55nm,0.5s						
MNAS				⇓Lg	Lg	17 17 32.4	
	125nm,0.5s						
UCH	**Uchtor**	**2.43**	**35**	⇓*iP*	**Pb**	**17 17 05.2**	**-0.7**
	baz=37						
UCH				⇓*i*S	**Sb**	**17 17 37.8**	**+1.5**
	baz=37						
MRKS	**Merke**	**2.52**	**10**	⇑*i*S	**Pb**	**17 17 37.0**	**-1.8**
	224nm,0.3s						
MRKS	**Merke**	**2.52**	**10**	⇓*iP*	**Pb**	**17 17 06.2**	**-1.2**
EKS2	**Erkin-Say**	**2.55**	**19**	⇑*iP*	**Pb**	**17 17 07.4**	**-0.4**
	baz=21						
EKS2				⇑*i*S	**Sb**	**17 17 39.9**	**+0.3**
	baz=21						
KZA	**Kyzart**	**2.69**	**47**	⇓*iP*	**Pb**	**17 17 09.1**	**-1.2**
	baz=48						
KZA				⇓*i*S	**Sb**	**17 17 44.0**	**+0.2**
	baz=48						
IUG	**Iuzhnay**	**2.72**	**315**	*eP*	**Pg**	**17 17 13.8**	**+0.3**
	103nm,0.2s						
IUG				*e*S	**Sg**	**17 17 48.4**	**-0.5**
	252nm,0.5s						
AAK	**Ala-Archa**	**2.75**	**30**	⇓*eP*	**Pb**	**17 17 10.1**	**-1.2**
	baz=32						
AAK				⇓*i*S	**Sb**	**17 17 45.3**	**-0.3**
	baz=32						
AAK	**Ala-Archa**	**2.75**	**30**	⇑Pn	**Pb**	**17 17 09.7**	**-1.6**
	2.8nm,0.4s						
AAK				⇑Pg	**Pg**	**17 17 13.9**	**-0.2**
	32nm,0.4s						
AAK				⇑Lg	Lg	17 17 48.4	
	59nm,0.4s						
FRU1	**Bishkek**	**2.96**	**30**	⇓*eP*	**Pb**	**17 17 13.3**	**-1.4**
	baz=32						
FRU1				⇓*i*S	**Sb**	**17 17 50.1**	**-1.2**
	baz=32						
KBK	**Karagaybulak**	**2.96**	**35**	⇑*iP*	**Pb**	**17 17 13.1**	**-1.8**
	baz=37						
KBK				⇑*i*S	**Sb**	**17 17 49.9**	**-1.6**
	baz=37						
JBG	**Jabagly**	**3.08**	**44**	⇑*iP*	**Pn**	**17 17 13.0**	**+2.0**
	67nm,0.6s						
JBG				*e*S	**Sn**	**17 17 46.5**	**-1.9**
	260nm,0.4s						
KK31	**Karatay Array**	**3.26**	**332**	⇑Pn	**Pn**	**17 17 15.1**	**+1.8**
	0.4nm,0.2s,baz=144,slow=13,SNR=230						
KK31				⇑Pg	**Pg**	**17 17 22.4**	**-1.3**
	5.1nm,0.3s,baz=134,slow=18,SNR=32						
KK31				⇓Lg	Lg	17 18 01.9	
	40nm,0.5s,baz=154,slow=28,SNR=6.5						
BOOM	**Boomskoye usch**	**3.34**	**47**	⇓*eP*	**Pb**	**17 17 19.0**	**-2.3**
	baz=48						
BOOM				⇓*e*S	**Sb**	**17 18 00.4**	**-2.0**
	baz=48						
BRLS	**Borolday**	**3.36**	**320**	⇑*iP*	**Pg**	**17 17 24.6**	**-1.2**
	1.5nm,0.5s						
BRLS				*e*S	**Sg**	**17 18 07.1**	**-2.2**
	66nm,0.6s						
ULHL	**Ulahol**	**3.37**	**53**	⇑*iP*	**Pn**	**17 17 18.6**	**+3.6**
	baz=54						
ULHL				⇑*i*S	**Sb**	**17 18 00.8**	**-2.4**
	baz=54						
TKM2	**Tokmak 2**	**3.47**	**39**	⇑*iP*	**Pn**	**17 17 19.9**	**+3.5**
	baz=40						
TKM2				⇑*i*S	**Sb**	**17 18 02.6**	**-3.5**
	baz=40						
TKM2	**Tokmak 2**	**3.47**	**39**	⇑Pn	**Pn**	**17 17 19.6**	**+3.3**
	2.1nm,0.4s						
TKM2				⇓Pg	**Pg**	**17 17 27.0**	**-0.8**
	10nm,0.4s						
TKM2				⇑Lg	Lg	17 18 11.6	
	41nm,0.6s						
DGS	**Degeres**	**3.80**	**37**	*eP*	**Pb**	**17 17 32.5**	**+3.5**
	20nm,0.7s						
DGS				*e*S	**Sg**	**17 18 21.7**	**-1.6**
	63nm,0.6s						
MTBS	**Maitube**	**4.04**	**43**	*eP*	**Pb**	**17 17 37.1**	**+4.0**
	14nm,0.5s						
MTBS				*e*S	**Sg**	**17 18 29.6**	**-1.5**
	25nm,0.8s						
IZV	**Izvestkoviy**	**4.07**	**46**	*eP*	**Pg**	**17 17 38.3**	**-1.1**
	12nm,0.6s						
IZ

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAOD	**Malaho**	**1.30**	**162**	*e*P	**Pn**	**17 18 30.9**	**-3.3**
TDD	**Tadjoura Ara**	**1.86**	**145**	*e*P	**Pn**	**17 18 39.2**	**-2.8**
LDLD	**Lac de Lave**	**1.87**	**159**	*e*P	**Pn**	**17 18 40.9**	**-1.2**
OBO	**Obock**	**1.97**	**133**	*e*P	**Pn**	**17 18 41.5**	**-2.0**
SGH	**Sud-Ghoubbet**	**2.05**	**157**	*e*P	**Pn**	**17 18 43.7**	**-1.0**
ATD	**Arta Tunnel**	**2.06**	**150**	Pn	**Pn**	**17 18 43.5**	**-1.3**
	362nm,0.3s,baz=124,slow=23,SNR=24						
ATD				Sn	**Sb**	**17 19 12.2**	**-1.1**
	884nm,0.3s,baz=250,slow=21,SNR=14						
ATD				LR	LR	17 19 29.9	
	comp=Z,655nm,19.8s,baz=356,slow=40						
ATD	**Arta Tunnel**	**2.06**	**150**	*e*P	**Pn**	**17 18 43.2**	**-1.6**
ATD				*e*S	**Sb**	**17 19 13.0**	**-0.3**
MCAD	**Moucha**	**2.10**	**139**	*e*P	**Pn**	**17 18 43.4**	**-1.9**
UDYN	**Al 'Udayn**	**2.19**	**73**	*i* P	**Pn**	**17 18 45.0**	**-1.7**
UDYN				*i* S	**Sn**	**17 19 11.7**	**-2.0**
GBR	**Grand-Bara**	**2.26**	**163**	*e*P	**Pn**	**17 18 46.0**	**-1.6**
GBR				*e*S	**Sb**	**17 19 17.1**	**-2.0**
ATA	**Atar**	**2.31**	**144**	*e*P	**Pn**	**17 18 46.5**	**-1.7**
DHBB	**Dhamar BB**	**2.79**	**64**	*i* P	**Pn**	**17 18 53.2**	**-1.9**
DHBB				*i* S	**Sn**	**17 19 27.7**	**-1.1**
DHBB				AML	AML	17 19 43.5	
	comp=N,11µm,0.6s						
DHBB	**Dhamar BB**	**2.79**	**64**	*i* P	**Pn**	**17 18 53.2**	**-1.9**
DHBB				*i* S	**Sn**	**17 19 27.7**	**-1.1**
	comp=N,6µm,0.6s						
DAMY	**Dhamar**	**2.79**	**64**	*e*Pn	**Pn**	**17 18 54.5**	**-0.6**
DAMY				*e*Sn	**Sn**	**17 19 29.2**	**+0.4**
DAMY	**Dhamar**	**2.79**	**64**	*e*Pn	**Pn**	**17 18 54.5**	**-0.6**
DAMY				*e*Sn	**Sn**	**17 19 29.2**	**+0.4**
DAMY				*e*Sg	**Sg**	**17 19 40.9**	**+0.4**
HAJJ	**Hajjah**	**2.92**	**36**	*i* P	**Pn**	**17 18 54.2**	**-2.6**
HAJJ				*i* S	**Sn**	**17 19 32.4**	**+0.6**
HAJJ	**Hajjah**	**2.92**	**36**	*i* P	**Pn**	**17 18 54.2**	**-2.6**
HAJJ				*i* S	**Sn**	**17 19 32.4**	**+0.6**
SANA	**San'a**	**3.09**	**48**	*i* P	**Pn**	**17 18 58.0**	**-1.2**
SANA				*i* S	**Sn**	**17 19 35.2**	**-0.9**
ADEN	**Aden**	**3.14**	**100**	*i* P	**Pn**	**17 18 57.8**	**-1.8**
ADEN				*i* S	**Sn**	**17 19 34.6**	**-2.4**
ADEN				AML	AML	17 20 05.6	
	comp=E,5µm,0.7s						
ADEN	**Aden**	**3.14**	**100**	*i* P	**Pn**	**17 18 57.8**	**-1.8**
ADEN				*i* S	**Sn**	**17 19 34.6**	**-2.4**
	comp=E,2µm,0.7s						
BDHA	**Al Bayda'**	**3.71**	**80**	*i* P	**Pn**	**17 19 05.4**	**-2.3**
BDHA				*i* S	**Sn**	**17 19 50.2**	**-1.1**
BDHA	**Al Bayda'**	**3.71**	**80**	*i* P	**Pn**	**17 19 05.4**	**-2.3**
BDHA				*i* S	**Sn**	**17 19 50.2**	**-1.1**
KMBO	**Kilima Mbogo**	**15.06**	**198**	Pn	**Pn**	**17 21 44.9**	**+1.6**
	comp=E,0.1nm,0.3s,baz=17,slow=12,SNR=14						
KMBO				LR	LR	17 27 24.9	
	comp=E,3µm,18.2s,baz=35,slow=37						
KMBO	**Kilima Mbogo**	**15.06**	**198**	*e*P	**Pn**	**17 21 42.2**	**-1.1**
KMBO				pmax	pmax		
	comp=Z,83nm,1.8s						
KMBO	**Kilima Mbogo**	**15.06**	**198**	P	**Pn**	**17 21 44.5**	**+1.2**
	SNR=12						
KMBO	**Kilima Mbogo**	**15.06**	**198**	*e*Pn	**Pn**	**17 21 42.2**	**-1.1**
	comp=Z,83nm,1.8s						
KMBO	**Kilima Mbogo**	**15.06**	**198**	*e*Pn	**Pn**	**17 21 42.2**	**-1.1**
	comp=Z,83nm,1.8s						
FAQ	**Al Faqa, Dubai**	**17.27**	**47**	*i* P	**Pn**	**17 22 10.0**	**-1.3**
	SNR=7.4						
FAQ	**Al Faqa, Dubai**	**17.27**	**47**	P	**Pn**	**17 22 10.0**	**-1.3**
	SNR=7.4						
EIL	**Elat**	**17.45**	**340**	P	**P**	**17 22 14.2**	**-0.6**
	baz=343,slow=2.8,SNR=9.3						
NAZ	**Nazwa, Dubai**	**17.47**	**46**	*i* P	**Pn**	**17 22 13.6**	**-0.2**
	SNR=8.9						
NAZ	**Nazwa, Dubai**	**17.47**	**46**	P	**Pn**	**17 22 13.6**	**-0.2**
	SNR=8.9						
ASHO	**Ashiyiah**	**17.56**	**48**	*i* P	**Pn**	**17 22 15.1**	**0.0**
	SNR=8.1						
ASHO	**Ashiyiah**	**17.56**	**48**	P	**Pn**	**17 22 15.1**	**0.0**
	SNR=5.8						
ASHO	**Ashiyiah**	**17.56**	**48**	P	**Pn**	**17 22 15.1**	**0.0**
	SNR=5.8						
HATD	**Hatta, Dubai**	**17.70**	**48**	*i* P	**Pn**	**17 22 15.8**	**-0.9**
	SNR=9.4						
HATD	**Hatta, Dubai**	**17.70**	**48**	P	**Pn**	**17 22 15.8**	**-0.9**
	SNR=9.4						
UOSS	**Minazif**	**17.82**	**48**	*e*Pn	**Pn**	**17 22 18.0**	**-0.3**
	comp=Z,28nm,2.0s						
UOSS	**Minazif**	**17.82**	**48**	P	**Pn**	**17 22 18.3**	**0.0**
UOSS	**Minazif**	**17.82**	**48**	*e*Pn	**Pn**	**17 22 18.0**	**-0.3**
	comp=Z,28nm,2.0s						
SMDO	**Samad**	**18.20**	**56**	P	**Pn**	**17 22 22.5**	**-0.5**
	SNR=8.3						
SMDO	**Samad**	**18.20**	**56**	P	**Pn**	**17 22 22.5**	**-0.5**
	SNR=8.3						
WSAR	**Wadi Sarin**	**18.75**	**56**	P	**Pn**	**17 22 30.1**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=254,slow=7.5,SNR=9.3						
WSAR				LR	LR	17 30 45.6	
	comp=Z,3µm,19.2s,baz=244,slow=40						
ASF	**Jabal al Asfar**	**19.28**	**347**	P	**Pn**	**17 22 36.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=120,slow=9.6,SNR=5.2						
MMAI	**Mount Meron Ar**	**20.45**	**344**	P	Pn	17 22 49.7	-0.1
	comp=Z,10nm,0.8s,baz=156,slow=13,SNR=8.3						
GNI	**Garni**	**26.84**	**5**	P	**P**	**17 23 52.9**	**+2.2**
	comp=Z,16nm,0.9s,baz=167,slow=4.2,SNR=9.0						
GNI	**Garni**	**26.84**	**5**	*i* P	**P**	**17 23 53.2**	**+2.5**
	SNR=6.2						
GNI	**Garni**	**26.84**	**5**	*i* P	**P**	**17 23 49.1**	**-1.6**
GNI	**Garni**	**26.84**	**5**	P	**P**	**17 23 47.8**	**-2.9**
	comp=Z,67nm,1.5s						
BR131	**Keskin Array S**	**27.26**	**346**	*e*P	**P**	**17 23 55.4**	**+0.9**
BR131	**Keskin Array S**	**27.26**	**346**	*e*P	**P**	**17 23 55.4**	**+0.9**
BRTR	**Keskin Array B**	**27.26**	**346**	P	**P**	**17 23 56.5**	**+2.0**
	comp=Z,11nm,0.9s,baz=151,slow=8.6,SNR=40						
BRTR				PcP	**PcP**	**17 27 15.7**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=157,slow=5.5,SNR=4.5						
BR231	**Keskin MP Arra**	**27.58**	**345**	*e*P	**P**	**17 23 56.4**	**-0.9**
BR231	**Keskin MP Arra**	**27.58**	**345**	*e*P	**P**	**17 23 56.4**	**-0.9**
ANTO	**Ankara**	**27.60**	**345**	*e*P	**P**	**17 23 57.2**	**-0.3**
ANTO				pmax	pmax		
	comp=Z,23nm,1.1s						
ANTO	**Ankara**	**27.60**	**345**	*e*P	**P**	**17 23 57.2**	**-0.3**
	comp=Z,23nm,1.1s						
ANTO	**Ankara**	**27.60**	**345**	*e*P	**P**	**17 23 57.2**	**-0.3**
	comp=Z,23nm,1.1s						
GEYT	**Alibeck**	**28.48**	**28**	P	**P**	**17 24 06.5**	**+1.2**
	comp=Z,4.5nm,0.7s,baz=201,slow=7.9,SNR=9.0						
ZEI	**Tsey**	**29.41**	**3**	*e*P	**P**	**17 24 15.0**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,36nm,0.9s						
NEY	**Neytrino**	**29.82**	**1**	*i* P	**P**	**17 24 17.4**	**+0.1**
NEY				pmax	pmax		
	comp=Z,2.0nm,1.2s						
NCK	**Nalchik**	**30.09**	**3**	*i* P	**P**	**17 24 20.6**	**+1.0**
NCK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBZ	**Khabaz**	**30.30**	**2**	P	**P**	**17 24 23.1**	**+1.7**
	comp=Z,13nm,1.0s,baz=178,slow=6.8,SNR=15						
KIV	**Kislovodsk**	**30.52**	**1**	*i* P	**P**	**17 24 24.3**	**+0.9**
	SNR=10.0						
KIV	**Kislovodsk**	**30.52**	**1**	*e*P	**P**	**17 24 24.2**	**+0.7**
KIV				pmax	pmax		
	comp=Z,37nm,1.0s						
KIV	**Kislovodsk**	**30.52**	**1**	P	**P**	**17 24 24.9**	**+1.4**
	SNR=9.6						
KIV	**Kislovodsk**	**30.52**	**1**	P	**P**	**17 24 24.3**	**+0.9**
	SNR=10.0						
KIV	**Kislovodsk**	**30.52**	**1**	*e*P	**P**	**17 24 20.9**	**-2.6**
	comp=Z,42nm,1.1s						
KVAR	**Kislovodsk Arr**	**30.52**	**1**	P	**P**	**17 24 25.0**	**+1.6**
	comp=Z,42nm,1.1s,baz=224,slow=3.7,SNR=14						
LSZ	**Lusaka**	**31.46**	**206**	LR	LR	17 36 52.5	
	comp=Z,1µm,21.6s,baz=43,slow=36						
ANN	**Anapa**	**31.58**	**354**	*e*P	**P**	**17 24 32.1**	**-0.5**
ANN				MLR	MLR		
	comp=Z,467nm,13.0s						
SIM	**Simferopol'**	**32.18**	**350**	*e*P	**P**	**17 24 38.3**	**+0.4**
SIM				*e*S	**S**	**17 29 52.0**	**+1.6**
SIM				pmax	pmax		
	comp=Z,20nm,1.1s						
SIM				MLR	MLR		
	comp=N,190nm,19.1s						
TIRR	**Tirgusor**	**33.07**	**342**	⇑*i*P	**P**	**17 24 46.0**	**+0.3**
TLCR		**33.62**	**343**	⇑*i*P	**P**	**17 24 51.1**	**+0.7**
CFR	**Carcaliu**	**33.80**	**343**	⇑*i*P	**P**	**17 24 52.3**	**+0.2**
BARS	**Barje**	**34.08**	**333**	*e*P	**P**	**17 24 51.7**	**-2.9**
ISR	**Istrita**	**34.24**	**341**	⇑*i*P	**P**	**17 24 57.6**	**+1.6**
MLR	**Muntele Rosu**	**34.76**	**340**	P	**P**	**17 25 02.0**	**+1.4**
	comp=N,3.6nm,0.8s,baz=147,slow=3.6,SNR=37						
MLR				PcP	**PcP**	**17 27 35.0**	**+0.9**
	comp=N,0.9nm,1.0s,baz=105,slow=3.9,SNR=3.2						
MLR	**Muntele Rosu**	**34.76**	**340**	⇑*i*P	**P**	**17 25 02.2**	**+1.6**
MLR	**Muntele Rosu**	**34.76**	**340**	*e*P	**P**	**17 25 01.7**	**+1.1**
MLR						17 27 35.0	
MLR				pmax	pmax		
	comp=Z,20nm,0.9s						
MLR	**Muntele Rosu**	**34.76**	**340**	*e*P	**P**	**17 25 01.7**	**+1.1**
	comp=Z,20nm,0.9s						
MLR	**Muntele Rosu**	**34.76**	**340**	PcP	**PcP**	**17 27 35.0**	**+0.9**
MLR	**Muntele Rosu**	**34.76**	**340**	*e*P	**P**	**17 25 01.7**	**+1.1**
	comp=Z,20nm,0.9s						
MLR				PcP	**PcP**	**17 27 35.0**	**+0.9**
BOVS	**Bovan**	**34.79**	**334**	*e*P	**P**	**17 24 59.9**	**-0.8**
PLOR	**Plostina**	**34.86**	**341**	⇓*i*P	**P**	**17 25 02.5**	**+1.2**
VOIR		**35.02**	**339**	⇑*i*P	**P**	**17 25 03.0**	**+0.3**
ARR	**Arges**	**35.10**	**339**	⇓*i*P	**P**	**17 25 03.9**	**+0.5**
KIS	**Kishinev**	**35.29**	**345**	*e*P	**P**	**17 25 06.0**	**+1.1**
KIS	**Kishinev**	**35.29**	**345**	*e*P	**P**	**17 25 06.0**	**+1.1**
KIS				*e*		17 25 11.0	
KIS	**Kishinev**	**35.29**	**345**	*e*P	**P**	**17 25 06.0**	**+1.1**
DOPR	**Dopca**	**35.37**	**340**	⇑*i*P	**P**	**17 25 05.8**	**+0.1**
GRUS	**Gruza**	**35.42**	**333**	*e*P	**P**	**17 25 05.2**	**-0.9**
TESR	**Tescani**	**35.45**	**342**	⇑*i*P	**P**	**17 25 06.4**	**0.0**
TAM	**Tamanrasset**	**35.67**	**291**	*e*P	**P**	**17 25 06.8**	**-1.9**
TAM				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TAM	**Tamanrasset**	**35.67**	**291**	*e*P	**P**	**17 25 06.8**	**-1.9**
	comp=Z,6.6nm,1.1s						
TAM	**Tamanrasset**	**35.67**	**291**	*e*P	**P**	**17 25 06.8**	**-1.9**
	comp=Z,6.6nm,1.1s						
MDVR	**Moldovita**	**35.72**	**335**	⇑*i*P	**P**	**17 25 08.6**	**-0.1**
DIVS	**Divibare**	**35.90**	**333**	*e*P	**P**	**17 25 09.9**	**-0.5**
TEKS	**Tekeris**	**36.46**	**333**	*e*P	**P**	**17 25 14.4**	**-0.7**
KEST	**Kesra**	**36.73**	**313**	P	**P**	**17 25 17.8**	**+0.2**
	comp=Z,8.8nm,0.8s,baz=125,slow=1.9,SNR=9.9						
KEST				LR	LR	17 39 59.7	
	comp=Z,336nm,21.4s,baz=162,slow=36						
KEST	**Kesra**	**36.73**	**313**	*e*P	**P**	**17 25 18.2**	**+0.6**
	comp=Z,14nm,0.9s						
KEST	**Kesra**	**36.73**	**313**	*e*P	**P**	**17 25 18.2**	**+0.6**
	comp=Z,14nm,0.9s						
BURAR	**Bucovina Array**	**36.88**	**341**	⇑*i*P	**P**	**17 25 20.1**	**+1.4**
BUR08	**Bucovina Ar. S**	**36.91**	**341**	*e*P	**P**	**17 25 20.1**	**+1.1**
BUR08	**Bucovina Ar. S**	**36.91**	**341**	*e*P	**P**	**17 25 20.1**	**+1.1**
DRGR		**37.01**	**338**	⇓*i*P	**P**	**17 25 20.4**	**+0.6**
VRH	**Novokhopyorsk**	**37.77**	**360**	*e*P	**P**	**17 25 25.5**	**-0.5**
VRH				pmax	pmax		
	comp=Z,20nm,1.0s						
VRH				MLR	MLR		
	comp=Z,520nm,15.0s						
VSR	**Storozhevoye**	**37.84**	**357**	*e*P	**P**	**17 25 26.3**	**-0.3**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR				MLR	MLR		
	comp=Z,240nm,12.0s						
TRPA	**Tarpa**	**38.21**	**339**	⇓*e*pPKiKP	**P**	**17 25 31.1**	**+1.3**
TRPA	**Tarpa**	**38.21**	**339**	⇓*e*P	**P**	**17 25 31.1**	**+1.3**
KKAR	**Karatay Array**	**38.62**	**34**	P	**P**	**17 25 32.4**	**-1.0**
KKAR	**Karatay Array**	**38.62**	**34**	P	**P**	**17 25 32.4**	**-1.0**
KKAR	**Karatay Array**	**38.62**	**34**	P	**P**	**17 25 32.4**	**-1.0**
KIEV	**Kiev**	**38.65**	**347**	*e*P	P	17 25 27.1	-6.3
KIEV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIEV	**Kiev**	**38.65**	**347**	*e*P	P	17 25 27.1	-6.3
	comp=Z,12nm,1.1s						
AKASG	**Malin Array Be**	**38.65**	**347**	P	**P**	**17 25 33.3**	**-0.1**
	comp=Z,6.9nm,1.0s,baz=162,slow=6.8,SNR=17						
AKBB	**Malin Array Si**	**38.65**	**347**	*e*P	**P**	**17 25 33.0**	**-0.4**
AKBB				pmax	pmax		
	comp=Z,31nm,1.8s						
AKBB	**Malin Array Si**	**38.65**	**347**	*e*P	**P**	**17 25 33.0**	**-0.4**
	comp=Z,31nm,1.8s						
AKBB	**Malin Array Si**	**38.65**	**347**	*e*P	**P**	**17 25 33.0**	**-0.4**
	comp=Z,31nm,1.8s						
PALK	**Pallekele**	**38.70**	**95**	LR	LR	17 39 06.5	
	comp=Z,309nm,18.8s,baz=295,slow=32						
UZH	**Uzhgorod**	**38.73**	**339**	*e*P	**P**	**17 25 37.2**	**+3.1**
UZH				*e*		17 25 44.2	
ABKAR	**Akbulak array**	**38.81**	**19**	*e*P	**P**	**17 25 34.2**	**-0.7**
ABKAR	**Akbulak array**	**38.81**	**19**	*e*P	**P**	**17 25 34.2**	**-0.7**
KOLS	**Kolonicke sedl**	**38.99**	**339**	*e*P	**P**	**17 25 37.4**	**+1.0**
KOLS				pmax	pmax		
	comp=Z,16nm,1.6s						
KOLS	**Kolonicke sedl**	**38.99**	**339**	*e*P	**P**	**17 25 37.4**	**+1.0**
	comp=Z,16nm,1.6s						
KOLS	**Kolonicke sedl**	**38.99**	**339**	*e*P	**P**	**17 25 37.3**	**+0.9**
PSZ	**Piszkesteto**	**39.01**	**336**	⇓*i*P	**P**	**17 25 37.2**	**+0.6**
PSZ	**Piszkesteto**	**39.01**	**336**	⇓*e*sPKiKP	**P**	**17 25 37.1**	**+0.5**
PSZ	**Piszkesteto**	**39.01**	**336**	*e*P	**P**	**17 25 34.1**	**-2.5**
PSZ				pmax	pmax		
	comp=Z,15nm,0.9s						
PSZ	**Piszkesteto**	**39.01**	**336**	*e*P	**P**	**17 25 34.1**	**-2.5**
	comp=Z,15nm,0.9s						
PSZ	**Piszkesteto**	**39.01**	**336**	*e*P	**P**	**17 25 34.1**	**-2.5**
	comp=Z,15nm,0.9s						
TOA0	**Torodi Ar. Sit**	**39.02**	**274**	*e*P	**P**	**17 25 35.9**	**-1.1**
TOA0	**Torodi Ar. Sit**	**39.02**	**274**	*e*P	**P**	**17 25 35.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**39.02**	**274**	P	**P**	**17 25 36.0**	**-1.0**
	comp=Z,5.0nm,0.9s,baz=94,slow=8.1,SNR=23						
TORD				PcP	**PcP**	**17 27 47.5**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=105,slow=4.9,SNR=2.5						
LPSR	**Galich'ya Gora**	**39.24**	**357**	*e*P	**P**	**17 25 38.0**	**-0.3**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
LPSR				MLR	MLR		
	comp=Z,260nm,14.0s						
CRVS	**Cervenica-Dubn**	**39.25**	**339**	*e*P	**P**	**17 25 39.4**	**+0.9**
CRVS	**Cervenica-Dubn**	**39.25**	**339**	*e*P	**P**	**17 25 39.4**	**+0.9**
CRVS	**Cervenica-Dubn**	**39.25**	**339**	*e*P	**P**	**17 25 39.4**	**+0.9**
KECS	**Kecovo**	**39.25**	**338**	*e*P	**P**	**17 25 39.6**	**+1.0**
KECS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KECS	**Kecovo**	**39.25**	**338**	*e*P	**P**	**17 25 39.6**	**+1.0**
	comp=Z,4.8nm,0.9s						
KECS	**Kecovo**	**39.25**	**338**	*e*P	**P**	**17 25 39.6**	**+1.0**
AKTO	**Aktyubinsk**	**39.29**	**16**	P	**P**	**17 25 39.7**	**+0.8**
	comp=Z,17nm,1.0s,baz=214,slow=8.2,SNR=29						
STHS	**Stebnicka Huta**	**39.76**	**339**	*e*P	**P**	**17 25 43.2**	**+0.4**
STHS				pmax	pmax		
	comp=Z,8.0nm,1.4s						
STHS	**Stebnicka Huta**	**39.76**	**339**	*e*P	**P**	**17 25 43.2**	**+0.4**
	comp=Z,8.1nm,1.4s						
STHS	**Stebnicka Huta**	**39.76**	**339**	*e*P	**P**	**17 25 43.2**	**+0.4**
KSH	**Kashi**	**39.80**	**43**	P	**P**	**17 25 39.8**	**-3.7**
KSH				pP	pP	17 25 45.2	-2.6
KSH				PP	**PP**	**17 27 15.4**	**+0.4**
KSH				PcP	**PcP**	**17 27 47.9**	**-1.7**
KSH				S	**S**	**17 31 41.4**	**-6.1**
KSH				SS	SS	17 34 25.8	-18
KSH				ScS	**ScS**	**17 35 44.6**	**-6.5**
KSH				PMZ			
	comp=Z,4.0nm,0.5s						
KSH				PMZ			
	comp=Z,160nm,4.9s						
KSH				LN			
	comp=Z,690nm,10.4s						
KSH				LE			
	comp=Z,390nm,10.5s						
KSH				LZ			
	comp=Z,830nm,14.0s						
AML	**Almayashu**	**39.83**	**38**	P	**P**	**17 25 43.5**	**-0.5**
	SNR=22						
VNDS	**Vrh nad Dolski**	**39.87**	**330**	*i* P	**P**	**17 25 44.3**	**+0.5**
VNDS	**Vrh nad Dolski**	**39.87**	**330**	P	**P**	**17 25 44.3**	**+0.5**
VYHS	**Vyhne**	**39.89**	**336**	*e*P	**P**	**17 25 44.0**	**+0.1**
VYHS				pmax	pmax		
	comp=Z,214nm,3.7s						
VYHS	**Vyhne**	**39.89**	**336**	*e*P	**P**	**17 25 44.0**	**+0.1**
	comp=Z,214nm,3.7s						
VYHS	**Vyhne**	**39.89**	**336**	*e*P	**P**	**17 25 44.0**	**+0.1**
SOKA	**Soboth**	**40.13**	**331**	*e*P	**P**	**17 25 47.0**	**+0.9**
	comp=Z,15nm,1.6s,SNR=7.2						
SOKA	**Soboth**	**40.13**	**331**	P	**P**	**17 25 47.0**	**+0.9**
	comp=Z,15nm,1.6s,SNR=7.2						
LANS	**Liptovska Anna**	**40.18**	**337**	*e*P	**P**	**17 25 47.1**	**+0.7**
LANS	**Liptovska Anna**	**40.18**	**337**	*e*P	**P**	**17 25 47.1**	**+0.7**
LANS	**Liptovska Anna**	**40.18**	**337**	*e*P	**P**	**17 25 47.1**	**+0.7**
TSUM	**Tsumeb**	**40.18**	**217**	P	**P**	**17 25 47.9**	**+1.1**
	comp=Z,3.8nm,1.1s,baz=38,slow=11,SNR=5.4						
TSUM	**Tsumeb**	**40.18**	**217**	*e*P	**P**	**17 25 48.3**	**+1.5**
	comp=Z,18nm,1.5s						
TSUM	**Tsumeb**	**40.18**	**217**	*e*P	**P**	**17 25 48.3**	**+1.5**
	comp=Z,18nm,1.5s						
EKS2	**Erkin-Say**	**40.20**	**37**	*e*P	**P**	**17 25 47.9**	**+1.2**
EKS2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EKS2	**Erkin-Say**	**40.20**	**37**	*e*P	**P**	**17 25 47.9**	**+1.2**
	comp=Z,7.3nm,1.0s						
EKS2	**Erkin-Say**	**40.20**	**37**	*e*P	**P**	**17 25 47.9**	**+1.2**
	comp=Z,7.3nm,1.0s						
SOP	**Sopron**	**40.20**	**333**	*e*P	**P**	**17 25 46.1**	**-0.3**
SOP	**Sopron**	**40.20**	**333**	*e*P	**P**	**17 25 46.1**	**-0.3**
VOJS	**Vojsko**	**40.22**	**330**	*i* P	**P**	**17 25 47.1**	**+0.3**
VOJS	**Vojsko**	**40.22**	**330**	*i* P	**P**	**17 25 47.1**	**+0.3**
OBKA	**Obir**	**40.24**	**331**	*e*P	**P**	**17 25 48.1**	**+1.2**
	comp=Z,9.8nm,0.9s						
OBKA	**Obir**	**40.24**	**331**	P	**P**	**17 25 48.1**	**+1.2**
	comp=Z,9.8nm,0.9s						
ARSA	**Arzberg**	**40.33**	**332**	*i* P	**P**	**17 25 47.8**	**+0.2**
	comp=Z,17nm,0.8s,SNR=15						
ARSA	**Arzberg**	**40.33**	**332**	P	**P**	**17 25 47.8**	**+0.2**
	comp=Z,17nm,0.8s,SNR=15						
AAK	**Ala-Archa**	**40.60**	**38**	P	**P**	**17 25 51.9**	**+1.7**
	comp=Z,3.5nm,0.7s,baz=231,slow=8.3,SNR=8.9						
AAK	**Ala-Archa**	**40.60**	**38**	*e*P	**P**	**17 25 49.9**	**-0.2**
	comp=Z,29nm,1.6s						
AAK	**Ala-Archa**	**40.60**	**38**	*e*P	**P**	**17 25 49.9**	**-0.2**
	comp=Z,29nm,1.6s						
CONA	**Conrad Observa**	**40.69**	**333**	*e*P	**P**	**17 25 51.2**	**+0.6**
	comp=Z,15nm,1.4s,SNR=8.1						
CONA	**Conrad Observa**	**40.69**	**333**	P	**P**	**17 25 51.2**	**+0.6**
	comp=Z,15nm,1.4s,SNR=8.1						
MYKA	**Terra Mystica**	**40.76**	**330**	*i* pP	**P**	**17 25 52.9**	**+1.7**
	comp=Z,6.6nm,0.8s						
FRU	**Bishkek**	**40.80**	**38**	*e*P	**P**	**17 25 53.0**	**+1.5**
OJC	**Ojcow**	**40.94**	**338**	*e*P	**P**	**17 25 51.9**	**-0.7**
OJC	**Ojcow**	**40.94**	**338**	*e*P	**P**	**17 25 49.6**	**-3.0**
OJC				pmax	pmax		
	comp=Z,32nm,1.7s						
OJC	**Ojcow**	**40.94**	**338**	*e*P	**P**	**17 25 51.9**	**-0.7**
OJC	**Ojcow**	**40.94**	**338**	*e*P	**P**	**17 25 49.6**	**-3.0**
	comp=Z,32nm,1.7s						
KBA	**Koelnbreinsper**	**41.22**	**330**	*e*P	**P**	**17 25 54.6**	**-0.6**
	comp=Z,4.7nm,0.8s						
KBA	**Koelnbreinsper**	**41.22**	**330**	P	**P**	**17 25 54.6**	**-0.6**
	comp=Z,4.7nm,0.8s						
OKC	**Ostrava-Krasne**	**41.24**	**337**	*e*P	**P**	**17 25 55.3**	**+0.3**
OKC	**Ostrava-Krasne**	**41.24**	**337**	*e*P	**P**	**17 25 55.3**	**+0.3**
OKC	**Ostrava-Krasne**	**41.24**	**337**	P	**P**	**17 25 55.3**	**+0.3**
LBTB	**Lobatse**	**41.27**	**203**	P	**P**	**17 25 58.0**	**+2.4**
	comp=Z,4.2nm,0.9s,baz=347,slow=11,SNR=3.6						
MOA	**Molln**	**41.35**	**332**	*e*P	**P**	**17 25 55.8**	**-0.2**
	comp=Z,17nm,0.9s,SNR=9.0						
MOA	**Molln**	**41.35**	**332**	P	**P**	**17 25 55.8**	**-0.2**
	comp=Z,17nm,0.9s,SNR=9.0						
ABTA	**Abfaltersbach**	**41.40**	**329**	*i* P	**P**	**17 25 57.1**	**+0.6**
	comp=Z,7.5nm,0.7s,SNR=7.2						
ABTA	**Abfaltersbach**	**41.40**	**329**	P	**P**	**17 25 57.1**	**+0.6**
	comp=Z,7.5nm,0.7s,SNR=7.2						
MORC	**Moravsky Berou**	**41.43**	**336**	⇓*i*P	**P**	**17 25 56.4**	**-0.2**
MORC	**Moravsky Berou**	**41.43**	**336**	*e*P	**P**	**17 25 56.0**	**-0.7**
MORC				pmax	pmax		
	comp=Z,48nm,1.2s						
MORC	**Moravsky Berou**	**41.43**	**336**	*e*P	**P**	**17 25 56.0**	**-0.7

PVCC Panska Ves 43.22 335 P **P** 17 26 11.2 +0.1
BRG Berggiesshubel 43.74 335 *e*P **P** 17 26 14.2 -1.1
comp=Z,11nm,1.1s
BRG S **S** 17 32 48.0 +2.9
BRG SS **SS** 17 35 57.0 -3.8
comp=N,64nm,10.5s
comp=E,94nm,11.6s
comp=Z,127nm,15.7s
BRG Berggiesshubel 43.74 335 *e*P **P** 17 26 14.2 -1.1
BRG S **S** 17 32 48.0 +2.9
BRG SS **SS** 17 35 57.0 -3.8
BRG pmax pmax
comp=Z,11nm,1.1s
BRG MLR MLR
comp=N,64nm,10.5s
BRG MLR MLR
comp=E,94nm,11.6s
BRG MLR MLR
comp=Z,127nm,15.7s
SENIN Lac Senin/Sane 43.88 326 *e*P **P** 17 26 15.4 -1.4
comp=Z,16nm,0.8s
SENIN Lac Senin/Sane 43.88 326 *e*P **P** 17 26 15.4 -1.4
comp=Z,16nm,0.8s
SPAK Spaichingen-Ko 44.18 328⇑*e*P **P** 17 26 19.1 0.0
FELD Feldberg im Sc 44.44 328 *e*P **P** 17 26 20.6 -0.6
BBS Basel-Blauen 44.44 327⇑*e*P **P** 17 26 19.5 -1.6
CLL Collm 44.46 334⇓*i*P **P** 17 26 20.1 -1.0
comp=Z,16nm,1.4s
CLL *i* 17 26 26.5
CLL *e*S **S** 17 32 52.0 -3.6
CLL *e*SS **SS** 17 36 15.0 +0.1
CLL Lm MLR 17 47 00.0
comp=Z,100nm,18.8s
CLL Collm 44.46 334⇓*i*P **P** 17 26 20.1 -1.0
CLL *i* 17 26 26.5
CLL *e*S **S** 17 32 52.0 -3.6
CLL pmax pmax
comp=Z,16nm,1.4s
CLL Collm 44.46 334 *e*P **P** 17 26 19.9 -1.2
comp=Z,15nm,1.3s
CLL Collm 44.46 334 *e*P **P** 17 26 19.9 -1.2
comp=Z,15nm,1.3s
BFO Black Forest 44.56 328 *i* P **P** 17 26 22.6 +0.6
BFO Black Forest 44.56 328 *e*P **P** 17 26 19.0 -3.0
comp=Z,15nm,1.3s
FILF Fillols 44.65 318⇑*e*P **P** 17 26 22.9 0.0
FILF Fillols 44.65 318⇑*e*P **P** 17 26 22.9 0.0
LOMF Lomont 44.74 326 *e*P **P** 17 26 23.4 -0.1
LOMF Lomont 44.74 326 *e*P **P** 17 26 23.4 -0.1
SSB Saint Sauveur 44.83 323 *e*P **P** 17 26 20.1 -4.1
SSB pmax pmax
comp=Z,8.0nm,0.8s
SSB Saint Sauveur 44.83 323 *e*P **P** 17 26 20.1 -4.1
comp=Z,8.3nm,0.8s
MOF Molkenrain 44.88 327 *e*P **P** 17 26 24.1 -0.6
MOF Molkenrain 44.88 327 *e*P **P** 17 26 24.1 -0.6
ARU Arti 44.90 13 P **P** 17 26 25.3 +0.8
comp=Z,14nm,0.7s,baz=212,slow=4.5,SNR=25
ARU Arti 44.90 13*c i*P **P** 17 26 24.5 0.0
ARU 17 28 05.7
ARU PPP PPP 17 28 48.7
ARU S **S** 17 33 03.4 +1.5
ARU SS **SS** 17 36 24.4 +1.1
ARU pmax pmax
comp=Z,26nm,1.0s
ARU MLR MLR
comp=Z,335nm,18.0s
ARU Arti 44.90 13 *e*P **P** 17 26 23.9 -0.6
comp=Z,21nm,0.9s
ARU Arti 44.90 13 *e*P **P** 17 26 23.9 -0.6
comp=Z,21nm,0.9s
ZRNK Zerenda 45.06 23 *e*P **P** 17 26 25.1 -0.8
ZRNK pmax pmax
comp=Z,14nm,1.0s
ZRNK Zerenda 45.06 23 *e*P **P** 17 26 25.1 -0.8
comp=Z,14nm,1.0s
ZRNK Zerenda 45.06 23 *e*P **P** 17 26 25.1 -0.8
comp=Z,14nm,1.0s
ECH Echery 45.10 328 *e*P **P** 17 26 25.0 -1.3
ECH Echery 45.10 328 *e*P **P** 17 26 25.0 -1.3
TOD Tromm 45.16 330⇑*e*P **P** 17 26 26.5 -0.3
LANF Langenberg 45.25 329 *e*P **P** 17 26 27.3 -0.2
LANF Langenberg 45.25 329 *e*P **P** 17 26 27.3 -0.2
KTD Kalmit 45.33 329 *e*P **P** 17 26 27.8 -0.3
LBL Lubilhac 45.57 322 *e*P **P** 17 26 31.1 +0.9
LBL Lubilhac 45.57 322 *e*P **P** 17 26 31.1 +0.9
BRVK Borovoye 45.64 24*ce*P **P** 17 26 30.7 +0.2
BRVK pmax pmax
comp=Z,21nm,1.2s
BVAR Borovoye Array 45.66 24 P **P** 17 26 31.7 +1.0
comp=Z,6.2nm,0.8s,baz=216,slow=7.3,SNR=19
BVAR PcP **PcP** 17 28 09.9 +1.3
comp=Z,3.5nm,1.0s,baz=199,slow=2.7,SNR=5.0
SVE Sverdlovsk 45.74 14⇓*e*P **P** 17 26 32.3 +1.1
SVE pmax pmax
comp=Z,31nm,1.1s
PLDF La Plantade 45.75 323 *e*P **P** 17 26 31.8 +0.3
PLDF La Plantade 45.75 323 *e*P **P** 17 26 31.8 +0.3
AGO Saint Agoulin 46.08 323 *e*P **P** 17 26 34.1 0.0
AGO Saint Agoulin 46.08 323 *e*P **P** 17 26 34.1 0.0
RESF Ens 46.22 318 *e*P **P** 17 26 35.5 +0.1
RESF Ens 46.22 318 *e*P **P** 17 26 35.5 +0.1
DBIC Dimbokro 46.37 267 P **P** 17 26 37.2 +0.4
comp=Z,5.9nm,0.7s,baz=58,slow=10,SNR=6.1
VSU Vasula 46.45 349*ce*P **P** 17 26 36.8 +0.1
VSU pmax pmax
comp=Z,41nm,1.2s
MDT Midelt 46.48 303 P **P** 17 26 36.9 -0.7
comp=Z,4.0nm,0.9s,baz=85,slow=11,SNR=5.6
REYF Montagne du Re 46.81 318 *e*P **P** 17 26 40.3 +0.3
REYF Montagne du Re 46.81 318 *e*P **P** 17 26 40.3 +0.3
ATE Arette 47.02 317⇑*e*P **P** 17 26 41.7 +0.1
ATE Arette 47.02 317⇑*e*P **P** 17 26 41.7 +0.1
MEM Membach 47.19 329 P **P** 17 26 42.6 0.0
comp=Z,12nm,1.3s
MEM Membach 47.19 329 P **P** 17 26 42.6 0.0
comp=Z,12nm,1.3s
LARF Larrau 47.19 317⇑*e*P **P** 17 26 42.9 0.0
LARF Larrau 47.19 317⇑*e*P **P** 17 26 42.9 0.0
MAKZ Makanchi 47.35 37 *e*P **P** 17 26 44.3 +0.2
MAKZ pmax pmax
comp=Z,24nm,1.0s
MAKZ Makanchi 47.35 37 *e*P **P** 17 26 44.3 +0.2
comp=Z,24nm,1.0s
MAKZ Makanchi 47.35 37 *e*P **P** 17 26 44.3 +0.2
comp=Z,24nm,1.0s
BCLA Clavier 47.42 329 P **P** 17 26 44.5 +0.1
comp=Z,18nm,2.0s
BCLA Clavier 47.42 329 P **P** 17 26 44.5 +0.1
comp=Z,18nm,2.0s
KLMR Klimovskoe 47.47 358 *e*P **P** 17 26 43.8 -0.9
KLMR *e* 17 28 14.2
KLMR *e*S **S** 17 33 36.6 -2.1
KLMR pmax pmax
comp=Z,58nm,1.1s
MK01 Makanchi Array 47.53 37 *e*P **P** 17 26 45.1 -0.3
MK01 Makanchi Array 47.53 37 *e*P **P** 17 26 45.1 -0.3
MK31 Makanchi Array 47.53 37 *e*P **P** 17 26 45.0 -0.5
MK31 Makanchi Array 47.53 37 *e*P **P** 17 26 45.0 -0.5
MK31 Makanchi Array 47.53 37 *e*P **P** 17 26 45.0 -0.5
MKAR Makanchi Array 47.53 37 P **P** 17 26 45.7 +0.2
comp=Z,14nm,0.8s,baz=234,slow=6.4,SNR=47
DOU Dourbes 47.58 328 P **P** 17 26 45.0 -0.7
DOU Dourbes 47.58 328 P **P** 17 26 45.0 -0.7
KURBB Kurchatov Arra 47.65 31 P **P** 17 26 46.8 +0.5
comp=Z,12nm,0.9s,baz=233,slow=8.3,SNR=64
KURK Kurchatov 47.76 31 *e*P **P** 17 26 45.4 -1.7
KURK pmax pmax
comp=Z,69nm,1.0s
KURK Kurchatov 47.76 31 *e*P **P** 17 26 45.3 -1.7
comp=Z,69nm,1.0s
KURK Kurchatov 47.76 31 *e*P **P** 17 26 45.4 -1.7
comp=Z,69nm,1.0s
ES19 SONSECA Array 47.91 312 *e*P **P** 17 26 48.0 -0.6
ES19 SONSECA Array 47.91 312 *e*P **P** 17 26 48.0 -0.6
ESDC Sonseca Array 47.95 312 P **P** 17 26 48.4 -0.5
comp=Z,3.5nm,0.8s,baz=104,slow=6.7,SNR=19
ESDC LR LR 17 49 07.1
comp=Z,82nm,18.1s,baz=75,slow=39
ESLA Sonseca Array 47.95 312 *e*P **P** 17 26 48.8 -0.1
comp=Z,33nm,1.7s
ESLA Sonseca Array 47.95 312 *e*P **P** 17 26 48.8 -0.1
comp=Z,33nm,1.7s
SNF Seneffe 47.99 328 P **P** 17 26 48.9 0.0
SNF Seneffe 47.99 328 P **P** 17 26 48.8 0.0

PAB San Pablo 48.19 312 *e*P **P** 17 26 48.8 -1.9
PAB pmax pmax
comp=Z,10.0nm,0.9s
PAB San Pablo 48.19 312 *e*P **P** 17 26 48.8 -1.9
comp=Z,10nm,0.9s
PAB San Pablo 48.19 312 *e*P **P** 17 26 48.8 -1.9
comp=Z,10nm,0.9s
LSA Lhasa 48.34 62 *e*P **P** 17 26 52.2 -0.3
LSA pmax pmax
comp=Z,35nm,1.5s
LSA Lhasa 48.34 62 *e*P **P** 17 26 52.2 -0.3
comp=Z,34nm,1.5s
LSA Lhasa 48.34 62 *e*P **P** 17 26 52.2 -0.3
comp=Z,34nm,1.5s
FIA1 FINESS Array S 49.37 350 *e*P **P** 17 26 58.8 -0.5
comp=Z,29nm,1.4s
FIA1 FINESS Array S 49.37 350 *e*P **P** 17 26 58.9 -0.5
comp=Z,29nm,1.4s
FINES FINESS Array B 49.37 350 P **P** 17 26 58.3 -1.0
comp=Z,5.3nm,0.6s,baz=142,slow=9.6,SNR=14
WMQ Urumqi 49.57 43 P **P** 17 27 01.7 +0.4
WMQ pP sP 17 27 06.7 -0.7
WMQ sP pP 17 27 08.6 +2.9
WMQ S **S** 17 34 08.3 -0.7
WMQ SS **SS** 17 37 36.6 -4.5
WMQ PMZ
comp=Z,5.0nm,0.6s
WMQ PMZ
comp=Z,64nm,4.6s
WMQ LN
comp=Z,250nm,15.0s
WMQ LE
comp=Z,210nm,13.6s
WMQ LZ
comp=Z,190nm,18.0s
PBAR Barrancos 49.77 309 *e*P **P** 17 27 02.8 0.0
comp=Z,44nm,1.1s
PBAR Barrancos 49.77 309 *e*P **P** 17 27 02.8 0.0
PVAQ Vaqueiros 50.08 308 *e*P **P** 17 27 04.5 -0.6
comp=Z,30nm,1.2s
PVAQ Vaqueiros 50.08 308 *e*LR LR 17 46 14.8
comp=Z,115nm,18.0s
PVAQ Vaqueiros 50.08 308 *e*P **P** 17 27 04.5 -0.6
PBDV Barranco-do-Ve 50.20 308 *e*P **P** 17 27 05.6 -0.5
comp=Z,48nm,1.6s
PBDV Barranco-do-Ve 50.20 308 *e*P **P** 17 27 05.6 -0.5
PBEJ Beja 50.35 309 *e*P **P** 17 27 06.9 -0.3
PBEJ Beja 50.35 309 *e*P **P** 17 27 06.9 -0.3
PESTR Estremoz 50.38 310 *e*P **P** 17 27 06.9 -0.5
comp=Z,22nm,1.5s
PESTR Estremoz 50.38 310 *e*P **P** 17 27 06.9 -0.5
PMRV Marv??o 50.39 310 *e*P **P** 17 27 07.1 -0.4
comp=Z,18nm,1.2s
PMRV Marv??o 50.39 310 *e*LR LR 17 49 18.3
comp=Z,133nm,18.0s
PMRV Marv??o 50.39 310 *e*P **P** 17 27 07.1 -0.4
EVO Evora 50.60 309 *e*P **P** 17 27 09.0 -0.1
comp=Z,28nm,1.6s
EVO Evora 50.60 309 *e*P **P** 17 27 09.0 -0.1
MVO Moncorvo 50.65 313 *e*P **P** 17 27 09.8 +0.3
comp=Z,23nm,1.3s
MVO Moncorvo 50.65 313 *e*LR LR 17 50 39.9
comp=Z,104nm,16.0s
MVO Moncorvo 50.65 313 *e*P **P** 17 27 09.8 +0.3
MTE Manteigas 50.79 312 *e*LR LR 17 46 21.4
comp=Z,81nm,18.0s
PMTG Montargil 50.91 310 *e*P **P** 17 27 10.9 -0.5
comp=Z,25nm,1.3s
PMTG Montargil 50.91 310 *e*P **P** 17 27 10.9 -0.5
PVIS Viseu 51.14 312 *e*P **P** 17 27 12.8 -0.4
comp=Z,17nm,0.9s
PVIS Viseu 51.14 312 *e*P **P** 17 27 12.8 -0.4
PVRL Vila Real 51.18 313 *e*P **P** 17 27 13.1 -0.4
comp=Z,31nm,1.5s
PVRL Vila Real 51.18 313 *e*P **P** 17 27 13.1 -0.4
POLO Lamas de Olo 51.27 313 *e*P **P** 17 27 14.2 0.0
comp=Z,13nm,1.3s
POLO Lamas de Olo 51.27 313 *e*P **P** 17 27 14.2 0.0
PCAS Casmilo, Conde 51.38 311 *e*P **P** 17 27 14.8 -0.2
comp=Z,25nm,2.2s
PCAS Casmilo, Conde 51.38 311 *e*P **P** 17 27 14.8 -0.2
PGAV Gavieira, Arco 51.79 313 *e*P **P** 17 27 17.9 -0.2
comp=Z,49nm,1.6s
PGAV Gavieira, Arco 51.79 313 *e*P **P** 17 27 17.9 -0.2
NC602 NORSAR Array S 52.22 342 *e*P **P** 17 27 19.8 -1.0
NC602 NORSAR Array S 52.22 342 *e*P **P** 17 27 19.8 -1.0
NVS Novosibirsk 52.48 29⇑*i*P **P** 17 27 23.5 +0.7
NVS *e* 17 28 35.7
NVS pmax pmax
comp=N,10.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS pmax pmax
comp=Z,20nm,0.9s
NAO01 NORSAR Array S 52.50 342 *e*P **P** 17 27 23.0 +0.1
NAO01 NORSAR Array S 52.50 342 *e*P **P** 17 27 23.1 +0.1
NB2 NORSAR Subarra 52.56 342 P **P** 17 27 22.2 -1.2
comp=Z,8.5nm,0.8s,baz=140,slow=7.9
NB2 NORSAR Subarra 52.56 342 P **P** 17 27 22.2 -1.2
comp=Z,8.5nm,0.8s,SNR=9.1
NOA NORSAR Array B 52.56 342 P **P** 17 27 22.8 -0.6
comp=Z,5.1nm,0.8s,baz=141,slow=7.4,SNR=9.0
NBO02 NORSAR Array S 52.67 342 *e*P **P** 17 27 24.2 0.0
NBO02 NORSAR Array S 52.67 342 *e*P **P** 17 27 24.2 0.0
NBO00 NORSAR Array S 52.68 342 *e*P **P** 17 27 24.8 +0.5
NBO00 NORSAR Array S 52.68 342 *e*P **P** 17 27 24.8 +0.5
ZAA0 Zalesovo Array 52.73 30 *e*P **P** 17 27 24.5 -0.3
ZAA0 Zalesovo Array 52.73 30 *e*P **P** 17 27 24.4 -0.3
ZALV Zalesovo Beam 52.73 30 P **P** 17 27 24.3 -0.4
comp=Z,20nm,0.8s,baz=239,slow=7.6,SNR=53
NC204 NORSAR Array S 52.88 342 *e*P **P** 17 27 25.2 -0.6
NC204 NORSAR Array S 52.88 342 *e*P **P** 17 27 25.2 -0.6
EKA Eskdalemuir Ar 54.44 330 P **P** 17 27 36.1 -1.1
comp=Z,2.3nm,0.7s,baz=122,slow=8.9,SNR=5.6
LVZ Lovozero 54.72 357*ce*P **P** 17 27 38.5 -0.6
LVZ pmax pmax
comp=Z,43nm,1.7s
LVZ Lovozero 54.72 357 *e*P **P** 17 27 38.6 -0.6
comp=Z,31nm,1.1s
LVZ Lovozero 54.72 357 *e*P **P** 17 27 38.6 -0.6
comp=Z,31nm,1.1s
CM31 Chiang Mai Arr 55.01 77 *e*P **P** 17 27 42.8 +0.8
CM31 Chiang Mai Arr 55.01 77 *e*P **P** 17 27 42.8 +0.8
CMAR Chiang Mai Arr 55.01 77 P **P** 17 27 42.0 0.0
comp=Z,5.3nm,0.9s,baz=277,slow=7.6,SNR=26
CM01 Chiang Mai Arr 55.02 77 *e*P **P** 17 27 41.8 -0.3
CM01 Chiang Mai Arr 55.02 77 *e*P **P** 17 27 41.8 -0.3
LAMP Lampang 55.66 77 P **P** 17 27 47.4 +0.7
comp=Z,6.9nm,1.0s
GSI Gunungsitoli 56.45 97 *e*P **P** 17 27 52.9 +0.5
comp=Z,21nm,1.2s
GSI Gunungsitoli 56.45 97 *e*P **P** 17 27 52.9 +0.5
comp=Z,21nm,1.2s
UTTA Uttaradit 56.59 77 P **P** 17 27 55.8 +2.5
comp=Z,2.6nm,1.2s
GTA Gaotai 57.02 52 *e*P **P** 17 27 57.6 +1.4
GTA pP pP 17 28 01.3 +0.6
GTA sP sP 17 28 03.7 +1.3
GTA PcP **PcP** 17 28 52.2 +0.9
GTA S **S** 17 35 54.4 +3.8
GTA PMZ
comp=Z,5.0nm,1.2s
GTA PMZ
comp=Z,92nm,5.4s
GTA LN
comp=Z,260nm,15.2s
GTA LE
comp=Z,380nm,14.7s
GTA LZ
comp=Z,420nm,15.2s
PBKT Sadao Pong 57.08 79 P **P** 17 27 58.0 +1.2
comp=Z,19nm,1.0s
ARCES ARCESS Array B 57.10 353 P **P** 17 27 55.6 -0.5
comp=Z,3.2nm,0.6s,baz=170,slow=8.6,SNR=12
LOEI Loei 57.28 78 P **P** 17 28 02.0 +3.7
comp=Z,156nm,1.2s,comp=Z,7µm
KMI Kunming 58.30 69 P **P** 17 28 05.8 +0.2
KMI pP pP 17 28 09.7 -0.4
KMI sP sP 17 28 11.7 -0.1
KMI S **S** 17 36 09.6 +1.5
KMI SS **SS** 17 40 00.4 +0.3
KMI PMZ
comp=Z,9.0nm,1.4s
KMI PMZ
comp=Z,62nm,4.2s
KMI LN
comp=Z,96nm,20.1s
KMI LE
comp=Z,120nm,19.2s
KMI LZ
comp=Z,190nm,25.7s
KHON Khomkaen 58.87 79 P **P** 17 28 10.2 +0.8
comp=Z,7.7nm,0.9s,comp=Z,1µm
CD2 Chengdu 59.30 62 *e*P **P** 17 28 11.0 -1.3
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
LZH Lanzhou 59.73 56 *e*P **P** 17 28 17.4 +2.1
LZH pP sP 17 28 21.2 -0.3
LZH sP pP 17 28 23.3 +3.5
LZH PMZ
comp=Z,18nm,1.2s
LZH PMZ
comp=Z,75nm,5.0s
LZH LN
comp=Z,210nm,12.2s
LZH LE
comp=Z,210nm,13.4s
LZH LZ
comp=Z,400nm,15.1s
SKNT Sakolnakorn 59.91 78 P **P** 17 28 18.4 +1.8
MOY Mondy 60.67 38 *e*P **P** 17 28 23.0 +1.6
MOY pmax pmax
comp=Z,14nm,2.1s
ZAK Zakamensk 61.73 40 *e*P **P** 17 28 27.2 -1.4
ZAK pmax pmax
comp=Z,2.0nm,1.9s
GYA Guiyang 61.82 67 *e*P **P** 17 28 30.8 +1.2
GYA PMZ
comp=Z,10.0nm,1.0s
NRIK Noril'sk 62.91 17 P **P** 17 28 37.1 +1.1
comp=Z,14nm,1.0s,baz=212,slow=4.0,SNR=19
SONM Songino Array 63.21 43 P **P** 17 28 39.2 +0.6
comp=Z,6.5nm,0.9s,baz=255,slow=6.4,SNR=33
SONA1 Songino Array 63.22 43 *e*P **P** 17 28 39.0 +0.4
SONA1 Songino Array 63.22 43 *e*P **P** 17 28 39.0 +0.4
ULN Ulaanbaatar 63.65 43*ce*P **P** 17 28 42.2 +0.7
ULN pmax pmax
comp=Z,10.0nm,1.7s
ULN Ulaanbaatar 63.65 43 *e*P **P** 17 28 42.0 +0.5
comp=Z,6.0nm,1.1s
ULN Ulaanbaatar 63.65 43 *e*P **P** 17 28 42.0 +0.5
comp=Z,6.0nm,1.1s
XAN Xi'an 63.77 59 P **P** 17 28 42.4 0.0
XAN sP sP 17 28 49.6 +1.0
XAN PMZ
comp=Z,8.0nm,1.2s
XAN PMZ
comp=Z,85nm,7.3s
ENH Enshi 64.23 63 P **P** 17 28 44.4 -1.1
comp=Z,24nm,1.4s
ENH Enshi 64.23 63 P **P** 17 28 44.4 -1.1
comp=Z,24nm,1.4s
QIZ Qiongzhong 65.25 75 P **P** 17 28 53.4 +1.1
QIZ S **S** 17 37 38.5 +2.7
SPA0 Spitsbergen Ar 66.08 354 *e*P **P** 17 28 57.3 +0.7
SPA0 Spitsbergen Ar 66.08 354 *e*P **P** 17 28 57.3 +0.7
SPITS Spitsbergen Ar 66.08 354 P **P** 17 28 57.2 +0.6
comp=Z,25nm,1.0s,baz=147,slow=8.6,SNR=16
HHC Hu-ho-hao-te 66.12 51 *e*P **P** 17 28 58.7 +1.0
HHC sP sP 17 29 09.5 +5.6
HHC S **S** 17 37 45.0 -1.0
HHC PMZ
comp=Z,24nm,1.0s
HHC PMZ
comp=Z,65nm,5.9s
HHC LN
comp=Z,180nm,16.0s
HHC LE
comp=Z,260nm,17.3s
HHC LZ
comp=Z,200nm,16.0s
WHN Wuhan 68.42 62 P **P** 17 29 13.3 +1.0
BJI Beijing 69.62 52 P **P** 17 29 20.5 +0.9
BJI PMZ
comp=Z,6.0nm,1.1s
SUMG Summit 74.45 342 *e*P **P** 17 29 46.6 -1.8
SUMG Summit 74.45 342 *e*P **P** 17 29 46.6 -1.8
SUMG Summit 74.45 342 *e*P **P** 17 29 46.6 -1.8
CN2 Changchun 76.34 48 *e*P **P** 17 30 00.7 +1.3
CN2 *es*P sP 17 30 06.0 +0.3
CN2 *e*S **S** 17 39 43.0 -1.1
CN2 PMZ
comp=Z,10.0nm,1.2s
CN2 LN
comp=Z,200nm,19.0s
CN2 LE
comp=Z,300nm,19.0s
CN2 LZ
comp=Z,300nm,19.0s
TIXI Tiksi 76.52 19 P **P** 17 29 59.9 0.0
comp=Z,5.0nm,1.0s,baz=303,slow=5.1,SNR=14
TIXI Tiksi 76.52 19 *e*P **P** 17 29 59.8 0.0
TIXI pmax pmax
comp=Z,14nm,1.3s
TIXI Tiksi 76.52 19 *e*P **P** 17 29 59.8 0.0
comp=Z,14nm,1.3s
TIXI Tiksi 76.52 19 *e*P **P** 17 29 59.8 0.0
comp=Z,14nm,1.3s
YAK Yakutsk 77.34 29 *e*P **P** 17 30 05.3 +0.7
YAK *e* 17 30 13.7
YAK *e* 17 33 00.7
YAK *e*S **S** 17 39 54.8 +0.5
YAK *e* 17 40 21.2
YAK *e*SS **SS** 17 45 00.4 +8.2
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,57nm,3.3s
YAK pmax pmax
comp=E,25nm,3.0s
YAK smax smax
comp=E,52nm,3.5s
YAK smax smax
comp=N,20nm,3.3s
YAK MLR MLR
comp=Z,458nm,18.0s
YAK MLR MLR
comp=E,344nm,20.0s
KSAR Wonju Array Be 78.95 54 P **P** 17 30 13.6 -0.4
KSAR Wonju Array Be 78.95 54 P **P** 17 30 13.6 -0.4
KSAR Wonju Array Be 78.95 54 P **P** 17 30 13.6 -0.4
KSRS Korea Array 78.97 54 P **P** 17 30 13.6 -0.6
comp=E,1.7nm,0.9s,baz=272,slow=7.3,SNR=11
MDJ Mudanjiang 79.21 47 P **P** 17 30 16.5 +1.2
MDJ PMZ
comp=E,7.0nm,1.1s
MDJ PMZ
comp=E,46nm,3.9s
KLR Kul'dur 80.00 42 P **P** 17 30 19.1 -0.5
comp=E,4.3nm,1.1s,baz=284,slow=4.4,SNR=8.0
USRK Ussuriysk Ar. 80.97 47 P **P** 17 30 24.4 -0.5
comp=E,1.3nm,0.7s,baz=275,slow=4.8,SNR=7.0
SYO Syowa Base 82.14 181⇓*e*P **P** 17 30 33.6 +3.3
SEY Seymchan 87.29 25 P **P** 17 30 57.3 +0.7
comp=E,4.6nm,1.0s,baz=300,slow=3.2,SNR=5.9
SEY Seymchan 87.29 25*ce*P **P** 17 30 57.4 +0.8
YSS Yuzh-Sakhalins 87.69 42 *e*P **P** 17 30 59.9 +1.0
YSS pmax pmax
comp=Z,13nm,1.7s
FITZ Fitzroy Crossi 88.36 109 P **P** 17 31 03.6 +1.1
comp=Z,7.9nm,1.2s,baz=89,slow=2.7,SNR=3.7
BILL Bilibino 89.70 18⇑*i*P **P** 17 31 09.4 +1.4
BILL *i* S **SKSac** 17 41 37.6 -0.4
BILL pmax pmax
comp=Z,8.0nm,1.3s
WRA Warramunga Arr 96.79 109 P **P** 17 31 41.7 +0.1
comp=Z,0.6nm,0.6s,baz=290,slow=3.7,SNR=5.8
ASAR Alice Springs 97.13 113 P **P** 17 31 42.1 -1.0
comp=Z,1.0nm,1.2s,baz=308,slow=5.1,SNR=5.2
ILAR Eielson Array 101.85 4 PP PP 17 36 13.4 +0.1
comp=Z,0.9nm,1.0s,baz=350,slow=4.9,SNR=7.4
YKA Yellowknife Ar 102.19 349 PP PP 17 36 14.5 -1.5
comp=Z,1.2nm,0.9s,baz=19,slow=7.1,SNR=4.2
NVAR Mina Array Bea 125.24 341 PKP **PKPdf** 17 37 11.4 -0.2
comp=Z,1.1nm,0.7s,baz=8.5,slow=1.9,SNR=7.8
TXAR Lajitas Array 126.05 322 PKP **PKPdf** 17 37 13.4 +0.2
comp=Z,0.7nm,0.8s,baz=62,slow=3.0,SNR=9.2

IDC 12 17:19:37.8±5.6, 13°36N×41°81E, h0km±mb4.0/6, mb1 4.1/7, mb1mx3.6/66, mbtmp4.0/7, Error ellipse: s-maj=142.6km s-min=22.6km az=77.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.08**	**151**	Pn	Pn	17 20 13.8	-0.2
	baz=150,slow=20,SNR=2.3						
ATD				Sn	Sb	17 20 42.2	-0.7
	baz=17,slow=20,SNR=2.1						
BVAR	**Borovoye Array**	**45.64**	**24**	P	P	17 27 59.9	-0.1
	1.3nm,0.9s,baz=221,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**47.51**	**37**	P	P	17 28 14.8	0.0
	3.4nm,0.8s,baz=234,slow=6.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**47.63**	**31**	P	P	17 28 15.8	+0.2
	1.2nm,0.7s,baz=232,slow=8.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**52.71**	**30**	P	P	17 28 52.5	-1.6
	2.6nm,0.7s,baz=238,slow=8.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**55.00**	**77**	P	P	17 29 10.9	-0.6
	1.5nm,0.9s,baz=284,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**63.19**	**43**	P	P	17 30 09.3	+1.4
	0.7nm,0.8s,baz=271,slow=6.5,SNR=3.3						

JMA 12 17:21:05.7±0.1, 38°35N×142°20E, h39km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.68**	**279**	P	Pn	17 21 19.0	+0.2
JIO				eS	Sn	17 21 28.0	-0.2
OFUJ	**Ofunato**	**0.84**	**330**	P	Pn	17 21 21.3	+0.3
OFUJ				eS	Sn	17 21 32.3	+0.1
JMK	**Ichinoseki**	**0.97**	**308**	P	Pn	17 21 23.3	+0.4
JOU	**Okura**	**1.21**	**271**	P	Pn	17 21 26.9	+0.8
JOU				eS	Sn	17 21 42.7	+1.5
JMM	**Marumori**	**1.21**	**247**	P	Pn	17 21 26.0	-0.1
JOM	**Ohasama**	**1.33**	**328**	P	Pn	17 21 28.8	+1.1
JOM				eS	Sn	17 21 45.5	+1.4
JFK	**Kawauchi**	**1.44**	**227**	P	Pn	17 21 28.7	-0.6
JYK	**Kaneyama**	**1.55**	**292**	P	Pn	17 21 31.8	+1.0
JRG	**Rokugo**	**1.61**	**311**	P	Pn	17 21 33.1	+1.5
JYS	**Shirataka**	**1.69**	**266**	P	Pn	17 21 33.3	+0.7

*DHMR **12** 17:23:58.3±0.9, 13°28N×41°10E, h71km±999km, ML4.4*
*ISCJB **12** 17:24:04.3±0.8, 13°38N±0°07×41°66E±0°07, h10km, mb3.8/9, Error ellipse: s-maj=10.8km s-min=9.3km az=17.5*
*IDC **12** 17:24:04.7±1.3, 13°34N×41°71E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.6/61, mbtmp3.8/10, ML4.4/1, Error ellipse: s-maj=26.4km s-min=24.9km az=17.0*
ISC 12 17:24:06.3±0.9, 13°43N±0°08×41°71E±0°08, h10km, n13, σ1s76/16, mb3.7/9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.19**	**149**	Pn	**Pn**	**17 24 41.0**	**-1.9**
	112nm,0.3s,baz=318,slow=12,SNR=8.4						
DHBB	**Dhamar BB**	**2.84**	**66**	*i* P	**Pn**	**17 24 50.4**	**-1.6**
DHBB				*i* S	**Sb**	**17 25 31.5**	**-0.7**
HAJJ	**Hajjah**	**2.90**	**39**	*i* P	**Pn**	**17 24 49.9**	**-2.9**
HAJJ				*i* S	**Sn**	**17 25 29.6**	**+1.7**
HAJJ				AML	AML	17 25 34.0	
	comp=Z,1μm,0.6s						
ADEN	**Aden**	**3.25**	**101**	*i* P	**Pn**	**17 24 54.9**	**-2.5**
ADEN				*i* S	**Sn**	**17 25 39.0**	**+2.7**
ADEN				AML	AML	17 26 35.3	
	comp=E,2μm,0.5s						
MLR	**Muntele Rosu**	**34.64**	**340**	P	**P**	**17 30 57.6**	**+1.7**
	comp=E,0.2nm,0.5s,baz=159,slow=8.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**38.91**	**274**	P	**P**	**17 31 32.6**	**0.0**
	comp=E,1.5nm,1.0s,baz=94,slow=6.4,SNR=5.5						
AKTO	**Aktyubinsk**	**39.23**	**16**	P	**P**	**17 31 34.1**	**-0.6**
	comp=E,1.3nm,0.9s,baz=215,slow=12,SNR=2.5						
GERES	**GERESS Array B**	**42.20**	**332**	P	**P**	**17 31 58.8**	**-0.7**
	comp=E,0.4nm,0.6s,baz=127,slow=8.6,SNR=4.5						
BVAR	**Borovoye Array**	**45.61**	**24**	P	**P**	**17 32 28.6**	**+1.9**
	comp=E,0.7nm,0.7s,baz=220,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**47.51**	**37**	P	**P**	**17 32 42.0**	**+0.2**
	comp=E,2.9nm,0.7s,baz=235,slow=6.1,SNR=22						
KURBB	**Kurchatov Arra**	**47.62**	**31**	P	**P**	**17 32 43.0**	**+0.6**
	comp=E,1.4nm,0.7s,baz=233,slow=8.2,SNR=15						
ZALV	**Zalesovo Beam**	**52.69**	**31**	P	**P**	**17 33 20.4**	**-0.5**
	comp=E,2.4nm,0.6s,baz=242,slow=7.6,SNR=13						
SONM	**Songino Array**	**63.20**	**43**	P	**P**	**17 34 36.1**	**+1.1**
	comp=E,1.2nm,0.9s,baz=268,slow=7.3,SNR=7.2						

*ISCJB **12** 17:24:37.6±0.8, 13°2N±0°1×41°8E±0°1, h10km, mb3.9/13, Error ellipse: s-maj=15.4km s-min=13.2km az=40.5*
*IDC **12** 17:24:37.6±1.3, 13°11N×41°79E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.7/61, mbtmp4.0/13, ML3.9/1, Error ellipse: s-maj=25.8km s-min=22.4km az=33.0*
*NEIC **12** 17:24:38.9±0.6, 13°10N×41°78E, h10km, mb4.0/1, Error ellipse: s-maj=12.5km s-min=10.6km az=221.0*
ISC 12 17:24:39.2±0.9, 13°14N±0°08×41°7E±0°1, h10km, n17, σ0s89/18, mb4.0/13, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.93**	**146**	Pn	**Pn**	**17 25 11.2**	**-1.0**
	118nm,0.3s,baz=240,slow=20,SNR=6.2						
ATD				Sn	**Sg**	**17 25 42.8**	**+1.3**
	195nm,0.3s,baz=249,slow=20,SNR=7.9						
DAMY	**Dhamar**	**2.95**	**61**	*e*Pn	**Pn**	**17 25 26.3**	**-0.2**
WSAR	**Wadi Sarin**	**18.92**	**56**	P	**Pn**	**17 29 00.8**	**-0.2**
	0.4nm,0.3s,baz=249,slow=8.6,SNR=3.7						
BRTR	**Keskin Array B**	**27.43**	**346**	P	**P**	**17 30 26.5**	**+1.1**
	1.5nm,0.9s,baz=172,slow=10.0,SNR=6.1						
KBZ	**Khabaz**	**30.50**	**2**	P	**P**	**17 30 53.8**	**+1.3**
	2.0nm,0.9s,baz=129,slow=9.8,SNR=3.8						
MLR	**Muntele Rosu**	**34.92**	**340**	P	**P**	**17 31 31.8**	**+0.5**
	0.6nm,0.8s,baz=208,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**38.96**	**275**	P	**P**	**17 32 06.1**	**+0.2**
	0.9nm,1.0s,baz=78,slow=6.2,SNR=4.3						
ABKAR	**Akbulak array**	**39.02**	**19**	*e*P	**P**	**17 32 04.9**	**-1.1**
	3.7nm,1.0s						
AKTO	**Aktyubinsk**	**39.50**	**16**	P	**P**	**17 32 09.7**	**-0.3**
	1.7nm,0.7s,baz=224,slow=11,SNR=5.6						
GERES	**GERESS Array B**	**42.47**	**333**	P	**P**	**17 32 34.4**	**-0.2**
	0.9nm,0.8s,baz=128,slow=8.6,SNR=7.3						
ARU	**Arti**	**45.10**	**13**	P	**P**	**17 32 54.9**	**-0.6**
	1.3nm,0.5s,baz=206,slow=3.9,SNR=5.0						
BVAR	**Borovoye Array**	**45.86**	**24**	P	**P**	**17 33 01.2**	**-0.4**
	0.9nm,0.8s,baz=204,slow=3.3,SNR=4.7						
MKAR	**Makanchi Array**	**47.73**	**37**	P	**P**	**17 33 16.1**	**-0.3**
	3.3nm,0.9s,baz=228,slow=5.7,SNR=9.6						
KURBB	**Kurchatov Arra**	**47.85**	**31**	P	**P**	**17 33 16.8**	**-0.4**
	1.7nm,0.8s,baz=232,slow=8.1,SNR=8.9						
KURK	**Kurchatov**	**47.96**	**31**	P	**P**	**17 33 16.8**	**-1.2**
ZALV	**Zalesovo Beam**	**52.93**	**30**	P	**P**	**17 33 54.2**	**-1.4**
	3.6nm,0.8s,baz=241,slow=7.8,SNR=8.8						
SONM	**Songino Array**	**63.40**	**43**	P	**P**	**17 35 09.7**	**+0.5**
	1.2nm,1.0s,baz=248,slow=7.8,SNR=5.6						

*NIED **12** 17:29:00.37°30N×141°80E, h32km, Mw3.5 Best double couple: M₀2.17000×10¹⁴ NP1:φ₀164.00000°, δ36.00000°, λ-20.00000°. NP2:φ₀270.00000°, δ78.00000°, λ-125.00000°.*
*IDC **12** 17:29:27.2±1.5, 37°17N×142°03E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/54, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=33.5km s-min=22.2km az=86.0*
*JMA **12** 17:29:31.5±0.2, 37°26N×141°82E, h36km±3km, M4.1*
ISC 12 17:29:28.6±2.6, 37°26N±0°04×141°94E±0°07, h12km±15km, n24, σ1s31/30, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.85**	**277**	P	**Pb**	**17 29 46.0**	**+0.7**
JFK				eS	**Sg**	**17 29 55.6**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.92**	**260**	P	**Pb**	**17 29 47.1**	**+0.6**
ONAJ				eS	**Sb**	**17 29 57.4**	**-1.3**
JMM	**Marumori**	**1.09**	**304**	P	**Pb**	**17 29 49.5**	**+0.2**
JMM				eS	**Sb**	**17 30 02.2**	**-1.3**
JHO	**Hitachi**	**1.27**	**240**	P	**Pn**	**17 29 51.9**	**-0.2**
JHO				eS	**Sb**	**17 30 05.9**	**-2.8**
JIO	**Ouri**	**1.28**	**339**	P	**Pn**	**17 29 52.5**	**+0.3**
JIO				eS	**Sb**	**17 30 06.7**	**-2.2**
JFT	**Otama**	**1.30**	**282**	P	**Pn**	**17 29 53.2**	**+0.7**
JFT				eS	**Sb**	**17 30 08.0**	**-1.5**
JOU	**Okura**	**1.49**	**318**	P	**Pn**	**17 29 55.8**	**+0.6**
JOU				eS	**Sn**	**17 30 13.6**	**-1.0**
JYS	**Shirataka**	**1.77**	**303**	P	**Pn**	**17 30 00.0**	**+1.1**
JMK	**Ichinoseki**	**1.78**	**342**	P	**Pn**	**17 30 00.1**	**+1.0**
JFY	**Yanaizu**	**1.78**	**275**	P	**Pn**	**17 30 00.0**	**+0.8**
JFY				eS	**Sn**	**17 30 21.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.07**	**258**	Pn	**Pn**	**17 30 18.8**	**+1.9**
	1.5nm,0.3s,baz=82,slow=16,SNR=20						
MJAR				Sn	**Sn**	**17 30 54.9**	**+1.3**
	3.1nm,0.3s,baz=81,slow=18,SNR=5.6						
MAT	**Matsushiro**	**3.07**	**258**	P	**Pn**	**17 30 19.2**	**+2.3**
MAT				S	**Sn**	**17 30 54.7**	**+1.1**
JHJ	**Hachijo jima 2**	**4.49**	**204**	Pn	**Pn**	**17 30 35.8**	**-0.6**
	18nm,0.3s,baz=72,slow=18,SNR=4.9						
JHJ				Sn	**Sn**	**17 31 27.0**	**-1.6**
	12nm,0.3s,baz=90,slow=20,SNR=3.5						
ASAJ	**Asahikawa**	**6.87**	**4**	Pn	**Pn**	**17 31 10.2**	**+1.2**
	baz=225,slow=8.3						
ASAJ				Sn	**Sn**	**17 32 26.2**	**-0.8**
	0.2nm,0.3s,baz=285,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**6.87**	**4**	P	**Pn**	**17 31 10.2**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**27.91**	**122**	T	T	18 04 51.8	
	baz=315,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**27.92**	**122**	T	T	18 04 52.5	
	baz=315,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**27.93**	**122**	T	T	18 04 54.0	
	baz=315,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.64**	**124**	T	T	18 05 49.0	
	baz=316,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**28.64**	**124**	T	T	18 05 44.9	
	baz=316,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**28.65**	**124**	T	T	18 05 46.8	
	baz=316,slow=76,SNR=22						
KURBB	**Kurchatov Arra**	**46.19**	**308**	P	**P**	**17 37 53.7**	**+0.7**
	0.4nm,0.6s,baz=82,slow=7.9,SNR=5.0						
WRA	**Warramunga Arr**	**57.34**	**188**	P	**P**	**17 39 16.4**	**-0.1**
	0.4nm,0.5s,baz=7.4,slow=7.2,SNR=9.0						
ASAR	**Alice Springs**	**61.07**	**188**	P	**P**	**17 39 42.9**	**+0.6**
	0.5nm,1.0s,baz=27,slow=6.4,SNR=3.6						

*ISCJB **12** 17:32:52.6±1.2, 13°4N±0°1×42°1E±0°2, h10km, mb3.7/8, Error ellipse: s-maj=35.6km s-min=14.4km az=164.3*
*IDC **12** 17:32:52.3±2.0, 13°29N×42°04E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.5/60, mbtmp3.6/8, Error ellipse: s-maj=49.1km s-min=23.7km az=65.0*
ISC 12 17:32:53.7±1.6, 13°3N±0°1×42°0E±0°3, h10km, n9, σ0s74/10, mb3.8/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.94**	**155**	Pn	**Pn**	**17 33 26.4**	**-0.4**
	30nm,0.3s,baz=255,slow=20,SNR=3.1						
ATD				Sn	**Sg**	**17 33 56.6**	**+0.5**
	94nm,0.3s,baz=105,slow=23,SNR=5.1						
BRTR	**Keskin Array B**	**27.34**	**346**	P	**P**	**17 38 39.5**	**+0.5**
	0.7nm,0.9s,baz=163,slow=8.8,SNR=4.0						
MLR	**Muntele Rosu**	**34.86**	**340**	P	**P**	**17 39 45.3**	**0.0**
	0.3nm,0.5s,baz=181,slow=11,SNR=4.1						
BVAR	**Borovoye Array**	**45.62**	**24**	P	**P**	**17 41 14.1**	**0.0**
	1.0nm,0.9s,baz=212,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**47.45**	**37**	P	**P**	**17 41 29.1**	**+0.4**
	1.1nm,0.8s,baz=239,slow=7.3,SNR=9.2						
KURBB	**Kurchatov Arra**	**47.59**	**31**	P	**P**	**17 41 29.9**	**+0.3**
	0.6nm,0.7s,baz=232,slow=8.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**52.67**	**30**	P	**P**	**17 42 06.7**	**-1.4**
	1.2nm,0.7s,baz=237,slow=9.7,SNR=5.8						
CMAR	**Chiang Mai Arr**	**54.84**	**77**	P	**P**	**17 42 24.0**	**-0.6**
	0.8nm,0.8s,baz=283,slow=8.0,SNR=3.8						
SONM	**Songino Array**	**63.11**	**43**	P	**P**	**17 43 22.6**	**+0.8**
	0.4nm,0.7s,baz=251,slow=4.4,SNR=3.8						

*ISCJB **12** 17:34:23.4±0.5, 13°36N±0°06×41°70E±0°09, h10km, mb4.0/18, MS3.6/1, Error ellipse: s-maj=13.7km s-min=7.7km az=157.3*
*IDC **12** 17:34:23.3±0.8, 13°28N×41°73E, h0km, mb4.0/18, mb1 4.1/20, mb1mx3.9/59, mbtmp4.0/20, ML4.1/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/53, Error ellipse: s-maj=18.0km s-min=15.9km az=75.0*
ISC 12 17:34:24.8±0.7, 13°26N±0°08×41°7E±0°1, h10km, n21, σ0s78/21, mb4.0/18, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.04**	**147**	Pn	**Pn**	**17 34 58.9**	**-0.4**
	72nm,0.3s,baz=108,slow=20,SNR=4.0						
ATD				Sn	**Sb**	**17 35 27.9**	**+0.4**
	243nm,0.3s,baz=115,slow=22,SNR=10						
ATD				LR	LR	17 35 44.1	
	comp=Z,89nm,20.9s,baz=28,slow=40						
WSAR	**Wadi Sarin**	**18.86**	**56**	P	**Pn**	**17 38 45.5**	**-0.2**
	0.4nm,0.3s,baz=252,slow=11,SNR=5.0						
BRTR	**Keskin Array B**	**27.31**	**346**	P	**P**	**17 40 10.1**	**+0.3**
	1.8nm,0.9s,baz=134,slow=8.8,SNR=8.3						
GEYT	**Alibeck**	**28.57**	**28**	P	**P**	**17 40 22.5**	**+1.4**
	0.5nm,0.4s,baz=193,slow=12,SNR=2.3						
KBZ	**Khabaz**	**30.38**	**2**	P	**P**	**17 40 37.4**	**+0.5**
	2.5nm,1.0s,baz=219,slow=5.8,SNR=3.6						
MLR	**Muntele Rosu**	**34.80**	**340**	P	**P**	**17 41 17.6**	**+1.8**
	0.9nm,0.8s,baz=157,slow=8.8,SNR=7.2						
AKASG	**Malin Array Be**	**38.70**	**347**	P	**P**	**17 41 47.7**	**-1.1**
	1.4nm,0.8s,baz=163,slow=7.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**38.94**	**275**	P	**P**	**17 41 51.2**	**-0.2**
	2.4nm,1.1s,baz=91,slow=8.0,SNR=6.4						
AKTO	**Aktyubinsk**	**39.38**	**16**	P	**P**	**17 41 54.7**	**+0.2**
	2.5nm,0.8s,baz=222,slow=9.9,SNR=9.6						
GERES	**GERESS Array B**	**42.36**	**333**	P	**P**	**17 42 18.6**	**-0.6**
	1.1nm,0.9s,baz=140,slow=6.4,SNR=6.7						
BOSA	**Boshof**	**44.58**	**201**	P	**P**	**17 42 37.7**	**+0.4**
	2.0nm,0.6s,baz=352,slow=4.1,SNR=6.5						
BVAR	**Borovoye Array**	**45.75**	**24**	P	**P**	**17 42 46.2**	**-0.1**
	1.5nm,0.8s,baz=224,slow=6.2,SNR=7.5						
MKAR	**Makanchi Array**	**47.64**	**37**	P	**P**	**17 43 00.8**	**-0.4**
	4.5nm,0.9s,baz=235,slow=6.9,SNR=20						
KURBB	**Kurchatov Arra**	**47.75**	**31**	P	**P**	**17 43 01.9**	**-0.1**
	2.3nm,0.8s,baz=233,slow=8.1,SNR=17						
ESDC	**Sonseca Array**	**47.94**	**312**	P	**P**	**17 43 03.5**	**-0.2**
	0.1nm,0.3s,baz=123,slow=5.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**52.83**	**30**	P	**P**	**17 43 39.5**	**-0.9**
	5.1nm,0.8s,baz=242,slow=7.0,SNR=17						
CMAR	**Chiang Mai Arr**	**55.10**	**77**	P	**P**	**17 43 57.5**	**-0.1**
	2.3nm,0.9s,baz=266,slow=8.3,SNR=9.2						
NRIK	**Noril'sk**	**63.01**	**17**	P	**P**	**17 44 50.2**	**-1.4**
	1.6nm,0.3s,baz=208,slow=3.5,SNR=4.0						
SONM	**Songino Array**	**63.31**	**43**	P	**P**	**17 44 54.0**	**-0.1**
	1.9nm,0.9s,baz=262,slow=6.4,SNR=8.9						
KLR	**Kul'dur**	**80.10**	**42**	P	**P**	**17 46 35.8**	**+0.8**
	0.3nm,0.3s,baz=213,slow=12,SNR=3.9						
FITZ	**Fitzroy Crossi**	**88.41**	**109**	LR	LR	18 17 47.0	
	comp=Z,28nm,21.8s,baz=214,slow=30						

*IDC **12** 17:35:54.6±1.6, 13°30N×41°67E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.7/59, mbtmp4.0/12, ML4.1/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/55, Error ellipse: s-maj=37.7km s-min=18.7km az=54.0*
*ISCJB **12** 17:35:55.3±0.9, 13°45N±0°08×41°7E±0°2, h10km, mb3.9/10, MS3.5/3, Error ellipse: s-maj=23.9km s-min=8.2km az=157.2*
ISC 12 17:35:55.8±1.3, 13°3N±0°1×41°6E±0°2, h10km, n16, σ0s99/14, mb4.0/10, MS3.6/3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.12**	**146**	Pn	**Pn**	**17 36 31.5**	**+0.1**
	99nm,0.3s,baz=258,slow=20,SNR=2.1						
ATD				Sn	**Sb**	**17 37 01.1**	**+0.4**
	152nm,0.3s,baz=73,slow=19,SNR=5.3						
WSAR	**Wadi Sarin**	**18.92**	**56**	P	**Pn**	**17 40 17.3**	**-0.2**
	0.4nm,0.3s,baz=297,slow=11,SNR=4.7						
GNI	**Garni**	**26.89**	**5**	LR	LR	17 54 11.3	
	comp=Z,88nm,20.7s,baz=178,slow=41						
BRTR	**Keskin Array B**	**27.26**	**346**	P	**P**	**17 41 42.3**	**+1.9**
	1.3nm,1.0s,baz=145,slow=5.3,SNR=4.5						
MLR	**Muntele Rosu**	**34.75**	**341**	P	**P**	**17 42 48.1**	**+1.8**
	baz=161,slow=18						
AKTO	**Aktyubinsk**	**39.38**	**17**	P	**P**	**17 43 26.3**	**+0.7**
	2.0nm,1.0s,baz=219,slow=12,SNR=3.6						
GERES	**GERESS Array B**	**42.29**	**333**	P	**P**	**17 43 48.3**	**-1.4**
	0.6nm,0.5s,baz=134,slow=7.6,SNR=7.2						
BVAR	**Borovoye Array**	**45.77**	**24**	P	**P**	**17 44 17.5**	**0.0**
	1.0nm,0.7s,baz=208,slow=6.0,SNR=5.4						
DBIC	**Dimbokro**	**46.19**	**267**	LR	LR	18 02 29.6	

	comp=Z,71nm,18.6s,baz=58,slow=34						
MKAR	**Makanchi Array**	**47.67**	**37**	P	**P**	**17 44 32.5**	**0.0**
	3.1nm,0.8s,baz=236,slow=7.5,SNR=14						
KURBB	**Kurchatov Arra**	**47.78**	**31**	P	**P**	**17 44 33.5**	**+0.3**
	1.6nm,0.7s,baz=233,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**49.38**	**350**	P	**P**	**17 44 45.0**	**-0.4**
	1.4nm,0.8s,baz=191,slow=3.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**52.86**	**30**	P	**P**	**17 45 10.9**	**-0.7**
	3.0nm,0.6s,baz=236,slow=8.1,SNR=9.8						
CMAR	**Chiang Mai Arr**	**55.19**	**77**	P	**P**	**17 45 28.4**	**-0.9**
	1.2nm,0.9s,baz=271,slow=8.7,SNR=4.3						
SONM	**Songino Array**	**63.36**	**43**	P	**P**	**17 46 25.6**	**+0.1**
	1.1nm,0.9s,baz=261,slow=8.0,SNR=5.0						
FITZ	**Fitzroy Crossi**	**88.51**	**109**	LR	LR	18 27 02.8	
	comp=Z,24nm,18.1s,baz=200,slow=35						

*ISCJB **12** 17:37:38.3±0.6, 13°39N±0°07×41°6E±0°1, h10km, mb4.1/18, MS3.2/1, Error ellipse: s-maj=15.7km s-min=7.9km az=149.6*
*IDC **12** 17:37:38.1±0.9, 13°30N×41°56E, h0km, mb4.1/18, mb1 4.2/20, mb1mx4.0/59, mbtmp4.1/20, ML4.2/2, MS3.8/3, Ms1 3.8/3, ms1mx3.0/58, Error ellipse: s-maj=21.0km s-min=16.6km az=26.0*
ISC 12 17:37:39.4±0.7, 13°27N±0°10×41°6E±0°1, h10km, n23, σ0s86/24, mb4.1/18, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.13**	**144**	Pn	**Pn**	**17 38 14.4**	**-0.6**
	201nm,0.3s,baz=106,slow=12,SNR=6.3						
ATD				Sn	**Sb**	**17 38 44.5**	**0.0**
	240nm,0.3s,baz=268,slow=23,SNR=6.7						
KMBO	**Kilima Mbogo**	**14.94**	**197**	LR	LR	17 46 55.3	
	comp=Z,466nm,18.7s,baz=5.0,slow=37						
WSAR	**Wadi Sarin**	**18.96**	**56**	P	**P**	**17 42 00.7**	**-0.3**
	0.3nm,0.3s,baz=261,slow=5.7,SNR=4.2						
WSAR				LR	LR	17 50 15.5	
	comp=Z,480nm,19.9s,baz=246,slow=40						
BRTR	**Keskin Array B**	**27.27**	**347**	P	**P**	**17 43 23.6**	**-0.4**
	1.5nm,0.8s,baz=159,slow=11,SNR=7.9						
BRTR				LR	LR	17 53 08.6	
	comp=Z,80nm,21.3s,baz=138,slow=34						
AKASG	**Malin Array Be**	**38.66**	**347**	P	**P**	**17 45 01.1**	**-1.9**
	0.1nm,0.3s,baz=159,slow=7.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**38.80**	**275**	P	**P**	**17 45 05.3**	**+0.6**
	2.0nm,0.9s,baz=108,slow=6.8,SNR=9.2						
AKTO	**Aktyubinsk**	**39.41**	**17**	P	**P**	**17 45 09.0**	**-0.4**
	3.8nm,0.9s,baz=228,slow=8.2,SNR=8.4						
AAK	**Ala-Archa**	**40.79**	**38**	P	**P**	**17 45 23.1**	**+2.0**
	1.2nm,0.3s,baz=24,slow=1.9,SNR=3.7						
GERES	**GERESS Array B**	**42.29**	**333**	P	**P**	**17 45 32.9**	**-0.4**
	1.6nm,0.8s,baz=134,slow=7.6,SNR=9.5						
GERES				ScP	**ScP**	**17 51 17.9**	**0.0**
	0.3nm,0.5s,baz=148,slow=5.8,SNR=3.6						
BVAR	**Borovoye Array**	**45.80**	**24**	P	**P**	**17 46 02.2**	**+0.9**
	1.4nm,0.7s,baz=223,slow=8.1,SNR=8.0						
MKAR	**Makanchi Array**	**47.71**	**37**	P	**P**	**17 46 17.2**	**+0.8**
	6.0nm,0.7s,baz=235,slow=6.8,SNR=32						
KURBB	**Kurchatov Arra**	**47.82**	**31**	P	**P**	**17 46 17.7**	**+0.6**
	3.0nm,0.7s,baz=233,slow=8.1,SNR=22						
ESDC	**Sonseca Array**	**47.83**	**312**	P	**P**	**17 46 17.8**	**+0.3**
	0.1nm,0.3s,baz=110,slow=7.9,SNR=6.3						
FINES	**FINESS Array B**	**49.39**	**350**	P	**P**	**17 46 29.4**	**+0.4**
	1.3nm,0.6s,baz=131,slow=8.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**52.90**	**31**	P	**P**	**17 46 55.0**	**-0.4**
	6.0nm,0.7s,baz=236,slow=7.9,SNR=20						
CMAR	**Chiang Mai Arr**	**55.23**	**77**	P	**P**	**17 47 12.8**	**-0.4**
	4.8nm,0.9s,baz=279,slow=8.6,SNR=22						
ARCES	**ARCESS Array B**	**57.14**	**353**	P	**P**	**17 47 25.1**	**-0.8**
	3.0nm,0.6s,baz=134,slow=6.9,SNR=5.7						
SONM	**Songino Array**	**63.40**	**43**	P	**P**	**17 48 10.1**	**+0.8**
	2.7nm,0.9s,baz=264,slow=6.8,SNR=13						
TIXI	**Tiksi**	**76.65**	**19**	P	**P**	**17 49 29.5**	**-0.5**
	1.0nm,0.8s,baz=315,slow=7.2,SNR=4.8						
KLR	**Kul'dur**	**80.19**	**42**	P	**P**	**17 49 50.3**	**+0.2

1.3nm,0.8s,baz=236,slow=7.3,SNR=11
ZALV Zalesovo Beam 52.72 30 P P 17 52 42.6 -0.8
1.4nm,0.7s,baz=226,slow=8.3,SNR=6.8
SONM Songino Array 63.17 43 P P 17 53 57.5 +0.4
0.5nm,0.9s,baz=251,slow=4.4,SNR=2.7

---

*IDC **12** 17:46:07.7±1.8, 13°.19N×41°.58E, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.6/51, mbtmp3.8/8, ML4.0/2, Error ellipse: s-maj=43.2km s-min=20.5km az=54.0*
*ISCJB **12** 17:46:08.2±1.2, 13°.3N±0°.1×41°.6E±0°.2, h10km, mb3.8/6, Error ellipse: s-maj=28.1km s-min=9.5km az=155.4*
ISC 12 17:46:09.0±1.6, **13°.2N**±0°.1×**41°.6E**±0°.2, **h10**km, **n8,** σ0**63**/9, **mb3.9**/6, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.06**	**142**	Pn	**Pn**	**17 46 43.2**	**-0.5**
	91nm,0.3s,baz=103,slow=2.9,SNR=9.9						
ATD				Sn	**Sb**	**17 47 12.9**	**+0.7**
	176nm,0.3s,baz=292,slow=18,SNR=8.7						
WSAR	**Wadi Sarin**	**19.03**	**56**	P	**Pn**	**17 50 32.0**	**-0.1**
	0.3nm,0.3s,baz=312,slow=12,SNR=3.0						
MLR	**Muntele Rosu**	**34.84**	**341**	P	**P**	**17 53 01.4**	**+1.0**
	0.5nm,1.0s,baz=143,slow=15,SNR=3.1						
GERES	**GERESS Array B**	**42.37**	**333**	P	**P**	**17 54 03.3**	**-0.2**
	0.5nm,0.9s,baz=139,slow=9.1,SNR=2.9						
MKAR	**Makanchi Array**	**47.80**	**37**	P	**P**	**17 54 46.9**	**+0.2**
	1.7nm,0.8s,baz=236,slow=6.1,SNR=14						
ZALV	**Zalesovo Beam**	**52.99**	**30**	P	**P**	**17 55 25.2**	**-0.6**
	2.5nm,0.7s,baz=238,slow=6.5,SNR=8.3						
CMAR	**Chiang Mai Arr**	**55.27**	**77**	P	**P**	**17 55 43.2**	**+0.2**
	1.1nm,0.9s,baz=277,slow=8.1,SNR=4.8						
SONM	**Songino Array**	**63.48**	**43**	P	**P**	**17 56 39.3**	**-0.2**
	0.7nm,0.8s,baz=258,slow=5.7,SNR=3.6						

---

*IDC **12** 17:47:18.4±0.9, 13°.19N×41°.77E, h0km, mb4.2/24, mb1 4.4/25, mb1mx4.2/50, mbtmp4.2/25, ML3.6/1, Error ellipse: s-maj=21.0km s-min=14.7km az=28.0*
*MOS **12** 17:47:18.1±0.9, 13°.28N×41°.72E, h10km, mb4.8/26, Error ellipse: s-maj=13.5km s-min=5.6km az=98.1*
*ISCJB **12** 17:47:19.2±0.3, 13°.41N±0°.05×41°.75E±0°.05, h10km, mb4.4/72, MS4.6/3, Error ellipse: s-maj=8.1km s-min=5.3km az=44.8*
*NEIC **12** 17:47:20.3±0.5, 13°.33N×41°.69E, h10km, mb4.7/13, Error ellipse: s-maj=10.8km s-min=9.8km az=215.0*
*CSEM **12** 17:47:20.9±0.3, 13°.39N×41°.71E, h10km, mb4.4/25, Error ellipse: s-maj=10.7km s-min=8.5km az=19.0*
ISC 12 17:47:19.7±0.5, **13°.22N**±0°.06×**41°.66E**±0°.07, **h10**km, **n200,** σ1**912**/204, **mb4.4**/73, **MS4.4**/4, **12C-8D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.04**	**145**	Pn	**Pn**	**17 47 54.2**	**0.0**
	177nm,0.3s,baz=337,slow=12,SNR=5.5						
ATD				Sn	**Sb**	**17 48 24.3**	**+1.9**
	214nm,0.3s,baz=301,slow=19,SNR=4.3						
DAMY	**Dhamar**	**2.97**	**63**	*e*Pn	**Pn**	**17 48 08.6**	**+1.3**
DAMY	**Dhamar**	**2.97**	**63**	*e*Pn	**Pn**	**17 48 08.6**	**+1.3**
KMBO	**Kilima Mbogo**	**14.91**	**197**	*e*P	**P**	**17 50 55.9**	**-0.8**
KMBO				pmax	pmax		
	comp=Z,15nm,1.5s						
KMBO	**Kilima Mbogo**	**14.91**	**197**	*e*Pn	**P**	**17 50 55.9**	**-0.8**
	comp=Z,15nm,1.5s						
KMBO	**Kilima Mbogo**	**14.91**	**197**	*e*Pn	**P**	**17 50 55.9**	**-0.8**
	comp=Z,15nm,1.5s						
WSAR	**Wadi Sarin**	**18.93**	**56**	P	**Pn**	**17 51 41.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=244,slow=7.6,SNR=4.4						
MMAI	**Mount Meron Ar**	**20.52**	**345**	P	Pn	17 51 59.4	-1.0
	comp=Z,1.0nm,0.5s,baz=173,slow=7.4,SNR=4.1						
GNI	**Garni**	**26.96**	**5**	P	**P**	**17 53 03.6**	**+1.9**
	comp=Z,6.6nm,0.8s,baz=264,slow=5.0,SNR=4.5						
GNI	**Garni**	**26.96**	**5**	*i* P	**P**	**17 53 00.5**	**-1.2**
BRTR	**Keskin Array B**	**27.33**	**346**	P	**P**	**17 53 06.6**	**+1.6**
	comp=Z,5.4nm,1.0s,baz=161,slow=7.9,SNR=20						
BR231	**Keskin MP Arra**	**27.65**	**345**	*e*P	**P**	**17 53 06.1**	**-1.7**
BR231	**Keskin MP Arra**	**27.65**	**345**	*e*P	**P**	**17 53 06.1**	**-1.7**
GEYT	**Alibeck**	**28.64**	**28**	P	**P**	**17 53 15.7**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=224,slow=10,SNR=3.8						
KBZ	**Khabaz**	**30.42**	**2**	P	**P**	**17 53 32.6**	**+0.4**
	comp=Z,6.8nm,1.1s,baz=173,slow=1.5,SNR=7.9						
KIV	**Kislovodsk**	**30.64**	**1**	*e*P	**P**	**17 53 34.2**	**-0.1**
KIV				pmax	pmax		
	comp=Z,16nm,1.3s						
KIV	**Kislovodsk**	**30.64**	**1**	*e*P	**P**	**17 53 34.6**	**+0.3**
	comp=Z,14nm,1.1s						
KIV	**Kislovodsk**	**30.64**	**1**	*e*P	**P**	**17 53 34.6**	**+0.3**
	comp=Z,14nm,1.1s						
TIRR	**Tirgusor**	**33.13**	**343**	‖*i*P	**P**	**17 53 56.8**	**+0.7**
TLCR		**33.69**	**344**	‖*i*P	**P**	**17 53 59.3**	**-1.6**
CFR	**Carcaliu**	**33.87**	**343**	‖*i*P	**P**	**17 54 03.1**	**+0.6**
MLR	**Muntele Rosu**	**34.82**	**341**	P	**P**	**17 54 13.4**	**+2.5**
	comp=Z,1.8nm,0.9s,baz=160,slow=6.7,SNR=14						
MLR	**Muntele Rosu**	**34.82**	**341**	‖*i*P	**P**	**17 54 10.6**	**-0.3**
VRI	**Vrincioaia**	**34.91**	**342**	‖*i*P	**P**	**17 54 13.6**	**+2.0**
PLOR	**Plostina**	**34.92**	**342**	‖*i*P	**P**	**17 54 12.4**	**+0.7**
VOIR		**35.08**	**339**	‖*i*P	**P**	**17 54 13.5**	**+0.4**
ARR	**Arges**	**35.16**	**339**	‖*i*P	**P**	**17 54 15.1**	**+1.3**
LOT	**Lotru**	**35.53**	**338**	‖*i*P	**P**	**17 54 18.2**	**+1.1**
MDVR	**Moldovita**	**35.76**	**335**	‖*i*P	**P**	**17 54 19.5**	**+0.5**
BZS	**Buzias**	**36.49**	**336**	‖*i*P	**P**	**17 54 25.5**	**+0.4**
KEST	**Kesra**	**36.70**	**313**	P	**P**	**17 54 30.1**	**+2.9**
	comp=Z,5.3nm,0.9s,baz=79,slow=5.2,SNR=5.0						
BURAR	**Bucovina Array**	**36.94**	**341**	‖*i*P	**P**	**17 54 28.9**	**-0.1**
DRGR		**37.06**	**338**	‖*i*P	**P**	**17 54 30.4**	**+0.3**
VRH	**Novokhopyorsk**	**37.88**	**0**	*e*P	**P**	**17 54 36.3**	**-0.5**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	**Storozhevoye**	**37.95**	**357**	*e*P	**P**	**17 54 35.0**	**-2.4**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
AKASG	**Malin Array Be**	**38.73**	**347**	P	**P**	**17 54 44.1**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=166,slow=6.9,SNR=9.2						
TOA0	**Torodi Ar. Sit**	**38.88**	**275**	*e*P	**P**	**17 54 46.2**	**+0.5**
TOA0	**Torodi Ar. Sit**	**38.88**	**275**	*e*P	**P**	**17 54 46.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**38.88**	**275**	P	**P**	**17 54 46.4**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=91,slow=8.2,SNR=6.2						
ABKAR	**Akbulak array**	**38.97**	**19**	*e*P	**P**	**17 54 44.8**	**-1.2**
ABKAR	**Akbulak array**	**38.97**	**19**	*e*P	**P**	**17 54 44.9**	**-1.2**
KOLS	**Kolonicke sedl**	**39.05**	**340**	*e*P	**P**	**17 54 45.6**	**-1.1**
KOLS				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KOLS	**Kolonicke sedl**	**39.05**	**340**	*e*P	**P**	**17 54 45.6**	**-1.1**
	comp=Z,4.4nm,1.2s						
KOLS	**Kolonicke sedl**	**39.05**	**340**	*e*P	**P**	**17 54 45.6**	**-1.1**
PSZ	**Piszkesteto**	**39.06**	**337**	*e*P	**P**	**17 54 43.8**	**-3.1**
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PSZ	**Piszkesteto**	**39.06**	**337**	*e*P	**P**	**17 54 43.8**	**-3.1**
	comp=Z,6.4nm,0.8s						
KECS	**Kecovo**	**39.30**	**338**	*e*P	**P**	**17 54 47.4**	**-1.4**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KECS	**Kecovo**	**39.30**	**338**	*e*P	**P**	**17 54 47.4**	**-1.4**
	comp=Z,2.7nm,0.9s						
KECS	**Kecovo**	**39.30**	**338**	*e*P	**P**	**17 54 47.4**	**-1.4**
CRVS	**Cervenica-Dubn**	**39.30**	**339**	*e*P	**P**	**17 54 48.6**	**-0.2**
CRVS	**Cervenica-Dubn**	**39.30**	**339**	*e*P	**P**	**17 54 48.6**	**-0.2**
CRVS	**Cervenica-Dubn**	**39.30**	**339**	*e*P	**P**	**17 54 48.6**	**-0.2**
LPSR	**Galich'ya Gora**	**39.34**	**357**	*e*P	**P**	**17 54 48.3**	**-0.8**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
STHS	**Stebnicka Huta**	**39.82**	**339**	*e*P	**P**	**17 54 53.5**	**+0.4**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STHS	**Stebnicka Huta**	**39.82**	**339**	*e*P	**P**	**17 54 53.5**	**+0.4**
	comp=Z,2.6nm,0.9s						
STHS	**Stebnicka Huta**	**39.82**	**339**	*e*P	**P**	**17 54 53.5**	**+0.4**
VYHS	**Vyhne**	**39.94**	**336**	*e*P	**P**	**17 54 54.7**	**+0.6**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VYHS	**Vyhne**	**39.94**	**336**	*e*P	**P**	**17 54 54.7**	**+0.6**
	comp=Z,5.4nm,1.1s						
VYHS	**Vyhne**	**39.94**	**336**	*e*P	**P**	**17 54 54.7**	**+0.6**
KSH	**Kashi**	**39.98**	**43**	*e*P	**P**	**17 54 50.4**	**-4.4**
KSH				pP	pP	17 54 54.2	-3.7
KSH				PP	**PP**	**17 56 26.2**	**-0.5**
KSH				PcP	**PcP**	**17 56 59.2**	**-0.8**
KSH				S	S	18 00 48.3	-12
KSH				SS	SS	18 03 38.8	-19
KSH	**Kashi**	**39.98**	**43**	ScS	ScS	18 04 58.1	-4.5
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,33nm,3.0s						
KSH				LR	LR		
	comp=N,170nm,12.3s						
KSH				LR	LR		
	comp=E,170nm,6.7s						
SOKA	**Soboth**	**40.16**	**331**	*e*P	**P**	**17 54 57.2**	**+1.0**
	comp=E,6.4nm,1.1s						
SOKA	**Soboth**	**40.16**	**331**	P	**P**	**17 54 57.2**	**+1.0**
	comp=E,6.4nm,1.1s						
LANS	**Liptovska Anna**	**40.23**	**337**	*e*P	**P**	**17 54 57.7**	**+1.1**
LANS	**Liptovska Anna**	**40.23**	**337**	*e*P	**P**	**17 54 57.7**	**+1.1**
LANS	**Liptovska Anna**	**40.23**	**337**	*e*P	**P**	**17 54 57.7**	**+1.1**
OBKA	**Obir**	**40.27**	**331**	*e*P	**P**	**17 54 58.2**	**+1.2**
	comp=E,5.0nm,0.9s						
OBKA	**Obir**	**40.27**	**331**	P	**P**	**17 54 58.2**	**+1.2**
	comp=E,5.0nm,0.9s						
ARSA	**Arzberg**	**40.37**	**332**	*e*P	**P**	**17 54 58.4**	**+0.7**
	comp=E,11nm,0.9s						
ARSA	**Arzberg**	**40.37**	**332**	P	**P**	**17 54 58.4**	**+0.7**
	comp=E,11nm,0.9s						
CONA	**Conrad Observa**	**40.73**	**333**	*i* P	**P**	**17 55 01.6**	**+0.8**
	comp=E,6.8nm,1.0s						
CONA	**Conrad Observa**	**40.73**	**333**	P	**P**	**17 55 01.6**	**+0.8**
	comp=E,6.8nm,1.0s						
AAK	**Ala-Archa**	**40.78**	**38**	P	**P**	**17 55 02.9**	**+1.5**
	comp=E,1.3nm,0.4s,baz=236,slow=10,SNR=3.1						
AAK	**Ala-Archa**	**40.78**	**38**	*i* P	**P**	**17 55 01.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KBA	**Koelnbreinsper**	**41.25**	**331**	*i* P	**P**	**17 55 05.1**	**-0.1**
	comp=Z,4.5nm,1.1s						
KBA	**Koelnbreinsper**	**41.25**	**331**	P	**P**	**17 55 05.1**	**-0.1**
	comp=Z,4.5nm,1.1s						
OKC	**Ostrava-Krasne**	**41.29**	**337**	*e*P	**P**	**17 55 05.6**	**+0.3**
OKC	**Ostrava-Krasne**	**41.29**	**337**	*e*P	**P**	**17 55 05.6**	**+0.3**
OKC	**Ostrava-Krasne**	**41.29**	**337**	P	**P**	**17 55 05.6**	**+0.3**
MOA	**Molln**	**41.38**	**332**	*e*P	**P**	**17 55 06.8**	**+0.7**
	comp=Z,14nm,1.4s						
MOA	**Molln**	**41.38**	**332**	P	**P**	**17 55 06.8**	**+0.7**
	comp=Z,14nm,1.4s						
ABTA	**Abfaltersbach**	**41.42**	**330**	*i* pP	**P**	**17 55 08.8**	**+2.3**
	comp=Z,4.3nm,0.9s						
MORC	**Moravsky Berou**	**41.48**	**336**	*e*P	**P**	**17 55 04.4**	**-2.5**
MORC				pmax	pmax		
	comp=Z,23nm,1.0s						
MORC	**Moravsky Berou**	**41.48**	**336**	*e*P	**P**	**17 55 06.8**	**-0.1**
MORC	**Moravsky Berou**	**41.48**	**336**	*e*P	**P**	**17 55 04.4**	**-2.5**
	comp=Z,23nm,1.0s						
VRAC	**Vranov**	**41.48**	**335**	P	**P**	**17 55 07.1**	**+0.3**
	comp=Z,5.7nm,0.9s,baz=128,slow=3.7,SNR=5.7						
VRAC	**Vranov**	**41.48**	**335**	‖*i*P	**P**	**17 55 07.2**	**+0.3**
TREC	**Trest**	**41.93**	**334**	*e*P	**P**	**17 55 11.1**	**+0.5**
TREC	**Trest**	**41.93**	**334**	*e*P	**P**	**17 55 11.1**	**+0.5**
TREC	**Trest**	**41.93**	**334**	P	**P**	**17 55 11.1**	**+0.5**
OBN	**Obninsk**	**41.99**	**356**	*e*P	**P**	**17 55 10.0**	**-0.9**
OBN				*i*		17 57 03.8	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GEA0	**GERESS Array S**	**42.36**	**333**	*e*P	**P**	**17 55 12.1**	**-2.1**
GEA0	**GERESS Array S**	**42.36**	**333**	*e*P	**P**	**17 55 12.1**	**-2.1**
GEC2	**GERESS Array S**	**42.37**	**333**	*e*P	**P**	**17 55 13.0**	**-1.2**
GEC2				pmax	pmax		
	comp=Z,12nm,1.3s						
GEC2	**GERESS Array S**	**42.37**	**333**	*e*P	**P**	**17 55 13.0**	**-1.2**
	comp=Z,12nm,1.3s						
GEC2	**GERESS Array S**	**42.37**	**333**	*e*P	**P**	**17 55 13.0**	**-1.2**
	comp=Z,12nm,1.3s						
GERES	**GERESS Array B**	**42.37**	**333**	P	**P**	**17 55 13.8**	**-0.4**
	comp=Z,9nm,0.8s,baz=133,slow=7.5,SNR=30						
SQTA	**Sankt Quirin**	**42.40**	**329**	*i* P	**P**	**17 55 15.3**	**+0.7**
SQTA	**Sankt Quirin**	**42.40**	**329**	P	**P**	**17 55 15.3**	**+0.7**
DPC	**Dobruska-Polom**	**42.41**	**336**	*e*P	**P**	**17 55 14.4**	**-0.1**
DPC	**Dobruska-Polom**	**42.41**	**336**	*e*P	**P**	**17 55 14.4**	**-0.1**
DPC	**Dobruska-Polom**	**42.41**	**336**	P	**P**	**17 55 14.4**	**-0.1**
FETA	**Feichten**	**42.50**	**329**	*i* P	**P**	**17 55 16.8**	**+1.4**
	comp=Z,6.7nm,0.9s						
FETA	**Feichten**	**42.50**	**329**	P	**P**	**17 55 16.8**	**+1.4**
	comp=Z,6.7nm,0.9s						
MOTA	**Moosalm**	**42.53**	**329**	*i* P	**P**	**17 55 15.5**	**-0.2**
	comp=Z,1.8nm,0.5s						
MOTA	**Moosalm**	**42.53**	**329**	P	**P**	**17 55 15.5**	**-0.2**
	comp=Z,1.8nm,0.5s						
MOS	**Moscow**	**42.54**	**357**	*e*P	**P**	**17 55 16.4**	**+1.0**
MOS				pmax	pmax		
	comp=Z,42nm,1.0s						
KHC	**Kasperske Hory**	**42.63**	**333**	*e*P	**P**	**17 55 15.8**	**-0.5**
KHC	**Kasperske Hory**	**42.63**	**333**	*e*P	**P**	**17 55 15.8**	**-0.5**
KHC	**Kasperske Hory**	**42.63**	**333**	*e*P	**P**	**17 55 15.1**	**-1.3**
	comp=Z,2.9nm,1.1s						
KHC	**Kasperske Hory**	**42.63**	**333**	*e*P	**P**	**17 55 15.1**	**-1.3**
	comp=Z,2.9nm,1.1s						
UPC	**Upice**	**42.66**	**336**	*e*P	**P**	**17 55 16.3**	**-0.2**
UPC	**Upice**	**42.66**	**336**	*e*P	**P**	**17 55 16.3**	**-0.2**
UPC	**Upice**	**42.66**	**336**	P	**P**	**17 55 16.3**	**-0.2**
GOPC	**GO Pecny, Ondr**	**42.70**	**334**	*e*P	**P**	**17 55 16.6**	**-0.2**
GOPC	**GO Pecny, Ondr**	**42.70**	**334**	*e*P	**P**	**17 55 16.6**	**-0.2**
GOPC	**GO Pecny, Ondr**	**42.70**	**334**	P	**P**	**17 55 16.6**	**-0.2**
RETA	**Reutte**	**42.80**	**329**	*e*P	**P**	**17 55 17.0**	**-0.8**
	comp=Z,5.0nm,1.4s						
RETA	**Reutte**	**42.80**	**329**	P	**P**	**17 55 17.0**	**-0.8**
	comp=Z,5.0nm,1.4s						
PRU	**Pruhonice**	**42.86**	**334**	*e*P	**P**	**17 55 18.4**	**+0.3**
PRU	**Pruhonice**	**42.86**	**334**	*e*P	**P**	**17 55 18.4**	**+0.3**
PRU	**Pruhonice**	**42.86**	**334**	P	**P**	**17 55 18.4**	**+0.3**
DAVA	**Damuels**	**43.11**	**328**	*i* P	**P**	**17 55 20.1**	**-0.3**
DAVA	**Damuels**	**43.11**	**328**	P	**P**	**17 55 20.1**	**-0.3**
PVCC	**Panska Ves**	**43.26**	**335**	*e*P	**P**	**17 55 22.3**	**+1.0**
PVCC	**Panska Ves**	**43.26**	**335**	*e*P	**P**	**17 55 22.3**	**+1.0**
PVCC	**Panska Ves**	**43.26**	**335**	P	**P**	**17 55 22.3**	**+1.0**
BRG	**Berggiesshubel**	**43.78**	**335**	*e*P	**P**	**17 55 25.2**	**-0.3**
	comp=Z,5.8nm,1.2s						
BRG	**Berggiesshubel**	**43.78**	**335**	*e*P	**P**	**17 55 25.2**	**-0.3**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SENIN	**Lac Senin/Sane**	**43.89**	**326**	*e*P	**P**	**17 55 25.1**	**-1.6**
	comp=Z,39nm,0.6s						
SENIN	**Lac Senin/Sane**	**43.89**	**326**	*e*P	**P**	**17 55 25.1**	**-1.6**
	comp=Z,39nm,0.6s						
CLL	**Collm**	**44.50**	**335**	‖*i*P	**P**	**17 55 31.3**	**+0.1**
	comp=Z,13nm,1.5s						
CLL	**Collm**	**44.50**	**335**	‖*i*P	**P**	**17 55 31.3**	**+0.1**
CLL				pmax	pmax		
	comp=Z,13nm,1.5s						
ARU	**Arti**	**45.04**	**13**	*c i*P	**P**	**17 55 35.8**	**+0.3**
ARU						17 57 14.7	
ARU				PPP	PPP	17 57 59.9	
ARU				S	**S**	**18 02 16.2**	**+2.0**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARU	**Arti**	**45.04**	**13**	*e*P	**P**	**17 55 34.6**	**-0.9**
	comp=Z,8.6nm,0.8s						
ARU	**Arti**	**45.04**	**13**	*e*P	**P**	**17 55 34.6**	**-0.9**
	comp=Z,8.6nm,0.8s						
ZRNK	**Zerenda**	**45.23**	**23**	*e*P	**P**	**17 55 36.2**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ZRNK	**Zerenda**	**45.23**	**23**	*e*P	**P**	**17 55 36.2**	**-0.8**
	comp=Z,5.5nm,1.1s						
ZRNK	**Zerenda**	**45.23**	**23**	*e*P	**P**	**17 55 36.2**	**-0.8**
	comp=Z,5.5nm,1.1s						
BRVK	**Borovoye**	**45.80**	**24**	*ce*P	**P**	**17 55 41.7**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,12nm,1.7s						
SVE	**Sverdlovsk**	**45.89**	**14**	*e*P	**P**	**17 55 42.6**	**+0.4**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MEM	**Membach**	**47.21**	**330**	AP	**P**	**17 55 54.1**	**+1.4**
BCLA	**Clavier**	**47.44**	**329**	P	**P**	**17 55 55.4**	**+0.9**
	comp=Z,8.7nm,1.3s						
BCLA	**Clavier**	**47.44**	**329**	P	**P**	**17 55 55.4**	**+0.9**
	comp=Z,8.7nm,1.3s						
MAKZ	**Makanchi**	**47.53**	**37**	*e*P	**P**	**17 55 55.4**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAKZ	**Makanchi**	**47.53**	**37**	*e*P	**P**	**17 55 55.4**	**+0.1**
	comp=Z,6.9nm,0.8s						
MAKZ	**Makanchi**	**47.53**	**37**	*e*P	**P**	**17 55 55.4**	**+0.1**
	comp=Z,6.9nm,0.8s						
KLMR	**Klimovskoe**	**47.58**	**359**	*e*P	**P**	**17 55 53.6**	**-1.8**
KLMR				*e*SP	**pP**	**17 55 58.2**	**-0.3**
KLMR				*e*		17 57 22.3	
KLMR				pmax	pmax		
	comp=Z,23nm,1.0s						
DOU	**Dourbes**	**47.60**	**328**	P	**P**	**17 55 55.9**	**+0.2**
DOU	**Dourbes**	**47.60**	**328**	P	**P**	**17 55 55.9**	**+0.2**
MK01	**Makanchi Array**	**47.70**	**37**	*e*P	**P**	**17 55 55.5**	**-1.1**
MK01	**Makanchi Array**	**47.70**	**37**	*e*P	**P**	**17 55 55.5**	**-1.1**
MKAR	**Makanchi Array**	**47.71**	**37**	P	**P**	**17 55 56.9**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=235,slow=6.6,SNR=34						
ES19	**SONSECA Array**	**47.89**	**312**	*e*P	**P**	**17 55 59.0**	**+0.8**
ES19	**SONSECA Array**	**47.89**	**312**	*e*P	**P**	**17 55 59.0**	**+0.8**
ESDC	**Sonseca Array**	**47.92**	**312**	P	**P**	**17 55 59.7**	**+1.2**
	comp=Z,2.4nm,0.9s,baz=111,slow=7.5,SNR=12						
PAB	**San Pablo**	**48.16**	**312**	*e*P	**P**	**17 55 59.8**	**-0.6**
PAB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PAB	**San Pablo**	**48.16**	**312**	*e*P	**P**	**17 55 59.8**	**-0.6**
	comp=Z,8.6nm,1.0s						
PAB	**San Pablo**	**48.16**	**312**	*e*P	**P**	**17 55 59.8**	**-0.6**
	comp=Z,8.6nm,1.0s						
FIA1	**FINESS Array S**	**49.46**	**350**	*e*P	**P**	**17 56 08.9**	**-0.9**
	comp=Z,8.8nm,1.0s						
FIA1	**FINESS Array S**	**49.46**	**350**	*e*P	**P**	**17 56 08.9**	**-0.9**
	comp=Z,8.8nm,1.0s						
FINES	**FINESS Array B**	**49.46**	**350**	P	**P**	**17 56 09.9**	**0.0**
	comp=Z,4.4nm,0.8s,baz=124,slow=3.4,SNR=8.1						
WMQ	**Urumqi**	**49.75**	**43**	P	**P**	**17 56 12.7**	**+0.2**
WMQ				pP	sP	17 56 17.7	+0.8
WMQ				sP	pP	17 56 19.7	+4.0
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,68nm,5.2s						
NB2	**NORSAR Subarra**	**52.62**	**342**	P	**P**	**17 56 32.8**	**-0.9**
	comp=Z,5.6nm,0.9s,baz=137,slow=7.9						
NB2	**NORSAR Subarra**	**52.62**	**342**	P	**P**	**17 56 32.8**	**-0.9**
	comp=Z,5.6nm,0.9s,baz=137,slow=7.5,SNR=4.9						
NOA	**NORSAR Array B**	**52.62**	**342**	P	**P**	**17 56 33.4**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=140,slow=7.3,SNR=4.5						
NVS	**Novosibirsk**	**52.64**	**29**	*e*P	**P**	**17 56 33.9**	**0.0**
NVS				*e*		17 57 51.8	
NVS				*e*		17 59 44.5	
NVS				pmax	pmax		
	comp=N,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAA0	**Zalesovo Array**	**52.90**	**30**	*e*P	**P**	**17 56 34.3**	**-1.5**
ZAA0	**Zalesovo Array**	**52.90**	**30**	*e*P	**P**	**17 56 34.3**	**-1.5**
ZALV	**Zalesovo Beam**	**52.90**	**30**	P	**P**	**17 56 34.5**	**-1.4**
	comp=Z,8.5nm,0.8s,baz=239,slow=7.6,SNR=27						
CMAR	**Chiang Mai Arr**	**55.17**	**77**	P	**P**	**17 56 52.1**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=278,slow=8.4,SNR=11						
GTA	**Gaotai**	**57.20**	**52**	*e*P	**P**	**17 57 08.3**	**+0.9**
GTA				pP	sP	17 57 12.5	+0.7
GTA				sP	pP	17 57 15.3	+4.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**57.20**	**353**	P	**P**	**17 57 06.5**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=153,slow=6.4,SNR=8.1						
KMI	**Kunming**	**58.48**	**69**	P	**P**	**17 57 19.6**	**+2.9**
KMI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CD2	**Chengdu**	**59.48**	**62**	*e*P	**P**	**17 57 22.5**	**-0.9**
LZH	**Lanzhou**	**59.91**	**56**	*e*P	**P**	**17 57 29.6**	**+3.2**
LZH				pP	sP	17 57 33.9	+3.1
LZH				sP	pP	17 57 37.0	+7.4
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
GYA	**Guiyang**	**61.99**	**67**	*e*P	**P**	**17 57 42.8**	**+2.1**
GYA				pmax

ISC 12 17:48:38.9±0.8, 13°32'N±0".10 × 41°7'E±0".1, h10km, n15, σ0^{s}70/16, mb3.9/13, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.08**	**149**	Pn	**Pn**	**17 49 14.6**	**+0.6**
	120nm,0.3s,baz=276,slow=18,SNR=3.1						
ATD				Sn	**Sb**	**17 49 42.5**	**-0.4**
	326nm,0.3s,baz=259,slow=22,SNR=4.5						
WSAR	**Wadi Sarin**	**18.81**	**56**	P	**Pn**	**17 52 58.8**	**-0.6**
	0.4nm,0.3s,baz=247,slow=12,SNR=3.5						
BRTR	**Keskin Array B**	**27.25**	**346**	P	**P**	**17 54 23.1**	**-0.4**
	1.7nm,0.9s,baz=164,slow=7.3,SNR=4.4						
MLR	**Muntele Rosu**	**34.76**	**340**	P	**P**	**17 55 31.2**	**+1.7**
	0.8nm,0.8s,baz=161,slow=6.6,SNR=4.7						
AKASG	**Malin Array Be**	**38.65**	**347**	P	**P**	**17 56 02.1**	**-0.4**
	1.4nm,0.7s,baz=165,slow=7.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**38.95**	**274**	P	**P**	**17 56 04.8**	**-0.7**
	1.4nm,0.8s,baz=92,slow=8.6,SNR=5.1						
GERES	**GERESS Array B**	**42.31**	**333**	P	**P**	**17 56 33.4**	**+0.4**
	0.9nm,0.6s,baz=134,slow=7.6,SNR=5.5						
MKAR	**Makanchi Array**	**47.59**	**37**	P	**P**	**17 57 15.4**	**+0.5**
	5.7nm,0.8s,baz=227,slow=4.9,SNR=13						
ESDC	**Sonseca Array**	**47.91**	**312**	P	**P**	**17 57 17.8**	**+0.2**
	0.2nm,0.4s,baz=100,slow=6.5,SNR=4.3						
FINES	**FINESS Array B**	**49.37**	**350**	P	**P**	**17 57 28.2**	**-0.1**
	2.0nm,0.9s,baz=150,slow=16,SNR=3.7						
NOA	**NORSAR Array B**	**52.55**	**342**	P	**P**	**17 57 51.4**	**-1.0**
	1.4nm,0.8s,baz=103,slow=4.9,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.78**	**30**	P	**P**	**17 57 53.5**	**-0.6**
	7.6nm,0.8s,baz=240,slow=7.8,SNR=13						
CMAR	**Chiang Mai Arr**	**55.08**	**77**	P	**P**	**17 58 11.2**	**-0.3**
	3.0nm,0.9s,baz=275,slow=8.4,SNR=8.3						
ARCES	**ARCESS Array B**	**57.11**	**353**	P	**P**	**17 58 25.2**	**0.0**
	3.2nm,1.1s,baz=151,slow=7.7,SNR=3.6						
SONM	**Songino Array**	**63.26**	**43**	P	**P**	**17 59 08.4**	**+0.4**
	2.5nm,0.9s,baz=268,slow=6.9,SNR=8.6						

*ISCJB **12** 17:50:27.9±1.1, 13°.43N±0".10 × 41°.6E±0".2, h10km, mb3.9/7, MS3.7/3, Error ellipse: s-maj=27.7km s-min=8.8km az=155.8*

*IDC **12** 17:50:27.5±1.9, 13°.30N × 41°.56E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/49, mbtmp4.0/9, ML4.2/2, MS3.8/6, Ms1 3.8/6, ms1mx3.2/59, Error ellipse: s-maj=46.1km s-min=19.3km az=54.0*

ISC 12 17:50:28.6±1.6, 13°3'N±0".1 × 41°.5E±0".2, h10km, n14, σ1^{s}11/10, mb4.2/7, MS3.9/3, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.15**	**143**	Pn	**Pn**	**17 51 03.8**	**-0.8**
	138nm,0.3s,baz=150,slow=8.1,SNR=8.3						
ATD				LR	LR	17 51 16.4	
	comp=Z,89nm,21.6s,baz=358,slow=23						
ATD				Sn	**Sb**	**17 51 34.9**	**+0.6**
	181nm,0.3s,baz=323,slow=20,SNR=6.8						
KMBO	**Kilima Mbogo**	**14.92**	**197**	LR	LR	17 59 45.6	
	comp=Z,421nm,19.9s,baz=340,slow=37						
EIL	**Elat**	**17.43**	**341**	LR	LR	17 59 35.7	
	comp=Z,159nm,21.8s,baz=148,slow=32						
WSAR	**Wadi Sarin**	**19.00**	**56**	P	**Pn**	**17 54 50.8**	**-0.5**
	0.3nm,0.3s,baz=252,slow=5.5,SNR=3.7						
WSAR				LR	LR	18 03 05.8	
	comp=Z,589nm,19.1s,baz=240,slow=40						
MMAI	**Mount Meron Ar**	**20.44**	**345**	LR	LR	18 01 57.5	
	comp=Z,125nm,21.1s,baz=135,slow=34						
BRTR	**Keskin Array B**	**27.26**	**347**	P	**P**	**17 56 15.0**	**+1.8**
	1.4nm,1.0s,baz=203,slow=10,SNR=5.4						
MLR	**Muntele Rosu**	**34.74**	**341**	P	**P**	**17 57 19.7**	**+0.6**
	0.5nm,0.7s,baz=149,slow=12,SNR=2.4						
MATP	**Matopo**	**35.86**	**201**	LR	LR	18 11 53.9	
	comp=Z,200nm,20.9s,baz=30,slow=36						
AKASG	**Malin Array Be**	**38.66**	**347**	P	**P**	**17 57 51.0**	**-1.2**
	0.1nm,0.3s,baz=155,slow=6.8,SNR=4.4						
LBTB	**Lobatse**	**41.11**	**202**	LR	LR	18 14 01.3	
	comp=Z,250nm,19.1s,baz=48,slow=34						
MKAR	**Makanchi Array**	**47.74**	**37**	P	**P**	**17 59 05.7**	**-0.1**
	3.5nm,0.9s,baz=234,slow=7.1,SNR=9.1						
ZALV	**Zalesovo Beam**	**52.92**	**31**	P	**P**	**17 59 43.9**	**-1.0**
	2.6nm,0.6s,baz=234,slow=7.6,SNR=6.4						
CMAR	**Chiang Mai Arr**	**55.27**	**77**	P	**P**	**18 00 03.8**	**+1.1**
	3.6nm,1.0s,baz=277,slow=7.8,SNR=11						
SONM	**Songino Array**	**63.43**	**43**	P	**P**	**18 00 59.1**	**+0.3**
	1.9nm,1.0s,baz=254,slow=6.4,SNR=6.4						

IDC 12 17:53:00.8±11.0, 12°.98N × 41°.38E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.4/46, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=274.8km s-min=32.7km az=69.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.03**	**135**	Pn	Pn	17 53 36.0	-0.4
	11nm,0.3s,baz=270,slow=20,SNR=2.1						
MKAR	**Makanchi Array**	**48.06**	**37**	P	P	18 01 41.7	-0.4
	1.3nm,0.8s,baz=232,slow=5.9,SNR=7.4						
ZALV	**Zalesovo Beam**	**53.25**	**30**	P	P	18 02 19.3	-1.8
	0.9nm,0.5s,baz=244,slow=6.4,SNR=4.0						
CMAR	**Chiang Mai Arr**	**55.49**	**76**	P	P	18 02 37.9	-0.2
	0.6nm,0.8s,baz=276,slow=8.1,SNR=3.9						
SONM	**Songino Array**	**63.75**	**43**	P	P	18 03 36.3	+1.5
	0.4nm,0.7s,baz=260,slow=8.6,SNR=3.5						

IDC 12 17:53:39.5±23.0, 13°.56N × 40°.90E, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.4/43, mbtmp4.0/3, Error ellipse: s-maj=536.1km s-min=256.6km az=72.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.89**	**38**	P	P	18 02 19.4	-0.1
	1.9nm,0.8s,baz=233,slow=7.4,SNR=7.7						
ZALV	**Zalesovo Beam**	**52.98**	**31**	P	P	18 02 57.7	-0.1
	2.8nm,0.8s,baz=237,slow=7.3,SNR=6.7						
SONM	**Songino Array**	**63.64**	**43**	P	P	18 04 12.7	0.0
	0.7nm,0.8s,baz=264,slow=5.8,SNR=3.5						

ROM 12 17:54:34.9±0.1, 44°.54N × 9°.37E, h5km, Ml1.8/3, 2C, Error ellipse: s-maj=2.4km s-min=0.5km az=79.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.18**	**138**	↑*i*Pg	Pg	17 54 39.1	+0.7
SC2M				Sg	Sg	17 54 41.9	+1.2
	294nm,0.2s						
BOB	**Bobbio (Coli)**	**0.24**	**13**	↑*i*Pg	Pg	17 54 40.4	+0.8
BOB				Sg	Sg	17 54 44.2	+1.4
	73nm,0.3s						
MSSA	**Maissana**	**0.24**	**154**	Pg	Pg	17 54 40.4	+0.8
MSSA				Sg	Sg	17 54 44.3	+1.5
	118nm,0.2s						

ROM 12 17:54:51.7±0.2, 44°.54N × 9°.37E, h3km, Ml1.8/3, 2C, Error ellipse: s-maj=3.9km s-min=0.8km az=79.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.18**	**138**	↑*i*Pg	Pg	17 54 55.9	+0.7
SC2M				Sg	Sg	17 54 58.8	+1.2
	294nm,0.2s						
BOB	**Bobbio (Coli)**	**0.24**	**14**	↑*i*Pg	Pg	17 54 57.2	+0.9
BOB				Sg	Sg	17 55 00.8	+1.4
	73nm,0.3s						
MSSA	**Maissana**	**0.25**	**154**	Pg	Pg	17 54 57.2	+0.7
MSSA				Sg	Sg	17 55 01.1	+1.4
	118nm,0.2s						

*ISCJB **12** 17:55:26.6±0.2, 44°.53N±0".01 × 9°.40E±0".02, h7km±2km, Error ellipse: s-maj=2.5km s-min=1.8km az=171.0*

*CSEM **12** 17:55:26.9±0.1, 44°.51N × 9°.41E, h2km, ML3.2/27, Error ellipse: s-maj=2.7km s-min=2.0km az=178.0*

*GEN **12** 17:55:27.1, 44°.56N × 9°.45E, h1km, ML3.0*

*ROM **12** 17:55:27.0±0.1, 44°.52N × 9°.41E, h7km±1km, Md2.9/23, Ml3.0/27, Error ellipse: s-maj=1.6km s-min=1.4km az=28.0*

*LDG **12** 17:55:29.1±0.1, 44°.41N × 9°.47E, h10km, Ml3.2/23, Error ellipse: s-maj=3.3km s-min=2.8km az=19.0*

*STR **12** 17:55:29.8±0.3, 44°.59N × 9°.27E, h10km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*PRU **12** 17:55:30.3, 44°.64N × 9°.55E, h0km*

ISC 12 17:55:27.7±0.8, 44°.49N±0".02 × 9°.42E±0".01, h13km±5km, n189, σ1^{s}30/293, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC2M	**Scurtabo**	**0.12**	**135**	Pg	**Pg**	**17 55 30.8**	**-0.2**
SC2M				Sg	**Sg**	**17 55 33.7**	**+0.4**
	17µm,0.3s						
SC2M	**Scurtabo**	**0.12**	**135**	P	**Pg**	**17 55 30.8**	**-0.2**
SC2M				S	**Sg**	**17 55 33.5**	**+0.2**
MSSA	**Maissana**	**0.19**	**157**	Pg	**Pg**	**17 55 32.1**	**+0.1**
MSSA				Sg	**Sg**	**17 55 36.1**	**+1.1**
	5µm,0.4s						
MSSA	**Maissana**	**0.19**	**157**	Pg	**Pg**	**17 55 32.1**	**+0.1**
MSSA				Sg	**Sg**	**17 55 36.1**	**+1.1**
	5µm,0.4s						
BOB	**Bobbio (Coli)**	**0.28**	**5**	Pg	**Pg**	**17 55 32.0**	**-1.6**
BOB				Sg	**Sg**	**17 55 35.7**	**-1.8**
	4µm,0.6s						
BOB	**Bobbio (Coli)**	**0.28**	**5**	Pg	**Pg**	**17 55 32.0**	**-1.6**
BOB				Sg	**Sg**	**17 55 35.7**	**-1.8**
	4µm,0.6s						
CODM	**Codolo**	**0.33**	**107**	P	**Pg**	**17 55 33.7**	**-0.7**
CODM				S	**Sg**	**17 55 38.9**	**0.0**
GRAM	**Graiana**	**0.47**	**90**	P	**Pg**	**17 55 35.9**	**-1.0**
GRAM				S	**Sg**	**17 55 41.8**	**-1.4**
PLMA	**Palmaria, Port**	**0.54**	**144**	Pg	**Pg**	**17 55 38.3**	**0.0**
PLMA				Sg	**Sg**	**17 55 45.9**	**+0.5**
	683nm,0.3s						
PLMA	**Palmaria, Port**	**0.54**	**144**	Pg	**Pg**	**17 55 38.3**	**0.0**
PLMA				Sg	**Sg**	**17 55 45.9**	**+0.5**
	683nm,0.3s						
PCP	**Piancastagn**	**0.62**	**275**	Pg	**Pg**	**17 55 39.3**	**-0.6**
PCP				Sg	**Sg**	**17 55 48.5**	**+0.3**
	321nm,0.3s						
PCP	**Piancastagn**	**0.62**	**275**	Pg	**Pg**	**17 55 39.3**	**-0.6**
PCP	**Piancastagn**	**0.62**	**275**	P	**Pg**	**17 55 39.8**	**-0.1**
PCP				S	**Sg**	**17 55 48.4**	**+0.3**
PRMA	**PARMA**	**0.70**	**67**	Pg	**Pg**	**17 55 41.5**	**+0.2**
PRMA				Sg	**Sb**	**17 55 51.6**	**+0.4**
	2µm,0.5s						
PRMA	**PARMA**	**0.70**	**67**	Pg	**Pg**	**17 55 41.5**	**+0.2**
ERBM	**Eremo**	**0.72**	**95**	Pg	**Pg**	**17 55 41.3**	**-0.4**
ERBM				Sg	**Sg**	**17 55 50.9**	**-0.2**
	585nm,1.0s						
ERBM	**Eremo**	**0.72**	**95**	Pg	**Pg**	**17 55 41.3**	**-0.4**
ERBM				Sg	**Sg**	**17 55 50.9**	**-0.2**
	585nm,1.0s						
SARO	**Sassorosso**	**0.77**	**113**	P	**Pg**	**17 55 41.8**	**-0.9**
SARO				S	**Sg**	**17 55 52.9**	**+0.1**
VLC	**Villacollemand**	**0.77**	**115**	Pg	**Pg**	**17 55 42.2**	**-0.5**
	205nm,0.7s						
VLC	**Villacollemand**	**0.77**	**115**	Pg	**Pg**	**17 55 42.2**	**-0.5**
	205nm,0.7s						
QLNO	**Quiliano**	**0.78**	**258**	Pg	**Pg**	**17 55 42.4**	**-0.5**
QLNO				Sg	**Sg**	**17 55 53.5**	**+0.3**
	250nm,0.6s						
QLNO	**Quiliano**	**0.78**	**258**	Pg	**Pg**	**17 55 42.4**	**-0.5**
QLNO				Sg	**Sg**	**17 55 53.5**	**+0.3**
	250nm,0.6s						
FINB	**Finale Ligure**	**0.84**	**249**	Pg	**Pg**	**17 55 43.8**	**-0.2**
FINB				Sg	**Sg**	**17 55 56.0**	**+1.0**
	1µm,0.5s						
FINB	**Finale Ligure**	**0.84**	**249**	Pg	**Pg**	**17 55 43.8**	**-0.2**
FINB				Sg	**Sg**	**17 55 56.0**	**+1.0**
	1µm,0.5s						
BDI	**Bagni Di Lucca**	**0.95**	**116**	Pg	**Pg**	**17 55 45.5**	**-0.6**
	309nm,0.5s						
BDI	**Bagni Di Lucca**	**0.95**	**116**	Pg	**Pg**	**17 55 45.5**	**-0.6**
	309nm,0.5s						
MAIM	**Mastiano**	**0.96**	**126**	Pg	**Pg**	**17 55 45.5**	**-0.8**
	290nm,0.5s						
MAIM	**Mastiano**	**0.96**	**126**	P	**Pg**	**17 55 45.6**	**-0.8**
MAIM				S	**Sg**	**17 55 59.0**	**+0.1**
RORO	**Rocca Rossa**	**1.04**	**249**	Pg	**Pg**	**17 55 47.0**	**-0.7**
	30µm,0.2s						
RORO	**Rocca Rossa**	**1.04**	**249**	Pg	**Pg**	**17 55 47.0**	**-0.7**
	30µm,0.2s						
RORO	**Rocca Rossa**	**1.04**	**249**	P	**Pg**	**17 55 47.7**	**0.0**
POPM	**Popiglio**	**1.06**	**114**	P	**Pg**	**17 55 47.3**	**-0.9**
GROG	**Isola di Gorgo**	**1.12**	**162**	Pg	**Pg**	**17 55 48.6**	**-0.6**
	263nm,0.3s						
GROG	**Isola di Gorgo**	**1.12**	**162**	Pg	**Pg**	**17 55 48.6**	**-0.6**
	263nm,0.3s						
IMI	**Imperia**	**1.24**	**243**	Pg	**Pn**	**17 55 49.5**	**-1.3**
IMI	**Imperia**	**1.24**	**243**	Pg	**Pn**	**17 55 49.5**	**-1.3**
CRMI	**Carmignano**	**1.32**	**121**	Pg	**Pn**	**17 55 51.9**	**+0.1**
	57nm,0.4s						
CRMI	**Carmignano**	**1.32**	**121**	Pg	**Pn**	**17 55 51.9**	**+0.1**
	57nm,0.4s						
SALO	**Salr**	**1.38**	**34**	Pg	**Pn**	**17 55 53.0**	**+0.4**
	479nm,0.8s						
SALO	**Salr**	**1.38**	**34**	Pg	**Pn**	**17 55 53.0**	**+0.4**
	479nm,0.8s						
NEGI	**Seborga**	**1.39**	**243**	P	**Pn**	**17 55 52.3**	**-0.5**
ENR	**Entracque**	**1.46**	**260**	Pg	**Pn**	**17 55 53.2**	**-0.5**
	138nm,0.7s						
ENR	**Entracque**	**1.46**	**260**	P	**Pn**	**17 55 53.3**	**-0.5**
MUGIO	**Muggio**	**1.46**	**350**	Pg	**Pn**	**17 55 53.7**	**-0.1**
	175nm,0.8s						
MUGIO	**Muggio**	**1.46**	**350**	Pg	**Pn**	**17 55 53.7**	**-0.1**
	175nm,0.8s						
STV	**Sant Anna di V**	**1.52**	**261**	Pg	**Pn**	**17 55 54.1**	**-0.6**
	49nm,0.4s						
STV	**Sant Anna di V**	**1.52**	**261**	P	**Pn**	**17 55 54.0**	**-0.6**
MAGA	**Magasa**	**1.55**	**33**	Pg	**Pn**	**17 55 54.9**	**-0.2**
	1µm,0.4s						
MAGA	**Magasa**	**1.55**	**33**	Pg	**Pn**	**17 55 54.9**	**-0.2**
	1µm,0.4s						
DOI	**San Damiano**	**1.55**	**271**	Pg	**Pn**	**17 55 56.5**	**+1.4**
	376nm,0.8s						
DOI	**San Damiano**	**1.55**	**271**	Pg	**Pn**	**17 55 56.5**	**+1.4**
	376nm,0.8s						
BALD	**Monte Baldo**	**1.55**	**39**	*e*Pg	**Pn**	**17 55 55.4**	**+0.2**
BALD				*e*Sg	**Sg**	**17 56 16.6**	**-1.1**
BALD	**Monte Baldo**	**1.55**	**39**	*e*Pg	**Pn**	**17 55 55.4**	**+0.2**
BALD				*e*Sg	**Sg**	**17 56 16.6**	**-1.1**
SBF	**Sospel**	**1.56**	**247**	*e*Pn	**Pn**	**17 55 54.5**	**-0.6**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**17 56 14.6**	**-0.6**
	111nm,0.4s						
SBF	**Sospel**	**1.56**	**247**	*e*Pn	**Pn**	**17 55 54.5**	**-0.6**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**17 56 14.6**	**-0.6**
	55nm,0.4s						
TRAV	**Traversella**	**1.56**	**311**	Pg	**Pn**	**17 55 55.6**	**+0.3**
	89nm,0.3s						
TRAV	**Traversella**	**1.56**	**311**	Pg	**Pn**	**17 55 55.6**	**+0.3**
	89nm,0.3s						
LUCF	**Luceram**	**1.60**	**249**	P	**Pn**	**17 55 57.5**	**+1.7**
LUCF				S	**Sn**	**17 56 17.3**	**+0.9**
LUCF	**Luceram**	**1.60**	**249**	P	**Pn**	**17 55 57.5**	**+1.7**
LUCF				S	**Sn**	**17 56 17.3**	**+0.9**
PZZ	**Stroppo**	**1.65**	**271**	Pg	**Pn**	**17 55 57.9**	**+1.5**
	198nm,0.6s						
PZZ	**Stroppo**	**1.65**	**271**	P	**Pn**	**17 55 57.0**	**+0.6**
PZZ	**Stroppo**	**1.65**	**271**	Pg	**Pn**	**17 55 57.9**	**+1.5**
	198nm,0.6s						
REVF	**Revere**	**1.65**	**244**	P	**Pn**	**17 55 57.4**	**+0.9**
REVF				S	**Sn**	**17 56 20.2**	**+2.6**
REVF	**Revere**	**1.65**	**244**	P	**Pn**	**17 55 57.4**	**+0.9**
REVF				S	**Sn**	**17 56 20.2**	**+2.6**
RSP	**Reno Superiore**	**1.67**	**294**	P	**Pn**	**17 55 56.5**	**-0.2**
MARN	**Marana (Italy)**	**1.71**	**47**	*e*Pg	**Pn**	**17 55 57.0**	**-0.2**
MARN	**Marana (Italy)**	**1.71**	**47**	*e*Pg	**Pn**	**17 55 57.0**	**-0.3**
RNI	**Roncone**	**1.72**	**29**	*e*Pn	**Pb**	**17 55 59.6**	**+0.4**
RNI	**Roncone**	**1.72**	**29**	*e*Pn	**Pb**	**17 55 59.6**	**+0.4**
MVIF	**Mont Vial**	**1.73**	**251**	P	**Pn**	**17 55 58.5**	**+0.9**
MVIF				S	**Sn**	**17 56 21.0**	**+1.3**
MVIF	**Mont Vial**	**1.73**	**251**	P	**Pn**	**17 55 58.5**	**+0.9**
MVIF				S	**Sn**	**17 56 21.0**	**+1.3**
MABI	**Malga Bissina**	**1.75**	**26**	Pg	**Pn**	**17 55 57.9**	**0.0**
	103nm,0.5s						
MABI	**Malga Bissina**	**1.75**	**26**	Pg	**Pn**	**17 55 57.9**	**0.0**
	103nm,0.5s						
TEOL	**Teolo**	**1.82**	**61**	*e*Pg	**Pn**	**17 55 59.4**	**+0.6**
TEOL	**Teolo**	**1.82**	**61**	*e*Pg	**Pn**	**17 55 59.4**	**+0.6**
ASQU	**Asqua**	**1.84**	**111**	Pg	**Pn**	**17 56 00.2**	**+1.1**
	54nm,0.6s						
ASQU	**Asqua**	**1.84**	**111**	Pg	**Pn**	**17 56 00.2**	**+1.1**
	54nm,0.6s						
DDS	**Dosso del Somm**	**1.87**	**41**	*e*Pn	**Pn**	**17 55 59.4**	**-0.2**
DDS	**Dosso del Somm**	**1.87**	**41**	*e*Pn	**Pn**	**17 55 59.4**	**-0.2**
MBDF	**Montbardon**	**1.90**	**278**	*e*Pn	**Pn**	**17 55 58.9**	**-1.1**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**17 56 24.1**	**+0.2**
	97nm,0.6s						
MBDF	**Montbardon**	**1.90**	**278**	*e*Pn	**Pn**	**17 55 58.9**	**-1.1**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**17 56 24.1**	**+0.2**
	49nm,0.6s						
RRL	**Rocca Remolon**	**1.92**	**284**	P	**Pn**	**17 56 03.0**	**+2.7**
CALN	**Calern**	**1.96**	**249**	P	**Pn**	**17 56 01.8**	**+1.0**
CALN				S	**Sn**	**17 56 28.2**	**+2.9**
CALN	**Calern**	**1.96**	**249**	P	**Pn**	**17 56 01.8**	**+1.0**
CALN				S	**Sn**	**17 56 28.2**	**+2.9**
PGF	**Pioggiola**	**1.96**	**189**	*e*Pn	Pn	17 55 57.9	-2.9
	SNR=1.0						
PGF				*e*Sn	**Sn**	**17 56 21.7**	**-3.6**
	17nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**1.96**	**189**	*e*Pn	Pn	17 55 57.9	-2.9
	SNR=1.0						
PANI	**Panarotta**	**2.07**	**40**	*e*Pn	**Pn**	**17 56 02.1**	**-0.2**
DIX	**Grande Dixence**	**2.13**	**319**	Pg	**Pn**	**17 56 04.4**	**+1.2**
	42nm,0.6s						
CARE	**Lago del Cares**	**2.13**	**24**	*e*Pn	**Pn**	**17 56 03.7**	**+0.4**
CARE	**Lago del Cares**	**2.13**	**24**	*e*Pn	**Pn**	**17 56 03.7**	**+0.4**
LPG	**La Plagne**	**2.14**	**299**	*e*Pn	**Pn**	**17 56 05.9**	**+2.5**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**17 56 30.5**	**+0.5**
	61nm,0.6s						
LPG	**La Plagne**	**2.14**	**299**	*e*Pn	**Pn**	**17 56 05.9**	**+2.5**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**17 56 30.5**	**+0.5**
	30nm,0.6s						
LPL	**La Plagne**	**2.16**	**299**	*e*Pn	**Pn**	**17 56 04.9**	**+1.3**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**17 56 30.2**	**-0.2**
	39nm,0.5s,SNR=1.0						
LPL	**La Plagne**	**2.16**	**299**	*e*Pn	**Pn**	**17 56 04.9**	**+1.3**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**17 56 30.2**	**-0.2**
	19nm,0.5s,SNR=1.0						
CGRP	**Cima Grappa**	**2.19**	**50**	*e*Pn	**Pn**	**17 56 04.2**	**+0.3**
CGRP	**Cima Grappa**	**2.19**	**50**	*e*Pn	**Pn**	**17 56 04.2**	**+0.3**
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pn	**Pn**	**17 56 03.2**	**-0.8**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**17 56 29.5**	**-1.6**
	63nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	**2.20**	**246**	*e*Pn	**Pn**	**17 56 03.2**	**-0.8**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**17 56 29.5**	**-1.6**
	31nm,0.4s,SNR=1.0						
FUORN	**Ofenpass-Fuorn**	**2.21**	**15**	Pg	**Pn**	**17 56 05.9**	**+1.5**
	62nm,0.6s						
MOSI	**Grossmontoni**	**2.27**	**20**	Pg	**Pn**	**17 56 06.2**	**+1.1**
	204nm,0.7s						
DAVOX	**Davos/Dischmat**	**2.31**	**8**	Pg	**Pn**	**17 56 07.1**	**+1.4**
LMR	**La Mourre**	**2.40**	**242**	*e*Pn	**Pn**	**17 56 05.3**	**-1.3**
LMR				*e*Sn	**Sn**	**17 56 33.7**	**-2.1**
	24nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**2.40**	**242**	*e*Pn	**Pn**	**17 56 05.3**	**-1.3**
LMR				*e*Sn	**Sn**	**17 56 33.7**	**-2.1**
	12nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.56**	**281**	*e*Pn	**Pn**	**17 56 09.9**	**+1.0**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**17 56 39.8**	**-0.1**
	59nm,0.6s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.56**	**281**	*e*Pn	**Pn**	**17 56 09.9**	**+1.0**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**17 56 39.8**	**-0.1**
	29nm,0.6s,SNR=1.0						
FETA	**Feichten**	**2.69**	**19**	*e*Pn	**Pn**	**17 56 13.5**	**+2.6**
	1.2nm,0.1s						
FETA				*e*Sn	**Sb**	**17 56 47.9**	**-1.0**
	11nm,0.6s						
FETA	**Feichten**	**2.69**	**19**	Pn	**Pn**	**17 56 13.5**	**+2.6**
	1.2nm,0.1s						
FETA				Sn	**Sb**	**17 56 47.9**	**-1.0**
	11nm,0.6s						
SMRF	**Simiane la Rot**	**2.81**	**261**	*e*Pn	**Pn**	**17 56 12.4**	**+0.1**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**17 56 43.9**	**-2.2**
	36nm,0.5s						
SMRF	**Simiane la Rot**	**2.81**	**261**	*e*Pn	**Pn**	**17 56 12.4**	**+0.1**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**17 56 43.9**	**-2.2**
	18nm,0.5s						
DAVA	**Damuels**	**2.82**	**6**	Pn	**Pn**	**17 56 14.3**	**+1.7**
	8.4nm,0.5s						
DAVA				Sn	**Sb**	**17 56 51.2**	**-1.2**
	24nm,0.5s						
DAVA	**Damuels**	**2.82**	**6**	Pn	**Pn**	**17 56 14.3**	**+1.7**
	8.4nm,0.5s						
DAVA				Sn	**Sb**	**17 56 51.2**	**-1.2**
	24nm,0.5s						
MOTA	**Moosalm**	**3.09**	**22**	*i* Pn	**Pn**	**17 56 18.4**	**+2.1**
	3.4nm,0.3s						
MOTA				*i* Sn	**

	1.7nm,0.3s									
KBA				*i* Sn	**Sn**	17 57 10.4	+0.3			
	13nm,0.7s									
KBA	**Koelnbreinsper**	**3.78**	**45**	Pn	**Pn**	17 56 27.3	+1.6			
	1.7nm,0.3s									
KBA				Sn	**Sn**	17 57 10.4	+0.3			
	13nm,0.7s									
NVLJ	**Novalja**	**3.90**	**87**	*e*Pn	**Pn**	17 56 28.8	+1.4			
NVLJ				Sn	**Sn**	17 57 11.8	-1.2			
NVLJ	**Novalja**	**3.90**	**87**	*e*Pn	**Pn**	17 56 28.7	+1.4			
NVLJ				Sn	**Sn**	17 57 11.7	-1.2			
LJU	**Ljubljana**	**3.93**	**65**	*i* Sn	**Sn**	17 57 15.4	+1.8			
LJU	**Ljubljana**	**3.93**	**65**	*i* Sn	**Sn**	17 57 15.4	+1.8			
MOZS	**Mozjanca**	**3.98**	**61**	*i* Pn	**Pn**	17 56 29.8	+1.4			
MOZS				*i* Sn	**Sn**	17 57 14.9	0.0			
MOZS	**Mozjanca**	**3.98**	**61**	Pn	**Pn**	17 56 29.8	+1.4			
MOZS				*i* Sn	**Sn**	17 57 14.9	+0.1			
LASF	**Ste Croix**	**4.01**	**266**	*e*Pn	**Pn**	17 56 28.0	-0.9			
	SNR=1.0									
LASF				*e*Sn	**Sn**	17 57 12.6	-3.1			
	5.9nm,0.4s,SNR=1.0									
LASF	**Ste Croix**	**4.01**	**266**	*e*Pn	**Pn**	17 56 28.0	-0.9			
	SNR=1.0									
LASF				*e*Sn	**Sn**	17 57 12.6	-3.1			
	3.0nm,0.4s,SNR=1.0									
ECH	**Echery**	**4.04**	**338**	P	**Pn**	17 56 29.5	+0.2			
ECH				S	**Sn**	17 57 19.1	+2.7			
ECH	**Echery**	**4.04**	**338**	P	**Pn**	17 56 29.5	+0.2			
ECH				S	**Sn**	17 57 19.1	+2.7			
HAU	**Haudompre**	**4.11**	**330**	*e*Pn	**Pn**	17 56 30.9	+0.7			
HAU				*e*Sn	**Sn**	17 57 18.0	-0.1			
	37nm,0.5s,SNR=1.0									
HAU	**Haudompre**	**4.11**	**330**	*e*Pn	**Pn**	17 56 30.9	+0.7			
HAU				*e*Sn	**Sn**	17 57 18.0	-0.1			
	19nm,0.5s,SNR=1.0									
CDF	**Champ du Feu**	**4.19**	**340**	*e*Pn	**Pn**	17 56 31.3	-0.1			
	SNR=1.0									
CDF				*e*Sn	**Sn**	17 57 19.0	-1.3			
	7.7nm,0.5s									
CDF	**Champ du Feu**	**4.19**	**340**	*e*Pn	**Pn**	17 56 31.3	-0.1			
	SNR=1.0									
CDF				*e*Sn	**Sn**	17 57 19.0	-1.3			
	3.8nm,0.5s									
PLDF	**La Plantade**	**4.35**	**292**	P	**Pn**	17 56 34.3	+0.7			
PLDF				S	**Sn**	17 57 26.8	+2.6			
PLDF	**La Plantade**	**4.35**	**292**	P	**Pn**	17 56 34.3	+0.7			
PLDF				S	**Sn**	17 57 26.8	+2.6			
LBL	**Lubilhac**	**4.45**	**282**	P	**Pn**	17 56 34.6	-0.3			
LBL	**Lubilhac**	**4.45**	**282**	P	**Pn**	17 56 34.6	-0.3			
SMF	**Signal de Mont**	**4.47**	**301**	*e*Pn	**Pn**	17 56 36.2	+1.1			
	SNR=1.0									
SMF				*e*Sn	**Sn**	17 57 26.1	-0.9			
	24nm,0.5s,SNR=1.0									
SMF	**Signal de Mont**	**4.47**	**301**	*e*Pn	**Pn**	17 56 36.2	+1.1			
	SNR=1.0									
SMF				*e*Sn	**Sn**	17 57 26.1	-0.9			
	12nm,0.5s,SNR=1.0									
UDBI	**Udbina**	**4.54**	**87**	*e*Pn	**Pn**	17 56 38.6	+2.4			
UDBI				Sn	**Sn**	17 57 27.8	-1.1			
UDBI	**Udbina**	**4.54**	**87**	*e*Pn	**Pn**	17 56 38.6	+2.4			
UDBI				Sn	**Sn**	17 57 27.7	-1.1			
AGO	**Saint Agoulin**	**4.70**	**292**	P	**Pn**	17 56 39.5	+1.1			
AGO	**Saint Agoulin**	**4.70**	**292**	P	**Pn**	17 56 39.5	+1.1			
PYM	**Petit Puy Mans**	**4.71**	**288**	P	**Pn**	17 56 38.9	+0.4			
PYM				S	**Sn**	17 57 36.6	+3.7			
PYM	**Petit Puy Mans**	**4.71**	**288**	P	**Pn**	17 56 38.9	+0.4			
PYM				S	**Sn**	17 57 36.6	+3.7			
LOR	**Lormes**	**4.77**	**308**	*e*Pn	**Pn**	17 56 39.3	0.0			
	baz=124,SNR=1.0									
LOR				*e*Sn	**Sn**	17 57 33.2	-1.2			
	28nm,0.5s,SNR=1.0									
LOR	**Lormes**	**4.77**	**308**	*e*Pn	**Pn**	17 56 39.3	0.0			
	SNR=1.0									
LOR				*e*Sn	**Sn**	17 57 33.2	-1.2			
	14nm,0.5s,SNR=1.0									
SFTF	**Sexfontaines**	**4.79**	**322**	*e*Pn	**Pn**	17 56 40.2	+0.6			
	baz=135									
SFTF	**Sexfontaines**	**4.79**	**322**	*e*Pn	**Pn**	17 56 40.2	+0.6			
PAGF	**Fort de Pagny**	**4.80**	**329**	*e*Pn	**Pn**	17 56 40.8	+1.2			
	baz=141									
PAGF				*e*Sn	**Sn**	17 57 34.6	-0.5			
	1.9nm,0.4s									
PAGF	**Fort de Pagny**	**4.80**	**329**	*e*Pn	**Pn**	17 56 40.8	+1.2			
PAGF				*e*Sn	**Sn**	17 57 34.6	-0.5			
	0.9nm,0.4s									
AVF	**Avril sur Loir**	**4.83**	**301**	*e*Pn	**Pn**	17 56 41.5	+1.4			
	SNR=1.0									
AVF	**Avril sur Loir**	**4.83**	**301**	*e*Pn	**Pn**	17 56 41.5	+1.4			
	SNR=1.0									
SSF	**Saint Saulge**	**4.87**	**304**	*e*Pn	**Pn**	17 56 41.3	+0.7			
	SNR=1.0									
SSF				*e*Sn	**Sn**	17 57 36.5	-0.3			
	8.7nm,0.6s									
SSF	**Saint Saulge**	**4.87**	**304**	*e*Pn	**Pn**	17 56 41.3	+0.7			
	SNR=1.0									
SSF				*e*Sn	**Sn**	17 57 36.5	-0.3			
	4.3nm,0.6s									
BGF	**Bois d'Agland**	**5.06**	**296**	*e*Pn	**Pn**	17 56 45.0	+1.8			
	SNR=1.0									
BGF				*e*Sn	**Sn**	17 57 40.6	-0.9			
	21nm,0.4s,SNR=1.0									
BGF	**Bois d'Agland**	**5.06**	**296**	*e*Pn	**Pn**	17 56 45.0	+1.8			
	SNR=1.0									
BGF				*e*Sn	**Sn**	17 57 40.6	-0.9			
	10nm,0.4s,SNR=1.0									
CAF	**Calviac**	**5.26**	**277**	*e*Pn	**Pn**	17 56 46.5	+0.5			
	SNR=1.0									
CAF	**Calviac**	**5.26**	**277**	*e*Pn	**Pn**	17 56 46.5	+0.5			
	SNR=1.0									
MTLF	**Montolieu**	**5.33**	**260**	*e*Pn	**Pn**	17 56 47.0	+0.1			
	SNR=1.0									
MTLF				*e*Sn	**Sn**	17 57 45.1	-3.0			
	1.4nm,0.3s									
MTLF	**Montolieu**	**5.33**	**260**	*e*Pn	**Pn**	17 56 47.0	+0.1			
	SNR=1.0									
MTLF				*e*Sn	**Sn**	17 57 45.1	-3.0			
	0.7nm,0.3s									
TCF	**Toulx Ste Croi**	**5.38**	**292**	*e*Sn	**Sn**	17 57 48.0	-1.5			
	3.6nm,0.4s,SNR=1.0									
TCF	**Toulx Ste Croi**	**5.38**	**292**	*e*Sn	**Sn**	17 57 48.0	-1.5			
	1.8nm,0.4s,SNR=1.0									
KHC	**Kasperske Hory**	**5.45**	**30**	*e*PN	**Pn**	17 56 48.2	-0.4			
KHC				*ex*	x	17 57 14.1				
KHC				*ex*	x	17 57 33.8				
KHC				*e*SN	**Sn**	17 57 48.5	-2.7			
KHC				*ex*	x	17 58 04.3				
KHC	**Kasperske Hory**	**5.45**	**30**	Pn	**Pn**	17 56 48.2	-0.4			
CONA	**Conrad Observa**	**5.64**	**50**	*i* Pn	**Pn**	17 56 52.2	+0.9			
	0.3nm,0.2s									
CONA	**Conrad Observa**	**5.64**	**50**	Pn	**Pn**	17 56 52.2	+0.9			
	0.3nm,0.2s									
PRU	**Pruhonice**	**6.51**	**31**	*e*SN	**Sn**	17 58 15.6	-1.7			
PRU	**Pruhonice**	**6.51**	**31**	Sn	**Sn**	17 58 15.6	-1.7			
GOPC	**GO Pecny, Ondr**	**6.54**	**32**	*e*SN	**Sn**	17 58 14.6	-3.5			
BAIF	**Baives**	**6.60**	**329**	*e*Sn	**Sn**	17 58 19.9	+0.5			
	3.4nm,0.6s,SNR=1.0									
BAIF	**Baives**	**6.60**	**329**	*e*Sn	**Sn**	17 58 19.9	+0.5			
	1.7nm,0.6s,SNR=1.0									
BRG	**Berggiesshubel**	**7.08**	**24**	SG	**Sg**	17 59 13.7	-1.0			
	1.4nm,0.5s									

IDC 12 17:57:23.6±24.0, 13°62N×41°53E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.2/51, mbtmp3.7/3, Error ellipse: s-maj=555.3km s-min=292.1km az=72.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.47**	**38**	P	P	18 06 00.1	-0.2
	1.0nm,0.8s,baz=235,slow=7.2,SNR=9.2						
ZALV	**Zalesovo Beam**	**52.62**	**31**	P	P	18 06 39.1	-0.1
	1.1nm,0.7s,baz=251,slow=9.0,SNR=3.9						
SONM	**Songino Array**	**63.18**	**43**	P	P	18 07 53.7	0.0
	0.5nm,0.8s,baz=270,slow=5.8,SNR=3.6						

MEX 12 17:59:27.3±0.6, 17°92N×99°60W, h50km±11km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLIG	**Platanillo**	**0.48**	**11**	*i* P	Pn	17 59 37.0	-1.4
PLIG				*i* S	Sn	17 59 44.6	-1.7
ARIG	**Puente Sto Nin**	**0.80**	**297**	*i* P	Pn	17 59 41.2	-1.2
ARIG				*i* S	Sn	17 59 51.5	-1.9
TLIG	**Tlapa**	**1.04**	**110**	*i* P	Pn	17 59 44.5	-1.2
TLIG				*i* S	Sn	17 59 56.9	-2.5
YAIG	**Yautepec**	**1.06**	**28**	*i* P	Pn	17 59 44.0	-2.0
YAIG				*i* S	Sn	17 59 57.1	-2.7
CAIG	**El Cayaco**	**1.08**	**217**	*i* P	Pn	17 59 43.9	-2.2
CAIG				*i* S	Sn	17 59 57.8	-2.2
PPM	**Popocatepetl**	**1.46**	**39**	*e*P	Pn	17 59 50.0	-1.8
PPM				*i* S	Sn	18 00 08.2	-1.9
PNIG	**Pinotepa**	**2.07**	**137**	*e*P	Pn	17 59 58.3	-1.4
PNIG				*i* S	Sn	18 00 22.4	-1.9

*DHMR **12** 18:01:18.8±1.4, 12°.95N×41°.79E, h28km±8km, ML4.9*
*ISCJB **12** 18:01:19.6±0.5, 13°.14N±0°.07×41°.78E±0°.03, h10km, mb4.2/31, MS3.7/14, Error ellipse: s-maj=10.0km s-min=4.9km az=178.5*
*IDC **12** 18:01:20.5±0.8, 13°.17N×41°.71E, h0km, mb4.1/21, mb1 4.2/22, mb1mx4.0/56, mbtmp4.1/22, ML4.3/1, MS3.7/14, Ms1 3.7/14, ms1mx3.3/46, Error ellipse: s-maj=17.2km s-min=16.4km az=72.0*
*CSEM **12** 18:01:21.0±0.3, 13°.08N×41°.84E, h10km, mb4.4/6, Error ellipse: s-maj=12.4km s-min=6.8km az=179.0*
*NEIC **12** 18:01:21.7±0.5, 13°.20N×41°.82E, h10km, mb4.4/9, Error ellipse: s-maj=10.9km s-min=9.7km az=189.0*
*DSN **12** 18:01:21.2±4.2, 13°.70N×41°.32E, h10km, Error ellipse: s-maj=135.7km s-min=21.0km az=158.0*

ISC 12 18:01:21.2±0.5, 13°.17N±0°.05×41°.84E±0°.05, h10km, n95, σ1s39/100, mb4.2/31, MS3.6/14, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.90**	**149**	Pn	**Pb**	18 01 56.3	+0.2
	162nm,0.3s,baz=324,slow=10,SNR=17						
ATD				Sn	**Sg**	18 02 26.4	+3.9
	637nm,0.3s,baz=132,slow=15,SNR=13						
UDYN	**Al 'Udayn**	**2.22**	**69**	*i* P	**Pn**	18 01 58.5	+0.3
UDYN				*i* S	**Sb**	18 02 29.5	+0.3
DHBB	**Dhamar BB**	**2.84**	**60**	*i* P	**Pn**	18 02 07.4	+0.4
DHBB				*i* S	**Sn**	18 02 44.8	+3.3
DAMY	**Dhamar**	**2.85**	**60**	*e*Pn	**Pn**	18 02 07.3	+0.2
DAMY				*e*Sn	**Sn**	18 02 41.2	-0.4
DAMY	**Dhamar**	**2.85**	**60**	*e*Pn	**Pn**	18 02 07.3	+0.2
DAMY				*e*Sn	**Sn**	18 02 41.2	-0.4
HAJJ	**Hajjah**	**3.04**	**34**	*i* P	**Pn**	18 02 09.8	+0.2
HAJJ				*i* S	**Sb**	18 02 51.8	-1.1
HAJJ	**Hajjah**	**3.04**	**34**	*i* P	**Pn**	18 02 09.8	+0.2
HAJJ				*i* S	**Sb**	18 02 51.8	-1.1
ADEN	**Aden**	**3.09**	**97**	*i* P	**Pn**	18 02 09.0	-1.1
ADEN				*i* S	**Sn**	18 02 47.2	0.0
ADEN				AML	AML	18 03 06.6	
	comp=E,8μm,0.5s						
ADEN	**Aden**	**3.09**	**97**	*i* P	**Pn**	18 02 09.0	-1.1
ADEN				*i* S	**Sn**	18 02 47.2	0.0
BDHA	**Al Bayda'**	**3.71**	**77**	*i* P	**Pn**	18 02 18.8	-0.1
BDHA				*i* S	**Sn**	18 03 05.2	+2.3
BDHA	**Al Bayda'**	**3.71**	**77**	*i* P	**Pn**	18 02 18.8	-0.1
BDHA				*i* S	**Sn**	18 03 05.2	+2.3
KMBO	**Kilima Mbogo**	**14.91**	**198**	LR	LR	18 10 37.6	
	comp=E,668nm,18.5s,baz=344,slow=38						
NAZ	**Nazwa, Dubai**	**17.56**	**46**	*i* P	**P**	18 05 27.0	-0.3
	SNR=7.9						
EIL	**Elat**	**17.62**	**340**	LR	LR	18 10 38.3	
	comp=E,138nm,19.2s,baz=152,slow=32						
ASHO	**Ashiyiah**	**17.65**	**47**	*i* P	**Pn**	18 05 27.9	+0.5
	SNR=10.0						
HATD	**Hatta, Dubai**	**17.79**	**47**	*i* P	**Pn**	18 05 29.7	+0.5
	SNR=9.4						
UOSS	**Minazif**	**17.91**	**47**	*e*Pn	**Pn**	18 05 29.4	-1.3
	comp=E,5.3nm,1.0s						
UOSS	**Minazif**	**17.91**	**47**	*e*Pn	**Pn**	18 05 29.4	-1.3
	comp=E,5.3nm,1.0s						
BANOM	**Banah**	**18.60**	**45**	P	**P**	18 05 38.4	-0.4
WSAR	**Wadi Sarin**	**18.82**	**55**	P	**Pn**	18 05 42.2	+0.5
	comp=E,0.9nm,0.3s,baz=247,slow=6.3,SNR=10.0						
WSAR				LR	LR	18 13 59.3	
	comp=E,793nm,19.7s,baz=240,slow=40						
MMAI	**Mount Meron Ar**	**20.61**	**344**	LR	LR	18 12 40.3	
	comp=E,134nm,19.8s,baz=175,slow=33						
GNI	**Garni**	**27.00**	**5**	P	**P**	18 07 04.2	+0.6
	comp=E,2.9nm,0.6s,baz=338,slow=19,SNR=2.9						
GNI				LR	LR	18 17 43.5	
	comp=E,112nm,19.8s,baz=177,slow=36						
BR131	**Keskin Array S**	**27.42**	**346**	*e*P	**P**	18 07 09.2	+1.8
BR131	**Keskin Array S**	**27.42**	**346**	*e*P	**P**	18 07 09.2	+1.8
BRTR	**Keskin Array B**	**27.42**	**346**	P	**P**	18 07 08.3	+0.9
	comp=E,3.1nm,1.0s,baz=164,slow=9.9,SNR=9.7						
BRTR				LR	LR	18 18 07.6	
	comp=E,80nm,18.0s,baz=148,slow=37						
BR231	**Keskin MP Arra**	**27.74**	**345**	*e*P	**P**	18 07 09.9	-0.3
BR231	**Keskin MP Arra**	**27.74**	**345**	*e*P	**P**	18 07 09.9	-0.3
KBZ	**Khabaz**	**30.47**	**2**	P	**P**	18 07 36.1	+2.0
	comp=E,3.4nm,1.0s,baz=175,slow=5.4,SNR=4.4						
KBZ				LR	LR	18 20 27.5	
	comp=E,142nm,18.3s,baz=199,slow=38						
KIV	**Kislovodsk**	**30.69**	**1**	*e*P	**P**	18 07 37.8	+1.5
	comp=E,10nm,1.0s						
KIV	**Kislovodsk**	**30.69**	**1**	*e*P	**P**	18 07 37.8	+1.5
	comp=E,10nm,1.0s						
KVAR	**Kislovodsk Arr**	**30.69**	**1**	LR	LR	18 20 34.0	
	comp=E,132nm,18.4s,baz=154,slow=38						
MLR	**Muntele Rosu**	**34.93**	**340**	P	**P**	18 08 15.2	+1.8
	comp=E,0.7nm,0.8s,baz=172,slow=10,SNR=5.7						
MLR	**Muntele Rosu**	**34.93**	**340**	*e*P	**P**	18 08 15.3	+1.9
	comp=E,4.2nm,0.9s						
MLR	**Muntele Rosu**	**34.93**	**340**	*e*P	**P**	18 08 15.3	+1.9
	comp=E,4.2nm,0.9s						
KKAR	**Karatay Array**	**38.74**	**34**	*e*P	**P**	18 08 45.6	-0.1
KKAR	**Karatay Array**	**38.74**	**34**	*e*P	**P**	18 08 45.6	-0.1
AKASG	**Malin Array Be**	**38.82**	**347**	P	**P**	18 08 45.9	-0.3
	comp=E,1.5nm,0.7s,baz=166,slow=6.8,SNR=4.5						
AKASG				LR	LR	18 26 38.9	
	comp=E,68nm,18.9s,baz=30,slow=39						
ABKAR	**Akbulak array**	**38.96**	**19**	*e*P	**P**	18 08 45.9	-1.5
ABKAR	**Akbulak array**	**38.96**	**19**	*e*P	**P**	18 08 45.9	-1.5
TOA0	**Torodi Ar. Sit**	**39.06**	**275**	*e*P	**P**	18 08 48.1	-0.7
TOA0	**Torodi Ar. Sit**	**39.06**	**275**	*e*P	**P**	18 08 48.1	-0.7
TORD	**Torodi Ar. Bea**	**39.06**	**275**	P	**P**	18 08 48.8	+0.1
	comp=E,1.9nm,0.9s,baz=89,slow=7.6,SNR=10						
AKTO	**Aktyubinsk**	**39.44**	**16**	P	**P**	18 08 52.8	+1.3
	comp=E,3.3nm,0.8s,baz=232,slow=13,SNR=11						
KSH	**Kashi**	**39.91**	**43**	*e*P	P	18 08 50.8	-4.9
KSH				pP	pP	18 08 55.1	-3.7
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VYHS	**Vyhne**	**40.05**	**336**	*e*P	**P**	18 08 56.7	+0.1
VYHS				*e*		18 08 59.3	
EKS2	**Erkin-Say**	**40.31**	**37**	*e*P	**P**	18 09 00.1	+1.1
	comp=Z,2.9nm,1.0s						
EKS2	**Erkin-Say**	**40.31**	**37**	*e*P	**P**	18 09 00.1	+1.1
	comp=Z,2.9nm,1.0s						
AAK	**Ala-Archa**	**40.72**	**38**	LR	LR	18 28 04.8	
	comp=Z,361nm,19.6s,baz=248,slow=39						
LBTB	**Lobatse**	**41.12**	**203**	P	**P**	18 09 05.3	-0.5
	comp=Z,1.4nm,0.5s,baz=166,slow=4.2,SNR=2.1						
GEA0	**GERESS Array S**	**42.49**	**333**	*e*P	**P**	18 09 15.4	-1.3
GEA0	**GERESS Array S**	**42.49**	**333**	*e*P	**P**	18 09 15.3	-1.3
GERES	**GERESS Array B**	**42.49**	**333**	P	**P**	18 09 16.2	-0.6
	comp=Z,0.8nm,0.7s,baz=124,slow=7.1,SNR=8.4						
BOSA	**Boshof**	**44.52**	**201**	LR	LR	18 28 31.3	
	comp=Z,214nm,19.8s,baz=28,slow=37						
ARU	**Arti**	**45.05**	**13**	P	**P**	18 09 37.9	+0.8
	comp=Z,3.2nm,0.6s,baz=201,slow=6.1,SNR=9.8						
ARU	**Arti**	**45.05**	**13**	*e*P	**P**	18 09 34.7	-2.4
	comp=Z,4.9nm,0.8s						
ZRNK	**Zerenda**	**45.20**	**23**	*e*P	**P**	18 09 38.3	-0.1
	comp=Z,3.2nm,0.8s						
ZRNK	**Zerenda**	**45.20**	**23**	*e*P	**P**	18 09 38.3	-0.1
	comp=Z,3.2nm,0.8s						
BVAR	**Borovoye Array**	**45.80**	**24**	P	**P**	18 09 44.2	+1.1
	comp=Z,2.0nm,0.7s,baz=234,slow=5.0,SNR=11						
DBIC	**Dimbokro**	**46.39**	**267**	LR	LR	18 27 50.4	
	comp=Z,48nm,19.4s,baz=56,slow=34						
MAKZ	**Makanchi**	**47.47**	**37**	*e*P	**P**	18 09 53.1	-3.2
	comp=Z,7.7nm,0.8s						
MK01	**Makanchi Array**	**47.64**	**37**	*e*P	**P**	18 09 57.4	-0.3
MK01	**Makanchi Array**	**47.64**	**37**	*e*P	**P**	18 09 57.4	-0.3
MK31	**Makanchi Array**	**47.65**	**37**	*e*P	**P**	18 09 58.2	+0.5
MK31	**Makanchi Array**	**47.65**	**37**	*e*P	**P**	18 09 58.2	+0.5
MKAR	**Makanchi Array**	**47.65**	**37**	P	**P**	18 09 58.8	+1.1
	comp=Z,6.2nm,0.8s,baz=235,slow=6.9,SNR=46						
MKAR	**Makanchi Array**	**47.65**	**37**	*e*P	**P**	18 09 58.0	+0.3
MKAR	**Makanchi Array**	**47.65**	**37**	*e*P	**P**	18 09 58.0	+0.3
KURBB	**Kurchatov Arra**	**47.78**	**31**	P	**P**	18 09 60.0	+1.3
	comp=Z,4.2nm,0.8s,baz=233,slow=8.2,SNR=45						
KURK	**Kurchatov**	**47.88**	**31**	*e*P	**P**	18 09 58.8	-0.6
KURK	**Kurchatov**	**47.88**	**31**	*e*P	**P**	18 09 58.8	-0.6
ESDC	**Sonseca Array**	**48.08**	**312**	P	**P**	18 10 01.4	+0.1
	comp=Z,0.5nm,0.6s,baz=106,slow=7.4,SNR=4.3						
LSA	**Lhasa**	**48.39**	**62**	*e*P	**P**	18 10 04.5	+0.2
	comp=Z,3.1nm,0.8s						
LSA	**Lhasa**	**48.39**	**62**	*e*P	**P**	18 10 04.5	+0.2
	comp=Z,3.1nm,0.8s						
FINES	**FINESS Array B**	**49.54**	**350**	P	**P**	18 10 12.6	+0.7
	comp=Z,2.5nm,0.9s,baz=126,slow=9.7,SNR=4.4						
FINES				LR	LR	18 33 07.6	
	comp=Z,60nm,19.1s,baz=76,slow=38						
WMQ	**Urumqi**	**49.67**	**43**	P	**P**	18 10 13.9	+0.5
WMQ				LR	LR		
	comp=N,58nm,23.4s						
WMQ				LR	LR		
	comp=E,42nm,21.2s						
WMQ				LR	LR		
	comp=Z,62nm,26.6s						
NOA	**NORSAR Array B**	**52.72**	**342**	P	**P**	18 10 37.1	+1.1
	comp=Z,1.1nm,0.8s,baz=140,slow=8.8,SNR=3.5						
ZAA0	**Zalesovo Array**	**52.86**	**30**	*e*P	**P**	18 10 36.9	-0.1
ZAA0	**Zalesovo Array**	**52.86**	**30**	*e*P	**P**	18 10 36.9	-0.1
ZALV	**Zalesovo Beam**	**52.86**	**30**	P	**P**	18 10 37.5	+0.4
	comp=Z,6.9nm,0.8s,baz=242,slow=7.6,SNR=28						
CMAR	**Chiang Mai Arr**	**55.02**	**77**	P	**P**	18 10 55.0	+1.6
	comp=Z,3.0nm,0.8s,baz=279,slow=8.4,SNR=15						
CMAR				LR	LR	18 36 48.6	
	comp=Z,15nm,18.7s,baz=280,slow=39						
CM01	**Chiang Mai Arr**	**55.03**	**77**	*e*P	**P**	18 10 51.3	-2.2
CM01	**Chiang Mai Arr**	**55.03**	**77**	*e*P	**P**	18 10 51.3	-2.2
KMI	**Kunming**	**58.34**	**69**	P	**P**	18 11 18.9	+1.7
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LZH	**Lanzhou**	**59.80**	**56**	*e*P	**P**	18 11 28.6	+1.5
LZH				pP	sP	18 11 35.2	+3.6
LZH				sP	pP	18 11 38.9	+8.5
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
MYKOM	**Kota Tinggi**	**62.36**	**95**	*e*P	**P**	18 11 41.8	-2.9
	comp=Z,17nm,1.4s						
MYKOM	**Kota Tinggi**	**62.36**	**95**	*e*P	**P**	18 11 41.8	-2.9
	comp=Z,17nm,1.4s						
SONM	**Songino Array**	**63.31**	**43**	P	**P**	18 11 52.2	+1.6
	comp=Z,1.8nm,1.0s,baz=269,slow=7.1,SNR=10						
SONA1	**Songino Array**	**63.32**	**43**	*e*P	**P**	18 11 51.8	+1.1
SONA1	**Songino Array**	**63.32**	**43**	*e*P	**P**	18 11 51.8	+1.1
QIZ	**Qiongzhong**	**65.26**	**75**	P	**P**	18 12 00.6	-3.1
QIZ				S	**S**	18 20 44.9	-2.9
QIZ				LR	LR		
	comp=Z,120nm,10.6s						
HHC	**Hu-ho-hao-te**	**66.20**	**51**	*e*P	**P**	18 12 08.8	-0.8
HHC				sP	sP	18 12 17.4	+3.3
HHC				S	**S**	18 20 56.9	-1.9
HHC				sS	sS	18 21 01.9	-2.3
HHC				pmax	pmax		
	comp=Z,24nm,0.9s						
HHC				pmax	pmax		
	comp=Z,150nm,8.0s						
HHC				LR	LR		
	comp=N,130nm,13.6s						
HHC				LR	LR		
	comp=E,130nm,13.6s						
HHC				LR	LR		
	comp=Z,61nm,14.8s						
SPITS	**Spitsbergen Ar**	**66.25**	**354**	P	**P**	18 12 09.7	+0.6
	comp=Z,1.1nm,0.6s,baz=138,slow=14,SNR=3.1						
CN2	**Changchun**	**76.43**	**48

IDC 12 18:07:03.5±10.0, 13°18N×41°26E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.4/58, mbtmp3.9/5, Error ellipse: s-maj=258.0km s-min=26.0km az=68.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.25**	**136**	Pn	Pn	18 07 41.5	-0.6
	baz=66,slow=20,SNR=2.2						
ATD				Sn	Sn	18 08 11.8	+1.1
	18nm,0.3s,baz=343,slow=17,SNR=2.3						
MKAR	**Makanchi Array**	**47.98**	**37**	P	P	18 15 44.0	-0.1
	1.2nm,0.8s,baz=241,slow=6.7,SNR=4.7						
KURBB	**Kurchatov Arra**	**48.06**	**31**	P	P	18 15 43.0	-1.6
	0.9nm,0.9s,baz=234,slow=7.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**53.13**	**31**	P	P	18 16 22.3	-0.6
	2.0nm,0.9s,baz=233,slow=7.2,SNR=4.1						
SONM	**Songino Array**	**63.68**	**43**	P	P	18 17 38.6	+1.7
	0.6nm,0.8s,baz=258,slow=7.1,SNR=2.7						

IDC 12 18:09:06.0±4.5, 13°07N×40°87E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.4/56, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=100.8km s-min=24.0km az=54.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.46**	**128**	Pn	Pn	18 09 47.7	+0.2
	32nm,0.3s,baz=143,slow=20,SNR=3.5						
ATD				Sn	Sn	18 10 17.6	-0.8
	60nm,0.3s,baz=198,slow=20,SNR=5.4						
BRTR	**Keskin Array B**	**27.31**	**348**	P	P	18 14 52.5	-0.1
	0.5nm,0.9s,baz=134,slow=6.2,SNR=2.8						
AKTO	**Aktyubinsk**	**39.81**	**17**	P	P	18 16 39.9	-0.9
	1.4nm,0.8s,baz=211,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**48.29**	**38**	P	P	18 17 48.8	-0.3
	1.5nm,0.9s,baz=233,slow=5.9,SNR=9.7						
KURBB	**Kurchatov Arra**	**48.35**	**31**	P	P	18 17 49.8	+0.4
	0.5nm,0.9s,baz=234,slow=8.2,SNR=9.3						
ZALV	**Zalesovo Beam**	**53.42**	**31**	P	P	18 18 27.0	-0.5
	1.9nm,0.8s,baz=238,slow=8.5,SNR=7.0						
SONM	**Songino Array**	**64.02**	**43**	P	P	18 19 42.7	+1.0
	0.8nm,0.9s,baz=244,slow=6.4,SNR=4.2						

*ISCJB **12** 18:10:24.6±0.7, 13°24N±0°.08×41°.67E±0°.05, h10km, mb3.9/15, MS3.5/2, Error ellipse: s-maj=12.3km s-min=7.4km az=170.5*
*IDC **12** 18:10:25.1±1.1, 13°.28N×41°.69E, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.8/62, mbtmp4.0/17, ML4.3/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/53, Error ellipse: s-maj=23.4km s-min=17.9km az=41.0*
*DHMR **12** 18:10:25.7±0.7, 13°.14N×42°.07E, h2km±17km, ML4.0*
ISC 12 18:10:26.8±0.7, 13°26N±0°.06×41°.85E±0°.07, h10km, n23, σ1s25/26, mb4.0/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.98**	**150**	Pn	**Pn**	**18 11 01.6**	**+1.3**
	128nm,0.3s,baz=266,slow=17,SNR=7.7						
ATD				Sn	**Sg**	**18 11 30.8**	**+0.4**
	171nm,0.3s,baz=68,slow=22,SNR=7.2						
ATD				LR	LR	18 11 48.3	
	comp=Z,63nm,20.0s,baz=332,slow=40						
UDYN	**Al 'Udayn**	**2.17**	**71**	*i* P	**Pn**	**18 11 02.3**	**-0.8**
UDYN				*i* S	**Sn**	**18 11 30.8**	**+0.5**
UDYN				AML	AML	18 11 41.9	
	comp=E,1μm,0.5s						
DHBB	**Dhamar BB**	**2.79**	**62**	*i* P	**Pn**	**18 11 12.0**	**+0.3**
DHBB				*i* S	**Sb**	**18 11 49.0**	**-2.2**
HAJJ	**Hajjah**	**2.96**	**35**	*i* P	**Pn**	**18 11 16.7**	**+2.7**
HAJJ				AML	AML	18 11 27.6	
	comp=Z,1μm,0.6s						
HAJJ				*i* S	**Sb**	**18 11 55.6**	**-0.4**
SANA	**San'a**	**3.11**	**47**	*i* P	**Pn**	**18 11 17.9**	**+1.7**
SANA				*i* S	**Sb**	**18 11 58.6**	**-1.9**
WSAR	**Wadi Sarin**	**18.75**	**56**	P	**Pn**	**18 14 47.7**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=271,slow=11,SNR=5.9						
MMAI	**Mount Meron Ar**	**20.53**	**344**	LR	LR	18 22 26.8	
	comp=Z,49nm,18.7s,baz=175,slow=35						
BRTR	**Keskin Array B**	**27.34**	**346**	P	**P**	**18 16 12.6**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=167,slow=7.2,SNR=4.9						
MLR	**Muntele Rosu**	**34.85**	**340**	P	**P**	**18 17 18.8**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=209,slow=6.3,SNR=7.0						
TORD	**Torodi Ar. Bea**	**39.07**	**275**	P	**P**	**18 17 52.2**	**-2.2**
	comp=Z,0.8nm,0.9s,baz=93,slow=7.8,SNR=3.3						
AKTO	**Aktyubinsk**	**39.35**	**16**	P	**P**	**18 17 56.1**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=208,slow=13,SNR=4.0						
GERES	**GERESS Array B**	**42.42**	**332**	P	**P**	**18 18 20.1**	**-1.6**
	comp=Z,1.7nm,0.9s,baz=128,slow=8.6,SNR=10						
ARU	**Arti**	**44.96**	**13**	P	**P**	**18 18 41.6**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=158,slow=2.8,SNR=4.9						
BVAR	**Borovoye Array**	**45.71**	**24**	P	**P**	**18 18 47.9**	**0.0**
	comp=Z,1.2nm,0.8s,baz=205,slow=6.6,SNR=5.3						
MKAR	**Makanchi Array**	**47.56**	**37**	P	**P**	**18 19 02.8**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=234,slow=6.6,SNR=20						
KURBB	**Kurchatov Arra**	**47.69**	**31**	P	**P**	**18 19 03.6**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=233,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**49.45**	**350**	P	**P**	**18 19 16.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=202,slow=7.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.77**	**30**	P	**P**	**18 19 41.1**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=237,slow=8.3,SNR=12						
CMAR	**Chiang Mai Arr**	**54.98**	**77**	P	**P**	**18 19 59.2**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=282,slow=8.4,SNR=4.7						
ARCES	**ARCESS Array B**	**57.18**	**353**	P	**P**	**18 20 12.2**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=166,slow=4.5,SNR=4.2						
SONM	**Songino Array**	**63.23**	**43**	P	**P**	**18 20 56.5**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=297,slow=7.6,SNR=5.2						
SPITS	**Spitsbergen Ar**	**66.16**	**354**	P	**P**	**18 21 15.0**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=137,slow=7.4,SNR=5.2						
JCJ	**Chichijima**	**93.01**	**61**	LR	LR	19 10 31.2	
	comp=Z,53nm,18.2s,baz=122,slow=39						

*ISCJB **12** 18:14:48.4±2.6, 13°.2N±0°.5×41°.8E±0°.2, h10km, mb3.8/6, Error ellipse: s-maj=68.8km s-min=23.3km az=161.0*
*IDC **12** 18:14:48.9±3.0, 13°.19N×41°.79E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/55, mbtmp3.8/6, Error ellipse: s-maj=81.3km s-min=27.7km az=162.0*
ISC 12 18:14:50.5±2.8, 13°2N±0°.5×41°8E±0°.2, h10km, n7, σ0s58/7, mb3.8/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**38.99**	**275**	P	**P**	**18 22 17.5**	**0.0**
	0.9nm,0.9s,baz=99,slow=8.9,SNR=4.3						
AKTO	**Aktyubinsk**	**39.43**	**16**	P	**P**	**18 22 20.7**	**0.0**
	1.0nm,0.7s,baz=223,slow=12,SNR=5.4						
GERES	**GERESS Array B**	**42.44**	**333**	P	**P**	**18 22 45.7**	**+0.1**
	0.5nm,0.8s,baz=129,slow=9.4,SNR=4.5						
MKAR	**Makanchi Array**	**47.66**	**37**	P	**P**	**18 23 27.1**	**0.0**
	2.8nm,0.9s,baz=231,slow=4.8,SNR=15						
KURBB	**Kurchatov Arra**	**47.78**	**31**	P	**P**	**18 23 28.3**	**+0.3**
	baz=233,slow=8.2						
ZALV	**Zalesovo Beam**	**52.86**	**30**	P	**P**	**18 24 05.3**	**-1.1**
	3.6nm,0.9s,baz=242,slow=8.2,SNR=9.8						
SONM	**Songino Array**	**63.33**	**43**	P	**P**	**18 25 20.3**	**+0.3**
	1.1nm,1.0s,baz=258,slow=7.1,SNR=5.6						

IDC 12 18:15:39.3±6.8, 13°42N×41°85E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/55, mbtmp3.6/6, Error ellipse: s-maj=154.5km s-min=34.0km az=32.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**27.19**	**346**	P	P	18 21 25.5	+0.7
	0.6nm,0.8s,baz=144,slow=5.4,SNR=3.0						
MLR	**Muntele Rosu**	**34.70**	**340**	P	P	18 22 30.3	-0.7
	0.4nm,0.9s,baz=217,slow=15,SNR=3.2						
MKAR	**Makanchi Array**	**47.44**	**37**	P	P	18 24 15.7	-0.1
	0.5nm,0.6s,baz=235,slow=6.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**52.64**	**30**	P	P	18 24 54.5	-0.5
	0.9nm,0.5s,baz=252,slow=7.6,SNR=3.6						
CMAR	**Chiang Mai Arr**	**54.94**	**77**	P	P	18 25 12.6	0.0
	0.8nm,0.9s,baz=277,slow=7.1,SNR=3.6						
SONM	**Songino Array**	**63.12**	**43**	P	P	18 26 09.1	+0.1
	0.1nm,0.3s,baz=255,slow=4.3,SNR=2.1						

*IDC **12** 18:16:09.3±1.5, 27°.17N×143°.38E, h0km, mb3.7/3, mb1 3.6/6, mb1mx3.4/54, mbtmp3.5/6, ML2.8/2, Error ellipse: s-maj=28.0km s-min=20.8km az=63.0*
*ISCJB **12** 18:16:11.3±1.1, 27°.3N±0°.1×143°.5E±0°.1, h33km, mb3.8/3, Error ellipse: s-maj=15.1km s-min=13.7km az=142.1*

ISC 12 18:16:13.8±1.5, 27°.3N±0°.1×143°.4E±0°.1, h35km, n7, σ0s92/8, mb3.9/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.07**	**260**	Pn	**Pn**	**18 16 32.2**	**-0.1**
	24nm,0.3s,baz=99,slow=18,SNR=18						
JCJ				Sn	**Sn**	**18 16 46.1**	**+0.1**
	32nm,0.3s,baz=279,slow=21,SNR=11						
MJAR	**Matsushiro Arr**	**10.21**	**336**	Pn	**Pn**	**18 18 37.1**	**-0.8**
	0.4nm,0.3s,baz=144,slow=11,SNR=5.5						
KSRS	**Korea Array**	**16.50**	**312**	Pn	**P**	**18 20 04.7**	**-0.2**
	baz=19,slow=10,SNR=4.2						
USRK	**Ussuriysk Ar.**	**19.20**	**334**	P	**Pn**	**18 20 35.4**	**-0.4**
	0.1nm,0.3s,baz=172,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**47.76**	**192**	P	**P**	**18 24 47.5**	**-0.1**
	1.5nm,0.7s,baz=15,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**51.48**	**191**	P	**P**	**18 25 15.2**	**-0.7**
	0.3nm,0.7s,baz=360,slow=4.9,SNR=5.6						
BVAR	**Borovoye Array**	**58.62**	**317**	P	**P**	**18 26 08.9**	**+1.7**
	0.6nm,0.6s,baz=72,slow=9.3,SNR=3.4						

*ISCJB **12** 18:22:34.9±1.6, 13°.4N±0°.1×41°.6E±0°.3, h10km, mb4.0/6, Error ellipse: s-maj=46.3km s-min=9.5km az=157.9*
*IDC **12** 18:22:34.6±2.2, 13°.29N×41°.58E, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.6/55, mbtmp4.0/7, ML4.2/1, Error ellipse: s-maj=56.9km s-min=22.4km az=64.0*
ISC 12 18:22:35.9±1.9, 13°2N±0°.2×41°.6E±0°.3, h10km, n7, σ0s79/8, mb4.2/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.11**	**144**	Pn	**Pn**	**18 23 11.5**	**+0.2**
	80nm,0.3s,baz=74,slow=6.3,SNR=6.2						
ATD				Sn	**Sb**	**18 23 40.2**	**-0.4**
	121nm,0.3s,baz=206,slow=19,SNR=7.0						
GERES	**GERESS Array B**	**42.31**	**333**	P	**P**	**18 30 29.9**	**-0.1**
	0.4nm,0.6s,baz=125,slow=7.0,SNR=5.1						
ARU	**Arti**	**45.04**	**13**	P	**P**	**18 30 51.3**	**-0.4**
	2.6nm,0.7s,baz=42,slow=3.0,SNR=4.8						
BVAR	**Borovoye Array**	**45.84**	**24**	P	**P**	**18 30 57.8**	**-0.3**
	1.4nm,0.9s,baz=221,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**47.74**	**37**	P	**P**	**18 31 13.1**	**-0.1**
	3.5nm,0.9s,baz=235,slow=6.6,SNR=19						
ZALV	**Zalesovo Beam**	**52.93**	**31**	P	**P**	**18 31 51.0**	**-1.2**
	2.0nm,0.6s,baz=237,slow=7.5,SNR=9.8						
SONM	**Songino Array**	**63.43**	**43**	P	**P**	**18 33 07.2**	**+1.1**
	1.3nm,0.9s,baz=271,slow=7.3,SNR=6.6						

*ISCJB **12** 18:23:30.1±1.9, 13°.6N±0°.4×41°.6E±0°.2, h10km, mb3.9/6, Error ellipse: s-maj=65.1km s-min=24.2km az=162.8*
*IDC **12** 18:23:30.6±2.0, 13°.57N×41°.56E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/51, mbtmp3.8/6, Error ellipse: s-maj=68.8km s-min=26.1km az=164.0*
ISC 12 18:23:32.0±2.0, 13°.5N±0°.5×41°.6E±0°.2, h10km, n6, σ0s79/6, mb3.9/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**38.77**	**274**	P	**P**	**18 30 57.0**	**0.0**
	0.8nm,1.0s,baz=90,slow=5.8,SNR=2.9						
MKAR	**Makanchi Array**	**47.53**	**37**	P	**P**	**18 32 07.1**	**-0.4**
	2.2nm,0.9s,baz=233,slow=7.4,SNR=7.9						
KURBB	**Kurchatov Arra**	**47.61**	**31**	P	**P**	**18 32 08.5**	**+0.4**
	1.3nm,0.9s,baz=233,slow=8.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**52.69**	**31**	P	**P**	**18 32 45.5**	**-1.0**
	2.8nm,0.9s,baz=242,slow=8.2,SNR=7.4						
CMAR	**Chiang Mai Arr**	**55.19**	**77**	P	**P**	**18 33 05.3**	**-0.1**
	0.9nm,0.9s,baz=283,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**63.23**	**43**	P	**P**	**18 34 01.5**	**+0.7**
	0.5nm,0.7s,baz=242,slow=8.0,SNR=3.3						

IDC 12 18:25:06.3±11.0, 13°08N×40°92E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.3/52, mbtmp3.7/5, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/58, Error ellipse: s-maj=240.6km s-min=28.0km az=62.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.44**	**129**	Pn	Pn	18 25 47.6	+0.2
	33nm,0.3s,baz=108,slow=20,SNR=2.2						
ATD				Sn	Sn	18 26 18.4	+0.5
	48nm,0.3s,baz=234,slow=19,SNR=3.6						
ASF	**Jabal al Asfar**	**19.36**	**350**	LR	LR	18 36 15.0	
	comp=Z,128nm,20.9s,baz=326,slow=34						
MKAR	**Makanchi Array**	**48.26**	**37**	P	P	18 33 49.0	-0.2
	0.9nm,0.7s,baz=233,slow=5.4,SNR=6.7						
KURBB	**Kurchatov Arra**	**48.32**	**31**	P	P	18 33 49.7	+0.3
	0.5nm,0.6s,baz=232,slow=8.1,SNR=5.7						
CMAR	**Chiang Mai Arr**	**55.91**	**76**	P	P	18 34 46.6	+0.1
	0.3nm,0.8s,baz=284,slow=7.5,SNR=4.7						
SONM	**Songino Array**	**63.98**	**43**	P	P	18 35 41.4	-0.4
	0.3nm,0.5s,baz=245,slow=6.2,SNR=2.7						

*ISCJB **12** 18:26:12.0±0.8, 13°.48N±0°.08×41°.6E±0°.1, h10km, mb3.8/10, Error ellipse: s-maj=21.3km s-min=8.7km az=155.1*
*IDC **12** 18:26:11.9±1.1, 13°.40N×41°.63E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.6/55, mbtmp3.9/11, ML4.2/1, Error ellipse: s-maj=26.6km s-min=20.4km az=52.0*
ISC 12 18:26:13.2±0.9, 13°4N±0°.1×41°.6E±0°.2, h10km, n11, σ0s82/12, mb3.9/10, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.16**	**147**	Pn	**Pn**	**18 26 49.0**	**-0.3**
	66nm,0.3s,baz=278,slow=15,SNR=3.8						
ATD				Sn	**Sb**	**18 27 19.2**	**-0.1**
	67nm,0.3s,baz=246,slow=24,SNR=5.8						
BRTR	**Keskin Array B**	**27.20**	**346**	P	**P**	**18 31 55.1**	**-2.1**
	1.2nm,1.0s,baz=110,slow=12,SNR=2.5						
TORD	**Torodi Ar. Bea**	**38.85**	**274**	P	**P**	**18 33 39.4**	**+0.4**
	0.7nm,0.8s,baz=88,slow=6.2,SNR=4.6						
GERES	**GERESS Array B**	**42.24**	**333**	P	**P**	**18 34 06.8**	**+0.1**
	0.8nm,0.7s,baz=133,slow=7.5,SNR=6.8						
BVAR	**Borovoye Array**	**45.71**	**24**	P	**P**	**18 34 34.2**	**-0.1**
	0.8nm,0.8s,baz=223,slow=7.9,SNR=4.6						
MKAR	**Makanchi Array**	**47.62**	**37**	P	**P**	**18 34 49.3**	**-0.1**
	1.8nm,0.8s,baz=234,slow=7.1,SNR=11						
KURBB	**Kurchatov Arra**	**47.72**	**31**	P	**P**	**18 34 50.5**	**+0.3**
	1.2nm,0.8s,baz=234,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**52.80**	**31**	P	**P**	**18 35 28.1**	**-0.5**
	2.4nm,0.7s,baz=240,slow=7.5,SNR=7.8						
SONM	**Songino Array**	**63.30**	**43**	P	**P**	**18 36 43.3**	**+0.8**
	1.1nm,0.8s,baz=249,slow=7.6,SNR=5.9						
SPITS	**Spitsbergen Ar**	**66.05**	**354**	P	**P**	**18 37 00.2**	**+0.5**
	1.4nm,0.7s,baz=161,slow=9.2,SNR=3.2						
KSRS	**Korea Array**	**79.09**	**54**	P	**P**	**18 38 18.3**	**+0.2**
	0.3nm,0.4s,baz=301,slow=5.4,SNR=3.7						

IDC 12 18:26:46.6±4.8, 13°15N×41°65E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.4/54, mbtmp3.8/5, Error ellipse: s-maj=106.8km s-min=37.9km az=24.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GERES	**GERESS Array B**	**42.43**	**333**	P	P	18 34 43.1	-0.1
	0.2nm,0.4s,baz=138,slow=6.0,SNR=2.7						
MKAR	**Makanchi Array**	**47.77**	**37**	P	P	18 35 26.0	+0.4
	2.4nm,0.9s,baz=233,slow=6.7,SNR=8.1						
KURBB	**Kurchatov Arra**	**47.89**	**31**	P	P	18 35 26.3	-0.1
	1.1nm,0.8s,baz=234,slow=8.1,SNR=6.5						
ZALV	**Zalesovo Beam**	**52.97**	**30**	P	P	18 36 04.0	-0.8
	1.4nm,0.6s,baz=240,slow=8.2,SNR=5.1						
CMAR	**Chiang Mai Arr**	**55.20**	**77**	P	P	18 36 21.6	-0.1
	0.7nm,0.8s,baz=257,slow=11,SNR=3.2						

IDC 12 18:27:59.3±24.0, 13°32N×41°23E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/55, mbtmp3.7/5, Error ellipse: s-maj=600.2km s-min=33.5km az=73.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.38**	**138**	Pn	Pn	18 28 39.2	-0.4
	baz=285,slow=20,SNR=1.3						
MKAR	**Makanchi Array**	**47.89**	**37**	P	P	18 36 38.5	-0.7
	0.9nm,0.8s,baz=239,slow=9.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**47.96**	**31**	P	P	18 36 39.6	0.0
	0.5nm,0.8s,baz=232,slow=8.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**53.03**	**31**	P	P	18 37 16.6	-1.4
	0.6nm,0.3s,baz=243,slow=6.5,SNR=3.8						
SONM	**Songino Array**	**63.61**	**43**	P	P	18 38 33.4	+1.2
	0.8nm,1.1s,baz=246,slow=7.2,SNR=2.6						

IDC 12 18:28:34.9±3.6, 12°25N×41°20E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.3/55, mbtmp3.7/5, Error ellipse: s-maj=80.0km s-min=28.5km az=39.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.77**	**114**	Pn	Pn	18 29 07.0	+0.2
	39nm,0.3s,baz=252,slow=20,SNR=3.0						
GERES	**GERESS Array B**	**43.02**	**333**	P	P	18 36 36.1	-0.2
	0.5nm,0.7s,baz=138,slow=8.9,SNR=4.2						
BVAR	**Borovoye Array**	**46.88**	**24**	P	P	18 37 08.2	+1.3
	0.6nm,0.8s,baz=197,slow=4.6,SNR=3.7						
MKAR	**Makanchi Array**	**48.75**	**37**	P	P	18 37 20.7	-0.8
	1.1nm,0.7s,baz=233,slow=6.6,SNR=6.9						
KURBB	**Kurchatov Arra**	**48.88**	**31**	P	P	18 37 22.3	0.0
	0.8nm,0.7s,baz=234,slow=8.2,SNR=7.0						
ZALV	**Zalesovo Beam**	**53.96**	**30**	P	P	18 37 59.7	-0.7
	1.6nm,0.7s,baz=244,slow=6.9,SNR=5.2						

*IDC **12** 18:28:59.3±1.1, 62°.15S×58°.04W, h0km, mb4.3/4, mb1 4.3/5, mb1mx3.8/23, mbtmp4.2/5, MS3.9/3, Ms1 3.9/3, ms1mx3.4/17, Error ellipse: s-maj=51.7km s-min=29.2km az=157.0*
*ISCJB **12** 18:29:00.3±0.7, 62°.37S±0°.10×57°.7W±0°.3, h10km, mb4.4/7, MS3.5/2, Error ellipse: s-maj=17.2km s-min=14.1km az=14.6*
*NEIC **12** 18:29:05.5±2.5, 62°.38S×58°.02W, h44km±24km, mb4.3/2, Error ellipse: s-maj=24.2km s-min=15.8km az=65.0*
ISC 12 18:29:01.3±0.7, 62°4S±0°.1×58°0W±0°.1, h10km, n23, σ1s15/20, mb4.6/7, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**3.63**	**226**	Pn	**Pn**	**18 29 59.1**	**+1.6**
	baz=58,slow=17,SNR=1.0						
PMSA	**Palmer Station**	**3.63**	**226**	*e*Pn	**Pn**	**18 29 58.5**	**+1.0**
PMSA				*e*Sn	**Sn**	**18 30 38.4**	**-1.9**
USHA	**Ushuaia**	**9.32**	**319**	LR	LR	18 34 16.7	
	comp=Z,3μm,19.8s,baz=91,slow=35						
VNA1	**Neumayer--Stat**	**20.83**	**134**	P	Pn	18 33 49.4	+4.4
SNAA	**Sanae**	**22.54**	**137**	P	**P**	**18 34 01.5**	**+0.5**
SNAA	**Sanae**	**22.54**	**137**	*e*P	**P**	**18 34 00.2**	**-0.8**
PLCA	**Paso Flores**	**22.96**	**335**	LR	LR	18 43 09.2	
	comp=Z,211nm,18.1s,baz=160,slow=37						
TRQA	**Tornquist**	**24.47**	**352**	P	**P**	**18 34 20.1**	**-0.1**
	1.9nm,0.8s						
QSPA	**South Pole Qui**	**27.85**	**180**	*e*P	**P**	**18 34 52.0**	**+1.4**
	32nm,0.9s						
CPUP	**Villa Florida**	**36.04**	**1**	LR	LR	18 49 48.7	
	comp=Z,76nm,19.5s,baz=146,slow=35						
LVC	**Limon Verde**	**40.44**	**344**	P	**P**	**18 36 41.1**	**+1.0**
	14nm,0.9s,baz=236,slow=7.3,SNR=3.5						
BOSA	**Boshof**	**61.97**	**98**	P	**P**	**18 39 21.1**	**-0.1**
	2.7nm,0.8s,baz=206,slow=12,SNR=2.7						
LBTB	**Lobatse**	**65.19**	**97**	P	**P**	**18 39 43.0**	**+0.4**
	4.9nm,1.0s,baz=225,slow=8.6,SNR=2.8						
MATP	**Matopo**	**70.49**	**97**	P	**P**	**18 40 15.6**	**-0.5**
	4.1nm,0.9s,baz=196,slow=7.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**88.31**	**57**	P	**P**	**18 41 52.9**	**+0.1**
	1.0nm,0.8s,baz=235,slow=4.5,SNR=3.0						
BRTR	**Keskin Array B**	**124.97**	**70**	PKP	**PKPdf**	**18 48 00.3**	**-0.5**
	0.4nm,0.6s,baz=163,slow=5.4,SNR=3.5						
ILAR	**Nelson Array**	**142.72**	**315**	PKP	**PKPdf**	**18 48 29.9**	**-3.0**
	0.7nm,0.9s,baz=165,slow=1.8,SNR=3.9						
AKTO	**Aktyubinsk**	**144.16**	**79**	PKP	**PKPab**	**18 48 32.6**	**-1.1**
	2.3nm,0.9s,baz=191,slow=5.7,SNR=3.3						
AAK	**Ala-Archa**	**146.02**	**103**	PKPbc	**PKPdf**	**18 48 40.0**	**+0.4**
	1.7nm,0.4s,baz=273,slow=2.1,SNR=3.8						
SPITS	**Spitsbergen Ar**	**147.11**	**21**	PKPbc	**PKPdf**	**18 48 40.6**	**+0.4**
	7.0nm,1.0s,baz=133,slow=6.9,SNR=5.5						
MJAR	**Matsushiro Arr**	**152.25**	**209**	PKPbc	**PKPbc**	**18 48 56.3**	**-0.1**
	3.3nm,0.9s,baz=185,slow=2.4,SNR=9.2						
MKAR	**Makanchi Array**	**152.75**	**106**	PKPbc	**PKPbc**	**18 48 57.2**	**+0.1**
	2.3nm,0.7s,baz=224,slow=3.1,SNR=5.9						
SONM	**Songino Array**	**162.97**	**142**	PKPab	**PKPab**	**18 49 52.5**	**+0.2**
	1.1nm,1.0s,baz=213,sl

SONM Songino Array 63.35 43 P **P** **18 41 32.6 +0.4**
1.0nm,0.8s,baz=275,slow=7.6,SNR=6.7

NIED ***12*** *18:31:00.36˚.50N×141˚.00E,h5km,Mw4.1 Best double couple: M₀1.56000×10¹⁵ NP1:φ₀s357.00000˚,δ63.00000˚, λ-20.00000˚. NP2:φ₀s96.00000˚,δ72.00000˚, λ-151.00000˚.*

ISCJB ***12*** *18:31:20.1±0.9,36˚.47N±0˚.03×141˚.05E±0˚.04,h8km±5km, mb4.0/22,MS3.3/4,Error ellipse: s-maj=5.7km s-min=4.5km az=25.7*

IDC ***12*** *18:31:20.1±0.6,36˚.33N×141˚.00E,h0km,mb4.0/22, mb1 4.1/26,mb1mx4.0/66,mbtmp4.0/26,ML3.1/2,MS3.1/8, Ms1 3.1/8,ms1mx2.9/56,Error ellipse: s-maj=15.3km s-min=14.2km az=85.0*

JMA ***12*** *18:31:21.8,36˚.49N×140˚.94E,h17km±1km,M4.4*

JMA Felt II J1.

NEIC ***12*** *18:31:21.4±0.6,36˚.35N×141˚.07E,h10km,mb4.2/3,Error ellipse: s-maj=11.5km s-min=10.3km az=120.0*

NEIC Recorded [2 JMA] in Chiba, Ibaraki and Tochigi.

ISC 12 18:31:22.2±1.3,36˚.53N±0˚.03×140˚.91E±0˚.05,h13km±7km, n57,σ1°66/56,mb4.1/22,MS3.3/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.29**	**286**	P	**Pg**	**18 31 28.4**	**+0.3**
JHO				S	**Sg**	**18 31 33.2**	**+1.1**
ONAJ	**Iwakimizuishiy**	**0.58**	**351**	P	**Pg**	**18 31 33.7**	**+0.2**
JYT	**Yasato**	**0.65**	**243**	P	**Pg**	**18 31 34.4**	**-0.5**
JYT				S	**Sg**	**18 31 43.5**	**-0.1**
JFK	**Kawauchi**	**0.83**	**358**	P	**Pb**	**18 31 37.6**	**-1.0**
JFK				*eS*	**Sb**	**18 31 49.2**	**-0.6**
JSB	**Shiboa**	**0.91**	**299**	P	**Pg**	**18 31 40.1**	**+0.3**
JSB				*eS*	**Sn**	**18 31 53.6**	**-0.2**
JFT	**Otama**	**1.09**	**335**	P	**Pn**	**18 31 42.8**	**-0.4**
JFT				*eS*	**Sn**	**18 31 58.0**	**-0.2**
I30JP	**ISUMI INFRASON**	**1.31**	**202**	Pg	**Pg**	**18 31 50.0**	**+2.5**
	baz=26,slow=15,SNR=0.5						
MJAR	**Matsushiro Arr**	**2.18**	**271**	Pn	**Pn**	**18 31 58.4**	**+0.2**
	6.0nm,0.3s,baz=102,slow=8.7,SNR=151						
MJAR				Sn	**Sb**	**18 32 28.3**	**-0.1**
	40nm,0.3s,baz=99,slow=27,SNR=11						
MJAR				LR	LR	18 33 00.8	
	comp=Z,3355nm,18.6s,baz=80,slow=45						
MAJO	**Matsushiro**	**2.18**	**271**	*e*Pn	**Pn**	**18 31 58.9**	**+0.7**
MAJO				*e*Sn	**Sb**	**18 32 27.0**	**-1.5**
MAT	**Matsushiro**	**2.18**	**271**	P	**Pn**	**18 31 58.7**	**+0.5**
MAT				S	**Sb**	**18 32 27.7**	**-0.8**
JHJ	**Hachijo jima 2**	**3.53**	**196**	Pn	**Pn**	**18 32 16.7**	**0.0**
	22nm,0.3s,baz=239,slow=23,SNR=5.3						
JHJ				Sn	**Sn**	**18 32 56.9**	**-1.5**
	29nm,0.3s,baz=49,slow=19,SNR=3.4						
JHJ2	**Mitsune**	**3.53**	**195**	*e*Pn	**Pn**	**18 32 18.2**	**+1.4**
JHJ2				*e*Sn	**Sn**	**18 32 58.9**	**+0.5**
ASAJ	**Asahikawa**	**7.69**	**9**	Pn	**Pn**	**18 33 13.9**	**+0.1**
	baz=270,slow=5.3						
ASAJ				Sn	**Sn**	**18 34 39.9**	**-0.9**
ASAJ	**Asahikawa**	**7.69**	**9**	*e*Pn	**Pn**	**18 33 12.9**	**-0.9**
ASAJ				*e*Sn	**Sn**	**18 34 43.6**	**+2.8**
JNU	**Nakatsue**	**8.92**	**251**	LR	LR	18 36 22.7	
	comp=Z,45nm,19.1s,baz=118,slow=34						
CBIJ	**Chichi jima**	**9.47**	**173**	Pn	**Pn**	**18 33 34.3**	**-4.1**
JCJ	**Chichijima**	**9.47**	**173**	Pn	**Pn**	**18 33 34.3**	**-4.1**
	6.7nm,0.3s,baz=270,slow=20,SNR=4.2						
USRK	**Ussuriysk Ar.**	**10.24**	**321**	Pn	Pn	18 33 54.6	+5.7
	0.2nm,0.3s,baz=131,slow=14,SNR=11						
USRK				LR	LR	18 37 28.2	
	comp=Z,133nm,20.2s,baz=118,slow=35						
KSRS	**Korea Array**	**10.43**	**279**	Pn	Pn	18 33 56.5	+5.0
	0.2nm,0.3s,baz=95,slow=14,SNR=8.7						
KSRS				LR	LR	18 37 22.5	
	comp=Z,64nm,21.2s,baz=235,slow=34						
KSAR	**Wonju Array Be**	**10.46**	**279**	Pn	Pn	18 33 56.5	+4.5
YSS	**Yuzh-Sakhalins**	**10.50**	**7**	*e*Pn	**Pn**	**18 33 53.6**	**+1.2**
	7.1nm,0.6s						
KLR	**Kul'dur**	**14.34**	**335**	Pn	**P**	**18 34 49.2**	**-2.7**
	0.1nm,0.3s,baz=136,slow=16,SNR=2.4						
PETK	**Petropavlovsk-**	**20.32**	**30**	P	Pn	18 35 59.9	0.0
	1.9nm,0.8s,baz=198,slow=9.1,SNR=2.8						
PETK				LR	LR	18 43 22.9	
	comp=Z,59nm,20.4s,baz=238,slow=35						
YAK	**Yakutsk**	**26.47**	**348**	P	**P**	**18 37 00.3**	**+1.5**
	0.9nm,0.4s,baz=204,slow=0.8,SNR=2.4						
YAK	**Yakutsk**	**26.47**	**348**	*e*P	**P**	**18 36 55.2**	**-3.6**
	12nm,0.9s						
SEY	**Seymchan**	**27.36**	**11**	P	**P**	**18 37 07.9**	**+1.1**
	2.0nm,0.8s,baz=220,slow=4.1,SNR=5.4						
SONM	**Songino Array**	**27.74**	**305**	P	**P**	**18 37 13.4**	**+2.8**
	0.9nm,0.6s,baz=101,slow=8.8,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**28.25**	**119**	T	T	19 06 39.1	
	baz=312,slow=75,SNR=533						
H11N1	**WAKE ISLAND Hy**	**28.25**	**119**	T	T	19 06 40.5	
	baz=312,slow=75,SNR=518						
H11N3	**WAKE ISLAND Hy**	**28.26**	**119**	T	T	19 06 40.0	
	baz=312,slow=75,SNR=467						
H11S1	**WAKE ISLAND Hy**	**28.93**	**121**	T	T	19 07 31.4	
	baz=314,slow=76,SNR=5714						
H11S3	**WAKE ISLAND Hy**	**28.93**	**121**	T	T	19 07 30.8	
	baz=314,slow=76,SNR=2646						
H11S2	**WAKE ISLAND Hy**	**28.95**	**121**	T	T	19 07 33.7	
	baz=314,slow=76,SNR=2402						
TIXI	**Tiksi**	**35.74**	**354**	P	**P**	**18 38 22.9**	**+2.6**
	2.0nm,0.8s,baz=148,slow=5.2,SNR=7.8						
TIXI	**Tiksi**	**35.74**	**354**	P	**P**	**18 38 19.5**	**-0.8**
	2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**41.96**	**313**	P	**P**	**18 39 13.2**	**+0.6**
	5.4nm,0.7s,baz=96,slow=6.6,SNR=16						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**18 39 30.9**	**+1.2**
	1.1nm,0.7s,baz=82,slow=8.6,SNR=7.2						
KURK	**Kurchatov**	**45.93**	**308**	*e*P	**P**	**18 39 41.0**	**-3.5**
KURBB	**Kurchatov Arra**	**45.99**	**308**	P	**P**	**18 39 47.2**	**+2.1**
	4.9nm,0.7s,baz=85,slow=7.9,SNR=53						
PMG	**Port Moresby**	**46.07**	**171**	LR	LR	18 58 18.0	
	comp=Z,23nm,18.2s,baz=254,slow=35						
ILAR	**Eielson Array**	**50.13**	**32**	P	**P**	**18 40 17.6**	**+0.7**
	1.5nm,0.8s,baz=266,slow=6.4,SNR=12						
BVAR	**Borovoye Array**	**50.61**	**313**	P	**P**	**18 40 22.9**	**+2.2**
	1.4nm,0.8s,baz=78,slow=6.8,SNR=7.7						
INK	**Inuvik**	**55.02**	**27**	P	**P**	**18 40 53.8**	**+0.9**
	1.2nm,0.5s,baz=288,slow=5.4,SNR=6.4						
ARU	**Arti**	**56.47**	**319**	P	**P**	**18 41 06.5**	**+2.9**
	2.9nm,0.5s,baz=54,slow=1.7,SNR=6.6						
WRA	**Warramunga Ar**	**56.51**	**187**	P	**P**	**18 41 02.7**	**-1.5**
	1.6nm,0.7s,baz=4.5,slow=6.9,SNR=18						
ABKAR	**Akbulak array**	**57.95**	**310**	*e*P	**P**	**18 41 13.6**	**-0.6**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**60.24**	**187**	P	**P**	**18 41 29.1**	**-1.1**
	1.0nm,0.7s,baz=12,slow=6.1,SNR=18						
FINES	**FINESS Array B**	**69.07**	**332**	P	**P**	**18 42 27.7**	**+0.2**
	1.7nm,0.8s,baz=40,slow=13,SNR=3.6						
KBZ	**Khabaz**	**70.92**	**311**	P	**P**	**18 42 38.4**	**-0.7**
	2.2nm,0.9s,baz=82,slow=7.1,SNR=2.2						
AKASG	**Malin Array Be**	**74.45**	**322**	P	**P**	**18 42 59.5**	**-0.5**
	0.5nm,0.4s,baz=47,slow=6.1,SNR=5.1						
NOA	**NORSAR Array B**	**74.49**	**337**	P	**P**	**18 42 59.9**	**-0.2**
	0.6nm,0.6s,baz=40,slow=5.7,SNR=3.0						
NVAR	**Mina Array Bea**	**75.61**	**53**	P	**P**	**18 43 08.7**	**+1.5**
	0.8nm,0.6s,baz=310,slow=5.6,SNR=5.7						
PDAR	**Pinedale Array**	**78.31**	**45**	P	**P**	**18 43 23.5**	**+1.1**
	0.5nm,0.4s,baz=294,slow=2.3,SNR=4.4						
BRTR	**Keskin Array B**	**78.88**	**311**	P	**P**	**18 43 26.0**	**+0.5**
	1.8nm,1.0s,baz=57,slow=5.3,SNR=4.0						
SCHQ	**Schefferville**	**85.93**	**16**	LR	LR	19 24 53.6	
	comp=Z,15nm,18.2s,baz=264,slow=37						
TXAR	**Lajitas Array**	**90.75**	**52**	P	**P**	**18 44 25.6**	**+0.2**
	0.4nm,0.7s,baz=282,slow=6.3,SNR=4.8						
TXAR				LR	LR	19 19 39.8	
	comp=Z,21nm,21.7s,baz=0.0,slow=32						
LPAZ	**La Paz**	**147.29**	**60**	PKPbc	**PKPbc**	**18 51 05.7**	**-1.1**
	0.6nm,0.6s,baz=180,slow=2.0,SNR=2.5						

IDC 12 18:34:30.5±3.1,12˚.33N×141˚.48E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.5/62,mbtmp3.8/7,Error ellipse: s-maj=70.5km s-min=24.7km az=45.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.56**	**120**	Pn	Pn	18 34 59.0	-0.5
	25nm,0.3s,baz=210,slow=20,SNR=3.4						
BRTR	**Keskin Array B**	**28.16**	**347**	P	P	18 40 25.0	+0.3
	0.8nm,0.9s,baz=184,slow=15,SNR=4.7						
AKTO	**Aktyubinsk**	**40.35**	**16**	P	P	18 42 08.8	-0.9
	0.5nm,0.3s,baz=180,slow=4.0,SNR=3.0						
GERES	**GERESS Array B**	**43.08**	**333**	P	P	18 42 32.1	-0.2
	0.2nm,0.3s,baz=131,slow=5.5,SNR=4.8						
MKAR	**Makanchi Array**	**48.52**	**37**	P	P	18 43 15.6	+0.3
	2.2nm,0.8s,baz=231,slow=7.7,SNR=7.9						
KURBB	**Kurchatov Arra**	**48.68**	**31**	P	P	18 43 16.1	-0.3
	0.9nm,0.9s,baz=234,slow=8.2,SNR=7.9						
ZALV	**Zalesovo Beam**	**53.76**	**30**	P	P	18 43 53.6	-0.9
	2.8nm,0.8s,baz=242,slow=9.4,SNR=8.2						
CMAR	**Chiang Mai Arr**	**55.55**	**76**	P	P	18 44 11.8	+3.7
	1.0nm,0.9s,baz=275,slow=8.2,SNR=5.3						
SONM	**Songino Array**	**64.16**	**43**	P	P	18 45 08.5	+1.4
	0.9nm,0.9s,baz=270,slow=4.4,SNR=5.9						

IDC 12 18:35:37.5±23.0,12˚.38N×40˚.50E,h0km,mb3.6/4, mb1 3.6/4,mb1mx3.2/60,mbtmp3.6/4,Error ellipse: s-maj=562.0km s-min=219.4km az=73.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**49.06**	**37**	P	P	18 44 26.1	-0.3
	1.0nm,0.9s,baz=231,slow=5.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**49.12**	**31**	P	P	18 44 27.2	+0.4
	0.4nm,0.9s,baz=232,slow=8.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**54.20**	**31**	P	P	18 45 04.2	-0.5
	1.1nm,0.7s,baz=248,slow=7.6,SNR=3.8						
SONM	**Songino Array**	**64.77**	**43**	P	P	18 46 18.2	+0.1
	0.2nm,0.4s,baz=262,slow=4.4,SNR=3.6						

IDC 12 18:35:56.1±23.0,13˚.20N×41˚.06E,h0km,mb3.6/4, mb1 3.6/4,mb1mx3.3/62,mbtmp3.6/4,Error ellipse: s-maj=562.4km s-min=214.0km az=71.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.08**	**37**	P	P	18 44 37.0	-0.5
	1.2nm,0.8s,baz=235,slow=6.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**48.15**	**31**	P	P	18 44 38.6	+0.7
	0.3nm,0.7s,baz=234,slow=8.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**53.22**	**31**	P	P	18 45 15.4	-0.7
	0.6nm,0.6s,baz=221,slow=11,SNR=2.4						
SONM	**Songino Array**	**63.80**	**43**	P	P	18 46 30.5	+0.1
	0.6nm,0.8s,baz=275,slow=7.1,SNR=3.2						

ISCJB ***12*** *18:37:19.4±0.9,13˚.45N±0˚.09×41˚.6E±0˚.1,h10km,mb4.0/7, Error ellipse: s-maj=22.0km s-min=9.6km az=153.7*

IDC ***12*** *18:37:19.4±1.2,13˚.35N×41˚.59E,h0km,mb4.0/7, mb1 4.1/8,mb1mx3.6/62,mbtmp4.0/8,ML4.1/1,Error ellipse: s-maj=26.4km s-min=21.5km az=44.0*

ISC 12 18:37:20.6±1.0,13˚.3N±0˚.1×41˚.6E±0˚.2,h10km,n8,σ0°76/9, mb4.2/7,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.15**	**145**	Pn	**Pn**	**18 37 56.1**	**-0.5**
	61nm,0.3s,baz=274,slow=19,SNR=2.6						
ATD				Sn	**Sb**	**18 38 26.5**	**+0.1**
	88nm,0.3s,baz=255,slow=20,SNR=4.2						
TORD	**Torodi Ar. Bea**	**38.81**	**274**	P	**P**	**18 44 46.8**	**+0.7**
	1.3nm,0.9s,baz=84,slow=6.7,SNR=6.1						
GERES	**GERESS Array B**	**42.26**	**333**	P	**P**	**18 45 13.2**	**-1.1**
	0.6nm,0.7s,baz=133,slow=7.5,SNR=4.3						
MKAR	**Makanchi Array**	**47.68**	**37**	P	**P**	**18 45 57.6**	**+0.2**
	2.9nm,0.7s,baz=235,slow=6.4,SNR=16						
KURBB	**Kurchatov Arra**	**47.78**	**31**	P	**P**	**18 45 58.6**	**+0.5**
	1.3nm,0.7s,baz=233,slow=8.0,SNR=12						
ZALV	**Zalesovo Beam**	**52.86**	**31**	P	**P**	**18 46 35.6**	**-0.8**
	3.2nm,0.7s,baz=236,slow=8.1,SNR=11						
CMAR	**Chiang Mai Arr**	**55.22**	**77**	P	**P**	**18 46 54.6**	**+0.3**
	2.5nm,0.9s,baz=277,slow=8.2,SNR=12						
SONM	**Songino Array**	**63.37**	**43**	P	**P**	**18 47 51.0**	**+0.6**
	1.4nm,0.9s,baz=279,slow=7.0,SNR=7.1						

IDC 12 18:38:07.8±23.0,13˚.40N×40˚.55E,h0km,mb3.8/4, mb1 3.8/4,mb1mx3.3/58,mbtmp3.8/4,MS3.3/1,Ms1 3.3/1, ms1mx2.6/50,Error ellipse: s-maj=570.8km s-min=221.0km az=73.0,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**20.09**	**347**	LR	LR	18 50 00.7	
	comp=Z,88nm,20.1s,baz=185,slow=36						
MKAR	**Makanchi Array**	**48.23**	**38**	P	P	18 46 50.0	-0.4
	1.9nm,0.9s,baz=231,slow=5.8,SNR=4.9						
KURBB	**Kurchatov Arra**	**48.24**	**32**	P	P	18 46 50.7	+0.4
	1.1nm,0.9s,baz=232,slow=8.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**53.30**	**31**	P	P	18 47 28.1	-0.4
	1.9nm,0.8s,baz=252,slow=8.6,SNR=4.7						
SONM	**Songino Array**	**64.00**	**43**	P	P	18 48 43.5	+0.1
	0.5nm,0.8s,baz=251,slow=4.4,SNR=2.9						

ISCJB ***12*** *18:38:31.8±0.5,13˚.53N±0˚.07×41˚.7E±0˚.1,h10km, mb3.9/14,MS3.5/1,Error ellipse: s-maj=15.7km s-min=7.9km az=153.3*

IDC ***12*** *18:38:31.8±0.9,13˚.45N×41˚.74E,h0km,mb3.9/14, mb1 4.0/15,mb1mx3.7/61,mbtmp3.9/15,ML4.6/1,MS3.5/1, Ms1 3.5/1,ms1mx2.7/51,Error ellipse: s-maj=20.8km s-min=17.6km az=32.0*

ISC 12 18:38:32.4±0.7,13˚.3N±0˚.09×41˚.8E±0˚.1,h10km,n16, σ0°99/17,mb3.8/14,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.07**	**150**	Pn	**Pb**	**18 39 10.5**	**+0.4**
	174nm,0.3s,baz=95,slow=22,SNR=5.2						
ATD				Sn	**Sg**	**18 39 38.2**	**-0.8**
	112nm,0.3s,baz=229,slow=20,SNR=3.7						
BRTR	**Keskin Array B**	**27.25**	**346**	P	**P**	**18 44 18.6**	**+1.5**
	0.9nm,0.9s,baz=153,slow=9.4,SNR=3.4						
MLR	**Muntele Rosu**	**34.76**	**340**	P	**P**	**18 45 24.0**	**+0.9**
	0.5nm,0.7s,baz=216,slow=9.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**38.99**	**274**	P	**P**	**18 46 00.2**	**+0.8**
	1.7nm,1.0s,baz=94,slow=7.3,SNR=5.5						
AKTO	**Aktyubinsk**	**39.30**	**16**	P	**P**	**18 45 59.5**	**-2.0**
	1.2nm,0.6s,baz=146,slow=3.6,SNR=3.2						
GERES	**GERESS Array B**	**42.33**	**332**	P	**P**	**18 46 25.8**	**-0.9**
	0.8nm,0.6s,baz=133,slow=6.8,SNR=8.2						
DBIC	**Dimbokro**	**46.35**	**267**	P	**P**	**18 46 59.3**	**+0.1**
	6.9nm,0.9s,baz=90,slow=10,SNR=3.8						
DBIC				LR	LR	19 05 52.7	
	comp=Z,54nm,18.2s,baz=63,slow=35						
MKAR	**Makanchi Array**	**47.55**	**37**	P	**P**	**18 47 09.3**	**+1.2**
	2.2nm,0.7s,baz=235,slow=5.0,SNR=11						
KURBB	**Kurchatov Arra**	**47.67**	**31**	P	**P**	**18 47 09.9**	**+1.0**
	baz=232,slow=8.0						
ESDC	**Sonseca Array**	**47.94**	**312**	P	**P**	**18 47 10.5**	**-0.9**
	0.3nm,0.5s,baz=113,slow=6.8,SNR=4.2						
FINES	**FINESS Array B**	**49.37**	**350**	P	**P**	**18 47 21.6**	**-0.3**
	1.4nm,0.7s,baz=128,slow=9.0,SNR=3.4						
NOA	**NORSAR Array B**	**52.55**	**342**	P	**P**	**18 47 45.7**	**-0.2**
	0.5nm,0.6s,baz=146,slow=9.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**52.74**	**30**	P	**P**	**18 47 47.6**	**+0.2**
	2.9nm,0.7s,baz=241,slow=7.0,SNR=6.7						
CMAR	**Chiang Mai Arr**	**55.03**	**77**	P	**P**	**18 48 04.8**	**+0.1**
	1.0nm,0.7s,baz=271,slow=7.4,SNR=8.8						
ARCES	**ARCESS Array B**	**57.11**	**353**	P	**P**	**18 48 18.2**	**-0.5**
	1.0nm,0.7s,baz=168,slow=9.2,SNR=5.3						
SONM	**Songino Array**	**63.22**	**43**	P	**P**	**18 49 02.1**	**+0.8**
	0.9nm,0.8s,baz=261,slow=5.4,SNR=3.9						

ISCJB ***12*** *18:40:03.5±0.7,13˚.40N±0˚.08×41˚.7E±0˚.1,h10km, mb4.0/13,Error ellipse: s-maj=19.0km s-min=8.4km az=152.9*

IDC ***12*** *18:40:03.2±1.0,13˚.30N×41˚.71E,h0km,mb4.1/12, mb1 4.2/13,mb1mx3.8/59,mbtmp4.1/13,ML4.1/1,Error ellipse: s-maj=23.9km s-min=18.3km az=37.0*

ISC 12 18:40:04.8±0.8,13˚.3N±0˚.1×41˚.7E±0˚.1,h10km,n14, σ1°35/15,mb4.0/13,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.05**	**147**	Pn	**Pn**	**18 40 39.4**	**0.0**
	67nm,0.3s,baz=232,slow=19,SNR=2.1						
ATD				Sn	**Sb**	**18 41 08.2**	**+0.5**
	95nm,0.3s,baz=198,slow=20,SNR=4.4						
BRTR	**Keskin Array B**	**27.31**	**346**	P	**P**	**18 45 53.6**	**+3.8**
	1.6nm,0.9s,baz=160,slow=7.5,SNR=5.9						
MLR	**Muntele Rosu**	**34.80**	**340**	P	**P**	**18 46 57.4**	**+1.6**
	0.6nm,0.8s,baz=187,slow=8.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**38.92**	**275**	P	**P**	**18 47 30.9**	**-0.2**
	3.5nm,1.1s,baz=95,slow=6.8,SNR=8.4						
AKTO	**Aktyubinsk**	**39.40**	**16**	P	**P**	**18 47 34.3**	**-0.3**
	1.9nm,0.8s,baz=207,slow=10,SNR=5.0						
GERES	**GERESS Array B**	**42.35**	**333**	P	**P**	**18 47 58.1**	**-1.0**
	2.3nm,1.0s,baz=163,slow=3.6,SNR=5.6						
ARU	**Arti**	**45.00**	**13**	P	**P**	**18 48 19.4**	**-0.9**
	2.6nm,0.7s,baz=193,slow=2.7,SNR=5.4						
MKAR	**Makanchi Array**	**47.66**	**37**	P	**P**	**18 48 40.5**	**-0.8**
	6.1nm,0.9s,baz=232,slow=4.9,SNR=16						
ESDC	**Sonseca Array**	**47.92**	**312**	P	**P**	**18 48 43.0**	**-0.6**
	0.3nm,0.5s,baz=119,slow=7.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**52.85**	**30**	P	**P**	**18 49 19.5**	**-1.0**
	7.1nm,0.8s,baz=233,slow=7.2,SNR=15						
CMAR	**Chiang Mai Arr**	**55.13**	**77**	P	**P**	**18 49 37.3**	**-0.5**
	3.5nm,0.9s,baz=280,slow=8.6,SNR=12						
SONM	**Songino Array**	**63.34**	**43**	P	**P**	**18 50 34.7**	**+0.4**
	2.4nm,0.9s,baz=297,slow=6.5,SNR=9.4						
TIXI	**Tiksi**	**76.62**	**19**	P	**P**	**18 51 55.2**	**-0.1**
	0.4nm,0.3s,baz=34,slow=3.6,SNR=3.7						
KLR	**Kul'dur**	**80.13**	**42**	P	**P**	**18 52 15.8**	**+0.7**
	0.4nm,0.4s,baz=307,slow=8.5,SNR=5.0						

ISCJB ***12*** *18:45:08.0±1.8,13˚.2N±0˚.4×41˚.8E±0˚.2,h10km,mb3.8/6, Error ellipse: s-maj=55.7km s-min=24.6km az=163.4*

IDC ***12*** *18:45:08.4±2.0,13˚.23N×41˚.74E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.5/57,mbtmp3.8/6,Error ellipse: s-maj=63.4km s-min=26.7km az=163.0*

ISC 12 18:45:09.9±1.9,13˚.2N±0˚.4×41˚.7E±0˚.2,h10km,n6,σ0°55/6, mb3.8/6,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**38.95**	**275**	P	**P**	**18 52 36.5**	**0.0**
	0.7nm,0.9s,baz=96,slow=10,SNR=3.2						
AKTO	**Aktyubinsk**	**39.41**	**16**	P	**P**	**18 52 39.8**	**-0.1**
	0.3nm,0.3s,baz=202,slow=5.4,SNR=4.7						
MKAR	**Makanchi Array**	**47.65**	**37**	P	**P**	**18 53 46.4**	**-0.1**
	2.1nm,0.9s,baz=237,slow=6.0,SNR=10						
ZALV	**Zalesovo Beam**	**52.85**	**30**	P	**P**	**18 54 25.2**	**-0.5**
	1.3nm,0.6s,baz=238,slow=8.0,SNR=6.6						
CMAR	**Chiang Mai Arr**	**55.10**	**77**	P	**P**	**18 54 42.5**	**-0.3**
	1.4nm,1.1s,baz=264,slow=8.6,SNR=5.1						
SONM	**Songino Array**	**63.33**	**43**	P	**P**	**18 55 40.2**	**+0.7**
	0.2nm,0.4s,baz=270,slow=4.3,SNR=4.2						

ISCJB ***12*** *18:47:56.4±0.6,17˚.7S±0˚.1×178˚.8W±0˚.1,h500km,mb3.7/9, Error ellipse: s-maj=21.6km s-min=9.1km az=151.0*

IDC ***12*** *18:47:57.3±1.5,17˚.74S×178˚.70W,h505km±19km, mb3.4/10,mb1 3.5/12,mb1mx3.3/37,mbtmp4.2/12,Error ellipse: s-maj=27.7km s-min=12.7km az=141.0*

ISC 12 18:47:57.1±0.7,17˚.7S±0˚.2×178˚.8W±0˚.1,h500km,n28, σ1°21/28,mb3.9/9,3C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.73**	**62**	P	**P**	**18 49 51.9**	**+1.0**
	5.8nm,0.3s,baz=298,slow=1.5,SNR=12						
AFI				S	**S**	**18 51 22.7**	**-1.5**
	2.3nm,0.3s,baz=72,slow=20,SNR=3.6						
DZM	**Mont Dzumac**	**14.55**	**250**	P	**P**	**18 51 04.5**	**+1.7**
	0.4nm,0.3s,baz=137,slow=19,SNR=3.6						
URZ	**Urewera**	**20.80**	**189**	P	**P**	**18 52 01.5**	**-1.3**
	1.3nm,0.3s,baz=108,slow=9.6,SNR=3.2						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**18 54 36.3**	**+1.0**
	2.0nm,0.5s,baz=100,slow=10.0,SNR=5.5						
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**18 55 21.8**	**-0.5**
	0.8nm,0.6s,baz=94,slow=7.8,SNR=28						
WRA				PcP	**pP**	**18 56 55.6**	**+0.6**
	1.4nm,1.0s,baz=92,slow=3.6,SNR=3.7						
ASAR	**Alice Springs**	**44.50**	**254**	P	**P**	**18 55 24.0**	**+0.3**
	4.9nm,0.5s,baz=89,slow=8.0,SNR=126						
ASAR				PcP	**PcP**	**18 56 56.1**	**-0.4**
	0.5nm,0.4s,

KMBO LR LR 18 58 06.3
comp=E,1μm,19.3s,baz=75,slow=37
NAZ Nazwa, Dubai 17.46 46 *i* P **P 18 52 56.0 -0.1**
SNR=7.4
ASHO Ashiyiah 17.55 47 *i* P **Pn 18 52 56.3 +0.3**
SNR=8.5
EIL Elat 17.60 340 LR LR 18 57 57.3
comp=E,481nm,21.6s,baz=158,slow=31
HATD Hatta, Dubai 17.69 47 *i* P **Pn 18 52 58.1 +0.4**
SNR=10
BANOM Banah 18.50 45 P **P 18 53 07.7 +0.2**
WSAR Wadi Sarin 18.72 55 P **Pn 18 53 10.6 +0.3**
comp=E,0.6nm,0.3s,baz=248,slow=5.6,SNR=9.7
WSAR LR LR 19 01 27.2
comp=E,1μm,19.2s,baz=250,slow=40
MMAI Mount Meron Ar 20.58 344 LR LR 19 00 08.9
comp=E,342nm,19.2s,baz=175,slow=33
GNI Garni 26.94 5 P **P 18 54 34.3 +1.5**
comp=E,4.2nm,0.7s,baz=218,slow=12,SNR=3.9
GNI LR LR 19 05 12.8
comp=E,238nm,20.9s,baz=184,slow=37
BRTR Keskin Array B 27.39 346 P **P 18 54 38.1 +1.3**
comp=E,4.5nm,0.9s,baz=171,slow=8.6,SNR=21
BRTR LR LR 19 04 56.3
comp=E,170nm,18.2s,baz=148,slow=35
GEYT Alibeck 28.52 28 P **P 18 54 47.6 +0.7**
comp=E,1.4nm,0.7s,baz=232,slow=14,SNR=4.4
GEYT LR LR 19 07 21.4
comp=E,446nm,18.7s,baz=210,slow=39
KBZ Khabaz 30.41 1 P **P 18 55 04.7 +1.2**
comp=E,3.2nm,0.9s,baz=100,slow=1.0,SNR=4.6
KBZ LR LR 19 07 55.8
comp=E,292nm,18.1s,baz=194,slow=38
KVAR Kislovodsk Arr 30.63 1 LR LR 19 07 53.0
comp=E,222nm,21.8s,baz=158,slow=37
OPO Ambohidratompo 32.02 171 LR LR 19 07 30.4
comp=E,233nm,20.9s,baz=355,slow=35
MLR Muntele Rosu 34.91 340 LR LR 19 11 08.9
comp=E,28nm,18.1s,baz=147,slow=38
ARR Arges 35.25 339⇑ *i*P **P 18 55 45.5 -0.4**
LOT Lotru 35.63 338⇓ *i*P **P 18 55 47.7 -1.5**
MATP Matopo 35.95 202 LR LR 19 10 39.0
comp=E,501nm,21.7s,baz=30,slow=36
BZS Buzias 36.59 336⇑ *i*P **P 18 55 56.2 -1.1**
KEST Kesra 36.89 313 P **P 18 56 01.0 +0.9**
comp=E,4.8nm,0.9s,baz=222,slow=1.8,SNR=5.0
KEST LR LR 19 13 17.9
comp=E,224nm,18.1s,baz=58,slow=40
KEST Kesra 36.89 313 P **P 18 56 01.0 +0.9**
DRGR 37.16 338⇑ *i*P **P 18 56 02.0 -0.2**
KKAR Karatay Array 38.64 34 *e*P **P 18 56 12.9 -1.9**
comp=E,2.8nm,0.8s
KKAR Karatay Array 38.64 34 *e*P **P 18 56 12.9 -1.9**
comp=E,2.8nm,0.8s
AKASG Malin Array Be 38.78 347 P **P 18 56 13.9 -1.8**
comp=E,2.8nm,0.9s,baz=161,slow=6.9,SNR=7.8
AKASG LR LR 19 14 07.6
comp=E,117nm,19.2s,baz=140,slow=39
ABKAR Akbulak array 38.88 19 *e*P **P 18 56 15.2 -1.4**
comp=E,2.5nm,0.7s
ABKAR Akbulak array 38.88 19 *e*P **P 18 56 15.2 -1.4**
comp=E,2.5nm,0.7s
KOLS Kolonicke sedl 39.14 339 *e*P **P 18 56 19.5 +0.7**
comp=E,8.0nm,1.5s
KOLS Kolonicke sedl 39.14 339 *e*P **P 18 56 19.5 +0.7**
TORD Torodi Ar. Bea 39.14 275 P **P 18 56 18.0 -1.3**
comp=E,3.6nm,1.0s,baz=99,slow=6.7,SNR=13
AKTO Aktyubinsk 39.37 16 P **P 18 56 20.3 -0.4**
comp=E,4.4nm,0.8s,baz=216,slow=7.5,SNR=11
CRVS Cervenica-Dubn 39.39 339 *e*P **P 18 56 22.3 +1.4**
CRVS Cervenica-Dubn 39.39 339 *e*P **P 18 56 22.3 +1.4**
KECS Kecovo 39.40 337 *e*P **P 18 56 23.2 +2.2**
comp=E,2.8nm,0.8s
KECS Kecovo 39.40 337 *e*P **P 18 56 23.2 +2.2**
STHS Stebnicka Huta 39.90 339 *e*P **P 18 56 25.7 +0.5**
comp=E,5.4nm,1.3s
STHS Stebnicka Huta 39.90 339 *e*P **P 18 56 25.7 +0.5**
VYHS Vyhne 40.04 336 *e*P **P 18 56 26.4 +0.1**
comp=E,5.5nm,1.0s
VYHS Vyhne 40.04 336 *e*P **P 18 56 26.4 +0.1**
TSUM Tsumeb 40.17 217 LR LR 19 13 43.6
comp=E,696nm,18.1s,baz=36,slow=37
LANS Liptovska Anna 40.33 337 *e*P **P 18 56 29.1 +0.3**
LANS Liptovska Anna 40.33 337 *e*P **P 18 56 29.1 +0.3**
AAK Ala-Archa 40.62 38 LR LR 19 16 01.1
comp=E,601nm,19.1s,baz=231,slow=40
LBTB Lobatse 41.21 203 LR LR 19 13 38.0
comp=E,481nm,21.0s,baz=46,slow=36
VRAC Vranov 41.59 335 LR LR 19 15 37.6
comp=E,35nm,18.5s,baz=115,slow=39
VRAC Vranov 41.59 335 *e*P **P 18 56 39.6 +0.5**
OBN Obninsk 42.01 355 LR LR 19 16 21.4
comp=E,95nm,21.1s,baz=102,slow=39
TREC Trest 42.04 334 *e*P **P 18 56 42.4 -0.4**
TREC *e*pP **sP 18 56 48.0 +0.8**
TREC Trest 42.04 334 P **P 18 56 42.4 -0.4**
GERES GERESS Array B 42.48 332 P **P 18 56 44.9 -1.6**
comp=E,3.9nm,0.8s,baz=131,slow=6.2,SNR=33
GERES LR LR 19 16 01.4
comp=E,38nm,19.6s,baz=118,slow=38
DPC Dobruska-Polom 42.51 336 *e*P **P 18 56 46.6 -0.1**
DPC *e*pP **sP 18 56 51.1 +0.1**
DPC Dobruska-Polom 42.51 336 P **P 18 56 46.6 -0.1**
KHC Kasperske Hory 42.75 333 *e*P **P 18 56 47.9 -0.7**
KHC *e*pP **sP 18 56 52.6 -0.4**
KHC Kasperske Hory 42.75 333 P **P 18 56 46.5 -2.1**
comp=E,1.5nm,1.0s
KHC Kasperske Hory 42.75 333 P **P 18 56 46.5 -2.1**
comp=E,1.5nm,1.0s
PRU Pruhonice 42.97 334 *e*P **P 18 56 50.5 +0.2**
PRU Pruhonice 42.97 334 P **P 18 56 50.5 +0.2**
BRG Berggiesshubel 43.89 335 *e*P **P 18 56 57.6 -0.1**
comp=E,5.1nm,1.1s
NKC Novy Kostel 44.06 333 *e*P **P 18 56 59.2 +0.1**
NKC Novy Kostel 44.06 333 P **P 18 56 59.2 +0.1**
CLL Collm 44.60 334⇓ *i*P **P 18 57 03.6 +0.1**
comp=Z,9.0nm,1.3s
CLL *i* 18 57 14.0
BOSA Boshof 44.61 201 LR LR 19 15 51.8
comp=Z,295nm,21.0s,baz=20,slow=36
ARU Arti 44.98 13 P **P 18 57 06.1 -0.3**
comp=Z,7.0nm,0.7s,baz=196,slow=4.0,SNR=18
ARU LR LR 19 18 42.6
comp=Z,135nm,18.4s,baz=182,slow=40
BVAR Borovoye Array 45.71 24 LR LR 19 20 48.2
comp=Z,142nm,18.7s,baz=253,slow=42
DBIC Dimbokro 46.48 267 P **P 18 57 17.6 -1.3**
comp=Z,6.4nm,0.7s,baz=69,slow=8.2,SNR=7.4
MKAR Makanchi Array 47.55 37 P **P 18 57 27.1 +0.3**
comp=Z,8.4nm,0.8s,baz=234,slow=6.7,SNR=47
MKAR LR LR 19 20 27.0
comp=Z,255nm,20.0s,baz=238,slow=40
KURK Kurchatov 47.79 31 *e*P **P 18 57 27.2 -1.3**
KURK Kurchatov 47.79 31 *e*P **P 18 57 27.2 -1.3**
ESDC Sonseca Array 48.11 312 P **P 18 57 29.5 -1.9**
comp=Z,0.5nm,0.6s,baz=102,slow=5.8,SNR=5.7
LSA Lhasa 48.29 62 *e*P **P 18 57 35.0 +1.7**
comp=Z,4.0nm,0.9s
LSA Lhasa 48.29 62 *e*P **P 18 57 35.0 +1.7**
comp=Z,4.0nm,0.9s
FINES FINESS Array B 49.50 350 P **P 18 57 40.0 -1.5**
comp=Z,3.4nm,0.8s,baz=148,slow=15,SNR=7.0
FINES LR LR 19 19 58.1
comp=Z,78nm,18.2s,baz=145,slow=38
FINES FINESS Array B 49.50 350 P **P 18 57 40.0 -1.5**
NB2 NORSAR Subarra 52.70 342 P **P 18 58 04.2 -1.4**
comp=Z,4.3nm,0.8s,baz=142,slow=7.4
NB2 NORSAR Subarra 52.70 342 P **P 18 58 04.2 -1.4**
comp=Z,4.3nm,0.8s,SNR=5.9
NOA NORSAR Array B 52.70 342 P **P 18 58 03.6 -2.0**
comp=Z,3.6nm,0.9s,baz=140,slow=7.4,SNR=6.3
NOA LR LR 19 22 44.8
comp=Z,47nm,19.2s,baz=125,slow=39
ZALV Zalesovo Beam 52.77 30 P **P 18 58 05.7 -0.5**
comp=Z,8.1nm,0.7s,baz=239,slow=7.5,SNR=31
ZALV LR LR 19 24 15.9
comp=Z,133nm,18.5s,baz=248,slow=40
CMAR Chiang Mai Arr 54.92 77 P **P 18 58 23.1 +0.6**
comp=Z,3.6nm,0.8s,baz=278,slow=8.1,SNR=22
GTA Gaotai 56.99 51 *e*P **P 18 58 38.1 +0.8**
GTA pP sP 18 58 43.5 +1.8
GTA sP pP 18 58 46.8 +6.3
GTA S **S 19 06 32.4 +0.5**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,26nm,4.3s
GTA LR LR
comp=N,140nm,14.7s
GTA LR LR
comp=E,140nm,13.8s
GTA LR LR
comp=Z,180nm,16.2s
ARCES ARCESS Array B 57.23 353 LR LR 19 25 25.2
comp=Z,77nm,18.4s,baz=182,slow=38
NRIK Noril'sk 62.99 17 P **P 18 59 17.4 -0.3**
comp=Z,2.5nm,0.5s,baz=211,slow=4.0,SNR=6.1
NRIK LR LR 19 32 15.2
comp=Z,124nm,18.6s,baz=262,slow=41
SONM Songino Array 63.21 43 P **P 18 59 20.7 +0.9**
comp=Z,2.6nm,0.9s,baz=272,slow=5.5,SNR=14
KLR Kul'dur 80.00 42 P **P 19 01 01.0 +0.2**
comp=Z,0.4nm,0.3s,baz=284,slow=8.5,SNR=4.1
KLR Kul'dur 80.00 42 P **P 19 01 01.0 +0.2**
USRK Ussuriysk Ar. 80.96 47 LR LR 19 42 41.2
comp=Z,104nm,18.5s,baz=252,slow=40
NVAR Mina Array Bea 125.39 341 PKP **PKPdf 19 07 54.4 +1.2**
comp=Z,0.6nm,0.8s,baz=17,slow=1.5,SNR=4.2
TXAR Lajitas Array 126.21 322 PKP **PKPdf 19 07 56.9 +2.1**
comp=Z,0.3nm,0.7s,baz=116,slow=2.9,SNR=4.7

IDC ***12*** *18:53:49.6± 1.1, 13°.32N×41°.71E, h0km, mb3.9/12, mb1 4.1/14, mb1mx3.8/65, mbtmp4.0/14, ML4.1/2, Error ellipse: s-maj=26.2km s-min=17.5km az=16.0*
CSEM ***12*** *18:53:51.6, 13°.28N×42°.11E, h10km, ML4.2*
DHMR ***12*** *18:53:51.6± 0.9, 13°.28N×42°.11E, h10km± 10km, ML4.2*
ISC 12 18:53:48.4± 1.0, 12°.9N± 0°.1×41°.92E± 0°.06, h10km, n22, σ 1°.25/27, mb4.0/12, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.64**	**146**	Pn		Pn	Pg	18 54 27.4	+7.5
	179nm,0.3s,baz=92,slow=2.8,SNR=7.4								
ATD				Sn		Sn	Sg	18 54 57.1	+16
	140nm,0.3s,baz=165,slow=20,SNR=5.3								
UDYN	**Al 'Udayn**	**2.25**	**62**	*i* P		**Pn**		**18 54 26.2**	**+0.3**
UDYN				*i* S		**Sn**		**18 54 53.4**	**-0.4**
UDYN				AML		AML		18 55 06.8	
	comp=E,2μm,0.5s								
DHBB	**Dhamar BB**	**2.91**	**55**	*i* P		**Pn**		**18 54 36.2**	**+1.1**
DHBB				*i* S		**Sn**		**18 55 10.2**	**-0.2**
DHBB	**Dhamar BB**	**2.91**	**55**	*i* P		**Pn**		**18 54 36.2**	**+1.1**
DHBB				*i* S		**Sn**		**18 55 10.2**	**-0.2**
ADEN	**Aden**	**2.99**	**92**	*i* P		**Pb**		**18 54 39.9**	**-1.8**
ADEN				*i* S		**Sb**		**18 55 17.2**	**-1.1**
ADEN				AML		AML		18 55 35.8	
	comp=E,1μm,0.5s								
ADEN	**Aden**	**2.99**	**92**	*i* P		**Pb**		**18 54 39.9**	**-1.8**
ADEN				*i* S		**Sb**		**18 55 17.2**	**-1.1**
	comp=E,745nm,0.5s								
HAJJ	**Hajjah**	**3.21**	**30**	*i* P		**Pn**		**18 54 39.0**	**-0.2**
HAJJ				AML		AML		18 54 50.3	
	comp=Z,2μm,0.4s								
HAJJ	**Hajjah**	**3.21**	**30**	*i* P		**Pn**		**18 54 39.0**	**-0.2**
	comp=Z,818nm,0.4s								
SANA	**San'a**	**3.31**	**42**	*i* P		**Pn**		**18 54 41.4**	**+0.8**
SANA				*i* S		**Sn**		**18 55 20.3**	**+0.1**
SANA				AML		AML		18 55 38.8	
	comp=E,3μm,0.5s								
WSAR	**Wadi Sarin**	**18.90**	**55**	P		**Pn**		**18 58 10.0**	**+0.1**
	comp=E,0.2nm,0.3s,baz=256,slow=2.7,SNR=4.2								
BRTR	**Keskin Array B**	**27.69**	**346**	P		**P**		**18 59 37.4**	**+0.5**
	comp=E,0.8nm,0.9s,baz=169,slow=8.8,SNR=3.8								
MLR	**Muntele Rosu**	**35.20**	**340**	P		**P**		**19 00 42.5**	**-0.3**
	comp=E,0.6nm,0.7s,baz=182,slow=8.1,SNR=5.6								
KEST	**Kesra**	**37.10**	**313**	P		**P**		**19 00 59.0**	**-0.3**
	comp=E,1.8nm,0.6s,baz=128,slow=1.7,SNR=2.9								
TORD	**Torodi Ar. Bea**	**39.16**	**275**	P		**P**		**19 01 16.6**	**-0.2**
	comp=E,1.6nm,0.9s,baz=94,slow=9.0,SNR=6.0								
GERES	**GERESS Array B**	**42.76**	**333**	P		**P**		**19 01 44.5**	**-1.6**
	comp=E,0.9nm,0.6s,baz=130,slow=6.8,SNR=9.4								
MKAR	**Makanchi Array**	**47.80**	**37**	P		**P**		**19 02 27.4**	**+1.3**
	comp=E,2.1nm,0.6s,baz=236,slow=6.6,SNR=16								
KURBB	**Kurchatov Arra**	**47.96**	**31**	P		**P**		**19 02 28.5**	**+1.3**
	comp=E,1.0nm,0.7s,baz=232,slow=8.1,SNR=12								
ESDC	**Sonseca Array**	**48.32**	**312**	P		**P**		**19 02 29.4**	**-0.8**
	comp=E,0.6nm,0.6s,baz=103,slow=5.8,SNR=5.7								
FINES	**FINESS Array B**	**49.80**	**350**	P		**P**		**19 02 39.3**	**-1.9**
	comp=E,1.4nm,0.8s,baz=134,slow=14,SNR=4.2								
ZALV	**Zalesovo Beam**	**53.04**	**30**	P		**P**		**19 03 05.8**	**+0.2**
	comp=E,2.1nm,0.6s,baz=240,slow=7.7,SNR=8.8								
CMAR	**Chiang Mai Arr**	**54.99**	**76**	P		**P**		**19 03 23.4**	**+3.0**
	comp=E,1.8nm,0.8s,baz=278,slow=8.2,SNR=12								
SONM	**Songino Array**	**63.44**	**43**	P		**P**		**19 04 20.9**	**+2.2**
	comp=E,1.0nm,0.8s,baz=260,slow=6.0,SNR=6.2								

ISCJB ***12*** *18:54:52.7± 0.6, 13°.46N± 0°.08×41°.6E± 0°.1, h10km, mb3.9/13, Error ellipse: s-maj=19.1km s-min=8.1km az=150.7*
IDC ***12*** *18:54:52.6± 1.0, 13°.36N×41°.61E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.7/63, mbtmp3.9/14, ML4.3/1, Error ellipse: s-maj=24.6km s-min=17.8km az=38.0*
ISC 12 18:54:53.9± 0.8, 13°.3N± 0°.1×41°.6E± 0°.1, h10km, n14, σ 0°.70/15, mb4.1/13, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.15**	**146**	Pn		**Pn**		**18 55 29.7**	**-0.2**
	85nm,0.3s,baz=320,slow=17,SNR=3.0								
ATD				Sn		**Sn**		**18 55 59.8**	**+0.1**
	108nm,0.3s,baz=216,slow=19,SNR=2.8								
BRTR	**Keskin Array B**	**27.23**	**346**	P		**P**		**19 00 37.1**	**-1.1**
	0.8nm,0.9s,baz=148,slow=11,SNR=3.8								
MLR	**Muntele Rosu**	**34.71**	**341**	P		**P**		**19 01 44.4**	**+0.2**
	0.4nm,0.7s,baz=266,slow=16,SNR=3.4								
TORD	**Torodi Ar. Bea**	**38.83**	**274**	P		**P**		**19 02 20.1**	**+0.6**
	2.6nm,1.0s,baz=91,slow=7.4,SNR=7.6								
GERES	**GERESS Array B**	**42.26**	**333**	P		**P**		**19 02 47.0**	**-0.5**
	0.6nm,0.6s,baz=126,slow=6.8,SNR=4.5								
ARU	**Arti**	**44.96**	**13**	P		**P**		**19 03 09.7**	**+0.6**
	1.5nm,0.6s,baz=169,slow=8.3,SNR=3.8								
MKAR	**Makanchi Array**	**47.66**	**37**	P		**P**		**19 03 30.2**	**-0.3**
	2.8nm,0.9s,baz=236,slow=6.0,SNR=8.9								
KURBB	**Kurchatov Arra**	**47.77**	**31**	P		**P**		**19 03 32.3**	**+1.1**
	1.1nm,0.7s,baz=234,slow=8.0,SNR=8.2								
ESDC	**Sonseca Array**	**47.82**	**312**	P		**P**		**19 03 31.4**	**-0.5**
	0.9nm,0.8s,baz=109,slow=9.0,SNR=5.2								
FINES	**FINESS Array B**	**49.35**	**350**	P		**P**		**19 03 43.2**	**0.0**
	1.4nm,0.6s,baz=156,slow=10,SNR=3.9								
ZALV	**Zalesovo Beam**	**52.84**	**31**	P		**P**		**19 04 08.5**	**-1.1**
	2.3nm,0.7s,baz=239,slow=7.5,SNR=7.9								
CMAR	**Chiang Mai Arr**	**55.20**	**77**	P		**P**		**19 04 27.0**	**-0.4**
	2.6nm,0.9s,baz=276,slow=8.4,SNR=11								
ARCES	**ARCESS Array B**	**57.10**	**353**	P		**P**		**19 04 40.1**	**-0.1**
	2.7nm,1.1s,baz=127,slow=6.0,SNR=3.9								
SONM	**Songino Array**	**63.35**	**43**	P		**P**		**19 05 24.3**	**+0.8**
	1.0nm,0.8s,baz=260,slow=7.0,SNR=5.4								

ISCJB ***12*** *18:56:11.8± 0.7, 13°.39N± 0°.07×41°.7E± 0°.1, h10km, mb4.0/15, Error ellipse: s-maj=18.9km s-min=8.0km az=158.0*
IDC ***12*** *18:56:11.5± 1.1, 13°.26N×41°.72E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.8/63, mbtmp4.0/15, ML4.0/1, Error ellipse: s-maj=23.9km s-min=18.2km az=51.0*
NEIC ***12*** *18:56:12.8± 0.8, 13°.26N×41°.77E, h10km, mb4.0/1, Error ellipse: s-maj=19.5km s-min=13.4km az=62.0*
ISC 12 18:56:12.9± 0.9, 13°.27N± 0°.10×41°.7E± 0°.1, h10km, n17, σ 1°.08/18, mb4.0/15, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.05**	**147**	Pn		**Pn**		**18 56 47.2**	**-0.2**
	54nm,0.3s,baz=356,slow=19,SNR=1.8								
ATD				Sn		**Sb**		**18 57 15.9**	**+0.2**
	44nm,0.3s,baz=288,slow=20,SNR=3.3								
BRTR	**Keskin Array B**	**27.30**	**346**	P		**P**		**19 01 59.9**	**+2.0**
	1.1nm,0.9s,baz=153,slow=11,SNR=5.0								
GEYT	**Alibeck**	**28.57**	**28**	P		**P**		**19 02 09.4**	**+0.3**
	1.3nm,0.7s,baz=276,slow=1.3,SNR=3.0								
KBZ	**Khabaz**	**30.37**	**2**	P		**P**		**19 02 25.4**	**+0.4**
	2.6nm,1.0s,baz=243,slow=4.5,SNR=2.9								
MLR	**Muntele Rosu**	**34.80**	**340**	P		**P**		**19 03 05.9**	**+2.0**
	0.5nm,0.7s,baz=295,slow=20,SNR=4.1								
ABKAR	**Akbulak array**	**38.90**	**19**	*e*P		**P**		**19 03 37.1**	**-1.5**
	2.9nm,0.9s								
TORD	**Torodi Ar. Bea**	**38.94**	**275**	P		**P**		**19 03 39.3**	**-0.1**
	2.4nm,1.0s,baz=92,slow=7.0,SNR=6.8								
AKTO	**Aktyubinsk**	**39.38**	**16**	P		**P**		**19 03 42.3**	**-0.3**
	2.6nm,0.8s,baz=214,slow=10,SNR=6.2								
GERES	**GERESS Array B**	**42.35**	**333**	P		**P**		**19 04 05.4**	**-1.9**
	0.3nm,0.5s,baz=160,slow=9.0,SNR=3.4								
ARU	**Arti**	**44.98**	**13**	P		**P**		**19 04 28.0**	**-0.2**
	1.5nm,0.5s,baz=216,slow=7.9,SNR=4.4								
BVAR	**Borovoye Array**	**45.75**	**24**	P		**P**		**19 04 34.5**	**+0.1**
	1.2nm,0.8s,baz=216,slow=7.1,SNR=5.6								
MKAR	**Makanchi Array**	**47.63**	**37**	P		**P**		**19 04 49.2**	**0.0**
	6.1nm,0.9s,baz=227,slow=6.3,SNR=16								
KURBB	**Kurchatov Arra**	**47.75**	**31**	P		**P**		**19 04 50.3**	**+0.3**
	3.3nm,0.8s,baz=234,slow=8.2,SNR=17								
KURK	**Kurchatov**	**47.85**	**31**	*e*P		**P**		**19 04 49.3**	**-1.6**
ZALV	**Zalesovo Beam**	**52.83**	**30**	P		**P**		**19 05 27.9**	**-0.5**
	7.5nm,0.9s,baz=236,slow=7.8,SNR=17								
CMAR	**Chiang Mai Arr**	**55.10**	**77**	P		**P**		**19 05 45.9**	**+0.2**
	2.7nm,1.0s,baz=277,slow=8.4,SNR=9.0								
SONM	**Songino Array**	**63.31**	**43**	P		**P**		**19 06 43.0**	**+0.7**
	2.4nm,0.9s,baz=270,slow=4.4,SNR=9.1								

ISCJB ***12*** *19:02:56.0± 0.7, 13°.29N± 0°.06×41°.76E± 0°.05, h10km, mb3.9/11, MS4.2/1, Error ellipse: s-maj=9.3km s-min=6.6km az=173.1*
IDC ***12*** *19:02:56.0± 1.3, 13°.26N×41°.75E, h0km, mb3.9/11, mb1 3.9/12, mb1mx3.6/59, mbtmp3.9/12, ML4.1/1, MS4.2/1, Ms1 4.2/1, ms1mx3.1/35, Error ellipse: s-maj=26.1km s-min=23.7km az=32.0*
DHMR ***12*** *19:02:57.4± 1.2, 13°.38N×41°.98E, h15km± 10km, ML4.4*
ISC 12 19:02:57.8± 0.9, 13°.30N± 0°.07×41°.82E± 0°.08, h10km, n18, σ 1°.09/21, mb3.8/11, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.02**	**150**	Pn		**Pn**		**19 03 32.2**	**+0.2**
	66nm,0.3s,baz=89,slow=5.9,SNR=8.1								
UDYN	**Al 'Udayn**	**2.19**	**72**	*i* P		**Pn**		**19 03 32.7**	**-1.8**
UDYN				*i* S		**Sn**		**19 04 00.4**	**-1.4**
UDYN				AML		AML		19 04 20.7	
	comp=Z,2μm,0.7s								
DHBB	**Dhamar BB**	**2.80**	**63**	*i* P		**Pn**		**19 03 43.0**	**0.0**
DHBB				*i* S		**Sn**		**19 04 17.7**	**+0.7**
HAJJ	**Hajjah**	**2.94**	**36**	*i* P		**Pn**		**19 03 44.6**	**-0.2**
HAJJ				*i* S		**Sn**		**19 04 21.5**	**+1.1**
SANA	**San'a**	**3.11**	**48**	*i* S		**Sn**		**19 04 24.6**	**0.0**
ADEN	**Aden**	**3.13**	**99**	*i* P		**Pn**		**19 03 46.5**	**-0.7**
ADEN				*i* S		**Sn**		**19 04 26.1**	**+1.5**
ADEN				AML		AML		19 05 22.6	
	comp=E,4μm,0.6s								
BRTR	**Keskin Array B**	**27.29**	**346**	P		**P**		**19 08 44.3**	**+1.5**
	comp=E,1.0nm,1.0s,baz=150,slow=10.0,SNR=4.5								
MLR	**Muntele Rosu**	**34.80**	**340**	P		**P**		**19 09 48.1**	**-0.7**
	comp=E,0.5nm,0.8s,baz=219,slow=11,SNR=5.5								
TORD	**Torodi Ar. Bea**	**39.03**	**275**	P		**P**		**19 10 23.1**	**-2.0**
	comp=E,1.6nm,1.1s,baz=94,slow=6.2,SNR=5.4								
AKTO	**Aktyubinsk**	**39.33**	**16**	P		**P**		**19 10 26.7**	**-0.4**
	comp=E,1.4nm,0.6s,baz=169,slow=5.2,SNR=4.7								
LBTB	**Lobatse**	**41.24**	**203**	LR		LR		19 28 23.3	
	comp=E,319nm,21.3s,baz=42,slow=37								
GERES	**GERESS Array B**	**42.37**	**332**	P		**P**		**19 10 53.7**	**+1.4**
	comp=E,0.5nm,0.5s,baz=139,slow=7.8,SNR=5.7								
ARU	**Arti**	**44.93**	**13**	P		**P**		**19 11 12.2**	**-0.5**
	comp=E,0.9nm,0.4s,baz=252,slow=6.4,SNR=3.8								
BVAR	**Borovoye Array**	**45.69**	**24**	P		**P**		**19 11 17.9**	**-0.9**
	comp=E,0.5nm,0.5s,baz=219,slow=8.5,SNR=4.8								
MKAR	**Makanchi Array**	**47.55**	**37**	P		**P**		**19 11 34.0**	**+0.4**
	comp=E,4.0nm,0.9s,baz=234,slow=6.2,SNR=25								
KURBB	**Kurchatov Arra**	**47.68**	**31**	P		**P**		**19 11 35.0**	**+0.6**
	comp=E,2.1nm,0.9s,baz=233,slow=8.2,SNR=19								
ZALV	**Zalesovo Beam**	**52.76**	**30**	P		**P**		**19 12 12.3**	**-0.5**
	comp=E,3.7nm,0.9s,baz=236,slow=7.7,SNR=13								
SONM	**Songino Array**	**63.23**	**43**	P		**P**		**19 13 27.5**	**+0.9**
	comp=E,1.0nm,0.9s,baz=268,slow=5.9,SNR=6.7								

IDC 12 19:03:26.0± 2.2, 13°.37N×41°.84E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.4/60, mbtmp3.8/5, ML4.3/1, Error ellipse: s-maj=59.5km s-min=28.4km az=71.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.08**	**152**	Pn		Pn		19 04 02.1	0.0
	112nm,0.3s,baz=258,slow=20,SNR=6.6								
GERES	**GERESS Array B**	**42.32**	**332**	P		P		19 11 21.6	-0.1
	0.4nm,0.6s,baz=124,slow=6.1,SNR=3.5								
MKAR	**Makanchi Array**	**47.48**	**37**	P		P		19 12 03.0	+0.3
	1.0nm,0.7s,baz=236,slow=6.0,SNR=4.4								
KURBB	**Kurchatov Arra**	**47.60**	**31**	P		P		19 12 03.9	+0.3
	0.6nm,0.7s,baz=232,slow=8.2,SNR=4.6								
ZALV	**Zalesovo Beam**	**52.68**	**30**	P		P		19 12 41.1	-1.0
	1.0nm,0.5s,baz=241,slow=7.3,SNR=3.8								

ISCJB ***12*** *19:03:36.0± 0.4, 13°.44N± 0°.05×41°.78E± 0°.05, h10km, mb4.3/36, MS4.2/1, Error ellipse: s-maj=8.2km s-min=6.6km az=138.6*
IDC ***12*** *19:03:35.3± 0.9, 13°.34N×41°.70E, h0km, mb4.4/28, mb1 4.5/29, mb1mx4.2/59, mbtmp4.4/29, ML4.3/1, Error ellipse: s-maj=22.3km s-min=14.9km az=176.0*
CSEM ***12*** *19:03:37.5± 0.3, 13°.45N×41°.74E, h10km, mb4.2/8, Error ellipse: s-maj=13.7km s-min=13.3km az=54.0*
NEIC ***12*** *19:03:37.2± 0.5, 13°.43N×41°.73E, h10km, mb4.2/6, Error ellipse: s-maj=11.4km s-min=8.2km az=71.0*
DSN ***12*** *19:03:40.3± 4.9, 13°.59N×42°.00E, h10km, Error ellipse: s-maj=168.6km s-min=30.2km az=154.0*
ISC 12 19:03:37.2± 0.5, 13°.43N± 0°.07×41°.69E± 0°.08, h10km, n85, σ 1°.52/90, mb4.3/36, 8C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.20**	**149**	Sn		**Sn**		**19 04 40.0**	**-1.1**
	266nm,0.3s,baz=208,slow=22,SNR=5.0						

	4.0nm,1.0s							
VYHS	**Vyhne**	**39.76**	**336**	*e*P	**P**		**19 11 11.0**	**+0.8**
EKS2	**Erkin-Say**	**40.19**	**37**	P	**P**		**19 11 13.8**	**-0.2**
	2.9nm,0.9s							
EKS2	**Erkin-Say**	**40.19**	**37**	P	**P**		**19 11 13.8**	**-0.2**
	2.9nm,0.9s							
OKC	**Ostrava-Krasne**	**41.12**	**337**	*e*P	**P**		**19 11 24.4**	**+3.1**
VRAC	**Vranov**	**41.31**	**335**	P	**P**		**19 11 22.5**	**-0.5**
	1.5nm,0.4s,baz=108,slow=8.9,SNR=3.4							
TREC	**Trest**	**41.76**	**334**	*e*P	**P**		**19 11 26.8**	**+0.1**
TREC	**Trest**	**41.76**	**334**	P	**P**		**19 11 26.8**	**+0.1**
GERES	**GERESS Array B**	**42.20**	**333**	P	**P**		**19 11 30.3**	**-0.1**
	2.5nm,0.8s,baz=134,slow=7.6,SNR=12							
DPC	**Dobruska-Polom**	**42.23**	**336**	*e*P	**P**		**19 11 32.9**	**+2.3**
DPC	**Dobruska-Polom**	**42.23**	**336**	P	**P**		**19 11 32.9**	**+2.3**
KHC	**Kasperske Hory**	**42.47**	**333**	*e*P	**P**		**19 11 32.1**	**-0.3**
KHC				ePP	**pP**		**19 11 34.3**	**-1.3**
KHC	**Kasperske Hory**	**42.47**	**333**	*e*P	**P**		**19 11 32.3**	**-0.2**
	1.9nm,1.3s							
KHC	**Kasperske Hory**	**42.47**	**333**	*e*P	**P**		**19 11 32.3**	**-0.2**
	1.9nm,1.3s							
UPC	**Upice**	**42.48**	**336**	*e*P	**P**		**19 11 35.0**	**+2.5**
UPC	**Upice**	**42.48**	**336**	P	**P**		**19 11 35.0**	**+2.5**
PRU	**Pruhonice**	**42.69**	**334**	*e*P	**P**		**19 11 35.9**	**+1.7**
PRU	**Pruhonice**	**42.69**	**334**	P	**P**		**19 11 35.9**	**+1.7**
PVCC	**Panska Ves**	**43.08**	**335**	*e*P	**P**		**19 11 39.8**	**+2.4**
BRG	**Berggiesshubel**	**43.61**	**335**	*e*P	**P**		**19 11 43.5**	**+2.0**
	5.0nm,1.1s							
ARU	**Arti**	**44.84**	**13**	P	**P**		**19 11 51.7**	**+0.4**
	6.3nm,0.6s,baz=219,slow=4.0,SNR=15							
ARU	**Arti**	**44.84**	**13**	*e*P	**P**		**19 11 48.7**	**-2.7**
	7.7nm,0.7s							
ARU	**Arti**	**44.84**	**13**	*e*P	**P**		**19 11 48.6**	**-2.7**
	7.7nm,0.7s							
BVAR	**Borovoye Array**	**45.62**	**24**	P	**P**		**19 11 57.9**	**+0.2**
	3.9nm,0.8s,baz=216,slow=7.3,SNR=12							
BVAR				PcP	**PcP**		**19 13 37.0**	**+1.1**
	1.8nm,0.9s,baz=236,slow=0.5,SNR=4.6							
DBIC	**Dimbokro**	**46.27**	**266**	P	**P**		**19 12 02.1**	**-1.1**
	6.9nm,0.9s,baz=65,slow=9.5,SNR=5.3							
MKAR	**Makanchi Array**	**47.53**	**37**	P	**P**		**19 12 12.4**	**-0.4**
	12nm,0.8s,baz=233,slow=6.2,SNR=24							
KURBB	**Kurchatov Arra**	**47.63**	**31**	P	**P**		**19 12 13.6**	**+0.2**
	5.8nm,0.9s,baz=233,slow=8.2,SNR=20							
KURBB				PcP	**PcP**		**19 13 43.5**	**+0.5**
	0.7nm,0.8s,baz=229,slow=4.2,SNR=4.7							
KURK	**Kurchatov**	**47.73**	**31**	P	**P**		**19 12 13.6**	**-0.6**
KURK	**Kurchatov**	**47.73**	**31**	P	**P**		**19 12 13.6**	**-0.6**
ESDC	**Sonseca Array**	**47.81**	**312**	P	**P**		**19 12 14.1**	**-1.0**
	1.7nm,0.9s,baz=108,slow=7.1,SNR=10							
LSA	**Lhasa**	**48.39**	**62**	*e*P	**P**		**19 12 19.9**	**-0.4**
	10nm,1.3s							
LSA	**Lhasa**	**48.39**	**62**	*e*P	**P**		**19 12 19.9**	**-0.4**
	10nm,1.3s							
FINES	**FINESS Array B**	**49.26**	**350**	P	**P**		**19 12 25.5**	**-0.3**
	3.6nm,0.7s,baz=150,slow=16,SNR=8.3							
NB2	**NORSAR Subarra**	**52.43**	**342**	P	**P**		**19 12 49.1**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=138,slow=7.9							
NB2	**NORSAR Subarra**	**52.43**	**342**	P	**P**		**19 12 49.1**	**-0.7**
	comp=Z,4.8nm,0.9s,SNR=6.7							
NOA	**NORSAR Array B**	**52.43**	**342**	P	**P**		**19 12 49.7**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=126,slow=9.9,SNR=6.2							
ZALV	**Zalesovo Beam**	**52.71**	**31**	P	**P**		**19 12 51.0**	**-0.8**
	comp=Z,13nm,0.8s,baz=239,slow=7.8,SNR=20							
CMAR	**Chiang Mai Arr**	**55.09**	**77**	P	**P**		**19 13 08.7**	**-1.3**
	comp=Z,6.4nm,0.9s,baz=279,slow=7.8,SNR=19							
ARCES	**ARCESS Array B**	**57.00**	**353**	P	**P**		**19 13 21.7**	**-1.1**
	comp=Z,3.9nm,0.8s,baz=170,slow=7.4,SNR=8.2							
GTA	**Gaotai**	**57.04**	**52**	*e*P	**P**		**19 13 25.2**	**+1.4**
GTA				pP	sP		19 13 28.8	+0.6
GTA				sP	pP		19 13 31.3	+4.3
GTA				PcP	**PcP**		**19 14 21.4**	**+2.6**
GTA				S	**S**		**19 21 20.8**	**+2.1**
GTA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,120nm,4.8s							
GTA				LR	LR			
	comp=N,110nm,15.2s							
GTA				LR	LR			
	comp=E,130nm,18.1s							
GTA				LR	LR			
	comp=Z,140nm,13.8s							
NRIK	**Noril'sk**	**62.86**	**17**	P	**P**		**19 14 03.1**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=236,slow=6.9,SNR=5.1							
SONM	**Songino Array**	**63.22**	**43**	P	**P**		**19 14 05.9**	**-0.1**
	comp=Z,5.1nm,0.9s,baz=263,slow=5.7,SNR=22							
KSAR	**Wonju Array Be**	**78.98**	**54**	P	**P**		**19 15 43.2**	**+1.6**
KSAR	**Wonju Array Be**	**78.98**	**54**	P	**P**		**19 15 43.1**	**+1.6**
KSRS	**Korea Array**	**79.01**	**54**	P	**P**		**19 15 43.1**	**+1.4**
	comp=Z,1.4nm,0.9s,baz=278,slow=5.2,SNR=7.3							
KLR	**Kul'dur**	**80.00**	**42**	P	**P**		**19 15 45.4**	**-1.5**
	comp=Z,2.8nm,0.8s,baz=299,slow=4.8,SNR=8.5							
USRK	**Ussuriysk Ar.**	**80.98**	**47**	P	**P**		**19 15 51.3**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=256,slow=7.7,SNR=5.2							
MJAR	**Matsushiro Arr**	**87.26**	**53**	P	**P**		**19 16 25.8**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=288,slow=4.6,SNR=5.1							
ILAR	**Eielson Array**	**101.76**	**4**	PP	PP		19 21 43.3	+3.3
	comp=Z,0.2nm,0.7s,baz=348,slow=5.3,SNR=4.8							
NVAR	**Mina Array Bea**	**125.12**	**341**	PKP	**PKPdf**		**19 22 40.4**	**+1.6**
	comp=Z,1.1nm,1.0s,baz=114,slow=2,SNR=5.1							
TXAR	**Lajitas Array**	**125.91**	**322**	PKP	**PKPdf**		**19 22 41.4**	**+1.1**
	comp=Z,0.7nm,1.0s,baz=66,slow=1.5,SNR=4.6							

*ISCJB **12** 19:05:57.8±1.7, 13°.5N±0°.1×41°.7E±0°.3, h10km, mb3.8/6, Error ellipse: s-maj=46.8km s-min=9.7km az=161.4*
*IDC **12** 19:05:57.7±2.4, 13°.4ON×41°.6SE, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.5/55, mbtmpb3.7/7, ML4.2/1, Error ellipse: s-maj=59.5km s-min=21.9km az=66.0*
ISC 12 19:05:59.1±2.0, 13°.4N±0°.2×41°.6E±0°.4, h10km, n7, σ0s81/8, mb4.0/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATD	**Arta Tunnel**	**2.20**	**146**	Pn		**Pn**	**19 06 35.2**	**-0.6**
	72nm,0.3s,baz=291,slow=18,SNR=5.6							
ATD				Sn		**Sn**	**19 07 03.7**	**+0.6**
	43nm,0.3s,baz=232,slow=19,SNR=4.0							
MLR	**Muntele Rosu**	**34.66**	**340**	P		**P**	**19 12 49.1**	**+0.2**
	0.3nm,0.8s,baz=232,slow=12,SNR=2.6							
MKAR	**Makanchi Array**	**47.62**	**37**	P		**P**	**19 14 34.5**	**-0.9**
	1.0nm,0.7s,baz=231,slow=5.9,SNR=3.8							
KURBB	**Kurchatov Arra**	**47.72**	**31**	P		**P**	**19 14 35.1**	**-0.8**
	0.5nm,0.8s,baz=229,slow=8.3,SNR=5.0							
ZALV	**Zalesovo Beam**	**52.79**	**31**	P		**P**	**19 15 14.0**	**-0.4**
	1.5nm,0.8s,baz=251,slow=7.2,SNR=3.9							
CMAR	**Chiang Mai Arr**	**55.19**	**77**	P		**P**	**19 15 32.7**	**+0.2**
	1.4nm,1.0s,baz=278,slow=8.5,SNR=4.7							
SONM	**Songino Array**	**63.31**	**43**	P		**P**	**19 16 29.4**	**+1.0**
	0.4nm,0.4s,baz=258,slow=6.6,SNR=3.0							

*IDC **12** 19:11:47.8±2.1, 13°.27N×41°.46E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.6/51, mbtmpb3.9/9, ML4.2/1, Error ellipse: s-maj=49.9km s-min=20.9km az=56.0*
*ISCJB **12** 19:11:48.3±1.4, 13°.4N±0°.1×41°.5E±0°.3, h10km, mb3.9/8, Error ellipse: s-maj=39.0km s-min=9.1km az=155.3*
ISC 12 19:11:49.1±1.7, 13°.2N±0°.2×41°.5E±0°.3, h10km, n9, σ0s54/10, mb4.0/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATD	**Arta Tunnel**	**2.16**	**141**	Pn		**Pn**	**19 12 26.0**	**+0.7**
	68nm,0.3s,baz=310,slow=19,SNR=5.9							
ATD				Sn		**Sb**	**19 12 54.6**	**-0.7**
	123nm,0.3s,baz=292,slow=21,SNR=5.9							
AKTO	**Aktyubinsk**	**39.49**	**17**	P		**P**	**19 19 19.8**	**+0.1**
	1.7nm,0.9s,baz=209,slow=9.6,SNR=4.4							
GERES	**GERESS Array B**	**42.27**	**333**	P		**P**	**19 19 42.3**	**-0.6**
	0.3nm,0.5s,baz=168,slow=5.0,SNR=3.8							
MKAR	**Makanchi Array**	**47.81**	**37**	P		**P**	**19 20 27.0**	**+0.1**
	2.9nm,0.9s,baz=236,slow=6.6,SNR=18							
KURBB	**Kurchatov Arra**	**47.91**	**31**	P		**P**	**19 20 27.4**	**-0.1**
	1.6nm,0.9s,baz=234,slow=8.3,SNR=13							
FINES	**FINESS Array B**	**49.42**	**350**	P		**P**	**19 20 39.1**	**+0.2**
	0.9nm,0.7s,baz=232,slow=6.3,SNR=3.6							
ZALV	**Zalesovo Beam**	**52.99**	**31**	P		**P**	**19 21 05.6**	**-0.2**
	2.4nm,0.7s,baz=246,slow=7.3,SNR=8.9							
CMAR	**Chiang Mai Arr**	**55.35**	**77**	P		**P**	**19 21 23.2**	**-0.5**
	1.7nm,0.9s,baz=274,slow=8.3,SNR=7.5							
SONM	**Songino Array**	**63.51**	**43**	P		**P**	**19 22 20.4**	**+0.6**
	1.1nm,0.9s,baz=264,slow=6.2,SNR=6.0							

IDC 12 19:12:46.2±6.3, 13°.35N×41°.43E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.4/48, mbtmpb3.6/6, Error ellipse: s-maj=134.7km s-min=43.3km az=35.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MLR	**Muntele Rosu**	**34.62**	**341**	P		P	19 19 37.0	-0.2
	0.6nm,1.1s,baz=204,slow=12,SNR=3.1							
MKAR	**Makanchi Array**	**47.74**	**37**	P		P	19 21 24.8	-0.2
	1.2nm,0.9s,baz=234,slow=5.8,SNR=5.0							
KURBB	**Kurchatov Arra**	**47.83**	**31**	P		P	19 21 25.4	-0.2
	0.4nm,0.7s,baz=236,slow=7.8,SNR=3.2							
ZALV	**Zalesovo Beam**	**52.90**	**31**	P		P	19 22 02.5	-1.4
	1.4nm,0.8s,baz=240,slow=4.8,SNR=4.3							
CMAR	**Chiang Mai Arr**	**55.36**	**77**	P		P	19 22 21.7	-0.7
	1.0nm,0.9s,baz=280,slow=7.2,SNR=3.5							
SONM	**Songino Array**	**63.44**	**43**	P		P	19 23 19.7	+1.7
	0.3nm,0.5s,baz=258,slow=5.6,SNR=3.0							

ROM 12 19:13:52.5±0.1, 43°.90N×11°.98E, h8km, Md1.5/3, Ml0.7/2, Error ellipse: s-maj=0.5km s-min=0.4km az=88.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SFI	**Santa Sofia**	**0.10**	**276**	Pg		Pg	19 13 55.3	+0.4
SFI				Sg		Sg	19 13 57.2	+0.6
	26nm,0.3s							
ASQU	**Asqua**	**0.17**	**234**	Pg		Pg	19 13 56.6	+0.5
ASQU				Sg		Sg	19 13 59.6	+1.1
	14nm,0.2s							
VMG	**Vicchio**	**0.32**	**282**	Pg		Pb	19 13 59.7	-0.8
VMG				Sg		Sb	19 14 05.0	-0.8
	182μm,0.2s							

*ISCJB **12** 19:14:08.5±0.7, 13°.50N±0°.08×41°.7E±0°.1, h10km, mb3.8/11, Error ellipse: s-maj=19.4km s-min=8.3km az=151.9*
*IDC **12** 19:14:08.4±1.1, 13°.42N×41°.63E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/50, mbtmpb3.8/12, ML4.4/1, Error ellipse: s-maj=25.7km s-min=18.6km az=40.0*
ISC 12 19:14:09.7±0.8, 13°.4N±0°.1×41°.6E±0°.1, h10km, n12, σ0s57/13, mb3.9/11, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.18**	**147**	Pn		**Pn**	**19 14 46.8**	**+0.7**
	101nm,0.3s,baz=246,slow=18,SNR=3.3							
ATD				Sn		**Sb**	**19 15 15.6**	**-0.8**
	131nm,0.3s,baz=192,slow=20,SNR=5.4							
BRTR	**Keskin Array B**	**27.18**	**346**	P		**P**	**19 19 54.6**	**+1.0**
	0.9nm,0.9s,baz=169,slow=0.6,SNR=3.9							
TORD	**Torodi Ar. Bea**	**38.84**	**274**	P		**P**	**19 21 35.6**	**+0.2**
	1.7nm,1.1s,baz=98,slow=6.1,SNR=5.1							
GERES	**GERESS Array B**	**42.23**	**333**	P		**P**	**19 22 02.9**	**-0.2**
	0.6nm,0.5s,baz=132,slow=6.0,SNR=5.4							
MKAR	**Makanchi Array**	**47.61**	**37**	P		**P**	**19 22 45.9**	**-0.1**
	1.4nm,0.7s,baz=237,slow=6.5,SNR=12							
KURBB	**Kurchatov Arra**	**47.71**	**31**	P		**P**	**19 22 46.7**	**+0.1**
	0.5nm,0.6s,baz=232,slow=8.1,SNR=6.1							
ESDC	**Sonseca Array**	**47.80**	**312**	P		**P**	**19 22 47.2**	**-0.4**
	0.4nm,0.7s,baz=105,slow=8.6,SNR=4.0							
FINES	**FINESS Array B**	**49.31**	**350**	P		**P**	**19 22 58.3**	**-0.4**
	2.0nm,0.9s,baz=146,slow=7.9,SNR=3.5							
ZALV	**Zalesovo Beam**	**52.79**	**31**	P		**P**	**19 23 24.2**	**-0.8**
	1.4nm,0.6s,baz=241,slow=7.8,SNR=6.3							
CMAR	**Chiang Mai Arr**	**55.17**	**77**	P		**P**	**19 23 43.1**	**+0.1**
	1.5nm,0.9s,baz=278,slow=8.8,SNR=7.9							
ARCES	**ARCESS Array B**	**57.05**	**353**	P		**P**	**19 23 55.4**	**-0.3**
	0.8nm,0.7s,baz=193,slow=7.4,SNR=3.7							
SONM	**Songino Array**	**63.30**	**43**	P		**P**	**19 24 39.3**	**+0.3**
	0.4nm,0.5s,baz=259,slow=4.8,SNR=4.4							

IDC 12 19:14:37.0±9.6, 13°.26N×41°.51E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.4/50, mbtmpb3.9/7, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/56, Error ellipse: s-maj=206.4km s-min=37.6km az=10.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.16**	**143**	LR		LR	19 15 47.4	
	comp=Z,376nm,18.6s,baz=346,slow=33							
WSAR	**Wadi Sarin**	**19.03**	**56**	P		Pn	19 19 02.0	+0.6
	0.2nm,0.3s,baz=263,slow=2.1,SNR=3.5							
GERES	**GERESS Array B**	**42.26**	**333**	P		P	19 22 32.5	+0.2
	0.6nm,0.7s,baz=128,slow=5.6,SNR=5.2							
MKAR	**Makanchi Array**	**47.76**	**37**	P		P	19 23 15.7	-0.3
	1.8nm,0.9s,baz=235,slow=5.8,SNR=5.0							
KURBB	**Kurchatov Arra**	**47.86**	**31**	P		P	19 23 16.5	-0.1
	1.4nm,1.1s,baz=232,slow=7.9,SNR=4.3							
FINES	**FINESS Array B**	**49.39**	**350**	P		P	19 23 28.1	-0.1
	0.8nm,0.6s,baz=144,slow=15,SNR=2.7							
ZALV	**Zalesovo Beam**	**52.94**	**31**	P		P	19 23 54.0	-1.0
	1.1nm,0.7s,baz=235,slow=7.0,SNR=4.1							
SONM	**Songino Array**	**63.46**	**43**	P		P	19 25 09.1	+0.1
	0.5nm,0.4s,baz=256,slow=5.8,SNR=3.8							

IDC 12 19:18:40.7±5.5, 13°.27N×41°.80E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.4/42, mbtmpb3.6/6, Error ellipse: s-maj=128.0km s-min=33.7km az=24.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MLR	**Muntele Rosu**	**34.83**	**340**	P		P	19 25 35.3	+1.8
	0.4nm,0.8s,baz=192,slow=9.9,SNR=4.2							
GERES	**GERESS Array B**	**42.39**	**333**	P		P	19 26 35.5	-1.5
	0.5nm,0.8s,baz=144,slow=7.7,SNR=4.9							
MKAR	**Makanchi Array**	**47.59**	**37**	P		P	19 27 17.9	-0.5
	1.6nm,0.9s,baz=227,slow=6.4,SNR=7.0							
ZALV	**Zalesovo Beam**	**52.79**	**30**	P		P	19 27 56.1	-1.5
	0.9nm,0.6s,baz=256,slow=6.0,SNR=4.3							
CMAR	**Chiang Mai Arr**	**55.03**	**77**	P		P	19 28 14.3	-0.3
	0.8nm,0.9s,baz=276,slow=7.4,SNR=4.2							
SONM	**Songino Array**	**63.26**	**43**	P		P	19 29 12.6	+1.2
	0.3nm,0.6s,baz=270,slow=7.2,SNR=2.8							

*ISCJB **12** 19:19:15.7±0.7, 12°.83N±0°.08×41°.74E±0°.06, h10km, mb4.0/13, Error ellipse: s-maj=11.8km s-min=7.3km az=158.8*
*DHMR **12** 19:19:16.1±0.4, 12°.85N×41°.99E, h5km, 11km, ML4.3*
*IDC **12** 19:19:16.3±1.0, 12°.86N×41°.72E, h0km, mb4.0/13, mb1 4.2/14, mb1mx3.9/43, mbtmpb4.1/14, ML4.0/1, Error ellipse: s-maj=24.0km s-min=17.9km az=21.0*
ISC 12 19:19:17.0±0.8, 12°.74N±0°.09×41°.82E±0°.08, h10km, n19, σ1s18/22, mb4.0/13, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.56**	**140**	Pn		**Pg**	**19 19 46.4**	**-0.6**
	57nm,0.3s,baz=270,slow=20,SNR=4.3							
UDYN	**Al 'Udayn**	**2.42**	**59**	*i* P		**Pn**	**19 19 54.9**	**-1.8**
UDYN				*i* S		**Sn**	**19 20 25.6**	**-0.9**
UDYN				AML		AML	19 20 37.5	
	comp=E,2μm,0.7s							
DHBB	**Dhamar BB**	**3.09**	**54**	*i* P		**Pn**	**19 20 05.1**	**-1.0**
DHBB				*i* S		**Sn**	**19 20 44.0**	**+0.7**
HAJJ	**Hajjah**	**3.41**	**30**	*i* P		**Pn**	**19 20 09.3**	**-1.1**
HAJJ				AML		AML	19 20 27.0	
	comp=Z,2μm,0.5s							
HAJJ				*i* S		**Sn**	**19 20 52.0**	**+0.9**
WSAR	**Wadi Sarin**	**19.08**	**54**	P		**P**	**19 23 39.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=276,slow=10.0,SNR=4.7							
BRTR	**Keskin Array B**	**27.84**	**346**	P		**P**	**19 25 06.9**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=155,slow=9.0,SNR=5.8							
GEYT	**Alibeck**	**29.00**	**27**	P		**P**	**19 25 17.9**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=174,slow=2.8,SNR=3.6							
KVAR	**Kislovodsk Arr**	**31.12**	**1**	P		**P**	**19 25 36.4**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=258,slow=2.8,SNR=3.1							
MLR	**Muntele Rosu**	**35.33**	**341**	P		**P**	**19 26 13.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=291,slow=16,SNR=4.7							
TORD	**Torodi Ar. Bea**	**39.08**	**275**	P		**P**	**19 26 45.1**	**+0.5**
	comp=Z,3.7nm,1.0s,baz=91,slow=8.7,SNR=11							
GERES	**GERESS Array B**	**42.87**	**333**	P		**P**	**19 27 13.1**	**-2.5**
	comp=Z,0.7nm,0.6s,baz=126,slow=6.8,SNR=7.8							
MKAR	**Makanchi Array**	**48.00**	**37**	P		**P**	**19 27 56.8**	**+0.6**
	comp=Z,6.0nm,0.9s,baz=231,slow=6.9,SNR=18							
ESDC	**Sonseca Array**	**48.36**	**312**	P		**P**	**19 27 58.7**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=106,slow=7.7,SNR=4.6							
FINES	**FINESS Array B**	**49.96**	**350**	P		**P**	**19 28 09.2**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=132,slow=2.8,SNR=5.3							
ZALV	**Zalesovo Beam**	**53.24**	**30**	P		**P**	**19 28 35.0**	**-0.6**
	comp=Z,7.9nm,0.9s,baz=242,slow=7.0,SNR=18							
CMAR	**Chiang Mai Arr**	**55.13**	**76**	P		**P**	**19 28 52.1**	**+2.2**
	comp=Z,2.4nm,1.0s,baz=276,slow=8.3,SNR=8.7							
ARCES	**ARCESS Array B**	**57.70**	**353**	P		**P**	**19 29 07.5**	**0.0**
	comp=Z,1.0nm,0.8s,baz=181,slow=4.9,SNR=4.3							
SONM	**Songino Array**	**63.63**	**43**	P		**P**	**19 29 49.9**	**+1.4**
	comp=Z,2.2nm,0.9s,baz=251,slow=6.7,SNR=12							
TXAR	**Lajitas Array**	**126.53**	**322**	PKP		**PKPdf**	**19 38 22.1**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=123,slow=3.3,SNR=3.0							

*BJI **12** 19:21:42.7, 12°.55N×41°.54E, h4km, mb4.5/42, mB5.0/32, Ms5.0/29, Ms7 4.7/30*
*STR **12** 19:21:48.0±0.0, 13°.12N×42°.40E, Mb5.2, Error ellipse: s-maj=0.0km s-min=0.0km az=120.0*
*ISCJB **12** 19:21:48.6±0.9, 13°.26N±0°.04×41°.83E±0°.02, h7km±5km, mb4.8/124, MS4.4/38, Error ellipse: s-maj=6.0km s-min=3.5km az=3.4*
*MOS **12** 19:21:49.5±0.9, 13°.31N×41°.82E, h10km, mb5.2/45, MS4.3/17, Error ellipse: s-maj=9.3km s-min=4.0km az=96.5*
*DHMR **12** 19:21:49.1±1.5, 13°.15N×42°.01E, h14km±14km, ML5.0*
*IDC **12** 19:21:49.5±0.5, 13°.30N×41°.76E, h0km, mb4.6/30, mb1 4.7/35, mb1mx4.6/45, mbtmpb4.6/35, ML3.7/4, MS4.5/26, Ms1 4.5/26, ms1mx4.3/44, Error ellipse: s-maj=13.1km s-min=10.5km az=93.0*
*NEIC **12** 19:21:50.8±0.3, 13°.30N×41°.80E, h10km, mb5.0/43, Error ellipse: s-maj=6.3km s-min=5.9km az=221.0*
*GCMT **12** 19:21:50.8±0.2, 13°.48N×41°.90E, h12km, MW5.0/75, Moment Tensor Solution. s25,c30; s75,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.23±.14; $M_{\theta\theta}$2.93±.11; $M_{\phi\phi}$0.30±.13; $M_{r\theta}$-0.69±.41; $M_{r\phi}$-2.23±.10; $M_{\theta\phi}$-1.04±.47; Best double couple: M≅3.99400×10^{16} NP1:ϕ_{s1}98.00000°, δ50.00000°, λ-122.00000°. NP2: ϕ_{s2}322.00000°, δ49.00000°, λ-58.00000°. Principal axes: T 4.2060, Plg1.0000°, Azm210.0000°; N -0.4180, Plg24.0000°, Azm119.0000°; P -3.7820, Plg66.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **12** 19:21:51.1±0.1, 13°.30N×41°.87E, h10km, mb4.9/54 Error ellipse: s-maj=5.7km s-min=3.9km az=7.0*
*DSN **12** 19:21:51.9±3.1, 13°.27N×42°.02E, h10km, mb5.4, Error ellipse: s-maj=54.5km s-min=13.3km az=178.0*
ISC 12 19:21:51.0±1.1, 13°.29N±0°.04×41°.91E±0°.04, h11km±6km, n502, σ1s42/548, mb4.9/123, MS4.3/39, 40C-9D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ATD	**Arta Tunnel**	**1.98**	**152**	Pn		**Pn**	**19 22 24.6**	**0.0**
	628nm,0.3s,baz=26,slow=16,SNR=13							
ATD				Sn		**Sg**	**19 22 54.2**	**-0.5**
	1μm,0.3s,baz=275,slow=22,SNR=12							
UDYN	**Al 'Udayn**	**2.11**	**71**	*i* P		**Pn**	**19 22 25.6**	**-0.9**
UDYN				*i* S		**Sn**	**19 22 53.4**	**+0.5**
DHBB	**Dhamar BB**	**2.72**	**62**	*i* P		**Pn**	**19 22 35.7**	**+0.6**
DHBB				*i* S		**Sb**	**19 23 12.0**	**-1.6**
DHBB				AML		AML	19 23 35.5	
	comp=N,23μm,0.7s							
DHBB	**Dhamar BB**	**2.72**	**62**	*i* P		**Pn**	**19 22 35.7**	**+0.6**
DHBB				*i* S		**Sb**	**19 23 12.0**	**-1.6**
	comp=N,11μm,0.7s							
DAMY	**Dhamar**	**2.73**	**62**	*e*Pn		**Pn**	**19 22 34.9**	**-0.2**
DAMY				*e*Sn		**Sn**	**19 23 08.8**	**+0.5**
DAMY	**Dhamar**	**2.73**	**62**	*e*Pn		**Pn**	**19 22 34.9**	**-0.2**
DAMY				*e*Sn		**Sn**	**19 23 08.8**	**+0.5**
HAJJ	**Hajjah**	**2.90**	**34**	*i* P		**Pn**	**19 22 38.1**	**+0.7**
HAJJ				*i* S		**Sb**	**19 23 17.5**	**-1.1**
HAJJ				AML		AML	19 23 37.7

GEYT Alibeck 28.47 28 P **P** **19 27 47.1 +0.8**
comp=E,2.9nm,0.8s,baz=180,slow=3.0,SNR=6.2
GEYT LR LR 19 40 12.1
comp=E,1µm,20.4s,baz=200,slow=39
SAHE Sakarya_HENDEK 29.11 343 P **P** **19 27 52.5 +0.5**
SAHE Sakarya_HENDEK 29.11 343 *i* P **P** **19 27 52.5 +0.6**
ZEI Tsey 29.44 3 *eP* **P** **19 27 56.7 +1.6**
ZEI pmax pmax
comp=Z,49nm,1.1s
NEY Neytrino 29.86 1⇑ *eP* **P** **19 27 59.2 +0.5**
NEY pmax pmax
comp=Z,2.0nm,1.2s
NCK Nalchik 30.13 2⇑ *eP* **P** **19 28 02.4 +1.4**
NCK pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 30.34 1 P **P** **19 28 04.3 +1.5**
comp=Z,15nm,1.1s,baz=182,slow=4.8,SNR=14
KBZ LR LR 19 40 55.7
comp=Z,909nm,19.2s,baz=194,slow=38
KIV Kislovodsk 30.56 1 *i* P **P** **19 28 06.4 +1.5**
SNR=8.7
KIV Kislovodsk 30.56 1 *eP* **P** **19 28 06.2 +1.3**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV Kislovodsk 30.56 1 P **P** **19 28 06.9 +2.0**
SNR=7.9
KIV Kislovodsk 30.56 1 P **P** **19 28 06.4 +1.5**
SNR=8.7
KIV Kislovodsk 30.56 1 *eP* **P** **19 28 03.3 -1.6**
comp=Z,50nm,1.2s
KVAR Kislovodsk Arr 30.57 1 P **P** **19 28 06.7 +1.8**
comp=Z,48nm,1.2s,baz=81,slow=0.2,SNR=15
KVAR LR LR 19 41 01.6
comp=Z,788nm,19.1s,baz=174,slow=38
AGG Agios Georgios 30.93 329 *eP* **P** **19 28 07.7 -0.4**
AGG pmax pmax
comp=Z,61nm,1.0s
AGG Agios Georgios 30.93 329 *eP* **P** **19 28 07.7 -0.4**
comp=Z,61nm,1.0s
AGG Agios Georgios 30.93 329 *eP* **P** **19 28 07.7 -0.4**
comp=Z,61nm,1.0s
ANN Anapa 31.63 354 *eP* **P** **19 28 15.6 +1.5**
ANN *eS* **S** **19 33 29.0 +5.9**
ANN pmax pmax
comp=Z,62nm,1.2s
ANN MLR MLR
comp=Z,496nm,15.0s
ANN MLR MLR
comp=N,1µm,15.0s
ANN MLR MLR
comp=E,601nm,15.0s
SIM Simferopol' 32.24 350 *eP* **P** **19 28 19.1 -0.4**
SIM *eS* **S** **19 33 34.0 +1.3**
SIM pmax pmax
comp=Z,22nm,1.2s
SIM MLR MLR
comp=N,340nm,19.1s
TIRR Tirgusor 33.14 342 *eP* **P** **19 28 27.7 +0.4**
TIRR pmax pmax
comp=Z,20nm,1.0s
TIRR Tirgusor 33.14 342 *eP* **P** **19 28 27.7 +0.4**
comp=Z,20nm,1.0s
TIRR Tirgusor 33.14 342 *eP* **P** **19 28 27.7 +0.4**
comp=Z,20nm,1.0s
CFR Carcaliu 33.87 342 ⇓ *iP* **P** **19 28 33.7 0.0**
CFR Carcaliu 33.87 342 ⇓P **P** **19 28 33.7 0.0**
BARS Barje 34.16 333 *eP* **P** **19 28 36.6 +0.2**
ISR Istrita 34.31 341 ⇓ *iP* **P** **19 28 39.2 +1.5**
ISR Istrita 34.31 341 ⇓P **P** **19 28 39.2 +1.5**
MLR Muntele Rosu 34.84 340 ⇑ *iP* **P** **19 28 43.0 +0.7**
MLR Muntele Rosu 34.84 340 *eP* **P** **19 28 42.4 +0.1**
MLR pmax pmax
comp=Z,21nm,0.9s
MLR Muntele Rosu 34.84 340 *eP* **P** **19 28 42.4 +0.1**
comp=Z,21nm,0.9s
MLR Muntele Rosu 34.84 340 *eP* **P** **19 28 42.4 +0.1**
comp=Z,21nm,0.9s
BOVS Bovan 34.87 334 *eP* **P** **19 28 41.6 -0.8**
MTUR Matau 34.90 339 ⇑ *iP* **P** **19 28 43.5 +0.7**
MTUR Matau 34.90 339 ⇑P **P** **19 28 43.5 +0.7**
VRI Vrincioaia 34.92 341 ⇑ *iP* **P** **19 28 43.5 +0.6**
VRI Vrincioaia 34.92 341 ⇑P **P** **19 28 43.5 +0.6**
BOLS Boljevac 34.92 334 *eP* **P** **19 28 41.0 -1.9**
PLOR Plostina 34.93 341 ⇑ *iP* **P** **19 28 44.6 +1.6**
PLOR Plostina 34.93 341 ⇑P **P** **19 28 44.6 +1.6**
VOIR 35.09 339 ⇑ *iP* **P** **19 28 44.6 +0.2**
VOIR 35.09 339 ⇑P **P** **19 28 44.6 +0.2**
ARR Arges 35.18 339 ⇑ *iP* **P** **19 28 45.6 +0.4**
CLTB Caltabellotta 35.19 319 *eP* **P** **19 28 45.2 -0.2**
comp=Z,33nm,0.8s
CLTB Caltabellotta 35.19 319 *eP* **P** **19 28 45.2 -0.2**
comp=Z,33nm,0.8s
KIS Kishinev 35.35 344 *eP* **P** **19 28 47.0 +0.5**
KIS LRM MLR 19 45 10.0
comp=Z,300nm,16.0s
KIS Kishinev 35.35 344 *eP* **P** **19 28 47.0 +0.5**
KIS MLR MLR
comp=Z,300nm,16.0s
KIS Kishinev 35.35 344 *eP* **P** **19 28 47.0 +0.5**
GRUS Gruza 35.50 333 *eP* **P** **19 28 47.3 -0.6**
KUBS Kucevo 35.51 335 *eP* **P** **19 28 46.1 -1.9**
TESR Tescani 35.52 342 ⇑ *iP* **P** **19 28 48.0 0.0**
LOT Lotru 35.56 338 ⇑ *iP* **P** **19 28 48.7 +0.2**
TAM Tamanrasset 35.78 291 *eP* **P** **19 28 47.5 -3.2**
TAM pmax pmax
comp=Z,50nm,1.9s
TAM Tamanrasset 35.78 291 *eP* **P** **19 28 47.5 -3.2**
comp=Z,50nm,1.9s
MDVR Moldovita 35.80 335 ⇑ *iP* **P** **19 28 49.8 -0.7**
DIVS Divibare 35.99 333 *eP* **P** **19 28 51.7 -0.5**
MATP Matopo 36.01 202 LR LR 19 43 56.5
comp=Z,3µm,18.4s,baz=30,slow=37
PRAR RASCA 36.41 342 ⇑ *iP* **P** **19 28 55.5 -0.2**
KEST Kesra 36.83 313 P **P** **19 28 59.5 +0.1**
comp=Z,22nm,0.9s,baz=1.5,slow=3.6,SNR=21
KEST Kesra 36.83 313 *eP* **P** **19 29 00.0 +0.5**
comp=Z,30nm,0.9s
KEST Kesra 36.83 313 *eP* **P** **19 29 00.0 +0.5**
comp=Z,30nm,0.9s
BURAR Bucovina Array 36.95 341 ⇑ *iP* **P** **19 29 01.5 +1.1**
BUR08 Bucovina Ar. S 36.98 341 *eP* **P** **19 29 01.5 +0.8**
BUR08 Bucovina Ar. S 36.98 341 *eP* **P** **19 29 01.4 +0.8**
DRGR 37.09 338 ⇑ *iP* **P** **19 29 01.0 -0.5**
VRH Novokhopyorsk 37.81 360 *eP* **P** **19 29 07.5 +0.1**
VRH pmax pmax
comp=Z,30nm,0.9s
VRH MLR MLR
comp=Z,760nm,14.0s
VSR Storozhevoye 37.89 357 *eP* **P** **19 29 07.1 -1.0**
VSR pmax pmax
comp=Z,30nm,1.4s
VSR MLR MLR
comp=Z,440nm,15.0s
AQU L'Aquila 38.05 325 P **P** **19 29 08.7 -1.0**
AQU pmax pmax
comp=Z,80nm,1.6s
AQU L'Aquila 38.05 325 P **P** **19 29 08.7 -1.0**
comp=Z,80nm,1.6s
AQU L'Aquila 38.05 325 P **P** **19 29 08.7 -1.0**
comp=Z,80nm,1.6s
KKAR Karatay Array 38.59 34 *eP* **P** **19 29 14.8 +0.5**
KKAR Karatay Array 38.59 34 *eP* **P** **19 29 14.8 +0.5**
KKAR Karatay Array 38.59 34 *eP* **P** **19 29 14.8 +0.5**
PALK Pallekele 38.60 95 LR LR 19 42 47.8
comp=Z,401nm,19.6s,baz=296,slow=32
AK11 Malin Array Si 38.70 347 *eP* **P** **19 29 15.3 +0.3**
AK11 Malin Array Si 38.70 347 *eP* **P** **19 29 15.3 +0.3**
KIEV Kiev 38.71 347 *eP* **P** **19 29 12.4 -2.6**
KIEV pmax pmax
comp=Z,11nm,0.9s
KIEV Kiev 38.71 347 *eP* **P** **19 29 12.3 -2.6**
comp=Z,11nm,0.9s
AKASG Malin Array Be 38.71 347 P **P** **19 29 14.5 -0.5**
comp=Z,6.2nm,0.8s,baz=164,slow=7.2,SNR=24
AKASG LR LR 19 47 07.4
comp=Z,345nm,19.0s,baz=145,slow=39
AKBB Malin Array Si 38.71 347 *eP* **P** **19 29 15.0 0.0**
AKBB pmax pmax
comp=Z,52nm,1.8s
AKBB Malin Array Si 38.71 347 *eP* **P** **19 29 15.0 0.0**
comp=Z,52nm,1.8s
AKBB Malin Array Si 38.71 347 *eP* **P** **19 29 15.0 0.0**
comp=Z,52nm,1.8s
UZH Uzhgorod 38.80 339 *eP* **P** **19 29 15.8 0.0**
UZH *e* 19 29 25.0
UZH *eS* **S** **19 35 11.4 -1.9**
UZH *e* 19 39 19.4
ABKAR Akbulak array 38.82 19 *eP* **P** **19 29 14.7 -1.3**
ABKAR Akbulak array 38.82 19 *eP* **P** **19 29 14.7 -1.3**
KOLS Kolonicke sedl 39.07 339 *eP* **P** **19 29 19.2 +1.1**
KOLS *e* 19 29 27.4
KOLS pmax pmax
comp=Z,25nm,1.7s
KOLS Kolonicke sedl 39.07 339 *eP* **P** **19 29 19.2 +1.1**
comp=Z,25nm,1.7s
KOLS Kolonicke sedl 39.07 339 *eP* **P** **19 29 19.2 +1.1**
KOLS *e* 19 29 27.4
BUD Budapest 39.08 335 *eP* **P** **19 29 18.5 +0.3**
BUD Budapest 39.08 335 *eP* **P** **19 29 18.5 +0.3**
PSZ Piszkesteto 39.09 336 ⇑ *iP* **P** **19 29 18.5 +0.2**
PSZ Piszkesteto 39.09 336 *eP* **P** **19 29 18.6 +0.2**
PSZ Piszkesteto 39.09 336 *eP* **P** **19 29 17.5 -0.9**
PSZ pmax pmax
comp=Z,90nm,1.7s
PSZ Piszkesteto 39.09 336 *eP* **P** **19 29 17.5 -0.9**
comp=Z,90nm,1.7s
PSZ Piszkesteto 39.09 336 *eP* **P** **19 29 17.5 -0.9**
comp=Z,90nm,1.7s
TOA0 Torodi Ar. Sit 39.12 275 *eP* **P** **19 29 16.7 -2.3**
TOA0 Torodi Ar. Sit 39.12 275 *eP* **P** **19 29 16.7 -2.3**
TORD Torodi Ar. Bea 39.12 275 P **P** **19 29 16.6 -2.3**
comp=Z,8.0nm,0.8s,baz=94,slow=8.0,SNR=33
TORD LR LR 19 46 12.3
comp=Z,378nm,19.7s,baz=110,slow=38
LVV L'vov 39.27 342 *eP* **P** **19 29 19.7 0.0**
LPSR Galich'ya Gora 39.28 357 *eP* **P** **19 29 19.3 -0.5**
LPSR pmax pmax
comp=Z,30nm,1.1s
LPSR MLR MLR
comp=Z,290nm,13.0s
AKTO Aktyubinsk 39.30 16 LR LR 19 47 38.9
comp=Z,197nm,19.2s,slow=39
CRVS Cervenica-Dubn 39.32 339 *eP* **P** **19 29 20.1 -0.1**
CRVS Cervenica-Dubn 39.32 339 *eP* **P** **19 29 20.1 -0.1**
CRVS Cervenica-Dubn 39.32 339 *eP* **P** **19 29 20.1 -0.1**
CRVS *e* 19 31 26.0
CRVS *e* 19 31 33.3
KECS Kecovo 39.33 337 *eP* **P** **19 29 20.6 +0.3**
KECS pmax pmax
comp=Z,6.0nm,0.9s
KECS Kecovo 39.33 337 *eP* **P** **19 29 20.6 +0.3**
comp=Z,6.3nm,0.9s
KECS Kecovo 39.33 337 *eP* **P** **19 29 20.6 +0.3**
KOGS Kog 39.48 332 *i* P **P** **19 29 22.8 +1.2**
KOGS Kog 39.48 332 *i* P **P** **19 29 22.8 +1.2**
KWP Kalwaria Pacla 39.52 340 *eP* **P** **19 29 22.5 +0.6**
KWP Kalwaria Pacla 39.52 340 *eP* **P** **19 29 22.5 +0.6**
KWP Kalwaria Pacla 39.52 340 *eP* **P** **19 29 22.5 +0.6**
LEGS Legarje 39.55 331 *i* P **P** **19 29 22.6 +0.4**
LEGS Legarje 39.55 331 P **P** **19 29 22.6 +0.4**
KSH Kashi 39.77 43 *eP* **P** **19 29 19.9 -4.3**
KSH pP pP 19 29 25.4 -2.1
KSH PP **PP** **19 30 56.2 +0.6**
KSH S **S** **19 35 25.2 -3.2**
KSH SS **SS** **19 38 16.8 -7.4**
KSH ScS **ScS** **19 39 23.3 -9.1**
KSH PMZ
comp=Z,4.0nm,0.6s
KSH LN
comp=Z,620nm,10.3s
KSH LE
comp=Z,430nm,10.5s
KSH LZ
comp=Z,1µm,15.5s
AML Almayashu 39.80 38 P **P** **19 29 25.8 +1.0**
STHS Stebnicka Huta 39.84 339 *eP* **P** **19 29 25.0 +0.5**
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 39.84 339 *eP* **P** **19 29 25.0 +0.5**
comp=Z,6.8nm,0.8s
STHS Stebnicka Huta 39.84 339 *eP* **P** **19 29 25.0 +0.5**
VYHS Vyhne 39.97 336 *eP* **P** **19 29 25.7 +0.1**
VYHS pmax pmax
comp=Z,32nm,1.5s
VYHS Vyhne 39.97 336 *eP* **P** **19 29 25.7 +0.1**
comp=Z,32nm,1.5s
VYHS Vyhne 39.97 336 *eP* **P** **19 29 25.7 +0.1**
VYHS *e* 19 31 28.9
VYHS *e* 19 31 38.8
TRI Trieste 40.14 329 *eP* P 19 29 22.3 -4.7
TRI pmax pmax
comp=Z,38nm,0.9s
TRI Trieste 40.14 329 *eP* P 19 29 22.3 -4.7
comp=Z,38nm,0.9s
EKS2 Erkin-Say 40.17 37 *eP* **P** **19 29 28.7 +1.2**
EKS2 pmax pmax
comp=Z,9.0nm,1.3s
EKS2 Erkin-Say 40.17 37 *eP* **P** **19 29 28.7 +1.2**
comp=Z,8.7nm,1.3s
EKS2 Erkin-Say 40.17 37 *eP* **P** **19 29 28.7 +1.2**
comp=Z,8.7nm,1.3s
NIE Niedzica 40.17 338 *eP* **P** **19 29 28.6 +1.3**
NIE Niedzica 40.17 338 *eP* **P** **19 29 28.6 +1.3**
NIE Niedzica 40.17 338 *eP* **P** **19 29 28.6 +1.3**
TSUM Tsumeb 40.21 217 P **P** **19 29 26.9 -1.2**
comp=Z,1.9nm,0.7s,baz=2.7,slow=8.6,SNR=3.5
TSUM LR LR 19 46 43.9
comp=Z,2µm,18.3s,baz=40,slow=37
SOKA Soboth 40.22 331 *eP* **P** **19 29 28.4 +0.6**
comp=Z,28nm,1.4s,SNR=14
SOKA Soboth 40.22 331 P **P** **19 29 28.4 +0.6**
comp=Z,28nm,1.4s,SNR=14
LANS Liptovska Anna 40.26 337 *eP* **P** **19 29 28.7 +0.6**
LANS Liptovska Anna 40.26 337 *eP* **P** **19 29 28.7 +0.6**
LANS Liptovska Anna 40.26 337 *eP* **P** **19 29 28.7 +0.6**
SOP Sopron 40.28 333 *eP* **P** **19 29 29.2 +1.0**
SOP Sopron 40.28 333 *eP* **P** **19 29 29.2 +1.0**
OBKA Obir 40.32 331 *eP* **P** **19 29 29.4 +0.7**
comp=Z,22nm,1.0s,SNR=10
OBKA Obir 40.32 331 P **P** **19 29 29.4 +0.7**
comp=Z,22nm,1.0s,SNR=10
ARSA Arzberg 40.41 332 *eP* **P** **19 29 29.2 -0.1**
comp=Z,27nm,0.9s,SNR=26
ARSA Arzberg 40.41 332 P **P** **19 29 29.2 -0.1**
comp=Z,27nm,0.9s,SNR=26
AAK Ala-Archa 40.58 38 P **P** **19 29 33.0 +2.0**
comp=Z,1.1nm,0.3s,baz=245,slow=7.1,SNR=5.4
AAK LR LR 19 49 09.9
comp=Z,2µm,19.1s,baz=229,slow=40
AAK Ala-Archa 40.58 38 *iP* **P** **19 29 33.1 +2.1**
AAK pmax pmax
comp=Z,18nm,1.6s
AAK Ala-Archa 40.58 38 *eP* **P** **19 29 32.9 +2.0**
comp=Z,24nm,1.6s
AAK Ala-Archa 40.58 38 *eP* **P** **19 29 32.9 +1.9**
comp=Z,24nm,1.6s
FRU Bishkek 40.77 37 ⇓ *eP* **P** **19 29 34.0 +1.6**
FRU *i* 19 31 34.0
FRU pmax pmax
comp=Z,76nm,2.5s
CONA Conrad Observa 40.77 333 *eP* **P** **19 29 32.9 +0.5**
comp=Z,30nm,1.4s,SNR=13
CONA Conrad Observa 40.77 333 P **P** **19 29 32.9 +0.5**
comp=Z,30nm,1.4s,SNR=13
MYKA Terra Mystica 40.85 330 *eP* **P** **19 29 33.5 +0.5**
comp=Z,28nm,1.6s,SNR=6.7
MYKA Terra Mystica 40.85 330 P **P** **19 29 33.5 +0.5**
comp=Z,28nm,1.6s,SNR=6.7
PYUN Piuthan 40.94 62 *eP* **P** **19 29 35.5 +1.3**
OJC Ojcow 41.02 338 *eP* **P** **19 29 34.7 +0.5**
OJC Ojcow 41.02 338 *eP* **P** **19 29 34.0 -0.3**
OJC pmax pmax
comp=Z,22nm,1.2s
OJC Ojcow 41.02 338 *eP* **P** **19 29 34.0 -0.3**
comp=Z,22nm,1.2s
OJC Ojcow 41.02 338 *eP* **P** **19 29 34.0 -0.3**
comp=Z,22nm,1.2s
LBTB Lobatse 41.27 203 P **P** **19 29 36.4 -0.3**
comp=Z,3.9nm,0.8s,baz=12,slow=20,SNR=2.7
LBTB LR LR 19 46 37.6
comp=Z,1µm,21.2s,baz=44,slow=36
KBA Koelnbreinsper 41.31 330 *i* P **P** **19 29 37.1 +0.2**
comp=Z,11nm,0.9s,SNR=6.2
KBA Koelnbreinsper 41.31 330 P **P** **19 29 37.1 +0.2**
comp=Z,11nm,0.9s,SNR=6.2
OKC Ostrava-Krasne 41.32 337 *eP* **P** **19 29 36.8 0.0**
OKC *ex* x 19 29 46.4
OKC AMS AMS 19 54 00.0
comp=Z,200nm,14.6s
OKC Ostrava-Krasne 41.32 337 *eP* **P** **19 29 36.8 0.0**
OKC MLR MLR
comp=Z,200nm,14.6s
OKC Ostrava-Krasne 41.32 337 P **P** **19 29 36.8 0.0**
KOLN Koldanda 41.40 63 *eP* **P** **19 29 39.2 +1.2**
comp=Z,23nm,0.9s
TKM2 Tokmak 2 41.40 38 *eP* **P** **19 29 37.6 -0.2**
TKM2 pmax pmax
comp=Z,17nm,1.8s
TKM2 Tokmak 2 41.40 38 *eP* **P** **19 29 37.6 -0.2**
comp=Z,17nm,1.8s
TKM2 Tokmak 2 41.40 38 *eP* **P** **19 29 37.6 -0.2**
comp=Z,17nm,1.8s
MOA Molln 41.43 332 *eP* **P** **19 29 38.1 +0.3**
comp=Z,49nm,1.7s,SNR=15
MOA Molln 41.43 332 P **P** **19 29 38.1 +0.3**
comp=Z,49nm,1.7s,SNR=15
ABTA Abfaltersbach 41.48 329 *eP* **P** **19 29 38.3 0.0**
comp=Z,15nm,0.9s,SNR=8.5
ABTA Abfaltersbach 41.48 329 P **P** **19 29 38.3 0.0**
comp=Z,15nm,0.9s,SNR=8.5
MORC Moravsky Berou 41.51 336 ⇑ *iP* **P** **19 29 37.4 -1.0**
MORC Moravsky Berou 41.51 336 *eP* **P** **19 29 38.2 -0.2**
MORC pmax pmax
comp=Z,92nm,1.2s
MORC Moravsky Berou 41.51 336 *eP* **P** **19 29 38.2 -0.2**
comp=Z,92nm,1.2s
MORC Moravsky Berou 41.51 336 *eP* **P** **19 29 38.2 -0.2**
comp=Z,92nm,1.2s
VRAC Vranov 41.52 335 ⇑ *iP* **P** **19 29 38.3 -0.1**
VRAC Vranov 41.52 335 *eP* **P** **19 29 38.4 0.0**
OBN Obninsk 41.94 355 LR LR 19 49 20.9
comp=Z,274nm,20.9s,baz=154,slow=39
OBN Obninsk 41.94 355 ⇓ *iP* **P** **19 29 42.2 +0.5**
OBN *i* 19 31 17.5
OBN *i* S **S** **19 35 59.8 -0.1**
OBN pmax pmax
comp=Z,45nm,1.5s
OBN MLR MLR
comp=Z,396nm,16.0s
OBN Obninsk 41.94 355 *eP* **P** **19 29 42.1 +0.5**
comp=Z,73nm,1.4s
OBN Obninsk 41.94 355 *eP* **P** **19 29 42.1 +0.5**
comp=Z,73nm,1.4s
TREC Trest 41.97 334 *eP* **P** **19 29 41.4 -0.7**
TREC AMS AMS 19 56 30.0
comp=Z,200nm,13.4s
TREC Trest 41.97 334 *eP* **P** **19 29 41.4 -0.7**
TREC MLR MLR
comp=Z,200nm,13.4s
TREC Trest 41.97 334 P **P** **19 29 41.4 -0.7**
WTTA Wattenberg 42.27 329 *eP* **P** **19 29 44.8 0.0**
comp=Z,11nm,0.9s
WTTA Wattenberg 42.27 329 P **P** **19 29 44.8 0.0**
comp=Z,11nm,0.9s
GKN Gorkha 42.35 63 *eP* **P** **19 29 45.6 -0.1**
comp=Z,25nm,1.0s
WATA Walderalm 42.35 329 *i* P **P** **19 29 45.5 +0.1**
comp=Z,29nm,1.4s,SNR=9.2
WATA Walderalm 42.35 329 P **P** **19 29 45.5 +0.1**
comp=Z,29nm,1.4s,SNR=9.2
GEA0 GERESS Array S 42.41 332 *eP* **P** **19 29 44.1 -1.7**
GEA0 GERESS Array S 42.41 332 *eP* **P** **19 29 44.1 -1.7**
GEC2 GERESS Array S 42.42 332 *eP* **P** **19 29 45.1 -0.8**
GEC2 pmax pmax
comp=Z,28nm,1.0s
GEC2 GERESS Array S 42.42 332 *eP* **P** **19 29 45.1 -0.8**
comp=Z,28nm,1.0s
GEC2 GERESS Array S 42.42 332 *eP* **P** **19 29 45.1 -0.8**
comp=Z,28nm,1.0s
GERES GERESS Array B 42.42 332 P **P** **19 29 45.4 -0.5**
comp=Z,11nm,0.8s,baz=134,slow=7.6,SNR=62
GERES PcP **PcP** **19 31 40.0 +1.1**
comp=Z,1.0nm,0.9s,baz=146,slow=1.9,SNR=3.5
DPC Dobruska-Polom 42.44 336 *eP* **P** **19 29 45.9 -0.1**
DPC *ex* x 19 29 55.7
DPC *eS* **S** **19 36 09.8 +2.1**
DPC AMS AMS 19 55 30.0
comp=Z,200nm,16.6s
DPC Dobruska-Polom 42.44 336 *eP* **P** **19 29 45.9 -0.1**
DPC *eS* **S** **19 36 09.8 +2.1**
DPC MLR MLR
comp=Z,200nm,16.6s
DPC Dobruska-Polom 42.44 336 P **P** **19 29 45.9 -0.1**
DPC S **S** **19 36 09.8 +2.1**
MOS Moscow 42.48 356 *eP* **P** **19 29 48.0 +1.9**
MOS pmax pmax
comp=Z,131nm,1.5s
MOS pmax pmax
comp=Z,103nm,1.2s
FUORN Ofenpass-Fuorn 42.54 328 *eP* **P** **19 29 48.2 +1.1**
comp=Z,46nm,1.6s
FUORN Ofenpass-Fuorn 42.54 328 *eP* **P** **19 29 48.2 +1.1**
comp=Z,46nm,1.6s
FETA Feichten 42.57 328 *eP* **P** **19 29 47.3 +0.1**
comp=Z,22nm,1.0s,SNR=9.8
FETA Feichten 42.57 328 P **P** **19 29 47.3 +0.1**
comp=Z,22nm,1.0s,SNR=9.8
MOTA Moosalm 42.60 329 *eP* **P** **19 29 46.6 -0.8**
comp=Z,9.1nm,0.8s,SNR=9.3
MOTA Moosalm 42.60 329 P **P** **19 29 46.6 -0.8**
comp=Z,9.1nm,0.8s,SNR=9.3
KHC Kasperske Hory 42.68 333 *eP* **P** **19 29 47.3 -0.6**
KHC *ex* x 19 29 57.2
KHC *eS* **S** **19 36 11.0 -0.2**
KHC AMS AMS 19 53 30.0
comp=Z,200nm,11.4s
KHC Kasperske Hory 42.68 333 *eP* **P** **19 29 47.3 -0.6**
KHC *eS* **S** **19 36 11.0 -0.2**
KHC MLR MLR
comp=Z,200nm,11.4s
KHC Kasperske Hory 42.68 333 P **P** **19 29 47.3 -0.6**
KHC S **S** **19 36 11.0 -0.2**
KHC Kasperske Hory 42.68 333 *eP* **P** **19 29 45.1 -2.8**
comp=Z,8.9nm,1.1s
UPC Upice 42.69 336 *eP* **P** **19 29 48.4 +0.4**
UPC *eS* **S** **19 36 12.8 +1.5**
UPC AMS AMS 19 58 00.0
comp=Z,200nm,12.6s
UPC Upice 42.69 336 *eP* **P** **19 29 48.4 +0.4**
UPC *eS* **S** **19 36 12.8 +1.5**
UPC MLR MLR
comp=Z,200nm,12.6s
UPC Upice 42.69 336 P **P** **19 29 48.4 +0.4**
UPC S **S** **19 36 12.8 +1.5**
GOPC GO Pecny, Ondr 42.74 334 *eP* **P** **19 29 48.5 +0.1**
GOPC *eS* **S** **19 36 12.5 +0.5**
GOPC AMS AMS 19 57 00.0
comp=Z,200nm,11.0s
GOPC GO Pecny, Ondr 42.74 334 *eP* **P** **19 29 48.5 +0.1**
GOPC *eS* **S** **19 36 12.5 +0.5**
GOPC MLR MLR
comp=Z,200nm,11.0s
GOPC GO Pecny, Ondr 42.74 334 P **P** **19 29 48.5 +0.1**
GOPC S **S** **19 36 12.5 +0.5**
KSP Ksiaz 42.84 336 *eP* **P** **19 29 48.2 -1.0**
KSP Ksiaz 42.84 336 *eP* **P** **19 29 48.2 -1.0**
KSP Ksiaz 42.84 336 *eP* **P** **19 29 48.2 -1.0**
RETA Reutte 42.86 329 *eP* **P** **19 29 48.7 -0.8**
comp=Z,21nm,1.7s
RETA Reutte 42.86 329 P **P** **19 29 48.7 -0.8**
comp=Z,21nm,1.7s
KKN Kakani 42.87 63 *eP* **P** **19 29 50.2 +0.2**
comp=Z,22nm,0.8s
PRU Pruhonice 42.90 334 *eP* **P** **19 29 49.8 +0.2**
PRU *ex* x 19 29 58.9
PRU *eS* **S** **19 36 12.6 -1.7**
PRU AMS AMS 19 55 00.0
comp=Z,200nm,9.1s
PRU Pruhonice 42.90 334 P **P** **19 29 49.8 +0.2**
PRU S **S** **19 36 12.6 -1.7**
PKIN Phulchoki 42.93 64 *eP* **P** **19 29 50.9 +0.3**
comp=Z,6.2nm,0.7s
TUE Stuetta 42.93 327 *eP* **P** **19 29 50.5 +0.3**
comp=Z,25nm,1.5s
TUE Stuetta 42.93 327 *eP* **P** **19 29 50.5 +0.3**
comp=Z,25nm,1.5s
DAVA Damuels 43.18 328 *eP* **P** **19 29 51.5 -0.7**
comp=Z,36nm,0.9s,SNR=13
DAVA Damuels 43.18 328 P **P** **19 29 51.5 -0.7**
comp=Z,36nm,0.9s,SNR=13
SUW Suwalki 43.23 344 *eP* **P** **19 29 52.9 +0.6**
SUW Suwalki 43.23 344 *eP* **P** **19 29 52.9 +0.6**
SUW Suwalki 43.23 344 *eP* **P** **19 29 52.9 +0.6**
PVCC Panska Ves 43.30 335 *eP* **P** **19 29 53.3 +0.5**
PVCC AMS AMS 19 52 10.0

comp=Z,200nm,12.2s
PVCC Panska Ves 43.30 335 *e*P **P** **19 29 53.3 +0.5**
PVCC MLR MLR
comp=Z,200nm,12.2s
PVCC Panska Ves 43.30 335 P **P** **19 29 53.3 +0.5**
GUN Gumba 43.41 63 *e*P **P** **19 29 54.7 +0.2**
BRG Berggiesshubel 43.82 335 *e*P **P** **19 29 56.5 -0.6**
comp=Z,31nm,1.5s
BRG S **S** **19 36 27.0 -0.7**
BRG SS **SS** **19 39 49.0 +5.3**
comp=N,102nm,12.1s
comp=E,117nm,17.2s
comp=Z,178nm,12.3s
BRG Berggiesshubel 43.82 335 *e*P **P** **19 29 56.5 -0.6**
BRG S **S** **19 36 27.0 -0.7**
BRG SS **SS** **19 39 49.0 +5.3**
BRG pmax pmax
comp=Z,31nm,1.5s
BRG MLR MLR
comp=N,102nm,12.1s
BRG MLR MLR
comp=E,117nm,17.2s
BRG MLR MLR
comp=Z,178nm,12.3s
RAMN Ramite 43.88 65 *e*P **P** **19 29 57.9 -0.3**
SENIN Lac Senin/Sane 43.97 325 *e*P **P** **19 29 56.8 -1.8**
comp=Z,28nm,1.2s
SENIN Lac Senin/Sane 43.97 325 *e*P **P** **19 29 56.8 -1.8**
comp=Z,28nm,1.2s
NKC Novy Kostel 43.99 333 *e*P **P** **19 29 57.8 -0.7**
NKC *ex* x 19 30 07.0
NKC AMS AMS 19 57 00.0
comp=Z,200nm,9.2s
NKC Novy Kostel 43.99 333 *e*P **P** **19 29 57.8 -0.7**
NKC *e* 19 30 07.0
NKC MLR MLR
comp=Z,200nm,9.2s
NKC Novy Kostel 43.99 333 P **P** **19 29 57.8 -0.7**
SPAK Spaichingen-Ko 44.27 328‖ *e*P **P** **19 30 01.6 +0.8**
FELD Feldberg im Sc 44.53 328 *e*P **P** **19 30 02.9 -0.1**
BBS Basel-Blauen 44.53 327 *e*P **P** **19 30 02.5 -0.4**
CLL Collm 44.54 334‖ *i*P **P** **19 30 02.5 -0.3**
comp=Z,39nm,1.5s
CLL *i* 19 30 16.8
CLL *e*PP **PcP** **19 31 45.0 -0.9**
CLL *e*S **S** **19 36 35.0 -3.2**
CLL *e*SS **SS** **19 39 54.0 -3.8**
CLL LmH 19 50 00.0
comp=N,100nm,19.4s
CLL LmH 19 50 00.0
comp=E,100nm,22.0s
CLL LmH 19 50 00.0
comp=Z,200nm,19.4s
CLL Collm 44.54 334‖ *i*P **P** **19 30 02.5 -0.3**
CLL *e*S **S** **19 36 35.0 -3.2**
CLL pmax pmax
comp=Z,39nm,1.5s
CLL Collm 44.54 334 *e*P **P** **19 30 01.2 -1.6**
comp=Z,33nm,1.4s
CLL Collm 44.54 334 *e*P **P** **19 30 01.2 -1.6**
comp=Z,33nm,1.4s
BFO Black Forest 44.65 328*ce*P **P** **19 30 04.2 +0.4**
BFO Black Forest 44.65 328 *e*P **P** **19 30 02.7 -1.1**
comp=Z,15nm,1.1s
BFO Black Forest 44.65 328 *e*P **P** **19 30 02.7 -1.1**
comp=Z,15nm,1.1s
BOSA Boshof 44.67 201 P **P** **19 30 05.2 +0.9**
comp=Z,4.6nm,1.0s,baz=32,slow=9.5,SNR=2.7
BOSA LR LR 19 48 51.7
comp=Z,964nm,21.8s,baz=26,slow=36
FILF Fillols 44.75 318 *e*P **P** **19 30 05.9 +1.1**
FILF Fillols 44.75 318 *e*P **P** **19 30 05.9 +1.1**
LOMF Lomont 44.83 326‖ *e*P **P** **19 30 04.8 -0.5**
LOMF Lomont 44.83 326‖ *e*P **P** **19 30 04.8 -0.5**
ARU Arti 44.92 13*c i*P **P** **19 30 05.8 +0.1**
ARU 19 31 48.6
ARU PPP PPP 19 32 29.5
ARU S **S** **19 36 45.7 +2.1**
ARU SS **SS** **19 40 03.6 -1.4**
ARU SSS SSS 19 40 57.3
ARU pmax pmax
comp=Z,20nm,0.8s
ARU MLR MLR
comp=Z,571nm,16.0s
ARU Arti 44.92 13 *e*P **P** **19 30 04.0 -1.7**
comp=Z,19nm,0.9s
ARU Arti 44.92 13 *e*P **P** **19 30 04.0 -1.7**
comp=Z,19nm,0.9s
SSB Saint Sauveur 44.92 323 *e*P **P** **19 30 02.5 -3.5**
SSB pmax pmax
comp=Z,17nm,1.1s
SSB Saint Sauveur 44.92 323 *e*P **P** **19 30 02.5 -3.5**
comp=Z,17nm,1.1s
MOF Molkenrain 44.97 327 *e*P **P** **19 30 05.5 -1.0**
MOF Molkenrain 44.97 327 *e*P **P** **19 30 05.5 -1.0**
ZRNK Zerenda 45.06 23 *e*P **P** **19 30 08.0 +1.0**
ZRNK pmax pmax
comp=Z,12nm,1.0s
ZRNK Zerenda 45.06 23 *e*P **P** **19 30 08.0 +1.0**
comp=Z,12nm,1.0s
ZRNK Zerenda 45.06 23 *e*P **P** **19 30 08.0 +1.0**
comp=Z,12nm,1.0s
ECH Echery 45.19 327‖ *e*P **P** **19 30 08.3 +0.2**
ECH Echery 45.19 327‖ *e*P **P** **19 30 08.3 +0.2**
TOD Tromm 45.25 330‖ *e*P **P** **19 30 07.9 -0.6**
KTD Kalmit 45.41 329 *e*P **P** **19 30 09.6 -0.3**
BRVK Borovoye 45.64 24 *i* P **P** **19 30 13.3 +1.8**
BRVK pmax pmax
comp=Z,27nm,1.6s
LBL Lubilhac 45.67 322‖ *e*P **P** **19 30 14.2 +2.2**
LBL Lubilhac 45.67 322‖ *e*P **P** **19 30 14.2 +2.2**
SALF Salau 45.74 318 *e*P **P** **19 30 14.0 +1.4**
SALF Salau 45.74 318 *e*P **P** **19 30 14.0 +1.4**
SVE Sverdlovsk 45.76 14 *e*P **P** **19 30 13.7 +1.3**
SVE pmax pmax
comp=Z,28nm,1.1s
PLDF La Plantade 45.84 323 *e*P **P** **19 30 14.2 +0.8**
PLDF La Plantade 45.84 323 *e*P **P** **19 30 14.2 +0.8**
AGO Saint Agoulin 46.17 323‖ *e*P **P** **19 30 16.1 +0.2**
AGO Saint Agoulin 46.17 323‖ *e*P **P** **19 30 16.1 +0.2**
RUP Ruppelstein 46.17 329‖ *e*P **P** **19 30 14.3 -1.6**
RESF Ens 46.32 318 *e*P **P** **19 30 17.6 +0.4**
RESF Ens 46.32 318 *e*P **P** **19 30 17.6 +0.4**
KIC Kosan Boka 46.42 266 *e*P **P** **19 30 17.3 -1.0**
comp=Z,31nm,0.8s
DBIC Dimbokro 46.47 267 P **P** **19 30 16.4 -2.2**
comp=Z,15nm,0.8s,baz=97,slow=5.7,SNR=10
DBIC LR LR 19 48 18.1
comp=Z,211nm,18.4s,baz=61,slow=34
VSU Vasula 46.51 349*ce*P **P** **19 30 18.1 -0.2**
VSU pmax pmax
comp=Z,88nm,1.7s
VIEF Viey 46.56 317 *e*P **P** **19 30 20.4 +1.3**
VIEF Viey 46.56 317 *e*P **P** **19 30 20.4 +1.3**
WLF Walferdange 46.61 328 *e*P **P** **19 30 18.4 -0.8**
WLF pmax pmax
comp=Z,39nm,1.3s
WLF Walferdange 46.61 328 *e*P **P** **19 30 18.4 -0.8**
comp=Z,39nm,1.3s
WLF Walferdange 46.61 328 *e*P **P** **19 30 18.4 -0.8**
comp=Z,39nm,1.3s
TIC Toumodi 46.63 267 *e*P **P** **19 30 18.2 -1.8**
LIC Lamto 46.73 266 *e*P **P** **19 30 18.8 -1.9**
comp=Z,19nm,1.0s
REYF Montagne du Re 46.91 318 *e*P **P** **19 30 23.1 +1.2**
REYF Montagne du Re 46.91 318 *e*P **P** **19 30 23.1 +1.2**
ATE Arette 47.12 317 *e*P **P** **19 30 24.2 +0.8**
ATE Arette 47.12 317 *e*P **P** **19 30 24.2 +0.8**
LARF Larrau 47.29 317 *e*P **P** **19 30 25.5 +0.7**
LARF Larrau 47.29 317 *e*P **P** **19 30 25.5 +0.7**
MAKZ Makanchi 47.33 37 *e*P **P** **19 30 24.7 -0.3**
MAKZ pmax pmax
comp=Z,18nm,0.8s
MAKZ Makanchi 47.33 37 *e*P **P** **19 30 24.7 -0.3**
comp=Z,18nm,0.8s
MAKZ Makanchi 47.33 37 *e*P **P** **19 30 24.7 -0.3**
comp=Z,18nm,0.8s
HGN Heimansgroeve 47.41 330 *e*P **P** **19 30 26.1 +0.7**
MK01 Makanchi Array 47.50 37 *e*P **P** **19 30 26.2 -0.1**
MK01 Makanchi Array 47.50 37 *e*P **P** **19 30 26.2 -0.1**
MK31 Makanchi Array 47.51 37 *e*P **P** **19 30 26.4 0.0**
MK31 Makanchi Array 47.51 37 *e*P **P** **19 30 26.4 0.0**
MK31 Makanchi Array 47.51 37 *e*P **P** **19 30 26.4 0.0**
MKAR Makanchi Array 47.51 37 P **P** **19 30 26.7 +0.4**
comp=Z,12nm,0.8s,baz=234,slow=6.4,SNR=35
MKAR LR LR 19 53 26.5
comp=Z,994nm,20.2s,baz=236,slow=40
MKAR Makanchi Array 47.51 37 *e*P **P** **19 30 26.4 0.0**
MKAR Makanchi Array 47.51 37 *e*P **P** **19 30 26.4 0.0**
MKAR Makanchi Array 47.51 37 *e*P **P** **19 30 26.4 0.0**
KLMR Klimovskoe 47.52 358 *e*P **P** **19 30 23.4 -2.7**
KLMR *e*PPP PPP 19 33 00.2
KLMR pmax pmax
comp=Z,58nm,1.0s
KURK Kurchatov 47.74 31 *e*P **P** **19 30 27.5 -0.5**
KURK Kurchatov 47.74 31 *e*P **P** **19 30 27.5 -0.5**
KURK Kurchatov 47.74 31 *e*P **P** **19 30 27.5 -0.5**
WTSB Winterswijk 47.76 331 *e*P **P** **19 30 28.6 +0.5**
WTSB Winterswijk 47.76 331 *e*P **P** **19 30 28.6 +0.5**
ES19 SONSECA Array 48.02 312 *e*P **P** **19 30 28.9 -1.6**
ES19 SONSECA Array 48.02 312 *e*P **P** **19 30 28.9 -1.6**
ESDC Sonseca Array 48.05 312 P **P** **19 30 28.8 -2.0**
comp=Z,8.3nm,0.8s,baz=109,slow=6.7,SNR=33
ESDC LR LR 19 52 22.8
comp=Z,133nm,19.4s,baz=115,slow=38
ESLA Sonseca Array 48.05 312 *e*P **P** **19 30 31.8 +1.0**
comp=Z,15nm,1.0s
ESLA Sonseca Array 48.05 312 *e*P **P** **19 30 31.8 +1.0**
comp=Z,15nm,1.0s
LSA Lhasa 48.27 62 *e*P **P** **19 30 32.5 -0.5**
LSA pmax pmax
comp=Z,14nm,1.3s
LSA Lhasa 48.27 62 *e*P **P** **19 30 32.5 -0.5**
comp=Z,14nm,1.3s
LSA Lhasa 48.27 62 *e*P **P** **19 30 32.5 -0.5**
comp=Z,14nm,1.3s
PAB San Pablo 48.29 312 *e*P **P** **19 30 30.2 -2.4**
PAB pmax pmax
comp=Z,23nm,0.9s
PAB San Pablo 48.29 312 *e*P **P** **19 30 30.2 -2.4**
comp=Z,23nm,0.9s
PAB San Pablo 48.29 312 *e*P **P** **19 30 30.2 -2.4**
comp=Z,23nm,0.9s
FINES FINESS Array B 49.43 350 P **P** **19 30 39.5 -1.3**
comp=Z,8.8nm,0.7s,baz=142,slow=9.6,SNR=18
FINES LR LR 19 53 27.6
comp=Z,264nm,18.0s,baz=148,slow=38
FIA1 FINESS Array S 49.43 350 *e*P **P** **19 30 40.2 -0.6**
comp=Z,63nm,1.6s
FIA1 FINESS Array S 49.43 350 *e*P **P** **19 30 40.2 -0.6**
comp=Z,63nm,1.6s
WMQ Urumqi 49.53 43 P **P** **19 30 42.3 +0.2**
WMQ pP pP 19 30 47.3 +1.9
WMQ sP sP 19 30 49.3 +2.6
WMQ S **S** **19 37 52.6 +2.7**
WMQ PMZ
comp=Z,8.0nm,0.6s
WMQ PMZ
comp=Z,85nm,4.6s
WMQ LN
comp=Z,300nm,17.2s
WMQ LE
comp=Z,300nm,16.0s
WMQ LZ
comp=Z,290nm,19.0s
PBAR Barrancos 49.87 309 *e*P **P** **19 30 44.1 -0.5**
comp=Z,80nm,1.6s
PBAR Barrancos 49.87 309 *e*P **P** **19 30 44.1 -0.5**
PVAQ Vaqueiros 50.18 308 *e*P **P** **19 30 44.9 -2.1**
comp=Z,32nm,1.4s
PVAQ Vaqueiros 50.18 308 *e*LR LR 19 49 50.8
comp=Z,212nm,20.0s
PVAQ Vaqueiros 50.18 308 *e*P **P** **19 30 44.9 -2.1**
PBEJ Beja 50.46 309 *e*P **P** **19 30 47.8 -1.3**
comp=Z,30nm,1.3s
PBEJ Beja 50.46 309 *e*P **P** **19 30 47.8 -1.3**
PESTR Estremoz 50.48 310 *e*P **P** **19 30 49.6 +0.3**
comp=Z,29nm,1.2s
PESTR Estremoz 50.48 310 *e*P **P** **19 30 49.6 +0.3**
PCVE Castro Verde 50.49 308 *e*P **P** **19 30 49.6 +0.3**
comp=Z,40nm,1.9s
PCVE Castro Verde 50.49 308 *e*P **P** **19 30 49.6 +0.3**
PMRV Marv??o 50.49 310 *e*P **P** **19 30 49.4 0.0**
comp=Z,33nm,1.7s
PMRV Marv??o 50.49 310 *e*LR LR 19 50 51.1
comp=Z,182nm,18.0s
PMRV Marv??o 50.49 310 *e*P **P** **19 30 49.4 0.0**
PCBR Castelo Branco 50.67 311 *e*P **P** **19 30 50.9 +0.2**
comp=Z,28nm,1.4s
PCBR Castelo Branco 50.67 311 *e*P **P** **19 30 50.9 +0.2**
MESJ Messejana 50.68 308 *e*P **P** **19 30 50.3 -0.5**
comp=Z,38nm,1.7s
MESJ Messejana 50.68 308 *e*P **P** **19 30 50.3 -0.5**
EVO Evora 50.70 309 *e*P **P** **19 30 50.2 -0.8**
comp=Z,60nm,1.2s
EVO Evora 50.70 309 *e*P **P** **19 30 50.2 -0.8**
MVO Moncorvo 50.76 313 *e*LR LR 19 51 24.2
comp=Z,151nm,16.0s
MTE Manteigas 50.89 312 *e*P **P** **19 30 52.6 +0.2**
comp=Z,18nm,1.1s
MTE Manteigas 50.89 312 *e*LR LR 19 50 45.6
comp=Z,139nm,18.0s
MTE Manteigas 50.89 312 *e*P **P** **19 30 52.6 +0.2**
MTE Manteigas 50.89 312 *e*P **P** **19 30 52.7 +0.2**
comp=Z,13nm,1.0s
PNCL Nicolau / Gran 50.98 308 *e*P **P** **19 30 52.6 -0.5**
comp=Z,33nm,1.8s
PNCL Nicolau / Gran 50.98 308 *e*P **P** **19 30 52.6 -0.5**
PMTG Montargil 51.01 310 *e*P **P** **19 30 50.6 -2.6**
comp=Z,30nm,1.7s
PVIS Viseu 51.24 312 *e*P **P** **19 30 54.9 -0.1**
comp=Z,29nm,1.1s
PVIS Viseu 51.24 312 *e*P **P** **19 30 54.9 -0.1**
PTOM Tomar 51.30 310 *e*P **P** **19 30 56.6 +1.2**
comp=Z,15nm,0.9s
PTOM Tomar 51.30 310 *e*P **P** **19 30 56.6 +1.2**
POLO Lamas de Olo 51.37 313 *e*P **P** **19 30 56.3 +0.3**
comp=Z,19nm,1.2s
POLO Lamas de Olo 51.37 313 *e*P **P** **19 30 56.3 +0.3**
PCAS Casmilo, Conde 51.49 311 *e*P **P** **19 30 56.9 +0.1**
comp=Z,42nm,1.0s
PCAS Casmilo, Conde 51.49 311 *e*P **P** **19 30 56.9 +0.1**
PGAV Gavieira, Arco 51.89 313 *e*P **P** **19 30 59.8 -0.1**
comp=Z,76nm,1.4s
PGAV Gavieira, Arco 51.89 313 *e*LR LR 19 52 03.8
comp=Z,188nm,20.0s
PGAV Gavieira, Arco 51.89 313 *e*P **P** **19 30 59.8 -0.1**
NVS Novosibirsk 52.46 29‖ *i*P **P** **19 31 04.0 +0.2**
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS pmax pmax
comp=Z,20nm,0.9s
NAO01 NORSAR Array S 52.57 341 *e*P **P** **19 31 04.2 -0.3**
NAO01 NORSAR Array S 52.57 341 *e*P **P** **19 31 04.2 -0.3**
NB201 NORSAR Array S 52.61 342 *e*P **P** **19 31 04.7 -0.2**
NB201 NORSAR Array S 52.61 342 *e*P **P** **19 31 04.7 -0.2**
NB2 NORSAR Subarra 52.63 342 P **P** **19 31 03.9 -1.1**
comp=Z,15nm,0.9s,baz=140,slow=7.9
NB2 NORSAR Subarra 52.63 342 P **P** **19 31 03.9 -1.1**
comp=Z,15nm,0.9s,SNR=4.3
NOA NORSAR Array B 52.63 342 P **P** **19 31 03.9 -1.1**
comp=Z,7.3nm,0.9s,baz=139,slow=7.5,SNR=9.3
ZAA0 Zalesovo Array 52.72 30 *e*P **P** **19 31 04.9 -0.8**
ZAA0 Zalesovo Array 52.72 30 *e*P **P** **19 31 04.9 -0.8**
ZALV Zalesovo Beam 52.72 30 P **P** **19 31 04.9 -0.8**
comp=Z,18nm,0.8s,baz=236,slow=7.5,SNR=31
NBO02 NORSAR Array S 52.74 342 *e*P **P** **19 31 05.9 +0.1**
NBO02 NORSAR Array S 52.74 342 *e*P **P** **19 31 06.0 +0.1**
NBO00 NORSAR Array S 52.75 342 *e*P **P** **19 31 06.6 +0.7**
NBO00 NORSAR Array S 52.75 342 *e*P **P** **19 31 06.6 +0.7**
NC204 NORSAR Array S 52.95 342 *e*P **P** **19 31 06.9 -0.5**
NC204 NORSAR Array S 52.95 342 *e*P **P** **19 31 06.9 -0.5**
APA Apatity 54.52 356‖ *i*P **P** **19 31 17.0 -1.7**
APA *i* 19 33 30.0
APA *i* PPP PPP 19 34 35.0
APA *i* S **S** **19 38 52.0 -5.5**
APA pmax pmax
comp=Z,12nm,1.2s
APA MLR MLR
comp=Z,400nm,12.0s
LVZ Lovozero 54.77 357*ce*P **P** **19 31 20.2 -0.3**
LVZ pmax pmax
comp=Z,34nm,1.7s
CM31 Chiang Mai Arr 54.92 77 *e*P **P** **19 31 23.5 +1.0**
CM31 Chiang Mai Arr 54.92 77 *e*P **P** **19 31 23.5 +1.0**
CMAR Chiang Mai Arr 54.92 77 P **P** **19 31 22.6 +0.2**
comp=Z,6.4nm,0.8s,baz=277,slow=8.2,SNR=33
CMAR LR LR 19 55 28.3
comp=Z,63nm,18.6s,baz=260,slow=37
CM01 Chiang Mai Arr 54.94 77 *e*P **P** **19 31 22.6 +0.1**
CM01 Chiang Mai Arr 54.94 77 *e*P **P** **19 31 22.6 +0.1**
GTA Gaotai 56.96 52 *e*P **P** **19 31 39.3 +2.4**
GTA pP sP 19 31 43.8 +2.2
GTA sP pP 19 31 46.3 +6.0
GTA PcP **PcP** **19 32 33.8 +1.6**
GTA PP **PP** **19 33 49.5 +6.0**
GTA S S 19 39 40.1 +8.8
GTA sS sS 19 39 47.4 +10
GTA PMZ
comp=Z,4.0nm,1.1s
GTA PMZ
comp=Z,96nm,5.7s
GTA LN
comp=Z,320nm,17.1s
GTA LE
comp=Z,390nm,15.7s
GTA LZ
comp=Z,540nm,14.7s
ARA0 ARCESS Array S 57.16 353 *e*P **P** **19 31 37.6 0.0**
ARA0 ARCESS Array S 57.16 353 *e*P **P** **19 31 37.6 0.0**
ARCES ARCESS Array B 57.16 353 P **P** **19 31 36.8 -0.9**
comp=Z,8.5nm,0.8s,baz=152,slow=5.5,SNR=16
ARE0 ARCESS Array S 57.16 353 *e*P **P** **19 31 38.7 +1.0**
comp=Z,18nm,1.0s
ARE0 ARCESS Array S 57.16 353 *e*P **P** **19 31 38.6 +1.0**
comp=Z,18nm,1.0s
KMI Kunming 58.22 69 P **P** **19 31 47.1 +0.9**
KMI S **S** **19 39 48.6 +0.1**
KMI sS sS 19 39 54.6 +0.5
KMI SS **SS** **19 43 43.7 +3.4**
KMI PMZ
comp=Z,7.0nm,0.9s
KMI LN
comp=Z,140nm,17.6s
KMI LE
comp=Z,170nm,17.6s
KMI LZ
comp=Z,180nm,20.9s
CD2 Chengdu 59.23 62 *e*P **P** **19 31 50.2 -2.7**
CD2 PP **PP** **19 34 02.0 -1.7**
CD2 PcS **PcS** **19 36 39.0 -4.3**
CD2 S **S** **19 40 01.8 +0.7**
CD2 SS **SS** **19 43 59.0 +3.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,440nm,16.9s
CD2 LE
comp=Z,450nm,15.4s
CD2 LZ
comp=Z,330nm,17.9s
LZH Lanzhou 59.67 56 *e*P **P** **19 31 55.0 -1.0**
LZH pP pP 19 31 58.3 -1.1
LZH sP sP 19 32 00.6 -0.1
LZH PMZ
comp=Z,13nm,1.1s
LZH PMZ
comp=Z,68nm,4.6s
LZH LN
comp=Z,260nm,14.6s
LZH LE
comp=Z,400nm,15.0s
LZH LZ
comp=Z,430nm,15.3s
ZAK Zakamensk 61.70 40 *e*P **P** **19 32 08.9 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,2.0s
GYA Guiyang 61.74 67 P **P** **19 32 08.2 -2.0**
GYA PP **PP** **19 34 27.8 +1.7**
GYA ScP **ScP** **19 36 49.0 -4.5**
GYA S **S** **19 40 31.2 -2.3**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.9s
GYA LN
comp=Z,490nm,19.8s
GYA LE
comp=Z,420nm,20.2s
GYA LZ
comp=Z,450nm,20.0s
TLY Talaya 62.24 38 *e*P **P** **19 32 14.3 +1.3**
TLY pmax pmax
comp=Z,3.0nm,1.4s
TLY MLR MLR
comp=Z,1μm,21.0s
NRIK Noril'sk 62.93 17 P **P** **19 32 18.3 +1.1**
comp=Z,13nm,0.8s,baz=224,slow=4.9,SNR=14
SONM Songino Array 63.17 43 P **P** **19 32 20.0 +0.6**
comp=Z,4.6nm,0.9s,baz=262,slow=5.9,SNR=21
SONA1 Songino Array 63.18 43 *e*P **P** **19 32 20.2 +0.8**
SONA1 Songino Array 63.18 43 *e*P **P** **19 32 20.2 +0.8**
ULN Ulaanbaatar 63.61 43*ce*P **P** **19 32 22.0 -0.3**
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN Ulaanbaatar 63.61 43 *e*P **P** **19 32 20.7 -1.6**
comp=Z,6.5nm,1.4s
ULN Ulaanbaatar 63.61 43 *e*P **P** **19 32 20.7 -1.6**
comp=Z,6.5nm,1.4s
QIZ Qiongzhong 65.16 75 P **P** **19 32 28.4 -4.4**
QIZ S **S** **19 41 14.1 -2.1**
QIZ PMZ
comp=Z,8.0nm,1.3s
QIZ LN
comp=Z,52nm,9.2s
QIZ LE
comp=Z,110nm,16.2s
QIZ LZ
comp=Z,160nm,38.5s
HHC Hu-ho-hao-te 66.07 51 *e*P **P** **19 32 37.7 -0.8**
HHC sP sP 19 32 44.0 +0.8
HHC S **S** **19 41 28.4 +1.5**
HHC sS sS 19 41 37.5 +5.0
HHC SS **SS** **19 45 48.0 +5.8**
HHC PMZ
comp=Z,16nm,0.9s
HHC PMZ
comp=Z,140nm,6.3s
HHC LN
comp=Z,220nm,14.8s
HHC LE
comp=Z,360nm,14.8s
HHC LZ
comp=Z,300nm,14.8s
SPA0 Spitsbergen Ar 66.13 354 *e*P **P** **19 32 39.1 +1.1**
SPA0 Spitsbergen Ar 66.13 354 *e*P **P** **19 32 39.1 +1.1**
KBS Kingsbay 67.22 354 *e*P **P** **19 32 45.0 0.0**
KBS pmax pmax
comp=Z,11nm,1.1s
KBS Kingsbay 67.22 354 *e*P **P** **19 32 45.0 0.0**
comp=Z,11nm,1.1s
KBS Kingsbay 67.22 354 *e*P **P** **19 32 45.0 0.0**
comp=Z,11nm,1.1s
WHN Wuhan 68.35 62 P P 19 32 58.1 +5.2
SUMG Summit 74.52 342 *i* P **P** **19 33 30.3 +0.4**
SUMG pmax pmax
comp=Z,21nm,1.0s
SUMG Summit 74.52 342 *i* P **P** **19 33 30.3 +0.4**
comp=Z,21nm,1.0s
SUMG Summit 74.52 342 *e*P **P** **19 33 30.1 +0.2**
comp=Z,22nm,1.0s
SUMG Summit 74.52 342 *e*P **P** **19 33 30.1 +0.2**
comp=Z,22nm,1.0s
CN2 Changchun 76.30 48 *e*P **P** **19 33 40.7 +0.5**
CN2 *es*P sP 19 33 46.7 +1.7
CN2 *e*S **S** **19 43 26.8 +1.8**
CN2 PMZ
comp=Z,20nm,1.2s
CN2 LN
comp=Z,300nm,18.0s
CN2 LE
comp=Z,400nm,18.0s
CN2 LZ
comp=Z,500nm,19.0s
YAK Yakutsk 77.33 29 *e*P **P** **19 33 46.9 +1.3**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK Yakutsk 77.33 29 *e*P **P** **19 33 46.9 +1.3**
comp=Z,9.3nm,0.9s
YAK Yakutsk 77.33 29 *e*P **P** **19 33 46.9 +1.3**
comp=Z,9.3nm,0.9s

KSAR	**Wonju Array Be**	**78.89**	**54**	P		**P**		**19 33 54.6**	**-0.2**
KSAR	**Wonju Array Be**	**78.89**	**54**	P		**P**		**19 33 54.6**	**-0.2**
KSAR	**Wonju Array Be**	**78.89**	**54**	P		**P**		**19 33 54.6**	**-0.2**
KS01	**Wonju Array Si**	**78.89**	**54**	*e*P		**P**		**19 33 55.5**	**+0.7**
KS01	**Wonju Array Si**	**78.89**	**54**	*e*P		**P**		**19 33 55.5**	**+0.7**
KSRS	**Korea Array**	**78.92**	**54**	P		**P**		**19 33 54.6**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=270,slow=6.6,SNR=6.2								
MDJ	**Mudanjiang**	**79.16**	**47**	P		**P**		**19 33 53.8**	**-2.4**
MDJ				pmax	pmax				
	comp=Z,5.0nm,1.3s								
MDJ				pmax	pmax				
	comp=Z,52nm,4.1s								
MDJ	**Mudanjiang**	**79.16**	**47**	P		**P**		**19 33 55.7**	**-0.5**
MDJ				PMZ					
	comp=Z,5.0nm,1.2s								
MDJ				PMZ					
	comp=Z,52nm,4.1s								
KLR	**Kul'dur**	**79.96**	**42**	*e*P		**P**		**19 34 00.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**80.92**	**47**	P		**P**		**19 34 05.0**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=271,slow=6.3,SNR=7.0								
JNU	**Nakatsue**	**82.01**	**58**	LR		LR		20 14 19.4	
	comp=Z,134nm,20.4s,baz=302,slow=38								
MAW	**Mawson**	**82.11**	**172**	P		**P**		**19 34 13.2**	**+2.0**
	comp=Z,2.1nm,0.8s,baz=351,slow=6.6,SNR=4.4								
MJAR	**Matsushiro Arr**	**87.17**	**53**	P		**P**		**19 34 39.3**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=289,slow=6.4,SNR=3.9								
SEY	**Seymchan**	**87.28**	**25**	*e*P		**P**		**19 34 37.9**	**+0.2**
YSS	**Yuzh-Sakhalins**	**87.65**	**42**	*e*P		**P**		**19 34 44.0**	**+4.2**
BILL	**Bilibino**	**89.71**	**18**	*i* P		**P**		**19 34 50.0**	**+0.9**
BILL				pmax	pmax				
	comp=Z,5.0nm,1.2s								
BILL	**Bilibino**	**89.71**	**18**	*e*P		**P**		**19 34 51.6**	**+2.5**
	comp=Z,13nm,1.5s								
BILL	**Bilibino**	**89.71**	**18**	*e*P		**P**		**19 34 51.6**	**+2.5**
	comp=Z,13nm,1.5s								
WRA	**Warramunga Arr**	**96.68**	**109**	P		**P**		**19 35 22.8**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=296,slow=3.3,SNR=8.1								
ASAR	**Alice Springs**	**97.02**	**113**	P		Pdif		19 35 23.8	-0.1
	comp=Z,0.6nm,0.8s,baz=284,slow=4.3,SNR=6.7								
ILAR	**Eielson Array**	**101.88**	**4**	PP		PP		19 39 54.4	-0.3
	comp=Z,0.8nm,1.0s,baz=68,slow=1.8,SNR=6.4								
YKA	**Yellowknife Ar**	**102.25**	**349**	PP		PP		19 39 53.9	-3.5
	comp=Z,1.2nm,0.8s,baz=18,slow=6.5,SNR=5.8								
PDAR	**Pinedale Array**	**118.38**	**336**	PKP		**PKPdf**		**19 40 39.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=25,slow=5.0,SNR=4.2								
PDAR	**Pinedale Array**	**118.38**	**336**	PKIKP		**PKPdf**		**19 40 39.0**	**-0.4**
NVAR	**Mina Array Bea**	**125.31**	**341**	PKP		**PKPdf**		**19 40 54.1**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=15,slow=0.8,SNR=11								
TXAR	**Lajitas Array**	**126.15**	**322**	PKP		**PKPdf**		**19 40 54.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=99,slow=1.9,SNR=11								

ISCJB ***12*** *19:23:54.2±0.6, 13°.35N±0°.08×41°.74E±0°.08, h10km, mb4.3/16, Error ellipse: s-maj=13.0km s-min=9.5km az=33.6*
CSEM ***12*** *19:23:54.6±0.3, 13°.39N×41°.71E, h2km, mb4.6, Error ellipse: s-maj=12.8km s-min=9.5km az=39.0*
IDC ***12*** *19:23:54.2±0.8, 13°.33N×41°.67E, h0km, mb4.2/14, mb1 4.4/16, mb1mx4.0/43, mbtmp4.3/16, ML4.2/2, Error ellipse: s-maj=20.2km s-min=16.5km az=23.0*
NEIC ***12*** *19:23:55.5±0.5, 13°.31N×41°.72E, h10km, mb4.6/2, Error ellipse: s-maj=12.3km s-min=9.8km az=196.0*
ISC 12 19:23:55.7±0.6, 13°.32N±0°.09×41°.70E±0°.09, h10km, n45, σ1§01/46, mb4.2/16, 8C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.10**	**148**	Pn		**Pn**		**19 24 30.8**	**-0.3**
	96nm,0.3s,baz=300,slow=16,SNR=2.3								
ATD				Sn		**Sb**		**19 25 01.1**	**+0.8**
	317nm,0.3s,baz=255,slow=20,SNR=3.8								
WSAR	**Wadi Sarin**	**18.84**	**56**	P		**P**		**19 28 15.6**	**-0.3**
	0.6nm,0.3s,baz=267,slow=19,SNR=4.7								
BRTR	**Keskin Array B**	**27.24**	**346**	P		**P**		**19 29 41.1**	**+0.9**
	4.6nm,1.2s,baz=161,slow=7.9,SNR=4.1								
KVAR	**Kislovodsk Arr**	**30.54**	**1**	P		**P**		**19 30 10.9**	**+1.5**
	9.9nm,1.0s,baz=223,slow=2.3,SNR=3.5								
CFR	**Carcaliu**	**33.78**	**343**	⇑*i* P		**P**		**19 30 38.4**	**+0.7**
MLR	**Muntele Rosu**	**34.74**	**340**	⇑*i* P		**P**		**19 30 48.8**	**+2.6**
VRI	**Vrincioaia**	**34.83**	**342**	⇓*i* P		**P**		**19 30 47.1**	**+0.3**
PLOR	**Plostina**	**34.84**	**341**	⇑*i* P		**P**		**19 30 48.7**	**+1.8**
VOIR		**34.99**	**339**	⇑*i* P		**P**		**19 30 49.6**	**+1.3**
LOT	**Lotru**	**35.45**	**338**	⇑*i* P		**P**		**19 30 52.5**	**+0.2**
TAM	**Tamanrasset**	**35.58**	**291**	*e*P		**P**		**19 30 54.4**	**+0.6**
	6.4nm,1.0s								
TAM	**Tamanrasset**	**35.58**	**291**	*e*P		**P**		**19 30 54.4**	**+0.6**
	6.4nm,1.0s								
MDVR	**Moldovita**	**35.69**	**335**	⇑*i* P		**P**		**19 30 54.4**	**+0.1**
KEST	**Kesra**	**36.66**	**313**	P		**P**		**19 31 03.8**	**+0.9**
	4.2nm,0.9s,baz=173,slow=8.1,SNR=2.6								
BURAR	**Bucovina Array**	**36.86**	**341**	⇓*i* P		**P**		**19 31 05.1**	**+0.8**
DRGR		**36.98**	**338**	⇑*i* P		**P**		**19 31 06.8**	**+1.4**
TORD	**Torodi Ar. Bea**	**38.92**	**274**	P		**P**		**19 31 21.4**	**-0.6**
	4.1nm,1.1s,baz=85,slow=4.6,SNR=4.6								
PSZ	**Piszkesteto**	**38.98**	**337**	⇑*i* P		**P**		**19 31 23.4**	**+1.2**
TREC	**Trest**	**41.85**	**334**	*e*P		**P**		**19 31 46.3**	**+0.4**
TREC				*ex*		x		19 31 54.3	
TREC	**Trest**	**41.85**	**334**	P		**P**		**19 31 46.3**	**+0.4**
GERES	**GERESS Array B**	**42.30**	**333**	P		**P**		**19 31 48.9**	**-0.7**
	1.5nm,0.6s,baz=126,slow=6.6,SNR=6.3								
DPC	**Dobruska-Polom**	**42.33**	**336**	*e*P		**P**		**19 31 49.5**	**-0.3**
DPC				*ex*		x		19 31 58.7	
DPC	**Dobruska-Polom**	**42.33**	**336**	P		**P**		**19 31 49.5**	**-0.3**
KHC	**Kasperske Hory**	**42.56**	**333**	*e*P		**P**		**19 31 50.9**	**-0.8**
KHC				*ex*		x		19 31 59.8	
KHC	**Kasperske Hory**	**42.56**	**333**	P		**P**		**19 31 50.9**	**-0.8**
DBIC	**Dimbokro**	**46.27**	**267**	P		**P**		**19 32 20.9**	**-1.0**
	2.5nm,0.8s,baz=63,slow=11,SNR=4.0								
MKAR	**Makanchi Array**	**47.60**	**37**	P		**P**		**19 32 32.0**	**+0.1**
	2.6nm,0.6s,baz=236,slow=4.9,SNR=9.7								
MKAR	**Makanchi Array**	**47.60**	**37**	P		**P**		**19 32 32.0**	**+0.1**
KURK	**Kurchatov**	**47.81**	**31**	*e*P		**P**		**19 32 31.6**	**-1.8**
KURK	**Kurchatov**	**47.81**	**31**	*e*P		**P**		**19 32 31.6**	**-1.8**
ESDC	**Sonseca Array**	**47.88**	**312**	P		**P**		**19 32 34.6**	**+0.4**
	2.0nm,0.9s,baz=106,slow=6.8,SNR=4.8								
LSA	**Lhasa**	**48.43**	**62**	*e*P		**P**		**19 32 38.3**	**-0.8**
	16nm,1.6s								
LSA	**Lhasa**	**48.43**	**62**	*e*P		**P**		**19 32 38.3**	**-0.8**
	16nm,1.6s								
FINES	**FINESS Array B**	**49.36**	**350**	P		**P**		**19 32 44.5**	**-0.6**
	1.9nm,0.6s,baz=178,slow=5.7,SNR=5.3								
NB2	**NORSAR Subarra**	**52.53**	**342**	P		**P**		**19 33 08.2**	**-0.9**
	comp=Z,8.0nm,1.1s,baz=138,slow=7.9								
NB2	**NORSAR Subarra**	**52.53**	**342**	P		**P**		**19 33 08.2**	**-0.9**
	comp=Z,8.0nm,1.1s,baz=138,slow=7.6,SNR=4.3								
NOA	**NORSAR Array B**	**52.53**	**342**	P		**P**		**19 33 08.1**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=138,slow=7.7,SNR=2.5								
ZALV	**Zalesovo Beam**	**52.79**	**30**	P		**P**		**19 33 10.0**	**-1.0**
	comp=Z,3.5nm,0.8s,baz=237,slow=8.2,SNR=6.3								
ZALV	**Zalesovo Beam**	**52.79**	**30**	P		**P**		**19 33 10.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**55.11**	**77**	P		**P**		**19 33 28.8**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=275,slow=8.4,SNR=5.5								
ARCES	**ARCESS Array B**	**57.10**	**353**	P		**P**		**19 33 41.1**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=171,slow=8.6,SNR=7.2								
SONM	**Songino Array**	**63.28**	**43**	P		**P**		**19 34 26.0**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=245,slow=7.4,SNR=6.4								
SONM	**Songino Array**	**63.28**	**43**	P		**P**		**19 34 26.0**	**+1.1**
NVAR	**Mina Array Bea**	**125.22**	**341**	PKP		**PKPdf**		**19 42 56.4**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=96,slow=1.5,SNR=4.5								
TXAR	**Lajitas Array**	**126.00**	**322**	PKP		**PKPdf**		**19 43 00.4**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=142,slow=3.1,SNR=2.6								

ISCJB ***12*** *19:24:03.9±1.1, 13°.5N±0°.2×41°.69E±0°.10, h10km, mb4.3/16, Error ellipse: s-maj=25.2km s-min=13.5km az=7.7*
IDC ***12*** *19:24:04.0±1.1, 13°.44N×41°.69E, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.1/42, mbtmp4.4/16, ML4.4/1, Error ellipse: s-maj=30.2km s-min=17.7km az=7.0*
ISC 12 19:24:05.6±1.1, 13°.5N±0°.2×41°.7E±0°.1, h10km, n19, σ0§75/19, mb4.4/16, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**18.78**	**56**	P		**Pn**		**19 28 25.6**	**+0.1**
	1.2nm,0.3s,baz=262,slow=8.2,SNR=5.9								
BRTR	**Keskin Array B**	**27.11**	**346**	P		**P**		**19 29 51.0**	**+2.1**
	4.0nm,1.0s,baz=146,slow=9.0,SNR=5.4								
KEST	**Kesra**	**36.56**	**313**	P		**P**		**19 31 12.4**	**+0.7**
	7.5nm,1.0s,baz=295,slow=3.1,SNR=4.4								
AKASG	**Malin Array Be**	**38.50**	**347**	P		**P**		**19 31 27.6**	**-0.2**
	1.0nm,0.5s,baz=162,slow=6.9,SNR=5.1								
TORD	**Torodi Ar. Bea**	**38.89**	**274**	P		**P**		**19 31 31.2**	**-0.4**
	6.8nm,1.0s,baz=94,slow=7.6,SNR=11								
GERES	**GERESS Array B**	**42.17**	**333**	P		**P**		**19 31 58.1**	**-0.3**
	3.2nm,0.7s,baz=125,slow=6.9,SNR=7.0								
CLL	**Collm**	**44.29**	**334**	*i* P		**P**		**19 32 14.5**	**-0.9**
	comp=Z,11nm,1.3s								
MKAR	**Makanchi Array**	**47.51**	**37**	P		**P**		**19 32 41.2**	**+0.3**
	comp=Z,5.2nm,0.7s,baz=237,slow=7.1,SNR=10								
ESDC	**Sonseca Array**	**47.78**	**312**	P		**P**		**19 32 43.4**	**+0.2**
	comp=Z,6.3nm,1.1s,baz=106,slow=6.8,SNR=5.9								
FINES	**FINESS Array B**	**49.23**	**350**	P		**P**		**19 32 53.7**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=144,slow=6.8,SNR=3.6								
NOA	**NORSAR Array B**	**52.40**	**342**	P		**P**		**19 33 17.2**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=139,slow=7.4,SNR=5.4								
ZALV	**Zalesovo Beam**	**52.69**	**31**	P		**P**		**19 33 19.3**	**-0.8**
	comp=Z,5.5nm,0.6s,baz=236,slow=7.6,SNR=8.3								
CMAR	**Chiang Mai Arr**	**55.10**	**77**	P		**P**		**19 33 37.9**	**-0.4**
	comp=Z,5.6nm,0.8s,baz=278,slow=8.0,SNR=15								
ARCES	**ARCESS Array B**	**56.97**	**353**	P		**P**		**19 33 50.1**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=169,slow=7.0,SNR=3.6								
SONM	**Songino Array**	**63.20**	**43**	P		**P**		**19 34 34.6**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=247,slow=7.6,SNR=7.8								
KSRS	**Korea Array**	**79.00**	**54**	P		**P**		**19 36 10.0**	**0.0**
	comp=Z,0.7nm,0.7s,baz=279,slow=5.5,SNR=2.6								
ASAR	**Alice Springs**	**97.29**	**113**	P		**P**		**19 37 39.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=265,slow=5.3,SNR=4.1								
NVAR	**Mina Array Bea**	**125.08**	**341**	PKP		**PKPdf**		**19 43 07.7**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=317,slow=3.1,SNR=3.7								
TXAR	**Lajitas Array**	**125.88**	**322**	PKP		**PKPdf**		**19 43 08.7**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=61,slow=2.0,SNR=4.9								

ISCJB ***12*** *19:25:52.9±1.2, 13°.0N±0°.3×41°.8E±0°.1, h10km, mb4.3/9, Error ellipse: s-maj=37.6km s-min=17.0km az=168.1*
IDC ***12*** *19:25:53.3±1.4, 13°.00N×41°.79E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.0/43, mbtmp4.3/9, Error ellipse: s-maj=45.7km s-min=19.4km az=169.0*
ISC 12 19:25:54.8±1.4, 13°.0N±0°.3×41°.8E±0°.1, h10km, n9, σ0§66/9, mb4.4/9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**27.58**	**346**	P		**P**		**19 31 43.0**	**+0.7**
	2.3nm,0.9s,baz=161,slow=7.9,SNR=4.5								
TORD	**Torodi Ar. Bea**	**39.01**	**275**	P		**P**		**19 33 22.3**	**+0.4**
	6.1nm,1.0s,baz=93,slow=7.0,SNR=8.8								
DBIC	**Dimbokro**	**46.31**	**267**	P		**P**		**19 34 20.9**	**-0.4**
	17nm,1.1s,baz=93,slow=10,SNR=4.6								
MKAR	**Makanchi Array**	**47.83**	**37**	P		**P**		**19 34 32.7**	**0.0**
	5.9nm,0.8s,baz=236,slow=6.6,SNR=8.6								
ESDC	**Sonseca Array**	**48.16**	**312**	P		**P**		**19 34 35.1**	**-0.3**
	1.7nm,0.8s,baz=110,slow=7.5,SNR=6.4								
ZALV	**Zalesovo Beam**	**53.05**	**30**	P		**P**		**19 35 10.9**	**-1.0**
	7.5nm,0.8s,baz=239,slow=7.2,SNR=8.1								
CMAR	**Chiang Mai Arr**	**55.12**	**76**	P		**P**		**19 35 27.6**	**-0.1**
	3.8nm,0.9s,baz=280,slow=8.4,SNR=7.9								
SONM	**Songino Array**	**63.48**	**43**	P		**P**		**19 36 25.1**	**-0.2**
	3.0nm,0.9s,baz=278,slow=6.7,SNR=7.8								
KSRS	**Korea Array**	**79.21**	**54**	P		**P**		**19 38 01.1**	**+0.8**
	1.0nm,0.8s,baz=292,slow=3.8,SNR=4.2								

ISCJB ***12*** *19:26:49.3±0.6, 39°.13N±0°.04×29°.02E±0°.04, h4km±9km, Error ellipse: s-maj=7.2km s-min=5.1km az=149.7*
DDA ***12*** *19:26:49.6, 39°.10N×29°.01E, h7km, Ml2.6*
ISK ***12*** *19:26:49.1, 39°.13N×29°.05E, h7km, MD2.6*
CSEM ***12*** *19:26:49.4±0.1, 39°.14N×29°.01E, h4km±1km, MD2.6, Error ellipse: s-maj=3.0km s-min=2.3km az=135.0*
ISC 12 19:26:49.5±1.1, 39°.14N±0°.03×29°.01E±0°.03, h5km±11km, n19, σ0§43/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**249**	P		**Pg**		**19 26 54.7**	**+0.3**
DEMI				S		**Sg**		**19 26 57.8**	**+0.1**
DEMI	**Demirci**	**0.25**	**249**	*i* P		**Pg**		**19 26 54.7**	**+0.3**
DEMI				*i* S		**Sg**		**19 26 57.8**	**+0.1**
GEDZ	**Gediz**	**0.32**	**106**	*e*PG		**Pg**		**19 26 55.6**	**-0.2**
GEDZ	**Gediz**	**0.32**	**106**	*e*Pg		**Pg**		**19 26 55.6**	**-0.2**
GDZ	**Gediz**	**0.37**	**97**	P		**Pg**		**19 26 56.9**	**+0.2**
GDZ				S		**Sg**		**19 27 01.8**	**+0.3**
GDZ	**Gediz**	**0.37**	**97**	*i* P		**Pg**		**19 26 56.9**	**+0.2**
GDZ				*i* S		**Sg**		**19 27 01.8**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**48**	*e*PG		**Pg**		**19 26 58.6**	**+0.1**
TVSB				*e*SG		**Sg**		**19 27 05.2**	**+0.5**
TVSB	**Tavsanli**	**0.47**	**48**	*e*Pg		**Pg**		**19 26 58.7**	**+0.1**
TVSB				*e*Sg		**Sg**		**19 27 05.2**	**+0.5**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*PG		**Pg**		**19 27 02.4**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*Pg		**Pg**		**19 27 02.4**	**-0.1**
KHL	**Karahalli**	**0.90**	**154**	*e*Pg		**Pg**		**19 27 07.0**	**+0.1**
KHL				*e*SG		**Sg**		**19 27 18.6**	**0.0**
KHL	**Karahalli**	**0.90**	**154**	*e*Pg		**Pg**		**19 27 07.0**	**+0.1**
KHL				*e*Sg		**Sg**		**19 27 18.6**	**0.0**
IGD	**Bursa**	**1.14**	**7**	*i* P		**Pg**		**19 27 10.6**	**-0.8**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN		**Pb**		**19 27 13.4**	**-0.1**
KCTX				*e*SN		**Sn**		**19 27 31.7**	**+1.0**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*Pn		**Pb**		**19 27 13.4**	**-0.1**
KCTX				*e*Sn		**Sn**		**19 27 31.7**	**+1.0**
ARMT	**Armutlu**	**1.43**	**355**	*e*PN		**Pn**		**19 27 15.6**	**-0.7**
ARMT	**Armutlu**	**1.43**	**355**	*e*Pn		**Pn**		**19 27 15.6**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**217**	*e*PN		**Pb**		**19 27 17.4**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**217**	*e*Pn		**Pb**		**19 27 17.4**	**-0.2**

ISCJB ***12*** *19:27:29.1±0.9, 13°.5N±0°.1×41°.8E±0°.2, h10km, mb3.8/6, Error ellipse: s-maj=23.0km s-min=16.9km az=151.6*
IDC ***12*** *19:27:29.1±1.2, 13°.41N×41°.75E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.6/48, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=29.3km s-min=24.4km az=17.0*
ISC 12 19:27:30.5±1.0, 13°.4N±0°.1×41°.7E±0°.2, h10km, n7, σ0§34/7, mb3.9/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.14**	**150**	Pn		**Pn**		**19 28 06.5**	**0.0**
	49nm,0.3s,baz=114,slow=20,SNR=1.4								
TORD	**Torodi Ar. Bea**	**38.95**	**274**	P		**P**		**19 34 57.2**	**+0.1**
	1.1nm,1.0s,baz=91,slow=7.2,SNR=3.0								
GERES	**GERESS Array B**	**42.25**	**332**	P		**P**		**19 35 24.0**	**-0.2**
	0.7nm,0.8s,baz=128,slow=6.4,SNR=3.5								
MKAR	**Makanchi Array**	**47.52**	**37**	P		**P**		**19 36 06.2**	**+0.2**
	2.4nm,0.8s,baz=232,slow=6.4,SNR=6.1								
ZALV	**Zalesovo Beam**	**52.71**	**30**	P		**P**		**19 36 45.1**	**-0.2**
	2.6nm,0.8s,baz=243,slow=7.5,SNR=4.2								
CMAR	**Chiang Mai Arr**	**55.05**	**77**	P		**P**		**19 37 02.6**	**-0.4**
	1.1nm,0.8s,baz=275,slow=8.1,SNR=4.2								
SONM	**Songino Array**	**63.20**	**43**	P		**P**		**19 37 59.7**	**+0.5**
	0.9nm,0.9s,baz=270,slow=6.1,SNR=4.4								

ISCJB ***12*** *19:27:48.3±1.6, 13°.5N±0°.2×41°.7E±0°.3, h10km, mb3.8/5, Error ellipse: s-maj=43.6km s-min=17.6km az=159.9*
IDC ***12*** *19:27:48.0±2.1, 13°.38N×41°.65E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/47, mbtmp3.9/6, ML4.5/1, Error ellipse: s-maj=53.0km s-min=27.1km az=58.0*
ISC 12 19:27:49.3±1.8, 13°.4N±0°.2×41°.6E±0°.3, h10km, n6, σ0§80/6, mb3.9/5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.17**	**146**	Pn		**Pn**		**19 28 25.6**	**-0.1**
	133nm,0.3s,baz=342,slow=19,SNR=3.1								
GERES	**GERESS Array B**	**42.23**	**333**	P		**P**		**19 35 43.0**	**+0.2**
	0.4nm,0.6s,baz=132,slow=5.4,SNR=3.6								
MKAR	**Makanchi Array**	**47.63**	**37**	P		**P**		**19 36 26.4**	**+0.7**
	1.9nm,0.8s,baz=238,slow=7.4,SNR=4.6								
ZALV	**Zalesovo Beam**	**52.81**	**31**	P		**P**		**19 37 04.5**	**-0.3**
	2.3nm,0.7s,baz=236,slow=8.4,SNR=4.2								
CMAR	**Chiang Mai Arr**	**55.15**	**77**	P		**P**		**19 37 23.3**	**+0.6**
	1.1nm,0.9s,baz=276,slow=7.0,SNR=4.0								
SONM	**Songino Array**	**63.32**	**43**	P		**P**		**19 38 17.8**	**-1.0**
	0.5nm,0.8s,baz=259,slow=7.3,SNR=2.7								

IDC 12 19:29:20.9±24.0, 12°.30N×41°.23E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/50, mbtmp3.7/4, Error ellipse: s-maj=529.6km s-min=34.9km az=55.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.75**	**116**	Pn		Pn		19 29 51.2	-1.5
	baz=335,slow=17,SNR=1.7								
MKAR	**Makanchi Array**	**48.69**	**37**	P		P		19 38 06.6	-0.5
	0.9nm,0.8s,baz=238,slow=6.6,SNR=3.5								
ZALV	**Zalesovo Beam**	**53.90**	**30**	P		P		19 38 45.0	-1.0
	1.1nm,0.7s,baz=253,slow=8.9,SNR=4.3								
CMAR	**Chiang Mai Arr**	**55.80**	**76**	P		P		19 39 02.0	+1.7
	0.7nm,0.8s,baz=257,slow=6.4,SNR=4.4								
SONM	**Songino Array**	**64.34**	**43**	P		P		19 39 58.8	+0.1
	0.3nm,0.6s,baz=256,slow=5.8,SNR=2.5								

ISCJB ***12*** *19:31:18.1±0.5, 13°.23N±0°.06×41°.86E±0°.03, h10km, mb4.1/28, Error ellipse: s-maj=8.5km s-min=4.8km az=179.8*
IDC ***12*** *19:31:18.3±0.7, 13°.21N×41°.79E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.1/52, mbtmp4.3/22, ML4.4/1, Error ellipse: s-maj=17.8km s-min=14.5km az=138.0*
DHMR ***12*** *19:31:18.0±1.4, 13°.30N×41°.95E, h21km±14km, ML4.8*
NEIC ***12*** *19:31:19.8±0.4, 13°.25N×41°.80E, h10km, mb4.2/4, Error ellipse: s-maj=9.6km s-min=8.9km az=145.0*
CSEM ***12*** *19:31:20.0±0.3, 13°.28N×41°.87E, h10km, mb4.0/7, Error ellipse: s-maj=11.2km s-min=8.3km az=173.0*
ISC 12 19:31:19.8±0.5, 13°.28N±0°.05×41°.87E±0°.06, h10km, n74, σ1§19/81, mb4.2/28, 8C-5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.98**	**151**	Pn		**Pn**		**19 31 54.4**	**+0.9**
	275nm,0.3s,baz=94,slow=8.1,SNR=9.9								
ATD				Sn		**Sg**		**19 32 22.9**	**-0.6**
	494nm,0.3s,baz=228,slow=22,SNR=9.1								
UDYN	**Al 'Udayn**	**2.15**	**71**	*i* P		**Pn**		**19 31 54.8**	**-1.1**
UDYN				*i* S		**Sn**		**19 32 21.7**	**-1.0**
DHBB	**Dhamar BB**	**2.76**	**62**	*i* P		**Pn**		**19 32 03.2**	**-1.3**
DHBB				*i* S		**Sn**		**19 32 38.0**	**-0.1**
DHBB				AML		AML		19 32 56.9	
	comp=N,8μm,0.6s								
DHBB	**Dhamar BB**	**2.76**	**62**	*i* P		**Pn**		**19 32 03.2**	**-1.3**
DHBB				*i* S		**Sn**		**19 32 38.0**	**-0.1**
	comp=N,4μm,0.6s								
DAMY	**Dhamar**	**2.77**	**62**	*e*P		**Pn**		**19 32 04.7**	**+0.2**
DAMY	**Dhamar**	**2.77**	**62**	*e*P		**Pn**		**19 32 04.7**	**+0.2**
HAJJ	**Hajjah**	**2.93**	**35**	*i* P		**Pn**		**19 32 05.1**	**-1.6**
HAJJ				*i* S		**Sn**		**19 32 43.4**	**+1.3**
HAJJ	**Hajjah**	**2.93**	**35**	*i* P		**Pn**		**19 32 05.1**	**-1.6**
HAJJ				*i* S		**Sn**		**19 32 43.4**	**+1.3**
ADEN	**Aden**	**3.07**	**99**	*i* P		**Pn**		**19 32 06.9**	**-1.6**
ADEN				*i* S		**Sn**		**19 32 45.8**	**+0.5**
ADEN				AML		AML		19 33 03.7	
	comp=E,8μm,0.5s								
ADEN	**Aden**	**3.07**	**99**	*i* S		**Sn**		**19 32 45.8**	**+0.5**
	comp=E,4μm,0.5s								
WSAR	**Wadi Sarin**	**18.73**	**56**	P		**Pn**		**19 35 39.

KUA	**Kurravaara**	**0.12**	**28**	P	Pg	19 33 20.6	-0.4		
KUA				S	Sg	19 33 22.3	-0.2		
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P	Pg	19 33 26.7	-0.5		
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pg	19 33 26.7	-0.5		
LANU	**Lannavaara**	**0.71**	**73**	*e*P	Pg	19 33 31.5	-0.8		
LANU				*e*S	Sg	19 33 40.7	-0.7		
LANU	**Lannavaara**	**0.71**	**73**	P	Pg	19 33 31.5	-0.8		
LANU				Sg	Sg	19 33 40.7	-0.7		
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	19 33 33.3	-0.8		
MASU	**Masugnsbyn**	**0.80**	**119**	P	Pg	19 33 33.3	-0.7		
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	19 33 33.2	-0.9		
SALU	**Saltoluokta**	**0.80**	**235**	P	Pg	19 33 33.2	-0.9		
KIF	**Kilpisjarvi** baz=188	**1.18**	**11**	*e*PB	Pg	19 33 41.4	0.0		
KIF				*e*SB	Sb	19 33 57.3	-0.5		
KIF	**Kilpisjarvi**	**1.18**	**11**	Sg	Sb	19 33 57.3	-0.5		
KIF	**Kilpisjarvi**	**1.18**	**11**	Pg	Pg	19 33 41.3	-0.1		
HEF	**Hetta** baz=249	**1.41**	**65**	*e*PG	Pn	19 33 44.5	-1.2		
HEF				MSG		19 34 00.8			
	comp=Z,1.2nm,0.2s								
HEF				*e*SB	Sg	19 34 02.5	-1.6		
HEF	**Hetta**	**1.41**	**65**	Pn	Pn	19 33 44.5	-1.2		
HEF				Sn	Sg	19 34 02.5	-1.6		
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P	Pn	19 33 46.1	-1.0		
ERTU	**Ertsjaerv**	**1.52**	**148**	P	Pn	19 33 46.2	-1.0		
HARU	**Harads**	**1.72**	**169**	*e*P	Pn	19 33 50.1	+0.2		
HARU	**Harads**	**1.72**	**169**	P	Pn	19 33 50.1	+0.1		
TOF	**Tornio**	**2.41**	**136**	*e*PB	Pn	19 34 00.2	+0.8		
TOF				*e*SB	Sn	19 34 31.1	+1.6		
TOF	**Tornio**	**2.41**	**136**	Pb	Pn	19 34 00.2	+0.8		
TOF				Sg	Sn	19 34 31.1	+1.6		
ARE0	**ARCESS Array S** baz=226	**2.57**	**46**	*e*PB	Pn	19 34 03.1	+1.4		
ARE0				*e*SB	Sb	19 34 36.4	-1.5		
ARE0	**ARCESS Array S**	**2.57**	**46**	Pb	Pn	19 34 03.1	+1.4		
ARE0				Sg	Sb	19 34 36.4	-1.5		
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	19 34 03.4	+1.6		
RNF				*e*SB	Sb	19 34 36.1	-2.1		
RNF	**Rovaniemi**	**2.58**	**116**	Pg	Pn	19 34 03.4	+1.6		
RNF				Sg	Sb	19 34 36.1	-2.1		

IDC 12 19:36:05.7±1.9, 12°.99N×41°.79E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.4/57, mbtmp3.6/7, Error ellipse: s-maj=50.6km s-min=24.2km az=177.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**35.08**	**340**	P	P	19 43 01.9	+1.2
	0.2nm,0.7s,baz=317,slow=20,SNR=3.7						
TORD	**Torodi Ar. Bea**	**39.02**	**275**	P	P	19 43 34.1	-0.4
	0.7nm,1.0s,baz=94,slow=8.7,SNR=3.1						
GERES	**GERESS Array B**	**42.63**	**333**	P	P	19 44 03.7	-0.3
	0.5nm,0.7s,baz=131,slow=7.3,SNR=5.7						
MKAR	**Makanchi Array**	**47.82**	**37**	P	P	19 44 44.7	-0.5
	1.0nm,0.8s,baz=234,slow=6.4,SNR=6.5						
ZALV	**Zalesovo Beam**	**53.04**	**30**	P	P	19 45 23.3	-1.2
	1.4nm,0.7s,baz=233,slow=7.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**55.11**	**76**	P	P	19 45 40.6	+0.4
	0.4nm,0.7s,baz=268,slow=6.3,SNR=3.2						
SONM	**Songino Array**	**63.48**	**43**	P	P	19 46 38.0	+0.2
	0.2nm,0.3s,baz=262,slow=6.0,SNR=3.9						

IDC 12 19:36:52.1±5.3, 13°.39N×42°.30E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/55, mbtmp3.8/9, Error ellipse: s-maj=110.1km s-min=33.3km az=33.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**27.32**	**345**	P	P	19 42 38.6	-0.3
	0.7nm,0.9s,baz=180,slow=5.8,SNR=3.0						
MLR	**Muntele Rosu**	**34.88**	**340**	P	P	19 43 45.6	+0.3
	0.3nm,0.8s,baz=216,slow=8.7,SNR=3.4						
AKTO	**Aktyubinsk**	**39.10**	**16**	P	P	19 44 21.6	+0.5
	0.8nm,0.6s,baz=200,slow=9.1,SNR=4.4						
BVAR	**Borovoye Array**	**45.41**	**24**	P	P	19 45 12.4	-0.2
	1.0nm,0.8s,baz=239,slow=4.3,SNR=3.6						
MKAR	**Makanchi Array**	**47.20**	**37**	P	P	19 45 27.0	+0.3
	2.1nm,0.9s,baz=234,slow=5.0,SNR=7.4						
KURBB	**Kurchatov Arra**	**47.36**	**31**	P	P	19 45 27.8	-0.1
	2.2nm,0.2s,baz=234,slow=8.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**52.44**	**30**	P	P	19 46 05.3	-1.1
	3.0nm,0.9s,baz=233,slow=7.2,SNR=8.0						
CMAR	**Chiang Mai Arr**	**54.52**	**77**	P	P	19 46 22.4	0.0
	0.5nm,0.8s,baz=279,slow=7.2,SNR=3.0						
SONM	**Songino Array**	**62.84**	**43**	P	P	19 47 20.0	0.0
	0.2nm,0.3s,baz=251,slow=4.4,SNR=5.2						

*ISCJB **12** 19:37:42.2±0.3, 13°.46N±0°.04×41°.64E±0°.04, h10km, mb4.3/53, MS4.4/6, Error ellipse: s-maj=6.4km s-min=5.0km az=30.2*
*IDC **12** 19:37:42.5±0.7, 13°.42N×41°.62E, h0km, mb4.2/26, mb1 4.3/29, mb1mx4.1/57, mbtmp4.2/29, ML4.0/3, Error ellipse: s-maj=15.0km s-min=14.5km az=98.0*
*CSEM **12** 19:37:43.9±0.2, 13°.46N×41°.65E, h10km, mb4.4/20, Error ellipse: s-maj=7.2km s-min=6.4km az=24.0*
*NEIC **12** 19:37:43.9±0.4, 13°.44N×41°.67E, h10km, mb4.8/11, Error ellipse: s-maj=7.7km s-min=7.3km az=157.0*

ISC 12 19:37:43.9±0.5, 13°.45N±0°.06×41°.63E±0°.06, h10km, n145, σ1°45/152, mb4.4/53, MS4.4/6, 10C-3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.25**	**148**	Pn	Pn	19 38 19.7	-1.6
	235nm,0.3s,baz=319,slow=13,SNR=6.8						
ATD				Sn	Sn	19 38 49.1	0.0
	352nm,0.3s,baz=292,slow=22,SNR=4.7						
DAMY	**Dhamar**	**2.90**	**67**	*e*Pn	Pn	19 38 31.1	+0.6
DAMY				Sn	Sn	19 39 05.8	+0.2
DAMY	**Dhamar**	**2.90**	**67**	*e*Pn	Pn	19 38 31.1	+0.6
DAMY				Sn	Sn	19 39 05.8	+0.2
KMBO	**Kilima Mbogo**	**15.12**	**197**	Pn	Pn	19 41 19.2	+1.2
	0.4nm,0.3s,baz=14,slow=11,SNR=3.7						
UOSS	**Minazif**	**17.87**	**48**	*e*Pn	Pn	19 41 50.1	-2.7
	4.3nm,0.9s						
UOSS	**Minazif**	**17.87**	**48**	*e*Pn	Pn	19 41 50.1	-2.7
	4.3nm,0.9s						
WSAR	**Wadi Sarin**	**18.82**	**56**	P	P	19 42 03.7	-0.3
	0.2nm,0.3s,baz=142,slow=3.9,SNR=5.6						
GNI	**Garni**	**26.73**	**5**	P	P	19 43 25.8	+1.9
	2.8nm,0.5s,baz=347,slow=6.8,SNR=4.2						
BR131	**Keskin Array S**	**27.10**	**346**	*e*P	P	19 43 27.7	+0.5
BR131	**Keskin Array S**	**27.10**	**346**	*e*P	P	19 43 27.7	+0.5
BRTR	**Keskin Array B**	**27.10**	**346**	P	P	19 43 28.0	+0.8
	3.4nm,1.0s,baz=159,slow=7.4,SNR=11						
BR231	**Keskin MP Arra**	**27.42**	**345**	*e*P	P	19 43 28.9	-1.1
BR231	**Keskin MP Arra**	**27.42**	**345**	*e*P	P	19 43 28.9	-1.1
GEYT	**Alibeck**	**28.45**	**28**	P	P	19 43 41.2	+2.0
	0.7nm,0.5s,baz=153,slow=4.2,SNR=2.3						
KBZ	**Khabaz**	**30.19**	**2**	P	P	19 43 55.5	+1.2
	3.2nm,0.9s,baz=20,slow=16,SNR=4.1						
KIV	**Kislovodsk** 24nm,1.3s	**30.41**	**2**	*e*P	P	19 43 56.3	-0.2
KIV	**Kislovodsk** 24nm,1.3s	**30.41**	**2**	*e*P	P	19 43 56.3	-0.2
KVAR	**Kislovodsk Arr**	**30.41**	**2**	P	P	19 43 58.4	+1.9
	10.0nm,1.1s,baz=168,slow=2.4,SNR=6.0						
AGG	**Agios Georgios** 28nm,0.9s	**30.66**	**330**	*e*P	P	19 43 58.7	0.0
AGG	**Agios Georgios** 28nm,0.9s	**30.66**	**330**	*e*P	P	19 43 58.7	0.0
CFR	**Carcaliu**	**33.64**	**343**	‖ *i* P	P	19 44 24.9	+0.2
MLR	**Muntele Rosu**	**34.60**	**340**	P	P	19 44 34.4	+1.2
	0.8nm,1.0s,baz=125,slow=12,SNR=4.9						
MLR	**Muntele Rosu**	**34.60**	**340**	⇑ *i* P	P	19 44 33.9	+0.7
MLR	**Muntele Rosu** 16nm,0.9s	**34.60**	**340**	*e*P	P	19 44 35.6	+2.4
VRI	**Vrincioaia**	**34.68**	**342**	‖ *i* P	P	19 44 35.4	+1.6
PLOR	**Plostina**	**34.70**	**341**	‖ *i* P	P	19 44 35.1	+1.2
VOIR		**34.85**	**339**	⇑ *i* P	P	19 44 36.0	+0.7
ARR	**Arges**	**34.93**	**339**	⇑ *i* P	P	19 44 37.2	+1.2
LOT	**Lotru**	**35.31**	**338**	⇑ *i* P	P	19 44 39.5	+0.2
MDVR	**Moldovita**	**35.54**	**335**	⇑ *i* P	P	19 44 40.8	-0.5
BZS	**Buzias**	**36.27**	**336**	⇑ *i* P	P	19 44 47.0	-0.4
KEST	**Kesra**	**36.53**	**313**	P	P	19 44 50.3	+0.5
	5.3nm,0.9s,baz=328,slow=5.5,SNR=5.7						
BURAR	**Bucovina Array**	**36.71**	**341**	⇑ *i* P	P	19 44 54.4	+3.1
BUR08	**Bucovina Ar. S**	**36.74**	**341**	*e*P	P	19 44 52.6	+1.0
BUR08	**Bucovina Ar. S**	**36.74**	**341**	*e*P	P	19 44 52.6	+1.0
DRGR		**36.84**	**338**	⇑ *i* P	P	19 44 52.8	+0.4
AKASG	**Malin Array Be**	**38.50**	**347**	P	P	19 45 06.3	+0.1
	0.6nm,0.6s,baz=161,slow=7.3,SNR=7.2						
ABKAR	**Akbulak array**	**38.76**	**19**	*e*P	P	19 45 07.3	-1.2
ABKAR	**Akbulak array**	**38.76**	**19**	*e*P	P	19 45 07.3	-1.2
KOLS	**Kolonicke sedl** 6.2nm,1.3s	**38.82**	**340**	*e*P	P	19 45 09.7	+0.7
KOLS	**Kolonicke sedl**	**38.82**	**340**	*e*P	P	19 45 09.7	+0.7
PSZ	**Piszkesteto** 9.9nm,0.9s	**38.84**	**337**	*e*P	P	19 45 09.6	+0.4
PSZ	**Piszkesteto** 9.9nm,0.9s	**38.84**	**337**	*e*P	P	19 45 09.6	+0.4
TOA0	**Torodi Ar. Sit**	**38.84**	**274**	*e*P	P	19 45 08.8	-0.8
TOA0	**Torodi Ar. Sit**	**38.84**	**274**	*e*P	P	19 45 08.8	-0.8
TORD	**Torodi Ar. Bea** 5.0nm,1.0s,baz=85,slow=4.7,SNR=14	**38.84**	**274**	P	P	19 45 09.1	-0.5
CRVS	**Cervenica-Dubn**	**39.08**	**339**	*e*P	P	19 45 11.8	+0.6
CRVS	**Cervenica-Dubn**	**39.08**	**339**	*e*P	P	19 45 11.8	+0.6
KECS	**Kecovo** 2.0nm,0.9s	**39.08**	**338**	*e*P	P	19 45 11.8	+0.6
KECS	**Kecovo**	**39.08**	**338**	*e*P	P	19 45 11.8	+0.6
AKTO	**Aktyubinsk** 1.9nm,0.8s,baz=199,slow=7.1,SNR=5.2	**39.23**	**17**	P	P	19 45 13.5	+1.1
STHS	**Stebnicka Huta** 2.9nm,1.2s	**39.59**	**339**	*e*P	P	19 45 16.7	+1.3
STHS	**Stebnicka Huta**	**39.59**	**339**	*e*P	P	19 45 16.7	+1.3
VYHS	**Vyhne** 5.3nm,1.3s	**39.72**	**336**	*e*P	P	19 45 16.9	+0.4
VYHS	**Vyhne**	**39.72**	**336**	*e*P	P	19 45 16.9	+0.4
KSH	**Kashi**	**39.83**	**43**	P	P	19 45 18.5	+0.7
KSH				pP	sP	19 45 23.0	+0.9
KSH				PP	PP	19 46 48.6	-0.7
KSH				PcP	PcP	19 47 26.3	+2.5
KSH				S	S	19 51 21.2	-1.2
KSH				SS	SS	19 54 08.9	-10
KSH	**Kashi**	**39.83**	**43**	ScS	ScS	19 55 25.4	-0.5
KSH	comp=Z,3.0nm,0.4s			pmax	pmax		
KSH	comp=Z,91nm,5.4s			pmax	pmax		
KSH	comp=N,210nm,9.8s			LR	LR		
KSH	comp=E,300nm,14.3s			LR	LR		
KSH	comp=Z,440nm,11.6s			LR	LR		
ARSA	**Arzberg** comp=Z,5.4nm,0.9s	**40.15**	**332**	*i* P	P	19 45 20.7	+0.6
ARSA	**Arzberg** comp=Z,5.4nm,0.9s	**40.15**	**332**	P	P	19 45 20.7	+0.6
CONA	**Conrad Observa** comp=Z,10.0nm,1.8s	**40.51**	**333**	*e*P	P	19 45 23.8	+0.6
CONA	**Conrad Observa** comp=Z,10.0nm,1.8s	**40.51**	**333**	P	P	19 45 23.8	+0.6
OKC	**Ostrava-Krasne**	**41.07**	**337**	*e*P	P	19 45 27.9	+0.2
OKC	**Ostrava-Krasne**	**41.07**	**337**	P	P	19 45 27.9	+0.2
MOA	**Molln** comp=Z,8.3nm,1.4s	**41.16**	**332**	*i* P	P	19 45 28.8	+0.3
MOA	**Molln** comp=Z,8.3nm,1.4s	**41.16**	**332**	P	P	19 45 28.8	+0.3
MORC	**Moravsky Berou**	**41.25**	**336**	⇑ *i* P	P	19 45 29.1	-0.1
MORC	**Moravsky Berou** comp=Z,26nm,1.0s	**41.25**	**336**	*e*P	P	19 45 28.9	-0.4
MORC	**Moravsky Berou** comp=Z,26nm,1.0s	**41.25**	**336**	*e*P	P	19 45 28.9	-0.4
VRAC	**Vranov**	**41.26**	**335**	*e*P	P	19 45 29.1	-0.2
TREC	**Trest**	**41.71**	**334**	*e*P	P	19 45 32.5	-0.5
TREC	**Trest**	**41.71**	**334**	P	P	19 45 32.5	-0.5
OBN	**Obninsk** comp=Z,6.7nm,0.3s,baz=102,slow=4.3,SNR=5.0	**41.76**	**356**	P	P	19 45 33.4	+0.2
GEA0	**GERESS Array S**	**42.15**	**333**	*e*P	P	19 45 35.3	-1.3
GEA0	**GERESS Array S**	**42.15**	**333**	*e*P	P	19 45 35.3	-1.3
GEC2	**GERESS Array S** comp=Z,11nm,1.0s	**42.15**	**333**	*e*P	P	19 45 36.1	-0.6
GEC2	**GERESS Array S** comp=Z,11nm,1.0s	**42.15**	**333**	*e*P	P	19 45 36.1	-0.6
GERES	**GERESS Array B** comp=Z,2.1nm,0.9s,baz=140,slow=6.9,SNR=16	**42.15**	**333**	P	P	19 45 36.3	-0.4
DPC	**Dobruska-Polom**	**42.19**	**336**	*e*P	P	19 45 36.4	-0.5
DPC	**Dobruska-Polom**	**42.19**	**336**	P	P	19 45 36.4	-0.5
FUORN	**Ofenpass-Fuorn** comp=Z,6.1nm,0.9s	**42.27**	**328**	*e*P	P	19 45 39.8	+2.0
FUORN	**Ofenpass-Fuorn** comp=Z,6.1nm,0.9s	**42.27**	**328**	*e*P	P	19 45 39.8	+2.0
MOTA	**Moosalm** comp=Z,2.9nm,1.0s	**42.32**	**329**	*i* P	P	19 45 37.3	-0.8
MOTA	**Moosalm** comp=Z,2.9nm,1.0s	**42.32**	**329**	P	P	19 45 37.3	-0.8
KHC	**Kasperske Hory**	**42.42**	**333**	*e*P	P	19 45 38.2	-0.6
KHC	**Kasperske Hory**	**42.42**	**333**	P	P	19 45 38.2	-0.6
UPC	**Upice**	**42.44**	**336**	*e*P	P	19 45 38.6	-0.3
UPC	**Upice**	**42.44**	**336**	P	P	19 45 38.6	-0.3
GOPC	**GO Pecny, Ondr**	**42.48**	**334**	*e*P	P	19 45 38.7	-0.5
GOPC	**GO Pecny, Ondr**	**42.48**	**334**	P	P	19 45 38.7	-0.5
PRU	**Pruhonice**	**42.64**	**334**	*e*P	P	19 45 39.6	-0.9
PRU	**Pruhonice**	**42.64**	**334**	P	P	19 45 39.6	-0.9
DAVA	**Damuels** comp=Z,7.6nm,0.9s	**42.90**	**328**	*e*P	P	19 45 41.9	-1.0
DAVA	**Damuels** comp=Z,7.6nm,0.9s	**42.90**	**328**	P	P	19 45 41.9	-1.0
PVCC	**Panska Ves**	**43.04**	**335**	*e*P	P	19 45 43.0	-0.7
PVCC	**Panska Ves**	**43.04**	**335**	P	P	19 45 43.0	-0.7
BRG	**Berggiesshubel** comp=Z,13nm,1.6s	**43.56**	**335**	*e*P	P	19 45 46.4	-1.5
BRG	comp=Z,6.8nm,1.2s			*e*		19 46 08.9	
CLL	**Collm** comp=Z,13nm,1.5s	**44.28**	**334**	⇑ *i* P	P	19 45 52.8	-0.9
BOSA	**Boshof** comp=Z,2.8nm,0.9s,baz=85,slow=6.2,SNR=3.1	**44.72**	**201**	P	P	19 45 59.0	+1.4
ARU	**Arti** comp=Z,1.3nm,0.5s,baz=165,slow=8.0,SNR=4.4	**44.82**	**13**	P	P	19 45 57.9	-0.1
ARU	**Arti** comp=Z,7.3nm,1.2s	**44.82**	**13**	*e*P	P	19 45 57.1	-0.9
ARU	**Arti** comp=Z,7.3nm,1.2s	**44.82**	**13**	*e*P	P	19 45 57.1	-0.9
ZRNK	**Zerenda** comp=Z,10nm,1.0s	**45.02**	**23**	*e*P	P	19 46 00.1	+0.4
ZRNK	**Zerenda** comp=Z,10nm,1.0s	**45.02**	**23**	*e*P	P	19 46 00.1	+0.4
BVAR	**Borovoye Array** comp=Z,0.8nm,0.7s,baz=221,slow=5.9,SNR=4.6	**45.62**	**24**	P	P	19 46 04.3	-0.1
DBIC	**Dimbokro** comp=Z,4.5nm,0.8s,baz=124,slow=8.9,SNR=3.4	**46.21**	**266**	P	P	19 46 08.6	-1.0
MAKZ	**Makanchi** comp=Z,12nm,1.0s	**47.36**	**37**	*e*P	P	19 46 18.2	0.0
MAKZ	**Makanchi** comp=Z,12nm,1.0s	**47.36**	**37**	*e*P	P	19 46 18.2	0.0
MK01	**Makanchi Array**	**47.53**	**37**	*e*P	P	19 46 19.3	-0.3
MK01	**Makanchi Array**	**47.53**	**37**	*e*P	P	19 46 19.3	-0.3
MKAR	**Makanchi Array** comp=Z,2.7nm,0.8s,baz=232,slow=9.9,SNR=8.8	**47.54**	**37**	P	P	19 46 19.6	-0.1
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.4s,baz=236,slow=8.2,SNR=7.6	**47.64**	**31**	P	P	19 46 19.7	-0.6
ES19	**SONSECA Array**	**47.71**	**312**	*e*P	P	19 46 20.5	-0.6
ES19	**SONSECA Array**	**47.71**	**312**	*e*P	P	19 46 20.5	-0.6
KURK	**Kurchatov**	**47.74**	**31**	P	P	19 46 19.7	-1.3
KURK	**Kurchatov**	**47.74**	**31**	P	P	19 46 19.7	-1.3
ESDC	**Sonseca Array** comp=Z,3.2nm,1.0s,baz=110,slow=7.9,SNR=11	**47.75**	**312**	P	P	19 46 21.1	-0.2
PAB	**San Pablo** comp=Z,10.0nm,1.1s	**47.98**	**312**	*e*P	P	19 46 22.6	-0.6
PAB	**San Pablo** comp=Z,10.0nm,1.1s	**47.98**	**312**	*e*P	P	19 46 22.6	-0.6
FINES	**FINESS Array B** comp=Z,2.8nm,1.0s,baz=145,slow=7.0,SNR=3.9	**49.23**	**350**	P	P	19 46 31.7	-0.6
WMQ	**Urumqi**	**49.60**	**43**	P	P	19 46 35.4	-0.2
WMQ				pP	sP	19 46 40.4	+0.5
WMQ				sP	pP	19 46 42.4	+3.7
WMQ	comp=Z,6.0nm,0.6s			pmax	pmax		
WMQ	comp=Z,42nm,4.8s			pmax	pmax		
WMQ	comp=N,210nm,18.4s			LR	LR		
WMQ	comp=E,130nm,13.0s			LR	LR		
WMQ	comp=Z,180nm,22.4s			LR	LR		
NB2	**NORSAR Subarra** comp=Z,7.9nm,1.2s,baz=140,slow=7.4	**52.39**	**342**	P	P	19 46 55.3	-0.9
NB2	**NORSAR Subarra** comp=Z,7.9nm,1.2s,baz=140,slow=7.4,SNR=6.7	**52.39**	**342**	P	P	19 46 55.3	-0.9
NOA	**NORSAR Array B** comp=Z,2.3nm,1.0s,baz=141,slow=7.4,SNR=3.1	**52.39**	**342**	P	P	19 46 55.2	-1.1
ZAA0	**Zalesovo Array**	**52.72**	**31**	*e*P	P	19 46 58.3	-0.4
ZAA0	**Zalesovo Array**	**52.72**	**31**	*e*P	P	19 46 58.3	-0.4
ZALV	**Zalesovo Beam**	**52.72**	**31**	P	P	19 46 57.5	-1.2
	comp=Z,2.2nm,0.6s,baz=240,slow=7.6,SNR=8.4						
CMAR	**Chiang Mai Arr**	**55.14**	**77**	P	P	19 47 17.5	+0.4
	comp=Z,4.7nm,0.9s,baz=277,slow=8.3,SNR=22						
CM01	**Chiang Mai Arr**	**55.16**	**77**	*e*P	P	19 47 15.6	-1.6
CM01	**Chiang Mai Arr**	**55.16**	**77**	*e*P	P	19 47 15.6	-1.6
ARCES	**ARCESS Array B** comp=Z,5.4nm,1.1s,baz=170,slow=8.6,SNR=5.3	**56.97**	**353**	P	P	19 47 29.1	-0.2
GTA	**Gaotai**	**57.07**	**52**	*e*P	P	19 47 38.0	+7.3
GTA				pP	sP	19 47 43.4	+8.3
GTA				sP	pP	19 47 46.7	+13
GTA	comp=Z,3.0nm,0.9s			pmax	pmax		
KMI	**Kunming**	**58.42**	**69**	P	P	19 47 40.8	+0.3
KMI	comp=Z,4.0nm,0.9s			pmax	pmax		
KMI	comp=Z,170nm,41.3s			LR	LR		
CD2	**Chengdu**	**59.40**	**62**	*e*P	P	19 47 45.2	-1.8
LZH	**Lanzhou**	**59.80**	**56**	*e*P	P	19 47 54.0	+4.1
LZH				pP	sP	19 47 58.2	+3.9
LZH				sP	pP	19 48 00.9	+7.8
LZH	comp=Z,47nm,1.6s			pmax	pmax		
GYA	**Guiyang**	**61.93**	**67**	*e*P	P	19 48 05.0	+0.6
GYA	comp=Z,10.0nm,1.0s			pmax	pmax		
SONM	**Songino Array** comp=Z,2.2nm,1.0s,baz=262,slow=6.5,SNR=9.3	**63.24**	**43**	P	P	19 48 14.2	+1.4
SONA1	**Songino Array**	**63.24**	**43**	*e*P	P	19 48 13.3	+0.4
SONA1	**Songino Array**	**63.24**	**43**	*e*P	P	19 48 13.3	+0.4
QIZ	**Qiongzhong**	**65.38**	**75**	P	P	19 48 25.7	-1.5
QIZ				S	S	19 57 12.0	+0.1
QIZ	comp=N,160nm,16.6s			LR	LR		
QIZ	comp=E,99nm,13.7s			LR	LR		
QIZ	comp=Z,170nm,13.9s			LR	LR		
SPA0	**Spitsbergen Ar**	**65.94**	**354**	*e*PcP	PcP	19 48 52.1	-8.4
HHC	**Hu-ho-hao-te**	**66.18**	**51**	*e*P	P	19 48 31.4	-0.7
HHC				sP	sP	19 48 41.9	+5.3
HHC				S	S	19 57 19.1	-2.1
HHC				sS	sS	19 57 29.5	+2.9
HHC	comp=Z,21nm,1.1s			pmax	pmax		
HHC	comp=Z,96nm,5.1s			pmax	pmax		
HHC	comp=N,230nm,14.8s			LR	LR		
HHC	comp=E,350nm,15.4s			LR	LR		
HHC	comp=Z,300nm,14.4s			LR	LR		
CN2	**Changchun**	**76.39**	**48**	*e*P	P	19 49 33.2	-0.5
CN2				*es*P	sP	19 49 38.5	+0.3
CN2				*e*S	S	19 59 26.7	+7.6
CN2	comp=Z,10.0nm,1.2s			pmax	pmax		
CN2	comp=N,200nm,19.0s			LR	LR		
CN2	comp=E,300nm,19.0s			LR	LR		
CN2	comp=Z,400nm,19.0s			LR	LR		
KLR	**Kul'dur** comp=Z,0.4nm,0.4s,baz=281,slow=5.2,SNR=3.4	**80.02**	**42**	P	P	19 49 52.9	-0.8
NVAR	**Mina Array Bea**	**125.08**	**341**	PKP	**PKPdf**	19 56 45.6	+0.3
	comp=Z,0.7nm,0.7s,baz=66,slow=3.7,SNR=5.4						
TXAR	**Lajitas Array**	**125.86**	**322**	PKP	**PKPdf**	19 56 47.8	+0.8
	comp=Z,0.4nm,1.0s,baz=134,slow=2.6,SNR=3.7						

*ISCJB **12** 19:38:02.9±0.4, 13°.35N±0°.06×41°.76E±0°.06, h10km, mb4.5/55, Error ellipse: s-maj=10.1km s-min=6.6km az=139.0*
*IDC **12** 19:38:02.4±0.8, 13°.23N×41°.71E, h0km, mb4.4/28, mb1 4.6/30, mb1mx4.3/57, mbtmp4.5/30, ML4.2/2, Error ellipse: s-maj=17.1km s-min=14.9km az=13.0*
*MOS **12** 19:38:02.6±1.2, 13°.21N×41°.77E, h15km, mb4.7/21, Error ellipse: s-maj=14.4km s-min=6.4km az=87.9*
*NEIC **12** 19:38:03.5±0.6, 13°.23N×41°.74E, h10km, mb4.5/7, Error ellipse: s-maj=12.4km s-min=10.9km az=209.0*
*CSEM **12** 19:38:05.2±0.3, 13°.19N×41°.82E, h20km, mb4.4/16, Error ellipse: s-maj=13.5km s-min=10.9km az=25.0*

ISC 12 19:38:03.5±0.5, 13°.20N±0°.07×41°.73E±0°.09, h10km, n112, σ1°21/116, mb4.5/55, 3C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.98**	**147**	Pn	Pn	19 38 38.0	+0.7
	112nm,0.3s,baz=36,slow=8.7,SNR=3.9						
ATD				Sn	Sg	19 39 06.8	-0.5
	247nm,0.3s,baz=66,slow=20,SNR=4.3						
WSAR	**Wadi Sarin**	**18.89**	**56**	P	P	19 42 23.9	-0.4
	0.7nm,0.3s,baz=261,slow=8.4,SNR=5.9						
MMAI	**Mount Meron Ar**	**20.56**	**345**	P	P	19 42 43.6	+1.0
	8.8nm,1.0s,baz=179,slow=7.5,SNR=5.4						
GNI	**Garni**	**26.98**	**5**	P	P	19 43 46.8	+1.1
	8.1nm,0.8s,baz=177,slow=5.5,SNR=3.6						
GNI	**Garni**

VYHS	**Vyhne**	**39.99**	**336**	*e*P		**P**	**19 45 39.6**	**+1.2**
VYHS				pmax	pmax				
	comp=Z,7.0nm,1.1s								
VYHS	**Vyhne**	**39.99**	**336**	*e*P		**P**	**19 45 39.6**	**+1.2**
	comp=Z,6.6nm,1.1s								
VYHS	**Vyhne**	**39.99**	**336**	*e*P		**P**	**19 45 39.6**	**+1.2**
LANS	**Liptovska Anna**	**40.28**	**337**	*e*P		**P**	**19 45 42.7**	**+1.9**
LANS	**Liptovska Anna**	**40.28**	**337**	*e*P		**P**	**19 45 42.7**	**+1.9**
LANS	**Liptovska Anna**	**40.28**	**337**	*e*P		**P**	**19 45 42.7**	**+1.9**
OBKA	**Obir**	**40.32**	**331**	*i* pP		pP	19 45 43.1	-1.3
	comp=Z,7.9nm,1.1s								
OBKA	**Obir**	**40.32**	**331**	P		pP	19 45 43.1	-1.3
	comp=Z,7.9nm,1.1s								
EKS2	**Erkin-Say**	**40.35**	**37**	*e*P		**P**	**19 45 39.6**	**-2.0**
EKS2				pmax	pmax				
	comp=Z,6.0nm,1.1s								
EKS2	**Erkin-Say**	**40.35**	**37**	*e*P		**P**	**19 45 39.6**	**-2.0**
	comp=Z,5.5nm,1.1s								
EKS2	**Erkin-Say**	**40.35**	**37**	*e*P		**P**	**19 45 39.6**	**-2.0**
	comp=Z,5.5nm,1.1s								
ARSA	**Arzberg**	**40.42**	**332**	*e*P		**P**	**19 45 43.4**	**+1.4**
	comp=Z,17nm,0.9s								
ARSA	**Arzberg**	**40.42**	**332**	P		**P**	**19 45 43.4**	**+1.4**
	comp=Z,17nm,0.9s								
AAK	**Ala-Archa**	**40.76**	**38**	*i* P		**P**	**19 45 46.2**	**+1.1**
AAK				pmax	pmax				
	comp=Z,18nm,2.2s								
CONA	**Conrad Observa**	**40.78**	**333**	*e*pP		**P**	**19 45 46.6**	**+1.5**
	comp=Z,6.0nm,0.9s								
FRU	**Bishkek**	**40.95**	**38**	*e*P		**P**	**19 45 42.0**	**-4.5**
OKC	**Ostrava-Krasne**	**41.34**	**337**	*e*P		**P**	**19 45 49.3**	**-0.2**
MOA	**Molln**	**41.43**	**332**	*e*P		**P**	**19 45 50.7**	**+0.3**
	comp=Z,14nm,1.1s								
MOA	**Molln**	**41.43**	**332**	P		**P**	**19 45 50.7**	**+0.3**
	comp=Z,14nm,1.1s								
TREC	**Trest**	**41.98**	**334**	*e*P		**P**	**19 45 55.1**	**+0.3**
OBN	**Obninsk**	**42.02**	**356**	*e*P		**P**	**19 45 55.2**	**+0.3**
OBN				pmax	pmax				
	comp=Z,15nm,1.1s								
GERES	**GERESS Array B**	**42.42**	**333**	P		**P**	**19 45 56.7**	**-1.8**
	comp=Z,5.8nm,0.8s,baz=132,slow=6.2,SNR=15								
GERES				PcP		**PcP**	**19 47 52.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=124,slow=5.2,SNR=3.2								
DPC	**Dobruska-Polom**	**42.46**	**336**	*e*P		**P**	**19 45 58.9**	**+0.2**
MOS	**Moscow**	**42.57**	**357**	*e*P		**P**	**19 46 00.3**	**+0.9**
MOS				pmax	pmax				
	comp=Z,52nm,1.0s								
MOTA	**Moosalm**	**42.59**	**329**	*i* P		**P**	**19 46 00.7**	**+0.7**
	comp=Z,3.5nm,0.7s								
MOTA	**Moosalm**	**42.59**	**329**	P		**P**	**19 46 00.7**	**+0.7**
	comp=Z,3.5nm,0.7s								
KHC	**Kasperske Hory**	**42.69**	**333**	*e*P		**P**	**19 45 59.8**	**-0.8**
KHC				*e*pP		**sP**	**19 46 05.2**	**+0.3**
UPC	**Upice**	**42.70**	**336**	*e*P		**P**	**19 46 01.9**	**+1.2**
PRU	**Pruhonice**	**42.91**	**334**	*e*P		**P**	**19 46 03.1**	**+0.8**
DAVA	**Damuels**	**43.17**	**328**	*e*P		**P**	**19 46 03.6**	**-1.0**
	comp=Z,14nm,0.8s								
DAVA	**Damuels**	**43.17**	**328**	P		**P**	**19 46 03.6**	**-1.0**
	comp=Z,14nm,0.8s								
PVCC	**Panska Ves**	**43.31**	**335**	*e*P		**P**	**19 46 05.7**	**+0.2**
CLL	**Collm**	**44.55**	**335**	*i* P		**P**	**19 46 14.4**	**-1.1**
	comp=Z,13nm,1.5s								
CLL				*i*			19 46 20.3		
CLL				*i*			19 46 37.4		
CLL	**Collm**	**44.55**	**335**	*i* P		**P**	**19 46 14.4**	**-1.1**
CLL				*i*			19 46 20.3		
CLL				pmax	pmax				
	comp=Z,13nm,1.5s								
SSB	**Saint Sauveur**	**44.89**	**323**	*e*P		**P**	**19 46 16.3**	**-2.1**
SSB				pmax	pmax				
	comp=Z,9.0nm,0.9s								
SSB	**Saint Sauveur**	**44.89**	**323**	*e*P		**P**	**19 46 16.3**	**-2.1**
	comp=Z,9.3nm,0.9s								
ARU	**Arti**	**45.05**	**13**	P		**P**	**19 46 18.4**	**-1.0**
	comp=Z,5.2nm,0.7s,baz=170,slow=2.9,SNR=8.6								
ARU	**Arti**	**45.05**	**13**	*c i*P		**P**	**19 46 19.9**	**+0.5**
ARU							19 47 58.1		
ARU				PPP	PPP		19 48 43.1		
ARU				S		**S**	**19 52 58.9**	**+0.8**
ARU				SS	SnSn		19 57 04.6	+19	
ARU				pmax	pmax				
	comp=Z,7.0nm,0.8s								
BRVK	**Borovoye**	**45.80**	**24**	*ce*P		**P**	**19 46 26.6**	**+1.2**
BRVK				pmax	pmax				
	comp=Z,9.0nm,1.2s								
BVAR	**Borovoye Array**	**45.81**	**24**	P		**P**	**19 46 24.8**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=224,slow=6.2,SNR=9.4								
BVAR				PcP		**PcP**	**19 48 03.6**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=253,slow=3.9,SNR=3.5								
SVE	**Sverdlovsk**	**45.89**	**14**	*e*P		**P**	**19 46 25.2**	**-0.9**
SVE				pmax	pmax				
	comp=Z,14nm,1.2s								
DBIC	**Dimbokro**	**46.29**	**267**	P		**P**	**19 46 28.9**	**-0.9**
	comp=Z,14nm,1.0s,baz=63,slow=9.7,SNR=4.8								
KLMR	**Klimovskoe**	**47.61**	**359**	*e*P		**P**	**19 46 37.4**	**-2.0**
KLMR				*e*			19 48 07.7		
KLMR				pmax	pmax				
	comp=Z,20nm,1.1s								
MKAR	**Makanchi Array**	**47.68**	**37**	P		**P**	**19 46 39.9**	**-0.5**
	comp=Z,9.5nm,0.9s,baz=232,slow=7.5,SNR=12								
KURBB	**Kurchatov Arra**	**47.81**	**31**	P		**P**	**19 46 41.2**	**0.0**
	comp=Z,7.3nm,0.9s,baz=235,slow=8.1,SNR=12								
KURK	**Kurchatov**	**47.91**	**31**	P		**P**	**19 46 41.2**	**-0.8**
KURK	**Kurchatov**	**47.91**	**31**	P		**P**	**19 46 41.2**	**-0.8**
KURK	**Kurchatov**	**47.91**	**31**	P		**P**	**19 46 41.2**	**-0.8**
ESDC	**Sonseca Array**	**47.99**	**312**	P		**P**	**19 46 42.0**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=114,slow=7.4,SNR=8.6								
FINES	**FINESS Array B**	**49.49**	**350**	P		**P**	**19 46 54.1**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=153,slow=6.4,SNR=9.1								
NVS	**Novosibirsk**	**52.63**	**29**	*e*P		**P**	**19 47 16.7**	**-0.9**
NVS				pmax	pmax				
	comp=Z,9.0nm,1.0s								
NVS				pmax	pmax				
	comp=N,6.0nm,1.0s								
NVS				pmax	pmax				
	comp=E,4.0nm,1.0s								
NB2	**NORSAR Subarra**	**52.66**	**342**	P		**P**	**19 47 17.4**	**-0.5**
	comp=Z,8.1nm,1.0s,baz=140,slow=7.4								
NB2	**NORSAR Subarra**	**52.66**	**342**	P		**P**	**19 47 17.4**	**-0.5**
	comp=Z,8.1nm,1.0s,baz=140,slow=7.4,SNR=6.7								
NOA	**NORSAR Array B**	**52.66**	**342**	P		**P**	**19 47 17.8**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=140,slow=7.3,SNR=6.9								
ZALV	**Zalesovo Beam**	**52.88**	**30**	P		**P**	**19 47 18.1**	**-1.4**
	comp=Z,16nm,1.0s,baz=248,slow=7.8,SNR=12								
ARCES	**ARCESS Array B**	**57.23**	**353**	P		**P**	**19 47 50.9**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=171,slow=8.6,SNR=8.8								
NRIK	**Noril'sk**	**63.07**	**17**	P		**P**	**19 48 30.5**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=233,slow=4.5,SNR=3.6								
SONM	**Songino Array**	**63.36**	**43**	P		**P**	**19 48 33.0**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=249,slow=6.2,SNR=9.4								
ULN	**Ulaanbaatar**	**63.80**	**43**	*i* P		**P**	**19 48 36.6**	**+0.4**
ULN				pmax	pmax				
	comp=Z,2.0nm,0.9s								
SUMG	**Summit**	**74.55**	**342**	*i* P		**P**	**19 49 43.7**	**+1.0**
SUMG				pmax	pmax				
	comp=Z,8.0nm,1.0s								
SUMG	**Summit**	**74.55**	**342**	*i* P		**P**	**19 49 43.7**	**+1.0**
	comp=Z,8.0nm,1.0s								
SUMG	**Summit**	**74.55**	**342**	*i* P		**P**	**19 49 43.7**	**+1.0**
	comp=Z,8.0nm,1.0s								
TIXI	**Tiksi**	**76.67**	**19**	*e*P		**P**	**19 49 53.3**	**-1.0**
TIXI				pmax	pmax				
	comp=Z,2.0nm,0.9s								
TIXI	**Tiksi**	**76.67**	**19**	*e*P		**P**	**19 49 53.3**	**-1.0**
	comp=Z,2.5nm,0.9s								
TIXI	**Tiksi**	**76.67**	**19**	*e*P		**P**	**19 49 53.3**	**-1.0**
	comp=Z,2.5nm,0.9s								
YAK	**Yakutsk**	**77.50**	**29**	*e*P		**P**	**19 49 58.5**	**-0.7**
YAK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KSAR	**Wonju Array Be**	**79.08**	**54**	P		**P**	**19 50 10.0**	**+1.5**
KSAR	**Wonju Array Be**	**79.08**	**54**	P		**P**	**19 50 10.0**	**+1.5**
KSRS	**Korea Array**	**79.11**	**54**	P		**P**	**19 50 10.0**	**+1.4**
	comp=Z,1.9nm,1.0s,baz=285,slow=7.0,SNR=6.7								
KLR	**Kul'dur**	**80.15**	**42**	P		**P**	**19 50 14.0**	**0.0**
	comp=Z,1.8nm,0.8s,baz=285,slow=4.0,SNR=5.0								
USRK	**Ussurivsk Ar.**	**81.11**	**47**	P		**P**	**19 50 20.1**	**+0.8**
	comp=Z,2.3nm,1.0s,baz=261,slow=7.2,SNR=3.0								
SEY	**Seymchan**	**87.44**	**25**	P		**P**	**19 50 52.6**	**+1.5**
	comp=Z,3.6nm,0.9s,baz=288,slow=9.1,SNR=5.5								
SEY	**Seymchan**	**87.44**	**25**	*ce*P		**P**	**19 50 51.2**	**+0.1**
BILL	**Bilibino**	**89.86**	**18**	*e*P		**P**	**19 51 03.0**	**+0.6**
BILL				pmax	pmax				
	comp=Z,2.0nm,1.0s								
NVAR	**Mina Array Bea**	**125.35**	**341**	PKP		**PKPdf**	**19 57 06.3**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=19,slow=0.8,SNR=4.6								
TXAR	**Lajitas Array**	**126.12**	**322**	PKP		**PKPdf**	**19 57 06.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=90,slow=1.5,SNR=5.6								

ISCJB ***12*** *19:43:20.7±0.8, 13°.37N±0°.09×41°.6E±0°.1, h10km, mb3.9/9, MS4.0/1, Error ellipse: s-maj=21.2km s-min=9.2km az=154.2*

IDC ***12*** *19:43:20.5±1.2, 13°.26N×41°.61E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.6/55, mbtmp3.9/9, ML4.2/1, MS4.0/1, Ms1 4.0/1, ms1mx3.2/28, Error ellipse: s-maj=26.2km s-min=21.3km az=47.0*

ISC 12 19:43:22.4±0.9, 13°.2N±0°.1×41°.6E±0°.2, h10km, n11, σ1s58/11, mb4.0/9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.04**	**144**	Pn		**Pn**		**19 43 57.2**	**+0.3**
	82nm,0.3s,baz=6.4,slow=19,SNR=3.6								
ATD				Sn		**Sn**		**19 44 25.7**	**+0.5**
	60nm,0.3s,baz=331,slow=19,SNR=3.7								
BRTR	**Keskin Array B**	**27.34**	**347**	P		**P**		**19 49 11.7**	**+3.9**
	1.6nm,1.0s,baz=140,slow=9.7,SNR=5.0								
TORD	**Torodi Ar. Bea**	**38.85**	**275**	P		**P**		**19 50 47.3**	**-0.8**
	2.1nm,1.1s,baz=84,slow=6.6,SNR=6.6								
AKTO	**Aktyubinsk**	**39.47**	**16**	LR		LR		20 09 05.7	
	comp=Z,227nm,20.5s,baz=211,slow=39								
GERES	**GERESS Array B**	**42.37**	**333**	P		**P**		**19 51 16.6**	**-0.4**
	0.2nm,0.3s,baz=120,slow=7.9,SNR=4.4								
BVAR	**Borovoye Array**	**45.85**	**24**	P		**P**		**19 51 43.5**	**-1.1**
	1.0nm,0.9s,baz=245,slow=9.4,SNR=3.8								
MKAR	**Makanchi Array**	**47.75**	**37**	P		**P**		**19 51 59.2**	**-0.4**
	2.4nm,0.9s,baz=238,slow=7.0,SNR=8.8								
KURBB	**Kurchatov Arra**	**47.86**	**31**	P		**P**		**19 52 00.0**	**-0.4**
	1.4nm,0.8s,baz=234,slow=8.1,SNR=8.0								
ZALV	**Zalesovo Beam**	**52.94**	**30**	P		**P**		**19 52 37.5**	**-1.2**
	2.9nm,0.9s,baz=255,slow=5.7,SNR=7.1								
CMAR	**Chiang Mai Arr**	**55.21**	**77**	P		**P**		**19 52 55.3**	**-0.7**
	1.2nm,0.8s,baz=278,slow=7.7,SNR=6.3								
SONM	**Songino Array**	**63.43**	**43**	P		**P**		**19 53 52.4**	**-0.1**
	1.2nm,1.0s,baz=258,slow=6.1,SNR=4.9								

DHMR ***12*** *19:44:07.3±1.6, 13°.32N×41°.80E, h3km±44km, ML4.6*

BJI ***12*** *19:44:09.6, 12°.89N×41°.22E, h10km, mb4.6/33, mB4.9/22, Ms4.8/16, Ms7.4.6/17*

ISCJB ***12*** *19:44:14.8±0.3, 13°.43N±0°.04×41°.73E±0°.03, h10km, mb4.6/80, Error ellipse: s-maj=5.4km s-min=3.6km az=2.9*

IDC ***12*** *19:44:15.1±0.6, 13°.40N×41°.73E, h0km, mb4.5/31, mb1 4.5/36, mb1mx4.4/59, mbtmp4.5/36, ML3.7/3, MS4.3/3, Ms1 4.3/3, ms1mx3.6/30, Error ellipse: s-maj=13.7km s-min=12.8km az=67.0*

MOS ***12*** *19:44:15.0±0.9, 13°.46N×41°.71E, h10km, mb5.0/31, Error ellipse: s-maj=10.1km s-min=4.7km az=92.9*

NEIC ***12*** *19:44:16.3±0.3, 13°.41N×41°.71E, h10km, mb4.8/25, Error ellipse: s-maj=7.4km s-min=6.7km az=195.0*

CSEM ***12*** *19:44:16.7±0.2, 13°.45N×41°.74E, h10km, mb4.7/39, Error ellipse: s-maj=6.4km s-min=5.0km az=4.0*

STR ***12*** *19:44:31.5±0.0, 15°.75N×41°.50E, Mb4.8, Error ellipse: s-maj=0.0km s-min=0.0km az=120.0*

ISC 12 19:44:16.6±0.4, 13°.46N±0°.05×41°.78E±0°.05, h10km, n339, σ1s31/347, mb4.7/80, 52C-9D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.18**	**151**	Pn		**Pn**		**19 44 51.7**	**-1.4**
	537nm,0.3s,baz=254,slow=23,SNR=10								
ATD				Sn		**Sn**		**19 45 21.8**	**+1.5**
	555nm,0.3s,baz=317,slow=24,SNR=11								
ATD				LR		LR		19 45 38.1	
	comp=Z,860nm,21.9s,baz=328,slow=39								
DHBB	**Dhamar BB**	**2.77**	**66**	*i* P		Pn		19 44 56.4	-4.9
DHBB				*i* S		**Sn**		**19 45 34.0**	**-1.0**
DAMY	**Dhamar**	**2.77**	**66**	*e*Pn		**Pn**		**19 45 02.3**	**+0.9**
DAMY				*e*Sn		**Sn**		**19 45 37.5**	**+2.4**
DAMY	**Dhamar**	**2.77**	**66**	*e*Pn		**Pn**		**19 45 02.3**	**+0.9**
DAMY				*e*Sn		**Sn**		**19 45 37.5**	**+2.4**
HAJJ	**Hajjah**	**2.84**	**38**	*i* P		Pn		19 44 57.5	-4.8
HAJJ				AML		AML		19 45 12.9	
	comp=Z,5μm,0.5s								
HAJJ				*i* S		**Sn**		**19 45 37.6**	**+0.9**
SANA	**San'a**	**3.04**	**51**	*i* P		**Pn**		**19 45 01.0**	**-4.0**
SANA				*i* S		**Sn**		**19 45 40.9**	**-0.7**
SANA				AML		AML		19 46 03.4	
	comp=Z,2μm,0.7s								
ADEN	**Aden**	**3.20**	**102**	*i* P		Pn		19 44 59.6	-7.4
ADEN				*i* S		**Sn**		**19 45 42.2**	**-3.0**
ADEN				AML		AML		19 46 01.9	
	comp=E,6μm,0.5s								
ADEN	**Aden**	**3.20**	**102**	*i* S		**Sn**		**19 45 42.2**	**-3.0**
	comp=E,3μm,0.5s								
KMBO	**Kilima Mbogo**	**15.17**	**198**	Pn		**Pn**		**19 47 51.8**	**+0.5**
	comp=E,0.3nm,0.3s,baz=23,slow=16,SNR=2.9								
KMBO				LR		LR		19 53 32.3	
	comp=E,2μm,18.7s,baz=42,slow=37								
EIL	**Elat**	**17.33**	**340**	P		**P**		**19 48 21.0**	**+0.9**
	baz=336,slow=20,SNR=3.9								
WSAR	**Wadi Sarin**	**18.71**	**56**	P		**P**		**19 48 34.1**	**-1.3**
	comp=E,0.5nm,0.3s,baz=265,slow=8.9,SNR=6.1								
WSAR				LR		LR		19 56 52.5	
	comp=E,3μm,19.4s,baz=242,slow=40								
ASF	**Jabal al Asfar**	**19.16**	**347**	P		**Pn**		**19 48 42.4**	**+1.2**
	comp=E,0.1nm,0.3s,baz=171,slow=3.9,SNR=2.8								
MMAI	**Mount Meron Ar**	**20.32**	**344**	P		Pn		19 48 55.0	-0.1
	comp=E,5.0nm,0.9s,baz=196,slow=14,SNR=3.9								
MMAI	**Mount Meron Ar**	**20.32**	**344**	P		Pn		19 48 55.0	0.0
GNI	**Garni**	**26.72**	**5**	P		**P**		**19 49 59.4**	**+3.0**
	comp=E,6.8nm,0.8s,baz=6.6,slow=9.3,SNR=4.2								
GNI	**Garni**	**26.72**	**5**	*ce*P		**P**		**19 49 52.8**	**-3.6**
GNI				pmax	pmax				
	comp=Z,94nm,2.5s								
GNI	**Garni**	**26.72**	**5**	*e*P		**P**		**19 49 59.0**	**+2.6**
	comp=Z,49nm,1.7s								
GNI	**Garni**	**26.72**	**5**	*e*P		**P**		**19 49 59.0**	**+2.6**
	comp=Z,49nm,1.7s								
BRTR	**Keskin Array B**	**27.13**	**346**	P		**P**		**19 50 01.8**	**+1.6**
	comp=Z,7.6nm,1.0s,baz=158,slow=10,SNR=22								
BRTR				PcP		**PcP**		**19 53 19.2**	**-1.6**
	comp=Z,1.3nm,0.9s,baz=144,slow=2.7,SNR=3.7								
ANTO	**Ankara**	**27.47**	**345**	*e*P		**P**		**19 50 04.8**	**+1.7**
ANTO				pmax	pmax				
	comp=Z,15nm,1.0s								
ANTO	**Ankara**	**27.47**	**345**	*e*P		**P**		**19 50 04.8**	**+1.7**
	comp=Z,15nm,1.0s								
ANTO	**Ankara**	**27.47**	**345**	*e*P		**P**		**19 50 04.8**	**+1.7**
	comp=Z,15nm,1.0s								
GEYT	**Alibeck**	**28.38**	**28**	P		**P**		**19 50 12.2**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=205,slow=6.6,SNR=5.1								
ZEI	**Tsey**	**29.28**	**3**	*e*P		**P**		**19 50 20.8**	**+1.4**
ZEI				pmax	pmax				
	comp=Z,24nm,0.9s								
NEY	**Neytrino**	**29.70**	**1**	*i* P		**P**		**19 50 21.5**	**-1.5**
NCK	**Nalchik**	**29.97**	**3**	*i* P		**P**		**19 50 23.3**	**-2.0**
NCK				pmax	pmax				
	comp=Z,4.0nm,1.3s								
KBZ	**Khabaz**	**30.18**	**2**	P		**P**		**19 50 28.5**	**+1.5**
	comp=Z,10nm,1.0s,baz=165,slow=4.7,SNR=11								
KIV	**Kislovodsk**	**30.40**	**1**	*e*P		**P**		**19 50 30.1**	**+1.0**
KIV				pmax	pmax				
	comp=Z,27nm,1.3s								
KIV	**Kislovodsk**	**30.40**	**1**	P		P		19 50 23.1	-6.0
	comp=Z,23nm,1.1s								
KVAR	**Kislovodsk Arr**	**30.40**	**1**	P		**P**		**19 50 28.2**	**-0.9**
	comp=Z,24nm,1.1s,baz=237,slow=4.4,SNR=7.7								
TIRR	**Tirgusor**	**32.94**	**342**	*i* P		**P**		**19 50 52.1**	**+0.8**
TLCR		**33.49**	**343**	*i* P		**P**		**19 50 56.6**	**+0.5**
CFR	**Carcaliu**	**33.68**	**342**	*i* P		**P**		**19 50 58.1**	**+0.4**
ISR	**Istrita**	**34.11**	**341**	*i* P		**P**		**19 51 02.7**	**+1.1**
MLR	**Muntele Rosu**	**34.64**	**340**	P		**P**		**19 51 07.6**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=167,slow=4.7,SNR=14								
MLR	**Muntele Rosu**	**34.64**	**340**	*i* P		**P**		**19 51 07.5**	**+1.3**
MLR	**Muntele Rosu**	**34.64**	**340**	*e*P		**P**		**19 51 07.6**	**+1.3**
MLR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
MLR	**Muntele Rosu**	**34.64**	**340**	*e*P		**P**		**19 51 07.6**	**+1.3**
	comp=Z,10.0nm,0.9s								
MLR	**Muntele Rosu**	**34.64**	**340**	*e*P		**P**		**19 51 07.5**	**+1.3**
	comp=Z,10.0nm,0.9s								
VRI	**Vrincioaia**	**34.72**	**341**	*i* P		**P**		**19 51 08.4**	**+1.6**
PLOR	**Plostina**	**34.73**	**341**	*i* P		**P**		**19 51 08.5**	**+1.5**
VOIR		**34.89**	**339**	*i* P		**P**		**19 51 09.4**	**+1.0**
ARR	**Arges**	**34.98**	**339**	*i* P		**P**		**19 51 10.0**	**+0.9**
KIS	**Kishinev**	**35.16**	**345**	*e*P		**P**		**19 51 11.0**	**+0.4**
KIS	**Kishinev**	**35.16**	**345**	*e*P		**P**		**19 51 11.0**	**+0.4**
KIS	**Kishinev**	**35.16**	**345**	*e*P		**P**		**19 51 11.0**	**+0.4**
TESR	**Tescani**	**35.33**	**342**	*i* P		**P**		**19 51 12.2**	**+0.2**
LOT	**Lotru**	**35.36**	**338**	*i* P		**P**		**19 51 12.9**	**+0.5**
MDVR	**Moldovita**	**35.59**	**335**	*i* P		**P**		**19 51 14.1**	**-0.3**
TAM	**Tamanrasset**	**35.60**	**290**	*e*P		**P**		**19 51 14.7**	**-0.2**
TAM				pmax	pmax				
	comp=Z,21nm,1.5s								
TAM	**Tamanrasset**	**35.60**	**290**	*e*P		**P**		**19 51 14.7**	**-0.2**
	comp=Z,21nm,1.5s								
TAM	**Tamanrasset**	**35.60**	**290**	*e*P		**P**		**19 51 14.7**	**-0.2**
	comp=Z,21nm,1.5s								
PRAR	**RASCA**	**36.22**	**342**	*i* P		**P**		**19 51 20.0**	**+0.3**
BZS	**Buzias**	**36.32**	**336**	*i* P		**P**		**19 51 20.5**	**-0.1**
KEST	**Kesra**	**36.62**	**313**	P		**P**		**19 51 24.6**	**+1.2**
	comp=Z,8.3nm,1.1s,baz=74,slow=9.4,SNR=4.0								
KEST	**Kesra**	**36.62**	**313**	*e*P		**P**		**19 51 23.7**	**+0.3**
	comp=Z,12nm,1.1s								
KEST	**Kesra**	**36.62**	**313**	*e*P		**P**		**19 51 23.7**	**+0.3**
	comp=Z,12nm,1.1s								
BURAR	**Bucovina Array**	**36.75**	**341**	*i* P		**P**		**19 51 25.8**	**+1.5**
BUR08	**Bucovina Ar. S**	**36.78**	**341**	*e*P		**P**		**19 51 25.6**	**+1.0**
BUR08	**Bucovina Ar. S**	**36.78**	**341**	*e*P		**P**		**19 51 25.6**	**+1.0**
SIRR	**Siria**	**36.84**	**337**	*i* P		**P**		**19 51 24.8**	**-0.2**
DRGR		**36.89**	**338**	*i* P		**P**		**19 51 26.4**	**+0.9**
VRH	**Novokhopyorsk**	**37.64**	**360**	*e*P		**P**		**19 51 30.6**	**-1.1**
VRH				pmax	pmax				
	comp=Z,9.0nm,0.9s								
VSR	**Storozhevoye**	**37.72**	**357**	*e*P		**P**		**19 51 31.7**	**-0.6**
VSR				pmax	pmax				
	comp=Z,10.0nm,1.5s								
TRPA	**Tarpa**	**38.09**	**339**	*e*S		**P**		**19 51 36.4**	**+0.9**
TRPA	**Tarpa**	**38.09**	**339**	*e*P		**P**		**19 51 36.4**	**+0.9**
AKASG	**Malin Array Be**	**38.52**	**347**	P		**P**		**19 51 39.0**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=164,slow=7.0,SNR=17								
KKAR	**Karatay Array**	**38.53**	**34**	*e*P		**P**		**19 51 38.2**	**-1.2**
KKAR	**Karatay Array**	**38.53**	**34**	*e*P		**P**		**19 51 38.2**	**-1.2**
KKAR	**Karatay Array**	**38.53**	**34**	*e*P		**P**		**19 51 38.2**	**-1.2**
UZH	**Uzhgorod**	**38.60**	**339**	*e*P		**P**		**19 51 39.0**	**-0.8**
UZH				*i*				19 51 42.8	
UZH				*e*				19 51 44.6	
ABKAR	**Akbulak array**	**38.71**	**19**	*e*P		**P**		**19 51 41.0**	**+0.3**
ABKAR	**Akbulak array**	**38.71**	**19**	*e*P		**P**		**19 51 41.0**	**+0.3**
KOLS	**Kolonicke sedl**	**38.87**	**339**	*e*P		**P**		**19 51 43.0**	**+0.9**
KOLS				pmax	pmax				
	comp=Z,15nm,1.7s								
KOLS	**Kolonicke sedl**	**38.87**	**339**	*e*P		**P**		**19 51 43.0**	**+0.9**
	comp=Z,15nm,1.7s								
KOLS	**Kolonicke sedl**	**38.87**	**339**	*e*P		**P**		**19 51 43.0**	**+0.9**
PSZ	**Piszkesteto**	**38.88**	**336**	*i* P		**P**		**19 51 42.8**	**+0.5**
PSZ	**Piszkesteto**	**38.88**	**336**	*e*ScP		**P**		**19 51 42.5**	**+0.1**
PSZ	**Piszkesteto**	**38

VRAC Vranov 41.31 335 eP P 19 52 02.5 +0.1
TKM2 Tokmak 2 41.35 38 P P 19 52 04.2 +1.1
TKM2 Tokmak 2 41.35 38 eP P 19 52 02.5 -0.6
comp=Z,2.5nm,0.9s
TKM2 Tokmak 2 41.35 38 eP P 19 52 02.5 -0.6
comp=Z,2.5nm,0.9s
LBTB Lobatse 41.37 202 P P 19 52 03.8 +0.6
comp=Z,3.9nm,1.0s,baz=42,slow=8.3,SNR=3.9
KOLN Koldanda 41.44 63 eP P 19 52 04.4 +0.4
comp=Z,20nm,1.0s
OBN Obninsk 41.76 356 P P 19 52 05.7 -0.2
comp=Z,4.5nm,0.3s,baz=244,slow=7.3,SNR=6.6
OBN Obninsk 41.76 356 i P P 19 52 05.9 0.0
OBN pmax pmax
comp=Z,16nm,1.1s
TREC Trest 41.77 334 eP P 19 52 06.0 -0.1
TREC Trest 41.77 334 eP P 19 52 06.0 -0.1
TREC Trest 41.77 334 P P 19 52 06.0 -0.1
GEA0 GERESS Array S 42.20 332 eP P 19 52 08.9 -0.9
GEA0 GERESS Array S 42.20 332 eP P 19 52 08.9 -0.9
GEC2 GERESS Array S 42.21 332 eP P 19 52 09.8 -0.1
GEC2 pmax pmax
comp=Z,38nm,1.5s
GEC2 GERESS Array S 42.21 332 eP P 19 52 09.8 -0.1
comp=Z,38nm,1.5s
GEC2 GERESS Array S 42.21 332 eP P 19 52 09.8 -0.1
comp=Z,38nm,1.5s
GERES GERESS Array B 42.21 332 P P 19 52 09.7 -0.1
comp=Z,4.6nm,0.7s,baz=133,slow=7.5,SNR=35
DPC Dobruska-Polom 42.24 336 eP P 19 52 10.1 +0.1
DPC epP pP 19 52 13.1 0.0
DPC Dobruska-Polom 42.24 336 eP P 19 52 10.1 +0.1
DPC e 19 52 13.1
DPC Dobruska-Polom 42.24 336 P P 19 52 10.1 +0.1
MOS Moscow 42.31 357 eP P 19 52 11.2 +0.8
FUORN Ofenpass-Fuorn 42.33 328 eP P 19 52 10.6 -0.5
comp=Z,37nm,1.8s
FUORN Ofenpass-Fuorn 42.33 328 eP P 19 52 10.6 -0.5
comp=Z,37nm,1.8s
GKN Gorkha 42.39 63 eP P 19 52 09.3 -2.4
comp=Z,18nm,1.0s
KHC Kasperske Hory 42.48 333 eP P 19 52 11.4 -0.6
KHC Kasperske Hory 42.48 333 eP P 19 52 09.0 -3.0
KHC pmax pmax
comp=Z,9.0nm,1.4s
KHC Kasperske Hory 42.48 333 P P 19 52 11.4 -0.6
KHC Kasperske Hory 42.48 333 eP P 19 52 09.0 -3.0
comp=Z,9.4nm,1.4s
UPC Upice 42.49 336 eP P 19 52 12.0 0.0
UPC Upice 42.49 336 eP P 19 52 12.0 0.0
UPC Upice 42.49 336 P P 19 52 12.0 0.0
GOPC GO Pecny, Ondr 42.53 334 eP P 19 52 12.1 -0.3
GOPC GO Pecny, Ondr 42.53 334 eP P 19 52 12.1 -0.3
GOPC GO Pecny, Ondr 42.53 334 P P 19 52 12.1 -0.3
PRU Pruhonice 42.69 334 eP P 19 52 13.3 -0.4
PRU Pruhonice 42.69 334 eP P 19 52 13.3 -0.4
PRU Pruhonice 42.69 334 P P 19 52 13.3 -0.4
TUE Stuetta 42.72 327 eP P 19 52 13.6 -0.6
comp=Z,20nm,1.7s
TUE Stuetta 42.72 327 eP P 19 52 13.6 -0.6
comp=Z,20nm,1.7s
KKN Kakani 42.91 64 eP P 19 52 16.0 0.0
comp=Z,28nm,1.0s
DAVA Damuels 42.97 328 i P P 19 52 15.3 -0.8
SNR=7.5
DAVA Damuels 42.97 328 P P 19 52 15.3 -0.8
SNR=7.5
PKIN Phulchoki 42.97 64 eP P 19 52 16.4 -0.2
PVCC Panska Ves 43.09 335 eP P 19 52 16.8 -0.1
PVCC Panska Ves 43.09 335 eP P 19 52 16.8 -0.1
PVCC Panska Ves 43.09 335 P P 19 52 16.8 -0.1
GUN Gumba 43.45 64 eP P 19 52 20.7 +0.1
comp=Z,67nm,1.2s
BRG Berggiesshubel 43.61 335 eP P 19 52 20.5 -0.6
comp=Z,13nm,1.3s
BRG Berggiesshubel 43.61 335 eP P 19 52 20.5 -0.6
BRG pmax pmax
comp=Z,13nm,1.3s
SENIN Lac Senin/Sane 43.76 325 eP P 19 52 21.1 -1.5
comp=Z,30nm,1.4s
SENIN Lac Senin/Sane 43.76 325 eP P 19 52 21.1 -1.5
comp=Z,30nm,1.4s
RAMN Ramite 43.93 65 eP P 19 52 24.1 -0.2
SPAK Spaichingen-Ko 44.06 328⇑eP P 19 52 24.7 -0.1
FELD Feldberg im Sc 44.32 328⇑eP P 19 52 26.5 -0.5
BBS Basel-Blauen 44.32 327⇑eP P 19 52 26.3 -0.6
CLL Collm 44.33 334⇑iP P 19 52 26.1 -0.7
comp=Z,21nm,1.5s
CLL Collm 44.33 334⇑iP P 19 52 26.1 -0.7
CLL pmax pmax
comp=Z,21nm,1.5s
CLL Collm 44.33 334 eP P 19 52 25.2 -1.6
comp=Z,18nm,1.4s
CLL Collm 44.33 334 eP P 19 52 25.2 -1.6
comp=Z,18nm,1.4s
BFO Black Forest 44.44 328 i P P 19 52 28.6 +0.8
LOMF Lomont 44.62 326⇑eP P 19 52 23.0 -6.3
LOMF Lomont 44.62 326⇑eP P 19 52 23.0 -6.3
SSB Saint Sauveur 44.71 323 eP P 19 52 28.0 -2.1
SSB pmax pmax
comp=Z,17nm,1.4s
SSB Saint Sauveur 44.71 323 eP P 19 52 28.0 -2.1
comp=Z,17nm,1.4s
SSB Saint Sauveur 44.71 323 eP P 19 52 28.0 -2.1
comp=Z,17nm,1.4s
MOF Molkenrain 44.76 327⇑eP P 19 52 29.9 -0.6
MOF Molkenrain 44.76 327⇑eP P 19 52 29.9 -0.6
ARU Arti 44.79 13 P P 19 52 31.5 +1.1
comp=Z,6.0nm,0.8s,baz=191,slow=5.4,SNR=11
ARU Arti 44.79 13 d iP P 19 52 31.2 +0.8
ARU 19 54 16.3
ARU S S 19 59 11.2 +3.8
ARU SS ScS 20 02 26.7 -1.3
ARU pmax pmax
comp=Z,11nm,0.8s
ARU Arti 44.79 13 eP P 19 52 28.0 -2.3
comp=Z,10nm,0.9s
ZRNK Zerenda 44.96 23 eP P 19 52 31.7 -0.2
ZRNK pmax pmax
comp=Z,10.0nm,1.0s
ZRNK Zerenda 44.96 23 eP P 19 52 31.6 -0.2
comp=Z,10nm,1.0s
ZRNK Zerenda 44.96 23 eP P 19 52 31.6 -0.2
comp=Z,10nm,1.0s
ECH Echery 44.98 327⇑eP P 19 52 25.2 -6.9
ECH Echery 44.98 327⇑eP P 19 52 25.2 -6.9
TOD Tromm 45.04 330⇑eP P 19 52 32.1 -0.5
LANF Langenberg 45.13 329⇑eP P 19 52 32.7 -0.6
LANF Langenberg 45.13 329⇑eP P 19 52 32.7 -0.6
LBL Lubilhac 45.46 322⇑eP P 19 52 37.2 +1.2
LBL Lubilhac 45.46 322⇑eP P 19 52 37.2 +1.2
BRVK Borovoye 45.54 24 ceP P 19 52 37.3 +0.9
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 45.56 24 P P 19 52 37.6 +1.0
comp=Z,4.3nm,0.9s,baz=203,slow=7.2,SNR=15
BVAR PcP PcP 19 54 15.8 +0.7
comp=Z,0.7nm,0.6s,baz=222,slow=3.9,SNR=4.1
SVE Sverdlovsk 45.63 14⇓iP P 19 52 38.4 +1.3
SVE pmax pmax
comp=Z,20nm,1.1s
PLDF La Plantade 45.63 323⇑eP P 19 52 37.6 +0.2
PLDF La Plantade 45.63 323⇑eP P 19 52 37.6 +0.2
PYM Petit Puy Mans 45.87 322⇑eP P 19 52 40.2 +0.9
PYM Petit Puy Mans 45.87 322⇑eP P 19 52 40.2 +0.9
AGO Saint Agoulin 45.96 323⇑eP P 19 52 40.4 +0.5
AGO Saint Agoulin 45.96 323⇑eP P 19 52 40.4 +0.5
RUP Ruppelstein 45.96 329⇑eP P 19 52 36.9 -3.0
VSU Vasula 46.32 349 ceP P 19 52 41.9 -0.6
VSU pmax pmax
comp=Z,111nm,2.5s
DBIC Dimbokro 46.35 266 P P 19 52 42.0 -1.4
comp=Z,5.1nm,0.7s,baz=62,slow=9.8,SNR=6.4
DBIC Dimbokro 46.35 266 P P 19 52 42.0 -1.4
DBIC Dimbokro 46.35 266 P P 19 52 42.0 -1.4
WLF Walferdange 46.40 328 P P 19 52 43.6 +0.3
comp=Z,16nm,1.9s
WLF Walferdange 46.40 328 P P 19 52 43.5 +0.3
comp=Z,16nm,1.9s
REYF Montagne du Re 46.70 317⇑eP P 19 52 46.5 +0.6
REYF Montagne du Re 46.70 317⇑eP P 19 52 46.5 +0.6
ATE Arette 46.91 317⇑eP P 19 52 47.8 +0.3
ATE Arette 46.91 317⇑eP P 19 52 47.8 +0.3
MAKZ Makanchi 47.27 37 eP P 19 52 51.0 +0.8
MAKZ pmax pmax
comp=Z,14nm,0.9s
MAKZ Makanchi 47.27 37 eP P 19 52 51.0 +0.8
comp=Z,14nm,0.9s
MAKZ Makanchi 47.27 37 eP P 19 52 51.0 +0.8
comp=Z,14nm,0.9s
BCLA Clavier 47.30 329 P P 19 52 50.3 0.0
comp=Z,23nm,2.0s
BCLA Clavier 47.30 329 P P 19 52 50.2 0.0
comp=Z,23nm,2.0s
KLMR Klimovskoe 47.35 358 eP P 19 52 49.4 -1.1
KLMR e 19 54 40.0
KLMR pmax pmax
comp=Z,35nm,1.2s
MK01 Makanchi Array 47.45 37 eP P 19 52 51.8 +0.2
MK01 Makanchi Array 47.45 37 eP P 19 52 51.8 +0.2
MK31 Makanchi Array 47.45 37 eP P 19 52 52.2 +0.6
MK31 Makanchi Array 47.45 37 eP P 19 52 52.2 +0.6
MK31 Makanchi Array 47.45 37 eP P 19 52 52.2 +0.6
MKAR Makanchi Array 47.45 37 P P 19 52 52.4 +0.7
comp=Z,12nm,0.9s,baz=232,slow=6.0,SNR=33
DOU Dourbes 47.46 328 P P 19 52 51.0 -0.6
DOU Dourbes 47.46 328 P P 19 52 50.9 -0.6
KURBB Kurchatov Arra 47.56 31 P P 19 52 53.5 +1.1
comp=Z,6.8nm,0.9s,baz=234,slow=8.2,SNR=24
KURK Kurchatov 47.66 31 P P 19 52 53.5 +0.4
KURK Kurchatov 47.66 31 P P 19 52 53.5 +0.4
KURK Kurchatov 47.66 31 P P 19 52 53.5 +0.4
ES19 SONSECA Array 47.81 312 eP P 19 52 53.8 -0.7
ES19 SONSECA Array 47.81 312 eP P 19 52 53.8 -0.7
ESDC Sonseca Array 47.85 312 P P 19 52 54.1 -0.7
comp=Z,3.7nm,0.9s,baz=108,slow=8.1,SNR=22
ESLA Sonseca Array 47.85 312 eP P 19 52 52.8 -2.0
comp=Z,17nm,1.4s
ESLA Sonseca Array 47.85 312 eP P 19 52 52.8 -2.0
comp=Z,17nm,1.4s
SNF Seneffe 47.87 328 P P 19 52 55.3 +0.6
SNF Seneffe 47.87 328 P P 19 52 55.2 +0.6
PAB San Pablo 48.08 311 eP P 19 52 55.4 -1.3
PAB pmax pmax
comp=Z,24nm,1.3s
PAB San Pablo 48.08 311 eP P 19 52 55.4 -1.3
comp=Z,24nm,1.3s
PAB San Pablo 48.08 311 eP P 19 52 55.4 -1.3
comp=Z,24nm,1.3s
FINES FINESS Array B 49.24 350 P P 19 53 05.1 0.0
comp=Z,3.2nm,0.6s,baz=142,slow=9.6,SNR=12
WMQ Urumqi 49.50 43 P P 19 53 09.4 +1.9
WMQ pP sP 19 53 12.8 +0.9
WMQ sP pP 19 53 16.0 +5.3
WMQ PMZ
comp=Z,5.0nm,0.6s
WMQ PMZ
comp=Z,100nm,7.8s
WMQ LN
comp=Z,210nm,17.4s
WMQ LE
comp=Z,120nm,16.2s
WMQ LZ
comp=Z,180nm,22.0s
PBAR Barrancos 49.66 309 eP P 19 53 08.2 -0.6
comp=Z,45nm,1.4s
PBAR Barrancos 49.66 309 eP P 19 53 08.2 -0.6
comp=Z,45nm,1.4s
PESTR Estremoz 50.27 310 eP P 19 53 13.0 -0.4
comp=Z,28nm,1.9s
PESTR Estremoz 50.27 310 eP P 19 53 13.0 -0.4
comp=Z,28nm,1.9s
PCVE Castro Verde 50.28 308 eP P 19 53 11.3 -2.2
comp=Z,25nm,1.5s
PCVE Castro Verde 50.28 308 eP P 19 53 11.3 -2.2
comp=Z,25nm,1.5s
PMRV Mar??o 50.28 310 eP P 19 53 10.1 -3.4
comp=Z,25nm,1.4s
PCBR Castelo Branco 50.47 311 eP P 19 53 14.3 -0.5
comp=Z,13nm,1.3s
PCBR Castelo Branco 50.47 311 eP P 19 53 14.3 -0.5
comp=Z,13nm,1.3s
EVO Evora 50.50 309 eP P 19 53 15.3 +0.2
comp=Z,39nm,1.4s
EVO Evora 50.50 309 eP P 19 53 15.3 +0.2
comp=Z,39nm,1.4s
PVIS Viseu 51.03 312 eP P 19 53 18.7 -0.5
comp=Z,17nm,1.3s
PVIS Viseu 51.03 312 eP P 19 53 18.7 -0.5
comp=Z,17nm,1.3s
PVRL Vila Real 51.08 313 eP P 19 53 19.7 +0.2
comp=Z,22nm,1.5s
PVRL Vila Real 51.08 313 eP P 19 53 19.7 +0.2
comp=Z,22nm,1.5s
POLO Lamas de Olo 51.16 313 eP P 19 53 20.4 +0.2
comp=Z,15nm,1.3s
POLO Lamas de Olo 51.16 313 eP P 19 53 20.4 +0.2
comp=Z,15nm,1.3s
PCAS Casmilo, Conde 51.28 311 eP P 19 53 20.5 -0.5
comp=Z,28nm,1.3s
PCAS Casmilo, Conde 51.28 311 eP P 19 53 20.5 -0.5
comp=Z,28nm,1.3s
PGAV Gavieira, Arco 51.68 313 eP P 19 53 24.0 -0.1
comp=Z,32nm,1.6s
PGAV Gavieira, Arco 51.68 313 eP P 19 53 24.0 -0.1
comp=Z,32nm,1.6s
NVS Novosibirsk 52.38 29 eP P 19 53 29.5 +0.6
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,13nm,1.0s
NB2 NORSAR Subarra 52.43 342 P P 19 53 27.9 -1.3
comp=Z,6.1nm,1.0s,baz=151,slow=10
NB2 NORSAR Subarra 52.43 342 P P 19 53 27.9 -1.3
comp=Z,6.1nm,1.0s,SNR=6.2
NOA NORSAR Array B 52.43 342 P P 19 53 28.5 -0.7
comp=Z,5.6nm,1.0s,baz=140,slow=7.4,SNR=6.5
NBO02 NORSAR Array S 52.55 342 eP P 19 53 29.6 -0.4
NBO02 NORSAR Array S 52.55 342 eP P 19 53 29.6 -0.4
ZAA0 Zalesovo Array 52.64 31 eP P 19 53 30.6 -0.2
ZAA0 Zalesovo Array 52.64 31 eP P 19 53 30.6 -0.2
ZALV Zalesovo Beam 52.64 31 P P 19 53 30.7 -0.1
comp=Z,14nm,0.9s,baz=241,slow=7.8,SNR=30
NC204 NORSAR Array S 52.75 342 eP P 19 53 31.5 -0.1
NC204 NORSAR Array S 52.75 342 eP P 19 53 31.5 -0.1
CM31 Chiang Mai Arr 55.01 77 eP P 19 53 49.5 +0.7
CM31 Chiang Mai Arr 55.01 77 eP P 19 53 49.5 +0.7
CMAR Chiang Mai Arr 55.01 77 P P 19 53 49.0 +0.3
comp=Z,5.6nm,0.9s,baz=278,slow=8.3,SNR=25
CM01 Chiang Mai Arr 55.02 77 eP P 19 53 48.6 -0.3
CM01 Chiang Mai Arr 55.02 77 eP P 19 53 48.6 -0.3
GTA Gaotai 56.96 52 eP P 19 54 03.4 +0.8
GTA pP sP 19 54 08.6 +1.6
GTA sP pP 19 54 11.5 +5.7
GTA S S 20 01 58.8 +1.7
GTA PMZ
comp=Z,3.0nm,1.0s
GTA PMZ
comp=Z,74nm,4.3s
GTA LN
comp=Z,230nm,15.2s
GTA LE
comp=Z,300nm,13.8s
GTA LZ
comp=Z,330nm,15.2s
ARCES ARCESS Array B 56.98 353 P P 19 54 01.8 -0.2
comp=Z,2.2nm,0.6s,baz=160,slow=7.4,SNR=10.0
KMI Kunming 58.28 69 P P 19 54 12.2 -0.1
KMI PMZ
comp=Z,6.0nm,0.9s
CD2 Chengdu 59.27 62 eP P 19 54 18.8 0.0
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
LZH Lanzhou 59.69 56 eP P 19 54 25.1 +3.3
LZH pP sP 19 54 28.7 +2.5
LZH sP pP 19 54 31.0 +6.0
LZH PMZ
comp=Z,13nm,1.0s
GYA Guiyang 61.80 67 eP P 19 54 38.2 +1.9
GYA PMZ
comp=Z,10.0nm,1.0s
NRIK Noril'sk 62.80 17 P P 19 54 41.0 -1.1
comp=Z,7.5nm,0.9s,baz=226,slow=4.0,SNR=8.6
SONM Songino Array 63.14 43 P P 19 54 45.9 +1.1
comp=Z,5.0nm,0.9s,baz=258,slow=6.8,SNR=24
SONA1 Songino Array 63.15 43 eP P 19 54 45.6 +0.7
SONA1 Songino Array 63.15 43 eP P 19 54 45.6 +0.7
ULN Ulaanbaatar 63.58 43⇓eP P 19 54 47.3 -0.6
ULN pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 63.58 43 eP P 19 54 47.2 -0.6
comp=Z,2.5nm,1.0s
ULN Ulaanbaatar 63.58 43 eP P 19 54 47.2 -0.6
comp=Z,2.5nm,1.0s
QIZ Qiongzhong 65.25 75 P P 19 55 00.1 +1.1
QIZ S S 20 03 46.0 +3.1
QIZ LN
comp=Z,110nm,18.9s
QIZ LE
comp=Z,97nm,9.1s
QIZ LZ
comp=Z,190nm,22.8s
SPA0 Spitsbergen Ar 65.95 354 eP P 19 55 02.4 -0.2
SPA0 Spitsbergen Ar 65.95 354 eP P 19 55 02.4 -0.2
HHC Hu-ho-hao-te 66.07 51 eP P 19 55 05.1 +1.0
HHC pP sP 19 55 12.4 +3.8
HHC S S 20 03 52.0 -0.6
HHC sS sS 20 04 03.2 +5.3
HHC PMZ
comp=Z,20nm,1.0s
HHC PMZ
comp=Z,110nm,5.7s
HHC LN
comp=Z,160nm,14.8s
HHC LE
comp=Z,260nm,14.8s
HHC LZ
comp=Z,210nm,14.8s
WHN Wuhan 68.39 62 ⇑P P 19 55 18.0 -0.9
YAK Yakutsk 77.25 29 eP P 19 56 10.3 -0.6
YAK pmax pmax
comp=Z,7.0nm,0.8s
KSAR Wonju Array Be 78.90 54 P P 19 56 20.8 +0.3
KSAR Wonju Array Be 78.90 54 P P 19 56 20.8 +0.3
KSAR Wonju Array Be 78.90 54 P P 19 56 20.8 +0.3
KSRS Korea Array 78.93 54 P P 19 56 20.8 +0.1
comp=Z,1.1nm,0.8s,baz=284,slow=5.0,SNR=5.9
MDJ Mudanjiang 79.14 47 P P 19 56 21.9 +0.1
MDJ PMZ
comp=Z,5.0nm,0.5s
MDJ PMZ
comp=Z,66nm,5.7s
USRK Ussuriysk Ar. 80.91 47 P P 19 56 31.0 -0.3
comp=Z,1.9nm,0.9s,baz=258,slow=2.8,SNR=4.2
SYO Syowa Base 82.27 181⇓eP P 19 56 36.2 -1.5
SEY Seymchan 87.19 25 P P 19 57 03.7 +0.7
comp=Z,2.7nm,0.9s,baz=298,slow=9.1,SNR=4.2
SEY Seymchan 87.19 25⇑iP P 19 57 02.9 0.0
FITZ Fitzroy Crossi 88.42 109 P P 19 57 10.8 +1.1
comp=Z,8.4nm,0.9s,baz=249,slow=6.6,SNR=6.1
BILL Bilibino 89.60 18 i P P 19 57 13.3 -1.0
BILL pmax pmax
comp=Z,4.0nm,1.4s
SNAA Sanae 90.02 193 eP P 19 57 19.0 +2.9
SNAA Sanae 90.02 193 eP P 19 57 19.0 +2.9
SNAA Sanae 90.02 193 eP P 19 57 19.0 +2.9
YKA Yellowknife Ar 102.07 349 PP PP 20 02 21.0 -0.8
comp=Z,1.0nm,0.8s,baz=20,slow=7.3,SNR=3.6
NVAR Mina Array Bea 125.12 341 PKP PKPdf 20 03 19.1 +0.9
comp=Z,1.8nm,1.0s,baz=354,slow=1.0,SNR=7.6
TXAR Lajitas Array 125.94 322 PKP PKPdf 20 03 19.1 -0.8
comp=Z,0.5nm,0.8s,baz=113,slow=2.9,SNR=5.8

IDC 12 19:48:13.8±22.0, 13°26N×40°15E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.1/50, mbtmp3.5/3, MS4.0/1, Ms1 4.0/1, ms1mx3.1/38, Error ellipse: s-maj=532.2km s-min=257.0km az=72.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDT	Midelt	45.17	303	LR	LR	20 16 47.1	
	comp=Z,198nm,20.6s,baz=64,slow=38						
MKAR	Makanchi Array	48.58	38	P	P	19 56 59.0	-0.1
	0.6nm,0.8s,baz=234,slow=6.6,SNR=3.9						
ZALV	Zalesovo Beam	53.62	31	P	P	19 57 36.7	-0.1
	0.4nm,0.4s,baz=226,slow=7.7,SNR=3.0						
SONM	Songino Array	64.36	43	P	P	19 58 51.8	0.0
	0.3nm,0.6s,baz=251,slow=4.4,SNR=2.6						

*ISCJB **12** 19:48:34.5±0.8, 13°50N±0°.10×41°.6E±0°.1, h10km, mb3.9/7, Error ellipse: s-maj=22.7km s-min=9.7km az=152.0*
*IDC **12** 19:48:34.3±1.2, 13°.38N×41°.59E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.6/50, mbtmp3.9/8, ML4.2/1, Error ellipse: s-maj=29.7km s-min=20.7km az=48.0*
ISC 12 19:48:35.5±0.9, 13°.3N±0°.1×41°.6E±0°.2, h10km, n8, σ1§16/9, mb3.9/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	Arta Tunnel	2.17	145	Pn	Pn	19 49 10.4	-1.5
	65nm,0.3s,baz=233,slow=20,SNR=3.0						
ATD				Sn	Sb	19 49 42.9	+0.8
	125nm,0.3s,baz=270,slow=20,SNR=5.1						
TORD	Torodi Ar. Bea	38.81	274	P	P	19 56 01.8	+0.9
	1.0nm,1.0s,baz=90,slow=8.6,SNR=3.6						
GERES	GERESS Array B	42.23	333	P	P	19 56 29.1	+0.1
	0.6nm,0.6s,baz=128,slow=8.6,SNR=6.1						
MKAR	Makanchi Array	47.66	37	P	P	19 57 12.4	+0.3
	1.4nm,0.7s,baz=235,slow=6.8,SNR=6.4						
FINES	FINESS Array B	49.33	350	P	P	19 57 23.2	-1.5
	2.3nm,0.8s,baz=190,slow=7.1,SNR=3.1						
ZALV	Zalesovo Beam	52.84	31	P	P	19 57 50.5	-0.7
	1.6nm,0.6s,baz=237,slow=7.2,SNR=5.0						
CMAR	Chiang Mai Arr	55.21	77	P	P	19 58 10.4	+1.3
	1.0nm,0.8s,baz=282,slow=7.9,SNR=5.5						
SONM	Songino Array	63.35	43	P	P	19 59 05.7	+0.5
	0.6nm,0.8s,baz=259,slow=6.2,SNR=4.3						

*ISCJB **12** 19:49:14.6±1.5, 13°.1N±0°.2×41°.8E±0°.1, h10km, mb4.1/13, Error ellipse: s-maj=31.4km s-min=19.6km az=179.9*
*IDC **12** 19:49:15.0±1.8, 13°.15N×41°.72E, h0km, mb4.1/13, mb1 4.2/13, mb1mx3.9/48, mbtmp4.1/13, Error ellipse: s-maj=37.8km s-min=22.7km az=4.0*
ISC 12 19:49:16.5±1.7, 13°.2N±0°.3×41°.7E±0°.2, h10km, n13, σ0§95/13, mb4.2/13, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNI	Garni	27.02	5	P	P	19 54 59.7	+0.6
	5.1nm,0.8s,baz=140,slow=5.5,SNR=3.5						
BRTR	Keskin Array B	27.40	346	P	P	19 55 03.1	+0.7
	1.8nm,0.9s,baz=146,slow=6.9,SNR=7.5						
KBZ	Khabaz	30.48	2	P	P	19 55 30.8	+1.3
	3.4nm,1.0s,baz=184,slow=4.8,SNR=4.0						
MLR	Muntele Rosu	34.89	340	P	P	19 56 09.1	+0.8
	0.7nm,0.9s,baz=272,slow=3.8,SNR=5.6						
TORD	Torodi Ar. Bea	38.93	275	P	P	19 56 43.6	+0.6
	1.4nm,0.9s,baz=100,slow=7.9,SNR=6.0						
AKTO	Aktyubinsk	39.49	16	P	P	19 56 47.4	+0.2
	4.4nm,0.9s,baz=223,slow=8.8,SNR=8.3						
GERES	GERESS Array B	42.44	333	P	P	19 57 10.6	-1.1
	0.9nm,0.6s,baz=134,slow=7.6,SNR=6.6						
BVAR	Borovoye Array	45.86	24	P	P	19 57 39.1	+0.2
	1.6nm,0.8s,baz=250,slow=4.3,SNR=6.3						
MKAR	Makanchi Array	47.73	37	P	P	19 57 53.8	0.0
	7.0nm,0.9s,baz=237,slow=6.7,SNR=19						
FINES	FINESS Array B	49.52	350	P	P	19 58 05.3	-1.8
	2.0nm,0.8s,baz=125,slow=12,SNR=4.0						
ZALV	Zalesovo Beam	52.94	30	P	P	19 58 32.1	-0.8
	6.5nm,0.8s,baz=240,slow=7.4,SNR=14						
CMAR	Chiang Mai Arr	55.15	77	P	P	19 58 49.4	-0.3
	2.4nm,0.9s,baz=277,slow=8.0,SNR=9.8						
SONM	Songino Array	63.41	43	P	P	19 59 47.2	+0.6
	2.5nm,0.9s,baz=273,slow=5.7,SNR=12						

*ISCJB **12** 19:51:21.9±1.6, 13°.0N±0°.2×41°.8E±0°.1, h10km, mb3.8/12, Error ellipse: s-maj=35.1km s-min=18.2km az=177.5*
*IDC **12** 19:51:22.4±1.9, 13°.07N×41°.76E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.7/42, mbtmp3.8/12, Error ellipse: s-maj=43.6km s-min=22.4km az=1.0*
ISC 12 19:51:24.0±1.8, 13°.1N±0°.3×41°.8E±0°.1, h10km, n12, σ0§94/12, mb3.7/12, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	Keskin Array B	27.48	346	P	P	19 57 12.6	+2.0
	0.8nm,0.9s,baz=126,slow=9.1,SNR=3.8						

MLR **Muntele Rosu** 34.97 340 P P 19 58 17.6 +1.1
0.6nm,0.8s,baz=169,slow=7.4,SNR=3.5
TORD **Torodi Ar. Bea** 38.98 275 P P 19 58 51.1 +0.2
1.0nm,0.9s,baz=90,slow=7.0,SNR=4.1
AKTO **Aktyubinsk** 39.54 16 P P 19 58 54.6 -0.4
1.1nm,0.9s,baz=195,slow=7.7,SNR=3.7
GERES **GERESS Array B** 42.52 333 P P 19 59 18.9 -0.9
0.6nm,0.7s,baz=134,slow=7.6,SNR=5.4
BVAR **Borovoye Array** 45.90 24 P P 19 59 46.8 +0.1
0.7nm,0.7s,baz=233,slow=12,SNR=3.9
MKAR **Makanchi Array** 47.76 37 P P 20 00 01.5 +0.1
2.5nm,0.9s,baz=230,slow=5.7,SNR=9.2
ESDC **Sonseca Array** 48.07 312 P P 20 00 03.8 -0.2
0.4nm,0.6s,baz=100,slow=4.9,SNR=4.0
ZALV **Zalesovo Beam** 52.97 30 P P 20 00 40.1 -0.6
2.3nm,0.8s,baz=236,slow=7.1,SNR=5.4
CMAR **Chiang Mai Arr** 55.12 77 P P 20 00 57.0 0.0
1.2nm,0.9s,baz=262,slow=6.3,SNR=6.7
ARCES **ARCESS Array B** 57.34 353 P P 20 01 10.8 -1.1
1.0nm,0.7s,baz=161,slow=8.6,SNR=5.1
SONM **Songino Array** 63.42 43 P P 20 01 54.7 +0.5
0.8nm,0.9s,baz=249,slow=7.8,SNR=5.0

BJI **12** *19:52:24.3, 5.00S×144.33E, h104km, mb4.9/51, mB5.0/25*
MOS **12** *19:52:27.9±1.2, 4.64S×143.83E, h99km, mb5.0/19, Error ellipse: s-maj=11.5km s-min=6.7km az=106.9*
IDC **12** *19:52:28.4±1.6, 4.65S×143.68E, h79km±15km, mb4.4/25, mb1 4.5/28, mb1mx4.5/36, mbtmp4.8/28, MS3.9/5, Ms1 3.9/5, ms1mx3.4/36, Error ellipse: s-maj=15.4km s-min=10.0km az=71.0*
NEIC **12** *19:52:29.9±0.8, 4.66S×143.73E, h99km±7km, mb5.0/35, Error ellipse: s-maj=7.8km s-min=6.1km az=98.0*
ISCJB **12** *19:52:29.1±0.7, 4.66S±0.03×143.75E±0.04, h104km±6km, mb4.8/76, Error ellipse: s-maj=6.1km s-min=4.8km az=160.5*
DJA **12** *19:52:30.9±0.7, 5.5S±5.14.4E±, h90km±7km, M4.9/29, mb5.0/29, mB5.3/16, MLv5.4/2, Mw(mB)4.7/16*
ISC 12 19:52:29.8±0.5, 4.62S±0.04×143.80E±0.05, h97km±3km, h97km:pP-P, n233, σ1§62/246, mb4.9/74, 7C-4D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.72**	**304**	P		P	**Pn**	**19 53 26.2**	**+0.9**
	baz=90,slow=20								
GENI	**Genyem**	**4.14**	**299**	P		P	**Pn**	**19 53 31.4**	**+0.5**
MANU	**Manus Island**	**4.39**	**54**	*e*Pn		P	Pn	19 53 38.1	+3.8
PMG	**Port Moresby**	**5.81**	**145**	P		P	**Pn**	**19 53 54.1**	**+0.5**
	4.1nm,0.3s,baz=309,slow=3.2,SNR=14								
PMG					S		**Sn**	**19 54 58.4**	**-0.5**
	13nm,0.3s,baz=298,slow=19,SNR=3.4								
PMG					LR		LR	19 56 34.4	
	comp=Z,480nm,18.9s,baz=329,slow=42								
PMG	**Port Moresby**	**5.81**	**145**	*ce*P		P	**Pn**	**19 53 53.8**	**+0.2**
PMG					pmax		pmax		
	comp=Z,323nm,1.2s								
PMG	**Port Moresby**	**5.81**	**145**	*e*Pn		P	**Pn**	**19 53 51.6**	**-2.0**
PMG				*e*Sn		P	**Sn**	**19 55 01.9**	**+2.9**
RABL	**Rabaul**	**8.36**	**87**	*e*Pn		P	Pn	19 54 34.4	+6.1
COEN	**Coen**	**9.30**	**184**	P		P	**Pn**	**19 54 42.4**	**+1.2**
	baz=9.2,SNR=16								
COEN	**Coen**	**9.30**	**184**	*e*Pn		P	**Pn**	**19 54 41.8**	**+0.7**
COEN				*e*Sn		P	**Sn**	**19 56 23.1**	**-0.9**
SWI	**Sorong**	**13.06**	**286**	P		P	**Pn**	**19 55 31.8**	**0.0**
	comp=Z,141nm,0.7s,comp=Z,1μm								
MTSU	**Mount Surprise**	**13.44**	**178**	P		P	**Pn**	**19 55 37.4**	**+0.6**
	baz=13,SNR=6.5								
MTN	**Manton Dam**	**14.94**	**236**	P		P	**Pn**	**19 55 53.6**	**-2.4**
	baz=15,SNR=17								
MTN	**Manton Dam**	**14.94**	**236**	*e*Pn		P	**Pn**	**19 55 53.5**	**-2.6**
PALU	**Palau**	**15.09**	**322**	P		P	**P**	**19 56 00.0**	**-0.8**
	baz=15,SNR=6.6								
CTA	**Charters Tower**	**15.56**	**171**	P		P	**P**	**19 56 06.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=9.9,slow=10,SNR=6.9								
QIS	**Mount Isa**	**16.36**	**194**	P		P	**Pn**	**19 56 13.8**	**0.0**
	baz=16,SNR=10								
HNR	**Honiara**	**16.73**	**107**	P		P	**P**	**19 56 19.6**	**+0.5**
	comp=Z,112nm,0.3s,baz=144,slow=4.4,SNR=4.6								
HNR	**Honiara**	**16.73**	**107**	P		P	**P**	**19 56 19.0**	**-0.1**
HNR	**Honiara**	**16.73**	**107**	P		P	**Pn**	**19 56 16.3**	**-2.1**
HNR					pmax		pmax		
	comp=Z,119nm,0.9s								
HNR	**Honiara**	**16.73**	**107**	Pn		P	**Pn**	**19 56 16.3**	**-2.1**
	comp=Z,119nm,0.9s								
WRAB	**Tennant Creek**	**17.79**	**210**	*ce*P		P	**P**	**19 56 28.6**	**-2.1**
WRAB					pmax		pmax		
	comp=Z,159nm,1.0s								
WRAB	**Tennant Creek**	**17.79**	**210**	*e*P		P	**P**	**19 56 28.8**	**-1.9**
	comp=Z,59nm,0.8s								
WB2	**Warramunga Arr**	**17.80**	**210**	P		P	**P**	**19 56 29.6**	**-1.2**
	baz=18								
WB2	**Warramunga Arr**	**17.80**	**210**	*e*P		P	**P**	**19 56 29.1**	**-1.7**
	comp=Z,56nm,0.7s								
WRA	**Warramunga Arr**	**17.80**	**210**	P		P	**P**	**19 56 29.1**	**-1.8**
	comp=Z,2.2nm,0.3s,baz=33,slow=13,SNR=60								
WRA					LR		LR	20 04 38.1	
	comp=Z,337nm,19.6s,baz=25,slow=41								
SANI	**Sanana**	**17.96**	**278**	P		P	**Pn**	**19 56 38.1**	**+4.7**
	comp=Z,81nm,0.8s,comp=Z,873nm								
SOEI	**Soe**	**20.03**	**254**	P		P	**P**	**19 56 56.1**	**+0.7**
	comp=Z,880nm,0.9s,comp=Z,8μm								
SOEI	**Soe**	**20.03**	**254**	*e*P		P	**P**	**19 56 55.8**	**+0.4**
	comp=Z,587nm,0.7s								
KDI	**Kendari**	**21.13**	**271**	P		P	**P**	**19 57 12.5**	**+5.4**
	comp=Z,76nm,1.1s,comp=Z,797nm								
AS01	**Alice Springs**	**21.18**	**206**	*e*P		P	**P**	**19 57 05.6**	**-2.1**
AS31	**Alice Springs**	**21.20**	**206**	*e*P		P	**P**	**19 57 06.3**	**-1.6**
	comp=Z,12nm,0.6s								
ASAR	**Alice Springs**	**21.21**	**206**	P		P	**P**	**19 57 06.0**	**-1.8**
	comp=Z,14nm,1.0s,baz=34,slow=9.9,SNR=64								
ASAR					LR		LR	20 06 01.6	
	comp=Z,471nm,19.1s,baz=22,slow=38								
LUWI	**Luwuk**	**21.29**	**279**	P		P	**P**	**19 57 10.8**	**+2.0**
	comp=Z,124nm,1.1s,comp=Z,1μm								
LUWI	**Luwuk**	**21.29**	**279**	*e*P		P	**P**	**19 57 07.3**	**-1.5**
	comp=Z,120nm,0.9s								
GTOI	**Gorontalo**	**21.41**	**284**	P		P	**P**	**19 57 13.1**	**+3.0**
	comp=Z,109nm,0.9s,comp=Z,923nm								
MMRI	**Maumere**	**21.78**	**258**	P		P	**P**	**19 57 17.5**	**+3.5**
	comp=Z,256nm,0.8s								
MMRI	**Maumere**	**21.78**	**258**	*e*P		P	**P**	**19 57 13.3**	**-0.8**
	comp=Z,166nm,0.5s								
EIDS	**Eidsvold**	**21.79**	**162**	P		P	**P**	**19 57 15.4**	**+1.4**
	baz=22,SNR=4.1								
FITZ	**Fitzroy Crossi**	**22.25**	**232**	P		P	**P**	**19 57 16.5**	**-2.4**
	comp=Z,43nm,0.6s,baz=53,slow=10,SNR=42								
FITZ	**Fitzroy Crossi**	**22.25**	**232**	*e*P		P	**P**	**19 57 16.9**	**-2.0**
	comp=Z,145nm,1.4s								
RMQ	**Roma**	**22.26**	**168**	P		P	**P**	**19 57 20.6**	**+1.6**
	baz=22,SNR=5.3								
MRSI	**Marisa**	**22.41**	**282**	P		P	**P**	**19 57 20.7**	**0.0**
	comp=Z,74nm,0.6s,comp=Z,3μm								
BSSI	**Bau Bau, Buton**	**23.25**	**265**	P		P	**P**	**19 57 32.2**	**+3.2**
	comp=Z,116nm,0.9s								
BASI	**Baing, Sumba**	**23.68**	**255**	P		P	**P**	**19 57 35.2**	**+2.3**
	comp=Z,509nm,1.2s								
WSI	**Waingapu**	**23.84**	**257**	P		P	P	19 57 45.1	+11
KAPI	**Kappang**	**23.96**	**268**	P		P	**P**	**19 57 34.3**	**-1.2**
	comp=Z,6.1nm,0.5s,baz=165,slow=2.7,SNR=6.1								
KAPI	**Kappang**	**23.96**	**268**	*e*P		P	**P**	**19 57 33.6**	**-1.8**
	comp=Z,22nm,0.9s								
SPSI	**Sidrap Palu**	**23.97**	**271**	P		P	**P**	**19 57 37.5**	**+2.0**
	comp=Z,25nm,0.9s								
TTSI	**Tana Toraja**	**23.97**	**273**	P		P	**P**	**19 57 39.6**	**+4.1**
	comp=Z,44nm,1.0s,comp=Z,503nm								
PCI	**Palu**	**24.21**	**278**	P		P	**P**	**19 57 39.8**	**+2.1**
	comp=Z,129nm,1.1s,comp=Z,1μm								
WRKA	**Warakurna**	**25.18**	**215**	P		P	**P**	**19 57 45.2**	**-1.2**
	baz=25,SNR=22								
STKA	**Stephens Creek**	**27.20**	**184**	P		P	**P**	**19 58 04.0**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=353,slow=9.6,SNR=3.5								
STKA					LR		LR	20 10 19.6	
	comp=Z,284nm,18.4s,baz=2.2,slow=39								
DZM	**Mont Dzumac**	**27.97**	**130**	P		P	**P**	**19 58 12.4**	**+0.7**
	comp=Z,6.9nm,0.8s,baz=286,slow=15,SNR=5.1								
KMBL	**Kambalda**	**33.65**	**215**	P		P	**P**	**19 59 00.6**	**-0.8**
	baz=34,SNR=6.9								
GIRL	**Giralia**	**33.73**	**235**	P		P	**P**	**19 59 03.0**	**+0.8**
	baz=34,SNR=6.3								
KSM	**Kuching**	**34.00**	**279**	*e*P		P	**P**	**19 59 03.5**	**-1.2**
	comp=Z,14nm,1.2s								
MORW	**Morawa**	**35.82**	**224**	P		P	**P**	**19 59 19.6**	**-0.5**
	baz=36,SNR=6.9								
KLBR	**Kellerberrin**	**36.30**	**219**	P		P	**P**	**19 59 23.3**	**-0.9**
	baz=36,SNR=5.2								
BLDU	**Ballidu**	**36.33**	**221**	P		P	**P**	**19 59 23.7**	**-0.8**
	baz=36,SNR=9.4								
JNU	**Nakatsue**	**39.48**	**343**	*e*P		P	**P**	**19 59 51.0**	**+0.1**
	comp=Z,29nm,0.8s								
QIZ	**Qiongzhong**	**40.86**	**306**	P		P	**P**	**20 00 03.5**	**+1.0**
QIZ					S		**S**	**20 06 08.3**	**+1.4**
QIZ					LN				
	comp=Z,130nm,17.2s								
QIZ					LE				
	comp=Z,110nm,7.9s								
QIZ					LZ				
	comp=Z,190nm,23.0s								
MJAR	**Matsushiro Arr**	**41.28**	**353**	P		P	**P**	**20 00 04.8**	**-0.9**
	comp=Z,6.1nm,0.8s,baz=176,slow=7.8,SNR=15								
MJAR					PcP		**PcP**	**20 02 03.2**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=164,slow=3.9,SNR=5.5								
MJAR					ScP		**ScP**	**20 05 44.0**	**0.0**
	comp=Z,1.4nm,1.1s,baz=151,slow=5.4,SNR=4.2								
MAJO	**Matsushiro**	**41.28**	**353**	*e*P		P	**P**	**20 00 04.7**	**-1.0**
MAJO					pmax		pmax		
	comp=Z,83nm,1.8s								
MAJO	**Matsushiro**	**41.28**	**353**	*e*P		P	**P**	**20 00 04.7**	**-1.0**
	comp=Z,83nm,1.8s								
MAT	**Matsushiro**	**41.28**	**353**	P		P	**P**	**20 00 04.6**	**-1.1**
MJB9	**Matsu-Tunnel**	**41.28**	**353**	*e*P		P	**P**	**20 00 05.0**	**-0.7**
	comp=Z,21nm,1.8s								
PPI	**Padang Panjang**	**43.54**	**274**	P		P	P	20 00 31.6	+7.2
KSRS	**Korea Array**	**44.39**	**342**	P		P	**P**	**20 00 31.6**	**+0.8**
	comp=Z,24nm,0.7s,baz=162,slow=9.3,SNR=118								
KSRS					PcP		**PcP**	**20 02 14.5**	**+1.4**
	comp=Z,7.1nm,0.7s,baz=164,slow=3.2,SNR=16								
KS15	**Wonju Array Si**	**44.39**	**342**	*e*P		P	**P**	**20 00 31.6**	**+0.9**
KSAR	**Wonju Array Be**	**44.39**	**342**	P		P	**P**	**20 00 31.6**	**+0.8**
KSAR								20 02 14.5	
KSAR	**Wonju Array Be**	**44.39**	**342**	P		P	**P**	**20 00 31.6**	**+0.8**
KSAR					PcP		**PcP**	**20 02 14.5**	**+1.4**
KS01	**Wonju Array Si**	**44.42**	**342**	*e*P		P	**P**	**20 00 31.2**	**+0.2**
SKNT	**Sakolnakorn**	**44.80**	**300**	P		P	**P**	**20 00 35.2**	**+0.8**
	comp=Z,24nm,1.1s								
INCN	**Inchon**	**44.83**	**341**	*e*P		P	**P**	**20 00 31.9**	**-2.4**
	comp=Z,32nm,0.6s								
WHN	**Wuhan**	**44.89**	**323**	P		P	**P**	**20 00 37.2**	**+2.3**
URZ	**Urewera**	**45.17**	**142**	P		P	**P**	**20 00 38.9**	**+1.9**
	comp=Z,6.8nm,0.6s,baz=306,slow=17,SNR=4.8								
NONG	**Nongkai**	**45.99**	**300**	P		P	**P**	**20 00 44.6**	**+0.9**
	comp=Z,34nm,1.2s								
CHAI	**Chaiyaphum**	**46.12**	**297**	P		P	**P**	**20 00 45.0**	**+0.2**
	comp=Z,4.1nm,0.8s								
LOEI	**Loei**	**47.39**	**299**	P		P	**P**	**20 00 52.5**	**-2.2**
	comp=Z,31nm,1.1s,comp=Z,6μm								
TIA	**Tai'an**	**47.67**	**331**	||P		P	**20 00 56.5**	**-0.1**
TIA					PMZ				
	comp=Z,20nm,0.9s								
ENH	**Enshi**	**47.76**	**319**	*e*P		P	**P**	**20 00 56.2**	**-1.2**
	comp=Z,18nm,1.2s								
ASAJ	**Asahikawa**	**48.52**	**359**	*e*P		P	**P**	**20 01 02.5**	**-0.5**
	comp=Z,7.1nm,1.2s								
KMI	**Kunming**	**49.64**	**309**	P		P	**P**	**20 01 15.3**	**+3.2**
KMI					sP		sP	20 01 54.0	+7.6
KMI					PMZ				
	comp=Z,8.0nm,1.3s								
USRK	**Ussuriysk Ar.**	**49.74**	**349**	P		P	**P**	**20 01 13.2**	**+0.9**
	comp=Z,17nm,0.7s,baz=180,slow=7.4,SNR=54								
CM01	**Chiang Mai Arr**	**49.76**	**299**	*e*P		P	**P**	**20 01 13.6**	**+0.7**
CM31	**Chiang Mai Arr**	**49.79**	**299**	*e*P		P	**P**	**20 01 14.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**49.79**	**299**	P		P	**P**	**20 01 14.2**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=120,slow=6.3,SNR=27								
CHTO	**Chiang Mai**	**49.93**	**299**	*e*P		P	**P**	**20 01 14.6**	**+0.4**
CHTO					pmax		pmax		
	comp=Z,8.0nm,1.1s								
CHTO	**Chiang Mai**	**49.93**	**299**	*e*P		P	**P**	**20 01 14.6**	**+0.4**
	comp=Z,8.0nm,1.1s								
XAN	**Xi'an**	**50.61**	**322**	P		P	**P**	**20 01 19.4**	**+0.2**
XAN					PMZ				
	comp=Z,12nm,0.9s								
MDJ	**Mudanjiang**	**50.64**	**347**	P		P	**P**	**20 01 19.1**	**0.0**
MDJ					PMZ				
	comp=Z,11nm,0.8s								
MDJ					PMZ				
	comp=Z,42nm,5.1s								
CN2	**Changchun**	**50.96**	**343**	*e*P		P	**P**	**20 01 21.8**	**+0.3**
CN2				*ep*P		pP	pP	20 01 48.0	+3.1
CN2				*e*S		S	**S**	**20 08 30.1**	**-0.9**
CN2					PMZ				
	comp=Z,20nm,0.8s								
BJT	**Baijiatuau**	**51.17**	**333**	*e*P		P	**P**	**20 01 21.8**	**-1.3**
BJT					pmax		pmax		
	comp=Z,21nm,0.6s								
BJT	**Baijiatuau**	**51.17**	**333**	*e*P		P	**P**	**20 01 21.8**	**-1.3**
	comp=Z,21nm,0.6s								
YSS	**Yuzh-Sakhalins**	**51.36**	**359**	||*e*P		P	**20 01 24.3**	**-0.1**
YSS					pmax		pmax		
	comp=Z,60nm,0.6s								
CD2	**Chengdu**	**52.04**	**315**	*e*P		P	**P**	**20 01 30.2**	**+0.3**
CD2				pP		pP	pP	20 01 55.0	+1.6
CD2				sP		sP	sP	20 02 06.9	+2.7
CD2				PcS		PcS	**PcS**	**20 06 38.8**	**-0.5**
CD2				S		S	**S**	**20 08 47.2**	**+0.7**
CD2				sS		sS	sS	20 09 30.7	+3.9
CD2				SS		SS	**SS**	**20 12 27.4**	**+2.4**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.4s								
HABR	**Khabarovsk**	**53.42**	**353**	*e*P		P	**P**	**20 01 37.9**	**-1.7**
HABR				*e**PP		pP	**pP**	**20 02 02.0**	**-1.2**
HABR				*e**SP		sP	**sP**	**20 02 13.4**	**-0.6**
HABR				*e*				20 02 43.4	
HABR				*e*				20 03 39.3	
HABR				*e*PPP		PPP		20 04 48.5	
HABR				*e*S		S	**S**	**20 09 03.2**	**-1.2**
HABR				*e**SS		sS	**sS**	**20 09 45.5**	**+0.6**
HABR				*e*				20 11 17.0	
HABR				*e*SS		SS	**SS**	**20 12 45.4**	**-0.6**
HABR				pmax		pmax			
	comp=Z,9.0nm,0.9s								
HABR				MLR		MLR			
	comp=Z,122nm,22.0s								
HHC	**Hu-ho-hao-te**	**54.02**	**330**	*e*P		P	**P**	**20 01 45.1**	**+0.8**
HHC				pP		pP		20 02 11.2	+3.3
HHC				sP		sP		20 02 23.0	+4.3
HHC				S		S	**S**	**20 09 11.3**	**-1.8**
HHC				PMZ					
	comp=Z,21nm,1.1s								
HHC				PMZ					
	comp=Z,90nm,6.3s								
HHC				LN					
	comp=Z,170nm,16.0s								
HHC				LE					
	comp=Z,260nm,17.3s								
HHC				LZ					
	comp=Z,210nm,16.0s								
KLR	**Kul'dur**	**54.64**	**350**	*i* P		P	**P**	**20 01 47.9**	**-0.6**
LZH	**Lanzhou**	**55.10**	**321**	*e*P		P	**P**	**20 01 54.1**	**+1.8**
LZH					PMZ				
	comp=Z,31nm,1.1s								
SKR	**Severo-Kuril's**	**56.09**	**9**	*e*P		P	**P**	**20 01 58.8**	**0.0**
HIA	**Hailar**	**57.60**	**342**	*e*P		P	**P**	**20 02 08.1**	**-1.5**
HIA					pmax		pmax		
	comp=Z,6.0nm,0.5s								
HIA	**Hailar**	**57.60**	**342**	*e*P		P	**P**	**20 02 08.1**	**-1.5**
	comp=Z,6.1nm,0.5s								
SHL	**Shillong**	**58.60**	**304**	*e*P		P	**P**	**20 02 18.3**	**+1.1**
PETK	**Petropavlovsk-**	**58.70**	**10**	P		P	**P**	**20 02 18.3**	**+1.2**
	comp=Z,22nm,0.9s,baz=170,slow=6.4,SNR=22								
GTA	**Gaotai**	**59.66**	**321**	P		P	**P**	**20 02 25.1**	**+0.9**
GTA					pP		pP	20 02 49.4	+1.1
GTA					sP		sP	20 03 02.1	+3.1
GTA					PMZ				
	comp=Z,8.0nm,1.0s								
ULN	**Ulaanbaatar**	**61.40**	**333**	*ce*P		P	**P**	**20 02 36.7**	**+0.8**
ULN					pmax		pmax		
	comp=Z,4.0nm,0.7s								
ULN	**Ulaanbaatar**	**61.40**	**333**	*e*P		P	**P**	**20 02 36.5**	**+0.6**
	comp=Z,5.4nm,0.8s								
SONM	**Songino Array**	**61.68**	**332**	P		P	**P**	**20 02 38.5**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=153,slow=8.4,SNR=9.9								
SONM					PcP		**PcP**	**20 03 18.7**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=151,slow=4.4,SNR=4.3								
SONA1	**Songino Array**	**61.68**	**332**	*e*P		P	**P**	**20 02 38.5**	**+0.7**
GUN	**Gumba**	**64.45**	**304**	*e*P		P	**P**	**20 02 57.6**	**+0.8**
	comp=Z,19nm,0.4s								
PKIN	**Phulchoki**	**64.73**	**303**	*e*P		P	**P**	**20 02 58.9**	**+0.4**
KKN	**Kakani**	**64.90**	**303**	*e*P		P	**P**	**20 03 00.2**	**+0.6**
	comp=Z,21nm,0.6s								
ZAK	**Zakamensk**	**64.93**	**333**	*e*P		P	**P**	**20 02 59.3**	**+0.2**
ZAK				*e*				20 03 23.0	
ZAK					pmax		pmax		
	comp=Z,7.0nm,1.1s								
ZAK					pmax		pmax		
	comp=Z,6.0nm,1.1s								
DMN	**Daman**	**64.99**	**303**	*e*P		P	**P**	**20 03 01.1**	**+0.9**
	comp=Z,26nm,0.5s								
GKN	**Gorkha**	**65.51**	**303**	*e*P		P	**P**	**20 03 04.1**	**+0.7**
	comp=Z,31nm,0.4s								
TLY	**Talaya**	**65.68**	**334**	*e*P		P	**P**	**20 03 05.3**	**+1.4**
TLY					pmax		pmax		
	comp=Z,5.0nm,0.9s								
TLY	**Talaya**	**65.68**	**334**	*e*P		P	**P**	**20 03 05.2**	**+1.4**
KOLN	**Koldanda**	**66.30**	**303**	*e*P		P	**P**	**20 03 09.2**	**+0.6**
	comp=Z,21nm,0.6s								
PYUN	**Piuthan**	**66.92**	**303**	*e*P		P	**P**	**20 03 13.0**	**+0.5**
	comp=Z,24nm,0.5s								
YAK	**Yakutsk**	**67.34**	**353**	LR		LR	LR	20 29 50.4	
	comp=Z,191nm,21.5s,baz=266,slow=33								
YAK	**Yakutsk**	**67.34**	**353**	*e*P		P	**P**	**20 03 14.0**	**-0.2**
YAK					pmax		pmax		
	comp=Z,14nm,0.9s								
YAK					pmax		pmax		
	comp=N,8.0nm,1.1s								
YAK					pmax		pmax		
	comp=E,2.0nm,1.1s								
YAK	**Yakutsk**	**67.34**	**353**	*e*P		P	**P**	**20 03 14.2**	**+0.1**
SEY	**Seymchan**	**67.68**	**4**	*ce*P		P	**P**	**20 03 16.1**	**-0.2**
WMQ	**Urumqi**	**69.68**	**320**	P		P	**P**	**20 03 29.8**	**+0.5**
WMQ					pP		sP	20 03 57.8	-6.7
WMQ					sP		pP	20 04 09.8	+16
WMQ					LN				
	comp=E,47nm,20.4s								
WMQ					LE				
	comp=E,38nm,20.4s								
WMQ					LZ				
	comp=E,57nm,19.8s								
VNDA	**Vanda**	**73.49**	**176**	P		P	**P**	**20 03 52.1**	**+0.7**
	comp=E,3.4nm,0.6s,baz=329,slow=6.9,SNR=31								
VNDA	**Vanda**	**73.49**	**176**	*e*P		P	**P**	**20 03 52.0**	**+0.6**
VNDA	**Vanda**	**73.49**	**176**	*e*P		P	**P**	**20 03 52.0**	**+0.6**
BILL	**Bilibino**	**74.19**	**9**	*i* P		P	**P**	**20 03 56.4**	**+0.7**
BILL				*i*				20 04 12.1	
BILL				*i* *PP			**pP**	**20 04 23.6**	**+3.1**
BILL				*i*				20 06 46.6	
BILL					pmax		pmax		
	comp=E,3.0nm,0.9s								
BILL	**Bilibino**	**74.19**	**9**	*e*P		P	**P**	**20 03 56.3**	**+0.7**
MK01	**Makanchi Array**	**74.40**	**321**	*e*P		P	**P**	**20 03 57.5**	**+0.2**
MK31	**Makanchi Array**	**74.42**	**321**	*e*P		P	**P**	**20 03 58.3**	**+0.9**
MK31	**Makanchi Array**	**74.42**	**321**	*e*P		P	**P**	**20 03 58.3**	**+0.9**
MKAR	**Makanchi Array**	**74.42**	**321**	P		P	**P**	**20 03 57.9**	**+0.5**
	comp=Z,5.2nm,0.6s,baz=97,slow=8.9,SNR=78								
MKAR	**Makanchi Array**	**74.42**	**321**	*e*P		P	**P**	**20 03 58.3**	**+0.9**
MKAR	**Makanchi Array**	**74.42**	**321**	*e*P		P	**P**	**20 03 58.3**	**+0.9**
MAKZ	**Makanchi**	**74.62**	**321**	*e*P		P	**P**	**20 03 59.0**	**+0.4**
MAKZ	**Makanchi**	**74.62**	**321**	*e*P		P	**P**	**20 03 59.0**	**+0.4**
KSH	**Kashi**	**76.09**	**312**	*e*P		P	**P**	**20 04 06.1**	**-1.2**
KSH					PcP		**PcP**	**20 04 17.8**	**-1.3**
KSH					pP		sP	20 04 36.0	-6.8
KSH					PP		**PP**	**20 07 01.9**	**+2.5**
KSH					S		**S**	**20 13 35.4**	**-8.0**
KSH					PMZ				
	comp=E,5.0nm,0.8s								
KSH					PMZ				
	comp=Z,100nm,5.2s								
KSH					LN				
	comp=Z,140nm,12.6s								
KSH					LE				
	comp=Z,130nm,11.8s								
KSH					LZ				
	comp=Z,740nm,7.5s								
ZALV	**Zalesovo Beam**	**76.16**	**329**	P		P	**P**	**20 04 06.7**	**-0.5**
	comp=Z,8.9nm,0.7s,baz=115,slow=5.6,SNR=36								
ZALV					pP		**pP**	**20 04 30.7**	**-1.5**
	comp=Z,9.1nm,0.8s,baz=116,slow=5.0,SNR=10								
CHGN	**Chignik**	**76.72**	**29**	*e*P		P	**P**	**20 04 10.7**	**+0.4**
TIXI	**Tiksi**	**76.75**	**355**	*e*P		P	**P**	**20 04 08.9**	**-1.2**
TIXI					pmax		pmax		
	comp=Z,7.0nm,0.6s								
TIXI	**Tiksi**	**76.75**	**355**	*e*P		P

comp=Z,6.6nm,0.8s,baz=174,slow=4.7,SNR=3.3
GEYT Alibeck 89.40 308 P **P** **20 05 16.0 -0.1**
comp=Z,5.1nm,0.7s,baz=92,slow=3.7,SNR=11
SYO Syowa Base 90.78 200‖*e*X **P** **20 05 26.0 +4.3**
AKTO Aktyubinsk 90.83 320 P **P** **20 05 22.1 -0.3**
comp=Z,3.1nm,0.9s,baz=210,slow=8.6,SNR=4.8
ARU Arti 91.17 326*c iP* **P** **20 05 23.0 -0.8**
ARU 20 09 01.4
ARU S **SKSac** **20 15 45.5 -1.6**
ARU SP **SP** **20 17 22.3 0.0**
ARU PS **PS** **20 17 31.2 -3.8**
ARU SS **SS** **20 22 24.3 +3.9**
ARU pmax pmax
comp=Z,10.0nm,1.7s
I03D Drain, OR 95.23 47 P **P** **20 05 44.0 +1.2**
baz=269
M02C Callahan 95.54 49 P **P** **20 05 45.9 +1.5**
baz=269
B05A Bryant 96.16 42 P **P** **20 05 48.4 +1.5**
baz=270
I05D Terrebonne, OR 96.68 46 P **P** **20 05 51.1 +1.6**
baz=270
J05D Fort Rock, OR 96.76 47 P **P** **20 05 51.3 +1.3**
baz=270
PKM Mcpherson Peak 97.86 56 P Pdif 20 05 56.2 +1.0
baz=270
NVAR Mina Array Bea 99.04 52 P **Pdif** **20 06 01.4 +0.9**
comp=Z,1.0nm,0.8s,baz=273,slow=5.7,SNR=6.2
EDW2 Edwards Air Fo 99.36 56 P **Pdif** **20 06 02.5 +0.8**
baz=271
YKA Yellowknife Ar 99.43 27 P **Pdif** **20 06 01.4 +0.1**
comp=Z,1.7nm,0.8s,baz=280,slow=4.3,SNR=8.4
LRMC Laurel Mtn Rad 99.60 55 P **Pdif** **20 06 03.1 +0.2**
baz=271
MPMC Manual Prospec 99.75 54 P **Pdif** **20 06 04.4 +0.8**
baz=271
KLMR Klimovskoe 100.96 331 *eP* **Pdif** **20 06 05.4 -2.7**
KLMR pmax pmax
comp=Z,8.0nm,1.2s
ARCES ARCESS Array B 103.94 341 Pdiff **Pdif** **20 06 20.5 -0.8**
comp=Z,1.6nm,0.7s,baz=74,slow=8.9,SNR=7.7
IDI Anoyia 116.11 307 PKP **PKPdf** **20 11 02.6 +0.3**
comp=Z,6.1nm,0.9s,baz=315,slow=1.4,SNR=4.8
TREC Trest 117.71 325 *e*PKP **PKPdf** **20 11 05.5 +0.6**
TREC Trest 117.71 325 *e*PKiKP **PKiKP** **20 11 05.5 +0.6**
CLL Collm 118.10 327 *e*PKiKP **PKiKP** **20 11 06.0 +0.5**
CLL Collm 118.10 327 *e*PKiKP **PKiKP** **20 11 06.0 +0.5**
KHC Kasperske Hory 118.88 325 *e*PKP **PKPdf** **20 11 07.8 +0.6**
KHC *ep*PKP **pPKPdf** **20 11 31.5 -2.4**
KHC Kasperske Hory 118.88 325 *e*PKiKP **PKPdf** **20 11 07.8 +0.6**
KHC *e* 20 11 31.5
GERES GERESS Array B 118.95 325 PKP **PKPdf** **20 11 07.7 +0.3**
comp=Z,0.7nm,0.4s,baz=113,slow=2.0,SNR=7.6
MEM Membach 122.14 330 PKP **PKPdf** **20 11 13.4 +0.1**
SCHQ Schefferville 124.16 21 PKP **PKPdf** **20 11 17.5 +0.4**
comp=Z,6.1nm,0.7s,baz=0.0,slow=5.1,SNR=3.9
PLCA Paso Flores 124.99 148 PKP **PKPdf** **20 11 20.5 +1.3**
comp=Z,5.7nm,0.6s,baz=230,slow=3.1,SNR=5.1
KEST Kesra 127.91 313 PKP **PKPdf** **20 11 26.4 +1.5**
comp=Z,1.4nm,0.4s,baz=197,slow=0.8,SNR=6.7
ESDC Sonseca Array 134.55 325 SKPbc **SKPbc** **20 15 00.2 +1.4**
comp=Z,0.5nm,0.7s,baz=23,slow=3.8,SNR=3.5
MVO Moncorvo 135.20 329 *e*LR LR 20 58 03.7
comp=Z,2μm,16.0s
PGAV Gavieira, Arco 135.24 330 *e*LR LR 20 59 06.1
comp=Z,2μm,16.0s
MTE Manteigas 136.02 328 *e*LR LR 20 58 15.8
comp=Z,974nm,18.0s
PMRV Marv??o 136.64 327 *e*LR LR 20 58 35.3
comp=Z,2μm,18.0s
PVAQ Vaqueiros 138.25 325 *e*LR LR 21 00 34.3
comp=Z,1μm,16.0s
TORD Torodi Ar. Bea 141.65 285 PKhKP PKPpre 20 11 44.6
comp=Z,0.7nm,0.5s,baz=61,slow=3.8,SNR=14
TORD PKP **PKiKP** **20 11 52.8 -1.1**
comp=Z,2.1nm,0.6s,baz=130,slow=2.3,SNR=8.7
TORD SKPbc **SKiKP** **20 15 22.1 +0.7**
comp=Z,1.6nm,0.9s,baz=63,slow=2.8,SNR=5.2
LPAZ La Paz 142.21 124 PKhKP PKPpre 20 11 48.6
comp=Z,3.0nm,0.6s,baz=245,slow=2.2,SNR=10
CHIC Chingaza 142.60 88 *eP* **PKPdf** **20 11 46.9 -6.4**
VILC Villavicencio, 142.62 89 *eP* **PKPdf** **20 11 46.9 -6.1**
OCAC Ocana 142.96 82 *eP* **PKPdf** **20 11 51.2 -2.3**
CPUP Villa Florida 143.05 147 PKhKP PKPpre 20 11 49.7
comp=Z,4.3nm,0.6s,baz=318,slow=2.0,SNR=8.8
RUSC La Rusia 143.26 86 *eP* PKPbc 20 11 51.8 0.0
GRMC Gramalote, San 143.49 83 *eP* PKPbc 20 11 52.5 +0.5
CBRI Barrientos, No 143.50 83 *eP* PKPbc 20 11 52.5 +0.5
PMPS Porto Santo 146.17 329 *e*PKPab **PKPbc** **20 11 59.8 +0.3**
PMAR Madeira 146.73 329 *e*PKPab **PKPab** **20 12 02.9 +0.2**
PMOZ Porto Moniz, M 146.79 330 *e*PKPab **PKPab** **20 12 03.2 +0.4**
PMOZ Porto Moniz, M 146.79 330 *e*LR LR 21 03 26.4
comp=Z,2μm,16.0s
SJG San Juan 147.80 63 *eP* **PKPdf** **20 12 01.4 0.0**
KIC Kosan Boka 148.63 275 *e*PKIKP **PKPbc** **20 12 07.3 +0.5**
comp=Z,28nm,1.0s
DBIC Dimbokro 148.74 275 PKPbc **PKPbc** **20 12 07.7 +0.6**
comp=Z,14nm,0.6s,baz=59,slow=3.0,SNR=28
TIC Toumodi 148.90 275 *e*PKIKP **PKPbc** **20 12 07.9 +0.4**
LIC Lamto 148.92 274 *e*PKIKP **PKPbc** **20 12 07.8 +0.2**
BDFB Brasilia 156.72 150 PKP **PKPdf** **20 12 13.8 -1.1**
comp=Z,2.0nm,0.6s,baz=149,slow=5.4,SNR=4.9

IDC 12 19:53:33.0±1.9, 13°.47N×41°.89E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/43, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=55.2km s-min=28.1km az=69.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.14**	**154**	Pn		Pn	19 54 10.2	0.0
	51nm,0.3s,baz=221,slow=20,SNR=2.3							
GERES	**GERESS Array B**	**42.25**	**332**	P		P	20 01 27.9	-0.2
	0.1nm,0.4s,baz=139,slow=7.8,SNR=3.1							
MKAR	**Makanchi Array**	**47.38**	**37**	P		P	20 02 08.1	-1.0
	0.6nm,0.8s,baz=243,slow=9.1,SNR=5.2							
ZALV	**Zalesovo Beam**	**52.58**	**30**	P		P	20 02 49.1	+0.8
	0.7nm,0.6s,baz=245,slow=9.4,SNR=3.1							

IDC 12 19:55:54.6±2.4, 12°.67N×42°.09E, h0km, mb3.9/6, mb1 3.9/6, mb1mx3.6/39, mbtmp3.9/6, Error ellipse: s-maj=60.4km s-min=26.4km az=153.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**27.96**	**346**	P		P	20 01 46.9	-0.2
	0.8nm,0.9s,baz=159,slow=11,SNR=3.6							
TORD	**Torodi Ar. Bea**	**39.34**	**275**	P		P	20 03 26.4	+0.3
	2.1nm,1.1s,baz=95,slow=7.9,SNR=6.0							
AKTO	**Aktyubinsk**	**39.85**	**16**	P		P	20 03 31.5	+1.7
	1.9nm,0.8s,baz=219,slow=9.4,SNR=5.4							
GERES	**GERESS Array B**	**43.04**	**333**	P		P	20 03 54.9	-1.3
	0.4nm,0.7s,baz=125,slow=7.0,SNR=6.2							
DBIC	**Dimbokro**	**46.60**	**267**	P		P	20 04 25.0	0.0
	6.9nm,0.9s,baz=4.4,slow=13,SNR=3.3							
SONM	**Songino Array**	**63.51**	**43**	P		P	20 06 26.2	-0.7
	0.5nm,0.9s,baz=256,slow=5.8,SNR=3.3							

*ISCJB **12** 19:56:25.4±1.0, 13°.5N±0°.1×41°.8E±0°.2, h10km, mb3.8/6, Error ellipse: s-maj=23.3km s-min=14.9km az=147.0*
*IDC **12** 19:56:25.4±1.5, 13°.45N×41°.77E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.7/41, mbtmp3.9/8, ML3.9/2, Error ellipse: s-maj=37.4km s-min=22.5km az=38.0*
ISC 12 19:56:26.8±1.1, 13°.4N±0°.1×41°.8E±0°.2, h10km, n8, σ0s53/8, mb3.8/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.17**	**151**	Pn		**Pn**	**19 57 03.0**	**-0.1**
	106nm,0.3s,baz=283,slow=19,SNR=3.8							
WSAR	**Wadi Sarin**	**18.73**	**56**	P		**Pn**	**20 00 46.4**	**+0.2**
	0.1nm,0.3s,baz=233,slow=3.4,SNR=3.5							
BRTR	**Keskin Array B**	**27.15**	**346**	P		**P**	**20 02 10.2**	**-0.2**
	0.9nm,0.9s,baz=151,slow=13,SNR=2.4							
GERES	**GERESS Array B**	**42.23**	**332**	P		**P**	**20 04 19.8**	**-0.3**
	0.6nm,0.6s,baz=133,slow=7.1,SNR=4.8							
ESDC	**Sonseca Array**	**47.86**	**312**	P		**P**	**20 05 05.5**	**+0.4**
	0.2nm,0.5s,baz=95,slow=6.4,SNR=3.7							
ZALV	**Zalesovo Beam**	**52.66**	**30**	P		**P**	**20 05 40.6**	**-0.6**
	3.4nm,0.8s,baz=234,slow=6.9,SNR=4.2							
CMAR	**Chiang Mai Arr**	**55.02**	**77**	P		**P**	**20 05 58.8**	**-0.2**
	1.6nm,0.9s,baz=291,slow=7.6,SNR=6.1							
SONM	**Songino Array**	**63.16**	**43**	P		**P**	**20 06 56.0**	**+0.8**
	1.1nm,0.9s,baz=258,slow=7.2,SNR=5.1							

IDC 12 19:56:43.4±1.9, 13°.15N×41°.72E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/38, mbtmp4.0/7, Error ellipse: s-maj=50.0km s-min=27.7km az=171.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**27.42**	**346**	P		P	20 02 31.4	+0.5
	1.4nm,0.9s,baz=140,slow=7.8,SNR=4.8							
TORD	**Torodi Ar. Bea**	**38.94**	**275**	P		P	20 04 11.4	-0.1
	1.4nm,0.9s,baz=106,slow=7.3,SNR=4.8							
AKTO	**Aktyubinsk**	**39.50**	**16**	P		P	20 04 15.2	-0.5
	2.0nm,1.0s,baz=217,slow=7.6,SNR=4.7							
MKAR	**Makanchi Array**	**47.73**	**37**	P		P	20 05 23.7	+1.5
	3.0nm,0.9s,baz=232,slow=7.1,SNR=2.1							
ZALV	**Zalesovo Beam**	**52.94**	**30**	P		P	20 05 59.3	-2.1
	5.1nm,1.0s,baz=232,slow=7.3,SNR=4.7							
CMAR	**Chiang Mai Arr**	**55.13**	**77**	P		P	20 06 17.9	-0.1
	0.8nm,0.9s,baz=283,slow=7.3,SNR=5.8							
SONM	**Songino Array**	**63.40**	**43**	P		P	20 07 15.1	+0.1
	1.1nm,1.1s,baz=243,slow=7.7,SNR=4.3							

*ISCJB **12** 19:57:42.5±0.5, 13°.47N±0°.07×41°.66E±0°.09, h10km, mb4.0/15, MS3.9/1, Error ellipse: s-maj=13.7km s-min=7.7km az=150.0*
*IDC **12** 19:57:42.5±0.9, 13°.38N×41°.66E, h0km, mb4.0/13, mb1 4.1/15, mb1mx3.9/44, mbtmp4.0/15, ML4.2/2, MS4.1/3, Ms1 4.1/3, ms1mx3.3/53, Error ellipse: s-maj=20.8km s-min=17.2km az=29.0*
*NEIC **12** 19:57:43.9±0.5, 13°.38N×41°.67E, h10km, mb4.4/2, Error ellipse: s-maj=12.0km s-min=10.4km az=214.0*
ISC 12 19:57:43.8±0.7, 13°.35N±0°.09×41°.7E±0°.1, h10km, n22, σ0s82/19, mb4.0/15, 1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.15**	**147**	Pn		**Pn**	**19 58 20.2**	**+0.5**
	143nm,0.3s,baz=119,slow=19,SNR=2.3							
ATD				Sn		**Sb**	**19 58 49.1**	**-0.4**
	261nm,0.3s,baz=204,slow=20,SNR=3.9							
KMBO	**Kilima Mbogo**	**15.04**	**197**	LR	LR	LR	20 07 00.2	
	comp=Z,653nm,18.4s,baz=52,slow=37							
WSAR	**Wadi Sarin**	**18.85**	**56**	P		**P**	**20 02 03.6**	**-0.5**
	0.3nm,0.3s,baz=239,slow=7.0,SNR=4.0							
WSAR				LR	LR	LR	20 09 45.7	
	comp=Z,704nm,19.9s,baz=248,slow=38							
BRTR	**Keskin Array B**	**27.21**	**346**	P		**P**	**20 03 28.3**	**+0.4**
	0.7nm,0.9s,baz=146,slow=8.3,SNR=2.7							
AKASG	**Malin Array Be**	**38.60**	**347**	P		**P**	**20 05 07.9**	**+1.0**
	0.9nm,0.6s,baz=171,slow=6.9,SNR=4.0							
ABKAR	**Akbulak array**	**38.84**	**19**	*eP*		**P**	**20 05 08.5**	**-0.5**
	4.2nm,0.8s							
PALK	**Pallekele**	**38.84**	**95**	LR	LR	LR	20 17 22.5	
	comp=Z,169nm,20.9s,baz=296,slow=30							
TORD	**Torodi Ar. Bea**	**38.88**	**274**	P		**P**	**20 05 09.1**	**-0.7**
	2.0nm,0.8s,baz=94,slow=8.3,SNR=7.7							
AKTO	**Aktyubinsk**	**39.31**	**17**	P		**P**	**20 05 13.7**	**+0.7**
	1.7nm,0.8s,baz=226,slow=8.6,SNR=4.5							
TKM2	**Tokmak 2**	**41.50**	**38**	*eP*		P	20 05 26.2	-5.2
	11nm,0.7s							
GERES	**GERESS Array B**	**42.25**	**333**	P		**P**	**20 05 36.3**	**-1.1**
	1.1nm,0.6s,baz=134,slow=7.6,SNR=7.3							
KHC	**Kasperske Hory**	**42.52**	**333**	*eP*		**P**	**20 05 39.4**	**-0.1**
KHC						*ex*	20 05 46.5	
DBIC	**Dimbokro**	**46.24**	**266**	P		**P**	**20 06 09.8**	**+0.2**
	5.5nm,0.8s,baz=80,slow=11,SNR=3.2							
MKAR	**Makanchi Array**	**47.60**	**37**	P		**P**	**20 06 20.0**	**+0.1**
	3.8nm,0.8s,baz=229,slow=5.1,SNR=6.4							
ESDC	**Sonseca Array**	**47.84**	**312**	P		**P**	**20 06 21.5**	**-0.4**
	0.4nm,0.6s,baz=102,slow=7.5,SNR=4.7							
FINES	**FINESS Array B**	**49.33**	**350**	P		**P**	**20 06 33.2**	**+0.3**
	1.7nm,0.6s,baz=132,slow=2.8,SNR=6.0							
NOA	**NOSAR Array B**	**52.49**	**342**	P		**P**	**20 06 56.2**	**-0.6**
	0.7nm,0.7s,baz=152,slow=8.7,SNR=3.0							
ZALV	**Zalesovo Beam**	**52.78**	**31**	P		**P**	**20 06 59.0**	**0.0**
	3.3nm,0.7s,baz=234,slow=7.7,SNR=7.3							
CMAR	**Chiang Mai Arr**	**55.13**	**77**	P		**P**	**20 07 16.3**	**-0.5**
	1.3nm,0.8s,baz=277,slow=7.9,SNR=6.4							
SONM	**Songino Array**	**63.28**	**43**	P		**P**	**20 08 12.6**	**-0.4**
	1.0nm,0.8s,baz=278,slow=6.8,SNR=5.3							
SYO	**Syowa Base**	**82.16**	**181**‖*ep*	P		pP	20 10 09.3	+1.6
NVAR	**Mina Array Bea**	**125.18**	**341**	PKP		**PKPdf**	**20 16 47.7**	**+2.3**
	0.5nm,0.8s,baz=90,slow=0.2,SNR=3.7							

*IDC **12** 20:02:56.0±1.0, 13°.28N×41°.57E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.7/53, mbtmp3.9/12, ML4.3/1, Error ellipse: s-maj=25.3km s-min=13.5km az=54.0*
*ISCJB **12** 20:02:56.2±0.8, 13°.4N±0°.1×41°.7E±0°.1, h10km, mb3.9/11, Error ellipse: s-maj=18.4km s-min=13.6km az=144.0*
ISC 12 20:02:57.6±0.9, 13°.3N±0°.1×41°.6E±0°.1, h10km, n13, σ1s05/13, mb4.0/11, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.17**	**146**	Pn		**Pn**	**20 03 33.7**	**-0.1**
	104nm,0.3s,baz=308,slow=18,SNR=7.4							
ATD				Lg	Lg	Lg	20 04 03.4	
	152nm,0.3s,baz=124,slow=20,SNR=9.3							
WSAR	**Wadi Sarin**	**18.91**	**56**	P		**P**	**20 07 16.5**	**-2.0**
	0.2nm,0.3s,baz=281,slow=15,SNR=4.9							
BRTR	**Keskin Array B**	**27.21**	**346**	P		**P**	**20 08 43.5**	**+1.7**
	1.6nm,1.0s,baz=165,slow=10,SNR=6.3							
AKASG	**Malin Array Be**	**38.61**	**347**	P		**P**	**20 10 19.3**	**-1.5**
	0.4nm,0.6s,baz=156,slow=6.7,SNR=4.2							
TORD	**Torodi Ar. Bea**	**38.82**	**274**	P		**P**	**20 10 22.8**	**-0.3**
	2.1nm,1.0s,baz=101,slow=8.0,SNR=7.5							
AKTO	**Aktyubinsk**	**39.35**	**17**	P		**P**	**20 10 27.5**	**+0.5**
	0.9nm,0.7s,baz=218,slow=6.3,SNR=3.6							
GERES	**GERESS Array B**	**42.24**	**333**	P		**P**	**20 10 51.1**	**+0.1**
	1.1nm,0.8s,baz=142,slow=6.6,SNR=11							
MKAR	**Makanchi Array**	**47.65**	**37**	P		**P**	**20 11 34.7**	**+0.7**
	1.7nm,0.8s,baz=234,slow=7.0,SNR=9.4							
KURBB	**Kurchatov Arra**	**47.75**	**31**	P		**P**	**20 11 35.0**	**+0.3**
	1.0nm,0.8s,baz=232,slow=8.1,SNR=7.0							
FINES	**FINESS Array B**	**49.34**	**350**	P		**P**	**20 11 46.7**	**-0.1**
	1.8nm,0.7s,baz=193,slow=11,SNR=3.4							
ZALV	**Zalesovo Beam**	**52.83**	**31**	P		**P**	**20 12 12.8**	**-0.3**
	1.4nm,0.6s,baz=238,slow=9.4,SNR=5.1							
CMAR	**Chiang Mai Arr**	**55.20**	**77**	P		**P**	**20 12 31.9**	**+0.8**
	1.7nm,0.9s,baz=276,slow=9.0,SNR=9.0							
SONM	**Songino Array**	**63.34**	**43**	P		**P**	**20 13 27.6**	**+0.5**
	1.6nm,1.1s,baz=256,slow=6.0,SNR=8.2							

*ISCJB **12** 20:03:41.7±2.1, 13°.7N±0°.3×41°.4E±0°.2, h10km, mb3.8/9, Error ellipse: s-maj=48.4km s-min=22.1km az=164.6*
*IDC **12** 20:03:42.2±2.5, 13°.78N×41°.34E, h0km, mb3.9/9, mb1 3.9/9, mb1mx3.7/51, mbtmp3.9/9, Error ellipse: s-maj=57.8km s-min=25.6km az=163.0*
ISC 12 20:03:43.6±2.5, 13°.8N±0°.4×41°.3E±0°.2, h10km, n9, σ0s94/9, mb4.0/9, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**26.72**	**347**	P		**P**	**20 09 24.0**	**+0.5**
	0.4nm,0.7s,baz=153,slow=9.7,SNR=2.5							
TORD	**Torodi Ar. Bea**	**38.53**	**274**	P		**P**	**20 11 06.5**	**-0.3**
	0.9nm,0.9s,baz=81,slow=8.9,SNR=3.0							
AKTO	**Aktyubinsk**	**39.00**	**17**	P		**P**	**20 11 08.4**	**-1.7**
	1.1nm,0.8s,baz=244,slow=8.7,SNR=2.7							
GERES	**GERESS Array B**	**41.73**	**333**	P		**P**	**20 11 32.8**	**-0.2**
	1.0nm,0.7s,baz=110,slow=1.6,SNR=5.0							
MKAR	**Makanchi Array**	**47.46**	**38**	P		**P**	**20 12 18.6**	**-0.1**
	3.4nm,1.0s,baz=234,slow=7.1,SNR=7.3							
KURBB	**Kurchatov Arra**	**47.51**	**31**	P		**P**	**20 12 19.6**	**+0.6**
	1.5nm,0.8s,baz=234,slow=8.1,SNR=5.9							
FINES	**FINESS Array B**	**48.86**	**350**	P		**P**	**20 12 30.2**	**+1.0**
	2.5nm,0.8s,baz=160,slow=6.1,SNR=3.8							
ZALV	**Zalesovo Beam**	**52.58**	**31**	P		**P**	**20 12 57.2**	**-0.1**
	2.3nm,0.8s,baz=243,slow=6.5,SNR=4.4							
SONM	**Songino Array**	**63.19**	**43**	P		**P**	**20 14 12.9**	**+0.6**
	0.9nm,0.9s,baz=243,slow=6.5,SNR=4.6							

IDC 12 20:05:46.9±5.8, 13°.65N×41°.74E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.4/54, mbtmp3.7/5, Error ellipse: s-maj=133.5km s-min=43.3km az=25.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**42.03**	**332**	P		P	20 13 40.2	-0.1
	0.5nm,0.7s,baz=127,slow=7.5,SNR=2.9							
MKAR	**Makanchi Array**	**47.32**	**37**	P		P	20 14 23.5	+1.0
	0.6nm,0.7s,baz=235,slow=6.0,SNR=4.0							
ZALV	**Zalesovo Beam**	**52.50**	**31**	P		P	20 14 59.9	-1.7
	1.0nm,0.6s,baz=229,slow=6.6,SNR=2.9							
CMAR	**Chiang Mai Arr**	**55.00**	**77**	P		P	20 15 20.2	-0.3
	1.5nm,0.9s,baz=281,slow=8.8,SNR=4.4							
SONM	**Songino Array**	**63.02**	**43**	P		P	20 16 16.5	+0.5
	0.4nm,0.8s,baz=247,slow=7.6,SNR=3.1							

IDC 12 20:06:26.3±7.7, 13°.52N×41°.63E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/55, mbtmp3.5/5, Error ellipse: s-maj=188.8km s-min=35.9km az=2.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**42.09**	**333**	P		P	20 14 20.1	0.0
	0.3nm,0.5s,baz=128,slow=6.4,SNR=2.3							
MKAR	**Makanchi Array**	**47.49**	**37**	P		P	20 15 03.6	+0.5
	0.5nm,0.6s,baz=238,slow=9.0,SNR=3.6							
ESDC	**Sonseca Array**	**47.70**	**312**	P		P	20 15 04.8	-0.2
	0.1nm,0.3s,baz=92,slow=3.3,SNR=5.1							
ZALV	**Zalesovo Beam**	**52.66**	**31**	P		P	20 15 41.4	-0.7
	1.0nm,0.7s,baz=215,slow=4.8,SNR=2.8							
SONM	**Songino Array**	**63.19**	**43**	P		P	20 16 56.4	0.0
	0.5nm,1.0s,baz=266,slow=6.9,SNR=2.5							

*ISCJB **12** 20:08:42.5±1.0, 13°.4N±0°.1×41°.7E±0°.2, h10km, mb3.6/5, Error ellipse: s-maj=24.4km s-min=16.9km az=156.1*
*IDC **12** 20:08:42.4±1.2, 13°.35N×41°.69E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/54, mbtmp3.6/6, ML4.3/1, Error ellipse: s-maj=31.7km s-min=15.7km az=62.0*
ISC 12 20:08:43.8±1.1, 13°.4N±0°.2×41°.7E±0°.2, h10km, n6, σ0s66/6, mb3.6/5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.15**	**148**	Pn		**Pn**	**20 09 19.7**	**-0.1**
	96nm,0.3s,baz=103,slow=23,SNR=6.5							
ATD				Lg	Lg	Lg	20 09 49.7	
	59nm,0.3s,baz=267,slow=22,SNR=3.6							
TORD	**Torodi Ar. Bea**	**38.90**	**274**	P		**P**	**20 16 10.4**	**+0.4**
	1.5nm,1.1s,baz=95,slow=9.1,SNR=3.2							
GERES	**GERESS Array B**	**42.25**	**333**	P		**P**	**20 16 36.8**	**-0.6**
	0.5nm,0.6s,baz=138,slow=8.1,SNR=4.9							
MKAR	**Makanchi Array**	**47.57**	**37**	P		**P**	**20 17 19.9**	**+0.1**
	0.5nm,0.8s,baz=233,slow=7.9,SNR=4.6							
KURBB	**Kurchatov Arra**	**47.68**	**31**	P		**P**	**20 17 21.3**	**+0.9**
	0.3nm,0.6s,baz=231,slow=8.3,SNR=3.1							
ZALV	**Zalesovo Beam**	**52.76**	**31**	P		**P**	**20 17 58.7**	**-0.2**
	0.7nm,0.5s,baz=251,slow=7.0,SNR=3.1							

*ISCJB **12** 20:10:09.8±0.7, 13°.5N±0°.1×41°.9E±0°.1, h10km, mb3.7/13, Error ellipse: s-maj=16.3km s-min=12.4km az=43.7*
*IDC **12** 20:10:09.7±0.8, 13°.58N×42°.02E, h0km, mb3.6/11, mb1 3.7/12, mb1mx3.6/52, mbtmp3.6/12, ML4.2/1, Error ellipse: s-maj=22.9km s-min=14.1km az=74.0*
*DHMR **12** 20:10:11.4±0.3, 13°.01N×42°.34E, h3km, 33km, ML4.5*
ISC 12 20:10:10.0±0.7, 13°.28N±0°.07×41°.98E±0°.07, h10km, n24, σ2s06/26, mb3.7/13, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**1.93**	**154**	Pn		**Pg**	**20 10 46.2**	**-1.0**
	78nm,0.3s,baz=237,slow=21,SNR=3.0							
ATD				Lg	Lg	Lg	20 11 19.5	
	178nm,0.3s,baz=286,slow=19,SNR=4.5							
HAJJ	**Hajjah**	**2.87**	**33**	*i* P		**Pb**	**20 11 01.9**	**+0.4**
HAJJ				*i* S		**Sg**	**20 11 41.2**	**-1.1**
HAJJ				AML	AML	AML	20 11 50.4	
	comp=Z,4μm,0.6s							
ADEN	**Aden**	**2.97**	**99**	*i* S		**Sn**	**20 11 31.4**	**-1.4**
ADEN				AML	AML	AML	20 12 34.8	
	comp=E,4μm,0.5s							
SANA	**San'a**	**3.00**	**46**	*i* P		**Pb**	**20 11 02.5**	**-1.3**
SANA				*i* S		**Sb**	**20 11 42.4**	**+1.7**
WSAR	**Wadi Sarin**	**18.64**	**56**	P		**Pn**	**20 14 31.9**	**+3.5**
	comp=E,0.2nm,0.3s,baz=240,slow=6.3,SNR=7.0							
BRTR	**Keskin Array B**	**27.35**	**346**	P		**P**	**20 15 54.0**	**-1.5**
	comp=E,0.7nm,0.9s,baz=137,slow=3.2,SNR=2.9							
AKASG	**Malin Array Be**	**38.74**	**347**	P		**P**	**20 17 33.1**	**-1.3**
	comp=E,0.1nm,0.3s,baz=166,slow=7.0,SNR=6.1							
TORD	**Torodi Ar. Bea**	**39.19**	**275**	P		**P**	**20 17 39.0**	**+0.3**
	comp=E,1.8nm,1.0s,baz=90,slow=8.2,SNR=6.8							
AKTO	**Aktyubinsk**	**39.30**	**16**	P		**P**	**20 17 37.6**	**-1.5**
	comp=E,0.9nm,0.7s,baz=235,slow=16,SNR=2.2							
TREC	**Trest**	**42.01**	**334**	*eP*		**P**	**20 18 03.2**	**+1.6**
GERES	**GERESS Array B**	**42.46**	**332**	P		**P**	**20 18 00.6**	**-4.7**
	comp=E,0.8nm,0.7s,baz=125,slow=7.0,SNR=4.6							
DPC	**Dobruska-Polom**	**42.48**	**336**	*eP*		**P**	**20 18 07.3**	**+1.9**

KECS	Kecovo	39.33	338	*eP*	P		20 18 26.4	+2.1
CRVS	Cervenica-Dubn	39.33	339	*eP*	P		20 18 26.0	+1.6
CRVS	Cervenica-Dubn	39.33	339	*eP*	P		20 18 26.0	+1.6
AKTO	Aktyubinsk	39.47	16	P	P		20 18 25.0	-0.5
	6.1nm,0.9s,baz=226,slow=9.6,SNR=8.7							
AKTO	Aktyubinsk	39.47	16	P	P		20 18 25.0	-0.5
VYHS	Vyhne	39.97	336	*eP*	P		20 18 30.5	+0.8
	3.4nm,0.9s							
VYHS	Vyhne	39.97	336	*eP*	P		20 18 30.5	+0.8
SOKA	Soboth	40.19	331	*i* pP	P		20 18 33.5	+1.9
	4.2nm,0.9s							
OBKA	Obir	40.30	331	*i* pP	P		20 18 34.6	+2.1
	4.0nm,0.8s							
OBKA	Obir	40.30	331	P	P		20 18 34.6	+2.1
	4.0nm,0.8s							
ARSA	Arzberg	40.39	332	*eP*	P		20 18 35.0	+1.7
	8.0nm,0.7s							
ARSA	Arzberg	40.39	332	P	P		20 18 35.0	+1.7
	8.0nm,0.7s							
CONA	Conrad Observa	40.75	333	*i* P	P		20 18 37.1	+0.8
	5.1nm,1.1s							
CONA	Conrad Observa	40.75	333	P	P		20 18 37.1	+0.8
	5.1nm,1.1s							
MORC	Moravsky Berou	41.50	336	⇑*i*P	P		20 18 43.6	+1.2
VRAC	Vranov	41.51	335	⇑*i*P	P		20 18 43.5	+1.1
VRAC	Vranov	41.51	335	*eP*	P		20 18 43.1	+0.7
TREC	Trest	41.96	334	*eP*	P		20 18 46.6	+0.5
GERES	GERESS Array B	42.40	333	P	P		20 18 49.9	+0.1
	3.5nm,0.7s,baz=131,slow=7.3,SNR=15							
DPC	Dobruska-Polom	42.44	336	*eP*	P		20 18 50.7	+0.7
FETA	Feichten	42.53	329	*i* pP	P		20 18 53.1	+2.2
	5.0nm,0.9s							
KHC	Kasperske Hory	42.66	333	*eP*	P		20 18 52.2	+0.4
UPC	Upice	42.68	336	*eP*	P		20 18 52.7	+0.7
DAVA	Damuels	43.14	328	*eP*	P		20 18 56.6	+0.7
	9.1nm,0.8s							
DAVA	Damuels	43.14	328	P	P		20 18 56.6	+0.7
	9.1nm,0.8s							
BRG	Berggiesshubel	43.81	335	*eP*	P		20 19 01.2	+0.2
	4.7nm,1.0s							
BVAR	Borovoye Array	45.85	24	P	P		20 19 16.7	-0.6
	2.3nm,0.8s,baz=210,slow=7.8,SNR=7.4							
DBIC	Dimbokro	46.22	267	P	P		20 19 20.9	+0.3
	3.2nm,0.6s,baz=44,slow=7.2,SNR=4.9							
DBIC	Dimbokro	46.22	267	P	P		20 19 21.0	+0.3
MKAR	Makanchi Array	47.73	37	P	P		20 19 32.6	+0.4
	6.3nm,0.8s,baz=236,slow=8.5,SNR=15							
KURBB	Kurchatov Arra	47.85	31	P	P		20 19 33.6	+0.7
	3.6nm,0.8s,baz=232,slow=8.0,SNR=14							
ESDC	Sonseca Array	47.94	312	P	P		20 19 33.3	-0.6
	1.8nm,0.8s,baz=109,slow=6.7,SNR=6.8							
KURK	Kurchatov	47.95	31	*eP*	P		20 19 31.3	-2.5
KURK	Kurchatov	47.95	31	*eP*	P		20 19 31.3	-2.5
FINES	FINESS Array B	49.49	350	P	P		20 19 45.1	-0.2
	3.4nm,0.7s,baz=145,slow=7.0,SNR=8.6							
NB2	NORSAR Subarra	52.65	342	P	P		20 20 09.3	+0.1
	comp=Z,2.9nm,0.8s,baz=142,slow=7.9							
NB2	NORSAR Subarra	52.65	342	P	P		20 20 09.3	+0.1
	comp=Z,2.9nm,0.8s,SNR=4.5							
NOA	NORSAR Array B	52.65	342	P	P		20 20 09.1	-0.1
	comp=Z,1.9nm,0.8s,baz=141,slow=7.3,SNR=4.4							
ZALV	Zalesovo Beam	52.93	30	P	P		20 20 11.2	-0.1
	comp=Z,7.8nm,0.7s,baz=237,slow=7.1,SNR=14							
CMAR	Chiang Mai Arr	55.18	77	P	P		20 20 28.6	+0.2
	comp=Z,2.3nm,0.8s,baz=277,slow=8.2,SNR=8.9							
ARCES	ARCESS Array B	57.23	353	P	P		20 20 42.2	0.0
	comp=Z,2.2nm,0.8s,baz=165,slow=5.0,SNR=6.9							
NRIK	Noril'sk	63.09	17	P	P		20 21 22.0	-0.3
	comp=Z,4.4nm,0.7s,baz=241,slow=2.9,SNR=5.1							
SONM	Songino Array	63.41	43	P	P		20 21 25.4	+0.4
	comp=Z,1.9nm,0.8s,baz=254,slow=6.2,SNR=9.6							
TIXI	Tiksi	76.70	19	P	P		20 22 45.5	-0.5
	comp=Z,0.4nm,0.3s,baz=330,slow=5.2,SNR=3.6							
MAJO	Matsushiro	87.42	53	*eP*	P		20 23 43.0	0.0
MAJO	Matsushiro	87.42	53	*eP*	P		20 23 43.0	0.0
NVAR	Mina Array Bea	125.33	341	PKP	PKPdf		20 29 57.2	+0.3
	comp=Z,0.7nm,0.9s,baz=305,slow=1.6,SNR=5.0							
TXAR	Lajitas Array	126.08	322	PKP	PKPdf		20 29 58.4	-0.1
	comp=Z,0.3nm,0.8s,baz=67,slow=4.8,SNR=4.2							

DHMR **12** *20:15:30.3± 1.5, 13°.34N×42°.04E, h2km± 154km, ML4.4*
ISCJB **12** *20:15:35.0± 0.6, 13°.31N± 0°.06×41°.97E± 0°.05, h10km, mb4.0/16, Error ellipse: s-maj=9.1km s-min=6.9km az=8.7*
IDC **12** *20:15:34.2± 0.8, 13°.22N×41°.66E, h0km, mb4.0/16, mb1 4.1/17, mb1mx3.9/52, mbtmp4.0/17, ML4.4/1, Error ellipse: s-maj=18.7km s-min=12.7km az=52.0*
ISC 12 20:15:35.3±0.7, **13°.22N**±0°.07×**41°.91E**±0°.08, **h10**km, **n32,** σ1§**88**/34, **mb4.0**/16, **6C-2D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	1.91	151	Pn		Pb	20 16 10.2	-0.1
	148nm,0.3s,baz=95,slow=17,SNR=5.5							
ATD				Lg		Lg	20 16 39.0	
	259nm,0.3s,baz=299,slow=23,SNR=10							
HAJJ	Hajjah	2.96	33	*i* P		Pn	20 16 17.9	-4.7
HAJJ				*i* S		Sn	20 16 57.1	-1.2
ADEN	Aden	3.03	98	*i* P		Pn	20 16 20.6	-2.7
ADEN				*i* S		Sn	20 16 59.5	-0.2
ADEN				AML		AML	20 17 19.5	
	comp=E,3μm,0.5s							
SANA	San'a	3.10	46	*i* P		Pn	20 16 21.4	-3.1
SANA				*i* S		Sn	20 16 59.6	-2.2
BRTR	Keskin Array B	27.39	346	P		P	20 21 22.6	+1.5
	comp=E,2.1nm,0.9s,baz=165,slow=10,SNR=7.8							
KBZ	Khabaz	30.42	1	P		P	20 21 48.9	+1.2
	comp=E,2.8nm,0.9s,baz=149,slow=5.9,SNR=3.6							
CFR	Carcaliu	33.94	342	⇑*i*P		P	20 22 19.8	+1.1
MLR	Muntele Rosu	34.91	340	⇑*i*P		P	20 22 30.5	+3.3
VRI	Vrincioaia	34.99	341	⇑*i*P		P	20 22 32.1	+4.3
PLOR	Plostina	35.00	341	⇑*i*P		P	20 22 31.4	+3.5
VOIR		35.16	339	⇑*i*P		P	20 22 31.3	+1.9
ARR	Arges	35.25	339	⇑*i*P		P	20 22 31.7	+1.6
BZS	Buzias	36.59	336	⇓*i*P		P	20 22 42.1	+0.6
DRGR		37.16	338	⇓*i*P		P	20 22 48.0	+1.6
AKASG	Malin Array Be	38.78	347	P		P	20 22 58.8	-1.2
	comp=E,0.9nm,0.8s,baz=171,slow=7.5,SNR=3.9							
TORD	Torodi Ar. Bea	39.12	275	P		P	20 23 01.7	-1.7
	comp=E,1.9nm,0.9s,baz=95,slow=7.2,SNR=8.7							
AKTO	Aktyubinsk	39.38	16	P		P	20 23 05.2	+0.2
	comp=E,3.5nm,1.0s,baz=299,slow=7.7,SNR=5.4							
TREC	Trest	42.04	334	*eP*		P	20 23 27.7	+0.7
GERES	GERESS Array B	42.48	332	P		P	20 23 30.6	-0.1
	comp=E,2.1nm,0.9s,baz=131,slow=7.3,SNR=13							
DPC	Dobruska-Polom	42.51	336	*eP*		P	20 23 31.8	+0.9
KHC	Kasperske Hory	42.75	333	*eP*		P	20 23 33.2	+0.4
BVAR	Borovoye Array	45.72	24	P		P	20 23 57.6	+1.0
	comp=E,1.5nm,0.8s,baz=204,slow=3.3,SNR=5.0							
DBIC	Dimbokro	46.46	267	P		P	20 24 01.4	-1.6
	comp=E,4.9nm,0.9s,baz=67,slow=8.1,SNR=4.6							
MKAR	Makanchi Array	47.56	37	P		P	20 24 12.1	+0.9
	comp=E,2.3nm,0.7s,baz=234,slow=6.3,SNR=15							
KURBB	Kurchatov Arra	47.70	31	P		P	20 24 13.3	+1.3
	comp=E,2.1nm,1.0s,baz=234,slow=8.3,SNR=9.6							
ESDC	Sonseca Array	48.10	312	P		P	20 24 13.3	-2.2
	comp=E,0.7nm,0.7s,baz=110,slow=6.1,SNR=3.5							
FINES	FINESS Array B	49.50	350	P		P	20 24 25.6	-0.1
	comp=E,2.9nm,0.9s,baz=131,slow=11,SNR=3.8							
ZALV	Zalesovo Beam	52.78	30	P		P	20 24 50.7	+0.2
	comp=E,2.4nm,0.7s,baz=247,slow=7.8,SNR=6.4							
CMAR	Chiang Mai Arr	54.94	77	P		P	20 25 09.2	+2.3
	comp=E,1.4nm,0.8s,baz=280,slow=8.2,SNR=8.4							
ARCES	ARCESS Array B	57.23	353	P		P	20 25 23.9	+1.4
	comp=E,3.0nm,0.9s,baz=140,slow=4.3,SNR=4.9							
SONM	Songino Array	63.23	43	P		P	20 26 06.8	+2.7
	comp=E,0.8nm,0.8s,baz=246,slow=6.9,SNR=6.4							
TXAR	Lajitas Array	126.21	322	PKP		PKPdf	20 34 39.2	+0.2
	comp=E,0.2nm,0.7s,baz=211,slow=1.5,SNR=4.0							

ISCJB **12** *20:18:15.1± 0.5, 13°.35N± 0°.06×41°.75E± 0°.04, h10km, mb4.1/19, Error ellipse: s-maj=8.8km s-min=6.0km az=0.4*
IDC **12** *20:18:15.3± 0.7, 13°.33N×41°.63E, h0km, mb4.1/18, mb1 4.2/20, mb1mx4.0/52, mbtmp4.1/20, ML4.5/2, Error ellipse: s-maj=17.3km s-min=12.3km az=48.0*
DHMR **12** *20:18:15.0± 1.1, 13°.42N×42°.03E, h7km± 49km, ML4.4*
ISC 12 20:18:17.0±0.6, **13°.41N**±0°.07×**41°.75E**±0°.07, **h10**km, **n36,** σ1§**19**/38, **mb4.2**/18, **5C-3D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	2.15	150	Pn		Pn	20 18 53.4	+0.4
	281nm,0.3s,baz=212,slow=6.8,SNR=12							
ATD				Lg		Lg	20 19 22.2	
	433nm,0.3s,baz=311,slow=22,SNR=8.8							
HAJJ	Hajjah	2.89	38	*i* P		Pn	20 19 01.7	-1.7
HAJJ				*i* S		Sn	20 19 39.4	+1.1
HAJJ				AML		AML	20 20 03.6	
	comp=E,3μm,0.6s							
SANA	San'a	3.08	50	*i* P		Pn	20 19 04.4	-1.6
SANA				*i* S		Sn	20 19 42.7	-0.4
ADEN	Aden	3.21	101	*i* P		Pn	20 19 05.5	-2.0
ADEN				*i* S		Sn	20 19 43.8	-2.0
ADEN				AML		AML	20 20 07.3	
	comp=N,3μm,0.6s							
WSAR	Wadi Sarin	18.75	56	P		Pn	20 22 38.3	+1.6
	comp=N,0.6nm,0.3s,baz=267,slow=14,SNR=6.5							
BRTR	Keskin Array B	27.17	346	P		P	20 24 02.8	+1.9
	comp=N,2.0nm,1.0s,baz=148,slow=7.3,SNR=6.4							
CFR	Carcaliu	33.72	343	⇑*i*P		P	20 24 59.1	+0.7
MLR	Muntele Rosu	34.68	340	⇓*i*P		P	20 25 08.4	+1.5
VRI	Vrincioaia	34.76	341	⇑*i*P		P	20 25 09.3	+1.8
PLOR	Plostina	34.77	341	⇑*i*P		P	20 25 09.9	+2.3
VOIR		34.93	339	⇑*i*P		P	20 25 10.1	+1.1
ARR	Arges	35.01	339	⇓*i*P		P	20 25 10.7	+0.9
BZS	Buzias	36.35	336	⇓*i*P		P	20 25 21.1	-0.1
KEST	Kesra	36.64	313	P		P	20 25 22.6	-1.3
	comp=N,3.3nm,0.8s,baz=63,slow=3.7,SNR=4.1							
DRGR		36.92	338	⇑*i*P		P	20 25 26.9	+0.8
AKASG	Malin Array Be	38.56	347	P		P	20 25 39.6	-0.2
	comp=N,1.2nm,0.9s,baz=165,slow=7.2,SNR=7.9							
TORD	Torodi Ar. Bea	38.96	274	P		P	20 25 42.8	-0.9
	comp=N,1.0nm,0.7s,baz=89,slow=7.4,SNR=6.9							
AKTO	Aktyubinsk	39.24	16	P		P	20 25 46.3	+0.8
	comp=N,0.9nm,0.5s,baz=216,slow=9.8,SNR=5.0							
GERES	GERESS Array B	42.24	332	P		P	20 26 10.3	-0.1
	comp=Z,2.0nm,0.6s,baz=134,slow=7.1,SNR=23							
DPC	Dobruska-Polom	42.27	336	*eP*		P	20 26 10.8	+0.2
DPC				*ex*		x	20 26 45.2	
KHC	Kasperske Hory	42.51	333	*eP*		P	20 26 12.0	-0.5
KHC				*ex*		x	20 26 46.8	
CLL	Collm	44.37	334	*i* (P)		P	20 26 28.2	+0.8
	comp=Z,10.0nm,1.6s							
BVAR	Borovoye Array	45.61	24	P		P	20 26 38.4	+1.1
	comp=Z,2.0nm,0.8s,baz=221,slow=31,SNR=4.0							
DBIC	Dimbokro	46.32	266	P		P	20 26 42.3	-1.2
	comp=Z,3.4nm,0.6s,baz=77,slow=4.6,SNR=7.0							
MKAR	Makanchi Array	47.50	37	P		P	20 26 53.3	+1.0
	comp=Z,3.6nm,0.7s,baz=235,slow=8.3,SNR=19							
KURBB	Kurchatov Arra	47.62	31	P		P	20 26 54.3	+1.2
	comp=Z,2.0nm,0.7s,baz=232,slow=8.1,SNR=14							
ESDC	Sonseca Array	47.86	312	P		P	20 26 54.7	-0.6
	comp=Z,1.0nm,0.7s,baz=107,slow=7.4,SNR=9.7							
FINES	FINESS Array B	49.29	350	P		P	20 27 05.8	0.0
	comp=Z,1.7nm,0.5s,baz=145,slow=7.0,SNR=10							
NOA	NORSAR Array B	52.47	342	P		P	20 27 28.4	-1.4
	comp=Z,1.3nm,0.8s,baz=140,slow=7.4,SNR=3.6							
ZALV	Zalesovo Beam	52.69	30	P		P	20 27 31.9	+0.4
	comp=Z,3.8nm,0.6s,baz=238,slow=7.5,SNR=14							
CMAR	Chiang Mai Arr	55.04	77	P		P	20 27 50.1	+0.8
	comp=Z,1.1nm,0.7s,baz=276,slow=8.0,SNR=6.7							
ARCES	ARCESS Array B	57.02	353	P		P	20 28 02.1	-0.5
	comp=Z,1.5nm,0.6s,baz=168,slow=7.3,SNR=13							
SONM	Songino Array	63.19	43	P		P	20 28 46.2	+0.6
	comp=Z,1.2nm,0.6s,baz=262,slow=6.7,SNR=8.2							
ASAR	Alice Springs	97.23	113	P		Pdif	20 31 50.8	+0.2
	comp=Z,0.2nm,0.6s,baz=277,slow=3.6,SNR=3.5							
NVAR	Mina Array Bea	125.16	341	PKP		PKPdf	20 37 19.7	+1.2
	comp=Z,0.3nm,0.5s,baz=210,slow=29,SNR=3.8							
TXAR	Lajitas Array	125.96	322	PKP		PKPdf	20 37 20.3	+0.1
	comp=Z,0.3nm,0.9s,baz=36,slow=3.2,SNR=3.5							

ISCJB **12** *20:18:46.5± 1.6, 12°.9N± 0°.3×41°.8E± 0°.1, h10km, mb4.0/9, Error ellipse: s-maj=40.6km s-min=19.0km az=176.6*
IDC **12** *20:18:47.4± 1.6, 12°.93N×41°.82E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.8/50, mbtmp4.1/9, Error ellipse: s-maj=43.8km s-min=21.7km az=175.0*
ISC 12 20:18:48.9±1.6, **13°.0N**±0°.3×**41°.8E**±0°.2, **h10**km, **n10,** σ1§**24**/10, **mb4.0**/9, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	27.62	346	P		P	20 24 38.8	+2.0
	2.3nm,0.8s,baz=156,slow=9.8,SNR=7.0							
TORD	Torodi Ar. Bea	39.05	275	P		P	20 26 16.4	0.0
	2.0nm,0.9s,baz=95,slow=8.1,SNR=6.8							
GERES	GERESS Array B	42.67	333	P		P	20 26 44.4	-1.5
	1.1nm,0.8s,baz=132,slow=6.0,SNR=5.0							
MKAR	Makanchi Array	47.83	37	P		P	20 27 27.2	+0.4
	4.1nm,0.9s,baz=241,slow=7.3,SNR=8.6							
KURBB	Kurchatov Arra	47.97	31	P		P	20 27 28.8	+1.0
	3.4nm,0.9s,baz=233,slow=8.2,SNR=8.2							
ESDC	Sonseca Array	48.20	312	P		P	20 27 29.9	0.0
	0.4nm,0.5s,baz=111,slow=5.5,SNR=6.3							
ZALV	Zalesovo Beam	53.05	30	P		P	20 28 06.0	-0.2
	6.4nm,0.9s,baz=240,slow=7.3,SNR=7.2							
CMAR	Chiang Mai Arr	55.09	76	P		P	20 28 21.9	+0.2
	1.8nm,0.8s,baz=281,slow=8.5,SNR=7.1							
SONM	Songino Array	63.48	43	P		P	20 29 18.0	-1.4
	0.9nm,0.8s,baz=243,slow=6.0,SNR=2.6							
TXAR	Lajitas Array	126.35	322	PKP		PKPdf	20 37 54.1	+1.2
	0.2nm,0.7s,baz=113,slow=2.9,SNR=3.6							

NIED **12** *20:22:00, 38°.70N×141°.80E, h59km, Mw4.0 Best double couple: M0 1.00000×10^15 NP1:φ≡194.00000°, δ≡23.00000°, λ≡89.00000°. NP2:φ≡15.00000°, δ≡67.00000°, λ≡90.00000°.*
ISCJB **12** *20:22:47.1± 0.8, 38°.69N± 0°.04×141°.90E± 0°.09, h58km± 5km, mb4.0/12, Error ellipse: s-maj=12.5km s-min=6.3km az=19.0*
JMA **12** *20:22:48.6± 0.1, 38°.70N×141°.80E, h53km± 1km, M3.9*
JMA Felt III J1.
IDC **12** *20:22:50.0± 2.5, 38°.68N×141°.89E, h70km± 23km, mb3.7/12, mb1 3.8/16, mb1mx3.6/56, mbtmp4.0/16, Error ellipse: s-maj=22.6km s-min=14.8km az=83.0*
ISC 12 20:22:48.0±1.2, **38°.68N**±0°.05×**141°.94E**±0°.09, **h50**km±9km, **n32,** σ1§**25**/35, **mb4.0**/12, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.45	332	P		Pn	20 22 59.0	+0.3
OFUJ				S		Sn	20 23 06.1	-0.3
JIO	Ouri	0.51	244	P		Pn	20 22 59.4	0.0
JIO				*eS*		Sn	20 23 06.6	-1.0
JMK	Ichinoseki	0.62	296	P		Pn	20 23 00.5	-0.2
JMK				S		Sn	20 23 08.9	-1.1
JOM	Ohasama	0.94	328	P		Pn	20 23 04.9	0.0
JOM				*eS*		Sn	20 23 16.9	-0.4
JOU	Okura	1.05	253	P		Pn	20 23 05.8	-0.6
JOU				*eS*		Sn	20 23 18.5	-1.4
JMM	Marumori	1.21	228	P		Pn	20 23 08.0	-0.6
JMM				*eS*		Sn	20 23 22.2	-1.7
JRG	Rokugo	1.24	306	P		Pn	20 23 08.4	-0.6
JYK	Kaneyama	1.26	281	P		Pn	20 23 08.6	-0.6
JYS	Shirataka	1.54	253	P		Pn	20 23 12.9	-0.1
JYS				*eS*		Sn	20 23 31.3	-0.6
MJAR	Matsushiro Arr	3.65	235	P		Pn	20 23 43.4	+1.4
	5.7nm,0.3s,baz=40,slow=11,SNR=86							
MAT	Matsushiro	3.65	235	P		Pn	20 23 43.3	+1.3
MAT				S		Sn	20 24 27.4	+3.6
JHJ	Hachijo jima 2	5.82	198	P		Pn	20 24 13.2	+1.5
	5.5nm,0.3s,baz=74,slow=20,SNR=2.9							
JHJ					S	Sn	20 25 14.3	-2.8
	14nm,0.3s,baz=84,slow=22,SNR=1.5							
USRK	Ussuriysk Ar.	9.28	310	P		Pn	20 24 59.5	+0.4
	0.7nm,0.3s,baz=123,slow=13,SNR=10							
KSRS	Korea Array	11.12	268	P		Pn	20 25 27.1	+2.9
	0.7nm,0.3s,baz=74,slow=14,SNR=20							
SEY	Seymchan	25.10	11	P		P	20 28 08.3	+0.7
	3.7nm,0.8s,baz=234,slow=5.8,SNR=9.2							
SONM	Songino Array	27.25	301	P		P	20 28 27.8	+0.3
	0.5nm,0.4s,baz=94,slow=9.6,SNR=6.0							
H11N2	WAKE ISLAND Hy	28.68	124	T		T	20 59 00.0	
	baz=317,slow=75,SNR=822							
H11N1	WAKE ISLAND Hy	28.69	124	T		T	20 59 16.9	
	baz=317,slow=75,SNR=1201							
H11N3	WAKE ISLAND Hy	28.70	124	T		T	20 59 17.6	
	baz=317,slow=75,SNR=957							
H11S1	WAKE ISLAND Hy	29.45	126	T		T	20 59 54.8	
	baz=318,slow=76,SNR=202							
H11S3	WAKE ISLAND Hy	29.45	126	T		T	20 59 54.9	
	baz=318,slow=76,SNR=270							
H11S2	WAKE ISLAND Hy	29.46	126	T		T	21 00 01.8	
	baz=318,slow=76,SNR=272							
ZALV	Zalesovo Beam	41.13	311	P		P	20 30 26.5	-0.4
	4.2nm,0.6s,baz=87,slow=7.8,SNR=19							

MKAR	Makanchi Array	43.62	301	P		P	20 30 46.9	-0.4
	5.5nm,0.8s,baz=86,slow=10,SNR=46							
ILAR	Eielson Array	47.89	33	P		P	20 31 20.5	-0.2
	0.4nm,0.7s,baz=281,slow=6.1,SNR=5.2							
BVAR	Borovoye Array	49.78	311	P		P	20 31 35.1	-0.3
	2.3nm,0.5s,baz=67,slow=8.7,SNR=9.1							
INK	Inuvik	52.74	28	P		P	20 31 57.8	+0.6
	0.9nm,0.8s,baz=329,slow=13,SNR=3.1							
AKTO	Aktyubinsk	57.89	311	P		P	20 32 34.6	0.0
	0.8nm,0.4s,baz=79,slow=14,SNR=5.6							
WRA	Warramunga Arr	58.75	188	P		P	20 32 40.4	-0.4
	1.3nm,0.6s,baz=5.9,slow=7.1,SNR=15							
ASAR	Alice Springs	62.47	188	P		P	20 33 06.2	+0.1
	0.4nm,0.6s,baz=15,slow=5.7,SNR=7.5							
KBZ	Khabaz	70.15	310	P		P	20 33 54.8	-0.3
	2.4nm,0.8s,baz=202,slow=0.3,SNR=5.2							
NOA	NORSAR Array B	72.83	337	P		P	20 34 09.7	-1.3
	1.0nm,0.7s,baz=38,slow=6.1,SNR=3.6							

ISCJB **12** *20:23:04.5± 0.4, 13°.39N± 0°.05×41°.78E± 0°.04, h10km, mb4.1/31, MS4.2/1, Error ellipse: s-maj=7.9km s-min=6.2km az=13.2*
IDC **12** *20:23:04.8± 0.6, 13°.36N×41°.64E, h0km, mb4.1/20, mb1 4.3/22, mb1mx4.1/49, mbtmp4.2/22, ML4.1/2, MS4.2/2, Ms1 4.2/2, ms1mx3.5/56, Error ellipse: s-maj=15.1km s-min=11.8km az=67.0*
NEIC **12** *20:23:06.4± 0.4, 13°.39N×41°.62E, h10km, mb4.3/1, Error ellipse: s-maj=10.0km s-min=9.1km az=92.0*
CSEM **12** *20:23:06.7± 0.2, 13°.40N×41°.67E, h10km, mb4.2/9, Error ellipse: s-maj=10.0km s-min=9.1km az=79.0*
ISC 12 20:23:06.3±0.5, **13°.45N**±0°.06×**41°.79E**±0°.06, **h10**km, **n79,** σ1§**33**/78, **mb4.2**/31, **8C-4D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	2.17	151	Pn		Pn	20 23 42.9	+0.3
	170nm,0.3s,baz=290,slow=6.7,SNR=5.7							
ATD				Lg		Lg	20 24 11.6	
	208nm,0.3s,baz=135,slow=23,SNR=7.8							
HAJJ	Hajjah	2.84	38	*i* P		Pn	20 23 49.0	-3.0
HAJJ				*i* S		Sn	20 24 26.4	0.0
HAJJ	Hajjah	2.84	38	*i* P		Pn	20 23 49.0	-3.0
HAJJ				*i* S		Sn	20 24 26.4	0.0
ADEN	Aden	3.18	102	*i* P		Pn	20 23 53.3	-3.2
ADEN				*e*			20 23 53.7	
	baz=94,slow=12							
ADEN				*i* S		Sn	20 24 33.0	-1.5
ADEN				AML		AML	20 24 54.0	
	comp=E,2μm,0.5s							
ADEN	Aden	3.18	102	*i* P		Pn	20 23 53.3	-3.2
	comp=E,1μm,0.5s							
ADEN				*i* S		Sn	20 24 33.0	-1.5
KMBO	Kilima Mbogo	15.16	198	Lg		Lg	20 31 05.7	
	comp=E,0.0nm,0.3s,baz=332,slow=12,SNR=4.4							
KMBO				LR		LR	20 32 22.2	
	comp=E,1μm,19.2s,baz=58,slow=37							
WSAR	Wadi Sarin	18.70	56	P		Pn	20 27 26.1	+0.7
	comp=E,0.2nm,0.3s,baz=318,slow=1.9,SNR=7.0							
GNI	Garni	26.73	5	P		P	20 28 48.3	+2.1
	comp=E,1.8nm,0.5s,baz=264,slow=2.8,SNR=4.0							
BRTR	Keskin Array B	27.14	346	P		P

NRIK	**Noril'sk**	**62.81**	**17**	P	**P**	**20 33 32.7**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=197,slow=6.7,SNR=5.4						
SONM	**Songino Array**	**63.13**	**43**	P	**P**	**20 33 36.0**	**+1.4**
	comp=Z,2.1nm,1.0s,baz=273,slow=4.5,SNR=8.6						
SONM	**Songino Array**	**63.13**	**43**	P	**P**	**20 33 36.0**	**+1.4**
NVAR	**Mina Array Bea**	**125.13**	**341**	PKP	**PKPdf**	**20 42 08.8**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=318,slow=2.0,SNR=4.0						

ISCJB ***12*** *20:26:06.4±0.8, 13°.2N±0°.1×41°.6E±0°.1, h10km, mb3.8/10, Error ellipse: s-maj=20.6km s-min=14.1km az=137.7*

IDC ***12*** *20:26:06.3±1.0, 13°.1N×41°.53E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.7/52, mbtmp3.9/11, ML4.5/1, Error ellipse: s-maj=25.4km s-min=13.5km az=50.0*

ISC 12 20:26:07.8±0.9, 13°.1N±0°.1×41°.5E±0°.1, h10km, n11, σ0§91/11, mb3.8/10, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.02**	**140**	Pn	**Pn**	**20 26 42.3**	**+0.3**
	173nm,0.3s,baz=170,slow=16,SNR=6.3						
ATD				Lg	Lg	20 27 11.2	
	103nm,0.3s,baz=302,slow=22,SNR=5.4						
BRTR	**Keskin Array B**	**27.43**	**347**	P	**P**	**20 31 55.6**	**+1.7**
	1.1nm,0.9s,baz=148,slow=9.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**38.76**	**275**	P	**P**	**20 33 31.9**	**-0.8**
	1.7nm,1.0s,baz=100,slow=4.9,SNR=4.7						
AKTO	**Aktyubinsk**	**39.61**	**17**	P	**P**	**20 33 38.6**	**-0.8**
	2.1nm,0.9s,baz=244,slow=14,SNR=3.8						
GERES	**GERESS Array B**	**42.42**	**333**	P	**P**	**20 34 02.1**	**-0.7**
	1.0nm,0.8s,baz=126,slow=6.8,SNR=8.2						
BVAR	**Borovoye Array**	**45.99**	**24**	P	**P**	**20 34 30.8**	**-0.3**
	0.7nm,0.6s,baz=219,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**47.90**	**37**	P	**P**	**20 34 46.0**	**-0.1**
	2.1nm,0.8s,baz=234,slow=6.8,SNR=12						
ESDC	**Sonseca Array**	**47.91**	**312**	P	**P**	**20 34 47.5**	**+1.0**
	0.7nm,0.7s,baz=109,slow=8.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**53.08**	**30**	P	**P**	**20 35 24.6**	**-0.6**
	2.6nm,0.7s,baz=234,slow=8.2,SNR=6.9						
CMAR	**Chiang Mai Arr**	**55.34**	**77**	P	**P**	**20 35 42.0**	**-0.2**
	0.6nm,0.8s,baz=277,slow=7.2,SNR=4.1						
SONM	**Songino Array**	**63.58**	**43**	P	**P**	**20 36 39.3**	**+0.4**
	0.7nm,0.8s,baz=276,slow=4.0,SNR=4.9						

IDC 12 20:31:09.9±10.0, 1°.90S×94°.04E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/57, mbtmp3.7/4, Error ellipse: s-maj=455.0km s-min=32.1km az=53.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.26**	**117**	P	P	20 39 13.3	-0.4
	0.2nm,0.5s,baz=305,slow=9.1,SNR=1.3						
MKAR	**Makanchi Array**	**49.58**	**349**	P	P	20 40 03.2	+0.3
	1.1nm,0.7s,baz=162,slow=8.2,SNR=7.1						
KURBB	**Kurchatov Arra**	**53.98**	**348**	P	P	20 40 34.2	-1.4
	0.3nm,0.5s,baz=165,slow=7.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**56.18**	**353**	P	P	20 40 51.7	+0.3
	1.4nm,0.5s,baz=181,slow=7.7,SNR=4.4						
TXAR	**Lajitas Array**	**147.93**	**30**	PKPbc	PKPbc	20 50 58.0	-0.1
	0.4nm,1.0s,baz=308,slow=3.0,SNR=2.7						

NEIC ***12*** *20:32:21.0, 8°.68S×75°.23W, h140km, mb4.8/7, After ARE. NEIC Felt [III] at Aguatia and Tingo Maria; [II] at Pucallpa. Also felt at Campoverde.*

ISCJB ***12*** *20:32:24.8±0.6, 8°.58S±0°.04×74°.99W±0°.05, h141km±6km, mb4.4/22, Error ellipse: s-maj=8.6km s-min=5.9km az=157.8*

IDC ***12*** *20:32:25.4±0.4, 8°.57S×74°.98W, h132km±4km, mb4.2/18, mb1 4.3/26, mb1mx4.3/37, mbtmp4.7/26, MS3.4/2, Ms1 3.4/2, ms1mx3.0/35, Error ellipse: s-maj=9.6km s-min=8.2km az=67.0*

ISC 12 20:32:25.5±0.4, 8°.52S±0°.05×74°.92W±0°.06, h135km±4km, h135km:pP-P, n76, σ1§75/95, mb4.5/21, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.71**	**292**	P	**Pn**	**20 33 21.8**	**-0.2**
	78nm,0.3s,baz=100,slow=5.3,SNR=214						
ATAH				S	**Sn**	**20 34 04.3**	**-1.3**
	152nm,0.3s,baz=290,slow=11,SNR=13						
NNA	**Nana**	**3.93**	**209**	P	**Pn**	**20 33 24.1**	**-0.4**
	56nm,0.3s,baz=29,slow=5.7,SNR=81						
NNA				S	**Sn**	**20 34 07.0**	**-3.3**
	200nm,0.3s,baz=214,slow=13,SNR=16						
NNA				LR	LR	20 34 50.5	
	comp=Z,272nm,20.6s,baz=76,slow=38						
OTAV	**Otavalo**	**9.39**	**338**	*e*P	**Pn**	**20 34 36.9**	**-1.2**
OTAV	**Otavalo**	**9.39**	**338**	*e*Pn	**Pn**	**20 34 37.8**	**-0.3**
LPAZ	**La Paz**	**10.17**	**140**	P	**Pn**	**20 34 48.3**	**-0.4**
	0.9nm,0.3s,baz=321,slow=9.9,SNR=24						
CRUC	**La Cruz**	**10.23**	**348**	*e*P	**Pn**	**20 34 49.3**	**+0.1**
PRAC	**Pradlo**	**12.15**	**0**	*e*Pn	**Pn**	**20 35 16.2**	**+1.8**
VILC	**Villavicencio,**	**12.61**	**6**	*e*P	**Pn**	**20 35 20.4**	**0.0**
CHIC	**Chingaza**	**13.12**	**5**	*e*P	**Pn**	**20 35 27.2**	**0.0**
ROSC	**El Rosal**	**13.29**	**3**	P	**P**	**20 35 31.8**	**-2.4**
	1.5nm,0.3s,baz=156,slow=20,SNR=3.2						
ROSC				S	**S**	**20 38 06.0**	**-4.7**
	1.2nm,0.3s,baz=164,slow=23,SNR=1.4						
RUSC	**La Rusia**	**14.44**	**7**	*e*P	**P**	**20 35 45.9**	**-1.2**
PB04	**IPOC Station P**	**14.48**	**162**	*e*Pn	**P**	**20 35 47.7**	**+0.6**
LVC	**Limon Verde**	**15.15**	**158**	P	**Pn**	**20 35 53.0**	**+0.1**
	17nm,0.3s,baz=325,slow=11,SNR=6.5						
LVC	**Limon Verde**	**15.15**	**158**	*e*Pn	**P**	**20 35 54.6**	**-0.2**
SIV	**San Ignacio**	**15.43**	**120**	P	**Pn**	**20 35 55.8**	**-0.2**
	3.6nm,0.3s,baz=309,slow=14,SNR=29						
SIV				S	**Sn**	**20 38 40.3**	**-7.1**
	1.9nm,0.3s,baz=47,slow=23,SNR=3.1						
SIV				LR	LR	20 41 31.5	
	comp=Z,309nm,18.5s,baz=57,slow=35						
PB10	**IPOC Station P**	**15.48**	**165**	*e*Pn	**P**	**20 35 59.6**	**+1.5**
	111nm,1.2s						
CBRI	**Barrientos, No**	**16.27**	**8**	*e*P	**P**	**20 36 07.9**	**+0.9**
PTGA	**Pitinga**	**16.78**	**63**	P	**P**	**20 36 12.0**	**-0.6**
	9.9nm,0.3s,baz=232,slow=13,SNR=33						
PTGA				S	Sn	20 39 07.5	-13
	1.6nm,0.3s,baz=138,slow=15,SNR=5.0						
PTGA	**Pitinga**	**16.78**	**63**	*e*P	**Pn**	**20 36 12.4**	**-0.2**
	47nm,0.6s						
PTGA				S	Sn	20 39 07.5	-13
SDV	**Santo Domingo**	**17.81**	**14**	P	**Pn**	**20 36 26.4**	**+1.2**
	4.4nm,0.3s,baz=202,slow=12,SNR=4.7						
PCRV	**Puerto La Cruz**	**21.21**	**29**	P	**P**	**20 37 02.0**	**+1.3**
	16nm,0.3s,baz=202,slow=3.3,SNR=19						
CPUP	**Villa Florida**	**24.34**	**139**	P	**P**	**20 37 30.0**	**-0.9**
	3.3nm,0.8s,baz=318,slow=11,SNR=8.9						
CPUP	**Villa Florida**	**24.34**	**139**	*e*P	**P**	**20 37 31.1**	**+0.2**
SVB	**Belmont**	**25.55**	**32**	*e*P	**P**	**20 37 39.4**	**-2.6**
	100nm,0.9s						
BDFB	**Brasilia**	**27.22**	**108**	P	**P**	**20 37 59.0**	**+1.9**
	14nm,0.8s,baz=270,slow=11,SNR=19						
BDFB				pP	**pP**	**20 38 29.4**	**+3.4**
	9.3nm,0.5s,baz=250,slow=11,SNR=5.0						
SJG	**San Juan**	**27.84**	**18**	P	**P**	**20 38 03.8**	**+1.4**
	7.1nm,0.4s,baz=160,slow=9.1,SNR=7.3						
SJG				pP	**pP**	**20 38 34.0**	**+2.7**
	6.7nm,0.4s,baz=144,slow=5.2,SNR=2.2						
SJG	**San Juan**	**27.84**	**18**	*e*P	**P**	**20 38 04.7**	**+2.3**
	13nm,0.8s						
USHA	**Ushuaia**	**46.47**	**175**	P	**P**	**20 40 40.2**	**+1.5**
	49nm,0.7s,baz=298,slow=11,SNR=5.9						
X201	**Greenbrier Sit**	**46.59**	**340**	*e*P	**P**	**20 40 40.2**	**+0.3**
	6.3nm,0.8s						
TXAR	**Lajitas Array**	**46.73**	**325**	P	**P**	**20 40 41.9**	**+0.7**
	1.2nm,0.5s,baz=152,slow=8.7,SNR=24						
TXAR				pP	**pP**	**20 41 10.5**	**-1.6**
	0.7nm,0.5s,baz=150,slow=8.3,SNR=4.7						
TX31	**Lajitas Ar. Si**	**46.73**	**325**	*e*P	**P**	**20 40 41.8**	**+0.6**
T25A	**Trinidad**	**53.17**	**331**	*e*P	**P**	**20 41 31.2**	**+1.3**
	15nm,1.3s						
ECSD	**EROS Data Cent**	**55.61**	**341**	*e*P	**P**	**20 41 47.4**	**+0.2**
	11nm,1.5s						
SPMN	**Marine on St.**	**55.87**	**345**	*e*P	**P**	**20 41 48.5**	**-0.5**
PV05	**Paradox Valley**	**56.27**	**328**	*e*P	**P**	**20 41 48.9**	**-3.3**
EYMN	**Ely**	**58.11**	**347**	*e*P	**P**	**20 42 04.0**	**-0.6**
TPNV	**Topopah Spring**	**59.54**	**322**	*e*P	**P**	**20 42 16.2**	**+1.2**
DUG	**Dugway, Tooele**	**59.79**	**327**	*e*P	**P**	**20 42 17.7**	**+1.1**
BW06	**Boulder Array**	**60.02**	**331**	*e*P	**P**	**20 42 17.8**	**-0.4**
PDAR	**Pinedale Array**	**60.02**	**331**	P	**P**	**20 42 18.3**	**0.0**
	0.5nm,0.4s,baz=142,slow=5.6,SNR=6.1						
PDAR				pP	**pP**	**20 42 51.0**	**+0.4**
	0.5nm,0.3s,baz=144,slow=8.8,SNR=3.6						
R11A	**Troy Canyon, C**	**60.07**	**324**	*e*P	**P**	**20 42 19.9**	**+1.2**
HWUT	**Hardware Ranch**	**60.15**	**329**	*e*P	**P**	**20 42 19.6**	**+0.5**
ULM	**Lac du Bonnet**	**61.31**	**345**	P	**P**	**20 42 26.1**	**-0.4**
	2.4nm,0.4s,baz=164,slow=5.8,SNR=4.4						
ULM				pP	**pP**	**20 42 58.7**	**-0.2**
	4.9nm,0.5s,baz=159,slow=7.1,SNR=4.0						
NVAR	**Mina Array Bea**	**61.74**	**322**	P	**P**	**20 42 30.5**	**+0.5**
	1.1nm,0.8s,baz=132,slow=6.5,SNR=6.2						
NVAR				pP	**pP**	**20 43 02.5**	**+0.1**
	1.3nm,0.8s,baz=130,slow=6.6,SNR=6.6						
BOZ	**Bozeman (W)**	**63.17**	**332**	*e*P	**P**	**20 42 39.8**	**+0.6**
PAHR	**Pah Rah Range**	**63.20**	**323**	*e*P	**P**	**20 42 41.0**	**+1.5**
MFID	**Camas Ranch**	**63.65**	**328**	*e*P	**P**	**20 42 43.7**	**+1.3**
MSO	**Missoula**	**65.13**	**332**	*e*P	**P**	**20 42 53.2**	**+1.3**
K05A	**Summer Lake**	**65.98**	**325**	*e*P	**P**	**20 42 59.4**	**+1.7**
DBIC	**Dimbokro**	**71.45**	**80**	P	**P**	**20 43 31.6**	**-0.3**
	5.0nm,0.3s,baz=244,slow=4.7,SNR=15						
YKA	**Yellowknife Ar**	**77.11**	**342**	P	**P**	**20 44 03.5**	**-0.1**
	1.8nm,0.6s,baz=136,slow=6.3,SNR=15						
YKA				pP	**pP**	**20 44 35.3**	**-2.0**
	3.3nm,0.5s,baz=141,slow=6.0,SNR=9.5						
TORD	**Torodi Ar. Bea**	**79.06**	**75**	P	**P**	**20 44 15.0**	**-0.4**
	3.7nm,0.6s,baz=250,slow=4.2,SNR=42						
TORD				pP	**pP**	**20 44 48.1**	**-1.2**
	2.4nm,0.7s,baz=280,slow=5.3,SNR=2.2						
ESDC	**Sonseca Array**	**81.06**	**48**	P	**P**	**20 44 26.1**	**+0.4**
	1.6nm,0.7s,baz=262,slow=5.5,SNR=11						
VNDA	**Vanda**	**88.52**	**190**	P	**P**	**20 45 03.4**	**+1.1**
	3.1nm,0.9s,baz=133,slow=3.0,SNR=11						
DOU	**Dourbes**	**89.81**	**39**	P	**P**	**20 45 09.2**	**+0.4**
ILAR	**Eielson Array**	**90.10**	**336**	P	**P**	**20 45 10.1**	**+0.3**
	1.5nm,0.8s,baz=135,slow=3.3,SNR=13						
ILAR				pP	**pP**	**20 45 44.8**	**+0.3**
	1.0nm,0.8s,baz=124,slow=3.7,SNR=4.7						
KEST	**Kesra**	**90.30**	**54**	P	**P**	**20 45 12.6**	**+1.1**
	3.7nm,0.8s,baz=119,slow=15,SNR=3.7						
WLF	**Walferdange**	**90.70**	**40**	P	**P**	**20 45 13.8**	**+0.9**
LBTB	**Lobatse**	**95.85**	**116**	P	**P**	**20 45 37.6**	**+0.3**
	6.1nm,0.8s,baz=284,slow=4.7,SNR=6.6						
MATP	**Matopo**	**99.45**	**112**	P	**Pdif**	**20 45 54.0**	**+0.3**
	2.7nm,0.7s,baz=224,slow=3.1,SNR=7.3						
STKA	**Stephens Creek**	**126.80**	**219**	PKP	**PKPdf**	**20 51 14.2**	**+0.4**
	3.5nm,0.8s,baz=256,slow=4.2,SNR=8.2						
ZALV	**Zalesovo Beam**	**131.85**	**16**	PKP	**PKPdf**	**20 51 23.4**	**+0.8**
	1.4nm,0.3s,baz=284,slow=2.4,SNR=13						
ZALV				pPKP	**pPKPdf**	**20 51 59.8**	**+1.0**
	2.2nm,0.7s,baz=267,slow=3.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**131.85**	**16**	PKP	**PKPdf**	**20 51 23.4**	**+0.8**
ZALV				pPKP	**pPKPdf**	**20 51 59.8**	**+1.0**
KURK	**Kurchatov**	**132.58**	**23**	PKP	**PKPdf**	**20 51 25.0**	**+1.0**
KURK				pPKP	**pPKPdf**	**20 52 01.3**	**+1.0**
KURBB	**Kurchatov Arra**	**132.62**	**23**	PKP	**PKPdf**	**20 51 25.0**	**+0.9**
	0.7nm,0.2s,baz=310,slow=2.4,SNR=4.7						
KURBB				pPKP	**pPKPdf**	**20 52 01.3**	**+0.9**
	0.4nm,0.3s,baz=312,slow=2.6,SNR=3.7						
MKAR	**Makanchi Array**	**137.18**	**23**	PKhKP	PKPpre	20 51 21.2	
	0.9nm,0.9s,baz=227,slow=4.8,SNR=5.6						
MKAR				PKP	**PKPdf**	**20 51 32.9**	**0.0**
	1.8nm,0.8s,baz=305,slow=2.4,SNR=11						
MKAR				pPKP	pPKPdf	20 52 10.0	+0.9
	1.2nm,0.9s,baz=20,slow=2.1,SNR=3.2						
ASAR	**Alice Springs**	**137.37**	**221**	PKhKP	PKPpre	20 51 25.6	
	0.2nm,0.6s,baz=136,slow=2.6,SNR=5.4						
ASAR				PKP	**PKPdf**	**20 51 33.9**	**-0.1**
	2.0nm,0.6s,baz=127,slow=2.0,SNR=18						
ASAR				pPKP	pPKPdf	20 52 10.8	+0.5
	1.1nm,0.8s,baz=110,slow=2.0,SNR=3.6						
KSH	**Kashi**	**139.62**	**36**	*e*PKPbc	**PKPdf**	**20 51 39.2**	**+1.5**
KSH				sPKP		20 52 39.5	
KSH				PP	**PP**	**20 53 38.7**	**+5.1**
KSH				SKS	**SKSdf**	**20 58 31.5**	**-4.3**
WRA	**Warramunga Arr**	**139.63**	**225**	PKhKP	PKPpre	20 51 30.0	
	0.8nm,0.9s,baz=131,slow=2.9,SNR=13						
WRA				PKP	**PKPdf**	**20 51 38.0**	**-0.2**
	3.3nm,0.5s,baz=122,slow=1.9,SNR=39						
WRA				pPKP	pPKPdf	20 52 13.9	-0.5
	1.7nm,0.5s,baz=125,slow=2.1,SNR=4.6						
SONM	**Songino Array**	**140.81**	**359**	PKP	**PKPdf**	**20 51 38.1**	**-1.5**
	0.3nm,0.3s,baz=26,slow=3.7,SNR=4.5						
KSRS	**Korea Array**	**144.54**	**328**	PKP	PKPbc	20 51 45.4	+0.1
	2.0nm,0.8s,baz=157,slow=13,SNR=4.3						
KSAR	**Wonju Array Be**	**144.57**	**328**	PKP	**PKPab**	**20 51 45.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**146.66**	**217**	PKPbc	**PKPbc**	**20 51 52.7**	**+0.5**
	28nm,1.0s,baz=272,slow=0.4,SNR=27						
GTA	**Gaotai**	**148.88**	**8**	*e*PKPbc	**PKPdf**	**20 51 55.1**	**+1.3**
GTA				pPKP	pPKPdf	20 52 34.5	+4.4
GTA				sPKP		20 52 48.7	
LZH	**Lanzhou**	**152.54**	**2**	*e*PKPbc	**PKPdf**	**20 51 55.3**	**-4.3**
LZH				PKPbc	**PKPab**	**20 52 13.1**	**-4.2**
LZH				pPKP	pPKPdf	20 52 44.3	+8.4
LZH				sPKP		20 53 02.3	
CMAR	**Chiang Mai Arr**	**168.46**	**31**	PKP	**PKPdf**	**20 52 17.7**	**+0.6**
	1.3nm,0.9s,baz=279,slow=3.2,SNR=6.4						

IDC 12 20:32:27.2±4.3, 7°.33S×71°.70W, h0km, mb4.3/3, mb1 4.5/3, mb1mx4.0/28, mbtmp4.3/3, MS3.6/1, Ms1 3.5/1, ms1mx2.8/37, Error ellipse: s-maj=390.8km s-min=71.6km az=57.0, Western Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**24.62**	**112**	LR	LR	20 47 15.6	
	comp=Z,151nm,21.3s,baz=112,slow=36						
ULM	**Lac du Bonnet**	**61.06**	**343**	P	P	20 42 42.6	-0.2
	4.3nm,0.5s,baz=156,slow=6.5,SNR=5.1						
YKA	**Yellowknife Ar**	**76.99**	**341**	P	P	20 44 21.8	+0.3
	0.6nm,0.3s,baz=136,slow=6.5,SNR=8.5						
ILAR	**Eielson Array**	**90.33**	**336**	P	P	20 45 29.8	-0.2
	0.5nm,0.7s,baz=126,slow=4.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**129.79**	**18**	PKP	PKPdf	20 51 38.1	-0.5
	3.2nm,0.7s,baz=318,slow=1.1,SNR=7.6						
ZALV	**Zalesovo Beam**	**129.79**	**18**	PKP	PKPdf	20 51 38.1	-0.5
KURK	**Kurchatov**	**130.22**	**24**	PKP	PKPdf	20 51 39.2	-0.3
KURBB	**Kurchatov Arra**	**130.25**	**24**	PKP	PKPdf	20 51 39.2	-0.4
	0.3nm,0.3s,baz=299,slow=2.2,SNR=2.1						

BJI ***12*** *20:32:34.7, 13°.13N×41°.53E, h4km, mb5.2/73, mB5.8/57, Ms5.6/45, Ms7 5.6/68*

IDC ***12*** *20:32:38.2±0.4, 13°.33N×41°.71E, h0km, mb4.9/36, mb1 4.9/41, mb1mx4.8/56, mbtmp4.9/41, ML4.1/5, MS5.4/53, Ms1 5.3/53, ms1mx5.3/59, Error ellipse: s-maj=12.5km s-min=9.2km az=64.0*

ISCJB ***12*** *20:32:39.2±0.1, 13°.38N±0°.02×41°.72E±0°.02, h15km, mb5.2/220, MS5.2/163, Error ellipse: s-maj=3.5km s-min=2.2km az=23.0*

STR ***12*** *20:32:39.6±0.0, 13°.10N×41°.20E, Mb5.4, Error ellipse: s-maj=0.0km s-min=0.0km az=122.0*

MOS ***12*** *20:32:39.0±1.1, 13°.46N×41°.69E, h10km, mb5.6/76, MS5.0/43, Error ellipse: s-maj=7.0km s-min=3.3km az=97.3*

DHMR ***12*** *20:32:39.8±1.0, 13°.56N×42°.17E, h9km±30km, ML5.3*

GCMT ***12*** *20:32:40.5±0.1, 13°.58N×41°.81E, h12km, MW5.6/121, Moment Tensor Solution. s85,c143; s121,c299; Duration: 1§5 Moment tensor: Scale 10^17 Nm; Mrr=-2.45±.03; Mθθ 1.71±.03; Mϕϕ 0.74±.03; Mrθ 0.81±.08; Mθϕ -1.75±.02; Mϕr 0.29±.08; Best double couple: M₀2.90600×10^17 NP1:ϕ₁290.00000°, δ53.00000°, λ-113.00000°. NP2:ϕ₂145.00000°, δ43.00000°, λ-63.00000°. Principal axes: T 3.0810, Plg5.0000°, Azm36.0000°; N -0.3510, Plg18.0000°, Azm305.0000°; P -2.7300, Plg71.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***12*** *20:32:40.0±0.0, 13°.46N×41°.69E, h15km, Moment Tensor Solution. s17 Moment tensor: Scale 10^17 Nm; Mrr-2.15; Mθθ 1.26; Mϕϕ 0.89; Mrθ 0.72; Mθϕ -1.42; Mϕr -1.23; Best double couple: M₀2.70000×10^17 NP1:ϕ₁322.00000°, δ61.00000°, λ-78.00000°. NP2:ϕ₂119.00000°, δ31.00000°, λ-109.00000°. Principal axes: T 2.8700, Plg15.0000°, Azm43.0000°; N -0.2800, Plg10.0000°, Azm136.0000°; P -2.5900, Plg71.0000°, Azm258.0000°;*

SFS ***12*** *20:32:40.0, 13°.42N×41°.70E, h10km, ML5.3*

NEIC ***12*** *20:32:40.5±0.2, 13°.41N×41°.74E, h10km, mb5.4/87, MS5.1/83, MW5.6, MW5.7, Error ellipse: s-maj=4.8km s-min=3.6km az=47.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^17 Nm; Mrr-1.49; Mθθ 2.01; Mϕϕ -0.52; Mrθ 2.02; Mθϕ -2.68; Mϕr 0.94; Best double couple: M₀3.90000×10^17 NP1:ϕ₁265.00000°, δ73.00000°, λ-139.00000°. NP2:ϕ₂161.00000°, δ51.00000°, λ-22.00000°. Principal axes: T 4.0100, Plg14.0000°, Azm28.0000°; N -0.1600, Plg46.0000°, Azm283.0000°; P -3.8500, Plg41.0000°, Azm130.0000°;*

NEIC Felt at Ta'izz, Yemen.

CSEM ***12*** *20:32:40.5±0.1, 13°.42N×41°.73E, h10km, mb5.3/99, Ms5.1, Mw5.6 Error ellipse: s-maj=4.3km s-min=3.2km az=26.0*

DSN ***12*** *20:32:40.2±0.5, 13°.38N×41°.93E, h10km, mb5.5, Error ellipse: s-maj=14.3km s-min=5.8km az=124.0*

ISC 12 20:32:40.0±0.4, 13°.44N±0°.03×41°.73E±0°.03, h7km±2km, h7km:pP-P, n1134, σ1§49/1266, mb5.3/226, MS5.2/165, 77C-45D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.19**	**150**	Pn	**Pn**	**20 33 14.7**	**-2.2**
	299nm,0.3s,baz=320,slow=7.9,SNR=58						
ATD				Lg	Lg	20 33 46.0	
	2µm,0.3s,baz=72,slow=16,SNR=17						
DAMY	**Dhamar**	**2.81**	**66**	*e*Pn	**Pn**	**20 33 25.4**	**-0.3**
DAMY				*e*Sn	**Sn**	**20 34 02.1**	**+2.0**
DAMY	**Dhamar**	**2.81**	**66**	*e*Pn	**Pn**	**20 33 25.4**	**-0.3**
DAMY				*e*Sn	**Sn**	**20 34 02.1**	**+2.0**
HAJJ	**Hajjah**	**2.88**	**39**	⇑*i*P	**Pn**	**20 33 23.3**	**-3.3**
HAJJ				*i* S	**Sn**	**20 33 58.1**	**-3.5**
HAJJ				AML	AML	20 34 25.9	
	comp=Z,25µm,0.7s						
HAJJ	**Hajjah**	**2.88**	**39**	⇑*i*P	**Pn**	**20 33 23.3**	**-3.3**
HAJJ				*i* S	**Sn**	**20 33 58.1**	**-3.5**
	comp=Z,12µm,0.7s						
SANA	**San'a**	**3.08**	**51**	⇑*i*P	**Pn**	**20 33 26.6**	**-2.7**
SANA				*i* S	**Sn**	**20 34 01.9**	**-4.7**
SANA				AML	AML	20 34 27.9	
	comp=E,41µm,0.5s						
ADEN	**Aden**	**3.23**	**101**	⇑*i*P	**Pn**	**20 33 27.9**	**-3.3**
ADEN				*i* S	**Sn**	**20 34 05.9**	**-4.0**
ADEN				AML	AML	20 34 33.0	
	comp=N,19µm,0.7s						
ADEN	**Aden**	**3.23**	**101**	⇑*i*P	**Pn**	**20 33 27.9**	**-3.3**
ADEN				*i* S	**Sn**	**20 34 05.9**	**-4.0**
	comp=N,10µm,0.7s						
FURI	**Furi**	**5.42**	**214**	P	**Pn**	**20 34 02.5**	**+1.0**
FURI				S	**Sb**	**20 35 19.8**	**-0.8**
KMBO	**Kilima Mbogo**	**15.14**	**197**	Pn	**Pn**	**20 36 13.8**	**-0.8**
	comp=N,0.2nm,0.3s,baz=19,slow=13,SNR=38						
KMBO				Lg	Lg	20 40 30.6	
	comp=N,0.1nm,0.3s,baz=111,slow=23,SNR=5.9						
KMBO				LR	LR	20 41 57.3	
	comp=N,36µm,18.5s,baz=10,slow=37						
KMBO	**Kilima Mbogo**	**15.14**	**197**	*e*P	**Pn**	**20 36 14.7**	**0.0**
KMBO				pmax	pmax		
	comp=Z,78nm,1.4s						
KMBO	**Kilima Mbogo**	**15.14**	**197**	*e*Pn	**Pn**	**20 36 14.7**	**0.0**
	comp=Z,78nm,1.4s						
KMBO				*e*Sn	**Sn**	**20 39 03.2**	**+0.4**
KMBO	**Kilima Mbogo**	**15.14**	**197**	*e*Pn	**Pn**	**20 36 14.7**	**0.0**
	comp=Z,78nm,1.4s						
KMBO				*e*Sn	**Sn**	**20 39 03.2**	**+0.4**
KMBO				Lg	Lg	20 40 30.6	
FAQ	**Al Faqa, Dubai**	**17.25**	**47**	*i* P	**Pn**	**20 36 40.9**	**-0.6**
	SNR=55						
FAQ	**Al Faqa, Dubai**	**17.25**	**47**	P	**Pn**	**20 36 40.9**	**-0.6**
	SNR=55						
EIL	**Elat**	**17.33**	**340**	P	**P**	**20 36 44.7**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=150,slow=2.0,SNR=16						
EIL				LR	LR	20 41 56.0	
	comp=Z,9µm,21.4s,baz=158,slow=32						
EIL				Lg	Lg	20 42 21.1	
	comp=Z,0.2nm,0.3s,baz=345,slow=14,SNR=3.7						
NAZ	**Nazwa, Dubai**	**17.45**	**47**	*i* P	**Pn**	**20 36 42.5**	**-1.5**
	SNR=83						
ASHO	**Ashiyiah**	**17.54**	**48**	*i* P	**Pn**	**20 36 43.7**	**-1.

GNI	**Garni**	**26.74**	**5**	P		**P**	**20 38 22.8**	**+2.4**
	SNR=35								
GNI	**Garni**	**26.74**	**5**	P		**P**	**20 38 21.1**	**+0.7**
	SNR=16								
GNI	**Garni**	**26.74**	**5**	*e*P		**P**	**20 38 22.3**	**+1.9**
	comp=Z,140nm,1.2s								
BR131	**Keskin Array S**	**27.14**	**346**	*e*P		**P**	**20 38 25.4**	**+1.4**
BR131	**Keskin Array S**	**27.14**	**346**	*e*P		**P**	**20 38 25.4**	**+1.4**
BRTR	**Keskin Array B**	**27.14**	**346**	P		**P**	**20 38 25.6**	**+1.6**
	comp=Z,14nm,0.9s,baz=160,slow=7.9,SNR=65								
BRTR				PcP		**PcP**	**20 41 43.5**	**-1.2**
	comp=Z,4.3nm,0.9s,baz=156,slow=5.0,SNR=6.1								
BRTR				LR		LR	20 48 54.1		
	comp=Z,4μm,18.8s,baz=147,slow=36								
BR231	**Keskin MP Arra**	**27.46**	**345**	*e*P		**P**	**20 38 25.6**	**-1.2**
BR231	**Keskin MP Arra**	**27.46**	**345**	*e*P		**P**	**20 38 25.6**	**-1.2**
ANTO	**Ankara**	**27.48**	**345**	*e*P		**P**	**20 38 28.3**	**+1.3**
ANTO				pmax		pmax			
	comp=Z,55nm,1.0s								
ANTO				MLR		MLR			
	comp=Z,3μm,22.0s								
ANTO	**Ankara**	**27.48**	**345**	*e*P		**P**	**20 38 28.3**	**+1.3**
	comp=Z,55nm,1.0s								
ANTO	**Ankara**	**27.48**	**345**	*e*P		**P**	**20 38 28.3**	**+1.3**
	comp=Z,55nm,1.0s								
ANTO				LR		LR			
	comp=Z,3μm,22.0s								
KULA	**Kula-Manisa**	**27.54**	**337**	P		**P**	**20 38 28.5**	**+1.0**
KULA	**Kula-Manisa**	**27.54**	**337**	P		**P**	**20 38 28.5**	**+1.0**
KULA	**Kula-Manisa**	**27.54**	**337**	P		**P**	**20 38 28.5**	**+1.0**
BGD	**Bogdanovka**	**27.77**	**3**	P		**P**	**20 38 32.2**	**+2.5**
AKH	**Akhalkalaki**	**27.91**	**3**	P		**P**	**20 38 33.1**	**+2.2**
AKH	**Akhalkalaki**	**27.91**	**3**	P		**P**	**20 38 33.1**	**+2.2**
TBLG	**Delisi**	**28.31**	**5**	P		**P**	**20 38 36.6**	**+2.3**
TBLG	**Delisi**	**28.31**	**5**	P		**P**	**20 38 36.6**	**+2.3**
GEYT	**Alibeck**	**28.42**	**28**	P		**P**	**20 38 36.3**	**+1.0**
	comp=Z,7.1nm,0.8s,baz=211,slow=8.4,SNR=19								
GEYT				LR		LR	20 51 09.8		
	comp=Z,12μm,18.2s,baz=210,slow=39								
KARY	**Karystos**	**28.92**	**331**	P		**P**	**20 38 41.1**	**+1.3**
KARY	**Karystos**	**28.92**	**331**	P		**P**	**20 38 41.1**	**+1.3**
GUDG	**Gudauri**	**29.02**	**4**	P		**P**	**20 38 43.1**	**+2.3**
KRND	**KRANIDI**	**29.05**	**328**	P		**P**	**20 38 40.3**	**-0.6**
KRND	**KRANIDI**	**29.05**	**328**	P		**P**	**20 38 40.3**	**-0.6**
ONI	**Oni**	**29.09**	**3**	P		**P**	**20 38 43.4**	**+2.1**
ONI	**Oni**	**29.09**	**3**	P		**P**	**20 38 43.4**	**+2.1**
VLY	**Voula,Athens**	**29.09**	**330**	P		**P**	**20 38 41.5**	**+0.2**
VLY	**Voula,Athens**	**29.09**	**330**	P		**P**	**20 38 41.5**	**+0.2**
VLY	**Voula,Athens**	**29.09**	**330**	P		**P**	**20 38 41.5**	**+0.2**
DID	**Didima**	**29.10**	**329**	P		**P**	**20 38 40.9**	**-0.5**
DID	**Didima**	**29.10**	**329**	P		**P**	**20 38 40.9**	**-0.5**
DID	**Didima**	**29.10**	**329**	P		**P**	**20 38 40.9**	**-0.5**
PRK	**Paraskevi**	**29.11**	**335**	P		**P**	**20 38 43.3**	**+1.9**
PRK	**Paraskevi**	**29.11**	**335**	P		**P**	**20 38 43.3**	**+1.9**
PRK	**Paraskevi**	**29.11**	**335**	P		**P**	**20 38 43.3**	**+1.9**
PRK	**Paraskevi**	**29.11**	**335**	P		**P**	**20 38 43.3**	**+1.9**
CHVG	**Ch'k'valeri**	**29.18**	**1**	P		**P**	**20 38 44.2**	**+2.2**
ATHU	**Athens Univers**	**29.18**	**330**	P		**P**	**20 38 43.0**	**+0.9**
ATHU	**Athens Univers**	**29.18**	**330**	P		**P**	**20 38 43.0**	**+0.9**
ATHU	**Athens Univers**	**29.18**	**330**	P		**P**	**20 38 43.0**	**+0.9**
PTL	**Penteli**	**29.21**	**330**	P		**P**	**20 38 43.4**	**+1.0**
PTL	**Penteli**	**29.21**	**330**	P		**P**	**20 38 43.4**	**+1.0**
PTL	**Penteli**	**29.21**	**330**	P		**P**	**20 38 43.4**	**+1.0**
ATH	**Athens Observa**	**29.22**	**330**	P		**P**	**20 38 43.8**	**+1.4**
ATH	**Athens Observa**	**29.22**	**330**	P		**P**	**20 38 43.8**	**+1.4**
ATH	**Athens Observa**	**29.22**	**330**	P		**P**	**20 38 43.8**	**+1.4**
ATH	**Athens Observa**	**29.22**	**330**	P		**P**	**20 38 43.8**	**+1.4**
SIGR	**SIGRI**	**29.25**	**334**	P		**P**	**20 38 44.7**	**+2.0**
SIGR	**SIGRI**	**29.25**	**334**	P		**P**	**20 38 44.7**	**+2.0**
SIGR	**SIGRI**	**29.25**	**334**	P		**P**	**20 38 44.7**	**+2.0**
ZEI	**Tsey**	**29.30**	**3**	*e*P		**P**	**20 38 42.3**	**-1.1**
ZEI				pmax		pmax			
	comp=Z,64nm,0.9s								
VILL	**Villia**	**29.57**	**330**	P		**P**	**20 38 46.5**	**+0.9**
VILL	**Villia**	**29.57**	**330**	P		**P**	**20 38 46.5**	**+0.9**
LTK	**Loutraki**	**29.63**	**329**	P		**P**	**20 38 45.4**	**-0.7**
LTK	**Loutraki**	**29.63**	**329**	P		**P**	**20 38 45.4**	**-0.7**
LTK	**Loutraki**	**29.63**	**329**	P		**P**	**20 38 45.4**	**-0.7**
NEY	**Neytrino**	**29.72**	**1**	*d* iP		**P**	**20 38 50.1**	**+3.1**
NEY				pmax		pmax			
	comp=Z,30nm,1.9s								
NCK	**Nalchik**	**29.99**	**3**	⇑*i*P		**P**	**20 38 51.6**	**+2.4**
NCK				pmax		pmax			
	comp=Z,89nm,1.9s								
GADA	**Gvkgeada**	**30.06**	**335**	P		**P**	**20 38 51.9**	**+2.1**
GADA	**Gvkgeada**	**30.06**	**335**	P		**P**	**20 38 51.9**	**+2.1**
GADA	**Gvkgeada**	**30.06**	**335**	P		**P**	**20 38 51.9**	**+2.1**
SOC	**Sochi**	**30.09**	**357**	*c* iP		**P**	**20 38 50.3**	**+0.3**
SOC				*e*			20 39 49.0		
SOC				*e*S		**S**	**20 40 53.2**	**+1.4**
SOC				*e*SS		**SnSn**	**20 45 21.2**	**-0.1**
SOC				*e*SSS		SSS	20 45 43.9		
SOC				pmax		pmax			
	comp=Z,24nm,1.0s								
SOC				MLR		MLR			
	comp=Z,14μm,13.0s								
LKR	**Lokris**	**30.10**	**330**	P		**P**	**20 38 50.6**	**+0.4**
LKR	**Lokris**	**30.10**	**330**	P		**P**	**20 38 50.6**	**+0.4**
LKR	**Lokris**	**30.10**	**330**	P		**P**	**20 38 50.6**	**+0.4**
LIA	**Limnos Island**	**30.11**	**334**	P		**P**	**20 38 51.9**	**+1.6**
LIA	**Limnos Island**	**30.11**	**334**	P		**P**	**20 38 51.9**	**+1.6**
LIA	**Limnos Island**	**30.11**	**334**	P		**P**	**20 38 51.9**	**+1.6**
ATAL	**Atalanti**	**30.13**	**330**	P		**P**	**20 38 50.8**	**+0.3**
ATAL	**Atalanti**	**30.13**	**330**	P		**P**	**20 38 50.8**	**+0.3**
ATAL	**Atalanti**	**30.13**	**330**	P		**P**	**20 38 50.8**	**+0.3**
DSF	**Desfina**	**30.15**	**329**	P		**P**	**20 38 51.1**	**+0.3**
DSF	**Desfina**	**30.15**	**329**	P		**P**	**20 38 51.1**	**+0.3**
DSF	**Desfina**	**30.15**	**329**	P		**P**	**20 38 51.1**	**+0.3**
KBZ	**Khabaz**	**30.20**	**2**	P		**P**	**20 38 52.4**	**+1.4**
	comp=Z,20nm,1.0s,baz=202,slow=5.4,SNR=27								
KBZ				LR		LR	20 51 43.5		
	comp=Z,7μm,18.5s,baz=193,slow=38								
DRO	**Drossia**	**30.22**	**327**	P		**P**	**20 38 51.3**	**0.0**
DRO	**Drossia**	**30.22**	**327**	P		**P**	**20 38 51.3**	**0.0**
KALE	**Kalithea**	**30.33**	**329**	P		**P**	**20 38 52.5**	**+0.1**
KALE	**Kalithea**	**30.33**	**329**	P		**P**	**20 38 52.5**	**+0.1**
KALE	**Kalithea**	**30.33**	**329**	P		**P**	**20 38 52.5**	**+0.1**
SERG	**Sergoula**	**30.39**	**328**	P		**P**	**20 38 53.2**	**+0.4**
SERG	**Sergoula**	**30.39**	**328**	P		**P**	**20 38 53.2**	**+0.4**
KIV	**Kislovodsk**	**30.42**	**1**	*i* P		**P**	**20 38 54.0**	**+0.9**
	SNR=18								
KIV	**Kislovodsk**	**30.42**	**1**	*i* P		**P**	**20 38 54.5**	**+1.4**
KIV				pmax		pmax			
	comp=Z,70nm,1.0s								
KIV	**Kislovodsk**	**30.42**	**1**	P		**P**	**20 38 54.9**	**+1.8**
	SNR=16								
KIV	**Kislovodsk**	**30.42**	**1**	P		**P**	**20 38 54.0**	**+0.9**
	SNR=18								
KIV	**Kislovodsk**	**30.42**	**1**	*e*P		**P**	**20 38 54.4**	**+1.3**
	comp=Z,69nm,1.1s								
KIV				LR		LR			
	comp=Z,6μm,20.0s								
ENEZ	**Enez**	**30.43**	**336**	P		**P**	**20 38 54.7**	**+1.7**
ENEZ	**Enez**	**30.43**	**336**	P		**P**	**20 38 54.7**	**+1.7**
RLS	**Riolos of Patr**	**30.43**	**327**	P		**P**	**20 38 53.4**	**+0.3**
RLS	**Riolos of Patr**	**30.43**	**327**	P		**P**	**20 38 53.4**	**+0.3**
RLS	**Riolos of Patr**	**30.43**	**327**	P		**P**	**20 38 53.4**	**+0.3**
SMTH	**Samothraki Isl**	**30.45**	**335**	P		**P**	**20 38 52.8**	**-0.5**
SMTH	**Samothraki Isl**	**30.45**	**335**	P		**P**	**20 38 52.8**	**-0.5**
SMTH	**Samothraki Isl**	**30.45**	**335**	P		**P**	**20 38 52.8**	**-0.5**
EFP	**Efpalio**	**30.48**	**328**	P		**P**	**20 38 54.5**	**+0.9**
EFP	**Efpalio**	**30.48**	**328**	P		**P**	**20 38 54.5**	**+0.9**
NEO	**Neokhori**	**30.51**	**331**	P		**P**	**20 38 53.9**	**0.0**
NEO	**Neokhori**	**30.51**	**331**	P		**P**	**20 38 53.9**	**0.0**
NEO	**Neokhori**	**30.51**	**331**	P		**P**	**20 38 53.9**	**0.0**
ZKS	**Zakynthos**	**30.53**	**326**	P		**P**	**20 38 54.2**	**+0.2**
ZKS	**Zakynthos**	**30.53**	**326**	P		**P**	**20 38 54.2**	**+0.2**
ANX	**Ano Chora**	**30.60**	**329**	P		**P**	**20 38 54.6**	**-0.1**
ANX	**Ano Chora**	**30.60**	**329**	P		**P**	**20 38 54.6**	**-0.1**
ALN	**Alexandroupoli**	**30.61**	**336**	P		**P**	**20 38 56.5**	**+1.9**
ALN	**Alexandroupoli**	**30.61**	**336**	P		**P**	**20 38 56.5**	**+1.9**
ALN	**Alexandroupoli**	**30.61**	**336**	P		**P**	**20 38 56.5**	**+1.9**
ALN	**Alexandroupoli**	**30.61**	**336**	P		**P**	**20 38 56.5**	**+1.9**
AGG	**Agios Georgios**	**30.72**	**330**	P		**P**	**20 38 55.2**	**-0.5**
AGG	**Agios Georgios**	**30.72**	**330**	*e*P		**P**	**20 38 56.0**	**+0.3**
AGG				pmax		pmax			
	comp=Z,120nm,1.1s								
AGG				MLR		MLR			
	comp=Z,3μm,18.0s								
AGG	**Agios Georgios**	**30.72**	**330**	*e*P		**P**	**20 38 56.0**	**+0.3**
	comp=Z,120nm,1.1s								
AGG	**Agios Georgios**	**30.72**	**330**	*e*P		**P**	**20 38 56.0**	**+0.3**
	comp=Z,120nm,1.1s								
AGG				LR		LR			
	comp=Z,3μm,18.0s								
PVO	**Paravola**	**30.82**	**328**	P		**P**	**20 38 57.4**	**+0.9**
PVO	**Paravola**	**30.82**	**328**	P		**P**	**20 38 57.4**	**+0.9**
EVR	**Evrytania**	**30.90**	**329**	P		**P**	**20 38 58.0**	**+0.6**
EVR	**Evrytania**	**30.90**	**329**	P		**P**	**20 38 58.0**	**+0.6**
EVR	**Evrytania**	**30.90**	**329**	P		**P**	**20 38 58.0**	**+0.6**
OUR	**Ouranopolis**	**30.99**	**333**	P		**P**	**20 38 59.4**	**+1.3**
OUR	**Ouranopolis**	**30.99**	**333**	P		**P**	**20 38 59.4**	**+1.3**
OUR	**Ouranopolis**	**30.99**	**333**	P		**P**	**20 38 59.4**	**+1.3**
OUR	**Ouranopolis**	**30.99**	**333**	P		**P**	**20 38 59.4**	**+1.3**
EDRB	**Edirne**	**31.16**	**338**	P		**P**	**20 39 01.3**	**+1.7**
EDRB	**Edirne**	**31.16**	**338**	P		**P**	**20 39 01.3**	**+1.7**
EDRB	**Edirne**	**31.16**	**338**	P		**P**	**20 39 01.3**	**+1.7**
THL	**Klokotos Trika**	**31.30**	**330**	P		**P**	**20 38 59.3**	**-1.4**
THL	**Klokotos Trika**	**31.30**	**330**	P		**P**	**20 38 59.3**	**-1.4**
KAVA	**Kavala**	**31.31**	**334**	P		**P**	**20 39 02.4**	**+1.5**
KAVA	**Kavala**	**31.31**	**334**	P		**P**	**20 39 02.4**	**+1.5**
KAVA	**Kavala**	**31.31**	**334**	P		**P**	**20 39 02.4**	**+1.5**
DSL	**Palaion Diasel**	**31.43**	**328**	P		**P**	**20 39 02.5**	**+0.5**
DSL	**Palaion Diasel**	**31.43**	**328**	P		**P**	**20 39 02.5**	**+0.5**
DSL	**Palaion Diasel**	**31.43**	**328**	P		**P**	**20 39 02.5**	**+0.5**
ANN	**Anapa**	**31.47**	**354**	*e*P		**P**	**20 39 03.4**	**+1.2**
ANN				*e*			20 40 08.4		
ANN				*e*S		**S**	**20 44 16.2**	**+5.8**
ANN				pmax		pmax			
	comp=Z,87nm,1.6s								
ANN				MLR		MLR			
	comp=N,2μm,10.0s								
ANN				MLR		MLR			
	comp=Z,4μm,10.0s								
ANN				MLR		MLR			
	comp=E,1μm,10.0s								
LIT	**Litokhoron**	**31.49**	**331**	P		**P**	**20 39 02.6**	**+0.1**
LIT	**Litokhoron**	**31.49**	**331**	P		**P**	**20 39 02.6**	**+0.1**
LIT	**Litokhoron**	**31.49**	**331**	P		**P**	**20 39 02.6**	**+0.1**
LIT	**Litokhoron**	**31.49**	**331**	P		**P**	**20 39 02.6**	**+0.1**
KDZ	**Kurdzhali**	**31.49**	**334**	*i* P		**P**	**20 39 03.8**	**+1.3**
LSZ	**Lusaka**	**31.52**	**206**	LR		LR	20 51 24.8		
	comp=E,14μm,21.1s,baz=42,slow=36								
LSZ	**Lusaka**	**31.52**	**206**	*e*P		**P**	**20 39 02.1**	**-1.0**
LSZ				pmax		pmax			
	comp=Z,269nm,2.3s								
LSZ	**Lusaka**	**31.52**	**206**	*e*P		**P**	**20 39 02.1**	**-1.0**
	comp=Z,269nm,2.3s								
LSZ	**Lusaka**	**31.52**	**206**	*e*P		**P**	**20 39 02.1**	**-1.0**
	comp=Z,269nm,2.3s								
SOH	**Sokhos**	**31.67**	**333**	P		**P**	**20 39 04.6**	**+0.5**
SOH	**Sokhos**	**31.67**	**333**	P		**P**	**20 39 04.6**	**+0.5**
SOH	**Sokhos**	**31.67**	**333**	P		**P**	**20 39 04.6**	**+0.5**
SOH	**Sokhos**	**31.67**	**333**	P		**P**	**20 39 04.6**	**+0.5**
JMB	**Yambol**	**31.76**	**338**	*i* P		**P**	**20 39 06.2**	**+1.4**
DIM	**Dimitrovgrad**	**31.79**	**337**	*i* P		**P**	**20 39 06.6**	**+1.5**
SRS	**Serrai**	**31.80**	**333**	P		**P**	**20 39 05.6**	**+0.4**
SRS	**Serrai**	**31.80**	**333**	P		**P**	**20 39 05.6**	**+0.4**
SRS	**Serrai**	**31.80**	**333**	P		**P**	**20 39 05.6**	**+0.4**
SRS	**Serrai**	**31.80**	**333**	P		**P**	**20 39 05.6**	**+0.4**
RZN	**Rozhen**	**31.80**	**335**	*i* P		**P**	**20 39 07.1**	**+1.6**
NVR	**Nevrokopi**	**31.88**	**334**	P		**P**	**20 39 06.8**	**+0.9**
NVR	**Nevrokopi**	**31.88**	**334**	P		**P**	**20 39 06.8**	**+0.9**
NVR	**Nevrokopi**	**31.88**	**334**	P		**P**	**20 39 06.8**	**+0.9**
KPRO	**Kipourio**	**31.91**	**330**	P		**P**	**20 39 06.0**	**-0.3**
KPRO	**Kipourio**	**31.91**	**330**	P		**P**	**20 39 06.0**	**-0.3**
JAN	**Janina**	**31.94**	**329**	P		**P**	**20 39 07.7**	**+1.2**
JAN	**Janina**	**31.94**	**329**	P		**P**	**20 39 07.7**	**+1.2**
JAN	**Janina**	**31.94**	**329**	P		**P**	**20 39 07.7**	**+1.2**
JAN	**Janina**	**31.94**	**329**	P		**P**	**20 39 07.7**	**+1.2**
KZN	**Kozani**	**31.99**	**330**	P		**P**	**20 39 06.7**	**-0.3**
KZN	**Kozani**	**31.99**	**330**	P		**P**	**20 39 06.7**	**-0.3**
KZN	**Kozani**	**31.99**	**330**	P		**P**	**20 39 06.7**	**-0.3**
KZN	**Kozani**	**31.99**	**330**	P		**P**	**20 39 06.7**	**-0.3**
SIM	**Simferopol'**	**32.07**	**350**	*e*P		**P**	**20 39 07.5**	**0.0**
SIM				*e*			20 40 10.0		
SIM				*i* S		**S**	**20 44 24.0**	**+4.2**
SIM				*e*SS		**SnSn**	**20 46 18.0**	**+8.6**
SIM				pmax		pmax			
	comp=Z,37nm,0.9s								
SIM				pmax		pmax			
	comp=Z,150nm,10.6s								
SIM				MLR		MLR			
	comp=N,2μm,17.5s								
IGT	**Igoumenitsa**	**32.12**	**328**	P		P	20 39 03.2	-4.8	
IGT	**Igoumenitsa**	**32.12**	**328**	P		P	20 39 03.2	-4.8	
IGT	**Igoumenitsa**	**32.12**	**328**	P		P	20 39 03.2	-4.8	
PRD	**Provadia**	**32.13**	**340**	*i* P		**P**	**20 39 08.9**	**+0.9**
MMB	**Musomiste**	**32.13**	**334**	*i* P		**P**	**20 39 08.7**	**+0.5**
GRG	**Griva**	**32.20**	**332**	P		**P**	**20 39 09.0**	**+0.2**
GRG	**Griva**	**32.20**	**332**	P		**P**	**20 39 09.0**	**+0.2**
GRG	**Griva**	**32.20**	**332**	P		**P**	**20 39 09.0**	**+0.2**
GRG	**Griva**	**32.20**	**332**	P		**P**	**20 39 09.0**	**+0.2**
PENT	**Pentalofos**	**32.21**	**330**	P		**P**	**20 39 09.4**	**+0.5**
PENT	**Pentalofos**	**32.21**	**330**	P		**P**	**20 39 09.4**	**+0.5**
SGD	**Sagiada**	**32.23**	**328**	P		**P**	**20 39 08.7**	**-0.2**
SGD	**Sagiada**	**32.23**	**328**	P		**P**	**20 39 08.7**	**-0.2**
OPO	**Ambohidratompo**	**32.26**	**170**	LR		LR	20 51 21.1		
	comp=N,5μm,21.0s,baz=338,slow=35								
VAY	**Valandovo**	**32.42**	**333**	*i* P		**P**	**20 39 10.8**	**+0.1**
VAY	**Valandovo**	**32.42**	**333**	*i* P		**P**	**20 39 10.7**	**+0.1**
KBL	**Kabul**	**32.43**	**45**	*e*P		**P**	**20 39 12.0**	**+0.9**
KBL				pmax		pmax			
	comp=Z,160nm,2.0s								
KBL				MLR		MLR			
	comp=Z,10μm,20.0s								
KBL	**Kabul**	**32.43**	**45**	*e*P		**P**	**20 39 12.0**	**+0.9**
	comp=Z,158nm,2.0s								
KBL	**Kabul**	**32.43**	**45**	*e*P		**P**	**20 39 12.0**	**+0.9**
	comp=Z,158nm,2.0s								
KBL				LR		LR			
	comp=Z,10μm,20.0s								
FNA	**Florina**	**32.55**	**331**	P		**P**	**20 39 11.4**	**-0.4**
FNA	**Florina**	**32.55**	**331**	P		**P**	**20 39 11.4**	**-0.4**
FNA	**Florina**	**32.55**	**331**	P		**P**	**20 39 11.4**	**-0.4**
FNA	**Florina**	**32.55**	**331**	P		**P**	**20 39 11.4**	**-0.4**
KKB	**Krupnik**	**32.64**	**334**	*i* P		**P**	**20 39 12.8**	**+0.3**
SZH	**Strazhica**	**32.69**	**338**	*i* P		**P**	**20 39 13.9**	**+0.9**
ABPO	**Ambohimpanom**	**32.70**	**170**	*e*P		**P**	**20 39 15.1**	**+1.6**
ABPO				pmax		pmax			
	comp=Z,110nm,1.9s								
ABPO				MLR		MLR			
	comp=Z,4μm,20.0s								
ABPO	**Ambohimpanom**	**32.70**	**170**	*e*P		**P**	**20 39 15.1**	**+1.6**
	comp=Z,113nm,1.9s								
ABPO	**Ambohimpanom**	**32.70**	**170**	*e*P		**P**	**20 39 15.1**	**+1.6**
	comp=Z,113nm,1.9s								
ABPO				LR		LR			
	comp=Z,4μm,20.0s								
PGB	**Panagyurishte**	**32.75**	**336**	*i* P		**P**	**20 39 13.9**	**+0.3**
TIRR	**Tirgusor**	**32.95**	**342**	⇑*i*P		**P**	**20 39 16.1**	**+0.9**
TIRR	**Tirgusor**	**32.95**	**342**	*e*P		**P**	**20 39 15.5**	**+0.3**
TIRR				pmax		pmax			
	comp=Z,54nm,1.2s								
TIRR				MLR		MLR			
	comp=Z,2μm,19.0s								
TIRR	**Tirgusor**	**32.95**	**342**	*e*P		**P**	**20 39 15.5**	**+0.3**
	comp=Z,54nm,1.2s								
TIRR	**Tirgusor**	**32.95**	**342**	*e*P		**P**	**20 39 15.5**	**+0.3**
	comp=Z,54nm,1.2s								
TIRR				LR		LR			
	comp=Z,2μm,19.0s								
OHR	**Ohrid**	**33.08**	**330**	*i* P		**P**	**20 39 17.2**	**+0.7**
OHR	**Ohrid**	**33.08**	**330**	*i* P		**P**	**20 39 17.2**	**+0.7**
SKO	**Skopje**	**33.45**	**332**	*i* P		**P**	**20 39 20.4**	**+0.7**
SKO	**Skopje**	**33.45**	**332**	*i* P		**P**	**20 39 20.3**	**+0.7**
TLCR		**33.50**	**343**	⇑*i*P		**P**	**20 39 20.3**	**+0.3**
MPEP	**Malo Peshtene**	**33.60**	**336**	*i* P		**P**	**20 39 21.7**	**+0.8**
CFR	**Carcaliu**	**33.68**	**343**	⇓*i*P		**P**	**20 39 21.8**	**+0.2**
TIR	**Tirane**	**33.71**	**330**	PFAKE			20 39 30.0	+8.1	
TIR				LR		LR			
	comp=Z,1μm,21.0s								
TIP	**Timpagrande**	**33.82**	**324**	P		**P**	**20 39 22.9**	**-0.1**
TIP	**Timpagrande**	**33.82**	**324**	*e*P		**P**	**20 39 23.8**	**+0.8**
	comp=Z,158nm,2.0s								
TIP	**Timpagrande**	**33.82**	**324**	*e*P		**P**	**20 39 23.8**	**+0.8**
	comp=Z,158nm,2.0s								
TIP				LR		LR			
	comp=Z,1μm,20.0s								
BARS	**Barje**	**33.95**	**333**	*e*P		**P**	**20 39 24.0**	**0.0**
ISR	**Istrita**	**34.12**	**341**	⇑*i*P		**P**	**20 39 27.2**	**+1.7**
HUMR	**Humele**	**34.13**	**338**	⇑*i*P		**P**	**20 39 26.8**	**+1.3**
SECR		**34.20**	**340**	⇓*i*P		**P**	**20 39 27.8**	**+1.7**
ODBI	**Odobesti**	**34.53**	**342**	⇓*i*P		**P**	**20 39 30.0**	**+1.0**
MLR	**Muntele Rosu**	**34.64**	**340**	⇓*i*P		**P**	**20 39 31.5**	**+1.4**
MLR	**Muntele Rosu**	**34.64**	**340**	*e*P		**P**	**20 39 31.1**	**+1.0**
MLR				pmax		pmax			
	comp=Z,69nm,0.9s								
MLR				MLR		MLR			
	comp=Z,3μm,19.0s								
MLR	**Muntele Rosu**	**34.64**	**340**	*e*P		**P**	**20 39 31.1**	**+1.0**
	comp=Z,69nm,0.9s								
MLR	**Muntele Rosu**	**34.64**	**340**	*e*P		**P**	**20 39 31.1**	**+1.0**
	comp=Z,69nm,0.9s								
MLR				LR		LR			
	comp=Z,3μm,19.0s								
BOVS	**Bovan**	**34.66**	**334**	⇑*i*P		**P**	**20 39 30.2**	**+0.1**
DRME	**Dracevica, Mon**	**34.68**	**330**	⇑*i*P		**P**	**20 39 31.4**	**+1.1**
MTUR	**Matau**	**34.71**	**339**	⇓*i*P		**P**	**20 39 31.2**	**+0.6**
BOLS	**Boljevac**	**34.72**	**335**	⇑*i*P		**P**	**20 39 29.3**	**-1.3**
VRI	**Vrincioaia**	**34.73**	**341**	⇑*i*P		**P**	**20 39 31.9**	**+1.2**
PLOR	**Plostina**	**34.74**	**341**	⇓*i*P		**P**	**20 39 32.2**	**+1.4**
PDG	**Podgorica**	**34.83**	**330**	P		**P**	**20 39 32.2**	**+0.6**
PDG	**Podgorica**	**34.83**	**330**	P		**P**	**20 39 32.2**	**+0.6**
TTG	**Podgorica**	**34.83**	**330**	P		**P**	**20 39 32.2**	**+0.6**
TTG	**Podgorica**	**34.83**	**330**	P		**P**	**20 39 32.2**	**+0.6**
TTG	**Podgorica**	**34.83**	**330**	P		**P**	**20 39 32.2**	**+0.6**
LEOM	**Leova**	**34.84**	**344**	⇓*i*P		**P**	**20 39 32.8**	**+1.2**
VOIR		**34.90**	**339**	⇑*i*P		**P**	**20 39 33.1**	**+0.9**
CUC	**Castrocucco**	**34.90**	**324**	PFAKE			20 39 40.0	+7.7	
CUC				LR		LR			
	comp=Z,1μm,19.0s								
CLTB	**Caltabellotta**	**34.97**	**319**	*e*P		**P**	**20 39 33.4**	**+0.4**
	comp=Z,31nm,0.7s								
CLTB	**Caltabellotta**	**34.97**	**319**	*e*P		**P**	**20 39 33.4**	**+0.4**
	comp=Z,31nm,0.7s								
CLTB				LR		LR			
	comp=Z,3μm,19.0s								
ARR	**Arges**	**34.98**	**339**	⇓*i*P		**P**	**20 39 33.2**	**+0.2**
BHPL	**Bhopal**	**35.17**	**69**	*e*P		**P**	**20 39 35.4**	**+0.5**
BHPL				IAmb		IAmb	20 39 39.2		
	comp=Z,89nm,1.4s								
KIS	**Kishinev**	**35.17**	**345**	⇑*i*P		**P**	**20 39 35.0**	**+0.6**
	comp=Z,300nm,2.0s								
KIS	**Kishinev**	**35.17**	**345**	*e*PP		PP	20 40 50.0	-4.2	
KIS	**Kishinev**	**35.17**	**345**	*e*PcP		**PcP**	**20 42 05.0**	**-0.7**
KIS				*e*S		**S**	**20 45 09.0**	**+1.2**
KIS	**Kishinev**	**35.17**	**345**	*e*PcS		PcS	20 45 52.0	-0.4	
KIS				*e*SS		SS	20 47 40.0	-0.5	
KIS				*e*SSS		SSS	20 48 12.0		
KI

comp=Z,250nm,1.6s
AK11 Malin Array Si 38.52 347 *e*P **P 20 40 02.1 -0.8**
AK11 Malin Array Si 38.52 347 *e*P **P 20 40 02.1 -0.8**
KIEV Kiev 38.53 347 *e*P **P 20 40 02.5 -0.5**
KIEV pmax pmax
comp=Z,124nm,1.7s
KIEV Kiev 38.53 347 *e*P **P 20 40 02.5 -0.5**
comp=Z,124nm,1.7s
KIEV Kiev 38.53 347 *e*P **P 20 40 02.5 -0.5**
comp=Z,124nm,1.7s
AKASG Malin Array Be 38.53 347 P **P 20 40 02.3 -0.8**
comp=Z,8.2nm,0.9s,baz=164,slow=7.0,SNR=49
AKASG PcP **PcP 20 42 15.0 -0.8**
comp=Z,2.3nm,0.8s,baz=165,slow=3.1,SNR=5.7
AKASG LR LR 20 57 55.7
comp=Z,3μm,18.9s,baz=140,slow=39
AKBB Malin Array Si 38.53 347 *e*P **P 20 40 03.1 +0.1**
AKBB pmax pmax
comp=Z,44nm,1.2s
AKBB MLR MLR
comp=Z,3μm,18.0s
AKBB Malin Array Si 38.53 347 *e*P **P 20 40 03.1 +0.1**
comp=Z,44nm,1.2s
AKBB Malin Array Si 38.53 347 *e*P **P 20 40 03.1 +0.1**
comp=Z,44nm,1.2s
AKBB LR LR
comp=Z,3μm,18.0s
VSL Villasalto 38.53 318 *e*P **P 20 40 04.5 +1.2**
comp=Z,73nm,1.4s
VSL Villasalto 38.53 318 *e*P **P 20 40 04.5 +1.2**
comp=Z,73nm,1.4s
VSL LR LR
comp=Z,2μm,18.0s
KKAR Karatay Array 38.57 34 *e*P **P 20 40 04.0 +0.4**
KKAR Karatay Array 38.57 34 *e*P **P 20 40 04.0 +0.4**
KKAR Karatay Array 38.57 34 *e*P **P 20 40 04.0 +0.4**
UZH Uzhgorod 38.60 339⇓ *i*P **P 20 40 02.4 -1.3**
UZH *e* 20 42 22.6
UZH *e*S **S 20 45 55.2 -4.9**
UZH MLR MLR
comp=N,850nm,13.0s
UZH MLR MLR
comp=E,680nm,13.0s
UZH MLR MLR
comp=Z,450nm,13.0s
ABKAR Akbulak array 38.74 19 *e*P **P 20 40 04.8 0.0**
ABKAR Akbulak array 38.74 19 *e*P **P 20 40 04.8 0.0**
PALK Pallekele 38.78 95 LR LR 20 53 38.5
comp=Z,3μm,19.3s,baz=295,slow=32
PALK Pallekele 38.78 95 *e*P **P 20 40 06.3 +0.6**
PALK pmax pmax
comp=Z,98nm,1.2s
PALK MLR MLR
comp=Z,3μm,18.0s
PALK Pallekele 38.78 95 *e*P **P 20 40 06.3 +0.6**
comp=Z,98nm,1.3s
PALK Pallekele 38.78 95 *e*P **P 20 40 06.3 +0.6**
comp=Z,98nm,1.3s
KOLS Kolonicke sedl 38.87 340 *e*P **P 20 40 06.7 +0.7**
KOLS pmax pmax
comp=Z,142nm,2.3s
KOLS Kolonicke sedl 38.87 340 *e*P **P 20 40 06.7 +0.7**
comp=Z,142nm,2.3s
KOLS *e*S **S 20 46 06.3 +2.1**
KOLS Kolonicke sedl 38.87 340 *e*P **P 20 40 06.7 +0.7**
KOLS *e*S **S 20 46 06.3 +2.1**
KOLS *e*L L 20 54 14.7
BUD Budapest 38.88 335⇑ *e*PKiKP **P 20 40 07.2 +1.2**
BUD Budapest 38.88 335⇑ *e*P **P 20 40 07.2 +1.2**
PSZ Piszkesteto 38.89 337⇓ *i*P **P 20 40 06.1 -0.1**
PSZ Piszkesteto 38.89 337⇓ *e*PKiKP **P 20 40 07.1 +0.9**
PSZ Piszkesteto 38.89 337 *e*P **P 20 40 05.7 -0.5**
PSZ pmax pmax
comp=Z,46nm,1.0s
PSZ MLR MLR
comp=Z,1μm,18.0s
PSZ Piszkesteto 38.89 337 *e*P **P 20 40 05.7 -0.5**
comp=Z,46nm,1.0s
PSZ Piszkesteto 38.89 337 *e*P **P 20 40 05.7 -0.5**
comp=Z,46nm,1.0s
PSZ LR LR
comp=Z,1μm,18.0s
TOC2 Torodi Ar. Sit 38.91 274 PFAKE 20 40 20.0 +13
TOC2 LR LR
comp=Z,500nm,20.0s
TOC3 Torodi Ar. Sit 38.91 274 PFAKE 20 40 20.0 +13
TOC3 LR LR
comp=Z,2μm,20.0s
TOB2 Torodi Ar. Sit 38.93 274 PFAKE 20 40 20.0 +13
TOB2 LR LR
comp=Z,500nm,20.0s
TOC1 Torodi Ar. Sit 38.93 274 PFAKE 20 40 20.0 +13
TOC1 LR LR
comp=Z,5μm,20.0s
TOB3 Torodi Ar. Sit 38.93 274 PFAKE 20 40 20.0 +13
TOB3 LR LR
comp=Z,5μm,21.0s
TOA2 Torodi Ar. Sit 38.93 274 PFAKE 20 40 20.0 +13
TOA2 LR LR
comp=Z,100nm,18.0s
ZAG Zagreb 38.93 331⇑ *i*P **P 20 40 08.0 +1.5**
TOC4 Torodi Ar. Sit 38.94 274 PFAKE 20 40 20.0 +13
TOC4 LR LR
comp=Z,4μm,18.0s
TOA0 Torodi Ar. Sit 38.94 274 *e*P **P 20 40 05.5 -1.4**
TOA0 Torodi Ar. Sit 38.94 274 *e*P **P 20 40 05.5 -1.4**
TOA0 LR LR
comp=Z,2μm,18.0s
TOB1 Torodi Ar. Sit 38.94 274 PFAKE 20 40 20.0 +13
TOB1 LR LR
comp=Z,5μm,20.0s
TORD Torodi Ar. Bea 38.94 274 P **P 20 40 05.4 -1.6**
comp=Z,13nm,1.0s,baz=95,slow=5.8,SNR=44
TORD LR LR 20 56 08.0
comp=Z,3μm,18.0s,baz=115,slow=36
TOA3 Torodi Ar. Sit 38.94 274 PFAKE 20 40 20.0 +13
TOA3 LR LR
comp=Z,100nm,18.0s
TOA1 Torodi Ar. Sit 38.94 274 PFAKE 20 40 20.0 +13
TOA1 LR LR
comp=Z,2μm,19.0s
TOB4 Torodi Ar. Sit 38.95 274 PFAKE 20 40 20.0 +13
TOB4 LR LR
comp=Z,5μm,21.0s
TOB5 Torodi Ar. Sit 38.95 274 PFAKE 20 40 20.0 +13
TOB5 LR LR
comp=Z,5μm,21.0s
TOC7 Torodi Ar. Sit 38.95 274 PFAKE 20 40 20.0 +13
TOC7 LR LR
comp=Z,5μm,21.0s
TOC5 Torodi Ar. Sit 38.96 274 PFAKE 20 40 20.0 +13
TOC5 LR LR
comp=Z,6μm,21.0s
BOJS Bojanci 39.05 330 *i*P **P 20 40 07.2 -0.3**
BOJS Bojanci 39.05 330 *i*P **P 20 40 07.2 -0.3**
BEHE Becsehely 39.05 332⇑ *e*PKiKP **P 20 40 08.7 +1.2**
BEHE Becsehely 39.05 332⇑ *e*P **P 20 40 08.7 +1.2**
LVV L'vov 39.08 342 *d i*P **P 20 40 07.5 -0.1**
LVV *e* 20 41 40.9
LVV *e*PPP PPP 20 42 02.3
LVV *e*S **S 20 46 03.7 -3.5**
LVV MLR MLR
comp=N,700nm,13.0s
LVV MLR MLR
comp=E,900nm,13.0s
LVV MLR MLR
comp=Z,1μm,14.0s
CSKK Cs'‡kako 39.10 335⇓ *e*PKiKP **P 20 40 09.6 +1.7**
CSKK Cs'‡kako 39.10 335⇓ *e*P **P 20 40 09.6 +1.7**
CRVS Cervenica-Dubn 39.12 339 *e*P **P 20 40 08.6 +0.5**
CRVS Cervenica-Dubn 39.12 339 *e*P **P 20 40 08.6 +0.5**
CRVS Cervenica-Dubn 39.12 339 *e*P **P 20 40 08.6 +0.5**
KECS Kecovo 39.13 338 *e*P **P 20 40 08.9 +0.8**
KECS pmax pmax
comp=Z,14nm,0.9s
KECS Kecovo 39.13 338 *e*P **P 20 40 08.9 +0.8**
comp=Z,14nm,0.9s
KECS Kecovo 39.13 338 *e*P **P 20 40 08.9 +0.8**
KECS *e*S **S 20 46 14.2 +6.1**
LPSR Galich'ya Gora 39.13 357 *e*P **P 20 40 08.3 +0.3**
LPSR *e* 20 41 40.7
LPSR *e*S **S 20 46 11.6 +3.7**
LPSR pmax pmax
comp=Z,50nm,1.0s
LPSR smax smax
comp=N,420nm,3.4s
LPSR MLR MLR
comp=Z,3μm,15.0s
CRES Cresnjev 39.18 331⇑ *i*P **P 20 40 09.4 +0.8**
AKTO Aktyubinsk 39.21 16 P **P 20 40 09.2 +0.4**
comp=Z,11nm,0.9s,baz=211,slow=9.0,SNR=39
AKTO LR LR 20 58 09.5
comp=Z,2μm,20.9s,baz=201,slow=39
CESS Cesta pri Krsk 39.29 331 *i*P **P 20 40 09.7 +0.2**
CESS Cesta pri Krsk 39.29 331 *i*P **P 20 40 09.7 +0.2**
KWP Kalwaria Pacla 39.33 340 *e*P **P 20 40 10.9 +1.1**
KWP *e*S **S 20 46 14.8 +3.7**
KWP Kalwaria Pacla 39.33 340⇑ *i*P **P 20 40 10.3 +0.5**
KWP Kalwaria Pacla 39.33 340⇑ *e*P **P 20 40 10.9 +1.1**
KWP *e*S **S 20 46 14.8 +3.7**
KWP Kalwaria Pacla 39.33 340⇑ *e*P **P 20 40 10.9 +1.1**
VISS Visnje 39.46 330 *i*P **P 20 40 10.6 -0.3**
VISS Visnje 39.46 330 *i*P **P 20 40 10.6 -0.3**
CEY Cerknica 39.62 330⇑ *i*P **P 20 40 13.0 +0.7**
GROS Grobnik 39.63 331 *i*P **P 20 40 12.5 +0.1**
GROS Grobnik 39.63 331 *i*P **P 20 40 12.5 +0.1**
STHS Stebnicka Huta 39.64 339 *e*P **P 20 40 13.0 +0.6**
STHS pmax pmax
comp=Z,12nm,1.0s
STHS Stebnicka Huta 39.64 339 *e*P **P 20 40 13.0 +0.6**
comp=Z,12nm,1.0s
STHS Stebnicka Huta 39.64 339 *e*P **P 20 40 13.0 +0.6**
VYHS Vyhne 39.77 336 *e*P **P 20 40 13.2 -0.3**
VYHS pmax pmax
comp=Z,37nm,1.2s
VYHS Vyhne 39.77 336 *e*P **P 20 40 13.2 -0.3**
comp=Z,37nm,1.2s
VYHS *e*S **S 20 46 19.4 +1.7**
VYHS Vyhne 39.77 336 *e*P **P 20 40 13.2 -0.3**
VYHS *e*S **S 20 46 19.4 +1.7**
VYHS *e*L L 21 01 34.8
KSH Kashi 39.78 43 P P 20 40 07.8 -6.0
KSH pP pP 20 40 11.8 -4.3
KSH PP **PP 20 41 42.8 -2.3**
KSH PcP **PcP 20 42 16.6 -3.5**
KSH S S 20 46 05.5 -13
KSH PMZ
KSH comp=Z,30nm,1.3s PMZ
comp=Z,570nm,4.9s
KSH LZ
comp=Z,9μm,14.7s
LJU Ljubljana 39.79 330 *e*P **P 20 40 14.5 +0.8**
LJU Ljubljana 39.79 330⇑ *i*P **P 20 40 14.5 +0.8**
AML Almayashu 39.79 38 P **P 20 40 14.7 +0.5**
SNR=43
JAVS Javornik 39.91 330 *e*P **P 20 40 14.6 -0.2**
JAVS Javornik 39.91 330 *e*P **P 20 40 14.6 -0.2**
TRI Trieste 39.92 329 *e*P **P 20 40 14.3 -0.5**
TRI pmax pmax
comp=Z,73nm,1.1s
TRI MLR MLR
comp=Z,1μm,21.0s
TRI Trieste 39.92 329 *e*P **P 20 40 14.3 -0.5**
comp=Z,73nm,1.1s
TRI Trieste 39.92 329 *e*P **P 20 40 14.3 -0.5**
comp=Z,73nm,1.1s
TRI LR LR
comp=Z,1μm,21.0s
BISS Bistriski jare 39.94 331 *e*P **P 20 40 15.1 +0.2**
BISS Bistriski jare 39.94 331 *e*P **P 20 40 15.1 +0.2**
NIE Niedzica 39.97 338 *e*P **P 20 40 16.3 +1.1**
NIE *e*S **S 20 46 23.1 +2.3**
NIE Niedzica 39.97 338⇑ *e*P **P 20 40 16.3 +1.1**
NIE *e*S **S 20 46 23.1 +2.3**
NIE Niedzica 39.97 338⇑ *e*P **P 20 40 16.3 +1.1**
NIE *e*S **S 20 46 23.1 +2.3**
SOKA Soboth 40.01 331 *e*P **P 20 40 15.7 +0.2**
comp=Z,32nm,1.0s,SNR=26
SOKA Soboth 40.01 331 P **P 20 40 15.7 +0.2**
comp=Z,32nm,1.0s,SNR=26
LANS Liptovska Anna 40.06 337 *e*P **P 20 40 16.5 +0.6**
LANS Liptovska Anna 40.06 337 *e*P **P 20 40 16.5 +0.6**
LANS Liptovska Anna 40.06 337 *e*P **P 20 40 16.5 +0.6**
SOP Sopron 40.07 333⇓ *e*PKiKP **P 20 40 17.0 +1.0**
SOP Sopron 40.07 333⇓ *e*P **P 20 40 17.0 +1.0**
OBKA Obir 40.11 331 *i*P **P 20 40 17.0 +0.5**
comp=Z,36nm,1.2s,SNR=18
OBKA Obir 40.11 331 P **P 20 40 17.0 +0.5**
comp=Z,36nm,1.2s,SNR=18
EKS2 Erkin-Say 40.16 37 *e*P **P 20 40 16.8 -0.1**
EKS2 pmax pmax
comp=Z,61nm,1.5s
EKS2 MLR MLR
comp=Z,16μm,19.0s
EKS2 Erkin-Say 40.16 37 *e*P **P 20 40 16.8 -0.1**
comp=Z,61nm,1.5s
EKS2 Erkin-Say 40.16 37 *e*P **P 20 40 16.8 -0.1**
comp=Z,61nm,1.5s
EKS2 LR LR
comp=Z,16μm,19.0s
ARSA Arzberg 40.21 332 *e*P **P 20 40 17.5 +0.4**
comp=Z,53nm,0.9s,SNR=33
ARSA Arzberg 40.21 332 P **P 20 40 17.5 +0.4**
comp=Z,53nm,0.9s,SNR=33
TSUM Tsumeb 40.23 217 LR LR 20 57 34.3
comp=Z,20μm,18.8s,baz=44,slow=37
TSUM Tsumeb 40.23 217 *e*P **P 20 40 17.1 -0.6**
comp=Z,71nm,1.8s
TSUM Tsumeb 40.23 217 *e*P **P 20 40 17.1 -0.6**
comp=Z,71nm,1.8s
VIS Vishakhapatnam 40.23 78 *e*P **P 20 40 18.0 +0.3**
CADS Cadrg 40.30 330 *i*P **P 20 40 17.7 -0.3**
CADS Cadrg 40.30 330 *i*P **P 20 40 17.7 -0.3**
CONA Conrad Observa 40.56 333 *e*P **P 20 40 20.1 -0.1**
comp=Z,39nm,1.1s,SNR=32
CONA Conrad Observa 40.56 333 P **P 20 40 20.1 -0.1**
comp=Z,39nm,1.1s,SNR=32
AAK Ala-Archa 40.57 38 P **P 20 40 21.8 +1.4**
comp=Z,5.5nm,0.8s,baz=241,slow=7.2,SNR=49
AAK LR LR 20 59 58.4
comp=Z,17μm,18.6s,baz=232,slow=40
AAK Ala-Archa 40.57 38 *c i*P **P 20 40 23.3 +2.9**
AAK pmax pmax
comp=Z,313nm,2.0s
AAK Ala-Archa 40.57 38 P **P 20 40 22.4 +2.1**
SNR=50
AAK P **P 20 40 22.4 +2.1**
SNR=50
AAK Ala-Archa 40.57 38 P **P 20 40 20.9 +0.5**
SNR=37
AAK Ala-Archa 40.57 38 *e*P **P 20 40 22.3 +1.9**
comp=Z,222nm,1.8s
MYKA Terra Mystica 40.64 330 *i*P **P 20 40 20.9 +0.1**
comp=Z,48nm,1.9s,SNR=14
MYKA Terra Mystica 40.64 330 P **P 20 40 20.9 +0.1**
comp=Z,48nm,1.9s,SNR=14
FRU Bishkek 40.76 38⇑ *i*P **P 20 40 23.0 +1.2**
FRU *e*PPP PPP 20 42 19.0
FRU *e*S **S 20 46 39.0 +6.3**
FRU *e*SSS SSS 20 50 08.0
FRU pmax pmax
comp=Z,500nm,2.2s
OJC Ojcow 40.82 338 *e*P **P 20 40 22.3 +0.1**
OJC *e*S **S 20 46 34.9 +1.5**
OJC Ojcow 40.82 338 *e*P **P 20 40 22.3 +0.1**
OJC *e*S **S 20 46 34.9 +1.5**
OJC Ojcow 40.82 338 *e*P **P 20 40 21.3 -0.8**
comp=Z,30nm,1.1s
OJC *e*S **S 20 46 34.9 +1.5**
OJC Ojcow 40.82 338 *e*P **P 20 40 21.3 -0.8**
comp=Z,30nm,1.1s
PYUN Piuthan 41.03 63 *e*P **P 20 40 24.4 0.0**
comp=Z,566nm,1.8s
KBA Koelnbreinsper 41.10 330 *i*P **P 20 40 24.5 -0.2**
comp=Z,20nm,1.4s,SNR=17
KBA Koelnbreinsper 41.10 330 P **P 20 40 24.5 -0.2**
comp=Z,20nm,1.4s,SNR=17
OKC Ostrava-Krasne 41.12 337 *e*P **P 20 40 25.1 +0.5**
OKC *e*pP **sP 20 40 29.3 +1.5**
OKC *e*S **S 20 46 41.2 +3.4**
OKC *e*SS **SS 20 49 43.9 +3.5**
OKC AMS AMS 21 04 50.0
comp=Z,1μm,13.9s
OKC Ostrava-Krasne 41.12 337 *e*P **P 20 40 25.1 +0.5**
OKC *e* 20 40 29.3
OKC *e*S **S 20 46 41.2 +3.4**
OKC MLR MLR
comp=Z,1μm,13.9s
OKC Ostrava-Krasne 41.12 337 P **P 20 40 25.1 +0.5**
MOA Molln 41.22 332 *e*P **P 20 40 25.5 0.0**
comp=Z,42nm,1.1s,SNR=21
MOA Molln 41.22 332 P **P 20 40 25.5 0.0**
comp=Z,42nm,1.1s,SNR=21
ABTA Abfaltersbach 41.27 329 *e*P **P 20 40 26.2 +0.1**
comp=Z,24nm,1.0s,SNR=17
ABTA Abfaltersbach 41.27 329 P **P 20 40 26.2 +0.1**
comp=Z,24nm,1.0s,SNR=17
RAC Raciborz 41.30 337 *e*P **P 20 40 26.5 +0.4**
RAC MLR MLR
comp=Z,1μm,20.6s
RAC Raciborz 41.30 337 *e*P **P 20 40 26.5 +0.4**
MORC Moravsky Berou 41.30 336⇓ *i*P **P 20 40 25.7 -0.5**
MORC Moravsky Berou 41.30 336 *e*P **P 20 40 25.6 -0.6**
MORC pmax pmax
comp=Z,170nm,1.2s
MORC MLR MLR
comp=Z,4μm,21.0s
MORC Moravsky Berou 41.30 336 *e*P **P 20 40 25.6 -0.6**
comp=Z,171nm,1.2s
MORC Moravsky Berou 41.30 336 *e*P **P 20 40 25.6 -0.6**
comp=Z,171nm,1.2s
MORC LR LR
comp=Z,4μm,21.0s
VRAC Vranov 41.32 335⇓ *i*P **P 20 40 26.1 -0.2**
VRAC Vranov 41.32 335 *e*P **P 20 40 25.7 -0.6**
LBTB Lobatse 41.34 202 LR LR 20 57 29.0
comp=Z,11μm,21.6s,baz=44,slow=36
LBTB Lobatse 41.34 202 *e*P **P 20 40 27.3 +0.5**
LBTB pmax pmax
comp=Z,49nm,1.2s
LBTB Lobatse 41.34 202 *e*P **P 20 40 27.3 +0.5**
comp=Z,49nm,1.3s
LBTB Lobatse 41.34 202 *e*P **P 20 40 27.3 +0.5**
comp=Z,49nm,1.3s
TKM2 Tokmak 2 41.39 38 *e*P **P 20 40 28.2 +1.0**
TKM2 pmax pmax
comp=Z,140nm,1.9s
TKM2 MLR MLR
comp=Z,18μm,18.0s
TKM2 Tokmak 2 41.39 38 *e*P **P 20 40 28.2 +1.0**
comp=Z,136nm,1.9s
TKM2 Tokmak 2 41.39 38 *e*P **P 20 40 28.2 +1.0**
comp=Z,136nm,1.9s
TKM2 LR LR
comp=Z,18μm,18.0s
KOLN Koldanda 41.49 63 *e*P **P 20 40 27.9 -0.3**
comp=Z,131nm,1.1s
TREC Trest 41.77 334 *e*P **P 20 40 29.3 -0.7**
TREC *e*pP **sP 20 40 34.1 +1.0**
TREC *ex* x 20 40 43.2
TREC *e*S **S 20 46 45.8 -1.7**
TREC *e*SS **SS 20 49 53.0 -0.3**
TREC AMS AMS 21 03 20.0
comp=Z,1μm,13.7s
TREC Trest 41.77 334 *e*P **P 20 40 29.3 -0.7**
TREC *e* 20 40 34.1
TREC *e*S **S 20 46 45.8 -1.7**
TREC *e*SS **SS 20 49 53.0 -0.3**
TREC MLR MLR
comp=Z,1μm,13.7s
TREC Trest 41.77 334 P **P 20 40 29.3 -0.7**
TREC S **S 20 46 45.8 -1.7**
TREC SS **SS 20 49 53.0 -0.3**
OBN Obninsk 41.78 356 *c i*P **P 20 40 30.6 +0.7**
OBN pmax pmax
comp=Z,289nm,2.5s
OBN Obninsk 41.78 356 *e*P **P 20 40 30.6 +0.7**
comp=Z,220nm,1.6s
OBN Obninsk 41.78 356 *e*P **P 20 40 30.6 +0.7**
comp=Z,220nm,1.6s
OBN LR LR
comp=Z,2μm,22.0s
BEL Belsk 41.85 341 *e*P **P 20 40 30.1 -0.4**
BEL Belsk 41.85 341 *e*P **P 20 40 30.1 -0.4**
BEL Belsk 41.85 341 *e*P **P 20 40 30.1 -0.4**
WTTA Wattenberg 42.06 329 *i*P **P 20 40 32.7 +0.1**
comp=Z,19nm,1.1s,SNR=8.7
WTTA Wattenberg 42.06 329 P **P 20 40 32.7 +0.1**
comp=Z,19nm,1.1s,SNR=8.7
MAHO Mahon 42.13 316 *i*P **P 20 40 31.7 -1.3**
MAHO *i*S **S 20 46 51.7 -1.3**
WATA Walderalm 42.14 329 *e*P **P 20 40 32.2 -1.0**
comp=Z,14nm,1.0s,SNR=5.0
WATA Walderalm 42.14 329 P **P 20 40 32.2 -1.0**
comp=Z,14nm,1.0s,SNR=5.0
GEA0 GERESS Array S 42.20 332 *e*P **P 20 40 31.8 -1.8**
GEA0 GERESS Array S 42.20 332 *e*P **P 20 40 31.8 -1.8**
GEC2 GERESS Array S 42.21 332 *e*P **P 20 40 33.1 -0.6**
GEC2 pmax pmax
comp=Z,54nm,1.1s
GEC2 MLR MLR
comp=Z,800nm,22.0s
GEC2 GERESS Array S 42.21 332 *e*P **P 20 40 33.1 -0.6**
comp=Z,54nm,1.1s
GEC2 GERESS Array S 42.21 332 *e*P **P 20 40 33.1 -0.6**
comp=Z,54nm,1.1s
GEC2 LR LR
comp=Z,800nm,22.0s
GERES GERESS Array B 42.21 332 P **P 20 40 32.6 -1.0**
comp=Z,16nm,0.8s,baz=133,slow=5.7,SNR=82
DPC Dobruska-Polom 42.24 336 *e*P **P 20 40 32.5 -1.4**
DPC *e*pP **sP 20 40 38.0 +1.0**
DPC *e*PP **PP 20 42 04.8 -6.8**
DPC *e*S **S 20 46 54.6 +0.1**
DPC *e*SS **SS 20 50 00.4 -2.3**
DPC AMS AMS 21 02 40.0
comp=Z,1μm,14.0s
DPC Dobruska-Polom 42.24 336 *e*P **P 20 40 32.5 -1.4**
DPC *e* 20 40 38.0
DPC *e*S **S 20 46 54.6 +0.1**
DPC *e*SS **SS 20 50 00.4 -2.3**
DPC MLR MLR
comp=Z,1μm,14.0s
DPC Dobruska-Polom 42.24 336 P **P 20 40 32.5 -1.4**
DPC S **S 20 46 54.6 +0.1**
MOS Moscow 42.33 357α *i*P **P 20 40 36.3 +1.9**
MOS *e* 20 42 16.3
MOS *e*PPP PPP 20 42 43.9
MOS *e*S **S 20 47 00.7 +5.2**
MOS pmax pmax
comp=Z,900nm,2.0s
MOS pmax pmax
comp=Z,228nm,1.4s
MOS MLR MLR
comp=N,3μm,17.0s
MOS MLR MLR
comp=Z,4μm,17.0s
FUORN Ofenpass-Fuorn 42.33 328 *e*P **P 20 40 35.0 +0.1**
comp=Z,40nm,1.1s
FUORN Ofenpass-Fuorn 42.33 328 *e*P **P 20 40 35.0 +0.1**
comp=Z,40nm,1.1s
FETA Feichten 42.35 328 *e*P **P 20 40 34.8 -0.2**
comp=Z,20nm,0.8s,SNR=11
FETA Feichten 42.35 328 P **P 20 40 34.8 -0.2**
comp=Z,20nm,0.8s,SNR=11
MOTA Moosalm 42.38 329 *e*P **P 20 40 34.1 -1.1**
comp=Z,13nm,0.8s,SNR=14
MOTA Moosalm 42.38 329 P **P 20 40 34.1 -1.1**
comp=Z,13nm,0.8s,SNR=14
MICGM Minsk 42.39 348 *e*P **P 20 40 33.0 -1.9**
MICGM *e*S **S 20 46 58.0 +1.5**
MICGM *e*LR LR 20 53 50.0
MICGM *e*LQ LQ 20 54 40.0
MICGM LRM MLR 21 02 50.0
comp=Z,5.8nm,13.0s
MNK Minsk 42.39 348 *e*P **P 20 40 33.0 -1.9**
MNK *e*S **S 20 46 58.0 +1.5**
MNK MLR MLR
comp=Z,6μm,13.0s
AAA Alma-Ata 42.41 39 *i*P **P 20 40 36.7 +1.4**
AAA *i*S **S 20 47 03.9 +6.6**
AAA pmax pmax
comp=Z,1μm,4.0s
AAA smax smax
comp=E,2μm,6.5s
AAA MLR MLR
comp=Z,18μm,11.0s
AAA Alma-Ata 42.41 39 *e*P **P 20 40 35.6 +0.2**
comp=Z,424nm,2.1s
AAA *i*PP **PP 20 42 14.9 +1.4**
AAA *e*S **S 20 46 58.8 +1.5**
AAA LRM MLR 20 59 44.7
comp=Z,1μm,22.5s
MDOK Medeo 42.41 39 *i*P **P 20 40 36.1 +0.6**

comp=Z,233nm,1.4s
MDOK *i* PP **PP** **20 42 14.7 +1.0**
MDOK *i* S **S** **20 46 59.3 +1.8**
MDOK LRM MLR 21 00 19.9
comp=Z,2µm,27.8s
GKN Gorkha 42.43 63 *e*P **P** **20 40 35.2 -0.7**
KHC Kasperske Hory 42.47 333 *e*P **P** **20 40 34.6 -1.1**
KHC *ex* x 20 40 44.8
KHC *ex* x 20 42 09.3
KHC *e*PP **PP** **20 42 21.0 +6.8**
KHC *e*S **S** **20 46 58.9 +0.9**
KHC *e*SS **SS** **20 50 05.7 -1.6**
KHC AMS AMS 21 05 40.0
comp=Z,1µm,13.8s
KHC Kasperske Hory 42.47 333 *e*P **P** **20 40 34.6 -1.1**
KHC *e* 20 42 21.0
KHC *e*S **S** **20 46 58.9 +0.9**
KHC *e*SS **SS** **20 50 05.7 -1.6**
KHC MLR MLR
comp=Z,1µm,13.8s
KHC Kasperske Hory 42.47 333 *e*P **P** **20 40 34.7 -1.1**
comp=Z,14nm,1.1s
KHC S **S** **20 46 58.9 +0.9**
KHC SS **SS** **20 50 05.7 -1.6**
KHC Kasperske Hory 42.47 333 *e*P **P** **20 40 34.6 -1.1**
comp=Z,14nm,1.1s
KHC LR LR
comp=Z,299nm,22.0s
UPC Upice 42.49 336 *e*P **P** **20 40 35.3 -0.5**
UPC *e*pP **sP** **20 40 40.2 +1.2**
UPC *e*PP **PP** **20 42 09.2 -5.0**
UPC *e*S **S** **20 47 00.4 +2.3**
UPC AMS AMS 21 02 40.0
comp=Z,1µm,14.6s
UPC Upice 42.49 336 *e*P **P** **20 40 35.3 -0.5**
UPC *e* 20 40 40.2
UPC *e*S **S** **20 47 00.4 +2.3**
UPC MLR MLR
comp=Z,1µm,14.6s
UPC Upice 42.49 336 P **P** **20 40 35.3 -0.5**
UPC *S* **S** **20 47 00.4 +2.3**
GOPC GO Pecny, Ondr 42.53 334 *e*P **P** **20 40 35.4 -0.8**
GOPC *e*pP **sP** **20 40 40.6 +1.2**
GOPC *e*PP **PP** **20 42 14.3 -0.5**
GOPC *e*S **S** **20 46 56.1 -2.7**
GOPC *e*SS **SS** **20 50 06.7 -1.7**
GOPC AMS AMS 21 07 40.0
comp=Z,2µm,13.1s
GOPC GO Pecny, Ondr 42.53 334 *e*P **P** **20 40 35.4 -0.8**
GOPC *e* 20 40 40.6
GOPC *e* 20 42 14.3
GOPC *e*S **S** **20 46 56.1 -2.7**
GOPC *e*SS **SS** **20 50 06.7 -1.7**
GOPC MLR MLR
comp=Z,2µm,13.1s
GOPC GO Pecny, Ondr 42.53 334 P **P** **20 40 35.4 -0.8**
GOPC GO Pecny, Ondr 42.53 334 PP PP 20 42 14.3 -0.5
GOPC SS SS 20 50 06.7 -1.7
BWNR Bhubaneshwar 42.62 75 *e*P **P** **20 40 35.9 -1.4**
KSP Ksiaz 42.64 336 *e*P **P** **20 40 37.5 +0.5**
KSP *e*S **S** **20 47 02.7 +2.4**
KSP Ksiaz 42.64 336 *e*P **P** **20 40 37.5 +0.5**
KSP *e*S **S** **20 47 02.7 +2.4**
KSP Ksiaz 42.64 336 *e*P **P** **20 40 37.5 +0.5**
KSP *e*S **S** **20 47 02.7 +2.4**
RETA Reutte 42.65 329 *i*P **P** **20 40 36.0 -1.3**
comp=Z,21nm,1.1s,SNR=12
RETA Reutte 42.65 329 P **P** **20 40 36.0 -1.3**
comp=Z,21nm,1.1s,SNR=12
PRU Pruhonice 42.69 334 *e*P **P** **20 40 36.6 -0.9**
PRU *e*pP **sP** **20 40 41.7 +1.0**
PRU *e*PP **PP** **20 42 15.4 -1.0**
PRU *e*S **S** **20 46 59.7 -1.4**
PRU *e*SS **SS** **20 50 04.7 -6.8**
PRU AMS AMS 21 07 50.0
comp=Z,1µm,13.5s
PRU Pruhonice 42.69 334 *e*P **P** **20 40 36.6 -0.9**
PRU *e* 20 40 41.7
PRU *e* 20 42 15.4
PRU *e*S **S** **20 46 59.7 -1.4**
PRU *e*SS **SS** **20 50 04.7 -6.8**
PRU MLR MLR
comp=Z,1µm,13.5s
PRU Pruhonice 42.69 334 P **P** **20 40 36.6 -0.9**
PRU Pruhonice 42.69 334 PP PP 20 42 15.4 -1.0
PRU S **S** **20 46 59.7 -1.4**
TUE Stuetta 42.71 327 *e*P **P** **20 40 37.1 -0.9**
comp=Z,50nm,1.7s
TUE Stuetta 42.71 327 *e*P **P** **20 40 37.1 -0.9**
comp=Z,50nm,1.7s
TUE LR LR
comp=Z,1µm,22.0s
DMN Daman 42.77 64 *e*P **P** **20 40 38.3 -0.5**
comp=Z,383nm,1.6s
BOK Bokaro 42.94 69 *e*P **P** **20 40 38.5 -1.4**
KKN Kakani 42.95 64 *e*P **P** **20 40 39.6 -0.6**
comp=Z,745nm,1.9s
DAVA Damuels 42.96 328 *i*P **P** **20 40 39.0 -0.9**
comp=Z,42nm,0.8s,SNR=22
DAVA Damuels 42.96 328 P **P** **20 40 39.0 -0.9**
comp=Z,42nm,0.8s,SNR=22
NACGM Naroch 42.99 347 *e*P **P** **20 40 38.0 -1.8**
NACGM *e*P **pP** **20 40 40.0 -2.1**
NACGM *e*PP **PP** **20 42 24.0 +4.4**
NACGM *e*S **S** **20 47 12.0 +6.6**
NACGM *e*SS **ScS** **20 50 40.0 -0.9**
NACGM *e*LQ LQ 20 56 12.0
NACGM *e*LR LR 20 59 12.0
NACGM Naroch 42.99 347 *e*P **P** **20 40 38.0 -1.8**
PKIN Phulchoki 43.02 64 *e*P **P** **20 40 40.0 -0.8**
comp=Z,594nm,2.1s
SUW Suwalki 43.05 344 *e*P **P** **20 40 40.6 +0.5**
SUW Suwalki 43.05 344‖ *e*P **P** **20 40 40.7 +0.5**
SUW Suwalki 43.05 344‖ *e*P **P** **20 40 40.7 +0.5**
PVCC Panska Ves 43.09 335 *e*P **P** **20 40 40.1 -0.6**
PVCC *e*pP **sP** **20 40 44.9 +1.0**
PVCC *e*S **S** **20 47 07.0 0.0**
PVCC *e*SS **SS** **20 50 11.8 -7.5**
PVCC AMS AMS 21 02 50.0
comp=Z,1µm,13.9s
PVCC Panska Ves 43.09 335 *e*P **P** **20 40 40.1 -0.6**
PVCC *e* 20 40 44.9
PVCC *e*S **S** **20 47 07.0 0.0**
PVCC *e*SS **SS** **20 50 11.8 -7.5**
PVCC MLR MLR
comp=Z,1µm,13.9s
PVCC Panska Ves 43.09 335 P **P** **20 40 40.1 -0.6**
PVCC S **S** **20 47 07.0 0.0**
SATY Saty 43.19 40 *i*P **P** **20 40 42.6 +0.8**
comp=Z,916nm,2.2s
SATY *i*PP **PP** **20 42 23.7 +1.6**
SATY *e*S **S** **20 47 10.3 +1.3**
SATY LRM MLR 21 00 38.8
comp=Z,936nm,12.9s
ZHN Zhinishke 43.27 40 *i*P **P** **20 40 42.6 +0.2**
comp=Z,579nm,2.0s
ZHN *i*PP **PP** **20 42 23.6 +0.7**
ZHN *e*S **S** **20 47 11.5 +1.5**
ZHN LRM MLR 21 00 45.2
comp=Z,670nm,12.6s
BNI Bardonecchia 43.33 324 PFAKE 20 40 50.0 +7.1
BNI LR LR
comp=Z,700nm,20.0s
IDID Didziasalis 43.39 348 *e*P **P** **20 40 43.2 +0.2**
IDID IAmb IAmb 20 40 44.5
comp=Z,18nm,1.0s
IDID Didziasalis 43.39 348 *e*P **P** **20 40 43.2 +0.2**
SNR=25
GUN Gumba 43.50 64 *e*P **P** **20 40 44.3 -0.5**
comp=Z,1µm,1.9s
KPKS Kokpek 43.58 39 *i*P **P** **20 40 43.6 -1.2**
comp=Z,328nm,0.9s
KPKS *i*PP **PP** **20 42 25.6 -0.5**
KPKS *e*S **S** **20 47 14.6 +0.1**
KPKS LRM MLR 21 00 19.4
comp=Z,1µm,18.2s
BRG Berggiesshubel 43.61 335 *e*P **P** **20 40 43.8 -1.1**
comp=Z,77nm,1.6s
BRG PP **PP** **20 42 27.0 +0.7**
BRG S **S** **20 47 16.0 +1.4**
BRG SS **SS** **20 50 24.0 -5.5**
comp=N,638nm,13.6s
comp=E,900nm,14.5s
comp=Z,2µm,13.3s
BRG Berggiesshubel 43.61 335 *e*P **P** **20 40 43.8 -1.1**
BRG 20 42 27.0
BRG S **S** **20 47 16.0 +1.4**
BRG SS **SS** **20 50 24.0 -5.5**
BRG pmax pmax
comp=Z,77nm,1.6s
BRG MLR MLR
comp=N,638nm,13.6s
BRG MLR MLR
comp=E,900nm,14.5s
BRG MLR MLR
comp=Z,2µm,13.3s
UZB Uzynbulak 43.62 40 *i*P **P** **20 40 45.3 0.0**
comp=Z,945nm,1.8s
UZB *i*PP **PP** **20 42 26.8 +0.1**
UZB *e*S **S** **20 47 16.8 +1.5**
UZB LRM MLR 21 01 04.7
comp=Z,618nm,12.7s
SENIN Lac Senin/Sane 43.75 326 *e*P **P** **20 40 44.5 -1.9**
comp=Z,33nm,0.9s
SENIN Lac Senin/Sane 43.75 326 *e*P **P** **20 40 44.5 -1.9**
comp=Z,33nm,0.9s
SENIN LR LR
comp=Z,800nm,19.0s
ISAL Salakas 43.76 347 *e*P **P** **20 40 46.1 +0.2**
ISAL IAmb IAmb 20 40 47.5
comp=Z,17nm,1.0s
ISAL Salakas 43.76 347 *e*P **P** **20 40 46.1 +0.2**
SNR=24
NKC Novy Kostel 43.78 333 *e*P **P** **20 40 45.9 -0.4**
NKC *e*pP **sP** **20 40 50.2 +0.7**
NKC *e*PP **PP** **20 42 21.5 -6.7**
NKC AMS AMS 21 08 30.0
comp=Z,1µm,12.3s
NKC Novy Kostel 43.78 333 *e*P **P** **20 40 45.9 -0.4**
NKC *e* 20 40 50.2
NKC MLR MLR
comp=Z,1µm,12.3s
NKC Novy Kostel 43.78 333 P **P** **20 40 45.9 -0.4**
OG26 St.-Nazaire-De 43.87 322 *e*P **P** **20 40 47.7 +0.6**
OG26 St.-Nazaire-De 43.87 322 *e*P **P** **20 40 47.7 +0.6**
IZAR Zarasai 43.90 347 *e*P **P** **20 40 47.2 +0.1**
IZAR IAmb IAmb 20 40 50.3
comp=Z,17nm,0.9s
IZAR Zarasai 43.90 347 *e*P **P** **20 40 47.2 +0.1**
SNR=24
GRFO Grafenberg 43.95 332 *e*P **P** **20 40 46.0 -1.6**
GRFO pmax pmax
comp=Z,55nm,1.5s
GRFO MLR MLR
comp=Z,600nm,21.0s
GRFO Grafenberg 43.95 332 *e*P **P** **20 40 46.0 -1.6**
comp=Z,55nm,1.5s
GRFO Grafenberg 43.95 332 *e*P **P** **20 40 46.0 -1.6**
comp=Z,55nm,1.5s
GRFO LR LR
comp=Z,601nm,21.0s
RAMN Ramite 43.97 65 *e*P **P** **20 40 48.6 +0.1**
SPAK Spaichingen-Ko 44.06 328‖ *e*P **P** **20 40 48.6 0.0**
OG01 Vacheresse 44.08 325 *e*P **P** **20 40 47.3 -1.5**
OG01 Vacheresse 44.08 325 *e*P **P** **20 40 47.3 -1.5**
STU Stuttgart 44.29 329 *e*P **P** **20 40 52.8 +2.4**
STU pmax pmax
comp=Z,24nm,1.3s
STU MLR MLR
comp=Z,900nm,18.0s
STU Stuttgart 44.29 329 *e*P **P** **20 40 52.8 +2.4**
comp=Z,24nm,1.3s
STU Stuttgart 44.29 329 *e*P **P** **20 40 52.8 +2.4**
comp=Z,24nm,1.3s
STU LR LR
comp=Z,900nm,18.0s
FELD Feldberg im Sc 44.31 328‖ *e*P **P** **20 40 50.3 -0.5**
BBS Basel-Blauen 44.32 327 *e*P **P** **20 40 49.0 -1.7**
CLL Collm 44.33 334 *i*P **P** **20 40 49.5 -1.2**
comp=Z,65nm,1.5s
CLL *e* 20 40 56.0
CLL *e* 20 41 34.0
CLL *e*PP **PP** **20 42 34.0 0.0**
comp=Z,123nm,2.5s
CLL *e*S **S** **20 47 20.0 -5.0**
comp=N,300nm,20.9s
CLL *e*S **S** **20 47 20.0 -5.0**
comp=E,600nm,22.1s
CLL *e*SS **SS** **20 50 42.0 -1.6**
CLL LmH 21 01 00.0
comp=N,1µm,19.3s
CLL LmH 21 01 00.0
comp=E,300nm,19.2s
CLL LmH 21 01 00.0
comp=Z,900nm,20.0s
CLL Collm 44.33 334 *i*P **P** **20 40 49.5 -1.2**
CLL *e* 20 40 56.0
CLL *e*S **S** **20 47 20.0 -5.0**
CLL pmax pmax
comp=Z,65nm,1.5s
CLL MLR MLR
comp=Z,900nm,20.0s
CLL Collm 44.33 334 *e*P **P** **20 40 49.1 -1.6**
comp=Z,68nm,1.6s
CLL Collm 44.33 334 *e*P **P** **20 40 49.1 -1.6**
comp=Z,68nm,1.6s
CLL LR LR
comp=Z,1µm,19.0s
BFO Black Forest 44.44 328 *e*P **P** **20 40 50.8 -0.8**
BFO pmax pmax
comp=Z,58nm,1.7s
BFO Black Forest 44.44 328 *e*P **P** **20 40 50.8 -0.8**
comp=Z,58nm,1.7s
BFO Black Forest 44.44 328 *e*P **P** **20 40 50.8 -0.8**
comp=Z,58nm,1.7s
FILF Fillols 44.53 318 *e*P **P** **20 40 52.4 -0.1**
FILF Fillols 44.53 318 *e*P **P** **20 40 52.4 -0.1**
LOMF Lomont 44.61 326‖ *e*P **P** **20 40 52.9 -0.2**
LOMF Lomont 44.61 326‖ *e*P **P** **20 40 52.9 -0.2**
LIBD Limburg 44.70 328 *e*P **P** **20 40 53.8 +0.2**
SSB Saint Sauveur 44.70 323 *e*P **P** **20 40 52.9 -0.9**
SSB Saint Sauveur 44.70 323 *e*P **P** **20 40 52.0 -1.8**
SSB pmax pmax
comp=Z,27nm,1.2s
SSB MLR MLR
comp=Z,500nm,19.0s
SSB Saint Sauveur 44.70 323 *e*P **P** **20 40 52.9 -0.9**
SSB Saint Sauveur 44.70 323 *e*P **P** **20 40 52.0 -1.8**
comp=Z,27nm,1.2s
SSB LR LR
comp=Z,500nm,19.0s
BOSA Boshof 44.74 201 P **P** **20 40 53.3 -1.0**
comp=Z,9.9nm,1.0s,baz=21,slow=8.2,SNR=10
BOSA LR LR 20 59 42.2
comp=Z,8µm,21.6s,baz=28,slow=36
BOSA Boshof 44.74 201 *e*P **P** **20 40 54.6 +0.3**
BOSA pmax pmax
comp=Z,43nm,1.4s
BOSA Boshof 44.74 201 *e*P **P** **20 40 54.6 +0.3**
comp=Z,42nm,1.4s
BOSA Boshof 44.74 201 *e*P **P** **20 40 54.6 +0.3**
comp=Z,42nm,1.4s
MOF Molkenrain 44.76 327 *e*P **P** **20 40 53.1 -1.1**
MOF Molkenrain 44.76 327 *e*P **P** **20 40 53.1 -1.1**
ARU Arti 44.81 13 LR LR 21 02 39.9
comp=Z,4µm,18.9s,baz=208,slow=40
ARU Arti 44.81 13*c i*P **P** **20 40 55.5 +1.1**
ARU 20 42 40.0
ARU PPP PPP 20 43 20.9
ARU S **S** **20 47 34.2 +2.3**
ARU SS **SS** **20 50 54.2 +1.4**
ARU SSS SSS 20 51 41.1
ARU pmax pmax
comp=Z,144nm,2.5s
ARU MLR MLR
comp=Z,4µm,20.0s
ARU Arti 44.81 13 *e*P **P** **20 40 54.4 0.0**
comp=Z,45nm,1.0s
ARU Arti 44.81 13 *e*P **P** **20 40 54.4 0.0**
comp=Z,45nm,1.0s
CART Cartagena 44.93 310 *i*S **S** **20 47 34.7 +0.6**
ECH Echery 44.97 328‖ *e*P **P** **20 40 55.3 -0.6**
ECH Echery 44.97 328‖ *e*P **P** **20 40 55.3 -0.6**
ZRNK Zerenda 45.00 23 *e*P **P** **20 40 56.3 +0.3**
ZRNK pmax pmax
comp=Z,48nm,1.2s
ZRNK MLR MLR
comp=Z,4µm,20.0s
ZRNK Zerenda 45.00 23 *e*P **P** **20 40 56.3 +0.3**
comp=Z,48nm,1.2s
ZRNK Zerenda 45.00 23 *e*P **P** **20 40 56.3 +0.3**
comp=Z,48nm,1.2s
ZRNK LR LR
comp=Z,4µm,20.0s
TOD Tromm 45.04 330 *e*P **P** **20 40 55.1 -1.3**
LANF Langenberg 45.12 329‖ *e*P **P** **20 40 56.6 -0.4**
LANF Langenberg 45.12 329‖ *e*P **P** **20 40 56.6 -0.4**
KTD Kalmit 45.20 329‖ *e*P **P** **20 40 57.3 -0.4**
LBL Lubilhac 45.45 322 *e*P **P** **20 41 00.3 +0.5**
LBL Lubilhac 45.45 322 *e*P **P** **20 41 00.3 +0.5**
SALF Salau 45.51 318 *e*P **P** **20 41 00.7 +0.4**
SALF Salau 45.51 318 *e*P **P** **20 41 00.7 +0.4**
BRVK Borovoye 45.57 24 *i*P **P** **20 41 01.2 +0.7**
BRVK pmax pmax
comp=Z,199nm,2.3s
BRVK Borovoye 45.57 24 *e*P **P** **20 41 02.3 +1.8**
comp=Z,111nm,1.4s
BRVK Borovoye 45.57 24 *e*P **P** **20 41 02.4 +1.8**
comp=Z,111nm,1.4s
BRVK LR LR
comp=Z,8µm,19.0s
BVAR Borovoye Array 45.59 24 P **P** **20 41 01.4 +0.8**
comp=Z,7.1nm,0.8s,baz=216,slow=7.3,SNR=40
BVAR PcP **PcP** **20 42 38.5 -0.6**
comp=Z,7.1nm,0.9s,baz=188,slow=3.0,SNR=4.5
BVAR LR LR 21 02 12.9
comp=Z,4µm,20.6s,baz=222,slow=39
PLDF La Plantade 45.62 323 *e*P **P** **20 41 00.7 -0.4**
PLDF La Plantade 45.62 323 *e*P **P** **20 41 00.7 -0.4**
SVE Sverdlovsk 45.66 14 *d*P **P** **20 41 02.5 +1.4**
SVE *e*S **S** **20 47 47.0 +2.9**
SVE pmax pmax
comp=Z,91nm,2.4s
SVE MLR MLR
comp=Z,4µm,15.0s
MELI Melilla 45.66 306 *i*P **P** **20 40 59.1 -2.4**
MELF Melles 45.85 318 *e*P **P** **20 41 02.2 -0.8**
MELF Melles 45.85 318 *e*P **P** **20 41 02.2 -0.8**
PYM Petit Puy Mans 45.87 322‖ *e*P **P** **20 41 04.2 +1.1**
PYM Petit Puy Mans 45.87 322‖ *e*P **P** **20 41 04.2 +1.1**
FRNF Fournols 45.94 322 *e*P **P** **20 41 03.6 0.0**
FRNF Fournols 45.94 322 *e*P **P** **20 41 03.6 0.0**
AGO Saint Agoulin 45.95 323‖ *e*P **P** **20 41 03.5 -0.2**
AGO Saint Agoulin 45.95 323‖ *e*P **P** **20 41 03.5 -0.2**
RUP Ruppelstein 45.96 329 *e*P **P** **20 41 03.1 -0.6**
RESF Ens 46.09 318 *e*P **P** **20 41 04.9 -0.1**
RESF Ens 46.09 318 *e*P **P** **20 41 04.9 -0.1**
VERF Verneugheol 46.18 322 *e*P **P** **20 41 06.3 +0.8**
VERF Verneugheol 46.18 322 *e*P **P** **20 41 06.3 +0.8**
DBIC Dimbokro 46.31 266 P **P** **20 41 05.3 -1.6**
comp=Z,15nm,0.9s,baz=47,slow=8.4,SNR=7.5
DBIC LR LR 20 59 06.6
comp=Z,3µm,18.3s,baz=64,slow=34
DBIC Dimbokro 46.31 266 *e*P **P** **20 41 05.6 -1.3**
DBIC pmax pmax
comp=Z,95nm,1.5s
DBIC Dimbokro 46.31 266 *e*P **P** **20 41 05.6 -1.3**
comp=Z,94nm,1.5s
DBIC Dimbokro 46.31 266 *e*P **P** **20 41 05.6 -1.3**
comp=Z,94nm,1.5s
VIEF Viey 46.33 317 *e*P **P** **20 41 06.7 -0.1**
VIEF Viey 46.33 317 *e*P **P** **20 41 06.7 -0.1**
VSU Vasula 46.34 349*ce*P **P** **20 41 06.8 +0.4**
VSU pmax pmax
comp=Z,86nm,1.2s
WLF Walferdange 46.39 329 P **P** **20 41 06.4 -0.7**
comp=Z,46nm,2.2s
WLF Walferdange 46.39 329 *e*P **P** **20 41 06.8 -0.2**
WLF pmax pmax
comp=Z,160nm,1.9s
WLF Walferdange 46.39 329 *e*P **P** **20 41 06.8 -0.2**
comp=Z,156nm,1.9s
WLF Walferdange 46.39 329 *e*P **P** **20 41 06.8 -0.2**
comp=Z,156nm,1.9s
RGN Rugen 46.66 338 PFAKE 20 41 20.0 +11
RGN LR LR
comp=Z,1µm,18.0s
REYF Montagne du Re 46.69 318 *e*P **P** **20 41 09.8 +0.2**
REYF Montagne du Re 46.69 318 *e*P **P** **20 41 09.8 +0.2**
CZD Col de Zad 46.76 303 *i*P **P** **20 41 11.0 +0.4**
ATE Arette 46.90 317 *e*P **P** **20 41 11.0 -0.2**
ATE Arette 46.90 317 *e*P **P** **20 41 11.0 -0.2**
MEM Membach 47.06 329 P **P** **20 41 11.9 -0.3**
comp=Z,38nm,2.2s
MEM Membach 47.06 329 P **P** **20 41 11.9 -0.3**
comp=Z,38nm,2.2s
LARF Larrau 47.07 317 *e*P **P** **20 41 12.5 0.0**
LARF Larrau 47.07 317 *e*P **P** **20 41 12.5 0.0**
ORDF Ordiarp 47.11 317‖ *e*P **P** **20 41 11.8 -1.0**
ORDF Ordiarp 47.11 317‖ *e*P **P** **20 41 11.8 -1.0**
EMAL Malaga-Limoner 47.25 308 *i*P **P** **20 41 13.4 -0.6**
BCLA Clavier 47.29 329 P **P** **20 41 11.7 -2.3**
comp=Z,70nm,2.2s
MAKZ Makanchi 47.31 37 *e*P **P** **20 41 14.1 -0.3**
MAKZ pmax pmax
comp=Z,120nm,1.2s
MAKZ MLR MLR
comp=Z,11µm,18.0s
MAKZ Makanchi 47.31 37 *e*P **P** **20 41 14.1 -0.3**
comp=Z,115nm,1.3s
MAKZ Makanchi 47.31 37 *e*P **P** **20 41 14.1 -0.3**
comp=Z,115nm,1.3s
MAKZ LR LR
comp=Z,11µm,18.0s
BEBN Eben Emael 47.34 329 P **P** **20 41 14.9 +0.4**
comp=Z,20nm,2.2s
BEBN Eben Emael 47.34 329 P **P** **20 41 14.8 +0.4**
comp=Z,20nm,2.2s
OSSF Osses 47.34 317 *e*P **P** **20 41 14.3 -0.3**
OSSF Osses 47.34 317 *e*P **P** **20 41 14.3 -0.3**
KLMR Klimovskoe 47.37 359 *d*P **P** **20 41 13.8 -0.6**
KLMR *e* 20 42 42.9
KLMR pmax pmax
comp=Z,110nm,1.5s
DOU Dourbes 47.45 328 P **P** **20 41 14.4 -1.0**
DOU Dourbes 47.45 328 P **P** **20 41 14.3 -1.0**
KIB El Ksiba 47.48 302 *i*P **P** **20 41 16.0 0.0**
MK01 Makanchi Array 47.48 37 *e*P **P** **20 41 15.2 -0.5**
MK01 Makanchi Array 47.48 37 *e*P **P** **20 41 15.2 -0.5**
MK31 Makanchi Array 47.49 37 *e*P **P** **20 41 16.4 +0.6**
MK31 Makanchi Array 47.49 37 *e*P **P** **20 41 16.4 +0.6**
MK31 Makanchi Array 47.49 37 *e*P **P** **20 41 16.4 +0.6**
MKAR Makanchi Array 47.49 37 P **P** **20 41 16.1 +0.4**
comp=Z,26nm,0.9s,baz=235,slow=6.6,SNR=102
MKAR LR LR 21 04 35.3
comp=Z,9µm,18.3s,baz=235,slow=40
MKAR Makanchi Array 47.49 37 *e*P **P** **20 41 16.4 +0.6**
MKAR Makanchi Array 47.49 37 *e*P **P** **20 41 16.4 +0.6**
MKAR Makanchi Array 47.49 37 *e*P **P** **20 41 16.4 +0.6**
KURBB Kurchatov Arra 47.60 31 P **P** **20 41 17.2 +0.7**
comp=Z,14nm,0.9s,baz=235,slow=8.0,SNR=108
KURBB PcP **PcP** **20 42 45.9 -0.3**
comp=Z,7.8nm,1.2s,baz=234,slow=3.7,SNR=4.7
KURK Kurchatov 47.70 31 *e*P **P** **20 41 18.0 +0.7**
KURK pmax pmax
comp=Z,1µm,2.0s
KURK MLR MLR
comp=Z,16µm,22.0s
KURK Kurchatov 47.70 31 *e*P **P** **20 41 18.0 +0.7**
comp=Z,1µm,2.0s
KURK Kurchatov 47.70 31 PcP **PcP** **20 42 45.9 -0.6**
KURK Kurchatov 47.70 31 *e*P **P** **20 41 17.9 +0.7**
comp=Z,1µm,2.0s
KURK PcP **PcP** **20 42 45.9 -0.6**
KURK LR LR
comp=Z,16µm,22.0s
TZC Tazercounte 47.77 301 *i*P **P** **20 41 18.0 -0.3**
ES19 SONSECA Array 47.79 312 *e*P **P** **20 41 17.6 -0.6**
ES19 SONSECA Array 47.79 312 *e*P **P** **20 41 17.6 -0.6**
ESDC Sonseca Array 47.83 312 P **P** **20 41 17.9 -0.6**
comp=Z,5.9nm,0.8s,baz=113,slow=7.2,SNR=32
ESDC LR LR 21 02 14.9
comp=Z,973nm,18.5s,baz=110,slow=37
ESDC Sonseca Array 47.83 312 P **P** **20 41 18.0 -0.6**
ESLA Sonseca Array 47.83 312 *e*P **P** **20 41 18.1 -0.4**
comp=Z,151nm,1.9s
ESLA Sonseca Array 47.83 312 *e*P **P** **20 41 18.1 -0.4**
comp=Z,151nm,1.9s
ESLA LR LR
comp=Z,1µm,19.0s
SNF Seneffe 47.86 328 P **P** **20 41 19.2 +0.7**
SNF Seneffe 47.86 328 P **P** **20 41 19.1 +0.7**

PAB **San Pablo** 48.07 312 *e*P **P** **20 41 19.9 -0.5**
PAB pmax pmax
comp=Z,74nm,1.6s
PAB MLR MLR
comp=Z,1μm,18.0s
PAB **San Pablo** 48.07 312 *e*P **P** **20 41 19.9 -0.5**
comp=Z,74nm,1.6s
PAB **San Pablo** 48.07 312 *e*P **P** **20 41 19.9 -0.5**
comp=Z,74nm,1.6s
PAB LR LR
comp=Z,1μm,18.0s
SEM **Semipalatinsk** 48.35 32 *i* P **P** **20 41 23.2 +1.0**
comp=Z,521nm,2.1s
SEM *i* PP **PP** **20 43 15.5 +0.7**
SEM *e*S **S** **20 48 25.1 +2.4**
SEM LRM MLR 21 03 58.0
comp=Z,2μm,16.6s
LSA **Lhasa** 48.35 62 P **P** **20 41 23.8 +0.6**
LSA PMZ
comp=Z,60nm,2.5s
LSA **Lhasa** 48.35 62 *e*P **P** **20 41 23.9 +0.7**
LSA pmax pmax
comp=Z,190nm,1.6s
LSA **Lhasa** 48.35 62 *e*P **P** **20 41 23.9 +0.7**
comp=Z,186nm,1.6s
LSA **Lhasa** 48.35 62 *e*P **P** **20 41 23.9 +0.7**
comp=Z,186nm,1.6s
RTC **Rabat Centre** 48.45 304 PFAKE 20 41 40.0 +17
RTC LR LR
comp=Z,14μm,18.0s
SHL **Shillong** 48.53 68 *e*P **P** **20 41 24.0 -0.3**
OUK **Oukaimeden** 48.75 300 *i* P **P** **20 41 26.0 -0.1**
ZSN **Zaisan** 49.07 38 *i* P **P** **20 41 29.9 +2.0**
comp=Z,350nm,2.3s
ZSN *e*S **S** **20 48 36.4 +3.4**
ZSN LRM MLR 21 04 52.1
comp=Z,1μm,14.2s
FIA1 **FINESS Array S** 49.26 350 *e*P **P** **20 41 28.8 -0.2**
comp=Z,39nm,1.0s
FIA1 **FINESS Array S** 49.26 350 *e*P **P** **20 41 28.8 -0.2**
comp=Z,39nm,1.0s
FINES **FINESS Array B** 49.26 350 P **P** **20 41 28.4 -0.7**
comp=Z,12nm,0.8s,baz=147,slow=11,SNR=23
FINES LR LR 21 04 15.7
comp=Z,2μm,18.3s,baz=146,slow=38
WMQ **Urumqi** 49.54 43 P **P** **20 41 32.4 +0.8**
WMQ pP sP 20 41 37.7 +2.8
WMQ sP pP 20 41 39.7 +5.7
WMQ PP **PP** **20 43 27.7 +1.8**
WMQ S **S** **20 48 39.3 -0.6**
WMQ SS **SS** **20 52 07.6 -4.3**
WMQ PMZ
comp=Z,24nm,1.8s
WMQ LN
comp=Z,3μm,15.6s
WMQ LE
comp=Z,2μm,15.2s
WMQ LZ
comp=Z,2μm,17.6s
PBAR **Barrancos** 49.65 309 *e*P **P** **20 41 31.3 -1.1**
comp=Z,134nm,1.6s
PBAR **Barrancos** 49.65 309 *e*PP PP 20 43 30.0 +3.1
PBAR **Barrancos** 49.65 309 *e*P **P** **20 41 31.3 -1.1**
SUR **Sutherland** 49.77 203 *e*P **P** **20 41 34.8 +1.2**
comp=Z,142nm,1.6s
SUR **Sutherland** 49.77 203 *e*P **P** **20 41 34.8 +1.2**
comp=Z,142nm,1.6s
SUR LR LR
comp=Z,15μm,19.0s
PVAQ **Vaqueiros** 49.96 308 *e*P **P** **20 41 33.6 -1.2**
comp=Z,62nm,1.6s
PVAQ *e*S **S** **20 48 44.3 -1.4**
PVAQ *e*LQ LQ 20 58 37.5
PVAQ *e*LR LR 21 00 47.1
comp=Z,1μm,16.0s
PVAQ **Vaqueiros** 49.96 308 *e*P **P** **20 41 33.6 -1.2**
PVAQ *e*S **S** **20 48 44.3 -1.4**
PBDV **Barranco-do-Ve** 50.08 308 *e*P **P** **20 41 34.0 -1.8**
comp=Z,52nm,2.4s
PBDV **Barranco-do-Ve** 50.08 308 *e*P **P** **20 41 34.0 -1.8**
PBEJ **Beja** 50.23 309 *e*P **P** **20 41 36.6 -0.3**
comp=Z,54nm,2.3s
PBEJ **Beja** 50.23 309 *e*P **P** **20 41 36.6 -0.3**
PESTR **Estremoz** 50.25 310 *e*P **P** **20 41 36.1 -1.0**
comp=Z,75nm,2.3s
PESTR **Estremoz** 50.25 310 *e*P **P** **20 41 36.1 -1.0**
PMRV **Marv??o** 50.27 310 *e*P **P** **20 41 36.1 -1.1**
comp=Z,56nm,2.2s
PMRV *e*S **S** **20 48 53.0 +2.9**
PMRV *e*LQ LQ 20 56 33.7
PMRV *e*LR LR 20 59 03.4
comp=Z,2μm,18.0s
PMRV **Marv??o** 50.27 310 *e*P **P** **20 41 36.1 -1.1**
PCBR **Castelo Branco** 50.45 311 *e*P **P** **20 41 38.2 -0.3**
comp=Z,50nm,1.6s
PCBR **Castelo Branco** 50.45 311 *e*P **P** **20 41 38.2 -0.3**
MESJ **Messejana** 50.45 308 *e*P **P** **20 41 37.8 -0.7**
MESJ AMb AMB 20 41 40.2
comp=Z,52nm,1.7s
MESJ *e*S **S** **20 48 53.0 +0.4**
MESJ **Messejana** 50.45 308 *e*P **P** **20 41 38.2 -0.4**
comp=Z,53nm,1.8s
MESJ **Messejana** 50.45 308 *e*P **P** **20 41 38.2 -0.4**
EVO **Evora** 50.48 309 *e*P **P** **20 41 38.2 -0.6**
comp=Z,110nm,2.3s
EVO **Evora** 50.48 309 *e*P **P** **20 41 38.2 -0.6**
MVO **Moncorvo** 50.53 313 *e*P **P** **20 41 38.4 -0.8**
comp=Z,58nm,1.9s
MVO *e*S **S** **20 48 56.7 +2.9**
MVO *e*LQ LQ 20 58 10.5
MVO *e*LR LR 21 01 00.0
comp=Z,2μm,16.0s
MVO **Moncorvo** 50.53 313 *e*P **P** **20 41 38.4 -0.8**
PBRG **Braganca** 50.53 314 *e*P **P** **20 41 39.2 0.0**
comp=Z,54nm,2.2s
PBRG **Braganca** 50.53 314 *e*P **P** **20 41 39.2 0.0**
MORF **Marmelete** 50.65 307 *e*P **P** **20 41 39.7 -0.5**
MORF AMb AMB 20 41 42.8
comp=Z,67nm,1.8s
MORF *e*S **S** **20 48 56.0 +0.5**
MTE **Manteigas** 50.67 312 *e*P **P** **20 41 40.1 -0.1**
comp=Z,40nm,1.5s
MTE **Manteigas** 50.67 312 *e*PP PP 20 43 39.3 +3.1
MTE *e*S **S** **20 48 56.0 +0.3**
MTE *e*LQ LQ 20 57 44.4
MTE *e*LR LR 20 59 19.6
comp=Z,974nm,18.0s
MTE **Manteigas** 50.67 312 *e*P **P** **20 41 40.1 -0.1**
MTE *e*S **S** **20 48 56.0 +0.3**
MTE **Manteigas** 50.67 312 *e*P **P** **20 41 40.6 +0.4**
comp=Z,25nm,1.3s
MTE LR LR
comp=Z,1μm,18.0s
PFVI **Vila Bisbo** 50.74 307 PFAKE 20 41 50.0 +9.2
PFVI LR LR
comp=Z,2μm,18.0s
PNCL **Nicolau / Gran** 50.76 308 *e*P **P** **20 41 40.6 -0.3**
comp=Z,60nm,2.1s
PNCL **Nicolau / Gran** 50.76 308 *e*P **P** **20 41 40.6 -0.3**
PMTG **Montargil** 50.79 310 *e*P **P** **20 41 40.9 -0.2**
comp=Z,41nm,1.7s
PMTG **Montargil** 50.79 310 *e*P **P** **20 41 40.9 -0.2**
PVIS **Viseu** 51.02 312 *e*P **P** **20 41 42.6 -0.3**
comp=Z,70nm,2.3s
PVIS **Viseu** 51.02 312 *e*P **P** **20 41 42.6 -0.3**
PVRL **Vila Real** 51.06 313 *e*P **P** **20 41 43.0 -0.2**
comp=Z,78nm,2.2s
PVRL **Vila Real** 51.06 313 *e*P **P** **20 41 43.0 -0.2**
POLO **Lamas de Olo** 51.15 313 *e*P **P** **20 41 43.3 -0.6**
comp=Z,41nm,1.4s
POLO **Lamas de Olo** 51.15 313 *e*P **P** **20 41 43.3 -0.6**
PCAS **Casmilo, Conde** 51.26 311 *e*P **P** **20 41 43.8 -0.9**
comp=Z,91nm,2.2s
PCAS **Casmilo, Conde** 51.26 311 *e*P **P** **20 41 43.8 -0.9**
PCAB **Cabril** 51.42 313 *e*P **P** **20 41 45.6 -0.2**
comp=Z,65nm,2.0s
PCAB **Cabril** 51.42 313 *e*P **P** **20 41 45.6 -0.2**
PMAFR **Mafra** 51.55 309 *e*P **P** **20 41 46.3 -0.5**
comp=Z,72nm,1.5s
PMAFR **Mafra** 51.55 309 *e*P **P** **20 41 46.3 -0.5**
PGAV **Gavieira, Arco** 51.67 313 *e*P **P** **20 41 47.5 -0.3**
comp=Z,114nm,1.6s
PGAV **Gavieira, Arco** 51.67 313 *e*LQ LQ 20 58 59.3
PGAV *e*LR LR 21 02 40.3
comp=Z,2μm,16.0s

PGAV **Gavieira, Arco** 51.67 313 *e*P **P** **20 41 47.5 -0.3**
KONO **Kongsberg** 51.88 340 PFAKE 20 42 00.0 +11
KONO LR LR
comp=Z,1μm,18.0s
NC602 **NORSAR Array S** 52.10 342 *e*P **P** **20 41 49.4 -1.1**
NC602 **NORSAR Array S** 52.10 342 *e*P **P** **20 41 49.4 -1.1**
DYA **Yadsworthy** 52.24 325 PFAKE 20 42 00.0 +8.2
DYA LR LR
comp=Z,1μm,19.0s
NAO01 **NORSAR Array S** 52.38 342 *e*P **P** **20 41 52.2 -0.5**
NAO01 **NORSAR Array S** 52.38 342 *e*P **P** **20 41 52.2 -0.5**
NVS **Novosibirsk** 52.42 29 ⇑*i*P **P** **20 41 53.3 +0.3**
NVS *e* 20 43 05.2
NVS *e*S **S** **20 49 24.7 +5.5**
NVS pmax pmax
comp=N,104nm,2.0s
NVS pmax pmax
comp=E,38nm,2.0s
NVS pmax pmax
comp=Z,180nm,2.0s
NVS smax smax
comp=N,50nm,2.4s
NVS smax smax
comp=E,32nm,2.4s
NB2 **NORSAR Subarra** 52.43 342 P **P** **20 41 51.7 -1.4**
comp=Z,36nm,1.1s,baz=139,slow=7.4
NB2 **NORSAR Subarra** 52.43 342 P **P** **20 41 51.7 -1.4**
baz=139,slow=7.4
NB2 **NORSAR Subarra** 52.43 342 P **P** **20 41 51.7 -1.4**
comp=Z,36nm,1.1s,SNR=7.9
NOA **NORSAR Array B** 52.43 342 P **P** **20 41 52.1 -0.9**
comp=Z,8.1nm,0.8s,baz=140,slow=7.4,SNR=16
NOA LR LR 21 06 32.6
comp=Z,1μm,19.3s,baz=135,slow=39
NC303 **NORSAR Array S** 52.53 342 *e*P **P** **20 41 54.6 +0.8**
NC303 **NORSAR Array S** 52.53 342 *e*P **P** **20 41 54.6 +0.8**
NBO02 **NORSAR Array S** 52.55 342 *e*P **P** **20 41 52.8 -1.1**
NBO02 **NORSAR Array S** 52.55 342 *e*P **P** **20 41 52.8 -1.1**
NBO00 **NORSAR Array S** 52.56 342 *e*P **P** **20 41 54.6 +0.6**
NBO00 **NORSAR Array S** 52.56 342 *e*P **P** **20 41 54.6 +0.6**
ZAA0 **Zalesovo Array** 52.68 31 *e*P **P** **20 41 53.7 -1.2**
ZAA0 **Zalesovo Array** 52.68 31 *e*P **P** **20 41 53.7 -1.2**
ZALV **Zalesovo Beam** 52.68 31 P **P** **20 41 54.4 -0.5**
comp=Z,36nm,0.9s,baz=240,slow=7.1,SNR=85
ZALV LR LR 21 08 04.0
comp=Z,4μm,18.1s,baz=227,slow=40
NC204 **NORSAR Array S** 52.76 342 *e*P **P** **20 41 54.7 -0.8**
NC204 **NORSAR Array S** 52.76 342 *e*P **P** **20 41 54.7 -0.8**
APA **Apatity** 54.36 356 ⇓*i*P **P** **20 42 06.4 -0.6**
APA *i* 20 43 09.0
APA *i* 20 44 06.0
APA *i* 20 45 16.0
APA *i* S **S** **20 49 43.0 -2.2**
APA pmax pmax
comp=Z,20nm,0.8s
APA MLR MLR
comp=Z,2μm,21.0s
LVZ **Lovozero** 54.61 357 *ce*P **P** **20 42 09.0 +0.1**
LVZ pmax pmax
comp=Z,58nm,1.7s
LVZ **Lovozero** 54.61 357 PFAKE 20 42 20.0 +11
LVZ LR LR
comp=Z,2μm,18.0s
MLSI **Meulaboh, Aceh** 54.68 94 P **P** **20 42 11.7 +1.5**
comp=Z,124nm,2.2s,comp=Z,4μm
CHTO **Chiang Mai** 55.03 76 P **P** **20 42 12.4 -0.4**
comp=Z,77nm,3.0s,comp=Z,4μm
CHTO **Chiang Mai** 55.03 76 *e*P **P** **20 42 11.7 -1.1**
CHTO pmax pmax
comp=Z,10.0nm,1.1s
CHTO MLR MLR
comp=Z,2μm,19.0s
CHTO **Chiang Mai** 55.03 76 P **P** **20 42 11.4 -1.3**
SNR=6.4
CHTO **Chiang Mai** 55.03 76 *e*P **P** **20 42 11.7 -1.1**
comp=Z,9.9nm,1.1s
CHTO **Chiang Mai** 55.03 76 *e*P **P** **20 42 11.7 -1.1**
comp=Z,9.9nm,1.1s
CHTO LR LR
comp=Z,2μm,19.0s
CMMT **Chiang Mai** 55.03 76 P **P** **20 42 12.3 -0.5**
comp=Z,17nm,3.0s,comp=Z,1μm
CM31 **Chiang Mai Arr** 55.05 77 *e*P **P** **20 42 12.8 -0.1**
CM31 **Chiang Mai Arr** 55.05 77 *e*P **P** **20 42 12.8 -0.1**
CMAR **Chiang Mai Arr** 55.05 77 P **P** **20 42 12.8 -0.1**
comp=Z,22nm,0.9s,baz=277,slow=8.3,SNR=96
CMAR LR LR 21 02 49.1
comp=Z,636nm,21.4s,baz=288,slow=33
CM01 **Chiang Mai Arr** 55.07 77 *e*P **P** **20 42 11.4 -1.6**
CM01 **Chiang Mai Arr** 55.07 77 *e*P **P** **20 42 11.4 -1.6**
SHEL **Horse Pasture** 55.29 240 PFAKE 20 42 30.0 +15
SHEL LR LR
comp=Z,6μm,20.0s
TPTI 55.67 95 P **P** **20 42 18.1 +0.7**
comp=Z,65nm,2.5s,comp=Z,2μm
LAMP **Lampang** 55.70 77 P **P** **20 42 17.5 -0.1**
comp=Z,16nm,0.9s,comp=Z,218nm
SUKH **Sukhothai** 55.77 78 P **P** **20 42 18.1 0.0**
comp=Z,6.2nm,1.1s,comp=Z,76nm
PKDT **Phuket** 55.80 90 P **P** **20 42 19.4 +1.1**
comp=Z,231nm,0.9s,comp=Z,4μm
GSI **Gunungsitoli** 56.54 97 P **P** **20 42 24.7 +1.1**
comp=Z,82nm,2.3s
GSI **Gunungsitoli** 56.54 97 *e*P **P** **20 42 24.7 +1.1**
comp=Z,82nm,1.3s
GSI **Gunungsitoli** 56.54 97 *e*P **P** **20 42 24.7 +1.1**
comp=Z,82nm,1.3s
KRAB **Krabi** 56.58 89 P **P** **20 42 24.7 +0.8**
comp=Z,22nm,0.9s
UTTA **Uttaradit** 56.63 77 P **P** **20 42 23.9 -0.3**
comp=Z,6.0nm,1.0s,comp=Z,91nm
PMOZ **Porto Moniz, M** 56.81 300 *e*P **P** **20 42 25.7 +0.2**
comp=Z,138nm,1.6s
PMOZ **Porto Moniz, M** 56.81 300 *e*LR LR 21 03 44.9
comp=Z,2μm,16.0s
PMOZ **Porto Moniz, M** 56.81 300 *e*P **P** **20 42 25.7 +0.2**
ARA0 **ARCESS Array S** 56.99 353 *e*P **P** **20 42 25.1 -0.9**
ARA0 **ARCESS Array S** 56.99 353 *e*P **P** **20 42 25.1 -0.9**
ARCES **ARCESS Array B** 56.99 353 P **P** **20 42 25.1 -0.9**
comp=Z,11nm,0.8s,baz=168,slow=6.2,SNR=27
ARCES LR LR 21 09 13.8
comp=Z,2μm,19.2s,baz=160,slow=38
ARE0 **ARCESS Array S** 56.99 353 *e*P **P** **20 42 25.5 -0.5**
comp=Z,31nm,1.0s
ARE0 **ARCESS Array S** 56.99 353 *e*P **P** **20 42 25.6 -0.5**
comp=Z,31nm,1.0s
ARE0 LR LR
comp=Z,2μm,20.0s
GTA **Gaotai** 57.01 52 P **P** **20 42 26.1 -0.7**
GTA pP sP 20 42 31.4 +1.4
GTA sP pP 20 42 34.2 +5.1
GTA PcP **PcP** **20 43 22.8 +0.9**
GTA PP **PP** **20 44 35.8 +2.4**
GTA S **S** **20 50 20.2 -1.5**
GTA sS sS 20 50 27.8 +2.2
GTA SS **SS** **20 54 10.6 +0.4**
GTA PMZ
comp=Z,8.0nm,1.5s
GTA PMZ
comp=Z,770nm,4.9s
GTA LZ
comp=Z,6μm,14.7s
KEV **Kevo** 57.04 354 *e*P **P** **20 42 26.0 -0.3**
KEV pmax pmax
comp=Z,49nm,1.0s
KEV MLR MLR
comp=Z,2μm,21.0s
KEV **Kevo** 57.04 354 *e*P **P** **20 42 26.0 -0.3**
comp=Z,49nm,1.0s
KEV **Kevo** 57.04 354 *e*P **P** **20 42 26.0 -0.3**
comp=Z,49nm,1.0s
KEV LR LR
comp=Z,2μm,21.0s
PBKT **Sadao Pong** 57.13 79 P **P** **20 42 27.3 -0.5**
comp=Z,41nm,2.0s,comp=Z,2μm
TRTT **Trang** 57.13 89 P **P** **20 42 27.9 +0.1**
comp=Z,57nm,2.1s,comp=Z,2μm
LOEI **Loei** 57.33 78 P **P** **20 42 30.7 +1.5**
comp=Z,32nm,2.6s
PSI **Prapat** 57.47 95 *e*P **P** **20 42 30.4 0.0**
PSI pmax pmax
comp=Z,43nm,1.5s
PSI MLR MLR
comp=Z,1μm,18.0s
PSI **Prapat** 57.47 95 *e*P **P** **20 42 30.4 0.0**
comp=Z,43nm,1.5s

PSI LR LR
comp=Z,1μm,18.0s
SKLT **Songkhla** 58.16 90 P **P** **20 42 37.7 +2.6**
comp=Z,24nm,1.6s
CHAI **Chaiyaphum** 58.17 80 P **P** **20 42 35.3 +0.2**
comp=Z,6.1nm,1.0s,comp=Z,71nm
KMI **Kunming** 58.33 69 P **P** **20 42 35.4 -1.0**
KMI pP sP 20 42 41.3 +1.6
KMI sP pP 20 42 45.1 +6.3
KMI PP **PP** **20 44 45.7 +0.2**
KMI S **S** **20 50 36.1 -3.6**
KMI sS sS 20 50 46.5 +2.9
KMI SS **SS** **20 54 32.7 +0.9**
KMI PMZ
comp=Z,20nm,1.9s
KMI PMZ
comp=Z,520nm,5.4s
KMI LN
comp=Z,1μm,18.8s
KMI LE
comp=Z,1μm,16.8s
KMI LZ
comp=Z,2μm,14.7s
SRAK **Srakaew** 58.44 82 P **P** **20 42 40.9 +3.9**
comp=Z,41nm,1.7s,comp=Z,764nm
KULM **Kulim** 58.58 92 *e*P **P** **20 42 36.8 -1.2**
comp=Z,44nm,1.4s
KULM **Kulim** 58.58 92 *e*P **P** **20 42 36.8 -1.2**
comp=Z,44nm,1.4s
KULM LR LR
comp=Z,2μm,20.0s
MNSI **Mandailing Nat** 58.60 97 P **P** **20 42 39.1 +0.9**
comp=Z,82nm,1.8s,comp=Z,2μm
KHON **Khomkaen** 58.92 79 P **P** **20 42 39.9 -0.5**
comp=Z,18nm,1.0s
NONG **Nongkai** 59.06 77 P **P** **20 42 40.3 -1.0**
comp=Z,57nm,1.9s,comp=Z,7μm
IPM **Ipoh** 59.12 93 PFAKE 20 42 50.0 +8.2
IPM LR LR
comp=Z,2μm,20.0s
CD2 **Chengdu** 59.31 62 ⇑P **P** **20 42 42.5 -0.5**
CD2 sP sP 20 42 47.1 +0.9
CD2 PP **PP** **20 44 53.6 -0.3**
CD2 PcS **PcS** **20 47 32.4 -0.8**
CD2 S **S** **20 50 51.7 -0.3**
CD2 sS sS 20 50 57.2 +1.3
CD2 SS **SS** **20 54 47.8 +1.1**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,330nm,7.4s
CD2 LN
comp=Z,2μm,14.3s
CD2 LE
comp=Z,2μm,14.7s
CD2 LZ
comp=Z,2μm,12.5s
ASCN **Ascension** 59.60 252 PFAKE 20 43 00.0 +15
ASCN LR LR
comp=Z,2μm,18.0s
PPI **Padang Panjang** 59.72 99 P **P** **20 42 47.0 +1.0**
comp=Z,184nm,1.6s,comp=Z,2μm
LZH **Lanzhou** 59.73 56 *e*P **P** **20 42 46.4 +0.5**
LZH pP sP 20 42 50.0 +0.9
LZH sP pP 20 42 52.7 +4.4
LZH PcP **PcP** **20 43 33.9 +1.1**
LZH PP **PP** **20 44 59.0 +1.3**
LZH *e*S **S** **20 50 54.0 -3.5**
LZH SS **SS** **20 54 59.1 +5.8**
LZH PMZ
comp=Z,85nm,1.4s
LZH PMZ
comp=Z,300nm,4.4s
LZH LN
comp=Z,3μm,14.2s
LZH LE
comp=Z,2μm,13.7s
LZH LZ
comp=Z,5μm,16.6s
PDSI **Padang** 59.91 99 P P 20 42 54.2 +6.9
SKNT **Sakolnakorn** 59.96 78 P **P** **20 42 46.8 -0.8**
comp=Z,74nm,2.5s
FRIM **Kepong** 59.98 94 ⇓P **P** **20 42 47.3 -0.4**
BKNI **Bangkinang** 60.13 97 PFAKE 20 43 00.0 +11
BKNI LR LR
comp=Z,799nm,18.0s
PANO **Nakornpanom** 60.54 78 P **P** **20 42 50.7 -0.8**
comp=Z,114nm,1.3s,comp=Z,5μm
MOY **Mondy** 60.63 38 *e*P **P** **20 42 52.6 +0.9**
MOY pmax pmax
comp=Z,192nm,2.9s
KTGM **Kuala Trenggan** 60.98 91 ⇑P **P** **20 42 54.9 +0.3**
UBPT **Khong Chiam** 61.58 80 P **P** **20 42 57.1 -1.5**
comp=Z,42nm,2.5s,comp=Z,1μm
ZAK **Zakamensk** 61.69 40 *e*P **P** **20 42 58.0 -1.0**
ZAK *e* 20 45 17.0
ZAK pmax pmax
comp=Z,20nm,2.4s
ZAK pmax pmax
comp=Z,8.0nm,1.8s
GYA **Guiyang** 61.84 67 P **P** **20 43 02.2 +1.8**
GYA PcP **PcP** **20 43 43.0 +1.6**
GYA PP **PP** **20 45 20.2 +3.7**
GYA ScP **ScP** **20 47 45.4 +1.5**
GYA S **S** **20 51 24.8 +0.1**
GYA SS **SS** **20 55 27.6 +1.0**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,190nm,6.3s
GYA LN
comp=Z,990nm,19.8s
GYA LE
comp=Z,820nm,20.2s
GYA LZ
comp=Z,850nm,20.0s
KGM **Kluang** 61.91 95 ⇑P **P** **20 43 01.1 +0.2**
TLY **Talaya** 62.23 38 LR LR 21 13 21.0
comp=Z,11μm,20.1s,baz=262,slow=39
TLY **Talaya** 62.23 38 *c**i*P **P** **20 43 03.2 +0.8**
TLY *e* 20 45 23.0
TLY *e*S **S** **20 51 30.6 +2.1**
TLY *e* 20 52 58.8
TLY pmax pmax
comp=Z,47nm,2.0s
TLY MLR MLR
comp=Z,10μm,19.0s
TLY **Talaya** 62.23 38 *e*P **P** **20 43 05.6 +3.2**
comp=Z,18nm,1.3s
MYKOM **Kota Tinggi** 62.48 95 ⇓P **P** **20 43 04.2 -0.5**
MYKOM **Kota Tinggi** 62.48 95 *e*P **P** **20 43 04.6 -0.1**
comp=Z,85nm,1.8s
MYKOM **Kota Tinggi** 62.48 95 *e*P **P** **20 43 04.6 -0.1**
comp=Z,85nm,1.8s
MYKOM LR LR
comp=Z,1μm,20.0s
IRK **Irkutsk** 62.74 38 *e*P **P** **20 43 05.6 -0.2**
IRK pmax pmax
comp=Z,162nm,2.4s
NRIK **Noril'sk** 62.84 17 P **P** **20 43 06.1 0.0**
comp=Z,16nm,0.8s,baz=222,slow=5.8,SNR=33
NRIK LR LR 21 15 53.2
comp=Z,3μm,18.8s,baz=242,slow=41
SONM **Songino Array** 63.18 43 P **P** **20 43 09.2 +0.2**
comp=Z,18nm,0.9s,baz=260,slow=6.7,SNR=74
SONM LR LR 21 14 34.6
comp=Z,4μm,18.7s,baz=266,slow=40
SONA1 **Songino Array** 63.19 43 *e*P **P** **20 43 08.6 -0.4**
SONA1 **Songino Array** 63.19 43 *e*P **P** **20 43 08.6 -0.4**
ULN **Ulaanbaatar** 63.62 43 *d*⇓*i*P **P** **20 43 11.4 -0.5**
ULN pmax pmax
comp=Z,60nm,2.5s
ULN **Ulaanbaatar** 63.62 43 P **P** **20 43 12.1 +0.1**
SNR=21
ULN P P **20 43 12.1 +0.1**
SNR=21
ULN **Ulaanbaatar** 63.62 43 P **P** **20 43 12.1 +0.1**
SNR=21
ULN **Ulaanbaatar** 63.62 43 *e*P **P** **20 43 11.6 -0.3**
comp=Z,92nm,1.9s
ULN LR LR
comp=Z,4μm,20.0s
XAN **Xi'an** 63.77 59 P **P** **20 43 12.2 -0.9**
XAN sP sP 20 43 19.2 +2.9
XAN PcP **PcP** **20 43 48.8 -0.3**
XAN PP **PP** **20 45 32.6 -0.6**

XAN S **S** **20 51 44.1 -4.4**
XAN ScS **SKSac** **20 53 01.9 -5.6**
XAN PMZ
comp=Z,470nm,9.0s
XAN LN
comp=Z,2μm,15.1s
XAN LE
comp=Z,1μm,15.7s
XAN LZ
comp=Z,3μm,16.2s
ENH Enshi 64.25 63 *e*P **P** **20 43 15.6 -0.6**
comp=Z,149nm,1.7s
ENH Enshi 64.25 63 *e*P **P** **20 43 15.6 -0.6**
comp=Z,149nm,1.7s
LWLI Liwa 64.52 102 P **P** **20 43 18.8 +0.5**
comp=Z,95nm,1.3s
BTO Baotou 64.93 51 *e*P **P** **20 43 21.7 +1.1**
HSPB Hornsund (broa 65.00 354 *e*P **P** **20 43 21.1 +0.8**
HSPB Hornsund (broa 65.00 354 *e*P **P** **20 43 21.1 +0.8**
KASI Kota Agung 65.09 103 P **P** **20 43 21.6 -0.3**
comp=Z,130nm,2.3s,comp=Z,3μm
QIZ Qiongzhong 65.29 75 P **P** **20 43 23.0 -0.2**
QIZ S **S** **20 52 09.6 +2.0**
QIZ PMZ
comp=Z,40nm,2.4s
QIZ PMZ
comp=Z,320nm,4.7s
QIZ LN
comp=Z,2μm,20.6s
QIZ LE
comp=Z,910nm,23.3s
QIZ LZ
comp=Z,2μm,20.1s
QIZ Qiongzhong 65.29 75 *e*P **P** **20 43 22.9 -0.2**
comp=Z,45nm,1.4s
QIZ Qiongzhong 65.29 75 *e*P **P** **20 43 22.9 -0.2**
comp=Z,45nm,1.4s
BLSI Bandar Lampung 65.75 102 P P 20 43 32.2 +6.0
SPA0 Spitsbergen Ar 65.97 354 *e*P **P** **20 43 26.5 -0.1**
SPA0 Spitsbergen Ar 65.97 354 *e*P **P** **20 43 26.4 -0.1**
SPITS Spitsbergen Ar 65.97 354 LR LR 21 13 12.6
comp=Z,1μm,20.7s,baz=150,slow=37
HHC Hu-ho-hao-te 66.11 51 *e*P **P** **20 43 29.8 +1.6**
HHC sP sP 20 43 37.7 +6.2
HHC PP **PP** **20 45 55.6 +1.9**
HHC S **S** **20 52 17.7 +0.5**
HHC sS sS 20 52 24.7 +3.6
HHC SS **SS** **20 56 34.7 +2.0**
HHC PMZ
comp=Z,77nm,1.2s
HHC PMZ
comp=Z,1μm,7.3s
HHC LN
comp=Z,980nm,13.6s
HHC LE
comp=Z,1μm,13.6s
HHC LZ
comp=Z,1μm,13.8s
BORG Borgarnes 66.57 335 *ce*P **P** **20 43 34.2 +3.7**
BORG Borgarnes 66.57 335 PFAKE 20 43 40.0 +9.5
BORG LR LR
comp=Z,800nm,19.0s
TIY Taiyuan 66.69 55 *e*P **P** **20 43 32.6 +0.6**
TIY PP **PP** **20 45 55.1 -3.6**
TIY S **S** **20 52 21.0 -3.3**
TIY LN
comp=Z,3μm,13.2s
TIY LE
comp=Z,2μm,14.2s
TIY LZ
comp=Z,3μm,13.5s
KBS Kingsbay 67.06 354 *e*P **P** **20 43 32.5 -1.0**
KBS pmax pmax
comp=Z,99nm,2.1s
KBS MLR MLR
comp=Z,2μm,20.0s
KBS Kingsbay 67.06 354 *e*P **P** **20 43 32.5 -1.0**
comp=Z,99nm,2.1s
KBS Kingsbay 67.06 354 *e*P **P** **20 43 32.5 -1.0**
comp=Z,99nm,2.1s
KBS LR LR
comp=Z,2μm,20.0s
CBJI Citeko 67.59 103 P P 20 43 44.1 +6.2
comp=Z,232nm,1.4s,comp=Z,5μm
CIT Chita 68.33 39 *e*P **P** **20 43 42.1 0.0**
CIT *e* 20 44 06.6
CIT pmax pmax
comp=Z,136nm,2.0s
WHN Wuhan 68.43 62 ⇓P **P** **20 43 43.0 0.0**
WHN S **S** **20 52 48.6 +3.3**
WHN PMZ
comp=Z,240nm,1.7s
WHN PMZ
comp=Z,970nm,8.9s
WHN LZ
comp=Z,5μm,16.0s
SCO Scoresbysund 68.75 341 *i* P **P** **20 43 44.5 +0.3**
SCO pmax pmax
comp=Z,51nm,1.4s
SCO Scoresbysund 68.75 341 *i* P **P** **20 43 44.5 +0.3**
comp=Z,51nm,1.4s
SCO Scoresbysund 68.75 341 *i* P **P** **20 43 44.5 +0.3**
comp=Z,51nm,1.4s
KSM Kuching 68.83 94 ⇑P **P** **20 43 45.4 -0.3**
KSM Kuching 68.83 94 *e*P **P** **20 43 45.8 +0.1**
comp=Z,21nm,1.1s
KSM Kuching 68.83 94 *e*P **P** **20 43 45.8 +0.1**
comp=Z,21nm,1.1s
KSM LR LR
comp=Z,1μm,22.0s
CISI Cisompet, Garu 68.84 104 PFAKE 20 44 00.0 +14
CISI LR LR
comp=Z,600nm,20.0s
BOD Bodaibo 69.29 33 *e*P **P** **20 43 46.6 -1.2**
BOD pmax pmax
comp=Z,52nm,1.9s
BJT Baijiatuan 69.61 52 *e*P **P** **20 43 52.2 +2.0**
BJT pmax pmax
comp=Z,140nm,1.6s
BJT Baijiatuan 69.61 52 *e*P **P** **20 43 52.2 +2.0**
comp=Z,139nm,1.6s
BJT Baijiatuan 69.61 52 *e*P **P** **20 43 52.2 +2.0**
comp=Z,139nm,1.6s
BJI Beijing 69.61 52 P **P** **20 43 50.2 0.0**
BJI S **S** **20 52 59.2 +0.3**
BJI PMZ
comp=Z,48nm,2.1s
BJI PMZ
comp=Z,720nm,4.0s
BJI LZ
comp=Z,1μm,16.1s
DAG Danmarks Havn 70.40 348 *i* P **P** **20 43 52.5 -1.8**
DAG pmax pmax
comp=Z,180nm,1.6s
DAG MLR MLR
comp=Z,930nm,19.0s
DAG Danmarks Havn 70.40 348 *i* P **P** **20 43 52.5 -1.8**
comp=Z,52nm,1.6s
comp=Z,890nm,19.0s
SBUM Sibu 70.46 92 *e*P **P** **20 43 56.3 +0.5**
comp=Z,15nm,1.2s
SBUM Sibu 70.46 92 *e*P **P** **20 43 56.3 +0.5**
comp=Z,15nm,1.2s
SBUM LR LR
comp=Z,1μm,20.0s
TIA Tai'an 70.47 56 ⇓P **P** **20 43 55.3 -0.2**
TIA PP **PP** **20 46 31.0 -0.5**
TIA PMZ
comp=Z,70nm,1.7s
TIA PMZ
comp=Z,1μm,3.5s
TIA LN
comp=Z,2μm,15.0s
TIA LE
comp=Z,3μm,15.0s
TIA LZ
comp=Z,4μm,16.0s
HIA Hailar 72.13 42 *e*P **P** **20 44 07.3 +1.9**
HIA pmax pmax
comp=Z,110nm,1.7s
HIA Hailar 72.13 42 *e*P **P** **20 44 07.2 +1.9**
comp=Z,112nm,1.7s
HIA Hailar 72.13 42 *e*P **P** **20 44 07.2 +1.9**
comp=Z,112nm,1.7s
NJ2 Nanjing 72.17 60 *e*P **P** **20 44 06.1 +0.2**
NJ2 pP **sP** **20 44 09.4 +0.2**
NJ2 PcP **PcP** **20 44 22.1 -2.1**
NJ2 PP **PP** **20 46 44.8 -1.4**
NJ2 S **S** **20 53 28.2 -0.8**
NJ2 PMZ
comp=Z,56nm,0.7s
NJ2 PMZ
comp=Z,420nm,3.5s
NJ2 LZ
comp=Z,7μm,12.5s
QZH Quanzhou 72.68 68 ⇓*i*P P 20 44 02.2 -6.8
QZH S S 20 53 23.6 -11
QZH pmax pmax
comp=Z,1μm,3.1s
QZH LR LR
comp=N,2μm,12.4s
QZH LR LR
comp=E,1μm,9.9s
QZH LR LR
comp=Z,4μm,15.2s
DL2 Dalian 73.88 53 P **P** **20 44 15.8 -0.1**
DL2 S **S** **20 53 50.9 +2.8**
DL2 PMZ
comp=Z,86nm,1.4s
DL2 PMZ
comp=Z,730nm,3.9s
DL2 LN
comp=Z,910nm,19.6s
DL2 LE
comp=Z,2μm,18.5s
DL2 LZ
comp=Z,1μm,40.1s
SSE Sheshan 74.25 61 P **P** **20 44 19.4 +1.2**
SSE PMZ
comp=Z,49nm,0.7s
SSE PMZ
comp=Z,260nm,3.8s
SSE LZ
comp=Z,5μm,11.8s
SUMG Summit 74.33 342 ⇓*i*P **P** **20 44 17.5 -0.8**
SUMG pmax pmax
comp=Z,69nm,1.4s
SUMG Summit 74.33 342 ⇓*i*P **P** **20 44 17.5 -0.8**
comp=Z,69nm,1.4s
SUMG Summit 74.33 342 *e*P **P** **20 44 17.2 -1.1**
comp=Z,146nm,1.8s
SUMG Summit 74.33 342 *e*P **P** **20 44 17.2 -1.1**
comp=Z,146nm,1.8s
SUMG LR LR
comp=Z,999nm,18.0s
NACB Ninganchiao 75.49 68 PFAKE 20 44 40.0 +14
NACB LR LR
comp=Z,2μm,22.0s
CN2 Changchun 76.32 48 ⇓*i*P **P** **20 44 29.7 -0.2**
CN2 *es*P PcP 20 44 42.4 +0.6
CN2 PP **PP** **20 47 20.0 -1.1**
CN2 *e*S **S** **20 54 12.7 -2.5**
CN2 PMZ
comp=Z,40nm,1.2s
CN2 PMZ
comp=Z,600nm,4.0s
CN2 LZ
comp=Z,4μm,19.0s
TIXI Tiksi 76.44 19 P **P** **20 44 29.0 -1.0**
comp=Z,5.1nm,0.9s,baz=280,slow=4.9,SNR=28
TIXI LR LR 21 21 49.4
comp=Z,2μm,19.1s,baz=266,slow=39
TIXI Tiksi 76.44 19 P **P** **20 44 29.0 -1.0**
TIXI Tiksi 76.44 19 P **P** **20 44 29.0 -1.0**
YAK Yakutsk 77.28 29 LR LR 21 23 22.4
comp=Z,5μm,18.1s,baz=270,slow=39
YAK Yakutsk 77.28 29 *e*P **P** **20 44 34.0 -0.9**
YAK *e* 20 44 45.3
YAK *e* 20 47 27.6
YAK *e*S **S** **20 54 24.7 -0.3**
YAK *e* 20 54 49.1
YAK *e*SS **SS** **20 59 23.0 +0.4**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=Z,192nm,3.3s
YAK pmax pmax
comp=N,32nm,2.0s
YAK pmax pmax
comp=E,104nm,2.0s
YAK smax smax
comp=N,215nm,4.3s
YAK smax smax
comp=E,200nm,5.2s
YAK MLR MLR
comp=Z,5μm,17.0s
YAK MLR MLR
comp=N,339nm,14.0s
YAK MLR MLR
comp=E,4μm,18.0s
YAK Yakutsk 77.28 29 *e*P **P** **20 44 34.4 -0.5**
comp=E,52nm,1.3s
YAK Yakutsk 77.28 29 *e*P **P** **20 44 34.4 -0.5**
comp=E,52nm,1.3s
INCN Inchon 77.95 54 P **P** **20 44 40.6 +1.4**
SNR=5.0
INCN P **P** **20 44 40.6 +1.4**
SNR=5.0
INCN Inchon 77.95 54 P **P** **20 44 40.6 +1.4**
SNR=5.0
INCN Inchon 77.95 54 PFAKE 20 44 50.0 +11
INCN LR LR
comp=Z,3μm,18.0s
PCI Palu 78.64 94 P **P** **20 44 44.2 +0.8**
comp=Z,91nm,2.3s,comp=Z,2μm
SFJD Kangerlussuaq 78.66 336 *i* P **P** **20 44 41.7 -0.8**
SFJD Kangerlussuaq 78.66 336 *i* P **P** **20 44 41.7 -0.8**
SFJD Kangerlussuaq 78.66 336 PFAKE 20 44 50.0 +7.5
SFJD LR LR
comp=Z,900nm,19.0s
KSAR Wonju Array Be 78.94 54 P **P** **20 44 44.1 -0.6**
KSAR Wonju Array Be 78.94 54 P **P** **20 44 44.0 -0.6**
KSAR Wonju Array Be 78.94 54 P **P** **20 44 44.0 -0.6**
KS01 Wonju Array Si 78.94 54 *e*P **P** **20 44 43.2 -1.4**
KS01 Wonju Array Si 78.94 54 *e*P **P** **20 44 43.2 -1.4**
KSRS Korea Array 78.97 54 P **P** **20 44 44.0 -0.7**
comp=Z,5.3nm,0.9s,baz=274,slow=6.2,SNR=20
KSRS LR LR 21 25 59.0
comp=Z,2μm,18.1s,baz=280,slow=40
MDJ Mudanjiang 79.19 47 P **P** **20 44 45.6 -0.2**
MDJ PP **PP** **20 47 44.8 -0.3**
MDJ S **S** **20 54 41.5 -4.6**
MDJ PMZ
comp=Z,26nm,1.8s
MDJ PMZ
comp=Z,240nm,6.9s
MDJ LN
comp=Z,1μm,20.0s
MDJ LE
comp=Z,970nm,24.2s
MDJ LZ
comp=Z,2μm,20.0s
MDJ Mudanjiang 79.19 47 *e*P **P** **20 44 45.8 -0.1**
comp=Z,15nm,0.6s
MDJ Mudanjiang 79.19 47 *e*P **P** **20 44 45.8 -0.1**
comp=Z,15nm,0.6s
RCBR Riachuelo 79.40 261 PFAKE 20 45 00.0 +12
RCBR LR LR
comp=Z,1μm,19.0s
KULLO Kullorsuaq 79.51 344 *i* P **P** **20 44 45.7 -1.3**
KULLO pmax pmax
comp=Z,25nm,0.8s
KULLO MLR MLR
comp=Z,810nm,15.0s
KULLO Kullorsuaq 79.51 344 *i* P **P** **20 44 45.7 -1.3**
comp=Z,25nm,0.8s
comp=Z,800nm,15.0s
KAPI Kappang 79.56 98 P **P** **20 44 47.0 -1.4**
comp=Z,8.2nm,1.0s,baz=236,slow=5.1,SNR=7.6
KAPI Kappang 79.56 98 *e*P **P** **20 44 48.1 -0.3**
comp=Z,39nm,1.4s
KAPI Kappang 79.56 98 *e*P **P** **20 44 48.1 -0.3**
comp=Z,39nm,1.4s
KLR Kul'dur 79.97 42 P **P** **20 44 48.9 -1.1**
comp=Z,8.3nm,0.9s,baz=271,slow=5.3,SNR=24
KLR LR LR 21 24 41.4
comp=Z,7μm,20.7s,baz=288,slow=39
USRK Ussuriysk Ar. 80.95 47 P **P** **20 44 54.2 -1.1**
comp=Z,7.2nm,0.9s,baz=262,slow=5.1,SNR=17
USRK LR LR 21 26 29.1
comp=Z,3μm,18.0s,baz=281,slow=40
JNU Nakatsue 82.08 58 P **P** **20 45 01.2 -0.4**
comp=Z,22nm,0.9s,baz=147,slow=3.6,SNR=9.3
JNU LR LR 21 27 51.9
comp=Z,2μm,18.1s,baz=302,slow=40
JNU Nakatsue 82.08 58 *e*P **P** **20 45 03.5 +1.9**
comp=Z,73nm,1.3s
JNU Nakatsue 82.08 58 *e*P **P** **20 45 03.5 +1.9**
comp=Z,73nm,1.3s
HABR Khabarovsk 82.25 42 *de*P **P** **20 45 00.4 -1.7**
HABR *e**PP **pP** **20 45 03.5 -1.0**
HABR *e* 20 45 05.3
HABR *e* 20 48 08.9
HABR *e*PPP PPP 20 49 59.5
HABR *e*S **S** **20 55 17.0 -0.9**
HABR *e**SS **sS** **20 55 22.3 +0.3**
HABR *e*SS **SS** **21 00 38.5 +1.0**
HABR *e*SSS SSS 21 04 05.9
HABR pmax pmax
comp=Z,45nm,2.0s
HABR MLR MLR
comp=Z,7μm,21.0s
SYO Syowa Base 82.25 181 ⇑*e*P **P** **20 45 04.7 +3.2**
SYO Syowa Base 82.25 181 ⇑*i*X **P** **20 45 00.3 -1.2**
MAW Mawson 82.27 172 P **P** **20 45 01.5 -0.2**
comp=Z,8.4nm,1.0s,baz=354,slow=4.7,SNR=11
MAW LR LR 21 19 01.7
comp=Z,729nm,18.4s,baz=328,slow=34
MAW Mawson 82.27 172 *e*P **P** **20 45 02.4 +0.8**
MAW pmax pmax
comp=Z,34nm,1.9s
MAW MLR MLR
comp=Z,300nm,18.0s
MAW Mawson 82.27 172 *e*P **P** **20 45 02.4 +0.8**
comp=Z,34nm,1.9s
MAW Mawson 82.27 172 *e*P **P** **20 45 02.4 +0.8**
comp=Z,34nm,1.9s
MMRI Maumere 82.86 101 PFAKE 20 45 20.0 +14
MMRI LR LR
comp=Z,600nm,21.0s
NKL Nikolayevsk 84.65 37 *e*P **P** **20 45 13.0 -1.4**
NKL *e*S **S** **20 55 41.0 -1.1**
NKL pmax pmax
comp=Z,200nm,2.0s
NKL pmax pmax
comp=Z,500nm,4.0s
NKL smax smax
comp=N,500nm,14.0s
NKL smax smax
comp=E,600nm,14.0s
NKL MLR MLR
comp=N,2μm,16.0s
NKL MLR MLR
comp=E,4μm,16.0s
NKL MLR MLR
comp=Z,6μm,16.0s
NWAO Narrogin (SRO) 85.41 125 LR LR 21 17 27.3
comp=Z,432nm,20.4s,baz=172,slow=32
TYV Tymovskoe 86.46 39 *e*P **P** **20 45 22.0 -1.4**
TYV *e*S **S** **20 55 56.0 -4.0**
TYV pmax pmax
comp=Z,399nm,2.5s
TYV pmax pmax
comp=Z,500nm,4.0s
TYV smax smax
comp=E,1μm,9.0s
NVL N'lazarevskaya 86.47 190 *e*P **P** **20 45 25.4 +2.5**
INU Inuyama 86.57 55 *e*P **P** **20 45 23.5 -0.9**
comp=E,145nm,1.8s
INU Inuyama 86.57 55 *e*P **P** **20 45 23.5 -0.9**
comp=E,145nm,1.8s
MJB9 Matsu-Tunnel 87.21 53 *e*P **P** **20 45 28.5 +1.0**
comp=E,15nm,1.7s
MJB9 Matsu-Tunnel 87.21 53 *e*P **P** **20 45 28.5 +1.0**
comp=E,15nm,1.7s
MAJO Matsushiro 87.22 53 *e*P **P** **20 45 27.6 +0.1**
MAJO pmax pmax
comp=Z,59nm,1.7s
MAJO Matsushiro 87.22 53 *e*P **P** **20 45 27.6 +0.1**
comp=Z,59nm,1.8s
MAJO Matsushiro 87.22 53 *e*P **P** **20 45 27.6 +0.1**
comp=Z,59nm,1.8s
MAT Matsushiro 87.22 53 P **P** **20 45 26.7 -0.8**
MJAR Matsushiro Arr 87.22 53 P **P** **20 45 27.2 -0.3**
comp=Z,7.3nm,0.9s,baz=285,slow=6.4,SNR=20
MJAR LR LR 21 29 52.7
comp=Z,2μm,19.5s,baz=300,slow=39
SEY Seymchan 87.23 25 LR LR 21 29 11.9
comp=Z,4μm,18.6s,baz=326,slow=39
SEY Seymchan 87.23 25 *ce*P **P** **20 45 24.8 -2.2**
YSS Yuzh-Sakhalins 87.66 42 ⇑*e*P **P** **20 45 29.0 -0.4**
YSS pmax pmax
comp=Z,190nm,1.9s
YSS Yuzh-Sakhalins 87.66 42 *e*P **P** **20 45 30.8 +1.4**
comp=Z,95nm,1.9s
YSS Yuzh-Sakhalins 87.66 42 *e*P **P** **20 45 30.8 +1.4**
comp=Z,95nm,1.9s
MA2 Magadan 87.86 29 LR LR 21 30 13.8
comp=Z,2μm,19.6s,baz=316,slow=39
MIR Mirnyy 88.17 162 *i* P **P** **20 45 33.0 +1.8**
MIR pmax pmax
comp=Z,10.0nm,2.5s
FITZ Fitzroy Crossi 88.46 109 P **P** **20 45 33.7 +0.1**
comp=Z,27nm,0.9s,baz=270,slow=4.8,SNR=14
FITZ LR LR 21 20 16.7
comp=Z,480nm,19.1s,baz=296,slow=32
FITZ Fitzroy Crossi 88.46 109 *e*P **P** **20 45 34.1 +0.4**
comp=Z,48nm,1.3s
FITZ Fitzroy Crossi 88.46 109 *e*P **P** **20 45 34.1 +0.4**
comp=Z,48nm,1.3s
JHJ Hachijo jima 2 89.36 56 LR LR 21 30 46.5
comp=Z,1μm,19.1s,baz=80,slow=39
SCHQ Schefferville 89.48 327 *e*P **P** **20 45 37.4 -0.5**
comp=Z,59nm,1.6s
SCHQ Schefferville 89.48 327 *e*P **P** **20 45 37.4 -0.5**
comp=Z,59nm,1.6s
BILL Bilibino 89.63 18 *di*P **P** **20 45 38.5 +0.2**
BILL pmax pmax
comp=Z,11nm,1.2s
BILL Bilibino 89.63 18 *e*P **P** **20 45 37.3 -1.0**
comp=Z,31nm,1.4s
BILL Bilibino 89.63 18 *e*P **P** **20 45 37.3 -1.0**
comp=Z,31nm,1.4s
SNAA Sanae 89.99 193 *e*P **P** **20 45 39.7 -0.1**
SNAA pmax pmax
comp=Z,34nm,1.5s
SNAA Sanae 89.99 193 *e*P **P** **20 45 39.7 -0.1**
comp=Z,34nm,1.5s
SNAA Sanae 89.99 193 *e*P **P** **20 45 39.6 -0.1**
comp=Z,34nm,1.5s
KUR Kuril'sk 91.58 43 *e*P **P** **20 45 47.4 -0.4**
KUR *e*S **SKSac** **20 56 16.8 -4.2**
KUR pmax pmax
comp=N,953nm,28.0s
JCJ Chichijima 93.02 61 LR LR 21 31 42.8
comp=N,413nm,20.5s,baz=138,slow=38
BDFB Brasilia 93.31 255 LR LR 21 25 30.0
comp=N,1μm,18.9s,baz=29,slow=34
PETK Petropavlovsk- 94.16 33 LR LR 21 32 49.5
comp=N,1μm,20.0s,baz=294,slow=38
WRA Warramunga Arr 96.89 109 P **P** **20 46 12.0 -0.7**
comp=N,3.8nm,0.9s,baz=297,slow=3.7,SNR=12
PP **PP** **20 50 07.7 -0.4**
comp=N,1.4nm,1.1s,baz=297,slow=6.3,SNR=7.6
WRA LR LR 21 28 14.8
comp=N,295nm,18.2s,baz=260,slow=34
WRA Warramunga Arr 96.89 109 P **P** **20 46 12.0 -0.7**
ASAR Alice Springs 97.24 113 P **P** **20 46 13.5 -0.7**
comp=N,2.1nm,1.0s,baz=297,slow=4.0,SNR=8.9
ASAR PP **PP** **20 50 16.3 +5.4**
comp=N,2.2nm,1.2s,baz=304,slow=7.4,SNR=4.4
ASAR LR LR 21 25 14.8
comp=N,717nm,20.5s,baz=290,slow=32
AS01 Alice Springs 97.28 113 *e*P **P** **20 46 13.4 -1.0**
AS01 Alice Springs 97.28 113 *e*P **P** **20 46 13.4 -1.0**
GUMO Guam 99.27 74 LR LR 21 34 25.6
comp=N,102nm,18.4s,baz=294,slow=37
ILAR Eielson Array 101.75 4 PP PP 20 50 42.5 -0.7
comp=N,1.0nm,0.8s,baz=349,slow=5.9,SNR=8.2
BOZ Bozeman (W) 116.45 339 *e*PKIKP **PKPdf** **20 51 25.5 +0.4**
BOZ Bozeman (W) 116.45 339 *e*PKIKP **PKPdf** **20 51 25.5 +0.4**
BOZ Bozeman (W) 116.45 339 *e*PKPdf **PKPdf** **20 51 25.5 +0.4**
PHWY Pilot Hill 117.67 333 *e*PKIKP **PKPdf** **20 51 27.8 +0.1**
PHWY Pilot Hill 117.67 333 *e*PKPdf **PKPdf** **20 51 27.8 +0.1**

IMW	**Indian Meadow**	**117.73**	**338**	*e*PKIKP	**PKPdf**	**20**	**51**	**28.7**	**+1.0**
IMW	**Indian Meadow**	**117.73**	**338**	*e*PKPdf	**PKPdf**	**20**	**51**	**28.7**	**+1.0**
FXWY	**Fox Creek**	**117.99**	**338**	*e*PKIKP	**PKPdf**	**20**	**51**	**28.4**	**+0.2**
FXWY	**Fox Creek**	**117.99**	**338**	*e*PKPdf	**PKPdf**	**20**	**51**	**28.4**	**+0.2**
TPAW	**Teton Pass**	**118.09**	**338**	*e*PKIKP	**PKPdf**	**20**	**51**	**30.5**	**+2.1**
TPAW	**Teton Pass**	**118.09**	**338**	*e*PKPdf	**PKPdf**	**20**	**51**	**30.5**	**+2.1**
BW06	**Boulder Array**	**118.18**	**336**	*e*PKIKP	**PKPdf**	**20**	**51**	**26.7**	**-1.9**
BW06	**Boulder Array**	**118.18**	**336**	*e*PKPdf	**PKPdf**	**20**	**51**	**26.7**	**-1.9**
PDAR	**Pinedale Array**	**118.18**	**336**	PKP	**PKPdf**	**20**	**51**	**27.2**	**-1.4**
	comp=N,2.5nm,1.0s,baz=56,slow=2.7,SNR=7.3								
MFID	**Camas Ranch**	**119.81**	**341**	*e*PKIKP	**PKPdf**	**20**	**51**	**32.4**	**+0.8**
MFID	**Camas Ranch**	**119.81**	**341**	*e*PKPdf	**PKPdf**	**20**	**51**	**32.4**	**+0.8**
HWUT	**Hardware Ranch**	**119.94**	**337**	*e*PKIKP	**PKPdf**	**20**	**51**	**31.6**	**-0.3**
HWUT	**Hardware Ranch**	**119.94**	**337**	*e*PKPdf	**PKPdf**	**20**	**51**	**31.6**	**-0.3**
SMCO	**Snowmass**	**120.06**	**332**	*e*PKIKP	**PKPdf**	**20**	**51**	**32.3**	**-0.2**
SMCO	**Snowmass**	**120.06**	**332**	*e*PKPdf	**PKPdf**	**20**	**51**	**32.4**	**-0.2**
BGU	**Big Grassy Mou**	**121.08**	**338**	*e*PKIKP	**PKPdf**	**20**	**51**	**34.3**	**+0.2**
BGU	**Big Grassy Mou**	**121.08**	**338**	*e*PKPdf	**PKPdf**	**20**	**51**	**34.4**	**+0.2**
WVOR	**Wild Horse Val**	**121.55**	**343**	*e*PKIKP	**PKPdf**	**20**	**51**	**35.3**	**+0.4**
WVOR	**Wild Horse Val**	**121.55**	**343**	*e*PKPdf	**PKPdf**	**20**	**51**	**35.3**	**+0.4**
WVOR	**Wild Horse Val**	**121.55**	**343**	*e*PKPdf	**PKPdf**	**20**	**51**	**35.3**	**+0.4**
DUG	**Dugway, Tooele**	**121.63**	**337**	*e*PKIKP	**PKPdf**	**20**	**51**	**35.1**	**-0.1**
DUG	**Dugway, Tooele**	**121.63**	**337**	*e*PKIKP	**PKPdf**	**20**	**51**	**35.1**	**-0.1**
DUG	**Dugway, Tooele**	**121.63**	**337**	*e*PKPdf	**PKPdf**	**20**	**51**	**35.1**	**-0.1**
K05A	**Summer Lake**	**121.88**	**345**	*e*PKIKP	**PKPdf**	**20**	**51**	**35.8**	**+0.2**
K05A	**Summer Lake**	**121.88**	**345**	*e*PKPdf	**PKPdf**	**20**	**51**	**35.9**	**+0.2**
MSU	**Marysvale**	**122.84**	**336**	*e*PKIKP	**PKPdf**	**20**	**51**	**38.2**	**+0.5**
MSU	**Marysvale**	**122.84**	**336**	*e*PKIKP	**PKPdf**	**20**	**51**	**38.2**	**+0.5**
MSU	**Marysvale**	**122.84**	**336**	*e*PKPdf	**PKPdf**	**20**	**51**	**38.2**	**+0.5**
BMN	**Battle Mountai**	**122.95**	**341**	*e*PKIKP	**PKPdf**	**20**	**51**	**37.8**	**+0.1**
BMN	**Battle Mountai**	**122.95**	**341**	*e*PKIKP	**PKPdf**	**20**	**51**	**37.8**	**+0.1**
BMN	**Battle Mountai**	**122.95**	**341**	*e*PKPdf	**PKPdf**	**20**	**51**	**37.8**	**+0.1**
LAZ	**Ladron**	**123.97**	**329**	*e*PKIKP	**PKPdf**	**20**	**51**	**41.7**	**+1.8**
LAZ	**Ladron**	**123.97**	**329**	*e*PKPdf	**PKPdf**	**20**	**51**	**41.7**	**+1.8**
CCUT	**Cedar City**	**124.14**	**336**	*e*PKIKP	**PKPdf**	**20**	**51**	**41.3**	**+1.1**
CCUT	**Cedar City**	**124.14**	**336**	*e*PKPdf	**PKPdf**	**20**	**51**	**41.3**	**+1.1**
PAHR	**Pah Rah Range**	**124.28**	**342**	*e*PKIKP	**PKPdf**	**20**	**51**	**40.4**	**+0.1**
PAHR	**Pah Rah Range**	**124.28**	**342**	*e*PKPdf	**PKPdf**	**20**	**51**	**40.4**	**+0.1**
LCMT	**Little Creek M**	**124.56**	**336**	*e*PKIKP	**PKPdf**	**20**	**51**	**41.6**	**+0.7**
LCMT	**Little Creek M**	**124.56**	**336**	*e*PKPdf	**PKPdf**	**20**	**51**	**41.6**	**+0.7**
U15A	**North Rim**	**124.67**	**335**	*e*PKIKP	**PKPdf**	**20**	**51**	**42.3**	**+1.0**
U15A	**North Rim**	**124.67**	**335**	*e*PKPdf	**PKPdf**	**20**	**51**	**42.4**	**+1.0**
NV11	**Mina Array Sit**	**125.07**	**341**	*e*PKIKP	**PKPdf**	**20**	**51**	**43.0**	**+1.1**
NV11	**Mina Array Sit**	**125.07**	**341**	*e*PKPdf	**PKPdf**	**20**	**51**	**43.0**	**+1.1**
NV01	**Mina Array Sit**	**125.12**	**341**	*e*PKIKP	**PKPdf**	**20**	**51**	**42.1**	**+0.1**
NV01	**Mina Array Sit**	**125.12**	**341**	*e*PKPdf	**PKPdf**	**20**	**51**	**42.1**	**+0.1**
NV01				eSdif	Sdif	21	01	15.1	-17
NVAR	**Mina Array Bea**	**125.12**	**341**	PKP	**PKPdf**	**20**	**51**	**42.7**	**+0.7**
	comp=N,7.9nm,1.0s,baz=344,slow=1.1,SNR=26								
MNTX	**Cornudas Mount**	**125.15**	**326**	*e*PKIKP	**PKPdf**	**20**	**51**	**41.7**	**-0.3**
MNTX	**Cornudas Mount**	**125.15**	**326**	*e*PKPdf	**PKPdf**	**20**	**51**	**41.7**	**-0.3**
SHPR	**Sheep Range**	**125.75**	**337**	*e*PKIKP	**PKPdf**	**20**	**51**	**44.6**	**+1.4**
SHPR	**Sheep Range**	**125.75**	**337**	*e*PKPdf	**PKPdf**	**20**	**51**	**44.6**	**+1.4**
TPNV	**Topopah Spring**	**125.76**	**338**	*e*PKIKP	**PKPdf**	**20**	**51**	**45.3**	**+2.1**
TPNV	**Topopah Spring**	**125.76**	**338**	*e*PKIKP	**PKPdf**	**20**	**51**	**45.3**	**+2.1**
TPNV	**Topopah Spring**	**125.76**	**338**	*e*PKPdf	**PKPdf**	**20**	**51**	**45.3**	**+2.1**
TXAR	**Lajitas Array**	**125.93**	**322**	PKP	**PKPdf**	**20**	**51**	**43.2**	**-0.4**
	comp=N,2.5nm,0.9s,baz=104,slow=1.3,SNR=17								
TX31	**Lajitas Ar. Si**	**125.93**	**322**	*e*PKPdf	**PKPdf**	**20**	**51**	**42.7**	**-0.9**
TX31				*e*PKPdf	**PKiKP**	**20**	**51**	**43.3**	**-0.8**
X16A	**Lo Mia Camp, P**	**126.01**	**333**	*e*PKIKP	**PKPdf**	**20**	**51**	**44.7**	**+0.9**
X16A	**Lo Mia Camp, P**	**126.01**	**333**	*e*PKPdf	**PKPdf**	**20**	**51**	**44.7**	**+0.9**
W13A	**Hualapai Mount**	**126.47**	**335**	*e*PKIKP	**PKPdf**	**20**	**51**	**45.5**	**+0.8**
W13A	**Hualapai Mount**	**126.47**	**335**	*e*PKPdf	**PKPdf**	**20**	**51**	**45.5**	**+0.8**
DAC	**Darwin (Calif)**	**126.84**	**339**	*e*PKIKP	**PKPdf**	**20**	**51**	**45.6**	**+0.3**
DAC	**Darwin (Calif)**	**126.84**	**339**	*e*PKIKP	**PKPdf**	**20**	**51**	**45.6**	**+0.3**
DAC	**Darwin (Calif)**	**126.84**	**339**	*e*PKPdf	**PKPdf**	**20**	**51**	**45.6**	**+0.3**
DZM	**Mont Dzumac**	**126.88**	**108**	*e*LR	LR	21	31	31.0	
	comp=N,558nm,22.9s								
Y14A	**Wickenburg**	**127.10**	**334**	*e*PKIKP	**PKPdf**	**20**	**51**	**46.6**	**+0.9**
Y14A	**Wickenburg**	**127.10**	**334**	*e*PKPdf	**PKPdf**	**20**	**51**	**46.6**	**+0.9**
GSC	**Goldstone, Bar**	**127.43**	**338**	*e*PKIKP	**PKPdf**	**20**	**51**	**47.2**	**+0.9**
GSC	**Goldstone, Bar**	**127.43**	**338**	*e*PKPdf	**PKPdf**	**20**	**51**	**47.2**	**+0.9**
319A	**Douglas**	**127.47**	**329**	*e*PKPdf	**PKPdf**	**20**	**51**	**47.4**	**+0.8**
Y12C	**Blythe**	**127.91**	**335**	*e*PKIKP	**PKPdf**	**20**	**51**	**48.2**	**+1.0**
Y12C	**Blythe**	**127.91**	**335**	*e*PKPdf	**PKPdf**	**20**	**51**	**48.2**	**+1.0**
113A	**Mohawk Valley,**	**128.43**	**334**	*e*PKPdf	**PKPdf**	**20**	**51**	**50.4**	**+2.2**
HPIG		**128.88**	**322**	*e*PKPdf	**PKPdf**	**20**	**51**	**49.3**	**-0.2**
TBI	**Tubuai**	**165.52**	**134**	*e*LR	LR	21	49	33.0	
	comp=N,1µm,27.0s								
PPT2	**Papeete2**	**168.34**	**112**	*e*LR	LR	21	50	46.1	
	comp=N,2µm,24.0s								
RKT	**Rikitea**	**169.88**	**198**	*e*LR	LR	21	51	22.8	
	comp=N,926nm,35.0s								

IDC 12 20:36:37.0±539.0, 14°.56N×41°.48E, h0km, Error ellipse: s-maj=243.9km s-min=227.3km az=124.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I32KE	**NAIROBI INFRAS**	**16.36**	**197**	*i*		22 18 50.3	
	baz=14,slow=337,SNR=0.3						

IDC 12 20:37:57.9±29.0, 10°.08N×40°.47E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/56, mbtmp3.7/5, Error ellipse: s-maj=621.3km s-min=61.8km az=7.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GERES	**GERESS Array B**	**44.65**	**335**	P	P	20 46 12.3	-0.2
	0.1nm,0.3s,baz=123,slow=8.6,SNR=1.5						
BVAR	**Borovoye Array**	**49.14**	**23**	P	P	20 46 47.3	-0.1
	0.4nm,0.5s,baz=206,slow=13,SNR=2.2						
MKAR	**Makanchi Array**	**50.91**	**36**	P	P	20 47 00.7	-0.3
	0.3nm,0.5s,baz=233,slow=6.3,SNR=2.3						
KURBB	**Kurchatov Arra**	**51.10**	**30**	P	P	20 47 02.5	+0.2
	1.5nm,0.2s,baz=231,slow=7.0,SNR=2.0						
ZALV	**Zalesovo Beam**	**56.18**	**30**	P	P	20 47 39.3	-0.2
	0.6nm,0.4s,baz=239,slow=9.9,SNR=2.0						

SJA 12 20:40:00.3±0.6, 23°.41S×64°.04W, h31km±5km, ML2.9, MW3.6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALOL	**LOMAS DE OLMED**	**0.41**	**172**	*i* P	Pn	20 40 09.8	-0.3
ASTB	**Santa Barbara**	**0.66**	**215**	*i* P	Pn	20 40 14.2	+0.6
AZAP	**Zapla**	**1.24**	**229**	*i* P	Pb	20 40 23.5	+0.2
AZAP				*i* S	Sb	20 40 41.6	+2.6
AZAP				IAML		20 40 42.4	
	comp=Z,207nm,0.3s						
HJA	**Humahuaca**	**1.27**	**279**	*i* P	Pb	20 40 24.7	+0.7
HJA				*i* S	Sb	20 40 42.7	+2.5
YJA	**Yavi**	**1.83**	**312**	*i* P	Pb	20 40 33.1	-0.4

ISK ***12*** *20:43:55.8, 39°.08N×29°.03E, h6km, MD2.5*
ISCJB ***12*** *20:43:56.5±0.6, 39°.08N±0°.05×29°.03E±0°.05, h6km±9km, Error ellipse: s-maj=9.8km s-min=4.9km az=149.5*
DDA ***12*** *20:43:56.3, 39°.07N×29°.03E, h7km, Md2.6*
CSEM ***12*** *20:43:56.5±0.1, 39°.09N×29°.02E, h5km, MD2.5, Error ellipse: s-maj=2.3km s-min=1.5km az=137.0*

ISC 12 20:43:56.8±1.1, 39°.09N±0°.04×29°.03E±0°.03, h7km±11km, n11, σ0°30/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**259**	P	**Pg**	**20**	**44**	**01.6**	**0.0**
DEMI				S	**Sg**	**20**	**44**	**05.2**	**+0.3**
DEMI	**Demirci**	**0.24**	**259**	*i* P	**Pg**	**20**	**44**	**01.6**	**0.0**
DEMI				*i* S	**Sg**	**20**	**44**	**05.2**	**+0.3**
GDZ	**Gediz**	**0.35**	**90**	P	**Pg**	**20**	**44**	**03.7**	**-0.1**
GDZ				S	**Sg**	**20**	**44**	**08.7**	**+0.3**
GDZ	**Gediz**	**0.35**	**90**	*i* P	**Pg**	**20**	**44**	**03.7**	**-0.1**
GDZ				*i* S	**Sg**	**20**	**44**	**08.7**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**43**	PG	**Pg**	**20**	**44**	**06.1**	**-0.3**
TVSB				SG	**Sg**	**20**	**44**	**13.2**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**43**	*i* Pg	**Pg**	**20**	**44**	**06.1**	**-0.3**
TVSB				*i* Sg	**Sg**	**20**	**44**	**13.2**	**+0.3**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*PG	**Pg**	**20**	**44**	**08.9**	**-0.2**
KULA				*e*SG	**Sg**	**20**	**44**	**17.4**	**0.0**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*Pg	**Pg**	**20**	**44**	**08.9**	**-0.2**
KULA				*e*Sg	**Sg**	**20**	**44**	**17.5**	**0.0**
IGD	**Bursa**	**1.18**	**7**	*i* P	**Pg**	**20**	**44**	**19.1**	**-0.4**
IGD				*i* S	**Sg**	**20**	**44**	**34.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*PN	**Pn**	**20**	**44**	**20.9**	**-0.3**
KCTX				*e*SN	**Sn**	**20**	**44**	**39.2**	**+0.5**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*Pn	**Pn**	**20**	**44**	**20.9**	**-0.3**
KCTX				*e*Sn	**Sn**	**20**	**44**	**39.2**	**+0.5**

IDC 12 20:44:37.5±1.4, 13°.45N×41°.83E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/53, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=40.2km s-min=16.7km az=61.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.15**	**152**	Pn	Pn	20 45 14.3	-0.3
	50nm,0.3s,baz=320,slow=10,SNR=3.1						
ATD				Lg	Lg	20 45 45.8	
	71nm,0.3s,baz=81,slow=24,SNR=3.1						
TORD	**Torodi Ar. Bea**	**39.03**	**274**	P	P	20 52 06.7	+0.4
	0.3nm,0.6s,baz=82,slow=7.0,SNR=1.8						
GERES	**GERESS Array B**	**42.24**	**332**	P	P	20 52 31.6	-0.9
	0.4nm,0.7s,baz=138,slow=6.2,SNR=2.6						
MKAR	**Makanchi Array**	**47.43**	**37**	P	P	20 53 14.2	+0.4
	1.0nm,0.9s,baz=230,slow=8.8,SNR=2.9						

IDC 12 20:45:10.1±10.0, 13°.71N×41°.53E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/51, mbtmp3.7/5, Error ellipse: s-maj=247.0km s-min=36.0km az=178.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GERES	**GERESS Array B**	**41.88**	**332**	P	P	20 53 02.0	-0.2
	0.5nm,0.6s,baz=126,slow=6.8,SNR=5.3						
MKAR	**Makanchi Array**	**47.40**	**38**	P	P	20 53 46.4	+0.1
	1.4nm,0.8s,baz=236,slow=6.6,SNR=6.6						
KURBB	**Kurchatov Arra**	**47.47**	**31**	P	P	20 53 46.9	+0.2
	1.0nm,0.8s,baz=233,slow=8.0,SNR=7.6						
ESDC	**Sonseca Array**	**47.50**	**312**	P	P	20 53 47.2	-0.1
	0.1nm,0.4s,baz=115,slow=7.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**52.55**	**31**	P	P	20 54 24.4	-0.8
	2.3nm,0.7s,baz=233,slow=7.8,SNR=6.0						

ISCJB ***12*** *20:46:19.0±0.8, 13°.4N±0°.1×41°.8E±0°.1, h10km, mb3.8/10, MS4.3/2, Error ellipse: s-maj=19.4km s-min=13.3km az=141.6*
IDC ***12*** *20:46:19.0±0.9, 13°.31N×41°.76E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/49, mbtmp3.8/11, ML4.5/1, MS4.4/2, Ms1 4.4/2, ms1mx3.6/49, Error ellipse: s-maj=24.4km s-min=13.4km az=56.0*
ISC 12 20:46:20.4±0.9, 13°.3N±0°.1×41°.8E±0°.1, h10km, n14, σ0s77/12, mb3.8/10, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.05**	**148**	Pn	**Pn**	**20**	**46**	**55.2**	**+0.1**
	182nm,0.3s,baz=46,slow=7.3,SNR=9.2								
ATD				Lg	Lg	20 47 24.9			
	218nm,0.3s,baz=147,slow=23,SNR=6.4								
IDI	**Anoyia**	**26.67**	**328**	LR	LR	21 01 38.3			
	comp=Z,721nm,18.5s,baz=101,slow=34								
BRTR	**Keskin Array B**	**27.29**	**346**	P	**P**	**20**	**52**	**07.1**	**+1.8**
	2.4nm,1.0s,baz=155,slow=9.1,SNR=8.4								
AKASG	**Malin Array Be**	**38.68**	**347**	P	**P**	**20**	**53**	**44.0**	**-0.3**
	0.5nm,0.5s,baz=161,slow=7.0,SNR=4.2								
TORD	**Torodi Ar. Bea**	**38.97**	**275**	P	**P**	**20**	**53**	**47.1**	**-0.1**
	1.6nm,0.9s,baz=89,slow=7.6,SNR=4.2								
GERES	**GERESS Array B**	**42.35**	**333**	P	**P**	**20**	**54**	**13.9**	**-0.9**
	1.2nm,0.8s,baz=132,slow=7.4,SNR=9.5								
KHC	**Kasperske Hory**	**42.61**	**333**	*e*P	**P**	**20**	**54**	**17.3**	**+0.4**
DAVOX	**Davos/Dischmat**	**42.77**	**328**	LR	LR	21	13	25.7	
	comp=Z,501nm,19.4s,baz=90,slow=38								
MKAR	**Makanchi Array**	**47.60**	**37**	P	**P**	**20**	**54**	**56.8**	**+0.2**
	1.4nm,0.8s,baz=231,slow=6.0,SNR=6.9								
KURBB	**Kurchatov Arra**	**47.72**	**31**	P	**P**	**20**	**54**	**56.6**	**-0.8**
	0.8nm,0.8s,baz=233,slow=7.9,SNR=6.0								
ESDC	**Sonseca Array**	**47.94**	**312**	P	**P**	**20**	**54**	**59.3**	**-0.1**
	0.7nm,0.8s,baz=106,slow=5.0,SNR=3.8								
ZALV	**Zalesovo Beam**	**52.80**	**30**	P	**P**	**20**	**55**	**35.2**	**-0.6**
	1.4nm,0.6s,baz=230,slow=7.9,SNR=4.7								
CMAR	**Chiang Mai Arr**	**55.07**	**77**	P	**P**	**20**	**55**	**53.2**	**+0.2**
	0.9nm,0.9s,baz=277,slow=7.2,SNR=3.0								
SONM	**Songino Array**	**63.28**	**43**	P	**P**	**20**	**56**	**49.4**	**-0.2**
	0.4nm,0.6s,baz=226,slow=3.8,SNR=2.1								

NIED ***12*** *20:48:00, 28°.00N×130°.30E, h35km, Mw5.2 Best double couple: M0 6.47000×10^16 NP1:ϕs44.00000°, δ24.00000°, λ110.00000°. NP2:ϕs202.00000°, δ68.00000°, λ81.00000°.*
BJI ***12*** *20:48:08.3, 27°.75N×130°.44E, h10km, mb4.5/51, mB4.9/38, Ms4.9/50, Ms7 4.7/49*
IDC ***12*** *20:48:13.1±0.5, 28°.21N×130°.11E, h0km, mb4.5/37, mb1 4.6/37, mb1mx4.5/60, mbtmp4.5/37, MS4.0/5, Ms1 4.0/5, ms1mx3.6/58, Error ellipse: s-maj=17.1km s-min=11.6km az=68.0*
JMA ***12*** *20:48:14.3±0.1, 28°.00N×130°.26E, h35km±2km, M4.6*
JMA Felt III J1.
ISCJB ***12*** *20:48:15.9±0.6, 28°.05N±0°.02×130°.10E±0°.03, h31km±3km, mb4.7/104, MS4.0/5, Error ellipse: s-maj=5.0km s-min=2.8km az=35.4*
NEIC ***12*** *20:48:16.6±1.5, 28°.10N×129°.97E, h23km±10km, mb4.9/45, Error ellipse: s-maj=6.9km s-min=4.7km az=126.0*
NEIC Recorded [3 JMA] on Kikaiga-shima.
GCMT ***12*** *20:48:16.6±0.4, 28°.01N×130°.33E, h28km±1km, MW5.0/58, Moment Tensor Solution. s23,c29; s58,c82; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.98±.33; Mθθ-1.07±.18; Mϕϕ-2.91±.20; Mrθ0.91±.32; Mθϕ-1.58±.11; Mϕr1.69±.29; Best double couple: Mo4.34500×10^16 NP1:ϕs29.00000°, δ58.00000°, λ89.00000°. NP2: ϕs211.00000°, δ32.00000°, λ91.00000°. Principal axes: T 4.4260, Plg77.0000°, Azm297.0000°; N -0.1620, Plg1.0000°, Azm30.0000°; P -4.2640, Plg13.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***12*** *20:48:16.2±1.3, 28°.09N×130°.06E, h33km, mb4.9/44 Error ellipse: s-maj=8.6km s-min=4.9km az=106.4*
ISC 12 20:48:16.9±0.7, 28°.04N±0°.04×130°.09E±0°.04, h28km±4km, n339, σ1s47/382, mb4.8/113, MS4.1/5, 22C-14D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.29**	**339**	P	**Pb**	**20**	**48**	**23.2**	**-0.9**
JZK				S	**Sn**	**20**	**48**	**30.0**	**-0.7**
JAM	**Amami Oshima**	**0.56**	**311**	P	**Pb**	**20**	**48**	**27.8**	**-0.5**
JAM				S	**Sb**	**20**	**48**	**36.7**	**+0.6**
JAMN	**Amaminishikomi**	**0.83**	**284**	P	**Pn**	**20**	**48**	**32.1**	**-0.6**
JAMN				*e*S	**Sn**	**20**	**48**	**44.0**	**0.0**
JTK	**Tokunoshima**	**1.04**	**256**	P	**Pn**	**20**	**48**	**35.3**	**-0.3**
JTAJ	**Takarajima**	**1.36**	**325**	P	**Pn**	**20**	**48**	**39.3**	**-0.6**
JOKE	**Okinoerabujima**	**1.51**	**244**	P	**Pn**	**20**	**48**	**41.5**	**-0.5**
JOKE				*e*S	**Sn**	**20**	**49**	**01.4**	**+0.7**
JNN	**Nakanoshima**	**1.80**	**354**	P	**Pn**	**20**	**48**	**45.1**	**-1.0**
JOW	**Kunigami**	**2.01**	**234**	P	**Pn**	**20**	**48**	**48.2**	**-0.8**
JOW	**Kunigami**	**2.01**	**234**	*e*Pn	**Pn**	**20**	**48**	**48.6**	**-0.3**
JOW				*e*Sn	**Sn**	**20**	**49**	**10.6**	**-2.6**
JIH	**Iheya**	**2.13**	**243**	P	**Pn**	**20**	**48**	**50.0**	**-0.6**
JIH				*e*S	**Sn**	**20**	**49**	**15.9**	**-0.3**
JYAK	**Yakushimahirau**	**2.22**	**9**	P	**Pn**	**20**	**48**	**51.1**	**-0.7**
JYAK				*e*S	**Sn**	**20**	**49**	**17.4**	**-0.9**
JNTH	**Nagotoyohara**	**2.38**	**231**	P	**Pn**	**20**	**48**	**53.2**	**-0.9**
JNTH				*e*S	**Sn**	**20**	**49**	**22.3**	**-0.1**
JKC	**Kuchinoerabu**	**2.42**	**2**	P	**Pn**	**20**	**48**	**54.0**	**-0.5**
JKC				*e*S	**Sn**	**20**	**49**	**23.1**	**0.0**
JMZ	**Minamidaito 2**	**2.43**	**155**	P	**Pn**	**20**	**48**	**52.1**	**-2.6**
JTN	**Tanegashima 3**	**2.72**	**16**	P	**Pn**	**20**	**48**	**57.8**	**-0.9**
JTN				*e*S	**Sn**	**20**	**49**	**29.8**	**-0.8**
JJT2	**Tamagusuku 2**	**2.82**	**228**	P	**Pn**	**20**	**48**	**59.9**	**-0.1**
JAGN	**Aguni-jima**	**2.92**	**241**	P	**Pn**	**20**	**49**	**00.6**	**-0.8**
JKE	**Kume jima 2**	**3.40**	**241**	P	**Pn**	**20**	**49**	**06.8**	**-1.3**
JKE				*e*S	**Sn**	**20**	**49**	**48.1**	**+0.6**
JNU	**Nakatsue**	**5.11**	**7**	Pn	**Pn**	**20**	**49**	**31.6**	**0.0**
	20nm,0.3s,baz=139,slow=3.6,SNR=59								
JNU				Sn	**Sn**	**20**	**50**	**28.8**	**-0.9**
	11nm,0.3s,baz=53,slow=20,SNR=6.5								
JNU	**Nakatsue**	**5.11**	**7**	*e*Pn	**Pn**	**20**	**49**	**31.4**	**-0.2**
JNU				Sn	**Sn**	**20**	**50**	**28.8**	**-0.9**
JNU				*e*Sn	**Sn**	**20**	**50**	**29.4**	**-0.2**
YOJ	**Yonaguni jima**	**7.29**	**242**	*e*P	**Pn**	**20**	**50**	**01.4**	**-0.1**
YOJ	**Yonaguni jima**	**7.29**	**242**	*e*Pn	**Pn**	**20**	**50**	**01.4**	**-0.1**
YHNB	**Yeheng**	**8.51**	**249**	*e*Pn	**Pn**	**20**	**50**	**19.1**	**+0.9**
NACB	**Ninganchiao**	**8.55**	**245**	*e*Pn	**Pn**	**20**	**50**	**16.7**	**-2.1**
TJN	**Taejon**	**8.63**	**345**	*i* P	**Pn**	**20**	**50**	**21.3**	**+1.5**
YULB	**Yu-li**	**9.18**	**242**	*e*Pn	Pn	20	50	21.2	-6.3
SSLB	**Suanglung**	**9.25**	**245**	*e*Pn	**Pn**	**20**	**50**	**26.2**	**-2.2**
INU	**Inuyama**	**9.37**	**37**	*e*Pn	**Pn**	**20**	**50**	**31.4**	**+1.4**
INU				*e*Sn	**Sn**	**20**	**50**	**16.2**	**+1.7**
KS15	**Wonju Array Si**	**9.56**	**349**	*e*Pn	**Pn**	**20**	**50**	**35.1**	**+2.5**
KSAR	**Wonju Array Be**	**9.56**	**349**	P	**Pn**	**20**	**50**	**34.8**	**+2.2**
KSAR	**Wonju Array Be**	**9.56**	**349**	Pn	**Pn**	**20**	**50**	**34.8**	**+2.2**
KSRS	**Korea Array**	**9.56**	**350**	Pn	**Pn**	**20**	**50**	**34.8**	**+2.2**
	0.9nm,0.3s,baz=167,slow=14,SNR=45								
KS01	**Wonju Array Si**	**9.59**	**349**	*e*Pn	**Pn**	**20**	**50**	**33.2**	**+0.1**
KS01				*e*Sn	Sn	20	52	05.7	-14
TPUB	**Ta-pu**	**9.75**	**243**	*e*P	**Pn**	**20**	**50**	**31.2**	**-4.1**
NJ2	**Nanjing**	**10.52**	**295**	*e*P	**Pn**	**20**	**50**	**48.8**	**+3.0**
NJ2				sP		20	50	55.7	
NJ2				PMZ					
	31nm,0.9s								
NJ2				LN					
	4µm,11.4s								
NJ2				LE					
	6µm,11.9s								
NJ2				LZ					
	7µm,11.4s								
QZH	**Quanzhou**	**10.75**	**256**	P	**Pn**	**20**	**50**	**45.0**	**-4.0**
QZH				S	**Sn**	**20**	**52**	**45.0**	**-3.4**
QZH				LN					
	5µm,13.4s								
QZH				LE					
	6µm,15.2s								
QZH				LZ					
	8µm,14.3s								
CBIJ	**Chichi jima**	**10.77**	**92**	*e*Pn	**Pn**	**20**	**50**	**46.3**	**-3.0**
MAJO	**Matsushiro**	**10.90**	**37**	*i* P	**Pn**	**20**	**50**	**50.9**	**-0.2**
MAJO	**Matsushiro**	**10.90**	**37**	Pn	**Pn**	**20**	**50**	**51.2**	**+0.1**
MJAR	**Matsushiro Arr**	**10.90**	**37**	Pn	**Pn**	**20**	**50**	**52.1**	**+1.0**
	0.6nm,0.3s,baz=212,slow=12

CD2 LZ
comp=Z,4µm,13.5s
LZH Lanzhou 23.59 297 *e*P **P 20 53 25.8 +0.2**
LZH pP pP 20 53 31.8 -1.8
LZH sP sP 20 53 35.1 -2.0
LZH PP **PnPn 20 53 57.2 +4.2**
LZH *e*S **S 20 57 32.3 -6.0**
LZH SS **SnSn 20 58 25.0 +8.9**
LZH PMZ
comp=Z,36nm,1.0s
LZH PMZ
comp=Z,300nm,4.9s
LZH LN
comp=Z,3µm,13.1s
LZH LE
comp=Z,2µm,11.2s
LZH LZ
comp=Z,2µm,12.7s
KMI Kunming 24.61 270 P **P 20 53 35.6 +0.4**
KMI pP pP 20 53 41.9 -1.5
KMI sP sP 20 53 44.0 -2.9
KMI PMZ
comp=Z,59nm,1.4s
KMI PMZ
comp=Z,240nm,6.8s
KMI LN
comp=Z,1µm,19.7s
KMI LE
comp=Z,590nm,24.5s
KMI LZ
comp=Z,1µm,20.9s
TYV Tymovskoe 24.70 19 *e*P **P 20 53 38.0 +2.6**
PANO Nakornpanom 25.85 251 P **P 20 53 51.1 +5.0**
UBPT Khong Chiam 26.11 246 P **P 20 53 53.8 +5.3**
SKNT Sakolnakorn 26.46 251 P **P 20 53 53.6 +1.9**
comp=Z,22nm,1.1s
NONG Nongkai 26.65 254 P **P 20 53 55.5 +2.1**
comp=Z,31nm,1.0s
ULN Ulaanbaatar 26.69 324‖ *e*P **P 20 53 53.7 0.0**
ULN pmax pmax
comp=Z,9.0nm,1.5s
ULN Ulaanbaatar 26.69 324 *e*P **P 20 53 52.2 -1.4**
comp=Z,18nm,1.6s
SONM Songino Array 27.01 323 P **P 20 53 55.3 -1.3**
comp=Z,1.4nm,0.6s,baz=136,slow=9.8,SNR=6.5
SONA1 **Songino Array 27.02 323** *e*P **P 20 53 55.2 -1.4**
GTA Gaotai 27.49 302 *e*P **P 20 53 59.6 -1.4**
GTA pP pP 20 54 05.4 -3.8
GTA sP sP 20 54 08.4 -4.3
GTA PMZ
comp=Z,8.0nm,0.9s
KHON Khomkaen 27.73 251 P **P 20 54 05.1 +2.0**
comp=Z,10nm,0.6s,comp=Z,442nm
LOEI Loei 28.50 255 P **P 20 54 08.7 -1.3**
comp=Z,98nm,1.1s
CHAI Chaiyaphum 28.65 251 P **P 20 54 12.6 +1.3**
comp=Z,7.7nm,0.9s
UTTA Uttaradit 29.00 256 P **P 20 54 15.7 +1.3**
comp=Z,4.0nm,0.8s
PBKT Sadao Pong 29.18 253 P **P 20 54 17.7 +1.7**
comp=Z,22nm,1.3s
LAMP Lampang 29.47 258 P **P 20 54 20.5 +1.9**
comp=Z,7.2nm,0.8s
SRAK Srakaew 29.57 248 P **P 20 54 17.8 -1.7**
comp=Z,48nm,0.8s
CMMT Chiang Mai 29.94 259 P **P 20 54 24.5 +1.7**
comp=Z,25nm,0.9s
CHTO Chiang Mai 29.95 259 P **P 20 54 24.6 +1.8**
comp=Z,110nm,0.9s
CHTO Chiang Mai 29.95 259 *e*P **P 20 54 22.8 0.0**
CHTO pmax pmax
comp=Z,13nm,0.7s
CHTO Chiang Mai 29.95 259 *e*P **P 20 54 22.8 0.0**
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 30.09 258 P **P 20 54 25.6 +1.5**
comp=Z,3.2nm,0.8s,baz=54,slow=7.7,SNR=13
CMAR PcP **PcP 20 57 26.7 +1.2**
comp=Z,2.5nm,0.8s,baz=55,slow=1.4,SNR=12
CM01 Chiang Mai Arr 30.09 258 *e*P **P 20 54 24.9 +0.8**
CM01 *e*PcP **PcP 20 57 26.7 +1.2**
PETK Petropavlovsk- 32.29 32 LR LR 21 08 11.8
comp=Z,314nm,20.2s,baz=219,slow=37
YAK Yakutsk 33.99 360 *i* P **P 20 54 56.0 -1.8**
YAK pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 34.03 282 *e*P **P 20 54 57.5 -1.7**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 34.03 282 *e*P **P 20 54 57.5 -1.7**
comp=Z,8.4nm,0.7s
SHL Shillong 34.10 275 *e*P **P 20 54 58.0 -1.5**
H11N2 WAKE ISLAND Hy 34.55 96 T T 21 31 29.8
baz=290,slow=74,SNR=142
H11N1 WAKE ISLAND Hy 34.55 96 T T 21 31 29.5
baz=290,slow=74,SNR=70
H11N3 WAKE ISLAND Hy 34.57 96 T T 21 31 31.0
baz=290,slow=74,SNR=125
H11S3 WAKE ISLAND Hy 34.83 98 T T 21 31 49.5
baz=292,slow=75,SNR=15
H11S1 WAKE ISLAND Hy 34.83 98 T T 21 31 54.2
baz=292,slow=75,SNR=14
H11S2 WAKE ISLAND Hy 34.84 98 T T 21 31 51.7
baz=292,slow=75,SNR=14
KRAB Krabi 35.19 242 P **P 20 55 11.1 +2.4**
MYKOM **Kota Tinggi 36.20 228** *e*P **P 20 55 19.4 +2.1**
comp=Z,10nm,0.9s
WMQ Urumqi 37.33 306 P **P 20 55 27.3 +0.5**
WMQ pP pP 20 55 33.8 -1.4
WMQ sP sP 20 55 36.8 -1.9
WMQ PMZ
comp=Z,5.0nm,0.6s
WMQ PMZ
comp=Z,170nm,7.6s
WMQ LN
comp=Z,960nm,12.0s
WMQ LE
comp=Z,940nm,12.4s
WMQ LZ
comp=Z,910nm,11.6s
SEY Seymchan 37.82 16 *i* P **P 20 55 30.7 +0.1**
RAMN Ramite 38.44 279 *e*P **P 20 55 36.4 -0.2**
comp=Z,26nm,0.6s
GUN Gumba 38.88 281 *e*P **P 20 55 41.1 +0.7**
comp=Z,76nm,0.5s
PKIN Phulchoki 39.37 280 *e*P **P 20 55 44.2 -0.2**
comp=Z,60nm,0.7s
KKN Kakani 39.42 281 *e*P **P 20 55 45.0 +0.2**
comp=Z,51nm,0.5s
DMN Daman 39.61 280 *e*P **P 20 55 46.6 +0.2**
GKN Gorkha 39.94 281 *e*P **P 20 55 49.0 -0.1**
comp=Z,81nm,0.8s
PMG Port Moresby 40.73 154 LR LR 21 10 58.8
comp=Z,340nm,20.7s,baz=316,slow=33
KOLN Koldanda 40.89 281 *e*P **P 20 55 57.0 +0.1**
GSI Gunungsitoli 40.91 235 *e*P **P 20 55 55.8 -1.1**
comp=Z,44nm,1.5s
PYUN Piuthan 41.35 282 *e*P **P 20 56 01.1 +0.3**
comp=Z,47nm,0.6s
MK01 Makanchi Array 41.59 310 *e*P **P 20 56 00.2 -2.1**
MK01 *e*PcP **PcP 20 57 59.3 +0.3**
MK31 Makanchi Array 41.61 310 *e*P **P 20 56 00.8 -1.6**
MK31 Makanchi Array 41.61 310 *e*P **P 20 56 00.8 -1.6**
MKAR Makanchi Array 41.61 310 P **P 20 56 00.8 -1.6**
comp=Z,2.1nm,0.6s,baz=95,slow=11,SNR=21
MKAR PcP **PcP 20 57 59.6 +0.5**
comp=Z,4.8nm,0.7s,baz=86,slow=2.9,SNR=16
MAKZ Makanchi 41.82 310 *e*P **P 20 56 02.9 -1.2**
MAKZ pmax pmax
comp=Z,12nm,1.6s
MAKZ Makanchi 41.82 310 *e*P **P 20 56 02.9 -1.2**
comp=Z,12nm,1.6s
ZAA0 Zalesovo Array 41.85 321 *e*P **P 20 56 01.8 -2.4**
ZAA0 *e*PcP **PcP 20 57 59.5 -0.2**
ZALV Zalesovo Beam 41.85 321 P **P 20 56 02.4 -1.8**
comp=Z,1.6nm,0.5s,baz=115,slow=7.9,SNR=6.6
ZALV PcP **PcP 20 57 59.8 +0.1**
comp=Z,4.1nm,0.6s,baz=156,slow=2.8,SNR=11
TIXI Tiksi 43.66 359 *e*P **P 20 56 17.6 -1.0**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 43.66 359 *e*P **P 20 56 17.6 -1.0**
comp=Z,4.2nm,0.8s
KURK Kurchatov 44.68 315 P **P 20 56 26.0 -1.1**
KURK 20 58 09.3
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 44.68 315 P **P 20 56 26.0 -1.1**
KURK PcP **PcP 20 58 09.3 0.0**
KURBB Kurchatov Arra 44.72 315 P **P 20 56 26.0 -1.4**
comp=Z,4.1nm,0.6s,baz=101,slow=9.0,SNR=47
KURBB PcP **PcP 20 58 09.3 -0.2**
comp=Z,3.2nm,0.8s,baz=103,slow=3.8,SNR=11
BILL Bilibino 45.44 18 *e*P **P 20 56 33.5 +0.6**
BILL pmax pmax
comp=Z,10.0nm,2.8s
KSH Kashi 45.80 299 P **P 20 56 35.8 -0.6**
KSH pP pP 20 56 42.2 -2.7
KSH PcP **PcP 20 58 13.6 0.0**
KSH PP **PP 20 58 24.0 +0.2**
KSH S **S 21 03 17.3 -1.2**
KSH ScS **ScS 21 06 27.7 -2.9**
KSH PMZ
comp=Z,3.0nm,0.5s
KSH PMZ
comp=Z,850nm,7.9s
KSH LN
comp=Z,1µm,15.4s
KSH LE
comp=Z,790nm,12.7s
KSH LZ
comp=Z,1µm,12.4s
TKM2 Tokmak 2 46.02 304 *e*P **P 20 56 37.5 -0.6**
TKM2 pmax pmax
comp=Z,16nm,1.4s
TKM2 Tokmak 2 46.02 304 *e*P **P 20 56 37.5 -0.6**
comp=Z,16nm,1.4s
FITZ Fitzroy Crossi 46.07 186 P **P 20 56 39.5 +1.1**
comp=Z,4.4nm,0.7s,baz=8.8,slow=13,SNR=7.4
FRU Bishkek 46.74 304 *e*P **P 20 56 42.0 -1.6**
AAK Ala-Archa 46.83 303 P **P 20 56 43.6 -0.8**
comp=Z,1.9nm,0.4s,baz=130,slow=4.7,SNR=3.2
AAK PcP **PcP 20 58 17.7 +0.5**
comp=Z,3.9nm,0.7s,baz=145,slow=5.2,SNR=6.2
EKS2 Erkin-Say 47.36 303 *e*P **P 20 56 48.6 0.0**
EKS2 *e* 20 58 20.4
EKS2 Erkin-Say 47.36 303 *e*P **P 20 56 48.6 0.0**
EKS2 *e*PcP **PcP 20 58 20.4 +1.3**
WRAB Tennant Creek 47.87 175 *e*P **P 20 56 51.6 -0.9**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WRAB Tennant Creek 47.87 175 *e*P **P 20 56 51.6 -0.9**
comp=Z,6.7nm,0.7s
WRA Warramunga Arr 47.88 175 P **P 20 56 52.8 +0.2**
comp=Z,2.8nm,0.4s,baz=353,slow=8.4,SNR=39
WB2 Warramunga Arr 47.88 175 *e*P **P 20 56 53.3 +0.8**
comp=Z,8.7nm,0.7s
NRIK Noril'sk 48.06 341 P **P 20 56 51.9 -1.5**
comp=Z,4.8nm,0.5s,baz=198,slow=1.7,SNR=5.6
NRIK PcP **PcP 20 58 21.4 +0.6**
comp=Z,4.8nm,0.6s,baz=116,slow=5.5,SNR=3.6
NRIK Noril'sk 48.06 341 P **P 20 56 51.9 -1.5**
NRIK 20 58 21.4
NRIK pmax pmax
comp=Z,5.0nm,0.5s
NRIK pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 49.74 304 *e*P **P 20 57 05.3 -1.5**
KKAR Karatay Array 49.74 304 *e*P **P 20 57 05.3 -1.5**
BVAR Borovoye Array 50.05 317 P **P 20 57 07.9 -1.0**
comp=Z,3.7nm,0.6s,baz=85,slow=9.0,SNR=27
BVAR PcP **PcP 20 58 29.0 +0.6**
comp=Z,9.5nm,0.7s,baz=98,slow=3.8,SNR=17
BRVK Borovoye 50.12 317 *ce*P **P 20 57 08.0 -1.4**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 50.12 317 *e*P **P 20 57 07.0 -2.4**
BRVK *e*PcP **PcP 20 58 29.4 +0.7**
ZRNK Zerenda 50.88 317 *e*P **P 20 57 12.1 -3.1**
ZRNK pmax pmax
comp=Z,9.0nm,0.8s
ZRNK Zerenda 50.88 317 *e*P **P 20 57 12.1 -3.1**
comp=Z,8.7nm,0.8s
AS31 Alice Springs 51.54 176 *e*P **P 20 57 22.0 +1.6**
comp=Z,4.0nm,0.5s
ASAR Alice Springs 51.54 176 P **P 20 57 22.2 +1.8**
comp=Z,2.7nm,0.9s,baz=6.6,slow=14,SNR=45
ASAR Alice Springs 51.54 176 P **P 20 57 22.2 +1.8**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
AS01 Alice Springs 51.54 175 *e*P **P 20 57 21.5 +1.2**
KBL Kabul 51.89 293 *e*P **P 20 57 22.9 -0.4**
KBL pmax pmax
comp=Z,18nm,0.7s
KBL Kabul 51.89 293 *e*P **P 20 57 22.9 -0.4**
comp=Z,18nm,0.7s
ABKAR Akbulak array 56.64 312 *e*P **P 20 57 56.4 -0.9**
ABKAR *e*PcP **PcP 20 58 52.3 -1.1**
ARU Arti 57.02 321 P **P 20 57 59.2 -0.6**
comp=Z,2.9nm,0.4s,baz=111,slow=0.7,SNR=11
ARU Arti 57.02 321 *d i*P **P 20 57 59.3 -0.6**
ARU 21 00 05.7
ARU S **S 21 05 55.4 +3.0**
ARU SS **SS 21 09 44.1 +3.3**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU Arti 57.02 321 P **P 20 57 58.2 -1.6**
comp=Z,6.2nm,0.7s
ARU *e*PcP **PcP 20 58 54.5 -0.2**
AKTO Aktyubinsk 57.76 314 P **P 20 58 06.2 +1.0**
comp=Z,2.2nm,0.6s,baz=86,slow=13,SNR=12
AKTO PcP **PcP 20 58 58.3 +0.5**
comp=Z,2.7nm,0.7s,baz=80,slow=5.8,SNR=6.5
GEYT Alibeck 59.83 300 P **P 20 58 20.4 +0.5**
comp=Z,3.1nm,0.6s,baz=41,slow=2.2,SNR=10
GEYT PcP **PcP 20 59 06.6 +0.3**
comp=Z,1.7nm,0.7s,baz=46,slow=6.4,SNR=4.2
PPLA Purkeypile 59.88 31 *e*P **P 20 58 19.5 -0.5**
comp=Z,26nm,1.7s
STKA Stephens Creek 60.58 169 P **P 20 58 25.9 +1.0**
comp=Z,1.9nm,0.6s,baz=314,slow=6.4,SNR=4.4
SUA Susaitna One 60.66 33 *e*P **P 20 58 25.8 +0.5**
comp=Z,9.2nm,0.8s
DZM Mont Dzumac 60.95 141 P **P 20 58 29.0 +1.4**
comp=Z,6.0nm,0.7s,baz=316,slow=12,SNR=5.6
MCK McKinley 61.28 30 P **P 20 58 28.5 -0.9**
MCK *e* 20 59 11.8
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 61.28 30 P **P 20 58 28.5 -0.9**
comp=Z,9.7nm,0.9s
MCK *e*PcP **PcP 20 59 11.8 +0.2**
RND Reindeer 61.35 30 *e*P **P 20 58 30.0 +0.1**
RND pmax pmax
comp=Z,15nm,0.9s
RND Reindeer 61.35 30 *e*P **P 20 58 30.0 +0.1**
comp=Z,15nm,0.9s
PMR Palmer 61.42 33 *e*P P 20 58 35.1 +4.9
PMR pmax pmax
comp=Z,7.0nm,1.0s
PMR Palmer 61.42 33 *e*P P 20 58 35.1 +4.9
comp=Z,6.5nm,1.0s
MDM Murphy Dome 61.47 29 *e*P **P 20 58 31.6 +1.0**
comp=Z,12nm,0.8s
COLA College 61.64 29 *e*P **P 20 58 31.2 -0.5**
COLA pmax pmax
comp=Z,3.0nm,0.6s
COLA College 61.64 29 *e*P **P 20 58 31.2 -0.5**
comp=Z,2.8nm,0.6s
ILAR Eielson Array 62.06 29 P **P 20 58 34.0 -0.6**
comp=Z,0.6nm,0.7s,baz=271,slow=6.2,SNR=11
ILAR Eielson Array 62.06 29 P **P 20 58 34.0 -0.6**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILB Eielson Array 62.06 29 *e*P **P 20 58 36.2 +1.6**
IL1 Eielson Array 62.06 29 *e*P P 20 58 39.7 +5.2
SCM Sheep Creek Mo 62.24 32 *e*P **P 20 58 36.4 +0.5**
SCM pmax pmax
comp=Z,10.0nm,1.0s
SCM Sheep Creek Mo 62.24 32 *e*P **P 20 58 36.4 +0.5**
comp=Z,9.9nm,1.0s
DOT Dot Lake 63.45 30 *e*P **P 20 58 43.6 -0.2**
comp=Z,5.5nm,0.8s
BMRM Bremner River 63.67 33 *e*P **P 20 58 45.6 +0.2**
comp=Z,22nm,1.2s
MENT Mentasta 63.72 31 *e*P **P 20 58 47.4 +1.7**
comp=Z,8.7nm,0.7s
WSAR Wadi Sarin 63.77 284 P **P 20 58 47.9 +1.3**
comp=Z,5.4nm,0.8s,baz=151,slow=8.0,SNR=4.4
EGAK Eagle 64.48 28 *e*P **P 20 58 52.1 +1.5**
comp=Z,12nm,1.7s
KLMR Klimovskoe 66.21 328 *e*P **P 20 59 00.2 -1.6**
KLMR *e* 20 59 31.2
KLMR pmax pmax
comp=Z,35nm,1.5s
INK Inuvik 66.58 24 P **P 20 59 04.5 +0.4**
comp=Z,1.1nm,0.7s,baz=262,slow=5.4,SNR=6.1
SPA0 Spitsbergen Ar 67.40 348 *e*P **P 20 59 09.0 -0.2**
KBS Kingsbay 67.78 349 *e*P **P 20 59 11.5 0.0**
KBS Kingsbay 67.78 349 *e*P **P 20 59 11.5 0.0**
comp=Z,39nm,0.3s
ZEI Tsey 68.92 308 *e*P **P 20 59 19.2 -0.3**
ZEI pmax pmax
comp=Z,38nm,1.1s
ARCES ARCESS Array B 68.93 339 P **P 20 59 17.7 -1.2**
comp=Z,4.1nm,0.6s,baz=64,slow=8.2,SNR=21
GNI Garni 69.19 305 P **P 20 59 22.7 +1.4**
comp=Z,1.7nm,0.3s,baz=246,slow=2.2,SNR=6.6
GNI Garni 69.19 305 P **P 20 59 18.1 -3.1**
GNI Garni 69.19 305 P **P 20 59 18.1 -3.1**
KBZ Khabaz 69.30 309 P **P 20 59 23.0 +1.4**
comp=Z,6.9nm,0.9s,baz=118,slow=4.8,SNR=12
KBZ Khabaz 69.30 309 P **P 20 59 23.0 +1.4**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 69.37 310 *e*P **P 20 59 22.9 +0.7**
KIV pmax pmax
comp=Z,45nm,1.7s
KIV Kislovodsk 69.37 310 *e*P **P 20 59 24.1 +1.9**
comp=Z,26nm,1.1s
OBN Obninsk 69.42 322 P **P 20 59 21.8 -0.3**
comp=Z,11nm,0.5s,baz=7.0,slow=1.6,SNR=5.8
OBN Obninsk 69.42 322 *e*P **P 20 59 19.7 -2.4**
OBN pmax pmax
comp=Z,44nm,1.7s
FINES FINESS Array B 72.11 331 P **P 20 59 37.6 -0.7**
comp=Z,14nm,0.5s,baz=62,slow=5.3,SNR=61
VSU Vasula 73.11 328 *ce*P **P 20 59 44.0 -0.4**
VSU pmax pmax
comp=Z,83nm,1.0s
DAG Danmarks Havn 73.68 353 *i* P **P 20 59 47.4 0.0**
DAG Danmarks Havn 73.68 353 *i* P **P 20 59 47.4 0.0**
AKASG **Malin Array Be 75.23 320** P **P 20 59 56.9 0.0**
comp=Z,9.4nm,0.6s,baz=53,slow=6.1,SNR=26
AK11 Malin Array Si 75.27 320 *e*P **P 20 59 57.9 +0.7**
YKA Yellowknife Ar 76.19 26 P **P 21 00 02.4 +0.3**
comp=Z,0.8nm,0.7s,baz=300,slow=5.2,SNR=3.1
YKA LR LR 21 38 59.0
comp=Z,44nm,18.6s,baz=0.0,slow=40
SUW Suwalki 76.95 325 *e*P **P 21 00 07.5 +0.9**
SUW Suwalki 76.95 325 *e*P **P 21 00 07.5 +0.9**
BR131 Keskin Array S 77.23 308 *e*P **P 21 00 09.1 +0.4**
BRTR Keskin Array B 77.23 308 P **P 21 00 09.0 +0.4**
comp=Z,7.1nm,0.9s,baz=101,slow=4.6,SNR=23
BR231 Keskin MP Arra 77.77 309 *e*P **P 21 00 08.2 -3.5**
TLCR 77.97 315‖ *i*P **P 21 00 12.9 +0.4**
ASF Jabal al Asfar 78.11 300 P **P 21 00 14.6 +1.0**
comp=Z,2.9nm,0.7s,baz=26,slow=0.4,SNR=5.3
NC405 NORSAR Array S 78.18 334 *e*P **P 21 00 13.1 -0.4**
NC303 NORSAR Array S 78.25 334 *e*P **P 21 00 13.3 -0.4**
NB201 NORSAR Array S 78.38 334 *e*P **P 21 00 14.0 -0.5**
CFR Carcaliu 78.40 315‖ *i*P **P 21 00 15.3 +0.4**
NB2 NORSAR Subarra 78.42 334 P **P 21 00 13.8 -0.9**
comp=Z,9.0nm,0.7s,baz=49,slow=5.6
NOA NORSAR Array B 78.42 334 P **P 21 00 13.8 -0.9**
comp=Z,8.7nm,0.6s,baz=50,slow=5.5,SNR=33
NC204 NORSAR Array S 78.44 335 *e*P **P 21 00 14.4 -0.5**
PRAR RASCA 78.52 318‖ *i*P **P 21 00 15.7 +0.1**
NBO02 NORSAR Array S 78.55 334 *e*P **P 21 00 15.3 -0.1**
NBO00 NORSAR Array S 78.59 334 *e*P **P 21 00 15.4 -0.2**
TESR Tescani 78.68 317‖ *i*P **P 21 00 17.0 +0.6**
ODBI Odobesti 78.79 316‖ *i*P **P 21 00 18.5 +1.5**
MMAI Mount Meron Ar 78.88 301 P **P 21 00 18.8 +0.9**
comp=Z,2.4nm,0.6s,baz=310,slow=24,SNR=6.5
VRI Vrincioaia 78.94 316‖ *i*P **P 21 00 19.0 +1.1**
BUR08 Bucovina Ar. S 78.99 318 *e*P P 21 00 12.6 -5.7
BURAR Bucovina Array 79.00 318‖ *i*P **P 21 00 18.8 +0.5**
PLOR Plostina 79.00 316‖ *i*P **P 21 00 19.9 +1.7**
MSAB Monastry St. A 79.11 314‖ *i*P **P 21 00 19.8 +1.0**
PGOR Pogoanele 79.25 315‖ *i*P **P 21 00 21.3 +1.8**
SUMG Summit 79.34 357 *i* P **P 21 00 21.1 +1.0**
SUMG pmax pmax
comp=Z,8.0nm,0.6s
SUMG Summit 79.34 357 *i* P **P 21 00 21.1 +1.0**
comp=Z,7.9nm,0.6s
SUMG Summit 79.34 357 *e*P **P 21 00 20.5 +0.5**
comp=Z,52nm,1.7s
ISR Istrita 79.42 316‖ *i*P **P 21 00 21.1 +0.5**
KWP Kalwaria Pacla 79.42 321 *e*P **P 21 00 21.5 +1.1**
KWP Kalwaria Pacla 79.42 321‖ *i*P **P 21 00 20.9 +0.5**
KWP Kalwaria Pacla 79.42 321 *e*P **P 21 00 21.5 +1.1**
CSS Mathiatis 79.55 304 *e*P **P 21 00 22.0 +0.6**
comp=Z,7nm,0.7s
MLR Muntele Rosu 79.61 316‖ *i*P **P 21 00 23.3 +1.6**
MLR Muntele Rosu 79.61 316 *e*P **P 21 00 22.2 +0.5**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 79.61 316 *e*P **P 21 00 22.2 +0.5**
comp=Z,6.5nm,0.8s
DOPR Dopca 79.71 317‖ *i*P **P 21 00 23.3 +1.2**
SECR 79.75 316‖ *i*P **P 21 00 23.4 +1.1**
SULR 79.81 315‖ *i*P **P 21 00 23.4 +0.8**
KOLS Kolonicke sedl 80.03 320 *e*P **P 21 00 23.8 +0.1**
KOLS *e* 21 00 33.0
KOLS pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 80.03 320 *e*P **P 21 00 23.8 +0.1**
KOLS *e* 21 00 33.0
UZH Uzhgorod 80.17 320 *e*P **P 21 00 24.6 +0.1**
UZH *e* 21 00 36.2
VOIR 80.18 316‖ *i*P **P 21 00 25.6 +0.9**
STHS Stebnicka Huta 80.35 321 *e*P **P 21 00 27.5 +2.0**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 80.35 321 *e*P **P 21 00 27.5 +2.0**
BSD Bornholm Skovb 80.40 328 *i* P **P 21 00 25.7 +0.1**
BSD pmax pmax
comp=Z,17nm,0.7s
BSD Bornholm Skovb 80.40 328 *i* P **P 21 00 25.7 +0.1**
comp=Z,17nm,0.7s
ARR Arges 80.47 316‖ *i*P **P 21 00 27.0 +0.7**
CRVS Cervenica-Dubn 80.50 321 *e*P **P 21 00 27.8 +1.5**
CRVS Cervenica-Dubn 80.50 321 *e*P **P 21 00 27.8 +1.5**
HUMR Humele 80.68 316‖ *i*P **P 21 00 27.2 -0.1**
OJC Ojcow 80.71 322 *e*P **P 21 00 28.1 +0.7**
OJC Ojcow 80.71 322 *e*P **P 21 00 28.1 +0.7**
OJC Ojcow 80.71 322 *e*P **P 21 00 27.9 +0.5**
comp=Z,23nm,0.7s
EIL Elat 80.71 299 P **P 21 00 28.0 +0.2**
comp=Z,3.4nm,0.7s,baz=31,slow=4.0,SNR=3.8
NIE Niedzica 80.87 322 *e*P **P 21 00 29.6 +1.3**
NIE Niedzica 80.87 322 *e*P **P 21 00 29.6 +1.3**
DRGR 80.89 318‖ *i*P **P 21 00 28.7 +0.2**
LOT Lotru 80.95 317‖ *i*P **P 21 00 29.0 +0.1**
DEV Deva 81.25 318‖ *i*P **P 21 00 31.5 +1.2**
KECS Kecovo 81.27 321 *e*P **P 21 00 31.9 +1.5**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 81.27 321 *e*P **P 21 00 31.9 +1.5**
LANS Liptovska Anna 81.47 322 *e*P **P 21 00 32.4 +0.9**
LANS Liptovska Anna 81.47 322 *e*P **P 21 00 32.4 +0.9**
SIRR Siria 81.78 318‖ *i*P **P 21 00 33.0 -0.2**
OKC Ostrava-Krasne 81.81 323 *e*P **P 21 00 34.6 +1.4**
OKC Ostrava-Krasne 81.81 323 *e*P **P 21 00 34.6 +1.4**
PSZ Piszkesteto 81.91 320‖ *i*P **P 21 00 35.0 +1.1**
MUD Monsted U'grnd 82.14 331 *i* P **P 21 00 34.4 -0.3**
MUD pmax pmax
comp=Z,10.0nm,0.8s
MUD Monsted U'grnd 82.14 331 *i* P **P 21 00 34.4 -0.3**
comp=Z,10nm,0.8s
BZS Buzias 82.15 318‖ *i*P **P 21 00 35.1 0.0**
MORC Moravsky Berou 82.17 323‖ *e*P **P 21 00 36.2 +1.0**
MORC Moravsky Berou 82.17 323 *e*P **P 21 00 36.1 +0.9**
MORC pmax pmax
comp=Z,36nm,0.9s
MORC Moravsky Berou 82.17 323 *e*P **P 21 00 36.1 +0.9**
comp=Z,36nm,0.9s
VYHS Vyhne 82.18 321 *e*P **P 21 00 35.7 +0.5**
VYHS pmax pmax
comp=Z,10.0nm,0.9s
VYHS Vyhne 82.18 321 *e*P **P 21 00 35.7 +0.5**
KSP Ksiaz 82.21 324 *e*P **P 21 00 36.5 +1.2**
KSP Ksiaz 82.21 324 *e*P **P 21 00 36.5 +1.2**
DPC Dobruska-Polom 82.48 324 *e*P **P 21 00 37.8 +1.0**
DPC *e*pP **pP 21 00 46.3 +0.4**

DPC	**Dobruska-Polom**	**82.48**	**324**	*e*P		**P**	**21 00 37.8**	**+1.0**
DPC				*e*			21 00 46.3	
MDVR	**Moldovita**	**82.54**	**317**	⇑*i*P		**P**	**21 00 37.0**	**-0.2**
UPC	**Upice**	**82.55**	**324**	*e*P		**P**	**21 00 38.2**	**+1.1**
UPC	**Upice**	**82.55**	**324**	*e*P		**P**	**21 00 38.2**	**+1.1**
VRAC	**Vranov**	**82.94**	**323**	P		**P**	**21 00 40.4**	**+1.2**
	comp=Z,7.1nm,0.7s,baz=60,slow=5.0,SNR=5.6							
VRAC	**Vranov**	**82.94**	**323**	⇓*i*P		**P**	**21 00 40.5**	**+1.3**
PVCC	**Panska Ves**	**83.28**	**325**	*e*P		**P**	**21 00 42.1**	**+1.2**
PVCC	**Panska Ves**	**83.28**	**325**	*e*P		**P**	**21 00 42.1**	**+1.2**
CLL	**Collm**	**83.60**	**326**	⇑*i*P		**P**	**21 00 42.6**	**+0.1**
	comp=Z,20nm,0.8s							
CLL				*i*			21 00 50.2	
CLL				*e*PP		**PP**	**21 03 56.0**	**+1.4**
CLL	**Collm**	**83.60**	**326**	⇑*i*P		**P**	**21 00 42.6**	**+0.1**
CLL				*i*			21 00 50.2	
CLL				pmax	pmax			
	comp=Z,20nm,0.8s							
CLL	**Collm**	**83.60**	**326**	*e*P		**P**	**21 00 42.6**	**+0.1**
	comp=Z,18nm,0.8s							
PRU	**Pruhonice**	**83.62**	**324**	*e*P		**P**	**21 00 43.2**	**+0.6**
PRU				*e*pP		**pP**	**21 00 52.1**	**+0.4**
PRU	**Pruhonice**	**83.62**	**324**	*e*P		**P**	**21 00 43.2**	**+0.6**
PRU				*e*			21 00 52.1	
CONA	**Conrad Observa**	**84.14**	**322**	*i* PcP		**P**	**21 00 46.6**	**+1.1**
	comp=Z,11nm,0.7s,SNR=11							
NKC	**Novy Kostel**	**84.54**	**325**	*e*P		**P**	**21 00 48.5**	**+1.1**
NKC	**Novy Kostel**	**84.54**	**325**	*e*P		**P**	**21 00 48.5**	**+1.1**
KHC	**Kasperske Hory**	**84.64**	**324**	*e*P		**P**	**21 00 48.8**	**+0.9**
KHC				*e*pP		**pP**	**21 00 56.7**	**-0.3**
KHC	**Kasperske Hory**	**84.64**	**324**	*e*P		**P**	**21 00 48.8**	**+0.9**
KHC				*e*			21 00 56.7	
KHC	**Kasperske Hory**	**84.64**	**324**	*e*P		**P**	**21 00 48.6**	**+0.8**
	comp=Z,2.3nm,0.8s							
ARSA	**Arzberg**	**84.72**	**322**	*i* PcP		**P**	**21 00 49.0**	**+0.6**
	comp=Z,7.8nm,1.1s,SNR=7.0							
GEC2	**GERESS Array S**	**84.75**	**324**	*e*P		**P**	**21 00 49.2**	**+0.7**
GEC2				pmax	pmax			
	comp=Z,5.0nm,0.8s							
GEC2	**GERESS Array S**	**84.75**	**324**	*e*P		**P**	**21 00 49.2**	**+0.7**
	comp=Z,4.9nm,0.8s							
GERES	**GERESS Array B**	**84.75**	**324**	P		**P**	**21 00 48.8**	**+0.2**
	comp=Z,4.2nm,0.6s,baz=47,slow=5.3,SNR=54							
GEA0	**GERESS Array S**	**84.75**	**324**	*e*P		**P**	**21 00 48.8**	**+0.2**
MOA	**Molln**	**85.05**	**323**	*e*PcP		**P**	**21 00 50.7**	**+0.8**
	comp=Z,8.6nm,0.9s							
LAST	**Lasithi**	**85.10**	**307**	*e*P		**P**	**21 00 51.4**	**+0.9**
	comp=Z,70nm,1.4s							
GROS	**Grobnik**	**85.20**	**321**	*i* P		**P**	**21 00 51.8**	**+1.0**
SOKA	**Soboth**	**85.33**	**321**	*e*PcP		**P**	**21 00 51.6**	**+0.2**
	comp=Z,11nm,1.1s,SNR=11							
GRFO	**Grafenberg**	**85.50**	**325**	*e*P		**P**	**21 00 53.2**	**+1.0**
GRFO				pmax	pmax			
	comp=Z,30nm,1.4s							
GRFO	**Grafenberg**	**85.50**	**325**	*e*P		**P**	**21 00 53.1**	**+1.0**
	comp=Z,30nm,1.4s							
OBKA	**Obir**	**85.70**	**321**	*i* P		**P**	**21 00 53.2**	**-0.1**
	comp=Z,5.5nm,0.7s							
PDKS	**Podkum**	**85.72**	**321**	*i* P		**P**	**21 00 53.5**	**+0.2**
MOZS	**Mozjanca**	**85.89**	**321**	*i* P		**P**	**21 00 55.4**	**+1.2**
BOJS	**Bojanci**	**85.91**	**320**	*i* P		**P**	**21 00 55.4**	**+1.2**
VISS	**Visnje**	**85.96**	**321**	*i* P		**P**	**21 00 54.9**	**+0.3**
KBA	**Koelnbreinsper**	**86.01**	**322**	*e*PcP		**P**	**21 00 55.2**	**+0.3**
	comp=Z,9.2nm,0.7s,SNR=9.9							
MYKA	**Terra Mystica**	**86.13**	**322**	*e*P		**P**	**21 00 55.1**	**-0.3**
	comp=Z,9.2nm,0.7s,SNR=7.1							
JAVS	**Javornik**	**86.34**	**321**	*i* P		**P**	**21 00 56.3**	**-0.2**
ABTA	**Abfaltersbach**	**86.67**	**322**	*e*P		**P**	**21 00 57.7**	**-0.3**
	comp=Z,15nm,1.2s,SNR=7.7							
WATA	**Walderalm**	**86.80**	**323**	*i* PcP		**PcP**	**21 01 00.5**	**-0.6**
	comp=Z,4.7nm,0.8s							
WTTA	**Wattenberg**	**86.81**	**323**	*e*PcP		**P**	**21 00 60.0**	**+1.1**
	comp=Z,11nm,1.1s							
MOTA	**Moosalm**	**87.05**	**323**	*i* PcP		**P**	**21 00 59.8**	**-0.2**
	comp=Z,7.3nm,0.7s							
RETA	**Reutte**	**87.13**	**324**	*e*PcP		**PcP**	**21 01 03.6**	**+1.1**
	comp=Z,6.1nm,1.1s							
FRB	**Frobisher Bay**	**87.34**	**8**	P		**P**	**21 01 00.7**	**-0.2**
	comp=Z,3.8nm,0.5s,baz=353,slow=5.4,SNR=12							
FETA	**Feichten**	**87.45**	**323**	*i* PcP		**P**	**21 01 02.7**	**+0.8**
	comp=Z,5.9nm,0.8s							
DAVA	**Damuels**	**87.72**	**324**	*i* PcP		**P**	**21 01 04.1**	**+0.8**
	comp=Z,5.4nm,0.8s							
FUORN	**Ofenpass-Fuorn**	**87.95**	**323**	*e*P		**P**	**21 01 04.7**	**+0.2**
	comp=Z,12nm,0.8s							
NVAR	**Mina Array Bea**	**88.06**	**47**	P		**P**	**21 01 06.7**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=283,slow=8.0,SNR=2.2							
TUE	**Stuetta**	**88.53**	**324**	*e*P		**P**	**21 01 07.4**	**+0.2**
	comp=Z,7.7nm,0.7s							
AQU	**L'Aquila**	**88.88**	**319**	*e*P		**P**	**21 01 11.2**	**+2.5**
AQU				pmax	pmax			
	comp=Z,14nm,0.8s							
AQU	**L'Aquila**	**88.88**	**319**	*e*P		**P**	**21 01 11.2**	**+2.5**
	comp=Z,14nm,0.8s							
GSC	**Goldstone, Bar**	**90.84**	**49**	*e*P		**P**	**21 01 18.9**	**+0.8**
GSC	**Goldstone, Bar**	**90.84**	**49**	*e*P		**P**	**21 01 18.9**	**+0.8**
	comp=Z,27nm,0.4s							
KMBO	**Kilima Mbogo**	**93.03**	**270**	P		**P**	**21 01 30.0**	**+1.3**
	comp=Z,0.5nm,0.2s,baz=19,slow=4.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**115.41**	**302**	PKP		**PKPdf**	**21 06 56.8**	**0.0**
	comp=Z,0.8nm,0.9s,baz=54,slow=2.7,SNR=4.4							

*ISCJB **12** 20:49:37.9±0.7,36°.48N±0°.05×77°.0E±0°.1,h77km, Error ellipse: s-maj=13.8km s-min=6.7km az=167.7*
*NNC **12** 20:49:46.7±3.5,36°.67N×75°.61E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=97.2km s-min=27.3km az=67.0*

ISC 12 20:49:40.1±1.0,**36°.48N**±0°.07×**77°.0E**±0°.1,**h77**km,**n11,**
σ2$86/10,2C-2D,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**4.19**	**196**	*e*P	**Pn**	**20 50 42.5**	**+1.0**
THN				*e*S	**Sn**	**20 51 27.0**	**-2.2**
MNAS	**Manas**	**6.95**	**331**	⇑P	**Pn**	**20 51 20.7**	**+1.4**
	1.7nm,0.5s						
MNAS				⇓S	**Sn**	**20 52 35.1**	**-1.8**
	2.7nm,0.5s						
KK31	**Karatay Array**	**8.30**	**325**	⇑P	**Pn**	**20 51 37.6**	**-0.1**
	0.6nm,0.3s,baz=132,slow=37,SNR=3.5						
KK31				⇓S	**Sn**	**20 53 04.9**	**-5.0**
	1.4nm,0.4s,baz=153,slow=23,SNR=14						
PYUN	**Piuthan**	**9.75**	**147**	*e*P	Pn	20 52 05.4	+7.7
	49nm,0.5s						
KOLN	**Koldanda**	**10.31**	**146**	*e*P	**Pn**	**20 52 06.3**	**+1.0**
GKN	**Gorkha**	**10.62**	**141**	*e*P	**Pn**	**20 52 07.8**	**-1.6**
	15nm,0.3s						
WMQ	**Urumqi**	**10.95**	**45**	P	**Pn**	**20 52 13.8**	**-0.1**
KKN	**Kakani**	**11.12**	**139**	*e*P	Pn	20 52 09.0	-7.4
GUN	**Gumba**	**11.35**	**136**	*e*P	Pn	20 52 09.9	-10
PKIN	**Phulchoki**	**11.35**	**139**	*e*P	Pn	20 52 09.3	-10
AB31	**Akbulak array**	**17.84**	**321**	P	**Pn**	**20 53 47.2**	**+4.2**
	1.2nm,0.7s,baz=224,slow=11,SNR=5.8						

*ISCJB **12** 20:50:07.7±0.8, 17°.8S±0°.2×178°.1W±0°.1, h590km, mb3.9/12, Error ellipse: s-maj=33.8km s-min=9.6km az=153.0*
*IDC **12** 20:50:08.8±1.6, 17°.84S×178°.21W, h583km±18km, mb3.5/12, mb1 3.7/14, mb1mx3.4/42, mbtmp4.4/14, Error ellipse: s-maj=30.0km s-min=11.0km az=148.0*

ISC 12 20:50:08.4±0.9,**17°.9S**±0°.3×**178°.0W**±0°.1,**h590**km,**n59,**
σ1$03/63,mb3.9/12,7C-13D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.20**	**57**	P	**P**	**20 51 59.9**	**-0.1**
	8.9nm,0.3s,baz=207,slow=2.3,SNR=15						
AFI				S	**S**	**20 53 26.6**	**-4.7**
	0.8nm,0.3s,baz=52,slow=23,SNR=2.3						
DZM	**Mont Dzumac**	**15.18**	**252**	P	**P**	**20 53 18.0**	**-0.8**
	1.1nm,0.3s,baz=111,slow=19,SNR=12						
STKA	**Stephens Creek**	**38.96**	**241**	P	**P**	**20 56 45.4**	**+0.2**
	4.6nm,0.7s,baz=83,slow=9.4,SNR=17						
WRA	**Warramunga Arr**	**45.00**	**259**	P	**P**	**20 57 31.8**	**-0.9**
	2.4nm,0.4s,baz=95,slow=7.3,SNR=36						
WRA				PcP	**PcP**	**20 59 01.0**	**0.0**
	0.5nm,0.3s,baz=90,slow=3.6,SNR=6.4						
ASAR	**Alice Springs**	**45.15**	**254**	P	**P**	**20 57 33.6**	**-0.2**
	10nm,0.5s,baz=86,slow=8.7,SNR=128						
ASAR				PcP	**PcP**	**20 59 01.4**	**-0.2**
	1.4nm,0.6s,baz=104,slow=3.9,SNR=7.5						
ASAR				S	**S**	**21 03 28.4**	**-3.2**
	1.2nm,0.9s,baz=93,slow=14,SNR=7.7						
MJAR	**Matsushiro Arr**	**68.12**	**323**	P	**P**	**21 00 10.6**	**0.0**
	1.8nm,0.5s,baz=153,slow=6.1,SNR=10						
ASAJ	**Asahikawa**	**71.45**	**331**	P	**P**	**21 00 31.2**	**+1.1**
	2.0nm,0.6s,baz=241,slow=3.3,SNR=5.7						
PETK	**Petropavlovsk-**	**73.77**	**345**	P	**P**	**21 00 43.6**	**+0.4**
	3.1nm,0.6s,baz=107,slow=9.1,SNR=7.5						
NVAR	**Mina Array Bea**	**79.16**	**44**	P	**P**	**21 01 14.2**	**+0.9**
	1.7nm,0.8s,baz=246,slow=6.7,SNR=6.6						
TXAR	**Lajitas Array**	**85.68**	**57**	P	**P**	**21 01 48.4**	**+2.2**
	1.7nm,0.7s,baz=219,slow=5.9,SNR=23						
ILAR	**Eielson Array**	**85.80**	**13**	P	**P**	**21 01 45.4**	**-0.4**
	0.9nm,0.4s,baz=220,slow=5.2,SNR=27						
PDAR	**Pinedale Array**	**87.09**	**43**	P	**P**	**21 01 53.6**	**+0.9**
	1.6nm,0.7s,baz=172,slow=2.5,SNR=7.1						
CMAR	**Chiang Mai Arr**	**89.23**	**290**	P	**P**	**21 02 03.6**	**+0.7**
	0.8nm,0.8s,baz=126,slow=2.5,SNR=5.0						
INK	**Inuvik**	**91.78**	**15**	P	**P**	**21 02 12.6**	**-1.0**
	1.2nm,0.7s,baz=266,slow=5.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**112.12**	**318**	PKiKP	**PKiKP**	**21 07 36.4**	**-1.1**
	0.5nm,0.7s,baz=95,slow=1.8,SNR=6.8						
BVAR	**Borovoye Array**	**117.07**	**321**	PKP	**PKPdf**	**21 07 46.3**	**-0.6**
	0.8nm,0.4s,baz=133,slow=2.3,SNR=7.8						
LEOM	**Leova**	**144.19**	**328**	⇓*i*P	**PKPab**	**21 08 38.5**	**+0.5**
KWP	**Kalwaria Pacla**	**144.21**	**337**	⇑*i*P	**PKPab**	**21 08 38.2**	**+0.1**
TLCR		**144.77**	**326**	⇑*i*P	**PKPab**	**21 08 40.4**	**+0.1**
BURAR	**Bucovina Array**	**144.78**	**332**	⇑*i*P	**PKPab**	**21 08 40.9**	**+0.4**
TESR	**Tescani**	**144.94**	**330**	⇑*i*P	**PKPab**	**21 08 40.5**	**-0.5**
BRTR	**Keskin Array B**	**145.04**	**315**	PKP	**PKPbc**	**21 08 40.7**	**0.0**
	2.8nm,0.7s,baz=133,slow=4.5,SNR=19						
CFR	**Carcaliu**	**145.13**	**327**	⇓*i*P	**PKPab**	**21 08 41.5**	**-0.2**
VRI	**Vrincioaia**	**145.36**	**329**	⇓*i*P	**PKPbc**	**21 08 41.8**	**+0.5**
CLL	**Collm**	**145.53**	**348**	⇑*i*P	**PKPbc**	**21 08 42.0**	**+0.5**
	comp=Z,12nm,1.0s						
CLL				*e*		21 08 47.0	
DPC	**Dobruska-Polom**	**145.65**	**344**	*e*PKP	**PKPab**	**21 08 43.0**	**-0.7**
DPC				*ex*	x	21 08 45.1	
BRG	**Berggiesshubel**	**145.75**	**347**	*e*P	**PKPbc**	**21 08 42.7**	**+0.5**
	comp=Z,4.9nm,0.7s						
MORC	**Moravsky Berou**	**145.82**	**342**	⇓*i*P	**PKPbc**	**21 08 42.3**	**-0.2**
PVCC	**Panska Ves**	**145.92**	**346**	*e*PKP	**PKPbc**	**21 08 43.4**	**+0.7**
PVCC				*ex*	x	21 08 45.7	
DOPR	**Dopca**	**145.93**	**330**	⇓*i*P	**PKPab**	**21 08 44.3**	**-0.6**
ISR	**Istrita**	**145.99**	**328**	⇑*i*P	**PKPab**	**21 08 44.2**	**-1.0**
CJR	**Cluj-Napoca**	**146.18**	**333**	⇑*i*P	**PKPbc**	**21 08 43.9**	**+0.3**
SECR		**146.28**	**329**	⇓*i*P	**PKPbc**	**21 08 44.8**	**+0.9**
PRU	**Pruhonice**	**146.43**	**345**	*e*PKP	**PKPbc**	**21 08 44.7**	**+0.6**
PRU				*ex*	x	21 08 47.7	
MMAI	**Mount Meron Ar**	**146.45**	**303**	PKPbc	**PKPbc**	**21 08 45.7**	**+0.9**
	comp=Z,3.0nm,0.4s,baz=67,slow=6.4,SNR=14						
DRGR		**146.50**	**334**	⇓*i*P	**PKPbc**	**21 08 45.0**	**+0.5**
VRAC	**Vranov**	**146.51**	**343**	⇓*i*P	**PKPbc**	**21 08 45.3**	**+0.9**
NKC	**Novy Kostel**	**146.67**	**348**	*e*PKP	**PKPbc**	**21 08 45.4**	**+0.6**
PSZ	**Piszkesteto**	**146.67**	**338**	⇓*i*P	**PKPbc**	**21 08 45.5**	**+0.6**
ARR	**Arges**	**146.73**	**330**	⇓*i*P	**PKPbc**	**21 08 46.6**	**+1.4**
TREC	**Trest**	**146.83**	**344**	*e*PKP	**PKPbc**	**21 08 45.6**	**+0.4**
TREC				*ex*	x	21 08 49.2	
HUMR	**Humele**	**147.18**	**329**	⇓*i*P	**PKPbc**	**21 08 46.4**	**+0.1**
SIRR	**Siria**	**147.35**	**334**	⇓*i*P	**PKPbc**	**21 08 47.5**	**+0.8**
KHC	**Kasperske Hory**	**147.46**	**346**	*e*PKP	**PKPbc**	**21 08 47.5**	**+0.6**
KHC				*ex*	x	21 08 52.2	
GERES	**GERESS Array B**	**147.70**	**345**	PKPbc	**PKPbc**	**21 08 48.0**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=25,slow=3.1,SNR=30						
BZS	**Buzias**	**147.89**	**334**	⇓*i*P	**PKPbc**	**21 08 48.6**	**+0.5**
CONA	**Conrad Observa**	**147.97**	**342**	*i* PKPbc	**PKPbc**	**21 08 48.5**	**+0.2**
	comp=Z,2.6nm,0.6s						
MOA	**Molln**	**148.48**	**344**	*i* PKPbc	**PKPbc**	**21 08 49.9**	**+0.4**
	comp=Z,6.1nm,1.4s						
KBA	**Koelnbreinsper**	**149.43**	**345**	*i* PKPbc	**PKPbc**	**21 08 51.8**	**-0.3**
	comp=Z,3.2nm,0.5s						
WATA	**Walderalm**	**149.60**	**347**	*i* PKPbc	**PKPbc**	**21 08 52.5**	**+0.1**
	comp=Z,2.5nm,0.6s						
RETA	**Reutte**	**149.62**	**348**	*i* PKPbc	**PKPbc**	**21 08 52.8**	**+0.5**
	comp=Z,0.9nm,0.5s						
WTTA	**Wattenberg**	**149.66**	**347**	*i* PKPbc	**PKPbc**	**21 08 53.1**	**+0.6**
	comp=Z,5.4nm,0.5s						
MOTA	**Moosalm**	**149.69**	**348**	*i* PKPbc	**PKPbc**	**21 08 52.8**	**+0.2**
	comp=Z,3.3nm,0.8s						
MYKA	**Terra Mystica**	**149.77**	**344**	*i* PKPbc	**PKPbc**	**21 08 52.5**	**-0.2**
	comp=Z,3.7nm,0.6s						
ABTA	**Abfaltersbach**	**149.94**	**345**	*i* PKPbc	**PKPbc**	**21 08 53.0**	**-0.1**
	comp=Z,7.0nm,0.6s						
DAVA	**Damuels**	**149.98**	**349**	*i* PKPbc	**PKPbc**	**21 08 54.3**	**+1.0**
	comp=Z,9.6nm,1.1s						
FETA	**Feichten**	**150.08**	**348**	*i* PKPbc	**PKPbc**	**21 08 54.1**	**+0.6**
	comp=Z,5.5nm,0.8s						
DAVOX	**Davos/Dischmat**	**150.47**	**349**	PKPbc	**PKPbc**	**21 08 55.2**	**+0.7**
	comp=Z,7.7nm,0.6s,baz=237,slow=3.8,SNR=24						
IDI	**Anoyia**	**153.28**	**315**	PKPbc	**PKPbc**	**21 09 03.2**	**+2.3**
	comp=Z,81nm,1.0s,baz=145,slow=10,SNR=11						

*DDA **12** 20:53:00.9,39°.12N×28°.99E, h7km, Md2.6*
*ISK **12** 20:53:00.4,39°.07N×29°.06E, h10km, MD2.6*
*ISCJB **12** 20:53:01.1±0.6,39°.10N±0°.05×29°.02E±0°.04, h6km±8km, Error ellipse: s-maj=9.4km s-min=4.5km az=153.0*
*CSEM **12** 20:53:01.2±0.1,39°.10N×29°.01E, h7km±1km, MD2.6, Error ellipse: s-maj=3.1km s-min=2.0km az=155.0*

ISC 12 20:53:01.4±1.0,**39°.12N**±0°.03×**29°.00E**±0°.03,**h7**km±9km,
n19,σ0$54/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**252**	P	**Pg**	**20 53 06.3**	**+0.2**
DEMI				S	**Sg**	**20 53 09.6**	**+0.4**
DEMI	**Demirci**	**0.23**	**252**	*i* P	**Pg**	**20 53 06.3**	**+0.2**
DEMI				*i* S	**Sg**	**20 53 09.6**	**+0.4**
GDZ	**Gediz**	**0.38**	**94**	P	**Pg**	**20 53 08.9**	**+0.1**
GDZ				S	**Sg**	**20 53 14.3**	**+0.6**
GDZ	**Gediz**	**0.38**	**94**	*i* P	**Pg**	**20 53 08.9**	**+0.1**
GDZ				*i* S	**Sg**	**20 53 14.3**	**+0.6**
TVSB	**Tavsanli**	**0.49**	**47**	*e*PG	**Pg**	**20 53 10.9**	**0.0**
TVSB				*e*SG	**Sg**	**20 53 17.1**	**-0.3**
TVSB	**Tavsanli**	**0.49**	**47**	*e*Pg	**Pg**	**20 53 10.9**	**0.0**
TVSB				*e*Sg	**Sg**	**20 53 17.1**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*PG	**Pg**	**20 53 13.6**	**-0.4**
KULA				*e*SG	**Sg**	**20 53 22.1**	**-0.5**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*Pg	**Pg**	**20 53 13.6**	**-0.4**
KULA				*e*Sg	**Sg**	**20 53 22.1**	**-0.5**
IGD	**Bursa**	**1.16**	**8**	*i* P	**Pg**	**20 53 22.2**	**-1.4**
IGD				*i* S	**Sg**	**20 53 37.9**	**-0.8**
BALY	**Balya**	**1.24**	**301**	P	**Pb**	**20 53 24.9**	**-0.2**
BALY				S	**Sn**	**20 53 42.2**	**+0.1**
BALY	**Balya**	**1.24**	**301**	*i* P	**Pb**	**20 53 24.9**	**-0.2**
BALY				*i* S	**Sn**	**20 53 42.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*PN	**Pg**	**20 53 25.5**	**+0.1**
KCTX				*e*SN	**Sn**	**20 53 43.6**	**+1.2**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*Pn	**Pg**	**20 53 25.5**	**+0.1**
KCTX				*e*Sn	**Sn**	**20 53 43.6**	**+1.2**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pn**	**20 53 24.9**	**-0.4**
MDNY				*e*SN	**Sn**	**20 53 43.3**	**+0.9**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pn**	**20 53 24.9**	**-0.4**
MDNY				*e*Sn	**Sn**	**20 53 43.3**	**+0.9**
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pb**	**20 53 25.8**	**+0.1**
IZI				*e*SN	**Sn**	**20 53 43.0**	**0.0**
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pb**	**20 53 25.8**	**+0.1**
IZI				*e*Sn	**Sn**	**20 53 43.0**	**0.0**
ARMT	**Armutlu**	**1.45**	**356**	*e*PN	**Pn**	**20 53 28.1**	**0.0**
ARMT				*e*SN	**Sg**	**20 53 48.4**	**+0.3**
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn	**Pn**	**20 53 28.1**	**0.0**
ARMT				*e*Sn	**Sg**	**20 53 48.4**	**+0.3**

*ISCJB **12** 20:53:12.2±1.0, 13°.4N±0°.1×41°.8E±0°.2, h10km, mb3.6/5, Error ellipse: s-maj=25.0km s-min=18.0km az=170.1*
*IDC **12** 20:53:12.3±1.2, 13°.34N×41°.77E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/58, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=27.4km s-min=15.7km az=67.0*

ISC 12 20:53:13.7±1.1,**13°.3N**±0°.2×**41°.8E**±0°.2,**h10**km,**n6,σ0$27/6,**
mb3.7/5,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.07**	**149**	Pn	**Pn**	**20 53 48.5**	**0.0**
	74nm,0.3s,baz=241,slow=18,SNR=5.2						
ATD				Lg	Lg	20 54 18.7	
	43nm,0.3s,baz=143,slow=23,SNR=4.4						
TORD	**Torodi Ar. Bea**	**38.98**	**275**	P	**P**	**21 00 40.6**	**0.0**
	0.8nm,1.0s,baz=98,slow=8.9,SNR=2.2						
MKAR	**Makanchi Array**	**47.57**	**37**	P	**P**	**21 01 49.5**	**-0.1**
	0.8nm,0.7s,baz=238,slow=7.0,SNR=7.5						
KURBB	**Kurchatov Arra**	**47.69**	**31**	P	**P**	**21 01 50.5**	**+0.1**
	0.4nm,0.7s,baz=231,slow=8.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**52.76**	**30**	P	**P**	**21 02 28.4**	**-0.4**
	0.6nm,0.6s,baz=224,slow=6.2,SNR=3.6						
SONM	**Songino Array**	**63.24**	**43**	P	**P**	**21 03 42.9**	**+0.2**
	0.6nm,0.7s,baz=255,slow=5.7,SNR=3.9						

*IDC **12** 20:58:16.9±1.1, 13°.37N×41°.62E, h0km, mb4.1/21, mb1 4.2/23, mb1mx4.0/62, mbtmp4.1/23, ML4.3/2, Error ellipse: s-maj=23.4km s-min=16.5km az=14.0*
*ISCJB **12** 20:58:17.1±0.6, 13°.41N±0°.09×41°.66E±0°.05, h10km, mb4.0/24, Error ellipse: s-maj=12.5km s-min=7.2km az=5.4*
*NEIC **12** 20:58:18.5±0.6, 13°.43N×41°.68E, h10km, mb4.0/4, Error ellipse: s-maj=12.0km s-min=8.7km az=198.0*

ISC 12 20:58:18.6±0.8,**13°.4N**±0°.1×**41°.68E**±0°.08,**h10**km,**n51,**
σ1$11/52,mb4.0/24,8C-9D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.19**	**148**	Pn	**Pn**	**20 58 55.5**	**+0.4**
	188nm,0.3s,baz=296,slow=18,SNR=31						
DAMY	**Dhamar**	**2.88**	**66**	*e*Pn	**Pn**	**20 59 04.8**	**-0.1**
DAMY				*e*Sn	**Sn**	**20 59 40.2**	**+0.5**
WSAR	**Wadi Sarin**	**18.82**	**56**	P	**P**	**21 02 38.6**	**0.0**
	0.4nm,0.3s,baz=221,slow=1.5,SNR=5.9						
BRTR	**Keskin Array B**	**27.16**	**346**	P	**P**	**21 04 03.5**	**+1.2**
	2.1nm,0.9s,baz=161,slow=7.9,SNR=8.8						
KBZ	**Khabaz**	**30.24**	**2**	P	**P**	**21 04 30.2**	**+0.7**
	2.2nm,0.9s,baz=137,slow=8.3,SNR=4.0						
CFR	**Carcaliu**	**33.70**	**343**	⇑*i*P	**P**	**21 05 00.3**	**+0.5**
HUMR	**Humele**	**34.14**	**339**	⇓*i*P	**P**	**21 05 05.0**	**+1.3**
MLR	**Muntele Rosu**	**34.65**	**340**	P	**P**	**21 05 08.7**	**+0.4**
	1.4nm,0.8s,baz=136,slow=11,SNR=11						
MLR	**Muntele Rosu**	**34.65**	**340**	⇓*i*P	**P**	**21 05 11.5**	**+3.2**
VRI	**Vrincioaia**	**34.74**	**342**	⇑*i*P	**P**	**21 05 11.1**	**+2.1**
PLOR	**Plostina**	**34.75**	**341**	⇑*i*P	**P**	**21 05 09.9**	**+0.8**
VOIR		**34.91**	**339**	⇑*i*P	**P**	**21 05 11.7**	**+1.2**
ARR	**Arges**	**34.99**	**339**	⇓*i*P	**P**	**21 05 11.9**	**+0.7**
LOT	**Lotru**	**35.37**	**338**	⇑*i*P	**P**	**21 05 15.0**	**+0.5**
TAM	**Tamanrasset**	**35.53**	**290**	P	**P**	**21 05 16.5**	**+0.3**
	4.9nm,1.2s						
MDVR	**Moldovita**	**35.60**	**335**	⇑*i*P	**P**	**21 05 16.4**	**0.0**
BZS	**Buzias**	**36.33**	**336**	⇓*i*P	**P**	**21 05 22.4**	**-0.2**
ARCR	**ARCALIA**	**36.58**	**340**	⇑*i*P	**P**	**21 05 26.8**	**+2.1**
KEST	**Kesra**

-1.3810, Plg75.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
DHMR **12** *21:03:23.6±0.6, 13°.55N×42°.24E, h6km±17km, ML5.2*
DSN **12** *21:03:26.8±1.1, 13°.81N×41°.96E, h10km, mb5.9, Error ellipse: s-maj=18.2km s-min=10.4km az=178.0*
ISC 12 21:03:22.3±0.5, **13°.52N**±0.03×**41.70E**±0.03, **h3**km±2km, **h3km:pP-P, n1402,** σ**1**°**35/1387, mb5.6**/276, **MS5.1**/233, **89C-92D, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.28**	**150**	Pn		**Pn**	**21 03 58.1**	**-2.7**
	363nm,0.3s,baz=328,slow=7.9,SNR=33							
ATD				Lg		Lg	21 04 29.0	
	718nm,0.3s,baz=253,slow=21,SNR=7.3							
DAMY	**Dhamar**	**2.81**	**68**	*e*Pn		**Pn**	**21 04 08.2**	**-0.3**
DAMY				*e*Sn		**Sn**	**21 04 41.3**	**-1.8**
DAMY	**Dhamar**	**2.81**	**68**	*e*Pn		**Pn**	**21 04 08.2**	**-0.3**
DAMY				*e*Sn		**Sn**	**21 04 41.4**	**-1.8**
HAJJ	**Hajjah**	**2.84**	**40**	*i* P		**Pn**	**21 04 07.1**	**-1.7**
HAJJ				*i* S		**Sn**	**21 04 41.7**	**-1.9**
HAJJ	**Hajjah**	**2.84**	**40**	*i* P		**Pn**	**21 04 07.1**	**-1.7**
HAJJ				*i* S		**Sn**	**21 04 41.7**	**-1.9**
SANA	**San'a**	**3.05**	**52**	*i* P		**Pn**	**21 04 09.8**	**-2.0**
SANA				*i* S		**Sn**	**21 04 45.2**	**-3.8**
SANA				AML		AML	21 05 06.9	
	comp=E,24μm,0.4s							
FRSS	**Farasan al Kab**	**3.22**	**7**	S		**Sn**	**21 04 51.1**	**-1.7**
FRSS				P		**Pn**	**21 04 11.9**	**-1.9**
ADEN	**Aden**	**3.28**	**103**	*i* P		**Pn**	**21 04 11.4**	**-3.3**
ADEN				*i* S		**Sn**	**21 04 48.5**	**-5.8**
ADEN	**Aden**	**3.28**	**103**	*i* P		**Pn**	**21 04 11.4**	**-3.3**
DJNS	**Zahran al Janu**	**4.52**	**23**	S		**Sn**	**21 05 23.3**	**-1.9**
DJNS				P		**Pn**	**21 04 31.4**	**-0.5**
FURI	**Furi**	**5.47**	**213**	P		**Pn**	**21 04 44.7**	**-0.3**
FURI				S		**Sb**	**21 06 10.9**	**+6.0**
NAMS	**An Nimas**	**5.64**	**5**	P		**Pn**	**21 04 48.2**	**+0.9**
TATS	**Tathlith**	**6.22**	**16**	P		Pn	21 05 01.2	+6.0
BLJS	**Baljurashi**	**6.40**	**359**	P		**Pn**	**21 04 58.4**	**+0.6**
LTHS	**Al Lith**	**6.83**	**350**	P		Pn	**21 05 02.5**	**-0.9**
KMBO	**Kilima Mbogo**	**15.21**	**197**	Pn		**Pn**	**21 06 57.5**	**-0.9**
	comp=E,0.3nm,0.3s,baz=16,slow=12,SNR=20							
KMBO				Lg		Lg	21 11 13.2	
	comp=E,0.2nm,0.3s,baz=282,slow=22,SNR=6.8							
KMBO				LR		LR	21 12 40.2	
	comp=E,15μm,19.4s,baz=16,slow=37							
KMBO	**Kilima Mbogo**	**15.21**	**197**	*e*P		**Pn**	**21 06 56.8**	**-1.6**
KMBO	**Kilima Mbogo**	**15.21**	**197**	P		**Pn**	**21 06 59.2**	**+0.8**
	SNR=9.3							
KMBO	**Kilima Mbogo**	**15.21**	**197**	*e*Pn		**Pn**	**21 06 56.8**	**-1.6**
KMBO	**Kilima Mbogo**	**15.21**	**197**	*e*Pn		**Pn**	**21 06 56.8**	**-1.6**
KMBO				*e*S		**S**	**21 10 08.4**	**+3.5**
FAQ	**Al Faqa, Dubai**	**17.21**	**48**	*i* P		**Pn**	**21 07 23.3**	**-0.6**
	SNR=28							
FAQ	**Al Faqa, Dubai**	**17.21**	**48**	P		**Pn**	**21 07 24.3**	**+0.4**
FAQ	**Al Faqa, Dubai**	**17.21**	**48**	P		**Pn**	**21 07 23.3**	**-0.6**
	SNR=28							
EIL	**Elat**	**17.24**	**340**	P		**P**	**21 07 25.4**	**-0.4**
	comp=E,0.4nm,0.3s,baz=153,slow=9.8,SNR=17							
EIL				LR		LR	21 12 37.8	
	comp=E,7μm,21.0s,baz=162,slow=32							
NAZ	**Nazwa, Dubai**	**17.41**	**47**	*i* P		**Pn**	**21 07 25.5**	**-0.9**
	SNR=54							
NAZ	**Nazwa, Dubai**	**17.41**	**47**	P		**Pn**	**21 07 26.2**	**-0.2**
NAZ	**Nazwa, Dubai**	**17.41**	**47**	P		**Pn**	**21 07 25.5**	**-0.9**
	SNR=54							
ASHO	**Ashiyiah**	**17.51**	**49**	*i* P		**Pn**	**21 07 26.7**	**-1.0**
	SNR=86							
ASHO	**Ashiyiah**	**17.51**	**49**	P		**Pn**	**21 07 27.3**	**-0.4**
	SNR=50							
ASHO	**Ashiyiah**	**17.51**	**49**	P		**Pn**	**21 07 26.7**	**-1.0**
	SNR=86							
HATD	**Hatta, Dubai**	**17.65**	**48**	*i* P		**Pn**	**21 07 28.6**	**-0.8**
	SNR=52							
HATD	**Hatta, Dubai**	**17.65**	**48**	P		**Pn**	**21 07 28.6**	**-0.8**
	SNR=52							
UOSS	**Minazif**	**17.78**	**48**	*e*Pn		**Pn**	**21 07 29.8**	**-1.1**
	comp=E,182nm,1.8s							
UOSS	**Minazif**	**17.78**	**48**	P		**Pn**	**21 07 30.4**	**-0.5**
	SNR=51							
UOSS	**Minazif**	**17.78**	**48**	*e*Pn		**Pn**	**21 07 29.8**	**-1.1**
	comp=E,182nm,1.8s							
UOSS				*e*Sn		**Sn**	**21 10 52.7**	**+3.1**
SMDO	**Samad**	**18.18**	**56**	P		**Pn**	**21 07 35.9**	**-0.1**
	SNR=60							
BANOM	**Banah**	**18.45**	**46**	*i* P		**Pn**	**21 07 38.0**	**-1.2**
	SNR=47							
BANOM	**Banah**	**18.45**	**46**	P		**P**	**21 07 39.7**	**+0.5**
	SNR=27							
BANOM	**Banah**	**18.45**	**46**	P		**Pn**	**21 07 38.0**	**-1.2**
	SNR=47							
BIDO	**Bidbid**	**18.46**	**55**	P		**Pn**	**21 07 39.8**	**+0.4**
	SNR=59							
WSAR	**Wadi Sarin**	**18.73**	**57**	P		**Pn**	**21 07 42.8**	**+0.1**
	comp=E,1.7nm,0.3s,baz=262,slow=9.9,SNR=63							
WSAR				S		**S**	**21 11 15.5**	**-0.8**
	comp=E,0.1nm,0.3s,baz=69,slow=6.0,SNR=1.6							
WSAR				Lg		Lg	21 13 37.5	
	comp=E,0.1nm,0.3s,baz=300,slow=20,SNR=1.8							
WSAR				LR		LR	21 15 59.2	
	comp=E,17μm,18.8s,baz=252,slow=40							
ASF	**Jabal al Asfar**	**19.08**	**347**	P		**Pn**	**21 07 47.6**	**+0.7**
	comp=E,0.3nm,0.3s,baz=119,slow=5.9,SNR=41							
ASF				LR		LR	21 14 25.9	
	comp=E,8μm,18.9s,baz=128,slow=35							
SALA	**Sala**	**19.63**	**347**	*e*P		**P**	**21 07 47.1**	**-5.2**
ZALF	**Zalf**	**19.72**	**349**	*e*P		**P**	**21 07 48.3**	**-4.8**
TCHB	**Talchebab**	**19.77**	**346**	*e*P		**P**	**21 07 48.5**	**-5.1**
MMAI	**Mount Meron Ar**	**20.24**	**345**	P		Pn	21 08 01.0	+0.3
	comp=E,74nm,1.1s,baz=166,slow=10,SNR=42							
MMAI				LR		LR	21 14 38.5	
	comp=E,5μm,20.0s,baz=180,slow=33							
MMAI	**Mount Meron Ar**	**20.24**	**345**	P		Pn	21 08 01.0	+0.3
TOTH	**TOTAH**	**20.32**	**347**	*e*P		**P**	**21 07 56.5**	**-3.3**
BRBR	**Barbar**	**20.48**	**346**	*e*P		**P**	**21 07 56.8**	**-4.8**
QASN	**Qassioun**	**20.52**	**347**	*e*P		**P**	**21 07 57.9**	**-4.0**
RCY	**Rachaya**	**20.59**	**346**	*e*P		Pn	21 08 04.6	-0.3
DQRL	**Deir Qamar**	**20.85**	**346**	*e*P		Pn	21 08 07.8	-0.1
BHL	**Bhannes**	**21.02**	**346**	*e*P		**P**	**21 08 08.9**	**+1.6**
BHL	**Bhannes**	**21.02**	**346**	*e*P		**P**	**21 08 08.9**	**+1.6**
HWQ	**Hawqa**	**21.31**	**347**	*e*P		**P**	**21 08 12.0**	**+1.5**
HWQ	**Hawqa**	**21.31**	**347**	*e*P		**P**	**21 08 12.0**	**+1.5**
MZRK	**Al-Mazaregh**	**22.23**	**358**	*e*P		**P**	**21 08 16.5**	**-3.7**
MNKR	**ALMNKUR**	**22.43**	**355**	*e*P		**P**	**21 08 18.9**	**-3.4**
SZAC	**Souni**	**22.59**	**341**	P		**P**	**21 08 26.0**	**+1.9**
CSS	**Mathiatis**	**22.65**	**342**	P		**P**	**21 08 25.6**	**+0.9**
CSS	**Mathiatis**	**22.65**	**342**	P		**P**	**21 08 24.9**	**+0.2**
CSS	**Mathiatis**	**22.65**	**342**	*e*P		**P**	**21 08 24.0**	**-0.6**
	comp=E,83nm,1.4s							
CSS	**Mathiatis**	**22.65**	**342**	*e*P		**P**	**21 08 24.1**	**-0.6**
	comp=E,83nm,1.4s							
CSS				LR		LR		
	comp=Z,800nm,22.0s							
SFNV	**Sufian**	**22.84**	**357**	*e*P		**P**	**21 08 23.5**	**-3.3**
MAMC	**Mammari**	**22.88**	**342**	P		**P**	**21 08 29.2**	**+2.2**
BTCH	**Batrach**	**22.91**	**349**	*e*P		**P**	**21 08 24.2**	**-3.3**
AKMC	**Akamas**	**23.02**	**340**	P		**P**	**21 08 30.0**	**+1.4**
KBSD	**Kabsdagh**	**23.40**	**358**	*e*P		**P**	**21 08 29.3**	**-3.2**
DRWC	**Darouich**	**23.44**	**350**	*e*P		**P**	**21 08 29.6**	**-3.3**
KSL	**Kastellorizon**	**25.02**	**336**	P		**P**	**21 08 48.5**	**+0.9**
KSL	**Kastellorizon**	**25.02**	**336**	*e*P		**P**	**21 08 48.5**	**+0.9**
KARP	**Karpathos**	**25.55**	**332**	P		**P**	**21 08 52.6**	**+0.2**
KARP	**Karpathos**	**25.55**	**332**	*e*P		**P**	**21 08 50.6**	**-1.8**
	comp=Z,251nm,1.3s							
KARP	**Karpathos**	**25.55**	**332**	*e*P		**P**	**21 08 50.6**	**-1.8**
	comp=Z,251nm,1.3s							
KARP				LR		LR		
	comp=Z,600nm,22.0s							
FETY	**Fethiye**	**25.64**	**336**	P		**P**	**21 08 47.1**	**-6.2**
FETY	**Fethiye**	**25.64**	**336**	P		**P**	**21 08 47.1**	**-6.2**
ZKR	**Zakros**	**25.64**	**330**	P		**P**	**21 08 54.6**	**+1.3**
ZKR	**Zakros**	**25.64**	**330**	*e*P		**P**	**21 08 54.6**	**+1.3**
ZKR	**Zakros**	**25.64**	**330**	*e*P		**P**	**21 08 54.6**	**+1.3**
LAST	**Lasithi**	**26.05**	**329**	*e*P		**P**	**21 08 57.6**	**+0.5**
	comp=Z,197nm,1.3s							
LAST	**Lasithi**	**26.05**	**329**	*e*P		**P**	**21 08 57.6**	**+0.5**
	comp=Z,197nm,1.3s							
LAST				LR		LR		
	comp=Z,1μm,18.0s							
SIVA	**Sivas**	**26.28**	**327**	P		**P**	**21 08 59.8**	**+0.7**
SIVA	**Sivas**	**26.28**	**327**	P		**P**	**21 08 59.8**	**+0.7**
SIVA	**Sivas**	**26.28**	**327**	P		**P**	**21 08 59.8**	**+0.7**
YER	**Yerkesik**	**26.39**	**335**	P		**P**	**21 09 00.1**	**0.0**
YER	**Yerkesik**	**26.39**	**335**	*e*P		**P**	**21 09 00.1**	**0.0**
YER	**Yerkesik**	**26.39**	**335**	*e*P		**P**	**21 09 00.1**	**0.0**
IDI	**Anoyia**	**26.45**	**328**	*e*P		**P**	**21 08 59.9**	**-0.8**
	comp=Z,138nm,1.1s							
IDI	**Anoyia**	**26.45**	**328**	*e*P		**P**	**21 08 59.9**	**-0.8**
	comp=Z,138nm,1.1s							
IDI				LR		LR		
	comp=Z,700nm,19.0s							
GNI	**Garni**	**26.66**	**5**	P		**P**	**21 09 04.2**	**+1.6**
	comp=Z,73nm,0.9s,baz=212,slow=1.9,SNR=59							
GNI				LR		LR	21 19 42.6	
	comp=Z,4μm,21.3s,baz=184,slow=37							
GNI	**Garni**	**26.66**	**5**	*i* P		**P**	**21 09 04.7**	**+2.1**
	SNR=49							
GNI	**Garni**	**26.66**	**5**	*d* P		**P**	**21 09 04.4**	**+1.8**
GNI	**Garni**	**26.66**	**5**	P		**P**	**21 09 06.0**	**+3.4**
	SNR=51							
GNI	**Garni**	**26.66**	**5**	P		**P**	**21 09 04.7**	**+2.1**
	SNR=49							
GNI	**Garni**	**26.66**	**5**	*e*P		**P**	**21 09 05.0**	**+2.4**
	comp=Z,241nm,1.3s							
GNI				LR		LR		
	comp=Z,4μm,21.0s							
SANT	**Santorini**	**27.02**	**330**	PFAKE			21 09 20.0	+14
SANT				LR		LR		
	comp=Z,763nm,22.0s							
BR101	**Keskin Array S**	**27.05**	**346**	*e*P		**P**	**21 09 07.5**	**+1.4**
BR101	**Keskin Array S**	**27.05**	**346**	*e*PcP		**PcP**	**21 12 27.1**	**-0.3**
BR101	**Keskin Array S**	**27.05**	**346**	*e*P		**P**	**21 09 07.5**	**+1.4**
BR101				*e*PcP		**PcP**	**21 12 27.1**	**-0.3**
BR131	**Keskin Array S**	**27.05**	**346**	*e*P		**P**	**21 09 07.4**	**+1.3**
BR131	**Keskin Array S**	**27.05**	**346**	*e*P		**P**	**21 09 07.4**	**+1.3**
BRTR	**Keskin Array B**	**27.05**	**346**	P		**P**	**21 09 07.5**	**+1.3**
	comp=Z,69nm,1.1s,baz=169,slow=4.3,SNR=82							
BRTR				PcP		**PcP**	**21 12 27.1**	**-0.3**
	comp=Z,6.9nm,0.9s,baz=146,slow=5.1,SNR=8.7							
BRTR				LR		LR	21 19 35.4	
	comp=Z,3μm,18.6s,baz=146,slow=36							
BR231	**Keskin MP Arra**	**27.37**	**345**	*e*P		**P**	**21 09 07.2**	**-1.7**
BR231	**Keskin MP Arra**	**27.37**	**345**	*e*P		**P**	**21 09 07.2**	**-1.7**
ANTO	**Ankara**	**27.39**	**345**	*e*P		**P**	**21 09 10.0**	**+0.9**
ANTO				pmax		pmax		
	comp=Z,210nm,1.2s							
ANTO	**Ankara**	**27.39**	**345**	*e*P		**P**	**21 09 10.0**	**+0.9**
	comp=Z,209nm,1.3s							
ANTO	**Ankara**	**27.39**	**345**	*e*P		**P**	**21 09 10.0**	**+0.9**
	comp=Z,209nm,1.3s							
ANTO				LR		LR		
	comp=Z,1μm,22.0s							
KULA	**Kula-Manisa**	**27.45**	**337**	P		**P**	**21 09 09.0**	**-0.6**
KULA	**Kula-Manisa**	**27.45**	**337**	P		**P**	**21 09 09.0**	**-0.6**
KULA	**Kula-Manisa**	**27.45**	**337**	P		**P**	**21 09 09.0**	**-0.6**
BGD	**Bogdanovka**	**27.69**	**3**	P		**P**	**21 09 13.9**	**+2.0**
AKH	**Akhalkalaki**	**27.83**	**3**	P		**P**	**21 09 15.3**	**+2.2**
AKH	**Akhalkalaki**	**27.83**	**3**	P		**P**	**21 09 15.3**	**+2.2**
BHJ	**Bhuj**	**28.19**	**66**	*e*P		**P**	**21 09 16.3**	**0.0**
TBLG	**Delisi**	**28.23**	**5**	P		**P**	**21 09 18.4**	**+1.9**
TBLG	**Delisi**	**28.23**	**5**	P		**P**	**21 09 18.4**	**+1.9**
GEYT	**Alibeck**	**28.36**	**28**	P		**P**	**21 09 19.1**	**+1.4**
	comp=Z,16nm,0.9s,baz=224,slow=7.9,SNR=34							
GEYT				LR		LR	21 21 51.7	
	comp=Z,6μm,18.1s,baz=205,slow=39							
GUDG	**Gudauri**	**28.94**	**4**	P		**P**	**21 09 25.4**	**+2.4**
KRND	**KRANIDI**	**28.96**	**328**	P		**P**	**21 09 19.8**	**-3.2**
KRND	**KRANIDI**	**28.96**	**328**	P		**P**	**21 09 19.8**	**-3.2**
VLY	**Voula,Athens**	**29.00**	**330**	P		**P**	**21 09 22.3**	**-1.1**
VLY	**Voula,Athens**	**29.00**	**330**	*e*P		**P**	**21 09 22.3**	**-1.1**
VLY	**Voula,Athens**	**29.00**	**330**	*e*P		**P**	**21 09 22.3**	**-1.1**
ONI	**Oni**	**29.00**	**3**	P		**P**	**21 09 24.3**	**+0.9**
ONI	**Oni**	**29.00**	**3**	P		**P**	**21 09 24.3**	**+0.9**
DID	**Didima**	**29.01**	**329**	P		**P**	**21 09 19.8**	**-3.7**
DID	**Didima**	**29.01**	**329**	*e*P		**P**	**21 09 19.8**	**-3.7**
PRK	**Paraskevi**	**29.02**	**335**	P		**P**	**21 09 23.5**	**0.0**
PRK	**Paraskevi**	**29.02**	**335**	P		**P**	**21 09 23.5**	**0.0**
PRK	**Paraskevi**	**29.02**	**335**	P		**P**	**21 09 23.5**	**0.0**
PRK	**Paraskevi**	**29.02**	**335**	P		**P**	**21 09 23.5**	**0.0**
CHVG	**Ch'k'valeri**	**29.09**	**1**	P		**P**	**21 09 26.1**	**+1.9**
ATHU	**Athens Univers**	**29.09**	**330**	P		**P**	**21 09 23.4**	**-0.8**
ATHU	**Athens Univers**	**29.09**	**330**	*e*P		**P**	**21 09 23.4**	**-0.8**
ATHU	**Athens Univers**	**29.09**	**330**	*e*P		**P**	**21 09 23.4**	**-0.8**
PTL	**Penteli**	**29.12**	**330**	P		**P**	**21 09 23.4**	**-1.1**
PTL	**Penteli**	**29.12**	**330**	*e*P		**P**	**21 09 23.4**	**-1.1**
PTL	**Penteli**	**29.12**	**330**	*e*P		**P**	**21 09 23.4**	**-1.1**
SIGR	**SIGRI**	**29.16**	**334**	P		**P**	**21 09 22.7**	**-2.1**
SIGR	**SIGRI**	**29.16**	**334**	*e*P		**P**	**21 09 22.7**	**-2.1**
SIGR	**SIGRI**	**29.16**	**334**	*e*P		**P**	**21 09 22.7**	**-2.1**
ZEI	**Tsey**	**29.22**	**3**	*e*P		**P**	**21 09 26.0**	**+0.4**
ZEI				pmax		pmax		
	comp=Z,238nm,1.0s							
PYL	**PYLOS**	**29.33**	**326**	P		**P**	**21 09 24.7**	**-1.7**
PYL	**PYLOS**	**29.33**	**326**	*e*P		**P**	**21 09 24.7**	**-1.7**
PYL	**PYLOS**	**29.33**	**326**	*e*P		**P**	**21 09 24.7**	**-1.7**
EREA	**Eretria**	**29.38**	**331**	P		**P**	**21 09 26.0**	**-0.8**
EREA	**Eretria**	**29.38**	**331**	P		**P**	**21 09 26.0**	**-0.8**
ITM	**Ithomi**	**29.44**	**327**	P		**P**	**21 09 25.6**	**-1.8**
ITM	**Ithomi**	**29.44**	**327**	P		**P**	**21 09 25.6**	**-1.8**
ITM	**Ithomi**	**29.44**	**327**	P		**P**	**21 09 25.6**	**-1.8**
VILL	**Villia**	**29.48**	**330**	P		**P**	**21 09 26.4**	**-1.3**
VILL	**Villia**	**29.48**	**330**	P		**P**	**21 09 26.4**	**-1.3**
LTK	**Loutraki**	**29.54**	**329**	P		**P**	**21 09 27.1**	**-1.1**
LTK	**Loutraki**	**29.54**	**329**	*e*P		**P**	**21 09 27.1**	**-1.1**
LTK	**Loutraki**	**29.54**	**329**	*e*P		**P**	**21 09 27.1**	**-1.1**
ISK	**Istanbul-Kandi**	**29.58**	**340**	P		**P**	**21 09 28.0**	**-0.5**
ISK	**Istanbul-Kandi**	**29.58**	**340**	P		**P**	**21 09 28.0**	**-0.5**
ISK	**Istanbul-Kandi**	**29.58**	**340**	P		**P**	**21 09 28.0**	**-0.5**
ISK	**Istanbul-Kandi**	**29.58**	**340**	P		**P**	**21 09 28.0**	**-0.5**
NEY	**Neytrino**	**29.63**	**2**	*c i* P		**P**	**21 09 31.7**	**+2.5**
NEY				pmax		pmax		
	comp=Z,34nm,1.5s							
THAL	**Thalero**	**29.71**	**329**	P		**P**	**21 09 28.4**	**-1.2**
THAL	**Thalero**	**29.71**	**329**	P		**P**	**21 09 28.4**	**-1.2**
NCK	**Nalchik**	**29.91**	**3**	*c i* P		**P**	**21 09 33.8**	**+2.4**
NCK				pmax		pmax		
	comp=Z,138nm,1.8s							
GADA	**Gvkgeada**	**29.97**	**335**	P		**P**	**21 09 32.8**	**+0.8**
GADA	**Gvkgeada**	**29.97**	**335**	P		**P**	**21 09 32.8**	**+0.8**
GADA	**Gvkgeada**	**29.97**	**335**	*e*P		**P**	**21 09 32.8**	**+0.8**
KLV	**Kalavryta, Ach**	**29.97**	**328**	P		**P**	**21 09 28.9**	**-3.2**
KLV	**Kalavryta, Ach**	**29.97**	**328**	P		**P**	**21 09 28.9**	**-3.2**
KLV	**Kalavryta, Ach**	**29.97**	**328**	P		**P**	**21 09 28.9**	**-3.2**
SOC	**Sochi**	**30.00**	**357**	*c i* P		**P**	**21 09 33.0**	**+0.8**
SOC				*e*			21 10 27.8	
SOC				*e*PPP		PPP	21 10 36.4	
SOC				*e*S		**S**	**21 14 33.0**	**+2.2**
SOC				*e*SSS		SSS	21 16 19.9	
SOC				pmax		pmax		
	comp=Z,28nm,0.8s							
SOC				MLR		MLR		
	comp=Z,7μm,13.0s							
LKR	**Lokris**	**30.01**	**330**	P		**P**	**21 09 31.5**	**-0.9**
LKR	**Lokris**	**30.01**	**330**	P		**P**	**21 09 31.5**	**-0.9**
LKR	**Lokris**	**30.01**	**330**	P		**P**	**21 09 31.5**	**-0.9**
LIA	**Limnos Island**	**30.02**	**334**	P		**P**	**21 09 32.8**	**+0.4**
LIA	**Limnos Island**	**30.02**	**334**	P		**P**	**21 09 32.8**	**+0.4**
LIA	**Limnos Island**	**30.02**	**334**	P		**P**	**21 09 32.8**	**+0.4**
ATAL	**Atalanti**	**30.04**	**330**	P		**P**	**21 09 31.4**	**-1.2**
ATAL	**Atalanti**	**30.04**	**330**	P		**P**	**21 09 31.4**	**-1.2**
ATAL	**Atalanti**	**30.04**	**330**	*e*P		**P**	**21 09 31.4**	**-1.2**
DSF	**Desfina**	**30.06**	**329**	P		**P**	**21 09 30.7**	**-2.2**
DSF	**Desfina**	**30.06**	**329**	*e*P		**P**	**21 09 30.7**	**-2.2**
DSF	**Desfina**	**30.06**	**329**	*e*P		**P**	**21 09 30.7**	**-2.2**
SMIA	**Simia**	**30.09**	**330**	P		**P**	**21 09 33.8**	**+0.7**
SMIA	**Simia**	**30.09**	**330**	P		**P**	**21 09 33.8**	**+0.7**
KBZ	**Khabaz**	**30.12**	**2**	P		**P**	**21 09 34.4**	**+1.2**
	comp=Z,69nm,1.1s,baz=190,slow=6.9,SNR=60							
KBZ				LR		LR	21 22 25.0	
	comp=Z,4μm,18.4s,baz=192,slow=38							
DRO	**Drossia**	**30.13**	**327**	P		**P**	**21 09 31.2**	**-2.3**
DRO	**Drossia**	**30.13**	**327**	P		**P**	**21 09 31.2**	**-2.3**
LAKA	**Lakka**	**30.21**	**328**	P		**P**	**21 09 31.3**	**-2.9**
LAKA	**Lakka**	**30.21**	**328**	P		**P**	**21 09 31.3**	**-2.9**
LAKA	**Lakka**	**30.21**	**328**	P		**P**	**21 09 31.3**	**-2.9**
KALE	**Kalithea**	**30.24**	**329**	P		**P**	**21 09 33.9**	**-0.6**
KALE	**Kalithea**	**30.24**	**329**	P		**P**	**21 09 33.9**	**-0.6**
KALE	**Kalithea**	**30.24**	**329**	*e*P		**P**	**21 09 33.9**	**-0.6**
SERG	**Sergoula**	**30.30**	**328**	P		**P**	**21 09 33.8**	**-1.2**
SERG	**Sergoula**	**30.30**	**328**	P		**P**	**21 09 33.8**	**-1.2**
KIV	**Kislovodsk**	**30.34**	**1**	*i* P		**P**	**21 09 36.3**	**+1.0**
	SNR=27							
KIV	**Kislovodsk**	**30.34**	**1**	*i* P		**P**	**21 09 36.3**	**+1.0**
KIV				pmax		pmax		
	comp=Z,243nm,1.3s							
KIV	**Kislovodsk**	**30.34**	**1**	P		**P**	**21 09 37.4**	**+2.1**
	SNR=49							
KIV				P		**P**	**21 09 37.4**	**+2.1**
	SNR=49							
KIV				P		**P**	**21 09 37.4**	**+2.1**
	SNR=49							
KIV	**Kislovodsk**	**30.34**	**1**	*e*P		**P**	**21 09 36.2**	**+1.0**
	comp=Z,238nm,1.2s							
KIV	**Kislovodsk**	**30.34**	**1**	*e*P		**P**	**21 09 36.2**	**+1.0**
	comp=Z,238nm,1.2s							
KIV				LR		LR		
	comp=Z,3μm,20.0s							
RLS	**Riolos of Patr**	**30.34**	**327**	P		**P**	**21 09 34.9**	**-0.3**
RLS	**Riolos of Patr**	**30.34**	**327**	P		**P**	**21 09 34.9**	**-0.3**
RLS	**Riolos of Patr**	**30.34**	**327**	P		**P**	**21 09 34.9**	**-0.3**
SMTH	**Samothraki Isl**	**30.36**	**335**	P		**P**	**21 09 34.8**	**-0.6**
SMTH	**Samothraki Isl**	**30.36**	**335**	P		**P**	**21 09 34.8**	**-0.6**
SMTH	**Samothraki Isl**	**30.36**	**335**	*e*P		**P**	**21 09 34.8**	**-0.6**
EFP	**Efpalio**	**30.39**	**328**	P		**P**	**21 09 34.7**	**-1.0**
EFP	**Efpalio**	**30.39**	**328**	P		**P**	**21 09 34.7**	**-1.0**
NEO	**Neokhori**	**30.42**	**331**	P		**P**	**21 09 35.6**	**-0.4**
NEO	**Neokhori**	**30.42**	**331**	P		**P**	**21 09 35.6**	**-0.4**
NEO	**Neokhori**	**30.42**	**331**	P		**P**	**21 09 35.6**	**-0.4**
AXS	**Araxos**	**30.49**	**327**	P		**P**	**21 09 36.4**	**-0.2**
AXS	**Araxos**	**30.49**	**327**	P		**P**	**21 09 36.4**	**-0.2**
ANX	**Ano Chora**	**30.51**	**329**	P		**P**	**21 09 35.9**	**-1.0**
ANX	**Ano Chora**	**30.51**	**329**	P		**P**	**21 09 35.9**	**-1.0**
ALN	**Alexandroupoli**	**30.52**	**336**	P		**P**	**21 09 35.7**	**-1.0**
ALN	**Alexandroupoli**	**30.52**	**336**	P		**P**	**21 09 35.7**	**-1.0**
ALN	**Alexandroupoli**	**30.52**	**336**	P		**P**	**21 09 35.7**	**-1.0**
ALN	**Alexandroupoli**	**30.52**	**336**	P		**P**	**21 09 35.7**	**-1.0**
AGG	**Agios Georgios**	**30.63**	**330**	P		**P**	**21 09 36.2**	**-1.7**
AGG	**Agios Georgios**	**30.63**	**330**	P		**P**	**21 09 36.2**	**-1.7**
AGG	**Agios Georgios**	**30.63**	**330**	P		**P**	**21 09 36.2**	**-1.7**
AGG	**Agios Georgios**	**30.63**	**330**	P		**P**	**21 09 36.2**	**-1.7**
FYTO	**Fytoko, Volos**	**30.64**	**331**	P		**P**	**21 09 37.7**	**-0.2**
FYTO	**Fytoko, Volos**	**30.64**	**331**	P		**P**	**21 09 37.7**	**-0.2**
FYTO	**Fytoko, Volos**	**30.64**	**331**	*e*P		**P**	**21 09 37.7**	**-0.2**
PVO	**Paravola**	**30.73**	**328**	P		**P**	**21 09 37.2**	**-1.5**
PVO	**Paravola**	**30.73**	**328**	P		**P**	**21 09 37.2**	**-1.5**
KFL	**Anninata**	**30.74**	**327**	P		**P**	**21 09 39

comp=Z,159nm,1.2s
TIRR Tirgusor 32.85 342 *e*P **P 21 09 57.6 +0.3**
comp=Z,159nm,1.2s
TIRR LR LR
comp=Z,1μm,19.0s
OHR Ohrid 32.99 330 *i* P **P 21 09 59.2 +0.6**
OHR Ohrid 32.99 330 *i* P **P 21 09 59.2 +0.6**
ZIMR 33.15 338⇓*i*P **P 21 10 00.8 +1.0**
HARR Harsova 33.21 342⇓*i*P **P 21 10 01.9 +1.5**
AMRR Amara 33.32 341⇑*i*P **P 21 10 03.9 +2.5**
SKO Skopje 33.36 332 P **P 21 10 01.3 -0.5**
SKO Skopje 33.36 332 *i* P **P 21 10 02.4 +0.6**
SKO Skopje 33.36 332 *e*P **P 21 10 01.3 -0.5**
SKO Skopje 33.36 332 P **P 21 10 01.3 -0.5**
SKO Skopje 33.36 332 *e*P **P 21 10 01.3 -0.5**
TLCR 33.41 343⇓*i*P **P 21 10 02.5 +0.4**
MPEP Malo Peshtene 33.51 336 *i* P **P 21 10 03.3 +0.3**
CFR Carcaliu 33.59 343⇑*i*P **P 21 10 04.2 +0.5**
TIR Tirane 33.62 330 *e*P **P 21 10 03.3 -0.8**
TIR pmax pmax
comp=Z,260nm,1.4s
TIR Tirane 33.62 330 *e*P **P 21 10 03.2 -0.8**
comp=Z,258nm,1.4s
TIR Tirane 33.62 330 *e*P **P 21 10 03.2 -0.8**
comp=Z,258nm,1.4s
TIR LR LR
comp=Z,829nm,21.0s
PGOR Pogoanele 33.70 341⇑*i*P **P 21 10 06.1 +1.5**
TIP Timpagrande 33.73 324 P **P 21 10 01.3 -3.8**
TIP Timpagrande 33.73 324 *e*P **P 21 10 05.2 +0.1**
comp=Z,124nm,1.4s
TIP Timpagrande 33.73 324 *e*P **P 21 10 05.2 +0.1**
comp=Z,124nm,1.4s
TIP LR LR
comp=Z,1μm,19.0s
SULR 33.73 340⇑*i*P **P 21 10 05.5 +0.6**
KLRI Killari 33.85 78 *e*P **P 21 10 06.3 -0.1**
KLRI IAmb IAmb 21 10 08.2
comp=Z,94nm,1.3s
KLRI *e* 21 15 24.2
KLRI *e*S **S 21 15 31.4 -0.2**
BARS Barje 33.87 333⇓*i*P **P 21 10 05.4 -0.8**
ISR Istrita 34.03 341⇓*i*P **P 21 10 09.3 +1.7**
HUMR Humele 34.04 338⇑*i*P **P 21 10 08.5 +0.9**
VAE Valguarnera 34.06 319 P **P 21 10 10.0 +2.0**
comp=Z,29nm,1.1s,baz=358,slow=4.6,SNR=7.5
SECR 34.11 340⇓*i*P **P 21 10 10.5 +2.2**
PETR Petresti 34.35 342⇓*i*P **P 21 10 10.8 +0.5**
ODBI Odobesti 34.44 342⇑*i*P **P 21 10 12.8 +1.7**
PVY Plav 34.53 331⇓*i*P **P 21 10 11.7 -0.4**
PVY Plav 34.53 331⇓*i*P **P 21 10 11.8 -0.4**
MLR Muntele Rosu 34.55 340 P **P 21 10 13.3 +1.1**
comp=Z,12nm,0.8s,baz=166,slow=4.2,SNR=57
MLR PcP **PcP 21 12 46.0 -1.1**
comp=Z,3.3nm,1.1s,baz=208,slow=3.3,SNR=3.5
MLR Muntele Rosu 34.55 340⇑*i*P **P 21 10 13.8 +1.6**
MLR Muntele Rosu 34.55 340 *e*P **P 21 10 13.4 +1.1**
MLR pmax pmax
comp=Z,130nm,1.1s
MLR Muntele Rosu 34.55 340 *e*P **P 21 10 13.4 +1.1**
comp=Z,134nm,1.1s
MLR Muntele Rosu 34.55 340 *e*P **P 21 10 13.3 +1.1**
comp=Z,134nm,1.1s
MLR *e*PcP **PcP 21 12 46.0 -1.1**
MLR LR LR
comp=Z,2μm,19.0s
BOVS Bovan 34.57 334 *e*P **P 21 10 11.7 -0.6**
DRME Dracevica, Mon 34.59 330⇓*i*P **P 21 10 12.7 +0.3**
DRME Dracevica, Mon 34.59 330⇓*i*P **P 21 10 12.8 +0.3**
MTUR Mateau 34.62 339⇓*i*P **P 21 10 13.8 +1.0**
VRI Vrincioaia 34.64 341⇓*i*P **P 21 10 14.1 +1.3**
PLOR Plostina 34.65 341⇑*i*P **P 21 10 14.5 +1.5**
PDG Podgorica 34.74 330 P **P 21 10 13.2 -0.5**
PDG Podgorica 34.74 330 P **P 21 10 13.2 -0.5**
TTG Podgorica 34.74 330⇓*i*P **P 21 10 14.0 +0.3**
TTG Podgorica 34.74 330 P **P 21 10 13.2 -0.5**
TTG Podgorica 34.74 330 P **P 21 10 13.2 -0.5**
TTG Podgorica 34.74 330 P **P 21 10 13.2 -0.5**
LEOM Leova 34.75 344⇑*i*P **P 21 10 14.0 +0.3**
BEY Berane 34.78 331⇓*i*P **P 21 10 13.4 -0.8**
IVA Berane 34.78 331⇓*i*P **P 21 10 13.3 -0.9**
VOIR 34.80 339⇓*i*P **P 21 10 15.2 +0.8**
SRE Strehaia 34.81 337⇑*i*P **P 21 10 15.6 +1.2**
CUC Castrocucco 34.81 324 *e*P **P 21 10 14.5 0.0**
comp=Z,63nm,1.6s
CUC Castrocucco 34.81 324 *e*P **P 21 10 14.5 0.0**
comp=Z,63nm,1.6s
CUC LR LR
comp=Z,1μm,22.0s
BUM Brajici-Budva 34.82 330⇓*i*P **P 21 10 14.6 +0.1**
BUM Brajici-Budva 34.82 330⇓*i*P **P 21 10 14.6 +0.1**
CLTB Caltabellotta 34.88 319 *e*P **P 21 10 10.5 -4.7**
comp=Z,96nm,1.1s
CLTB LR LR
comp=Z,2μm,20.0s
ARR Arges 34.89 339⇑*i*P **P 21 10 15.8 +0.7**
CEME Cevo 34.99 330⇓*i*P **P 21 10 16.2 +0.2**
CEME Cevo 34.99 330⇓*i*P **P 21 10 16.2 +0.2**
KIS Kishinev 35.08 345 *e*P **P 21 10 17.0 +0.4**
comp=Z,600nm,1.9s
KIS Kishinev 35.08 345 *e*PP PP 21 11 35.0 -1.1
KIS *e*S **S 21 15 52.0 +2.3**
KIS LRM MLR 21 27 04.0
comp=Z,1μm,16.0s
KIS Kishinev 35.08 345 *e*P **P 21 10 17.0 +0.4**
KIS *e* 21 11 35.0
KIS *e*S **S 21 15 52.0 +2.3**
KIS pmax pmax
comp=Z,600nm,1.9s
KIS MLR MLR
comp=Z,1μm,15.0s
KIS Kishinev 35.08 345 *e*P **P 21 10 17.0 +0.4**
comp=Z,600nm,1.9s
KIS Kishinev 35.08 345 *e*PP PP 21 11 35.0 -1.1
HCY Herceg Novi 35.12 330⇓*i*P **P 21 10 17.2 +0.1**
HCY Herceg Novi 35.12 330⇓*i*P **P 21 10 17.2 +0.1**
NKME Niksic 35.14 330 *e*P **P 21 10 17.0 -0.2**
NKME Niksic 35.14 330 *e*P **P 21 10 17.1 -0.2**
DOPR Dopca 35.16 340⇑*i*P **P 21 10 17.4 +0.1**
NKY Niksic 35.16 330⇓*i*P **P 21 10 17.6 +0.1**
NKY Niksic 35.16 330⇓*i*P **P 21 10 17.6 +0.1**
BHPL Bhopal 35.17 69 *e*P **P 21 10 19.0 +1.2**
BHPL IAmb IAmb 21 10 21.4
comp=Z,87nm,1.2s
GRUS Gruza 35.20 333 *e*P **P 21 10 17.5 -0.2**
IVAS Ivanjica 35.21 332 *e*P **P 21 10 14.9 -3.0**
KUBS Kucevo 35.22 335 *e*P **P 21 10 17.3 -0.6**
TESR Tescani 35.24 342⇑*i*P **P 21 10 18.4 +0.4**
LOT Lotru 35.27 338⇓*i*P **P 21 10 18.6 +0.2**
PLE Pljevlja 35.37 331 *e*P **P 21 10 18.6 -0.7**
PLE Pljevlja 35.37 331 *e*P **P 21 10 18.6 -0.7**
BRY Bratogost 35.44 330 *e*P **P 21 10 19.7 -0.2**
BRY Bratogost 35.44 330 *e*P **P 21 10 19.8 -0.2**
UPM Unac-Piva 35.50 331 *e*P **P 21 10 20.1 -0.4**
UPM Unac-Piva 35.50 331 *e*P **P 21 10 20.1 -0.4**
MDVR Moldovita 35.51 335⇑*i*P **P 21 10 20.3 -0.1**
TAM Tamanrasset 35.51 290 *e*P **P 21 10 20.8 0.0**
TAM pmax pmax
comp=Z,72nm,1.3s
TAM Tamanrasset 35.51 290 *e*P **P 21 10 20.8 0.0**
comp=Z,72nm,1.3s
TAM Tamanrasset 35.51 290 *e*P **P 21 10 20.8 0.0**
comp=Z,72nm,1.3s
TAM LR LR
comp=Z,2μm,18.0s
SRSP Sriramsagar 35.55 76 *e*P **P 21 10 21.5 +0.5**
SRSP IAmb IAmb 21 10 23.5
comp=Z,56nm,1.3s
SRSP *e*S **S 21 15 58.5 +0.8**
TRUS Trudelj 35.61 333 *e*P **P 21 10 20.0 -1.2**
DIVS Divibare 35.69 333 P **P 21 10 20.4 -1.6**
DIVS Divibare 35.69 333 P **P 21 10 20.4 -1.6**
HYBB Hyderabad (bro 35.69 79 *e*P **P 21 10 23.3 +1.0**
HYBB IAmb IAmb 21 10 24.3
comp=Z,64nm,1.2s
HYBB *e*S **S 21 16 00.1 +0.1**
HYB Hyderabad 35.69 79 *i* P **P 21 10 25.0 +2.7**
HYB Hyderabad 35.69 79 *e*P **P 21 10 23.1 +0.7**
HYB IAmb IAmb 21 10 24.8
comp=Z,50nm,1.0s
BBLS Lazići 35.77 332⇓*i*P **P 21 10 22.1 -0.6**
DEV Deva 35.96 337⇓*i*P **P 21 10 24.4 +0.2**
SRLM Srisailam 36.02 81 *e*P **P 21 10 25.8 +0.7**
SRLM IAmb IAmb 21 10 27.3
comp=Z,27nm,1.0s
SRLM *e*S **S 21 16 05.4 +0.4**
RCLA Racherla 36.09 82 *e*P **P 21 10 25.5 -0.2**
RCLA IAmb IAmb 21 10 28.7
comp=Z,109nm,1.0s
RCLA *e*S **S 21 16 07.1 +1.0**
PRAR RASCA 36.13 342⇑*i*P **P 21 10 25.9 +0.2**
MATP Matopo 36.15 201 LR LR 21 25 21.3
comp=Z,9μm,18.9s,baz=34,slow=37
BZS Buzias 36.23 336⇑*i*P **P 21 10 26.4 -0.1**
BANR Banloc 36.23 335⇑*i*P **P 21 10 26.9 +0.4**
NDI New Delhi 36.24 60 *ex* P 21 10 20.0 -6.9
TEKS Tekeris 36.25 333 *e*P **P 21 10 26.1 -0.6**
THN Thein Dam 36.32 53 *e*P **P 21 10 26.0 -1.4**
NGP Nagpur 36.38 73 *e*P **P 21 10 29.8 +1.6**
NGP IAmb IAmb 21 10 31.2
comp=Z,239nm,2.4s
NJS Nagarjunasagar 36.41 80 *e*P **P 21 10 29.2 +0.8**
NJS IAmb IAmb 21 10 30.4
comp=Z,46nm,1.1s
NJS *e*S **S 21 16 12.6 +1.7**
CJR Cluj-Napoca 36.42 339⇑*i*P **P 21 10 28.9 +0.7**
RPR Rampur 36.44 77 *e*P **P 21 10 28.2 -0.5**
RPR IAmb IAmb 21 10 31.1
comp=Z,163nm,1.6s
RPR *e*S **S 21 16 10.3 -1.1**
ARCR ARCALIA 36.48 340⇑*i*P **P 21 10 29.1 +0.4**
KEST Kesra 36.53 313 P **P 21 10 30.2 +0.8**
comp=Z,55nm,0.9s,baz=62,slow=2.7,SNR=33
KEST LR LR 21 26 26.1
comp=Z,4μm,19.6s,baz=69,slow=38
KEST Kesra 36.53 313 *e*P **P 21 10 30.1 +0.8**
comp=Z,133nm,1.1s
KEST Kesra 36.53 313 *e*P **P 21 10 30.1 +0.8**
comp=Z,133nm,1.1s
KEST LR LR
comp=Z,5μm,18.0s
BURAR Bucovina Array 36.67 341⇑*i*P **P 21 10 31.6 +1.2**
BUR08 Bucovina Ar. S 36.70 341 *e*P **P 21 10 31.3 +0.7**
BUR08 Bucovina Ar. S 36.70 341 *e*P **P 21 10 31.3 +0.7**
DHRM DHARAMSHALA 36.70 54 *e*P **P 21 10 32.2 +1.2**
DHRM IAmb IAmb 21 10 34.9
comp=Z,117nm,0.6s
SIRR Siria 36.75 337⇑*i*P **P 21 10 31.3 +0.3**
DRGR 36.80 338⇑*i*P **P 21 10 32.3 +0.8**
SKHT Srikalahasti 36.91 85 *e*P **P 21 10 34.0 +1.2**
SKHT IAmb IAmb 21 10 35.0
comp=Z,76nm,1.1s
SKHT *e*S **S 21 16 17.4 -1.2**
SDNR Sundarnagar 36.95 55 *e*P **P 21 10 33.7 +0.7**
SMLA Simla 36.98 56 *e*P **P 21 10 34.3 +1.2**
SMLA IAmb IAmb 21 10 37.0
comp=Z,134nm,0.6s
DOB Doboj 37.04 332 *e*P **P 21 10 32.8 -0.6**
ADKI Addanki 37.06 82 *e*P **P 21 10 34.8 +0.8**
ADKI IAmb IAmb 21 10 36.2
comp=Z,49nm,1.0s
ADKI *e*S **S 21 16 22.0 +1.2**
BMR Baia Mare 37.28 340⇓*i*P **P 21 10 37.6 +2.2**
DDI Dehra Dun 37.44 57 *e*P **P 21 10 38.5 +1.4**
DDI IAmb IAmb 21 10 40.8
comp=Z,78nm,0.5s
BLY Banja Luka 37.48 331⇓*i*P **P 21 10 37.3 +0.1**
VRH Novokhopyorsk 37.58 0 *e*P **P 21 10 37.6 -0.3**
VRH *e* 21 12 03.2
VRH pmax pmax
comp=Z,220nm,1.2s
VRH MLR MLR
comp=Z,3μm,14.0s
IUG luzhnay 37.63 35 *i* P **P 21 10 38.2 -0.4**
comp=Z,1μm,1.6s
IUG *i* PP **PP 21 12 04.6 +0.2**
IUG *e*S **S 21 16 29.9 +0.8**
IUG LRM MLR 21 27 54.6
comp=Z,676nm,17.5s
VSR Storozhevoye 37.65 357 *e*P **P 21 10 37.6 -0.9**
VSR *e* 21 12 04.6
VSR pmax pmax
comp=Z,180nm,1.5s
VSR MLR MLR
comp=Z,2μm,15.0s
AQU L'Aquila 37.74 325 *e*P **P 21 10 39.0 -0.5**
AQU pmax pmax
comp=Z,330nm,1.5s
AQU L'Aquila 37.74 325 *e*P **P 21 10 39.0 -0.5**
comp=Z,327nm,1.5s
AQU L'Aquila 37.74 325 *e*P **P 21 10 39.0 -0.5**
comp=Z,327nm,1.5s
AQU LR LR
comp=Z,743nm,19.0s
VORR Voronezh 38.10 357 *e*P **P 21 10 41.0 -1.3**
VORR pmax pmax
comp=Z,500nm,1.6s
ABSA Djebel Ababsia 38.12 313 P **P 21 10 43.0 +0.2**
ABSA Djebel Ababsia 38.12 313 P **P 21 10 43.0 +0.2**
CMAH Djebel Manchou 38.32 313 P **P 21 10 45.0 +0.5**
CMAH Djebel Manchou 38.32 313 P **P 21 10 45.0 +0.5**
AK11 Malin Array Si 38.43 347 *e*P **P 21 10 42.9 -2.2**
AK11 Malin Array Si 38.43 347 *e*P **P 21 10 42.9 -2.2**
KIEV Kiev 38.44 347 PFAKE 21 11 00.0 +15
KIEV LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 38.44 347 P **P 21 10 44.6 -0.6**
comp=Z,37nm,1.0s,baz=165,slow=7.2,SNR=87
AKASG PcP **PcP 21 12 58.1 -0.4**
comp=Z,0.4nm,0.2s,baz=160,slow=3.1,SNR=7.1
AKASG LR LR 21 28 36.7
comp=Z,2μm,18.7s,baz=135,slow=39
AKBB Malin Array Si 38.44 347 *e*P **P 21 10 44.7 -0.5**
AKBB pmax pmax
comp=Z,190nm,1.4s
AKBB Malin Array Si 38.44 347 *e*P **P 21 10 44.7 -0.5**
comp=Z,189nm,1.4s
AKBB Malin Array Si 38.44 347 *e*PcP **PcP 21 12 58.1 -0.4**
AKBB Malin Array Si 38.44 347 *e*P **P 21 10 44.6 -0.5**
comp=Z,189nm,1.4s
AKBB *e*PcP **PcP 21 12 58.1 -0.4**
AKBB LR LR
comp=Z,2μm,18.0s
VSL Villasalto 38.45 318 *e*P **P 21 10 45.8 +0.4**
comp=Z,169nm,1.3s
VSL Villasalto 38.45 318 *e*P **P 21 10 45.9 +0.4**
comp=Z,169nm,1.3s
VSL LR LR
comp=Z,1μm,20.0s
UZH Uzhgorod 38.52 339⇑*i*P **P 21 10 45.6 -0.2**
UZH *e*S **S 21 16 38.4 -3.7**
UZH MLR MLR
comp=N,770nm,11.0s
UZH MLR MLR
comp=E,500nm,11.0s
UZH MLR MLR
comp=Z,500nm,11.0s
KKAR Karatay Array 38.52 35 *e*P **P 21 10 46.8 +0.8**
KKAR Karatay Array 38.52 35 *e*P **P 21 10 46.8 +0.8**
KKAR Karatay Array 38.52 35 *e*P **P 21 10 46.8 +0.8**
PVM Polavaram 38.62 79 *e*P **P 21 10 49.1 +1.9**
PVM IAmb IAmb 21 10 50.1
comp=Z,96nm,1.2s
PVM *e*S **S 21 16 44.0 -0.5**
ABKAR Akbulak array 38.67 19 *e*P **P 21 10 47.1 -0.1**
ABKAR Akbulak array 38.67 19 *e*P **P 21 10 47.1 -0.1**
CKFL Kef-Lekhel 38.72 312 P **P 21 10 48.0 +0.1**
CKFL Kef-Lekhel 38.72 312 P **P 21 10 48.0 +0.1**
KOLS Kolonicke sedl 38.78 340 *e*P **P 21 10 49.3 +1.2**
KOLS pmax pmax
comp=Z,138nm,1.5s
KOLS Kolonicke sedl 38.78 340 *e*P **P 21 10 49.3 +1.2**
CTEI Djebel Teioual 38.79 312 P **P 21 10 45.0 -3.6**
PSZ Piszkesteto 38.80 336⇑*i*P **P 21 10 48.8 +0.5**
PSZ Piszkesteto 38.80 336⇓*e*PKPPKPdP **P 21 10 48.2 -0.1**
PSZ Piszkesteto 38.80 336 *e*P **P 21 10 48.2 -0.2**
PSZ pmax pmax
comp=Z,170nm,1.2s
PSZ Piszkesteto 38.80 336 *e*P **P 21 10 48.2 -0.2**
comp=Z,170nm,1.2s
PSZ Piszkesteto 38.80 336 *e*P **P 21 10 48.1 -0.2**
comp=Z,170nm,1.2s
PSZ LR LR
comp=Z,806nm,20.0s
CAEH 'Ain El Ouahch 38.80 313 P **P 21 10 48.0 -0.5**
CAEH 'Ain El Ouahch 38.80 313 P **P 21 10 48.0 -0.5**
CASM Ain Smara 38.82 312 P **P 21 10 49.0 +0.3**
CASM Ain Smara 38.82 312 P **P 21 10 49.0 +0.3**
PALK Pallekele 38.83 95 P **P 21 10 47.7 -1.2**
comp=Z,42nm,1.1s,baz=296,slow=10,SNR=5.8
PALK Pallekele 38.83 95 *i* P **P 21 10 52.3 +3.3**
PALK Pallekele 38.83 95 *e*P **P 21 10 50.5 +1.5**
comp=Z,61nm,1.1s
PALK Pallekele 38.83 95 *e*P **P 21 10 50.5 +1.5**
comp=Z,61nm,1.1s
ZAG Zagreb 38.84 331 *e*P **P 21 10 49.2 +0.5**
TOC2 Torodi Ar. Sit 38.87 274 PFAKE 21 11 00.0 +11
TOC2 LR LR
comp=Z,1μm,19.0s
TOC3 Torodi Ar. Sit 38.87 274 PFAKE 21 11 00.0 +11
TOC3 LR LR
comp=Z,1μm,19.0s
TOB2 Torodi Ar. Sit 38.89 274 PFAKE 21 11 00.0 +11
TOB2 LR LR
comp=Z,2μm,18.0s
TOC1 Torodi Ar. Sit 38.89 274 PFAKE 21 11 00.0 +11
TOC1 LR LR
comp=Z,2μm,18.0s
TOB3 Torodi Ar. Sit 38.89 274 PFAKE 21 11 00.0 +11
TOB3 LR LR
comp=Z,2μm,19.0s
TOC4 Torodi Ar. Sit 38.90 274 PFAKE 21 11 00.0 +10
TOC4 LR LR
comp=Z,2μm,19.0s
TOA0 Torodi Ar. Sit 38.90 274 *e*P **P 21 10 47.5 -2.1**
TOA0 Torodi Ar. Sit 38.90 274 *e*P **P 21 10 47.5 -2.1**
TOA0 LR LR
comp=Z,2μm,18.0s
TOB1 Torodi Ar. Sit 38.90 274 PFAKE 21 11 00.0 +10
TOB1 LR LR
comp=Z,2μm,18.0s
TORD Torodi Ar. Bea 38.90 274 P **P 21 10 48.1 -1.4**
comp=Z,31nm,1.1s,baz=90,slow=8.9,SNR=80
TORD PcP **PcP 21 12 59.4 -1.2**
comp=Z,2.1nm,0.8s,baz=54,slow=1.4,SNR=3.3
TORD LR LR 21 27 10.4
comp=Z,1μm,18.3s,baz=110,slow=37
TOA1 Torodi Ar. Sit 38.90 274 *e*P **P 21 10 48.1 -1.4**
comp=Z,205nm,1.6s
TOA1 Torodi Ar. Sit 38.90 274 *e*PcP **PcP 21 12 59.4 -1.2**
TOA1 Torodi Ar. Sit 38.90 274 *e*P **P 21 10 48.1 -1.4**
comp=Z,205nm,1.6s
TOA1 *e*PcP **PcP 21 12 59.4 -1.2**
TOA1 LR LR
comp=Z,2μm,18.0s
TOB4 Torodi Ar. Sit 38.91 274 PFAKE 21 11 00.0 +10
TOB4 LR LR
comp=Z,2μm,20.0s
TOB5 Torodi Ar. Sit 38.91 274 PFAKE 21 11 00.0 +10
TOB5 LR LR
comp=Z,2μm,20.0s
TOC7 Torodi Ar. Sit 38.91 274 PFAKE 21 11 00.0 +10
TOC7 LR LR
comp=Z,2μm,18.0s
TOC5 Torodi Ar. Sit 38.92 274 PFAKE 21 11 00.0 +10
TOC5 LR LR
comp=Z,2μm,20.0s
BOJS Bojanci 38.96 330 *i* P **P 21 10 49.6 0.0**
BOJS Bojanci 38.96 330 *i* P **P 21 10 49.7 0.0**
BEHE Becsehely 38.96 332⇓*i*P **P 21 10 50.1 +0.4**
LVV L'vov 38.98 342 *d*iP **P 21 10 49.7 -0.1**
LVV *e*S **S 21 16 47.7 -1.5**
CSKK Cs^‡kako 39.01 335 *e*PKPPKPdP **P 21 10 51.9 +1.9**
CRVS Cervenica-Dubn 39.03 339 *e*P **P 21 10 51.0 +0.7**
CRVS Cervenica-Dubn 39.03 339 *e*P **P 21 10 51.0 +0.7**
KECS Kecovo 39.04 338 *e*P **P 21 10 51.2 +0.9**
KECS pmax pmax
comp=Z,34nm,1.1s
KECS Kecovo 39.04 338 *e*P **P 21 10 51.2 +0.9**
GCIS Gornji Cirnik 39.04 331 *e*P **P 21 10 50.8 +0.4**
GCIS Gornji Cirnik 39.04 331 *e*P **P 21 10 50.8 +0.4**
LPSR Galich'ya Gora 39.04 357 *e*P **P 21 10 49.8 -0.4**
LPSR *e* 21 12 19.5
LPSR pmax pmax
comp=Z,170nm,1.1s
LPSR MLR MLR
comp=Z,1μm,14.0s
CRES Cresnjev 39.09 331⇓*i*P **P 21 10 51.1 +0.3**
AKTO Aktyubinsk 39.14 17 P **P 21 10 51.4 +0.3**
comp=Z,64nm,1.1s,baz=206,slow=8.4,SNR=75
GOLS Golise 39.15 331 *e*P **P 21 10 51.7 +0.4**
GOLS Golise 39.15 331 *e*P **P 21 10 51.7 +0.4**
KWP Kalwaria Pacla 39.24 340 *e*P **P 21 10 52.4 +0.5**
KWP Kalwaria Pacla 39.24 340⇑*i*P **P 21 10 52.5 +0.6**
KWP Kalwaria Pacla 39.24 340 *e*P **P 21 10 52.4 +0.5**
KWP Kalwaria Pacla 39.24 340 *e*P **P 21 10 52.4 +0.5**
VISS Visnje 39.37 330 *i* P **P 21 10 52.9 -0.2**
VISS Visnje 39.37 330 *i* P **P 21 10 52.9 -0.2**
DFRA Djebel Bou Aff 39.39 312 P **P 21 10 53.5 0.0**
DFRA Djebel Bou Aff 39.39 312 P **P 21 10 53.5 0.0**
CKHR Kef el Ahmar 39.43 311 P **P 21 10 53.5 -0.4**
CKHR Kef el Ahmar 39.43 311 P **P 21 10 53.5 -0.4**
CEY Cerknica 39.53 330⇓*i*P **P 21 10 54.2 -0.3**
GROS Grobnik 39.54 331 *i* P **P 21 10 54.8 +0.2**
GROS Grobnik 39.54 331 *i* P **P 21 10 54.8 +0.2**
STHS Stebnicka Huta 39.55 339 *e*P **P 21 10 55.2 +0.7**
STHS pmax pmax
comp=Z,61nm,1.4s
STHS Stebnicka Huta 39.55 339 *e*P **P 21 10 55.2 +0.7**
SET Setif 39.59 311 P **P 21 10 56.0 +0.8**
SET Setif 39.59 311 P **P 21 10 56.0 +0.8**
VYHS Vyhne 39.68 336 *e*P **P 21 10 55.9 +0.3**
VYHS pmax pmax
comp=Z,130nm,1.4s
VYHS Vyhne 39.68 336 *e*P **P 21 10 55.9 +0.3**
VYHS *e*S **S 21 17 02.1 +2.4**
LJU Ljubljana 39.70 330 *e*P **P 21 10 56.0 +0.2**
LJU Ljubljana 39.70 330⇓*i*P **P 21 10 55.7 -0.1**
KSH Kashi 39.74 43 P P 21 10 49.2 -7.2
KSH pP pP 21 10 53.4 -4.0
KSH PcP **PcP 21 12 59.7 -3.3**
KSH S S 21 16 47.6 -14
KSH ScS ScS 21 20 53.3 -12
KSH PMZ
comp=Z,22nm,0.8s
KSH LN
comp=Z,2μm,10.5s
KSH LE
comp=Z,2μm,10.7s
KSH LZ
comp=Z,4μm,14.1s
AML Almayashu 39.75 38 P **P 21 10 58.0 +1.2**
SNR=96
JAVS Javornik 39.82 330 *i* P **P 21 10 56.8 -0.1**
JAVS Javornik 39.82 330 *i* P **P 21 10 56.8 -0.1**
TRI Trieste 39.84 329 *e*P **P 21 10 56.7 -0.2**
TRI pmax pmax
comp=Z,280nm,1.2s
TRI Trieste 39.84 329 *e*P **P 21 10 56.7 -0.2**
comp=Z,275nm,1.2s
TRI Trieste 39.84 329 *e*P **P 21 10 56.7 -0.2**
comp=Z,275nm,1.2s
BISS Bistriski jare 39.85 331 *i* P **P 21 10 57.4 +0.3**
BISS Bistriski jare 39.85 331 *i* P **P 21 10 57.4 +0.3**
NIE Niedzica 39.88 338 *e*P **P 21 10 57.6 +0.2**
NIE *e*S **S 21 17 06.6 +3.8**
NIE Niedzica 39.88 338 *e*P **P 21 10 57.6 +0.2**
NIE *e*S **S 21 17 06.6 +3.8**
NIE Niedzica 39.88 338 *e*P **P 21 10 57.6 +0.2**
SOKA Soboth 39.92 331 *i* P **P 21 10 58.2 +0.4**
comp=Z,130nm,1.3s,SNR=105
SOKA Soboth 39.92 331 P **P 21 10 58.2 +0.4**
comp=Z,130nm,1.3s,SNR=105
LANS Liptovska Anna 39.97 337 *e*P **P 21 10 58.4 +0.3**
LANS Liptovska Anna 39.97 337 *e*P **P 21 10 58.4 +0.3**
SOP Sopron 39.98 333⇓*e*PKPPKPdP **P 21 10 58.4 +0.2**
OBKA Obir 40.02 331 *i* P **P 21 10 59.2 +0.6**
comp=Z,172nm,1.8s,SNR=54
OBKA Obir 40.02 331 P **P 21 10 59.2 +0.6**
comp=Z,172nm,1.8s,SNR=54
EKS2 Erkin-Say 40.11 37 *e*P **P 21 11 00.5 +1.0**
EKS2 pmax pmax
comp=Z,53nm,1.1s
EKS2 Erkin-Say 40.11 37 *e*P **P 21 11 00.5 +1.0**
comp=Z,53nm,1.1s
EKS2 Erkin-Say 40.11 37 *e*P **P 21 11 00.5 +1.0**
comp=Z,53nm,1.1s
EKS2 LR LR
comp=Z,7μm,18.0s
ARSA Arzberg 40.12 332 *i* P **P 21 10 59.8 +0.5**
comp=Z,136nm,1.1s,SNR=91

ARSA	**Arzberg**		40.12	332	P		**P**	21 10 59.8	+0.5
	comp=Z,136nm,1.1s,SNR=91								
VIS	**Vishakhapatnam**		40.25	79	*eP*		**P**	21 10 59.5	-1.3
VIS					IAmb		IAmb	21 11 03.9	
	comp=Z,67nm,1.1s								
TSUM	**Tsumeb**		40.27	217	LR		LR	21 28 17.1	
	comp=Z,8µm,19.3s,baz=38,slow=37								
TSUM	**Tsumeb**		40.27	217	*eP*		**P**	21 11 00.7	-0.3
	comp=Z,72nm,1.8s								
TSUM	**Tsumeb**		40.27	217	*eP*		**P**	21 11 00.7	-0.3
	comp=Z,72nm,1.8s								
TSUM					LR		LR		
	comp=Z,9µm,18.0s								
CONA	**Conrad Observa**		40.48	333	*i* P		**P**	21 11 02.5	+0.2
	comp=Z,163nm,1.4s,SNR=104								
CONA	**Conrad Observa**		40.48	333	P		**P**	21 11 02.5	+0.2
	comp=Z,163nm,1.4s,SNR=104								
AAK	**Ala-Archa**		40.52	38	P		**P**	21 11 03.9	+1.0
	comp=Z,29nm,1.0s,baz=234,slow=6.8,SNR=62								
AAK					PcP		**PcP**	21 13 06.5	+1.0
	comp=Z,12nm,0.8s,baz=187,slow=6.0,SNR=4.4								
AAK					LR		LR	21 30 31.5	
	comp=Z,8µm,18.8s,baz=230,slow=40								
AAK	**Ala-Archa**		40.52	38	*i* P		**P**	21 11 04.3	+1.4
AAK					pmax		pmax		
	comp=Z,218nm,1.3s								
AAK	**Ala-Archa**		40.52	38	P		**P**	21 11 05.1	+2.2
	SNR=46								
AAK					P		**P**	21 11 05.1	+2.2
	SNR=46								
AAK					P		**sP**	21 11 05.5	+1.2
AAK					P		**sP**	21 11 05.5	+1.2
AAK	**Ala-Archa**		40.52	38	*eP*		**P**	21 11 04.5	+1.6
	comp=Z,105nm,1.3s								
AAK	**Ala-Archa**		40.52	38	*eP*		**P**	21 11 04.5	+1.6
	comp=Z,105nm,1.3s								
AAK					*e*PcP		**PcP**	21 13 06.5	+1.0
AAK					LR		LR		
	comp=Z,8µm,18.0s								
MYKA	**Terra Mystica**		40.55	330	*i* P		**P**	21 11 03.2	+0.3
	comp=Z,133nm,1.8s,SNR=48								
MYKA	**Terra Mystica**		40.55	330	P		**P**	21 11 03.2	+0.3
	comp=Z,133nm,1.8s,SNR=48								
VLC	**Villacollemand**		40.59	325	PFAKE			21 11 10.0	+6.7
VLC					LR		LR		
	comp=Z,369nm,19.0s								
FRU	**Bishkek**		40.71	38	*eP*		**P**	21 11 04.0	-0.3
FRU					*e*PPP		PPP	21 13 04.0	
FRU					*eS*		**S**	21 17 20.0	+4.6
FRU					pmax		pmax		
	comp=Z,360nm,2.0s								
OJC	**Ojcow**		40.73	338	*eP*		**P**	21 11 03.8	-0.5
OJC					*eS*		**S**	21 17 16.6	+1.2
OJC	**Ojcow**		40.73	338	*eP*		**P**	21 11 03.8	-0.5
OJC					*eS*		**S**	21 17 16.6	+1.2
OJC	**Ojcow**		40.73	338	*eP*		**P**	21 11 03.9	-0.4
	comp=Z,204nm,1.5s								
OJC	**Ojcow**		40.73	338	*eP*		**P**	21 11 03.9	-0.4
	comp=Z,204nm,1.5s								
CHLP	**Challavanipeta**		40.95	77	*eP*		**P**	21 11 08.0	+1.4
CHLP					IAmb		IAmb	21 11 09.1	
	comp=Z,51nm,1.1s								
CHLP					*eS*		**S**	21 17 17.3	-2.1
KBA	**Koelnbreinsper**		41.01	330	*i* P		**P**	21 11 06.8	-0.1
	comp=Z,68nm,1.3s,SNR=33								
KBA	**Koelnbreinsper**		41.01	330	P		**P**	21 11 06.8	-0.1
	comp=Z,68nm,1.3s,SNR=33								
PYUN	**Piuthan**		41.02	63	*eP*		**P**	21 11 06.8	-0.5
	comp=Z,342nm,1.3s								
OKC	**Ostrava-Krasne**		41.03	337	*eP*		**P**	21 11 06.5	-0.3
OKC					*ex*		x	21 11 14.0	
OKC					*eS*		**S**	21 17 24.2	+4.4
OKC					AMS		AMS	21 36 20.0	
	comp=Z,700nm,14.2s								
OKC	**Ostrava-Krasne**		41.03	337	*eP*		**P**	21 11 06.5	-0.3
OKC					*e*			21 11 14.0	
OKC					*eS*		**S**	21 17 24.2	+4.4
OKC					MLR		MLR		
	comp=Z,700nm,14.2s								
OKC	**Ostrava-Krasne**		41.03	337	P		**P**	21 11 06.5	-0.3
MOA	**Molln**		41.13	332	*i* P		**P**	21 11 07.8	+0.1
	comp=Z,149nm,1.4s,SNR=65								
MOA	**Molln**		41.13	332	P		**P**	21 11 07.8	+0.1
	comp=Z,149nm,1.4s,SNR=65								
ABTA	**Abfaltersbach**		41.18	329	*i* P		**P**	21 11 08.5	+0.3
	comp=Z,146nm,1.8s,SNR=42								
ABTA	**Abfaltersbach**		41.18	329	P		**P**	21 11 08.5	+0.3
	comp=Z,146nm,1.8s,SNR=42								
RAC	**Raciborz**		41.21	337	*eP*		**P**	21 11 08.7	+0.4
RAC					MLR		MLR		
	comp=Z,800nm,22.6s								
MORC	**Moravsky Berou**		41.22	336	*i* P		**P**	21 11 08.4	0.0
MORC	**Moravsky Berou**		41.22	336	*eP*		**P**	21 11 07.9	-0.5
MORC					pmax		pmax		
	comp=Z,650nm,1.3s								
MORC	**Moravsky Berou**		41.22	336	*eP*		**P**	21 11 07.9	-0.5
	comp=Z,650nm,1.4s								
MORC	**Moravsky Berou**		41.22	336	*eP*		**P**	21 11 07.9	-0.5
	comp=Z,650nm,1.4s								
VRAC	**Vranov**		41.23	335	P		**P**	21 11 07.5	-1.0
	comp=Z,55nm,1.1s,baz=141,slow=6.6,SNR=62								
VRAC	**Vranov**		41.23	335	*i* P		**P**	21 11 08.5	+0.1
TKM2	**Tokmak 2**		41.35	38	*eP*		**P**	21 11 10.6	+0.8
TKM2					pmax		pmax		
	comp=Z,95nm,1.5s								
TKM2	**Tokmak 2**		41.35	38	*eP*		**P**	21 11 10.6	+0.8
	comp=Z,95nm,1.5s								
TKM2	**Tokmak 2**		41.35	38	*eP*		**P**	21 11 10.6	+0.8
	comp=Z,95nm,1.5s								
TKM2					LR		LR		
	comp=Z,7µm,19.0s								
EMHD	**Djebel Mahouad**		41.39	310	P		**P**	21 11 11.0	+0.8
EMHD	**Djebel Mahouad**		41.39	310	P		**P**	21 11 11.0	+0.8
LBTB	**Lobatse**		41.40	202	LR		LR	21 28 11.2	
	comp=Z,6µm,21.5s,baz=46,slow=36								
LBTB	**Lobatse**		41.40	202	*eP*		**P**	21 11 10.2	0.0
LBTB					pmax		pmax		
	comp=Z,85nm,1.6s								
LBTB	**Lobatse**		41.40	202	*eP*		**P**	21 11 10.2	0.0
	comp=Z,85nm,1.6s								
LBTB	**Lobatse**		41.40	202	*eP*		**P**	21 11 10.2	0.0
	comp=Z,85nm,1.6s								
KOLN	**Koldanda**		41.48	63	*eP*		**P**	21 11 10.6	-0.5
	comp=Z,210nm,1.1s								
ABA	**Alger-Bouzarea**		41.57	311	P		P	21 11 00.0	-11
TREC	**Trest**		41.68	334	*eP*		**P**	21 11 11.6	-0.5
TREC					*ex*		x	21 11 26.8	
TREC					*eS*		**S**	21 17 30.2	+0.7
TREC					AMS		AMS	21 34 00.0	
	comp=Z,800nm,15.0s								
TREC	**Trest**		41.68	334	*eP*		**P**	21 11 11.6	-0.5
TREC					*eS*		**S**	21 17 30.2	+0.7
TREC					MLR		MLR		
	comp=Z,800nm,15.0s								
TREC	**Trest**		41.68	334	P		**P**	21 11 11.6	-0.5
TREC					S		**S**	21 17 30.2	+0.7
OBN	**Obninsk**		41.69	356	P		**P**	21 11 12.1	0.0
	comp=Z,186nm,1.2s,baz=172,slow=5.8,SNR=53								
OBN	**Obninsk**		41.69	356	*d* iP		**P**	21 11 11.7	-0.3
OBN					pmax		pmax		
	comp=Z,471nm,1.7s								
OBN	**Obninsk**		41.69	356	*eP*		**P**	21 11 11.8	-0.3
	comp=Z,760nm,1.7s								
OBN	**Obninsk**		41.69	356	*eP*		**P**	21 11 11.8	-0.3
	comp=Z,760nm,1.7s								
OBN					LR		LR		
	comp=Z,2µm,22.0s								
BEL	**Belsk**		41.76	341	*eP*		**P**	21 11 11.3	-1.4
BEL	**Belsk**		41.76	341	*eP*		**P**	21 11 11.3	-1.4
BEL	**Belsk**		41.76	341	*eP*		**P**	21 11 11.3	-1.4
WTTA	**Wattenberg**		41.97	329	*i* P		**P**	21 11 14.3	-0.5
	comp=Z,72nm,1.4s,SNR=23								
WTTA	**Wattenberg**		41.97	329	P		**P**	21 11 14.3	-0.5
	comp=Z,72nm,1.4s,SNR=23								
WATA	**Walderalm**		42.05	329	*i* P		**P**	21 11 14.5	-0.9
	comp=Z,72nm,1.2s,SNR=39								
WATA	**Walderalm**		42.05	329	P		**P**	21 11 14.5	-0.9
	comp=Z,72nm,1.2s,SNR=39								
REVF	**Revere**		42.08	322	*eP*		**P**	21 11 15.2	-0.4
REVF	**Revere**		42.08	322	*eP*		**P**	21 11 15.2	-0.4
GEA0	**GERESS Array S**		42.11	332	*eP*		**P**	21 11 15.2	-0.6
GEA0	**GERESS Array S**		42.11	332	*eP*		**P**	21 11 15.2	-0.6
GEC2	**GERESS Array S**		42.12	332	*eP*		**P**	21 11 14.3	-1.6
GEC2					pmax		pmax		
	comp=Z,190nm,1.2s								
GEC2	**GERESS Array S**		42.12	332	*eP*		**P**	21 11 14.2	-1.6
	comp=Z,189nm,1.2s								
GEC2	**GERESS Array S**		42.12	332	*eP*		**P**	21 11 14.2	-1.6
	comp=Z,189nm,1.2s								
GERES	**GERESS Array B**		42.12	332	P		**P**	21 11 15.2	-0.6
	comp=Z,30nm,0.9s,baz=132,slow=6.9,SNR=82								
GERES					PcP		**PcP**	21 13 09.6	-0.9
	comp=Z,1.7nm,0.8s,baz=169,slow=1.0,SNR=3.1								
GERES					LR		LR	21 30 31.4	
	comp=Z,688nm,19.3s,baz=132,slow=39								
DPC	**Dobruska-Polom**		42.15	336	*eP*		**P**	21 11 15.6	-0.4
DPC					*ex*		x	21 11 24.0	
DPC					*ex*		x	21 11 30.3	
DPC					*eS*		**S**	21 17 35.9	-0.7
DPC					AMS		AMS	21 33 50.0	
	comp=Z,700nm,16.4s								
DPC	**Dobruska-Polom**		42.15	336	*eP*		**P**	21 11 15.6	-0.4
DPC					*e*			21 11 24.0	
DPC					*eS*		**S**	21 17 35.9	-0.7
DPC					MLR		MLR		
	comp=Z,700nm,16.4s								
DPC	**Dobruska-Polom**		42.15	336	P		**P**	21 11 15.6	-0.4
DPC					S		**S**	21 17 35.9	-0.7
LUCF	**Luceram**		42.18	323	*eP*		**P**	21 11 15.9	-0.5
LUCF	**Luceram**		42.18	323	*eP*		**P**	21 11 15.9	-0.5
FUORN	**Ofenpass-Fuorn**		42.24	328	*eP*		**P**	21 11 17.0	-0.1
	comp=Z,294nm,1.9s								
FUORN	**Ofenpass-Fuorn**		42.24	328	*eP*		**P**	21 11 17.0	-0.1
	comp=Z,294nm,1.9s								
MOS	**Moscow**		42.24	357	*k i* P		**P**	21 11 17.7	+1.1
MOS					*e*			21 12 58.0	
MOS					*eS*		**S**	21 17 41.9	+4.3
MOS					pmax		pmax		
	comp=Z,2µm,2.0s								
MOS					pmax		pmax		
	comp=N,400nm,1.9s								
MOS					pmax		pmax		
	comp=Z,744nm,1.6s								
MOS					pmax		pmax		
	comp=N,184nm,1.2s								
MOS					MLR		MLR		
	comp=Z,2µm,17.0s								
FETA	**Feichten**		42.27	328	*i* P		**P**	21 11 17.0	-0.2
	comp=Z,73nm,1.1s,SNR=32								
FETA	**Feichten**		42.27	328	P		**P**	21 11 17.0	-0.2
	comp=Z,73nm,1.1s,SNR=32								
MOTA	**Moosalm**		42.29	329	*i* P		**P**	21 11 16.3	-1.1
	comp=Z,52nm,1.2s,SNR=28								
MOTA	**Moosalm**		42.29	329	P		**P**	21 11 16.3	-1.1
	comp=Z,52nm,1.2s,SNR=28								
MVIF	**Mont Vial**		42.30	322	*eP*		**P**	21 11 17.4	-0.1
MVIF	**Mont Vial**		42.30	322	*eP*		**P**	21 11 17.4	-0.1
MICGM	**Minsk**		42.30	348	*eP*		**P**	21 11 15.0	-2.1
MICGM					PM			21 11 17.0	
	comp=Z,0.3nm,1.5s								
MICGM					*e*PP		**PP**	21 12 48.0	-7.0
MICGM					*e*PPP		PPP	21 13 16.0	
MICGM					*e*PcS		PcS	21 16 40.0	-22
MICGM					*eS*		**S**	21 17 36.0	-2.5
MICGM					*e*SS		SS	21 20 14.0	-33
MICGM					*e*SSS		SSS	21 21 03.0	
MICGM					*e*LR		LR	21 26 08.0	
MNK	**Minsk**		42.30	348	*eP*		**P**	21 11 15.0	-2.1
MNK					*e*PPP		PPP	21 13 16.0	
MNK					*eS*		**S**	21 17 36.0	-2.5
MNK					pmax		pmax		
	comp=Z,260nm,1.5s								
AAA					smax		smax		
	comp=E,1µm,6.1s								
AAA					MLR		MLR		
	comp=Z,9µm,14.0s								
MDOK	**Medeo**		42.37	39	*i* P		**P**	21 11 17.5	-0.6
	comp=Z,467nm,1.1s								
MDOK					*i* PP		**PP**	21 12 56.0	-0.1
MDOK					*eS*		**S**	21 17 41.1	+0.9
MDOK					LRM		MLR	21 30 52.9	
	comp=Z,1µm,16.8s								
CALN	**Calern**		42.37	322	*eP*		**P**	21 11 17.8	-0.3
CALN	**Calern**		42.37	322	*eP*		**P**	21 11 17.8	-0.3
KHC	**Kasperske Hory**		42.38	333	*eP*		**P**	21 11 17.0	-1.0
KHC					*ex*		x	21 11 30.6	
KHC					AMS		AMS	21 36 10.0	
	comp=Z,600nm,16.6s								
KHC	**Kasperske Hory**		42.38	333	*eP*		**P**	21 11 17.0	-1.0
KHC					MLR		MLR		
	comp=Z,600nm,16.6s								
KHC	**Kasperske Hory**		42.38	333	*eP*		**P**	21 11 16.6	-1.3
	comp=Z,61nm,1.3s								
KHC	**Kasperske Hory**		42.38	333	*eP*		**P**	21 11 16.6	-1.3
	comp=Z,61nm,1.3s								
UPC	**Upice**		42.40	336	*eP*		**P**	21 11 17.4	-0.6
UPC					*eS*		**S**	21 17 43.7	+3.6
UPC					AMS		AMS	21 40 50.0	
	comp=Z,800nm,12.4s								
UPC	**Upice**		42.40	336	*eP*		**P**	21 11 17.4	-0.6
UPC					*eS*		**S**	21 17 43.7	+3.6
UPC					MLR		MLR		
	comp=Z,800nm,12.4s								
UPC	**Upice**		42.40	336	P		**P**	21 11 17.4	-0.6
GKN	**Gorkha**		42.43	63	*eP*		**P**	21 11 17.7	-1.1
	comp=Z,341nm,1.3s								
GOPC	**GO Pecny, Ondr**		42.44	334	*eP*		**P**	21 11 17.8	-0.6
GOPC					*ex*		x	21 11 31.6	
GOPC					*eS*		**S**	21 17 43.5	+2.7
GOPC					AMS		AMS	21 41 30.0	
	comp=Z,800nm,13.8s								
GOPC	**GO Pecny, Ondr**		42.44	334	*eP*		**P**	21 11 17.8	-0.6
GOPC					*eS*		**S**	21 17 43.5	+2.7
GOPC					MLR		MLR		
	comp=Z,800nm,13.8s								
GOPC	**GO Pecny, Ondr**		42.44	334	P		**P**	21 11 17.8	-0.6
DAVOX	**Davos/Dischmat**		42.54	328	P		**P**	21 11 18.4	-1.0
	comp=Z,15nm,0.8s,baz=127,slow=7.5,SNR=29								
KSP	**Ksiaz**		42.55	336	*eP*		**P**	21 11 19.0	-0.2
KSP					*eS*		**S**	21 17 43.6	+1.3
KSP	**Ksiaz**		42.55	336	*eP*		**P**	21 11 19.0	-0.2
KSP					*eS*		**S**	21 17 43.6	+1.3
KSP	**Ksiaz**		42.55	336	*eP*		**P**	21 11 19.0	-0.2
RETA	**Reutte**		42.56	329	*i* P		**P**	21 11 18.4	-1.1
	comp=Z,77nm,1.4s,SNR=30								
RETA	**Reutte**		42.56	329	P		**P**	21 11 18.4	-1.1
	comp=Z,77nm,1.4s,SNR=30								
PRU	**Pruhonice**		42.60	334	*eP*		**P**	21 11 18.8	-0.9
PRU					*ex*		x	21 11 34.1	
PRU					AMS		AMS	21 33 30.0	
	comp=Z,800nm,15.7s								
PRU	**Pruhonice**		42.60	334	*eP*		**P**	21 11 18.8	-0.9
PRU					MLR		MLR		
	comp=Z,800nm,15.7s								
PRU	**Pruhonice**		42.60	334	P		**P**	21 11 18.8	-0.9
TUE	**Stuetta**		42.62	327	*eP*		**P**	21 11 19.2	-1.0
	comp=Z,83nm,1.5s								
TUE	**Stuetta**		42.62	327	*eP*		**P**	21 11 19.2	-1.0
	comp=Z,83nm,1.5s								
TUE					LR		LR		
	comp=Z,784nm,22.0s								
BWNR	**Bhubaneshwar**		42.63	75	*eP*		**P**	21 11 21.1	+0.7
BWNR					IAmb		IAmb	21 11 22.9	
EANR	**'Ain N'Sour**		42.69	309	P		**P**	21 11 20.0	-0.7
EANR	**'Ain N'Sour**		42.69	309	P		**P**	21 11 20.0	-0.7
DMN	**Daman**		42.76	64	*eP*		**P**	21 11 20.9	-0.7
	comp=Z,381nm,1.4s								
DAVA	**Damuels**		42.88	328	*i* P		**P**	21 11 21.2	-0.9
	comp=Z,122nm,1.1s,SNR=49								
DAVA	**Damuels**		42.88	328	P		**P**	21 11 21.2	-0.9
	comp=Z,122nm,1.1s,SNR=49								
NACGM	**Naroch**		42.91	347	*e*		**P**	21 11 22.0	0.0
BOK	**Bokaro**		42.94	70	*eP*		**P**	21 11 23.0	+0.2
BOK					IAmb		IAmb	21 11 25.0	
	comp=Z,154nm,1.6s								
KKN	**Kakani**		42.95	64	*eP*		**P**	21 11 22.2	-0.9
	comp=Z,424nm,1.4s								
OG22	**Abries**		42.95	323	*eP*		**P**	21 11 23.6	+0.8
OG22	**Abries**		42.95	323	*eP*		**P**	21 11 23.6	+0.8
SUW	**Suwalki**		42.95	344	*eP*		**P**	21 11 21.9	-0.5
SUW	**Suwalki**		42.95	344	*eP*		**P**	21 11 22.0	-0.5
SUW	**Suwalki**		42.95	344	*eP*		**P**	21 11 22.0	-0.5
PVCC	**Panska Ves**		43.00	335	*eP*		**P**	21 11 22.3	-0.6
PVCC					*ex*		x	21 11 38.5	
PVCC					AMS		AMS	21 33 30.0	
	comp=Z,800nm,15.8s								
PVCC	**Panska Ves**		43.00	335	*eP*		**P**	21 11 22.3	-0.6
PVCC					MLR		MLR		
	comp=Z,800nm,15.8s								
PVCC	**Panska Ves**		43.00	335	P		**P**	21 11 22.3	-0.6
PKIN	**Phulchoki**		43.01	64	*eP*		**P**	21 11 22.5	-1.2
	comp=Z,216nm,1.4s								
SATY	**Saty**		43.15	40	*i* P		**P**	21 11 23.8	-0.6
	comp=Z,902nm,2.2s								
SATY					*eS*		**S**	21 17 52.2	+0.5
SATY					LRM		MLR	21 31 24.5	
	comp=Z,339nm,13.0s								
ZHN	**Zhinishke**		43.22	40	*i* P		**P**	21 11 24.3	-0.7
	comp=Z,591nm,1.9s								
ZHN					*i* PP		**PP**	21 13 05.2	-0.1
ZHN					*eS*		**S**	21 17 53.7	+1.0
ZHN					LRM		MLR	21 31 27.8	
	comp=Z,242nm,12.8s								
BNI	**Bardonecchia**		43.24	324	PFAKE			21 11 40.0	+15
BNI					LR		LR		
	comp=Z,611nm,21.0s								
IDID	**Didziasalis**		43.30	348	*eP*		**P**	21 11 25.0	-0.2
IDID					IAmb		IAmb	21 11 28.2	
	comp=Z,62nm,1.1s								
IDID	**Didziasalis**		43.30	348	*eP*		**P**	21 11 25.0	-0.2
GUN	**Gumba**		43.49	64	*eP*		**P**	21 11 26.6	-1.0
	comp=Z,447nm,1.2s								
BRG	**Berggiesshubel**		43.52	335	*eP*		**P**	21 11 26.6	-0.5
	comp=Z,215nm,1.6s								
BRG					*e*			21 13 13.0	
	comp=Z,72nm,1.9s								
BRG	**Berggiesshubel**		43.52	335	*eP*		**P**	21 11 26.6	-0.5
BRG					*e*			21 13 13.0	
BRG					pmax		pmax		
	comp=Z,215nm,1.6s								
KPKS	**Kokpek**		43.53	39	*i* P		**P**	21 11 26.4	-1.0
	comp=Z,2µm,1.3s								
KPKS					*i* PP		**PP**	21 13 08.4	-0.2
KPKS					*eS*		**S**	21 17 58.0	+0.7
KPKS					LRM		MLR	21 31 43.4	
	comp=Z,429nm,14.2s								
UZB	**Uzynbulak**		43.58	40	*i* P		**P**	21 11 26.6	-1.2
	comp=Z,1µm,1.2s								
UZB					*i* PP		**PP**	21 13 08.7	-0.4
UZB					*eS*		**S**	21 17 57.5	-0.5
UZB					LRM		MLR	21 31 49.7	
	comp=Z,257nm,12.3s								
GDM	**Grand'Maison**		43.65	323	*eP*		**P**	21 11 29.1	+0.7
GDM	**Grand'Maison**		43.65	323	*eP*		**P**	21 11 29.1	+0.7
ISAL	**Salakas**		43.67	347	*eP*		**P**	21 11 28.0	-0.2
ISAL					IAmb		IAmb	21 11 31.2	
	comp=Z,79nm,1.3s								
ISAL	**Salakas**		43.67	347	*eP*		**P**	21 11 28.0	-0.2
SENIN	**Lac Senin/Sane**		43.67	325	*eP*		**P**	21 11 27.0	-1.6
	comp=Z,155nm,1.4s								
SENIN	**Lac Senin/Sane**		43.67	325	*eP*		**P**	21 11 27.0	-1.6
	comp=Z,155nm,1.4s								
NKC	**Novy Kostel**		43.69	333	*eP*		**P**	21 11 27.5	-1.0
NKC					*ex*		x	21 11 37.9	
NKC					*ex*		x	21 13 15.5	
NKC					AMS		AMS	21 42 50.0	
	comp=Z,900nm,14.2s								
NKC	**Novy Kostel**		43.69	333	*eP*		**P**	21 11 27.5	-1.0
NKC					*e*			21 11 37.9	
NKC					*e*			21 13 15.5	
NKC					MLR		MLR		
	comp=Z,900nm,14.2s								
NKC	**Novy Kostel**		43.69	333	P		**P**	21 11 27.5	-1.0
OG26	**St.-Nazaire-De**		43.78	322	*eP*		**P**	21 11 28.1	-1.3
OG26	**St.-Nazaire-De**		43.78	322	*eP*		**P**	21 11 28.1	-1.3
GRFO	**Grafenberg**		43.86	332	*eP*		**P**	21 11 28.9	-0.9
GRFO					pmax		pmax		
	comp=Z,120nm,1.3s								
GRFO	**Grafenberg**		43.86	332	*eP*		**P**	21 11 28.9	-0.9
	comp=Z,116nm,1.3s								
GRFO	**Grafenberg**		43.86	332	*eP*		**P**	21 11 28.9	-0.9
	comp=Z,116nm,1.3s								
GRN	**Grenoble**		43.89	323	*eP*		**P**	21 11 30.0	-0.3
GRN	**Grenoble**		43.89	323	*eP*		**P**	21 11 30.0	-0.3
SPAK	**Spaichingen-Ko**		43.97	328	*eP*		**P**	21 11 30.8	0.0
RAMN	**Ramite**		43.97	65	*eP*		**P**	21 11 30.2	-1.2
OG01	**Vacheresse**		43.99	325	*eP*		**P**	21 11 29.7	-1.3
OG01	**Vacheresse**		43.99	325	*eP*		**P**	21 11 29.7	-1.3
SHLS	**Shalkode**		44.13	41	*i* P		**P**	21 11 31.6	-0.7
	comp=Z,300nm,1.0s								
SHLS					*i* PP		**PP**	21 13 15.1	0.0
SHLS					LRM		MLR	21 32 12.3	
	comp=Z,397nm,15.0s								
STU	**Stuttgart**		44.20	329	*eP*		**P**	21 11 31.6	-1.0
STU					pmax		pmax		
	comp=Z,212nm,1.8s								
STU	**Stuttgart**		44.20	329	*eP*		**P**	21 11 31.6	-1.0
	comp=Z,212nm,1.8s								
STU	**Stuttgart**		44.20	329	*eP*		**P**	21 11 31.6	-1.0
	comp=Z,212nm,1.8s								
FEL

ZRNK pmax pmax
comp=Z,130nm,1.2s
ZRNK Zerenda 44.93 23 eP P 21 11 38.5 +0.1
comp=Z,133nm,1.3s
ZRNK Zerenda 44.93 23 eP P 21 11 38.5 +0.1
comp=Z,133nm,1.3s
ZRNK LR LR
comp=Z,2μm,20.0s
TOD Tromm 44.95 330⇑ eP P 21 11 38.1 -0.5
KTD Kalmit 45.11 329⇑ eP P 21 11 39.5 -0.4
LBL Lubilhac 45.36 322⇑ eP P 21 11 43.2 +1.2
LBL Lubilhac 45.36 322⇑ eP P 21 11 43.2 +1.2
BRVK Borovoye 45.51 24 ceP P 21 11 43.1 +0.1
BRVK pmax pmax
comp=Z,366nm,2.5s
BRVK Borovoye 45.51 24 eP P 21 11 43.5 +0.5
comp=Z,216nm,1.3s
BRVK Borovoye 45.51 24 eP P 21 11 43.5 +0.5
comp=Z,216nm,1.3s
BRVK LR LR
comp=Z,1μm,20.0s
BVAR Borovoye Array 45.53 24 P P 21 11 42.6 -0.6
comp=Z,28nm,0.9s,baz=215,slow=4.9,SNR=86
BVAR PcP **PcP 21 13 20.8 -1.1**
comp=Z,8.5nm,0.9s,baz=228,slow=1.8,SNR=5.3
BVAR LR LR 21 32 54.6
comp=Z,2μm,20.5s,baz=212,slow=39
PLDF La Plantade 45.53 323⇑ eP P 21 11 43.7 +0.3
PLDF La Plantade 45.53 323⇑ eP P 21 11 43.7 +0.3
SVE Sverdlovsk 45.59 14⇑ eP P 21 11 43.5 0.0
SVE eS **S 21 18 31.0 +4.6**
SVE pmax pmax
comp=Z,182nm,1.8s
ABH Alteburg 45.74 330⇑ eP P 21 11 44.4 -0.5
PYM Petit Puy Mans 45.78 322⇑ eP P 21 11 46.0 +0.7
PYM Petit Puy Mans 45.78 322⇑ eP P 21 11 46.0 +0.7
FRNF Fournols 45.85 322 eP P 21 11 46.2 +0.3
FRNF Fournols 45.85 322 eP P 21 11 46.2 +0.3
AGO Saint Agoulin 45.87 323⇑ eP P 21 11 46.5 +0.6
AGO Saint Agoulin 45.87 323⇑ eP P 21 11 46.5 +0.6
RUP Ruppelstein 45.87 329⇑ eP P 21 11 45.5 -0.4
ZFT Errachidia 45.90 302 iP P 21 11 46.0 -0.6
VERF Verneugheol 46.09 322⇑ eP P 21 11 47.9 +0.2
VERF Verneugheol 46.09 322⇑ eP P 21 11 47.9 +0.2
KIC Kosan Boka 46.23 266 eP P 21 11 47.8 -1.4
comp=Z,457nm,1.7s
VSU Vasula 46.25 349 ceP P 21 11 47.9 -0.7
VSU pmax pmax
comp=Z,300nm,1.2s
DBIC Dimbokro 46.28 266 P P 21 11 48.0 -1.6
comp=Z,20nm,0.7s,baz=61,slow=8.9,SNR=15
DBIC Dimbokro 46.28 266 eP P 21 11 48.6 -1.0
DBIC pmax pmax
comp=Z,63nm,1.0s
DBIC Dimbokro 46.28 266 eP P 21 11 48.0 -1.6
comp=Z,63nm,1.0s
DBIC Dimbokro 46.28 266 eP P 21 11 48.0 -1.6
comp=Z,63nm,1.0s
WLF Walferdange 46.30 329 P P 21 11 48.6 -0.7
comp=Z,109nm,1.9s
WLF Walferdange 46.30 329 eP P 21 11 48.6 -0.7
WLF pmax pmax
comp=Z,260nm,1.6s
WLF Walferdange 46.30 329 eP P 21 11 48.6 -0.7
comp=Z,256nm,1.6s
WLF Walferdange 46.30 329 eP P 21 11 48.6 -0.7
comp=Z,256nm,1.6s
WLF LR LR
comp=Z,578nm,19.0s
TIC Toumodi 46.44 266 eP P 21 11 49.1 -1.8
BSD Bornholm Skovb 46.45 339⇓ iP P 21 11 48.7 -1.6
BSD pmax pmax
comp=Z,200nm,1.5s
BSD Bornholm Skovb 46.45 339⇓ iP P 21 11 48.7 -1.6
comp=Z,200nm,1.5s
BSD Bornholm Skovb 46.45 339⇓ iP P 21 11 48.7 -1.6
SNR=24
LIC Lamto 46.54 266 eP P 21 11 50.0 -1.7
RGN Rugen 46.57 338 eP P 21 11 51.0 -0.3
comp=Z,249nm,1.5s
RGN Rugen 46.57 338 eP P 21 11 51.0 -0.3
comp=Z,249nm,1.5s
CZD Col de Zad 46.69 303 iP P 21 11 54.0 +1.1
MEM Membach 46.97 329 P P 21 11 54.0 -0.5
comp=Z,99nm,2.0s
MEM Membach 46.97 329 P P 21 11 54.0 -0.5
comp=Z,99nm,2.0s
HGN Heimansgroeve 47.10 330 eP P 21 11 55.1 -0.4
comp=Z,490nm,2.0s
HGN eS **PP 21 13 50.0 +3.9**
BCLA Clavier 47.20 329 P P 21 11 56.3 0.0
comp=Z,150nm,2.1s
BCLA Clavier 47.20 329 P P 21 11 56.3 0.0
comp=Z,150nm,2.1s
BEBN Eben Emael 47.25 329 P P 21 11 56.7 0.0
BEBN Eben Emael 47.25 329 P P 21 11 56.6 0.0
MAKZ Makanchi 47.27 37 eP P 21 11 57.1 +0.2
MAKZ pmax pmax
comp=Z,170nm,1.0s
MAKZ Makanchi 47.27 37 eP P 21 11 57.1 +0.2
comp=Z,174nm,1.0s
MAKZ Makanchi 47.27 37 eP P 21 11 57.1 +0.2
comp=Z,174nm,1.0s
MAKZ LR LR
comp=Z,5μm,20.0s
KLMR Klimovskoe 47.28 359 dP P 21 11 56.1 -0.6
KLMR e 21 13 25.3
KLMR pmax pmax
comp=Z,383nm,1.3s
DOU Dourbes 47.36 328 P P 21 11 56.7 -0.9
DOU Dourbes 47.36 328 P P 21 11 56.6 -0.9
KIB El Ksiba 47.41 302 iP P 21 11 57.0 -1.3
MK01 Makanchi Array 47.44 37 eP P 21 11 57.5 -0.8
MK01 Makanchi Array 47.44 37 eP P 21 11 57.5 -0.8
MK31 Makanchi Array 47.45 37 eP P 21 11 58.4 +0.1
MK31 Makanchi Array 47.45 37 eP P 21 11 58.4 +0.1
MK31 Makanchi Array 47.45 37 eP P 21 11 58.4 +0.1
MK32 Makanchi Array 47.45 37 eP P 21 11 58.4 +0.1
MK32 Makanchi Array 47.45 37 eP P 21 11 58.4 +0.1
MKAR Makanchi Array 47.45 37 P P 21 11 58.4 +0.1
comp=Z,107nm,0.9s,baz=234,slow=6.6,SNR=184
MKAR LR LR 21 35 17.6
comp=Z,4μm,18.1s,baz=232,slow=40
WTSB Winterswijk 47.46 331 eP P 21 11 56.6 -1.6
comp=Z,694nm,2.1s
KURBB Kurchatov Arra 47.55 31 P P 21 11 59.4 +0.4
comp=Z,54nm,0.9s,baz=234,slow=8.3,SNR=172
KURBB PcP **PcP 21 13 28.6 -0.4**
comp=Z,5.7nm,0.9s,baz=235,slow=3.9,SNR=6.2
LLD Lille Linde 47.59 338 iP P 21 12 00.2 +1.0
LLD Lille Linde 47.59 338 iP P 21 12 00.2 +1.0
LLD Lille Linde 47.59 338 iP P 21 12 00.2 +1.0
SNR=24
KURK Kurchatov 47.65 31 eP P 21 12 00.0 +0.2
KURK pmax pmax
comp=Z,500nm,1.1s
KURK Kurchatov 47.65 31 eP P 21 12 00.0 +0.2
comp=Z,501nm,1.1s
KURK Kurchatov 47.65 31 ePcP PcP 21 13 28.6 -0.7
KURK Kurchatov 47.65 31 eP P 21 11 60.0 +0.2
comp=Z,501nm,1.1s
KURK ePcP **PcP 21 13 28.6 -0.7**
TZC Tazercounte 47.69 301 iP P 21 12 02.0 +1.3
ES19 SONSECA Array 47.71 312 eP P 21 11 59.9 -0.6
ES19 SONSECA Array 47.71 312 eP P 21 11 59.9 -0.6
ESDC Sonseca Array 47.75 312 P P 21 12 00.3 -0.5
comp=Z,19nm,0.9s,baz=112,slow=6.9,SNR=53
ESLA Sonseca Array 47.75 312 eP P 21 12 00.3 -0.5
comp=Z,191nm,1.5s
ESLA Sonseca Array 47.75 312 eP P 21 12 00.3 -0.5
comp=Z,191nm,1.5s
COP Copenhagen 47.78 338 iP P 21 12 00.0 -0.6
COP Copenhagen 47.78 338 iP P 21 12 00.0 -0.6
COP Copenhagen 47.78 338 iP P 21 12 00.0 -0.6
SNR=24
PAB San Pablo 47.99 311 eP P 21 12 02.2 -0.5
PAB pmax pmax
comp=Z,140nm,1.2s
PAB San Pablo 47.99 311 eP P 21 12 02.2 -0.5
comp=Z,141nm,1.3s
PAB San Pablo 47.99 311 eP P 21 12 02.2 -0.5
comp=Z,141nm,1.3s
PAB LR LR
comp=Z,1μm,22.0s
SEM Semipalatinsk 48.30 32 iP P 21 12 03.8 -1.0
comp=Z,1μm,1.4s
SEM eS **S 21 19 05.6 +0.3**
SEM LRM MLR 21 34 40.6
comp=Z,1μm,17.1s
LSA Lhasa 48.34 62 P P 21 12 06.3 +0.2
LSA PMZ
comp=Z,51nm,1.9s
LSA Lhasa 48.34 62 eP P 21 12 06.3 +0.2
LSA pmax pmax
comp=Z,124nm,1.4s
LSA MLR MLR
comp=Z,1μm,21.0s
LSA Lhasa 48.34 62 eP P 21 12 06.3 +0.2
comp=Z,124nm,1.4s
LSA Lhasa 48.34 62 eP P 21 12 06.3 +0.2
comp=Z,124nm,1.4s
LSA LR LR
comp=Z,1μm,21.0s
RTC Rabat Centre 48.38 304 PFAKE 21 12 20.0 +14
RTC LR LR
comp=Z,18μm,18.0s
SHL Shillong 48.53 68 eP P 21 12 06.8 -0.5
SHL lAmb lAmb 21 12 08.3
comp=Z,20nm,0.6s
OUK Oukaimeden 48.68 300 iP P 21 12 08.0 -0.5
ZSN Zaisan 49.02 38 iP P 21 12 11.6 +1.1
comp=Z,354nm,1.9s
ZSN LRM MLR 21 35 15.3
comp=Z,466nm,14.9s
FIA0 FINESS Array S 49.17 350 eP P 21 12 10.7 -0.6
FIA0 FINESS Array S 49.17 350 eP P 21 12 10.7 -0.6
FIA0 FINESS Array S 49.17 350 eP P 21 12 10.7 -0.6
FIA1 FINESS Array S 49.17 350 eP P 21 12 10.6 -0.7
FIA1 FINESS Array S 49.17 350 eP P 21 12 10.6 -0.7
FINES FINESS Array B 49.17 350 P P 21 12 10.7 -0.6
comp=Z,37nm,1.0s,baz=142,slow=9.6,SNR=31
CIA Chichaoua 49.49 300 iP P 21 12 14.0 -0.3
WMQ Urumqi 49.50 43 P P 21 12 14.9 +0.6
WMQ pP sP 21 12 19.9 +4.2
WMQ sP pP 21 12 21.9 +6.6
WMQ PMZ
comp=Z,31nm,1.0s
WMQ LN
comp=Z,1μm,14.6s
WMQ LE
comp=Z,1μm,15.4s
WMQ LZ
comp=Z,940nm,24.8s
PBAR Barrancos 49.57 309⇓ iP P 21 12 13.4 -1.4
comp=Z,283nm,1.6s
PBAR Barrancos 49.57 309⇓ iP P 21 12 13.4 -1.4
comp=Z,283nm,1.6s
MUD Monsted U'grnd 49.57 337 iP P 21 12 14.8 +0.4
MUD pmax pmax
comp=Z,250nm,1.5s
MUD Monsted U'grnd 49.57 337 iP P 21 12 14.8 +0.4
comp=Z,246nm,1.5s
MUD Monsted U'grnd 49.57 337 iP P 21 12 14.9 +0.5
SNR=23
DGPR DIGLIPUR 49.77 84 eP P 21 12 17.8 +1.1
DGPR lAmb lAmb 21 12 23.2
comp=Z,401nm,1.6s
SUR Sutherland 49.83 203 eP P 21 12 18.0 +1.0
comp=Z,55nm,1.5s
SUR Sutherland 49.83 203 eP P 21 12 18.0 +1.0
comp=Z,55nm,1.5s
SUR LR LR
comp=Z,8μm,21.0s
PVAQ Vaqueiros 49.88 308 eP P 21 12 16.0 -1.2
comp=Z,164nm,1.7s
PVAQ Vaqueiros 49.88 308 eLR LR 21 32 19.6
comp=Z,971nm,18.0s
PVAQ Vaqueiros 49.88 308 eP P 21 12 16.0 -1.2
comp=Z,164nm,1.7s
PBDV Barranco-do-Ve 50.00 307 eP P 21 12 17.7 -0.4
comp=Z,155nm,1.6s
PBDV Barranco-do-Ve 50.00 307 eP P 21 12 17.7 -0.4
comp=Z,155nm,1.6s
PBEJ Beja 50.16 308 eP P 21 12 18.6 -0.7
comp=Z,152nm,1.7s
PBEJ Beja 50.16 308 eP P 21 12 18.6 -0.7
comp=Z,152nm,1.7s
PESTR Estremoz 50.17 310⇓ iP P 21 12 18.5 -0.9
comp=Z,181nm,1.7s
PESTR Estremoz 50.17 310⇓ iP P 21 12 18.5 -0.9
comp=Z,181nm,1.7s
PCVE Castro Verde 50.18 308 eP P 21 12 19.1 -0.4
comp=Z,56nm,2.0s
PCVE Castro Verde 50.18 308 eP P 21 12 19.1 -0.4
comp=Z,56nm,2.0s
PMRV Marv??o 50.19 310⇓ iP P 21 12 18.4 -1.1
comp=Z,160nm,1.6s
PMRV Marv??o 50.19 310 eLR LR 21 32 22.1
comp=Z,952nm,20.0s
PMRV Marv??o 50.19 310⇓ iP P 21 12 18.4 -1.1
comp=Z,160nm,1.6s
PCBR Castelo Branco 50.37 311 eP P 21 12 19.8 -1.0
comp=Z,128nm,1.6s
PCBR Castelo Branco 50.37 311 eP P 21 12 19.8 -1.0
comp=Z,128nm,1.6s
MESJ Messejana 50.38 308 eP P 21 12 20.6 -0.3
MESJ AMb AMB 21 12 24.3
comp=Z,146nm,2.2s
MESJ Messejana 50.38 308 eP P 21 12 19.9 -1.0
comp=Z,147nm,1.8s
MESJ Messejana 50.38 308 eP P 21 12 19.9 -1.0
comp=Z,147nm,1.8s
EVO Evora 50.40 309⇓ iP P 21 12 20.6 -0.5
comp=Z,277nm,1.7s
EVO Evora 50.40 309⇓ iP P 21 12 20.6 -0.5
comp=Z,277nm,1.7s
MVO Moncorvo 50.45 313 eP P 21 12 20.9 -0.6
comp=Z,115nm,1.8s
MVO Moncorvo 50.45 313 eLR LR 21 36 06.2
comp=Z,970nm,16.0s
MVO Moncorvo 50.45 313 eP P 21 12 20.9 -0.6
comp=Z,115nm,1.8s
PBRG Braganca 50.45 313 eP P 21 12 20.5 -1.0
comp=Z,109nm,1.8s
PBRG Braganca 50.45 313 eP P 21 12 20.5 -1.0
comp=Z,109nm,1.8s
MORF Marmelete 50.57 307 eP P 21 12 22.0 -0.5
MORF AMb AMB 21 12 26.7
comp=Z,94nm,1.9s
MTE Manteigas 50.59 312⇓ iP P 21 12 21.4 -1.2
comp=Z,107nm,1.8s
MTE Manteigas 50.59 312 eLR LR 21 30 02.3
comp=Z,734nm,22.0s
MTE Manteigas 50.59 312 eP P 21 12 21.9 -0.7
comp=Z,64nm,1.2s
MTE Manteigas 50.59 312 eP P 21 12 21.9 -0.7
comp=Z,64nm,1.2s
MTE LR LR
comp=Z,1μm,20.0s
PNCL Nicolau / Gran 50.68 308 eP P 21 12 22.4 -0.8
comp=Z,120nm,1.9s
PNCL Nicolau / Gran 50.68 308 eP P 21 12 22.4 -0.8
comp=Z,120nm,1.9s
PTEO Sao Teotonio 50.69 308 eP P 21 12 22.3 -1.0
comp=Z,167nm,1.6s
PTEO Sao Teotonio 50.69 308 eP P 21 12 22.3 -1.0
comp=Z,167nm,1.6s
PMTG Montargil 50.71 310⇓ iP P 21 12 21.5 -1.9
comp=Z,112nm,1.7s
PMTG Montargil 50.71 310⇓ iP P 21 12 21.5 -1.9
comp=Z,112nm,1.7s
PVIS Viseu 50.94 312⇓ iP P 21 12 24.4 -0.8
comp=Z,174nm,1.6s
PVIS Viseu 50.94 312⇓ iP P 21 12 24.4 -0.8
comp=Z,174nm,1.6s
PVRL Vila Real 50.98 313⇓ iP P 21 12 24.9 -0.6
comp=Z,173nm,1.7s
PVRL Vila Real 50.98 313⇓ iP P 21 12 24.9 -0.6
comp=Z,173nm,1.7s
PTOM Tomar 51.00 310 eP P 21 12 24.5 -1.1
comp=Z,94nm,1.9s
PTOM Tomar 51.00 310 eP P 21 12 24.5 -1.1
comp=Z,94nm,1.9s
POLO Lamas de Olo 51.06 313 eP P 21 12 23.9 -2.3
comp=Z,100nm,1.4s
POLO Lamas de Olo 51.06 313 eP P 21 12 23.9 -2.3
comp=Z,100nm,1.4s
PCAS Casmilo, Conde 51.18 311 eP P 21 12 26.0 -1.0
comp=Z,195nm,1.6s
PCAS Casmilo, Conde 51.18 311 eP P 21 12 26.0 -1.0
comp=Z,195nm,1.6s
PCAB Cabril 51.33 313 eP P 21 12 28.3 +0.2
comp=Z,143nm,1.6s
PCAB Cabril 51.33 313 eP P 21 12 28.3 +0.2
comp=Z,143nm,1.6s
PMST Lisbon--Monsan 51.34 309 eP P 21 12 27.7 -0.5
comp=Z,114nm,1.5s
PMST Lisbon--Monsan 51.34 309 eP P 21 12 27.7 -0.5
comp=Z,114nm,1.5s
PMAFR Mafra 51.47 309 eP P 21 12 28.7 -0.5
comp=Z,158nm,1.9s
PMAFR Mafra 51.47 309 eP P 21 12 28.7 -0.5
comp=Z,158nm,1.9s
PGAV Gavieira, Arco 51.59 313 eP P 21 12 29.9 -0.2
comp=Z,298nm,1.5s
PGAV Gavieira, Arco 51.59 313 eP P 21 12 29.9 -0.2
comp=Z,298nm,1.5s
KONO Kongsberg 51.79 340 eP P 21 12 30.8 -0.3
KONO pmax pmax
comp=Z,83nm,1.2s
KONO Kongsberg 51.79 340 eP P 21 12 30.8 -0.3
comp=Z,82nm,1.3s
KONO Kongsberg 51.79 340 eP P 21 12 30.8 -0.3
comp=Z,82nm,1.3s
KONO LR LR
comp=Z,808nm,20.0s
NC602 NORSAR Array S 52.01 342 eP P 21 12 31.7 -1.1
NC602 NORSAR Array S 52.01 342 eP P 21 12 31.7 -1.1
NC405 NORSAR Array S 52.25 342 eP P 21 12 34.0 -0.6
NC405 NORSAR Array S 52.25 342 eP P 21 12 34.0 -0.6
NAO01 NORSAR Array S 52.29 342 eP P 21 12 34.3 -0.6
NAO01 NORSAR Array S 52.29 342 eP P 21 12 34.3 -0.6
NB201 NORSAR Array S 52.33 342 eP P 21 12 34.5 -0.7
NB201 NORSAR Array S 52.33 342 eP P 21 12 34.5 -0.7
NB200 NORSAR Array S 52.34 342 eP P 21 12 34.0 -1.3
NB200 NORSAR Array S 52.34 342 eP P 21 12 34.0 -1.3
NOA NORSAR Array B 52.34 342 P P 21 12 34.0 -1.3
comp=Z,35nm,1.0s,baz=140,slow=7.5,SNR=30
NVS Novosibirsk 52.36 29⇑ iP P 21 12 35.5 0.0
NVS e 21 13 47.9
NVS pmax pmax
comp=N,115nm,1.7s
NVS pmax pmax
comp=E,72nm,1.7s
NVS pmax pmax
comp=Z,279nm,1.7s
NC303 NORSAR Array S 52.44 342 eP P 21 12 35.7 -0.4
NC303 NORSAR Array S 52.44 342 eP P 21 12 35.6 -0.4
NBO02 NORSAR Array S 52.46 342 eP P 21 12 35.1 -1.1
NBO02 NORSAR Array S 52.46 342 eP P 21 12 35.1 -1.1
NBO00 NORSAR Array S 52.47 342 eP P 21 12 35.7 -0.6
NBO00 NORSAR Array S 52.47 342 eP P 21 12 35.7 -0.6
ZAA0 Zalesovo Array 52.62 31 eP P 21 12 36.0 -1.5
ZAA0 Zalesovo Array 52.62 31 eP P 21 12 36.0 -1.5
ZALV Zalesovo Beam 52.62 31 P P 21 12 36.7 -0.8
comp=Z,113nm,0.9s,baz=240,slow=6.8,SNR=152
ZALV LR LR 21 37 15.3
comp=Z,1μm,18.6s,baz=238,slow=39
ZAA1 Zalesovo Array 52.62 31 eP P 21 12 36.7 -0.8
ZAA1 Zalesovo Array 52.62 31 eP P 21 12 36.7 -0.8
NC204 NORSAR Array S 52.67 342 eP P 21 12 37.1 -0.7
NC204 NORSAR Array S 52.67 342 eP P 21 12 37.1 -0.7
ESK Eskdalemuir 54.24 330 iP P 21 12 48.6 -0.7
ESK Eskdalemuir 54.24 330 eP P 21 12 48.4 -0.9
comp=Z,239nm,2.0s
ESK Eskdalemuir 54.24 330 eP P 21 12 48.4 -0.9
comp=Z,239nm,2.0s
ESK LR LR
comp=Z,807nm,19.0s
APA Apatity 54.27 356⇓ iP P 21 12 50.0 +0.6
APA iS **S 21 20 22.0 -5.4**
APA iSS **SS 21 24 08.0 -1.2**
APA pmax pmax
comp=Z,45nm,0.8s
APA MLR MLR
comp=Z,1μm,13.0s
TBLU Trondheim 54.36 343 eP P 21 12 51.7 +1.6
LVZ Lovozero 54.52 357 ceP P 21 12 51.5 +0.2
LVZ pmax pmax
comp=Z,53nm,1.2s
LVZ Lovozero 54.52 357 eP P 21 12 50.8 -0.4
comp=Z,144nm,1.3s
LVZ Lovozero 54.52 357 eP P 21 12 50.8 -0.4
comp=Z,144nm,1.3s
LVZ LR LR
comp=Z,1μm,21.0s
MLSI Meulaboh, Aceh 54.72 94 P P 21 12 55.6 +2.1
comp=Z,114nm,1.6s
NSS Namsos 54.92 345 eP P 21 12 53.3 -0.8
NSS lAmb lAmb 21 12 56.0
comp=Z,93nm,1.1s
CHTO Chiang Mai 55.04 76 P P 21 12 56.1 +0.3
comp=Z,87nm,1.6s
CHTO Chiang Mai 55.04 76 eP P 21 12 55.0 -0.8
CHTO pmax pmax
comp=Z,17nm,1.1s
CHTO Chiang Mai 55.04 76 eP P 21 12 55.0 -0.8
comp=Z,17nm,1.1s
CHTO Chiang Mai 55.04 76 eP P 21 12 55.0 -0.8
comp=Z,17nm,1.1s
CHTO LR LR
comp=Z,400nm,19.0s
CMMT Chiang Mai 55.05 76 P P 21 12 56.1 +0.3
comp=Z,23nm,0.7s,comp=Z,1μm
CM31 Chiang Mai Arr 55.06 77 eP P 21 12 54.8 -1.2
CM31 Chiang Mai Arr 55.06 77 eP P 21 12 54.8 -1.2
CMAR Chiang Mai Arr 55.06 77 P P 21 12 54.8 -1.2
comp=Z,37nm,0.9s,baz=278,slow=7.6,SNR=106
CM01 Chiang Mai Arr 55.08 77 eP P 21 12 54.1 -2.0
CM01 Chiang Mai Arr 55.08 77 eP P 21 12 54.1 -2.0
UMPA Umpang Tak 55.17 80 P P 21 12 59.5 +2.8
comp=Z,6.9nm,1.1s
SHEL Horse Pasture 55.30 240 PFAKE 21 13 10.0 +12
SHEL LR LR
comp=Z,1μm,19.0s
TPTI 55.71 95 P P 21 13 02.1 +1.5
comp=Z,48nm,2.0s,comp=Z,1μm
LAMP Lampang 55.71 77 P P 21 13 00.7 +0.1
comp=Z,34nm,0.9s,comp=Z,310nm
SUKH Sukhothai 55.79 78 P P 21 13 01.9 +0.7
comp=Z,12nm,1.0s,comp=Z,81nm
PKDT Phuket 55.83 90 P P 21 13 03.8 +2.3
comp=Z,141nm,1.2s,comp=Z,2μm
SURT Suratani 56.09 88 P P 21 13 05.2 +1.9
comp=Z,33nm,1.2s
GSI Gunungsitoli 56.58 97 P P 21 13 08.4 +1.5
comp=Z,80nm,1.6s
GSI Gunungsitoli 56.58 97 eP P 21 13 07.2 +0.3
comp=Z,96nm,1.2s
GSI Gunungsitoli 56.58 97 eP P 21 13 07.2 +0.3
comp=Z,96nm,1.2s
KRAB Krabi 56.61 89 P P 21 13 08.6 +1.5
comp=Z,39nm,1.1s,comp=Z,401nm
UTTA Uttaradit 56.65 78 P P 21 13 07.7 +0.4
comp=Z,12nm,1.0s,comp=Z,107nm
KTK1 Kautokeino 56.69 352 eP P 21 13 06.3 -0.5
KTK1 lAmb lAmb 21 13 08.6
comp=Z,86nm,1.2s
KTK1 Kautokeino 56.69 352 eP P 21 13 06.3 -0.5
SNR=22
PMOZ Porto Moniz, M 56.74 300 eLR LR 21 35 35.4
comp=Z,1μm,16.0s
ARA0 ARCESS Array S 56.91 353 eP P 21 13 07.7 -0.6
ARA0 ARCESS Array S 56.91 353 eP P 21 13 07.7 -0.6
ARCES ARCESS Array B 56.91 353 P P 21 13 07.7 -0.6
comp=Z,27nm,0.8s,baz=163,slow=5.8,SNR=41
ARCES LR LR 21 40 04.7
comp=Z,816nm,21.7s,baz=176,slow=39
ARE0 ARCESS Array S 56.91 353 eP P 21 13 07.9 -0.4
comp=Z,85nm,1.1s
ARE0 ARCESS Array S 56.91 353 eP P 21 13 07.9 -0.4
comp=Z,85nm,1.1s
ARE0 LR LR
comp=Z,1μm,20.0s
KEV Kevo 56.95 354⇓ iP P 21 13 08.0 -0.6
KEV epP **sP 21 13 10.0 0.0**
KEV Kevo 56.95 354 eP P 21 13 08.6 0.0
KEV pmax pmax
comp=Z,130nm,1.0s
KEV Kevo 56.95 354 eP P 21 13 08.6 0.0
comp=Z,128nm,1.0s
KEV epP **sP 21 13 10.0 0.0**
SNR=158
KEV Kevo 56.95 354 eP P 21 13 08.6 0.0
comp=Z,128nm,1.0s
KEV LR LR
comp=Z,1μm,21.0s
GTA Gaotai 56.98 52 P P 21 13 08.8 -0.7

GTA pP sP 21 13 12.0 +1.1
GTA sP pP 21 13 14.9 +4.4
GTA PcP **PcP** **21 14 05.3 +0.5**
GTA S **S** **21 21 02.2 -2.6**
GTA PMZ
comp=Z,9.0nm,1.5s
GTA LN
comp=Z,850nm,17.6s
GTA LE
comp=Z,2µm,15.2s
GTA LZ
comp=Z,2µm,15.2s
TSI Tuntungan 56.99 95 P **P** **21 13 12.1 +2.3**
comp=Z,62nm,1.9s
KIF Kilpisjarvi 57.03 351 *e*P **P** **21 13 07.8 -1.3**
KIF Kilpisjarvi 57.03 351 *e*P **P** **21 13 07.8 -1.3**
SNR=22
STEI Steigen 57.03 348 *e*P **P** **21 13 09.8 +0.7**
STEI Steigen 57.03 348 *e*P **P** **21 13 09.8 +0.7**
SNR=22
PBKT Sadao Pong 57.15 79 P **P** **21 13 10.5 -0.3**
comp=Z,58nm,1.1s
TRTT Trang 57.16 89 P **P** **21 13 11.6 +0.6**
comp=Z,70nm,1.4s
LOEI Loei 57.34 78 P **P** **21 13 13.8 +1.6**
comp=Z,76nm,0.7s
PSI Prapat 57.51 95 *e*P **P** **21 13 15.2 +1.6**
PSI pmax pmax
comp=Z,28nm,1.1s
PSI Prapat 57.51 95 *e*P **P** **21 13 15.2 +1.6**
comp=Z,28nm,1.1s
TRO Tromso 57.88 351 ⇓*i*P **P** **21 13 14.0 -1.1**
TRO IAmb IAmb 21 13 16.9
comp=Z,154nm,1.3s
TRO Tromso 57.88 351 ⇓*i*P **P** **21 13 14.0 -1.1**
SNR=22
CHAI Chaiyaphum 58.19 80 P **P** **21 13 18.6 +0.4**
comp=Z,7.5nm,1.0s,comp=Z,71nm
KMI Kunming 58.33 69 P **P** **21 13 18.5 -0.9**
KMI pP sP 21 13 23.9 +3.1
KMI sP pP 21 13 25.2 +4.8
KMI PMZ
comp=Z,26nm,1.2s
KMI LN
comp=Z,390nm,19.6s
KMI LE
comp=Z,310nm,17.3s
KMI LZ
comp=Z,650nm,17.8s
SRAK Srakaew 58.46 82 P P 21 13 25.2 +5.1
comp=Z,61nm,1.2s,comp=Z,617nm
KULM Kulim 58.61 92 *e*P **P** **21 13 20.7 -0.5**
comp=Z,20nm,1.0s
KULM Kulim 58.61 92 *e*P **P** **21 13 20.7 -0.5**
comp=Z,20nm,1.0s
KULM LR LR
comp=Z,692nm,19.0s
MNSI Mandaling Nat 58.65 97 P **P** **21 13 23.2 +1.8**
comp=Z,46nm,1.7s
KHON Khomkaen 58.94 79 P **P** **21 13 23.7 +0.3**
comp=Z,42nm,0.9s,comp=Z,1µm
NONG Nongkai 59.08 77 P **P** **21 13 23.3 -1.1**
comp=Z,85nm,1.1s,comp=Z,4µm
IPM Ipoh 59.16 93 ⇑P **P** **21 13 25.4 +0.4**
CD2 Chengdu 59.30 62 P **P** **21 13 25.6 -0.3**
CD2 pP sP 21 13 28.8 +1.5
CD2 PP **PP** **21 15 36.7 -0.1**
CD2 PcS **PcS** **21 18 15.5 -0.7**
CD2 S **S** **21 21 34.9 -0.4**
CD2 sS sS 21 21 40.3 +3.4
CD2 SS **SS** **21 25 31.0 +1.1**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,320nm,5.4s
CD2 LN
comp=Z,440nm,16.9s
CD2 LE
comp=Z,1µm,16.1s
CD2 LZ
comp=Z,810nm,15.3s
ASCN Ascension 59.60 252 PFAKE 21 13 40.0 +12
ASCN LR LR
comp=Z,1µm,20.0s
LZH Lanzhou 59.71 56 *e*P **P** **21 13 28.8 +0.1**
LZH pP sP 21 13 33.2 +3.1
LZH sP pP 21 13 36.2 +6.5
LZH PcP **PcP** **21 14 18.4 +2.7**
LZH PP **PP** **21 15 44.0 +3.6**
LZH *e*S **S** **21 21 35.5 -5.1**
LZH SS **SS** **21 25 37.3 +1.0**
LZH PMZ
comp=Z,68nm,1.2s
LZH PMZ
comp=Z,230nm,4.0s
LZH LN
comp=Z,870nm,13.0s
LZH LE
comp=Z,1µm,14.2s
LZH LZ
comp=Z,2µm,17.8s
PPI Padang Panjang 59.77 99 P **P** **21 13 30.9 +1.7**
comp=Z,39nm,1.7s
PDSI Padang 59.96 99 P **P** **21 13 32.3 +1.8**
comp=Z,14nm,1.9s,comp=Z,3µm
SKNT Sakolnakorn 59.98 78 P **P** **21 13 29.5 -1.1**
comp=Z,81nm,1.2s
COCO West Island 60.34 113 *i* P **P** **21 13 36.3 +3.3**
PANO Nakornpanom 60.56 78 P **P** **21 13 33.9 -0.7**
comp=Z,91nm,1.3s
MOY Mondy 60.59 38 *e*P **P** **21 13 34.6 +0.2**
MOY pmax pmax
comp=Z,161nm,2.5s
KTGM Kuala Trenggan 61.02 91 ⇑P **P** **21 13 37.6 -0.2**
UBPT Khong Chiam 61.59 80 P **P** **21 13 41.4 -0.2**
comp=Z,34nm,1.5s
ZAK Zakamensk 61.65 40 *e*P **P** **21 13 41.3 -0.3**
ZAK pmax pmax
comp=Z,21nm,2.0s
GYA Guiyang 61.84 67 P **P** **21 13 44.2 +0.9**
GYA PcP **PcP** **21 14 25.0 +0.6**
GYA PP **PP** **21 16 03.6 +4.2**
GYA ScP **ScP** **21 18 26.4 -0.9**
GYA S **S** **21 22 06.8 -1.2**
GYA SS **SS** **21 26 10.2 +0.3**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,190nm,6.3s
GYA LN
comp=Z,920nm,19.7s
GYA LE
comp=Z,860nm,20.0s
GYA LZ
comp=Z,890nm,19.4s
KGM Kluang 61.96 95 ⇓P **P** **21 13 44.5 +0.3**
TLY Talaya 62.18 38 P **P** **21 13 45.7 +0.6**
comp=Z,2.4nm,0.7s,baz=251,slow=9.2,SNR=12
TLY LR LR 21 44 03.3
comp=Z,5µm,20.1s,baz=266,slow=39
TLY Talaya 62.18 38 *e*P **P** **21 13 45.9 +0.8**
TLY pmax pmax
comp=Z,40nm,1.8s
TLY MLR MLR
comp=Z,3µm,18.0s
TLY Talaya 62.18 38 *e*P **P** **21 13 45.7 +0.6**
TLY LR LR
comp=Z,5µm,20.0s
BJO Bjornoya 62.27 353 *e*P **P** **21 13 44.7 -0.5**
BJO IAmb IAmb 21 13 47.3
comp=Z,136nm,1.0s
BJO Bjornoya 62.27 353 *e*P **P** **21 13 44.7 -0.5**
SNR=21
MYKOM Kota Tinggi 62.52 95 ⇓P **P** **21 13 47.7 -0.2**
MYKOM Kota Tinggi 62.52 95 *e*P **P** **21 13 47.2 -0.7**
comp=Z,117nm,1.7s
MYKOM Kota Tinggi 62.52 95 *e*P **P** **21 13 47.2 -0.7**
comp=Z,117nm,1.7s
IRK Irkutsk 62.70 38 *e*P **P** **21 13 48.0 -0.5**
IRK pmax pmax
comp=Z,143nm,2.2s
NRIK Noril'sk 62.77 17 P **P** **21 13 48.5 -0.1**
comp=Z,58nm,1.0s,baz=222,slow=5.0,SNR=63
NRIK LR LR 21 46 25.1
comp=Z,2µm,18.4s,baz=233,slow=41
SONA0 Songino Array 63.14 43 *e*P **P** **21 13 51.6 -0.1**
comp=Z,95nm,1.1s
SONA0 Songino Array 63.14 43 *e*P **P** **21 13 51.6 -0.1**
comp=Z,95nm,1.1s
SONM Songino Array 63.14 43 P **P** **21 13 51.6 0.0**
comp=Z,46nm,0.9s,baz=247,slow=6.8,SNR=122
SONM LR LR 21 45 17.4
comp=Z,2µm,18.9s,baz=261,slow=40
SONA1 Songino Array 63.15 43 *e*P **P** **21 13 50.8 -0.9**
SONA1 Songino Array 63.15 43 *e*P **P** **21 13 50.8 -0.9**
ULN Ulaanbaatar 63.58 43 ⇑*i*P **P** **21 13 53.9 -0.7**
ULN pmax pmax
comp=Z,48nm,1.2s
ULN Ulaanbaatar 63.58 43 P **P** **21 13 54.2 -0.4**
SNR=16
ULN Ulaanbaatar 63.58 43 P **P** **21 13 54.2 -0.4**
SNR=16
ULN Ulaanbaatar 63.58 43 *e*P **P** **21 13 54.2 -0.4**
comp=Z,40nm,1.1s
ULN LR LR
comp=Z,2µm,18.0s
XAN Xi'an 63.76 59 P **P** **21 13 55.1 -0.8**
XAN PMZ
comp=Z,50nm,1.5s
XAN LN
comp=Z,970nm,15.4s
XAN LE
comp=Z,630nm,15.4s
XAN LZ
comp=Z,1µm,17.0s
ENH Enshi 64.24 63 *e*P **P** **21 13 58.4 -0.7**
comp=Z,136nm,1.5s
ENH Enshi 64.24 63 *e*P **P** **21 13 58.4 -0.7**
comp=Z,136nm,1.5s
ENH LR LR
comp=Z,805nm,20.0s
HSPB Hornsund (broa 64.92 354 *e*P **P** **21 14 02.9 +0.2**
HSPB IAmb IAmb 21 14 05.9
comp=Z,97nm,1.4s
HSPB Hornsund (broa 64.92 354 *e*P **P** **21 14 03.3 +0.6**
HSPB Hornsund (broa 64.92 354 *e*P **P** **21 14 02.9 +0.2**
SNR=20
KASI Kota Agung 65.14 103 P **P** **21 14 08.1 +2.9**
comp=Z,124nm,1.4s
QIZ Qiongzhong 65.30 75 P **P** **21 14 07.1 +0.9**
QIZ S **S** **21 22 56.0 +4.9**
QIZ PMZ
comp=Z,41nm,1.2s
QIZ LN
comp=Z,290nm,17.6s
QIZ LE
comp=Z,310nm,16.2s
QIZ LZ
comp=Z,430nm,20.6s
QIZ Qiongzhong 65.30 75 *e*P **P** **21 14 06.1 -0.1**
comp=Z,47nm,1.1s
QIZ Qiongzhong 65.30 75 *e*P **P** **21 14 06.1 -0.1**
comp=Z,47nm,1.1s
QIZ LR LR
comp=Z,366nm,19.0s
SPA0 Spitsbergen Ar 65.88 354 ⇓*i*P **P** **21 14 08.7 -0.2**
SPA0 *e*pP **sP** **21 14 10.9 +0.6**
SPA0 IAmb IAmb 21 14 11.8
comp=Z,309nm,1.3s
SPA0 Spitsbergen Ar 65.88 354 *e*P **P** **21 14 09.1 +0.2**
SPA0 *e*pP **sP** **21 14 10.9 +0.6**
SNR=160
SPA0 Spitsbergen Ar 65.88 354 *e*P **P** **21 14 09.1 +0.2**
SPITS Spitsbergen Ar 65.88 354 P **P** **21 14 08.7 -0.2**
comp=Z,45nm,0.7s,baz=145,slow=10,SNR=50
HHC Hu-ho-hao-te 66.08 51 *e*P **P** **21 14 12.0 +1.0**
HHC sP sP 21 14 19.8 +7.4
HHC S **S** **21 22 59.4 -0.9**
HHC PMZ
comp=Z,64nm,1.3s
HHC PMZ
comp=Z,990nm,7.4s
HHC LN
comp=Z,850nm,16.0s
HHC LE
comp=Z,1µm,14.8s
HHC LZ
comp=Z,1µm,16.0s
BORG Borgarnes 66.48 335 PFAKE 21 14 20.0 +7.1
BORG LR LR
comp=Z,551nm,19.0s
CGJI Cibinong 66.60 103 P **P** **21 14 16.2 +1.6**
comp=Z,90nm,1.3s,comp=Z,1µm
KBS Kingsbay 66.97 354 ⇓*i*P **P** **21 14 15.4 -0.4**
KBS IAmb IAmb 21 14 17.8
comp=Z,97nm,1.4s
KBS Kingsbay 66.97 354 *e*P **P** **21 14 15.7 -0.2**
KBS pmax pmax
comp=Z,86nm,1.3s
KBS Kingsbay 66.97 354 *e*P **P** **21 14 15.7 -0.2**
comp=Z,86nm,1.4s
KBS Kingsbay 66.97 354 *e*P **P** **21 14 15.7 -0.2**
comp=Z,86nm,1.4s
KBS LR LR
comp=Z,877nm,21.0s
CBJI Citeko 67.64 103 P **P** **21 14 24.6 +3.4**
comp=Z,300nm,0.9s,comp=Z,7µm
WHN Wuhan 68.42 62 P **P** **21 14 26.1 +0.2**
WHN PMZ
comp=Z,100nm,1.0s
SCO Scoresbysund 68.66 341 *i* P **P** **21 14 26.9 +0.3**
SCO pmax pmax
comp=Z,74nm,1.3s
SCO Scoresbysund 68.66 341 *i* P **P** **21 14 26.9 +0.3**
comp=Z,74nm,1.3s
SCO Scoresbysund 68.66 341 *i* P **P** **21 14 26.9 +0.3**
comp=Z,74nm,1.3s
KSM Kuching 68.86 94 ⇓P **P** **21 14 28.9 0.0**
KSM Kuching 68.86 94 *e*P **P** **21 14 28.3 -0.6**
comp=Z,32nm,1.1s
KSM Kuching 68.86 94 *e*P **P** **21 14 28.3 -0.6**
comp=Z,32nm,1.1s
KSM LR LR
comp=Z,435nm,20.0s
BOD Bodaibo 69.24 33 *e*P **P** **21 14 29.3 -1.1**
BOD pmax pmax
comp=Z,76nm,1.3s
BJT Baijiatuau 69.58 52 PFAKE 21 14 40.0 +7.1
BJT LR LR
comp=Z,1µm,22.0s
BJI Beijing 69.59 52 P **P** **21 14 32.6 -0.4**
BJI PMZ
comp=Z,44nm,2.0s
DAG Danmarks Havn 70.31 348 *i* P **P** **21 14 35.3 -1.4**
DAG Danmarks Havn 70.31 348 *i* P **P** **21 14 35.3 -1.4**
TIA Tai'an 70.45 56 ⇓P **P** **21 14 37.8 -0.6**
TIA PMZ
comp=Z,70nm,1.8s
SBUM Sibu 70.49 92 ⇓P **P** **21 14 39.3 +0.3**
SBUM Sibu 70.49 92 *e*P **P** **21 14 39.1 +0.1**
comp=Z,28nm,1.2s
SBUM Sibu 70.49 92 *e*P **P** **21 14 39.1 +0.1**
comp=Z,28nm,1.2s
BTM Bintulu 71.16 91 ⇑P **P** **21 14 43.4 +0.3**
HIA Hailar 72.09 42 *e*P **P** **21 14 49.0 +0.9**
HIA pmax pmax
comp=Z,61nm,1.2s
HIA MLR MLR
comp=Z,1µm,19.0s
HIA Hailar 72.09 42 *e*P **P** **21 14 49.0 +0.9**
comp=Z,61nm,1.2s
HIA Hailar 72.09 42 *e*P **P** **21 14 49.0 +0.9**
comp=Z,61nm,1.2s
HIA LR LR
comp=Z,1µm,19.0s
NJ2 Nanjing 72.16 60 *e*P **P** **21 14 49.3 +0.5**
NJ2 PMZ
comp=Z,30nm,1.2s
QZH Quanzhou 72.68 68 ⇑*i*P P 21 14 45.0 -7.0
QZH LR LR
comp=Z,2µm,17.9s
ANGG Ammassalik, Gr 73.38 335 *i* P **P** **21 14 54.3 -1.0**
SNR=18
KKM Kota Kinabalu 73.59 88 PFAKE 21 15 10.0 +12
KKM LR LR
comp=Z,447nm,19.0s
DL2 Dalian 73.86 53 P **P** **21 14 58.6 -0.1**
DL2 *e*S **S** **21 24 34.9 +3.6**
DL2 PMZ
comp=Z,110nm,1.8s
DL2 LN
comp=Z,850nm,20.0s
DL2 LZ
comp=Z,540nm,36.4s
KDM Kudat 74.00 87 ⇓P **P** **21 15 00.3 +0.3**
SUMG Summit 74.24 342 ⇓*i*P **P** **21 15 00.0 -0.8**
SUMG pmax pmax
comp=Z,140nm,1.3s
SUMG Summit 74.24 342 ⇓*i*P **P** **21 15 00.0 -0.8**
comp=Z,141nm,1.3s
SUMG Summit 74.24 342 *e*P **P** **21 14 59.9 -0.8**
comp=Z,122nm,1.2s
SUMG Summit 74.24 342 *e*P **P** **21 14 59.9 -0.8**
comp=Z,122nm,1.2s
TPUB Ta-pu 74.75 69 *e*P **P** **21 15 06.5 +2.2**
comp=Z,39nm,1.1s
CLNS Chul'man 75.08 34 *e*P **P** **21 15 06.2 +0.7**
CLNS pmax pmax
comp=Z,35nm,1.0s
CLNS MLR MLR
comp=Z,1µm,15.0s
SNY Shenyang 75.10 50 ⇑P **P** **21 15 05.4 -0.5**
SNY PMZ
comp=Z,35nm,1.1s
YHNB Yeheng 75.22 68 PFAKE 21 15 20.0 +13
YHNB LR LR
comp=Z,669nm,20.0s
TATO Taipei 75.28 67 PFAKE 21 15 20.0 +13
TATO LR LR
comp=Z,646nm,19.0s
CN2 Changchun 76.29 48 ⇑P **P** **21 15 12.5 -0.2**
CN2 *es*P PcP 21 15 19.5 -5.1
CN2 *e*S **S** **21 24 55.5 -2.8**
CN2 PMZ
comp=Z,60nm,1.2s
CN2 LN
comp=Z,1µm,19.0s
CN2 LE
comp=Z,2µm,19.0s
CN2 LZ
comp=Z,2µm,19.0s
TIXI Tiksi 76.37 19 P **P** **21 15 11.4 -1.2**
comp=Z,14nm,0.9s,baz=303,slow=4.1,SNR=42
TIXI Tiksi 76.37 19 *e*P **P** **21 15 11.3 -1.2**
TIXI pmax pmax
comp=Z,85nm,1.4s
TIXI MLR MLR
comp=Z,2µm,18.0s
TIXI Tiksi 76.37 19 *e*P **P** **21 15 11.3 -1.2**
comp=Z,85nm,1.4s
TIXI Tiksi 76.37 19 *e*P **P** **21 15 11.3 -1.2**
comp=Z,85nm,1.4s
TIXI LR LR
comp=Z,2µm,18.0s
YAK Yakutsk 77.23 29 P **P** **21 15 16.9 -0.7**
comp=Z,1.2nm,0.4s,baz=97,slow=23,SNR=10.0
YAK Yakutsk 77.23 29 *e*P **P** **21 15 16.6 -0.9**
YAK pmax pmax
comp=Z,45nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,27nm,1.3s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=N,233nm,18.0s
YAK MLR MLR
comp=E,1µm,16.0s
YAK Yakutsk 77.23 29 *e*P **P** **21 15 16.9 -0.7**
comp=E,69nm,1.1s
YAK Yakutsk 77.23 29 *e*P **P** **21 15 16.9 -0.7**
comp=E,69nm,1.1s
YAK LR LR
comp=Z,2µm,18.0s
TWSI Taliwang, Sumb 77.83 102 P **P** **21 15 21.7 -0.1**
comp=Z,47nm,1.3s
INCN Inchon 77.93 54 *e*P **P** **21 15 23.3 +1.3**
comp=Z,46nm,1.0s
INCN Inchon 77.93 54 *e*P **P** **21 15 23.3 +1.3**
comp=Z,46nm,1.0s
INCN LR LR
comp=Z,836nm,19.0s
SFJD Kangerlussuaq 78.57 336 *i* P **P** **21 15 23.2 -1.7**
SFJD pmax pmax
comp=Z,45nm,1.3s
SFJD Kangerlussuaq 78.57 336 *i* P **P** **21 15 23.2 -1.7**
comp=Z,45nm,1.3s
SFJD Kangerlussuaq 78.57 336 PFAKE 21 15 40.0 +15
SFJD LR LR
comp=Z,492nm,20.0s
TJN Taejon 78.67 55*ce*P **P** **21 15 25.1 -1.0**
PCI Palu 78.68 94 P **P** **21 15 28.1 +1.5**
comp=Z,58nm,1.4s
KS15 Wonju Array Si 78.92 54 *e*P **P** **21 15 26.8 -0.7**
KS15 Wonju Array Si 78.92 54 *e*P **P** **21 15 26.8 -0.7**
KSAR Wonju Array Be 78.92 54 P **P** **21 15 26.8 -0.7**
KSAR Wonju Array Be 78.92 54 P **P** **21 15 26.8 -0.7**
KSAR Wonju Array Be 78.92 54 P **P** **21 15 26.8 -0.7**
KS01 Wonju Array Si 78.92 54 *e*P **P** **21 15 26.3 -1.2**
KS01 Wonju Array Si 78.92 54 *e*P **P** **21 15 26.3 -1.2**
KSRS Korea Array 78.95 54 P **P** **21 15 26.8 -0.8**
comp=Z,11nm,0.9s,baz=273,slow=5.8,SNR=38
KSRS LR LR 21 56 41.1
comp=Z,838nm,18.4s,baz=302,slow=40
MDJ Mudanjiang 79.15 47 P **P** **21 15 28.2 -0.4**
MDJ PMZ
comp=Z,36nm,1.4s
MDJ PMZ
comp=Z,260nm,8.2s
MDJ Mudanjiang 79.15 47 *e*P **P** **21 15 30.1 +1.5**
comp=Z,41nm,1.0s
MDJ Mudanjiang 79.15 47 *e*P **P** **21 15 30.1 +1.5**
comp=Z,41nm,1.0s
MDJ LR LR
comp=Z,936nm,19.0s
RCBR Riachuelo 79.38 261 PFAKE 21 15 40.0 +10
RCBR LR LR
comp=Z,589nm,19.0s
KULLO Kullorsuaq 79.42 344 ⇓*i*P **P** **21 15 28.4 -1.1**
KULLO pmax pmax
comp=Z,100nm,1.2s
KULLO Kullorsuaq 79.42 344 ⇓*i*P **P** **21 15 28.4 -1.1**
comp=Z,101nm,1.2s
KULLO Kullorsuaq 79.42 344 ⇓*i*P **P** **21 15 28.4 -1.1**
SNR=16
KAPI Kappang 79.61 98 P **P** **21 15 29.5 -2.1**
comp=Z,6.9nm,0.7s,baz=256,slow=2.5,SNR=8.4
KAPI Kappang 79.61 98 *e*P **P** **21 15 29.5 -2.1**
comp=Z,60nm,1.5s
KAPI Kappang 79.61 98 *e*P **P** **21 15 29.5 -2.1**
comp=Z,60nm,1.5s
KAPI LR LR
comp=Z,361nm,19.0s
KLR Kul'dur 79.93 42 P **P** **21 15 31.6 -1.1**
comp=Z,19nm,0.9s,baz=286,slow=6.8,SNR=46
USRK Ussuriysk Ar. 80.92 47 P **P** **21 15 36.8 -1.3**
comp=Z,14nm,0.9s,baz=262,slow=5.4,SNR=34
USRK LR LR 21 57 02.6
comp=Z,1µm,18.4s,baz=285,slow=40
JNU Nakatsue 82.06 58 P **P** **21 15 44.6 0.0**
comp=Z,26nm,0.8s,baz=163,slow=4.4,SNR=13
JNU Nakatsue 82.06 58 *e*P **P** **21 15 44.6 0.0**
comp=Z,86nm,1.3s
JNU Nakatsue 82.06 58 *e*P **P** **21 15 44.6 0.0**
comp=Z,86nm,1.3s
HABR Khabarovsk 82.21 42*de*P **P** **21 15 43.0 -1.9**
HABR *e**PP **sP** **21 15 46.4 +0.1**
HABR *e* 21 15 48.0
HABR *e* 21 18 51.6
HABR PPP PPP 21 20 42.7
HABR *e*S **S** **21 25 59.7 -1.3**
HABR *e**SS **SKSac** **21 26 05.1 -1.4**
HABR *e*SS **SS** **21 31 21.5 +1.3**
HABR *e*SSS SSS 21 34 47.9
HABR pmax pmax
comp=E,21nm,1.6s
HABR pmax pmax
comp=N,15nm,1.6s
HABR pmax pmax
comp=Z,41nm,1.6s
HABR MLR MLR
comp=Z,3µm,22.0s
MAW Mawson 82.36 172 P **P** **21 15 44.9 -0.2**
comp=Z,8.2nm,1.0s,baz=352,slow=5.6,SNR=9.8
MAW Mawson 82.36 172 *e*P **P** **21 15 44.9 -0.2**
MAW pmax pmax
comp=Z,15nm,1.6s

MAW Mawson 82.36 172 *e*P **P** 21 15 44.9 -0.2
comp=Z,15nm,1.6s
MAW Mawson 82.36 172 *e*P **P** 21 15 44.9 -0.2
comp=Z,15nm,1.6s
DAV Davao City (W) 82.45 85 PFAKE 21 16 00.0 +13
DAV LR LR
comp=Z,371nm,20.0s
MBWA Marble Bar 83.98 113 PFAKE 21 16 10.0 +15
MBWA LR LR
comp=Z,282nm,19.0s
NKL Nikolayevsk 84.60 37 *e*P **P** 21 15 56.0 -1.1
NKL pmax pmax
comp=Z,430nm,1.0s
NWAO Narrogin (SRO) 85.49 125 P **P** 21 16 02.1 +0.1
comp=Z,31nm,1.2s,baz=169,slow=6.5,SNR=3.5
TYV Tymovskoe 86.41 39 *e*P **P** 21 16 06.8 +0.6
TYV pmax pmax
comp=Z,26nm,1.0s
NVL N'lazarevskaya 86.54 190 *e*P **P** 21 16 08.1 +1.9
INU Inuyama 86.55 55 *e*P **P** 21 16 08.6 +1.3
comp=Z,74nm,1.3s
INU Inuyama 86.55 55 *e*P **P** 21 16 08.6 +1.3
comp=Z,74nm,1.3s
SEY Seymchan 87.17 25 P **P** 21 16 09.2 -0.4
comp=Z,21nm,1.0s,baz=297,slow=4.0,SNR=26
MJB9 Matsu-Tunnel 87.19 53 *e*P **P** 21 16 10.2 -0.2
comp=Z,15nm,1.4s
MJB9 Matsu-Tunnel 87.19 53 *e*P **P** 21 16 10.2 -0.2
comp=Z,15nm,1.4s
MAJO Matsushiro 87.19 53 *i* P **P** 21 16 10.4 0.0
MAJO Matsushiro 87.19 53 *e*P **P** 21 16 10.2 -0.2
comp=Z,62nm,1.4s
MAJO Matsushiro 87.19 53 *e*P **P** 21 16 10.2 -0.2
comp=Z,62nm,1.4s
MAJO LR LR
comp=Z,759nm,19.0s
MAT Matsushiro 87.19 53 P **P** 21 16 08.7 -1.7
MJAR Matsushiro Arr 87.19 53 P **P** 21 16 09.3 -1.1
comp=Z,15nm,1.0s,baz=286,slow=5.1,SNR=26
MJAR LR LR 22 00 35.5
comp=Z,647nm,19.1s,baz=305,slow=39
YSS Yuzh-Sakhalins 87.62 42 *e*P **P** 21 16 11.8 -0.4
YSS pmax pmax
comp=Z,220nm,1.5s
YSS Yuzh-Sakhalins 87.62 42 *e*P **P** 21 16 13.3 +1.1
comp=Z,75nm,1.5s
YSS Yuzh-Sakhalins 87.62 42 *e*P **P** 21 16 13.3 +1.1
comp=Z,75nm,1.5s
YSS LR LR
comp=Z,800nm,20.0s
MA2 Magadan 87.81 29 P **P** 21 16 12.6 -0.2
comp=Z,16nm,0.8s,baz=315,slow=4.7,SNR=5.2
MA2 Magadan 87.81 29 *e*P **P** 21 16 12.6 -0.2
MA2 MLR MLR
comp=Z,1μm,19.0s
MA2 Magadan 87.81 29 *e*P **P** 21 16 12.6 -0.2
MA2 LR LR
comp=Z,1μm,19.0s
MIR Mirnyy 88.26 162 *e*P **P** 21 16 15.5 +0.9
MIR pmax pmax
comp=Z,6.0nm,1.8s
FITZ Fitzroy Crossi 88.52 109 P **P** 21 16 17.2 +0.3
comp=Z,33nm,0.9s,baz=299,slow=3.8,SNR=16
FITZ Fitzroy Crossi 88.52 109 *e*P **P** 21 16 17.2 +0.3
comp=Z,50nm,1.0s
FITZ Fitzroy Crossi 88.52 109 *e*P **P** 21 16 17.2 +0.3
comp=Z,50nm,1.0s
ERM Erimo 89.37 47 PFAKE 21 16 30.0 +9.5
ERM LR LR
comp=Z,2μm,21.0s
SCHQ Schefferville 89.39 327 P **P** 21 16 19.9 -0.5
comp=Z,6.6nm,0.8s,baz=71,slow=6.2,SNR=6.3
SCHQ Schefferville 89.39 327 *e*P **P** 21 16 19.9 -0.5
comp=Z,128nm,1.7s
SCHQ Schefferville 89.39 327 *e*P **P** 21 16 19.9 -0.5
comp=Z,128nm,1.7s
BILL Bilibino 89.56 18 *d i*P **P** 21 16 20.7 -0.2
BILL pmax pmax
comp=Z,22nm,1.4s
BILL MLR MLR
comp=Z,1μm,16.0s
BILL Bilibino 89.56 18 PFAKE 21 16 30.0 +9.1
BILL LR LR
comp=Z,1μm,21.0s
SNAA Sanae 90.06 193 *i* P **P** 21 16 23.0 -0.1
SNAA Sanae 90.06 193 *e*P **P** 21 16 22.6 -0.5
comp=Z,54nm,1.9s
SNAA Sanae 90.06 193 *e*P **P** 21 16 22.6 -0.5
comp=Z,54nm,1.9s
YUK Yuzh-Kuril'sk 90.61 44 *i* P **P** 21 16 26.2 -0.1
CASY Casey 94.04 158 PFAKE 21 16 50.0 +8.5
CASY LR LR
comp=Z,204nm,20.0s
HOPE Hope Point 94.10 215 PFAKE 21 16 50.0 +8.0
HOPE LR LR
comp=Z,1μm,21.0s
PETK Petropavlovsk- 94.11 33 LR LR 22 03 22.2
comp=Z,663nm,20.1s,baz=302,slow=38
SPB Sao Paulo 94.53 247 PFAKE 21 17 00.0 +15
SPB LR LR
comp=Z,1μm,19.0s
PET Petropavlovsk 94.65 33 PFAKE 21 17 00.0 +15
PET LR LR
comp=Z,653nm,21.0s
PKME Peaks-Kenny Pk 94.68 319 PFAKE 21 17 00.0 +15
PKME LR LR
comp=Z,465nm,20.0s
BBSR BB Station 96.23 305 PFAKE 21 17 00.0 +7.6
BBSR LR LR
comp=Z,507nm,22.0s
WRA Warramunga Arr 96.94 109 P **P** 21 16 54.4 -1.5
comp=Z,5.2nm,0.9s,baz=295,slow=3.6,SNR=19
WRA PP **PP** 21 20 50.0 -1.5
comp=Z,1.5nm,1.1s,baz=281,slow=9.9,SNR=5.4
WR1 Warramunga Arr 96.95 109 *e*P **P** 21 16 54.3 -1.6
comp=Z,58nm,1.9s
WR1 Warramunga Arr 96.95 109 *e*PP PP 21 20 50.0 -1.6
WR1 Warramunga Arr 96.95 109 *e*P **P** 21 16 54.4 -1.6
comp=Z,58nm,1.9s
WR1 *e*PP **PP** 21 20 50.0 -1.5
WRAB Tennant Creek 96.95 109 *ce*P **P** 21 16 56.1 +0.2
WRAB pmax pmax
comp=Z,59nm,2.5s
WRAB Tennant Creek 96.95 109 PFAKE 21 17 10.0 +14
WRAB LR LR
comp=Z,382nm,19.0s
ASAR Alice Springs 97.30 113 P **P** 21 16 56.1 -1.4
comp=Z,1.9nm,0.8s,baz=290,slow=3.6,SNR=14
AS31 Alice Springs 97.30 113 *e*P **P** 21 16 56.1 -1.4
comp=Z,1.3nm,1.1s
AS31 Alice Springs 97.30 113 *e*P **P** 21 16 56.1 -1.4
comp=Z,1.3nm,1.1s
AS01 Alice Springs 97.34 113 *e*P **P** 21 16 54.3 -3.4
AS01 Alice Springs 97.34 113 *e*P **P** 21 16 54.3 -3.4
INK Inuvik 98.32 358 PP PP 21 20 58.7 -1.3
comp=Z,5.7nm,1.1s,baz=1.5,slow=12,SNR=7.5
LONY Lake Ozonia 98.33 320 PFAKE 21 17 10.0 +8.3
LONY LR LR
comp=Z,582nm,19.0s
ANWB Willy Bob 98.40 290 PFAKE 21 17 10.0 +7.5
ANWB LR LR
comp=Z,414nm,20.0s
FDF Fort de France 98.66 287 PFAKE 21 17 10.0 +6.2
FDF LR LR
comp=Z,364nm,20.0s
GDHS Morne Mazeau, 98.79 289 PFAKE 21 17 10.0 +5.6
GDHS LR LR
comp=Z,900nm,21.0s
SMRT St. Maarten 99.46 291 PFAKE 21 17 20.0 +13
SMRT LR LR
comp=Z,500nm,19.0s
SEUS St. Eustatius 99.55 291 PFAKE 21 17 20.0 +12
SEUS LR LR
comp=Z,400nm,19.0s
GRGR Grenville 99.86 285 PFAKE 21 17 20.0 +11
GRGR LR LR
comp=Z,453nm,19.0s
BINY Binghamton 100.39 318 PFAKE 21 17 20.0 +9.1
BINY LR LR
comp=Z,657nm,21.0s
COLA College 101.50 4 PFAKE 21 17 30.0 +15
COLA LR LR
comp=Z,369nm,20.0s
PTGA Pitinga 101.51 272 PFAKE 21 17 30.0 +14
PTGA LR LR
comp=Z,35μm,19.0s

IL1 Eielson Array 101.67 4 *e*Pdif **Pdif** 21 17 16.0 -0.1
ILAR Eielson Array 101.67 4 P **Pdif** 21 17 16.0 -0.2
comp=Z,0.9nm,1.0s,baz=326,slow=3.5,SNR=6.2
ILAR PP **PP** 21 21 25.6 +0.2
comp=Z,3.0nm,1.0s,baz=352,slow=6.8,SNR=14
ILAR Eielson Array 101.67 4 P **Pdif** 21 17 16.0 -0.2
ILB Eielson Array 101.67 4 *e*PP PP 21 21 25.6 +0.1
ILB Eielson Array 101.67 4 *e*Pdif **Pdif** 21 17 15.9 -0.2
ILB *e*PP **PP** 21 21 25.6 +0.2
EGAK Eagle 101.91 1 PFAKE 21 17 30.0 +13
EGAK LR LR
comp=Z,495nm,19.0s
YKA Yellowknife Ar 101.99 349 PP PP 21 21 26.7 -1.2
comp=Z,8.9nm,1.0s,baz=18,slow=7.4,SNR=15
SJG San Juan 102.22 292 PFAKE 21 17 30.0 +10
SJG LR LR
comp=Z,352nm,21.0s
CBN Corbin Frederi 103.25 315 PFAKE 21 17 30.0 +6.3
CBN LR LR
comp=Z,484nm,19.0s
ALLY Alegheny Colle 103.34 319 PFAKE 21 17 30.0 +5.9
ALLY LR LR
comp=Z,600nm,21.0s
QSPA South Pole Qui 103.45 180 PFAKE 21 17 40.0 +16
QSPA LR LR
comp=Z,1μm,20.0s
CNNC Cliffs of the 105.05 313 PFAKE 21 22 00.0
CNNC LR LR
comp=Z,430nm,20.0s
AAM Ann Arbor 105.17 321 PFAKE 21 22 00.0
AAM LR LR
comp=Z,437nm,19.0s
DIV Divide 105.36 4 PFAKE 21 22 00.0
DIV LR LR
comp=Z,300nm,22.0s
GRTK Grand Turk 105.47 297 PFAKE 21 22 00.0
GRTK LR LR
comp=Z,473nm,19.0s
SDD Santo Domingo 105.48 294 PFAKE 21 22 00.0
SDD LR LR
comp=Z,500nm,21.0s
BLA Blacksburg 105.84 315 PFAKE 21 22 00.0
BLA LR LR
comp=Z,558nm,19.0s
ACSO Alum Creek Sta 105.92 319 PFAKE 21 22 00.0
ACSO LR LR
comp=Z,533nm,19.0s
EYMN Ely 106.00 329 PFAKE 21 22 00.0
EYMN LR LR
comp=Z,543nm,19.0s
COWI Conover 106.00 327 PFAKE 21 22 00.0
COWI LR LR
comp=Z,524nm,19.0s
SAML Samuel 106.42 265 PFAKE 21 22 00.0
SAML LR LR
comp=Z,706nm,20.0s
SDDR Presa de Saban 106.52 295 PFAKE 21 22 00.0
SDDR LR LR
comp=Z,636nm,21.0s
EFI East Falkland 106.53 220 PFAKE 21 22 00.0
EFI LR LR
comp=Z,2μm,19.0s
PMG Port Moresby 107.07 96 PFAKE 21 22 00.0
PMG LR LR
comp=Z,296nm,19.0s
NHSC New Hope 107.75 312 PFAKE 21 22 00.0
NHSC LR LR
comp=Z,586nm,19.0s
AGMN Agassiz Nation 107.84 332 PFAKE 21 22 00.0
AGMN LR LR
comp=Z,615nm,19.0s
KDAK Kodiak Island 107.98 8 PFAKE 21 22 00.0
KDAK LR LR
comp=Z,621nm,21.0s
CTAO Charters Tower 108.00 107 PFAKE 21 22 00.0
CTAO LR LR
comp=Z,535nm,20.0s
JFWS Jewell Farm 108.66 325 PFAKE 21 22 00.0
JFWS LR LR
comp=Z,702nm,19.0s
NIKH Nikolski High 108.75 19 PFAKE 21 22 00.0
NIKH LR LR
comp=Z,700nm,19.0s
PMSA Palmer Station 108.85 206 PFAKE 21 22 00.0
PMSA LR LR
comp=Z,1μm,19.0s
TRQA Tornquist 108.92 234 PFAKE 21 22 00.0
TRQA LR LR
comp=Z,2μm,19.0s
SDV Santo Domingo 109.24 285 PFAKE 21 22 10.0
SDV LR LR
comp=Z,651nm,21.0s
GTBY Guantanamo Bay 109.51 297 PFAKE 21 22 10.0
GTBY LR LR
comp=Z,446nm,20.0s
HDIL Hopedale 109.61 322 PFAKE 21 22 10.0
HDIL LR LR
comp=Z,511nm,20.0s
GOGA Godfrey 109.95 313 PFAKE 21 22 10.0
GOGA LR LR
comp=Z,544nm,19.0s
WRAK Wrangell Islan 110.14 356 PFAKE 21 22 10.0
WRAK LR LR
comp=Z,586nm,19.0s
SBA Scott Base 110.21 169 PFAKE 21 22 10.0
SBA LR LR
comp=Z,983nm,19.0s
DGMT Dagmar 111.26 336 PFAKE 21 22 10.0
DGMT LR LR
comp=Z,615nm,19.0s
SIUC Southern Illin 111.33 320 PFAKE 21 22 10.0
SIUC LR LR
comp=Z,600nm,20.0s
ECSD EROS Data Cent 111.50 329 PFAKE 21 22 10.0
ECSD LR LR
comp=Z,624nm,20.0s
MTDJ Mount Denham 112.29 296 PFAKE 21 22 10.0
MTDJ LR LR
comp=Z,596nm,20.0s
LAO LASA Array 113.50 337 PFAKE 21 22 10.0
LAO LR LR
comp=Z,741nm,20.0s
EGMT Eagleton 113.66 339 PFAKE 21 22 10.0
EGMT LR LR
comp=Z,500nm,20.0s
BRAL Brewton 113.72 313 PFAKE 21 22 10.0
BRAL LR LR
comp=Z,754nm,20.0s
KSU1 Kansas State U 114.78 325 PFAKE 21 22 20.0 +15
KSU1 LR LR
comp=Z,683nm,19.0s
NEW Newport 115.67 344 PFAKE 21 22 20.0 +14
NEW LR LR
comp=Z,553nm,19.0s
LCO Las Campanas 115.90 244 PFAKE 21 22 20.0 +12
LCO LR LR
comp=Z,691nm,19.0s
RLMT Red Lodge 115.97 338 PFAKE 21 22 20.0 +13
RLMT LR LR
comp=Z,691nm,20.0s
MIAR Mount Ida 116.06 320 PFAKE 21 22 20.0 +13
MIAR LR LR
comp=Z,713nm,20.0s
OGNE Ogallala 116.25 330 PFAKE 21 22 20.0 +12
OGNE LR LR
comp=Z,663nm,19.0s
BOZ Bozeman (W) 116.36 339 *e*PKIKP **PKPdf** **21 22 08.4 +0.5**
BOZ MLR MLR
comp=Z,755nm,19.0s
BOZ Bozeman (W) 116.36 339 *e*PKIKP **PKPdf** **21 22 08.4 +0.5**
BOZ Bozeman (W) 116.36 339 *e*PKPdf **PKPdf** **21 22 08.4 +0.5**
BOZ LR LR
comp=Z,755nm,19.0s
CBKS Cedar Bluff 116.69 327 PFAKE 21 22 20.0 +11
CBKS LR LR
comp=Z,465nm,19.0s
PGC Sidney 116.72 349 PFAKE 21 22 20.0 +12
PGC LR LR
comp=Z,900nm,19.0s
LKWY Lake 116.87 338 PFAKE 21 22 20.0 +11
LKWY LR LR
comp=Z,1μm,19.0s
BCIP Isla Barro Col 117.75 288 PFAKE 21 22 20.0 +8.9
BCIP LR LR
comp=Z,508nm,20.0s

FXWY Fox Creek 117.90 338 *e*PKIKP **PKPdf** **21 22 11.3 +0.3**
FXWY Fox Creek 117.90 338 *e*PKPdf **PKPdf** **21 22 11.3 +0.3**
TPAW Teton Pass 118.00 338 *e*PKIKP **PKPdf** **21 22 11.7 +0.5**
TPAW Teton Pass 118.00 338 *e*PKPdf **PKPdf** **21 22 11.7 +0.5**
NLWA Neilton Lookou 118.00 349 PFAKE 21 22 20.0 +9.2
NLWA LR LR
comp=Z,596nm,19.0s
HAWA Hanford 118.02 345 PFAKE 21 22 20.0 +9.2
HAWA LR LR
comp=Z,649nm,19.0s
KSCO Kaye Shedlock' 118.03 329 PFAKE 21 22 20.0 +8.8
KSCO LR LR
comp=Z,800nm,18.0s
REDW Red Top Meadow 118.07 338 *e*PKIKP **PKPdf** **21 22 13.0 +1.6**
REDW Red Top Meadow 118.07 338 *e*PKPdf **PKPdf** **21 22 13.0 +1.6**
BW06 Boulder Array 118.09 336 *e*PKIKP **PKPdf** **21 22 09.4 -2.0**
BW06 Boulder Array 118.09 336 *e*PKPdf **PKPdf** **21 22 09.4 -2.0**
BW06 LR LR
comp=Z,466nm,20.0s
PD31 Pinedale Array 118.09 336 *e*PKIKP **PKPdf** **21 22 09.9 -1.5**
PD31 Pinedale Array 118.09 336 *e*PKPdf **PKPdf** **21 22 09.9 -1.5**
PD31 *e*PP **PP** **21 23 21.4 -3.5**
PDAR Pinedale Array 118.09 336 PKP **PKPdf** **21 22 09.9 -1.5**
comp=Z,1.3nm,0.8s,baz=52,slow=2.6,SNR=7.7
PDAR PP **PP** **21 23 21.4 -3.5**
comp=Z,1.5nm,1.1s,baz=302,slow=1.4,SNR=4.2
NATX Nacogdoches 118.55 318 PFAKE 21 22 20.0 +7.8
NATX LR LR
comp=Z,546nm,19.0s
AHID Auburn Hatcher 118.68 337 PFAKE 21 22 20.0 +7.5
AHID LR LR
comp=Z,553nm,21.0s
ISCO Idaho Springs 118.85 332 PFAKE 21 22 20.0 +7.0
ISCO LR LR
comp=Z,533nm,19.0s
BMO Blue Mountains 118.85 343 PFAKE 21 22 20.0 +7.4
BMO LR LR
comp=Z,582nm,20.0s
WMOK Wichita Mounta 119.08 323 PFAKE 21 22 20.0 +6.7
WMOK LR LR
comp=Z,460nm,20.0s
HLID Hailey 119.14 340 PFAKE 21 22 20.0 +6.7
HLID LR LR
comp=Z,654nm,19.0s
OTAV Otavalo 119.18 278 *e*PKIKP **PKPdf** **21 22 14.0 -0.5**
OTAV Otavalo 119.18 278 *e*PKPdf **PKPdf** **21 22 14.0 -0.5**
OTAV LR LR
comp=Z,733nm,20.0s
G06A Carlson Farm, 119.37 346 PFAKE 21 22 20.0 +6.5
G06A LR LR
comp=Z,1μm,19.0s
HNR Honiara 119.47 93 PFAKE 21 22 30.0 +16
HNR LR LR
comp=Z,250nm,20.0s
HWUT Hardware Ranch 119.85 337 *e*PKIKP **PKPdf** **21 22 14.0 -0.8**
HWUT Hardware Ranch 119.85 337 *e*PKPdf **PKPdf** **21 22 14.0 -0.8**
HWUT LR LR
comp=Z,512nm,20.0s
SMCO Snowmass 119.97 332 *e*PKIKP **PKPdf** **21 22 15.2 -0.1**
SMCO Snowmass 119.97 332 *e*PKPdf **PKPdf** **21 22 15.2 -0.1**
HVU Hansel Valley 120.15 338 *e*PKIKP **PKPdf** **21 22 14.8 -0.5**
HVU Hansel Valley 120.15 338 *e*PKIKP **PKPdf** **21 22 14.8 -0.5**
HVU Hansel Valley 120.15 338 *e*PKPdf **PKPdf** **21 22 14.8 -0.5**
NNA Nana 120.18 264 PFAKE 21 22 30.0 +14
NNA LR LR
comp=Z,271nm,19.0s
SDCO Great Sand Dun 120.43 330 PFAKE 21 22 30.0 +14
SDCO LR LR
comp=Z,469nm,21.0s
JLU Jordanelle 120.67 336 *e*PKIKP **PKPdf** **21 22 16.5 +0.1**
JLU Jordanelle 120.67 336 *e*PKPdf **PKPdf** **21 22 16.5 +0.1**
JLU LR LR
comp=Z,400nm,20.0s
BGU Big Grassy Mou 120.99 338 *e*PKIKP **PKPdf** **21 22 17.0 +0.1**
BGU Big Grassy Mou 120.99 338 *e*PKPdf **PKPdf** **21 22 17.0 +0.1**
WVOR Wild Horse Val 121.46 343 PFAKE 21 22 30.0 +12
WVOR LR LR
comp=Z,735nm,19.0s
DUG Dugway, Tooele 121.54 337 *e*PKIKP **PKPdf** **21 22 17.5 -0.5**
DUG MLR MLR
comp=Z,440nm,20.0s
DUG Dugway, Tooele 121.54 337 *e*PKIKP **PKPdf** **21 22 17.5 -0.5**
DUG Dugway, Tooele 121.54 337 *e*PKPdf **PKPdf** **21 22 17.5 -0.5**
DUG LR LR
comp=Z,440nm,20.0s
K05A Summer Lake 121.79 345 *e*PKIKP **PKPdf** **21 22 18.0 -0.5**
K05A Summer Lake 121.79 345 *e*PKPdf **PKPdf** **21 22 18.0 -0.5**
MVCO Mesa Verde 122.27 332 PFAKE 21 22 30.0 +10
MVCO LR LR
comp=Z,584nm,22.0s
JCT Junction City 122.67 320 *e*PKIKP **PKPdf** **21 22 21.1 +0.8**
JCT MLR MLR
comp=Z,557nm,20.0s
JCT Junction City 122.67 320 *e*PKIKP **PKPdf** **21 22 21.1 +0.8**
JCT Junction City 122.67 320 *e*PKPdf **PKPdf** **21 22 21.1 +0.8**
JCT LR LR
comp=Z,557nm,20.0s
MSU Marysvale 122.75 336 *e*PKIKP **PKPdf** **21 22 20.6 +0.1**
MSU Marysvale 122.75 336 *e*PKPdf **PKPdf** **21 22 20.6 +0.1**
MSU Marysvale 122.75 336 *e*PKPdf **PKPdf** **21 22 20.6 +0.1**
BMN Battle Mountai 122.86 341 *e*PKIKP **PKPdf** **21 22 20.7 +0.2**
BMN Battle Mountai 122.86 341 *e*PKIKP **PKPdf** **21 22 20.7 +0.2**
BMN Battle Mountai 122.86 341 *e*PKPdf **PKPdf** **21 22 20.7 +0.2**
ANMO Albuquerque 123.11 329 PFAKE 21 22 30.0 +8.8
ANMO LR LR
comp=Z,532nm,20.0s
PSUT Pine Spring 123.39 337 PFAKE 21 22 30.0 +8.3
PSUT LR LR
comp=Z,2μm,22.0s
CCUT Cedar City 124.05 336 *e*PKIKP **PKPdf** **21 22 23.9 +0.9**
CCUT Cedar City 124.05 336 *e*PKPdf **PKPdf** **21 22 23.9 +0.9**
PAHR Pah Rah Range 124.19 342 *e*PKIKP **PKPdf** **21 22 22.8 -0.3**
PAHR Pah Rah Range 124.19 342 *e*PKPdf **PKPdf** **21 22 22.8 -0.3**
LCMT Little Creek M 124.47 336 *e*PKIKP **PKPdf** **21 22 24.1 +0.4**
LCMT Little Creek M 124.47 336 *e*PKPdf **PKPdf** **21 22 24.1 +0.4**
U15A North Rim 124.58 335 *e*PKIKP **PKPdf** **21 22 24.3 +0.2**
U15A North Rim 124.58 335 *e*PKPdf **PKPdf** **21 22 24.3 +0.2**
WUAZ Wupatki 124.96 333 PFAKE 21 22 40.0 +15
WUAZ LR LR
comp=Z,462nm,21.0s
NV11 Mina Array Sit 124.98 341 *e*PKIKP **PKPdf** **21 22 25.5 +0.8**
NV11 Mina Array Sit 124.98 341 *e*PKPdf **PKPdf** **21 22 25.4 +0.8**
NV01 Mina Array Sit 125.03 341 *e*PKIKP **PKPdf** **21 22 24.5 -0.3**
NV01 Mina Array Sit 125.03 341 *e*PKPdf **PKPdf** **21 22 24.5 -0.3**
NVAR Mina Array Bea 125.03 341 PKP **PKPdf** **21 22 24.5 -0.3**
comp=Z,8.8nm,1.0s,baz=42,slow=1.3,SNR=30
MNTX Cornudas Mount 125.06 326 *e*PKIKP **PKPdf** **21 22 24.2 -0.6**
MNTX Cornudas Mount 125.06 326 *e*PKPdf **PKPdf** **21 22 24.2 -0.6**
MNTX LR LR
comp=Z,531nm,20.0s
TVH2 Borealis Mine 125.22 341 *e*PKIKP **PKPdf** **21 22 26.3 +1.1**
TVH2 Borealis Mine 125.22 341 *e*PKPdf **PKPdf** **21 22 26.3 +1.1**
TVH3 East Aurora ar 125.26 341 *e*PKIKP **PKPdf** **21 22 26.0 +0.7**
TVH3 East Aurora ar 125.26 341 *e*PKPdf **PKPdf** **21 22 26.0 +0.7**
KCPM Cahto Peak 125.32 346 *e*PKIKP **PKPdf** **21 22 23.1 -2.1**
KCPM Cahto Peak 125.32 346 *e*PKPdf **PKPdf** **21 22 23.1 -2.1**
AFDM Forest Hills D 125.35 343 *e*PKIKP **PKPdf** **21 22 25.4 +0.2**
AFDM Forest Hills D 125.35 343 *e*PKPdf **PKPdf** **21 22 25.4 +0.2**
SHPR Sheep Range 125.66 337 *e*PKIKP **PKPdf** **21 22 27.1 +1.1**
SHPR Sheep Range 125.66 337 *e*PKPdf **PKPdf** **21 22 27.1 +1.1**
TPNV Topopah Spring 125.67 338 *e*PKIKP **PKPdf** **21 22 27.8 +1.8**
TPNV Topopah Spring 125.67 338 *e*PKPdf **PKPdf** **21 22 27.8 +1.8**
TPNV Topopah Spring 125.67 338 *e*PKPdf **PKPdf** **21 22 27.8 +1.8**
LTX Lajitas 125.84 322 *e*PKIKP **PKPdf** **21 22 25.2 -1.3**
LTX Lajitas 125.84 322 *e*PKIKP **PKPdf** **21 22 25.2 -1.3**
LTX Lajitas 125.84 322 *e*PKPdf **PKPdf** **21 22 25.2 -1.3**
TX31 Lajitas Ar. Si 125.84 322 *e*PKIKP **PKPdf** **21 22 25.1 -1.4**
TX31 Lajitas Ar. Si 125.84 322 *e*PKIKP **PKPdf** **21 22 25.6 -0.8**
TX31 Lajitas Ar. Si 125.84 322 *e*PKPdf **PKPdf** **21 22 25.1 -1.4**
TX31 *e*PKPdf **PKPdf** **21 22 25.6 -0.8**
TXAR Lajitas Array 125.84 322 PKP **PKPdf** **21 22 25.2 -1.2**
comp=Z,2.5nm,0.9s,baz=117,slow=1.3,SNR=20
X16A Lo Mia Camp, P 125.92 333 *e*PKIKP **PKPdf** **21 22 27.0 +0.4**
X16A Lo Mia Camp, P 125.92 333 *e*PKPdf **PKPdf** **21 22 26.9 +0.4**
W13A Hualapai Mount 126.39 335 *e*PKIKP **PKPdf** **21 22 28.7 +1.2**
W13A Hualapai Mount 126.39 335 *e*PKPdf **PKPdf** **21 22 28.7 +1.2**
DAC Darwin (Calif) 126.75 339 *e*PKIKP **PKPdf** **21 22 28.4 +0.3**
DAC MLR MLR
comp=Z,500nm,18.0s
DAC Darwin (Calif) 126.75 339 *e*PKIKP **PKPdf** **21 22 28.4 +0.3**
DAC Darwin (Calif) 126.75 339 *e*PKPdf **PKPdf** **21 22 28.4 +0.3**
DAC LR LR
comp=Z,500nm,18.0s

Y14A	**Wickenburg**	**127.01**	**334**	*e*PKIKP	**PKPdf**	**21**	**22**	**28.7** **+0.2**
Y14A	**Wickenburg**	**127.01**	**334**	*e*PKPdf	**PKPdf**	**21**	**22**	**28.7** **+0.2**
GSC	**Goldstone, Bar**	**127.34**	**338**	*e*PKIKP	**PKPdf**	**21**	**22**	**29.7** **+0.5**
GSC	**Goldstone, Bar**	**127.34**	**338**	*e*PKIKP	**PKPdf**	**21**	**22**	**29.7** **+0.5**
GSC	**Goldstone, Bar**	**127.34**	**338**	*e*PKPdf	**PKPdf**	**21**	**22**	**29.7** **+0.5**
TUC	**Tucson**	**127.36**	**331**	*e*PKIKP	**PKPdf**	**21**	**22**	**29.5** **+0.2**
TUC				MLR	MLR			
	comp=Z,525nm,20.0s							
TUC	**Tucson**	**127.36**	**331**	*e*PKIKP	**PKPdf**	**21**	**22**	**29.5** **+0.2**
TUC	**Tucson**	**127.36**	**331**	*e*PKPdf	**PKPdf**	**21**	**22**	**29.5** **+0.2**
TUC				LR	LR			
	comp=Z,525nm,20.0s							
319A	**Douglas**	**127.38**	**329**	*e*PKPdf	**PKPdf**	**21**	**22**	**29.8** **+0.4**
Y12C	**Blythe**	**127.81**	**335**	*e*PKIKP	**PKPdf**	**21**	**22**	**31.1** **+1.1**
Y12C	**Blythe**	**127.81**	**335**	*e*PKPdf	**PKPdf**	**21**	**22**	**31.1** **+1.1**
PFO	**Pinyon Flats O**	**128.71**	**337**	*e*PKIKP	**PKPdf**	**21**	**22**	**33.1** **+1.2**
PFO				MLR	MLR			
	comp=Z,476nm,20.0s							
PFO	**Pinyon Flats O**	**128.71**	**337**	*e*PKIKP	**PKPdf**	**21**	**22**	**33.1** **+1.2**
PFO	**Pinyon Flats O**	**128.71**	**337**	*e*PKPdf	**PKPdf**	**21**	**22**	**33.1** **+1.2**
PFO				LR	LR			
	comp=Z,476nm,20.0s							
HPIG		**128.79**	**322**	*e*PKIKP	**PKPdf**	**21**	**22**	**32.4** **+0.1**
HPIG		**128.79**	**322**	*e*PKPdf	**PKPdf**	**21**	**22**	**32.4** **+0.1**
MSVF	**Nonsavu**	**137.82**	**102**	PFAKE		21	23	00.0 +11
MSVF				LR	LR			
	comp=Z,408nm,19.0s							
POHA	**Pohakuloa**	**142.83**	**28**	PFAKE		21	23	10.0 +11
POHA				LR	LR			
	comp=Z,998nm,20.0s							

ISCJB ***12*** *21:08:13.6±0.4, 41.°76N×0.°04×141.°41E±0.°05, h102km±3km, mb4.0/7, Error ellipse: s-maj=6.5km s-min=5.7km az=28.8*
JMA ***12*** *21:08:14.8±0.1, 41.°78N×141.°45E, h91km±1km, M3.1*
JMA Felt I J1.
IDC ***12*** *21:08:19.1±10.0, 42.°20N×141.°26E, h116km±36km, mb3.6/7, mb1 3.6/9, mb1mx3.2/53, mbtmp3.9/9, Error ellipse: s-maj=183.2km s-min=17.8km az=167.0*

ISC 12 21:08:14.4±0.8, 41.°75N±0.°04×141.°42E±0.°04, h95km±7km, n33, σ0.°57/38, mb3.9/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JKB	**Kayabe**	**0.32**	**295**	P		**P**	**Pn**	**21 08 28.4**	**-0.1**
JKB				*e*S			**Sn**	**21 08 39.1**	**+0.1**
JOT	**Ohata**	**0.47**	**217**	P		**P**	**Pn**	**21 08 29.7**	**+0.3**
JNB	**Noboribetsu**	**0.77**	**338**	P		**P**	**Pn**	**21 08 31.6**	**-0.4**
JNB				*e*S			**Sn**	**21 08 44.8**	**-0.4**
JSR	**Shiriuchi**	**0.78**	**254**	P		**P**	**Pn**	**21 08 32.6**	**+0.4**
JSR				*e*S			**Sn**	**21 08 46.0**	**+0.5**
JYM2	**Yakumo 2**	**0.86**	**295**	P		**P**	**Pn**	**21 08 33.3**	**+0.3**
JTM	**Tenmabayashi**	**1.00**	**195**	P		**P**	**Pn**	**21 08 35.2**	**+0.7**
JTM				*e*S			**Sn**	**21 08 50.1**	**+0.5**
JEW	**Eniwo**	**1.09**	**1**	P		**P**	**Pn**	**21 08 35.6**	**+0.2**
JEW				*e*S			**Sn**	**21 08 51.0**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.12**	**62**	P		**P**	**Pn**	**21 08 35.9**	**+0.1**
JBT2	**Biratori 2**	**1.24**	**34**	P		**P**	**Pn**	**21 08 37.6**	**+0.4**
JBT2				*e*S			**Sn**	**21 08 55.0**	**+0.5**
JEM	**Erimo**	**1.32**	**78**	P		**P**	**Pn**	**21 08 38.6**	**+0.4**
JSH	**Shimam**	**1.35**	**311**	P		**P**	**Pn**	**21 08 39.1**	**+0.5**
JSH				*e*S			**Sn**	**21 08 57.4**	**+0.5**
JANG	**Nango**	**1.38**	**177**	P		**P**	**Pn**	**21 08 39.0**	**0.0**
JANG				*e*S			**Sn**	**21 08 57.3**	**-0.2**
JOSM	**Okushiri--Mats**	**1.49**	**283**	P		**P**	**Pn**	**21 08 40.1**	**-0.1**
JOSM				*e*S			**Sn**	**21 08 59.3**	**-0.5**
JCH	**Churui**	**1.68**	**59**	P		**P**	**Pn**	**21 08 43.2**	**+0.6**
JCH				*e*S			**Sn**	**21 09 04.6**	**+0.5**
JSK	**Shakotan**	**1.74**	**337**	P		**P**	**Pn**	**21 08 43.9**	**+0.5**
JSK				*e*S			**Sn**	**21 09 06.4**	**+0.9**
ASAJ	**Asahikawa**	**2.52**	**20**	P		**P**	**Pn**	**21 08 53.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**7.34**	**293**	P		**P**	**Pn**	**21 10 00.2**	**+1.4**
	0.5nm,0.3s,baz=100,slow=14,SNR=8.3								
H11N2	**WAKE ISLAND Hy**	**30.80**	**128**	T		T		21 46 57.4	
	baz=322,slow=76,SNR=6.2								
H11N1	**WAKE ISLAND Hy**	**30.81**	**128**	T		T		21 47 00.7	
	baz=322,slow=76,SNR=7.9								
H11N3	**WAKE ISLAND Hy**	**30.82**	**128**	T		T		21 47 01.4	
	baz=323,slow=76,SNR=9.6								
H11S1	**WAKE ISLAND Hy**	**31.64**	**129**	T		T		21 48 03.1	
	baz=323,slow=76,SNR=17								
H11S3	**WAKE ISLAND Hy**	**31.64**	**129**	T		T		21 48 01.4	
	baz=323,slow=76,SNR=6.9								
H11S2	**WAKE ISLAND Hy**	**31.66**	**129**	T		T		21 48 02.6	
	baz=323,slow=76,SNR=7.5								
ZALV	**Zalesovo Beam**	**38.87**	**308**	P		**P**		**21 15 30.6**	**+0.5**
	3.2nm,0.5s,baz=94,slow=8.6,SNR=9.8								
MKAR	**Makanchi Array**	**41.77**	**298**	P		**P**		**21 15 54.3**	**+0.1**
	0.8nm,0.5s,baz=84,slow=11,SNR=10								
KURBB	**Kurchatov Arra**	**43.23**	**304**	P		**P**		**21 16 04.7**	**-1.2**
	1.9nm,0.6s,baz=78,slow=8.7,SNR=23								
ILAR	**Eielson Array**	**45.56**	**35**	P		**P**		**21 16 24.6**	**+0.3**
	0.7nm,0.8s,baz=260,slow=5.1,SNR=16								
BVAR	**Borovoye Array**	**47.50**	**309**	P		**P**		**21 16 39.5**	**-0.1**
	0.7nm,0.4s,baz=69,slow=7.4,SNR=7.4								
INK	**Inuvik**	**50.22**	**29**	P		**P**		**21 17 00.3**	**+0.2**
	1.4nm,0.3s,baz=289,slow=6.0,SNR=13								
INK	**Inuvik**	**50.22**	**29**	*e*P		**P**		**21 17 00.5**	**+0.4**
INK				pmax		pmax			
	comp=Z,28nm,1.7s								
INK	**Inuvik**	**50.22**	**29**	*e*P		**P**		**21 17 00.4**	**+0.4**
	comp=Z,28nm,1.7s								
INK	**Inuvik**	**50.22**	**29**	*e*P		**P**		**21 17 00.5**	**+0.4**
	comp=Z,28nm,1.7s								
FINES	**FINESS Array B**	**64.66**	**331**	P		**P**		**21 18 40.3**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=54,slow=9.8,SNR=6.0								

IDC 12 21:15:27.5±2.2, 13.°35N×41.°65E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.3/53, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=64.1km s-min=16.0km az=64.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ATD	**Arta Tunnel**	**2.15**	**147**	Pn		Pb		21 16 06.5	-0.9
ATD	70nm,0.3s,baz=275,slow=3.0,SNR=4.3			Lg		Lg		21 16 34.8	
	75nm,0.3s,baz=82,slow=23,SNR=5.9								
GERES	**GERESS Array B**	**42.25**	**333**	P		P		21 23 22.1	-0.5
	0.4nm,0.6s,baz=149,slow=6.2,SNR=3.8								
MKAR	**Makanchi Array**	**47.61**	**37**	P		P		21 24 05.6	+0.3
	0.8nm,0.8s,baz=239,slow=7.2,SNR=6.4								
ZALV	**Zalesovo Beam**	**52.80**	**31**	P		P		21 24 43.9	-0.6
	0.9nm,0.6s,baz=256,slow=5.8,SNR=4.1								

ISCJB ***12*** *21:17:09.6±0.6, 13.°40N±0.°08×41.°63E±0.°05, h10km, mb4.2/16, Error ellipse: s-maj=11.7km s-min=7.6km az=2.4*
IDC ***12*** *21:17:09.9±1.0, 13.°39N×41.°64E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.7/55, mbtmp3.9/13, ML3.7/2, Error ellipse: s-maj=23.0km s-min=14.0km az=53.0*
NEIC ***12*** *21:17:11.2±0.5, 13.°41N×41.°55E, h10km, mb4.6/7, Error ellipse: s-maj=10.6km s-min=8.1km az=203.0*

ISC 12 21:17:11.2±0.7, 13.°47N±0.°10×41.°65E±0.°08, h10km, n41, σ1.°24/42, mb4.0/16, 5C-3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ATD	**Arta Tunnel**	**2.25**	**149**	Pn		**P**	**Pn**	**21 17 49.5**	**+0.8**
	60nm,0.3s,baz=299,slow=21,SNR=2.2								
ATD				Lg		Lg		21 18 18.9	
	60nm,0.3s,baz=256,slow=21,SNR=5.6								
DAMY	**Dhamar**	**2.88**	**67**	*e*Pn		**Pb**	**Pn**	**21 18 01.5**	**-1.4**
DAMY				*e*Sn			**Sn**	**21 18 33.5**	**+1.2**
UOSS	**Minazif**	**17.84**	**48**	*e*Pn		**Pn**		**21 21 17.3**	**-2.5**
	69nm,1.6s								
WSAR	**Wadi Sarin**	**18.80**	**56**	P		**P**		**21 21 30.2**	**-0.9**
	0.1nm,0.3s,baz=211,slow=6.8,SNR=3.6								
BR101	**Keskin Array S**	**27.09**	**346**	*e*P		**P**		**21 22 56.1**	**+1.7**
BRTR	**Keskin Array B**	**27.09**	**346**	P		**P**		**21 22 56.1**	**+1.7**
	1.1nm,1.0s,baz=150,slow=10.0,SNR=5.1								
BR231	**Keskin MP Arra**	**27.41**	**345**	*e*P		**P**		**21 22 57.4**	**+0.2**
CFR	**Carcaliu**	**33.63**	**343**	⇑*i*P		**P**		**21 23 53.2**	**+1.3**
MLR	**Muntele Rosu**	**34.59**	**340**	P		**P**		**21 24 02.3**	**+1.8**
	0.5nm,0.8s,baz=135,slow=10.0								
MLR	**Muntele Rosu**	**34.59**	**340**	⇑*i*P		**P**		**21 24 02.4**	**+2.0**
MLR	**Muntele Rosu**	**34.59**	**340**	*e*P		**P**		**21 24 02.3**	**+1.8**
	7.6nm,1.3s								
VRI	**Vrincioaia**	**34.67**	**342**	⇑*i*P		**P**		**21 24 03.0**	**+2.0**
PLOR	**Plostina**	**34.69**	**341**	⇑*i*P		**P**		**21 24 04.0**	**+2.8**
VOIR		**34.84**	**339**	⇑*i*P		**P**		**21 24 04.2**	**+1.6**
ARR	**Arges**	**34.92**	**339**	⇓*i*P		**P**		**21 24 04.4**	**+1.1**
BZS	**Buzias**	**36.26**	**336**	⇑*i*P		**P**		**21 24 15.2**	**+0.5**
DRGR		**36.83**	**338**	⇓*i*P		**P**		**21 24 20.7**	**+1.1**
RER	**Riviere de l'E**	**37.09**	**158**	*e*P		**P**		**21 24 21.3**	**-0.8**
	738nm,1.9s								
TORD	**Torodi Ar. Bea**	**38.86**	**274**	P		**P**		**21 24 36.8**	**-0.3**
	2.4nm,1.2s,baz=98,slow=5.7,SNR=5.2								
TOA1	**Torodi Ar. Sit**	**38.86**	**274**	*e*P		**P**		**21 24 36.8**	**-0.3**
	36nm,1.8s								
AKTO	**Aktyubinsk**	**39.21**	**17**	P		**P**		**21 24 40.3**	**+0.7**
	1.0nm,0.8s,baz=208,slow=10.0,SNR=4.0								
GEA0	**GERESS Array S**	**42.14**	**333**	*e*P		**P**		**21 25 03.4**	**-0.5**
GEC2	**GERESS Array S**	**42.15**	**333**	*e*P		**P**		**21 25 03.5**	**-0.4**
	9.4nm,1.9s								
GERES	**GERESS Array B**	**42.15**	**333**	P		**P**		**21 25 04.2**	**+0.2**
	0.9nm,0.6s,baz=138,slow=6.5,SNR=9.7								
SENIN	**Lac Senin/Sane**	**43.69**	**326**	*e*P		**P**		**21 25 15.3**	**-1.3**
	20nm,1.8s								
MK01	**Makanchi Array**	**47.51**	**37**	*e*P		**P**		**21 25 47.2**	**+0.5**
MK31	**Makanchi Array**	**47.52**	**37**	*e*P		**P**		**21 25 47.8**	**+1.0**
MK32	**Makanchi Array**	**47.52**	**37**	*e*P		**P**		**21 25 47.6**	**+0.9**
MKAR	**Makanchi Array**	**47.52**	**37**	P		**P**		**21 25 47.6**	**+0.9**
	0.9nm,0.6s,baz=240,slow=7.6,SNR=9.4								
MKAR	**Makanchi Array**	**47.52**	**37**	*e*P		**P**		**21 25 47.8**	**+1.0**
KURBB	**Kurchatov Arra**	**47.61**	**31**	P		**P**		**21 25 48.3**	**+1.0**
	1.0nm,0.8s,baz=234,slow=7.9,SNR=8.8								
KURK	**Kurchatov**	**47.72**	**31**	*e*P		**P**		**21 25 48.3**	**+0.2**
ESDC	**Sonseca Array**	**47.75**	**312**	P		**P**		**21 25 48.4**	**-0.4**
	0.5nm,0.8s,baz=99,slow=7.7,SNR=4.4								
PAB	**San Pablo**	**47.99**	**312**	*e*P		**P**		**21 25 48.9**	**-1.7**
	21nm,1.8s								
ZAA0	**Zalesovo Array**	**52.69**	**31**	*e*P		**P**		**21 26 26.1**	**+0.3**
ZALV	**Zalesovo Beam**	**52.69**	**31**	P		**P**		**21 26 25.9**	**+0.1**
	1.7nm,0.7s,baz=238,slow=8.5,SNR=6.7								
ZAA1	**Zalesovo Array**	**52.69**	**31**	*e*P		**P**		**21 26 25.9**	**+0.1**
CM31	**Chiang Mai Arr**	**55.12**	**77**	*e*P		**P**		**21 26 44.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**55.12**	**77**	P		**P**		**21 26 44.5**	**+0.3**
	0.8nm,1.0s,baz=264,slow=8.1,SNR=3.1								
SONA0	**Songino Array**	**63.21**	**43**	*e*P		**P**		**21 27 40.9**	**+1.0**
	9.4nm,1.8s								
SONM	**Songino Array**	**63.21**	**43**	P		**P**		**21 27 40.9**	**+1.0**
	1.1nm,0.9s,baz=245,slow=6.2,SNR=5.2								

IDC 12 21:17:47.3±2.8, 13.°16N×41.°26E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.4/52, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=69.9km s-min=17.1km az=56.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ATD	**Arta Tunnel**	**2.24**	**136**	Pn		Pn		21 18 26.5	+0.8
	64nm,0.3s,baz=85,slow=23,SNR=2.2								
ATD				Lg		Lg		21 18 58.0	
	138nm,0.3s,baz=256,slow=22,SNR=3.1								
GERES	**GERESS Array B**	**42.24**	**333**	P		P		21 25 42.0	-0.3
	0.6nm,0.7s,baz=132,slow=8.4,SNR=2.7								
MKAR	**Makanchi Array**	**47.99**	**37**	P		P		21 26 28.1	+0.1
	1.0nm,0.7s,baz=235,slow=5.3,SNR=4.8								
KURBB	**Kurchatov Arra**	**48.08**	**31**	P		P		21 26 28.4	-0.1
	0.6nm,0.8s,baz=232,slow=8.0,SNR=3.0								
ZALV	**Zalesovo Beam**	**53.15**	**31**	P		P		21 27 06.6	-0.2
	1.3nm,0.6s,baz=242,slow=7.2,SNR=4.3								

IDC 12 21:20:22.0±1.3, 13.°15N×41.°62E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.2/53, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=34.5km s-min=15.8km az=56.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ATD	**Arta Tunnel**	**2.01**	**143**	Pn		Pn		21 20 56.5	-0.8
	30nm,0.3s,baz=87,slow=23,SNR=3.4								
ATD				Lg		Lg		21 21 26.4	
	43nm,0.3s,baz=281,slow=22,SNR=3.7								
TORD	**Torodi Ar. Bea**	**38.85**	**275**	P		P		21 27 49.3	0.0
	0.9nm,1.1s,baz=79,slow=10,SNR=2.9								
GERES	**GERESS Array B**	**42.41**	**333**	P		P		21 28 18.2	-0.2
	0.3nm,0.6s,baz=120,slow=6.9,SNR=2.4								
MKAR	**Makanchi Array**	**47.79**	**37**	P		P		21 29 01.1	0.0
	0.6nm,0.9s,baz=230,slow=9.4,SNR=3.7								
KURBB	**Kurchatov Arra**	**47.90**	**31**	P		P		21 29 01.8	-0.1
	0.4nm,0.7s,baz=235,slow=7.9,SNR=4.4								

IDC 12 21:23:59.4±14.0, 11.°65N×41.°22E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.3/46, mbtmp3.6/5, Error ellipse: s-maj=296.0km s-min=47.5km az=12.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BRTR	**Keskin Array B**	**28.76**	**348**	P		P		21 29 58.9	0.0
	0.7nm,0.9s,baz=180,slow=7.1,SNR=3.8								
GERES	**GERESS Array B**	**43.56**	**334**	P		P		21 32 05.0	-0.1
	0.4nm,0.6s,baz=111,slow=5.9,SNR=5.0								
MKAR	**Makanchi Array**	**49.22**	**37**	P		P		21 32 49.6	+0.1
	0.6nm,0.7s,baz=232,slow=6.1,SNR=7.2								
KURBB	**Kurchatov Arra**	**49.38**	**31**	P		P		21 32 50.3	-0.4
	0.8nm,1.1s,baz=233,slow=8.0,SNR=5.6								
ZALV	**Zalesovo Beam**	**54.47**	**30**	P		P		21 33 28.6	0.0
	0.8nm,0.7s,baz=232,slow=7.1,SNR=4.2								

MEX 12 21:24:55.7±0.7, 15.°16N×90.°98W, h16km±212km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CCIG	**Comitan**	**1.57**	**315**	*e*P		Pn		21 25 19.3	-3.9
CCIG				*e*S		Sn		21 25 38.4	-5.0
PCIG		**2.22**	**284**	*e*P		Pn		21 25 31.9	-0.1

ISCJB ***12*** *21:31:06.9±0.6, 13.°44N±0.°09×41.°60E±0.°06, h10km, mb4.0/14, MS4.2/1, Error ellipse: s-maj=13.1km s-min=8.4km az=0.3*
IDC ***12*** *21:31:06.7±0.9, 13.°34N×41.°63E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.7/40, mbtmp3.8/12, ML4.5/1, MS4.3/1, Ms1 4.3/1, ms1mx3.2/32, Error ellipse: s-maj=26.3km s-min=13.5km az=56.0*
NEIC ***12*** *21:31:08.7±4.5, 13.°34N×41.°54E, h13km±29km, mb4.6/4, Error ellipse: s-maj=11.3km s-min=8.7km az=181.0*

ISC 12 21:31:08.1±0.8, 13.°3N±0.°1×41.°61E±0.°09, h10km, n30, σ0.°92/30, mb4.1/14, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ATD	**Arta Tunnel**	**2.16**	**146**	Pn		**P**	**Pn**	**21 31 44.5**	**+0.3**
	137nm,0.3s,baz=185,slow=22,SNR=16								
ATD				Lg		Lg		21 32 14.8	
	172nm,0.3s,baz=259,slow=23,SNR=11								
DAMY	**Dhamar**	**2.98**	**65**	*e*Pn		**Pn**		**21 31 57.2**	**+1.5**
DAMY				*e*Sn			**Sn**	**21 32 29.2**	**-2.4**
IDI	**Anoyia**	**26.57**	**328**	*e*P		**P**		**21 36 45.0**	**-1.6**
	73nm,1.6s								
BR101	**Keskin Array S**	**27.22**	**346**	*e*P		**P**		**21 36 52.4**	**0.0**
BRTR	**Keskin Array B**	**27.22**	**346**	P		**P**		**21 36 52.4**	**0.0**
	1.1nm,0.9s,baz=159,slow=5.3,SNR=5.3								
BR231	**Keskin MP Arra**	**27.54**	**345**	*e*P		**P**		**21 36 54.8**	**-0.4**
MLR	**Muntele Rosu**	**34.71**	**341**	P		**P**		**21 37 59.0**	**+0.7**
	0.4nm,0.7s,baz=176,slow=13								
MLR	**Muntele Rosu**	**34.71**	**341**	*e*P		**P**		**21 37 59.0**	**+0.7**
	20nm,2.0s								
MATP	**Matopo**	**35.93**	**201**	LR		LR		21 52 43.4	
	comp=Z,441nm,19.3s,baz=352,slow=36								
TORD	**Torodi Ar. Bea**	**38.82**	**274**	P		**P**		**21 38 33.8**	**+0.1**
	1.0nm,1.0s,baz=100,slow=7.2,SNR=3.6								
TOA1	**Torodi Ar. Sit**	**38.83**	**274**	*e*P		**P**		**21 38 33.8**	**+0.1**
	21nm,1.8s								
GEA0	**GERESS Array S**	**42.25**	**333**	*e*P		**P**		**21 39 01.3**	**-0.3**
GERES	**GERESS Array B**	**42.25**	**333**	P		**P**		**21 39 01.6**	**-0.1**
	0.8nm,0.6s,baz=133,slow=7.5,SNR=10								
MK01	**Makanchi Array**	**47.65**	**37**	*e*P		**P**		**21 39 44.4**	**-0.2**
MK31	**Makanchi Array**	**47.66**	**37**	*e*P		**P**		**21 39 46.7**	**+2.0**
MK32	**Makanchi Array**	**47.66**	**37**	*e*P		**P**		**21 39 44.7**	**0.0**
MKAR	**Makanchi Array**	**47.66**	**37**	P		**P**		**21 39 44.7**	**0.0**
	2.0nm,0.9s,baz=235,slow=6.3,SNR=11								
MKAR	**Makanchi Array**	**47.66**	**37**	*e*P		**P**		**21 39 46.7**	**+2.0**
ESDC	**Sonseca Array**	**47.81**	**312**	P		**P**		**21 39 46.3**	**+0.2**
	0.6nm,0.8s,baz=117,slow=7.0,SNR=4.7								
FIA0	**FINESS Array S**	**49.35**	**350**	*e*P		**P**		**21 39 57.0**	**-0.3**
FINES	**FINESS Array B**	**49.35**	**350**	P		**P**		**21 39 57.0**	**-0.3**
	2.1nm,0.9s,baz=11,slow=1.9,SNR=3.4								
ZAA0	**Zalesovo Array**	**52.84**	**31**	*e*P		**P**		**21 40 23.2**	**-0.6**
ZALV	**Zalesovo Beam**	**52.84**	**31**	P		**P**		**21 40 23.1**	**-0.6**
	1.8nm,0.7s,baz=241,slow=9.2,SNR=7.6								
ZAA1	**Zalesovo Array**	**52.84**	**31**	*e*P		**P**		**21 40 23.1**	**-0.6**
ARA0	**ARCESS Array S**	**57.09**	**353**	*e*P		**P**		**21 40 53.7**	**-0.6**
ARCES	**ARCESS Array B**	**57.09**	**353**	P		**P**		**21 40 53.7**	**-0.6**
	1.6nm,0.8s,baz=113,slow=2.3,SNR=4.0								
SONA0	**Songino Array**	**63.35**	**43**	*e*P		**P**		**21 41 38.3**	**+0.5**
	3.0nm,1.3s								
SONM	**Songino Array**	**63.35**	**43**	P		**P**		**21 41 38.3**	**+0.5**
	0.8nm,0.8s,baz=276,slow=6.0,SNR=6.4								
KLR	**Kul'dur**	**80.13**	**42**	P		**P**		**21 43 18.9**	**+0.3**
	0.4nm,0.4s,baz=239,slow=8.3,SNR=3.5								
TXAR	**Lajitas Array**	**125.94**	**322**	PKP		**PKPdf**		**21 50 11.4**	**+0.1**
	0.2nm,0.6s,baz=56,slow=2.4,SNR=2.6								

ISCJB ***12*** *21:37:11.0±1.6, 13.°35N±0.°03×41.°83E±0.°03, h3km±10km, mb4.4/53, MS4.2/2, Error ellipse: s-maj=5.4km s-min=4.4km az=40.1*
ARO ***12*** *21:37:11.6, 13.°N±6.°×4.°2E±.°, h5km±8km, ML5.0*
IDC ***12*** *21:37:12.0±0.6, 13.°25N×41.°73E, h0km, mb4.2/18, mb1 4.3/21, mb1mx4.2/38, mbtmp4.3/21, ML3.9/3, Error ellipse: s-maj=16.1km s-min=11.5km az=59.0*
CSEM ***12*** *21:37:13.4±0.2, 13.°26N×41.°79E, h10km, mb4.4/30, Error ellipse: s-maj=7.8km s-min=5.8km az=5.0*
NEIC ***12*** *21:37:13.3±3.9, 13.°21N×41.°79E, h12km±25km, mb4.5/25, Error ellipse: s-maj=7.9km s-min=6.9km az=176.0*
DHMR ***12*** *21:37:14.7±1.7, 13.°49N×42.°21E, h12km±20km, ML4.4*
SGS ***12*** *21:37:53.7, 16.°29N×42.°33E, h17km*

ISC 12 21:37:13.5±0.8, 13.°30N±0.°03×41.°87E±0.°05, h12km±5km, n186, σ1.°47/201, mb4.4/53, 8C-6D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MAOD	**Malaho**	**1.25**	**164**	*e*P		**P**	**Pn**	**21 37 35.1**	**-1.8**
TDD	**Tadjoura Ara**	**1.81**	**146**	*e*P		**P**	**Pn**	**21 37 43.9**	**-0.7**
LDLD	**Lac de Lave**	**1.82**	**160**	*e*P		**P**	**Pn**	**21 37 44.3**	**-0.4**
LDLD				*e*S		**S**	**Sb**	**21 38 10.9**	**+1.3**
OBO	**Obock**	**1.91**	**133**	*e*P		**P**	**Pn**	**21 37 46.0**	**+0.1**
SGH	**Sud-Ghoubbet**	**2.00**	**158**	*e*P		**P**	**Pn**	**21 37 47.2**	**-0.1**
ATD	**Arta Tunnel**	**2.01**	**151**	Pn		**P**	**Pn**	**21 37 47.1**	**-0.2**
	296nm,0.3s,baz=121,slow=4.1,SNR=24								
ATD				Lg		Lg		21 38 17.6	
	365nm,0.3s,baz=280,slow=21,SNR=16								
ATD	**Arta Tunnel**	**2.01**	**151**	*e*P		**P**	**Pn**	**21 37 46.9**	**-0.4**
ATD				*e*S		**S**	**Sb**	**21 38 16.0**	**+0.9**
MCAD	**Moucha**	**2.04**	**140**	*e*P		**P**	**Pn**	**21 37 48.2**	**+0.4**
UDYN	**Al 'Udayn**	**2.15**	**72**	*i* P		**P**	**Pn**	**21 37 47.1**	**-2.2**
UDYN				*i* S		**S**	**Sn**	**21 38 10.7**	**-5.3**
UDYN				AML		AML		21 38 32.2	
	comp=E,4μm,0.5s								
GBR	**Grand-Bara**	**2.22**	**165**	*e*P		**P**	**Pn**	**21 37 49.9**	**-0.3**
**AT

KSH S **S** **21 50 48.7 -2.1**
KSH SS **SS** **21 53 37.7 -9.1**
KSH Kashi 39.79 43 ScS ScS 21 54 50.8 -3.8
KSH pmax pmax
comp=Z,180nm,7.3s
KSH pmax pmax
comp=Z,4.0nm,0.4s
KSH LR LR
comp=N,130nm,9.4s
KSH LR LR
comp=E,350nm,15.4s
KSH LR LR
comp=Z,240nm,13.2s
STHS Stebnicka Huta 39.81 339 *eP* **P** **21 44 46.2 -0.4**
STHS Stebnicka Huta 39.81 339 *eP* **P** **21 44 46.2 -0.4**
VYHS Vyhne 39.94 336 *eP* **P** **21 44 48.0 +0.3**
comp=Z,5.0nm,1.2s
VYHS Vyhne 39.94 336 *eP* **P** **21 44 48.0 +0.3**
TRI Trieste 40.10 329 *eP* **P** **21 44 48.0 -1.0**
comp=Z,12nm,0.9s
TRI Trieste 40.10 329 *eP* **P** **21 44 48.0 -1.0**
comp=Z,12nm,0.9s
LANS Liptovska Anna 40.23 337 *eP* **P** **21 44 51.7 +1.6**
LANS Liptovska Anna 40.23 337 *eP* **P** **21 44 51.7 +1.6**
OBKA Obir 40.29 331 *i P* **P** **21 44 51.9 +1.2**
comp=Z,8.7nm,1.2s
OBKA Obir 40.29 331 P **P** **21 44 51.9 +1.2**
comp=Z,8.7nm,1.2s
ARSA Arzberg 40.38 332 *i P* **P** **21 44 52.4 +1.0**
comp=Z,7.8nm,1.1s
ARSA Arzberg 40.38 332 P **P** **21 44 52.4 +1.0**
comp=Z,7.8nm,1.1s
CONA Conrad Observa 40.74 333 *eP* **P** **21 44 55.3 +0.9**
comp=Z,4.8nm,0.9s
CONA Conrad Observa 40.74 333 P **P** **21 44 55.3 +0.9**
comp=Z,4.8nm,0.9s
OKC Ostrava-Krasne 41.29 337 *eP* **P** **21 44 58.8 0.0**
OKC Ostrava-Krasne 41.29 337 P **P** **21 44 58.8 0.0**
MORC Moravsky Berou 41.48 336 *i P* **P** **21 45 00.8 +0.4**
MORC Moravsky Berou 41.48 336 *eP* **P** **21 45 00.8 +0.4**
comp=Z,23nm,1.1s
MORC Moravsky Berou 41.48 336 *eP* **P** **21 45 00.8 +0.4**
comp=Z,23nm,1.1s
VRAC Vranov 41.49 335 *eP* **P** **21 45 00.3 -0.2**
TREC Trest 41.94 334 *eP* **P** **21 45 03.0 -1.2**
TREC Trest 41.94 334 P **P** **21 45 03.0 -1.2**
GEA0 GERESS Array S 42.38 332 *eP* **P** **21 45 07.5 -0.3**
GEA0 GERESS Array S 42.38 332 *eP* **P** **21 45 07.5 -0.3**
GEC2 GERESS Array S 42.39 332 *eP* **P** **21 45 07.7 -0.2**
comp=Z,4.6nm,0.8s
GEC2 GERESS Array S 42.39 332 *eP* **P** **21 45 07.7 -0.2**
comp=Z,4.6nm,0.8s
GERES GERESS Array B 42.39 332 P **P** **21 45 07.5 -0.4**
comp=Z,2.6nm,0.7s,baz=131,slow=7.5,SNR=18
DPC Dobruska-Polom 42.41 336 *eP* **P** **21 45 07.1 -0.9**
DPC *epP* **sP** **21 45 12.7 -0.6**
DPC Dobruska-Polom 42.41 336 P **P** **21 45 07.1 -0.9**
FUORN Ofenpass-Fuorn 42.51 328 *eP* **P** **21 45 07.6 -1.6**
comp=Z,12nm,1.6s
FUORN Ofenpass-Fuorn 42.51 328 *eP* **P** **21 45 07.5 -1.6**
comp=Z,12nm,1.6s
FETA Feichten 42.53 328 *i P* **P** **21 45 09.8 +0.6**
comp=Z,3.9nm,1.2s
FETA Feichten 42.53 328 P **P** **21 45 09.8 +0.6**
comp=Z,3.9nm,1.2s
KHC Kasperske Hory 42.65 333 *eP* **P** **21 45 09.3 -0.7**
KHC *epP* **sP** **21 45 15.0 -0.2**
KHC Kasperske Hory 42.65 333 *eP* **P** **21 45 09.0 -1.0**
comp=Z,2.6nm,1.3s
KHC Kasperske Hory 42.65 333 *eP* **P** **21 45 09.0 -1.0**
comp=Z,2.6nm,1.3s
PRU Pruhonice 42.87 334 *eP* **P** **21 45 12.2 +0.5**
PRU Pruhonice 42.87 334 P **P** **21 45 12.2 +0.5**
DAVA Damuels 43.15 328 *i P* **P** **21 45 14.1 -0.1**
comp=Z,9.0nm,0.7s
DAVA Damuels 43.15 328 P **P** **21 45 14.1 -0.1**
comp=Z,9.0nm,0.7s
BRG Berggiesshubel 43.79 335 *eP* **P** **21 45 18.5 -0.6**
comp=Z,9.4nm,1.7s
SENIN Lac Senin/Sane 43.94 326 *eP* **P** **21 45 19.9 -0.7**
comp=Z,5.2nm,0.6s
SENIN Lac Senin/Sane 43.94 326 *eP* **P** **21 45 19.9 -0.7**
comp=Z,5.2nm,0.6s
CLL Collm 44.51 334 *eP* **P** **21 45 21.0 -3.8**
comp=Z,12nm,1.9s
CLL *i* 21 45 30.0
comp=Z,14nm,1.6s
SSB Saint Sauveur 44.89 323 *eP* **P** **21 45 27.3 -0.7**
comp=Z,5.8nm,1.0s
SSB Saint Sauveur 44.89 323 *eP* **P** **21 45 27.3 -0.7**
comp=Z,5.8nm,1.0s
ARU Arti 44.91 13 *eP* **P** **21 45 27.3 -0.7**
comp=Z,6.9nm,0.9s
ARU Arti 44.91 13 *eP* **P** **21 45 27.3 -0.7**
comp=Z,6.9nm,0.9s
ZRNK Zerenda 45.07 23 *eP* **P** **21 45 31.5 +2.2**
comp=Z,3.1nm,1.0s
ZRNK Zerenda 45.07 23 *eP* **P** **21 45 31.5 +2.2**
comp=Z,3.1nm,1.0s
BRVK Borovoye 45.65 24 *eP* **P** **21 45 34.6 +0.7**
comp=Z,9.1nm,0.9s
BRVK Borovoye 45.65 24 *eP* **P** **21 45 34.6 +0.7**
comp=Z,9.1nm,0.9s
DBIC Dimbokro 46.42 267 P **P** **21 45 39.2 -1.4**
comp=Z,7.2nm,0.9s,baz=63,slow=8.9,SNR=7.3
DBIC Dimbokro 46.42 267 *eP* **P** **21 45 39.2 -1.4**
comp=Z,18nm,1.1s
DBIC Dimbokro 46.42 267 *eP* **P** **21 45 39.2 -1.4**
comp=Z,18nm,1.1s
MAKZ Makanchi 47.34 37 *eP* **P** **21 45 48.8 +1.4**
comp=Z,4.2nm,0.8s
MAKZ Makanchi 47.34 37 *eP* **P** **21 45 48.8 +1.4**
comp=Z,4.2nm,0.8s
MK01 Makanchi Array 47.52 37 *eP* **P** **21 45 49.6 +0.9**
MK01 Makanchi Array 47.52 37 *eP* **P** **21 45 49.6 +0.9**
MK31 Makanchi Array 47.52 37 *eP* **P** **21 45 50.0 +1.3**
MK31 Makanchi Array 47.52 37 *eP* **P** **21 45 50.0 +1.3**
MK32 Makanchi Array 47.52 37 *eP* **P** **21 45 50.0 +1.2**
MK32 Makanchi Array 47.52 37 *eP* **P** **21 45 50.0 +1.2**
MKAR Makanchi Array 47.52 37 P **P** **21 45 50.0 +1.2**
comp=Z,3.1nm,0.8s,baz=235,slow=6.1,SNR=26
MKAR Makanchi Array 47.52 37 *eP* **P** **21 45 50.0 +1.2**
MKAR Makanchi Array 47.52 37 *eP* **P** **21 45 50.0 +1.2**
ES19 SONSECA Array 47.98 312 *eP* **P** **21 45 52.2 -0.2**
ES19 SONSECA Array 47.98 312 *eP* **P** **21 45 52.2 -0.2**
ESDC Sonseca Array 48.01 312 P **P** **21 45 52.1 -0.6**
comp=Z,1.3nm,0.7s,baz=107,slow=7.1,SNR=10
PAB San Pablo 48.25 312 *eP* **P** **21 45 52.3 -2.3**
comp=Z,9.3nm,1.2s
PAB San Pablo 48.25 312 *eP* **P** **21 45 52.3 -2.3**
comp=Z,9.3nm,1.2s
FIA0 FINESS Array S 49.41 350 *eP* **P** **21 46 02.3 -0.7**
FIA0 FINESS Array S 49.41 350 *eP* **P** **21 46 02.3 -0.7**
FINES FINESS Array B 49.41 350 P **P** **21 46 02.3 -0.7**
comp=Z,4.0nm,0.8s,baz=148,slow=11,SNR=5.6
FIA1 FINESS Array S 49.41 350 *eP* **P** **21 46 02.2 -0.8**
FIA1 FINESS Array S 49.41 350 *eP* **P** **21 46 02.2 -0.8**
WMQ Urumqi 49.55 43 P **P** **21 46 06.7 +2.2**
WMQ pP sP 21 46 11.7 +1.9
WMQ sP pP 21 46 13.7 +5.4
WMQ pmax pmax
comp=Z,4.0nm,0.6s
NB200 NORSAR Array S 52.60 342 *eP* **P** **21 46 26.2 -0.9**
NB200 NORSAR Array S 52.60 342 *eP* **P** **21 46 26.2 -0.9**
NOA NORSAR Array B 52.60 342 P **P** **21 46 26.2 -0.9**
comp=Z,2.3nm,0.9s,baz=140,slow=7.4,SNR=4.2
ZAA0 Zalesovo Array 52.73 30 *eP* **P** **21 46 28.5 +0.4**
ZAA0 Zalesovo Array 52.73 30 *eP* **P** **21 46 28.5 +0.4**
ZALV Zalesovo Beam 52.73 30 P **P** **21 46 27.7 -0.3**
comp=Z,3.8nm,0.7s,baz=241,slow=7.3,SNR=14
ZAA1 Zalesovo Array 52.73 30 *eP* **P** **21 46 27.7 -0.4**
ZAA1 Zalesovo Array 52.73 30 *eP* **P** **21 46 27.7 -0.4**
LHMI Lhok Sumawe 54.85 93 *eP* **P** **21 46 41.8 -2.5**
comp=Z,81nm,1.2s
CM31 Chiang Mai Arr 54.96 77 *eP* **P** **21 46 45.8 +0.8**
CM31 Chiang Mai Arr 54.96 77 *eP* **P** **21 46 45.9 +0.8**
CMAR Chiang Mai Arr 54.96 77 P **P** **21 46 45.9 +0.8**
comp=Z,1.4nm,0.4s,baz=275,slow=7.7,SNR=11
CM01 Chiang Mai Arr 54.98 77 *eP* **P** **21 46 45.9 +0.8**
CM01 Chiang Mai Arr 54.98 77 *eP* **P** **21 46 45.9 +0.8**
ARA0 ARCESS Array S 57.14 353 *eP* **P** **21 46 59.7 -0.1**
ARA0 ARCESS Array S 57.14 353 *eP* **P** **21 46 59.6 -0.1**
ARCES ARCESS Array B 57.14 353 P **P** **21 46 59.6 -0.1**
comp=Z,2.4nm,0.8s,baz=170,slow=7.4,SNR=4.6
KMI Kunming 58.26 69 P P 21 47 13.9 +5.2
KMI pmax pmax
comp=Z,6.0nm,1.2s
NRIK Noril'sk 62.93 17 P **P** **21 47 40.4 +0.9**
comp=Z,2.7nm,0.6s,baz=214,slow=5.0,SNR=4.9
SONA0 Songino Array 63.19 43 *eP* **P** **21 47 43.1 +1.3**
comp=Z,4.1nm,1.2s
SONA0 Songino Array 63.19 43 *eP* **P** **21 47 43.1 +1.3**
comp=Z,4.1nm,1.2s
SONM Songino Array 63.19 43 P **P** **21 47 43.1 +1.3**
comp=Z,1.3nm,0.9s,baz=246,slow=6.3,SNR=8.1
SONA1 Songino Array 63.20 43 *eP* **P** **21 47 43.2 +1.3**
SONA1 Songino Array 63.20 43 *eP* **P** **21 47 43.2 +1.3**
QIZ Qiongzhong 65.20 75 P **P** **21 47 55.7 +0.4**
QIZ S **S** **21 56 39.6 +0.8**
QIZ pmax pmax
comp=Z,8.0nm,1.7s
QIZ LR LR
comp=N,90nm,17.0s
QIZ LR LR
comp=E,170nm,16.1s
QIZ LR LR
comp=Z,120nm,16.6s
HHC Hu-ho-hao-te 66.09 51 *eP* **P** **21 48 03.2 +2.3**
HHC pmax pmax
comp=Z,10.0nm,1.0s
PAF Port-aux-Franc 67.22 160 *eP* **P** **21 48 05.2 -2.3**
comp=Z,605nm,1.7s
CN2 Changchun 76.32 48 *eP* **P** **21 49 04.0 +1.4**
NVAR Mina Array Bea 125.29 341 PKP **PKPdf** **21 56 16.7 +1.6**
comp=Z,0.7nm,0.7s,baz=46,slow=1.3,SNR=6.3
LTX Lajitas 126.11 322 *e*PKIKP **PKPdf** **21 56 16.9 +0.2**
LTX Lajitas 126.11 322 *e*PKPdf **PKPdf** **21 56 16.9 +0.2**
TXAR Lajitas Array 126.11 322 PKP **PKPdf** **21 56 16.9 +0.1**
comp=Z,0.6nm,0.8s,baz=79,slow=2.7,SNR=6.5

IDC 12 21:39:01.1±597.0, 13.06N×41.18E, h0km, Error ellipse: s-maj=278.0km s-min=205.0km az=82.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I32KE	**NAIROBI INFRAS**	**14.85**	**197**	*i*		23 10 00.0	

baz=16,slow=331,SNR=0.3

*IDC **12** 21:41:55.4±0.7, 13.34N×41.66E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.1/36, mbtmp4.3/20, ML4.3/2, MS4.0/12, Ms1 4.0/12, ms1mx3.7/36, Error ellipse: s-maj=17.6km s-min=12.2km az=50.0*
*ARO **12** 21:41:55.0, 13.1N×14.4E±1.5, h1km±14km, ML4.9*
*ISCJB **12** 21:41:55.5±0.2, 13.42N±0.03×41.72E±0.03, h10km, mb4.4/51, MS3.9/10, Error ellipse: s-maj=4.8km s-min=3.7km az=142.2*
*NEIC **12** 21:41:55.8±3.1, 13.38N×41.62E, h2km±20km, mb4.6/25, Error ellipse: s-maj=7.1km s-min=5.8km az=165.0*
*CSEM **12** 21:41:57.1±0.2, 13.40N×41.65E, h10km, mb4.5/30, Error ellipse: s-maj=7.1km s-min=5.3km az=176.0*
*DHMR **12** 21:41:58.5±0.6, 13.64N×42.06E, h9km±59km, ML4.5*
ISC 12 21:41:56.8±0.4, 13.39N±0.04×41.69E±0.05, h10km, n204, σ1°10/211, mb4.5/53, MS3.8/10, 14C-7D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAOD	**Malaho**	**1.39**	**158**	*eP*	**Pn**	**21 42 20.2**	**-2.2**
LDLD	**Lac de Lave**	**1.96**	**156**	*eP*	**Pn**	**21 42 29.4**	**-0.8**
TDD	**Tadjoura Ara**	**1.97**	**143**	*eP*	**Pn**	**21 42 30.1**	**-0.3**
OBO	**Obock**	**2.10**	**132**	*eP*	**Pn**	**21 42 30.9**	**-1.1**
SGH	**Sud-Ghoubbet**	**2.15**	**155**	*eP*	**Pn**	**21 42 32.5**	**-0.3**
ATD	**Arta Tunnel**	**2.17**	**149**	Pn	**Pn**	**21 42 33.1**	**+0.1**
	195nm,0.3s,baz=60,slow=0.9,SNR=23						
ATD				Lg	Lg	21 43 03.2	
	266nm,0.3s,baz=275,slow=21,SNR=8.6						
ATD				LR	LR	21 43 19.4	
	comp=Z,746nm,19.9s,baz=330,slow=39						
ATD	**Arta Tunnel**	**2.17**	**149**	*eP*	**Pn**	**21 42 32.7**	**-0.3**
ATD				*eS*	**Sb**	**21 43 02.5**	**-0.7**
MCAD	**Moucha**	**2.22**	**138**	*eP*	**Pn**	**21 42 33.0**	**-0.8**
UDYN	**Al 'Udayn**	**2.28**	**75**	*i P*	**Pn**	**21 42 32.2**	**-2.5**
UDYN				*i S*	**Sn**	**21 42 58.8**	**-4.2**
UDYN				AML	AML	21 43 09.6	
	comp=E,4μm,0.4s						
GBR	**Grand-Bara**	**2.35**	**161**	*eP*	**Pn**	**21 42 35.0**	**-0.6**
ATA	**Atar**	**2.43**	**142**	*eP*	**Pn**	**21 42 36.0**	**-0.6**
DAMY	**Dhamar**	**2.87**	**66**	*e*Pn	**Pn**	**21 42 43.0**	**0.0**
DAMY	**Dhamar**	**2.87**	**66**	*e*Pn	**Pn**	**21 42 43.0**	**0.0**
DAMY				*e*Sn	**Sb**	**21 43 25.4**	**+1.8**
HAJJ	**Hajjah**	**2.94**	**39**	*i* P	**Pn**	**21 42 42.5**	**-1.4**
HAJJ				*i* S	**Sn**	**21 43 16.3**	**-3.1**
HAJJ				AML	AML	21 43 40.3	
	comp=Z,3μm,0.8s						
HAJJ	**Hajjah**	**2.94**	**39**	*i* P	**Pn**	**21 42 42.5**	**-1.4**
	comp=Z,1μm,0.8s						
SANA	**San'a**	**3.14**	**51**	*i* P	**Pn**	**21 42 45.4**	**-1.3**
SANA				*i* S	**Sn**	**21 43 22.0**	**-2.3**
SANA				AML	AML	21 43 42.4	
	comp=E,8μm,0.4s						
KMBO	**Kilima Mbogo**	**15.08**	**197**	LR	LR	21 51 14.0	
	comp=E,936nm,18.7s,baz=30,slow=37						
KMBO	**Kilima Mbogo**	**15.08**	**197**	*e*Pn	**Pn**	**21 45 30.9**	**+0.5**
	comp=E,28nm,1.6s						
KMBO	**Kilima Mbogo**	**15.08**	**197**	*e*Pn	**Pn**	**21 45 30.9**	**+0.5**
	comp=E,28nm,1.6s						
EIL	**Elat**	**17.36**	**340**	LR	LR	21 51 13.9	
	comp=E,479nm,18.7s,baz=141,slow=32						
UOSS	**Minazif**	**17.87**	**48**	*e*Pn	**P**	**21 46 06.9**	**+0.6**
	comp=E,89nm,1.3s						
UOSS	**Minazif**	**17.87**	**48**	*e*Pn	**P**	**21 46 06.9**	**+0.6**
	comp=E,89nm,1.3s						
WSAR	**Wadi Sarin**	**18.81**	**56**	P	**P**	**21 46 16.1**	**-0.7**
	comp=E,0.4nm,0.3s,baz=274,slow=10,SNR=7.0						
WSAR				LR	LR	21 54 24.5	
	comp=E,997nm,19.2s,baz=252,slow=40						
MMAI	**Mount Meron Ar**	**20.36**	**345**	P	**P**	**21 46 33.1**	**-0.5**
	comp=E,7.7nm,1.1s,baz=186,slow=16,SNR=4.1						
MMAI				LR	LR	21 53 23.9	
	comp=E,260nm,21.1s,baz=165,slow=34						
GNI	**Garni**	**26.79**	**5**	P	**P**	**21 47 39.8**	**+2.5**
	comp=E,5.2nm,0.7s,baz=5.6,slow=2.1,SNR=4.0						
BR101	**Keskin Array S**	**27.17**	**346**	*eP*	**P**	**21 47 42.4**	**+1.7**
BR101	**Keskin Array S**	**27.17**	**346**	*e*PcP	**PcP**	**21 51 00.6**	**-0.5**
BR101	**Keskin Array S**	**27.17**	**346**	*eP*	**P**	**21 47 42.4**	**+1.7**
BR101				*e*PcP	**PcP**	**21 51 00.6**	**-0.5**
BR131	**Keskin Array S**	**27.17**	**346**	*eP*	**P**	**21 47 42.0**	**+1.3**
BR131	**Keskin Array S**	**27.17**	**346**	*eP*	**P**	**21 47 42.0**	**+1.3**
BRTR	**Keskin Array B**	**27.17**	**346**	P	**P**	**21 47 42.4**	**+1.7**
	comp=E,3.4nm,1.0s,baz=164,slow=10.0,SNR=13						
BRTR				PcP	**PcP**	**21 51 00.6**	**-0.5**
	comp=E,0.9nm,1.0s,baz=127,slow=1.9,SNR=4.2						
BRTR				LR	LR	21 57 01.1	
	comp=E,167nm,20.3s,baz=128,slow=33						
BR231	**Keskin MP Arra**	**27.49**	**345**	*eP*	**P**	**21 47 42.8**	**-0.7**
BR231	**Keskin MP Arra**	**27.49**	**345**	*eP*	**P**	**21 47 42.8**	**-0.7**
BR231	**Keskin MP Arra**	**27.49**	**345**	*eS*	**P**	**21 47 43.0**	**-0.5**
BR231	**Keskin MP Arra**	**27.49**	**345**	*eS*	**P**	**21 47 43.0**	**-0.5**
GEYT	**Alibeck**	**28.48**	**28**	LR	LR	22 00 26.7	
	comp=E,245nm,19.5s,baz=140,slow=39						
KBZ	**Khabaz**	**30.25**	**2**	P	**P**	**21 48 10.5**	**+2.7**
	comp=E,2.8nm,0.8s,baz=159,slow=4.4,SNR=5.0						
KIV	**Kislovodsk**	**30.47**	**1**	*eP*	**P**	**21 48 11.7**	**+1.8**
	comp=E,16nm,1.2s						
KIV	**Kislovodsk**	**30.47**	**1**	*eP*	**P**	**21 48 11.7**	**+1.8**
	comp=E,16nm,1.2s						
AGG	**Agios Georgios**	**30.74**	**330**	*eP*	**P**	**21 48 10.1**	**-2.2**
	comp=E,96nm,1.9s						
AGG	**Agios Georgios**	**30.74**	**330**	*eP*	**P**	**21 48 10.1**	**-2.2**
	comp=E,96nm,1.9s						
CFR	**Carcaliu**	**33.71**	**343**	*i P*	**P**	**21 48 39.0**	**+0.8**
ISR	**Istrita**	**34.15**	**341**	*i P*	**P**	**21 48 44.1**	**+2.0**
MLR	**Muntele Rosu**	**34.67**	**340**	*i P*	**P**	**21 48 48.4**	**+1.7**
MLR	**Muntele Rosu**	**34.67**	**340**	*eP*	**P**	**21 48 46.3**	**-0.5**
	comp=E,7.7nm,0.8s						
MLR	**Muntele Rosu**	**34.67**	**340**	*eP*	**P**	**21 48 46.3**	**-0.5**
	comp=E,7.7nm,0.8s						
VRI	**Vrincioaia**	**34.76**	**342**	*i P*	**P**	**21 48 48.7**	**+1.3**
PLOR	**Plostina**	**34.77**	**341**	*i P*	**P**	**21 48 49.5**	**+2.0**
LEOM	**Leova**	**34.87**	**344**	*i P*	**P**	**21 48 50.9**	**+2.7**
VOIR		**34.92**	**339**	*i P*	**P**	**21 48 50.1**	**+1.2**
ARR	**Arges**	**35.01**	**339**	*i P*	**P**	**21 48 50.4**	**+0.8**
DOPR	**Dopca**	**35.27**	**340**	*i P*	**P**	**21 48 52.0**	**+0.2**
TESR	**Tescani**	**35.36**	**342**	*i P*	**P**	**21 48 55.2**	**+2.7**
LOT	**Lotru**	**35.39**	**338**	*i P*	**P**	**21 48 53.7**	**+0.8**
TAM	**Tamanrasset**	**35.55**	**290**	*eP*	**P**	**21 48 52.5**	**-2.1**
	comp=E,8.8nm,1.3s						
TAM	**Tamanrasset**	**35.55**	**290**	*eP*	**P**	**21 48 52.5**	**-2.1**
	comp=E,8.8nm,1.3s						
MDVR	**Moldovita**	**35.62**	**335**	*i P*	**P**	**21 48 54.9**	**+0.1**
BZS	**Buzias**	**36.35**	**336**	*i P*	**P**	**21 49 01.1**	**+0.1**
KEST	**Kesra**	**36.61**	**313**	P	**P**	**21 49 04.2**	**+0.7**
	comp=E,5.1nm,0.8s,baz=0.7,slow=5.0,SNR=4.8						
KEST	**Kesra**	**36.61**	**313**	*eP*	**P**	**21 49 04.2**	**+0.7**
	comp=E,15nm,1.3s						
KEST	**Kesra**	**36.61**	**313**	*eP*	**P**	**21 49 04.2**	**+0.7**
	comp=E,15nm,1.3s						
BURAR	**Bucovina Array**	**36.79**	**341**	*i P*	**P**	**21 49 06.3**	**+1.4**
BUR08	**Bucovina Ar. S**	**36.82**	**341**	*eP*	**P**	**21 49 05.8**	**+0.7**
BUR08	**Bucovina Ar. S**	**36.82**	**341**	*eP*	**P**	**21 49 05.8**	**+0.7**
SIRR	**Siria**	**36.87**	**337**	*i P*	**P**	**21 49 06.1**	**+0.6**
DRGR		**36.92**	**338**	*i P*	**P**	**21 49 07.1**	**+1.2**
AKASG	**Malin Array Be**	**38.57**	**347**	P	**P**	**21 49 19.5**	**-0.2**
	comp=E,1.5nm,0.7s,baz=162,slow=7.1,SNR=9.9						
AKASG				LR	LR	22 05 54.9	
	comp=E,138nm,19.2s,baz=75,slow=37						
AKBB	**Malin Array Si**	**38.57**	**347**	*eP*	**P**	**21 49 19.5**	**-0.2**
	comp=E,18nm,1.5s						
AKBB	**Malin Array Si**	**38.57**	**347**	*eP*	**P**	**21 49 19.5**	**-0.2**
	comp=E,18nm,1.5s						
ABKAR	**Akbulak array**	**38.79**	**19**	*eP*	**P**	**21 49 21.1**	**-0.5**
ABKAR	**Akbulak array**	**38.79**	**19**	*eP*	**P**	**21 49 21.1**	**-0.5**
KOLS	**Kolonicke sedl**	**38.90**	**340**	*eP*	**P**	**21 49 23.8**	**+1.2**
	comp=E,21nm,2.3s						
KOLS	**Kolonicke sedl**	**38.90**	**340**	*eP*	**P**	**21 49 23.8**	**+1.2**
TOA0	**Torodi Ar. Sit**	**38.90**	**274**	*eP*	**P**	**21 49 22.0**	**-1.0**
TOA0	**Torodi Ar. Sit**	**38.90**	**274**	*eP*	**P**	**21 49 22.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**38.90**	**274**	P	**P**	**21 49 22.9**	**-0.2**
	comp=E,4.4nm,1.0s,baz=83,slow=9.5,SNR=16						
TOA1	**Torodi Ar. Sit**	**38.90**	**274**	*eP*	**P**	**21 49 22.9**	**-0.2**
	comp=E,14nm,1.3s						
TOA1	**Torodi Ar. Sit**	**38.90**	**274**	*eP*	**P**	**21 49 22.9**	**-0.2**
	comp=E,14nm,1.3s						
PSZ	**Piszkesteto**	**38.91**	**337**	*i P*	**P**	**21 49 23.7**	**+0.9**
PSZ	**Piszkesteto**	**38.91**	**337**	*eP*	**P**	**21 49 23.6**	**+0.8**
	comp=E,19nm,1.5s						
PSZ	**Piszkesteto**	**38.91**	**337**	*eP*	**P**	**21 49 23.6**	**+0.8**
	comp=E,19nm,1.5s						
CRVS	**Cervenica-Dubn**	**39.15**	**339**	*eP*	**P**	**21 49 25.8**	**+1.1**
CRVS	**Cervenica-Dubn**	**39.15**	**339**	*eP*	**P**	**21 49 25.8**	**+1.1**
KECS	**Kecovo**	**39.16**	**338**	*eP*	**P**	**21 49 25.0**	**+0.3**
	comp=E,3.3nm,1.3s						
KECS	**Kecovo**	**39.16**	**338**	*eP*	**P**	**21 49 25.0**	**+0.3**
KWP	**Kalwaria Pacla**	**39.36**	**341**	*i P*	P	21 49 33.7	+7.3
STHS	**Stebnicka Huta**	**39.67**	**339**	*eP*	**P**	**21 49 29.8**	**+0.8**
	comp=E,4.0nm,1.3s						
STHS	**Stebnicka Huta**	**39.67**	**339**	*eP*	**P**	**21 49 29.8**	**+0.8**
VYHS	**Vyhne**	**39.79**	**336**	*eP*	**P**	**21 49 30.2**	**+0.1**
	comp=E,7.2nm,1.3s						
VYHS	**Vyhne**	**39.79**	**336**	*eP*	**P**	**21 49 30.2**	**+0.1**
KSH	**Kashi**	**39.84**	**43**	*eP*	**P**	**21 49 29.9**	**-0.8**
KSH				pP	pP	21 49 32.3	-1.5
KSH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
SOKA	**Soboth**	**40.03**	**331**	*i* sP	**P**	**21 49 33.4**	**+1.3**
	comp=Z,6.7nm,1.3s						
LANS	**Liptovska Anna**	**40.09**	**337**	*eP*	**P**	**21 49 33.3**	**+0.8**
LANS	**Liptovska Anna**	**40.09**	**337**	*eP*	**P**	**21 49 33.3**	**+0.8**
ARSA	**Arzberg**	**40.23**	**332**	*es*P	**P**	**21 49 35.0**	**+1.3**
	comp=Z,6.4nm,0.8s						
ARSA	**Arzberg**	**40.23**	**332**	P	**P**	**21 49 35.0**	**+1.3**
	comp=Z,6.4nm,0.8s						
MOA	**Molln**	**41.24**	**332**	*eP*	**P**	**21 49 42.4**	**+0.3**
	comp=Z,4.9nm,0.9s						
MOA	**Molln**	**41.24**	**332**	P	**P**	**21 49 42.4**	**+0.3**
	comp=Z,4.9nm,0.9s						
MORC	**Moravsky Berou**	**41.33**	**336**	*i P*	**P**	**21 49 43.3**	**+0.5**
MORC	**Moravsky Berou**	**41.33**	**336**	*eP*	**P**	**21 49 42.0**	**-0.8**
	comp=Z,19nm,1.1s						
MORC	**Moravsky Berou**	**41.33**	**336**	*eP*	**P**	**21 49 42.0**	**-0.8**
	comp=Z,19nm,1.1s						
VRAC	**Vranov**	**41.34**	**335**	*i P*	**P**	**21 49 42.7**	**-0.1**
VRAC	**Vranov**	**41.34**	**335**	*eP*	**P**	**21 49 43.0**	**+0.2**
TREC	**Trest**	**41.79**	**334**	*eP*	**P**	**21 49 46.6**	**+0.1**
TREC	**Trest**	**41.79**	**334**	P	**P**	**21 49 46.6**	**+0.1**
GEA0	**GERESS Array S**	**42.22**	**333**	*eP*	**P**	**21 49 49.9**	**-0.3**
GEA0	**GERESS Array S**	**42.22**	**333**	*eP*	**P**	**21 49 49.9**	**-0.3**
GEC2	**GERESS Array S**	**42.23**	**333**	*eP*	**P**	**21 49 50.6**	**+0.4**
	comp=Z,20nm,1.5s						
GEC2	**GERESS Array S**	**42.23**	**333**	*eP*	**P**	**21 49 50.6**	**+0.4**
	comp=Z,20nm,1.5s						
GERES	**GERESS Array B**	**42.23**	**333**	P	**P**	**21 49 50.2**	**0.0**
	comp=Z,2.0nm,0.6s,baz=133,slow=7.3,SNR=23						
DPC	**Dobruska-Polom**	**42.27**	**336**	*eP*	**P**	**21 49 50.8**	**+0.4**
DPC				*epP*	**pP**	**21 49 54.0**	**+0.4**
DPC	**Dobruska-Polom**	**42.27**	**336**	P	**P**	**21 49 50.8**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**42.35**	**328**	*eP*	**P**	**21 49 51.6**	**+0.2**
	comp=Z,13nm,1.5s						
FUORN	**Ofenpass-Fuorn**	**42.35**	**328**	*eP*	**P**	**21 49 51.6**	**+0.2**
	comp=Z,13nm,1.5s						
FETA	**Feichten**	**42.37**	**329**	*i* sP	**P**	**21 49 52.7**	**+1.2**
	comp=Z,5.0nm,1.1s						
MOTA	**Moosalm**	**42.40**	**329**	*i P*	**P**	**21 49 50.5**	**-1.2**
	comp=Z,3.3nm,0.9s						
MOTA	**Moosalm**	**42.40**	**329**	P	**P**	**21 49 50.5**	**-1.2**
	comp=Z,3.3nm,0.9s						
KHC	**Kasperske Hory**	**42.50**	**333**	*eP*	**P**	**21 49 51.9**	**-0.4**
KHC				*epP*	**pP**	**21 49 55.9**	**+0.5**
KHC	**Kasperske Hory**	**42.50**	**333**	*eP*	**P**	**21 49 51.8**	**-0.5**
	comp=Z,3.0nm,1.2s						
KHC	**Kasperske Hory**	**42.50**	**333**	*eP*	**P**	**21 49 51.8**	**-0.5**
	comp=Z,3.0nm,1.2s						
GOPC	**GO Pecny, Ondr**	**42.56**	**

comp=Z,182nm,18.6s,baz=276,slow=40
MKAR Makanchi Array 47.55 37 *e*P **P 21 50 33.7 +1.1**
MKAR Makanchi Array 47.55 37 *e*P **P 21 50 33.7 +1.1**
ES19 SONSECA Array 47.79 312 *e*P **P 21 50 34.1 -0.5**
ES19 SONSECA Array 47.79 312 *e*P **P 21 50 34.1 -0.5**
ESDC Sonseca Array 47.83 312 P **P 21 50 35.0 +0.1**
comp=Z,2.2nm,0.9s,baz=112,slow=7.4,SNR=14
ESDC Sonseca Array 47.83 312 *e*P **P 21 50 35.0 +0.1**
PAB San Pablo 48.07 312 *e*P **P 21 50 35.8 -1.0**
comp=Z,7.1nm,1.1s
PAB San Pablo 48.07 312 *e*P **P 21 50 35.8 -1.0**
comp=Z,7.1nm,1.1s
FIA0 FINESS Array S 49.29 350 *e*P **P 21 50 45.9 +0.2**
FIA0 FINESS Array S 49.29 350 *e*P **P 21 50 45.9 +0.2**
FINES FINESS Array B 49.29 350 P **P 21 50 45.9 +0.2**
comp=Z,1.7nm,0.6s,baz=152,slow=12,SNR=6.7
WMQ Urumqi 49.60 43 P **P 21 50 50.4 +1.9**
WMQ pP sP 21 50 55.4 +2.5
WMQ sP pP 21 50 57.4 +5.8
WMQ pmax pmax
comp=Z,5.0nm,0.6s
WMQ LR LR
comp=N,73nm,27.0s
WMQ LR LR
comp=E,98nm,21.8s
WMQ LR LR
comp=Z,94nm,27.0s
NB200 NORSAR Array S 52.47 342 *e*P **P 21 51 08.9 -0.8**
NB200 NORSAR Array S 52.47 342 *e*P **P 21 51 08.9 -0.8**
NOA NORSAR Array B 52.47 342 P **P 21 51 08.9 -0.8**
comp=Z,3.1nm,1.0s,baz=140,slow=7.4,SNR=3.5
NOA LR LR 22 16 19.3
comp=Z,69nm,18.0s,baz=25,slow=39
ZAA0 Zalesovo Array 52.74 31 *e*P **P 21 51 11.7 0.0**
ZAA0 Zalesovo Array 52.74 31 *e*P **P 21 51 11.7 0.0**
ZALV Zalesovo Beam 52.74 31 P **P 21 51 11.9 +0.2**
comp=Z,4.5nm,0.7s,baz=240,slow=8.4,SNR=19
ZAA1 Zalesovo Array 52.74 31 *e*P **P 21 51 11.9 +0.2**
ZAA1 Zalesovo Array 52.74 31 *e*P **P 21 51 11.9 +0.2**
CM31 Chiang Mai Arr 55.10 77 *e*P **P 21 51 30.0 +0.4**
CM31 *e*S **S 21 59 12.8 0.0**
CM31 Chiang Mai Arr 55.10 77 *e*P **P 21 51 30.1 +0.4**
CM31 *e*S **S 21 59 12.8 0.0**
CMAR Chiang Mai Arr 55.10 77 P **P 21 51 30.1 +0.4**
comp=Z,1.6nm,0.9s,baz=273,slow=8.2,SNR=9.5
CM01 Chiang Mai Arr 55.12 77 *e*P **P 21 51 27.2 -2.6**
ARA0 ARCESS Array S 57.03 353 *e*P **P 21 51 42.2 -0.4**
ARA0 ARCESS Array S 57.03 353 *e*P **P 21 51 42.2 -0.4**
ARCES ARCESS Array B 57.03 353 P **P 21 51 42.2 -0.5**
comp=Z,3.9nm,0.9s,baz=166,slow=7.2,SNR=8.1
GTA Gaotai 57.06 52 *e*P **P 21 51 46.3 +2.8**
GTA pP sP 21 51 50.7 +2.7
GTA sP pP 21 51 53.3 +6.5
GTA pmax pmax
comp=Z,3.0nm,1.4s
KMI Kunming 58.38 69 P **P 21 51 55.0 +1.8**
KMI pmax pmax
comp=Z,8.0nm,0.7s
CD2 Chengdu 59.37 62 *e*P **P 21 51 59.0 -0.7**
NRIK Noril'sk 62.89 17 P **P 21 52 22.4 -0.4**
comp=Z,2.1nm,0.6s,baz=252,slow=7.5,SNR=4.9
NRIK LR LR 22 22 33.0
comp=Z,182nm,19.8s,baz=130,slow=39
SONA0 Songino Array 63.24 43 *e*P **P 21 52 26.9 +1.2**
comp=Z,7.7nm,1.2s
SONA0 Songino Array 63.24 43 *e*P **P 21 52 26.9 +1.2**
comp=Z,7.7nm,1.2s
SONM Songino Array 63.24 43 P **P 21 52 26.9 +1.2**
comp=Z,2.3nm,1.0s,baz=259,slow=7.4,SNR=15
SONA1 Songino Array 63.25 43 *e*P **P 21 52 26.4 +0.6**
SONA1 Songino Array 63.25 43 *e*P **P 21 52 26.4 +0.6**
QIZ Qiongzhong 65.34 75 P **P 21 52 39.5 -0.3**
QIZ S **S 22 01 24.5 +0.2**
QIZ LR LR
comp=N,120nm,15.6s
QIZ LR LR
comp=E,81nm,9.7s
QIZ LR LR
comp=Z,160nm,19.1s
SPA0 Spitsbergen Ar 66.01 354 *e*P **P 21 52 44.3 +1.1**
SPA0 Spitsbergen Ar 66.01 354 *e*P **P 21 52 44.3 +1.1**
HHC Hu-ho-hao-te 66.17 51 *e*P **P 21 52 46.2 +1.2**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,170nm,8.0s
SUMG Summit 74.36 342 *e*P **P 21 53 35.3 +0.4**
comp=Z,29nm,1.9s
SUMG Summit 74.36 342 *e*P **P 21 53 35.3 +0.4**
comp=Z,29nm,1.9s
NV01 Mina Array Sit 125.15 341 *e*PKIKP **PKPdf 22 00 59.0 +0.6**
NV01 Mina Array Sit 125.15 341 *e*PKPdf **PKPdf 22 00 59.0 +0.6**
NVAR Mina Array Bea 125.15 341 PKP **PKPdf 22 00 59.0 +0.6**
comp=Z,0.7nm,0.8s,baz=73,slow=1.2,SNR=5.7
LTX Lajitas 125.94 322 *e*PKIKP **PKPdf 22 01 00.3 +0.3**
LTX Lajitas 125.94 322 *e*PKPdf **PKPdf 22 01 00.3 +0.3**
TXAR Lajitas Array 125.94 322 PKP **PKPdf 22 01 00.3 +0.3**
comp=Z,0.2nm,0.8s,baz=68,slow=2.4,SNR=2.7

IASPEI ***12*** *21:47:42.6±1.0, 39.°44N×033.°07E±0.°03, h9*km*±6*km*, Error ellipse: s-maj=4.2km s-min=3.6km az=114.6, GT5 selection from ISC bulletin GT5 identified by Bond˙ȷr and McLaughlin (2009) selection criteria Bond˙ȷr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISK ***12*** *21:47:42.5, 39.°43N×33.°08E, h8*km*, MD2.7*
DDA ***12*** *21:47:42.5, 39.°44N×33.°07E, h8*km*, Md2.7*
CSEM ***12*** *21:47:43.0±0.2, 39.°42N×33.°05E, h2*km*, MD2.7, Error ellipse: s-maj=5.1km s-min=4.4km az=152.0*
ISC 12 21:47:42.7±0.9**, 39°44N**±0.°02×**33°06E**±0.°02**, h9**km±6km**, n28**,σ0°44/46**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFSR	**Afˇar-Bala (A**	**0.01**	**37**	*e*PG		**Pg**	**21 47 44.2**	**-0.2**
AFSR	**Afˇar-Bala (A**	**0.01**	**37**	*e*Pg		**Pg**	**21 47 44.2**	**-0.2**
BBAL	**Bala**	**0.11**	**24**	P		**Pg**	**21 47 45.5**	**0.0**
BBAL				S		**Sg**	**21 47 47.6**	**+0.2**
BBAL	**Bala**	**0.11**	**24**	*i* P		**Pg**	**21 47 45.5**	**0.0**
BBAL				*i* S		**Sg**	**21 47 47.6**	**+0.2**
KKUL	**Konya-Kulu**	**0.29**	**203**	P		**Pg**	**21 47 48.4**	**-0.1**
KKUL				S		**Sg**	**21 47 53.0**	**+0.6**
KKUL	**Konya-Kulu**	**0.29**	**203**	*i* P		**Pg**	**21 47 48.4**	**-0.1**
KKUL				*i* S		**Sg**	**21 47 53.0**	**+0.6**
LOD	**Lodumlu**	**0.51**	**333**	*e*PG		**Pg**	**21 47 52.6**	**+0.1**
LOD				*e*Sg		**Sb**	**21 48 00.8**	**-0.6**
LOD	**Lodumlu**	**0.51**	**333**	*e*Pg		**Pg**	**21 47 52.6**	**+0.1**
LOD				*e*Sg		**Sb**	**21 48 00.8**	**-0.6**
KAMT	**Kaman**	**0.51**	**98**	*e*PG		**Pg**	**21 47 52.6**	**0.0**
KAMT	**Kaman**	**0.51**	**98**	*e*Pg		**Pg**	**21 47 52.6**	**0.0**
SERE	**Sereflikochisa**	**0.63**	**141**	*e*PG		**Pg**	**21 47 54.8**	**0.0**
SERE	**Sereflikochisa**	**0.63**	**141**	*e*Pg		**Pg**	**21 47 54.8**	**0.0**
AKSY	**AKSARAY - Alti**	**0.96**	**145**	P		**Pg**	**21 48 00.9**	**-0.2**
AKSY				S		**Sg**	**21 48 12.7**	**-0.9**
AKSY	**AKSARAY - Alti**	**0.96**	**145**	*i* P		**Pg**	**21 48 00.9**	**-0.2**
AKSY				*i* S		**Sg**	**21 48 12.7**	**-0.9**
CDAG	**Cicekdag**	**1.03**	**79**	P		**Pg**	**21 48 01.9**	**-0.6**
CDAG				S		**Sb**	**21 48 16.8**	**+0.3**
CDAG	**Cicekdag**	**1.03**	**79**	*i* P		**Pg**	**21 48 01.9**	**-0.6**
CDAG				*i* S		**Sb**	**21 48 16.8**	**+0.3**
KIZT	**Kizilcal**	**1.08**	**239**	*e*PG		**Pb**	**21 48 03.6**	**0.0**
KIZT	**Kizilcal**	**1.08**	**239**	*e*Pg		**Pb**	**21 48 03.6**	**0.0**
KDHN	**Kadinhani**	**1.18**	**219**	P		**Pb**	**21 48 05.1**	**-0.2**
KDHN				S		**Sb**	**21 48 21.0**	**+0.3**
KDHN	**Kadinhani**	**1.18**	**219**	*i* P		**Pb**	**21 48 05.1**	**-0.2**
KDHN				*i* S		**Sb**	**21 48 21.0**	**+0.3**
CORM	**Corum**	**1.42**	**58**	*e*PN		**Pb**	**21 48 09.1**	**-0.3**
CORM	**Corum**	**1.42**	**58**	*e*Pn		**Pb**	**21 48 09.1**	**-0.3**
AVNS	**Nevsehir-Avano**	**1.52**	**114**	P		**Pg**	**21 48 11.5**	**-0.4**
AVNS				S		**Sg**	**21 48 32.5**	**+0.7**
AVNS	**Nevsehir-Avano**	**1.52**	**114**	*i* P		**Pg**	**21 48 11.5**	**-0.4**
AVNS				*i* S		**Sg**	**21 48 32.5**	**+0.7**
COAL	**Corum-Alaca**	**1.69**	**61**	P		**Pb**	**21 48 14.1**	**0.0**
COAL				S		**Sg**	**21 48 37.6**	**+0.5**
COAL	**Corum-Alaca**	**1.69**	**61**	*i* P		**Pb**	**21 48 14.1**	**0.0**
COAL				*i* S		**Sg**	**21 48 37.6**	**+0.5**
CUSAR	**Sarkisla-SIVAS**	**2.46**	**89**	P		**Pb**	**21 48 27.0**	**-0.3**
CUSAR				S		**Sb**	**21 48 58.6**	**+0.8**
CUSAR	**Sarkisla-SIVAS**	**2.46**	**89**	*i* P		**Pb**	**21 48 26.9**	**-0.3**
CUSAR				*i* S		**Sb**	**21 48 58.6**	**+0.8**

FUNV ***12*** *21:48:36.9, 10.°26N×73.°31W, h10*km*, MW3.4*
ISCJB ***12*** *21:48:39.1±0.7, 10.°15N±0.°04×73.°08W±0.°03, h134*km*±10*km*, Error ellipse: s-maj=6.5km s-min=4.1km az=154.5*
RSNC ***12*** *21:48:40.7±0.8, 10.°10N×73.°01W, h122*km*±19*km*, ML3.7*
ISC 12 21:48:40.9±1.7**, 10.°11N**±0.°04×**73.°08W**±0.°04**, h110**km±25km**, n30**,σ1°29/46**, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.76**	**59**	⇑*i* P		Pn	21 48 53.8	-6.0
OCAC	**Ocana**	**1.88**	**187**	*e*P		**Pn**	**21 49 12.6**	**0.0**
URIC	**Uribia, Colomb**	**1.90**	**34**	*e*P		**Pn**	**21 49 11.8**	**-0.9**
URIC				*e*S		**Sn**	**21 49 37.2**	**+0.3**
URIC				*i*			21 49 40.1	
	comp=Z,691nm,0.3s							
SJCC	**San Jacinto, C**	**2.08**	**264**	*e*P		**Pn**	**21 49 15.7**	**+0.7**
SJCC				*e*S		**Sn**	**21 49 42.9**	**+1.8**
VIGV	**El Vigia**	**2.11**	**127**	*e*P		**Pn**	**21 49 15.0**	**-0.3**
VIGV				*e*S		**Sn**	**21 49 43.8**	**+2.2**
CAPV	**Capacho**	**2.36**	**161**	*e*P		**Pn**	**21 49 18.1**	**-0.6**
CAPV				*e*S		**Sn**	**21 49 48.5**	**+0.8**
GRMC	**Gramalote, San**	**2.40**	**174**	*e*P		**Pn**	**21 49 15.7**	**-3.4**
GRMC				*e*S		**Sn**	**21 49 43.8**	**-4.6**
GRMC				*i*			21 49 52.4	
	comp=Z,689nm,0.3s							
SJCC	**San Jacinto, C**	**2.08**	**264**	*e*P		**Pn**	**21 49 15.7**	**+0.7**
SJCC				*e*S		**Sn**	**21 49 42.9**	**+1.8**
VIGV	**El Vigia**	**2.11**	**127**	*e*P		**Pn**	**21 49 15.0**	**-0.3**
VIGV				*e*S		**Sn**	**21 49 43.8**	**+2.2**
CAPV	**Capacho**	**2.36**	**161**	*e*P		**Pn**	**21 49 18.1**	**-0.6**
CAPV				*e*S		**Sn**	**21 49 48.5**	**+0.8**
GRMC	**Gramalote, San**	**2.40**	**174**	*e*P		**Pn**	**21 49 15.7**	**-3.4**
GRMC				*e*S		**Sn**	**21 49 43.8**	**-4.6**
GRMC				*i*			21 49 52.4	
	comp=Z,689nm,0.3s							
CBRI	**Barrientos, No**	**2.40**	**173**	*e*P		**Pn**	**21 49 18.4**	**-0.8**
CBRI				*i*			21 49 55.7	
	comp=Z,405nm,0.4s							
QARV	**Quebrada Arrib**	**2.51**	**88**	*e*P		**Pn**	**21 49 20.4**	**-0.1**
QARV				*e*S		**Sn**	**21 49 52.6**	**+1.6**
DABV	**Dabajuro**	**2.53**	**71**	*e*P		**Pn**	**21 49 19.6**	**-1.1**
DABV				*e*S		**Sn**	**21 49 50.9**	**-0.4**
SDV	**Santo Domingo**	**2.70**	**117**	*e*P		**Pn**	**21 49 22.3**	**-0.9**
SDV				*e*S		**Sn**	**21 49 55.4**	**-0.2**
SDV	**Santo Domingo**	**2.70**	**117**	*e*P		**Pn**	**21 49 23.1**	**0.0**
PAMC	**Pamplona, Colo**	**2.78**	**172**	*e*P		**Pn**	**21 49 23.7**	**-0.8**
PAMC				*e*S		**Sn**	**21 49 57.9**	**0.0**
SOCV	**Socops**	**2.85**	**130**	*e*P		**Pn**	**21 49 25.6**	**+0.6**
SOCV				*e*S		**Sn**	**21 50 00.7**	**+1.9**
MOTC	**Monteria, Cord**	**2.88**	**243**	*e*P		**Pn**	**21 49 25.3**	**0.0**
MOTC				*e*S		**Sn**	**21 50 00.9**	**+1.4**
BRRC	**Barranca, Sant**	**3.05**	**192**	*e*P		**Pn**	**21 49 27.3**	**-0.4**
BRRC				*i*			21 49 37.3	
	comp=Z,81nm,0.2s							
CURV	**Curarigua**	**3.07**	**92**	*e*P		**Pn**	**21 49 27.7**	**-0.2**
CURV				*e*S		**Sn**	**21 50 05.5**	**+1.3**
BTLC	**Betulia, Santa**	**3.18**	**183**	*e*P		**Pn**	**21 49 30.0**	**+0.4**
SIQV	**Siquisique**	**3.26**	**80**	*e*P		**Pn**	**21 49 29.7**	**-0.7**
SIQV				*e*S		**Sn**	**21 50 09.1**	**+0.6**
BARC	**Barichara**	**3.50**	**182**	*e*P		**Pn**	**21 49 33.9**	**+0.1**
SANV	**Sanarito**	**3.54**	**100**	*e*P		**Pn**	**21 49 34.7**	**+0.5**
SANV				*e*S		**Sn**	**21 50 17.2**	**+1.8**
MONV	**Montecano**	**3.55**	**59**	*e*P		**Pn**	**21 49 33.3**	**-1.0**
MONV				*e*S		**Sn**	**21 50 13.8**	**-1.8**
TEPV	**Terepaima**	**3.83**	**92**	*e*P		**Pn**	**21 49 38.2**	**+0.2**
RUSC	**La Rusia**	**4.19**	**180**	*e*P		**Pn**	**21 49 42.5**	**-0.8**
RUSC				*i*			21 50 57.9	
	comp=Z,43nm,0.4s							
MAPV	**Macapo**	**4.56**	**93**	*e*P		**Pn**	**21 49 48.3**	**+0.5**
MAPV				*e*S		**Sn**	**21 50 41.1**	**+1.3**
ELOV	**Elorza**	**4.71**	**131**	*e*P		**Pn**	**21 49 50.0**	**+0.2**
BAUV	**El Baul**	**5.10**	**103**	*e*P		**Pn**	**21 49 54.5**	**-0.5**
BAUV				*e*S		**Sn**	**21 50 52.4**	**-0.4**
TURV	**Turiamo**	**5.16**	**86**	*e*P		**Pn**	**21 49 55.3**	**-0.6**
BIRV	**Birongo**	**6.71**	**86**	*e*P		**Pn**	**21 50 16.6**	**-0.3**
CUPV	**Cœpira**	**7.18**	**90**	*e*P		**Pn**	**21 50 22.9**	**-0.4**

MEX 12 21:57:42.7±1.2**, 16.°79N×94.°84W, h161**km±28km**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.58**	**230**	*e*P		Pn	21 58 12.1	-1.9
HUIG				*e*S		Sn	21 58 36.7	-1.3
VHO	**Vista Hermosa**	**1.83**	**279**	*e*P		Pn	21 58 16.1	-0.7
VHO				*i* S		Sn	21 58 40.4	-2.6
PCIG		**1.90**	**125**	*e*P		Pn	21 58 16.1	-1.3
PCIG				*e*S		Sn	21 58 42.0	-2.0
PANG	**Puerto Angel**	**1.93**	**235**	*e*P		Pn	21 58 16.0	-1.6

IDC 12 22:14:39.7±15.0**, 13.°84N×41.°73E, h0**km**, mb3.4/4, mb1 3.5/4, mb1mx3.3/33, mbtmp3.4/4, Error ellipse: s-maj=343.9km s-min=55.0km az=11.0, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**41.86**	**332**	P		P	22 22 31.5	-0.1
	0.1nm,0.3s,baz=111,slow=5.4,SNR=2.6							
MKAR	**Makanchi Array**	**47.18**	**38**	P		P	22 23 14.3	+0.1
	0.3nm,0.4s,baz=235,slow=8.4,SNR=2.0							
ZALV	**Zalesovo Beam**	**52.34**	**31**	P		P	22 23 52.9	-0.4
	0.4nm,0.2s,baz=215,slow=6.3,SNR=2.4							
SONM	**Songino Array**	**62.89**	**43**	P		P	22 25 07.9	0.0
	0.1nm,0.3s,baz=276,slow=4.2,SNR=1.7							

IDC ***12*** *22:23:14.7±1.4, 3.°57S×101.°45E, h0*km*, mb4.1/9, mb1 4.3/10, mb1mx3.9/35, mbtmp4.2/10, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/29, Error ellipse: s-maj=52.9km s-min=16.1km az=52.0*
NEIC ***12*** *22:23:18.9±2.3, 3.°58S×101.°51E, h28*km*±16*km*, mb4.4/8, Error ellipse: s-maj=21.4km s-min=5.3km az=46.0*
ISCJB ***12*** *22:23:19.4±0.7, 3.°5S±0.°1×101.°6E±0.°1, h50*km*, mb4.3/14, MS3.2/1, Error ellipse: s-maj=26.9km s-min=6.0km az=136.6*
DJA ***12*** *22:23:21.7±1.1, 4.°S±7.°×10.°2E±1.°0, h27*km*±9*km*, M4.2/8, mB4.8/1, mb4.1/2, MLv4.2/8, Mw(mB)4.0/1*
ISC 12 22:23:21.1±1.0**, 3.°5S**±0.°2×**101.°5E**±0.°2**, h50**km**, n37,** σ1°11/33**, mb4.2**/14**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**2.79**	**338**	P		**Pn**	**22 24 04.4**	**+1.0**
LWLI	**Liwa**	**2.95**	**120**	P		**Pn**	**22 24 05.2**	**-0.4**
PPI	**Padang Panjang**	**3.24**	**340**	P		Pn	22 24 15.6	+6.1
KASI	**Kota Agung**	**3.59**	**124**	P		**Pn**	**22 24 13.6**	**-0.6**
CGJI	**Cibinong**	**5.18**	**126**	P		**Pn**	**22 24 34.9**	**-1.2**
	41nm,1.6s,0.2nm							
GSI	**Gunungsitoli**	**6.20**	**321**	*e*Pn		**Pn**	**22 24 49.7**	**-0.4**
GSI				*e*Sn		**Sn**	**22 25 56.8**	**-2.8**
CISI	**Cisompet, Garu**	**7.45**	**123**	*e*Pn		**Pn**	**22 25 05.9**	**-1.5**
UGM	**Wanagama**	**9.98**	**116**	*e*Pn		**Pn**	**22 25 40.6**	**-1.3**
JAGI	**Jajag, Banyuwa**	**13.51**	**112**	*e*Pn		**Pn**	**22 26 26.4**	**-3.7**
KAPI	**Kappang**	**18.26**	**95**	P		**Pn**	**22 27 31.2**	**+0.1**
	0.5nm,0.3s,baz=264,slow=14,SNR=4.9							
KAPI				LR		LR	22 34 20.2	
	comp=Z,106nm,19.7s,baz=20,slow=36							
KAPI	**Kappang**	**18.26**	**95**	*e*P		**Pn**	**22 27 31.2**	**+0.1**
	11nm,0.9s							
FITZ	**Fitzroy Crossi**	**27.73**	**123**	P		**P**	**22 29 05.2**	**+0.1**
	4.0nm,0.9s,baz=329,slow=12,SNR=2.1							
FITZ	**Fitzroy Crossi**	**27.73**	**123**	*e*P		**P**	**22 29 05.2**	**+0.1**
	17nm,1.3s							
H08S2	**Diego Garcia H**	**29.15**	**261**	T		T	22 58 59.4	
	baz=84,slow=76,SNR=27							
H08S3	**Diego Garcia H**	**29.16**	**261**	T		T	22 58 55.0	
	baz=84,slow=76,SNR=19							
H08S1	**Diego Carcia H**	**29.17**	**261**	T		T	22 59 01.1	
	baz=84,slow=76,SNR=19							
WR1	**Warramunga Arr**	**35.94**	**120**	*e*P		**P**	**22 30 17.0**	**-0.1**
	27nm,1.8s							
WRA	**Warramunga Arr**	**35.94**	**120**	P		**P**	**22 30 17.0**	**-0.1**
	1.2nm,0.4s,baz=304,slow=8.8,SNR=29							
WRAB	**Tennant Creek**	**35.94**	**120**	*e*P		**P**	**22 30 17.1**	**-0.1**
	50nm,1.9s							
WB2	**Warramunga Arr**	**35.95**	**120**	*e*P		**P**	**22 30 16.5**	**-0.7**
	22nm,1.6s							
ASAR	**Alice Springs**	**37.15**	**126**	P		**P**	**22 30 27.3**	**-0.2**
	2.0nm,0.4s,baz=299,slow=8.0,SNR=48							
AS31	**Alice Springs**	**37.15**	**126**	*e*P		**P**	**22 30 27.3**	**-0.2**
	2.9nm,1.3s							
STKA	**Stephens Creek**	**47.02**	**132**	P		**P**	**22 31 48.8**	**+1.0**
	2.2nm,0.7s,baz=307,slow=6.1,SNR=4.7							
STKA	**Stephens Creek**	**47.02**	**132**	*e*P		**P**	**22 31 48.8**	**+1.0**
	5.5nm,1.8s							
KSRS	**Korea Array**	**47.60**	**29**	LR		LR	22 52 44.0	
	comp=Z,23nm,18.1s,baz=75,slow=37							
SONA0	**Songino Array**	**51.33**	**4**	*e*P		**P**	**22 32 21.2**	**+0.7**
	1.6nm,0.8s							
SONM	**Songino Array**	**51.33**	**4**	P		**P**	**22 32 21.2**	**+0.7**
	1.1nm,0.6s,baz=189,slow=11,SNR=7.6							
MK01	**Makanchi Array**	**52.87**	**344**	*e*P		**P**	**22 32 32.7**	**+0.8**
MK32	**Makanchi Array**	**52.90**	**344**	*e*P		**P**	**22 32 33.2**	**+1.2**
MKAR	**Makanchi Array**	**52.90**	**344**	P		**P**	**22 32 33.2**	**+1.2**
	2.0nm,0.6s,baz=150,slow=8.3,SNR=17							
USRK	**Ussuriysk Ar.**	**54.82**	**27**	P		**P**	**22 32 46.2**	**+0.1**
	1.3nm,0.5s,baz=199,slow=2.2,SNR=4.3							
ZALV	**Zalesovo Beam**	**58.94**	**349**	P		**P**	**22 33 15.3**	**+0.2**
	1.3nm,0.3s,baz=164,slow=6.1,SNR=8.9							
ZAA1	**Zalesovo Array**	**58.95**	**349**	*e*P		**P**	**22 33 15.3**	**+0.2**
BR101	**Keskin Array S**	**75.45**	**312**	*e*P		**P**	**22 35 00.6**	**+0.3**
BRTR	**Keskin Array B**	**75.45**	**312**	P		**P**	**22 35 00.6**	**+0.3**
	0.3nm,0.5s,baz=134,slow=7.8,SNR=2.5							
LTX	**Lajitas**	**144.94**	**40**	*e*PKPbc		**PKPdf**	**22 42 54.0**	**+0.3**
TXAR	**Lajitas Array**	**144.94**	**40**	PKPbc		**PKPdf**	**22 42 54.0**	**+0.3**
	1.3nm,0.5s,baz=255,slow=1.0,SNR=22							

JMA ***12*** *22:43:12.4, 24.°48N×121.°70E, h48*km*±1km, M2.5*
TAP ***12*** *22:43:13.1, 24.°52N×121.°75E, h38*km*, ML3.4, B*
ISCJB ***12*** *22:43:14.0±0.3, 24.°54N±0.°02×121.°79E±0.°02, h36*km*±4km, Error ellipse: s-maj=3.4km s-min=2.6km az=150.2*
ISC 12 22:43:14.3±0.9**, 24.°54N**±0.°02×**121.°77E**±0.°02**, h35**km±5km**, n48**,σ1°25/84**, 5C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.10**	**44**	⇓*i* P		**Pb**	**22 43 20.1**	**-0.2**
	baz=51							
TWC				*i* S		**Sb**	**22 43 24.8**	**+0.4**
	baz=51							
ENA	**Nanau**	**0.11**	**195**	⇑*i* P		**Pb**	**22 43 19.9**	**-0.5**
	baz=178							
ENA				S		**Sn**	**22 43 24.6**	**+6.8**
	baz=178							
TWE	**Neicheng**	**0.21**	**332**	⇑*i* P		**Pb**	**22 43 20.7**	**-0.4**
	baz=343							
TWE				S		**Sb**	**22 43 26.0**	**+0.2**
	baz=343							
ENTT	**Nioudou**	**0.21**	**298**	⇑*i* P		**Pb**	**22 43 20.6**	**-0.6**
	baz=305							
ENTT				S		**Sb**	**22 43 26.1**	**+0.1**
	baz=305							
ILA	**Ilan**	**0.23**	**354**	*e*P		**Pb**	**22 43 21.0**	**-0.3**
	baz=1.0							
ILA				*e*S		**Sn**	**22 43 27.3**	**+3.3**
	baz=1.0							
EGS		**0.34**	**25**	⇓*i* P		**Pb**	**22 43 22.8**	**+0.1**
	baz=36							
EGS				*i* S		**Sn**	**22 43 29.5**	**+1.5**
	baz=36							
NNS	**Nan Shan**	**0.38**	**255**	P		**Pb**	**22 43 22.3**	**-1.0**
	baz=251							
NNS				S		**Sb**	**22 43 28.4**	**-1.1**
	baz=251							
NSK	**Sanguang**	**0.40**	**290**	⇑*i* P		**Pb**	**22 43 22.7**	**-0.9**
	baz=293							
NSK				*i* S		**Sb**	**22 43 29.0**	**-1.0**
	baz=293							
TWD	**Chiawan**	**0.48**	**200**	*e*P		**Pb**	**22 43 23.7**	**-1.0**
	baz=205							
TWD				*e*S		**Sb**	**22 43 31.2**	**-0.7**
	baz=205							
TWB1	**Santiao Chiao**	**0.51**	**23**	*i* P		**Pb**	**22 43 25.0**	**-0.1**
	baz=33							
TWB1				*i* S		**Sb**	**22 43 33.0**	**+0.5**
	baz=33							
NWF	**Wu-fen Shan**	**0.53**	**1**	⇑*i* P		**Pb**	**22 43 25.3**	**-0.2**
	baz=3.0							
NWF				*i* S		**Sb**	**22 43 33.9**	**+0.7**
	baz=3.0							
TAP1	**Taipei**	**0.55**	**335**	*e*P		**Pb**	**22 43 25.1**	**-0.5**
	baz=337							
TAP	**Taipei**	**0.56**	**334**	*e*P		**Pb**	**22 43 24.8**	**-1.0**
	baz=329							
TAP				*e*S		**Sb**	**22 43 33.9**	**+0.1**
	baz=329							
HWA	**Hwalien**	**0.58**	**195**	*e*P		**Pb**	**22 43 25.4**	**-0.8**
	baz=202							
HWA				*e*S		**Sb**	**22 43 35.4**	**+1.0**
	baz=202							
WHF	**Hehuan Shan**	**0.61**	**230**	*e*P		**Pb**	**22 43 25.5**	**-1.5**
	baz=222							
WHF				*e*S		**Sb**	**22 43 34.9**	**-0.8**
	baz=222							
TWT	**Tachien**	**0.61**	**243**	P		**Pb**	**22 43 26.2**	**-0.7**
	baz=238							
TWT				S		**Sb**	**22 43 34.6**	**-0.9**
	baz=238							
TWS1	**Kuangyinshan**	**0.65**	**330**	*e*P		**Pb**	**22 43 26.7**	**-0.6**
	baz=337							
TWS1				*e*S		**Sb**	**22 43

	baz=222							
IRIF	**Iriomote-Funau**	**1.79**	**96**	S	**Sn**	**22 44 03.8**	**-0.5**
SGST	**Jiashian**	**1.81**	**217**	*e*P	**Pn**	**22 43 43.5**	**+0.4**
	baz=209							
SGST				*e*S	**Sn**	**22 44 07.2**	**+2.3**
	baz=209							
TWG	**Pinlang**	**1.83**	**201**	*e*P	**Pn**	**22 43 42.9**	**-0.3**
	baz=191							
HATJ	**Hateruma jima**	**1.91**	**104**	S	**Sn**	**22 44 08.6**	**+1.3**
JKRS	**Kuro-shima**	**2.06**	**98**	P	**Pn**	**22 43 46.5**	**+0.1**
JKRS				S	**Sn**	**22 44 12.0**	**+1.1**
JIJ	**Ishigaki jima**	**2.17**	**94**	P	**Pn**	**22 43 47.6**	**-0.3**
JIJ				S	**Sn**	**22 44 13.0**	**-0.5**
EAST	**Anshuo**	**2.31**	**202**	*e*P	**Pn**	**22 43 50.7**	**+0.8**
	baz=194							
JISG	**Ishigakijimahi**	**2.31**	**88**	P	**Pn**	**22 43 49.1**	**-0.8**
JISG				S	**Sn**	**22 44 17.4**	**+0.3**

DDA ***12*** *22:45:29.2, 36°29N × 26°98E, h4km, Md2.6*
ATH ***12*** *22:45:30.2, 36°29N × 27°09E, h22km ± 3km, ML2.1/2, Error ellipse: s-maj=4.0km s-min=0.8km az=58.0*
CSEM ***12*** *22:45:30.9 ± 0.2, 36°30N × 27°12E, h12km, MD2.7, Error ellipse: s-maj=6.5km s-min=3.2km az=102.0*
ISCJB ***12*** *22:45:31.2 ± 0.5, 36°29N ± 0°02 × 27°15E ± 0°06, h11km ± 5km, Error ellipse: s-maj=7.8km s-min=3.6km az=14.2*
ISK ***12*** *22:45:31.2, 36°30N × 27°26E, h8km, MD2.7*

ISC 12 22:45:31.0 ± 1.0, 36°28N ± 0°02 × 27°14E ± 0°03, h11km ± 10km, n28, σ1s0.50/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros Isl.**	**0.32**	**5**	*e*PG	**Pg**	**22 45 37.2**	**-0.3**
NIS1	**Nisyros Isl.**	**0.32**	**5**	*e*Pg	**Pg**	**22 45 37.2**	**-0.3**
NIS1	**Nisyros Isl.**	**0.32**	**5**	P	**Pg**	**22 45 37.6**	**+0.1**
NIS1				S	**Sb**	**22 45 43.7**	**-0.2**
NIS1	**Nisyros Isl.**	**0.32**	**5**	P	**Pg**	**22 45 37.6**	**+0.1**
NIS1				S	**Sb**	**22 45 43.7**	**-0.2**
NIS1				AML	AML	22 45 46.8	
	comp=E,597μm,0.2s						
NIS1				AML	AML	22 45 46.9	
	comp=N,688μm,0.3s						
NISR	**Nisiros**	**0.33**	**358**	P	**Pg**	**22 45 36.0**	**-1.7**
NISR				S	**Sg**	**22 45 42.3**	**+0.3**
NISR	**Nisiros**	**0.33**	**358**	P	**Sg**	**22 45 36.0**	**-1.7**
NISR				S	**Sg**	**22 45 42.3**	**+0.3**
NISR				AML	AML	22 45 44.4	
	comp=N,796μm,0.1s						
NISR				AML	AML	22 45 45.0	
	comp=E,1005μm,0.1s						
KARP	**Karpathos**	**0.73**	**179**	*e*PG	**Pb**	**22 45 46.5**	**+0.7**
KARP				*e*SG	**Sb**	**22 45 56.9**	**+1.0**
KARP	**Karpathos**	**0.73**	**179**	P	**Pg**	**22 45 44.8**	**-0.4**
KARP	**Karpathos**	**0.73**	**179**	*e*Pg	**Pb**	**22 45 46.5**	**+0.7**
KARP				S	**Sg**	**22 45 55.3**	**+0.4**
KARP				*e*Sg	**Sb**	**22 45 56.9**	**+1.0**
KARP	**Karpathos**	**0.73**	**179**	P	**Pg**	**22 45 44.8**	**-0.4**
KARP				S	**Sg**	**22 45 55.3**	**+0.4**
BODT	**Bodrum**	**0.79**	**10**	*e*PG	**Pg**	**22 45 45.9**	**-0.4**
BODT				*e*SG	**Sb**	**22 45 57.6**	**+0.1**
BODT	**Bodrum**	**0.79**	**10**	*e*Pg	**Pg**	**22 45 45.9**	**-0.4**
BODT				*e*Sg	**Sb**	**22 45 57.6**	**+0.1**
ARG	**Arkhangelos**	**0.80**	**95**	P	**Pg**	**22 45 46.3**	**-0.2**
ARG				S	**Sb**	**22 45 58.1**	**+0.4**
BDRM	**Kayabasi**	**0.82**	**17**	P	**Pg**	**22 45 46.5**	**-0.3**
BDRM				S	**Sb**	**22 45 57.5**	**-0.8**
BDRM	**Kayabasi**	**0.82**	**17**	*i* P	**Pg**	**22 45 46.5**	**-0.3**
BDRM				*i* S	**Sb**	**22 45 57.5**	**-0.8**
YER	**Yerkesik**	**1.25**	**47**	*e*PN	**Pb**	**22 45 54.7**	**+0.1**
YER				*e*SN	**Sb**	**22 46 10.4**	**-0.3**
YER	**Yerkesik**	**1.25**	**47**	*e*Pn	**Pb**	**22 45 54.7**	**+0.1**
YER				*e*Sn	**Sb**	**22 46 10.5**	**-0.3**
TURN	**Turunc**	**1.32**	**63**	*i* P	Pn	22 45 50.2	-5.1
TURN				*i* S	**Sb**	**22 46 05.3**	**-7.2**
ZKR	**Zakros**	**1.39**	**213**	P	**Pn**	**22 45 56.1**	**-0.2**
ZKR				S	**Sg**	**22 46 15.1**	**-0.6**
ZKR	**Zakros**	**1.39**	**213**	P	**Pn**	**22 45 56.1**	**-0.2**
ZKR				S	**Sg**	**22 46 15.1**	**-0.6**
AYDN	**Tasoluk**	**1.50**	**23**	P	**Pb**	**22 45 58.9**	**+0.1**
AYDN				S	**Sg**	**22 46 21.2**	**+2.0**
AYDN	**Tasoluk**	**1.50**	**23**	*i* P	**Pb**	**22 45 58.9**	**+0.1**
AYDN				*i* S	**Sg**	**22 46 21.2**	**+2.0**
APE	**Apeiranthos**	**1.51**	**302**	*e*PN	**Pg**	**22 46 00.8**	**+0.7**
FETY	**Fethiye**	**1.60**	**77**	*e*PN	**Pn**	**22 45 58.8**	**-0.5**
FETY	**Fethiye**	**1.60**	**77**	*e*Pn	**Pn**	**22 45 58.8**	**-0.5**
LAST	**Lasithi**	**1.76**	**231**	P	**Pn**	**22 46 00.8**	**-0.6**
LAST	**Lasithi**	**1.76**	**231**	P	**Pn**	**22 46 00.8**	**-0.6**
DNZL	**Cakiroluk**	**2.07**	**47**	*i* P	**Pg**	**22 46 10.6**	**-0.2**
DNZL				*i* S	**Sg**	**22 46 42.6**	**+5.0**

GUC 12 23:04:59.4 ± 0.5, 21°88S × 68°59W, h123km ± 3km, ML3.8, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.61**	**278**	*e*P	Pn	23 05 19.3	+0.7
PB09				*e*S	Sn	23 05 34.0	+0.9
PB09				IAML		23 05 37.8	
	comp=N,5μm,0.4s						
LVC	**Limon Verde**	**0.79**	**202**	*e*P	Pn	23 05 20.4	+0.2
LVC				*e*S	Sn	23 05 36.7	+0.8
PB01	**IPOC Station P**	**1.18**	**315**	*e*P	Pn	23 05 24.2	+0.6
PB01				*e*S	Sn	23 05 43.0	+1.1
PB01				IAML		23 05 45.5	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.21**	**277**	*e*P	Pn	23 05 24.7	+0.7
PB07				*e*S	Sn	23 05 43.6	+0.9
PB07				IAML		23 05 45.7	
	comp=N,2μm,0.3s						
PB06	**IPOC Station P**	**1.23**	**228**	*e*P	Pn	23 05 24.9	+0.7
PB06				*e*S	Sn	23 05 44.2	+1.2
PB06				IAML		23 05 45.0	
	comp=N,2μm,0.3s						
PB04	**IPOC Station P**	**1.52**	**252**	*e*P	Pn	23 05 28.1	+0.7
PB04				*e*S	Sn	23 05 50.0	+1.3
PB04				IAML		23 05 53.5	
	comp=E,863nm,0.3s						
HMBC	**Humberstone**	**2.00**	**322**	*e*P	Pn	23 05 33.9	+0.8
HMBC				*e*S	Sn	23 06 00.2	+1.2
HMBC				IAML		23 06 01.8	
	comp=N,954nm,0.3s						

MEX 12 23:17:22.2 ± 0.6, 17°30N × 95°57W, h150km ± 16km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.14**	**259**	*i* P	Pn	23 17 46.7	-1.8
VHO				*i* S	Sn	23 18 06.6	-1.9
HUIG	**Huatulco**	**1.61**	**199**	*e*P	Pn	23 17 51.4	-1.7
HUIG				*i* S	Sn	23 18 15.1	-1.5
PCIG		**2.76**	**125**	*e*P	Pn	23 18 07.2	+0.7
PCIG				*i* S	Sn	23 18 38.6	-2.1

CSEM ***12*** *23:23:17.4 ± 0.1, 67°82N × 20°23E, h2km, ML0.9, Error ellipse: s-maj=4.3km s-min=2.7km az=175.0, Mining explosion.*
UPP ***12*** *23:23:17.7, 67°83N × 20°20E, h0km, ML0.9, Mining explosion.*

HEL 12 23:23:16.8, 67°79N × 20°05E, h0km, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.20**	**34**	*i* P	Pg	23 23 20.6	+0.1
KUA				*i* S	Sg	23 23 22.4	-0.6
KUA	**Kurravaara**	**0.20**	**34**	P	Pg	23 23 25.1	+4.6
KUA				S	Sg	23 23 27.1	+4.0
KUA	**Kurravaara**	**0.20**	**34**	P	Pg	23 23 20.6	+0.1
KUA				S	Sg	23 23 22.4	-0.7
NIKU	**Nikkaluokta**	**0.39**	**282**	*i* P	Pb	23 23 26.2	-0.4
NIKU	**Nikkaluokta**	**0.39**	**282**	P	Pn	23 23 32.3	+2.6
NIKU	**Nikkaluokta**	**0.39**	**282**	P	Pb	23 23 26.2	-0.4
DUNU	**Dundret**	**0.70**	**163**	*i* P	Pb	23 23 31.2	-0.7
DUNU	**Dundret**	**0.70**	**163**	P	Pn	23 23 36.1	+2.1
DUNU	**Dundret**	**0.70**	**163**	P	Pb	23 23 31.2	-0.7
SALU	**Saltoluokta**	**0.72**	**236**	*i* P	Pb	23 23 32.5	+0.3
SALU	**Saltoluokta**	**0.72**	**236**	P	Pn	23 23 37.2	+2.9
SALU	**Saltoluokta**	**0.72**	**236**	P	Pb	23 23 32.5	+0.3
LANU	**Lannavaara**	**0.78**	**70**	*e*P	Pg	23 23 31.0	-0.7
	baz=250						
LANU				*e*S	Sg	23 23 40.6	-1.1
LANU	**Lannavaara**	**0.78**	**70**	P	Pn	23 23 35.8	+0.8
LANU	**Lannavaara**	**0.78**	**70**	P	Pg	23 23 31.1	-0.6
LANU				Sg	Sg	23 23 40.6	-1.1
MASU	**Masugnsbyn**	**0.82**	**113**	*i* P	Pg	23 23 32.5	0.0
MASU	**Masugnsbyn**	**0.82**	**113**	P	Pn	23 23 36.2	+0.6
MASU	**Masugnsbyn**	**0.82**	**113**	P	Pg	23 23 32.5	+0.1
PAJU	**Pajala**	**1.41**	**122**	*e*P	Pn	23 23 43.1	-0.7
PAJU	**Pajala**	**1.41**	**122**	P	Pb	23 23 47.5	+3.5
PAJU	**Pajala**	**1.41**	**122**	P	Pn	23 23 43.1	-0.6
ERTU	**Ertsjaerv**	**1.50**	**145**	*e*P	Pn	23 23 45.1	+0.2
ERTU	**Ertsjaerv**	**1.50**	**145**	P	Pn	23 23 45.1	+0.2
TOF	**Tornio**	**2.41**	**134**	*e*PB	Pb	23 23 59.4	-1.4
TOF				*e*SG	Sb	23 24 31.3	+0.3
TOF	**Tornio**	**2.41**	**134**	Pg	Pb	23 23 59.4	-1.5
TOF				Sg	Sb	23 24 31.3	+0.3
SGF	**Sodankyl**	**2.50**	**95**	*e*PG	Pb	23 24 03.2	+0.6
SGF				*e*SG	Sg	23 24 36.5	-0.6
SGF	**Sodankyl**	**2.50**	**95**	Pg	Pb	23 24 03.2	+0.6
SGF				Sg	Sg	23 24 36.5	-0.6
RNF	**Rovaniemi**	**2.61**	**114**	*e*PB	Pb	23 24 02.5	-1.8
RNF				*e*SG	Sb	23 24 36.5	-0.4
RNF	**Rovaniemi**	**2.61**	**114**	Pg	Pb	23 24 02.5	-1.9
RNF				Sg	Sb	23 24 36.5	-0.4
ARE0	**ARCESS Array S**	**2.65**	**46**	*e*P	Pn	23 24 02.0	+1.2
ARE0	**ARCESS Array S**	**2.65**	**46**	Pb	Pn	23 24 02.0	+1.2

ISCJB ***12*** *23:24:32.5 ± 0.8, 13°31N ± 0°09 × 41°77E ± 0°07, h10km, mb3.6/8, Error ellipse: s-maj=12.9km s-min=9.5km az=2.1*
IDC ***12*** *23:24:32.5 ± 0.9, 13°27N × 41°72E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/38, mbtmp3.8/9, ML4.2/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/43, Error ellipse: s-maj=26.2km s-min=13.5km az=57.0*

ISC 12 23:24:33.9 ± 0.8, 13°36N ± 0°07 × 41°89E ± 0°08, h10km, n14, σ2s09/15, mb3.8/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**2.04**	**153**	Pn	**Pn**	**23 25 07.7**	**-0.7**
	86nm,0.3s,baz=81,slow=6.2,SNR=43						
ATD				Lg	Lg	23 25 38.5	
	158nm,0.3s,baz=292,slow=22,SNR=9.5						
UDYN	**Al 'Udayn**	**2.11**	**73**	*i* P	**Pb**	**23 25 12.1**	**-0.3**
UDYN				*e*		23 25 12.1	
	baz=291,slow=11						
UDYN				*i* S	**Sb**	**23 25 37.1**	**-1.5**
UDYN				AML	AML	23 25 50.5	
	comp=N,1μm,0.5s						
FRSS	**Farasan al Kab**	**3.37**	**4**	S	**Sn**	**23 26 02.4**	**-4.2**
FRSS				P	**Pn**	**23 25 24.6**	**-2.0**
DJNS	**Zahran al Janu**	**4.60**	**20**	P	**Pn**	**23 25 43.0**	**-0.9**
TATS	**Tathlith**	**6.33**	**14**	P	**Pn**	**23 26 11.4**	**+3.9**
WSAR	**Wadi Sarin**	**18.67**	**56**	LR	LR	23 37 35.5	
	comp=N,183nm,18.7s,baz=275,slow=42						
BRTR	**Keskin Array B**	**27.25**	**346**	P	**P**	**23 30 19.6**	**+1.2**
	comp=N,0.7nm,0.9s,baz=185,slow=6.2,SNR=5.5						
AKASG	**Malin Array Be**	**38.64**	**347**	P	**P**	**23 31 58.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=160,slow=6.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**39.10**	**274**	P	**P**	**23 32 00.3**	**-1.4**
	comp=N,1.8nm,0.9s,baz=98,slow=7.7,SNR=10						
GERES	**GERESS Array B**	**42.35**	**332**	P	**P**	**23 32 28.0**	**-0.3**
	comp=N,0.9nm,0.7s,baz=133,slow=7.5,SNR=12						
MKAR	**Makanchi Array**	**47.46**	**37**	P	**P**	**23 33 10.3**	**+1.3**
	comp=N,1.1nm,0.8s,baz=240,slow=7.1,SNR=7.7						
ESDC	**Sonseca Array**	**48.00**	**312**	P	**P**	**23 33 12.8**	**-0.5**
	comp=N,0.5nm,0.6s,baz=113,slow=7.2,SNR=5.4						
ZALV	**Zalesovo Beam**	**52.67**	**30**	P	**P**	**23 33 48.5**	**+0.2**
	comp=N,1.3nm,0.7s,baz=235,slow=7.7,SNR=5.8						
SONM	**Songino Array**	**63.13**	**43**	P	**P**	**23 35 04.2**	**+2.1**
	comp=N,0.3nm,0.4s,baz=251,slow=4.4,SNR=2.4						

ISCJB ***12*** *23:24:44.8 ± 0.1, 21°26S ± 0°02 × 70°69W ± 0°03, h33km, mb4.7/83, Error ellipse: s-maj=3.9km s-min=2.7km az=140.8*
SCB ***12*** *23:24:45.5 ± 1.3, 21°27S × 70°38W, h35km, Ml4.0/1, Error ellipse: s-maj=36.6km s-min=12.0km az=66.0*
GUC ***12*** *23:24:47.0 ± 0.3, 21°29S × 70°47W, h52km ± 7km, ML4.7*
NEIC ***12*** *23:24:47.0, 21°29S × 70°47W, h52km, mb4.7/72, After GUC.*
NEIC Felt [IV] at Calama; [III] at Alto Hospicio, Iquique and Quillagua; [II] at Pozo Almonte.
IDC ***12*** *23:24:51.2 ± 1.8, 21°27S × 70°21W, h80km ± 16km, mb4.0/8, mb1 4.2/10, mb1mx4.0/21, mbtmp4.3/10, MS3.2/6, Ms1 3.3/6, ms1mx3.1/20, Error ellipse: s-maj=21.9km s-min=13.6km az=74.0*

ISC 12 23:24:46.5 ± 0.5, 21°30S ± 0°03 × 70°52W ± 0°05, h38km ± 1km, n339, σ1s26/343, mb4.7/83, 8C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**IPOC Station P**	**0.73**	**126**	*e*P	**Pn**	**23 25 02.5**	**+2.0**
PB07				*e*S	**Sn**	**23 25 12.2**	**+1.7**
PB07				IAML		23 25 12.5	
	comp=E,84μm,0.3s						
PB01	**IPOC Station P**	**1.00**	**76**	*e*P	**Pn**	**23 25 05.4**	**+1.4**
PB01				*e*S	**Sn**	**23 25 18.1**	**+1.2**
PB01				IAML		23 25 18.9	
	comp=N,51μm,0.2s						
PB01	**IPOC Station P**	**1.00**	**76**	*e*Pn	**Pn**	**23 25 05.3**	**+1.2**
PB04	**IPOC Station P**	**1.09**	**161**	*e*P	**Pn**	**23 25 06.5**	**+1.1**
PB04				*e*S	**Sn**	**23 25 21.7**	**+2.4**
PB04				IAML		23 25 22.3	
	comp=E,20μm,1.0s						
PB04	**IPOC Station P**	**1.09**	**161**	*e*Pn	**Pn**	**23 25 06.9**	**+1.5**
HMBC	**Humberstone**	**1.17**	**31**	*e*P	**Pn**	**23 25 07.4**	**+0.9**
HMBC				*e*S	**Sn**	**23 25 22.9**	**+1.6**
PB09	**IPOC Station P**	**1.29**	**113**	*e*P	**Pn**	**23 25 10.0**	**+1.9**
PB09				*e*S	**Sn**	**23 25 25.6**	**+1.3**
PB06	**IPOC Station P**	**1.66**	**148**	*e*P	**Pn**	**23 25 14.5**	**+1.3**
PB06				*e*S	**Sn**	**23 25 34.1**	**+0.7**
PB06				IAML		23 25 34.5	
	comp=N,8μm,0.3s						
PB08	**IPOC Station P**	**1.72**	**48**	*e*P	**Pn**	**23 25 15.6**	**+1.3**
PB08				*e*S	**Sn**	**23 25 37.1**	**+1.9**
PB11	**IPOC Station P**	**1.73**	**28**	*e*P	**Pn**	**23 25 15.5**	**+1.3**
PB11				*e*S	**Sn**	**23 25 36.8**	**+1.8**
PB11	**IPOC Station P**	**1.73**	**28**	*e*Pn	**Pn**	**23 25 15.0**	**+0.8**
PSGC	**Pisagua**	**1.73**	**13**	*e*P	**Pn**	**23 25 15.4**	**+1.3**
PSGC				*e*S	**Sn**	**23 25 36.8**	**+1.8**
LVC	**Limon Verde**	**1.99**	**131**	P	**Pn**	**23 25 20.3**	**+2.4**
	comp=N,18μm,0.3s,baz=309,slow=10,SNR=3951						
LVC				S	**Sn**	**23 25 43.1**	**+1.4**
	comp=N,122μm,0.3s,baz=1.3,slow=12,SNR=52						
LVC				LR	LR	23 25 52.5	
	comp=N,1μm,21.8s,baz=270,slow=34						
LVC	**Limon Verde**	**1.99**	**131**	*e*Pn	**Pn**	**23 25 19.1**	**+1.2**
LVC				S	**Sn**	**23 25 43.1**	**+1.4**
PB10	**IPOC Station P**	**2.21**	**181**	*e*P	**Pn**	**23 25 22.2**	**+1.6**
PB10	**IPOC Station P**	**2.21**	**181**	*e*Pn	**Pn**	**23 25 22.0**	**+1.4**
MOCB	**Mochara**	**4.56**	**90**	*i* Pn	**Pn**	**23 25 57.1**	**+3.8**
BBOJ	**La Paz, Jacaqu**	**4.83**	**28**	*i* Pn	Pn	23 26 02.0	+4.9
BBOD	**La Paz, Gloria**	**4.98**	**22**	*i* Pn	Pn	23 26 04.3	+5.1
BBOD				*i* Sn	**Sn**	**23 26 59.8**	**+4.0**
	comp=N,60nm,0.5s						
BBOE	**La Paz, Chanca**	**5.06**	**29**	*i* Pn	Pn	23 26 05.6	+5.2
LPAZ	**La Paz**	**5.47**	**25**	P	Pn	23 26 10.7	+4.6
	comp=N,2.4nm,0.3s,baz=269,slow=3.5,SNR=80						
LPAZ				LR	LR	23 28 35.9	
	comp=N,171nm,21.4s,baz=182,slow=42						
LPAZ	**La Paz**	**5.47**	**25**	*e*Pn	**Pn**	**23 26 08.6**	**+2.6**
LPAZ	**La Paz**	**5.47**	**25**	*i* Pn	**Pn**	**23 26 10.5**	**+4.5**
LPAZ				*e*Sn	**Sn**	**23 27 13.7**	**+5.7**
BBOB	**La Paz, Bander**	**5.60**	**24**	*i* Pn	**Pn**	**23 26 11.9**	**+4.1**
LCO	**Las Campanas**	**7.69**	**181**	*e*Pn	**Pn**	**23 26 36.5**	**+0.4**
SIV	**San Ignacio**	**10.39**	**61**	P	**Pn**	**23 27 11.5**	**-1.6**
	comp=N,6.8nm,0.3s,baz=270,slow=7.6,SNR=73						
SIV				LR	LR	23 31 54.2	
	comp=N,185nm,21.6s,baz=234,slow=42						
SIV	**San Ignacio**	**10.39**	**61**	*i* P	**Pn**	**23 27 11.1**	**-2.0**
NNA	**Nana**	**11.06**	**326**	P	**Pn**	**23 27 25.2**	**+3.0**
	comp=N,1.9nm,0.3s,baz=152,slow=15,SNR=4.1						
NNA				S	**Sn**	**23 29 20.9**	**-3.7**
	comp=N,2.5nm,0.3s,baz=354,slow=13,SNR=3.8						
NNA				LR	LR	23 31 41.0	
	comp=N,84nm,19.8s,baz=150,slow=37						
NNA	**Nana**	**11.06**	**326**	*e*Pn	**Pn**	**23 27 21.1**	**-1.0**
NNA				S	**Sn**	**23 29 20.9**	**-3.7**

ROC1	**El Roble**	**11.64**	**182**	*e*Pn	**Pn**	**23 27 29.7**	**-0.6**
CPUP	**Villa Florida**	**13.07**	**115**	P	**Pn**	**23 27 46.9**	**-2.7**
	comp=N,0.1nm,0.3s,baz=293,slow=12,SNR=6.9						
CPUP				LR	LR	23 33 30.4	
	comp=N,142nm,21.2s,baz=288,slow=40						
CPUP	**Villa Florida**	**13.07**	**115**	*e*Pn	**Pn**	**23 27 48.9**	**-0.7**
SAML	**Samuel**	**14.17**	**31**	*e*Pn	**Pn**	**23 28 02.5**	**-2.1**
TRQA	**Tornquist**	**18.26**	**158**	*e*P	**P**	**23 28 55.9**	**-0.9**
	comp=N,25nm,0.7s						
PLCA	**Paso Flores**	**19.38**	**180**	P	**Pn**	**23 29 11.3**	**+0.9**
	comp=N,0.2nm,0.3s,baz=41,slow=11,SNR=3.7						
SPB	**Sao Paulo**	**21.46**	**100**	*e*P	**P**	**23 29 30.9**	**-0.8**
	comp=N,43nm,1.0s						
BDFB	**Brasilia**	**22.07**	**79**	P	**P**	**23 29 37.1**	**-1.3**
	comp=N,14nm,0.5s,baz=239,slow=9.8,SNR=35						
BDFB				LR	LR	23 38 02.9	
	comp=N,118nm,21.5s,baz=284,slow=36						
BDFB	**Brasilia**	**22.07**	**79**	*e*P	**P**	**23 29 37.7**	**-0.7**
	comp=N,24nm,0.5s						
PTGA	**Pitinga**	**22.89**	**28**	P	**P**	**23 29 46.6**	**-0.4**
	comp=N,6.7nm,0.3s,baz=205,slow=17,SNR=14						
PTGA	**Pitinga**	**22.89**	**28**	P	**P**	**23 29 46.6**	**-0.4**
	comp=N,13nm,0.6s						
PRAC	**Prado**	**25.22**	**350**	*e*P	**P**	**23 30 08.4**	**-0.5**
	comp=N,8.2nm,0.7s						
CELP	**Cerrillos**	**39.32**	**6**	*e*P	**P**	**23 32 10.1**	**-1.9**
SJG	**San Juan**	**39.40**	**7**	*e*P	**P**	**23 32 10.7**	**-1.9**
	comp=N,21nm,1.2s						
HUMP	**Col San Antoni**	**39.46**	**7**	*e*P	**P**	**23 32 11.8**	**-1.3**
	comp=N,14nm,1.0s						
SDD	**Santo Domingo**	**39.51**	**1**	*e*P	**P**	**23 32 13.0**	**-0.6**
	comp=N,150nm,0.9s						
ANWB	**Willy Bob**	**39.66**	**13**	*e*P	**P**	**23 32 13.9**	**-0.9**
	comp=N,376nm,2.0s						
SMRT	**St. Maarten**	**39.78**	**11**	*e*P	**P**	**23 32 15.0**	**-0.8**
	comp=N,25nm,0.8s						
STVI	**Saint Thomas**	**39.78**	**8**	*e*P	**P**	**23 32 14.4**	**-1.4**
	comp=N,31nm,1.3s						
MTDJ	**Mount Denham**	**39.87**	**350**	*e*P	**P**	**23 32 15.2**	**-1.5**
	comp=N,61nm,1.3s						
ABVI	**Anegada Island**	**40.24**	**9**	*e*P	**P**	**23 32 20.0**	**+0.4**
	comp=N,58nm,0.9s						
GTBY	**Guantanamo Bay**	**41.21**	**353**	*e*P	**P**	**23 32 26.8**	**-0.9**
	comp=N,39nm,1.4s						
HOPE	**Hope Point**	**41.79**	**150**	*e*P	**P**	**23 32 32.2**	**+0.1**
	comp=N,819nm,1.9s						
CCIG	**Comitan**	**42.94**	**329**	*e*P	**P**	**23 32 41.4**	**-0.7**
	comp=N,24nm,1.8s						
TEIG	**Tepich**	**44.77**	**336**	*e*P	**P**	**23 32 56.1**	**-0.4**
	comp=N,6.1nm,0.6s						
TLIG	**Tlapa**	**47.40**	**322**	*e*P	**P**	**23 33 16.5**	**-0.9**
	comp=N,25nm,1.5s						
DWPF	**Disney Wildern**	**50.23**	**347**	*e*P	**P**	**23 33 38.4**	**-0.4**
	comp=N,41nm,0.3s						
TRIS	**Tristan da Cun**	**52.44**	**121**	*e*P	**P**	**23 33 56.2**	**+0.8**
	comp=N,514nm,0.3s						
ZAIG	**Zacatecas**	**53.80**	**323**	*e*P	**P**	**23 34 05.8**	**0.0**
	comp=N,7.1nm,0.8s						
TIGA	**Tifton**	**53.91**	**346**	*e*P	**P**	**23 34 05.9**	**-0.2**
	comp=N,13nm,1.1s						
PTCN	**Pitcairn Islan**	**54.52**	**254**	*e*P	**P**	**23 34 08.5**	**-2.3**
	comp=N,305nm,1.0s						
BRAL	**Brewton**	**54.52**	**343**	*e*P	**P**	**23 34 09.8**	**-0.8**
	comp=N,23nm,0.9s						
CSU	**Charleston Sou**	**54.74**	**350**	*e*P	**P**	**23 34 12.4**	**+0.3**
445A	**Amite**	**55.12**	**339**	P	**P**	**23 34 13.8**	**-1.1**
	baz=157						
JSC	**Jenkinsville**	**56.20**	**349**	*e*P	**P**	**23 34 22.7**	**0.0**
	comp=N,41nm,1.7s						
HKT	**Hockley**	**56.47**	**334**	*e*P	**P**	**23 34 24.9**	**+0.4**
	comp=N,6.8nm,1.3s						
CPCT	**Cooper Cave**	**57.97**	**347**	*e*P	**P**	**23 34 35.1**	**0.0**
	comp=N,6.3nm,1.2s						
TKL	**Tuckaleechee C**	**58.02**	**347**	*e*P	**P**	**23 34 35.8**	**+0.3**
	comp=N,24nm,1.7s						
SWET	**Sewanee**	**58.07**	**345**	*e*P	**P**	**23 34 35.9**	**0.0**
	comp=N,5.6nm,1.8s						
Z41A	**Richland Creek**	**58.27**	**338**	P	**P**	**23 34 38.6**	**+1.3**
	baz=156						
335A	**Moody**	**58.30**	**333**	P	**P**	**23 34 38.6**	**+1.0**
	baz=150						
Z40A	**Long Farm, Mag**	**58.48**	**338**	P	**P**	**23 34 39.2**	**+0.5**

Z33A	Whitaker Ranch baz=150	60.60	333	P	P	23 34 54.1	+0.7
Y34A	Reagan Ranch, baz=151	60.76	334	P	P	23 34 54.8	+0.3
X35A	Drake baz=152	60.83	335	P	P	23 34 54.1	-0.8
V39A	Pettigrew baz=155,SNR=8.1	60.90	339	P	P	23 34 55.3	-0.1
W37B	Quinton baz=153	60.90	337	P	P	23 34 55.3	-0.1
S45A	Carrier Mills baz=161	61.07	344	P	P	23 34 55.8	-0.7
U40A	Yellville baz=156	61.10	339	P	P	23 34 56.3	-0.5
Y33A	Hilltop Ranch, baz=150	61.16	333	P	P	23 34 57.1	-0.1
V38A	Canehill baz=154,SNR=12	61.18	338	P	P	23 34 57.0	-0.3
W36A	Wetumka baz=153	61.20	336	P	P	23 34 57.1	-0.3
S44A	Carbondale baz=160	61.27	343	P	P	23 34 57.9	+0.1
U39A	Green Forest baz=156	61.33	339	P	P	23 34 58.0	-0.4
X34A	Smith Ranch, M baz=151	61.35	334	P	P	23 34 58.1	-0.4
S43A	Fulton Ridge, baz=159	61.38	342	P	P	23 34 58.3	-0.2
T41A	Mountain View baz=157	61.39	341	P	P	23 34 58.4	-0.2
HHAR	Hobbs comp=N,3.7nm,0.7s	61.40	339	*e*P	P	23 34 58.5	-0.2
W35A	Tecumseh baz=152	61.46	336	P	P	23 34 58.5	-0.6
V37A	Hulbert baz=154	61.46	337	P	P	23 34 59.1	0.0
X33A	Lawton baz=150	61.57	334	P	P	23 34 59.8	-0.2
U38A	Gravette baz=155	61.69	338	P	P	23 35 00.5	-0.3
O56A	Blue Knob Stat baz=171	61.70	353	P	P	23 35 01.3	+0.6
TUL1	Leonard baz=153	61.72	337	P	P	23 35 00.7	-0.2
T40A	Mansfield baz=157	61.72	340	P	P	23 35 00.3	-0.6
R44A	Waltonville baz=160	61.74	343	P	P	23 35 00.6	-0.4
WMOK	Wichita Mounta baz=150	61.86	334	P	P	23 35 01.1	-0.8
T39A	Clever baz=156	61.88	339	P	P	23 35 01.7	-0.3
U37A	Salina baz=154	61.92	338	P	P	23 35 01.8	-0.4
N59A	State Game Lan baz=174	62.08	356	P	P	23 35 04.4	+1.2
W33A	Caddo, Fort Co baz=150	62.09	334	P	P	23 35 04.3	+0.9
S40A	Lebanon baz=157,SNR=5.6	62.13	340	P	P	23 35 03.2	-0.5
T38A	Diamond baz=155,SNR=6.2	62.20	339	P	P	23 35 03.9	-0.2
V34A	Guthrie baz=152	62.30	335	P	P	23 35 05.0	+0.2
Q44A	Meyer Farm, Va baz=160	62.34	344	P	P	23 35 04.3	-0.7
W32A	Sentinel baz=150	62.38	334	P	P	23 35 05.3	-0.1
MNTX	Cornudas Mount baz=143	62.39	327	P	P	23 35 05.6	+0.1
MNTX	Cornudas Mount comp=N,3.2nm,0.8s	62.39	327	*e*P	P	23 35 05.7	+0.1
S39A	Bolivar baz=156,SNR=7.8	62.47	340	P	P	23 35 05.4	-0.6
U35A	Pawnee baz=152	62.48	336	P	P	23 35 06.2	+0.2
T37A	Cheneyville 18 baz=154,SNR=6.5	62.49	338	P	P	23 35 05.7	-0.3
Q43A	New Douglas baz=160	62.55	343	P	P	23 35 05.9	-0.6
N54A	Moraine State baz=170	62.56	352	P	P	23 35 06.4	0.0
V33A	Lossen Ranch, baz=151	62.59	335	P	P	23 35 06.7	-0.1
S38A	Stockton baz=155	62.61	339	P	P	23 35 06.3	-0.5
R40A	Maddies Statio baz=157,SNR=5.5	62.69	341	P	P	23 35 06.8	-0.6
Q42A	Golden Eagle baz=159	62.76	343	P	P	23 35 07.1	-0.6
T36A	Boggs Farm, Ca baz=153	62.78	337	P	P	23 35 07.8	-0.2
V32A	Arapaho baz=150	62.81	334	P	P	23 35 09.3	+1.0
U34A	Anderson Ranch baz=152	62.84	336	P	P	23 35 09.4	+1.0
T35A	Sooner Cattle baz=153	62.88	337	P	P	23 35 08.8	+0.1
R39A	Chumby, Stover baz=156	62.95	340	P	P	23 35 08.7	-0.4
SNAA	Sanae	62.97	161	P	P	23 35 08.6	-0.3
S37A	Fort Scott baz=154	63.03	339	P	P	23 35 09.6	-0.1
M54A	Oil Creek Stat baz=170	63.05	352	P	P	23 35 10.0	+0.3
U33A	Lingo Farm, Me baz=151	63.06	335	P	P	23 35 09.6	-0.3
R38A	Fenwick Farm, baz=156,SNR=6.3	63.11	339	P	P	23 35 09.8	-0.3
AMTX	Amarillo baz=147	63.22	332	P	P	23 35 09.9	-1.2
T34A	McClaskey Farm baz=152	63.22	336	P	P	23 35 10.8	-0.1
S36A	Lake Cedric, C baz=154,SNR=5.3	63.27	338	P	P	23 35 11.0	-0.2
SFIN	Lafayette baz=163	63.27	346	P	P	23 35 09.2	-1.9
Q40A	Laux Farm, Aux baz=158	63.28	341	P	P	23 35 10.6	-0.6
S35A	Otter Creek Ra baz=153	63.49	337	P	P	23 35 12.6	0.0
R37A	Teagarden Farm baz=155	63.53	339	P	P	23 35 12.5	-0.4
Q39A	Willow Grove F baz=157	63.60	341	P	P	23 35 12.9	-0.5
Q38A	Cooks Store, C baz=156,SNR=7.7	63.73	340	P	P	23 35 14.5	+0.3
P40A	Paris baz=158	63.77	342	P	P	23 35 13.8	-0.7
Q37A	Longview Farm, baz=155	63.92	339	P	P	23 35 15.9	+0.5
P39B	Salisbury baz=157	63.94	341	P	P	23 35 16.1	+0.5
319A	Douglas comp=N,8.3nm,0.9s	64.22	324	*e*P	P	23 35 19.7	+1.9
O40A	La Belle baz=158	64.26	342	P	P	23 35 16.9	-0.8
121A	Cookes Peak, D baz=141	64.30	325	P	P	23 35 19.5	+1.1
P37A	Lathrop baz=155	64.53	340	P	P	23 35 18.8	-0.7
Q34A	Chapman baz=153	64.81	337	P	P	23 35 21.1	-0.2
N39A	Derby Farms, D baz=157	65.14	342	P	P	23 35 23.2	-0.2
P34A	Walnut Farm, R baz=153	65.33	338	P	P	23 35 24.3	-0.4
Q32A	Meitler Ranch, baz=151	65.47	336	P	P	23 35 26.2	+0.6
ANMO	Albuquerque baz=143	65.52	328	P	P	23 35 27.6	+1.3
ANMO	Albuquerque comp=N,2.2nm,0.8s	65.52	328	*e*P	P	23 35 27.6	+1.3
TUC	Tucson baz=139	65.76	323	P	P	23 35 29.0	+1.3
TUC	Tucson comp=N,3.3nm,1.0s	65.76	323	*e*P	P	23 35 30.0	+2.3
CBKS	Cedar Bluff baz=150	65.76	335	P	P	23 35 27.4	-0.1
M38A	Pleasantville baz=157	65.84	341	P	P	23 35 27.1	-0.8
O34A	Beatrice baz=153	65.85	338	P	P	23 35 27.3	-0.7
O33A	Hebron baz=152	66.06	338	P	P	23 35 29.2	-0.2
M37A	Trindle Farm, baz=156,SNR=7.5	66.09	341	P	P	23 35 29.3	-0.2
T25A	Trinidad baz=146	66.32	331	P	P	23 35 32.4	+1.0
L38A	Oak Wood Farm, baz=157	66.44	342	P	P	23 35 31.0	-0.8
214A	Organ Pipe Nat baz=137	66.66	321	P	P	23 35 34.2	+0.8
L37A	Phoenix Point, baz=156	66.66	341	P	P	23 35 32.4	-0.8
K37A	Belmond baz=157	67.21	342	P	P	23 35 36.0	-0.7
SDCO	Great Sand Dun baz=145,SNR=8.1	67.32	330	P	P	23 35 38.6	+0.7
SDCO	Great Sand Dun comp=N,10nm,1.1s	67.32	330	*e*P	P	23 35 38.3	+0.5
J38A	Wedel Dairy, R baz=158	67.39	343	P	P	23 35 37.1	-0.7
X16A	Lo Mia Camp, P comp=N,7.7nm,0.6s	67.70	324	*e*P	P	23 35 38.3	-1.9
K34A	Le Mars baz=154	67.89	340	P	P	23 35 42.7	+1.7
J36A	Seneca 1, Swea baz=156	67.93	341	P	P	23 35 41.1	-0.1
S22A	4UR Ranch, Cre baz=144	67.94	330	P	P	23 35 42.9	+1.2
I38A	Scanlan Farm, baz=158	68.02	343	P	P	23 35 41.5	-0.2
Q24A	Divide baz=145	68.15	331	P	P	23 35 43.7	+0.6
Y14A	Wickenburg	68.21	323	*e*P	P	23 35 44.8	+1.5
MVCO	Mesa Verde baz=142	68.32	328	P	P	23 35 45.1	+1.0
MVCO	Mesa Verde comp=N,5.9nm,0.8s	68.32	328	*e*P	P	23 35 45.4	+1.3
WUAZ	Wupatki baz=139	68.49	325	P	P	23 35 46.4	+1.3
WUAZ	Wupatki comp=N,11nm,0.9s	68.49	325	*e*P	P	23 35 47.4	+2.2
Y12C	Blythe baz=136	68.95	322	P	P	23 35 49.0	+1.3
H36A	Jessenland, He baz=157	68.96	342	P	P	23 35 47.6	0.0
ECSD	EROS Data Cent baz=154	69.00	340	P	P	23 35 47.3	-0.6
ECSD	EROS Data Cent comp=N,8.1nm,1.2s	69.00	340	*e*P	P	23 35 47.3	-0.6
ISCO	Idaho Springs baz=145	69.04	332	P	P	23 35 49.6	+0.9
IKP	In-Ko-Pah, Jac baz=135	69.10	320	P	P	23 35 49.6	+0.8
SWSC	Sam W. Stewart baz=135	69.12	320	P	P	23 35 51.6	+2.7
PDMCI	Parker Dam,Lak baz=137	69.12	322	P	P	23 35 50.4	+1.6
SMCO	Snowmass comp=N,8.9nm,1.4s	69.15	330	*e*P	P	23 35 50.3	+0.8
SPMN	Marine on St. baz=158	69.24	343	P	P	23 35 48.9	-0.4
J31A	Geddes baz=152	69.31	338	P	P	23 35 48.0	-1.8
H35A	Sunnyside Ranc baz=156	69.33	342	P	P	23 35 49.4	-0.5
BC3	Big Chuckawall baz=135,SNR=5.1	69.42	321	P	P	23 35 52.7	+1.8
MONP2	Monument Peak baz=134	69.46	320	P	P	23 35 53.4	+2.2
W13A	Hualapai Mount comp=N,3.9nm,0.8s	69.56	323	*e*P	P	23 35 53.8	+2.0
IRM	Iron Mountain baz=136,SNR=6.5	69.60	322	P	P	23 35 53.9	+2.0
J30A	Dallas baz=151	69.60	338	P	P	23 35 52.0	+0.4
U15A	North Rim comp=N,8.8nm,1.0s	69.67	325	*e*P	P	23 35 54.6	+2.1
TPFO	Pinon Flats baz=135	69.98	320	P	P	23 35 55.4	+1.1
F36A	Milaca baz=157	70.03	343	P	P	23 35 53.5	-0.7
N23A	Red Feather La baz=145	70.08	332	P	P	23 35 55.3	+0.3
GMRC	Granite Mounta baz=136,SNR=7.0	70.34	322	P	P	23 35 58.3	+1.8
I29A	Vivian Onida baz=151	70.50	338	P	P	23 35 58.5	+1.3
O20A	White River Ci baz=143	70.50	330	P	P	23 35 58.8	+1.3
O20A	White River Ci comp=N,9.1nm,0.8s	70.50	330	*e*P	P	23 35 59.0	+1.5
E36A	McGregor baz=158	70.56	344	P	P	23 35 56.9	-0.5
LCMT	Little Creek M comp=N,4.6nm,0.9s	70.61	325	*e*P	P	23 36 00.2	+2.1
HEC	Hector,Ludlow baz=135	70.76	321	P	P	23 36 00.9	+1.8
SCI2	San Clemente I baz=133	70.81	319	P	P	23 36 00.5	+1.2
TUQ	Turquoise Moun baz=136	70.96	322	P	P	23 36 02.1	+1.9
C39A	Grand Marais baz=161	71.01	346	P	P	23 35 59.1	-1.1
P18A	Preston Nutter comp=N,6.7nm,0.8s	71.06	329	*e*P	P	23 36 02.8	+1.8
BFSC	Mount Baldy Ra baz=134	71.13	320	P	P	23 36 02.4	+1.1
GSC	Goldstone, Bar baz=135	71.37	321	P	P	23 36 04.7	+2.0
C37A	Embarrass baz=159	71.41	345	P	P	23 36 02.3	-0.3
F31A	Hecla baz=153	71.42	340	P	P	23 36 02.6	-0.1
EYMN	Ely baz=159	71.45	345	P	P	23 36 01.7	-1.1
C36A	Pine Crest Far baz=158	71.60	344	P	P	23 36 03.1	-0.6
K22A	Casper baz=145	71.77	333	P	P	23 36 06.2	+1.1
EDW2	Edwards Air Fo baz=134	71.78	320	P	P	23 36 05.9	+0.7
C35A	Jirik Farms, M baz=157	71.84	344	P	P	23 36 04.9	-0.3
RSSD	Black Hills baz=147	71.97	335	P	P	23 36 07.4	+1.1
TPNV	Topopah Spring baz=136,SNR=6.6	72.22	323	P	P	23 36 10.0	+2.2
FURC	Furnace Creek, baz=135	72.22	322	P	P	23 36 10.1	+2.5
MPMC	Manual Prospec baz=134,SNR=5.4	72.30	322	P	P	23 36 10.3	+1.9
B35A	Bob, Littlefor baz=157	72.39	344	P	P	23 36 07.8	-0.5
JLU	Jordanelle comp=N,7.1nm,0.9s	72.40	328	*e*P	P	23 36 10.7	+1.7
ISA	Isabella, Lake baz=134	72.60	321	P	P	23 36 11.3	+1.3
DUG	Dugway, Tooele baz=139,SNR=9.6	72.76	327	P	P	23 36 12.6	+1.5
DUG	Dugway, Tooele comp=N,9.4nm,1.2s	72.76	327	*e*P	P	23 36 12.3	+1.3
R11A	Troy Tranyon, C baz=136,SNR=10.0	72.85	324	P	P	23 36 13.6	+2.0
R11A	Troy Canyon, C comp=N,3.9nm,0.8s	72.85	324	*e*P	P	23 36 13.7	+2.0
PKM	Mcpherson Peak baz=132	72.88	319	P	P	23 36 13.5	+1.7
CWC	Cottonwood Cre baz=134	72.91	321	P	P	23 36 14.0	+2.0
VES	Vestal, Richgr baz=133	73.08	320	P	P	23 36 14.1	+1.3
B32A	Ashes, Strandq baz=155	73.18	342	P	P	23 36 12.9	-0.2
BW06	Boulder Array baz=142	73.19	331	P	P	23 36 14.8	+1.2
BW06	Boulder Array	73.19	331	*e*P	P	23 36 13.8	+0.2
PDAR	Pinedale Array comp=N,0.9nm,0.6s,baz=159,slow=4.6,SNR=6.5	73.19	331	P	P	23 36 14.9	+1.3
PDAR				LR	LR	00 12 05.5	
HWUT	Hardware Ranch comp=N,7.6nm,0.8s	73.22	329	*e*P	P	23 36 14.4	+0.7
SMMC	Simmler baz=132	73.27	320	P	P	23 36 16.0	+2.0
F25A	Bowman baz=148	73.28	337	P	P	23 36 14.6	+0.8
BGU	Big Grassy Mou comp=N,5.4nm,1.1s	73.42	328	*e*P	P	23 36 16.3	+1.3
SPUT	South Promonto comp=N,7.4nm,0.9s	73.42	328	*e*P	P	23 36 16.3	+1.4
AHID	Auburn Hatcher comp=N,11nm,0.8s	73.90	330	*e*P	P	23 36 18.6	+0.9
HVU	Hansel Valley	73.94	328	*e*P	P	23 36 19.1	+1.1
B29A	Wagenman Farm, baz=152	74.08	341	P	P	23 36 19.1	+0.7
REDW	Red Top Meadow comp=N,33nm,1.9s	74.25	331	*e*P	P	23 36 21.1	+1.3
D25A	Fairfield baz=148	74.27	337	P	P	23 36 21.0	+1.4
SNOW	Snow King Moun comp=N,7.7nm,0.7s	74.28	331	*e*P	P	23 36 21.5	+1.4
LOHW	Long Hollow comp=N,11nm,1.4s	74.33	331	*e*P	P	23 36 21.6	+1.3
NV11	Mina Array Sit comp=N,3.9nm,0.9s	74.33	323	*e*P	P	23 36 21.9	+1.6
TPAW	Teton Pass comp=N,6.1nm,0.8s	74.39	331	*e*P	P	23 36 22.0	+1.3
NV01	Mina Array Sit	74.41	323	*e*P	P	23 36 22.3	+1.5
NVAR	Mina Array Bea comp=N,3.6nm,0.7s,baz=151,slow=6.1,SNR=25	74.41	323	P	P	23 36 22.4	+1.5
A29A	Manning Farm, baz=152	74.45	341	P	P	23 36 20.3	-0.2
FXWY	Fox Creek comp=N,4.3nm,1.1s	74.54	331	*e*P	P	23 36 22.4	+0.9
FLWY	Flagg Ranch comp=N,15nm,0.8s	74.74	331	*e*P	P	23 36 24.4	+1.8
RLMT	Red Lodge baz=143	74.93	333	P	P	23 36 24.8	+1.1
RLMT	Red Lodge comp=N,6.8nm,0.8s	74.93	333	*e*P	P	23 36 24.7	+1.0
LAO	LASA Array baz=146	74.96	335	P	P	23 36 24.6	+1.0
DGMT	Dagmar baz=148	75.70	338	P	P	23 36 28.8	+1.0
A25A	Svangstu Ranch baz=149	75.72	339	P	P	23 36 28.9	+1.1
PAHR	Pah Rah Range comp=N,13nm,0.8s	75.90	323	*e*P	P	23 36 31.5	+2.2
HLID	Hailey baz=138	76.08	329	P	P	23 36 32.1	+1.9
HLID	Hailey comp=N,6.4nm,0.9s	76.08	329	*e*P	P	23 36 32.2	+1.9
MCMT	McKenzie Canyo	76.29	330	*e*P	P	23 36 33.3	+1.8
BOZ	Bozeman (W) baz=141	76.37	332	P	P	23 36 32.5	+0.7
BOZ	Bozeman (W) comp=N,2.6nm,0.8s	76.37	332	*e*P	P	23 36 32.8	+0.9
DLMT	Dillon comp=N,11nm,1.4s	76.59	331	*e*P	P	23 36 34.5	+1.5
MFID	Camas Ranch comp=N,6.7nm,1.1s	76.66	328	*e*P	P	23 36 35.3	+1.8
VNDA	Vanda comp=N,1.5nm,1.0s,baz=79,slow=0.4,SNR=4.8	76.79	190	P	P	23 36 34.9	+1.2
SYO	Syowa Base	77.22	160	||*e*X	P	23 36 29.0	-7.2
EGMT	Eagleton baz=143	77.45	334	P	P	23 36 38.8	+1.0
O03D	Paynes Creek baz=132	77.67	322	P	P	23 36 39.3	+0.1
MOD	Modoc Plateau comp=N,4.4nm,1.0s	77.92	324	*e*P	P	23 36 41.2	+0.5
MSO	Missoula baz=139	78.31	331	P	P	23 36 43.9	+1.3
BMO	Blue Mountains comp=N,4.4nm,0.9s	78.44	328	*e*P	P	23 36 44.2	+0.9
N02D	Trinity Center baz=131	78.63	322	P	P	23 36 44.7	+0.2
M04C	Macdoel baz=132	78.68	323	P	P	23 36 45.9	+1.0
TOA0	Torodi Ar. Sit	78.71	71	*e*P	P	23 36 43.8	-1.6
TORD	Torodi Ar. Bea comp=N,1.1nm,0.4s,baz=252,slow=5.4,SNR=30	78.71	71	P	P	23 36 43.5	-1.9
K05A	Summer Lake comp=N,7.7nm,0.8s	78.80	325	*e*P	P	23 36 46.0	+0.5
M02C	Callahan baz=131	78.99	323	P	P	23 36 47.2	+0.7
J05D	Fort Rock, OR baz=133	79.36	325	P	P	23 36 49.5	+0.9
L02D	Cave Junction, baz=131	79.92	323	P	P	23 36 51.5	+0.1
I05D	Terrebonne, OR baz=133	80.14	326	P	P	23 36 53.8	+1.2
TSUM	Tsumeb baz=244,slow=6.9	81.54	107	P	P	23 36 60.0	-0.8
YKA	Yellowknife Ar comp=N,2.4nm,0.7s,baz=135,slow=4.8,SNR=12	90.50	341	P	P	23 37 43.3	-0.5
H11S2	WAKE ISLAND Hyl baz=103,slow=75,SNR=232	26.36	278	T	T	02 03 13.8	
H11S1	WAKE ISLAND Hyl baz=103,slow=75,SNR=212	26.37	278	T	T	02 03 12.3	
H11S3	WAKE ISLAND Hyl baz=103,slow=75,SNR=147	26.38	278	T	T	02 03 12.9	
H11N3	WAKE ISLAND Hyl baz=102,slow=75,SNR=248	26.44	279	T	T	02 03 17.8	
H11N2	WAKE ISLAND Hyl baz=102,slow=75,SNR=177	26.45	279	T	T	02 03 20.6	
H11N1	WAKE ISLAND Hyl baz=102,slow=75,SNR=193	26.46	279	T	T	02 03 20.0	
ASAR	Alice Springs comp=N,0.9nm,0.7s,baz=150,slow=1.8,SNR=8.5	129.37	209	PKP	PKPdf	23 43 51.0	-0.7
WRA	Warramunga Arr comp=N,1.3nm,0.6s,baz=153,slow=1.9,SNR=10	132.34	212	PKP	PKPdf	23 43 57.0	-0.5
ZALV	Zalesovo Beam comp=N,1.2nm,0.4s,baz=318,slow=2.0,SNR=7.1	142.39	24	PKP	PKPdf	23 44 14.7	-0.1
MKAR	Makanchi Array comp=N,2.4nm,0.8s,baz=313,slow=3.2,SNR=17	146.33	34	PKPbc	PKPdf	23 44 21.6	-0.4
USRK	Ussuriysk Ar. comp=N,3.5nm,0.6s,baz=314,slow=0.7,SNR=11	150.51	326	PKPbc	PKPbc	23 44 33.9	-0.2
MJAR	Matsushiro Arr comp=N,3.8nm,0.7s,baz=98,slow=1.5,SNR=9.7	150.76	308	PKPbc	PKPbc	23 44 34.8	-0.2
SONM	Songino Array comp=N,0.6nm,0.5s,baz=347,slow=6.1,SNR=4.7	153.41	5	PKPbc	PKPbc	23 44 39.8	-1.0

IDC ***12*** *23:25:48.8±2.4, 4°.82N×78°.61W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.6/26, mbtmp3.8/3, ML2.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/21, Error ellipse: s-maj=78.7km s-min=39.9km az=22.0*

ISCJB ***12*** *23:25:50.8±1.0, 5°.17N±0°.08×78°.38W±0°.08, h21km, mb3.8/2, Error ellipse: s-maj=12.8km s-min=10.4km az=146.7*

RSNC ***12*** *23:25:52.5±1.0, 5°.14N×78°.13W, h4km±10km, ML3.0*

ISC 12 23:25:52.9±1.3**, 5°.16N**±0°.07×**78°.4W**±0°.1**, h21km, n11,** σ**2**§**08/10, South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**1.42**	**42**	*e*P		**Pn**		**23 26 14.4**	**-3.1**
SOLC				*i*				23 26 31.4	
	comp=Z,152nm,0.2s								
MALC	**Bahia Malaga**	**1.53**	**138**	*i* P		**Pn**		**23 26 16.4**	**-2.5**
MALC				*i*				23 26 16.8	
	comp=Z,357nm,0.2s								
DBBC	**Dabeiba**	**2.83**	**49**	*e*P		**Pn**		**23 26 35.7**	**-1.2**
TOLC	**Tolima**	**3.08**	**101**	*e*P		**Pn**		**23 26 38.1**	**-2.5**
CRUC	**La Cruz**	**3.83**	**158**	*e*P		**Pn**		**23 26 50.2**	**-0.8**
CRUC				*i*				23 26 52.3	
	comp=Z,14nm,0.3s								
ROSC	**El Rosal**	**4.04**	**94**	Pn		**Pn**		**23 26 55.5**	**+1.6**
	comp=Z,6.6nm,0.3s,baz=331,slow=8.7,SNR=9.3								
ROSC				Sn		**Sn**		**23 27 41.9**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=316,slow=22,SNR=1.5								
ROSC				LR		LR		23 29 02.9	
	comp=Z,92nm,18.1s,baz=252,slow=45								
MOTC	**Monteria, Cord**	**4.48**	**36**	*e*P		**Pn**		**23 26 59.1**	**-0.6**
YKA	**Yellowknife Ar**	**63.12**	**342**	P		**P**		**23 36 19.3**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=141,slow=6.3,SNR=5.4								
ILAR	**Eielson Array**	**76.29**	**336**	P		**P**		**23 37 40.9**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=111,slow=4.6,SNR=3.2								
ASAR	**Alice Springs**	**143.89**	**236**	PKP		PKPbc		23 45 24.7	-0.6
	comp=Z,0.8nm,0.6s,baz=119,slow=3.5,SNR=4.8								
WRA	**Warramunga Arr**	**144.96**	**242**	PKP		PKPbc		23 45 28.5	-0.3
	comp=Z,0.7nm,0.9s,baz=105,slow=3.1,SNR=3.0								

ISCJB ***12*** *23:29:32.2±0.8, 36°.57N±0°.05×28°.82E±0°.03, h2km±5km, Error ellipse: s-maj=8.1km s-min=4.3km az=13.6*

CSEM ***12*** *23:29:32.6±0.3, 36°.59N×28°.83E, h8km, MD2.7, Error ellipse: s-maj=7.5km s-min=3.6km az=17.0*

DDA ***12*** *23:29:32.5, 36°.58N×28°.78E, h7km, Md2.7*

ISK ***12*** *23:29:32.5, 36°.66N×28°.86E, h10km, MD2.7*

ISC 12 23:29:32.7±1.1**, 36°.60N**±0°.04×**28°.82E**±0°.02**, h6**km±8km**, n31,** σ**0**§**94/55, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.22**	**81**	*e*PG		**Pg**		**23 29 36.9**	**-0.1**
FETY				*e*SG		**Sg**		**23 29 40.0**	**+0.1**
FETY	**Fethiye**	**0.22**	**81**	*e*Pg		**Pg**		**23 29 36.9**	**-0.1**

FETY				*e*Sg	**Sg**	**23 29 40.0**	**+0.1**
DALY	**Dalyan (Mu˘la**	**0.25**	**328**	*e*PG	**Pg**	**23 29 37.7**	**0.0**
DALY				*e*SG	**Sg**	**23 29 41.6**	**+0.6**
DALY	**Dalyan (Mu˘la**	**0.25**	**328**	*e*Pg	**Pg**	**23 29 37.7**	**0.0**
DALY				*e*Sg	**Sg**	**23 29 41.6**	**+0.6**
TURN	**Turunc**	**0.32**	**327**	*i* P	**Pb**	**23 29 41.9**	**+1.0**
TURN				*i* S	**Sb**	**23 29 49.2**	**+2.9**
YER	**Yerkesik**	**0.68**	**321**	*e*PG	**Pg**	**23 29 45.9**	**0.0**
YER				*e*SG	**Sb**	**23 29 56.2**	**-0.5**
YER	**Yerkesik**	**0.68**	**321**	*e*Pg	**Pg**	**23 29 45.9**	**0.0**
YER				*e*Sg	**Sb**	**23 29 56.3**	**-0.5**
AKAS	**Kas**	**0.73**	**120**	P	**Pg**	**23 29 46.9**	**0.0**
AKAS				S	**Sn**	**23 30 00.3**	**-1.0**
AKAS	**Kas**	**0.73**	**120**	*i* P	**Pg**	**23 29 46.9**	**0.0**
AKAS				*i* S	**Sn**	**23 30 00.3**	**-1.0**
GLHS	**Glhisar (BURDU**	**0.78**	**44**	*e*PG	**Pg**	**23 29 46.6**	**-1.0**
GLHS				*e*SG	**Sg**	**23 29 57.3**	**-0.4**
GLHS	**Glhisar (BURDU**	**0.78**	**44**	*e*Pg	**Pg**	**23 29 46.6**	**-1.0**
GLHS				*e*Sg	**Sg**	**23 29 57.3**	**-0.4**
GOLH	**Golhisar**	**0.87**	**43**	P	**Pb**	**23 29 50.1**	**-0.2**
GOLH				S	**Sn**	**23 30 04.3**	**-0.3**
GOLH	**Golhisar**	**0.87**	**43**	*i* P	**Pb**	**23 29 50.1**	**-0.2**
GOLH				*i* S	**Sn**	**23 30 04.3**	**-0.3**
ELL	**Elmali**	**0.89**	**80**	*e*PG	**Pg**	**23 29 49.0**	**-0.8**
ELL	**Elmali**	**0.89**	**80**	*e*Pg	**Pg**	**23 29 49.0**	**-0.8**
DNZL	**Cakiroluk**	**1.10**	**9**	P	**Pn**	**23 29 54.6**	**-0.2**
DNZL				S	**Sn**	**23 30 10.9**	**+0.5**
DNZL	**Cakiroluk**	**1.10**	**9**	*i* P	**Pn**	**23 29 54.6**	**-0.2**
DNZL				*i* S	**Sn**	**23 30 10.8**	**+0.5**
DENT	**Denizli**	**1.16**	**8**	*e*PN	**Pg**	**23 29 54.1**	**-0.9**
DENT	**Denizli**	**1.16**	**8**	*e*Pn	**Pg**	**23 29 54.1**	**-0.9**
BDRM	**Kayabasi**	**1.20**	**293**	P	**Pb**	**23 29 55.5**	**-0.3**
BDRM				S	**Sn**	**23 30 15.3**	**+0.2**
BDRM	**Kayabasi**	**1.20**	**293**	*i* P	**Pb**	**23 29 55.5**	**-0.3**
BDRM				*i* S	**Sn**	**23 30 12.3**	**-0.2**
KORT	**Korkueli**	**1.29**	**72**	P	**Pg**	**23 29 59.2**	**+1.7**
KORT	**Korkueli**	**1.29**	**72**	*i* P	**Pg**	**23 29 59.2**	**+1.7**
KORT				*i* S	**Sn**	**23 30 19.1**	**+4.1**
BODT	**Bodrum**	**1.29**	**291**	*e*PN	**Pb**	**23 29 57.4**	**-0.1**
BODT				*e*SN	**Sn**	**23 30 15.5**	**+0.6**
BODT	**Bodrum**	**1.29**	**291**	*e*Pn	**Pb**	**23 29 57.4**	**-0.1**
BODT				*e*Sn	**Sn**	**23 30 15.5**	**+0.6**
AYDN	**Tasoluk**	**1.29**	**325**	P	**Pn**	**23 29 56.8**	**-0.6**
AYDN				S	**Sb**	**23 30 14.4**	**0.0**
AYDN	**Tasoluk**	**1.29**	**325**	*i* P	**Pn**	**23 29 56.8**	**-0.6**
AYDN				*i* S	**Sb**	**23 30 14.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**331**	*e*PN	**Pn**	**23 30 00.2**	**-0.5**
AYDB				*e*SN	**Sn**	**23 30 20.4**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**331**	*e*Pn	**Pn**	**23 30 00.2**	**-0.5**
AYDB				*e*Sn	**Sn**	**23 30 20.4**	**-0.6**
BCK	**Bucak**	**1.66**	**58**	*e*PN	**Pn**	**23 30 01.8**	**-0.6**
BCK	**Bucak**	**1.66**	**58**	*e*Pn	**Pn**	**23 30 01.8**	**-0.6**

ISCJB ***12*** *23:34:35.0±0.5, 41˚.25N±0˚.03×43˚.92E±0˚.03, h0km±5km, Error ellipse: s-maj=5.5km s-min=3.1km az=147.8*
TIF ***12*** *23:34:34.5, 41˚.27N×43˚.94E, h14km± 1km*
CSEM ***12*** *23:34:35.1±0.1, 41˚.25N×43˚.91E, h2km, ML1.5, Error ellipse: s-maj=3.9km s-min=2.2km az=144.0*
DDA ***12*** *23:34:35.6, 41˚.24N×43˚.84E, h7km, Md2.7*

ISC 12 23:34:35.3±0.9, 41˚.24N±0˚.03×43˚.92E±0˚.02, h10km±8km, n26, σ0.9 59/52, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.24**	**276**	P	**Pg**	**23 34 40.3**	**-0.1**
BGD				S	**Sg**	**23 34 44.1**	**+0.3**
BGD	**Bogdanovka**	**0.24**	**276**	P	**Pg**	**23 34 40.3**	**-0.1**
BGD				S	**Sg**	**23 34 44.1**	**+0.3**
AKH	**Akhalkalaki**	**0.36**	**298**	P	**Pg**	**23 34 42.1**	**-0.4**
AKH				S	**Sg**	**23 34 47.2**	**-0.2**
AKH	**Akhalkalaki**	**0.36**	**298**	P	**Pg**	**23 34 42.1**	**-0.4**
AKH				S	**Sg**	**23 34 47.2**	**-0.2**
KZR	**Kazreti**	**0.40**	**69**	P	**Pg**	**23 34 43.2**	**0.0**
KZR				S	**Sg**	**23 34 48.4**	**-0.2**
KZR	**Kazreti**	**0.40**	**69**	P	**Pg**	**23 34 43.2**	**0.0**
KZR				S	**Sg**	**23 34 48.4**	**-0.2**
EAK	**Akyaka**	**0.60**	**203**	P	**Pg**	**23 34 47.0**	**0.0**
EAK				S	**Sg**	**23 34 55.9**	**+1.0**
EAK	**Akyaka**	**0.60**	**203**	*i* P	**Pg**	**23 34 47.0**	**0.0**
EAK				*i* S	**Sg**	**23 34 55.9**	**+1.0**
TBLG	**Delisi**	**0.79**	**51**	P	**Pg**	**23 34 49.9**	**-0.6**
TBLG				S	**Sg**	**23 35 00.9**	**+0.1**
TBLG	**Delisi**	**0.79**	**51**	P	**Pg**	**23 34 49.9**	**-0.6**
TBLG				S	**Sg**	**23 35 00.8**	**0.0**
DIGO	**Kars**	**0.92**	**207**	P	**Pg**	**23 34 52.8**	**-0.3**
DIGO				S	**Sb**	**23 35 05.7**	**-0.2**
DIGO	**Kars**	**0.92**	**207**	*i* P	**Pg**	**23 34 52.8**	**-0.3**
DIGO				*i* S	**Sb**	**23 35 05.7**	**-0.2**
EPOS	**Posof**	**0.93**	**287**	P	**Pg**	**23 34 52.6**	**-0.7**
EPOS				S	**Sg**	**23 35 04.8**	**-0.6**
EPOS	**Posof**	**0.93**	**287**	*i* P	**Pg**	**23 34 52.6**	**-0.7**
EPOS				*i* S	**Sg**	**23 35 04.8**	**-0.6**
DUS	**Dusheti**	**1.03**	**34**	P	**Pg**	**23 34 54.6**	**-0.6**
DUS				S	**Sn**	**23 35 10.3**	**0.0**
DUS	**Dusheti**	**1.03**	**34**	P	**Pg**	**23 34 54.6**	**-0.6**
DUS				S	**Sn**	**23 35 10.4**	**0.0**
GUDG	**Gudauri**	**1.29**	**19**	P	**Pn**	**23 34 59.5**	**-0.1**
GUDG				S	**Sn**	**23 35 17.1**	**+0.1**
GUDG	**Gudauri**	**1.29**	**19**	P	**Pn**	**23 34 59.5**	**-0.1**
GUDG				S	**Sn**	**23 35 17.1**	**+0.1**
ONI	**Oni**	**1.39**	**346**	P	**Pg**	**23 35 05.1**	**+3.0**
ONI				S	**Sb**	**23 35 19.1**	**-0.1**
ARTV	**Artvin**	**1.50**	**269**	P	**Pn**	**23 35 02.7**	**+0.3**
ARTV				S	**Sn**	**23 35 21.7**	**-0.4**
ARTV	**Artvin**	**1.50**	**269**	*i* P	**Pn**	**23 35 02.7**	**+0.3**
ARTV				*i* S	**Sn**	**23 35 21.7**	**-0.4**
DAGI	**Agillar**	**1.52**	**265**	*i* P	**Pb**	**23 35 03.3**	**-0.3**
DAGI				*i* S	**Sg**	**23 35 24.2**	**0.0**
DDEM	**Demirkent**	**1.67**	**259**	P	**Pn**	**23 35 05.1**	**+0.4**
DDEM				S	**Sg**	**23 35 28.9**	**-0.2**
DDEM	**Demirkent**	**1.67**	**259**	*i* P	**Pn**	**23 35 05.1**	**+0.4**
DDEM				*i* S	**Sg**	**23 35 28.9**	**-0.2**
DBAD	**Bademkaya**	**1.69**	**263**	P	**Pb**	**23 35 06.8**	**+0.3**
DBAD				S	**Sg**	**23 35 29.3**	**-0.4**
DBAD	**Bademkaya**	**1.69**	**263**	*i* P	**Pb**	**23 35 06.8**	**+0.3**
DBAD				*i* S	**Sg**	**23 35 29.3**	**-0.4**

BUC 12 23:42:35.8±1.0, 45˚.82N×27˚.25E, h15km±10km, MD2.2/2, 2C-12D, Error ellipse: s-maj=12.9km s-min=4.9km az=53.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODBI	**Odobesti**	**0.15**	**247**	⇑*i*P	Pb	23 42 40.4	+0.1
ODBI	**Odobesti**	**0.15**	**247**	S	Sb	23 42 44.1	+0.8
ODBI	**Odobesti**	**0.15**	**247**	⇑*i*P	Pb	23 42 40.4	+0.1
ODBI				*i* S	Sb	23 42 44.1	+0.8
VRI	**Vrincioaia**	**0.37**	**277**	⇓*i*P	Pg	23 42 43.2	-0.1
VRI	**Vrincioaia**	**0.37**	**277**	⇓*i*P	Pg	23 42 43.2	-0.1
VRI				*i* S	Sb	23 42 49.2	-0.1
PLOR	**Plostina**	**0.42**	**274**	⇓*i*P	Pg	23 42 44.2	-0.1
PLOR	**Plostina**	**0.42**	**274**	⇓*i*P	Pg	23 42 44.2	-0.1
TESR	**Tescani**	**0.81**	**329**	⇓*i*P	Pn	23 42 52.6	-0.1
TESR	**Tescani**	**0.81**	**329**	⇓*i*P	Pn	23 42 52.6	-0.1
TESR				*i* S	Sn	23 43 03.5	-1.0
CFR	**Carcaliu**	**0.90**	**136**	⇓*i*P	Pn	23 42 53.8	0.0
CFR	**Carcaliu**	**0.90**	**136**	⇓*i*P	Pn	23 42 53.8	0.0
CFR				*i* S	Sn	23 43 06.8	+0.3
MLR	**Muntele Rosu**	**0.97**	**251**	⇓*i*P	Pn	23 42 55.9	+0.8
MLR	**Muntele Rosu**	**0.97**	**251**	⇓*i*P	Pn	23 42 55.9	+0.8
MLR				*i* S	Sn	23 43 08.6	-0.2
TIRR	**Tirgusor**	**1.59**	**149**	⇓*i*P	Pb	23 43 04.3	-0.6
TIRR	**Tirgusor**	**1.59**	**149**	⇓*i*P	Pb	23 43 04.3	-0.6
TIRR				*i* S	Sb	23 43 25.6	+0.8

ISCJB ***13*** *00:01:41.2±0.7, 6˚.80N±0˚.04×73˚.08W±0˚.06, h158km±5km, Error ellipse: s-maj=11.6km s-min=4.3km az=30.6*
FUNV ***13*** *00:01:42.6, 6˚.82N×73˚.11W, h168km, MW2.6*
RSNC ***13*** *00:01:43.5±0.6, 6˚.76N×73˚.10W, h147km±4km, ML2.7*

ISC 13 00:01:40.3±1.4, 6˚.80N±0˚.05×73˚.06W±0˚.06, h166km±8km, n21, σ1.9 48/39, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.24**	**300**	*e*S	**Sn**	**00 02 18.6**	**-1.7**
BARC	**Barichara**	**0.24**	**210**	*e*P	**Pn**	**00 02 03.1**	**+0.1**
BARC				*e*S	**Sn**	**00 02 18.5**	**-1.8**
BARC				*i*		00 02 20.1	
	comp=Z,112nm,0.3s						
GIRC	**Giron, Santand**	**0.31**	**334**	*e*P	**Pn**	**00 02 03.4**	**+0.4**
GIRC				*e*S	**Sn**	**00 02 18.4**	**-2.1**
PAMC	**Pamplona, Colo**	**0.64**	**34**	*e*P	**Pn**	**00 02 06.2**	**+1.3**
PAMC				*e*S	**Sn**	**00 02 23.3**	**-0.4**
BRRC	**Barranca, Sant**	**0.71**	**295**	⇑*i*P	**Pn**	**00 02 05.2**	**+0.5**
BRRC				*e*S	**Sn**	**00 02 22.5**	**-0.9**
BRRC				*i*		00 02 25.0	
	comp=Z,100nm,0.2s						
RUSC	**La Rusia**	**0.90**	**181**	⇓*i*P	**Pn**	**00 02 07.1**	**+0.6**
RUSC				*e*S	**Sn**	**00 02 24.8**	**-1.8**
RUSC				*i*		00 02 27.2	
	comp=Z,33nm,0.3s						
GRMC	**Gramalote, San**	**0.95**	**16**	*i* P	**Pn**	**00 02 09.1**	**+2.6**
GRMC				*e*S	**Sn**	**00 02 28.4**	**+1.7**
GRMC				*i*		00 02 30.0	
	comp=Z,61nm,0.6s						
CBRI	**Barrientos, No**	**0.95**	**16**	*e*P	**Pn**	**00 02 07.8**	**+1.3**
CBRI				*e*S	**Sn**	**00 02 25.9**	**-0.7**
CBRI				*i*		00 02 29.9	
	comp=Z,46nm,0.5s						
CAPV	**Capacho**	**1.29**	**35**	⇑*i*P	**Pn**	**00 02 11.2**	**+1.8**
CAPV				*e*S	**Sn**	**00 02 32.2**	**+0.3**
OCAC	**Ocana**	**1.45**	**350**	*e*P	**Pn**	**00 02 11.9**	**+1.0**
OCAC				*e*S	**Sn**	**00 02 34.1**	**-0.4**
OCAC				*i*		00 02 38.7	
	comp=Z,88nm,0.4s						
NORC	**Norcasia**	**2.18**	**236**	*e*P	**Pn**	**00 02 19.0**	**+0.4**
NORC				*e*S	**Sn**	**00 02 47.4**	**-0.8**
CHIC	**Chingaza**	**2.26**	**197**	*e*P	**Pn**	**00 02 21.1**	**+1.3**
CHIC				*e*S	**Sn**	**00 02 50.4**	**-0.1**
CHIC				*i*		00 02 54.3	
	comp=Z,24nm,0.6s						
VIGV	**El Vigia**	**2.63**	**40**	*e*P	**Pn**	**00 02 25.6**	**+1.7**
VIGV				*e*S	**Sn**	**00 02 57.6**	**-0.2**
SOCV	**Socops**	**2.64**	**56**	*e*P	**Pn**	**00 02 25.6**	**+1.6**
SOCV				*e*S	**Sn**	**00 02 57.3**	**-0.5**
VILC	**Villavicencio,**	**2.74**	**193**	*e*P	**Pn**	**00 02 26.3**	**+0.9**
VILC				*e*S	**Sn**	**00 03 00.3**	**-0.1**
VILC				*i*		00 03 06.4	
	comp=Z,22nm,0.5s						
PRAC	**Prado**	**3.56**	**211**	*e*P	**Pn**	**00 02 36.6**	**+1.1**
PRAC				*e*S	**Sn**	**00 03 18.6**	**0.0**
VIRV	**Villa del Rosa**	**3.73**	**10**	*e*P	**Pn**	**00 02 38.0**	**+0.4**
VIRV				*e*S	**Sn**	**00 03 19.7**	**-2.7**
CURV	**Curarigua**	**4.43**	**44**	*e*P	**Pn**	**00 02 48.1**	**+1.5**
CURV				*e*S	**Sn**	**00 03 36.0**	**-2.4**
TEPV	**Terepaima**	**4.95**	**50**	*e*P	**Pn**	**00 02 54.9**	**+1.4**
BAUV	**El Baul**	**5.41**	**66**	*e*P	**Pn**	**00 02 59.9**	**+0.4**
BAUV				*e*S	**Sn**	**00 03 57.6**	**-3.8**
MONV	**Montecano**	**5.96**	**31**	*e*P	**Pn**	**00 03 07.3**	**+0.6**

RSNC 13 00:02:23.3±0.6, 7˚.36N×73˚.19W, h130km±6km, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.28**	**181**	*e*P	Pn	00 02 40.9	-0.7
GIRC				*e*S	Sn	00 02 54.8	-0.5
BTLC	**Betulia, Santa**	**0.45**	**190**	*i* P	Pn	00 02 42.2	-0.2
BTLC				*e*S	Sn	00 02 55.9	-0.8
PAMC	**Pamplona, Colo**	**0.48**	**93**	*e*P	Pn	00 02 42.5	-0.4
PAMC				*e*S	Sn	00 02 57.4	-0.1
GRMC	**Gramalote, San**	**0.52**	**47**	*e*P	Pn	00 02 42.9	+0.2
GRMC				*e*S	Sn	00 02 57.9	+0.6
GRMC				*i*		00 02 58.8	
	comp=Z,140nm,0.2s						
CBRI	**Barrientos, No**	**0.52**	**48**	*e*P	Pn	00 02 42.3	-0.4
CBRI				*i*		00 02 42.9	
	comp=Z,81nm,0.3s						
CBRI				*e*S	Sn	00 02 57.4	+0.1
BRRC	**Barranca, Sant**	**0.58**	**244**	*e*P	Pn	00 02 42.3	-0.5
BRRC				*e*S	Sn	00 02 57.5	-0.1
BRRC				*i*		00 02 59.1	
	comp=Z,168nm,0.1s						
BARC	**Barichara**	**0.77**	**180**	*e*P	Pn	00 02 44.0	-0.5
BARC				*e*S	Sn	00 03 00.5	0.0
BARC				*i*		00 03 01.7	
	comp=Z,105nm,0.1s						
OCAC	**Ocana**	**0.88**	**351**	*e*S	Sn	00 03 02.1	+0.1
OCAC				*i*		00 03 03.6	
	comp=Z,58nm,0.1s						
RUSC	**La Rusia**	**1.47**	**176**	*e*S	Sn	00 03 13.2	+0.2
NORC	**Norcasia**	**2.45**	**223**	*e*S	Sn	00 03 32.4	-0.9

IDC ***13*** *00:02:32.9±0.7, 60˚.56S×57˚.11W, h0km, mb4.2/11, mb1 4.3/13, mb1mx4.2/28, mbtmp4.2/13, ML5.0/2, MS4.0/13, Ms1 4.0/13, ms1mx3.9/20, Error ellipse: s-maj=24.8km s-min=15.7km az=74.0*
ISCJB ***13*** *00:02:33.4±0.4, 60˚.59S±0˚.06×57˚.1W±0˚.2, h10km, mb4.7/25, MS3.9/12, Error ellipse: s-maj=13.9km s-min=7.1km az=158.3*
BJI ***13*** *00:02:37.2, 60˚.50S×56˚.50W, h14km, mB5.2/4, Ms5.3/4, Ms7 5.2/3*
GCMT ***13*** *00:02:38.1±0.4, 60˚.32S×57˚.58W, h34km±1km, MW5.1/75, Moment Tensor Solution. s16,c18; s75,c93; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.85±.40; Mθθ3.33±.27; Mϕϕ-4.18±.31; Mrθ1.37±.22; Mrϕ2.99±.16; Mθϕ1.01±.29; Best double couple: Mo5.14100×10¹⁶ NP1:ϕs24.00000°, δ79.00000°, λ161.00000°. NP2: ϕs118.00000°, δ71.00000°, λ12.00000°. Principal axes: T 5.0140, Plg21.0000°, Azm340.0000°; N 0.2530, Plg68.0000°, Azm174.0000°; P -5.2680, Plg5.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *00:02:38.1±3.6, 60˚.54S×56˚.73W, h25km±25km, mb4.8/14 Error ellipse: s-maj=16.1km s-min=8.6km az=77.0*

ISC 13 00:02:35.5±0.4, 60˚.62S±0˚.05×57˚.25W±0˚.08, h10km, n64, σ1.9 67/59, mb4.6/24, MS3.9/12, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**5.21**	**214**	Pn	**Pn**	**00 03 52.9**	**-0.4**
	3.5nm,0.3s,baz=39,slow=9.3,SNR=15						
PMSA				Sn	**Sn**	**00 04 50.9**	**-2.4**
	9.7nm,0.3s,baz=203,slow=15,SNR=8.3						
PMSA	**Palmer Station**	**5.21**	**214**	*e*Pn	Pn	00 03 59.2	+5.9
PMSA				Sn	**Sn**	**00 04 50.9**	**-2.4**
USHA	**Ushuaia**	**8.33**	**309**	Pn	**Pn**	**00 04 36.7**	**+0.6**
	28nm,0.3s,baz=129,slow=14,SNR=8.8						
USHA				Sn	**Sn**	**00 06 06.4**	**-3.7**
	69nm,0.3s,baz=356,slow=14,SNR=5.6						
USHA				LR	LR	00 07 10.5	
	comp=Z,6µm,18.1s,baz=98,slow=39						
EFI	**East Falkland**	**8.98**	**357**	*e*Pn	**Pn**	**00 04 45.2**	**+0.2**
PLCA	**Paso Flores**	**21.54**	**332**	P	**P**	**00 07 22.6**	**-2.1**
	6.0nm,0.9s,baz=194,slow=9.4,SNR=3.5						
PLCA				LR	LR	00 15 30.8	
	comp=Z,378nm,20.7s,baz=182,slow=36						
PLCA	**Paso Flores**	**21.54**	**332**	*e*P	**P**	**00 07 26.6**	**+1.9**
	20nm,1.2s						
VNA1	**Neumayer--Stat**	**21.86**	**138**	P	**P**	**00 07 28.6**	**+0.8**
TRQA	**Tornquist**	**22.78**	**350**	*e*P	**P**	**00 07 38.8**	**+0.8**
	14nm,0.8s						
SNAA	**Sanae**	**23.64**	**140**	P	**P**	**00 07 46.4**	**0.0**
SNAA	**Sanae**	**23.64**	**140**	*e*P	**P**	**00 07 46.4**	**0.0**
	21nm,1.1s						
QSPA	**South Pole Qui**	**29.61**	**180**	*e*P	**P**	**00 08 40.9**	**+0.4**
	119nm,0.6s						
LCO	**Las Campanas**	**32.88**	**338**	*e*P	**P**	**00 09 09.9**	**+0.2**
	56nm,1.4s						
CPUP	**Villa Florida**	**34.28**	**360**	P	**P**	**00 09 20.0**	**-1.6**
	1.5nm,0.7s,baz=197,slow=7.3,SNR=4.2						
CPUP				LR	LR	00 22 48.6	
	comp=Z,124nm,20.6s,baz=179,slow=36						
PB10	**IPOC Station P**	**38.22**	**340**	*e*P	**P**	**00 09 56.4**	**+1.1**
	132nm,1.6s						
LVC	**Limon Verde**	**38.85**	**343**	P	**P**	**00 10 00.3**	**-0.7**
	7.6nm,0.6s,baz=214,slow=3.6,SNR=3.7						
LVC				LR	LR	00 25 57.1	
	comp=Z,1µm,18.6s,baz=200,slow=36						
VNDA	**Vanda**	**40.01**	**192**	P	**P**	**00 10 10.2**	**+0.5**
	0.5nm,0.7s,baz=174,slow=5.1,SNR=4.5						
VNDA				LR	LR	00 26 01.7	
	comp=Z,216nm,19.3s,baz=148,slow=35						
MAW	**Mawson**	**44.87**	**152**	P	**P**	**00 10 49.0**	**-0.3**
	8.0nm,0.7s,baz=246,slow=10,SNR=14						
MAW				LR	LR	00 29 00.0	
	comp=Z,345nm,21.2s,baz=238,slow=35						
MAW	**Mawson**	**44.87**	**152**	*e*P	**P**	**00 10 49.8**	**+0.6**
	2.2nm,0.8s						
LPAZ	**La Paz**	**44.97**	**345**	P	**P**	**00 10 49.2**	**-2.1**
	0.7nm,0.7s,baz=167,slow=6.7,SNR=3.3						
LPAZ				LR	LR	00 31 09.6	
	comp=Z,210nm,18.6s,baz=154,slow=38						
LPAZ	**La Paz**	**44.97**	**345**	*e*P	**P**	**00 10 51.4**	**+0.1**
	5.8nm,1.4s						
BDFB	**Brasilia**	**45.41**	**13**	P	**P**	**00 10 52.2**	**-2.1**
	1.3nm,0.7s,baz=143,slow=10,SNR=2.1						
BDFB				LR	LR	00 28 03.7	
	comp=Z,93nm,20.6s,baz=185,slow=34						
RPN	**Rapa Nui**	**48.35**	**290**	*e*P	**P**	**00 11 20.9**	**+3.9**
	1µm,1.4s						
NNA	**Nana**	**50.65**	**335**	LR	LR	00 31 35.1	
	comp=Z,50nm,19.5s,baz=151,slow=34						
NNA	**Nana**	**50.65**	**335**	*e*P	**P**	**00 11 36.0**	**+1.3**
	153nm,1.4s						
SAML	**Samuel**	**51.76**	**353**	*e*P	**P**	**00 11 42.6**	**-0.4**
	4.1nm,0.8s						
SUR	**Sutherland**	**56.64**	**98**	P	**P**	**00 12 17.7**	**-1.0**
	0.4nm,1.0s,baz=210,slow=8.1,SNR=3.6						
CRZF	**Crozet Islands**	**58.89**	**130**	*e*P	**P**	**00 12 33.7**	**-0.4**
	85nm,0.5s						
PTGA	**Pitinga**	**59.77**	**357**	*e*P	**P**	**00 12 40.1**	**-0.3**
	5.4nm,1.1s						
H10S3	**ASCENSION HYDR**	**60.45**	**50**	T	T	01 18 25.8	
	baz=203,slow=74,SNR=122						
H10S2	**ASCENSION HYDR**	**60.45**	**50**	T	T	01 18 27.9	
	baz=203,slow=74,SNR=136						
H10S1	**ASCENSION HYDR**	**60.47**	**50**	T	T	01 18 29.6	
	baz=203,slow=74,SNR=109						
H10N3	**ASCENSION HYDR**	**61.53**	**50**	T	T	01 19 47.3	
	baz=202,slow=75,SNR=107						
H10N1	**ASCENSION HYDR**	**61.54**	**50**	T	T	01 19 47.6	
	baz=202,slow=75,SNR=89						
H10N2	**ASCENSION HYDR**	**61.55**	**50**	T	T	01 19 48.6	
	baz=202,slow=75,SNR=106						
BOSA	**Boshof**	**61.90**	**99**	P	**P**	**00 12 53.3**	**-1.7**
	6.0nm,0.7s,baz=212,slow=6.5,SNR=15						
BOSA				LR	LR	00 34 11.1	
	comp=Z,126nm,21.5s,baz=206,slow=31						
OTAV	**Otavalo**	**62.86**	**336**	*e*P	**P**	**00 13 03.0**	**+1.1**
	18nm,1.4s						
LBTB	**Lobatse**	**65.07**	**97**	*e*P	**P**	**00 13 14.7**	**-1.3**
	6.8nm,0.8s						
DBIC	**Dimbokro**	**78.55**	**53**	LR	LR	00 42 39.2	
	comp=Z,38nm,21.5s,baz=179,slow=31						
TOA0	**Torodi Ar. Sit**	**87.07**	**57**	*e*P	**P**	**00 15 20.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**87.07**	**57**	P	**P**	**00 15 20.4**	**-0.7**
	1.0nm,0.8s,baz=200,slow=5.2,SNR=7.9						
TORD				LR	LR	00 46 42.1	
	comp=Z,49nm,21.6s,baz=235,slow=30						
ASAR	**Alice Springs**	**95.53**	**190**	P	**P**	**00 15 58.8**	**-1.8**
	0.3nm,0.5s,baz=166,slow=4.7,SNR=4.0						
HPIG		**95.73**	**318**	*e*P	**P**	**00 16 04.7**	**+3.3**
	16nm,0.6s						
TXAR	**Lajitas Array**	**97.31**	**320**	LR	LR	00 53 36.9	
	comp=Z,42nm,19.7s,baz=0.0,slow=32						
WRA	**Warramunga Arr**	**99.17**	**191**	P	**Pdif**	**00 16 14.8**	**-2.3**
	0.7nm,0.8s,baz=176,slow=4.3,SNR=5.1						
GERES	**GERESS Array B**	**123.15**	**48**	PKP	**PKPdf**	**00 21 30.5**	**-0.7**
	0.3nm,0.6s,baz=170,slow=2.3,SNR=4.1						
BRTR	**Keskin Array B**	**124.04**	**69**	PKP	**PKPdf**	**00 21 31.9**	**-1.3**
	1.2nm,1.1s,baz=197,slow=3.9,SNR=4.2						
VYHS	**Vyhne**	**124.80**	**52**	*e*PKP	**PKPdf**	**00 21 35.9**	**+1.7**
CRVS	**Cervenica-Dubn**	**126.16**	**53**	*e*PKP	**PKPdf**	**00 21 37.9**	**+1.1**
AKASG	**Malin Array Be**	**130.71**	**57**	PKP	**PKPdf**	**00 21 44.4**	**-0.9**
	0.4nm,0.4s,baz=243,slow=1.0,SNR=3.6						
QIZ	**Qiongzhong**	**137.45**	**162**	PKP	**PKPdf**	**00 22 00.5**	**+1.5**
QIZ				PP	**PP**	**00 24 46.4**	**+2.3**
QIZ				SS	SS	00 42 54.0	+3.0
QIZ				LN			
	160nm,15.8s						
QIZ				LE			
	190nm,15.8s						
QIZ				LZ			
	220nm,19.4s						
ILAR	**Eielson Array**	**141.69**	**316**	PKP	**PKPdf**	**00

baz=312,slow=76,SNR=5.6
ZALV Zalesovo Beam 42.19 314 P **P** **00 16 16.7 -0.5**
0.5nm,0.5s,baz=107,slow=7.5,SNR=2.3
MKAR Makanchi Array 44.07 303 P **P** **00 16 32.8 +0.3**
0.5nm,0.5s,baz=86,slow=9.7,SNR=6.3
ILAR Eielson Array 51.28 32 P **P** **00 17 29.0 +1.0**
0.3nm,0.8s,baz=253,slow=5.5,SNR=4.3
WRA Warramunga Arr 55.47 187 P **P** **00 17 58.7 -0.5**
0.8nm,0.5s,baz=1.4,slow=7.5,SNR=11
ASAR Alice Springs 59.20 187 P **P** **00 18 25.8 +0.4**
0.3nm,0.5s,baz=15,slow=14,SNR=5.3
PDAR Pinedale Array 79.42 45 P **P** **00 20 30.8 +0.3**
0.3nm,0.5s,baz=8.7,slow=6.6,SNR=2.8

ISCJB ***13*** *00:13:25.6±0.6,24.˙93S±0.˙07×179.˙95E±0.˙09,h501km, mb3.7/11, Error ellipse: s-maj=12.3km s-min=8.1km az=36.0*
IDC ***13*** *00:13:26.2±2.5,24.˙99S×179.˙85E,h490km±29km, mb3.4/11,mb1 3.6/14,mb1mx3.4/40,mbtmp4.3/14, Error ellipse: s-maj=18.2km s-min=16.6km az=157.0*
ISC 13 00:13:26.4±0.7,24.˙96S±0.˙09×179.˙97E±0.˙09,h501km,n16, σ1§66/19,mb3.8/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.73**	**280**	P		**P**	**P**	**00 16 11.9**	**-1.0**
	0.6nm,0.3s,baz=342,slow=21,SNR=8.0								
DZM				S		**S**	**S**	**00 18 29.8**	**-0.3**
	1.5nm,0.3s,baz=120,slow=23,SNR=12								
AFI	**Afiamalu**	**13.46**	**37**	P		**P**	**P**	**00 16 20.3**	**-0.4**
	3.1nm,0.3s,baz=105,slow=4.8,SNR=4.8								
AFI				S		**S**	**S**	**00 18 39.5**	**-4.8**
	1.9nm,0.3s,baz=110,slow=7.2,SNR=9.3								
URZ	**Urewera**	**13.48**	**190**	P		**P**	**P**	**00 16 18.6**	**-1.9**
	3.8nm,0.3s,baz=274,slow=4.5,SNR=15								
URZ				S		**S**	**S**	**00 18 43.2**	**-0.8**
	2.3nm,0.3s,baz=205,slow=23,SNR=9.0								
CTA	**Charters Tower**	**31.46**	**272**	P		**P**	**P**	**00 19 06.8**	**+0.2**
	16nm,0.4s,baz=95,slow=11,SNR=30								
STKA	**Stephens Creek**	**34.31**	**250**	P		**P**	**P**	**00 19 30.3**	**-0.3**
	0.5nm,0.3s,baz=98,slow=13,SNR=5.5								
ASAR	**Alice Springs**	**41.84**	**262**	P		**P**	**P**	**00 20 31.6**	**-0.6**
	2.5nm,0.5s,baz=92,slow=7.4,SNR=29								
WRA	**Warramunga AR**	**42.31**	**267**	P		**P**	**P**	**00 20 34.9**	**-1.0**
	3.6nm,0.4s,baz=99,slow=6.8,SNR=103								
FITZ	**Fitzroy Crossi**	**50.72**	**266**	P		**P**	**P**	**00 21 39.3**	**-0.4**
	3.9nm,0.6s,baz=114,slow=7.6,SNR=7.8								
VNDA	**Vanda**	**53.33**	**185**	P		**P**	**P**	**00 21 58.2**	**+0.6**
	0.3nm,0.5s,baz=0.4,slow=8.1,SNR=5.7								
MJAR	**Matsushiro Arr**	**72.75**	**326**	P		**P**	**P**	**00 24 03.5**	**+0.2**
	2.8nm,0.9s,baz=163,slow=4.5,SNR=3.4								
KSRS	**Korea Array**	**79.03**	**320**	P		**P**	**P**	**00 24 39.1**	**+1.1**
	0.6nm,0.3s,baz=145,slow=7.0,SNR=4.1								
PETK	**Petropavlovsk-**	**80.11**	**347**	P		**P**	**P**	**00 24 44.5**	**+1.0**
	1.5nm,0.6s,baz=125,slow=9.0,SNR=3.1								
NVAR	**Mina Array Bea**	**85.53**	**44**	P		**P**	**P**	**00 25 12.8**	**+1.4**
	0.3nm,0.5s,baz=220,slow=8.3,SNR=3.2								
TXAR	**Lajitas Array**	**91.01**	**58**	P		**P**	**P**	**00 25 38.8**	**+1.7**
	0.9nm,0.8s,baz=217,slow=5.8,SNR=14								
AKASG	**Malin Array Be**	**145.83**	**326**	PKPbc		**PKPbc**	**PKPbc**	**00 32 09.9**	**+0.9**
	0.6nm,0.4s,baz=46,slow=5.5,SNR=4.5								
BRTR	**Keskin Array B**	**148.18**	**306**	PKPbc		**PKPdf**	**PKPdf**	**00 32 14.2**	**+2.3**
	0.2nm,0.4s,baz=79,slow=3.1,SNR=3.9								

PRU ***13*** *00:14:52.6,50.˙22N×12.˙44E,h3km,West Bohemia*
WBNET 13 00:14:52.1,50.˙22N×12.˙44E,h10km,Ml0.2,4C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**9**	*e*PG			Pg	00 14 53.9	-0.1
NKC				*e*SG			Sg	00 14 55.0	-0.3
	5.3nm,0.2s								
NKC	**Novy Kostel**	**0.02**	**9**	⇓P			Pg	00 14 53.9	-0.1
NKC				S			Sg	00 14 55.2	-0.1
KVC	**Kvetna**	**0.05**	**104**	⇑P			Pg	00 14 53.9	-0.3
KVC				S			Sg	00 14 55.2	-0.4
VAC	**Vackov**	**0.05**	**293**	P			Pg	00 14 54.0	-0.1
VAC				S			Sg	00 14 55.5	-0.2
LBCW	**Luby**	**0.05**	**337**	⇓P			Pg	00 14 54.2	-0.1
LBCW				S			Sg	00 14 55.8	-0.1
STCW	**Studenec**	**0.06**	**49**	⇑P			Pg	00 14 54.2	-0.2
STCW				S			Sg	00 14 55.6	-0.4
SKC	**Skalna**	**0.07**	**228**	⇑P			Pg	00 14 54.2	-0.2
SKC				S			Sg	00 14 55.8	-0.2
POCW	**Po¯¡tky**	**0.10**	**354**	⇓P			Pg	00 14 54.8	-0.1
POCW				S			Sg	00 14 56.7	-0.1
KRCW	**Kraslice**	**0.13**	**26**	⇓P			Pg	00 14 55.0	-0.2
KRCW				S			Sg	00 14 57.1	-0.3
ZHC	**Zelena Hora**	**0.17**	**211**	⇑P			Pg	00 14 55.7	-0.2
ZHC				S			Sg	00 14 58.1	-0.3

CSEM ***13*** *00:16:06.6±0.1,50.˙45N×5.˙95E,h19km,ML1.9/7, Error ellipse: s-maj=3.2km s-min=2.3km az=53.0*
LDG ***13*** *00:16:07.2±0.1,50.˙46N×5.˙96E,h17km,Md2.2/2,Ml2.0/6, Error ellipse: s-maj=1.2km s-min=1.1km az=5.0*
UCC 13 00:16:07.5,50.˙44N×5.˙94E,h16km,ML1.2,2C-5D, Belgium

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MEM	**Membach**	**0.17**	**15**	⇓P			Pg	00 16 11.6	-0.3
MEM				S			Sg	00 16 14.6	-0.2
	comp=N,26nm,0.2s								
MEM	**Membach**	**0.17**	**15**	P			Pg	00 16 11.5	-0.4
MEM				S			Sg	00 16 14.6	-0.2
	comp=N,26nm,0.2s								
BSTI	**Sart Tilman**	**0.28**	**301**	⇓P			Pg	00 16 13.4	-0.1
BSTI				S			Sg	00 16 17.6	+0.1
BSTI	**Sart Tilman**	**0.28**	**301**	P			Pg	00 16 13.3	-0.1
BSTI				S			Sg	00 16 17.5	0.0
BLCH	**La Chartreuse**	**0.29**	**313**	⇓P			Pg	00 16 13.7	-0.1
BLCH				S			Sg	00 16 18.0	0.0
	comp=E,8.2nm,0.1s								
BLCH	**La Chartreuse**	**0.29**	**313**	P			Pg	00 16 13.6	-0.1
BLCH				S			Sg	00 16 18.0	0.0
	comp=E,8.2nm,0.1s								
HGN	**Heimansgroeve**	**0.32**	**360**	*e*Pg			Pg	00 16 13.8	-0.4
HGN				*e*Sg			Sg	00 16 18.4	-0.4
LKLB	**Kalborn**	**0.36**	**162**	P			Pg	00 16 15.0	+0.1
LKLB				S			Sg	00 16 19.9	0.0
BEBN	**Eben Emael**	**0.39**	**335**	⇑P			Pg	00 16 15.1	-0.4
BEBN				S			Sg	00 16 20.6	-0.3
	comp=N,7.8nm,0.2s								
BEBN	**Eben Emael**	**0.39**	**335**	P			Pg	00 16 15.1	-0.4
BEBN				S			Sg	00 16 20.6	-0.3
	comp=N,7.8nm,0.2s								
BCLA	**Clavier**	**0.41**	**267**	⇓P			Pg	00 16 15.6	-0.2
BCLA				S			Sg	00 16 21.1	-0.2
	comp=N,8.6nm,0.1s								
BCLA	**Clavier**	**0.41**	**267**	P			Pg	00 16 15.5	-0.2
BCLA				S			Sg	00 16 21.1	-0.2
	comp=N,8.6nm,0.1s								
LVIA	**Vianden**	**0.54**	**161**	P			Pg	00 16 18.0	-0.1
LVIA				S			Sg	00 16 24.9	-0.4
	comp=N,16nm,0.1s								
RCHB	**Rochefort**	**0.54**	**238**	P			Pg	00 16 17.8	-0.3
RCHB				S			Sg	00 16 25.0	-0.3
BGES	**Gesves**	**0.55**	**264**	S			Sg	00 16 25.4	-0.3
BGES	**Gesves**	**0.55**	**264**	S			Sg	00 16 25.3	-0.3
BMRD	**Maredsous**	**0.76**	**260**	⇑P			Pg	00 16 21.8	-0.6
BMRD				S			Sg	00 16 32.0	-0.4
BMRD	**Maredsous**	**0.76**	**260**	P			Pg	00 16 21.7	-0.6
BMRD				S			Sg	00 16 31.9	-0.5
WLF	**Walferdange**	**0.79**	**170**	P			Pb	00 16 22.4	-0.5
WLF				S			Sg	00 16 32.7	-0.6
GIVF	**Givet**	**0.79**	**245**	*e*Pn			Pb	00 16 22.2	-0.7
GIVF				*e*Sg			Sg	00 16 32.9	-0.4
	comp=N,8.0nm,0.2s								
GIVF	**Givet**	**0.79**	**245**	*e*Pn			Pb	00 16 22.2	-0.7
GIVF				*e*Sg			Sg	00 16 32.9	-0.4
	comp=N,4.0nm,0.2s								
DOU	**Dourbes**	**0.93**	**249**	⇓P			Pb	00 16 22.0	-3.1
DOU	**Dourbes**	**0.93**	**249**	P			Pb	00 16 24.3	-0.9
DOU				S			Sb	00 16 36.6	-0.6
BAIF	**Baives**	**1.17**	**252**	*e*Pn			Pn	00 16 28.6	-0.6
BAIF				*e*Sn			Sb	00 16 42.5	-1.8
BAIF				*e*Sg			Sn	00 16 44.4	-0.5
	comp=N,5.1nm,0.2s								
BAIF	**Baives**	**1.17**	**252**	*e*Pn			Pn	00 16 28.6	-0.6
BAIF				*e*Sn			Sb	00 16 42.5	-1.8
BAIF				*e*Sg			Sn	00 16 44.4	-0.5
	comp=N,2.5nm,0.2s								
PAGF	**Fort de Pagny**	**1.89**	**184**	*e*Pg			Pb	00 16 42.7	+1.0
PAGF				*e*Sg			Sg	00 17 08.0	-0.4
	comp=N,0.4nm,0.2s								
PAGF	**Fort de Pagny**	**1.89**	**184**	*e*Pg			Pb	00 16 42.7	+1.0
PAGF				*e*Sg			Sg	00 17 08.0	-0.4
	comp=N,0.2nm,0.2s								
MEZF	**Maizieres J'vi**	**2.03**	**197**	*e*Pn			Pn	00 16 40.0	-1.0
MEZF				*e*Sg			Sg	00 17 11.5	-1.1
	comp=N,1.9nm,0.2s								
MEZF	**Maizieres J'vi**	**2.03**	**197**	*e*Pn			Pn	00 16 40.0	-1.0
MEZF				*e*Sg			Sg	00 17 11.5	-1.1
	comp=N,0.9nm,0.2s								
CDF	**Champ du Feu**	**2.21**	**156**	*e*Pn			Pn	00 16 42.1	-1.5
CDF				*e*Sn			Sn	00 17 06.8	-3.9
CDF				*e*Sg			Sg	00 17 17.6	-1.0
	comp=N,0.6nm,0.2s								
CDF	**Champ du Feu**	**2.21**	**156**	*e*Pn			Pn	00 16 42.1	-1.5
CDF				*e*Sn			Sn	00 17 06.8	-3.9
CDF				*e*Sg			Sg	00 17 17.6	-1.0
	comp=N,0.3nm,0.2s								
SFTF	**Sexfontaines**	**2.31**	**195**	*e*Sg			Sg	00 17 20.2	-1.7
	comp=N,1.7nm,0.2s								
SFTF	**Sexfontaines**	**2.31**	**195**	*e*Sg			Sg	00 17 20.2	-1.7
	comp=N,0.9nm,0.2s								
HINF	**Hinteralfeld**	**2.70**	**167**	*e*Sn			Sn	00 17 19.3	-3.2
	comp=N,1.1nm,0.2s								
HINF				*e*Sg			Sg	00 17 31.6	-2.5
HINF	**Hinteralfeld**	**2.70**	**167**	*e*Sn			Sn	00 17 19.3	-3.2
	comp=N,0.6nm,0.2s								
HINF				*e*Sg			Sg	00 17 31.6	-2.5
LOR	**Lormes**	**3.46**	**204**	*e*Pn			Pn	00 16 59.7	-1.0
LOR				*e*Sn			Sn	00 17 37.5	-3.8
LOR	**Lormes**	**3.46**	**204**	*e*Pn			Pn	00 16 59.7	-1.0
LOR				*e*Sn			Sn	00 17 37.5	-3.8
SSF	**Saint Saulge**	**3.75**	**206**	*e*Pn			Pn	00 17 03.3	-1.3
SSF				*e*Sn			Sn	00 17 43.4	-4.9
SSF	**Saint Saulge**	**3.75**	**206**	*e*Pn			Pn	00 17 03.3	-1.3
SSF				*e*Sn			Sn	00 17 43.4	-4.9

NIED ***13*** *00:25:00,40.˙00N×143.˙60E,h20km,Mw4.5 Best double couple: M0 5.85000×10^15 NP1:φs185.00000°,δ33.00000°, λ73.00000°. NP2:φs25.00000°,δ58.00000°,λ101.00000°.*
IDC ***13*** *00:25:24.1±0.5,39.˙84N×143.˙57E,h0km,mb4.4/27, mb1 4.5/35,mb1mx4.5/45,mbtmp4.4/35,ML3.9/7,MS3.9/24, Ms1 3.9/24,ms1mx3.7/49, Error ellipse: s-maj=14.2km s-min=11.7km az=117.0*
ISCJB ***13*** *00:25:25.0±0.8,39.˙91N±0.˙02×143.˙48E±0.˙02,h11km±5km, mb4.6/153,MS4.1/31, Error ellipse: s-maj=3.9km s-min=2.7km az=148.6*
JMA ***13*** *00:25:25.6±0.2,39.˙96N×143.˙56E,h16km±4km,M4.5*
BJI ***13*** *00:25:26.6,39.˙91N×143.˙24E,h19km,mb4.8/62,mB4.8/45, Ms4.3/52,Ms7 4.2/48*
MOS ***13*** *00:25:28.0±1.0,39.˙96N×143.˙37E,h31km,mb4.8/73, Error ellipse: s-maj=6.3km s-min=4.2km az=105.3*
NEIC ***13*** *00:25:28.6±1.1,39.˙90N×143.˙44E,h23km±8km,mb4.7/93, Error ellipse: s-maj=4.4km s-min=2.9km az=137.0*
ISC 13 00:25:29.3±0.8,39.˙93N±0.˙03×143.˙51E±0.˙04,h30km±5km, n383,σ1§23/408,mb4.7/154,MS4.1/31,27C-10D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.27**	**271**	P			**Pn**	**00 25 49.1**	**-1.8**
MIYJ	**Miyakonagasawa**	**1.35**	**255**	P			**Pn**	**00 25 50.6**	**-1.5**
JANG	**Nango**	**1.59**	**287**	P			**Pn**	**00 25 53.8**	**-1.6**
JANG				*e*S			**Sn**	**00 26 14.2**	**-0.8**
JOM	**Ohasama**	**1.77**	**256**	P			**Pn**	**00 25 57.2**	**-0.7**
JMK	**Ichinoseki**	**2.03**	**242**	P			**Pn**	**00 26 00.0**	**-1.4**
JMK				*e*S			**Sn**	**00 26 25.3**	**-0.4**
JTM	**Tenmabayashi**	**2.05**	**295**	P			**Pn**	**00 26 01.1**	**-0.6**
JTM				*e*S			**Sn**	**00 26 27.0**	**+0.7**
ERM	**Erimo**	**2.10**	**353**	*ce*P			**Pn**	**00 26 01.6**	**-0.7**
ERM				pmax		pmax			
	comp=Z,109nm,1.2s								
ERM	**Erimo**	**2.10**	**353**	*e*Pn			**Pn**	**00 26 00.8**	**-1.6**
JEM	**Erimo**	**2.10**	**353**	P			**Pn**	**00 26 00.7**	**-1.6**
JAH	**Hinai**	**2.22**	**278**	P			**Pn**	**00 26 03.9**	**-0.1**
JAH				*e*S			**Sn**	**00 26 32.0**	**+1.5**
JRG	**Rokugo**	**2.28**	**257**	P			**Pn**	**00 26 04.3**	**-0.6**
JOT	**Ohata**	**2.37**	**308**	P			**Pn**	**00 26 05.7**	**-0.3**
JOT				*e*S			**Sn**	**00 26 34.8**	**+0.7**
JNBK	**Urakawa-nobuka**	**2.41**	**347**	P			**Pn**	**00 26 06.3**	**-0.4**
JYK	**Kaneyama**	**2.64**	**248**	P			**Pn**	**00 26 09.3**	**-0.6**
JCH	**Churui**	**2.68**	**358**	P			**Pn**	**00 26 08.8**	**-1.6**
JCH				*e*S			**Sn**	**00 26 40.6**	**-1.2**
JKB	**Kayabe**	**2.71**	**317**	P			**Pn**	**00 26 10.0**	**-0.7**
JKB				*e*S			**Sn**	**00 26 41.9**	**-0.6**
JOU	**Okura**	**2.71**	**236**	P			**Pn**	**00 26 09.2**	**-1.6**
JAK	**Akkeshi**	**3.19**	**16**	P			**Pn**	**00 26 15.1**	**-2.2**
JAK				*e*S			**Sn**	**00 26 52.9**	**-1.4**
JFT	**Otama**	**3.46**	**227**	P			**Pn**	**00 26 19.4**	**-1.7**
ASAJ	**Asahikawa**	**4.24**	**351**	Pn			**Pn**	**00 26 31.6**	**-0.1**
	baz=176,slow=15								
ASAJ				Sn			**Sn**	**00 27 19.4**	**-0.7**
	comp=Z,10nm,0.3s,baz=184,slow=19,SNR=4.5								
YUK	**Yuzh-Kuril'sk**	**4.46**	**22**	*i* P			**Pn**	**00 26 32.1**	**-2.7**
MJAR	**Matsushiro Arr**	**5.37**	**233**	Pn			**Pn**	**00 26 46.7**	**-0.8**
	comp=Z,14nm,0.3s,baz=43,slow=12,SNR=118								
MJAR				LR			LR	00 28 52.5	
	comp=Z,378nm,20.5s,baz=75,slow=39								
MAJO	**Matsushiro**	**5.37**	**233**	*c i*P			**Pn**	**00 26 47.1**	**-0.3**
MAJO	**Matsushiro**	**5.37**	**233**	*e*Pn			**Pn**	**00 26 46.7**	**-0.7**
MAT	**Matsushiro**	**5.37**	**233**	P			**Pn**	**00 26 47.0**	**-0.4**
MAT				*e*S			**Sn**	**00 27 49.3**	**+1.0**
MJB9	**Matsu-Tunnel**	**5.37**	**233**	*e*Pn			**Pn**	**00 26 47.0**	**-0.5**
KUR	**Kuril'sk**	**6.20**	**30**	*i* P			**Pn**	**00 26 58.0**	**-0.6**
KUR				*i* S			**Sn**	**00 28 04.1**	**-4.3**
KUR				pmax		pmax			
	comp=Z,95nm,0.4s								
KUR				pmax		pmax			
	comp=N,37nm,0.3s								
KUR				pmax		pmax			
	comp=E,31nm,0.1s								
KUR				smax		smax			
	comp=E,208nm,0.6s								
INU	**Inuyama**	**6.89**	**230**	*e*Pn			**Pn**	**00 27 07.7**	**-0.6**
YSS	**Yuzh-Sakhalins**	**7.04**	**356**	*e*P			**Pn**	**00 27 10.8**	**+0.6**
YSS				*e*S			**Sn**	**00 28 28.0**	**-1.2**
YSS				pmax		pmax			
	comp=Z,20nm,0.7s								
YSS				MLR		MLR			
	comp=Z,800nm,20.0s								
YSS				MLR		MLR			
	comp=N,900nm,17.0s								
YSS				MLR		MLR			
	comp=E,900nm,18.0s								
YSS	**Yuzh-Sakhalins**	**7.04**	**356**	*e*Pn			**Pn**	**00 27 11.0**	**+0.7**
JHJ2	**Mitsune**	**7.43**	**205**	*e*Pn			**Pn**	**00 27 15.4**	**-0.2**
JHJ	**Hachijo jima 2**	**7.43**	**205**	Pn			**Pn**	**00 27 12.3**	**-3.3**
	comp=E,26nm,0.3s,baz=253,slow=18,SNR=4.8								
JHJ				Sn			Sn	00 28 29.9	-9.1
	comp=E,49nm,0.3s,baz=298,slow=23,SNR=8.6								
VLA	**Vladivostok**	**9.28**	**294**	*e*P			**Pn**	**00 27 42.5**	**+1.5**
VLA				*i* S			**Sn**	**00 29 27.1**	**+2.8**
VLA				pmax		pmax			
	comp=Z,38nm,0.9s								
USRK	**Ussuriysk Ar.**	**9.57**	**300**	Pn			**Pn**	**00 27 46.2**	**+1.3**
	comp=Z,1.7nm,0.3s,baz=98,slow=12,SNR=56								
USRK				LR			LR	00 31 29.7	
	comp=Z,564nm,18.6s,baz=89,slow=38								
MSHR	**Mys Shultsa**	**9.67**	**290**	*i* P			**Pn**	**00 27 45.6**	**-0.7**
HABR	**Khabarovsk**	**10.47**	**327**	*ce*P			**Pn**	**00 27 53.5**	**-3.7**
HABR				*e*S			**Sn**	**00 29 50.2**	**-3.2**
HABR				pmax		pmax			
	comp=Z,18nm,1.9s								
HABR				pmax		pmax			
	comp=E,29nm,1.9s								
HABR				pmax		pmax			
	comp=N,11nm,0.9s								
HABR				MLR		MLR			
	comp=Z,669nm,15.0s								
TYV	**Tymovskoe**	**10.95**	**357**	*e*P			**Pn**	**00 28 02.8**	**-0.9**
TYV				pmax		pmax			
	comp=Z,13nm,0.8s								
TYV				MLR		MLR			
	comp=E,2μm,16.0s								
TYV				MLR		MLR			
	comp=Z,2μm,16.0s								
MDJ	**Mudanjiang**	**11.32**	**299**	P			**Pn**	**00 28 10.7**	**+1.8**
MDJ				PMZ					
	comp=Z,22nm,0.8s								
MDJ				PMZ					
	comp=Z,130nm,7.0s								
MDJ				LN					
	comp=Z,600nm,13.1s								
MDJ				LE					
	comp=Z,570nm,16.9s								
MDJ				LZ					
	comp=Z,750nm,15.0s								
MDJ	**Mudanjiang**	**11.32**	**299**	*e*Pn			**Pn**	**00 28 08.8**	**-0.1**
	comp=Z,19nm,0.8s								
JNU	**Nakatsue**	**12.22**	**240**	Pn			**Pn**	**00 28 19.8**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=136,slow=2.9,SNR=6.1								
JNU				LR			LR	00 33 11.9	
	comp=Z,577nm,19.6s,baz=132,slow=38								
JNU	**Nakatsue**	**12.22**	**240**	*e*Pn			**Pn**	**00 28 19.9**	**-1.3**
KSRS	**Korea Array**	**12.43**	**263**	Pn			**Pn**	**00 28 24.4**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=82,slow=13,SNR=26								
KSRS				LR			LR	00 32 54.0	
	comp=Z,591nm,18.1s,baz=73,slow=36								
KS01	**Wonju Array Si**	**12.45**	**264**	*e*Pn			**Pn**	**00 28 23.9**	**-0.5**
KSAR	**Wonju Array Be**	**12.46**	**263**	P			**Pn**	**00 28 24.4**	**-0.1**
KSAR	**Wonju Array Be**	**12.46**	**263**	Pn			**Pn**	**00 28 24.4**	**-0.1**
KLR	**Kul'dur**	**12.50**	**322**	Pn			**Pn**	**00 28 24.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=120,slow=15,SNR=23								
KLR				LR			LR	00 33 18.6	
	comp=Z,276nm,20.7s,baz=136,slow=38								
CBIJ	**Chichi jima**	**12.85**	**185**	*e*Pn			**Pn**	**00 28 29.3**	**-0.6**
CBIJ				Sn			Sn	00 30 36.1	-16
JCJ	**Chichijima**	**12.85**	**185**	Pn			Pn	00 28 23.9	-6.0
	comp=Z,5.1nm,0.3s,baz=354,slow=10,SNR=2.6								
JCJ				Sn			Sn	00 30 36.1	-16
	baz=336,slow=20								
TJN	**Taejon**	**13.19**	**260**	*ce*P			**Pn**	**00 28 32.1**	**-2.4**
NKL	**Nikolayevsk**	**13.36**	**353**	*e*P			**Pn**	**00 28 40.5**	**+3.8**
NKL				MLR		MLR			
	comp=N,450nm,15.0s								
NKL				MLR		MLR			
	comp=E,350nm,15.0s								
NKL				MLR		MLR			
	comp=Z,600nm,15.0s								
CN2	**Changchun**	**14.00**	**292**	*e*P			**P**	**00 28 52.3**	**-0.8**
CN2				*e*S			**Sn**	**00 31 24.3**	**+4.5**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CN2				pmax		pmax			
	comp=Z,100nm,3.0s								
CN2				LR		LR			
	comp=N,600nm,15.0s								
CN2				LR		LR			
	comp=E,400nm,15.0s								
CN2				LR		LR			
	comp=Z,500nm,19.0s								
PEA0	**Petropavlovsk-**	**16.36**	**32**	*e*Pn			**Pn**	**00 29 16.7**	**+0.1**
PETK	**Petropavlovsk-**	**16.36**	**32**	Pn			**Pn**	**00 29 16.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=169,slow=17,SNR=4.0								
PETK				LR			LR	00 35 06.1	
	comp=Z,133nm,20.3s,baz=217,slow=36								
PET	**Petropavlovsk**	**16.69**	**33**	*e*P			**P**	**00 29 23.3**	**+0.5**
PET				*e*S			**Sn**	**00 32 26.2**	**+1.2**
PET				pmax		pmax			
	comp=Z,13nm,1.2s								
PET				MLR		MLR			
	comp=Z,200nm,19.0s								
PET				MLR		MLR			
	comp=Z,200nm,17.0s								
PET	**Petropavlovsk**	**16.69**	**33**	*e*Pn			**Pn**	**00 29 21.7**	**+1.0**
	comp=Z,18nm,1.1s								
DL2	**Dalian**	**16.94**	**274**	P			**Pn**	**00 29 24.8**	**+0.8**
DL2				S			**Sn**	**00 32 32.1**	**+0.9**
DL2				PMZ					
	comp=Z,41nm,0.9s								
DL2				PMZ					
	comp=Z,250nm,6.5s								
DL2				LN					
	comp=Z,400nm,14.5s								
DL2				LE					
	comp=Z,290nm,13.3s								
DL2				LZ					
	comp=Z,410nm,16.9s								
HIA	**Hailar**	**19.26**	**307**	*e*P			**P**	**00 29 49.7**	**-1.5**
HIA				pmax		pmax			
	comp=Z,19nm,0.8s								
HIA	**Hailar**	**19.26**	**307**	*e*P			**P**	**00 29 49.7**	**-1.5**
	comp=Z,20nm,0.8s								
MA2	**Magadan**	**20.19**	**11**	P			**P**	**00 30 01.3**	**+0.1**
	comp=Z,23nm,0.7s,baz=217,slow=9.4,SNR=10								
MA2	**Magadan**	**20.19**	**11**	*e*P			**P**	**00 30 01.8**	**+0.5**
	comp=Z,96nm,0.8s								
**C

comp=Z,8.2nm,0.7s
YULB Yu-li 24.98 235 *e*P P **00 30 49.5 -0.8**
comp=Z,25nm,1.3s
TPUB Ta-pu 25.47 236 *e*P P **00 30 54.2 -0.6**
comp=Z,20nm,0.9s
TWG Pinlang 25.54 235 *e*P P **00 30 54.0 -1.4**
comp=Z,196nm,1.4s
QZH Quanzhou 25.69 242 *e*P P **00 31 03.0 +6.3**
QZH S S **00 35 17.0 -6.4**
QZH LR LR
comp=Z,540nm,19.2s
ULN Ulaanbaatar 27.24 299*c i*P P **00 31 10.9 +0.2**
ULN pmax pmax
comp=Z,21nm,0.9s
ULN Ulaanbaatar 27.24 299 *e*P P **00 31 11.0 +0.2**
comp=Z,20nm,0.9s
SONA1 Songino Array 27.67 299 *e*P P **00 31 14.8 +0.2**
SONM Songino Array 27.68 299 P P **00 31 15.0 +0.4**
comp=Z,9.3nm,0.6s,baz=89,slow=8.7,SNR=79
SONM LR LR 00 42 56.6
comp=Z,309nm,19.9s,baz=93,slow=38
SONM Songino Array 27.68 299 P P **00 31 15.0 +0.4**
SONM pmax pmax
comp=Z,9.0nm,0.6s
SONM MLR MLR
comp=Z,309nm,19.9s
XAN Xi'an 28.13 269 P P **00 31 17.3 -1.4**
XAN pP pP 00 31 26.6 -0.8
XAN PP **PnPn 00 32 08.1 +1.2**
XAN S S **00 36 01.6 -0.4**
XAN PMZ
comp=Z,14nm,0.8s
XAN PMZ
comp=Z,70nm,8.9s
XAN LE
comp=Z,330nm,14.8s
XAN LZ
comp=Z,410nm,14.2s
H11N2 WAKE ISLAND Hy 28.43 128 T T 01 01 00.2
baz=321
H11N1 WAKE ISLAND Hy 28.44 128 T T 01 00 59.3
baz=321
H11N3 WAKE ISLAND Hy 28.45 128 T T 01 01 01.9
baz=321
H11S1 WAKE ISLAND Hy 29.26 130 T T 01 02 08.1
baz=322
H11S3 WAKE ISLAND Hy 29.26 130 T T 01 02 10.0
baz=322
H11S2 WAKE ISLAND Hy 29.28 130 T T 01 02 07.9
baz=322
ENH Enshi 29.31 261 *e*P P **00 31 28.6 -0.6**
comp=Z,45nm,0.9s
TLY Talaya 29.80 307 P P **00 31 33.3 -0.1**
comp=Z,1.8nm,0.3s,baz=33,slow=3.8,SNR=5.0
TLY Talaya 29.80 307 *e*P P **00 31 33.2 -0.1**
TLY pmax pmax
comp=Z,7.0nm,1.3s
TLY MLR MLR
comp=Z,349nm,17.0s
TLY Talaya 29.80 307 *e*P P **00 31 33.9 +0.5**
comp=Z,5.8nm,1.0s
ZAK Zakamensk 29.89 304 *e*P P **00 31 33.4 -0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
BILL Bilibino 30.78 17⇑ *e*P P **00 31 41.4 -0.4**
BILL *i* 00 31 47.2
BILL *i* 00 31 58.3
BILL *e* 00 32 42.1
BILL *e*S S **00 36 48.5 +5.6**
BILL *e*SS **SnSn 00 38 22.5 -0.1**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,68nm,17.0s
BILL Bilibino 30.78 17 *e*P P **00 31 42.5 +0.7**
comp=Z,5.8nm,0.8s
LZH Lanzhou 31.31 276 *e*P P **00 31 47.6 +0.6**
LZH pP pP 00 31 54.7 -1.0
LZH sP sP 00 31 58.6 -0.7
LZH PP **PnPn 00 32 50.6 +0.9**
LZH *e*S S **00 36 49.2 -2.9**
LZH sS sS 00 37 02.1 -4.4
LZH PMZ
comp=Z,27nm,1.0s
LZH PMZ
comp=Z,91nm,5.5s
LZH LN
comp=Z,1μm,14.8s
LZH LE
comp=Z,1μm,14.0s
LZH LZ
comp=Z,1μm,15.0s
MOY Mondy 31.44 306 *e*P P **00 31 48.1 +0.2**
TIXI Tiksi 32.64 351 *e*P P **00 31 57.2 -0.8**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 32.64 351 *e*P P **00 31 57.1 -0.8**
comp=Z,2.8nm,0.6s
GTA Gaotai 33.39 283 ⇓P P **00 32 05.7 +0.6**
GTA pP sP 00 32 16.2 -1.3
GTA sP pP 00 32 20.1 +6.2
GTA S S **00 37 24.2 -0.1**
GTA sS sS 00 37 40.1 +1.3
GTA SS **SnSn 00 39 27.7 +1.1**
GTA PMZ
comp=Z,25nm,1.0s
GTA PMZ
comp=Z,84nm,4.3s
GTA LN
comp=Z,150nm,15.7s
GTA LE
comp=Z,440nm,16.2s
GTA LZ
comp=Z,510nm,17.6s
GYA Guiyang 33.39 258⇑ *i*P P **00 32 04.3 -1.0**
GYA pP pP 00 32 15.2 +1.2
GYA PP **PnPn 00 33 18.2 +1.8**
GYA S S **00 37 24.8 +0.2**
GYA sS sS 00 37 38.6 -0.4
GYA SS **SnSn 00 39 26.0 -1.0**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,420nm,16.7s
GYA LE
comp=Z,360nm,17.0s
GYA LZ
comp=Z,490nm,17.2s
CD2 Chengdu 33.40 267 *e*P P **00 32 04.0 -1.2**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
MIDW Midway 34.19 98 *e*P P **00 32 12.1 +0.1**
comp=Z,290nm,1.9s
GAMB Gambell 35.39 33 *e*P P **00 32 22.8 +0.8**
comp=Z,30nm,1.6s
PATS Pohnpei 35.53 154 *e*P P **00 32 24.6 +0.9**
comp=Z,422nm,1.8s
QIZ Qiongzhong 35.65 244 P P **00 32 26.0 +1.3**
QIZ S S **00 38 02.8 +3.6**
QIZ LN
comp=Z,160nm,16.2s
QIZ LE
comp=Z,190nm,14.9s
QIZ LZ
comp=Z,220nm,18.0s
CHGN Chignik 40.76 46 *e*P P **00 33 08.9 +1.7**
WMQ Urumqi 41.07 294 P P **00 33 10.5 +0.3**
WMQ pP pP 00 33 20.1 +1.1
WMQ sP sP 00 33 25.3 +2.7
WMQ S S **00 39 20.3 -0.7**
WMQ PMZ
comp=Z,11nm,0.8s
WMQ PMZ
comp=Z,61nm,3.6s
WMQ LN
comp=Z,96nm,15.2s
WMQ LE
comp=Z,96nm,18.0s
WMQ LZ
comp=Z,51nm,21.2s
ZAA0 Zalesovo Array 41.25 310 *e*P P **00 33 11.4 +0.1**
ZALV Zalesovo Beam 41.25 310 P P **00 33 11.5 +0.1**
comp=Z,6.5nm,0.5s,baz=85,slow=7.6,SNR=44
ZALV PcP **PcP 00 35 09.7 0.0**
comp=Z,4.0nm,0.7s,baz=74,slow=3.8,SNR=5.7
ZALV LR LR 00 51 08.8
comp=Z,122nm,20.8s,baz=70,slow=37
MYLDM Lahad Datu 41.29 220 *e*P P **00 33 11.5 -0.6**
comp=Z,56nm,1.4s
NRIK Noril'sk 41.37 334 P P **00 33 12.2 +0.1**
comp=Z,3.3nm,0.3s,baz=103,slow=20,SNR=8.1
NRIK LR LR 00 50 31.7
comp=Z,150nm,21.9s,baz=112,slow=36
NVS Novosibirsk 42.09 311 *e*P P **00 33 17.9 -0.3**
NVS pmax pmax
comp=N,2.0nm,1.1s
NVS pmax pmax
comp=E,4.0nm,1.1s
NVS pmax pmax
comp=Z,7.0nm,1.1s
SVW2 Sparrevohn 42.23 39 *e*P P **00 33 19.6 +0.3**
comp=Z,6.8nm,0.8s
CHTO Chiang Mai 43.63 254 *e*P P **00 33 31.0 -0.1**
CHTO pmax pmax
comp=Z,20nm,1.6s
CHTO Chiang Mai 43.63 254 *e*P P **00 33 31.0 -0.1**
comp=Z,20nm,1.6s
CMAR Chiang Mai Arr 43.85 254 P P **00 33 32.7 -0.2**
comp=Z,1.6nm,0.6s,baz=41,slow=7.3,SNR=10
CMAR LR LR 00 53 51.9
comp=Z,107nm,18.4s,baz=55,slow=39
CM01 Chiang Mai Arr 43.86 254 *e*P P **00 33 32.5 -0.5**
CAST Castle Rocks 43.91 36 *e*P P **00 33 33.0 +0.2**
comp=Z,15nm,0.7s
SPU Mount Spurr 43.94 39 *e*P P **00 33 34.1 +0.9**
MK01 Makanchi Array 44.03 300 *e*P P **00 33 33.9 -0.3**
MK31 Makanchi Array 44.04 300 *i* P P **00 33 33.5 -0.6**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 44.04 300 *e*P P **00 33 34.0 -0.1**
MKAR Makanchi Array 44.04 300 P P **00 33 33.9 -0.2**
comp=Z,6.6nm,0.8s,baz=83,slow=9.6,SNR=56
MKAR LR LR 00 52 53.4
comp=Z,138nm,19.4s,baz=66,slow=37
MKAR Makanchi Array 44.04 300 *e*P P **00 33 34.0 -0.2**
HOM Homer 44.21 41 *e*P P **00 33 36.3 +1.0**
comp=Z,88nm,0.9s
MAKZ Makanchi 44.24 300 P P **00 33 34.3 -1.5**
MAKZ pmax pmax
comp=Z,10.0nm,1.1s
MAKZ Makanchi 44.24 300 *e*P P **00 33 35.7 -0.1**
comp=Z,9.8nm,1.0s
BPAW Bear Paw Mtn. 44.41 35 *e*P P **00 33 38.1 +1.3**
comp=Z,2.4nm,0.8s
CNPM China Poot 44.43 41 *e*P P **00 33 37.8 +0.8**
comp=Z,56nm,1.5s
KTH Kantishna Hill 44.43 36 *e*P P **00 33 38.2 +1.1**
comp=Z,16nm,1.6s
SUA Susitna One 44.56 39 *e*P P **00 33 37.9 -0.3**
comp=Z,8.5nm,1.2s
TRF Thorofare Moun 44.72 36 *e*P P **00 33 41.2 +1.7**
comp=Z,11nm,1.6s
COLD Coldfoot 44.82 30 *e*P P **00 33 40.3 +0.2**
comp=Z,2.3nm,0.7s
BWN Browne 45.07 35 *e*P P **00 33 43.9 +1.7**
comp=Z,42nm,1.1s
SEW Seward 45.28 40 *e*P P **00 33 44.8 +1.0**
comp=Z,12nm,0.7s
MCK McKinley 45.32 35 *e*P P **00 33 45.6 +1.5**
MCK pmax pmax
comp=Z,7.0nm,1.2s
MCK McKinley 45.32 35 *e*P P **00 33 45.6 +1.5**
comp=Z,7.4nm,1.2s
PMR Palmer 45.33 38 *e*P P **00 33 44.6 +0.4**
PMR pmax pmax
comp=Z,4.0nm,0.9s
PMR Palmer 45.33 38 *e*P P **00 33 44.6 +0.4**
comp=Z,4.0nm,0.9s
RND Reindeer 45.36 36 *e*P P **00 33 45.2 +0.7**
RND pmax pmax
comp=Z,11nm,1.5s
RND Reindeer 45.36 36 *e*P P **00 33 45.2 +0.7**
comp=Z,11nm,1.5s
KURK Kurchatov 45.49 306 *e*P P **00 33 45.4 -0.3**
KURK pmax pmax
comp=Z,70nm,0.6s
KURK Kurchatov 45.49 306 *e*P P **00 33 45.4 -0.3**
comp=Z,70nm,0.6s
MDM Murphy Dome 45.59 34 *e*P P **00 33 47.4 +1.1**
comp=Z,7.8nm,0.9s
WRH Wood River Hil 45.66 34 *e*P P **00 33 47.4 +0.6**
comp=Z,4.4nm,0.7s
SML Sawmill 45.69 38 *e*P P **00 33 47.9 +0.8**
SML pmax pmax
comp=Z,21nm,1.3s
SML Sawmill 45.69 38 *e*P P **00 33 47.9 +0.8**
comp=Z,21nm,1.3s
COLA College 45.76 34 *i*P P **00 33 47.1 -0.4**
COLA pmax pmax
comp=Z,1.0nm,0.6s
COLA College 45.76 34 *e*P P **00 33 48.5 +1.1**
comp=Z,7.2nm,0.8s
DHY Denali Highway 46.05 36 *e*P P **00 33 51.8 +1.7**
comp=Z,9.5nm,1.4s
IL1 Eielson Array 46.17 34 *e*P P **00 33 50.7 -0.1**
ILAR Eielson Array 46.17 34 P P **00 33 51.1 +0.3**
comp=Z,1.8nm,0.7s,baz=268,slow=6.6,SNR=30
ILB Eielson Array 46.17 34 *e*P P **00 33 51.1 +0.3**
JOHN Johnston Islan 46.70 106 *e*P P **00 33 55.8 +0.3**
comp=Z,203nm,1.0s
KLU Klutina 46.87 38 *e*P P **00 33 56.4 0.0**
comp=Z,3.0nm,0.8s
SBUM Sibu 46.87 225 *e*P P **00 33 55.8 -1.0**
comp=Z,6.1nm,1.1s
PAX Paxson 46.92 36 *e*P P **00 33 57.8 +0.9**
PAX pmax pmax
comp=Z,9.0nm,0.7s
PAX Paxson 46.92 36 *e*P P **00 33 57.8 +0.9**
comp=Z,9.3nm,0.7s
PDGK Podgornoye 46.93 296 P P **00 33 55.9 -1.1**
PDGK pmax pmax
comp=Z,6.0nm,0.7s
DIV Divide 46.98 39 *e*P P **00 33 58.2 +1.0**
comp=Z,11nm,1.4s
EYAK Cordova Ski Ar 47.07 40 *e*P P **00 33 58.1 +0.3**
comp=Z,14nm,1.4s
DOT Dot Lake 47.49 35 *e*P P **00 34 01.6 +0.5**
comp=Z,5.6nm,0.7s
BMRM Bremner River 47.57 39 *e*P P **00 34 03.4 +1.5**
comp=Z,6.3nm,1.0s
CRQM Cirque 48.31 39 *e*P P **00 34 08.9 +1.2**
comp=Z,6.2nm,0.8s
GUN Gumba 48.55 274 *e*P P **00 34 10.3 +0.1**
comp=Z,66nm,0.6s
EGAK Eagle 48.62 34 *e*P P **00 34 10.3 +0.5**
comp=Z,6.5nm,0.9s
KSM Kuching 48.74 227 *e*P P **00 34 11.4 +0.1**
comp=Z,7.3nm,0.8s
SAUI Saumlaki 48.99 196 *e*P P **00 34 13.5 +0.3**
comp=Z,481nm,0.9s
KKN Kakani 49.07 274 *e*P P **00 34 14.0 0.0**
comp=Z,51nm,0.6s
PKIN Phulchoki 49.08 274 *e*P P **00 34 14.1 -0.1**
comp=Z,19nm,0.7s
GKN Gorkha 49.45 275 *e*P P **00 34 16.7 -0.2**
comp=Z,17nm,0.5s
VOSK Vostochnaya 49.62 310 P P **00 34 16.8 -0.9**
VOSK pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 49.74 297 P P **00 34 18.2 -0.8**
TKM2 pmax pmax
comp=Z,26nm,0.9s
TKM2 Tokmak 2 49.74 297 *e*P P **00 34 19.5 +0.5**
comp=Z,25nm,0.8s
KAPI Kappang 49.79 212 *e*P P **00 34 18.8 -0.5**
comp=Z,19nm,1.3s
BVAO Borovoye Array 49.88 311 *i*P P **00 34 19.6 0.0**
BVA0 pmax pmax
comp=Z,9.0nm,1.2s
BVAR Borovoye Array 49.88 311 LR LR 00 56 35.7
comp=Z,143nm,19.5s,baz=73,slow=38
BRVK Borovoye 49.93 311⇓ *i*P P **00 34 19.8 -0.2**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 49.93 311 *e*P P **00 34 20.2 +0.2**
comp=Z,35nm,1.2s
OTUK Ortayu 50.10 304 P P **00 34 20.3 -1.1**
OTUK pmax pmax
comp=Z,5.0nm,0.7s
KOLN Koldanda 50.36 275 *e*P P **00 34 24.0 +0.1**
comp=Z,6.4nm,0.3s
FRU Bishkek 50.45 297 *e*P P **00 34 22.0 -2.1**
FRU *e* 00 34 31.0
AAK Ala-Archa 50.60 297 LR LR 00 56 59.6
comp=Z,183nm,18.2s,baz=57,slow=37
AAK Ala-Archa 50.60 297⇑ *i*P P **00 34 25.0 -0.5**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 50.60 297 *e*P P **00 34 25.1 -0.4**
comp=Z,6.9nm,1.0s
PYUN Piuthan 50.66 276 *e*P P **00 34 26.2 0.0**
comp=Z,35nm,0.7s
ZRNK Zerenda 50.70 311 P P **00 34 24.9 -1.0**
ZRNK pmax pmax
comp=Z,10.0nm,0.6s
ZRNK Zerenda 50.70 311 *e*P P **00 34 26.1 +0.3**
comp=Z,11nm,0.7s
KSH Kashi 50.77 293 *e*P P **00 34 28.2 +1.5**
KSH pP sP 00 34 37.9 -1.4
KSH PcP **PcP 00 35 44.0 +0.6**
KSH PP **PP 00 36 24.5 +1.7**
KSH S S **00 41 37.9 -2.6**
KSH PMZ
comp=Z,7.0nm,0.8s
KSH PMZ
comp=Z,63nm,3.8s
KSH LN
comp=Z,170nm,8.4s
KSH LE
comp=Z,170nm,13.3s
KSH LZ
comp=Z,320nm,15.9s
INK Inuvik 51.06 28 P P **00 34 28.7 +0.5**
comp=Z,2.7nm,0.5s,baz=302,slow=7.1,SNR=21
INK Inuvik 51.06 28 *e*P P **00 34 28.9 +0.6**
comp=Z,14nm,1.5s
EKS2 Erkin-Say 51.09 297 *e*P P **00 34 28.9 -0.2**
EKS2 pmax pmax
comp=Z,8.0nm,0.7s
EKS2 Erkin-Say 51.09 297 *e*P P **00 34 28.9 -0.2**
comp=Z,8.2nm,0.7s
KULM Kulim 51.70 240 *e*P P **00 34 34.2 +0.5**
comp=Z,8.2nm,1.0s
MNAS Manas 52.02 297 P P **00 34 34.9 -1.2**
MNAS pmax pmax
comp=Z,14nm,0.7s
IPM Ipoh 52.05 239 *e*P P **00 34 36.1 -0.3**
comp=Z,6.4nm,0.7s
KK31 Karatay Array 53.13 299 *i*P P **00 34 42.9 -1.2**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 53.13 299 *e*P P **00 34 43.6 -0.5**
KKAR Karatay Array 53.13 299 *e*P P **00 34 43.6 -0.5**
SVE Sverdlovsk 54.09 318⇓ *e*P P **00 34 51.4 +0.5**
SVE pmax pmax
comp=Z,19nm,0.8s
SVE MLR MLR
comp=Z,737nm,16.0s
PSI Prapat 54.69 239 *e*P P **00 34 55.3 -0.6**
PSI pmax pmax
comp=Z,9.0nm,0.9s
PSI Prapat 54.69 239 *e*P P **00 34 55.3 -0.6**
comp=Z,8.9nm,0.9s
WRAK Wrangell Islan 54.89 43 *e*P P **00 34 57.0 +0.3**
comp=Z,29nm,1.8s
ARU Arti 55.30 318 LR LR 01 01 19.3
comp=Z,260nm,19.1s,baz=52,slow=39
ARU Arti 55.30 318*c i*P P **00 34 59.6 -0.1**
ARU 00 35 59.4
ARU 00 37 01.5
ARU PPP PPP 00 38 14.4
ARU S S **00 42 45.0 +3.5**
ARU SS SS **00 46 25.9 +0.5**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU MLR MLR
comp=Z,408nm,15.0s
ARU Arti 55.30 318 *e*P P **00 34 59.5 -0.2**
comp=Z,22nm,1.3s
GSI Gunungsitoli 56.70 239 *e*P P **00 35 10.3 +0.1**
comp=Z,10.0nm,0.9s
AB31 Akbulak array 57.35 309 *i*P P **00 35 13.9 -0.5**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 57.35 309 *e*P P **00 35 14.4 0.0**
KBL Kabul 57.94 290 *e*P P **00 35 18.6 -0.4**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 57.94 290 *e*P P **00 35 18.6 -0.4**
comp=Z,7.8nm,0.8s
AKTO Aktyubinsk 57.98 311 LR LR 01 01 42.5
comp=Z,108nm,18.2s,slow=38
AKTO Aktyubinsk 57.98 311 P P **00 35 18.1 -0.8**
AKTO pmax pmax
comp=Z,5.0nm,0.8s
SPA0 Spitsbergen Ar 58.00 349 *e*P P **00 35 19.9 +1.3**
KBS Kingsbay 58.09 350 *e*P P **00 35 20.1 +1.0**
KBS pmax pmax
comp=Z,6.0nm,0.8s
KBS Kingsbay 58.09 350 *e*P P **00 35 20.1 +1.0**
comp=Z,5.6nm,0.8s
FUNA Funafuti 58.43 137 *e*P P **00 35 23.5 +1.2**
comp=Z,62nm,0.9s
WRA Warramunga Arr 60.18 190 P P **00 35 32.4 -1.8**
comp=Z,4.1nm,0.6s,baz=8.5,slow=6.9,SNR=37
YKA Yellowknife Ar 60.48 31 P P **00 35 35.9 0.0**
comp=Z,1.1nm,0.7s,baz=300,slow=6.5,SNR=7.2
ARCES ARCESS Array B 61.87 339 P P **00 35 45.2 -0.1**
comp=Z,2.0nm,0.7s,baz=46,slow=7.4,SNR=9.2
ARCES LR LR 01 05 20.6
comp=Z,90nm,21.6s,baz=34,slow=39
KLMR Klimovskoe 62.19 328 *e*P P **00 35 44.4 -3.1**
KLMR *e* 00 36 26.2
KLMR pmax pmax
comp=Z,8.0nm,1.0s
C03A Quillayute Air 62.87 49 *e*P P **00 35 52.2 -0.1**
DAG Danmarks Havn 63.02 355 *i*P P **00 35 51.9 -0.9**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 63.02 355 *i*P P **00 35 51.9 -0.9**
comp=Z,5.5nm,0.9s
GEYT Alibeck 63.88 299 P P **00 35 58.8 -0.4**
comp=Z,5.7nm,0.8s,baz=35,slow=5.4,SNR=14
AS01 Alice Springs 63.89 190 *e*P P **00 35 57.8 -1.4**
ASAR Alice Springs 63.90 190 P P **00 35 58.0 -1.3**
comp=Z,1.9nm,0.6s,baz=9.7,slow=5.5,SNR=30
ASAR Alice Springs 63.90 190 P P **00 35 58.0 -1.3**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
VRH Novokhopyorsk 66.54 318 *e*P P **00 36 14.4 -1.7**
VRH pmax pmax
comp=Z,10.0nm,1.1s
VRH MLR MLR
comp=Z,290nm,13.0s
OBN Obninsk 66.76 323⇓ *e*P P **00 36 17.4 0.0**
OBN *e*S S **00 45 06.0 -1.3**
OBN *e*SS SS **00 49 21.0 -3.5**
OBN pmax pmax
comp=Z,15nm,1.3s
OBN MLR MLR
comp=Z,243nm,16.0s
FINES FINESS Array B 67.02 332 P P **00 36 18.6 -0.3**
comp=Z,6.4nm,0.7s,baz=38,slow=6.0,SNR=24
FINES LR LR 01 08 50.0
comp=Z,256nm,18.2s,baz=16,slow=39
LPSR Galich'ya Gora 67.13 320 *e*P P **00 36 19.2 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR MLR MLR
comp=Z,280nm,19.0s
COCO West Island 67.56 230 *i*P P **00 36 24.2 +1.2**
SUMG Summit 67.78 1 *i*P P **00 36 24.8 +0.7**
SUMG pmax pmax
comp=Z,7.0nm,0.7s
SUMG Summit 67.78 1 *i*P P **00 36 24.8 +0.7**
comp=Z,6.8nm,0.7s
SUMG Summit 67.78 1 *e*P P **00 36 24.9 +0.8**
comp=Z,7.5nm,0.7s
VSR Storozhevoye 67.83 319 *e*P P **00 36 23.3 -1.0**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VSR MLR MLR
comp=Z,190nm,14.0s
K05A Summer Lake 67.85 52 *e*P P **00 36 26.7 +1.9**
comp=Z,17nm,1.3s

BMO Blue Mountains 68.77 49 *e*P **P 00 36 28.0 -2.5**
comp=Z,2.2nm,0.8s
GOF Gofitskoye 69.39 312⇑*e*P **P 00 36 34.7 +0.6**
GOF pmax pmax
comp=Z,25nm,0.8s
ZEI Tsey 70.23 310 *e*P **P 00 36 38.4 -1.2**
ZEI pmax pmax
comp=Z,19nm,0.9s
KIV Kislovodsk 70.25 311 *e*P **P 00 36 40.0 +0.4**
KIV pmax pmax
comp=Z,31nm,0.9s
KIV Kislovodsk 70.25 311 *e*P **P 00 36 40.3 +0.7**
comp=Z,28nm,0.9s
KBZ Khabaz 70.26 311 P **P 00 36 40.4 +0.9**
comp=Z,10nm,0.8s,baz=63,slow=4.0,SNR=21
PAHR Pah Rah Range 70.52 54 *e*P **P 00 36 42.5 +1.1**
comp=Z,7.4nm,1.3s
NEY Neytrino 70.65 310 *i* P **P 00 36 43.0 +0.9**
NEY pmax pmax
comp=Z,2.0nm,0.8s
LRM Limekiln Ridge 70.94 46 *e*P **P 00 36 44.9 +0.9**
DLMT Dillon 71.14 46 *e*P **P 00 36 46.2 +1.1**
comp=Z,6.6nm,1.2s
HLID Hailey 71.21 49 *e*P **P 00 36 46.8 +1.2**
comp=Z,2.9nm,0.9s
GNI Garni 71.29 307⇓*e*P **P 00 36 47.4 +1.3**
GNI pmax pmax
comp=Z,33nm,1.2s
GNI Garni 71.29 307 *e*P P 00 36 52.2 +6.1
STKA Stephens Creek 71.47 182 P **P 00 36 45.8 -1.0**
comp=Z,0.9nm,0.6s,baz=318,slow=9.5,SNR=2.9
BOZ Bozeman (W) 71.50 46 *e*P **P 00 36 47.1 -0.1**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 71.50 46 *e*P **P 00 36 47.1 -0.1**
comp=Z,3.6nm,0.8s
NC405 NORSAR Array S 71.94 338 *e*P **P 00 36 49.4 0.0**
NV01 Mina Array Sit 71.95 55 *e*P **P 00 36 50.9 +0.7**
NVAR Mina Array Bea 71.95 55 P **P 00 36 49.8 -0.4**
comp=Z,1.1nm,0.8s,baz=291,slow=7.5,SNR=13
NC204 NORSAR Array S 72.08 338 *e*P **P 00 36 50.3 0.0**
NB201 NORSAR Array S 72.11 338 *e*P **P 00 36 50.4 -0.1**
NB2 NORSAR Subarra 72.14 338 P **P 00 36 50.3 -0.3**
comp=Z,3.4nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 72.14 338 P **P 00 36 50.4 -0.3**
comp=Z,4.7nm,0.8s,baz=37,slow=6.0,SNR=18
NOA LR LR 01 12 47.6
comp=Z,87nm,18.0s,baz=35,slow=39
NBO02 NORSAR Array S 72.24 338 *e*P **P 00 36 51.4 +0.2**
AKASG Malin Array Be 73.00 323 P **P 00 36 55.5 -0.4**
comp=Z,3.9nm,0.7s,baz=44,slow=6.0,SNR=17
AKASG LR LR 01 10 56.9
comp=Z,58nm,18.6s,baz=55,slow=37
AKBB Malin Array Si 73.00 323 *e*P **P 00 36 55.8 -0.1**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 73.00 323 *e*P **P 00 36 55.8 -0.1**
comp=Z,6.3nm,0.9s
KIEV Kiev 73.02 323 *e*P **P 00 36 55.5 -0.5**
KIEV pmax pmax
comp=Z,7.0nm,0.8s
KIEV Kiev 73.02 323 *e*P **P 00 36 55.5 -0.5**
comp=Z,7.0nm,0.8s
AK11 Malin Array Si 73.04 323 *e*P **P 00 36 55.9 -0.2**
FXWY Fox Creek 73.09 47 *e*P **P 00 36 58.3 +1.4**
comp=Z,4.6nm,1.3s
R11A Troy Canyon, C 73.70 54 *e*P **P 00 37 01.1 +0.6**
comp=Z,2.2nm,0.8s
DAC Darwin (Calif) 73.71 56 *e*P **P 00 37 00.0 -0.6**
DAC pmax pmax
comp=Z,7.0nm,1.4s
DAC Darwin (Calif) 73.71 56 *e*P **P 00 37 00.0 -0.6**
comp=Z,6.9nm,1.4s
TPNV Topopah Spring 74.15 55 *e*P **P 00 37 03.9 +0.8**
TPNV pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 74.15 55 *e*P **P 00 37 03.9 +0.8**
comp=Z,6.8nm,1.1s
DUG Dugway, Tooele 74.23 51 *e*P **P 00 37 04.5 +1.0**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 74.23 51 *e*P **P 00 37 04.5 +1.0**
comp=Z,3.2nm,0.8s
PDAR Pinedale Array 74.47 47 P **P 00 37 04.8 -0.2**
comp=Z,0.9nm,0.3s,baz=318,slow=2.0,SNR=5.2
SHPR Sheep Range 75.11 55 *e*P **P 00 37 10.6 +1.9**
comp=Z,2.6nm,0.9s
LCMT Little Creek M 75.98 53 *e*P **P 00 37 14.9 +1.2**
comp=Z,3.7nm,1.0s
ULM Lac du Bonnet 76.18 35 LR LR 01 15 05.2
comp=Z,25nm,18.2s,baz=255,slow=39
SRU San Rafael Swe 76.28 50 *e*P **P 00 37 16.5 +1.1**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 76.28 50 *e*P **P 00 37 16.5 +1.1**
comp=Z,5.5nm,0.9s
KWP Kalwaria Pacla 76.72 325 *e*P **P 00 37 17.8 +0.4**
KWP Kalwaria Pacla 76.72 325 *e*P **P 00 37 17.8 +0.4**
U15A North Rim 76.94 53 *e*P **P 00 37 20.6 +1.3**
BUR08 Bucovina Ar. S 77.03 322 *e*P **P 00 37 19.6 +0.3**
BURAR Bucovina Array 77.04 322⇑*i*P **P 00 37 19.6 +0.2**
BURAR Bucovina Array 77.04 322 ⇑P **P 00 37 19.6 +0.2**
TESR Tescani 77.15 321⇑*i*P **P 00 37 20.1 +0.2**
CFR Carcaliu 77.35 319⇑*i*P **P 00 37 20.0 -1.0**
CFR Carcaliu 77.35 319 ⇑P **P 00 37 20.0 -1.0**
KOLS Kolonicke sedl 77.43 325 *e*P **P 00 37 21.5 +0.1**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 77.43 325 *e*P **P 00 37 21.5 +0.1**
STHS Stebnicka Huta 77.52 326 *e*P **P 00 37 22.7 +0.8**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 77.52 326 *e*P **P 00 37 22.7 +0.8**
OJC Ojcow 77.53 327 *e*P **P 00 37 22.4 +0.4**
OJC Ojcow 77.53 327 *e*P **P 00 37 21.7 -0.3**
OJC pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 77.53 327 *e*P **P 00 37 21.6 -0.3**
comp=Z,9.3nm,0.9s
VRI Vrincioaia 77.57 320⇑*i*P **P 00 37 23.4 +1.1**
VRI Vrincioaia 77.57 320 ⇑P **P 00 37 23.4 +1.1**
CRVS Cervenica-Dubn 77.81 325 *e*P **P 00 37 23.9 +0.3**
CRVS Cervenica-Dubn 77.81 325 *e*P **P 00 37 23.9 +0.3**
NIE Niedzica 77.93 326 *e*P **P 00 37 25.2 +1.0**
NIE Niedzica 77.93 326 *e*P **P 00 37 25.2 +1.0**
Y14A Wickenburg 78.10 56 *e*P **P 00 37 30.1 +4.6**
BR131 Keskin Array S 78.14 312 *e*P **P 00 37 26.1 +0.3**
BRTR Keskin Array B 78.14 312 P **P 00 37 25.8 0.0**
comp=Z,1.5nm,0.7s,baz=71,slow=3.9,SNR=10
BRTR LR LR 01 16 54.2
comp=Z,29nm,18.9s,baz=355,slow=40
LANS Liptovska Anna 78.48 326 *e*P **P 00 37 28.3 +1.0**
LANS Liptovska Anna 78.48 326 *e*P **P 00 37 28.3 +1.0**
KSP Ksiaz 78.49 329 *e*P **P 00 37 28.1 +0.8**
KSP Ksiaz 78.49 329 *e*P **P 00 37 28.1 +0.8**
OKC Ostrava-Krasne 78.52 327 *e*P **P 00 37 27.9 +0.5**
OKC AMS AMS 01 17 00.0
comp=Z,100nm,13.0s
OKC Ostrava-Krasne 78.52 327 *e*P **P 00 37 27.9 +0.5**
OKC MLR MLR
comp=Z,100nm,13.0s
ANTO Ankara 78.53 313 *e*P **P 00 37 28.5 +0.7**
ANTO pmax pmax
comp=Z,11nm,0.7s
ANTO Ankara 78.53 313 *e*P **P 00 37 28.5 +0.7**
comp=Z,11nm,0.7s
BR231 Keskin MP Arra 78.56 313 *e*P **P 00 37 28.8 +0.8**
VOIR 78.69 321⇑*i*P **P 00 37 27.8 -0.8**
VOIR 78.69 321 ⇑P **P 00 37 27.8 -0.8**
MORC Moravsky Berou 78.81 328⇑*i*P **P 00 37 29.8 +0.7**
MORC Moravsky Berou 78.81 328 ⇑P **P 00 37 29.8 +0.7**
MORC Moravsky Berou 78.81 328 *e*P **P 00 37 29.8 +0.7**
comp=Z,25nm,0.9s
DPC Dobruska-Polom 78.86 329 *e*P **P 00 37 30.2 +0.8**
DPC Dobruska-Polom 78.86 329 *e*P **P 00 37 30.2 +0.8**
ARR Arges 78.95 321⇑*i*P **P 00 37 31.4 +1.4**
PSZ Piszkesteto 79.24 325⇓*i*P **P 00 37 32.8 +1.3**
PSZ Piszkesteto 79.24 325 ⇓P **P 00 37 32.8 +1.3**
PSZ Piszkesteto 79.24 325 *e*P **P 00 37 32.4 +0.9**
comp=Z,6.7nm,0.9s
VYHS Vyhne 79.26 326 *e*P **P 00 37 31.5 0.0**
VYHS pmax pmax
comp=Z,2.0nm,0.8s
VYHS Vyhne 79.26 326 *e*P **P 00 37 31.5 0.0**
BRG Berggiesshubel 79.38 330 *e*P **P 00 37 32.1 0.0**
comp=Z,2.7nm,0.8s
BRG Berggiesshubel 79.38 330 *e*P **P 00 37 32.1 0.0**
BRG pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 79.38 331⇑*i*P **P 00 37 31.8 -0.3**
comp=Z,8.0nm,0.9s
CLL *i* 00 37 50.7
CLL LmV 01 16 00.0
comp=Z,100nm,19.7s
CLL Collm 79.38 331⇑*i*P **P 00 37 31.8 -0.3**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 79.38 331 *e*P **P 00 37 32.2 +0.1**
comp=Z,7.5nm,0.9s
PVCC Panska Ves 79.41 330 *e*P **P 00 37 32.8 +0.5**
PVCC *e*pP **PcP 00 37 40.8 +0.4**
PVCC AMS AMS 01 17 00.0
comp=Z,200nm,13.9s
PVCC Panska Ves 79.41 330 *e*P **P 00 37 32.8 +0.5**
PVCC *e* 00 37 40.8
PVCC MLR MLR
comp=Z,200nm,13.9s
VRAC Vranov 79.56 328 LR LR 01 15 53.3
comp=Z,89nm,18.5s,baz=356,slow=38
VRAC Vranov 79.56 328⇓*i*P **P 00 37 34.0 +0.8**
VRAC Vranov 79.56 328 ⇓P **P 00 37 34.0 +0.8**
GOPC GO Pecny, Ondr 79.81 329 *e*P **P 00 37 35.2 +0.6**
GOPC GO Pecny, Ondr 79.81 329 *e*P **P 00 37 35.2 +0.6**
PRU Pruhonice 79.85 329 *e*P **P 00 37 35.3 +0.6**
PRU AMS AMS 01 18 10.0
PRU Pruhonice 79.85 329 *e*P **P 00 37 35.3 +0.6**
TREC Trest 80.03 328 *e*P **P 00 37 36.2 +0.5**
TREC AMS AMS 01 18 30.0
comp=Z,200nm,13.4s
TREC Trest 80.03 328 *e*P **P 00 37 36.2 +0.5**
TREC MLR MLR
comp=Z,200nm,13.4s
NKC Novy Kostel 80.46 331 *e*P **P 00 37 38.3 +0.3**
NKC Novy Kostel 80.46 331 *e*P **P 00 37 38.3 +0.3**
KHC Kasperske Hory 80.91 329 *e*P **P 00 37 40.9 +0.4**
KHC AMS AMS 01 18 10.0
comp=Z,200nm,14.0s
KHC Kasperske Hory 80.91 329 *e*P **P 00 37 40.9 +0.4**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 80.91 329 *e*P **P 00 37 40.9 +0.4**
comp=Z,2.5nm,0.9s
CONA Conrad Observa 80.95 327 *i* P **P 00 37 38.1 -2.7**
comp=Z,5.0nm,1.0s,SNR=6.4
GERES GERESS Array B 81.09 329 P **P 00 37 41.4 -0.1**
comp=Z,1.4nm,0.6s,baz=37,slow=5.8,SNR=19
GERES LR LR 01 17 36.1
comp=Z,72nm,18.0s,baz=358,slow=39
GEA0 GERESS Array S 81.10 329 *e*P **P 00 37 41.4 -0.2**
ASF Jabal al Asfar 81.24 305 LR LR 01 16 04.4
comp=Z,73nm,21.0s,slow=37
ANMO Albuquerque 81.48 51 *e*P **P 00 37 44.6 +0.6**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 81.48 51 *e*P P 00 37 48.9 +4.9
comp=Z,4.5nm,1.1s
ARSA Arzberg 81.62 327 *i* P **P 00 37 44.6 +0.3**
comp=Z,2.3nm,0.6s,SNR=5.0
GROS Grobnik 82.26 327 *i* P **P 00 37 47.5 -0.2**
SOKA Soboth 82.28 327 *i* P **P 00 37 48.0 +0.2**
comp=Z,6.9nm,0.7s,SNR=15
OBKA Obir 82.62 327 *i* P **P 00 37 49.6 0.0**
comp=Z,5.1nm,0.7s,SNR=5.3
KBA Koelnbreinsper 82.66 328 *i* PcP **P 00 37 51.1 +1.1**
comp=Z,6.5nm,0.8s
MYKA Terra Mystica 82.90 328 *i* P **P 00 37 50.8 -0.2**
comp=Z,3.1nm,0.7s
WTTA Wattenberg 83.19 329 *i* P **P 00 37 49.6 -3.0**
comp=Z,4.0nm,1.0s
JAVS Javornik 83.31 327 *i* P **P 00 37 52.2 -1.0**
MOTA Moosalm 83.33 330 *i* P **P 00 37 53.5 +0.1**
comp=Z,7.2nm,0.9s
RETA Reutte 83.35 330 *i* P **P 00 37 53.6 +0.3**
comp=Z,6.2nm,1.0s,SNR=5.3
BFO Black Forest 83.56 332 *i* P **P 00 37 55.0 +0.7**
FETA Feichten 83.74 330 *i* P **P 00 37 55.9 +0.4**
comp=Z,5.0nm,0.9s,SNR=5.3
DAVA Damuels 83.85 330 *i* P **P 00 37 56.3 +0.3**
comp=Z,5.3nm,0.7s
FUORN Ofenpass-Fuorn 84.25 330 *e*P **P 00 37 58.9 +0.7**
comp=Z,12nm,0.6s
MNTX Cornudas Mount 84.36 53 *e*P **P 00 37 59.2 +0.5**
comp=Z,2.9nm,1.0s
TUE Stuetta 84.73 330 *e*P **P 00 38 00.8 +0.2**
comp=Z,4.0nm,0.7s
TX31 Lajitas Ar. Si 87.06 54 *e*P **P 00 38 12.9 +0.6**
TXAR Lajitas Array 87.06 54 P **P 00 38 12.5 +0.2**
comp=Z,0.8nm,0.7s,baz=300,slow=3.4,SNR=13
ESDC Sonseca Array 95.38 335 P **P 00 38 50.7 -0.1**
comp=Z,0.3nm,0.7s,baz=29,slow=4.0,SNR=3.4
TORD Torodi Ar. Bea 116.37 318 PKP **PKPdf 00 44 08.8 -1.6**
comp=Z,0.2nm,0.9s,baz=53,slow=3.3,SNR=2.8
LPAZ La Paz 143.79 59 PKP **PKPdf 00 45 03.8 +1.1**
comp=Z,1.0nm,0.9s,baz=261,slow=3.5,SNR=3.8
SNAA Sanae 144.00 197 *e*PKIKP PKPab 00 44 57.8 -0.3
SNAA Sanae 144.00 197 *e*PKPdf PKPab 00 44 57.8 -0.3

JMA 13 00:27:24.3±0.2,**37.95N**×**143.45E**,**h24**km,**M3.9**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.73**	**288**	P		Pn	00 27 53.6	+0.7
JIO				*e*S		Sn	00 28 15.4	+1.2
OFUJ	**Ofunato**	**1.80**	**309**	P		Pn	00 27 54.6	+0.8
JMK	**Ichinoseki**	**2.02**	**300**	P		Pn	00 27 57.9	+1.1
JMK				*e*S		Sb	00 28 23.2	-1.7
JOU	**Okura**	**2.23**	**282**	P		Pn	00 28 01.3	+1.5
JOU				*e*S		Sb	00 28 29.2	-2.0
JOM	**Ohasama**	**2.27**	**313**	*e*S		Sn	00 28 29.7	+2.1
JFT	**Otama**	**2.51**	**261**	*e*S		Sn	00 28 34.2	+0.8
JANG	**Nango**	**2.85**	**329**	*e*S		Sn	00 28 41.6	-0.2
JTM	**Tenmabayashi**	**3.38**	**328**	*e*S		Sn	00 28 56.1	+1.2
JAG	**Ashikaga**	**3.54**	**246**	P		Pn	00 28 18.1	+0.4

ISCJB ***13*** *00:29:42.3±0.6,43.39S±0.03×172.25E±0.05,h12km±4km, mb3.6/2,Error ellipse: s-maj=6.9km s-min=3.5km az=43.5*
NEIC ***13*** *00:29:44.1,43.37S×172.16E,h11km,ML4.3(WEL),After WEL.*
NEIC Felt in central Canterbury.
WEL ***13*** *00:29:44.2±0.1,43.37S×172.17E,h7km±1km,ML4.3/34, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0,7.*
WEL Felt between West Coast, Otago and Canterbury, maximum reported intensity MM.
IDC ***13*** *00:29:44.3±1.6,43.22S×172.07E,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.6/15,mbtmp3.7/2,MS3.5/1,Ms1 3.5/1, ms1mx2.9/17,Error ellipse: s-maj=43.8km s-min=12.8km az=139.0*

ISC 13 00:29:43.1±0.9,**43.38S**±0.03×**172.21E**±0.03,**h10**km±6km, **n100,**₀**0**⁵**98/99,5C-2D,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.14**	**292**	⇓PG		**Pg**	**00 29 46.3**	**+0.1**
OXZ				SG		**Sg**	**00 29 48.0**	**-0.4**
OXZ	**Oxford**	**0.14**	**292**	Pg		**Pg**	**00 29 46.3**	**+0.1**
OXZ				Sg		**Sg**	**00 29 48.0**	**-0.4**
CRLZ	**Canterbury Las**	**0.36**	**124**	PG		**Pb**	**00 29 51.9**	**+0.3**
CRLZ				AML		AML	00 30 01.2	
CRLZ				AML		AML	00 30 02.3	
CRLZ	**Canterbury Las**	**0.36**	**124**	P*		**Pb**	**00 29 51.9**	**+0.3**
MQZ	**McQueen's Vall**	**0.46**	**136**	⇓P*		**Pb**	**00 29 53.6**	**+0.3**
MQZ				AML		AML	00 30 01.5	
MQZ				AML		AML	00 30 03.9	
MQZ	**McQueen's Vall**	**0.46**	**136**	P*		**Pb**	**00 29 53.6**	**+0.3**
LTZ	**Lake Taylor**	**0.59**	**4**	⇑P*		**Pb**	**00 29 55.8**	**+0.2**
LTZ				AML		AML	00 30 04.4	
LTZ				AML		AML	00 30 04.4	
LTZ	**Lake Taylor**	**0.59**	**4**	P*		**Pb**	**00 29 55.8**	**+0.2**
RPZ	**Rata Peaks**	**0.91**	**248**	Pg		**Pb**	**00 30 01.2**	**+0.3**
	720nm,0.3s,baz=60,slow=1.7,SNR=812							
RPZ				Lg		Lg	00 30 13.9	
	336nm,0.3s,baz=310,slow=16,SNR=24							
RPZ				LR		LR	00 30 26.4	
	comp=Z,606nm,18.5s,baz=289,slow=47							
RPZ	**Rata Peaks**	**0.91**	**248**	⇑P*		**Pb**	**00 30 01.1**	**+0.3**
RPZ						AML	AML	00 30 17.7
RPZ						AML	AML	00 30 20.2
RPZ	**Rata Peaks**	**0.91**	**248**	*e*Pg		**Pb**	**00 30 01.3**	**+0.4**
WVZ	**Waitaha Valley**	**1.12**	**285**	P*		**Pn**	**00 30 04.8**	**+0.1**
WVZ						AML	AML	00 30 23.1
WVZ						AML	AML	00 30 26.1
WVZ	**Waitaha Valley**	**1.12**	**285**	P*		**Pb**	**00 30 03.6**	**-0.8**
KHZ	**Kahutara**	**1.37**	**46**	⇑PN		**Pn**	**00 30 08.2**	**+0.1**
KHZ	**Kahutara**	**1.37**	**46**	*e*Pn		**Pn**	**00 30 08.3**	**+0.1**
DSZ	**Denniston Nort**	**1.66**	**349**	AML		AML	00 30 38.2	
DSZ				AML		AML	00 30 38.2	
DSZ				AML		AML	00 30 39.7	
DSZ				AML		AML	00 30 39.7	
THZ	**Tophouse**	**1.69**	**18**	PN		**Pn**	**00 30 12.6**	**-0.1**
THZ				AML		AML	00 30 42.1	
THZ				AML		AML	00 30 42.2	
THZ	**Tophouse**	**1.69**	**18**	Pn		**Pn**	**00 30 12.8**	**+0.1**
FOZ	**Fox Glacier**	**1.75**	**264**	PN		**Pb**	**00 30 14.6**	**-0.6**
FOZ				AML		AML	00 30 42.9	
FOZ				AML		AML	00 30 42.9	
FOZ				AML		AML	00 30 44.9	
FOZ				AML		AML	00 30 46.9	
FOZ	**Fox Glacier**	**1.75**	**264**	Pn		**Pb**	**00 30 14.8**	**-0.4**
LBZ	**Lake Benmore**	**1.78**	**235**	PN		**Pn**	**00 30 13.9**	**0.0**
LBZ				AML		AML	00 30 51.8	
LBZ				AML		AML	00 30 51.8	
LBZ				AML		AML	00 30 53.9	
LBZ				AML		AML	00 30 53.9	
LBZ	**Lake Benmore**	**1.78**	**235**	Pn		**Pn**	**00 30 14.1**	**+0.2**
ODZ	**Otahua Downs**	**2.01**	**213**	⇑PN		**Pn**	**00 30 16.7**	**-0.3**
ODZ				AML		AML	00 30 26.4	
ODZ				AML		AML	00 30 26.4	
ODZ				AML		AML	00 30 57.9	
ODZ				AML		AML	00 30 57.9	
ODZ	**Otahua Downs**	**2.01**	**213**	*e*Pn		**Pn**	**00 30 16.8**	**-0.3**
ODZ				*e*Pg		**Pg**	**00 30 22.5**	**+0.9**
ODZ				*e*Sg		**Sg**	**00 30 48.1**	**+0.4**
BSWZ	**Blackbirch Sta**	**2.07**	**37**	PN		**Pn**	**00 30 18.4**	**+0.6**
BSWZ				AML		AML	00 30 27.4	
BSWZ				AML		AML	00 31 04.7	
BSWZ	**Blackbirch Sta**	**2.07**	**37**	Pn		**Pn**	**00 30 18.4**	**+0.6**
NNZ	**Nelson**	**2.33**	**22**	PN		**Pn**	**00 30 22.0**	**+0.7**
NNZ				AML		AML	00 31 12.3	
NNZ				AML		AML	00 31 14.7	
NNZ				AML		AML	00 31 14.7	
NNZ	**Nelson**	**2.33**	**22**	Pn		**Pn**	**00 30 21.9**	**+0.7**
TUWZ	**Tuamarina**	**2.33**	**34**	PN		**Pn**	**00 30 21.4**	**0.0**
TUWZ				AML		AML	00 31 12.1	
TUWZ				AML		AML	00 31 12.2	
TUWZ	**Tuamarina**	**2.33**	**34**	Pn		**Pn**	**00 30 21.6**	**0.0**
QRZ	**Quartz Range**	**2.56**	**5**	PN		**Pn**	**00 30 24.7**	**+0.1**
QRZ				AML		AML	00 31 09.7	
QRZ				AML		AML	00 31 09.7	
QRZ				AML		AML	00 31 13.1	
QRZ				AML		AML	00 31 13.2	
QRZ	**Quartz Range**	**2.56**	**5**	Pn		**Pn**	**00 30 24.7**	**+0.1**
JCZ	**Jackson Bay**	**2.58**	**253**	PN		**Pn**	**00 30 25.6**	**+0.7**
JCZ				AML		AML	00 31 15.1	
JCZ				AML		AML	00 31 17.7	
JCZ	**Jackson Bay**	**2.58**	**253**	Pn		**Pn**	**00 30 25.6**	**+0.7**
TCW	**Tory Channel**	**2.65**	**36**	*e*PN		**Pn**	**00 30 25.3**	**-0.6**
TCW				AML		AML	00 31 13.6	
TCW				AML		AML	00 31 19.9	
TCW	**Tory Channel**	**2.65**	**36**	Pn		**Pn**	**00 30 25.5**	**-0.4**
WKZ	**Wanaka**	**2.72**	**237**	*e*PN		**Pn**	**00 30 25.8**	**-1.0**
WKZ				AML		AML	00 31 17.9	
WKZ				AML		AML	00 31 18.0	
WKZ				AML		AML	00 31 22.7	
WKZ				AML		AML	00 31 22.7	
WKZ	**Wanaka**	**2.72**	**237**	Pn		**Pn**	**00 30 26.1**	**-0.7**
SNZO	**South Karori**	**2.77**	**43**	*e*Pn		**Pn**	**00 30 27.3**	**-0.2**
SNZO				*e*Pg		**Pg**	**00 30 37.5**	**+1.4**
EAZ	**Earnscleugh**	**2.79**	**227**	PN		**Pn**	**00 30 27.3**	**-0.4**
EAZ				AML		AML	00 31 19.5	
EAZ				AML		AML	00 31 19.5	
EAZ				AML		AML	00 31 20.2	
EAZ				AML		AML	00 31 20.3	
EAZ	**Earnscleugh**	**2.79**	**227**	Pn		**Pn**	**00 30 27.3**	**-0.4**
DUWZ	**D'Urville Isla**	**2.87**	**27**	Pn		**Pn**	**00 30 29.5**	**+0.6**
PLWZ	**Palliser**	**2.89**	**52**	*e*PN		**Pn**	**00 30 28.2**	**-1.0**
PLWZ	**Palliser**	**2.89**	**52**	Pn		**Pn**	**00 30 28.3**	**-0.9**
CAW	**Cannon Point**	**3.10**	**44**	PN		**Pn**	**00 30 31.4**	**-0.7**
CAW				AML		AML	00 31 09.9	
CAW				AML		AML	00 31 44.1	
CAW	**Cannon Point**	**3.10**	**44**	Pn		**Pn**	**00 31 31.4**	**-0.7**
PAWZ	**Paruwai Farm**	**3.11**	**51**	PN		**Pn**	**00 30 30.9**	**-1.3**
PAWZ				AML		AML	00 31 19.8	
PAWZ				AML		AML	00 31 56.6	
PAWZ	**Paruwai Farm**	**3.11**	**51**	Pn		**Pn**	**00 30 30.9**	**-1.3**
TUZ	**Tuapeka**	**3.17**	**215**	⇑PN		**Pn**	**00 30 32.6**	**-0.3**
TUZ				AML		AML	00 31 34.7	
TUZ				AML		AML	00 31 35.5	
TUZ	**Tuapeka**	**3.17**	**215**	Pn		**Pn**	**00 30 32.6**	**-0.3**
KIW	**Kapiti Island**	**3.22**	**40**	PN		**Pn**	**00 30 33.6**	**0.0**
KIW				AML		AML	00 31 34.8	
KIW				AML		AML	00 31 43.5	
KIW	**Kapiti Island**	**3.22**	**40**	Pn		**Pn**	**00 30 33.6**	**0.0**
TRWZ	**Traveller**	**3.25**	**54**	PN		**Pn**	**00 30 33.3**	**-0.8**
TRWZ				AML		AML	00 31 16.8	
TRWZ	**Traveller**	**3.25**	**54**	Pn		**Pn**	**00 30 33.3**	**-0.8**
MTW	**Mount Morrison**	**3.30**	**49**	PN		**Pn**	**00 30 33.6**	**-1.2**
MTW				AML		AML	00 30 58.9	
MTW				AML		AML	00 31 53.6	
MTW	**Mount Morrison**	**3.30**	**49**	Pn		**Pn**	**00 30 33.6**	**-1.2**
OGWZ	**Otaki Gorge**	**3.38**	**42**	PN		**Pn**	**00 30 34.9**	**-0.9**
OGWZ	**Otaki Gorge**	**3.38**	**42**	Pn		**Pn**	**00 30 34.9**	**-0.9**
HOWZ	**Holdsworth Sta**	**3.49**	**46**	*e*PN		**Pn**	**00 30 35.8**	**-1.6**
HOWZ	**Holdsworth Sta**	**3.49**	**46**	Pn		**Pn**	**00 30 36.4**	**-1.0**
MLZ	**Mavora Lakes**	**3.54**	**234**	*e*PN		**Pn**	**00 30 37.3**	**-0.9**
MLZ				AML		AML	00 31 46.3	
MLZ				AML		AML	00 31 47.9	
MLZ	**Mavora Lakes**	**3.54**	**234**	Pn		**Pn**	**00 30 38.0**	**-0.2**
MRZ	**Mangatainoka R**	**3.70**	**44**	PN		**Pn**	**00 30 38.7**	**-1.5**
MRZ	**Mangatainoka R**	**3.70**	**44**	Pn		**Pn**	**00 30 38.8**	**-1.5**
SYZ	**Scrubby Hill**	**3.84**	**214**	PN		**Pn**	**00 30 41.9**	**-0.2**
SYZ				AML		AML	00 32 02.5	
SYZ				AML		AML	00 32 11.2	
SYZ	**Scrubby Hill**	**3.84**	**214**	Pn		**Pn**	**00 30 42.1**	**0.0**
BFZ	**Birch Farm**	**4.04**	**50**	AML		AML	00 32 25.9	
BFZ	**Birch Farm**	**4.04**	**50**	Pn		**Pn**	**00 30 44.2**	**-0.7**
WAZ	**Wanganui**	**4.17**	**31**	AML		AML	00 32 29.2	
WAZ				AML		AML	00 32 29.9	
WAZ	**Wanganui**	**4.17**	**31**	Pn		**Pn**	**00 30 48.5**	**+1.7**
DCZ	**Deep Cove**	**4.18**	**238**	AML		AML	00 32 06.5	
DCZ				AML		AML	00 32 07.6	
DCZ	**Deep Cove**	**4.18**	**238**	Pn		**Pn**	**00 30 46.2**	**-0.7**
PREZ	**Palmer Road**	**4.29**	**21**	Pn		**Pn**	**00 30 50.7**	**+2.3**
KHEZ	**Kahui Hut**	**4.30**	**19**	PN		**Pn**	**00 30 49.7**	**+1.2**
KHEZ	**Kahui Hut**	**4.30**	**19**	Pn		**Pn**	**00 30 50.0**	**+1.5**
NEZ	**North Egmont**	**4.34**	**20**	PN		**Pn**	**00 30 50.2**	**+1.1**
NEZ	**North Egmont**	**4.34**	**20**	Pn		**Pn**	**00 30 50.5**	**+1.4**
PNHZ	**Pukenui**	**4.57**	**42**	PN		**Pn**	**00 30 50.9**	**-1.4**
PNHZ	**Pukenui**	**4.57**	**42**	Pn		**Pn**	**00 30 51.3**	**-1.0**
VRZ	**Vera Road**	**4.66**	**25**	PN		**Pn**	**00 30 54.1**	**+0.6**
VRZ				AML		AML	00 31 58.2	
VRZ				AML		AML	00 32 27.4	
VRZ	**Vera Road**	**4.66**	**25**	Pn		**Pn**	**00 30 54.3**	**+0.8**
PKVZ	**Pokaka**	**4.72**	**31**	PN		**Pn**	**00 30 54.4**	**+0.1**
PKVZ				AML	

MWZ	**Matawai**	**6.45**	**40**	*e*PN	**Pn**	**00 31 15.9**	**-2.1**
MWZ	**Matawai**	**6.45**	**40**	Pn	**Pn**	**00 31 16.1**	**-2.0**
ASAR	**Alice Springs**	**37.08**	**290**	P	**P**	**00 36 55.6**	**+2.1**
	0.8nm,0.6s,baz=126,slow=7.8,SNR=8.6						
WRA	**Warramunga Arr**	**39.33**	**294**	P	**P**	**00 37 13.4**	**+1.0**
	0.6nm,0.6s,baz=140,slow=7.5,SNR=3.1						
ARCES	**ARCESS Array B**	**148.76**	**338**	PKPbc	**PKPbc**	**00 49 30.7**	**+1.3**
	1.4nm,0.8s,baz=38,slow=1.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.79**	**198**	PKPbc	**PKPab**	**00 49 34.1**	**-0.7**
	0.5nm,0.8s,baz=182,slow=3.2,SNR=6.3						
BRTR	**Keskin Array B**	**149.01**	**278**	PKPbc	**PKPab**	**00 49 33.3**	**-2.1**
	0.7nm,0.8s,baz=139,slow=4.9,SNR=4.4						

IDC ***13*** *00:51:33.5±1.8,39.˚32N×73.˚00E,h0km,mb3.6/4, mb1 3.6/11,mb1mx3.4/52,mbtmp3.5/11,ML3.0/7,Error ellipse: s-maj=27.3km s-min=15.2km az=139.0*

KRNET ***13*** *00:51:34.4±0.1,39.˚50N×72.˚98E,h13km,mb3.3*

NNC ***13*** *00:51:39.4±2.4,39.˚60N×73.˚08E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=20.8km s-min=13.6km az=15.0*

ISC 13 00:51:38.7±1.5,39.˚64N±0.˚06×72.˚73E±0.˚05,h17km±8km, n35,σt=63/50,mb3.6/4,30C-10D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.73**	**258**	⇑*e*P	**Pg**	**00 51 52.5**	**-0.7**
	baz=270						
DRK				⇑*i*S	**Sn**	**00 52 05.7**	**+0.2**
	baz=270						
OHH	**Osh**	**0.88**	**3**	⇑*i*P	**Pb**	**00 51 54.4**	**-1.3**
	baz=352						
OHH				⇑*e*S	**Sn**	**00 52 10.3**	**+1.4**
	baz=352						
BTK	**Batken**	**1.53**	**286**	⇓*e*P	**Pg**	**00 52 08.0**	**-0.1**
	baz=289						
BTK				⇓*i*S	**Sg**	**00 52 31.0**	**+3.0**
	baz=289						
ARSB	**Arslanbob**	**1.69**	**7**	⇑*e*P	**Pb**	**00 52 09.3**	**-0.2**
	baz=360						
ARSB				⇑*i*S	**Sg**	**00 52 34.1**	**+0.7**
	baz=360						
ARK	**Arkit**	**2.23**	**345**	⇑*e*P	**Pb**	**00 52 18.1**	**-0.6**
	baz=342						
ARK				⇑*e*S	**Sg**	**00 52 49.0**	**-1.6**
	baz=342						
ARLS	**Aral**	**2.53**	**28**	⇓*e*P	**Pn**	**00 52 19.3**	**+0.2**
	baz=23						
ARLS				⇓*e*S	**Sb**	**00 52 52.9**	**-1.7**
	baz=23						
AML	**Almayashu**	**2.59**	**16**	⇑*i*P	**Pn**	**00 52 22.0**	**+1.7**
	baz=11						
AML				⇑*i*S	**Sb**	**00 52 56.6**	**-0.1**
	baz=11						
MNAS	**Manas**	**2.85**	**357**	⇑*e*P	**Pb**	**00 52 26.4**	**-2.8**
	baz=353						
MNAS				⇑*i*S	**Sb**	**00 53 03.2**	**-0.6**
	baz=353						
MNAS	**Manas**	**2.85**	**357**	⇑Pn	**Pb**	**00 52 27.0**	**-2.2**
	13nm,0.5s						
MNAS				⇑Lg	Lg	00 53 13.6	
	89nm,0.5s						
UCH	**Uchtor**	**2.92**	**27**	⇑*i*P	**Pn**	**00 52 25.8**	**+1.0**
	baz=23						
UCH				⇑*i*S	**Sb**	**00 53 05.8**	**-0.3**
	baz=23						
EKS2	**Erkin-Say**	**3.12**	**14**	⇓*i*P	**Pn**	**00 52 30.2**	**+2.9**
	baz=11						
EKS2				⇓*i*S	**Sb**	**00 53 12.4**	**+0.8**
	baz=11						
AAK	**Ala-Archa**	**3.27**	**23**	Pn	**Pn**	**00 52 31.4**	**+2.1**
	8.8nm,0.3s,baz=182,slow=11,SNR=54						
AAK				Sn	**Sb**	**00 53 15.3**	**-0.8**
	13nm,0.3s,baz=184,slow=19,SNR=7.9						
AAK	**Ala-Archa**	**3.27**	**23**	⇑*i*P	**Pn**	**00 52 31.5**	**+2.1**
	baz=20						
AAK				⇑*i*S	**Sb**	**00 53 15.5**	**-0.6**
	baz=20						
AAK	**Ala-Archa**	**3.27**	**23**	⇑Pn	**Pn**	**00 52 31.6**	**+2.2**
	54nm,0.7s						
AAK				⇑Lg	Lg	00 53 20.0	
	66nm,0.5s						
FRU1	**Bishkek**	**3.48**	**24**	⇑*i*P	**Pn**	**00 52 33.2**	**+1.1**
	baz=20						
FRU1				⇑*e*S	**Sn**	**00 53 15.4**	**+2.5**
	baz=20						
BOOM	**Boomskoye usch**	**3.74**	**39**	⇑*e*P	**Pn**	**00 52 35.7**	**-0.1**
	baz=36						
BOOM				⇑*e*S	**Sn**	**00 53 20.7**	**+1.1**
	baz=36						
KK31	**Karatay Array**	**3.84**	**335**	Pn	**Pn**	**00 52 41.1**	**+4.1**
	4.3nm,0.3s,baz=146,slow=13,SNR=127						
KK31				Sn	**Sb**	**00 53 32.1**	**-0.1**
	8.9nm,0.3s,baz=145,slow=22,SNR=8.9						
KK31				⇓Lg	Lg	00 53 44.4	
	15nm,0.3s,baz=143,slow=27,SNR=3.6						
TKM2	**Tokmak 2**	**3.93**	**32**	⇑Pn	**Pn**	**00 52 39.4**	**+1.0**
	12nm,0.3s						
TKM2				⇑Lg	Lg	00 53 40.4	
	34nm,0.6s						
KNDC	**Almaty**	**4.79**	**40**	⇓Pg	**Pb**	**00 53 02.9**	**+0.7**
	20nm,0.5s						
KNDC				⇑Lg	Lg	00 54 05.9	
	111nm,0.6s						
PDGK	**Podgornoye**	**6.27**	**52**	⇑Pn	**Pn**	**00 53 14.3**	**+3.9**
	3.9nm,0.7s						
PDGK				⇑Lg	Lg	00 54 50.4	
	18nm,0.8s						
OTUK	**Ortayu**	**8.61**	**358**	⇓Lg	Lg	00 56 12.0	
	7.3nm,0.7s						
MKAR	**Makanchi Array**	**9.99**	**41**	Pn	**Pn**	**00 54 02.5**	**+1.2**
	0.1nm,0.3s,baz=234,slow=12,SNR=3.0						
MKAR				Lg	Lg	00 56 51.0	
	0.1nm,0.3s,baz=229,slow=24,SNR=3.1						
GEYT	**Alibeck**	**11.53**	**266**	Pn	**Pn**	**00 54 22.3**	**-0.2**
	0.1nm,0.3s,baz=82,slow=11,SNR=5.4						
GEYT				Sn	**Sn**	**00 56 30.4**	**-0.6**
	0.8nm,0.3s,baz=60,slow=26,SNR=2.8						
KURBB	**Kurchatov Arra**	**11.72**	**18**	Pn	**Pn**	**00 54 25.7**	**+0.7**
	0.0nm,0.3s,baz=206,slow=12,SNR=2.5						
KURBB				Lg	Lg	00 57 50.0	
	0.1nm,0.3s,baz=221,slow=28,SNR=6.1						
WMQ	**Urumqi**	**11.94**	**65**	P	**Pn**	**00 54 25.7**	**-2.4**
AB31	**Akbulak array**	**13.24**	**321**	Pn	**Pn**	**00 54 46.0**	**+0.2**
	0.9nm,0.4s,baz=128,slow=14,SNR=30						
BVAR	**Borovoye Array**	**13.48**	**354**	Pn	**Pn**	**00 54 48.5**	**-0.6**
	0.1nm,0.3s,baz=160,slow=4.6,SNR=2.6						
BVAR				Lg	Lg	00 58 53.2	
	baz=160,slow=26,SNR=3.7						
AKTO	**Aktyubinsk**	**14.96**	**321**	Pn	**Pn**	**00 55 10.1**	**+0.9**
	0.2nm,0.3s,baz=115,slow=15,SNR=5.6						
AKTO				Sn	**Sn**	**00 57 53.2**	**-1.1**
	0.1nm,0.3s,baz=18,slow=19,SNR=1.9						
AKTO	**Aktyubinsk**	**14.96**	**321**	⇑Pn	**P**	**00 55 13.6**	**-1.0**
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**16.50**	**26**	Pn	**Pn**	**00 55 27.8**	**-1.3**
	0.1nm,0.3s,baz=216,slow=14,SNR=2.5						
CD2	**Chengdu**	**26.69**	**99**	*e*P	P	00 57 09.5	-7.4
FINES	**FINESS Array B**	**35.71**	**323**	P	**P**	**00 58 36.5**	**+0.5**
	0.7nm,0.6s,baz=101,slow=7.2,SNR=4.0						
ARCES	**ARCESS Array B**	**38.81**	**336**	P	**P**	**00 59 01.6**	**-0.5**
	3.8nm,1.1s,baz=123,slow=8.8,SNR=3.7						
GERES	**GERESS Array B**	**42.30**	**303**	P	**P**	**00 59 32.9**	**+1.5**
	0.1nm,0.4s,baz=54,slow=10.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**67.16**	**268**	P	**P**	**01 02 29.9**	**-2.0**
	0.2nm,0.5s,baz=53,slow=5.1,SNR=6.4						

IPEC ***13*** *00:55:19.5±0.2,49.˚83N×18.˚58E,h0km±3km,ML0.9/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*

CSEM ***13*** *00:55:19.4±0.4,49.˚85N×18.˚54E,h1km,ML1.7/4,Error ellipse: s-maj=10.1km s-min=5.3km az=163.0*

PRU 13 00:55:20.2,49.˚84N×18.˚54E,h0km,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.25**	**270**	*e*PG	Pg	00 55 25.4	+0.3
OKC				*e*SG	Sg	00 55 29.7	+1.4
	8.2nm,0.5s						
OKC	**Ostrava-Krasne**	**0.25**	**270**	Pg	Pg	00 55 25.4	+0.3
OKC				Sg	Sg	00 55 29.7	+1.4
	8.2nm,0.5s						
MORC	**Moravsky Berou**	**0.65**	**265**	*e*Pg	Pg	00 55 32.6	0.0
MORC				*e*Sg	Sg	00 55 40.5	-0.5
	2.2nm,0.2s						
OJC	**Ojcow**	**0.90**	**64**	*e*Pg	Pg	00 55 36.5	-0.8
OJC				*e*Sg	Sg	00 55 48.7	-0.3
OJC	**Ojcow**	**0.90**	**64**	*e*Pg	Pg	00 55 36.5	-0.9
OJC				*e*Sg	Sg	00 55 48.7	-0.3
JAVC	**Velka Javorina**	**1.14**	**210**	*e*Pg	Pb	00 55 42.4	-0.3
VRAC	**Vranov**	**1.37**	**248**	*e*Pg	Pg	00 55 45.5	-1.0
VRAC				*e*Sg	Sg	00 56 03.2	-1.1
	1.8nm,0.2s						
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*PG	Pn	00 55 47.6	-1.0
DPC				*e*SG	Sg	00 56 08.3	-0.6
DPC	**Dobruska-Polom**	**1.52**	**291**	Pg	Pn	00 55 47.6	-1.0
DPC				Sg	Sg	00 56 08.3	-0.6
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*	Pn	00 55 47.6	-1.0
KRUC	**Moravsky**	**1.60**	**242**	*e*Pg	Pn	00 55 48.7	-1.1
KRUC				*e*Sg	Sn	00 56 10.3	-0.8
	1.2nm,0.2s						
UPC	**Upice**	**1.76**	**293**	*e*SG	Sg	00 56 16.5	-0.1
UPC	**Upice**	**1.76**	**293**	Sg	Sg	00 56 16.5	-0.1
KHC	**Kasperske Hory**	**3.31**	**260**	*e*SG	Sg	00 57 04.5	-2.1
KHC	**Kasperske Hory**	**3.31**	**260**	Sg	Sg	00 57 04.5	-2.1

ISCJB ***13*** *00:56:29.4±0.4,28.˚53S±0.˚03×67.˚32W±0.˚04,h145km±4km, mb3.8/6,Error ellipse: s-maj=6.0km s-min=4.6km az=40.7*

SJA ***13*** *00:56:29.3±0.6,28.˚59S×67.˚21W,h151km±2km,ML3.7, MW3.9*

GUC ***13*** *00:56:31.6±0.4,28.˚51S×67.˚47W,h140km±35km,ML4.3*

IDC ***13*** *00:56:34.3±4.6,28.˚21S×66.˚91W,h150km±31km,mb3.6/6, mb1 3.6/10,mb1mx3.5/30,mbtmp4.0/10,Error ellipse: s-maj=47.4km s-min=15.6km az=26.0*

ISC 13 00:56:30.3±0.8,28.˚53S±0.˚05×67.˚31W±0.˚04,h139km±7km, n28,σt=36/39,mb4.0/6,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.81**	**255**	*i* P	**Pn**	**00 56 54.0**	**+1.4**
VCA				*i* S	**Sn**	**00 57 12.1**	**+2.6**
VCA				IAML		00 57 14.3	
	comp=Z,6μm,0.3s						
CYA	**Choya**	**1.33**	**87**	*i* P	**Pn**	**00 56 57.2**	**0.0**
CYA				*i* S	**Sn**	**00 57 17.3**	**-0.5**
CYA				IAML		00 57 17.3	
	comp=Z,275nm,0.3s						
AGUA	**GUANDACOL**	**1.41**	**227**	*i* P	**Pn**	**00 56 59.2**	**+1.1**
AHML	**Horco Molle**	**2.47**	**46**	*i* P	**Pn**	**00 57 10.6**	**+0.1**
AHML				*i* S	**Sn**	**00 57 41.8**	**+0.4**
AHML				IAML		00 57 42.3	
	comp=Z,197nm,0.6s						
AMOG	**MOGNA**	**2.61**	**203**	*i* P	**Pn**	**00 57 12.6**	**+0.2**
FSA	**Cafayete**	**2.68**	**26**	*i* P	**Pn**	**00 57 14.5**	**+1.1**
FSA				*i* S	**Sn**	**00 57 47.3**	**+0.8**
FSA				IAML		00 57 48.8	
	comp=Z,56nm,0.6s						
CPCH	**Copiapo**	**2.93**	**293**	*i* P	**Pn**	**00 57 16.4**	**0.0**
CPCH				*i* S	**Sn**	**00 57 50.5**	**-1.4**
RTLL	**Cerro Villicun**	**2.97**	**200**	*i* P	**Pn**	**00 57 17.0**	**+0.2**
LCO	**Las Campanas**	**3.02**	**260**	*i* P	**Pn**	**00 57 18.4**	**+0.7**
LCO				*i* S	**Sn**	**00 57 53.7**	**-0.5**
LCO				IAML		00 57 56.3	
	comp=E,1μm,0.5s						
VACH	**Vallenar**	**3.04**	**268**	*i* P	**Pn**	**00 57 17.5**	**-0.2**
VACH				*i* S	**Sn**	**00 57 52.8**	**-1.4**
CDCH	**Caldera**	**3.44**	**294**	*i* P	**Pn**	**00 57 22.9**	**+0.1**
CDCH				*i* S	**Sn**	**00 58 01.5**	**-2.0**
CDCH				IAML		00 58 02.3	
	comp=E,198nm,0.4s						
RTCV	**Cerro Valdivia**	**3.49**	**197**	*i* P	**Pn**	**00 57 23.8**	**+0.2**
RTLS	**Leoncito**	**3.69**	**207**	*i* P	**Pn**	**00 57 26.8**	**+0.4**
AUSP	**Uspallata**	**4.10**	**205**	*i* P	**Pn**	**00 57 32.0**	**+0.2**
ASAL	**Salagasta**	**4.26**	**198**	*i* P	**Pn**	**00 57 33.7**	**+0.1**
ARCO	**CERRO ARCO**	**4.52**	**198**	*i* P	**Pn**	**00 57 37.0**	**-0.2**
ARCO				*i* S	**Sn**	**00 58 27.1**	**-2.3**
ARCO				IAML		00 58 30.8	
	comp=Z,116nm,0.3s						
LVC	**Limon Verde**	**6.07**	**346**	P	**Pn**	**00 57 59.8**	**+1.7**
	comp=Z,203nm,0.3s,baz=179,slow=7.9,SNR=56						
LVC				S	**Sn**	**00 59 07.3**	**+0.6**
	comp=Z,138nm,0.3s,baz=111,slow=23,SNR=3.5						
CPUP	**Villa Florida**	**9.13**	**78**	P	**Pn**	**00 58 37.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=233,slow=10,SNR=3.3						
CPUP				S	Sn	01 00 13.7	-6.3
	comp=Z,0.4nm,0.3s,baz=162,slow=20,SNR=1.9						
LPAZ	**La Paz**	**12.21**	**356**	P	**Pn**	**00 59 19.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=147,slow=5.2,SNR=17						
LPAZ				S	**Sn**	**01 01 31.6**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=265,slow=18,SNR=2.3						
SIV	**San Ignacio**	**13.74**	**26**	P	**Pn**	**00 59 37.5**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=18						
BDFB	**Brasilia**	**21.96**	**58**	P	**P**	**01 01 11.0**	**-2.1**
	comp=Z,2.2nm,0.4s,baz=212,slow=11,SNR=5.9						
PTGA	**Pitinga**	**28.52**	**16**	P	**P**	**01 02 12.6**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=55,slow=23,SNR=6.5						
TXAR	**Lajitas Array**	**67.22**	**326**	P	**P**	**01 07 11.9**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=134,slow=5.4,SNR=4.6						
DBIC	**Dimbokro**	**69.55**	**70**	P	**P**	**01 07 24.4**	**0.0**
	comp=Z,4.9nm,0.9s,baz=210,slow=8.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**78.48**	**68**	P	**P**	**01 08 17.1**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=270,slow=5.8,SNR=27						
PDAR	**Pinedale Array**	**80.90**	**330**	P	**P**	**01 08 30.4**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=128,slow=10,SNR=2.5						
ZALV	**Zalesovo Beam**	**147.46**	**31**	PKPbc	**PKPbc**	**01 15 59.1**	**+1.7**
	comp=Z,2.3nm,0.4s,baz=303,slow=4.1,SNR=11						
MKAR	**Makanchi Array**	**150.07**	**44**	PKPbc	**PKPbc**	**01 16 05.6**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=276,slow=2.4,SNR=6.2						

ISCJB ***13*** *01:00:57.9±0.3,43.˚58S±0.˚02×172.˚92E±0.˚03,h10km, mb5.0/38,MS4.6/15,Error ellipse: s-maj=3.9km s-min=2.1km az=146.0*

GCMT ***13*** *01:01:00.3±0.1,43.˚49S×172.˚62E,h12km,MW5.2/107, Moment Tensor Solution. s55,c79; s107,c190; Duration: 1ꝉ0 Moment tensor: Scale 10^17Nm; Mrr0.08±.01; Mθθ0.67±.01; Mϕϕ-0.74±.01; Mrθ0.17±.04; Mθϕ-0.36±.01; Mϕr0.10±.03; Best double couple: M0 0.81300×10^17 NP1:ϕs58.00000°,δ88.00000°, λ166.00000°. NP2:ϕs149.00000°,δ76.00000°,λ2.00000°. Principal axes: T 0.7770, Plg11.0000°, Azm12.0000°; N 0.0720, Plg76.0000°, Azm231.0000°; P -0.8490, Plg9.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***13*** *01:01:00.6±0.6,43.˚35S×172.˚64E,h0km,mb4.7/13, mb1 4.8/13,mb1mx4.6/22,mbtmp4.7/13,MS4.5/14, Ms1 4.5/14,ms1mx4.4/21 Error ellipse: s-maj=14.1km s-min=12.0km az=136.0*

WEL ***13*** *01:01:00.3±0.1,43.˚58S×172.˚75E,h9km,ML5.9/8,Mw5.3, Error ellipse: s-maj=0.8km s-min=0.5km az=90.0*

WEL Felt from Wellington to Southland, maximum reported intensity MM 7.

NEIC ***13*** *01:01:00.3,43.˚58S×172.˚76E,h9km,mb5.1/15,MW5.2, ML5.6(WEL),Moment Tensor Solution. s29 Moment tensor: Scale 10^16Nm; Mrr-0.42; Mθθ7.37; Mϕϕ-6.95; Mrθ1.81; Mθϕ-1.84; Mϕr-1.08; Best double couple: M0 7.70000×10^16 NP1:ϕs143.00000°,δ86.00000°, λ14.00000°. NP2:ϕs52.00000°,δ76.00000°,λ176.00000°. Principal axes: T 8.0400, Plg13.0000°, Azm8.0000°; N -0.7500, Plg75.0000°, Azm158.0000°; P -7.2900, Plg7.0000°, Azm276.0000°; After WEL.*

NEIC Felt [V] at Christchurch. Also felt at Ashburton, Cust, Dunedin and Timaru.

MOS ***13*** *01:01:02.5±1.2,43.˚38S×172.˚30E,h10km,mb5.1/14, MS4.8/4 Error ellipse: s-maj=18.3km s-min=11.8km az=120.7*

ISC 13 01:01:00.1±1.2,43.˚53S±0.˚02×172.˚79E±0.˚03,h2km±7km, n289,σt=87/305,mb5.1/38,MS4.6/15,14C-7D,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.13**	**251**	⇓PG	**Pg**	**01 01 02.7**	**+0.1**
CRLZ				AML	AML	01 01 05.1	
CRLZ				AML	AML	01 01 05.2	
CRLZ				AML	AML	01 01 05.2	
CRLZ	**Canterbury Las**	**0.13**	**251**	*e*Pg	**Pg**	**01 01 02.5**	**0.0**
CRLZ				*e*Sg	**Pg**	**01 01 02.7**	**+0.1**
MQZ	**McQueen's Vall**	**0.20**	**210**	⇑PG	**Pg**	**01 01 03.8**	**-0.2**
MQZ				SG	**Sg**	**01 01 06.2**	**-0.4**
MQZ				SG		01 01 06.2	
MQZ				AML	AML	01 01 08.6	
MQZ	**McQueen's Vall**	**0.20**	**210**	⇑*e*Pg	**Pg**	**01 01 03.8**	**-0.2**
MQZ				Sg	**Sg**	**01 01 06.2**	**-0.4**
OXZ	**Oxford**	**0.59**	**290**	⇓P*	**Pg**	**01 01 11.2**	**-0.1**
OXZ				S*	**Sg**	**01 01 19.3**	**+0.4**
OXZ				S*	**Sb**	**01 01 19.5**	**-2.3**
OXZ	**Oxford**	**0.59**	**290**	*e*Pg	**Pg**	**01 01 11.3**	**0.0**
OXZ				*e*Sg	**Sb**	**01 01 20.6**	**-1.3**
LTZ	**Lake Taylor**	**0.84**	**333**	⇑P*	**Pg**	**01 01 16.8**	**+0.6**
LTZ				P*	**Pg**	**01 01 16.8**	**+0.6**
LTZ				S*	**Sg**	**01 01 28.7**	**+1.6**
LTZ				S*	**Sb**	**01 01 28.8**	**-0.5**
LTZ				AML	AML	01 01 29.6	
LTZ				AML	AML	01 01 29.6	
LTZ	**Lake Taylor**	**0.84**	**333**	*e*Pg	**Pg**	**01 01 16.8**	**+0.6**
KHZ	**Kahutara**	**1.25**	**26**	P*	**Pg**	**01 01 22.2**	**-2.3**
KHZ				S*	**Sn**	**01 01 42.5**	**+0.6**
KHZ	**Kahutara**	**1.25**	**26**	*e*Pn	**Pn**	**01 01 22.4**	**-2.1**
KHZ				*e*S	**Sb**	**01 01 38.3**	**-2.5**
RPZ	**Rata Peaks**	**1.27**	**261**	Pg	**Pn**	**01 01 22.3**	**-2.6**
	2μm,0.3s,baz=144,slow=2.2,SNR=1423						
RPZ				Lg	Lg	01 01 39.3	
	6μm,0.3s,baz=29,slow=13,SNR=23						
RPZ	**Rata Peaks**	**1.27**	**261**	⇓P*	**Pn**	**01 01 22.3**	**-2.6**
RPZ				S*	**Sb**	**01 01 38.6**	**-3.1**
RPZ				AML	AML	01 01 45.3	
RPZ	**Rata Peaks**	**1.27**	**261**	*e*Pn	**Pn**	**01 01 22.4**	**-2.6**
RPZ				Lg	Lg	01 01 39.3	
RPZ				*e*S	**Sb**	**01 01 39.8**	**-2.0**
INZ	**Inchbonnie**	**1.27**	**309**	P*	**Pn**	**01 01 20.7**	**-4.3**
INZ				S*	**Sn**	**01 01 42.1**	**-0.6**
WVZ	**Waitaha Valley**	**1.57**	**286**	PN	**Pn**	**01 01 26.7**	**-2.3**
WVZ				SN	**Sn**	**01 01 47.4**	**-2.5**
WVZ				AML	AML	01 01 55.9	
WVZ	**Waitaha Valley**	**1.57**	**286**	Pn	**Pn**	**01 01 27.0**	**-2.0**
THZ	**Tophouse**	**1.77**	**3**	⇑PN	**Pn**	**01 01 30.0**	**-1.9**
THZ				AML	AML	01 02 07.6	
THZ				AML	AML	01 02 09.7	
THZ	**Tophouse**	**1.77**	**3**	*e*Pn	**Pn**	**01 01 30.1**	**-1.7**
DSZ	**Denniston Nort**	**1.93**	**338**	PN	**Pn**	**01 01 32.3**	**-1.7**
DSZ				SN	**Sn**	**01 01 57.2**	**-1.7**
DSZ				AML	AML	01 02 09.2	
DSZ				AML	AML	01 02 10.1	
DSZ				AML	AML	01 02 10.1	
DSZ	**Denniston Nort**	**1.93**	**338**	Pn	**Pn**	**01 01 32.6**	**-1.5**
BSWZ	**Blackbirch Sta**	**1.99**	**24**	⇑PN	**Pn**	**01 01 33.2**	**-1.6**
BSWZ				AML	AML	01 02 23.1	
BSWZ				AML	AML	01 02 23.8	
BSWZ	**Blackbirch Sta**	**1.99**	**24**	Pn	**Pn**	**01 01 33.2**	**-1.6**
LBZ	**Lake Benmore**	**2.07**	**245**	*e*Pn	**Pn**	**01 01 34.4**	**-1.5**
ODZ	**Otahua Downs**	**2.16**	**225**	*e*Pn	**Pn**	**01 01 35.4**	**-1.7**
ODZ				*e*S	**Sb**	**01 02 05.6**	**-1.5**
FOZ	**Fox Glacier**	**2.16**	**269**	*e*Pn	**Pn**	**01 01 36.3**	**-0.9**
FOZ				*e*Sn	**Sn**	**01 02 02.8**	**-1.8**
TUWZ	**Tuamarina**	**2.27**	**22**	Pn	**Pn**	**01 01 36.7**	**-1.9**
NNZ	**Nelson**	**2.36**	**11**	Pn	**Pn**	**01 01 38.4**	**-1.4**
SNZO	**South Karori**	**2.63**	**33**	*e*Pn	**Pn**	**01 01 41.4**	**-2.2**
WKZ	**Wanaka**	**3.01**	**243**	*e*Pn	**Pn**	**01 01 47.1**	**-1.8**
MLZ	**Mavora Lakes**	**3.81**	**240**	*e*Pn	**Pn**	**01 01 58.0**	**-2.0**
BFZ	**Birch Farm**	**3.84**	**43**	*e*Pn	**Pn**	**01 01 57.8**	**-2.4**
SYZ	**Scrubby Hill**	**3.96**	**219**	Pn	**Pn**	**01 02 00.3**	**-1.6**
DVHZ	**Dannevirke**	**4.10**	**39**	Pn	**Pn**	**01 02 01.1**	**-2.7**
WAZ	**Wanganui**	**4.12**	**24**	Pn	**Pn**	**01 02 03.9**	**-0.2**
WHZ	**Wether Hill Ro**	**4.18**	**234**	*e*Pn	**Pn**	**01 02 02.3**	**-2.6**
WHZ				*e*Pg	**Pg**	**01 02 17.7**	**-2.5**
WHZ				*e*S	**Sg**	**01 03 10.6**	**-3.8**
NMEZ	**Namu Road**	**4.20**	**12**	Pn	**Pn**	**01 02 05.7**	**+0.6**
TSZ	**Takapari Road**	**4.20**	**35**	Pn	**Pn**	**01 02 02.1**	**-3.2**
PREZ	**Palmer Road**	**4.31**	**14**	Pn	**Pn**	**01 02 07.3**	**+0.5**
NWEZ	**Newall Road**	**4.33**	**11**	Pn	**Pn**	**01 02 07.7**	**+0.8**
KHEZ	**Kahui Hut**	**4.33**	**13**	Pn	**Pn**	**01 02 06.8**	**-0.3**
PRHZ	**Porangahau**	**4.35**	**43**	Pn	**Pn**	**01 02 04.4**	**-2.8**
NEZ	**North Egmont**	**4.37**	**13**	Pn	**Pn**	**01 02 07.4**	**-0.2**
WPHZ	**Waipukurau**	**4.41**	**39**	Pn	**Pn**	**01 02 06.1**	**-2.0**
PNHZ	**Pukenui**	**4.43**	**36**	Pn	**Pn**	**01 02 05.0**	**-3.3**
PKE	**Pukeiti**	**4.43**	**12**	Pn	**Pn**	**01 02 07.9**	**-0.4**
DREZ	**Durham Road**	**4.47**	**14**	Pn	**Pn**	**01 02 08.9**	**0.0**
DCZ	**Deep Cove**	**4.47**	**242**	*e*Pn	**Pn**	**01 02 06.6**	**-2.3**
MHEZ	**Mangahewa**	**4.60**	**15**	Pn	**Pn**	**01 02 10.3**	**-0.4**
MTVZ	**Mangateitei**	**4.61**	**27**	Pn	**Pn**	**01 02 10.4**	**-0.5**
PXZ	**Pawanui**	**4.64**	**42**	Pn	**Pn**	**01 02 08.1**	**-3.1**
VRZ	**Vera Road**	**4.65**	**19**

comp=Z,3.7nm,1.0s
BBOO Buckleboo 30.57 278 *e*P **P 01 07 15.1 -0.1**
comp=Z,32nm,1.0s
CTA Charters Tower 32.23 308 P **P 01 07 29.9 0.0**
comp=Z,9.5nm,0.8s,baz=144,slow=10,SNR=8.5
CTAO Charters Tower 32.23 308 *e*P **P 01 07 29.7 -0.2**
CTAO pmax pmax
comp=Z,25nm,0.6s
CTAO Charters Tower 32.23 308 *e*P **P 01 07 29.7 -0.2**
comp=Z,25nm,0.6s
VNDA Vanda 34.39 184 P **P 01 07 51.6 +3.5**
comp=Z,1.9nm,1.0s,baz=14,slow=7.3,SNR=5.3
VNDA LR LR 01 20 38.5
comp=Z,1μm,18.5s,baz=28,slow=34
VNDA Vanda 34.39 184 *e*P **P 01 07 48.7 +0.6**
SBA Scott Base 34.52 182 *e*P **P 01 07 47.7 -1.5**
SBA Scott Base 34.52 182 *e*P **P 01 07 47.7 -1.5**
HNR Honiara 35.77 338 P **P 01 08 00.2 -0.4**
comp=Z,79nm,0.6s,baz=259,slow=4.2,SNR=3.8
TBI Tubuai 36.97 69 eLQ LQ 01 15 43.8
comp=Z,919nm,25.0s
TBI *e*LR LR 01 17 03.3
comp=Z,639nm,30.2s
AS31 Alice Springs 37.53 289 *e*P **P 01 08 15.0 -0.7**
ASAR Alice Springs 37.53 289 P **P 01 08 14.7 -1.0**
comp=Z,6.6nm,0.7s,baz=131,slow=8.6,SNR=39
ASAR Alice Springs 37.53 289 P **P 01 08 14.7 -1.0**
ASAR pmax pmax
comp=Z,11nm,0.5s
COEN Coen 38.89 310 *e*P **P 01 08 25.9 -1.3**
comp=Z,2.6nm,0.9s
WB2 Warramunga Arr 39.77 294 *e*P **P 01 08 33.4 -1.1**
WRAB Tennant Creek 39.78 294*ce*P **P 01 08 33.2 -1.4**
WRAB pmax pmax
comp=Z,51nm,0.6s
WRAB Tennant Creek 39.78 294 *e*P **P 01 08 33.2 -1.4**
comp=Z,28nm,0.8s
WRA Warramunga Arr 39.78 294 P **P 01 08 33.1 -1.4**
comp=Z,24nm,0.8s,baz=132,slow=7.8,SNR=79
WRA LR LR 01 25 12.0
comp=Z,2μm,18.1s,baz=135,slow=37
CASY Casey 40.12 214 *e*P **P 01 08 39.0 +2.2**
PMG Port Moresby 40.67 319 P **P 01 08 42.0 0.0**
comp=Z,89nm,1.0s,baz=142,slow=6.4,SNR=9.9
PMG Port Moresby 40.67 319*ce*P **P 01 08 42.8 +0.9**
PMG Port Moresby 40.67 319 *e*P **P 01 08 42.5 +0.5**
PPT2 Papeete2 40.93 63 *e*S S 01 14 33.4 -23
comp=Z,162nm,22.5s
PPT2 *e*LR LR 01 18 50.5
comp=Z,1μm,27.0s
PPT Papeete 40.95 63 LR LR 01 24 45.5
comp=Z,418nm,19.0s,baz=224,slow=35
RABL Rabaul 43.22 329 *e*P **P 01 09 02.9 +0.1**
comp=Z,115nm,0.8s
QSPA South Pole Qui 46.59 180 *e*P **P 01 09 30.0 +0.7**
comp=Z,699nm,1.4s
FITZ Fitzroy Crossi 46.97 287 P **P 01 09 31.3 -1.4**
comp=Z,5.8nm,0.8s,baz=143,slow=5.5,SNR=6.7
FITZ Fitzroy Crossi 46.97 287 *e*P **P 01 09 31.2 -1.4**
comp=Z,20nm,0.9s
MANU Manus Island 47.10 324 *e*P **P 01 09 33.5 -0.2**
comp=Z,34nm,1.1s
MIR Mirnyy 47.10 213 *i* P **P 01 09 36.0 +2.9**
MIR pmax pmax
comp=Z,4.0nm,2.0s
RKT Rikitea 47.31 82 *e*S **S 01 16 23.9 -5.8**
comp=Z,273nm,24.5s
RKT *e*LQ LQ 01 20 19.3
comp=Z,1μm,28.8s
RKT *e*LR LR 01 22 18.5
comp=Z,1μm,25.2s
MAW Mawson 57.38 205 P **P 01 10 51.0 +1.6**
comp=Z,5.8nm,0.8s,baz=113,slow=8.8,SNR=9.7
MAW LR LR 01 34 20.4
comp=Z,738nm,20.1s,baz=114,slow=35
MAW Mawson 57.38 205 *e*P **P 01 10 51.1 +1.7**
KAPI Kappang 60.31 294 *e*P **P 01 11 10.8 +0.2**
LUWI Luwuk 61.34 299 P P 01 11 23.3 +5.8
comp=Z,96nm,1.7s
SYO Syowa Base 62.56 197‖*e*P **P 01 11 23.8 -1.1**
SYO Syowa Base 62.56 197‖*i*SP **P 01 11 28.0 +3.1**
SNAA Sanae 65.06 182 P **P 01 11 43.9 +2.4**
SNAA Sanae 65.06 182‖*e*P **P 01 11 43.4 +1.9**
SNAA Sanae 65.06 182 *e*P **P 01 11 41.9 +0.4**
NVL N'lazarevskaya 65.18 187 *e*P P 01 11 46.1 +3.9
NVL MLR MLR
comp=Z,1μm,19.0s
KPJI Karang Pucung 66.12 283 P P 01 11 52.8 +3.7
comp=Z,36nm,0.9s
VNA1 Neumayer--Stat 66.13 180 P **P 01 11 50.9 +2.6**
CGJI Cibinong 68.92 281 P **P 01 12 09.8 +3.0**
comp=Z,42nm,1.2s,comp=Z,2μm
SBUM Sibu 70.86 293 *e*P **P 01 12 21.7 +3.0**
comp=Z,32nm,1.6s
MYKOM Kota Tinggi 76.12 286 *e*P **P 01 12 53.3 +3.6**
comp=Z,74nm,1.6s
PPI Padang Panjang 76.97 282 P **P 01 12 57.0 +2.5**
comp=Z,22nm,1.4s
MNSI Mandailing Nat 78.43 282 P **P 01 13 03.4 +0.7**
PLCA Paso Flores 78.57 136 LR LR 01 38 43.9
comp=Z,303nm,20.1s,baz=241,slow=29
GSI Gunungsitoli 80.21 281 *e*P **P 01 13 12.3 -0.1**
comp=Z,101nm,1.2s
PSI Prapat 80.30 283 *e*P **P 01 13 15.6 +2.6**
PSI pmax pmax
comp=Z,15nm,1.1s
PSI Prapat 80.30 283 *e*P **P 01 13 15.6 +2.6**
comp=Z,14nm,1.1s
KULM Kulim 80.84 286 *e*P **P 01 13 15.8 0.0**
comp=Z,22nm,1.1s
SKLT Songkhla 82.19 288 P **P 01 13 26.6 +3.7**
comp=Z,24nm,1.6s
TRTT Trang 83.31 287 P **P 01 13 31.6 +2.9**
comp=Z,27nm,1.8s
UBPT Khong Chiam 84.79 297 P P 01 13 40.2 +4.1
comp=Z,11nm,1.3s,comp=Z,684nm
MJAR Matsushiro Arr 85.68 333 P **P 01 13 41.1 +0.9**
comp=Z,0.7nm,0.3s,baz=170,slow=3.5,SNR=3.7
MJAR LR LR 01 48 06.0
comp=Z,98nm,21.8s,baz=140,slow=33
SRAK Srakaew 86.12 293 P **P 01 13 45.4 +2.6**
comp=Z,34nm,1.3s,comp=Z,591nm
SKNT Sakolnakorn 86.99 297 P P 01 13 51.4 +4.3
comp=Z,12nm,1.5s
NONG Nongkai 88.33 297 P P 01 13 57.5 +4.0
ERM Erimo 89.23 338*ce*P **P 01 13 52.4 -4.7**
ERM pmax pmax
comp=Z,29nm,1.2s
KSRS Korea Array 90.31 326 P **P 01 14 02.6 +0.4**
comp=Z,5.6nm,0.9s,baz=146,slow=5.6,SNR=14
KSRS LR LR 01 50 31.6
comp=Z,148nm,21.5s,baz=155,slow=33
KSAR Wonju Array Be 90.32 326 P **P 01 14 02.6 +0.3**
KSAR Wonju Array Be 90.32 326 P **P 01 14 02.6 +0.3**
KS01 Wonju Array Si 90.34 326 *e*P **P 01 14 02.1 -0.3**
CM01 Chiang Mai Arr 91.33 294 *e*P **P 01 14 04.3 -3.2**
CMAR Chiang Mai Arr 91.37 294 P **P 01 14 07.7 0.0**
comp=Z,1.7nm,0.7s,baz=153,slow=3.6,SNR=10
USRK Ussuriysk Ar. 94.64 332 P **P 01 14 21.4 -0.7**
comp=Z,0.6nm,0.5s,baz=193,slow=5.9,SNR=3.2
USRK LR LR 01 54 23.0
comp=Z,103nm,20.5s,baz=146,slow=34
CPUP Villa Florida 96.64 136 LR LR 01 52 11.6
comp=Z,106nm,19.4s,baz=213,slow=32
PETK Petropavlovsk- 97.14 351 LR LR 01 50 48.4
comp=Z,218nm,21.9s,baz=171,slow=31
LPAZ La Paz 98.52 122 LR LR 01 49 11.5
comp=Z,129nm,21.2s,baz=204,slow=29
TXAR Lajitas Array 105.25 64 PKKPbc PKKPbc 01 30 53.8 +4.3
comp=Z,0.1nm,0.3s,baz=77,slow=3.9,SNR=3.4
BILL Bilibino 111.36 357 *i* PKIKP PKiKP 01 19 41.4 +6.9
BILL pmax pmax
comp=Z,6.0nm,1.3s
BILL MLR MLR
comp=Z,199nm,19.0s
ILAR Eielson Array 112.49 17 PKiKP **PKiKP 01 19 37.8 +1.1**
comp=Z,1.5nm,1.1s,baz=251,slow=2.8,SNR=6.8
ILAR PKKPab **PKKPab 01 30 35.3 +3.9**
comp=Z,1.9nm,1.1s,baz=14,slow=3.2,SNR=9.6
INK Inuvik 118.49 20 PKP **PKPdf 01 19 47.3 -0.8**
comp=Z,2.6nm,0.9s,baz=218,slow=4.5,SNR=6.6
INK Inuvik 118.49 20 PKP **PKPdf 01 19 47.3 -0.8**
INK *e*PKPdf **PKiKP 01 19 48.8 +0.7**
KSH Kashi 120.12 297 *e*P **PKPdf 01 19 58.1 +5.8**
MK01 Makanchi Array 120.18 307 *e*PKPdf **PKPdf 01 19 52.5 +0.4**
MKAR Makanchi Array 120.20 307 PKP **PKPdf 01 19 51.3 -0.9**
comp=Z,3.8nm,1.1s,baz=116,slow=2.8,SNR=13

YKA Yellowknife Ar 120.46 31 PKP **PKPdf 01 19 50.2 -1.9**
comp=Z,1.6nm,0.9s,baz=224,slow=1.7,SNR=9.4
YKA PKKPab **PKKPbc 01 30 00.9 +2.1**
comp=Z,1.4nm,1.0s,baz=42,slow=5.3,SNR=6.7
YKA Yellowknife Ar 120.46 31 PKiKP **PKPdf 01 19 50.2 -1.9**
YKA pmax pmax
comp=Z,3.0nm,1.1s
TKM2 Tokmak 2 122.18 301 *e*PKiKP **PKPdf 01 19 57.3 +1.0**
TKM2 Tokmak 2 122.18 301 *e*PKPdf **PKPdf 01 19 57.3 +1.0**
ZAA0 Zalesovo Array 122.57 315 *e*PKPdf **PKPdf 01 19 56.6 +0.2**
ZALV Zalesovo Beam 122.57 315 PKP **PKPdf 01 19 56.4 0.0**
comp=Z,0.4nm,0.3s,baz=153,slow=1.7,SNR=4.5
AAK Ala-Archa 122.73 300‖*e*PKiKP **PKPdf 01 19 59.1 +1.8**
EKS2 Erkin-Say 123.19 299 *e*PKiKP **PKPdf 01 20 00.0 +1.8**
EKS2 Erkin-Say 123.19 299 *e*PKPdf **PKPdf 01 20 00.0 +1.8**
NVS Novosibirsk 123.82 316 *e*PKiKP PKPpre 01 19 50.6
EYMN Ely 123.83 54 *e*PKPdf **PKPdf 01 19 57.5 -1.6**
KURK Kurchatov 124.29 310 *e*PKiKP **PKPdf 01 19 59.7 -0.1**
KURK Kurchatov 124.29 310 *e*PKPdf **PKPdf 01 19 59.6 -0.1**
COWI Conover 124.33 57 *e*PKPdf **PKPdf 01 20 00.0 -0.1**
KKAR Karatay Array 125.49 298 *e*PKiKP **PKPdf 01 20 02.8 +0.4**
KKAR Karatay Array 125.49 298 *e*PKPdf **PKPdf 01 20 02.8 +0.4**
NRIK Noril'sk 128.33 333 PKP **PKPdf 01 20 06.4 -0.6**
comp=Z,1.3nm,0.5s,baz=153,slow=3.7,SNR=7.0
BRVK Borovoye 129.96 310*c* *i*PKIKP **PKPdf 01 20 12.4 +1.9**
BRVK pmax pmax
comp=Z,20nm,1.2s
BRVK Borovoye 129.96 310 *e*PKPdf **PKPdf 01 20 12.5 +1.9**
ZRNK Zerenda 130.64 309 *e*PKiKP **PKPdf 01 20 13.2 +1.3**
ZRNK Zerenda 130.64 309 *e*PKPdf **PKPdf 01 20 13.2 +1.3**
GEYT Alibeck 131.31 287 PKP **PKPdf 01 20 14.7 +1.0**
comp=Z,2.3nm,0.8s,baz=257,slow=5.9,SNR=7.6
ABKAR Akbulak array 134.71 302 *e*PKPdf **PKPdf 01 20 20.9 +1.3**
AKTO Aktyubinsk 136.27 303 PKP **PKPdf 01 20 23.4 +0.9**
comp=Z,0.5nm,0.3s,baz=55,slow=4.1,SNR=4.5
ARU Arti 137.43 312 *i* PKIKP **PKPdf 01 20 26.0 +1.5**
ARU 01 23 08.7
ARU SS SS 01 41 09.3 -10
ARU Arti 137.43 312 *e*PKPdf **PKPdf 01 20 24.5 0.0**
GNI Garni 141.66 283*c* *i*PKIKP **PKPdf 01 20 34.7 +1.7**
GNI pmax pmax
comp=Z,38nm,1.2s
GNI Garni 141.66 283 *e*PKPdf **PKPdf 01 20 35.6 +2.6**
SPA0 Spitsbergen Ar 144.00 352 *e*PKPpre PKPpre 01 20 33.1
NEY Neytrino 144.16 287‖*e*PKiKP **PKPdf 01 20 39.7 +2.4**
KBZ Khabaz 144.19 288 PKhKP PKPpre 01 20 34.3
comp=Z,3.9nm,1.0s,baz=338,slow=1.6,SNR=4.4
GOF Gofitskoye 144.47 290‖*e*PKiKP **PKPdf 01 20 38.0 +0.5**
GOF pmax pmax
comp=Z,84nm,1.8s
DAG Danmarks Havn 146.31 5 *e*PKiKP **PKPdf 01 20 38.9 -0.8**
DAG Danmarks Havn 146.31 5 *i* P **PKPdf 01 20 38.9 -0.8**
VRH Novokhopyorsk 146.52 301 *e*PKP2 **PKPab 01 20 43.6 +0.3**
VRH pmax pmax
comp=Z,40nm,1.1s
SFJD Kangerlussuaq 147.01 30 *e*PKiKP **PKPbc 01 20 43.1 -0.1**
SFJD Kangerlussuaq 147.01 30 *i* P **PKPbc 01 20 43.1 -0.1**
LVZ Lovozero 147.17 332*c* *i*PKIKP **PKPbc 01 20 41.7 -2.0**
LVZ pmax pmax
comp=Z,56nm,1.7s
LVZ Lovozero 147.17 332 *e*PKPbc **PKPdf 01 20 41.2 -0.2**
SUMG Summit 147.33 17 *e*PKiKP **PKPbc 01 20 43.3 -1.2**
SUMG Summit 147.33 17 *i* P **PKPbc 01 20 43.3 -1.2**
SUMG Summit 147.33 17 *e*PKPbc **PKPbc 01 20 43.5 -1.0**
KLMR Klimovskoe 147.41 319 *e*PKiKP **PKPdf 01 20 41.7 -0.3**
KLMR *e* 01 24 18.1
KLMR pmax pmax
comp=Z,97nm,1.1s
VSR Storozhevoye 148.12 300 *e*PKP2 **PKPab 01 20 47.4 -2.2**
VSR pmax pmax
comp=Z,30nm,1.5s
LPSR Galich'ya Gora 148.35 303 *e*PKP2 **PKPab 01 20 48.5 -2.0**
LPSR pmax pmax
comp=Z,30nm,1.5s
KEV Kevo 148.51 338 *e*PKPdf **PKPdf 01 20 42.2 -1.4**
KEV *e*PKPbc **PKPbc 01 20 45.6 -1.6**
KEV *e*PKPab **PKPab 01 20 49.3 -1.4**
TOA0 Torodi Ar. Sit 148.76 197 *e*PKPdf **PKPdf 01 20 46.4 +0.7**
TORD Torodi Ar. Bea 148.76 197 PKP **PKPdf 01 20 44.5 -1.2**
comp=Z,3.4nm,1.3s,baz=191,slow=23,SNR=9.1
TORD PKPbc **PKiKP 01 20 50.7 -0.2**
comp=Z,18nm,1.1s,baz=161,slow=1.1,SNR=30
ARA0 ARCESS Array S 149.06 338 *e*PKPbc **PKPbc 01 20 47.2 -1.4**
ARCES ARCESS Array B 149.06 338 PKP **PKPdf 01 20 43.0 -1.5**
comp=Z,1.9nm,0.6s,baz=301,slow=21,SNR=2.5
ARCES PKPbc **PKPbc 01 20 47.0 -1.6**
comp=Z,9.5nm,0.8s,baz=67,slow=3.2,SNR=16
ARE0 ARCESS Array S 149.06 338 *e*PKPbc **PKPbc 01 20 49.1 +0.5**
MOS Moscow 149.06 309 *e*PKP2 **PKPab 01 20 50.9 -2.4**
MOS pmax pmax
comp=Z,72nm,1.5s
BR131 Keskin Array S 149.45 277 *e*PKPbc **PKPbc 01 20 48.8 -2.0**
BRTR Keskin Array B 149.45 277 PKP **PKPdf 01 20 46.0 -0.2**
comp=Z,0.4nm,0.6s,baz=292,slow=13,SNR=14
BRTR PKPbc **PKiKP 01 20 51.5 -0.3**
comp=Z,9.2nm,0.7s,baz=144,slow=5.2,SNR=36
OBN Obninsk 149.71 308 PKPbc **PKPbc 01 20 50.3 -0.3**
comp=Z,9.6nm,0.4s,baz=21,slow=1.0,SNR=12
OBN Obninsk 149.71 308*c* *i*PKIKP **PKPbc 01 20 49.5 -1.1**
OBN *e* 01 27 58.8
OBN pmax pmax
comp=Z,159nm,1.6s
ANTO Ankara 150.11 277 *e*PKP2 **PKPbc 01 20 54.0 +1.8**
ANTO Ankara 150.11 277 *e*PKPbc **PKPbc 01 20 54.0 +1.8**
BR231 Keskin MP Arra 150.11 277 *e*PKPdf **PKPdf 01 20 48.5 +1.3**
SIM Simferopol' 150.59 287 *i* PKIKP **PKPbc 01 20 53.9 +0.8**
SIM pmax pmax
comp=Z,12nm,0.9s
FINES FINESS Array B 153.39 324 PKPbc **PKPbc 01 20 59.5 +0.6**
comp=Z,6.2nm,0.9s,baz=106,slow=4.2,SNR=8.1
AKASG Malin Array Be 154.39 299 PKP **PKPdf 01 20 51.0 -2.0**
comp=Z,0.2nm,0.2s,baz=52,slow=1.6,SNR=4.6
AKASG PKPbc **PKiKP 01 21 01.2 -0.2**
comp=Z,0.5nm,0.3s,baz=72,slow=2.9,SNR=10
MLR Muntele Rosu 156.37 286 *e*PKiKP **PKPdf 01 20 57.0 +0.9**
MLR Muntele Rosu 156.37 286 *e*PKPdf **PKPdf 01 20 57.0 +0.9**
TAM Tamanrasset 156.78 211 *e*PKiKP **PKPdf 01 20 59.5 +2.1**
TAM Tamanrasset 156.78 211 *e*PKPdf **PKPdf 01 20 59.5 +2.1**
TAM *e*PKPab **PKPab 01 21 28.9 +2.1**
KOLS Kolonicke sedl 158.98 295 *e*PKiKP **PKPdf 01 21 00.6 +1.5**
KOLS Kolonicke sedl 158.98 295 *e*PKP **PKPdf 01 21 00.6 +1.5**
KOLS *e* 01 21 37.7
NB2 NORSAR Subarra 159.29 334 P **PKPab 01 21 34.8 -1.7**
comp=Z,4.2nm,0.8s,baz=46,slow=4.4
NB2 NORSAR Subarra 159.29 334 P **PKPab 01 21 34.8 -1.7**
baz=46,slow=4.4
NOA NORSAR Array B 159.29 334 PKP **PKPdf 01 20 59.6 +0.5**
comp=Z,1.8nm,1.0s,baz=25,slow=1.3,SNR=2.6
NOA PKPab **PKPab 01 21 34.6 -1.9**
comp=Z,1.3nm,0.7s,baz=42,slow=4.5,SNR=3.8
NOA NORSAR Array B 159.29 334 PKiKP **PKPdf 01 20 59.6 +0.5**
NOA 01 21 34.6
NOA pmax pmax
comp=Z,3.0nm,1.2s
NOA pmax pmax
comp=Z,1.0nm,0.7s
NBO02 NORSAR Array S 159.40 335 *e*PKPdf **PKPdf 01 21 00.7 +1.5**
CRVS Cervenica-Dubn 159.52 295 *e*PKiKP **PKPdf 01 21 01.2 +1.5**
CRVS Cervenica-Dubn 159.52 295 *e*PKP **PKPdf 01 21 01.2 +1.5**
NIE Niedzica 160.22 297 *e*PKP **PKPdf 01 21 01.6 +1.1**
NIE Niedzica 160.22 297 *e*PKiKP **PKPdf 01 21 01.6 +1.1**
OJC Ojcow 160.43 299 *e*PKP **PKPdf 01 21 00.8 +0.1**
OJC Ojcow 160.43 299 *e*PKiKP **PKPdf 01 21 00.8 +0.1**
VYHS Vyhne 161.28 294 *e*PKiKP **PKPdf 01 21 02.4 +0.7**
VYHS Vyhne 161.28 294 *e*PKP **PKPdf 01 21 02.4 +0.7**
OKC Ostrava-Krasne 161.55 299 *e*PKPDF **PKPdf 01 21 03.4 +1.5**
OKC Ostrava-Krasne 161.55 299 *e*PKiKP **PKPdf 01 21 03.4 +1.5**
KSP Ksiaz 162.48 303 *e*PKP **PKPdf 01 21 03.2 +0.5**
KSP Ksiaz 162.48 303 *e*PKiKP **PKPdf 01 21 03.3 +0.5**
DPC Dobruska-Polom 162.59 301 *e*PKPDF **PKPdf 01 21 03.3 +0.3**
DPC *e*PKPAB **PKPab 01 21 54.0 +2.7**
DPC Dobruska-Polom 162.59 301 *e*PKiKP **PKPdf 01 21 03.3 +0.3**
CONA Conrad Observa 163.32 293 *i* PKPdf **PKPdf 01 21 04.1 +0.2**
comp=Z,4.4nm,1.2s
ARSA Arzberg 163.62 291 *i* PKPdf **PKPdf 01 21 03.4 -0.7**
comp=Z,3.7nm,1.4s
BRG Berggiesshubel 163.90 304 *e*PKP2 **PKPab 01 21 58.9 +1.9**
BRG pmax pmax
comp=Z,12nm,1.5s
SOKA Soboth 164.00 289 *i* PKPdf **PKPdf 01 21 04.6 0.0**
comp=Z,8.0nm,1.5s
CLL Collm 164.30 307 *e*PKPab **PKPab 01 22 00.0 +1.3**
CLL *i* 01 22 07.8
comp=Z,13nm,1.4s
CLL *i* 01 22 42.3
CLL Collm 164.30 307 *e*PKP2 **PKPab 01 22 00.0 +1.3**
MYKA Terra Mystica 164.95 289 *i* pPKPdf **PKPdf 01 21 07.0 +1.6**
comp=Z,2.1nm,0.6s
KEST Kesra 165.07 244 PKPab **PKPab 01 22 05.2 +2.5**
comp=Z,8.4nm,0.9s,baz=334,slow=5.2,SNR=6.9
KEST Kesra 165.07 244 *e*PKPab **PKPab 01 22 05.8 +3.2**
KBA Koelnbreinsper 165.12 291 *i* PKPdf **PKPdf 01 21 05.8 +0.2**
comp=Z,6.6nm,1.1s
ABTA Abfaltersbach 165.72 290 *i* PKPdf **PKPdf 01 21 03.1 -2.9**
comp=Z,8.9nm,1.4s
WTTA Wattenberg 166.25 292 *i* pPKPdf **PKPdf 01 21 07.1 +0.5**
comp=Z,13nm,1.8s
WATA Walderalm 166.28 293 *i* PKPdf **PKPdf 01 21 06.0 -0.5**
comp=Z,15nm,1.6s
MOTA Moosalm 166.59 293 *i* pPKPdf **PKPdf 01 21 07.1 +0.4**
comp=Z,3.0nm,1.0s
RETA Reutte 166.79 294 *i* PKPdf **PKPdf 01 21 06.0 -0.8**
comp=Z,7.0nm,1.5s
FETA Feichten 166.90 292 *i* PKPdf **PKPdf 01 21 04.2 -2.8**
comp=Z,12nm,1.6s
FUORN Ofenpass-Fuorn 167.27 290 *e*PKPab **PKPab 01 22 14.7 +2.3**
DAVA Damuels 167.42 293 *i* pPKPdf **PKPdf 01 21 08.4 +1.0**
comp=Z,10nm,1.5s
ESDC Sonseca Array 175.44 213 PKPab **PKPab 01 22 49.0 +0.6**
comp=Z,0.1nm,0.3s,baz=159,slow=2.5,SNR=4.2

ISCJB ***13*** *01:08:29.8±0.5, 43.60S±0.03×172.86E±0.03, h13km±3km, mb3.5/3, Error ellipse: s-maj=5.9km s-min=3.2km az=154.3*
NEIC ***13*** *01:08:31.2, 43.59S×172.77E, h11km, mb3.7/1, ML4.4(WEL), After WEL.*
NEIC Felt in the Christchurch area.
WEL ***13*** *01:08:32.0±0.1, 43.56S×172.74E, h6km, ML4.4/21, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0*
WEL Felt from Auckland to Otago, maximum reported intensity MM 7.
IDC ***13*** *01:08:32.0±1.9, 43.15S×172.46E, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.9/21, mbtmp4.1/3, ML3.5/1, Error ellipse: s-maj=46.5km s-min=14.8km az=143.0*

ISC 13 01:08:30.2±1.0, 43.60S±0.04×172.86E±0.04, h13km±5km, n68, σ1s10/84, mb3.5/3, 1C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.17**	**277**	PG	**Pg**	**01 08 34.1**	**-0.1**
CRLZ				SG	**Sg**	**01 08 36.1**	**-0.7**
CRLZ				AML	AML	01 08 36.2	
CRLZ				AML	AML	01 08 36.3	
CRLZ				AML	AML	01 08 36.4	
CRLZ	**Canterbury Las**	**0.17**	**277**	P*	**Pg**	**01 08 34.1**	**-0.1**
CRLZ				S*	**Sg**	**01 08 36.1**	**-0.7**
MQZ	**McQueen's Vall**	**0.18**	**233**	⇑PG	**Pb**	**01 08 35.3**	**-0.2**
MQZ				SG	**Sg**	**01 08 37.8**	**+0.6**
MQZ				SG	**Sg**	**01 08 37.9**	**+0.6**
MQZ				AML	AML	01 08 38.1	
OXZ	**Oxford**	**0.65**	**294**	P*	**Pg**	**01 08 43.0**	**+0.1**
OXZ				SG	**Sg**	**01 08 51.2**	**-0.3**
LTZ	**Lake Taylor**	**0.92**	**332**	⇓P*	**Pb**	**01 08 48.4**	**+0.4**
LTZ				S*	**Sb**	**01 09 00.2**	**0.0**
LTZ				AML	AML	01 09 01.2	
KHZ	**Kahutara**	**1.28**	**23**	P*	**Pb**	**01 08 54.0**	**-0.1**
KHZ				S*	**Sg**	**01 09 11.9**	**+0.4**
KHZ	**Kahutara**	**1.28**	**23**	*e*Pn	**Pg**	**01 08 54.6**	**-0.2**
KHZ				*e*S	**Sb**	**01 09 08.4**	**-2.1**
RPZ	**Rata Peaks**	**1.31**	**264**	Pg	**Pn**	**01 08 54.2**	**-0.1**
RPZ	583nm,0.3s,baz=118,slow=4.4,SNR=374			Lg	Lg	01 09 10.1	
RPZ	339nm,0.3s,baz=35,slow=22,SNR=17						
RPZ	**Rata Peaks**	**1.31**	**264**	P*	**Pn**	**01 08 54.1**	**-0.2**
RPZ				S*	**Sb**	**01 09 10.3**	**-1.1**
RPZ				AML	AML	01 09 12.4	
RPZ	**Rata Peaks**	**1.31**	**264**	*e*Pn	**Pn**	**01 08 54.0**	**-0.2**
RPZ				Pg	**Pn**	**01 08 54.2**	**-0.1**
RPZ				Lg	Lg	01 09 10.1	
RPZ				*e*S	**Sg**	**01 09 13.1**	**+0.6**
INZ	**Inchbonnie**	**1.35**	**310**	P*	**Pn**	**01 08 54.0**	**-0.7**
INZ				S*	**Sb**	**01 09 12.0**	**-0.5**
WVZ	**Waitaha Valley**	**1.63**	**288**	*e*Pn	**Pn**	**01 08 58.6**	**0.0**
WVZ				SN	**Sn**	**01 09 18.5**	**-1.0**
WVZ				AML	AML	01 09 26.6	
THZ	**Tophouse**	**1.83**	**1**	PN	**Pn**	**01 09 01.6**	**+0.2**
THZ				SN	**Sn**	**01 09 25.4**	**+0.9**
THZ				AML	AML	01 09 28.6	
DSZ	**Denniston Nort**	**2.01**	**337**	PN	**Pn**	**01 09 03.9**	**+0.1**
DSZ				SN	**Sn**	**01 09 28.0**	**-0.8**
DSZ				AML	AML	01 09 31.3	
DSZ				AML	AML	01 09 32.0	
DSZ				AML	AML	01 09 32.0	
DSZ	**Denniston Nort**	**2.01**	**337**	Pn	**Pn**	**01 09 04.3**	**+0.5**
BSWZ	**Blackbirch Sta**	**2.02**	**22**	PN	**Pn**	**01 09 05.0**	**+1.0**
BSWZ				AML	AML	01 09 15.0	
BSWZ				AML	AML	01 09 52.2	
BSWZ	**Blackbirch Sta**	**2.02**	**22**	Pn	**Pn**	**01 09 05.0**	**+1.0**
LBZ	**Lake Benmore**	**2.08**	**247**	PN	**Pn**	**01 09 05.4**	**+0.5**
LBZ				SN	**Sb**	**01 09 33.8**	**+0.1**
LBZ				AML	AML	01 09 39.2	
LBZ				AML	AML	01 09 39.8	
LBZ				AML	AML	01 09 39.8	
CMWZ	**Cape Campbell**	**2.10**	**29**	AML	AML	01 10 03.6	
CMWZ				AML	AML	01 10 07.3	
ODZ	**Otahua Downs**	**2.15**	**227**	PN	**Pn**	**01 09 05.7**	**0.0**
ODZ				SN	**Sg**	**01 09 38.5**	**-0.7**
ODZ				AML	AML	01 09 39.0	
ODZ				AML	AML	01 09 41.1	
ODZ				AML	AML	01 09 41.1	
ODZ	**Otahua Downs**	**2.15**	**227**	*e*Pn	**Pn**	**01 09 06.4**	**+0.7**
ODZ				*e*S	**Sg**	**01 09 38.9**	**-0.3**
FOZ	**Fox Glacier**	**2.21**	**271**	PN	**Pn**	**01 09 07.9**	**+1.3**
FOZ				SN	**Sn**	**01 09 33.9**	**+0.2**
FOZ				AML	AML	01 09 35.2	
FOZ				AML	AML	01 09 35.4	
FOZ				AML	AML	01 09 36.1	
TUWZ	**Tuamarina**	**2.31**	**21**	PN	**Pn**	**01 09 08.3**	**+0.4**
TUWZ				AML	AML	01 09 22.1	
TUWZ				AML	AML	01 10 05.8	
TUWZ	**Tuamarina**	**2.31**	**21**	Pn	**Pn**	**01 09 08.4**	**+0.5**
NNZ	**Nelson**	**2.41**	**9**	PN	**Pn**	**01 09 10.2**	**+1.0**
NNZ				SN	**Sn**	**01 09 39.5**	**+0.9**
NNZ				AML	AML	01 09 41.3	
NNZ				AML	AML	01 09 42.0	
NNZ				AML	AML	01 09 47.4	
TCW	**Tory Channel**	**2.61**	**24**	PN	**Pn**	**01 09 12.6**	**+0.6**
TCW				AML	AML	01 09 28.2	
TCW				AML	AML	01 09 48.6	
TCW	**Tory Channel**	**2.61**	**24**	Pn	**Pn**	**01 09 12.6**	**+0.6**
SNZO	**South Karori**	**2.66**	**32**	*e*Pn	**Pn**	**01 09 12.9**	**+0.1**
PLWZ	**Palliser**	**2.69**	**42**	PN	**Pn**	**01 09 13.5**	**+0.3**
PLWZ	**Palliser**	**2.69**	**42**	Pn	**Pn**	**01 09 13.5**	**+0.3**
WEL	**Wellington**	**2.71**	**32**	AML	AML	01 09 46.6	
WEL				AML	AML	01 09 53.1	
QRZ	**Quartz Range**	**2.78**	**355**	AML	AML	01 09 51.1	
QRZ				AML	AML	01 09 52.7	
HHSZ	**Highcliff Hill**	**2.80**	**214**	Pn	**Pn**	**01 09 15.1**	**+0.5**
PAWZ	**Paruwai Farm**	**2.92**	**42**	AML	AML	01 09 52.9	
PAWZ				AML	AML	01 10 00.4	
PAWZ	**Paruwai Farm**	**2.92**	**42**	Pn	**Pn**	**01 09 18.5**	**+2.2**
CAW	**Cannon Point**	**2.98**	**34**	PN	**Pn**	**01 09 17.3**	**+0.1**
CAW				AML	AML	01 09 56.8	
CAW				AML	AML	01 10 06.9	
CAW	**Cannon Point**	**2.98**	**34**	Pn	**Pn**	**01 09 17.4**	**+0.2**
EAZ	**Earnscleugh**	**3.02**	**236**	⇓PN	**Pn**	**01 09 18.1**	**+0.4**
EAZ				AML	AML	01 10 11.4	
EAZ				AML	AML	01 10 12.1	
EAZ	**Earnscleugh**

WNVZ	Wahianoa	4.74	27	Pn	Pn	01 09 43.6	+2.1
BHHZ	Black Hill Sta	4.76	31	ePn	Pn	01 09 42.6	+1.0
FWVZ	Far West T-bar	4.79	26	Pn	Pn	01 09 44.0	+1.8
TUVZ	Tukino	4.81	27	Pn	Pn	01 09 43.6	+1.2
KAHZ	Kahuranaki	4.85	40	ePn	Pn	01 09 43.3	+0.4
NGZ	Ngauruhoe	4.88	26	Pn	Pn	01 09 44.4	+1.0
OTVZ	Oturere	4.91	26	Pn	Pn	01 09 45.1	+1.3
TWVZ	Taurewa	4.92	24	Pn	Pn	01 09 45.2	+1.3
ARHZ	Aropaoanui	5.33	37	Pn	Pn	01 09 50.1	+0.6
URZ	Urewera	6.23	33	Pn	Pn	01 10 01.0	-0.8
	1.3nm,0.3s,baz=226,slow=5.4,SNR=6.4						
URZ				Sn	Sn	01 11 07.8	-5.0
	2.6nm,0.3s,baz=71,slow=16,SNR=3.8						
MWZ	Matawai	6.33	35	Pn	Pn	01 10 02.2	-1.1
WMGZ	Waiomatatini S	7.15	38	Pn	Pn	01 10 14.1	-0.3
ASAR	Alice Springs	37.60	289	P	P	01 15 44.4	-0.2
	0.3nm,0.6s,baz=119,slow=7.6,SNR=2.9						
WRA	Warramunga Arr	39.85	294	P	P	01 16 04.4	+1.0
	0.6nm,0.5s,baz=136,slow=7.7,SNR=7.0						
WRAB	Tennant Creek	39.85	294	P	P	01 16 03.6	+0.1
	1.5nm,0.7s						
TORD	Torodi Ar. Bea	148.72	197	PKPbc	PKPab	01 28 22.2	+1.1
	1.0nm,0.9s,baz=147,slow=2.0,SNR=3.5						

IDC ***13*** *01:11:07.6±1.0, 34.86N×24.73E, h0km, mb3.7/9, mb1 3.8/12, mb1mx3.6/36, mbtmp3.6/12, ML3.4/3, MS4.4/2, Ms1 4.4/2, ms1mx2.8/44, Error ellipse: s-maj=23.9km s-min=8.8km az=115.0*

ISCJB ***13*** *01:11:09.0±0.5, 35.03N±0.03×24.47E±0.02, h8km±3km, mb3.6/10, MS4.5/2, Error ellipse: s-maj=5.0km s-min=2.9km az=5.9*

ATH ***13*** *01:11:09.1, 35.10N×24.49E, h19km±1km, ML3.1/7, Error ellipse: s-maj=2.0km s-min=0.8km az=181.0*

CSEM ***13*** *01:11:09.9±0.2, 35.09N×24.49E, h2km, ML3.1, Error ellipse: s-maj=3.8km s-min=2.0km az=9.0*

THE ***13*** *01:11:10.3, 35.08N×24.49E, h0km±1km, ML3.1/12, Error ellipse: s-maj=1.5km s-min=0.7km az=198.0*

ISC 13 01:11:10.3±0.7, 35.09N±0.02×24.49E±0.02, h9km±5km, n146, σ1s04/193, mb3.5/10, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SIVA	**Sivas**	**0.28**	**105**	P	**Pg**		**01 11 15.7**	**-0.1**
SIVA				S	**Sg**		**01 11 20.4**	**+0.9**
SIVA	**Sivas**	**0.28**	**105**	P	**Pg**		**01 11 15.7**	**-0.1**
SIVA				S	**Sg**		**01 11 19.1**	**-0.5**
SIVA	**Sivas**	**0.28**	**105**	P	**Pg**		**01 11 14.7**	**-1.1**
SIVA				S	**Sg**		**01 11 19.1**	**-0.5**
SIVA				AML	AML		01 11 31.4	
	comp=E,14450μm,0.6s							
SIVA				AML	AML		01 11 33.4	
	comp=N,17661μm,0.8s							
IDI	**Anoyia**	**0.39**	**59**	Pg	**Pg**		**01 11 16.5**	**-1.5**
	comp=N,95nm,0.3s,baz=263,slow=10.0,SNR=802							
IDI				Lg	Lg		01 11 22.3	
	comp=N,525nm,0.3s,baz=322,slow=19,SNR=140							
IDI				LR	LR		01 11 35.7	
	comp=N,88nm,18.5s,baz=112,slow=63							
IDI	**Anoyia**	**0.39**	**59**	P	**Pg**		**01 11 16.8**	**-1.1**
IDI				S	**Sg**		**01 11 22.8**	**-0.3**
IDI	**Anoyia**	**0.39**	**59**	P	**Pg**		**01 11 16.8**	**-1.1**
IDI				S	**Sg**		**01 11 22.8**	**-0.3**
IDI	**Anoyia**	**0.39**	**59**	P	**Pg**		**01 11 16.1**	**-1.9**
IDI				S	**Sg**		**01 11 22.1**	**-1.0**
IDI				AML	AML		01 11 22.9	
	comp=N,9358μm,0.4s							
IDI				AML	AML		01 11 22.9	
	comp=E,7741μm,0.4s							
VAM	**Vamos**	**0.39**	**324**	P	**Pg**		**01 11 17.2**	**-0.9**
VAM				S	**Sg**		**01 11 24.0**	**+0.7**
VAM	**Vamos**	**0.39**	**324**	P	**Pg**		**01 11 17.4**	**-0.7**
VAM				S	**Sg**		**01 11 24.0**	**+0.7**
GVD	**Gavdhos**	**0.41**	**233**	P	**Pg**		**01 11 17.9**	**-0.5**
GVD				S	**Sb**		**01 11 25.4**	**-0.7**
GVD	**Gavdhos**	**0.41**	**233**	P	**Pg**		**01 11 17.9**	**-0.5**
GVD				S	**Sg**		**01 11 24.6**	**+0.8**
GVD	**Gavdhos**	**0.41**	**233**	P	**Pg**		**01 11 17.7**	**-0.7**
GVD				S	**Sg**		**01 11 24.6**	**+0.8**
GVD				AML	AML		01 11 27.3	
	comp=E,12402μm,0.4s							
GVD				AML	AML		01 11 27.4	
	comp=N,17976μm,0.3s							
IACM	**Heraklion**	**0.53**	**66**	P	**Pg**		**01 11 20.2**	**-0.3**
IACM	**Heraklion**	**0.53**	**66**	P	**Pg**		**01 11 20.2**	**-0.3**
IACM				S	**Sg**		**01 11 28.1**	**+0.7**
IACM	**Heraklion**	**0.53**	**66**	P	**Pg**		**01 11 20.8**	**+0.3**
IACM				S	**Sg**		**01 11 28.1**	**+0.7**
IMMV	**Iera Moni Meta**	**0.56**	**312**	P	**Pg**		**01 11 19.9**	**-1.2**
IMMV				S	**Sb**		**01 11 30.6**	**+0.3**
IMMV	**Iera Moni Meta**	**0.56**	**312**	P	**Pg**		**01 11 19.9**	**-1.2**
IMMV				S	**Sg**		**01 11 26.1**	**-2.3**
IMMV	**Iera Moni Meta**	**0.56**	**312**	P	**Pg**		**01 11 19.2**	**-1.8**
IMMV				S	**Sg**		**01 11 26.1**	**-2.3**
IMMV				AML	AML		01 11 31.2	
	comp=N,9572μm,0.4s							
IMMV				AML	AML		01 11 32.0	
	comp=E,9932μm,0.4s							
LAST	**Lasithi**	**0.82**	**85**	P	**Pg**		**01 11 24.8**	**-1.3**
LAST				S	**Sn**		**01 11 39.9**	**-0.4**
LAST	**Lasithi**	**0.82**	**85**	P	**Pg**		**01 11 24.8**	**-1.3**
LAST				S	**Sg**		**01 11 36.4**	**-0.3**
LAST	**Lasithi**	**0.82**	**85**	P	**Pg**		**01 11 23.6**	**-2.5**
NPS	**Neapolis**	**0.94**	**79**	P	**Pg**		**01 11 27.5**	**-0.9**
NPS				S	**Sn**		**01 11 44.1**	**+0.8**
NPS	**Neapolis**	**0.94**	**79**	P	**Pg**		**01 11 27.9**	**-0.5**
NPS				S	**Sg**		**01 11 39.9**	**-0.7**
NPS	**Neapolis**	**0.94**	**79**	P	**Pg**		**01 11 27.9**	**-0.5**
NPS				S	**Sg**		**01 11 39.9**	**-0.7**
NPS				AML	AML		01 11 44.2	
	comp=N,1133μm,0.4s							
NPS				AML	AML		01 11 50.5	
	comp=E,1248μm,0.4s							
ANKY	**Antikythira Is**	**1.24**	**309**	P	**Pg**		**01 11 33.5**	**-0.6**
ANKY				S	**Sn**		**01 11 51.6**	**+1.0**
ANKY	**Antikythira Is**	**1.24**	**309**	P	**Pg**		**01 11 33.5**	**-0.6**
ANKY				S	**Sg**		**01 11 49.6**	**-1.2**
ANKY	**Antikythira Is**	**1.24**	**309**	P	**Pg**		**01 11 32.7**	**-1.4**
ANKY				S	**Sg**		**01 11 49.0**	**-1.2**
ANKY				AML	AML		01 12 00.6	
	comp=N,999μm,0.6s							
ANKY				AML	AML		01 12 04.7	
	comp=E,1240μm,0.7s							
ZKR	**Zakros**	**1.42**	**88**	P	**Pb**		**01 11 37.2**	**+0.2**
ZKR				S	**Sg**		**01 11 55.2**	**-0.8**
ZKR	**Zakros**	**1.42**	**88**	P	**Pn**		**01 11 36.4**	**+0.1**
ZKR				S	**Sg**		**01 11 55.2**	**-0.8**
ZKR	**Zakros**	**1.42**	**88**	P	**Pn**		**01 11 36.4**	**+0.1**
ZKR				S	**Sn**		**01 11 55.7**	**+0.6**
ZKR				AML	AML		01 12 02.2	
	comp=E,613μm,1.3s							
ZKR				AML	AML		01 12 02.9	
	comp=N,726μm,0.7s							
THR6	**Thira Island,**	**1.47**	**30**	P	**Pn**		**01 11 36.5**	**-0.4**
THR6	**Thira Island,**	**1.47**	**30**	P	**Pn**		**01 11 36.5**	**-0.4**
THR5	**Thira Island,**	**1.50**	**28**	P	**Pn**		**01 11 37.7**	**+0.3**
THR5	**Thira Island,**	**1.50**	**28**	P	**Pn**		**01 11 37.7**	**+0.3**
SANT	**Santorini**	**1.50**	**31**	P	**Pn**		**01 11 37.1**	**-0.4**
SANT				S	**Sg**		**01 11 59.4**	**+0.7**
SANT	**Santorini**	**1.50**	**31**	P	**Pn**		**01 11 37.1**	**-0.4**
SANT				S	**Sg**		**01 11 59.4**	**+0.7**
SANT	**Santorini**	**1.50**	**31**	P	**Pn**		**01 11 36.6**	**-0.9**
THT1	**Athinios (Pele**	**1.50**	**30**	P	**Pn**		**01 11 37.5**	**+0.1**
THT1				S	**Sb**		**01 11 57.8**	**+0.2**
THT1	**Athinios (Pele**	**1.50**	**30**	P	**Pn**		**01 11 37.5**	**+0.1**
THT1				S	**Sb**		**01 11 57.8**	**+0.2**
THR3	**Thira Island,**	**1.51**	**29**	P	**Pn**		**01 11 37.4**	**-0.2**
THR3				S	**Sg**		**01 11 59.6**	**+0.6**
THR3	**Thira Island,**	**1.51**	**29**	P	**Pn**		**01 11 37.4**	**-0.2**
THR3				S	**Sg**		**01 11 59.6**	**+0.6**
THR7	**Fira-Santorini**	**1.54**	**30**	P	**Pb**		**01 11 38.7**	**-0.2**
THR7	**Fira-Santorini**	**1.54**	**30**	P	**Pb**		**01 11 38.7**	**-0.2**
THR8	**Santorini-Mono**	**1.54**	**31**	P	**Pn**		**01 11 37.2**	**-0.8**
THR8	**Santorini-Mono**	**1.54**	**31**	P	**Pn**		**01 11 37.2**	**-0.8**
THR2	**Thira island,**	**1.56**	**29**	P	**Pn**		**01 11 37.9**	**-0.3**
THR2	**Thira island,**	**1.56**	**29**	P	**Pn**		**01 11 37.9**	**-0.3**
CMBO	**Columbo, Santo**	**1.57**	**28**	P	**Pn**		**01 11 37.9**	**-0.4**
CMBO				S	**Sn**		**01 11 59.4**	**+0.7**
CMBO	**Columbo, Santo**	**1.57**	**28**	P	**Pn**		**01 11 37.9**	**-0.4**
CMBO				S	**Sn**		**01 11 59.4**	**+0.7**
MHLO	**Agia Marina, M**	**1.60**	**358**	P	**Pn**		**01 11 38.3**	**-0.5**
MHLO				S	**Sg**		**01 11 38.3**	**-0.5**
MHLO	**Agia Marina, M**	**1.60**	**358**	P	**Pn**		**01 11 38.3**	**-0.5**
MHLO				S	**Sg**		**01 12 01.1**	**-0.6**
MHLO	**Agia Marina, M**	**1.60**	**358**	P	**Pn**		**01 11 38.1**	**-0.6**
KYTH	**Kithira**	**1.66**	**315**	P	**Pn**		**01 11 40.0**	**+0.4**
KYTH	**Kithira**	**1.66**	**315**	P	**Pn**		**01 11 40.5**	**+0.9**
KYTH	**Kithira**	**1.66**	**315**	P	**Pn**		**01 11 40.5**	**+0.9**
VLI	**Veliai**	**2.06**	**323**	P	**Pn**		**01 11 44.7**	**-0.3**
VLI	**Veliai**	**2.06**	**323**	P	**Pn**		**01 11 44.7**	**-0.3**
VLI	**Veliai**	**2.06**	**323**	P	**Pn**		**01 11 44.3**	**-0.8**
APE	**Apeiranthos**	**2.15**	**23**	P	**Pn**		**01 11 46.4**	**0.0**
APE				S	**Sn**		**01 12 15.3**	**+2.1**
APE	**Apeiranthos**	**2.15**	**23**	P	**Pn**		**01 11 46.4**	**0.0**
APE				S	**Sn**		**01 12 15.3**	**+2.1**
KARP	**Karpathos**	**2.23**	**77**	P	**Pn**		**01 11 47.8**	**+0.3**
KARP	**Karpathos**	**2.23**	**77**	P	**Pn**		**01 11 47.8**	**+0.3**
KRND	**KRANIDI**	**2.53**	**335**	P	**Pn**		**01 11 51.5**	**-0.1**
KRND				S	**Sn**		**01 12 23.6**	**+1.1**
KRND	**KRANIDI**	**2.53**	**335**	P	**Pn**		**01 11 51.5**	**-0.1**
KRND				S	**Sn**		**01 12 23.6**	**+1.1**
DID	**Didima**	**2.62**	**338**	P	**Pn**		**01 11 52.4**	**-0.4**
DID				S	**Sn**		**01 12 27.4**	**+2.8**
DID	**Didima**	**2.62**	**338**	P	**Pn**		**01 11 52.4**	**-0.4**
DID				S	**Sn**		**01 12 27.4**	**+2.8**
VLY	**Voula,Athens**	**2.81**	**349**	P	**Pn**		**01 11 56.0**	**+0.5**
VLY	**Voula,Athens**	**2.81**	**349**	P	**Pn**		**01 11 56.0**	**+0.5**
VLY	**Voula,Athens**	**2.81**	**349**	P	**Pn**		**01 11 55.6**	**+0.1**
VLX	**Vlachokerasia**	**2.84**	**324**	P	**Pn**		**01 11 56.7**	**+0.7**
VLX	**Vlachokerasia**	**2.84**	**324**	P	**Pn**		**01 11 56.7**	**+0.7**
PYL	**PYLOS**	**2.86**	**310**	P	**Pn**		**01 11 56.4**	**+0.3**
PYL	**PYLOS**	**2.86**	**310**	P	**Pn**		**01 11 56.4**	**+0.3**
ATHU	**Athens Univers**	**2.93**	**349**	P	**Pn**		**01 11 56.5**	**-0.5**
ATHU	**Athens Univers**	**2.93**	**349**	P	**Pn**		**01 11 56.5**	**-0.5**
KARY	**Karystos**	**2.94**	**359**	P	**Pn**		**01 11 57.2**	**0.0**
KARY	**Karystos**	**2.94**	**359**	P	**Pn**		**01 11 57.2**	**0.0**
PTL	**Penteli**	**3.00**	**351**	P	**Pn**		**01 11 58.1**	**+0.1**
PTL	**Penteli**	**3.00**	**351**	P	**Pn**		**01 11 58.1**	**+0.1**
ARG	**Arkhangelos**	**3.17**	**68**	P	**Pn**		**01 12 01.1**	**+0.7**
ARG	**Arkhangelos**	**3.17**	**68**	P	**Pn**		**01 12 01.1**	**+0.7**
LTK	**Loutraki**	**3.17**	**338**	P	**Pn**		**01 12 00.7**	**+0.3**
LTK	**Loutraki**	**3.17**	**338**	P	**Pn**		**01 12 00.7**	**+0.3**
VILL	**Villia**	**3.21**	**343**	P	**Pn**		**01 12 01.5**	**+0.5**
VILL	**Villia**	**3.21**	**343**	P	**Pn**		**01 12 01.5**	**+0.5**
SMG	**Samos**	**3.23**	**35**	P	**Pn**		**01 12 01.9**	**+0.7**
SMG	**Samos**	**3.23**	**35**	P	**Pn**		**01 12 01.9**	**+0.7**
THAL	**Thalero**	**3.29**	**334**	P	**Pn**		**01 12 02.8**	**+0.8**
THAL	**Thalero**	**3.29**	**334**	P	**Pn**		**01 12 02.8**	**+0.8**
AMT	**Artemida-Makis**	**3.31**	**318**	P	**Pn**		**01 12 04.3**	**+1.9**
AMT	**Artemida-Makis**	**3.31**	**318**	P	**Pn**		**01 12 04.3**	**+1.9**
EREA	**Eretria**	**3.35**	**353**	P	**Pn**		**01 12 04.5**	**+1.6**
EREA	**Eretria**	**3.35**	**353**	P	**Pn**		**01 12 04.5**	**+1.6**
KLV	**Kalavryta, Ach**	**3.50**	**328**	P	**Pn**		**01 12 05.6**	**+0.7**
KLV				S	**Sn**		**01 12 47.7**	**+1.3**
KLV	**Kalavryta, Ach**	**3.50**	**328**	P	**Pn**		**01 12 05.6**	**+0.7**
KLV				S	**Sn**		**01 12 47.7**	**+1.3**
CHOS	**Chios island**	**3.52**	**20**	P	**Pn**		**01 12 05.9**	**+0.6**
CHOS				S	**Sn**		**01 12 48.7**	**+1.6**
CHOS	**Chios island**	**3.52**	**20**	P	**Pn**		**01 12 05.9**	**+0.6**
CHOS				S	**Sn**		**01 12 48.7**	**+1.6**
DRO	**Drossia**	**3.63**	**323**	P	**Pn**		**01 12 07.6**	**+0.9**
DRO	**Drossia**	**3.63**	**323**	P	**Pn**		**01 12 07.6**	**+0.9**
DSF	**Desfina**	**3.67**	**335**	P	**Pn**		**01 12 07.5**	**+0.2**
DSF	**Desfina**	**3.67**	**335**	P	**Pn**		**01 12 07.5**	**+0.2**
YER	**Yerkesik**	**3.69**	**55**	P	**Pn**		**01 12 07.8**	**+0.2**
YER	**Yerkesik**	**3.69**	**55**	P	**Pn**		**01 12 07.8**	**+0.2**
LAKA	**Lakka**	**3.73**	**328**	P	**Pn**		**01 12 08.9**	**+0.7**
LAKA	**Lakka**	**3.73**	**328**	P	**Pn**		**01 12 08.9**	**+0.7**
KALE	**Kalithea**	**3.80**	**331**	P	**Pn**		**01 12 10.5**	**+1.5**
KALE	**Kalithea**	**3.80**	**331**	P	**Pn**		**01 12 10.5**	**+1.5**
SERG	**Sergoula**	**3.85**	**330**	P	**Pn**		**01 12 10.6**	**+0.9**
SERG	**Sergoula**	**3.85**	**330**	P	**Pn**		**01 12 10.6**	**+0.9**
SMIA	**Simia**	**3.92**	**345**	P	**Pn**		**01 12 12.0**	**+1.3**
SMIA	**Simia**	**3.92**	**345**	P	**Pn**		**01 12 12.0**	**+1.3**
EFP	**Efpalio**	**3.92**	**329**	P	**Pn**		**01 12 11.5**	**+0.8**
EFP	**Efpalio**	**3.92**	**329**	P	**Pn**		**01 12 11.5**	**+0.8**
FETY	**Fethiye**	**4.04**	**66**	P	**Pn**		**01 12 13.2**	**+0.9**
FETY	**Fethiye**	**4.04**	**66**	P	**Pn**		**01 12 13.2**	**+0.9**
ANX	**Ano Chora**	**4.06**	**330**	P	**Pn**		**01 12 13.5**	**+0.9**
ANX	**Ano Chora**	**4.06**	**330**	P	**Pn**		**01 12 13.5**	**+0.9**
PVO	**Paravola**	**4.25**	**327**	P	**Pn**		**01 12 17.1**	**+2.0**
PVO	**Paravola**	**4.25**	**327**	P	**Pn**		**01 12 17.1**	**+2.0**
AGG	**Agios Georgios**	**4.29**	**337**	P	**Pn**		**01 12 16.5**	**+0.7**
AGG	**Agios Georgios**	**4.29**	**337**	P	**Pn**		**01 12 16.5**	**+0.7**
EVR	**Evrytania**	**4.38**	**332**	P	**Pn**		**01 12 17.4**	**+0.3**
EVR	**Evrytania**	**4.38**	**332**	P	**Pn**		**01 12 17.4**	**+0.3**
FYTO	**Fytoko, Volos**	**4.48**	**344**	P	**Pn**		**01 12 19.0**	**+0.6**
FYTO	**Fytoko, Volos**	**4.48**	**344**	P	**Pn**		**01 12 19.0**	**+0.6**
DSL	**Palaion Diasel**	**4.86**	**327**	P	**Pn**		**01 12 23.2**	**-0.4**
DSL	**Palaion Diasel**	**4.86**	**327**	P	**Pn**		**01 12 23.2**	**-0.4**
FNA	**Florina**	**6.19**	**338**	P	**Pn**		**01 12 43.2**	**+1.3**
FNA	**Florina**	**6.19**	**338**	P	**Pn**		**01 12 43.2**	**+1.3**
BRTR	**Keskin Array B**	**8.63**	**55**	Pn	**Pn**		**01 13 19.3**	**+3.9**
	comp=N,0.1nm,0.3s,baz=232,slow=15,SNR=5.4							
UDBI	**Udbina**	**11.56**	**327**	*e*Pn	**Pn**		**01 13 54.1**	**-1.4**
KEST	**Kesra**	**12.37**	**277**	Pn	**Pn**		**01 14 07.1**	**+0.4**
	comp=N,0.1nm,0.3s,baz=53,slow=15,SNR=2.4							
GERES	**GERESS Array B**	**15.89**	**333**	Pn	**Pn**		**01 14 55.2**	**+1.1**
	comp=N,0.1nm,0.3s,baz=144,slow=12,SNR=10							
AKASG	**Malin Array Be**	**15.98**	**11**	Pn	**Pn**		**01 14 55.5**	**+0.3**
	comp=N,0.6nm,0.3s,baz=203,slow=10,SNR=3.5							
KHC	**Kasperske Hory**	**16.17**	**333**	*e*P	**P**		**01 15 03.3**	**+2.3**
KHC				*ep*P	**sP**		**01 15 05.6**	**+0.8**
ESDC	**Sonseca Array**	**23.02**	**290**	P	**P**		**01 16 16.8**	**+1.1**
	comp=N,0.4nm,0.7s,baz=72,slow=8.4,SNR=3.5							
FINES	**FINESS Array B**	**26.39**	**2**	P	**P**		**01 16 46.5**	**-0.3**
	comp=N,2.8nm,0.9s,baz=169,slow=16,SNR=3.2							
EKA	**Eskdalemuir Ar**	**27.78**	**325**	P	**P**		**01 17 01.7**	**+2.4**
	comp=N,0.5nm,0.5s,baz=121,slow=9.6,SNR=3.8							
AKTO	**Aktyubinsk**	**28.70**	**47**	P	**P**		**01 17 06.7**	**-0.9**
	comp=N,0.4nm,0.4s,baz=260,slow=12,SNR=3.7							
TORD	**Torodi Ar. Bea**	**30.02**	**229**	P	**P**		**01 17 18.5**	**-1.1**
	comp=N,0.4nm,0.5s,baz=36,slow=8.2,SNR=7.8							
ARCES	**ARCESS Array B**	**34.51**	**1**	P	**P**		**01 17 56.1**	**-2.3**
	comp=N,2.6nm,0.9s,baz=180,slow=8.5,SNR=4.1							
MKAR	**Makanchi Array**	**44.27**	**56**	P	**P**		**01 19 18.9**	**-1.3**
	comp=N,0.4nm,0.6s,baz=271,slow=6.7,SNR=2.9							
ZALV	**Zalesovo Beam**	**45.45**	**46**	P	**P**		**01 19 26.6**	**-2.8**
	comp=N,1.0nm,0.4s,baz=266,slow=8.8,SNR=4.3							
USRK	**Ussuriysk Ar.**	**77.28**	**45**	P	**P**		**01 23 03.5**	**-1.5**
	comp=N,1.1nm,0.6s,baz=259,slow=5.1,SNR=3.8							
ILAR	**Eielson Array**	**80.24**	**356**	P	**P**		**01 23 22.2**	**+1.3**
	comp=N,0.3nm,0.7s,baz=360,slow=6.1,SNR=4.4							
ILAR				LR	LR		02 02 00.3	
	comp=N,215nm,20.7s,baz=220,slow=38							
BDFB	**Brasilia**	**85.17**	**247**	LR	LR		02 01 04.8	
	comp=N,216nm,18.9s,baz=198,slow=35							

DDA ***13*** *01:16:28.9, 39.13N×29.11E, h7km, Md2.8*

ISCJB ***13*** *01:16:29.5±0.5, 39.15N±0.03×29.11E±0.03, h2km±5km, Error ellipse: s-maj=4.4km s-min=3.8km az=1.7*

CSEM ***13*** *01:16:29.7±0.1, 39.15N×29.11E, h2km, MD2.8, Error ellipse: s-maj=2.6km s-min=2.4km az=36.0*

ISK ***13*** *01:16:29.6, 39.16N×29.14E, h6km, MD2.8*

ISC 13 01:16:29.7±1.0, 39.15N±0.02×29.12E±0.02, h7km±9km, n47, σ0s48/64, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GEDZ	**Gediz**	**0.25**	**115**	*e*Pg	**Pg**		**01 16 35.7**	**+0.9**
GEDZ				*e*SG	**Sg**		**01 16 38.2**	**+0.1**
GEDZ	**Gediz**	**0.25**	**115**	*e*Pg	**Pg**		**01 16 35.7**	**+0.9**
GEDZ				*e*Sg	**Sg**		**01 16 38.2**	**+0.1**
GDZ	**Gediz**	**0.29**	**102**	P	**Pg**		**01 16 35.2**	**-0.3**
GDZ				S	**Sg**		**01 16 39.3**	**-0.1**
GDZ	**Gediz**	**0.29**	**102**	*i* P	**Pg**		**01 16 35.2**	**-0.3**
GDZ				*i* S	**Sg**		**01 16 39.3**	**-0.1**
DEMI	**Demirci**	**0.33**	**251**	P	**Pg**		**01 16 35.8**	**-0.5**
DEMI				S	**Sg**		**01 16 40.1**	**-0.5**
DEMI	**Demirci**	**0.33**	**251**	*i* P	**Pg**		**01 16 35.8**	**-0.5**
DEMI				*i* S	**Sg**		**01 16 40.1**	**-0.5**
TVSB	**Tavsanli**	**0.40**	**42**	*e*PG	**Pg**		**01 16 37.6**	**0.0**
TVSB				*e*SG	**Sg**		**01 16 43.3**	**+0.4**
TVSB	**Tavsanli**	**0.40**	**42**	*e*Pg	**Pg**		**01 16 37.6**	**0.0**
TVSB				*e*Sg	**Sg**		**01 16 43.3**	**+0.4**
DST	**Dursunbey**	**0.59**	**320**	*e*PG	**Pg**		**01 16 41.1**	**-0.2**
DST	**Dursunbey**	**0.59**	**320**	*e*Pg	**Pg**		**01 16 41.1**	**-0.2**
KULA	**Kula-Manisa**	**0.73**	**209**	*e*PG	**Pg**		**01 16 44.2**	**+0.5**
KULA	**Kula-Manisa**	**0.73**	**209**	*e*Pg	**Pg**		**01 16 44.3**	**+0.5**
KHL	**Karahalli**	**0.89**	**159**	*e*PG	**Pb**		**01 16 47.2**	**-0.2**
KHL	**Karahalli**	**0.89**	**159**	*e*Pg	**Pb**		**01 16 47.3**	**-0.2**
AKS	**Akhisar**	**1.05**	**255**	*e*PG	**Pb**		**01 16 50.5**	**+0.3**
AKS	**Akhisar**	**1.05**	**255**	*e*Pg	**Pb**		**01 16 50.5**	**+0.3**
BALB	**Balikesir**	**1.08**	**297**	*e*PN	**Pn**		**01 16 51.0**	**-0.2**
BALB				*e*SN	**Sn**		**01 17 06.5**	**+0.2**
BALB	**Balikesir**	**1.08**	**297**	*e*Pn	**Pn**		**01 16 51.0**	**-0.2**
BALB				*e*Sn	**Sn**		**01 17 06.5**	**+0.2**
IGD	**Bursa**	**1.11**	**3**	*i* P	**Pg**		**01 16 49.7**	**-1.4**
IGD				*i* S	**Sb**		**01 17 06.0**	**0.0**
CAVI	**Cavuskoy**	**1.19**	**28**	*e*PN	**Pn**		**01 16 53.1**	**+0.4**
CAVI	**Cavuskoy**	**1.19**	**28**	*e*Pn	**Pn**		**01 16 53.2**	**+0.4**
IZI	**Iznik**	**1.22**	**13**	*e*PN	**Pg**		**01 16 53.3**	**+0.2**
IZI	**Iznik**	**1.22**	**13**	*e*Pn	**Pg**		**01 16 53.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.23**	**352**	*e*PN	**Pg**		**01 16 53.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.23**	**352**	*e*Pn	**Pg**		**01 16 53.7**	**+0.3**
KCTX	**Karacabey (Bur**	**1.26**	**332**	*e*PN	**Pg**		**01 16 54.6**	**+0.7**
KCTX	**Karacabey (Bur**	**1.26**	**332**	*e*Pn	**Pg**		**01 16 54.6**	**+0.7**
BALY	**Balya**	**1.30**	**297**	P	**Pn**		**01 16 53.4**	**-0.9**
BALY	**Balya**	**1.30**	**297**	*i* P	**Pn**		**01 16 53.4**	**-0.9**
ADVT	**Abdulvahap**	**1.37**	**20**	*e*PN	**Pg**		**01 16 56.1**	**+0.1**
ADVT	**Abdulvahap**	**1.37**	**20**	*e*Pn	**Pg**		**01 16 56.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.42**	**309**	*e*PN	**Pb**		**01 16 56.4**	**-0.2**
GONE				*e*SN	**Sg**		**01 17 16.5**	**+1.0**
GONE	**Gonen-Balikesi**	**1.42**	**309**	*e*Pn	**Pb**		**01 16 56.4**	**-0.2**
GONE				*e*Sn	**Sg**		**01 17 16.5**	**+1.0**
ARMT	**Armutlu**	**1.43**	**352**	*e*PN	**Pb**		**01 16 56.5**	**-0.2**
ARMT	**Armutlu**	**1.43**	**352**	*e*Pn	**Pb**		**01 16 56.5**	**-0.2**
DNZL	**Cakiroluk**	**1.46**	**182**	P	**Pn**		**01 16 55.9**	**-0.7**
DNZL				S	**Sb**		**01 17 16.4**	**+0.3**
DNZL	**Cakiroluk**	**1.46**	**182**	*i* P	**Pn**		**01 16 55.9**	**-0.7**
DNZL				*i* S	**Sb**		**01 17 16.4**	**+0.3**
BOLV	**Bolvadin**	**1.49**	**106**	P	**Pb**		**01 16 57.6**	**-0.2**
BOLV				S	**Sn**		**01 17 16.8**	**0.0**
BOLV	**Bolvadin**	**1.49**	**106**	*

JHJ				S		Sb	01 41 44.4	-0.4
	22nm,0.3s,baz=252,slow=20,SNR=3.1							
MJAR	**Matsushiro Arr**	**2.74**	**298**	P		Pn	01 41 15.6	+1.4
	3.9nm,0.3s,baz=91,slow=13,SNR=18							
MAT	**Matsushiro**	**2.74**	**298**	P		Pn	01 41 15.4	+1.2
MAT				*e*S		Sn	01 41 49.7	+2.0
JCJ	**Chichijima**	**8.20**	**174**	P		Pn	01 42 29.8	+0.6
	6.2nm,0.3s,baz=282,slow=20,SNR=3.7							
JCJ				S		Sn	01 43 58.5	-3.7
	1.8nm,0.3s,baz=278,slow=18,SNR=2.9							
USRK	**Ussuriysk Ar.**	**11.38**	**324**	P		Pn	01 43 13.4	+0.7
	0.1nm,0.3s,baz=148,slow=14,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**27.44**	**118**	T		T	02 14 56.7	
	baz=311,slow=75,SNR=103							
H11N1	**WAKE ISLAND Hy**	**27.45**	**118**	T		T	02 14 57.1	
	baz=311,slow=75,SNR=99							
H11N3	**WAKE ISLAND Hy**	**27.46**	**118**	T		T	02 14 59.0	
	baz=311,slow=75,SNR=84							
H11S1	**WAKE ISLAND Hy**	**28.09**	**120**	T		T	02 15 45.4	
	baz=312,slow=76,SNR=173							
H11S3	**WAKE ISLAND Hy**	**28.09**	**120**	T		T	02 15 49.9	
	baz=312,slow=76,SNR=127							
H11S2	**WAKE ISLAND Hy**	**28.11**	**120**	T		T	02 15 49.9	
	baz=312,slow=76,SNR=131							
ZALV	**Zalesovo Beam**	**42.99**	**314**	P		**P**	**01 48 29.5**	**0.0**
	0.6nm,0.5s,baz=94,slow=6.9,SNR=3.2							
MKAR	**Makanchi Array**	**44.92**	**304**	P		**P**	**01 48 45.6**	**+0.3**
	0.6nm,0.6s,baz=94,slow=9.8,SNR=5.7							
ILAR	**Eielson Array**	**51.07**	**32**	P		**P**	**01 49 34.9**	**+2.4**
	0.4nm,0.8s,baz=270,slow=6.0,SNR=5.8							
FITZ	**Fitzroy Crossi**	**55.10**	**198**	P		**P**	**01 50 03.1**	**+0.4**
	3.0nm,0.8s,baz=21,slow=14,SNR=3.9							
WRA	**Warramunga Arr**	**55.30**	**188**	P		**P**	**01 50 04.3**	**+0.2**
	1.6nm,0.5s,baz=2.3,slow=7.6,SNR=15							
ASAR	**Alice Springs**	**59.03**	**188**	P		**P**	**01 50 31.2**	**+0.7**
	0.4nm,0.7s,baz=19,slow=12,SNR=3.9							
FINES	**FINESS Array B**	**70.29**	**332**	P		**P**	**01 51 43.2**	**-0.3**
	2.0nm,0.9s,baz=76,slow=5.9,SNR=3.0							
GERES	**GERESS Array B**	**84.11**	**328**	P		**P**	**01 53 00.2**	**-1.3**
	0.1nm,0.2s,baz=34,slow=7.3,SNR=4.4							

ARO ***13*** *01:42:18.5, 13°N±6°×4°2E±°, h1km±6km, ML4.0*
ISC 13 01:42:17.7±3.8, 13°5N±0°1×41°7E±0°2, h10km, n9, σ0s64/12, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAOD	**Malaho**	**1.45**	**159**	*e*P		**Pn**	**01 42 43.3**	**-0.8**
MAOD				*e*S		**Sn**	**01 43 03.2**	**+0.1**
LDLD	**Lac de Lave**	**2.02**	**157**	*e*P		**Pn**	**01 42 52.2**	**+0.4**
LDLD				*e*S		**Sb**	**01 43 19.5**	**-0.3**
TDD	**Tadjoura Ara**	**2.03**	**144**	*e*P		**Pn**	**01 42 52.3**	**+0.4**
OBO	**Obock**	**2.14**	**133**	*e*P		**Pn**	**01 42 53.6**	**+0.1**
ATD	**Arta Tunnel**	**2.22**	**149**	*e*P		**Pn**	**01 42 55.2**	**+0.5**
MCAD	**Moucha**	**2.27**	**139**	*e*P		**Pn**	**01 42 55.4**	**+0.1**
UDYN	**Al 'Udayn**	**2.27**	**77**	*i* P		**Pb**	**01 42 58.3**	**-0.6**
UDYN				*e*			01 42 58.6	
	baz=323,slow=6.9							
UDYN				*i* S		**Sn**	**01 43 24.4**	**+0.8**
UDYN				AML		AML	01 43 39.1	
	comp=E,1μm,0.4s							
GBR	**Grand-Bara**	**2.41**	**162**	*e*P		**Pn**	**01 42 58.3**	**+1.0**
ATA	**Atar**	**2.48**	**143**	*e*P		**Pn**	**01 42 58.9**	**+0.7**

KRSC 13 01:48:06.1±1.7, 50°37N×157°08E, h60km±22km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.69**	**298**	*e*P		Pn	01 48 20.6	+0.4
SKR				*e*S		Sn	01 48 30.9	+0.3
PAU	**Pauzhetka**	**1.12**	**351**	*e*P		Pn	01 48 27.0	+1.3
PAU				*e*S		Sn	01 48 42.1	+1.9
ASAK	**Asacha**	**2.09**	**14**	*e*P		Pn	01 48 41.7	+2.9
RUS	**Russkaya**	**2.26**	**23**	*e*P		Pn	01 48 43.5	+2.5
RUS				*e*S		Sn	01 49 10.5	+2.8
KRMR	**Karymshinskiy**	**2.55**	**14**	*e*S		Sn	01 49 17.7	+2.8
PET	**Petropavlovsk**	**2.84**	**20**	*e*S		Sn	01 49 24.7	+2.8
DALK	**Dalny**	**2.87**	**21**	*e*P		Pn	01 48 52.4	+3.1
UGLR	**Uglovaya**	**3.05**	**20**	*e*P		Pn	01 48 55.2	+3.3
AVH	**Avacha**	**3.08**	**19**	*e*P		Pn	01 48 56.2	+3.9
KOK	**Koryaka**	**3.09**	**18**	*e*P		Pn	01 48 56.9	+4.5
SMAR	**Somma**	**3.09**	**20**	*e*P		Pn	01 48 55.9	+3.3
KRER	**Koryakskii**	**3.12**	**19**	*e*P		Pn	01 48 57.0	+4.0
KRER				*e*S		Sn	01 49 33.8	+4.7
SDLR	**Sedlovina**	**3.12**	**20**	*e*P		Pn	01 48 55.7	+2.7
SDLR				*e*S		Sn	01 49 31.5	+2.4
NLC	**Nalytchevo**	**3.14**	**26**	*e*S		Sn	01 49 32.0	+2.7
KRX	**Arik**	**3.15**	**17**	*e*P		Pn	01 48 56.3	+2.9
GNL	**Ganaly**	**3.38**	**9**	*e*P		Pn	01 48 58.2	+1.8
MKZ	**Mys Kozlova**	**5.07**	**32**	*e*P		Pn	01 49 20.6	+1.2

IDC 13 01:49:42.1±2.5, 6°93S×127°67E, h0km, mb4.2/1, mb1 4.3/4, mb1mx3.7/29, mbtmp4.1/4, ML4.0/3, Error ellipse: s-maj=93.8km s-min=45.5km az=85.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.29**	**190**	Pn		Pn	01 52 26.0	+1.2
	0.9nm,0.3s,baz=11,slow=9.4,SNR=26							
FITZ				Sn		Sn	01 54 16.4	-15
	0.8nm,0.3s,baz=292,slow=19,SNR=4.2							
WRA	**Warramunga Arr**	**14.47**	**154**	Pn		Pn	01 53 07.8	-0.6
	0.5nm,0.3s,baz=323,slow=14,SNR=20							
WRA				Sn		Sn	01 55 31.6	-18
	1.7nm,0.3s,baz=332,slow=24,SNR=14							
ASAR	**Alice Springs**	**17.69**	**161**	Pn		P	01 53 51.7	+0.5
	1.0nm,0.3s,baz=337,slow=11,SNR=58							
ASAR				S		Sn	01 56 49.1	-19
	0.4nm,0.3s,baz=318,slow=19,SNR=5.9							
STKA	**Stephens Creek**	**28.02**	**154**	P		P	01 55 34.0	-1.1
	1.3nm,0.4s,baz=317,slow=10.0,SNR=6.6							
LPAZ	**La Paz**	**152.13**	**146**	PKPbc		PKPbc	02 09 41.2	-0.3
	0.4nm,0.5s,baz=148,slow=2.4,SNR=4.6							
LPAZ				PKPab		PKPab	02 09 51.0	+0.1
	0.9nm,0.6s,baz=166,slow=4.0,SNR=5.5							

ISCJB ***13*** *01:52:50.4±0.6, 6°79N±0°04×73°06W±0°05, h159km±5km, Error ellipse: s-maj=10.1km s-min=4.3km az=32.7*
RSNC ***13*** *01:52:52.6±0.8, 6°78N×73°10W, h148km±5km, ML2.8*
FUNV ***13*** *01:52:53.0, 6°87N×73°04W, h165km, MW2.5*
ISC 13 01:52:49.1±1.4, 6°82N±0°04×73°06W±0°05, h171km±8km, n24, σ1s90/43, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.23**	**295**	*i* P		**Pn**	**01 53 13.1**	**+0.8**
BTLC				*e*S		**Sn**	**01 53 27.7**	**-2.3**
BARC	**Barichara**	**0.26**	**209**	*i* P		**Pn**	**01 53 12.6**	**+0.2**
BARC				*e*S		**Sn**	**01 53 28.1**	**-2.0**
BARC				*i*			01 53 30.5	
	comp=Z,183nm,0.2s							
PAMC	**Pamplona, Colo**	**0.63**	**34**	*e*S		**Sn**	**01 53 31.8**	**-1.4**
BRRC	**Barranca, Sant**	**0.71**	**294**	⇑*i*P		**Pn**	**01 53 14.5**	**+0.5**
BRRC				*e*S		**Sn**	**01 53 31.9**	**-1.0**
BRRC				*i*			01 53 34.8	
	comp=Z,223nm,0.2s							
RUSC	**La Rusia**	**0.92**	**182**	*e*P		**Pn**	**01 53 16.4**	**+0.5**
RUSC				*e*S		**Sn**	**01 53 34.5**	**-2.0**
RUSC				*i*			01 53 37.0	
	comp=Z,83nm,0.5s							
CBRI	**Barrientos, No**	**0.93**	**16**	*e*P		**Pn**	**01 53 17.2**	**+1.6**
CBRI				*e*S		**Sn**	**01 53 35.5**	**-0.5**
CBRI				*i*			01 53 38.9	
	comp=Z,41nm,0.5s							
GRMC	**Gramalote, San**	**0.93**	**16**	*i* P		**Pn**	**01 53 18.4**	**+2.8**
GRMC				*e*S		**Sn**	**01 53 37.6**	**+1.6**
GRMC				*i*			01 53 41.0	
	comp=Z,70nm,0.2s							
CAPV	**Capacho**	**1.27**	**35**	*e*P		**Pn**	**01 53 20.5**	**+2.1**
CAPV				*e*S		**Sn**	**01 53 41.0**	**-0.1**
OCAC	**Ocana**	**1.44**	**350**	*e*P		**Pn**	**01 53 21.3**	**+1.4**
OCAC				*e*S		**Sn**	**01 53 43.4**	**-0.2**
OCAC				*i*			01 53 52.0	
	comp=Z,52nm,0.2s							
NORC	**Norcasia**	**2.19**	**235**	*e*P		**Pn**	**01 53 28.3**	**+0.5**
NORC				*e*S		**Sn**	**01 53 56.5**	**-1.2**
CHIC	**Chingaza**	**2.28**	**197**	*e*P		**Pn**	**01 53 30.4**	**+1.3**
CHIC				*e*S		**Sn**	**01 53 59.7**	**-0.4**
CHIC				*i*			01 54 09.3	
	comp=Z,40nm,0.6s							
VIGV	**El Vigia**	**2.62**	**40**	*e*P		**Pn**	**01 53 34.9**	**+2.2**
VIGV				*e*S		**Sn**	**01 54 05.9**	**-0.8**
SOCV	**Socops**	**2.62**	**56**	*e*P		**Pn**	**01 53 34.8**	**+2.0**
SOCV				*e*S		**Sn**	**01 54 06.2**	**-0.5**
VILC	**Villavicencio,**	**2.76**	**193**	*e*P		**Pn**	**01 53 36.2**	**+1.5**
VILC				*e*S		**Sn**	**01 54 09.2**	**-0.8**
VILC				*i*			01 54 14.6	
	comp=Z,27nm,0.4s							
DBBC	**Dabeiba**	**3.14**	**274**	*e*P		**Pn**	**01 53 40.1**	**+1.0**
ELOV	**Elorza**	**3.55**	**87**	*e*P		**Pn**	**01 53 46.5**	**+2.2**
PRAC	**Prado**	**3.58**	**211**	*e*P		**Pn**	**01 53 46.1**	**+1.4**
PRAC				*e*S		**Sn**	**01 54 28.2**	**+0.2**
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P		**Pn**	**01 53 47.6**	**+1.2**
VIRV				*e*S		**Sn**	**01 54 28.6**	**-2.5**
QARV	**Quebrada Arrib**	**4.20**	**36**	*e*P		**Pn**	**01 53 54.9**	**+2.4**
QARV				*e*S		**Sn**	**01 54 39.4**	**-2.8**
CURV	**Curarigua**	**4.41**	**44**	*e*P		**Pn**	**01 53 57.2**	**+1.9**
CURV				*e*S		**Sn**	**01 54 44.2**	**-2.9**
TEPV	**Terepaima**	**4.94**	**50**	*e*P		**Pn**	**01 54 04.2**	**+2.0**
BAUV	**El Baul**	**5.40**	**67**	*e*P		**Pn**	**01 54 08.8**	**+0.6**
BAUV				*e*S		**Sn**	**01 55 06.3**	**-3.8**
MAPV	**Macapo**	**5.45**	**56**	*e*P		**Pn**	**01 54 10.2**	**+1.3**
MONV	**Montecano**	**5.94**	**31**	*e*P		**Pn**	**01 54 17.0**	**+1.7**
MONV				*e*S		**Sn**	**01 55 18.3**	**-4.8**

JMA 13 02:08:58.7±0.1, 38°55N×142°45E, h31km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**0.81**	**311**	P		Pn	02 09 13.9	-0.1
OFUJ				S		Sb	02 09 24.7	-0.2
JIO	**Ouri**	**0.87**	**264**	P		Pn	02 09 14.6	-0.2
JIO				S		Sn	02 09 25.7	-0.7
JMK	**Ichinoseki**	**1.04**	**293**	P		Pn	02 09 17.4	+0.2
JMK				S		Sn	02 09 30.8	+0.1
JOM	**Ohasama**	**1.29**	**316**	P		Pn	02 09 21.3	+0.7
JOM				S		Sb	02 09 37.9	-0.7
JOU	**Okura**	**1.41**	**263**	P		Pn	02 09 23.1	+0.8
JMM	**Marumori**	**1.47**	**243**	P		Pn	02 09 23.2	+0.1
JMM				*e*S		Sn	02 09 41.1	-0.2

DDA 13 02:09:02.5, 40°51N×35°26E, h7km, Md2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COAL	**Corum-Alaca**	**0.33**	**219**	*i* P		Pg	02 09 09.0	0.0
COAL				*i* S		Sg	02 09 14.7	+1.3
HAVZ	**Havza**	**0.66**	**32**	*i* P		Pg	02 09 15.7	+0.4
HAVZ				*i* S		Sb	02 09 25.1	-0.8
CUSAR	**Sarkisla-SIVAS**	**1.33**	**145**	*i* P		Pn	02 09 27.4	-0.3
CUSAR				*i* S		Sn	02 09 47.0	+1.2

ISCJB ***13*** *02:15:21.0±0.2, 36°42N±0°02×71°18E±0°03, h188km, mb4.0/34, Error ellipse: s-maj=4.0km s-min=2.6km az=153.3*
IDC ***13*** *02:15:22.8±2.5, 36°29N×71°16E, h203km±23km, mb3.7/24, mb1 3.8/28, mb1mx3.7/57, mbtmp4.3/28, Error ellipse: s-maj=15.2km s-min=8.9km az=175.0*
MOS ***13*** *02:15:22.9±1.1, 36°49N×71°24E, h208km, mb4.1/21, Error ellipse: s-maj=9.8km s-min=4.9km az=88.1*
NEIC ***13*** *02:15:23.4±0.9, 36°43N×71°28E, h208km±8km, mb4.3/8, Error ellipse: s-maj=16.5km s-min=7.6km az=142.0*
BJI ***13*** *02:15:23.1, 36°51N×71°26E, h207km, mb4.4/7, mB4.5/4*
NNC ***13*** *02:15:26.8±2.6, 36°75N×71°15E, h205km±23km, mb3.8, mpv5.2, Error ellipse: s-maj=22.7km s-min=18.6km az=37.0*
ISC 13 02:15:21.8±0.4, 36°46N±0°04×71°24E±0°04, h188km, n130, σ2s13/170, mb4.0/34, 11C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.62**	**224**	*e*PN		**Pn**	**02 16 09.3**	**+2.7**
KBL				*e*			02 16 42.8	
KBL	**Kabul**	**2.62**	**224**	*e*Pn		**Pn**	**02 16 09.3**	**+2.7**
KBL				*e*Sn		**Sn**	**02 16 42.8**	**+1.4**
CHCP	**Chirah Chowk**	**3.25**	**149**	P		**Pn**	**02 16 17.9**	**+4.0**
THW	**Thamme Wali**	**3.68**	**173**	P		**Pn**	**02 16 22.3**	**+3.1**
SARP	**Sargodha**	**4.68**	**165**	P		**Pn**	**02 16 34.1**	**+2.3**
KSH	**Kashi**	**4.83**	**49**	P		**Pn**	**02 16 29.2**	**-4.5**
KSH				S		Sn	02 17 20.3	-10
KSH				SMN				
	730nm,0.4s							
KSH				SME				
	430nm,0.4s							
THN	**Thein Dam**	**5.46**	**136**	*e*P		**Pn**	**02 16 39.9**	**-1.9**
THN				*ex*		x	02 17 39.0	
MNAS	**Manas**	**6.10**	**9**	⇑P		**Pn**	**02 16 51.8**	**+1.6**
	94nm,0.4s							
MNAS				⇓S		**Sn**	**02 18 00.9**	**+0.8**
	102nm,0.5s							
MNAS	**Manas**	**6.10**	**9**	PN		**Pn**	**02 16 51.8**	**+1.6**
MNAS				S		**Sn**	**02 17 59.1**	**-1.0**
MNAS				pmax		pmax		
	comp=Z,94nm,0.4s							
MNAS				smax		smax		
	comp=N,102nm,0.5s							
JWA	**Jwalamukhi**	**6.23**	**136**	*e*P		**Pn**	**02 16 53.0**	**+1.2**
JWA				*e*S		**Sn**	**02 18 02.0**	**-0.9**
EKS2	**Erkin-Say**	**6.50**	**17**	*e*PN		**Pn**	**02 16 57.8**	**+2.4**
EKS2				*e*			02 18 08.9	
EKS2	**Erkin-Say**	**6.50**	**17**	*e*Pn		**Pn**	**02 16 57.8**	**+2.4**
EKS2				*e*Sn		**Sn**	**02 18 08.9**	**-0.5**
BHK	**Bhakra**	**6.62**	**138**	*e*P		**Pn**	**02 16 57.0**	**0.0**
BHK				*e*S		**Sn**	**02 18 10.6**	**-1.6**
AAK	**Ala-Archa**	**6.66**	**21**	P		**Pn**	**02 17 00.2**	**+2.7**
	comp=N,54nm,0.3s,baz=192,slow=8.4,SNR=223							
AAK				S		**Sn**	**02 18 15.5**	**+2.2**
	comp=N,3.2nm,0.3s,baz=309,slow=23,SNR=16							
AAK	**Ala-Archa**	**6.66**	**21**	⇑P		**Pn**	**02 17 00.0**	**+2.4**
	comp=N,78nm,0.4s							
AAK				⇑S		**Sn**	**02 18 15.5**	**+2.2**
	comp=N,80nm,0.6s							
AAK	**Ala-Archa**	**6.66**	**21**	PN		**Pn**	**02 17 00.0**	**+2.4**
AAK				S		**Sn**	**02 18 13.7**	**+0.4**
AAK				pmax		pmax		
	comp=Z,100nm,0.6s							
AAK				smax		smax		
	comp=N,80nm,0.6s							
AAK	**Ala-Archa**	**6.66**	**21**	*e*Pn		**Pn**	**02 17 00.3**	**+2.7**
AAK				*e*Sn		**Sn**	**02 18 14.7**	**+1.4**
KK31	**Karatay Array**	**6.66**	**355**	P		**Pn**	**02 16 59.0**	**+1.6**
	comp=N,40nm,0.3s,baz=183,slow=13,SNR=2423							
KK31				⇑S		**Sn**	**02 18 10.9**	**-2.3**
	comp=N,34nm,0.6s,baz=187,slow=23,SNR=4.5							
KK31	**Karatay Array**	**6.66**	**355**	PN		**Pn**	**02 16 59.0**	**+1.6**
KK31				pmax		pmax		
	comp=Z,40nm,0.3s							
KKAR	**Karatay Array**	**6.66**	**355**	*e*PN		**Pn**	**02 16 59.2**	**+1.8**
KKAR	**Karatay Array**	**6.66**	**355**	*e*Pn		**Pn**	**02 16 59.2**	**+1.8**
KKAR				*e*Sn		**Sn**	**02 18 04.3**	**-8.9**
SDNR	**Sundarnagar**	**6.86**	**134**	*e*P		**Pn**	**02 17 00.0**	**-0.2**
SDNR				*ex*		x	02 18 14.2	
FRU	**Bishkek**	**6.88**	**21**	⇓*i*PN		**Pn**	**02 17 02.0**	**+1.7**
FRU				pmax		pmax		
	comp=Z,150nm,1.2s							
TKM2	**Tokmak 2**	**7.28**	**26**	⇑P		**Pn**	**02 17 07.4**	**+1.8**
	comp=Z,143nm,0.8s							
TKM2				⇑S		**Sn**	**02 18 26.0**	**-1.9**
	comp=Z,24nm,0.8s							
TKM2	**Tokmak 2**	**7.28**	**26**	PN		**Pn**	**02 17 07.0**	**+1.3**
TKM2				pmax		pmax		
	comp=Z,143nm,0.8s							
TKM2	**Tokmak 2**	**7.28**	**26**	*e*Pn		**Pn**	**02 17 07.8**	**+2.1**
KNDC	**Almaty**	**8.06**	**31**	⇓P		**Pn**	**02 17 18.6**	**+2.8**
	comp=Z,74nm,0.7s							
JOSI	**Joshimath**	**9.10**	**128**	*e*P		**Pn**	**02 17 31.4**	**+1.8**
JOSI				*e*S		**Sn**	**02 19 11.5**	**-0.1**
JOSI				IAML			02 19 15.9	
	comp=N,417nm,0.8s							
JOSI				IAML			02 19 16.1	
	comp=E,425nm,0.9s							
BHGR	**Bahadurgarh**	**9.12**	**147**	*e*P		**Pn**	**02 17 30.6**	**+1.0**
BHGR				*e*S		**Sn**	**02 19 09.1**	**-2.5**
BHGR				IAML			02 19 32.9	
	comp=Z,289nm,0.3s							
KHET	**Khetri**	**9.21**	**154**	*e*P		**Pn**	**02 17 29.3**	**-1.6**
KHET				*e*S		**Sn**	**02 19 05.0**	**-8.9**
KHET				IAML			02 19 11.0	
	comp=E,66nm,0.4s							
KHET				IAML			02 19 11.5	
	comp=N,55nm,0.3s							
NDI	**New Delhi**	**9.24**	**145**	*e*P		Pn	02 17 25.0	-6.4
NDI				*e*S		Sn	02 19 01.0	-14
GEYT	**Alibeck**	**10.57**	**282**	P		**Pn**	**02 17 48.3**	**-0.3**
	comp=N,0.6nm,0.3s,baz=101,slow=7.5,SNR=2.7							
GEYT				S		**Sn**		
	comp=N,1.1nm,0.3s,baz=129,slow=14,SNR=2.9							
OTUK	**Ortayu**	**11.81**	**4**	⇓P		**Pn**	**02 18 04.4**	**0.0**
	comp=N,20nm,0.7s							
OTUK	**Ortayu**	**11.81**	**4**	P		**Pn**	**02 18 04.4**	**0.0**
OTUK				pmax		pmax		
	comp=Z,20nm,0.7s							
PYUN	**Piuthan**	**12.96**	**127**	*e*P		**Pn**	**02 18 19.4**	**0.0**
	comp=Z,19nm,0.3s							
MAKZ	**Makanchi**	**13.08**	**34**	*e*P		**Pn**	**02 18 21.3**	**+0.8**
MAKZ				*e*S		**S**	**02 20 47.4**	**-1.2**
MAKZ	**Makanchi**	**13.08**	**34**	*e*Pn		**Pn**	**02 18 21.3**	**+0.8**
MAKZ				*e*S		**S**	**02 20 47.4**	**-1.2**
MK01	**Makanchi Array**	**13.20**	**35**	*e*Pn		**Pn**	**02 18 21.5**	**-0.5**
MK31	**Makanchi Array**	**13.21**	**35**	⇑P		**Pn**	**02 18 23.5**	**+1.2**
	comp=Z,5.4nm,0.6s,baz=228,slow=14,SNR=24							
MK31	**Makanchi Array**	**13.21**	**35**	*i* P		**Pn**	**02 18 23.4**	**+1.2**
MK31				pmax		pmax		
	comp=Z,5.0nm,0.6s							
MK31	**Makanchi Array**	**13.21**	**35**	*e*Pn		**Pn**	**02 18 23.6**	**+1.4**
MK31				*e*S		**S**	**02 20 53.9**	**+2.2**
MKAR	**Makanchi Array**	**13.21**	**35**	P		**P**	**02 18 23.9**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=216,slow=14,SNR=26							
MKAR				S		**S**	**02 20 50.8**	**-0.8**
	baz=222,slow=39,SNR=2.1							
MKAR	**Makanchi Array**	**13.21**	**35**	*e*Pn		**Pn**	**02 18 23.7**	**+1.4**
MKAR				*e*S		**S**	**02 20 53.9**	**+2.2**
KOLN	**Koldanda**	**13.58**	**126**	*e*P		**Pn**	**02 18 28.4**	**+1.2**
	comp=Z,16nm,0.3s							
GKN	**Gorkha**	**14.12**	**123**	*e*P		**Pn**	**02 18 34.6**	**+0.8**
	comp=Z,42nm,0.4s							
DMN	**Daman**	**14.69**	**123**	*e*P		**P**	**02 18 42.2**	**-0.1**
	comp=Z,22nm,0.3s							
KKN	**Kakani**	**14.69**	**122**	*e*P		**P**	**02 18 41.9**	**-0.3**
	comp=Z,47nm,0.4s							
PKIN	**Phulchoki**	**14.90**	**122**	*e*P		**P**	**02 18 44.9**	**+0.2**
GUN	**Gumba**	**15.03**	**120**	*e*P		**Pn**	**02 18 45.3**	**+0.1**
	comp=Z,18nm,0.3s							
KURBB	**Kurchatov Arra**	**15.10**	**18**	P		**Pn**	**02 18 45.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=210,slow=11,SNR=34							
KURBB				S		**Sn**	**02 21 34.1**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=202,slow=19,SNR=4.5							
KURBB	**Kurchatov Arra**	**15.10**	**18**	⇓P		**Pn**	**02 18 45.1**	**-0.4**
	comp=Z,4.0nm,0.5s							
KURK	**Kurchatov**	**15.21**	**18**	⇓P		**Pn**	**02 18 46.8**	**-0.1**
	comp=Z,38nm,0.9s							
KURK	**Kurchatov**	**15.21**	**18**	P		**Pn**	**02 18 45.5**	**-1.3**
KURK				S		**S**	**02 21 34.1**	**-2.4**
KURK	**Kurchatov**	**15.21**	**18**	*e*Pn		**Pn**	**02 18 46.0**	**-0.8**
	comp=Z,17nm,0.8s							
AB31	**Akbulak array**	**15.22**	**331**	⇑P		**Pn**	**02 18 47.1**	**+0.2**
	comp=Z,11nm,0.6s,baz=143,slow=11,SNR=192							
AB31				⇓S		**S**	**02 21 34.9**	**-1.8**
	comp=Z,4.6nm,0.8s,baz=142,slow=23,SNR=7.5							
AB31	**Akbulak array**	**15.22**	**331**	P		**Pn**	**02 18 46.5**	**-0.4**
AB31				pmax		pmax		
	comp=Z,11nm,0.6s							
ABKAR	**Akbulak array**	**15.22**	**331**	*e*Pn		**Pn**	**02 18 47.1**	**+0.1**
ABKAR				*e*S		**S**	**02 21 36.0**	**-0.7**
VOSK	**Vostochnaya**	**16.27**	**359**	⇑P		**Pn**	**02 18 59.9**	**+0.3**
	comp=Z,7.5nm,0.8s							
VOSK	**Vostochnaya**	**16.27**	**359**	*e*P		**Pn**	**02 18 59.6**	**-0.1**
VOSK				*e*S		**S**	**02 21 54.6**	**-4.7**
VOSK	**Vostochnaya**	**16.27**	**359**	*e*P		**Pn**	**02 18 59.6**	**-0.1**
VOSK				*e*Pn		**P**	**02 19 00.2**	**+1.0**
VOSK				*e*S		**S**	**02 21 54.6**	**-4.7**
ZRNK	**Zerenda**	**16.57**	**355**	⇓P		**Pn**	**02 19 05.0**	**+1.7**
	comp=Z,5.1nm,0.7s							
ZRNK	**Zerenda**	**16.57**	**355**	*e*P		**Pn**	**02 19 04.0**	**+0.7**
ZRNK				*e*S		**S**	**02 21 59.1**	**-6.5**
ZRNK				pmax		pmax		
	comp=Z,6.0nm,0.6s							

HHC				SS		SnSn	02 28 22.0	-10
HHC				PMZ				
	comp=Z,21nm,1.2s							
HHC				PMZ				
	comp=Z,52nm,6.0s							
KLMR	**Klimovskoe**	**31.61**	**331**	*e*P		**P**	**02 21 26.2**	**-0.4**
KLMR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AKASG	**Malin Array Be**	**33.12**	**309**	P		**P**	**02 21 39.7**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=80,slow=7.5,SNR=8.8							
AKASG	**Malin Array Be**	**33.12**	**309**	P		**P**	**02 21 39.7**	**-0.2**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NRIK	**Noril'sk**	**34.13**	**10**	P		**P**	**02 21 49.9**	**+1.5**
	comp=Z,4.7nm,0.5s,baz=197,slow=5.8,SNR=4.1							
MLR	**Muntele Rosu**	**34.97**	**299**	*e*P		**P**	**02 21 57.6**	**+1.6**
MLR				pmax	pmax			
	comp=Z,8.0nm,1.1s							
MLR	**Muntele Rosu**	**34.97**	**299**	*e*P		**P**	**02 21 57.6**	**+1.6**
	comp=Z,8.4nm,1.1s							
FINES	**FINESS Array B**	**37.63**	**326**	P		**P**	**02 22 18.6**	**+0.6**
	comp=Z,3.6nm,0.4s,baz=120,slow=9.0,SNR=44							
ARCES	**ARCESS Array B**	**41.26**	**338**	P		**P**	**02 22 48.9**	**+0.9**
	comp=Z,4.2nm,0.4s,baz=118,slow=8.1,SNR=86							
DPC	**Dobruska-Polom**	**41.31**	**307**	*e*P		**P**	**02 22 49.9**	**+1.1**
DPC	**Dobruska-Polom**	**41.31**	**307**	*e*P		**P**	**02 22 49.9**	**+1.1**
PRU	**Pruhonice**	**42.47**	**307**	*e*P		**P**	**02 22 59.2**	**+1.1**
PRU	**Pruhonice**	**42.47**	**307**	*e*P		**P**	**02 22 59.2**	**+1.1**
BRG	**Berggiesshubel**	**42.80**	**308**	*e*P		**P**	**02 23 01.2**	**+0.5**
	comp=Z,4.4nm,1.0s							
BRG	**Berggiesshubel**	**42.80**	**308**	*e*P		**P**	**02 23 01.2**	**+0.5**
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
GERES	**GERESS Array B**	**43.11**	**305**	P		**P**	**02 23 03.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=80,slow=7.3,SNR=6.1							
CLL	**Collm**	**43.37**	**309**	*e*P		**P**	**02 23 06.0**	**+0.7**
CLL	**Collm**	**43.37**	**309**	*e*P		**P**	**02 23 06.0**	**+0.7**
NC303	**NORSAR Array S**	**44.47**	**323**	*e*P		**P**	**02 23 12.8**	**-1.1**
NB2	**NORSAR Subarra**	**44.53**	**323**	P		**P**	**02 23 14.0**	**-0.4**
	comp=Z,1.8nm,0.3s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.53**	**323**	P		**P**	**02 23 14.3**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=102,slow=7.2,SNR=18							
KSRS	**Korea Array**	**44.71**	**71**	P		**P**	**02 23 16.4**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=282,slow=7.9,SNR=4.4							
KLR	**Kul'dur**	**45.01**	**54**	P		**P**	**02 23 19.4**	**+1.1**
	comp=Z,2.5nm,0.5s,baz=278,slow=8.3,SNR=8.4							
TIXI	**Tiksi**	**45.74**	**22**	P		**P**	**02 23 24.5**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=268,slow=6.9,SNR=15							
SENIN	**Lac Senin/Sane**	**47.77**	**303**	*e*P		**P**	**02 23 38.9**	**-1.3**
	comp=Z,4.9nm,0.8s							
KEST	**Kesra**	**49.23**	**289**	P		**P**	**02 23 51.8**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=0.0,slow=1.0,SNR=4.0							
DAG	**Danmarks Havn**	**54.83**	**344**	*i* P		**P**	**02 24 32.3**	**+0.5**
DAG				pmax	pmax			
	comp=Z,5.0nm,0.8s							
DAG	**Danmarks Havn**	**54.83**	**344**	*i* P		**P**	**02 24 32.3**	**+0.5**
	comp=Z,6.2nm,0.8s							
ES19	**SONSECA Array**	**57.59**	**298**	*e*P		**P**	**02 24 51.5**	**-0.5**
ESDC	**Sonseca Array**	**57.65**	**298**	P		**P**	**02 24 51.7**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=57,slow=7.4,SNR=14							
SUMG	**Summit**	**61.16**	**341**	*i* P		**P**	**02 25 17.0**	**+0.7**
SUMG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
SUMG	**Summit**	**61.16**	**341**	*i* P		**P**	**02 25 17.0**	**+0.7**
	comp=Z,5.6nm,0.7s							
SUMG	**Summit**	**61.16**	**341**	*e*P		**P**	**02 25 15.7**	**-0.6**
	comp=Z,18nm,1.4s							
TORD	**Torodi Ar. Bea**	**65.91**	**269**	P		**P**	**02 25 45.3**	**-2.5**
	comp=Z,3.6nm,0.5s,baz=49,slow=5.6,SNR=83							
ILAR	**Eielson Array**	**74.77**	**16**	P		**P**	**02 26 40.4**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=311,slow=5.0,SNR=11							
BOSA	**Boshof**	**77.84**	**220**	P		**P**	**02 26 57.9**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=11,slow=4.3,SNR=7.0							
YKA	**Yellowknife Ar**	**81.28**	**3**	P		**P**	**02 27 16.7**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=351,slow=5.4,SNR=22							
WRA	**Warramunga Arr**	**81.80**	**122**	P		**P**	**02 27 18.9**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=324,slow=4.9,SNR=34							
ASAR	**Alice Springs**	**84.07**	**125**	P		**P**	**02 27 30.7**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=310,slow=4.7,SNR=33							

ISCJB ***13*** *02:19:27.8±0.4,44.˚58N±0.˚05×141.˚24E±0.˚08, h246km±3km, mb3.2/7, Error ellipse: s-maj=9.0km s-min=8.1km az=18.5*

JMA ***13*** *02:19:27.8±0.2,44.˚64N×141.˚30E, h252km±2km, M3.3*

IDC ***13*** *02:19:28.5±0.6,44.˚62N×141.˚24E, h237km±7km, mb3.0/7, mb1 3.2/13, mb1mx3.1/49, mbtmp3.6/13, Error ellipse: s-maj=22.5km s-min=12.6km az=169.0*

ISC 13 02:19:28.6±0.7**, 44.˚57N**±0.˚06×**141.˚24E**±0.˚07**, h242**km±6km**, n29,** σ0**˚76/38, mb3.2/7, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYG	**Yagishiri**	**0.20**	**137**	P	**Pn**	**02 20 00.2**	**+0.3**
JYG				*e*S	**S**	**02 20 25.3**	**+0.8**
JSS	**Shosan**	**0.47**	**111**	P	**Pn**	**02 20 01.2**	**+0.7**
JSS				*e*S	**S**	**02 20 26.7**	**+1.2**
JRR	**Rishiri**	**0.57**	**5**	P	**Pn**	**02 20 01.2**	**+0.5**
JWK2	**Keihoku**	**0.88**	**32**	P	**Pn**	**02 20 01.9**	**-0.1**
JWK2				*e*S	**S**	**02 20 27.7**	**-0.7**
JHR	**Hokuryu**	**0.90**	**157**	P	**Pn**	**02 20 03.1**	**+0.8**
JSE	**Soyaes**	**1.03**	**68**	P	**Pn**	**02 20 02.3**	**-0.6**
JSE				*e*S	**S**	**02 20 28.7**	**-1.2**
ASAJ	**Asahikawa**	**1.07**	**115**	P	**Pn**	**02 20 03.3**	**0.0**
	6.8nm,0.3s,baz=312,slow=2.2,SNR=10						
ASAJ				S	**S**	**02 20 29.8**	**-0.6**
	baz=204,slow=20						
ASAJ	**Asahikawa**	**1.07**	**115**	P	**Pn**	**02 20 03.2**	**0.0**
JAB	**Ashibetsu**	**1.28**	**146**	P	**Pn**	**02 20 05.2**	**+0.6**
JKK2	**Kamakawa 2**	**1.29**	**122**	P	**Pn**	**02 20 04.8**	**+0.1**
JSK	**Shakotan**	**1.34**	**205**	P	**Pn**	**02 20 05.5**	**+0.5**
JTKR	**Abashiri--Toko**	**2.01**	**106**	P	**Pn**	**02 20 10.9**	**+0.5**
JTKR				*e*S	**S**	**02 20 43.8**	**+0.5**
JAR	**Ashorobuto**	**2.23**	**124**	P	**Pn**	**02 20 13.0**	**+0.4**
JCH	**Churui**	**2.49**	**141**	P	**Pn**	**02 20 14.5**	**-0.7**
JCH				*e*S	**S**	**02 20 50.4**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.54**	**154**	P	**Pn**	**02 20 16.4**	**+0.7**
JNBK				*e*S	**S**	**02 20 53.9**	**+1.0**
JKB	**Kayabe**	**2.69**	**183**	P	**Pn**	**02 20 17.0**	**-0.2**
JKB				*e*S	**S**	**02 20 54.4**	**-1.2**
USRK	**Ussuriysk Ar.**	**6.64**	**270**	P	**Pn**	**02 21 04.8**	**+0.2**
	0.3nm,0.3s,baz=86,slow=13,SNR=7.9						
KLR	**Kul'dur**	**7.99**	**309**	P	**Pn**	**02 21 21.4**	**-0.2**
	0.2nm,0.3s,baz=120,slow=13,SNR=8.9						
MJAR	**Matsushiro Arr**	**8.35**	**197**	P	**Pn**	**02 21 25.4**	**-0.9**
	0.6nm,0.3s,baz=6.6,slow=13,SNR=3.6						
KSRS	**Korea Array**	**12.31**	**239**	P	**Pn**	**02 22 15.7**	**-0.5**
	0.2nm,0.3s,baz=52,slow=13,SNR=5.4						
PETK	**Petropavlovsk-**	**13.77**	**46**	P	**Pn**	**02 22 34.0**	**0.0**
	0.2nm,0.3s,baz=316,slow=6.2,SNR=5.1						
SEY	**Seymchan**	**19.48**	**15**	P	**P**	**02 23 35.6**	**-1.6**
	0.3nm,0.3s,baz=182,slow=23,SNR=6.1						
SONM	**Songino Array**	**24.21**	**290**	P	**P**	**02 24 23.6**	**+0.3**
	0.6nm,0.6s,baz=90,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**40.41**	**295**	P	**P**	**02 26 43.5**	**+0.5**
	0.2nm,0.3s,baz=80,slow=6.7,SNR=3.0						
ILAR	**Eielson Array**	**43.35**	**36**	P	**P**	**02 27 05.7**	**-0.8**
	0.3nm,0.6s,baz=271,slow=9.8,SNR=5.0						
YKA	**Yellowknife Ar**	**57.43**	**32**	P	**P**	**02 28 52.7**	**+1.1**
	0.2nm,0.5s,baz=308,slow=7.1,SNR=2.6						
NVAR	**Mina Array Bea**	**70.67**	**55**	P	**P**	**02 30 19.1**	**+0.9**
	0.4nm,0.4s,baz=304,slow=6.4,SNR=3.6						
PDAR	**Pinedale Array**	**72.54**	**47**	P	**P**	**02 30 29.1**	**-0.1**
	0.6nm,0.5s,baz=17,slow=1.5,SNR=5.3						
TXAR	**Lajitas Array**	**85.63**	**52**	P	**P**	**02 31 40.0**	**0.0**
	0.3nm,0.8s,baz=270,slow=5.0,SNR=4.2						

ISCJB ***13*** *02:20:48.9±0.2,43.˚40S±0.˚02×172.˚82E±0.˚03, h10km, mb5.8/124, MS6.0/508, Error ellipse: s-maj=3.7km s-min=2.0km az=141.1*

MOS ***13*** *02:20:48.0±1.1,43.˚37S×172.˚89E, h10km, mb5.8/36, MS5.9/56, Error ellipse: s-maj=14.4km s-min=11.2km az=92.2*

IDC ***13*** *02:20:49.1±0.3,43.˚36S×172.˚90E, h0km, mb5.3/25, mb1 5.3/26, mb1mx5.3/31, mbtmp5.2/26, ML4.9/1, MS5.7/19, Ms1 5.7/19, ms1mx5.5/27, Error ellipse: s-maj=13.6km s-min=10.3km az=52.0*

BJI ***13*** *02:20:49.4,43.˚63S×172.˚67E, h8km, mb5.6/37, mB6.0/49, Ms5.9/69, Ms7 5.8/63*

GCMT ***13*** *02:20:49.3±0.1,43.˚52S×172.˚62E, h12km, MW6.0/144, Moment Tensor Solution. s128,c279; s144,c463;*

Duration: 2≥3 Moment tensor: Scale 10¹⁸Nm; Mrr 0.29±.01; Mθθ 0.55±.01; Mφφ -0.84±.01; Mrθ 0.25±.02; Mrφ -0.75±.01; Mθφ -0.19±.02; Best double couple: M₀ 1.09200×10¹⁸ NP1:φs 161.00000°, δ 76.00000°, λ 19.00000°. NP2:φs 66.00000°, δ 72.00000°, λ 165.00000°. Principal axes: T 1.0080, Plg23.0000°, Azm24.0000°; N 0.1690, Plg67.0000°, Azm197.0000°; P -1.1770, Plg3.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

WEL ***13*** *02:20:49.3±0.1, 43.˚57S×172.˚74E, h7km, ML6.4/22, Mw6.0 Error ellipse: s-maj=0.9km s-min=0.6km az=90.0*

WEL Felt from Northland to Otago, maximum reported intensity MM 8.

NEIC ***13*** *02:20:49.3, 43.˚56S×172.˚74E, h6km, mb6.0/62, ME6.4, MS6.0/299, MW5.9, MW5.9, MW5.9, ML6.3(WEL), Moment Tensor Solution. s21 Moment tensor: Scale 10¹⁷Nm; Mrr 2.77; Mθθ 4.74; Mφφ -7.50; Mrθ 4.44; Mφθ -5.41; Mrφ 0.25; Best double couple: M₀ 9.60000×10¹⁷ NP1:φs 61.00000°, δ 74.00000°, λ 150.00000°. NP2:φs 160.00000°, δ 61.00000°, λ 18.00000°. Principal axes: T 9.3600, Plg32.0000°, Azm17.0000°; N 0.4800, Plg56.0000°, Azm216.0000°; P -9.8400, Plg9.0000°, Azm113.0000°; Moment Tensor Solution. s34 Moment tensor: Scale 10¹⁷ Nm; Mrr 3.33; Mθθ 4.16; Mφφ -7.49; Mrθ 3.02; Mφθ -3.89; Mrφ 0.21; Best double couple: M₀ 8.20000×10¹⁷ NP1:φs 157.00000°, δ 62.00000°, λ 23.00000°. NP2:φs 56.00000°, δ 70.00000°, λ 149.00000°. Principal axes: T 7.3700, Plg36.0000°, Azm14.0000°; N 1.4100, Plg54.0000°, Azm205.0000°; P -8.7700, Plg5.0000°, Azm108.0000°; Broadband fault plane solution: P waves. NP1:φs 53.00000°, δ 48.00000°, λ 155.00000°. NP2:φs 160.00000°, δ 72.00000°, λ 45.00000°. Principal axes: T Plg44.0000°, Azm26.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm281.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism. After WEL.*

NEIC Forty-five people injured, 100 previously-damaged buildings destroyed, many roads damaged, one bridge destroyed, utilities disrupted, widespread liquefaction and landslides observed [VII] in the Christchurch area. Seaport damaged at Lyttelton. Total damage in Canterbury estimated at 3 to 5 billion U.S. dollars. Felt [IV] at Westport and [III] at Dunedin. Felt in much of Canterbury and as far as Invercargill and Wellington.

NEIC ***13*** *02:20:50.0±0.0, 43.˚68S×172.˚74E, h11km, Moment Tensor Solution. s18 Moment tensor: Scale 10¹⁷Nm; Mrr 1.80; Mθθ 4.41; Mφφ -6.21; Mrθ 3.88; Mφθ -6.02; Mrφ -1.54; Best double couple: M₀ 9.20000×10¹⁷ NP1:φs 66.00000°, δ 71.00000°, λ 158.00000°. NP2:φs 163.00000°, δ 69.00000°, λ 20.00000°. Principal axes: T 9.4100, Plg28.0000°, Azm23.0000°; N -0.4800, Plg61.0000°, Azm206.0000°; P -8.9300, Plg1.0000°, Azm114.0000°;*

ISC 13 02:20:50.3±0.5**, 43.˚50S**±0.˚02×**172.˚78E**±0.˚02**, h9**km±2km**, n1682,** σ1**˚86/1485, mb5.8/122, MS6.0/515, 44C-30D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.14**	**239**	⇑PG	**Pg**	**02 20 51.3**	**-2.0**
CRLZ				AML	AML	02 20 55.3	
CRLZ				AML	AML	02 20 55.5	
CRLZ	**Canterbury Las**	**0.14**	**239**	*e*Pg	**Pg**	**02 20 51.3**	**-2.0**
MQZ	**McQueen's Vall**	**0.22**	**205**	PG	**Pg**	**02 20 52.5**	**-2.4**
MQZ				SG	**Sg**	**02 20 55.1**	**-2.8**
MQZ				SG	**Sg**	**02 20 55.1**	**-2.8**
MQZ	**McQueen's Vall**	**0.22**	**205**	*e*Pg	**Pg**	**02 20 52.5**	**-2.4**
MQZ				*e*Sg	**Sg**	**02 20 56.9**	**-1.0**
OXZ	**Oxford**	**0.57**	**288**	⇓P*	**Pg**	**02 20 60.0**	**-1.4**
OXZ				SG	**Sg**	**02 21 02.4**	**-6.4**
OXZ				SG	**Sg**	**02 21 08.8**	**-0.1**
OXZ	**Oxford**	**0.57**	**288**	*e*Pg	**Pg**	**02 20 59.8**	**-1.5**
OXZ				Sn	**Sg**	**02 21 08.8**	**-0.1**
LTZ	**Lake Taylor**	**0.81**	**332**	⇑P*	**Pg**	**02 21 05.6**	**-0.3**
LTZ				S*	**Sb**	**02 21 17.6**	**-0.3**
LTZ				S*	**Sg**	**02 21 18.2**	**+1.6**
LTZ				AML	AML	02 21 22.7	
LTZ	**Lake Taylor**	**0.81**	**332**	*e*Pg	**Pg**	**02 21 05.8**	**-0.2**
LTZ				Sn	**Sb**	**02 21 17.5**	**-0.3**
KHZ	**Kahutara**	**1.22**	**27**	P*	**Pn**	**02 21 11.4**	**-2.2**
KHZ				S*	**Sb**	**02 21 29.2**	**-0.2**
KHZ				S*	**Sn**	**02 21 31.3**	**+1.1**
KHZ	**Kahutara**	**1.22**	**27**	*e*Pg	**Pn**	**02 21 12.1**	**-1.5**
KHZ				*e*Sg	**Sb**	**02 21 28.6**	**-0.9**
INZ	**Inchbonnie**	**1.25**	**308**	P*	**Pn**	**02 21 11.5**	**-2.6**
INZ				S*	**Sn**	**02 21 32.3**	**+1.3**
RPZ	**Rata Peaks**	**1.27**	**260**	Pg	**Pn**	**02 21 11.4**	**-3.0**
	4μm,0.3s,baz=107,slow=2.6,SNR=1180						
RPZ				Lg	Lg	02 21 29.3	
	16μm,0.3s,baz=322,slow=18,SNR=24						
RPZ	**Rata Peaks**	**1.27**	**260**	⇓P*	**Pn**	**02 21 11.3**	**-3.1**
RPZ				S*	**Sb**	**02 21 29.0**	**-2.1**
RPZ	**Rata Peaks**	**1.27**	**260**	*e*Pg	**Pn**	**02 21 11.8**	**-2.6**
RPZ				*e*Sg	**Sn**	**02 21 31.7**	**+0.1**
WVZ	**Waitaha Valley**	**1.56**	**285**	PN	**Pn**	**02 21 15.6**	**-2.6**
WVZ				SN	**Sg**	**02 21 42.4**	**+2.1**
WVZ				AML	AML	02 21 46.4	
WVZ	**Waitaha Valley**	**1.56**	**285**	Pn	**Pn**	**02 21 15.6**	**-2.6**
THZ	**Tophouse**	**1.74**	**3**	⇓PN	**Pn**	**02 21 18.9**	**-2.0**
THZ				SN	**Sb**	**02 21 44.8**	**+0.2**
THZ				AML	AML	02 22 01.4	
THZ	**Tophouse**	**1.74**	**3**	*e*Pn	**Pn**	**02 21 19.4**	**-1.4**
THZ				*e*Sn	**Sn**	**02 21 41.0**	**-2.3**
DSZ	**Denniston Nort**	**1.90**	**337**	PN	**Pn**	**02 21 21.1**	**-1.9**
DSZ				SN	**Sg**	**02 21 51.0**	**-0.4**
DSZ				AML	AML	02 21 52.3	
DSZ				AML	AML	02 21 53.2	
DSZ				AML	AML	02 22 01.3	
DSZ	**Denniston Nort**	**1.90**	**337**	Pn	**Pn**	**02 21 21.1**	**-1.9**
BSWZ	**Blackbirch Sta**	**1.96**	**25**	⇑PN	**Pn**	**02 21 22.0**	**-1.7**
BSWZ				AML	AML	02 22 09.3	
BSWZ				AML	AML	02 22 10.1	
BSWZ	**Blackbirch Sta**	**1.96**	**25**	⇑Pn	**Pn**	**02 21 22.1**	**-1.7**
CMWZ	**Cape Campbell**	**2.05**	**32**	*e*PN	**Pn**	**02 21 23.8**	**-1.1**
CMWZ				AML	AML	02 22 20.0	
CMWZ				AML	AML	02 22 29.6	
CMWZ	**Cape Campbell**	**2.05**	**32**	*e*Pn	**Pn**	**02 21 23.8**	**-1.1**
LBZ	**Lake Benmore**	**2.07**	**244**	⇑PN	**Pn**	**02 21 22.3**	**-3.1**
LBZ				SN	**Sb**	**02 21 54.7**	**+0.7**
LBZ				AML	AML	02 22 04.3	
LBZ				AML	AML	02 22 04.4	
LBZ				AML	AML	02 22 05.7	
LBZ	**Lake Benmore**	**2.07**	**244**	*e*Pn	**Pn**	**02 21 23.1**	**-2.3**
LBZ				*e*Sn	**Sn**	**02 21 50.9**	**-0.5**
FOZ	**Fox Glacier**	**2.16**	**268**	PN	**Pn**	**02 21 24.7**	**-1.8**
FOZ				SN	**Sn**	**02 21 53.2**	**-0.1**
FOZ				AML	AML	02 22 08.8	
FOZ				AML	AML	02 22 09.6	
FOZ				AML	AML	02 22 09.6	
FOZ	**Fox Glacier**	**2.16**	**268**	*e*Pn	**Pn**	**02 21 25.6**	**-0.9**
ODZ	**Otahua Downs**	**2.17**	**224**	⇑PN	**Pn**	**02 21 23.1**	**-3.6**
ODZ				SN	**Sb**	**02 21 56.8**	**-0.2**
ODZ				AML	AML	02 22 01.5	
ODZ				AML	AML	02 22 11.3	
ODZ				AML	AML	02 22 11.4	
ODZ	**Otahua Downs**	**2.17**	**224**	*e*Pn	**Pn**	**02 21 25.6**	**-1.1**
ODZ				*e*Sn	**Sb**	**02 21 56.1**	**-0.8**
TUWZ	**Tuamarina**	**2.24**	**23**	PN	**Pn**	**02 21 25.4**	**-2.3**
TUWZ				AML	AML	02 22 21.1	
TUWZ				AML	AML	02 22 22.0	
TUWZ	**Tuamarina**	**2.24**	**23**	Pn	**Pn**	**02 21 25.4**	**-2.3**
NNZ	**Nelson**	**2.33**	**11**	PN	**Pn**	**02 21 27.1**	**-1.8**
NNZ				SN	**Sn**	**02 21 59.4**	**+1.9**
NNZ				AML	AML	02 22 14.4	
NNZ				AML	AML	02 22 34.8	
NNZ				AML	AML	02 22 34.9	
NNZ	**Nelson**	**2.33**	**11**	Pn	**Pn**	**02 21 27.1**	**-1.8**
TCW	**Tory Channel**	**2.54**	**26**	PN	**Pn**	**02 21 29.1**	**-2.7**
TCW				AML	AML	02 22 35.6	
TCW				AML	AML	02 22 36.2	
TCW	**Tory Channel**	**2.54**	**26**	Pn	**Pn**	**02 21 29.1**	**-2.7**
BHW	**Baring Head**	**2.60**	**37**	PN	**Pn**	**02 21 29.9**	**-2.7**
BHW				AML	AML	02 22 40.0	
BHW				AML	AML	02 22 49.1	
BHW	**Baring Head**	**2.60**	**37**	Pn	**Pn**	**02 21 29.9**	**-2.7**
SNZO	**South Karori**	**2.61**	**34**	*e*Pn	**Pn**	**02 21 30.7**	**-2.0**
PLWZ	**Palliser**	**2.66**	**44**	PN	**Pn**	**02 21 30.2**	**-3.3**
PLWZ	**Palliser**	**2.66**	**44**	Pn	**Pn**	**02 21 30.2**	**-3.3**
WEL	**Wellington**	**2.66**	**34**	PN	**Pn**	**02 21 30.8**	**-2.6**
WEL				AML	AML	02 22 34.7	
WEL				AML	AML	02 22 38.9	
WEL	**Wellington**	**2.66**	**34**	P	**Pn**	**02 21 30.8**	**-2.6**
WEL	**Wellington**	**2.66**	**34**	Pn	**Pn**	**02 21 30.8**	**-2.6**
QRZ	**Quartz Range**	**2.68**	**356**	PN	**Pn**	**02 21 32.0**	**-1.7**
QRZ				AML	AML	02 22 22.2	
QRZ				AML	AML	02 22 22.3	
QRZ				AML	AML	02 22 24.7	
QRZ				AML	AML	02 22 26.8	
QRZ	**Quartz Range**	**2.68**	**356**	Pn	**Pn**	**02 21 32.0**	**-1.7**
MSWZ	**Moikau Station**	**2.77**	**42**	PN	**Pn**	**02 21 31.8**	**-3.1**
MSWZ				AML	AML	02 22 22.3	
MSWZ				AML	AML	02 23 00.1	
DUWZ	**D'Urville Isla**	**2.83**	**18**	*e*PN	**Pn**	**02 21 32.9**	**-2.9**
DUWZ	**D'Urville Isla**	**2.83**	**18**	*e*Pn	**Pn**	**02 21 32.9**	**-2.9**
HHSZ	**Highcliff Hill**	**2.84**	**212**	PN	**Pn**	**02 21 32.2**	**-3.8**
HHSZ	**Highcliff Hill**	**2.84**	**212**	Pn	**Pn**	**02 21 32.2**	**-3.8**
PAWZ	**Paruwai Farm**	**2.88**	**44**	*e*PN	**Pn**	**02 21 33.2**	**-3.3**
PAWZ				AML	AML	02 22 25.1	
PAWZ				AML	AML	02 22 49.3	
PAWZ	**Paruwai Farm**	**2.88**	**44**	*e*Pn	**Pn**	**02 21 33.2**	**-3.3**
CAW	**Cannon Point**	**2.93**	**36**	PN	**Pn**	**02 21 34.3**	**-2.9**
CAW				AML	AML	02 22 16.0	
CAW				AML	AML	02 22 53.0	
CAW	**Cannon Point**	**2.93**	**36**	Pn	**Pn**	**02 21 34.3**	**-2.9**
JCZ	**Jackson Bay**	**2.95**	**258**	PN	**Pn**	**02 21 34.3**	**-3.2**
JCZ				AML	AML	02 22 32.6	
JCZ				AML	AML	02 22 42.3	
JCZ	**Jackson Bay**	**2.95**	**258**	Pn	**Pn**	**02 21 34.3**	**-3.2**
TRWZ	**Traveller**	**3.01**	**47**	Pn	**Pn**	**02 21 34.7**	**-3.4**
WKZ	**Wanaka**	**3.02**	**243**	PN	**Pn**	**02 21 35.1**	**-3.2**
WKZ				AML	AML	02 22 31.4	
WKZ				AML	AML	02 22 31.4	
WKZ				AML	AML	02 22 32.0	
WKZ				AML	AML	02 22 32.5	
WKZ	**Wanaka**	**3.02**	**243**	*e*Pn	**Pn**	**02 21 35.7**	**-2.7**
EAZ	**Earnscleugh**	**3.03**	**234**	PN	**Pn**	**02 21 35.1**	**-3.4**
EAZ				AML	AML	02 22 31.8	
EAZ				AML	AML	02 22 31.8	
EAZ				AML	AML	02 22 32.4	
EAZ				AML	AML	02 22 32.5	
EAZ	**Earnscleugh**	**3.03**	**234**	Pn	**Pn**	**02 21 35.1**	**-3.4**
KIW	**Kapiti Island**	**3.08**	**32**	Pn	**Pn**	**02 21 36.5**	**-2.7**
MTW	**Mount Morrison**	**3.09**	**42**	Pn	**Pn**	**02 21 35.9**	**-3.4**
OGWZ	**Otaki Gorge**	**3.22**	**34**	*e*Pn	**Pn**	**02 21 38.1**	**-3.0**
HOWZ	**Holdsworth Sta**	**3.30**	**39**	Pn	**Pn**	**02 21 38.8**	**-3.4**
TUZ	**Tuapeka**	**3.32**	**221**	Pn	**Pn**	**02 21 38.9**	**-3.6**
MRZ	**Mangatainoka R**	**3.52**	**37**	Pn	**Pn**	**02 21 41.9**	**-3.3**
BFZ	**Birch Farm**	**3.82**	**44**	*e*Pn	**Pn**	**02 21 46.0**	**-3.3**
MLZ	**Mavora Lakes**	**3.83**	**239**	*e*Pn	**Pn**	**02 21 46.3**	**-3.1**
SYZ	**Scrubby Hill**	**3.98**	**219**	*e*Pn	**Pn**	**02 21 48.1**	**-3.5**
WAZ	**Wanganui**	**4.09**	**25**	Pn	**Pn**	**02 21 52.6**	**-0.5**
TSZ	**Takapari Road**	**4.18**	**36**	Pn	**Pn**	**02 21 51.6**	**-2.8**
WHZ	**Wether Hill Ro**	**4.19**	**234**	*e*Pn	**Pn**	**02 21 50.6**	**-3.9**
WHZ				*e*Sn	Sn	02 22 33.5	-10
KHEZ	**Kahui Hut**	**4.31**	**13**	*e*Pn	**Pn**	**02 21 55.9**	**-0.2**
PRHZ	**Porangahau**	**4.33**	**43**	*e*Pn	**Pn**	**02 21 52.7**	**-3.6**
PKE	**Pukeiti**	**4.40**	**12**	*e*Pn	**Pn**	**02 21 57.1**	**-0.3**
DREZ	**Durham Road**	**4.44**	**14**	*e*Pn	**Pn**	**02 21 57.5**	**-0.4**
DCZ	**Deep Cove**	**4.48**	**242**	*e*Pn	**Pn**	**02 21 55.5**	**-2.9**
DCZ				*e*Sn	**Sn**	**02 22 47.1**	**-3.5**
VRZ	**Vera Road**	**4.62**	**19**	*e*Pn	**Pn**	**02 21 59.5**	**-0.8**
TRVZ	**Turoa**	**4.69**	**27**	*e*Pn	**Pn**	**02 21 59.3**	**-2.1**
WHVZ	**Whangaehu Hut**	**4.72**	**28**	*e*Pn	**Pn**	**02 21 59.8**	**-2.0**
FWVZ	**Far West T-bar**	**4.73**	**27**	*e*Pn	**Pn**	**02 21 60.0**	**-2.1**
NGZ	**Ngauruhoe**

comp=Z,69nm,1.1s,baz=250,slow=5.3,SNR=3.2
RAR Rarotonga 31.87 55 *e*P **P 02 27 13.2 -2.6**
RAR pmax pmax
comp=Z,498nm,1.8s
RAR MLR MLR
comp=Z,10µm,19.0s
RAR Rarotonga 31.87 55 *e*P **P 02 27 13.2 -2.6**
comp=Z,498nm,1.8s
RAR LR LR
comp=Z,10µm,19.0s
CTA Charters Tower 32.21 308 P **P 02 27 18.8 -0.1**
comp=Z,35nm,0.8s,baz=144,slow=9.9,SNR=25
CTAO Charters Tower 32.21 308 *e*P **P 02 27 19.6 +0.7**
CTAO pmax pmax
comp=Z,79nm,1.0s
CTAO Charters Tower 32.21 308 *e*P **P 02 27 19.6 +0.7**
comp=Z,79nm,1.0s
CTAO LR LR
comp=Z,32µm,20.0s
AFI Afiamalu 32.34 29 P **P 02 27 18.1 -1.9**
comp=Z,20nm,0.7s,baz=174,slow=10,SNR=3.5
AFI LR LR 02 39 14.0
comp=Z,10µm,21.6s,baz=192,slow=34
AFI Afiamalu 32.34 29 *e*P **P 02 27 17.1 -2.9**
AFI pmax pmax
comp=Z,53nm,0.9s
AFI Afiamalu 32.34 29 *e*P **P 02 27 17.1 -2.9**
comp=Z,53nm,0.9s
VNDA Vanda 34.42 184 P **P 02 27 39.2 +1.7**
comp=Z,16nm,1.3s,baz=0.7,slow=8.7,SNR=16
VNDA LR LR 02 40 29.9
comp=Z,13µm,19.1s,baz=21,slow=34
VNDA Vanda 34.42 184 *e*P **P 02 27 38.7 +1.2**
comp=Z,84nm,1.8s
SBA Scott Base 34.55 182 *e*P **P 02 27 38.7 +0.1**
SBA pmax pmax
comp=Z,290nm,1.6s
SBA Scott Base 34.55 182 *e*P **P 02 27 41.2 +2.6**
comp=Z,293nm,1.6s
SBA LR LR
comp=Z,13µm,20.0s
HNR Honiara 35.74 338 P **P 02 27 49.8 +0.3**
comp=Z,293nm,1.1s,baz=193,slow=5.9,SNR=9.8
HNR S **S 02 33 28.2 +1.5**
comp=Z,188nm,1.0s,baz=174,slow=16,SNR=2.2
HNR LR LR 02 42 23.2
comp=Z,20µm,18.4s,baz=166,slow=36
HNR Honiara 35.74 338 *e*P **P 02 27 51.0 +1.5**
HNR Honiara 35.74 338 *e*P **P 02 27 49.8 +0.3**
comp=Z,3µm,2.0s
HNR S **S 02 33 28.2 +1.5**
TBI Tubuai 36.96 69 *e*S **S 02 33 40.6 -4.6**
comp=Z,2µm,25.0s
TBI *e*LQ LQ 02 36 26.9
comp=Z,15µm,24.2s
TBI *e*LR LR 02 38 02.2
comp=Z,8µm,28.8s
AS01 Alice Springs 37.49 289 *e*P **P 02 28 03.6 -0.9**
AS01 *e*PP **PP 02 29 20.5 -9.4**
AS01 *e*PcP **PcP 02 30 20.3 -2.5**
AS31 Alice Springs 37.52 289 *e*P **P 02 28 03.4 -1.3**
comp=Z,60nm,1.0s
AS31 *e*PP **PP 02 29 24.4 -5.8**
AS31 LR LR
comp=Z,400nm,19.0s
ASAR Alice Springs 37.52 289 P **P 02 28 03.1 -1.6**
comp=Z,146nm,1.0s,baz=132,slow=8.5,SNR=339
ASAR PcP **PcP 02 30 22.7 -0.2**
comp=Z,6.2nm,0.7s,baz=124,slow=3.6,SNR=4.0
ASAR S **S 02 33 51.9 -2.0**
comp=Z,1.2nm,0.9s,baz=134,slow=10,SNR=3.3
ASAR PKiKP **PKiKP 02 37 38.5 -0.8**
comp=Z,0.7nm,0.7s,baz=129,slow=1.3,SNR=5.8
ASAR LR LR 02 42 30.4
comp=Z,25µm,20.9s,baz=134,slow=35
COEN Coen 38.87 310 *e*P **P 02 28 15.5 -0.6**
comp=Z,86nm,1.1s
COEN LR LR
comp=Z,30µm,18.0s
WR0 Warramunga Arr 39.62 294 PFAKE 02 28 30.0 +7.7
WR0 LR LR
comp=Z,36µm,19.0s
WR9 Warramunga Arr 39.63 294 PFAKE 02 28 30.0 +7.5
WR9 LR LR
comp=Z,37µm,20.0s
WR8 Warramunga Arr 39.65 294 PFAKE 02 28 30.0 +7.4
WR8 LR LR
comp=Z,38µm,20.0s
WR7 Warramunga Arr 39.66 294 PFAKE 02 28 30.0 +7.3
WR7 LR LR
comp=Z,38µm,19.0s
WR6 Warramunga Arr 39.68 294 PFAKE 02 28 30.0 +7.2
WR6 LR LR
comp=Z,39µm,19.0s
WR5 Warramunga Arr 39.69 294 PFAKE 02 28 30.0 +7.0
WR5 LR LR
comp=Z,38µm,19.0s
WR4 Warramunga Arr 39.71 294 PFAKE 02 28 30.0 +6.9
WR4 LR LR
comp=Z,38µm,20.0s
WR3 Warramunga Arr 39.73 294 PFAKE 02 28 30.0 +6.8
WR3 LR LR
comp=Z,39µm,19.0s
WC3 Warramunga Arr 39.73 294 PFAKE 02 28 30.0 +6.7
WC3 LR LR
comp=Z,38µm,19.0s
WR2 Warramunga Arr 39.74 294 PFAKE 02 28 30.0 +6.6
WR2 LR LR
comp=Z,38µm,20.0s
WC4 Warramunga Arr 39.75 294 PFAKE 02 28 30.0 +6.6
WC4 LR LR
comp=Z,40µm,20.0s
WB2 Warramunga Arr 39.75 294 *e*P **P 02 28 22.1 -1.4**
comp=Z,213nm,0.8s
WB2 LR LR
comp=Z,41µm,20.0s
WC2 Warramunga Arr 39.76 294 PFAKE 02 28 30.0 +6.5
WC2 LR LR
comp=Z,42µm,19.0s
WRAB Tennant Creek 39.76 294 *i* P **P 02 28 23.3 -0.2**
WRAB pmax pmax
comp=Z,1µm,1.8s
WRAB Tennant Creek 39.76 294 *e*P **P 02 28 22.9 -0.6**
comp=Z,202nm,0.8s
WRAB LR LR
comp=Z,42µm,20.0s
WR1 Warramunga Arr 39.76 294 PFAKE 02 28 30.0 +6.5
WR1 LR LR
comp=Z,41µm,19.0s
WRA Warramunga Arr 39.76 294 P **P 02 28 22.0 -1.5**
comp=Z,134nm,0.8s,baz=135,slow=7.7,SNR=293
WRA PcP **PcP 02 30 29.5 -0.4**
comp=Z,7.8nm,0.8s,baz=129,slow=3.0,SNR=4.9
WRA S **S 02 34 26.2 -1.5**
comp=Z,1.8nm,1.0s,baz=118,slow=19,SNR=4.5
WRA LR LR 02 44 00.2
comp=Z,35µm,20.2s,baz=140,slow=35
WB3 Warramunga Arr 39.77 294 PFAKE 02 28 30.0 +6.4
WB3 LR LR
comp=Z,39µm,19.0s
WC1 Warramunga Arr 39.77 294 PFAKE 02 28 30.0 +6.3
WC1 LR LR
comp=Z,31µm,19.0s
WB4 Warramunga Arr 39.78 294 PFAKE 02 28 30.0 +6.3
WB4 LR LR
comp=Z,38µm,19.0s
WB5 Warramunga Arr 39.79 294 PFAKE 02 28 30.0 +6.2
WB5 LR LR
comp=Z,39µm,19.0s
WB6 Warramunga Arr 39.80 294 PFAKE 02 28 30.0 +6.1
WB6 LR LR
comp=Z,40µm,20.0s
WB8 Warramunga Arr 39.83 294 PFAKE 02 28 40.0 +16
WB8 LR LR
comp=Z,39µm,19.0s
WB9 Warramunga Arr 39.84 294 PFAKE 02 28 40.0 +16
WB9 LR LR
comp=Z,79µm,20.0s
WB0 Warramunga Arr 39.85 294 PFAKE 02 28 40.0 +16
WB0 LR LR
comp=Z,37µm,19.0s
CASY Casey 40.15 214 *e*P **P 02 28 28.5 +2.3**
comp=Z,89nm,1.2s
PMG Port Moresby 40.65 319 P **P 02 28 31.2 +0.4**
comp=Z,202nm,1.0s,baz=127,slow=4.4,SNR=41
PMG Port Moresby 40.65 319 *ce*P **P 02 28 30.9 0.0**
PMG pmax pmax
comp=Z,709nm,1.1s
PMG Port Moresby 40.65 319 *e*P **P 02 28 31.1 +0.2**
comp=Z,417nm,1.1s
PMG LR LR
comp=Z,32µm,19.0s
PAE Paea 40.87 63 *e*T T 03 10 55.0
comp=Z,99nm,0.4s
PPT2 Papeete2 40.92 63 *e*S **S 02 34 42.2 -2.9**
comp=Z,5µm,24.8s
PPT2 *e*LQ LQ 02 38 05.3
comp=Z,23µm,27.0s
PPT2 *e*LR LR 02 39 32.7
comp=Z,12µm,27.2s
PPT2 Papeete2 40.92 63 *e*T T 03 10 59.2
comp=Z,48nm,0.3s
PPT Papeete 40.94 63 P **P 02 28 31.8 -1.5**
comp=Z,68nm,1.2s,baz=233,slow=20,SNR=2.6
PPT Papeete 40.94 63 *e*P **P 02 28 31.4 -1.9**
PPT Papeete 40.94 63 *e*P **P 02 28 31.4 -1.9**
TVO Taravao 40.99 63 *e*T T 03 11 05.8
comp=Z,16nm,0.3s
TIAR Tiarei 41.09 63 *e*T T 03 11 12.2
comp=Z,14nm,0.3s
MEH Mehetia 41.70 65 *e*T T 03 12 02.2
comp=Z,31nm,0.3s
KNTN Kanton 42.83 23 PFAKE 02 29 00.0 +11
KNTN LR LR
comp=Z,17µm,20.0s
RABL Rabaul 43.20 329 *e*P **P 02 28 51.0 -0.7**
comp=Z,2µm,1.4s
RABL LR LR
comp=Z,12µm,22.0s
VAH Vaihoa 43.91 62 *e*T T 03 14 41.5
comp=Z,50nm,0.4s
NWAO Narrogin (SRO) 44.17 264 P **P 02 29 00.1 +0.7**
comp=Z,83nm,1.0s,baz=356,slow=7.4,SNR=13
NWAO Narrogin (SRO) 44.17 264 *e*P **P 02 28 59.8 +0.4**
NWAO *e* 02 29 01.0
NWAO pmax pmax
comp=Z,320nm,1.3s
NWAO Narrogin (SRO) 44.17 264 *e*P **P 02 28 59.8 +0.4**
comp=Z,317nm,1.4s
NWAO LR LR
comp=Z,8µm,20.0s
TARA Tarawa 44.66 0 *e*P **P 02 29 01.4 -2.0**
comp=Z,742nm,1.5s
TARA LR LR
comp=Z,12µm,18.0s
QSPA South Pole Qui 46.62 180 *e*P **P 02 29 20.3 +1.6**
QSPA LR LR
comp=Z,12µm,18.0s
FITZ Fitzroy Crossi 46.96 287 P **P 02 29 20.8 -0.8**
comp=Z,72nm,1.0s,baz=155,slow=8.2,SNR=28
FITZ Fitzroy Crossi 46.96 287 *e*P **P 02 29 20.8 -0.8**
comp=Z,319nm,1.5s
MTN Manton Dam 47.02 298 *e*P **P 02 29 22.4 +0.3**
comp=Z,162nm,0.9s
MTN LR LR
comp=Z,42µm,21.0s
MANU Manus Island 47.07 324 *e*P **P 02 29 22.4 -0.1**
comp=Z,2µm,1.9s
MANU LR LR
comp=Z,14µm,21.0s
MIR Mirnyy 47.13 213 ⇓*i*P P 02 29 27.0 +4.7
MIR *i* S **S 02 36 22.0 +7.6**
MIR pmax pmax
comp=Z,2µm,8.0s
MIR smax smax
comp=E,4µm,12.0s
MIR MLR MLR
comp=Z,11µm,15.0s
RKT Rikitea 47.31 82 *e*S **S 02 36 12.6 -5.5**
comp=Z,8µm,28.2s
RKT *e*LQ LQ 02 40 46.0
comp=Z,16µm,30.2s
RKT *e*LR LR 02 42 50.8
comp=Z,19µm,23.8s,baz=228
RKT Rikitea 47.31 82 *e*T T 03 19 02.9
comp=Z,7.1nm,0.3s
PTCN Pitcairn Islan 49.66 88 PFAKE 02 29 50.0 +7.5
PTCN LR LR
comp=Z,11µm,18.0s
JAY Jayapura 49.77 316 P **P 02 29 42.5 -0.8**
comp=Z,13nm,1.0s,baz=96,slow=21,SNR=46
JAY S **S 02 36 52.0 -0.9**
comp=Z,0.3nm,0.4s,baz=90,slow=20,SNR=2.5
JAY Jayapura 49.77 316 P **P 02 29 42.7 -0.7**
comp=Z,196nm,1.8s,comp=Z,2µm
GENI Genyem 49.98 315 P **P 02 29 45.7 +0.8**
comp=Z,232nm,1.8s,comp=Z,4µm
SAUI Saumlaki 50.62 302 PFAKE 02 30 00.0 +10
SAUI LR LR
comp=Z,21µm,20.0s
PATS Pohnpei 51.80 342 PFAKE 02 30 10.0 +11
PATS LR LR
comp=Z,10µm,18.0s
KWAJ Kwajalein Atol 52.27 354 PFAKE 02 30 10.0 +8.0
KWAJ LR LR
comp=Z,14µm,20.0s
XMAS Kiritimati 52.63 39 PFAKE 02 30 20.0 +15
XMAS LR LR
comp=Z,8µm,19.0s
TAOE Nuku Hiva Isla 53.51 64 *e*S **S 02 37 40.6 -4.0**
comp=Z,5µm,25.1s
TAOE *e*LQ LQ 02 43 04.8
comp=Z,14µm,26.4s
TAOE *e*LR LR 02 45 37.0
comp=Z,8µm,26.8s
TAOE Nuku Hiva Isla 53.51 64 PFAKE 02 30 20.0 +8.6
TAOE LR LR
comp=Z,6µm,18.0s
SOEI Soe 53.80 294 P **P 02 30 15.6 +2.0**
comp=Z,294nm,1.6s,comp=Z,5µm
SOEI Soe 53.80 294 *e*P **P 02 30 15.0 +1.4**
comp=Z,915nm,1.7s
SOEI LR LR
comp=Z,31µm,18.0s
FAKI Fak Fak 54.06 307 P **P 02 30 14.6 -0.7**
comp=Z,141nm,1.4s
FAKI Fak Fak 54.06 307 PFAKE 02 30 30.0 +15
FAKI LR LR
comp=Z,25µm,20.0s
MMRI Maumere 55.98 293 P **P 02 30 33.8 +4.6**
comp=Z,280nm,1.4s,comp=Z,6µm
MMRI Maumere 55.98 293 *e*P **P 02 30 29.4 +0.2**
comp=Z,566nm,1.4s
MMRI LR LR
comp=Z,12µm,20.0s
SWI Sorong 56.29 307 P **P 02 30 32.1 +0.7**
comp=Z,143nm,1.0s,comp=Z,3µm
MAW Mawson 57.41 205 P **P 02 30 39.6 +1.0**
comp=Z,29nm,1.0s,baz=121,slow=8.8,SNR=32
MAW S **S 02 38 35.2 0.0**
comp=Z,1.1nm,0.6s,baz=0.0,slow=14,SNR=2.0
MAW LR LR 02 54 21.8
comp=Z,15µm,19.3s,baz=122,slow=35
MAW PKP2bc 03 00 38.9
comp=Z,4.2nm,0.9s,baz=293,slow=4.9,SNR=5.4
MAW Mawson 57.41 205 *e*P **P 02 30 40.3 +1.6**
comp=Z,45nm,1.5s
MAW S **S 02 38 35.2 0.0**
MAW ⇑*e* 03 00 38.9
PLAI Plampang 58.87 289 P **P 02 30 50.2 +0.5**
comp=Z,190nm,1.6s,comp=Z,3µm
BSSI Bau Bau, Buton 58.97 293 P **P 02 30 50.8 +0.4**
comp=Z,173nm,1.6s,comp=Z,3µm
KDI Kendari 59.20 297 P **P 02 30 52.7 +0.8**
comp=Z,99nm,1.9s,comp=Z,2µm
TWSI Taliwang, Sumb 59.55 288 P **P 02 30 54.0 -0.4**
comp=Z,149nm,2.1s
KAPI Kappang 60.30 294 *e*P **P 02 30 59.8 +0.3**
comp=Z,560nm,1.7s
KAPI LR LR
comp=Z,9µm,20.0s
SPSI Sidrap Palu 61.06 294 P **P 02 31 05.3 +0.6**
comp=Z,125nm,1.7s,comp=Z,2µm
SRBI Singaraja 61.17 287 P **P 02 31 06.2 +0.8**
comp=Z,201nm,2.4s,comp=Z,4µm
LUWI Luwuk 61.32 299 P **P 02 31 06.5 +0.1**
comp=Z,387nm,1.7s,comp=Z,7µm
LUWI Luwuk 61.32 299 *e*P **P 02 31 06.3 -0.2**
comp=Z,564nm,1.3s
LUWI LR LR
comp=Z,14µm,21.0s
JAGI Jajag, Banyuwa 61.64 286 P **P 02 31 08.5 -0.1**
comp=Z,112nm,1.9s,comp=Z,3µm
JAGI Jajag, Banyuwa 61.64 286 *e*P **P 02 31 08.3 -0.3**
comp=Z,193nm,1.4s
JAGI LR LR
comp=Z,7µm,20.0s
TTSI Tana Toraja 61.72 295 P **P 02 31 09.6 +0.5**
comp=Z,99nm,1.7s,comp=Z,2µm
ABJI Asem Bagus 62.06 287 P **P 02 31 13.1 +1.7**
comp=Z,276nm,1.1s,comp=Z,5µm
JOHN Johnston Islan 62.10 19 PFAKE 02 31 20.0 +8.5
JOHN LR LR
comp=Z,7µm,20.0s
GMJI Gumukmas 62.27 286 P **P 02 31 13.1 +0.2**
comp=Z,231nm,1.6s,comp=Z,3µm
GUMO Guam 62.29 329 PFAKE 02 31 20.0 +7.2
GUMO LR LR
comp=Z,5µm,22.0s
BLJI Banyuglugur 62.54 286 P **P 02 31 15.8 +1.2**
comp=Z,257nm,1.1s,comp=Z,4µm
SYO Syowa Base 62.58 197 ⇓*i*P P **02 31 12.6 -1.6**
SYO Syowa Base 62.58 197 ⇓*i*pP P **02 31 13.7 -0.5**
SYO Syowa Base 62.58 197 ⇓*i*sP P **02 31 15.4 +1.2**
MRSI Marisa 63.02 300 P **P 02 31 18.5 +0.7**
comp=Z,79nm,2.1s,comp=Z,2µm
PMSA Palmer Station 63.31 156 P **P 02 31 21.4 +2.3**
comp=Z,71nm,1.1s,baz=238,slow=7.2,SNR=12
PMSA Palmer Station 63.31 156 P **P 02 31 21.4 +2.3**
PMSA LR LR
comp=Z,10µm,19.0s
RPN Rapa Nui 63.43 103 PFAKE 02 31 30.0 +10
RPN LR LR
comp=Z,10µm,18.0s
PWJI Pagerwojo 63.60 285 P **P 02 31 22.4 +0.7**
comp=Z,156nm,1.7s,comp=Z,3µm
PCJI Pacitan 63.92 284 P **P 02 31 25.7 +1.9**
comp=Z,262nm,1.6s,comp=Z,4µm
NGJI Ngawi 64.30 285 P **P 02 31 29.5 +3.2**
comp=Z,262nm,2.2s,comp=Z,4µm
UGM Wanagama 64.58 284 PFAKE 02 31 40.0 +12
UGM LR LR
comp=Z,14µm,20.0s
BBKI Banjar Baru 64.75 291 P **P 02 31 30.5 +1.3**
comp=Z,312nm,1.8s,comp=Z,11µm
SNAA Sanae 65.09 182 P **P 02 31 32.3 +1.5**
SNAA Sanae 65.09 182 ⇓*e*P **P 02 31 29.9 -0.9**
SNAA Sanae 65.09 182 *e*P **P 02 31 31.4 +0.6**
comp=Z,450nm,1.8s
SNAA *e*PP PP 02 33 42.6 -11
SNAA LR LR
comp=Z,8µm,20.0s
NVL N'lazarevskaya 65.21 187 *e*P **P 02 31 34.3 +2.8**
NVL *e**PP **sP 02 31 37.6 +2.3**
NVL *e*S **S 02 40 15.2 +0.9**
NVL MLR MLR
comp=Z,17µm,19.0s
SMRI Semarang 65.24 284 *e*P **P 02 31 29.2 -3.2**
comp=Z,688nm,1.6s
SMRI LR LR
comp=Z,12µm,20.0s
PAF Port-aux-Franc 65.45 225 PFAKE 02 31 40.0 +6.6
PAF LR LR
comp=Z,11µm,21.0s
DAV Davao City (W) 66.00 307 P **P 02 31 38.0 +0.8**
comp=Z,170nm,0.3s,baz=32,slow=1.6,SNR=11
DAV Davao City (W) 66.00 307 ⇑*e*P **P 02 31 32.7 -4.6**
DAV Davao City (W) 66.00 307 P **P 02 31 38.6 +1.3**
SNR=13
DAV Davao City (W) 66.00 307 P **P 02 31 38.0 +0.8**
DAV LR LR
comp=Z,6µm,19.0s
KPJI Karang Pucung 66.11 283 P **P 02 31 39.0 +0.9**
comp=Z,205nm,1.1s,comp=Z,4µm
VNA1 Neumayer--Stat 66.16 180 P **P 02 31 38.3 +0.8**
XMIS Christmas Isla 66.29 278 *e*P **P 02 31 39.5 +0.2**
comp=Z,147nm,0.8s
XMIS LR LR
comp=Z,10µm,21.0s
MTKI Muara Teweh, K 66.55 293 P **P 02 31 42.9 +2.0**
comp=Z,566nm,1.8s,comp=Z,9µm
CISI Cisompet, Garu 66.74 282 P **P 02 31 42.8 +0.6**
comp=Z,272nm,2.2s,comp=Z,10µm
CISI Cisompet, Garu 66.74 282 *e*P **P 02 31 40.5 -1.8**
comp=Z,577nm,1.5s
CISI LR LR
comp=Z,13µm,20.0s
CNJI Cibinong 67.40 282 P **P 02 31 47.1 +0.8**
comp=Z,343nm,2.1s,comp=Z,6µm
SKJI Sukabumi 68.02 282 P **P 02 31 52.6 +2.4**
comp=Z,421nm,1.2s,comp=Z,6µm
MYLDM Lahad Datu 68.81 300 *e*P **P 02 31 56.1 +1.0**
comp=Z,491nm,1.6s
MYLDM *e*PP PP 02 34 10.7 -16
MYLDM LR LR
comp=Z,12µm,19.0s
CGJI Cibinong 68.91 281 P **P 02 31 56.1 +0.3**
comp=Z,195nm,1.2s,comp=Z,3µm
UWE Uwekahuna 69.14 32 *e*P **P 02 31 58.4 +1.3**
comp=Z,529nm,1.5s
UWE LR LR
comp=Z,7µm,20.0s
POHA Pohakuloa 69.35 32 PFAKE 02 32 10.0 +11
POHA LR LR
comp=Z,8µm,21.0s
HPAH Hawaii Prepara 69.53 32 PFAKE 02 32 10.0 +11
HPAH LR LR
comp=Z,8µm,21.0s
STKI Sintang 69.60 291 P **P 02 32 01.5 +1.4**
comp=Z,176nm,1.1s,comp=Z,14µm
KEKH Kekaha 69.90 27 PFAKE 02 32 10.0 +8.4
KEKH LR LR
comp=Z,12µm,22.0s
KIP Kipapa 69.96 29 PFAKE 02 32 10.0 +8.0
KIP LR LR
comp=Z,7µm,19.0s
HLK Haleakala 69.99 31 PFAKE 02 32 10.0 +7.5
HLK LR LR
comp=Z,4µm,20.0s
OPA Opana 70.20 29 *e*P P 02 32 10.6 +7.1
OPA Opana 70.20 29 PFAKE 02 32 20.0 +17
OPA LR LR
comp=Z,8µm,20.0s
KASI Kota Agung 70.52 281 P **P 02 32 06.1 +0.4**
comp=Z,132nm,2.0s,comp=Z,2µm
SBUM Sibu 70.84 293 ⇓P **P 02 32 07.8 +0.1**
SBUM Sibu 70.84 293 *e*P **P 02 32 07.3 -0.4**
comp=Z,396nm,1.9s
SBUM *e*PP **PP 02 34 45.2 +0.4**
SBUM LR LR
comp=Z,10µm,19.0s
KKM Kota Kinabalu 70.92 299 *e*P **P 02 32 08.4 +0.2**
comp=Z,563nm,1.9s
KKM LR LR
comp=Z,8µm,20.0s
LWLI Liwa 71.18 281 P **P 02 32 11.0 +1.1**
comp=Z,206nm,0.8s
KSM Kuching 71.42 291 ⇑P **P 02 32 11.4 +0.3**
KSM Kuching 71.42 291 *e*P **P 02 32 10.8 -0.3**
comp=Z,71nm,1.0s
KSM *e*PP **PP 02 34 49.1 -0.6**
KSM LR LR
comp=Z,7µm,22.0s
COCO West Island 71.54 271 PFAKE 02 32 20.0 +8.1
COCO LR LR
comp=Z,6µm,20.0s
PPBI Pangkal Pinang 71.70 285 P **P 02 32 13.3 +0.4**
comp=Z,196nm,1.9s,comp=Z,8µm
MIDW Midway 71.94 9 PFAKE 02 32 30.0 +16
MIDW LR LR
comp=Z,6µm,21.0s
MNAI Manna 72.42 281 PFAKE 02 32 30.0 +13
MNAI LR LR
comp=Z,10µm,22.0s
KSI Kapahiang 73.17 281 P **P 02 32 22.2 +0.4**
comp=Z,313nm,0.7s,comp=Z,8µm
DSRI Dabo 73.99 285 P P 02 32 31.1 +4.6
comp=Z,195nm,0.8s,comp=Z,16µm
TGY Tagaytay City 74.33 308 P **P 02 32 29.0 +0.6**
comp=Z,208nm,0.3s,baz=125,slow=18,SNR=2.7
EFI East Falkland 75.48 150 PFAKE 02 32 50.0 +15
EFI LR LR
comp=Z,8µm,21.0s
PPSI Pulau Pagai 75.64 280 P **P 02 32 38.7 +2.7**
comp=Z,341nm,1.3s,comp=Z,6µm
JCJ Chichijima 75.67 332 LR LR 03 04 42.0
comp=Z,1µm,18.8s,baz=133,slow=35
MYKOM Kota Tinggi 76.11 286 ⇑P **P 02 32 38.9 +0.2**
MYKOM Kota Tinggi 76.11 286 *e*P **P 02 32 38.4 -0.3**
comp=Z,362nm,1.7s
MYKOM *e*PP **PP 02 35 28.5 -1.1**

MYKOM LR LR
comp=Z,11µm,21.0s
PDSI Padang 76.60 282 P **P** **02 32 40.5 -1.0**
comp=Z,64nm,0.9s,comp=Z,9µm
PPI Padang Panjang 76.96 282 P **P** **02 32 42.7 -0.8**
comp=Z,97nm,1.8s,comp=Z,2µm
BKNI Bangkinang 77.05 283 PFAKE 02 33 00.0 +16
BKNI LR LR
comp=Z,11µm,22.0s
MNSI Mandailing Nat 78.42 282 P **P** **02 32 50.7 -1.0**
comp=Z,97nm,1.4s,comp=Z,13µm
PLCA Paso Flores 78.59 136 P **P** **02 32 52.2 -0.2**
comp=Z,21nm,1.1s,baz=248,slow=4.0,SNR=7.5
PLCA LR LR 03 01 14.8
comp=Z,7µm,18.5s,baz=240,slow=31
PLCA Paso Flores 78.59 136 *e*P **P** **02 32 52.4 0.0**
PLCA pmax pmax
comp=Z,170nm,1.7s
PLCA Paso Flores 78.59 136 *e*P **P** **02 32 52.4 0.0**
comp=Z,170nm,1.7s
HOPE Hope Point 79.43 163 *e*P **P** **02 32 57.4 +0.9**
comp=Z,1µm,1.6s
HOPE LR LR
comp=Z,22µm,21.0s
IPM Ipoh 79.99 286 *e*P **P** **02 32 58.6 -1.7**
comp=Z,211nm,1.7s
IPM LR LR
comp=Z,13µm,21.0s
GSI Gunungsitoli 80.20 281 P **P** **02 33 02.5 +1.1**
comp=Z,391nm,2.0s,comp=Z,7µm
GSI Gunungsitoli 80.20 281 *e*P **P** **02 33 01.5 +0.1**
comp=Z,503nm,1.3s
GSI *e*PP **PP** **02 36 04.2 +0.3**
GSI LR LR
comp=Z,7µm,20.0s
PSI Prapat 80.29 283 *e*P **P** **02 32 59.2 -2.8**
PSI pmax pmax
comp=Z,185nm,1.5s
PSI MLR MLR
comp=Z,12µm,21.0s
PSI Prapat 80.29 283 *e*P **P** **02 32 59.2 -2.8**
comp=Z,185nm,1.5s
PSI LR LR
comp=Z,12µm,21.0s
KULM Kulim 80.82 286 *e*P **P** **02 33 03.7 -1.0**
comp=Z,135nm,1.3s
KULM LR LR
comp=Z,13µm,21.0s
TSI Tuntungan 81.03 283 P **P** **02 33 06.8 +1.0**
comp=Z,314nm,2.0s,comp=Z,6µm
JOW Kunigami 81.04 321 PFAKE 02 33 20.0 +14
JOW LR LR
comp=Z,3µm,21.0s
TWG Pinlang 81.29 313 PFAKE 02 33 20.0 +13
TWG LR LR
comp=Z,13µm,20.0s
KCSI Kotacane, Aceh 81.61 283 P **P** **02 33 08.5 -0.4**
comp=Z,90nm,2.2s,comp=Z,2µm
YOJ Yonaguni jima 81.62 315 PFAKE 02 33 20.0 +11
YOJ LR LR
comp=Z,6µm,21.0s
YULB Yu-li 81.64 313 PFAKE 02 33 20.0 +11
YULB LR LR
comp=Z,3µm,19.0s
TPTI 81.84 282 P **P** **02 33 10.3 +0.2**
comp=Z,141nm,1.4s,comp=Z,2µm
TPUB Ta-pu 81.92 313 PFAKE 02 33 20.0 +10
TPUB LR LR
comp=Z,3µm,20.0s
NACB Ninganchiao 82.12 314 PFAKE 02 33 20.0 +8.7
NACB LR LR
comp=Z,4µm,20.0s
SSLB Suanglung 82.14 313 *e*P **P** **02 33 09.3 -2.1**
comp=Z,30nm,1.1s
SSLB LR LR
comp=Z,4µm,20.0s
SKLT Songkhla 82.18 288 P **P** **02 33 12.4 +0.5**
comp=Z,122nm,1.5s
YHNB Yeheng 82.64 314 PFAKE 02 33 20.0 +5.9
YHNB LR LR
comp=Z,4µm,21.0s
TATO Taipei 82.83 314 PFAKE 02 33 30.0 +15
TATO LR LR
comp=Z,6µm,21.0s
MLSI Meulaboh, Aceh 83.10 282 P **P** **02 33 17.2 +0.5**
comp=Z,207nm,1.3s
TRTT Trang 83.30 287 P **P** **02 33 18.1 +0.4**
comp=Z,164nm,2.1s,comp=Z,3µm
LHMI Lhok Sumawe 83.38 284 PFAKE 02 33 30.0 +12
LHMI LR LR
comp=Z,7µm,20.0s
PKDT Phuket 84.28 286 P **P** **02 33 24.0 +1.3**
comp=Z,120nm,1.2s,comp=Z,2µm
QZH Quanzhou 84.33 312 ⇑ *i*P **P** **02 33 17.9 -4.8**
QZH PP **PP** **02 36 34.5 -3.4**
QZH Quanzhou 84.33 312 SKS SKSac 02 43 35.2 -11
QZH Quanzhou 84.33 312 S **S** **02 43 42.7 -5.9**
QZH Quanzhou 84.33 312 SS SS 02 49 12.8 -6.3
SURT Suratani 84.71 288 P **P** **02 33 26.8 +1.9**
comp=Z,35nm,1.8s,comp=Z,748nm
UBPT Khong Chiam 84.77 297 P **P** **02 33 26.4 +1.3**
comp=Z,60nm,2.4s
QIZ Qiongzhong 84.79 302 P **P** **02 33 28.1 +2.9**
QIZ PP **PP** **02 36 44.4 +2.7**
QIZ S **S** **02 43 55.1 +1.7**
QIZ SS **SS** **02 49 31.9 +5.9**
QIZ LN
comp=Z,790nm,21.6s
QIZ LE
comp=Z,2µm,20.8s
QIZ LZ
comp=Z,3µm,20.2s
QIZ Qiongzhong 84.79 302 *e*P **P** **02 33 25.1 0.0**
comp=Z,188nm,1.9s
QIZ *e*PP **PP** **02 36 44.4 +2.7**
QIZ LR LR
comp=Z,4µm,20.0s
TRQA Tornquist 84.85 140 *e*P **P** **02 33 26.1 +0.7**
comp=Z,99nm,1.5s
TRQA LR LR
comp=Z,11µm,20.0s
INU Inuyama 84.98 331 *e*P **P** **02 33 25.1 -0.6**
comp=Z,74nm,1.3s
INU LR LR
comp=Z,4µm,22.0s
CHBT CHBT 85.01 293 P **P** **02 33 28.0 +1.7**
comp=Z,125nm,2.2s
JNU Nakatsue 85.33 326 P **P** **02 33 27.8 +0.2**
comp=Z,22nm,0.9s,baz=158,slow=4.1,SNR=9.0
JNU LR LR 03 06 52.7
comp=Z,1µm,21.2s,baz=158,slow=32
JNU Nakatsue 85.33 326 *e*P **P** **02 33 28.4 +0.8**
comp=Z,168nm,1.4s
MJAR Matsushiro Arr 85.65 333 P **P** **02 33 28.5 -0.6**
comp=Z,1.8nm,0.5s,baz=172,slow=5.2,SNR=8.3
MJAR LR LR 03 07 45.9
comp=Z,1µm,21.8s,baz=170,slow=33
MAJO Matsushiro 85.65 333 *i* P **P** **02 33 29.5 +0.4**
MAJO pmax pmax
comp=Z,413nm,1.9s
MAJO Matsushiro 85.65 333 *e*P **P** **02 33 28.0 -1.1**
comp=Z,159nm,2.0s
MAJO LR LR
comp=Z,4µm,20.0s
MJB9 Matsu-Tunnel 85.66 333 *e*P **P** **02 33 29.1 0.0**
comp=Z,40nm,2.0s
MJB9 LR LR
comp=Z,1µm,20.0s
GZH Guangzhou 85.80 307 P **P** **02 33 32.9 +2.8**
GZH PP **PP** **02 36 53.9 +4.0**
GZH S **S** **02 44 05.6 +2.4**
GZH PMZ
comp=Z,950nm,7.5s
SRAK Srakaew 86.11 293 P **P** **02 33 30.9 -0.9**
comp=Z,74nm,1.3s,comp=Z,1µm
PATY Pattaya 86.11 292 P P 02 33 37.0 +5.2
comp=Z,16nm,1.8s
PANO Nakornpanom 86.69 297 P **P** **02 33 36.0 +1.4**
comp=Z,74nm,1.8s,comp=Z,2µm
PHET Kaeng Krachan 86.94 291 P **P** **02 33 38.1 +2.2**
comp=Z,19nm,1.0s,comp=Z,236nm
SKNT Sakolnakorn 86.98 297 P **P** **02 33 36.5 +0.5**
comp=Z,44nm,2.1s
LCO Las Campanas 87.34 128 *e*P **P** **02 33 39.3 +1.1**
comp=Z,240nm,1.9s
SSE Sheshan 87.98 318 P **P** **02 33 42.5 +2.0**
SSE sP **sP** **02 33 47.2 +2.8**

SSE PP **PP** **02 37 11.6 +4.2**
SSE S **S** **02 44 30.7 +6.7**
SSE sS **ScS** **02 44 36.3 +6.0**
SSE PMZ
comp=Z,21nm,0.7s
SSE PMZ
comp=Z,420nm,2.8s
SSE LN
comp=Z,3µm,36.7s
SSE LE
comp=Z,2µm,36.7s
SSE LZ
comp=Z,4µm,32.9s
SRDT SRDT 88.31 291 P P 02 33 47.5 +5.0
comp=Z,207nm,2.0s,comp=Z,10µm
ERM Erimo 89.20 338 PFAKE 02 34 00.0 +14
ERM LR LR
comp=Z,6µm,19.0s
TJN Taejon 89.59 325 *c*eP **P** **02 33 48.4 +0.4**
UTTA Uttaradit 89.78 295 P **P** **02 33 51.6 +2.3**
comp=Z,4.7nm,0.9s
UMPA Umpang Tak 89.81 293 P P 02 33 56.2 +6.7
comp=Z,9.7nm,1.7s,comp=Z,838nm
NJ2 Nanjing 89.91 317 *e*P **P** **02 33 51.4 +1.8**
NJ2 PP **PP** **02 37 23.9 +1.1**
NJ2 S **S** **02 44 45.0 +2.9**
NJ2 PMZ
comp=Z,39nm,0.9s
NJ2 PMZ
comp=Z,450nm,5.4s
NJ2 LN
comp=Z,2µm,28.7s
NJ2 LE
comp=Z,1µm,27.1s
NJ2 LZ
comp=Z,680nm,17.3s
KSRS Korea Array 90.28 326 P **P** **02 33 51.6 +0.5**
comp=Z,16nm,0.9s,baz=146,slow=5.4,SNR=46
KSRS LR LR 03 10 15.0
comp=Z,1µm,21.9s,baz=160,slow=33
KS15 Wonju Array Si 90.29 326 *e*P **P** **02 33 53.5 +2.2**
KSAR Wonju Array Be 90.29 326 P **P** **02 33 51.7 +0.5**
KSAR Wonju Array Be 90.29 326 P **P** **02 33 51.6 +0.5**
KS01 Wonju Array Si 90.31 326 *e*P **P** **02 33 51.0 -0.4**
PBA Port Blair 90.83 285 *e*P P 02 33 53.4 -0.9
INCN Inchon 90.84 325 P **P** **02 33 56.6 +2.8**
SNR=8.1
INCN P **P** **02 33 56.6 +2.8**
SNR=8.1
INCN Inchon 90.84 325 PFAKE 02 34 00.0 +6.2
INCN LR LR
comp=Z,2µm,20.0s
WHN Wuhan 91.05 313 ⇓ P **P** **02 33 55.1 +0.2**
WHN SKS **SKSac** **02 44 28.0 +1.0**
WHN S **S** **02 44 52.2 -0.4**
WHN PMZ
comp=Z,890nm,3.0s
WHN LN
comp=Z,4µm,16.4s
WHN LE
comp=Z,1µm,16.8s
WHN LZ
comp=Z,7µm,22.3s
ASAJ Asahikawa 91.31 339 P **P** **02 33 55.9 +0.1**
comp=Z,3.9nm,0.4s,baz=270,slow=27,SNR=3.8
ASAJ Asahikawa 91.31 339 P **P** **02 33 55.9 +0.1**
ASAJ pmax pmax
comp=Z,9.0nm,0.8s
ASAJ Asahikawa 91.31 339 *e*P **P** **02 33 57.6 +1.9**
comp=Z,63nm,1.2s
ASAJ *e*PP **PP** **02 37 33.7 0.0**
ASAJ LR LR
comp=Z,2µm,18.0s
CMAR Chiang Mai Arr 91.36 294 P **P** **02 33 57.4 +0.7**
comp=Z,11nm,0.9s,baz=158,slow=3.4,SNR=25
CMAR LR LR 03 18 10.4
comp=Z,2µm,19.7s,baz=150,slow=38
CMAR Chiang Mai Arr 91.36 294 P **P** **02 33 57.4 +0.7**
CMAR pmax pmax
comp=Z,11nm,0.9s
CMAR MLR MLR
comp=Z,2µm,19.7s
CMMT Chiang Mai 91.61 294 P **P** **02 33 59.7 +1.9**
comp=Z,47nm,1.8s,comp=Z,892nm
CHTO Chiang Mai 91.61 294 P **P** **02 33 59.8 +2.0**
comp=Z,159nm,2.4s,comp=Z,4µm
CHTO Chiang Mai 91.61 294 *e*P **P** **02 33 59.3 +1.4**
CHTO *e* 02 37 33.9
CHTO pmax pmax
comp=Z,139nm,1.9s
CHTO MLR MLR
comp=Z,3µm,20.0s
CHTO Chiang Mai 91.61 294 *e*P **P** **02 33 59.3 +1.4**
comp=Z,139nm,1.9s
CHTO *e*PP **PP** **02 37 33.9 -2.6**
CHTO LR LR
comp=Z,3µm,20.0s
DGPR DIGLIPUR 91.75 286 *e*P **P** **02 33 55.7 -2.8**
DGPR IAMs_20 IAMs_20 03 24 19.4
comp=Z,3µm,6.5s
GYA Guiyang 92.29 305 ⇑ *i*P **P** **02 34 02.1 +1.1**
GYA PP **PP** **02 37 47.5 +5.6**
GYA SKS **SKSac** **02 44 35.8 +1.3**
GYA S **S** **02 45 05.0 +0.7**
GYA SS **SS** **02 51 20.2 +4.8**
GYA PMZ
comp=Z,60nm,1.0s
GYA PMZ
comp=Z,120nm,8.2s
GYA LN
comp=Z,8µm,19.2s
GYA LE
comp=Z,6µm,19.8s
GYA LZ
comp=Z,7µm,20.0s
DGAR Diego Garcia 92.38 258 PFAKE 02 34 10.0 +8.4
DGAR LR LR
comp=Z,5µm,18.0s
PB04 IPOC Station P 92.72 124 PFAKE 02 34 20.0 +17
PB04 LR LR
comp=Z,6µm,19.0s
LVC Limon Verde 93.25 125 *e*P **P** **02 34 08.4 +2.4**
comp=Z,22nm,1.3s
MSHR Mys Shultsa 93.48 331 *i* P **P** **02 34 05.8 -0.1**
ENH Enshi 93.51 309 *e*P **P** **02 34 07.2 +0.8**
comp=Z,31nm,1.2s
ENH *e*PP **PP** **02 37 50.8 -0.6**
ENH LR LR
comp=Z,3µm,19.0s
KMI Kunming 93.70 301 P **P** **02 34 09.9 +2.3**
KMI pP sP 02 34 20.4 +8.8
KMI PP **PP** **02 37 55.8 +2.7**
KMI SKS **SKSac** **02 44 43.6 +1.0**
KMI S **S** **02 45 15.9 -1.2**
KMI SS **SS** **02 51 30.8 -5.0**
KMI PMZ
comp=Z,27nm,1.8s
KMI PMZ
comp=Z,300nm,3.3s
KMI LN
comp=Z,3µm,22.9s
KMI LE
comp=Z,2µm,20.3s
KMI LZ
comp=Z,5µm,26.8s
YSS Yuzh-Sakhalins 93.91 340 ⇑ *e*P **P** **02 34 07.6 -0.1**
YSS *e* 02 37 53.7
YSS *e*S **S** **02 45 16.8 -0.6**
YSS *e*SS **SS** **02 51 29.0 -8.8**
YSS pmax pmax
comp=Z,500nm,5.0s
YSS smax smax
comp=N,2µm,19.0s
YSS Yuzh-Sakhalins 93.91 340 PFAKE 02 34 20.0 +12
YSS LR LR
comp=Z,900nm,20.0s
PB01 IPOC Station P 94.09 124 PFAKE 02 34 20.0 +10
PB01 LR LR
comp=Z,6µm,20.0s
TIA Tai'an 94.10 318 ⇓ P **P** **02 34 09.1 +0.2**
TIA PP **PP** **02 37 55.4 -0.5**
TIA SKS **SKSac** **02 44 41.9 -1.9**
TIA S **ScS** **02 45 23.6 +2.6**
TIA PMZ
comp=Z,30nm,2.0s
TIA PMZ
comp=Z,720nm,7.0s
TIA LN
comp=Z,2µm,28.0s
TIA LE
comp=Z,2µm,28.0s
TIA LZ
comp=Z,4µm,27.0s
DL2 Dalian 94.19 322 ⇓ *i*P **P** **02 34 11.8 +2.6**
DL2 PP **PP** **02 38 01.6 +5.2**
DL2 SKS **SKSac** **02 44 44.9 +0.9**
DL2 S **ScS** **02 45 21.1 -0.4**
DL2 SS **SS** **02 51 41.6 -0.4**
DL2 PMZ
comp=Z,24nm,1.3s
DL2 PMZ
comp=Z,270nm,7.5s
DL2 LN
comp=Z,2µm,25.5s
DL2 LZ
comp=Z,4µm,30.4s
PAYG Puerto Ayora 94.58 95 PFAKE 02 34 20.0 +8.2
PAYG LR LR
comp=Z,8µm,20.0s
USRK Ussuriysk Ar. 94.61 332 P **P** **02 34 10.5 -0.5**
comp=Z,1.5nm,0.7s,baz=191,slow=7.8,SNR=6.3
USRK LR LR 03 13 47.0
comp=Z,2µm,20.8s,baz=145,slow=34
MDJ Mudanjiang 95.81 331 P P 02 34 22.4 +5.9
MDJ PMZ
comp=Z,13nm,0.5s
MDJ PMZ
comp=Z,240nm,8.8s
MDJ Mudanjiang 95.81 331 PFAKE 02 34 30.0 +13
MDJ LR LR
comp=Z,3µm,20.0s
SMY Shemya 95.86 1 PFAKE 02 34 30.0 +14
SMY LR LR
comp=Z,6µm,22.0s
NNA Nana 96.10 113 PFAKE 02 34 30.0 +11
NNA LR LR
comp=Z,26µm,20.0s
RUS Russkaya 96.35 351 PFAKE 02 34 30.0 +11
RUS LR LR
comp=Z,2µm,19.0s
PALK Pallekele 96.46 274 PFAKE 02 34 30.0 +10
PALK LR LR
comp=Z,5µm,20.0s
XAN Xi'an 96.66 311 P **P** **02 34 21.8 +1.0**
XAN PP **PP** **02 38 16.4 +0.5**
XAN SKS **SKSac** **02 44 57.6 0.0**
XAN S **S** **02 45 41.1 -1.0**
XAN SS **SS** **02 52 19.2 +1.7**
XAN LN
comp=Z,1µm,30.2s
XAN LE
comp=Z,2µm,27.1s
XAN LZ
comp=Z,3µm,29.0s
CN2 Changchun 96.67 328 *e*P **P** **02 34 18.3 -2.1**
CN2 PP **PP** **02 38 14.6 -1.0**
CN2 SS SS 02 52 13.9 -3.2
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,300nm,5.0s
CN2 LN
comp=Z,2µm,21.0s
CN2 LE
comp=Z,1µm,21.0s
CN2 LZ
comp=Z,2µm,21.0s
CPUP Villa Florida 96.67 136 P **P** **02 34 20.8 -0.3**
comp=Z,18nm,1.4s,baz=205,slow=3.5,SNR=5.4
CPUP PKKP **PKKPdf** **02 51 06.2 +3.7**
comp=Z,1.3nm,0.8s,baz=149,slow=4.5,SNR=3.5
CPUP LR LR 03 12 00.7
comp=Z,4µm,19.1s,baz=210,slow=32
CPUP Villa Florida 96.67 136 *e*P **P** **02 34 19.9 -1.2**
CPUP PKKP **PKKPdf** **02 51 06.2 +3.7**
PET Petropavlovsk 96.92 351 *e*P **P** **02 34 19.8 -1.5**
PET *e* 02 38 14.7
PET *e* 02 44 51.7
PET *e*S **S** **02 45 37.6 -5.6**
PET *e*PS **PS** **02 47 07.0 +1.2**
PET *e*PPS PPS 02 47 40.8
PET *e*SS **SS** **02 52 22.4 +2.1**
PET pmax pmax
comp=Z,200nm,13.6s
PET pmax pmax
comp=Z,300nm,10.9s
PET MLR MLR
comp=Z,3µm,19.0s
PET MLR MLR
comp=Z,2µm,18.0s
PET Petropavlovsk 96.92 351 PFAKE 02 34 30.0 +8.7
PET LR LR
comp=Z,3µm,20.0s
PEA0B Petropavlovsk- 97.11 351 PFAKE 02 34 30.0 +7.7
PEA0B LR LR
comp=Z,3µm,20.0s
PETK Petropavlovsk- 97.11 351 LR LR 03 16 51.2
comp=Z,2µm,18.3s,baz=164,slow=35
CD2 Chengdu 97.28 306 P Pdif 02 34 24.0 +0.3
CD2 pP sP 02 34 27.3 -0.3
CD2 PP **PP** **02 38 20.9 +0.2**
CD2 SKS **SKSac** **02 45 01.3 +0.3**
CD2 S **ScS** **02 45 48.5 +0.6**
CD2 sS sS 02 45 54.2 +1.8
CD2 SS **SS** **02 52 28.7 +2.4**
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,260nm,5.6s
CD2 LN
comp=Z,3µm,23.6s
CD2 LE
comp=Z,3µm,19.3s
CD2 LZ
comp=Z,3µm,21.7s
SLBS Sierra La Lagu 97.30 64 PFAKE 02 34 30.0 +6.0
SLBS LR LR
comp=Z,4µm,21.0s
NIKH Nikolski High 97.39 11 PFAKE 02 34 30.0 +6.5
NIKH LR LR
comp=Z,6µm,20.0s
BJT Baijiatuau 97.58 320 PFAKE 02 34 40.0 +15
BJT LR LR
comp=Z,4µm,19.0s
BJI Beijing 97.59 320 P Pdif 02 34 25.7 +0.9
BJI PP **PP** **02 38 27.3 +4.5**
BJI SKS **SKSac** **02 45 00.9 -1.0**
BJI S **ScS** **02 45 53.7 +3.8**
BJI PMZ
comp=Z,11nm,1.0s
BJI PMZ
comp=Z,280nm,4.0s
BJI LN
comp=Z,2µm,18.8s
BJI LE
comp=Z,2µm,27.0s
BJI LZ
comp=Z,4µm,35.8s
TIY Taiyuan 97.61 316 *e*P Pdif 02 34 27.4 +2.4
TIY PP PP 02 38 30.8 +7.7
TIY SKS **SKSac** **02 45 02.8 +0.4**
TIY S **ScS** **02 45 55.1 +4.8**
TIY PMZ
comp=Z,230nm,11.5s
TIY LN
comp=Z,3µm,19.1s
TIY LE
comp=Z,910nm,15.1s
TIY LZ
comp=Z,3µm,22.4s
SNCC San Nicolas Is 98.21 52 PFAKE 02 34 40.0 +12
SNCC LR LR
comp=Z,4µm,18.0s
LPAZ La Paz 98.54 122 P Pdif 02 34 30.9 +0.4
comp=Z,1.8nm,0.8s,baz=177,slow=4.5,SNR=8.8
LPAZ LR LR 03 09 01.2
comp=Z,4µm,21.1s,baz=196,slow=29
LPAZ La Paz 98.54 122 PKIKP Pdif 02 34 30.9 +0.4
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 98.54 122 *e*P Pdif 02 34 32.2 +1.7

LPAZ					pmax	pmax				
	comp=Z,15nm,1.7s									
LPAZ	**La Paz**	**98.54**	**122**	*e*P		Pdif	02 34 32.2	+1.7		
	comp=Z,15nm,1.7s									
SCI2	**San Clemente I**	**98.58**	**52**	P		Pdif	02 34 29.7	+0.3		
	baz=223									
UNV	**Unalaska Valle**	**98.59**	**12**	PFAKE			02 34 40.0	+11		
UNV				LR		LR				
	comp=Z,8µm,21.0s									
SCZ2	**Santa Cruz Isl**	**98.70**	**51**	P		Pdif	02 34 31.2	+1.3		
	baz=223									
AKUT	**Akutan**	**98.98**	**13**	PFAKE			02 34 40.0	+9.5		
AKUT				LR		LR				
	comp=Z,7µm,21.0s									
SBC	**Santa Barbara**	**98.98**	**51**	P		**Pdif**	**02 34 31.7**	**+0.6**		
	baz=223									
BLG	**Laguna Peak, P**	**99.10**	**51**	P		**Pdif**	**02 34 31.9**	**+0.2**		
	baz=223									
KLR	**Kul'dur**	**99.10**	**334**	P		**Pdif**	**02 34 30.9**	**-0.3**		
	comp=Z,0.4nm,0.2s,baz=159,slow=4.4,SNR=5.0									
PKM	**Mcpherson Peak**	**99.25**	**50**	P		**Pdif**	**02 34 33.2**	**+0.7**		
	baz=223									
FMP	**Fort Macarthur**	**99.26**	**52**	P		**Pdif**	**02 34 33.1**	**+0.7**		
	baz=223									
109C	**Camp Elliot, M**	**99.35**	**53**	P		**Pdif**	**02 34 33.3**	**+0.5**		
	baz=224									
BAR	**Barrett**	**99.45**	**54**	PFAKE			02 34 40.0	+6.7		
BAR				LR		LR				
	comp=Z,3µm,20.0s									
PASC	**Pasadena Art C**	**99.65**	**52**	PFAKE			02 34 50.0	+16		
PASC				LR		LR				
	comp=Z,4µm,18.0s									
OSI	**Osito Audit: C**	**99.66**	**51**	PFAKE			02 34 50.0	+16		
OSI				LR		LR				
	comp=Z,5µm,22.0s									
SAO	**San Andreas Ge**	**99.73**	**48**	PFAKE			02 34 50.0	+16		
SAO				LR		LR				
	comp=Z,6µm,18.0s									
MONP2	**Monument Peak**	**99.75**	**54**	P		**Pdif**	**02 34 34.7**	**-0.2**		
	baz=224									
MWC	**Mount Wilson**	**99.76**	**52**	PFAKE			02 34 50.0	+15		
MWC				LR		LR				
	comp=Z,5µm,18.0s									
IKP	**In-Ko-Pah, Jac**	**99.76**	**54**	P		**Pdif**	**02 34 34.9**	**+0.2**		
	baz=224									
MURC	**Murrieta**	**99.81**	**53**	P		**Pdif**	**02 34 35.3**	**+0.5**		
	baz=224									
ARVC	**Arvin**	**99.98**	**51**	P		**Pdif**	**02 34 35.6**	**0.0**		
	baz=223									
MCCM	**Marconi Confer**	**99.99**	**46**	PFAKE			02 34 50.0	+15		
MCCM				LR		LR				
	comp=Z,5µm,19.0s									
TPFO	**Pinon Flats**	**100.24**	**53**	P		**Pdif**	**02 34 36.2**	**-0.7**		
	baz=224									
PFO	**Pinyon Flats O**	**100.24**	**53**	P		**Pdif**	**02 34 36.7**	**-0.2**		
	baz=224									
PFO	**Pinyon Flats O**	**100.24**	**53**	PFAKE			02 34 50.0	+13		
PFO				LR		LR				
	comp=Z,5µm,20.0s									
SUR	**Sutherland**	**100.25**	**204**	PFAKE			02 34 50.0	+13		
SUR				LR		LR				
	comp=Z,7µm,18.0s									
ABPO	**Ambohimpanom**	**100.26**	**231**	PFAKE			02 34 50.0	+12		
ABPO				LR		LR				
	comp=Z,4µm,18.0s									
EDW2	**Edwards Air Fo**	**100.27**	**51**	P		**Pdif**	**02 34 36.9**	**-0.1**		
	baz=224									
VES	**Vestal, Richgr**	**100.35**	**50**	P		**Pdif**	**02 34 37.6**	**+0.4**		
	baz=223									
HSIG		**100.36**	**60**	PFAKE			02 34 50.0	+13		
HSIG				LR		LR				
	comp=Z,3µm,21.0s									
HHC	**Hu-ho-hao-te**	**100.44**	**317**	*e*P		**Pdif**	**02 34 39.3**	**+1.7**		
HHC				pP		sP	02 34 43.8	+2.2		
HHC				PP		**PP**	**02 38 47.9**	**+3.2**		
HHC				SKS		**SKSac**	**02 45 18.2**	**+1.7**		
HHC				S		**Sdif**	**02 46 15.4**	**+1.5**		
HHC				sS		sS	02 46 21.8	+3.1		
HHC				PMZ						
	comp=Z,15nm,1.1s									
HHC				PMZ						
	comp=Z,92nm,7.2s									
HHC				LN						
	comp=Z,2µm,22.8s									
HHC				LE						
	comp=Z,2µm,21.8s									
HHC				LZ						
	comp=Z,3µm,27.0s									
MOIG	**Morelia**	**100.49**	**73**	PFAKE			02 34 50.0	+12		
MOIG				LR		LR				
	comp=Z,3µm,19.0s									
HOPS	**Hopland Field**	**100.52**	**46**	PFAKE			02 34 50.0	+12		
HOPS				LR		LR				
	comp=Z,9µm,20.0s									
ISA	**Isabella, Lake**	**100.56**	**51**	P		**Pdif**	**02 34 38.5**	**+0.3**		
	baz=224									
ISA	**Isabella, Lake**	**100.56**	**51**	PFAKE			02 34 50.0	+12		
ISA				LR		LR				
	comp=Z,5µm,20.0s									
BELC	**Belle Mtn. Jos**	**100.79**	**53**	P		**Pdif**	**02 34 39.7**	**+0.3**		
	baz=224									
GLA	**Glamis**	**100.81**	**55**	P		**Pdif**	**02 34 39.9**	**+0.6**		
	baz=225									
GLA	**Glamis**	**100.81**	**55**	PFAKE			02 34 50.0	+11		
GLA				LR		LR				
	comp=Z,4µm,18.0s									
BC3	**Big Chuckawall**	**100.86**	**54**	P		**Pdif**	**02 34 40.0**	**+0.3**		
	baz=225									
TLIG	**Tlapa**	**100.92**	**76**	PFAKE			02 34 50.0	+10		
TLIG				LR		LR				
	comp=Z,4µm,18.0s									
LZH	**Lanzhou**	**100.98**	**310**	*e*P		**Pdif**	**02 34 43.8**	**+3.6**		
LZH				pP		sP	02 34 47.9	+3.7		
LZH				sP		pP	02 34 50.5	+7.3		
LZH				PP		**PP**	**02 38 50.0**	**+1.0**		
LZH				SKS		**SKSac**	**02 45 20.1**	**+0.6**		
LZH				*e*S		**Sdif**	**02 46 19.2**	**+0.4**		
LZH				PMZ						
	comp=Z,17nm,1.0s									
LZH				PMZ						
	comp=Z,68nm,4.6s									
LZH				LN						
	comp=Z,2µm,15.6s									
LZH				LE						
	comp=Z,2µm,15.0s									
LZH				LZ						
	comp=Z,3µm,16.9s									
SHL	**Shillong**	**100.98**	**295**	*e*P		**Pdif**	**02 34 36.9**	**-3.6**		
SDPT	**Sand Point**	**101.06**	**15**	PFAKE			02 34 50.0	+10		
SDPT				LR		LR				
	comp=Z,3µm,20.0s									
KMRM	**Mail Ridge**	**101.11**	**44**	PFAKE			02 34 50.0	+9.5		
KMRM				LR		LR				
	comp=Z,6µm,20.0s									
HEC	**Hector,Ludlow**	**101.18**	**52**	P		**Pdif**	**02 34 40.9**	**-0.1**		
	baz=224									
CMB	**Columbia Colle**	**101.23**	**48**	PFAKE			02 34 50.0	+8.9		
CMB				LR		LR				
	comp=Z,5µm,19.0s									
113A	**Mohawk Valley,**	**101.24**	**55**	PFAKE			02 34 50.0	+8.8		
113A				LR		LR				
	comp=Z,5µm,18.0s									
214A	**Organ Pipe Nat**	**101.25**	**57**	P		**Pdif**	**02 34 41.7**	**+0.4**		
	baz=225									
GSC	**Goldstone, Bar**	**101.25**	**52**	P		**Pdif**	**02 34 40.9**	**-0.5**		
	baz=224									
GSC	**Goldstone, Bar**	**101.25**	**52**	PFAKE			02 34 50.0	+8.7		
GSC				LR		LR				
	comp=Z,5µm,18.0s									
SPIA	**Saint Paul Isl**	**101.32**	**9**	PFAKE			02 34 50.0	+9.1		
SPIA				LR		LR				
	comp=Z,4µm,20.0s									
JCC	**Jacoby Creek,**	**101.39**	**44**	PFAKE			02 34 50.0	+8.4		
JCC				LR		LR				
	comp=Z,6µm,20.0s									
IRM	**Iron Mountain**	**101.40**	**54**	P		**Pdif**	**02 34 41.7**	**-0.3**		
	baz=225									
MPMC	**Manual Prospec**	**101.40**	**51**	P		**Pdif**	**02 34 42.1**	**0.0**		
	baz=224									
Y12C	**Blythe**	**101.48**	**54**	P		**Pdif**	**02 34 42.7**	**+0.5**		
	baz=225									
Y12C	**Blythe**	**101.48**	**54**	PFAKE			02 34 50.0	+7.8		
Y12C				LR		LR				
	comp=Z,3µm,18.0s									
DAC	**Darwin (Calif)**	**101.50**	**51**	PFAKE			02 34 50.0	+7.5		
DAC				LR		LR				
	comp=Z,6µm,21.0s									
SKHT	**Srikalahasti**	**101.53**	**278**	*e*Pdif		**Pdif**	**02 34 39.4**	**-3.5**		
SKHT				*e*PP		**PP**	**02 38 51.6**	**-1.4**		
SKHT				*e*SKSac		**SKSac**	**02 45 23.8**	**+1.2**		
SKHT				IVMs_BB		IVMs_BB	03 12 06.4			
	comp=Z,2µm,22.4s									
GMRC	**Granite Mounta**	**101.54**	**53**	P		**Pdif**	**02 34 41.6**	**-1.1**		
	baz=225									
BWNR	**Bhubaneshwar**	**101.57**	**287**	*e*P		**Pdif**	**02 34 41.7**	**-1.2**		
KHMM	**Horse Mountain**	**101.59**	**44**	PFAKE			02 34 50.0	+7.3		
KHMM				LR		LR				
	comp=Z,6µm,20.0s									
AFDM	**Forest Hills D**	**101.59**	**47**	PFAKE			02 34 50.0	+7.3		
AFDM				LR		LR				
	comp=Z,6µm,19.0s									
VIS	**Vishakhapatnam**	**101.59**	**283**	*e*P		**Pdif**	**02 34 39.3**	**-3.8**		
CHLP	**Challavanipeta**	**101.60**	**284**	*e*Pdif		**Pdif**	**02 34 41.7**	**-1.4**		
CHLP				*e*PP		**PP**	**02 38 52.2**	**-1.4**		
CHLP				*e*SKSac		**SKSac**	**02 45 23.8**	**+0.9**		
CHLP				IVMs_BB		IVMs_BB	03 15 01.2			
	comp=Z,1µm,28.8s									
ZAIG	**Zacatecas**	**101.61**	**70**	PFAKE			02 34 50.0	+6.5		
ZAIG				LR		LR				
	comp=Z,4µm,20.0s									
UNM	**Universidad Na**	**101.66**	**75**	PFAKE			02 34 50.0	+6.2		
UNM				LR		LR				
	comp=Z,4µm,19.0s									
ORV	**Oroville**	**101.75**	**46**	PFAKE			02 34 50.0	+6.7		
ORV				LR		LR				
	comp=Z,4µm,20.0s									
MLAC	**Mammoth, Mammt**	**101.78**	**49**	P		**Pdif**	**02 34 44.2**	**+0.3**		
	baz=224									
TUQ	**Turquoise Moun**	**101.85**	**52**	P		**Pdif**	**02 34 44.6**	**+0.5**		
	baz=225									
WDC	**Whiskeytown Da**	**101.97**	**45**	PFAKE			02 35 00.0	+16		
WDC				LR		LR				
	comp=Z,4µm,20.0s									
FURC	**Furnace Creek,**	**102.05**	**51**	P		**Pdif**	**02 34 45.1**	**+0.5**		
	baz=224									
LDFC	**Landfair**	**102.07**	**53**	PFAKE			02 35 00.0	+15		
LDFC				LR		LR				
	comp=Z,6µm,20.0s									
PDMCI	**Parker Dam,Lak**	**102.09**	**54**	P		**Pdif**	**02 34 45.3**	**+0.3**		
	baz=225									
NEE2	**Needles Airpor**	**102.14**	**53**	P		**Pdif**	**02 34 46.2**	**+1.0**		
	baz=225									
GRAC	**Grapevine Rang**	**102.14**	**50**	P		**Pdif**	**02 34 45.4**	**+0.2**		
	baz=224									
O03D	**Paynes Creek**	**102.14**	**45**	P		**Pdif**	**02 34 46.0**	**+0.8**		
	baz=222									
N02D	**Trinity Center**	**102.18**	**44**	P		**Pdif**	**02 34 45.6**	**+0.3**		
	baz=222									
HPIG		**102.33**	**65**	PFAKE			02 35 00.0	+14		
HPIG				LR		LR				
	comp=Z,4µm,20.0s									
M02C	**Callahan**	**102.41**	**44**	P		**Pdif**	**02 34 47.5**	**+1.2**		
	baz=222									
PVM	**Polavaram**	**102.49**	**282**	*e*Pdif		**Pdif**	**02 34 46.7**	**-0.4**		
PVM				*e*PP		**PP**	**02 39 00.2**	**-0.1**		
PVM				*e*SKSac		**SKSac**	**02 45 24.7**	**-2.4**		
PVM				IVMs_BB		IVMs_BB	03 18 00.3			
	comp=Z,1µm,22.3s									
Y14A	**Wickenburg**	**102.51**	**55**	PFAKE			02 35 00.0	+13		
Y14A				LR		LR				
	comp=Z,18µm,18.0s									
L02D	**Cave Junction,**	**102.61**	**43**	P		**Pdif**	**02 34 48.0**	**+1.0**		
	baz=222									
NV01	**Mina Array Sit**	**102.65**	**49**	*e*Pdif		**Pdif**	**02 34 46.3**	**-1.4**		
NVAR	**Mina Array Bea**	**102.65**	**49**	P		**Pdif**	**02 34 46.5**	**-1.1**		
	comp=Z,0.2nm,0.3s,baz=277,slow=7.2,SNR=2.4									
TUC	**Tucson**	**102.73**	**58**	PFAKE			02 35 00.0	+12		
TUC				LR		LR				
	comp=Z,6µm,18.0s									
NV11	**Mina Array Sit**	**102.73**	**49**	PFAKE			02 35 00.0	+12		
NV11				LR		LR				
	comp=Z,5µm,20.0s									
TPNV	**Topopah Spring**	**102.74**	**51**	P		**Pdif**	**02 34 49.5**	**+1.5**		
	baz=225									
TPNV	**Topopah Spring**	**102.74**	**51**	PFAKE			02 35 00.0	+12		
TPNV				LR		LR				
	comp=Z,5µm,20.0s									
YBH	**Yreka Blue Hor**	**102.74**	**44**	PFAKE			02 35 00.0	+12		
YBH				LR		LR				
	comp=Z,8µm,20.0s									
ADKI	**Addanki**	**102.74**	**280**	*e*Pdif		**Pdif**	**02 34 47.4**	**-0.9**		
ADKI				*e*PP		**PP**	**02 38 59.8**	**-2.4**		
ADKI				*e*SKSac		**SKSac**	**02 45 27.9**	**-0.4**		
ADKI				IVMs_BB		IVMs_BB	03 21 35.3			
	comp=Z,2µm,18.9s									
PAHR	**Pah Rah Range**	**102.98**	**47**	*e*PP		PP	02 39 08.0	+4.0		
PAHR				LR		LR				
	comp=Z,6µm,19.0s									
319A	**Douglas**	**103.02**	**59**	PFAKE			02 35 00.0	+11		
319A				LR		LR				
	comp=Z,3µm,21.0s									
SHPR	**Sheep Range**	**103.04**	**52**	*e*PP		PP	02 39 08.9	+4.4		
SHPR				LR		LR				
	comp=Z,4µm,18.0s									
RCLA	**Racherla**	**103.21**	**279**	*e*Pdif		**Pdif**	**02 34 47.5**	**-2.9**		
RCLA				*e*Sdif		Sdif	02 46 35.6	-2.2		
RCLA				IVMs_BB		IVMs_BB	03 13 06.9			
	comp=Z,2µm,30.5s									
M04C	**Macdoel**	**103.22**	**44**	P		**Pdif**	**02 34 51.5**	**+1.5**		
	baz=223									
HUMO	**Hull Mountain**	**103.26**	**43**	PFAKE			02 35 00.0	+10		
HUMO				LR		LR				
	comp=Z,6µm,20.0s									
HIA	**Hailar**	**103.40**	**327**	PFAKE			02 35 00.0	+10		
HIA				LR		LR				
	comp=Z,3µm,20.0s									
SRLM	**Srisailam**	**103.68**	**279**	*e*Pdif		**Pdif**	**02 34 51.5**	**-1.0**		
SRLM				*e*SKSac		**SKSac**	**02 45 29.1**	**-3.7**		
SRLM				IVMs_BB		IVMs_BB	03 16 46.0			
	comp=Z,2µm,18.4s									
NJS	**Nagarjunasagar**	**103.69**	**280**	*e*Pdif		**Pdif**	**02 34 51.5**	**-1.0**		
NJS				*e*PP		**PP**	**02 39 07.2**	**-2.1**		
NJS				*e*SKSac		**SKSac**	**02 45 32.6**	**-0.1**		
NJS				IVMs_BB		IVMs_BB	03 22 42.6			
	comp=Z,2µm,22.3s									
SPB	**Sao Paulo**	**103.69**	**142**	PFAKE			02 35 00.0	+7.5		
SPB				LR		LR				
	comp=Z,5µm,19.0s									
OTAV	**Otavalo**	**103.70**	**103**	PFAKE			02 35 00.0	+6.7		
OTAV				LR		LR				
	comp=Z,2µm,20.0s									
X16A	**Lo Mia Camp, P**	**103.78**	**56**	PFAKE			02 35 00.0	+7.3		
X16A				LR		LR				
	comp=Z,5µm,18.0s									
BOK	**Bokaro**	**103.84**	**290**	*e*P		**Pdif**	**02 34 51.4**	**-1.6**		
BOK				IAmb		IAmb	02 35 52.6			
	comp=Z,12nm,0.5s									
BOK				IAMs_20		IAMs_20	03 25 09.1			
	comp=Z,3µm,19.8s									
I03D	**Drain, OR**	**103.87**	**42**	P		**Pdif**	**02 34 54.4**	**+1.8**		
	baz=222									
K04D	**Chiloquin, OR**	**103.88**	**44**	P		**Pdif**	**02 34 53.7**	**+0.8**		
	baz=223									
MOD	**Modoc Plateau**	**104.09**	**45**	PFAKE			02 35 10.0	+16		
MOD				LR		LR				
	comp=Z,6µm,20.0s									
R11A	**Troy Canyon, C**	**104.10**	**50**	PFAKE			02 35 10.0	+16		
R11A				LR		LR				
	comp=Z,5µm,19.0s									
LSA	**Lhasa**	**104.24**	**297**	PFAKE			02 35 10.0	+15		
LSA				LR		LR				
	comp=Z,2µm,21.0s									
OHAK	**Old Harbor**	**104.31**	**18**	PFAKE			02 35 10.0	+16		
OHAK				LR		LR				
	comp=Z,6µm,20.0s									
K05A	**Summer Lake**	**104.38**	**44**	PFAKE			02 35 10.0	+15		
K05A				LR		LR				
	comp=Z,6µm,20.0s									
I04A	**Tendick Farm,**	**104.40**	**43**	P		**Pdif**	**02 34 56.2**	**+1.1**		
	baz=223									
LCMT	**Little Creek M**	**104.50**	**53**	PFAKE			02 35 10.0	+14		
LCMT				LR		LR				
	comp=Z,4µm,20.0s									
COR	**Corvallis**	**104.55**	**42**	PFAKE			02 35 10.0	+14		
COR				LR		LR				
	comp=Z,6µm,20.0s									
WUAZ	**Wupatki**	**104.57**	**55**	P		**Pdif**	**02 34 57.0**	**+0.8**		
	baz=227									
WUAZ	**Wupatki**	**104.57**	**55**	PFAKE			02 35 10.0	+14		
WUAZ				LR		LR				
	comp=Z,3µm,18.0s									
J05D	**Fort Rock, OR**	**104.62**	**44**	P		**Pdif**	**02 34 57.7**	**+1.5**		
	baz=223									
U15A	**North Rim**	**104.65**	**54**	PFAKE			02 35 10.0	+13		
U15A				LR		LR				
	comp=Z,3µm,20.0s									
CCIG	**Comitan**	**104.66**	**81**	PFAKE			02 35 10.0	+13		
CCIG				LR		LR				
	comp=Z,6µm,20.0s									
BMN	**Battle Mountai**	**104.66**	**48**	PFAKE			02 35 10.0	+14		
BMN				LR		LR				
	comp=Z,6µm,19.0s									
KNB	**Kanab**	**104.75**	**53**	PFAKE			02 35 10.0	+13		
KNB				LR		LR				
	comp=Z,4µm,18.0s									
X18A	**Snowflake**	**104.75**	**56**	PFAKE			02 35 10.0	+13		
X18A				LR		LR				
	comp=Z,5µm,18.0s									
HYB	**Hyderabad**	**104.79**	**280**	*e*P		**Pdif**	**02 34 55.5**	**-1.9**		
HYB				IAMs_20		IAMs_20	03 24 24.9			
	comp=Z,4µm,19.1s									
HYBB	**Hyderabad (bro**	**104.80**	**280**	*e*Pdif		**Pdif**	**02 34 56.7**	**-0.7**		
HYBB				*e*PP		**PP**	**02 39 17.2**	**-0.3**		
HYBB				*e*SKSac		**SKSac**	**02 45 37.7**	**-0.2**		
HYBB				IVMs_BB		IVMs_BB	03 24 19.4			
	comp=Z,1µm,15.8s									
CCUT	**Cedar City**	**104.80**	**52**	PFAKE			02 35 10.0	+13		
CCUT				LR		LR				
	comp=Z,5µm,18.0s									
KDAK	**Kodiak Island**	**104.98**	**18**	PFAKE			02 39 20.0			
KDAK				LR		LR				
	comp=Z,5µm,20.0s									
G03D	**McMinnville, O**	**105.03**	**41**	P		**PKiKP**	**02 39 13.3**	**+1.0**		
	baz=222									
H04A	**Detroit Lake**	**105.17**	**42**	PFAKE			02 39 20.0			
H04A				LR		LR				
	comp=Z,3µm,19.0s									
PSUT	**Pine Spring**	**105.20**	**51**	PFAKE			02 39 20.0			
PSUT				LR		LR				
	comp=Z,4µm,19.0s									
RPR	**Rampur**	**105.21**	**282**	*e*Pdif		**Pdif**	**02 34 58.8**	**-0.4**		
RPR				*e*PP		**PP**	**02 39 21.3**	**+0.8**		
RPR				*e*SKSac		**SKSac**	**02 45 35.7**	**-3.9**		
RPR				IVMs_BB		IVMs_BB	03 14 43.6			
	comp=Z,2µm,25.0s									
TXAR	**Lajitas Array**	**105.25**	**64**	Pdiff		**Pdif**	**02 35 04.9**	**+5.7**		
	comp=Z,0.1nm,0.7s,baz=215,slow=11,SNR=3.6									
TXAR				PKiKP		**PKiKP**	**02 39 13.4**	**0.0**		
	comp=Z,0.6nm,0.9s,baz=247,slow=2.6,SNR=4.3									
TXAR				PKKPbc		**PKKPbc**	**02 50 39.9**	**+1.4**		
	comp=Z,0.6nm,0.8s,baz=58,slow=3.7,SNR=5.8									
W18A	**Petrified Fore**	**105.28**	**56**	P		**PKiKP**	**02 39 14.1**	**+0.7**		
	baz=227									
W18A	**Petrified Fore**	**105.28**	**56**	PFAKE			02 39 20.0			
W18A				LR		LR				
	comp=Z,4µm,18.0s									
I05D	**Terrebonne, OR**	**105.33**	**43**	P		**PKiKP**	**02 39 14.4**	**+1.3**		
	baz=223									
WVOR	**Wild Horse Val**	**105.33**	**46**	PFAKE			02 39 20.0			
WVOR				LR		LR				
	comp=Z,6µm,20.0s									
PKCU	**Pink Cliffs**	**105.34**	**53**	PFAKE			02 39 20.0			
PKCU				LR		LR				
	comp=Z,4µm,20.0s									
F03A	**Seaside**	**105.42**	**40**	PFAKE			02 39 20.0			
F03A				LR		LR				
	comp=Z,5µm,20.0s									
MNTX	**Cornudas Mount**	**105.70**	**61**	P		**PKiKP**	**02 39 15.1**	**+1.0**		
	baz=228									
MNTX	**Cornudas Mount**	**105.70**	**61**	PFAKE			02 39 30.0			
MNTX				LR		LR				
	comp=Z,2µm,20.0s									
F04D	**Rainier, OR**	**105.79**	**41**	P		**PKiKP**	**02 39 15.0**	**+1.3**		
	baz=223									
MTPU	**Mount Pierson**	**105.82**	**52**	PFAKE			02 39 30.0			
MTPU				LR		LR				
	comp=Z,4µm,20.0s									
E03A	**Lebam**	**105.87**	**40**	PFAKE			02 39 20.0			
E03A				LR		LR				
	comp=Z,6µm,19.0s									
SRSP	**Sriramsagar**	**105.93**	**281**	*e*Pdif		**Pdif**	**02 34 58.8**	**-3.6**		
SRSP				*e*SKSac		**SKSac**	**02 45 41.3**	**-1.6**		
SRSP				IVMs_BB		IVMs_BB	03 18 49.5			
	comp=Z,2µm,27.7s									
F04A	**Amboy**	**105.96**	**41**	PFAKE			02 39 30.0			
F04A				LR		LR				
	comp=Z,6µm,19.0s									
G05D	**Wamic, OR**	**106.00**	**42**	P		**PKiKP**	**02 39 15.6**	**+1.4**		
	baz=224									
Y22D	**IRIS PASSCAL I**	**106.30**	**58**	P		**PKiKP**	**02 39 16.0**	**+0.7**		
	baz=228									
Y22D	**IRIS PASSCAL I**	**106.30**	**58**	PFAKE			02 39 30.0			
Y22D				LR		LR				
	comp=Z,4µm,18.0s									
HDC	**Heredia**	**106.31**	**92**	PFAKE			02 39 30.0			
HDC				LR		LR				
	comp=Z,5µm,21.0s									
NLWA	**Neilton Lookou**	**106.35**	**39**	PFAKE			02 39 30.0			
NLWA				LR		LR				
	comp=Z,7µm,19.0s									
KLRI	**Killari**	**106.62**	**279**	*e*Pdif		**Pdif**	**02 35 04.8**	**-0.7**		
KLRI				*e*PP		**PP**	**02 39 26.1**	**-5.0**		
KLRI				IVMs_BB		IVMs_BB	03 14 58.5			
	comp=Z,3µm,26.5s									
TGUH	**Tegucigalpa,Un**	**106.71**	**86**	PFAKE			02 39 30.0			
TGUH				LR		LR				
	comp=Z,3µm,19.0s									
LON	**Longmire**	**106.85**	**41**	PFAKE			02 39 30.0			
LON				LR		LR				
	comp=Z,5µm,19.0s									
CNPM	**China Poot**	**106.86**	**18**	PFAKE			02 39 30.0			
CNPM				LR		LR				
	comp=Z,6µm,18.0s									
NGP	**Nagpur**	**106.88**	**283**	*e*P		**Pdif

baz=229
MVCO **Mesa Verde** 107.42 55 P PKiKP 02 39 18.8 +1.4
baz=228
MVCO **Mesa Verde** 107.42 55 PFAKE 02 39 30.0
MVCO LR LR
comp=Z,4μm,18.0s
PGC **Sidney** 107.47 39 PFAKE 02 39 30.0
PGC LR LR
comp=Z,3μm,20.0s
MFID **Camas Ranch** 107.49 46 PFAKE 02 39 30.0
MFID LR LR
comp=Z,3μm,20.0s
SRU **San Rafael Swe** 107.50 53 PFAKE 02 39 30.0
SRU LR LR
comp=Z,4μm,18.0s
934A **Benavides** 107.55 69 P PKiKP 02 39 18.7 +1.2
baz=230
P17A **Butcher Ranch,** 107.62 52 PFAKE 02 39 30.0
P17A LR LR
comp=Z,4μm,21.0s
GAMB **Gambell** 107.64 7 PFAKE 02 39 30.0
GAMB LR LR
comp=Z,3μm,20.0s
E07A **Sunnyside** 107.65 42 PFAKE 02 39 30.0
E07A LR LR
comp=Z,5μm,20.0s
HAWA **Hanford** 107.69 42 PFAKE 02 39 30.0
HAWA LR LR
comp=Z,4μm,21.0s
BMO **Blue Mountains** 107.72 45 PFAKE 02 39 30.0
BMO LR LR
comp=Z,8μm,20.0s
733A **Divot King Ran** 107.74 67 P PKiKP 02 39 19.3 +1.4
baz=230
LTY **Liberty** 107.76 41 PFAKE 02 39 30.0
LTY LR LR
comp=Z,6μm,19.0s
SEW **Seward** 107.79 19 PFAKE 02 39 30.0
SEW LR LR
comp=Z,4μm,19.0s
ULN **Ulaanbaatar** 107.81 320 *e*P Pdif 02 35 12.5 +2.3
ULN MLR MLR
comp=Z,3μm,20.0s
ULN **Ulaanbaatar** 107.81 320 *e*Pdif Pdif 02 35 12.5 +2.3
ULN LR LR
comp=Z,3μm,20.0s
B05A **Bryant** 107.81 40 P PKiKP 02 39 19.8 +2.5
baz=224
A04D **Lummi Island** 107.86 39 P PKiKP 02 39 19.4 +2.0
baz=224
834A **Tilden** 107.86 68 P PKiKP 02 39 19.8 +1.7
baz=230
SPUT **South Promonto** 107.88 50 PFAKE 02 39 30.0
SPUT LR LR
comp=Z,5μm,18.0s
MID **Middleton Isla** 107.96 21 PFAKE 02 39 30.0
MID LR LR
comp=Z,3μm,22.0s
JLU **Jordanelle** 107.97 51 PFAKE 02 39 30.0
JLU LR LR
comp=Z,5μm,18.0s
P18A **Preston Nutter** 108.00 52 PFAKE 02 39 30.0
P18A LR LR
comp=Z,4μm,19.0s
HVU **Hansel Valley** 108.02 49 PFAKE 02 39 30.0
HVU LR LR
comp=Z,4μm,19.0s
SONM **Songino Array** 108.09 319 PKKPbc PKKPbc 02 50 32.1 +1.8
comp=Z,0.7nm,0.4s,baz=347,slow=6.1,SNR=5.1
SONA1 **Songino Array** 108.10 320 *e*Pdif Pdif 02 35 12.3 +0.8
SONA1 *e*PKKPdf PKKPdf 02 50 47.2 +2.2
C06D **Leavenworth** 108.12 40 P PKiKP 02 39 19.6 +1.5
baz=224
B06A **Marblemount** 108.27 40 PFAKE 02 39 30.0
B06A LR LR
comp=Z,5μm,19.0s
633A **Saathoff Ranch** 108.30 67 P PKiKP 02 39 20.0 +1.1
baz=230
734A **La Parita Cree** 108.32 67 P PKiKP 02 39 20.0 +1.0
baz=230
TCUT **Toone Canyon** 108.34 51 PFAKE 02 39 30.0
TCUT LR LR
comp=Z,7μm,19.0s
HLID **Hailey** 108.34 47 P PKiKP 02 39 19.6 +0.8
baz=227
HLID **Hailey** 108.34 47 PFAKE 02 39 30.0
HLID LR LR
comp=Z,4μm,20.0s
835A **Beeville** 108.45 68 P PKiKP 02 39 19.0 -0.2
baz=230
D08A **Wollman Farm,** 108.46 42 PFAKE 02 39 30.0
D08A LR LR
comp=Z,4μm,20.0s
E09A **Wood Farm, Sta** 108.46 43 PFAKE 02 39 30.0
E09A LR LR
comp=Z,3μm,20.0s
JCT **Junction City** 108.53 65 P PKiKP 02 39 20.1 +0.7
baz=230
JCT **Junction City** 108.53 65 PFAKE 02 39 30.0
JCT LR LR
comp=Z,4μm,18.0s
F10A **Beach Ranch, E** 108.54 44 PFAKE 02 39 30.0
F10A LR LR
comp=Z,3μm,19.0s
HWUT **Hardware Ranch** 108.58 50 PFAKE 02 39 30.0
HWUT LR LR
comp=Z,4μm,18.0s
RC01 **Rabbit Creek A** 108.60 18 PFAKE 02 39 30.0
RC01 LR LR
comp=Z,4μm,22.0s
PRAC **Prado** 108.66 103 PFAKE 02 39 30.0
PRAC LR LR
comp=Z,4μm,22.0s
SUA **Susitna One** 108.71 18 *e*PKiKP PKiKP 02 39 21.8 +3.0
SUA LR LR
comp=Z,4μm,18.0s
CRAG **Craig** 108.72 29 PFAKE 02 39 30.0
CRAG LR LR
comp=Z,8μm,20.0s
S22A **4UR Ranch, Cre** 108.77 56 P PKiKP 02 39 21.1 +1.1
baz=229
S22A **4UR Ranch, Cre** 108.77 56 *e*Pdif Pdif 02 35 16.0 +1.0
S22A LR LR
comp=Z,4μm,18.0s
533A **Kerrville** 108.78 66 P PKiKP 02 39 21.1 +1.2
baz=230
634A **China Grove, S** 108.80 67 P PKiKP 02 39 20.4 +0.5
baz=230
735A **Kenedy** 108.83 68 P PKiKP 02 39 22.3 +2.4
baz=230
POO **Poona** 108.90 278 *e*P Pdif 02 35 12.7 -2.9
POO IAMs_20 IAMs_20 03 24 32.1
comp=Z,4μm,11.7s
TTA **Tatalina** 108.98 15 PFAKE 02 39 30.0
TTA LR LR
comp=Z,3μm,20.0s
EYAK **Cordova Ski Ar** 109.08 20 PFAKE 02 39 30.0
EYAK LR LR
comp=Z,6μm,22.0s
534A **Blanco** 109.13 67 P PKiKP 02 39 21.8 +1.3
baz=230
B08A **Colville Reser** 109.17 41 PFAKE 02 39 30.0
B08A LR LR
comp=Z,4μm,20.0s
433A **Art** 109.18 66 P PKiKP 02 39 22.2 +1.6
baz=230
PMR **Palmer** 109.18 18 PFAKE 02 39 30.0
PMR LR LR
comp=Z,4μm,22.0s
635A **Leesville** 109.19 68 P PKiKP 02 39 22.2 +1.6
baz=230
RAGM **Ragged Mountai** 109.22 21 PFAKE 02 39 30.0
RAGM LR LR
comp=Z,5μm,20.0s
C09A **Chrisman Ranch** 109.29 42 PFAKE 02 39 30.0
C09A LR LR
comp=Z,5μm,20.0s
BHPL **Bhopal** 109.37 284 *e*P Pdif 02 35 16.9 -0.8
736A **Circle Diamond** 109.39 68 P PKiKP 02 39 22.3 +1.3
baz=230
O20A **White River Ci** 109.50 53 P PKiKP 02 39 22.1 +1.0
baz=229
O20A **White River Ci** 109.50 53 PFAKE 02 39 30.0
O20A LR LR
comp=Z,3μm,19.0s
SML **Sawmill** 109.55 18 PFAKE 02 39 30.0
SML LR LR
comp=Z,4μm,22.0s
SDCO **Great Sand Dun** 109.58 56 P PKiKP 02 39 21.8 +0.4
baz=230
SDCO **Great Sand Dun** 109.58 56 PFAKE 02 39 30.0
SDCO LR LR
comp=Z,4μm,18.0s
DIV **Divide** 109.58 20 PFAKE 02 39 30.0
DIV LR LR
comp=Z,7μm,22.0s
AHID **Auburn Hatcher** 109.60 49 PFAKE 02 39 30.0
AHID LR LR
comp=Z,4μm,19.0s
333A **Richland Sprin** 109.61 65 P PKiKP 02 39 22.9 +1.5
baz=230
SMCO **Snowmass** 109.62 54 PFAKE 02 39 30.0
SMCO LR LR
comp=Z,3μm,19.0s
PPLA **Purkeypile** 109.69 16 PFAKE 02 39 30.0
PPLA LR LR
comp=Z,4μm,21.0s
737A **Port Lavaca** 109.70 69 P PKiKP 02 39 21.4 -0.2
baz=230
BMRM **Bremner River** 109.73 21 PFAKE 02 39 30.0
BMRM LR LR
comp=Z,3μm,20.0s
636A **Smothers Creek** 109.73 68 P PKiKP 02 39 23.2 +1.6
baz=230
WRAK **Wrangell Islan** 109.73 29 PFAKE 02 39 30.0
WRAK LR LR
comp=Z,9μm,21.0s
535A **Dale** 109.73 67 P PKiKP 02 39 22.1 +0.5
baz=230
TNA **Tin City** 109.76 8 PFAKE 02 39 30.0
TNA LR LR
comp=Z,5μm,21.0s
434A **Burnet** 109.76 66 P PKiKP 02 39 23.9 +2.2
baz=230
SCM **Sheep Creek Mo** 109.81 19 PFAKE 02 39 30.0
SCM LR LR
comp=Z,4μm,22.0s
T25A **Trinidad** 109.85 57 P PKiKP 02 39 24.3 +2.4
baz=230
T25A **Trinidad** 109.85 57 PFAKE 02 39 30.0
T25A LR LR
comp=Z,6μm,18.0s
ROSC **El Rosal** 109.85 103 PFAKE 02 39 30.0
ROSC LR LR
comp=Z,4μm,18.0s
KLU **Klutina** 109.85 20 PFAKE 02 39 30.0
KLU LR LR
comp=Z,5μm,22.0s
YKU2 **Yakutat** 109.86 24 PFAKE 02 39 30.0
YKU2 LR LR
comp=Z,4μm,22.0s
CRQM **Cirque** 109.93 21 PFAKE 02 39 30.0
CRQM LR LR
comp=Z,5μm,19.0s
DHAK **Deception Hill** 109.94 24 PFAKE 02 39 30.0
DHAK LR LR
comp=Z,6μm,19.0s
TEIG **Tepich** 110.00 81 PFAKE 02 39 30.0
TEIG LR LR
comp=Z,5μm,20.0s
ABTX **Abilene, Hawle** 110.00 64 P PKiKP 02 39 22.8 +0.8
baz=230
ABTX **Abilene, Hawle** 110.00 64 PFAKE 02 39 30.0
ABTX LR LR
comp=Z,5μm,18.0s
536A **Bastrop** 110.10 67 P PKiKP 02 39 22.8 +0.5
baz=231
233A **Rising Star** 110.11 65 P PKiKP 02 39 23.0 +0.7
baz=231
334A **Lometa** 110.11 66 P PKiKP 02 39 22.9 +0.6
baz=231
AMTX **Amarillo** 110.12 61 P PKiKP 02 39 23.4 +1.1
baz=230
AMTX **Amarillo** 110.12 61 PFAKE 02 39 30.0
AMTX LR LR
comp=Z,3μm,19.0s
REDW **Red Top Meadow** 110.13 49 PFAKE 02 39 30.0
REDW LR LR
comp=Z,6μm,19.0s
TPAW **Teton Pass** 110.16 49 PFAKE 02 39 30.0
TPAW LR LR
comp=Z,6μm,19.0s
NEW **Newport** 110.17 42 P PKiKP 02 39 23.8 +1.9
baz=227
NEW **Newport** 110.17 42 PFAKE 02 39 30.0
NEW LR LR
comp=Z,6μm,19.0s
CAST **Castle Rocks** 110.18 16 PFAKE 02 39 30.0
CAST LR LR
comp=Z,4μm,20.0s
637A **Eagle Lake** 110.19 68 P PKiKP 02 39 24.1 +1.6
baz=231
435B **Jarrell** 110.20 66 P PKiKP 02 39 22.8 +0.4
baz=231
FXWY **Fox Creek** 110.22 49 PFAKE 02 39 30.0
FXWY LR LR
comp=Z,5μm,19.0s
SNOW **Snow King Moun** 110.25 49 PFAKE 02 39 30.0
SNOW LR LR
comp=Z,6μm,19.0s
BDFB **Brasilia** 110.30 138 PFAKE 02 39 30.0
BDFB LR LR
comp=Z,15μm,19.0s
BALM **Baldy** 110.38 21 PFAKE 02 39 30.0
BALM LR LR
comp=Z,4μm,19.0s
LOHW **Long Hollow** 110.43 49 PFAKE 02 39 30.0
LOHW LR LR
comp=Z,6μm,19.0s
IMW **Indian Meadow** 110.44 49 PFAKE 02 39 30.0
IMW LR LR
comp=Z,3μm,20.0s
MOOW **Moose Ponds** 110.45 49 PFAKE 02 39 30.0
MOOW LR LR
comp=Z,5μm,19.0s
BW06 **Boulder Array** 110.46 50 P PKiKP 02 39 24.6 +1.8
baz=229
BW06 **Boulder Array** 110.46 50 PFAKE 02 39 30.0
BW06 LR LR
comp=Z,4μm,18.0s
133A **Hamilton Ranch** 110.47 64 P PKiKP 02 39 24.9 +2.0
baz=231
DLMT **Dillon** 110.51 47 PFAKE 02 39 30.0
DLMT LR LR
comp=Z,4μm,19.0s
KTH **Kantishna Hill** 110.53 16 PFAKE 02 39 30.0
KTH LR LR
comp=Z,5μm,19.0s
Q24A **Divide** 110.57 56 P PKiKP 02 39 25.5 +2.2
baz=230
Q24A **Divide** 110.57 56 PFAKE 02 39 30.0
Q24A LR LR
comp=Z,4μm,18.0s
TRF **Thorofare Moun** 110.58 17 PFAKE 02 39 30.0
TRF LR LR
comp=Z,6μm,19.0s
234A **Clairette** 110.60 65 P PKiKP 02 39 25.1 +1.9
baz=231
537A **Green Hill Far** 110.61 68 P PKiKP 02 39 25.0 +1.8
baz=231
335A **Moody** 110.62 66 P PKiKP 02 39 24.6 +1.4
baz=231
FLWY **Flagg Ranch** 110.69 49 PFAKE 02 39 30.0
FLWY LR LR
comp=Z,4μm,19.0s
436A **Wall Ranch, Ga** 110.72 67 P PKiKP 02 39 24.7 +1.3
baz=231
YAK **Yakutsk** 110.76 340 PFAKE 02 39 30.0
YAK LR LR
comp=Z,3μm,22.0s
638A **Rosharon** 110.78 69 P PKiKP 02 39 24.8 +1.3
baz=231
MSO **Missoula** 110.79 45 P PKiKP 02 39 24.4 +1.2
baz=228
MSO **Missoula** 110.79 45 PFAKE 02 39 30.0
MSO LR LR
comp=Z,9μm,20.0s
ISCO **Idaho Springs** 110.82 55 P PKiKP 02 39 25.0 +1.2
baz=230
ISCO **Idaho Springs** 110.82 55 PFAKE 02 39 40.0
ISCO LR LR
comp=Z,3μm,20.0s
RND **Reindeer** 110.84 17 PFAKE 02 39 30.0
RND LR LR
comp=Z,5μm,18.0s
HKT **Hockley** 110.85 68 PFAKE 02 39 30.0
HKT LR LR
comp=Z,3μm,19.0s
YFT **Old Faithful** 110.86 48 PFAKE 02 39 30.0
YFT LR LR
comp=Z,7μm,19.0s
DHY **Denali Highway** 110.88 18 PFAKE 02 39 30.0
DHY LR LR
comp=Z,5μm,22.0s
YMR **Madison River** 110.93 48 PFAKE 02 39 30.0
YMR LR LR
comp=Z,3μm,19.0s
H17A **Grant Village** 110.96 48 P PKiKP 02 39 24.4 +0.5
baz=229
H17A **Grant Village** 110.96 48 PFAKE 02 39 40.0
H17A LR LR
comp=Z,6μm,18.0s
Z33A **Whitaker Ranch** 110.99 64 P PKiKP 02 39 25.1 +1.2
baz=231
134A **White-Moore Ra** 111.00 65 P PKiKP 02 39 25.1 +1.2
baz=231
BPAW **Bear Paw Mtn.** 111.01 16 PFAKE 02 39 30.0
BPAW LR LR
comp=Z,4μm,19.0s
WHTX **Lake Whitney,** 111.04 66 P PKiKP 02 39 25.4 +1.4
baz=231
WHTX **Lake Whitney,** 111.04 66 PFAKE 02 39 40.0
WHTX LR LR
comp=Z,4μm,18.0s
336A **Riesel** 111.07 66 P PKiKP 02 39 24.8 +0.8
baz=231
MCK **McKinley** 111.11 17 *e*P Pdif 02 35 16.6 -7.8
MCK MLR MLR
comp=Z,5μm,19.0s
MCK **McKinley** 111.11 17 *e*Pdif Pdif 02 35 16.6 -7.8
MCK LR LR
comp=Z,5μm,19.0s
SKAG **Skagway** 111.13 26 PFAKE 02 39 30.0
SKAG LR LR
comp=Z,4μm,20.0s
437A **Phantom Ranch,** 111.20 67 P PKiKP 02 39 26.8 +2.5
baz=231
BOZ **Bozeman (W)** 111.21 47 P PKiKP 02 39 26.5 +2.4
baz=229
BOZ **Bozeman (W)** 111.21 47 PFAKE 02 39 40.0
BOZ LR LR
comp=Z,3μm,19.0s
PAX **Paxson** 111.23 19 PFAKE 02 39 30.0
PAX LR LR
comp=Z,4μm,22.0s
538A **Harpers Horsep** 111.25 68 P PKiKP 02 39 25.9 +1.5
baz=231
N23A **Red Feather La** 111.33 54 P PKiKP 02 39 27.7 +3.1
baz=230
N23A **Red Feather La** 111.33 54 PFAKE 02 39 40.0
N23A LR LR
comp=Z,3μm,20.0s
BILL **Bilibino** 111.33 357 *i* PKIKP PKiKP 02 39 23.7 +0.3
BILL *e* 02 40 00.0
BILL *i* PS PS 02 49 36.6 +1.2
BILL *i* SS SS 02 55 37.5 -0.2
BILL pmax pmax
comp=Z,8.0nm,1.8s
BILL MLR MLR
comp=Z,3μm,19.0s
BILL **Bilibino** 111.33 357 PFAKE 02 39 30.0
BILL LR LR
comp=Z,3μm,20.0s
X32A **Elmer** 111.36 63 P PKiKP 02 39 26.9 +2.4
baz=231
BWN **Browne** 111.39 17 PFAKE 02 39 30.0
BWN LR LR
comp=Z,6μm,18.0s
135A **Vickery Place,** 111.43 65 P PKiKP 02 39 26.5 +1.7
baz=231
Y33A **Hilltop Ranch,** 111.53 63 P PKiKP 02 39 26.1 +1.3
baz=231
Z34A **Collier Ranch,** 111.60 64 P PKiKP 02 39 26.4 +1.4
baz=231
MENT **Mentasta** 111.63 20 PFAKE 02 39 40.0
MENT LR LR
comp=Z,5μm,22.0s
236A **Katherine and** 111.66 66 P PKiKP 02 39 26.0 +0.8
baz=231
W32A **Sentinel** 111.83 62 P PKiKP 02 39 27.2 +1.8
baz=231
PHWY **Pilot Hill** 111.87 53 PFAKE 02 39 40.0
PHWY LR LR
comp=Z,3μm,20.0s
WMOK **Wichita Mounta** 111.89 63 P PKiKP 02 39 26.7 +1.1
baz=231
WMOK **Wichita Mounta** 111.89 63 PFAKE 02 39 40.0
WMOK LR LR
comp=Z,4μm,19.0s
MLY **Manley** 111.89 16 PFAKE 02 39 40.0
MLY LR LR
comp=Z,4μm,20.0s
WRH **Wood River Hil** 111.94 17 PFAKE 02 39 40.0
WRH LR LR
comp=Z,5μm,19.0s
X33A **Lawton** 111.94 63 P PKiKP 02 39 27.3 +1.6
baz=232
136A **Ennis** 111.96 66 P PKiKP 02 39 25.6 -0.1
baz=232
Z35A **Perchaven, San** 112.01 65 P PKiKP 02 39 26.4 +0.6
baz=232
TLY **Talaya** 112.05 321 *i* PKIKP PKiKP 02 39 29.5 +4.2
TLY *e* 02 40 19.3
TLY *e*SS SS 02 55 52.3 +4.1
TLY pmax pmax
comp=Z,8.0nm,1.8s
TLY MLR MLR
comp=Z,1μm,18.0s
TLY **Talaya** 112.05 321 PFAKE 02 39 40.0
TLY LR LR
comp=Z,2μm,22.0s
Y34A **Reagan Ranch,** 112.07 64 P PKiKP 02 39 26.6 +0.7
baz=232
338A **Crockett** 112.08 67 P PKiKP 02 39 26.6 +0.6
baz=232
439A **Center Grove,** 112.10 68 P PKiKP 02 39 25.0 -1.0
baz=232
K22A **Casper** 112.10 52 P PKiKP 02 39 26.0 +0.1
baz=231
K22A **Casper** 112.10 52 PFAKE 02 39 40.0
K22A LR LR
comp=Z,6μm,20.0s
KSCO **Kaye Shedlock'** 112.12 57 PFAKE 02 39 40.0
KSCO LR LR
comp=Z,4μm,18.0s
HDA **Harding Lake** 112.13 18 PFAKE 02 39 40.0
HDA LR LR
comp=Z,3μm,20.0s
RLMT **Red Lodge** 112.14 48 P PKiKP 02 39 25.9 -0.1
baz=230
RLMT **Red Lodge** 112.14 48 PFAKE 02 39 40.0
RLMT LR LR
comp=Z,4μm,18.0s
237A **Washetta, Mont** 112.14 66 P PKiKP 02 39 25.8 -0.3
baz=232
DOT **Dot Lake** 112.15 19 PFAKE 02 39 40.0
DOT LR LR
comp=Z,8μm,22.0s
CCB **Clear Creek Bu** 112.15 17 PFAKE 02 39 40.0
CCB LR LR
comp=Z,5μm,19.0s
540A **Vidor** 112.27 69 P PKiKP 02 39 25.7 -0.7
baz=232
WALA **Waterton Lakes** 112.28 43 PFAKE 02 39 40.0
WALA LR LR
comp=Z,2μm,18.0s
V32A **Arapaho** 112.32 62 P PKiKP 02 39 25.6 -0.7
baz=232
MDM **Murphy Dome** 112.33 17 PFAKE 02 39 40.0
MDM LR LR
comp=Z,6μm,19.0s
COLA **College** 112.34 17 PFAKE 02 39 40.0
COLA LR LR
comp=Z,5μm,18.0s
W33A **Caddo, Fort Co** 112.34 62 P PKiKP 02 39 25.1 -1.3
baz=232
X34A **Smith Ranch, M** 112.41 63 P PKiKP 02 39 25.6 -0.9
baz=232

ILAR	**Eielson Array**	**112.46**	**17**	PKiKP	**PKiKP**	**02 39 26.3**	**+0.7**
	comp=Z,5,8nm,1.0s,baz=238,slow=4.1,SNR=23						
ILAR				PKKPab	**PKKPab**	**02 50 22.6**	**+2.0**
	comp=Z,4.9nm,1.0s,baz=7.6,slow=2.9,SNR=24						
ILAR				SKKP		02 54 18.4	
	comp=Z,1.0nm,1.0s,baz=25,slow=3.6,SNR=4.5						
Y35A	**Marietta**	**112.50**	**64**	P	**PKiKP**	**02 39 25.6**	**-1.1**
	baz=232						
Z36A	**Blue Ridge**	**112.51**	**65**	P	**PKiKP**	**02 39 25.8**	**-0.9**
	baz=232						
137A	**Heron Place, G**	**112.55**	**66**	P	**PKiKP**	**02 39 26.1**	**-0.8**
	baz=232						
339A	**Huntington**	**112.57**	**68**	P	**PKiKP**	**02 39 26.8**	**-0.1**
	baz=232						
238A	**Jacksonville**	**112.61**	**67**	P	**PKiKP**	**02 39 26.5**	**-0.4**
	baz=232						
440A	**Kirbyville**	**112.61**	**69**	P	**PKiKP**	**02 39 25.8**	**-1.2**
	baz=232						
541A	**Lake Charles**	**112.72**	**70**	P	**PKiKP**	**02 39 26.7**	**-0.5**
	baz=232						
NATX	**Nacogdoches**	**112.77**	**67**	P	**PKiKP**	**02 39 27.2**	**-0.1**
	baz=232						
NATX	**Nacogdoches**	**112.77**	**67**	PFAKE		02 39 40.0	
NATX				LR	LR		
	comp=Z,3μm,20.0s						
W34A	**Bridge Creek,**	**112.84**	**63**	P	**PKiKP**	**02 39 27.3**	**0.0**
	baz=232						
W34A	**Bridge Creek,**	**112.84**	**63**	PFAKE		02 39 40.0	
W34A				LR	LR		
	comp=Z,4μm,19.0s						
V33A	**Lossen Ranch,**	**112.87**	**62**	P	**PKiKP**	**02 39 28.4**	**+1.1**
	baz=232						
Y36A	**Durant**	**113.00**	**65**	P	**PKiKP**	**02 39 27.4**	**-0.2**
	baz=232						
138A	**Matatall Enter**	**113.03**	**66**	P	**PKiKP**	**02 39 28.2**	**+0.5**
	baz=232						
239A	**Gary**	**113.05**	**67**	P	**PKiKP**	**02 39 28.8**	**+1.0**
	baz=232						
340A	**Bronson**	**113.07**	**68**	P	**PKiKP**	**02 39 29.1**	**+1.2**
	baz=232						
LSZ	**Lusaka**	**113.13**	**217**	PFAKE		02 39 40.0	
LSZ				LR	LR		
	comp=Z,4μm,20.0s						
T32A	**Huddler Ranch,**	**113.29**	**60**	P	**PKiKP**	**02 39 29.8**	**+1.6**
	baz=232						
U33A	**Lingo Farm, Me**	**113.36**	**61**	P	**PKiKP**	**02 39 30.1**	**+1.8**
	baz=232						
X36A	**Centrahoma**	**113.36**	**64**	P	**PKiKP**	**02 39 29.8**	**+1.5**
	baz=232						
V34A	**Guthrie**	**113.37**	**62**	P	**PKiKP**	**02 39 29.4**	**+1.1**
	baz=232						
V34A	**Guthrie**	**113.37**	**62**	PFAKE		02 39 40.0	
V34A				LR	LR		
	comp=Z,4μm,19.0s						
W35A	**Tecumseh**	**113.37**	**63**	P	**PKiKP**	**02 39 30.1**	**+1.8**
	baz=232						
Z38A	**Mt. Pleasant**	**113.46**	**66**	P	**PKiKP**	**02 39 29.7**	**+1.1**
	baz=232						
Y37A	**Hugo**	**113.48**	**65**	P	**PKiKP**	**02 39 30.0**	**+1.4**
	baz=232						
TSUM	**Tsumeb**	**113.58**	**206**	PFAKE		02 39 40.0	
TSUM				LR	LR		
	comp=Z,7μm,20.0s						
S32A	**Newby Ranch, P**	**113.60**	**60**	P	**PKiKP**	**02 39 29.7**	**+0.9**
	baz=232						
442A	**Mamou**	**113.63**	**70**	P	**PKiKP**	**02 39 29.5**	**+0.6**
	baz=232						
543A	**St. Martinvill**	**113.64**	**70**	P	**PKiKP**	**02 39 30.8**	**+1.8**
	baz=232						
T33A	**Patterson Ranc**	**113.67**	**61**	P	**PKiKP**	**02 39 30.8**	**+1.9**
	baz=232						
OGNE	**Ogallala**	**113.67**	**56**	P	**PKiKP**	**02 39 30.5**	**+1.6**
	baz=232						
OGNE	**Ogallala**	**113.67**	**56**	PFAKE		02 39 40.0	
OGNE				LR	LR		
	comp=Z,3μm,18.0s						
U34A	**Anderson Ranch**	**113.73**	**62**	P	**PKiKP**	**02 39 29.6**	**+0.6**
	baz=232						
U34A	**Anderson Ranch**	**113.73**	**62**	PFAKE		02 39 40.0	
U34A				LR	LR		
	comp=Z,5μm,18.0s						
EGMT	**Eagleton**	**113.73**	**46**	P	**PKiKP**	**02 39 29.1**	**+0.4**
	baz=231						
EGMT	**Eagleton**	**113.73**	**46**	PFAKE		02 39 40.0	
EGMT				LR	LR		
	comp=Z,5μm,19.0s						
V35A	**Meyer Ranch, C**	**113.77**	**63**	P	**PKiKP**	**02 39 29.5**	**+0.4**
	baz=232						
CBKS	**Cedar Bluff**	**113.78**	**59**	P	**PKiKP**	**02 39 29.5**	**+0.4**
	baz=232						
CBKS	**Cedar Bluff**	**113.78**	**59**	PFAKE		02 39 40.0	
CBKS				LR	LR		
	comp=Z,4μm,19.0s						
W36A	**Wetumka**	**113.79**	**64**	P	**PKiKP**	**02 39 30.0**	**+0.9**
	baz=232						
EGAK	**Eagle**	**113.80**	**20**	PFAKE		02 39 40.0	
EGAK				LR	LR		
	comp=Z,4μm,22.0s						
COLD	**Coldfoot**	**113.93**	**15**	PFAKE		02 39 40.0	
COLD				LR	LR		
	comp=Z,4μm,21.0s						
Z39A	**Irene McRaven,**	**113.99**	**66**	P	**PKiKP**	**02 39 31.3**	**+1.8**
	baz=232						
X37A	**Clayton**	**114.02**	**65**	P	**PKiKP**	**02 39 30.5**	**+0.9**
	baz=233						
140A	**Cam and Jess,**	**114.03**	**67**	P	**PKiKP**	**02 39 30.0**	**+0.3**
	baz=232						
Y38A	**Idabel**	**114.04**	**65**	P	**PKiKP**	**02 39 29.4**	**-0.2**
	baz=233						
241A	**Mo Tay, Goldon**	**114.10**	**68**	P	**PKiKP**	**02 39 30.0**	**+0.2**
	baz=232						
342A	**Flagon Creek P**	**114.11**	**69**	P	**PKiKP**	**02 39 29.7**	**-0.1**
	baz=232						
443A	**Delano Plantat**	**114.11**	**70**	P	**PKiKP**	**02 39 29.1**	**-0.7**
	baz=232						
645A	**Chauvin**	**114.13**	**72**	P	**PKiKP**	**02 39 29.2**	**-0.7**
	baz=232						
S33A	**Kaszmaul Farm,**	**114.13**	**60**	P	**PKiKP**	**02 39 31.1**	**+1.4**
	baz=233						
544A	**White Castle**	**114.14**	**71**	P	**PKiKP**	**02 39 30.4**	**+0.5**
	baz=232						
R32A	**Long Quarter,**	**114.18**	**59**	P	**PKiKP**	**02 39 30.1**	**+0.3**
	baz=233						
U35A	**Pawnee**	**114.20**	**62**	P	PKPdf	02 39 30.7	+0.8
	baz=233						
T34A	**McClaskey Farm**	**114.30**	**61**	P	PKPdf	02 39 30.7	+0.6
	baz=233						
W37B	**Quinton**	**114.31**	**64**	P	PKPdf	02 39 30.3	+0.2
	baz=233						
FYU	**Fort Yukon**	**114.36**	**17**	PFAKE		02 39 40.0	+11
FYU				LR	LR		
	comp=Z,3μm,19.0s						
V36A	**Jenks**	**114.36**	**63**	P	PKPdf	02 39 30.4	+0.2
	baz=233						
X38A	**Whitesboro**	**114.42**	**65**	P	PKPdf	02 39 30.5	+0.2
	baz=233						
RSSD	**Black Hills**	**114.44**	**52**	P	PKPdf	02 39 31.0	+0.6
	baz=232						
RSSD	**Black Hills**	**114.44**	**52**	PFAKE		02 39 40.0	+10
RSSD				LR	LR		
	comp=Z,5μm,20.0s						
141A	**Papa Simpson,**	**114.46**	**68**	P	PKPdf	02 39 31.1	+0.6
	baz=233						
Y39A	**Lockesburg**	**114.47**	**66**	P	PKPdf	02 39 31.0	+0.5
	baz=233						
Z40A	**Long Farm, Mag**	**114.52**	**67**	P	PKPdf	02 39 31.2	+0.7
	baz=233						
343A	**Vidalia**	**114.53**	**69**	P	PKPdf	02 39 31.2	+0.6
	baz=233						
TUL1	**Leonard**	**114.53**	**63**	P	PKPdf	02 39 31.7	+1.2
	baz=233						
R33A	**Olander Ranch,**	**114.57**	**60**	P	PKPdf	02 39 30.5	-0.1
	baz=233						
Q32A	**Meitler Ranch,**	**114.62**	**59**	P	PKPdf	02 39 30.6	-0.1
	baz=233						
T35A	**Sooner Cattle**	**114.67**	**62**	P	PKPdf	02 39 32.0	+1.2
	baz=233						
S34A	**Willow Spring**	**114.76**	**61**	P	PKPdf	02 39 30.8	-0.1
	baz=233						
LAO	**LASA Array**	**114.78**	**48**	PFAKE		02 39 40.0	+9.2
LAO				LR	LR		
	comp=Z,3μm,18.0s						
X39A	**Fountain Ranch**	**114.80**	**65**	P	PKPdf	02 39 30.4	-0.7
	baz=233						
U36A	**Oologah**	**114.86**	**63**	P	PKPdf	02 39 32.5	+1.3
	baz=233						
W38A	**Poteau**	**114.86**	**65**	P	PKPdf	02 39 31.2	0.0
	baz=233						
Z41A	**Richland Creek**	**114.92**	**67**	P	PKPdf	02 39 31.5	+0.1
	baz=233						
V37A	**Hulbert**	**114.94**	**64**	P	PKPdf	02 39 31.2	-0.1
	baz=233						
P32A	**Huiting Farm,**	**114.97**	**58**	P	PKPdf	02 39 31.3	0.0
	baz=233						
WLAR	**White Oak Lake**	**114.97**	**67**	PFAKE		02 39 40.0	+8.6
WLAR				LR	LR		
	comp=Z,4μm,21.0s						
H25A	**Fruitdale**	**114.99**	**52**	P	**PKPdf**	**02 39 32.2**	**+0.9**
	baz=233						
R34A	**Isabella, Hill**	**115.03**	**60**	P	**PKPdf**	**02 39 31.4**	**-0.1**
	baz=233						
Y40A	**Okolona**	**115.05**	**66**	P	**PKPdf**	**02 39 31.2**	**-0.4**
	baz=233						
142A	**Monroe**	**115.07**	**68**	P	**PKPdf**	**02 39 31.8**	**+0.1**
	baz=233						
445A	**Amite**	**115.08**	**71**	P	**PKPdf**	**02 39 31.4**	**-0.3**
	baz=233						
Q33A	**Connelly Farm,**	**115.08**	**59**	P	**PKPdf**	**02 39 32.1**	**+0.5**
	baz=233						
T36A	**Boggs Farm, Ca**	**115.16**	**62**	P	**PKPdf**	**02 39 31.3**	**-0.5**
	baz=233						
MIAR	**Mount Ida**	**115.17**	**66**	PFAKE		02 39 40.0	+8.2
MIAR				LR	LR		
	comp=Z,2μm,20.0s						
344A	**Westbrook Farm**	**115.24**	**70**	P	**PKPdf**	**02 39 32.1**	**+0.1**
	baz=233						
S35A	**Otter Creek Ra**	**115.25**	**61**	P	**PKPdf**	**02 39 32.6**	**+0.8**
	baz=233						
U37A	**Salina**	**115.27**	**63**	P	**PKPdf**	**02 39 32.7**	**+0.8**
	baz=233						
SDV	**Santo Domingo**	**115.28**	**102**	PFAKE		02 39 40.0	+7.1
SDV				LR	LR		
	comp=Z,4μm,22.0s						
WMQ	**Urumqi**	**115.36**	**307**	PKP	**PKPdf**	**02 39 32.3**	**+0.3**
WMQ				PP	**PP**	**02 40 38.1**	**+4.4**
WMQ				SKKS		02 47 27.6	
WMQ				SS	**SS**	**02 56 31.0**	**-1.2**
WMQ				PPMZ			
	comp=Z,140nm,6.2s						
WMQ				LN			
	comp=Z,720nm,22.0s						
WMQ				LE			
	comp=Z,680nm,22.0s						
WMQ				LZ			
	comp=Z,1μm,24.0s						
V38A	**Canehill**	**115.41**	**64**	P	**PKPdf**	**02 39 32.1**	**-0.2**
	baz=233						
Y41A	**Eaglette Beard**	**115.42**	**67**	P	**PKPdf**	**02 39 32.1**	**-0.2**
	baz=233						
P33A	**Williams Farm,**	**115.42**	**59**	P	**PKPdf**	**02 39 32.3**	**+0.1**
	baz=234						
W39A	**Magazine**	**115.42**	**65**	P	**PKPdf**	**02 39 31.9**	**-0.3**
	baz=233						
Z42A	**Norrel Spur, H**	**115.50**	**68**	P	**PKPdf**	**02 39 31.9**	**-0.6**
	baz=233						
143A	**Socs Landing,**	**115.53**	**68**	P	**PKPdf**	**02 39 33.3**	**+0.7**
	baz=233						
O32A	**Brockman Farm,**	**115.55**	**58**	P	**PKPdf**	**02 39 33.8**	**+1.4**
	baz=234						
PTGA	**Pitinga**	**115.58**	**118**	PFAKE		02 39 40.0	+6.7
PTGA				LR	LR		
	comp=Z,6μm,20.0s						
Q34A	**Chapman**	**115.59**	**60**	P	**PKPdf**	**02 39 33.1**	**+0.7**
	baz=234						
244A	**Avery, Jackson**	**115.62**	**69**	P	**PKPdf**	**02 39 33.9**	**+1.2**
	baz=233						
345A	**Thompson Farm,**	**115.63**	**70**	P	**PKPdf**	**02 39 34.4**	**+1.7**
	baz=233						
R35A	**Emporia Munici**	**115.71**	**61**	P	**PKPdf**	**02 39 33.0**	**+0.3**
	baz=234						
S36A	**Lake Cedric, C**	**115.74**	**62**	P	**PKPdf**	**02 39 33.3**	**+0.5**
	baz=234						
M31A	**Lambtecht Ranc**	**115.76**	**57**	P	**PKPdf**	**02 39 32.8**	**0.0**
	baz=234						
U38A	**Gravette**	**115.76**	**63**	P	**PKPdf**	**02 39 31.5**	**-1.4**
	baz=234						
446A	**Poplarville**	**115.78**	**71**	P	**PKPdf**	**02 39 34.9**	**+1.8**
	baz=233						
T37A	**Cheneyville 18**	**115.82**	**63**	P	**PKPdf**	**02 39 32.5**	**-0.5**
	baz=234						
X41A	**Kaden, Bauxite**	**115.85**	**66**	P	**PKPdf**	**02 39 33.4**	**+0.3**
	baz=234						
O33A	**Hebron**	**115.87**	**59**	P	**PKPdf**	**02 39 33.0**	**0.0**
	baz=234						
W40A	**Ferguson Farm,**	**115.89**	**65**	P	**PKPdf**	**02 39 33.4**	**+0.2**
	baz=234						
V39A	**Pettigrew**	**115.89**	**64**	P	**PKPdf**	**02 39 32.8**	**-0.4**
	baz=234						
KSU1	**Kansas State U**	**115.91**	**60**	P	**PKPdf**	**02 39 33.0**	**0.0**
	baz=234						
KSU1	**Kansas State U**	**115.91**	**60**	PFAKE		02 39 40.0	+6.9
KSU1				LR	LR		
	comp=Z,3μm,18.0s						
HHAR	**Hobbs**	**115.96**	**64**	*e*PKPdf	**PKPdf**	**02 39 31.7**	**-1.6**
HHAR				LR	LR		
	comp=Z,4μm,18.0s						
CCAR	**Cane Creek**	**116.00**	**67**	PFAKE		02 39 40.0	+6.6
CCAR				LR	LR		
	comp=Z,4μm,22.0s						
P34A	**Walnut Farm, R**	**116.03**	**59**	P	**PKPdf**	**02 39 32.7**	**-0.6**
	baz=234						
346A	**Big Creek Wild**	**116.07**	**71**	P	**PKPdf**	**02 39 32.8**	**-0.8**
	baz=233						
Q35A	**Mercer Eighty,**	**116.12**	**60**	P	**PKPdf**	**02 39 33.3**	**-0.2**
	baz=234						
UALR	**University of**	**116.13**	**66**	PFAKE		02 39 40.0	+6.4
UALR				LR	LR		
	comp=Z,3μm,19.0s						
144A	**Alexander Plac**	**116.15**	**69**	P	**PKPdf**	**02 39 33.3**	**-0.4**
	baz=233						
245A	**Little AP, Sta**	**116.16**	**70**	P	**PKPdf**	**02 39 32.9**	**-0.8**
	baz=233						
K30A	**Bassett**	**116.16**	**55**	P	**PKPdf**	**02 39 33.0**	**-0.5**
	baz=234						
T38A	**Diamond**	**116.17**	**63**	P	**PKPdf**	**02 39 33.4**	**-0.3**
	baz=234						
E25A	**Miller Ranch,**	**116.22**	**50**	P	**PKPdf**	**02 39 33.7**	**+0.1**
	baz=234						
THN	**Thein Dam**	**116.22**	**291**	*e*P	**PKPdf**	**02 39 29.0**	**-4.9**
THN				*e*S	**PP**	**02 40 39.0**	**-0.9**
F26A	**Lodgepole**	**116.25**	**51**	P	**PKPdf**	**02 39 34.3**	**+0.7**
	baz=234						
S37A	**Fort Scott**	**116.25**	**62**	P	**PKPdf**	**02 39 32.4**	**-1.3**
	baz=234						
447A	**Lucedale**	**116.28**	**72**	P	**PKPdf**	**02 39 33.0**	**-1.0**
	baz=233						
BGNE	**Belgrade**	**116.30**	**57**	P	**PKPdf**	**02 39 34.9**	**+1.1**
	baz=234						
BGNE	**Belgrade**	**116.30**	**57**	PFAKE		02 39 50.0	+16
BGNE				LR	LR		
	comp=Z,4μm,18.0s						
U39A	**Green Forest**	**116.32**	**64**	P	**PKPdf**	**02 39 35.0**	**+1.0**
	baz=234						
L31A	**Butterfield Fa**	**116.33**	**56**	P	**PKPdf**	**02 39 34.7**	**+0.8**
	baz=234						
N33A	**J Bar K, Exete**	**116.34**	**58**	P	**PKPdf**	**02 39 35.3**	**+1.4**
	baz=234						
X301	**Greenbrier Sit**	**116.36**	**66**	*e*PKPdf	**PKPdf**	**02 39 34.2**	**+0.1**
X301				LR	LR		
	comp=Z,3μm,19.0s						
X201	**Greenbrier Sit**	**116.42**	**66**	*e*PKPdf	**PKPdf**	**02 39 33.5**	**-0.7**
X201				LR	LR		
	comp=Z,3μm,18.0s						
W41B	**Gary Mavity, V**	**116.42**	**66**	P	**PKPdf**	**02 39 34.7**	**+0.6**
	baz=234,SNR=6.7						
WHAR	**Wooly Hollow**	**116.47**	**66**	*e*PKPdf	**PKPdf**	**02 39 34.7**	**+0.5**
WHAR				LR	LR		
	comp=Z,3μm,18.0s						
145A	**Houston Renfro**	**116.47**	**69**	P	**PKPdf**	**02 39 34.8**	**+0.4**
	baz=234						
O34A	**Beatrice**	**116.48**	**59**	P	**PKPdf**	**02 39 34.7**	**+0.6**
	baz=234						
MTDJ	**Mount Denham**	**116.50**	**90**	PFAKE		02 39 50.0	+15
MTDJ				LR	LR		
	comp=Z,4μm,19.0s						
P35A	**Duane Minner,**	**116.53**	**60**	P	**PKPdf**	**02 39 35.4**	**+1.2**
	baz=234						
Z44A	**Pea Ridge, Bel**	**116.53**	**68**	P	**PKPdf**	**02 39 34.9**	**+0.5**
	baz=234						
Q36A	**Arnold C. Orve**	**116.55**	**61**	P	**PKPdf**	**02 39 34.8**	**+0.5**
	baz=234						
R37A	**Teagarden Farm**	**116.57**	**61**	P	**PKPdf**	**02 39 35.0**	**+0.6**
	baz=234						
J30A	**Dallas**	**116.61**	**55**	P	**PKPdf**	**02 39 35.1**	**+0.8**
	baz=234						
D25A	**Fairfield**	**116.65**	**49**	P	**PKPdf**	**02 39 33.4**	**-0.9**
	baz=234						
246A	**Jackson Lee, B**	**116.67**	**70**	P	**PKPdf**	**02 39 33.4**	**-1.4**
	baz=234						
347A	**Saraland**	**116.71**	**71**	P	**PKPdf**	**02 39 33.6**	**-1.2**
	baz=233						
U40A	**Yellville**	**116.72**	**64**	P	**PKPdf**	**02 39 34.0**	**-0.7**
	baz=234,SNR=7.6						
E26A	**Carlson Angus**	**116.73**	**50**	P	**PKPdf**	**02 39 34.2**	**-0.3**
	baz=234						
L32A	**Elgin**	**116.73**	**57**	P	**PKPdf**	**02 39 33.5**	**-1.1**
	baz=234						
T39A	**Clever**	**116.76**	**63**	P	**PKPdf**	**02 39 35.3**	**+0.4**
	baz=234						
S38A	**Stockton**	**116.77**	**63**	P	**PKPdf**	**02 39 34.7**	**-0.1**
	baz=234						
V41A	**Mountainview**	**116.84**	**65**	P	**PKPdf**	**02 39 34.3**	**-0.7**
	baz=234						
H29A	**Onida**	**116.94**	**53**	P	**PKPdf**	**02 39 35.0**	**+0.1**
	baz=234						
DGMT	**Dagmar**	**116.95**	**48**	P	**PKPdf**	**02 39 35.1**	**+0.2**
	baz=234						
DGMT	**Dagmar**	**116.95**	**48**	PFAKE		02 39 50.0	+15
DGMT				LR	LR		
	comp=Z,4μm,19.0s						
X43A	**Marvell**	**116.95**	**67**	P	**PKPdf**	**02 39 34.5**	**-0.7**
	baz=234						
M33A	**Taylor Creek F**	**116.98**	**57**	P	**PKPdf**	**02 39 34.6**	**-0.5**
	baz=235						
C25A	**Freed Ranch, W**	**117.01**	**49**	P	**PKPdf**	**02 39 34.7**	**-0.3**
	baz=234						
O35A	**Humboldt**	**117.02**	**59**	P	**PKPdf**	**02 39 34.5**	**-0.7**
	baz=235						
J31A	**Geddes**	**117.04**	**55**	P	**PKPdf**	**02 39 34.8**	**-0.4**
	baz=235						
247A	**Quitman**	**117.05**	**71**	P	**PKPdf**	**02 39 34.5**	**-1.0**
	baz=234						
Z45A	**Winona**	**117.08**	**69**	P	**PKPdf**	**02 39 34.9**	**-0.6**
	baz=234						
146A	**Union**	**117.08**	**70**	P	**PKPdf**	**02 39 35.1**	**-0.5**
	baz=234						
P36A	**Good Intent, A**	**117.09**	**60**	P	**PKPdf**	**02 39 34.9**	**-0.4**
	baz=235						
R38A	**Fenwick Farm,**	**117.09**	**62**	P	**PKPdf**	**02 39 34.9**	**-0.5**
	baz=234						
K32A	**Verdigre**	**117.13**	**56**	P	**PKPdf**	**02 39 34.9**	**-0.5**
	baz=235						
Q37A	**Longview Farm,**	**117.14**	**61**	P	**PKPdf**	**02 39 34.5**	**-1.0**
	baz=235						
348A	**Jackson**	**117.16**	**71**	P	**PKPdf**	**02 39 34.3**	**-1.4**
	baz=234						
S39A	**Bolivar**	**117.18**	**63**	P	**PKPdf**	**02 39 34.8**	**-0.8**
	baz=234,SNR=11						
L33A	**Hoskins**	**117.27**	**57**	P	**PKPdf**	**02 39 34.6**	**-1.1**
	baz=235						
V42A	**Cord**	**117.36**	**66**	P	**PKPdf**	**02 39 35.6**	**-0.4**
	baz=234						
B25A	**Knox Farm, Ray**	**117.39**	**48**	P	**PKPdf**	**02 39 34.7**	**-1.0**
	baz=234						
T40A	**Mansfield**	**117.39**	**64**	P	**PKPdf**	**02 39 34.8**	**-1.2**
	baz=235,SNR=5.3						
X44A	**Crenshaw**	**117.43**	**67**	P	**PKPdf**	**02 39 34.8**	**-1.3**
	baz=234						
Y45A	**Yeager Farm, C**	**117.47**	**68**	P	**PKPdf**	**02 39 35.9**	**-0.3**
	baz=234						
Z46A	**Louisville**	**117.49**	**69**	P	**PKPdf**	**02 39 35.5**	**-0.8**
	baz=234						
N35A	**Tabor**	**117.53**	**59**	P	**PKPdf**	**02 39 36.2**	**+0.1**
	baz=235						
SUSD	**Miller**	**117.57**	**54**	P	**PKPdf**	**02 39 36.2**	**+0.1**
	baz=235						
I31A	**Royce, Wessing**	**117.58**	**54**	P	**PKPdf**	**02 39 36.5**	**+0.3**
	baz=235						
BRAL	**Brewton**	**117.60**	**72**	PFAKE		02 39 50.0	+13
BRAL				LR	LR		
	comp=Z,2μm,19.0s						
P37A	**Lathrop**	**117.61**	**61**	P	**PKPdf**	**02 39 36.9**	**+0.5**
	baz=235						
147A	**Livingston**	**117.64**	**70**	P	**PKPdf**	**02 39 36.7**	**+0.1**
	baz=234						
S40A	**Lebanon**	**117.66**	**63**	P	**PKPdf**	**02 39 37.0**	**+0.5**
	baz=235,SNR=5.6						
248A	**Dixon Mills**	**117.67**	**71**	P	**PKPdf**	**02 39 36.4**	**-0.3**
	baz=234						
K33A	**Hardington**	**117.69**	**56**	P	**PKPdf**	**02 39 37.3**	**+0.9**
	baz=235						
L34A	**Svendsen Farm,**	**117.71**	**57**	P	**PKPdf**	**02 39 36.7**	**+0.2**
	baz=235						
Q38A	**Cooks Store, C**	**117.72**	**62**	P	**PKPdf**	**02 39 36.1**	**-0.4**
	baz=235						
R39A	**Chumby, Stover**	**117.72**	**62**	P	**PKPdf**	**02 39 37.1**	**+0.5**
	baz=235						
A25A	**Svangstu Ranch**	**117.80**	**48**	P	**PKPdf**	**02 39 37.8**	**+1.3**
	baz=235						
T41A	**Mountain View**	**117.83**	**64**	P	**PKPdf**	**02 39 37.0**	**+0.2**
	baz=235,SNR=6.1						
M35A	**Neola**	**117.84**	**58**	P	**PKPdf**	**02 39 36.7**	**0.0**
	baz=235						
G30A	**Faulkton**	**117.85**	**53**	P	**PKPdf**	**02 39 38.2**	**+1.6**
	baz=235						
F29A	**Eureka**	**117.86**	**52**	P	**PKPdf**	**02 39 37.6**	**+1.0**
	baz=235						
H31A	**Wolsey**	**117.87**	**54**	P	**PKPdf**	**02 39 37.8**	**+1.1**
	baz=235						
X45A	**UM Field Stati**	**117.90**	**68**	P	**PKPdf**	**02 39 36.6**	**-0.4**
	baz=234						
N36A	**Muff Farm, Cla**	**117.93**	**59**	P	**PKPdf**	**02 39 38.0**	**+1.1**
	baz=235						
MET	**Memphis--Engin**	**117.94**	**67**	PFAKE		02 39 50.0	+13
MET				LR	LR		
	comp=Z,3μm,19.0s						
OXF	**Oxford**	**117.94**	**68**	*e*PKIKP	**PKPdf**	**02 39 36.8**	**-0.3**
OXF				MLR	MLR		
	comp=Z,2μm,21.0s						
OXF	**Oxford**	**117.94**	**68**	*e*PKPdf	**PKPdf**	**02 39 36.8**	**-0.3**
OXF				LR	LR		
	comp=Z,2μm,21.0s						
Y46A	**Houston**	**117.95**	**69**	P	**PKPdf**	**02 39 38.0**	**+0.8**
	baz=234						
B26A	**Jensen Ranch,**	**117.96**	**49**	P	**PKPdf**	**02 39 37.8**	**+1.0**
	baz=235						
O37A	**Wolven Farm, M**	**118.07**	**60**	P	**PKPdf**	**02 39 37.4**	**+0.1**
	baz=235						
Z47A	**Carrollton**	**118.09**	**70**	P	**PKPdf**	**02 39 37.0**	**-0.4**
	baz=234						
P38A	**Dawn**	**118.15**	**61**	P	**PKPdf**	**02 39 37.9**	**+0.5**
	baz=235						
Q39A	**Willow Grove F**	**118.18**	**62**	P	**PKPdf**	**02 39 37.9**	**+0.5**
	baz=235						
D28A	**Regan**	**118.21**	**51**	P	**PKPdf**	**02 39 36.8**	**-0.5**
	baz=235						
R40A	**Maddies Statio**	**118.21**	**63**	P	**PKPdf**	**02 39 37.4**	**-0.1**
	baz=235						
I32A	**Karley and Nic**	**118.22**	**55**	P	**PKPdf**	**02 39 37.7**	**+0.3**
	baz=236						
K34A	**Le Mars**	**118.29**	**57**	P	**PKPdf**	**02 39 38.8**	**+1.2**
	ba

PBMO LR LR
comp=Z,3µm,19.0s
ECSD EROS Data Cent 118.56 56 P **PKPdf 02 39 38.2 +0.2**
baz=236
ECSD EROS Data Cent 118.56 56 *e*PKPdf **PKPdf 02 39 37.5 -0.6**
ECSD LR LR
comp=Z,3µm,18.0s
P39B Salisbury 118.57 61 P **PKPdf 02 39 38.5 +0.3**
baz=236
C28A Hausauer Farms 118.61 50 P **PKPdf 02 39 38.4 +0.4**
baz=236
I33A Coleman 118.63 55 P **PKPdf 02 39 38.6 +0.4**
baz=236
Y47A UCPARC, Winfie 118.64 69 P **PKPdf 02 39 38.2 -0.3**
baz=235
LRAL Lakeview Retre 118.73 71 *e*PKPdf **PKPdf 02 39 38.3 -0.4**
LRAL LR LR
comp=Z,2µm,22.0s
Q40A Laux Farm, Aux 118.73 62 P **PKPdf 02 39 38.4 -0.1**
baz=236
E30A Jud 118.76 52 P **PKPdf 02 39 39.6 +1.2**
baz=236
F31A Hecla 118.78 53 P **PKPdf 02 39 38.9 +0.5**
baz=236
M37A Trindle Farm, 118.82 59 P **PKPdf 02 39 38.8 +0.2**
baz=236
A27A Ledoux Ranch, 118.83 49 P **PKPdf 02 39 38.8 +0.4**
baz=236
PVMO Portageville 118.83 66 PFAKE 02 39 50.0 +11
PVMO LR LR
comp=Z,3µm,19.0s
K35A Storm Lake 118.83 57 P **PKPdf 02 39 38.6 0.0**
baz=236
L36A Harm Buss Farm 118.83 58 P **PKPdf 02 39 38.8 +0.2**
baz=236
G32A Webster 118.89 54 P **PKPdf 02 39 38.7 +0.1**
baz=236
V45A Humboldt 118.94 67 P **PKPdf 02 39 39.0 0.0**
baz=235
TIXI Tiksi 118.99 345 PFAKE 02 39 50.0 +12
TIXI LR LR
comp=Z,3µm,21.0s
N38A Joes South For 119.00 60 P **PKPdf 02 39 39.3 +0.3**
baz=236
H33A Prehn Over Nor 119.01 55 P **PKPdf 02 39 39.3 +0.4**
baz=236
B28A Dugan Ranch, T 119.03 49 P **PKPdf 02 39 39.1 +0.3**
baz=236
P40A Paris 119.05 62 P **PKPdf 02 39 38.8 -0.3**
baz=236
PLAL Pickwick Lake 119.11 68 PFAKE 02 39 50.0 +11
PLAL LR LR
comp=Z,3µm,21.0s
MDND Maddock 119.12 50 P **PKPdf 02 39 39.5 +0.6**
baz=236
MDND Maddock 119.12 50 PFAKE 02 39 50.0 +11
MDND LR LR
comp=Z,6µm,19.0s
O39A Kirksville 119.14 61 P **PKPdf 02 39 39.6 +0.4**
baz=236
D30A Buchanan 119.19 51 P **PKPdf 02 39 39.0 -0.1**
baz=236
S43A Fulton Ridge, 119.23 65 P **PKPdf 02 39 39.4 -0.2**
baz=236
K36A Gilmore City 119.27 58 P **PKPdf 02 39 39.4 0.0**
baz=236
ZSN Zaisan 119.33 309 *e*PKP **PKPdf 02 39 38.6 -0.9**
comp=Z,40nm,0.9s
A28A Rude Farm, Bot 119.34 49 P **PKPdf 02 39 40.0 +0.6**
baz=236
GTBY Guantanamo Bay 119.34 90 PFAKE 02 39 50.0 +10
GTBY LR LR
comp=Z,2µm,20.0s
M38A Pleasantville 119.37 59 P **PKPdf 02 39 39.9 +0.2**
baz=236
E31A Nome 119.38 52 P **PKPdf 02 39 39.9 +0.4**
baz=236
L37A Phoenix Point, 119.41 58 P **PKPdf 02 39 39.7 0.0**
baz=236
F32A Veblen 119.44 53 P **PKPdf 02 39 40.6 +1.0**
baz=237
G33A Ortonville 119.48 54 P **PKPdf 02 39 39.2 -0.6**
baz=237
O40A La Belle 119.49 61 P **PKPdf 02 39 39.2 -0.8**
baz=236
N39A Derby Farms, D 119.51 60 P **PKPdf 02 39 39.6 -0.4**
baz=236
H34A Spellman Lake, 119.58 55 P **PKPdf 02 39 40.1 +0.1**
baz=237
B29A Wagenman Farm,119.60 50 P **PKPdf 02 39 39.8 -0.1**
baz=237
I35A Creekview Farm 119.61 56 P **PKPdf 02 39 39.8 -0.3**
baz=237
SHLS Shalkode 119.64 303 *e*PKP **PKPdf 02 39 39.7 -0.7**
comp=Z,39nm,0.9s
SHLS LRM MLR 03 31 26.4
comp=Z,204nm,16.7s
C30A Mose, Pekin 119.67 51 P **PKPdf 02 39 40.7 +0.7**
baz=237
Q42A Golden Eagle 119.68 63 P **PKPdf 02 39 39.9 -0.4**
baz=236
J36A Seneca 1, Swea 119.71 57 P **PKPdf 02 39 39.8 -0.5**
baz=237
SLM Saint Louis 119.72 64 PFAKE 02 39 50.0 +10
SLM LR LR
comp=Z,3µm,20.0s
D31A Mcclaflin, Tow 119.74 52 P **PKPdf 02 39 39.9 -0.3**
baz=237
DWPF Disney Wildern 119.76 78 PFAKE 02 39 50.0 +9.2
DWPF LR LR
comp=Z,2µm,18.0s
P41A Barry, Barry 119.76 62 P **PKPdf 02 39 39.3 -1.1**
baz=236
K37A Belmond 119.84 58 P **PKPdf 02 39 40.2 -0.3**
baz=237
S44A Carbondale 119.84 65 P **PKPdf 02 39 39.5 -1.2**
baz=236
E32A Braaten, Kindr 119.87 53 P **PKPdf 02 39 40.1 -0.4**
baz=237
SIUC Southern Illin 119.88 65 PFAKE 02 39 50.0 +9.3
SIUC LR LR
comp=Z,3µm,21.0s
F33A 5 Mile Ranch, 119.91 54 P **PKPdf 02 39 40.0 -0.6**
baz=237
A29A Manning Farm, 119.92 50 P **PKPdf 02 39 39.8 -0.7**
baz=237
L38A Oak Wood Farm, 119.92 59 P **PKPdf 02 39 40.0 -0.7**
baz=237
WVT Waverly 119.92 67 PFAKE 02 39 50.0 +9.1
WVT LR LR
comp=Z,3µm,18.0s
G34A Benson 119.97 55 P **PKPdf 02 39 39.8 -0.9**
baz=237
KSH Kashi 120.10 297 PKP **PKPdf 02 39 37.3 -4.0**
KSH PP **PP 02 41 08.0 +1.1**
KSH PKS **PKSdf 02 43 13.2 -4.8**
KSH SKS **SKSdf 02 46 49.2 -4.3**
KSH SKKS **SKKSac 02 47 59.6 -6.8**
KSH SS **SS 02 57 34.8 +0.7**
KSH PPMZ
comp=Z,290nm,6.8s
KSH LN
comp=Z,1µm,16.4s
KSH LE
comp=Z,1µm,19.5s
KSH LZ
comp=Z,2µm,18.9s
C31A Landman Farms, 120.14 51 P **PKPdf 02 39 40.3 -0.7**
baz=237
UZB Uzynbulak 120.16 302 *e*PKP **PKPdf 02 39 40.8 -0.5**
comp=Z,104nm,1.5s
UZB *e*PP **PP 02 41 06.0 -1.3**
UZB LRM MLR 03 32 44.7
comp=Z,524nm,21.6s
B30A Myrvik Farm, E 120.16 50 P **PKPdf 02 39 39.9 -1.0**
baz=237
H35A Sunnyside Ranc 120.16 56 P **PKPdf 02 39 39.6 -1.5**
baz=237
MK01 Makanchi Array 120.16 307 *e*PKPdf **PKPdf 02 39 39.4 -1.7**
TIGA Tifton 120.17 74 P **PKPdf 02 39 40.1 -1.4**
baz=235
TIGA Tifton 120.17 74 PFAKE 02 39 50.0 +8.5
TIGA LR LR
comp=Z,3µm,20.0s
MK31 Makanchi Array 120.18 307 *i* PKIKP **PKPdf 02 39 40.7 -0.4**
MK31 pmax pmax
comp=Z,10.0nm,0.8s

MK31 Makanchi Array 120.18 307 *e*PKPdf **PKPdf 02 39 41.0 -0.1**
MKAR Makanchi Array 120.18 307 PKP **PKPdf 02 39 39.6 -1.5**
comp=Z,6.8nm,0.8s,baz=50,slow=2.1,SNR=22
MKAR PKKPbc **PKKPbc 02 49 52.8 +4.2**
comp=Z,1.2nm,0.9s,baz=258,slow=3.6,SNR=5.0
MKAR Makanchi Array 120.18 307 PKIKP **PKPdf 02 39 39.6 -1.5**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 120.18 307 *e*PKPdf **PKPdf 02 39 41.0 -0.1**
MKAR PKKPbc **PKKPbc 02 49 52.8 +4.2**
J37A Redenius Farm, 120.19 57 P **PKPdf 02 39 40.0 -1.2**
baz=237
Q43A New Douglas 120.24 63 P **PKPdf 02 39 40.1 -1.4**
baz=236
R44A Waltonville 120.26 64 P **PKPdf 02 39 40.1 -1.4**
baz=236
S45A Carrier Mills 120.28 65 P **PKPdf 02 39 40.3 -1.2**
baz=236
I36A Fitzsimmons Fa 120.29 57 P **PKPdf 02 39 40.9 -0.5**
baz=237
K38A Parkersburg 120.31 58 P **PKPdf 02 39 40.9 -0.5**
baz=237
MAKZ Makanchi 120.37 307 *e*PKIKP **PKPdf 02 39 41.2 -0.2**
MAKZ MLR MLR
comp=Z,2µm,20.0s
MAKZ Makanchi 120.37 307 *e*PKPdf **PKPdf 02 39 41.2 -0.2**
MAKZ LR LR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 120.38 234 *e*PKIKP **PKPdf 02 39 44.8 +2.0**
KMBO *e* 02 41 11.2
KMBO MLR MLR
comp=Z,3µm,18.0s
KMBO Kilima Mbogo 120.38 234 *e*PKPdf **PKPdf 02 39 44.8 +2.0**
KMBO *e*PP **PP 02 41 11.2 +2.7**
KMBO LR LR
comp=Z,3µm,18.0s
YKA Yellowknife Ar 120.44 31 PKP **PKPdf 02 39 39.7 -1.3**
comp=Z,8.7nm,0.8s,baz=232,slow=1.8,SNR=25
YKA PKKPbc **PKKPbc 02 49 48.7 +0.8**
comp=Z,4.7nm,0.9s,baz=46,slow=4.8,SNR=19
A30A Hoffart Farm, 120.44 50 P **PKPdf 02 39 41.0 -0.5**
baz=237
E33A Westby DABS, E 120.44 53 P **PKPdf 02 39 41.2 -0.4**
baz=237
YKW3 Yellowknife Ar 120.47 31 *e*PKPdf **PKPdf 02 39 40.1 -0.9**
SATY Saty 120.49 302 *e*PKP **PKPdf 02 39 41.8 -0.1**
comp=Z,171nm,0.9s
SATY *e*PP **PP 02 41 08.0 -1.5**
SATY LRM MLR 03 31 26.1
comp=Z,508nm,19.5s
F34A Alexandria 120.50 54 P **PKPdf 02 39 40.9 -0.8**
baz=237
B31A Greenbush Farm 120.53 51 P **PKPdf 02 39 41.0 -0.7**
baz=238
ZHN Zhinishke 120.53 302 *e*PKP **PKPdf 02 39 41.6 -0.4**
comp=Z,64nm,0.9s
KPKS Kokpek 120.54 303 *e*PKP **PKPdf 02 39 41.7 -0.3**
comp=Z,283nm,1.0s
KPKS *e*PP **PP 02 41 07.1 -2.7**
KPKS LRM MLR 03 30 47.8
comp=Z,659nm,22.8s
H36A Jessenland, He 120.64 56 P **PKPdf 02 39 40.0 -2.0**
baz=238
G35A Watkins 120.65 55 P **PKPdf 02 39 41.2 -0.8**
baz=238
I37A Lemond, Waseca 120.66 57 P **PKPdf 02 39 42.0 -0.1**
baz=237
Q44A Meyer Farm, Va 120.66 64 P **PKPdf 02 39 41.2 -1.0**
baz=237
SWET Sewanee 120.69 69 *e*PKPdf **PKPdf 02 39 41.0 -1.5**
SWET LR LR
comp=Z,600nm,21.0s
SHEL Horse Pasture 120.81 182 PFAKE 02 39 50.0 +6.6
SHEL LR LR
comp=Z,6µm,20.0s
C32A Crookston 120.84 52 P **PKPdf 02 39 41.7 -0.6**
baz=238
J38A Wedel Dairy, R 120.85 58 P **PKPdf 02 39 38.9 -3.5**
baz=238
D33A AnnSam, Waubum120.87 53 P **PKPdf 02 39 39.7 -2.7**
baz=238
E34A Wadena 120.94 54 P **PKPdf 02 39 41.5 -1.0**
baz=238
F35A Swanville 120.94 54 P **PKPdf 02 39 41.7 -0.8**
baz=238
USIN University of 121.04 65 PFAKE 02 39 50.0 +7.0
USIN LR LR
comp=Z,2µm,20.0s
A31A Linda, St. Vin 121.06 50 P **PKPdf 02 39 42.9 +0.3**
baz=238
G36A St. Michael 121.10 55 P **PKPdf 02 39 42.3 -0.5**
baz=238
OLIL Olney 121.17 64 PFAKE 02 39 50.0 +6.8
OLIL LR LR
comp=Z,3µm,20.0s
D34A Park Rapids 121.22 53 P **PKPdf 02 39 41.8 -1.2**
baz=238
C33A Trail 121.24 52 P **PKPdf 02 39 42.3 -0.7**
baz=238
H37A Dierke Farm, C 121.25 56 P **PKPdf 02 39 41.9 -1.3**
baz=238
I38A Scanlan Farm, 121.33 57 P **PKPdf 02 39 42.7 -0.7**
baz=238,SNR=5.1
GOGA Godfrey 121.37 72 *e*PKIKP **PKPdf 02 39 43.4 -0.4**
GOGA MLR MLR
comp=Z,2µm,20.0s
GOGA Godfrey 121.37 72 *e*PKPdf **PKPdf 02 39 43.4 -0.4**
GOGA LR LR
comp=Z,2µm,20.0s
HDIL Hopedale 121.38 62 P **PKPdf 02 39 42.8 -0.7**
baz=237
HDIL Hopedale 121.38 62 PFAKE 02 39 50.0 +6.4
HDIL LR LR
comp=Z,5µm,20.0s
MDOK Medeo 121.39 301 *e*PKP **PKPdf 02 39 42.2 -1.5**
comp=Z,30nm,0.9s
MDOK *e*PP **PP 02 41 12.9 -2.7**
MDOK LR LR 03 32 56.6
comp=Z,902nm,22.9s
E35A Pequot Lakes 121.41 54 P **PKPdf 02 39 42.8 -0.6**
baz=238
A32A Rocking H Ranc 121.44 51 P **PKPdf 02 39 42.7 -0.7**
baz=238
AGMN Agassiz Nation 121.47 52 P **PKPdf 02 39 42.9 -0.6**
baz=238
AGMN Agassiz Nation 121.47 52 PFAKE 02 39 50.0 +6.5
AGMN LR LR
comp=Z,4µm,18.0s
SDDR Presa de Saban 121.52 93 *e*PKPdf **PKPdf 02 39 43.7 -0.8**
SDDR LR LR
comp=Z,4µm,19.0s
F36A Milaca 121.56 55 P **PKPdf 02 39 43.2 -0.5**
baz=238,SNR=12
B33A Robert and Kas 121.62 52 P **PKPdf 02 39 43.2 -0.6**
baz=239
SPMN Marine on St. 121.66 56 P **PKPdf 02 39 43.4 -0.5**
baz=238
SPMN Marine on St. 121.66 56 *e*PKPdf **PKPdf 02 39 43.0 -1.0**
SPMN LR LR
comp=Z,4µm,20.0s
C34A RKJ Ranch, Bem 121.68 53 P **PKPdf 02 39 43.6 -0.3**
baz=239
CPCT Cooper Cave 121.78 70 *e*PKPdf **PKPdf 02 39 44.6 +0.1**
D35A Remer 121.89 53 P **PKPdf 02 39 43.5 -0.8**
baz=239
KBL Kabul 122.00 289 *e*PKIKP **PKPdf 02 39 45.7 +0.5**
KBL *e* 02 41 19.6
KBL MLR MLR
comp=Z,2µm,21.0s
KBL Kabul 122.00 289 *e*PKPdf **PKPdf 02 39 45.7 +0.5**
KBL *e*PP **PP 02 41 19.6 -0.4**
KBL LR LR
comp=Z,2µm,21.0s
JFWS Jewell Farm 122.02 59 *e*PKIKP **PKPdf 02 39 44.6 -0.1**
JFWS MLR MLR
comp=Z,4µm,20.0s
JFWS Jewell Farm 122.02 59 *e*PKPdf **PKPdf 02 39 44.6 -0.1**
JFWS LR LR
comp=Z,4µm,20.0s
E36A McGregor 122.06 54 P **PKPdf 02 39 43.9 -0.8**
baz=239,SNR=5.8
A33A Warroad 122.07 51 P **PKPdf 02 39 43.8 -0.8**
baz=239,SNR=7.8
WCI Wyandotte Cave 122.09 66 *e*PKIKP **PKPdf 02 39 43.9 -1.2**
WCI *e* 02 41 25.4
WCI MLR MLR
comp=Z,3µm,19.0s

WCI Wyandotte Cave 122.09 66 *e*PKPdf **PKPdf 02 39 43.9 -1.2**
WCI *e*PP **PP 02 41 25.4 +5.0**
WCI LR LR
comp=Z,3µm,19.0s
TKM2 Tokmak 2 122.16 301 PKIKP **PKPdf 02 39 44.9 -0.4**
TKM2 pmax pmax
comp=Z,19nm,1.6s
TKM2 Tokmak 2 122.16 301 PFAKE 02 40 00.0 +15
TKM2 LR LR
comp=Z,3µm,22.0s
C35A Jirik Farms, M 122.25 53 P **PKPdf 02 39 44.1 -0.9**
baz=239,SNR=9.3
B34A Aery, Baudette 122.26 52 P **PKPdf 02 39 44.2 -0.8**
baz=239,SNR=18
TKL Tuckaleechee C 122.40 70 *e*PKIKP **PKPdf 02 39 45.3 -0.4**
TKL MLR MLR
comp=Z,2µm,21.0s
TKL Tuckaleechee C 122.40 70 *e*PKPdf **PKPdf 02 39 45.3 -0.4**
TKL LR LR
comp=Z,2µm,21.0s
BLO Bloomington 122.44 65 *e*PKIKP **PKPdf 02 39 45.4 -0.3**
BLO MLR MLR
comp=Z,3µm,20.0s
BLO Bloomington 122.44 65 *e*PKPdf **PKPdf 02 39 45.4 -0.3**
BLO LR LR
comp=Z,3µm,20.0s
D36A Goodland 122.45 54 P **PKPdf 02 39 44.5 -0.9**
baz=239,SNR=8.4
ULM Lac du Bonnet 122.47 50 PKP **PKPdf 02 39 43.6 -1.7**
comp=Z,23nm,1.0s,baz=219,slow=2.0,SNR=8.6
ULM Lac du Bonnet 122.47 50 *e*PKIKP **PKPdf 02 39 44.5 -0.9**
ULM *e* 02 41 18.9
ULM MLR MLR
comp=Z,4µm,18.0s
ULM Lac du Bonnet 122.47 50 *e*PKPdf **PKPdf 02 39 44.5 -0.9**
ULM *e*PP **PP 02 41 18.9 -3.8**
ULM LR LR
comp=Z,4µm,18.0s
ZAA0 Zalesovo Array 122.55 316 *e*PKPdf **PKPdf 02 39 44.6 -0.7**
ZAA0 *e*PP **PP 02 41 17.7 -5.4**
ZAA0 *e*PP PP 02 41 21.8 -1.3
ZALV Zalesovo Beam 122.55 316 PKP **PKPdf 02 39 44.4 -1.0**
comp=Z,5.8nm,0.7s,baz=161,slow=2.4,SNR=16
ZALV PP **PP 02 41 26.0 +2.9**
comp=Z,1.7nm,0.5s,baz=79,slow=3.8,SNR=3.7
ZALV PKKPbc **PKKPbc 02 49 44.1 +4.5**
comp=Z,0.4nm,0.3s,baz=292,slow=7.8,SNR=4.8
E37A Wrenshall 122.59 55 P **PKPdf 02 39 44.6 -1.1**
baz=239
SFIN Lafayette 122.71 63 P **PKPdf 02 39 45.1 -1.0**
baz=238
SFIN Lafayette 122.71 63 PFAKE 02 40 00.0 +14
SFIN LR LR
comp=Z,4µm,19.0s
AAK Ala-Archa 122.71 300 *i* PKIKP **PKPdf 02 39 47.1 +0.8**
AAK Ala-Archa 122.71 300 PFAKE 02 40 00.0 +14
AAK LR LR
comp=Z,4µm,22.0s
B35A Bob, Littlefor 122.73 52 P **PKPdf 02 39 45.3 -0.6**
baz=240,SNR=9.0
FRU Bishkek 122.73 300 *i* PKIKP **PKPdf 02 39 46.0 -0.1**
FRU *e* 02 51 12.0
FRU pmax pmax
comp=Z,130nm,2.3s
D37A Cotton 122.88 54 P **PKPdf 02 39 45.1 -1.1**
baz=240,SNR=26
C36A Pine Crest Far 122.94 53 P **PKPdf 02 39 45.4 -0.9**
baz=240,SNR=12
TZTN Tazewell 123.03 69 *e*PKPdf **PKPdf 02 39 45.9 -1.0**
TZTN LR LR
comp=Z,2µm,18.0s
EKS2 Erkin-Say 123.17 299 PFAKE 02 40 00.0 +13
EKS2 LR LR
comp=Z,3µm,20.0s
SEM Semipalatinsk 123.21 310 *e*PKP **PKPdf 02 39 46.8 +0.1**
comp=Z,134nm,0.8s
SEM *e*PP **PP 02 41 26.7 -1.0**
SEM LRM MLR 03 34 05.7
comp=Z,594nm,19.8s
GRTK Grand Turk 123.23 91 PFAKE 02 40 00.0 +12
GRTK LR LR
comp=Z,3µm,20.0s
C37A Embarrass 123.31 54 P **PKPdf 02 39 46.2 -0.8**
baz=240,SNR=18
JSC Jenkinsville 123.38 72 *e*PKIKP **PKPdf 02 39 48.0 +0.4**
JSC Jenkinsville 123.38 72 *e*PKPdf **PKPdf 02 39 48.0 +0.4**
NHSC New Hope 123.49 74 PFAKE 02 40 00.0 +12
NHSC LR LR
comp=Z,3µm,20.0s
NVS Novosibirsk 123.80 316 *e*PKIKP **PKPdf 02 39 47.3 -0.4**
NVS pmax pmax
comp=N,40nm,1.8s
NVS pmax pmax
comp=E,14nm,1.8s
NVS pmax pmax
comp=Z,32nm,1.8s
KMSC Kings Mountain 123.80 72 P **PKPdf 02 39 47.1 -1.3**
baz=237
KMSC Kings Mountain 123.80 72 PFAKE 02 40 00.0 +12
KMSC LR LR
comp=Z,4µm,20.0s
EYMN Ely 123.82 54 P **PKPdf 02 39 47.2 -0.8**
baz=240
EYMN Ely 123.82 54 *e*PKPdf **PKPdf 02 39 46.9 -1.1**
EYMN LR LR
comp=Z,3µm,18.0s
C38A Sawbill Land. 123.84 54 P **PKPdf 02 39 46.8 -1.3**
baz=240,SNR=5.2
MNAS Manas 123.89 299 PKIKP **PKPdf 02 39 47.9 -0.6**
MNAS pmax pmax
comp=Z,26nm,0.8s
MPR Mayaguez 124.03 97 PFAKE 02 40 00.0 +11
MPR LR LR
comp=Z,2µm,19.0s
KURK Kurchatov 124.27 310 *e*PKIKP **PKPdf 02 39 47.1 -1.6**
KURK *e* 02 41 33.3
KURK MLR MLR
comp=Z,11µm,22.0s
KURK Kurchatov 124.27 310 *e*PKPdf **PKPdf 02 39 47.1 -1.6**
KURK *e*PP **PP 02 41 33.2 -1.5**
KURK LR LR
comp=Z,11µm,22.0s
COWI Conover 124.32 57 PFAKE 02 40 00.0 +11
COWI LR LR
comp=Z,5µm,20.0s
RCBR Riachuelo 124.46 145 PFAKE 02 40 00.0 +10
RCBR LR LR
comp=Z,4µm,20.0s
C39A Grand Marais 124.56 54 P **PKPdf 02 39 48.2 -1.3**
baz=241
SJG San Juan 124.68 98 PFAKE 02 40 00.0 +9.5
SJG LR LR
comp=Z,4µm,21.0s
HUMP Col San Antoni 124.92 98 *e*PKPdf **PKPdf 02 39 50.9 -0.1**
HUMP LR LR
comp=Z,4µm,21.0s
SVB Belmont 124.93 106 PFAKE 02 40 00.0 +8.9
SVB LR LR
comp=Z,4µm,19.0s
CBYP Canovanas 125.00 98 PFAKE 02 40 00.0 +8.8
CBYP LR LR
comp=Z,4µm,19.0s
IUG luzhnay 125.31 297 *e*PKP **PKPdf 02 39 51.2 0.0**
comp=Z,381nm,1.2s
IUG *e*SKS **SKSdf 02 47 03.1 -0.1**
IUG *e*SS **SS 02 58 38.6 -1.7**
IUG LRM MLR 03 37 34.4
comp=Z,672nm,19.8s
ACSO Alum Creek Sta 125.33 65 *e*PKPdf **PKPdf 02 39 50.4 -0.7**
ACSO *e*PP **PP 02 41 42.0 -0.2**
ACSO LR LR
comp=Z,4µm,21.0s
BLA Blacksburg 125.52 70 *e*PKIKP **PKPdf 02 39 52.3 +0.6**
BLA MLR MLR
comp=Z,4µm,20.0s
BLA Blacksburg 125.52 70 *e*PKPdf **PKPdf 02 39 52.3 +0.6**
BLA LR LR
comp=Z,4µm,20.0s
UOSS Minazif 125.68 272 *e*PKPdf **PKPdf 02 39 50.2 -2.1**
UOSS LR LR
comp=Z,2µm,20.0s
STVI Saint Thomas 125.70 99 PFAKE 02 40 00.0 +7.5
STVI LR LR
comp=Z,3µm,19.0s
AAM Ann Arbor 125.91 63 *e*PKIKP **PKPdf 02 39 52.9 +0.7**

AAM MLR MLR
comp=Z,4µm,19.0s
AAM Ann Arbor 125.91 63 *e*PKPdf **PKPdf 02 39 52.9 +0.7**
AAM LR LR
comp=Z,4µm,19.0s
FDF Fort de France 126.00 105 PFAKE 02 40 00.0 +6.8
FDF LR LR
comp=Z,2µm,20.0s
BBGH Gun Hill 126.02 108 PFAKE 02 40 00.0 +6.8
BBGH LR LR
comp=Z,4µm,21.0s
CNNC Cliffs of the 126.24 73 PFAKE 02 40 00.0 +7.0
CNNC LR LR
comp=Z,2µm,20.0s
ABVI Anegada Island 126.39 99 PFAKE 02 40 00.0 +6.2
ABVI LR LR
comp=Z,3µm,22.0s
SABA Saba 126.45 101 PFAKE 02 40 10.0 +16
SABA LR LR
comp=Z,4µm,20.0s
SEUS St. Eustatius 126.56 101 PFAKE 02 40 10.0 +16
SEUS LR LR
comp=Z,4µm,19.0s
GDHS Morne Mazeau, 126.61 103 PFAKE 02 40 10.0 +16
GDHS LR LR
comp=Z,3µm,19.0s
SMRT St. Maarten 126.86 100 PFAKE 02 40 10.0 +15
SMRT LR LR
comp=Z,2µm,20.0s
MCWV Mont Chateau 127.14 68 PFAKE 02 40 10.0 +15
MCWV LR LR
comp=Z,2µm,18.0s
FURI Furi 127.29 243 PFAKE 02 40 10.0 +14
FURI LR LR
comp=Z,2µm,21.0s
FCC Fort Churchill 127.31 41 PFAKE 02 40 10.0 +16
FCC LR LR
comp=Z,5µm,20.0s
JSRW J. Sargeant Re 127.50 71 *e*PKPdf **PKPdf 02 39 55.5 +0.1**
DAMY Dhamar 127.52 253 PFAKE 02 40 10.0 +14
DAMY LR LR
comp=Z,3µm,18.0s
ANWB Willy Bob 127.52 102 PFAKE 02 40 10.0 +14
ANWB LR LR
comp=Z,2µm,20.0s
N54A Moraine State 127.67 66 P **PKPdf 02 39 55.1 -0.6**
baz=241
ALLY Alegheny Colle 127.90 65 PFAKE 02 40 10.0 +14
ALLY LR LR
comp=Z,6µm,19.0s
CBN Corbin Frederi 128.10 70 PFAKE 02 40 10.0 +14
CBN LR LR
comp=Z,2µm,21.0s
M54A Oil Creek Stat 128.15 66 P **PKPdf 02 39 56.0 -0.6**
baz=242
ERPA Erie 128.22 65 PFAKE 02 40 10.0 +13
ERPA LR LR
comp=Z,3µm,18.0s
O56A Blue Knob Stat 128.29 67 P **PKPdf 02 39 56.6 -0.3**
baz=241
NRIK Noril'sk 128.30 333 PKP **PKPdf 02 39 54.5 -1.4**
comp=Z,25nm,0.9s,baz=88,slow=1.9,SNR=14
ASCN Ascension 128.40 171 PFAKE 02 40 10.0 +12
ASCN LR LR
comp=Z,3µm,20.0s
SSPA Standing Stone 128.92 67 *e*PKPdf **PKPdf 02 39 58.2 +0.2**
SSPA LR LR
comp=Z,4µm,20.0s
SDMD Soldier's Deli 129.05 69 *e*PKPdf **PKPdf 02 39 58.8 +0.5**
VOSK Vostochnaya 129.42 310 *e*PKIKP **PKPdf 02 39 57.6 -0.9**
VOSK Vostochnaya 129.42 310 *e*PKPdf **PKPdf 02 39 57.6 -0.9**
BVA0 Borovoye Array 129.87 310 *i* PKIKP **PKPdf 02 39 58.5 -0.9**
BVA0 pmax pmax
comp=Z,68nm,2.0s
BVAR Borovoye Array 129.87 310 PKP **PKPdf 02 39 58.6 -0.8**
comp=Z,6.7nm,0.6s,baz=123,slow=2.5,SNR=25
BRVK Borovoye 129.94 310*c* *i* PKIKP **PKPdf 02 39 59.4 -0.1**
BRVK pmax pmax
comp=Z,171nm,2.5s
BRVK Borovoye 129.94 310 *e*PKPdf **PKPdf 02 39 58.8 -0.7**
BRVK *e*PP **PP 02 42 11.7 -0.5**
BRVK LR LR
comp=Z,6µm,22.0s
SADO Sadowa 129.96 62 *e*PKPdf **PKPdf 02 39 59.7 -0.1**
SADO LR LR
comp=Z,4µm,21.0s
N59A State Game Lan 130.48 68 P **PKPdf 02 40 00.9 -0.1**
baz=243
LUPA Lehigh Univers 130.60 69 PFAKE 02 40 10.0 +8.8
LUPA LR LR
comp=Z,5µm,20.0s
ZRNK Zerenda 130.62 309 PKIKP **PKPdf 02 39 59.8 -1.0**
ZRNK pmax pmax
comp=Z,28nm,1.0s
ZRNK Zerenda 130.62 309 *e*PKPdf **PKPdf 02 39 59.8 -1.0**
ZRNK *e*PP **PP 02 42 13.3 -3.4**
ZRNK LR LR
comp=Z,1µm,20.0s
KSPA Keystone Colle 130.77 67 *e*PKPdf **PKPdf 02 40 01.9 +0.5**
KSPA LR LR
comp=Z,3µm,19.0s
BINY Binghamton 130.91 66 *e*PKPdf **PKPdf 02 40 03.3 +1.5**
BINY LR LR
comp=Z,6µm,21.0s
BRNJ Basking Ridge 131.19 69 PFAKE 02 40 10.0 +7.7
BRNJ LR LR
comp=Z,3µm,18.0s
GEYT Alibeck 131.30 287 PKP **PKPdf 02 40 02.4 -0.2**
comp=Z,6.8nm,0.7s,baz=157,slow=1.1,SNR=11
GEYT SKPbc **SKPab 02 43 29.0 +0.9**
comp=Z,10nm,1.2s,baz=93,slow=5.8,SNR=4.5
ODNJ Ogdensburg 131.34 68 PFAKE 02 40 10.0 +7.4
ODNJ LR LR
comp=Z,3µm,20.0s
PAL Palisades 131.78 69 PFAKE 02 40 10.0 +6.6
PAL LR LR
comp=Z,3µm,20.0s
YLE Yale 132.57 69 PFAKE 02 40 20.0 +15
YLE LR LR
comp=Z,4µm,19.0s
TRY Troy 132.69 67 PFAKE 02 40 20.0 +15
TRY LR LR
comp=Z,5µm,21.0s
LONY Lake Ozonia 132.85 64 *e*PKPdf **PKPdf 02 40 05.5 +0.1**
LONY LR LR
comp=Z,4µm,18.0s
ACCN Adirondack Com 132.96 66 PFAKE 02 40 20.0 +14
ACCN LR LR
comp=Z,4µm,20.0s
QUA2 Belchertown 133.38 68 PFAKE 02 40 20.0 +14
QUA2 LR LR
comp=Z,3µm,20.0s
FRNY Flat Rock 133.59 64 PFAKE 02 40 20.0 +13
FRNY LR LR
comp=Z,4µm,18.0s
BRYW Bryant College 133.78 69 PFAKE 02 40 20.0 +13
BRYW LR LR
comp=Z,6µm,20.0s
HNH Hanover 134.01 66 PFAKE 02 40 20.0 +12
HNH LR LR
comp=Z,6µm,19.0s
HRV Adam Dziewonsk 134.01 68 PFAKE 02 40 20.0 +12
HRV LR LR
comp=Z,4µm,20.0s
WES Weston 134.12 68 PFAKE 02 40 20.0 +12
WES LR LR
comp=Z,6µm,21.0s
BBSR BB Station 134.15 84 PFAKE 02 40 20.0 +12
BBSR LR LR
comp=Z,2µm,20.0s
FFD Franklin Falls 134.33 67 PFAKE 02 40 20.0 +12
FFD LR LR
comp=Z,6µm,19.0s
AB31 Akbulak array 134.69 302 *i* PKIKP **PKPdf 02 40 08.3 -0.3**
AB31 pmax pmax
comp=Z,15nm,1.2s
ABKAR Akbulak array 134.69 302 *e*PKPdf **PKPdf 02 40 07.5 -1.1**
ABKAR *e*PP **PP 02 42 44.2 +1.4**
WVL Waterville 136.08 66 PFAKE 02 40 20.0 +8.7
WVL LR LR
comp=Z,6µm,21.0s
AKTO Aktyubinsk 136.25 303 PKP **PKPdf 02 40 11.3 -0.2**
comp=Z,4.4nm,0.7s,baz=113,slow=4.7,SNR=15
SVE Sverdlovsk 136.37 312*c* *i* PKIKP **PKPdf 02 40 12.4 +0.9**
SVE pmax pmax
comp=Z,43nm,1.5s
SVE MLR MLR
comp=Z,5µm,25.0s
SVE MLR MLR
comp=E,4µm,24.0s
PKME Peaks-Kenny Pk 136.58 65 PFAKE 02 40 20.0 +7.8
PKME LR LR
comp=Z,5µm,18.0s
LMQ La Malbaie 136.68 62 *e*PKPdf **PKPdf 02 40 12.6 +0.2**
LMQ LR LR
comp=Z,5µm,18.0s
ARU Arti 137.41 312 *i* PKIKP **PKPdf 02 40 13.7 +0.3**
ARU 02 42 56.6
ARU PPP PPP 02 45 59.4
ARU MLR MLR
comp=Z,3µm,24.0s
ARU Arti 137.41 312 *e*PKPpre PKPpre 02 40 05.2
ARU *e*PKPdf **PKPdf 02 40 13.8 +0.3**
ARU LR LR
comp=Z,2µm,21.0s
LMN Caledonia Moun 139.75 66 *e*PKPdf **PKPdf 02 40 16.9 -1.1**
LMN LR LR
comp=Z,5µm,19.0s
SCHQ Schefferville 140.57 52 PKhKP PKPpre 02 40 11.5
comp=Z,1.5nm,0.7s,baz=264,slow=3.8,SNR=2.3
SCHQ Schefferville 140.57 52 PKPpre PKPpre 02 40 11.5
SCHQ *e*PKPdf **PKiKP 02 40 20.8 -1.1**
SCHQ LR LR
comp=Z,5µm,20.0s
GNI Garni 141.65 283 *e*PKIKP **PKPdf 02 40 21.6 -0.4**
GNI MLR MLR
comp=Z,2µm,21.0s
GNI Garni 141.65 283 P **PKPdf 02 40 23.1 +1.2**
SNR=11
GNI Garni 141.65 283 *e*PKPdf **PKPdf 02 40 21.6 -0.4**
GNI LR LR
comp=Z,2µm,21.0s
DGRG David-gareji 141.69 286 P PKPpre 02 40 16.9
DGRG David-gareji 141.69 286 PKHKP PKPpre 02 40 16.9
TBLG Delisi 142.24 286 P **PKPdf 02 40 20.8 -2.0**
TBLG Delisi 142.24 286 PKIKP **PKPdf 02 40 20.8 -2.0**
LIC Lamto 142.82 184 *e*PKP1 **PKPdf 02 40 20.5 -4.1**
BGD Bogdanovka 142.87 285 P **PKPdf 02 40 23.0 -1.1**
KIC Kosan Boka 142.94 184 *e*PKP1 PKPpre 02 40 20.5
comp=Z,49nm,0.8s
AKH Akhalkalaki 143.00 285 P **PKPdf 02 40 22.2 -2.1**
ZEI Tsey 143.18 287 *i* PKIKP PKPbc 02 40 21.0 -0.6
ZEI pmax pmax
comp=Z,94nm,1.6s
TIC Toumodi 143.24 184 *e*PKP1 PKPbc 02 40 21.8 -0.5
DBIC Dimbokro 143.25 184 PKhKP PKPpre 02 40 20.9
comp=Z,12nm,0.7s,baz=151,slow=4.6,SNR=14
DBIC Dimbokro 143.25 184 *i* PKHKP PKPpre 02 40 21.0
DBIC pmax pmax
comp=Z,12nm,0.7s
DBIC Dimbokro 143.25 184 *e*PKPpre PKPpre 02 40 22.2
ONI Oni 143.43 287 P PKPbc 02 40 23.2 +1.1
ONI Oni 143.43 287 PKIKP PKPbc 02 40 23.2 +1.1
SFNV Sufian 143.44 275 *e*P PKPbc 02 40 22.5 +0.1
KBS Kingsbay 143.70 354 *e*PKPdf PKPab 02 40 20.9 -0.1
KBS *e*PKPdf **PKPdf 02 40 24.2 0.0**
KBS IVmB_BB 02 40 24.8
comp=Z,970nm,2.7s
KBS *e*SS SS 03 02 22.5 +3.1
KBS IVMs_BB IVMs_BB 03 37 13.4
comp=Z,626nm,21.6s
KBS Kingsbay 143.70 354 PFAKE 02 40 40.0 +16
KBS LR LR
comp=Z,2µm,20.0s
SPA0 Spitsbergen Ar 143.97 352 *e*PKPdf PKPab 02 40 20.1 -2.0
SPA0 Spitsbergen Ar 143.97 352 *e*PKPpre PKPpre 02 40 21.3
KBZ Khabaz 144.17 288 PKP PKPbc 02 40 24.4 +0.2
comp=Z,9.7nm,0.9s,baz=36,slow=2.3,SNR=14
HOPEN Hopen 144.22 348 *e*P **PKPab 02 40 21.5 -1.5**
HOPEN IVmB_BB 02 40 28.5
comp=Z,1µm,2.7s
KIV Kislovodsk 144.38 288 *i* PKIKP **PKPdf 02 40 26.2 -0.3**
KIV *e*SS SS 03 02 25.3 -4.3
KIV *e*SSS SSS 03 07 50.3
KIV pmax pmax
comp=Z,35nm,1.1s
KIV Kislovodsk 144.38 288 P **PKPdf 02 40 27.3 +0.8**
SNR=22
KIV Kislovodsk 144.38 288 *e*PKPdf **PKPab 02 40 24.2 -0.5**
KIV *e*PP **PP 02 43 42.5 -0.4**
KIV LR LR
comp=Z,2µm,21.0s
CHVG Ch'k'valeri 144.42 286 P **PKPdf 02 40 25.8 -0.7**
GOF Gofitskoye 144.45 290‖ *e*PKIKP PKPbc 02 40 25.5 +0.4
GOF pmax pmax
comp=Z,398nm,1.7s
TOTH TOTAH 144.70 268 *e*P PKPbc 02 40 26.3 0.0
QASN Qassioun 144.89 268 *e*P **PKPab 02 40 25.5 -1.4**
BRBR Barbar 145.07 268 *e*P **PKPdf 02 40 29.0 +0.8**
HSPB Hornsund (broa 145.09 351 *e*PKPbc **PKPbc 02 40 24.5 -1.7**
HSPB IVmB_BB 02 40 28.6
comp=Z,2µm,2.1s
HSPB Hornsund (broa 145.09 351 *e*PKIKP **PKPbc 02 40 24.1 -2.1**
RCY Rachaya 145.20 268 *e*P **PKPdf 02 40 29.2 +0.8**
DRLN Deer Lake 145.37 62 *e*PKPbc **PKPbc 02 40 27.2 -0.7**
DRLN LR LR
comp=Z,5µm,18.0s
DQRL Deir Qamar 145.49 268 *e*P **PKPab 02 40 30.1 +1.0**
HWQ Hawqa 145.49 269 *e*P **PKPab 02 40 29.9 +0.8**
BHL Bhannes 145.53 269 *e*P **PKPab 02 40 30.0 +0.7**
ILULI Ilulissat 145.89 26 *i* PKIKP **PKPdf 02 40 28.0 -0.2**
ILULI pmax pmax
comp=Z,840nm,1.8s
ILULI MLR MLR
comp=Z,4µm,19.0s
ILULI Ilulissat 145.89 26 *i* P **PKPdf 02 40 28.0 -0.2**
comp=Z,836nm,1.8s
BTCH Batrach 145.93 272 *e*P **PKPab 02 40 30.4 -0.2**
DRWC Darouich 146.03 274 *e*P **PKPab 02 40 31.0 0.0**
DAG Danmarks Havn 146.28 5‖ *i* PKIKP **PKPdf 02 40 27.0 -1.7**
DAG MLR MLR
comp=Z,2µm,20.0s
DAG Danmarks Havn 146.28 5‖ *i* P **PKPdf 02 40 27.0 -1.7**
SOC Sochi 146.34 287*d* *i* PKP2 **PKPdf 02 40 30.2 +0.4**
SOC *i* 02 40 31.9
SOC *e* 02 43 50.8
SOC *e*SSS SSS 03 08 17.4
SOC pmax pmax
comp=Z,14nm,0.7s
SOC pmax pmax
comp=Z,95nm,1.1s
SOC MLR MLR
comp=Z,2µm,21.0s
VRH Novokhopyorsk 146.50 301 *e*PKIKP **PKPdf 02 40 30.1 +0.3**
VRH *e*SS SS 03 02 46.1 -7.1
VRH *e*SSS SSS 03 08 22.8
BJO Bjornoya 146.71 347 *e*PKPdf **PKPdf 02 40 29.9 +0.4**
BJO IVmB_BB 02 40 34.6
comp=Z,1µm,4.2s
SFJD Kangerlussuaq 146.99 30 PKPbc **PKPbc 02 40 32.3 +0.2**
baz=298,slow=1.8
SFJD Kangerlussuaq 146.99 30‖ *i* PKP2 **PKPbc 02 40 31.7 -0.4**
SFJD MLR MLR
comp=Z,4µm,19.0s
SFJD Kangerlussuaq 146.99 30‖ *i* P **PKPbc 02 40 31.7 -0.4**
SFJD Kangerlussuaq 146.99 30 PKPbc **PKPbc 02 40 32.3 +0.2**
SFJD LR LR
comp=Z,4µm,20.0s
LVZ Lovozero 147.14 332 *e*PKP2 **PKPbc 02 40 33.1 +0.4**
LVZ MLR MLR
comp=Z,3µm,21.0s
LVZ Lovozero 147.14 332 *e*PKPbc **PKPbc 02 40 33.0 +0.4**
LVZ LR LR
comp=Z,3µm,21.0s
PHNC Paralimni 147.23 269 P **PKPbc 02 40 34.1 +0.2**
SUMG Summit 147.30 17 *i* PKP2 **PKPbc 02 40 33.4 0.0**
SUMG pmax pmax
comp=Z,440nm,1.6s
SUMG MLR MLR
comp=Z,4µm,20.0s
SUMG Summit 147.30 17 *i* P **PKPbc 02 40 33.4 0.0**
comp=Z,444nm,1.6s
SUMG Summit 147.30 17 *e*PKPbc **PKPbc 02 40 34.1 +0.7**
SUMG LR LR
comp=Z,4µm,20.0s
KLMR Klimovskoe 147.38 319 *e*PKIKP **PKPdf 02 40 30.7 -0.2**
KLMR pmax pmax
comp=Z,265nm,0.8s
CSS Mathiatis 147.72 269 P **PKPbc 02 40 35.6 +0.6**
CSS Mathiatis 147.72 269 P **PKPbc 02 40 35.6 +0.3**
CSS Mathiatis 147.72 269 *e*PKPdf **PKPdf 02 40 31.5 -0.9**
CSS *e*PKPbc **PKPbc 02 40 35.6 +0.3**
CSS *e*PP **PP 02 43 56.7 -5.9**
CSS LR LR
comp=Z,800nm,21.0s
MAMC Mammari 147.90 269 P **PKPbc 02 40 36.1 +0.4**
SZAC Souni 147.95 268 P **PKPbc 02 40 36.0 +0.1**
VSR Storozhevoye 148.10 300 *e*PKIKP **PKPdf 02 40 32.4 -0.1**
VORR Voronezh 148.11 301‖ *i* PKIKP **PKPdf 02 40 33.0 +0.6**
VORR pmax pmax
comp=Z,750nm,2.0s
ANN Anapa 148.24 288 *i* PKP2 **PKPbc 02 40 37.2 +1.0**
ANN *e* 02 44 03.7
ANN *e*PPP PPP 02 47 24.3
ANN *e*SSS SSS 03 08 46.6
ANN pmax pmax
comp=Z,109nm,1.5s
LPSR Galich'ya Gora 148.33 303 *e*PKIKP **PKPbc 02 40 34.4 -1.8**
ALFC Alefka 148.34 268 P **PKPbc 02 40 36.3 -0.6**
KEV Kevo 148.48 338 PFAKE 02 40 40.0 +0.5
KEV LR LR
comp=Z,3µm,21.0s
HAMF Hammerfest 148.75 341 *e*PKPdf **PKPdf 02 40 33.0 +0.1**
HAMF IVmB_BB 02 40 40.3
comp=Z,3µm,1.9s
HAMF IVMs_BB IVMs_BB 03 42 46.0
comp=Z,1µm,23.3s
TOC4 Torodi Ar. Sit 148.76 197 PFAKE 02 40 50.0 +7.8
TOC4 LR LR
comp=Z,4µm,20.0s
TOC3 Torodi Ar. Sit 148.78 197 PFAKE 02 40 50.0 +7.8
TOC3 LR LR
comp=Z,4µm,20.0s
TOC5 Torodi Ar. Sit 148.78 197 PFAKE 02 40 50.0 +7.8
TOC5 LR LR
comp=Z,4µm,20.0s
TOB3 Torodi Ar. Sit 148.78 197 PFAKE 02 40 50.0 +7.8
TOB3 LR LR
comp=Z,4µm,20.0s
TOB4 Torodi Ar. Sit 148.78 197 PFAKE 02 40 50.0 +7.8
TOB4 LR LR
comp=Z,4µm,20.0s
TOA0 Torodi Ar. Sit 148.79 197 *e*PKPbc **PKPbc 02 40 38.1 -0.5**
TOA0 LR LR
comp=Z,4µm,20.0s
TORD Torodi Ar. Bea 148.79 197 PKP **PKPdf 02 40 34.1 -0.6**
comp=Z,7.7nm,0.7s,baz=319,slow=1.0,SNR=20
TORD PKPbc **PKPbc 02 40 38.8 +0.2**
comp=Z,40nm,0.9s,baz=148,slow=0.6,SNR=30
TOB2 Torodi Ar. Sit 148.79 197 PFAKE 02 40 50.0 +7.7
TOB2 LR LR
comp=Z,4µm,20.0s
TOC2 Torodi Ar. Sit 148.79 197 PFAKE 02 40 50.0 +7.7
TOC2 LR LR
comp=Z,4µm,20.0s
TOA1 Torodi Ar. Sit 148.80 197 PFAKE 02 40 50.0 +7.7
TOA1 LR LR
comp=Z,4µm,20.0s
TOB5 Torodi Ar. Sit 148.80 197 PFAKE 02 40 50.0 +7.7
TOB5 LR LR
comp=Z,4µm,20.0s
TOB1 Torodi Ar. Sit 148.81 197 PFAKE 02 40 50.0 +7.7
TOB1 LR LR
comp=Z,4µm,20.0s
TOC7 Torodi Ar. Sit 148.81 197 PFAKE 02 40 50.0 +7.7
TOC7 LR LR
comp=Z,4µm,20.0s
TOC1 Torodi Ar. Sit 148.81 197 PFAKE 02 40 50.0 +7.7
TOC1 LR LR
comp=Z,4µm,20.0s
ARCES ARCESS Array B 149.03 338 PKP **PKPdf 02 40 32.9 -0.6**
comp=Z,9.9nm,0.8s,baz=327,slow=8.7,SNR=13
ARCES PKPbc **PKPbc 02 40 37.8 +0.3**
comp=Z,61nm,0.8s,baz=67,slow=1.6,SNR=49
ARCES ARCESS Array B 149.03 338 PKIKP **PKPdf 02 40 32.9 -0.6**
ARCES 02 40 37.8
ARCES pmax pmax
comp=Z,16nm,1.0s
ARCES pmax pmax
comp=Z,61nm,0.8s
ARE0 ARCESS Array S 149.03 338 *e*PKPdf **PKPdf 02 40 34.8 +1.4**
ARE0 *e*SS SS 03 03 19.4 -0.9
ARE0 ARCESS Array S 149.03 338 PFAKE 02 40 40.0 -1.8
ARE0 LR LR
comp=Z,2µm,22.0s
MOS Moscow 149.04 309 *e*PKIKP **PKPdf 02 40 33.7 -0.1**
MOS *e* 02 44 19.2
MOS pmax pmax
comp=Z,631nm,2.3s
BR131 Keskin Array S 149.44 277 *e*PKPdf **PKPdf 02 40 34.9 -0.3**
BR131 *e*PKPbc **PKPbc 02 40 39.3 -0.4**
BRTR Keskin Array B 149.44 277 PKP **PKPdf 02 40 33.1 -2.1**
comp=Z,1.4nm,0.6s,baz=165,slow=5.1,SNR=6.3
BRTR PKPbc **PKPbc 02 40 39.7 0.0**
comp=Z,26nm,0.7s,baz=145,slow=4.9,SNR=80
OBN Obninsk 149.69 308*c* *i* PKHKP PKPpre 02 40 38.5
OBN *i* 02 44 11.3
OBN *i* SS SS 03 03 27.8 -0.8
OBN pmax pmax
comp=Z,530nm,2.5s
OBN Obninsk 149.69 308 *e*PKPbc **PKPbc 02 40 40.0 +0.5**
OBN *e*PKPab **PKPab 02 40 44.4 -0.5**
OBN LR LR
comp=Z,3µm,20.0s
KTK1 Kautokeino 149.98 339 *e*pPKPdf pPKPdf 02 40 38.3 +0.3
ANTO Ankara 150.10 277 *e*PKIKP **PKPdf 02 40 36.1 -0.1**
ANTO *e* 02 40 41.8
ANTO *e* 02 40 45.1
ANTO MLR MLR
comp=Z,2µm,21.0s
ANTO Ankara 150.10 277 *e*PKPdf **PKPdf 02 40 36.1 -0.1**
ANTO *e*PKPbc **PKiKP 02 40 41.8 -0.3**
ANTO *e*PKPab **PKPab 02 40 45.1 -2.1**
ANTO LR LR
comp=Z,2µm,21.0s
BR231 Keskin MP Arra 150.11 277 *e*PKPbc **PKPbc 02 40 40.1 -1.1**
BBTS Babate 150.17 162 PKPbc **PKPbc 02 40 42.4 +0.5**
comp=Z,127nm,1.1s,baz=17,slow=0.8,SNR=5.8
SIM Simferopol' 150.57 287*d* *i* PKIKP **PKPdf 02 40 36.2 -0.4**
SIM *i* 02 40 42.0
SIM pmax pmax
comp=Z,44nm,1.7s
SIM pmax pmax
comp=Z,290nm,11.2s
TRO Tromso 150.60 342 *e*PKPdf **PKPbc 02 40 40.5 -0.9**
TRO IVmB_BB 02 40 46.6
comp=Z,2µm,3.0s
NRS Narsarsuaq 151.30 39 *e*PKIKP **PKPdf 02 40 38.9 +1.7**
NRS MLR MLR
comp=Z,6µm,20.0s
NRS Narsarsuaq 151.30 39 *i* P **PKPdf 02 40 38.9 +1.7**
FETY Fethiye 151.55 269 P **PKPbc 02 40 44.6 -0.1**
SCO Scoresbysund 151.95 10 *e*PKIKP **PKPdf 02 40 39.7 +1.8**
SCO MLR MLR
comp=Z,2µm,22.0s
SCO Scoresbysund 151.95 10 *i* P **PKPdf 02 40 39.7 +1.8**
ARG Arkhangelos 152.07 267 P **PKPbc 02 40 46.5 +0.7**
YER Yerkesik 152.34 269 P **PKPbc 02 40 45.8 -0.7**
YER Yerkesik 152.34 269 PFAKE 02 40 50.0 +3.5
YER LR LR
comp=Z,7µm,19.0s
JMIC Jan Mayen 152.44 1 *e*PKPdf **PKPdf 02 40 37.9 -0.8**
JMIC *e*PP **PP 02 44 28.7 +0.2**
KARP Karpathos 152.47 265 *e*PKPbc **PKPbc 02 40 47.1 +0.3**
KARP LR LR
comp=Z,800nm,20.0s
KULA Kula-Manisa 152.61 272 P **PKPdf 02 40 40.7 +0.6**
STEI Steigen 152.78 342 *e*PKPdf **PKPdf 02 40 39.8 +0.6**
LOF Lofoten 152.99 343 *e*PKPdf **PKPdf 02 40 39.7 +0.2**
FIA1 FINESS Array S 153.36 324 *e*PKPdf **PKPdf 02 40 42.3 +2.0**
FIA1 *e*PKPbc **PKiKP 02 40 48.5 +0.5**
FIA1 *e*PKPab **PKPab 02 40 59.6 -0.4**
FINES FINESS Array B 153.36 324 PKP **PKPdf 02 40 40.1 -0.2**
comp=Z,2.9nm,0.8s,baz=132,slow=5.7,SNR=5.2
FINES PKPbc **PKiKP 02 40 48.0 +0.1**
comp=Z,22nm,0.6s,baz=41,slow=2.8,SNR=32
FINES PKPab **PKPab 02 41 00.9 +0.9**
comp=Z,17nm,0.6s,baz=66,slow=3.6,SNR=8.9
LAST Lasithi 153.51 263 *e*PKPbc **PKPbc 02 40 49.0 -0.2**
LAST LR LR
comp=Z,2µm,21.0s
IDI Anoyia 153.99 263 PKPbc **PKPbc 02 40 49.9 -0.2**
comp=Z,11nm,0.6s,baz=165,slow=3.0,SNR=10

IDI Anoyia 153.99 263 P **PKPbc** **02 40 49.5 -0.7**
IDI Anoyia 153.99 263 PKPbc **PKPbc** **02 40 49.9 -0.2**
IDI LR LR
comp=Z,3µm,21.0s
SANT Santorini 154.07 265 PFAKE 02 40 50.0 -0.3
SANT LR LR
comp=Z,2µm,18.0s
VSU Vasula 154.27 317*c i* PKIKP **PKPbc** **02 40 50.9 +1.0**
VSU pmax pmax
comp=Z,283nm,2.5s
AKASG Malin Array Be 154.38 299 PKP **PKPdf** **02 40 41.0 -1.1**
comp=Z,1.8nm,0.7s,baz=64,slow=1.8,SNR=9.9
AKASG PKPbc **PKPbc** **02 40 50.2 -0.1**
comp=Z,6.0nm,0.7s,baz=70,slow=2.6,SNR=17
AKASG Malin Array Be 154.38 299 PKIKP **PKPdf** **02 40 41.0 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 154.38 299 *e*PKIKP **PKPdf** **02 40 40.4 -1.6**
AKBB MLR MLR
comp=Z,2µm,22.0s
AKBB Malin Array Si 154.38 299 *e*PKPdf **PKPdf** **02 40 40.4 -1.6**
AKBB *e*PKPbc **PKiKP** **02 40 50.5 +0.1**
AKBB LR LR
comp=Z,2µm,22.0s
KIEV Kiev 154.38 299 PFAKE 02 40 50.0 -0.4
KIEV LR LR
comp=Z,3µm,22.0s
AK11 Malin Array Si 154.41 299 *e*PKPdf **PKPdf** **02 40 41.8 -0.3**
AK11 *e*PKPbc **PKiKP** **02 40 50.4 -0.1**
TIRR Tirgusor 154.47 285⇑ *i*P **PKPbc** **02 40 52.1 +1.3**
TIRR Tirgusor 154.47 285 *e*PKIKP **PKPdf** **02 40 42.6 +0.2**
TIRR MLR MLR
comp=Z,3µm,20.0s
TIRR Tirgusor 154.47 285 *e*PKPdf **PKPdf** **02 40 42.6 +0.2**
TIRR *e*PKPbc **PKiKP** **02 40 53.8 +3.0**
TIRR LR LR
comp=Z,3µm,20.0s
MILM Milestii Mici 154.53 290⇑ *i*P **PKPbc** **02 40 49.1 -1.7**
KIS Kishinev 154.53 291 *e*PKP **PKPdf** **02 40 38.0 -4.4**
KIS Kishinev 154.53 291 *e*PP PP 02 44 42.0 +0.5
KIS Kishinev 154.53 291 *e*PKIKP **PKPdf** **02 40 38.0 -4.4**
KIS *e* 02 40 42.0
KIS *e* 02 41 06.0
KIS *e* 02 42 42.0
PRK Paraskevi 154.62 272 P **PKPdf** **02 40 41.4 -1.4**
MICGM Minsk 154.75 308 *e*P **PKPdf** **02 40 41.0 -1.4**
MICGM eLR LR 03 47 07.0
MICGM LRM MLR 03 53 10.0
comp=Z,5.3nm,20.0s
MNK Minsk 154.75 308 *e*PKIKP **PKPdf** **02 40 41.0 -1.4**
CFR Carcaliu 154.78 286⇓ *i*P **PKPbc** **02 40 50.7 -0.7**
CFR Carcaliu 154.78 286⇓ *i*PKIKP **PKPbc** **02 40 50.7 -0.7**
MSAB Monastry St. A 154.81 284⇑ *i*P **PKPab** **02 41 07.5 +0.8**
HARR Harsova 154.84 285⇑ *i*P **PKPbc** **02 40 50.6 -1.0**
HARR Harsova 154.84 285⇑⇑ PKIKP **PKPbc** **02 40 50.6 -1.0**
PRD Provadia 154.93 281 *i*P **PKPdf** **02 40 43.3 +0.3**
EDRB Edirne 155.07 278 P **PKPdf** **02 40 44.7 +1.4**
IDID Didziasalis 155.21 310 *e*P **PKPdf** **02 40 43.7 +0.6**
IDID IAmb IAmb 02 40 57.1
comp=Z,11nm,0.8s
NACGM Naroch 155.28 309 *e* PKPdf 02 40 54.0 +11
NACGM eLQ LQ 03 30 34.0
NACGM eLR LR 03 39 04.0
ALN Alexandroupoli 155.31 275 P **PKPdf** **02 40 46.6 +2.9**
JMB Yambol 155.35 279 *i*P **PKPdf** **02 40 42.8 -0.9**
IZAR Zarasai 155.37 312 *e*P **PKPdf** **02 40 41.8 -1.5**
IZAR IAmb IAmb 02 40 57.5
comp=Z,10nm,1.0s
ISAL Salakas 155.48 311 *e*P **PKPdf** **02 40 46.0 +2.6**
ISAL IAmb IAmb 02 40 56.8
comp=Z,7.5nm,0.8s
VRI Vrincioaia 155.85 287⇑ *i*P **PKPab** **02 41 09.0 -2.2**
VRI Vrincioaia 155.85 287⇑⇑ PKP2 **PKPab** **02 41 09.0 -2.2**
PLOR Plostina 155.91 287⇑ *i*P **PKPab** **02 41 12.9 +1.4**
PLOR Plostina 155.91 287⇑⇑ PKP2 **PKPab** **02 41 12.9 +1.4**
TESR Tescani 155.98 289⇓ *i*P PKPdf 02 40 52.9 +8.5
KDZ Kurdzhali 155.98 277 *i*P **PKPdf** **02 40 43.8 -0.8**
SZH Strazhica 155.99 281 *i*P **PKPdf** **02 40 44.5 0.0**
DIM Dimitrovgrad 156.00 278 *i*P **PKPdf** **02 40 44.2 -0.3**
DID Didima 156.16 266 P **PKPdf** **02 40 47.1 +2.1**
MLR Muntele Rosu 156.35 286 PKP **PKPdf** **02 40 44.4 -0.7**
comp=Z,1.4nm,1.0s,baz=303,slow=12,SNR=8.0
MLR PKPab **PKPab** **02 41 14.2 +0.6**
comp=Z,1.5nm,0.6s,baz=108,slow=1.5,SNR=11
MLR Muntele Rosu 156.35 286⇑ *i*P **PKPdf** **02 40 44.2 -0.9**
MLR Muntele Rosu 156.35 286⇑ PKIKP **PKPdf** **02 40 44.2 -0.9**
MLR Muntele Rosu 156.35 286 *e*PKPdf **PKPdf** **02 40 45.2 +0.1**
MLR *e*PKPab **PKPab** **02 41 10.2 -3.3**
MLR *e*PP **PP** **02 44 53.8 +1.9**
MLR LR LR
comp=Z,2µm,19.0s
RZN Rozhen 156.50 277 *i*P **PKPdf** **02 40 45.2 -0.3**
PLD Plovdiv 156.61 278 *i*P **PKPdf** **02 40 44.8 -0.6**
DOPR Dopca 156.79 287⇓ *i*P **PKPdf** **02 40 49.7 +4.2**
TAM Tamanrasset 156.81 211 *e*PKIKP **PKPdf** **02 40 47.5 +1.1**
TAM MLR MLR
comp=Z,4µm,19.0s
TAM Tamanrasset 156.81 211 *e*PKPdf **PKPdf** **02 40 47.5 +1.1**
TAM LR LR
comp=Z,4µm,19.0s
VOIR 156.97 286⇓ *i*P **PKPdf** **02 40 48.0 +2.2**
VOIR 156.97 286⇓⇓ PKIKP **PKPdf** **02 40 48.0 +2.2**
BURAR Bucovina Array 157.02 292⇓ *i*P **PKPdf** **02 40 49.8 +3.9**
BURAR Bucovina Array 157.02 292⇓⇓ PKIKP **PKPdf** **02 40 49.8 +3.9**
BUR08 Bucovina Ar. S 157.03 292 *e*PKPdf **PKPdf** **02 40 46.0 +0.1**
BUR08 *e*PKPab **PKPab** **02 41 17.9 +1.5**
PGB Panagyurishte 157.10 278 *i*P **PKPdf** **02 40 46.1 0.0**
SRS Serrai 157.16 275 P **PKPdf** **02 40 47.8 +1.7**
KLV Kalavryta, Ach 157.17 266 P **PKPdf** **02 40 50.0 +3.7**
MMB Musomiste 157.18 276 *i*P **PKPdf** **02 40 45.4 -0.8**
ARR Arges 157.26 286⇓ *i*P **PKPdf** **02 40 45.8 -0.4**
BORG Borgarnes 157.27 16 PFAKE 02 41 00.0 +15
BORG LR LR
comp=Z,3µm,20.0s
KALE Kalithea 157.31 267 P **PKPdf** **02 40 50.2 +3.7**
HORT Hortiatis 157.36 273 P **PKPdf** **02 40 46.8 +0.3**
AGG Agios Georgios 157.41 269 P **PKPdf** **02 40 50.2 +3.7**
AGG Agios Georgios 157.41 269 *e*PKIKP **PKPdf** **02 40 49.3 +2.8**
AGG MLR MLR
comp=Z,8µm,20.0s
AGG Agios Georgios 157.41 269 *e*PKPdf **PKPdf** **02 40 49.3 +2.8**
AGG *e*PKPab **PKPab** **02 41 18.0 -0.1**
AGG LR LR
comp=Z,8µm,20.0s
SUW Suwalki 157.54 309 *e*PKPdf **PKPdf** **02 40 46.1 0.0**
SUW *e*pPKPdf **pPKPdf** **02 40 50.0 +0.9**
SUW *e*PKPab **PKPab** **02 41 18.4 +0.2**
SUW *e*pPKPab **pPKPab** **02 41 20.5 -0.6**
SUW LMZ LR 03 40 48.7
comp=Z,3µm,39.8s
SUW Suwalki 157.54 309 *e*PKIKP **PKPdf** **02 40 46.1 0.0**
SUW *e* 02 40 50.0
ANX Ano Chora 157.55 267 P **PKPdf** **02 40 47.5 +0.7**
MPEP Malo Peshtene 157.58 280 *i*P **PKPdf** **02 40 47.0 +0.4**
LIT Litokhoron 157.65 271 P **PKPdf** **02 40 46.6 -0.2**
RLS Riolos of Patr 157.67 266 P **PKPdf** **02 40 50.8 +4.0**
KKB Krupnik 157.72 276 *i*P **PKPdf** **02 40 45.9 -0.9**
LVV L'vov 157.75 297 *i* PKIKP **PKPdf** **02 40 49.8 +3.2**
LVV *e* 02 45 00.2
THL Klokotos Trika 157.82 270 P **PKPdf** **02 40 47.5 +0.5**
GRG Griva 157.97 274 P **PKPdf** **02 40 47.5 +0.3**
PDO Prodromos 158.08 267 P **PKPdf** **02 40 53.3 +6.0**
DSL Palaion Diasel 158.34 268 P **PKPdf** **02 40 51.0 +3.3**
DEV Deva 158.51 287⇑ *i*P **PKPab** **02 41 23.9 +1.2**
DEV Deva 158.51 287⇑⇑ PKP2 **PKPab** **02 41 23.9 +1.2**
KWP Kalwaria Pacla 158.62 297 *e*PKPdf **PKPdf** **02 40 46.6 -1.1**
KWP *e*PP **PP** **02 45 05.1 +1.0**
KWP LMZ LR 03 38 30.9
comp=Z,3µm,43.3s
KWP Kalwaria Pacla 158.62 297 *e*PKIKP **PKPdf** **02 40 46.6 -1.1**
KWP *e* 02 45 05.1
FNA Florina 158.67 273 P **PKPdf** **02 40 49.7 +1.6**
DRGR 158.70 289⇑ *i*P **PKPdf** **02 40 47.8 -0.1**
DRGR 158.70 289⇑⇑ PKIKP **PKPdf** **02 40 47.8 -0.1**
JAN Janina 158.70 269 P **PKPdf** **02 40 51.4 +3.3**
TRPA Tarpa 158.82 293⇓ *e*PKPdf **PKPdf** **02 40 47.8 -0.1**
KOLS Kolonicke sedl 158.96 295 *e*PKIKP **PKPdf** **02 40 48.4 +0.3**
KOLS Kolonicke sedl 158.96 295 *e*PKP **PKPdf** **02 40 48.4 +0.3**
KOLS *e* 02 41 27.2
KOLS *e*SS SS 03 04 27.3 -43

UZH Uzhgorod 158.97 294 *e*PKIKP **PKPdf** **02 40 48.8 +0.8**
UZH *e* 02 45 03.0
UZH *e* 03 05 15.8
NC303 NORSAR Array S 159.07 334 *e*PKPdf **PKPdf** **02 40 48.0 +0.2**
NC303 *e*PKPab **PKPab** **02 41 25.0 +0.5**
NC204 NORSAR Array S 159.22 335 *e*PKPdf **PKPdf** **02 40 46.9 -1.1**
NC204 *e*PKPab **PKPab** **02 41 23.9 -1.4**
NB201 NORSAR Array S 159.23 334 *e*PKPdf **PKPdf** **02 40 47.7 -0.4**
NB201 *e*PKPab **PKPab** **02 41 25.0 -0.3**
MDVR Moldovita 159.24 284⇓ *i*P **PKPdf** **02 40 51.9 +3.3**
NB2 NORSAR Subarra 159.26 334 PKPdf **PKPdf** **02 40 46.6 -1.5**
comp=Z,101nm,1.7s,baz=41,slow=1.2
NB2 NORSAR Subarra 159.26 334 PKPdf **PKPdf** **02 40 46.6 -1.5**
baz=41,slow=1.2
NOA NORSAR Array B 159.26 334 PKP **PKPdf** **02 40 47.4 -0.7**
comp=Z,10nm,1.2s,baz=56,slow=2.0,SNR=6.8
NOA PKPab **PKPab** **02 41 24.6 -0.8**
comp=Z,4.9nm,0.7s,baz=41,slow=4.5,SNR=14
NBO02 NORSAR Array S 159.37 335 *e*PKPdf **PKPdf** **02 40 47.0 -1.2**
NBO02 *e*PKPab **PKPab** **02 41 24.4 -1.5**
NC602 NORSAR Array S 159.39 333 *e*PKPdf **PKPdf** **02 40 48.1 -0.1**
NC602 *e*PP **PP** **02 45 05.6 -1.8**
BZS Buzias 159.39 286⇓ *i*P **PKPdf** **02 40 49.5 +0.8**
BZS Buzias 159.39 286⇓⇑ PKIKP **PKPdf** **02 40 49.5 +0.8**
NBO00 NORSAR Array S 159.41 335 *e*PKPdf **PKPdf** **02 40 45.9 -2.4**
NBO00 *e*PKPab **PKPab** **02 41 26.5 +0.4**
BEL Belsk 159.48 304 *e*PKPdf **PKPdf** **02 40 48.9 +0.4**
BEL *e*PKPab **PKPab** **02 41 28.5 +1.9**
BEL *e*PP **PP** **02 45 14.5 +5.9**
BEL LMZ LR 03 42 12.1
comp=Z,2µm,33.6s
BEL Belsk 159.48 304 *e*PKIKP **PKPdf** **02 40 48.9 +0.4**
CRVS Cervenica-Dubn 159.50 295 *e*PKIKP **PKPdf** **02 40 51.1 +2.4**
CRVS *e* 02 45 09.8
CRVS *e*SS SS 03 05 15.7 -0.1
CRVS Cervenica-Dubn 159.50 295 *e*PKP **PKPdf** **02 40 51.1 +2.4**
CRVS *e* 02 41 29.0
CRVS *e*PP **PP** **02 45 09.8 +0.9**
CRVS *e*SS SS 03 05 15.7 -0.1
NAO01 NORSAR Array S 159.52 334 *e*PKPdf **PKPdf** **02 40 48.7 +0.4**
NAO01 *e*PKPab **PKPab** **02 41 25.5 -1.0**
STHS Stebnicka Huta 159.59 297 *e*PKIKP **PKPdf** **02 40 52.6 +3.8**
STHS *e* 02 45 08.9
STHS Stebnicka Huta 159.59 297 *e*PKP **PKPdf** **02 40 52.6 +3.8**
STHS *e*PP **PP** **02 45 08.9 -0.5**
TIR Tirane 159.92 273 PFAKE 02 41 00.0 +11
TIR LR LR
comp=Z,4µm,22.0s
KECS Kecovo 160.18 294 *e*PKIKP **PKPdf** **02 40 52.7 +3.2**
KECS Kecovo 160.18 294 *e*PKP **PKPdf** **02 40 52.7 +3.2**
NIE Niedzica 160.21 297 *e*PKPdf **PKPdf** **02 40 49.3 -0.2**
NIE *e*PKPab **PKPab** **02 41 31.9 +1.9**
NIE *e*PP **PP** **02 45 15.5 +2.8**
NIE LMZ LR 03 39 29.3
comp=Z,2µm,42.9s
NIE Niedzica 160.21 297 *e*PKIKP **PKPdf** **02 40 49.3 -0.2**
OJC Ojcow 160.41 299 *e*PKPdf **PKPdf** **02 40 47.8 -1.9**
OJC *e*PKPab **PKPab** **02 41 32.3 +1.5**
OJC LMZ LR 03 39 58.1
comp=Z,3µm,48.9s
OJC Ojcow 160.41 299 *e*PKIKP **PKPdf** **02 40 49.8 +0.1**
OJC Ojcow 160.41 299 *e*PKPdf **PKPdf** **02 40 49.8 +0.1**
OJC *e*PKPab **PKPab** **02 41 32.2 +1.4**
PSZ Piszkesteto 160.61 293⇓ *e*PKPdf **PKPdf** **02 40 50.3 +0.2**
PSZ Piszkesteto 160.61 293 *e*PKIKP **PKPdf** **02 40 48.5 -1.6**
PSZ *e* 02 41 28.9
PSZ *e* 02 45 12.9
PSZ Piszkesteto 160.61 293 *e*PKPdf **PKPdf** **02 40 48.5 -1.6**
PSZ *e*PKPab **PKPab** **02 41 28.9 -2.9**
PSZ *e*PP **PP** **02 45 12.9 -2.1**
KONO Kongsberg 160.85 333 *e*PKPdf **PKPdf** **02 40 49.6 -0.2**
KONO *e*SS SS 03 05 26.8 -1.6
SUE Sulen 161.01 342 *e*PKPdf **PKPdf** **02 40 49.9 0.0**
SUE IVmB_BB 02 40 55.0
comp=Z,1µm,2.7s
BUD Budapest 161.22 291⇓ *e*PKPdf **PKPdf** **02 40 50.3 -0.3**
VYHS Vyhne 161.27 295 *e*PKIKP **PKPdf** **02 40 50.1 -0.6**
VYHS *e* 02 45 20.7
VYHS *e*SS SS 03 05 35.0 +0.5
VYHS Vyhne 161.27 295 *e*PKP **PKPdf** **02 40 50.1 -0.6**
VYHS *e* 02 41 36.2
VYHS *e*PP **PP** **02 45 20.7 +2.3**
VYHS *e*L L 02 59 16.9
VYHS *e*SS SS 03 05 35.0 +0.5
BER Bergen 161.47 340 *e*PKPdf **PKPdf** **02 40 50.7 +0.3**
TIP Timpagrande 161.51 265 *e*PKPdf **PKPdf** **02 40 51.7 +0.4**
TIP *e*PKPab **PKPab** **02 41 37.3 +1.2**
OKC Ostrava-Krasne 161.53 299 *e*PKPDF **PKPdf** **02 40 50.6 -0.3**
OKC *e*PKPAB **PKPab** **02 41 38.0 +2.3**
OKC *ex* x 02 41 50.7
OKC *e*PP **PP** **02 45 21.5 +1.8**
OKC *e*SS SS 03 05 43.6 +6.6
OKC AMS AMS 04 03 20.0
comp=Z,3µm,20.5s
OKC Ostrava-Krasne 161.53 299 *e*PKIKP **PKPdf** **02 40 50.6 -0.3**
OKC *e* 02 45 21.5
OKC MLR MLR
comp=Z,3µm,20.5s
BSD Bornholm Skovb 161.57 317 *i* PKIKP **PKPdf** **02 40 49.1 -1.6**
BSD *i* 02 41 35.4
BSD pmax pmax
comp=Z,130nm,1.8s
BSD MLR MLR
comp=Z,4µm,22.0s
BSD Bornholm Skovb 161.57 317 *i* P **PKPdf** **02 40 49.1 -1.6**
comp=Z,129nm,1.8s
BSD *i* 02 41 35.4
MORC Moravsky Berou 161.93 299⇑ *i*P **PKPdf** **02 40 49.2 -2.2**
MORC Moravsky Berou 161.93 299⇑⇑ PKIKP **PKPdf** **02 40 49.2 -2.2**
MORC Moravsky Berou 161.93 299 *e*PKPdf **PKPdf** **02 40 51.0 -0.4**
MORC *e*PKPab **PKPab** **02 41 39.7 +2.2**
BLSS Blasjo 161.99 337 *e*PKPdf **PKPdf** **02 40 49.3 -1.2**
HOMB Homborsund 162.27 332 *e*PKPdf **PKPdf** **02 40 50.5 -0.8**
HOMB IVmB_BB 02 40 53.8
comp=Z,498nm,2.7s
KSP Ksiaz 162.46 303 *e*PKPdf **PKPdf** **02 40 50.6 -1.2**
KSP *e*PKPab **PKPab** **02 41 40.9 +1.2**
KSP *e*PP **PP** **02 45 20.1 -4.5**
KSP LMZ LR 03 41 16.6
comp=Z,2µm,35.5s
KSP Ksiaz 162.46 303 *e*PKIKP **PKPdf** **02 40 50.6 -1.2**
VAE Valguarnera 162.50 257 PKP **PKPdf** **02 40 52.0 -0.3**
comp=Z,2.6nm,0.3s,baz=81,slow=4.3,SNR=4.4
DPC Dobruska-Polom 162.57 301 *e*PKPDF **PKPdf** **02 40 49.0 -3.0**
DPC *e*PKPAB **PKPab** **02 41 42.9 +2.6**
DPC *ex* x 02 42 03.2
DPC *ex* x 02 42 13.1
DPC *e*PP **PP** **02 45 24.5 -0.8**
DPC *e*SS SS 03 05 54.3 +6.4
DPC AMS AMS 04 03 30.0
comp=Z,2µm,19.5s
DPC Dobruska-Polom 162.57 301 *e*PKIKP **PKPdf** **02 40 49.0 -3.0**
DPC *e* 02 45 24.5
DPC MLR MLR
comp=Z,2µm,19.5s
VRAC Vranov 162.62 298 PKP **PKPdf** **02 40 50.9 -1.1**
comp=Z,4.8nm,1.0s,baz=178,slow=0.5,SNR=11
VRAC PKPab **PKPab** **02 41 41.8 +1.3**
comp=Z,2.3nm,0.7s,baz=94,slow=5.7,SNR=6.6
VRAC Vranov 162.62 298⇑ *i*P **PKPab** **02 41 39.1 -1.4**
UPC Upice 162.72 302 *e*PKPAB **PKPab** **02 41 41.9 +1.0**
UPC *e*PP **PP** **02 45 27.0 +1.0**
UPC *e*SS SS 03 05 55.8 +6.5
UPC AMS AMS 03 59 30.0
comp=Z,4µm,21.3s
UPC Upice 162.72 302 *e*PKP2 **PKPab** **02 41 41.9 +1.0**
UPC *e* 02 45 27.0
UPC MLR MLR
comp=Z,4µm,21.3s
LLD Lille Linde 162.75 320 *i* PKIKP **PKPdf** **02 40 54.2 +2.3**
LLD pmax pmax
comp=Z,66nm,1.2s
LLD Lille Linde 162.75 320 *i* P **PKPdf** **02 40 54.2 +2.3**
comp=Z,66nm,1.2s
BEHE Becsehely 162.79 288⇓ *e*PKPdf **PKPdf** **02 40 52.6 +0.3**
SOP Sopron 162.87 292⇓ *e*PKPdf **PKPdf** **02 40 52.0 -0.3**
KOGS Kog 163.15 288 *i* PKPdf **PKPdf** **02 40 51.5 -1.1**
KOGS *i* PKPab **PKPab** **02 41 43.1 +0.2**
CONA Conrad Observa 163.31 293 *i* sPKPdf **PKPdf** **02 40 55.0 +2.2**
comp=Z,2.3nm,0.8s,SNR=7.5
TREC Trest 163.33 298 *e*PKPDF **PKPdf** **02 40 52.3 -0.4**
TREC *e*PKPAB **PKPab** **02 41 45.2 +1.6**

TREC *e*PP **PP** **02 45 30.3 +0.9**
TREC *e*SS SS 03 05 59.9 +4.1
TREC AMS AMS 03 57 10.0
comp=Z,4µm,22.6s
TREC Trest 163.33 298 *e*PKIKP **PKPdf** **02 40 52.3 -0.4**
TREC *e* 02 45 30.3
TREC *e*SS SS 03 05 59.9 +4.1
TREC MLR MLR
comp=Z,4µm,22.6s
PVCC Panska Ves 163.60 303 *e*PKPDF **PKPdf** **02 40 52.8 -0.1**
PVCC *e*PKPAB **PKPab** **02 41 47.6 +2.9**
PVCC *ex* x 02 42 09.5
PVCC *e*PP **PP** **02 45 32.0 +1.4**
PVCC *e*SS SS 03 06 05.1 +6.7
PVCC AMS AMS 03 59 10.0
comp=Z,3µm,22.3s
PVCC Panska Ves 163.60 303 *e*PKIKP **PKPdf** **02 40 52.8 -0.1**
PVCC *e* 02 45 32.0
PVCC MLR MLR
comp=Z,3µm,22.3s
ARSA Arzberg 163.60 291 *i* PKPdf **PKPdf** **02 40 52.7 -0.3**
comp=Z,2.6nm,0.8s,SNR=8.2
GOPC GO Pecny, Ondr 163.63 301 *e*PKPAB **PKPab** **02 41 46.5 +1.6**
GOPC *e*PP **PP** **02 45 32.3 +1.4**
GOPC *e*SS SS 03 06 06.8 +7.9
GOPC AMS AMS 03 59 10.0
comp=Z,3µm,20.9s
GOPC GO Pecny, Ondr 163.63 301 *e*PKP2 **PKPab** **02 41 46.5 +1.6**
GOPC *e* 02 45 32.3
GOPC MLR MLR
comp=Z,3µm,20.9s
GROS Grobnik 163.67 288 *e*PKPdf **PKPdf** **02 40 51.8 -1.4**
GROS *i* PKPab **PKPab** **02 41 45.3 +0.1**
GROS *e*PP **PP** **02 45 29.8 -1.6**
PRU Pruhonice 163.77 301 *e*PKPAB **PKPab** **02 41 46.5 +1.0**
PRU *e*PP **PP** **02 45 32.8 +1.2**
PRU *e*SS SS 03 06 07.7 +7.5
PRU AMS AMS 04 00 20.0
comp=Z,4µm,21.1s
PRU Pruhonice 163.77 301 *e*PKP2 **PKPab** **02 41 46.5 +1.0**
PRU *e* 02 45 32.8
PRU MLR MLR
comp=Z,4µm,21.1s
BOJS Bojanci 163.85 285 *e*PKPdf **PKPdf** **02 40 52.5 -0.8**
BRG Berggiesshubel 163.87 305 *e*PKP **PKPdf** **02 40 53.9 +0.8**
comp=Z,80nm,2.3s
BRG *e* 02 41 46.9
comp=Z,293nm,2.4s
BRG PP **PP** **02 45 30.0 -2.0**
BRG SS SS 03 06 07.0 +5.9
BRG Berggiesshubel 163.87 305 *e*PKIKP **PKPdf** **02 40 53.9 +0.8**
BRG 02 45 30.0
BRG SS SS 03 06 07.0 +5.9
BRG pmax pmax
comp=Z,293nm,2.4s
BRG MLR MLR
comp=N,2µm,19.6s
BRG MLR MLR
comp=E,2µm,19.6s
BRG MLR MLR
comp=Z,3µm,19.9s
SOKA Soboth 163.98 289 *i* PKPdf **PKPdf** **02 40 53.4 -0.1**
comp=Z,5.9nm,1.3s,SNR=9.6
CLL Collm 164.28 307 *e*PKPdf **PKPdf** **02 40 54.0 +0.5**
comp=Z,124nm,2.7s
CLL *i* PKPab **PKPab** **02 41 46.8 -0.9**
comp=Z,204nm,2.2s
CLL *e*PP **PP** **02 45 33.0 -1.1**
comp=Z,74nm,2.0s
CLL *e* 02 53 05.0
CLL *e*PSKS 02 56 00.0
CLL *e*PPS PPS 02 59 12.0
CLL *e* 03 02 36.0
CLL *e*SS SS 03 06 01.0 -4.2
CLL *e*PSPS 03 07 18.0
CLL *e*SSS SSS 03 12 32.0
CLL *e* 03 13 49.0
CLL *e*SSSS 03 16 36.0
CLL *e* 03 18 00.0
CLL LmV 04 07 00.0
comp=Z,3µm,19.4s
CLL Collm 164.28 307 *e*PKIKP **PKPdf** **02 40 53.5 0.0**
CLL *e* 02 41 47.2
CLL *e* 02 45 34.2
CLL Collm 164.28 307 *e*PKPdf **PKPdf** **02 40 53.5 0.0**
CLL *e*PKPab **PKPab** **02 41 47.2 -0.4**
CLL *e*PP **PP** **02 45 34.1 0.0**
OBKA Obir 164.32 289 *i* sPKPdf **PKPdf** **02 40 55.9 +2.1**
comp=Z,25nm,2.1s
LJU Ljubljana 164.36 287 *e*PKPdf **PKPdf** **02 40 52.4 -1.3**
LJU *e*PKPab **PKPab** **02 41 49.4 +1.1**
LJU *e*PP **PP** **02 45 34.0 -1.0**
LJU *e*SS SS 03 06 07.5 +0.7
MOA Molln 164.38 294 *i* PKPdf **PKPdf** **02 40 53.1 -0.6**
comp=Z,1.3nm,0.9s,SNR=6.3
CRNS Crni Vrh 164.54 287 *i* PKPdf **PKPdf** **02 40 52.5 -1.4**
CRNS *e*PKPab **PKPab** **02 41 49.2 +0.1**
GEC2 GERESS Array S 164.57 298 *e*PKIKP **PKPdf** **02 40 53.2 -0.8**
GEC2 *e* 02 45 37.2
GEC2 GERESS Array S 164.57 298 *e*PKPdf **PKPdf** **02 40 53.2 -0.8**
GEC2 *e*PKPab **PKPab** **02 41 51.2 +2.0**
GEC2 *e*PP **PP** **02 45 37.2 +1.2**
GERES GERESS Array B 164.57 298 PKP **PKPdf** **02 40 53.5 -0.4**
comp=Z,1.3nm,0.8s,baz=85,slow=1.5,SNR=16
GERES PKPab **PKPab** **02 41 49.6 +0.4**
comp=Z,2.8nm,0.7s,baz=90,slow=5.3,SNR=10
GEA0 GERESS Array S 164.58 298 *e*PKPdf **PKPdf** **02 40 53.4 -0.6**
GEA0 *e*PKPab **PKPab** **02 41 49.9 +0.7**
KHC Kasperske Hory 164.59 299 *e*PKPDF **PKPdf** **02 40 52.5 -1.4**
KHC *e*PKPAB **PKPab** **02 41 50.3 +1.1**
KHC *ex* x 02 42 03.9
KHC *ex* x 02 42 19.7
KHC *e*PP **PP** **02 45 39.2 +3.2**
KHC *ex* x 03 05 57.2
KHC AMS AMS 04 08 20.0
comp=Z,4µm,18.5s
KHC Kasperske Hory 164.59 299 *e*PKIKP **PKPdf** **02 40 52.5 -1.4**
KHC *e* 02 45 39.2
KHC MLR MLR
comp=Z,4µm,18.5s
KHC Kasperske Hory 164.59 299 *e*PKPdf **PKPdf** **02 40 51.7 -2.2**
KHC *e*PKPab **PKPab** **02 41 50.2 +1.1**
AQU L'Aquila 164.85 273 *e*PKIKP **PKPdf** **02 40 54.1 -0.3**
AQU L'Aquila 164.85 273 *e*PKPdf **PKPdf** **02 40 54.0 -0.3**
AQU *e*PKPab **PKPab** **02 41 52.1 +1.5**
PSMA Santa Maria 164.87 109 *e*PKP **PKPdf** **02 40 59.2 +4.7**
PSMN Pico do Norte, 164.92 109 *e*PKP **PKPdf** **02 40 59.4 +4.9**
MYKA Terra Mystica 164.94 289 *i* pPKPdf **PKPdf** **02 40 55.9 +1.6**
comp=Z,1.4nm,0.4s,SNR=9.6
NKC Novy Kostel 164.98 303 *e*PKPAB **PKPab** **02 41 51.9 +1.0**
NKC *e*PP **PP** **02 45 39.2 +1.3**
NKC *e*SS SS 03 06 22.6 +10
NKC AMS AMS 04 00 50.0
comp=Z,3µm,20.7s
NKC Novy Kostel 164.98 303 *e*PKP2 **PKPab** **02 41 51.9 +1.0**
NKC *e* 02 45 39.2
NKC MLR MLR
comp=Z,3µm,20.7s
KEST Kesra 165.08 244 PKPab **PKPab** **02 41 53.5 +1.7**
comp=Z,20nm,0.8s,baz=287,slow=0.7,SNR=16
KEST Kesra 165.08 244 *e*PKPdf **PKPdf** **02 40 57.7 +2.9**
KEST *e*PKPab **PKPab** **02 41 53.5 +1.7**
KEST *e*PP **PP** **02 45 39.0 +0.3**
KBA Koelnbreinsper 165.10 291 *i* pPKPdf **PKPdf** **02 40 55.8 +1.2**
comp=Z,1.2nm,0.1s,SNR=7.7
ABTA Abfaltersbach 165.70 290 *i* pPKPdf **PKPdf** **02 40 56.8 +1.9**
comp=Z,5.1nm,0.7s,SNR=8.7
WTTA Wattenberg 166.23 292 *i* pPKPdf **PKPdf** **02 40 56.2 +0.7**
comp=Z,0.9nm,0.2s,SNR=10
WATA Walderalm 166.26 293 *i* pPKPdf **PKPdf** **02 40 56.6 +1.1**
comp=Z,1.4nm,0.3s,SNR=5.9
MOTA Moosalm 166.57 293 *i* PKPdf **PKPdf** **02 40 54.6 -1.1**
comp=Z,2.6nm,0.7s,SNR=7.2
ABSA Djebel Ababsia 166.62 242 P **PKPab** **02 42 02.8 +4.3**
PMOZ Porto Moniz, M 166.77 140 *e*PKPdf **PKPdf** **02 41 00.4 +4.1**
PMOZ Porto Moniz, M 166.77 140 *e*LR LR 03 39 44.2
comp=Z,2µm,18.0s
RETA Reutte 166.78 294 *i* pPKPdf **PKPdf** **02 40 57.6 +1.8**
comp=Z,0.7nm,0.4s
PMAR Madeira 166.82 141 *e*PKPdf **PKPdf** **02 40 58.7 +2.3**
CMAH Djebel Manchou 166.86 243 P **PKPab** **02 42 02.0 +2.4**
FETA Feichten 166.88 292 *i* pPKPdf **PKPdf** **02 40 57.6 +1.6**
comp=Z,1.7nm,0.6s,SNR=9.5

CKFL	**Kef-Lekhel**	**167.18 241**	P	**PKPab**	**02 42 04.6 +3.5**	
CASM	**Ain Smara**	**167.24 240**	P	**PKPab**	**02 42 04.2 +3.0**	
FUORN	**Ofenpass-Fuorn**	**167.26 290**	*e*PKPdf	**PKPdf**	**02 40 56.6 +0.2**	
FUORN			*e*PKPab	**PKPab**	**02 42 02.5 +1.1**	
FUORN			*e*PP	PP	02 45 41.8 -8.5	
WTSB	**Winterswijk**	**167.34 317**	*e*PKPdf	**PKPdf**	**02 40 55.6 -0.3**	
WTSB			*e*PKPab	**PKPab**	**02 42 01.7 +0.6**	
PMPS	**Porto Santo**	**167.36 143**	*e*PKPdf	**PKPdf**	**02 40 50.2 -6.4**	
DAVA	**Damuels**	**167.40 293**	*i* PKPdf	**PKPdf**	**02 40 55.6 -0.8**	
	comp=Z,2.5nm,0.6s,SNR=6.0					
DAVOX	**Davos/Dischmat**	**167.49 291**	PKP	**PKPdf**	**02 40 55.3 -1.2**	
	comp=Z,4.4nm,0.9s,baz=53,slow=2.2,SNR=12					
DAVOX			PKPab	**PKPab**	**02 42 03.2 +0.9**	
	comp=Z,17nm,0.8s,baz=103,slow=8.0,SNR=20					
EKA	**Eskdalemuir Ar**	**167.87 349**	PKP	**PKPdf**	**02 40 56.7 +0.5**	
	comp=Z,2.2nm,0.9s,baz=336,slow=1.6,SNR=3.4					
EKA			PKPab	**PKPab**	**02 42 04.8 +1.6**	
	comp=Z,2.7nm,0.9s,baz=343,slow=2.2,SNR=3.3					
TUE	**Stuetta**	**167.90 290**	*e*PKPdf	**PKPdf**	**02 40 56.9 +0.1**	
TUE			*e*PKPab	**PKPab**	**02 42 03.5 -0.6**	
TUE			*e*PP	**PP**	**02 45 48.6 -4.9**	
BFO	**Black Forest**	**168.15 299**	*e*PKIKP	**PKPdf**	**02 40 57.6 +0.9**	
BFO	**Black Forest**	**168.15 299**	*e*PKPdf	**PKPdf**	**02 40 57.6 +0.9**	
BFO			*e*PKPab	**PKPab**	**02 42 06.6 +1.6**	
LANF	**Langenberg**	**168.25 303**	PKP	**PKPdf**	**02 40 58.1 +1.4**	
HGN	**Heimansgroeve**	**168.48 314**	*e*PKPdf	**PKPdf**	**02 40 55.5 -1.2**	
HGN			*e*PKPab	**PKPab**	**02 42 02.7 -3.4**	
HGN			*e*PP	**PP**	**02 45 59.0 +3.4**	
ECH	**Echery**	**168.93 300**	PKP	**PKPdf**	**02 40 58.1 +0.9**	
WLF	**Walferdange**	**168.94 308**	*e*PKIKP	**PKPdf**	**02 40 57.6 +0.5**	
WLF			*e*		02 42 07.1	
WLF	**Walferdange**	**168.94 308**	*e*PKPdf	**PKPdf**	**02 40 57.6 +0.5**	
WLF			*e*PKPab	**PKPab**	**02 42 07.1 -1.2**	
MOF	**Molkenrain**	**169.06 298**	PKP	**PKPdf**	**02 40 58.6 +1.2**	
MDT	**Midelt**	**169.14 192**	PKP	**PKPdf**	**02 40 59.0 +1.0**	
	comp=Z,9.7nm,1.1s,baz=136,slow=1.2,SNR=17					
MDT			PKPab	**PKPab**	**02 42 11.4 +1.8**	
	comp=Z,24nm,1.2s,baz=149,slow=2.1,SNR=10					
SENIN	**Lac Senin/Sane**	**169.32 291**	*e*PKPdf	**PKPdf**	**02 40 58.6 +0.8**	
SENIN			*e*PKPab	**PKPab**	**02 42 11.7 +1.3**	
SENIN			*e*PP	**PP**	**02 46 05.7 +5.0**	
LOMF	**Lomont**	**169.41 296**	PKP	**PKPdf**	**02 40 54.0 -3.6**	
SSB	**Saint Sauveur**	**171.39 286**	*e*PKIKP	**PKPdf**	**02 41 01.0 +2.3**	
SSB			*e*		02 42 16.9	
SSB			*e*		02 46 08.4	
SSB	**Saint Sauveur**	**171.39 286**	*e*PKPdf	**PKPdf**	**02 41 01.0 +2.3**	
SSB			*e*PKPab	**PKPab**	**02 42 16.9 -2.5**	
SSB			*e*PP	**PP**	**02 46 08.4 -2.5**	
FILF	**Fillols**	**172.77 266**	PKP	**PKPdf**	**02 40 59.2 -0.3**	
VALF	**Valcebollere**	**173.14 264**	PKP	**PKPdf**	**02 41 01.0 +1.2**	
PFVI	**Vila Bisbo**	**173.52 169**	*e*PKPdf	**PKPdf**	**02 41 02.5 +2.7**	
MORF	**Marmelete**	**173.71 169**	*e*P	**PKPdf**	**02 41 00.6 +0.6**	
MORF			*e*SS	SS	03 07 40.0 +2.2	
MORF			AMS	AMS	03 57 03.6	
	comp=Z,8μm,31.3s					
MORF	**Marmelete**	**173.71 169**	*e*PKPdf	**PKPdf**	**02 41 02.2 +2.2**	
PBDV	**Barranco-do-Ve**	**173.72 175**	*e*PKPdf	**PKPdf**	**02 41 01.1 +1.1**	
PBDV	**Barranco-do-Ve**	**173.72 175**	*e*PP	PP	02 46 21.9 +0.9	
PVAQ	**Vaqueiros**	**173.89 176**	*e*PKPdf	**PKPdf**	**02 41 02.4 +2.4**	
PVAQ	**Vaqueiros**	**173.89 176**	*e*PKPab	**PKPab**	**02 42 34.2 +3.8**	
PVAQ	**Vaqueiros**	**173.89 176**	*e*PP	PP	02 46 23.6 +1.8	
PVAQ	**Vaqueiros**	**173.89 176**	*e*SS	SS	03 07 47.0 +7.6	
PVAQ	**Vaqueiros**	**173.89 176**	*e*LQ	LQ	03 36 27.0	
PVAQ			*e*LR	LR	03 43 22.7	
	comp=Z,4μm,20.0s					
PTEO	**Sao Teotonio**	**173.94 169**	*e*PKPdf	**PKPdf**	**02 41 01.7 +1.7**	
PCVE	**Castro Verde**	**174.10 174**	*e*PKPdf	**PKPdf**	**02 41 00.5 +0.5**	
PCVE	**Castro Verde**	**174.10 174**	*e*PKPab	**PKPab**	**02 42 34.9 +3.6**	
PCVE	**Castro Verde**	**174.10 174**	*e*PP	PP	02 46 24.5 +1.6	
MESJ	**Messejana**	**174.29 172**	*e*P	**PKPdf**	**02 41 01.0 +0.9**	
MESJ			*e*PP	**PP**	**02 46 24.9 +1.1**	
MESJ			*e*SS	SS	03 07 46.0 +2.8	
MESJ			AMS	AMS	03 57 27.0	
	comp=Z,7μm,20.8s					
MESJ	**Messejana**	**174.29 172**	*e*PKPdf	**PKPdf**	**02 41 01.3 +1.2**	
MESJ	**Messejana**	**174.29 172**	*e*PKPab	**PKPab**	**02 42 35.9 +3.8**	
MESJ	**Messejana**	**174.29 172**	*e*PP	PP	02 46 25.1 +1.3	
RESF	**Ens**	**174.43 265**	PKP	**PKPdf**	**02 41 03.2 +3.1**	
PBEJ	**Beja**	**174.50 175**	*e*PKPdf	**PKPdf**	**02 41 01.9 +1.7**	
PBEJ	**Beja**	**174.50 175**	*e*PKPab	**PKPab**	**02 42 37.5 +4.4**	
PNCL	**Nicolau / Gran**	**174.52 169**	*e*PKPdf	**PKPdf**	**02 41 01.1 +1.0**	
PNCL	**Nicolau / Gran**	**174.52 169**	*e*PKPab	**PKPab**	**02 42 36.8 +3.6**	
PNCL	**Nicolau / Gran**	**174.52 169**	*e*PP	PP	02 46 27.9 +3.0	
PBAR	**Barrancos**	**174.67 182**	*e*PKPdf	**PKPdf**	**02 41 02.2 +2.0**	
PBAR	**Barrancos**	**174.67 182**	*e*PKPab	**PKPab**	**02 42 37.1 +3.3**	
PBAR	**Barrancos**	**174.67 182**	*e*PP	PP	02 46 26.9 +1.3	
EVO	**Evora**	**175.00 173**	*e*PKPdf	**PKPdf**	**02 41 01.1 +0.8**	
EVO	**Evora**	**175.00 173**	*e*PKPab	**PKPab**	**02 42 38.6 +3.3**	
EVO	**Evora**	**175.00 173**	*e*PP	PP	02 46 29.2 +2.0	
LIS	**Lisbon**	**175.00 162**	*e*P	**PKPdf**	**02 41 00.6 +0.3**	
LIS			AMS	AMS	04 00 07.0	
	comp=N,8μm,21.0s					
REYF	**Montagne du Re**	**175.00 267**	PKP	**PKPdf**	**02 41 00.7 +0.4**	
PMST	**Lisbon--Monsan**	**175.01 162**	*e*PKPdf	**PKPdf**	**02 41 02.7 +2.4**	
PMAFR	**Mafra**	**175.20 160**	*e*PKPdf	**PKPdf**	**02 41 01.6 +1.3**	
ATE	**Arette**	**175.23 267**	PKP	**PKPdf**	**02 41 00.1 -0.1**	
PESTR	**Estremoz**	**175.36 176**	*e*PKPdf	**PKPdf**	**02 41 00.7 +0.3**	
PESTR	**Estremoz**	**175.36 176**	*e*PKPab	**PKPab**	**02 42 40.6 +3.7**	
PESTR	**Estremoz**	**175.36 176**	*e*PP	PP	02 46 27.1 -1.8	
ORDF	**Ordiarp**	**175.41 269**	PKP	**PKPdf**	**02 41 01.4 +1.2**	
LARF	**Larrau**	**175.43 266**	PKP	**PKPdf**	**02 41 01.7 +1.4**	
ES19	**SONSECA Array**	**175.46 214**	*e*PKPdf	**PKPdf**	**02 41 01.5 +1.1**	
ES19			*e*PKPab	**PKPab**	**02 42 37.9 +0.4**	
ES19			*e*PP	**PP**	**02 46 22.8 -7.1**	
ESDC	**Sonseca Array**	**175.46 214**	PKP	**PKPdf**	**02 41 01.4 +1.0**	
	comp=N,2.2nm,0.9s,baz=8.2,slow=2.1,SNR=17					
ESDC			PKPab	**PKPab**	**02 42 39.0 +1.5**	
	comp=N,7.4nm,1.1s,baz=158,slow=4.0,SNR=8.4					
PAB	**San Pablo**	**175.50 210**	*e*PKIKP	**PKPdf**	**02 41 01.7 +1.2**	
PAB			*e*		02 42 39.2	
PAB	**San Pablo**	**175.50 210**	*e*PKPdf	**PKPdf**	**02 41 01.7 +1.2**	
PAB			*e*PKPab	**PKPab**	**02 42 39.2 +1.5**	
PAB			*e*PP	**PP**	**02 46 26.5 -3.6**	
PMTG	**Montargil**	**175.50 170**	*e*PKPdf	**PKPdf**	**02 41 00.1 -0.3**	
PMTG	**Montargil**	**175.50 170**	*e*PKPab	**PKPab**	**02 42 41.3 +3.8**	
PMTG	**Montargil**	**175.50 170**	*e*PP	PP	02 46 30.8 +1.2	
PMRV	**Marv??o**	**175.93 178**	*e*PKPdf	**PKPdf**	**02 41 01.9 +1.4**	
PMRV	**Marv??o**	**175.93 178**	*e*PKPab	**PKPab**	**02 42 40.7 +1.3**	
PMRV	**Marv??o**	**175.93 178**	*e*PP	PP	02 46 32.6 +1.0	
PMRV	**Marv??o**	**175.93 178**	*e*LQ	LQ	03 34 54.9	
PMRV	**Marv??o**	**175.93 178**	*e*LR	LR	03 45 57.7	
	comp=N,4μm,20.0s					
PTOM	**Tomar**	**176.01 167**	*e*PKPdf	**PKPdf**	**02 41 02.3 +1.8**	
PTOM	**Tomar**	**176.01 167**	*e*PKPab	**PKPab**	**02 42 41.6 +1.8**	
PTOM	**Tomar**	**176.01 167**	*e*PP	PP	02 46 36.4 +4.3	
PCBR	**Castelo Branco**	**176.33 177**	*e*PKPdf	**PKPdf**	**02 41 03.3 +2.7**	
PCBR	**Castelo Branco**	**176.33 177**	*e*PP	PP	02 46 33.8 +0.3	
PCAS	**Casmilo, Conde**	**176.42 164**	*e*PKPdf	**PKPdf**	**02 41 02.6 +2.0**	
PCAS	**Casmilo, Conde**	**176.42 164**	*e*PKPab	**PKPab**	**02 42 45.1 +3.5**	
PCAS	**Casmilo, Conde**	**176.42 164**	*e*SS	SS	03 08 16.4 +13	
MTE	**Manteigas**	**176.89 175**	*e*PKPdf	**PKPdf**	**02 41 03.0 +2.2**	
MTE	**Manteigas**	**176.89 175**	*e*PKPab	**PKPab**	**02 42 46.8 +3.1**	
MTE	**Manteigas**	**176.89 175**	*e*PP	PP	02 46 36.6 +0.3	
MTE	**Manteigas**	**176.89 175**	*e*LQ	LQ	03 35 11.6	
MTE	**Manteigas**	**176.89 175**	*e*LR	LR	03 45 34.8	
	comp=N,5μm,22.0s					
PVIS	**Viseu**	**177.17 170**	*e*PKPdf	**PKPdf**	**02 41 02.7 +1.9**	
MVO	**Moncorvo**	**177.66 183**	*e*PKPdf	**PKPdf**	**02 41 02.7 +1.8**	
MVO	**Moncorvo**	**177.66 183**	*e*PP	PP	02 46 41.5 +1.6	
MVO	**Moncorvo**	**177.66 183**	*e*SS	SS	03 08 21.9 +6.4	
MVO	**Moncorvo**	**177.66 183**	*e*LQ	LQ	03 34 20.7	
MVO			*e*LR	LR	03 43 55.5	
	comp=N,4μm,20.0s					
PVRL	**Vila Real**	**177.74 170**	*e*PKPdf	**PKPdf**	**02 41 03.9 +3.1**	
POLO	**Lamas de Olo**	**177.83 168**	*e*PKPdf	**PKPdf**	**02 41 01.2 +0.3**	
POLO	**Lamas de Olo**	**177.83 168**	*e*PP	PP	02 46 41.4 +0.6	
PCAB	**Cabril**	**178.11 161**	*e*PKPdf	**PKPdf**	**02 41 03.7 +2.8**	
PBRG	**Braganca**	**178.27 192**	*e*PKPdf	**PKPdf**	**02 40 59.5 -1.4**	
PBRG	**Braganca**	**178.27 192**	*e*PP	PP	02 46 43.5 +0.7	
PGAV	**Gavieira, Arco**	**178.28 153**	*e*PKPdf	**PKPdf**	**02 41 02.0 +1.0**	
PGAV	**Gavieira, Arco**	**178.28 153**	*e*PKPab		02 42 51.7	
PGAV	**Gavieira, Arco**	**178.28 153**	*e*LQ	LQ	03 34 35.1	
PGAV	**Gavieira, Arco**	**178.28 153**	*e*LR	LR	03 45 59.4	
	comp=N,6μm,22.0s					

WEL 13 02:21:23.6±0.1, 43°.59S×172°.74E, h10km, ML5.1/2, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.09**	**280**	PG	Pg	02 21 26.0	-0.1
CRLZ				SG	Sg	02 21 27.4	-0.4
CRLZ				AML	AML	02 21 27.6	
CRLZ				AML	AML	02 21 27.6	
CRLZ				AML	AML	02 21 27.7	
MQZ	**McQueen's Vall**	**0.13**	**209**	PG	Pg	02 21 26.9	+0.2
MQZ				SG	Sg	02 21 29.1	+0.2
MQZ				AML	AML	02 21 29.4	
MQZ				AML	AML	02 21 29.4	
MQZ				AML	AML	02 21 29.5	
OXZ	**Oxford**	**0.58**	**297**	S*	Sb	02 21 43.6	-0.4

WEL 13 02:21:44.3±0.2, 43°.58S×172°.81E, h5km, ML4.6/2, Error ellipse: s-maj=1.4km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.13**	**273**	PG	Pg	02 21 47.1	+0.1
CRLZ				AML	AML	02 21 48.0	
CRLZ				AML	AML	02 21 48.0	
CRLZ				SG	Sg	02 21 48.4	-0.4
CRLZ				AML	AML	02 21 48.8	
MQZ	**McQueen's Vall**	**0.17**	**222**	PG	Pg	02 21 47.7	+0.1
MQZ				AML	AML	02 21 49.2	
MQZ				SG	Sg	02 21 50.1	+0.2

WEL 13 02:21:48.3±0.1, 43°.57S×172°.80E, h7km, ML4.7/2, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.13**	**269**	PG	Pg	02 21 51.1	+0.1
CRLZ				SG	Sg	02 21 53.0	+0.2
CRLZ				AML	AML	02 21 53.1	
CRLZ				AML	AML	02 21 53.3	
CRLZ				AML	AML	02 21 53.3	
MQZ	**McQueen's Vall**	**0.17**	**218**	PG	Pg	02 21 51.9	+0.2
MQZ				SG	Sg	02 21 54.2	+0.1
MQZ				SG		02 21 54.3	

WEL 13 02:22:43.7±0.3, 43°.63S×172°.81E, h5km, ML4.9/3, 2C, Error ellipse: s-maj=2.2km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.14**	**236**	⇑PG	Pg	02 22 46.7	+0.2
MQZ				SG	Sg	02 22 49.1	+0.7
MQZ				AML	AML	02 22 49.4	
CRLZ	**Canterbury Las**	**0.15**	**291**	⇑PG	Pg	02 22 46.6	-0.1
CRLZ				SG	Sg	02 22 48.6	0.0
CRLZ				SG		02 22 49.1	
CRLZ				AML	AML	02 22 49.9	
CRLZ				AML	AML	02 22 49.9	
OXZ	**Oxford**	**0.64**	**298**	P*	Pg	02 22 56.3	+0.3
OXZ				SG	Sg	02 23 05.3	+1.0
LTZ	**Lake Taylor**	**0.93**	**335**	P*	Pg	02 23 01.9	+0.2
LTZ				S*	Sb	02 23 14.5	-0.6
LTZ				AML	AML	02 23 15.5	

WEL 13 02:23:19.5±0.1, 43°.56S×172°.77E, h9km, ML4.1/3, Error ellipse: s-maj=0.9km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.10**	**260**	PG	Pg	02 23 22.1	0.0
CRLZ				SG	Sg	02 23 23.6	-0.3
CRLZ				SG		02 23 23.7	
CRLZ				AML	AML	02 23 23.8	
CRLZ				AML	AML	02 23 23.9	
MQZ	**McQueen's Vall**	**0.17**	**209**	PG	Pg	02 23 23.2	+0.1
MQZ				SG	Sg	02 23 26.0	+0.4
MQZ				AML	AML	02 23 26.5	
OXZ	**Oxford**	**0.58**	**293**	S*	Sb	02 23 41.3	+1.2
LTZ	**Lake Taylor**	**0.85**	**335**	S*	Sb	02 23 48.5	+0.4
LTZ				AML	AML	02 23 49.7	

WEL 13 02:23:23.7±0.1, 43°.56S×172°.75E, h8km, ML4.2/3, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.10**	**260**	PG	Pg	02 23 25.9	-0.1
CRLZ				SG	Sg	02 23 27.5	-0.1
CRLZ				SG		02 23 27.6	
CRLZ				AML	AML	02 23 27.6	
CRLZ				AML	AML	02 23 27.7	
MQZ	**McQueen's Vall**	**0.17**	**206**	PG	Pg	02 23 27.2	+0.1
MQZ				AML	AML	02 23 29.1	
MQZ				SG	Sg	02 23 29.8	+0.4
LTZ	**Lake Taylor**	**0.85**	**335**	S*	Sb	02 23 52.4	0.0
LTZ				AML	AML	02 23 52.7	

WEL 13 02:23:40.2±0.1, 43°.55S×172°.74E, h5km±1km, ML4.8/4, 2C, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.09**	**254**	⇑PG	Pg	02 23 41.9	-0.2
CRLZ				SG	Sg	02 23 43.4	0.0
CRLZ				AML	AML	02 23 44.7	
CRLZ				AML	AML	02 23 45.0	
CRLZ				AML	AML	02 23 45.1	
MQZ	**McQueen's Vall**	**0.17**	**202**	⇑PG	Pg	02 23 43.4	-0.2
MQZ				AML	AML	02 23 46.0	
MQZ				AML	AML	02 23 47.0	
OXZ	**Oxford**	**0.56**	**293**	*e*PG	Pg	02 23 50.7	-0.2
LTZ	**Lake Taylor**	**0.84**	**336**	P*	Pg	02 23 56.6	+0.4
LTZ				S*	Sb	02 24 08.3	-0.6
LTZ				AML	AML	02 24 09.3	
RPZ	**Rata Peaks**	**1.23**	**262**	AML	AML	02 24 21.4	
RPZ				AML	AML	02 24 23.3	

WEL 13 02:23:53.9±0.3, 43°.54S×172°.82E, h5km, ML4.0/3, Error ellipse: s-maj=2.2km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.15**	**257**	PG	Pg	02 23 56.9	0.0
CRLZ				AML	AML	02 23 58.9	
CRLZ				SG	Sg	02 23 59.5	+0.6
CRLZ				AML	AML	02 23 59.5	
CRLZ				AML	AML	02 24 00.9	
MQZ	**McQueen's Vall**	**0.21**	**216**	PG	Pg	02 23 58.2	+0.3
MQZ				SG	Sg	02 24 00.5	-0.2
MQZ				AML	AML	02 24 00.7	
LTZ	**Lake Taylor**	**0.86**	**332**	S*	Sb	02 24 22.8	-0.3
LTZ				S*	Sg	02 24 23.2	+1.7

WEL 13 02:24:08.3±0.2, 43°.55S×172°.79E, h5km±1km, ML3.8/3, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.12**	**261**	PG	Pg	02 24 10.7	-0.2
CRLZ				AML	AML	02 24 11.8	
CRLZ				AML	AML	02 24 12.4	
CRLZ				AML	AML	02 24 12.5	
CRLZ				SG	Sg	02 24 12.7	+0.1
MQZ	**McQueen's Vall**	**0.18**	**214**	SG	Sg	02 24 14.5	+0.2
MQZ				SG		02 24 14.7	
MQZ				AML	AML	02 24 14.8	
OXZ	**Oxford**	**0.60**	**292**	SG	Sb	02 24 29.6	-0.2
LTZ	**Lake Taylor**	**0.86**	**333**	AML	AML	02 24 37.3	
LTZ				S*	Sb	02 24 37.4	-0.1

WEL 13 02:24:35.6±0.1, 43°.55S×172°.81E, h7km, ML3.8/2, Error ellipse: s-maj=1.0km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.14**	**258**	PG	Pg	02 24 38.7	+0.2
CRLZ				SG	Sg	02 24 40.5	0.0
CRLZ				SG		02 24 40.5	
MQZ	**McQueen's Vall**	**0.19**	**215**	PG	Pg	02 24 39.7	+0.2
MQZ				SG	Sg	02 24 42.3	+0.1
MQZ				AML	AML	02 24 42.9	

WEL 13 02:24:41.6±0.2, 43°.56S×172°.70E, h9km±1km, ML3.5/3, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.05**	**257**	PG	Pg	02 24 43.5	0.0
CRLZ				AML	AML	02 24 44.5	
CRLZ				AML	AML	02 24 44.6	
CRLZ				SG	Sg	02 24 44.7	-0.2
CRLZ				AML	AML	02 24 45.1	
MQZ	**McQueen's Vall**	**0.15**	**192**	PG	Pg	02 24 45.1	+0.3
MQZ				SG	Sg	02 24 47.3	+0.3
MQZ				SG		02 24 47.4	
MQZ				AML	AML	02 24 47.5	
OXZ	**Oxford**	**0.53**	**296**	P*	Pb	02 24 53.9	+0.8
LTZ	**Lake Taylor**	**0.84**	**338**	P*	Pb	02 24 58.1	-0.2
LTZ				AML	AML	02 25 05.4	

WEL 13 02:24:50.8±0.5, 43°.57S×172°.66E, h15km±3km, ML3.8/3, Error ellipse: s-maj=4.3km s-min=2.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.03**	**251**	P*	Pg	02 24 53.4	0.0
CRLZ				S*	Sg	02 24 54.2	-1.0
CRLZ				AML	AML	02 24 54.3	
CRLZ				AML	AML	02 24 54.3	
CRLZ				AML	AML	02 24 54.5	
MQZ	**McQueen's Vall**	**0.14**	**181**	P*	Pb	02 24 55.4	+0.2
MQZ				S*	Sb	02 24 57.6	-0.5
MQZ				AML	AML	02 24 57.8	
LTZ	**Lake Taylor**	**0.83**	**340**	S*	Sn	02 25 20.4	+0.3
LTZ				AML	AML	02 25 22.3	

WEL 13 02:25:26.8±0.1, 43°.58S×172°.75E, h8km, ML3.4/2, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.10**	**273**	AML	AML	02 25 28.8	
CRLZ				PG	Pg	02 25 29.0	0.0
CRLZ				SG	Sg	02 25 30.6	-0.1
CRLZ				AML	AML	02 25 30.8	
CRLZ				AML	AML	02 25 30.8	
MQZ	**McQueen's Vall**	**0.15**	**210**	PG	Pg	02 25 30.0	+0.1
MQZ				SG	Sg	02 25 32.4	+0.3
MQZ				AML	AML	02 25 32.4	

NIED ***13*** *02:25:00, 37°.50N×143°.70E, h29km, Mw3.8 Best double couple: M0=5.97000×10^14 NP1:φs=326.00000°, δ70.00000°, λ169.00000°. NP2:φs=60.00000°, δ80.00000°, λ20.00000°.*
IDC ***13*** *02:25:24.2±1.2, 37°.40N×144°.00E, h0km, mb3.8/5, mb1 3.9/10, mb1mx3.7/57, mbtmp3.8/10, ML3.5/5, MS2.3/1, Ms1 2.3/1, ms1mx2.2/53, Error ellipse: s-maj=27.1km s-min=21.9km az=84.0*
ISCJB ***13*** *02:25:27.5±0.7, 37°.48N±0°.04×143°.80E±0°.05, h33km, mb3.8/5, Error ellipse: s-maj=6.4km s-min=5.0km az=34.1*
JMA ***13*** *02:25:28.5±0.2, 37°.54N×143°.73E, h44km, M4.2*
ISC 13 02:25:28.7±1.0, 37°.48N±0°.05×143°.87E±0°.08, h35km, n32, σ1s96/43, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.22**	**297**	P	**Pn**	**02 26 02.3**	**-0.7**
JIO				S	**Sn**	**02 26 27.3**	**-1.9**
JFK	**Kawauchi**	**2.39**	**268**	P	**Pn**	**02 26 04.7**	**-0.7**
JFK				S	**Sn**	**02 26 31.2**	**-2.3**
JMM	**Marumori**	**2.47**	**280**	P	**Pn**	**02 26 05.8**	**-0.7**
JMM				S	**Sn**	**02 26 34.4**	**-1.1**
ONAJ	**Iwakimizuishiy**	**2.48**	**262**	P	**Pn**	**02 26 06.3**	**-0.4**
ONAJ				S	**Sn**	**02 26 33.6**	**-2.1**
JMK	**Ichinoseki**	**2.55**	**306**	P	**Pn**	**02 26 07.0**	**-0.6**
JMK				S	**Sn**	**02 26 35.0**	**-2.4**
JFT	**Otama**	**2.81**	**272**	P	**Pn**	**02 26 11.6**	**+0.4**
JFT				S	**Sn**	**02 26 43.6**	**-0.3**
JOM	**Ohasama**	**2.84**	**315**	P	**Pn**	**02 26 10.9**	**-0.6**
JOM				S	**Sn**	**02 26 42.2**	**-2.3**
JYK	**Kaneyama**	**3.12**	**298**	P	**Pn**	**02 26 15.3**	**-0.1**
JANG	**Nango**	**3.42**	**328**	P	**Pn**	**02 26 19.1**	**-0.5**
BSO1	**Boso 1**	**3.67**	**221**	S	**Sn**	**02 27 04.4**	**+0.2**
JAG	**Ashikaga**	**3.69**	**255**	P	**Pn**	**02 26 23.3**	**0.0**
JAG				S	**Sn**	**02 27 03.9**	**-1.7**
JAW	**Awa shima**	**3.78**	**286**	P	**Pn**	**02 26 25.1**	**+0.6**
JRY	**Ryogami san**	**4.25**	**251**	P	**Pn**	**02 26 30.9**	**-0.1**
JRY				S	**Sn**	**02 27 16.7**	**-2.7**
JOD2	**Odawara 2**	**4.45**	**242**	P	**Pn**	**02 26 33.9**	**+0.2**
JOD2				S	**Sn**	**02 27 21.5**	**-2.8**
JOT	**Ohata**	**4.47**	**332**	P	**Pn**	**02 26 34.0**	**+0.1**
MJAR	**Matsushiro Arr**	**4.63**	**260**	Pn	**Pn**	**02 26 36.9**	**+0.7**
	10nm,0.3s,baz=89,slow=15,SNR=71						
MJAR				Sn	**Sn**	**02 27 29.6**	**+1.0**
	2.0nm,0.3s,baz=58,slow=24,SNR=7.7						
MJAR				LR	LR	02 28 33.5

OXZ	**Oxford**	**0.60 295**	P*	Pg	02 25 44.7	-0.3
LTZ	**Lake Taylor**	**0.88 335**	P*	Pg	02 25 50.5	+0.1
LTZ			S*	Sg	02 26 02.3	+0.6
LTZ			AML	AML	02 26 03.1	
RPZ	**Rata Peaks**	**1.26 263**	P*	Pn	02 25 57.4	-0.2
RPZ			AML	AML	02 26 14.1	
RPZ			AML	AML	02 26 16.9	
KHZ	**Kahutara**	**1.29 26**	P*	Pn	02 25 56.0	-1.9
INZ	**Inchbonnie**	**1.30 311**	*e*P*	Pn	02 25 57.3	-0.8

WEL 13 02:26:00.9±0.2, 43°56S×172°75E, h8km±1km, ML3.5/3, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.09 263**		PG	Pg	02 26 03.2	0.0
CRLZ				SG	Sg	02 26 04.7	0.0
CRLZ				SG		02 26 04.8	
CRLZ				SG		02 26 04.9	
CRLZ				AML	AML	02 26 05.0	
MQZ	**McQueen's Vall**	**0.16 206**		SG	Sg	02 26 07.0	+0.5
MQZ				SG	Sg	02 26 07.1	+0.5
LTZ	**Lake Taylor**	**0.86 336**		S*	Sg	02 26 28.9	+0.4
LTZ				S*	Sb	02 26 29.2	-0.5

WEL 13 02:26:41.6±0.1, 43°61S×172°80E, h7km, ML4.1/4, 1C, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.13 283**		PG	Pg	02 26 44.3	0.0
CRLZ				SG	Sg	02 26 46.3	0.0
CRLZ				AML	AML	02 26 46.3	
CRLZ				AML	AML	02 26 46.3	
CRLZ				AML	AML	02 26 46.3	
MQZ	**McQueen's Vall**	**0.15 226**		⇑PG	Pg	02 26 44.9	+0.3
MQZ				SG	Sg	02 26 47.2	+0.5
MQZ				AML	AML	02 26 47.2	
OXZ	**Oxford**	**0.62 296**		P*	Pg	02 26 53.4	-0.2
OXZ				S*	Sg	02 27 02.0	+0.4
LTZ	**Lake Taylor**	**0.91 335**		P*	Pg	02 26 59.0	-0.1
LTZ				S*	Sb	02 27 11.7	-0.4
LTZ				AML	AML	02 27 15.2	
RPZ	**Rata Peaks**	**1.27 264**	*e*P*	Pn		02 27 04.2	-1.6
RPZ				AML	AML	02 27 23.7	
RPZ				AML	AML	02 27 24.9	
KHZ	**Kahutara**	**1.31 25**	P*	Pn		02 27 04.8	-1.4
INZ	**Inchbonnie**	**1.33 311**	*e*PN	Pn		02 27 05.7	-0.9

WEL 13 02:27:03.7±0.2, 43°56S×172°74E, h6km±1km, ML4.0/4, 1C, Error ellipse: s-maj=1.4km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.09 260**		⇑PG	Pg	02 27 05.7	-0.1
CRLZ				SG	Sg	02 27 07.4	+0.3
CRLZ				AML	AML	02 27 07.4	
CRLZ				AML	AML	02 27 07.4	
CRLZ				AML	AML	02 27 07.5	
MQZ	**McQueen's Vall**	**0.16 203**		PG	Pg	02 27 07.0	0.0
MQZ				SG	Sg	02 27 09.6	+0.4
MQZ				AML	AML	02 27 09.8	
MQZ				AML	AML	02 27 09.8	
OXZ	**Oxford**	**0.56 294**		P*	Pg	02 27 14.3	-0.3
LTZ	**Lake Taylor**	**0.85 336**		P*	Pb	02 27 20.8	-0.1
LTZ				S*	Sg	02 27 31.8	+0.7
LTZ				AML	AML	02 27 32.7	
RPZ	**Rata Peaks**	**1.23 262**	*e*P*	Pg		02 27 26.5	-0.9
RPZ				AML	AML	02 27 45.4	
RPZ				AML	AML	02 27 46.0	
INZ	**Inchbonnie**	**1.26 311**	*e*P*	Pn		02 27 26.9	-0.9
KHZ	**Kahutara**	**1.28 27**	S*	Sb		02 27 44.8	-0.2

WEL 13 02:27:45.8±0.1, 43°57S×172°76E, h5km, ML4.4/6, 1C, Error ellipse: s-maj=1.2km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.10 267**		PG	Pg	02 27 47.9	0.0
CRLZ				AML	AML	02 27 48.2	
CRLZ				AML	AML	02 27 48.3	
CRLZ				SG	Sg	02 27 49.9	+0.5
CRLZ				AML	AML	02 27 50.0	
MQZ	**McQueen's Vall**	**0.16 210**		⇑PG	Pg	02 27 48.8	-0.2
MQZ				SG	Sg	02 27 51.3	+0.2
MQZ				AML	AML	02 27 51.4	
MQZ				AML	AML	02 27 51.4	
OXZ	**Oxford**	**0.58 295**		P*	Pg	02 27 56.8	-0.2
OXZ				SG	Sg	02 28 04.7	+0.2
LTZ	**Lake Taylor**	**0.87 335**		P*	Pg	02 28 02.1	-0.3
LTZ				S*	Sg	02 28 13.5	-0.2
LTZ				AML	AML	02 28 15.0	
RPZ	**Rata Peaks**	**1.25 263**		P*	Pg	02 28 08.2	-1.5
RPZ				AML	AML	02 28 27.7	
RPZ				AML	AML	02 28 28.0	
INZ	**Inchbonnie**	**1.28 311**	*e*P*	Pn		02 28 08.9	-1.5
KHZ	**Kahutara**	**1.29 27**	P*	Pn		02 28 07.8	-2.6
LBZ	**Lake Benmore**	**2.03 245**	AML	AML		02 28 51.4	
LBZ			AML	AML		02 28 51.6	
FOZ	**Fox Glacier**	**2.14 270**	AML	AML		02 28 49.3	
FOZ			AML	AML		02 28 55.0	

WEL 13 02:28:20.1±0.4, 43°56S×172°77E, h9km±2km, ML3.1/2, Error ellipse: s-maj=2.8km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.11 264**		AML	AML	02 28 22.2	
CRLZ				PG	Pg	02 28 22.6	-0.1
CRLZ				SG	Sg	02 28 24.4	-0.2
CRLZ				AML	AML	02 28 24.4	
CRLZ				AML	AML	02 28 24.4	
MQZ	**McQueen's Vall**	**0.17 211**		PG	Pg	02 28 24.0	+0.3
MQZ				SG	Sg	02 28 26.6	+0.5
MQZ				AML	AML	02 28 26.7	

WEL 13 02:29:51.5±0.1, 43°54S×172°75E, h8km, ML4.1/4, 2C, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.10 251**		⇑PG	Pg	02 29 53.9	+0.1
CRLZ				SG	Sg	02 29 55.6	+0.1
CRLZ				AML	AML	02 29 55.7	
CRLZ				AML	AML	02 29 55.7	
CRLZ				AML	AML	02 29 55.7	
MQZ	**McQueen's Vall**	**0.18 203**		⇑PG	Pg	02 29 55.5	+0.3
MQZ				SG	Sg	02 29 58.2	+0.5
MQZ				AML	AML	02 29 58.3	
MQZ				AML	AML	02 29 58.3	
OXZ	**Oxford**	**0.56 292**		P*	Pg	02 30 02.1	-0.2
LTZ	**Lake Taylor**	**0.84 335**		P*	Pg	02 30 07.9	+0.2
LTZ				S*	Sb	02 30 19.3	-0.4
LTZ				AML	AML	02 30 20.3	
RPZ	**Rata Peaks**	**1.24 262**		P*	Pn	02 30 13.6	-1.6
RPZ				AML	AML	02 30 32.5	
RPZ				AML	AML	02 30 32.9	
INZ	**Inchbonnie**	**1.26 310**		P*	Pn	02 30 14.3	-1.1
KHZ	**Kahutara**	**1.27 27**		P*	Pn	02 30 14.1	-1.4

WEL 13 02:30:00.7±0.2, 43°58S×172°79E, h4km, ML4.2/4, Error ellipse: s-maj=1.3km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.12 272**		PG	Pg	02 30 03.1	-0.1
CRLZ				SG	Sg	02 30 04.6	-0.2
CRLZ				SG		02 30 05.0	
CRLZ				AML	AML	02 30 05.1	
CRLZ				AML	AML	02 30 05.5	
MQZ	**McQueen's Vall**	**0.16 218**		PG	Pg	02 30 04.1	+0.1
MQZ				SG	Sg	02 30 06.3	+0.3
MQZ				AML	AML	02 30 06.5	
LTZ	**Lake Taylor**	**0.88 334**		P*	Pg	02 30 17.9	+0.2
LTZ				S*	Sg	02 30 29.8	+0.7
LTZ				AML	AML	02 30 30.7	
RPZ	**Rata Peaks**	**1.27 263**		AML	AML	02 30 43.8	
RPZ				AML	AML	02 30 47.2	
INZ	**Inchbonnie**	**1.30 310**		P*	Pn	02 30 25.0	-0.7

WEL 13 02:30:07.2±0.2, 43°57S×172°78E, h8km, ML3.9/3, Error ellipse: s-maj=1.3km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.11 265**		AML	AML	02 30 11.6	
CRLZ				AML	AML	02 30 11.7	
CRLZ				AML	AML	02 30 11.9	
CRLZ				AML	AML	02 30 11.9	
CRLZ				AML	AML	02 30 12.2	
MQZ	**McQueen's Vall**	**0.17 212**		SG	Sg	02 30 13.2	+0.3
MQZ				AML	AML	02 30 13.3	
MQZ				AML	AML	02 30 13.3	
LTZ	**Lake Taylor**	**0.87 335**		AML	AML	02 30 38.1	
LTZ				S*	Sn	02 30 38.2	-0.4

WEL 13 02:31:01.9±0.1, 43°61S×172°79E, h6km, ML3.5/3, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.12 285**		PG	Pg	02 31 04.5	0.0
CRLZ				SG	Sg	02 31 06.5	+0.4
CRLZ				AML	AML	02 31 06.5	
CRLZ				AML	AML	02 31 06.6	
CRLZ				AML	AML	02 31 06.9	
MQZ	**McQueen's Vall**	**0.14 224**		PG	Pg	02 31 05.0	+0.2
MQZ				SG	Sg	02 31 07.2	+0.5
MQZ				AML	AML	02 31 07.3	
OXZ	**Oxford**	**0.61 297**		P*	Pg	02 31 13.7	0.0
LTZ	**Lake Taylor**	**0.91 335**		P*	Pg	02 31 19.3	0.0
LTZ				S*	Sb	02 31 31.8	-0.6
LTZ				AML	AML	02 31 32.5	

WEL 13 02:31:19.7±0.3, 43°62S×172°85E, h5km±1km, ML3.8/3, Error ellipse: s-maj=2.4km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.17 284**		PG	Pg	02 31 22.9	-0.1
CRLZ				SG	Sg	02 31 24.9	-0.4
CRLZ				SG		02 31 25.0	
CRLZ				AML	AML	02 31 25.0	
CRLZ				AML	AML	02 31 25.1	
MQZ	**McQueen's Vall**	**0.17 237**		PG	Pg	02 31 23.0	0.0
MQZ				SG	Sg	02 31 25.4	+0.1
LTZ	**Lake Taylor**	**0.93 333**		P*	Pg	02 31 37.7	+0.1
LTZ				S*	Sg	02 31 49.2	-0.5
LTZ				AML	AML	02 31 50.2	

WEL 13 02:31:29.9±0.1, 43°59S×172°76E, h7km, ML4.0/9, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.10 280**		PG	Pg	02 31 32.0	-0.2
CRLZ				SG	Sg	02 31 33.7	-0.1
CRLZ				SG		02 31 33.9	
CRLZ				AML	AML	02 31 34.1	
CRLZ				AML	AML	02 31 34.3	
MQZ	**McQueen's Vall**	**0.14 215**		PG	Pg	02 31 32.9	+0.1
MQZ				SG	Sg	02 31 35.0	+0.2
MQZ				AML	AML	02 31 35.2	
LTZ	**Lake Taylor**	**0.89 336**		P*	Pg	02 31 47.0	+0.1
LTZ				S*	Sg	02 31 58.7	+0.3
LTZ				AML	AML	02 31 59.8	
RPZ	**Rata Peaks**	**1.25 264**		AML	AML	02 32 10.8	
RPZ				AML	AML	02 32 11.3	
WVZ	**Waitaha Valley**	**1.57 289**		AML	AML	02 32 21.3	
WVZ				AML	AML	02 32 21.8	
THZ	**Tophouse**	**1.83 3**		AML	AML	02 32 33.0	
THZ				AML	AML	02 32 34.0	
DSZ	**Denniston Nort**	**1.98 339**		SN	Sn	02 32 27.6	-1.3
DSZ				AML	AML	02 32 31.6	
LBZ	**Lake Benmore**	**2.02 246**		AML	AML	02 32 35.4	
LBZ				AML	AML	02 32 37.0	
ODZ	**Otahua Downs**	**2.10 226**		AML	AML	02 32 38.0	
ODZ				AML	AML	02 32 40.4	

WEL 13 02:31:56.2±0.2, 43°58S×172°85E, h5km, ML3.9/9, Error ellipse: s-maj=1.6km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.17 273**		PG	Pg	02 31 59.6	0.0
CRLZ				SG	Sg	02 32 01.9	+0.1
CRLZ				AML	AML	02 32 01.9	
CRLZ				AML	AML	02 32 02.0	
CRLZ				AML	AML	02 32 02.0	
MQZ	**McQueen's Vall**	**0.19 230**		PG	Pg	02 32 00.2	+0.3
MQZ				SG	Sg	02 32 03.0	+0.5
MQZ				AML	AML	02 32 03.0	
OXZ	**Oxford**	**0.65 293**		P*	Pg	02 32 08.7	0.0
LTZ	**Lake Taylor**	**0.91 332**		P*	Pg	02 32 13.7	+0.1
LTZ				S*	Sb	02 32 26.2	-0.7
LTZ				AML	AML	02 32 26.7	
RPZ	**Rata Peaks**	**1.31 264**		AML	AML	02 32 38.9	
RPZ				AML	AML	02 32 40.0	
WVZ	**Waitaha Valley**	**1.63 288**		AML	AML	02 32 52.9	
WVZ				AML	AML	02 32 53.0	
THZ	**Tophouse**	**1.82 1**		AML	AML	02 32 52.0	
THZ				AML	AML	02 32 53.2	
DSZ	**Denniston Nort**	**1.99 337**		SN	Sn	02 32 54.9	-1.0
DSZ				AML	AML	02 32 58.6	
LBZ	**Lake Benmore**	**2.09 247**		AML	AML	02 33 06.7	
LBZ				AML	AML	02 33 07.5	
ODZ	**Otahua Downs**	**2.15 227**		SN	Sg	02 33 04.8	-0.6
ODZ				AML	AML	02 33 08.5	

IDC 13 02:32:54.2±20.0, 21°17S×178°00W, h585km±177km, mb3.3/3, mb1 3.6/3, mb1mx3.0/36, mbtmp4.3/3, Error ellipse: s-maj=303.4km s-min=60.0km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.37 257**		P	P	02 40 14.4	+0.3
	3.8nm,0.5s,baz=94,slow=7.6,SNR=64						
WRA	**Warramunga Arr**	**44.51 263**		P	P	02 40 14.6	-0.6
	2.7nm,0.4s,baz=97,slow=7.7,SNR=84						
ILAR	**Eielson Array**	**88.96 13**		P	P	02 44 46.8	-0.1
	0.3nm,0.5s,baz=219,slow=5.1,SNR=5.0						
AKASG	**Malin Array Be**	**143.60 331**		PKP	PKPab	02 51 20.9	-1.0
	1.9nm,0.4s,baz=44,slow=4.0,SNR=15						
BRTR	**Keskin Array B**	**147.29 312**		PKPbc	PKPbc	02 51 33.1	-0.1
	0.2nm,0.5s,baz=140,slow=4.7,SNR=5.1						
GERES	**GERESS Array B**	**150.84 344**		PKPbc	PKPbc	02 51 41.2	-0.3
	0.3nm,0.4s,baz=357,slow=3.9,SNR=3.7						
DAVOX	**Davos/Dischmat**	**153.66 348**		PKPbc	PKPbc	02 51 48.3	+0.5
	0.8nm,0.4s,baz=20,slow=6.9,SNR=4.3						

WEL 13 02:35:23.8±0.1, 43°57S×172°76E, h7km, ML3.6/11, 1C, Error ellipse: s-maj=1.2km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.10 266**		⇑PG	Pg	02 35 26.1	0.0
CRLZ				SG	Sg	02 35 27.6	0.0
CRLZ				AML	AML	02 35 27.8	
MQZ	**McQueen's Vall**	**0.16 209**		PG	Pg	02 35 27.2	+0.1
MQZ				SG	Sg	02 35 29.8	+0.5
MQZ				SG		02 35 29.9	
MQZ				AML	AML	02 35 30.0	
OXZ	**Oxford**	**0.58 295**		P*	Pg	02 35 34.9	0.0
LTZ	**Lake Taylor**	**0.86 335**		P*	Pg	02 35 40.7	+0.3
LTZ				S*	Sb	02 35 52.8	-0.2
LTZ				AML	AML	02 35 53.5	
RPZ	**Rata Peaks**	**1.25 263**	*e*P*	Pb		02 35 47.0	-0.7
RPZ				S*	Sg	02 36 03.0	-0.9
RPZ				AML	AML	02 36 06.6	
INZ	**Inchbonnie**	**1.28 311**	*e*P*	Pn		02 35 47.8	-0.3
KHZ	**Kahutara**	**1.29 27**	P*	Pn		02 35 46.8	-1.4
WVZ	**Waitaha Valley**	**1.56 288**		AML	AML	02 36 13.6	
WVZ				AML	AML	02 36 15.7	
THZ	**Tophouse**	**1.81 3**		AML	AML	02 36 19.9	
THZ				AML	AML	02 36 21.5	
DSZ	**Denniston Nort**	**1.95 339**		AML	AML	02 36 23.6	
DSZ				AML	AML	02 36 25.5	
LBZ	**Lake Benmore**	**2.03 245**		AML	AML	02 36 31.0	
ODZ	**Otahua Downs**	**2.12 225**	*e*PN	Pn		02 35 58.5	-1.2
ODZ				AML	AML	02 36 32.8	
ODZ				AML	AML	02 36 34.6	
FOZ	**Fox Glacier**	**2.14 270**	*e*PN	Pn		02 36 00.1	+0.2
FOZ				AML	AML	02 36 26.9	
FOZ				AML	AML	02 36 27.2	
NNZ	**Nelson**	**2.40 11**	AML	AML		02 36 35.6	

WEL 13 02:37:30.1±0.1, 43°58S×172°77E, h8km, ML3.5/10, 1C, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.11 272**		PG	Pg	02 37 32.5	0.0
CRLZ				AML	AML	02 37 34.5	
CRLZ				AML	AML	02 37 34.6	
MQZ	**McQueen's Vall**	**0.15 214**		⇑PG	Pg	02 37 33.4	+0.1
MQZ				SG	Sg	02 37 35.8	+0.3
MQZ				SG		02 37 35.8	
MQZ				AML	AML	02 37 35.9	
OXZ	**Oxford**	**0.59 295**		P*	Pg	02 37 41.4	-0.1
OXZ				S*	Sg	02 37 49.6	+0.4
LTZ	**Lake Taylor**	**0.88 335**		P*	Pg	02 37 47.0	0.0
LTZ				S*	Sb	02 37 59.0	-0.5
LTZ				AML	AML	02 37 59.7	
RPZ	**Rata Peaks**	**1.25 263**	*e*P*	Pn		02 37 51.5	-2.4
RPZ				AML	AML	02 38 11.2	
RPZ				AML	AML	02 38 12.2	
KHZ	**Kahutara**	**1.29 26**	P*	Pn		02 37 52.3	-2.1
INZ	**Inchbonnie**	**1.29 311**	P*	Pn		02 37 53.9	-0.6
WVZ	**Waitaha Valley**	**1.57 288**	*e*PN	Pn		02 37 58.2	-0.1
WVZ				AML	AML	02 38 23.3	
WVZ				AML	AML	02 38 25.2	
THZ	**Tophouse**	**1.82 3**		AML	AML	02 38 31.8	
THZ				AML	AML	02 38 32.3	
DSZ	**Denniston Nort**	**1.97 338**	*e*PN	Pn		02 38 02.9	-0.9
DSZ				AML	AML	02 38 30.4	
DSZ				AML	AML	02 38 30.5	
LBZ	**Lake Benmore**	**2.03 246**		AML	AML	02 38 35.6	
LBZ				AML	AML	02 38 36.8	
ODZ	**Otahua Downs**	**2.12 225**		AML	AML	02 38 38.6	
ODZ				AML	AML	02 38 38.9	
FOZ	**Fox Glacier**	**2.15 270**		AML	AML	02 38 32.9	
FOZ				AML	AML	02 38 33.6	

WEL 13 02:39:42.2±0.2, 43°58S×172°79E, h7km, ML3.5/3, 2C, Error ellipse: s-maj=1.8km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.12 273**		⇑PG	Pg	02 39 44.7	-0.1
CRLZ				AML	AML	02 39 46.5	
CRLZ				AML	AML	02 39 46.6	
MQZ	**McQueen's Vall**	**0.16 218**		⇑PG	Pg	02 39 45.6	+0.1
MQZ				SG	Sg	02 39 48.0	+0.3
MQZ				AML	AML	02 39 48.1	
OXZ	**Oxford**	**0.60 295**		P*	Pg	02 39 53.6	-0.2
OXZ				SG	Sg	02 40 01.8	+0.2
LTZ	**Lake Taylor**	**0.88 334**		P*	Pg	02 39 59.2	+0.1
LTZ				S*	Sg	02 40 11.0	+0.4
LTZ				AML	AML	02 40 11.9	
RPZ	**Rata Peaks**	**1.27 263**		P*	Pn	02 40 04.9	-1.5
INZ	**Inchbonnie**	**1.30 311**		P*	Pn	02 40 05.9	-0.9

WEL 13 02:39:50.5±0.2, 43°58S×172°77E, h7km, ML3.4/4, 1C, Error ellipse: s-maj=1.5km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.11 274**		⇑PG	Pg	02 39 52.8	0.0
CRLZ				AML	AML	02 39 54.6	
CRLZ				AML	AML	02 39 54.7	
MQZ	**McQueen's Vall**	**0.15 215**		PG	Pg	02 39 53.8	+0.2
MQZ				SG	Sg	02 39 56.3	+0.6
MQZ				AML	AML	02 39 56.4	
OXZ	**Oxford**	**0.59 295**		P*	Pb	02 40 03.0	-0.1
LTZ	**Lake Taylor**	**0.88 335**		S*	Sb	02 40 19.6	-0.4
LTZ				AML	AML	02 40 20.2	
RPZ	**Rata Peaks**	**1.25 263**		AML	AML	02 40 32.1	
RPZ				AML	AML	02 40 33.6	
INZ	**Inchbonnie**	**1.30 311**		P*	Pn	02 40 15.0	+0.1

*ISCJB **13** 02:40:27.7±0.6, 43°61S±0°03×172°95E±0°04, h9km±4km, mb4.4/4, Error ellipse: s-maj=5.6km s-min=2.8km az=138.6*
*IDC **13** 02:40:29.6±1.2, 43°34S×172°68E, h0km, mb4.3/2, mb1 4.5/3, mb1mx4.0/26, mbtmp4.3/3, ML4.1/1, Error ellipse: s-maj=43.3km s-min=14.1km az=157.0*
*WEL **13** 02:40:30.7±0.1, 43°53S×172°76E, h4km, ML4.7/57, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0*
WEL Felt from Auckland to Southland, maximum reported intensity MM 7.
*NEIC **13** 02:40:30.8, 43°56S×172°81E, h12km, mb4.8/3, ML4.9(WEL), After WEL.*
NEIC Felt at Christchurch and Cust.

ISC 13 02:40:28.6±1.2, 43°50S±0°03×172°89E±0°04, h1km±8km, n181, σ1s31/184, mb4.4/4, 2C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.20 248**		⇓PG	**Pg**	**02 40 32.9**	**+0.3**
CRLZ				AML	AML	02 40 35.0	
CRLZ				AML	AML	02 40 35.0	
MQZ	**McQueen's Vall**	**0.27 219**		⇑PG	**Pg**	**02 40 34.3**	**+0.6**
MQZ				SG	**Sg**	**02 40 37.4**	**+0.2**
MQZ				AML	AML	02 40 37.7	
MQZ				AML	AML	02 40 37.7	
MQZ	**McQueen's Vall**	**0.27 219**	*e*Pg		**Pg**	**02 40 34.4**	**+0.6**
MQZ			*e*Sg		**Sg**	**02 40 37.1**	**-0.1**
OXZ	**Oxford**	**0.64 285**	PG		**Pg**	**02 40 41.2**	**+0.3**
OXZ	**Oxford**	**0.64 285**	*e*Pg		**Pg**	**02 40 41.3**	**+0.5**
LTZ	**Lake Taylor**	**0.85 328**	P*		**Pb**	**02 40 46.7**	**+0.7**
LTZ			S*		**Sb**	**02 40 58.6**	**+0.8**
LTZ			AML	AML		02 40 60.0	
LTZ	**Lake Taylor**	**0.85 328**	*e*Pg		**Pn**	**02 40 47.1**	**-0.5**
LTZ			*e*Sg		**Sb**	**02 40 58.5**	**+0.6**
KHZ	**Kahutara**	**1.18 24**	P*		**Pn**	**02 40 52.5**	**+0.4**
KHZ			S*		**Sn**	**02 41 09.8**	**+1.0**
KHZ	**Kahutara**	**1.18 24**	*e*Pn		**Pn**	**02 40 52.5**	**+0.4**
KHZ			*e*S		**Sg**	**02 41 07.0**	**+0.5**
INZ	**Inchbonnie**	**1.31 306**	P*		**Pg**	**02 40 53.0**	**-0.6**
INZ			S*		**Sg**	**02 41 10.6**	**0.0**
RPZ	**Rata Peaks**	**1.35 260**	Pg		**Pg**	**02 40 53.1**	**-1.2**
	616nm,0.3s,baz=142,slow=3.0,SNR=84						
RPZ			Lg	Lg		02 41 09.5	
	939nm,0.3s,baz=50,slow=20,SNR=27						
RPZ	**Rata Peaks**	**1.35 260**	P*		**Pg**	**02 40 52.9**	**-1.5**
RPZ			AML	AML		02 41 18.5	
RPZ			AML	AML		02 41 21.2	
RPZ	**Rata Peaks**	**1.35 260**	*e*Pn		**Pg**	**02 40 53.2**	**-1.2**
RPZ			Lg	Lg		02 41 09.5	
RPZ			*e*S		**Sn**	**02 41 12.7**	**-0.3**

WVZ	**Waitaha Valley**	**1.62**	**284**	PN	**Pn**	**02 40 57.4**	**-0.9**
WVZ				AML	AML	02 41 25.7	
WVZ				AML	AML	02 41 26.1	
WVZ	**Waitaha Valley**	**1.62**	**284**	Pn	**Pn**	**02 40 58.4**	**+0.1**
THZ	**Tophouse**	**1.73**	**1**	⇓PN	**Pn**	**02 41 00.4**	**+0.5**
THZ				AML	AML	02 41 36.4	
THZ				AML	AML	02 41 43.6	
THZ	**Tophouse**	**1.73**	**1**	*e*Pn	**Pn**	**02 41 00.5**	**+0.7**
DSZ	**Denniston Nort**	**1.93**	**335**	PN	**Pn**	**02 41 02.8**	**+0.4**
DSZ				AML	AML	02 41 33.5	
DSZ				AML	AML	02 41 33.6	
DSZ				AML	AML	02 41 37.6	
DSZ				AML	AML	02 41 37.6	
DSZ	**Denniston Nort**	**1.93**	**335**	Pn	**Pn**	**02 41 03.2**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.93**	**23**	PN	**Pn**	**02 41 03.5**	**+1.1**
BSWZ				AML	AML	02 41 55.8	
BSWZ				AML	AML	02 41 56.1	
BSWZ	**Blackbirch Sta**	**1.93**	**23**	Pn	**Pn**	**02 41 03.5**	**+1.1**
CMWZ	**Cape Campbell**	**2.00**	**30**	AML	AML	02 42 00.9	
CMWZ				AML	AML	02 42 02.7	
LBZ	**Lake Benmore**	**2.14**	**245**	PN	**Pn**	**02 41 04.6**	**-0.9**
LBZ				AML	AML	02 41 43.0	
LBZ				AML	AML	02 41 43.0	
LBZ				AML	AML	02 41 43.2	
LBZ				AML	AML	02 41 43.2	
LBZ	**Lake Benmore**	**2.14**	**245**	*e*Pn	**Pn**	**02 41 05.4**	**0.0**
TUWZ	**Tuamarina**	**2.21**	**21**	PN	**Pn**	**02 41 06.9**	**+0.6**
TUWZ				AML	AML	02 41 19.6	
TUWZ				AML	AML	02 42 00.2	
TUWZ	**Tuamarina**	**2.21**	**21**	Pn	**Pn**	**02 41 07.1**	**+0.8**
ODZ	**Otahua Downs**	**2.23**	**225**	AML	AML	02 41 39.1	
ODZ				AML	AML	02 41 39.1	
ODZ				AML	AML	02 41 39.1	
ODZ				AML	AML	02 41 49.6	
ODZ	**Otahua Downs**	**2.23**	**225**	*e*Pn	**Pn**	**02 41 06.9**	**+0.3**
ODZ				*e*Pg	**Pg**	**02 41 11.0**	**-0.3**
ODZ				*e*S	**Sb**	**02 41 38.2**	**+0.5**
FOZ	**Fox Glacier**	**2.23**	**268**	PN	**Pn**	**02 41 05.8**	**-0.8**
FOZ				AML	AML	02 41 50.2	
FOZ				AML	AML	02 41 50.2	
FOZ				AML	AML	02 41 51.3	
FOZ				AML	AML	02 41 51.3	
FOZ	**Fox Glacier**	**2.23**	**268**	*e*Pn	**Pn**	**02 41 06.7**	**+0.1**
NNZ	**Nelson**	**2.31**	**9**	PN	**Pn**	**02 41 08.8**	**+1.2**
NNZ				AML	AML	02 41 54.7	
NNZ				AML	AML	02 41 54.8	
NNZ				AML	AML	02 42 01.3	
NNZ				AML	AML	02 42 01.3	
NNZ	**Nelson**	**2.31**	**9**	Pn	**Pn**	**02 41 08.9**	**+1.3**
TCW	**Tory Channel**	**2.51**	**25**	AML	AML	02 41 28.1	
TCW				AML	AML	02 44.6	
TCW	**Tory Channel**	**2.51**	**25**	Pn	**Pn**	**02 41 11.4**	**+1.0**
BHW	**Baring Head**	**2.55**	**36**	PN	**Pn**	**02 41 10.7**	**-0.4**
BHW				AML	AML	02 41 42.8	
BHW				AML	AML	02 42 07.3	
BHW	**Baring Head**	**2.55**	**36**	Pn	**Pn**	**02 41 11.4**	**+0.3**
SNZO	**South Karori**	**2.57**	**32**	*e*Pn	**Pn**	**02 41 11.7**	**+0.5**
SNZO				*e*S	**Sn**	**02 41 39.6**	**-3.4**
PLWZ	**Palliser**	**2.60**	**43**	PN	**Pn**	**02 41 12.1**	**+0.3**
PLWZ	**Palliser**	**2.60**	**43**	Pn	**Pn**	**02 41 12.1**	**+0.3**
WEL	**Wellington**	**2.62**	**33**	PN	**Pn**	**02 41 12.2**	**+0.3**
WEL				AML	AML	02 41 44.8	
WEL				AML	AML	02 41 45.0	
WEL	**Wellington**	**2.62**	**33**	Pn	**Pn**	**02 41 12.2**	**+0.3**
QRZ	**Quartz Range**	**2.68**	**354**	*e*Pn	**Pn**	**02 41 14.1**	**+1.2**
QRZ				AML	AML	02 41 25.3	
QRZ				AML	AML	02 41 25.3	
QRZ				AML	AML	02 42 01.4	
QRZ				AML	AML	02 42 01.4	
QRZ	**Quartz Range**	**2.68**	**354**	Pn	**Pn**	**02 41 13.7**	**+0.8**
MSWZ	**Moikau Station**	**2.72**	**41**	PN	**Pn**	**02 41 13.8**	**+0.4**
MSWZ				AML	AML	02 41 46.5	
MSWZ				AML	AML	02 41 48.5	
MSWZ	**Moikau Station**	**2.72**	**41**	Pn	**Pn**	**02 41 13.8**	**+0.4**
DUWZ	**D'Urville Isla**	**2.80**	**16**	*e*PN	**Pn**	**02 41 15.1**	**+0.6**
DUWZ	**D'Urville Isla**	**2.80**	**16**	Pn	**Pn**	**02 41 15.9**	**+1.4**
PAWZ	**Paruwai Farm**	**2.83**	**43**	AML	AML	02 41 49.1	
PAWZ				AML	AML	02 42 40.7	
CAW	**Cannon Point**	**2.89**	**35**	*e*PN	**Pn**	**02 41 15.3**	**-0.3**
CAW				AML	AML	02 41 50.7	
CAW				AML	AML	02 41 51.1	
CAW	**Cannon Point**	**2.89**	**35**	Pn	**Pn**	**02 41 16.0**	**+0.4**
HHSZ	**Highcliff Hill**	**2.89**	**214**	PN	**Pn**	**02 41 14.1**	**-1.6**
HHSZ	**Highcliff Hill**	**2.89**	**214**	Pn	**Pn**	**02 41 14.3**	**-1.4**
TRWZ	**Traveller**	**2.95**	**46**	PN	**Pn**	**02 41 14.3**	**-0.2**
TRWZ				AML	AML	02 41 58.2	
TRWZ				AML	AML	02 42 46.2	
TRWZ	**Traveller**	**2.95**	**46**	Pn	**Pn**	**02 41 16.8**	**+0.3**
JCZ	**Jackson Bay**	**3.02**	**258**	PN	**Pn**	**02 41 16.3**	**-1.3**
JCZ				AML	AML	02 42 10.6	
JCZ				AML	AML	02 42 12.9	
JCZ	**Jackson Bay**	**3.02**	**258**	Pn	**Pn**	**02 41 16.9**	**-0.7**
KIW	**Kapiti Island**	**3.04**	**30**	PN	**Pn**	**02 41 18.2**	**+0.5**
KIW				AML	AML	02 41 55.3	
KIW				AML	AML	02 42 45.4	
KIW	**Kapiti Island**	**3.04**	**30**	Pn	**Pn**	**02 41 18.2**	**+0.5**
MTW	**Mount Morrison**	**3.04**	**41**	⇓PN	**Pn**	**02 41 17.7**	**0.0**
MTW				AML	AML	02 41 53.7	
MTW				AML	AML	02 41 54.6	
MTW	**Mount Morrison**	**3.04**	**41**	Pn	**Pn**	**02 41 17.7**	**0.0**
WKZ	**Wanaka**	**3.08**	**243**	*e*PN	**Pn**	**02 41 16.8**	**-1.6**
WKZ				AML	AML	02 42 12.4	
WKZ				AML	AML	02 42 12.4	
WKZ				AML	AML	02 42 14.3	
WKZ				AML	AML	02 42 15.3	
WKZ	**Wanaka**	**3.08**	**243**	*e*Pn	**Pn**	**02 41 18.2**	**-0.2**
EAZ	**Earnscleugh**	**3.10**	**235**	PN	**Pn**	**02 41 17.3**	**-1.2**
EAZ				AML	AML	02 42 08.3	
EAZ				AML	AML	02 42 08.4	
EAZ				AML	AML	02 42 10.8	
EAZ				AML	AML	02 42 10.8	
EAZ	**Earnscleugh**	**3.10**	**235**	Pn	**Pn**	**02 41 17.3**	**-1.2**
OGWZ	**Otaki Gorge**	**3.17**	**33**	PN	**Pn**	**02 41 19.8**	**+0.2**
OGWZ	**Otaki Gorge**	**3.17**	**33**	Pn	**Pn**	**02 41 19.8**	**+0.2**
HOWZ	**Holdsworth Sta**	**3.25**	**38**	Pn	**Pn**	**02 41 20.9**	**+0.3**
TMWZ	**Te Maipa**	**3.27**	**44**	Pn	**Pn**	**02 41 20.7**	**-0.2**
TUZ	**Tuapeka**	**3.38**	**222**	⇑PN	**Pn**	**02 41 21.4**	**-0.9**
TUZ				AML	AML	02 42 23.2	
TUZ				AML	AML	02 42 23.2	
TUZ				AML	AML	02 42 26.0	
TUZ				AML	AML	02 42 26.0	
TUZ	**Tuapeka**	**3.38**	**222**	Pn	**Pn**	**02 41 21.4**	**-0.9**
MRZ	**Mangatainoka R**	**3.47**	**36**	PN	**Pn**	**02 41 23.4**	**-0.3**
MRZ	**Mangatainoka R**	**3.47**	**36**	Pn	**Pn**	**02 41 23.5**	**-0.3**
TIWZ	**Tintock**	**3.52**	**40**	AML	AML	02 42 08.1	
TIWZ				AML	AML	02 42 09.4	
PRWZ	**Pori Road**	**3.73**	**39**	*e*PN	**Pn**	**02 41 26.4**	**-0.8**
PRWZ	**Pori Road**	**3.73**	**39**	Pn	**Pn**	**02 41 26.9**	**-0.3**
MSZ	**Milford Sound**	**3.76**	**250**	AML	AML	02 42 30.0	
MSZ				AML	AML	02 42 31.3	
BFZ	**Birch Farm**	**3.77**	**43**	PN	**Pn**	**02 41 27.2**	**-0.5**
BFZ				AML	AML	02 42 12.9	
BFZ				AML	AML	02 42 13.0	
BFZ				AML	AML	02 42 13.9	
BFZ				AML	AML	02 42 13.9	
BFZ	**Birch Farm**	**3.77**	**43**	*e*Pn	**Pn**	**02 41 28.2**	**+0.5**
POWZ	**Post Office Ro**	**3.78**	**36**	Pn	**Pn**	**02 41 29.1**	**+1.2**
MLZ	**Mavora Lakes**	**3.89**	**240**	PN	**Pn**	**02 41 27.9**	**-1.6**
MLZ				AML	AML	02 42 43.2	
MLZ				AML	AML	02 42 48.6	
MLZ	**Mavora Lakes**	**3.89**	**240**	*e*Pn	**Pn**	**02 41 28.6**	**-0.9**
DVHZ	**Dannevirke**	**4.03**	**39**	PN	**Pn**	**02 41 31.1**	**-0.2**
DVHZ	**Dannevirke**	**4.03**	**39**	Pn	**Pn**	**02 41 31.1**	**-0.2**
SYZ	**Scrubby Hill**	**4.04**	**220**	AML	AML	02 42 44.5	
SYZ				AML	AML	02 42 44.5	
SYZ				AML	AML	02 42 47.5	
SYZ				AML	AML	02 42 47.5	
SYZ	**Scrubby Hill**	**4.04**	**220**	Pn	**Pn**	**02 41 30.9**	**-0.5**
ANWZ	**Angora Road**	**4.05**	**43**	PN	**Pn**	**02 41 31.5**	**0.0**
WAZ	**Wanganui**	**4.06**	**24**	PN	**Pn**	**02 41 33.8**	**+2.1**
WAZ				AML	AML	02 42 37.5	
WAZ				AML	AML	02 44 05.3	
WAZ	**Wanganui**	**4.06**	**24**	Pn	**Pn**	**02 41 33.9**	**+2.2**
TSZ	**Takapari Road**	**4.13**	**35**	PN	**Pn**	**02 41 32.4**	**-0.4**
TSZ				AML	AML	02 42 24.4	
TSZ				AML	AML	02 42 27.6	
TSZ	**Takapari Road**	**4.13**	**35**	Pn	**Pn**	**02 41 32.4**	**-0.4**
NMEZ	**Namu Road**	**4.15**	**11**	Pn	**Pn**	**02 41 35.7**	**+2.8**
WHZ	**Wether Hill Ro**	**4.26**	**234**	PN	**Pn**	**02 41 32.4**	**-2.1**
WHZ				AML	AML	02 42 50.0	
WHZ				AML	AML	02 42 50.4	
WHZ	**Wether Hill Ro**	**4.26**	**234**	*e*Pn	**Pn**	**02 41 32.4**	**-2.1**
WHZ				*e*Pg	**Pg**	**02 41 48.6**	**-1.5**
WHZ				*e*S	**Sb**	**02 42 40.4**	**+4.4**
PREZ	**Palmer Road**	**4.26**	**13**	PN	**Pn**	**02 41 37.0**	**+2.4**
PREZ	**Palmer Road**	**4.26**	**13**	Pn	**Pn**	**02 41 37.3**	**+2.7**
PRHZ	**Porangahau**	**4.27**	**42**	Pn	**Pn**	**02 41 35.3**	**+0.6**
KHEZ	**Kahui Hut**	**4.29**	**12**	PN	**Pn**	**02 41 37.1**	**+2.2**
KHEZ	**Kahui Hut**	**4.29**	**12**	Pn	**Pn**	**02 41 37.3**	**+2.3**
NEZ	**North Egmont**	**4.32**	**13**	PN	**Pn**	**02 41 37.6**	**+2.1**
NEZ	**North Egmont**	**4.32**	**13**	Pn	**Pn**	**02 41 37.8**	**+2.3**
PNHZ	**Pukenui**	**4.36**	**36**	PN	**Pn**	**02 41 34.9**	**-0.9**
PNHZ	**Pukenui**	**4.36**	**36**	Pn	**Pn**	**02 41 35.0**	**-0.8**
DREZ	**Durham Road**	**4.42**	**13**	PN	**Pn**	**02 41 38.8**	**+2.1**
DREZ	**Durham Road**	**4.42**	**13**	Pn	**Pn**	**02 41 39.1**	**+2.4**
MTVZ	**Mangateitei**	**4.55**	**26**	AML	AML	02 42 37.3	
MTVZ				AML	AML	02 42 39.9	
MTVZ	**Mangateitei**	**4.55**	**26**	Pn	**Pn**	**02 41 41.1**	**+2.6**
DCZ	**Deep Cove**	**4.55**	**242**	AML	AML	02 43 02.3	
DCZ				AML	AML	02 43 04.0	
DCZ	**Deep Cove**	**4.55**	**242**	*e*Pn	**Pn**	**02 41 37.9**	**-0.5**
PXZ	**Pawanui**	**4.57**	**42**	AML	AML	02 42 33.4	
PXZ				AML	AML	02 44 11.2	
PXZ	**Pawanui**	**4.57**	**42**	Pn	**Pn**	**02 41 39.1**	**+0.4**
VRZ	**Vera Road**	**4.59**	**19**	PN	**Pn**	**02 41 40.9**	**+1.9**
VRZ				AML	AML	02 42 43.0	
VRZ				AML	AML	02 42 45.3	
VRZ	**Vera Road**	**4.59**	**19**	Pn	**Pn**	**02 41 41.0**	**+1.9**
PKVZ	**Pokaka**	**4.59**	**25**	PN	**Pn**	**02 41 40.1**	**+0.9**
PKVZ				AML	AML	02 43 13.4	
PKVZ				AML	AML	02 43 33.5	
PKVZ	**Pokaka**	**4.59**	**25**	Pn	**Pn**	**02 41 40.3**	**+1.1**
MOVZ	**Moawhango**	**4.62**	**29**	AML	AML	02 42 37.3	
MOVZ				AML	AML	02 42 41.8	
MOVZ	**Moawhango**	**4.62**	**29**	Pn	**Pn**	**02 41 40.6**	**+1.0**
WNVZ	**Wahianoa**	**4.64**	**27**	PN	**Pn**	**02 41 40.4**	**+0.5**
WNVZ	**Wahianoa**	**4.64**	**27**	Pn	**Pn**	**02 41 41.2**	**+1.3**
TRVZ	**Turoa**	**4.65**	**26**	AML	AML	02 42 36.3	
TRVZ				AML	AML	02 43 13.9	
TRVZ	**Turoa**	**4.65**	**26**	Pn	**Pn**	**02 41 42.3**	**+2.2**
BHHZ	**Black Hill Sta**	**4.66**	**32**	*e*PN	**Pn**	**02 41 40.1**	**0.0**
BHHZ	**Black Hill Sta**	**4.66**	**32**	Pn	**Pn**	**02 41 40.7**	**+0.6**
WHVZ	**Whangaehu Hut**	**4.68**	**27**	PN	**Pn**	**02 41 40.8**	**+0.3**
WHVZ	**Whangaehu Hut**	**4.68**	**27**	Pn	**Pn**	**02 41 41.2**	**+0.7**
FWVZ	**Far West T-bar**	**4.69**	**26**	PN	**Pn**	**02 41 41.3**	**+0.6**
FWVZ				AML	AML	02 43 16.0	
FWVZ				AML	AML	02 43 46.5	
FWVZ	**Far West T-bar**	**4.69**	**26**	Pn	**Pn**	**02 41 42.4**	**+1.7**
TUVZ	**Tukino**	**4.71**	**27**	PN	**Pn**	**02 41 41.6**	**+0.8**
TUVZ				AML	AML	02 42 39.7	
TUVZ				AML	AML	02 42 45.5	
TUVZ	**Tukino**	**4.71**	**27**	Pn	**Pn**	**02 41 41.9**	**+1.1**
KAHZ	**Kahuranaki**	**4.76**	**40**	PN	**Pn**	**02 41 41.5**	**+0.1**
KAHZ	**Kahuranaki**	**4.76**	**40**	Pn	**Pn**	**02 41 41.8**	**+0.4**
NGZ	**Ngauruhoe**	**4.78**	**26**	PN	**Pn**	**02 41 42.4**	**+0.6**
NGZ				AML	AML	02 43 28.3	
NGZ				AML	AML	02 43 36.5	
NGZ	**Ngauruhoe**	**4.78**	**26**	Pn	**Pn**	**02 41 43.4**	**+1.6**
APZ	**The Paps**	**4.80**	**224**	PN	**Pn**	**02 41 40.8**	**-1.2**
APZ				AML	AML	02 43 05.0	
APZ				AML	AML	02 43 09.7	
APZ	**The Paps**	**4.80**	**224**	Pn	**Pn**	**02 41 40.8**	**-1.2**
OTVZ	**Oturere**	**4.81**	**27**	PN	**Pn**	**02 41 43.4**	**+1.1**
OTVZ				AML	AML	02 43 23.3	
OTVZ				AML	AML	02 43 27.4	
OTVZ	**Oturere**	**4.81**	**27**	Pn	**Pn**	**02 41 43.7**	**+1.4**
TWVZ	**Taurewa**	**4.82**	**24**	*e*PN	**Pn**	**02 41 42.7**	**+0.4**
TWVZ				AML	AML	02 43 07.2	
TWVZ				AML	AML	02 43 13.1	
TWVZ	**Taurewa**	**4.82**	**24**	Pn	**Pn**	**02 41 42.9**	**+0.6**
WTVZ	**West Tongariro**	**4.83**	**26**	PN	**Pn**	**02 41 42.7**	**+0.3**
WTVZ				AML	AML	02 43 23.4	
WTVZ				AML	AML	02 43 38.9	
WTVZ	**West Tongariro**	**4.83**	**26**	Pn	**Pn**	**02 41 43.2**	**+0.8**
KRVZ	**Karewarewa**	**4.87**	**26**	*e*PN	**Pn**	**02 41 43.9**	**+0.9**
KRVZ				AML	AML	02 42 42.4	
KRVZ				AML	AML	02 43 24.7	
KRVZ	**Karewarewa**	**4.87**	**26**	Pn	**Pn**	**02 41 44.4**	**+1.4**
MCHZ	**McNeill Hill**	**4.96**	**37**	PN	**Pn**	**02 41 44.5**	**+0.4**
MCHZ	**McNeill Hill**	**4.96**	**37**	Pn	**Pn**	**02 41 44.9**	**+0.7**
BKZ	**Black Stump Fm**	**5.11**	**33**	*e*PN	**Pn**	**02 41 44.8**	**-1.5**
BKZ				AML	AML	02 43 42.3	
BKZ				AML	AML	02 44 02.9	
BKZ	**Black Stump Fm**	**5.11**	**33**	Pn	**Pn**	**02 41 47.0**	**+0.7**
PYZ	**Puysegur Point**	**5.16**	**237**	*e*Pn	**Pn**	**02 41 44.6**	**-2.2**
HIZ	**Hauiti**	**5.20**	**17**	PN	**Pn**	**02 41 48.3**	**+0.9**
HIZ				AML	AML	02 43 01.2	
HIZ				AML	AML	02 43 36.8	
HIZ	**Hauiti**	**5.20**	**17**	*e*Pn	**Pn**	**02 41 48.5**	**+1.1**
ARHZ	**Aropaoanui**	**5.24**	**38**	Pn	**Pn**	**02 41 49.2**	**+1.2**
MRHZ	**Matea Rd**	**5.37**	**31**	PN	**Pn**	**02 41 48.2**	**-1.6**
TLZ	**Tolley Road**	**5.54**	**22**	Pn	**Pn**	**02 41 52.8**	**+0.6**
KNZ	**Kokohu**	**5.75**	**41**	AML	AML	02 43 10.2	
KNZ				AML	AML	02 44 26.8	
KNZ	**Kokohu**	**5.75**	**41**	Pn	**Pn**	**02 41 55.0**	**+0.1**
TOZ	**Tahuroa Road**	**6.09**	**20**	PN	**Pn**	**02 41 59.7**	**0.0**
TOZ				AML	AML	02 43 11.3	
TOZ	**Tahuroa Road**	**6.09**	**20**	Pn	**Pn**	**02 42 00.2**	**+0.5**
URZ	**Urewera**	**6.13**	**33**	Pn	**Pn**	**02 41 59.7**	**-0.6**
	4.5nm,0.3s,baz=224,slow=4.5,SNR=20						
URZ				Sn	**Sn**	**02 43 09.5**	**-1.5**
	10nm,0.3s,baz=348,slow=22,SNR=11						
URZ	**Urewera**	**6.13**	**33**	*e*Pn	**Pn**	**02 41 58.9**	**-1.4**
URZ				*e*S	**Sn**	**02 43 06.9**	**-4.1**
MWZ	**Matawai**	**6.24**	**36**	PN	**Pn**	**02 42 00.1**	**-1.7**
MWZ				AML	AML	02 43 17.7	
MWZ				AML	AML	02 44 32.1	
MWZ	**Matawai**	**6.24**	**36**	Pn	**Pn**	**02 42 00.1**	**-1.7**
MKAZ	**Moumakai**	**6.62**	**16**	PN	**Pn**	**02 42 07.0**	**+0.1**
MKAZ				AML	AML	02 44 38.1	
MKAZ	**Moumakai**	**6.62**	**16**	Pn	**Pn**	**02 42 07.4**	**+0.5**
HAZ	**Te Kaha**	**6.84**	**35**	Pn	**Pn**	**02 42 08.6**	**-1.3**
MXZ	**Matakaoa Point**	**7.22**	**37**	Pn	**Pn**	**02 42 14.1**	**-1.1**
OUZ	**Omahuta**	**8.29**	**4**	*e*Pn	**Pn**	**02 42 31.9**	**+2.1**
OUZ				*e*S	**Sn**	**02 43 58.4**	**-5.5**
CAN	**Canberra**	**20.13**	**286**	*e*P	**P**	**02 45 01.8**	**-2.2**
	114nm,1.9s						
EIDS	**Eidsvold**	**25.38**	**308**	*e*P	**P**	**02 45 54.0**	**-3.3**
	21nm,1.4s						
AS01	**Alice Springs**	**37.55**	**289**	*e*P	**P**	**02 47 44.5**	**+0.1**
ASAR	**Alice Springs**	**37.59**	**289**	P	**P**	**02 47 44.5**	**-0.2**
	1.7nm,0.5s,baz=128,slow=7.1,SNR=38						
WB2	**Warramunga Arr**	**39.82**	**294**	*e*P	**P**	**02 48 03.5**	**+0.1**
	39nm,1.8s						
WRA	**Warramunga Arr**	**39.83**	**294**	P	**P**	**02 48 03.5**	**0.0**
	2.9nm,0.5s,baz=133,slow=8.0,SNR=68						
QIZ	**Qiongzhong**	**84.85**	**302**	P	**P**	**02 53 06.6**	**+1.7**
QIZ	**Qiongzhong**	**84.85**	**302**	S	**S**	**03 03 35.8**	**+1.6**
HHC	**Hu-ho-hao-te**	**100.48**	**317**	*e*P	**Pdif**	**02 54 19.5**	**+2.3**
HHC				pmax	pmax		
	comp=Z,17nm,1.4s						
HHC				pmax	pmax		
	comp=Z,230nm,6.0s						
MKAR	**Makanchi Array**	**120.23**	**307**	PKP	**PKPdf**	**02 59 20.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=96,slow=1.4,SNR=3.5						
KURK	**Kurchatov**	**124.32**	**310**	PKP	**PKPdf**	**02 59 28.6**	**+0.3**
KURBB	**Kurchatov Arra**	**124.33**	**310**	PKP	**PKPdf**	**02 59 28.6**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=109,slow=1.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**148.82**	**197**	PKPbc	**PKPbc**	**03 00 19.5**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=156,slow=1.5,SNR=15						
ARCES	**ARCESS Array B**	**149.05**	**338**	PKPbc	**PKPbc**	**03 00 17.2**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=62,slow=2.9,SNR=5.3						
BRTR	**Keskin Array B**	**149.51**	**277**	PKPbc	**PKPbc**	**03 00 19.8**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=147,slow=4.9,SNR=7.0						
FINES	**FINESS Array B**	**153.40**	**324**	PKPbc	**PKPbc**	**03 00 28.1**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=57,slow=5.1,SNR=4.8						

WEL 13 02:40:41.6±0.1, 43°58S×172°82E, h5km, ML4.4/3, Error ellipse: s-maj=1.0km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.14**	**274**	PG	Pg	02 40 44.5	+0.1
CRLZ				SG	Sg	02 40 46.4	+0.1
CRLZ				AML	AML	02 40 48.8	
MQZ	**McQueen's Vall**	**0.17**	**224**	PG	Pg	02 40 45.4	+0.4
MQZ				SG	Sg	02 40 47.7	+0.4
MQZ				SG		02 40 47.8	
MQZ				AML	AML	02 40 47.8	
OXZ	**Oxford**	**0.62**	**294**	P*	Pg	02 40 52.8	-0.8
OXZ				SG	Sg	02 41 02.2	+0.5
LTZ	**Lake Taylor**	**0.90**	**333**	S*	Sg	02 41 10.3	-0.1
LTZ				AML	AML	02 41 11.1	

WEL 13 02:42:54.9±0.2, 43°55S×172°74E, h8km, ML3.4/10, 1C, Error ellipse: s-maj=1.4km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.09**	**256**	⇑PG	Pg	02 42 57.1	0.0
CRLZ				SG	Sg	02 42 58.7	+0.1
CRLZ				AML	AML	02 42 59.2	
CRLZ				AML	AML	02 42 60.0	
MQZ	**McQueen's Vall**	**0.17**	**203**	PG	Pg	02 42 58.4	0.0
MQZ				SG	Sg	02 43 01.1	+0.4
MQZ				AML	AML	02 43 02.0	
OXZ	**Oxford**	**0.56**	**294**	P*	Pg	02 43 05.5	-0.2
LTZ	**Lake Taylor**	**0.84**	**336**	P*	Pg	02 43 11.4	+0.3
LTZ				S*	Sb	02 43 23.1	-0.2
LTZ				AML	AML	02 43 24.1	
RPZ	**Rata Peaks**	**1.24**	**262**	P*	Pb	02 43 17.3	-1.2
RPZ				AML	AML	02 43 34.2	
RPZ				AML	AML	02 43 36.8	
INZ	**Inchbonnie**	**1.26**	**311**	P*	Pn	02 43 18.5	-0.3
KHZ	**Kahutara**	**1.28**	**27**	P*	Pn	02 43 17.5	-1.5
WVZ	**Waitaha Valley**	**1.54**	**287**	SN	Sn	02 43 42.8	-0.1
WVZ				AML	AML	02 43 46.7	
THZ	**Tophouse**	**1.79**	**4**	*e*PN	Pn	02 43 25.0	-1.2
THZ				AML	AML	02 43 54.2	
THZ				AML	AML	02 43 54.6	
DSZ	**Denniston Nort**	**1.94**	**339**	*e*PN	Pn	02 43 28.2	+0.1
DSZ				AML	AML	02 43 54.2	
LBZ	**Lake Benmore**	**2.03**	**245**	AML	AML	02 44 03.6	
LBZ				AML	AML	02 44 04.6	
ODZ	**Otahua Downs**	**2.12**	**225**	*e*PN	Pn	02 43 30.3	-0.3
ODZ				AML	AML	02 44 04.6	
ODZ				AML	AML	02 44 04.6	
FOZ	**Fox Glacier**	**2.13**	**270**	*e*PN	Pn	02 43 30.7	+0.2
FOZ				AML	AML	02 43 58.7	
FOZ				AML	AML	02 43 58.9	

WEL 13 02:43:56.2±0.1, 43°57S×172°75E, h6km, ML3.3/10, 1C, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.09**	**269**	PG	Pg	02 43 58.1	-0.1
CRLZ				SG	Sg	02 43 59.7	+0.1
CRLZ				SG	Sg	02 43 59.8	+0.2
CRLZ				AML	AML	02 43 59.9	
CRLZ				AML	AML	02 44 00.5	
MQZ	**McQueen's Vall**	**0.15**	**207**	⇑PG	Pg	02 43 59.4	+0.1
MQZ				SG	Sg	02 44 01.9	+0.6
MQZ				AML	AML	02 44 01.9	
OXZ	**Oxford**	**0.57**	**295**	P*	Pg	02 44 07.2	0.0
LTZ	**Lake Taylor**	**0.86**	**336**	P*	Pg	02 44 13.0	+0.2
LTZ				S*	Sg	02 44 24.5	+0.5
LTZ				AML	AML	02 44 25.7	
RPZ	**Rata Peaks**	**1.24**	**263**	*e*P*	Pg	02 44 18.4	-1.6
RPZ				AML	AML	02 44 37.6	
RPZ				AML	AML	02 44 38.7	
INZ	**Inchbonnie**	**1.28**	**311**	*e*P*	Pn	02 44 19.9	-0.7
WVZ	**Waitaha Valley**	**1.55**	**288**	AML	AML	02 44 45.4	
DSZ	**Denniston Nort**	**1.96**	**339**	AML	AML	02 44 56.6	
LBZ	**Lake Benmore**	**2.02**	**245**

	1.0nm,0.3s,baz=13,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**37.48**	**289**	P	**P**	**02 52 59.5**	**+2.0**
	0.5nm,0.8s,baz=138,slow=8.7,SNR=3.3						
WRA	**Warramunga Arr**	**39.72**	**294**	P	**P**	**02 53 17.7**	**+1.4**
	0.8nm,0.8s,baz=134,slow=7.9,SNR=7.7						
TORD	**Torodi Ar. Bea**	**148.74**	**197**	PKPbc	**PKPab**	**03 05 34.2**	**-0.9**
	0.5nm,1.0s,baz=139,slow=2.4,SNR=3.6						

*ISCJB **13** 02:48:14.6±0.6,37°.36N±0°.03×36°.21E±0°.04,h3km±9km, Error ellipse: s-maj=6.4km s-min=4.5km az=35.4*
*DDA **13** 02:48:14.1,37°.41N×36°.23E,h7km,Md2.6*
*ISK **13** 02:48:14.7,37°.36N×36°.17E,h10km,MD2.6*
*CSEM **13** 02:48:14.6±0.5,37°.75N×36°.02E,h10km,MD2.6,Error ellipse: s-maj=15.8km s-min=8.6km az=117.0*

ISC 13 02:48:14.4±1.1,37°.41N±0°.05×36°.20E±0°.03,h6km±12km, n12,σ0s77/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.31**	**283**	*e*PG	**Pg**	**02 48 20.8**	**+0.4**
KOZT				*e*SG	**Sb**	**02 48 26.2**	**-1.3**
KOZT	**Kozan**	**0.31**	**283**	*e*Pg	**Pg**	**02 48 20.8**	**+0.4**
KOZT				*e*Sg	**Sb**	**02 48 26.2**	**-1.3**
KAMA	**Osmaniye**	**0.43**	**121**	*i* P	**Pg**	**02 48 21.8**	**-0.9**
KAMA				*i* S	**Sg**	**02 48 27.9**	**-0.5**
HCB	**Kahramanmara¯**	**0.56**	**97**	*i* P	**Pg**	**02 48 24.6**	**-0.7**
HCB				*i* S	**Sg**	**02 48 33.2**	**+0.6**
KUZU	**Kuzuini**	**0.94**	**132**	P	**Pg**	**02 48 32.6**	**+0.1**
KUZU				S	**Sg**	**02 48 45.5**	**+0.7**
KUZU	**Kuzuini**	**0.94**	**132**	*i* P	**Pg**	**02 48 32.6**	**+0.1**
KUZU				*i* S	**Sg**	**02 48 45.5**	**+0.7**
SARI	**SarD1z-Kayseri**	**1.01**	**10**	*e*PG	**Pn**	**02 48 35.0**	**-0.2**
SARI				*e*SG	**Sn**	**02 48 51.0**	**+1.3**
TAHT	**Tahtakopru-Hat**	**1.03**	**181**	*e*PG	**Pg**	**02 48 34.1**	**-0.1**
TAHT				*e*SG	**Sg**	**02 48 48.3**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.03**	**181**	*e*Pg	**Pg**	**02 48 34.1**	**-0.1**
TAHT				*e*Sg	**Sg**	**02 48 48.3**	**+0.6**
GZT	**Gaziantep**	**1.08**	**93**	*i* P	**Pg**	**02 48 34.9**	**-0.3**
GZT				*i* S	**Sb**	**02 48 51.0**	**+0.9**
NIG	**Nigde**	**1.44**	**299**	*e*PN	**Pb**	**02 48 41.5**	**-0.3**
NIG	**Nigde**	**1.44**	**299**	*e*Pn	**Pb**	**02 48 41.5**	**-0.3**

WEL 13 02:48:36.0±0.2,43°.53S×172°.76E,h6km±1km,ML3.5/11, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.11**	**244**	PG	Pg	02 48 38.6	+0.2
CRLZ				SG	Sg	02 48 40.3	+0.4
CRLZ				SG		02 48 40.5	
CRLZ				AML	AML	02 48 40.5	
CRLZ				AML	AML	02 48 40.5	
MQZ	**McQueen's Vall**	**0.20**	**203**	PG	Pg	02 48 40.0	+0.1
MQZ				SG	Sg	02 48 42.9	+0.4
MQZ				AML	AML	02 48 43.3	
OXZ	**Oxford**	**0.56**	**291**	P*	Pg	02 48 46.8	-0.1
LTZ	**Lake Taylor**	**0.82**	**334**	P*	Pg	02 48 52.1	+0.2
LTZ				S*	Sb	02 49 03.9	-0.2
LTZ				AML	AML	02 49 05.0	
INZ	**Inchbonnie**	**1.25**	**309**	P*	Pb	02 48 59.4	-0.6
RPZ	**Rata Peaks**	**1.25**	**261**	P*	Pg	02 48 58.5	-1.6
RPZ				AML	AML	02 49 18.5	
RPZ				AML	AML	02 49 19.3	
WVZ	**Waitaha Valley**	**1.54**	**286**	*e*Pn	Pb	02 49 05.1	+0.1
WVZ				AML	AML	02 49 27.8	
THZ	**Tophouse**	**1.77**	**4**	*e*Pn	Pb	02 49 08.6	-0.3
THZ				AML	AML	02 49 31.3	
THZ				AML	AML	02 49 31.9	
DSZ	**Denniston Nort**	**1.91**	**338**	*e*Pn	Pn	02 49 08.5	-0.7
DSZ				AML	AML	02 49 33.6	
DSZ				AML	AML	02 49 34.5	
LBZ	**Lake Benmore**	**2.05**	**244**	*e*PN	Pb	02 49 12.4	-1.2
LBZ				AML	AML	02 49 43.0	
LBZ				AML	AML	02 49 45.2	
FOZ	**Fox Glacier**	**2.14**	**269**	*e*PN	Pn	02 49 12.6	+0.3
ODZ	**Otahua Downs**	**2.15**	**224**	AML	AML	02 49 45.3	
ODZ				AML	AML	02 49 46.0	
EAZ	**Earnscleugh**	**3.00**	**234**	AML	AML	02 50 12.8	
EAZ				AML	AML	02 50 13.5	
TUZ	**Tuapeka**	**3.29**	**221**	AML	AML	02 50 26.1	
TUZ				AML	AML	02 50 28.7	

WEL 13 02:49:07.2±0.1,43°.59S×172°.64E,h11km,ML3.2/7,Error ellipse: s-maj=2.5km s-min=0.8km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.02**	**330**	PG	Pg	02 49 09.0	-0.2
CRLZ				SG	Sg	02 49 10.7	+0.2
CRLZ				AML	AML	02 49 10.8	
CRLZ				AML	AML	02 49 10.8	
MQZ	**McQueen's Vall**	**0.11**	**174**	PG	Pg	02 49 10.1	+0.1
MQZ				SG	Sg	02 49 12.7	+0.6
MQZ				AML	AML	02 49 12.9	
MQZ				AML	AML	02 49 13.1	
OXZ	**Oxford**	**0.51**	**301**	P*	Pg	02 49 17.3	+0.1
LTZ	**Lake Taylor**	**0.85**	**342**	P*	Pg	02 49 23.1	-0.5
LTZ				S*	Sg	02 49 34.5	-0.3
LTZ				AML	AML	02 49 35.3	
RPZ	**Rata Peaks**	**1.16**	**263**	AML	AML	02 49 48.7	
RPZ				AML	AML	02 49 49.5	
LBZ	**Lake Benmore**	**1.94**	**245**	AML	AML	02 50 13.2	
LBZ				AML	AML	02 50 13.8	
ODZ	**Otahua Downs**	**2.04**	**224**	AML	AML	02 50 15.3	
ODZ				AML	AML	02 50 17.9	
EAZ	**Earnscleugh**	**2.89**	**234**	AML	AML	02 50 42.6	

*CSEM **13** 02:49:58.2±0.6,34°.91N×29°.04E,h10km,MD3.2,Error ellipse: s-maj=12.0km s-min=6.9km az=175.0*
*ISK **13** 02:49:58.5,35°.05N×28°.90E,h2km,MD3.2*
*DDA **13** 02:50:52.8,36°.30N×29°.20E,h10km,Md3.2*

ISC 13 02:49:56.6±2.3,34°.94N±0°.09×29°.08E±0°.04,h4km±11km, n30,σ0s97/50,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.36**	**18**	P	**Pg**	**02 50 23.5**	**+0.9**
AKAS				S	**Sn**	**02 50 42.0**	**+1.0**
AKAS	**Kas**	**1.36**	**18**	*i* P	**Pg**	**02 50 23.5**	**+0.9**
AKAS				*i* S	**Sn**	**02 50 42.0**	**+1.0**
KARP	**Karpathos**	**1.68**	**292**	*e*PN	**Pn**	**02 50 27.4**	**+0.6**
KARP	**Karpathos**	**1.68**	**292**	*e*Pn	**Pn**	**02 50 27.4**	**+0.6**
FETY	**Fethiye**	**1.69**	**0**	*e*PN	**Pb**	**02 50 27.6**	**-0.6**
FETY				*e*SN	**Sg**	**02 50 50.4**	**-0.5**
FETY	**Fethiye**	**1.69**	**0**	*e*Pn	**Pb**	**02 50 27.6**	**-0.6**
FETY				*e*Sn	**Sg**	**02 50 50.4**	**-0.5**
DALY	**Dalyan (Mu¯la**	**1.90**	**350**	*e*PN	**Pb**	**02 50 31.9**	**+0.1**
DALY	**Dalyan (Mu¯la**	**1.90**	**350**	*e*Pn	**Pb**	**02 50 31.9**	**+0.1**
ELL	**Elmali**	**1.92**	**20**	*e*PN	**Pb**	**02 50 32.5**	**+0.2**
ELL				*e*SN	**Sg**	**02 50 57.8**	**-0.6**
ELL	**Elmali**	**1.92**	**20**	*e*Pn	**Pb**	**02 50 32.5**	**+0.2**
ELL				*e*Sn	**Sg**	**02 50 57.8**	**-0.6**
YER	**Yerkesik**	**2.28**	**344**	*e*PN	**Pb**	**02 50 36.9**	**-1.5**
YER	**Yerkesik**	**2.28**	**344**	*e*Pn	**Pb**	**02 50 36.9**	**-1.5**
KORT	**Korkueli**	**2.30**	**26**	P	**Pn**	**02 50 36.7**	**+1.3**
KORT				S	**Sb**	**02 51 06.7**	**-0.8**
KORT	**Korkueli**	**2.30**	**26**	*i* P	**Pn**	**02 50 36.7**	**+1.3**
KORT				*i* S	**Sb**	**02 51 06.7**	**-0.8**
GOLH	**Golhisar**	**2.32**	**10**	P	**Pb**	**02 50 38.1**	**-1.0**
GOLH				S	**Sb**	**02 51 07.2**	**-1.0**
GOLH	**Golhisar**	**2.32**	**10**	*i* P	**Pb**	**02 50 38.1**	**-1.0**
GOLH				*i* S	**Sb**	**02 51 07.2**	**-1.0**
BDRM	**Kayabasi**	**2.50**	**328**	P	**Pn**	**02 50 38.8**	**+0.8**
BDRM				S	**Sn**	**02 51 08.7**	**-0.2**
BDRM	**Kayabasi**	**2.50**	**328**	*i* P	**Pn**	**02 50 38.8**	**+0.8**
BDRM				*i* S	**Sn**	**02 51 08.7**	**-0.2**
BODT	**Bodrum**	**2.56**	**326**	*e*PN	**Pn**	**02 50 39.9**	**+1.1**
BODT				*e*SN	**Sn**	**02 51 10.1**	**-0.2**
BODT	**Bodrum**	**2.56**	**326**	*e*Pn	**Pn**	**02 50 39.9**	**+1.1**
BODT				*e*Sn	**Sn**	**02 51 10.1**	**-0.2**
AYDN	**Tasoluk**	**2.88**	**341**	P	**Pn**	**02 50 45.2**	**+1.9**
AYDN				S	**Sn**	**02 51 18.6**	**+0.2**
AYDN	**Tasoluk**	**2.88**	**341**	*i* P	**Pn**	**02 50 45.2**	**+1.9**
AYDN				*i* S	**Sn**	**02 51 18.6**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.97**	**31**	*e*PN	**Pb**	**02 50 48.3**	**-1.8**
SUTC	**Sutluce-Ispart**	**2.97**	**31**	*e*Pn	**Pb**	**02 50 48.3**	**-1.8**
AYDB	**Zeytinkoy-Aydi**	**3.15**	**343**	*e*PN	**Pn**	**02 50 48.0**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**3.15**	**343**	*e*Pn	**Pn**	**02 50 48.0**	**+0.9**
ERMK	**Ermenek**	**3.55**	**60**	P	**Pn**	**02 50 53.6**	**+1.0**
ERMK				S	**Sn**	**02 51 34.7**	**-0.5**
ERMK	**Ermenek**	**3.55**	**60**	*i* P	**Pn**	**02 50 53.6**	**+1.0**
ERMK				*i* S	**Sn**	**02 51 34.7**	**-0.5**
KDHN	**Kadinhani**	**4.33**	**33**	P	**Pn**	**02 51 04.3**	**+1.1**
KDHN				S	**Sn**	**02 51 54.1**	**-0.1**
KDHN	**Kadinhani**	**4.33**	**33**	*i* P	**Pn**	**02 51 04.3**	**+1.1**
KDHN				*i* S	**Sn**	**02 51 54.1**	**-0.1**

*ISCJB **13** 02:54:05.8±0.6,43°.59S±0°.03×172°.89E±0°.04,h12km±4km, mb3.5/2,Error ellipse: s-maj=6.7km s-min=3.5km az=139.1*
*IDC **13** 02:54:06.9±1.8,43°.42S×172°.74E,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.6/23,mbtmp3.7/3,ML3.7/1,Error ellipse: s-maj=48.6km s-min=16.6km az=158.0*
*NEIC **13** 02:54:07.8,43°.54S×172°.73E,h13km,ML4.1(WEL),After WEL.*
*WEL **13** 02:54:08.1±0.1,43°.53S×172°.77E,h6km,ML4.1/29,Error ellipse: s-maj=1.1km s-min=0.5km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 6.

ISC 13 02:54:06.9±1.1,43°.54S±0°.04×172°.88E±0°.04,h10km±7km, n96,σ1s24/102,2C-6D,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.19**	**260**	PG	**Pg**	**02 54 10.5**	**-0.4**
CRLZ				SG	**Sg**	**02 54 12.3**	**-1.4**
CRLZ				AML	AML	02 54 12.5	
MQZ	**McQueen's Vall**	**0.23**	**225**	⇑PG	**Pg**	**02 54 11.9**	**+0.2**
MQZ				SG	**Sg**	**02 54 14.8**	**-0.1**
MQZ				AML	AML	02 54 15.7	
OXZ	**Oxford**	**0.65**	**289**	P*	**Pg**	**02 54 18.9**	**-0.6**
OXZ				SG	**Sg**	**02 54 27.3**	**-0.7**
LTZ	**Lake Taylor**	**0.88**	**330**	⇓P*	**Pg**	**02 54 24.4**	**+0.6**
LTZ				S*	**Sg**	**02 54 36.1**	**+0.8**
LTZ				AML	AML	02 54 37.2	
LTZ	**Lake Taylor**	**0.88**	**330**	Pn	**Pg**	**02 54 24.4**	**+0.6**
KHZ	**Kahutara**	**1.23**	**24**	P*	**Pn**	**02 54 30.0**	**-0.1**
KHZ	**Kahutara**	**1.23**	**24**	*e*Pn	**Pb**	**02 54 30.7**	**+0.3**
KHZ				*e*S	**Sb**	**02 54 44.7**	**-1.2**
INZ	**Inchbonnie**	**1.33**	**307**	P*	**Pn**	**02 54 30.7**	**-0.8**
RPZ	**Rata Peaks**	**1.33**	**262**	Pg	**Pn**	**02 54 30.7**	**-0.9**
	155nm,0.3s,baz=118,slow=3.9,SNR=144						
RPZ				Lg	Lg	02 54 47.4	
	302nm,0.3s,baz=47,slow=20,SNR=26						
RPZ	**Rata Peaks**	**1.33**	**262**	⇓P*	**Pn**	**02 54 30.6**	**-0.9**
RPZ				AML	AML	02 54 50.4	
RPZ				AML	AML	02 54 52.5	
RPZ	**Rata Peaks**	**1.33**	**262**	*e*Pn	**Pn**	**02 54 30.7**	**-0.9**
RPZ				*e*S	**Sn**	**02 54 47.0**	**-2.4**
WVZ	**Waitaha Valley**	**1.63**	**286**	PN	**Pn**	**02 54 35.3**	**-0.3**
WVZ				AML	AML	02 55 03.2	
WVZ				AML	AML	02 55 17.5	
WVZ	**Waitaha Valley**	**1.63**	**286**	Pn	**Pn**	**02 54 35.3**	**-0.3**
THZ	**Tophouse**	**1.78**	**1**	⇓PN	**Pn**	**02 54 37.7**	**0.0**
THZ				AML	AML	02 55 05.0	
THZ				AML	AML	02 55 10.2	
THZ	**Tophouse**	**1.78**	**1**	Pn	**Pn**	**02 54 37.7**	**0.0**
DSZ	**Denniston Nort**	**1.96**	**336**	⇓PN	**Pn**	**02 54 40.5**	**+0.3**
DSZ				AML	AML	02 55 15.1	
DSZ				AML	AML	02 55 15.1	
DSZ				AML	AML	02 55 15.2	
DSZ				AML	AML	02 55 15.2	
DSZ	**Denniston Nort**	**1.96**	**336**	Pn	**Pn**	**02 54 40.5**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.97**	**22**	⇑PN	**Pn**	**02 54 41.1**	**+0.8**
BSWZ				AML	AML	02 55 09.3	
BSWZ				AML	AML	02 55 28.3	
BSWZ	**Blackbirch Sta**	**1.97**	**22**	Pn	**Pn**	**02 54 41.1**	**+0.8**
LBZ	**Lake Benmore**	**2.12**	**246**	PN	**Pn**	**02 54 42.3**	**-0.1**
LBZ				AML	AML	02 55 20.5	
LBZ				AML	AML	02 55 20.7	
LBZ				AML	AML	02 55 20.7	
LBZ				AML	AML	02 55 20.8	
LBZ	**Lake Benmore**	**2.12**	**246**	Pn	**Pn**	**02 54 42.3**	**-0.1**
ODZ	**Otahua Downs**	**2.20**	**226**	PN	**Pn**	**02 54 42.6**	**-0.8**
ODZ				AML	AML	02 55 16.6	
ODZ				AML	AML	02 55 16.9	
ODZ				AML	AML	02 55 16.9	
ODZ				AML	AML	02 55 26.8	
ODZ	**Otahua Downs**	**2.20**	**226**	*e*Pn	**Pn**	**02 54 42.9**	**-0.5**
ODZ				*e*Pg	**Pb**	**02 54 48.4**	**+1.7**
ODZ				*e*S	**Sb**	**02 55 15.8**	**+1.8**
FOZ	**Fox Glacier**	**2.23**	**269**	PN	**Pn**	**02 54 44.2**	**+0.4**
FOZ				AML	AML	02 55 27.7	
FOZ				AML	AML	02 55 27.7	
FOZ				AML	AML	02 55 28.8	
FOZ				AML	AML	02 55 28.8	
FOZ	**Fox Glacier**	**2.23**	**269**	Pn	**Pn**	**02 54 44.2**	**+0.4**
TUWZ	**Tuamarina**	**2.25**	**21**	AML	AML	02 55 13.5	
TUWZ				AML	AML	02 55 15.8	
TUWZ	**Tuamarina**	**2.25**	**21**	Pn	**Pn**	**02 54 44.6**	**+0.5**
NNZ	**Nelson**	**2.35**	**9**	PN	**Pn**	**02 54 46.4**	**+0.8**
NNZ				AML	AML	02 54 55.5	
NNZ				AML	AML	02 55 31.1	
NNZ	**Nelson**	**2.35**	**9**	Pn	**Pn**	**02 54 46.4**	**+0.8**
TCW	**Tory Channel**	**2.55**	**24**	PN	**Pn**	**02 54 48.2**	**0.0**
TCW				AML	AML	02 55 20.0	
TCW				AML	AML	02 55 24.7	
TCW	**Tory Channel**	**2.55**	**24**	Pn	**Pn**	**02 54 48.2**	**0.0**
SNZO	**South Karori**	**2.61**	**32**	*e*Pn	**Pn**	**02 54 49.1**	**+0.1**
SNZO				*e*S	**Sn**	**02 55 19.3**	**-1.4**
PLWZ	**Palliser**	**2.64**	**43**	PN	**Pn**	**02 54 49.6**	**0.0**
PLWZ	**Palliser**	**2.64**	**43**	Pn	**Pn**	**02 54 49.6**	**0.0**
QRZ	**Quartz Range**	**2.73**	**354**	AML	AML	02 55 02.7	
QRZ				AML	AML	02 55 02.7	
QRZ				AML	AML	02 55 50.8	
QRZ				AML	AML	02 55 50.8	
QRZ	**Quartz Range**	**2.73**	**354**	Pn	**Pn**	**02 54 50.9**	**+0.2**
DUWZ	**D'Urville Isla**	**2.85**	**16**	PN	**Pn**	**02 54 52.6**	**+0.2**
DUWZ	**D'Urville Isla**	**2.85**	**16**	Pn	**Pn**	**02 54 52.6**	**+0.2**
CAW	**Cannon Point**	**2.92**	**34**	PN	**Pn**	**02 54 53.4**	**0.0**
CAW				AML	AML	02 55 28.4	
CAW				AML	AML	02 55 29.4	
CAW	**Cannon Point**	**2.92**	**34**	Pn	**Pn**	**02 54 53.5**	**0.0**
JCZ	**Jackson Bay**	**3.01**	**258**	PN	**Pn**	**02 54 54.3**	**-0.4**
JCZ				AML	AML	02 55 48.1	
JCZ				AML	AML	02 55 50.4	
WKZ	**Wanaka**	**3.06**	**244**	PN	**Pn**	**02 54 54.9**	**-0.4**
WKZ				AML	AML	02 55 52.4	
WKZ				AML	AML	02 55 53.2	
WKZ	**Wanaka**	**3.06**	**244**	Pn	**Pn**	**02 54 54.9**	**-0.4**
EAZ	**Earnscleugh**	**3.07**	**235**	⇓PN	**Pn**	**02 54 54.9**	**-0.4**
EAZ				AML	AML	02 55 48.3	
EAZ				AML	AML	02 55 48.3	
EAZ				AML	AML	02 55 48.8	
EAZ				AML	AML	02 55 48.8	
EAZ	**Earnscleugh**	**3.07**	**235**	Pn	**Pn**	**02 54 54.9**	**-0.4**
KIW	**Kapiti Island**	**3.08**	**30**	PN	**Pn**	**02 54 55.6**	**+0.1**
KIW				AML	AML	02 55 33.9	
KIW				AML	AML	02 55 35.7	
KIW	**Kapiti Island**	**3.08**	**30**	Pn	**Pn**	**02 54 55.6**	**+0.1**
MTW	**Mount Morrison**	**3.08**	**40**	⇓PN	**Pn**	**02 54 55.2**	**-0.3**
MTW				AML	AML	02 55 32.2	
MTW				AML	AML	02 55 33.2	
MTW	**Mount Morrison**	**3.08**	**40**	Pn	**Pn**	**02 54 55.2**	**-0.3**
OGWZ	**Otaki Gorge**	**3.21**	**33**	PN	**Pn**	**02 54 57.3**	**-0.1**
OGWZ	**Otaki Gorge**	**3.21**	**33**	Pn	**Pn**	**02 54 57.3**	**-0.1**
HOWZ	**Holdsworth Sta**	**3.29**	**37**	PN	**Pn**	**02 54 58.6**	**+0.1**
HOWZ	**Holdsworth Sta**	**3.29**	**37**	Pn	**Pn**	**02 54 58.6**	**+0.1**
TUZ	**Tuapeka**	**3.34**	**223**	PN	**Pn**	**02 54 58.5**	**-0.6**
TUZ				AML	AML	02 55 59.1	
TUZ				AML	AML	02 55 59.1	
TUZ				AML	AML	02 56 03.5	
TUZ				AML	AML	02 56 03.5	
TUZ	**Tuapeka**	**3.34**	**223**	Pn	**Pn**	**02 54 58.5**	**-0.6**
MRZ	**Mangatainoka R**	**3.51**	**36**	Pn	**Pn**	**02 55 00.9**	**-0.6**
BFZ	**Birch Farm**	**3.80**	**42**	PN	**Pn**	**02 55 04.8**	**-0.6**
BFZ				AML	AML	02 55 50.6	
BFZ				AML	AML	02 57 35.9	
BFZ				AML	AML	02 57 36.0	
BFZ	**Birch Farm**	**3.80**	**42**	Pn	**Pn**	**02 55 04.8**	**-0.6**
MLZ	**Mavora Lakes**	**3.87**	**240**	PN	**Pn**	**02 55 05.5**	**-0.9**
MLZ				AML	AML	02 56 16.2	
MLZ				AML	AML	02 56 30.5	
MLZ	**Mavora Lakes**	**3.87**	**240**	Pn	**Pn**	**02 55 05.5**	**-0.9**
SYZ	**Scrubby Hill**	**4.00**	**220**	PN	**Pn**	**02 55 08.6**	**+0.4**
SYZ				AML	AML	02 56 20.3	
SYZ				AML	AML	02 56 29.7	
SYZ	**Scrubby Hill**	**4.00**	**220**	Pn	**Pn**	**02 55 08.6**	**+0.4**
ANWZ	**Angora Road**	**4.08**	**42**	PN	**Pn**	**02 55 09.3**	**0.0**
WAZ	**Wanganui**	**4.10**	**23**	Pn	**Pn**	**02 55 11.7**	**+2.1**
WHZ	**Wether Hill Ro**	**4.23**	**235**	PN	**Pn**	**02 55 09.9**	**-1.4**
WHZ				AML	AML	02 56 27.5	
WHZ				AML	AML	02 56 28.5	
WHZ	**Wether Hill Ro**	**4.23**	**235**	*e*Pn	**Pn**	**02 55 09.3**	**-2.0**
PREZ	**Palmer Road**	**4.30**	**13**	PN	**Pn**	**02 55 14.9**	**+2.4**
PREZ	**Palmer Road**	**4.30**	**13**	Pn	**Pn**	**02 55 14.9**	**+2.4**
KHEZ	**Kahui Hut**	**4.33**	**12**	PN	**Pn**	**02 55 14.7**	**+1.9**
KHEZ	**Kahui Hut**	**4.33**	**12**	Pn	**Pn**	**02 55 14.7**	**+1.9**
NEZ	**North Egmont**	**4.37**	**13**	PN	**Pn**	**02 55 15.1**	**+1.8**
NEZ	**North Egmont**	**4.37**	**13**	Pn	**Pn**	**02 55 15.1**	**+1.8**
DREZ	**Durham Road**	**4.46**	**13**	PN	**Pn**	**02 55 16.5**	**+2.0**
DREZ	**Durham Road**	**4.46**	**13**	Pn	**Pn**	**02 55 16.5**	**+2.0**
PKVZ	**Pokaka**	**4.64**	**24**	PN	**Pn**	**02 55 18.7**	**+1.6**
PKVZ	**Pokaka**	**4.64**	**24**	Pn	**Pn**	**02 55 18.7**	**+1.6**
WNVZ	**Wahianoa**	**4.68**	**27**	PN	**Pn**	**02 55 19.4**	**+1.7**
WNVZ	**Wahianoa**	**4.68**	**27**	Pn	**Pn**	**02 55 19.4**	**+1.7**
FWVZ	**Far West T-bar**	**4.73**	**26**	AML	AML	02 56 16.2	
FWVZ				AML	AML	02 56 20.0	
FWVZ	**Far West T-bar**	**4.73**	**26**	Pn	**Pn**	**02 55 19.7**	**+1.2**
TUVZ	**Tukino**	**4.75**	**27**	Pn	**Pn**	**02 55 19.4**	**+0.7**
KAHZ	**Kahuranaki**	**4.79**	**40**	Pn	**Pn**	**02 55 19.2**	**0.0**
OTVZ	**Oturere**	**4.85**	**27**	AML	AML	02 56 20.1	
OTVZ	**Oturere**	**4.85**	**27**	Pn	**Pn**	**02 55 21.6**	**+1.5**
BKZ	**Black Stump Fm**	**5.15**	**33**	AML	AML	02 57 55.1	
BKZ	**Black Stump Fm**	**5.15**	**33**	Pn	**Pn**	**02 55 23.7**	**-0.4**
HIZ	**Hauiti**	**5.24**	**17**	PN	**Pn**	**02 55 26.1**	**+0.9**
HIZ	**Hauiti**	**5.24**	**17**	Pn	**Pn**	**02 55 26.1**	**+0.9**
URZ	**Urewera**	**6.17**	**33**	Pn	**Pn**	**02 55 37.1**	**-1.0**
	1.7nm,0.3s,baz=208,slow=5.8,SNR=5.9						
URZ				Sn	**Sn**	**02 56 45.1**	**-3.5**
	5.1nm,0.3s,baz=84,slow=14,SNR=8.0						
URZ	**Urewera**	**6.17**	**33**	*e*Pn	**Pn**	**02 55 36.4**	**-1.7**
URZ				*e*S	**Sn**	**02 56 44.9**	**-3.8**
MWZ	**Matawai**	**6.28**	**36**	*e*PN	**Pn**	**02 55 35.4**	**-4.2**
MWZ	**Matawai**	**6.28**	**36**	Pn	**Pn**	**02 55 37.1**	**-2.4**
OUZ	**Omahuta**	**8.33**	**4**	*e*Pn	**Pn**	**02 56 07.3**	**-0.3**
ASAR	**Alice Springs**	**37.59**	**289**	P	**P**	**03 01 22.4**	**+0.7**
	0.4nm,0.6s,baz=128,slow=8.1,SNR=5.7						
WRA	**Warramunga Arr**	**39.84**	**294**	P	**P**	**03 01 41.3**	**+0.8**
	0.8nm,0.6s,baz=135,slow=7.7,SNR=10						
TORD	**Torodi Ar. Bea**	**148.78**	**197**	PKPbc	**PKPbc**	**03 13 56.3**	**+1.5**
	0.3nm,0.8s,baz=187,slow=1.3,SNR=3.1						

WEL 13 02:54:16.3±0.1,43°.56S×172°.76E,h7km,ML3.7/2,1C, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.10**	**260**	⇑PG	Pg	02 54 18.7	+0.2
CRLZ				SG	Sg	02 54 20.1	0.0
CRLZ				AML	AML	02 54 20.2	
CRLZ				AML	AML	02 54 20.2	
CRLZ				AML	AML	02 54 20.3	
MQZ	**McQueen's Vall**	**0.17**	**207**	PG	Pg	02 54 19.8	+0.2
MQZ				AML	AML	02 54 21.7	
MQZ				SG	Sg	02 54 22.0	0.0
MQZ				AML	AML	02 54 22.1	

WEL 13 02:54:45.7±0.1,43°.58S×172°.75E,h7km,ML3.3/3,Error ellipse: s-maj=1.1km s-min=0.5km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.10**	**273**	PG	Pg	02 54 47.9	0.0
CRLZ				SG	Sg	02 54 49.5	+0.2
CRLZ				AML	AML	02 54 49.6	
CRLZ				AML	AML	02 54 49.6	
CRLZ				AML	AML	02 54 49.7	
MQZ	**McQueen's Vall**	**0.15**	**210**	PG	Pg	02 54 48.9	+0.1
MQZ				SG	Sg	02 54 51.2	+0.4
MQZ				AML	AML	02 54 51.3	
OXZ	**Oxford**	**0.58**	**296**	P*	Pb	02 54 58.1	-0.

KSAR	**Wonju Array Be**	**12.38 264**	P	**Pn**	**02 58 25.7**	**+1.6**
KSAR	**Wonju Array Be**	**12.38 264**	Pn	**Pn**	**02 58 25.7**	**+1.6**
KLR	**Kul'dur**	**12.56 322**	Pn	**Pn**	**02 58 25.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=126,slow=9.7,SNR=5.2					
TJN	**Taejon**	**13.11 260**	*i* P	**Pn**	**02 58 34.2**	**+0.2**
PEA0	**Petropavlovsk-**	**16.50 32**	*e*Pn	**Pn**	**02 59 16.0**	**-3.0**
HIA	**Hailar**	**19.28 307**	*e*P	**P**	**02 59 50.6**	**-1.5**
HIA			pmax	pmax		
	comp=Z,9.0nm,0.6s					
HIA	**Hailar**	**19.28 307**	*e*P	**P**	**02 59 50.6**	**-1.5**
	comp=Z,8.7nm,0.6s					
TIA	**Tai'an**	**21.00 269**	*e*P	**P**	**03 00 09.5**	**-1.4**
TIA			pmax	pmax		
	comp=Z,10.0nm,1.1s					
YAK	**Yakutsk**	**23.78 344**	P	**P**	**03 00 38.5**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=234,slow=18,SNR=1.9					
YAK	**Yakutsk**	**23.78 344**	*e*P	**P**	**03 00 39.1**	**-0.4**
YAK			pmax	pmax		
	comp=Z,13nm,0.6s					
SEY	**Seymchan**	**23.78 10**	P	**P**	**03 00 39.6**	**+0.1**
	comp=Z,6.4nm,0.8s,baz=200,slow=7.1,SNR=13					
SEY	**Seymchan**	**23.78 10**	*ce*P	**P**	**03 00 40.8**	**+1.2**
HHC	**Hu-ho-hao-te**	**24.24 283**	*e*P	**P**	**03 00 44.7**	**+0.4**
HHC			sP	sP	03 00 55.9	-0.7
HHC			S	**S**	**03 05 00.4**	**-0.7**
HHC			pmax	pmax		
	comp=Z,8.0nm,1.1s					
HHC			pmax	pmax		
	comp=Z,270nm,7.1s					
ULN	**Ulaanbaatar**	**27.24 299**	*ce*P	**P**	**03 01 12.0**	**+0.6**
ULN			pmax	pmax		
	comp=Z,6.0nm,1.2s					
ULN	**Ulaanbaatar**	**27.24 299**	*e*P	**P**	**03 01 11.5**	**+0.1**
	comp=Z,6.6nm,1.0s					
SONA1	**Songino Array**	**27.68 299**	*e*P	**P**	**03 01 14.6**	**-0.6**
SONM	**Songino Array**	**27.68 299**	P	**P**	**03 01 13.8**	**-1.5**
	comp=Z,3.5nm,0.9s,baz=93,slow=8.3,SNR=13					
H11N2	**WAKE ISLAND Hy**	**28.41 128**	T	T	03 31 12.7	
	baz=318,slow=75,SNR=67					
H11N1	**WAKE ISLAND Hy**	**28.42 128**	T	T	03 31 13.3	
	baz=318,slow=75,SNR=50					
H11N3	**WAKE ISLAND Hy**	**28.43 128**	T	T	03 31 12.7	
	baz=318,slow=75,SNR=62					
ZAK	**Zakamensk**	**29.91 304**	*e*P	**P**	**03 01 33.3**	**-1.7**
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.4s					
GTA	**Gaotai**	**33.35 284**	P	**P**	**03 02 06.3**	**+0.8**
GTA			pP	sP	03 02 16.7	-1.1
GTA			sP	pP	03 02 20.2	+6.0
GTA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
ZAA0	**Zalesovo Array**	**41.27 310**	*e*P	**P**	**03 03 12.0**	**-0.3**
ZAA0			*e*PP	**PP**	**03 04 43.8**	**-3.8**
ZALV	**Zalesovo Beam**	**41.27 310**	P	**P**	**03 03 12.8**	**+0.6**
	comp=Z,5.6nm,0.5s,baz=96,slow=8.0,SNR=20					
MK01	**Makanchi Array**	**44.04 300**	*e*P	**P**	**03 03 35.0**	**+0.2**
MKAR	**Makanchi Array**	**44.04 300**	P	**P**	**03 03 34.9**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=81,slow=9.5,SNR=18					
MAKZ	**Makanchi**	**44.25 300**	*e*P	**P**	**03 03 36.3**	**-0.2**
MAKZ			pmax	pmax		
	comp=Z,5.0nm,1.0s					
MAKZ	**Makanchi**	**44.25 300**	*e*P	**P**	**03 03 36.3**	**-0.2**
	comp=Z,5.2nm,1.0s					
KURK	**Kurchatov**	**45.52 306**	*e*P	**P**	**03 03 46.1**	**-0.3**
KURK			pmax	pmax		
	comp=Z,32nm,1.0s					
KURK	**Kurchatov**	**45.52 306**	*e*P	**P**	**03 03 46.1**	**-0.3**
	comp=Z,32nm,1.0s					
KURBB	**Kurchatov Arra**	**45.59 306**	P	**P**	**03 03 47.3**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=80,slow=8.5,SNR=34					
ILAR	**Eielson Array**	**46.31 34**	P	**P**	**03 03 54.0**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=262,slow=6.0,SNR=15					
ILAR	**Eielson Array**	**46.31 34**	P	**P**	**03 03 54.0**	**+1.4**
ILAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
TKM2	**Tokmak 2**	**49.74 297**	*e*P	**P**	**03 04 20.2**	**+0.6**
TKM2			pmax	pmax		
	comp=Z,11nm,0.9s					
TKM2	**Tokmak 2**	**49.74 297**	*e*P	**P**	**03 04 20.2**	**+0.6**
	comp=Z,12nm,0.9s					
BVAR	**Borovoye Array**	**49.91 311**	P	**P**	**03 04 21.1**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=74,slow=8.4,SNR=13					
BRVK	**Borovoye**	**49.96 311**	*ce*P	**P**	**03 04 20.9**	**0.0**
BRVK			pmax	pmax		
	comp=Z,9.0nm,0.7s					
BRVK	**Borovoye**	**49.96 311**	*e*P	**P**	**03 04 21.0**	**0.0**
	comp=Z,10nm,0.9s					
AAK	**Ala-Archa**	**50.60 297**	*i* P	**P**	**03 04 26.9**	**+0.8**
AAK			pmax	pmax		
	comp=Z,7.0nm,1.0s					
ZRNK	**Zerenda**	**50.74 311**	*e*P	**P**	**03 04 26.8**	**0.0**
ZRNK			*e*		03 05 39.6	
ZRNK			pmax	pmax		
	comp=Z,5.0nm,0.7s					
ZRNK	**Zerenda**	**50.74 311**	*e*P	**P**	**03 04 26.8**	**0.0**
	comp=Z,5.0nm,0.7s					
ZRNK			*e*PcP	**PcP**	**03 05 39.6**	**-3.9**
KSH	**Kashi**	**50.76 293**	P	**P**	**03 04 31.0**	**+3.7**
KSH			pP	sP	03 04 50.2	+10
KSH			ScP	**PcP**	**03 05 45.0**	**+1.0**
KSH			PP	**PP**	**03 06 28.5**	**+5.2**
KSH			S	**S**	**03 11 40.7**	**-0.3**
KSH			ScS	**ScS**	**03 14 10.5**	**-5.5**
KSH	**Kashi**	**50.76 293**	SS	**SS**	**03 15 14.2**	**-1.1**
KSH			pmax	pmax		
	comp=Z,5.0nm,0.1s					
KSH			pmax	pmax		
	comp=Z,190nm,5.2s					
KSH			LR	LR		
	comp=N,400nm,12.5s					
KSH			LR	LR		
	comp=E,710nm,16.5s					
KSH			LR	LR		
	comp=Z,2μm,22.8s					
EKS2	**Erkin-Say**	**51.08 297**	*e*P	**P**	**03 04 28.4**	**-1.3**
EKS2			pmax	pmax		
	comp=Z,3.0nm,0.8s					
EKS2	**Erkin-Say**	**51.08 297**	*e*P	**P**	**03 04 28.4**	**-1.3**
	comp=Z,2.5nm,0.8s					
INK	**Inuvik**	**51.20 28**	P	**P**	**03 04 31.7**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=32,slow=4.5,SNR=4.5					
KKAR	**Karatay Array**	**53.13 299**	*e*P	**P**	**03 04 43.6**	**-1.2**
KKAR	**Karatay Array**	**53.13 299**	*e*P	**P**	**03 04 43.6**	**-1.2**
ARU	**Arti**	**55.35 318**	P	**P**	**03 05 01.5**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=356,slow=3.3,SNR=6.1					
ARU	**Arti**	**55.35 318**	*c i* P	**P**	**03 05 01.1**	**+0.4**
ARU					03 07 04.0	
ARU			S	**S**	**03 12 43.9**	**+1.2**
ARU			SS	**SS**	**03 16 27.3**	**+0.5**
ARU			pmax	pmax		
	comp=Z,8.0nm,1.2s					
ABKAR	**Akbulak array**	**57.38 309**	*e*P	**P**	**03 05 14.9**	**-0.3**
AKTO	**Aktyubinsk**	**58.02 311**	P	**P**	**03 05 20.2**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=63,slow=13,SNR=9.3					
WRA	**Warramunga Arr**	**60.04 190**	P	**P**	**03 05 34.0**	**0.0**
	comp=Z,1.7nm,0.7s,baz=7.3,slow=6.8,SNR=12					
WRA	**Warramunga Arr**	**60.04 190**	P	**P**	**03 05 34.0**	**0.0**
WRA			pmax	pmax		
	comp=Z,2.0nm,0.7s					
YKA	**Yellowknife Ar**	**60.62 31**	P	**P**	**03 05 37.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=294,slow=6.5,SNR=2.9					
ARCES	**ARCESS Array B**	**61.96 339**	P	**P**	**03 05 46.5**	**0.0**
	comp=Z,1.1nm,0.8s,baz=51,slow=5.9,SNR=3.5					
KLMR	**Klimovskoe**	**62.26 328**	*e*P	**P**	**03 05 48.6**	**0.0**
KLMR			pmax	pmax		
	comp=Z,6.0nm,1.2s					
ASAR	**Alice Springs**	**63.77 190**	P	**P**	**03 06 00.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=9.6,slow=5.3,SNR=16					
GEYT	**Allbeck**	**63.88 299**	P	**P**	**03 06 00.5**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=8.5,slow=3.0,SNR=5.3					
FINES	**FINESS Array B**	**67.09 332**	P	**P**	**03 06 20.1**	**0.0**
	comp=Z,2.6nm,0.7s,baz=57,slow=7.0,SNR=5.4					
ZEI	**Tsey**	**70.26 310**	*e*P	**P**	**03 06 40.3**	**-0.1**
KVAR	**Kislovodsk Arr**	**70.27 311**	P	**P**	**03 06 40.3**	**-0.1**
	comp=Z,7.3nm,0.9s,baz=232,slow=10,SNR=3.7					
KIV	**Kislovodsk**	**70.28 311**	*e*P	**P**	**03 06 42.2**	**+1.8**
KIV			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KBZ	**Khabaz**	**70.29 311**	P	**P**	**03 06 40.7**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=81,slow=7.4,SNR=7.0					
GNI	**Garni**	**71.31 307**	*ce*P	**P**	**03 06 48.7**	**+1.9**
GNI			pmax	pmax		
	comp=Z,21nm,1.2s					
NVAR	**Mina Array Bea**	**72.08 55**	P	**P**	**03 06 54.4**	**+2.8**
	comp=Z,0.6nm,0.6s,baz=293,slow=6.7,SNR=5.5					
NB2	**NORSAR Subarra**	**72.23 338**	P	**P**	**03 06 52.4**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=37,slow=6.2					
NOA	**NORSAR Array B**	**72.23 338**	P	**P**	**03 06 52.8**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=37,slow=6.0,SNR=7.6					
AKASG	**Malin Array Be**	**73.06 323**	P	**P**	**03 06 56.7**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=47,slow=5.1,SNR=4.4					
PDAR	**Pinedale Array**	**74.61 47**	P	**P**	**03 07 07.1**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=318,slow=1.2,SNR=2.8					
BRTR	**Keskin Array B**	**78.18 312**	P	**P**	**03 07 27.3**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=126,slow=1.7,SNR=4.4					
CLL	**Collm**	**79.46 331**	*i* P	**P**	**03 07 33.5**	**+0.3**
	comp=Z,4.0nm,1.0s					
CLL	**Collm**	**79.46 331**	*i* P	**P**	**03 07 33.5**	**+0.3**
CLL			pmax	pmax		
	comp=Z,4.0nm,1.0s					
KHC	**Kasperske Hory**	**80.99 329**	*e*P	**P**	**03 07 42.9**	**+1.3**
KHC	**Kasperske Hory**	**80.99 329**	*e*P	**P**	**03 07 42.9**	**+1.3**
GERES	**GERESS Array B**	**81.17 329**	P	**P**	**03 07 43.5**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=27,slow=6.6,SNR=5.9					
TXAR	**Lajitas Array**	**87.19 54**	P	**P**	**03 08 13.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=313,slow=3.2,SNR=3.5					

WEL 13 02:56:02.5±0.1, 43.59S×172.81E, h5km, ML3.6/13, 1C-1D, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.13**	**276**	⇓PG	Pg	02 56 05.1	-0.1
CRLZ				SG	Sg	02 56 07.0	0.0
CRLZ				SG	Sg	02 56 07.0	0.0
CRLZ				AML	AML	02 56 07.8	
CRLZ				AML	AML	02 56 07.8	
MQZ	**McQueen's Vall**	**0.16**	**223**	⇑PG	Pg	02 56 06.0	+0.2
MQZ				SG	Sg	02 56 08.4	+0.5
MQZ				AML	AML	02 56 08.5	
OXZ	**Oxford**	**0.62**	**295**	P*	Pg	02 56 14.4	0.0
OXZ				SG	Sg	02 56 22.6	+0.2
LTZ	**Lake Taylor**	**0.90**	**334**	P*	Pg	02 56 19.9	+0.2
LTZ				S*	Sg	02 56 32.0	+0.7
LTZ				AML	AML	02 56 33.0	
RPZ	**Rata Peaks**	**1.28**	**264**	P*	Pg	02 56 25.5	-1.5
RPZ				AML	AML	02 56 44.6	
RPZ				AML	AML	02 56 44.8	
KHZ	**Kahutara**	**1.29**	**25**	P*	Pn	02 56 25.7	-1.4
INZ	**Inchbonnie**	**1.32**	**310**	P*	Pn	02 56 27.1	-0.4
WVZ	**Waitaha Valley**	**1.59**	**288**	PN	Pn	02 56 30.8	-0.6
WVZ				AML	AML	02 56 53.3	
THZ	**Tophouse**	**1.83**	**2**	AML	AML	02 57 00.0	
THZ				AML	AML	02 57 01.9	
DSZ	**Denniston Nort**	**1.98**	**338**	AML	AML	02 57 03.8	
DSZ				AML	AML	02 57 04.7	
LBZ	**Lake Benmore**	**2.05**	**246**	*e*PN	Pn	02 56 36.8	-0.9
LBZ				AML	AML	02 57 09.6	
LBZ				AML	AML	02 57 10.9	
ODZ	**Otahua Downs**	**2.13**	**226**	*e*PN	Pn	02 56 37.5	-1.2
ODZ				AML	AML	02 57 10.5	
ODZ				AML	AML	02 57 10.7	
ODZ				AML	AML	02 57 12.1	
ODZ				AML	AML	02 57 13.0	
FOZ	**Fox Glacier**	**2.17**	**270**	*e*PN	Pn	02 56 38.9	-0.4
FOZ				AML	AML	02 57 07.2	
WKZ	**Wanaka**	**2.99**	**244**	AML	AML	02 57 39.7	
EAZ	**Earnscleugh**	**3.00**	**236**	AML	AML	02 57 37.3	
EAZ				AML	AML	02 57 40.9	
TUZ	**Tuapeka**	**3.27**	**223**	AML	AML	02 57 48.3	
TUZ				AML	AML	02 57 48.9	

WEL 13 03:08:29.4±0.1, 43.59S×172.76E, h10km, ML3.8/15, 2C-1D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.10**	**279**	⇑PG	Pg	03 08 32.1	0.0
CRLZ				SG	Sg	03 08 33.9	0.0
CRLZ				AML	AML	03 08 34.0	
CRLZ				AML	AML	03 08 34.6	
CRLZ				AML	AML	03 08 34.6	
MQZ	**McQueen's Vall**	**0.14**	**215**	⇓PG	Pg	03 08 32.8	+0.2
MQZ				SG	Sg	03 08 35.2	+0.4
MQZ				SG		03 08 35.3	
MQZ				AML	AML	03 08 35.5	
OXZ	**Oxford**	**0.59**	**296**	P*	Pg	03 08 40.7	-0.2
OXZ				S*	Sg	03 08 49.2	+0.5
RPZ	**Rata Peaks**	**1.25**	**264**	P*	Pn	03 08 51.7	-1.3
RPZ				AML	AML	03 09 12.0	
RPZ				AML	AML	03 09 14.5	
INZ	**Inchbonnie**	**1.30**	**311**	PN	Pn	03 08 52.1	-1.5
KHZ	**Kahutara**	**1.30**	**26**	⇑PN	Pn	03 08 52.2	-1.5
WVZ	**Waitaha Valley**	**1.57**	**289**	PN	Pn	03 08 56.6	-0.8
WVZ				AML	AML	03 09 21.1	
WVZ				AML	AML	03 09 28.9	
THZ	**Tophouse**	**1.83**	**3**	PN	Pn	03 08 59.5	-1.6
THZ				AML	AML	03 09 40.6	
THZ				AML	AML	03 09 45.7	
DSZ	**Denniston Nort**	**1.98**	**339**	*e*PN	Pn	03 09 00.5	-2.6
DSZ				AML	AML	03 09 30.2	
DSZ				AML	AML	03 09 30.2	
DSZ				AML	AML	03 09 32.2	
DSZ				AML	AML	03 09 35.9	
LBZ	**Lake Benmore**	**2.02**	**246**	PN	Pn	03 09 02.7	-1.0
LBZ				AML	AML	03 09 41.1	
LBZ				AML	AML	03 09 41.1	
LBZ				AML	AML	03 09 41.3	
LBZ				AML	AML	03 09 41.3	
BSWZ	**Blackbirch Sta**	**2.05**	**24**	PN	Pn	03 09 02.5	-1.4
FOZ	**Fox Glacier**	**2.14**	**271**	PN	Pn	03 09 05.1	-0.1
FOZ				AML	AML	03 09 33.1	
NNZ	**Nelson**	**2.42**	**11**	PN	Pn	03 09 08.2	-0.9
QRZ	**Quartz Range**	**2.77**	**356**	AML	AML	03 10 02.0	
QRZ				AML	AML	03 10 16.0	
DUWZ	**D'Urville Isla**	**2.92**	**18**	PN	Pn	03 09 14.8	-1.2
JCZ	**Jackson Bay**	**2.92**	**259**	PN	Pn	03 09 14.9	-1.1
JCZ				AML	AML	03 10 08.7	
JCZ				AML	AML	03 10 08.9	
WKZ	**Wanaka**	**2.96**	**244**	PN	Pn	03 09 15.8	-0.8
WKZ				AML	AML	03 10 10.7	
WKZ				AML	AML	03 10 15.7	
EAZ	**Earnscleugh**	**2.97**	**235**	PN	Pn	03 09 15.6	-1.0
EAZ				AML	AML	03 10 06.1	
EAZ				AML	AML	03 10 06.9	
EAZ				AML	AML	03 10 07.8	
EAZ				AML	AML	03 10 14.0	
CAW	**Cannon Point**	**3.01**	**35**	AML	AML	03 09 55.2	
KIW	**Kapiti Island**	**3.16**	**31**	PN	Pn	03 09 17.3	-2.0
TUZ	**Tuapeka**	**3.25**	**222**	*e*PN	Pn	03 09 19.3	-1.2
TUZ				AML	AML	03 10 16.6	
TUZ				AML	AML	03 10 17.4	
TUZ				AML	AML	03 10 17.4	
TUZ				AML	AML	03 10 17.6	

MEX 13 03:12:18.9±0.6, 14.22N×92.27W, h20km±127km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.74**	**328**	*e*P	Pn	03 12 45.1	-2.9
PCIG				*i* S	Sn	03 13 05.4	-4.2
CCIG	**Comitan**	**2.05**	**4**	*e*P	Pn	03 12 52.3	-0.2
CCIG				*e*S	Sn	03 13 07.7	-10

WEL 13 03:12:25.5±0.2, 43.61S×172.79E, h6km, ML3.5/9, 1C, Error ellipse: s-maj=1.2km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.13**	**285**	PG	Pg	03 12 28.1	0.0
CRLZ				SG	Sg	03 12 30.0	0.0
CRLZ				SG		03 12 30.1	
CRLZ				AML	AML	03 12 30.1	
CRLZ				AML	AML	03 12 30.2	
MQZ	**McQueen's Vall**	**0.14**	**225**	⇑PG	Pg	03 12 28.7	+0.2
MQZ				SG	Sg	03 12 30.9	+0.5
MQZ				AML	AML	03 12 31.1	
OXZ	**Oxford**	**0.62**	**297**	P*	Pg	03 12 37.2	-0.2
OXZ				SG	Sg	03 12 45.7	+0.3
LTZ	**Lake Taylor**	**0.91**	**335**	P*	Pg	03 12 43.0	0.0
LTZ				S*	Sg	03 12 55.1	+0.3
LTZ				AML	AML	03 12 56.0	
RPZ	**Rata Peaks**	**1.27**	**265**	*e*P*	Pn	03 12 48.2	-1.5
RPZ				AML	AML	03 13 08.1	
RPZ				AML	AML	03 13 08.6	
KHZ	**Kahutara**	**1.31**	**25**	P*	Pn	03 12 48.6	-1.7
INZ	**Inchbonnie**	**1.32**	**311**	*e*P*	Pn	03 12 49.5	-0.9
WVZ	**Waitaha Valley**	**1.59**	**289**	AML	AML	03 13 47.1	
THZ	**Tophouse**	**1.85**	**3**	AML	AML	03 13 40.5	
THZ				AML	AML	03 13 49.0	
DSZ	**Denniston Nort**	**2.00**	**338**	*e*PN	Pn	03 12 59.2	-0.6
LBZ	**Lake Benmore**	**2.04**	**247**	AML	AML	03 13 32.7	
ODZ	**Otahua Downs**	**2.11**	**226**	AML	AML	03 13 35.4	
ODZ				AML	AML	03 13 35.7	
EAZ	**Earnscleugh**	**2.98**	**236**	AML	AML	03 14 03.4	
EAZ				AML	AML	03 14 04.8	

IDC 13 03:13:40.5±1.9, 46.96S×13.50W, h0km, mb4.0/2, mb1 4.0/2, mb1mx3.5/28, mbtmp4.0/2, Error ellipse: s-maj=102.1km s-min=37.1km az=75.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**42.70**	**147**	P	P	03 21 38.5	-0.1
	2.4nm,0.8s,baz=305,slow=4.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**61.37**	**17**	P	P	03 23 58.1	0.0
	1.1nm,0.9s,baz=206,slow=6.3,SNR=5.0						
ILAR	**Eielson Array**	**149.31**	**322**	PKPbc	PKPbc	03 33 29.4	-0.5
	0.5nm,0.9s,baz=63,slow=2.0,SNR=5.5						

WEL 13 03:13:50.3±0.1, 43.58S×172.78E, h6km, ML3.6/7, 1C, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.12**	**271**	PG	Pg	03 13 52.8	0.0
CRLZ				SG	Sg	03 13 54.6	+0.2
CRLZ				AML	AML	03 13 54.7	
CRLZ				AML	AML	03 13 54.7	
CRLZ				AML	AML	03 13 54.7	
MQZ	**McQueen's Vall**	**0.16**	**215**	⇑PG	Pg	03 13 53.6	0.0
MQZ				SG	Sg	03 13 56.0	+0.3
MQZ				SG	Sg	03 13 56.0	+0.3
MQZ				AML	AML	03 13 56.2	
OXZ	**Oxford**	**0.60**	**295**	P*	Pg	03 14 01.4	-0.4
OXZ				SG	Sg	03 14 10.0	+0.5
LTZ	**Lake Taylor**	**0.88**	**335**	P*	Pg	03 14 07.1	-0.1
LTZ				S*	Sg	03 14 19.0	+0.5
LTZ				AML	AML	03 14 20.1	
RPZ	**Rata Peaks**	**1.26**	**263**	P*	Pn	03 14 12.4	-2.1
RPZ				AML	AML	03 14 31.9	
RPZ				AML	AML	03 14 33.9	
KHZ	**Kahutara**	**1.29**	**26**	P*	Pn	03 14 12.9	-1.9
INZ	**Inchbonnie**	**1.30**	**311**	P*	Pn	03 14 13.6	-1.4
WVZ	**Waitaha Valley**	**1.57**	**288**	*e*PN	Pn	03 14 17.5	-1.2
THZ	**Tophouse**	**1.81**	**3**	PN	Pn	03 14 20.1	-2.0
DSZ	**Denniston Nort**	**1.97**	**338**	*e*PN	Pn	03 14 23.0	-1.2
DSZ				AML	AML	03 14 50.7	
DSZ				AML	AML	03 14 50.9	
DSZ				AML	AML	03 14 51.1	
DSZ				AML	AML	03 14 51.5	
BSWZ	**Blackbirch Sta**	**2.03**	**24**	*e*PN	Pn	03 14 23.2	-1.8
LBZ	**Lake Benmore**	**2.04**	**246**	*e*PN	Pn	03 14 23.9	-1.3
LBZ				AML	AML	03 14 57.4	
LBZ				AML	AML	03 15 00.4	
ODZ	**Otahua Downs**	**2.12**	**226**	PN	Pn	03 14 25.1	-1.2
ODZ				AML	AML	03 14 59.4	
ODZ				AML	AML	03 15 00.1	
ODZ				AML	AML	03 15 02.2	
ODZ				AML	AML	03 15 02.3	
FOZ	**Fox Glacier**	**2.16**	**270**	PN	Pn	03 14 26.5	-0.3
TUWZ	**Tuamarina**	**2.31**	**22**	*e*PN	Pn	03 14 26.7	-2.2
NNZ	**Nelson**	**2.40**	**11**	*e*PN	Pn	03 14 28.0	-2.1
EAZ	**Earnscleugh**	**2.99**	**235**	*e*PN	Pn	03 14 36.5	-1.7

*ISCJB **13** 03:14:11.2±0.6, 47.0S±0.1×13.3W±0.1, h10km, mb4.2/14, Error ellipse: s-maj=18.8km s-min=12.5km az=177.9*
*IDC **13** 03:14:11.3±0.7, 46.93S×13.24W, h0km, mb4.2/11, mb1 4.2/11, mb1mx4.1/28, mbtmp4.2/11, Error ellipse: s-maj=22.7km s-min=19.6km az=2.0*
*NEIC **13** 03:14:12.7±0.3, 46.96S×13.27W, h10km, mb4.7/3, Error ellipse: s-maj=13.1km s-min=8.8km az=179.0*

ISC 13 03:14:12.7±0.6, 47.0S±0.1×13.3W±0.1, h10km, n24, o066/21, mb4.2/14, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**29.74**	**73**	P	**P**	**03 20 19.3**	**0.0**
TSUM	**Tsumeb**	**37.45**	**53**	P	**P**	**03 21 26.4**	**0.0**
	3.7nm,0.9s,baz=182,slow=10,SNR=4.6						
H10S2	**ASCENSION HYDR**	**37.88**	**358**	T	T	04 01 55.9	
	baz=180						
H10S3	**ASCENSION HYDR**	**37.88**	**358**	T	T	04 02 03.9	
	baz=180						
H10S1	**ASCENSION HYDR**	**37.90**	**358**	T	T	04 01 57.8	
	baz=180						
CPUP	**Villa Florida**	**40.25**	**285**	P	**P**	**03 21 50.2**	**+0.6**
	1.6nm,0.8s,baz=148,slow=13,SNR=3.4						
MAW	**Mawson**	**42.63**	**147**	P	**P**	**03 22 09.0**	**+0.3**
	4.9nm,0.8s,baz=282,slow=7.5,SNR=7.4						
MATP	**Matopo**	**42.95**	**66**	P	**P**	**03 22 12.0**	**0.0**
	1.7nm,0.7s,baz=255,slow=6.3,SNR=5.4						
SIV	**San Ignacio**	**50.05**	**292**	P	**P**	**03 23 08.7**	**+1.0**
	1.8nm,0.8s,baz=128,slow=8.4,SNR=3.7						
LVC	**Limon Verde**	**50.52**	**279**	P	**P**	**03 23 12.0**	**+0.4**
	16nm,0.7s,baz=188,slow=7.1,SNR=2.7						
LPAZ	**La Paz**	**54.42**	**285**	P	**P**	**03 23 40.3**	**-0.6**
	0.6nm,0.8s,baz=117,slow=4.5,SNR=3.7						
VNDA	**Vanda**	**55.77**	**179**	P	**P**	**03 23 49.4**	**+0.3**
	0.6nm,0.6s,baz=

ellipse: s-maj=35.2km s-min=15.9km az=56.0
*ISCJB **13** 03:17:00.0±0.4,8°.94S±0°.06×112°.44E±0°.03,h71km,*
mb4.1/11,Error ellipse: s-maj=8.2km s-min=4.1km az=11.3
*NEIC **13** 03:17:00.9±0.7,8°.72S×112°.46E,h76km±7km,mb4.2/2,*
Error ellipse: s-maj=13.9km s-min=7.6km az=206.0
NEIC Felt [III] at Blitar and [II] at Karangkates and Tulungagung.
*DJA **13** 03:17:02.7±0.7,9°.5S×111°.2E±°,h37km±7km,M4.8/25,*
mB6.2/2,mb5.0/6,MLv4.6/25,Mw(mB)5.8/2

ISC 13 03:17:00.5±0.5,8°.89S±0°.08×112°.46E±0°.05,h71km,n50,σ1°74/52,mb4.2/11,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.08**	**323**	P	**Pn**	**03 17 20.0**	**-0.1**
GMJI	**Gumukmas**	**1.15**	**58**	P	**Pn**	**03 17 20.5**	**-0.5**
PCJI	**Pacitan**	**1.44**	**298**	P	**Pn**	**03 17 25.5**	**+0.7**
BLJI	**Banyuglugur**	**1.60**	**45**	P	**Pn**	**03 17 27.6**	**+0.8**
JAGI	**Jajag, Banyuwa**	**1.73**	**76**	P	**Pn**	**03 17 29.1**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.73**	**76**	*e*Pn	**Pn**	**03 17 28.9**	**+0.3**
JAGI				*e*S	**Sn**	**03 17 48.8**	**-1.0**
NGJI	**Ngawi**	**1.80**	**327**	P	**Pn**	**03 17 32.3**	**+2.7**
GRJI	**Gresik**	**1.96**	**1**	P	**Pn**	**03 17 32.5**	**+0.8**
ABJI	**Asem Bagus**	**2.06**	**58**	P	**Pn**	**03 17 34.4**	**+1.3**
TBJI	**Tambak Boyo**	**2.14**	**344**	P	**Pn**	**03 17 35.0**	**+0.8**
UGM	**Wanagama**	**2.15**	**297**	P	**Pn**	**03 17 35.3**	**+1.1**
SMRI	**Semarang**	**2.71**	**312**	P	**Pn**	**03 17 43.4**	**+1.6**
SMRI	**Semarang**	**2.71**	**312**	*e*Pn	**Pn**	**03 17 41.4**	**-0.4**
DNP	**Denpasar**	**2.73**	**86**	P	**Sn**	**03 18 12.4**	**-1.6**
SRBI	**Singaraja**	**2.84**	**74**	P	**Pn**	**03 17 45.4**	**+1.8**
KPJI	**Karang Pucung**	**3.82**	**294**	P	**Pn**	**03 17 59.2**	**+2.3**
CMJI	**Cimerak**	**4.12**	**285**	P	**Pn**	**03 18 02.0**	**+1.0**
TWSI	**Taliwang, Sumb**	**4.38**	**88**	P	**Pn**	**03 18 07.5**	**+3.0**
CISI	**Cisompet, Garu**	**4.78**	**286**	P	**Pn**	**03 18 11.7**	**+1.5**
CISI	**Cisompet, Garu**	**4.78**	**286**	*e*Pn	**Pn**	**03 18 11.3**	**+1.1**
CISI				*e*S	**Sn**	**03 19 04.1**	**-0.3**
PLAI	**Plampang** 100nm,1.0s,0.7nm	**5.26**	**90**	P	**Pn**	**03 18 20.6**	**+4.0**
BBKI	**Banjar Baru**	**5.89**	**24**	P	**Pn**	**03 18 27.0**	**+1.8**
XMIS	**Christmas Isla**	**6.89**	**256**	*e*Pn	**Pn**	**03 18 38.5**	**-0.5**
XMIS				*e*S	Sn	03 19 45.4	-11
CGJI	**Cibinong** 79nm,0.7s,0.4nm	**7.08**	**288**	P	**Pn**	**03 18 45.0**	**+3.5**
WSI	**Waingapu** 414nm,0.4s,17µm2.5nm	**7.78**	**96**	P	**Pn**	**03 18 53.3**	**+2.2**
KASI	**Kota Agung** 25nm,0.7s	**8.58**	**292**	P	**Pn**	**03 19 04.8**	**+2.8**
KSI	**Kapahiang**	**11.10**	**297**	P	**Pn**	**03 19 38.5**	**+2.0**
MBWA	**Marble Bar** 56nm,0.5s	**14.07**	**151**	*e*Pn	**Pn**	**03 20 13.7**	**-2.9**
MBWA				*e*S	Sn	03 22 38.6	-13
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=287,slow=8.0,SNR=28	**15.74**	**127**	Pn	**Pn**	**03 20 37.5**	**-0.6**
FITZ				Sn	Sn	03 23 20.4	-11
WRA	**Warramunga Arr** 4.8nm,0.6s,baz=297,slow=11,SNR=54	**23.84**	**120**	P	**P**	**03 22 08.2**	**+0.8**
WRA				PcP	**PcP**	**03 25 50.0**	**+0.9**
	0.7nm,0.5s,baz=302,slow=1.8,SNR=6.1						
WRAB	**Tennant Creek** 3.2nm,0.6s	**23.84**	**120**	*e*P	**P**	**03 22 08.6**	**+1.2**
ASAR	**Alice Springs** 1.3nm,0.4s,baz=302,slow=9.2,SNR=20	**25.24**	**128**	P	**P**	**03 22 21.4**	**+1.3**
ASAR				PcP	**PcP**	**03 25 53.1**	**+1.0**
	0.7nm,0.4s,baz=311,slow=1.7,SNR=7.4						
STKA	**Stephens Creek** 3.8nm,0.5s,baz=312,slow=9.4,SNR=22	**35.41**	**134**	P	**P**	**03 23 52.0**	**+2.2**
STKA				PcP	**PcP**	**03 26 19.8**	**+1.3**
	3.4nm,0.4s,baz=356,slow=3.1,SNR=11						
H08S2	**Diego Garcia H** baz=95,slow=76,SNR=8.2	**39.56**	**269**	T	T	04 06 21.8	
H08S3	**Diego Garcia H** baz=95,slow=76,SNR=11	**39.57**	**269**	T	T	04 06 22.5	
H08S1	**Diego Garcia H** baz=95,slow=76,SNR=11	**39.58**	**269**	T	T	04 06 23.2	
KSAR	**Wonju Array Be**	**48.30**	**16**	P	**P**	**03 25 34.1**	**-0.6**
KSRS	**Korea Array** 1.6nm,0.8s,baz=207,slow=8.1,SNR=7.3	**48.32**	**17**	P	**P**	**03 25 34.1**	**-0.7**
MJAR	**Matsushiro Arr** 0.6nm,0.4s,baz=207,slow=8.1,SNR=4.2	**51.26**	**27**	P	**P**	**03 25 54.5**	**-2.8**
USRK	**Ussuriysk Ar.** 2.7nm,0.7s,baz=197,slow=3.0,SNR=7.4	**55.72**	**17**	P	**P**	**03 26 26.9**	**-2.9**
MKAR	**Makanchi Array** 2.3nm,0.6s,baz=150,slow=7.3,SNR=17	**61.61**	**337**	P	**P**	**03 27 08.8**	**-1.9**
ZALV	**Zalesovo Beam** 1.8nm,0.5s,baz=161,slow=4.5,SNR=8.1	**66.82**	**343**	P	**P**	**03 27 42.2**	**-2.3**
ABKAR	**Akbulak array** 4.5nm,0.7s	**73.86**	**327**	*e*P	**P**	**03 28 25.9**	**-1.8**
BRTR	**Keskin Array B** 1.6nm,0.8s,baz=134,slow=7.7,SNR=11	**87.13**	**311**	P	**P**	**03 29 38.4**	**-0.7**
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=69,slow=2.0,SNR=12	**112.08**	**281**	PKiKP	**PKiKP**	**03 35 28.6**	**-0.3**
YKA	**Yellowknife Ar** 0.4nm,0.5s,baz=321,slow=1.4,SNR=5.8	**116.64**	**22**	PKP	**PKPdf**	**03 35 36.1**	**-0.2**
CPUP	**Villa Florida** 0.7nm,0.4s,baz=179,slow=4.0,SNR=4.8	**143.61**	**196**	PKP	**PKPdf**	**03 36 27.8**	**-0.3**
WCI	**Wyandotte Cave**	**146.25**	**27**	*e*PKPdf	**PKPdf**	**03 36 32.5**	**+0.2**
BDFB	**Brasilia** 1.3nm,0.4s,baz=112,slow=4.1,SNR=5.6	**148.89**	**219**	PKPbc	**PKPbc**	**03 36 42.0**	**+0.6**
LPAZ	**La Paz** 0.4nm,0.6s,baz=207,slow=6.8,SNR=3.0	**154.98**	**179**	PKPbc	PKPbc	03 36 59.8	+3.9
LPAZ				PKPab	**PKPab**	**03 37 14.1**	**+2.8**
	0.7nm,0.7s,baz=198,slow=9.6,SNR=4.3						

NSSC 13 03:33:00.6±3.0,33°.91N×35°.89E,h2km±15km,MD1.7,ML2.0,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCHB	**Talchebab**	**1.24**	**177**	*e*P	Pg	03 33 24.1	-0.2
TCHB				*e*S	Sg	03 33 40.4	+0.1
TCHB				AML	AML	03 33 44.3	
	comp=E,54nm,0.4s						
TCHB				AML	AML	03 33 46.9	
	comp=N,29nm,0.4s						
ZALF	**Zalf**	**1.56**	**129**	*e*P	Pg	03 33 30.6	+0.1
ZALF				*e*S	Sn	03 33 49.3	-0.9
ZALF				AML	AML	03 33 57.4	
	comp=N,12nm,0.3s						
ZALF				AML	AML	03 34 01.1	
	comp=E,9.6nm,0.8s						
SLNF	**Slenfeh**	**1.71**	**9**	*e*P	Pn	03 33 28.7	-2.8
SLNF				*e*S	Sn	03 33 52.6	-1.4
SLNF				AML	AML	03 34 00.3	
	comp=N,102nm,0.7s						
SLNF				AML	AML	03 34 00.6	
	comp=E,118nm,0.6s						
ARNB	**Al Arnab**	**1.95**	**2**	*e*P	Pn	03 33 35.9	+1.0
ARNB				*e*S	Sn	03 34 00.8	+0.9
ARNB				AML	AML	03 34 16.6	
	comp=N,12nm,0.4s						
ARNB				AML	AML	03 34 20.5	
	comp=E,32nm,0.6s						
BTCH	**Batrach**	**2.18**	**12**	*e*P	Pn	03 33 38.2	+0.3
BTCH				*e*S	Sn	03 34 05.7	+0.2
BTCH				AML	AML	03 34 24.0	
	comp=E,24nm,0.5s						
BTCH				AML	AML	03 34 25.8	
	comp=N,23nm,0.6s						

WEL 13 03:33:08.7±0.2,43°.62S×172°.81E,h5km,ML3.4/9,1C-2D,Error ellipse: s-maj=1.8km s-min=0.7km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.14**	**287**	⇓P	Pg	03 33 11.6	+0.1
CRLZ				AML	AML	03 33 12.1	
CRLZ				AML	AML	03 33 12.2	
CRLZ				AML	AML	03 33 14.0	
CRLZ				AML	AML	03 33 14.3	
MQZ	**McQueen's Vall**	**0.14**	**231**	⇑P	Pg	03 33 11.7	+0.1
MQZ				SG	Sg	03 33 13.8	+0.3
MQZ				SG		03 33 14.0	
OXZ	**Oxford**	**0.63**	**297**	⇓P*	Pg	03 33 20.9	+0.1
OXZ				SG	Sg	03 33 30.1	+1.1
LTZ	**Lake Taylor**	**0.92**	**335**	P*	Pg	03 33 26.4	0.0
LTZ				S*	Sg	03 33 39.0	+0.7
LTZ				AML	AML	03 33 42.5	
RPZ	**Rata Peaks**	**1.28**	**265**	*e*P*	Pg	03 33 31.0	-2.2
RPZ				AML	AML	03 33 50.5	
RPZ				AML	AML	03 33 51.6	
INZ	**Inchbonnie**	**1.34**	**311**	*e*P*	Pn	03 33 32.9	-1.0
WVZ	**Waitaha Valley**	**1.61**	**289**	*e*PN	Pn	03 33 36.5	-1.2
THZ	**Tophouse**	**1.85**	**2**	PN	Pn	03 33 39.4	-1.8
THZ				AML	AML	03 34 17.4	
THZ				AML	AML	03 34 17.6	
DSZ	**Denniston Nort**	**2.01**	**338**	*e*PN	Pn	03 33 42.8	-0.4
DSZ				AML	AML	03 34 12.9	
DSZ				AML	AML	03 34 17.0	
LBZ	**Lake Benmore**	**2.04**	**247**	AML	AML	03 34 14.9	
LBZ				AML	AML	03 34 21.6	
ODZ	**Otahua Downs**	**2.11**	**227**	*e*PN	Pn	03 33 43.0	-1.6
ODZ				AML	AML	03 34 21.9	
ODZ				AML	AML	03 34 24.3	
ODZ				AML	AML	03 34 24.3	
ODZ				AML	AML	03 34 27.5	
FOZ	**Fox Glacier**	**2.18**	**271**	*e*PN	Pn	03 33 45.5	0.0
JCZ	**Jackson Bay**	**2.95**	**260**	*e*PN	Pn	03 33 56.0	-0.2
EAZ	**Earnscleugh**	**2.98**	**236**	AML	AML	03 34 47.5	
EAZ				AML	AML	03 34 50.8	
TUZ	**Tuapeka**	**3.25**	**223**	*e*PN	Pn	03 33 57.5	-2.8
TUZ				AML	AML	03 34 55.5	
TUZ				AML	AML	03 34 58.1	

*CSEM **13** 03:33:27.2,33°.87N×35°.84E,h0km,ML3.1*
GRAL 13 03:33:27.2±0.3,33°.87N×35°.84E,h0km±20km,MD3.1,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.16**	**282**	*e*P	Pg	03 33 30.0	-0.2
BHL				*e*S	Sg	03 33 32.1	-0.2
BHL	**Bhannes**	**0.16**	**282**	*e*P	Pg	03 33 30.0	-0.2
BHL				*e*S	Sg	03 33 32.1	-0.2
DQRL	**Deir Qamar**	**0.28**	**234**	*e*P	Pg	03 33 32.1	-0.4
DQRL				*e*S	Sg	03 33 35.9	-0.2
DQRL	**Deir Qamar**	**0.28**	**234**	*e*P	Pg	03 33 32.1	-0.4
DQRL				*e*S	Sg	03 33 35.9	-0.2
RCY	**Rachaya**	**0.37**	**181**	*e*P	Pg	03 33 33.8	-0.6
RCY				*e*S	Sg	03 33 38.9	-0.3
HWQ	**Hawqa**	**0.41**	**12**	*e*P	Pg	03 33 34.7	-0.5
HWQ	**Hawqa**	**0.41**	**12**	*e*P	Pg	03 33 34.7	-0.5

WEL 13 03:33:35.6±0.3,43°.59S×172°.67E,h5km,ML2.9/3,2C,Error ellipse: s-maj=4.7km s-min=1.3km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.04**	**290**	⇑PG	Pg	03 33 36.5	-0.2
CRLZ				SG	Sg	03 33 37.5	0.0
CRLZ				AML	AML	03 33 37.5	
CRLZ				AML	AML	03 33 37.5	
MQZ	**McQueen's Vall**	**0.12**	**186**	⇑PG	Pg	03 33 38.1	0.0
MQZ				SG	Sg	03 33 40.2	+0.5
MQZ				SG		03 33 40.2	
OXZ	**Oxford**	**0.53**	**299**	PG	Pb	03 33 47.2	-0.2
LTZ	**Lake Taylor**	**0.86**	**340**	P*	Pg	03 33 52.3	+0.3
LTZ				S*	Sb	03 34 04.0	-0.8
LTZ				AML	AML	03 34 05.1	

WEL 13 03:34:19.5±0.2,43°.59S×172°.74E,h5km,ML2.7/6,1D,Error ellipse: s-maj=1.9km s-min=0.9km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.09**	**278**	⇓PG	Pg	03 34 21.6	+0.3
CRLZ				AML	AML	03 34 21.8	
CRLZ				AML	AML	03 34 22.0	
CRLZ				SG	Sg	03 34 23.3	+0.7
CRLZ				AML	AML	03 34 23.5	
MQZ	**McQueen's Vall**	**0.14**	**209**	PG	Pg	03 34 22.3	+0.1
MQZ				SG	Sg	03 34 24.6	+0.5
OXZ	**Oxford**	**0.58**	**297**	PG	Pg	03 34 30.6	+0.1
OXZ				SG	Sg	03 34 39.0	+0.9
LTZ	**Lake Taylor**	**0.88**	**337**	P*	Pg	03 34 36.5	+0.2
LTZ				S*	Sb	03 34 48.6	-0.7
LTZ				AML	AML	03 34 49.5	
RPZ	**Rata Peaks**	**1.23**	**264**	*e*P*	Pg	03 34 42.0	-1.2
RPZ				AML	AML	03 35 01.3	
INZ	**Inchbonnie**	**1.28**	**312**	*e*P*	Pn	03 34 43.1	-0.9
WVZ	**Waitaha Valley**	**1.55**	**289**	AML	AML	03 35 13.1	
LBZ	**Lake Benmore**	**2.01**	**246**	AML	AML	03 35 28.8	

WEL 13 03:39:52.5±0.1,43°.56S×172°.72E,h6km,ML3.5/4,2C-1D,Error ellipse: s-maj=0.7km s-min=0.5km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.07**	**260**	⇑PG	Pg	03 39 54.1	0.0
CRLZ				SG	Sg	03 39 55.4	+0.1
CRLZ				AML	AML	03 39 55.6	
CRLZ				AML	AML	03 39 55.6	
MQZ	**McQueen's Vall**	**0.15**	**197**	⇑PG	Pg	03 39 55.6	+0.1
MQZ				SG	Sg	03 39 58.0	+0.5
MQZ				AML	AML	03 39 58.2	
MQZ				AML	AML	03 39 58.6	
OXZ	**Oxford**	**0.55**	**295**	PG	Pg	03 40 03.0	0.0
LTZ	**Lake Taylor**	**0.84**	**337**	⇓P*	Pg	03 40 08.9	+0.2
LTZ				S*	Sb	03 40 20.6	-0.7
LTZ				AML	AML	03 40 21.7	
RPZ	**Rata Peaks**	**1.22**	**262**	P*	Pg	03 40 14.2	-1.6
RPZ				AML	AML	03 40 18.7	
INZ	**Inchbonnie**	**1.25**	**312**	P*	Pg	03 40 15.3	-1.2
KHZ	**Kahutara**	**1.29**	**28**	P*	Pn	03 40 15.3	-1.9
WVZ	**Waitaha Valley**	**1.52**	**288**	PN	Pn	03 40 20.4	+0.1
FOZ	**Fox Glacier**	**2.11**	**270**	PN	Pn	03 40 28.2	-0.2

*ISCJB **13** 03:40:10.0±1.6,43°.62S±0°.06×172°.7E±0°.2,h12km±4km,*
mb3.4/2,Error ellipse: s-maj=23.6km s-min=9.3km az=177.9
*WEL **13** 03:40:09.8±0.2,43°.59S×172°.80E,h4km,ML4.0/19,Error ellipse: s-maj=1.4km s-min=0.6km az=90.0*
*IDC **13** 03:40:10.8±2.3,43°.30S×172°.57E,h0km,mb3.5/2,*
mb1 3.8/2,mb1mx3.5/22,mbtmp3.5/2,Error ellipse:
s-maj=55.1km s-min=18.4km az=152.0
ISC 13 03:40:07.2±3.4,43°.58S±0°.07×173°.0E±0°.2,h3km±18km,n25,σ1°17/14,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.27**	**271**	PG	**Pg**	**03 40 12.3**	**-0.1**
CRLZ				SG	**Sg**	**03 40 14.3**	**-1.6**
CRLZ				AML	AML	03 40 14.8	
CRLZ				AML	AML	03 40 15.1	
CRLZ				AML	AML	03 40 15.8	
MQZ	**McQueen's Vall**	**0.28**	**242**	PG	**Pg**	**03 40 13.2**	**+0.6**
MQZ				SG	**Sg**	**03 40 15.2**	**-1.0**
MQZ				AML	AML	03 40 15.7	
LTZ	**Lake Taylor**	**0.95**	**326**	P*	**Pn**	**03 40 27.3**	**-0.3**
LTZ				S*	**Sg**	**03 40 38.8**	**+0.9**
LTZ				AML	AML	03 40 40.3	
RPZ	**Rata Peaks** 191nm,0.3s,baz=236,slow=0.4,SNR=52	**1.41**	**264**	Pg	**Pn**	**03 40 33.0**	**-0.9**
RPZ				Lg	Lg	03 40 49.8	
	140nm,0.3s,baz=319,slow=19,SNR=12						
RPZ	**Rata Peaks**	**1.41**	**264**	P*	**Pn**	**03 40 33.0**	**-0.9**
RPZ				AML	AML	03 40 54.2	
RPZ				AML	AML	03 40 54.4	
INZ	**Inchbonnie**	**1.42**	**306**	P*	**Pg**	**03 40 34.6**	**+0.2**
WVZ	**Waitaha Valley**	**1.72**	**286**	AML	AML	03 41 01.6	
WVZ				AML	AML	03 41 02.1	
THZ	**Tophouse**	**1.82**	**358**	AML	AML	03 41 10.8	
THZ				AML	AML	03 41 12.5	
DSZ	**Denniston Nort**	**2.03**	**334**	AML	AML	03 41 11.4	
DSZ				AML	AML	03 41 11.7	
LBZ	**Lake Benmore**	**2.18**	**247**	PN	**Pb**	**03 40 48.2**	**+0.9**
LBZ				AML	AML	03 41 22.2	
LBZ				AML	AML	03 41 24.1	
ODZ	**Otahua Downs**	**2.23**	**228**	AML	AML	03 41 17.7	
ODZ				AML	AML	03 41 20.1	
FOZ	**Fox Glacier**	**2.31**	**270**	AML	AML	03 41 14.0	
FOZ				AML	AML	03 41 14.5	
NNZ	**Nelson**	**2.38**	**7**	AML	AML	03 41 20.8	
NNZ				AML	AML	03 41 24.2	
TCW	**Tory Channel**	**2.55**	**22**	AML	AML	03 41 24.6	
QRZ	**Quartz Range**	**2.77**	**353**	AML	AML	03 41 03.2	
QRZ				AML	AML	03 41 30.8	
JCZ	**Jackson Bay**	**3.08**	**259**	AML	AML	03 41 14.1	
JCZ				AML	AML	03 41 47.1	
EAZ	**Earnscleugh**	**3.12**	**237**	AML	AML	03 41 44.6	
EAZ				AML	AML	03 41 48.0	
EAZ				AML	AML	03 41 48.1	
EAZ				AML	AML	03 41 48.4	
WKZ	**Wanaka**	**3.12**	**245**	AML	AML	03 41 49.3	
WKZ				AML	AML	03 41 49.5	
TUZ	**Tuapeka**	**3.37**	**224**	AML	AML	03 41 54.5	
TUZ				AML	AML	03 41 55.2	
MLZ	**Mavora Lakes**	**3.92**	**241**	AML	AML	03 42 18.1	
SYZ	**Scrubby Hill**	**4.03**	**221**	AML	AML	03 42 14.6	
SYZ				AML	AML	03 42 20.4	
URZ	**Urewera** 1.2nm,0.3s,baz=265,slow=17,SNR=3.7	**6.16**	**32**	Sn	**Sn**	**03 42 47.7**	**-2.3**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=123,slow=10,SNR=4.3	**37.69**	**289**	P	**P**	**03 47 24.6**	**+0.8**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=132,slow=8.2,SNR=6.3	**39.93**	**294**	P	**P**	**03 47 43.5**	**+0.8**
TORD	**Torodi Ar. Bea** 1.1nm,1.2s,baz=169,slow=1.5,SNR=3.3	**148.76**	**197**	PKPbc	**PKPab**	**04 00 00.5**	**+0.5**

MAN 13 03:57:06,8°.69N×126°.00E,h130km,mb4.3,ML3.2,MS3.0,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.61**	**145**	⇑*i*P	Pn	03 57 28.2	+2.5
BIPH				*i* S	Sn	03 57 41.2	+0.5
BUKP	**Musuan**	**1.23**	**229**	*e*P	Pn	03 57 36.7	+5.5
BUKP				*e*S	Sn	03 57 54.1	+3.7
CGP	**Cagayan de Oro**	**1.31**	**260**	⇑*e*P	Pn	03 57 33.6	+1.5
CGP				*e*S	Sn	03 57 53.7	+1.9
MATI	**Mati**	**1.75**	**172**	*e*P	Pn	03 57 37.1	+0.2
MATI				*e*S	Sn	03 58 02.3	+1.6
BESP	**Borongan**	**2.95**	**349**	*e*P	Pn	03 57 53.4	+1.4
BESP				*e*S	Sn	03 58 26.7	-0.8

*JMA **13** 03:59:35.7±0.3,39°.68N×143°.33E,h27km±5km,M3.3*
*IDC **13** 03:59:39.4±3.1,39°.98N×142°.48E,h0km,mb3.6/4,*
mb1 3.6/5,mb1mx3.4/34,mbtmp3.5/5,ML3.0/1,Error ellipse: s-maj=78.2km s-min=30.9km az=75.0
ISC 13 03:59:37.6±2.0,39°.67N±0°.07×143°.1E±0°.1,h18km,n16,σ0°93/18,mb3.6/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.96**	**287**	P	**Pg**	**03 59 56.4**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.97**	**265**	P	**Pg**	**03 59 56.8**	**+0.5**
JANG	**Nango**	**1.38**	**301**	P	**Pn**	**04 00 02.1**	**+0.1**
JANG				*e*S	**Sg**	**04 00 21.8**	**-0.5**
JOM	**Ohasama**	**1.38**	**262**	P	**Pb**	**04 00 03.4**	**+0.5**
JOM				*e*S	**Sg**	**04 00 23.2**	**+0.9**
JMK	**Ichinoseki**	**1.60**	**244**	P	**Pb**	**04 00 06.1**	**-0.5**
JIO	**Ouri**	**1.80**	**228**	P	**Pn**	**04 00 07.7**	**0.0**
JTM	**Tenmabayashi**	**1.89**	**307**	P	**Pn**	**04 00 09.9**	**+0.9**
JRG	**Rokugo**	**1.90**	**263**	P	**Pb**	**04 00 10.7**	**-1.0**
JAH	**Hinai**	**1.94**	**286**	P	**Pb**	**04 00 11.2**	**-1.1**
JYK	**Kaneyama**	**2.23**	**251**	P	**Pn**	**04 00 14.4**	**+0.8**
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=40,slow=11,SNR=10.0	**4.94**	**232**	Pn	**Pn**	**04 00 52.8**	**+2.0**
MAT	**Matsushiro**	**4.94**	**232**	P	**Pn**	**04 00 49.6**	**-1.3**
MAT				*e*S	Sn	**04 01 46.3**	**-1.3**
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=93,slow=8.3,SNR=3.0	**41.16**	**310**	P	**P**	**04 07 20.9**	**+0.4**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=82,slow=10,SNR=2.7	**43.87**	**300**	P	**P**	**04 07 43.1**	**+0.4**
KURBB	**Kurchatov Arra** 0.7nm,0.7s,baz=83,slow=8.8,SNR=5.2	**45.45**	**306**	P	**P**	**04 07 54.9**	**-0.3**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=7.9,slow=6.8,SNR=2.8	**59.86**	**190**	P	P	04 09 48.3	+6.3

*ISK **13** 04:01:48.8,39°.08N×29°.06E,h5km,MD2.6*
*ISCJB **13** 04:01:49.3±0.6,39°.09N±0°.05×29°.05E±0°.04,h1km±10km,*
Error ellipse: s-maj=8.8km s-min=4.5km az=155.0
*CSEM **13** 04:01:49.4±0.1,39°.09N×29°.05E,h2km,MD2.6,Error ellipse: s-maj=2.5km s-min=2.1km az=169.0*
*DDA **13** 04:01:49.5,39°.09N×29°.02E,h7km,Md2.6*
ISC 13 04:01:49.7±1.1,39°.09N±0°.03×29°.04E±0°.02,h4km±11km,n18,σ0°36/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**259**	P	**Pg**	**04 01 54.7**	**0.0**
DEMI				S	**Sg**	**04 01 58.2**	**+0.1**
DEMI	**Demirci**	**0.26**	**259**	*i* P	**Pg**	**04 01 54.7**	**0.0**
DEMI				*i* S	**Sg**	**04 01 58.2**	**+0.1**
GEDZ	**Gediz**	**0.29**	**99**	*e*Pg	**Pg**	**04 01 54.7**	**-0.7**
GEDZ	**Gediz**	**0.29**	**99**	*e*Pg	**Pg**	**04 01 54.7**	**-0.7**
GDZ	**Gediz**	**0.34**	**91**	P	**Pg**	**04 01 56.5**	**+0.1**
GDZ				S	**Sg**	**04 02 01.5**	**+0.6**
GDZ	**Gediz**	**0.34**	**91**	*i* P	**Pg**	**04 01 56.5**	**+0.1**
GDZ				*i* S	**Sg**	**04 02 01.6**	**+0.6**
TVSB	**Tavsanli**	**0.48**	**42**	*e*PG	**Pg**	**04 01 58.7**	**-0.3**
TVSB				*e*SG	**Sg**	**04 02 05.1**	**-0.3**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*PG	**Pg**	**04 02 02.0**	**-0.1**
KULA				*e*SG	**Sg**	**04 02 10.8**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*Pg	**Pg**	**04 02 02.0**	**-0.1**
KULA				*e*Sg	**Sg**	**04 02 10.8**	**+0.2**
KHL	**Karahalli**	**0.86**	**154**	*e*PG	**Pg**	**04 02 05.8**	**-0.3**
BALY	**Balya**	**1.28**	**301**	P	**Pg**	**04 02 13.9**	**-0.2**
BALY				S	**Sn**	**04 02 31.6**	**-0.2**
BALY	**Balya**	**1.28**	**301**	*i* P	**Pg**	**04 02 13.9**	**-0.2**
BALY				*i* S	**Sn**	**04 02 31.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pn**	**04 02 14.1**	**-0.3**
KCTX				*e

WEL 13 04:10:47.5±0.2, 43°58S×172°80E, h7km, ML3.4/6, 1C-1D, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.17**	**218**	⇑P	Pg	04 10 51.1	+0.2
MQZ				SG	Sg	04 10 53.7	+0.4
MQZ				SG		04 10 53.7	
MQZ				AML	AML	04 10 53.8	
OXZ	**Oxford**	**0.60**	**294**	P*	Pg	04 10 59.1	-0.1
OXZ				SG	Sg	04 11 07.8	+0.8
LTZ	**Lake Taylor**	**0.88**	**334**	⇓P*	Pg	04 11 04.7	+0.3
LTZ				S*	Sb	04 11 16.9	-0.3
LTZ				AML	AML	04 11 17.4	
RPZ	**Rata Peaks**	**1.27**	**263**	P*	Pn	04 11 10.2	-1.6
RPZ				AML	AML	04 11 29.7	
RPZ				AML	AML	04 11 30.3	
KHZ	**Kahutara**	**1.28**	**25**	P*	Pn	04 11 10.2	-1.6
INZ	**Inchbonnie**	**1.30**	**310**	P*	Pn	04 11 11.5	-0.7
LBZ	**Lake Benmore**	**2.05**	**246**	AML	AML	04 11 57.4	
LBZ				AML	AML	04 11 57.6	
ODZ	**Otahua Downs**	**2.13**	**226**	*e*PN	Pn	04 11 21.8	-1.7
ODZ				AML	AML	04 11 57.3	
ODZ				AML	AML	04 11 57.9	
EAZ	**Earnscleugh**	**3.00**	**235**	AML	AML	04 12 23.2	

WEL 13 04:11:28.2±0.1, 43°56S×172°73E, h7km, ML3.0/9, 1C, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.15**	**200**	⇑P	Pg	04 11 31.6	+0.1
MQZ				SG	Sg	04 11 34.1	+0.5
MQZ				SG	Sg	04 11 34.1	+0.5
MQZ				AML	AML	04 11 34.3	
OXZ	**Oxford**	**0.55**	**295**	P*	Pg	04 11 38.8	-0.1
LTZ	**Lake Taylor**	**0.85**	**337**	P*	Pg	04 11 44.7	+0.2
LTZ				AML	AML	04 11 57.1	
LTZ				AML	AML	04 11 57.5	
RPZ	**Rata Peaks**	**1.23**	**262**	*e*P*	Pg	04 11 51.0	-0.7
RPZ				AML	AML	04 12 08.6	
RPZ				AML	AML	04 12 09.4	
INZ	**Inchbonnie**	**1.26**	**311**	*e*P*	Pn	04 11 52.1	-0.1
KHZ	**Kahutara**	**1.29**	**28**	P*	Pn	04 11 50.6	-2.0
WVZ	**Waitaha Valley**	**1.53**	**288**	AML	AML	04 12 23.2	
THZ	**Tophouse**	**1.80**	**4**	AML	AML	04 12 25.3	
DSZ	**Denniston Nort**	**1.94**	**339**	AML	AML	04 12 28.7	
LBZ	**Lake Benmore**	**2.01**	**245**	AML	AML	04 12 35.9	
ODZ	**Otahua Downs**	**2.11**	**225**	SN	Sg	04 12 34.8	-1.1
ODZ				AML	AML	04 12 38.7	
FOZ	**Fox Glacier**	**2.12**	**270**	AML	AML	04 12 31.6	

WEL 13 04:14:16.0±0.1, 43°58S×172°75E, h9km, ML3.5/12, 1C-2D, Error ellipse: s-maj=0.7km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.09**	**271**	⇓PG	Pg	04 14 18.4	+0.1
CRLZ				SG	Sg	04 14 20.3	+0.3
CRLZ				AML	AML	04 14 20.9	
MQZ	**McQueen's Vall**	**0.15**	**208**	⇑PG	Pg	04 14 19.4	+0.2
MQZ				SG	Sg	04 14 21.9	+0.5
MQZ				SG		04 14 21.9	
MQZ				AML	AML	04 14 21.9	
OXZ	**Oxford**	**0.58**	**296**	⇓P*	Pg	04 14 27.1	0.0
OXZ				S*	Sg	04 14 35.3	+0.7
LTZ	**Lake Taylor**	**0.87**	**336**	P*	Pg	04 14 32.6	-0.1
LTZ				S*	Sg	04 14 44.3	+0.4
LTZ				AML	AML	04 14 45.5	
RPZ	**Rata Peaks**	**1.24**	**263**	P*	Pn	04 14 38.2	-1.3
RPZ				AML	AML	04 14 58.4	
RPZ				AML	AML	04 15 00.4	
INZ	**Inchbonnie**	**1.28**	**311**	P*	Pn	04 14 39.4	-0.6
KHZ	**Kahutara**	**1.30**	**27**	P*	Pn	04 14 38.6	-1.7
WVZ	**Waitaha Valley**	**1.55**	**288**	PN	Pn	04 14 43.0	-0.7
WVZ				AML	AML	04 15 11.5	
THZ	**Tophouse**	**1.82**	**4**	AML	AML	04 15 15.2	
THZ				AML	AML	04 15 15.3	
DSZ	**Denniston Nort**	**1.96**	**339**	*e*PN	Pn	04 14 48.3	-1.2
DSZ				AML	AML	04 15 16.3	
DSZ				AML	AML	04 15 18.4	
LBZ	**Lake Benmore**	**2.02**	**246**	PN	Pn	04 14 49.4	-0.8
LBZ				AML	AML	04 15 23.1	
LBZ				AML	AML	04 15 25.4	
ODZ	**Otahua Downs**	**2.11**	**225**	*e*PN	Pn	04 14 48.9	-2.5
ODZ				AML	AML	04 15 24.7	
ODZ				AML	AML	04 15 25.8	
ODZ				AML	AML	04 15 27.5	
FOZ	**Fox Glacier**	**2.13**	**270**	PN	Pn	04 14 51.6	-0.1
QRZ	**Quartz Range**	**2.75**	**357**	AML	AML	04 15 49.1	
EAZ	**Earnscleugh**	**2.97**	**235**	AML	AML	04 15 53.8	
TUZ	**Tuapeka**	**3.25**	**222**	*e*PN	Pn	04 15 06.2	-0.9
TUZ				AML	AML	04 16 07.3	
TUZ				AML	AML	04 16 08.0	

WEL 13 04:23:09.4±0.1, 43°56S×172°75E, h6km, ML3.6/14, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.10**	**260**	PG	Pg	04 23 11.6	+0.1
CRLZ				SG	Sg	04 23 13.3	+0.4
CRLZ				AML	AML	04 23 13.4	
CRLZ				AML	AML	04 23 13.4	
MQZ	**McQueen's Vall**	**0.16**	**206**	PG	Pg	04 23 12.9	+0.2
MQZ				AML	AML	04 23 14.0	
MQZ				SG	Sg	04 23 15.6	+0.7
OXZ	**Oxford**	**0.57**	**294**	P*	Pg	04 23 20.2	-0.2
LTZ	**Lake Taylor**	**0.85**	**335**	P*	Pg	04 23 26.0	+0.2
LTZ				S*	Sb	04 23 37.8	-0.5
LTZ				AML	AML	04 23 38.7	
RPZ	**Rata Peaks**	**1.24**	**262**	P*	Pg	04 23 32.1	-1.2
RPZ				AML	AML	04 23 52.1	
RPZ				AML	AML	04 24 54.9	
INZ	**Inchbonnie**	**1.27**	**311**	P*	Pn	04 23 34.0	+0.3
KHZ	**Kahutara**	**1.28**	**27**	P*	Pn	04 23 32.1	-1.7
WVZ	**Waitaha Valley**	**1.55**	**288**	AML	AML	04 24 03.0	
WVZ				AML	AML	04 24 06.0	
THZ	**Tophouse**	**1.80**	**4**	AML	AML	04 24 16.5	
THZ				AML	AML	04 24 18.3	
DSZ	**Denniston Nort**	**1.94**	**339**	AML	AML	04 24 08.4	
DSZ				AML	AML	04 24 10.3	
DSZ				AML	AML	04 24 16.6	
DSZ				AML	AML	04 24 20.1	
LBZ	**Lake Benmore**	**2.03**	**245**	AML	AML	04 24 21.5	
LBZ				AML	AML	04 24 24.0	
ODZ	**Otahua Downs**	**2.12**	**225**	AML	AML	04 24 19.9	
ODZ				AML	AML	04 24 27.3	
ODZ				AML	AML	04 25 28.1	
ODZ				AML	AML	04 25 28.1	
FOZ	**Fox Glacier**	**2.14**	**270**	*e*PN	Pn	04 23 44.7	-0.9
QRZ	**Quartz Range**	**2.74**	**356**	AML	AML	04 24 06.8	
QRZ				AML	AML	04 24 45.0	
JCZ	**Jackson Bay**	**2.92**	**258**	AML	AML	04 24 51.0	
EAZ	**Earnscleugh**	**2.98**	**235**	AML	AML	04 24 49.2	
EAZ				AML	AML	04 24 49.3	
TUZ	**Tuapeka**	**3.27**	**222**	*e*PN	Pn	04 24 00.8	-0.3
TUZ				AML	AML	04 24 57.7	
TUZ				AML	AML	04 24 59.8	
MSZ	**Milford Sound**	**3.65**	**251**	AML	AML	04 25 35.4	
MSZ				AML	AML	04 25 37.5	

WEL 13 04:24:11.7±0.3, 43°62S×172°82E, h4km±1km, ML3.4/9, Error ellipse: s-maj=2.7km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.15**	**234**	PG	Pg	04 24 14.8	+0.1
MQZ				SG	Sg	04 24 17.0	+0.4
MQZ				SG		04 24 17.1	
MQZ				AML	AML	04 24 17.3	
CRLZ	**Canterbury Las**	**0.15**	**287**	PG	Pg	04 24 14.7	+0.1
CRLZ				SG	Sg	04 24 16.7	+0.1
CRLZ				AML	AML	04 24 19.5	
OXZ	**Oxford**	**0.64**	**297**	P*	Pg	04 24 23.9	-0.1
LTZ	**Lake Taylor**	**0.93**	**334**	P*	Pg	04 24 29.8	+0.3
LTZ				S*	Sb	04 24 42.5	-0.6
LTZ				AML	AML	04 24 43.4	
RPZ	**Rata Peaks**	**1.28**	**265**	P*	Pg	04 24 35.0	-1.3
RPZ				AML	AML	04 24 53.4	
KHZ	**Kahutara**	**1.31**	**24**	P*	Pn	04 24 34.9	-1.9
INZ	**Inchbonnie**	**1.35**	**311**	P*	Pn	04 24 36.3	-1.0
WVZ	**Waitaha Valley**	**1.61**	**289**	PN	Pn	04 24 39.7	-1.3
THZ	**Tophouse**	**1.86**	**2**	*e*PN	Pn	04 24 43.5	-1.0
THZ				AML	AML	04 25 11.6	
THZ				AML	AML	04 25 11.6	
DSZ	**Denniston Nort**	**2.02**	**338**	*e*PN	Pn	04 24 45.7	-0.9
DSZ				AML	AML	04 25 15.3	
LBZ	**Lake Benmore**	**2.05**	**247**	AML	AML	04 25 18.8	
ODZ	**Otahua Downs**	**2.11**	**227**	AML	AML	04 25 22.6	
ODZ				AML	AML	04 25 22.7	
ODZ				AML	AML	04 25 22.8	
ODZ				AML	AML	04 25 24.4	
TUZ	**Tuapeka**	**3.25**	**223**	AML	AML	04 25 59.6	
TUZ				AML	AML	04 26 01.6	

WEL 13 04:40:40.5±0.1, 43°59S×172°79E, h6km, ML3.6/10, 2C, Error ellipse: s-maj=1.2km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.12**	**276**	⇑PG	Pg	04 40 42.9	-0.1
CRLZ				SG	Sg	04 40 44.9	+0.2
CRLZ				AML	AML	04 40 45.1	
CRLZ				AML	AML	04 40 45.2	
CRLZ				AML	AML	04 40 45.3	
MQZ	**McQueen's Vall**	**0.15**	**219**	PG	Pg	04 40 43.7	+0.1
MQZ				SG	Sg	04 40 46.2	+0.5
MQZ				SG	Sg	04 40 46.2	+0.5
MQZ				AML	AML	04 40 46.3	
OXZ	**Oxford**	**0.60**	**295**	⇑P*	Pg	04 40 52.0	-0.1
OXZ				SG	Sg	04 41 00.7	+0.7
LTZ	**Lake Taylor**	**0.89**	**335**	P*	Pg	04 40 57.6	+0.1
LTZ				AML	AML	04 41 10.6	
LTZ				AML	AML	04 41 10.8	
RPZ	**Rata Peaks**	**1.27**	**264**	*e*P*	Pg	04 41 03.2	-1.6
RPZ				AML	AML	04 41 26.9	
RPZ				AML	AML	04 41 31.2	
INZ	**Inchbonnie**	**1.31**	**311**	P*	Pn	04 41 04.8	-0.5
WVZ	**Waitaha Valley**	**1.58**	**288**	PN	Pn	04 41 08.6	-0.4
WVZ				AML	AML	04 41 36.4	
WVZ				AML	AML	04 41 40.0	
THZ	**Tophouse**	**1.82**	**3**	PN	Pn	04 41 10.8	-1.7
THZ				AML	AML	04 41 45.1	
THZ				AML	AML	04 41 49.3	
BSWZ	**Blackbirch Sta**	**2.04**	**24**	*e*PN	Pn	04 41 14.1	-1.2
LBZ	**Lake Benmore**	**2.04**	**246**	*e*PN	Pn	04 41 14.0	-1.4
LBZ				AML	AML	04 41 51.2	
LBZ				AML	AML	04 41 53.1	
ODZ	**Otahua Downs**	**2.12**	**226**	*e*PN	Pn	04 41 15.0	-1.5
ODZ				AML	AML	04 41 50.4	
ODZ				AML	AML	04 41 54.6	
ODZ				AML	AML	04 41 54.6	
ODZ				AML	AML	04 41 55.2	
FOZ	**Fox Glacier**	**2.16**	**270**	PN	Pn	04 41 16.8	-0.2
JCZ	**Jackson Bay**	**2.94**	**259**	*e*PN	Pn	04 41 26.4	-1.4
WKZ	**Wanaka**	**2.98**	**244**	*e*PN	Pn	04 41 27.5	-0.8
EAZ	**Earnscleugh**	**2.99**	**235**	*e*PN	Pn	04 41 26.4	-2.0
EAZ				AML	AML	04 42 16.8	
EAZ				AML	AML	04 42 18.8	
CAW	**Cannon Point**	**3.00**	**35**	*e*PN	Pn	04 41 25.9	-2.6
TUZ	**Tuapeka**	**3.26**	**222**	AML	AML	04 42 33.1	
TUZ				AML	AML	04 42 33.4	

*JMA **13** 04:40:38.6±0.2, 32°36N×141°58E, h2km, M4.0*
*ISCJB **13** 04:40:42.0±0.5, 32°38N±0°05×141°53E±0°07, h31km, mb3.9/17, Error ellipse: s-maj=9.2km s-min=5.4km az=149.1*
*IDC **13** 04:40:44.8±3.6, 32°37N×141°38E, h34km±27km, mb3.7/16, mb1 3.9/20, mb1mx3.7/43, mbtmp3.9/20, ML3.7/4, Error ellipse: s-maj=21.9km s-min=14.5km az=64.0*

ISC 13 04:40:44.3±0.7, 32°42N±0°07×141°47E±0°07, h31km, n35, σ1s06/41, mb4.0/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.55**	**295**	P	**Pn**	**04 41 09.0**	**-0.8**
JHCJ				S	**Sb**	**04 41 30.9**	**-0.8**
JHJ2	**Mitsune**	**1.56**	**297**	P	**Pn**	**04 41 09.1**	**-0.7**
JHJ	**Hachijo jima 2**	**1.58**	**297**	Pn	**Pn**	**04 41 08.9**	**-1.3**
	102nm,0.3s,baz=86,slow=17,SNR=14						
JHJ				Sn	**Sn**	**04 41 29.7**	**+0.1**
	166nm,0.3s,baz=79,slow=22,SNR=7.5						
BSO1	**Boso 1**	**2.27**	**350**	P	**Pn**	**04 41 18.5**	**-0.6**
BSO1				S	**Sb**	**04 41 49.1**	**-2.5**
BSO3	**Boso 3**	**2.51**	**342**	P	**Pn**	**04 41 22.4**	**-0.3**
JHU	**Hanno**	**3.88**	**333**	P	**Pn**	**04 41 42.1**	**+0.4**
JHU				S	**Sn**	**04 42 27.2**	**+1.0**
JRY	**Ryogami san**	**4.17**	**330**	P	**Pn**	**04 41 46.3**	**+0.5**
JRY				S	**Sn**	**04 42 36.4**	**+2.8**
JHO	**Hitachi**	**4.25**	**350**	P	**Pn**	**04 41 46.2**	**-0.6**
JAG	**Ashikaga**	**4.33**	**338**	P	**Pn**	**04 41 48.0**	**0.0**
MJAR	**Matsushiro Arr**	**4.92**	**328**	Pn	**Pn**	**04 41 56.5**	**+0.5**
	2.8nm,0.3s,baz=280,slow=29,SNR=12						
MAT	**Matsushiro**	**4.92**	**328**	P	**Pn**	**04 41 57.3**	**+1.2**
MAT				S	**Sn**	**04 42 52.3**	**+0.4**
JFK	**Kawauchi**	**4.96**	**355**	P	**Pn**	**04 41 54.6**	**-2.1**
JCJ	**Chichijima**	**5.34**	**173**	Pn	**Pn**	**04 42 01.3**	**-0.6**
	5.0nm,0.3s,baz=343,slow=22,SNR=6.5						
KSRS	**Korea Array**	**12.20**	**298**	Pn	**Pn**	**04 43 37.3**	**+1.5**
	0.3nm,0.3s,baz=106,slow=12,SNR=6.6						
KLR	**Kul'dur**	**18.31**	**339**	P	**P**	**04 44 54.7**	**-1.0**
	0.3nm,0.3s,baz=145,slow=9.5,SNR=9.6						
SONM	**Songino Array**	**30.61**	**311**	P	**P**	**04 46 57.0**	**+1.4**
	1.1nm,0.7s,baz=108,slow=8.1,SNR=7.2						
ZALV	**Zalesovo Beam**	**45.16**	**316**	P	**P**	**04 48 57.2**	**-0.6**
	0.3nm,0.3s,baz=81,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	**46.73**	**306**	P	**P**	**04 49 10.3**	**-0.1**
	1.4nm,0.6s,baz=89,slow=11,SNR=11						
KURBB	**Kurchatov Arra**	**48.98**	**311**	P	**P**	**04 49 27.0**	**-0.6**
	0.7nm,0.5s,baz=86,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**52.51**	**188**	P	**P**	**04 49 53.5**	**-1.0**
	1.3nm,0.7s,baz=4.2,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**53.40**	**30**	P	**P**	**04 50 00.8**	**+0.1**
	0.5nm,0.7s,baz=259,slow=6.3,SNR=6.9						
ASAR	**Alice Springs**	**56.24**	**188**	P	**P**	**04 50 21.5**	**-0.1**
	0.5nm,0.8s,baz=15,slow=14,SNR=8.5						
ARU	**Arti**	**59.89**	**320**	P	**P**	**04 50 46.6**	**-0.3**
	6.6nm,0.2s,baz=71,slow=2.1,SNR=7.8						
AKTO	**Aktyubinsk**	**61.85**	**314**	P	**P**	**04 50 58.6**	**-1.7**
	1.2nm,0.7s,baz=78,slow=10,SNR=4.8						
YKA	**Yellowknife Ar**	**67.79**	**29**	P	**P**	**04 51 39.1**	**+0.4**
	0.6nm,0.6s,baz=297,slow=6.4,SNR=5.2						
FINES	**FINESS Array B**	**72.92**	**333**	P	**P**	**04 52 10.2**	**0.0**
	0.4nm,0.4s,baz=104,slow=6.1,SNR=4.5						
KBZ	**Khabaz**	**73.97**	**312**	P	**P**	**04 52 17.4**	**+0.7**
	5.3nm,0.8s,baz=50,slow=3.4,SNR=13						
NVAR	**Mina Array Bea**	**77.74**	**52**	P	**P**	**04 52 40.0**	**+1.4**
	0.2nm,0.3s,baz=308,slow=8.7,SNR=2.6						
AKASG	**Malin Array Be**	**77.99**	**323**	P	**P**	**04 52 38.7**	**-0.7**
	0.6nm,0.4s,baz=52,slow=5.3,SNR=4.6						
NB2	**NORSAR Subarra**	**78.46**	**338**	P	**P**	**04 52 41.6**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**78.46**	**338**	P	**P**	**04 52 41.7**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=40,slow=5.5,SNR=4.7						
BRTR	**Keskin Array B**	**81.96**	**312**	P	**P**	**04 53 01.3**	**0.0**
	comp=Z,2.4nm,0.7s,baz=107,slow=4.5,SNR=16						
TXAR	**Lajitas Array**	**92.89**	**52**	P	**P**	**04 53 55.9**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=297,slow=4.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**120.56**	**313**	PKP	**PKPdf**	**04 59 32.5**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=11,slow=2.2,SNR=2.5						
LPAZ	**La Paz**	**148.76**	**66**	PKPbc	**PKPbc**	**05 00 30.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=343,slow=4.1,SNR=3.7						

WEL 13 04:56:36.4±0.1, 43°54S×172°74E, h8km, ML3.4/9, 2C-1D, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.09**	**247**	⇑PG	Pg	04 56 38.6	0.0
CRLZ				SG	Sg	04 56 40.2	0.0
CRLZ				AML	AML	04 56 40.4	
CRLZ				AML	AML	04 56 40.7	
MQZ	**McQueen's Vall**	**0.18**	**200**	⇑PG	Pg	04 56 40.2	+0.1
MQZ				SG	Sg	04 56 42.8	+0.3
MQZ				SG		04 56 43.0	
MQZ				AML	AML	04 56 43.0	
OXZ	**Oxford**	**0.55**	**293**	⇓P*	Pg	04 56 46.9	-0.1
LTZ	**Lake Taylor**	**0.83**	**336**	P*	Pg	04 56 52.7	+0.3
LTZ				AML	AML	04 57 05.0	
LTZ				AML	AML	04 57 05.2	
RPZ	**Rata Peaks**	**1.23**	**261**	AML	AML	04 57 19.2	
RPZ				AML	AML	04 57 19.3	
INZ	**Inchbonnie**	**1.25**	**310**	*e*P*	Pn	04 56 59.3	-0.7
KHZ	**Kahutara**	**1.27**	**28**	P*	Pn	04 56 58.8	-1.5
THZ	**Tophouse**	**1.78**	**4**	*e*PN	Pn	04 57 05.9	-1.5
THZ				AML	AML	04 57 32.9	
THZ				AML	AML	04 57 44.8	
DSZ	**Denniston Nort**	**1.92**	**339**	*e*PN	Pn	04 57 08.5	-0.9
DSZ				AML	AML	04 57 22.8	
DSZ				AML	AML	04 57 43.0	
LBZ	**Lake Benmore**	**2.03**	**244**	*e*PN	Pn	04 57 10.2	-0.6
LBZ				AML	AML	04 57 43.3	
LBZ				AML	AML	04 57 44.5	
FOZ	**Fox Glacier**	**2.12**	**269**	*e*PN	Pn	04 57 12.3	+0.2
ODZ	**Otahua Downs**	**2.13**	**224**	*e*PN	Pn	04 57 10.8	-1.3
ODZ				AML	AML	04 57 45.3	
ODZ				AML	AML	04 57 54.7	
EAZ	**Earnscleugh**	**2.98**	**234**	*e*PN	Pn	04 57 22.4	-1.5
TUZ	**Tuapeka**	**3.27**	**221**	AML	AML	04 58 25.7	

WEL 13 05:10:40.4±0.2, 43°59S×172°74E, h8km, ML3.4/2, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.09**	**278**	PG	Pg	05 10 42.3	-0.3
CRLZ				SG	Sg	05 10 43.9	-0.1
MQZ	**McQueen's Vall**	**0.14**	**208**	PG	Pg	05 10 42.1	-1.3
LTZ	**Lake Taylor**	**0.88**	**337**	P*	Pg	05 10 57.0	-0.2
LTZ				S*	Sb	05 11 09.2	-0.6
LTZ				AML	AML	05 11 09.9	

WEL 13 05:10:43.1±0.1, 43°59S×172°74E, h8km, ML3.5/9, 1C, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.09**	**278**	PG	Pg	05 10 45.1	-0.2
CRLZ				SG	Sg	05 10 46.6	-0.2
CRLZ				AML	AML	05 10 46.8	
CRLZ				AML	AML	05 10 47.3	
CRLZ				AML	AML	05 10 47.3	
MQZ	**McQueen's Vall**	**0.14**	**208**	⇑PG	Pg	05 10 46.3	+0.3
MQZ				SG	Sg	05 10 48.7	+0.6
OXZ	**Oxford**	**0.57**	**297**	*e*P*	Pg	05 10 53.7	-0.5
OXZ	**Oxford**	**0.57**	**297**	P*	Pg	05 10 53.6	-0.6
LTZ	**Lake Taylor**	**0.88**	**337**	P*	Pg	05 10 59.8	-0.1
LTZ				S*	Sg	05 11 11.6	+0.3
LTZ				AML	AML	05 11 12.4	
RPZ	**Rata Peaks**	**1.23**	**263**	AML	AML	05 11 26.5	
RPZ				AML	AML	05 11 31.2	
KHZ	**Kahutara**	**1.31**	**27**	P*	Pn	05 11 05.9	-1.7
THZ	**Tophouse**	**1.83**	**4**	AML	AML	05 11 47.1	
THZ				AML	AML	05 11 49.8	
DSZ	**Denniston Nort**	**1.97**	**339**	AML	AML	05 11 43.4	
DSZ				AML	AML	05 11 44.3	
LBZ	**Lake Benmore**	**2.01**	**246**	AML	AML	05 11 52.7	
LBZ				AML	AML	05 12 00.9	
BSWZ	**Blackbirch Sta**	**2.05**	**24**	PN	Pn	05 11 16.4	-1.5
ODZ	**Otahua Downs**	**2.10**	**225**	PN	Pn	05 11 15.9	-2.6
ODZ				AML	AML	05 11 53.6	
ODZ				AML	AML	05 11 53.6	
ODZ				AML	AML	05 11 56.2	
ODZ				AML	AML	05 11 56.3	
EAZ	**Earnscleugh**	**2.96**	**235**	AML	AML	05 12 25.1	
TUZ	**Tuapeka**	**3.24**	**222**	AML	AML	05 12 31.2	
TUZ				AML	AML	05 12 38.6	

MEX 13 05:12:30.2±0.7, 16°82N×95°30W, h159km±19km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.39**	**281**	*e*P	Pn	05 12 58.0	-1.6
VHO				*i* S	Sn	05 13 20.6	-1.5
PNIG	**Pinotepa**	**2.74**	**262**	*e*P	Pn	05 13 13.5	-1.2
PNIG				*i* S	Sn	05 13 49.0	-0.2
TLIG	**Tlapa**	**3.21**	**284**	*i* S	Sn	05 13 57.1	-2.7

WEL 13 05:12:48.5±0.5, 36°83S×177°84E, h33km, ML3.6/4, 5C-2D, Error ellipse: s-maj=3.4km s-min=2.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.82**	**153**	⇑P*	Pn	05 13 03.2	-0.6
MXZ				S*	Sn	05 13 14.9	+0.1
MXZ				AML	AML	05 13 18.9	
MXZ				AML	AML	05 13 22.0	
MXZ				AML	AML	05 14 01.9	
HAZ	**Te Kaha**	**0.93**	**183**	P*	Pn	05 13 03.9	-1.3
HAZ				S*	Sn	05 13 16.9	-0.5
WMGZ	**Waiomatatini S**	**1.09**	**155**	PN	Pn	05 13 07.3	-0.2
PUZ	**Puketiti**	**1.29**	**165**	PN	Pn	05 13 08.6	-1.6
PUZ				SN	Sn	05 13 26.2	-0.1
PUZ				AML	AML	05 13 30.0	
TWGZ	**Tauwhareparae**	**1.35**	**175**	*e*PN	Pn	05 13 10.4	-0.7
TWGZ				SN	Sn	05 13 28.3	+0.3
OPRZ	**Ohinepanea**	**1.44**	**225**	P*	Pn	05 13 12.0	-0.3
MARZ	**Manawahe**	**1.48**	**218**	⇑P*	Pn	05 13 12.9	0.0
MWZ	**Matawai**	**1.52**	**189**	P*	Pn	05 13 12.8	-0.7
MWZ				S*	Sn	05 13 30.3	-1.9
MWZ				AML	A

mb4.6/30, Error ellipse: s-maj=8.1km s-min=4.1km az=177.4

GUC ***13*** *05:19:55.7±0.7, 32°.42S×71°.23W, h46km±2km, ML4.7*

NEIC ***13*** *05:19:55.0, 32°.42S×71°.22W, h46km, mb4.7/21, After GUC.*

NEIC Felt [V] at Quillota, San Felipe and Zapallar; [IV] at Algarrobo, Cabildo, Casablanca, La Ligua, Los Andes, Papudo, Puchuncavi, Quintero, Tiltil, Valparaiso, Villa Alemana and Vina del Mar; [III] at Canela, Melipilla, Penaflor, Petorca, Salamanca, San Antonio, San Bernardo, San Jose de Maipo and Santiago; [II] at Illapel, Los Vilos, Rancagua and Talca. Also felt at Buin, Calera, Colina, Lampa, Limache, Llaillay, Paine, Puente Alto, Quilpue, Rengo and San Felipe.

IDC ***13*** *05:19:56.0±0.6, 32°.35S×71°.06W, h50km±5km, mb4.2/11, mb1 4.3/15, mb1mx4.1/26, mbtmp4.4/15, MS3.6/6, Ms1 3.6/6, ms1mx3.3/21, Error ellipse: s-maj=17.5km s-min=15.4km az=77.0*

ISC 13 05:19:55.3±0.5, 32°.41S±0°.03×71°.36W±0°.05, h44km±4km, h43km:pP-P, n100, σ2§09/127, mb4.7/30, MS3.7/5, 4C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.63**	**152**	⇓*i*	P	**Pn**		**05 20 08.7**	**+0.6**
ROCH				*i*	S	**Sn**		**05 20 18.1**	**+0.9**
ROCH					IAML			05 20 18.3	
	comp=E,60μm,0.4s								
ROC1	**El Roble**	**0.63**	**153**	*i*	P	**Pn**		**05 20 08.7**	**+0.5**
ROC1	**El Roble**	**0.63**	**153**	*e*	Pn	**Pn**		**05 20 08.0**	**-0.1**
ROC1				*e*	Sn	**Sn**		**05 20 17.7**	**+0.4**
PEL	**Peldehue**	**0.92**	**142**	⇑*i*	P	**Pn**		**05 20 12.2**	**+0.3**
PEL				*i*	S	**Sn**		**05 20 24.2**	**+0.2**
PEL					IAML			05 20 25.1	
	comp=N,34μm,0.3s								
RCDM	**Rinconada Maip**	**1.17**	**157**	⇑*i*	P	**Pn**		**05 20 15.9**	**+0.7**
RCDM				*i*	S	**Sn**		**05 20 30.7**	**+0.7**
STL	**Santa Lucia**	**1.19**	**150**	⇓*i*	P	**Pn**		**05 20 16.0**	**+0.5**
STL				*i*	S	**Sn**		**05 20 31.1**	**+0.6**
CLCH	**Cerro Calan**	**1.20**	**145**	⇓*i*	P	**Pn**		**05 20 16.2**	**+0.5**
CLCH				*i*	S	**Sn**		**05 20 31.4**	**+0.5**
CLCH					IAML			05 20 31.7	
	comp=N,23μm,0.4s								
FSR	**Penalolen**	**1.27**	**147**	⇑*i*	P	**Pn**		**05 20 17.4**	**+0.7**
FSR				*i*	S	**Sn**		**05 20 33.5**	**+0.9**
FCH	**Farellones**	**1.28**	**136**	⇓*i*	P	**Pn**		**05 20 17.2**	**+0.2**
FCH				*i*	S	**Sn**		**05 20 33.5**	**+0.3**
FCH					IAML			05 20 38.8	
	comp=E,16μm,0.2s								
ANTU	**Antumapu**	**1.30**	**152**	⇓*i*	P	**Pn**		**05 20 17.7**	**+0.6**
ANTU				*i*	S	**Sn**		**05 20 33.7**	**+0.4**
ANTU					IAML			05 20 39.7	
	comp=E,17μm,0.5s								
SJCH	**San Jose de Ma**	**1.49**	**146**	⇓*i*	P	**Pn**		**05 20 20.2**	**+0.5**
SJCH				*i*	S	**Sn**		**05 20 38.3**	**+0.4**
YECH	**El Yeso**	**1.65**	**140**	⇓*i*	P	**Pn**		**05 20 22.8**	**+0.8**
YECH					IAML			05 20 49.0	
	comp=N,14μm,0.3s								
AUSP	**Uspallata**	**1.68**	**84**	*i*	P	**Pn**		**05 20 24.4**	**+1.9**
RTLS	**Leoncito**	**1.85**	**71**	*i*	P	**Pn**		**05 20 26.8**	**+1.9**
CHPI	**Pichilemu**	**2.04**	**195**	*e*	P	**Pn**		**05 20 28.0**	**+0.8**
ARCO	**CERRO ARCO**	**2.09**	**102**	*i*	P	**Pn**		**05 20 30.8**	**+2.8**
ARCO				*i*	S	**Sn**		**05 20 59.8**	**+6.9**
ARCO					IAML			05 21 04.0	
	comp=Z,3μm,0.4s								
ASAL	**Salagasta**	**2.14**	**95**	*i*	P	**Pn**		**05 20 31.3**	**+2.7**
AAGR	**Agrelo**	**2.24**	**108**	*i*	P	**Pn**		**05 20 32.6**	**+2.7**
TLL	**Tololo Astrono**	**2.29**	**12**	*e*	P	**Pn**		**05 20 32.0**	**+1.2**
TLL				*i*	S	**Sn**		**05 20 60.0**	**+2.1**
TLL					IAML			05 21 13.5	
	comp=N,16μm,0.5s								
RTCV	**Cerro Valdivia**	**2.46**	**78**	*i*	P	**Pn**		**05 20 34.9**	**+2.0**
SJA	**San Juan**	**2.54**	**70**	*i*	P	**Pn**		**05 20 36.2**	**+2.2**
SJA				*i*	S	**Sn**		**05 21 10.2**	**+6.5**
SJA					IAML			05 21 12.5	
	comp=Z,3μm,0.3s								
RTLL	**Cerro Villicun**	**2.68**	**67**	*i*	P	**Pn**		**05 20 37.6**	**+1.6**
TALC	**Talca**	**2.98**	**184**	*e*	P	**Pn**		**05 20 41.5**	**+1.4**
LCO	**Las Campanas**	**3.44**	**10**	⇑*i*	P	**Pn**		**05 20 47.3**	**+0.7**
LCO				*i*	S	**Sn**		**05 21 27.5**	**+1.2**
LCO					IAML			05 21 52.3	
	comp=N,3μm,0.6s								
LCO	**Las Campanas**	**3.44**	**10**	*e*	Pn	**Pn**		**05 20 47.3**	**+0.7**
LCO				*e*	Sn	**Sn**		**05 21 23.4**	**-2.8**
VACH	**Vallenar**	**3.86**	**8**	⇓*i*	P	**Pn**		**05 20 53.2**	**+1.0**
VACH				*e*	S	**Sn**		**05 21 36.4**	**+0.1**
CCHI	**Chillan**	**4.22**	**188**	*e*	P	**Pn**		**05 20 58.0**	**+1.0**
PLCA	**Paso Flores**	**8.33**	**176**	P		**Pn**		**05 21 54.8**	**+1.3**
	comp=N,0.7nm,0.3s,baz=7.4,slow=11,SNR=7.9								
PLCA	**Paso Flores**	**8.33**	**176**	*e*	Pn	**Pn**		**05 21 55.2**	**+1.7**
TRQA	**Tornquist**	**9.51**	**129**	*e*	Pn	**Pn**		**05 22 10.1**	**+0.4**
TRQA				*e*	Sn	**Sn**		**05 23 51.5**	**-3.7**
LVC	**Limon Verde**	**10.01**	**13**	P		**Pn**		**05 22 12.8**	**-3.9**
	comp=N,72nm,0.3s,baz=149,slow=6.9,SNR=12								
LVC				S		Sn		05 24 23.1	+15
	comp=N,56nm,0.3s,baz=35,slow=21,SNR=1.4								
LVC	**Limon Verde**	**10.01**	**13**	*e*	Pn	**Pn**		**05 22 12.8**	**-3.9**
LVC				*e*	Sn	**Sn**		**05 24 01.7**	**-6.2**
CPUP	**Villa Florida**	**13.65**	**67**	P		**Pn**		**05 23 01.8**	**-4.5**
	comp=N,0.6nm,0.3s,baz=243,slow=12,SNR=20								
CPUP				S		**Sn**		**05 25 29.9**	**-6.6**
	comp=N,0.7nm,0.3s,baz=246,slow=17,SNR=1.4								
CPUP				LR		LR		05 29 13.2	
	comp=N,70nm,20.0s,baz=250,slow=42								
CPUP	**Villa Florida**	**13.65**	**67**	*e*	Pn	**Pn**		**05 23 03.3**	**-2.9**
CPUP				*e*	Sn	**Sn**		**05 25 36.8**	**+0.4**
LPAZ	**La Paz**	**16.32**	**11**	P		**Pn**		**05 23 40.1**	**-1.9**
	comp=N,0.6nm,0.3s,baz=191,slow=7.2,SNR=27								
LPAZ	**La Paz**	**16.32**	**11**	*e*	Pn	**Pn**		**05 23 42.1**	**+0.1**
	comp=N,23nm,0.9s								
SIV	**San Ignacio**	**18.83**	**32**	P		**P**		**05 24 09.7**	**-1.8**
	comp=N,1.2nm,0.3s,baz=231,slow=11,SNR=17								
EFI	**East Falkland**	**21.57**	**157**	*e*	P	**P**		**05 24 40.8**	**-0.1**
	comp=N,248nm,1.8s								
USHA	**Ushuaia**	**22.51**	**176**	P		**P**		**05 24 52.9**	**+2.0**
	comp=N,85nm,0.9s,baz=1.9,slow=10,SNR=8.5								
SAML	**Samuel**	**24.55**	**20**	*e*	P	**P**		**05 25 08.9**	**-2.1**
	comp=N,10nm,0.8s								
BDFB	**Brasilia**	**26.99**	**57**	P		**P**		**05 25 31.3**	**-1.9**
	comp=N,18nm,0.9s,baz=220,slow=7.9,SNR=18								
BDFB				pP		**pP**		**05 25 45.2**	**+0.3**
	comp=N,11nm,1.0s,baz=216,slow=9.4,SNR=4.5								
BDFB				LR		LR		05 37 23.9	
	comp=N,281nm,19.7s,baz=223,slow=39								
RUSC	**La Rusia**	**38.13**	**357**	*e*	P	**P**		**05 27 11.5**	**+0.7**
	comp=N,5.3nm,0.7s								
SNAA	**Sanae**	**52.84**	**158**	P		**P**		**05 29 06.2**	**+0.1**
SNAA	**Sanae**	**52.84**	**158**	*e*	P	**P**		**05 29 06.1**	**+0.1**
	comp=N,12nm,1.0s								
CMIG	**Matias Romero**	**54.13**	**332**	P		**P**		**05 29 17.5**	**+1.4**
	comp=N,1.1nm,0.5s,baz=74,slow=7.4,SNR=4.0								
TEIG	**Tepich**	**54.79**	**340**	*e*	P	**P**		**05 29 21.2**	**+0.5**
	comp=N,14nm,1.4s								
QSPA	**South Pole Qui**	**57.82**	**180**	*e*	P	**P**		**05 29 43.0**	**+1.0**
	comp=N,14nm,1.3s								
JCT	**Junction City**	**68.11**	**334**	*e*	P	**P**		**05 30 51.6**	**+1.0**
	comp=N,16nm,1.4s								
LTX	**Lajitas**	**68.64**	**330**	*e*	P	**P**		**05 30 55.0**	**+1.0**
LTX				*e*	pP	**pP**		**05 31 08.6**	**+1.8**
TXAR	**Lajitas Array**	**68.64**	**330**	P		**P**		**05 30 55.0**	**+1.0**
	comp=N,0.9nm,0.5s,baz=155,slow=8.8,SNR=20								
TXAR				pP		**pP**		**05 31 08.6**	**+1.8**
	comp=N,0.7nm,0.5s,baz=157,slow=8.8,SNR=6.6								
TXAR				LR		LR		05 58 14.1	
	comp=N,40nm,18.1s,baz=0.0,slow=33								
TX31	**Lajitas Ar. Si**	**68.64**	**330**	*e*	P	**P**		**05 30 55.1**	**+1.0**
SWET	**Sewanee**	**68.65**	**347**	*e*	P	**P**		**05 30 53.9**	**0.0**
	comp=N,3.0nm,0.9s								
PLAL	**Pickwick Lake**	**68.86**	**345**	*e*	P	**P**		**05 30 54.7**	**-0.4**
	comp=N,7.5nm,1.3s								
WVT	**Waverly**	**69.91**	**346**	*e*	P	**P**		**05 31 01.3**	**-0.3**
	comp=N,10nm,0.7s								
JSRW	**J. Sargeant Re**	**70.01**	**355**	*e*	P	**P**		**05 31 02.7**	**+0.6**
MNTX	**Cornudas Mount**	**71.42**	**330**	*e*	P	**P**		**05 31 11.0**	**+0.1**
	comp=N,15nm,1.9s								
LIC	**Lamto**	**73.73**	**72**	*e*	PKIKP	**P**		**05 31 25.3**	**+0.2**
TIC	**Toumodi**	**73.99**	**71**	*e*	PKIKP	**P**		**05 31 25.6**	**-1.0**
KIC	**Kosan Boka**	**74.04**	**72**	*e*	PKIKP	**P**		**05 31 25.5**	**-1.4**
	comp=N,84nm,1.5s								
DBIC	**Dimbokro**	**74.13**	**71**	P		**P**		**05 31 26.2**	**-1.3**
	comp=N,7.1nm,0.6s,baz=201,slow=6.2,SNR=11								
DBIC				LR		LR		06 04 26.9	
	comp=N,34nm,18.1s,baz=229,slow=36								
DBIC	**Dimbokro**	**74.13**	**71**	*e*	P	**P**		**05 31 26.2**	**-1.3**
	comp=N,27nm,1.3s								
MAW	**Mawson**	**74.53**	**163**	P		**P**		**05 31 29.3**	**+0.4**
	comp=N,2.2nm,0.5s,baz=232,slow=6.6,SNR=5.6								
MAW	**Mawson**	**74.53**	**163**	*e*	P	**P**		**05 31 29.3**	**+0.4**
	comp=N,7.1nm,2.0s								
T25A	**Trinidad**	**75.77**	**333**	*e*	P	**P**		**05 31 38.4**	**+1.8**
	comp=N,18nm,1.6s								
SDCO	**Great Sand Dun**	**76.72**	**333**	*e*	P	**P**		**05 31 43.3**	**+1.2**
	comp=N,12nm,1.8s								
Q24A	**Divide**	**77.65**	**334**	*e*	P	**P**		**05 31 48.9**	**+1.6**
	comp=N,5.1nm,0.8s								
RAR	**Rarotonga**	**77.66**	**253**	LR		LR		05 57 23.6	
	comp=N,112nm,20.5s,baz=50,slow=29								
SMCO	**Snowmass**	**78.53**	**332**	*e*	P	**P**		**05 31 54.1**	**+1.8**
	comp=N,5.2nm,1.0s								
TSUM	**Tsumeb**	**79.10**	**106**	*e*	P	**P**		**05 31 55.1**	**-0.5**
	comp=N,13nm,1.1s								
ECSD	**EROS Data Cent**	**79.22**	**342**	*e*	P	**P**		**05 31 55.6**	**+0.1**
	comp=N,5.1nm,0.8s								
BOSA	**Boshof**	**80.30**	**118**	P		**P**		**05 32 01.2**	**-0.8**
	comp=N,6.0nm,0.5s,baz=251,slow=3.6,SNR=16								
PDAR	**Pinedale Array**	**82.61**	**333**	P		**P**		**05 32 13.8**	**-0.1**
	comp=N,0.2nm,0.3s,baz=176,slow=6.8,SNR=2.6								
PDAR				pP		**pP**		**05 32 28.1**	**+1.2**
	comp=N,0.6nm,0.6s,baz=145,slow=5.4,SNR=3.6								
NV01	**Mina Array Sit**	**82.92**	**325**	*e*	P	**P**		**05 32 16.7**	**+1.2**
NVAR	**Mina Array Bea**	**82.92**	**325**	P		**P**		**05 32 16.7**	**+1.2**
	comp=N,0.8nm,0.7s,baz=151,slow=5.3,SNR=5.5								
NVAR				pP		**pP**		**05 32 30.9**	**+2.3**
	comp=N,1.1nm,0.6s,baz=152,slow=5.5,SNR=7.0								
TOA0	**Torodi Ar. Sit**	**83.13**	**70**	*e*	P	**P**		**05 32 16.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**83.13**	**70**	P		**P**		**05 32 15.7**	**-1.2**
	comp=N,8.3nm,0.7s,baz=278,slow=6.5,SNR=87								
TORD				LR		LR		06 06 18.8	
	comp=N,34nm,21.4s,baz=150,slow=34								
TOA1	**Torodi Ar. Sit**	**83.13**	**70**	*e*	P	**P**		**05 32 15.7**	**-1.2**
	comp=N,10nm,0.6s								
SCHQ	**Schefferville**	**86.98**	**3**	P		**P**		**05 32 34.1**	**-1.2**
	comp=N,1.7nm,0.6s,baz=188,slow=8.2,SNR=4.2								
EGMT	**Eagleton**	**87.16**	**335**	*e*	P	**P**		**05 32 37.6**	**+1.2**
ASAR	**Alice Springs**	**119.24**	**207**	PKP		**PKPdf**		**05 38 38.7**	**-1.5**
	comp=N,0.2nm,0.6s,baz=104,slow=1.6,SNR=4.1								
BR101	**Keskin Array S**	**120.56**	**60**	*e*	PKPdf	**PKPdf**		**05 38 40.9**	**-1.3**
BRTR	**Keskin Array B**	**120.56**	**60**	PKP		**PKPdf**		**05 38 40.9**	**-1.3**
	comp=N,0.4nm,0.7s,baz=193,slow=6.0,SNR=3.0								
WR1	**Warramunga Arr**	**122.42**	**209**	*e*	PKPdf	**PKPdf**		**05 38 45.2**	**-1.1**
WRA	**Warramunga Arra**	**122.42**	**209**	PKP		**PKPdf**		**05 38 45.2**	**-1.1**
	comp=N,0.4nm,0.5s,baz=154,slow=1.8,SNR=15								
H11S2	**WAKE ISLAND Hyl**	**126.35**	**270**	T		T		07 58 03.0	
	baz=118,slow=75,SNR=356								
H11S1	**WAKE ISLAND Hyl**	**126.36**	**270**	T		T		07 58 03.4	
	baz=118,slow=75,SNR=293								
H11S3	**WAKE ISLAND Hyl**	**126.37**	**270**	T		T		07 58 02.6	
	baz=118,slow=75,SNR=342								
H11N3	**WAKE ISLAND Hyl**	**126.73**	**271**	T		T		07 58 30.1	
	baz=117,slow=74,SNR=58								
H11N1	**WAKE ISLAND Hyl**	**126.74**	**271**	T		T		07 58 30.1	
	baz=117,slow=74,SNR=37								
H11N2	**WAKE ISLAND Hyl**	**126.74**	**271**	T		T		07 58 30.8	
	baz=117,slow=74,SNR=153								
ZRNK	**Zerenda**	**144.97**	**42**	*e*	PKPdf	**PKPab**		**05 39 26.5**	**-0.1**
EKS2	**Erkin-Say**	**150.71**	**60**	*e*	PKPbc	**PKPbc**		**05 39 42.7**	**0.0**
AAK	**Ala-Archa**	**151.23**	**59**	*e*	PKPbc	**PKPbc**		**05 39 44.1**	**+0.1**
ZAA1	**Zalesovo Array**	**152.58**	**31**	*e*	PKPbc	**PKPbc**		**05 39 45.6**	**-0.8**
ZAA1				*e*	PKPab	**PKPab**		**05 39 56.6**	**-0.3**
ZAA0	**Zalesovo Array**	**152.58**	**31**	*e*	PKPbc	**PKPbc**		**05 39 45.8**	**-0.6**
ZALV	**Zalesovo Beam**	**152.58**	**31**	PKPbc		**PKPbc**		**05 39 45.6**	**-0.8**
	comp=N,8.2nm,0.4s,baz=309,slow=3.3,SNR=33								
ZALV				PKPab		**PKPab**		**05 39 56.7**	**-0.3**
	comp=N,3.6nm,0.5s,baz=312,slow=3.6,SNR=4.7								
ZALV				pPKPbc		**pPKPbc**		**05 40 00.5**	**+0.5**
	comp=N,4.0nm,0.5s,baz=313,slow=3.5,SNR=7.1								
KSH	**Kashi**	**152.73**	**66**	PKPbc		**PKPdf**		**05 39 42.5**	**+2.2**
KSH				pPKP		pPKPdf		05 39 52.8	-1.1
KSH				PP		**PP**		**05 43 35.8**	**+4.0**
KSH				SKS		**SKSdf**		**05 46 44.3**	**+0.3**
MK32	**Makanchi Array**	**155.28**	**47**	*e*	PKPbc	**PKPdf**		**05 39 51.1**	**+7.6**
MK32				*e*	PKPab	**PKPab**		**05 40 08.0**	**-0.8**
MKAR	**Makanchi Array**	**155.28**	**47**	PKPbc		**PKPdf**		**05 39 51.1**	**+7.6**
	comp=N,0.2nm,0.4s,baz=308,slow=5.9,SNR=3.6								
MKAR				PKPab		**PKPab**		**05 40 08.0**	**-0.8**
	comp=N,1.8nm,0.5s,baz=290,slow=3.0,SNR=12								
MKAR				pPKPab		**pPKPab**		**05 40 23.2**	**+1.1**
	comp=N,1.3nm,0.6s,baz=333,slow=1.4,SNR=5.2								
QIZ	**Qiongzhong**	**166.63**	**185**	PKPbc		**PKPdf**		**05 39 56.4**	**0.0**
QIZ				PP		**PP**		**05 44 47.3**	**+2.0**

WEL 13 05:29:50.5±0.2, 43°.58S×172°.74E, h7km±1km, ML2.9/6, 1C, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.08**	**275**	PG		Pg		05 29 52.8	+0.2
CRLZ				SG		Sg		05 29 54.4	+0.5
CRLZ				AML		AML		05 29 55.2	
MQZ	**McQueen's Vall**	**0.14**	**206**	⇑PG		Pg		05 29 53.7	+0.3
MQZ				SG		Sg		05 29 56.2	+0.8
MQZ				AML		AML		05 29 56.4	
OXZ	**Oxford**	**0.57**	**297**	P*		Pg		05 30 01.6	+0.1
OXZ				SG		Sg		05 30 09.8	+0.9
LTZ	**Lake Taylor**	**0.87**	**337**	P*		Pg		05 30 07.3	+0.1
LTZ				S*		Sb		05 30 19.3	-0.5
LTZ				AML		AML		05 30 20.0	
RPZ	**Rata Peaks**	**1.23**	**263**	P*		Pb		05 30 12.7	-1.3
RPZ				S*		Sg		05 30 28.4	-1.6
RPZ				AML		AML		05 30 36.7	
INZ	**Inchbonnie**	**1.28**	**312**	P*		Pn		05 30 14.1	-0.6
KHZ	**Kahutara**	**1.31**	**27**	P*		Pn		05 30 13.0	-2.1
WVZ	**Waitaha Valley**	**1.54**	**289**	AML		AML		05 30 41.6	
LBZ	**Lake Benmore**	**2.01**	**246**	AML		AML		05 30 32.1	
ODZ	**Otahua Downs**	**2.10**	**225**	PN		Pn		05 30 23.4	-2.6

WEL 13 05:32:13.1±0.1, 43°.36S×172°.18E, h5km, ML3.0/5, 1C-3D, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.11**	**290**	⇓PG		Pg		05 32 15.1	-0.2
OXZ				SG		Sg		05 32 16.8	0.0
CRLZ	**Canterbury Las**	**0.39**	**123**	⇓PG		Pg		05 32 20.8	+0.2
CRLZ				SG		Sg		05 32 27.0	+1.3
CRLZ				AML		AML		05 32 27.7	
MQZ	**McQueen's Vall**	**0.49**	**135**	⇓PG		Pg		05 32 22.6	+0.1
MQZ				SG		Sg		05 32 29.3	+0.5
MQZ				AML		AML		05 32 32.7	
LTZ	**Lake Taylor**	**0.58**	**7**	⇑P*		Pg		05 32 24.7	+0.4
LTZ				SG		Sg		05 32 33.1	+1.2
LTZ				AML		AML		05 32 33.5	
INZ	**Inchbonnie**	**0.83**	**320**	P*		Pg		05 32 29.2	+0.2
RPZ	**Rata Peaks**	**0.89**	**246**	P*		Pg		05 32 30.1	0.0
RPZ				S*		Sb		05 32 43.3	+0.1
RPZ				AML		AML		05 32 45.7	
WVZ	**Waitaha Valley**	**1.09**	**285**	P*		Pg		05 32 33.6	-0.3
KHZ	**Kahutara**	**1.38**	**47**	PN		Pn		05 32 37.4	-1.5
DSZ	**Denniston Nort**	**1.64**	**350**	*e*	PN	Pb		05 32 43.2	-0.6
LBZ	**Lake Benmore**	**1.77**	**234**	*e*	PN	Pb		05 32 45.8	-0.1

IDC ***13*** *05:41:37.7±12.0, 21°.54S×177°.07W, h199km±113km, mb3.5/3, mb1 3.8/4, mb1mx3.3/41, mbtmp4.1/4, Error ellipse: s-maj=62.7km s-min=37.9km az=175.0*

ISCJB ***13*** *05:41:38.5±1.5, 21°.9S±0°.1×177°.0W±0°.3, h223km, mb3.5/3, Error ellipse: s-maj=38.0km s-min=14.3km az=6.8*

ISC 13 05:41:38.7±1.2, 22°.0S±0°.2×176°.8W±0°.3, h223km, n15, σ1§74/17, mb3.6/3, 6C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.03**	**197**	P		**Pn**		**05 45 26.4**	**+2.3**
	1.1nm,0.3s,baz=12,slow=6.3,SNR=6.2								
URZ				S		**S**		**05 48 26.2**	**-2.2**
	0.9nm,0.3s,baz=220,slow=22,SNR=9.1								
ASAR	**Alice Springs**	**45.28**	**258**	P		**P**		**05 49 35.0**	**+0.5**
	3.3nm,0.8s,baz=99,slow=7.9,SNR=29								
ASAR				PcP		**PcP**		**05 51 10.3**	**-0.2**
	0.3nm,0.6s,baz=104,slow=3.6,SNR=3.1								
WRA	**Warramunga Arr**	**45.51**	**263**	P		**P**		**05 49 36.1**	**-0.3**
	0.6nm,0.3s,baz=91,slow=8.0,SNR=16								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**89.52**	**12**	P		**P**		**05 54 10.4**	**+0.2**
	0.4nm,0.5s,baz=223,slow=5.9,SNR=7.8								
BRTR	**Keskin Array B**	**148.66**	**311**	PKPbc		**PKPbc**		**06 00 59.5**	**-0.4**
	0.8nm,0.6s,baz=85,slow=3.5,SNR=4.9								
BURAR	**Bucovina Array**	**148.90**	**331**	⇓*i*	P	**PKPbc**		**06 01 02.6**	**+2.5**
VRI	**Vrincioaia**	**149.42**	**327**	⇑*i*	P	**PKPdf**		**06 00 52.8**	**-3.9**
CLL	**Collm**	**149.76**	**348**	*i*	P	**PKPbc**		**06 01 02.8**	**+0.9**
	comp=Z,4.0nm,0.6s								
DOPR	**Dopca**	**150.02**	**328**	⇑*i*	P	**PKPbc**		**06 01 04.0**	**+1.2**
MLR	**Muntele Rosu**	**150.07**	**327**	⇑*i*	P	**PKPdf**		**06 00 56.3**	**-1.6**
DRGR		**150.64**	**332**	⇓*i*	P	**PKPbc**		**06 01 04.7**	**+0.4**
ARR	**Arges**	**150.82**	**328**	⇑*i*	P	**PKPbc**		**06 01 06.5**	**+1.7**
GERES	**GERESS Array B**	**151.93**	**345**	PKPbc		**PKPbc**		**06 01 08.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=17,slow=3.6,SNR=7.1								
BZS	**Buzias**	**152.03**	**332**	⇑*i*	P	**PKPbc**		**06 01 08.0**	**+0.6**
BANR	**Banloc**	**152.43**	**332**	⇑*i*	P	**PKPbc**		**06 01 09.6**	**+1.3**

IDC ***13*** *05:47:45.6±1.3, 9°.59S×125°.05E, h0km, mb4.0/3, mb1 4.1/6, mb1mx3.8/41, mbtmp4.0/6, ML4.2/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/42, Error ellipse: s-maj=94.1km s-min=23.9km az=68.0*

ISCJB ***13*** *05:47:47.9±0.9, 9°.75S±0°.08×125°.2E±0°.2, h33km, mb3.9/3, MS4.2/1, Error ellipse: s-maj=25.6km s-min=8.4km az=159.3*

ISC 13 05:47:50.3±1.1, 9°.66S±0°.10×125°.4E±0°.2, h35km, n8, σ1§43/9, mb4.0/3, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.21**	**309**	LR		LR		05 52 24.0	
	comp=Z,92nm,20.1s,baz=135,slow=40								
FITZ	**Fitzroy Crossi**	**8.40**	**178**	Pn		**Pn**		**05 49 51.1**	**+1.5**
	3.8nm,0.3s,baz=1.5,slow=9.3,SNR=78								
FITZ				Sn		**Sn**		**05 51 21.6**	**-1.7**
	2.2nm,0.3s,baz=326,slow=11,SNR=3.5								
WRA	**Warramunga Arr**	**13.42**	**141**	Pn		**Pn**		**05 50 59.7**	**+1.4**
	0.8nm,0.3s,baz=311,slow=14,SNR=15								
WRA				Sn		**Sn**		**05 53 25.1**	**-1.3**
	1.0nm,0.3s,baz=321,slow=25,SNR=6.9								
ASAR	**Alice Springs**	**16.15**	**151**	Pn		**Pn**		**05 51 36.1**	**+1.3**
	0.7nm,0.3s,baz=321,slow=11,SNR=28								
ASAR				Sn		**Sn**		**05 54 31.9**	**-1.1**
	0.3nm,0.3s,baz=318,slow=22,SNR=6.8								
SONM	**Songino Array**	**59.66**	**345**	P		**P**		**05 57 51.1**	**-0.1**
	0.7nm,0.6s,baz=168,slow=8.8,SNR=3.9								
MKAR	**Makanchi Array**	**68.04**	**330**	P		**P**		**05 58 45.7**	**-0.6**
	0.8nm,0.5s,baz=131,slow=7.0,SNR=3.8								
ZALV	**Zalesovo Beam**	**72.03**	**336**	P		**P**		**05 59 09.9**	**-0.6**
	0.7nm,0.4s

ULN	**Ulaanbaatar**	**22.87**	**293**	*e*P		**P**	**05 55 37.2**	**-0.6**
	comp=Z,2.6nm,0.6s							
SONA1	**Songino Array**	**23.31**	**293**	*e*P		**P**	**05 55 40.3**	**-1.3**
SONM	**Songino Array**	**23.32**	**293**	P		**P**	**05 55 40.5**	**-1.2**
	comp=Z,1.9nm,0.4s,baz=93,slow=8.9,SNR=18							
GTA	**Gaotai**	**29.62**	**276**	*e*P		**P**	**05 56 39.5**	**+1.3**
GTA				pP		pP	05 57 19.3	-1.9
GTA				sP		sP	05 57 41.8	-4.0
GTA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
QIZ	**Qiongzhong**	**34.53**	**235**	SS		SS	06 05 27.6	+16
QIZ				LR		LR		
	comp=N,140nm,13.9s							
QIZ				LR		LR		
	comp=E,90nm,11.3s							
QIZ				LR		LR		
	comp=Z,120nm,14.6s							
ZAA0	**Zalesovo Array**	**36.66**	**306**	*e*P		**P**	**05 57 38.4**	**-0.1**
ZALV	**Zalesovo Beam**	**36.66**	**306**	P		**P**	**05 57 38.2**	**-0.4**
	comp=Z,11nm,0.5s,baz=92,slow=7.9,SNR=47							
ZALV				ScP		**ScP**	**06 03 22.4**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=93,slow=3.4,SNR=13							
WMQ	**Urumqi**	**36.84**	**289**	P		**P**	**05 57 41.8**	**+1.4**
NRIK	**Noril'sk**	**36.95**	**332**	P		**P**	**05 57 40.1**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=149,slow=6.6,SNR=5.1							
NVS	**Novosibirsk**	**37.49**	**308**	*e*P		**P**	**05 57 44.2**	**-1.3**
MK01	**Makanchi Array**	**39.63**	**295**	*e*P		**P**	**05 58 03.2**	**-0.3**
MK31	**Makanchi Array**	**39.63**	**296**	*i* P		**P**	**05 58 03.3**	**-0.2**
MK31				pmax		pmax		
	comp=Z,6.0nm,0.6s							
MK31	**Makanchi Array**	**39.63**	**296**	*e*P		**P**	**05 58 03.6**	**+0.2**
MKAR	**Makanchi Array**	**39.63**	**296**	P		**P**	**05 58 03.2**	**-0.3**
	comp=Z,6.1nm,0.6s,baz=84,slow=9.8,SNR=45							
MKAR				ScP		**ScP**	**06 03 34.4**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=64,slow=5.5,SNR=4.8							
MKAR	**Makanchi Array**	**39.63**	**296**	*e*P		**P**	**05 58 03.6**	**+0.2**
MAKZ	**Makanchi**	**39.83**	**296**	*e*P		**P**	**05 58 05.0**	**-0.2**
MAKZ				pmax		pmax		
	comp=Z,10.0nm,0.6s							
MAKZ	**Makanchi**	**39.83**	**296**	*e*P		**P**	**05 58 05.0**	**-0.2**
	comp=Z,9.7nm,0.6s							
KURK	**Kurchatov**	**40.96**	**302**	*e*P		**P**	**05 58 14.1**	**-0.2**
KURK				pmax		pmax		
	comp=Z,39nm,0.4s							
KURK	**Kurchatov**	**40.96**	**302**	*e*P		**P**	**05 58 14.1**	**-0.2**
	comp=Z,39nm,0.4s							
BVA0	**Borovoye Array**	**45.28**	**308**	*i* P		**P**	**05 58 49.1**	**+0.3**
BVA0				pmax		pmax		
	comp=Z,10.0nm,0.4s							
ILAR	**Eielson Array**	**45.29**	**35**	P		**P**	**05 58 48.5**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=282,slow=8.2,SNR=13							
BRVK	**Borovoye**	**45.33**	**308**	*i* P		**P**	**05 58 49.2**	**0.0**
BRVK				pmax		pmax		
	comp=Z,24nm,0.9s							
BRVK	**Borovoye**	**45.33**	**308**	*e*P		**P**	**05 58 50.8**	**+1.6**
	comp=Z,34nm,0.5s							
TKM2	**Tokmak 2**	**45.42**	**293**	*e*P		**P**	**05 58 51.0**	**+0.7**
TKM2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
TKM2	**Tokmak 2**	**45.42**	**293**	*e*P		**P**	**05 58 51.0**	**+0.7**
	comp=Z,9.4nm,0.5s							
ZRNK	**Zerenda**	**46.10**	**308**	*e*P		**P**	**05 58 55.5**	**+0.3**
ZRNK				pmax		pmax		
	comp=Z,22nm,0.7s							
ZRNK	**Zerenda**	**46.10**	**308**	*e*P		**P**	**05 58 55.5**	**+0.3**
	comp=Z,22nm,0.7s							
EKS2	**Erkin-Say**	**46.75**	**293**	*e*P		**P**	**05 59 00.7**	**+0.1**
EKS2				pmax		pmax		
	comp=Z,3.0nm,0.6s							
EKS2	**Erkin-Say**	**46.75**	**293**	*e*P		**P**	**05 59 00.7**	**+0.1**
	comp=Z,3.0nm,0.6s							
MNAS	**Manas**	**47.68**	**293**	P		**P**	**05 59 07.8**	**+0.1**
MNAS				pmax		pmax		
	comp=Z,7.0nm,0.6s							
EGAK	**Eagle**	**47.70**	**35**	*e*P		**P**	**05 59 07.2**	**-0.2**
	comp=Z,2.1nm,0.6s							
CRQM	**Cirque**	**47.84**	**40**	*e*P		P	05 59 14.1	+5.4
KK31	**Karatay Array**	**48.75**	**295**	*i* P		**P**	**05 59 15.3**	**-0.4**
KK31				pmax		pmax		
	comp=Z,4.0nm,0.7s							
KKAR	**Karatay Array**	**48.75**	**295**	*e*P		**P**	**05 59 15.6**	**-0.1**
KKAR	**Karatay Array**	**48.75**	**295**	*e*P		**P**	**05 59 15.6**	**-0.1**
INK	**Inuvik**	**49.72**	**29**	*e*P		**P**	**05 59 22.9**	**+0.2**
INK				pmax		pmax		
	comp=Z,9.0nm,1.8s							
INK	**Inuvik**	**49.72**	**29**	*e*P		**P**	**05 59 22.9**	**+0.2**
	comp=Z,8.8nm,1.8s							
ARU	**Arti**	**50.67**	**315**	*c i*P		**P**	**05 59 30.7**	**+0.7**
ARU							06 01 25.2	
ARU				S		**S**	**06 06 31.4**	**+3.3**
ARU				SS		**SS**	**06 10 03.8**	**-0.8**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.0s							
ARU	**Arti**	**50.67**	**315**	*e*P		**P**	**05 59 30.1**	**+0.1**
	comp=Z,12nm,1.3s							
ABKAR	**Akbulak array**	**52.77**	**306**	*e*P		**P**	**05 59 45.8**	**+0.2**
AKTO	**Aktyubinsk**	**53.38**	**308**	P		**P**	**05 59 49.7**	**-0.3**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ARCES	**ARCESS Array B**	**57.60**	**338**	P		**P**	**06 00 19.1**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=55,slow=7.9,SNR=22							
YKA	**Yellowknife Ar**	**59.34**	**31**	P		**P**	**06 00 31.2**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=304,slow=6.7,SNR=8.6							
YKA				PcP		**PcP**	**06 01 17.7**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=312,slow=3.8,SNR=10							
FITZ	**Fitzroy Crossi**	**62.30**	**195**	P		**P**	**06 00 52.5**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=27,slow=6.8							
FINES	**FINESS Array B**	**62.56**	**330**	P		**P**	**06 00 52.8**	**-0.7**
	comp=Z,3.8nm,0.4s,baz=76,slow=6.8,SNR=17							
WRA	**Warramunga Arr**	**63.03**	**185**	P		**P**	**06 00 56.1**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=1.8,slow=7.0,SNR=34							
WRA				PcP		**PcP**	**06 01 33.1**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=359,slow=4.6,SNR=15							
AS01	**Alice Springs**	**66.75**	**185**	*e*P		**P**	**06 01 21.0**	**+0.1**
ASAR	**Alice Springs**	**66.75**	**185**	P		**P**	**06 01 21.1**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=1.7,slow=4.7,SNR=24							
ASAR				PcP		**PcP**	**06 01 48.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=3.1,slow=4.0,SNR=3.0							
ASAR	**Alice Springs**	**66.75**	**185**	P		**P**	**06 01 21.1**	**+0.1**
ASAR							06 01 48.8	
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NB2	**NORSAR Subarra**	**67.82**	**336**	P		**P**	**06 01 26.6**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=37,slow=6.5							
NOA	**NORSAR Array B**	**67.82**	**336**	P		**P**	**06 01 26.9**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=39,slow=6.3,SNR=5.0							
AKASG	**Malin Array Be**	**68.40**	**320**	P		**P**	**06 01 30.7**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=48,slow=8.3,SNR=3.2							
NVAR	**Mina Array Bea**	**72.65**	**53**	P		**P**	**06 01 58.0**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=302,slow=6.0,SNR=16							
PDAR	**Pinedale Array**	**74.53**	**45**	P		**P**	**06 02 08.1**	**0.0**
	comp=Z,3.6nm,0.6s,baz=300,slow=2.1,SNR=23							
STKA	**Stephens Creek**	**74.79**	**178**	P		**P**	**06 02 10.0**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=329,slow=5.9,SNR=4.2							
ULM	**Lac du Bonnet**	**75.24**	**33**	P		**P**	**06 02 11.1**	**-0.6**
	comp=Z,3.2nm,0.3s,baz=312,slow=4.9,SNR=4.8							
SRU	**San Rafael Swe**	**76.60**	**49**	*e*P		**P**	**06 02 20.8**	**+1.0**
SRU				pmax		pmax		
	comp=Z,3.0nm,0.6s							
SRU	**San Rafael Swe**	**76.60**	**49**	*e*P		**P**	**06 02 20.8**	**+1.0**
	comp=Z,3.2nm,0.6s							
PFO	**Pinyon Flats O**	**77.00**	**56**	*i* P		**P**	**06 02 23.3**	**+1.2**
TXAR	**Lajitas Array**	**87.62**	**51**	P		**P**	**06 03 17.1**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=290,slow=3.1,SNR=7.0							
LPAZ	**La Paz**	**144.47**	**49**	PKP		PKPbc	06 10 03.8	+0.2
	comp=Z,0.5nm,0.4s,baz=301,slow=3.6,SNR=6.8							
BDFB	**Brasilia**	**151.81**	**15**	PKPbc		**PKPbc**	**06 10 22.2**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=307,slow=5.1,SNR=3.7							

NIED ***13*** *06:01:00,39.60N×143.60E,h23km,Mw4.2 Best double couple: M₀2.59000×10¹⁵ NP1:φs196.00000°,δ29.00000°, λ77.00000°. NP2:φs30.00000°,δ62.00000°,λ97.00000°.*
IDC ***13*** *06:01:34.3±0.7,39.64N×143.31E,h0km,mb4.0/15, mb1 4.2/17,mb1mx4.0/50,mbtmp4.0/17,ML3.6/2,MS3.5/14, Ms1 3.5/14,ms1mx3.2/54,Error ellipse: s-maj=19.4km s-min=16.8km az=126.0*
JMA ***13*** *06:01:34.7±0.1,39.60N×143.58E,h29km,M4.4*
ISCJB ***13*** *06:01:35.5±1.3,39.62N±0.03×143.49E±0.05,h25km±9km, mb4.3/30,MS3.6/10,Error ellipse: s-maj=7.9km s-min=4.2km az=33.5*
MOS ***13*** *06:01:36.1±0.8,39.64N×143.46E,h30km,mb4.7/18,Error ellipse: s-maj=10.2km s-min=6.8km az=92.9*
NEIC ***13*** *06:01:38.5±2.2,39.66N×143.40E,h28km±15km,mb4.5/6,*

Error ellipse: s-maj=11.0km s-min=6.5km az=127.0
ISC 13 06:01:35.0±2.7,39.63N±0.05×143.43E±0.07,h7km±16km, n86,σ1s18/84,mb4.4/30,MS3.6/10,1C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.25**	**268**	P		**P**	**Pn**	**06 01 58.4**	**-0.4**
JTH	**Tanohata**	**1.25**	**285**	P		**P**	**Pn**	**06 01 58.5**	**-0.4**
JTH				*e*S		**S**	**Sn**	**06 02 15.9**	**0.0**
OFUJ	**Ofunato**	**1.47**	**249**	P		**P**	**Pn**	**06 02 01.3**	**-0.6**
JANG	**Nango**	**1.65**	**297**	P		**P**	**Pn**	**06 02 03.7**	**-0.7**
JOM	**Ohasama**	**1.66**	**265**	P		**P**	**Pn**	**06 02 04.7**	**+0.1**
JOM				*e*S		**S**	**Sn**	**06 02 25.9**	**-0.2**
JMK	**Ichinoseki**	**1.84**	**249**	P		**P**	**Pn**	**06 02 07.0**	**0.0**
JIO	**Ouri**	**2.00**	**235**	P		**P**	**Pn**	**06 02 08.4**	**-0.8**
JIO				*e*S		**S**	**Sn**	**06 02 32.9**	**-1.6**
JTM	**Tenmabayashi**	**2.15**	**303**	P		**P**	**Pn**	**06 02 11.6**	**+0.3**
JAH	**Hinai**	**2.22**	**286**	P		**P**	**Pn**	**06 02 12.8**	**+0.5**
ERM	**Erimo**	**2.40**	**355**	*e*P		**P**	**Pn**	**06 02 14.7**	**+0.1**
ERM	**Erimo**	**2.40**	**355**	*e*Pn		**P**	**Pn**	**06 02 15.5**	**+0.9**
ERM				*e*Sn		**S**	**Sn**	**06 02 42.0**	**-2.2**
JYK	**Kaneyama**	**2.49**	**254**	P		**P**	**Pn**	**06 02 16.4**	**+0.5**
JOU	**Okura**	**2.50**	**241**	P		**P**	**Pn**	**06 02 16.2**	**+0.1**
JOT	**Ohata**	**2.52**	**315**	P		**P**	**Pn**	**06 02 16.8**	**+0.4**
JNBK	**Urakawa-nobuka**	**2.70**	**349**	P		**P**	**Pn**	**06 02 19.5**	**+0.7**
JNBK				*e*S		**S**	**Sn**	**06 02 52.2**	**+0.4**
JFT	**Otama**	**3.21**	**230**	P		**P**	**Pn**	**06 02 25.6**	**-0.3**
ASAJ	**Asahikawa**	**4.53**	**352**	*e*Pn		**P**	**Pn**	**06 02 44.9**	**+0.9**
ASAJ				*e*Sn		**S**	**Sn**	**06 03 37.2**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**4.76**	**22**	*e*P		**P**	**Pn**	**06 02 47.1**	**-0.1**
MAJO	**Matsushiro**	**5.14**	**235**	*e*P		**P**	**Pn**	**06 02 53.5**	**+1.1**
MAJO	**Matsushiro** 40nm,0.6s	**5.14**	**235**	*e*Pn		**P**	**Pn**	**06 02 53.5**	**+1.1**
MAT	**Matsushiro**	**5.14**	**235**	P		**P**	**Pn**	**06 02 53.4**	**+0.9**
MAT				*e*S		**S**	**Sn**	**06 03 53.5**	**+1.4**
MJAR	**Matsushiro Arr** 3.3nm,0.3s,baz=41,slow=12,SNR=63	**5.14**	**235**	Pn		**P**	**Pn**	**06 02 53.3**	**+0.8**
MJAR				LR		LR		06 05 05.9	
	comp=Z,320nm,18.7s,baz=35,slow=42								
KUR	**Kuril'sk**	**6.49**	**29**	*e*P		**P**	**Pn**	**06 03 12.2**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.34**	**356**	*e*P		**P**	**Pn**	**06 03 24.1**	**+1.6**
YSS				*e*S		**S**	**Sn**	**06 04 44.7**	**-1.4**
YSS				pmax		pmax			
	comp=Z,20nm,0.9s								
YSS				smax		smax			
	comp=N,10.0nm,0.9s								
YSS				MLR		MLR			
	comp=Z,300nm,19.0s								
YSS				MLR		MLR			
	comp=E,500nm,17.0s								
YSS	**Yuzh-Sakhalins** comp=E,13nm,0.8s	**7.34**	**356**	*e*Pn		**Pn**	**Pn**	**06 03 23.1**	**+0.6**
YSS				*e*Sn		**Sn**	**Sn**	**06 04 50.1**	**+4.0**
USRK	**Ussuriysk Ar.** comp=E,0.4nm,0.3s,baz=107,slow=13,SNR=25	**9.67**	**302**	Pn		**Pn**	**Pn**	**06 03 57.3**	**+2.7**
USRK				LR		LR		06 07 31.5	
	comp=E,258nm,21.5s,baz=116,slow=37								
TYV	**Tymovskoe**	**11.25**	**357**	*e*P		**Pn**	**Pn**	**06 04 14.2**	**-1.9**
TYV				pmax		pmax			
	comp=Z,9.0nm,0.8s								
JNU	**Nakatsue** comp=Z,365nm,18.0s,baz=335,slow=40	**12.02**	**241**	LR		LR	LR	06 09 32.6	
KSRS	**Korea Array** comp=Z,0.3nm,0.3s,baz=89,slow=13,SNR=9.6	**12.34**	**265**	Pn		**Pn**	**Pn**	**06 04 34.4**	**+3.4**
KSRS				LR		LR		06 08 58.8	
	comp=Z,256nm,18.1s,baz=90,slow=36								
KSAR	**Wonju Array Be**	**12.37**	**265**	P		**P**	**Pn**	**06 04 34.4**	**+2.9**
KSAR	**Wonju Array Be**	**12.37**	**265**	Pn		**Pn**	**Pn**	**06 04 34.4**	**+2.9**
KLR	**Kul'dur** comp=Z,0.2nm,0.3s,baz=137,slow=10,SNR=6.4	**12.71**	**323**	Pn		**Pn**	**Pn**	**06 04 36.5**	**+0.4**
KLR				LR		LR		06 09 41.2	
	comp=Z,233nm,19.8s,baz=130,slow=38								
PETK	**Petropavlovsk-** comp=Z,65nm,18.0s,baz=194,slow=41	**16.65**	**31**	LR		LR	LR	06 13 04.4	
PET	**Petropavlovsk**	**16.98**	**33**	*e*P		**Pn**	**Pn**	**06 05 31.3**	**-1.5**
PET	**Petropavlovsk**	**16.98**	**33**	*e*Pn		**Pn**	**Pn**	**06 05 31.3**	**-1.5**
HIA	**Hailar**	**19.39**	**308**	*e*P		**P**	**Pn**	**06 05 59.4**	**-2.1**
HIA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
HIA	**Hailar** comp=Z,9.6nm,0.3s	**19.39**	**308**	*e*P		**P**	**P**	**06 06 01.6**	**+0.1**
MA2	**Magadan** comp=Z,14nm,0.8s,baz=218,slow=7.4,SNR=5.4	**20.50**	**11**	P		Pn	Pn	06 06 14.6	-0.9
MA2				LR		LR		06 15 05.8	
	comp=Z,84nm,19.0s,baz=164,slow=40								
YAK	**Yakutsk** comp=Z,40nm,21.0s,baz=142,slow=39	**23.95**	**344**	LR		LR	LR	06 16 57.0	
YAK	**Yakutsk**	**23.95**	**344**	*e*P		**P**	**P**	**06 06 47.9**	**-1.6**
YAK				pmax		pmax			
	comp=Z,18nm,0.9s								
YAK				pmax		pmax			
	comp=N,6.0nm,1.2s								
YAK				pmax		pmax			
	comp=E,5.0nm,1.1s								
SEY	**Seymchan** comp=E,8.6nm,0.8s,baz=194,slow=7.5,SNR=21	**23.95**	**10**	P		**P**	**P**	**06 06 49.9**	**+0.3**
SEY	**Seymchan**	**23.95**	**10**	*i* P		**P**	**P**	**06 06 49.5**	**-0.1**
ULN	**Ulaanbaatar**	**27.34**	**300**	*i* P		**P**	**P**	**06 07 19.6**	**-1.0**
ULN				pmax		pmax			
	comp=Z,12nm,1.2s								
ULN	**Ulaanbaatar** comp=Z,8.7nm,1.1s	**27.34**	**300**	*e*P		**P**	**P**	**06 07 21.1**	**+0.5**
SONM	**Songino Array** comp=Z,3.6nm,0.9s,baz=90,slow=8.4,SNR=23	**27.77**	**299**	P		**P**	**P**	**06 07 24.8**	**+0.3**
SONM				LR		LR		06 19 05.9	
	comp=Z,225nm,18.8s,baz=114,slow=38								
H11N2	**WAKE ISLAND Hy** baz=320	**28.29**	**128**	T		T		06 37 02.2	
H11N1	**WAKE ISLAND Hy** baz=320	**28.30**	**128**	T		T		06 37 02.4	
H11N3	**WAKE ISLAND Hy** baz=320	**28.31**	**128**	T		T		06 37 03.4	
H11S1	**WAKE ISLAND Hy** baz=321,slow=76,SNR=17	**29.11**	**130**	T		T		06 38 05.6	
H11S3	**WAKE ISLAND Hy** baz=321,slow=76,SNR=11	**29.11**	**130**	T		T		06 38 09.7	
H11S2	**WAKE ISLAND Hy** baz=321,slow=76,SNR=10	**29.13**	**130**	T		T		06 38 06.3	
TLY	**Talaya** comp=Z,71nm,19.0s,baz=85,slow=38	**29.93**	**307**	LR		LR		06 20 35.1	
ZAK	**Zakamensk**	**30.01**	**304**	*e*P		**P**	**P**	**06 07 44.1**	**-0.2**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.2s								
ZALV	**Zalesovo Beam** comp=Z,3.5nm,0.7s,baz=84,slow=7.6,SNR=15	**41.40**	**310**	P		**P**	**P**	**06 09 21.2**	**-0.5**
ZALV				LR		LR		06 27 19.8	
	comp=Z,74nm,18.8s,baz=70,slow=37								
NRIK	**Noril'sk** comp=Z,99nm,18.1s,baz=118,slow=38	**41.61**	**334**	LR		LR		06 27 50.4	
MKAR	**Makanchi Array** comp=Z,4.3nm,0.8s,baz=82,slow=9.3,SNR=28	**44.14**	**300**	P		**P**	**P**	**06 09 43.8**	**-0.3**
KURK	**Kurchatov**	**45.63**	**306**	*e*P		**P**	**P**	**06 09 55.9**	**+0.1**
KURK				pmax		pmax			
	comp=Z,68nm,0.8s								
KURK	**Kurchatov** comp=Z,68nm,0.8s	**45.63**	**306**	*e*P		**P**	**P**	**06 09 55.9**	**+0.1**
ILAR	**Eielson Array** comp=Z,0.9nm,0.8s,baz=266,slow=6.6,SNR=14	**46.46**	**34**	P		**P**	**P**	**06 10 02.0**	**-0.2**
TKM2	**Tokmak 2**	**49.83**	**297**	*e*P		**P**	**P**	**06 10 28.7**	**-0.1**
TKM2				pmax		pmax			
	comp=Z,9.0nm,0.8s								
TKM2	**Tokmak 2** comp=Z,8.6nm,0.8s	**49.83**	**297**	*e*P		**P**	**P**	**06 10 28.7**	**-0.1**
BRVK	**Borovoye**	**50.09**	**311**	*i* P		**P**	**P**	**06 10 30.4**	**0.0**
BRVK				pmax		pmax			
	comp=Z,8.0nm,0.8s								
AAK	**Ala-Archa**	**50.69**	**297**	*e*P		**P**	**P**	**06 10 34.9**	**-0.4**
AAK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
INK	**Inuvik** comp=Z,0.8nm,0.8s,baz=262,slow=5.7,SNR=3.6	**51.36**	**28**	P		**P**	**P**	**06 10 40.6**	**+0.9**
KKAR	**Karatay Array**	**53.23**	**299**	*e*P		**P**	**P**	**06 10 52.9**	**-1.1**
KKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KKAR	**Karatay Array** comp=Z,0.6nm,0.5s	**53.23**	**299**	*e*P		**P**	**P**	**06 10 52.9**	**-1.1**
ARU	**Arti**	**55.49**	**318**	*c i*P		**P**	**P**	**06 11 10.5**	**+0.3**
ARU								06 13 10.6	
ARU				S		**S**	**S**	**06 18 55.5**	**+0.1**
ARU				SS		**SS**	**SS**	**06 22 40.1**	**+0.6**
ARU				pmax		pmax			
	comp=Z,11nm,1.0s								
ARU				MLR		MLR			
	comp=Z,205nm,16.0s								
ARU	**Arti**	**55.49**	**318**	*e*P		**P**	**P**	**06 11 10.5**	**+0.3**
	comp=Z,11nm,1.1s								
ABKAR	**Akbulak array** comp=Z,3.5nm,0.7s	**57.50**	**309**	*e*P		**P**	**P**	**06 11 24.9**	**+0.2**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.8s,baz=9.1,slow=6.9,SNR=6.1	**59.86**	**190**	P		**P**	**P**	**06 11 40.2**	**-1.1**
ARCES	**ARCESS Array B** comp=Z,47nm,19.7s,baz=36,slow=39	**62.13**	**339**	LR		LR	LR	06 41 45.8	
KLMR	**Klimovskoe**	**62.42**	**328**	*e*P		**P**	**P**	**06 11 57.2**	**-1.0**
KLMR				pmax		pmax			
	comp=Z,9.0nm,1.5s								
ASAR	**Alice Springs** comp=Z,0.6nm,0.7s,baz=16,slow=7.7,SNR=5.6	**63.59**	**190**	P		**P**	**P**	**06 12 07.4**	**+1.0**
VRH	**Novokhopyorsk**	**66.72**	**318**	*e*P		**P**	**P**	**06 12 25.6**	**-0.9**
VRH				pmax		pmax			
	comp=Z,7.0nm,0.5s								
FINES	**FINESS Array B** comp=Z,4.2nm,0.8s,baz=54,slow=9.7,SNR=6.5	**67.26**	**332**	P		**P**	**P**	**06 12 29.0**	**-0.7**
LPSR	**Galich'ya Gora**	**67.33**	**320**	*e*P		**P**	**P**	**06 12 29.5**	**-0.9**
LPSR				pmax		pmax			
	comp=Z,10.0nm,1.2s								
VSR	**Storozhevoye**	**68.03**	**319**	*e*P		**P**	**P**	**06 12 34.1**	**-0.7**
VSR				pmax		pmax			
	comp=Z,7.0nm,1.1s								
KIV	**Kislovodsk**	**70.40**	**311**	*e*P		**P**	**P**	**06 12 48.7**	**-1.1**
KIV				pmax		pmax			
	comp=Z,13nm,1.1s								
KIV				MLR		MLR			
	comp=Z,75nm,17.0s								
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.5s,baz=304,slow=6.4,SNR=2.7	**72.18**	**55**	P		**P**	**P**	**06 13 02.6**	**+1.8**
NB2	**NORSAR Subarra** comp=Z,2.0nm,0.8s,baz=36,slow=6.2	**72.40**	**338**	P		**P**	**P**	**06 13 01.2**	**-0.3**
NOA	**NORSAR Array B** comp=Z,3.0nm,0.8s,baz=37,slow=6.1,SNR=10	**72.40**	**338**	P		**P**	**P**	**06 13 00.8**	**-0.7**
NOA				LR		LR		06 48 53.2	
	comp=Z,33nm,19.2s,baz=25,slow=39								
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=329,slow=4.3,SNR=2.6	**74.73**	**47**	P		**P**	**P**	**06 13 16.5**	**+0.7**
CLL	**Collm** comp=Z,4.0nm,1.0s	**79.62**	**331**	*i* P		**P**	**P**	**06 13 42.9**	**+0.1**
CLL	**Collm**	**79.62**	**331**	*i* P		**P**	**P**	**06 13 42.9**	**+0.1**
CLL				pmax		pmax			
	comp=Z,4.0nm,1.0s								
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,baz=35,slow=3.6,SNR=5.2	**81.33**	**329**	P		**P**	**P**	**06 13 51.8**	**-0.3**
TXAR	**Lajitas Array** comp=Z,0.5nm,1.1s,baz=321,slow=1.3,SNR=3.4	**87.30**	**54**	P		**P**	**P**	**06 14 24.3**	**+1.5**

IDC ***13*** *06:09:59.3±1.7,9.51S×125.21E,h0km,mb3.4/1, mb1 3.7/4,mb1mx3.4/47,mbtmp3.5/4,ML3.6/3,Error ellipse: s-maj=101.7km s-min=26.8km az=66.0*
ISCJB ***13*** *06:10:02.5±1.0,9.79S±0.09×125.2E±0.1,h35km,mb3.4/1, Error ellipse: s-maj=22.8km s-min=7.8km az=149.8*
DJA ***13*** *06:11:29.8±0.5,4.4S±7.2×127.1E±,h10km,M3.1/6,MLv3.1/6*
ISC 13 06:10:04.3±1.1,9.7S±0.1×125.3E±0.2,h35km,n6,σ1s87/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPSI	**Sidrap Palu**	**7.89**	**316**	P		**P**	**Pn**	**06 11 58.7**	**+2.1**
FITZ	**Fitzroy Crossi** 1.1nm,0.3s,baz=2.4,slow=10,SNR=36	**8.38**	**178**	Pn		**Pn**	**Pn**	**06 12 05.0**	**+1.7**
FITZ				Sn		**Sn**	**Sn**	**06 13 35.0**	**-1.7**
	0.6nm,0.3s,baz=270,slow=14,SNR=4.2								
TTSI	**Tana Toraja**	**8.54**	**320**	P		**P**	**Pn**	**06 12 03.5**	**-2.1**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=318,slow=15,SNR=10	**13.43**	**140**	Pn		**Pn**	**Pn**	**06 13 13.9**	**+1.4**
WRA				Sn		**Sn**	**Sn**	**06 15 40.4**	**-0.3**
	0.3nm,0.3s,baz=320,slow=25,SNR=6.4								
ASAR

KIW	Kapiti Island	3.10	32	PN	Pn	06 16 52.5	-2.1
MTW	Mount Morrison	3.11	42	PN	Pn	06 16 51.7	-3.0
OGWZ	Otaki Gorge	3.24	34	PN	Pn	06 16 53.7	-2.8
TUZ	Tuapeka	3.30	221	PN	Pn	06 16 55.2	-2.0
TUZ				AML	AML	06 17 58.2	
TUZ				AML	AML	06 19 54.3	
MRZ	Mangatainoka R	3.54	37	PN	Pn	06 16 57.6	-3.0
MLZ	Mavora Lakes	3.80	239	PN	Pn	06 17 01.9	-2.3
KHEZ	Kahui Hut	4.33	13	PN	Pn	06 17 11.7	+0.2
NEZ	North Egmont	4.36	14	PN	Pn	06 17 11.7	-0.3
WNVZ	Wahianoa	4.70	28	*e*PN	Pn	06 17 14.1	-2.6

WEL 13 06:16:16.0±0.2, 43°.52S×172°.77E, h5km, ML3.1/2, Error ellipse: s-maj=1.9km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	Canterbury Las	0.12	243	PG	Pg	06 16 18.2	-0.2
CRLZ				SG	Sg	06 16 20.2	+0.2
CRLZ				AML	AML	06 16 20.3	
CRLZ				AML	AML	06 16 20.8	
CRLZ				AML	AML	06 16 21.0	
MQZ	McQueen's Vall	0.20	204	AML	AML	06 16 18.0	
MQZ				AML	AML	06 16 23.1	
MQZ				AML	AML	06 16 23.2	

WEL 13 06:17:59.7±0.1, 43°.59S×172°.77E, h9km, ML3.6/11, 1C-1D, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	Canterbury Las	0.11	278	⇓PG	Pg	06 18 02.3	0.0
CRLZ				SG	Sg	06 18 04.1	0.0
CRLZ				AML	AML	06 18 04.2	
CRLZ				AML	AML	06 18 04.7	
CRLZ				AML	AML	06 18 04.7	
MQZ	McQueen's Vall	0.14	216	⇑PG	Pg	06 18 03.1	+0.2
MQZ				SG	Sg	06 18 05.5	+0.4
MQZ				AML	AML	06 18 05.5	
MQZ				AML	AML	06 18 05.6	
OXZ	Oxford	0.59	296	P*	Pg	06 18 10.9	-0.3
OXZ				S*	Sg	06 18 19.3	+0.3
LTZ	Lake Taylor	0.89	336	P*	Pg	06 18 16.3	-0.5
LTZ				S*	Sg	06 18 28.6	+0.3
LTZ				AML	AML	06 18 29.3	
RPZ	Rata Peaks	1.25	264	AML	AML	06 18 41.6	
RPZ				AML	AML	06 18 44.7	
KHZ	Kahutara	1.30	26	PN	Pn	06 18 22.3	-1.7
THZ	Tophouse	1.83	3	AML	AML	06 18 56.5	
DSZ	Denniston Nort	1.98	339	*e*PN	Pn	06 18 32.4	-1.0
DSZ				AML	AML	06 19 00.9	
DSZ				AML	AML	06 19 02.4	
LBZ	Lake Benmore	2.03	246	*e*PN	Pn	06 18 32.7	-1.3
LBZ				AML	AML	06 19 08.3	
ODZ	Otahua Downs	2.11	226	*e*PN	Pn	06 18 33.6	-1.6
ODZ				AML	AML	06 19 08.9	
ODZ				AML	AML	06 19 09.5	
FOZ	Fox Glacier	2.15	271	AML	AML	06 19 03.2	
NNZ	Nelson	2.41	11	PN	Pn	06 18 38.2	-1.1
CAW	Cannon Point	3.01	35	AML	AML	06 19 20.4	

*NEIC **13** 06:28:29.8, 15°.13N×94°.96W, h25km, MD4.2(MEX), After MEX.*

MEX 13 06:28:29.8±0.4, 15°.13N×94°.96W, h25km±49km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	1.28	300	*e*P	Pn	06 28 49.5	-2.7
HUIG				*e*S	Sn	06 29 05.0	-3.5
HUIG	Huatulco	1.28	300	*e*P	Pn	06 28 49.5	-2.7
HUIG				*e*S	Sn	06 29 05.0	-3.5
PCIG		1.77	71	*e*P	Pn	06 28 56.5	-2.4
PCIG		1.77	71	*e*P	Pn	06 28 56.5	-2.4
CCIG	Comitan	2.95	67	*e*P	Pn	06 29 13.5	-1.8
CCIG	Comitan	2.95	67	*e*P	Pn	06 29 13.5	-1.8
TEIG	Tepich	8.14	50	*e*Pn	Pn	06 30 26.5	0.0
TEIG				*e*Sn	Sn	06 31 58.5	+0.8
JCT	Junction City	15.92	345	*e*Pn	Pn	06 32 11.9	-0.3
JCT				*e*Sn	Sn	06 35 06.8	-1.3
LRAL	Lakeview Retre	19.24	21	*e*P	Pn	06 32 53.9	+0.6
	1.6nm,0.4s						
WMOK	Wichita Mounta	19.83	351	*e*P	P	06 32 58.5	-0.3
	1.2nm,0.5s						

*IDC **13** 06:36:30.3±2.1, 36°.15N×142°.80E, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.5/48, mbtmp3.7/8, ML3.5/3, Error ellipse: s-maj=47.1km s-min=30.0km az=73.0*

*ISCJB **13** 06:36:32.2±1.0, 36°.22N±0°.07×142°.6E±0°.1, h18km, mb3.7/5, Error ellipse: s-maj=12.3km s-min=10.3km az=150.6*

*JMA **13** 06:36:33.9±0.2, 36°.19N×142°.52E, h55km, M3.3*

ISC 13 06:36:34.6±1.5, 36°.21N±0°.09×142°.4E±0°.1, h18km, n16, σ1§46/19, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	1.56	285	P	Pn	06 37 00.8	-0.6
JHO				*e*S	Sn	06 37 20.2	-0.9
ONAJ	Iwakimizuishiy	1.59	305	P	Pn	06 37 01.3	-0.6
JFK	Kawauchi	1.70	313	P	Pn	06 37 02.4	-1.0
JFK				*e*S	Sn	06 37 24.1	-0.7
BSO1	Boso 1	1.96	218	P	Pn	06 37 06.0	-0.3
JFT	Otama	2.13	308	P	Pn	06 37 09.6	+0.3
JAG	Ashikaga	2.42	276	P	Pn	06 37 13.2	0.0
JRY	Ryogami san	2.87	267	P	Pn	06 37 19.2	-0.2
MJAR	Matsushiro Arr	3.42	277	Pn	Pn	06 37 27.8	+0.8
	2.8nm,0.3s,baz=106,slow=8.2,SNR=18						
MAT	Matsushiro	3.43	277	P	Pn	06 37 28.2	+1.1
MAT				*e*S	Sn	06 38 04.0	-3.3
ASAJ	Asahikawa	7.90	1	Pn	Pn	06 38 27.3	-1.2
	1.0nm,0.3s,baz=214,slow=15,SNR=3.7						
KSRS	Korea Array	11.70	280	Pn	Pn	06 39 23.9	+3.4
	0.3nm,0.3s,baz=94,slow=14,SNR=4.7						
SONM	Songino Array	28.93	305	P	P	06 42 34.3	+1.6
	1.1nm,0.6s,baz=110,slow=9.7,SNR=7.5						
ZALV	Zalesovo Beam	43.07	313	P	P	06 44 33.4	+0.1
	0.8nm,0.4s,baz=88,slow=8.6,SNR=2.7						
MKAR	Makanchi Array	45.25	303	P	P	06 44 51.5	+0.7
	1.1nm,0.7s,baz=83,slow=7.7,SNR=9.9						
KURBB	Kurchatov Arra	47.15	309	P	P	06 45 05.8	+0.2
	0.7nm,0.6s,baz=82,slow=7.8,SNR=8.7						
WRA	Warramunga Arr	56.37	189	P	P	06 46 13.2	-1.5
	0.4nm,0.8s,baz=4.8,slow=7.2,SNR=2.4						

*IDC **13** 06:38:37.0±0.5, 15°.98S×173°.21W, h0km, mb4.6/15, mb1 4.8/16, mb1mx4.5/41, mbtmp4.6/16, ML3.5/1, MS3.9/14, Ms1 3.9/14, ms1mx3.7/36, Error ellipse: s-maj=25.0km s-min=13.9km az=135.0*

*ISCJB **13** 06:38:39.8±0.2, 16°.01S±0°.05×173°.31W±0°.05, h26km, mb4.8/116, MS4.0/12, Error ellipse: s-maj=9.1km s-min=4.7km az=138.9*

*NEIC **13** 06:38:39.1±0.1, 15°.92S×173°.33W, h10km, mb4.9/102, Error ellipse: s-maj=6.9km s-min=3.9km az=139.0*

ISC 13 06:38:41.3±0.3, 15°.98S±0°.07×173°.18W±0°.06, h26km, n279, σ1§16/267, mb4.8/116, MS3.9/12, 17C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.46	34	Pn	Pn	06 39 15.4	-4.4
	159nm,0.3s,baz=54,slow=1.1,SNR=109						
AFI				Sn	Sn	06 39 39.2	-10
	426nm,0.3s,baz=181,slow=16,SNR=15						
AFI				LR	LR	06 40 15.2	
	comp=Z,2μm,21.2s,baz=284,slow=40						
AFI				T	T	06 41 37.1	
	69nm,0.3s,baz=15,slow=23,SNR=3.7						
AFI	Afiamalu	2.46	34	*e*Pn	Pn	06 39 15.3	-4.6
AFI				*e*Sn	Sn	06 39 40.5	-8.6
NIUE	Niue	4.37	135	P	Pn	06 39 44.3	-1.8
	baz=4.2,SNR=162						
KNTN	Kanton	13.20	6	*e*Pn	Pn	06 41 44.5	-2.7
RAR	Rarotonga	13.73	114	Pn	Pn	06 41 51.5	-2.9
	2.5nm,0.3s,baz=262,slow=8.0,SNR=5.9						
RAR				Sn	Sn	06 44 12.8	-13
	1.6nm,0.3s,baz=187,slow=12,SNR=3.2						
RAR				LR	LR	06 45 28.4	
	comp=Z,247nm,21.8s,baz=288,slow=30						
RAR	Rarotonga	13.73	114	*e*Pn	Pn	06 41 54.4	0.0
RAR				*e*Sn	Sn	06 44 13.4	-13
RAR				*e*Sn	Sn	06 44 29.5	+3.4
RAO	Raoul Island	13.92	197	LR	LR	06 46 26.4	
	comp=Z,2μm,21.4s,baz=18,slow=34						
DZM	Mont Dzumac	20.19	249	*e*P	Pn	06 43 18.3	+2.0
	53nm,0.9s						
DZM				*e*LR	LR	06 48 17.0	
	954nm,26.2s						
DZM	Mont Dzumac	20.19	249	P	P	06 43 14.4	+0.1
	4.7nm,0.6s,baz=81,slow=21,SNR=9.2						
DZM				LR	LR	06 49 59.2	
	comp=Z,491nm,19.4s,baz=74,slow=34						
DZM	Mont Dzumac	20.19	249	*e*P	P	06 43 13.6	-0.7
	21nm,0.8s						
PAE	Paea	22.65	98	*e*T	T	07 06 39.3	
	3.3nm,0.3s						
PPT	Papeete	22.65	97	LR	LR	06 50 05.7	
	comp=Z,117nm,20.6s,baz=274,slow=30						
PPT2	Papeete2	22.65	97	eLQ	LQ	06 47 56.8	
	565nm,27.2s						
PPT2				*e*LR	LR	06 48 50.2	
	414nm,26.0s,baz=259						
PPT2	Papeete2	22.65	97	*e*T	T	07 06 40.7	
	5.9nm,0.3s						
TIAR	Tiarei	22.87	97	*e*T	T	07 06 56.1	
	5.9nm,0.4s						
KUZ	Kuaotunu	22.92	203	P*	P	06 43 43.1	-0.2
TVO	Taravao	22.96	98	*e*T	T	07 07 03.1	
	2.2nm,0.4s						
TBI	Tubuai	23.48	112	*e*LQ	LQ	06 48 11.1	
	575nm,33.5s						
TBI				*e*LR	LR	06 49 20.3	
	410nm,25.0s,baz=282						
URZ	Urewera	23.79	199	P	P	06 43 50.6	-1.3
	12nm,0.3s,baz=7.8,slow=6.0,SNR=22						
URZ				LR	LR	06 52 01.1	
	comp=Z,277nm,20.1s,baz=30,slow=34						
URZ	Urewera	23.79	199	*e*P	P	06 43 51.9	-0.1
	90nm,1.7s						
URZ	Urewera	23.79	199	P*	P	06 43 50.7	-1.3
URZ				S*	S	06 48 08.3	+2.3
VAH	Vaihoa	24.61	92	*e*T	T	07 09 06.2	
	5.7nm,0.2s						
HNR	Honiara	27.00	281	LR	LR	06 53 33.6	
	comp=Z,418nm,21.8s,baz=117,slow=33						
QRZ	Quartz Range	27.69	204	P*	P	06 44 30.5	+3.1
INZ	Inchbonnie	29.74	203	P*	P	06 44 45.4	0.0
OXZ	Oxford	30.04	202	*e*P	P	06 44 48.1	0.0
	118nm,1.5s						
WVZ	Waitaha Valley	30.31	204	*e*P*	P	06 44 49.2	-1.3
RPZ	Rata Peaks	30.73	203	P	P	06 44 54.0	-0.3
	11nm,0.9s,baz=44,slow=5.0,SNR=6.6						
RPZ	Rata Peaks	30.73	203	*e*P	P	06 44 54.0	-0.3
TAOE	Nuku Hiva Isla	32.99	82	eLR	LR	06 53 31.0	
	282nm,27.6s						
TAOE	Nuku Hiva Isla	32.99	82	*e*T	T	07 19 34.1	
	91nm,0.2s						
RKT	Rikitea	36.61	107	eLR	LR	06 55 20.3	
	233nm,27.2s						
RKT	Rikitea	36.61	107	*e*T	T	07 24 07.0	
	5.1nm,0.2s						
RMQ	Roma	36.87	247	P	P	06 45 48.2	+0.4
	baz=38,SNR=4.2						
CMSA	Cobar Meteorol	40.45	240	P	P	06 46 16.6	-1.3
	baz=41,SNR=21						
COEN	Coen	42.16	267	P	P	06 46 32.1	0.0
	baz=43,SNR=5.5						
STKA	Stephens Creek	43.94	241	P	P	06 46 45.1	-1.2
	16nm,0.8s,baz=80,slow=8.0,SNR=24						
STKA				LR	LR	07 02 43.1	
	comp=Z,94nm,20.6s,baz=32,slow=33						
STKA	Stephens Creek	43.94	241	P	P	06 46 45.6	-0.7
	baz=44,SNR=13						
STKA	Stephens Creek	43.94	241	*e*P	P	06 46 45.6	-0.7
	3.0nm,0.7s						
HTT	Hallett	46.43	239	P	P	06 47 05.3	-0.8
	baz=47,SNR=5.3						
BBOO	Buckleboo	48.71	240	P	P	06 47 22.7	-1.2
	baz=49,SNR=12						
WR1	Warramunga Arr	49.92	257	*e*P	P	06 47 31.4	-1.9
	63nm,1.9s						
WRA	Warramunga Arr	49.93	257	P	P	06 47 31.4	-1.9
	2.0nm,0.4s,baz=90,slow=6.8,SNR=73						
AS01	Alice Springs	50.10	252	*e*P	P	06 47 32.9	-1.7
AS31	Alice Springs	50.14	252	*e*P	P	06 47 33.5	-1.5
	4.1nm,0.8s						
ASAR	Alice Springs	50.14	252	P	P	06 47 33.1	-1.8
	13nm,0.6s,baz=90,slow=7.3,SNR=167						
ASAR				LR	LR	07 07 25.8	
	comp=Z,246nm,20.3s,baz=72,slow=34						
MTN	Manton Dam	53.90	266	P	P	06 48 02.6	-0.4
	baz=54,SNR=3.2						
WRKA	Warakurna	55.20	250	P	P	06 48 11.2	-1.2
	baz=56,SNR=38						
FITZ	Fitzroy Crossi	58.30	258	P	P	06 48 34.0	-0.5
	baz=59,SNR=6.0						
VNDA	Vanda	62.83	186	LR	LR	07 12 08.2	
	comp=Z,26nm,21.4s,baz=325,slow=32						
KLBR	Kellerberrin	64.16	242	P	P	06 49 13.6	-0.4
	baz=65,SNR=6.0						
KMRM	Mail Ridge	72.38	38	*e*P	P	06 50 06.9	+1.7
	42nm,1.1s						
KHMM	Horse Mountain	72.79	37	*e*P	P	06 50 09.1	+1.4
	17nm,1.1s						
CMB	Columbia Colle	73.05	41	*e*P	P	06 50 10.0	+0.7
	8.5nm,0.8s						
AFDM	Forest Hills D	73.24	40	*e*P	P	06 50 10.7	+0.4
	7.6nm,0.9s						
PETK	Petropavlovsk-	73.24	342	P	P	06 50 09.8	-0.2
	5.8nm,0.8s,baz=124,slow=8.7,SNR=5.6						
PEA1	Petropavlovsk-	73.25	342	*e*P	P	06 50 09.8	-0.2
WDC	Whiskeytown Da	73.30	38	*e*P	P	06 50 11.8	+1.3
	15nm,1.2s						
GSC	Goldstone, Bar	73.84	45	*e*P	P	06 50 14.8	+0.8
	12nm,1.3s						
DAC	Darwin (Calif)	73.85	44	*e*P	P	06 50 14.9	+0.7
	4.7nm,1.1s						
YBH	Yreka Blue Hor	73.93	37	*e*P	P	06 50 15.5	+1.1
	25nm,0.9s						
QSPA	South Pole Qui	74.07	180	*e*P	P	06 50 16.8	+1.8
TVH1	TV Hill, Hawth	74.33	42	*e*P	P	06 50 17.9	+0.7
	71nm,0.3s						
HUMO	Hull Mountain	74.34	36	*e*P	P	06 50 18.3	+1.6
	17nm,1.2s						
BUOR	Burton Butte	74.54	37	*e*P	P	06 50 19.1	+1.0
NV01	Mina Array Sit	74.61	42	*e*P	P	06 50 18.9	+0.3
NVAR	Mina Array Bea	74.61	42	P	P	06 50 18.9	+0.3
	9.0nm,0.7s,baz=238,slow=6.2,SNR=62						
NVAR				LR	LR	07 16 02.7	
	comp=Z,152nm,20.9s,baz=271,slow=30						
PAHR	Pah Rah Range	74.68	40	*e*P	P	06 50 19.5	+0.7
	12nm,1.1s						
LDFC	Landfair	74.88	46	*e*P	P	06 50 20.9	+0.7
	63nm,1.8s						
TPNV	Topopah Spring	75.12	44	*e*P	P	06 50 22.4	+0.9
	6.6nm,0.8s						
MOD	Modoc Plateau	75.44	38	*e*P	P	06 50 23.7	+0.5
	17nm,0.9s						
K05A	Summer Lake	75.60	37	*e*P	P	06 50 25.0	+0.8
	36nm,1.0s						
W13A	Hualapai Mount	75.75	47	*e*P	P	06 50 25.9	+0.7
	5.2nm,1.0s						
Y14A	Wickenburg	75.77	48	*e*P	P	06 50 25.6	+0.4
	27nm,0.9s						
H04A	Detroit Lake	76.10	35	*e*P	P	06 50 27.1	+0.3
	47nm,1.4s						
R11A	Troy Canyon, C	76.33	43	*e*P	P	06 50 28.5	0.0
	5.5nm,1.1s						
BMN	Battle Mountai	76.45	41	*e*P	P	06 50 29.6	+0.5
	46nm,1.9s						
TUC	Tucson	76.59	50	*e*P	P	06 50 30.9	+1.0
	33nm,1.9s						
WVOR	Wild Horse Val	76.75	38	*e*P	P	06 50 31.5	+0.8
	13nm,1.0s						
LVP	Lakeview Peak	76.87	34	*e*P	P	06 50 31.9	+0.7
X16A	Lo Mia Camp, P	77.13	48	*e*P	P	06 50 34.0	+0.9
	7.7nm,0.9s						
319A	Douglas	77.27	52	*e*P	P	06 50 34.9	+1.1
	8.4nm,0.8s						
CCUT	Cedar City	77.39	45	*e*P	P	06 50 35.7	+1.2
	8.8nm,1.1s						
KNB	Kanab	77.48	45	*e*P	P	06 50 36.1	+1.2
	9.5nm,1.0s						
U15A	North Rim	77.54	46	*e*P	P	06 50 36.7	+1.3
	12nm,1.0s						
GLK	Glacier Lake	77.61	34	P	P	06 50 36.0	+0.6
WUAZ	Wupatki	77.73	47	*e*P	P	06 50 37.3	+0.9
	11nm,1.3s						
D05A	Enumclaw	77.81	33	*e*P	P	06 50 37.5	+1.2
	28nm,1.2s						
BLN	Blyn Mountain	77.83	32	*e*P	P	06 50 37.5	+1.0
ELK	Elko	77.87	41	*e*P	P	06 50 37.8	+0.6
	7.7nm,1.3s						
PGC	Sidney	78.02	31	*e*P	P	06 50 37.7	+0.4
	18nm,0.8s						
PKCU	Pink Cliffs	78.05	45	*e*P	P	06 50 40.4	+2.1
	8.8nm,0.8s						
HPIG		78.16	57	*e*P	P	06 50 39.4	+0.4
	12nm,1.5s						
G08A	Pilot Rock	78.27	36	*e*P	P	06 50 39.7	+0.6
	14nm,1.0s						
MTPU	Mount Pierson	78.44	45	*e*P	P	06 50 41.9	+1.5
	9.4nm,0.9s						
MSU	Marysvale	78.68	44	*e*P	P	06 50 42.7	+1.0
BMO	Blue Mountains	78.95	37	*e*P	P	06 50 43.1	+0.3
	9.3nm,0.9s						
MFID	Camas Ranch	79.00	39	*e*P	P	06 50 43.6	+0.5
	6.8nm,0.9s						
DUG	Dugway, Tooele	79.13	43	*e*P	P	06 50 44.3	+0.3
	6.4nm,1.1s						
SAW	Saint Andrews	79.50	34	P	P	06 50 45.9	+0.2
Q16A	Castle Valley	79.57	44	*e*P	P	06 50 47.8	+1.3
	5.8nm,0.9s						
PMR	Palmer	79.64	11	*e*P	P	06 50 45.7	-0.3
	5.8nm,0.8s						
F10A	Beach Ranch, E	79.65	36	*e*P	P	06 50 46.7	+0.1
	14nm,0.8s						
TMUT	Trail Mountain	79.73	44	*e*P	P	06 50 48.9	+1.4
	11nm,1.0s						
TT01	Tatalina	79.77	8	*e*P	P	06 50 47.3	+0.6
TTA	Tatalina	79.79	8	*e*P	P	06 50 47.9	+1.0
	11nm,1.0s						
DIV	Divide	79.91	13	*e*P	P	06 50 47.5	-0.1
	16nm,1.0s						
HLID	Hailey	79.93	39	*e*P	P	06 50 48.9	+0.6
	13nm,1.1s						
SPUT	South Promonto	79.95	42	*e*P	P	06 50 48.9	+0.5
	4.6nm,1.0s						
HVU	Hansel Valley	79.99	41	*e*P	P	06 50 49.2	+0.6
	6.3nm,0.7s						
BMRM	Bremner River	80.02	14	*e*P	P	06 50 48.2	0.0
	17nm,1.1s						
SRU	San Rafael Swe	80.10	45	*e*P	P	06 50 50.1	+0.8
	8.8nm,1.0s						
P17A	Butcher Ranch,	80.14	44	*e*P	P	06 50 50.5	+1.0
	10nm,1.1s						
CRQM	Cirque	80.18	14	*e*P	P	06 50 49.3	0.0
	12nm,1.1s						
KLU	Klutina	80.20	13	*e*P	P	06 50 49.1	-0.1
	6.0nm,1.0s						
SCM	Sheep Creek Mo	80.21	12	*e*P	P	06 50 49.2	-0.1
	19nm,1.2s						
JLU	Jordanelle	80.23	43	*e*P	P	06 50 50.6	+0.5
	4.4nm,1.0s						
MNTX	Cornudas Mount	80.39	53	*e*P	P	06 50 51.2	+0.4
	13nm,1.4s						
TCUT	Toone Canyon	80.53	42	*e*P	P	06 50 52.5	+0.8
	21nm,0.9s						
P18A	Preston Nutter	80.54	44	*e*P	P	06 50 52.6	+0.8
	7.7nm,1.1s						
HWUT	Hardware Ranch	80.67	42	*e*P	P	06 50 52.5	+0.2
	2.6nm,0.8s						
PV09	Paradox Valley	80.75	46	*e*P	P	06 50 53.6	+0.6
LTX	Lajitas	80.75	56	*e*P	P	06 50 53.3	+0.4
TX31	Lajitas Ar. Si	80.75	56	*e*P	P	06 50 53.7	+0.8
TXAR	Lajitas Array	80.75	56	P	P	06 50 53.3	+0.3
	1.7nm,0.8s,baz=221,slow=6.6,SNR=18						
PV10	Paradox Valley	80.75	46	*e*P	P	06 50 53.3	+0.4
PV04	Paradox Valley	80.85	46	*e*P	P	06 50 54.2	+0.9
PV01	Paradox Valley	80.96	46	*e*P	P	06 50 54.6	+0.6
ANMO	Albuquerque	81.00	50	*e*P	P	06 50 54.6	+0.3
	8.2nm,1.2s						
TRF	Thorofare Moun	81.15	10	*e*P	P	06 50 53.7	-0.7
	7.6nm,0.9s						
DHY	Denali Highway	81.33	12	*e*P	P	06 50 54.9	-0.4
	6.6nm,1.2s						
RND	Reindeer	81.36	11	*e*P	P	06 50 55.8	+0.5
	28nm,1.4s						
MCMT	McKenzie Canyo	81.57	39	*e*P	P	06 50 57.8	+0.7
MCK	McKinley	81.65	11	*e*P	P	06 50 56.5	-0.3
	17nm,0.9s						
MENT	Mentasta	81.96	13	*e*P	P	06 50 59.0	+0.5
	6.3nm,0.8s						
S22A	4UR Ranch, Cre	82.00	47	*e*P	P	06 51 00.8	+1.2
	13nm,0.8s						
DLMT	Dillon	82.00	38	*e*P	P	06 50 59.9	+0.6
	6.3nm,1.0s						
REDW	Red Top Meadow	82.03	41	*e*P	P	06 51 00.0	+0.5
	14nm,1.3s						
TPAW	Teton Pass	82.03	41	*e*P	P	06 51 00.0	+0.4
	4.8nm,0.8s						
BSMT	Bassoo Peak	82.10	35	*e*P	P	06 50 59.6	-0.2
SNOW	Snow King Moun	82.14	41	*e*P	P	06 51 00.6	+0.4
	40nm,1.8s						
DLBC	Dease Lake	82.16	21	*e*P	P	06 50 60.0	+0.3
	4.6nm,1.0s						
IMW	Indian Meadow	82.25	40	*e*P	P	06 51 01.3	+0.5
	24nm,1.6s						
MOOW	Moose Ponds	82.29	40	*e*P	P	06 51 01.8	+0.9
	9.8nm,1.6s						
LOHW	Long Hollow	82.31	41	*e*P	P	06 51 01.5	+0.5
	12nm,1.4s						
LRM	Limekiln Ridge	82.33	38	*e*P	P	06 51 01.4	+0.2
CHMT	Chamberlain Mo	82.45	37	*e*P	P	06 51 01.5	-0.2
WRH	Wood River Hil	82.47	11	*e*P	P	06 51 00.6	-0.5
	22nm,1.0s						
FLWY	Flagg Ranch	82.49	40	*e*P	P	06 51 03.0	+1.1
	16nm,1.2s						
DOT	Dot Lake	82.52	13	*e*P	P	06 51 01.4	0.0
	24nm,0.8s						
MLY	Manley	82.55	9	*e*P	P	06 51 00.9	-0.6
	8.5nm,1.0s						
BW06	Boulder Array	82.55	42	*e*P	P	06 51 02.3	0.0
	6.5nm,0.8s						
PD31	Pinedale Array	82.55	42	*e*P	P	06 51 02.2	-0.1
PDAR	Pinedale Array	82.55	42	P	P	06 51 02.0	-0.3
	4.5nm,0.8s,baz=222,slow=3.8,SNR=32						
PDAR				LR	LR	07 22 22.7	
	comp=Z,128nm,19.0s,baz=317,slow=32						
SMCO	Snowmass	82.55	46	*e*P	P	06 51 03.4	+

EGAK	**Eagle**	**84.13**	**13**	*e*P		**P**	**06 51 09.9**	**+0.3**
	comp=Z,7.1nm,0.9s							
JCT	**Junction City**	**84.29**	**56**	*e*P		**P**	**06 51 11.0**	**-0.3**
	comp=Z,3.0nm,0.8s							
AMTX	**Amarillo**	**84.53**	**52**	*e*P		**P**	**06 51 12.7**	**+0.2**
	comp=Z,17nm,0.9s							
COLD	**Coldfoot**	**84.68**	**9**	*e*P		**P**	**06 51 13.2**	**+0.9**
	comp=Z,4.9nm,0.9s							
ABTX	**Abilene, Hawle**	**85.22**	**54**	*e*P		**P**	**06 51 15.8**	**-0.1**
	comp=Z,18nm,0.9s							
MAW	**Mawson**	**87.32**	**199**	P		**P**	**06 51 26.6**	**+1.0**
	comp=Z,1.8nm,0.5s,baz=113,slow=12,SNR=7.1							
INK	**Inuvik**	**88.77**	**14**	P		**P**	**06 51 32.0**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=178,slow=5.3,SNR=9.0							
INK	**Inuvik**	**88.77**	**14**	*e*P		**P**	**06 51 32.0**	**-0.2**
	comp=Z,5.5nm,1.0s							
HHC	**Hu-ho-hao-te**	**89.58**	**313**	*e*P		**P**	**06 51 38.8**	**+2.0**
HHC				pmax	pmax			
	comp=Z,16nm,1.2s							
HHC				pmax	pmax			
	comp=Z,61nm,4.3s							
YKA	**Yellowknife Ar**	**90.54**	**23**	P		**P**	**06 51 40.0**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=242,slow=4.0,SNR=11							
YKA				LR	LR		07 26 09.6	
	comp=Z,16nm,21.0s,baz=0.0,slow=32							
YKB5	**Yellowknife Ar**	**90.54**	**23**	*e*P		**P**	**06 51 40.8**	**+0.1**
SYO	**Syowa Base**	**92.08**	**191**↓	*e*P		**P**	**06 51 47.8**	**-0.1**
CD2	**Chengdu**	**92.29**	**301**	*e*P		**P**	**06 51 50.5**	**+0.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.2s							
CM01	**Chiang Mai Arr**	**92.98**	**288**	*e*P		**P**	**06 51 54.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**93.00**	**288**	P		**P**	**06 51 53.9**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=89,slow=2.6,SNR=7.1							
LZH	**Lanzhou**	**93.74**	**306**	*e*P		P	06 52 05.3	+9.0
LZH				pP		sP	06 52 11.1	+3.3
LZH				sP		pP	06 52 15.1	+10
LZH				pmax	pmax			
	comp=Z,15nm,1.2s							
ULM	**Lac du Bonnet**	**94.24**	**39**	LR		LR	07 29 03.1	
	comp=Z,101nm,19.7s,baz=322,slow=32							
KSH	**Kashi**	**115.99**	**306**	*e*PKPbc		**PKPdf**	**06 57 20.4**	**-1.9**
KSH				sPKP			06 57 34.0	
KSH				PP		**PP**	**06 58 31.0**	**+4.1**
KSH				PKS		**PKSdf**	**07 00 54.3**	**-4.8**
KSH				SKS		**SKSdf**	**07 04 25.3**	**-7.7**
KSH	**Kashi**	**115.99**	**306**	SS		SS	07 14 25.8	-2.1
KSH				AMB		AMB		
	comp=Z,36nm,3.6s							
KSH				LR		LR		
	comp=N,130nm,5.8s							
KSH				LR		LR		
	comp=E,93nm,6.7s							
ARA0	**ARCESS Array S**	**125.21**	**352**	*e*PKPdf		**PKPdf**	**06 57 38.5**	**-0.5**
ARCES	**ARCESS Array B**	**125.21**	**352**	PKP		**PKPdf**	**06 57 38.5**	**-0.5**
	comp=E,2.5nm,0.6s,baz=45,slow=0.5,SNR=15							
FIA0	**FINESS Array S**	**132.55**	**348**	*e*PKPdf		**PKPdf**	**06 57 52.9**	**-0.3**
FINES	**FINESS Array B**	**132.55**	**348**	PKP		**PKPdf**	**06 57 52.9**	**-0.3**
	comp=E,1.9nm,0.6s,baz=29,slow=3.2,SNR=9.2							
AKASG	**Malin Array Be**	**140.95**	**337**	PKP		**PKPdf**	**06 58 09.1**	**+0.1**
	comp=E,0.6nm,0.3s,baz=45,slow=0.3,SNR=4.1							
AKBB	**Malin Array Si**	**140.95**	**337**	*e*PKPdf		**PKPdf**	**06 58 10.2**	**+1.2**
OJC	**Ojcow**	**144.27**	**346**	*e*PKP		**PKPab**	**06 58 13.0**	**+0.2**
KSP	**Ksiaz**	**144.39**	**350**	*e*PKP		**PKPab**	**06 58 13.5**	**+0.2**
CLL	**Collm**	**144.41**	**353**↑	*i*P		**PKPab**	**06 58 13.6**	**+0.3**
	comp=Z,5.0nm,0.7s							
CLL	**Collm**	**144.41**	**353**	*e*PKPdf		**PKPab**	**06 58 14.2**	**+0.8**
STHS	**Stebnicka Huta**	**144.64**	**344**	*e*PKP		**PKPab**	**06 58 15.5**	**+1.2**
BRG	**Berggiesshubel**	**144.72**	**352**	*e*PKP		**PKPdf**	**06 58 16.8**	**+1.0**
	comp=Z,4.6nm,1.1s							
KOLS	**Kolonicke sedl**	**144.79**	**342**	*e*PKP		**PKPab**	**06 58 15.3**	**+0.5**
DPC	**Dobruska-Polom**	**144.86**	**349**	*e*PKP		**PKPab**	**06 58 15.1**	**0.0**
DPC				*ex*		x	06 58 27.3	
DPC				*ex*		x	06 58 33.4	
NIE	**Niedzica**	**144.88**	**345**	*e*PKP		**PKPab**	**06 58 15.6**	**+0.4**
BUR08	**Bucovina Ar. S**	**144.96**	**338**	*e*PKPdf		**PKPbc**	**06 58 15.9**	**+0.3**
BURAR	**Bucovina Array**	**144.98**	**338**↓	*i*P		**PKPbc**	**06 58 16.2**	**+0.5**
OKC	**Ostrava-Krasne**	**145.00**	**347**	*e*PKP		**PKPbc**	**06 58 15.6**	**+0.1**
CRVS	**Cervenica-Dubn**	**145.05**	**343**	*e*PKP		**PKPbc**	**06 58 16.1**	**+0.3**
MORC	**Moravsky Berou**	**145.18**	**348**↑	*i*P		**PKPbc**	**06 58 16.4**	**+0.2**
MORC	**Moravsky Berou**	**145.18**	**348**	*e*PKPbc		**PKPbc**	**06 58 16.6**	**+0.4**
LANS	**Liptovska Anna**	**145.34**	**345**	*e*PKP		**PKPbc**	**06 58 17.5**	**+0.8**
TESR	**Tescani**	**145.36**	**336**↑	*i*P		**PKPbc**	**06 58 16.8**	**0.0**
MEM	**Membach**	**145.45**	**1**	PKP		**PKPdf**	**06 58 17.0**	**0.0**
KMBO	**Kilima Mbogo**	**145.48**	**243**	PKPbc		**PKPab**	**06 58 19.6**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=162,slow=2.0,SNR=5.2							
SNF	**Seneffe**	**145.49**	**3**	PKP		**PKPdf**	**06 58 17.6**	**+0.6**
TLCR		**145.50**	**332**↑	*i*P		**PKPdf**	**06 58 17.9**	**+0.7**
PRU	**Pruhonice**	**145.50**	**351**	*e*PKP		**PKPdf**	**06 58 17.0**	**-0.1**
PRU				*ex*		x	06 58 35.2	
NKC	**Novy Kostel**	**145.53**	**354**	*e*PKP		**PKPdf**	**06 58 17.1**	**-0.1**
BCLA	**Clavier**	**145.62**	**2**	PKP		**PKPdf**	**06 58 18.0**	**+0.8**
KECS	**Kecovo**	**145.70**	**344**	*e*PKP		**PKPdf**	**06 58 18.4**	**+0.9**
CFR	**Carcaliu**	**145.81**	**333**↑	*i*P		**PKPdf**	**06 58 18.4**	**+0.7**
VRAC	**Vranov**	**145.81**	**349**↑	*i*P		**PKPdf**	**06 58 18.5**	**+0.8**
VRI	**Vrincioaia**	**145.86**	**335**↑	*i*P		**PKPdf**	**06 58 19.0**	**+1.1**
PLOR	**Plostina**	**145.90**	**335**↓	*i*P		**PKPdf**	**06 58 18.7**	**+0.7**
DOU	**Dourbes**	**145.92**	**3**	PKP		**PKPdf**	**06 58 18.7**	**+0.9**
VYHS	**Vyhne**	**146.10**	**346**	*e*PKP		**PKPdf**	**06 58 19.1**	**+0.9**
GRER		**146.15**	**334**↑	*i*P		**PKPab**	**06 58 21.7**	**+1.7**
HARR	**Harsova**	**146.28**	**332**↑	*i*P		**PKPab**	**06 58 21.4**	**+0.9**
DOPR	**Dopca**	**146.30**	**336**↑	*i*P		**PKPbc**	**06 58 20.7**	**+0.9**
PSZ	**Piszkesteto**	**146.37**	**344**↑	*i*P		**PKPdf**	**06 58 20.1**	**+1.3**
PSZ	**Piszkesteto**	**146.37**	**344**	*e*PKPdf		**PKPdf**	**06 58 20.4**	**+1.6**
WLF	**Walferdange**	**146.40**	**1**	PKP		**PKPdf**	**06 58 19.7**	**+1.0**
KHC	**Kasperske Hory**	**146.48**	**352**	*e*PKP		**PKPdf**	**06 58 20.4**	**+1.5**
KHC				*ex*		x	06 58 32.3	
KHC				*ex*		x	06 58 38.7	
MLR	**Muntele Rosu**	**146.48**	**335**↑	*i*P		**PKPbc**	**06 58 21.1**	**+0.6**
MLR	**Muntele Rosu**	**146.48**	**335**	*e*PKPdf		**PKPbc**	**06 58 21.2**	**+0.7**
ISR	**Istrita**	**146.54**	**334**↑	*i*P		**PKPdf**	**06 58 20.7**	**+1.6**
DRGR		**146.55**	**340**↓	*i*P		**PKPdf**	**06 58 20.6**	**+1.5**
BR101	**Keskin Array S**	**146.74**	**321**	*e*PKPdf		**PKPdf**	**06 58 21.4**	**+1.7**
BR131	**Keskin Array S**	**146.74**	**321**	*e*PKPdf		**PKPbc**	**06 58 21.8**	**+0.3**
BRTR	**Keskin Array B**	**146.74**	**321**	PKPbc		**PKPdf**	**06 58 21.5**	**+1.7**
	comp=Z,3.8nm,0.8s,baz=93,slow=2.9,SNR=17							
GEC2	**GERESS Array S**	**146.74**	**352**	*e*PKPdf		**PKPdf**	**06 58 21.1**	**+1.7**
GERES	**GERESS Array B**	**146.74**	**352**	PKPbc		**PKPdf**	**06 58 20.9**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=35,slow=3.6,SNR=23							
GEA0	**GERESS Array S**	**146.75**	**352**	*e*PKPdf		**PKPdf**	**06 58 20.9**	**+1.5**
VOIR		**146.88**	**336**↑	*i*P		**PKPbc**	**06 58 22.2**	**+0.6**
ARR	**Arges**	**147.09**	**337**↓	*i*P		**PKPbc**	**06 58 23.4**	**+1.2**
BR231	**Keskin MP Arra**	**147.19**	**322**	*e*PKPdf		**PKPdf**	**06 58 22.4**	**+1.9**
CONA	**Conrad Observa**	**147.28**	**349**	*i* pPKPdf		**PKPbc**	**06 58 22.8**	**+0.2**
	comp=Z,9.1nm,0.7s,SNR=12							
LOT	**Lotru**	**147.35**	**338**↓	*i*P		**PKPdf**	**06 58 18.6**	**-1.9**
SIRR	**Siria**	**147.35**	**341**↓	*i*P		**PKPbc**	**06 58 23.2**	**+0.4**
MOA	**Molln**	**147.63**	**351**	*i* pPKPdf		**PKPbc**	**06 58 23.9**	**+0.4**
	comp=Z,5.8nm,0.7s							
BFO	**Black Forest**	**147.71**	**358**	*e*PKPbc		**PKPbc**	**06 58 23.6**	**-0.2**
BZS	**Buzias**	**147.95**	**340**↑	*i*P		**PKPbc**	**06 58 24.5**	**+0.1**
ARSA	**Arzberg**	**147.99**	**349**	*i* pPKPdf		**PKPbc**	**06 58 24.6**	**+0.1**
	comp=Z,7.2nm,1.0s,SNR=5.5							
SRE	**Strehaia**	**148.23**	**338**↑	*i*P		**PKPbc**	**06 58 25.6**	**+0.4**
RETA	**Reutte**	**148.41**	**355**	*i* sPKPdf		**PKPbc**	**06 58 25.9**	**+0.2**
	comp=Z,12nm,1.2s							
WATA	**Walderalm**	**148.48**	**354**	*i* pPKPdf		**PKPdf**	**06 58 25.1**	**+2.7**
	comp=Z,12nm,1.1s							
KBA	**Koelnbreinsper**	**148.52**	**351**	*i* sPKPdf		**PKPbc**	**06 58 25.7**	**-0.4**
	comp=Z,4.8nm,0.7s							
MOTA	**Moosalm**	**148.52**	**354**	*i* sPKPdf		**PKPbc**	**06 58 25.6**	**-0.4**
	comp=Z,7.1nm,0.8s,SNR=5.3							
WTTA	**Wattenberg**	**148.55**	**354**	*i* sPKPdf		**PKPbc**	**06 58 26.4**	**+0.2**
	comp=Z,9.2nm,0.6s							
SOKA	**Soboth**	**148.63**	**349**	*i* sPKPdf		**PKPbc**	**06 58 26.0**	**-0.3**
	comp=Z,8.0nm,0.9s,SNR=5.7							
MDVR	**Moldovita**	**148.65**	**339**↑	*i*P		**PKPbc**	**06 58 27.1**	**+0.8**
PERS	**Pernice**	**148.66**	**349**	*e*PKPbc		**PKPdf**	**06 58 25.6**	**+3.0**
DAVA	**Damuels**	**148.68**	**356**	*i* sPKPdf		**PKPbc**	**06 58 26.6**	**+0.2**
	comp=Z,12nm,0.9s							
FETA	**Feichten**	**148.88**	**355**	*i* sPKPdf		**PKPbc**	**06 58 27.3**	**+0.3**
	comp=Z,12nm,1.1s							
OBKA	**Obir**	**148.88**	**350**	*i* PKPbc		**PKPbc**	**06 58 26.3**	**-0.6**
	comp=Z,3.0nm,0.6s							
MYKA	**Terra Mystica**	**148.91**	**351**	*i* PKPbc		**PKPbc**	**06 58 26.4**	**-0.6**
	comp=Z,7.1nm,0.7s							
ABTA	**Abfaltersbach**	**148.96**	**352**	*i* PKPbc		**PKPbc**	**06 58 26.3**	**-0.8**
	comp=Z,12nm,0.7s,SNR=6.9							
FUORN	**Ofenpass-Fuorn**	**149.31**	**355**	*e*PKPbc		**PKPbc**	**06 58 28.6**	**+0.4**
LJU	**Ljubljana**	**149.34**	**349**	*i* PKPbc		**PKPbc**	**06 58 27.8**	**-0.2**
CRNS	**Crni Vrh**	**149.35**	**350**	*i* PKPbc		**PKPbc**	**06 58 27.3**	**-0.7**
TUE	**Stuetta**	**149.52**	**357**	*e*PKPdf		**PKPdf**	**06 58 23.0**	**-1.2**
TUE				*e*PKPbc		**PKPbc**	**06 58 28.9**	**+0.3**
TUE				*e*PKPab		**PKPab**	**06 58 34.5**	**+0.9**
SENIN	**Lac Senin/Sane**	**149.70**	**359**	*e*PKPbc		**PKPbc**	**06 58 30.0**	**+0.8**
BOJS	**Bojanci**	**149.72**	**348**	*i* PKPbc		**PKPbc**	**06 58 29.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**174.29**	**119**	PKP		**PKPdf**	**06 58 48.1**	**-1.6**
	comp=Z,1.4nm,0.9s,baz=282,slow=1.1,SNR=7.2							
TORD				PKPab		**PKPab**	**07 00 21.2**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=257,slow=4.9,SNR=6.1							
TOA1	**Torodi Ar. Sit**	**174.29**	**119**	*e*PKPdf		**PKPdf**	**06 58 48.1**	**-1.6**
TOA1				*e*PKPab		**PKPab**	**07 00 21.2**	**-0.7**

NIED ***13*** *06:50:00, 39.˚90N×143.˚20E, h20km, Mw5.1 Best double couple: M₀4.63000×10¹⁶ NP1:ϕs190.00000°, δ17.00000°, λ75.00000°. NP2:ϕs26.00000°, δ74.00000°, λ94.00000°.*

BJI ***13*** *06:50:29.0, 39.˚85N×143.˚14E, h25km, mb5.1/82, mB5.1/55, Ms5.0/84, MS7 4.9/77*

JMA ***13*** *06:50:29.3±0.2, 39.˚95N×143.˚23E, h16km±2km, M5.1*

JMA Felt II J1.

ISCJB ***13*** *06:50:31.2±0.6, 39.˚91N±0.˚02×143.˚10E±0.˚02, h28km±4km, mb5.0/248, MS4.9/53, Error ellipse: s-maj=3.4km s-min=2.2km az=152.8*

GCMT ***13*** *06:50:31.6±0.2, 40.˚01N×143.˚13E, h23km, MW5.1/103, Moment Tensor Solution. s49,c69; s103,c165; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.76±.19; Mθθ-0.51±.11; Mϕϕ-3.26±.12; Mrθ1.79±.17; Mrϕ-0.62±.07; Mθϕ3.66±.19; Best double couple: M₀5.41600×10¹⁶ NP1:ϕs22.00000°, δ69.00000°, λ96.00000°. NP2: ϕs185.00000°, δ21.00000°, λ74.00000°. Principal axes: T 5.6480, Plg65.0000°, Azm303.0000°; N -0.4720, Plg6.0000°, Azm200.0000°; P -5.1840, Plg24.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *06:50:31.6±0.4, 39.˚91N×143.˚02E, h18km±2km, mb5.0/148 Error ellipse: s-maj=3.6km s-min=2.5km az=145.0*

NEIC Felt at Misawa. Recorded [2 JMA] in Aomori, Iwate and Miyagi.

MOS ***13*** *06:50:32.0±0.9, 40.˚07N×142.˚97E, h28km, mb5.2/93, MS4.9/35, Error ellipse: s-maj=5.9km s-min=3.8km az=105.8*

IDC ***13*** *06:50:33.9±2.2, 39.˚87N×143.˚09E, h39km±19km, mb4.5/31, mb1 4.6/38, mb1mx4.6/43, mbtmp4.7/38, ML3.9/7, MS4.5/32, Ms1 4.5/32, ms1mx4.4/40, Error ellipse: s-maj=13.1km s-min=10.9km az=112.0*

ISC 13 06:50:32.5±0.5, 39.˚89N±0.˚03×143.˚11E±0.˚03, h29km±3km, h28km:pP-P, n895, σ1$37/956, mb5.0/248, MS5.0/54, 68C-21D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.96**	**273**	↓P		**Pn**	**06 50 48.7**	**-1.3**
JTH				*e*S		**Sn**	**06 51 02.7**	**0.0**
MIYJ	**Miyakonagasawa**	**1.04**	**253**	↓P		**Pn**	**06 50 50.3**	**-0.9**
MIYJ				*e*S		**Sb**	**06 51 05.6**	**+0.4**
JANG	**Nango**	**1.32**	**292**	↓P		**Pn**	**06 50 53.7**	**-1.2**
JANG				*e*S		**Sn**	**06 51 11.8**	**+0.3**
JKZ	**Kuzumaki**	**1.37**	**275**	↓P		**Pn**	**06 50 55.2**	**-0.6**
OFUJ	**Ofunato**	**1.38**	**235**	P		**Pn**	**06 50 55.3**	**-0.5**
JOM	**Ohasama**	**1.46**	**254**	↓P		**Pn**	**06 50 57.3**	**+0.4**
JOM				*e*S		**Sb**	**06 51 17.6**	**+0.4**
JMK	**Ichinoseki**	**1.74**	**238**	↑P		**Pn**	**06 51 01.1**	**+0.4**
JMK				*e*S		**Sb**	**06 51 24.5**	**-0.6**
JTM	**Tenmabayashi**	**1.80**	**301**	↓P		**Pn**	**06 51 01.8**	**+0.2**
JAH	**Hinai**	**1.92**	**280**	↓P		**Pn**	**06 51 03.9**	**+0.6**
JIO	**Ouri**	**1.98**	**224**	↑P		**Pn**	**06 51 03.6**	**-0.4**
JIO				S		**Sn**	**06 51 29.8**	**+1.9**
ERM	**Erimo**	**2.13**	**1**	*i* P		**Pn**	**06 51 05.2**	**-0.8**
ERM				pmax	pmax			
	comp=Z,311nm,1.0s							
ERM	**Erimo**	**2.13**	**1**	*e*Pn		**Pn**	**06 51 05.3**	**-0.8**
ERM				*e*Sn		**Sn**	**06 51 33.0**	**+1.5**
JEM	**Erimo**	**2.13**	**1**	P		**Pn**	**06 51 05.2**	**-0.9**
JOT	**Ohata**	**2.17**	**314**	P		**Pn**	**06 51 06.5**	**-0.1**
JYW	**Yuwa**	**2.26**	**262**	↑P		**Pn**	**06 51 09.3**	**+1.3**
JYK	**Kaneyama**	**2.34**	**246**	↑P		**Pn**	**06 51 10.0**	**+1.0**
JSI2	**Shiura 2**	**2.37**	**300**	↑P		**Pn**	**06 51 10.2**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.41**	**354**	↑P		**Pn**	**06 51 09.7**	**-0.2**
JOU	**Okura**	**2.43**	**232**	↑P		**Pn**	**06 51 10.5**	**+0.2**
JIW	**Iwasaki**	**2.48**	**288**	↑P		**Pn**	**06 51 12.2**	**+1.3**
JTB	**Tobi-shima**	**2.83**	**257**	↑P		**Pn**	**06 51 16.2**	**+0.4**
JYA	**Atsumi**	**2.94**	**245**	↑P		**Pn**	**06 51 18.3**	**+1.1**
JFT	**Otama**	**3.21**	**223**	P		**Pn**	**06 51 21.0**	**0.0**
JAW	**Awa shima**	**3.32**	**246**	↑P		**Pn**	**06 51 23.7**	**+1.2**
JAR	**Ashorobuto**	**3.44**	**8**	↑P		**Pn**	**06 51 22.8**	**-1.4**
JHO	**Hitachi**	**3.83**	**212**	P		**Pn**	**06 51 28.2**	**-1.4**
JHK	**Hiroka**	**4.15**	**232**	P		**Pn**	**06 51 34.9**	**+1.0**
JSD	**Sado**	**4.21**	**245**	↑P		**Pn**	**06 51 35.6**	**+0.9**
ASAJ	**Asahikawa**	**4.24**	**355**	Pn		**Pn**	**06 51 35.1**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=290,slow=33,SNR=5.2							
ASAJ	**Asahikawa**	**4.24**	**355**	*e*Pn		**Pn**	**06 51 35.1**	**-0.1**
ASAJ				*e*Sn		**Sn**	**06 52 24.1**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**4.62**	**25**	*i* P		**Pn**	**06 51 38.9**	**-1.5**
JGK	**Kuni**	**4.84**	**228**	P		**Pn**	**06 51 45.2**	**+1.8**
JRY	**Ryogami san**	**5.10**	**222**	P		**Pn**	**06 51 47.1**	**+0.1**
MAJO	**Matsushiro**	**5.10**	**231**	*c* P		**Pn**	**06 51 48.7**	**+1.7**
MAJO	**Matsushiro**	**5.10**	**231**	*e*Pn		**Pn**	**06 51 48.8**	**+1.7**
MAJO				*e*Sn		**Sn**	**06 52 38.6**	**-6.4**
MAT	**Matsushiro**	**5.10**	**231**	P		**Pn**	**06 51 48.7**	**+1.7**
MAT				*e*S		**Sn**	**06 52 51.1**	**+6.1**
MAT	**Matsushiro**	**5.10**	**231**	P		**Pn**	**06 51 48.7**	**+1.7**
MJAR	**Matsushiro Arr**	**5.10**	**231**	Pn		**Pn**	**06 51 48.5**	**+1.4**
	comp=Z,18nm,0.3s,baz=36,slow=13,SNR=259							
MJAR				LR		LR	06 54 00.5	
	comp=Z,5μm,19.0s,baz=50,slow=41							
MJB9	**Matsu-Tunnel**	**5.10**	**231**	*e*Pn		**Pn**	**06 51 49.0**	**+1.9**
JNG	**Nsakai**	**5.26**	**230**	↑P		**Pn**	**06 51 50.8**	**+1.6**
JGN	**Niukaw**	**5.85**	**233**	P		**Pn**	**06 51 59.3**	**+1.9**
KUR	**Kuril'sk**	**6.39**	**32**	*d* iP		**Pn**	**06 52 08.5**	**+3.8**
KUR				*i* S		**Sn**	**06 53 11.3**	**-5.3**
KUR				pmax	pmax			
	comp=Z,152nm,1.0s							
KUR				pmax	pmax			
	comp=Z,846nm,4.6s							
KUR				smax	smax			
	comp=N,251nm,0.8s							
KUR				smax	smax			
	comp=E,173nm,0.8s							
KUR				smax	smax			
	comp=N,2μm,2.5s							
KUR				smax	smax			
	comp=E,849nm,2.5s							
INU	**Inuyama**	**6.62**	**229**	*e*Pn		**Pn**	**06 52 09.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**7.07**	**358**α	*i*P		**Pn**	**06 52 14.0**	**+0.1**
YSS				*e*S		**Sn**	**06 53 31.0**	**-2.3**
YSS				pmax	pmax			
	comp=Z,40nm,0.9s							
YSS				MLR	MLR			
	comp=N,4μm,15.0s							
YSS				MLR	MLR			
	comp=Z,5μm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.07**	**358**	*e*Pn		**Pn**	**06 52 14.4**	**+0.4**
YSS				*e*Sn		**Sn**	**06 53 33.6**	**+0.4**
JHJ2	**Mitsune**	**7.26**	**202**	*e*Pn		**Pn**	**06 52 15.9**	**-0.7**
JHJ2				*e*Sn		**Sn**	**06 53 33.6**	**-4.5**
JHJ	**Hachijo jima 2**	**7.26**	**203**	Pn		**Pn**	**06 52 15.6**	**-1.1**
	comp=Z,41nm,0.3s,baz=64,slow=16,SNR=10							
JHJ				Sn		**Sn**	**06 53 31.1**	**-7.1**
	comp=Z,58nm,0.3s,baz=60,slow=20,SNR=3.0							
JHJ				LR		LR	06 55 13.3	
	comp=Z,2μm,20.8s,baz=96,slow=39							
VLA	**Vladivostok**	**9.02**	**295**	*e*P		**Pn**	**06 52 42.4**	**+1.7**
UGL	**Uglegorsk**	**9.22**	**356**	P		**Pn**	**06 52 42.0**	**-1.4**
UGL				*e*			06 54 27.0	
UGL				pmax	pmax			
	comp=Z,58nm,0.5s							
UGL				MLR	MLR			
	comp=N,3μm,15.0s							
UGL				MLR	MLR			
	comp=Z,3μm,15.0s							
UGL				MLR	MLR			
	comp=E,4μm,19.0s							
USRK	**Ussuriysk Ar.**	**9.33**	**301**	Pn		**Pn**	**06 52 47.3**	**+2.4**
	comp=E,8.8nm,0.3s,baz=97,slow=14,SNR=97							
USRK				LR		LR	06 56 15.3	
	comp=E,6μm,19.1s,baz=95,slow=37							
MSHR	**Mys Shultsa**	**9.40**	**290**	*i* P		**Pn**	**06 52 46.7**	**+0.8**
HABR	**Khabarovsk**	**10.35**	**329**	*e*P		**Pn**	**06 52 56.4**	**-2.4**
HABR				*e*S		**Sn**	**06 54 51.6**	**-2.1**
HABR				pmax	pmax			
	comp=Z,17nm,1.8s							
HABR				pmax	pmax			
	comp=E,37nm,1.8s							
HABR				pmax	pmax			
	comp=N,23nm,1.8s							
HABR				MLR	MLR			
	comp=Z,4μm,14.0s							
TYV	**Tymovskoe**	**10.98**	**358**	*e*P		**Pn**	**06 53 06.8**	**-0.7**
TYV				*e*S		**Sn**	**06 55 13.0**	**+3.7**
TYV				pmax	pmax			
	comp=Z,44nm,1.0s							
TYV				smax	smax			
	comp=E,1μm,10.0s							
TYV				MLR	MLR			
	comp=E,7μm,18.0s							
TYV				MLR	MLR			
	comp=Z,6μm,18.0s							
MDJ	**Mudanjiang**	**11.07**	**300**	P		**Pn**	**06 53 11.5**	**+2.6**
MDJ				S		Sn	06 55 23.3	+12
MDJ				ScS		**ScS**	**07 06 09.5**	**-1.1**
MDJ				PMZ				
	comp=Z,66nm,1.0s							
MDJ				PMZ				
	comp=Z,500nm,6.6s							
MDJ				LN				
	comp=Z,2μm,15.8s							
MDJ				LE				
	comp=Z,4μm,16.4s							
MDJ				LZ				
	comp=Z,6μm,15.8s							
MDJ	**Mudanjiang**	**11.07**	**300**	*e*Pn		**Pn**	**06 53 09.7**	**+0.8**
JNU	**Nakatsue**	**11.93**	**239**	Pn		**Pn**	**06 53 21.1**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=45,slow=9.3,SNR=8.7							
JNU				LR		LR	06 58 17.1	
	comp=Z,4μm,18.4s,baz=47,slow=39							
JNU	**Nakatsue**	**11.93**	**239**	*e*Pn		**Pn**	**06 53 21.3**	**+0.6**
KSRS	**Korea Array**	**12.12**	**263**	Pn		**Pn**	**06 53 25.8**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=79,slow=13,SNR=53							
KSRS				Sn		Sn	06 55 48.7	+11
	comp=Z,1.0nm,0.3s,baz=69,slow=24,SNR=4.7							
KSRS				LR		LR	06 57 49.0	
	comp=Z,4μm,18.6s,baz=74,slow=36							
KS01	**Wonju Array Si**	**12.13**	**263**	*e*Pn		**Pn**	**06 53 26.3**	**+2.9**
KS15	**Wonju Array Si**	**12.15**	**263**	*e*Pn		**Pn**	**06 53 27.7**	**+4.1**
KS15				*e*Sn		**Sn**	**06 55 33.2**	**-4.8**
KSAR	**Wonju Array Be**	**12.15**	**263**	P		**Pn**	**06 53 25.8**	**+2.2**
KSAR	**Wonju Array Be**	**12.15**	**263**	Pn		**Pn**	**06 53 25.8**	**+2.2**

CLNS pmax pmax
comp=E,36nm,0.8s
CLNS smax smax
comp=N,52nm,7.6s
CLNS smax smax
comp=E,233nm,15.2s
CLNS MLR MLR
comp=E,1μm,14.0s
CLNS MLR MLR
comp=Z,3μm,15.0s
CLNS MLR MLR
comp=N,2μm,14.0s
TIA Tai'an 20.77 268 ⇑P **P 06 55 08.8 -2.2**
TIA S **S 06 58 54.5 -6.8**
TIA PMZ
comp=N,90nm,0.9s
TIA PMZ
comp=N,300nm,4.0s
TIA LN
comp=N,1μm,14.0s
TIA LE
comp=N,4μm,14.0s
NJ2 Nanjing 21.09 256 *e*P **P 06 55 12.9 -1.6**
NJ2 pP **pP 06 55 20.8 -1.6**
NJ2 S **S 06 59 05.3 -2.4**
NJ2 PMZ
comp=N,36nm,0.8s
NJ2 PMZ
comp=N,250nm,4.9s
NJ2 LN
comp=N,2μm,17.3s
NJ2 LE
comp=N,3μm,15.7s
NJ2 LZ
comp=N,3μm,16.8s
YAK Yakutsk 23.63 344 P **P 06 55 38.3 -2.6**
comp=N,9.1nm,0.6s,baz=332,slow=22,SNR=16
YAK S **S 06 59 52.2 -1.2**
comp=N,2.1nm,0.4s,baz=343,slow=19,SNR=6.1
YAK Yakutsk 23.63 344 *e*P **P 06 55 38.8 -2.1**
YAK *e**PP **pP 06 55 46.4 -2.7**
YAK *e*PPP PPP 06 56 15.1
YAK *e* 06 59 24.6
YAK *e*S **S 06 59 50.1 -3.3**
YAK *e*SS **SnSn 07 00 31.4 -0.3**
YAK pmax pmax
comp=Z,106nm,0.9s
YAK pmax pmax
comp=N,48nm,1.0s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=Z,142nm,2.0s
YAK pmax pmax
comp=N,116nm,1.7s
YAK pmax pmax
comp=E,95nm,1.5s
YAK smax smax
comp=N,318nm,2.0s
YAK smax smax
comp=E,117nm,1.6s
YAK MLR MLR
comp=Z,469nm,17.0s
YAK MLR MLR
comp=N,1μm,20.0s
YAK MLR MLR
comp=E,1μm,22.0s
YAK Yakutsk 23.63 344 *e*P **P 06 55 38.5 -2.4**
comp=E,150nm,0.8s
CIT Chita 23.68 311 *e*P **P 06 55 39.4 -2.2**
CIT *e* 06 55 50.2
TIY Taiyuan 23.95 275 *e*P **P 06 55 45.9 +1.6**
TIY PP **PnPn 06 56 20.5 +7.4**
TIY S **S 06 59 52.4 -6.7**
TIY PMZ
comp=E,210nm,8.0s
TIY LN
comp=E,2μm,15.5s
TIY LE
comp=E,950nm,15.3s
TIY LZ
comp=E,1μm,18.6s
HHC Hu-ho-hao-te 23.99 283 *e*P **P 06 55 42.8 -1.9**
HHC sP pP 06 55 54.4 +1.3
HHC S **S 06 59 55.6 -4.2**
HHC sS sS 07 00 05.6 -8.0
HHC SS **SnSn 07 00 44.1 +3.2**
HHC PMZ
comp=E,18nm,1.1s
HHC PMZ
comp=E,120nm,6.7s
HHC LN
comp=E,900nm,14.9s
HHC LE
comp=E,3μm,14.9s
HHC LZ
comp=E,4μm,16.2s
SSLB Suanglung 24.64 236 *e*P **P 06 55 49.3 -1.3**
comp=E,40nm,1.0s
YULB Yu-li 24.70 235 *e*P **P 06 55 50.9 -0.3**
comp=E,56nm,1.2s
BTO Baotou 25.19 282 *e*P **P 06 55 53.1 -2.4**
WHN Wuhan 25.19 257 ⇑*i*P **P 06 55 55.3 -0.2**
WHN pP **pP 06 56 04.8 +0.9**
WHN S **S 07 00 17.3 -1.6**
WHN PMZ
comp=E,180nm,0.8s
WHN LN
comp=E,3μm,14.0s
WHN LE
comp=E,3μm,16.4s
WHN LZ
comp=E,5μm,17.4s
TPUB Ta-pu 25.19 236 *e*P **P 06 55 57.4 +1.8**
comp=E,45nm,1.0s
TWG Pinlang 25.26 234 *e*P **P 06 55 55.2 -1.0**
comp=E,456nm,1.3s
QZH Quanzhou 25.39 241 ⇑*i*P P 06 55 50.0 -7.4
QZH S **S 07 00 12.8 -9.4**
QZH pmax pmax
comp=Z,90nm,0.8s
QZH LR LR
comp=N,2μm,14.0s
QZH LR LR
comp=E,2μm,18.3s
QZH LR LR
comp=Z,2μm,19.1s
BOD Bodaibo 25.93 323 *e*P **P 06 56 01.2 -0.7**
BOD pmax pmax
comp=Z,73nm,1.1s
ULN Ulaanbaatar 26.99 299*c i*P **P 06 56 11.2 -0.7**
ULN pmax pmax
comp=Z,84nm,1.7s
ULN Ulaanbaatar 26.99 299 P **P 06 56 12.7 +0.8**
SNR=24
ULN Ulaanbaatar 26.99 299 *e*P **P 06 56 11.8 0.0**
comp=Z,45nm,1.0s
SONA1 Songino Array 27.43 299 *e*P **P 06 56 15.9 +0.1**
SONA0 Songino Array 27.43 299 *e*P **P 06 56 16.0 +0.3**
comp=Z,232nm,1.9s
SONM Songino Array 27.43 299 P **P 06 56 16.0 +0.3**
comp=Z,17nm,0.8s,baz=96,slow=8.4,SNR=111
SONM LR LR 07 07 51.0
comp=Z,4μm,18.1s,baz=95,slow=38
XAN Xi'an 27.82 269 P **P 06 56 17.8 -1.5**
XAN sP pP 06 56 28.3 +0.6
XAN PP **PnPn 06 57 06.9 +0.9**
XAN S **S 07 00 56.9 -3.7**
XAN SS **SnSn 07 02 18.1 +3.5**
XAN PMZ
comp=Z,31nm,1.3s
XAN PMZ
comp=Z,180nm,14.4s
XAN LE
comp=Z,2μm,15.8s
XAN LZ
comp=Z,2μm,15.3s
H11N2 WAKE ISLAND Hy 28.65 128 T T 07 27 21.8
baz=318,slow=74,SNR=1618
H11N1 WAKE ISLAND Hy 28.66 128 T T 07 27 23.2
baz=318,slow=74,SNR=1541
H11N3 WAKE ISLAND Hy 28.66 128 T T 07 27 21.2
baz=318,slow=74,SNR=1528
ENH Enshi 29.00 261 *e*P **P 06 56 29.2 -0.5**
comp=Z,110nm,0.8s
IRK Irkutsk 29.28 308 *e*P **P 06 56 31.1 -1.0**
IRK pmax pmax
comp=Z,50nm,1.6s
TLY Talaya 29.58 307 P **P 06 56 34.7 0.0**
comp=Z,6.4nm,0.6s,baz=118,slow=7.8,SNR=6.0
TLY Talaya 29.58 307 *e*P **P 06 56 35.2 +0.5**
TLY *e* 06 57 40.5
TLY *e*SS SS 07 03 17.3 -17
TLY pmax pmax
comp=Z,15nm,0.8s
TLY MLR MLR
comp=Z,2μm,17.0s
ZAK Zakamensk 29.66 304 *e*P **P 06 56 35.1 -0.5**
ZAK pmax pmax
comp=Z,27nm,1.6s
GZH Guangzhou 30.22 245 P **P 06 56 39.3 -1.3**
GZH S **S 07 01 30.6 -7.7**
GZH LZ
comp=Z,3μm,16.9s
BILL Bilibino 30.92 17 *i*P **P 06 56 44.9 -1.4**
BILL *e* 06 56 51.6
BILL *e* 06 57 58.9
BILL *i*S **S 07 01 52.0 +3.6**
BILL *e*SS **ScP 07 03 25.9 +3.2**
BILL pmax pmax
comp=Z,18nm,1.0s
BILL Bilibino 30.92 17 *e*P **P 06 56 46.1 -0.2**
comp=Z,18nm,0.9s
LZH Lanzhou 31.01 276 *e*P **P 06 56 46.8 -0.9**
LZH pP pP 06 56 53.1 -3.1
LZH sP sP 06 56 56.8 -2.9
LZH PP **PnPn 06 57 49.5 +0.4**
LZH *e*S **S 07 01 45.5 -5.3**
LZH PMZ
comp=Z,31nm,1.2s
LZH PMZ
comp=Z,160nm,4.4s
LZH LN
comp=Z,800nm,13.3s
LZH LE
comp=Z,3μm,14.4s
LZH LZ
comp=Z,3μm,14.4s
MOY Mondy 31.22 306 *e*P **P 06 56 49.5 +0.2**
MOY pmax pmax
comp=Z,38nm,1.4s
TIXI Tiksi 32.64 352 P **P 06 57 00.7 -0.7**
comp=Z,2.8nm,0.5s,baz=162,slow=8.8,SNR=7.4
TIXI Tiksi 32.64 352 *e*P **P 06 57 01.0 -0.4**
TIXI Tiksi 32.64 352 *e*P **P 06 57 01.0 -0.4**
GYA Guiyang 33.08 257 ⇑*i*P **P 06 57 05.3 -0.6**
GYA pP pP 06 57 14.8 +0.4
GYA PP **PnPn 06 58 18.0 +2.2**
GYA S **S 07 02 26.6 +3.4**
GYA sS sS 07 02 36.3 -0.9
GYA SS **SnSn 07 04 23.4 +0.6**
GYA PMZ
comp=Z,120nm,1.1s
GYA PMZ
comp=Z,150nm,5.0s
GYA LN
comp=Z,860nm,17.4s
GYA LE
comp=Z,1μm,14.6s
GYA LZ
comp=Z,2μm,15.9s
CD2 Chengdu 33.09 267 P **P 06 57 05.4 -0.4**
CD2 pP pP 06 57 12.3 -2.0
CD2 sP sP 06 57 15.4 -2.5
CD2 PcP **PcP 06 59 48.5 -0.3**
CD2 S **S 07 02 22.6 -0.5**
CD2 sS sS 07 02 35.0 -2.1
CD2 PMZ
comp=Z,60nm,0.6s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,3μm,12.7s
CD2 LE
comp=Z,1μm,15.1s
CD2 LZ
comp=Z,3μm,13.5s
GTA Gaotai 33.10 283 P **P 06 57 06.8 +0.8**
GTA pP pP 06 57 15.0 +0.5
GTA sP sP 06 57 18.8 +0.8
GTA PcP **PcP 06 59 50.1 +1.3**
GTA S **S 07 02 24.8 +1.5**
GTA sS sS 07 02 37.6 +0.3
GTA PcS **PcS 07 03 35.3 +1.0**
GTA PMZ
comp=Z,43nm,0.9s
GTA PMZ
comp=Z,230nm,6.1s
GTA LN
comp=Z,960nm,20.0s
GTA LE
comp=Z,3μm,17.1s
GTA LZ
comp=Z,4μm,18.1s
QIZ Qiongzhong 35.35 244 P **P 06 57 26.8 +1.3**
QIZ S **S 07 03 01.0 +2.9**
QIZ LN
comp=Z,720nm,16.4s
QIZ LE
comp=Z,790nm,16.4s
QIZ LZ
comp=Z,1μm,17.5s
KMI Kunming 36.77 259 P **P 06 57 37.8 0.0**
KMI pP pP 06 57 44.8 -1.6
KMI sP sP 06 57 47.8 -2.1
KMI S **S 07 03 18.6 -1.5**
KMI PMZ
comp=Z,94nm,1.2s
KMI PMZ
comp=Z,180nm,3.2s
KMI LN
comp=Z,1μm,15.7s
KMI LE
comp=Z,1μm,16.0s
KMI LZ
comp=Z,2μm,16.3s
PANO Nakornpanom 40.28 247 P **P 06 58 08.3 +1.2**
comp=Z,53nm,1.5s,comp=Z,1μm
NONG Nongkai 40.72 249 P **P 06 58 11.3 +0.5**
comp=Z,36nm,0.9s,comp=Z,8μm
WMQ Urumqi 40.81 294 P **P 06 58 12.3 +0.9**
WMQ pP pP 06 58 19.6 -0.4
WMQ sP sP 06 58 23.0 -0.5
WMQ S **S 07 04 20.8 +0.3**
WMQ LN
comp=Z,470nm,13.2s
WMQ LE
comp=Z,370nm,15.4s
WMQ LZ
comp=Z,260nm,18.6s
SKNT Sakolnakorn 40.84 247 P **P 06 58 12.1 +0.3**
comp=Z,45nm,1.3s,comp=Z,9μm
UBPT Khong Chiam 40.95 244 P **P 06 58 13.7 +1.1**
comp=Z,35nm,1.2s
ZAA1 Zalesovo Array 41.04 310 *e*P **P 06 58 12.9 -0.1**
ZAA1 *e*PcP **PcP 07 00 12.6 +0.2**
ZAA0 Zalesovo Array 41.04 310 *e*P **P 06 58 12.9 -0.1**
ZALV Zalesovo Beam 41.04 310 P **P 06 58 12.9 -0.1**
comp=Z,23nm,0.5s,baz=89,slow=7.4,SNR=94
ZALV PcP **PcP 07 00 12.6 +0.2**
comp=Z,9.4nm,0.8s,baz=150,slow=3.2,SNR=4.8
ZALV LR LR 07 16 02.6
comp=Z,2μm,18.9s,baz=69,slow=37
MYLDM Lahad Datu 41.06 219 *e*P **P 06 58 16.5 +2.9**
comp=Z,116nm,1.4s
NRIK Noril'sk 41.27 334 P **P 06 58 14.6 -0.1**
comp=Z,10.0nm,0.7s,baz=114,slow=9.1,SNR=26
NRIK LR LR 07 16 43.6
comp=Z,2μm,18.4s,baz=104,slow=38
NVS Novosibirsk 41.89 311 *e*P **P 06 58 20.3 +0.3**
NVS pmax pmax
comp=N,13nm,1.7s
NVS pmax pmax
comp=E,38nm,1.7s
NVS pmax pmax
comp=Z,31nm,1.7s
KHON Khomkaen 42.09 248 P **P 06 58 22.7 +0.7**
comp=Z,21nm,0.9s,comp=Z,1μm
TT01 Tatalina 42.33 36 *e*P **P 06 58 24.4 +0.9**
TTA Tatalina 42.33 36 *e*P **P 06 58 25.0 +1.4**
TTA pmax pmax
comp=Z,8.0nm,1.0s
TTA Tatalina 42.33 36 *e*P **P 06 58 25.0 +1.4**
comp=Z,7.8nm,1.0s
LOEI Loei 42.44 251 P **P 06 58 22.4 -2.5**
comp=Z,22nm,1.1s,comp=Z,481nm
UTTA Uttaradit 42.81 252 P **P 06 58 28.3 +0.5**
comp=Z,7.8nm,0.8s,comp=Z,71nm
CHAI Chaiyaphum 42.98 248 P **P 06 58 29.3 +0.1**
comp=Z,18nm,0.9s,comp=Z,203nm
LAMP Lampang 42.99 253 P **P 06 58 32.5 +3.2**
comp=Z,13nm,0.9s
PBKT Sadao Pong 43.27 250 P **P 06 58 32.2 +0.7**
comp=Z,23nm,1.1s,comp=Z,2μm
CMMT Chiang Mai 43.32 254 P **P 06 58 32.3 +0.3**
comp=Z,29nm,1.2s
CHTO Chiang Mai 43.32 254 P **P 06 58 32.4 +0.4**
comp=Z,141nm,0.9s
CHTO Chiang Mai 43.32 254 *e*P **P 06 58 32.1 +0.1**
CHTO pmax pmax
comp=Z,20nm,0.9s
CHTO Chiang Mai 43.32 254 *e*P **P 06 58 32.1 +0.1**
comp=Z,20nm,0.9s
LSA Lhasa 43.33 273 P **P 06 58 33.4 +0.9**
LSA PMZ
comp=Z,13nm,1.2s
LSA Lhasa 43.33 273 *e*P **P 06 58 33.5 +0.9**
LSA pmax pmax
comp=Z,46nm,1.3s
LSA Lhasa 43.33 273 *e*P **P 06 58 33.5 +1.0**
comp=Z,46nm,1.3s
CM31 Chiang Mai Arr 43.54 254 *e*P **P 06 58 34.7 +0.9**
CMAR Chiang Mai Arr 43.54 254 P **P 06 58 34.1 +0.3**
comp=Z,6.9nm,0.8s,baz=51,slow=5.9,SNR=15
CMAR PcP **PcP 07 00 22.1 +0.8**
comp=Z,1.8nm,0.3s,baz=31,slow=2.1,SNR=4.0
CMAR LR LR 07 16 26.9
comp=Z,204nm,18.1s,baz=74,slow=36
CM01 Chiang Mai Arr 43.55 254 *e*P **P 06 58 34.4 +0.6**
SUKH Sukhothai 43.65 252 P **P 06 58 35.7 +1.1**
comp=Z,9.7nm,0.8s,comp=Z,86nm
MRSI Marisa 43.72 212 P **P 06 58 35.7 +0.6**
comp=Z,76nm,1.2s
MK01 Makanchi Array 43.79 300 *e*P **P 06 58 35.5 -0.1**
MK31 Makanchi Array 43.79 300 *i*P **P 06 58 35.5 0.0**
MK31 pmax pmax
comp=Z,28nm,0.9s
MK31 Makanchi Array 43.79 300 *e*P **P 06 58 35.8 +0.2**
MK32 Makanchi Array 43.79 300 *e*P **P 06 58 35.6 +0.1**
MKAR Makanchi Array 43.79 300 P **P 06 58 35.6 +0.1**
comp=Z,19nm,0.8s,baz=83,slow=9.0,SNR=128
MKAR LR LR 07 17 48.0
comp=Z,2μm,18.7s,baz=72,slow=37
MKAR Makanchi Array 43.79 300 *e*P **P 06 58 35.8 +0.2**
MKAR Makanchi Array 43.79 300 *e*P **P 06 58 35.8 +0.2**
MAKZ Makanchi 44.00 300 *e*P **P 06 58 37.4 +0.2**
MAKZ pmax pmax
comp=Z,64nm,1.3s
MAKZ Makanchi 44.00 300 *e*P **P 06 58 37.4 +0.2**
comp=Z,64nm,1.3s
PPLA Purkeypile 44.08 37 *e*P **P 06 58 39.7 +1.9**
comp=Z,24nm,1.1s
KDAK Kodiak Island 44.11 44 *i*P **P 06 58 38.2 +0.4**
CAST Castle Rocks 44.13 36 *e*P **P 06 58 36.8 -1.2**
comp=Z,48nm,0.5s
SPU Mount Spurr 44.17 39 *e*P **P 06 58 39.8 +1.4**
SRAK Srakaew 44.21 246 P **P 06 58 36.7 -2.5**
comp=Z,112nm,1.0s,comp=Z,1μm
BPAW Bear Paw Mtn. 44.62 35 *e*P **P 06 58 43.0 +1.0**
comp=Z,10.0nm,0.8s
KTH Kantishna Hill 44.65 36 *e*P **P 06 58 44.3 +2.1**
comp=Z,41nm,1.1s
MLY Manley 44.73 33 *e*P **P 06 58 44.4 +1.6**
comp=Z,17nm,1.0s
SHL Shillong 44.82 267 *e*P **P 06 58 43.5 -0.7**
TRF Thorofare Moun 44.94 36 *e*P **P 06 58 45.9 +1.3**
comp=Z,8.4nm,0.8s
COLD Coldfoot 45.02 30 *e*P **P 06 58 46.4 +1.3**
comp=Z,15nm,1.0s
UMPA Umpang Tak 45.03 251 P **P 06 58 48.9 +3.1**
comp=Z,14nm,1.1s,comp=Z,484nm
KURK Kurchatov 45.27 306 P **P 06 58 46.9 -0.3**
KURK Kurchatov 45.27 306 *e*P **P 06 58 47.2 0.0**
comp=Z,337nm,0.8s
BWN Browne 45.28 35 *e*P **P 06 58 49.3 +2.1**
comp=Z,56nm,0.9s
RC01 Rabbit Creek A 45.30 39 *e*P **P 06 58 47.9 +0.6**
comp=Z,18nm,0.9s
MCK McKinley 45.53 35 *e*P **P 06 58 50.0 +0.8**
MCK pmax pmax
comp=Z,32nm,1.2s
MCK McKinley 45.53 35 *e*P **P 06 58 50.0 +0.8**
comp=Z,32nm,1.2s
PMR Palmer 45.55 38 *e*P **P 06 58 49.6 +0.3**
PMR pmax pmax
comp=Z,11nm,0.9s
PMR Palmer 45.55 38 *e*P **P 06 58 49.6 +0.3**
comp=Z,10nm,0.9s
RND Reindeer 45.58 36 *e*P **P 06 58 50.1 +0.5**
RND pmax pmax
comp=Z,40nm,1.4s
RND Reindeer 45.58 36 *e*P **P 06 58 50.1 +0.5**
comp=Z,40nm,1.4s
MDM Murphy Dome 45.80 34 *e*P **P 06 58 49.1 -2.2**
comp=Z,28nm,1.0s
WRH Wood River Hil 45.88 34 *e*P **P 06 58 52.4 +0.5**
comp=Z,14nm,0.8s
SML Sawmill 45.92 38 *e*P **P 06 58 53.0 +0.8**
SML pmax pmax
comp=Z,23nm,0.9s
SML Sawmill 45.92 38 *e*P **P 06 58 53.0 +0.8**
comp=Z,23nm,0.9s
COLA College 45.96 34 *e*P **P 06 58 53.8 +1.3**
COLA pmax pmax
comp=Z,30nm,0.8s
COLA College 45.96 34 *e*P **P 06 58 53.8 +1.3**
comp=Z,30nm,0.8s
CCB Clear Creek Bu 45.99 34 *e*P **P 06 58 53.3 +0.6**
comp=Z,7.8nm,0.8s
DHY Denali Highway 46.27 36 *e*P **P 06 58 55.7 +0.5**
comp=Z,17nm,0.9s
HDA Harding Lake 46.37 34 *e*P **P 06 58 56.4 +0.6**
comp=Z,13nm,0.8s
IL1 Eielson Array 46.38 34 *e*P **P 06 58 56.0 +0.2**
ILAR Eielson Array 46.38 34 P **P 06 58 55.9 +0.1**
comp=Z,5.8nm,0.8s,baz=264,slow=6.4,SNR=69
ILAR LR LR 07 19 35.5
comp=Z,195nm,20.5s,baz=300,slow=38
ILB Eielson Array 46.38 34 *e*P **P 06 58 56.2 +0.4**
SCM Sheep Creek Mo 46.39 38 *e*P **P 06 58 57.0 +1.0**
SCM pmax pmax
comp=Z,16nm,0.8s
SCM Sheep Creek Mo 46.39 38 *e*P **P 06 58 57.0 +1.0**
comp=Z,16nm,0.8s
PDGK Podgornoye 46.67 296 P **P 06 58 58.1 -0.3**
PDGK pmax pmax
comp=Z,51nm,1.4s
FYU Fort Yukon 46.98 31 *e*P **P 06 59 02.6 +2.2**
comp=Z,22nm,0.8s
KLU Klutina 47.09 38 *e*P **P 06 59 02.4 +0.9**
comp=Z,16nm,0.9s
DIV Divide 47.21 39 *e*P **P 06 59 03.4 +0.9**
comp=Z,20nm,1.0s
EYAK Cordova Ski Ar 47.30 40 *e*P **P 06 59 04.3 +1.3**
comp=Z,13nm,0.9s
DOT Dot Lake 47.70 35 *e*P **P 06 59 06.5 +0.3**
comp=Z,16nm,0.8s
DOT *e*S **S 07 06 02.1 +2.0**
BMRM Bremner River 47.80 39 *e*P **P 06 59 08.3 +1.3**
comp=Z,13nm,0.8s
MENT Mentasta 47.94 36 *e*P **P 06 59 09.8 +1.8**
comp=Z,16nm,0.9s
RAMN Ramite 48.17 272 *e*P **P 06 59 10.9 +0.4**
GUN Gumba 48.24 274 *e*P **P 06 59 11.7 +0.5**
comp=Z,243nm,0.8s
KSM Kuching 48.48 226 *e*P **P 06 59 13.9 +1.2**
comp=Z,20nm,1.0s
CRQM Cirque 48.54 39 *e*P **P 06 59 14.4 +1.6**
comp=Z,23nm,1.0s
KKN Kakani 48.76 274 *e*P **P 06 59 15.5 +0.4**
comp=Z,104nm,0.8s
PKIN Phulchoki 48.78 274 *e*P **P 06 59 15.7 +0.4**
comp=Z,47nm,0.6s
EGAK Eagle 48.82 33 *e*P **P 06 59 14.6 -0.2**
comp=Z,19nm,0.8s
DMN Daman 48.99 274 *e*P **P 06 59 17.1 +0.3**
comp=Z,103nm,1.0s
GKN Gorkha 49.15 275 *e*P **P 06 59 18.2 +0.2**

comp=Z,309nm,1.5s
PMG Port Moresby 49.19 175 LR LR 07 18 15.0
comp=Z,109nm,21.3s,baz=350,slow=34
VOSK Vostochnaya 49.41 310 P **P** **06 59 19.5 +0.1**
VOSK pmax pmax
comp=Z,41nm,1.0s
VOSK Vostochnaya 49.41 310 *eP* **P** **06 59 19.6 +0.1**
comp=Z,45nm,1.0s
TKM2 Tokmak 2 49.49 297 P **P** **06 59 21.1 +0.6**
TKM2 pmax pmax
comp=Z,84nm,0.9s
TKM2 Tokmak 2 49.49 297 *eP* **P** **06 59 21.3 +0.9**
comp=Z,84nm,0.8s
KAPI Kappang 49.59 211 *eP* **P** **06 59 22.9 +1.7**
comp=Z,36nm,1.1s
BVA0 Borovoye Array 49.68 311 *i* P **P** **06 59 21.7 +0.2**
BVA0 pmax pmax
comp=Z,24nm,0.6s
BRVK Borovoye 49.73 311 *c iP* **P** **06 59 22.2 +0.3**
BRVK pmax pmax
comp=Z,225nm,2.5s
BRVK Borovoye 49.73 311 *eP* **P** **06 59 22.4 +0.5**
comp=Z,118nm,0.9s
OTUK Ortayu 49.88 304 P **P** **06 59 23.1 0.0**
OTUK pmax pmax
comp=Z,70nm,2.2s
SKLT Songkhla 50.04 241 P **P** **06 59 26.1 +1.4**
comp=Z,31nm,1.0s,comp=Z,743nm
KOLN Koldanda 50.06 275 *eP* **P** **06 59 25.4 +0.4**
comp=Z,55nm,0.8s
TRTT Trang 50.19 242 P **P** **06 59 27.6 +1.8**
comp=Z,22nm,2.5s
FRU Bishkek 50.19 297⇑ *eP* **P** **06 59 25.0 -0.6**
FRU pmax pmax
comp=Z,100nm,1.8s
FRU MLR MLR
comp=E,1μm,15.0s
AAK Ala-Archa 50.35 297 P **P** **06 59 26.9 0.0**
AAK pmax pmax
comp=Z,32nm,1.1s
AAK Ala-Archa 50.35 297 P **P** **06 59 27.3 +0.3**
SNR=15
AAK Ala-Archa 50.35 297 *eP* **P** **06 59 27.3 +0.3**
comp=Z,156nm,0.9s
PYUN Piuthan 50.36 276 *eP* **P** **06 59 27.7 +0.4**
comp=Z,194nm,1.0s
KSH Kashi 50.50 293 P **P** **06 59 29.4 +1.3**
KSH pP pP 06 59 36.6 -0.3
KSH PcP **PcP** **07 00 47.4 +1.6**
KSH PP **PP** **07 01 25.9 +2.2**
KSH S **S** **07 06 40.0 -0.2**
KSH ScS **ScS** **07 09 16.8 -0.2**
KSH SS **SS** **07 10 16.0 +2.0**
KSH PMZ
comp=Z,22nm,1.0s
KSH PMZ
comp=Z,180nm,3.1s
KSH LN
comp=E,1μm,14.4s
KSH LE
comp=E,1μm,14.3s
KSH LZ
comp=Z,3μm,16.3s
ZRNK Zerenda 50.50 311 P **P** **06 59 28.1 +0.4**
ZRNK pmax pmax
comp=Z,53nm,1.0s
ZRNK Zerenda 50.50 311 *eP* **P** **06 59 28.3 +0.6**
comp=Z,51nm,0.8s
EKS2 Erkin-Say 50.83 297 *eP* **P** **06 59 30.8 +0.3**
EKS2 pmax pmax
comp=Z,29nm,0.7s
EKS2 Erkin-Say 50.83 297 *eP* **P** **06 59 30.8 +0.3**
comp=Z,29nm,0.7s
INK Inuvik 51.25 28 P **P** **06 59 33.8 +0.8**
comp=Z,6.3nm,0.9s,baz=302,slow=6.3,SNR=19
KULM Kulim 51.41 239 *eP* **P** **06 59 35.6 +0.6**
comp=Z,24nm,1.2s
MNAS Manas 51.77 297 P **P** **06 59 38.0 +0.4**
MNAS pmax pmax
comp=Z,81nm,1.0s
SOEI Soe 52.39 204 P P 06 59 55.0 +13
SKAG Skagway 52.64 39 *eP* **P** **06 59 48.0 +4.4**
comp=Z,8.8nm,1.0s
KK31 Karatay Array 52.88 299 *i* P **P** **06 59 45.5 -0.2**
KK31 pmax pmax
comp=Z,13nm,0.7s
KKAR Karatay Array 52.88 299 *eP* **P** **06 59 45.5 -0.2**
KKAR Karatay Array 52.88 299 *eP* **P** **06 59 45.5 -0.2**
COEN Coen 53.56 180 *eP* **P** **06 59 52.0 +1.2**
comp=Z,22nm,0.9s
MTN Manton Dam 53.63 195 *eP* **P** **06 59 51.2 -0.1**
comp=Z,86nm,1.3s
THN Thein Dam 53.77 285 *eP* P 06 59 46.2 -6.1
THN *eS* **PcP** **07 01 05.6 +7.6**
SVE Sverdlovsk 53.92 318 *d iP* **P** **06 59 53.7 +0.7**
SVE pmax pmax
comp=Z,70nm,1.1s
SVE MLR MLR
comp=Z,3μm,15.0s
TWSI Taliwang, Sumb 54.13 213 P **P** **06 59 55.7 +0.7**
PSI Prapat 54.40 239 *eP* **P** **06 59 57.5 +0.3**
PSI pmax pmax
comp=Z,23nm,1.0s
PSI Prapat 54.40 239 *eP* **P** **06 59 57.5 +0.3**
comp=Z,22nm,1.0s
ARU Arti 55.13 318 *c iP* **P** **07 00 02.1 +0.3**
ARU 07 01 05.5
ARU 07 02 05.3
ARU PPP PPP 07 03 18.1
ARU S **S** **07 07 45.0 +2.4**
ARU 07 09 52.5
ARU SS **SS** **07 11 28.1 +2.0**
ARU pmax pmax
comp=Z,110nm,1.7s
ARU MLR MLR
comp=Z,3μm,15.0s
ARU Arti 55.13 318 *eP* **P** **07 00 02.1 +0.3**
comp=Z,123nm,1.4s
DLBC Dease Lake 55.57 40 P **P** **07 00 06.6 +1.6**
comp=Z,1.4nm,0.8s,baz=290,slow=7.7,SNR=3.8
KPJI Karang Pucung 56.60 222 P **P** **07 00 12.1 -0.7**
comp=Z,37nm,1.1s
AB31 Akbulak array 57.15 309 *i* P **P** **07 00 16.5 +0.2**
AB31 pmax pmax
comp=Z,18nm,0.6s
ABKAR Akbulak array 57.15 309 *eP* **P** **07 00 16.5 +0.2**
KBL Kabul 57.66 290 *eP* **P** **07 00 20.2 -0.3**
KBL pmax pmax
comp=Z,74nm,0.9s
KBL Kabul 57.66 290 *eP* **P** **07 00 20.2 -0.3**
comp=Z,74nm,0.9s
AKTO Aktyubinsk 57.78 311 P **P** **07 00 20.7 -0.1**
AKTO pmax pmax
comp=Z,21nm,0.8s
SPA0 Spitsbergen Ar 57.99 349 *eP* **P** **07 00 22.2 +0.4**
SPITS Spitsbergen Ar 57.99 349 P **P** **07 00 21.7 -0.2**
comp=Z,7.8nm,1.0s,baz=78,slow=8.0,SNR=6.6
SPITS Spitsbergen Ar 57.99 349 P **P** **07 00 21.7 -0.2**
SPITS pmax pmax
comp=Z,11nm,1.1s
KBS Kingsbay 58.08 350 *eP* **P** **07 00 23.3 +0.9**
KBS pmax pmax
comp=Z,38nm,1.1s
KBS Kingsbay 58.08 350 *eP* **P** **07 00 23.3 +0.9**
comp=Z,38nm,1.1s
HYB Hyderabad 59.63 268 *i* P **P** **07 00 34.5 +0.4**
FITZ Fitzroy Crossi 59.95 199 LR LR 07 25 59.6
comp=Z,84nm,20.4s,slow=36
FITZ Fitzroy Crossi 59.95 199 *eP* **P** **07 00 36.7 +0.7**
comp=Z,48nm,1.1s
WRAB Tennant Creek 60.07 190 *d iP* **P** **07 00 36.5 -0.4**
WRAB pmax pmax
comp=Z,96nm,1.2s
WRAB Tennant Creek 60.07 190 *eP* **P** **07 00 36.5 -0.4**
comp=Z,36nm,0.9s
WB2 Warramunga Arr 60.08 190 *eP* **P** **07 00 36.5 -0.4**
comp=Z,38nm,0.9s
WR1 Warramunga Arr 60.08 190 *eP* **P** **07 00 35.8 -1.1**
comp=Z,38nm,0.9s
WRA Warramunga Arr 60.08 190 P **P** **07 00 35.8 -1.1**
comp=Z,16nm,0.8s,baz=7.7,slow=6.9,SNR=59
WRA Warramunga Arr 60.08 190 P **P** **07 00 35.8 -1.1**
WRA pmax pmax
comp=Z,20nm,0.9s
APA Apatity 60.64 336⇓ *iP* **P** **07 00 38.5 -1.8**
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,800nm,15.0s
YKA Yellowknife Ar 60.68 31 P **P** **07 00 40.4 -0.2**
comp=Z,2.1nm,0.9s,baz=302,slow=7.1,SNR=9.9
YKB5 Yellowknife Ar 60.68 31 *eP* **P** **07 00 42.0 +1.4**
ARA0 ARCESS Array S 61.80 339 *eP* **P** **07 00 48.2 0.0**
ARCES ARCESS Array B 61.80 339 P **P** **07 00 48.0 -0.1**
comp=Z,7.1nm,0.9s,baz=53,slow=11,SNR=12
ARCES LR LR 07 30 21.4
comp=Z,443nm,21.7s,baz=44,slow=39
KLMR Klimovskoe 62.07 327 *eP* **P** **07 00 47.4 -2.6**
KLMR pmax pmax
comp=Z,44nm,1.5s
DAG Danmarks Havn 63.05 355⇑ *iP* **P** **07 00 56.4 +0.1**
DAG pmax pmax
comp=Z,26nm,1.0s
DAG Danmarks Havn 63.05 355⇑ *iP* **P** **07 00 56.4 +0.1**
comp=Z,26nm,1.0s
GEYT Alibeck 63.63 298 P **P** **07 01 01.1 +0.1**
comp=Z,24nm,0.8s,baz=29,slow=3.4,SNR=26
GEYT LR LR 07 30 40.6
comp=Z,651nm,18.0s,baz=65,slow=38
AS01 Alice Springs 63.80 189 *eP* **P** **07 01 01.8 -0.1**
AS31 Alice Springs 63.80 189 *eP* **P** **07 01 02.1 +0.2**
comp=Z,3.4nm,0.8s
ASAR Alice Springs 63.80 189 P **P** **07 01 01.6 -0.4**
comp=Z,8.6nm,1.0s,baz=4.1,slow=5.2,SNR=40
ASAR LR LR 07 27 42.9
comp=Z,186nm,21.5s,baz=12,slow=35
B05A Bryant 64.39 48 P **P** **07 01 05.7 +0.1**
baz=302
EIDS Eidsvold 65.34 172 *eP* **P** **07 01 13.5 +1.6**
comp=Z,16nm,0.9s
DZM Mont Dzumac 65.37 156 *e*LR LR 07 20 56.6
comp=Z,599nm,21.8s
MOS Moscow 65.76 323 *eP* **P** **07 01 14.3 -0.1**
MOS *e* 07 03 48.2
MOS pmax pmax
comp=Z,60nm,1.1s
MOS MLR MLR
comp=Z,1μm,17.0s
MSVF Nonsavu 65.94 143 *eP* **P** **07 01 17.8 +1.8**
MSVF pmax pmax
comp=Z,14nm,1.0s
MSVF Nonsavu 65.94 143 *eP* **P** **07 01 17.8 +1.8**
comp=Z,14nm,1.0s
VRH Novokhopyorsk 66.36 318 *eP* **P** **07 01 18.1 -0.2**
VRH pmax pmax
comp=Z,70nm,1.2s
VRH MLR MLR
comp=Z,2μm,14.0s
I04A Tendick Farm, 66.61 52 P **P** **07 01 20.4 +0.3**
baz=304
OBN Obninsk 66.61 323 *c iP* **P** **07 01 19.3 -0.5**
OBN *i* 07 01 28.2
OBN *i* 07 03 45.4
OBN *i* SS SS 07 14 32.7 +7.1
OBN pmax pmax
comp=Z,57nm,1.7s
OBN MLR MLR
comp=Z,1μm,15.0s
L02D Cave Junction, 66.78 54 P **P** **07 01 21.9 +0.7**
baz=303
FIA1 FINESS Array S 66.91 332 *eP* **P** **07 01 21.6 0.0**
FIA0 FINESS Array S 66.91 332 *eP* **P** **07 01 21.4 -0.2**
FIA0 FINESS Array S 66.91 332 *eP* **P** **07 01 21.4 -0.2**
FINES FINESS Array B 66.91 332 P **P** **07 01 21.4 -0.2**
comp=Z,24nm,0.9s,baz=53,slow=7.1,SNR=38
FINES LR LR 07 33 21.1
comp=Z,2μm,18.2s,baz=30,slow=38
LPSR Galich'ya Gora 66.97 320 *eP* **P** **07 01 22.4 +0.2**
LPSR pmax pmax
comp=Z,60nm,1.1s
LPSR MLR MLR
comp=Z,1μm,14.0s
NEW Newport 67.17 46 P **P** **07 01 24.1 +0.4**
baz=305
NEW Newport 67.17 46 *eP* **P** **07 01 24.3 +0.7**
NEW pmax pmax
comp=Z,13nm,1.2s
NEW Newport 67.17 46 *eP* **P** **07 01 24.3 +0.7**
comp=Z,13nm,1.2s
KHMM Horse Mountain 67.40 55 *eP* **P** **07 01 29.1 +3.7**
comp=Z,41nm,1.6s
YBH Yreka Blue Hor 67.57 54 *eP* P 07 01 32.4 +6.1
YBH Yreka Blue Hor 67.57 54 *epP* pP 07 01 32.4 -3.0
J05D Fort Rock, OR 67.60 52 P **P** **07 01 26.9 +0.3**
baz=304
K04D Chiloquin, OR 67.66 53 P **P** **07 01 26.9 0.0**
baz=304
M02C Callahan 67.67 54 P **P** **07 01 27.0 0.0**
baz=304
VSR Storozhevoye 67.67 319 *eP* **P** **07 01 26.6 0.0**
VSR pmax pmax
comp=Z,50nm,1.2s
VSR MLR MLR
comp=Z,1μm,15.0s
SUMG Summit 67.83 1 *eP* **P** **07 01 28.8 +1.0**
SUMG pmax pmax
comp=Z,43nm,1.1s
SUMG Summit 67.83 1⇑ *iP* **P** **07 01 28.8 +1.0**
comp=Z,34nm,1.0s
SUMG Summit 67.83 1 *eP* **P** **07 01 28.8 +1.0**
comp=Z,43nm,1.1s
N02D Trinity Center 67.99 55 P **P** **07 01 29.2 +0.2**
baz=304
M04C Macdoel 68.08 53 P **P** **07 01 29.9 +0.3**
baz=304
KCPM Cahto Peak 68.16 56 *eP* **P** **07 01 28.6 -1.5**
comp=Z,14μm,0.6s
VSU Vasula 68.67 330 *c iP* **P** **07 01 32.7 -0.1**
VSU pmax pmax
comp=Z,66nm,1.7s
O03D Paynes Creek 68.94 55 P **P** **07 01 35.0 +0.1**
baz=305
GOF Gofitskoye 69.19 312⇑ *eP* **P** **07 01 36.8 +0.5**
GOF pmax pmax
comp=Z,101nm,0.9s
SWMT Swartz Lake 69.32 45 *eP* **P** **07 01 37.9 +0.7**
SCO Scoresbysund 69.41 355 *i* P **P** **07 01 36.2 -0.9**
SCO pmax pmax
comp=Z,20nm,1.2s
SCO Scoresbysund 69.41 355 *i* P **P** **07 01 36.2 -0.9**
comp=Z,20nm,1.2s
MSO Missoula 69.76 45 P **P** **07 01 39.8 -0.1**
baz=307
MSO Missoula 69.76 45 *eP* **P** **07 01 41.2 +1.3**
comp=Z,10.0nm,1.3s
GUDG Gudauri 69.87 309 P **P** **07 01 42.5 +1.7**
ZEI Tsey 70.02 309 *eP* **P** **07 01 39.4 -2.3**
ZEI pmax pmax
comp=Z,76nm,1.0s
KIV Kislovodsk 70.05 311 *eP* **P** **07 01 42.5 +0.8**
KIV pmax pmax
comp=Z,140nm,1.1s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 70.05 311 P **P** **07 01 43.1 +1.4**
SNR=28
KIV Kislovodsk 70.05 311 *eP* **P** **07 01 42.6 +0.8**
comp=Z,127nm,1.0s
KBZ Khabaz 70.06 311 P **P** **07 01 42.3 +0.7**
comp=Z,35nm,0.9s,baz=57,slow=5.6,SNR=42
KBZ LR LR 07 36 50.7
comp=Z,564nm,18.8s,baz=34,slow=40
TBLG Delisi 70.14 308 P **P** **07 01 43.0 +0.8**
TBLG Delisi 70.14 308 P **P** **07 01 43.0 +0.8**
ONI Oni 70.41 309 P **P** **07 01 45.2 +1.3**
ONI Oni 70.41 309 P **P** **07 01 45.2 +1.3**
NEY Neytrino 70.44 310 *eP* **P** **07 01 44.5 +0.2**
NEY pmax pmax
comp=Z,4.0nm,0.7s
MICGM Minsk 70.88 326 *e* **P** **07 01 47.0 +0.6**
MICGM *e*LR LR 07 34 12.0
MNK Minsk 70.88 326 *eP* **P** **07 01 47.0 +0.6**
HRY Holter Researc 70.98 45 *eP* **P** **07 01 49.0 +1.6**
GNI Garni 71.07 307 *c iP* **P** **07 01 49.3 +1.2**
GNI pmax pmax
comp=Z,177nm,1.7s
GNI Garni 71.07 307 P **P** **07 01 49.6 +1.5**
SNR=7.5
NACGM Naroch 71.07 327 *e* **P** **07 01 47.0 -0.6**
NACGM *e*LQ LQ 07 32 16.0
NACGM *e*LR LR 07 34 16.0
CHVG Ch'k'valeri 71.14 310 P **P** **07 01 49.4 +1.1**
CMB Columbia Colle 71.15 56 *eP* **P** **07 01 50.1 +1.6**
CMB pmax pmax
comp=Z,15nm,1.1s
CMB Columbia Colle 71.15 56 *eP* **P** **07 01 50.1 +1.6**
comp=Z,15nm,1.1s
LRM Limekiln Ridge 71.19 46 *eP* **P** **07 01 49.9 +1.1**
EGMT Eagleton 71.26 43 P **P** **07 01 49.1 +0.1**
baz=309
YERR Yerington 71.31 55 *eP* **P** **07 01 51.2 +1.6**
comp=Z,16nm,1.1s
DLMT Dillon 71.39 46 *eP* **P** **07 01 51.5 +1.6**
comp=Z,12nm,1.1s
STKA Stephens Creek 71.42 181 P **P** **07 01 49.8 0.0**
comp=Z,2.0nm,0.8s,baz=33,slow=2.3,SNR=6.1
STKA LR LR 07 36 47.1
comp=Z,94nm,19.7s,baz=22,slow=39
STKA Stephens Creek 71.42 181 *eP* **P** **07 01 50.3 +0.5**
comp=Z,2.4nm,1.3s
HLID Hailey 71.47 48 P **P** **07 01 50.9 +0.4**
baz=308
HLID Hailey 71.47 48 *eP* **P** **07 01 52.4 +1.9**
comp=Z,3.1nm,0.9s
BMN Battle Mountai 71.70 52 *eP* **P** **07 01 53.6 +1.7**
BMN pmax pmax
comp=Z,15nm,1.4s
BMN Battle Mountai 71.70 52 *eP* **P** **07 01 53.5 +1.7**
comp=Z,15nm,1.4s
BOZ Bozeman (W) 71.75 45 P **P** **07 01 52.0 -0.1**
baz=309
BOZ Bozeman (W) 71.75 45 *eP* **P** **07 01 53.1 +1.0**
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 71.75 45 *eP* **P** **07 01 53.1 +1.0**
comp=Z,6.1nm,0.8s
NC405 NORSAR Array S 71.86 337 *eP* **P** **07 01 52.5 +0.2**
NC303 NORSAR Array S 71.87 338 *eP* **P** **07 01 52.9 +0.5**
TVH1 TV Hill, Hawth 71.93 55 *eP* **P** **07 01 55.0 +1.5**
comp=Z,7.2nm,1.1s
TVH3 East Aurora ar 71.95 55 *eP* **P** **07 01 55.2 +1.6**
comp=Z,9.9nm,1.1s
TVH2 Borealis Mine 71.98 55 *eP* **P** **07 01 55.3 +1.6**
comp=Z,5.7nm,1.2s
SOC Sochi 71.98 312 *c iP* **P** **07 01 53.5 +0.2**
SOC *e* 07 04 31.2
SOC *e*PPP PPP 07 06 15.9
SOC *e*S **S** **07 11 11.3 -1.4**
SOC pmax pmax
comp=Z,39nm,0.8s
SOC MLR MLR
comp=Z,786nm,22.0s
NC204 NORSAR Array S 72.01 338 *eP* **P** **07 01 53.5 +0.3**
NB201 NORSAR Array S 72.03 338 *eP* **P** **07 01 53.6 +0.2**
NB2 NORSAR Subarra 72.07 338 P **P** **07 01 53.3 -0.3**
comp=Z,22nm,0.8s,baz=37,slow=6.2
NB2 NORSAR Subarra 72.07 338 P **P** **07 01 53.3 -0.3**
baz=37,slow=6.2
NB200 NORSAR Array S 72.07 338 *eP* **P** **07 01 53.6 +0.1**
NOA NORSAR Array B 72.07 338 P **P** **07 01 53.6 +0.1**
comp=Z,17nm,0.8s,baz=37,slow=6.0,SNR=48
NOA LR LR 07 37 37.7
comp=Z,332nm,18.8s,baz=40,slow=39
NBO02 NORSAR Array S 72.16 338 *eP* **P** **07 01 54.3 +0.2**
NBO00 NORSAR Array S 72.20 338 *eP* **P** **07 01 54.9 +0.6**
NV01 Mina Array Sit 72.23 55 *eP* **P** **07 01 56.0 +0.8**
NVAR Mina Array Bea 72.23 55 P **P** **07 01 56.0 +0.8**
comp=Z,3.1nm,0.8s,baz=290,slow=6.7,SNR=21
NVAR LR LR 07 27 03.2
comp=Z,112nm,21.9s,baz=290,slow=30
NAO01 NORSAR Array S 72.32 338 *eP* **P** **07 01 55.3 +0.2**
MLAC Mammoth, Mammo 72.38 56 P **P** **07 01 56.4 +0.3**
baz=307
ANN Anapa 72.51 314 *eP* **P** **07 01 53.2 -3.2**
ANN *e**PP **pP** **07 02 03.8 -1.8**
ANN *e* 07 02 09.4
ANN *e* 07 04 35.1
ANN *eS* **S** **07 11 14.5 -4.2**
ANN pmax pmax
comp=Z,59nm,1.1s
ANN MLR MLR
comp=E,547nm,22.0s
ANN MLR MLR
comp=N,1μm,22.0s
ANN MLR MLR
comp=Z,857nm,22.0s
BBOO Buckleboo 72.63 186 *epP* pP 07 02 03.5 -2.7
AKASG Malin Array Be 72.85 323 P **P** **07 01 58.1 -0.3**
comp=Z,5.6nm,0.5s,baz=43,slow=6.1,SNR=39
AKASG LR LR 07 37 20.9
comp=Z,460nm,19.0s,baz=45,slow=38
AKASG Malin Array Be 72.85 323 P **P** **07 01 58.1 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG MLR MLR
comp=Z,460nm,19.0s
AKBB Malin Array Si 72.85 323 *eP* **P** **07 01 58.1 -0.3**
AKBB pmax pmax
comp=Z,20nm,0.9s
AKBB Malin Array Si 72.85 323 *eP* **P** **07 01 58.1 -0.3**
comp=Z,20nm,0.9s
KIEV Kiev 72.86 323 *eP* **P** **07 01 58.2 -0.2**
KIEV pmax pmax
comp=Z,15nm,0.8s
KIEV Kiev 72.86 323 *eP* **P** **07 01 58.2 -0.2**
comp=Z,15nm,0.8s
AK11 Malin Array Si 72.89 323 *eP* **P** **07 01 58.2 -0.4**
RCTC Rector, Farmer 72.91 57 P **P** **07 01 59.7 +0.8**
baz=307
SFJD Kangerlussuaq 72.93 6 *i* P **P** **07 01 58.6 +0.1**
SFJD pmax pmax
comp=Z,20nm,1.0s
SFJD Kangerlussuaq 72.93 6 *i* P **P** **07 01 58.6 +0.1**
comp=Z,20nm,1.0s
SFJD Kangerlussuaq 72.93 6 *eP* **P** **07 01 58.9 +0.4**
comp=Z,20nm,0.9s
SMMC Simmler 73.02 58 P **P** **07 02 00.4 +0.7**
baz=307
TIN Tinemaha, Big 73.11 56 P **P** **07 02 01.0 +0.7**
baz=308
H17A Grant Village 73.12 46 P **P** **07 02 00.6 +0.2**
baz=310
H17A Grant Village 73.12 46 *eP* **P** **07 02 01.4 +1.0**
comp=Z,7.1nm,0.9s
SUW Suwalki 73.20 328 *eP* **P** **07 02 00.2 -0.1**
SUW Suwalki 73.20 328 *eP* **P** **07 02 00.2 -0.1**
IMW Indian Meadow 73.23 47 *eP* **P** **07 02 03.1 +2.0**
comp=Z,9.1nm,1.2s
VES Vestal, Richgr 73.30 57 P **P** **07 02 02.0 +0.8**
baz=307
RLMT Red Lodge 73.37 45 P **P** **07 02 02.0 +0.2**
baz=310
PKM Mcpherson Peak 73.39 58 P **P** **07 02 02.8 +0.6**
baz=307
MOOW Moose Ponds 73.44 47 *eP* **P** **07 02 04.0 +1.7**
comp=Z,26nm,1.7s
TPAW Teton Pass 73.49 47 *eP* **P** **07 02 04.4 +1.8**
comp=Z,18nm,1.5s
HVU Hansel Valley 73.52 49 *eP* **P** **07 02 04.2 +1.5**
HVU pmax pmax
comp=Z,4.0nm,0.9s
HVU Hansel Valley 73.52 49 *eP* **P** **07 02 04.2 +1.5**
comp=Z,4.3nm,0.9s
CWC Cottonwood Cre 73.58 56 P **P** **07 02 03.9 +0.8**
baz=308
GRAC Grapevine Rang 73.69 55 P **P** **07 02 04.2 +0.5**
baz=308
SBC Santa Barbara 73.73 59 P **P** **07 02 04.4 +0.6**
baz=308
DGMT Dagmar 73.79 40 P **P** **07 02 04.2 +0.2**
baz=312
DGMT Dagmar 73.79 40 *eP* **P** **07 02 04.1 +0.1**
comp=Z,47nm,1.6s
ISA Isabella, Lake 73.80 57 P **P** **07 02 04.5 +0.1**
baz=308
ARVC Arvin 73.89 58 P **P** **07 02 05.8 +1.0**
baz=308
LAO LASA Array 73.96 42 P **P** **07 02 05.7 +0.6**
baz=312
LAO LASA Array 73.96 42 *eP* **P** **07 02 06.2 +1.1**
comp=Z,10nm,0.9s
R11A Troy Canyon, C 73.97 53 P **P** **07 02 05.8 +0.3**
baz=308
R11A Troy Canyon, C 73.97 53 *eP* **P** **07 02 06.8 +1.3**
comp=Z,10nm,1.2s
DAC Darwin (Calif) 73.99 56 *eP* P 07 02 11.9 +6.3
DAC Darwin (Calif) 73.99 56 *epP* pP 07 02 11.9 -2.8
MPMC Manual Prospec 74.19 56 P **P** **07 02 07.1 +0.3**
baz=308

SIM	**Simferopol'**	74.22	316	*d*	*i*P		P	07 02 06.2	-0.3
SIM				*i*				07 02 16.0	
SIM					pmax	pmax			
	comp=Z,29nm,0.9s								
OSI	**Osito Audit: C**	74.27	58		P		P	07 02 07.3	+0.2
	baz=308								
HWUT	**Hardware Ranch**	74.33	49		*e*P		P	07 02 08.9	+1.4
	comp=Z,23nm,1.5s								
FURC	**Furnace Creek,**	74.34	56		P		P	07 02 07.6	+0.3
	baz=308								
LRMC	**Laurel Mtn Rad**	74.42	57		P		P	07 02 08.1	+0.1
	baz=308								
TPNV	**Topopah Spring**	74.43	55		P		P	07 02 08.2	+0.1
	baz=308								
TPNV	**Topopah Spring**	74.43	55		*e*P		P	07 02 09.3	+1.2
TPNV					pmax	pmax			
	comp=Z,12nm,1.1s								
TPNV	**Topopah Spring**	74.43	55		*e*P		P	07 02 09.3	+1.2
	comp=Z,12nm,1.1s								
DUG	**Dugway, Tooele**	74.50	50		P		P	07 02 08.5	0.0
	baz=309								
DUG	**Dugway, Tooele**	74.50	50		*e*P		P	07 02 09.9	+1.5
DUG					pmax	pmax			
	comp=Z,14nm,1.4s								
DUG	**Dugway, Tooele**	74.50	50		*e*P		P	07 02 09.9	+1.5
	comp=Z,14nm,1.4s								
A26A	**Wade Farm, Ken**	74.54	38		P		P	07 02 09.0	+0.6
	baz=314								
EDW2	**Edwards Air Fo**	74.59	57		P		P	07 02 08.8	-0.1
	baz=308								
BW06	**Boulder Array**	74.73	47		*e*P		P	07 02 10.1	+0.2
PD31	**Pinedale Array**	74.73	47		*e*P		P	07 02 10.4	+0.5
PDAR	**Pinedale Array**	74.73	47		P		P	07 02 10.1	+0.3
	comp=Z,1.5nm,0.7s,baz=262,slow=3.0,SNR=11								
TCUT	**Toone Canyon**	74.74	49		*e*P		P	07 02 11.4	+1.5
	comp=Z,12nm,0.8s								
A27A	**Ledoux Ranch,**	74.88	38		P		P	07 02 09.5	-0.9
	baz=314								
MWC	**Mount Wilson**	74.95	58		*e*P		P	07 02 12.5	+1.3
MWC					pmax	pmax			
	comp=Z,19nm,1.3s								
MWC	**Mount Wilson**	74.95	58		*e*P		P	07 02 12.5	+1.3
	comp=Z,19nm,1.3s								
SHOC	**Shoshone, Teco**	75.06	56		P		P	07 02 12.2	+0.6
	baz=309								
NLU	**North Lily Min**	75.09	50		*e*P		P	07 02 12.2	+0.3
	comp=Z,31nm,0.8s								
GSC	**Goldstone, Bar**	75.09	56		P		P	07 02 11.2	-0.6
	baz=309								
GSC	**Goldstone, Bar**	75.09	56		*e*P		P	07 02 13.3	+1.4
GSC					pmax	pmax			
	comp=Z,8.0nm,1.0s								
GSC	**Goldstone, Bar**	75.09	56		*e*P		P	07 02 13.3	+1.4
	comp=Z,7.7nm,1.0s								
BFSC	**Mount Baldy Ra**	75.20	58		P		P	07 02 12.4	-0.2
	baz=308								
SHPR	**Sheep Range**	75.39	55		*e*P		P	07 02 15.3	+1.7
	comp=Z,11nm,1.2s								
E25A	**Miller Ranch,**	75.52	41		P		P	07 02 13.6	-0.5
	baz=313								
BSD	**Bornholm Skovb**	75.56	332	⇑	*i*P		P	07 02 14.0	0.0
BSD					MLR	MLR			
	comp=Z,930nm,20.0s								
BSD	**Bornholm Skovb**	75.56	332		*i*P		P	07 02 14.0	0.0
	comp=Z,920nm,20.0s								
TUQ	**Turquoise Moun**	75.57	56		P		P	07 02 14.6	-0.1
	baz=309								
KIS	**Kishinev**	75.58	320		*e*P		P	07 02 15.0	+0.7
KIS					*e*L		L	07 34 42.0	
KIS					LRM		MLR	07 38 46.0	
	comp=Z,600nm,15.0s								
KIS	**Kishinev**	75.58	320		*e*P		P	07 02 15.0	+0.7
KIS					MLR	MLR			
	comp=Z,1μm,16.0s								
HEC	**Hector,Ludlow**	75.69	57		P		P	07 02 15.3	0.0
	baz=309								
BEL	**Belsk**	75.78	327		*e*P		P	07 02 16.6	+1.2
BEL	**Belsk**	75.78	327		*e*P		P	07 02 16.6	+1.2
CCUT	**Cedar City**	75.84	53		*e*P		P	07 02 18.0	+1.7
	comp=Z,13nm,1.3s								
A29A	**Manning Farm,**	75.85	37		P		P	07 02 15.5	-0.4
	baz=316								
LVV	**L'vov**	75.85	324		*e*P		P	07 02 16.2	+0.3
LVV					*e*			07 05 06.4	
LVV					*e*S		S	07 11 55.8	-0.3
LVV					MLR	MLR			
	comp=E,800nm,15.0s								
LVV					MLR	MLR			
	comp=N,600nm,14.0s								
LVV					MLR	MLR			
	comp=Z,900nm,15.0s								
F25A	**Bowman**	75.89	41		P		P	07 02 16.0	-0.3
	baz=313								
MSU	**Marysvale**	75.95	51		*e*P		P	07 02 18.5	+1.6
MSU	**Marysvale**	75.95	51		*e*P		P	07 02 18.5	+1.6
COP	**Copenhagen**	75.97	334	⇑	*e*P		P	07 02 16.6	+0.2
COP					pmax	pmax			
	comp=Z,16nm,0.8s								
COP					MLR	MLR			
	comp=Z,410nm,18.0s								
COP	**Copenhagen**	75.97	334	⇑	*i*P		P	07 02 16.6	+0.2
	comp=Z,16nm,0.8s								
	comp=Z,410nm,18.0s								
E26A	**Carlson Angus**	76.01	40		P		P	07 02 16.9	0.0
	baz=314								
GMRC	**Granite Mounta**	76.15	56		P		P	07 02 17.9	-0.1
	baz=309								
P17A	**Butcher Ranch,**	76.19	50		*e*P		P	07 02 19.7	+1.6
	comp=Z,19nm,1.5s								
MTPU	**Mount Pierson**	76.25	52		*e*P		P	07 02 20.6	+1.8
	comp=Z,8.1nm,1.0s								
LCMT	**Little Creek M**	76.26	53		*e*P		P	07 02 20.3	+1.7
	comp=Z,8.2nm,1.0s								
A30A	**Hoffart Farm,**	76.26	37		P		P	07 02 18.5	+0.2
	baz=316								
Q16A	**Castle Valley**	76.29	51		*e*P		P	07 02 20.8	+2.0
	comp=Z,8.5nm,1.2s								
F26A	**Lodgepole**	76.34	41		P		P	07 02 18.6	-0.1
	baz=314								
PFO	**Pinyon Flats O**	76.37	58		P		P	07 02 19.7	+0.4
	comp=Z,2.1nm,0.9s,baz=332,slow=5.0,SNR=3.4								
PFO	**Pinyon Flats O**	76.37	58		*e*P		P	07 02 19.7	+0.4
	comp=Z,8.2nm,1.1s								
TPFO	**Pinon Flats**	76.38	58		P		P	07 02 19.5	+0.2
	baz=309								
P18A	**Preston Nutter**	76.38	50		*e*P		P	07 02 20.7	+1.3
	comp=Z,7.3nm,1.1s								
ULM	**Lac du Bonnet**	76.40	34		P		P	07 02 18.2	-0.7
	comp=Z,3.4nm,0.8s,baz=304,slow=9.0,SNR=4.0								
109C	**Camp Elliot, M**	76.40	59		P		P	07 02 19.3	+0.1
	baz=309								
BELC	**Belle Mtn. Jos**	76.42	57		P		P	07 02 19.6	+0.1
	baz=309								
MDND	**Maddock**	76.44	38		P		P	07 02 19.0	-0.2
	baz=316								
K22A	**Casper**	76.49	45		P		P	07 02 19.1	-0.7
	baz=312								
KNB	**Kanab**	76.51	53		*e*P		P	07 02 22.0	+1.9
KNB					pmax	pmax			
	comp=Z,22nm,1.4s								
KNB	**Kanab**	76.51	53		*e*P		P	07 02 22.0	+1.9
	comp=Z,22nm,1.4s								
SRU	**San Rafael Swe**	76.55	50		*e*P		P	07 02 21.5	+1.2
SRU					pmax	pmax			
	comp=Z,9.0nm,1.1s								
SRU	**San Rafael Swe**	76.55	50		*e*P		P	07 02 21.5	+1.2
	comp=Z,9.3nm,1.1s								
B30A	**Myrvik Farm, E**	76.60	37		P		P	07 02 20.0	-0.1
	baz=316								
H25A	**Fruitdale**	76.71	42		P		P	07 02 20.8	-0.1
	baz=314								
RSSD	**Black Hills**	76.83	43		P		P	07 02 22.2	+0.4
	baz=313								
TLCR		76.84	319	⇑	*i*P		P	07 02 22.4	+0.9
MONP2	**Monument Peak**	76.84	58		P		P	07 02 21.7	-0.4
	baz=309								
IRM	**Iron Mountain**	76.87	56		P		P	07 02 21.3	-0.7
	baz=310								
BUR08	**Bucovina Ar. S**	76.88	322		*e*P		P	07 02 22.5	+0.6
BURAR	**Bucovina Array**	76.89	322	⇓	*i*P		P	07 02 22.7	+0.8
B31A	**Greenbush Farm**	76.94	37		P		P	07 02 22.3	+0.3
	baz=317								
TESR	**Tescani**	76.99	321	⇓	*i*P		P	07 02 23.0	+0.6
A32A	**Rocking H Ranc**	77.10	36		P		P	07 02 22.1	-0.9
	baz=317								
CFR	**Carcaliu**	77.19	319	⇓	*i*P		P	07 02 24.1	+0.7
O20A	**White River Ci**	77.20	48		P		P	07 02 23.4	-0.6
	baz=312								
U15A	**North Rim**	77.22	53		*e*P		P	07 02 25.9	+1.7
	comp=Z,9.1nm,0.9s								
KOLS	**Kolonicke sedl**	77.29	325		*e*P		P	07 02 24.4	+0.4
KOLS					*e*			07 02 32.4	
KOLS					pmax	pmax			
	comp=Z,9.0nm,1.1s								
KOLS					MLR	MLR			
	comp=Z,900nm,16.4s								
KOLS	**Kolonicke sedl**	77.29	325		*e*P		P	07 02 24.4	+0.4
KOLS					*e*			07 02 32.4	
KOLS					*e*L		L	07 39 49.2	
C31A	**Landman Farms,**	77.36	37		P		P	07 02 24.5	+0.1
	baz=317								
STHS	**Stebnicka Huta**	77.38	325		*e*P		P	07 02 25.5	+1.0
STHS					*e*			07 02 36.8	
STHS					pmax	pmax			
	comp=Z,9.0nm,1.0s								
STHS	**Stebnicka Huta**	77.38	325		*e*P		P	07 02 25.5	+1.0
STHS					*e*			07 02 36.8	
OJC	**Ojcow**	77.40	327		*e*P		P	07 02 25.3	+0.7
OJC	**Ojcow**	77.40	327		*e*P		P	07 02 25.3	+0.7
OJC	**Ojcow**	77.40	327		*e*P		P	07 02 25.4	+0.7
	comp=Z,30nm,0.9s								
VRI	**Vrincioaia**	77.41	320	⇑	*i*P		P	07 02 26.1	+1.4
PDMCI	**Parker Dam,Lak**	77.42	56		P		P	07 02 25.0	0.0
	baz=310								
PLOR	**Plostina**	77.45	320	⇓	*i*P		P	07 02 26.0	+1.0
B32A	**Ashes, Strandq**	77.46	36		P		P	07 02 25.2	+0.3
	baz=317								
UZH	**Uzhgorod**	77.50	324		*e*P		P	07 02 23.4	-1.8
UZH					*e*			07 02 32.6	
TIRR	**Tirgusor**	77.55	318	⇑	*i*P		P	07 02 26.3	+0.8
A33A	**Warroad**	77.58	35		P		P	07 02 25.5	-0.1
	baz=318								
HARR	**Harsova**	77.63	319	⇑	*i*P		P	07 02 27.4	+1.4
CRVS	**Cervenica-Dubn**	77.67	325		*e*P		P	07 02 26.9	+0.8
CRVS	**Cervenica-Dubn**	77.67	325		*e*P		P	07 02 26.9	+0.8
ARCR	**ARCALIA**	77.68	322	⇑	*i*P		P	07 02 27.8	+1.6
TRPA	**Tarpa**	77.76	324	⇑	*e*SKKPdf		P	07 02 27.6	+1.0
F29A	**Eureka**	77.76	40		P		P	07 02 26.3	-0.5
	baz=316								
NIE	**Niedzica**	77.79	326		*e*P		P	07 02 28.0	+1.1
NIE	**Niedzica**	77.79	326		*e*P		P	07 02 28.0	+1.1
AGMN	**Agassiz Nation**	77.84	36		P		P	07 02 26.6	-0.5
	baz=318								
AGMN	**Agassiz Nation**	77.84	36		*e*P		P	07 02 26.9	-0.2
	comp=Z,8.0nm,1.0s								
PV10	**Paradox Valley**	77.91	50		*e*P		P	07 02 29.6	+1.6
BR101	**Keskin Array S**	77.95	312		*e*P		P	07 02 28.1	0.0
BR131	**Keskin Array S**	77.95	312		*e*P		P	07 02 28.6	+0.5
BRTR	**Keskin Array B**	77.95	312		P		P	07 02 28.1	0.0
	comp=Z,8.1nm,1.0s,baz=72,slow=5.3,SNR=23								
BRTR					LR		LR	07 40 42.9	
	comp=Z,233nm,18.5s,baz=39,slow=39								
B33A	**Robert and Kas**	77.98	36		P		P	07 02 27.0	-0.9
	baz=318								
DOPR	**Dopca**	77.99	321	⇑	*i*P		P	07 02 29.3	+1.3
ISR	**Istrita**	78.03	320	⇑	*i*P		P	07 02 29.6	+1.3
MLR	**Muntele Rosu**	78.06	320	⇓	*i*P		P	07 02 29.8	+1.3
MLR	**Muntele Rosu**	78.06	320		*e*P		P	07 02 29.6	+1.1
MLR					pmax	pmax			
	comp=Z,25nm,1.4s								
MLR	**Muntele Rosu**	78.06	320		*e*P		P	07 02 29.6	+1.1
	comp=Z,25nm,1.4s								
PV05	**Paradox Valley**	78.07	50		*e*P		P	07 02 30.3	+1.5
MSAB	**Monastry St. A**	78.11	318	⇓	*i*P		P	07 02 30.1	+1.5
E31A	**Nome**	78.18	38		P		P	07 02 28.4	-0.6
	baz=317								
B34A	**Aery, Baudette**	78.24	35		P		P	07 02 28.1	-1.3
	baz=318								
C33A	**Trail**	78.28	36		P		P	07 02 28.5	-1.0
	baz=318								
CJR	**Cluj-Napoca**	78.31	322	⇑	*i*P		P	07 02 30.5	+0.7
ANTO	**Ankara**	78.33	313		*e*P		P	07 02 31.1	+1.0
ANTO					pmax	pmax			
	comp=Z,45nm,1.0s								
ANTO	**Ankara**	78.33	313		*e*P		P	07 02 31.1	+1.0
	comp=Z,45nm,1.0s								
PV01	**Paradox Valley**	78.34	50		*e*P		P	07 02 31.5	+1.1
LANS	**Liptovska Anna**	78.35	326		*e*P		P	07 02 31.3	+1.3
LANS					*e*			07 02 42.3	
LANS	**Liptovska Anna**	78.35	326		*e*P		P	07 02 31.3	+1.3
LANS					*e*			07 02 42.3	
BR231	**Keskin MP Arra**	78.36	313		*e*P		P	07 02 29.2	-1.1
KSP	**Ksiaz**	78.37	329		*e*P		P	07 02 30.8	+0.8
KSP	**Ksiaz**	78.37	329		*e*P		P	07 02 30.8	+0.8
WUAZ	**Wupatki**	78.38	53		P		P	07 02 30.5	0.0
	baz=311								
WUAZ	**Wupatki**	78.38	53		*e*P		P	07 02 32.1	+1.6
	comp=Z,14nm,1.0s								
Y14A	**Wickenburg**	78.38	55		*e*P		P	07 02 31.8	+1.3
	comp=Z,43nm,0.9s								
OKC	**Ostrava-Krasne**	78.39	327		*e*P		P	07 02 31.1	+1.0
OKC					*e*S		S	07 12 27.3	+3.7
OKC					AMS	AMS		07 40 00.0	
	comp=Z,1μm,17.7s								
OKC	**Ostrava-Krasne**	78.39	327		*e*P		P	07 02 31.1	+1.0
OKC					*e*S		S	07 12 27.3	+3.7
OKC					MLR	MLR			
	comp=Z,1μm,17.7s								
KECS	**Kecovo**	78.41	325		*e*P		P	07 02 32.0	+1.7
KECS					pmax	pmax			
	comp=Z,3.0nm,0.8s								
KECS	**Kecovo**	78.41	325		*e*P		P	07 02 32.0	+1.7
F31A	**Hecla**	78.51	39		P		P	07 02 30.8	-0.1
	baz=317								
VOIR		78.54	321	⇓	*i*P		P	07 02 32.2	+1.1
SMCO	**Snowmass**	78.57	48		*e*P		P	07 02 32.8	+1.0
	comp=Z,7.8nm,1.4s								
G30A	**Faulkton**	78.60	40		P		P	07 02 30.9	-0.5
	baz=316								
DRGR		78.66	323	⇑	*i*P		P	07 02 32.4	+0.6
MORC	**Moravsky Berou**	78.69	327	⇑	*i*P		P	07 02 32.5	+0.7
MORC	**Moravsky Berou**	78.69	327		*e*P		P	07 02 32.6	+0.7
MORC					pmax	pmax			
	comp=Z,85nm,1.0s								
MORC	**Moravsky Berou**	78.69	327		*e*P		P	07 02 32.6	+0.8
	comp=Z,85nm,1.0s								
DPC	**Dobruska-Polom**	78.74	328		*e*P		P	07 02 33.1	+1.0
DPC					*ex*	x		07 02 44.2	
DPC					*e*PP		PP	07 05 30.7	+0.9
DPC					AMS	AMS		07 40 20.0	
	comp=Z,700nm,17.4s								
DPC	**Dobruska-Polom**	78.74	328		*e*P		P	07 02 33.1	+1.0
DPC					*e*			07 02 44.2	
DPC					*e*			07 05 30.7	
DPC					MLR	MLR			
	comp=Z,700nm,17.4s								
UPC	**Upice**	78.74	329		*e*P		P	07 02 33.0	+1.0
UPC					*e*pP		PcP	07 02 38.8	-2.0
UPC					AMS	AMS		07 40 20.0	
	comp=Z,800nm,15.9s								
UPC	**Upice**	78.74	329		*e*P		P	07 02 33.0	+1.0
UPC					*e*			07 02 38.8	
UPC					MLR	MLR			
	comp=Z,800nm,15.9s								
B35A	**Bob, Littlefor**	78.74	35		P		P	07 02 31.6	-0.5
	baz=319								
ARR	**Arges**	78.79	321	⇑	*i*P		P	07 02 33.4	+0.9
ISCO	**Idaho Springs**	78.92	47		P		P	07 02 32.9	-0.7
	baz=313								
ISCO	**Idaho Springs**	78.92	47		*e*P		P	07 02 35.7	+2.1
ISCO					pmax	pmax			
	comp=Z,3.0nm,0.8s								
ISCO	**Idaho Springs**	78.92	47		*e*P		P	07 02 35.7	+2.1
	comp=Z,2.8nm,0.8s								
MVCO	**Mesa Verde**	79.00	51		P		P	07 02 33.7	-0.3
	baz=312								
MVCO	**Mesa Verde**	79.00	51		*e*P		P	07 02 35.0	+1.0
	comp=Z,7.6nm,1.1s								
D34A	**Park Rapids**	79.04	36		P		P	07 02 32.9	-0.9
	baz=318								
X16A	**Lo Mia Camp, P**	79.05	54		*e*P		P	07 02 35.9	+1.6
	comp=Z,10nm,1.0s								
PSZ	**Piszkesteto**	79.10	325	⇑	*i*P		P	07 02 35.3	+1.1
PSZ	**Piszkesteto**	79.10	325	⇑	*e*SKKPdf		P	07 02 35.0	+0.9
PSZ	**Piszkesteto**	79.10	325		*e*P		P	07 02 35.2	+1.1
PSZ					pmax	pmax			
	comp=Z,26nm,1.1s								
PSZ	**Piszkesteto**	79.10	325		*e*P		P	07 02 35.2	+1.0
	comp=Z,26nm,1.1s								
E33A	**Westby DABS, E**	79.10	37		P		P	07 02 34.0	-0.1
	baz=318								
VYHS	**Vyhne**	79.12	326		*e*P		P	07 02 35.2	+1.0
VYHS					pmax	pmax			
	comp=Z,11nm,1.2s								
VYHS	**Vyhne**	79.12	326		*e*P		P	07 02 35.2	+1.0
VYHS					*e*L		L	07 40 46.9	
C35A	**Jirik Farms, M**	79.13	35		P		P	07 02 33.5	-0.8
	baz=319								
BRG	**Berggiesshubel**	79.26	330		*e*P		P	07 02 35.2	+0.3
	comp=Z,7.8nm,1.2s								
BRG	**Berggiesshubel**	79.26	330		S		S	07 12 48.0	+15
BRG	**Berggiesshubel**	79.26	330		*e*P		P	07 02 35.2	+0.3
BRG					S		S	07 12 48.0	+15
BRG					pmax	pmax			
	comp=Z,8.0nm,1.2s								
CLL	**Collm**	79.28	331	⇑	*i*P		P	07 02 35.0	+0.1
	comp=Z,22nm,1.0s								
CLL					*e*			07 02 40.0	
CLL					*i*			07 02 45.9	
CLL					*i*			07 03 00.8	
CLL					*e*PP		PP	07 05 34.0	-0.1
CLL					*e*S		S	07 12 31.0	-2.0
CLL					*e*SS		SS	07 17 18.0	-21
CLL					*e*			07 18 48.0	
CLL					LmH			07 38 00.0	
	comp=N,400nm,19.2s								
CLL					LmH			07 38 00.0	
	comp=E,700nm,18.0s								
CLL					LmV			07 40 00.0	
	comp=Z,700nm,19.4s								
CLL	**Collm**	79.28	331	⇑	*i*P		P	07 02 35.0	+0.1
CLL					*e*			07 02 40.0	
CLL					*i*			07 02 45.9	
CLL					*e*S		S	07 12 31.0	-2.0
CLL					pmax	pmax			
	comp=Z,22nm,1.0s								
CLL					MLR	MLR			
	comp=Z,700nm,19.4s								
CLL	**Collm**	79.28	331		*e*P		P	07 02 35.1	+0.2
	comp=Z,23nm,1.0s								
PVCC	**Panska Ves**	79.30	329		*e*P		P	07 02 36.0	+0.9
PVCC					*e*pP		pP	07 02 44.2	-0.1
PVCC					AMS	AMS		07 41 00.0	
	comp=Z,800nm,15.7s								
PVCC	**Panska Ves**	79.30	329		*e*P		P	07 02 36.0	+0.9
PVCC					*e*			07 02 44.2	
PVCC					MLR	MLR			
	comp=Z,800nm,15.7s								
VRAC	**Vranov**	79.44	328	⇑	*i*P		P	07 02 36.9	+1.0
F33A	**5 Mile Ranch,**	79.46	38		P		P	07 02 35.2	-0.9
	baz=318								
SIRR	**Siria**	79.54	323	⇓	*i*P		P	07 02 37.6	+1.1
C36A	**Pine Crest Far**	79.59	35		P		P	07 02 36.1	-0.7
	baz=320								
S22A	**4UR Ranch, Cre**	79.62	49		P		P	07 02 36.4	-1.0
	baz=313								
GOPC	**GO Pecny, Ondr**	79.69	329		*e*P		P	07 02 38.2	+0.9
GOPC					*e*pP		pP	07 02 47.1	+0.6
GOPC					AMS	AMS		07 40 50.0	
	comp=Z,800nm,19.0s								
GOPC	**GO Pecny, Ondr**	79.69	329		*e*P		P	07 02 38.2	+0.9
GOPC					*e*			07 02 47.1	
GOPC					MLR	MLR			
	comp=Z,800nm,19.0s								
PRU	**Pruhonice**	79.73	329		*e*P		P	07 02 38.3	+0.9
PRU					*e*pP		pP	07 02 46.4	-0.3
PRU					*ex*	x		07 02 49.2	
PRU					*e*S		S	07 12 41.1	+3.1
PRU					AMS	AMS		07 40 50.0	
	comp=Z,700nm,19.0s								
PRU	**Pruhonice**	79.73	329		*e*P		P	07 02 38.3	+0.9
PRU					*e*			07 02 46.4	
PRU					*e*			07 02 49.2	
PRU					*e*S		S	07 12 41.1	+3.1
PRU					MLR	MLR			
	comp=Z,700nm,19.0s								
E35A	**Pequot Lakes**	79.80	36		P		P	07 02 37.0	-0.9
	baz=319								
G33A	**Ortonville**	79.87	38		P		P	07 02 37.9	-0.3
	baz=318								
C37A	**Embarrass**	79.89	34		P		P	07 02 37.6	-0.8
	baz=320								
TREC	**Trest**	79.90	328		*e*P		P	07 02 39.3	+0.9
TREC					AMS	AMS		07 40 50.0	
	comp=Z,700nm,19.3s								
TREC	**Trest**	79.90	328		*e*P		P	07 02 39.3	+0.9
TREC					MLR	MLR			
	comp=Z,700nm,19.3s								
X18A	**Snowflake**	79.90	53		*e*P		P	07 02 40.3	+1.4
	comp=Z,6.0nm,1.0s								
F34A	**Alexandria**	79.98	37		P		P	07 02 38.7	-0.1
	baz=318								
EYMN	**Ely**	80.03	34		P		P	07 02 38.7	-0.4
	baz=321,SNR=7.9								
EYMN	**Ely**	80.03	34		*e*P		P	07 02 39.1	0.0
	comp=Z,9.0nm,1.0s								
BZS	**Buzias**	80.05	323	⇓	*i*P		P	07 02 39.6	+0.4
OGNE	**Ogallala**	80.10	44		P		P	07 02 39.2	-0.5
	baz=315								
H33A	**Prehn Over Nor**	80.10	39		P		P	07 02 39.5	-0.1
	baz=318								
J31A	**Geddes**	80.13	41		P		P	07 02 39.3	-0.5
	baz=317								
K30A	**Basset**	80.14	42		P		P	07 02 39.7	-0.1
	baz=316								
G34A	**Benson**	80.21	38		P		P	07 02 39.4	-0.7
	baz=318								
D37A	**Cotton**	80.23	35		P		P	07 02 40.4	+0.2
	baz=320								
F35A	**Swanville**	80.25	37		P		P	07 02 39.8	-0.5

GEA0 GERESS Array S 80.98 329 eP P 07 02 44.3 0.0
J33A Davis 81.00 40 P P 07 02 44.0 -0.3
baz=318
H35A Sunnyside Ranc 81.00 38 P P 07 02 44.1 -0.2
baz=319
I34A Hadley 81.00 39 P P 07 02 44.3 -0.1
baz=318
G36A St. Michael 81.10 37 P P 07 02 44.4 -0.5
baz=320
KSCO Kaye Shedlock' 81.14 46 P P 07 02 45.1 -0.3
baz=315
GRFO Grafenberg 81.25 331 eP P 07 02 46.6 +0.9
GRFO pmax pmax
comp=Z,30nm,1.0s
GRFO Grafenberg 81.25 331 eP P 07 02 46.5 +0.9
comp=Z,30nm,1.0s
M31A Lambtecht Ranc 81.42 42 P P 07 02 46.3 -0.5
baz=317
T25A Trinidad 81.44 48 P P 07 02 47.0 -0.1
baz=314
ARSA Arzberg 81.50 327 iP P 07 02 47.8 +0.8
comp=Z,12nm,1.3s,SNR=7.5
SPMN Marine on St. 81.54 36 P P 07 02 46.7 -0.5
baz=320
MOA Molln 81.54 328 iP P 07 02 45.9 -1.3
comp=Z,7.6nm,0.9s
I35A Creekview Farm 81.56 38 P P 07 02 47.6 +0.3
baz=319
L33A Hoskins 81.69 41 P P 07 02 48.4 +0.3
baz=318
LAZ Ladron 81.71 52 eP P 07 02 50.5 +1.9
ANMO Albuquerque 81.75 51 P P 07 02 49.0 +0.3
baz=313
ANMO Albuquerque 81.75 51c iP P 07 02 47.4 -1.4
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 81.75 51 eP P 07 02 50.2 +1.4
comp=Z,12nm,1.2s
BGNE Belgrade 81.80 42 P P 07 02 48.6 -0.1
baz=317
K34A Le Mars 81.89 40 P P 07 02 48.7 -0.5
baz=318
I36A Fitzsimmons Fa 81.89 38 P P 07 02 49.0 -0.1
baz=319
H37A Dierke Farm, C 81.98 37 P P 07 02 49.0 -0.5
baz=320
O31A Woolen Ranch, 82.11 43 P P 07 02 49.1 -1.2
baz=317
GROS Grobnik 82.13 326 iP P 07 02 50.6 +0.2
PERS Pernice 82.15 327⇑ iP P 07 02 50.9 +0.4
SOKA Soboth 82.16 327 iP P 07 02 51.1 +0.6
comp=Z,35nm,1.1s,SNR=22
M33A Taylor Creek F 82.17 41 P P 07 02 50.2 -0.5
baz=318
I37A Lemond, Waseca 82.19 37 P P 07 02 50.3 -0.4
baz=320,SNR=6.3
BNM Barren Site 82.19 52 eP P 07 02 52.6 +1.5
SCHQ Schefferville 82.23 17 P P 07 02 50.4 -0.3
comp=Z,4.2nm,0.8s,baz=343,slow=2.0,SNR=5.0
SCHQ LR LR 07 44 30.0
comp=Z,210nm,18.2s,baz=322,slow=39
SCHQ Schefferville 82.23 17 eP P 07 02 50.9 +0.3
comp=Z,49nm,1.8s
J36A Seneca 1, Swea 82.26 38 P P 07 02 50.6 -0.5
baz=319
K35A Storm Lake 82.29 39 P P 07 02 50.9 -0.4
baz=319
L34A Svendsen Farm, 82.29 40 P P 07 02 50.7 -0.6
baz=318
MEM Membach 82.35 334 P P 07 02 51.9 +0.6
comp=Z,9.0nm,1.2s
OBKA Obir 82.49 327 iP P 07 02 52.6 +0.3
comp=Z,9.3nm,0.8s
M34A Aspy Farms, Fr 82.53 41 P P 07 02 52.1 -0.5
baz=318
KBA Koelnbreinsper 82.53 328 iP P 07 02 53.3 +0.7
comp=Z,26nm,1.2s,SNR=12
121A Cookes Peak, D 82.58 54 P P 07 02 53.1 0.0
baz=313
121A Cookes Peak, D 82.58 54 eP P 07 02 54.6 +1.4
comp=Z,7.7nm,0.9s
J37A Redenius Farm, 82.65 38 P P 07 02 52.6 -0.5
baz=320
PDKS Podkum 82.66 326⇑ iP P 07 02 53.1 0.0
I38A Scanlan Farm, 82.66 37 P P 07 02 52.4 -0.8
baz=320
K36A Gilmore City 82.73 39 P P 07 02 52.9 -0.6
baz=319
BCLA Clavier 82.75 334 P P 07 02 53.5 +0.1
comp=Z,7.4nm,1.3s
STU Stuttgart 82.77 331 eP P 07 02 54.5 +0.9
STU pmax pmax
comp=Z,27nm,1.0s
STU Stuttgart 82.77 331 eP P 07 02 54.5 +0.9
comp=Z,26nm,1.0s
MYKA Terra Mystica 82.77 328 iP P 07 02 53.1 -0.6
comp=Z,14nm,1.1s,SNR=7.4
VAY Valandovo 82.78 319 eP P 07 02 51.5 -2.3
CBKS Cedar Bluff 82.85 44 P P 07 02 53.9 -0.4
baz=317
SKO Skopje 82.86 320 iP P 07 02 55.1 +0.9
P32A Huiting Farm, 82.87 43 P P 07 02 53.7 -0.7
baz=317
BOJS Bojanci 82.99 326 iP P 07 02 54.9 +0.1
M35A Neola 83.00 40 P P 07 02 54.3 -0.7
baz=319
SNF Seneffe 83.00 335 P P 07 02 55.2 +0.4
K37A Belmond 83.02 38 P P 07 02 54.6 -0.5
baz=320
WATA Walderalm 83.04 329 iP P 07 02 55.8 +0.6
comp=Z,18nm,1.2s,SNR=7.7
N34A Lincoln 83.06 41 P P 07 02 55.2 -0.1
baz=318
WTTA Wattenberg 83.07 329 iP P 07 02 56.1 +0.6
comp=Z,19nm,1.3s,SNR=5.1
O33A Hebron 83.07 42 P P 07 02 54.5 -0.8
baz=318
ABTA Abfaltersbach 83.14 328 iP P 07 02 55.4 -0.3
comp=Z,13nm,1.2s,SNR=5.7
JAVS Javornik 83.19 327 iP P 07 02 55.2 -0.7
MOTA Moosalm 83.22 329 iP P 07 02 56.5 +0.4
comp=Z,30nm,1.2s,SNR=17
RETA Reutte 83.23 330 iP P 07 02 56.8 +0.7
comp=Z,32nm,1.2s,SNR=9.9
BFO Black Forest 83.45 332 iP P 07 02 57.7 +0.6
BFO Black Forest 83.45 332 eP P 07 02 57.8 +0.6
comp=Z,12nm,0.9s
O34A Beatrice 83.45 42 P P 07 02 57.2 -0.1
baz=318
L37A Phoenix Point, 83.46 39 P P 07 02 56.8 -0.5
baz=320
N35A Tabor 83.48 41 P P 07 02 57.0 -0.4
baz=319
K38A Parkersburg 83.53 38 P P 07 02 57.3 -0.4
baz=320
FETA Feichten 83.63 329 iP P 07 02 58.9 +0.6
comp=Z,21nm,1.2s,SNR=9.2
DAVA Damuels 83.74 330 iP P 07 02 59.2 +0.4
comp=Z,30nm,1.1s,SNR=9.6
OHR Ohrid 83.82 320 iP P 07 02 59.0 -0.3
N36A Muff Farm, Cla 83.86 40 P P 07 02 58.8 -0.6
baz=319
P34A Walnut Farm, R 83.86 42 P P 07 02 58.8 -0.6
baz=318
M37A Trindle Farm, 83.86 39 P P 07 02 58.9 -0.5
baz=320
ECH Echery 83.97 332⇑ eP P 07 02 59.9 +0.1
FUORN Ofenpass-Fuorn 84.14 329 eP P 07 03 01.7 +0.7
comp=Z,51nm,1.1s
Q34A Chapman 84.26 43 P P 07 03 00.9 -0.5
baz=318
M38A Pleasantville 84.27 39 P P 07 03 01.1 -0.3
baz=320
N37A Lee Faris, Mou 84.27 40 P P 07 03 01.3 -0.2
baz=320
MOF Molkenrain 84.29 332⇑ eP P 07 03 01.4 -0.1
KSU1 Kansas State U 84.30 42 P P 07 03 01.1 -0.5
baz=318
O36A Bolckow 84.37 41 P P 07 03 01.9 -0.1
baz=319
T32A Huddler Ranch, 84.48 45 P P 07 03 01.7 -0.9
baz=317
R34A Isabella, Hill 84.56 43 P P 07 03 02.2 -0.8
baz=318
AMTX Amarillo 84.59 48 P P 07 03 02.4 -0.9
baz=316
TUE Stuetta 84.62 330 eP P 07 03 03.9 +0.5
comp=Z,13nm,0.9s
P36A Good Intent, A 84.63 41 P P 07 03 02.8 -0.6
baz=319
MNTX Cornudas Mount 84.63 53 P P 07 03 03.3 -0.2
baz=314,SNR=10
MNTX Cornudas Mount 84.63 53 eP P 07 03 04.5 +1.0
comp=Z,6.2nm,0.9s
S33A Kaszmaul Farm, 84.68 44 P P 07 03 03.2 -0.4
baz=318
N38A Joes South For 84.72 39 P P 07 03 03.5 -0.2
baz=320
O37A Wolven Farm, M 84.75 40 P P 07 03 03.6 -0.3
baz=320
PPT Papeete 84.75 118 LR LR 07 35 08.8
comp=Z,293nm,19.9s,baz=306,slow=32
PPT2 Papeete2 84.77 118 eS S 07 13 28.6 -1.8
comp=Z,84nm,24.5s
PPT2 Papeete2 84.77 118 eLR LR 07 29 42.9
comp=Z,705nm,22.2s,baz=319
PPT2 Papeete2 84.77 118 eT T 08 36 48.5
comp=Z,7.2nm,0.3s
Q35A Mercer Eighty, 84.78 42 P P 07 03 03.5 -0.6
baz=319
PAE Paea 84.81 118 eT T 08 36 51.4
comp=Z,1.1nm,0.3s
LOMF Lomont 84.82 332⇑ eP P 07 03 04.4 +0.2
T33A Patterson Ranc 84.92 45 P P 07 03 04.7 -0.1
baz=318
N39A Derby Farms, D 85.02 39 P P 07 03 05.0 -0.2
baz=321,SNR=5.3
S34A Willow Spring 85.08 44 P P 07 03 05.9 +0.3
baz=318
P37A Lathrop 85.09 41 P P 07 03 05.2 -0.4
baz=320
R35A Emporia Munici 85.09 43 P P 07 03 05.6 0.0
baz=319
O38A Galt 85.12 40 P P 07 03 05.6 -0.2
baz=320
R36A Gordon, Harris 85.45 42 P P 07 03 07.6 +0.1
baz=319,SNR=7.5
U33A Lingo Farm, Me 85.47 45 P P 07 03 07.6 0.0
baz=318
O39A Kirksville 85.47 39 P P 07 03 07.8 +0.3
baz=321
V32A Arapaho 85.48 46 P P 07 03 07.7 0.0
baz=317
SENIN Lac Senin/Sane 85.48 331 eP P 07 03 08.2 +0.5
comp=Z,9.8nm,0.9s
S35A Otter Creek Ra 85.51 43 P P 07 03 08.0 +0.2
baz=318,SNR=10
T34A McClaskey Farm 85.54 44 P P 07 03 08.3 +0.4
baz=318
TAOE Nuku Hiva Isla 85.60 105 eS S 07 13 36.4 -2.5
comp=Z,210nm,25.5s
TAOE Nuku Hiva Isla 85.60 105 eLR LR 07 30 11.4
comp=Z,574nm,21.0s,baz=317
U34A Anderson Ranch 85.78 45 P P 07 03 09.0 -0.1
baz=318
U34A Anderson Ranch 85.78 45 eP P 07 03 10.1 +1.0
comp=Z,14nm,1.0s
W32A Sentinel 85.80 47 P P 07 03 09.3 0.0
baz=317
R37A Teagarden Farm 85.81 42 P P 07 03 08.8 -0.4
baz=319
V33A Lossen Ranch, 85.83 46 P P 07 03 08.9 -0.5
baz=318
S36A Lake Cedric, C 85.86 43 P P 07 03 09.4 0.0
baz=319,SNR=7.2
O40A La Belle 85.90 39 P P 07 03 09.6 -0.1
baz=321
Q38A Cooks Store, C 85.93 41 P P 07 03 09.6 -0.3
baz=320,SNR=5.5
P39B Salisbury 85.96 40 P P 07 03 09.9 -0.1
baz=320
T35A Sooner Cattle 85.98 44 P P 07 03 10.1 0.0
baz=318
MEH Mehetia 86.00 117 eT T 08 38 20.1
comp=Z,36nm,0.3s
Q39A Willow Grove F 86.19 40 P P 07 03 10.0 -1.1
baz=320
T36A Boggs Farm, Ca 86.20 43 P P 07 03 10.3 -0.9
baz=319,SNR=5.2
W33A Caddo, Fort Co 86.22 46 P P 07 03 11.2 -0.1
baz=318
S37A Fort Scott 86.23 42 P P 07 03 10.7 -0.7
baz=319,SNR=7.0
V34A Guthrie 86.24 45 P P 07 03 11.4 0.0
baz=318
U35A Pawnee 86.27 44 P P 07 03 11.5 0.0
baz=318
P40A Paris 86.28 40 P P 07 03 11.5 0.0
baz=321,SNR=5.2
X32A Elmer 86.29 47 P P 07 03 11.4 -0.4
baz=317
WMOK Wichita Mounta 86.34 47 P P 07 03 11.9 -0.1
baz=317,SNR=6.2
WMOK Wichita Mounta 86.34 47 eP P 07 03 12.5 +0.5
WMOK pmax pmax
comp=Z,6.0nm,1.0s
WMOK Wichita Mounta 86.34 47 eP P 07 03 12.5 +0.5
comp=Z,5.8nm,1.0s
R38A Fenwick Farm, 86.38 41 P P 07 03 11.7 -0.3
baz=320
W34A Bridge Creek, 86.54 46 P P 07 03 12.5 -0.4
baz=318
T37A Cheneyville 18 86.66 43 P P 07 03 13.2 -0.2
baz=319,SNR=5.3
Q40A Laux Farm, Aux 86.68 40 P P 07 03 13.2 -0.3
baz=321,SNR=5.0
R39A Chumby, Stover 86.72 41 P P 07 03 13.4 -0.3
baz=320,SNR=6.9
HDIL Hopedale 86.79 37 P P 07 03 13.3 -0.7
baz=322
S38A Stockton 86.80 42 P P 07 03 13.7 -0.4
baz=320
Y33A Hilltop Ranch, 86.97 47 P P 07 03 14.4 -0.6
baz=318
X34A Smith Ranch, M 86.97 46 P P 07 03 14.7 -0.4
baz=318
S39A Bolivar 87.06 41 P P 07 03 14.7 -0.7
baz=320,SNR=6.7
T38A Diamond 87.06 42 P P 07 03 15.2 -0.2
baz=320,SNR=6.8
W35A Tecumseh 87.09 45 P P 07 03 16.0 +0.4
baz=318
U37A Salina 87.10 43 P P 07 03 15.6 0.0
baz=319
TUL1 Leonard 87.11 44 P P 07 03 15.9 +0.2
baz=319
R40A Maddies Statio 87.12 40 P P 07 03 15.6 -0.1
baz=321,SNR=5.7
V36A Jenks 87.13 44 P P 07 03 15.7 0.0
baz=319
PLDF La Plantade 87.15 333⇑ eP P 07 03 17.4 +1.6
AGO Saint Agoulin 87.25 333⇑ eP P 07 03 17.9 +1.7
TX31 Lajitas Ar. Si 87.34 53 eP P 07 03 16.9 -0.1
LTX Lajitas 87.34 53 eP P 07 03 17.4 +0.4
LTX Lajitas 87.34 53 eP P 07 03 17.4 +0.4
TXAR Lajitas Array 87.34 53 P P 07 03 17.4 +0.3
comp=Z,1.1nm,0.8s,baz=302,slow=4.0,SNR=16
TXAR LR LR 07 37 19.2
comp=Z,96nm,21.6s,baz=0.0,slow=32
ABTX Abilene, Hawle 87.39 49 P P 07 03 17.6 +0.4
baz=317
Z33A Whitaker Ranch 87.42 48 P P 07 03 17.6 +0.4
baz=317
U38A Gravette 87.46 43 P P 07 03 17.7 +0.3
baz=320
V37A Hulbert 87.48 44 P P 07 03 17.8 +0.4
baz=319
Y34A Reagan Ranch, 87.49 47 P P 07 03 17.5 -0.1
baz=318
Q42A Golden Eagle 87.50 39 P P 07 03 17.7 +0.3
baz=322
S40A Lebanon 87.54 41 P P 07 03 17.7 -0.1
baz=321
PYM Petit Puy Mans 87.55 333 eP P 07 03 19.3 +1.6
X35A Drake 87.60 46 P P 07 03 18.4 +0.4
baz=318
133A Hamilton Ranch 87.83 48 P P 07 03 18.9 -0.3
baz=317
Z34A Collier Ranch, 87.83 47 P P 07 03 20.0 +0.8
baz=318
T40A Mansfield 87.88 41 P P 07 03 19.7 +0.3
baz=321
V38A Canehill 87.89 43 P P 07 03 20.1 +0.7
baz=320
SFIN Lafayette 87.94 36 P P 07 03 19.0 -0.5
baz=324
U39A Green Forest 87.97 42 P P 07 03 19.6 -0.3
baz=320,SNR=6.5
Z35A Perchaven, San 88.24 47 P P 07 03 21.1 0.0
baz=318
233A Rising Star 88.27 49 P P 07 03 21.3 0.0
baz=317
V39A Pettigrew 88.30 43 P P 07 03 21.3 -0.1
baz=320
U40A Yellville 88.32 42 P P 07 03 21.2 -0.2
baz=321,SNR=10
134A White-Moore Ra 88.33 48 P P 07 03 20.5 -1.1
baz=318
T41A Mountain View 88.34 41 P P 07 03 21.2 -0.3
baz=321,SNR=5.9
Y36A Durant 88.35 46 P P 07 03 21.3 -0.3
baz=319
W38A Poteau 88.43 44 P P 07 03 20.8 -1.1
baz=320
234A Clairette 88.72 48 P P 07 03 23.8 +0.4
baz=318
R44A Waltonville 88.72 38 P P 07 03 22.4 -0.8
baz=323
135A Vickery Place, 88.72 47 P P 07 03 23.9 +0.5
baz=318
W39A Magazine 88.72 43 P P 07 03 23.0 -0.4
baz=320
333A Richland Sprin 88.72 49 P P 07 03 24.3 +0.8
baz=317
S43A Fulton Ridge, 88.77 40 P P 07 03 23.1 -0.5
baz=322
TBI Tubuai 88.87 122 eS S 07 14 06.5 -3.3
comp=Z,87nm,26.5s
TBI Tubuai 88.87 122 eLR LR 07 31 24.5
comp=Z,351nm,26.2s
X39A Fountain Ranch 89.07 44 P P 07 03 24.9 -0.1
baz=320,SNR=5.1
S44A Carbondale 89.07 39 P P 07 03 25.2 +0.3
baz=323
SIUC Southern Illin 89.07 39 eP P 07 03 25.8 +0.9
comp=Z,18nm,0.8s
433A Art 89.08 50 P P 07 03 25.5 +0.3
baz=317
W40A Ferguson Farm, 89.10 43 P P 07 03 24.7 -0.4
baz=320
V41A Mountainview 89.12 42 P P 07 03 25.2 -0.1
baz=321
334A Lometa 89.15 49 P P 07 03 25.5 +0.1
baz=318
PBMO Poplar Bluff 89.22 40 eP P 07 03 26.1 +0.5
comp=Z,11nm,1.0s
MIAR Mount Ida 89.33 44 P P 07 03 26.1 -0.1
baz=320
MIAR Mount Ida 89.33 44 eP P 07 03 27.0 +0.8
MIAR pmax pmax
comp=Z,9.0nm,1.1s
MIAR Mount Ida 89.33 44 eP P 07 03 27.0 +0.8
comp=Z,8.6nm,1.1s
X201 Greenbrier Sit 89.39 42 eP P 07 03 27.1 +0.7
comp=Z,12nm,1.2s
S45A Carrier Mills 89.41 39 P P 07 03 26.8 +0.3
baz=323
WHAR Wooly Hollow 89.43 42 eP P 07 03 26.9 +0.2
comp=Z,14nm,1.1s
V42A Cord 89.49 41 P P 07 03 27.3 +0.3
baz=321
Y39A Lockesburg 89.52 44 P P 07 03 27.5 +0.4
baz=320
W41B Gary Mavity, V 89.54 42 P P 07 03 26.8 -0.4
baz=321
533A Kerrville 89.61 50 P P 07 03 28.1 +0.4
baz=317
X40A Basin Creek Fa 89.77 43 P P 07 03 28.6 +0.4
baz=321
ACSO Alum Creek Sta 89.86 33 eP P 07 03 29.2 +0.6
comp=Z,12nm,0.8s
336A Riesel 89.91 48 P P 07 03 28.3 -0.7
baz=318
X41A Kaden, Bauxite 89.93 43 P P 07 03 28.6 -0.4
baz=321
435B Jarrell 89.93 49 P P 07 03 28.8 -0.3
baz=318
534A Blanco 89.97 50 P P 07 03 29.4 +0.1
baz=318
633A Saathoff Ranch 89.97 51 P P 07 03 29.4 +0.1
baz=317
M54A Oil Creek Stat 90.14 31 P P 07 03 29.7 -0.3
baz=329
Y41A Eaglette Beard 90.35 43 P P 07 03 31.3 +0.4
baz=321
Z40A Long Farm, Mag 90.41 44 P P 07 03 32.0 +0.8
baz=320
N54A Moraine State 90.48 31 P P 07 03 31.2 -0.2
baz=328
536A Bastrop 90.76 49 P P 07 03 33.0 +0.1
baz=318
Y42A Garnett, Star 90.82 43 P P 07 03 33.1 0.0
baz=321
Z42A Norrel Spur, H 91.17 43 P P 07 03 34.7 -0.1
baz=321
636A Smothers Creek 91.20 49 P P 07 03 35.6 +0.6
baz=318
933A Laredo 91.26 52 P P 07 03 36.1 +0.8
baz=317
Y44A Strider, Charl 91.54 42 P P 07 03 36.4 0.0
baz=322
Y45A Yeager Farm, C 91.95 41 P P 07 03 38.7 +0.3
baz=322
N59A State Game Lan 92.13 28 P P 07 03 38.8 -0.3
baz=331
Y46A Houston 92.29 41 P P 07 03 40.1 +0.2
baz=323
Y47A UCPARC, Winfie 92.78 40 P P 07 03 41.8 -0.5
baz=323
244A Avery, Jackson 92.79 43 P P 07 03 42.4 +0.1
baz=322
KEST Kesra 93.53 324 LR LR 07 50 48.1
comp=Z,621nm,18.1s,baz=326,slow=39
ES19 SONSECA Array 95.25 335 eP P 07 03 53.9 +0.3
ESDC Sonseca Array 95.30 335 P P 07 03 53.7 -0.1
comp=Z,1.6nm,0.8s,baz=20,slow=3.7,SNR=7.3
ESDC LR LR 07 52 25.1
comp=Z,475nm,18.5s,baz=40,slow=39
RKT Rikitea 98.61 113 eLR LR 07 35 57.2
comp=Z,387nm,23.8s,baz=316
TOA1 Torodi Ar. Sit 116.20 317 ePKPdf PKPdf 07 09 12.1 -1.3
TORD Torodi Ar. Bea 116.20 317 PKP PKPdf 07 09 12.1 -1.3
comp=Z,0.6nm,0.7s,baz=14,slow=3.8,SNR=3.8
SYO Syowa Base 131.35 208⇑ ePdiff Pdif 07 06 33.8 +0.6
PTGA Pitinga 135.72 34 PKP PKPdf 07 09 50.4 -0.3
comp=Z,0.9nm,0.3s,baz=46,slow=6.5,SNR=4.3
SNAA Sanae 143.86 197 PKP PKPbc 07 10 01.3 -0.3
LPAZ La Paz 144.08 58 PKP PKPbc 07 10 04.6 +0.1
comp=Z,1.0nm,0.5s,baz=316,slow=2.6,SNR=7.8
LPAZ La Paz 144.08 58 ePKPdf PKPdf 07 10 06.4 -0.1
VNA1 Neumayer--Stat 145.82 197 PKP PKPab 07 10 08.8 +0.7
LVC Limon Verde 147.89 67 PKPbc PKPbc 07 10 16.1 +0.6
comp=Z,28nm,1.1s,baz=60,slow=2.4,SNR=3.8
SIV San Ignacio 148.21 48 PKPbc PKPbc 07 10 16.3 +0.3
comp=Z,6.4nm,0.9s,baz=312,slow=3.4,SNR=7.7
BDFB Brasilia 153.96 25 PKPbc PKPbc 07 10 29.0 -0.7
comp=Z,5.2nm,1.0s,baz=38,slow=0.9,SNR=6.1

IDC 13 06:58:30.9±4.1, 56.16S×26.47W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/23, mbtmp3.8/2, Error ellipse: s-maj=140.1km s-min=51.2km az=173.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	50.77	304	P	P	07 07 33.3	-0.1
	0.7nm,0.4s,baz=112,slow=5.4,SNR=7.8						
TORD	Torodi Ar. Bea	72.95	29	P	P	07 10 02.0	0.0
	0.7nm,0.8s,baz=200,slow=5.7,SNR=4.6						
ILAR	Eielson Array	150.49	311	PKPbc	PKPbc	07 18 22.6	-0.3
	0.4nm,0.8s,baz=106,slow=2.0,SNR=4.9						

WEL 13 07:29:01.9±0.3, 43.61S×172.86E, h2km, ML3.5/10, 1D, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	Canterbury Las	0.17	280	PG	Pg	07 29 05.2	-0.1
CRLZ				SG	Sg	07 29 07.9	+0.3
CRLZ				AML	AML	07 29 11.3	

MQZ	**McQueen's Vall**	**0.18**	**236**	⇓PG	Pg	07 29 05.5	+0.2
MQZ				SG	Sg	07 29 08.3	+0.5
MQZ				SG	Sg	07 29 08.3	+0.6
MQZ				AML	AML	07 29 09.4	
OXZ	**Oxford**	**0.66**	**295**	PG	Pg	07 29 14.5	-0.1
OXZ				SG	Sg	07 29 23.9	+0.7
LTZ	**Lake Taylor**	**0.93**	**332**	P*	Pb	07 29 20.4	-0.4
LTZ				S*	Sb	07 29 33.0	-0.5
LTZ				AML	AML	07 29 36.1	
KHZ	**Kahutara**	**1.29**	**23**	P*	Pg	07 29 25.7	-0.9
RPZ	**Rata Peaks**	**1.31**	**265**	P*	Pg	07 29 25.7	-1.4
RPZ				AML	AML	07 29 45.9	
RPZ				AML	AML	07 29 52.6	
WVZ	**Waitaha Valley**	**1.64**	**288**	PN	Pn	07 29 31.0	-0.7
WVZ				AML	AML	07 30 05.9	
THZ	**Tophouse**	**1.84**	**1**	PN	Pn	07 29 33.3	-1.3
THZ				AML	AML	07 30 06.1	
THZ				AML	AML	07 30 12.2	
DSZ	**Denniston Nort**	**2.02**	**337**	PN	Pb	07 29 38.3	-1.0
DSZ				AML	AML	07 30 12.3	
DSZ				AML	AML	07 30 15.2	
LBZ	**Lake Benmore**	**2.08**	**247**	PN	Pn	07 29 36.7	-1.2
LBZ				AML	AML	07 30 15.1	
LBZ				AML	AML	07 30 15.4	
ODZ	**Otahua Downs**	**2.14**	**227**	PN	Pn	07 29 37.2	-1.5
ODZ				AML	AML	07 30 20.0	
ODZ				AML	AML	07 30 23.2	
TUZ	**Tuapeka**	**3.29**	**223**	AML	AML	07 30 51.2	

*ISCJB **13** 07:34:08.5±0.6, 6.78N±0.04×73.01W±0.05, h161km±5km, Error ellipse: s-maj=9.4km s-min=4.1km az=38.5*
*FUNV **13** 07:34:09.8, 6.83N×73.17W, h167km, MW3.2*
*RSNC **13** 07:34:11.5±0.7, 6.77N×73.12W, h143km±5km, ML2.8*
ISC 13 07:34:07.7±1.4, 6.83N±0.04×73.08W±0.05, h168km±8km, n24, σ1°71/44, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.21**	**297**	*i* P	**Pn**	**07 34 31.3**	**+0.8**
BARC	**Barichara**	**0.25**	**203**	*i* P	**Pn**	**07 34 30.6**	**+0.1**
BARC				*eS*	**Sn**	**07 34 45.4**	**-2.7**
BARC				*i*		07 34 46.8	
	comp=Z,203nm,0.4s						
PAMC	**Pamplona, Colo**	**0.64**	**37**	*eP*	**Pn**	**07 34 33.5**	**+1.1**
PAMC				*eS*	**Sn**	**07 34 50.4**	**-0.8**
BRRC	**Barranca, Sant**	**0.69**	**294**	⇑*iP*	**Pn**	**07 34 32.5**	**+0.4**
BRRC				*eS*	**Sn**	**07 34 49.4**	**-1.3**
BRRC				*i*		07 34 55.1	
	comp=Z,124nm,0.2s						
RUSC	**La Rusia**	**0.93**	**180**	*eP*	**Pn**	**07 34 34.7**	**+0.4**
RUSC				*eS*	**Sn**	**07 34 52.8**	**-1.9**
RUSC				*i*		07 34 55.2	
	comp=Z,96nm,0.2s						
GRMC	**Gramalote, San**	**0.93**	**17**	*i* P	**Pn**	**07 34 36.5**	**+2.6**
GRMC				*eS*	**Sn**	**07 34 55.8**	**+1.8**
GRMC				*i*		07 34 57.2	
	comp=Z,88nm,0.3s						
CBRI	**Barrientos, No**	**0.93**	**18**	*i* P	**Pn**	**07 34 35.2**	**+1.3**
CBRI				*eS*	**Sn**	**07 34 53.8**	**-0.3**
CBRI				*i*		07 34 55.9	
	comp=Z,57nm,0.5s						
CAPV	**Capacho**	**1.28**	**36**	*eP*	**Pn**	**07 34 38.7**	**+1.8**
CAPV				*eS*	**Sn**	**07 34 59.8**	**+0.4**
OCAC	**Ocana**	**1.42**	**350**	*eP*	**Pn**	**07 34 39.3**	**+1.2**
OCAC				*i*		07 35 04.3	
	comp=Z,68nm,0.3s						
NORC	**Norcasia**	**2.17**	**235**	*eP*	**Pn**	**07 34 46.7**	**+0.7**
NORC				*eS*	**Sn**	**07 35 14.1**	**-1.6**
CHIC	**Chingaza**	**2.28**	**197**	*eP*	**Pn**	**07 34 49.1**	**+1.5**
CHIC				*eS*	**Sn**	**07 35 17.5**	**-0.9**
CHIC				*i*		07 35 21.7	
	comp=Z,38nm,0.6s						
VIGV	**El Vigia**	**2.63**	**40**	*eP*	**Pn**	**07 34 53.2**	**+1.9**
VIGV				*eS*	**Sn**	**07 35 24.9**	**-0.3**
SOCV	**Socops**	**2.64**	**57**	*eP*	**Pn**	**07 34 53.3**	**+1.8**
SOCV				*eS*	**Sn**	**07 35 25.5**	**+0.1**
VILC	**Villavicencio,**	**2.76**	**193**	*eP*	**Pn**	**07 34 54.5**	**+1.4**
VILC				*eS*	**Sn**	**07 35 27.0**	**-1.3**
VILC				*i*		07 35 38.4	
	comp=Z,24nm,0.6s						
DBBC	**Dabeiba**	**3.11**	**274**	*eP*	**Pn**	**07 34 59.2**	**+1.9**
PRAC	**Prado**	**3.58**	**210**	*eP*	**Pn**	**07 35 04.9**	**+1.8**
PRAC				*eS*	**Sn**	**07 35 46.1**	**-0.2**
ELOV	**Elorza**	**3.58**	**87**	*eP*	**Pn**	**07 35 04.9**	**+1.8**
ELOV				*eS*	**Sn**	**07 35 45.5**	**-0.7**
VIRV	**Villa del Rosa**	**3.71**	**10**	*eP*	**Pn**	**07 35 05.5**	**+0.6**
VIRV				*eS*	**Sn**	**07 35 47.1**	**-2.3**
SANV	**Sanarito**	**4.40**	**53**	*eP*	**Pn**	**07 35 15.7**	**+1.9**
SANV				*eS*	**Sn**	**07 36 03.7**	**-1.8**
CURV	**Curarigua**	**4.42**	**44**	*eP*	**Pn**	**07 35 15.4**	**+1.4**
CURV				*eS*	**Sn**	**07 36 03.8**	**-2.0**
TEPV	**Terepaima**	**4.95**	**51**	*eP*	**Pn**	**07 35 22.4**	**+1.4**
TEPV				*eS*	**Sn**	**07 36 15.5**	**-2.7**
BAUV	**El Baul**	**5.42**	**67**	*eP*	**Pn**	**07 35 27.3**	**+0.3**
BAUV				*eS*	**Sn**	**07 36 26.4**	**-2.6**
MAPV	**Macapo**	**5.46**	**57**	*eP*	**Pn**	**07 35 28.9**	**+1.3**
MONV	**Montecano**	**5.95**	**31**	*eP*	**Pn**	**07 35 34.6**	**+0.6**
MONV				*eS*	**Sn**	**07 36 37.2**	**-4.5**

TRN 13 07:37:47.5, 15.68N×61.44W, h7km, MD1.7, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**0.15**	**191**	*eS*	Sg	07 37 54.2	+1.4

WEL 13 07:42:24.3±0.1, 43.59S×172.79E, h8km, ML3.7/12, 2C-3D, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.12**	**277**	⇑PG	Pg	07 42 26.9	-0.1
CRLZ				SG	Sg	07 42 28.9	+0.1
CRLZ				AML	AML	07 42 28.9	
CRLZ				AML	AML	07 42 28.9	
CRLZ				AML	AML	07 42 29.0	
MQZ	**McQueen's Vall**	**0.15**	**219**	⇑PG	Pg	07 42 27.8	+0.3
MQZ				SG	Sg	07 42 30.2	+0.5
MQZ				SG		07 42 30.3	
MQZ				AML	AML	07 42 30.4	
OXZ	**Oxford**	**0.60**	**295**	⇓P*	Pg	07 42 35.7	-0.2
LTZ	**Lake Taylor**	**0.89**	**335**	P*	Pg	07 42 41.2	-0.2
LTZ				S*	Sg	07 42 53.1	+0.2
LTZ				AML	AML	07 42 54.0	
RPZ	**Rata Peaks**	**1.26**	**264**	⇓P*	Pn	07 42 46.8	-1.4
RPZ				AML	AML	07 43 32.6	
RPZ				AML	AML	07 43 38.1	
KHZ	**Kahutara**	**1.30**	**25**	⇓P*	Pn	07 42 46.9	-1.7
INZ	**Inchbonnie**	**1.31**	**311**	P*	Pn	07 42 47.7	-1.1
WVZ	**Waitaha Valley**	**1.58**	**288**	PN	Pn	07 42 51.8	-0.7
THZ	**Tophouse**	**1.83**	**3**	PN	Pn	07 42 54.4	-1.6
THZ				AML	AML	07 43 29.4	
DSZ	**Denniston Nort**	**1.98**	**338**	PN	Pn	07 42 57.4	-0.7
DSZ				AML	AML	07 43 24.9	
DSZ				AML	AML	07 43 24.9	
DSZ				AML	AML	07 43 25.5	
LBZ	**Lake Benmore**	**2.04**	**246**	PN	Pn	07 42 57.8	-1.1
LBZ				AML	AML	07 43 34.3	
LBZ				AML	AML	07 43 35.3	
ODZ	**Otahua Downs**	**2.12**	**226**	AML	AML	07 43 33.9	
ODZ				AML	AML	07 43 34.2	
FOZ	**Fox Glacier**	**2.16**	**270**	PN	Pn	07 43 00.7	+0.2
NNZ	**Nelson**	**2.41**	**11**	PN	Pn	07 43 02.8	-1.2
WKZ	**Wanaka**	**2.98**	**244**	AML	AML	07 44 02.4	
WKZ				AML	AML	07 44 03.9	
EAZ	**Earnscleugh**	**2.98**	**235**	PN	Pn	07 43 10.7	-1.1
EAZ				AML	AML	07 44 01.1	
EAZ				AML	AML	07 44 02.1	
TUZ	**Tuapeka**	**3.26**	**222**	PN	Pn	07 43 15.0	-0.7
TUZ				AML	AML	07 44 12.3	
TUZ				AML	AML	07 44 14.4	

*NIED **13** 07:42:00, 36.30N×141.10E, h38km, Mw3.8 Best double couple: M₀5.72000×10¹⁴ NP1:φ₈205.00000°, δ23.00000°, λ92.00000°. NP2:φ₈23.00000°, δ67.00000°, λ89.00000°.*

*ISCJB **13** 07:42:36.4±0.8, 36.33N±0.03×141.15E±0.07, h43km±7km, mb3.8/11, Error ellipse: s-maj=9.9km s-min=5.6km az=179.3*
*JMA **13** 07:42:37.0±0.1, 36.32N×141.05E, h47km±1km, M3.6*
JMA Felt I J1.
*IDC **13** 07:42:40.5±2.4, 36.25N×140.98E, h65km±22km, mb3.5/11, mb1 3.7/14, mb1mx3.5/43, mbtmp3.8/14, Error ellipse: s-maj=22.0km s-min=10.0km az=67.0*
ISC 13 07:42:36.6±1.5, 36.35N±0.04×141.15E±0.07, h26km±10km, n28, σ1°50/31, mb3.8/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.54**	**299**	P	**Pn**	**07 42 47.6**	**-0.9**
JHO				S	**Sb**	**07 42 55.1**	**+0.3**
CHOJ	**Chosi**	**0.69**	**200**	P	**Pn**	**07 42 49.9**	**-0.7**
CHOJ				S	**Sb**	**07 42 58.7**	**-0.4**
JYT	**Yasato**	**0.78**	**261**	P	**Pb**	**07 42 50.7**	**-0.8**
JYT				S	**Sb**	**07 43 00.0**	**-1.8**
ONAJ	**Iwakimizuishiy**	**0.80**	**339**	P	**Pn**	**07 42 51.7**	**-0.5**
ONAJ				S	**Sb**	**07 43 01.7**	**-0.7**
JFK	**Kawauchi**	**1.04**	**348**	P	**Pn**	**07 42 54.9**	**-0.5**
JFT	**Otama**	**1.33**	**331**	P	**Pb**	**07 43 00.3**	**-0.6**
JFT				S	**Sn**	**07 43 16.5**	**+0.1**
JAG	**Ashikaga**	**1.37**	**274**	P	**Pn**	**07 42 59.1**	**-0.9**
MJAR	**Matsushiro Arr**	**2.38**	**275**	P	**Pn**	**07 43 14.0**	**+0.1**
	12nm,0.3s,baz=107,slow=8.8,SNR=101						
MJAR				S	**Sn**	**07 43 42.3**	**+0.1**
	8.2nm,0.3s,baz=202,slow=30,SNR=6.1						
MAT	**Matsushiro**	**2.38**	**275**	P	**Pn**	**07 43 14.4**	**+0.5**
MAT				eS	**Sn**	**07 43 43.8**	**+1.5**
JHJ	**Hachijo jima 2**	**3.42**	**200**	P	**Pn**	**07 43 30.1**	**+2.0**
	7.7nm,0.3s,baz=105,slow=19,SNR=3.8						
JHJ				S	**Sn**	**07 44 07.2**	**-0.5**
	24nm,0.3s,baz=90,slow=20,SNR=3.5						
USRK	**Ussuriysk Ar.**	**10.50**	**321**	P	**Pn**	**07 45 09.7**	**+4.3**
	0.2nm,0.3s,baz=133,slow=12,SNR=5.2						
KSRS	**Korea Array**	**10.65**	**280**	P	**Pn**	**07 45 11.6**	**+4.2**
	0.3nm,0.3s,baz=98,slow=14,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**27.99**	**119**	T	T	08 17 52.7	
	baz=319,slow=75,SNR=13						
SONM	**Songino Array**	**28.00**	**305**	P	**P**	**07 48 24.2**	**-1.1**
	0.5nm,0.4s,baz=107,slow=8.2,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**28.01**	**119**	T	T	08 18 13.3	
	baz=315,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.68**	**121**	T	T	08 18 42.1	
	baz=314,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**28.68**	**122**	T	T	08 18 47.0	
	baz=314,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.69**	**121**	T	T	08 18 44.5	
	baz=314,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**42.22**	**313**	P	**P**	**07 50 26.6**	**-0.5**
	1.6nm,0.5s,baz=78,slow=5.9,SNR=7.3						
MKAR	**Makanchi Array**	**44.30**	**303**	P	**P**	**07 50 44.3**	**+0.2**
	0.7nm,0.6s,baz=86,slow=9.3,SNR=6.9						
ILAR	**Eielson Array**	**50.18**	**32**	P	**P**	**07 51 30.1**	**+0.5**
	0.7nm,0.7s,baz=269,slow=5.7,SNR=11						
BVAR	**Borovoye Array**	**50.88**	**313**	P	**P**	**07 51 34.2**	**-0.8**
	0.6nm,0.4s,baz=90,slow=8.9,SNR=4.2						
INK	**Inuvik**	**55.09**	**27**	P	**P**	**07 52 07.0**	**+1.2**
	0.8nm,0.6s,baz=354,slow=2.6,SNR=4.2						
WRA	**Warramunga Arr**	**56.36**	**188**	P	**P**	**07 52 14.3**	**-1.2**
	0.6nm,0.6s,baz=7.2,slow=7.7,SNR=6.4						
ASAR	**Alice Springs**	**60.09**	**188**	P	**P**	**07 52 40.6**	**-0.9**
	0.3nm,0.7s,baz=10,slow=5.8,SNR=3.5						
FINES	**FINESS Array B**	**69.32**	**332**	P	**P**	**07 53 40.9**	**-0.4**
	3.0nm,0.9s,baz=270,slow=3.8,SNR=4.1						
NOA	**NORSAR Array B**	**74.73**	**337**	P	**P**	**07 54 12.1**	**-1.7**
	0.6nm,0.6s,baz=37,slow=6.0,SNR=2.5						
GERES	**GERESS Array B**	**83.18**	**328**	P	**P**	**07 54 59.5**	**-0.9**
	0.3nm,0.6s,baz=57,slow=7.7,SNR=3.1						

WEL 13 07:42:48.9±0.2, 43.65S×172.84E, h5km±1km, ML3.7/15, 2C, Error ellipse: s-maj=1.9km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.15**	**247**	⇑PG	Pg	07 42 52.4	+0.5
MQZ				SG	Sg	07 42 54.3	+0.4
MQZ				SG		07 42 54.5	
MQZ				AML	AML	07 42 55.0	
CRLZ	**Canterbury Las**	**0.18**	**295**	⇑PG	Pg	07 42 52.3	-0.1
CRLZ				AML	AML	07 42 52.8	
CRLZ				AML	AML	07 42 53.3	
CRLZ				SG	Sg	07 42 54.7	0.0
CRLZ				AML	AML	07 42 55.9	
OXZ	**Oxford**	**0.67**	**299**	P*	Pg	07 43 01.5	-0.2
LTZ	**Lake Taylor**	**0.96**	**334**	P*	Pg	07 43 07.3	0.0
LTZ				S*	Sg	07 43 20.3	+0.5
LTZ				AML	AML	07 43 23.6	
WVZ	**Waitaha Valley**	**1.64**	**290**	AML	AML	07 43 42.2	
WVZ				AML	AML	07 43 47.0	
THZ	**Tophouse**	**1.89**	**1**	AML	AML	07 43 25.2	
THZ				AML	AML	07 43 45.5	
DSZ	**Denniston Nort**	**2.05**	**338**	AML	AML	07 43 52.4	
DSZ				AML	AML	07 43 53.6	
DSZ				AML	AML	07 43 53.6	
DSZ				AML	AML	07 43 54.0	
LBZ	**Lake Benmore**	**2.06**	**248**	AML	AML	07 43 58.8	
LBZ				AML	AML	07 44 01.8	
ODZ	**Otahua Downs**	**2.11**	**228**	AML	AML	07 43 59.1	
ODZ				AML	AML	07 43 59.4	
FOZ	**Fox Glacier**	**2.20**	**272**	AML	AML	07 43 54.3	
QRZ	**Quartz Range**	**2.83**	**355**	AML	AML	07 43 56.2	
QRZ				AML	AML	07 44 24.1	
JCZ	**Jackson Bay**	**2.97**	**260**	AML	AML	07 44 28.2	
EAZ	**Earnscleugh**	**2.99**	**237**	AML	AML	07 44 27.9	
EAZ				AML	AML	07 44 28.5	
WKZ	**Wanaka**	**2.99**	**245**	AML	AML	07 44 29.2	
TUZ	**Tuapeka**	**3.25**	**224**	AML	AML	07 44 35.3	
TUZ				AML	AML	07 44 37.0	
MRZ	**Mangatainoka R**	**3.61**	**35**	SN	Sn	07 44 24.0	-4.5

*NIED **13** 07:44:00, 35.70N×140.80E, h47km, Mw4.1 Best double couple: M₀1.42000×10¹⁵ NP1:φ₈207.00000°, δ20.00000°, λ91.00000°. NP2:φ₈26.00000°, δ70.00000°, λ90.00000°.*
*ISCJB **13** 07:44:42.5±0.6, 35.67N±0.04×140.70E±0.08, h52km±5km, mb3.7/14, MS3.0/2, Error ellipse: s-maj=11.1km s-min=6.4km az=165.7*
*JMA **13** 07:44:43.0±0.1, 35.72N×140.67E, h46km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φ₈35.00000°, δ62.00000°, λ84.00000°. NP2:φ₈227.00000°, δ28.00000°, λ101.00000°. Principal axes: T Plg72.0000°, Azm292.0000°; N Plg5.0000°, Azm37.0000°; P Plg17.0000°, Azm129.0000°;*
JMA Felt II J1.
*IDC **13** 07:44:45.1±1.9, 35.54N×140.63E, h62km±17km, mb3.5/14, mb1 3.7/18, mb1mx3.6/43, mbtmp3.8/18, MS3.0/5, Ms1 3.1/5, ms1mx2.8/30 Error ellipse: s-maj=20.2km s-min=7.8km az=68.0*
ISC 13 07:44:43.6±0.9, 35.69N±0.04×140.73E±0.07, h46km±8km, n38, σ1°25/32, mb3.8/14, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.11**	**84**	⇑P	**Pn**	**07 44 50.4**	**-0.6**
JCN	**Nagara**	**0.51**	**238**	⇑P	**Pn**	**07 44 54.5**	**-0.3**
JYT	**Yasato**	**0.69**	**321**	⇓P	**Pn**	**07 44 55.7**	**-1.4**
JYT				S	**Sn**	**07 45 04.9**	**-1.9**
BSO4	**Boso 4**	**0.77**	**205**	P	**Pn**	**07 44 57.7**	**-0.4**
BSO3	**Boso 3**	**0.91**	**191**	P	**Pn**	**07 44 59.4**	**-0.3**
JHO	**Hitachi**	**0.93**	**352**	⇓P	**Pn**	**07 44 59.4**	**-0.9**
BSO1	**Boso 1**	**1.06**	**169**	P	**Pn**	**07 45 01.6**	**+0.1**
JAG	**Ashikaga**	**1.27**	**306**	P	**Pn**	**07 45 03.6**	**-1.3**
JOD2	**Odawara 2**	**1.40**	**253**	P	**Pn**	**07 45 05.9**	**-0.9**
MJAR	**Matsushiro Arr**	**2.21**	**293**	P	**Pn**	**07 45 17.8**	**-0.1**
	25nm,0.3s,baz=100,slow=7.7,SNR=30						
MJAR				S	**Sn**	**07 45 46.1**	**+2.1**
	16nm,0.3s,baz=193,slow=23,SNR=6.2						
MJAR				LR	LR	07 46 17.3	
	comp=Z,282nm,19.0s,baz=100,slow=43						
JHJ	**Hachijo jima 2**	**2.68**	**197**	P	**Pn**	**07 45 23.4**	**-0.9**
	51nm,0.3s,baz=350,slow=17,SNR=7.4						
JHJ				S	**Sn**	**07 45 53.3**	**-2.2**
	108nm,0.3s,baz=96,slow=19,SNR=7.2						
JNU	**Nakatsue**	**8.53**	**255**	LR	LR	07 50 10.5	
	comp=Z,99nm,21.1s,baz=114,slow=39						
KSRS	**Korea Array**	**10.45**	**283**	P	**Pn**	**07 47 13.4**	**+2.7**
	0.2nm,0.3s,baz=100,slow=14,SNR=5.6						
KSRS				LR	LR	07 50 26.6	
	comp=Z,74nm,18.2s,baz=84,slow=33						
USRK	**Ussuriysk Ar.**	**10.82**	**324**	P	**Pn**	**07 47 17.9**	**+2.1**
	0.1nm,0.3s,baz=116,slow=10,SNR=2.4						
PETK	**Petropavlovsk-**	**21.12**	**29**	LR	LR	07 58 09.2	
	comp=Z,44nm,18.1s,baz=134,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.98**	**118**	T	T	08 19 54.7	
	baz=310,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.98**	**118**	T	T	08 19 51.6	
	baz=310,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**28.00**	**118**	T	T	08 19 33.5	
	baz=310,slow=75,SNR=11						
SONM	**Songino Array**	**28.10**	**306**	P	**P**	**07 50 31.3**	**+0.2**
	0.4nm,0.3s,baz=92,slow=7.9,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**28.63**	**120**	T	T	08 20 27.3	
	baz=312,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.64**	**120**	T	T	08 20 29.4	
	baz=312,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	08 20 29.1	
	baz=312,slow=75,SNR=16						
CMAR	**Chiang Mai Arr**	**40.63**	**256**	LR	LR	08 09 35.6	
	comp=Z,31nm,18.8s,baz=185,slow=37						
ZALV	**Zalesovo Beam**	**42.42**	**313**	P	**P**	**07 52 32.8**	**-0.8**
	0.8nm,0.3s,baz=107,slow=4.8,SNR=6.7						
MKAR	**Makanchi Array**	**44.38**	**303**	P	**P**	**07 52 48.6**	**-0.8**
	1.5nm,0.6s,baz=90,slow=8.7,SNR=12						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**07 53 39.9**	**0.0**
	0.6nm,0.6s,baz=272,slow=5.7,SNR=8.9						
BVAR	**Borovoye Array**	**51.07**	**313**	P	**P**	**07 53 40.5**	**-0.7**
	0.9nm,0.6s,baz=79,slow=8.0,SNR=4.6						
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**07 54 13.5**	**-1.6**
	0.8nm,0.6s,baz=2.1,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**59.39**	**187**	P	**P**	**07 54 41.2**	**-0.1**
	0.3nm,0.5s,baz=19,slow=11,SNR=7.4						
FINES	**FINESS Array B**	**69.74**	**332**	P	**P**	**07 55 47.8**	**-0.6**
	1.0nm,0.8s,baz=54,slow=7.6,SNR=3.4						
AKASG	**Malin Array Be**	**75.02**	**322**	P	**P**	**07 56 18.9**	**-1.1**
	0.9nm,0.4s,baz=49,slow=5.5,SNR=5.2						
NB2	**NORSAR Subarra**	**75.21**	**337**	P	**P**	**07 56 20.3**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=39,slow=5.9						
NOA	**NORSAR Array B**	**75.21**	**337**	P	**P**	**07 56 19.9**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=39,slow=5.7,SNR=3.9						
NVAR	**Mina Array Bea**	**76.24**	**53**	P	**P**	**07 56 28.8**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=285,slow=7.2,SNR=3.5						
PDAR	**Pinedale Array**	**79.00**	**45**	P	**P**	**07 56 44.1**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=284,slow=3.6,SNR=2.5						
BRTR	**Keskin Array B**	**79.32**	**311**	P	**P**	**07 56 45.8**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=22,slow=5.9,SNR=3.2						
TXAR	**Lajitas Array**	**91.38**	**52**	P	**P**	**07 57 45.8**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=3.4						
LPAZ	**La Paz**	**147.84**	**61**	PKPbc	**PKPbc**	**08 04 25.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=31,slow=5.9,SNR=4.3						

*IDC **13** 07:51:06.3±1.0, 36.82N×142.27E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.6/32, mbtmp3.5/8, ML3.4/2, Error ellipse: s-maj=24.2km s-min=22.4km az=177.0*
*ISCJB **13** 07:51:07.4±0.8, 36.87N±0.06×142.18E±0.08, h19km, mb3.5/6, Error ellipse: s-maj=9.2km s-min=8.2km az=152.5*
*JMA **13** 07:51:09.9±0.5, 36.88N×141.89E, h22km±4km, M3.4*
ISC 13 07:51:09.7±1.0, 36.89N±0.09×141.99E±0.07, h19km, n22, σ1°40/20, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.97**	**283**	P	**Pb**	**07 51 26.7**	**-1.3**
JFK	**Kawauchi**	**1.01**	**298**	P	**Pb**	**07 51 27.4**	**-1.1**
JMM	**Marumori**	**1.36**	**316**	P	**Pn**	**07 51 32.7**	**-0.9**
JFT	**Otama**	**1.46**	**296**	P	**Pn**	**07 51 34.6**	**-0.4**
JIO	**Ouri**	**1.64**	**342**	P	**Pn**	**07 51 38.2**	**+0.7**
JIO				eS	**Sn**	**07 51 58.2**	**+0.2**
JOU	**Okura**	**1.81**	**325**	P	**Pn**	**07 51 40.3**	**+0.5**
JOU				eS	**Sn**	**07 52 02.4**	**+0.2**
JFY	**Yanaizu**	**1.90**	**286**	P	**Pn**	**07 51 41.7**	**+0.7**
MJAR	**Matsushiro Arr**	**3.06**	**265**	Pn	**Pn**	**07 51 57.7**	**+0.7**
	7.1nm,0.3s,baz=89,slow=15,SNR=63						
MJAR				Sn	**Sb**	**07 52 40.0**	**-0.4**
	2.2nm,0.3s,baz=91,slow=30,SNR=5.2						
MAT	**Matsushiro**	**3.06**	**265**	P	**Pn**	**07 51 57.7**	**+0.7**
MAT				eS	**Sb**	**07 52 38.4**	**-2.0**
KSRS	**Korea Array**	**11.24**	**277**	Pn	**Pn**	**07 53 53.1**	**+3.9**
	0.1nm,0.3s,baz=91,slow=15,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**27.68**	**121**	T	T	08 26 02.3	
	baz=314,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**27.69**	**121**	T	T	08 25 59.5	
	baz=314,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**27.70**	**121**	T	T	08 26 04.8	
	baz=314,slow=75,SNR=14						
SONM	**Songino Array**	**28.25**	**304**	P	**P**	**07 57 02.5**	**+0.9**
	0.4nm,0.4s,baz=99,slow=7.6,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**28.40**	**123**	T	T	08 26 54.9	
	baz=316,slow=76,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	08 26 52.2	
	baz=316,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**28.41**	**123**	T	T	08 26 53.4	

0.2nm,0.3s,baz=99,slow=15,SNR=5.4
KSRS LR LR 08 08 06.4
comp=Z,112nm,19.3s,baz=72,slow=36
USRK Ussuriysk Ar. 10.84 324 P **Pn** **08 04 20.0 +1.4**
0.1nm,0.3s,baz=133,slow=12,SNR=3.3
USRK LR LR 08 08 01.6
comp=Z,77nm,18.5s,baz=139,slow=34
KLR Kul'dur 15.06 337 LR LR 08 10 45.4
comp=Z,72nm,20.1s,baz=115,slow=36
H11N2 WAKE ISLAND Hy 27.93 118 T T 08 36 48.1
baz=311,slow=75,SNR=18
H11N1 WAKE ISLAND Hy 27.94 118 T T 08 36 36.4
baz=311,slow=75,SNR=13
H11N3 WAKE ISLAND Hy 27.95 118 T T 08 36 50.3
baz=311,slow=75,SNR=15
SONM Songino Array 28.14 306 P **P** **08 07 34.6 +0.9**
0.4nm,0.4s,baz=116,slow=9.9,SNR=3.0
H11S1 WAKE ISLAND Hy 28.59 120 T T 08 37 34.3
baz=312,slow=75,SNR=14
H11S3 WAKE ISLAND Hy 28.59 120 T T 08 37 29.7
baz=312,slow=75,SNR=22
H11S2 WAKE ISLAND Hy 28.61 120 T T 08 37 29.8
baz=312,slow=75,SNR=17
CMAR Chiang Mai Arr 40.68 256 LR LR 08 26 13.6
comp=Z,25nm,18.5s,baz=250,slow=36
ZALV Zalesovo Beam 42.45 313 P **P** **08 09 35.4 -0.6**
0.7nm,0.3s,baz=83,slow=5.6,SNR=5.1
MKAR Makanchi Array 44.41 303 P **P** **08 09 51.3 -0.7**
1.3nm,0.7s,baz=87,slow=9.4,SNR=11
ILAR Eielson Array 50.89 32 P **P** **08 10 41.9 +0.1**
0.6nm,0.7s,baz=269,slow=6.0,SNR=10
WRA Warramunga Arr 55.67 187 P **P** **08 11 16.1 -1.3**
0.9nm,0.8s,baz=1.5,slow=7.4,SNR=10.0
ASAR Alice Springs 59.40 187 P **P** **08 11 43.8 +0.2**
0.3nm,0.6s,baz=13,slow=8.9,SNR=4.4
NOA NORSAR Array B 75.22 337 P **P** **08 13 22.7 -0.6**
0.6nm,0.7s,baz=39,slow=5.7,SNR=3.9
NVAR Mina Array Bea 76.19 53 P **P** **08 13 31.0 +1.4**
0.3nm,0.7s,baz=301,slow=7.3,SNR=3.0

MAN 13 08:16:52,16°.91N×122°.68E,h1km,mb4.5,ML3.4,MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.82**	**273**	*eP*	Pg	08 17 08.2	+0.5
CAUP				*eS*	Sb	08 17 20.2	-0.5
SGCP	**Mt. Cagua**	**1.46**	**336**	*eP*	Pn	08 17 19.4	-0.1
APYP	**Conner**	**1.67**	**305**	*eP*	Pn	08 17 22.1	-0.3
APYP				*eS*	Sg	08 17 45.9	+0.2
BOLP	**Bolinao**	**2.70**	**259**	*eP*	Pn	08 17 38.0	+1.4

IDC ***13*** *08:20:54.4±1.4,35°.65N×141°.00E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.2/45,mbtmp3.2/4,ML3.1/1,MS2.3/1, Ms1 2.3/1,ms1mx2.0/30,Error ellipse: s-maj=33.4km s-min=26.9km az=26.0*
ISCJB ***13*** *08:21:00.1±0.9,35°.75N±0°.05×140°.92E±0°.09,h56km±8km, mb3.3/3,Error ellipse: s-maj=13.0km s-min=8.2km az=157.9*
JMA ***13*** *08:21:01.5±0.1,35°.73N×140°.68E,h48km±1km,M2.8*
ISC 13 08:21:01.4±1.1,35°.75N±0°.05×140°.84E±0°.08,h49km±9km, n12,σ1s26/16,mb3.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**166**	P	**Pn**	**08 21 09.2**	**+0.2**
JCN	**Nagara**	**0.62**	**238**	P	**Pn**	**08 21 13.4**	**-0.6**
JCN				S	**Sn**	**08 21 22.5**	**-0.7**
JYT	**Yasato**	**0.71**	**312**	P	**Pn**	**08 21 14.4**	**-0.8**
JYT				S	**Sn**	**08 21 24.0**	**-1.3**
JHO	**Hitachi**	**0.89**	**346**	P	**Pn**	**08 21 18.1**	**+0.5**
BSO3	**Boso 3**	**0.98**	**196**	P	**Pn**	**08 21 18.5**	**-0.1**
BSO3				*eS*	**Sn**	**08 21 33.1**	**+1.8**
JAG	**Ashikaga**	**1.31**	**301**	P	**Pn**	**08 21 22.4**	**-0.9**
MJAR	**Matsushiro Arr**	**2.27**	**291**	Pn	**Pn**	**08 21 36.7**	**+0.2**
	4.5nm,0.3s,baz=97,slow=15,SNR=35						
MJAR				Sn	**Sn**	**08 22 05.7**	**+2.4**
	3.8nm,0.3s,baz=95,slow=14,SNR=6.0						
MAT	**Matsushiro**	**2.28**	**291**	P	**Pn**	**08 21 37.0**	**+0.5**
MAT				*eS*	**Sn**	**08 22 05.6**	**+2.2**
JNU	**Nakatsue**	**8.64**	**255**	LR	LR	08 25 38.5	
	comp=Z,19nm,21.5s,baz=303,slow=32						
MKAR	**Makanchi Array**	**44.42**	**303**	P	**P**	**08 29 07.2**	**0.0**
	0.2nm,0.4s,baz=81,slow=8.9,SNR=2.7						
ILAR	**Eielson Array**	**50.83**	**32**	P	**P**	**08 29 56.5**	**-0.1**
	0.2nm,0.8s,baz=270,slow=5.4,SNR=3.9						
WRA	**Warramunga Arr**	**55.73**	**187**	P	**P**	**08 30 32.2**	**-0.8**
	0.3nm,0.5s,baz=0.6,slow=7.4,SNR=4.8						

IDC 13 08:22:26.7±8.4,6°.02S×147°.95E,h75km±54km,mb3.5/3, mb1 3.7/5,mb1mx3.3/37,mbtmp3.9/5,ML4.1/1,Error ellipse: s-maj=70.9km s-min=50.1km az=63.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.46**	**193**	P	Pn	08 23 18.3	0.0
	8.9nm,0.3s,baz=321,slow=3.5,SNR=21						
PMG				S	Sn	08 23 58.7	+0.6
	22nm,0.3s,baz=173,slow=20,SNR=13						
WRA	**Warramunga Arr**	**19.15**	**222**	P	P	08 26 44.5	+0.3
	0.7nm,0.3s,baz=48,slow=11,SNR=50						
ASAR	**Alice Springs**	**22.15**	**216**	P	P	08 27 16.1	-0.5
	1.0nm,0.6s,baz=49,slow=8.8,SNR=14						
FITZ	**Fitzroy Crossi**	**24.87**	**239**	P	P	08 27 42.5	0.0
	3.5nm,0.8s,baz=61,slow=12,SNR=6.6						
STKA	**Stephens Creek**	**26.41**	**192**	P	P	08 27 56.5	+0.2
	0.8nm,0.5s,baz=22,slow=12,SNR=2.8						

NEIC ***13*** *08:28:25.2,43°.59S×172°.81E,h9km,ML4.0(WEL),After WEL.*
NEIC Felt in Canterbury.
WEL 13 08:28:25.7±0.1,43°.59S×172°.78E,h7km,ML4.0/18,4C-6D, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.12**	**278**	⇓PG	Pg	08 28 28.3	0.0
CRLZ				SG	Sg	08 28 29.9	-0.1
CRLZ				SG		08 28 30.1	
CRLZ				AML	AML	08 28 30.3	
CRLZ				AML	AML	08 28 30.4	
MQZ	**McQueen's Vall**	**0.15**	**219**	⇑PG	Pg	08 28 29.0	+0.2
MQZ				SG	Sg	08 28 31.3	+0.4
MQZ				SG		08 28 31.3	
MQZ	**McQueen's Vall**	**0.15**	**219**	Pg	Pg	08 28 28.9	+0.1
MQZ				Sg	Sg	08 28 31.4	+0.5
OXZ	**Oxford**	**0.60**	**296**	⇓P*	Pg	08 28 37.3	0.0
OXZ				S*	Sg	08 28 45.6	+0.5
OXZ	**Oxford**	**0.60**	**296**	⇓P*	Pg	08 28 37.3	0.0
LTZ	**Lake Taylor**	**0.89**	**335**	P*	Pg	08 28 42.9	+0.1
LTZ				S*	Sg	08 28 54.1	-0.3
LTZ				AML	AML	08 28 55.9	
LTZ	**Lake Taylor**	**0.89**	**335**	P*	Pg	08 28 42.7	-0.1
RPZ	**Rata Peaks**	**1.26**	**264**	⇑P*	Pn	08 28 48.2	-1.5
RPZ				S*	Sb	08 29 04.6	-1.6
RPZ				AML	AML	08 29 07.6	
RPZ	**Rata Peaks**	**1.26**	**264**	P*	Pn	08 28 48.2	-1.4
KHZ	**Kahutara**	**1.30**	**26**	⇑P*	Pn	08 28 48.7	-1.5
KHZ				S*	Sb	08 29 03.5	-3.7
KHZ	**Kahutara**	**1.30**	**26**	P*	Pn	08 28 48.7	-1.5
INZ	**Inchbonnie**	**1.31**	**311**	P*	Pn	08 28 49.1	-1.2
INZ				S*	Sn	08 29 08.2	+0.3
WVZ	**Waitaha Valley**	**1.58**	**288**	⇓PN	Pn	08 28 53.5	-0.5
WVZ				SN	Sn	08 29 13.4	-1.2
WVZ				AML	AML	08 29 26.3	
WVZ	**Waitaha Valley**	**1.58**	**288**	Pn	Pn	08 28 53.5	-0.5
THZ	**Tophouse**	**1.83**	**3**	PN	Pn	08 28 56.1	-1.5
THZ				SN	Sb	08 29 23.2	+0.6
THZ				AML	AML	08 29 34.2	
THZ	**Tophouse**	**1.83**	**3**	Pn	Pn	08 28 56.1	-1.5
DSZ	**Denniston Nort**	**1.98**	**338**	⇑PN	Pn	08 28 59.2	-0.5
DSZ				SN	Sb	08 28 25.8	-1.1
DSZ				AML	AML	08 29 29.0	
DSZ	**Denniston Nort**	**1.98**	**338**	Pn	Pn	08 28 59.2	-0.5
LBZ	**Lake Benmore**	**2.04**	**246**	PN	Pn	08 28 59.5	-0.8
LBZ				SN	Sg	08 29 33.5	+2.4
LBZ				AML	AML	08 29 38.1	
LBZ	**Lake Benmore**	**2.04**	**246**	Pn	Pn	08 28 59.5	-0.8
ODZ	**Otahua Downs**	**2.11**	**226**	*e*Pn	Pn	08 29 02.0	+0.6
ODZ				*e*Sn	Sn	08 29 27.5	-0.4
FOZ	**Fox Glacier**	**2.16**	**271**	PN	Pn	08 29 02.3	+0.4
FOZ				SN	Sn	08 29 28.1	-0.8
FOZ				AML	AML	08 29 42.7	
FOZ	**Fox Glacier**	**2.16**	**271**	Pn	Pn	08 29 02.4	+0.4
NNZ	**Nelson**	**2.41**	**11**	⇓PN	Pn	08 29 04.7	-0.8
NNZ				SN	Sn	08 29 33.9	-1.4
NNZ	**Nelson**	**2.41**	**11**	Pn	Pn	08 29 04.7	-0.8
TCW	**Tory Channel**	**2.62**	**25**	SN	Sn	08 29 38.3	-2.1
QRZ	**Quartz Range**	**2.77**	**356**	PN	Pn	08 29 09.9	-0.5
QRZ				AML	AML	08 30 00.6	
QRZ				AML	AML	08 30 02.1	
QRZ	**Quartz Range**	**2.77**	**356**	Pn	Pn	08 29 09.9	-0.5
JCZ	**Jackson Bay**	**2.93**	**259**	PN	Pn	08 29 11.9	-0.8
JCZ				AML	AML	08 30 04.6	
JCZ				AML	AML	08 30 06.4	
JCZ	**Jackson Bay**	**2.93**	**259**	Pn	Pn	08 29 11.9	-0.8
WKZ	**Wanaka**	**2.98**	**244**	PN	Pn	08 29 12.5	-0.8
WKZ				AML	AML	08 30 05.2	
WKZ				AML	AML	08 30 06.0	
WKZ	**Wanaka**	**2.98**	**244**	Pn	Pn	08 29 12.5	-0.8
EAZ	**Earnscleugh**	**2.98**	**235**	⇓PN	Pn	08 29 12.1	-1.2
EAZ				AML	AML	08 30 04.9	
EAZ				AML	AML	08 30 05.0	
EAZ	**Earnscleugh**	**2.98**	**235**	Pn	Pn	08 29 12.1	-1.2
CAW	**Cannon Point**	**3.00**	**35**	AML	AML	08 29 50.5	
CAW				AML	AML	08 29 51.0	
TUZ	**Tuapeka**	**3.26**	**222**	*e*Pn	Pn	08 29 15.7	-1.4
TUZ				AML	AML	08 30 13.5	
TUZ				AML	AML	08 30 19.9	
TUZ	**Tuapeka**	**3.26**	**222**	Pn	Pn	08 29 16.3	-0.8
MSZ	**Milford Sound**	**3.66**	**251**	AML	AML	08 30 25.5	
MSZ				AML	AML	08 30 27.0	
MLZ	**Mavora Lakes**	**3.78**	**240**	AML	AML	08 30 29.6	
MLZ				AML	AML	08 30 30.0	
SYZ	**Scrubby Hill**	**3.92**	**220**	AML	AML	08 30 32.8	
SYZ				AML	AML	08 30 36.3	
WHZ	**Wether Hill Ro**	**4.14**	**235**	AML	AML	08 30 44.4	

ISCJB ***13*** *08:40:15.3±0.5,50°.27N±0°.04×18°.73E±0°.03,h0km,Error ellipse: s-maj=5.2km s-min=2.7km az=1.1*
IPEC ***13*** *08:40:15.8±0.2,50°.30N×18°.79E,h0km,ML1.5/3,Error ellipse: s-maj=2.3km s-min=1.1km az=166.0*
CSEM ***13*** *08:40:15.6±0.2,50°.29N×18°.77E,h2km,ML2.7/5,Error ellipse: s-maj=5.6km s-min=2.9km az=3.0*
PRU ***13*** *08:40:16.8,50°.26N×18°.75E,h0km*
WAR ***13*** *08:40:16.3,50°.26N×18°.82E,h1km,Mw2.5*
ISC 13 08:40:15.7±0.8,50°.21N±0°.04×18°.76E±0°.02,h0km,n24, σ0s64/45,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.17**	**63**	*e*Pg	**Pg**	**08 40 18.2**	**-0.8**
CHZP				*e*Sg	**Sg**	**08 40 20.6**	**-0.6**
CHZP	**Chorzow**	**0.17**	**63**	*e*Pg	**Pg**	**08 40 18.2**	**-0.8**
CHZP				*e*Sg	**Sg**	**08 40 20.6**	**-0.6**
OKC	**Ostrava-Krasne**	**0.54**	**226**	*e*PG	**Pb**	**08 40 28.4**	**+0.3**
OKC				*e*SG	**Sb**	**08 40 36.9**	**+0.4**
OKC	**Ostrava-Krasne**	**0.54**	**226**	Sg	**Sb**	**08 40 36.9**	**+0.4**
OJC	**Ojcow**	**0.67**	**89**	*e*Pg	**Pg**	**08 40 28.3**	**-0.3**
OJC				*e*Sg	**Sg**	**08 40 38.0**	**+0.8**
OJC	**Ojcow**	**0.67**	**89**	*e*Pg	**Pg**	**08 40 28.3**	**-0.3**
OJC				*e*Sg	**Sg**	**08 40 38.0**	**+0.8**
OJC	**Ojcow**	**0.67**	**89**	*e*Pg	**Pg**	**08 40 28.3**	**-0.2**
OJC				*e*Sg	**Sg**	**08 40 38.0**	**+0.8**
MORC	**Moravsky Berou**	**0.90**	**241**	*e*Pg	**Pb**	**08 40 34.1**	**-0.1**
MORC				*e*Sg	**Sb**	**08 40 45.9**	**-0.8**
	8.3nm,0.2s						
LANS	**Liptovska Anna**	**1.16**	**156**	*e*Pg	**Pn**	**08 40 39.2**	**0.0**
LANS				*e*Sg	**Sn**	**08 40 55.7**	**-0.1**
LANS	**Liptovska Anna**	**1.16**	**156**	*e*PG	**Pn**	**08 40 39.2**	**0.0**
LANS				*e*SG	**Sn**	**08 40 55.7**	**-0.1**
NIE	**Niedzica**	**1.28**	**128**	*e*Pg	**Pb**	**08 40 40.8**	**+0.1**
NIE				*e*Sg	**Sn**	**08 40 59.5**	**+0.8**
NIE	**Niedzica**	**1.28**	**128**	*e*Pg	**Pn**	**08 40 40.8**	**-0.1**
NIE				*e*Sg	**Sn**	**08 40 59.5**	**+0.8**
DPC	**Dobruska-Polom**	**1.57**	**276**	*e*PG	**Pn**	**08 40 44.7**	**-0.1**
DPC				*e*SG	**Sg**	**08 41 06.6**	**+0.6**
	6.5nm,0.3s						
DPC	**Dobruska-Polom**	**1.57**	**276**	Pg	**Pn**	**08 40 44.7**	**-0.1**
DPC				Sg	**Sg**	**08 41 06.6**	**+0.6**
	6.5nm,0.3s						
VRAC	**Vranov**	**1.67**	**238**	*e*Pn	**Pb**	**08 40 47.2**	**-0.1**
VRAC				*e*Sg	**Sg**	**08 41 10.1**	**+0.8**
	7.8nm,0.3s						
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pb**	**08 40 47.9**	**+0.2**
KSP				*e*Sg	**Sg**	**08 41 11.2**	**+1.1**
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pb**	**08 40 47.9**	**+0.2**
KSP				*e*Sg	**Sg**	**08 41 11.2**	**+1.1**
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pb**	**08 40 47.9**	**+0.2**
KSP				*e*Sg	**Sg**	**08 41 11.2**	**+1.1**
VYHS	**Vyhne**	**1.72**	**178**	*e*Pn	**Pn**	**08 40 47.1**	**+0.2**
VYHS				*e*Sn	**Sn**	**08 41 09.7**	**+0.1**
VYHS	**Vyhne**	**1.72**	**178**	*e*PN	**Pn**	**08 40 47.1**	**+0.2**
VYHS				*e*SN	**Sn**	**08 41 09.7**	**+0.1**
STHS	**Stebnicka Huta**	**1.80**	**115**	*e*PN	**Pg**	**08 40 49.9**	**-0.3**
STHS				*e*SN	**Sg**	**08 41 13.7**	**+0.2**
STHS				eLg	Lg	08 41 21.1	
KRUC	**Moravsky**	**1.92**	**234**	*e*Pn	**Pb**	**08 40 50.8**	**-0.8**
KRUC				*e*Sg	**Sg**	**08 41 17.9**	**+0.6**
	1.8nm,0.2s						
KHC	**Kasperske Hory**	**3.53**	**254**	*e*SG	**Sg**	**08 42 07.7**	**-1.4**
	2.7nm,0.4s						
KHC	**Kasperske Hory**	**3.53**	**254**	Sg	**Sg**	**08 42 07.7**	**-1.4**
	2.7nm,0.4s						

BJI ***13*** *08:40:13.7,0°.75S×120°.03E,h8km,mb4.7/25,mB4.8/17, Ms4.5/6,Ms7 4.3/4*
DJA ***13*** *08:40:18.5±0.4,0°.3±3°×12°.0E±°,h10km,M5.1/10,mB5.4/1, mb5.4/1,MLv5.0/10,Mw(mB)4.8/1*
ISCJB ***13*** *08:40:21.7±0.2,0°.30S±0°.03×119°.98E±0°.04,h45km, mb4.4/29,MS3.7/23,Error ellipse: s-maj=6.1km s-min=4.3km az=154.3*
IDC ***13*** *08:40:21.5±7.1,0°.21S×120°.07E,h33km±56km,mb4.1/15, mb1 4.2/17,mb1mx4.0/42,mbtmp4.3/17,ML4.3/2,MS3.6/25, Ms1 3.6/25,ms1mx3.5/49,Error ellipse: s-maj=29.7km s-min=12.6km az=79.0*
NEIC ***13*** *08:40:22.6±1.1,0°.25S×120°.01E,h38km±11km,mb4.5/13, Error ellipse: s-maj=15.6km s-min=6.2km az=68.0*
ISC 13 08:40:24.0±0.4,0°.28S±0°.04×119°.99E±0°.05,h45km,n89, σ2s03/89,mb4.4/29,MS3.7/23,2C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.64**	**194**	P	Pn	08 40 30.6	-6.2
MRSI	**Marisa**	**2.09**	**69**	P	**Pn**	**08 40 55.0**	**-1.5**
MRSI				S	**Sn**	**08 41 20.6**	**-0.7**
TTSI	**Tana Toraja**	**2.75**	**184**	P	**Pn**	**08 41 04.9**	**-0.8**
TTSI				S	**Sn**	**08 41 42.1**	**+4.3**
LUWI	**Luwuk**	**2.88**	**105**	P	**Pn**	**08 41 07.1**	**-0.3**
LUWI				S	**Sn**	**08 41 44.7**	**+3.8**
LUWI	**Luwuk**	**2.88**	**105**	*e*Pn	**Pn**	**08 41 07.2**	**-0.2**
LUWI				*e*Sn	**Sn**	**08 41 35.9**	**-5.0**
GTOI	**Gorontalo**	**3.15**	**73**	P	**Pn**	**08 41 10.3**	**-0.8**
BKB	**Balikpapan**	**3.25**	**252**	S	**Sn**	**08 41 45.1**	**-4.8**
SPSI	**Sidrap Palu**	**3.67**	**183**	P	**Pn**	**08 41 16.8**	**-1.5**
KMSI	**Cibinong**	**4.08**	**78**	P	**Pn**	**08 41 25.8**	**+1.9**
KDI	**Kendari**	**4.50**	**144**	P	**Pn**	**08 41 28.8**	**-0.9**
KAPI	**Kappang**	**4.71**	**183**	Pn	**Pn**	**08 41 31.5**	**-1.1**
	27nm,0.3s,baz=332,slow=7.9,SNR=58						
KAPI				Sn	**Sn**	**08 42 31.9**	**+5.9**
	12nm,0.3s,baz=162,slow=20,SNR=4.2						
KAPI	**Kappang**	**4.71**	**183**	*e*Pn	**Pn**	**08 41 31.2**	**-1.4**
KAPI				*e*Sn	**Sn**	**08 42 24.1**	**-1.9**
MYLDM	**Lahad Datu**	**5.62**	**345**	*e*Pn	**Pn**	**08 41 42.8**	**-2.3**
DAV	**Davao City (W)**	**9.18**	**37**	LR	LR	08 46 33.2	
	comp=Z,664nm,19.9s,baz=205,slow=41						
FITZ	**Fitzroy Crossi**	**18.56**	**163**	P	**Pn**	**08 44 37.4**	**-0.4**
	0.4nm,0.3s,baz=345,slow=9.1,SNR=10.0						
FITZ				LR	LR	08 53 44.9	
	comp=Z,211nm,19.5s,baz=332,slow=43						
QIZ	**Qiongzhong**	**21.62**	**333**	P	**P**	**08 45 11.3**	**+0.9**
QIZ				S	Sn	08 49 14.3	-3.8

PANO Nakornpanom 23.01 320 P **P** **08 45 24.1 -1.1**
14nm,1.1s,945nm
WRAB Tennant Creek 24.07 145 *e*P **P** **08 45 34.3 -1.1**
18nm,1.0s
WR1 Warramunga Arr 24.07 145 *e*P **P** **08 45 33.4 -1.9**
20nm,1.0s
WRA Warramunga Arr 24.07 145 P **P** **08 45 33.4 -1.9**
11nm,0.8s,baz=327,slow=10,SNR=39
WB2 Warramunga Arr 24.08 145 *e*P **P** **08 45 34.4 -1.0**
21nm,1.0s
PBKT Sadao Pong 25.14 313 P **P** **08 45 46.3 +1.2**
11nm,1.5s
LOEI Loei 25.54 315 P **P** **08 45 47.4 -1.4**
7.4nm,1.0s,733nm
ASAR Alice Springs 26.89 151 P **P** **08 45 59.3 -1.6**
2.4nm,0.8s,baz=328,slow=9.0,SNR=20
ASAR LR LR 08 57 37.2
comp=Z,271nm,20.5s,baz=334,slow=38
CMAR Chiang Mai Arr 27.83 313 LR LR 08 58 43.2
comp=Z,124nm,19.1s,baz=125,slow=40
GUMO Guam 28.24 60 LR LR 08 56 58.0
comp=Z,79nm,19.4s,baz=244,slow=35
GYA Guiyang 29.52 335 *e*P **P** **08 46 25.6 +1.1**
GYA PMZ
10.0nm,0.8s
WHN Wuhan 31.12 351 ⇑P **P** **08 46 37.9 -0.4**
NJ2 Nanjing 32.17 358 *e*P **P** **08 46 47.6 0.0**
NJ2 PMZ
19nm,0.7s
NWAO Narrogin (SRO) 32.58 184 LR LR 09 00 36.8
comp=Z,141nm,19.7s,baz=284,slow=37
CD2 Chengdu 34.64 335 *e*P **P** **08 47 09.5 +0.3**
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
120nm,5.4s
STKA Stephens Creek 37.48 149 P **P** **08 47 32.7 -0.8**
5.4nm,0.8s,baz=327,slow=9.0,SNR=11
STKA LR LR 09 04 09.9
comp=Z,138nm,18.8s,baz=352,slow=38
STKA Stephens Creek 37.48 149 *e*P **P** **08 47 33.1 -0.3**
1.2nm,0.8s
KSAR Wonju Array Be 38.23 10 P **P** **08 47 38.2 -1.5**
KSRS Korea Array 38.25 10 P **P** **08 47 38.2 -1.6**
1.8nm,0.7s,baz=192,slow=9.6,SNR=12
KSRS LR LR 09 04 45.0
comp=Z,73nm,19.3s,baz=192,slow=38
LZH Lanzhou 39.17 339 *e*P **P** **08 47 49.6 +1.8**
LZH pP pP 08 47 54.3 -5.8
LZH sP sP 08 47 57.0 -8.4
LZH PP **PnPn** **08 49 20.1 -1.2**
LZH *e*S **S** **08 53 51.4 +6.4**
LZH sS sS 08 54 00.0 -5.4
LZH SS **SS** **08 56 34.0 -5.4**
LZH PMZ
30nm,1.2s
LZH PMZ
160nm,4.6s
BJI Beijing 40.28 355 P **P** **08 47 58.8 +2.1**
BJI PMZ
11nm,1.3s
BJI PMZ
46nm,3.5s
MJAR Matsushiro Arr 40.35 23 P **P** **08 47 55.0 -2.4**
5.5nm,0.9s,baz=199,slow=8.5,SNR=10
MJAR LR LR 09 04 20.3
comp=Z,76nm,21.2s,baz=205,slow=36
HHC Hu-ho-hao-te 41.65 350 *e*P **P** **08 48 09.8 +1.7**
HHC S S 08 54 31.0 +9.4
HHC SS **SS** **08 57 30.0 +1.7**
HHC PMZ
27nm,1.0s
HHC PMZ
110nm,4.8s
HHC LN
140nm,16.2s
HHC LE
190nm,13.7s
GUN Gumba 43.08 313 *e*P **P** **08 48 20.5 +0.2**
41nm,0.9s
PKIN Phulchoki 43.24 313 *e*P **P** **08 48 22.0 +0.5**
GTA Gaotai 43.60 337 *e*P **P** **08 48 23.5 -0.6**
GTA pP pP 08 48 28.0 -8.4
GTA sP sP 08 48 30.5 -11
GTA S **S** **08 54 52.8 +2.2**
GTA PMZ
6.0nm,1.0s
GTA PMZ
61nm,4.5s
GTA LN
66nm,17.1s
GTA LE
100nm,18.1s
GTA LZ
120nm,17.6s
GKN Gorkha 44.03 313 *e*P **P** **08 48 27.6 -0.2**
15nm,0.7s
KOLN Koldanda 44.68 312 *e*P **P** **08 48 33.6 +0.6**
10nm,0.7s
PYUN Piuthan 45.31 312 *e*P **P** **08 48 37.1 -0.9**
35nm,0.9s
MDJ Mudanjiang 45.51 10 P **P** **08 48 37.4 -1.6**
MDJ PMZ
7.0nm,0.5s
MDJ PMZ
42nm,6.4s
USRK Ussuriysk Ar. 45.56 12 P **P** **08 48 38.1 -1.3**
1.0nm,0.5s,baz=200,slow=7.7,SNR=4.1
ULN Ulaanbaatar 49.26 349 *e*P **P** **08 49 09.2 +0.9**
4.6nm,0.7s
SONA0 Songino Array 49.36 348 *e*P **P** **08 49 07.5 -1.6**
3.0nm,0.9s
SONM Songino Array 49.36 348 P **P** **08 49 07.5 -1.6**
1.7nm,0.7s,baz=174,slow=5.8,SNR=7.8
SONM LR LR 09 12 18.1
comp=Z,69nm,19.6s,baz=152,slow=39
SONA1 Songino Array 49.37 348 *e*P **P** **08 49 08.0 -1.2**
WMQ Urumqi 52.52 331 P **P** **08 49 33.6 +0.8**
WMQ pP pP 08 49 38.6 -6.8
WMQ sP sP 08 49 42.3 -8.4
WMQ PMZ
4.0nm,0.8s
WMQ PMZ
64nm,3.6s
KSH Kashi 56.41 320 P **P** **08 50 03.3 +2.0**
KSH pP pP 08 50 07.8 -6.2
KSH PcP **PcP** **08 51 00.0 +2.1**
KSH PP **PP** **08 52 09.1 +1.8**
KSH S **S** **08 57 53.1 +4.0**
KSH ScS **ScS** **08 59 47.9 +0.8**
KSH SS **SS** **09 01 40.9 +4.0**
KSH PMZ
2.0nm,0.1s
KSH PMZ
84nm,4.1s
KSH LN
140nm,5.4s
KSH LE
99nm,6.7s
MK01 Makanchi Array 57.29 330 *e*P **P** **08 50 06.2 -1.0**
MK31 Makanchi Array 57.31 330 *e*P **P** **08 50 06.4 -1.0**
MK32 Makanchi Array 57.31 330 *e*P **P** **08 50 05.7 -1.6**
MKAR Makanchi Array 57.31 330 P **P** **08 50 05.7 -1.6**
1.8nm,0.5s,baz=132,slow=8.5,SNR=20
MKAR LR LR 09 16 18.6
comp=Z,66nm,21.2s,baz=124,slow=38
MKAR Makanchi Array 57.31 330 *e*P **P** **08 50 06.4 -1.0**
MAKZ Makanchi 57.48 330 *e*P **P** **08 50 10.2 +1.7**
4.7nm,0.9s
TKM2 Tokmak 2 58.56 323 *e*P **P** **08 50 16.5 +0.1**
16nm,1.7s
ZAA0 Zalesovo Array 61.36 337 *e*P **P** **08 50 35.5 +0.4**
ZALV Zalesovo Beam 61.36 337 P **P** **08 50 33.0 -2.1**
2.8nm,0.7s,baz=123,slow=5.3,SNR=9.3
ZALV LR LR 09 19 49.4
comp=Z,38nm,19.2s,baz=68,slow=39
ZAA1 Zalesovo Array 61.36 337 *e*P **P** **08 50 33.0 -2.2**
KURBB Kurchatov Arra 61.73 331 P **P** **08 50 35.0 -2.7**
2.9nm,0.9s,baz=139,slow=6.5,SNR=5.9
KURK Kurchatov 61.75 332 *e*P **P** **08 50 37.0 -0.8**
PETK Petropavlovsk- 61.76 25 LR LR 09 16 22.6
comp=Z,37nm,21.5s,baz=242,slow=35
OXZ Oxford 63.12 140 *e*P **P** **08 50 48.8 +1.6**
89nm,0.3s
ZRNK Zerenda 67.85 329 *e*P **P** **08 51 18.8 +1.3**
4.4nm,1.0s

ABKAR	**Akbulak array**	**71.13 323**	*e*P	**P**	**08 51 37.4**	**-0.4**
TIXI	**Tiksi**	**72.04 3**	*e*P	**P**	**08 51 42.4**	**-0.5**
	3.6nm,0.8s					
AKTO	**Aktyubinsk**	**72.74 324**	P	**P**	**08 51 47.6**	**+0.1**
	3.4nm,0.7s,baz=108,slow=5.3					
AKTO			LR	LR	09 27 14.3	
	comp=Z,40nm,21.6s,baz=131,slow=39					
NRIK	**Noril'sk**	**72.84 349**	LR	LR	09 24 54.4	
	comp=Z,55nm,21.8s,baz=118,slow=37					
ARU	**Arti**	**74.83 330**	*e*P	**P**	**08 51 59.3**	**-0.3**
	6.6nm,0.9s					
MAW	**Mawson**	**77.73 199**	P	**P**	**08 52 14.8**	**-1.1**
	6.2nm,1.0s,baz=40,slow=9.0,SNR=6.9					
MAW			LR	LR	09 26 01.6	
	comp=Z,53nm,18.8s,baz=58,slow=35					
MAW	**Mawson**	**77.73 199**	*e*P	**P**	**08 52 14.8**	**-1.1**
	3.2nm,1.2s					
GNI	**Garni**	**78.93 311**	LR	LR	09 33 03.8	
	comp=Z,19nm,19.3s,baz=118,slow=40					
VNDA	**Vanda**	**80.40 172**	P	**P**	**08 52 30.0**	**-0.3**
	1.1nm,0.7s,baz=306,slow=6.9,SNR=6.2					
KBZ	**Khabaz**	**80.87 314**	LR	LR	09 34 40.1	
	comp=Z,32nm,20.7s,baz=58,slow=40					
KVAR	**Kislovodsk Arr**	**81.06 315**	LR	LR	09 34 34.0	
	comp=Z,24nm,20.2s,slow=40					
KMBO	**Kilima Mbogo**	**82.73 269**	P	**P**	**08 52 44.2**	**0.0**
	1.5nm,0.8s,baz=128,slow=5.3,SNR=4.1					
KMBO	**Kilima Mbogo**	**82.73 269**	*e*P	**P**	**08 52 44.2**	**0.0**
	7.5nm,1.4s					
SYO	**Syowa Base**	**86.30 201**⇑	*es*P	sP	08 53 17.4	-1.8
OBN	**Obninsk**	**86.45 325**	LR	LR	09 33 27.0	
	comp=Z,42nm,20.6s,baz=90,slow=37					
BR101	**Keskin Array S**	**87.36 310**	*e*P	**P**	**08 53 05.6**	**-1.2**
BRTR	**Keskin Array B**	**87.36 310**	P	**P**	**08 53 05.6**	**-1.2**
	0.7nm,0.9s,baz=104,slow=6.1,SNR=2.8					
BRTR			LR	LR	09 39 20.2	
	comp=Z,15nm,18.3s,baz=115,slow=40					
ARCES	**ARCESS Array B**	**91.83 339**	LR	LR	09 40 08.8	
	comp=Z,32nm,19.3s,baz=103,slow=39					
FINES	**FINESS Array B**	**92.12 331**	LR	LR	09 39 31.7	
	comp=Z,35nm,19.2s,baz=208,slow=39					
BOSA	**Boshof**	**94.03 241**	LR	LR	09 35 02.5	
	comp=Z,87nm,19.3s,baz=166,slow=35					
NOA	**NORSAR Array B**	**99.26 332**	LR	LR	09 42 32.4	
	comp=Z,22nm,19.6s,baz=70,slow=38					

MEX 13 09:09:24.3±0.8, 14°18N×92°63W, h20km±999km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.62**	**340**	*e*P	Pn	09 09 48.6	-3.2
PCIG				*i* S	Sn	09 10 07.4	-4.7
CCIG	**Comitan**	**2.15**	**13**	*e*P	Pn	09 09 59.0	-0.2
CCIG				*i* S	Sn	09 10 19.6	-5.7

MEX 13 09:30:48.6±0.3, 15°47N×95°97W, h7km±5km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.32**	**336**	*i* P	Pg	09 30 54.6	-0.4
HUIG				*e*S	Sg	09 30 59.3	+0.1
VHO	**Vista Hermosa**	**1.75**	**335**	*i* P	Pn	09 31 16.1	-3.6
VHO				*i* S	Sn	09 31 37.5	-4.8

WEL 13 09:40:39.4±0.1, 43°58S×172°77E, h8km, ML3.6/9, 1C-3D, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.11**	**274**	⇓PG	Pg	09 40 42.0	+0.1
CRLZ				AML	AML	09 40 43.9	
CRLZ				AML	AML	09 40 44.0	
CRLZ				AML	AML	09 40 44.5	
CRLZ				AML	AML	09 40 44.5	
MQZ	**McQueen's Vall**	**0.15**	**215**	⇑PG	Pg	09 40 42.8	+0.2
MQZ				SG	Sg	09 40 45.3	+0.5
MQZ				SG	Sg	09 40 45.3	+0.5
OXZ	**Oxford**	**0.59**	**295**	⇓P*	Pg	09 40 50.8	-0.1
LTZ	**Lake Taylor**	**0.88**	**335**	P*	Pg	09 40 56.3	0.0
LTZ				S*	Sg	09 41 08.2	+0.5
LTZ				AML	AML	09 41 09.1	
RPZ	**Rata Peaks**	**1.26**	**263**	P*	Pn	09 41 01.8	-1.4
RPZ				AML	AML	09 41 22.1	
RPZ				AML	AML	09 41 23.1	
KHZ	**Kahutara**	**1.29**	**26**	P*	Pn	09 41 02.0	-1.7
INZ	**Inchbonnie**	**1.30**	**311**	P*	Pn	09 41 03.2	-0.5
WVZ	**Waitaha Valley**	**1.57**	**288**	*e*PN	Pn	09 41 06.4	-1.1
THZ	**Tophouse**	**1.82**	**3**	PN	Pn	09 41 09.4	-1.6
THZ				AML	AML	09 41 40.2	
THZ				AML	AML	09 41 52.5	
DSZ	**Denniston Nort**	**1.97**	**338**	*e*PN	Pn	09 41 12.0	-1.1
DSZ				AML	AML	09 41 39.8	
DSZ				AML	AML	09 41 45.3	
BSWZ	**Blackbirch Sta**	**2.04**	**24**	PN	Pn	09 41 12.4	-1.5
LBZ	**Lake Benmore**	**2.04**	**246**	PN	Pn	09 41 13.0	-1.0
LBZ				AML	AML	09 41 51.8	
LBZ				AML	AML	09 41 51.9	
ODZ	**Otahua Downs**	**2.12**	**226**	⇓PN	Pn	09 41 13.5	-1.5
ODZ				AML	AML	09 41 48.5	
ODZ				AML	AML	09 41 48.5	
ODZ				AML	AML	09 41 52.7	
ODZ				AML	AML	09 41 55.9	
FOZ	**Fox Glacier**	**2.15**	**270**	PN	Pn	09 41 15.8	+0.4
NNZ	**Nelson**	**2.41**	**11**	PN	Pn	09 41 18.0	-1.0
QRZ	**Quartz Range**	**2.76**	**356**	PN	Pn	09 41 23.5	-0.4
JCZ	**Jackson Bay**	**2.93**	**259**	PN	Pn	09 41 25.7	-0.6
WKZ	**Wanaka**	**2.98**	**244**	*e*PN	Pn	09 41 25.8	-1.1
EAZ	**Earnscleugh**	**2.98**	**235**	*e*PN	Pn	09 41 25.5	-1.4
EAZ				AML	AML	09 42 15.7	
EAZ				AML	AML	09 42 18.7	
CAW	**Cannon Point**	**3.00**	**35**	PN	Pn	09 41 24.9	-2.2
TUZ	**Tuapeka**	**3.26**	**222**	PN	Pn	09 41 29.8	-1.0
TUZ				AML	AML	09 42 31.3	
TUZ				AML	AML	09 42 33.7	

IDC 13 10:19:30.7±28.0, 18°29S×177°51W, h521km±253km, mb2.8/3, mb1 3.1/3, mb1mx2.7/26, mbtmp3.7/3, Error ellipse: s-maj=304.5km s-min=45.8km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.41**	**260**	P	P	10 27 02.5	-0.4
	0.4nm,0.4s,baz=96,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**45.51**	**255**	P	P	10 27 03.9	+0.2
	0.5nm,0.3s,baz=90,slow=8.3,SNR=29						
ASAR				PcP	PcP	10 28 31.3	-0.4
	0.2nm,0.8s,baz=106,slow=3.6,SNR=2.7						
ILAR	**Eielson Array**	**86.07**	**13**	P	P	10 31 15.6	-0.1
	0.2nm,0.4s,baz=218,slow=4.5,SNR=6.4						

ISCJB ***13*** *10:24:04.7±0.5, 39°13N×0°04×29°02E±0°03, h2km±7km, Error ellipse: s-maj=7.1km s-min=3.4km az=168.0*
DDA ***13*** *10:24:04.4, 39°12N×29°03E, h7km, Md2.8*
CSEM ***13*** *10:24:04.8±0.1, 39°13N×29°03E, h5km, MD2.8, Error ellipse: s-maj=3.2km s-min=1.9km az=173.0*
ISK ***13*** *10:24:04.2, 39°14N×29°01E, h9km, MD2.5*
ISC 13 10:24:04.8±0.9, 39°13N±0°03×29°04E±0°02, h11km±8km, n27, σ0°38/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**251**	P	**Pg**	**10 24 10.3**	**+0.1**
DEMI				S	**Sg**	**10 24 13.9**	**+0.1**
DEMI	**Demirci**	**0.26**	**251**	*i* P	**Pg**	**10 24 10.3**	**+0.1**
DEMI				*i* S	**Sg**	**10 24 13.9**	**+0.1**
GEDZ	**Gediz**	**0.30**	**106**	*e*PG	**Pg**	**10 24 10.9**	**0.0**
GEDZ				*e*SG	**Sb**	**10 24 16.6**	**-0.8**
GEDZ	**Gediz**	**0.30**	**106**	*e*Pg	**Pg**	**10 24 10.9**	**0.0**
GEDZ				*e*Sg	**Sb**	**10 24 16.6**	**-0.8**
GDZ	**Gediz**	**0.35**	**96**	P	**Pg**	**10 24 11.6**	**-0.2**
GDZ				S	**Sg**	**10 24 16.5**	**0.0**
GDZ	**Gediz**	**0.35**	**96**	*i* P	**Pg**	**10 24 11.6**	**-0.2**
GDZ				*i* S	**Sg**	**10 24 16.5**	**0.0**
TVSB	**Tavsanli**	**0.46**	**46**	*e*PG	**Pg**	**10 24 13.8**	**-0.1**
TVSB				*e*SG	**Sg**	**10 24 20.5**	**+0.5**
TVSB	**Tavsanli**	**0.46**	**46**	*e*Pg	**Pg**	**10 24 13.8**	**-0.1**
TVSB				*e*Sg	**Sg**	**10 24 20.5**	**+0.5**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*PG	**Pg**	**10 24 17.7**	**-0.2**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*Pg	**Pg**	**10 24 17.7**	**-0.2**
KHL	**Karahalli**	**0.89**	**154**	*e*PG	**Pg**	**10 24 21.8**	**-0.1**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg	**Pg**	**10 24 21.8**	**-0.1**
AKHS	**Akhisar**	**0.98**	**256**	P	**Pb**	**10 24 23.5**	**-0.3**
AKHS				S	**Sb**	**10 24 36.9**	**0.0**
AKHS	**Akhisar**	**0.98**	**256**	*i* P	**Pb**	**10 24 23.5**	**-0.3**
AKHS				*i* S	**Sb**	**10 24 36.9**	**0.0**
AKS	**Akhisar**	**0.98**	**256**	*e*PG	**Pb**	**10 24 24.0**	**+0.1**
AKS	**Akhisar**	**0.98**	**256**	*e*Pg	**Pb**	**10 24 24.0**	**+0.1**
BALB	**Balikesir**	**1.03**	**300**	*e*PG	**Pg**	**10 24 24.2**	**-0.4**
BALB	**Balikesir**	**1.03**	**300**	*e*Pg	**Pg**	**10 24 24.2**	**-0.4**
IGD	**Bursa**	**1.14**	**6**	*i* P	**Pg**	**10 24 25.8**	**-1.0**
IGD				*i* S	**Sn**	**10 24 42.8**	**+0.4**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pg**	**10 24 28.8**	**-0.1**
BALY				*i* S	**Sn**	**10 24 45.7**	**+0.4**
BORA	**Eskisehir**	**1.33**	**55**	P	**Pn**	**10 24 29.3**	**-0.1**
BORA				S	**Sn**	**10 24 48.0**	**+0.8**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pn**	**10 24 29.3**	**-0.1**
BORA				*i* S	**Sn**	**10 24 48.0**	**+0.8**
ESKT	**Eskisehir**	**1.46**	**74**	*i* P	**Pg**	**10 24 33.0**	**+0.2**
ESKT				*i* S	**Sn**	**10 24 50.7**	**+0.2**
SEYT	**Eskypehyr**	**1.46**	**74**	P	**Pg**	**10 24 33.0**	**+0.2**
SEYT				S	**Sn**	**10 24 50.7**	**+0.3**

NIED ***13*** *10:34:00, 37°10N×143°00E, h5km, Mw4.0 Best double couple: M₀1.05000×10¹⁵ NP1:φ₀132.00000°, δ40.00000°, λ-17.00000°. NP2:φ₀235.00000°, δ79.00000°, λ-129.00000°.*
IDC ***13*** *10:34:45.1±0.6, 37°00N×143°08E, h0km, mb4.2/18, mb1 4.2/25, mb1mx4.1/48, mbtmp4.1/25, ML3.4/6, MS3.1/14, Ms1 3.1/14, ms1mx2.9/41, Error ellipse: s-maj=16.1km s-min=12.5km az=99.0*
JMA ***13*** *10:34:46.8±0.3, 37°09N×143°04E, h48km, M3.9*
ISCJB ***13*** *10:34:47.1±0.4, 37°08N±0°04×142°96E±0°04, h25km, mb4.2/27, MS3.2/8, Error ellipse: s-maj=6.2km s-min=4.4km az=151.0*
MOS ***13*** *10:34:48.4±1.4, 37°16N×143°04E, h33km, mb4.3/19, Error ellipse: s-maj=10.3km s-min=7.5km az=103.2*
NEIC ***13*** *10:34:49.9±0.5, 37°04N×143°10E, h35km, mb4.3/3, Error ellipse: s-maj=11.6km s-min=8.5km az=113.0*
ISC 13 10:34:48.1±0.5, 37.07N±0°05×143°06E±0°06, h25km, n89, σ2s10/90, mb4.2/27, MS3.3/8, 2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.77**	**280**	P	**Pn**	**10 35 15.4**	**-1.8**
JFK				*e*S	**Sn**	**10 35 35.9**	**-3.1**
ONAJ	**Iwakimizuishiy**	**1.81**	**272**	P	**Pn**	**10 35 15.9**	**-1.9**
JIO	**Ouri**	**1.94**	**316**	P	**Pn**	**10 35 17.7**	**-1.8**
JMM	**Marumori**	**1.98**	**294**	P	**Pn**	**10 35 18.3**	**-1.7**
JMM				*e*S	**Sn**	**10 35 41.7**	**-2.2**
JFT	**Otama**	**2.22**	**282**	P	**Pn**	**10 35 22.3**	**-1.1**
JMK	**Ichinoseki**	**2.38**	**323**	P	**Pn**	**10 35 24.0**	**-1.5**
JOM	**Ohasama**	**2.78**	**330**	P	**Pn**	**10 35 29.5**	**-1.5**
JYK	**Kaneyama**	**2.82**	**312**	P	**Pn**	**10 35 30.7**	**-1.0**
BSO1	**Boso 1**	**2.95**	**216**	P	**Pn**	**10 35 32.1**	**-0.7**
JAG	**Ashikaga**	**2.97**	**259**	P	**Pn**	**10 35 32.8**	**-0.9**
JAG				*e*S	**Sn**	**10 36 05.5**	**-3.0**
JAW	**Awa shima**	**3.33**	**296**	P	**Pn**	**10 35 38.9**	**+0.4**
JRY	**Ryogami san**	**3.51**	**254**	P	**Pn**	**10 35 40.1**	**-1.1**
JRY				*e*S	**Sn**	**10 36 18.7**	**-3.2**
JANG	**Nango**	**3.52**	**340**	P	**Pn**	**10 35 39.3**	**-1.9**
MJAR	**Matsushiro Arr**	**3.93**	**264**	Pn	**Pn**	**10 35 47.0**	**+0.1**
	2.3nm,0.3s,baz=73,slow=14,SNR=30						
MJAR				LR	LR	10 37 26.4	
	comp=Z,123nm,21.0s,baz=55,slow=41						
MAJO	**Matsushiro**	**3.93**	**264**	*e*P	**Pn**	**10 35 47.7**	**+0.7**
MAJO	**Matsushiro**	**3.93**	**264**	*e*Pn	**Pn**	**10 35 47.6**	**+0.7**
MAT	**Matsushiro**	**3.93**	**264**	P	**Pn**	**10 35 47.3**	**+0.4**
MAT				*e*S	**Sn**	**10 36 31.1**	**-1.2**
MAT	**Matsushiro**	**3.93**	**264**	P	**Pn**	**10 35 47.3**	**+0.4**
JSD	**Sado**	**3.94**	**286**	P	**Pn**	**10 35 46.8**	**-0.2**
JYN	**Shimob**	**3.97**	**248**	P	**Pn**	**10 35 47.5**	**0.0**
JHJ	**Hachijo jima 2**	**4.77**	**215**	Pn	**Pn**	**10 35 56.0**	**-2.5**
	26nm,0.3s,baz=325,slow=19,SNR=21						
JHJ				Sn	**Sn**	**10 36 48.2**	**-4.7**
	22nm,0.3s,baz=317,slow=24,SNR=5.5						
ERM	**Erimo**	**4.94**	**1**	*d* P	**Pn**	**10 35 58.4**	**-2.3**
ERM				pmax	pmax		
	comp=Z,82nm,1.2s						
ERM	**Erimo**	**4.94**	**1**	*e*Pn	**Pn**	**10 35 58.9**	**-1.8**
ASAJ	**Asahikawa**	**7.05**	**357**	*e*Pn	**Pn**	**10 36 28.6**	**-1.1**
	comp=Z,10nm,0.6s						
KUR	**Kuril'sk**	**8.92**	**22**	*e*P	**Pn**	**10 36 53.5**	**-1.9**
KUR				*e*S	**Sn**	**10 38 27.6**	**-7.4**
KUR				pmax	pmax		
	comp=Z,15nm,0.6s						
KUR				smax	smax		
	comp=E,31nm,0.5s						
KUR				smax	smax		
	comp=E,28nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.88**	**359**	*e*P	**Pn**	**10 37 09.0**	**+0.5**
YSS				*e*S	**Sn**	**10 38 56.6**	**-1.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,200nm,10.0s						
YSS				MLR	MLR		
	comp=N,200nm,12.0s						
YSS	**Yuzh-Sakhalins**	**9.88**	**359**	*e*Pn	**Pn**	**10 37 08.6**	**+0.1**
	comp=N,10.0nm,0.5s						
CBIJ	**Chichi jima**	**9.97**	**185**	Pn	**Pn**	**10 37 06.2**	**-3.6**
CBIJ				Sn	Sn	10 38 49.3	-12
JCJ	**Chichijima**	**9.97**	**185**	Pn	**Pn**	**10 37 06.2**	**-3.6**
	baz=38,slow=19						
JCJ				Sn	Sn	10 38 49.3	-12
	comp=N,4.3nm,0.3s,baz=307,slow=20,SNR=3.9						
JNU	**Nakatsue**	**10.73**	**252**	Pn	**Pn**	**10 37 21.4**	**+1.2**
	comp=N,0.2nm,0.3s,baz=29,slow=13,SNR=4.2						
JNU				LR	LR	10 42 18.3	
	comp=N,88nm,19.0s,baz=123,slow=42						
USRK	**Ussuriysk Ar.**	**11.02**	**314**	Pn	**Pn**	**10 37 24.8**	**+0.7**
	comp=N,0.1nm,0.3s,baz=116,slow=14,SNR=4.2						
USRK				LR	LR	10 41 44.4	
	comp=N,150nm,18.9s,baz=127,slow=38						
KSRS	**Korea Array**	**12.07**	**276**	Pn	**Pn**	**10 37 41.0**	**+2.5**
	comp=N,0.2nm,0.3s,baz=92,slow=14,SNR=12						
KSRS				LR	LR	10 42 22.6	
	comp=N,76nm,18.1s,baz=95,slow=38						
KSAR	**Wonju Array Be**	**12.11**	**276**	P	**Pn**	**10 37 41.0**	**+2.0**
KSAR	**Wonju Array Be**	**12.11**	**276**	Pn	**Pn**	**10 37 41.0**	**+2.0**
TYV	**Tymovskoe**	**13.79**	**359**	*e*P	**Pn**	**10 37 58.0**	**-3.9**
TYV				pmax	pmax		
	comp=Z,11nm,0.8s						
KLR	**Kul'dur**	**14.67**	**329**	Pn	**Pn**	**10 38 13.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=136,slow=16,SNR=4.2						
KLR				LR	LR	10 43 42.1	
	comp=Z,39nm,20.3s,baz=133,slow=36						
PETK	**Petropavlovsk-**	**19.02**	**28**	P	**P**	**10 39 08.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=188,slow=8.7,SNR=2.8						
PETK				LR	LR	10 48 03.3	
	comp=Z,30nm,18.3s,baz=337,slow=42						
GUMO	**Guam**	**23.44**	**176**	LR	LR	10 48 01.6	
	comp=Z,12nm,19.4s,baz=338,slow=34						
YAK	**Yakutsk**	**26.34**	**346**	P	**P**	**10 40 22.4**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=108,slow=20,SNR=1.8						
YAK				LR	LR	10 53 01.1	
	comp=Z,47nm,18.6s,baz=244,slow=42						
YAK	**Yakutsk**	**26.34**	**346**	*e*P	**P**	**10 40 22.4**	**+0.7**
YAK				pmax	pmax		
	comp=Z,17nm,0.7s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK	**Yakutsk**	**26.34**	**346**	P	**P**	**10 40 22.4**	**+0.7**
YAK				*e*P	**pP**	**10 40 22.6**	**-6.6**
SEY	**Seymchan**	**26.52**	**10**	P	**P**	**10 40 25.7**	**+2.3**
	comp=E,6.5nm,1.0s,baz=185,slow=15,SNR=6.4						
SEY	**Seymchan**	**26.52**	**10**	*e*P	**P**	**10 40 24.5**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**27.05**	**123**	T	T	11 09 07.1	
	baz=314,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.05**	**123**	T	T	11 08 56.7	
	baz=314,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**27.06**	**123**	T	T	11 09 02.5	
	baz=314,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**27.79**	**125**	T	T	11 09 55.8	
	baz=316,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**27.79**	**125**	T	T	11 09 52.5	
	baz=316,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**27.80**	**125**	T	T	11 09 54.9	
	baz=316,slow=76,SNR=13						
ULN	**Ulaanbaatar**	**28.43**	**304**	*e*P	**P**	**10 40 39.6**	**-1.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**28.43**	**304**	*e*P	**P**	**10 40 42.7**	**+1.8**
	comp=Z,5.6nm,0.8s						
ENH	**Enshi**	**28.65**	**266**	*e*P	**P**	**10 40 43.6**	**+0.7**
	comp=Z,5.7nm,0.8s						
SONM	**Songino Array**	**28.86**	**304**	P	**P**	**10 40 46.1**	**+1.4**
	comp=Z,3.8nm,0.8s,baz=96,slow=9.5,SNR=19						
TLY	**Talaya**	**31.31**	**310**	LR	LR	10 54 20.4	
	comp=Z,59nm,19.7s,baz=122,slow=38						
BILL	**Bilibino**	**33.63**	**16**	*e*P	**P**	**10 41 27.9**	**+1.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TIXI	**Tiksi**	**35.42**	**352**	P	**P**	**10 41 42.1**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=139,slow=3.4,SNR=5.3						
CMAR	**Chiang Mai Arr**	**42.79**	**257**	P	**P**	**10 42 44.2**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=51,slow=7.1,SNR=3.3						
CMAR				LR	LR	11 00 13.7	
	comp=Z,22nm,22.0s,baz=125,slow=36						
ZALV	**Zalesovo Beam**	**42.87**	**312**	P	**P**	**10 42 45.0**	**+0.9**
	comp=Z,2.0nm,0.4s,baz=91,slow=5.9,SNR=10.0						
ZALV	**Zalesovo Beam**	**42.87**	**312**	P	**P**	**10 42 45.0**	**+0.9**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**45.22**	**302**	P	**P**	**10 43 04.2**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=83,slow=9.8,SNR=10						
KURK	**Kurchatov**	**46.95**	**308**	P	**P**	**10 43 17.1**	**+0.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KURK	**Kurchatov**	**46.95**	**308**	P	**P**	**10 43 17.1**	**+0.5**
KURK				*e*P	**pP**	**10 43 17.9**	**-6.4**
KURBB	**Kurchatov Arra**	**47.02**	**308**	P	**P**	**10 43 17.1**	**-0.1**
	comp=Z,7.9nm,0.7s,baz=83,slow=8.2,SNR=29						
ILAR	**Eielson Array**	**48.76**	**32**	P	**P**	**10 43 31.8**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=264,slow=6.5,SNR=23						
TKM2	**Tokmak 2**	**50.77**	**299**	*e*P	**P**	**10 43 47.9**	**+1.5**
TKM2	**Tokmak 2**	**50.77**	**299**	*e*P	**P**	**10 43 47.9**	**+1.5**
BRVK	**Borovoye**	**51.58**	**313**	*e*P	**P**	**10 43 52.8**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**51.63**	**299**	*e*P	**P**	**10 43 51.9**	**-0.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KKAR	**Karatay Array**	**54.25**	**301**	*e*P	**P**	**10 44 14.6**	**+2.7**
KKAR	**Karatay Array**	**54.25**	**301**	*e*P	**P**	**10 44 14.6**	**+2.7**
ARU	**Arti**	**57.21**	**319**	*d* P	**P**	**10 44 34.3**	**+1.5**
ARU						10 45 27.8	
ARU						10 46 40.0	
ARU				S	**S**	**10 52 27.9**	**+1.1**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARU	**Arti**	**57.21**	**319**	*e*P	**P**	**10 44 33.2**	**+0.4**
	comp=Z,3.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**57.28**	**200**	P	**P**	**10 44 34.6**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=6.6,slow=7.6						
WRA	**Warramunga Arr**	**57.30**	**190**	P	**P**	**10 44 33.5**	**-0.4**
	comp=Z,9.2nm,0.8s,baz=9.6,slow=7.4,SNR=43						
ASAR	**Alice Springs**	**61.02**	**190**	P	**P**	**10 44 60.0**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=9.9,slow=6.2,SNR=34						
ASAR	**Alice Springs**	**61.02**	**190**	P	**P**	**10 45 00.0**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**68.60**	**181**	P	**P**	**10 45 49.2**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=22,slow=5.4,SNR=3.8						
OBN	**Obninsk**	**68.85**	**324**	*e*P	**P**	**10 45 51.6**	**+1.4**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
FINES	**FINESS Array B**	**69.39**	**333**	P	**P**	**10 45 56.2**	**+2.8**
	comp=Z,2.5nm,0.9s,baz=86,slow=7.1,SNR=3.1						
FINES				LR	LR	11 17 16.0	
	comp=Z,20nm,20.5s,baz=200,slow=37						
KBZ	**Khabaz**	**71.88**	**311**	P	**P**	**10 46 11.3**	**+2.4**
	comp=Z,0.7nm,0.4s,baz=67,slow=7.7,SNR=3.0						
KIV	**Kislovodsk**	**71.88**	**312**	*e*P	**P**	**10 46 08.6**	**-0.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NVAR	**Mina Array Bea**	**73.91**	**54**	P	**P**	**10 46 22.6**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=297,slow=5.9,SNR=6.7						
NOA	**NORSAR Array B**	**74.66**	**338**	LR	LR	11 23 27.5	
	comp=Z,21nm,18.9s,baz=40,slow=39						
AKASG	**Malin Array Be**	**75.07**	**323**	P	**P**	**10 46 27.7**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=46,slow=5.8,SNR=4.2						
AKASG				LR	LR	11 22 22.9	
	comp=Z,21nm,21.1s,baz=55,slow=38						
GERES	**GERESS Array B**	**83.37**	**329**	LR	LR	11 29 57.9	
	comp=Z,20nm,18.8s,baz=80,slow=40						
ANMO	**Albuquerque**	**83.55**	**51**	*e*P	**P**	**10 47 16.4**	**+2.0**

HRT				*e*SG		**Sb**	**10 46 54.5**	**+0.3**
HRT	**Hereke**	**0.64**	**90**	*e*Pg		**Pg**	**10 46 45.1**	**+0.2**
HRT				*e*Sg		**Sb**	**10 46 54.5**	**+0.3**
IZI	**Iznik**	**0.69**	**135**	*e*PG		**Pb**	**10 46 46.7**	**+0.3**
IZI	**Iznik**	**0.69**	**135**	*e*Pg		**Pb**	**10 46 46.7**	**+0.3**
SILT	**Sile**	**0.70**	**62**	*e*PG		**Pg**	**10 46 46.0**	**0.0**
SILT	**Sile**	**0.70**	**62**	*e*Pg		**Pg**	**10 46 46.0**	**0.0**
MRMT	**Marmara Adasi**	**0.96**	**257**	*e*PG		**Pn**	**10 46 51.7**	**0.0**
MRMT	**Marmara Adasi**	**0.96**	**257**	*e*Pg		**Pn**	**10 46 51.7**	**0.0**
KAND	**Kocaeli-Kandir**	**1.07**	**75**	P		**Pb**	**10 46 52.1**	**-0.6**
KAND				S		**Sb**	**10 47 06.2**	**-0.3**
KAND	**Kocaeli-Kandir**	**1.07**	**75**	*i* P		**Pb**	**10 46 52.1**	**-0.6**
KAND				*i* S		**Sb**	**10 47 06.2**	**-0.3**
SART	**Tekirdag**	**1.26**	**264**	P		**Pn**	**10 46 55.5**	**-0.2**
SART				S		**Sb**	**10 47 12.4**	**+0.2**
SART	**Tekirdag**	**1.26**	**264**	*i* P		**Pn**	**10 46 55.5**	**-0.2**
SART				*i* S		**Sb**	**10 47 12.4**	**+0.2**
SAHE	**Sakarya_HENDEK**	**1.54**	**88**	P		**Pb**	**10 47 01.2**	**+0.4**
SAHE				S		**Sb**	**10 47 20.7**	**+0.6**
SAHE	**Sakarya_HENDEK**	**1.54**	**88**	*i* P		**Pb**	**10 47 01.2**	**+0.4**
SAHE				*i* S		**Sb**	**10 47 20.7**	**+0.6**

IDC 13 10:51:26.2±1.7, 9˚55S×125˚06E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/41, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=102.0km s-min=26.8km az=66.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.52**	**176**	Pn	Pn	10 53 32.2	+1.3
	0.3nm,0.3s,baz=356,slow=9.9,SNR=14						
FITZ				Sn	Sn	10 55 02.0	-5.7
	0.3nm,0.3s,baz=262,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**13.68**	**140**	Pn	Pn	10 54 40.3	-1.3
	0.1nm,0.3s,baz=310,slow=14,SNR=7.7						
WRA				Sn	Sn	10 57 04.3	-10
	0.1nm,0.3s,baz=311,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**16.39**	**150**	Pn	Pn	10 55 17.4	-0.4
	0.1nm,0.3s,baz=321,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**67.81**	**330**	P	P	11 02 26.1	0.0
	0.2nm,0.5s,baz=134,slow=6.2,SNR=2.2						

MEX 13 11:05:22.4±0.5, 14˚28N×92˚33W, h49km±86km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.66**	**329**	*e*P	Pn	11 05 46.7	-2.4

*ISK **13** 11:21:43.9, 41˚36N×35˚83E, h5km, ML2.5*
*ISCJB **13** 11:21:44.8±0.5, 41˚41N±0˚03×35˚85E±0˚03, h0km, Error ellipse: s-maj=5.0km s-min=3.1km az=8.3*
*DDA **13** 11:21:44.3, 41˚39N×35˚86E, h21km, Md2.8, Suspected Mining explosion.*
*CSEM **13** 11:21:45.2±0.2, 41˚38N×35˚83E, h2km, MD2.8, Error ellipse: s-maj=6.7km s-min=4.1km az=17.0, Suspected Mining explosion.*

ISC 13 11:21:43.6±0.9, 41˚45N±0˚04×35˚87E±0˚02, h0km, n36, σ0s69/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAMS	**Samsun-Alacam**	**0.25**	**110**	P	**Pb**	**11 21 50.6**	**-0.5**
SAMS				S	**Sb**	**11 21 55.0**	**-0.9**
SAMS	**Samsun-Alacam**	**0.25**	**110**	*i* P	**Pb**	**11 21 50.6**	**-0.5**
SAMS				*i* S	**Sb**	**11 21 55.0**	**-0.9**
KVT	**Kavak**	**0.39**	**160**	*e*PG	**Pg**	**11 21 51.2**	**+0.1**
KVT				*e*SG	**Sg**	**11 21 57.3**	**+1.2**
KVT	**Kavak**	**0.39**	**160**	*e*Pg	**Pg**	**11 21 51.2**	**+0.1**
KVT				*e*Sg	**Sg**	**11 21 57.3**	**+1.2**
HAVZ	**Havza**	**0.39**	**197**	P	**Pg**	**11 21 51.5**	**+0.5**
HAVZ				S	**Sg**	**11 21 56.8**	**+0.7**
HAVZ	**Havza**	**0.39**	**197**	*i* P	**Pg**	**11 21 51.5**	**+0.5**
HAVZ				*i* S	**Sg**	**11 21 56.8**	**+0.7**
BOYT	**Boyabat**	**0.73**	**268**	P	**Pb**	**11 21 58.5**	**-0.7**
BOYT				S	**Sb**	**11 22 10.7**	**+0.9**
BOYT	**Boyabat**	**0.73**	**268**	*i* P	**Pb**	**11 21 58.5**	**-0.7**
BOYT				*i* S	**Sb**	**11 22 10.7**	**+0.9**
SNOP	**Sinop**	**0.76**	**319**	*e*PG	**Pn**	**11 22 00.8**	**-0.8**
SNOP	**Sinop**	**0.76**	**319**	*e*Pg	**Pn**	**11 22 00.8**	**-0.8**
BYBT	**Boyabat**	**0.83**	**272**	*e*PG	**Pb**	**11 22 00.2**	**-0.7**
BYBT	**Boyabat**	**0.83**	**272**	*e*Pg	**Pb**	**11 22 00.2**	**-0.7**
ERBA	**Erbaa**	**1.01**	**139**	P	**Pg**	**11 22 03.2**	**+0.2**
ERBA				S	**Sb**	**11 22 17.5**	**-0.5**
ERBA	**Erbaa**	**1.01**	**139**	*i* P	**Pg**	**11 22 03.2**	**+0.2**
ERBA				*i* S	**Sb**	**11 22 17.5**	**-0.5**
COAL	**Corum-Alaca**	**1.37**	**210**	P	**Pg**	**11 22 08.3**	**-1.5**
COAL				S	**Sb**	**11 22 28.1**	**-0.1**
COAL	**Corum-Alaca**	**1.37**	**210**	*i* P	**Pg**	**11 22 08.3**	**-1.5**
COAL				*i* S	**Sb**	**11 22 28.1**	**-0.1**
TOS	**Tosya**	**1.45**	**254**	*e*PN	**Pb**	**11 22 11.4**	**-0.2**
TOS	**Tosya**	**1.45**	**254**	*e*Pn	**Pb**	**11 22 11.4**	**-0.2**
BZK	**Bozkurt**	**1.49**	**291**	*e*PN	**Pb**	**11 22 13.2**	**+1.1**
BZK	**Bozkurt**	**1.49**	**291**	*e*Pn	**Pb**	**11 22 13.2**	**+1.1**
ORDU	**Ordu-Boztepe**	**1.56**	**106**	P	**Pn**	**11 22 13.1**	**+0.4**
ORDU				S	**Sg**	**11 22 34.3**	**+0.4**
ORDU	**Ordu-Boztepe**	**1.56**	**106**	*i* P	**Pn**	**11 22 13.1**	**+0.4**
ORDU				*i* S	**Sg**	**11 22 34.3**	**+0.4**
CORM	**Corum**	**1.58**	**217**	*e*PN	**Pb**	**11 22 13.4**	**-0.4**
CORM				*e*SN	**Sn**	**11 22 34.0**	**-0.2**
CORM	**Corum**	**1.58**	**217**	*e*Pn	**Pb**	**11 22 13.4**	**-0.4**
CORM				*e*Sn	**Sn**	**11 22 34.0**	**-0.2**
ILGA	**Ilgaz**	**1.67**	**257**	P	**Pb**	**11 22 15.1**	**-0.3**
ILGA	**Ilgaz**	**1.67**	**257**	*i* P	**Pb**	**11 22 15.1**	**-0.3**
YOZ	**Yozgat**	**1.85**	**193**	*e*PN	**Pb**	**11 22 17.7**	**-0.8**
YOZ	**Yozgat**	**1.85**	**193**	*e*Pn	**Pb**	**11 22 17.7**	**-0.8**
GRSN	**GIRESUNGRSN**	**1.88**	**105**	P	**Pn**	**11 22 17.7**	**+0.6**
GRSN				S	**Sn**	**11 22 42.0**	**+0.5**
GRSN	**GIRESUNGRSN**	**1.88**	**105**	*i* P	**Pn**	**11 22 17.7**	**+0.6**
GRSN				*i* S	**Sn**	**11 22 42.0**	**+0.5**
CDAG	**Cicekdag**	**2.15**	**213**	P	**Pn**	**11 22 21.8**	**+1.0**
CDAG				S	**Sg**	**11 22 52.2**	**-0.5**
CDAG	**Cicekdag**	**2.15**	**213**	*i* P	**Pn**	**11 22 21.8**	**+1.0**
CDAG				*i* S	**Sg**	**11 22 52.2**	**-0.5**
SUSE	**Susehri**	**2.16**	**124**	P	**Pb**	**11 22 23.0**	**-0.7**
SUSE				S	**Sb**	**11 22 50.9**	**-0.1**
SUSE	**Susehri**	**2.16**	**124**	*i* P	**Pb**	**11 22 23.0**	**-0.7**
SUSE				*i* S	**Sb**	**11 22 50.9**	**-0.1**
KELT	**Kelkit**	**2.88**	**116**	P	**Pb**	**11 22 35.1**	**-0.8**
KELT				S	**Sb**	**11 23 11.8**	**0.0**
KELT	**Kelkit**	**2.88**	**116**	*i* P	**Pb**	**11 22 35.1**	**-0.8**
KELT				*i* S	**Sb**	**11 23 11.8**	**0.0**

*IDC **13** 11:29:39.8±4.0, 35˚87N×142˚05E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/41, mbtmp3.3/4, ML3.3/2, MS2.6/2, Ms1 2.6/2, ms1mx2.2/25, Error ellipse: s-maj=78.2km s-min=38.7km az=39.0*
*ISCJB **13** 11:29:42.6±1.1, 35˚71N±0˚06×141˚82E±0˚08, h23km, mb3.2/2, Error ellipse: s-maj=9.7km s-min=7.9km az=153.2*
*JMA **13** 11:29:44.9±0.2, 35˚83N×141˚69E, h34km±3km, M3.1*

ISC 13 11:29:44.3±1.6, 35.76N±0˚07×141.76E±0˚10, h23km, n17, σ1s19/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.73**	**266**	P	**Pb**	**11 29 58.1**	**-0.3**
CHOJ				S	**Sb**	**11 30 07.1**	**-0.9**
JHO	**Hitachi**	**1.28**	**312**	P	**Pn**	**11 30 05.7**	**-1.1**
JAG	**Ashikaga**	**1.98**	**290**	P	**Pn**	**11 30 15.9**	**-0.5**
JFT	**Otama**	**2.09**	**327**	P	**Pn**	**11 30 18.5**	**+0.5**
JIM2	**Oshima 3**	**2.17**	**242**	*e*S	**Sn**	**11 30 45.5**	**+0.2**
MJAR	**Matsushiro Arr**	**2.98**	**286**	Pn	**Pn**	**11 30 30.6**	**+0.5**
	2.6nm,0.3s,baz=101,slow=9.0,SNR=30						
MJAR				Sn	**Sn**	**11 31 07.9**	**+2.8**
	1.6nm,0.3s,baz=86,slow=23,SNR=5.0						
MJAR				LR	LR	11 31 44.3	
	comp=Z,65nm,19.3s,baz=80,slow=40						
MAT	**Matsushiro**	**2.98**	**286**	P	**Pn**	**11 30 31.1**	**+0.9**
MAT				*e*S	**Sn**	**11 31 05.1**	**-0.1**
JHJ	**Hachijo jima 2**	**3.10**	**212**	Pn	**Pn**	**11 30 33.0**	**+1.2**
	12nm,0.3s,baz=72,slow=20,SNR=4.5						
JHJ				Sn	**Sn**	**11 31 06.6**	**-1.5**
	16nm,0.3s,baz=305,slow=23,SNR=9.9						
KSRS	**Korea Array**	**11.25**	**283**	LR	LR	11 36 37.3	
	comp=Z,36nm,18.1s,baz=170,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.27**	**119**	T	T	12 04 32.8	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**27.28**	**119**	T	T	12 04 35.3	
	baz=313,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.29**	**119**	T	T	12 04 35.6	
	baz=313,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.95**	**121**	T	T	12 05 20.8	
	baz=313						
H11S3	**WAKE ISLAND Hy**	**27.95**	**121**	T	T	12 05 20.9	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**27.96**	**121**	T	T	12 05 22.7	
	baz=313						
WRA	**Warramunga Arr**	**55.84**	**188**	P	**P**	**11 39 20.2**	**+0.2**
	0.4nm,0.9s,baz=5.6,slow=7.6,SNR=4.2						
ASAR	**Alice Springs**	**59.57**	**188**	P	**P**	**11 39 45.8**	**-0.3**
	0.1nm,0.7s,baz=13,slow=8.6,SNR=3.3						

*ISK **13** 11:30:25.9, 38˚35N×33˚92E, h5km, ML3.9*
*IDC **13** 11:30:26.9±1.2, 38˚42N×33˚63E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.6/40, mbtmp3.7/8, ML2.9/1, MS2.5/2, Ms1 2.5/2, ms1mx2.2/38, Error ellipse: s-maj=21.2km s-min=15.4km az=97.0*
*CSEM **13** 11:30:27.1±0.1, 38˚35N×33˚94E, h2km, ML3.9, Error ellipse: s-maj=3.8km s-min=3.0km az=37.0*

ISC 13 11:30:26.9±1.1, 38˚39N±0˚02×33˚97E±0˚02, h1km±8km, n113, σ1s49/150, mb3.8/7, 8C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKSY	**AKSARAY - Alti**	**0.31**	**328**	P	**Pg**	**11 30 32.8**	**0.0**
AKSY				S	**Sg**	**11 30 37.1**	**+0.2**
AKSY	**AKSARAY - Alti**	**0.31**	**328**	*i* P	**Pg**	**11 30 32.8**	**0.0**
AKSY				*i* S	**Sg**	**11 30 37.1**	**+0.2**
BSTP	**Nigde**	**0.45**	**166**	*i* P	**Pg**	**11 30 35.7**	**+0.1**
BSTP				*i* S	**Sb**	**11 30 47.8**	**+2.8**
NIG	**Nigde**	**0.57**	**119**	PG	**Pg**	**11 30 37.9**	**-0.1**
NIG	**Nigde**	**0.57**	**119**	*i* Pg	**Pg**	**11 30 37.9**	**-0.1**
SERE	**Sereflikochisa**	**0.64**	**330**	PG	**Pg**	**11 30 39.1**	**-0.1**
SERE				SG	**Sg**	**11 30 49.3**	**-1.2**
SERE	**Sereflikochisa**	**0.64**	**330**	*i* Pg	**Pg**	**11 30 39.1**	**-0.1**
SERE				*i* Sg	**Sb**	**11 30 49.3**	**-1.2**
AVNS	**Nevsehir-Avano**	**0.80**	**59**	P	**Pg**	**11 30 41.8**	**-0.5**
AVNS				S	**Sb**	**11 30 54.0**	**-1.1**
AVNS	**Nevsehir-Avano**	**0.80**	**59**	*i* P	**Pg**	**11 30 41.8**	**-0.5**
AVNS				*i* S	**Sb**	**11 30 54.0**	**-1.1**
CHBY	**Cihanbeyli**	**0.87**	**283**	PG	**Pg**	**11 30 43.3**	**-0.3**
CHBY				SG	**Sb**	**11 30 56.1**	**-1.0**
CHBY	**Cihanbeyli**	**0.87**	**283**	*i* Pg	**Pg**	**11 30 43.3**	**-0.3**
CHBY				*i* Sg	**Sb**	**11 30 56.1**	**-1.0**
KERG	**Konya-Eregli**	**0.98**	**173**	P	**Pg**	**11 30 44.8**	**-1.0**
KERG	**Konya-Eregli**	**0.98**	**173**	*i* P	**Pg**	**11 30 44.8**	**-1.0**
KERG				*i* S	**Sn**	**11 31 02.4**	**-0.1**
KKUL	**Konya-Kulu**	**1.14**	**314**	P	**Pb**	**11 30 47.9**	**-1.5**
KKUL				S	**Sn**	**11 31 05.0**	**-1.3**
KKUL	**Konya-Kulu**	**1.14**	**314**	*i* P	**Pb**	**11 30 47.9**	**-1.5**
KKUL				*i* S	**Sn**	**11 31 05.0**	**-1.3**
YAHY	**KAYSERI_Yahyal**	**1.14**	**105**	P	**Pb**	**11 30 47.6**	**-1.8**
YAHY				S	**Sn**	**11 31 04.5**	**-1.8**
YAHY	**KAYSERI_Yahyal**	**1.14**	**105**	*i* P	**Pb**	**11 30 47.6**	**-1.8**
YAHY				*i* S	**Sn**	**11 31 04.5**	**-1.8**
AFSR	**Afˇar-Bala (A**	**1.27**	**327**	PN	**Pg**	**11 30 51.5**	**+0.2**
AFSR				SN	**Sn**	**11 31 09.7**	**+0.1**
AFSR	**Afˇar-Bala (A**	**1.27**	**327**	*i* Pn	**Pg**	**11 30 51.5**	**+0.2**
AFSR				*i* Sn	**Sn**	**11 31 09.7**	**+0.1**
CDAG	**Cicekdag**	**1.27**	**14**	P	**Pn**	**11 30 50.1**	**-1.8**
CDAG				S	**Sn**	**11 31 08.1**	**-1.6**
CDAG	**Cicekdag**	**1.27**	**14**	*i* P	**Pn**	**11 30 50.1**	**-1.8**
CDAG				*i* S	**Sn**	**11 31 08.1**	**-1.6**
GULE	**Gulek**	**1.27**	**150**	P	**Pn**	**11 30 50.1**	**-1.9**
GULE	**Gulek**	**1.27**	**150**	*i* P	**Pn**	**11 30 50.1**	**-1.9**
GULE				*i* S	**Sn**	**11 31 13.8**	**+3.9**
LADK	**Ladik-KONYA**	**1.28**	**262**	PN	**Pn**	**11 30 50.9**	**-1.1**
LADK	**Ladik-KONYA**	**1.28**	**262**	*i* Pn	**Pn**	**11 30 50.9**	**-1.1**
BBAL	**Bala**	**1.33**	**330**	P	**Pn**	**11 30 51.6**	**-1.1**
BBAL				S	**Sb**	**11 31 08.8**	**-1.5**
BBAL	**Bala**	**1.33**	**330**	*i* P	**Pn**	**11 30 51.6**	**-1.1**
BBAL				*i* S	**Sb**	**11 31 08.8**	**-1.5**
KONT	**Konya--Tatoy**	**1.34**	**251**	PN	**Pn**	**11 30 51.4**	**-1.5**
KONT	**Konya--Tatoy**	**1.34**	**251**	*i* Pn	**Pn**	**11 30 51.4**	**-1.5**
BRTR	**Keskin Array B**	**1.36**	**349**	Pg	**Pb**	**11 30 52.4**	**-0.9**
	70nm,0.3s,baz=192,slow=17,SNR=905						
BRTR				Lg	Lg	11 31 11.2	
	296nm,0.3s,baz=158,slow=30,SNR=37						
KARA	**Karaisali**	**1.42**	**142**	PN	**Pb**	**11 30 53.5**	**-0.7**
KARA	**Karaisali**	**1.42**	**142**	*i* Pn	**Pb**	**11 30 53.5**	**-0.7**
KDHN	**Kadinhani**	**1.46**	**276**	P	**Pn**	**11 30 53.0**	**-1.5**
KDHN				S	**Sb**	**11 31 13.2**	**-0.9**
KDHN	**Kadinhani**	**1.46**	**276**	*i* P	**Pn**	**11 30 53.0**	**-1.5**
KDHN				*i* S	**Sb**	**11 31 13.2**	**-0.9**
AKO	**Adana**	**1.49**	**128**	*i* P	**Pn**	**11 30 54.1**	**-0.7**
AKO				*i* S	**Sg**	**11 31 15.7**	**+0.9**
DED	**Mersin**	**1.57**	**155**	*i* P	**Pn**	**11 30 54.6**	**-1.3**
DED				*i* S	**Sb**	**11 31 16.5**	**-0.6**
MERS	**Mersin**	**1.58**	**164**	PN	**Pn**	**11 30 55.3**	**-0.9**
MERS	**Mersin**	**1.58**	**164**	*i* Pn	**Pn**	**11 30 55.3**	**-0.9**
YOZ	**Yozgat**	**1.63**	**40**	PN	**Pb**	**11 30 57.3**	**-0.6**
YOZ	**Yozgat**	**1.63**	**40**	*i* Pn	**Pb**	**11 30 57.3**	**-0.6**
KIZT	**Kizilcal**	**1.71**	**287**	PN	**Pn**	**11 30 57.3**	**-0.7**
KIZT	**Kizilcal**	**1.71**	**287**	*i* Pn	**Pn**	**11 30 57.3**	**-0.7**
KOZT	**Kozan**	**1.73**	**121**	PN	**Pb**	**11 30 58.3**	**-1.1**
KOZT	**Kozan**	**1.73**	**121**	*i* Pn	**Pb**	**11 30 58.3**	**-1.1**
LOD	**Lodumlu**	**1.77**	**328**	PN	**Pb**	**11 30 59.1**	**-1.1**
LOD	**Lodumlu**	**1.77**	**328**	*i* Pn	**Pb**	**11 30 59.1**	**-1.1**
CORM	**Corum**	**1.86**	**16**	PN	**Pb**	**11 31 01.4**	**-0.3**
CORM				SN	**Sg**	**11 31 27.1**	**+0.5**
CORM	**Corum**	**1.86**	**16**	*i* Pn	**Pb**	**11 31 01.4**	**-0.3**
CORM				*i* Sn	**Sg**	**11 31 27.1**	**+0.5**
KIZK	**Mersin**	**1.91**	**176**	P	**Pb**	**11 31 01.6**	**-1.0**
KIZK				S	**Sg**	**11 31 27.5**	**-0.9**
KIZK	**Mersin**	**1.91**	**176**	*i* P	**Pb**	**11 31 01.6**	**-1.0**
KIZK				*i* S	**Sg**	**11 31 27.5**	**-0.9**
SARI	**SarD1z-Kayseri**	**1.92**	**89**	PN	**Pb**	**11 31 01.9**	**-1.0**
ERMK	**Ermenek**	**1.94**	**206**	P	**Pn**	**11 31 00.2**	**-1.0**
ERMK	**Ermenek**	**1.94**	**206**	*i* P	**Pn**	**11 31 00.2**	**-1.0**
ERMK				*i* S	**Sg**	**11 31 32.8**	**+3.6**
CEYT	**Ceyhan**	**1.97**	**134**	PN	**Pb**	**11 31 01.9**	**-1.7**
CEYT	**Ceyhan**	**1.97**	**134**	*i* Pn	**Pb**	**11 31 01.9**	**-1.7**
COAL	**Corum-Alaca**	**2.02**	**23**	P	**Pn**	**11 31 02.4**	**+0.2**
COAL				S	**Sg**	**11 31 32.5**	**+0.6**
COAL	**Corum-Alaca**	**2.02**	**23**	*i* P	**Pn**	**11 31 02.4**	**+0.2**
COAL				*i* S	**Sg**	**11 31 32.5**	**+0.6**
YURE	**YUREGIR**	**2.04**	**139**	P	**Pb**	**11 31 04.2**	**-0.7**
YURE	**YUREGIR**	**2.04**	**139**	*i* P	**Pb**	**11 31 04.2**	**-0.7**
YURE				*i* S	**Sg**	**11 31 34.7**	**+2.1**
CUSAR	**Sarkisla-SIVAS**	**2.05**	**59**	P	**Pn**	**11 31 02.6**	**-0.1**
CUSAR				S	**Sg**	**11 31 32.9**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**2.05**	**59**	*i* P	**Pn**	**11 31 02.6**	**-0.1**
CUSAR				*i* S	**Sg**	**11 31 32.9**	**+0.1**
ELDT	**Eldivan**	**2.14**	**349**	P	**Pb**	**11 31 06.3**	**-0.3**
ELDT				S	**Sg**	**11 31 36.3**	**+0.6**
ELDT	**Eldivan**	**2.14**	**349**	*i* P	**Pb**	**11 31 06.3**	**-0.3**
ELDT				*i* S	**Sg**	**11 31 36.3**	**+0.6**
IKL	**Isikli**	**2.16**	**186**	PN	**Pn**	**11 31 03.5**	**-0.5**
IKL	**Isikli**	**2.16**	**186**	*i* Pn	**Pn**	**11 31 03.5**	**-0.5**
SVRH	**Sivrihisar-ESK**	**2.18**	**300**	PN	**Pn**	**11 31 04.6**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.18**	**300**	*i* Pn	**Pn**	**11 31 04.6**	**+0.2**
CANT	**Cankiri**	**2.23**	**353**	PN	**Pb**	**11 31 06.2**	**-1.9**
CUALT	**Altinyayla-SIV**	**2.35**	**67**	P	**Pn**	**11 31 07.5**	**+0.7**
CUALT	**Altinyayla-SIV**	**2.35**	**67**	*i* P	**Pn**	**11 31 07.5**	**+0.7**
CUALT				*i* S	**Sg**	**11 31 47.2**	**+4.8**
BOLV	**Bolvadin**	**2.39**	**279**	P	**Pn**	**11 31 06.8**	**-0.6**
BOLV	**Bolvadin**	**2.39**	**279**	*e*P	**Pn**	**11 31 06.8**	**-0.6**
BOLV				*i* S	**Sg**	**11 31 50.5**	**+6.7**
SUTC	**Sutluce-Ispart**	**2.52**	**250**	PN	**Pn**	**11 31 09.5**	**+0.4**
SUTC	**Sutluce-Ispart**	**2.52**	**250**	*i* Pn	**Pn**	**11 31 09.5**	**+0.4**
ESKT	**Eskisehir**	**2.68**	**296**	PN	**Pn**	**11 31 12.2**	**+0.9**
ESKT	**Eskisehir**	**2.68**	**296**	*i* Pn	**Pn**	**11 31 12.2**	**+0.9**
DARE	**Darende-Malaty**	**2.76**	**85**	PN	**Pb**	**11 31 14.1**	**-3.0**
DARE	**Darende-Malaty**	**2.76**	**85**	*i* Pn	**Pb**	**11 31 14.1**	**-3.0**
ISP	**Isparta**	**2.78**	**259**	PN	**Pn**	**11 31 12.6**	**-0.1**
ISP	**Isparta**	**2.78**	**259**	*i* Pn	**Pn**	**11 31 12.6**	**-0.1**
BCK	**Bucak**	**2.83**	**252**	PN	**Pn**	**11 31 13.3**	**0.0**
BCK	**Bucak**	**2.83**	**252**	*i* Pn	**Pn**	**11 31 13.4**	**0.0**
MDUB	**Mudurnu**	**2.99**	**315**	PN	**Pn**	**11 31 16.5**	**+1.0**
MDUB	**Mudurnu**	**2.99**	**315**	*i* Pn	**Pn**	**11 31 16.5**	**+1.0**
KVT	**Kavak**	**3.13**	**30**	PN	**Pn**	**11 31 19.2**	**+1.8**
KVT	**Kavak**	**3.13**	**30**	*i* Pn	**Pn**	**11 31 19.2**	**+1.8**
BYBT	**Boyabat**	**3.13**	**11**	PN	**Pn**	**11 31 19.2**	**+1.8**
BYBT	**Boyabat**	**3.13**	**11**	*i* Pn	**Pn**	**11 31 19.2**	**+1.8**
RSDY	**Resadiye-TOKAT**	**3.28**	**51**	PN	**Pn**	**11 31 21.2**	**+1.7**
RSDY	**Resadiye-TOKAT**	**3.28**	**51**	*i* Pn	**Pn**	**11 31 21.2**	**+1.7**
GULT	**Gulveren**	**3.37**	**308**	PN	**Pn**	**11 31 21.9**	**+1.2**
GULT	**Gulveren**	**3.37**	**308**	*i* Pn	**Pn**	**11 31 21.9**	**+1.2**
BZK	**Bozkurt**	**3.57**	**0**	PN	**Pn**	**11 31 25.3**	**+1.9**
BZK	**Bozkurt**	**3.57**	**0**	*i* Pn	**Pn**	**11 31 25.3**	**+1.9**
TVSB	**Tavsanli**	**3.67**	**288**	PN	**Pn**	**11 31 25.7**	**+0.8**
TVSB	**Tavsanli**	**3.67**	**288**	*i* Pn	**Pn**	**11 31 25.7**	**+0.8**
CAVI	**Cavuskoy**	**3.68**	**301**	PN	**Pn**	**11 31 25.9**	**+1.0**
CAVI	**Cavuskoy**	**3.68**	**301**	*i* Pn	**Pn**	**11 31 25.9**	**+1.0**
KBZ	**Khabaz**	**8.59**	**49**	Pn	Pn	11 32 38.0	+5.6
	0.1nm,0.3s,baz=203,slow=7.7,SNR=4.0						
SOKA	**Soboth**	**16.20**	**307**	*i* Pn	**Pn**	**11 34 12.6**	**-3.2**
	2.6nm,1.1s						
KBA	**Koelnbreinsper**	**17.43**	**306**	*i* Pn	**Pn**	**11 34 29.0**	**-2.4**
	1.8nm,0.9s						
MOTA	**Moosalm**	**18.95**	**306**	*i* P	**Pn**	**11 34 51.7**	**+1.7**
	3.4nm,0.7s						
FETA	**Feichten**	**19.08**	**304**	*i* Pn	**P**	**11 34 46.9**	**-4.0**
	5.2nm,1.1s						
RETA	**Reutte**	**19.21**	**306**	*i* pP	**P**	**11 34 53.3**	**+1.0**
	7.3nm,0.8s						
DAVA	**Damuels**	**19.71**	**305**	*i* pP	**Pn**	**11 34 58.2**	**-1.0**
	9.4nm,0.7s						
FINES	**FINESS Array B**	**23.60**	**351**	P	**P**	**11 35 38.6**	**-0.3**
	2.5nm,0.7s,baz=134,slow=9.9,SNR=7.1						
NOA	**NORSAR Array B**	**26.75**	**335**	P	**P**	**11 36 08.7**	**+0.7**
	0.6nm,0.6s,baz=147,slow=9.2,SNR=3.3						
NOA				LR	LR	11 47 31.9	
	comp=Z,6.2nm,19.4s,baz=345,slow=38						
AAK	**Ala-Archa**	**30.89**	**69**	LR	LR	11 52 38.6	
	comp=Z,12nm,18.4s,baz=231,slow=43						
ARCES	**ARCESS Array B**	**31.54**	**354**	P	**P**	**11 36 50.0**	**-0.3**
	0.9nm,0.8s,baz=179,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**36.06**	**61**	P	**P**	**11 37 32.6**	**+2.7**
	0.7nm,0.6s,baz=268,slow=7.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**38.09**	**237**	P	**P**	**11 37 45.7**	**-1.8**
	1.1nm,0.8s,baz=37,slow=8.1,SNR=7.4						
SONM	**Songino Array**	**51.91**	**55**	P	**P**	**11 39 39.5**	**+2.3**
	0.6nm,0.5s,baz=287,slow=9.7,SNR=3.5						
KSRS	**Korea Array**	**70.65**	**57**	P	**P**	**11 41 45.5**	**+1.4**
	0.8nm,0.6s,baz=296,slow=4.8,SNR=4.2						

*PGC **13** 11:34:10.8±1.8, 59˚91N×140˚89W, h5km, ML2.6/5, 105km Wnw of Yakutat, Ak Southeastern Alaska*
*NEIC **13** 11:34:12.0, 60˚04N×140˚78W, h14km, ML2.6(OT

	comp=Z,38nm,1.7s							
ERM	**Erimo**	**5.34**	**9**	*e*Pn	**Pn**	**11 40 42.5**	**+0.1**
	comp=Z,28nm,0.4s							
ASAJ	**Asahikawa**	**7.38**	**3**	Pn	**Pn**	**11 41 09.6**	**-0.9**
	baz=200,slow=10							
ASAJ				Sn	**Sn**	**11 42 30.4**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=162,slow=20,SNR=2.2							
ASAJ	**Asahikawa**	**7.38**	**3**	Pn	**Pn**	**11 41 09.6**	**-0.9**
ASAJ				*e*Pn	**Pn**	**11 41 10.3**	**-0.1**
ASAJ				Sn	**Sn**	**11 42 30.4**	**-3.3**
YUK	**Yuzh-Kuril'sk**	**7.85**	**21**	*e*P	**Pn**	**11 41 17.8**	**+1.1**
KUR	**Kuril'sk**	**9.56**	**26**	*e*P	**Pn**	**11 41 43.8**	**+3.6**
CBIJ	**Chichi jima**	**9.61**	**179**	Pn	**Pn**	**11 41 39.8**	**-1.3**
JCJ	**Chichijima**	**9.61**	**179**	Pn	**Pn**	**11 41 39.8**	**-1.3**
	comp=Z,4.5nm,0.3s,baz=284,slow=21,SNR=5.3							
JNU	**Nakatsue**	**9.86**	**252**	Pn	**Pn**	**11 41 44.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=50,slow=7.9,SNR=3.6							
JNU				LR	LR	11 45 45.2		
	comp=Z,188nm,19.0s,baz=118,slow=39							
YSS	**Yuzh-Sakhalins**	**10.22**	**3**	*e*P	**Pn**	**11 41 48.9**	**-0.4**
YSS				*e*S	**Sn**	**11 43 38.2**	**-5.1**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.6s							
YSS				MLR	MLR			
	comp=Z,300nm,16.0s							
YSS	**Yuzh-Sakhalins**	**10.22**	**3**	*e*Pn	**Pn**	**11 41 49.1**	**-0.2**
	comp=Z,12nm,0.8s							
USRK	**Ussuriysk Ar.**	**10.69**	**317**	Pn	**Pn**	**11 41 57.6**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=116,slow=13,SNR=18							
USRK				LR	LR	11 45 46.9		
	comp=Z,364nm,19.1s,baz=120,slow=36							
KSRS	**Korea Array**	**11.31**	**278**	Pn	**Pn**	**11 42 08.3**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=86,slow=14,SNR=13							
KSRS				LR	LR	11 46 20.3		
	comp=Z,392nm,18.9s,baz=89,slow=37							
KSAR	**Wonju Array Be**	**11.34**	**278**	P	**Pn**	**11 42 08.3**	**+3.7**
KSAR	**Wonju Array Be**	**11.34**	**278**	Pn	**Pn**	**11 42 08.3**	**+3.7**
KLR	**Kul'dur**	**14.57**	**332**	Pn	**P**	**11 42 53.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=155,slow=14,SNR=5.6							
KLR				LR	LR	11 48 20.9		
	comp=Z,243nm,18.7s,baz=144,slow=37							
PETK	**Petropavlovsk-**	**19.69**	**29**	LR	LR	11 51 54.3		
	comp=Z,51nm,19.3s,baz=222,slow=38							
GUMO	**Guam**	**23.19**	**173**	LR	LR	11 53 14.0		
	comp=Z,17nm,21.8s,baz=342,slow=36							
MA2	**Magadan**	**23.54**	**11**	P	**P**	**11 44 33.6**	**+1.1**
	comp=Z,6.3nm,0.6s,baz=204,slow=18,SNR=3.6							
MA2				LR	LR	11 53 21.4		
	comp=Z,36nm,18.6s,baz=151,slow=36							
YAK	**Yakutsk**	**26.47**	**347**	P	**P**	**11 44 59.0**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=180,slow=20,SNR=3.2							
YAK				LR	LR	11 55 29.8		
	comp=Z,29nm,18.9s,baz=158,slow=36							
YAK	**Yakutsk**	**26.47**	**347**	*e*	**P**	**11 44 59.2**	**-0.1**
YAK				*e*		11 45 11.2		
YAK				pmax	pmax			
	comp=Z,21nm,0.8s							
YAK				pmax	pmax			
	comp=N,9.0nm,1.3s							
SEY	**Seymchan**	**26.99**	**10**	P	**P**	**11 45 05.5**	**+1.5**
	comp=N,4.1nm,0.8s,baz=199,slow=6.1,SNR=8.4							
SEY	**Seymchan**	**26.99**	**10**	*i* P	**P**	**11 45 05.3**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**27.55**	**121**	T	T	12 14 46.2		
	baz=314,slow=75,SNR=102							
H11N1	**WAKE ISLAND Hy**	**27.56**	**121**	T	T	12 14 56.9		
	baz=314,slow=75,SNR=87							
H11N3	**WAKE ISLAND Hy**	**27.57**	**121**	T	T	12 14 56.3		
	baz=314,slow=75,SNR=104							
ENH	**Enshi**	**27.82**	**266**	*e*P	**P**	**11 45 11.7**	**-0.2**
	comp=N,20nm,0.7s							
ULN	**Ulaanbaatar**	**27.95**	**304**	*c i*P	**P**	**11 45 13.4**	**+0.5**
ULN				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ULN	**Ulaanbaatar**	**27.95**	**304**	*e*P	**P**	**11 45 13.4**	**+0.5**
	comp=Z,11nm,1.0s							
H11S1	**WAKE ISLAND Hy**	**28.27**	**123**	T	T	12 15 36.0		
	baz=316,slow=76,SNR=55							
H11S3	**WAKE ISLAND Hy**	**28.27**	**123**	T	T	12 16 00.8		
	baz=316,slow=76,SNR=48							
H11S2	**WAKE ISLAND Hy**	**28.28**	**123**	T	T	12 16 03.2		
	baz=316,slow=76,SNR=31							
SONM	**Songino Array**	**28.38**	**304**	P	**P**	**11 45 17.0**	**+0.3**
	comp=Z,9.7nm,0.9s,baz=96,slow=9.0,SNR=39							
SONM				LR	LR	11 56 48.9		
	comp=Z,96nm,18.2s,baz=80,slow=37							
SONM	**Songino Array**	**28.38**	**304**	P	**P**	**11 45 17.0**	**+0.3**
SONM				pmax	pmax			
	comp=Z,10.0nm,0.9s							
SONM				MLR	MLR			
	comp=Z,96nm,18.2s							
TLY	**Talaya**	**30.91**	**311**	LR	LR	11 58 48.5		
	comp=Z,149nm,18.2s,baz=103,slow=38							
TIXI	**Tiksi**	**35.65**	**353**	P	**P**	**11 46 19.7**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=132,slow=7.2,SNR=6.3							
CMAR	**Chiang Mai Arr**	**41.92**	**256**	P	**P**	**11 47 13.8**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=56,slow=5.2,SNR=4.2							
ZALV	**Zalesovo Beam**	**42.49**	**313**	P	**P**	**11 47 18.1**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=95,slow=7.4,SNR=17							
ZALV				PcP	**PcP**	**11 49 09.9**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=93,slow=1.7,SNR=3.4							
ZALV				LR	LR	12 05 37.8		
	comp=Z,97nm,19.4s,baz=70,slow=37							
ZALV	**Zalesovo Beam**	**42.49**	**313**	P	**P**	**11 47 18.1**	**+0.6**
ZALV						11 49 09.9		
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV				MLR	MLR			
	comp=Z,97nm,19.4s							
NRIK	**Noril'sk**	**43.75**	**335**	LR	LR	12 06 55.5		
	comp=Z,121nm,18.3s,baz=126,slow=38							
MKAR	**Makanchi Array**	**44.71**	**302**	P	**P**	**11 47 35.9**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=86,slow=10,SNR=20							
KURK	**Kurchatov**	**46.52**	**308**	*e*P	**P**	**11 47 49.9**	**+0.2**
KURK				pmax	pmax			
	comp=Z,74nm,0.8s							
KURK	**Kurchatov**	**46.52**	**308**	*e*P	**P**	**11 47 49.9**	**+0.2**
	comp=Z,74nm,0.8s							
KURK				P	**P**	**11 47 50.2**	**+0.6**
KURBB	**Kurchatov Arra**	**46.59**	**308**	P	**P**	**11 47 50.2**	**0.0**
	comp=Z,4.5nm,0.8s,baz=83,slow=8.2,SNR=32							
ILAR	**Eielson Array**	**49.47**	**32**	P	**P**	**11 48 12.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=268,slow=6.8,SNR=15							
AAK	**Ala-Archa**	**51.08**	**299**	*e*P	**P**	**11 48 25.7**	**+0.6**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BVAR	**Borovoye Array**	**51.15**	**313**	P	**P**	**11 48 25.0**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=80,slow=8.2,SNR=4.3							
BVAR				PcP	**PcP**	**11 49 40.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=90,slow=4.6,SNR=3.7							
BRVK	**Borovoye**	**51.21**	**313**	*i* P	**P**	**11 48 25.8**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,12nm,1.7s							
KKAR	**Karatay Array**	**53.72**	**300**	*e*P	**P**	**11 48 44.9**	**+0.5**
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KKAR	**Karatay Array**	**53.72**	**300**	*e*P	**P**	**11 48 44.9**	**+0.5**
	comp=Z,1.1nm,0.4s							
INK	**Inuvik**	**54.42**	**27**	P	**P**	**11 48 49.5**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=330,slow=4.1,SNR=3.7							
FITZ	**Fitzroy Crossi**	**56.70**	**199**	LR	LR	12 10 35.6		
	comp=Z,64nm,21.2s,baz=354,slow=33							
WRA	**Warramunga Arr**	**56.84**	**189**	P	**P**	**11 49 06.0**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=7.8,slow=7.7,SNR=5.4							
ARU	**Arti**	**56.92**	**319**	*d i*P	**P**	**11 49 07.9**	**+0.7**
ARU						11 51 09.6		
ARU				S	**S**	**11 56 58.1**	**-1.9**
ARU				SS	**SS**	**12 00 41.7**	**-6.1**
ARU				pmax	pmax			
	comp=Z,11nm,1.2s							
ARU	**Arti**	**56.92**	**319**	*e*P	**P**	**11 49 07.6**	**+0.3**
	comp=Z,4.5nm,1.0s							
ABKAR	**Akbulak array**	**58.52**	**310**	*e*P	**P**	**11 49 18.5**	**-0.2**
	comp=Z,4.4nm,0.8s							
ASAR	**Alice Springs**	**60.57**	**189**	P	**P**	**11 49 32.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=12,slow=8.5,SNR=5.7							
YKA	**Yellowknife Ar**	**63.81**	**30**	P	**P**	**11 49 54.6**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=305,slow=6.5,SNR=2.6							
KLMR	**Klimovskoe**	**64.28**	**328**	*e*P	**P**	**11 49 56.7**	**-0.6**
KLMR				*e*		11 50 31.9		
KLMR				*e*		11 52 16.4		
KLMR				pmax	pmax			
	comp=Z,11nm,1.4s							
ARCES	**ARCESS Array B**	**64.45**	**340**	LR	LR	12 20 34.3		
	comp=Z,41nm,21.0s,baz=92,slow=38							
FINES	**FINESS Array B**	**69.31**	**333**	P	**P**	**11 50 29.4**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=100,slow=7.9,SNR=4.8							
FINES				LR	LR	12 23 06.7		
	comp=Z,77nm,18.1s,baz=228,slow=38							
FINES	**FINESS Array B**	**69.31**	**333**	P	**P**	**11 50 29.5**	**+0.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
FINES				MLR	MLR			
	comp=Z,77nm,18.1s							
KBZ	**Khabaz**	**71.48**	**311**	P	**P**	**11 50 44.1**	**+1.2**
	comp=Z,4.5nm,0.9s,baz=140,slow=4.8,SNR=8.9							
KBZ				LR	LR	12 24 01.7		
	comp=Z,24nm,19.6s,baz=100,slow=38							
KIV	**Kislovodsk**	**71.49**	**311**	*e*P	**P**	**11 50 44.4**	**+1.3**
KIV				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,36nm,17.0s							
NB2	**NORSAR Subarra**	**74.66**	**338**	P	**P**	**11 51 01.8**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=39,slow=5.9							
NOA	**NORSAR Array B**	**74.66**	**338**	P	**P**	**11 51 02.1**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=37,slow=5.8,SNR=4.7							
NOA				LR	LR	12 26 17.6		
	comp=Z,52nm,21.4s,baz=45,slow=38							
NVAR	**Mina Array Bea**	**74.75**	**53**	P	**P**	**11 51 03.3**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=294,slow=6.8,SNR=2.9							
AKASG	**Malin Array Be**	**74.84**	**323**	P	**P**	**11 51 02.7**	**0.0**
	comp=Z,1.0nm,0.4s,baz=50,slow=6.6,SNR=5.4							
BRTR	**Keskin Array B**	**79.43**	**312**	P	**P**	**11 51 29.6**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=67,slow=4.2,SNR=5.3							
CLL	**Collm**	**81.61**	**330**	*i* P	**P**	**11 51 40.7**	**+0.6**
	comp=Z,6.0nm,1.1s							
CLL	**Collm**	**81.61**	**330**	*i* P	**P**	**11 51 40.7**	**+0.6**
CLL				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GERES	**GERESS Array B**	**83.23**	**329**	P	**P**	**11 51 49.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=46,slow=7.6,SNR=4.8							
GERES				LR	LR	12 34 14.7		
	comp=Z,31nm,20.6s,baz=340,slow=40							
GERES	**GERESS Array B**	**83.23**	**329**	P	**P**	**11 51 49.0**	**+0.2**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BFO	**Black Forest**	**85.81**	**331**	*i* P	**P**	**11 52 03.3**	**+1.5**
TXAR	**Lajitas Array**	**89.89**	**53**	P	**P**	**11 52 22.8**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=289,slow=2.8,SNR=3.2							

*ISCJB **13** 11:40:14.1±0.6, 4.°87N±0.°07×127.°6E±0.°2, h108km, mb3.9/13, Error ellipse: s-maj=35.5km s-min=9.7km az=172.8*
*IDC **13** 11:40:21.3±5.9, 4.°76N×127.°58E, h162km±58km, mb3.6/13, mb1 3.7/13, mb1mx3.4/49, mbtmp4.1/13, Error ellipse: s-maj=32.9km s-min=10.9km az=80.0*

ISC 13 11:40:15.5±0.7, 4.°76N±0.°09×127.°5E±0.°3, h108km, n15, σ1°08/16, mb4.0/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.95**	**321**	S	Sn	11 41 45.9	+10
	32nm,0.3s,baz=225,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi**	**22.79**	**184**	P	**P**	**11 45 10.7**	**+1.5**
	1.1nm,0.5s,baz=14,slow=9.5,SNR=4.7						
FITZ				S	**S**	**11 49 08.6**	**-1.5**
	4.2nm,1.1s,baz=341,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**25.47**	**165**	P	**P**	**11 45 33.5**	**-0.2**
	0.9nm,0.6s,baz=343,slow=10,SNR=28						
ASAR	**Alice Springs**	**28.95**	**168**	P	**P**	**11 46 05.3**	**+0.5**
	0.6nm,0.8s,baz=353,slow=8.0,SNR=16						
ASAR				PcP	**PcP**	**11 49 10.8**	**-0.5**
	0.3nm,0.5s,baz=345,slow=2.2,SNR=6.4						
KSRS	**Korea Array**	**32.54**	**1**	P	**P**	**11 46 37.1**	**+0.9**
	1.4nm,0.6s,baz=176,slow=9.5,SNR=10						
STKA	**Stephens Creek**	**38.85**	**161**	P	**P**	**11 47 30.6**	**+0.3**
	1.9nm,0.8s,baz=345,slow=8,SNR=12						
KLR	**Kul'dur**	**44.46**	**4**	P	**P**	**11 48 15.4**	**-0.3**
	1.4nm,0.5s,baz=194,slow=5.2,SNR=6.2						
SONM	**Songino Array**	**46.56**	**341**	P	**P**	**11 48 33.4**	**+0.9**
	0.8nm,0.7s,baz=161,slow=9.2,SNR=4.0						
PETK	**Petropavlovsk-**	**54.21**	**22**	P	**P**	**11 49 30.5**	**+0.6**
	4.2nm,0.6s,baz=188,slow=2.5,SNR=10						
MKAR	**Makanchi Array**	**57.13**	**325**	P	**P**	**11 49 51.9**	**+0.9**
	1.5nm,0.4s,baz=114,slow=8.2,SNR=13						
KURBB	**Kurchatov Arra**	**61.27**	**327**	P	**P**	**11 50 19.6**	**+0.3**
	1.7nm,0.5s,baz=126,slow=6.5,SNR=11						
TIXI	**Tiksi**	**66.81**	**0**	P	**P**	**11 50 54.0**	**-1.2**
	1.5nm,0.4s,baz=207,slow=5.9,SNR=9.5						
BVAR	**Borovoye Array**	**66.86**	**327**	P	**P**	**11 50 56.5**	**+0.6**
	0.5nm,0.3s,baz=116,slow=6.7,SNR=2.9						
ARCES	**ARCESS Array B**	**89.73**	**340**	P	**P**	**11 52 59.2**	**-2.2**
	1.7nm,0.8s,baz=82,slow=6.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.28**	**289**	PKP	**PKPdf**	**11 59 00.0**	**-0.8**
	0.4nm,0.6s,baz=45,slow=1.7,SNR=3.6						

*ISCJB **13** 11:41:41.1±1.1, 1.°1N±0.°1×96.°91E±0.°07, h25km, mb4.1/8, MS4.6/1, Error ellipse: s-maj=16.0km s-min=8.6km az=16.8*
*IDC **13** 11:41:41.5±5.9, 1.°32N×97.°12E, h0km, mb4.0/8, mb1 4.0/9, mb1mx3.7/51, mbtmp4.0/9, ML4.3/1, MS4.6/1, Ms1 4.6/1, ms1mx2.8/40, Error ellipse: s-maj=119.2km s-min=44.4km az=8.0*
*DJA **13** 11:41:42.6±1.8, 1.°N±8.°×97.°7E±1.°1, h19km±9km, M4.0/6, mb4.4/1, MLv3.8/6*

ISC 13 11:41:43.9±1.4, 1.°2N±0.°1×97.°1E±0.°1, h25km, n23, σ0°56/16, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.53**	**78**	P	**Pb**	**11 41 54.9**	**+0.3**
GSI				S	**Sn**	**11 42 04.0**	**0.0**
TPTI		**2.06**	**3**	P	**Pn**	**11 42 16.4**	**-0.5**
KCSI	**Kotacane, Aceh**	**2.42**	**17**	P	**Pn**	**11 42 22.7**	**+0.7**
MNSI	**Mandailing Nat**	**2.55**	**99**	P	**Pn**	**11 42 23.3**	**-0.4**
TSI	**Tuntungan**	**2.74**	**33**	P	**Pb**	**11 42 32.1**	**-0.2**
MLSI	**Meulaboh, Aceh**	**3.12**	**348**	P	**Pb**	**11 42 43.6**	**+4.8**
PPI	**Padang Panjang**	**3.72**	**116**	P	**Pn**	**11 42 39.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**17.26**	**6**	P	**Pn**	**11 45 42.4**	**-1.0**
	0.4nm,0.3s,baz=198,slow=11,SNR=3.9						
H08S2	**Diego Garcia H**	**26.03**	**250**	T	T	12 14 15.1	
	baz=71,slow=75,SNR=779						
H08S3	**Diego Garcia H**	**26.03**	**250**	T	T	12 14 11.6	
	baz=71,slow=75,SNR=1050						
H08S1	**Diego Garcia H**	**26.05**	**250**	T	T	12 14 12.7	
	baz=71,slow=75,SNR=667						
H01W3	**Cape Leeuwin H**	**39.29**	**158**	T	T	12 30 43.2	
	baz=333,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**39.30**	**158**	T	T	12 30 41.1	
	baz=333,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**39.31**	**158**	T	T	12 30 43.3	
	baz=333,slow=76,SNR=8.4						
KSRS	**Korea Array**	**45.93**	**35**	P	**P**	**11 50 04.5**	**-0.3**
	2.7nm,0.8s,baz=221,slow=8.6,SNR=11						
SONM	**Songino Array**	**47.16**	**9**	P	**P**	**11 50 14.2**	**-0.2**
	1.0nm,0.7s,baz=196,slow=9.2,SNR=5.6						
MKAR	**Makanchi Array**	**47.22**	**346**	P	**P**	**11 50 15.3**	**+0.5**
	1.2nm,0.6s,baz=168,slow=8.8,SNR=4.8						
TLY	**Talaya**	**50.61**	**5**	LR	LR	12 12 23.8	
	comp=Z,662nm,21.3s,baz=340,slow=36						
KURBB	**Kurchatov Arra**	**51.70**	**345**	P	**P**	**11 50 49.8**	**+0.9**
	1.1nm,0.8s,baz=170,slow=7.0,SNR=5.3						
USRK	**Ussuriysk Ar.**	**52.85**	**31**	P	**P**	**11 50 58.0**	**+0.4**
	2.7nm,0.9s,baz=208,slow=3.7,SNR=6.0						
ZALV	**Zalesovo Beam**	**53.54**	**351**	P	**P**	**11 51 03.1**	**+0.6**
	2.3nm,0.6s,baz=186,slow=6.9,SNR=11						
BVAR	**Borovoye Array**	**56.21**	**341**	P	**P**	**11 51 21.9**	**0.0**
	1.2nm,0.7s,baz=146,slow=8.2,SNR=4.8						
KLR	**Kul'dur**	**56.32**	**27**	P	**P**	**11 51 23.1**	**+0.4**
	2.3nm,0.9s,baz=266,slow=5.6,SNR=7.2						

IDC 13 12:03:06.2±1.0, 57.°83S×25.°22W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, MS3.1/1, Ms1 3.0/1, ms1mx2.7/19, Error ellipse: s-maj=45.5km s-min=34.5km az=76.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**44.84**	**182**	P	P	12 11 21.9	+0.7
	0.4nm,0.5s,baz=184,slow=8.1,SNR=3.8						
BDFB	**Brasilia**	**45.45**	**328**	LR	LR	12 30 14.1	
	comp=Z,21nm,18.7s,baz=219,slow=36						
H10S2	**ASCENSION HYDR**	**49.44**	**14**	T	T	13 06 32.6	
	baz=188,slow=75,SNR=7.3						
H10S3	**ASCENSION HYDR**	**49.44**	**14**	T	T	13 06 32.7	
	baz=188,slow=75,SNR=7.6						
H10S1	**ASCENSION HYDR**	**49.45**	**14**	T	T	13 06 33.9	
	baz=188,slow=75,SNR=7.1						
H10N1	**ASCENSION HYDR**	**50.55**	**14**	T	T	13 07 56.3	
	baz=186						
H10N3	**ASCENSION HYDR**	**50.56**	**14**	T	T	13 07 56.6	
	baz=186,slow=74						
H10N2	**ASCENSION HYDR**	**50.57**	**14**	T	T	13 07 58.1	
	baz=186,slow=74						
LPAZ	**La Paz**	**52.28**	**304**	P	P	12 12 20.4	+0.5
	0.8nm,0.6s,baz=169,slow=5.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**74.11**	**27**	P	P	12 14 45.0	+1.0
	0.5nm,0.6s,baz=198,slow=6.0,SNR=5.1						
YKA	**Yellowknife Ar**	**138.21**	**316**	PKP	PKPdf	12 22 29.6	-2.0
	0.3nm,0.7s,baz=128,slow=2.5,SNR=5.6						
SONM	**Songino Array**	**149.73**	**88**	PKPbc	PKPbc	12 22 55.9	-1.0
	0.5nm,0.5s,baz=258,slow=2.8,SNR=2.4						
ILAR	**Eielson Array**	**152.09**	**309**	PKPbc	PKPbc	12 23 00.6	-1.2
	1.7nm,0.8s,baz=129,slow=2.8,SNR=17						

*ISCJB **13** 12:04:04.1±0.5, 9.°24S±0.°04×123.°04E±0.°04, h100km±5km, mb4.5/36, Error ellipse: s-maj=7.0km s-min=5.1km az=44.1*
*IDC **13** 12:04:04.9±0.7, 9.°07S×122.°93E, h89km±5km, mb4.2/21, mb1 4.2/22, mb1mx4.1/37, mbtmp4.5/22, MS3.4/6, Ms1 3.4/6, ms1mx2.9/39, Error ellipse: s-maj=15.3km s-min=10.0km az=72.0*
*NEIC **13** 12:04:04.3±0.6, 9.°23S×122.°98E, h86km±6km, mb4.6/20, Error ellipse: s-maj=9.7km s-min=6.0km az=49.0*
*DJA **13** 12:04:06.6±0.3, 9.°5S±3.°×12.°3E±°, h73km±5km, M4.8/22, mb4.9/22, mB5.2/8, MLv5.0/12, Mw(mB)4.6/8*

ISC 13 12:04:04.1±0.5, 9.°33S±0.°04×122.°99E±0.°05, h84km±4km, h84km:pP-P, n96, σ2°07/117, mb4.6/36, 2D, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.02**	**313**	P	**Pn**	**12 04 23.0**	**-0.6**
MMRI	**Maumere**	**1.02**	**313**	*e*Pn	**Pn**	**12 04 23.4**	**-0.1**
MMRI				*e*Sn	**Sn**	**12 04 37.2**	**-1.0**
SOEI	**Soe**	**1.33**	**109**	P	**Pn**	**12 04 29.5**	**+2.0**
SOEI	**Soe**	**1.33**	**109**	*e*Pn	**Pn**	**12 04 29.6**	**+2.1**
BASI	**Baing, Sumba**	**2.54**	**249**	P	**Pn**	**12 04 46.1**	**+2.8**
WSI	**Waingapu**	**2.68**	**263**	P	**Pn**	**12 04 49.3**	**+4.2**
BSSI	**Bau Bau, Buton**	**4.02**	**322**	P	**Pn**	**12 05 05.0**	**+1.6**
PLAI	**Plampang**	**5.17**	**275**	P	**Pn**	**12 05 22.7**	**+3.6**
	288nm,0.7s,4μm1.9nm						
KDI	**Kendari**	**5.35**	**356**	P	**Pn**	**12 05 22.6**	**+1.1**
KAPI	**Kappang**	**5.36**	**323**	P	**Pn**	**12 05 24.0**	**+2.4**
	9.3nm,0.3s,baz=161,slow=6.9,SNR=20						
KAPI				S	**Sn**	**12 06 22.5**	**+0.5**
	0.6nm,0.3s,baz=270,slow=19,SNR=1.5						
KAPI				LR	LR	12 07 52.3	
	comp=Z,233nm,19.1s,baz=144,slow=44						
KAPI	**Kappang**	**5.36**	**323**	*e*Pn	**Pn**	**12 05 22.8**	**+1.2**
KAPI				S	**Sn**	**12 05 22.5**	**+0.5**
TWSI	**Taliwang, Sumb**	**6.06**	**275**	P	**Pn**	**12 05 34.2**	**+3.0**
	121nm,0.7s,4μm2.1nm						
TWSI				S	**Sn**	**12 06 42.3**	**+3.1**
	121nm,0.7s,4μm2.1nm						
SPSI	**Sidrap Palu**	**6.22**	**329**	P	**Pn**	**12 05 36.3**	**+3.0**
	27nm,0.9s,464nm0.1nm						
TTSI	**Tana Toraja**	**7.00**	**333**	P	Pn	12 05 49.1	+5.1
	58nm,1.1s,1μm0.2nm						
SANI	**Sanana**	**7.83**	**23**	P	**Pn**	**12 05 58.9**	**+3.6**
	106nm,0.8s,2μm0.4nm						
LUWI	**Luwuk**	**8.24**	**358**	P	**Pn**	**12 06 04.6**	**+3.7**
	167nm,1.0s,5μm0.5nm						
LUWI	**Luwuk**	**8.24**	**358**	*e*Pn	**Pn**	**12 06 00.8**	**-0.1**
MTN	**Manton Dam**	**8.72**	**114**	*e*Pn	**Pn**	**12 06 06.3**	**-1.2**
JAGI	**Jajag, Banyuwa**	**8.77**	**275**	*e*Pn	**Pn**	**12 06 06.5**	**-1.7**
JAGI				*e*Sn	**Sn**	**12 07 44.3**	**-1.3**
PCI	**Palu**	**8.94**	**339**	P	Pn	12 06 20.1	+10
FITZ	**Fitzroy Crossi**	**9.09**	**164**	P	**Pn**	**12 06 11.8**	**-0.7**
	2.1nm,0.3s,baz=9.8,slow=8.5,SNR=55						
FITZ				S	**Sn

	comp=E,130nm,13.7s								
HHC					LR	LR			
	comp=Z,73nm,13.3s								
USRK	**Ussuriysk Ar.**	**53.90**	**8**	P	**P**	**12 13 16.6**	**-2.2**		
	comp=Z,2.1nm,0.4s,baz=193,slow=6,9,SNR=11								
MDJ	**Mudanjiang**	**54.03**	**6**	P	**P**				
MDJ				pmax	pmax				
	comp=Z,8.0nm,0.7s								
MDJ				pmax	pmax				
	comp=Z,48nm,5.7s								
CASY	**Casey**	**57.51**	**186**	*e*P	**P**	**12 13 46.2**	**+1.9**		
	comp=Z,9.2nm,1.3s								
SONM	**Songino Array**	**58.79**	**347**	P	**P**	**12 13 52.7**	**-0.9**		
	comp=Z,1.8nm,0.6s,baz=162,slow=8.2,SNR=9.7								
SONM				ScP	**ScP**	**12 18 34.1**	**-1.4**		
	comp=Z,0.3nm,0.5s,baz=157,slow=4.1,SNR=3.6								
KLR	**Kul'dur**	**58.82**	**7**	P	**P**	**12 13 53.3**	**-0.4**		
	comp=Z,1.3nm,0.6s,baz=187,slow=8.1,SNR=3.4								
WMQ	**Urumqi**	**61.84**	**332**	P	**P**	**12 14 13.3**	**-1.2**		
WMQ				pP	pP	12 14 39.4	+3.6		
WMQ				sP	sP	12 14 49.3	+4.2		
WMQ				pmax	pmax				
	comp=Z,6.0nm,0.6s								
WMQ				pmax	pmax				
	comp=Z,63nm,3.8s								
WMQ				LR	LR				
	comp=N,54nm,21.8s								
WMQ				LR	LR				
	comp=E,29nm,22.8s								
WMQ				LR	LR				
	comp=Z,28nm,20.6s								
KSH	**Kashi**	**65.27**	**321**	P	**P**	**12 14 36.3**	**-0.9**		
KSH				pP	pP	12 15 00.3	+1.6		
KSH				PcP	**sP**	**12 15 06.1**	**-1.9**		
KSH				PP	**PP**	**12 17 03.0**	**+1.0**		
KSH				S	**S**	**12 23 08.0**	**-6.5**		
KSH				ScS	**SKSac**	**12 24 20.4**	**-4.6**		
KSH	**Kashi**	**65.27**	**321**	SS	SS	12 27 27.4	-1.7		
KSH				pmax	pmax				
	comp=Z,8.0nm,0.6s								
KSH				pmax	pmax				
	comp=Z,69nm,4.1s								
KSH				LR	LR				
	comp=N,88nm,4.1s								
KSH				LR	LR				
	comp=E,74nm,4.4s								
KSH				LR	LR				
	comp=Z,120nm,5.4s								
MK01	**Makanchi Array**	**66.59**	**331**	*e*P	**P**	**12 14 44.1**	**-1.3**		
MK31	**Makanchi Array**	**66.61**	**331**	*e*P	**P**	**12 14 44.5**	**-1.1**		
MKAR	**Makanchi Array**	**66.61**	**331**	P	**P**	**12 14 44.4**	**-1.2**		
	comp=Z,7.5nm,0.6s,baz=137,slow=7.4,SNR=76								
MKAR				pP	**pP**	**12 15 08.1**	**+1.0**		
	comp=Z,5.7nm,0.7s,baz=138,slow=8.0,SNR=4.9								
TKM2	**Tokmak 2**	**67.58**	**324**	*e*P	**P**	**12 14 50.6**	**-1.4**		
	comp=Z,2.7nm,0.6s								
AAK	**Ala-Archa**	**68.04**	**323**	P	**P**	**12 14 53.6**	**-1.3**		
	comp=Z,3.4nm,0.5s,baz=132,slow=5.2,SNR=6.8								
AAK	**Ala-Archa**	**68.04**	**323**	*e*P	**P**	**12 14 54.0**	**-0.9**		
	comp=Z,4.4nm,0.6s								
EKS2	**Erkin-Say**	**68.48**	**323**	*e*P	**P**	**12 14 56.4**	**-1.2**		
	comp=Z,5.1nm,1.2s								
PETK	**Petropavlovsk-**	**68.86**	**22**	P	**P**	**12 14 58.7**	**-0.9**		
	comp=Z,2.2nm,0.5s,baz=232,slow=1.3,SNR=9.0								
MAW	**Mawson**	**70.29**	**201**	P	**P**	**12 15 10.2**	**+2.1**		
	comp=Z,6.3nm,0.6s,baz=73,slow=5.5,SNR=26								
MAW				LR	LR	12 44 36.3			
	comp=Z,37nm,18.7s,baz=54,slow=34								
MAW	**Mawson**	**70.29**	**201**	*e*P	**P**	**12 15 10.3**	**+2.1**		
	comp=Z,1.4nm,0.6s								
ZAA0	**Zalesovo Array**	**70.81**	**337**	*e*P	**P**	**12 15 08.2**	**-3.3**		
ZALV	**Zalesovo Beam**	**70.81**	**337**	P	**P**	**12 15 09.0**	**-2.5**		
	comp=Z,4.9nm,0.5s,baz=140,slow=4.6,SNR=26								
ZALV				pP	**pP**	**12 15 33.0**	**-0.3**		
	comp=Z,7.4nm,0.6s,baz=135,slow=4.8,SNR=4.6								
KURBB	**Kurchatov Arra**	**71.06**	**332**	P	**P**	**12 15 11.4**	**-1.7**		
	comp=Z,2.2nm,0.6s,baz=147,slow=5.4,SNR=26								
KURBB				pP	**pP**	**12 15 35.0**	**+0.2**		
	comp=Z,4.9nm,0.8s,baz=144,slow=5.4,SNR=7.1								
VNDA	**Vanda**	**71.07**	**172**	P	**P**	**12 15 14.5**	**+1.7**		
	comp=Z,3.6nm,0.5s,baz=319,slow=6.7,SNR=48								
VNDA				LR	LR	12 45 51.6			
	comp=Z,32nm,19.5s,baz=359,slow=35								
KURK	**Kurchatov**	**71.09**	**332**	*e*P	**P**	**12 15 11.3**	**-1.9**		
	comp=Z,32nm,0.8s								
KURK				pP	**pP**	**12 15 35.0**	**0.0**		
BVAR	**Borovoye Array**	**76.49**	**330**	P	**P**	**12 15 42.7**	**-2.1**		
	comp=Z,1.3nm,0.7s,baz=90,slow=5.9,SNR=3.9								
SYO	**Syowa Base**	**78.98**	**201**	*e*P	**P**	**12 16 00.4**	**+2.0**		
SYO	**Syowa Base**	**78.98**	**201**	*e*PcP	**PcP**	**12 16 07.0**	**+0.3**		
QSPA	**South Pole Qui**	**80.66**	**180**	*e*P	**P**	**12 16 08.6**	**+0.9**		
	comp=Z,18nm,0.9s								
TIXI	**Tiksi**	**80.90**	**2**	*e*P	**P**	**12 16 07.3**	**-1.2**		
	comp=Z,32nm,1.6s								
KMBO	**Kilima Mbogo**	**85.61**	**270**	P	**P**	**12 16 35.2**	**+0.8**		
	comp=Z,2.3nm,0.5s,baz=71,slow=6.9,SNR=5.4								
SNAA	**Sanae**	**91.72**	**195**	*e*P	**P**	**12 17 03.4**	**+1.3**		
	comp=Z,4.5nm,0.8s								
BOSA	**Boshof**	**92.29**	**241**	P	**P**	**12 17 06.8**	**+1.1**		
	comp=Z,1.3nm,0.5s,baz=65,slow=5.1,SNR=4.1								
HLID	**Hailey**	**119.81**	**45**	*e*PKPdf	**PKPdf**	**12 22 45.8**	**+0.7**		
TOA0	**Torodi Ar. Sit**	**122.40**	**280**	*e*PKPdf	**PKPdf**	**12 22 50.6**	**0.0**		
TORD	**Torodi Ar. Bea**	**122.40**	**280**	PKP	**PKPdf**	**12 22 50.5**	**-0.1**		
	comp=Z,2.7nm,0.5s,baz=55,slow=2.0,SNR=35								
TORD				pPKP	**pPKPdf**	**12 23 15.1**	**+0.9**		
	comp=Z,1.9nm,0.6s,baz=74,slow=1.5,SNR=6.0								
PDAR	**Pinedale Array**	**123.43**	**44**	PKP	**PKPdf**	**12 22 52.1**	**-0.1**		
	comp=Z,0.2nm,0.4s,baz=245,slow=1.9,SNR=2.3								
TX31	**Lajitas Ar. Si**	**132.07**	**59**	*e*PKPdf	**PKPdf**	**12 23 10.6**	**+1.8**		
TXAR	**Lajitas Array**	**132.07**	**59**	PKP	**PKPdf**	**12 23 10.5**	**+1.7**		
	comp=Z,0.2nm,0.5s,baz=215,slow=1.8,SNR=3.8								
TXAR				SKPbc	**SKPbc**	**12 26 27.1**	**-0.7**		
	comp=Z,0.8nm,0.7s,baz=242,slow=2.8,SNR=8.9								
JCT	**Junction City**	**134.95**	**56**	*e*PKPdf	**PKPdf**	**12 23 12.4**	**-1.8**		
CPUP	**Villa Florida**	**144.55**	**180**	PKP	**PKPdf**	**12 23 32.0**	**+0.3**		
	comp=Z,13nm,0.7s,baz=187,slow=2.0,SNR=28								
CPUP	**Villa Florida**	**144.55**	**180**	*e*PKPdf	**PKPdf**	**12 23 32.1**	**+0.4**		
LVC	**Limon Verde**	**146.18**	**160**	*e*PKPdf	**PKPdf**	**12 23 35.4**	**+0.4**		
LVC				*e*PKPbc	**PKiKP**	**12 23 38.5**	**-0.8**		
LPAZ	**La Paz**	**152.27**	**157**	PKPbc	**PKPbc**	**12 23 53.6**	**+1.6**		
	comp=Z,2.0nm,0.8s,baz=180,slow=3.1,SNR=6.8								
LPAZ				PKPab	**PKPab**	**12 24 02.9**	**+1.0**		
	comp=Z,7.0nm,0.7s,baz=177,slow=4.4,SNR=18								

*ISCJB **13** 12:06:08.7±0.8, 10.76N±0.03×124.57E±0.04, h2km±6km, mb4.0/4, MS3.2/8, Error ellipse: s-maj=6.6km s-min=4.4km az=33.6*
*MAN **13** 12:06:09, 10.75N×124.55E, h11km, mb4.8, ML3.8, MS3.8*
MAN INTENSITY II - ISABEL LEYTE.
*IDC **13** 12:06:10.8±1.8, 11.06N×124.62E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.6/43, mbtmp4.2/4, ML4.8/1, MS3.3/10, Ms1 3.3/10, ms1mx3.0/43, Error ellipse: s-maj=102.1km s-min=24.6km az=81.0*
ISC 13 12:06:08.9±1.6, 10.77N±0.03×124.52E±0.03, h4km±12km, n33, σ1§41/36, mb4.1/4, MS3.1/8, 4C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.29**	**17**	*e*P	**Pb**	**12 06 16.9**	**+0.1**
OCLP				*e*S	**Sb**	**12 06 23.1**	**+1.1**
PLP	**Palo**	**0.60**	**49**	⇑*e*P	**Pb**	**12 06 21.5**	**-0.4**
LLP	**Lapu-Lapu**	**0.71**	**231**	⇓*e*P	**Pg**	**12 06 23.0**	**+0.5**
LLP				*e*S	**Sb**	**12 06 33.5**	**-0.5**
BESP	**Borongan**	**1.22**	**47**	*e*P	**Pn**	**12 06 32.0**	**-0.8**
BESP				*e*S	**Sn**	**12 06 49.1**	**-0.6**
TBP	**Tagbilaran**	**1.25**	**211**	⇓*i*P	**Pb**	**12 06 32.6**	**-0.5**
TBP				*i* S	**Sg**	**12 06 49.6**	**+0.4**
SNPH	**Sibulan**	**1.90**	**222**	*i* P	**Pn**	**12 06 40.4**	**-1.8**
SNPH				*i* S	**Sg**	**12 07 09.8**	**-0.2**
GUIM	**Jordan**	**1.91**	**266**	*e*P	**Pn**	**12 06 42.3**	**+0.1**
GUIM				*e*S	**Sg**	**12 07 10.1**	**-0.1**
RCP	**Roxas**	**1.91**	**294**	⇑*e*P	**Pb**	**12 06 44.1**	**-0.3**
CGP	**Cagayan de Oro**	**2.31**	**176**	⇓*e*P	**Pn**	**12 06 47.2**	**-0.6**
CGP				*e*S	**Sb**	**12 07 19.1**	**-1.0**
DCPH	**Dipolog City**	**2.46**	**208**	⇑*e*P	**Pn**	**12 06 50.1**	**+0.2**
JAP	**San Jose, Anti**	**2.53**	**270**	⇑*e*P	**Pb**	**12 06 54.9**	**0.0**
PVCP	**Virac**	**2.83**	**353**	*e*P	**Pn**	**12 06 54.3**	**-0.7**
OTRP	**Odiongan**	**2.92**	**303**	*e*P	**Pn**	**12 06 56.7**	**+0.5**
OTRP				*e*S	**Sb**	**12 07 39.3**	**+1.8**
BUKP	**Musuan**	**2.92**	**169**	*e*P	**Pn**	**12 06 55.9**	**-0.4**
BUKP				*e*S	**Sb**	**12 07 38.9**	**+1.1**
PAGZ	**Pagadian**	**3.12**	**201**	*e*P	**Pn**	**12 07 00.7**	**+1.9**
CUYO	**Cuyo Island**	**3.44**	**272**	*e*P	**Pn**	**12 07 04.5**	**+1.1**
IPIL	**Ipil**	**3.54**	**213**	*e*P	**Pn**	**12 07 05.6**	**+0.9**
SJMP	**San Jose**	**3.73**	**297**	*e*P	**Pn**	**12 07 04.4**	**-3.0**
SJMP				*e*S	**Sb**	**12 07 56.5**	**-4.6**
DAV	**Davao City (W)**	**3.82**	**164**	Pn	**Pb**	**12 07 14.2**	**-2.7**
	54nm,0.3s,baz=71,slow=3.9,SNR=4.5						
DAV				Sn	**Sb**	**12 08 04.9**	**+1.2**
	49nm,0.3s,baz=56,slow=18,SNR=2.2						
MATI	**Mati**	**4.17**	**156**	*e*P	**Pn**	**12 07 14.6**	**+1.2**
TGY	**Tagaytay City**	**4.82**	**314**	LR	LR	12 09 24.5	
	comp=Z,502nm,19.7s,baz=178,slow=41						
ENPP	**El Nido**	**5.02**	**275**	*e*P	**Pn**	**12 07 26.7**	**+1.6**
KAPI	**Kappang**	**16.39**	**197**	LR	LR	12 16 14.6	
	comp=Z,81nm,21.3s,baz=79,slow=36						
JNU	**Nakatsue**	**23.00**	**14**	LR	LR	12 19 40.4	
	comp=Z,27nm,20.7s,baz=110,slow=36						
KSRS	**Korea Array**	**26.74**	**6**	P	**P**	**12 11 49.9**	**+0.2**
	2.2nm,0.6s,baz=183,slow=10,SNR=12						
KSRS				LR	LR	12 22 21.4	
	comp=Z,44nm,21.8s,baz=193,slow=37						
MJAR	**Matsushiro Arr**	**28.49**	**24**	LR	LR	12 22 05.4	
	comp=Z,44nm,21.6s,baz=210,slow=34						
USRK	**Ussuriysk Ar.**	**33.93**	**10**	P	**P**	**12 12 52.5**	**-0.7**
	2.5nm,0.8s,baz=189,slow=6.7,SNR=6.7						
GTA	**Gaotai**	**36.01**	**327**	*e*P	**P**	**12 13 12.6**	**+1.2**
GTA				pP	pP	12 13 34.9	+22
GTA				sP	sP	12 13 45.6	+33
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SONM	**Songino Array**	**39.97**	**341**	P	**P**	**12 13 45.1**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=168,slow=8.8,SNR=9.2						
SONM				LR	LR	12 31 07.5	
	comp=Z,26nm,21.9s,baz=128,slow=38						
ZALV	**Zalesovo Beam**	**53.37**	**332**	LR	LR	12 40 18.2	
	comp=Z,20nm,18.2s,baz=70,slow=38						
BVAR	**Borovoye Array**	**60.28**	**326**	LR	LR	12 45 29.3	
	comp=Z,64nm,18.9s,baz=75,slow=39						
NRIK	**Noril'sk**	**63.11**	**346**	LR	LR	12 44 44.6	
	comp=Z,20nm,18.6s,baz=108,slow=37						
NOA	**NORSAR Array B**	**91.55**	**333**	LR	LR	13 03 55.9	
	comp=Z,29nm,18.8s,baz=75,slow=38						

*IDC **13** 12:32:36.0±7.3, 5.34S×153.28E, h80km±54km, mb3.5/4, mb1 3.7/6, mb1mx3.4/42, mbtmp3.9/6, ML2.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/29, Error ellipse: s-maj=65.7km s-min=37.9km az=107.0*
ISC 13 12:32:30.3±1.7, 5.4S±0.3×153.7E±0.3, h43km, n8, σ0§64/8, mb3.5/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.59**	**238**	P	**Pn**	**12 34 19.3**	**+0.8**
	1.8nm,0.3s,baz=51,slow=6.3,SNR=7.4						
PMG				S	**Sn**	**12 35 43.0**	**-0.3**
	1.8nm,0.3s,baz=232,slow=22,SNR=7.4						
CTA	**Charters Tower**	**16.31**	**206**	P	**P**	**12 36 19.0**	**+0.2**
	0.1nm,0.3s,baz=31,slow=5.9,SNR=3.1						
WRA	**Warramunga Arr**	**23.73**	**231**	P	**P**	**12 37 38.2**	**-0.5**
	1.6nm,0.7s,baz=54,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**26.33**	**224**	P	**P**	**12 38 02.4**	**0.0**
	0.5nm,0.5s,baz=55,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**30.15**	**243**	P	**P**	**12 38 35.6**	**-0.9**
	2.9nm,0.6s,baz=52,slow=9.8						
AFI	**Afiamalu**	**35.08**	**107**	LR	LR	12 50 42.2	
	comp=Z,58nm,19.5s,baz=228,slow=31						
MKAR	**Makanchi Array**	**81.31**	**319**	P	**P**	**12 44 42.6**	**+0.3**
	0.1nm,0.3s,baz=123,slow=5.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**151.29**	**288**	PKPbc	**PKPbc**	**12 52 20.1**	**-0.2**
	0.5nm,0.5s,baz=86,slow=2.6,SNR=3.7						

*NEIC **13** 12:43:58.8, 43.59S×172.74E, h9km, ML3.8(WEL), After WEL.*
NEIC Felt at Christchurch.
WEL 13 12:43:59.2±0.1, 43.59S×172.72E, h7km, ML3.8/17, 5C-4D, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.07**	**281**	⇓PG	Pg	12 44 01.0	0.0
CRLZ				SG	Sg	12 44 02.4	+0.1
CRLZ				AML	AML	12 44 02.5	
CRLZ				AML	AML	12 44 03.1	
CRLZ				AML	AML	12 44 03.2	
MQZ	**McQueen's Vall**	**0.13**	**202**	⇑PG	Pg	12 44 02.1	+0.1
MQZ				SG	Sg	12 44 04.4	+0.6
MQZ				AML	AML	12 44 04.4	
MQZ	**McQueen's Vall**	**0.13**	**202**	Pg	Pg	12 44 02.1	+0.1
MQZ				Sg	Sg	12 44 04.4	+0.6
OXZ	**Oxford**	**0.56**	**298**	⇓P*	Pg	12 44 09.9	-0.1
OXZ	**Oxford**	**0.56**	**298**	P*	Pg	12 44 09.9	-0.1
LTZ	**Lake Taylor**	**0.87**	**338**	⇑P*	Pg	12 44 15.8	-0.1
LTZ				S*	Sg	12 44 27.7	+0.5
LTZ				AML	AML	12 44 28.6	
LTZ	**Lake Taylor**	**0.87**	**338**	P*	Pg	12 44 15.8	-0.1
RPZ	**Rata Peaks**	**1.22**	**263**	⇓P*	Pg	12 44 21.0	-1.5
RPZ				AML	AML	12 44 41.8	
RPZ				AML	AML	12 44 44.4	
RPZ	**Rata Peaks**	**1.22**	**263**	P*	Pg	12 44 21.0	-1.5
INZ	**Inchbonnie**	**1.27**	**312**	P*	Pn	12 44 21.7	-1.7
KHZ	**Kahutara**	**1.32**	**27**	⇑P*	Pn	12 44 22.0	-1.9
KHZ	**Kahutara**	**1.32**	**27**	Pn	Pn	12 44 22.1	-1.9
WVZ	**Waitaha Valley**	**1.54**	**289**	Pn	Pn	12 44 25.9	-1.1
WVZ				AML	AML	12 44 50.2	
WVZ				AML	AML	12 44 52.0	
WVZ	**Waitaha Valley**	**1.54**	**289**	Pn	Pn	12 44 25.9	-1.1
THZ	**Tophouse**	**1.83**	**4**	⇑Pn	Pn	12 44 29.3	-1.8
THZ				AML	AML	12 45 03.0	
THZ				AML	AML	12 45 05.0	
THZ	**Tophouse**	**1.83**	**4**	Pn	Pn	12 44 29.3	-1.9
DSZ	**Denniston Nort**	**1.96**	**340**	PN	Pn	12 44 31.9	-1.1
DSZ				AML	AML	12 45 00.1	
DSZ				AML	AML	12 45 00.1	
DSZ				AML	AML	12 45 00.5	
DSZ				AML	AML	12 45 00.5	
DSZ	**Denniston Nort**	**1.96**	**340**	Pn	Pn	12 44 31.9	-1.1
LBZ	**Lake Benmore**	**2.00**	**246**	PN	Pn	12 44 32.3	-1.1
LBZ				AML	AML	12 45 10.4	
LBZ				AML	AML	12 45 10.4	
LBZ				AML	AML	12 45 12.0	
LBZ				AML	AML	12 45 12.0	
LBZ	**Lake Benmore**	**2.00**	**246**	Pn	Pn	12 44 32.3	-1.1
BSWZ	**Blackbirch Sta**	**2.06**	**25**	PN	Pn	12 44 32.5	-1.7
BSWZ	**Blackbirch Sta**	**2.06**	**25**	Pn	Pn	12 44 32.5	-1.7
ODZ	**Otahua Downs**	**2.08**	**225**	PN	Pn	12 44 33.0	-1.5
ODZ				AML	AML	12 45 07.3	
ODZ				AML	AML	12 45 08.5	
ODZ				AML	AML	12 45 13.8	
ODZ				AML	AML	12 45 13.8	
ODZ	**Otahua Downs**	**2.08**	**225**	Pn	Pn	12 44 33.0	-1.5
FOZ	**Fox Glacier**	**2.11**	**271**	PN	Pn	12 44 34.6	-0.3
FOZ				AML	AML	12 45 01.5	
FOZ				AML	AML	12 45 12.8	
FOZ				AML	AML	12 45 19.2	
FOZ				AML	AML	12 45 19.2	
FOZ	**Fox Glacier**	**2.11**	**271**	Pn	Pn	12 44 34.6	-0.3
TUWZ	**Tuamarina**	**2.34**	**23**	PN	Pn	12 44 36.0	-2.1
TUWZ	**Tuamarina**	**2.34**	**23**	Pn	Pn	12 44 36.0	-2.1
NNZ	**Nelson**	**2.42**	**12**	PN	Pn	12 44 37.6	-1.5
NNZ	**Nelson**	**2.42**	**12**	Pn	Pn	12 44 37.6	-1.5
TCW	**Tory Channel**	**2.64**	**26**	Pn	Pn	12 44 39.9	-2.3
TCW				Pn	Pg	12 44 54.6	+4.8
BHW	**Baring Head**	**2.70**	**37**	Pn	Pb	12 44 47.4	-0.3
PLWZ	**Palliser**	**2.75**	**44**	Pn	Pn	12 44 41.0	-2.8
WEL	**Wellington**	**2.76**	**34**	Pn	Pn	12 44 41.4	-2.4
QRZ	**Quartz Range**	**2.76**	**357**	PN	Pn	12 44 42.9	-1.0
QRZ				AML	AML	12 45 30.8	
QRZ				AML	AML	12 45 30.8	
QRZ				AML	AML	12 45 40.1	
QRZ				AML	AML	12 45 40.1	
QRZ	**Quartz Range**	**2.76**	**357**	Pn	Pn	12 44 42.9	-1.0
MSWZ	**Moikau Station**	**2.87**	**42**	Pn	Pb	12 44 48.6	-2.1
JCZ	**Jackson Bay**	**2.89**	**259**	PN	Pn	12 44 44.4	-1.3
JCZ				AML	AML	12 45 37.4	
JCZ				AML	AML	12 45 38.2	
JCZ	**Jackson Bay**	**2.89**	**259**	Pn	Pn	12 44 44.5	-1.2
WKZ	**Wanaka**	**2.94**	**244**	PN	Pn	12 44 45.0	-1.3
WKZ				AML	AML	12 45 39.6	
WKZ				AML	AML	12 45 44.3	
WKZ	**Wanaka**	**2.94**	**244**	Pn	Pn	12 44 45.0	-1.3
EAZ	**Earnscleugh**	**2.94**	**235**	⇑PN	Pn	12 44 45.1	-1.4
EAZ				AML	AML	12 45 37.5	
EAZ				AML	AML	12 45 37.6	
EAZ				AML	AML	12 45 39.4	
EAZ				AML	AML	12 45 39.5	
EAZ	**Earnscleugh**	**2.94**	**235**	Pn	Pn	12 44 45.1	-1.4
PAWZ	**Paruwai Farm**	**2.98**	**43**	Pn	Pb	12 44 50.5	-2.1
CAW	**Cannon Point**	**3.03**	**36**	Pn	Pn	12 44 44.8	-2.7
KIW	**Kapiti Island**	**3.17**	**32**	Pn	Pn	12 44 47.2	-2.4
MTW	**Mount Morrison**	**3.19**	**41**	Pn	Pn	12 44 46.6	-3.1
TUZ	**Tuapeka**	**3.23**	**222**	⇓PN	Pn	12 44 49.0	-1.3
TUZ				AML	AML	12 45 50.3	
TUZ				AML	AML	12 45 55.1	
TUZ	**Tuapeka**	**3.23**	**222**	Pn	Pn	12 44 49.0	-1.3
OGWZ	**Otaki Gorge**	**3.31**	**34**	Pn	Pn	12 44 48.7	-2.8
MRZ	**Mangatainoka R**	**3.62**	**37**	PN	Pn	12 44 52.6	-3.0
MRZ	**Mangatainoka R**	**3.62**	**37**	Pn	Pn	12 44 52.6	-3.0
MSZ	**Milford Sound**	**3.62**	**251**	AML	AML	12 46 00.1	
MSZ				AML	AML	12 46 00.7	
MLZ	**Mavora Lakes**	**3.74**	**240**	*e*PN	Pn	12 44 55.6	-1.8
MLZ	**Mavora Lakes**	**3.74**	**240**	Pn	Pn	12 44 55.9	-1.5
SYZ	**Scrubby Hill**	**3.89**	**219**	AML	AML	12 46 19.7	
SYZ				AML	AML	12 46 24.8	
BFZ	**Birch Farm**	**3.91**	**43**	PN	Pn	12 44 56.2	-3.6
BFZ	**Birch Farm**	**3.91**	**43**	Pn	Pn	12 44 56.4	-3.4
WAZ	**Wanganui**	**4.19**	**25**	*e*PN	Pn	12 45 03.5	0.0
WAZ	**Wanganui**	**4.19**	**25**	Pn	Pn	12 45 03.9	+0.3
ANWZ	**Angora Road**	**4.20**	**43**	*e*PN	Pn	12 45 01.4	-2.2
KHEZ	**Kahui Hut**	**4.40**	**13**	*e*PN	Pn	12 45 06.7	+0.2
KHEZ	**Kahui Hut**	**4.40**	**13**	Pn	Pn	12 45 06.5	0.0
NEZ	**North Egmont**	**4.44**	**14**	*e*PN	Pn	12 45 06.2	-0.8
NEZ	**North Egmont**	**4.44**	**14**	Pn	Pn	12 45 07.4	+0.4
DREZ	**Durham Road**	**4.53**	**15**	Pn	Pn	12 45 07.9	-0.4
VRZ	**Vera Road**	**4.72**	**20**	*e*PN	Pn	12 45 09.7	-1.0
VRZ	**Vera Road**	**4.72**	**20**	Pn	Pn	12 45 10.6	-0.1
PKVZ	**Pokaka**	**4.73**	**26**	*e*PN	Pn	12 45 09.9	-1.0
PKVZ	**Pokaka**	**4.73**	**26**	Pn	Pn	12 45 10.4	-0.5
WNVZ	**Wahianoa**	**4.78**	**28**	*e*PN	Pn	12 45 10.1	-1.6
WNVZ	**Wahianoa**	**4.78**	**28**	Pn	Pn	12 45 11.2	-0.5
TUVZ	**Tukino**	**4.85**	**28**	*e*PN	Pn	12 45 11.5	-1.2
TUVZ	**Tukino**	**4.85**	**28**	Pn	Pn	12 45 11.9	-0.8
HIZ	**Hauiti**	**5.32**	**18**	*e*PN	Pn	12 45 17.3	-1.7
HIZ	**Hauiti**	**5.32**	**18**	Pn	Pn	12 45 17.6	-1.4
MWZ	**Matawai**	**6.39**	**36**	PN	Pn	12 45 28.8	-4.9
MWZ	**Matawai**	**6.39**	**36**	Pn	Pn	12 45 29.7	-4.0
MKAZ	**Moumakai**	**6.74**	**17**	PN	Pn	12 45 36.8	-1.8
MKAZ	**Moumakai**	**6.74**	**17**	Pn	Pn	12 45 36.8	-1.8

MAN 13 12:45:39, 15.52N×118.87E, h35km, mb4.9, ML3.8, MS3.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**1.04**	**75**	*e*P	Pn	12 46 00.7	+3.6
BOLP	**Bolinao**	**1.32**	**49**	*e*P	Pn	12 46 01.0	0.0
BOLP				*e*S	Sn	12 46 17.2	-0.3
LUBP	**Lubang**	**2.22**	**143**	*e*P	Pn	12 46 15.3	+2.0
BALP	**Baler**	**2.62**	**85**	*e*P	Pn	12 46 20.4	+1.6
BALP				*e*S	Sn	12 46 50.7	+1.3
ABRA	**Dolores**	**2.76**	**40**	*e*P	Pn	12 46 22.0	+1.2
CAUP	**Cauayan**	**3.17**	**63**	*e*P	Pn	12 46 30.7	+4.2
APYP	**Conner**	**3.26**	**44**	*e*P	Pn	12 46 29.6	+1.9
APYP	

	comp=Z,44nm,0.9s									
KHZ	**Kahutara**	**24.32**	**196**	PN		**P**	**12**	**50**	**33.0**	**-0.8**
KHZ				ScP		**ScP**	**12**	**56**	**38.6**	**0.0**
LHI	**Lord Howe Isla**	**24.45**	**235**	*e*P		**P**	**12**	**50**	**36.9**	**+1.8**
	comp=Z,145nm,0.8s									
LTZ	**Lake Taylor**	**25.02**	**198**	*e*P		**P**	**12**	**50**	**39.2**	**-0.9**
	comp=Z,31nm,0.7s									
LTZ	**Lake Taylor**	**25.02**	**198**	PN		**P**	**12**	**50**	**38.8**	**-1.2**
INZ	**Inchbonnie**	**25.22**	**200**	PN		**P**	**12**	**50**	**41.1**	**-0.7**
OXZ	**Oxford**	**25.59**	**198**	*e*P		**P**	**12**	**50**	**44.5**	**-0.5**
	comp=Z,68nm,1.0s									
WVZ	**Waitaha Valley**	**25.76**	**200**	PN		**P**	**12**	**50**	**45.9**	**-0.6**
MQZ	**McQueen's Vall**	**25.76**	**197**	*e*P		**P**	**12**	**50**	**46.8**	**+0.3**
	comp=Z,132nm,1.5s									
MQZ	**McQueen's Vall**	**25.76**	**197**	PN		**P**	**12**	**50**	**46.2**	**-0.3**
RPZ	**Rata Peaks**	**26.24**	**199**	P		**P**	**12**	**50**	**50.7**	**0.0**
	comp=Z,22nm,0.6s,baz=350,slow=7.8,SNR=12									
RPZ	**Rata Peaks**	**26.24**	**199**	*e*P		**P**	**12**	**50**	**50.3**	**-0.5**
	comp=Z,149nm,1.7s									
TBI	**Tubual**	**26.34**	**104**	*e*P		**P**	**12**	**50**	**53.1**	**+1.2**
	comp=Z,159nm,0.8s									
PAE	**Paea**	**26.44**	**91**	*e*P		**P**	**12**	**50**	**53.1**	**+0.3**
	comp=Z,32nm,1.1s									
PPT2	**Papeete2**	**26.45**	**91**	*e*P		**P**	**12**	**50**	**53.2**	**+0.2**
	comp=Z,159nm,1.2s									
PPT	**Papeete**	**26.45**	**91**	P		**P**	**12**	**50**	**53.4**	**+0.4**
	comp=Z,123nm,0.9s,baz=344,slow=6.5,SNR=9.3									
PPT	**Papeete**	**26.45**	**91**	*e*P		**P**	**12**	**50**	**53.7**	**+0.7**
PPT	**Papeete**	**26.45**	**91**	*e*P		**P**	**12**	**50**	**53.7**	**+0.7**
FOZ	**Fox Glacier**	**26.48**	**201**	*e*P		**P**	**12**	**50**	**52.7**	**-0.1**
	comp=Z,32nm,0.6s									
FOZ	**Fox Glacier**	**26.48**	**201**	PN		**P**	**12**	**50**	**52.1**	**-0.6**
TIAR	**Tiarei**	**26.67**	**91**	*e*P		**P**	**12**	**50**	**55.0**	**+0.1**
	comp=Z,29nm,0.8s									
TVO	**Taravao**	**26.73**	**91**	*e*P		**P**	**12**	**50**	**55.2**	**-0.3**
	comp=Z,26nm,1.0s									
LBZ	**Lake Benmore**	**27.11**	**200**	*e*P		**P**	**12**	**50**	**57.4**	**-1.0**
	comp=Z,100nm,1.6s									
JCZ	**Jackson Bay**	**27.31**	**202**	PN		**P**	**12**	**50**	**59.8**	**-0.4**
JCZ				SN		**S**	**12**	**54**	**54.8**	**-5.6**
JCZ				ScP		**ScP**	**12**	**56**	**48.5**	**+0.9**
ODZ	**Otahua Downs**	**27.56**	**198**	*e*P		**P**	**12**	**51**	**02.1**	**-0.2**
	comp=Z,139nm,1.7s									
WKZ	**Wanaka**	**27.89**	**201**	*e*P		**P**	**12**	**51**	**04.3**	**-0.9**
	comp=Z,205nm,1.6s									
WKZ	**Wanaka**	**27.89**	**201**	PN		**P**	**12**	**51**	**03.8**	**-1.4**
MLZ	**Mavora Lakes**	**28.67**	**202**	*e*P		**P**	**12**	**51**	**12.8**	**+0.9**
	comp=Z,68nm,1.0s									
VAH	**Vaihoa**	**28.71**	**87**	*e*P		**P**	**12**	**51**	**12.6**	**0.0**
	comp=Z,163nm,1.1s									
DCZ	**Deep Cove**	**29.10**	**203**	*e*P		**P**	**12**	**51**	**16.5**	**+1.0**
	comp=Z,36nm,0.7s									
WHZ	**Wether Hill Ro**	**29.18**	**201**	*e*P		**P**	**12**	**51**	**17.2**	**+0.8**
	comp=Z,89nm,0.6s									
WHZ	**Wether Hill Ro**	**29.18**	**201**	PN		**P**	**12**	**51**	**16.6**	**+0.2**
EIDS	**Eidsvold**	**29.73**	**252**	P		**P**	**12**	**51**	**21.1**	**-0.3**
	baz=30,SNR=15									
EIDS	**Eidsvold**	**29.73**	**252**	*e*P		**P**	**12**	**51**	**21.3**	**-0.1**
	comp=Z,62nm,0.9s									
ARMA	**Armidale**	**30.12**	**242**	P		**P**	**12**	**51**	**25.9**	**+1.1**
	baz=30,SNR=37									
ARMA	**Armidale**	**30.12**	**242**	*e*P		**P**	**12**	**51**	**25.8**	**+1.0**
	comp=Z,52nm,0.7s									
MGCD	**Mangrove Creek**	**31.33**	**237**	P		**P**	**12**	**51**	**36.3**	**+1.3**
	baz=31,SNR=9.7									
RMQ	**Roma**	**31.92**	**251**	P		**P**	**12**	**51**	**40.9**	**+0.8**
	baz=32,SNR=40									
CNB	**Canberra Magne**	**33.38**	**235**	P		**P**	**12**	**51**	**53.6**	**+1.1**
	baz=34,SNR=32									
CAN	**Canberra**	**33.67**	**235**	*e*P		**P**	**12**	**51**	**55.7**	**+0.9**
CAN				pmax		pmax				
	comp=Z,63nm,1.0s									
CAN	**Canberra**	**33.67**	**235**	*e*P		**P**	**12**	**51**	**55.7**	**+0.9**
	comp=Z,63nm,1.0s									
YNG	**Young**	**33.81**	**237**	P		**P**	**12**	**51**	**57.1**	**+1.1**
	baz=34,SNR=11									
MILA	**Mila**	**34.16**	**232**	P		**P**	**12**	**52**	**00.1**	**+1.1**
	baz=34,SNR=6.2									
CTA	**Charters Tower**	**34.18**	**262**	P		**P**	**12**	**51**	**59.1**	**-0.2**
	comp=Z,168nm,0.9s,baz=88,slow=11,SNR=150									
CTA				ScP		**ScP**	**12**	**57**	**13.1**	**+2.1**
	comp=Z,21nm,1.0s,baz=127,slow=2.9,SNR=7.9									
CTAO	**Charters Tower**	**34.18**	**262**	*e*P		**P**	**12**	**51**	**59.4**	**+0.1**
CTAO				pmax		pmax				
	comp=Z,215nm,0.9s									
CTAO	**Charters Tower**	**34.18**	**262**	*e*P		**P**	**12**	**51**	**59.4**	**+0.1**
	comp=Z,215nm,0.9s									
CMSA	**Cobar Meteorol**	**35.34**	**242**	P		**P**	**12**	**52**	**09.4**	**+0.7**
	baz=35,SNR=234									
PMG	**Port Moresby**	**35.63**	**281**	*d i*P		**P**	**12**	**52**	**11.4**	**0.0**
PMG	**Port Moresby**	**35.63**	**281**	*e*P		**P**	**12**	**52**	**11.6**	**+0.2**
	comp=Z,492nm,0.9s									
MTSU	**Mount Surprise**	**36.22**	**265**	P		**P**	**12**	**52**	**16.1**	**-0.1**
	baz=36,SNR=59									
TOO	**Toolangi**	**37.08**	**233**	P		**P**	**12**	**52**	**23.9**	**+0.9**
	baz=37,SNR=111									
MOO	**Moorlands**	**37.77**	**224**	P		**P**	**12**	**52**	**29.6**	**+1.1**
	baz=38,SNR=4.2									
TAU	**Tasmania Unive**	**37.90**	**224**	*e*P		**P**	**12**	**52**	**29.8**	**+0.3**
TAU				pmax		pmax				
	comp=Z,66nm,1.3s									
TAU	**Tasmania Unive**	**37.90**	**224**	*e*P		**P**	**12**	**52**	**29.8**	**+0.3**
	comp=Z,66nm,1.3s									
COEN	**Coen**	**38.08**	**272**	P		**P**	**12**	**52**	**31.6**	**+0.2**
	baz=38,SNR=110									
COEN	**Coen**	**38.08**	**272**	*e*P		**P**	**12**	**52**	**31.7**	**+0.2**
	comp=Z,200nm,0.9s									
MANU	**Manus Island**	**38.47**	**292**	*e*P		**P**	**12**	**52**	**34.8**	**+0.2**
	comp=Z,157nm,1.0s									
STKA	**Stephens Creek**	**38.83**	**243**	P		**P**	**12**	**52**	**38.2**	**+0.9**
	comp=Z,193nm,0.9s,baz=88,slow=9.2,SNR=291									
STKA				ScP		**ScP**	**12**	**57**	**30.5**	**+2.2**
	comp=Z,14nm,0.9s,baz=58,slow=3.8,SNR=5.9									
STKA	**Stephens Creek**	**38.83**	**243**	P		**P**	**12**	**52**	**38.3**	**+0.9**
	baz=39,SNR=238									
STKA	**Stephens Creek**	**38.83**	**243**	*e*P		**P**	**12**	**52**	**38.1**	**+0.8**
STKA				pmax		pmax				
	comp=Z,54nm,1.0s									
STKA	**Stephens Creek**	**38.83**	**243**	*e*P		**P**	**12**	**52**	**38.1**	**+0.8**
	comp=Z,54nm,1.0s									
ARPS	**Mount Arapiles**	**39.64**	**235**	P		**P**	**12**	**52**	**44.2**	**+0.5**
	baz=40,SNR=38									
RKT	**Rikitea**	**39.66**	**103**	*e*P		**P**	**12**	**52**	**45.2**	**+1.2**
	comp=Z,182nm,0.9s									
QIS	**Mount Isa**	**40.35**	**261**	P		**P**	**12**	**52**	**49.1**	**-0.6**
	baz=40,SNR=22									
HTT	**Hallett**	**41.30**	**241**	P		**P**	**12**	**52**	**57.5**	**+0.5**
	baz=41,SNR=170									
BBOO	**Buckleboo**	**43.60**	**242**	P		**P**	**12**	**53**	**15.3**	**+0.3**
	baz=44,SNR=296									
BBOO	**Buckleboo**	**43.60**	**242**	*e*P		**P**	**12**	**53**	**15.4**	**+0.3**
	comp=Z,301nm,0.7s									
JAY	**Jayapura**	**44.20**	**287**	P		**P**	**12**	**53**	**19.9**	**0.0**
	comp=Z,31nm,0.5s,baz=90,slow=20,SNR=157									
JAY	**Jayapura**	**44.20**	**287**	P		**P**	**12**	**53**	**19.8**	**-0.1**
	comp=Z,470nm,1.0s,comp=Z,5μm									
GENI	**Genyem**	**44.65**	**286**	P		**P**	**12**	**53**	**24.0**	**+0.7**
	comp=Z,446nm,0.7s,comp=Z,6μm									
AS01	**Alice Springs**	**45.31**	**255**	*e*P		**P**	**12**	**53**	**26.8**	**-1.5**
WB2	**Warramunga Arr**	**45.32**	**261**	*e*P		**P**	**12**	**53**	**27.6**	**-0.9**
	comp=Z,192nm,0.8s									
WRAB	**Tennant Creek**	**45.32**	**261**	*d i*P		**P**	**12**	**53**	**27.6**	**-0.8**
WRAB	**Tennant Creek**	**45.32**	**261**	*e*P		**P**	**12**	**53**	**27.6**	**-0.8**
	comp=Z,341nm,1.3s									
WRA	**Warramunga Arr**	**45.33**	**261**	P		**P**	**12**	**53**	**27.6**	**-0.9**
	comp=Z,65nm,0.3s,baz=98,slow=7.7,SNR=879									
WRA				PcP		**PcP**	**12**	**54**	**55.8**	**-0.1**
	comp=Z,11nm,0.8s,baz=94,slow=3.2,SNR=4.7									
WRA				ScP		**ScP**	**12**	**57**	**56.1**	**+1.4**
	comp=Z,9.0nm,1.0s,baz=93,slow=4.1,SNR=7.7									
WRA				S		**S**	**12**	**59**	**24.7**	**-3.8**
	comp=Z,12nm,0.9s,baz=94,slow=14,SNR=14									
AS31	**Alice Springs**	**45.35**	**255**	*e*P		**P**	**12**	**53**	**28.1**	**-0.5**
	comp=Z,130nm,1.1s									
ASAR	**Alice Springs**	**45.35**	**255**	P		**P**	**12**	**53**	**28.5**	**-0.1**
	comp=Z,281nm,0.8s,baz=88,slow=8.1,SNR=1823									
ASAR				PcP		**PcP**	**12**	**54**	**55.8**	**-0.2**
	comp=Z,9.4nm,0.7s,baz=102,slow=4.2,SNR=4.0									
ASAR				ScP		**ScP**	**12**	**57**	**56.0**	**+1.2**
	comp=Z,4.3nm,0.8s,baz=104,slow=3.9,SNR=5.1									
ASAR				S		**S**	**12**	**59**	**27.3**	**-1.4**
	comp=Z,15nm,0.8s,baz=92,slow=16,SNR=23									
GUMO	**Guam**	**49.45**	**308**	*e*P		**P**	**12**	**53**	**59.3**	**0.0**
GUMO	**Guam**	**49.45**	**308**	*e*P		**P**	**12**	**53**	**59.3**	**0.0**
	comp=Z,246nm,0.8s									
MTN	**Manton Dam**	**49.72**	**269**	P		**P**	**12**	**54**	**00.2**	**-1.0**
	baz=50,SNR=165									
MTN	**Manton Dam**	**49.72**	**269**	*e*P		**P**	**12**	**54**	**00.3**	**-1.0**
	comp=Z,240nm,0.8s									
WRKA	**Warakurna**	**50.34**	**253**	P		**P**	**12**	**54**	**05.6**	**-0.2**
	baz=50,SNR=906									
SWI	**Sorong**	**53.48**	**284**	P		**P**	**12**	**54**	**28.0**	**-0.4**
	comp=Z,986nm,0.9s,comp=Z,8μm									
FITZ	**Fitzroy Crossi**	**53.75**	**261**	P		**P**	**12**	**54**	**30.1**	**-0.2**
	baz=54,SNR=45									
FITZ	**Fitzroy Crossi**	**53.75**	**261**	*e*P		**P**	**12**	**54**	**30.1**	**-0.2**
	comp=Z,53nm,0.6s									
PALU	**Palau**	**54.27**	**295**	P		**P**	**12**	**54**	**34.1**	**+0.2**
	baz=54,SNR=9.6									
KMBL	**Kambalda**	**55.58**	**245**	P		**P**	**12**	**54**	**42.4**	**-0.5**
	baz=56,SNR=5.6									
SOEI	**Soe**	**57.03**	**271**	P		**P**	**12**	**54**	**54.2**	**+1.0**
	comp=Z,747nm,0.9s,comp=Z,6μm									
SOEI	**Soe**	**57.03**	**271**	*e*P		**P**	**12**	**54**	**54.1**	**+1.0**
	comp=Z,574nm,0.9s									
SANI	**Sanana**	**57.90**	**280**	P		**P**	**12**	**54**	**58.4**	**-0.6**
	comp=Z,245nm,1.0s,comp=Z,2μm									
MBWA	**Marble Bar**	**58.67**	**257**	*e*P		**P**	**12**	**55**	**03.4**	**-0.7**
	comp=Z,802nm,1.2s									
KLBR	**Kellerberrin**	**59.09**	**244**	P		**P**	**12**	**55**	**06.5**	**-0.3**
	baz=59,SNR=32									
SBA	**Scott Base**	**59.14**	**184**	*e*P		**P**	**12**	**55**	**09.2**	**+3.0**
SBA				pmax		pmax				
	comp=Z,55nm,0.9s									
SBA	**Scott Base**	**59.14**	**184**	*e*P		**P**	**12**	**55**	**09.2**	**+3.0**
	comp=Z,55nm,0.9s									
VNDA	**Vanda**	**59.19**	**185**	P		**P**	**12**	**55**	**08.6**	**+2.0**
	comp=Z,15nm,0.8s,baz=357,slow=7.4,SNR=85									
VNDA	**Vanda**	**59.19**	**185**	*e*P		**P**	**12**	**55**	**08.6**	**+2.0**
VNDA				pmax		pmax				
	comp=Z,60nm,1.4s									
VNDA	**Vanda**	**59.19**	**185**	*e*P		**P**	**12**	**55**	**08.6**	**+2.0**
	comp=Z,60nm,1.4s									
MMRI	**Maumere**	**59.27**	**271**	P		**P**	**12**	**55**	**07.7**	**-0.5**
	comp=Z,247nm,0.8s,comp=Z,2μm									
MMRI	**Maumere**	**59.27**	**271**	*e*P		**P**	**12**	**55**	**06.2**	**-2.0**
	comp=Z,181nm,0.8s									
NWAO	**Narrogin (SRO)**	**59.42**	**243**	P		**P**	**12**	**55**	**09.3**	**+0.4**
	baz=59,SNR=6.7									
RKGY	**Rocky Gully**	**59.52**	**241**	P		**P**	**12**	**55**	**10.2**	**+0.6**
	baz=60,SNR=5.3									
BLDU	**Balliduu**	**60.07**	**245**	P		**P**	**12**	**55**	**12.8**	**-0.5**
	baz=60,SNR=24									
KDI	**Kendari**	**60.38**	**277**	P		**P**	**12**	**55**	**15.6**	**0.0**
	comp=Z,52nm,1.1s									
CBIJ	**Chichi jima**	**60.48**	**318**	P		**P**	**12**	**55**	**15.1**	**-0.8**
JCJ	**Chichijima**	**60.48**	**318**	P		**P**	**12**	**55**	**15.1**	**-0.8**
	comp=Z,37nm,0.6s,baz=107,slow=19									
WSI	**Waingapu**	**60.80**	**270**	P		**P**	**12**	**55**	**18.9**	**+0.6**
	comp=Z,641nm,0.6s									
MORW	**Morawa**	**60.81**	**247**	P		**P**	**12**	**55**	**17.8**	**-0.4**
	baz=61,SNR=12									
LUWI	**Luwuk**	**61.26**	**280**	P		**P**	**12**	**55**	**21.6**	**+0.3**
	comp=Z,299nm,1.0s,comp=Z,3μm									
LUWI	**Luwuk**	**61.26**	**280**	*e*P		**P**	**12**	**55**	**21.4**	**+0.1**
	comp=Z,226nm,0.9s									
BSSI	**Bau Bau, Buton**	**61.68**	**273**	P		**P**	**12**	**55**	**24.6**	**+0.5**
	comp=Z,90nm,1.1s									
MRSI	**Marisa**	**62.59**	**281**	P		**P**	**12**	**55**	**29.6**	**-0.4**
	comp=Z,66nm,0.9s,comp=Z,4μm									
KAPI	**Kappang**	**62.73**	**274**	*e*P		**P**	**12**	**55**	**30.4**	**-0.5**
	comp=Z,40nm,1.0s									
GIRL	**Giralia**	**63.42**	**254**	P		**P**	**12**	**55**	**36.3**	**+1.2**
	baz=63,SNR=6.0									
PLAI	**Plampang**	**63.42**	**270**	P		**P**	**12**	**55**	**34.9**	**-0.4**
	comp=Z,271nm,1.0s,comp=Z,2μm									
PCI	**Palu**	**64.05**	**279**	P		**P**	**12**	**55**	**40.5**	**+1.2**
CASY	**Casey**	**65.31**	**205**	*e*P		**P**	**12**	**55**	**47.2**	**+0.9**
JHJ	**Hachijo jima 2**	**66.21**	**321**	P		**P**	**12**	**55**	**51.3**	**-1.1**
	comp=Z,109nm,0.3s,baz=129,slow=3.9,SNR=9.9									
JAGI	**Jajag, Banyuwa**	**66.95**	**269**	*e*P		**P**	**12**	**55**	**55.8**	**-1.7**
MYLDM	**Lahad Datu**	**67.56**	**284**	*e*P		**P**	**12**	**56**	**02.8**	**+1.7**
INJ	**Injama**	**69.41**	**321**	*e*P		**P**	**12**	**56**	**11.5**	**-0.3**
MJAR	**Matsushiro Arr**	**69.55**	**323**	P		**P**	**12**	**56**	**11.4**	**-1.3**
	comp=Z,26nm,0.7s,baz=158,slow=5.8,SNR=66									
MAJO	**Matsushiro**	**69.55**	**323**	*d i*P		**P**	**12**	**56**	**11.6**	**-1.1**
MAJO				pmax		pmax				
	comp=Z,168nm,1.0s									
MAJO	**Matsushiro**	**69.55**	**323**	*e*P		**P**	**12**	**56**	**11.8**	**-0.9**
MAT	**Matsushiro**	**69.55**	**323**	P		**P**	**12**	**56**	**12.1**	**-0.6**
MJB9	**Matsu-Tunnel**	**69.56**	**323**	*e*P		**P**	**12**	**56**	**12.2**	**-0.6**
KDM	**Kudat**	**69.76**	**285**	⇓P		**P**	**12**	**56**	**14.7**	**+0.3**
KKM	**Kota Kinabalu**	**69.99**	**284**	*e*P		**P**	**12**	**56**	**14.7**	**-1.2**
UGM	**Wanagama**	**70.55**	**268**	*e*P		**P**	**12**	**56**	**18.9**	**-0.3**
QSPA	**South Pole Qui**	**70.80**	**180**	*e*P		**P**	**12**	**56**	**21.1**	**+1.3**
ERM	**Erimo**	**71.03**	**330**	*i*P		**P**	**12**	**56**	**19.7**	**-1.5**
ERM				pmax		pmax				
	comp=Z,24nm,1.1s									
KUR	**Kuril'sk**	**71.54**	**335**	*i*P		**P**	**12**	**56**	**23.8**	**-0.3**
JNU	**Nakatsue**	**71.76**	**316**	P		**P**	**12**	**56**	**25.1**	**-0.7**
	comp=Z,19nm,0.9s,baz=163,slow=2.6,SNR=5.3									
JNU	**Nakatsue**	**71.76**	**316**	*e*P		**P**	**12**	**56**	**25.4**	**-0.4**
ASAJ	**Asahikawa**	**72.91**	**331**	*e*P		**P**	**12**	**56**	**32.6**	**+0.5**
	comp=Z,24nm,1.0s									
TWG	**Pinlang**	**73.19**	**302**	*e*P		**P**	**12**	**56**	**32.0**	**-2.2**
CISI	**Cisompet, Garu**	**73.21**	**268**	*e*P		**P**	**12**	**56**	**32.5**	**-2.1**
YULB	**Yu-li**	**73.29**	**303**	*e*P		**P**	**12**	**56**	**32.3**	**-2.5**
NACB	**Ninganchiao**	**73.45**	**304**	*e*P		**P**	**12**	**56**	**34.7**	**-0.9**
SSLB	**Sunanglung**	**73.76**	**303**	*e*P		**P**	**12**	**56**	**35.8**	**-1.7**
TPUB	**Ta-pu**	**73.78**	**302**	*e*P		**P**	**12**	**56**	**35.5**	**-2.0**
KSM	**Kuching**	**73.80**	**277**	*e*P		**P**	**12**	**56**	**37.8**	**-0.1**
YHNB	**Yeheng**	**73.87**	**304**	*e*P		**P**	**12**	**56**	**37.2**	**-0.9**
PET	**Petropavlovsk**	**74.91**	**345**	*e*P		**P**	**12**	**56**	**41.9**	**-1.3**
PET				pmax		pmax				
	comp=Z,20nm,1.5s									
PET	**Petropavlovsk**	**74.91**	**345**	*e*P		**P**	**12**	**56**	**41.8**	**-1.4**
YSS	**Yuzh-Sakhalins**	**75.04**	**333**	⇓*e*P		**P**	**12**	**56**	**44.5**	**+0.4**
YSS				*e*S		**S**	**13**	**05**	**35.8**	**-0.6**
YSS				pmax		pmax				
	comp=Z,40nm,1.0s									
YSS	**Yuzh-Sakhalins**	**75.04**	**333**	*e*P		**P**	**12**	**56**	**44.5**	**+0.4**
PETK	**Petropavlovsk-**	**75.22**	**345**	*e*P		**P**	**12**	**56**	**44.1**	**-0.8**
	comp=Z,31nm,0.9s,baz=119,slow=8.6,SNR=21									
SNCC	**San Nicolas Is**	**76.00**	**47**	P		**P**	**12**	**56**	**49.1**	**-0.6**
	baz=236									
TJN	**Taejon**	**76.04**	**317**	*i*P		**P**	**12**	**56**	**49.6**	**-0.2**
KSRS	**Korea Array**	**76.33**	**318**	P		**P**	**12**	**56**	**51.6**	**+0.2**
	comp=Z,10nm,1.0s,baz=141,slow=6.2,SNR=42									
KSRS				pP		**pP**	**12**	**58**	**52.6**	**+2.0**
	comp=Z,0.8nm,0.9s,baz=108,slow=6.5,SNR=3.1									
SCZ2	**Santa Cruz Isl**	**76.35**	**46**	P		**P**	**12**	**56**	**52.2**	**+0.6**
	baz=235									
KSAR	**Wonju Array Be**	**76.35**	**318**	P		**P**	**12**	**56**	**51.7**	**+0.1**
KSAR				*PP		**pP**	**12**	**58**	**52.7**	**+1.9**
KSAR	**Wonju Array Be**	**76.35**	**318**	P		**P**	**12**	**56**	**51.6**	**+0.1**
KSAR				pP		**pP**	**12**	**58**	**52.6**	**+1.9**
SCI2	**San Clemente I**	**76.53**	**48**	P		**P**	**12**	**56**	**52.9**	**+0.2**
	baz=236									
SBC	**Santa Barbara**	**76.55**	**46**	P		**P**	**12**	**56**	**53.2**	**+0.5**
	baz=235									
PKM	**Mcpherson Peak**	**76.74**	**45**	P		**P**	**12**	**56**	**54.7**	**+0.8**
	baz=235									
BLG	**Laguna Peak, P**	**76.80**	**47**	P		**P**	**12**	**56**	**54.1**	**0.0**
	baz=236									
SMMC	**Simmler**	**76.86**	**45**	P		**P**	**12**	**56**	**55.2**	**+0.7**
	baz=235									
FMP	**Fort Macarthur**	**77.11**	**47**	P		**P**	**12**	**56**	**55.8**	**0.0**
	baz=236									
INCN	**Inchon**	**77.17**	**317**	*e*P		**P**	**12**	**56**	**56.8**	**+0.8**
OSI	**Osito Audit: C**	**77.32**	**46**	P		**P**	**12**	**56**	**57.1**	**+0.2**
	baz=236									
DECC	**Green Verdugo**	**77.39**	**47**	P		**P**	**12**	**56**	**57.4**	**+0.1**
	baz=236									
KMRM	**Mail Ridge**	**77.45**	**39**	*e*P		**P**	**12**	**58**	**59.8**	**+1.3**
109C	**Camp Elliot, M**	**77.50**	**48**	P		**P**	**12**	**56**	**57.7**	**-0.2**
	baz=237									
ARVC	**Arvin**	**77.53**	**46**	P		**P**	**12**	**56**	**58.1**	**0.0**
	baz=236									
MWC	**Mount Wilson**	**77.56**	**47**	*e*P		**P**	**12**	**56**	**58.9**	**+0.5**
MWC	**Mount Wilson**	**77.56**	**47**	*e*P		**P**	**12**	**56**	**58.9**	**+0.5**
VLA	**Vladivostok**	**77.60**	**325**	*e*P		**P**	**12**	**56**	**57.6**	**-0.6**
VLA				pmax		pmax				
	comp=Z,21nm,1.0s									
MSHR	**Mys Shultsa**	**77.64**	**324**	*d i*P		**P**	**12**	**56**	**58.8**	**+0.4**
BAR	**Barrett**	**77.69**	**49**	*e*P		**P**	**12**	**56**	**59.5**	**+0.5**
VES	**Vestal, Richgr**	**77.77**	**45**	P		**P**	**12**	**56**	**59.3**	**0.0**
	baz=235									
MURC	**Murrieta**	**77.82**	**48**	P		**P**	**12**	**56**	**59.8**	**+0.1**
	baz=237,SNR=5.7									
BFSC	**Mount Baldy Ra**	**77.84**	**47**	P		**P**	**12**	**56**	**59.8**	**-0.1**
	baz=237,SNR=7.2									
KHMM	**Horse Mountain**	**77.84**	**39**	*e*P		**P**	**12**	**57**	**00.9**	**+1.2**
RCTC	**Rector, Farmer**	**77.92**	**45**	P		**P**	**12**	**56**	**59.9**	**-0.2**
	baz=235									
EDW2	**Edwards Air Fo**	**77.97**	**46**	P		**P**	**12**	**57**	**00.8**	**+0.3**
	baz=236,SNR=13									
MONP2	**Monument Peak**	**77.98**	**49**	P		**P**	**12**	**57**	**01.3**	**+0.5**
	baz=238,SNR=22									
IKP	**In-Ko-Pah, Jac**	**78.08**	**49**	P		**P**	**12**	**57**	**01.6**	**+0.5**
	baz=238,SNR=10									
ISA	**Isabella, Lake**	**78.08**	**45**	P		**P**	**12**	**57**	**01.5**	**+0.4**
	baz=236									
ISA	**Isabella, Lake**	**78.08**	**45**	*e*P		**P**	**12**	**57**	**02.0**	**+0.9**
ISA	**Isabella, Lake**	**78.08**	**45**	*e*P		**P**	**12**	**57**	**02.0**	**+0.9**
TYV	**Tymovskoe**	**78.14**	**335**	*e*P		**P**	**12**	**56**	**58.2**	**-2.7**
TYV				pmax		pmax				
	comp=Z,11nm,0.6s									
CMB	**Columbia Colle**	**78.18**	**43**	*e*P		**P**	**12**	**57**	**02.1**	**+0.6**
CMB	**Columbia Colle**	**78.18**	**43**	*e*P		**P**	**12**	**57**	**02.1**	**+0.6**
USRK	**Ussuriysk Ar.**	**78.26**	**325**	P		**P**	**12**	**57**	**02.2**	**+0.5**
	comp=Z,21nm,1.0s,baz=137,slow=3.2,SNR=38									
USRK				PP		**PP**	**13**	**00**	**09.4**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=112,slow=5.1,SNR=4.0									
SRIG	**Santa Rosalia**	**78.27**	**56**	*e*P		**P**	**12**	**57**	**03.2**	**+1.0**
LPIG	**La Paz**	**78.30**	**59**	P		**P**	**12**	**57**	**03.9**	**+1.5**
	comp=Z,10nm,0.3s,baz=176,slow=6.0,SNR=3.6									
PFO	**Pinyon Flats O**	**78.34**	**48**	P		**P**	**12**	**57**	**03.0**	**+0.4**
	comp=Z,9.7nm,1.0s,baz=272,slow=1.7,SNR=12									
PFO	**Pinyon Flats O**	**78.34**	**48**	*e*P		**P**	**12**	**57**	**03.3**	**+0.7**
PFO	**Pinyon Flats O**	**78.34**	**48**	*e*P		**P**	**12**	**57**	**03.3**	**+0.7**
TPFO	**Pinon Flats**	**78.34**	**48**	P		**P**	**12**	**57**	**02.9**	**+0.3**
	baz=238,SNR=9.8									
AFDM	**Forest Hills D**	**78.35**	**42**	*e*P		**P**	**12**	**57**	**02.8**	**+0.5**
BBRC	**Big Bear Solar**	**78.37**	**47**	P		**P**	**12**	**57**	**03.0**	**+0.1**
	baz=237									
WDC	**Whiskeytown Da**	**78.37**	**39**	*e*P		**P**	**12**	**57

comp=Z,24nm,1.0s
I05D Terrebonne, OR 81.37 37 P P 12 57 18.5 +0.4
baz=232
R11A Troy Canyon, C 81.48 44 P P 12 57 19.0 0.0
baz=237,SNR=16
R11A Troy Canyon, C 81.48 44 eP P 12 57 19.0 0.0
BMN Battle Mountai 81.57 42 eP P 12 57 19.1 -0.2
BMN pmax pmax
comp=Z,31nm,1.2s
BMN Battle Mountai 81.57 42 eP P 12 57 19.1 -0.2
comp=Z,31nm,1.2s
CN2 Changchun 81.66 322 eP P 12 57 19.6 +0.1
CN2 eS S 13 06 46.5 +1.1
CN2 PMZ
comp=Z,40nm,1.1s
CN2 PMZ
comp=Z,200nm,3.0s
KLR Kul'dur 81.75 329 P P 12 57 19.6 -0.2
comp=Z,5.7nm,0.9s,baz=102,slow=3.0,SNR=14
TUC Tucson 81.78 52 P P 12 57 21.3 +0.8
baz=241
TUC Tucson 81.78 52 eP P 12 57 21.7 +1.2
TUC Tucson 81.78 52 eP P 12 57 21.7 +1.2
WVOR Wild Horse Val 81.83 40 eP P 12 57 21.4 +0.8
WVOR Wild Horse Val 81.83 40 eP P 12 57 21.4 +0.8
G05D Wamic, OR 81.94 36 P P 12 57 21.2 +0.3
baz=232
WHN Wuhan 82.16 306 ⇑P P 12 57 22.8 +0.5
WHN S S 13 06 51.5 +0.6
LCMT Little Creek M 82.36 47 eP P 12 57 24.0 +0.6
CCUT Cedar City 82.56 46 eP P 12 57 25.3 +0.8
KNB Kanab 82.65 47 eP P 12 57 25.7 +0.8
KNB Kanab 82.65 47 eP P 12 57 25.7 +0.8
MA2 Magadan 82.75 344 P P 12 57 23.2 -1.4
comp=Z,8.4nm,0.6s,baz=143,slow=5.1,SNR=3.7
D05A Enumclaw 82.77 34 eP P 12 57 26.6 +1.6
TIA Tai'an 82.85 312 ⇓P P 12 57 25.4 -0.3
TIA PMZ
comp=Z,20nm,0.9s
MAW Mawson 82.91 200 P P 12 57 25.4 0.0
comp=Z,2.8nm,0.5s,baz=156,slow=9.4,SNR=8.0
MAW Mawson 82.91 200 P P 12 57 25.7 +0.3
baz=83,SNR=5.9
MAW Mawson 82.91 200 eP P 12 57 25.9 +0.5
MAW Mawson 82.91 200 eP P 12 57 25.9 +0.5
WUAZ Wupatki 82.91 49 P P 12 57 26.2 0.0
baz=240
WUAZ Wupatki 82.91 49 eP P 12 57 26.5 +0.2
ELK Elko 83.00 43 eP P 12 57 26.7 0.0
ELK Elko 83.00 43 eP P 12 57 26.7 0.0
UBPT Khong Chiam 83.26 289 P P 12 57 28.4 +0.3
comp=Z,56nm,1.2s
G08A Pilot Rock 83.30 37 eP P 12 57 28.6 +0.7
HPIG 83.31 59 eP P 12 57 29.1 +0.6
A04D Lummi Island 83.35 33 P P 12 57 28.2 +0.3
baz=231
B05A Bryant 83.38 34 P P 12 57 28.3 +0.3
baz=232
IPM Ipoh 83.53 277 eP P 12 57 29.5 -0.1
comp=Z,147nm,1.2s
MTPU Mount Pierson 83.61 46 eP P 12 57 31.0 +1.1
TT01 Tatalina 83.61 10 eP P 12 57 28.5 -0.4
PMR Palmer 83.69 13 eP P 12 57 28.2 -1.0
PMR pmax pmax
comp=Z,5.0nm,0.4s
PMR Palmer 83.69 13 eP P 12 57 28.2 -1.0
comp=Z,5.1nm,0.4s
C06D Leavenworth 83.81 34 P P 12 57 29.8 -0.4
baz=232
MSU Marysvale 83.85 46 eP P 12 57 31.7 +0.8
MSU Marysvale 83.85 46 eP P 12 57 31.7 +0.8
W18A Petrified Fore 83.89 50 P P 12 57 31.7 +0.5
baz=242
W18A Petrified Fore 83.89 50 eP P 12 57 31.3 +0.2
comp=Z,7.7nm,0.7s
BMO Blue Mountains 84.01 38 eP P 12 57 31.6 +0.3
DIV Divide 84.05 15 eP P 12 57 30.4 -0.7
comp=Z,5.3nm,0.7s
MFID Camas Ranch 84.09 40 eP P 12 57 32.3 +0.4
121A Cookes Peak, D 84.13 53 P P 12 57 33.6 +1.2
baz=243
121A Cookes Peak, D 84.13 53 eP P 12 57 33.2 +0.9
comp=Z,29nm,1.1s
KULM Kulim 84.15 278 eP P 12 57 32.5 -0.2
comp=Z,52nm,1.2s
ZAIG Zacatecas 84.16 64 eP P 12 57 33.9 +1.1
DUG Dugway, Tooele 84.28 44 P P 12 57 33.8 +0.9
baz=239
PANO Nakornpanom 84.72 290 P P 12 57 35.4 +0.1
comp=Z,37nm,1.1s,comp=Z,1μm
SKLT Songkhla 84.82 279 P P 12 57 36.9 +1.0
comp=Z,75nm,1.1s
HLID Hailey 85.03 41 P P 12 57 36.9 +0.4
baz=238,SNR=9.3
HLID Hailey 85.03 41 eP P 12 57 37.2 +0.7
TRF Thorofare Moun 85.13 12 eP P 12 57 34.9 -1.6
comp=Z,5.5nm,0.6s
SKNT Sakolnakorn 85.21 290 P P 12 57 37.7 0.0
comp=Z,54nm,1.1s
SRU San Rafael Swe 85.27 46 eP P 12 57 38.2 +0.4
SRU San Rafael Swe 85.27 46 eP P 12 57 38.2 +0.4
SEY Seymchan 85.30 347 P P 12 57 36.3 -0.7
comp=Z,14nm,0.8s,baz=162,slow=5.0,SNR=33
SEY Seymchan 85.30 347 d iP P 12 57 36.0 -1.1
RND Reindeer 85.37 12 eP P 12 57 36.6 -1.0
RND Reindeer 85.37 12 eP P 12 57 36.6 -1.0
BJI Beijing 85.41 315 P P 12 57 38.0 -0.1
BJI S S 13 07 24.0 +1.9
BJI PMZ
comp=Z,20nm,1.5s
BJI PMZ
comp=Z,130nm,3.9s
Y22D IRIS PASSCAL I 85.47 52 P P 12 57 38.8 0.0
baz=243
MNTX Cornudas Mount 85.58 54 P P 12 57 39.6 +0.3
baz=244
MNTX Cornudas Mount 85.58 54 eP P 12 57 40.0 +0.8
TLIG Tlapa 85.64 70 eP P 12 57 41.2 +1.3
MCK McKinley 85.65 12 eP P 12 57 38.1 -0.7
MCK McKinley 85.65 12 eP P 12 57 38.1 -0.7
GSI Gunungsitoli 85.72 273 eP P 12 57 40.8 +0.5
comp=Z,112nm,1.3s
BNM Barren Site 85.72 52 eP P 12 57 40.5 +0.4
MVCO Mesa Verde 85.76 48 P P 12 57 40.4 +0.2
baz=242
SRAK Srakaew 85.89 286 P P 12 57 39.4 -1.6
comp=Z,61nm,1.1s,comp=Z,703nm
TRTT Trang 85.91 280 P P 12 57 42.3 +1.2
comp=Z,109nm,1.0s,comp=Z,1μm
TXAR Lajitas Array 85.92 57 P P 12 57 42.0 +1.0
comp=Z,15nm,0.8s,baz=218,slow=6.2,SNR=120
TXAR pP pP 12 59 48.5 +4.5
comp=Z,0.9nm,1.0s,baz=223,slow=5.0,SNR=3.6
KHON Khomkaen 86.01 289 P P 12 57 42.9 +1.4
comp=Z,12nm,0.7s
PV01 Paradox Valley 86.14 47 eP P 12 57 42.1 0.0
ANMO Albuquerque 86.20 51 P P 12 57 42.4 +0.1
comp=Z,11nm,0.9s,baz=215,slow=5.5,SNR=28
ANMO Albuquerque 86.20 51 P P 12 57 42.2 -0.1
baz=244
ANMO Albuquerque 86.20 51 i P P 12 57 39.4 -2.9
ANMO pmax pmax
comp=Z,13nm,1.0s
ANMO Albuquerque 86.20 51 eP P 12 57 42.6 +0.2
NONG Nongkai 86.35 290 P P 12 57 43.4 +0.3
comp=Z,44nm,0.7s,comp=Z,6μm
GYA Guiyang 86.52 299 P P 12 57 44.3 +0.4
GYA pP pP 12 59 47.8 +0.6
GYA sP sP 13 00 43.0 -1.5
GYA PP PP 13 01 18.3 +1.6
GYA sS sS 13 11 10.0 -3.2
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,140nm,5.9s
CHAI Chaiyaphum 86.61 288 P P 12 57 45.0 +0.6
comp=Z,4.8nm,0.9s,comp=Z,304nm
MCMT McKenzie Canyo 86.65 40 eP P 12 57 44.6 +0.4
COLA College 86.89 12 eP P 12 57 43.0 -1.5
COLA pmax pmax
comp=Z,7.0nm,0.6s
COLA College 86.89 12 eP P 12 57 43.0 -1.5
comp=Z,6.5nm,0.6s
ILAR Eielson Array 86.99 13 P P 12 57 43.5 -1.5
comp=Z,1.2nm,0.4s,baz=232,slow=5.1,SNR=29
ILAR pP pP 12 59 46.5 -2.0
comp=Z,1.1nm,1.0s,baz=226,slow=3.6,SNR=4.1
MSO Missoula 87.06 38 P P 12 57 45.4 -0.6
baz=238
MSO Missoula 87.06 38 eP P 12 57 45.5 -0.5
DLMT Dillon 87.08 40 eP P 12 57 46.5 +0.3
SURT Suratani 87.12 280 P P 12 57 49.0 +2.2
comp=Z,24nm,1.6s
REDW Red Top Meadow 87.15 42 eP P 12 57 46.8 +0.2
comp=Z,27nm,1.3s
TPAW Teton Pass 87.15 42 eP P 12 57 47.3 +0.6
S22A 4UR Ranch, Cre 87.19 48 P P 12 57 47.1 +0.1
baz=243
S22A 4UR Ranch, Cre 87.19 48 eP P 12 57 47.3 +0.3
SNOW Snow King Moun 87.26 42 eP P 12 57 47.3 +0.1
comp=Z,12nm,0.9s
O20A White River Ci 87.31 46 P P 12 57 47.2 -0.2
baz=242
IMW Indian Meadow 87.36 42 eP P 12 57 48.1 +0.5
MOOW Moose Ponds 87.41 42 eP P 12 57 47.7 -0.1
comp=Z,11nm,1.4s
LRM Limekiln Ridge 87.41 39 eP P 12 57 48.1 +0.3
LOHW Long Hollow 87.43 42 eP P 12 57 48.4 +0.5
QLMT Earthquake Lak 87.52 41 eP P 12 57 49.6 +1.3
FLWY Flagg Ranch 87.60 41 eP P 12 57 49.1 +0.4
comp=Z,25nm,1.1s
BW06 Boulder Array 87.68 43 P P 12 57 48.7 -0.4
baz=241,SNR=9.9
BW06 Boulder Array 87.68 43 eP P 12 57 48.7 -0.4
comp=Z,11nm,1.3s
PDAR Pinedale Array 87.68 43 P P 12 57 48.5 -0.7
comp=Z,4.2nm,0.9s,baz=220,slow=3.9,SNR=27
PDAR pP pP 12 59 55.0 +2.1
comp=Z,0.5nm,0.7s,baz=232,slow=4.9,SNR=2.9
SMCO Snowmass 87.73 47 eP P 12 57 49.6 -0.1
comp=Z,14nm,1.4s
BOZ Bozeman (W) 87.81 40 P P 12 57 50.0 +0.4
baz=240
BOZ Bozeman (W) 87.81 40 eP P 12 57 49.6 0.0
BOZ pmax pmax
comp=Z,26nm,1.3s
BOZ Bozeman (W) 87.81 40 eP P 12 57 49.6 0.0
comp=Z,26nm,1.3s
LOEI Loei 87.83 289 P P 12 57 49.1 -1.0
comp=Z,9.2nm,1.5s
XAN Xi'an 87.83 307 P P 12 57 50.0 +0.2
XAN sP sP 13 00 41.3 -9.4
XAN PP PP 13 01 28.8 +2.1
XAN SKS SKSac 13 07 25.3 +1.1
XAN S S 13 07 44.6 -0.7
XAN sS sS 13 11 16.8 -9.0
XAN SS SS 13 13 47.3 -3.2
XAN PMZ
comp=Z,51nm,1.1s
XAN PMZ
comp=Z,55nm,5.3s
H17A Grant Village 87.83 41 P P 12 57 51.1 +1.2
baz=240,SNR=9.9
H17A Grant Village 87.83 41 eP P 12 57 51.2 +1.4
comp=Z,19nm,1.1s
BILL Bilibino 87.87 354 ⇓eP P 12 57 46.5 -2.6
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL Bilibino 87.87 354 eP P 12 57 48.1 -1.0
comp=Z,3.0nm,0.6s
LKWY Lake 88.03 41 eP P 12 57 50.9 +0.2
LKWY pmax pmax
comp=Z,13nm,1.1s
LKWY Lake 88.03 41 eP P 12 57 50.9 +0.2
comp=Z,13nm,1.1s
SYO Syowa Base 88.05 193 ⇓eP P 12 57 48.4 -1.7
SYO Syowa Base 88.05 193 i PcP P 12 57 50.0 -0.1
SDCO Great Sand Dun 88.13 49 P P 12 57 51.1 -0.3
baz=244
SDCO Great Sand Dun 88.13 49 eP P 12 57 51.3 -0.2
comp=Z,4.0nm,0.9s
EGAK Eagle 88.27 15 eP P 12 57 50.6 -0.4
832A Faith Ranch, C 88.47 59 P P 12 57 53.1 +0.2
baz=247,SNR=6.3
UTTA Uttaradit 88.54 289 P P 12 57 54.8 +1.4
comp=Z,7.0nm,1.1s
T25A Trinidad 88.65 50 P P 12 57 53.5 -0.2
baz=245
CMIG Matias Romero 88.76 72 P P 12 57 54.5 +0.1
comp=Z,12nm,1.0s,baz=271,slow=4.7,SNR=10
933A Laredo 88.79 60 P P 12 57 54.9 +0.5
baz=248
HHC Hu-ho-hao-te 88.89 314 eP P 12 57 58.4 +3.8
HHC S S 13 07 59.3 +4.4
HHC PMZ
comp=Z,38nm,1.5s
HHC PMZ
comp=Z,77nm,5.3s
Q24A Divide 88.91 48 P P 12 57 55.3 +0.2
baz=244
ISCO Idaho Springs 88.95 47 P P 12 57 55.3 +0.1
baz=244
833A Chaparral WMA, 88.96 60 P P 12 57 55.3 +0.2
baz=248
RLMT Red Lodge 89.00 41 P P 12 57 55.7 +0.5
baz=241
RLMT Red Lodge 89.00 41 eP P 12 57 56.0 +0.8
034A Hebbronville 89.07 61 P P 12 57 57.0 +1.4
baz=248,SNR=11
733A Divot King Ran 89.19 59 P P 12 57 56.6 +0.4
baz=248
N23A Red Feather La 89.21 46 P P 12 57 56.5 +0.2
baz=244,SNR=6.8
SNAA Sanae 89.23 178 P P 12 57 55.4 -0.2
SNAA Sanae 89.23 178 i iP P 12 57 54.9 -0.8
SNAA Sanae 89.23 178 eP P 12 57 55.0 -0.6
comp=Z,2μm,1.1s
SUKH Sukhothai 89.28 289 P P 12 57 57.9 +1.1
comp=Z,10nm,0.9s,comp=Z,91nm
KMI Kunming 89.28 297 P P 12 57 57.9 +0.9
KMI SKS SKSac 13 07 30.8 -2.6
KMI S ScS 13 08 06.4 +4.2
KMI PMZ
comp=Z,27nm,1.2s
KMI PMZ
comp=Z,94nm,5.1s
035Z Hargill 89.36 62 P P 12 57 57.2 +0.2
baz=248
934A Benavides 89.41 61 P P 12 57 58.5 +1.3
baz=248
JCT Junction City 89.45 57 P P 12 57 57.0 -0.5
baz=247
JCT Junction City 89.45 57 eP P 12 57 57.7 +0.3
JCT Junction City 89.45 57 eP P 12 57 57.7 +0.3
035A Encino 89.50 61 P P 12 57 59.0 +1.4
baz=248,SNR=5.0
633A Saathoff Ranch 89.57 59 P P 12 57 58.7 +0.7
baz=248,SNR=10
834A Tilden 89.57 60 P P 12 57 58.5 +0.5
baz=248
K22A Casper 89.61 44 P P 12 57 57.0 -1.0
baz=243
K22A Casper 89.61 44 eP P 12 57 57.5 -0.6
comp=Z,28nm,1.4s
LAMP Lampang 89.63 290 P P 12 57 59.5 +1.0
comp=Z,19nm,0.8s,comp=Z,173nm
PHWY Pilot Hill 89.72 46 eP P 12 57 58.9 +0.1
comp=Z,3.2nm,0.7s
PLCA Paso Flores 89.72 133 P P 12 57 59.5 +0.9
comp=Z,14nm,0.9s,baz=264,slow=5.8,SNR=10
AMTX Amarillo 89.73 53 P P 12 57 58.0 -0.7
baz=246
AMTX Amarillo 89.73 53 eP P 12 57 58.9 +0.2
533A Kerrville 89.91 58 P P 12 57 59.6 +0.1
baz=248,SNR=12
NVL N'lazarevskaya 89.98 183 eP P 12 57 59.9 +0.9
VNA1 Neumayer--Stat 90.01 176 P P 12 57 59.8 +0.6
EGMT Eagleton 90.11 38 P P 12 58 00.4 +0.2
baz=241
433A Art 90.13 57 P P 12 58 00.5 0.0
baz=248,SNR=21
835A Beeville 90.22 60 P P 12 58 02.1 +1.1
baz=248
CMAR Chiang Mai Arr 90.22 289 P P 12 58 01.9 +0.7
comp=Z,17nm,0.9s,baz=117,slow=2.9,SNR=69
CMAR pP pP 13 00 06.4 +0.9
comp=Z,0.6nm,0.4s,baz=96,slow=2.7,SNR=1.9
CMAR PP PP 13 01 52.0 +6.3
comp=Z,1.6nm,0.8s,baz=127,slow=5.7,SNR=4.2
936A North Padre Is 90.34 61 P P 12 58 01.1 -0.4
baz=248
CMMT Chiang Mai 90.34 290 P P 12 58 02.2 +0.4
comp=Z,31nm,1.2s
CHTO Chiang Mai 90.35 290 P P 12 58 02.2 +0.5
comp=Z,129nm,1.0s
CHTO Chiang Mai 90.35 290 eP P 12 58 02.3 +0.5
CHTO Chiang Mai 90.35 290 eP P 12 58 02.3 +0.5
534A Blanco 90.35 58 P P 12 58 01.7 +0.1
baz=248,SNR=25
ABTX Abilene, Hawle 90.40 56 P P 12 58 01.8 +0.1
baz=247,SNR=7.2
ABTX Abilene, Hawle 90.40 56 eP P 12 58 01.3 -0.4
comp=Z,47nm,1.2s
333A Richland Sprin 90.43 57 P P 12 58 01.7 -0.2
baz=248
735A Kenedy 90.45 60 P P 12 58 02.0 0.0
baz=248
CD2 Chengdu 90.59 303 P P 12 58 03.0 +0.3
CD2 pP pP 13 00 06.1 -1.0
CD2 sP sP 13 01 02.8 -1.2
CD2 SKS SKSac 13 07 40.1 -0.1
CD2 S S 13 08 10.9 +0.4
CD2 SS SS 13 14 31.0 +0.9
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,140nm,5.4s
635A Leesville 90.68 59 P P 12 58 03.4 +0.4
baz=248
KSCO Kaye Shedlock' 90.71 49 P P 12 58 03.2 0.0
baz=246
233A Rising Star 90.75 56 P P 12 58 03.2 -0.2
baz=248,SNR=6.3
434A Burnet 90.81 58 P P 12 58 03.3 -0.3
baz=248,SNR=12
133A Hamilton Ranch 90.97 56 P P 12 58 04.1 -0.2
baz=248,SNR=6.7
334A Lometa 91.02 57 P P 12 58 04.5 -0.1
baz=248,SNR=11
535A Dale 91.08 59 P P 12 58 05.0 +0.2
baz=248
736A Circle Diamond 91.09 60 P P 12 58 06.0 +1.0
baz=249
YAK Yakutsk 91.18 338 i P P 12 58 02.7 -1.8
YAK pmax pmax
comp=Z,8.0nm,0.8s
636A Smothers Creek 91.29 59 P P 12 58 06.8 +0.9
baz=249
Z33A Whitaker Ranch 91.34 55 P P 12 58 06.1 +0.1
baz=248
435B Jarrell 91.34 58 P P 12 58 06.1 0.0
baz=248
234A Clairette 91.35 57 P P 12 58 06.2 +0.1
baz=248
X32A Elmer 91.36 54 P P 12 58 05.6 -0.5
baz=248
536A Bastrop 91.50 59 P P 12 58 07.2 +0.4
baz=249
134A White-Moore Ra 91.61 56 P P 12 58 07.0 -0.3
baz=248
LAO LASA Array 91.61 41 P P 12 58 07.7 +0.7
baz=244
335A Moody 91.65 58 P P 12 58 07.3 -0.2
baz=249
W32A Sentinel 91.66 53 P P 12 58 07.3 -0.2
baz=248
Y33A Hilltop Ranch, 91.72 55 P P 12 58 07.4 -0.4
baz=248
637A Eagle Lake 91.87 60 P P 12 58 07.8 -0.7
baz=249
WMOK Wichita Mounta 91.87 54 P P 12 58 07.8 -0.6
baz=248
RSSD Black Hills 91.88 44 P P 12 58 08.1 -0.5
baz=245
RSSD Black Hills 91.88 44 eP P 12 58 08.4 -0.1
RSSD Black Hills 91.88 44 eP P 12 58 08.4 -0.1
OGNE Ogallala 91.92 47 P P 12 58 08.3 -0.3
baz=246
436A Wall Ranch, Ga 91.97 58 P P 12 58 09.2 +0.3
baz=249
X33A Lawton 92.01 54 P P 12 58 08.5 -0.6
baz=248
Z34A Collier Ranch, 92.03 55 P P 12 58 08.9 -0.3
baz=248
V32A Arapaho 92.04 53 P P 12 58 09.4 +0.1
baz=248
537A Green Hill Far 92.11 59 P P 12 58 09.0 -0.6
baz=249
336A Riesel 92.15 58 P P 12 58 09.7 -0.1
baz=249
W33A Caddo, Fort Co 92.26 54 P P 12 58 10.5 +0.2
baz=248
U32A Winter Ranch, 92.32 52 P P 12 58 10.1 -0.4
baz=248
Y34A Reagan Ranch, 92.37 55 P P 12 58 10.5 -0.3
baz=248
H25A Fruitdale 92.38 43 P P 12 58 10.4 -0.2
baz=245
LZH Lanzhou 92.46 307 eP P 12 58 12.1 +0.8
LZH pP pP 13 00 14.0 -1.9
LZH sP sP 13 01 06.8 -6.0
LZH PP PP 13 02 02.0 -1.0
LZH SKS SKSac 13 07 52.8 +2.2
LZH eS ScS 13 08 28.3 +0.2
LZH sS sS 13 12 03.3 -7.2
LZH PMZ
comp=Z,29nm,1.2s
LZH PMZ
comp=Z,89nm,4.5s
437A Phantom Ranch, 92.52 58 P P 12 58 12.0 +0.5
baz=249
Z35A Perchaven, San 92.53 56 P P 12 58 11.6 +0.1
baz=249
X34A Smith Ranch, M 92.55 54 P P 12 58 11.7 +0.1
baz=248
236A Katherine and 92.62 57 P P 12 58 11.7 -0.2
baz=249
T32A Huddler Ranch, 92.68 52 P P 12 58 11.9 -0.2
baz=248
CBKS Cedar Bluff 92.70 50 P P 12 58 12.1 -0.1
baz=248
CBKS Cedar Bluff 92.70 50 eP P 12 58 12.6 +0.4
CBKS Cedar Bluff 92.70 50 eP P 12 58 12.6 +0.4
S32A Newby Ranch, P 92.86 51 P P 12 58 12.5 -0.5
baz=248
337A Centerville 92.89 58 P P 12 58 13.6 +0.4
baz=249
INK Inuvik 92.94 15 P P 12 58 11.1 -1.4
comp=Z,0.8nm,0.5s,baz=151,slow=3.6,SNR=6.6
F25A Bowman 93.01 42 P P 12 58 13.5 0.0
baz=245
438A Sam Houston St 93.02 59 P P 12 58 14.2 +0.4
baz=250
X35A Drake 93.13 55 P P 12 58 13.7 -0.5
baz=249
R32A Long Quarter, 93.30 50 P P 12 58 14.6 -0.4
baz=248
W35A Tecumseh 93.48 54 P P 12 58 15.8 0.0
baz=249
F26A Lodgepole 93.48 42 P P 12 58 15.6 -0.1
baz=246
Y36A Durant 93.49 55 P P 12 58 15.8 -0.1
baz=249
O31A Woolen Ranch, 93.50 49 P P 12 58 15.7 -0.2
baz=248
S33A Kaszmaul Farm, 93.51 51 P P 12 58 15.7 -0.2
baz=248
Q32A Meitler Ranch, 93.62 50 P P 12 58 16.0 -0.3
baz=248
DGMT Dagmar 93.62 40 P P 12 58 16.5 +0.3
baz=245
DGMT Dagmar 93.62 40 eP P 12 58 16.6 +0.3
comp=Z,24nm,1.0s
X36A Centrahoma 93.67 55 P P 12 58 15.9 -0.8
baz=249
V35A Meyer Ranch, C 93.72 54 P P 12 58 16.3 -0.7
baz=249
R33A Olander Ranch, 93.79 51 P P 12 58 17.2 0.0
baz=249
T34A McClaskey Farm 93.91 52 P P 12 58 17.2 -0.5
baz=249
W36A Wetumka 93.97 54 P P 12 58 17.7 -0.3
baz=249
D26A Manning 94.11 41 P P 12 58 18.7 +0.2
baz=246
Q33A Connelly Farm, 94.15 50 P P 12 58 18.6 -0.2
baz=249
M31A Lambtecht Ranc 94.20 48 P P 12 58 18.8 -0.2

baz=248
K30A Basset 94.25 46 P **P** 12 58 18.9 -0.3
baz=248
O32A Brockman Farm, 94.29 49 P **P** 12 58 19.4 0.0
baz=248
R34A Isabella, Hill 94.33 51 P **P** 12 58 19.6 0.0
baz=249
W37B Quinton 94.58 55 P **P** 12 58 20.3 -0.5
baz=250
O33A Hebron 94.72 49 P **P** 12 58 21.5 +0.1
baz=249
ULN Ulaanbaatar 94.79 319 *i* P **P** 12 58 20.9 -0.8
ULN pmax pmax
comp=Z,3.0nm,1.0s
X38A Whitesboro 94.89 55 P **P** 12 58 22.6 +0.4
baz=250
V37A Hulbert 95.06 54 P **P** 12 58 22.7 -0.2
baz=250
P34A Walnut Farm, R 95.08 50 P **P** 12 58 23.1 +0.1
baz=249
YKA Yellowknife Ar 95.16 24 P **P** 12 58 22.0 -0.7
comp=Z,0.5nm,0.7s,baz=245,slow=4.6,SNR=4.3
SONM Songino Array 95.19 319 P **P** 12 58 23.2 -0.2
comp=Z,0.8nm,0.7s,baz=151,slow=3.4,SNR=5.2
SONM PP **PP** 13 02 21.1 -2.4
comp=Z,0.9nm,0.8s,baz=104,slow=6.3,SNR=5.8
S36A Lake Cedric, C 95.35 52 P **P** 12 58 24.0 -0.2
baz=250
O34A Beatrice 95.39 49 P **P** 12 58 23.8 -0.6
baz=250
V38A Canehill 95.61 54 P **P** 12 58 24.8 -0.6
baz=250
T37A Cheneyville 18 95.65 53 P **P** 12 58 25.2 -0.3
baz=250
MIAR Mount Ida 95.82 56 P **P** 12 58 26.1 -0.3
baz=251
W39A Magazine 95.87 55 P **P** 12 58 26.4 -0.3
baz=251
T38A Diamond 96.09 53 P **P** 12 58 27.1 -0.5
baz=251
P36A Good Intent, A 96.28 50 Pdiff **P** 12 58 28.4 +0.1
baz=250
F31A Hecla 96.34 44 Pdiff **P** 12 58 28.3 -0.1
baz=249
D30A Buchanan 96.46 42 Pdiff **P** 12 58 28.5 -0.5
baz=249
B29A Wagenman Farm, 96.58 41 Pdiff **P** 12 58 29.2 -0.3
baz=249
GTA Gaotai 96.62 309 P **P** 12 58 29.9 -0.2
GTA pP pP 13 00 34.1 -0.9
GTA sP sP 13 01 27.6 -4.2
GTA PMZ
comp=Z,5.0nm,1.1s
ECSD EROS Data Cent 96.68 46 Pdiff **P** 12 58 29.5 -0.6
baz=250
R38A Fenwick Farm, 96.76 52 Pdiff **P** 12 58 29.8 -0.7
baz=251
T39A Clever 96.78 53 Pdiff **P** 12 58 30.6 0.0
baz=251
E31A Nome 96.82 43 Pdiff **P** 12 58 29.6 -1.0
baz=249
H33A Prehn Over Nor 96.92 45 Pdiff **P** 12 58 30.4 -0.7
baz=251
U40A Yellville 96.96 54 Pdiff **P** 12 58 30.1 -1.4
baz=251
S39A Bolivar 97.03 53 Pdiff **P** 12 58 31.3 -0.5
baz=251
R39A Chumby, Stover 97.45 52 Pdiff Pdif 12 58 33.6 0.0
baz=252
T40A Mansfield 97.47 53 Pdiff Pdif 12 58 33.6 -0.2
baz=252
S40A Lebanon 97.62 53 Pdiff Pdif 12 58 34.4 -0.1
baz=252
TIXI Tiksi 97.70 345 P Pdif 12 58 32.1 -1.8
comp=Z,0.7nm,0.4s,baz=130,slow=6.2,SNR=4.4
Q39A Willow Grove F 97.72 51 Pdiff Pdif 12 58 34.6 -0.2
baz=252
T41A Mountain View 98.01 54 Pdiff **P** 12 58 36.3 +0.1
baz=252
R40A Maddies Statio 98.01 52 Pdiff **P** 12 58 36.2 +0.1
baz=252
P39B Salisbury 98.03 51 Pdiff **P** 12 58 36.2 0.0
baz=252
M38A Pleasantville 98.31 49 Pdiff Pdif 12 58 37.0 -0.3
baz=252
F36A Milaca 99.45 45 Pdiff **Pdif** 12 58 42.6 +0.3
baz=252
B35A Bob, Littlefor 100.08 42 Pdiff **Pdif** 12 58 45.5 +0.4
baz=253
D37A Cotton 100.56 44 Pdiff **Pdif** 12 58 47.7 +0.4
baz=253
LPAZ La Paz 102.02 112 P **Pdif** 12 58 57.8 +2.6
comp=Z,2.0nm,0.7s,baz=226,slow=4.4,SNR=8.5
ZALV Zalesovo Beam 109.88 321 PKiKP **PKiKP** 13 03 25.2 -1.8
comp=Z,1.2nm,0.4s,baz=91,slow=1.0,SNR=5.2
ZALV PP **PP** 13 04 13.7 +2.5
comp=Z,0.6nm,0.4s,baz=101,slow=7.7,SNR=4.2
MKAR Makanchi Array 110.75 314 Pdiff **Pdif** 12 59 33.6 +1.0
comp=Z,0.6nm,0.7s,baz=134,slow=3.5,SNR=3.8
MKAR PKiKP **PKiKP** 13 03 27.1 -1.8
comp=Z,1.4nm,0.5s,baz=140,slow=0.4,SNR=16
MKAR PP **PP** 13 04 18.4 +0.7
comp=Z,1.4nm,1.0s,baz=79,slow=6.3,SNR=3.9
MKAR SKP 13 06 10.5
comp=Z,1.7nm,0.8s,baz=80,slow=1.5,SNR=5.1
MKAR PKKPbc **PKKPbc** 13 14 29.2 -0.8
comp=Z,1.9nm,0.8s,baz=276,slow=3.5,SNR=9.6
KURK Kurchatov 113.46 318 PKiKP **PKiKP** 13 03 32.3 -1.6
KURK 13 04 38.2
KURK Kurchatov 113.46 318 PKiKP **PKiKP** 13 03 32.2 -1.6
KURK PP **PP** 13 04 38.2 +1.7
KURBB Kurchatov Arra 113.51 318 PKiKP **PKiKP** 13 03 32.2 -1.7
comp=Z,1.9nm,0.7s,baz=98,slow=1.8,SNR=25
KURBB PP **PP** 13 04 38.2 +1.3
comp=Z,2.3nm,0.9s,baz=90,slow=6.8,SNR=8.0
KURBB SKP 13 06 15.7
comp=Z,1.5nm,0.7s,baz=90,slow=1.7,SNR=9.3
KURBB PKKPbc **PKKPbc** 13 14 20.4 -0.6
comp=Z,1.4nm,0.9s,baz=272,slow=3.9,SNR=10
KSH Kashi 114.63 305 PKP PKPdf 13 03 38.5 +1.8
KSH PP **PP** 13 04 50.0 +4.8
KSH sPKP 13 06 37.3
KSH SKS **SKSdf** 13 09 58.8 +3.5
KSH SKKS **SKKSac** 13 10 48.9 +1.7
KSH SS **SS** 13 20 01.5 +4.7
BRVK Borovoye 118.55 321 *i* PKiKP **PKPdf** 13 03 41.6 -2.0
ARU Arti 124.49 326 *i* PKiKP **PKPdf** 13 03 53.8 -1.1
ARU 13 05 51.4
ARU PPP PPP 13 08 35.0
ARU 13 10 10.2
ARU SP SP 13 14 57.4 +3.8
ARU SS **SS** 13 21 53.0 -7.2
ARCES ARCESS Array B 127.81 350 PKP **PKPdf** 13 03 59.8 -1.1
comp=Z,2.5nm,0.4s,baz=351,slow=0.5,SNR=40
KLMR Klimovskoe 130.97 337 *e*PKiKP **PKPdf** 13 04 05.4 -1.7
KLMR *e* 13 06 35.7
KLMR pmax pmax
comp=Z,7.0nm,1.5s
FINES FINESS Array B 134.74 344 PKhKP PKPpre 13 03 59.8
comp=Z,2.1nm,0.8s,baz=64,slow=4.4,SNR=3.4
FINES PKP **PKPdf** 13 04 14.1 -0.1
comp=Z,1.7nm,0.5s,baz=56,slow=3.4,SNR=8.4
FINES SKPbc **SKPbc** 13 06 51.1 -0.3
comp=Z,4.4nm,0.9s,baz=21,slow=2.7,SNR=4.5
NB2 NORSAR Subarra137.82 354 PKP PKPpre 13 04 10.9
comp=Z,2.3nm,1.0s,baz=20,slow=3.8
NOA NORSAR Array B 137.82 354 PKP **PKPdf** 13 04 20.9 +0.9
comp=Z,0.9nm,0.5s,baz=14,slow=4.0,SNR=4.0
KBZ Khabaz 138.43 315 SKPbc **SKPbc** 13 07 03.2 +0.3
comp=Z,4.4nm,1.0s,baz=144,slow=2.6,SNR=8.4
KIV Kislovodsk 138.48 315 *i* PKiKP **PKPdf** 13 04 21.4 -0.4
KIV pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 140.40 243 PKhKP PKPpre 13 04 20.3
comp=Z,1.5nm,0.5s,baz=55,slow=6.5,SNR=4.6
KMBO SKPbc **SKiKP** 13 07 11.1 -0.6
comp=Z,1.1nm,0.3s,baz=304,slow=1.4,SNR=5.5
AKASG Malin Array Be 142.19 332 PKhKP PKPpre 13 04 22.9
comp=Z,4.4nm,0.3s,baz=42,slow=4.4,SNR=14
AKASG SKP 13 07 10.1
comp=Z,5.4nm,1.0s,baz=41,slow=3.3,SNR=5.8
SIM Simferopol' 143.39 321 *i* PKiKP PKPab 13 04 27.5 -1.3
SIM pmax pmax
comp=Z,52nm,0.9s
LEOM Leova 145.64 328 ⇑*i*P **PKPbc** 13 04 35.6 -0.2
LEOM Leova 145.64 328 ⇑PKP2 **PKPbc** 13 04 35.6 -0.2
OJC Ojcow 146.20 340 *e*PKP **PKPbc** 13 04 36.6 -0.7
OJC Ojcow 146.20 340 *e*PKIKP **PKPbc** 13 04 36.6 -0.7
TLCR 146.22 326 ⇓*i*P **PKPbc** 13 04 37.1 -0.3
TLCR 146.22 326 ⇓PKP2 **PKPbc** 13 04 37.1 -0.3
BURAR Bucovina Array 146.25 332 ⇓*i*P **PKPbc** 13 04 37.4 -0.2
BURAR Bucovina Array 146.25 332 ⇓PKP2 **PKPbc** 13 04 37.4 -0.2
STHS Stebnicka Huta 146.39 338 *e*PKP2 **PKPbc** 13 04 38.9 +1.0
STHS Stebnicka Huta 146.39 338 *e*PKP **PKPbc** 13 04 38.9 +1.0
TESR Tescani 146.40 329 ⇑*i*P **PKPbc** 13 04 37.3 -0.6
BRTR Keskin Array B 146.40 314 PKPbc **PKPbc** 13 04 37.3 -1.1
comp=Z,10nm,0.7s,baz=141,slow=4.9,SNR=42
BRTR pPKPbc pPKPbc 13 06 51.5 +2.7
comp=Z,2.7nm,0.9s,baz=48,slow=1.8,SNR=5.9
BRTR SKKPbc SKKPbc 13 15 14.8 -1.2
comp=Z,1.2nm,0.9s,baz=255,slow=3.3,SNR=5.6
KOLS Kolonicke sedl 146.41 336 *e*PKP2 **PKPbc** 13 04 37.9 0.0
KOLS Kolonicke sedl 146.41 336 *e*PKP **PKPbc** 13 04 37.9 0.0
CFR Carcaliu 146.58 326 ⇓*i*P **PKPbc** 13 04 37.8 -0.6
CFR Carcaliu 146.58 326 ⇓PKP2 **PKPbc** 13 04 37.8 -0.6
UZH Uzhgorod 146.66 336 *e*PKP2 **PKPbc** 13 04 38.2 -0.3
KSP Ksiaz 146.66 344 *e*PKP **PKPbc** 13 04 38.4 -0.1
KSP Ksiaz 146.66 344 *e*PKP2 **PKPbc** 13 04 38.4 -0.1
NIE Niedzica 146.72 339 *e*PKP **PKPbc** 13 04 38.1 -0.7
NIE Niedzica 146.72 339 *e*PKP2 **PKPbc** 13 04 38.1 -0.7
ODBI Odobesti 146.73 328 ⇓*i*P **PKPbc** 13 04 39.9 +1.1
CRVS Cervenica-Dubn 146.74 337 *e*PKIKP **PKPbc** 13 04 37.6 -1.2
CRVS *e* 13 04 41.7
CRVS Cervenica-Dubn 146.74 337 *e*PKP **PKPbc** 13 04 37.6 -1.2
CRVS *e* 13 04 41.7
CRVS *e* 13 06 51.7
VRI Vrincioaia 146.82 329 ⇓*i*P **PKPbc** 13 04 38.6 -0.5
VRI Vrincioaia 146.82 329 ⇓PKP2 **PKPbc** 13 04 38.6 -0.5
PLOR Plostina 146.87 329 ⇑*i*P **PKPbc** 13 04 38.7 -0.6
PLOR Plostina 146.87 329 ⇑PKP2 **PKPbc** 13 04 38.7 -0.6
TIRR Tirgusor 146.91 325 ⇓*i*P **PKPbc** 13 04 38.9 -0.4
TIRR Tirgusor 146.91 325 ⇓PKP2 **PKPbc** 13 04 38.9 -0.4
BMR Baia Mare 146.94 334 ⇑*i*P **PKPbc** 13 04 39.2 -0.1
BMR Baia Mare 146.94 334 ⇑PKP2 **PKPbc** 13 04 39.2 -0.1
TRPA Tarpa 146.97 335 ⇓*e*PKPab **PKPbc** 13 04 38.9 -0.5
CLL Collm 146.98 348 ⇑*i*PKPbc **PKPbc** 13 04 38.6 -0.7
comp=Z,20nm,0.5s
CLL ⇓*i*PKPab **PKiKP** 13 04 41.5 +0.3
comp=Z,15nm,0.9s
CLL *e*pPKPbc pPKPbc 13 06 49.0 -1.0
CLL *i* SKPbc **SKiKP** 13 07 24.0 +0.4
CLL *e*PP **PP** 13 08 11.0 +1.7
CLL Collm 146.98 348 ⇑PKP2 **PKPbc** 13 04 38.6 -0.7
CLL pmax pmax
comp=Z,20nm,0.5s
HARR Harsova 147.01 326 ⇑*i*P **PKPbc** 13 04 39.1 -0.5
HARR Harsova 147.01 326 ⇑PKP2 **PKPbc** 13 04 39.1 -0.5
ARCR ARCALIA 147.03 332 ⇑*i*P **PKPbc** 13 04 39.8 +0.2
UPC Upice 147.04 344 ⇑*e*PKP **PKPbc** 13 04 39.5 0.0
UPC *e*PKPAB **PKPab** 13 04 42.9 0.0
UPC *e*pPKP **pPKPdf** 13 06 51.3 +1.8
UPC Upice 147.04 344 *e*PKP2 **PKPbc** 13 04 39.5 0.0
DPC Dobruska-Polom 147.11 344 ⇑*e*PKP **PKPbc** 13 04 39.9 +0.1
DPC *e*PKPAB **PKPab** 13 04 43.4 +0.1
DPC *e*pPKP **pPKPdf** 13 06 51.1 +1.4
DPC Dobruska-Polom 147.11 344 *e*PKP2 **PKPbc** 13 04 39.9 +0.1
BRG Berggiesshubel 147.19 347 *i* PKP **PKPbc** 13 04 39.6 -0.3
comp=Z,9.4nm,0.7s
BRG *i* 13 04 42.9
comp=Z,10nm,0.9s
BRG *e*pPKP **pPKPdf** 13 06 51.4 +1.7
comp=Z,7.0nm,1.4s
BRG *i* SKP 13 07 24.5
comp=Z,7.6nm,1.2s
BRG Berggiesshubel 147.19 347 *i* PKP2 **PKPbc** 13 04 39.6 -0.3
BRG pmax pmax
comp=Z,9.0nm,0.7s
BRG MLR MLR
comp=N,85nm,13.3s
BRG MLR MLR
comp=E,86nm,13.7s
BRG MLR MLR
comp=Z,158nm,13.7s
LANS Liptovska Anna 147.23 339 *e*PKP2 **PKPbc** 13 04 40.5 +0.4
LANS Liptovska Anna 147.23 339 *e*PKP **PKPbc** 13 04 40.5 +0.4
LANS *e* 13 04 44.3
MORC Moravsky Berou 147.28 342 ⇓*i*P **PKPbc** 13 04 40.2 -0.1
MORC Moravsky Berou 147.28 342 ⇓PKP2 **PKPbc** 13 04 40.2 -0.1
PVCC Panska Ves 147.38 346 ⇑*e*PKP **PKPbc** 13 04 40.5 +0.1
PVCC Panska Ves 147.38 346 *e*PKP2 **PKPbc** 13 04 40.5 +0.1
DOPR Dopca 147.39 330 ⇓*i*P **PKPbc** 13 04 41.0 +0.4
ISR Istrita 147.44 328 ⇑*i*P **PKPbc** 13 04 41.0 +0.2
ISR Istrita 147.44 328 ⇑PKP2 **PKPbc** 13 04 41.0 +0.2
KECS Kecovo 147.45 338 *e*PKP2 **PKPbc** 13 04 40.1 -0.6
KECS Kecovo 147.45 338 *e*PKP **PKPbc** 13 04 40.1 -0.6
KECS *e* 13 04 43.9
KECS *e* 13 06 54.5
MLR Muntele Rosu 147.47 329 ⇓*i*P **PKPbc** 13 04 40.1 -0.9
MLR Muntele Rosu 147.47 329 ⇓PKP2 **PKPbc** 13 04 40.1 -0.9
CJR Cluj-Napoca 147.65 333 ⇓*i*P **PKPbc** 13 04 41.3 0.0
CJR Cluj-Napoca 147.65 333 ⇓PKP2 **PKPbc** 13 04 41.3 0.0
SECR 147.74 328 ⇑*i*P **PKPbc** 13 04 40.9 -0.6
PRU Pruhonice 147.89 345 ⇑*e*PKP **PKPbc** 13 04 41.6 -0.1
PRU *e*PKPAB **PKPab** 13 04 45.9 -0.5
PRU Pruhonice 147.89 345 *e*PKP2 **PKPbc** 13 04 41.6 -0.1
GOPC GO Pecny, Ondr 147.90 345 ⇑*e*PKP **PKPbc** 13 04 41.6 -0.2
GOPC *e*PKPAB **PKPab** 13 04 45.7 -0.7
GOPC GO Pecny, Ondr 147.90 345 *e*PKP2 **PKPbc** 13 04 41.6 -0.2
VOIR 147.94 330 ⇑*i*P **PKPbc** 13 04 41.8 -0.3
VOIR 147.94 330 ⇑PKP2 **PKPbc** 13 04 41.8 -0.3
DRGR 147.96 334 ⇓*i*P **PKPbc** 13 04 41.4 -0.7
DRGR 147.96 334 ⇓PKP2 **PKPbc** 13 04 41.4 -0.7
VRAC Vranov 147.98 343 ⇓*i*P **PKPab** 13 04 46.8 0.0
VRAC Vranov 147.98 343 ⇓PKP2 **PKPab** 13 04 46.8 0.0
VYHS Vyhne 148.01 339 *e*PKP2 **PKPbc** 13 04 41.9 -0.2
VYHS Vyhne 148.01 339 *e*PKP **PKPbc** 13 04 41.9 -0.2
VYHS *e* 13 04 47.1
VYHS *e* 13 06 55.8
NKC Novy Kostel 148.11 348 *e*PKPAB **PKPab** 13 04 46.8 -0.5
NKC Novy Kostel 148.11 348 *e*PKP2 **PKPab** 13 04 46.8 -0.5
PSZ Piszkesteto 148.14 338 ⇓*i*P **PKPbc** 13 04 42.3 -0.2
PSZ Piszkesteto 148.14 338 ⇓*e*PKPab **PKPbc** 13 04 41.9 -0.6
PSZ Piszkesteto 148.14 338 ⇓PKP2 **PKPbc** 13 04 42.3 -0.2
ARR Arges 148.19 330 ⇓*i*P **PKPbc** 13 04 43.2 +0.5
TREC Trest 148.29 344 ⇑*e*PKP **PKPbc** 13 04 42.6 -0.2
TREC *e*PKPAB **PKPab** 13 04 47.8 -0.3
TREC Trest 148.29 344 *e*PKP2 **PKPbc** 13 04 42.6 -0.2
LOT Lotru 148.54 331 ⇓*i*P **PKPbc** 13 04 43.1 -0.6
SIRR Siria 148.82 334 ⇑*i*P **PKPbc** 13 04 43.9 -0.3
KHC Kasperske Hory 148.91 346 ⇑*e*PKP **PKPbc** 13 04 43.4 -0.1
KHC *e*PKPAB **PKPab** 13 04 50.5 -0.2
KHC *e*pPKP **pPKPdf** 13 06 56.7 +4.0
KHC Kasperske Hory 148.91 346 *e*PKHKP **PKPbc** 13 04 44.3 -0.1
KHC *e* 13 04 50.5
GERES GERESS Array B 149.15 346 PKPbc **PKPbc** 13 04 44.1 -0.9
comp=Z,4.5nm,0.5s,baz=35,slow=2.1,SNR=43
GERES pPKPbc **pPKPbc** 13 06 56.4 -0.1
comp=Z,0.2nm,0.5s,baz=41,slow=3.6,SNR=2.6
DOU Dourbes 149.19 357 PKPbc **PKPbc** 13 04 44.6 -0.4
DOU PKPab **PKPab** 13 04 50.8 -0.9
BZS Buzias 149.36 333 ⇓*i*P **PKPbc** 13 04 44.8 -0.7
CONA Conrad Observa 149.43 342 *e*PKPbc **PKPbc** 13 04 45.4 -0.3
comp=Z,9.4nm,0.6s,SNR=12
SOP Sopron 149.45 341 ⇓*e*PKPab **PKPbc** 13 04 45.4 -0.2
WLF Walferdange 149.53 355 PKPbc **PKPbc** 13 04 46.1 +0.3
MOA Molln 149.94 344 *i* PKPbc **PKPbc** 13 04 46.3 -0.6
comp=Z,4.6nm,0.5s
MDVR Moldovita 149.98 332 ⇓*i*P **PKPbc** 13 04 46.6 -0.4
ARSA Arzberg 150.15 342 *i* PKPbc **PKPbc** 13 04 46.5 -0.9
comp=Z,2.7nm,0.7s
SOKA Soboth 150.81 342 *i* PKPbc **PKPbc** 13 04 47.8 -1.1
comp=Z,6.9nm,0.8s,SNR=8.3
KBA Koelnbreinsper 150.89 345 *i* PKPbc **PKPbc** 13 04 48.0 -1.3
comp=Z,8.9nm,0.5s,SNR=10
WATA Walderalm 151.05 347 *i* PKPbc **PKPbc** 13 04 48.8 -0.8
comp=Z,11nm,0.5s,SNR=16
RETA Reutte 151.06 349 *i* PKPbc **PKPbc** 13 04 48.2 -1.3
comp=Z,2.9nm,0.5s
OBKA Obir 151.10 343 *i* PKPbc **PKPbc** 13 04 48.4 -1.2
comp=Z,4.8nm,0.6s
WTTA Wattenberg 151.10 347 *i* PKPbc **PKPbc** 13 04 49.2 -0.5
comp=Z,14nm,0.5s,SNR=9.3
MOTA Moosalm 151.14 348 *i* PKPbc **PKPbc** 13 04 49.2 -0.6
comp=Z,5.9nm,0.5s,SNR=7.9
MYKA Terra Mystica 151.23 344 *i* PKPbc **PKPbc** 13 04 48.6 -1.3
comp=Z,10nm,0.5s,SNR=8.9
ABTA Abfaltersbach 151.40 346 *i* PKPbc **PKPbc** 13 04 49.2 -1.1
comp=Z,20nm,0.5s,SNR=15
DAVA Damuels 151.42 350 *i* PKPbc **PKPbc** 13 04 49.8 -0.6
comp=Z,6.3nm,0.6s
CRES Cresnjev 151.45 341 *i* PKPbc **PKPbc** 13 04 49.6 -0.7
FETA Feichten 151.52 348 *i* PKPbc **PKPbc** 13 04 50.0 -0.7
comp=Z,5.1nm,0.5s
LJU Ljubljana 151.53 342 *e*PKPbc **PKPbc** 13 04 49.8 -0.7
CRNS Crni Vrh 151.57 343 *i* PKPbc **PKPbc** 13 04 49.4 -1.2
VISS Visnje 151.66 342 *i* PKPbc **PKPbc** 13 04 49.9 -0.9
VISS *i* PKPab **PKPab** 13 05 01.2 -1.0
CEY Cerknica 151.84 342 *i* PKPbc **PKPbc** 13 04 50.4 -0.8
CEY *i* PKPab **PKPab** 13 05 02.1 -0.9
POLO Lamas de Olo 156.24 20 *e*PKPdf **PKPdf** 13 04 58.2 +7.7
MVO Moncorvo 156.67 19 *e*PKPdf **PKPdf** 13 04 51.0 0.0
KEST Kesra 162.54 341 PKPab **PKPab** 13 05 48.5 -1.2
comp=Z,4.7nm,0.7s,baz=342,slow=3.8,SNR=5.2
DBIC Dimbokro 165.54 149 PKPab **PKPab** 13 06 02.6 -0.7
comp=Z,4.7nm,0.8s,baz=171,slow=6.6,SNR=5.4
TORD Torodi Ar. Bea 173.86 172 PKP **PKPdf** 13 05 04.1 -1.6
comp=Z,2.5nm,1.0s,baz=146,slow=1.5,SNR=9.0
TORD PKPab **PKPab** 13 06 38.1 -1.9
comp=Z,5.5nm,1.0s,baz=195,slow=4.5,SNR=14
TORD PP **PP** 13 10 30.6 -0.7
comp=Z,1.7nm,0.8s,baz=187,slow=3.3,SNR=5.6

CSEM ***13*** *13:01:50.3,37.24N×30.65E,h8km,ML2.2*
ISK 13 13:01:50.3,37.24N×30.65E,h8km,ML2.2,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.23**	**348**	*e*PG	Pg	13 01 54.9	0.0
BCK				*e*SG	Sg	13 01 59.0	+1.0
BCK	**Bucak**	**0.23**	**348**	*e*Pg	Pg	13 01 54.9	0.0
BCK				*e*Sg	Sg	13 01 59.0	+1.0
ANTB	**Antalya**	**0.34**	**179**	*e*PG	Pg	13 01 57.3	+0.3
ANTB	**Antalya**	**0.34**	**179**	*e*Pg	Pg	13 01 57.3	+0.3
SUTC	**Sutluce-Ispart**	**0.37**	**50**	*e*PG	Pg	13 01 58.2	+0.7
SUTC				*e*SG	Sg	13 02 03.6	+1.3
SUTC	**Sutluce-Ispart**	**0.37**	**50**	*e*Pg	Pg	13 01 58.2	+0.7
SUTC				*e*Sg	Sg	13 02 03.7	+1.3
ISP	**Isparta**	**0.59**	**350**	*e*PG	Pb	13 02 03.0	0.0
ISP	**Isparta**	**0.59**	**350**	*e*Pg	Pb	13 02 03.0	0.0
ELL	**Elmali**	**0.77**	**231**	*e*PG	Pg	13 02 05.5	+0.4
ELL	**Elmali**	**0.77**	**231**	*e*Pg	Pg	13 02 05.5	+0.4
GLHS	**Glhisar (BURDU**	**0.92**	**265**	*e*PG	Pb	13 02 08.7	0.0
GLHS	**Glhisar (BURDU**	**0.92**	**265**	*e*Pg	Pb	13 02 08.7	+0.1
FETY	**Fethiye**	**1.39**	**245**	*e*PN	Pb	13 02 16.6	+0.1
FETY	**Fethiye**	**1.39**	**245**	*e*Pn	Pb	13 02 16.6	0.0
YER	**Yerkesik**	**1.89**	**268**	*e*PN	Pn	13 02 23.9	+0.9
YER	**Yerkesik**	**1.89**	**268**	*e*Pn	Pn	13 02 23.9	+0.9

NIED ***13*** *13:09:00,38.60N×143.40E,h11km,Mw4.4 Best double couple: M*$_0$*4.08000×10*^{15} *NP1:*ϕ_s*9.00000°,* δ*30.00000°,* λ*-104.00000°. NP2:*ϕ_s*205.00000°,* δ*61.00000°,* λ*-82.00000°.*

IDC ***13*** *13:09:19.7*$_\pm$*0.5,38.57N×143.39E,h0km,mb4.2/27, mb1 4.4/35,mb1mx4.3/56,mbtmp4.2/35,ML3.6/8,MS3.7/20, Ms1 3.7/20,ms1mx3.4/45,Error ellipse: s-maj=13.8km s-min=11.3km az=113.0*

BJI ***13*** *13:09:19.4,38.72N×143.23E,h8km,mb4.6/56,mB4.8/38, Ms4.4/43,Ms7 4.2/39*

ISCJB ***13*** *13:09:20.7*$_\pm$*0.2,38.62N*$_\pm$*0.03×143.31E*$_\pm$*0.02,h15km, mb4.5/120,MS3.8/19,Error ellipse: s-maj=4.4km s-min=2.6km az=165.2*

JMA ***13*** *13:09:20.4*$_\pm$*0.1,38.62N×143.45E,h28km,M4.6*

NEIC ***13*** *13:09:21.8*$_\pm$*1.9,38.61N×143.28E,h12km*$_\pm$*12km,mb4.7/79, Error ellipse: s-maj=5.5km s-min=3.6km az=136.0*

MOS ***13*** *13:09:24.1*$_\pm$*0.9,38.85N×143.23E,h33km,mb4.7/48,Error ellipse: s-maj=7.4km s-min=5.3km az=91.9*

ISC 13 13:09:21.7$_\pm$0.4,**38.64N**$_\pm$0.05×**143.40E**$_\pm$0.04,**h15km**,**n289,** σ**1s70/292,mb4.6/129,MS3.8/19,11C-5D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.42**	**288**	P	**Pn**	**13 09 45.7**	**-1.3**
OFUJ				*e*S	**Sn**	**13 10 03.7**	**-1.8**
MIYJ	**Miyakonagasawa**	**1.54**	**308**	P	**Pn**	**13 09 47.3**	**-1.4**
MIYJ				*e*S	**Sn**	**13 10 07.1**	**-1.4**
JIO	**Ouri**	**1.62**	**264**	P	**Pn**	**13 09 48.3**	**-1.4**
JIO				S	**Sn**	**13 10 08.7**	**-1.6**
JMK	**Ichinoseki**	**1.73**	**281**	P	**Pn**	**13 09 50.3**	**-1.0**
JOM	**Ohasama**	**1.84**	**297**	P	**Pn**	**13 09 52.0**	**-0.8**
JOU	**Okura**	**2.17**	**264**	P	**Pn**	**13 09 56.4**	**-0.9**
JMM	**Marumori**	**2.19**	**250**	P	**Pn**	**13 09 56.0**	**-1.6**
JANG	**Nango**	**2.26**	**320**	P	**Pn**	**13 09 57.3**	**-1.3**
JRG	**Rokugo**	**2.28**	**290**	P	**Pn**	**13 09 58.5**	**-0.4**
JFK	**Kawauchi**	**2.37**	**238**	P	**Pn**	**13 09 58.4**	**-1.7**
JYK	**Kaneyama**	**2.40**	**278**	P	**Pn**	**13 09 59.8**	**-0.6**
JFT	**Otama**	**2.67**	**246**	P	**Pn**	**13 10 04.0**	**-0.1**
JFT				*e*S	**Sn**	**13 10 35.4**	**-0.8**
ERM	**Erimo**	**3.38**	**357**	*i* P	**Pn**	**13 10 12.7**	**-1.1**
ERM	**Erimo**	**3.38**	**357**	*e*Pn	**Pn**	**13 10 13.5**	**-0.3**
MAJO	**Matsushiro**	**4.63**	**245**	*e*P	**Pn**	**13 10 32.1**	**+1.0**
MAJO	**Matsushiro**	**4.63**	**245**	*e*Pn	**Pn**	**13 10 31.7**	**+0.6**
MAT	**Matsushiro**	**4.63**	**245**	P	**Pn**	**13 10 32.2**	**+1.1**
MAT				*e*S	**Sn**	**13 11 30.1**	**+5.5**
MJAR	**Matsushiro Arr**	**4.63**	**245**	Pn	**Pn**	**13 10 31.3**	**+0.2**
	6.7nm,0.3s,baz=65,slow=12,SNR=76						
MJB9	**Matsu-Tunnel**	**4.63**	**245**	*e*Pn	**Pn**	**13 10 32.0**	**+0.9**
ASAJ	**Asahikawa**	**5.50**	**354**	Pn	**Pn**	**13 10 43.4**	**+0.3**
	8.0nm,0.3s,baz=215,slow=9.2,SNR=71						
ASAJ				Sn	**Sn**	**13 11 44.2**	**-1.8**
	baz=246,slow=19,SNR=2.9						
YUK	**Yuzh-Kuril'sk**	**5.70**	**18**	*i* P	**Pn**	**13 10 43.3**	**-2.4**
INU	**Inuyama**	**6.08**	**239**	*e*Pn	**Pn**	**13 10 51.0**	**+0.1**
JHJ2	**Mitsune**	**6.24**	**209**	*e*Pn	**Pn**	**13 10 50.7**	**-2.5**
JHJ	**Hachijo jima 2**	**6.24**	**209**	Pn	**Pn**	**13 10 50.9**	**-2.4**
	20nm,0.3s,baz=143,slow=22,SNR=12						
JHJ				Sn	Sn	13 11 56.6	-7.8
	14nm,0.3s,baz=72,slow=20,SNR=3.9						
KUR	**Kuril'sk**	**7.38**	**25**	*e*P	**Pn**	**13 11 07.4**	**-1.4**
KUR				*e*S	**Sn**	**13 12 26.2**	**-6.0**
KUR				pmax	pmax		
	comp=Z,33nm,0.6s						
KUR				smax	smax		
	comp=E,60nm,0.6s						
KUR				smax	smax		
	comp=N,53nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.32**	**357**	⇑*e*P	**Pn**	**13 11 23.0**	**+1.2**
YSS				*e*S	**Sn**	**13 12 55.7**	**+0.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=N,400nm,14.0s						
YSS				MLR	MLR		
	comp=E,700nm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.32**	**357**	*e*Pn	**Pn**	**13 11 22.9**	**+1.2**
VLA	**Vladivostok**	**9.80**	**301**	*i* P	**Pn**	**13 11 43.4**	**+1.4**
MSHR	**Mys Shultsa**	**10.11**	**297**	*i* P	**Pn**	**13 11 46.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.21**	**307**	Pn	**Pn**	**13 11 49.8**	**+2.2**
	comp=E,0.7nm,0.3s,baz=101,slow=13,SNR=25						
USRK				LR	LR	13 15 40.4	
	comp=E,736nm,18.1s,baz=112,slow=37						
HABR	**Khabarovsk**	**11.54**	**331**	*e*P	**Pn**	**13 12 03.1**	**-2.7**
HABR				*e*S	**Sn**	**13 14 10.7**	**-3.5**

MDJ pmax pmax
comp=Z,62nm,6.2s
MDJ LR LR
comp=N,400nm,14.0s
MDJ LR LR
comp=E,590nm,18.4s
MDJ LR LR
comp=Z,980nm,14.9s
MDJ Mudanjiang 11.93 304 *e*Pn **Pn 13 12 12.3 +1.1**
TYV Tymovskoe 12.23 358 *e*P **Pn 13 12 15.0 -0.3**
TYV pmax pmax
comp=Z,22nm,1.0s
KSRS Korea Array 12.26 269 Pn **Pn 13 12 16.4 +0.6**
comp=Z,0.2nm,0.3s,baz=83,slow=14,SNR=16
KSRS LR LR 13 16 50.8
comp=Z,444nm,18.1s,baz=78,slow=37
KSAR Wonju Array Be 12.30 269 P **Pn 13 12 16.4 +0.2**
KSAR Wonju Array Be 12.30 269 Pn **Pn 13 12 16.4 +0.2**
TJN Taejon 12.94 265 *i* P **Pn 13 12 25.8 +0.8**
KLR Kul'dur 13.49 325 Pn **Pn 13 12 31.1 -1.3**
comp=Z,0.2nm,0.3s,baz=135,slow=12,SNR=18
KLR LR LR 13 17 50.2
comp=Z,271nm,21.1s,baz=132,slow=38
CN2 Changchun 14.46 297 *e*P **Pn 13 12 46.3 +0.6**
CN2 *e*S **Sn 13 15 27.0 +1.4**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,400nm,15.0s
CN2 LE
comp=Z,400nm,15.0s
CN2 LZ
comp=Z,400nm,18.0s
PEA0 Petropavlovsk- 17.51 30 *e*Pn **Pn 13 13 24.5 -0.7**
PETK Petropavlovsk- 17.51 30 P **Pn 13 13 25.8 +0.6**
comp=Z,0.1nm,0.3s,baz=195,slow=8.7,SNR=2.8
PETK LR LR 13 19 44.1
comp=Z,68nm,20.1s,baz=199,slow=36
PET Petropavlovsk 17.83 31 *i* P **Pn 13 13 28.7 -0.3**
HIA Hailar 19.99 310 *i* P **P 13 13 51.1 -2.4**
HIA pmax pmax
comp=Z,23nm,1.0s
HIA Hailar 19.99 310 *e*P **P 13 13 51.1 -2.4**
comp=Z,1.1nm,0.6s
TIA Tai'an 20.99 272 *e*P **P 13 14 01.4 -3.0**
TIA PMZ
comp=Z,10.0nm,1.4s
TIA LN
comp=Z,330nm,12.0s
TIA LE
comp=Z,400nm,14.0s
TIA LZ
comp=Z,620nm,15.0s
NJ2 Nanjing 21.04 259 *e*P **P 13 14 02.8 -2.2**
NJ2 PMZ
comp=Z,12nm,0.6s
BJI Beijing 21.08 282 P **P 13 14 03.5 -1.8**
BJI S **S 13 17 57.4 -2.0**
BJI PMZ
comp=Z,15nm,0.9s
BJI LN
comp=Z,300nm,14.5s
BJI LE
comp=Z,690nm,14.2s
BJI LZ
comp=Z,310nm,15.5s
BJT Baijiatuau 21.09 282 *e*P **P 13 14 02.5 -2.9**
BJT pmax pmax
comp=Z,23nm,0.8s
BJT Baijiatuau 21.09 282 *e*P **P 13 14 02.5 -2.9**
comp=Z,23nm,0.8s
MA2 Magadan 21.47 10 LR LR 13 23 43.0
comp=Z,60nm,18.1s,baz=198,slow=40
HHC Hu-ho-hao-te 24.51 285 *e*P **P 13 14 38.9 -1.7**
HHC sP pP 13 14 45.0 -0.1
HHC PP **PnPn 13 15 17.6 +6.1**
HHC S **S 13 18 56.0 -4.5**
HHC sS sS 13 19 03.9 -4.1
HHC PMZ
comp=Z,14nm,1.0s
HHC PMZ
comp=Z,69nm,5.3s
HHC LN
comp=Z,250nm,13.7s
HHC LE
comp=Z,600nm,13.7s
HHC LZ
comp=Z,640nm,14.4s
CIT Chita 24.68 313 *e*P **P 13 14 35.4 -6.5**
CIT *e* 13 14 45.8
TPUB Ta-pu 24.71 238 *e*P **P 13 14 39.4 -3.0**
comp=Z,25nm,0.9s
YAK Yakutsk 24.89 345 P **P 13 14 44.9 +1.4**
comp=Z,2.1nm,0.3s,baz=194,slow=13,SNR=3.3
YAK LR LR 13 26 08.1
comp=Z,160nm,18.0s,baz=182,slow=40
YAK Yakutsk 24.89 345 *e*P **P 13 14 45.0 +1.4**
YAK *e**PP **sP 13 14 50.3 +0.2**
YAK *e* 13 15 17.8
YAK *e* 13 18 18.3
YAK *e*S **S 13 19 04.8 -1.2**
YAK *e*SS **SnSn 13 19 59.8 +6.0**
YAK *e* 13 25 38.2
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=Z,18nm,1.4s
YAK pmax pmax
comp=N,23nm,1.4s
YAK pmax pmax
comp=E,22nm,1.5s
YAK smax smax
comp=N,22nm,1.6s
YAK smax smax
comp=E,63nm,2.8s
YAK Yakutsk 24.89 345 *e*P **P 13 14 41.8 -1.8**
comp=E,66nm,0.7s
SEY Seymchan 24.93 10 P **P 13 14 46.3 +2.3**
comp=E,20nm,0.9s,baz=188,slow=8.4,SNR=31
SEY Seymchan 24.93 10 *c* *i*P **P 13 14 43.3 -0.6**
QZH Quanzhou 25.03 244 *e*P **P 13 14 49.8 +4.6**
QZH S **S 13 19 05.1 -3.7**
QZH LZ
comp=E,520nm,15.7s
WHN Wuhan 25.17 260 ⇓P **P 13 14 46.1 -0.3**
WHN S **S 13 19 11.0 0.0**
WHN LN
comp=E,380nm,9.9s
WHN LE
comp=E,670nm,12.6s
WHN LZ
comp=E,770nm,12.5s
BOD Bodaibo 27.07 325 *e*P **P 13 15 03.4 0.0**
BOD pmax pmax
comp=Z,14nm,1.1s
H11N2 WAKE ISLAND Hy 27.72 126 T T 13 44 01.7
baz=318,slow=74,SNR=269
H11N1 WAKE ISLAND Hy 27.73 126 T T 13 44 12.4
baz=318,slow=74,SNR=217
H11N3 WAKE ISLAND Hy 27.74 126 T T 13 44 04.2
baz=318,slow=74,SNR=216
ULN Ulaanbaatar 27.81 301 ⇑ *i*P **P 13 15 10.8 +0.4**
ULN pmax pmax
comp=Z,17nm,1.7s
ULN Ulaanbaatar 27.81 301 *e*P **P 13 15 10.1 -0.2**
comp=Z,11nm,0.8s
XAN Xi'an 28.05 271 P **P 13 15 11.9 -0.6**
XAN sP sP 13 15 18.6 -0.3
XAN PP **PnPn 13 16 00.4 +0.6**
XAN S **S 13 19 51.4 -5.2**
XAN PMZ
comp=Z,8.0nm,0.6s
XAN PMZ
comp=Z,29nm,5.6s
XAN LE
comp=Z,250nm,12.6s
XAN LZ
comp=Z,250nm,12.7s
SONA1 Songino Array 28.25 301 *e*P **P 13 15 13.4 -0.8**
SONM Songino Array 28.25 301 P **P 13 15 14.4 +0.2**
comp=Z,4.1nm,0.8s,baz=88,slow=8.4,SNR=14
SONM LR LR 13 27 02.6
comp=Z,254nm,18.5s,baz=93,slow=38
H11S1 WAKE ISLAND Hy 28.51 128 T T 13 45 17.5
baz=319,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 28.51 128 T T 13 45 24.8
baz=319,slow=76,SNR=24
H11S2 WAKE ISLAND Hy 28.53 128 T T 13 45 07.3
baz=319,slow=76,SNR=17
ENH Enshi 29.06 264 *e*P **P 13 15 20.4 -1.0**
comp=Z,35nm,1.0s
ZAK Zakamensk 30.56 306 *e*P **P 13 15 33.9 -0.8**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 31.38 278 *e*P **P 13 15 45.8 +3.7**
LZH pP sP 13 15 49.5 +0.9
LZH sP pP 13 15 52.5 +5.8
LZH PP **PnPn 13 16 41.8 -2.8**
LZH *e*S **S 13 20 46.6 -2.5**
LZH sS sS 13 20 55.1 -1.5
LZH PMZ
comp=Z,19nm,1.0s
LZH PMZ
comp=Z,98nm,4.6s
LZH LN
comp=Z,1μm,12.8s
LZH LE
comp=Z,1μm,13.2s
LZH LZ
comp=Z,1μm,13.4s
BILL Bilibino 32.05 16 *i* P **P 13 15 47.6 +0.2**
BILL *i* 13 15 54.9
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL Bilibino 32.05 16 *e*P **P 13 15 47.5 +0.2**
comp=Z,15nm,0.9s
CD2 Chengdu 33.26 269 *e*P **P 13 15 57.0 -1.5**
GTA Gaotai 33.63 285 P **P 13 16 02.6 +0.9**
GTA pP pP 13 16 06.8 +0.5
GTA sP sP 13 16 09.6 +1.4
GTA PP **PnPn 13 17 14.3 +0.9**
GTA S **S 13 21 26.9 +3.0**
GTA sS sS 13 21 32.6 +1.1
GTA PcS **PcS 13 22 29.0 +1.4**
GTA PMZ
comp=Z,6.0nm,0.9s
GTA PMZ
comp=Z,78nm,4.6s
GTA LN
comp=Z,150nm,14.3s
GTA LE
comp=Z,440nm,15.7s
GTA LZ
comp=Z,470nm,16.2s
TIXI Tiksi 33.90 352 P **P 13 16 04.0 +0.5**
comp=Z,0.8nm,0.5s,baz=149,slow=7.7,SNR=5.2
QIZ Qiongzhong 35.02 246 P **P 13 16 12.8 -1.0**
QIZ S **S 13 21 46.8 +1.2**
QIZ LN
comp=Z,200nm,14.8s
QIZ LE
comp=Z,120nm,14.8s
QIZ LZ
comp=Z,220nm,14.8s
WMQ Urumqi 41.54 296 P **P 13 17 08.4 -0.2**
WMQ pP pP 13 17 12.9 -0.4
WMQ sP sP 13 17 16.3 +1.2
WMQ PMZ
comp=Z,8.0nm,0.6s
WMQ PMZ
comp=Z,63nm,3.6s
WMQ LN
comp=Z,120nm,12.6s
WMQ LE
comp=Z,87nm,18.0s
ZAA0 Zalesovo Array 42.02 311 *e*P **P 13 17 12.0 -0.2**
ZALV Zalesovo Beam 42.02 311 P **P 13 17 12.5 +0.3**
comp=Z,4.0nm,0.5s,baz=85,slow=7.5,SNR=15
ZALV PcP **PcP 13 19 07.6 +0.6**
comp=Z,2.0nm,0.6s,baz=88,slow=3.3,SNR=3.8
ZALV LR LR 13 35 22.4
comp=Z,117nm,18.4s,baz=70,slow=37
NRIK Noril'sk 42.49 334 LR LR 13 36 10.2
comp=Z,226nm,19.0s,baz=106,slow=38
NVS Novosibirsk 42.89 313 *e*P P 13 17 27.3 +8.0
NVS pmax pmax
comp=Z,14nm,1.1s
NVS pmax pmax
comp=E,10.0nm,1.2s
CMAR Chiang Mai Arr 43.43 255 P **P 13 17 24.5 +0.4**
comp=E,0.7nm,0.8s,baz=41,slow=6.4,SNR=2.5
MK01 Makanchi Array 44.62 301 *e*P **P 13 17 32.8 -0.5**
MK31 Makanchi Array 44.62 301 *e*P **P 13 17 32.9 -0.5**
MK31 Makanchi Array 44.62 301 *e*P **P 13 17 32.9 -0.5**
MKAR Makanchi Array 44.62 301 P **P 13 17 33.4 0.0**
comp=E,6.3nm,0.8s,baz=86,slow=9.8,SNR=28
MKAR LR LR 13 36 60.0
comp=E,114nm,19.4s,baz=49,slow=37
BPAW Bear Paw Mtn. 45.52 34 *e*P **P 13 17 41.2 +0.9**
comp=E,3.2nm,0.7s
MLY Manley 45.65 33 *e*P **P 13 17 43.1 +1.7**
comp=E,5.8nm,0.8s
TRF Thorofare Moun 45.82 35 *e*P **P 13 17 44.0 +1.1**
comp=E,6.5nm,1.0s
KURK Kurchatov 46.20 307 *e*P **P 13 17 45.9 +0.1**
KURK pmax pmax
comp=Z,77nm,0.8s
KURK Kurchatov 46.20 307 *e*P **P 13 17 45.9 +0.1**
comp=Z,77nm,0.8s
KURBB Kurchatov Arra 46.27 307 P **P 13 17 46.5 +0.1**
comp=Z,12nm,0.8s,baz=82,slow=8.6,SNR=66
PMR Palmer 46.40 38 *e*P **P 13 17 47.7 +0.6**
PMR pmax pmax
comp=Z,6.0nm,1.0s
PMR Palmer 46.40 38 *e*P **P 13 17 47.7 +0.6**
comp=Z,6.3nm,1.0s
MCK McKinley 46.42 35 *e*P **P 13 17 48.5 +1.1**
MCK pmax pmax
comp=Z,7.0nm,1.0s
MCK McKinley 46.42 35 *e*P **P 13 17 48.5 +1.1**
comp=Z,7.1nm,1.0s
RND Reindeer 46.46 35 *e*P **P 13 17 48.2 +0.4**
RND pmax pmax
comp=Z,7.0nm,0.9s
RND Reindeer 46.46 35 *e*P **P 13 17 48.2 +0.4**
comp=Z,6.9nm,0.9s
MDM Murphy Dome 46.72 33 *e*P **P 13 17 51.4 +1.7**
comp=Z,7.1nm,0.9s
WRH Wood River Hil 46.78 34 *e*P **P 13 17 51.2 +1.1**
comp=Z,5.4nm,1.0s
COLA College 46.88 33 *e*P **P 13 17 52.0 +1.1**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 46.88 33 *e*P **P 13 17 52.0 +1.1**
comp=Z,4.7nm,0.8s
CCB Clear Creek Bu 46.90 33 *e*P **P 13 17 52.2 +1.1**
comp=Z,3.7nm,1.0s
SCM Sheep Creek Mo 47.24 37 *e*P **P 13 17 55.0 +1.1**
SCM pmax pmax
comp=Z,9.0nm,0.7s
SCM Sheep Creek Mo 47.24 37 *e*P **P 13 17 55.0 +1.1**
comp=Z,8.6nm,0.7s
HDA Harding Lake 47.28 34 *e*P **P 13 17 54.8 +0.7**
comp=Z,34nm,1.4s
ILAR Eielson Array 47.29 33 P **P 13 17 55.0 +0.8**
comp=Z,4.9nm,0.7s,baz=264,slow=6.6,SNR=72
ILB Eielson Array 47.29 33 *e*P **P 13 17 54.8 +0.7**
IL1 Eielson Array 47.29 33 *e*P **P 13 17 54.8 +0.7**
FYU Fort Yukon 47.93 31 *e*P **P 13 18 01.1 +2.1**
comp=Z,28nm,1.7s
KLU Klutina 47.94 38 *e*P **P 13 17 60.0 +0.6**
comp=Z,5.8nm,0.9s
DIV Divide 48.04 38 *e*P **P 13 18 00.7 +0.6**
comp=Z,10nm,1.0s
DOT Dot Lake 48.59 35 *e*P **P 13 18 05.2 +0.9**
comp=Z,6.9nm,0.7s
MENT Mentasta 48.82 36 *e*P **P 13 18 06.7 +0.7**
comp=Z,9.3nm,1.0s
CRQM Cirque 49.37 38 *e*P **P 13 18 11.7 +1.3**
comp=Z,12nm,0.9s
EGAK Eagle 49.74 33 *e*P **P 13 18 14.0 +1.0**
comp=Z,3.0nm,0.9s
TKM2 Tokmak 2 50.26 298 *e*P **P 13 18 17.9 +0.4**
TKM2 pmax pmax
comp=Z,16nm,0.9s
TKM2 Tokmak 2 50.26 298 *e*P **P 13 18 17.9 +0.4**
comp=Z,16nm,0.9s
BRVK Borovoye 50.72 312 *i* P **P 13 18 20.5 -0.1**
BRVK pmax pmax
comp=Z,29nm,2.5s
BRVK Borovoye 50.72 312 *e*P **P 13 18 20.7 +0.1**
comp=Z,18nm,0.8s
FRU Bishkek 50.97 298 *e*P **P 13 18 23.0 +0.3**
AAK Ala-Archa 51.12 298 P **P 13 18 24.5 +0.5**
comp=Z,1.8nm,0.4s,baz=111,slow=5.4,SNR=2.8
AAK LR LR 13 42 08.0
comp=Z,101nm,18.1s,baz=22,slow=38
AAK Ala-Archa 51.12 298 *i* P **P 13 18 24.1 +0.1**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 51.12 298 P **P 13 18 24.5 +0.5**
comp=Z,6.0nm,0.8s
KSH Kashi 51.20 294 *e*P **P 13 18 25.8 +1.2**
KSH pP sP 13 18 31.3 +0.1
KSH PcP **PcP 13 19 41.1 +1.3**
KSH PP **PP 13 20 23.1 +1.9**
KSH S **S 13 25 42.1 -0.4**
KSH ScS **ScS 13 28 12.4 -2.3**
KSH SS **SS 13 29 17.4 -0.1**
KSH PMZ
comp=Z,2.0nm,0.2s
KSH PMZ
comp=Z,89nm,5.4s
KSH LN
comp=Z,190nm,11.9s
KSH LE
comp=Z,180nm,11.8s
EKS2 Erkin-Say 51.61 298 *e*P **P 13 18 27.2 -0.4**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 51.61 298 *e*P **P 13 18 27.2 -0.4**
comp=Z,6.9nm,0.8s
INK Inuvik 52.24 28 P **P 13 18 32.1 +0.4**
comp=Z,2.2nm,0.7s,baz=313,slow=6.8,SNR=12
ARU Arti 56.21 318 *d* *i*P **P 13 19 01.2 +0.4**
ARU 13 19 53.2
ARU 13 21 03.9
ARU PPP PPP 13 22 17.3
ARU S **S 13 26 51.1 +1.6**
ARU SS **SS 13 30 38.6 +3.1**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU MLR MLR
comp=Z,250nm,16.0s
ARU Arti 56.21 318 *e*P **P 13 19 01.0 +0.2**
comp=Z,9.7nm,0.7s
FITZ Fitzroy Crossi 58.85 200 P **P 13 19 21.3 +1.6**
comp=Z,2.1nm,0.8s,baz=348,slow=7.0,SNR=3.2
WRAB Tennant Creek 58.88 190 *i* P **P 13 19 19.2 -0.8**
WRAB pmax pmax
comp=Z,85nm,2.5s
WRAB Tennant Creek 58.88 190 *e*P **P 13 19 18.4 -1.5**
comp=Z,18nm,1.0s
WB2 Warramunga Arr 58.89 190 *e*P **P 13 19 18.8 -1.2**
comp=Z,20nm,1.0s
WRA Warramunga Arr 58.89 190 P **P 13 19 18.9 -1.2**
comp=Z,10nm,0.8s,baz=8.5,slow=7.0,SNR=64
YKA Yellowknife Ar 61.62 31 P **P 13 19 38.8 +0.5**
comp=Z,0.7nm,0.8s,baz=304,slow=6.4,SNR=4.0
AS01 Alice Springs 62.61 190 *e*P **P 13 19 43.9 -1.4**
AS31 Alice Springs 62.62 190 *e*P **P 13 19 44.8 -0.6**
comp=Z,1.7nm,1.0s
ASAR Alice Springs 62.62 190 P **P 13 19 44.7 -0.7**
comp=Z,3.0nm,0.8s,baz=16,slow=6.2,SNR=32
ARCES ARCESS Array B 63.05 340 P **P 13 19 47.8 +0.1**
comp=Z,1.3nm,0.6s,baz=60,slow=7.4,SNR=7.2
ARCES LR LR 13 52 05.1
comp=Z,64nm,18.5s,baz=34,slow=41
KLMR Klimovskoe 63.24 328 *e*P **P 13 19 50.2 +1.1**
KLMR *e* 13 22 11.7
KLMR pmax pmax
comp=Z,10.0nm,1.3s
PALK Pallekele 64.25 258 *i* P **P 13 19 55.0 -1.5**
DAG Danmarks Havn 64.30 355 *i* P P 13 20 03.9 +8.0
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 64.30 355 *i* P P 13 20 03.9 +8.0
comp=Z,4.4nm,0.7s
GEYT Alibeck 64.43 299 P **P 13 19 58.4 +0.9**
comp=Z,1.0nm,0.4s,baz=46,slow=8.3,SNR=2.5
AFI Afiamalu 66.99 132 LR LR 13 42 09.5
comp=Z,26nm,20.6s,baz=289,slow=29
VRH Novokhopyorsk 67.44 318 *e*P P 13 20 23.5 +7.0
VRH pmax pmax
comp=Z,20nm,1.0s
VRH MLR MLR
comp=Z,270nm,20.0s
OBN Obninsk 67.75 324 *i* P **P 13 20 18.3 0.0**
OBN pmax pmax
comp=Z,11nm,1.2s
LPSR Galich'ya Gora 68.07 320 *e*P P 13 20 28.3 +7.8
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR MLR MLR
comp=Z,200nm,21.0s
FINES FINESS Array B 68.12 333 P **P 13 20 20.8 +0.2**
comp=Z,1.6nm,0.7s,baz=52,slow=9.9,SNR=7.6
FINES LR LR 13 52 38.4
comp=Z,127nm,18.5s,baz=25,slow=38
K05A Summer Lake 68.71 52 *e*P **P 13 20 26.1 +1.2**
comp=Z,13nm,0.9s
VSR Storozhevoye 68.75 319 *e*P **P 13 20 24.5 -0.3**
VSR pmax pmax
comp=Z,8.0nm,1.0s
VSR MLR MLR
comp=Z,380nm,23.0s
SUMG Summit 69.07 1 *i* P P 13 20 35.3 +8.4
SUMG pmax pmax
comp=Z,11nm,0.6s
SUMG Summit 69.07 1 *i* P P 13 20 35.3 +8.4
comp=Z,11nm,0.6s
WALA Waterton Lakes 69.19 43 *e*P **P 13 20 28.9 +1.2**
comp=Z,7.4nm,0.8s
MOD Modoc Plateau 69.53 52 *e*P **P 13 20 31.1 +1.1**
comp=Z,7.4nm,0.9s
SWMT Swartz Lake 70.04 45 *e*P **P 13 20 34.2 +1.2**
STKA Stephens Creek 70.18 182 P **P 13 20 33.2 -0.4**
comp=Z,2.4nm,0.8s,baz=0.0,slow=5.1,SNR=3.6
KIV Kislovodsk 71.03 311 *e*P **P 13 20 40.0 +0.9**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 71.03 311 *e*P **P 13 20 39.9 +0.8**
comp=Z,22nm,1.0s
KBZ Khabaz 71.04 311 P **P 13 20 40.1 +1.2**
comp=Z,2.3nm,0.8s,baz=54,slow=1.9,SNR=7.5
PAHR Pah Rah Range 71.34 54 *e*P **P 13 20 41.8 +0.7**
comp=Z,4.7nm,1.0s
LRM Limekiln Ridge 71.90 46 *e*P **P 13 20 45.9 +1.5**
EGMT Eagleton 72.02 42 *e*P **P 13 20 46.0 +1.1**
comp=Z,4.3nm,0.5s
DLMT Dillon 72.09 46 *e*P **P 13 20 46.7 +1.2**
comp=Z,6.6nm,1.2s
HLID Hailey 72.13 48 *e*P **P 13 20 47.4 +1.6**
comp=Z,2.5nm,0.9s
BMN Battle Mountai 72.28 52 *e*P **P 13 20 48.0 +1.3**
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN Battle Mountai 72.28 52 *e*P **P 13 20 48.0 +1.3**
comp=Z,5.1nm,0.8s
BOZ Bozeman (W) 72.46 45 *e*P **P 13 20 48.8 +1.1**
BOZ pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 72.46 45 *e*P **P 13 20 48.8 +1.1**
comp=Z,5.0nm,0.9s
NV01 Mina Array Sit 72.77 54 *e*P **P 13 20 51.2 +1.5**
NVAR Mina Array Bea 72.77 54 P **P 13 20 51.5 +1.7**
comp=Z,3.4nm,0.8s,baz=290,slow=6.8,SNR=23
NVAR LR LR 13 52 16.0
comp=Z,9.3nm,18.9s,baz=148,slow=35
NV11 Mina Array Sit 72.86 54 *e*P **P 13 20 51.7 +1.5**
comp=Z,3.3nm,1.0s
NB2 NORSAR Subarra 73.30 338 P **P 13 20 52.8 +0.5**
comp=Z,9.5nm,0.8s,baz=38,slow=6.2
NOA NORSAR Array B 73.30 338 P **P 13 20 52.8 +0.5**
comp=Z,1.8nm,0.9s,baz=37,slow=6.0,SNR=4.0
NOA LR LR 13 58 25.7
comp=Z,71nm,18.0s,baz=20,slow=40
GCMT Greycliff 73.46 44 *e*P **P 13 20 55.1 +1.5**
ANN Anapa 73.54 314 *e*P **P 13 20 50.6 -3.2**
ANN *e**PP **sP 13 21 00.7 +0.1**
ANN *e* 13 23 33.8
ANN *e*S **S 13 30 17.2 -5.9**
ANN pmax pmax
comp=Z,61nm,1.5s
H17A Grant Village 73.82 46 *e*P **P 13 20 58.3 +2.4**
comp=Z,6.4nm,0.9s

IMW	**Indian Meadow**	**73.92**	**46**	*eP*	**P**	**13 20 58.5**	**+2.0**
	comp=Z,4.6nm,0.9s						
AKASG	**Malin Array Be**	**73.98**	**323**	P	**P**	**13 20 57.4**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=44,slow=6.3,SNR=4.3						
MOOW	**Moose Ponds**	**74.13**	**46**	*eP*	**P**	**13 20 59.7**	**+2.0**
	comp=Z,3.3nm,1.0s						
TPAW	**Teton Pass**	**74.17**	**47**	*eP*	**P**	**13 21 00.1**	**+2.1**
	comp=Z,6.4nm,1.3s						
DAC	**Darwin (Calif)**	**74.50**	**56**	*eP*	**P**	**13 20 59.5**	**-0.4**
DAC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
DAC	**Darwin (Calif)**	**74.50**	**56**	*eP*	**P**	**13 20 59.5**	**-0.4**
	comp=Z,4.9nm,1.1s						
R11A	**Troy Canyon, C**	**74.54**	**53**	*eP*	**P**	**13 21 00.9**	**+0.9**
	comp=Z,6.0nm,1.2s						
BGU	**Big Grassy Mou**	**74.54**	**50**	*eP*	**P**	**13 21 01.5**	**+1.5**
	comp=Z,4.4nm,1.0s						
TPNV	**Topopah Spring**	**74.96**	**55**	*eP*	**P**	**13 21 03.7**	**+1.2**
TPNV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TPNV	**Topopah Spring**	**74.96**	**55**	*eP*	**P**	**13 21 03.7**	**+1.2**
	comp=Z,9.8nm,1.1s						
HWUT	**Hardware Ranch**	**74.98**	**49**	*eP*	**P**	**13 21 04.2**	**+1.5**
	comp=Z,8.1nm,1.1s						
DUG	**Dugway, Tooele**	**75.12**	**50**	*eP*	**P**	**13 21 05.0**	**+1.7**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DUG	**Dugway, Tooele**	**75.12**	**50**	*eP*	**P**	**13 21 05.0**	**+1.7**
	comp=Z,5.6nm,1.0s						
BW06	**Boulder Array**	**75.42**	**47**	*eP*	**P**	**13 21 05.1**	**0.0**
	comp=Z,2.2nm,0.8s						
PD31	**Pinedale Array**	**75.42**	**47**	*eP*	**P**	**13 21 05.9**	**+0.7**
PDAR	**Pinedale Array**	**75.42**	**47**	P	**P**	**13 21 06.0**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=270,slow=3.3,SNR=14						
SHPR	**Sheep Range**	**75.92**	**55**	*eP*	**P**	**13 21 09.8**	**+1.7**
	comp=Z,7.2nm,1.2s						
MPU	**Maple Canyon**	**75.94**	**50**	*eP*	**P**	**13 21 10.2**	**+2.1**
	comp=Z,5.2nm,0.8s						
CCUT	**Cedar City**	**76.41**	**53**	*eP*	**P**	**13 21 12.5**	**+1.6**
	comp=Z,6.7nm,1.2s						
MSU	**Marysvale**	**76.55**	**51**	*eP*	**P**	**13 21 13.0**	**+1.3**
MSU	**Marysvale**	**76.55**	**51**	*eP*	**P**	**13 21 13.0**	**+1.3**
LCMT	**Little Creek M**	**76.82**	**53**	*eP*	**P**	**13 21 14.9**	**+1.8**
	comp=Z,5.4nm,1.1s						
MTPU	**Mount Pierson**	**76.84**	**52**	*eP*	**P**	**13 21 15.3**	**+1.8**
	comp=Z,5.0nm,1.0s						
PFO	**Pinyon Flats O**	**76.84**	**58**	*eP*	**P**	**13 21 14.2**	**+0.9**
PFO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PFO	**Pinyon Flats O**	**76.84**	**58**	*eP*	**P**	**13 21 14.2**	**+0.9**
	comp=Z,5.1nm,1.1s						
P18A	**Preston Nutter**	**77.01**	**50**	*eP*	**P**	**13 21 15.9**	**+1.6**
	comp=Z,16nm,1.4s						
KNB	**Kanab**	**77.08**	**53**	*eP*	**P**	**13 21 16.6**	**+1.9**
KNB				pmax	pmax		
	comp=Z,16nm,1.6s						
KNB	**Kanab**	**77.08**	**53**	*eP*	**P**	**13 21 16.6**	**+1.9**
	comp=Z,16nm,1.6s						
SRU	**San Rafael Swe**	**77.17**	**50**	*eP*	**P**	**13 21 15.6**	**+0.5**
SRU				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SRU	**San Rafael Swe**	**77.17**	**50**	*eP*	**P**	**13 21 15.6**	**+0.5**
	comp=Z,8.4nm,0.9s						
RSSD	**Black Hills**	**77.58**	**43**	*eP*	**P**	**13 21 17.9**	**+0.5**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RSSD	**Black Hills**	**77.58**	**43**	*eP*	**P**	**13 21 17.9**	**+0.5**
	comp=Z,4.3nm,0.8s						
U15A	**North Rim**	**77.78**	**53**	*eP*	**P**	**13 21 20.1**	**+1.4**
	comp=Z,8.8nm,1.4s						
BUR08	**Bucovina Ar. S**	**78.00**	**322**	*eP*	**P**	**13 21 19.6**	**+0.1**
BURAR	**Bucovina Array**	**78.01**	**322**	⇑*iP*	**P**	**13 21 19.6**	**+0.1**
BURAR	**Bucovina Array**	**78.01**	**322**	⇑P	**P**	**13 21 19.6**	**+0.1**
TESR	**Tescani**	**78.09**	**321**	⇑*iP*	**P**	**13 21 21.1**	**+1.2**
KOLS	**Kolonicke sedl**	**78.43**	**325**	*eP*	**P**	**13 21 23.7**	**+2.0**
KOLS	**Kolonicke sedl**	**78.43**	**325**	*eP*	**P**	**13 21 23.7**	**+2.0**
PV10	**Paradox Valley**	**78.53**	**50**	*eP*	**P**	**13 21 24.6**	**+1.8**
N23A	**Red Feather La**	**78.69**	**46**	*eP*	**P**	**13 21 24.7**	**+1.1**
	comp=Z,6.2nm,1.0s						
PV05	**Paradox Valley**	**78.69**	**50**	*eP*	**P**	**13 21 25.3**	**+1.7**
CRVS	**Cervenica-Dubn**	**78.82**	**325**	*eP*	**P**	**13 21 24.8**	**+0.9**
CRVS	**Cervenica-Dubn**	**78.82**	**325**	*eP*	**P**	**13 21 24.8**	**+0.9**
Y14A	**Wickenburg**	**78.90**	**55**	*eP*	**P**	**13 21 26.0**	**+1.3**
	comp=Z,25nm,1.0s						
WUAZ	**Wupatki**	**78.94**	**53**	*eP*	**P**	**13 21 26.3**	**+1.4**
	comp=Z,4.8nm,0.9s						
BRTR	**Keskin Array B**	**78.95**	**312**	P	**P**	**13 21 26.6**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=77,slow=4.9,SNR=2.5						
BRTR				LR	LR	13 59 28.3	
	comp=Z,26nm,19.2s,baz=134,slow=38						
PV01	**Paradox Valley**	**78.97**	**50**	*eP*	**P**	**13 21 25.9**	**+0.7**
X16A	**Lo Mia Camp, P**	**79.59**	**54**	*eP*	**P**	**13 21 30.3**	**+1.8**
	comp=Z,5.0nm,1.0s						
MORC	**Moravsky Berou**	**79.86**	**328**	⇑*iP*	**P**	**13 21 31.9**	**+2.3**
MORC	**Moravsky Berou**	**79.86**	**328**	⇑P	**P**	**13 21 31.9**	**+2.3**
MORC	**Moravsky Berou**	**79.86**	**328**	*eP*	**P**	**13 21 31.5**	**+1.9**
	comp=Z,37nm,1.0s						
DPC	**Dobruska-Polom**	**79.92**	**329**	*eP*	**P**	**13 21 32.2**	**+2.3**
DPC				*ex*	x	13 21 39.2	
DPC	**Dobruska-Polom**	**79.92**	**329**	*eP*	**P**	**13 21 32.2**	**+2.3**
DPC				*e*		13 21 39.2	
UPC	**Upice**	**79.92**	**329**	*e*pP	pP	13 21 38.9	+4.1
PSZ	**Piszkesteto**	**80.25**	**325**	P	**P**	**13 21 30.3**	**-1.4**
PSZ	**Piszkesteto**	**80.25**	**325**	*eP*	**P**	**13 21 30.3**	**-1.4**
	comp=Z,3.2nm,0.8s						
S22A	**4UR Ranch, Cre**	**80.26**	**49**	*eP*	**P**	**13 21 34.0**	**+1.7**
	comp=Z,4.7nm,1.1s						
VYHS	**Vyhne**	**80.28**	**326**	*eP*	**P**	**13 21 33.5**	**+1.7**
VYHS	**Vyhne**	**80.28**	**326**	*eP*	**P**	**13 21 33.5**	**+1.7**
BRG	**Berggiesshubel**	**80.46**	**330**	*eP*	P	13 21 40.9	+8.3
	comp=Z,9.6nm,1.1s						
BRG	**Berggiesshubel**	**80.46**	**330**	*eP*	P	13 21 40.9	+8.2
BRG				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CLL	**Collm**	**80.47**	**331**	⇑*iP*	P	13 21 40.5	+7.7
	comp=Z,14nm,0.9s						
CLL				LmV		14 02 00.0	
	comp=Z,100nm,18.6s						
CLL	**Collm**	**80.47**	**331**	⇑*iP*	P	13 21 40.5	+7.7
CLL				pmax	pmax		
	comp=Z,14nm,0.9s						
VRAC	**Vranov**	**80.61**	**328**	⇑*iP*	P	13 21 42.5	+8.9
PRU	**Pruhonice**	**80.92**	**329**	*e*pP	pP	13 21 44.3	+4.2
BZS	**Buzias**	**81.17**	**323**	⇓*iP*	P	13 21 45.1	+8.5
BZS	**Buzias**	**81.17**	**323**	⇓P	P	13 21 45.1	+8.5
ECSD	**EROS Data Cent**	**81.68**	**39**	*eP*	**P**	**13 21 39.2**	**-0.2**
	comp=Z,3.7nm,0.8s						
MDVR	**Moldovita**	**81.74**	**322**	⇓*iP*	P	13 21 47.9	+8.2
KHC	**Kasperske Hory**	**81.98**	**329**	*eP*	**P**	**13 21 41.8**	**+0.9**
KHC				*ex*	x	13 21 49.8	
KHC	**Kasperske Hory**	**81.98**	**329**	*eP*	**P**	**13 21 41.8**	**+0.9**
KHC				*e*		13 21 49.8	
KHC	**Kasperske Hory**	**81.98**	**329**	*eP*	**P**	**13 21 41.2**	**+0.3**
	comp=Z,1.3nm,0.9s						
CONA	**Conrad Observa**	**81.99**	**327**	*i* pP	P	**13 21 43.3**	**+2.2**
	comp=Z,10nm,1.1s						
GEC2	**GERESS Array S**	**82.16**	**329**	*eP*	**P**	**13 21 42.2**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GEC2	**GERESS Array S**	**82.16**	**329**	*eP*	**P**	**13 21 42.1**	**+0.3**
	comp=Z,3.3nm,1.0s						
GERES	**GERESS Array B**	**82.16**	**329**	P	**P**	**13 21 41.9**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=56,slow=6.0,SNR=3.1						
GEA0	**GERESS Array S**	**82.17**	**329**	*eP*	**P**	**13 21 41.9**	**-0.1**
LAZ	**Ladron**	**82.30**	**52**	*eP*	**P**	**13 21 44.4**	**+1.3**
ANMO	**Albuquerque**	**82.35**	**51**	*eP*	**P**	**13 21 44.7**	**+1.4**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ANMO	**Albuquerque**	**82.35**	**51**	*eP*	**P**	**13 21 44.7**	**+1.4**
	comp=Z,2.7nm,1.0s						
ARSA	**Arzberg**	**82.66**	**327**	*i* pP	P	**13 21 47.2**	**+2.7**
	comp=Z,4.5nm,1.1s						
MOA	**Molln**	**82.72**	**328**	*i* sP	P	**13 21 49.3**	**+4.6**
	comp=Z,6.9nm,1.2s						
319A	**Douglas**	**82.94**	**55**	*eP*	**P**	**13 21 47.3**	**+0.9**
	comp=Z,8.0nm,0.9s						
SOKA	**Soboth**	**83.32**	**327**	*i* pP	P	**13 21 49.3**	**+1.3**
	comp=Z,12nm,1.0s						
SCHQ	**Schefferville**	**83.35**	**17**	LR	LR	14 04 18.5	
	comp=Z,23nm,18.0s,baz=278,slow=40						
OBKA	**Obir**	**83.66**	**327**	*i* P	P	**13 21 49.6**	**-0.1**
	comp=Z,3.6nm,0.6s						
KBA	**Koelnbreinsper**	**83.71**	**328**	*i* pP	P	**13 21 51.4**	**+1.3**
	comp=Z,6.2nm,0.9s						
MYKA	**Terra Mystica**	**83.95**	**328**	*i* sP	P	**13 21 55.3**	**+4.1**
	comp=Z,5.9nm,0.9s						
PPT	**Papeete**	**83.97**	**118**	LR	LR	13 53 51.3	
	comp=Z,22nm,19.6s,baz=242,slow=32						
ABTA	**Abfaltersbach**	**84.32**	**329**	*i* PcP	P	**13 21 53.7**	**+0.6**
	comp=Z,5.6nm,1.0s						
MOTA	**Moosalm**	**84.40**	**330**	*i* sP	P	13 21 59.5	+6.0
	comp=Z,11nm,1.1s						
RETA	**Reutte**	**84.42**	**330**	*i* P	P	**13 21 54.0**	**+0.5**
	comp=Z,12nm,1.0s						
FETA	**Feichten**	**84.81**	**330**	*i* P	P	**13 21 55.7**	**0.0**
	comp=Z,9.0nm,1.0s						
DAVA	**Damuels**	**84.93**	**330**	*i* PcP	P	**13 21 57.9**	**+1.7**
	comp=Z,15nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**85.33**	**330**	*eP*	**P**	**13 21 58.8**	**+0.4**
	comp=Z,15nm,1.0s						
TX31	**Lajitas Ar. Si**	**87.90**	**54**	*eP*	**P**	**13 22 11.4**	**+0.4**
TXAR	**Lajitas Array**	**87.90**	**54**	P	**P**	**13 22 11.9**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=298,slow=3.5,SNR=16						
TXAR	**Lajitas Array**	**87.90**	**54**	P	**P**	**13 22 12.0**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**117.27**	**317**	PKP	**PKPdf**	**13 28 06.2**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=29,slow=1.2,SNR=3.8						
LPAZ	**La Paz**	**144.52**	**60**	PKP	**PKPab**	**13 28 57.4**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=27,slow=5.8,SNR=3.3						

*ISCJB **13** 13:14:14.0±1.1, 7.66N±0.03×74.09W±0.03, h33km±8km, mb3.8/10, MS3.3/2, Error ellipse: s-maj=5.3km s-min=4.8km az=29.9*
*RSNC **13** 13:14:14.6±1.0, 7.64N×74.00W, h16km±4km, ML4.0*
*IDC **13** 13:14:16.1±2.1, 7.54N×74.08W, h60km±20km, mb3.6/10, mb1 3.9/14, mb1mx3.7/30, mbtmp3.9/14, ML3.3/4, MS3.2/3, Ms1 3.2/3, ms1mx2.7/24, Error ellipse: s-maj=21.9km s-min=15.5km az=81.0*

ISC 13 13:14:12.3±1.2, 7.71N±0.03×74.06W±0.03, h26km±9km, n37, σ1§46/50, mb3.8/10, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRRC	**Barranca, Sant**	**0.69**	**150**	⇓*iP*	**Pb**	**13 14 25.1**	**-0.5**
BRRC				*eS*	**Sb**	**13 14 34.3**	**-0.5**
BRRC				*i*		13 14 37.6	
	comp=Z,4μm,0.1s						
OCAC	**Ocana**	**0.90**	**54**	*i* P	**Pn**	**13 14 30.5**	**+1.0**
OCAC				*eS*	**Sn**	**13 14 43.1**	**+1.3**
OCAC				*i*		13 14 44.6	
	comp=Z,7μm,0.1s						
GUEC	**Guerrero, Nort**	**1.13**	**84**	*eP*	**Pn**	**13 14 33.7**	**+1.0**
GRMC	**Gramalote, San**	**1.24**	**89**	*eP*	**Pb**	**13 14 35.5**	**+0.4**
GRMC				*eS*	**Sn**	**13 14 52.9**	**+2.7**
CBRI	**Barrientos, No**	**1.25**	**89**	*i* P	**Pb**	**13 14 35.8**	**+0.5**
PAMC	**Pamplona, Colo**	**1.40**	**105**	*i* P	**Pb**	**13 14 38.2**	**+0.3**
PAMC				*eS*	**Sb**	**13 14 56.2**	**+0.7**
PAMC				*i*		13 14 57.6	
	comp=Z,3μm,0.3s						
BARC	**Barichara**	**1.41**	**142**	*i* P	**Pb**	**13 14 37.1**	**-0.9**
BARC				*eS*	**Sb**	**13 14 55.2**	**-0.5**
MOTC	**Monteria, Cord**	**1.91**	**304**	⇑*iP*	**Pb**	**13 14 46.8**	**+0.2**
MOTC				*eS*	**Sb**	**13 15 12.3**	**+2.3**
MOTC				*i*		13 15 18.2	
	comp=Z,666nm,0.4s						
RUSC	**La Rusia**	**2.05**	**152**	⇑*iP*	**Pn**	**13 14 46.3**	**+0.8**
RUSC				*eS*	**Sn**	**13 15 11.6**	**+1.1**
RUSC				*i*		13 15 15.8	
	comp=Z,1μm,0.4s						
DBBC	**Dabeiba**	**2.24**	**252**	*eP*	**Pb**	**13 14 51.0**	**-1.2**
NORC	**Norcasia**	**2.28**	**201**	*eP*	**Pn**	**13 14 49.3**	**+1.0**
NORC				*eS*	**Sn**	**13 15 16.9**	**+1.3**
SJCC	**San Jacinto, C**	**2.44**	**333**	*eP*	**Pb**	**13 14 53.6**	**-2.0**
SJCC				*eS*	**Sb**	**13 15 24.1**	**-1.2**
SJCC				*i*		13 15 37.6	
	comp=Z,424nm,0.7s						
ROSC	**El Rosal**	**2.86**	**185**	P	**Pn**	**13 14 58.0**	**+1.4**
	comp=Z,26nm,0.3s,baz=149,slow=7.2,SNR=19						
ROSC				S	**Sn**	**13 15 29.6**	**-0.8**
	comp=Z,34nm,0.3s,baz=37,slow=23,SNR=5.9						
ROSC				LR	LR	13 16 18.9	
	comp=Z,234nm,20.0s,baz=356,slow=46						
ROSC	**El Rosal**	**2.86**	**185**	*eP*	**Pn**	**13 14 57.7**	**+1.1**
ROSC				*i*		13 15 44.9	
	comp=Z,439nm,0.5s						
CHIC	**Chingaza**	**3.07**	**174**	*eP*	**Pn**	**13 15 00.4**	**+0.8**
CHIC				*i*		13 16 04.4	
	comp=Z,300nm,0.6s						
TOLC	**Tolima**	**3.34**	**202**	*eP*	**Pn**	**13 15 05.8**	**+2.5**
SDV	**Santo Domingo**	**3.59**	**71**	P	**Pb**	**13 15 11.3**	**-3.8**
	comp=Z,7.7nm,0.3s,baz=262,slow=14,SNR=3.5						
SDV				S	**Sn**	**13 15 50.7**	**+2.6**
	comp=Z,64nm,0.3s,baz=306,slow=19,SNR=3.2						
VILC	**Villavicencio,**	**3.59**	**174**	*eP*	**Pn**	**13 15 08.7**	**+2.2**
VILC				*i*		13 16 07.2	
	comp=Z,297nm,0.3s						
PRAC	**Prado**	**4.05**	**192**	*eP*	**Pn**	**13 15 13.4**	**+0.7**
PCRV	**Puerto La Cruz**	**9.63**	**75**	P	Pn	13 16 33.5	+4.2
	comp=Z,1.7nm,0.3s,baz=204,slow=20,SNR=7.1						
PCRV				S	**Sn**	**13 18 13.9**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=286,slow=20,SNR=2.7						
ATAH	**Atahualpa**	**15.36**	**196**	P	**Pn**	**13 17 49.2**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=21,slow=8.6,SNR=2.6						
PTGA	**Pitinga**	**16.36**	**120**	P	**P**	**13 18 04.6**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=315,slow=20,SNR=3.6						
LPAZ	**La Paz**	**24.55**	**166**	P	**P**	**13 19 28.7**	**-2.1**
	comp=Z,2.4nm,0.8s,baz=337,slow=9.5,SNR=7.3						
SIV	**San Ignacio**	**26.83**	**151**	P	**P**	**13 19 48.8**	**-2.0**
	comp=Z,1.4nm,0.5s,baz=332,slow=6.0,SNR=5.6						
BDFB	**Brasilia**	**34.70**	**132**	LR	LR	13 36 17.8	
	comp=Z,36nm,18.4s,baz=7.0,slow=38						
TXAR	**Lajitas Array**	**35.18**	**312**	P	**P**	**13 21 03.5**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=116,slow=8.5,SNR=6.2						
PDAR	**Pinedale Array**	**46.82**	**324**	P	**P**	**13 22 41.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=113,slow=6.9,SNR=2.8						
PDAR				PcP	**PcP**	**13 24 13.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=123,slow=4.5,SNR=3.5						
PLCA	**Paso Flores**	**48.31**	**176**	LR	LR	13 42 47.8	
	comp=Z,46nm,19.7s,baz=203,slow=36						
NVAR	**Mina Array Bea**	**50.20**	**314**	P	**P**	**13 23 07.4**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=115,slow=8.2,SNR=2.9						
NVAR				PcP	**PcP**	**13 24 26.3**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=135,slow=3.9,SNR=4.0						
YKA	**Yellowknife Ar**	**62.12**	**340**	P	**P**	**13 24 31.3**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=133,slow=6.8,SNR=32						
ILAR	**Eielson Array**	**75.77**	**335**	P	**P**	**13 25 56.0**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=124,slow=4.3,SNR=12						
NOA	**NORSAR Array B**	**81.02**	**29**	P	**P**	**13 26 25.1**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=270,slow=5.4,SNR=3.4						
GERES	**GERESS Array B**	**82.78**	**42**	P	**P**	**13 26 34.3**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=276,slow=3.9,SNR=3.9						
ARCES	**ARCESS Array B**	**86.17**	**20**	P	**P**	**13 26 51.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=257,slow=4.9,SNR=8.4						
ASAR	**Alice Springs**	**148.85**	**236**	PKP	**PKPdf**	**13 33 53.7**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=118,slow=3.5,SNR=47						
ASAR				PKPbc	**PKPbc**	**13 33 57.0**	**-1.6**
	comp=Z,2.6nm,0.7s,baz=119,slow=3.7,SNR=48						
WRA	**Warramunga Arr**	**149.92**	**243**	PKP	**PKPdf**	**13 33 55.8**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=108,slow=2.5,SNR=3.5						
WRA				PKPbc	**PKPbc**	**13 34 00.1**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=106,slow=2.7,SNR=36						
CMAR	**Chiang Mai Arr**	**153.10**	**15**	PKPbc	**PKPbc**	**13 34 08.7**	**0.0**
	comp=Z,0.8nm,0.6s,baz=322,slow=2.8,SNR=3.9						

*IDC **13** 13:17:59.9±4.7, 24.00N×94.01E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/44, mbtmp3.4/3, MS3.8/2, Ms1 3.8/2, ms1mx2.8/33, Error ellipse: s-maj=397.9km s-min=26.9km az=60.0*
*ISCJB **13** 13:18:10.0±1.1, 24.2N±0.3×94.3E±0.3, h96km, mb3.5/3, Error ellipse: s-maj=51.7km s-min=11.1km az=37.2*

ISC 13 13:18:11.8±1.4, 24.2N±0.4×94.3E±0.3, h96km, n6, σ0§51/5, mb3.8/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.54**	**303**	*e*PN	**Pn**	**13 18 52.0**	**+0.4**
SHL				*e*SN	**Sn**	**13 19 21.5**	**-0.5**
MKAR	**Makanchi Array**	**24.49**	**340**	P	**P**	**13 23 21.9**	**0.0**
	0.3nm,0.5s,baz=152,slow=10,SNR=2.9						
JCJ	**Chichijima**	**43.10**	**76**	LR	LR	13 44 07.5	
	comp=Z,106nm,20.8s,baz=116,slow=36						
WRA	**Warramunga Arr**	**58.74**	**135**	P	**P**	**13 27 59.7**	**-0.2**
	0.4nm,0.3s,baz=324,slow=7.3,SNR=17						
ASAR	**Alice Springs**	**61.20**	**138**	P	**P**	**13 28 16.8**	**0.0**
	0.3nm,0.3s,baz=316,slow=6.6,SNR=17						
GERES	**GERESS Array B**	**66.10**	**315**	LR	LR	14 01 40.0	
	comp=Z,76nm,18.4s,baz=18,slow=40						

*NIED **13** 13:38:00,37.30N×141.30E, h5km, Mw3.8 Best double couple: M₀6.07000×10¹⁴ NP1:φ₁92.00000°, δ38.00000°, λ-87.00000°. NP2:φ₂268.00000°, δ52.00000°, λ-92.00000°.*
*ISCJB **13** 13:38:45.3±1.0, 37.30N±0.03×141.33E±0.05, h8km±5km, mb4.0/11, Error ellipse: s-maj=7.1km s-min=5.2km az=24.5*
*IDC **13** 13:38:46.3±0.8, 37.34N×141.18E, h0km, mb3.9/9, mb1 3.9/14, mb1mx3.8/43, mbtmp3.9/14, ML3.3/4, MS2.8/3, Ms1 2.8/3, ms1mx2.4/50, Error ellipse: s-maj=21.1km s-min=16.6km az=100.0*
*JMA **13** 13:38:47.1, 37.29N×141.23E, h14km±1km, M3.8*
JMA Felt I J1.
*NEIC **13** 13:38:50.5±2.7, 37.39N×141.14E, h27km±19km, mb4.2/1, Error ellipse: s-maj=13.2km s-min=7.2km az=127.0*
NEIC Recorded [1 JMA] in Fukushima.

ISC 13 13:38:46.7±1.7, 37.31N±0.04×141.24E±0.06, h5km±10km, n33, σ1§08/34, mb4.1/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.30**	**282**	P	**Pg**	**13 38 53.1**	**+0.5**
JFK				S	**Sb**	**13 38 57.8**	**-2.0**
ONAJ	**Iwakimizuishiy**	**0.41**	**240**	P	**Pg**	**13 38 54.7**	**+0.1**
ONAJ				S	**Sg**	**13 39 00.5**	**+0.5**
JMM	**Marumori**	**0.66**	**328**	P	**Pb**	**13 38 59.9**	**-0.9**
JMM				S	**Sb**	**13 39 09.4**	**-0.9**
JFT	**Otama**	**0.75**	**287**	P	**Pb**	**13 39 01.5**	**-0.8**
JFT				S	**Sb**	**13 39 12.1**	**-0.7**
JHO	**Hitachi**	**0.88**	**218**	P	**Pg**	**13 39 02.6**	**-1.0**
JHO				S	**Sg**	**13 39 14.4**	**-0.6**
MJAR	**Matsushiro Arr**	**2.55**	**253**	Pn	**Pn**	**13 39 29.0**	**+0.3**
	9.9nm,0.3s,baz=80,slow=15,SNR=60						
MJAR				Sn	**Sn**	**13 40 01.4**	**+1.3**
	13nm,0.3s,baz=84,slow=22,SNR=10						
MJAR				LR	LR	13 40 48.5	
	comp=Z,139nm,18.2s,baz=50,slow=49						
MAJO	**Matsushiro**	**2.55**	**253**	*e*Pn	**Pn**	**13 39 29.6**	**+0.9**
MAT	**Matsushiro**	**2.55**	**253**	P	**Pn**	**13 39 29.7**	**+1.0**
MAT				S	**Sb**	**13 40 03.2**	**-1.4**
JHJ	**Hachijo jima 2**	**4.34**	**196**	Pn	**Pn**	**13 39 54.3**	**+0.9**
	3.5nm,0.3s,baz=59,slow=19,SNR=2.3						
JHJ				Sn	**Sn**	**13 40 42.8**	**-1.6**
	3.3nm,0.3s,baz=72,slow=19,SNR=1.9						
ERM	**Erimo**	**4.93**	**17**	*e*Pn	**Pn**	**13 40 01.3**	**-0.1**
ASAJ	**Asahikawa**	**6.88**	**8**	Pn	**Pn**	**13 40 28.1**	**-0.1**
	0.4nm,0.3s,baz=196,slow=15,SNR=4.3						
ASAJ				Sn	**Sn**	**13 41 45.2**	**-1.6**
	0.5nm,0.3s,baz=155,slow=19,SNR=2.2						
JNU	**Nakatsue**	**9.45**	**247**	LR	LR	13 44 50.0	
	comp=Z,71nm,18.7s,baz=304,slow=39						
USRK	**Ussuriysk Ar.**	**9.83**	**317**	Pn	**Pn**	**13 41 10.0**	**+1.3**
	0.1nm,0.3s,baz=131,slow=12,SNR=2.2						
KSRS	**Korea Array**	**10.60**	**275**	Pn	**Pn**	**13 41 20.8**	**+1.6**
	0.2nm,0.3s,baz=84,slow=14,SNR=3.2						
KSAR	**Wonju Array Be**	**10.63**	**275**	Pn	**Pn**	**13 41 20.8**	**+1.2**
KLR	**Kul'dur**	**13.76**	**333**	LR	LR	13 47 14.7	
	comp=Z,28nm,18.2s,baz=142,slow=37						
SEY	**Seymchan**	**26.55**	**11**	P	**P**	**13 44 26.8**	**+1.6**
	4.6nm,1.1s,baz=215,slow=9.2,SNR=3.8						
SONM	**Songino Array**	**27.52**	**304**	P	**P**	**13 44 33.9**	**-0.3**
	1.2nm,0.7s,baz=99,slow=8.9,SN

AKAS				*i* S	**Sg**	**13 40 52.7**	**+5.3**	
GCAM	**G?zelcaml?**	**1.22**	**302**	P	**Pn**	**13 40 30.9**	**-1.0**	
GCAM				S	**Sb**	**13 40 46.9**	**-0.8**	
GCAM	**G?zelcaml?**	**1.22**	**302**	*i* P	**Pn**	**13 40 30.9**	**-1.0**	
GCAM				*i* S	**Sb**	**13 40 46.9**	**-0.8**	
KSL	**Kastellorizon**	**1.23**	**137**	P	**Pn**	**13 40 32.6**	**+0.5**	
KSL				S	**Sn**	**13 40 49.4**	**+0.9**	
KSL				AML	AML	13 40 59.9		
	comp=N,1274µm,0.6s							
KSL				AML	AML	13 41 00.3		
	comp=E,1725µm,0.6s							
KORT	**Korkueli**	**1.45**	**91**	P	**Pb**	**13 40 36.7**	**+0.6**	
KORT				S	**Sg**	**13 40 58.5**	**+2.5**	
KORT	**Korkueli**	**1.45**	**91**	*i* P	**Pb**	**13 40 36.7**	**+0.6**	
KORT				*i* S	**Sg**	**13 40 58.5**	**+2.5**	
KULA	**Kula-Manisa**	**1.46**	**4**	*e*PN	**Pn**	**13 40 35.1**	**-0.2**	
KULA	**Kula-Manisa**	**1.46**	**4**	*e*Pn	**Pn**	**13 40 35.1**	**-0.2**	
KHL	**Karahalli**	**1.49**	**31**	*e*PN	**Pn**	**13 40 35.3**	**-0.4**	
KHL	**Karahalli**	**1.49**	**31**	*e*Pn	**Pn**	**13 40 35.3**	**-0.4**	
SMG	**Samos**	**1.50**	**296**	P	**Pn**	**13 40 36.1**	**+0.3**	
SMG				S	**Sn**	**13 40 52.7**	**-2.5**	
SMG	**Samos**	**1.50**	**296**	P	**Pn**	**13 40 36.1**	**+0.3**	
SMG				S	**Sn**	**13 40 52.7**	**-2.5**	
SMG				AML	AML	13 41 08.0		
	comp=N,940µm,0.6s							
SMG				AML	AML	13 41 08.4		
	comp=E,1309µm,0.5s							
DGB	**˜zmir**	**1.65**	**308**	*i* P	**Pn**	**13 40 37.2**	**-0.5**	
DGB				*i* S	**Sn**	**13 40 59.0**	**+0.2**	
IZM	**Izmir**	**1.68**	**323**	*e*PN	**Pn**	**13 40 38.1**	**-0.1**	
IZM	**Izmir**	**1.68**	**323**	*e*Pn	**Pn**	**13 40 38.1**	**-0.1**	
BCK	**Bucak**	**1.69**	**75**	*e*PN	**Pn**	**13 40 38.8**	**+0.4**	
BCK	**Bucak**	**1.69**	**75**	*e*Pn	**Pn**	**13 40 38.8**	**+0.4**	
ANTB	**Antalya**	**1.70**	**94**	*e*PN	**Pn**	**13 40 38.8**	**+0.3**	
ANTB	**Antalya**	**1.70**	**94**	*e*Pn	**Pn**	**13 40 38.8**	**+0.3**	
ISP	**Isparta**	**1.76**	**63**	*e*PN	**Pn**	**13 40 39.6**	**+0.2**	
ISP	**Isparta**	**1.76**	**63**	*e*Pn	**Pn**	**13 40 39.6**	**+0.2**	
KARP	**Karpathos**	**1.87**	**217**	*e*PN	**Pn**	**13 40 41.7**	**+0.9**	
KARP	**Karpathos**	**1.87**	**217**	P	**Pn**	**13 40 41.5**	**+0.7**	
KARP	**Karpathos**	**1.87**	**217**	*e*Pn	**Pn**	**13 40 41.7**	**+0.9**	
KARP				S	**Sb**	**13 41 06.7**	**+0.3**	
KARP	**Karpathos**	**1.87**	**217**	P	**Pn**	**13 40 41.5**	**+0.7**	
KARP				S	**Sb**	**13 41 06.7**	**+0.3**	
KARP				AML	AML	13 41 18.8		
	comp=N,1017µm,0.5s							
KARP				AML	AML	13 41 21.9		
	comp=E,806µm,0.3s							
AKS	**Akhisar**	**1.91**	**343**	*e*PN	**Pn**	**13 40 40.9**	**-0.5**	
AKS	**Akhisar**	**1.91**	**343**	*e*Pn	**Pn**	**13 40 40.9**	**-0.5**	
DEMI	**Demirci**	**1.99**	**4**	P	**Pn**	**13 40 42.7**	**+0.1**	
DEMI				S	**Sn**	**13 41 08.1**	**+0.7**	
DEMI	**Demirci**	**1.99**	**4**	*i* P	**Pn**	**13 40 42.7**	**+0.1**	
DEMI				*i* S	**Sn**	**13 41 08.1**	**+0.7**	
ZEY	**˜zmir**	**2.00**	**307**	*i* P	**Pn**	**13 40 42.0**	**-0.6**	
ZEY				*i* S	**Sb**	**13 41 12.0**	**+1.9**	
SUTC	**Sutluce-Ispart**	**2.01**	**77**	*e*PN	**Pn**	**13 40 43.0**	**+0.1**	
SUTC	**Sutluce-Ispart**	**2.01**	**77**	*e*Pn	**Pn**	**13 40 43.0**	**+0.1**	
URLA	**Izmir**	**2.02**	**311**	P	**Pn**	**13 40 42.1**	**-0.8**	
URLA	**Izmir**	**2.02**	**311**	*i* P	**Pn**	**13 40 42.1**	**-0.8**	
URLA				*i* S	**Sg**	**13 41 16.7**	**+2.7**	
BAGO	**Egridir - ISPA**	**2.02**	**62**	*i* P	**Pn**	**13 40 43.7**	**+0.7**	
BAGO				*i* S	**Sg**	**13 41 14.6**	**+0.4**	
GEDZ	**Gediz**	**2.10**	**19**	*e*PN	**Pn**	**13 40 44.3**	**+0.2**	
GEDZ	**Gediz**	**2.10**	**19**	*e*Pn	**Pn**	**13 40 44.3**	**+0.2**	
GDZ	**Gediz**	**2.17**	**20**	P	**Pb**	**13 40 47.9**	**-0.4**	
GDZ	**Gediz**	**2.17**	**20**	*i* P	**Pb**	**13 40 47.9**	**-0.4**	
GDZ				*i* S	**Sg**	**13 41 23.1**	**+4.3**	
CHOS	**Chios island**	**2.38**	**305**	*e*PN	**Pn**	**13 40 49.5**	**+1.6**	
CHOS	**Chios island**	**2.38**	**305**	*e*Pn	**Pn**	**13 40 49.5**	**+1.6**	
CHOS	**Chios island**	**2.38**	**305**	P	**Pn**	**13 40 47.6**	**-0.2**	
CHOS				AML	AML	13 41 34.2		
	comp=N,268µm,0.6s							
CHOS				AML	AML	13 41 36.5		
	comp=E,540µm,0.6s							
DKL	**Dikili**	**2.39**	**328**	*e*PN	**Pn**	**13 40 49.1**	**+1.1**	
DKL	**Dikili**	**2.39**	**328**	*e*Pn	**Pn**	**13 40 49.1**	**+1.1**	
APE	**Apeiranthos**	**2.40**	**271**	*e*PN	**Pn**	**13 40 48.1**	**-0.1**	
APE	**Apeiranthos**	**2.40**	**271**	*e*Pn	**Pn**	**13 40 48.1**	**-0.1**	
APE	**Apeiranthos**	**2.40**	**271**	P	**Pn**	**13 40 47.4**	**-0.8**	
APE				AML	AML	13 41 34.0		
	comp=N,235µm,0.5s							
APE				AML	AML	13 41 34.6		
	comp=E,199µm,0.7s							
TVSB	**Tavsanli**	**2.50**	**17**	*e*PN	**Pn**	**13 40 49.6**	**0.0**	
TVSB	**Tavsanli**	**2.50**	**17**	*e*Pn	**Pn**	**13 40 49.6**	**0.0**	
BALB	**Balikesir**	**2.63**	**349**	*e*PN	**Pn**	**13 40 51.8**	**+0.5**	
BALB	**Balikesir**	**2.63**	**349**	*e*Pn	**Pn**	**13 40 51.8**	**+0.5**	
ZKR	**Zakros**	**2.70**	**225**	P	**Pn**	**13 40 54.1**	**+1.9**	
ZKR				S	**Sb**	**13 41 29.9**	**-0.3**	
ZKR	**Zakros**	**2.70**	**225**	P	**Pn**	**13 40 54.1**	**+1.9**	
ZKR				S	**Sb**	**13 41 29.9**	**-0.3**	
ZKR				AML	AML	13 41 42.9		
	comp=N,419µm,0.6s							
ZKR				AML	AML	13 41 52.4		
	comp=E,492µm,0.9s							
NPS	**Neapolis**	**2.96**	**234**	S	**Sb**	**13 41 36.4**	**-1.5**	
NPS	**Neapolis**	**2.96**	**234**	P	**Pn**	**13 40 57.1**	**+1.3**	
NPS				S	**Sb**	**13 41 36.4**	**-1.5**	
NPS				AML	AML	13 41 39.0		
	comp=N,249µm,0.6s							
NPS				AML	AML	13 41 42.8		
	comp=E,346µm,1.0s							
SIGR	**SIGRI**	**3.02**	**316**	P	**Pn**	**13 40 55.9**	**-0.7**	
SIGR	**SIGRI**	**3.02**	**316**	P	**Pn**	**13 40 55.9**	**-0.7**	
SIGR				AML	AML	13 41 51.1		
	comp=E,206µm,0.7s							
SIGR				AML	AML	13 41 55.9		
	comp=N,228µm,0.6s							
LAST	**Lasithi**	**3.11**	**234**	P	**Pn**	**13 40 57.4**	**-0.6**	
KIZT	**Kizilcal**	**3.21**	**54**	*e*PN	**Pn**	**13 41 00.2**	**+0.8**	
KIZT	**Kizilcal**	**3.21**	**54**	*e*Pn	**Pn**	**13 41 00.2**	**+0.8**	
IDI	**Anoyia**	**3.44**	**240**	P	**Pn**	**13 41 02.6**	**+0.2**	
IDI	**Anoyia**	**3.44**	**240**	P	**Pn**	**13 41 02.6**	**+0.2**	
IDI				AML	AML	13 41 50.2		
	comp=N,136µm,0.6s							
IDI				AML	AML	13 41 57.2		
	comp=E,117µm,0.6s							
LIA	**Limnos Island**	**3.87**	**318**	P	**Pn**	**13 41 09.6**	**+1.3**	
KLV	**Kalavryta, Ach**	**5.17**	**283**	P	**Pn**	**13 41 28.6**	**+2.4**	
KLV	**Kalavryta, Ach**	**5.17**	**283**	P	**Pn**	**13 41 28.6**	**+2.4**	
KLV				AML	AML	13 42 07.3		
	comp=N,24µm,1.2s							
KLV				AML	AML	13 42 13.6		
	comp=E,24µm,2.1s							

ISCJB ***13*** *13:47:37.2±0.6, 47.˚74S±0.˚09×12.˚0W±0.˚1, h10km, mb4.1/10, MS3.7/9, Error ellipse: s-maj=15.4km s-min=11.5km az=148.0*

IDC ***13*** *13:47:37.7±0.7, 47.˚71S×11.˚97W, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/25, mbtmp4.0/8, MS3.7/9, Ms1 3.7/9, ms1mx3.5/20, Error ellipse: s-maj=25.2km s-min=20.3km az=28.0*

NEIC ***13*** *13:47:39.1±0.3, 47.˚75S×11.˚98W, h10km, mb4.6/2, Error ellipse: s-maj=11.4km s-min=10.1km az=63.0*

ISC 13 13:47:39.1±0.6, 47.8S±0.˚1×12.0W±0.˚1, h10km, n32, σ0 97/26, mb4.1/10, MS3.7/9, 2C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**16.69**	**238**	*e*P	**Pn**	**13 51 33.0**	**+0.3**
VNA1	**Neumayer--Stat**	**23.03**	**177**	P	**P**	**13 52 42.1**	**-1.9**
SNAA	**Sanae**	**24.37**	**173**	P	**P**	**13 52 57.8**	**+0.8**
SNAA	**Sanae**	**24.37**	**173**	*e*P	**P**	**13 52 56.1**	**-0.8**
SYO	**Syowa Base**	**32.91**	**149**	*e*P	**P**	**13 54 11.4**	**-1.5**
SYO	**Syowa Base**	**32.91**	**149**	*e*pP	**P**	**13 54 14.6**	**+1.7**
BOSA	**Boshof**	**34.52**	**70**	LR	LR	14 06 09.1	
	comp=Z,109nm,18.4s,baz=222,slow=32						
TSUM	**Tsumeb**	**37.26**	**50**	P	**P**	**13 54 51.9**	**+0.8**
	1.2nm,0.5s,baz=235,slow=10,SNR=3.6						
H10S2	**ASCENSION HYDR**	**38.73**	**356**	T	T	14 36 16.4	
	baz=177,slow=75,SNR=7.0						
H10S3	**ASCENSION HYDR**	**38.74**	**356**	T	T	14 36 16.9	
	baz=177,slow=75,SNR=6.0						
H10S1	**ASCENSION HYDR**	**38.75**	**356**	T	T	14 36 17.7	
	baz=177,slow=75,SNR=5.8						
CPUP	**Villa Florida**	**41.30**	**285**	P	**P**	**13 55 24.8**	**+0.1**
	2.6nm,0.9s,baz=136,slow=2.4,SNR=3.5						
CPUP				LR	LR	14 09 15.9	
	comp=Z,88nm,20.1s,baz=182,slow=31						
MAW	**Mawson**	**41.47**	**146**	P	**P**	**13 55 26.1**	**+0.5**
	4.5nm,1.1s,baz=299,slow=14,SNR=4.3						
MAW				LR	LR	14 07 47.4	
	comp=Z,69nm,21.6s,baz=242,slow=29						
PLCA	**Paso Flores**	**41.65**	**257**	LR	LR	14 11 31.8	
	comp=Z,32nm,21.4s,baz=170,slow=34						
QSPA	**South Pole Qui**	**42.50**	**180**	*e*P	**P**	**13 55 34.3**	**0.0**
	21nm,1.2s						
BDFB	**Brasilia**	**43.66**	**305**	P	**P**	**13 55 43.6**	**-0.5**
	1.5nm,0.3s,baz=139,slow=9.3,SNR=3.0						
BDFB				LR	LR	14 10 38.1	
	comp=Z,96nm,18.4s,baz=122,slow=32						
SIV	**San Ignacio**	**51.16**	**291**	P	**P**	**13 56 41.9**	**-0.5**
	2.0nm,0.8s,baz=126,slow=7.3,SNR=5.7						
DBIC	**Dimbokro**	**54.56**	**9**	LR	LR	14 14 14.1	
	comp=Z,93nm,19.9s,baz=134,slow=29						
VNDA	**Vanda**	**54.94**	**178**	P	**P**	**13 57 10.0**	**+0.6**
	0.6nm,0.7s,baz=178,slow=7.4,SNR=3.5						
VNDA				LR	LR	14 18 36.7	
	comp=Z,170nm,21.3s,baz=172,slow=34						
LPAZ	**La Paz**	**55.48**	**285**	P	**P**	**13 57 16.5**	**+1.7**
	0.6nm,0.6s,baz=128,slow=9.3,SNR=2.4						
LPAZ				LR	LR	14 18 25.5	
	comp=Z,64nm,21.8s,baz=126,slow=33						
SAML	**Samuel**	**57.87**	**295**	*e*P	**P**	**13 57 30.5**	**-0.6**
	4.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**61.85**	**15**	P	**P**	**13 57 57.9**	**-0.4**
	1.8nm,0.8s,baz=193,slow=7.5,SNR=7.2						
TORD				LR	LR	14 18 54.0	
	comp=Z,118nm,21.6s,baz=215,slow=30						
NVAR	**Mina Array Bea**	**127.28**	**289**	PKP	**PKPdf**	**14 06 44.5**	**+0.9**
	0.3nm,0.7s,baz=123,slow=3.3,SNR=3.0						
YKA	**Yellowknife Ar**	**136.23**	**319**	PKP	**PKPdf**	**14 06 59.9**	**+0.5**
	0.8nm,0.8s,baz=106,slow=2.0,SNR=3.5						
INK	**Inuvik**	**144.72**	**327**	PKP	**PKPdf**	**14 07 13.9**	**-0.7**
	4.3nm,0.9s,baz=80,slow=5.1,SNR=10.0						
EGAK	**Eagle**	**148.16**	**321**	*e*PKPbc	**PKPbc**	**14 07 24.1**	**+0.4**
KSAR	**Wonju Array Be**	**149.03**	**95**	PKPbc	**PKPbc**	**14 07 25.9**	**-1.0**
KSRS	**Korea Array**	**149.06**	**95**	PKPbc	**PKPbc**	**14 07 25.9**	**-1.1**
	0.9nm,0.7s,baz=269,slow=3.5,SNR=4.8						
DOT	**Dot Lake**	**149.57**	**319**	*e*PKPbc	**PKPbc**	**14 07 28.4**	**+0.9**
ILAR	**Eielson Array**	**150.57**	**322**	PKPbc	**PKPbc**	**14 07 28.5**	**-1.3**
	1.8nm,0.8s,baz=355,slow=1.9,SNR=22						
COLD	**Coldfoot**	**151.13**	**328**	*e*PKPbc	**PKPbc**	**14 07 31.2**	**+0.1**
TRF	**Thorofare Moun**	**152.34**	**320**	*e*PKPbc	**PKPbc**	**14 07 33.7**	**-0.5**

NIED ***13*** *14:01:00, 37.˚60N×143.˚90E, h5km, Mw4.1 Best double couple: M0 1.76000×10^15 NP1:φ=27.00000°, δ41.00000°, λ-86.00000°. NP2:φ=201.00000°, δ49.00000°, λ-93.00000°.*

IDC ***13*** *14:01:25.0±0.7, 37.˚39N×144.˚06E, h0km, mb4.2/25, mb1 4.3/30, mb1mx4.2/51, mbtmp4.2/30, ML4.3/4, MS3.2/7, Ms1 3.2/7, ms1mx2.9/60, Error ellipse: s-maj=16.1km s-min=13.7km az=119.0*

BJI ***13*** *14:01:25.5, 37.˚63N×143.˚96E, h10km, mb4.4/37, mB4.7/23, Ms3.9/13, Ms7 3.8/13*

NEIC ***13*** *14:01:26.8±0.3, 37.˚48N×144.˚06E, h10km, mb4.7/10, Error ellipse: s-maj=7.6km s-min=4.9km az=138.0*

JMA ***13*** *14:01:29.1±0.2, 37.˚60N×143.˚88E, h43km, M4.4*

MOS ***13*** *14:01:31.3±1.1, 37.˚85N×143.˚80E, h33km, mb4.5/30, Error ellipse: s-maj=9.3km s-min=5.6km az=115.2*

ISC 13 14:01:29.9±0.5, 37.45N±0.˚05×144.08E±0.˚05, h35km, n168, σ 2 16/172, mb4.4/54, MS3.1/3, 8C-19D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.38**	**296**	P	**Pn**	**14 02 04.1**	**-2.3**
JIO				S	**Sn**	**14 02 30.1**	**-4.2**
OFUJ	**Ofunato**	**2.50**	**311**	P	**Pn**	**14 02 05.6**	**-2.4**
OFUJ				S	**Sn**	**14 02 32.3**	**-5.0**
JMK	**Ichinoseki**	**2.70**	**304**	P	**Pn**	**14 02 08.7**	**-2.2**
JOM	**Ohasama**	**2.98**	**314**	P	**Pn**	**14 02 12.7**	**-1.9**
JOM				S	**Sn**	**14 02 45.2**	**-3.9**
JFT	**Otama**	**2.98**	**272**	P	**Pn**	**14 02 13.1**	**-1.6**
JFT				S	**Sn**	**14 02 46.0**	**-3.1**
JYK	**Kaneyama**	**3.27**	**298**	P	**Pn**	**14 02 17.1**	**-1.6**
JYK				S	**Sn**	**14 02 52.6**	**-3.9**
JANG	**Nango**	**3.54**	**326**	P	**Pn**	**14 02 19.8**	**-2.5**
JANG				S	**Sn**	**14 02 57.7**	**-5.2**
JRY	**Ryogami san**	**4.40**	**253**	P	**Pn**	**14 02 31.9**	**-2.3**
JRY				*e*S	**Sn**	**14 03 17.9**	**-6.3**
JOT	**Ohata**	**4.57**	**330**	P	**Pn**	**14 02 36.1**	**-0.4**
JOT				S	**Sn**	**14 03 22.7**	**-5.7**
ERM	**Erimo**	**4.61**	**351**	*d* /*P*	**Pn**	**14 02 35.1**	**-2.0**
ERM				pmax	pmax		
	comp=Z,149nm,1.2s						
ERM	**Erimo**	**4.61**	**351**	*e*Pn	**Pn**	**14 02 35.1**	**-2.0**
MJAR	**Matsushiro Arr**	**4.79**	**261**	Pn	**Pn**	**14 02 38.9**	**-0.7**
	comp=Z,19nm,0.3s,baz=90,slow=16,SNR=126						
MJAR				Sn	**Sn**	**14 03 28.2**	**-5.5**
	baz=89,slow=9.7,SNR=2.6						
MJAR				LR	LR	14 04 36.6	
	comp=Z,296nm,20.3s,baz=90,slow=40						
MAJO	**Matsushiro**	**4.79**	**261**	*d* /*P*	**Pn**	**14 02 38.6**	**-0.9**
MAJO	**Matsushiro**	**4.79**	**261**	*e*Pn	**Pn**	**14 02 39.0**	**-0.5**
MAT	**Matsushiro**	**4.79**	**261**	P	**Pn**	**14 02 38.9**	**-0.6**
MAT				S	**Sn**	**14 03 31.6**	**-2.2**
MJB9	**Matsu-Tunnel**	**4.79**	**261**	*e*Pn	**Pn**	**14 02 39.1**	**-0.5**
JKB	**Kayabe**	**5.01**	**333**	P	**Pn**	**14 02 41.4**	**-1.2**
JKB				S	**Sn**	**14 03 34.0**	**-5.3**
JCH	**Churui**	**5.18**	**354**	P	**Pn**	**14 02 42.8**	**-2.2**
JHJ2	**Mitsune**	**5.56**	**220**	*e*Pn	**Pn**	**14 02 47.9**	**-2.3**
JHJ	**Hachijo jima 2**	**5.57**	**220**	Pn	**Pn**	**14 02 47.6**	**-2.7**
	comp=Z,23nm,0.3s,baz=346,slow=23,SNR=12						
JHJ				Sn	**Sn**	**14 03 45.1**	**-8.0**
	comp=Z,14nm,0.3s,baz=60,slow=20,SNR=3.9						
JOSM	**Okushiri--Mats**	**5.83**	**324**	P	**Pn**	**14 02 52.4**	**-1.4**
INU	**Inuyama**	**6.07**	**252**	*e*Pn	**Pn**	**14 02 56.0**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**6.71**	**11**	*i* P	**Pn**	**14 03 03.0**	**-2.9**
ASAJ	**Asahikawa**	**6.75**	**351**	Pn	**Pn**	**14 03 05.3**	**-1.2**
	comp=Z,15nm,0.3s,baz=195,slow=14,SNR=150						
ASAJ				Sn	**Sn**	**14 04 17.5**	**-4.6**
	baz=270,slow=20						
ASAJ	**Asahikawa**	**6.75**	**351**	*e*Pn	**Pn**	**14 03 04.8**	**-1.7**
ASAJ				Sn	**Sn**	**14 04 17.5**	**-4.6**
KUR	**Kuril'sk**	**8.28**	**19**	*e*P	**Pn**	**14 03 26.0**	**-1.4**
KUR				*e*S	**Sn**	**14 04 53.1**	**-6.5**
KUR				pmax	pmax		
	comp=N,6.0nm,0.3s						
KUR				pmax	pmax		
	comp=E,4.0nm,0.3s						
KUR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
KUR				smax	smax		
	comp=N,12nm,0.2s						
YSS	**Yuzh-Sakhalins**	**9.54**	**355**	*e*P	**Pn**	**14 03 43.0**	**-1.7**
YSS				*e*S	**Sn**	**14 05 23.6**	**-7.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS	**Yuzh-Sakhalins**	**9.54**	**355**	*e*Pn	**Pn**	**14 03 42.7**	**-2.1**
CBIJ	**Chichi jima**	**10.45**	**189**	Pn	**Pn**	**14 03 52.5**	**-4.7**
JCJ	**Chichijima**	**10.45**	**189**	Pn	**Pn**	**14 03 52.5**	**-4.7**
	comp=Z,7.2nm,0.3s,baz=279,slow=23,SNR=6.6						
VLA	**Vladivostok**	**10.89**	**305**	*e*P	**Pn**	**14 04 03.1**	**-0.1**
VLA				pmax	pmax		
	comp=Z,21nm,1.0s						
MSHR	**Mys Shultsa**	**11.15**	**301**	*c e*P	**Pn**	**14 04 06.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**11.37**	**310**	Pn	**Pn**	**14 04 09.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=113,slow=15,SNR=14						
USRK				LR	LR	14 08 21.7	
	comp=Z,180nm,19.6s,baz=106,slow=37						
JNU	**Nakatsue**	**11.62**	**252**	LR	LR	14 09 18.7	
	comp=Z,47nm,19.5s,baz=126,slow=41						
KSRS	**Korea Array**	**12.84**	**275**	Pn	Pn	14 04 31.1	+1.2
	comp=Z,0.3nm,0.3s,baz=88,slow=13,SNR=34						
KSRS				LR	LR	14 09 25.2	
	comp=Z,121nm,18.1s,baz=58,slow=37						
KS15	**Wonju Array Si**	**12.87**	**275**	*e*Pn	**Pn**	**14 04 30.8**	**+0.5**
KSAR	**Wonju Array Be**	**12.87**	**275**	P	**Pn**	**14 04 31.1**	**+0.7**
KSAR	**Wonju Array Be**	**12.87**	**275**	Pn	**Pn**	**14 04 31.1**	**+0.7**
MDJ	**Mudanjiang**	**13.06**	**308**	P	**Pn**	**14 04 32.1**	**-0.7**
MDJ				S	Sn	14 07 03.3	+6.5
MDJ				PMZ			
	comp=Z,11nm,0.9s						
MDJ				PMZ			
	comp=Z,72nm,7.4s						
KLR	**Kul'dur**	**14.78**	**327**	Pn	**Pn**	**14 04 52.7**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=129,slow=11,SNR=6.4						
KLR				LR	LR	14 10 33.7	
	comp=Z,95nm,18.1s,baz=150,slow=37						
DL2	**Dalian**	**17.71**	**282**	P	**P**	**14 05 32.8**	**-1.5**
DL2				PMZ			
	comp=Z,25nm,0.8s						
HIA	**Hailar**	**21.17**	**312**	*e*P	**P**	**14 06 10.3**	**-1.7**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TIA	**Tai'an**	**21.59**	**275**	*e*P	**P**	**14 06 15.0**	**-1.6**
TIA				PMZ			
	comp=Z,20nm,1.1s						
BJI	**Beijing**	**21.88**	**285**	P	**P**	**14 06 18.9**	**-0.8**
BJI				PMZ			
	comp=Z,7.0nm,1.0s						
BJI				PMZ			
	comp=Z,67nm,3.9s						
GUMO	**Guam**	**23.78**	**178**	LR	LR	14 14 31.1	
	comp=Z,33nm,19.0s,baz=315,slow=33						
HHC	**Hu-ho-hao-te**	**25.36**	**288**	*e*P	**P**	**14 06 54.5**	**+0.7**
HHC				S	**S**	**14 11 20.4**	**+2.5**
HHC				PMZ			
	comp=Z,25nm,1.0s						
HHC				PMZ			
	comp=Z,81nm,4.7s						
SEY	**Seymchan**	**26.01**	**9**	P	**P**	**14 07 00.1**	**+0.8**
	comp=Z,8.9nm,0.8s,baz=188,slow=8.3,SNR=16						
SEY	**Seymchan**	**26.01**	**9**	*i* P	**P**	**14 06 58.2**	**-1.1**
YAK	**Yakutsk**	**26.18**	**345**	P	**P**	**14 07 00.2**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=298,slow=17,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**26.59**	**125**	T	T	14 35 00.5	
	baz=317,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**26.60**	**125**	T	T	14 35 02.5	
	baz=317,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**26.61**	**125**	T	T	14 34 54.9	
	baz=317,slow=75,SNR=9.2						
ULN	**Ulaanbaatar**	**28.90**	**303**	*i* P	**P**	**14 07 26.1**	**+0.6**
ULN				pmax	pmax		
	comp=Z,11nm,1.7s						
ULN	**Ulaanbaatar**	**28.90**	**303**	*e*P	**P**	**14 07 26.4**	**+0.9**
	comp=Z,7.5nm,1.2s						
SONA1	**Songino Array**	**29.33**	**303**	*e*P	**P**	**14 07 29.1**	**-0.2**
SONM	**Songino Array**	**29.33**	**303**	P	**P**	**14 07 28.9**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=76,slow=6.3,SNR=11						
SONM				LR	LR	14 19 20.4	
	comp=Z,50nm,18.9s,baz=71,slow=37						
ENH	**Enshi**	**29.48**	**266**	*e*P	**P**	**14 07 30.5**	**-0.2**
	comp=Z,15nm,1.0s						
TLY	**Talaya**	**31.68**	**310**	P	**P**	**14 07 50.0**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=152,slow=5.9,SNR=4.4						
TLY	**Talaya**	**31.68**	**310**	P	**P**	**14 07 50.0**	**+0.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAK	**Zakamensk**	**31.69**	**307**	*e*P	**P**	**14 07 49.3**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
LZH	**Lanzhou**	**32.09**	**280**	*e*P	P	14 07 58.0	+4.2
LZH				pP	sP	14 08 05.1	-3.1
LZH				PMZ			
	comp=Z,50nm,1.2s						
LZH				PMZ			
	comp=Z,190nm,4.6s						
LZH				LN			
	comp=Z,140nm,13.9s						
LZH				LE			
	comp=Z,180nm,13.9s						
LZH				LZ			
	comp=Z,170nm,14.9s						
BILL	**Bilibino**	**33.05**	**15**	*i* P	**P**	**14 08 00.8**	**-0.8**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,24nm,14.0s						
BILL	**Bilibino**	**33.05**	**15**	*e*P	**P**	**14 08 01.1**	**-0.5**
	comp=Z,5.5nm,1.0s						
GYA	**Guiyang**	**33.39**	**262**	*e*P	**P**	**14 08 05.8**	**+0.6**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**33.80**	**271**	*e*P	**P**	**14 08 07.6**	**-1.1**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.0s						
GTA	**Gaotai**	**34.47**	**287**	*e*P	**P**	**14 08 15.9**	**+1.4**
GTA				pP	pP	14 08 20.3	-4.4
GTA				sP	sP	14 08 22.9

KSH				LN				
	comp=Z,180nm,8.2s							
KSH				LE				
	comp=Z,83nm,6.5s							
KSH				LZ				
	comp=Z,150nm,7.5s							
INK	**Inuvik**	**53.04**	**27**	P		**P**	**14 10 43.7**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=307,slow=7.4,SNR=5.8							
DLBC	**Dease Lake**	**56.98**	**39**	P		**P**	**14 11 13.1**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=298,slow=15,SNR=4.4							
ARU	**Arti**	**57.45**	**319**	*d iP*		**P**	**14 11 15.6**	**+0.7**
ARU							14 13 23.5	
ARU				S		S	14 19 14.9	+5.5
ARU				pmax		pmax		
	comp=Z,13nm,1.2s							
ARU	**Arti**	**57.45**	**319**	*eP*		**P**	**14 11 15.4**	**+0.5**
	comp=Z,7.1nm,0.6s							
WRA	**Warramunga Arr**	**57.82**	**191**	P		**P**	**14 11 16.8**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=8.6,slow=7.0,SNR=19							
AS01	**Alice Springs**	**61.53**	**191**	*eP*		**P**	**14 11 43.6**	**+0.2**
ASAR	**Alice Springs**	**61.54**	**191**	P		**P**	**14 11 43.3**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=11,slow=5.6,SNR=14							
ARCES	**ARCESS Array B**	**64.34**	**340**	P		**P**	**14 12 01.9**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=52,slow=7.9,SNR=5.1							
KLMR	**Klimovskoe**	**64.53**	**328**	*eP*		**P**	**14 12 02.5**	**-0.4**
KLMR				*e*			14 14 23.0	
KLMR				pmax		pmax		
	comp=Z,7.0nm,1.5s							
GEYT	**Allbeck**	**65.48**	**300**	P		**P**	**14 12 11.1**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=64,slow=13,SNR=3.5							
OBN	**Obninsk**	**69.02**	**324**	*eP*		**P**	**14 12 31.8**	**+0.2**
OBN				pmax		pmax		
	comp=Z,14nm,1.3s							
FINES	**FINESS Array B**	**69.42**	**333**	P		**P**	**14 12 33.6**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=39,slow=12,SNR=6.3							
KIV	**Kislovodsk**	**72.22**	**312**	*eP*		**P**	**14 12 52.9**	**+1.4**
KIV				pmax		pmax		
	comp=Z,12nm,0.9s							
KBZ	**Khabaz**	**72.23**	**312**	P		**P**	**14 12 52.3**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=88,slow=1.8,SNR=8.6							
NVAR	**Mina Array Bea**	**73.02**	**54**	P		**P**	**14 12 58.0**	**+1.5**
	comp=Z,0.8nm,0.9s,baz=303,slow=8.1,SNR=4.2							
NB2	**NORSAR Subarra**	**74.60**	**338**	P		**P**	**14 13 05.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=37,slow=5.6							
NOA	**NORSAR Array B**	**74.60**	**338**	P		**P**	**14 13 06.1**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=38,slow=5.8,SNR=6.6							
AKASG	**Malin Array Be**	**75.25**	**323**	P		**P**	**14 13 09.4**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=44,slow=6.0,SNR=7.4							
AKASG	**Malin Array Be**	**75.25**	**323**	P		**P**	**14 13 09.5**	**+0.6**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BUR08	**Bucovina Ar. S**	**79.27**	**323**	*eP*		**P**	**14 13 33.1**	**+1.4**
BURAR	**Bucovina Array**	**79.28**	**323**	*↓iP*		**P**	**14 13 33.3**	**+1.6**
BURAR	**Bucovina Array**	**79.28**	**323**	*↓P*		**P**	**14 13 33.3**	**+1.6**
TESR	**Tescani**	**79.35**	**321**	*↓iP*		**P**	**14 13 33.4**	**+1.4**
KOLS	**Kolonicke sedl**	**79.71**	**325**	*eP*		**P**	**14 13 35.8**	**+1.9**
KOLS				pmax		pmax		
	comp=Z,4.0nm,1.1s							
KOLS	**Kolonicke sedl**	**79.71**	**325**	*eP*		**P**	**14 13 35.8**	**+1.9**
VRI	**Vrincioaia**	**79.76**	**321**	*↑iP*		P	14 13 37.4	+3.1
VRI	**Vrincioaia**	**79.76**	**321**	*↑P*		P	14 13 37.4	+3.1
OJC	**Ojcow**	**79.86**	**327**	*eP*		P	14 13 36.8	+2.1
OJC	**Ojcow**	**79.86**	**327**	*eP*		**P**	14 13 36.8	+2.1
BRTR	**Keskin Array B**	**80.15**	**313**	P		**P**	**14 13 37.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=43,slow=14,SNR=3.8							
NIE	**Niedzica**	**80.23**	**327**	*eP*		P	14 13 39.1	+2.3
NIE	**Niedzica**	**80.23**	**327**	*eP*		P	14 13 39.1	+2.3
DOPR	**Dopca**	**80.36**	**322**	*↓iP*		P	14 13 40.3	+2.8
ISR	**Istrita**	**80.38**	**320**	*↓iP*		P	14 13 39.9	+2.2
ISR	**Istrita**	**80.38**	**320**	*↓P*		P	14 13 39.9	+2.2
VOIR		**80.90**	**321**	*↓iP*		**P**	**14 13 42.1**	**+1.6**
VOIR		**80.90**	**321**	*↓P*		**P**	**14 13 42.1**	**+1.6**
DRGR		**81.06**	**324**	*↑iP*		**P**	**14 13 42.9**	**+1.6**
DRGR		**81.06**	**324**	*↑P*		**P**	**14 13 42.9**	**+1.6**
MORC	**Moravsky Berou**	**81.15**	**328**	*↓iP*		**P**	**14 13 43.4**	**+1.7**
MORC	**Moravsky Berou**	**81.15**	**328**	*↓P*		**P**	**14 13 43.4**	**+1.7**
MORC	**Moravsky Berou**	**81.15**	**328**	*eP*		**P**	**14 13 43.0**	**+1.3**
	comp=Z,23nm,1.0s							
ARR	**Arges**	**81.16**	**322**	*↓iP*		P	14 13 44.6	+2.7
DPC	**Dobruska-Polom**	**81.21**	**329**	*eP*		P	14 13 44.3	+2.3
DPC	**Dobruska-Polom**	**81.21**	**329**	*eP*		P	14 13 44.3	+2.3
PSZ	**Piszkesteto**	**81.53**	**326**	*↓iP*		**P**	**14 13 45.4**	**+1.6**
PSZ	**Piszkesteto**	**81.53**	**326**	*↓P*		**P**	**14 13 45.4**	**+1.6**
BRG	**Berggiesshubel**	**81.75**	**331**	*eP*		**P**	**14 13 45.8**	**+1.0**
BRG				pmax		pmax		
	comp=Z,7.0nm,1.3s							
BRG	**Berggiesshubel**	**81.75**	**331**	*eP*		**P**	**14 13 45.8**	**+1.0**
	comp=Z,4.0nm,0.9s							
CLL	**Collm**	**81.77**	**331**	*eP*		**P**	**14 13 46.0**	**+1.1**
	comp=Z,4.0nm,0.9s							
CLL				*e*			14 13 56.0	
CLL	**Collm**	**81.77**	**331**	*eP*		**P**	**14 13 46.0**	**+1.1**
CLL				*e*			14 13 56.0	
CLL				pmax		pmax		
	comp=Z,4.0nm,0.9s							
VRAC	**Vranov**	**81.90**	**328**	*↓iP*		**P**	**14 13 47.1**	**+1.4**
VRAC	**Vranov**	**81.90**	**328**	*↓P*		**P**	**14 13 47.1**	**+1.4**
PRU	**Pruhonice**	**82.21**	**330**	*eP*		**P**	**14 13 49.2**	**+2.0**
BZS	**Buzias**	**82.44**	**323**	*↑iP*		**P**	**14 13 49.6**	**+1.1**
BZS	**Buzias**	**82.44**	**323**	*↑P*		**P**	**14 13 49.6**	**+1.1**
MDVR	**Moldovita**	**83.01**	**323**	*↓iP*		**P**	**14 13 52.7**	**+1.1**
KHC	**Kasperske Hory**	**83.28**	**330**	*eP*		**P**	**14 13 54.3**	**+1.5**
KHC	**Kasperske Hory**	**83.28**	**330**	*eP*		**P**	**14 13 54.3**	**+1.5**
CONA	**Conrad Observa**	**83.28**	**328**	*i pP*		**P**	**14 13 54.6**	**+1.7**
	comp=Z,4.0nm,0.8s							
GERES	**GERESS Array B**	**83.45**	**330**	P		**P**	**14 13 55.0**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=37,slow=3.3,SNR=8.9							
GEA0	**GERESS Array S**	**83.46**	**330**	*eP*		**P**	**14 13 54.4**	**+0.5**
ARSA	**Arzberg**	**83.95**	**328**	*i P*		**P**	**14 13 54.7**	**-1.7**
	comp=Z,1.2nm,0.5s							
MOA	**Molln**	**84.01**	**329**	*i P*		**P**	**14 13 56.6**	**0.0**
	comp=Z,3.7nm,1.3s							
SOKA	**Soboth**	**84.61**	**328**	*i pP*		**P**	**14 14 00.7**	**+1.0**
	comp=Z,3.2nm,0.6s							
OBKA	**Obir**	**84.95**	**328**	*i P*		**P**	**14 14 00.3**	**-1.2**
	comp=Z,6.3nm,2.0s							
KBA	**Koelnbreinsper**	**85.00**	**329**	*i P*		**P**	**14 14 00.3**	**-1.5**
	comp=Z,3.7nm,0.9s							
ABTA	**Abfaltersbach**	**85.61**	**329**	*i P*		**P**	**14 14 03.7**	**-1.1**
	comp=Z,1.9nm,0.7s							
MOTA	**Moosalm**	**85.70**	**330**	*i PcP*		**P**	**14 14 06.6**	**+1.4**
	comp=Z,2.6nm,0.7s							
RETA	**Reutte**	**85.72**	**330**	*i PcP*		**P**	**14 14 06.3**	**+1.0**
	comp=Z,5.4nm,0.7s							
BFO	**Black Forest**	**85.95**	**332**	*i P*		**P**	**14 14 07.7**	**+1.4**
FETA	**Feichten**	**86.11**	**330**	*i P*		**P**	**14 14 07.2**	**-0.1**
	comp=Z,3.9nm,1.0s							
DAVA	**Damuels**	**86.22**	**331**	*i P*		**P**	**14 14 04.2**	**-3.6**
	comp=Z,5.4nm,0.7s							
TXAR	**Lajitas Array**	**88.17**	**54**	P		**P**	**14 14 18.3**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=304,slow=4.6,SNR=5.5							

*CSEM **13** 14:18:23.4, 40.03N×32.27E, h7km, ML2.2*
DDA 13 14:18:23.4, 40.03N×32.27E, h7km, Ml2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.80**	**349**	P		P	Pg	14 18 38.8	0.0
BCAM				S		S	Sn	14 18 57.2	+3.7
BCAM	**Yenicaga**	**0.80**	**349**	*i P*		P	Pg	14 18 38.8	-0.1
BCAM				*i S*		S	Sn	14 18 57.2	+3.7
KKUL	**Konya-Kulu**	**0.99**	**149**	P		P	Pg	14 18 41.6	-0.8
KKUL				S		S	Sb	14 18 57.1	+0.9
KKUL	**Konya-Kulu**	**0.99**	**149**	*i P*		P	Pg	14 18 41.6	-0.8
KKUL				*i S*		S	Sb	14 18 57.1	+0.8
ELDT	**Eldivan**	**1.00**	**62**	P		P	Pg	14 18 42.5	-0.1
ELDT				S		S	Sb	14 18 57.3	+0.7
ELDT	**Eldivan**	**1.00**	**62**	*i P*		P	Pg	14 18 42.5	-0.1
ELDT				*i S*		S	Sb	14 18 57.3	+0.7
ESKT	**Eskisehir**	**1.20**	**246**	*i P*		P	Pb	14 18 46.5	0.0
ESKT				*i S*		S	Sn	14 19 05.6	+2.2
SEYT	**Eskypehyr**	**1.20**	**246**	P		P	Pg	14 18 46.5	0.0
SEYT				S		S	Sn	14 19 05.6	+2.2
CDAG	**Cicekdag**	**1.67**	**103**	P		P	Pn	14 18 53.8	+0.7
CDAG				S		S	Sg	14 19 17.9	+0.8
CDAG	**Cicekdag**	**1.67**	**103**	*i P*		P	Pn	14 18 53.8	+0.6
CDAG				*i S*		S	Sg	14 19 17.9	+0.9

MEX 13 14:22:18.0±0.4, 27.31N×111.49W, h10km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.67**	**271**	*eP*		Pg		14 22 29.5	-1.4
SRIG				*eS*		Sg		14 22 38.0	-1.7
GUYB	**Guaymas**	**0.80**	**43**	*eP*		Pg		14 22 31.1	-2.4
GUYB				*eS*		Sg		14 22 41.3	-2.7
HSIG		**1.77**	**16**	*eP*		Pn		14 22 45.6	-3.1
HSIG				*eS*		Sn		14 23 06.6	-4.7

*KLM **13** 14:31:16.1, 2.25N×127.37E, h60km, mb6.5, MS6.9*
*BJI **13** 14:31:20.1, 2.45N×126.50E, h42km, mb6.3/84, mB6.6/47, Ms6.0/92, Ms7 5.8/85*
*MOS **13** 14:31:21.4±1.0, 2.53N×126.45E, h58km, mb6.5/81, MS5.7/48, Error ellipse: s-maj=6.7km s-min=3.8km az=112.6*
*NEIC **13** 14:31:21.0±0.0, 2.53N×126.75E, h80km, Moment Tensor Solution. s54 Moment tensor: Scale 10¹⁸Nm; Mrr=0.58; Mθθ=2.21; Mϕϕ=-2.79; Mrθ=0.31; Mrϕ=3.06; Mθϕ=0.71; Best double couple: M₀=4.10000×10¹⁸ NP1:ϕs=19.00000°, δ87.00000°, λ168.00000°. NP2:ϕs=110.00000°, δ78.00000°, λ3.00000°. Principal axes: T 3.7700, Plg10.0000°, Azm333.0000°; N 0.5300, Plg77.0000°, Azm184.0000°; P -4.2900, Plg6.0000°, Azm65.0000°;*
*ISCJB **13** 14:31:22.3±0.2, 2.47N±0.01×126.48E±0.02, h71km±2km, mb6.3/309 Error ellipse: s-maj=2.7km s-min=1.9km az=160.6*
*NEIC **13** 14:31:23.0±0.5, 2.52N×126.46E, h61km±4km, mb6.4/190, ME7.0, MW6.3, MW6.4, MW6.3, Error ellipse: s-maj=3.5km s-min=2.9km az=75.0, Moment Tensor Solution. s28 Moment tensor: Scale 10¹⁸Nm; Mrr=1.50; Mθθ=2.17; Mϕϕ=-3.66; Mrθ=-0.05; Mθϕ=2.10; Mrϕ=0.37; Best double couple: M₀=3.80000×10¹⁸ NP1:ϕs=207.00000°, δ90.00000°, λ=-175.00000°. NP2:ϕs=117.00000°, δ85.00000°, λ0.00000°. Principal axes: T 2.8500, Plg3.0000°, Azm342.0000°; N 1.5200, Plg85.0000°, Azm212.0000°; P -4.3600, Plg4.0000°, Azm72.0000°; Complex event observed on broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [V] at Manado; [IV] on Pulau Ternate and at Tahuna; [III] at Bitung and Melonguanne, Indonesia. Felt at Zamboanga, Philippines.
*IDC **13** 14:31:23.4±1.1, 2.45N×126.51E, h67km±8km, mb5.8/61, mb1 5.8/65, mb1mx5.8/70, mbtmp6.1/65, MS5.6/27, Ms1 5.6/27, ms1mx5.4/45 Error ellipse: s-maj=9.3km s-min=5.8km az=70.0*
*GCMT **13** 14:31:23.0±0.1, 2.74N×126.35E, h82km, MW6.4/145, Moment Tensor Solution. s145,c342; s135,c500; Duration: 3s9 Moment tensor: Scale 10¹⁸Nm; Mrr=0.63±.02; Mθθ=2.91±.02; Mϕϕ=-3.54±.03; Mrθ=0.88±.02; Mθϕ=3.68±.02; Mrϕ=0.14±.02; Best double couple: M₀=4.98800×10¹⁸ NP1:ϕs=111.00000°, δ83.00000°, λ10.00000°. NP2:ϕs=20.00000°, δ80.00000°, λ173.00000°. Principal axes: T 4.7590, Plg12.0000°, Azm336.0000°; N 0.4610, Plg78.0000°, Azm145.0000°; P -5.2170, Plg2.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*DJA **13** 14:31:24.8±0.2, 2.7N±2.2×12.6E±.1, h81km±2km, M6.5/114, mb6.4/114, mB6.8/109, MLv6.8/11, Mw(mB)6.7/109, Mwp6.3/61*
*NEIC **13** 14:31:36.6±0.0, 2.25N×126.68E, h53km, Moment Tensor Solution. s52 Moment tensor: Scale 10¹⁸Nm; Mrr=0.37; Mθθ=3.19; Mϕϕ=-3.56; Mrθ=0.74; Mθϕ=3.23; Mrϕ=0.85; Best double couple: M₀=4.80000×10¹⁸ NP1:ϕs=114.00000°, δ77.00000°, λ5.00000°. NP2:ϕs=22.00000°, δ85.00000°, λ167.00000°. Principal axes: T 4.7200, Plg13.0000°, Azm337.0000°; N 0.1900, Plg76.0000°, Azm182.0000°; P -4.9000, Plg6.0000°, Azm69.0000°;*
ISC 13 14:31:23.4±0.3, 2.55N±0.02×126.46E±0.03, h66km±2km, h66km:pP-P, n2126, o2900/2419, mb6.4/330, 132C-47D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.46**	**321**	P		P	**Pn**	**14 31 50.4**	**+2.6**
LBMI	**Labuha**	**3.33**	**162**	P		P	**Pn**	**14 32 13.1**	**0.0**
MATI	**Mati**	**4.38**	**357**	*eP*		P	**Pn**	**14 32 29.6**	**+2.1**
MATI				*eS*		S	**Sn**	**14 33 25.4**	**+8.2**
DAV	**Davao City (W)**	**4.58**	**349**	P		P	**Pn**	**14 32 31.5**	**+1.3**
	648nm,0.3s,baz=132,slow=2.6,SNR=66								
DAV	**Davao City (W)**	**4.58**	**349**	*↑eP*		P	**Pn**	**14 32 32.6**	**+2.4**
DAV	**Davao City (W)**	**4.58**	**349**	*↑iS*		S	**Sn**	**14 33 26.5**	**+4.3**
DAV	**Davao City (W)**	**4.58**	**349**	*ePn*		Pn	**Pn**	**14 32 33.2**	**+3.0**
SANI	**Sanana**	**4.59**	**186**	P		Pn	**Pn**	**14 32 28.8**	**-1.5**
DMPH	**Davao City--Mi**	**4.61**	**348**	*eP*		P	**Pn**	**14 32 35.2**	**+4.6**
DMPH				*eS*		S	Sn	14 33 34.6	+12
KCP	**Kidapawan**	**4.64**	**343**	*↑iP*		P	**Pn**	**14 32 33.7**	**+2.7**
KCP				*i S*		S	**Sn**	**14 33 29.0**	**+5.3**
MRSI	**Marisa**	**4.96**	**246**	P		P	**Pn**	**14 32 39.2**	**+3.8**
LUWI	**Luwuk**	**5.12**	**226**	P		Pn	**Pn**	**14 32 39.3**	**+1.7**
	35μm,0.9s,409μm620μm186nm								
LUWI	**Luwuk**	**5.12**	**226**	*ePn*		Pn	**Pn**	**14 32 39.8**	**+2.1**
CTBH	**Cotabato--PC H**	**5.14**	**335**	*↑iP*		P	**Pn**	**14 32 39.9**	**+2.0**
CTBH				*i S*		S	**Sn**	**14 33 42.1**	**+6.2**
BUKP	**Musuan**	**5.48**	**345**	*eP*		P	**Pn**	**14 32 44.5**	**+2.0**
BIPH	**Bislig**	**5.60**	**359**	*↓eP*		Pn	**Pn**	**14 32 49.3**	**+5.1**
BIPH				*eS*		S	**Sn**	**14 33 51.3**	**+4.0**
SWI	**Sorong**	**5.88**	**125**	P		Pn	**Pn**	**14 32 48.6**	**+0.7**
	4μm,1.8s,66μm29nm								
SIJI	**Sorong**	**5.88**	**125**	P		Pn	**Pn**	**14 32 47.9**	**-0.2**
	baz=270,slow=24,SNR=29								
PAGZ	**Pagadian**	**6.09**	**330**	*eP*		Pn	**Pn**	**14 32 52.6**	**+1.7**
PAGZ				*eS*		S	**Sn**	**14 34 03.2**	**+3.9**
CGP	**Cagayan de Oro**	**6.13**	**343**	*↑eP*		Pn	**Pn**	**14 32 54.0**	**+2.6**
CGP				*eS*		Sn		14 34 10.2	+10
MSAI	**Masohi**	**6.35**	**157**	P		Pn	**Pn**	**14 32 56.7**	**+2.2**
	2μm,2.2s,40μm76μm9.6nm								
IPIL	**Ipil**	**6.49**	**324**	*eP*		Pn	**Pn**	**14 32 58.8**	**+2.5**
IPIL				*eS*		S	**Sn**	**14 34 09.4**	**+0.5**
DCPH	**Dipolog City**	**6.75**	**333**	*↓eP*		Pn	**Pn**	**14 33 02.6**	**+2.7**
PCI	**Palu**	**7.45**	**243**	P		Pn	**Pn**	**14 33 12.7**	**+3.2**
	10μm,1.1s,120μm494μm33nm								
SNPH	**Sibulan**	**7.47**	**335**	*eP*		Pn	**Pn**	**14 33 11.1**	**+1.2**
KDI	**Kendari**	**7.51**	**211**	P		Pn	**Pn**	**14 33 10.8**	**+0.5**
	8μm,1.0s,113μm204μm26nm								
TBP	**Tagbilaran**	**7.55**	**340**	*eP*		Pn	**Pn**	**14 33 14.5**	**+3.6**
BNDI	**Bandanaira**	**7.82**	**154**	P		Pn	**Pn**	**14 33 14.5**	**-0.1**
	6μm,2.2s,215μm415μm58nm								
FAKI	**Fak Fak**	**7.94**	**133**	P		Pn	**Pn**	**14 33 17.2**	**+1.0**
	4μm,1.6s,87μm210μm17nm								
FAKI	**Fak Fak**	**7.94**	**133**	*ePn*		Pn	**Pn**	**14 33 16.9**	**+0.8**
LLP	**Lapu-Lapu**	**8.11**	**342**	*↑eP*		Pn	**Pn**	**14 33 20.2**	**+1.7**
LLP				*eS*		Sn		14 35 00.5	+12
MYLDM	**Lahad Datu**	**8.36**	**288**	*ePn*		Pn		14 33 27.6	+5.7
OCLP	**Ormoc**	**8.65**	**348**	*eP*		Pn	**Pn**	**14 33 27.4**	**+1.5**
TTSI	**Tana Toraja**	**8.65**	**230**	P		Pn	**Pn**	**14 33 27.8**	**+1.9**
	9μm,1.2s,112μm215μm								
PLP	**Palo**	**8.69**	**350**	*↑eP*		Pn	**Pn**	**14 33 28.6**	**+2.2**
RKPI	**Ransiki, Papua**	**8.71**	**117**	P		Pn	**Pn**	**14 33 28.5**	**+1.8**
	4μm,0.8s,35μm								
GUIM	**Jordan**	**8.90**	**335**	*eP*		Pn	**Pn**	**14 33 31.0**	**+1.7**
BESP	**Borongan**	**9.05**	**354**	*eP*		Pn	**Pn**	**14 33 33.3**	**+1.9**
JAP	**San Jose, Anti**	**9.30**	**331**	*↑eP*		Pn	**Pn**	**14 33 39.2**	**+4.5**
SPSI	**Sidrap Palu**	**9.30**	**226**	P		Pn	**Pn**	**14 33 35.8**	**+1.0**
	4μm,0.9s,44μm187μm								
PALU	**Palu**	**9.30**	**59**	P		Pn	**Pn**	**14 33 33.9**	**-1.0**
	baz=9.3,SNR=60								
I39PW	**PALAU INFRASON**	**9.46**	**58**	P		Pn	**Pn**	**14 33 38.7**	**+1.7**
	baz=215,slow=12,SNR=1.0								
I39PW				S		S	**Sn**	**14 35 17.4**	**-4.4**
RCP	**Roxas**	**9.68**	**338**	*↑eP*		Pn	**Pn**	**14 33 43.4**	**+3.3**
CUYO	**Cuyo Island**	**9.86**	**327**	*eP*		Pn	**Pn**	**14 33 42.1**	**-0.4**
KALP	**Kalibo**	**9.95**	**336**	*↓iP*		Pn	**Pn**	**14 33 48.1**	**+4.4**
KAPI	**Kappang**	**10.06**	**222**	P		Pn	**Pn**	**14 33 45.0**	**-0.2**
	98nm,0.3s,baz=61,slow=8.0,SNR=287								
KAPI	**Kappang**	**10.06**	**222**	*ePn*		Pn	**Pn**	**14 33 46.0**	**+0.8**
MMPH	**Masbate**	**10.14**	**344**	*eP*		Pn	**Pn**	**14 33 49.4**	**+3.0**
BKB	**Balikpapan**	**10.28**	**249**	P		Pn	**Pn**	**14 33 49.7**	**+1.5**
	5μm,1.8s,84μm320μm								
BSSI	**Bau Bau, Buton**	**10.49**	**215**	P		Pn	**Pn**	**14 33 51.1**	**+0.1**
	5μm,0.6s,52μm106μm								
PPR	**Puerto Princes**	**10.51**	**313**	*↑eP*		Pn		14 33 57.3	+5.9
BATP	**Bataraza**	**10.62**	**306**	*eP*		Pn	**Pn**	**14 33 54.5**	**+1.7**
OTRP	**Odiongan**	**10.70**	**336**	*eP*		Pn	**Pn**	**14 33 52.7**	**-1.2**
KKM	**Kota Kinabalu**	**10.79**	**289**	*↑P*		Pn		14 34 00.9	+5.7
KKM	**Kota Kinabalu**	**10.79**	**289**	*ePn*		Pn	**Pn**	**14 33 59.4**	**+4.2**
ENPP	**El Nido**	**11.08**	**321**	*eP*		Pn	**Pn**	**14 34 00.5**	**+1.4**
SJMP	**San Jose**	**11.18**	**332**	*eP*		Pn	**Pn**	**14 34 01.1**	**+0.7**
PVCP	**Virac**	**11.21**	**348**	*eP*		Pn	**Pn**	**14 33 58.3**	**-2.7**
BUSP	**Coron**	**11.26**	**327**	*eP*		Pn	**Pn**	**14 34 03.0**	**+1.5**
AUQP	**San Andres**	**11.34**	**341**	*eP*		Pn	**Pn**	**14 34 05.5**	**+2.8**
SAUI	**Saumlaki**	**11.52**	**155**	P		Pn	**Pn**	**14 34 03.2**	**-1.9**
	4μm,0.8s,47μm								
SAUI	**Saumlaki**	**11.52**	**155**	*ePn*		Pn	**Pn**	**14 34 03.8**	**-1.4**
BOAC	**Boac**	**11.76**	**337**	*eP*		Pn	**Pn**	**14 34 10.5**	**+2.0**
MMRI	**Maumere**	**11.88**	**201**	P		Pn	**Pn**	**14 34 09.7**	**-0.3**
	2μm,0.9s,22μm68μm								
MMRI	**Maumere**	**11.88**	**201**	*ePn*		Pn	**Pn**	**14 34 10.1**	**+0.1**
GQP	**Guinayangan**	**11.96**	**341**	*↓eP*		Pn	**Pn**	**14 34 13.5**	**+2.3**
MTKI	**Muara Teweh, K**	**12.06**	**253**	P		Pn	**Pn**	**14 34 15.9**	**+3.3**
	4μm,1.7s,87μm137μm								
SOEI	**Soe**	**12.41**	**190**	P		Pn	**Pn**	**14 34 19.3**	**+1.9**
	4μm,1.0s,65μm125μm								
SOEI	**Soe**	**12.41**	**190**	*ePn*		Pn	**Pn**	**14 34 20.2**	**+2.8**
LQP	**Lukban**	**12.48**	**337**	*↓eP*		Pn	**Pn**	**14 34 21.8**	**+3.4**
LUBP	**Lubang**	**12.70**	**331**	*eP*		Pn	**Pn**	**14 34 23.2**	**+2.0**
TGY	**Tagaytay City**	**12.71**	**335**	P		Pn	**Pn**	**14 34 23.0**	**+1.6**
	109nm,0.3s,baz=181,slow=4.2,SNR=52								
TGY						LR	LR	14 40 32.7	
	comp=Z,42μm,18.1s,baz=148,slow=43								
TGY	**Tagaytay City**	**12.71**	**335**	*↑eP*		P		**14 34 28.4**	**-1.9**
POLP	**Polilio Island**	**12.90**	**340**	*eP*		Pn		**14 34 24.0**	**+0.1**
BBKI	**Banjar Baru**	**13.05**	**243**	P		Pn		**14 34 28.5**	**+2.4**
	3μm,2.1s,100μm177μm								
BTM	**Bintulu**	**13.37**	**273**	*↓P*		P		**14 34 35.5**	**-2.2**
WSI	**Waingapu**	**13.60**	**207**	P		Pn		**14 34 35.2**	**+1.9**
	11μm,1.0s,122μm103μm								
BASI	**Baing, Sumba**	**13.96**	**205**	P		Pn		**14 34 38.2**	**0.0**
	6μm,1.4s,78μm								
BALP	**Baler**	**13.97**	**340**	*eP*		Pn		**14 34 37.4**	**-0.8**
SBUM	**Sibu**	**14.22**	**270**	*ePn*		P		**14 34 44.4**	**-2.7**
PLAI	**Plampang**	**14.23**	**217**	P		Pn		**14 34 42.8**	**+1.1**
	25μm,0.8s,265μm115μm								
GENI	**Genyem**	**14.63**	**110**	P		Pn		**14 34 46.7**	**-0.2**
	3μm,1.1s,79μm112μm								
SCZP	**Santa Cruz**	**14.64**	**334**	*eP*		Pn		**14 34 46.1**	**-1.0**
TWSI	**Taliwang, Sumb**	**14.72**	**220**	P		Pn		**14 34 48.5**	**+0.4**
	11μm,1.3s,142μm								
CAUP	**Cauayan**	**15.02**	**343**	*eP*		Pn		**14 34 51.5**	**-0.4**
JAY	**Jayapura**	**15.11**	**109**	P		Pn		**14 34 51.2**	**-1.9**
	0.4nm,0.3s,baz=270,slow=20,SNR=30								
JAY	**Jayapura**	**15.11**	**109**	P		Pn		**14 34 52.1**	**-1.1**
	903nm,1.1s,16μm26μm								
STKI	**Sintang**	**15.17**	**261**	P		P		**14 34 57.2**	**-0.5**
	5μm,1.1s,95μm116μm								
BOLP	**Bolinao**	**15.18**	**335**	*eP*		Pn		**14 34 54.5**	**+0.4**
PBKI	**Pangkalan Bun**	**15.67**	**251**	P		Pn		**14 35 01.1**	**+0.7**
	3μm,1.1s,38μm142μm								
CVP	**Callao

QIZ LN
48µm,21.8s
QIZ LE
48µm,21.0s
QIZ LZ
31µm,20.5s
QIZ Qiongzhong 23.08 316 *e*P P **14 36 22.9 -0.8**
2µm,1.0s
KGM Kluang 23.12 269 ⇓P P **14 36 25.6 +1.4**
MCO Taipa Grande 23.15 328 P P **14 36 25.0 +0.7**
JMBI JAMBI 23.18 260 P P **14 36 26.2 +1.5**
7µm,1.6s,92µm
COEN Coen 23.32 135 *e*P P **14 36 22.2 -3.8**
2µm,1.4s
KASI Kota Agung 23.35 250 P P **14 36 23.6 -2.7**
3µm,1.0s,30µm47µm
QZH Quanzhou 23.52 342⇑ *i*P P 14 36 19.4 -8.4
QZH PP sP 14 36 53.4 +2.6
QZH S S 14 40 22.3 -15
QZH sS Sn 14 40 46.0 -16
QZH ScP **ScP** **14 43 47.5 +3.1**
QZH pmax pmax
comp=Z,10µm,1.9s
QZH pmax pmax
comp=Z,30µm,4.2s
QZH LR LR
comp=N,19µm,11.2s
QZH LR LR
comp=E,5µm,6.8s
QZH LR LR
comp=Z,98µm,35.3s
LWLI Liwa 23.60 251 P P **14 36 26.7 -2.1**
comp=Z,4µm,0.8s,comp=Z,35µm
SARN Sarigan 23.64 52 *e*P P **14 36 29.9 +0.9**
WRAB Tennant Creek 23.64 161*c i*P P **14 36 26.9 -2.0**
WRAB pmax pmax
comp=Z,3µm,0.8s
WRAB MLR MLR
comp=Z,40µm,19.0s
WRAB Tennant Creek 23.64 161 *e*P P **14 36 26.3 -2.7**
comp=Z,2µm,0.6s
WRA Warramunga Arr 23.65 161 P P **14 36 27.1 -1.9**
comp=Z,1µm,0.7s,baz=334,slow=11,SNR=1437
WRA S **S** **14 40 32.4 -6.6**
comp=Z,154nm,0.7s,baz=334,slow=14,SNR=6.2
WRA P3KPbc 15 09 43.9
comp=Z,1.1nm,0.8s,baz=159,slow=3.1,SNR=5.8
WB2 Warramunga Arr 23.65 161 *e*P P **14 36 26.6 -2.4**
comp=Z,2µm,0.6s
PMG Port Moresby 23.80 120 P P **14 36 28.5 -1.9**
comp=Z,100nm,0.8s,baz=2.3,slow=5.5,SNR=24
PMG Port Moresby 23.80 120*c i*P P **14 36 28.7 -1.7**
PMG pmax pmax
comp=Z,1µm,1.2s
PMG MLR MLR
comp=Z,96µm,18.0s
PMG Port Moresby 23.80 120 *e*P P **14 36 27.2 -3.2**
comp=Z,441nm,1.0s
GZH Guangzhou 24.05 329 P P **14 36 35.3 +2.7**
GZH S **S** **14 40 52.0 +6.6**
JOW Kunigami 24.21 4 *e*P P **14 36 35.6 +1.7**
comp=Z,2µm,0.9s
UBPT Khong Chiam 24.25 303 P P **14 36 34.2 -0.3**
comp=Z,2µm,2.1s,comp=Z,46µm
XMIS Christmas Isla 24.42 238 *e*P P **14 36 32.9 -3.1**
comp=Z,2µm,1.3s
MBWA Marble Bar 24.46 195 P P **14 36 35.7 -0.5**
SNR=54
MBWA Marble Bar 24.46 195 *e*P P **14 36 35.8 -0.5**
comp=Z,8.4nm,0.8s
MNAI Manna 24.46 254 P P **14 36 36.5 0.0**
comp=Z,4µm,1.0s,comp=Z,81µm
MNAI Manna 24.46 254 *e*P P **14 36 36.2 -0.2**
comp=Z,4µm,1.0s
KSI Kapahiang 24.63 256 P P **14 36 37.2 -0.9**
comp=Z,2µm,2.5s,comp=Z,54µmcomp=Z,83µm
SDSI Sungai Dareh 25.26 262 P P **14 36 43.0 -0.7**
comp=Z,514nm,2.6s,comp=Z,31µm
IPM Ipoh 25.45 275⇑P P **14 36 46.8 +1.3**
IPM Ipoh 25.45 275 *e*P P **14 36 45.0 -0.5**
comp=Z,1µm,1.4s
BKNI Bangkinang 25.50 265 P P **14 36 45.6 -0.3**
comp=Z,1µm,1.1s,comp=Z,22µmcomp=Z,44µm
BKNI Bangkinang 25.50 265 *e*P P **14 36 45.7 -0.3**
comp=Z,1µm,1.2s
KULM Kulim 25.89 277⇑P P **14 36 50.9 +1.5**
KULM Kulim 25.89 277 *e*P P **14 36 48.6 -0.8**
comp=Z,2µm,1.7s
PANO Nakornpanom 25.91 305 P P **14 36 49.3 -0.2**
comp=Z,1µm,1.4s,comp=Z,16µm
CHBT CHBT 25.94 294 P P **14 36 50.6 +0.7**
comp=Z,958nm,1.2s,comp=Z,17µm
SKLT Songkhla 26.14 281 P P **14 36 52.1 +0.4**
comp=Z,364nm,1.4s,comp=Z,10µm
PDSI Padang 26.21 263 P P **14 36 52.5 +0.1**
comp=Z,156nm,1.3s
PPI Padang Panjang 26.22 264 P P **14 36 51.4 -1.0**
comp=Z,465nm,2.1s,comp=Z,17µmcomp=Z,57µm
QIS Mount Isa 26.33 151 P P **14 36 52.0 -1.4**
baz=26,SNR=281
SKNT Sakolnakorn 26.33 304 P P **14 36 53.0 -0.4**
comp=Z,1µm,1.2s,comp=Z,16µm
RABL Rabaul 26.55 105 *e*P P **14 36 53.6 -1.8**
comp=Z,532nm,0.8s
SRAK Srakaew 26.67 297 P P **14 36 51.9 -4.5**
MNSI Mandailing Nat 26.92 267 P P **14 36 57.2 -1.5**
comp=Z,473nm,1.6s,comp=Z,13µmcomp=Z,38µm
PPSI Pulau Pagai 26.96 259 P P **14 36 56.8 -2.2**
comp=Z,1µm,1.7s,comp=Z,38µm
KHON Khomkaen 26.99 302 P P **14 36 59.6 +0.3**
comp=Z,424nm,0.9s,comp=Z,3µm
AS31 Alice Springs 27.04 165 *e*P P **14 36 58.1 -1.6**
comp=Z,272nm,0.6s
ASAR Alice Springs 27.04 165 P P **14 36 58.0 -1.8**
comp=Z,229nm,0.7s,baz=344,slow=6.8,SNR=995
ASAR S **S** **14 41 28.6 -4.3**
comp=Z,144nm,1.0s,baz=348,slow=22,SNR=8.8
ASAR P3KPbc 15 09 32.1
comp=Z,3.3nm,0.8s,baz=149,slow=3.1,SNR=7.2
ASAR Alice Springs 27.04 165 P P **14 36 58.0 -1.8**
ASAR S **S** **14 41 28.7 -4.3**
ASAR pmax pmax
comp=Z,198nm,0.5s
ASAR smax smax
comp=N,144nm,1.0s
MTSU Mount Surprise 27.05 140 P P **14 36 58.8 -1.0**
baz=27,SNR=140
AS01 Alice Springs 27.05 165 *e*P P **14 36 57.9 -1.9**
TRTT Trang 27.16 282 P P **14 37 01.9 +1.1**
comp=N,190nm,1.0s,comp=N,8µm
PATY Pattaya 27.34 294 P P **14 37 04.0 +1.6**
comp=N,62nm,0.8s
WRKA Warakurna 27.48 176 P P **14 37 02.8 -0.8**
baz=28,SNR=1000
PSI Prapat 27.50 271 *e*P P **14 37 03.1 -1.0**
PSI Prapat 27.50 271 *e*P P **14 37 03.0 -1.1**
comp=N,791nm,1.2s
CHAI Chaiyaphum 27.51 300 P P **14 37 03.7 -0.2**
comp=N,407nm,0.8s,comp=N,3µm
NONG Nongkai 27.57 306 P P **14 37 03.9 -0.6**
comp=N,931nm,1.3s,comp=N,11µm
GIRL Giralia 27.73 205 P P **14 37 06.9 +1.0**
baz=28,SNR=86
TSI Tuntungan 27.87 273 P P **14 37 06.8 -0.4**
comp=N,670nm,2.5s,comp=N,19µmcomp=N,55µm
SURT Suratani 28.23 284 P P **14 37 10.7 +0.2**
comp=N,119nm,0.7s,comp=N,3µm
PKDT Phuket 28.49 282 P P **14 37 13.4 +0.6**
comp=N,306nm,0.8s,comp=N,11µm
KCSI Kotacane, Aceh 28.66 273 P P **14 37 14.2 -0.1**
comp=N,360nm,1.6s,comp=N,9µm
PBKT Sadao Pong 28.68 301 P P **14 37 14.6 +0.3**
comp=N,436nm,1.5s,comp=N,6µm
CBIJ Chichi jima 28.69 30 *e*P P **14 37 13.9 -0.4**
comp=N,2µm,0.8s
JCJ Chichijima 28.69 30 P P **14 37 13.5 -0.8**
comp=N,430nm,0.7s,baz=181,slow=2.9,SNR=28
JCJ LR LR 14 47 58.5
comp=N,7µm,21.6s,baz=215,slow=35
SSE Sheshan 28.83 351 P P **14 37 16.6 +1.1**
SSE pP **pP** **14 37 25.3 -6.2**
SSE S **S** **14 42 06.8 +5.9**
SSE PMZ
comp=N,970nm,1.8s
SSE PMZ
comp=N,7µm,6.4s
SSE LN
comp=N,4µm,31.9s
SSE LE
comp=N,21µm,31.9s
SSE LZ
comp=N,12µm,37.1s
LOEI Loei 28.86 303 P P **14 37 12.9 -3.1**
comp=N,2µm,0.9s,comp=N,15µm
GSI Gunungsitoli 28.89 268 P P **14 37 14.7 -1.6**
comp=N,727nm,1.7s,comp=N,15µm
GSI Gunungsitoli 28.89 268 *e*P P **14 37 14.3 -2.0**
comp=N,818nm,1.1s
TPTI 29.25 272 P P **14 37 18.9 -0.6**
comp=N,223nm,0.8s,comp=N,8µm
LHMI Lhok Sumawe 29.56 276 P P **14 37 23.1 +0.9**
comp=N,713nm,0.8s,comp=N,16µm
LHMI Lhok Sumawe 29.56 276 *e*P P **14 37 22.6 +0.3**
comp=N,443nm,0.7s
UTTA Uttaradit 29.56 302 P P **14 37 22.4 +0.2**
comp=N,317nm,0.9s,comp=N,2µm
CTA Charters Tower 29.72 140 P P **14 37 22.3 -1.3**
comp=N,124nm,1.0s,baz=321,slow=11,SNR=54
CTA LR LR 14 49 41.6
comp=N,20µm,20.6s,baz=330,slow=37
CTA Charters Tower 29.72 140 P P **14 37 22.3 -1.3**
CTA pmax pmax
comp=Z,70nm,0.9s
CTA MLR MLR
comp=Z,20µm,20.6s
CTAO Charters Tower 29.72 140 *e*P P **14 37 22.9 -0.7**
CTAO Charters Tower 29.72 140 *e*P P **14 37 22.9 -0.7**
comp=Z,804nm,1.3s
MLSI Meulaboh, Aceh 30.05 274 P P **14 37 26.5 -0.1**
comp=Z,600nm,0.9s,comp=Z,10µm
KHLT Khaolaem Dam 30.07 296 P P **14 37 27.9 +1.2**
comp=Z,212nm,1.9s,comp=Z,3µm
WHN Wuhan 30.11 339⇑ *i*P P **14 37 27.4 +0.5**
WHN pP **pP** **14 37 35.5 -7.4**
WHN S **S** **14 42 19.8 -1.2**
WHN PMZ
comp=Z,1µm,1.0s
WHN PMZ
comp=Z,15µm,3.3s
WHN LN
comp=Z,18µm,11.6s
WHN LE
comp=Z,17µm,14.8s
WHN LZ
comp=Z,76µm,26.3s
NJ2 Nanjing 30.21 347 *e*P P **14 37 28.8 +1.1**
NJ2 pP **pP** **14 37 41.3 -2.4**
NJ2 S **S** **14 42 24.1 +1.6**
NJ2 sS **sS** **14 42 46.4 -3.5**
NJ2 ScP **ScP** **14 44 10.3 +6.1**
NJ2 PMZ
comp=Z,310nm,0.9s
NJ2 PMZ
comp=Z,7µm,10.0s
NJ2 LN
comp=Z,11µm,24.9s
NJ2 LE
comp=Z,14µm,21.7s
NJ2 LZ
comp=Z,16µm,20.6s
SUKH Sukhothai 30.23 301 P P **14 37 28.5 +0.4**
comp=Z,378nm,0.8s,comp=Z,2µm
UMPA Umpang Tak 30.36 298 P P **14 37 29.9 +0.6**
comp=Z,106nm,1.0s,comp=Z,1µm
GYA Guiyang 30.43 323⇑ *i*P P **14 37 30.3 +0.3**
GYA pP pP 14 37 45.8 -0.1
GYA PP **PnPn** **14 38 31.9 +0.8**
GYA PcP **PcP** **14 40 30.0 +1.7**
GYA S **S** **14 42 20.0 -6.5**
GYA sS sS 14 42 51.4 -2.4
GYA ScP **ScP** **14 44 06.8 +1.6**
GYA ScS **ScS** **14 48 02.0 +0.4**
GYA PMZ
comp=Z,160nm,1.2s
GYA PMZ
comp=Z,4µm,9.9s
GYA LN
comp=Z,14µm,19.4s
GYA LE
comp=Z,12µm,19.7s
GYA LZ
comp=Z,15µm,20.0s
JNU Nakatsue 30.70 7 P P **14 37 32.6 +0.5**
comp=Z,479nm,0.8s,baz=209,slow=3.5,SNR=219
JNU ScP **ScP** **14 44 05.2 -0.6**
comp=Z,25nm,0.9s,baz=156,slow=2.6,SNR=4.8
JNU Nakatsue 30.70 7 *e*P P **14 37 32.3 +0.2**
comp=Z,1µm,0.9s
JNU ScP **ScP** **14 44 05.2 -0.6**
LAMP Lampang 30.70 303 P P **14 37 32.8 +0.5**
comp=Z,322nm,0.9s,comp=Z,2µm
CM01 Chiang Mai Arr 31.22 302 *e*P P **14 37 37.0 +0.1**
CM31 Chiang Mai Arr 31.25 302 *e*P P **14 37 37.6 +0.4**
CMAR Chiang Mai Arr 31.25 302 P P **14 37 37.5 +0.4**
comp=Z,504nm,0.8s,baz=121,slow=7.3,SNR=731
CMAR PcP **PcP** **14 40 32.2 +1.7**
comp=Z,48nm,1.0s,baz=156,slow=1.6,SNR=4.6
CMAR ScP **ScP** **14 44 08.4 +0.4**
comp=Z,23nm,1.0s,baz=150,slow=2.5,SNR=6.8
CMAR LR LR 14 52 13.0
comp=Z,7µm,18.2s,baz=130,slow=40
CMAR Chiang Mai Arr 31.25 302 P P **14 37 37.6 +0.4**
CMAR 14 40 32.2
CMAR pmax pmax
comp=Z,504nm,0.8s
CMAR MLR MLR
comp=Z,7µm,18.3s
CMMT Chiang Mai 31.41 303 P P **14 37 38.5 0.0**
comp=Z,1µm,0.9s,comp=Z,14µm
CHTO Chiang Mai 31.41 303 P P **14 37 38.5 0.0**
comp=Z,6µm,0.9s,comp=Z,63µm
CHTO Chiang Mai 31.41 303 *e*P P **14 37 38.9 +0.3**
CHTO Chiang Mai 31.41 303 P P **14 37 38.7 +0.1**
SNR=175
CHTO P P **14 37 38.7 +0.1**
SNR=175
CHTO Chiang Mai 31.41 303 *e*P P **14 37 38.5 0.0**
comp=Z,1µm,0.8s
ENH Enshi 31.92 331 *e*P P **14 37 42.5 -0.4**
comp=Z,1µm,0.9s
KMI Kunming 32.03 317 P P **14 37 45.1 +0.9**
KMI PP **PnPn** **14 38 53.8 +2.0**
KMI PcP **PcP** **14 40 35.4 +2.7**
KMI S **S** **14 42 49.4 -2.3**
KMI sS sS 14 43 19.8 +0.7
KMI ScP **ScP** **14 44 11.5 +0.8**
KMI PcS **PcS** **14 44 20.0 +2.1**
KMI ScS **ScS** **14 48 10.5 +0.7**
KMI PMZ
comp=Z,1µm,1.5s
KMI PMZ
comp=Z,6µm,3.3s
KMI LN
comp=Z,13µm,17.2s
KMI LE
comp=Z,13µm,17.2s
KMI LZ
comp=Z,18µm,18.4s
CMBY CAMPBELL BAY 32.71 279 *e*P P **14 37 53.6 +3.7**
CMBY lAmb lAmb 14 38 00.2
comp=Z,206nm,0.4s
COCO West Island 32.87 243 *e*P P **14 37 50.7 -0.6**
COCO pmax pmax
comp=Z,1µm,1.4s
COCO West Island 32.87 243 *e*P P **14 37 50.7 -0.6**
comp=Z,1µm,1.4s
JHJ Hachijo jima 2 32.88 21 P P **14 37 51.5 +0.3**
comp=Z,456nm,0.7s,baz=192,slow=11,SNR=17
JHJ2 Mitsune 32.89 21 *e*P P **14 37 51.7 +0.5**
comp=Z,486nm,0.8s
MORW Morawa 32.98 197 P P **14 37 51.9 -0.3**
baz=33,SNR=41
TJN Taejon 33.68 1*c i*P P **14 37 59.0 +0.9**
KMBL Kambalda 34.00 187 P P **14 38 00.6 -0.4**
baz=34,SNR=89
INU Inuyama 34.08 16 *e*P P **14 38 02.0 +0.4**
comp=Z,1µm,0.9s
BLDU Ballidu 34.26 195 P P **14 38 02.6 -0.6**
baz=34,SNR=111
TIA Tai'an 34.59 347⇑P P **14 38 05.9 -0.2**
TIA PP **PnPn** **14 39 21.8 -1.8**
TIA S **S** **14 43 27.4 -3.3**
TIA SS **SnSn** **14 45 51.6 +2.9**
TIA PMZ
comp=Z,640nm,0.8s
TIA LN
comp=Z,12µm,20.2s
TIA LE
comp=Z,13µm,21.4s
TIA LZ
comp=Z,18µm,20.0s
PBA Port Blair 34.62 287 *e*P P 14 38 06.8 +0.3
PBA lAmb lAmb 14 38 09.7
comp=Z,128nm,0.5s
KS15 Wonju Array Si 34.75 2 *e*P **P** **14 38 08.4 +1.0**
KSAR Wonju Array Be 34.75 2 P **P** **14 38 07.9 +0.5**
KSAR 14 40 41.3
KSAR S S 14 43 43.4 +10
KSAR Wonju Array Be 34.75 2 P **P** **14 38 07.9 +0.5**
KSAR PcP **PcP** **14 40 41.3 +1.5**
KSAR S S 14 43 43.4 +10
KSAR ScP **ScP** **14 44 19.0 -0.7**
KSRS Korea Array 34.77 2 P **P** **14 38 07.9 +0.4**
comp=Z,159nm,0.6s,baz=222,slow=32,SNR=4.2
KSRS PcP **PcP** **14 40 41.3 +1.5**
comp=Z,22nm,0.8s,baz=198,slow=2.3,SNR=4.3
KSRS S S 14 43 43.4 +10
comp=Z,18nm,1.2s,baz=174,slow=13,SNR=5.3
KSRS ScP **ScP** **14 44 19.0 -0.7**
comp=Z,22nm,0.9s,baz=189,slow=3.9,SNR=6.0
INCN Inchon 34.77 0 P **P** **14 38 08.7 +1.1**
SNR=56
INCN P **P** **14 38 08.7 +1.1**
SNR=56
INCN Inchon 34.77 0 *e*P **P** **14 38 08.9 +1.3**
comp=Z,352nm,0.8s
KS01 Wonju Array Si 34.79 2 *e*P **P** **14 38 08.3 +0.6**
DGPR DIGLIPUR 34.80 290 *e*P **P** **14 38 07.7 -0.4**
DGPR lAmb lAmb 14 38 16.0
comp=Z,121nm,1.0s
KLBR Kellerberrin 34.94 193 P **P** **14 38 08.9 -0.2**
baz=35,SNR=147
XAN Xi'an 35.35 334 P **P** **14 38 11.6 -1.1**
XAN sP pP 14 38 28.3 -0.6
XAN PMZ
comp=Z,1µm,1.3s
XAN PMZ
comp=Z,4µm,13.6s
XAN LN
comp=Z,16µm,24.2s
XAN LE
comp=Z,18µm,24.7s
XAN LZ
comp=Z,12µm,20.8s
HNR Honiara 35.43 110 P **P** **14 38 11.5 -2.1**
comp=Z,210nm,0.8s,baz=175,slow=5.9,SNR=7.9
HNR LR LR 14 51 47.1
comp=Z,7µm,19.2s,baz=293,slow=35
HNR Honiara 35.43 110 *e*P **P** **14 38 12.0 -1.5**
HNR *e*S **S** **14 43 42.0 -2.0**
HNR Honiara 35.43 110 *e*P **P** **14 38 10.8 -2.7**
comp=Z,1µm,1.4s
CD2 Chengdu 35.44 325⇑ *i*P **P** **14 38 13.0 -0.5**
CD2 PP **PnPn** **14 39 34.3 +0.1**
CD2 S **S** **14 43 38.8 -5.2**
CD2 PMZ
comp=Z,1µm,0.8s
CD2 LN
comp=Z,21µm,13.4s
CD2 LE
comp=Z,20µm,15.9s
CD2 LZ
comp=Z,15µm,15.9s
MAJO Matsushiro 35.53 16*c i*P **P** **14 38 13.8 -0.3**
MAJO pmax pmax
comp=Z,3µm,1.0s
MAJO MLR MLR
comp=Z,71µm,20.0s
MAJO Matsushiro 35.53 16 *e*P **P** **14 38 13.3 -0.8**
comp=Z,753nm,1.0s
MAT Matsushiro 35.53 16 P **P** **14 38 13.6 -0.5**
MAT S **S** **14 43 42.7 -2.4**
MJAR Matsushiro Arr 35.53 16 P **P** **14 38 13.6 -0.5**
comp=Z,342nm,0.9s,baz=189,slow=9.5,SNR=373
MJAR ScP **ScP** **14 44 22.1 -0.5**
comp=Z,22nm,0.9s,baz=197,slow=4.1,SNR=5.9
MJAR LR LR 14 51 48.8
comp=Z,8µm,20.9s,baz=185,slow=34
MJAR Matsushiro Arr 35.53 16 P **P** **14 38 13.6 -0.5**
MJAR pmax pmax
comp=Z,296nm,0.8s
MJAR MLR MLR
comp=Z,8µm,20.9s
MJB9 Matsu-Tunnel 35.53 16 *e*P **P** **14 38 13.4 -0.7**
comp=Z,183nm,1.0s
RMQ Roma 36.02 145 P **P** **14 38 17.1 -1.4**
baz=36,SNR=120
BBOO Buckleboo 36.32 166 P **P** **14 38 19.9 -1.1**
baz=36,SNR=397
BBOO Buckleboo 36.32 166 *e*P **P** **14 38 19.3 -1.6**
comp=Z,2µm,1.5s
NWAO Narrogin (SRO) 36.34 193 P **P** **14 38 20.6 -0.5**
comp=Z,127nm,0.6s,baz=256,slow=8.9,SNR=76
NWAO Narrogin (SRO) 36.34 193 P **P** **14 38 21.1 +0.1**
baz=36,SNR=88
NWAO Narrogin (SRO) 36.34 193 P **P** **14 38 21.2 +0.1**
SNR=15
NWAO Narrogin (SRO) 36.34 193 *e*P **P** **14 38 20.7 -0.4**
comp=Z,1µm,1.3s
DL2 Dalian 36.46 354⇑ *i*P **P** **14 38 23.4 +1.4**
DL2 S **S** **14 43 58.3 -0.8**
DL2 PMZ
comp=Z,10µm,4.5s
DL2 LE
comp=Z,22µm,20.6s
DL2 LZ
comp=Z,20µm,15.9s
EIDS Eidsvold 36.60 141 P **P** **14 38 22.0 -1.4**
baz=37,SNR=157
EIDS Eidsvold 36.60 141 *e*P **P** **14 38 21.6 -1.8**
comp=Z,318nm,0.8s
STKA Stephens Creek 37.13 158 P **P** **14 38 26.5 -1.3**
comp=Z,389nm,0.7s,baz=331,slow=8.7,SNR=526
STKA S **S** **14 44 04.7 -4.9**
comp=Z,32nm,0.8s,baz=141,slow=18,SNR=3.0
STKA Stephens Creek 37.13 158 P **P** **14 38 26.8 -1.0**
baz=37,SNR=762
STKA Stephens Creek 37.13 158 *e*P **P** **14 38 26.3 -1.5**
comp=Z,112nm,0.8s
STKA S **S** **14 44 04.7 -4.9**
TIY Taiyuan 37.29 342 *e*P **P** **14 38 29.0 -0.2**
TIY PP **PnPn** **14 39 57.9 +1.2**
TIY S **S** **14 44 13.5 +1.4**
TIY PMZ
comp=Z,290nm,0.8s
TIY PMZ
comp=Z,5µm,4.4s
TIY LN
comp=Z,10µm,17.6s
TIY LE
comp=Z,8µm,15.3s
TIY LZ
comp=Z,16µm,21.8s
HTT Hallett 37.67 163 P **P** **14 38 31.6 -0.8**
baz=38,SNR=291
RKGY Rocky Gully 38.02 193 P **P** **14 38 36.4 +1.2**
baz=38,SNR=78
BJT Baijiatuau 38.45 347 *e*P **P** **14 38 39.3 +0.5**
BJT Baijiatuau 38.45 347 *e*P **P** **14 38 39.3 +0.5**
BJI Beijing 38.47 347 P **P** **14 38 39.5 +0.5**
BJI S **S** **14 44 26.9 -2.7**
BJI PMZ
comp=Z,2µm,1.3s
BJI LN
comp=Z,8µm,21.8s
BJI LE
comp=Z,6µm,19.0s
BJI LZ
comp=Z,9µm,29.6s
CMSA Cobar Meteorol 38.52 153 P **P** **14 38 38.5 -1.0**
baz=38,SNR=347
H01W3 Cape Leeuwin H 38.99 196 P **P** **14 38 44.9 +1.8**
baz=34,slow=6.6,SNR=9.9
H01W1 Cape Leeuwin H 38.99 196 P **P** **14 38 46.2 +3.0**
baz=34,slow=6.6,SNR=10
H01W2 Cape Leeuwin H 39.00 196 P **P** **14 38 45.3 +2.1**
baz=34,slow=6.6,SNR=8.0
SNY Shenyang 39.19 357⇑P **P** **14 38 45.9 +0.9**
SNY S **S** **14 44 41.4 +0.9**

SNY					SS	**SS**	**14 47 34.0**	**-1.9**		
SNY					PMZ					
	comp=Z,840nm,1.9s									
SNY					PMZ					
	comp=Z,3µm,13.5s									
SNY					LN					
	comp=Z,10µm,15.7s									
SNY					LE					
	comp=Z,19µm,23.5s									
SNY					LZ					
	comp=Z,14µm,34.3s									
LZH	**Lanzhou**	**39.39**	**331**	*eP*		**P**	**14 38 47.8**	**+0.8**		
LZH				pP		pP	14 38 59.0	-4.3		
LZH				sP		sP	14 39 02.8	-8.2		
LZH				PP		**PnPn**	**14 40 23.1**	**+1.2**		
LZH				*e*S		**S**	**14 44 41.4**	**-2.5**		
LZH				PMZ						
	comp=Z,4µm,1.4s									
LZH				PMZ						
	comp=Z,8µm,4.0s									
LZH				LN						
	comp=Z,5µm,13.6s									
LZH				LE						
	comp=Z,9µm,14.0s									
LZH				LZ						
	comp=Z,9µm,14.5s									
MSHR	**Mys Shultsa**	**40.08**	**5**	*c iP*		**P**	**14 38 53.9**	**+1.5**		
SHL	**Shillong**	**40.37**	**308**	⇑*iP*		**P**	**14 38 55.5**	**+0.2**		
SHL				*ex*		x	14 44 54.5			
HHC	**Hu-ho-hao-te**	**40.44**	**343**	⇑*iP*		**P**	**14 38 55.9**	**+0.4**		
HHC				PP		**PP**	**14 40 31.0**	**+1.2**		
HHC				S		**S**	**14 45 01.9**	**+2.5**		
HHC				SS		**SS**	**14 48 01.0**	**+0.1**		
HHC				PMZ						
	comp=Z,320nm,1.5s									
HHC				PMZ						
	comp=Z,9µm,4.9s									
HHC				LN						
	comp=Z,12µm,22.4s									
HHC				LE						
	comp=Z,6µm,18.7s									
HHC				LZ						
	comp=Z,12µm,18.7s									
ARMA	**Armidale**	**40.64**	**146**	P		**P**	**14 38 57.4**	**0.0**		
	baz=41,SNR=324									
ARMA	**Armidale**	**40.64**	**146**	*eP*		**P**	**14 38 57.3**	**0.0**		
	comp=Z,676nm,0.8s									
VLA	**Vladivostok**	**40.69**	**6**	*c iP*		**P**	**14 38 58.6**	**+1.2**		
VLA				pmax		pmax				
	comp=Z,712nm,1.4s									
VLA				MLR		MLR				
	comp=Z,9µm,20.0s									
BTO	**Baotou**	**40.70**	**341**	*eP*		**P**	**14 38 57.5**	**-0.2**		
CN2	**Changchun**	**41.09**	**359**	*eP*		**P**	**14 39 00.3**	**-0.4**		
CN2				PP		**PP**	**14 40 38.8**	**+2.1**		
CN2				*e*S		**S**	**14 45 11.9**	**+3.1**		
CN2				SS		**SS**	**14 48 07.3**	**-6.4**		
CN2				PMZ						
	comp=Z,6µm,4.0s									
CN2				LN						
	comp=Z,3µm,19.0s									
CN2				LE						
	comp=Z,6µm,19.0s									
CN2				LZ						
	comp=Z,4µm,19.0s									
ARPS	**Mount Arapiles**	**41.66**	**161**	P		**P**	**14 39 05.1**	**-0.3**		
	baz=42,SNR=287									
USRK	**Ussuriysk Ar.**	**41.77**	**6**	P		**P**	**14 39 06.7**	**+0.4**		
	comp=Z,375nm,0.8s,baz=189,slow=6.9,SNR=448									
MDJ	**Mudanjiang**	**41.99**	**3**	P		**P**	**14 39 10.5**	**+2.5**		
MDJ				pP		pP	14 39 24.6	+0.1		
MDJ				sP		sP	14 39 29.8	-2.4		
MDJ				PP		**PnPn**	**14 40 49.5**	**-2.5**		
MDJ				S		**S**	**14 45 24.9**	**+2.9**		
MDJ				PMZ						
	comp=Z,450nm,1.2s									
MDJ				PMZ						
	comp=Z,6µm,6.2s									
MDJ				LN						
	comp=Z,9µm,37.4s									
MDJ				LE						
	comp=Z,4µm,27.6s									
MDJ				LZ						
	comp=Z,10µm,33.5s									
MDJ	**Mudanjiang**	**41.99**	**3**	*eP*		**P**	**14 39 08.8**	**+0.8**		
	comp=Z,647nm,1.0s									
ERM	**Erimo**	**42.06**	**19**	*d iP*		**P**	**14 39 09.9**	**+1.3**		
ERM				pmax		pmax				
	comp=Z,538nm,1.7s									
ERM				MLR		MLR				
	comp=Z,10µm,20.0s									
ERM	**Erimo**	**42.06**	**19**	*eP*		**P**	**14 39 10.1**	**+1.5**		
	comp=Z,799nm,1.3s									
YNG	**Young**	**42.06**	**152**	P		**P**	**14 39 08.8**	**-0.1**		
	baz=42,SNR=53									
H11S3	**WAKE ISLAND Hy**	**42.47**	**65**	T		T	15 26 13.6			
	baz=253,slow=75,SNR=35									
H11S1	**WAKE ISLAND Hy**	**42.48**	**65**	T		T	15 26 13.0			
	baz=253,slow=75,SNR=35									
H11S2	**WAKE ISLAND Hy**	**42.48**	**65**	T		T	15 26 30.4			
	baz=253,slow=75,SNR=19									
MGCD	**Mangrove Creek**	**42.51**	**149**	P		**P**	**14 39 12.9**	**+0.4**		
	baz=42,SNR=26									
H11N1	**WAKE ISLAND Hy**	**43.02**	**64**	T		T	15 27 04.3			
	baz=252,slow=75,SNR=5.1									
LSA	**Lhasa**	**43.02**	**313**	P		**P**	**14 39 18.0**	**+0.7**		
LSA				sP		**pP**	**14 39 30.6**	**-3.2**		
LSA				S		**S**	**14 45 34.8**	**-3.8**		
LSA				PMZ						
	comp=Z,3µm,4.6s									
LSA				LN						
	comp=Z,8µm,22.0s									
LSA				LE						
	comp=Z,7µm,25.4s									
LSA				LZ						
	comp=Z,10µm,26.6s									
LSA	**Lhasa**	**43.02**	**313**	*eP*		**P**	**14 39 17.7**	**+0.5**		
LSA				pmax		pmax				
	comp=Z,697nm,0.8s									
LSA	**Lhasa**	**43.02**	**313**	*eP*		**P**	**14 39 17.7**	**+0.5**		
	comp=Z,697nm,0.8s									
H11N3	**WAKE ISLAND Hy**	**43.03**	**64**	T		T	15 26 56.2			
	baz=261,slow=75,SNR=17									
CAN	**Canberra**	**43.19**	**153**	*eP*		**P**	**14 39 17.9**	**0.0**		
CAN				pmax		pmax				
	comp=Z,441nm,1.0s									
CAN	**Canberra**	**43.19**	**153**	*eP*		**P**	**14 39 17.9**	**0.0**		
	comp=Z,441nm,1.0s									
CNB	**Canberra Magne**	**43.35**	**152**	P		**P**	**14 39 19.5**	**+0.2**		
	baz=43,SNR=35									
BWNR	**Bhubaneshwar**	**43.39**	**297**	*eP*		**P**	**14 39 20.4**	**+0.6**		
BWNR				IAmb		IAmb	14 39 22.2			
	comp=Z,2µm,1.8s									
TOO	**Toolangi**	**43.65**	**158**	P		**P**	**14 39 22.0**	**+0.4**		
	baz=44,SNR=46									
ASAJ	**Asahikawa**	**43.80**	**17**	P		**P**	**14 39 23.7**	**+1.0**		
	comp=Z,327nm,0.8s,baz=238,slow=11,SNR=178									
ASAJ	**Asahikawa**	**43.80**	**17**	*eP*		**P**	**14 39 23.8**	**+1.1**		
	comp=Z,2µm,1.5s									
GTA	**Gaotai**	**43.97**	**330**	⇑P		**P**	**14 39 24.1**	**-0.2**		
GTA				pP		pP	14 39 36.9	-4.1		
GTA				sP		sP	14 39 42.8	-5.8		
GTA				PcP		**PcP**	**14 41 11.3**	**+2.1**		
GTA				ScP		**ScP**	**14 44 56.0**	**+0.6**		
GTA				PcS		**PcS**	**14 45 03.4**	**+1.1**		
GTA				S		**S**	**14 45 52.8**	**+1.2**		
GTA				sS		sS	14 46 13.3	-6.5		
GTA				SS		**SS**	**14 49 01.3**	**-9.3**		
GTA				ScS		**ScS**	**14 49 16.0**	**-1.3**		
GTA				PMZ						
	comp=Z,350nm,2.1s									
GTA				PMZ						
	comp=Z,6µm,5.2s									
GTA				LN						
	comp=Z,16µm,22.8s									
GTA				LE						
	comp=Z,14µm,22.8s									
GTA				LZ						
	comp=Z,11µm,20.0s									
CHLP	**Challavanipeta**	**44.44**	**294**	*eP*		**P**	**14 39 28.3**	**+0.1**		
CHLP				IAmb		IAmb	14 39 30.3			
	comp=Z,856nm,1.3s									
CHLP				*e*ScP		**ScP**	**14 44 57.3**	**-0.2**		
CHLP				*e*S		**S**	**14 45 54.5**	**-4.1**		
CHLP				IVMs_BB		IVMs_BB	14 59 05.2			
	comp=Z,3µm,21.6s									
BOK	**Bokaro**	**44.53**	**302**	*eP*		**P**	**14 39 30.0**	**+1.1**		
BOK				IAmb		IAmb	14 39 31.5			
	comp=Z,928nm,1.2s									
MILA	**Mila**	**44.70**	**154**	P		**P**	**14 39 30.6**	**+0.6**		
	baz=45,SNR=18									
YUK	**Yuzh-Kuril'sk**	**44.75**	**20**	*i* P		**P**	**14 39 31.7**	**+1.4**		
VIS	**Vishakhapatnam**	**44.90**	**293**	*eP*		**P**	**14 39 32.9**	**+1.0**		
RAMN	**Ramite**	**45.22**	**306**	*eP*		**P**	**14 39 34.7**	**+0.1**		
PALK	**Pallekele**	**45.81**	**278**	P		**P**	**14 39 39.8**	**+0.6**		
	comp=Z,32nm,0.7s,baz=116,slow=7.3,SNR=15									
PALK				LR		LR	15 00 15.5			
	comp=Z,9µm,22.0s,baz=116,slow=38									
PALK	**Pallekele**	**45.81**	**278**	*i* P		**P**	**14 39 37.9**	**-1.3**		
	SNR=7.9									
PALK	**Pallekele**	**45.81**	**278**	*eP*		**P**	**14 39 39.4**	**+0.2**		
	comp=Z,812nm,1.9s									
DZM	**Mont Dzumac**	**46.09**	**124**	*eP*		**P**	**14 39 40.3**	**-1.1**		
	comp=Z,620nm,1.3s									
DZM				*e*S		**S**	**14 46 17.5**	**-5.1**		
	comp=Z,10µm,32.4s									
DZM				*e*LQ		LQ	14 50 43.6			
	comp=Z,30µm,26.9s									
DZM				*e*LR		LR	14 52 43.6			
	comp=Z,29µm,31.9s									
DZM	**Mont Dzumac**	**46.09**	**124**	P		**P**	**14 39 41.0**	**-0.4**		
	comp=Z,117nm,0.9s,baz=290,slow=7.3,SNR=88									
DZM				LR		LR	15 00 15.2			
	comp=Z,7µm,20.5s,baz=316,slow=38									
DZM	**Mont Dzumac**	**46.09**	**124**	*eP*		**P**	**14 39 40.0**	**-1.4**		
	comp=Z,256nm,1.1s									
GUN	**Gumba**	**46.21**	**307**	*eP*		**P**	**14 39 42.4**	**-0.1**		
	comp=Z,2µm,0.7s									
HABR	**Khabarovsk**	**46.35**	**8**	*c iP*		**P**	**14 39 42.0**	**-0.8**		
HABR				*e**SP		**pP**	**14 39 55.4**	**-4.1**		
HABR				*e*			14 41 15.7			
HABR				*e*			14 41 31.3			
HABR				*e*PPP		PPP	14 42 14.2			
HABR				*e*S		**S**	**14 46 28.6**	**+3.3**		
HABR				*e**SS		sS	14 46 44.7	-9.0		
HABR				*e*			14 49 33.5			
HABR				*e*SSS		SSS	14 50 52.8			
HABR				pmax		pmax				
	comp=N,180nm,0.9s									
HABR				pmax		pmax				
	comp=E,94nm,0.9s									
HABR				pmax		pmax				
	comp=Z,610nm,0.9s									
HABR				pmax		pmax				
	comp=Z,8µm,3.1s									
HABR				MLR		MLR				
	comp=Z,8µm,17.0s									
PVM	**Polavaram**	**46.37**	**291**	*eP*		**P**	**14 39 43.9**	**+0.4**		
PVM				IAmb		IAmb	14 39 45.3			
	comp=Z,331nm,0.9s									
PVM				*e*ScP		**ScP**	**14 45 04.7**	**-0.9**		
PVM				*e*S		**S**	**14 46 22.9**	**-3.6**		
PVM				IVMs_BB		IVMs_BB	14 59 08.1			
	comp=Z,2µm,19.2s									
PKIN	**Phulchoki**	**46.45**	**306**	*eP*		**P**	**14 39 43.7**	**-0.6**		
	comp=Z,1µm,1.2s									
YSS	**Yuzh-Sakhalins**	**46.45**	**15**	*α iP*		**P**	**14 39 44.4**	**+0.8**		
YSS				*e*			14 40 10.0			
YSS				*e*			14 41 18.0			
YSS				*i* S		**S**	**14 46 26.6**	**-0.2**		
YSS				*e*SS		**ScS**	**14 49 27.0**	**-5.5**		
YSS				pmax		pmax				
	comp=Z,410nm,0.9s									
YSS				pmax		pmax				
	comp=Z,4µm,5.0s									
YSS				smax		smax				
	comp=E,7µm,14.0s									
YSS				MLR		MLR				
	comp=Z,8µm,20.0s									
YSS				MLR		MLR				
	comp=N,5µm,19.0s									
YSS				MLR		MLR				
	comp=E,6µm,18.0s									
YSS	**Yuzh-Sakhalins**	**46.45**	**15**	*eP*		**P**	**14 39 44.0**	**+0.4**		
	comp=E,2µm,1.6s									
TARA	**Tarawa**	**46.45**	**91**	*eP*		**P**	**14 39 43.7**	**-0.5**		
	comp=E,636nm,1.3s									
KUR	**Kuril'sk**	**46.50**	**21**	*i* P		**P**	**14 39 44.9**	**+0.9**		
KUR				*e*			14 41 33.0			
KUR				*i* S		**S**	**14 46 28.1**	**+0.6**		
KUR				pmax		pmax				
	comp=N,231nm,1.2s									
KUR				pmax		pmax				
	comp=E,114nm,1.2s									
KUR				pmax		pmax				
	comp=Z,645nm,1.2s									
KUR				pmax		pmax				
	comp=Z,3µm,5.1s									
KKN	**Kakani**	**46.63**	**307**	*eP*		**P**	**14 39 45.1**	**-0.6**		
	comp=Z,1µm,0.9s									
KKN	**Kakani**	**46.63**	**307**	*eP*		**P**	**14 39 45.4**	**-0.3**		
	comp=Z,1µm,0.9s									
DMN	**Daman**	**46.70**	**306**	*eP*		**P**	**14 39 45.8**	**-0.5**		
	comp=Z,4µm,1.3s									
KLR	**Kul'dur**	**46.73**	**5**	P		**P**	**14 39 46.5**	**+0.6**		
	comp=Z,274nm,1.1s,baz=207,slow=5.4,SNR=357									
KLR				LR		LR	15 01 13.0			
	comp=Z,6µm,18.8s,baz=170,slow=38									
MDRS	**Chennai**	**46.88**	**285**	*eP*		**P**	**14 39 48.9**	**+1.4**		
HIA	**Hailar**	**46.90**	**354**	*c iP*		**P**	**14 39 48.3**	**+1.1**		
HIA				pmax		pmax				
	comp=Z,891nm,1.4s									
HIA	**Hailar**	**46.90**	**354**	*eP*		**P**	**14 39 48.1**	**+0.9**		
	comp=Z,2µm,1.4s									
GKN	**Gorkha**	**47.24**	**307**	*eP*		**P**	**14 39 49.9**	**-0.5**		
	comp=Z,4µm,1.3s									
SKHT	**Srikalahasti**	**47.50**	**286**	*eP*		**P**	**14 39 52.4**	**0.0**		
SKHT				IAmb		IAmb	14 39 54.2			
	comp=Z,525nm,1.0s									
SKHT				*e*ScP		**ScP**	**14 45 09.1**	**-1.3**		
SKHT				*e*S		**S**	**14 46 38.3**	**-4.3**		
SKHT				IVMs_BB		IVMs_BB	15 00 42.6			
	comp=Z,4µm,22.3s									
ADKI	**Addanki**	**47.62**	**289**	*eP*		**P**	**14 39 53.7**	**+0.4**		
ADKI				IAmb		IAmb	14 39 55.0			
	comp=Z,338nm,0.9s									
ADKI				*e*ScP		**ScP**	**14 45 10.4**	**-0.4**		
ADKI				*e*S		**S**	**14 46 40.2**	**-4.2**		
ADKI				IVMs_BB		IVMs_BB	15 01 50.9			
	comp=Z,3µm,20.8s									
KOLN	**Koldanda**	**47.98**	**306**	*eP*		**P**	**14 39 56.1**	**-0.1**		
	comp=Z,2µm,0.8s									
ULN	**Ulaanbaatar**	**48.16**	**343**	*c iP*		**P**	**14 39 57.5**	**+0.4**		
ULN				pmax		pmax				
	comp=Z,1µm,1.7s									
ULN	**Ulaanbaatar**	**48.16**	**343**	P		**P**	**14 39 57.6**	**+0.5**		
	SNR=741									
ULN	**Ulaanbaatar**	**48.16**	**343**	*eP*		**P**	**14 39 57.2**	**+0.1**		
	comp=Z,1µm,1.4s									
SONM	**Songino Array**	**48.33**	**342**	P		**P**	**14 39 58.7**	**+0.3**		
	comp=Z,175nm,0.8s,baz=158,slow=7.6,SNR=494									
SONM				LR		LR	15 02 31.8			
	comp=Z,14µm,20.6s,baz=154,slow=39									
SONM				PKP2bc			15 11 11.9			
	comp=Z,3.0nm,1.1s,baz=232,slow=2.5,SNR=5.6									
SONM	**Songino Array**	**48.33**	**342**	P		**P**	**14 39 58.7**	**+0.3**		
SONM				pmax		pmax				
	comp=Z,174nm,0.8s									
SONM				MLR		MLR				
	comp=Z,14µm,20.6s									
SONA1	**Songino Array**	**48.34**	**342**	*eP*		**P**	**14 39 58.2**	**-0.3**		
NJS	**Nagarjunasagar**	**48.39**	**290**	*eP*		**P**	**14 39 59.0**	**-0.3**		
NJS				IAmb		IAmb	14 40 00.4			
	comp=Z,396nm,0.8s									
NJS				*e*ScP		**ScP**	**14 45 12.3**	**-1.8**		
NJS				*e*S		**S**	**14 46 50.6**	**-4.6**		
NJS				IVMs_BB		IVMs_BB	15 01 57.2			
	comp=Z,2µm,14.4s									
RCLA	**Racherla**	**48.51**	**288**	*eP*		**P**	**14 39 59.7**	**-0.4**		
RCLA				IAmb		IAmb	14 40 01.6			
	comp=Z,606nm,0.9s									
RCLA				*e*ScP		**ScP**	**14 45 13.7**	**-1.0**		
RCLA				*e*S		**S**	**14 46 51.8**	**-5.2**		
RCLA				IVMs_BB		IVMs_BB	15 03 57.4			
	comp=Z,3µm,18.0s									
MOO	**Moorlands**	**48.55**	**160**	P		**P**	**14 40 00.4**	**+0.4**		
	baz=49,SNR=20									
PYUN	**Piuthan**	**48.61**	**306**	*eP*		**P**	**14 40 01.0**	**0.0**		
	comp=Z,5µm,1.3s									
SRLM	**Srisailam**	**48.69**	**289**	*eP*		**P**	**14 40 01.2**	**-0.4**		
SRLM				IAmb		IAmb	14 40 02.6			
	comp=Z,443nm,0.8s									
SRLM				*e*ScP		**ScP**	**14 45 14.7**	**-0.7**		
SRLM				*e*S		**S**	**14 46 53.7**	**-5.9**		
SRLM				IVMs_BB		IVMs_BB	14 57 31.3			
	comp=Z,2µm,12.1s									
RPR	**Rampur**	**48.90**	**293**	*eP*		**P**	**14 40 03.0**	**-0.1**		
RPR				IAmb		IAmb	14 40 04.5			
	comp=Z,528nm,0.8s									
RPR				*e*ScP		**ScP**	**14 45 14.9**	**-1.3**		
RPR				*e*S		**S**	**14 46 58.3**	**-4.0**		
RPR				IVMs_BB		IVMs_BB	15 02 10.8			
	comp=Z,3µm,19.5s									
TAU	**Tasmania Unive**	**49.01**	**160**	*eP*		**P**	**14 40 03.7**	**+0.2**		
TAU				pmax		pmax				
	comp=Z,402nm,1.5s									
TAU	**Tasmania Unive**	**49.01**	**160**	*eP*		**P**	**14 40 03.7**	**+0.2**		
	comp=Z,402nm,1.5s									
HYB	**Hyderabad**	**49.27**	**291**	⇑*iP*		**P**	**14 40 06.0**	**0.0**		
	comp=Z,280nm,1.0s									
HYB				*e*pP		**pP**	**14 40 23.0**	**+0.1**		
HYB				*e*PP		**PP**	**14 42 00.0**	**-0.5**		
HYB				*e*PPP		PPP	14 42 47.0			
HYB				*e*S		**S**	**14 47 07.0**	**-0.7**		
HYB				*e*ScS		**ScS**	**14 49 50.0**	**-2.5**		
HYB	**Hyderabad**	**49.27**	**291**	*eP*		**P**	**14 40 06.3**	**+0.3**		
HYBB	**Hyderabad (bro**	**49.27**	**291**	*eP*		**P**	**14 40 05.8**	**-0.2**		
HYBB				IAmb		IAmb	14 40 07.1			
	comp=Z,712nm,0.9s									
HYBB				*e*ScP		**ScP**	**14 45 16.7**	**-1.2**		
HYBB				*e*S		**S**	**14 47 02.5**	**-5.2**		
HYBB				IVMs_BB		IVMs_BB	14 58 49.9			
	comp=Z,2µm,21.9s									
TRD	**Trivandrum**	**49.59**	**279**	*eP*		**P**	**14 40 08.4**	**0.0**		
NGP	**Nagpur**	**49.69**	**296**	*eP*		**P**	**14 40 09.2**	**+0.1**		
NGP				IAmb		IAmb	14 40 11.0			
	comp=Z,1µm,1.5s									
NGP				*ex*		x	14 47 07.8			
SRSP	**Sriramsagar**	**49.79**	**293**	*eP*		**P**	**14 40 09.6**	**-0.3**		
SRSP				IAmb		IAmb	14 40 11.0			
	comp=Z,468nm,0.9s									
SRSP				*e*ScP		**ScP**	**14 45 18.7**	**-1.4**		
SRSP				*e*S		**S**	**14 47 10.1**	**-4.8**		
SRSP				IVMs_BB		IVMs_BB	14 57 47.1			
	comp=Z,2µm,33.4s									
TYV	**Tymovskoe**	**50.05**	**13**	*eP*		**P**	**14 40 12.0**	**+0.7**		
TYV				*e*S		**S**	**14 47 15.5**	**-2.0**		
TYV				pmax		pmax				
	comp=Z,253nm,0.8s									
TYV				smax		smax				
	comp=E,13µm,12.0s									
TYV				smax		smax				
	comp=N,3µm,3.5s									
TYV				MLR		MLR				
	comp=N,6µm,18.0s									
TYV				MLR		MLR				
	comp=Z,4µm,18.0s									
CIT	**Chita**	**50.48**	**350**	*eP*		**P**	**14 40 16.3**	**+1.7**		
CIT				*e*			14 40 26.9			
CIT				*e*			14 40 40.5			
CIT				*e*			14 41 29.8			
CIT				*e*S		**S**	**14 47 23.7**	**+0.2**		
CIT				pmax		pmax				
	comp=Z,5µm,1.6s									
NFK	**Norfolk Island**	**50.65**	**131**	P		**P**	**14 40 17.2**	**+0.9**		
	baz=51,SNR=4.6									
KLRI	**Killari**	**51.22**	**291**	*eP*		**P**	**14 40 20.1**	**-0.7**		
KLRI				IAmb		IAmb	14 40 21.6			
	comp=Z,803nm,0.7s									
KLRI				*e*ScP		**ScP**	**14 45 24.1**	**-2.2**		
KLRI				*e*S		**S**	**14 47 28.9**	**-6.0**		
KLRI				IVMs_BB		IVMs_BB	14 59 42.9			
	comp=Z,2µm,29.3s									
LGTI	**Lohaghat**	**51.35**	**306**	*eP*		**P**	**14 40 21.4**	**-0.1**		
PTH	**Pithoragarh**	**51.41**	**306**	*eP*		**P**	**14 40 20.9**	**-1.3**		
PTH				*ex*		x	14 47 33.3			
ZAK	**Zakamensk**	**51.55**	**341**	*eP*		**P**	**14 40 22.5**	**-0.3**		
ZAK				pmax		pmax				
	comp=Z,221nm,1.8s									
BHPL	**Bhopal**	**51.70**	**298**	*eP*		**P**	**14 40 24.2**	**-0.1**		
BHPL				IAmb		IAmb	14 40 26.0			
	comp=Z,707nm,0.7s									
NKL	**Nikolayevsk**	**51.80**	**11**	*i* P		**P**	**14 40 25.0**	**+0.6**		
NKL				*i* S		**S**	**14 47 43.0**	**+1.5**		
NKL				*e*			14 51 23.0			
NKL				pmax		pmax				
	comp=N,430nm,0.8s									
NKL				pmax		pmax				
	comp=E,110nm,0.8s									
NKL				pmax		pmax				
	comp=Z,570nm,0.8s									
NKL				pmax		pmax				
	comp=N,2µm,4.0s									
NKL				pmax		pmax				
	comp=E,1µm,4.0s									
NKL				pmax		pmax				
	comp=Z,6µm,4.0s									
NKL				smax		smax				
	comp=E,8µm,12.0s									
JOSI	**Joshimath**	**52.33**	**307**	*eP*		**P**	**14 40 28.8**	**-0.2**		
TLY	**Talaya**	**52.56**	**342**	P		**P**	**14 40 31.1**	**+0.9**		
	comp=E,194nm,0.9s,baz=178,slow=5.3,SNR=298									
TLY				S		**S**	**14 47 56.7**	**+4.4**		
	comp=E,6.4nm,0.9s,baz=299,slow=16,SNR=3.4									
TLY				LR		LR	15 04 34.6			
	comp=E,7µm,21.1s,baz=146,slow=38									
TLY	**Talaya**	**52.56**	**342**	*c iP*		**P**	**14 40 31.1**	**+0.9**		
TLY				*e*S		**S**	**14 47 50.6**	**-1.6**		
TLY				pmax		pmax				
	comp=Z,810nm,1.5s									
TLY				MLR		MLR				
	comp=Z,5µm,20.0s									
TLY	**Talaya**	**52.56**	**342**	*eP*		**P**	**14 40 30.9**	**+0.7**		
	comp=Z,2µm,2.0s									
TLY				S		**S**	**14 47 56.7**	**+4.4**		
IRK	**Irkutsk**	**52.87**	**343**	⇑*iP*		**P**	**14 40 33.1**	**+0.7**		
IRK				*e*			14 40 56.5			
IRK				*e*S		**S**	**14 47 54.7**	**-1.7**		
IRK				*e*			14 50 15.8			
IRK				pmax		pmax				
	comp=Z,2µm,1.9s									
GOA	**Goa**	**53.39**	**287**	*eP*		**P**	**14 40 36.9**	**+0.1**		
GOA				IAmb		IAmb	14 40 37.9			
	comp=Z,247nm,0.6s									
MOY	**Mondy**	**53.40**	**341**	*eP*		**P**	**14 40 37.4**

CLNS ePPP PPP 14 43 56.2
CLNS eS **S** **14 48 08.2 -5.3**
CLNS e 14 50 24.5
CLNS eSS **SS** **14 51 51.8 -4.3**
CLNS pmax pmax
comp=Z,377nm,1.0s
CLNS pmax pmax
comp=E,99nm,0.9s
CLNS pmax pmax
comp=N,230nm,1.0s
CLNS pmax pmax
comp=Z,123nm,1.2s
CLNS pmax pmax
comp=E,97nm,1.2s
CLNS pmax pmax
comp=N,141nm,1.1s
CLNS smax smax
comp=E,2μm,11.2s
CLNS smax smax
comp=N,3μm,11.8s
KKR Kurukshetra 54.31 306 eP **P** **14 40 44.0 +0.7**
RTK Rohtak 54.33 304 eP **P** **14 40 43.2 -0.3**
SMLA Simla 54.45 307 eP **P** **14 40 45.0 +0.7**
KHET Khetri 54.52 303 eP **P** **14 40 44.9 0.0**
MSVF Nonsavu 54.68 114 eP **P** **14 40 47.2 +0.9**
MSVF Nonsavu 54.68 114 eP **P** **14 40 47.0 +0.7**
comp=N,389nm,1.1s
DGAR Diego Garcia 54.78 259 eP **P** **14 40 46.0 -1.0**
DGAR Diego Garcia 54.78 259 eP **P** **14 40 47.2 +0.2**
comp=N,711nm,1.3s
BOM Bombay 54.91 291 ex **P** **14 40 43.5 -4.3**
BOM AMb AMB 14 41 22.7
comp=Z,142nm,11.2s
BOM ex x 14 48 04.6
BHK Bhakra 55.15 307 eP **P** **14 40 48.2 -1.2**
DHRM DHARAMSHALA 55.54 308 eP **P** **14 40 52.6 +0.1**
PONG Pong 55.71 307 eP **P** **14 40 53.0 -0.4**
BOD Bodaibo 55.99 352 eP **P** **14 40 55.5 +0.6**
BOD pmax pmax
comp=Z,518nm,1.5s
H08N1 Diego Carcia H 56.05 261 P **P** **14 40 57.2 +1.4**
baz=109,slow=3.7,SNR=8.2
H08N2 Diego Garcia H 56.06 261 P **P** **14 40 56.0 +0.1**
baz=109,slow=3.7,SNR=9.3
THN Thein Dam 56.07 308 ex P 14 40 50.8 -5.1
THN ex x 14 48 30.2
H08N3 Diego Garcia H 56.08 261 P **P** **14 40 56.1 +0.1**
baz=109,slow=3.7,SNR=6.7
PEA0 Petropavlovsk- 56.62 22 eP **P** **14 41 00.2 +0.7**
PEA0B Petropavlovsk- 56.62 22 eP **P** **14 41 00.6 +1.1**
comp=Z,475nm,1.1s
PETK Petropavlovsk- 56.62 22 P **P** **14 41 01.0 +1.5**
comp=Z,177nm,0.7s,baz=188,slow=4.3,SNR=200
PETK PKPPKP **P'P'df** **15 10 53.5 +0.2**
comp=Z,3.6nm,0.9s,baz=160,slow=9.3,SNR=3.5
PET Petropavlovsk 56.92 23α *i* P **P** **14 41 02.5 +0.9**
PET e*PP **sP** **14 41 25.0 -1.3**
PET e 14 43 17.0
PET *i* S **S** **14 48 51.7 +1.2**
PET eSS **SS** **14 52 33.8 -6.0**
PET pmax pmax
comp=Z,900nm,13.7s
PET pmax pmax
comp=Z,115nm,1.2s
PET pmax pmax
comp=Z,2μm,15.1s
PET pmax pmax
comp=Z,3μm,13.5s
PET MLR MLR
comp=Z,5μm,20.0s
PET Petropavlovsk 56.92 23 eP **P** **14 41 02.5 +0.9**
comp=Z,657nm,1.3s
SHLS Shalkode 57.82 321 *i* P **P** **14 41 05.8 -2.6**
comp=Z,3μm,1.0s
SHLS *i* S **S** **14 49 03.4 +0.2**
SHLS LR LR 15 05 58.4
comp=Z,693nm,14.1s
OUZ Omahuta 57.92 135 eP **P** **14 41 09.3 +0.3**
comp=Z,90nm,1.1s
MK01 Makanchi Array 58.35 326 eP **P** **14 41 11.4 -0.4**
UZB Uzynbulak 58.35 321 *i* P **P** **14 41 10.5 -1.6**
comp=Z,3μm,1.1s
UZB *i* S **S** **14 49 09.0 -1.1**
UZB LR LR 15 06 58.4
comp=Z,1μm,17.6s
MK31 Makanchi Array 58.37 326 eP **P** **14 41 11.3 -0.7**
MK31 Makanchi Array 58.37 326 eP **P** **14 41 11.7 -0.2**
MKAR Makanchi Array 58.37 326 P **P** **14 41 11.7 -0.3**
comp=Z,265nm,0.7s,baz=120,slow=6.7,SNR=790
MKAR S **S** **14 49 10.5 +0.6**
comp=Z,9.2nm,0.8s,baz=120,slow=16,SNR=4.9
MKAR PKPPKP P'P'df 15 10 41.7 -10
comp=Z,1.8nm,0.9s,baz=274,slow=3.5,SNR=9.1
MKAR PKP2bc 15 11 02.8
comp=Z,7.6nm,1.1s,baz=289,slow=3.7,SNR=8.8
MKAR P4KPbc 15 18 22.5
comp=Z,6.7nm,0.7s,baz=121,slow=4.4,SNR=44
BHJ Bhuj 58.64 296 eP **P** **14 41 15.1 +0.9**
BHJ IAmb IAmb 14 41 16.2
comp=Z,407nm,0.9s
KSH Kashi 58.69 316 P **P** **14 41 15.4 +0.9**
KSH pP pP 14 41 28.3 -3.5
KSH PcP **PcP** **14 42 04.8 +1.0**
KSH PP **PP** **14 43 27.0 +2.1**
KSH S **S** **14 49 13.5 -1.0**
KSH ScS **ScS** **14 50 58.3 -0.4**
KSH PMZ
comp=Z,280nm,0.9s
KSH LN
comp=Z,4μm,14.9s
KSH LE
comp=Z,6μm,15.1s
KSH LZ
comp=Z,9μm,22.0s
SATY Saty 58.70 320 *i* P **P** **14 41 12.4 -2.1**
comp=Z,16μm,1.0s
SATY *i* S **S** **14 49 15.2 +0.7**
SATY LR LR 15 06 57.7
comp=Z,2μm,16.4s
KPKS Kokpek 58.73 321 *i* P **P** **14 41 11.7 -2.9**
comp=Z,9μm,0.8s
KPKS *i* S **S** **14 49 13.8 -1.0**
KPKS LR LR 15 07 01.6
comp=Z,2μm,16.2s
ZHN Zhinishke 58.74 320 *i* P **P** **14 41 14.0 -0.7**
comp=Z,3μm,1.0s
ZHN *i* S **S** **14 49 14.9 0.0**
ZHN LR LR 15 07 05.4
comp=Z,1μm,18.0s
MIDW Midway 59.23 59 eP **P** **14 41 18.0 -0.3**
comp=Z,1μm,1.9s
YAK Yakutsk 59.39 2 P **P** **14 41 19.0 +0.3**
comp=Z,72nm,0.8s,baz=1.8,slow=19,SNR=113
YAK S **S** **14 49 22.6 +0.2**
comp=Z,2.5nm,0.6s,baz=142,slow=20,SNR=5.4
YAK LR LR 15 09 58.9
comp=Z,3μm,19.1s,baz=192,slow=39
YAK Yakutsk 59.39 2*c* *i*P **P** **14 41 19.2 +0.5**
YAK e*PP **sP** **14 41 44.0 +0.5**
YAK e 14 42 02.9
YAK e 14 43 32.5
YAK ePPP PPP 14 44 53.4
YAK eS **S** **14 49 20.9 -1.5**
YAK e 14 50 59.5
YAK eSS **SS** **14 53 15.3 -3.1**
YAK eSSS SSS 14 55 55.3
YAK pmax pmax
comp=Z,643nm,0.8s
YAK pmax pmax
comp=N,346nm,1.0s
YAK pmax pmax
comp=E,73nm,1.0s
YAK pmax pmax
comp=Z,2μm,2.1s
YAK pmax pmax
comp=N,2μm,2.1s
YAK pmax pmax
comp=E,683nm,2.7s
YAK smax smax
comp=N,3μm,3.5s
YAK smax smax
comp=E,2μm,2.5s
YAK Yakutsk 59.39 2 eP **P** **14 41 18.2 -0.4**
comp=E,1μm,0.9s
YAK S **S** **14 49 22.6 +0.2**
MDOK Medeo 59.62 320 *i* P **P** **14 41 19.0 -1.9**
comp=E,3μm,1.3s
MDOK *i* S **S** **14 49 23.8 -2.7**
MDOK *i* SS **SS** **14 53 30.8 +7.7**
MDOK LR LR 15 07 09.9
comp=E,2μm,20.3s
AAA Alma-Ata 59.74 320 eP **P** **14 41 21.1 -0.5**
AAA eS **S** **14 49 25.5 -2.3**
AAA pmax pmax
comp=Z,5μm,3.4s
AAA smax smax
comp=E,7μm,9.1s
AAA Alma-Ata 59.74 320 *i* P **P** **14 41 21.3 -0.3**
comp=E,5μm,1.1s
JCZ Jackson Bay 59.88 146 PN **P** **14 41 22.9 +0.4**
DCZ Deep Cove 59.89 148 eP **P** **14 41 22.4 0.0**
comp=E,558nm,1.5s
MA2 Magadan 59.91 14 P **P** **14 41 22.9 +0.5**
comp=E,755nm,0.8s,baz=222,slow=6.2,SNR=190
MA2 Magadan 59.91 14 eP **P** **14 41 23.6 +1.2**
comp=E,3μm,0.8s
MKAZ Moumakai 59.96 136 PN **P** **14 41 23.5 +0.4**
FOZ Fox Glacier 60.13 145 eP **P** **14 41 24.0 -0.1**
comp=E,144nm,1.0s
FOZ Fox Glacier 60.13 145 PN **P** **14 41 23.9 -0.2**
MLZ Mavora Lakes 60.34 147 eP **P** **14 41 24.8 -0.8**
comp=E,146nm,1.1s
WVZ Waitaha Valley 60.39 144 PN **P** **14 41 26.1 +0.2**
TKM2 Tokmak 2 60.45 319 eP **P** **14 41 26.6 0.0**
TKM2 Tokmak 2 60.45 319 eP **P** **14 41 26.3 -0.3**
comp=E,353nm,1.0s
HIZ Hauiti 60.46 138 eP **P** **14 41 26.8 +0.3**
comp=E,253nm,1.2s
HIZ Hauiti 60.46 138 PN **P** **14 41 27.4 +0.9**
WKZ Wanaka 60.49 146 PN **P** **14 41 26.7 +0.1**
WHZ Wether Hill Ro 60.59 148 eP **P** **14 41 26.1 -1.2**
comp=E,108nm,0.9s
WHZ Wether Hill Ro 60.59 148 PN **P** **14 41 25.9 -1.3**
INZ Inchbonnie 60.60 143 PN **P** **14 41 26.8 -0.6**
LBZ Lake Benmore 60.87 145 eP **P** **14 41 28.4 -0.7**
comp=E,1μm,1.8s
LBZ Lake Benmore 60.87 145 PN **P** **14 41 28.1 -1.0**
NNZ Nelson 60.94 141 PN **P** **14 41 27.4 -2.2**
THZ Tophouse 60.94 142 eP **P** **14 41 28.9 -0.9**
comp=E,160nm,0.7s
THZ Tophouse 60.94 142 PN **P** **14 41 28.8 -0.9**
RPZ Rata Peaks 60.96 144 P **P** **14 41 29.3 -0.5**
baz=175,slow=1.2
RPZ Rata Peaks 60.96 144 eP **P** **14 41 29.1 -0.7**
comp=E,206nm,0.9s
RPZ Rata Peaks 60.96 144 ePN **P** **14 41 29.2 -0.5**
TGRZ Tauranga 61.03 136 PN **P** **14 41 30.2 -0.2**
AAK Ala-Archa 61.05 318 P **P** **14 41 31.0 +0.3**
comp=E,147nm,0.9s,baz=102,slow=5.6,SNR=99
AAK Ala-Archa 61.05 318*c* *i*P **P** **14 41 30.6 -0.1**
AAK pmax pmax
comp=Z,531nm,1.0s
AAK Ala-Archa 61.05 318 P **P** **14 41 30.8 +0.1**
SNR=265
AAK Ala-Archa 61.05 318 eP **P** **14 41 30.6 -0.1**
comp=Z,383nm,1.1s
FRU Bishkek 61.06 319⇑ *i*P **P** **14 41 30.0 -0.5**
FRU *i* 14 41 55.0
FRU *i* S **S** **14 49 38.0 -6.6**
FRU *i* 14 50 16.0
FRU pmax pmax
comp=Z,2μm,2.4s
FRU smax smax
comp=E,4μm,10.0s
LTZ Lake Taylor 61.13 143 eP **P** **14 41 30.0 -1.0**
comp=E,718nm,1.6s
LTZ Lake Taylor 61.13 143 PN **P** **14 41 30.4 -0.6**
RATZ Rangitukua 61.26 138 PN **P** **14 41 33.1 +1.1**
OXZ Oxford 61.31 144 eP **P** **14 41 30.9 -1.2**
comp=E,113nm,0.7s
OXZ Oxford 61.31 144 PN **P** **14 41 30.9 -1.2**
TUWZ Tuamarina 61.41 141 ePN **P** **14 41 31.6 -1.3**
ZAA0 Zalesovo Array 61.52 333 eP **P** **14 41 32.1 -1.2**
ZALV Zalesovo Beam 61.52 333 P **P** **14 41 32.5 -0.9**
comp=E,136nm,0.8s,baz=124,slow=6.7,SNR=214
ZALV S **S** **14 49 51.3 +1.4**
comp=E,16nm,0.9s,baz=142,slow=17,SNR=6.5
ZALV LR LR 15 09 16.7
comp=E,4μm,19.9s,baz=140,slow=37
ZALV PKP2bc 15 10 50.0
comp=E,4.9nm,1.0s,baz=270,slow=3.0,SNR=6.8
ODZ Otahua Downs 61.53 146 eP **P** **14 41 33.0 -0.6**
comp=E,107nm,1.1s
TUZ Tuapeka 61.53 147 PN **P** **14 41 34.2 +0.6**
EKS2 Erkin-Say 61.54 318 eP **P** **14 41 34.1 +0.2**
EKS2 Erkin-Say 61.54 318 eP **P** **14 41 34.1 +0.2**
comp=E,558nm,1.0s
SEM Semipalatinsk 61.56 328 *i* P **P** **14 41 32.6 -1.1**
comp=E,1μm,0.9s
SEM *i* PP **PP** **14 43 48.6 -1.3**
SEM *i* S **S** **14 49 48.2 -2.3**
SEM LRM MLR 15 13 48.5
comp=E,1μm,16.9s
KHZ Kahutara 61.70 142 eP **P** **14 41 33.2 -1.5**
comp=E,406nm,1.4s
KHZ Kahutara 61.70 142 PN **P** **14 41 33.5 -1.2**
BHHZ Black Hill Sta 61.77 138 PN **P** **14 41 34.4 -1.0**
SNZO South Karori 61.83 140 eP **P** **14 41 33.9 -1.7**
comp=E,289nm,1.0s
OGWZ Otaki Gorge 61.86 140 ePN **P** **14 41 34.6 -1.3**
URZ Urewera 61.87 136 eP **P** **14 41 34.7 -1.4**
comp=E,154nm,1.0s
URZ Urewera 61.87 136 PN **P** **14 41 34.6 -1.4**
MQZ McQueen's Vall 61.89 144 eP **P** **14 41 36.3 +0.3**
comp=E,1μm,1.9s
MQZ McQueen's Vall 61.89 144 PN **P** **14 41 36.1 +0.1**
BKZ Black Stump Fm 61.90 138 eP **P** **14 41 35.1 -1.2**
comp=E,199nm,1.1s
BKZ Black Stump Fm 61.90 138 PN **P** **14 41 35.1 -1.2**
KBL Kabul 62.03 308 eP **P** **14 41 36.8 -0.7**
KBL Kabul 62.03 308 eP **P** **14 41 36.3 -1.2**
comp=E,588nm,0.8s
NMHZ Naumai 62.07 137 PN **P** **14 41 37.4 -0.1**
MWZ Matawai 62.20 136 PN **P** **14 41 37.6 -0.7**
MXZ Matakaoa Point 62.38 135 eP **P** **14 41 38.8 -0.6**
comp=E,417nm,1.6s
MXZ Matakaoa Point 62.38 135 PN **P** **14 41 38.7 -0.7**
KAHZ Kahuranaki 62.47 138 ePN **P** **14 41 39.5 -0.6**
BFZ Birch Farm 62.49 139 eP **P** **14 41 39.1 -1.0**
comp=E,578nm,1.8s
BFZ Birch Farm 62.49 139 PN **P** **14 41 39.2 -1.0**
RIGZ Rimuhau 62.54 137 PN **P** **14 41 39.5 -1.1**
PUZ Puketiti 62.58 136 PN **P** **14 41 40.0 -0.8**
KURBB Kurchatov Arra 62.59 328 P **P** **14 41 40.2 -0.4**
comp=E,524nm,0.7s,baz=127,slow=5.9,SNR=1239
KURBB PP **PP** **14 44 00.3 +1.3**
comp=E,46nm,1.0s,baz=133,slow=6.7,SNR=4.3
KURBB S **S** **14 50 04.2 +0.8**
comp=E,2.0nm,0.7s,baz=128,slow=11,SNR=6.0
KURK Kurchatov 62.59 328 P **P** **14 41 40.2 -0.4**
KURK 14 44 00.3
KURK S **S** **14 50 04.3 +0.8**
KURK pmax pmax
comp=Z,516nm,0.7s
KURK pmax pmax
comp=Z,46nm,1.0s
KURK smax smax
comp=N,2.0nm,0.7s
KURK Kurchatov 62.59 328 eP **P** **14 41 40.1 -0.4**
comp=N,3μm,0.8s
KURK PP **PP** **14 44 00.3 +1.3**
KURK S **S** **14 50 04.2 +0.8**
KNZ Kokohu 62.63 137 PN **P** **14 41 40.7 -0.3**
NVS Novosibirsk 62.80 334⇑ *i*P **P** **14 41 42.2 +0.3**
NVS *i* 14 42 16.5
NVS *i* S **S** **14 50 04.8 -1.2**
NVS ePS **PnS** **14 50 43.9 +13**
NVS *i* 14 51 26.0
NVS pmax pmax
comp=Z,977nm,1.8s
NVS pmax pmax
comp=N,474nm,1.9s
NVS pmax pmax
comp=E,538nm,1.9s
NVS smax smax
comp=N,195nm,1.8s
NVS smax smax
comp=E,490nm,2.0s
MCQ Macquarie Isla 62.89 159 P **P** **14 41 44.0 +1.6**
baz=63,SNR=3.5
MCQ Macquarie Isla 62.89 159 eP **P** **14 41 44.2 +1.7**
MCQ Macquarie Isla 62.89 159 eP **P** **14 41 43.4 +0.9**
comp=E,593nm,1.1s
SEY Seymchan 63.24 13 P **P** **14 41 45.4 +0.7**
comp=E,396nm,0.9s,baz=219,slow=5.9,SNR=380
SEY PKPPKP **P'P'df** **15 10 42.1 -0.5**
comp=E,5.4nm,1.1s,baz=81,slow=0.7,SNR=4.3
SEY Seymchan 63.24 13*c* *i*P **P** **14 41 46.4 +1.7**
AFI Afiamalu 63.36 107 P **P** **14 41 46.6 +0.1**
comp=E,63nm,1.0s,baz=178,slow=3.1,SNR=9.7
AFI Afiamalu 63.36 107 eP **P** **14 41 48.4 +1.9**
AFI Afiamalu 63.36 107 eP **P** **14 41 47.1 +0.7**
comp=E,408nm,1.3s
SMY Shemya 63.62 30 eP **P** **14 41 48.7 +1.3**
SMY Shemya 63.62 30 eP **P** **14 41 48.7 +1.3**
comp=E,558nm,1.1s
IUG Iuzhnay 63.87 316 *i* P **P** **14 41 49.4 0.0**
comp=E,8μm,0.9s
IUG *i* S **S** **14 50 20.0 -0.2**
BRLS Borolday 64.35 317 *i* P **P** **14 41 51.9 -0.5**
comp=E,1μm,1.0s
BRLS *i* S **S** **14 50 24.0 -1.8**
BRLS LR LR 15 10 03.4
comp=E,1μm,17.7s
BVAR Borovoye Array 68.16 327 P **P** **14 42 16.4 -0.2**
comp=E,206nm,0.8s,baz=126,slow=9.3,SNR=488
BVAR S **S** **14 51 13.8 +2.2**
comp=E,26nm,1.0s,baz=125,slow=18,SNR=12
BVAR P4KPbc 15 19 03.1
comp=E,2.0nm,0.9s,baz=142,slow=5.1,SNR=6.4
BVAR Borovoye Array 68.16 327 P **P** **14 42 16.4 -0.2**
BVAR S **S** **14 51 13.8 +2.2**
BVAR pmax pmax
comp=Z,215nm,0.9s
BVAR smax smax
comp=N,26nm,1.0s
BRVK Borovoye 68.23 327*c* *i*P **P** **14 42 16.7 -0.4**
BRVK pmax pmax
comp=Z,2μm,1.7s
BRVK Borovoye 68.23 327 eP **P** **14 42 16.6 -0.4**
comp=Z,5μm,1.8s
TIXI Tiksi 69.02 1 P **P** **14 42 21.0 -0.6**
comp=Z,175nm,0.6s,baz=183,slow=3.8,SNR=496
TIXI S **S** **14 51 17.8 -3.3**
comp=Z,7.3nm,0.8s,baz=339,slow=20,SNR=5.9
BIDO Bidbid 69.14 294 P **P** **14 42 22.5 -0.7**
SNR=13
BIDO P **P** **14 42 22.5 -0.7**
SNR=13
SMDO Samad 69.16 294 P **P** **14 42 22.8 -0.8**
SNR=9.3
CASY Casey 69.61 187 eP **P** **14 42 25.4 +0.2**
HOQ Hoqain 69.89 294 P **P** **14 42 27.5 -0.4**
SNR=10
PAF Port-aux-Franc 70.75 215 eP **P** **14 42 33.3 +0.7**
PAF pmax pmax
comp=Z,735nm,1.3s
PAF Port-aux-Franc 70.75 215 eP **P** **14 42 33.2 +0.7**
comp=Z,735nm,1.3s
BILL Bilibino 70.76 15*c* *i*P **P** **14 42 32.7 +0.4**
BILL e 14 42 54.4
BILL e 14 45 10.5
BILL *i* S **S** **14 51 41.1 -0.6**
BILL eSS **SS** **14 56 17.8 +2.9**
BILL pmax pmax
comp=Z,296nm,1.7s
BILL Bilibino 70.76 15 eP **P** **14 42 31.9 -0.5**
comp=Z,258nm,1.2s
UOSS Minazif 71.04 295 eP **P** **14 42 33.6 -1.3**
comp=Z,5.9nm,0.9s
BANOM Banah 71.06 296 *i* P **P** **14 42 34.6 -0.4**
SNR=10
HATD Hatta, Dubai 71.09 295 *i* P **P** **14 42 35.0 -0.2**
SNR=20
HATD Hatta, Dubai 71.09 295 P **P** **14 42 34.8 -0.4**
SNR=9.3
ASHO Ashiyiah 71.14 295 *i* P **P** **14 42 35.0 -0.6**
SNR=22
ASHO Ashiyiah 71.14 295 P **P** **14 42 34.8 -0.8**
SNR=8.7
MRIV Mauritius Mete 71.25 248 eP **P** **14 42 36.6 +0.4**
GEYT Alibeck 71.42 309 P **P** **14 42 37.2 +0.2**
comp=Z,185nm,0.8s,baz=134,slow=4.3,SNR=252
GEYT LR LR 15 17 57.0
comp=Z,3μm,20.6s,baz=120,slow=39
NRIK Noril'sk 71.51 346 P **P** **14 42 37.2 +0.4**
comp=Z,283nm,0.7s,baz=127,slow=6.1,SNR=362
NRIK S **S** **14 51 48.6 -1.6**
comp=Z,29nm,0.9s,baz=220,slow=21,SNR=24
NRIK PKPPKP **P'P'df** **15 10 28.1 -0.6**
comp=Z,0.9nm,0.4s,baz=38,slow=3.3,SNR=4.0
NRIK LR LR 15 15 52.1
comp=Z,8μm,21.6s,baz=145,slow=37
NAZ Nazwa, Dubai 71.53 295 *i* P **P** **14 42 37.3 -0.5**
SNR=13
NAZ Nazwa, Dubai 71.53 295 P **P** **14 42 37.4 -0.5**
SNR=6.9
FAQ Al Faqa, Dubai 71.57 295 *i* P **P** **14 42 37.4 -0.7**
SNR=19
FAQ Al Faqa, Dubai 71.57 295 P **P** **14 42 37.3 -0.8**
SNR=10
NIKH Nikolski High 72.94 35 eP **P** **14 42 46.3 +0.7**
comp=Z,560nm,1.2s
MIR Mirnyy 72.95 193 eP **P** **14 42 48.0 +2.6**
MIR *i* S **S** **14 52 07.0 +0.3**
MIR pmax pmax
comp=Z,2μm,8.0s
MIR smax smax
comp=E,3μm,7.0s
MIR MLR MLR
comp=Z,4μm,20.0s
RER Riviere de l'E 73.01 247 eP **P** **14 42 47.8 +1.0**
comp=Z,2μm,1.0s
ABTO Aybut 73.17 287 P **P** **14 42 46.7 -1.1**
SNR=5.9
SPIA Saint Paul Isl 73.65 30 eP **P** **14 42 51.0 +1.2**
comp=Z,758nm,1.3s
AKTO Aktyubinsk 74.41 322 P **P** **14 42 54.3 -0.1**
comp=Z,249nm,0.8s,baz=103,slow=7.4,SNR=487
AKTO S **S** **14 52 23.1 -0.8**
comp=Z,5.7nm,0.9s,baz=203,slow=20,SNR=6.2
AKTO LR LR 15 19 27.5
comp=Z,7μm,20.4s,baz=105,slow=39
UNV Unalaska Valle 74.55 34 eP **P** **14 42 55.6 +0.6**
comp=Z,490nm,0.9s
SVE Sverdlovsk 74.82 329*d* *i*P **P** **14 42 56.7 +0.1**
SVE e 14 45 46.1
SVE ePPP PPP 14 47 29.7
SVE eS **S** **14 52 22.6 -5.6**
SVE e 14 52 55.9
SVE e 14 57 15.0
SVE pmax pmax
comp=Z,2μm,1.0s
SVE pmax pmax
comp=Z,1μm,8.2s
AKUT Akutan 75.05 34 eP **P** **14 42 58.9 +1.0**
comp=Z,864nm,0.9s
GAMB Gambell 75.58 24 eP **P** **14 43 01.5 +0.7**
comp=Z,194nm,1.0s
KIP Kipapa 75.61 69 eP **P** **14 43 02.0 +0.2**
KIP pmax pmax
comp=Z,1μm,1.1s
KIP Kipapa 75.61 69 eP **P** **14 43 02.9 +1.1**
comp=Z,517nm,1.3s
ARU Arti 75.79 328 P **P** **14 43 01.7 -0.4**
comp=Z,808nm,0.7s,baz=103,slow=2.8,SNR=748
ARU S **S** **14 52 35.1 -3.8**
comp=Z,8.0nm,0.7s,baz=111,slow=23,SNR=7.2
ARU Arti 75.79 328*c* *i*P **P** **14 43 01.6 -0.5**
ARU 14 45 48.6
ARU eS **S** **14 52 40.3 +1.4**
ARU pmax pmax
comp=Z,1μm,0.7s
ARU MLR MLR
comp=Z,5μm,22.0s
ARU Arti 75.79 328 eP **P** **14 43 01.5 -0.6**
comp=Z,1μm,0.9s
ARU S **S** **14 52 35.1 -3.8**
RAR Rarotonga 75.84 112 P **P** **14 43 02.8 -0.3**
comp=Z,40nm,1.0s,baz=242,slow=9.5,SNR=5.7
RAR Rarotonga 75.84 112 eP **P** **14 43 03.5 +0.4**
RAR pmax pmax
comp=Z,264nm,1.5s
RAR Rarotonga 75.84 112 eP **P** **14 43 03.5 +0.4**
comp=Z,264nm,1.5s
XMAS Kiritimati 76.03 89 eP **P** **14 43 05.9 +1.5**
comp=Z,378nm,1.2s
MHA Mahukona 77.53 70 eS P 14 43 17.6 +4.9

TNA Tin City 77.78 23 eP P 14 43 14.7 +1.6
MLOA Mauna Loa Obse 77.81 71 eP P 14 43 17.0 +2.1
POHA Pohakuloa 77.86 70 eP P 14 43 16.4 +1.5
comp=Z,439nm,1.2s
SDPT Sand Point 78.32 34 eP P 14 43 16.6 +0.2
comp=Z,642nm,0.8s
CHGN Chignik 79.66 33 eP P 14 43 24.0 +0.4
OPO Ambohidratompo 80.65 251 P P 14 43 30.3 +0.3
comp=Z,109nm,0.6s,baz=66,slow=4.3,SNR=113
OPO S S 14 53 31.7 -1.2
comp=Z,2.3nm,0.8s,baz=237,slow=21,SNR=8.8
ABPO Ambohimpanom 80.66 250 eP P 14 43 30.8 +0.8
ABPO Ambohimpanom 80.66 250 eP P 14 43 30.4 +0.4
comp=Z,559nm,1.4s
DGRG David-gareji 81.63 311 P P 14 43 36.0 +1.3
DGRG David-gareji 81.63 311 P P 14 43 36.0 +1.3
DAMY Dhamar 81.69 284 eP P 14 43 36.6 +0.9
comp=Z,345nm,1.2s
SVW2 Sparrevohn 81.97 29 eP P 14 43 37.0 +1.1
comp=Z,132nm,1.2s
GNI Garni 82.03 310 P P 14 43 38.1 +1.1
comp=Z,221nm,1.1s,baz=87,slow=0.6,SNR=109
GNI Garni 82.03 310 i P P 14 43 37.8 +1.0
SNR=67
GNI Garni 82.03 310c iP P 14 43 37.7 +0.8
GNI pmax pmax
comp=Z,914nm,1.2s
GNI Garni 82.03 310 P P 14 43 37.9 +1.0
SNR=125
GNI Garni 82.03 310 eP P 14 43 38.0 +1.1
comp=Z,829nm,1.4s
TT01 Tatalina 82.07 27 eP P 14 43 37.8 +1.4
TTA Tatalina 82.07 27 eP P 14 43 38.3 +1.8
TTA Tatalina 82.07 27 eP P 14 43 37.9 +1.3
comp=Z,1μm,1.8s
TBLG Delisi 82.13 312 P P 14 43 37.8 +0.6
TBLG Delisi 82.13 312 P P 14 43 37.8 +0.6
DUS Dusheti 82.18 312 P P 14 43 40.0 +2.5
DUS Dusheti 82.18 312 P P 14 43 40.0 +2.5
VNDA Vanda 82.29 173 P P 14 43 37.8 +0.5
comp=Z,52nm,0.6s,baz=319,slow=7.2,SNR=165
VNDA S S 14 53 44.7 -2.7
comp=Z,0.6nm,0.7s,baz=68,slow=19,SNR=4.6
VNDA PKPPKP P'P'df 15 10 11.1 +2.6
comp=Z,1.5nm,1.0s,baz=287,slow=2.8,SNR=4.4
VNDA LR LR 15 20 11.4
comp=Z,3μm,19.8s,baz=340,slow=36
VNDA Vanda 82.29 173 eP P 14 43 37.4 +0.1
VNDA S S 14 53 44.7 -2.7
VNDA pmax pmax
comp=Z,138nm,0.9s
VNDA Vanda 82.29 173 eP P 14 43 37.4 +0.1
comp=Z,138nm,0.9s
VNDA S S 14 53 44.7 -2.7
VNDA P'P' 15 10 11.1
GUDG Gudauri 82.37 312 P P 14 43 40.1 +1.4
MAW Mawson 82.56 200 P P 14 43 39.3 +0.6
comp=Z,59nm,1.1s,baz=74,slow=5.6,SNR=27
MAW S S 14 53 48.0 -2.2
comp=Z,1.6nm,0.7s,baz=345,slow=18,SNR=2.4
MAW LR LR 15 16 39.0
comp=Z,2μm,21.7s,baz=58,slow=33
MAW Mawson 82.56 200 P P 14 43 40.0 +1.2
baz=82,SNR=31
MAW Mawson 82.56 200 P P 14 43 39.3 +0.6
MAW S S 14 53 48.0 -2.2
MAW pmax pmax
comp=Z,43nm,1.0s
MAW smax smax
comp=N,2.0nm,0.7s
MAW Mawson 82.56 200 eP P 14 43 39.4 +0.6
comp=N,184nm,1.6s
MAW S S 14 53 48.0 -2.2
OHAK Old Harbor 82.59 33 eP P 14 43 39.8 +0.6
comp=N,770nm,1.4s
CLDR Caldiran 82.61 309 eP P 14 43 42.1 +2.1
HAKT HAKKARI 82.70 307 i P P 14 43 41.8 +1.2
DYDN Diyadin 82.81 309 i P P 14 43 43.4 +2.3
ZEI Tsey 82.81 313 eP P 14 43 38.8 -2.2
ZEI eS S 14 53 50.6 -3.8
ZEI pmax pmax
comp=Z,2μm,1.1s
ZEI pmax pmax
comp=E,2μm,0.9s
ZEI pmax pmax
comp=N,811nm,0.7s
VMUR Van-Muradiye 82.87 309 i P P 14 43 42.9 +1.5
EAK Akyaka 82.92 311 i P P 14 43 43.8 +2.2
BGD Bogdanovka 82.96 311 P P 14 43 43.8 +2.1
KDAK Kodiak Island 83.03 32 i P P 14 43 42.8 +1.3
KDAK Kodiak Island 83.03 32 eP P 14 43 42.3 +0.9
comp=N,649nm,1.4s
AKH Akhalkalaki 83.04 311 eP P 14 43 43.9 +1.7
AKH Akhalkalaki 83.04 311 P P 14 43 43.6 +1.4
AKH Akhalkalaki 83.04 311 P P 14 43 43.6 +1.4
NCK Nalchik 83.07 313c iP P 14 43 42.9 +0.8
NCK pmax pmax
comp=Z,374nm,1.0s
DIGO Kars 83.09 310 i P P 14 43 44.2 +1.6
ONI Oni 83.13 312 P P 14 43 43.5 +1.0
ONI Oni 83.13 312 P P 14 43 43.5 +1.0
SBA Scott Base 83.21 172 eP P 14 43 43.2 +1.2
SBA pmax pmax
comp=Z,416nm,1.4s
SBA Scott Base 83.21 172 eP P 14 43 43.1 +1.2
comp=Z,416nm,1.4s
GEVA Gevas 83.25 308 i P P 14 43 44.6 +1.3
KARS Kars 83.32 310 eP P 14 43 46.0 +2.4
TUTA Tutak 83.48 309 i P P 14 43 45.8 +1.2
GOF Gofitskoye 83.55 315 eP P 14 43 45.2 +0.7
GOF pmax pmax
comp=Z,394nm,0.9s
KBZ Khabaz 83.59 314 P P 14 43 45.0 +0.3
comp=Z,194nm,0.9s,baz=111,slow=3.1,SNR=266
KBZ S S 14 54 01.1 -0.6
comp=Z,3.9nm,0.8s,baz=259,slow=22,SNR=5.6
KBZ LR LR 15 26 18.9
comp=Z,2μm,20.7s,baz=76,slow=39
EPOS Posof 83.62 311 i P P 14 43 46.7 +1.5
SPU Mount Spurr 83.67 29 eP P 14 43 44.9 +0.1
NEY Neytrino 83.70 313c iP P 14 43 46.4 +0.9
NEY pmax pmax
comp=Z,118nm,0.8s
SIRT Sirnak 83.71 307 eP P 14 43 46.4 +0.8
HOM Homer 83.72 30 eP P 14 43 46.0 +1.0
comp=Z,454nm,0.8s
SIRN S¨¨rnak 83.73 307 i P P 14 43 46.6 +0.9
EATA Eleskirt 83.74 310 i P P 14 43 47.4 +1.4
KVAR Kislovodsk Arr 83.75 314 P P 14 43 46.1 +0.4
comp=Z,432nm,0.9s,baz=267,slow=2.8,SNR=138
KIV Kislovodsk 83.75 314 eP P 14 43 46.4 +0.7
KIV Kislovodsk 83.75 314 i P P 14 43 46.0 +0.4
SNR=139
KIV Kislovodsk 83.75 314 eP P 14 43 45.9 +0.2
KIV eS S 14 54 05.1 +1.4
KIV eSS SS 14 59 35.0 +3.1
KIV pmax pmax
comp=Z,528nm,1.1s
KIV pmax pmax
comp=Z,1μm,4.0s
KIV Kislovodsk 83.75 314 P P 14 43 46.1 +0.4
SNR=139
KIV P P 14 43 46.1 +0.4
SNR=139
KIV Kislovodsk 83.75 314 eP P 14 43 46.1 +0.5
comp=Z,364nm,0.8s
PPLA Purkeypile 83.80 27 eP P 14 43 46.1 +0.5
comp=Z,646nm,1.4s
SENK Senkaya-Erzuru 83.87 310 eP P 14 43 48.0 +1.5
CAST Castle Rocks 83.91 27 eP P 14 43 47.7 +1.7
comp=Z,745nm,1.8s
CNPM China Poot 83.91 31 eP P 14 43 46.0 0.0
comp=Z,383nm,0.9s
BRLK Bradley Lake 84.11 30 eP P 14 43 46.9 -0.2
comp=Z,403nm,0.9s
CHVG Ch'k'valeri 84.14 313 eP P 14 43 49.2 +1.6
CHVG Ch'k'valeri 84.14 313 P P 14 43 48.3 +0.7
HOMI Horasan 84.20 310 i P P 14 43 50.0 +1.8
ARTV Artvin 84.21 311 i P P 14 43 49.2 +0.9
DAGI Agillar 84.22 311 i P P 14 43 49.1 +0.9
SUA Susitna One 84.33 29 eP P 14 43 48.2 0.0
comp=Z,516nm,0.8s
DDEM Demirkent 84.34 311 i P P 14 43 50.1 +1.4
DBAD Bademkaya 84.38 311 i P P 14 43 50.1 +1.1
DBOC Borcka 84.41 311 i P P 14 43 50.1 +1.1
KTH Kantishna Hill 84.44 26 eP P 14 43 49.5 +0.8
comp=Z,819nm,1.7s
BCA Borcka 84.45 311 eP P 14 43 50.1 +0.9
BPAW Bear Paw Mtn. 84.47 26 eP P 14 43 50.0 +1.2
comp=Z,850nm,1.6s
VRTB Varto-Mus 84.52 309 eP P 14 43 51.7 +1.9
ERZM Erzurum 84.61 310 i P P 14 43 52.5 +2.2
EZM Erzurum 84.61 310 eP P 14 43 52.4 +2.1
BTMN Batman 84.65 308 i P P 14 43 51.6 +1.3
MLY Manley 84.66 25 eP P 14 43 51.0 +1.3
comp=Z,312nm,1.4s
TRF Thorofare Moun 84.72 27 eP P 14 43 51.1 +0.9
comp=Z,1μm,1.8s
VRH Novokhopyorsk 84.72 321 eP P 14 43 51.0 +0.7
VRH eS S 14 54 04.0 -8.8
VRH pmax pmax
comp=Z,3μm,0.9s
VRH pmax pmax
comp=Z,3μm,0.9s
VRH smax smax
comp=E,1μm,2.5s
VRH MLR MLR
comp=Z,3μm,20.0s
BNGL BINGOL 84.76 309 i P P 14 43 53.0 +2.0
RC01 Rabbit Creek A 84.78 29 eP P 14 43 50.6 +0.2
comp=Z,384nm,0.8s
SEW Seward 84.86 30 eP P 14 43 50.9 +0.1
comp=Z,364nm,0.9s
ECAT Cat-ERZURUM 84.91 309 i P P 14 43 54.0 +2.2
PPT Papeete 85.01 108 LR LR 15 18 25.2
comp=Z,2μm,20.7s,baz=270,slow=33
PPT2 Papeete2 85.02 108 eP P 14 43 56.1 +3.6
comp=Z,186nm,1.4s
PPT2 Papeete2 85.02 108 eS S 14 54 15.4 -1.7
comp=Z,4μm,25.2s
PPT2 Papeete2 85.02 108 eLQ LQ 15 07 19.5
comp=Z,19μm,30.8s
PPT2 eLR LR 15 10 49.7
comp=Z,8μm,24.8s
PAE Paea 85.02 108 eP P 14 43 55.7 +3.3
comp=Z,42nm,1.3s
MARD Mardin 85.03 307 i P P 14 43 53.4 +1.1
COLD Coldfoot 85.08 23 eP P 14 43 53.0 +1.2
comp=Z,1μm,2.0s
PMR Palmer 85.11 29 eP P 14 43 51.8 -0.2
PMR Palmer 85.11 29 eP P 14 43 52.0 0.0
comp=Z,687nm,1.4s
MZRK Al-Mazaregh 85.12 306 i P P 14 43 55.0 +2.3
BNGB Bing ¶ll 85.13 309 eP P 14 43 54.2 +1.4
BWN Browne 85.14 26 eP P 14 43 52.6 +0.6
comp=Z,934nm,1.6s
TIAR Tiai 85.23 108 eP P 14 43 57.0 +3.5
comp=Z,32nm,0.9s
YEDI Yedisu-Bingol 85.23 309 eP P 14 43 54.7 +1.4
KOPT Kop Dagi 85.28 310 i P P 14 43 57.3 +3.6
MAZI Mazidag 85.29 307 eP P 14 43 54.2 +0.6
TVO Taravao 85.34 108 eP P 14 43 57.7 +3.6
comp=Z,68nm,1.3s
MCK McKinley 85.34 26 eP P 14 43 53.5 +0.3
MCK McKinley 85.34 26 eP P 14 43 53.2 +0.1
comp=Z,1μm,1.7s
SML Sawmill 85.50 28 eP P 14 43 54.8 +0.8
SML Sawmill 85.50 28 eP P 14 43 54.8 +0.8
comp=Z,655nm,1.1s
DYBB Diyarbakir 85.54 308 eP P 14 43 56.0 +1.2
TBI Tubuai 85.57 114 eP P 14 43 58.3 +3.2
comp=Z,415nm,1.2s
TBI Tubuai 85.57 114 eS S 14 54 20.8 -1.4
comp=Z,4μm,26.8s
TBI Tubuai 85.57 114 eLQ LQ 15 07 27.5
comp=Z,9μm,32.0s
TBI eLR LR 15 11 05.4
comp=Z,7μm,28.2s
MDM Murphy Dome 85.72 25 eP P 14 43 54.6 -0.4
comp=Z,159nm,1.3s
WRH Wood River Hil 85.75 26 eP P 14 43 54.9 -0.2
comp=Z,544nm,1.6s
MACK Trabzon 85.84 311 i P P 14 43 57.8 +1.6
KTUT Trabzon 85.84 311 eP P 14 43 56.4 +0.3
ERZN Erzincan 85.87 309 eP P 14 43 58.4 +1.9
COLA College 85.88 25 eP P 14 43 54.7 -1.0
COLA pmax pmax
comp=Z,79nm,1.0s
COLA College 85.88 25 eP P 14 43 54.6 -1.0
comp=Z,79nm,1.0s
CCB Clear Creek Bu 85.89 25 eP P 14 43 54.9 -0.9
comp=Z,348nm,1.4s
EUZM Uzumlu 85.89 309 i P P 14 43 58.4 +1.9
SOC Sochi 85.89 313c iP P 14 43 55.8 -0.5
SOC e*SP pP 14 44 08.8 -5.8
SOC e 14 47 12.0
SOC i S SKSac 14 54 12.0 -4.5
SOC pmax pmax
comp=Z,1μm,0.8s
SOC MLR MLR
comp=Z,3μm,21.0s
SCM Sheep Creek Mo 85.98 28 eP P 14 43 57.7 +1.3
SCM Sheep Creek Mo 85.98 28 eP P 14 43 57.7 +1.3
comp=Z,2μm,1.7s
DHY Denali Highway 86.01 27 eP P 14 43 56.8 +0.1
comp=Z,228nm,1.4s
TNCL Tunceli-Merkez 86.01 309 i P P 14 43 58.5 +1.3
GUMT Gumushane 86.06 310 eP P 14 43 58.8 +1.5
PTK Pertek 86.13 309 eP P 14 43 59.1 +1.2
SVRC Sivrice-ELAZID 86.20 308 eP P 14 43 59.3 +1.1
KELT Kelkit 86.23 310 i P P 14 43 59.4 +1.1
MNKR ALMNKUR 86.24 306 i P P 14 43 50.8 -7.4
ILAR Eielson Array 86.28 25 P P 14 43 57.2 -0.5
comp=Z,17nm,0.7s,baz=231,slow=5.4,SNR=162
ILAR PP PP 14 47 22.2 +3.0
comp=Z,51nm,1.2s,baz=269,slow=4.7,SNR=5.0
ILAR PKKP PKKPdf 15 01 45.7 -5.2
comp=Z,1.0nm,1.1s,baz=81,slow=6.2,SNR=4.5
ILAR PKKPbc PKKPbc 15 02 00.3 +2.0
comp=Z,1.3nm,0.7s,baz=66,slow=1.9,SNR=9.6
ILAR PKPPKP P'P'df 15 10 02.6 +0.1
comp=Z,1.1nm,1.0s,baz=22,slow=1.2,SNR=6.0
ILB Eielson Array 86.28 25 eP P 14 43 56.0 -1.8
KLMR Klimovskoe 86.30 331c iP P 14 43 56.9 -1.0
KLMR e 14 47 21.6
KLMR ePPP PPP 14 49 12.9
KLMR eS S 14 54 20.7 -7.2
KLMR pmax pmax
comp=Z,721nm,0.8s
VORR Voronezh 86.31 321 eP P 14 43 55.0 -3.1
VORR pmax pmax
comp=Z,6μm,1.2s
VSR Storozhevoye 86.33 321 eP P 14 43 59.1 +0.8
VSR eS SKSac 14 54 14.8 -4.1
VSR pmax pmax
comp=Z,2μm,0.9s
VSR pmax pmax
comp=Z,2μm,0.9s
VSR smax smax
comp=E,290nm,2.5s
VSR MLR MLR
comp=Z,2μm,20.0s
MID Middleton Isla 86.40 31 eP P 14 44 00.1 +1.7
MID pmax pmax
comp=Z,326nm,1.2s
MID Middleton Isla 86.40 31 eP P 14 44 00.1 +1.7
comp=Z,326nm,1.2s
ELZG Elazig 86.45 308 i P P 14 44 01.2 +1.8
MEH Mehetia 86.47 108 eP P 14 44 02.9 +3.2
comp=Z,84nm,1.3s
LPSR Galich'ya Gora 86.49 322 eP P 14 44 00.5 +1.5
LPSR eS SKSac 14 54 17.2 -2.6
LPSR pmax pmax
comp=Z,3μm,1.1s
LPSR pmax pmax
comp=Z,3μm,1.1s
LPSR smax smax
comp=N,390nm,2.2s
LPSR MLR MLR
comp=Z,3μm,23.0s
KLU Klutina 86.64 29 eP P 14 44 00.3 +0.6
comp=Z,291nm,1.4s
DIV Divide 86.71 29 eP P 14 44 00.9 +0.9
comp=Z,1μm,1.6s
EYAK Cordova Ski Ar 86.71 30 eP P 14 44 01.1 +1.2
comp=Z,442nm,1.4s
VAH Vaihoa 86.72 105 eP P 14 44 04.3 +3.4
comp=Z,363nm,1.4s
ILIC ilic-Erzincan 86.77 309 eP P 14 44 02.7 +1.9
PAX Paxson 86.87 27 eP P 14 44 00.8 0.0
PAX pmax pmax
comp=Z,390nm,1.5s
PAX Paxson 86.87 27 eP P 14 44 00.8 0.0
comp=Z,390nm,1.5s
GRSN GIRESUNGRSN 86.98 311 i P P 14 44 02.3 +0.6
ATAB Bozova 87.01 307 i P P 14 44 03.8 +1.8
FYU Fort Yukon 87.01 24 eP P 14 44 02.3 +1.0
comp=Z,661nm,1.7s
SUSE Susehri 87.04 310 i P P 14 44 03.5 +1.2
RAGM Ragged Mountai 87.25 30 eP P 14 44 03.4 +0.8
comp=Z,388nm,1.4s
MOS Moscow 87.25 326c iP P 14 44 03.1 +0.5
MOS e 14 44 19.5
MOS e 14 47 31.0
MOS e 14 54 19.4
MOS eS SKSac 14 54 26.8 +2.4
MOS pmax pmax
comp=Z,2μm,0.9s
MOS pmax pmax
comp=Z,6μm,1.9s
MOS pmax pmax
comp=E,1μm,1.8s
MOS pmax pmax
comp=N,600nm,1.1s
MOS smax smax
comp=N,19μm,4.4s
BMRM Bremner River 87.28 29 eP P 14 44 02.8 0.0
comp=N,340nm,1.1s
AKCD Akcadag 87.29 308 i P P 14 44 04.8 +1.4
ORDU Ordu-Boztepe 87.29 311 i P P 14 44 04.2 +1.0
CUZAR Zara_SIVAS 87.37 310 i P P 14 44 05.3 +1.5
FURI Furi 87.42 279 P P 14 44 05.2 +0.4
FURI Furi 87.42 279 eP P 14 44 07.1 +2.3
comp=N,471nm,1.1s
DOT Dot Lake 87.51 27 eP P 14 44 03.5 -0.3
comp=N,259nm,1.2s
ANN Anapa 87.53 315 eP P 14 44 03.0 -1.2
ANN eS SKSac 14 54 27.7 +1.2
ANN eSS SS 15 00 32.6 +5.5
ANN pmax pmax
comp=E,435nm,1.0s
ANN pmax pmax
comp=N,282nm,2.8s
ANN pmax pmax
comp=Z,818nm,2.8s
ANN pmax pmax
comp=Z,2μm,1.0s
ANN pmax pmax
comp=N,648nm,1.0s
ANN pmax pmax
comp=E,193nm,2.8s
ANN smax smax
comp=N,10μm,7.6s
ANN smax smax
comp=E,4μm,7.7s
GZT Gaziantep 87.59 307 i P P 14 44 06.1 +1.2
CUKAN kangal_SIVAS 87.62 309 i P P 14 44 06.4 +1.4
DARE Darende-Malaty 87.63 308 eP P 14 44 06.3 +1.3
MENT Mentasta 87.67 27 eP P 14 44 05.5 +0.9
comp=E,93nm,1.0s
RSDY Resadiye-TOKAT 87.70 310 eP P 14 44 05.7 +0.5
CUGUR Gurin_S¨VAS 87.79 308 i P P 14 44 08.3 +2.5
OBN Obninsk 87.87 325 P P 14 44 05.0 -0.6
comp=E,700nm,0.7s,baz=60,slow=1.5,SNR=108
OBN Obninsk 87.87 325c iP P 14 44 05.2 -0.4
OBN e 14 47 31.5
OBN i S SKSac 14 54 24.3 -3.8
OBN eSS SS 15 00 39.2 +7.8
OBN pmax pmax
comp=Z,1μm,1.0s
OBN MLR MLR
comp=Z,5μm,21.0s
OBN Obninsk 87.87 325 eP P 14 44 04.7 -0.8
comp=Z,913nm,0.8s
SCER sogukcermik 87.87 310 i P P 14 44 08.4 +2.3
CRQM Cirque 88.00 29 eP P 14 44 07.3 +1.0
comp=Z,874nm,2.0s
KUZU Kuzuini 88.00 307 i P P 14 44 07.9 +1.2
HCB Kahramanmara¯ 88.11 307 i P P 14 44 08.4 +1.2
ERBA Erbaa 88.13 310 i P P 14 44 08.0 +0.7
CUALT Altinyayla-SIV 88.17 309 i P P 14 44 09.4 +1.8
ASF Jabal al Asfar 88.29 302 P P 14 44 08.7 +0.5
comp=Z,474nm,0.8s,baz=47,slow=2.4,SNR=365
KAMA Osmaniye 88.31 307 i P P 14 44 09.2 +0.9
DRWC Darouich 88.33 306 i P P 14 44 09.5 +1.2
LVZ Lovozero 88.34 338 eP P 14 44 06.7 -1.0
LVZ pmax pmax
comp=Z,455nm,1.8s
LVZ Lovozero 88.34 338 eP P 14 44 06.7 -1.0
comp=Z,455nm,1.8s
TOKA Tokat 88.35 310 i P P 14 44 09.9 +1.6
BALM Baldy 88.38 29 eP P 14 44 08.2 +0.1
BALM pmax pmax
comp=Z,251nm,1.5s
BALM Baldy 88.38 29 eP P 14 44 08.2 +0.1
comp=Z,251nm,1.5s
SARI SarD1z-Kayseri 88.47 308 eP P 14 44 09.9 +0.8
SAMS Samsun-Alacam 88.54 311 i P P 14 44 10.2 +1.1
CUSAR Sarkisla-SIVAS 88.56 309 i P P 14 44 10.2 +0.7
TOTH TOTAH 88.64 303 i P P 14 44 01.1 -8.8
KVT Kavak 88.66 311 eP P 14 44 10.6 +0.8
TAHT Tahtakopru-Hat 88.73 306 eP P 14 44 11.7 +1.6
EGAK Eagle 88.74 25 eP P 14 44 09.2 -0.4
comp=Z,65nm,0.9s
QASN Qassioun 88.76 303 eP P 14 44 02.3 -8.2
YAYL Yayladag 88.80 306 i P P 14 44 10.7 +0.1
APA Apatity 88.84 337 iP P 14 44 08.7 -1.2
APA i 14 47 40.0
APA i PPP PPP 14 49 41.0
APA i S S 14 54 47.0 -4.9
APA i PS PnS 14 55 58.0 -5.7
APA i SS SS 15 00 44.0 -0.9
BNN Bunyan 88.90 309 eP P 14 44 12.2 +1.1
HAVZ Havza 88.90 311 i P P 14 44 13.1 +2.2
ARNB Al Arnab 88.92 306 i P P 14 44 09.8 -1.3
KOZT Kozan 88.97 307 eP P 14 44 11.7 +0.4
HWQ Hawqa 89.00 304 eP P 14 44 12.6 +1.0
CEYT Ceyhan 89.05 307 eP P 14 44 13.3 +1.6
TCHB Talchebab 89.05 302 i P P 14 44 10.5 -1.2
RCY Rachaya 89.13 303 eP P 14 44 13.5 +1.2
YURE YUREGIR 89.15 307 i P P 14 44 14.0 +1.8
SNOP Sinop 89.24 312 eP P 14 44 12.9 +0.5
KMBO Kilima Mbogo 89.25 269 P P 14 44 14.7 +1.3
comp=Z,102nm,1.0s,baz=65,slow=6.0,SNR=69
KMBO LR LR 15 25 23.7
comp=Z,3μm,18.6s,baz=86,slow=36
KMBO Kilima Mbogo 89.25 269 P P 14 44 15.1 +1.7
SNR=72
KMBO P P 14 44 15.1 +1.7
SNR=72
KMBO Kilima Mbogo 89.25 269 eP P 14 44 12.3 -1.0
comp=Z,991nm,1.9s
BHL Bhannes 89.26 304 eP P 14 44 14.2 +1.3
YAHY KAYSERI_Yahyal 89.31 308 i P P 14 44 13.9 +0.9
DQRL Deir Qamar 89.34 304 eP P 14 44 14.3 +1.2
BEYL Beirut 89.40 304 eP P 14 44 14.0 +0.7
COAL Corum-Alaca 89.50 310 i P P 14 44 14.2 +0.4
BOYT Boyabat 89.50 311 i P P 14 44 14.8 +1.1
MMAI Mount Meron Ar 89.51 303 P P 14 44 14.6 +0.6
comp=Z,72nm,0.6s,baz=75,slow=6.3,SNR=82
KARA Karaisali 89.59 307 eP P 14 44 15.0 +0.8
BYBT Boyabat 89.60 311 eP P 14 44 15.6 +1.5
AVNS Nevsehir-Avano 89.68 309 i P P 14 44 15.5 +0.8
CORM Corum 89.77 310 eP P 14 44 15.8 +0.7
DED Mersin 89.81 307 i P P 14 44 15.6 +0.3
GULE Gulek 89.81 307 i P P 14 44 17.1 +1.7
SIM Simferopol' 89.88 315c iP P 14 44 13.6 -1.7
SIM i 14 47 49.0
SIM i 14 54 36.0
SIM i S S 14 54 56.9 -5.7
SIM ePS PnS 14 56 35.0 +18
SIM pmax pmax
comp=Z,361nm,0.8s
SIM pmax pmax
comp=Z,500nm,10.3s
SIM MLR MLR
comp=N,6μm,21.9s
NIG Nigde 89.90 308 eP P 14 44 17.1 +1.2
HRFI Mount Harif 89.97 300 P P 14 44 17.1 +0.9
CDAG Cicekdag 90.00 309 i P P 14 44 16.6 +0.4
EIL Elat 90.06 300 P P 14 44 17.1 +0.5
BZK Bozkurt 90.14 312 eP P 14 44 16.7 +0.1
GULA Gulagac 90.18 308 eP P 14 44 17.0 0.0
TOS Tosya 90.19 311 eP P 14 44 18.6 +1.6
HOPEN Hopen 90.21 347 eP P 14 44 16.5 +0.3

HOPEN IVmBBB 14 44 17.1
comp=Z,2µm,1.9s
BSTP Nigde 90.30 308 *i* P **P** **14 44 18.9 +1.2**
KERG Konya-Eregli 90.33 307 *i* P **P** **14 44 17.8 +0.1**
KIZK Mersin 90.36 306 *i* P **P** **14 44 18.0 +0.3**
ILGA Ilgaz 90.42 311 *i* P **P** **14 44 19.1 +0.9**
KZIT Kziot 90.48 301 P **P** **14 44 20.2 +1.8**
KAMT Kaman 90.53 309 *e*P **P** **14 44 19.3 +0.7**
AKSY AKSARAY - Alti 90.54 309 *i* P **P** **14 44 18.9 +0.3**
PHNC Paralimni 90.54 305 P **P** **14 44 19.7 +1.1**
BR131 Keskin Array S 90.56 310 *e*P **P** **14 44 17.5 -1.3**
BRTR Keskin Array B 90.56 310 P **P** **14 44 18.4 -0.4**
comp=Z,127nm,1.0s,baz=120,slow=4.4,SNR=213
BRTR PP **PP** **14 47 57.4 +3.0**
comp=Z,24nm,1.0s,baz=108,slow=7.9,SNR=6.6
BRTR PKKPbc **PKKPbc** **15 01 50.1 +3.1**
comp=Z,3.7nm,1.1s,baz=243,slow=0.6,SNR=5.5
BRTR LR LR 15 29 44.5
comp=Z,878nm,21.6s,baz=64,slow=39
DHAK Deception Hill 90.58 31 *e*P **P** **14 44 19.2 +0.9**
comp=Z,119nm,1.2s
ELDT Eldivan 90.67 310 *i* P **P** **14 44 19.9 +0.5**
IKL Isikli 90.75 306 *e*P **P** **14 44 20.3 +0.8**
KEV Kevo 90.90 340 *e*P **P** **14 44 18.4 -1.1**
KEV pmax pmax
comp=Z,83nm,0.9s
KEV Kevo 90.90 340 *e*P **P** **14 44 18.4 -1.1**
comp=Z,83nm,0.9s
BBAL Bala 90.97 309 *i* P **P** **14 44 21.6 +0.8**
AFSR Af˘ar-Bala (A 91.02 309 *e*P **P** **14 44 21.0 +0.1**
CSS Mathiatis 91.12 305 P **P** **14 44 22.3 +0.9**
CSS Mathiatis 91.12 305 P **P** **14 44 20.9 -0.4**
CSS Mathiatis 91.12 305 *e*P **P** **14 44 20.9 -0.4**
comp=Z,68nm,0.9s
KKUL Konya-Kulu 91.16 309 *i* P **P** **14 44 21.6 0.0**
SAFT Safranbolu 91.18 311 *e*P **P** **14 44 22.6 +1.1**
ANTO Ankara 91.20 310 *e*P **P** **14 44 20.5 -1.2**
ANTO pmax pmax
comp=Z,267nm,1.4s
ANTO Ankara 91.20 310 *e*P **P** **14 44 20.5 -1.2**
comp=Z,267nm,1.4s
MAMC Mammari 91.20 305 P **P** **14 44 23.1 +1.4**
BR231 Keskin MP Arra 91.22 310 *e*P **P** **14 44 21.5 -0.3**
CHBY Cihanbeyli 91.22 309 *e*P **P** **14 44 20.8 -1.1**
SYO Syowa Base 91.23 201⇓*e*P **P** **14 44 19.6 -1.4**
SYO Syowa Base 91.23 201⇓*e*PcP **PcP** **14 44 24.6 +2.7**
ERMK Ermenek 91.34 307 *i* P **P** **14 44 23.1 +0.5**
INK Inuvik 91.36 21 P **P** **14 44 21.5 -0.1**
comp=Z,58nm,1.1s,baz=284,slow=4.6,SNR=71
INK PKKPbc **PKKPbc** **15 01 49.2 +3.4**
comp=Z,3.2nm,0.7s,baz=25,slow=4.3,SNR=8.7
INK Inuvik 91.36 21 *e*P **P** **14 44 20.8 -0.9**
INK pmax pmax
comp=Z,143nm,1.3s
INK Inuvik 91.36 21 *e*P **P** **14 44 20.8 -0.9**
comp=Z,144nm,1.3s
INK PKKPbc **PKKPbc** **15 01 49.2 +3.4**
ARA0 ARCESS Array S 91.46 340 *e*P **P** **14 44 20.7 -1.5**
ARCES ARCESS Array B 91.46 340 P **P** **14 44 21.5 -0.6**
comp=Z,111nm,0.7s,baz=76,slow=5.1,SNR=209
ARCES ScS **S** **14 55 18.6 +2.5**
comp=Z,4.0nm,0.7s,baz=93,slow=12,SNR=4.9
ARCES PKKPbc **PKKPbc** **15 01 47.4 +1.8**
comp=Z,1.5nm,0.6s,baz=251,slow=3.7,SNR=7.0
ARCES LR LR 15 28 17.4
comp=Z,3µm,21.2s,baz=100,slow=37
ARE0 ARCESS Array S 91.46 340 *e*P **P** **14 44 21.5 -0.7**
ARE0 IVmB_BB 14 44 22.4
comp=Z,2µm,1.4s
ARE0 IVMs_BB IVMs_BB 15 22 16.6
comp=Z,1µm,19.5s
ARE0 ARCESS Array S 91.46 340 *e*P **P** **14 44 20.8 -1.4**
comp=Z,158nm,0.8s
LEF Lefka 91.47 305 *e*P **P** **14 44 22.3 -0.6**
SZAC Souni 91.50 305 P **P** **14 44 24.2 +1.0**
SPA0 Spitsbergen Ar 91.58 349 *e*P **P** **14 44 22.4 -0.2**
SPA0 IVmB_BB 14 44 29.1
comp=Z,3µm,1.8s
SPA0 *e*SKSac **SKSac** **14 54 48.9 -0.2**
SPA0 IVMs_BB IVMs_BB 15 29 59.5
comp=Z,2µm,19.8s
SPA0 Spitsbergen Ar 91.58 349 *e*P **P** **14 44 21.2 -1.4**
SPITS Spitsbergen Ar 91.58 349 P **P** **14 44 21.6 -1.1**
comp=Z,76nm,0.7s,baz=128,slow=13,SNR=127
BCAM Yenicaga 91.68 311 *i* P **P** **14 44 24.1 +0.2**
KONT Konya--Tatoy 91.69 308 *e*P **P** **14 44 23.9 -0.1**
ALFC Alefka 91.71 305 P **P** **14 44 25.0 +0.9**
KDHN Kadinhani 91.83 309 *i* P **P** **14 44 24.0 -0.7**
HAMF Hammerfest 91.84 341 *e*P **P** **14 44 21.7 -2.2**
HAMF IVmB_BB 14 44 23.8
comp=Z,2µm,1.1s
HAMF *e*PP **PP** **14 48 04.0 +0.7**
HAMF *e*SKSac **SKSac** **14 54 49.5 -1.1**
GAZI Gazipasa 91.85 306 *i* P **P** **14 44 24.6 -0.1**
AKMC Akamas 91.94 305 P **P** **14 44 25.9 +0.8**
KIZT Kizilcal 91.98 309 *e*P **P** **14 44 25.8 +0.4**
SKAG Skagway 92.00 30 *e*P **P** **14 44 25.4 +0.6**
comp=Z,78nm,0.9s
KDZE Karadeniz Ereo 92.11 311 *e*P **P** **14 44 24.3 -1.5**
KBS Kingsbay 92.11 350 *e*P **P** **14 44 24.8 -0.2**
KBS IVmB_BB 14 44 25.5
comp=Z,911nm,2.4s
KBS *e*PP **PP** **14 48 04.6 -0.8**
KBS *e* 14 54 52.9
KBS IVMs_BB IVMs_BB 15 33 54.4
comp=Z,1µm,19.9s
KBS Kingsbay 92.11 350 *e*P **P** **14 44 24.3 -0.7**
KBS pmax pmax
comp=Z,48nm,0.8s
KBS Kingsbay 92.11 350 *e*P **P** **14 44 24.3 -0.7**
comp=Z,48nm,0.8s
BJO Bjornoya 92.13 345 IVmB_BB 14 44 25.3
comp=Z,1µm,1.8s
BJO *e*P **P** **14 44 25.3 +0.2**
BJO *e*PP **PP** **14 48 06.2 +0.6**
BJO IVMs_BB IVMs_BB 15 34 21.3
comp=Z,1µm,19.1s
HSPB Hornsund (broa 92.17 348 *e*P **P** **14 44 24.2 -1.1**
HSPB IVmB_BB 14 44 32.1
comp=Z,3µm,0.4s
HSPB *e*SKSac **SKSac** **14 54 56.9 +4.5**
HSPB IVMs_BB IVMs_BB 15 32 08.3
comp=Z,2µm,20.1s
HSPB Hornsund (broa 92.17 348 *e*P **P** **14 44 24.5 -0.8**
HSPB *e* 14 48 09.5
HSPB *e*S **S** **14 55 22.8 +0.6**
SVRH Sivrihisar-ESK 92.21 309 *e*P **P** **14 44 26.0 -0.4**
KTK1 Kautokeino 92.36 339 *e*P **P** **14 44 24.2 -2.1**
KTK1 IVmB_BB 14 44 26.2
comp=Z,1µm,2.0s
MDUB Mudurnu 92.37 311 *e*P **P** **14 44 26.3 -0.8**
QSPA South Pole Qui 92.46 180 *e*P **P** **14 44 27.8 +0.8**
BTAS Taskesti 92.51 311 *i* P **P** **14 44 28.5 +0.8**
SAHE Sakarya_HENDEK 92.59 311 *i* P **P** **14 44 27.9 -0.2**
AKASG Malin Array Be 92.63 321 P **P** **14 44 26.7 -1.2**
comp=Z,66nm,0.8s,baz=74,slow=4.4,SNR=79
AKASG LR LR 15 30 31.8
comp=Z,2µm,20.2s,baz=70,slow=38
AKASG Malin Array Be 92.63 321 P **P** **14 44 26.7 -1.2**
AKASG pmax pmax
comp=Z,86nm,0.8s
AKBB Malin Array Si 92.63 321 *e*P **P** **14 44 26.9 -1.0**
AKBB pmax pmax
comp=Z,436nm,1.6s
AKBB Malin Array Si 92.63 321 *e*P **P** **14 44 26.9 -1.0**
comp=Z,436nm,1.6s
AK11 Malin Array Si 92.67 321 *e*P **P** **14 44 27.4 -0.7**
BOLV Bolvadin 92.72 309 *i* P **P** **14 44 27.7 -1.2**
ESKT Eskisehir 92.72 310 *e*P **P** **14 44 29.3 +0.5**
ESKT Eskisehir 92.72 310 *i* P **P** **14 44 29.0 +0.1**
FINES FINESS Array B 92.74 332 P **P** **14 44 27.2 -1.0**
comp=Z,90nm,0.7s,baz=90,slow=5.7,SNR=85
FINES LR LR 15 28 34.5
comp=Z,4µm,18.4s,baz=82,slow=37
GULT Gulveren 92.89 311 *e*P **P** **14 44 30.4 +0.9**
BAGO Egridir - ISPA 92.92 308 *i* P **P** **14 44 29.7 0.0**
MICGM Minsk 92.92 325⇑*e*P **P** **14 44 29.0 -0.2**
MICGM ⇑*e*P **P** **14 44 29.0 -0.2**
MICGM PM 14 44 30.0
comp=Z,0.4nm,1.1s
MICGM *e*PP **PP** **14 48 12.0 -0.3**
MICGM *e*PPP PPP 14 50 08.0
MICGM *e*SKS **SKSac** **14 54 54.0 -3.4**
MICGM *e*S **S** **14 55 25.0 -4.7**
MICGM *e*SS SS 15 01 18.0 -26
MICGM *e*SSS SSS 15 05 22.0
MICGM *e*LQ LQ 15 15 40.0
MICGM LQM 15 23 00.0
MICGM *e*LR LR 15 24 18.0
MICGM LRM MLR 15 29 40.0
comp=Z,7.4nm,22.0s
MICGM LRM MLR 15 29 46.0
comp=E,4.3nm,24.0s
MNK Minsk 92.92 325*c**e*P **P** **14 44 29.0 -0.2**
MNK *e* 14 48 12.0
MNK *e* 14 54 54.0
MNK *e*S **S** **14 55 25.0 -4.7**
MNK *e*SSS SSS 15 05 22.0
MNK pmax pmax
comp=Z,370nm,1.1s
MNK MLR MLR
comp=Z,7µm,22.0s
MNK MLR MLR
comp=E,4µm,24.0s
BORA Eskisehir 92.99 310 *i* P **P** **14 44 30.3 +0.3**
SPNC Sapanca-Adapaz 93.02 311 *e*P **P** **14 44 31.2 +1.3**
KAND Kocaeli-Kandir 93.07 311 *i* P **P** **14 44 30.2 0.0**
ISP Isparta 93.14 308 *e*P **P** **14 44 30.4 -0.4**
ISP Isparta 93.14 308 P **P** **14 44 29.5 -1.3**
ISP Isparta 93.14 308 P **SKSac** **14 54 56.0 -3.6**
ISP Isparta 93.14 308 *e*P **P** **14 44 29.8 -1.0**
ISP Isparta 93.14 308 *e*P **P** **14 44 28.9 -1.8**
comp=E,213nm,1.3s
KIS Kishinev 93.37 317 *e*P **P** **14 44 31.0 -0.4**
comp=E,600nm,1.9s
KIS Kishinev 93.37 317 *i* PP PP 14 48 18.0 +2.0
KIS Kishinev 93.37 317 *e*PPP PPP 14 50 18.0
KIS *i* SKS **SKSac** **14 54 57.0 -3.1**
KIS *i* SKKS **SKKSac** **14 55 12.0 -7.6**
KIS *i* S **S** **14 55 28.0 -6.0**
KIS Kishinev 93.37 317 *i* PS PS 14 56 47.0 -8.4
KIS Kishinev 93.37 317 *e*P **P** **14 44 31.0 -0.4**
KIS *i* 14 48 18.0
KIS *e*PPP PPP 14 50 18.0
KIS *i* 14 54 57.0
KIS *i* S **S** **14 55 28.0 -6.0**
KIS *i* PS **PS** **14 56 47.0 -8.4**
KIS pmax pmax
comp=Z,1µm,10.0s
CAVI Cavuskoy 93.43 310 *e*P **P** **14 44 31.6 -0.3**
IDID Didziasalis 93.45 326 *e*P **P** **14 44 31.7 +0.1**
IDID IAmb IAmb 14 44 34.6
comp=Z,52nm,0.7s
ADVT Abdulvahap 93.48 311 *e*P **P** **14 44 32.4 +0.3**
HRT Hereke 93.49 311 *e*P **P** **14 44 30.9 -1.3**
NACGM Naroch 93.49 325 *e*P **P** **14 44 30.0 -1.8**
NACGM *e*P **PcP** **14 44 31.0 -1.3**
NACGM PM 14 44 38.0
comp=Z,0.5nm,0.8s
NACGM *e*PP **PP** **14 48 16.0 -0.8**
NACGM *e*PPP PPP 14 50 18.0
NACGM *e*SKS **SKSac** **14 55 06.0 +5.5**
NACGM *e*S **S** **14 55 28.0 -6.7**
NACGM *e*PS **PS** **14 56 42.0 -14**
NACGM *e*SS **SS** **15 01 44.0 -8.6**
NACGM *e*SSS SSS 15 07 12.0
NACGM *e*LQ LQ 15 15 42.0
NACGM *e*LR LR 15 22 50.0
NACGM LRM MLR 15 28 28.0
comp=Z,4.9nm,22.0s
TLCR 93.60 315⇑*i*P **P** **14 44 33.3 +0.8**
TLCR 93.60 315⇑⇑P **P** **14 44 33.3 +0.8**
IZAR Zarasai 93.66 326 *e*P **P** **14 44 32.6 +0.1**
IZAR IAmb IAmb 14 44 35.5
comp=Z,46nm,0.7s
TRO Tromso 93.67 340 *e*P **P** **14 44 30.4 -1.9**
TRO IVmB_BB 14 44 32.2
comp=Z,1µm,1.7s
TRO *e*PP **PP** **14 48 17.5 -0.2**
TRO *e*SKSac **SKSac** **14 54 57.9 -2.9**
IZI Iznik 93.69 311 *e*P **P** **14 44 34.0 +0.8**
TAOE Nuku Hiva Isla 93.74 99 *e*S **S** **14 55 37.1 -1.6**
comp=Z,4µm,28.2s
TAOE Nuku Hiva Isla 93.74 99 *e*PS PS 14 57 00.4 -0.6
comp=Z,2µm,32.3s
TAOE *e*SS SS 15 01 52.0 -6.6
comp=Z,3µm,28.4s
TAOE Nuku Hiva Isla 93.74 99 *e*LR LR 15 14 54.1
comp=Z,7µm,23.6s
ISAL Salakas 93.75 326 *e*P **P** **14 44 33.1 +0.1**
ISAL IAmb IAmb 14 44 35.9
comp=Z,32nm,0.7s
TVSB Tavsanli 93.80 310 *e*P **P** **14 44 34.0 +0.3**
CRAG Craig 93.82 34 *e*P **P** **14 44 33.3 0.0**
comp=Z,111nm,1.3s
LEOM Leova 93.83 317 P **P** 14 44 38.8 +5.3
LEOM Leova 93.83 317⇑*i*P **P** **14 44 34.0 +0.5**
LEOM Leova 93.83 317⇑⇑P **P** **14 44 34.0 +0.5**
BUY Buyukada 93.90 311 *i* P **P** **14 44 34.2 +0.1**
IGD Bursa 93.91 310 *i* P **P** **14 44 33.3 -0.8**
KLYT Kilyos 93.91 311 *e*P **P** **14 44 31.6 -2.4**
ISK Istanbul-Kandi 93.92 311 *e*P **P** **14 44 34.2 +0.1**
ISK Istanbul-Kandi 93.92 311 P **P** **14 44 33.6 -0.5**
MANR Mangalia 93.93 314⇓*i*P **P** **14 44 34.9 +0.8**
GOLH Golhisar 93.96 307 *i* P **P** **14 44 34.2 -0.3**
TIRR Tirgusor 93.97 315⇓*i*P **P** **14 44 34.7 +0.4**
TIRR Tirgusor 93.97 315⇓P **P** **14 44 34.7 +0.4**
TIRR Tirgusor 93.97 315 *e*P **P** **14 44 33.1 -1.1**
comp=Z,94nm,1.0s
GLHS Glhisar (BURDU 94.02 307 *e*P P 14 44 28.7 -6.2
CFR Carcaliu 94.08 315⇓*i*P **P** **14 44 35.3 +0.6**
CFR Carcaliu 94.08 315⇓*i*P **SKSac** **14 55 09.0 +5.0**
CFR Carcaliu 94.08 315⇓⇓P **P** **14 44 35.3 +0.6**
WRAK Wrangell Islan 94.08 33 *e*P **P** **14 44 35.0 +0.6**
comp=Z,137nm,0.9s
BGKT Bogazkoy 94.12 311 *e*P **P** **14 44 33.9 -1.1**
ARMT Armutlu 94.13 311 *e*P **P** **14 44 34.9 -0.2**
IAS Iasi 94.19 318⇓*i*P **P** **14 44 35.8 +0.6**
IAS Iasi 94.19 318⇓⇓P **P** **14 44 35.8 +0.6**
HARR Harsova 94.28 315⇑*i*P **P** **14 44 36.2 +0.5**
HARR Harsova 94.28 315⇑⇑P **P** **14 44 36.2 +0.5**
CTKS Kestanelik-??a 94.31 311 *e*P **P** **14 44 36.7 +0.8**
DNZL Cakiroluk 94.32 308 *i* P **P** **14 44 37.5 +1.2**
DENT Denizli 94.33 308 *e*P **P** **14 44 36.3 +0.1**
FETY Fethiye 94.41 307 *e*P **P** **14 44 35.9 -0.6**
MSAB Monastry St. A 94.44 314⇑*i*P **P** **14 44 36.9 +0.5**
KULA Kula-Manisa 94.53 309 *e*P **P** **14 44 37.4 +0.3**
KULA Kula-Manisa 94.53 309 P **P** **14 44 36.3 -0.8**
AMRR Amara 94.72 315⇑*i*P P 14 44 43.9 +6.2
AMRR Amara 94.72 315⇑⇑P P 14 44 43.9 +6.2
ODBI Odobesti 94.75 316⇑*i*P **P** **14 44 39.0 +1.2**
ODBI Odobesti 94.75 316⇓*i*P SKSac 14 55 23.0 +15
TURN Turunc 94.77 307 *i* P **P** **14 44 39.7 +1.6**
GRER 94.86 316⇓*i*P **P** **14 44 40.0 +1.7**
PRD Provadia 94.87 314 *i* P **P** **14 44 38.2 -0.2**
DLBC Dease Lake 94.89 31 P **P** **14 44 38.6 +0.3**
comp=Z,24nm,0.7s,baz=289,slow=4.4,SNR=60
DLBC Dease Lake 94.89 31 *e*P **P** **14 44 38.8 +0.5**
comp=Z,81nm,1.2s
TESR Tescani 94.91 317⇓*i*P **P** **14 44 39.3 +0.7**
TESR Tescani 94.91 317⇑*i*P **SKSac** **14 55 17.9 +9.3**
PGOR Pogoanele 94.92 315⇑*i*P **P** **14 44 40.8 +2.2**
VRI Vrincioaia 94.96 316 *e*P **P** **14 44 40.2 +1.4**
VRI Vrincioaia 94.96 316⇑*i*P **P** **14 44 39.0 +0.2**
VRI Vrincioaia 94.96 316⇑*i*P **SKSac** **14 55 19.3 +10**
VRI Vrincioaia 94.96 316⇑⇑P **P** **14 44 39.0 +0.2**
YER Yerkesik 94.99 307 P **P** **14 44 39.0 -0.2**
BALB Balikesir 94.99 310 *e*P **P** **14 44 39.3 +0.3**
PHSR Pinarhisar 95.00 312 *e*P **P** **14 44 40.3 +1.2**
PLOR Plostina 95.01 316⇓*i*P **P** **14 44 39.5 +0.4**
PLOR Plostina 95.01 316⇑*i*P **SKSac** **14 55 17.8 +8.6**
PLOR Plostina 95.01 316⇓⇓P **P** **14 44 39.5 +0.4**
PRAR RASCA 95.06 318⇓*i*P **P** **14 44 39.6 +0.4**
AKS Akhisar 95.14 309 *e*P **P** **14 44 40.4 +0.6**
AYDB Zeytinkoy-Aydi 95.20 308 *e*P **P** **14 44 40.9 +0.6**
ISR Istrita 95.20 316⇑*i*P **P** **14 44 41.3 +1.3**
ISR Istrita 95.20 316⇑*i*P **SKKSac** **14 55 34.3 +0.9**
ISR Istrita 95.20 316⇑⇑P **P** **14 44 41.3 +1.3**
SULR 95.47 315⇑*i*P **P** **14 44 41.4 +0.3**
STEI Steigen 95.50 339 *e*P **P** **14 44 40.4 -0.3**
STEI IVmB_BB 14 44 40.7
comp=Z,1µm,0.3s
EDRB Edirne 95.54 312 *e*P **P** **14 44 41.9 +0.4**
EDRB Edirne 95.54 312 P **P** **14 44 40.8 -0.7**
EDRB Edirne 95.54 312 P **SKSac** **14 55 12.5 +0.4**
SECR 95.55 316⇓*i*P **P** **14 44 42.9 +1.4**
MLR Muntele Rosu 95.56 316 P **P** **14 44 41.4 -0.3**
comp=Z,28nm,0.8s,baz=25,slow=1.0,SNR=118
MLR PP **PP** **14 48 35.1 +1.8**
comp=Z,29nm,1.2s,baz=72,slow=4.6,SNR=8.0
MLR Muntele Rosu 95.56 316⇓*i*P **P** **14 44 41.8 +0.1**
MLR Muntele Rosu 95.56 316⇓*i*P **SKSac** **14 55 18.2 +5.9**
MLR Muntele Rosu 95.56 316 *e*P **P** **14 44 40.8 -0.9**
comp=Z,367nm,1.3s
MLR PP **PP** **14 48 35.1 +1.8**
JMB Yambol 95.57 313 *i* P **P** **14 44 42.1 +0.5**
IZM Izmir 95.63 309 *e*P **P** **14 44 42.8 +0.7**
BDRM Kayabasi 95.66 307 *i* P **P** **14 44 42.2 0.0**
BURAR Bucovina Array 95.70 318⇑*i*P **P** **14 44 43.0 +0.8**
BURAR Bucovina Array 95.70 318⇓*i*P **SKSac** **14 55 11.4 -1.5**
BURAR Bucovina Array 95.70 318⇑P **P** **14 44 43.0 +0.8**
BUR08 Bucovina Ar. S 95.70 318 *e*P **P** **14 44 41.9 -0.4**
SUW Suwalki 95.73 325 *e*P **P** **14 44 42.0 -0.1**
SUW LMZ LR 15 24 39.1
comp=Z,6µm,29.6s
SUW Suwalki 95.73 325 *e*P **P** **14 44 42.0 -0.1**
KESN Edirne-Kesan 95.74 311 *i* P **P** **14 44 42.9 -0.1**
LPK Lapseki 95.74 311 *e*P **P** **14 44 43.6 +1.1**
GCAM G?zelcaml? 95.75 308 *i* P **P** **14 44 43.3 +0.8**
DOPR Dopca 95.86 317⇓*i*P **P** **14 44 43.0 +0.1**
DOPR Dopca 95.86 317⇑*i*P **SKSac** **14 55 19.9 +6.2**
SZH Strazhica 95.92 314 *i* P **P** **14 44 42.6 -0.6**
NIS1 Nisyros Isl. 95.94 307 P **SKSac** **14 55 11.7 -2.8**
AYVA Ayvalik 95.95 310 *i* P **P** **14 44 43.5 +0.1**
DGB ˙zmir 95.97 308 *i* P **P** **14 44 44.1 +0.6**
LOF Lofoten 96.02 340 *e*P **P** **14 44 41.9 -1.2**
LOF IVmB_BB 14 44 44.8
comp=Z,1µm,2.2s
LOF *e*PP **PP** **14 48 34.8 -1.2**
LOF *e*SKSac **SKSac** **14 55 14.2 +0.7**
SMG Samos 96.06 308 P **P** **14 44 43.8 -0.2**
LVV L'vov 96.06 320*d**i*P **P** **14 44 42.6 -1.1**
LVV *e* 14 55 13.2
LVV *e*S **S** **14 55 56.2 -1.2**
KARP Karpathos 96.09 306 P **P** **14 44 44.4 +0.2**
KARP Karpathos 96.09 306 *e*P **P** **14 44 43.7 -0.5**
comp=Z,73nm,0.9s
ENEZ Enez 96.15 311 *e*P **P** **14 44 45.3 +1.0**
ENEZ Enez 96.15 311 P **P** **14 44 43.7 -0.6**
ENEZ Enez 96.15 311 P **SKSac** **14 55 13.5 -1.8**
EZN Ezine 96.15 310 P **P** **14 44 43.7 -0.6**
URLA Izmir 96.16 309 *i* P **P** **14 44 44.3 -0.2**
VOIR 96.19 316⇓*i*P **P** **14 44 44.5 0.0**
VOIR 96.19 316⇓⇓P **P** **14 44 44.5 0.0**
ALN Alexandroupoli 96.20 311 *e*P **P** **14 44 43.9 -0.7**
ALN Alexandroupoli 96.20 311 P **P** **14 44 43.1 -1.4**
ALN Alexandroupoli 96.20 311 P **SKSac** **14 55 13.5 -2.1**
MTUR Matau 96.22 316⇑*i*P **P** **14 44 44.8 +0.2**
MTUR Matau 96.22 316⇑⇑P **P** **14 44 44.8 +0.2**
ZEV ˙zmir 96.25 309 *i* P **P** **14 44 44.8 0.0**
ZIMR 96.27 314⇓*i*P **P** **14 44 45.8 +1.0**
ZIMR 96.27 314⇓⇓P **P** **14 44 45.8 +1.0**
PRK Paraskevi 96.28 310 P **P** **14 44 43.9 -1.0**
PRK Paraskevi 96.28 310 P **SKSac** **14 55 14.6 -1.5**
BOZC Bozcaada 96.36 310 *i* P **P** **14 44 45.5 +0.2**
ARCR ARCALIA 96.37 318⇑*i*P **P** **14 44 46.2 +1.0**
HUMR Humele 96.39 315⇑*i*P **P** **14 44 44.8 -0.5**
GADA Gvkgeada 96.42 311 *e*P **P** **14 44 45.5 0.0**
GADA Gvkgeada 96.42 311 P **P** **14 44 44.4 -1.2**
GADA Gvkgeada 96.42 311 P **SKSac** **14 55 15.4 -1.4**
ARR Arges 96.49 316⇑*i*P **P** **14 44 46.3 +0.4**
ARR Arges 96.49 316⇓*i*P **SKSac** **14 55 24.6 +7.5**
KDZ Kurdzhali 96.56 312 *i* P **P** **14 44 45.4 -0.8**
CHOS Chios island 96.57 309 P **P** **14 44 45.4 -1.0**
SIGR SIGRI 96.60 310 *e*P **P** **14 44 46.6 +0.2**
SIGR SIGRI 96.60 310 P **P** **14 44 45.4 -1.0**
SMTH Samothraki Isl 96.66 311 P **P** **14 44 45.8 -0.9**
SMTH Samothraki Isl 96.66 311 P **SKSac** **14 55 16.2 -1.9**
KONS Konsvik 96.79 338 *e*P **P** **14 44 45.2 -1.4**
KONS IVmB_BB 14 44 46.4
comp=Z,882nm,1.3s
BMR Baia Mare 96.83 318⇓*i*P **P** **14 44 48.6 +1.4**
BMR Baia Mare 96.83 318⇓⇓P **P** **14 44 48.6 +1.4**
KWP Kalwaria Pacla 96.94 320 *e*P **P** **14 44 47.6 -0.1**
KWP LMZ LR 15 24 39.7
comp=Z,5µm,33.5s
KWP Kalwaria Pacla 96.94 320⇑*i*P **P** **14 44 48.1 +0.4**
KWP Kalwaria Pacla 96.94 320 *e*P **P** **14 44 47.6 -0.1**
CJR Cluj-Napoca 96.95 317⇑*i*P **P** **14 44 48.9 +1.0**
CJR Cluj-Napoca 96.95 317⇑⇑P **P** **14 44 48.9 +1.0**
LIA Limnos Island 97.01 311 P **P** **14 44 47.1 -1.1**
LIA Limnos Island 97.01 311 P **SKSac** **14 55 15.3 -4.5**
RZN Rozhen 97.07 312 *i* P **P** **14 44 47.8 -0.9**
LOT Lotru 97.07 316 *e*P **P** **14 44 47.8 -0.8**
LOT Lotru 97.07 316⇑*i*P Pdif 14 44 48.9 +0.3
CRAR CRAIOVA 97.26 315⇑*i*P Pdif 14 44 50.4 +1.1
CRAR CRAIOVA 97.26 315⇑⇑P Pdif 14 44 50.4 +1.1
PGB Panagyurishte 97.32 313 *i* P **P** **14 44 48.8 -0.9**
KAVA Kavala 97.33 312 P **P** **14 44 48.8 -0.9**
KAVA Kavala 97.33 312 P **SKSac** **14 55 18.3 -3.2**
TRPA Tarpa 97.37 319⇓⇓*e*P Pdif 14 44 49.8 +0.1
KOLS Kolonicke sedl 97.37 320 *e*P Pdif 14 44 50.4 +0.7
KOLS *e* 14 55 20.7
KOLS *e*S **S** **14 56 05.5 -3.2**
KOLS pmax pmax
comp=Z,108nm,1.2s
KOLS Kolonicke sedl 97.37 320 *e*P Pdif 14 44 50.4 +0.7
KOLS *e* 14 55 20.7
KOLS *e*S **S** **14 56 05.5 -3.2**
KOLS *e*L L 15 25 38.2
NPS Neapolis 97.38 306 P Pdif 14 44 50.1 0.0
UZH Uzhgorod 97.42 320 *e*P Pdif 14 44 50.2 +0.3
UZH *e* 14 45 12.6
UZH *e* 14 48 56.8
UZH *e* 14 50 56.8
UZH *e* 14 55 16.0
UZH *e*S **S** **14 56 04.6 -4.4**
UZH *e* 14 57 35.4
UZH *e* 15 03 01.6
MPEP Malo Peshtene 97.48 314 *i* P **P** **14 44 49.8 -0.5**
LAST Lasithi 97.50 306 P **P** **14 44 50.5 -0.2**
LAST Lasithi 97.50 306 P **SKSac** **14 55 21.6 -1.2**
LAST Lasithi 97.50 306 *e*P **P** **14 44 50.1 -0.6**
comp=Z,121nm,0.9s
DRGR 97.53 318⇑*i*P Pdif 14 44 50.6 0.0
DRGR 97.53 318⇑*i*P **SKSac** **14 55 30.2 +7.8**
DRGR 97.53 318⇑⇑P Pdif 14 44 50.6 0.0
DEV Deva 97.58 317⇓*i*P Pdif 14 44 51.4 +0.7
DEV Deva 97.58 317⇓⇓P Pdif 14 44 51.4 +0.7
SRE Strehaia 97.61 316⇑*i*P Pdif 14 44 51.4 +0.5
SRE Strehaia 97.61 316⇑⇑P Pdif 14 44 51.4 +0.5
BEL Belsk 97.63 323 *e*P Pdif 14 44 51.3 +0.5
BEL LMZ LR 15 27 37.9
comp=Z,4µm,24.1s
BEL Belsk 97.63 323 *e*P Pdif 14 44 51.3 +0.5
BEL MLR MLR
comp=Z,4µm,24.1s
NVR Nevrokopi 97.76 312 P **P** **14 44 50.1 -1.5**
NVR Nevrokopi 97.76 312 P **SKSac** **14 55 19.8 -3.9**
MMB Musomniste 97.81 312 *i* P **P** **14 44 50.6 -1.3**
OUR Ouranopolis 97.85 311 *e*P **P** **14 44 51.5 -0.4**
OUR Ouranopolis 97.85 311 P **P** **14 44 50.3 -1.7**
CRVS Cervenica-Dubn 97.90 320 *e*P Pdif 14 44 52.4 +0.3
CRVS *e* 14 48 49.4
CRVS *e* 14 55 22.8
CRVS *e*S **S** **14 56 11.1 -2.1**
CRVS Cervenica-Dubn 97.90 320 *e*P Pdif 14 44 52.3 +0.2
CRVS *e*PP **PP** **14 48 49.4 -1.7**
CRVS *e* 14 55 22.8
CRVS *e*S **S** **14 56 11.0 -2.1**
STHS Stebnicka Huta 97.92 320 *e*P Pdif 14 44 53.0 +0.8
STHS pmax pmax
comp=Z,52nm,0.9s
STHS Stebnicka Huta 97.92 320 *e*P Pdif 14 44 53.0 +0.8
IDI Anoyia 97.96 306 P **P** **14 44 52.4 -0.4**
comp=Z,68nm,0.8s,baz=59,slow=6.6,SNR=4.3
IDI PP **PP** **14 48 52.8 +0.8**
comp=Z,24nm,0.8s,baz=83,slow=11,SNR=4.5
IDI Anoyia 97.96 306 P **P** **14 44 52.0 -0.7**
IDI Anoyia 97.96 306 P **SKSac** **14 55 23.0 -2.1**
IDI Anoyia 97.96 306 *e*P **P** **14 44 51.8 -1.0**
comp=Z,92nm,1.0s
IDI PP **PP** **14 48 52.8 +0.8**
SRS Serrai 98.00 312 P **P** **14 44 50.3 -2.4**
SRS Serrai 98.00 312 P **SKSac** **14 55 21.6 -3.3**
NSS Namsos 98.01 337 *e*P **P** **14 44 51.1 -1.1**
NSS IVmB_BB 14 44 51.5

	comp=Z,659nm,1.6s							
NSS				*e*PP	**PP**	**14 48 50.3**	**-1.0**
NSS				IVMs_BB	IVMs_BB	15 34 50.8	
	comp=Z,2µm,22.2s							
SOH	**Sokhos**	**98.23 312**	P	**P**		**14 44 52.7**	**-1.1**
PLG	**Polygyros**	**98.24 311**	P	**P**		**14 44 52.8**	**-1.0**
PTL	**Penteli**	**98.33 309**	P	**P**		**14 44 52.6**	**-1.7**
MATP	**Matopo**	**98.34 250**	P	Pdif		14 44 54.8	0.0
	comp=Z,24nm,1.0s,baz=93,slow=4.7,SNR=27							
MATP			PP	**PP**		**14 48 58.7**	**+3.2**
	comp=Z,15nm,1.1s,baz=101,slow=7.0,SNR=3.9							
SIRR	**Siria**	**98.35 317** ⇓	*i*P	Pdif		14 44 54.5	+0.3
DAG	**Danmarks Havn**	**98.38 352** ⇑	*i*P	**P**		**14 44 52.3**	**-1.3**
DAG			*i*			14 48 56.7	
DAG			pmax	pmax			
	comp=Z,69nm,0.8s							
DAG	**Danmarks Havn**	**98.38 352** ⇑	*i*P	**P**		**14 44 52.3**	**-1.3**
	comp=Z,93nm,0.8s							
DAG			*i*			14 48 56.7	
ATHU	**Athens Univers**	**98.41 309**	P	**P**		**14 44 53.0**	**-1.6**
VLY	**Voula,Athens**	**98.42 309**	P	**P**		**14 44 52.7**	**-1.9**
VLY	**Voula,Athens**	**98.42 309**	P	**SKSac**		**14 55 23.8**	**-3.3**
SKIA	**Skiathos**	**98.44 310**	P	**P**		**14 44 53.6**	**-1.1**
SKIA	**Skiathos**	**98.44 310**	P	**SKSac**		**14 55 22.4**	**-4.8**
ATH	**Athens Observa**	**98.46 309**	P	**P**		**14 44 53.0**	**-1.8**
HORT	**Hortiatis**	**98.46 311**	*e*P	**P**		**14 44 53.1**	**-1.8**
HORT	**Hortiatis**	**98.46 311**	P	**P**		**14 44 53.0**	**-1.9**
HORT	**Hortiatis**	**98.46 311**	P	**SKSac**		**14 55 23.2**	**-4.2**
VAM	**Vamos**	**98.50 306**	P	**P**		**14 44 54.9**	**-0.2**
NIE	**Niedzica**	**98.52 321**	*e*Pdiff	Pdif		14 44 55.7	+0.8
NIE			*e*PP	**PP**		**14 48 55.0**	**-0.8**
NIE			LMZ	LR		15 25 34.3	
	comp=Z,3µm,31.1s							
NIE	**Niedzica**	**98.52 321**	*e*P	Pdif		14 44 55.7	+0.8
NIE			*e*			14 48 55.0	
BZS	**Buzias**	**98.52 317** ⇑	*i*P	Pdif		14 44 55.2	+0.3
BZS	**Buzias**	**98.52 317** ⇑	*i*P	**SKSac**		**14 55 33.3**	**+6.0**
BZS	**Buzias**	**98.52 317** ⇑	P	Pdif		14 44 55.2	+0.3
THE	**Thessaloniki**	**98.56 312**	P	**P**		**14 44 53.7**	**-1.4**
THE	**Thessaloniki**	**98.56 312**	P	**SKSac**		**14 55 23.2**	**-4.5**
KECS	**Kecovo**	**98.62 320**	*e*P	**P**		**14 44 55.3**	**0.0**
KECS			pmax	pmax				
	comp=Z,60nm,1.2s							
KECS	**Kecovo**	**98.62 320**	*e*P	**P**		**14 44 55.3**	**0.0**
MDVR	**Moldovita**	**98.63 316** ⇑	*i*P	Pdif		14 44 55.8	+0.3
OJC	**Ojcow**	**98.64 322**	*e*Pdiff	**P**		**14 44 54.9**	**-0.4**
OJC			*e*PP	**PP**		**14 48 59.2**	**+2.5**
OJC			LMZ	LR		15 27 53.8	
	comp=Z,6µm,28.9s							
OJC	**Ojcow**	**98.64 322**	*e*P	**P**		**14 44 54.9**	**-0.4**
OJC			*e*			14 48 59.2	
OJC	**Ojcow**	**98.64 322**	*e*P	**P**		**14 44 54.8**	**-0.6**
	comp=Z,98nm,1.0s							
LSZ	**Lusaka**	**98.64 255**	P	**P**		**14 44 56.1**	**-0.1**
	comp=Z,27nm,0.8s,baz=108,slow=3.7,SNR=25							
LSZ			PP	**PP**		**14 49 01.5**	**+3.6**
	comp=Z,22nm,1.1s,baz=80,slow=8.1,SNR=3.6							
LSZ			S	**SKSac**		**14 55 28.2**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=267,slow=21,SNR=12							
IMMV	**Iera Moni Meta**	**98.67 306**	P	**P**		**14 44 55.2**	**-0.6**
SMIA	**Simia**	**98.69 310**	P	**P**		**14 44 53.9**	**-2.0**
VAV	**Valandovo**	**98.72 312**	*i*P	**P**		**14 44 55.2**	**-0.6**
VILL	**Villia**	**98.74 309**	P	**P**		**14 44 52.8**	**-3.3**
VILL	**Villia**	**98.74 309**	P	**SKSac**		**14 55 24.3**	**-4.6**
FYTO	**Fytoko, Volos**	**98.80 310**	P	**P**		**14 44 53.9**	**-2.4**
ATAL	**Atalanti**	**98.87 310**	P	**P**		**14 44 54.7**	**-1.9**
ATAL	**Atalanti**	**98.87 310**	P	**SKSac**		**14 55 24.6**	**-4.8**
RKT	**Rikitea**	**98.88 113**	*e*S	**S**		**14 56 20.1**	**-2.3**
	comp=Z,3µm,35.2s							
RKT	**Rikitea**	**98.88 113**	*e*PS	PS		14 58 02.3	+5.8
	comp=Z,1µm,41.5s							
RKT			*e*SS	SS		15 03 11.6	+1.0
	comp=Z,3µm,30.2s							
RKT			*e*LQ	LQ		15 13 05.4		
	comp=Z,8µm,34.5s							
RKT			*e*LR	LR		15 17 14.0		
	comp=Z,6µm,33.2s							
LKR	**Lokris**	**98.89 310**	P	**P**		**14 44 54.3**	**-2.4**
BANR	**Banloc**	**98.90 317** ⇓	*i*P	Pdif		14 44 58.8	+2.2
DID	**Didima**	**98.91 308**	P	**P**		**14 44 54.3**	**-2.6**
DID	**Didima**	**98.91 308**	P	**SKSac**		**14 55 25.8**	**-3.9**
GRG	**Griva**	**98.91 312**	*e*P	**P**		**14 44 55.7**	**-1.1**
GRG	**Griva**	**98.91 312**	P	**P**		**14 44 55.2**	**-1.6**
KRND	**KRANIDI**	**99.00 308**	P	**SKSac**		**14 55 26.1**	**-4.0**
LIT	**Litokhoron**	**99.01 311**	P	**Pdif**		**14 44 55.0**	**-2.3**
LIT	**Litokhoron**	**99.01 311**	P	**SKSac**		**14 55 23.8**	**-6.3**
RES	**Resolute Bay**	**99.02 10**	*e*P	**Pdif**		**14 44 57.1**	**+0.6**
RES	**Resolute Bay**	**99.02 10**	*e*P	**Pdif**		**14 44 57.1**	**+0.6**
LTK	**Loutraki**	**99.03 309**	P	**Pdif**		**14 44 54.7**	**-2.7**
LANS	**Liptovska Anna**	**99.11 321**	*e*P	**Pdif**		**14 44 58.6**	**+1.1**
LANS	**Liptovska Anna**	**99.11 321**	*e*P	**Pdif**		**14 44 58.6**	**+1.1**
PSZ	**Piszkesteto**	**99.14 319** ⇓	*i*P	**Pdif**		**14 44 56.8**	**-0.9**
PSZ	**Piszkesteto**	**99.14 319** ⇑	*e*Pdiff	**Pdif**		**14 44 57.8**	**0.0**
PSZ	**Piszkesteto**	**99.14 319** ⇓	P	**Pdif**		**14 44 56.8**	**-0.9**
PSZ	**Piszkesteto**	**99.14 319**	*e*P	**Pdif**		**14 44 57.7**	**0.0**
	comp=Z,126nm,1.2s							
TBLU	**Trondheim**	**99.22 336**	*e*P	**Pdif**		**14 44 57.0**	**-0.7**
TBLU			IVmB_BB			14 44 57.2		
	comp=Z,914nm,1.5s							
TBLU			IVMs_BB	IVMs_BB		15 33 32.8		
	comp=Z,2µm,23.4s							
KYTH	**Kithira**	**99.28 307**	P	**Pdif**		**14 44 57.7**	**-0.9**
KYTH	**Kithira**	**99.28 307**	P	**SKSac**		**14 55 28.2**	**-3.4**
VLI	**Veliai**	**99.29 308**	P	**Pdif**		**14 44 56.9**	**-1.6**
DSF	**Desfina**	**99.30 309**	P	**Pdif**		**14 44 56.2**	**-2.4**
DSF	**Desfina**	**99.30 309**	P	**SKSac**		**14 55 27.2**	**-4.5**
AGG	**Agios Georgios**	**99.34 310**	*e*P	**Pdif**		**14 44 57.4**	**-1.4**
AGG	**Agios Georgios**	**99.34 310**	P	**Pdif**		**14 44 56.4**	**-2.4**
AGG	**Agios Georgios**	**99.34 310**	P	**SKSac**		**14 55 23.8**	**-8.0**
AGG	**Agios Georgios**	**99.34 310**	*e*P	**Pdif**		**14 44 57.1**	**-1.7**
AGG			pmax	pmax				
	comp=Z,212nm,1.1s							
AGG	**Agios Georgios**	**99.34 310**	*e*P	**Pdif**		**14 44 57.1**	**-1.7**
	comp=Z,212nm,1.1s							
SKO	**Skopje**	**99.42 313**	*i*P	**Pdif**		**14 44 58.5**	**-0.5**
NC405	**NORSAR Array S**	**99.47 333**	*e*P	**Pdif**		**14 44 57.0**	**-1.8**
THL	**Klokotos Trika**	**99.47 311**	P	**Pdif**		**14 44 56.8**	**-2.5**
KZN	**Kozani**	**99.51 311**	P	**Pdif**		**14 44 57.7**	**-1.9**
KZN	**Kozani**	**99.51 311**	P	**SKSac**		**14 55 27.7**	**-5.0**
NC303	**NORSAR Array S**	**99.58 334**	*e*Pdif	**Pdif**		**14 44 57.8**	**-1.4**
KALE	**Kalithea**	**99.60 309**	P	**Pdif**		**14 44 57.5**	**-2.5**
KALE	**Kalithea**	**99.60 309**	P	**SKSac**		**14 55 29.2**	**-4.0**
VLX	**Vlachokerasia**	**99.61 308**	P	**Pdif**		**14 44 58.8**	**-1.3**
KLV	**Kalavryta, Ach**	**99.66 309**	P	**Pdif**		**14 44 58.5**	**-1.8**
KLV	**Kalavryta, Ach**	**99.66 309**	P	**SKSac**		**14 55 30.6**	**-2.9**
SERG	**Sergoula**	**99.66 309**	P	**Pdif**		**14 44 58.3**	**-1.9**
VYHS	**Vyhne**	**99.69 320**	*e*P	**Pdif**		**14 45 00.0**	**-0.1**
VYHS			*e*			14 55 30.9		
VYHS			*e*S	**S**		**14 56 24.7**	**-3.6**
VYHS			pmax	pmax				
	comp=Z,47nm,1.4s							
VYHS	**Vyhne**	**99.69 320**	*e*P	**Pdif**		**14 45 00.0**	**-0.1**
VYHS			*e*PP	**PP**		**14 49 01.6**	**-3.1**
VYHS			*e*			14 55 30.9		
VYHS			*e*S	**S**		**14 56 24.6**	**-3.7**
NC602	**NORSAR Array S**	**99.69 333**	*i*P	**Pdif**		**14 44 58.3**	**-1.5**
NC602			IVmB_BB			14 44 59.4		
	comp=Z,1µm,2.6s							
NC602			IVMs_BB	IVMs_BB		15 35 24.7		
	comp=Z,3µm,21.3s							
FNA	**Florina**	**99.71 312**	*e*P	**Pdif**		**14 44 58.0**	**-2.4**
FNA	**Florina**	**99.71 312**	P	**Pdif**		**14 44 57.7**	**-2.7**
FNA	**Florina**	**99.71 312**	P	**SKSac**		**14 55 30.0**	**-3.6**
NB2	**NORSAR Subarra**	**99.72 333**	P	**Pdif**		**14 44 58.6**	**-1.4**
	comp=Z,49nm,0.8s,baz=68,slow=4.4							
NB2	**NORSAR Subarra** baz=68,slow=4.4	**99.72 333**	P	**Pdif**		**14 44 58.6**	**-1.4**
NOA	**NORSAR Array B**	**99.72 333**	P	**Pdif**		**14 44 58.2**	**-1.8**
	comp=Z,35nm,0.8s,baz=67,slow=4.6,SNR=63							
NOA			PKKPbc	**PKKPdf**		**15 01 30.9**	**+3.9**
	comp=Z,2.8nm,0.9s,baz=67,slow=2.6,SNR=4.0							
NOA			LR	LR		15 32 53.4		
	comp=Z,5µm,21.8s,baz=70,slow=37							
ANX	**Ano Chora**	**99.73 310**	P	**Pdif**		**14 44 59.4**	**-1.2**
ANX	**Ano Chora**	**99.73 310**	P	**SKSac**		**14 55 31.8**	**-2.1**
EVR	**Evrytania**	**99.76 310**	P	**Pdif**		**14 44 59.2**	**-1.5**
EVR	**Evrytania**	**99.76 310**	P	**SKSac**		**14 55 30.5**	**-3.5**
LAKA	**Lakka**	**99.76 309**	P	**Pdif**		**14 44 58.5**	**-2.1**
LAKA	**Lakka**	**99.76 309**	P	**SKSac**		**14 55 32.4**	**-1.5**
OKC	**Ostrava-Krasne**	**99.76 321**	*e*PDIFF	**Pdif**		**14 45 01.2**	**+0.9**
OKC			*es*P	**sP**		**14 45 24.0**	**-2.0**
OKC			*ex*	x		14 48 13.4		
OKC			*e*PP	**PP**		**14 49 04.9**	**-0.3**
OKC			*e*SKS	**SKSac**		**14 55 34.1**	**+0.8**
OKC			*e*SDIF	**ScS**		**14 56 27.1**	**-1.6**
OKC			*e*SP	**SP**		**14 57 54.2**	**-2.0**
OKC			AMS	AMS		15 28 20.0		
	comp=Z,3µm,23.2s							
OKC	**Ostrava-Krasne**	**99.76 321**	*e*P	**Pdif**		**14 45 01.2**	**+0.9**
OKC			*e*			14 45 24.0		
OKC			*e*			14 49 04.9		
OKC			*e*			14 55 34.1		
OKC			*e*S	**ScS**		**14 56 27.1**	**-1.6**
OKC			*e*SP	**SP**		**14 57 54.2**	**-2.0**
OKC			MLR	MLR				
	comp=Z,3µm,23.2s							
BUD	**Budapest**	**99.82 319** ⇑	*e*Pdiff	**Pdif**		**14 45 00.8**	**+0.1**
NC204	**NORSAR Array S**	**99.82 334**	*e*Pdif	**Pdif**		**14 44 59.1**	**-1.3**
NBO02	**NORSAR Array S**	**99.87 334**	*e*Pdif	**Pdif**		**14 44 59.3**	**-1.3**
KPRO	**Kipourio**	**99.89 311**	P	**Pdif**		**14 44 59.0**	**-2.2**
KPRO	**Kipourio**	**99.89 311**	P	**SKSac**		**14 55 30.1**	**-4.4**
DIVS	**Divibare**	**99.99 315**	P	**Pdif**		**14 45 00.7**	**-0.9**
DIVS	**Divibare**	**99.99 315**	P	**SKSac**		**14 55 28.8**	**-6.1**
ITM	**Ithomi**	**100.00 308**	P	**Pdif**		**14 45 00.3**	**-1.4**
ITM	**Ithomi**	**100.00 308**	P	**SKSac**		**14 55 33.2**	**-1.9**
DRO	**Drossia**	**100.02 309**	P	**Pdif**		**14 45 00.9**	**-0.9**
DRO	**Drossia**	**100.02 309**	P	**SKSac**		**14 55 26.2**	**-9.0**
PVO	**Paravola**	**100.03 310**	P	**Pdif**		**14 45 00.9**	**-0.9**
BSD	**Bornholm Skovb**	**100.06 327**	*i*P	**Pdif**		**14 44 57.9**	**-3.6**
BSD			*i*			14 49 06.9		
BSD			*i*S	**SKSac**		**14 55 33.1**	**-1.4**
BSD			pmax	pmax				
	comp=Z,54nm,0.7s							
BSD			MLR	MLR				
	comp=Z,4µm,19.0s							
BSD	**Bornholm Skovb**	**100.06 327**	*i*P	**Pdif**		**14 44 57.9**	**-3.6**
	comp=Z,54nm,0.7s							
BSD			*i*			14 49 06.9		
BSD			*i*S	**SKSac**		**14 55 33.1**	**-1.4**
	comp=Z,4µm,19.0s							
OHR	**Ohrid**	**100.07 312**	*i*P	**Pdif**		**14 45 00.8**	**-1.2**
AMT	**Artemida-Makis**	**100.10 309**	P	**Pdif**		**14 45 01.3**	**-0.9**
MORC	**Moravsky Berou**	**100.16 321** ⇑	*i*P	**Pdif**		**14 45 02.0**	**-0.2**
MORC	**Moravsky Berou**	**100.16 321** ⇑	P	**Pdif**		**14 45 02.0**	**-0.2**
MORC	**Moravsky Berou**	**100.16 321**	*e*Pdif	**Pdif**		**14 45 02.3**	**+0.1**
RLS	**Riolos of Patr**	**100.19 309**	P	**Pdif**		**14 45 02.4**	**-0.1**
PYL	**PYLOS**	**100.20 308**	P	**Pdif**		**14 45 01.5**	**-1.1**
DSL	**Palaion Diasel**	**100.26 310**	P	**Pdif**		**14 45 01.1**	**-1.8**
DSL	**Palaion Diasel**	**100.26 310**	P	**SKSac**		**14 55 27.7**	**-8.6**
PDO	**Prodromos**	**100.30 310**	P	**Pdif**		**14 45 02.4**	**-0.6**
JAN	**Janina**	**100.34 311**	P	**SKSac**		**14 55 35.3**	**-1.4**
IVA	**Berane**	**100.34 314**	*e*P	**Pdif**		**14 45 02.8**	**-0.4**
NVL	**N'lazarevskaya**	**100.34 198**	*e*P	**Pdif**		**14 45 06.4**	**+4.0**
NVL			*e*			14 49 13.2		
NVL			*e*S	**SKSac**		**14 55 42.4**	**+7.2**
NVL			*e*PS	**PS**		**14 58 18.3**	**+7.9**
NVL			*e*SS	**SS**		**15 03 33.5**	**+5.1**
NVL			MLR	MLR				
	comp=Z,3µm,25.0s							
PVY	**Plav**	**100.36 314** ⇑	*i*P	**Pdif**		**14 45 02.3**	**-1.0**
OSL	**Oslo**	**100.39 333**	*e*P	**Pdif**		**14 45 03.0**	**+0.2**
PLE	**Pljevlja**	**100.59 315**	*e*P	**Pdif**		**14 45 04.5**	**+0.1**
KSP	**Ksiaz**	**100.61 323**	*e*Pdiff	**Pdif**		**14 45 04.8**	**+0.7**
KSP			*e*PP	**PP**		**14 49 10.6**	**-1.0**
KSP			LMZ	LR		15 24 57.4		
	comp=Z,5µm,33.9s							
KSP	**Ksiaz**	**100.61 323**	*e*P	**Pdif**		**14 45 04.8**	**+0.7**
KSP			*e*			14 49 10.6		
MOL	**Molde**	**100.64 336**	*e*P	**Pdif**		**14 45 04.2**	**+0.2**
MOL			IVmB_BB			14 45 04.5		
	comp=Z,851nm,1.6s							
MOL			*e*PP	**PP**		**14 49 11.9**	**+0.6**
MOL			*e*SKSac	**SKSac**		**14 55 39.2**	**+2.2**
YKW3	**Yellowknife Ar**	**100.65 24**	*e*Pdif	**Pdif**		**14 45 04.2**	**+0.2**
YKA	**Yellowknife Ar**	**100.68 24**	P	**Pdif**		**14 45 03.4**	**-0.7**
	comp=Z,11nm,0.9s,baz=300,slow=4.5,SNR=40							
YKA			PP	**PP**		**14 49 16.6**	**+4.9**
	comp=Z,6.6nm,0.9s,baz=298,slow=7.3,SNR=5.8							
YKA			PKKPbc	**PKKPbc**		**15 01 21.7**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=117,slow=2.3,SNR=5.3							
YKB5	**Yellowknife Ar**	**100.68 24**	*e*Pdif	**Pdif**		**14 45 03.7**	**-0.4**
TIR	**Tirane**	**100.70 313**	*e*P	**Pdif**		**14 45 05.8**	**+1.1**
TIR	**Tirane**	**100.70 313**	*e*Pdif	**Pdif**		**14 45 04.8**	**+0.1**
DPC	**Dobruska-Polom**	**100.75 322**	*e*PDIFF	**Pdif**		**14 45 05.6**	**+0.8**
DPC			*es*P	sP		14 45 30.4	-0.1
DPC			*ex*	x		14 48 20.7		
DPC			*ex*	x		14 48 33.8		
DPC			*e*PP	**PP**		**14 49 06.3**	**-6.4**
DPC			*e*SKS			14 55 38.3		
DPC			*e*SDIF	**Sdif**		**14 56 35.8**	**-1.3**
DPC			*e*SP	**SP**		**14 58 03.0**	**-3.7**
DPC			*e*SS	**SS**		**15 03 39.6**	**+4.6**
DPC			AMS	AMS		15 37 00.0		
	comp=Z,4µm,20.0s							
DPC	**Dobruska-Polom**	**100.75 322**	*e*P	**Pdif**		**14 45 05.6**	**+0.8**
DPC			*e*			14 55 38.3		
DPC			*e*S	**Sdif**		**14 56 35.8**	**-1.3**
DPC			*e*SP	**SP**		**14 58 03.0**	**-3.7**
DPC			*e*SS	**SS**		**15 03 39.6**	**+4.6**
DPC			MLR	MLR				
	comp=Z,4µm,20.0s							
IGT	**Igoumenitsa**	**100.75 311**	P	**Pdif**		**14 45 03.4**	**-1.6**
SGD	**Sagiada**	**100.81 311**	P	**Pdif**		**14 45 04.1**	**-1.1**
VRAC	**Vranov**	**100.88 321**	P	**Pdif**		**14 45 05.5**	**+0.1**
	comp=Z,26nm,0.8s,baz=74,slow=4.6,SNR=37							
VRAC	**Vranov**	**100.88 321** ⇑	*i*P	**Pdif**		**14 45 05.9**	**+0.5**
VRAC	**Vranov**	**100.88 321** ⇑	P	**Pdif**		**14 45 05.9**	**+0.5**
UPC	**Upice**	**100.89 322**	*e*PDIFF	**Pdif**		**14 45 06.4**	**+1.0**
UPC			*ex*	x		14 48 38.8		
UPC			*e*PP	**PP**		**14 49 06.8**	**-6.9**
UPC			*e*SKS			14 55 39.0		
UPC			*e*SDIF	**Sdif**		**14 56 37.2**	**-1.0**
UPC			*e*SP	**SP**		**14 58 04.3**	**-3.8**
UPC			*e*SS	**SS**		**15 03 41.9**	**+5.0**
UPC			AMS	AMS		15 36 50.0		
	comp=Z,4µm,20.0s							
UPC	**Upice**	**100.89 322**	*e*P	**Pdif**		**14 45 06.4**	**+1.0**
UPC			*e*			14 55 39.0		
UPC			*e*S	**Sdif**		**14 56 37.2**	**-1.0**
UPC			*e*SP	**SP**		**14 58 04.3**	**-3.8**
UPC			*e*SS	**SS**		**15 03 41.9**	**+5.0**
UPC			MLR	MLR				
	comp=Z,4µm,20.0s							
PDG	**Podgorica**	**100.90 314**	P	**Pdif**		**14 45 04.7**	**-0.9**
TTG	**Podgorica**	**100.90 314** ⇑	*i*P	**Pdif**		**14 45 05.0**	**-0.6**
LBTB	**Lobatse**	**100.91 245**	P	**Pdif**		**14 45 06.1**	**0.0**
	comp=Z,7.9nm,1.0s,baz=115,slow=5.2,SNR=5.2							
LBTB	**Lobatse**	**100.91 245**	*e*Pdif	**Pdif**		**14 45 05.5**	**-0.7**
JMIC	**Jan Mayen**	**100.94 346**	P	**Pdif**		**14 45 04.8**	**-0.3**
	comp=Z,44nm,0.6s,baz=147,slow=16,SNR=4.0							
JMIC	**Jan Mayen**	**100.94 346**	IVmB_BB			14 45 05.9		
	comp=Z,3µm,3.2s							
JMIC			*e*P	**Pdif**		**14 45 06.5**	**+1.4**
JMIC			*e*SKSac	**SKSac**		**14 55 44.4**	**+6.2**
UPM	**Unac-Piva**	**100.96 315** ⇑	*i*P	**Pdif**		**14 45 05.2**	**-0.9**
NKY	**Niksic**	**101.00 314** ⇑	*i*P	**Pdif**		**14 45 05.5**	**-0.6**
DRME	**Dracevica, Mon**	**101.01 314** ⇑	*i*P	**Pdif**		**14 45 05.2**	**-0.9**
KONO	**Kongsberg**	**101.02 333**	*e*P	**Pdif**		**14 45 05.3**	**-0.4**
KONO			IVmB_BB			14 45 10.2		
	comp=Z,931nm,1.3s							
KONO			*e*PP	**PP**		**14 49 15.0**	**+0.7**
KONO	**Kongsberg**	**101.02 333**	*e*P	**Pdif**		**14 45 05.9**	**+0.2**
KONO	**Kongsberg**	**101.02 333**	*e*Pdif	**Pdif**		**14 45 05.9**	**+0.2**
NKME	**Niksic**	**101.03 314** ⇑	*i*P	**Pdif**		**14 45 05.8**	**-0.5**
AKN	**Aaknes**	**101.04 335**	*e*P	**Pdif**		**14 45 06.5**	**+0.7**
AKN			IVmB_BB			14 45 11.2		
	comp=Z,1µm,2.3s							
AKN			*e*PP	**PP**		**14 49 14.9**	**+0.4**
AKN			*e*SKSac	**SKSac**		**14 55 41.7**	**+2.6**
AKN			IVMs_BB	IVMs_BB		15 34 56.6		
	comp=Z,3µm,12.6s							
BOSA	**Boshof**	**101.05 241**	P	**Pdif**		**14 45 06.3**	**-0.4**
	comp=Z,5.3nm,0.9s,baz=72,slow=10.0,SNR=2.8							
BOSA			PP	**PP**		**14 49 16.9**	**+1.0**
	comp=Z,14nm,1.0s,baz=86,slow=8.1,SNR=3.8							
CEME	**Cevo**	**101.11 314** ⇑	*i*P	**Pdif**		**14 45 05.8**	**-0.8**
BUM	**Brajici-Budva**	**101.19 314** ⇑	*i*P	**Pdif**		**14 45 06.5**	**-0.5**
PGC	**Sidney**	**101.22 39**	*e*Pdif	**Pdif**		**14 45 06.8**	**-0.1**
BRY	**Bratogost**	**101.30 315**	*e*P	**Pdif**		**14 45 07.0**	**-0.5**
NLWA	**Neilton Lookou**	**101.31 41**	*e*Pdif	**Pdif**		**14 45 10.0**	**+2.6**
SOP	**Sopron**	**101.38 320** ⇓	*e*Pdiff	**Pdif**		**14 45 07.7**	**+0.1**
HCY	**Herceg Novi**	**101.44 314** ⇑	*i*P	**Pdif**		**14 45 07.2**	**-0.8**
BEHE	**Becsehely**	**101.58 318** ⇑	*e*Pdiff	**Pdif**		**14 45 09.2**	**+0.7**
TREC	**Trest**	**101.58 321**	*e*PDIFF	**Pdif**		**14 45 09.4**	**+0.9**
TREC			*es*P	pP		14 45 33.2	+6.0
TREC			*ex*	x		14 45 38.3		
TREC			*ex*	x		14 48 26.2		
TREC			*e*PP	**PP**		**14 49 21.5**	**+2.5**
TREC			*e*SKS			14 55 42.9		
TREC			*e*SDIF	**Sdif**		**14 56 44.6**	**+0.5**
TREC			*e*SP	**SP**		**14 58 13.5**	**-2.1**
TREC			AMS	AMS		15 29 20.0		
	comp=Z,6µm,23.5s							
TREC	**Trest**	**101.58 321**	*e*P	**Pdif**		**14 45 09.4**	**+0.9**
TREC			*e*			14 49 21.5		
TREC			*e*			14 55 42.9		
TREC			*e*S	**Sdif**		**14 56 44.6**	**+0.5**
TREC			*e*SP	**SP**		**14 58 13.5**	**-2.1**
TREC			MLR	MLR				
	comp=Z,6µm,23.5s							
CONA	**Conrad Observa**	**101.75 320**	*i* Pdiff	**Pdif**		**14 45 10.1**	**+0.7**
	comp=Z,5.9nm,0.7s,SNR=34							
E03A	**Lebam**	**101.75 41**	*e*Pdif	**Pdif**		**14 45 12.1**	**+2.8**
PVCC	**Panska Ves**	**101.75 323**	*e*PDIFF	**Pdif**		**14 45 10.3**	**+1.1**
PVCC			*ex*	x		14 48 41.2		
PVCC			*e*PP	**PP**		**14 49 21.1**	**+0.9**
PVCC			*e*SKS			14 55 42.8		
PVCC			*e*SDIF	**Sdif**		**14 56 44.9**	**-0.5**
PVCC			*ex*	x		14 57 57.0		
PVCC			*e*SP	**SP**		**14 58 13.3**	**-4.1**
PVCC			AMS	AMS		15 33 10.0		
	comp=Z,4µm,20.6s							
PVCC	**Panska Ves**	**101.75 323**	*e*P	**Pdif**		**14 45 10.3**	**+1.1**
PVCC			*e*			14 49 21.1		
PVCC			*e*			14 55 42.8		
PVCC			*e*S	**Sdif**		**14 56 44.9**	**-0.5**
PVCC			*e*SP	**SP**		**14 58 13.3**	**-4.1**
PVCC			MLR	MLR				
	comp=Z,4µm,20.6s							
GOPC	**GO Pecny, Ondr**	**101.82 322**	*e*PDIFF	**Pdif**		**14 45 10.6**	**+1.1**
GOPC			*es*P	pP		14 45 34.9	+6.6
GOPC			*ex*	x		14 48 36.6		
GOPC			*e*PP	**PP**		**14 49 19.4**	**-1.3**
GOPC			*e*SKS			14 55 43.3		
GOPC			*e*SDIF	**Sdif**		**14 56 46.1**	**+0.1**
GOPC			*e*SP	**SP**		**14 58 14.1**	**-4.0**
GOPC			*e*SS	**SS**		**15 03 55.2**	**+5.3**
GOPC			AMS	AMS		15 30 00.0		
	comp=Z,4µm,22.8s							
GOPC	**GO Pecny, Ondr**	**101.82 322**	*e*P	**Pdif**		**14 45 10.6**	**+1.1**
GOPC			*e*			14 49 19.4		
GOPC			*e*			14 55 43.3		
GOPC			*e*S	**Sdif**		**14 56 46.1**	**+0.1**
GOPC			*e*SP	**SP**		**14 58 14.1**	**-4.0**
GOPC			*e*SS	**SS**		**15 03 55.2**	**+5.3**
GOPC			MLR	MLR				
	comp=Z,4µm,22.8s							
HYA	**Hoyanger**	**101.86 335**	*

BER eSKSac **SKSac** 14 55 47.2 +0.7
SOKA Soboth 102.67 319 *i* Pdiff **Pdif** 14 45 14.1 +0.7
comp=Z,6.5nm,0.8s,SNR=19
I03D Drain, OR 102.70 44 Pdiff **Pdif** 14 45 13.9 +0.4
baz=286
MOA Molln 102.80 320 *i* Pdiff **Pdif** 14 45 14.9 +1.0
comp=Z,27nm,0.9s,SNR=32
KHC Kasperske Hory 102.82 322 *e*PDIFF **Pdif** 14 45 14.6 +0.6
KHC epP 14 45 30.1
KHC esP 14 45 37.7
KHC *ex* x 14 48 28.8
KHC *e*PP **PP** 14 49 26.8 -1.5
KHC eSKS 14 55 46.9
KHC eSDIF **Sdif** 14 56 54.6 +0.2
KHC eSP **SP** 14 58 23.7 -5.0
KHC AMS AMS 15 30 00.0
comp=Z,5µm,22.8s
KHC Kasperske Hory 102.82 322 *e*P **Pdif** 14 45 14.6 +0.6
KHC *e* 14 49 26.8
KHC *e* 14 55 46.9
KHC eSP SP 14 58 23.7 -5.0
KHC MLR MLR
comp=Z,5µm,22.8s
KHC Kasperske Hory 102.82 322 *e*Pdif **Pdif** 14 45 13.1 -1.0
comp=Z,13nm,1.2s
GEC2 GERESS Array S 102.83 321 *e*P **Pdif** 14 45 14.9 +0.7
GEC2 GERESS Array S 102.83 321 *e*Pdif **Pdif** 14 45 13.7 -0.5
GERES GERESS Array B 102.83 321 P **Pdif** 14 45 13.9 -0.3
comp=Z,21nm,1.0s,baz=58,slow=5.0,SNR=57
GERES PP **PP** 14 49 30.6 +2.1
comp=Z,8.2nm,1.0s,baz=93,slow=5.3,SNR=7.7
GERES PKKPbc **PKKPbc** 15 01 15.2 +1.3
comp=Z,0.7nm,0.6s,baz=252,slow=0.4,SNR=3.6
GEA0 GERESS Array S 102.84 321 *e*Pdif **Pdif** 14 45 13.4 -0.7
BOJS Bojanci 102.87 318 *i* Pdiff **Pdif** 14 45 14.6 +0.4
BOJS *i* SKSac **SKSac** 14 55 47.1 -1.3
BOJS *i* Sdiff **Sdif** 14 56 52.6 -2.3
L02D Cave Junction, 102.94 46 Pdiff **Pdif** 14 45 14.1 -0.6
baz=286
KULLO Kullorsuaq 102.96 1 *i* P **Pdif** 14 45 13.5 -0.5
KULLO MLR MLR
comp=Z,3µm,20.0s
KULLO Kullorsuaq 102.96 1 *i* P **Pdif** 14 45 13.5 -0.5
comp=Z,3µm,20.0s
OBKA Obir 103.03 319 *i* Pdiff **Pdif** 14 45 15.7 +0.6
comp=Z,11nm,0.8s,SNR=13
STAV Stavanger 103.13 333 *e*P **Pdif** 14 45 15.3 +0.2
STAV *e*PP **PP** 14 49 31.9 +1.7
NKC Novy Kostel 103.13 323 *e*PDIFF **Pdif** 14 45 16.5 +1.1
NKC epP 14 45 30.0
NKC esP 14 45 39.9
NKC *ex* x 14 48 46.8
NKC *e*PP **PP** 14 49 30.6 0.0
NKC eSKS 14 55 49.8
NKC eSDIF **Sdif** 14 56 57.1 +0.1
NKC eSP **SP** 14 58 26.7 -5.3
NKC eSS **SS** 15 04 02.8 -5.2
NKC AMS AMS 15 32 20.0
comp=Z,4µm,22.4s
NKC Novy Kostel 103.13 323 *e*P **Pdif** 14 45 16.5 +1.1
NKC *e* 14 49 30.6
NKC *e* 14 55 49.8
NKC eS **Sdif** 14 56 57.1 +0.1
NKC eSP **SP** 14 58 26.7 -5.3
NKC eSS **SS** 15 04 02.8 -5.2
NKC MLR MLR
comp=Z,4µm,22.4s
LJU Ljubljana 103.19 318 *e*Pdiff **Pdif** 14 45 16.3 +0.6
LJU *e* 14 48 38.5
LJU *e* 14 49 04.3
LJU *e* 14 49 33.8
LJU eSKSac **SKSac** 14 55 47.9 -2.0
LJU eSdiff **Sdif** 14 56 55.4 -2.2
LJU *e* 14 58 32.3
LJU eSS **SS** 15 04 10.7 +1.6
I04A Tendick Farm, 103.32 44 Pdiff **Pdif** 14 45 16.3 -0.1
baz=287
TIP Timpagrande 103.53 311 P **Pdif** 14 45 17.0 -0.5
TIP Timpagrande 103.53 311 *e*Pdif **Pdif** 14 45 16.7 -0.8
MYKA Terra Mystica 103.59 319 *i* Pdiff **Pdif** 14 45 19.4 +1.8
comp=Z,6.2nm,0.7s,SNR=9.0
KBA Koelnbreinsper 103.64 320 *i* Pdiff **Pdif** 14 45 18.2 +0.3
comp=Z,10nm,0.7s,SNR=18
M02C Callahan 103.68 46 Pdiff **Pdif** 14 45 18.1 0.0
baz=286
YBH Yreka Blue Hor 103.69 46 *e*P **Pdif** 14 45 20.9 +2.7
YBH Yreka Blue Hor 103.69 46 *e*Pdif **Pdif** 14 45 20.9 +2.7
TRI Trieste 103.80 318 *e*P **Pdif** 14 45 18.9 +0.5
TRI Trieste 103.80 318 *e*Pdif **Pdif** 14 45 18.9 +0.5
I05D Terrebonne, OR 103.90 43 Pdiff **Pdif** 14 45 18.6 -0.4
baz=288
N02D Trinity Center 103.90 47 Pdiff **Pdif** 14 45 18.9 -0.2
baz=286
B08A Colville Reser 103.91 39 *e*Pdif **Pdif** 14 45 20.4 +1.5
SNAA Sanae 104.00 195 P **Pdif** 14 45 19.5 +0.7
SNAA Sanae 104.00 195 *e*P **Pdif** 14 45 20.2 +1.4
SNAA Sanae 104.00 195 *e*Pdif **Pdif** 14 45 20.2 +1.4
GRFO Grafenberg 104.07 323 *e*P **Pdif** 14 45 19.4 -0.1
GRFO Grafenberg 104.07 323 *e*Pdif **Pdif** 14 45 19.4 -0.1
SCO Scoresbysund 104.15 350 *e*P **Pdif** 14 45 20.5 +1.1
SCO pmax pmax
comp=Z,76nm,1.5s
SCO MLR MLR
comp=Z,3µm,21.0s
SCO Scoresbysund 104.15 350 *i* P **Pdif** 14 45 20.5 +1.1
comp=Z,76nm,1.5s
comp=Z,3µm,21.0s
ABTA Abfaltersbach 104.29 320 *i* Pdiff **Pdif** 14 45 21.6 +0.9
comp=Z,11nm,0.7s,SNR=12
J05D Fort Rock, OR 104.29 44 Pdiff **Pdif** 14 45 20.3 -0.5
baz=288
M04C Macdoel 104.30 46 Pdiff **Pdif** 14 45 20.3 -0.7
baz=287
SUMG Summit 104.39 355 *e*P **Pdif** 14 45 20.7 -0.3
SUMG Summit 104.39 355 *i* P **Pdif** 14 45 21.8 +0.8
comp=Z,29nm,1.1s
SUMG Summit 104.39 355 *e*Pdif **Pdif** 14 45 20.3 -0.7
SUR Sutherland 104.56 237 Pdiff **Pdif** 14 45 23.2 +0.9
comp=Z,0.9nm,1.1s,baz=185,slow=2.6,SNR=4.2
SUR PP **PP** 14 49 43.0 +0.8
comp=Z,1.0nm,0.9s,baz=72,slow=4.5,SNR=3.6
WTTA Wattenberg 104.67 320 *i* Pdiff **Pdif** 14 45 22.6 +0.1
comp=Z,14nm,0.8s,SNR=19
WATA Walderalm 104.69 320 *i* Pdiff **Pdif** 14 45 24.7 +2.2
comp=Z,9.5nm,0.6s,SNR=15
K05A Summer Lake 104.70 45 *e*Pdif **Pdif** 14 45 25.1 +2.4
MOTA Moosalm 104.98 320 *i* Pdiff **Pdif** 14 45 24.3 +0.5
comp=Z,16nm,0.8s,SNR=24
RETA Reutte 105.15 321 *i* Pdiff **Pdif** 14 45 26.9 +2.4
comp=Z,17nm,1.0s
NEW Newport 105.32 38 Pdiff **Pdif** 14 45 25.9 +0.7
comp=Z,4.9nm,0.8s,baz=57,slow=5.2,SNR=4.4
NEW PP **PP** 14 49 47.9 +1.0
comp=Z,9.9nm,1.1s,baz=306,slow=6.6,SNR=4.4
NEW Newport 105.32 38 PKiKP **PKiKP** 14 49 39.3 +0.4
baz=292
NEW Newport 105.32 38 *e*Pdif **Pdif** 14 45 26.5 +1.3
comp=Z,4.7nm,0.8s
NEW PP **PP** 14 49 47.9 +1.0
FETA Feichten 105.34 320 *i* Pdiff **Pdif** 14 45 26.1 +0.6
comp=Z,53nm,1.2s,SNR=25
STU Stuttgart 105.64 322 *e*P **Pdif** 14 45 26.1 -0.4
STU Stuttgart 105.64 322 *e*Pdif **Pdif** 14 45 26.1 -0.4
WTSB Winterswijk 105.73 326 *e*P **Pdif** 14 45 27.7 +0.9
AFDM Forest Hills D 105.75 48 *e*PKKPab PKKPab 15 01 23.0 +1.7
VAE Valguarnera 105.76 310 PP PP 14 49 54.4 +3.8
comp=Z,34nm,0.9s,baz=136,slow=13,SNR=5.2
DAVA Damuels 105.78 321 *i* Pdiff **Pdif** 14 45 28.6 +1.2
comp=Z,29nm,1.4s,SNR=7.0
FUORN Ofenpass-Fuorn 105.78 320 *e*Pdif **Pdif** 14 45 27.9 +0.4
BFO Black Forest 106.35 322 *e*P **Pdif** 14 45 28.8 -0.9
BFO Black Forest 106.35 322 *e*Pdif **Pdif** 14 45 28.8 -0.9
WVOR Wild Horse Val 106.37 44 *e*P **Pdif** 14 45 31.4 +1.3
WVOR pmax pmax
comp=Z,59nm,1.7s
WVOR Wild Horse Val 106.37 44 *e*Pdif **Pdif** 14 45 31.4 +1.3
comp=Z,59nm,1.7s
LANF Langenberg 106.40 323 *e*P **Pdif** 14 45 30.8 +0.9
TUE Stuetta 106.42 320 *e*Pdif **Pdif** 14 45 31.3 +1.0
comp=Z,16nm,0.9s
BMO Blue Mountains 106.45 42 *e*P **Pdif** 14 45 30.6 +0.2
BMO Blue Mountains 106.45 42 *e*Pdif **Pdif** 14 45 30.6 +0.2
PAHR Pah Rah Range 106.70 47 *e*Pdif **Pdif** 14 45 36.3 +4.6
HGN Heimansgroeve 106.75 325 *e*P **Pdif** 14 45 32.1 +0.7
HGN *e*PP **PP** 14 49 53.0 -4.2
HGN eSKS **SKSac** 14 56 02.5 -3.3
HGN eSKSP 14 58 59.6
HGN eSS **SS** 15 05 01.5 +4.4
MEM Membach 106.77 325 P **Pdif** 14 45 33.1 +1.6
BEBN Eben Emael 106.88 325 P **Pdif** 14 45 34.1 +2.1
WALA Waterton Lakes 106.96 37 *e*Pdif **Pdif** 14 45 32.1 -0.4
WLF Walferdange 107.10 324 P **Pdif** 14 45 34.6 +1.6
WLF Walferdange 107.10 324 *e*P **Pdif** 14 45 36.7 +3.7
WLF Walferdange 107.10 324 *e*Pdif **Pdif** 14 45 32.4 -0.6
ECH Echery 107.11 322 *e*P **Pdif** 14 45 35.3 +2.2
BCLA Clavier 107.26 325 P **Pdif** 14 45 35.0 +1.3
MOF Molkenrain 107.27 322 *e*P **Pdif** 14 45 33.8 -0.1
JTMT Jette 107.28 38 *e*PKKPdf PKKPdf 15 01 18.8 +5.8
SMMC Simmler 107.52 52 PKiKP **PKiKP** 14 49 42.9 -0.5
baz=286
LOMF Lomont 107.67 322 *e*P **Pdif** 14 45 38.4 +2.7
MLAC Mammoth, Mammo 107.74 49 PKiKP **PKiKP** 14 49 44.3 +0.3
baz=288
SENIN Lac Senin/Sane 107.77 321 *e*Pdif **Pdif** 14 45 36.9 +0.6
PKM Mcpherson Peak 107.78 52 PKiKP **PKiKP** 14 49 43.5 -0.5
baz=286
DOU Dourbes 107.81 325 P **Pdif** 14 45 38.4 +2.3
MSO Missoula 107.87 39 PKiKP **PKiKP** 14 49 44.5 +0.7
baz=294
NV01 Mina Array Sit 107.90 48 *e*Pdif **Pdif** 14 45 37.8 +0.7
NVAR Mina Array Bea 107.90 48 Pdiff **Pdif** 14 45 38.1 +1.1
comp=Z,1.0nm,0.7s,baz=279,slow=5.8,SNR=8.6
NVAR PP **PP** 14 50 08.7 +2.3
comp=Z,8.0nm,0.9s,baz=274,slow=8.2,SNR=6.2
NVAR PKKPbc **PKKPbc** 15 00 59.9 +1.6
comp=Z,4.3nm,1.0s,baz=145,slow=4.2,SNR=7.6
MFID Camas Ranch 107.96 43 *e*Pdif **Pdif** 14 45 39.4 +2.2
SBC Santa Barbara 107.98 53 PKiKP **PKiKP** 14 49 44.5 +0.3
baz=286
BMN Battle Mountai 108.04 46 *e*PKKPdf PKKPdf 15 01 12.7 +1.2
SCZ2 Santa Cruz Isl 108.17 53 PKiKP **PKiKP** 14 49 45.4 +0.8
baz=286
SNCC San Nicolas Is 108.46 54 PKiKP **PKiKP** 14 49 45.8 +0.7
baz=286
ARVC Arvin 108.49 52 PKiKP **PKiKP** 14 49 45.9 +0.8
baz=287
TSUM Tsumeb 108.65 251 *e*Pdif **Pdif** 14 45 49.4 +8.7
OSI Osito Audit: C 108.72 52 PKiKP **PKiKP** 14 49 45.4 -0.3
baz=287
BORG Borgarnes 108.83 346 PP PP 14 50 14.8 +3.1
comp=Z,50nm,1.1s,baz=94,slow=4.6,SNR=5.2
HLID Hailey 108.86 42 PKiKP **PKiKP** 14 49 46.2 +0.4
baz=293
HLID Hailey 108.86 42 Pdif **Pdif** 14 45 40.6 -0.6
comp=Z,16nm,1.4s
DAC Darwin (Calif) 109.10 50 *e*PKKPbc PKKPbc 15 00 56.5 +2.1
EDW2 Edwards Air Fo 109.22 52 PKiKP **PKiKP** 14 49 46.8 +0.2
baz=287
LRM Limekiln Ridge 109.22 39 *e*Pdif **Pdif** 14 45 43.0 +0.1
MPMC Mawal Prospec 109.25 50 PKiKP **PKiKP** 14 49 46.6 -0.2
baz=288
LRMC Laurel Mtn Rad 109.28 51 PKiKP **PKiKP** 14 49 46.9 +0.2
baz=288
DLMT Dillon 109.33 40 *e*Pdif **Pdif** 14 45 41.4 -1.8
SCI2 San Clemente I 109.33 54 PKiKP **PKiKP** 14 49 47.1 +0.4
baz=286
ELK Elko 109.34 45 *e*P **Pdif** 14 45 51.3 +7.8
MCMT McKenzie Canyo 109.39 40 *e*PKKPab PKKPab 15 01 06.7 +1.4
FURC Furnace Creek, 109.60 50 PKiKP **PKiKP** 14 49 47.5 +0.4
baz=289
BFSC Mount Baldy Ra 109.67 52 PKiKP **PKiKP** 14 49 47.5 0.0
baz=287
BOZ Bozeman (W) 109.82 39 PKiKP **PKiKP** 14 49 48.3 +0.8
baz=296
EGMT Eagleton 109.89 36 PKiKP **PKiKP** 14 49 48.4 +0.9
baz=298
TPNV Topopah Spring 109.91 49 PKiKP **PKiKP** 14 49 48.1 +0.1
baz=289
TPNV Topopah Spring 109.91 49 *e*PKKPbc PKKPbc 15 00 54.6 +2.8
R11A Troy Canyon, C 109.94 48 PKiKP **PKiKP** 14 49 48.3 +0.3
baz=290
R11A Troy Canyon, C 109.94 48 *e*PKiKP **PKiKP** 14 49 51.7 +3.7
SSB Saint Sauveur 109.98 320 *e*P **Pdif** 14 45 48.4 +2.5
SSB Saint Sauveur 109.98 320 *e*Pdif **Pdif** 14 45 48.4 +2.5
GSC Goldstone, Bar 110.02 51 PKiKP **PKiKP** 14 49 48.6 +0.5
baz=288
GSC Goldstone, Bar 110.02 51 *e*P **Pdif** 14 45 54.4 +8.0
GSC Goldstone, Bar 110.02 51 *e*Pdif **Pdif** 14 45 54.4 +8.0
KEST Kesra 110.17 310 Pdiff **Pdif** 14 45 48.4 +1.4
comp=Z,2.3nm,0.5s,baz=288,slow=22,SNR=6.3
KEST PP **PP** 14 50 23.1 +0.4
comp=Z,62nm,1.1s,baz=195,slow=0.4,SNR=9.3
KEST Kesra 110.17 310 *e*Pdif **Pdif** 14 45 47.9 +0.8
KEST PP **PP** 14 50 23.1 +0.4
MURC Murrieta 110.23 53 PKiKP **PKiKP** 14 49 48.8 +0.4
baz=288
QLMT Earthquake Lak 110.30 40 *e*PKKPdf PKKPdf 15 01 06.9 -0.5
109C Camp Elliot, M 110.51 54 PKiKP **PKiKP** 14 49 49.9 +0.9
baz=287
HEC Hector,Ludlow 110.53 51 PKiKP **PKiKP** 14 49 49.7 +0.6
baz=288
SFJD Kangerlussuaq 110.58 359 PP PP 14 50 25.4 +1.0
comp=Z,36nm,1.0s,baz=356,slow=8.3,SNR=8.8
TUQ Turquoise Moun 110.66 51 PKiKP **PKiKP** 14 49 50.4 +1.0
baz=289
PFO Pinyon Flats O 110.81 53 *e*PKiKP **PKiKP** 14 49 52.2 +2.5
PFO Pinyon Flats O 110.81 53 *e*PKiKP **PKiKP** 14 49 52.2 +2.5
TPFO Pinon Flats 110.82 53 PKiKP **PKiKP** 14 49 50.8 +1.1
baz=288
SHPR Sheep Range 110.89 49 *e*PKiKP **PKiKP** 14 49 52.4 +2.6
SHPR *e*PKKPbc **PKKPbc** 15 00 51.0 +2.4
IMW Indian Meadow 111.02 41 *e*PKKPab PKKPab 15 00 59.2 +1.1
BELC Belle Mtn. Jos 111.06 52 PKiKP **PKiKP** 14 49 50.4 +0.2
baz=289
GMRC Granite Mounta 111.07 51 PKiKP **PKiKP** 14 49 49.9 -0.2
baz=289
TPAW Teton Pass 111.19 41 *e*PKiKP **PKiKP** 14 49 44.5 -5.8
DUG Dugway, Tooele 111.27 45 PKiKP **PKiKP** 14 49 50.4 0.0
baz=293
DUG Dugway, Tooele 111.27 45 *e*PKIKP **PKiKP** 14 49 49.5 -0.9
DUG Dugway, Tooele 111.27 45 *e*PKiKP **PKiKP** 14 49 49.5 -0.9
REDW Red Top Meadow 111.31 41 *e*PKiKP **PKiKP** 14 49 52.0 +1.5
CMAH Djebel Manchou 111.34 311 P **PP** 14 50 30.4 -0.8
LOHW Long Hollow 111.36 41 *e*PKKPab PKKPab 15 00 56.5 0.0
IKP In-Ko-Pah, Jac 111.39 54 PKiKP **PKiKP** 14 49 50.8 0.0
baz=288
ABSA Djebel Ababsia 111.42 311 P **PP** 14 50 32.4 +0.6
RLMT Red Lodge 111.54 39 PKiKP **PKiKP** 14 49 51.0 +0.1
baz=298
RLMT Red Lodge 111.54 39 *e*PKKPbc PKKPbc 15 00 47.8 +1.0
HWUT Hardware Ranch 111.57 43 *e*PKKPbc PKKPbc 15 00 47.3 +0.7
BC3 Big Chuckawall 111.59 52 PKiKP **PKiKP** 14 49 52.0 +0.9
baz=289
IRM Iron Mountain 111.68 52 PKiKP **PKiKP** 14 49 51.8 +0.6
baz=289
CAEH 'Ain El Ouahch 111.71 311 P **PP** 14 50 33.8 0.0
CCUT Cedar City 111.86 48 *e*PKiKP **PKiKP** 14 49 53.4 +1.6
CKFL Kef-Lekhel 111.94 311 P **PP** 14 50 34.4 -1.2
GLA Glamis 112.28 53 PKiKP **PKiKP** 14 49 53.2 +0.8
baz=289
Y12C Blythe 112.30 52 PKiKP **PKiKP** 14 49 52.3 -0.1
baz=289
Y12C Blythe 112.30 52 *e*PKKPbc PKKPbc 15 00 47.9 +4.3
CTEI Djebel Teioual 112.30 311 P **PP** 14 50 37.4 -0.7
W13A Hualapai Mount 112.34 50 *e*PKiKP **PKiKP** 14 49 55.7 +3.0
W13A *e*PKKPbc **PKKPbc** 15 00 45.7 +1.9
W13A *e*PKKPab **PKKPab** 15 00 49.5 -2.7
MSU Marysvale 112.37 46 *e*PKIKP **PKiKP** 14 49 55.6 +3.0
MSU Marysvale 112.37 46 *e*PKiKP **PKiKP** 14 49 55.6 +3.0
PDMCI Parker Dam,Lak 112.41 51 PKiKP **PKiKP** 14 49 53.2 +0.7
baz=290
BW06 Boulder Array 112.42 41 PKiKP **PKiKP** 14 49 53.1 +0.4
baz=296
BW06 Boulder Array 112.42 41 *e*PKiKP **PKiKP** 14 49 51.5 -1.1
PDAR Pinedale Array 112.42 41 Pdiff **Pdif** 14 46 08.2 +11
comp=Z,0.7nm,0.7s,baz=262,slow=3.0,SNR=5.4
PDAR PKiKP **PKiKP** 14 49 53.3 +0.7
comp=Z,1.1nm,0.4s,baz=0.0,slow=0.4,SNR=4.8
PDAR PP **PP** 14 50 39.1 +0.3
comp=Z,8.3nm,1.1s,baz=298,slow=3.2,SNR=4.9
PDAR PKKPbc **PKKPbc** 15 00 44.6 +0.7
comp=Z,14nm,1.1s,baz=126,slow=3.8,SNR=8.1
KNB Kanab 112.46 48 *e*PKKPab PKKPab 15 00 51.1 -0.5
DFRA Djebel Bou Aff 112.53 311 P **PP** 14 50 40.3 +0.6
MTPU Mount Pierson 112.55 47 *e*PKKPbc PKKPbc 15 00 45.7 +2.3
LAO LASA Array 112.64 36 PKiKP **PKiKP** 14 49 53.6 +0.9
baz=301
LAO LASA Array 112.64 36 *e*PKKPab PKKPab 15 00 52.3 +1.7
DGMT Dagmar 112.87 34 PKiKP **PKiKP** 14 49 53.8 +0.7
baz=303
FRB Frobisher Bay 112.93 7 PKiKP **PKiKP** 14 49 53.1 +0.5
comp=Z,8.2nm,0.8s,baz=13,slow=1.4,SNR=6.4
CKHR Kef el Ahmar 112.99 311 P **PP** 14 50 40.5 -2.6
SET Setif 113.01 311 P **PP** 14 50 41.0 -2.1
U15A North Rim 113.08 49 *e*PKiKP **PKiKP** 14 49 49.4 -4.7
U15A *e*PKKPbc **PKKPbc** 15 00 42.9 +1.4
A25A Svangstu Ranch 113.21 33 PKiKP **PKiKP** 14 49 55.1 +1.5
baz=304
SRU San Rafael Swe 113.32 45 *e*PKiKP **PKiKP** 14 49 56.0 +1.6
SRU San Rafael Swe 113.32 45 *e*PKiKP **PKiKP** 14 49 56.0 +1.6
SRU *e*PKKPbc **PKKPbc** 15 00 42.6 +1.9
Y14A Wickenburg 113.42 51 *e*PKKPab PKKPab 15 00 47.3 +0.1
B25A Knox Farm, Ray 113.55 34 PKiKP **PKiKP** 14 49 55.2 +0.8
baz=304
C25A Freed Ranch, W 113.81 34 PKiKP **PKiKP** 14 49 55.9 +1.0
baz=304
A26A Wade Farm, Ken 113.81 33 PKiKP **PKiKP** 14 49 55.3 +0.5
baz=305
B26A Jensen Ranch, 114.01 33 PKiKP **PKiKP** 14 49 56.3 +1.1
baz=305
WUAZ Wupatki 114.11 49 PKiKP PKPdf 14 49 55.9 0.0
baz=292
WUAZ Wupatki 114.11 49 *e*PKiKP **PKiKP** 14 49 57.9 +1.9
WUAZ *e*PKKPbc **PKKPbc** 15 00 39.1 +1.3
E25A Miller Ranch, 114.39 35 PKiKP PKPdf 14 49 56.4 +0.4
baz=303
K22A Casper 114.46 40 PKiKP PKPdf 14 49 57.1 +0.6
baz=299
K22A Casper 114.46 40 *e*PKiKP PKPdf 14 49 57.1 +0.6
O20A White River Ci 114.48 43 *e*PKiKP PKPdf 14 49 58.5 +1.9
O20A *e*PKKPab **PKKPab** 15 00 44.4 +1.7
VAL Valentia 114.55 332 *e*P **Pdif** 14 46 06.4 +0.4
VAL *e*PP **PP** 14 50 56.0 +2.9
VAL Valentia 114.55 332 *i* SP SP 15 00 21.4 -2.5
D26A Manning 114.66 35 PKiKP PKPdf 14 49 57.8 +1.3
baz=304
F25A Bowman 114.67 36 PKiKP PKPdf 14 49 57.8 +1.2
baz=303
A28A Rude Farm, Bot 114.75 32 PKiKP PKPdf 14 49 58.0 +1.3
baz=307
PV04 Paradox Valley 114.77 45 *e*PKiKP **PKiKP** 14 49 55.3 -1.8
EMHD Djebel Mahouad 114.84 312 P PKPdf 14 50 04.5 +7.2
E26A Carlson Angus 114.95 35 PKiKP PKPdf 14 49 58.2 +1.1
baz=304
B28A Dugan Ranch, T 114.98 32 PKiKP PKPdf 14 49 58.3 +1.2
baz=307
PV01 Paradox Valley 115.12 46 *e*PKiKP **PKPdf** 14 49 59.1 +1.2
F26A Lodgepole 115.18 36 PKiKP **PKPdf** 14 49 58.4 +0.8
baz=304
RSSD Black Hills 115.29 38 PKiKP **PKPdf** 14 49 58.4 +0.3
baz=302
RSSD Black Hills 115.29 38 *e*PKIKP **PKPdf** 14 49 58.2 +0.1
RSSD *e* 15 00 38.4
RSSD Black Hills 115.29 38 *e*PKiKP **PKPdf** 14 49 58.2 +0.1
RSSD *e*PKKPbc **PKKPab** 15 00 38.4 -0.8
A29A Manning Farm, 115.29 31 PKiKP **PKPdf** 14 49 58.5 +0.8
baz=308
H25A Fruitdale 115.29 37 PKiKP **PKPdf** 14 49 58.6 +0.8
baz=302
W18A Petrified Fore 115.50 49 PKiKP **PKPdf** 14 49 59.6 +0.9
baz=293
W18A Petrified Fore 115.50 49 *e*PKPdf **PKPdf** 14 49 59.1 +0.5
B29A Wagenman Farm, 115.50 32 PKiKP **PKPdf** 14 49 58.6 +0.6
baz=308
MVCO Mesa Verde 115.56 46 PKiKP **PKiKP** 14 49 58.7 -0.1
baz=295
MVCO Mesa Verde 115.56 46 *e*PKPdf **PKPdf** 14 49 59.4 +0.5
D28A Regan 115.61 34 PKiKP **PKPdf** 14 49 58.6 +0.3
baz=306
N23A Red Feather La 115.68 42 PKiKP **PKPdf** 14 49 59.0 0.0
baz=299
N23A Red Feather La 115.68 42 *e*PKKPab PKKPab 15 00 36.7 -0.8
TUC Tucson 115.74 52 PKiKP **PKiKP** 14 49 59.1 0.0
baz=291
TUC Tucson 115.74 52 *e*PKiKP **PKPdf** 14 49 55.8 -3.3
TUC Tucson 115.74 52 *e*PKPdf **PKPdf** 14 49 55.8 -3.3
MDND Maddock 115.74 33 PKiKP **PKPdf** 14 49 58.9 +0.3
baz=307
MDND Maddock 115.74 33 *e*PKPdf **PKPdf** 14 49 55.6 -2.9
A30A Hoffart Farm, 115.76 31 PKiKP **PKiKP** 14 49 58.5 0.0
baz=309
SMCO Snowmass 115.78 44 *e*PKKPab PKKPab 15 00 38.2 +1.0
PHWY Pilot Hill 115.81 41 *e*PKKPab PKKPab 15 00 36.9 0.0
B30A Myrvik Farm, E 116.05 31 PKiKP **PKPdf** 14 49 59.2 +0.1
baz=308
ULM Lac du Bonnet 116.12 29 PKP **PKPdf** 14 49 58.8 -0.4
comp=Z,7.8nm,0.7s,baz=301,slow=6.2,SNR=6.9
ULM PKKPbc **PKKPbc** 15 00 33.0 +1.8
comp=Z,14nm,1.0s,baz=96,slow=2.5,SNR=4.5
ULM SKKP 15 04 27.9
comp=Z,7.8nm,0.9s,baz=126,slow=5.3,SNR=4.6
ULM Lac du Bonnet 116.12 29 *e*PKIKP **PKPdf** 14 49 57.8 -1.4
ULM 15 00 33.0
ULM Lac du Bonnet 116.12 29 *e*PKPdf **PKPdf** 14 49 57.8 -1.4
ULM PKKPbc **PKKPbc** 15 00 33.0 +1.8
ULM SKKP 15 04 27.9
EANR 'Ain N'Sour 116.31 312 P **PKPdf** 14 50 05.9 +5.8
B31A Greenbush Farm 116.42 31 PKiKP **PKiKP** 14 50 00.4 +0.6
baz=309
ISCO Idaho Springs 116.42 43 PKiKP **PKPdf** 14 50 00.3 -0.2
baz=298
ISCO Idaho Springs 116.42 43 *e*PKIKP **PKPdf** 14 49 59.0 -1.5
ISCO Idaho Springs 116.42 43 *e*PKPdf **PKPdf** 14 49 59.0 -1.5
ISCO *e*PKKPbc **PKKPbc** 15 00 32.1 +1.9
C30A Mose, Pekin 116.44 32 PKiKP **PKiKP** 14 50 00.4 +0.5
baz=308
S22A 4UR Ranch, Cre 116.52 45 PKiKP **PKiKP** 14 50 01.2 +0.4
baz=297
S22A 4UR Ranch, Cre 116.52 45 *e*PKKPab PKKPab 15 00 35.5 +1.7
D30A Buchanan 116.65 33 PKiKP **PKiKP** 14 50 00.7 +0.4
baz=308
A32A Rocking H Ranc 116.69 30 PKiKP **PKiKP** 14 50 01.0 +0.7
baz=310
HSIG 116.75 56 *e*PKKPbc PKKPbc 15 00 29.1 +0.8
OJGS Djebel Guires 116.76 312 P **PKPdf** 14 50 04.0 +3.0
C31A Landman Farms, 116.77 32 PKiKP **PKiKP** 14 50 01.6 +1.0
baz=309
F29A Eureka 116.82 34 PKiKP **PKiKP** 14 50 01.0 +0.3
baz=306
E30A Jud 116.93 33 PKiKP **PKiKP** 14 50 01.6 +0.7
baz=307
Q24A Divide 117.14 43 PKiKP **PKiKP** 14 50 02.1 +0.2
baz=298
G29A Hoven 117.14 35 PKiKP **PKiKP** 14 50 01.9 +0.6
baz=306
TAM Tamanrasset 117.19 297 *e*PKIKP **PKPdf** 14 50 02.3 +0.1
TAM Tamanrasset 117.19 297 *e*PKPdf **PKPdf** 14 50 02.3 +0.1
TAM *e*PKKPbc **PKKPab** 15 00 30.5 -0.2
A33A Warroad 117.23 30 PKiKP **PKiKP** 14 50 01.6 +0.2
baz=312
D31A Mcclaflin, Tow 117.24 32 PKiKP **PKiKP** 14 50 01.6 +0.1
baz=308
F30A Leola 117.27 34 PKiKP **PKiKP** 14 50 01.8 +0.2
baz=307
319A Douglas 117.27 53 *e*PKPdf **PKPdf** 14 50 04.6 +2.4
H29A Onida 117.30 36 PKiKP **PKPdf** 14 50 01.6 -0.1
baz=305
C32A Crookston 117.38 31 PKiKP **PKiKP** 14 50 02.0 +0.3
baz=310
AGMN Agassiz Nation 117.42 30 PKiKP **PKiKP** 14 50 01.8 0.0
baz=311
AGMN Agassiz Nation 117.42 30 *e*PKPdf **PKPdf** 14 50 02.0 +0.3
AGMN *e*PKKPbc **PKKPab** 15 00 30.8 +1.4
E31A Nome 117.46 33 PKiKP **PKPdf** 14 50 01.9 0.0
baz=308
SDCO Great Sand Dun 117.46 45 PKiKP **PKiKP** 14 50 03.5 +0.9
baz=298
SDCO Great Sand Dun 117.46 45 *e*PKPdf **PKPdf** 14 50 03.2 +0.7
ODJA Bouhanifia 117.50 312 P **PKPdf** 14 50 06.0 +3.7
D32A Dogwood Acres, 117.56 32 PKiKP **PKiKP** 14 50 02.7 +0.6
baz=309
B33A Robert and Kas 117.57 30 PKiKP **PKiKP** 14 50 02.6 +0.5
baz=311
I29A Vivian Onida 117.59 36 PKiKP **PKiKP** 14 50 03.2 +0.9
baz=305
USTO Oran 117.62 313 P **PKPdf** 14 50 08.0 +5.5
G30A Faulkton 117.62 35 PKiKP **PKiKP** 14 50 02.5 +0.2
baz=306
F31A Hecla 117.69 34 PKiKP **PKiKP** 14 50 02.5 +0.1
baz=308
LAZ Ladron 117.74 49 *e*PKPdf **PKPdf** 14 50 02.7 -0.3
C33A Trail 117.81 31 PKiKP **PKiKP** 14 50 03.2 +0.6
baz=311
E32A Braaten, Kindr 117.88 32 PKiKP **PKiKP** 14 50 03.1 +0.4

baz=309
B34A Aery, Baudette 117.90 30 PKiKP **PKiKP** 14 50 03.2 +0.5
baz=312
OTSS Djebel Tessala 117.99 312 P **PKPdf** 14 50 07.0 +3.6
121A Cookes Peak, D 118.00 51 PKiKP **PKiKP** 14 50 04.2 +0.5
baz=293
121A Cookes Peak, D 118.00 51 *e*PKPdf **PKPdf** 14 50 03.5 0.0
ANMO Albuquerque 118.02 48 PKP **PKPdf** 14 50 04.1 +0.6
comp=Z,11nm,0.9s,baz=210,slow=3.0,SNR=17
ANMO PKKPbc **PKKPab** 15 00 28.6 +1.5
comp=Z,13nm,1.1s,baz=125,slow=6.9,SNR=6.1
ANMO Albuquerque 118.02 48 PKiKP **PKPdf** 14 50 03.5 0.0
baz=296
ANMO Albuquerque 118.02 48 *e*PKIKP **PKPdf** 14 50 04.4 +0.8
Y22D IRIS PASSCAL I 118.04 49 PKiKP **PKPdf** 14 50 03.0 -0.6
baz=295
ES19 SONSECA Array 118.10 318 *e*PKPdf **PKPdf** 14 50 03.7 +0.3
SUSD Miller 118.14 35 PKiKP **PKiKP** 14 50 03.6 +0.3
baz=306
ESDC Sonseca Array 118.16 318 PKP **PKPdf** 14 50 04.9 +1.4
comp=Z,1.8nm,0.7s,baz=2.7,slow=3.8,SNR=8.2
ESDC PP **PP** 14 51 21.4 +2.5
comp=Z,11nm,0.8s,baz=54,slow=7.7,SNR=6.1
ESDC PKKPbc **PKKPab** 15 00 25.7 -0.6
comp=Z,1.0nm,0.6s,baz=242,slow=3.9,SNR=4.6
LPM Los Pinos Moun 118.16 49 *e*PKPdf **PKPdf** 14 50 04.0 +0.2
I30A Oacoma 118.17 36 PKiKP **PKiKP** 14 50 03.8 +0.4
baz=306
D33A AnnSam, Waubun 118.18 31 PKiKP **PKiKP** 14 50 03.7 +0.5
baz=310
OGNE Ogallala 118.22 40 PKiKP **PKPdf** 14 50 03.4 -0.3
baz=302
OGNE Ogallala 118.22 40 *e*PKPdf **PKPdf** 14 50 03.1 -0.5
OGNE *e*PKKPbc **PKKPab** 15 00 28.0 +1.9
BNM Barren Site 118.23 49 *e*PKPdf **PKPdf** 14 50 03.9 -0.1
C34A RKJ Ranch, Bem 118.32 31 PKiKP **PKiKP** 14 50 03.8 +0.2
baz=312
H31A Wolsey 118.39 35 PKiKP **PKiKP** 14 50 04.3 +0.5
baz=307
OLHC Oulhaca 118.47 313 P **PKPdf** 14 50 07.0 +2.8
G32A Webster 118.47 34 PKiKP **PKiKP** 14 50 04.2 +0.3
baz=308
J30A Dallas 118.47 37 PKiKP **PKPdf** 14 50 04.0 0.0
baz=305
PAB San Pablo 118.48 318 *e*PKIKP **PKPdf** 14 50 04.1 -0.1
PAB San Pablo 118.48 318 *e*PKPdf **PKPdf** 14 50 04.1 -0.1
T25A Trinidad 118.51 45 PKiKP **PKPdf** 14 50 04.5 0.0
baz=298
T25A Trinidad 118.51 45 *e*PKPdf **PKPdf** 14 50 04.8 +0.3
D34A Park Rapids 118.55 31 PKiKP **PKPdf** 14 50 04.0 0.0
baz=311
I31A Royce, Wessing 118.63 36 PKiKP **PKiKP** 14 50 04.6 +0.4
baz=306
C35A Jirik Farms, M 118.76 30 PKiKP **PKiKP** 14 50 04.9 +0.5
baz=312
F33A 5 Mile Ranch, 118.77 33 PKiKP **PKiKP** 14 50 04.9 +0.4
baz=309
K30A Basset 118.78 37 PKiKP **PKiKP** 14 50 04.9 +0.3
baz=305
PBRG Bragança 118.81 322 *e*PKPdf **PKPdf** 14 50 06.1 +1.4
KSCO Kaye Shedlock' 118.83 42 PKiKP **PKiKP** 14 50 05.0 +0.1
baz=301
KSCO Kaye Shedlock' 118.83 42 *e*PKKPbc PKKPbc 15 00 25.6 +4.2
E34A Wadena 118.94 32 PKiKP **PKiKP** 14 50 05.2 +0.4
baz=311
J31A Geddes 118.94 36 PKiKP **PKiKP** 14 50 05.2 +0.3
baz=306
H32A Carlson Farm, 118.97 35 PKiKP **PKiKP** 14 50 05.5 +0.6
baz=308
G33A Ortonville 119.10 33 PKiKP **PKiKP** 14 50 05.8 +0.6
baz=309
D35A Remer 119.14 31 PKiKP **PKiKP** 14 50 05.2 +0.1
baz=312
I32A Karley and Nic 119.25 35 PKiKP **PKiKP** 14 50 06.1 +0.6
baz=308
H33A Prehn Over Nor 119.25 34 PKiKP **PKiKP** 14 50 05.8 +0.3
baz=308
C36A Pine Crest Far 119.28 29 PKiKP **PKiKP** 14 50 05.8 +0.4
baz=314
SLBS Sierra La Lagu 119.29 61 *e*PKPdf **PKPdf** 14 50 07.2 +1.0
E35A Pequot Lakes 119.31 31 PKiKP **PKiKP** 14 50 05.8 +0.3
baz=312
K31A O'Neill 119.32 37 PKiKP **PKiKP** 14 50 05.7 0.0
baz=306
MVO Moncorvo 119.35 321 *e*PKPdf **PKPdf** 14 50 07.2 +1.4
MVO Moncorvo 119.35 321 *e*PP PP 14 51 28.1 +1.0
MVO *e*SKSac **SKSac** 14 57 02.4 +6.2
MVO Moncorvo 119.35 321 *e*LQ LQ 15 33 15.8
MVO *e*LR LR 15 36 31.7
comp=Z,2µm,20.0s
F34A Alexandria 119.36 32 PKiKP **PKiKP** 14 50 06.0 +0.4
baz=310
J32A Parkston 119.42 36 PKiKP **PKiKP** 14 50 06.1 +0.3
baz=307
G34A Benson 119.51 33 PKiKP **PKiKP** 14 50 06.0 +0.1
baz=310
D36A Goodland 119.52 30 PKiKP **PKiKP** 14 50 06.3 +0.4
baz=313
L31A Butterfield Fa 119.53 37 PKiKP **PKiKP** 14 50 06.2 +0.1
baz=305
I33A Coleman 119.61 35 PKiKP **PKiKP** 14 50 06.6 +0.4
baz=308
C37A Embarrass 119.62 29 PKiKP **PKiKP** 14 50 06.1 0.0
baz=314
PCAB Cabril 119.66 322 *e*PKPdf **PKPdf** 14 50 07.6 +1.3
PCAB Cabril 119.66 322 *e*PP PP 14 51 31.7 +2.6
PGAV Gavieira, Arco 119.66 322 *e*PKPdf **PKPdf** 14 50 07.8 +1.4
PGAV Gavieira, Arco 119.66 322 *e*PP PP 14 51 30.9 +1.7
PGAV Gavieira, Arco 119.66 322 *e*LR LR 15 33 33.0
comp=Z,2µm,20.0s
F35A Swanville 119.68 32 PKiKP **PKiKP** 14 50 06.7 +0.5
baz=311
POLO Lamas de Olo 119.71 322 *e*PKPdf **PKPdf** 14 50 07.6 +1.1
POLO Lamas de Olo 119.71 322 *e*PP PP 14 51 30.7 +1.1
PVRL Vila Real 119.72 322 *e*PKPdf **PKPdf** 14 50 08.1 +1.7
PVRL Vila Real 119.72 322 *e*PP PP 14 51 31.1 +1.5
K32A Verdigre 119.77 37 PKiKP **PKiKP** 14 50 06.6 0.0
baz=306
H34A Spellman Lake, 119.80 34 PKiKP **PKiKP** 14 50 06.9 +0.4
baz=309
EYMN Ely 119.80 28 PKiKP **PKiKP** 14 50 06.7 +0.3
baz=315
EYMN Ely 119.80 28 *e*PKPdf **PKPdf** 14 50 06.3 -0.1
D37A Cotton 119.90 30 PKiKP **PKiKP** 14 50 06.9 +0.3
baz=314
ECSD EROS Data Cent 119.91 35 PKiKP **PKiKP** 14 50 07.2 +0.4
baz=308
ECSD EROS Data Cent 119.91 35 *e*PKPdf **PKPdf** 14 50 06.2 -0.5
E36A McGregor 119.92 31 PKiKP **PKiKP** 14 50 07.1 +0.4
baz=313
M31A Lambtecht Ranc 119.92 38 PKiKP **PKPdf** 14 50 06.9 0.0
baz=305
J33A Davis 119.96 35 PKiKP **PKiKP** 14 50 07.5 +0.7
baz=308
MTE Manteigas 120.10 321 *e*PKPdf **PKPdf** 14 50 08.8 +1.6
MTE Manteigas 120.10 321 *e*PP PP 14 51 31.7 -0.5
MTE *e*SKSac **SKSac** 14 57 06.4 +7.6
MTE Manteigas 120.10 321 *e*LQ LQ 15 34 16.2
MTE *e*LR LR 15 36 53.2
comp=Z,2µm,20.0s
MTE Manteigas 120.10 321 *e*PKPdf **PKPdf** 14 50 08.3 +1.0
L32A Elgin 120.13 37 PKiKP **PKiKP** 14 50 07.5 +0.2
baz=306
G35A Watkins 120.14 32 PKiKP **PKiKP** 14 50 07.8 +0.6
baz=311
PVIS Viseu 120.14 321 *e*PKPdf **PKPdf** 14 50 09.0 +1.7
PVIS Viseu 120.14 321 *e*PP PP 14 51 32.6 +0.1
I34A Hadley 120.15 34 PKiKP **PKiKP** 14 50 08.0 +0.8
baz=309
MNTX Cornudas Mount 120.21 51 PKiKP **PKiKP** 14 50 08.4 +0.6
baz=295
MNTX Cornudas Mount 120.21 51 *e*PKPdf **PKPdf** 14 50 08.8 +1.2
F36A Milaca 120.22 31 PKiKP **PKiKP** 14 50 07.8 +0.5
baz=312
N31A Bailey Ranch, 120.23 39 PKiKP **PKiKP** 14 50 07.7 +0.2
baz=305
H35A Sunnyside Ranc 120.30 33 PKiKP **PKiKP** 14 50 08.2 +0.7
baz=310
E37A Wrenshall 120.32 30 PKiKP **PKiKP** 14 50 07.7 +0.2
baz=314
PCBR Castelo Branco 120.37 320 *e*PKPdf **PKPdf** 14 50 09.2 +1.5
K33A Hardington 120.38 36 PKiKP **PKiKP** 14 50 08.1 +0.4
baz=307
O31A Woolen Ranch, 120.38 40 PKiKP **PKiKP** 14 50 08.1 +0.3
baz=304
BGNE Belgrade 120.39 38 PKiKP **PKiKP** 14 50 07.9 +0.1
baz=306
BGNE Belgrade 120.39 38 *e*PKPdf **PKPdf** 14 50 07.6 -0.1
L33A Hoskins 120.48 37 PKiKP **PKiKP** 14 50 08.2 +0.2
baz=307
G36A St. Michael 120.52 32 PKiKP **PKiKP** 14 50 08.5 +0.6
baz=312
C39A Grand Marais 120.54 28 PKiKP **PKPdf** 14 50 07.5 -0.3
baz=316
PMRV Marv??o 120.54 320 *e*PKPdf **PKPdf** 14 50 09.2 +1.2
PMRV Marv??o 120.54 320 *e*PP PP 14 51 34.0 -1.2
PMRV Marv??o 120.54 320 *e*LR LR 15 39 01.9
comp=Z,2µm,20.0s
N32A Stulken Farm, 120.68 38 PKiKP **PKiKP** 14 50 08.8 +0.4
baz=305
I35A Creekview Farm 120.75 34 PKiKP **PKiKP** 14 50 08.8 +0.4
baz=310
CBKS Cedar Bluff 120.85 41 PKiKP **PKiKP** 14 50 09.6 +0.8
baz=303
CBKS Cedar Bluff 120.85 41 *e*PKKPbc PKKPbc 15 00 16.4 +2.6
K34A Le Mars 120.85 36 PKiKP **PKiKP** 14 50 09.3 +0.6
baz=308
H36A Jessenland, He 120.86 33 PKiKP **PKiKP** 14 50 09.5 +0.9
baz=311
M33A Taylor Creek F 120.88 37 PKiKP **PKiKP** 14 50 09.1 +0.3
baz=307
PCAS Casmilo, Conde 120.90 321 *e*PKPdf **PKPdf** 14 50 09.9 +1.2
PCAS Casmilo, Conde 120.90 321 *e*PP PP 14 51 39.1 +1.5
J35A Milford 120.94 34 PKiKP **PKiKP** 14 50 09.0 +0.2
baz=309
PESTR Estremoz 120.97 319 *e*PKPdf **PKPdf** 14 50 10.6 +1.7
PESTR Estremoz 120.97 319 *e*PP PP 14 51 36.8 -1.4
O32A Brockman Farm, 120.98 39 PKiKP **PKiKP** 14 50 09.3 +0.3
baz=305
PBAR Barrancos 120.98 318 *e*PKPdf **PKPdf** 14 50 10.3 +1.4
SPMN Marine on St. 121.03 31 PKiKP **PKiKP** 14 50 09.4 +0.5
baz=312
SPMN Marine on St. 121.03 31 *e*PKPdf **PKPdf** 14 50 08.9 +0.1
PTOM Tomar 121.09 320 *e*PKPdf **PKPdf** 14 50 10.9 +1.9
PTOM Tomar 121.09 320 *e*PP PP 14 51 43.6 +4.7
L34A Svendsen Farm, 121.13 36 PKiKP **PKiKP** 14 50 09.3 +0.1
baz=308
P32A Huiting Farm, 121.14 40 PKiKP **PKiKP** 14 50 09.9 +0.6
baz=304
I36A Fitzsimmons Fa 121.18 33 PKiKP **PKiKP** 14 50 09.6 +0.4
baz=311
N33A J Bar K, Exete 121.22 38 PKiKP **PKiKP** 14 50 09.6 +0.1
baz=306
PMTG Montargil 121.28 320 *e*PKPdf **PKPdf** 14 50 10.8 +1.4
PMTG Montargil 121.28 320 *e*PP PP 14 51 42.4 +2.2
M34A Aspy Farms, Fr 121.29 37 PKiKP **PKiKP** 14 50 09.8 +0.3
baz=307
K35A Storm Lake 121.33 35 PKiKP **PKiKP** 14 50 09.7 +0.1
baz=309
H37A Dierke Farm, C 121.40 32 PKiKP **PKPdf** 14 50 09.3 -0.2
baz=312
EVO Evora 121.43 319 *e*PKPdf **PKPdf** 14 50 11.2 +1.4
EVO Evora 121.43 319 *e*PP PP 14 51 40.2 -1.1
J36A Seneca 1, Swea 121.45 34 PKiKP **PKPdf** 14 50 09.6 0.0
baz=310
Q32A Meitler Ranch, 121.52 40 PKiKP **PKiKP** 14 50 10.3 +0.2
baz=304
I37A Lemond, Waseca 121.52 33 PKiKP **PKiKP** 14 50 10.1 +0.2
baz=311
O33A Hebron 121.52 39 PKiKP **PKiKP** 14 50 10.2 +0.1
baz=306
L35A Bielow Farm, R 121.53 36 PKiKP **PKiKP** 14 50 10.4 +0.4
baz=308
AMTX Amarillo 121.53 46 PKiKP **PKiKP** 14 50 10.7 +0.4
baz=299
AMTX Amarillo 121.53 46 *e*PKPdf **PKPdf** 14 50 11.3 +1.1
PBEJ Beja 121.61 318 *e*PKPdf **PKPdf** 14 50 11.9 +1.8
PBEJ Beja 121.61 318 *e*PP PP 14 51 44.0 +1.4
R32A Long Quarter, 121.73 41 PKiKP **PKiKP** 14 50 11.1 +0.5
baz=304
N34A Lincoln 121.74 37 PKiKP **PKPdf** 14 50 10.0 -0.3
baz=307
SCHQ Schefferville 121.77 9 PKP **PKPdf** 14 50 10.1 +0.1
comp=Z,21nm,0.7s,baz=12,slow=2.6,SNR=14
SCHQ Schefferville 121.77 9 *e*PKPdf **PKPdf** 14 50 10.4 +0.5
P33A Williams Farm, 121.82 39 PKiKP **PKiKP** 14 50 11.0 +0.3
baz=305
K36A Gilmore City 121.83 35 PKiKP **PKiKP** 14 50 11.2 +0.7
baz=310
M35A Neola 121.84 36 PKiKP **PKiKP** 14 50 10.9 +0.3
baz=308
PVAQ Vaqueiros 121.85 318 *e*PKPdf **PKPdf** 14 50 12.0 +1.4
PVAQ Vaqueiros 121.85 318 *e*PP PP 14 51 46.2 +2.0
PVAQ Vaqueiros 121.85 318 *e*LR LR 15 36 33.3
comp=Z,2µm,20.0s
HPIG 121.85 56 *e*PKPdf **PKPdf** 14 50 11.4 +0.2
J37A Redenius Farm, 121.90 34 PKiKP **PKiKP** 14 50 10.7 +0.1
baz=311
MDT Midelt 121.93 312 PKP **PKPdf** 14 50 11.4 +0.3
comp=Z,13nm,0.8s,baz=93,slow=1.7,SNR=18
PCVE Castro Verde 121.94 318 *e*PKPdf **PKPdf** 14 50 12.3 +1.5
MESJ Messejana 121.95 318 *e*P **PKPdf** 14 50 12.1 +1.4
MESJ *e*PP **PP** 14 51 46.8 +1.9
MESJ *e*SS SS 15 08 21.7 +4.1
MESJ AMS AMS 15 38 45.8
comp=N,2µm,22.0s
MESJ Messejana 121.95 318 *e*PKPdf **PKPdf** 14 50 12.4 +1.6
MESJ Messejana 121.95 318 *e*PP PP 14 51 44.1 -0.7
Q33A Connelly Farm, 121.98 40 PKiKP **PKiKP** 14 50 11.1 +0.1
baz=305
S32A Newby Ranch, P 121.98 42 PKiKP **PKiKP** 14 50 11.4 +0.4
baz=303
PNCL Nicolau / Gran 122.00 319 *e*PKPdf **PKPdf** 14 50 12.0 +1.2
O34A Beatrice 122.01 38 PKiKP **PKPdf** 14 50 10.8 0.0
baz=306
PMAFR Mafra 122.02 320 *e*PKPdf **PKPdf** 14 50 12.3 +1.4
L36A Harm Buss Farm 122.05 35 PKiKP **PKiKP** 14 50 11.2 +0.1
baz=309
I38A Scanlan Farm, 122.08 32 PKiKP **PKiKP** 14 50 11.2 +0.2
baz=312
PBDV Barranco-do-Ve 122.08 318 *e*PKPdf **PKPdf** 14 50 12.3 +1.2
PBDV Barranco-do-Ve 122.08 318 *e*PP PP 14 51 48.2 +2.4
PMST Lisbon--Monsan 122.08 320 *e*PKPdf **PKPdf** 14 50 13.0 +2.0
K37A Belmond 122.20 34 PKiKP **PKiKP** 14 50 11.3 0.0
baz=311
N35A Tabor 122.24 37 PKiKP **PKiKP** 14 50 11.5 +0.1
baz=308
COWI Conover 122.25 29 *e*PKPdf **PKPdf** 14 50 11.9 +0.7
R33A Olander Ranch, 122.27 41 PKiKP **PKiKP** 14 50 12.2 +0.6
baz=304
T32A Hubler Ranch, 122.27 42 PKiKP **PKiKP** 14 50 12.0 +0.4
baz=303
P34A Walnut Farm, R 122.30 39 PKiKP **PKiKP** 14 50 12.2 +0.6
baz=306
M36A Felix, Anita 122.37 36 PKiKP **PKiKP** 14 50 11.8 +0.1
baz=309
O35A Humboldt 122.44 38 PKiKP **PKiKP** 14 50 11.8 0.0
baz=307
PTEO Sao Teotonio 122.44 318 *e*PKPdf **PKPdf** 14 50 13.2 +1.5
PTEO Sao Teotonio 122.44 318 *e*PP PP 14 51 49.0 +0.8
J38A Wedel Dairy, R 122.48 33 PKiKP **PKPdf** 14 50 11.5 -0.2
baz=312
MORF Marmelete 122.53 318 *e*P **PKPdf** 14 50 13.5 +1.5
MORF *e*PP **PP** 14 51 50.0 +1.2
MORF AMS AMS 15 51 08.2
comp=Z,3µm,18.4s
MORF Marmelete 122.53 318 *e*PKPdf **PKPdf** 14 50 13.3 +1.3
MORF Marmelete 122.53 318 *e*PP PP 14 51 51.1 +2.2
TX31 Lajitas Ar. Si 122.53 53 *e*PKPdf **PKPdf** 14 50 12.6 +0.3
TXAR Lajitas Array 122.53 53 Pdiff **Pdif** 14 46 54.7 +13
comp=Z,0.1nm,0.4s,baz=297,slow=4.0,SNR=3.0
TXAR PKP **PKPdf** 14 50 12.3 0.0
comp=Z,8.0nm,0.9s,baz=246,slow=1.1,SNR=26
TXAR PKKPbc **PKKPab** 15 00 09.3 +1.9
comp=Z,9.4nm,0.9s,baz=126,slow=6.4,SNR=9.0
TXAR SKKPbc SKKPbc 15 03 46.2 -4.5
comp=Z,2.2nm,1.0s,baz=126,slow=6.4,SNR=4.4
L37A Phoenix Point, 122.55 35 PKiKP **PKiKP** 14 50 12.4 +0.4
baz=310
Q34A Chapman 122.59 40 PKiKP **PKiKP** 14 50 12.7 +0.5
baz=306
U32A Winter Ranch, 122.65 43 PKiKP **PKiKP** 14 50 12.6 +0.2
baz=302
S33A Kaszmaul Farm, 122.66 41 PKiKP **PKiKP** 14 50 13.0 +0.6
baz=304
N36A Muff Farm, Cla 122.68 37 PKiKP **PKiKP** 14 50 13.0 +0.7
baz=308
KSU1 Kansas State U 122.70 39 PKiKP **PKiKP** 14 50 12.7 +0.3
baz=306
KSU1 Kansas State U 122.70 39 *e*PKPdf **PKPdf** 14 50 13.5 +1.3
PFVI Vila Bisbo 122.74 318 *e*PKPdf **PKPdf** 14 50 13.8 +1.5
PFVI Vila Bisbo 122.74 318 *e*PKPdf **PKPdf** 14 50 13.6 +1.3
R34A Isabella, Hill 122.75 40 PKiKP **PKiKP** 14 50 13.0 +0.5
baz=305
K38A Parkersburg 122.77 34 PKiKP **PKiKP** 14 50 13.0 +0.6
baz=311
T33A Patterson Ranc 122.78 42 PKiKP **PKiKP** 14 50 13.2 +0.6
baz=303
P35A Duane Minner, 122.81 38 PKiKP **PKiKP** 14 50 12.5 -0.1
baz=307
M37A Trindle Farm, 122.84 36 PKiKP **PKiKP** 14 50 13.2 +0.6
baz=310
V32A Arapaho 122.97 44 PKiKP **PKiKP** 14 50 13.3 +0.3
baz=302
L38A Oak Wood Farm, 122.99 34 PKiKP **PKiKP** 14 50 13.2 +0.3
baz=311
TOA0 Torodi Ar. Sit 123.02 287 *e*PKKPbc PKKPbc 15 00 07.0 +2.1
TORD Torodi Ar. Bea 123.02 287 Pdiff **Pdif** 14 46 55.5 +11
comp=Z,0.5nm,0.7s,baz=72,slow=3.8,SNR=2.4
TORD PKP **PKiKP** 14 50 13.6 -0.1
comp=Z,68nm,0.8s,baz=61,slow=1.9,SNR=132
TORD PP **PP** 14 51 59.9 +6.7
comp=Z,13nm,0.8s,baz=73,slow=6.1,SNR=3.6
TORD PKKPbc **PKKPab** 15 00 06.8 +1.5
comp=Z,4.4nm,0.7s,baz=279,slow=3.4,SNR=28
O36A Bolckow 123.10 37 PKiKP **PKiKP** 14 50 13.4 +0.3
baz=308
W32A Sentinel 123.14 44 PKiKP **PKiKP** 14 50 14.3 +0.9
baz=301
N37A Lee Faris, Mou 123.16 36 PKiKP **PKiKP** 14 50 13.7 +0.4
baz=309
S34A Willow Spring 123.18 41 PKiKP **PKiKP** 14 50 14.1 +0.7
baz=305
Q35A Mercer Eighty, 123.20 39 PKiKP **PKiKP** 14 50 13.7 +0.4
baz=306
U33A Lingo Farm, Me 123.22 43 PKiKP **PKiKP** 14 50 14.2 +0.7
baz=303
P36A Good Intent, A 123.26 38 PKiKP **PKiKP** 14 50 13.5 0.0
baz=308
M38A Pleasantville 123.33 35 PKiKP **PKiKP** 14 50 14.1 +0.5
baz=310
R35A Emporia Munici 123.41 40 PKiKP **PKiKP** 14 50 14.0 +0.2
baz=306
X32A Elmer 123.47 45 PKiKP **PKiKP** 14 50 15.1 +1.0
baz=301
Q36A Arnold C. Orve 123.50 39 PKiKP **PKiKP** 14 50 14.1 +0.1
baz=307
T34A McClaskey Farm 123.52 41 PKiKP **PKiKP** 14 50 14.7 +0.7
baz=304
O37A Wolven Farm, M 123.57 37 PKiKP **PKiKP** 14 50 14.4 +0.4
baz=309
U34A Anderson Ranch 123.61 42 PKiKP **PKiKP** 14 50 14.8 +0.5
baz=304
U34A Anderson Ranch 123.61 42 *e*PKPdf **PKPdf** 14 50 14.6 +0.6
WMOK Wichita Mounta 123.67 45 PKiKP **PKiKP** 14 50 14.7 +0.2
baz=302
WMOK Wichita Mounta 123.67 45 *e*PKIKP **PKiKP** 14 50 14.7 +0.2
WMOK Wichita Mounta 123.67 45 *e*PKPdf **PKiKP** 14 50 14.7 +0.2
W33A Caddo, Fort Co 123.67 44 PKiKP **PKiKP** 14 50 15.0 +0.6
baz=302
S35A Otter Creek Ra 123.71 40 PKiKP **PKiKP** 14 50 15.0 +0.5
baz=305
N38A Joes South For 123.71 36 PKiKP **PKPdf** 14 50 13.7 -0.4
baz=310
P37A Lathrop 123.80 37 PKiKP **PKiKP** 14 50 14.6 +0.1
baz=308
R36A Gordon, Harris 123.85 39 PKiKP **PKiKP** 14 50 15.1 +0.4
baz=306
JFWS Jewell Farm 123.95 32 *e*PKIKP **PKPdf** 14 50 14.1 -0.4
JFWS Jewell Farm 123.95 32 *e*PKPdf **PKPdf** 14 50 14.1 -0.4
V34A Guthrie 123.95 43 PKiKP **PKiKP** 14 50 15.7 +0.7
baz=303
V34A Guthrie 123.95 43 *e*PKPdf **PKPdf** 14 50 15.3 +0.7
X33A Lawton 123.97 45 PKiKP **PKiKP** 14 50 15.6 +0.6
baz=302
O38A Galt 124.00 36 PKiKP **PKiKP** 14 50 15.1 +0.2
baz=309
T35A Sooner Cattle 124.02 41 PKiKP **PKiKP** 14 50 15.4 +0.4
baz=305
N39A Derby Farms, D 124.08 35 PKiKP **PKPdf** 14 50 14.6 -0.1
baz=311
W34A Bridge Creek, 124.10 44 PKiKP **PKiKP** 14 50 16.2 +0.9
baz=303
W34A Bridge Creek, 124.10 44 *e*PKPdf **PKPdf** 14 50 15.4 +0.4
ABTX Abilene, Hawle 124.12 47 PKiKP **PKiKP** 14 50 15.9 +0.5
baz=300
ABTX Abilene, Hawle 124.12 47 *e*PKPdf **PKPdf** 14 50 15.0 -0.1
S36A Lake Cedric, C 124.15 40 PKiKP **PKiKP** 14 50 15.8 +0.5
baz=306
Y33A Hilltop Ranch, 124.16 45 PKiKP **PKiKP** 14 50 16.0 +0.6
baz=301
Q37A Longview Farm, 124.18 38 PKiKP **PKiKP** 14 50 15.4 0.0
baz=308
U35A Pawnee 124.18 42 PKiKP **PKiKP** 14 50 15.9 +0.5
baz=304
P38A Dawn 124.28 37 PKiKP **PKiKP** 14 50 15.8 +0.3
baz=309
R37A Teagarden Farm 124.29 39 PKiKP **PKPdf** 14 50 14.8 -0.4
baz=307
T36A Boggs Farm, Ca 124.35 41 PKiKP **PKiKP** 14 50 16.0 +0.2
baz=306
X34A Smith Ranch, M 124.40 44 PKiKP **PKiKP** 14 50 16.8 +0.9
baz=302
Z33A Whitaker Ranch 124.43 46 PKiKP **PKiKP** 14 50 16.4 +0.4
baz=301
V35A Meyer Ranch, C 124.45 43 PKiKP **PKiKP** 14 50 16.4 +0.5
baz=304
O39A Kirksville 124.46 36 PKiKP **PKiKP** 14 50 16.1 +0.3
baz=310
S37A Fort Scott 124.62 39 PKiKP **PKiKP** 14 50 16.2 0.0
baz=307
Q38A Cooks Store, C 124.64 38 PKiKP **PKiKP** 14 50 16.2 0.0
baz=309
133A Hamilton Ranch 124.66 47 PKiKP **PKiKP** 14 50 16.9 +0.5
baz=300
W35A Tecumseh 124.77 43 PKiKP **PKiKP** 14 50 17.2 +0.7
baz=304
Y34A Reagan Ranch, 124.80 45 PKiKP **PKiKP** 14 50 17.4 +0.8
baz=302
P39B Salisbury 124.83 37 PKiKP **PKiKP** 14 50 16.9 +0.4
baz=310
U36A Oologah 124.83 41 PKiKP **PKiKP** 14 50 17.0 +0.3
baz=305
O40A La Belle 124.93 35 PKiKP **PKiKP** 14 50 17.0 +0.3
baz=311
R38A Fenwick Farm, 124.94 39 PKiKP **PKiKP** 14 50 16.7 -0.2
baz=308
T37A Cheneyville 18 124.94 40 PKiKP **PKiKP** 14 50 17.3 +0.4
baz=306
233A Rising Star 124.97 48 PKiKP **PKiKP** 14 50 17.5 +0.4
baz=300
Q39A Willow Grove F 124.97 37 PKiKP **PKiKP** 14 50 17.2 +0.4
baz=309
Z34A Collier Ranch, 124.99 46 PKiKP **PKiKP** 14 50 16.9 -0.2
baz=302
JCT Junction City 125.03 50 PKiKP **PKiKP** 14 50 17.9 +0.6
baz=298
JCT Junction City 125.03 50 *e*PKIKP **PKPdf** 14 50 17.5 +0.5
JCT Junction City 125.03 50 *e*PKPdf **PKPdf** 14 50 17.5 +0.5
V36A Jenks 125.04 42 PKiKP **PKiKP** 14 50 17.6 +0.5
baz=305
TUL1 Leonard 125.07 42 PKiKP **PKiKP** 14 50 17.8 +0.7
baz=305
TUL1 Leonard 125.07 42 *e*PKPdf **PKPdf** 14 50 16.8 0.0
X35A Drake 125.11 44 PKiKP **PKiKP** 14 50 17.8 +0.5
baz=303
W36A Wetumka 125.21 43 PKiKP **PKiKP** 14 50 18.0 +0.5
baz=304
P40A Paris 125.22 36 PKiKP **PKiKP** 14 50 17.4 +0.1
baz=310
U37A Salina 125.23 41 PKiKP **PKiKP** 14 50 18.2 +0.8
baz=306
333A Richland Sprin 125.24 48 PKiKP **PKiKP** 14 50 18.1 +0.4
baz=299
S38A Stockton 125.28 39 PKiKP **PKPdf** 14 50 17.2 0.0
baz=308
134A White-Moore Ra 125.28 47 PKiKP **PKiKP** 14 50 18.0 +0.3
baz=301
Y35A Marietta 125.33 45 PKiKP **PKiKP** 14 50 18.3 +0.6
baz=303
T38A Diamond 125.39 40 PKiKP **PKiKP** 14 50 18.4 +0.6
baz=307
R39A Chumby, Stover 125.40 38 PKiKP **PKiKP** 14 50 17.8 0.0
baz=309
433A Art 125.44 49 PKiKP **PKiKP** 14 50 18.4 +0.4
baz=299
X36A Centrahoma 125.44 43 PKiKP **PKiKP** 14 50 18.3 +0.3
baz=304
Z35A Perchaven, San 125.48 45 PKiKP **PKiKP** 14 50 18.3 +0.2
baz=302

V37A **Hulbert** baz=306 125.52 41 PKiKP **PKiKP** 14 50 18.2 +0.1
234A **Clairette** baz=301 125.53 47 PKiKP **PKiKP** 14 50 18.9 +0.6
Q40A **Laux Farm, Aux** baz=310 125.55 37 PKiKP **PKiKP** 14 50 18.2 +0.2
S39A **Bolivar** baz=308 125.61 39 PKiKP **PKiKP** 14 50 18.3 +0.1
U38A **Gravette** baz=306 125.69 40 PKiKP **PKiKP** 14 50 18.5 +0.1
W37B **Quinton** baz=305 125.75 42 PKiKP **PKPdf** 14 50 18.1 0.0
135A **Vickery Place,** baz=302 125.78 46 PKiKP **PKiKP** 14 50 19.1 +0.4
334A **Lometa** baz=300 125.80 48 PKiKP **PKiKP** 14 50 19.0 +0.2
533A **Kerrville** baz=299 125.81 50 PKiKP **PKiKP** 14 50 18.8 -0.1
Y36A **Durant** baz=303 125.86 44 PKiKP **PKiKP** 14 50 18.8 +0.1
R40A **Maddies Statio** baz=310 125.88 37 PKiKP **PKPdf** 14 50 18.5 +0.2
832A **Faith Ranch, C** baz=297 125.91 52 PKiKP **PKiKP** 14 50 19.3 +0.3
T39A **Clever** baz=308 125.98 39 PKiKP **PKiKP** 14 50 19.0 +0.1
633A **Seathoff Ranch** baz=298 125.99 50 PKiKP **PKiKP** 14 50 19.4 +0.2
V38A **Canehill** baz=306 126.02 41 PKiKP **PKiKP** 14 50 19.2 +0.2
434A **Burnet** baz=300 126.03 48 PKiKP **PKiKP** 14 50 19.7 +0.4
HHAR **Hobbs** 126.07 40 *e*PKPdf **PKPdf** 14 50 18.4 -0.3
Z36A **Blue Ridge** baz=303 126.09 45 PKiKP **PKiKP** 14 50 19.8 +0.5
HDIL **Hopedale** baz=314 126.10 33 PKiKP **PKiKP** 14 50 19.1 0.0
HDIL **Hopedale** 126.10 33 *e*PKPdf **PKPdf** 14 50 19.4 +0.8
X37A **Clayton** baz=305 126.10 43 PKiKP **PKiKP** 14 50 19.8 +0.5
S40A **Lebanon** baz=309 126.17 38 PKiKP **PKiKP** 14 50 19.5 +0.2
733A **Divot King Ran** baz=298 126.24 51 PKiKP **PKiKP** 14 50 20.5 +0.8
534A **Blanco** baz=299 126.26 49 PKiKP **PKiKP** 14 50 20.4 +0.6
Y37A **Hugo** baz=304 126.28 44 PKiKP **PKPdf** 14 50 19.2 +0.1
U39A **Green Forest** baz=307 126.31 40 PKiKP **PKiKP** 14 50 19.7 0.0
833A **Chaparral WMA,** baz=297 126.35 52 PKiKP **PKiKP** 14 50 20.7 +0.8
W38A **Poteau** baz=306 126.40 42 PKiKP **PKiKP** 14 50 20.6 +0.8
335A **Moody** baz=301 126.42 48 PKiKP **PKiKP** 14 50 20.2 +0.2
X38A **Whitesboro** baz=305 126.43 43 PKiKP **PKiKP** 14 50 20.4 +0.5
T40A **Mansfield** baz=309 126.44 39 PKiKP **PKiKP** 14 50 19.9 0.0
136A **Ennis** baz=302 126.45 46 PKiKP **PKiKP** 14 50 20.7 +0.7
Q42A **Golden Eagle** baz=312 126.51 36 PKiKP **PKiKP** 14 50 20.4 +0.5
V39A **Pettigrew** baz=307 126.53 41 PKiKP **PKiKP** 14 50 20.3 +0.2
435B **Jarrell** baz=300 126.56 48 PKiKP **PKiKP** 14 50 20.2 -0.1
634A **China Grove, S** baz=299 126.66 50 PKiKP **PKiKP** 14 50 21.1 +0.6
236A **Katherine and** baz=302 126.70 46 PKiKP **PKiKP** 14 50 20.9 +0.4
Z37A **Pogue Cattle C** baz=304 126.70 44 PKiKP **PKiKP** 14 50 21.1 +0.6
U40A **Yellville** baz=308 126.72 40 PKiKP **PKiKP** 14 50 20.7 +0.2
734A **La Parita Cree** baz=298 126.76 51 PKiKP **PKiKP** 14 50 21.4 +0.7
933A **Laredo** baz=297 126.76 52 PKiKP **PKiKP** 14 50 21.8 +1.1
336A **Riesel** baz=301 126.79 47 PKiKP **PKiKP** 14 50 21.4 +0.7
W39A **Magazine** baz=306 126.82 41 PKiKP **PKiKP** 14 50 20.9 +0.2
Y38A **Idabel** baz=305 126.92 43 PKiKP **PKiKP** 14 50 21.0 +0.1
137A **Heron Place, G** baz=303 126.94 45 PKiKP **PKiKP** 14 50 21.8 +0.8
535A **Dale** baz=300 126.94 49 PKiKP **PKiKP** 14 50 21.3 +0.2
Q43A **New Douglas** baz=313 126.97 35 PKiKP **PKiKP** 14 50 20.8 -0.1
T41A **Mountain View** baz=309 126.98 38 PKiKP **PKiKP** 14 50 20.8 -0.2
X39A **Fountain Ranch** baz=306 127.00 42 PKiKP **PKiKP** 14 50 21.1 0.0
834A **Tilden** baz=298 127.10 52 PKiKP **PKPdf** 14 50 21.1 +0.2
635A **Leesville** baz=299 127.10 50 PKiKP **PKiKP** 14 50 21.6 +0.2
Z38A **Mt. Pleasant** baz=304 127.12 44 PKiKP **PKiKP** 14 50 21.8 +0.5
436A **Wall Ranch, Ga** baz=301 127.15 48 PKiKP **PKiKP** 14 50 21.8 +0.4
237A **Washetta, Mont** baz=303 127.22 46 PKiKP **PKiKP** 14 50 22.1 +0.5
W40A **Ferguson Farm,** baz=307 127.29 41 PKiKP **PKiKP** 14 50 21.7 +0.1
536A **Bastrop** baz=300 127.30 49 PKiKP **PKiKP** 14 50 22.5 +0.7
735A **Kenedy** baz=299 127.33 50 PKiKP **PKiKP** 14 50 22.4 +0.6
MIAR **Mount Ida** baz=306 127.34 42 PKiKP **PKiKP** 14 50 22.0 +0.3
MIAR **Mount Ida** 127.34 42 *e*PKIKP **PKPdf** 14 50 22.1 +0.9
MIAR **Mount Ida** 127.34 42 *e*PKPdf **PKPdf** 14 50 22.1 +0.9
Y39A **Lockesburg** baz=305 127.34 43 PKiKP **PKiKP** 14 50 21.8 0.0
934A **Benavides** baz=297 127.36 52 PKiKP **PKiKP** 14 50 23.2 +1.3
138A **Matatall Enter** baz=304 127.38 45 PKiKP **PKiKP** 14 50 22.7 +0.9
SFIN **Lafayette** baz=316 127.41 32 PKiKP **PKiKP** 14 50 21.6 -0.1
SFIN **Lafayette** 127.41 32 *e*PKPdf **PKPdf** 14 50 21.4 +0.2
034A **Hebbronville** baz=297 127.48 53 PKiKP **PKiKP** 14 50 22.7 +0.5
V41A **Mountainview** baz=308 127.52 40 PKiKP **PKiKP** 14 50 21.8 -0.3
337A **Centerville** baz=302 127.53 47 PKiKP **PKiKP** 14 50 23.0 +0.8
835A **Beeville** baz=298 127.58 51 PKiKP **PKiKP** 14 50 22.1 -0.2
636A **Smothers Creek** baz=300 127.60 49 PKiKP **PKiKP** 14 50 23.4 +1.0
437A **Phantom Ranch,** baz=302 127.60 47 PKiKP **PKiKP** 14 50 23.0 +0.7
SADO **Sadowa** comp=Z,14nm,1.0s,baz=350,slow=3.8,SNR=5.7 127.65 23 PKP **PKPdf** 14 50 21.4 -0.1
SADO **Sadowa** 127.65 23 *e*PKPdf **PKPdf** 14 50 21.7 +0.2
S43A **Fulton Ridge,** baz=311 127.67 37 PKiKP **PKiKP** 14 50 22.3 0.0
Z39A **Irene McRaven,** baz=305 127.68 44 PKiKP **PKiKP** 14 50 22.7 +0.2
X201 **Greenbrier Sit** 127.69 40 *e*PKPdf **PKPdf** 14 50 22.4 +0.5
X301 **Greenbrier Sit** 127.70 40 *e*PKPdf **PKPdf** 14 50 22.4 +0.6
238A **Jacksonville** baz=303 127.71 45 PKiKP **PKiKP** 14 50 22.9 +0.3
WHAR **Wooly Hollow** 127.74 40 *e*PKPdf **PKPdf** 14 50 21.4 -0.6
R44A **Waltonville** baz=313 127.80 35 PKiKP **PKPdf** 14 50 22.1 +0.1
W41B **Gary Mavity, V** baz=308 127.84 40 PKiKP **PKiKP** 14 50 22.4 -0.2
736A **Circle Diamond** baz=300 127.85 50 PKiKP **PKiKP** 14 50 23.3 +0.4
Y40A **Okolona** baz=306 127.85 42 PKiKP **PKiKP** 14 50 23.1 +0.3
537A **Green Hill Far** baz=301 127.86 48 PKiKP **PKiKP** 14 50 23.5 +0.7
X40A **Basin Creek Fa** baz=307 127.87 41 PKiKP **PKiKP** 14 50 22.9 +0.1
338A **Crockett** baz=303 127.92 46 PKiKP **PKiKP** 14 50 23.0 0.0
PBMO **Poplar Bluff** 127.97 38 *e*PKPdf **PKPdf** 14 50 22.9 +0.6
LMQ **La Malbaie** 127.99 14 *e*PKPdf **PKPdf** 14 50 23.0 +0.9
V42A **Cord** baz=309 127.99 39 PKiKP **PKPdf** 14 50 22.6 +0.2
035A **Encino** 128.00 53 PKiKP **PKiKP** 14 50 23.2 0.0

UALR **University of** baz=297 128.02 41 *e*PKPdf **PKPdf** 14 50 22.5 +0.1
OLIL **Olney** 128.03 34 *e*PKPdf **PKPdf** 14 50 23.2 +0.8
S44A **Carbondale** baz=312 128.07 36 PKiKP **PKiKP** 14 50 23.2 +0.1
X41A **Kaden, Bauxite** baz=307 128.07 41 PKiKP **PKiKP** 14 50 23.4 +0.2
SIUC **Southern Illin** 128.08 36 *e*PKPdf **PKPdf** 14 50 23.1 +0.6
438A **Sam Houston St** baz=302 128.13 47 PKiKP **PKiKP** 14 50 23.4 0.0
239A **Gary** baz=304 128.16 45 PKiKP **PKPdf** 14 50 23.1 +0.3
637A **Eagle Lake** baz=300 128.17 49 PKiKP **PKiKP** 14 50 23.6 +0.1
NATX **Nacogdoches** baz=303 128.17 45 PKiKP **PKiKP** 14 50 23.4 -0.1
Z40A **Long Farm, Mag** baz=306 128.21 43 PKiKP **PKiKP** 14 50 23.4 -0.1
035Z **Hargill** baz=297 128.24 53 PKiKP **PKiKP** 14 50 23.6 -0.1
HKT **Hockley** 128.28 48 *e*PKIKP **PKPdf** 14 50 23.5 +0.5
HKT **Hockley** 128.28 48 *e*PKPdf **PKPdf** 14 50 23.5 +0.5
Y41A **Eaglette Beard** baz=307 128.38 42 PKiKP **PKPdf** 14 50 23.5 +0.3
538A **Harpers Horsep** baz=302 128.39 48 PKiKP **PKPdf** 14 50 23.5 +0.2
936A **North Padre Is** baz=298 128.40 52 PKiKP **PKiKP** 14 50 24.2 +0.2
737A **Port Lavaca** baz=300 128.42 50 PKiKP **PKiKP** 14 50 24.3 +0.3
140A **Cam and Jess,** baz=305 128.44 44 PKiKP **PKiKP** 14 50 24.3 +0.4
S45A **Carrier Mills** baz=313 128.48 36 PKiKP **PKiKP** 14 50 24.0 +0.1
339A **Huntington** baz=303 128.48 46 PKiKP **PKiKP** 14 50 24.2 +0.1
BLO **Bloomington** 128.59 33 *e*PKIKP **PKPdf** 14 50 24.0 +0.5
BLO **Bloomington** 128.59 33 *e*PKPdf **PKPdf** 14 50 23.9 +0.5
Z41A **Richland Creek** baz=306 128.62 43 PKiKP **PKiKP** 14 50 24.7 +0.4
439A **Center Grove,** baz=303 128.62 47 PKiKP **PKPdf** 14 50 23.3 -0.4
240A **Hunter Patters** baz=304 128.65 45 PKiKP **PKiKP** 14 50 24.3 -0.2
USIN **University of** 128.81 35 *e*PKPdf **PKPdf** 14 50 25.2 +1.3
638A **Rosharon** baz=301 128.84 48 PKiKP **PKiKP** 14 50 25.1 +0.3
340A **Bronson** baz=304 128.91 45 PKiKP **PKiKP** 14 50 25.1 +0.2
V44A **Blytheville** baz=310 128.91 38 PKiKP **PKiKP** 14 50 24.6 -0.2
141A **Papa Simpson,** baz=306 128.93 43 PKiKP **PKPdf** 14 50 24.3 0.0
Y42A **Garnett, Star** baz=307 128.95 41 PKiKP **PKPdf** 14 50 24.3 0.0
539A **Cross D Ranch,** baz=302 129.02 47 PKiKP **PKiKP** 14 50 25.8 +0.7
X43A **Marvell** baz=309 129.12 40 PKiKP **PKiKP** 14 50 25.4 +0.1
Z42A **Norrel Spur, H** baz=307 129.18 42 PKiKP **PKiKP** 14 50 25.4 -0.1
440A **Kirbyville** baz=303 129.23 46 PKiKP **PKiKP** 14 50 26.0 +0.4
241A **Mo Tay, Goldon** baz=305 129.25 44 PKiKP **PKiKP** 14 50 26.0 +0.4
WCI **Wyandotte Cave** 129.39 33 *e*PKIKP **PKPdf** 14 50 26.5 +1.5
WCI **Wyandotte Cave** 129.39 33 *e*PKPdf **PKPdf** 14 50 26.5 +1.5
LONY **Lake Ozonia** 129.42 19 PKPdf **PKPdf** 14 50 24.0 -0.9
341A **Kurthwood** baz=304 129.47 45 PKiKP **PKiKP** 14 50 26.3 +0.2
Y43A **Makayla and Ka** baz=308 129.47 41 PKiKP **PKiKP** 14 50 26.3 +0.3
V45A **Humboldt** baz=311 129.55 38 PKiKP **PKiKP** 14 50 26.1 0.0
FRNY **Flat Rock** 129.55 18 *e*PKPdf **PKPdf** 14 50 25.6 +0.5
X44A **Crenshaw** baz=310 129.61 40 PKiKP **PKiKP** 14 50 26.3 0.0
142A **Monroe** baz=306 129.61 43 PKiKP **PKPdf** 14 50 25.2 -0.4
ACSO **Alum Creek Sta** 129.62 29 *e*PKPdf **PKPdf** 14 50 25.6 +0.2
Z43A **Armstrong Fami** baz=308 129.69 42 PKiKP **PKPdf** 14 50 25.8 +0.1
242A **Grayson** baz=306 129.76 44 PKiKP **PKiKP** 14 50 26.5 -0.2
441A **DeRidder** baz=304 129.78 46 PKiKP **PKiKP** 14 50 26.8 +0.1
W45A **Hickory Valley** baz=311 129.79 38 PKiKP **PKPdf** 14 50 26.0 +0.1
143A **Socs Landing,** baz=307 129.89 42 PKiKP **PKiKP** 14 50 26.9 +0.1
Y44A **Strider, Charl** baz=309 129.90 40 PKiKP **PKiKP** 14 50 26.6 -0.3
WVT **Waverly** 129.97 37 *e*PKIKP **PKPdf** 14 50 26.5 +0.4
WVT **Waverly** 129.97 37 *e*PKPdf **PKPdf** 14 50 26.5 +0.4
342A **Flagon Creek P** baz=305 130.04 44 PKiKP **PKiKP** 14 50 26.9 -0.3
OXF **Oxford** 130.07 39 *e*PKIKP **PKPdf** 14 50 25.8 -0.6
OXF **Oxford** 130.07 39 *e*PKPdf **PKPdf** 14 50 25.8 -0.6
PMPS **Porto Santo** 130.11 318 *e*PKPdf **PKPdf** 14 50 27.9 +1.4
X45A **UM Field Stati** baz=310 130.13 39 PKiKP **PKiKP** 14 50 27.1 -0.2
M54A **Oil Creek Stat** baz=325 130.13 26 PKiKP **PKiKP** 14 50 26.8 -0.4
541A **Lake Charles** baz=304 130.16 46 PKiKP **PKPdf** 14 50 26.2 -0.4
Z44A **Pea Ridge, Bel** baz=308 130.19 41 PKiKP **PKPdf** 14 50 26.8 +0.1
243A **Waterproof** baz=306 130.32 43 PKiKP **PKPdf** 14 50 27.3 +0.4
Y45A **Yeager Farm, C** baz=310 130.40 40 PKiKP **PKiKP** 14 50 28.0 +0.1
MDV **Middlebury** 130.43 19 *e*PKPdf **PKPdf** 14 50 27.6 +0.8
N54A **Moraine State** baz=324 130.44 26 PKiKP **PKiKP** 14 50 27.5 -0.3
KIC **Kosan Boka** comp=Z,231nm,1.1s 130.48 281 *e*PKIKP **PKPdf** 14 50 29.4 +1.7
KIC **Kosan Boka** comp=Z,µm,1.8s 130.48 281 *e*P **SKPbc** 14 53 45.0 -0.7
DBIC **Dimbokro** comp=Z,38nm,0.7s,baz=81,slow=2.0,SNR=27 130.54 281 PKP **PKPdf** 14 50 28.1 +0.3
DBIC SKPbc **SKPbc** 14 53 45.8 -0.2
comp=Z,84nm,0.9s,baz=72,slow=6.3,SNR=13
DBIC **Dimbokro** 130.54 281 *e*PKPdf **PKPdf** 14 50 28.7 +0.9
DBIC SKPbc **SKPbc** 14 53 45.8 -0.2
343A **Vidalia** baz=306 130.58 44 PKiKP **PKiKP** 14 50 28.1 -0.2
542A **Morse** baz=304 130.59 46 PKiKP **PKiKP** 14 50 28.3 -0.1
144A **Alexander Plac** baz=308 130.59 42 PKiKP **PKiKP** 14 50 28.5 +0.2
PLAL **Pickwick Lake** 130.59 38 *e*PKPdf **PKPdf** 14 50 27.7 +0.3
Z45A **Winona** baz=309 130.61 41 PKiKP **PKPdf** 14 50 27.4 0.0
PMAR **Madeira** 130.70 318 *e*PKPdf **PKPdf** 14 50 31.1 +3.2
PMAR **Madeira** 130.70 318 *e*PP PP 14 52 43.7 +0.6
TIC **Toumodi** 130.71 281 *e*PKIKP **PKPdf** 14 50 29.8 +1.6
TIC **Toumodi** 130.71 281 *e*P **SKPbc** 14 53 45.7 -0.9
FUL **Funchal** 130.73 318 *e*PP PP 14 52 44.4 +1.3
443A **Delano Plantat** baz=305 130.77 45 PKiKP **PKiKP** 14 50 28.9 +0.2
244A **Avery, Jackson** baz=307 130.77 43 PKiKP **PKiKP** 14 50 28.9 +0.2
LIC **Lamto** comp=Z,263nm,1.9s 130.78 280 *e*PKIKP **PKPdf** 14 50 29.8 +1.5
LIC **Lamto** comp=Z,516nm,1.8s 130.78 280 *e*P **SKPbc** 14 53 44.0 -2.8
LMN **Caledonia Moun** 130.79 10 *e*PKPdf **PKPdf** 14 50 29.1 +1.6
Y46A **Houston** baz=310 130.82 39 PKiKP **PKiKP** 14 50 28.3 -0.4
PMOZ **Porto Moniz, M** comp=Z,1µm,18.0s 130.82 319 *e*LR LR 15 38 52.5
145A **Houston Renfro** baz=308 130.94 42 PKiKP **PKiKP** 14 50 29.0 +0.1
WVL **Waterville** 130.94 15 *e*PKPdf **PKPdf** 14 50 28.4 +0.6
344A **Westbrook Farm** baz=307 131.09 43 PKiKP **PKiKP** 14 50 30.3 +1.0
Z46A **Louisville** baz=310 131.21 40 PKiKP **PKiKP** 14 50 29.4 -0.1
245A **Little AP, Sta** baz=308 131.31 42 PKiKP **PKiKP** 14 50 29.6 -0.1
Y47A **UCPARC, Winfie** baz=311 131.44 39 PKiKP **PKiKP** 14 50 29.7 -0.3
146A **Union** baz=309 131.49 41 PKiKP **PKiKP** 14 50 30.1 0.0
444A **Pine Grove** baz=306 131.52 44 PKiKP **PKPdf** 14 50 28.9 -0.3
SSPA **Standing Stone** 131.61 25 *e*PKPdf **PKPdf** 14 50 28.7 -0.5

O56A **Blue Knob Stat** baz=326 131.63 26 PKiKP **PKPdf** 14 50 29.7 +0.5
345A **Thompson Farm,** baz=307 131.66 43 PKiKP **PKPdf** 14 50 29.5 0.0
SWET **Sewanee** 131.72 36 *e*PKPdf **PKPdf** 14 50 30.0 +0.5
Z47A **Carrollton** baz=311 131.76 40 PKiKP **PKPdf** 14 50 29.7 +0.1
445A **Amite** baz=307 131.79 44 PKiKP **PKPdf** 14 50 29.3 -0.5
Z48A **Northport** baz=311 131.97 39 PKiKP **PKPdf** 14 50 30.3 +0.3
147A **Livingston** baz=310 131.97 40 PKiKP **PKPdf** 14 50 30.0 -0.1
346A **Big Creek Wild** baz=308 131.99 42 PKiKP **PKPdf** 14 50 29.2 -0.9
BART **Pico Bartolome** 132.04 330 *e*SKPbc **SKPbc** 14 53 46.8 -4.0
TZTN **Tazewell** 132.11 33 *e*PKPdf **PKPdf** 14 50 30.6 +0.4
247A **Quitman** baz=309 132.15 41 PKiKP **PKPdf** 14 50 30.4 +0.1
PCALD **Caldeiras da R** 132.18 330 *e*SKPbc **SKPbc** 14 53 49.4 -1.8
CMLA **Cha da Macela** 132.23 330 *e*SKPbc **SKPbc** 14 53 48.8 -2.6
PSET **Sete Cidades** 132.28 330 *e*SKPbc **SKPbc** 14 53 51.5 -0.1
CPCT **Cooper Cave** 132.37 35 *e*PKPdf **PKPdf** 14 50 31.1 +0.4
PGRA **Graciosa** 132.40 333 *e*SKPbc **SKPbc** 14 53 49.9 -2.0
446A **Poplarville** baz=308 132.43 43 PKiKP **PKPdf** 14 50 30.3 -0.6
LRAL **Lakeview Retre** 132.55 39 *e*PKPdf **PKPdf** 14 50 30.4 -0.7
PSMN **Pico do Norte,** 132.57 329 *e*SKPbc **SKPbc** 14 53 48.8 -3.8
347A **Saraland** baz=309 132.60 42 PKiKP **PKPdf** 14 50 31.4 +0.2
PSMA **Santa Maria** 132.61 329 *e*SKPbc **SKPbc** 14 53 52.0 -0.7
TKL **Tuckaleechee C** baz=155,slow=2.4 132.64 34 PKP **PKPdf** 14 50 31.9 +0.7
TKL SKPbc **SKPbc** 14 53 52.1 -0.8
comp=Z,28nm,0.9s,baz=158,slow=2.2,SNR=4.9
248A **Dixon Mills** baz=310 132.69 40 PKiKP **PKPdf** 14 50 31.2 -0.2
PMAN **Manadas** 132.77 333 *e*SKPbc **SKPbc** 14 53 53.0 -0.2
ROSA **Rosais** 132.77 333 *e*SKPbc **SKPbc** 14 53 50.9 -2.3
447A **Lucedale** baz=308 132.91 43 PKiKP **PKPdf** 14 50 30.6 -1.2
348A **Jackson** baz=310 133.02 41 PKiKP **PKPdf** 14 50 31.2 -0.8
PICO **Pico** 133.03 333 *e*SKPbc **SKPbc** 14 53 49.9 -4.3
PCED **Cedros** 133.05 333 *e*SKPbc **SKPbc** 14 53 53.0 -1.2
PCAN **Candelaria** 133.09 333 *e*SKPbc **SKPbc** 14 53 53.0 -1.3
448A **Bay Minette** baz=309 133.35 42 PKiKP **PKPdf** 14 50 32.8 +0.1
H07S1 **FLORES T-PHASE** 133.50 336 *e*SKPbc **SKPbc** 14 53 48.8 -6.9
KMSC **Kings Mountain** baz=320 134.35 32 PKiKP **PKPdf** 14 50 34.1 -0.3
KMSC **Kings Mountain** 134.35 32 *e*PKPdf **PKPdf** 14 50 35.5 +1.1
GOGA **Godfrey** 134.43 36 *e*PKHKP PKPpre 14 50 25.6
GOGA e 14 50 34.5
GOGA **Godfrey** 134.43 36 *e*PKPpre PKPpre 14 50 25.6
GOGA *e*PKPdf **PKPdf** 14 50 34.5 -0.2
TIGA **Tifton** 135.75 38 *e*PKPdf **PKPdf** 14 50 38.0 +0.8
PLCA **Paso Flores** comp=Z,10nm,1.1s,baz=243,slow=4.1,SNR=5.6 139.00 160 PKP **PKPdf** 14 50 42.8 -0.2
TEIG **Tepich** 139.10 55 *e*PKPdf **PKPdf** 14 50 44.4 +0.8
TRQA **Tornquist** 143.82 169 *e*PKPdf PKPbc 14 50 49.8 +0.4
ROC1 **El Roble** 145.58 153 *e*PKPdf **PKPab** 14 50 56.4 +0.7
LPA **La Plata** 147.54 173 *ce*PKP **PKPab** 14 51 04.0 +1.2
LPA PKIKS 14 54 33.0
LPA SKIKS 14 58 02.0
LPA PPP PPP 15 05 10.0
MTDJ **Mount Denham** 148.63 48 *e*PKPbc **PKPbc** 14 51 05.2 +1.1
LCO **Las Campanas** 149.03 150 *e*PKPbc **PKPbc** 14 51 05.9 +0.8
GTBY **Guantanamo Bay** 149.23 43 *e*PKPbc **PKPbc** 14 51 06.5 +1.1
GRTK **Grand Turk** 150.54 35 *e*PKPbc **PKPbc** 14 51 09.0 +0.3
SDDR **Presa de Saban** 152.39 38 *e*PKPdf **PKPdf** 14 51 06.7 +0.5
SDDR *e*PKPbc **PKiKP** 14 51 13.5 +0.2
CAPC **Capurgana** 153.79 65 *e*P **PKPdf** 14 51 09.5 +1.2
GRGC **Isla de Gorgon** 154.78 78 *e*P PKPpre 14 51 02.1
ATAH **Atahualpa** comp=Z,23nm,1.0s,baz=319,slow=3.6,SNR=9.3 154.83 101 PKP **PKPdf** 14 51 11.7 +1.4
ATAH PKPab **PKPab** 14 51 34.3 0.0
comp=Z,55nm,0.8s,baz=266,slow=3.1,SNR=7.6
OTAV **Otavalo** 154.95 84 *e*P **PKPbc** 14 51 18.5 -0.8
OTAV **Otavalo** 154.95 84 *e*PKPdf **PKPdf** 14 51 12.1 +1.5
NNA **Nana** comp=Z,8.9nm,0.6s,baz=297,slow=7.3,SNR=3.7 155.08 113 PKP **PKPdf** 14 51 11.5 +1.4
NNA **Nana** 155.08 113 PKIKP **PKPdf** 14 51 11.5 +1.4
NNA pmax pmax
comp=Z,7.0nm,0.5s
LVC **Limon Verde** 155.10 144 PKP **PKPdf** 14 51 10.7 +0.3
comp=Z,26nm,0.9s,baz=145,slow=2.7,SNR=5.4
LVC PKPab **PKPab** 14 51 35.0 0.0
comp=Z,200nm,0.8s,baz=255,slow=4.2,SNR=6.4
LVC **Limon Verde** 155.10 144 *e*PKPdf **PKPdf** 14 51 13.8 +3.4
LVC PKPab **PKPab** 14 51 35.0 0.0
SJCC **San Jacinto, C** 155.16 60 *e*P **PKPdf** 14 51 12.8 +2.5
MOTC **Monteria, Cord** 155.25 63 *e*P **PKPdf** 14 51 11.1 +0.8
MALC **Bahia Malaga** 155.35 75 *e*P **PKPdf** 14 51 15.1 +4.6
DBBC **Dabeiba** 155.47 67 *e*P **PKPdf** 14 51 10.8 0.0
SJG **San Juan** comp=Z,14nm,0.3s,baz=122,slow=4.1,SNR=3.6 156.01 31 PKP **PKPdf** 14 51 11.5 +0.3
SJG PKPab **PKPab** 14 51 39.0 +0.6
comp=Z,9.3nm,0.5s,baz=152,slow=8.6,SNR=3.7
CPUP **Villa Florida** comp=Z,12nm,1.1s,baz=102,slow=2.1,SNR=9.6 156.07 172 PKP **PKPdf** 14 51 10.7 -0.4
CPUP PKPab **PKPab** 14 51 37.1 -1.4
comp=Z,45nm,1.0s,baz=238,slow=1.0,SNR=8.1
CPUP **Villa Florida** 156.07 172 *e*PKPdf **PKPdf** 14 51 11.5 +0.4
CPUP PKPab **PKPab** 14 51 37.1 -1.4
HUMP **Col San Antoni** 156.13 30 *e*PKPdf **PKPdf** 14 51 11.4 +0.1
CRUC **La Cruz** 156.25 80 *e*P **PKPdf** 14 51 15.3 +3.2
POPC **Popayan, Colom** 156.33 78 *e*P **PKPdf** 14 51 11.9 -0.1
STVI **Saint Thomas** 156.39 28 *e*PKPdf **PKPdf** 14 51 11.1 -0.5
PB11 **IPOC Station P** 156.75 139 *e*PKPdf **PKPdf** 14 51 13.3 +0.9
TOLC **Tolima** 157.12 72 *e*P **PKPdf** 14 51 16.1 +2.8
NORC **Norcasia** 157.23 69 *e*P **PKPdf** 14 51 16.9 +3.9
SMRT **St. Maarten** 157.48 24 *e*P **PKPab** 14 51 39.2 -5.5
SMRT **St. Maarten** 157.48 24 *e*PKPdf **PKPdf** 14 51 13.4 +0.3
OCAC **Ocana** 157.56 61 *e*P **PKPdf** 14 51 13.6 +0.1
BRRC **Barranca, Sant** 157.71 64 *e*P **PKPdf** 14 51 14.0 +0.5
PRAC **Prado** 157.78 74 *e*P **PKPdf** 14 51 15.2 +1.5
PRAC **Prado** 157.78 74 *e*PKPdf **PKPdf** 14 51 14.2 +0.5
ROSC **El Rosal** comp=Z,22nm,0.9s,baz=110,slow=5.6,SNR=11 157.99 71 PKP **PKPdf** 14 51 14.9 +0.5
ROSC PKPab **PKPab** 14 51 47.8 -0.1
comp=Z,48nm,0.9s,baz=129,slow=16,SNR=6.7
ROSC **El Rosal** 157.99 71 *e*P **PKPdf** 14 51 16.1 +1.7
ROSC **El Rosal** 157.99 71 *e*PKPdf **PKPdf** 14 51 15.4 +1.0
ROSC PKPab **PKPab** 14 51 47.8 -0.1
GRMC **Gramalote, San** 158.25 62 *e*P **PKPdf** 14 51 14.4 0.0
CBRI **Barrientos, No** 158.26 62 *e*P **PKPdf** 14 51 16.5 +2.0
BARC **Barichara** 158.40 65 *e*P **PKPdf** 14 51 15.2 +0.6
CHIC **Chingaza** 158.61 71 *e*P **PKPdf** 14 51 16.5 +1.3
RUSC **La Rusia** 158.76 67 *e*P **PKPdf** 14 51 15.6 +0.2
SDV **Santo Domingo** comp=Z,23nm,0.5s,baz=359,slow=1.4,SNR=9.1 159.53 56 PKP **PKPdf** 14 51 16.4 +0.5
SDV PKPab **PKPab** 14 51 55.0 +0.8
comp=Z,68nm,0.9s,baz=273,slow=2.3,SNR=3.6
SDV **Santo Domingo** 159.53 56 *e*P **PKPdf** 14 51 15.6 -0.3
LPAZ **La Paz** comp=Z,20nm,1.1s,baz=17,slow=3.2,SNR=29 160.19 134 PKP **PKPdf** 14 51 17.7 +0.6
LPAZ PKPab **PKPab** 14 51 58.1 +0.7
comp=Z,39nm,1.0s,baz=198,slow=9.6,SNR=5.9
LPAZ **La Paz** 160.19 134 *e*PKPdf **PKPdf** 14 51 18.2 +1.0
LPAZ PKPab **PKPab** 14 51 58.1 +0.7
PCM **Pelee Case Pet** 161.16 24 *e*P **PKPdf** 14 51 18.8 +1.4
CXM **Morne La Croix** 161.18 23 *e*P **PKPdf** 14 51 22.2 +4.6
GBMF **Grand Be** 161.19 23 *e*P **PKPdf** 14 51 18.9 +1.3
FDF **Fort de France** 161.25 23 *e*P **PKPdf** 14 51 18.8 +1.2
FDF **Fort de France** 161.25 23 *e*PKPdf **PKPdf** 14 51 18.1 +0.6
ZAM **Aeronautique** 161.45 23 *e*P **PKPdf** 14 51 19.3 +1.6
TRMF **Trois Ilets** 161.47 23 *e*P PKPdf 14 51 25.5 +7.8
RCBR **Riachuelo** comp=Z,14nm,1.0s,baz=347,slow=18,SNR=3.0 162.11 259 PKP **PKPdf** 14 51 18.7 +0.2
RCBR PKPab **PKPab** 14 52 06.8 +1.4
comp=Z,50nm,0.9s,baz=95,slow=3.6,SNR=8.8
PCRV **Puerto La Cruz** comp=Z,7.1nm,0.9s,baz=332,slow=9.8,SNR=2.9 163.22 41 PKP **PKPdf** 14 51 20.1 +0.5
SIV **San Ignacio** comp=Z,17nm,1.1s,baz=193,slow=1.8,SNR=17 164.72 151 PKP **PKPdf** 14 51 21.5 +0.6
SIV PKPab **PKPab** 14 52 17.7 +1.3
comp=Z,21nm,0.8s,baz=210,slow=7.8,SNR=6.0
BDFB **Brasilia** comp=Z,15nm,1.0s,baz=80,slow=1.9,SNR=9.7 165.89 202 PKP **PKPdf** 14 51 22.1 +0.1
BDFB PKPab **PKPab** 14 52 22.8 +1.2
comp=Z,13nm,0.9s,baz=139,slow=16,SNR=1.9
BDFB PP **PP** 14 56 10.9 +3.4
comp=Z,26nm,1.0s,baz=167,slow=2.3,SNR=4.0

SAML	Samuel	168.50	124	*e*PKPdf	PKPdf	14 51 24.4	+0.6
PTGA	Pitinga	173.33	74	PKP	PKPdf	14 51 26.0	-0.4
	comp=Z,5.9nm,0.8s,baz=160,slow=1.0,SNR=9.2						
PTGA				PKPab	PKPab	14 52 56.4	+1.4
	comp=Z,19nm,1.0s,baz=296,slow=9.6,SNR=4.1						

*ISCJB **13** 14:48:05.8±0.5, 43°.65S±0°.03×172°.87E±0°.03, h13km±4km, mb3.8/2, Error ellipse: s-maj=5.3km s-min=3.0km az=148.1*
*IDC **13** 14:48:06.8±1.6, 43°.33S×172°.70E, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/33, mbtmp4.0/3, ML3.8/1, Error ellipse: s-maj=45.4km s-min=15.2km az=152.0*
*NEIC **13** 14:48:08.2, 43°.58S×172°.73E, h9km, ML4.6(WEL), After WEL.*
NEIC Felt at Christchurch.
*WEL **13** 14:48:08.7±0.1, 43°.58S×172°.72E, h6km, ML4.6/21, Error ellipse: s-maj=0.7km s-min=0.4km az=90.0*
WEL Felt from Wellington to Otago, maximum reported intensity MM 6.

ISC 13 14:48:07.6±1.0, 43°.58S±0°.03×172°.80E±0°.03, h8km±7km, n122, σ1s20/130, 5C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
CRLZ	**Canterbury Las**	**0.13**	**272**	↑PG	**Pg**	**14 48 10.3**	**-0.2**
CRLZ				SG	**Sg**	**14 48 11.5**	**-1.0**
CRLZ				SG		14 48 11.7	
CRLZ				AML	AML	14 48 12.4	
CRLZ				AML	AML	14 48 12.4	
MQZ	**McQueen's Vall**	**0.17**	**220**	↑PG	**Pg**	**14 48 11.6**	**+0.5**
MQZ				SG	**Sg**	**14 48 13.9**	**+0.4**
MQZ				SG	**Sg**	**14 48 13.9**	**+0.4**
MQZ				AML	AML	14 48 14.0	
MQZ	**McQueen's Vall**	**0.17**	**220**	Pg	**Pg**	**14 48 11.6**	**+0.5**
MQZ				Sg	**Sg**	**14 48 13.9**	**+0.4**
OXZ	**Oxford**	**0.61**	**294**	↓P*	**Pg**	**14 48 19.2**	**-0.3**
OXZ				SG	**Sg**	**14 48 26.8**	**-0.7**
OXZ	**Oxford**	**0.61**	**294**	P*	**Pg**	**14 48 19.2**	**-0.3**
OXZ				S*	**Sg**	**14 48 26.7**	**-0.8**
LTZ	**Lake Taylor**	**0.89**	**334**	↑P*	**Pg**	**14 48 25.0**	**+0.4**
LTZ				S*	**Sg**	**14 48 36.7**	**+0.5**
LTZ				AML	AML	14 48 37.7	
LTZ	**Lake Taylor**	**0.89**	**334**	P*	**Pg**	**14 48 25.0**	**+0.4**
RPZ	**Rata Peaks**	**1.28**	**263**	Pg	**Pn**	**14 48 32.0**	**+0.2**
	634nm,0.3s,baz=145,slow=3.5,SNR=637						
RPZ				Lg	Lg	14 48 46.1	
	794nm,0.3s,baz=344,slow=18,SNR=26						
RPZ	**Rata Peaks**	**1.28**	**263**	↑P*	**Pn**	**14 48 30.3**	**-1.5**
RPZ				S*	**Sg**	**14 48 46.3**	**-2.4**
RPZ				AML	AML	14 48 49.3	
RPZ	**Rata Peaks**	**1.28**	**263**	P*	**Pn**	**14 48 30.3**	**-1.5**
RPZ				Pg	**Pn**	**14 48 32.0**	**+0.2**
RPZ				Lg	Lg	14 48 46.1	
KHZ	**Kahutara**	**1.28**	**25**	P*	**Pn**	**14 48 30.8**	**-1.0**
KHZ				S*	**Sb**	**14 48 50.5**	**+2.0**
KHZ	**Kahutara**	**1.28**	**25**	Pn	**Pn**	**14 48 31.0**	**-0.8**
INZ	**Inchbonnie**	**1.31**	**310**	P*	**Pn**	**14 48 30.6**	**-1.6**
INZ				S*	**Sb**	**14 48 48.6**	**-0.8**
WVZ	**Waitaha Valley**	**1.59**	**288**	PN	**Pn**	**14 48 34.9**	**-1.2**
WVZ				SN	**Sb**	**14 48 59.6**	**+2.1**
WVZ				AML	AML	14 49 05.4	
WVZ	**Waitaha Valley**	**1.59**	**288**	Pn	**Pn**	**14 48 35.1**	**-1.0**
DSZ	**Denniston Nort**	**1.98**	**338**	PN	**Pn**	**14 48 40.6**	**-0.8**
DSZ				SN	**Sn**	**14 49 07.3**	**+0.9**
DSZ				AML	AML	14 49 09.2	
DSZ				AML	AML	14 49 09.2	
DSZ				AML	AML	14 49 09.3	
DSZ	**Denniston Nort**	**1.98**	**338**	Pn	**Pn**	**14 48 40.7**	**-0.8**
BSWZ	**Blackbirch Sta**	**2.02**	**23**	↑PN	**Pn**	**14 48 41.7**	**-0.3**
BSWZ				AML	AML	14 49 24.2	
BSWZ				AML	AML	14 49 38.6	
BSWZ	**Blackbirch Sta**	**2.02**	**23**	Pn	**Pn**	**14 48 41.7**	**-0.3**
LBZ	**Lake Benmore**	**2.06**	**246**	AML	AML	14 49 15.4	
LBZ				AML	AML	14 49 21.3	
CMWZ	**Cape Campbell**	**2.10**	**30**	PN	**Pn**	**14 48 42.8**	**-0.4**
CMWZ				AML	AML	14 49 29.3	
CMWZ				AML	AML	14 49 40.7	
CMWZ	**Cape Campbell**	**2.10**	**30**	Pn	**Pn**	**14 48 43.1**	**-0.1**
ODZ	**Otahua Downs**	**2.13**	**226**	↓PN	**Pn**	**14 48 42.3**	**-1.3**
ODZ				SN	**Sb**	**14 49 14.0**	**+0.9**
ODZ				AML	AML	14 49 19.6	
ODZ				AML	AML	14 49 20.8	
ODZ				AML	AML	14 49 25.7	
ODZ	**Otahua Downs**	**2.13**	**226**	Pn	**Pn**	**14 48 42.3**	**-1.3**
FOZ	**Fox Glacier**	**2.17**	**270**	PN	**Pn**	**14 48 43.9**	**-0.2**
FOZ				SN	**Sg**	**14 49 18.5**	**+1.1**
FOZ				AML	AML	14 49 24.1	
FOZ				AML	AML	14 49 24.2	
FOZ				AML	AML	14 49 24.8	
FOZ	**Fox Glacier**	**2.17**	**270**	Pn	**Pn**	**14 48 43.9**	**-0.2**
TUWZ	**Tuamarina**	**2.31**	**22**	PN	**Pn**	**14 48 45.3**	**-0.6**
TUWZ				AML	AML	14 48 57.8	
TUWZ				AML	AML	14 49 35.0	
TUWZ	**Tuamarina**	**2.31**	**22**	Pn	**Pn**	**14 48 45.3**	**-0.6**
NNZ	**Nelson**	**2.40**	**10**	↓PN	**Pn**	**14 48 46.9**	**-0.3**
NNZ				SN	**Sg**	**14 49 25.4**	**+0.7**
NNZ				AML	AML	14 49 33.4	
NNZ				AML	AML	14 49 33.5	
NNZ				AML	AML	14 49 41.0	
NNZ	**Nelson**	**2.40**	**10**	Pn	**Pn**	**14 48 46.9**	**-0.3**
TCW	**Tory Channel**	**2.61**	**25**	PN	**Pn**	**14 48 48.7**	**-1.3**
TCW				AML	AML	14 49 41.0	
TCW				AML	AML	14 49 48.3	
TCW	**Tory Channel**	**2.61**	**25**	Pn	**Pn**	**14 48 49.2**	**-0.8**
BHW	**Baring Head**	**2.65**	**36**	PN	**Pn**	**14 48 49.8**	**-0.9**
BHW				AML	AML	14 49 52.3	
BHW				AML	AML	14 49 56.0	
BHW	**Baring Head**	**2.65**	**36**	Pn	**Pn**	**14 48 49.8**	**-0.9**
PLWZ	**Palliser**	**2.70**	**43**	PN	**Pn**	**14 48 50.3**	**-1.1**
PLWZ	**Palliser**	**2.70**	**43**	Pn	**Pn**	**14 48 50.3**	**-1.1**
WEL	**Wellington**	**2.71**	**33**	PN	**Pn**	**14 48 50.6**	**-0.9**
WEL				AML	AML	14 49 27.6	
WEL				AML	AML	14 49 27.8	
WEL	**Wellington**	**2.71**	**33**	Pn	**Pn**	**14 48 50.6**	**-0.9**
QRZ	**Quartz Range**	**2.76**	**356**	PN	**Pn**	**14 48 51.3**	**-0.8**
QRZ				AML	AML	14 49 38.7	
QRZ				AML	AML	14 49 38.7	
QRZ				AML	AML	14 49 42.9	
QRZ				AML	AML	14 49 42.9	
QRZ	**Quartz Range**	**2.76**	**356**	Pn	**Pn**	**14 48 51.3**	**-0.8**
HHSZ	**Highcliff Hill**	**2.79**	**214**	PN	**Pn**	**14 48 51.3**	**-1.3**
HHSZ	**Highcliff Hill**	**2.79**	**214**	Pn	**Pn**	**14 48 51.3**	**-1.3**
MSWZ	**Moikau Station**	**2.82**	**41**	PN	**Pn**	**14 48 52.1**	**-0.9**
MSWZ				AML	AML	14 49 24.8	
MSWZ				AML	AML	14 49 24.9	
MSWZ	**Moikau Station**	**2.82**	**41**	Pn	**Pn**	**14 48 52.1**	**-0.9**
DUWZ	**D'Urville Isla**	**2.90**	**17**	PN	**Pn**	**14 48 53.8**	**-0.3**
DUWZ	**D'Urville Isla**	**2.90**	**17**	Pn	**Pn**	**14 48 54.0**	**-0.1**
PAWZ	**Paruwai Farm**	**2.93**	**42**	Pn	**Pn**	**14 48 53.4**	**-1.2**
JCZ	**Jackson Bay**	**2.95**	**259**	PN	**Pn**	**14 48 53.8**	**-1.1**
JCZ				AML	AML	14 49 46.9	
JCZ				AML	AML	14 49 47.3	
JCZ	**Jackson Bay**	**2.95**	**259**	Pn	**Pn**	**14 48 53.8**	**-1.1**
CAW	**Cannon Point**	**2.98**	**35**	Pn	**Pn**	**14 48 54.1**	**-1.2**
WKZ	**Wanaka**	**3.00**	**244**	PN	**Pn**	**14 48 54.0**	**-1.4**
WKZ				AML	AML	14 49 47.6	
WKZ				AML	AML	14 49 47.7	
WKZ				AML	AML	14 49 53.5	
WKZ				AML	AML	14 49 53.6	
WKZ	**Wanaka**	**3.00**	**244**	Pn	**Pn**	**14 48 54.5**	**-0.9**
EAZ	**Earnscleugh**	**3.00**	**235**	PN	**Pn**	**14 48 54.1**	**-1.3**
EAZ				AML	AML	14 49 50.4	
EAZ				AML	AML	14 49 52.1	
EAZ				AML	AML	14 49 54.2	
EAZ				AML	AML	14 49 54.2	
EAZ	**Earnscleugh**	**3.00**	**235**	Pn	**Pn**	**14 48 54.2**	**-1.3**
TRWZ	**Traveller**	**3.05**	**45**	Pn	**Pn**	**14 48 54.8**	**-1.3**
KIW	**Kapiti Island**	**3.13**	**31**	Pn	**Pn**	**14 48 56.4**	**-0.9**
MTW	**Mount Morrison**	**3.14**	**40**	Pn	**Pn**	**14 48 55.9**	**-1.5**
OGWZ	**Otaki Gorge**	**3.27**	**33**	Pn	**Pn**	**14 48 58.0**	**-1.2**
TUZ	**Tuapeka**	**3.28**	**222**	Pn	**Pn**	**14 48 58.0**	**-1.2**
HOWZ	**Holdsworth Sta**	**3.35**	**38**	Pn	**Pn**	**14 48 58.8**	**-1.5**
TMWZ	**Te Maipa**	**3.37**	**44**	Pn	**Pn**	**14 48 59.0**	**-1.5**
MRZ	**Mangatainoka R**	**3.57**	**36**	Pn	**Pn**	**14 49 01.7**	**-1.7**
TIWZ	**Tintock**	**3.62**	**40**	Pn	**Pn**	**14 49 02.2**	**-1.8**
MSZ	**Milford Sound**	**3.68**	**251**	Pn	**Pn**	**14 49 03.1**	**-1.6**
MLZ	**Mavora Lakes**	**3.80**	**240**	Pn	**Pn**	**14 49 04.8**	**-1.6**
PRWZ	**Pori Road**	**3.83**	**39**	Pn	**Pn**	**14 49 06.4**	**-0.5**
BFZ	**Birch Farm**	**3.86**	**43**	Pn	**Pn**	**14 49 05.4**	**-1.9**
POWZ	**Post Office Ro**	**3.88**	**36**	Pn	**Pn**	**14 49 07.2**	**-0.3**
SYZ	**Scrubby Hill**	**3.94**	**220**	Pn	**Pn**	**14 49 07.6**	**-0.7**
DVHZ	**Dannevirke**	**4.13**	**39**	Pn	**Pn**	**14 49 09.1**	**-1.8**
WAZ	**Wanganui**	**4.16**	**24**	Pn	**Pn**	**14 49 12.4**	**+1.0**
WHZ	**Wether Hill Ro**	**4.16**	**235**	Pn	**Pn**	**14 49 09.2**	**-2.3**
TSZ	**Takapari Road**	**4.24**	**35**	Pn	**Pn**	**14 49 10.6**	**-1.9**
NMEZ	**Namu Road**	**4.24**	**11**	Pn	**Pn**	**14 49 14.1**	**+1.6**
PREZ	**Palmer Road**	**4.35**	**14**	Pn	**Pn**	**14 49 15.7**	**+1.6**
PRHZ	**Porangahau**	**4.37**	**42**	Pn	**Pn**	**14 49 13.5**	**-0.8**
NWEZ	**Newall Road**	**4.37**	**11**	Pn	**Pn**	**14 49 15.4**	**+1.1**
KHEZ	**Kahui Hut**	**4.38**	**12**	Pn	**Pn**	**14 49 15.9**	**+1.5**
NEZ	**North Egmont**	**4.41**	**13**	Pn	**Pn**	**14 49 15.9**	**+0.9**
WPHZ	**Waipukurau**	**4.44**	**39**	Pn	**Pn**	**14 49 15.6**	**+0.4**
PNHZ	**Pukenui**	**4.46**	**36**	Pn	**Pn**	**14 49 14.1**	**-1.5**
DCZ	**Deep Cove**	**4.46**	**243**	Pn	**Pn**	**14 49 14.1**	**-1.4**
PKE	**Pukeiti**	**4.47**	**12**	Pn	**Pn**	**14 49 17.1**	**+1.4**
DREZ	**Durham Road**	**4.51**	**14**	Pn	**Pn**	**14 49 17.2**	**+1.0**
MTVZ	**Mangateitei**	**4.64**	**26**	Pn	**Pn**	**14 49 18.6**	**+0.5**
PXZ	**Pawanui**	**4.67**	**42**	Pn	Pn	14 49 12.2	-6.1
VRZ	**Vera Road**	**4.69**	**19**	Pn	**Pn**	**14 49 19.0**	**+0.4**
PKVZ	**Pokaka**	**4.69**	**25**	Pn	**Pn**	**14 49 19.2**	**+0.4**
APZ	**The Paps**	**4.71**	**225**	Pn	**Pn**	**14 49 17.3**	**-1.6**
MOVZ	**Moawhango**	**4.72**	**29**	Pn	**Pn**	**14 49 18.9**	**-0.3**
WNVZ	**Wahianoa**	**4.74**	**27**	Pn	**Pn**	**14 49 19.6**	**+0.1**
TRVZ	**Turoa**	**4.75**	**27**	Pn	**Pn**	**14 49 20.0**	**+0.3**
BHHZ	**Black Hill Sta**	**4.76**	**32**	Pn	**Pn**	**14 49 18.9**	**-0.8**
WHVZ	**Whangaehu Hut**	**4.78**	**27**	Pn	**Pn**	**14 49 20.7**	**+0.6**
FWVZ	**Far West T-bar**	**4.79**	**26**	Pn	**Pn**	**14 49 19.9**	**-0.4**
TUVZ	**Tukino**	**4.81**	**27**	Pn	**Pn**	**14 49 20.1**	**-0.4**
KAHZ	**Kahuranaki**	**4.86**	**40**	Pn	Pn	14 49 09.9	-11
NGZ	**Ngauruhoe**	**4.88**	**27**	Pn	**Pn**	**14 49 21.3**	**-0.1**
OTVZ	**Oturere**	**4.91**	**27**	Pn	**Pn**	**14 49 22.1**	**+0.3**
TWVZ	**Taurewa**	**4.92**	**25**	Pn	**Pn**	**14 49 22.1**	**+0.1**
WTVZ	**West Tongariro**	**4.93**	**26**	Pn	**Pn**	**14 49 22.1**	**0.0**
KRVZ	**Karewarewa**	**4.96**	**26**	Pn	**Pn**	**14 49 22.7**	**+0.1**
CKHZ	**Cape Kidnapper**	**5.06**	**41**	Pn	Pn	14 49 10.1	-14
MCHZ	**McNeill Hill**	**5.06**	**37**	Pn	Pn	14 49 13.7	-10
RITZ	**Rihia Road**	**5.14**	**28**	Pn	**Pn**	**14 49 25.2**	**+0.2**
BKZ	**Black Stump Fm**	**5.21**	**33**	Pn	Pn	14 49 18.3	-7.6
HIZ	**Hauiti**	**5.29**	**18**	Pn	**Pn**	**14 49 26.6**	**-0.4**
ARHZ	**Aropaoanui**	**5.34**	**38**	Pn	Pn	14 49 15.6	-12
NMHZ	**Naumai**	**5.40**	**35**	Pn	Pn	14 49 18.3	-10
TLZ	**Tolley Road**	**5.64**	**22**	Pn	**Pn**	**14 49 31.0**	**-0.8**
RAHZ	**Arahi**	**5.67**	**36**	Pn	Pn	14 49 20.6	-12
TOZ	**Tahuroa Road**	**6.19**	**20**	Pn	**Pn**	**14 49 38.3**	**-1.0**
URZ	**Urewera**	**6.23**	**33**	Pn	**Pn**	**14 49 37.8**	**-2.1**
	2.2nm,0.3s,baz=238,slow=9.1,SNR=12						
URZ				Sn	**Sn**	**14 50 46.6**	**-4.7**
	2.1nm,0.3s,baz=99,slow=19,SNR=3.1						
TWGZ	**Tauwhareparae**	**6.67**	**38**	Pn	**Pn**	**14 49 43.5**	**-2.4**
MKAZ	**Moumakai**	**6.71**	**16**	Pn	**Pn**	**14 49 45.6**	**-0.8**
ETAZ	**East Tamaki Re**	**6.81**	**14**	Pn	**Pn**	**14 49 47.9**	**+0.1**
KUZ	**Kuaotunu**	**7.18**	**19**	Pn	**Pn**	**14 49 51.9**	**-1.0**
MXZ	**Matakaoa Point**	**7.32**	**37**	Pn	**Pn**	**14 49 52.4**	**-2.5**
ASAR	**Alice Springs**	**37.56**	**289**	P	**P**	**14 55 22.0**	**-0.4**
	0.8nm,0.6s,baz=130,slow=8.0,SNR=9.2						
WRA	**Warramunga Arr**	**39.80**	**294**	P	**P**	**14 55 40.7**	**-0.7**
	2.3nm,0.9s,baz=134,slow=7.8,SNR=15						
TORD	**Torodi Ar. Bea**	**148.72**	**197**	PKPbc	**PKPbc**	**15 07 56.9**	**+1.0**
	0.4nm,0.5s,baz=171,slow=3.8,SNR=4.9						
BRTR	**Keskin Array B**	**149.47**	**277**	PKPbc	**PKPdf**	**15 07 55.7**	**+3.0**
	0.9nm,0.7s,baz=138,slow=4.3,SNR=1.7						

*ISCJB **13** 14:54:16.2±0.7, 39°.55N±0°.04×143°.59E±0°.08, h11km, mb4.0/11, Error ellipse: s-maj=9.3km s-min=5.2km az=28.0*
*IDC **13** 14:54:16.7±1.4, 39°.59N×143°.51E, h0km, mb4.0/9, mb1 4.1/14, mb1mx3.8/49, mbtmp4.0/14, ML3.2/4, Error ellipse: s-maj=31.6km s-min=18.6km az=100.0*
*JMA **13** 14:54:17.1±0.2, 39°.59N×143°.63E, h25km, M4.3*
*NEIC **13** 14:54:21.3±2.4, 39°.63N×143°.40E, h28km±16km, mb4.2/1, Error ellipse: s-maj=17.8km s-min=6.6km az=115.0*

ISC 13 14:54:18.5±1.0, 39°.61N±0°.06×143°.50E±0°.09, h11km, n36, σ1s27/40, mb4.0/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MIYJ	**Miyakonagasawa**	**1.29**	**269**	P	**Pn**	**14 54 41.6**	**-0.9**
MIYJ				S	**Sb**	**14 54 59.7**	**-0.3**
JTH	**Tanohata**	**1.30**	**285**	P	**Pn**	**14 54 41.4**	**-1.2**
OFUJ	**Ofunato**	**1.51**	**250**	P	**Pn**	**14 54 44.5**	**-1.0**
JANG	**Nango**	**1.70**	**297**	P	**Pn**	**14 54 47.1**	**-1.0**
JOM	**Ohasama**	**1.71**	**266**	P	**Pn**	**14 54 48.0**	**-0.2**
JMK	**Ichinoseki**	**1.89**	**250**	P	**Pn**	**14 54 50.3**	**-0.3**
JIO	**Ouri**	**2.03**	**236**	P	**Pn**	**14 54 51.6**	**-1.0**
JIO				*e*S	**Sn**	**14 55 16.7**	**-1.3**
JTM	**Tenmabayashi**	**2.20**	**303**	P	**Pn**	**14 54 54.9**	**0.0**
JRG	**Rokugo**	**2.22**	**265**	P	**Pn**	**14 54 55.2**	**-0.1**
JAH	**Hinai**	**2.27**	**286**	P	**Pn**	**14 54 56.1**	**+0.1**
ERM	**Erimo**	**2.41**	**354**	*e*Pn	**Pn**	**14 54 58.4**	**+0.5**
JYK	**Kaneyama**	**2.53**	**255**	P	**Pn**	**14 54 59.4**	**-0.1**
JOU	**Okura**	**2.53**	**241**	P	**Pn**	**14 54 59.0**	**-0.6**
JOT	**Ohata**	**2.57**	**314**	P	**Pn**	**14 54 59.9**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.72**	**348**	P	**Pn**	**14 55 02.7**	**+0.6**
JNBK				*e*S	**Sn**	**14 55 35.2**	**+0.2**
ASAJ	**Asahikawa**	**4.55**	**352**	Pn	**Pn**	**14 55 28.1**	**+0.8**
	baz=193,slow=8.5						
ASAJ	**Asahikawa**	**4.55**	**352**	*e*Pn	**Pn**	**14 55 27.9**	**+0.6**
MJAR	**Matsushiro Arr**	**5.18**	**235**	Pn	**Pn**	**14 55 36.6**	**+0.7**
	2.6nm,0.3s,baz=38,slow=12,SNR=54						
MAJO	**Matsushiro**	**5.18**	**235**	*e*Pn	**Pn**	**14 55 36.1**	**+0.2**
	43nm,0.6s						
MAT	**Matsushiro**	**5.18**	**235**	P	**Pn**	**14 55 36.6**	**+0.7**
MAT				*e*S	**Sn**	**14 56 42.2**	**+6.6**
JHJ	**Hachijo jima 2**	**7.14**	**206**	Pn	**Pn**	**14 56 01.3**	**-1.5**
	5.0nm,0.3s,baz=116,slow=22,SNR=7.5						
JHJ				Sn	Sn	14 57 14.5	-9.4
	9.6nm,0.3s,baz=120,slow=20,SNR=4.8						
USRK	**Ussuriysk Ar.**	**9.72**	**302**	Pn	**Pn**	**14 56 38.9**	**+0.7**
	0.3nm,0.3s,baz=104,slow=13,SNR=8.9						
KSRS	**Korea Array**	**12.39**	**265**	Pn	**Pn**	**14 57 15.2**	**+0.5**
	0.1nm,0.3s,baz=86,slow=13,SNR=5.9						
KSAR	**Wonju Array Be**	**12.42**	**265**	Pn	**Pn**	**14 57 15.2**	**0.0**
SEY	**Seymchan**	**23.96**	**10**	P	**P**	**14 59 32.7**	**+0.2**
	2.3nm,0.7s,baz=189,slow=6.7,SNR=6.7						
SONM	**Songino Array**	**27.82**	**299**	P	**P**	**15 00 06.6**	**-1.2**
	1.4nm,0.7s,baz=95,slow=9.3,SNR=6.9						
ENH	**Enshi**	**29.25**	**262**	*e*P	**P**	**15 00 19.6**	**-0.9**
	3.1nm,0.6s						
ZALV	**Zalesovo Beam**	**41.44**	**310**	P	**P**	**15 02 04.9**	**0.0**
	1.3nm,0.5s,baz=78,slow=7.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**43.75**	**254**	P	**P**	**15 02 24.1**	**0.0**
	0.8nm,0.7s,baz=30,slow=9.4,SNR=4.5						
MKAR	**Makanchi Array**	**44.19**	**300**	P	**P**	**15 02 27.1**	**-0.2**
	2.6nm,0.8s,baz=82,slow=9.8,SNR=13						
KURK	**Kurchatov**	**45.68**	**306**	*e*P	**P**	**15 02 38.3**	**-0.7**
	28nm,0.7s						
WRA	**Warramunga Arr**	**59.86**	**190**	P	**P**	**15 04 24.0**	**-0.2**
	0.4nm,0.7s,baz=7.1,slow=6.7,SNR=4.5						
FINES	**FINESS Array B**	**67.29**	**332**	P	**P**	**15 05 12.8**	**+0.1**
	1.9nm,0.7s,baz=38,slow=9.6,SNR=3.8						
KBZ	**Khabaz**	**70.46**	**311**	P	**P**	**15 05 33.5**	**+0.7**
	1.7nm,0.7s,baz=135,slow=1.4,SNR=3.3						
NB2	**NORSAR Subarra**	**72.43**	**338**	P	**P**	**15 05 44.7**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.43**	**338**	P	**P**	**15 05 44.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=38,slow=6.0,SNR=3.8						

MAN 13 15:06:11, 6°.95N×126°.25E, h264km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MATI	**Mati**	**0.01**	**153**	*e*P	Pn	15 06 45.4	+0.5
MATI				*e*S	S	15 07 06.4	-5.1
DMPH	**Davao City--Mi**	**0.75**	**280**	↑*e*P	Pn	15 06 47.8	+1.4
DMPH				*e*S	S	15 07 15.7	+1.4
IPIL	**Ipil**	**3.75**	**283**	*e*P	Pn	15 07 13.9	+1.3

JMA 13 15:10:51.0±0.3, 37°.77N×142°.69E, h12km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JIO	**Ouri**	**1.26**	**303**	P	Pn	15 11 13.9	-0.5
JIO				*e*S	Sb	15 11 30.5	-0.3
JFK	**Kawauchi**	**1.50**	**255**	P	Pn	15 11 17.8	+0.1
JMM	**Marumori**	**1.50**	**274**	P	Pn	15 11 17.5	-0.3
JMM				S	Sb	15 11 37.7	-0.2
JMK	**Ichinoseki**	**1.65**	**316**	P	Pn	15 11 20.4	+0.6
JOU	**Okura**	**1.71**	**291**	P	Pn	15 11 21.0	+0.4
JFT	**Otama**	**1.89**	**263**	P	Pn	15 11 24.1	+1.1
JOM	**Ohasama**	**2.02**	**328**	P	Pn	15 11 25.9	+1.0
JOM				S	Sn	15 11 51.2	+1.1
JYS	**Shirataka**	**2.12**	**283**	P	Pb	15 11 28.4	-1.0
JYK	**Kaneyama**	**2.16**	**303**	P	Pn	15 11 27.6	+0.8
JRG	**Rokugo**	**2.29**	**316**	P	Pb	15 11 30.6	-1.6

*MOS **13** 15:18:10.8±1.7, 42°.58N×43°.32E, h13km, mb4.1/2, Error ellipse: s-maj=8.4km s-min=5.6km az=72.4*
*AZER **13** 15:18:10.2±0.3, 42°.37N×42°.77E, h45km, Error ellipse: s-maj=24.2km s-min=16.0km az=39.0*
*TIF **13** 15:18:10.5, 42°.58N×43°.45E, h13km*
*CSEM **13** 15:18:12.2±0.3, 42°.52N×43°.42E, h2km, ML3.1, Error ellipse: s-maj=6.9km s-min=4.1km az=2.0*
*DDA **13** 15:18:16.5, 41°.94N×43°.48E, h7km, Md3.2*

ISC 13 15:18:11.0±0.8, 42°.53N±0°.02×43°.40E±0°.02, h8km±6km, n56, σ0s89/99, 4C-8D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ONI	**Oni**	**0.07**	**35**	P	**Pg**	**15 18 13.3**	**+0.1**
ONI				S	**Sg**	**15 18 14.8**	**+0.1**
ONI	**Oni**	**0.07**	**35**	PG	**Pg**	**15 18 13.3**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.39**	**20**	*i* PG	**Pg**	**15 18 18.2**	**-0.6**
DIGR				pmax	pmax		
	comp=Z,303nm,0.1s						
ZEI	**Tsey**	**0.45**	**55**	↓*i*PG	**Pg**	**15 18 19.3**	**-0.6**
ZEI				*i* S	**Sg**	**15 18 25.1**	**-0.8**
LACR	**Lac**	**0.73**	**66**	*e*PG	**Pg**	**15 18 24.2**	**-0.9**
LACR				*i* S	**Sg**	**15 18 33.6**	**-1.0**
KORR	**Kora**	**0.74**	**41**	*i* PG	**Pg**	**15 18 25.2**	**-0.2**
KORR				pmax	pmax		
	comp=Z,81nm,0.2s						
GUDG	**Gudauri**	**0.80**	**94**	P	**Pg**	**15 18 26.5**	**0.0**
GUDG				S	**Sb**	**15 18 37.8**	**-0.6**
GUDG	**Gudauri**	**0.80**	**94**	P	**Pg**	**15 18 26.5**	**0.0**
GUDG				S	**Sb**	**15 18 37.8**	**-0.6**
LSNR	**Lesken**	**0.81**	**23**	*i* PG	**Pg**	**15 18 25.8**	**-0.9**
LSNR				pmax	pmax		
	comp=Z,40nm,0.2s						
NEY	**Neytrino**	**0.87**	**326**	*e*PG	**Pg**	**15 18 27.5**	**-0.3**
NEY				*e*S	**Sg**	**15 18 39.1**	**-0.1**
ARNR	**Ardon**	**0.92**	**45**	↓*i*PG	**Pb**	**15 18 29.3**	**0.0**
ARNR				*e*S	**Sb**	**15 18 41.3**	**-0.4**
STDR	**Stavd-Durt**	**0.97**	**30**	*e*PG	**Pn**	**15 18 30.6**	**-0.3**
STDR				*e*S	**Sb**	**15 18 43.4**	**+0.3**
NCK	**Nalchik**	**0.98**	**9**	*i* PG	**Pb**	**15 18 29.9**	**-0.3**
CHVG	**Ch'k'valeri**	**0.98**	**281**	P	**Pn**	**15 18 31.6**	**+0.5**
CHVG				S	**Sn**	**15 18 45.5**	**+0.2**
CHVG	**Ch'k'valeri**	**0.98**	**281**	P	**Pn**	**15 18 31.6**	**+0.5**
CHVG				S	**Sn**	**15 18 45.5**	**+0.2**
DUS	**Dusheti**	**1.06**	**114**	P	**Pn**	**15 18 31.9**	**-0.3**
DUS

*ECX **13** 15:21:49.1±0.4,31°.22N×115°.55W,h5km,MD2.2,ML2.3*
*MEX **13** 15:21:50.4±0.6,30°.99N×115°.56W,h14km±7km,MD3.7*

ISC 13 15:21:46.7±1.4,**31°.10N**±0°.10×**115°.54W**±0°.05,**h31**km±8km, **n9,σ0°.54**/18,**1C-3D,Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.09**	**130**	*i* P	**Pn**	**15 21 53.1**	**+0.6**
SPIG				*e*S	**Sb**	**15 21 55.7**	**-0.7**
SPIG	**San Pedro Mart**	**0.09**	**130**	*e*P	**Pb**	**15 21 52.6**	**+0.1**
SPIG				*e*S	**Sb**	**15 21 55.8**	**-0.6**
ECBX	**El Chinero**	**0.56**	**48**⇑	*e*P	**Pn**	**15 21 59.1**	**+0.5**
ECBX				*e*S	**Sn**	**15 22 06.2**	**-0.7**
ZAX	**El Zacaton**	**0.75**	**304**	*e*P	**Pn**	**15 22 01.2**	**-0.1**
ZAX				*e*S	**Sb**	**15 22 10.5**	**-0.8**
ZAX				⇓*e*		15 22 12.4	
ZAX				IAML		15 22 12.4	
	comp=E,198nm,0.5s						
ECNX	**Esteban Cantu**	**1.06**	**302**	*e*P	**Pb**	**15 22 06.3**	**-0.2**
ECNX				*e*S	**Sn**	**15 22 20.1**	**+0.7**
PBX	**Punta Banda**	**1.20**	**303**	*e*P	**Pb**	**15 22 09.2**	**+0.3**
PBX				*e*S	**Sb**	**15 22 24.0**	**0.0**
CBX	**Cerro Bola**	**1.54**	**322**	*e*P	**Pb**	**15 22 15.1**	**+0.3**
CBX				*i* S	**Sb**	**15 22 33.8**	**-0.1**
CBX	**Cerro Bola**	**1.54**	**322**	*e*P	**Pb**	**15 22 14.3**	**-0.5**
CBX				*e*S	**Sb**	**15 22 33.3**	**-0.7**
RMX	**La Rumorosa**	**1.56**	**343**	*e*P	**Pb**	**15 22 15.2**	**+0.1**
RMX				*e*S	**Sb**	**15 22 34.9**	**+0.2**
RMX				IAML		15 22 36.8	
	comp=N,31nm,0.2s						
RMX				⇓*e*		15 22 36.8	
RMX				IAML		15 22 37.6	
	comp=E,49nm,0.2s						
RMX				⇓*e*		15 22 37.6	

*BJI **13** 15:46:33.6,8°.10S×110°.70E,h152km,mb4.6/32,mB4.9/20*
*MOS **13** 15:46:34.3±0.8,7°.90S×110°.80E,h154km,mb4.8/23,Error ellipse: s-maj=17.6km s-min=7.3km az=115.0*
*ISCJB **13** 15:46:34.0±0.2,8°.03S±0°.04×110°.74E±0°.03,h150km, mb4.5/44,Error ellipse: s-maj=6.3km s-min=3.5km az=36.9*
*KLM **13** 15:46:34.5,8°.43S×110°.88E,h169km,mb4.6,ML4.6, MS6.4*
*NEIC **13** 15:46:35.6±0.4,8°.04S×110°.73E,h152km±3km,mb4.7/20, Error ellipse: s-maj=8.6km s-min=5.1km az=50.0*
NEIC Felt [II] at Bantul, Gunungkidul, Pacitan and Yogyakarta.
*IDC **13** 15:46:36.1±5.9,7°.94S×110°.80E,h154km±55km, mb4.2/19, mb1 4.3/19,mb1mx4.0/45,mbtmp4.6/19,Error ellipse: s-maj=20.4km s-min=9.8km az=74.0*
*DJA **13** 15:46:37.3±0.2,8°.S±4°×11°.1E±°,h125km±2km,M5.0/16, mb4.9/16,mB5.7/6,MLv5.0/10,Mw(mB)5.2/6*

ISC 13 15:46:35.2±0.4,**8°.18S**±0°.05×**110°.68E**±0°.04,**h150**km,**n144,** σ**1°.61**/156,**mb4.6**/44,**8C-3D,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.31**	**329**	P	**Pn**	**15 46 56.4**	**+0.6**
UGM	**Wanagama**	**0.31**	**329**	*e*Pn	**Pn**	**15 46 56.5**	**+0.7**
PCJI	**Pacitan**	**0.49**	**92**	P	**Pn**	**15 46 55.8**	**-0.6**
PCJI				S	**Sn**	**15 47 11.4**	**-1.2**
NGJI	**Ngawi**	**1.11**	**44**	P	**Pn**	**15 47 01.7**	**+0.8**
PWJI	**Pagerwojo**	**1.12**	**82**	P	**Pn**	**15 47 00.1**	**-0.9**
PWJI				S	**Sn**	**15 47 19.2**	**-1.4**
SMRI	**Semarang**	**1.15**	**348**	P	**Pn**	**15 47 02.3**	**+1.0**
SMRI	**Semarang**	**1.15**	**348**	*e*Pn	**Pn**	**15 47 02.5**	**+1.2**
TBJI	**Tambak Boyo**	**1.78**	**41**	P	**Pn**	**15 47 08.0**	**+0.2**
KPJI	**Karang Pucung**	**1.93**	**296**	P	**Pn**	**15 47 11.6**	**+2.1**
KPJI				S	**Sn**	**15 47 36.1**	**+0.3**
GRJI	**Gresik**	**2.18**	**55**	P	**Pn**	**15 47 12.7**	**+0.3**
CMJI	**Cimerak**	**2.25**	**280**	P	**Pn**	**15 47 13.3**	**+0.1**
GMJI	**Gumukmas**	**2.73**	**92**	P	**Pn**	**15 47 18.0**	**-1.2**
CISI	**Cisompet, Garu**	**2.91**	**282**	P	**Pn**	**15 47 24.5**	**+3.1**
CISI	**Cisompet, Garu**	**2.91**	**282**	*e*Pn	**Pn**	**15 47 25.0**	**+1.4**
BLJI	**Banyuglugur**	**2.92**	**82**	P	**Pn**	**15 47 20.9**	**-0.5**
JCJI	**Jatiwangi**	**2.92**	**305**	P	Pn	15 47 26.9	+5.3
JAGI	**Jajag, Banyuwa**	**3.44**	**95**	P	**Pn**	**15 47 29.1**	**+0.9**
JAGI	**Jajag, Banyuwa**	**3.44**	**95**	*e*Pn	**Pn**	**15 47 27.1**	**-1.2**
ABJI	**Asem Bagus**	**3.54**	**84**	P	**Pn**	**15 47 31.2**	**+1.8**
CNJI	**Cibinong**	**3.63**	**284**	P	Pn	15 47 43.0	+12
CGJI	**Cibinong**	**5.19**	**287**	P	**Pn**	**15 47 53.8**	**+2.7**
	264nm,0.6s,10µm2.4nm						
XMIS	**Christmas Isla**	**5.47**	**245**	*e*Pn	**Pn**	**15 47 54.3**	**-0.5**
XMIS				*e*Sn	**Sn**	**15 48 51.2**	**-5.9**
PBKI	**Pangkalan Bun**	**5.53**	**10**	P	**Pn**	**15 47 57.5**	**+1.9**
	258nm,1.0s,2µm0.7nm						
KASI	**Kota Agung**	**6.69**	**293**	P	**Pn**	**15 48 14.4**	**+3.3**
	116nm,0.8s,2µm0.8nm						
LWLI	**Liwa**	**7.29**	**295**	P	**Pn**	**15 48 23.1**	**+3.8**
	295nm,0.7s,37µm1.5nm						
MNAI	**Manna**	**8.57**	**296**	*e*Pn	**Pn**	**15 48 37.4**	**+1.2**
KSI	**Kapahiang**	**9.22**	**299**	P	**Pn**	**15 48 46.8**	**+1.9**
	619nm,0.6s,6µm						
KSM	**Kuching**	**9.60**	**358**	*e*Pn	**Pn**	**15 48 49.6**	**-0.2**
SBUM	**Sibu**	**10.67**	**8**	*e*Pn	**Pn**	**15 49 03.6**	**-0.5**
PDSI	**Padang**	**12.48**	**305**	P	**Pn**	**15 49 27.4**	**-0.4**
	32nm,0.7s						
BKNI	**Bangkinang**	**12.80**	**311**	*e*P	**Pn**	**15 49 33.4**	**+1.5**
	79nm,0.4s						
PPI	**Padang Panjang**	**12.80**	**306**	P	**Pn**	**15 49 31.3**	**-0.6**
	26nm,0.6s						
GIRL	**Giralia**	**14.78**	**167**	P	**P**	**15 49 59.6**	**+0.7**
	baz=15,SNR=38						
KTGM	**Kuala Trenggan**	**15.39**	**330**	⇑P	**P**	**15 50 05.8**	**0.0**
MYLDM	**Lahad Datu**	**15.39**	**31**	⇑P	**P**	**15 50 07.9**	**+2.0**
MBWA	**Marble Bar**	**15.58**	**147**	*e*P	**P**	**15 50 08.3**	**+0.5**
	92nm,0.4s						
IPM	**Ipoh**	**15.84**	**322**	*e*Pn	**Pn**	**15 50 10.6**	**+0.5**
	17nm,1.3s						
GSI	**Gunungsitoli**	**16.11**	**305**	*e*Pn	**Pn**	**15 50 09.8**	**-3.6**
	30nm,0.5s						
KULM	**Kulim**	**16.71**	**323**	⇓P	**P**	**15 50 20.8**	**+0.5**
KULM	**Kulim**	**16.71**	**323**	*e*P	**P**	**15 50 19.9**	**-0.5**
	52nm,1.7s						
FITZ	**Fitzroy Crossi**	**17.57**	**126**	P	**Pn**	**15 50 31.7**	**+0.7**
	0.7nm,0.3s,baz=291,slow=11,SNR=10.0						
FITZ				S	**S**	**15 53 38.7**	**-6.3**
	0.5nm,0.3s,baz=212,slow=23,SNR=5.8						
TRTT	**Trang**	**19.32**	**325**	P	**Pn**	**15 50 52.6**	**+1.0**
	25nm,1.3s						
MTN	**Manton Dam**	**20.63**	**105**	P	Pn	15 51 05.6	-1.4
	baz=21,SNR=6.5						
WRKA	**Warakurna**	**23.74**	**137**	P	**P**	**15 51 34.7**	**+0.9**
	baz=24,SNR=19						
WRA	**Warramunga Arr**	**25.71**	**120**	P	**P**	**15 51 52.1**	**+0.3**
	3.6nm,0.7s,baz=294,slow=11,SNR=42						
WRAB	**Tennant Creek**	**25.72**	**120**	*i* P	**P**	**15 51 52.5**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,21nm,1.7s						
WRAB	**Tennant Creek**	**25.72**	**120**	*e*P	**P**	**15 51 51.9**	**+0.1**
	comp=Z,7.1nm,0.6s						
WB2	**Warramunga Arr**	**25.72**	**120**	*e*P	**P**	**15 51 51.9**	**+0.1**
	comp=Z,8.0nm,0.6s						
QIZ	**Qiongzhong**	**27.05**	**358**	P	**P**	**15 52 04.8**	**+1.1**
QIZ				pP	**pP**	**15 52 37.1**	**+2.0**
QIZ				sP	**sP**	**15 52 53.8**	**+1.3**
QIZ				S	**S**	**15 56 33.9**	**+3.4**
QIZ				sS	**sS**	**15 57 28.4**	**+2.2**
QIZ				PMZ			
	comp=Z,5.0nm,1.1s						
QIZ				PMZ			
	comp=Z,150nm,11.5s						
ASAR	**Alice Springs**	**27.05**	**127**	P	**P**	**15 52 04.4**	**+0.6**
	comp=Z,6.2nm,0.6s,baz=301,slow=8.4,SNR=168						
AS31	**Alice Springs**	**27.05**	**127**	*e*P	**P**	**15 52 04.4**	**+0.6**
	comp=Z,3.2nm,0.6s						
AS01	**Alice Springs**	**27.09**	**127**	*e*P	**P**	**15 52 04.5**	**+0.4**
CM01	**Chiang Mai Arr**	**28.85**	**336**	*e*P	**P**	**15 52 19.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**28.89**	**336**	P	**P**	**15 52 19.7**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=171,slow=8.0,SNR=17						
BBOO	**Buckleboo**	**33.96**	**140**	P	**P**	**15 53 05.1**	**+0.8**
	baz=34,SNR=16						
MTSU	**Mount Surprise**	**34.15**	**110**	P	**P**	**15 53 07.6**	**+1.3**
	baz=34,SNR=4.7						
GYA	**Guiyang**	**34.65**	**354**	*e*P	**P**	**15 53 12.8**	**+2.3**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
HTT	**Hallett**	**36.21**	**138**	P	**P**	**15 53 25.4**	**+1.7**
	baz=36,SNR=7.6						
STKA	**Stephens Creek**	**37.17**	**134**	P	**P**	**15 53 33.3**	**+1.6**
	comp=Z,18nm,0.5s,baz=312,slow=8.5,SNR=161						
STKA	**Stephens Creek**	**37.17**	**134**	P	**P**	**15 53 33.4**	**+1.6**
	baz=37,SNR=134						
STKA	**Stephens Creek**	**37.17**	**134**	*e*P	**P**	**15 53 33.1**	**+1.3**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
STKA	**Stephens Creek**	**37.17**	**134**	*e*P	**P**	**15 53 33.1**	**+1.3**
	comp=Z,4.3nm,0.6s						
CD2	**Chengdu**	**39.43**	**351**	*e*P	**P**	**15 53 51.0**	**+0.3**
CD2				PMZ			
	comp=Z,120nm,5.4s						
LSA	**Lhasa**	**42.09**	**334**	*e*P	**P**	**15 54 13.3**	**+0.3**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**42.09**	**334**	*e*P	**P**	**15 54 13.2**	**+0.3**
	comp=Z,12nm,0.8s						
TOO	**Toolangi**	**42.97**	**138**	P	**P**	**15 54 22.6**	**+3.1**
	baz=43,SNR=16						
YNG	**Young**	**43.31**	**132**	P	**P**	**15 54 24.4**	**+2.1**
	baz=44,SNR=14						
TIA	**Tai'an**	**44.57**	**7**	*e*P	**P**	**15 54 30.9**	**-1.3**
TIA				PMZ			
	comp=Z,10.0nm,0.7s						
KSAR	**Wonju Array Be**	**48.15**	**18**	P	**P**	**15 54 59.6**	**-0.6**
KSAR	**Wonju Array Be**	**48.15**	**18**	P	**P**	**15 54 59.5**	**-0.6**
KSRS	**Korea Array**	**48.18**	**18**	P	**P**	**15 54 59.5**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=199,slow=8.2,SNR=16						
KS01	**Wonju Array Si**	**48.19**	**18**	*e*P	**P**	**15 54 58.8**	**-1.6**
GTA	**Gaotai**	**48.41**	**349**	P	**P**	**15 55 03.3**	**+1.0**
GTA				pP	pP	15 55 39.3	+3.0
GTA				sP	sP	15 55 57.4	+4.4
GTA				ScP	**ScP**	**16 00 08.4**	**+1.3**
GTA				PMZ			
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**48.79**	**1**	*e*P	**P**	**15 55 07.3**	**+2.2**
HHC				S	**S**	**16 01 59.0**	**+2.2**
HHC				PMZ			
	comp=Z,18nm,1.5s						
HHC				PMZ			
	comp=Z,120nm,8.0s						
USRK	**Ussuriysk Ar.**	**55.59**	**18**	P	**P**	**15 55 54.2**	**-0.9**
	comp=Z,8.0nm,0.7s,baz=207,slow=6.2,SNR=18						
WMQ	**Urumqi**	**55.80**	**340**	P	**P**	**15 55 56.8**	**+0.1**
WMQ				pP	pP	15 56 34.9	+3.3
WMQ				sP	PcP	15 56 51.9	-2.0
WMQ				PMZ			
	comp=Z,7.0nm,0.8s						
WMQ				PMZ			
	comp=Z,120nm,8.0s						
ULN	**Ulaanbaatar**	**55.89**	**357**	*i* P	**P**	**15 55 55.4**	**-2.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	**55.89**	**357**	*e*P	**P**	**15 55 56.2**	**-1.2**
	comp=Z,7.5nm,0.7s						
SONM	**Songino Array**	**55.90**	**357**	P	**P**	**15 55 56.8**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=177,slow=8.4,SNR=30						
SONM				PcP	**PcP**	**15 56 53.3**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=160,slow=3.6,SNR=5.8						
SONA1	**Songino Array**	**55.91**	**357**	*e*P	**P**	**15 55 56.5**	**-1.0**
KSH	**Kashi**	**57.32**	**328**	P	**P**	**15 56 05.5**	**-2.1**
KSH				pP	pP	15 56 42.3	-0.4
KSH				PcP	**sP**	**15 56 56.6**	**-2.6**
KSH				PP	**PP**	**15 58 15.4**	**-1.3**
KSH				S	S	16 03 42.8	-10
KSH				SS	**SS**	**16 07 40.3**	**-4.2**
KSH				PMZ			
	comp=Z,9.0nm,0.6s						
KSH				PMZ			
	comp=Z,150nm,6.8s						
KSH				LN			
	comp=Z,72nm,6.3s						
KSH				LE			
	comp=Z,68nm,5.8s						
KSH				LZ			
	comp=Z,310nm,9.3s						
KBL	**Kabul**	**57.93**	**320**	*e*P	**P**	**15 56 09.8**	**-2.3**
KBL				pmax	pmax		
	comp=Z,15nm,0.9s						
KBL	**Kabul**	**57.93**	**320**	*e*P	**P**	**15 56 09.8**	**-2.3**
	comp=Z,15nm,0.9s						
PDGK	**Podgornoye**	**58.58**	**334**	P	**P**	**15 56 15.7**	**-0.4**
TLY	**Talaya**	**59.93**	**355**	*e*P	**P**	**15 56 24.1**	**-1.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TKM2	**Tokmak 2**	**60.06**	**331**	*e*P	**P**	**15 56 25.1**	**-1.5**
TKM2				pmax	pmax		
	comp=Z,21nm,0.6s						
TKM2	**Tokmak 2**	**60.06**	**331**	*e*P	**P**	**15 56 25.1**	**-1.5**
	comp=Z,22nm,0.6s						
KLR	**Kul'dur**	**60.08**	**16**	P	**P**	**15 56 24.5**	**-1.8**
	comp=Z,4.8nm,0.4s,baz=208,slow=7.6,SNR=26						
MOY	**Mondy**	**60.19**	**353**	*e*P	**P**	**15 56 27.3**	**+0.1**
MK31	**Makanchi Array**	**60.29**	**338**	*e*P	**P**	**15 56 26.7**	**-1.2**
MK31	**Makanchi Array**	**60.29**	**338**	*e*P	**P**	**15 56 26.7**	**-1.2**
MKAR	**Makanchi Array**	**60.29**	**338**	P	**P**	**15 56 27.1**	**-0.8**
	comp=Z,8.9nm,0.4s,baz=147,slow=7.4,SNR=131						
AAK	**Ala-Archa**	**60.38**	**330**	*c i*P	**P**	**15 56 28.0**	**-0.8**
AAK				pmax	pmax		
	comp=Z,28nm,1.1s						
AAK	**Ala-Archa**	**60.38**	**330**	*e*P	**P**	**15 56 27.8**	**-1.0**
	comp=Z,13nm,1.1s						
FRU	**Bishkek**	**60.47**	**330**	⇑*i*P	**P**	**15 56 28.0**	**-1.2**
FRU				pmax	pmax		
	comp=Z,25nm,1.6s						
EKS2	**Erkin-Say**	**60.76**	**329**	*e*P	**P**	**15 56 30.3**	**-1.0**
EKS2				pmax	pmax		
	comp=Z,16nm,0.8s						
EKS2	**Erkin-Say**	**60.76**	**329**	*e*P	**P**	**15 56 30.3**	**-1.0**
	comp=Z,16nm,0.8s						
MNAS	**Manas**	**61.28**	**329**	P	**P**	**15 56 34.2**	**-0.6**
YSS	**Yuzh-Sakhalins**	**61.86**	**24**⇓	*e*P	**P**	**15 56 37.2**	**-1.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KURK	**Kurchatov**	**64.90**	**338**	*e*P	**P**	**15 56 57.1**	**-1.2**
KURK				pmax	pmax		
	comp=Z,50nm,0.9s						
KURK	**Kurchatov**	**64.90**	**338**	*e*P	**P**	**15 56 57.1**	**-1.2**
	comp=Z,50nm,0.9s						
OTUK	**Ortayu**	**65.55**	**333**	P	**P**	**15 57 02.1**	**-0.5**
ZALV	**Zalesovo Beam**	**65.64**	**344**	P	**P**	**15 57 01.6**	**-1.4**
	comp=Z,3.4nm,0.4s,baz=140,slow=4.3,SNR=27						
GEYT	**Alibeck**	**67.09**	**317**	P	**P**	**15 57 12.1**	**-0.5**
	comp=Z,8.4nm,0.9s,baz=148,slow=8.7,SNR=16						
MAW	**Mawson**	**67.34**	**198**	P	**P**	**15 57 15.9**	**+2.3**
	comp=Z,2.5nm,0.5s,baz=67,slow=8.5,SNR=8.2						
BRVK	**Borovoye**	**69.98**	**335**	*c i*P	**P**	**15 57 28.8**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,27nm,1.2s						
YAK	**Yakutsk**	**71.54**	**9**	*d i*P	**P**	**15 57 38.3**	**-1.1**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,0.9s						
YAK	**Yakutsk**	**71.54**	**9**	*e*P	**P**	**15 57 37.8**	**-1.6**
	comp=N,24nm,0.8s						
PEA0	**Petropavlovsk-**	**72.89**	**27**	*e*P	**P**	**15 57 46.3**	**-1.4**
PETK	**Petropavlovsk-**	**72.89**	**27**	P	**P**	**15 57 46.7**	**-1.0**
	comp=N,7.4nm,0.8s,baz=150,slow=2.1,SNR=13						
VNDA	**Vanda**	**74.16**	**170**	P	**P**	**15 57 56.8**	**+2.1**
	comp=N,1.2nm,0.5s,baz=318,slow=6.0,SNR=15						
VNDA	**Vanda**	**74.16**	**170**	*e*P	**P**	**15 57 56.4**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**74.16**	**170**	*e*P	**P**	**15 57 56.4**	**+1.7**
	comp=Z,2.3nm,0.8s						
SVE	**Sverdlovsk**	**76.62**	**334**	*e*P	**P**	**15 58 08.4**	**-0.6**
SVE				pmax	pmax		
	comp=Z,19nm,1.0s						
ARU	**Arti**	**77.28**	**333**	*c i*P	**P**	**15 58 11.9**	**-0.8**
ARU				S	S	16 07 59.5	+9.4
ARU				SS	**SS**	**16 12 52.8**	**+1.0**
ARU				pmax	pmax		
	comp=Z,14nm,1.0s						
ARU	**Arti**	**77.28**	**333**	*e*P	**P**	**15 58 11.6**	**-1.2**
	comp=Z,14nm,1.1s						
GNI	**Garni**	**77.38**	**314**	*i* P	**P**	**15 58 13.4**	**-0.5**
GNI				pmax	pmax		
	comp=Z,21nm,1.0s						
SEY	**Seymchan**	**77.73**	**18**	P	**P**	**15 58 14.3**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=245,slow=6.8,SNR=17						
SEY	**Seymchan**	**77.73**	**18**	*c i*P	**P**	**15 58 14.9**	**-0.2**
NRIK	**Noril'sk**	**78.99**	**352**	P	**P**	**15 58 20.9**	**-1.0**
	comp=Z,3.3nm,0.7s,baz=163,slow=4.6,SNR=5.0						
NCK	**Nalchik**	**79.42**	**317**	*e*P	**P**	**15 58 24.1**	**-0.8**
NCK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NEY	**Neytrino**	**79.93**	**317**	*e*P	**P**	**15 58 27.3**	**-0.5**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**79.98**	**317**	P	**P**	**15 58 28.2**	**+0.4**
	comp=Z,6.5nm,0.9s,baz=146,slow=2.9,SNR=15						
KIV	**Kislovodsk**	**80.21**	**317**	*e*P	**P**	**15 58 29.1**	**0.0**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**81.81**	**180**	*e*P	**P**	**15 58 39.7**	**+2.4**
SOC	**Sochi**	**82.10**	**316**	*e*P	**P**	**15 58 38.1**	**-0.9**
SOC				MLR	MLR		
	comp=Z,508nm,23.0s						
VRH	**Novokhopyorsk**	**83.47**	**324**	*e*P	**P**	**15 58 45.7**	**-0.2**
VRH				pmax	pmax		
	comp=Z,20nm,1.0s						
VSR	**Storozhevoye**	**84.98**	**323**	*e*P	**P**	**15 58 52.6**	**-0.9**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BRTR	**Keskin Array B**	**85.34**	**311**	P	**P**	**15 58 56.2**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=122,slow=6.0,SNR=13						
BR131	**Keskin Array S**	**85.34**	**311**	*e*P	**P**	**15 58 54.7**	**-1.1**
LPSR	**Galich'ya Gora**	**85.58**	**324**	*e*P	P	15 58 48.3	-8.2
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BR231	**Keskin MP Arra**	**86.02**	**311**	*e*P	**P**	**15 58 56.1**	**-3.0**
OBN	**Obninsk**	**87.71**	**326**	⇑*i*P	**P**	**15 59 05.4**	**-1.3**
OBN				pmax	pmax		
	comp=Z,31nm,1.7s						
KLMR	**Klimovskoe**	**88.10**	**332**	*e*P	**P**	**15 59 06.6**	**-1.8**
KLMR				*e*		16 02 31.0	
KLMR				pmax	pmax		
	comp=Z,36nm,1.5s						
SNAA	**Sanae**	**89.48**	**197**	P	**P**	**15 59 17.5**	**+2.5**
	comp=Z,3.4nm,0.9s						
SNAA	**Sanae**	**89.48**	**197**	*e*P	**P**	**15 59 17.5**	**+2.5**
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SNAA	**Sanae**	**89.48**	**197**	*e*P	**P**	**15 59 17.5**	**+2.5**
	comp=Z,5.4nm,1.0s						
ANMO	**Albuquerque**	**136.79**	**46**	*e*SKPbc	**SKPbc**	**16 09 01.0**	**+1.4**
MNTX	**Cornudas Mount**	**139.11**	**50**	*e*SKPbc	**SKPbc**	**16 09 07.0**	**+0.8**
TX31	**Lajitas Ar. Si**	**141.49**	**52**	*e*SKPbc	**SKPbc**	**16 09 12.6**	**0.0**
CPUP	**Villa Florida**	**143.77**	**198**	PKP	**PKPdf**	**16 05 53.0**	**-0.2**
	comp=Z,5.5nm,0.9s,baz=192,slow=5.5,SNR=7.9						
MIAR	**Mount Ida**	**145.57**	**37**	*e*PKP2	**PKPab**	**16 05 57.0**	**0.0**
MIAR	**Mount Ida**	**145.57**	**37**	*e*PKP	**PKPab**	**16 05 57.0**	**0.0**
ACSO	**Alum Creek Sta**	**145.83**	**19**	*e*PKPbc	**PKPbc**	**16 05 57.2**	**0.0**

*ISCJB **13** 15:53:58.9±0.8,35°.73N±0°.05×140°.75E±0°.09,h58km±6km, mb3.5/3,Error ellipse: s-maj=13.4km s-min=6.8km az=160.9*
*IDC **13** 15:53:59.2±5.9,35°.74N×140°.83E,h48km±42km,mb3.2/3, mb1 3.3/6,mb1mx3.1/44,mbtmp3.4/6,ML2.9/3,Error ellipse: s-maj=79.1km s-min=15.3km az=75.0*
*JMA **13** 15:54:00.1±0.1,35°.75N×140°.63E,h47km±1km,M2.9*
JMA Felt I J1.

ISC 13 15:53:59.9±1.2,**35°.74N**±0°.05×**140°.76E**±0°.08,**h49**km±9km, **n20,**σ**1°.54**/20,**mb3.4**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**112**	P	**Pn**	**15 54 07.9**	**+0.3**
JCN	**Nagara**	**0.56**	**235**	P	**Pn**	**15 54 11.6**	**-0.2**
JCN				S	**Sn**	**15 54 18.7**	**-1.6**
JYT	**Yasato**	**0.67**	**317**	P	**Pn**	**15 54 12.4**	**-0.9**
JYT				S	**Sn**	**15 54 21.5**	**-1.4**
BSO4	**Boso 4**	**0.82**	**205**	P	**Pn**	**15 54 14.9**	**-0.2**
JHO	**Hitachi**	**0.89**	**350**	P	**Pn**	**15 54 16.2**	**+0.1**
BSO3	**Boso 3**	**0.95**	**192**	P	**Pn**	**15 54 16.7**	**0.0**
BSO1	**Boso 1**	**1.09**	**171**	P	**Pn**	**15 54 19.5**	**+1.1**
JAG	**Ashikaga**	**1.26**	**303**	P	**Pn**	**15 54 20.1**	**-1.1**
MJAR	**Matsushiro Arr**	**2.22**	**292**	P	**Pn**	**15 54 34.1**	**-0.1**
	6.2nm,0.3s,baz=98,slow=14,SNR=68						
MJAR				S	**Sn**	**15 55 05.2**	**+4.7**
	4.0nm,0.3s,baz=135,slow=15,SNR=7.3						
MAT	**Matsushiro**	**2.22**	**292**	P	**Pn**	**15 54 34.7**	**+0.4**
MAT				S	**Sn**	**15 55 02.0**	**+1.5**
JHJ	**Hachijo jima 2**	**2.73**	**197**	P	**Pn**	**15 54 40.5**	**-0.7**
	14nm,0.3s,baz=146,slow=23,SNR=8.8						
JHJ				S	**Sn**	**15 55 13.1**	**0.0**
	27nm,0.3s,baz=260,slow=22,SNR=6.7						
KSRS	**Korea Array**	**10.46**	**283**	P	**Pn**	**15 56 29.0**	**+1.8**
	0.0nm,0.3s,baz=95,slow=14,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**27.97**	**118**	T	T	16 29 24.8	
	baz=309,slow=75,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**27.98**	**118**	T	T	16 29 05.9	
	baz=309,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**27.99**	**118**	T	T	16 29 17.0	
	baz=309,slow=75,SNR=4.0				

PRAC	**Prado**	**3.59**	**211**	*eP*	**Pn**	**15 55 31.0**	**+0.3**
PRAC				*eS*	**Sn**	**15 56 13.6**	**-0.4**
VIRV	**Villa del Rosa**	**3.72**	**9**	*eP*	**Pn**	**15 55 32.3**	**0.0**
VIRV				*eS*	**Sn**	**15 56 14.5**	**-2.3**
QARV	**Quebrada Arrib**	**4.18**	**36**	*eP*	**Pn**	**15 55 39.5**	**+1.2**
SANV	**Sanarito**	**4.37**	**52**	*eP*	**Pn**	**15 55 42.0**	**+1.3**
SANV				*eS*	**Sn**	**15 56 30.4**	**-1.6**
CURV	**Curarigua**	**4.39**	**43**	*eP*	**Pn**	**15 55 42.3**	**+1.3**
CURV				*eS*	**Sn**	**15 56 30.5**	**-2.0**
DABV	**Dabajuro**	**4.72**	**30**	*eP*	**Pn**	**15 55 45.4**	**+0.2**
DABV				*eS*	**Sn**	**15 56 36.7**	**-3.3**
TEPV	**Terepaima**	**4.92**	**50**	*eP*	**Pn**	**15 55 48.5**	**+0.6**
TEPV				*eS*	**Sn**	**15 56 42.2**	**-2.6**
SIQV	**Siquisique**	**4.96**	**40**	*eP*	**Pn**	**15 55 48.9**	**+0.4**
SIQV				*eS*	**Sn**	**15 56 42.3**	**-3.6**
BAUV	**El Baul**	**5.37**	**66**	*eP*	**Pn**	**15 55 53.8**	**0.0**
BAUV				*eS*	**Sn**	**15 56 52.3**	**-3.1**
MAPV	**Macapo**	**5.43**	**56**	*eP*	**Pn**	**15 55 55.7**	**+1.2**
MAPV				*eS*	**Sn**	**15 56 53.2**	**-3.5**
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc	**PKPbc**	**16 14 06.0**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=121,slow=2.9,SNR=4.1						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	**PKPbc**	**16 14 09.5**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=108,slow=2.8,SNR=6.5						

*ISCJB **13** 15:58:19.9±0.7, 6.79N±0.04×73.03W±0.06, h163km±7km, Error ellipse: s-maj=11.4km s-min=4.5km az=31.6*
*FUNV **13** 15:58:20.2, 6.68N×73.11W, h170km, MW2.4*
*RSNC **13** 15:58:22.9±0.7, 6.78N×73.11W, h144km±4km, ML2.5*

ISC 13 15:58:19.9±1.4, 6.78N±0.05×73.02W±0.06, h164km±9km, n17, σ1ᵖ35/30, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**221**	*eP*	**Pn**	**15 58 42.1**	**-0.1**
BARC				*eS*	**Sn**	**15 58 57.1**	**-2.2**
BARC				*i*		15 58 58.7	
	comp=Z,116nm,0.1s						
BRRC	**Barranca, Sant**	**0.76**	**296**	*eP*	**Pn**	**15 58 44.0**	**-0.2**
BRRC				*eS*	**Sn**	**15 59 00.6**	**-2.3**
BRRC				*i*		15 59 05.0	
	comp=Z,81nm,0.1s						
RUSC	**La Rusia**	**0.88**	**184**	*eP*	**Pn**	**15 58 46.1**	**+0.4**
RUSC				*eS*	**Sn**	**15 59 04.5**	**-0.9**
RUSC				*i*		15 59 05.9	
	comp=Z,34nm,0.4s						
CBRI	**Barrientos, No**	**0.96**	**13**	*eP*	**Pn**	**15 58 46.7**	**+0.8**
CBRI				*i*		15 59 10.3	
	comp=Z,32nm,0.3s						
GRMC	**Gramalote, San**	**0.96**	**13**	*eP*	**Pn**	**15 58 47.9**	**+2.1**
GRMC				*eS*	**Sn**	**15 59 07.2**	**+1.3**
GRMC				*i*		15 59 08.7	
	comp=Z,25nm,0.4s						
CAPV	**Capacho**	**1.29**	**33**	*eP*	**Pn**	**15 58 50.2**	**+1.5**
CAPV				*eS*	**Sn**	**15 59 12.2**	**+1.2**
OCAC	**Ocana**	**1.48**	**349**	*eP*	**Pn**	**15 58 51.8**	**+1.3**
OCAC				*eS*	**Sn**	**15 59 13.5**	**-0.7**
OCAC				*i*		15 59 17.2	
	comp=Z,36nm,0.3s						
CHIC	**Chingaza**	**2.25**	**198**	*eP*	**Pn**	**15 59 00.3**	**+1.1**
CHIC				*eS*	**Sn**	**15 59 29.8**	**+0.3**
CHIC				*i*		15 59 35.6	
	comp=Z,16nm,0.4s						
ROSC	**El Rosal**	**2.32**	**214**	*eS*	**Sn**	**15 59 30.5**	**-0.4**
ROSC				*i*		15 59 37.0	
	comp=Z,44nm,0.5s						
SOCV	**Socops**	**2.62**	**55**	*eP*	**Pn**	**15 59 04.7**	**+1.6**
SOCV				*eS*	**Sn**	**15 59 36.2**	**-0.4**
VIGV	**El Vigia**	**2.63**	**39**	*eP*	**Pn**	**15 59 04.5**	**+1.3**
VIGV				*eS*	**Sn**	**15 59 36.8**	**-0.1**
TOLC	**Tolima**	**3.16**	**227**	*eP*	**Pn**	**15 59 11.9**	**+1.8**
DBBC	**Dabeiba**	**3.17**	**274**	*eP*	**Pn**	**15 59 10.2**	**+0.1**
PRAC	**Prado**	**3.56**	**211**	*eP*	**Pn**	**15 59 15.6**	**+0.6**
PRAC				*eS*	**Sn**	**15 59 57.4**	**-0.5**
VIRV	**Villa del Rosa**	**3.75**	**9**	*eP*	**Pn**	**15 59 17.6**	**+0.3**
VIRV				*eS*	**Sn**	**16 00 00.8**	**-1.3**
CURV	**Curarigua**	**4.42**	**43**	*eP*	**Pn**	**15 59 26.7**	**+0.7**
CURV				*eS*	**Sn**	**16 00 16.1**	**-1.5**
BAUV	**El Baul**	**5.38**	**66**	*eP*	**Pn**	**15 59 38.3**	**-0.3**
BAUV				*eS*	**Sn**	**16 00 37.3**	**-3.0**

JMA 13 16:03:39.6±0.3, 39.32N×144.66E, h49km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.21**	**278**	P	Pn	16 04 15.1	+1.3
MIYJ				S	Sn	16 04 41.6	+1.6
OFUJ	**Ofunato**	**2.34**	**265**	P	Pn	16 04 16.5	+1.0
OFUJ				S	Sn	16 04 43.6	+0.6
JOM	**Ohasama**	**2.61**	**274**	P	Pn	16 04 21.7	+2.4
JOM				S	Sn	16 04 51.9	+2.1
JANG	**Nango**	**2.64**	**294**	P	Pn	16 04 20.2	+0.5
JMK	**Ichinoseki**	**2.70**	**263**	P	Pn	16 04 21.8	+1.3
JMK				S	Sn	16 04 53.8	+1.9
JYK	**Kaneyama**	**3.37**	**265**	P	Pn	16 04 31.9	+2.2
JYK				*eS*	Sn	16 05 08.7	+0.3
JCH	**Churui**	**3.44**	**344**	P	Pn	16 04 30.9	+0.3
JCH				S	Sn	16 05 09.1	-0.9
JOT	**Ohata**	**3.44**	**308**	P	Pn	16 04 31.8	+1.1
JOT				*eS*	Sn	16 05 10.8	+0.6
JKB	**Kayabe**	**3.77**	**314**	P	Pn	16 04 36.7	+1.6
JKB				*eS*	Sn	16 05 19.0	+0.8
JFT	**Otama**	**3.84**	**243**	P	Pn	16 04 38.7	+2.5
JFT				S	Sn	16 05 20.7	+0.6
NEM2	**Nemuro 2**	**4.12**	**11**	P	Pn	16 04 37.7	-2.3
NEM2				S	Sn	16 05 22.4	-4.5
JTKR	**Abashiri--Toko**	**4.68**	**353**	P	Pn	16 04 47.7	+0.1
JTKR				S	Sn	16 05 39.3	-1.3
JRY	**Ryogami san**	**5.63**	**236**	P	Pn	16 05 01.3	+0.5
JRY				*eS*	Sn	16 06 02.1	-2.1
MAT	**Matsushiro**	**5.80**	**243**	P	Pn	16 05 05.0	+1.9
MAT				*eS*	Sn	16 06 09.3	+0.9

*JMA **13** 16:20:16.0±0.1, 38.99N×142.39E, h42km±1km, M3.6*
JMA Felt I J1.
*IDC **13** 16:20:19.8±3.7, 38.91N×142.24E, h76km±34km, mb3.3/6, mb1 3.5/8, mb1mx3.3/33, mbtmp3.6/8, Error ellipse: s-maj=31.3km s-min=18.5km az=97.0*

ISC 13 16:20:14.5±2.0, 38.99N±0.05×142.44E±0.09, h26km±13km, n25, σ1ᵖ28/26, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.61**	**278**	P	**Pn**	**16 20 27.9**	**+0.4**
OFUJ				S	**Sn**	**16 20 36.2**	**-0.3**
MIYJ	**Miyakonagasawa**	**0.76**	**320**	P	**Pn**	**16 20 30.0**	**+0.4**
MIYJ				S	**Sn**	**16 20 39.7**	**-0.5**
JMK	**Ichinoseki**	**0.95**	**268**	P	**Pb**	**16 20 32.6**	**+0.2**
JMK				S	**Sn**	**16 20 44.6**	**-0.4**
JIO	**Ouri**	**1.01**	**238**	P	**Pb**	**16 20 33.0**	**-0.4**
JIO				S	**Sb**	**16 20 45.0**	**-1.2**
JOM	**Ohasama**	**1.01**	**299**	P	**Pb**	**16 20 33.7**	**+0.3**
JOM				S	**Sn**	**16 20 46.7**	**+0.2**
JTH	**Tanohata**	**1.04**	**335**	P	**Pn**	**16 20 33.9**	**+0.4**
JRG	**Rokugo**	**1.46**	**287**	P	**Pn**	**16 20 39.9**	**+0.6**
JOU	**Okura**	**1.53**	**246**	P	**Pn**	**16 20 40.7**	**+0.5**
JOU				*eS*	**Sn**	**16 20 59.2**	**0.0**
JANG	**Nango**	**1.55**	**333**	P	**Pn**	**16 20 41.2**	**+0.7**
JYK	**Kaneyama**	**1.63**	**268**	P	**Pn**	**16 20 42.3**	**+0.8**
MJAR	**Matsushiro Arr**	**4.15**	**235**	P	**Pn**	**16 21 18.5**	**+2.2**
	1.5nm,0.3s,baz=42,slow=11,SNR=13						
MAT	**Matsushiro**	**4.15**	**235**	P	**Pn**	**16 21 19.6**	**+3.3**
MAT				*eS*	**Sn**	**16 22 05.8**	**+1.8**
USRK	**Ussuriysk Ar.**	**9.40**	**307**	P	**Pn**	**16 22 30.8**	**+2.5**
	0.3nm,0.3s,baz=110,slow=14,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**28.53**	**125**	T	T	16 56 34.5	
	baz=318,slow=75,SNR=72						
H11N1	**WAKE ISLAND Hy**	**28.54**	**125**	T	T	16 56 33.4	
	baz=318,slow=75,SNR=107						
H11N3	**WAKE ISLAND Hy**	**28.55**	**125**	T	T	16 56 30.5	
	baz=318,slow=75,SNR=112						
H11S1	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	16 57 34.6	
	baz=319,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	16 57 33.6	
	baz=319,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.34**	**127**	T	T	16 57 33.8	
	baz=319,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**41.22**	**311**	P	**P**	**16 27 56.1**	**-0.9**
	0.5nm,0.4s,baz=71,slow=9.3,SNR=3.6						
MKAR	**Makanchi Array**	**43.80**	**301**	P	**P**	**16 28 17.2**	**-0.8**
	0.2nm,0.3s,baz=85,slow=10.0,SNR=4.4						
ILAR	**Eielson Array**	**47.41**	**33**	P	**P**	**16 28 47.3**	**+1.0**
	0.5nm,0.6s,baz=268,slow=6.1,SNR=6.4						
WRA	**Warramunga Arr**	**59.12**	**189**	P	**P**	**16 30 11.4**	**-1.4**
	0.8nm,0.4s,baz=7.8,slow=7.7,SNR=6.6						
YKA	**Yellowknife Ar**	**61.71**	**31**	P	**P**	**16 30 30.5**	**+0.4**
	0.3nm,0.6s,baz=307,slow=5.9,SNR=2.5						
ASAR	**Alice Springs**	**62.84**	**189**	P	**P**	**16 30 36.9**	**-1.3**
	0.4nm,0.8s,baz=14,slow=11,SNR=8.2						

MAN 13 16:35:18, 17.31N×120.25E, h8km, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.55**	**53**	*eP*	Pb	16 35 30.8	+0.8
ABRA				*eS*	Sn	16 35 41.3	-0.3
BOLP	**Bolinao**	**0.98**	**199**	*eP*	Pg	16 35 36.8	-0.1
BOLP				*eS*	Sn	16 35 54.9	+2.7
PIP	**Pasuquin**	**1.06**	**19**	*i*	Pb	16 35 38.8	+0.1
PIP				*eS*	Sg	16 35 48.8	-3.6
APYP	**Conner**	**1.09**	**60**	*eP*	Pg	16 35 39.0	0.0
APYP				*eS*	Sn	16 35 56.1	+1.2
CAUP	**Cauayan**	**1.55**	**104**	*eP*	Pg	16 35 51.4	+3.6
SCZP	**Santa Cruz**	**1.56**	**192**	*eP*	Pn	16 35 46.1	0.0
BALP	**Baler**	**2.02**	**141**	*eP*	Pn	16 35 45.0	-7.3

*JMA **13** 16:39:49.8±0.4, 34.87N×142.99E, h50km, M3.5*
*IDC **13** 16:39:49.3±1.0, 34.78N×142.84E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/34, mbtmp3.7/9, ML3.3/2, Error ellipse: s-maj=26.9km s-min=18.6km az=88.0*
*ISCJB **13** 16:39:51.8±0.8, 34.89N±0.06×142.84E±0.06, h33km, mb3.6/7, Error ellipse: s-maj=9.1km s-min=7.3km az=3.9*

ISC 13 16:39:54.1±1.0, 34.88N±0.07×142.80E±0.08, h35km, n27, σ1ᵖ65/27, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.52**	**262**	P	**Pn**	**16 40 17.0**	**-1.3**
BSO1				*eS*	**Sn**	**16 40 37.5**	**+0.9**
BSO2	**Boso 2**	**1.69**	**266**	S	**Sn**	**16 40 42.8**	**+1.7**
CHOJ	**Chosi**	**1.79**	**298**	P	**Pn**	**16 40 21.4**	**-1.1**
CHOJ				*eS*	**Sn**	**16 40 44.2**	**+0.3**
BSO3	**Boso 3**	**1.89**	**268**	P	**Pn**	**16 40 23.0**	**-0.6**
BSO4	**Boso 4**	**2.03**	**274**	P	**Pn**	**16 40 25.7**	**0.0**
JHJ	**Hachijo jima 2**	**3.06**	**236**	Pn	**Pn**	**16 40 38.1**	**-2.0**
	7.7nm,0.3s,baz=82,slow=23,SNR=8.2						
JHJ				Sn	**Sn**	**16 41 11.8**	**-3.7**
	19nm,0.3s,baz=68,slow=23,SNR=7.7						
JOD2	**Odawara 2**	**3.07**	**278**	P	**Pn**	**16 40 38.6**	**-1.5**
JAG	**Ashikaga**	**3.13**	**300**	P	**Pn**	**16 40 40.1**	**-0.9**
JFT	**Otama**	**3.30**	**324**	P	**Pn**	**16 40 41.7**	**-1.6**
JFT				S	**Sn**	**16 41 19.0**	**-2.3**
JRY	**Ryogami san**	**3.38**	**291**	P	**Pn**	**16 40 44.1**	**-0.3**
JYN	**Shimob**	**3.54**	**281**	P	**Pn**	**16 40 45.3**	**-1.4**
JYN				*eS*	**Sn**	**16 41 27.6**	**+0.3**
MJAR	**Matsushiro Arr**	**4.09**	**295**	Pn	**Pn**	**16 40 53.4**	**-0.8**
	2.4nm,0.3s,baz=95,slow=11,SNR=28						
MAT	**Matsushiro**	**4.09**	**295**	P	**Pn**	**16 40 53.4**	**-0.8**
MAT				*eS*	**Sn**	**16 41 38.2**	**-2.6**
ASAJ	**Asahikawa**	**9.22**	**359**	Pn	**Pn**	**16 42 00.9**	**-3.7**
	baz=303,slow=17						
H11N2	**WAKE ISLAND Hy**	**26.10**	**119**	T	T	17 12 37.9	
H11N1	**WAKE ISLAND Hy**	**26.11**	**119**	T	T	17 12 37.7	
H11N3	**WAKE ISLAND Hy**	**26.12**	**119**	T	T	17 12 39.5	
H11S1	**WAKE ISLAND Hy**	**26.77**	**121**	T	T	17 13 20.0	
	baz=311,slow=74,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**26.77**	**121**	T	T	17 13 22.2	
	baz=311,slow=74,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**26.78**	**121**	T	T	17 13 30.7	
	baz=311						
SEY	**Seymchan**	**28.70**	**9**	P	**P**	**16 45 48.4**	**+0.7**
	1.3nm,0.6s,baz=264,slow=5.0,SNR=4.1						
SONM	**Songino Array**	**29.95**	**307**	P	**P**	**16 46 00.7**	**+1.7**
	0.3nm,0.4s,baz=108,slow=9.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**44.20**	**314**	P	**P**	**16 48 00.7**	**+1.2**
	0.3nm,0.3s,baz=106,slow=9.2,SNR=2.4						
MKAR	**Makanchi Array**	**46.23**	**304**	P	**P**	**16 48 16.1**	**+0.3**
	0.1nm,0.3s,baz=96,slow=12,SNR=2.8						
ILAR	**Eielson Array**	**50.72**	**31**	P	**P**	**16 48 51.0**	**+1.0**
	0.2nm,0.7s,baz=269,slow=6.3,SNR=3.1						
WRA	**Warramunga Arr**	**55.11**	**190**	P	**P**	**16 49 22.3**	**-0.6**
	2.4nm,0.8s,baz=8.7,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**58.84**	**190**	P	**P**	**16 49 49.2**	**0.0**
	0.9nm,0.7s,baz=17,slow=9.8,SNR=15						

*ISCJB **13** 16:46:45.9±1.1, 43.54N±0.08×105.74W±0.09, h0km, Error ellipse: s-maj=12.7km s-min=7.3km az=36.7*
*IDC **13** 16:46:45.8±2.1, 43.35N×105.57W, h0km, mb1 3.7/2, mb1mx3.4/37, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=48.2km s-min=8.9km az=154.0*
*NEIC **13** 16:46:47.4±1.1, 43.49N×105.69W, h0km, ML3.0, Error ellipse: s-maj=15.3km s-min=7.7km az=219.0, Suspected Mining explosion.*
NEIC 49 km [30 miles] E of Midwest.

ISC 13 16:46:44.7±1.0, 43.39N±0.05×105.57W±0.05, h0km, n20, σ1ᵖ79/21, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
K22A	**Casper**	**1.02**	**224**	*ePg*	**Pn**	**16 47 09.0**	**+2.6**
PHWY	**Pilot Hill**	**2.09**	**178**	*ePn*	**Pg**	**16 47 24.9**	**+0.1**
BW06	**Boulder Array**	**2.99**	**259**	*ePn*	**Pb**	**16 47 38.2**	**-0.8**
BW06				Sn	**Sn**	**16 48 10.9**	**+0.6**
PDAR	**Pinedale Array**	**2.99**	**259**	Pn	**Pb**	**16 47 38.5**	**-0.4**
	3.5nm,0.3s,baz=85,slow=16,SNR=29						
PDAR				Pg	**Pg**	**16 47 42.0**	**+0.1**
	6.2nm,0.3s,baz=81,slow=17,SNR=39						
PDAR				Lg	Lg	16 48 19.1	
	6.0nm,0.3s,baz=84,slow=27,SNR=6.0						
RLMT	**Red Lodge**	**3.17**	**304**	*ePn*	**Pb**	**16 47 40.2**	**-1.9**
OGNE	**Ogallala**	**3.59**	**132**	*ePn*	**Pn**	**16 47 44.4**	**+2.7**
ISCO	**Idaho Springs**	**3.59**	**181**	*ePn*	**Pb**	**16 47 46.6**	**-2.6**
LOHW	**Long Hollow**	**3.67**	**275**	*ePg*	**Pg**	**16 47 54.6**	**-0.5**
LKWY	**Lake**	**3.68**	**290**	*ePg*	**Pg**	**16 47 55.5**	**+0.3**
H17A	**Grant Village**	**3.76**	**287**	Pn	**Pn**	**16 47 46.4**	**+2.2**
MOOW	**Moose Ponds**	**3.78**	**277**	*ePg*	**Pg**	**16 47 58.6**	**+1.5**
SNOW	**Snow King Moun**	**3.78**	**273**	*ePn*	**Pn**	**16 47 46.5**	**+2.1**
FLWY	**Flagg Ranch**	**3.78**	**282**	*ePg*	**Pg**	**16 47 57.7**	**+0.5**
REDW	**Red Top Meadow**	**3.85**	**271**	*ePg*	**Pg**	**16 47 57.1**	**-1.4**
TPAW	**Teton Pass**	**3.92**	**273**	*ePg*	**Pg**	**16 48 00.2**	**+0.4**
IMW	**Indian Meadow**	**3.93**	**279**	*ePn*	**Pb**	**16 47 51.8**	**-3.3**
HWUT	**Hardware Ranch**	**4.78**	**250**	*ePg*	**Pg**	**16 48 14.9**	**-1.4**
EGMT	**Eagleton**	**5.48**	**329**	*ePn*	**Pn**	**16 48 09.7**	**+2.0**
	27nm,1.0s						
I56US	**NEWPORT INFRAS**	**9.42**	**305**	*i*		17 39 10.0	
	baz=117,slow=303,SNR=0.8						
ULM	**Lac du Bonnet**	**9.54**	**41**	Pn	**Pn**	**16 49 02.2**	**-1.0**
	0.5nm,0.3s,baz=241,slow=13,SNR=3.7						
ULM				Lg	Lg	16 51 42.0	
	0.4nm,0.3s,baz=150,slow=18,SNR=3.1						

*NIED **13** 16:49:00, 36.70N×142.00E, h20km, Mw4.7 Best double couple: M0 1.36000×10¹⁶ NP1:φ₀=206.00000°, δ12.00000°, λ94.00000°. NP2:φ₀=22.00000°, δ78.00000°, λ89.00000°.*
*IDC **13** 16:49:44.3±0.6, 36.65N×142.02E, h0km, mb4.5/25, mb1 4.6/33, mb1mx4.5/48, mbtmp4.5/33, ML4.1/7, MS4.3/14, Ms1 4.3/14, ms1mx3.9/38, Error ellipse: s-maj=15.3km s-min=12.3km az=121.0*
*ISCJB **13** 16:49:46.2±0.7, 36.66N±0.02×142.02E±0.03, h23km±4km, mb4.8/108, MS4.5/27, Error ellipse: s-maj=4.3km s-min=3.3km az=40.7*
*BJI **13** 16:49:46.5, 36.60N×142.01E, h31km, mb4.9/73, mB5.0/45, Ms4.5/66, Ms7 4.4/63*
*JMA **13** 16:49:47.2±0.3, 36.68N×142.03E, h36km, M4.7*
JMA Felt I J1.
*NEIC **13** 16:49:49.2±1.5, 36.69N×141.96E, h32km±10km, mb4.9/53, Error ellipse: s-maj=6.6km s-min=3.9km az=131.0*
NEIC Recorded [1 JMA] in Fukushima, Ibaraki, Miyagi and Tochigi.
*MOS **13** 16:49:50.3±0.9, 37.01N×141.85E, h39km, mb5.1/57, MS4.4/22, Error ellipse: s-maj=7.4km s-min=4.5km az=110.5*

ISC 13 16:49:48.3±0.6, 36.65N±0.04×142.06E±0.04, h30km±4km, h29km:pP-P, n336, σ1ᵖ58/372, mb4.8/115, MS4.5/27, 30C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.11**	**295**	P	**Pn**	**16 50 05.9**	**-2.0**
JFK	**Kawauchi**	**1.19**	**307**	P	**Pn**	**16 50 07.0**	**-2.0**
JHO	**Hitachi**	**1.20**	**269**	P	**Pn**	**16 50 07.5**	**-1.6**
JMM	**Marumori**	**1.58**	**321**	P	**Pn**	**16 50 13.0**	**-1.3**
JFT	**Otama**	**1.63**	**303**	P	**Pn**	**16 50 14.6**	**-0.4**
JIO	**Ouri**	**1.89**	**343**	P	**Pn**	**16 50 17.5**	**-1.0**
JIO				*eS*	**Sn**	**16 50 40.7**	**-0.7**
JFY	**Yanaizu**	**2.03**	**293**	P	**Pn**	**16 50 20.3**	**-0.2**
JOU	**Okura**	**2.05**	**327**	P	**Pn**	**16 50 20.5**	**-0.2**
JOU				*eS*	**Sn**	**16 50 45.4**	**+0.2**
JAG	**Ashikaga**	**2.11**	**265**	P	**Pn**	**16 50 21.2**	**-0.4**
JAG				*eS*	**Sn**	**16 50 46.7**	**-0.1**
BSO1	**Boso 1**	**2.17**	**204**	P	**Pn**	**16 50 22.6**	**+0.7**
BSO1				*eS*	**Sn**	**16 50 49.4**	**+1.8**
JMK	**Ichinoseki**	**2.40**	**344**	P	**Pn**	**16 50 25.0**	**-0.5**
JRY	**Ryogami san**	**2.63**	**257**	P	**Pn**	**16 50 28.1**	**-0.6**
JRY				*eS*	**Sn**	**16 50 59.8**	**+0.2**
JYK	**Kaneyama**	**2.64**	**330**	P	**Pn**	**16 50 28.6**	**-0.2**
JYK				*eS*	**Sn**	**16 51 00.7**	**+0.9**
JRG	**Rokugo**	**2.97**	**338**	P	**Pn**	**16 50 33.4**	**0.0**
MJAR	**Matsushiro Arr**	**3.10**	**269**	Pn	**Pn**	**16 50 35.3**	**0.0**
	78nm,0.3s,baz=94,slow=9.2,SNR=1136						
MJAR				Sn	**Sn**	**16 51 14.1**	**+2.8**
	31nm,0.3s,baz=306,slow=21,SNR=4.5						
MJAR				LR	LR	16 52 01.9	
	comp=Z,4μm,18.1s,baz=115,slow=45						
MAJO	**Matsushiro**	**3.10**	**269**	*eP*	**Pn**	**16 50 36.7**	**+1.5**
MAJO	**Matsushiro**	**3.10**	**269**	*ePn*	**Pn**	**16 50 36.2**	**+1.0**
MAT	**Matsushiro**	**3.10**	**269**	P	**Pn**	**16 50 36.2**	**+1.0**
MAT				S	**Sn**	**16 51 09.8**	**-1.5**
MJB9	**Matsu-Tunnel**	**3.11**	**269**	*ePn*	**Pn**	**16 50 36.2**	**+0.9**
JAH	**Hinai**	**3.71**	**343**	P	**Pn**	**16 50 44.2**	**+0.7**
JHJ2	**Mitsune**	**3.98**	**208**	*ePn*	**Pn**	**16 50 47.1**	**-0.1**
JHJ	**Hachijo jima 2**	**3.99**	**209**	Pn	**Pn**	**16 50 47.4**	**0.0**
	56nm,0.3s,baz=301,slow=19,SNR=25						
JHJ				Sn	**Sn**	**16 51 31.0**	**-2.0**
	92nm,0.3s,baz=27,slow=20,SNR=7.0						
JTM	**Tenmabayashi**	**4.21**	**350**	P	**Pn**	**16 50 49.6**	**-0.8**
INU	**Inuyama**	**4.29**	**254**	*ePn*	**Pn**	**16 50 52.6**	**+1.1**
ERM	**Erimo**	**5.43**	**9**	*eP*	**Pn**	**16 51 05.3**	**-1.8**
ERM	**Erimo**	**5.43**	**9**	*ePn*	**Pn**	**16 51 05.5**	**-1.6**
ASAJ	**Asahikawa**	**7.47**	**3**	Pn	**Pn**	**16 51 34.2**	**-1.0**
	6.6nm,0.3s,baz=220,slow=8.5,SNR=55						
ASAJ	**Asahikawa**	**7.47**	**3**	*ePn*	**Pn**	**16 51 33.8**	**-1.5**
CBIJ	**Chichi jima**	**9.52**	**179**	*ePn*	**Pn**	**16 51 59.1**	**-4.3**
CBIJ				Sn	Sn	16 53 40.2	-9.2
JCJ	**Chichijima**	**9.52**	**179**	Pn	**Pn**	**16 52 00.1**	**-3.3**
	10.0nm,0.3s,baz=277,slow=22,SNR=7.0						
JCJ				Sn	Sn	16 53 40.2	-9.2
	baz=254,slow=20						
KUR	**Kuril'sk**	**9.63**	**25**	*eP*	**Pn**	**16 52 06.1**	**+1.3**
KUR				*eS*	**Sn**	**16 53 44.8**	**-7.2**
KUR				pmax	pmax		
	comp=Z,23nm,0.9s						
KUR				smax	smax		
	comp=N,49nm,0.6s						
KUR				smax	smax		
	comp=E,23nm,0.6s						
JNU	**Nakatsue**	**9.84**	**252**	Pn	**Pn**	**16 52 08.0**	**+0.3**
	comp=E,1.2nm,0.3s,baz=43,slow=3.5,SNR=15						
JNU				LR	LR	16 56 07.1	
	comp=E,950nm,19.5s,baz=61,slow=39						
JNU	**Nakatsue**	**9.84**	**252**	*ePn*	**Pn**	**16 52 05.8**	**-1.9**
VLA	**Vladivostok**	**10.14**	**313**	*c iP*	**Pn**	**16 52 10.8**	**-1.0**
VLA				pmax	pmax		
	comp=Z,29nm,1.0s						
MSHR	**Mys Shultsa**	**10.29**	**309**	*c iP*	**Pn**	**16 52 12.3**	**-1.5**
YSS	**Yuzh-Sakhalins**	**10.31**	**3**	*ePn*	**Pn**	**16 52 12.7**	**-1.4**
YSS				*eS*	**Sn**	**16 54 04.3**	**-4.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,800nm,17.0s						
YSS				MLR	MLR		
	comp=N,800nm,15.0s						
YSS				MLR	MLR		
	comp=E,900nm,14.0s						
YSS	**Yuzh-Sakhalins**

DL2 LE
comp=Z,1μm,14.8s
DL2 LZ
comp=Z,2μm,18.8s
NKL Nikolayevsk 16.53 357 *e*P **Pn 16 53 34.5 -3.2**
NKL pmax pmax
comp=Z,24nm,1.1s
NKL MLR MLR
comp=Z,900nm,17.0s
NKL MLR MLR
comp=N,500nm,17.0s
NKL MLR MLR
comp=E,1μm,17.0s
NJ2 Nanjing 19.69 263 *e*P **P 16 54 14.5 -0.5**
NJ2 PMZ
comp=E,17nm,0.6s
PETK Petropavlovsk- 19.77 29 P **Pn 16 54 16.9 -0.5**
comp=E,1.3nm,0.3s,baz=179,slow=12,SNR=3.0
TIA Tai'an 20.06 276 ⇓P **P 16 54 17.8 -1.3**
TIA S **S 16 57 55.1 -7.9**
TIA PMZ
comp=E,30nm,1.1s
TIA LZ
comp=E,1μm,16.0s
PET Petropavlovsk 20.08 30 *e*P **P 16 54 19.4 +0.3**
PET pmax pmax
comp=Z,6.0nm,1.0s
HIA Hailar 20.55 315 *e*P Pn 16 54 28.1 +1.5
HIA Hailar 20.55 315 *e*P Pn 16 54 28.1 +1.5
BJI Beijing 20.56 287 P **P 16 54 22.9 -1.6**
BJI S **S 16 58 11.9 -0.9**
BJI PMZ
comp=Z,8.0nm,1.0s
BJI PMZ
comp=Z,140nm,4.8s
BJI LN
comp=Z,500nm,16.7s
BJI LE
comp=Z,610nm,13.8s
BJT Baijiatuau 20.57 287 *e*P **P 16 54 21.5 -3.0**
BJT pmax pmax
comp=Z,19nm,0.6s
BJT Baijiatuau 20.57 287 *e*P **P 16 54 21.5 -3.0**
comp=Z,19nm,0.6s
SSLB Suanglung 22.23 241 *e*P **P 16 54 39.0 -3.6**
comp=Z,15nm,0.8s
TPUB Ta-pu 22.77 240 *e*P **P 16 54 45.2 -3.1**
comp=Z,32nm,0.9s
QZH Quanzhou 23.23 246 ⇓*i*P **P 16 54 53.5 +0.5**
QZH S **S 16 58 57.4 -5.7**
QZH PMZ
comp=Z,130nm,0.8s
QZH LN
comp=Z,780nm,13.2s
QZH LE
comp=Z,1μm,15.9s
QZH LZ
comp=Z,1μm,14.8s
CLNS Chul'man 23.25 336 *e*P **P 16 54 52.5 -0.5**
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,18nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS MLR MLR
comp=Z,619nm,14.0s
CLNS MLR MLR
comp=N,505nm,15.0s
CLNS MLR MLR
comp=E,364nm,14.0s
MA2 Magadan 23.63 11 P **P 16 54 56.7 +0.1**
comp=E,20nm,0.9s,baz=250,slow=5.8,SNR=5.0
MA2 Magadan 23.63 11 *e*P **P 16 54 56.9 +0.3**
MA2 Magadan 23.63 11 *e*P **P 16 54 56.9 +0.3**
WHN Wuhan 23.83 263 ⇑P **P 16 54 57.5 -1.2**
WHN pP **pP 16 55 08.4 +1.2**
WHN S **S 16 59 08.8 -3.9**
WHN PMZ
comp=E,25nm,0.8s
WHN LN
comp=E,2μm,13.4s
WHN LE
comp=E,790nm,14.6s
WHN LZ
comp=E,3μm,14.6s
HHC Hu-ho-hao-te 24.09 289 *e*P **P 16 54 59.8 -1.5**
HHC S **S 16 59 15.0 -2.0**
HHC PMZ
comp=E,19nm,1.0s
HHC PMZ
comp=E,130nm,5.2s
HHC LN
comp=E,730nm,14.8s
HHC LE
comp=E,450nm,13.5s
HHC LZ
comp=E,330nm,12.8s
CIT Chita 25.32 316 *e*P **P 16 55 12.3 +0.1**
CIT *e* 16 55 24.5
CIT *e* 16 55 29.3
CIT *e* 16 55 46.2
CIT pmax pmax
comp=Z,153nm,1.3s
YAK Yakutsk 26.56 347 P **P 16 55 22.8 -0.4**
comp=Z,4.8nm,0.6s,baz=348,slow=23,SNR=14
YAK Yakutsk 26.56 347*c i*P **P 16 55 23.1 -0.2**
YAK *e**PP **sP 16 55 35.5 -0.1**
YAK *e* 16 55 59.9
YAK *e*PPP PPP 16 56 13.9
YAK *e* 16 58 51.4
YAK *e*S **S 16 59 53.9 -1.8**
YAK *e*SS **SnSn 17 00 57.9 -1.1**
YAK *e*SSS SSS 17 01 14.5
YAK pmax pmax
comp=Z,40nm,0.8s
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=E,11nm,1.0s
YAK pmax pmax
comp=Z,56nm,2.1s
YAK pmax pmax
comp=N,47nm,2.5s
YAK pmax pmax
comp=E,46nm,3.0s
YAK smax smax
comp=N,46nm,2.1s
YAK smax smax
comp=E,37nm,1.9s
YAK Yakutsk 26.56 347 *e*P **P 16 55 22.2 -1.1**
comp=E,102nm,0.9s
SEY Seymchan 27.07 10 P **P 16 55 28.6 +0.7**
comp=E,14nm,1.0s,baz=195,slow=7.3,SNR=20
SEY Seymchan 27.07 10 *i*P **P 16 55 27.5 -0.4**
XAN Xi'an 27.09 274 P **P 16 55 27.6 -0.8**
XAN sP sP 16 55 40.8 +0.1
XAN PP **PnPn 16 56 12.8 +1.1**
XAN S **S 17 00 01.3 -3.3**
XAN SS **SnSn 17 01 12.0 -0.3**
XAN PMZ
comp=E,19nm,1.3s
XAN PMZ
comp=E,71nm,8.8s
XAN LN
comp=E,570nm,16.0s
XAN LE
comp=E,320nm,14.4s
XAN LZ
comp=E,570nm,12.8s
H11N2 WAKE ISLAND Hy 27.50 121 T T 17 24 49.5
baz=313,slow=75,SNR=60
H11N1 WAKE ISLAND Hy 27.51 121 T T 17 24 49.9
baz=313,slow=75,SNR=74
H11N3 WAKE ISLAND Hy 27.52 121 T T 17 24 49.1
baz=313,slow=75,SNR=50
ENH Enshi 27.82 266 *e*P **P 16 55 33.7 -1.3**
comp=E,69nm,0.8s
ULN Ulaanbaatar 28.00 305*c i*P **P 16 55 35.8 -0.8**
ULN pmax pmax
comp=Z,49nm,1.2s
ULN Ulaanbaatar 28.00 305 *e*P **P 16 55 36.2 -0.4**
comp=Z,36nm,1.0s
BOD Bodaibo 28.14 328 *e*P **P 16 55 35.7 -1.7**
BOD pmax pmax
comp=Z,22nm,1.2s
H11S1 WAKE ISLAND Hy 28.21 123 T T 17 26 27.7
baz=12,slow=74,SNR=53
H11S2 WAKE ISLAND Hy 28.23 123 T T 17 26 04.8
baz=318,slow=74,SNR=50
SONA1 Songino Array 28.43 304 *e*P **P 16 55 40.0 -0.4**
SONM Songino Array 28.43 304 P **P 16 55 40.3 -0.1**
comp=Z,37nm,0.8s,baz=103,slow=8.3,SNR=166
LZH Lanzhou 30.65 281 *e*P **P 16 56 00.5 +0.3**
LZH pP pP 16 56 10.3 +1.4
LZH sP sP 16 56 13.8 +1.3
LZH *e*S **S 17 00 59.8 -1.0**
LZH sS sS 17 01 17.1 +1.9
LZH SS **ScP 17 02 36.0 -2.3**
LZH PMZ
comp=Z,77nm,1.4s
LZH PMZ
comp=Z,280nm,4.7s
LZH LN
comp=Z,1μm,12.2s
LZH LE
comp=Z,2μm,16.0s
LZH LZ
comp=Z,2μm,16.1s
ZAK Zakamensk 30.92 309 *e*P **P 16 56 02.3 0.0**
ZAK pmax pmax
comp=Z,16nm,1.2s
TLY Talaya 30.98 311 P **P 16 56 02.9 +0.1**
comp=Z,7.8nm,0.8s,baz=120,slow=11,SNR=6.7
TLY Talaya 30.98 311 *e*P **P 16 56 03.6 +0.8**
TLY pmax pmax
comp=Z,19nm,1.2s
TLY MLR MLR
comp=Z,600nm,16.0s
TLY Talaya 30.98 311 *e*P **P 16 56 03.0 +0.3**
comp=Z,14nm,1.0s
GYA Guiyang 31.67 261 ⇑*i*P **P 16 56 08.3 -1.0**
GYA pP pP 16 56 18.8 +0.8
GYA PP **PnPn 16 57 15.0 +1.5**
GYA S **S 17 01 15.4 -1.5**
GYA sS sS 17 01 31.3 0.0
GYA SS **SnSn 17 03 04.9 +0.5**
GYA PMZ
comp=Z,50nm,0.9s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,520nm,16.8s
GYA LE
comp=Z,1μm,17.2s
GYA LZ
comp=Z,2μm,17.0s
CD2 Chengdu 32.20 271 *e*P **P 16 56 12.8 -0.9**
CD2 pP pP 16 56 22.3 -0.2
CD2 sP sP 16 56 26.4 +0.3
CD2 S **S 17 01 23.3 -1.6**
CD2 sS sS 17 01 39.4 +0.1
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
MOY Mondy 32.59 311 *e*P **P 16 56 17.4 +0.4**
MOY pmax pmax
comp=Z,20nm,1.4s
GTA Gaotai 33.18 288 P **P 16 56 22.5 +0.2**
GTA pP pP 16 56 32.1 +1.1
GTA sP sP 16 56 36.1 +1.4
GTA PcP **PcP 16 59 06.3 +1.6**
GTA S **S 17 01 39.8 -0.3**
GTA sS sS 17 01 56.5 +2.0
GTA SS **SnSn 17 03 44.3 +3.7**
GTA PMZ
comp=Z,20nm,1.0s
GTA PMZ
comp=Z,200nm,5.4s
GTA LN
comp=Z,440nm,15.7s
GTA LE
comp=Z,290nm,13.8s
GTA LZ
comp=Z,470nm,16.2s
QIZ Qiongzhong 33.25 247 P **P 16 56 22.9 -0.1**
QIZ S **S 17 01 41.5 +0.2**
QIZ LN
comp=Z,290nm,15.7s
QIZ LE
comp=Z,200nm,17.6s
QIZ LZ
comp=Z,320nm,15.1s
BILL Bilibino 34.25 16 ⇑*i*P **P 16 56 29.9 -1.3**
BILL *i* 16 56 43.4
BILL *e* 16 57 46.7
BILL pmax pmax
comp=Z,11nm,1.2s
BILL MLR MLR
comp=Z,340nm,20.0s
BILL Bilibino 34.25 16 *e*P **P 16 56 30.9 -0.3**
comp=Z,6.1nm,1.1s
KMI Kunming 35.42 262 P **P 16 56 42.3 +0.3**
KMI pP pP 16 56 51.6 +0.8
KMI S **S 17 02 12.8 -2.4**
KMI sS sS 17 02 29.3 -0.4
KMI PMZ
comp=Z,21nm,1.1s
KMI PMZ
comp=Z,81nm,4.2s
KMI LN
comp=Z,330nm,14.8s
KMI LE
comp=Z,580nm,15.4s
KMI LZ
comp=Z,470nm,15.2s
TIXI Tiksi 35.74 353 P **P 16 56 43.8 -0.1**
comp=Z,2.9nm,0.6s,baz=141,slow=6.5,SNR=18
MYLDM Lahad Datu 38.05 220 *e*P **P 16 57 06.2 +2.1**
comp=Z,40nm,1.0s
PANO Nakornpanom 38.32 250 P **P 16 57 07.9 +1.5**
comp=Z,34nm,0.9s
UBPT Khong Chiam 38.85 247 P **P 16 57 11.9 +1.0**
comp=Z,51nm,1.0s
NONG Nongkai 38.88 252 P **P 16 57 12.0 +0.8**
comp=Z,51nm,0.8s,comp=Z,4μm
SKNT Sakolnakorn 38.90 250 P **P 16 57 12.1 +0.8**
comp=Z,50nm,0.9s
MRSI Marisa 40.53 212 P **P 16 57 27.7 +2.9**
LOEI Loei 40.65 253 P **P 16 57 23.9 -2.0**
comp=Z,20nm,1.3s
UTTA Uttaradit 41.06 254 P **P 16 57 32.0 +2.7**
comp=Z,4.1nm,0.9s,comp=Z,41nm
CHAI Chaiyaphum 41.06 251 P **P 16 57 30.4 +1.1**
comp=Z,19nm,1.1s,comp=Z,147nm
LAMP Lampang 41.33 256 P P 16 57 37.4 +5.9
PBKT Sadao Pong 41.44 252 P **P 16 57 33.8 +1.5**
comp=Z,28nm,1.1s
WMQ Urumqi 41.48 297 P **P 16 57 33.8 +1.3**
WMQ pP pP 16 57 43.1 +1.7
WMQ sP sP 16 57 47.8 +2.8
WMQ S **S 17 03 46.3 +0.3**
WMQ ScS **ScS 17 07 32.8 -1.2**
WMQ PMZ
comp=Z,19nm,0.8s
WMQ PMZ
comp=Z,150nm,3.6s
WMQ LN
comp=Z,190nm,19.6s
WMQ LE
comp=Z,160nm,15.0s
WMQ LZ
comp=Z,180nm,23.2s
CMMT Chiang Mai 41.70 257 P **P 16 57 36.8 +2.2**
comp=Z,13nm,1.4s
CHTO Chiang Mai 41.70 257 *e*P **P 16 57 34.6 0.0**
CHTO pmax pmax
comp=Z,15nm,1.1s
CHTO Chiang Mai 41.70 257 *e*P **P 16 57 34.6 0.0**
comp=Z,15nm,1.1s
CM31 Chiang Mai Arr 41.91 256 *e*P **P 16 57 35.6 -0.6**
CMAR Chiang Mai Arr 41.91 256 P **P 16 57 35.6 -0.6**
comp=Z,3.5nm,0.7s,baz=46,slow=7.8,SNR=11
CMAR LR LR 17 15 51.2
comp=Z,116nm,20.3s,baz=300,slow=37
CM01 Chiang Mai Arr 41.91 256 *e*P **P 16 57 36.1 -0.2**
SRAK Srakaew 42.20 248 P **P 16 57 36.8 -1.8**
comp=Z,77nm,1.1s,comp=Z,601nm
ZAA0 Zalesovo Array 42.56 313 *e*P **P 16 57 40.7 -0.4**
ZALV Zalesovo Beam 42.56 313 P **P 16 57 41.5 +0.4**
comp=Z,26nm,0.9s,baz=94,slow=6.5,SNR=75
ZALV PcP **PcP 16 59 32.6 -0.5**
comp=Z,4.3nm,0.7s,baz=80,slow=4.2,SNR=4.3
LSA Lhasa 42.77 276 P **P 16 57 44.8 +1.1**
LSA PMZ
comp=Z,11nm,1.2s
LSA Lhasa 42.77 276 *e*P **P 16 57 44.2 +0.5**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 42.77 276 *e*P **P 16 57 44.2 +0.5**
comp=Z,12nm,0.8s
NVS Novosibirsk 43.48 314 ⇓*i*P **P 16 57 49.0 +0.4**
NVS pmax pmax
comp=Z,26nm,1.2s
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=E,20nm,1.2s
SBUM Sibu 43.76 226 *e*P **P 16 57 49.7 -1.6**
comp=E,16nm,1.0s
NRIK Noril'sk 43.84 335 P **P 16 57 50.9 -0.4**
comp=E,5.1nm,0.6s,baz=102,slow=5.9,SNR=7.6
SHL Shillong 43.92 270 *e*P **P 16 57 52.5 -0.2**
SHL *e*P **P 16 57 52.5 -0.2**
PHET Kaeng Krachan 44.71 249 P **P 16 58 01.2 +2.4**
comp=E,15nm,1.0s,comp=E,162nm
MK01 Makanchi Array 44.76 303 *e*P **P 16 57 58.6 -0.3**
MK31 Makanchi Array 44.77 303 *e*P **P 16 57 58.8 -0.2**
MK31 Makanchi Array 44.77 303 *e*P **P 16 57 58.8 -0.2**
MKAR Makanchi Array 44.77 303 P **P 16 57 59.2 +0.2**
comp=E,12nm,0.8s,baz=89,slow=9.4,SNR=92
SPSI Sidrap Palu 45.45 212 P **P 16 58 07.1 +2.5**
KSM Kuching 45.67 227 *e*P **P 16 58 06.6 +0.2**
comp=E,26nm,0.8s
KAPI Kappang 46.40 211 *e*P **P 16 58 13.6 +1.4**
comp=E,64nm,1.0s
KURK Kurchatov 46.58 308 *e*P **P 16 58 13.1 -0.2**
KURK pmax pmax
comp=Z,119nm,0.9s
KURK Kurchatov 46.58 308 *e*P **P 16 58 13.1 -0.2**
comp=Z,119nm,0.9s
PPLA Purkeypile 47.19 35 *e*P **P 16 58 20.7 +2.7**
comp=Z,5.5nm,0.8s
RAMN Ramite 47.55 275 *e*P **P 16 58 21.3 -0.2**
comp=Z,85nm,0.8s
GUN Gumba 47.71 276 *e*P **P 16 58 23.4 +0.6**
comp=Z,33nm,0.8s
BPAW Bear Paw Mtn. 47.76 33 *e*P **P 16 58 23.4 +1.0**
comp=Z,4.1nm,0.6s
TRF Thorofare Moun 48.06 34 *e*P **P 16 58 26.4 +1.6**
comp=Z,6.0nm,0.8s
PKIN Phulchoki 48.24 276 *e*P **P 16 58 27.3 +0.5**
comp=Z,12nm,0.6s
KKN Kakani 48.24 277 *e*P **P 16 58 27.2 +0.4**
comp=Z,32nm,0.7s
DMN Daman 48.46 276 *e*P **P 16 58 28.9 +0.4**
GKN Gorkha 48.67 277 *e*P **P 16 58 30.3 +0.3**
comp=Z,87nm,0.9s
MCK McKinley 48.67 34 *e*P **P 16 58 30.3 +1.0**
MCK pmax pmax
comp=Z,5.0nm,0.8s
MCK McKinley 48.67 34 *e*P **P 16 58 30.3 +1.0**
comp=Z,4.5nm,0.8s
MDM Murphy Dome 48.97 32 *e*P **P 16 58 33.5 +1.9**
comp=Z,12nm,0.7s
SML Sawmill 49.00 36 *e*P **P 16 58 31.9 0.0**
SML pmax pmax
comp=Z,10.0nm,0.7s
SML Sawmill 49.00 36 *e*P **P 16 58 31.9 0.0**
comp=Z,9.7nm,0.7s
WRH Wood River Hil 49.03 33 *e*P **P 16 58 33.6 +1.6**
comp=Z,4.7nm,0.6s
IPM Ipoh 49.39 240 *e*P **P 16 58 35.0 -0.4**
comp=Z,83nm,1.6s
SCM Sheep Creek Mo 49.47 36 *e*P **P 16 58 36.4 +0.9**
SCM pmax pmax
comp=Z,6.0nm,0.7s
SCM Sheep Creek Mo 49.47 36 *e*P **P 16 58 36.4 +0.9**
comp=Z,5.9nm,0.7s
IL1 Eielson Array 49.54 32 *e*P **P 16 58 36.2 +0.2**
ILAR Eielson Array 49.54 32 P **P 16 58 36.8 +0.8**
comp=Z,1.9nm,0.8s,baz=263,slow=6.3,SNR=24
ILB Eielson Array 49.54 32 *e*P **P 16 58 36.7 +0.8**
KOLN Koldanda 49.59 277 *e*P **P 16 58 37.5 +0.4**
comp=Z,26nm,0.9s
PYUN Piuthan 49.94 278 *e*P **P 16 58 40.3 +0.6**
comp=Z,142nm,1.0s
TKM2 Tokmak 2 50.27 299 *e*P **P 16 58 42.8 +0.7**
TKM2 pmax pmax
comp=Z,25nm,1.0s
TKM2 Tokmak 2 50.27 299 *e*P **P 16 58 42.8 +0.7**
comp=Z,25nm,1.0s
DOT Dot Lake 50.84 34 *e*P **P 16 58 47.8 +1.9**
comp=Z,11nm,0.6s
FRU Bishkek 50.99 299 *i*P **P 16 58 46.0 -1.3**
FRU pmax pmax
comp=Z,20nm,1.6s
KSH Kashi 51.04 295 P **P 16 58 52.6 +4.8**
KSH pP sP 16 59 01.5 +1.1
KSH PcP **PcP 17 00 07.6 +4.1**
KSH PP **PP 17 00 51.3 +7.0**
KSH S **S 17 06 08.4 +5.1**
KSH ScS **ScS 17 08 39.3 +2.9**
KSH SS **SS 17 09 42.3 +4.0**
KSH PMZ
comp=Z,8.0nm,0.9s
KSH PMZ
comp=Z,75nm,3.0s
KSH LN
comp=Z,290nm,11.7s
KSH LE
comp=Z,250nm,12.6s
KSH LZ
comp=Z,770nm,17.6s
AAK Ala-Archa 51.13 299 LR LR 17 21 10.4
comp=Z,378nm,21.4s,baz=40,slow=37
AAK Ala-Archa 51.13 299*c i*P **P 16 58 48.6 +0.1**
AAK pmax pmax
comp=Z,13nm,1.1s
AAK Ala-Archa 51.13 299 *e*P **P 16 58 48.4 -0.1**
comp=Z,9.3nm,0.9s
BRVK Borovoye 51.27 313*c i*P **P 16 58 48.9 -0.3**
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 51.27 313 *e*P **P 16 58 49.0 -0.2**
comp=Z,22nm,0.7s
EKS2 Erkin-Say 51.63 299 *e*P **P 16 58 52.3 +0.1**
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 51.63 299 *e*P **P 16 58 52.2 +0.1**
comp=Z,5.1nm,0.7s
PSI Prapat 52.05 240 *e*P **P 16 58 55.4 -0.2**
PSI pmax pmax
comp=Z,14nm,0.9s
PSI Prapat 52.05 240 *e*P **P 16 58 55.4 -0.2**
comp=Z,14nm,0.9s
GSI Gunungsitoli 54.05 240 *e*P **P 16 59 10.9 +0.7**
comp=Z,70nm,1.0s
INK Inuvik 54.49 27 P **P 16 59 13.7 +1.1**
comp=Z,1.0nm,0.5s,baz=287,slow=4.2,SNR=5.2
INK Inuvik 54.49 27 *e*P **P 16 59 13.8 +1.1**
comp=Z,24nm,1.8s
SVE Sverdlovsk 55.78 319*d i*P **P 16 59 22.8 +0.6**
SVE pmax pmax
comp=Z,34nm,1.1s
SVE MLR MLR
comp=Z,534nm,18.0s
WRAB Tennant Creek 56.74 189 *i*P P 16 59 34.9 +5.5
WRAB pmax pmax
comp=Z,49nm,1.7s
WRAB Tennant Creek 56.74 189 *e*P **P 16 59 30.4 +1.0**
comp=Z,9.1nm,0.8s
WB2 Warramunga Arr 56.75 189 *e*P **P 16 59 29.2 -0.2**
comp=Z,12nm,0.9s
WRA Warramunga Arr 56.75 189 P **P 16 59 29.9 +0.4**
comp=Z,3.7nm,0.8s,baz=4.9,slow=7.2,SNR=16
ARU Arti 56.99 319*c i*P **P 16 59 30.9 +0.1**
ARU 17 00 24.9
ARU 17 01 37.8
ARU S **S 17 07 23.8 +0.8**
ARU SS **SS 17 11 08.8 -2.4**
ARU pmax pmax
comp=Z,39nm,1.2s
ARU Arti 56.99 319 *e*P **P 16 59 30.4 -0.4**
comp=Z,35nm,1.1s
KBL Kabul 58.04 291 *e*P **P 16 59 37.9 -0.9**
KBL pmax pmax

comp=Z,16nm,0.9s
KBL Kabul 58.04 291 *e*P **P 16 59 37.9 -0.9**
comp=Z,16nm,0.9s
ASAR Alice Springs 60.48 189 P **P 16 59 55.6 +0.3**
comp=Z,2.0nm,0.8s,baz=15,slow=7.8,SNR=20
KBS Kingsbay 61.13 350 *e*P **P 17 00 00.2 +1.1**
KBS pmax pmax
comp=Z,6.0nm,0.8s
KBS Kingsbay 61.13 350 *e*P **P 17 00 00.2 +1.1**
comp=Z,6.3nm,0.8s
MBWA Marble Bar 61.24 204 *e*P **P 17 00 00.1 -0.4**
YKA Yellowknife Ar 63.88 30 P **P 17 00 18.1 +0.4**
comp=Z,1.3nm,1.0s,baz=293,slow=6.3,SNR=4.5
KLMR Klimovskoe 64.36 328 *e*P **P 17 00 18.8 -2.1**
KLMR *e* 17 00 54.7
KLMR *e* 17 02 41.6
KLMR pmax pmax
comp=Z,19nm,1.4s
GEYT Alibeck 64.48 299 P **P 17 00 21.8 -0.3**
comp=Z,8.4nm,0.8s,baz=35,slow=3.6,SNR=15
ARCES ARCESS Array B 64.54 340 P **P 17 00 21.8 -0.2**
comp=Z,1.9nm,0.7s,baz=62,slow=5.6,SNR=4.6
DAG Danmarks Havn 66.20 355 *i* P **P 17 00 32.5 -0.1**
DAG Danmarks Havn 66.20 355 *i* P **P 17 00 32.5 -0.1**
MOS Moscow 67.87 324 *e*P **P 17 00 43.8 +0.3**
VRH Novokhopyorsk 68.22 318 *e*P **P 17 00 45.5 -0.3**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH MLR MLR
comp=Z,530nm,26.0s
OBN Obninsk 68.72 324⇑ *e*P **P 17 00 49.0 +0.2**
OBN *i* 17 01 00.2
OBN pmax pmax
comp=Z,29nm,1.3s
OBN MLR MLR
comp=Z,186nm,16.0s
LPSR Galich'ya Gora 68.93 320 *e*P **P 17 00 50.7 +0.5**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR MLR MLR
comp=Z,520nm,20.0s
FIA1 FINESS Array S 69.40 333 *e*P **P 17 00 53.1 +0.2**
FINES FINESS Array B 69.40 333 P **P 17 00 53.5 +0.6**
comp=Z,6.1nm,0.8s,baz=62,slow=9.3,SNR=13
FINES LR LR 17 33 31.2
comp=Z,286nm,18.2s,baz=18,slow=38
VSR Storozhevoye 69.57 319 *e*P **P 17 00 53.9 -0.3**
VSR pmax pmax
comp=Z,30nm,1.3s
VSR MLR MLR
comp=Z,450nm,22.0s
GOF Gofitskoye 70.74 312⇑ *e*P **P 17 01 02.4 +0.9**
SUMG Summit 71.07 0 *e*P **P 17 01 04.4 +0.9**
SUMG pmax pmax
comp=Z,11nm,1.1s
SUMG Summit 71.07 0 *i* P **P 17 01 04.4 +0.9**
comp=Z,6.7nm,0.9s
SUMG Summit 71.07 0 *e*P **P 17 01 04.4 +0.9**
comp=Z,11nm,1.1s
ZEI Tsey 71.45 310 *e*P **P 17 01 04.3 -1.8**
KBZ Khabaz 71.55 311 P **P 17 01 07.6 +1.2**
comp=Z,13nm,0.9s,baz=63,slow=4.2,SNR=29
KBZ LR LR 17 37 14.1
comp=Z,233nm,18.7s,baz=51,slow=40
KIV Kislovodsk 71.55 311 *e*P **P 17 01 07.8 +1.2**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,158nm,18.0s
KIV Kislovodsk 71.55 311 *e*P **P 17 01 07.0 +0.4**
comp=Z,31nm,0.9s
ONI Oni 71.83 310 P **P 17 01 09.2 +1.0**
ONI Oni 71.83 310 P **P 17 01 09.2 +1.0**
GNI Garni 72.36 307 *ce*P **P 17 01 13.7 +2.2**
GNI pmax pmax
comp=Z,30nm,1.2s
GNI Garni 72.36 307 *e*P **P 17 01 09.2 -2.3**
comp=Z,19nm,1.2s
NACGM Naroch 73.33 327 *e* **P 17 01 17.0 +0.2**
LRM Limekiln Ridge 74.06 44 *e*P **P 17 01 23.5 +1.9**
ANN Anapa 74.17 314 *e*P P 17 01 16.8 -5.1
ANN *e**PP pP 17 01 29.6 -1.7
ANN *e* 17 01 34.4
ANN *e*S **SKiKP 17 10 44.5 -2.7**
ANN pmax pmax
comp=Z,41nm,1.4s
ANN MLR MLR
comp=Z,284nm,22.0s
ANN MLR MLR
comp=N,355nm,22.0s
ANN MLR MLR
comp=E,191nm,22.0s
DLMT Dillon 74.25 45 *e*P **P 17 01 24.5 +1.9**
comp=E,5.1nm,0.9s
NC405 NORSAR Array S 74.53 337 *e*P **P 17 01 24.2 +0.5**
BOZ Bozeman (W) 74.63 44 *e*P **P 17 01 26.8 +2.0**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 74.63 44 *e*P **P 17 01 26.8 +2.0**
comp=Z,3.2nm,0.8s
NC204 NORSAR Array S 74.70 338 *e*P **P 17 01 25.3 +0.5**
NB201 NORSAR Array S 74.71 338 *e*P **P 17 01 25.2 +0.4**
NB2 NORSAR Subarra 74.74 338 P **P 17 01 25.1 +0.1**
comp=Z,9.7nm,0.9s,baz=37,slow=5.9
NOA NORSAR Array B 74.74 338 P **P 17 01 25.5 +0.5**
comp=Z,7.2nm,0.8s,baz=38,slow=5.8,SNR=19
NOA LR LR 17 36 42.8
comp=Z,211nm,21.5s,baz=45,slow=38
NBO02 NORSAR Array S 74.85 338 *e*P **P 17 01 26.1 +0.5**
AKASG Malin Array Be 74.92 323 P **P 17 01 26.4 +0.2**
comp=Z,8.3nm,0.6s,baz=47,slow=6.0,SNR=23
AKASG LR LR 17 36 39.7
comp=Z,152nm,19.8s,baz=95,slow=38
SIM Simferopol' 75.97 316 *e*P **P 17 01 31.9 -0.4**
SIM *e* 17 01 44.0
SIM pmax pmax
comp=Z,17nm,0.8s
SIM MLR MLR
comp=Z,130nm,15.9s
PDAR Pinedale Array 77.57 46 P **P 17 01 43.6 +2.0**
comp=Z,0.7nm,0.5s,baz=248,slow=1.2,SNR=5.8
KWP Kalwaria Pacla 78.75 325 *e*P **P 17 01 49.2 +1.4**
KWP Kalwaria Pacla 78.75 325⇑ *i*P **P 17 01 49.1 +1.4**
KWP Kalwaria Pacla 78.75 325 *e*P **P 17 01 49.2 +1.4**
BUR08 Bucovina Ar. S 78.93 322 *e*P **P 17 01 48.2 -0.7**
BURAR Bucovina Array 78.94 322⇓ *i*P **P 17 01 49.9 +0.9**
TESR Tescani 78.97 321⇑ *i*P **P 17 01 49.7 +0.7**
CFR Carcaliu 79.08 319⇑ *i*P **P 17 01 50.2 +0.6**
TIRR Tirgusor 79.41 318⇑ *i*P **P 17 01 51.8 +0.3**
KOLS Kolonicke sedl 79.44 324 *e*P **P 17 01 52.3 +0.7**
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 79.44 324 *e*P **P 17 01 52.3 +0.7**
BR131 Keskin Array S 79.50 312 *e*P **P 17 01 52.2 0.0**
BRTR Keskin Array B 79.50 312 P **P 17 01 53.3 +1.0**
comp=Z,7.1nm,1.0s,baz=104,slow=4.0,SNR=22
BRTR Keskin Array B 79.50 312 P **P 17 01 53.3 +1.0**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 79.58 325 *e*P **P 17 01 54.3 +2.0**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 79.58 325 *e*P **P 17 01 54.3 +2.0**
UZH Uzhgorod 79.64 324 *e*P **P 17 01 51.2 -1.5**
UZH *e* 17 02 01.0
UZH *e* 17 02 07.4
OJC Ojcow 79.65 326 *e*P **P 17 01 53.7 +1.0**
OJC Ojcow 79.65 326 *e*P **P 17 01 53.1 +0.4**
OJC pmax pmax
comp=Z,20nm,1.0s
OJC Ojcow 79.65 326 *e*P **P 17 01 53.1 +0.4**
comp=Z,20nm,1.0s
ARCR ARCALIA 79.73 322⇓ *i*P **P 17 01 55.3 +2.1**
CRVS Cervenica-Dubn 79.84 325 *e*P **P 17 01 54.6 +0.8**
CRVS Cervenica-Dubn 79.84 325 *e*P **P 17 01 54.6 +0.8**
BR231 Keskin MP Arra 79.94 312 *e*P **P 17 01 53.3 -1.3**
ISR Istrita 79.96 320⇑ *i*P **P 17 01 56.1 +1.6**
MSAB Monastry St. A 79.97 318⇓ *i*P **P 17 01 56.2 +1.7**
NIE Niedzica 80.00 326 *e*P **P 17 01 56.0 +1.3**
NIE Niedzica 80.00 326 *e*P **P 17 01 56.0 +1.3**
MLR Muntele Rosu 80.02 320⇑ *i*P **P 17 01 56.2 +1.3**
MLR Muntele Rosu 80.02 320 *e*P **P 17 01 53.3 -1.6**
MLR pmax pmax
comp=Z,11nm,1.3s
MLR Muntele Rosu 80.02 320 *e*P **P 17 01 53.3 -1.6**
comp=Z,11nm,1.3s
CJR Cluj-Napoca 80.36 322⇓ *i*P **P 17 01 57.5 +0.8**
VOIR 80.51 321⇑ *i*P **P 17 01 59.3 +1.7**
LANS Liptovska Anna 80.57 326 *e*P **P 17 01 59.3 +1.5**
LANS Liptovska Anna 80.57 326 *e*P **P 17 01 59.3 +1.5**
OKC Ostrava-Krasne 80.66 327 AMS AMS 17 40 40.0
comp=Z,200nm,15.4s
KSP Ksiaz 80.70 329 *e*P **P 17 01 59.8 +1.4**
KSP Ksiaz 80.70 329 *e*P **P 17 01 59.7 +1.4**
DRGR 80.74 323⇑ *i*P **P 17 01 59.6 +0.9**
ARR Arges 80.77 321⇑ *i*P **P 17 02 00.7 +1.8**
AGMN Agassiz Nation 80.96 35 *e*P **P 17 02 00.0 +0.2**
comp=Z,11nm,1.0s
MORC Moravsky Berou 80.97 327⇑ *i*P **P 17 02 00.8 +0.9**
MORC Moravsky Berou 80.97 327 *e*P **P 17 01 59.6 -0.2**
MORC pmax pmax
comp=Z,49nm,1.1s
MORC Moravsky Berou 80.97 327 *e*P **P 17 01 59.6 -0.2**
comp=Z,49nm,1.1s
DPC Dobruska-Polom 81.06 328 *e*P **P 17 02 01.7 +1.3**
DPC *e*pP **pP 17 02 08.5 -1.3**
DPC AMS AMS 17 41 00.0
DPC Dobruska-Polom 81.06 328 *e*P **P 17 02 01.7 +1.3**
DPC *e* 17 02 08.5
UPC Upice 81.08 328 *e*P **P 17 02 01.4 +1.0**
UPC AMS AMS 17 42 30.0
comp=Z,200nm,14.4s
UPC Upice 81.08 328 *e*P **P 17 02 01.4 +1.0**
UPC MLR MLR
comp=Z,200nm,14.4s
PSZ Piszkesteto 81.27 325⇑ *i*P **P 17 02 02.9 +1.3**
PSZ Piszkesteto 81.27 325 *e*P **P 17 02 02.0 +0.4**
PSZ pmax pmax
comp=Z,14nm,1.0s
PSZ Piszkesteto 81.27 325 *e*P **P 17 02 02.0 +0.4**
comp=Z,14nm,1.0s
VYHS Vyhne 81.34 326 *e*P **P 17 02 02.9 +1.1**
VYHS pmax pmax
comp=Z,60nm,3.1s
VYHS Vyhne 81.34 326 *e*P **P 17 02 02.9 +1.1**
BRG Berggiesshubel 81.65 330 *e*P **P 17 02 04.1 +0.7**
comp=Z,7.7nm,1.1s
BRG *e* 17 02 14.5
comp=Z,6.6nm,1.0s
BRG Berggiesshubel 81.65 330 *e*P **P 17 02 04.1 +0.7**
BRG *e* 17 02 14.5
BRG pmax pmax
comp=Z,8.0nm,1.1s
PVCC Panska Ves 81.66 329 *e*P **P 17 02 04.7 +1.3**
PVCC *e*pP **pP 17 02 12.4 -0.5**
PVCC AMS AMS 17 41 20.0
comp=Z,300nm,15.3s
PVCC Panska Ves 81.66 329 *e*P **P 17 02 04.7 +1.3**
PVCC *e* 17 02 12.4
PVCC MLR MLR
comp=Z,300nm,15.3s
CLL Collm 81.69 330⇑ *i*P **P 17 02 03.9 +0.3**
comp=Z,15nm,1.1s
CLL *i* 17 02 08.8
CLL *i* 17 02 12.0
CLL *i* 17 02 14.7
CLL LmH 17 38 00.0
comp=N,100nm,18.5s
CLL LmH 17 38 00.0
comp=E,200nm,19.3s
CLL Collm 81.69 330⇑ *i*P **P 17 02 03.9 +0.3**
CLL *i* 17 02 14.7
CLL pmax pmax
comp=Z,15nm,1.1s
CLL Collm 81.69 330 *e*P **P 17 02 03.6 0.0**
comp=Z,14nm,1.1s
VRAC Vranov 81.73 327⇑ *i*P **P 17 02 05.3 +1.4**
GOPC GO Pecny, Ondr 82.04 329 AMS AMS 17 41 30.0
comp=Z,300nm,19.6s
PRU Pruhonice 82.08 329 *e*P **P 17 02 06.4 +0.7**
PRU AMS AMS 17 41 30.0
comp=Z,300nm,15.4s
PRU Pruhonice 82.08 329 *e*P **P 17 02 06.4 +0.7**
PRU MLR MLR
comp=Z,300nm,15.4s
BZS Buzias 82.11 322⇑ *i*P **P 17 02 06.5 +0.6**
TREC Trest 82.21 328 *e*P **P 17 02 07.2 +0.8**
TREC AMS AMS 17 41 50.0
comp=Z,200nm,17.0s
TREC Trest 82.21 328 *e*P **P 17 02 07.2 +0.8**
TREC MLR MLR
comp=Z,200nm,17.0s
MDVR Moldovita 82.66 322⇓ *i*P **P 17 02 09.6 +0.7**
NKC Novy Kostel 82.75 330 *e*P **P 17 02 10.0 +0.8**
NKC AMS AMS 17 42 20.0
comp=Z,200nm,16.2s
NKC Novy Kostel 82.75 330 *e*P **P 17 02 10.0 +0.8**
NKC MLR MLR
comp=Z,200nm,16.2s
CONA Conrad Observa 83.09 327 *i* PcP **P 17 02 12.4 +1.4**
comp=Z,11nm,1.2s
KHC Kasperske Hory 83.14 329 *e*P **P 17 02 12.2 +0.9**
KHC *e*PCP **PcP 17 02 16.4 +0.6**
KHC *e*pP **pP 17 02 19.9 -0.9**
KHC AMS AMS 17 44 30.0
comp=Z,300nm,13.1s
KHC Kasperske Hory 83.14 329 *e*P **P 17 02 12.2 +0.9**
KHC *e* 17 02 19.9
KHC MLR MLR
comp=Z,300nm,13.1s
KHC Kasperske Hory 83.14 329 *e*P **P 17 02 11.6 +0.3**
comp=Z,4.9nm,1.1s
GERES GERESS Array B 83.31 329 P **P 17 02 12.8 +0.6**
comp=Z,2.7nm,0.8s,baz=34,slow=5.0,SNR=15
GERES LR LR 17 44 30.5
comp=Z,173nm,18.7s,baz=22,slow=40
GEA0 GERESS Array S 83.32 329 *e*P **P 17 02 12.1 -0.2**
GRFO Grafenberg 83.67 330 *e*P **P 17 02 14.4 +0.5**
GRFO pmax pmax
comp=Z,13nm,1.0s
GRFO Grafenberg 83.67 330 *e*P **P 17 02 14.4 +0.5**
comp=Z,14nm,1.0s
ARSA Arzberg 83.75 327 *i* P **P 17 02 14.4 0.0**
comp=Z,6.4nm,1.4s
MOA Molln 83.84 328 *i* PcP **P 17 02 15.7 +0.8**
comp=Z,8.0nm,1.3s
PPT Papeete 84.00 117 LR LR 17 35 41.6
comp=Z,79nm,20.3s,baz=310,slow=33
SOKA Soboth 84.41 326 *i* P **P 17 02 18.1 +0.2**
comp=Z,13nm,1.3s
KBA Koelnbreinsper 84.83 328 *i* PcP **P 17 02 20.5 +0.4**
comp=Z,2.8nm,0.7s
MYKA Terra Mystica 85.06 327 *i* P **P 17 02 18.1 -3.0**
comp=Z,3.0nm,0.7s
STU Stuttgart 85.20 331 *e*P **P 17 02 22.3 +0.6**
STU pmax pmax
comp=Z,18nm,1.0s
STU Stuttgart 85.20 331 *e*P **P 17 02 22.3 +0.6**
comp=Z,18nm,1.0s
WATA Walderalm 85.38 329 *i* pP pP 17 02 33.0 +0.6
comp=Z,6.5nm,1.1s
WTTA Wattenberg 85.42 329 *i* P **P 17 02 23.0 0.0**
comp=Z,2.4nm,0.6s
ABTA Abfaltersbach 85.45 328 *i* P **P 17 02 21.8 -1.3**
comp=Z,6.1nm,1.1s
MOTA Moosalm 85.57 329 *i* PcP **P 17 02 24.7 +0.9**
comp=Z,5.5nm,1.1s
RETA Reutte 85.60 329 *i* PcP **P 17 02 24.5 +0.7**
comp=Z,11nm,1.2s
BFO Black Forest 85.89 331 *e*P **P 17 02 25.1 -0.1**
BFO pmax pmax
comp=Z,20nm,1.2s
BFO Black Forest 85.89 331 *e*P **P 17 02 25.1 -0.1**
comp=Z,20nm,1.2s
FETA Feichten 85.98 329 *i* PcP **P 17 02 26.6 +0.8**
comp=Z,6.2nm,1.2s
DAVA Damuels 86.12 330 *i* PcP **P 17 02 26.6 +0.1**
comp=Z,12nm,1.1s
FUORN Ofenpass-Fuorn 86.50 329 *e*P **P 17 02 28.4 -0.1**
comp=Z,10nm,1.1s
TX31 Lajitas Ar. Si 89.94 53 *e*P **P 17 02 46.5 +1.5**
TXAR Lajitas Array 89.94 53 P **P 17 02 45.9 +0.9**
comp=Z,0.5nm,0.7s,baz=298,slow=1.9,SNR=2.5
KEST Kesra 95.65 323 LR LR 17 52 02.4
comp=Z,144nm,19.0s,baz=284,slow=39
ESDC Sonseca Array 97.87 334 LR LR 17 52 00.8
comp=Z,148nm,19.8s,baz=45,slow=38
TORD Torodi Ar. Bea 117.97 315 PP PP 17 09 46.0 -0.1
comp=Z,1.9nm,1.0s,baz=31,slow=6.3,SNR=6.5
LPAZ La Paz 146.43 61 PKPbc **PKPbc 17 09 27.8 +0.2**
comp=Z,1.6nm,0.6s,baz=14,slow=4.9,SNR=5.4

*ISCJB **13** 16:50:22.5±0.5, 39°.13N±0°.05×29°.04E±0°.04, h6km±7km, Error ellipse: s-maj=8.3km s-min=4.7km az=152.1*
*DDA **13** 16:50:22.3, 39°.15N×29°.05E, h7km, Md2.3*
*CSEM **13** 16:50:22.7±0.1, 39°.14N×29°.05E, h5km, MD2.3, Error ellipse: s-maj=3.0km s-min=1.9km az=127.0*
*ISK **13** 16:50:22.1, 39°.13N×29°.04E, h7km, MD2.6*
ISC 13 16:50:22.6±1.0, 39°.14N±0°.03×29°.04E±0°.03, h9km±9km, n21, σ0°961/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**248**	P		**Pg 16 50 28.4**	**+0.3**
DEMI				S		**Sg 16 50 32.1**	**+0.3**
DEMI	**Demirci**	**0.27**	**248**	*i* P		**Pg 16 50 28.4**	**+0.3**
DEMI				*i* S		**Sg 16 50 32.1**	**+0.3**
GEDZ	**Gediz**	**0.30**	**109**	*e*PG		**Pg 16 50 28.7**	**+0.1**
GEDZ	**Gediz**	**0.30**	**109**	*e*Pg		**Pg 16 50 28.7**	**+0.1**
GDZ	**Gediz**	**0.34**	**99**	P		**Pb 16 50 29.9**	**-1.1**
GDZ				S		**Sg 16 50 34.4**	**+0.4**
GDZ	**Gediz**	**0.34**	**99**	*i* P		**Pb 16 50 29.9**	**-1.1**
GDZ				*i* S		**Sg 16 50 34.4**	**+0.4**
TVSB	**Tavsanli**	**0.45**	**47**	*e*PG		**Pg 16 50 31.7**	**+0.4**
TVSB				*e*SG		**Sg 16 50 37.5**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**47**	*e*Pg		**Pg 16 50 31.7**	**+0.4**
TVSB				*e*Sg		**Sg 16 50 37.5**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**206**	*e*PG		**Pb 16 50 36.3**	**-0.7**
KULA				*e*SG		**Sg 16 50 44.8**	**-0.3**
KULA	**Kula-Manisa**	**0.70**	**206**	*e*Pg		**Pb 16 50 36.3**	**-0.7**
KULA				*e*Sg		**Sg 16 50 44.8**	**-0.3**
KHL	**Karahalli**	**0.90**	**155**	*e*PG		**Pb 16 50 39.9**	**-0.6**
KHL	**Karahalli**	**0.90**	**155**	*e*Pg		**Pb 16 50 39.9**	**-0.6**
IGD	**Bursa**	**1.12**	**6**	*i* P		**Pg 16 50 42.9**	**-1.4**
IGD				*i* S		**Sb 16 50 59.2**	**+0.2**
CAVI	**Cavuskoy**	**1.22**	**30**	*e*PN		**Pn 16 50 46.4**	**+0.4**
CAVI				*e*SN		**Sn 16 51 03.6**	**+0.9**
CAVI	**Cavuskoy**	**1.22**	**30**	*e*Pn		**Pn 16 50 46.4**	**+0.4**
CAVI				*e*Sn		**Sn 16 51 03.6**	**+0.9**
BORA	**Eskisehir**	**1.31**	**56**	P		**Pn 16 50 46.8**	**-0.5**
BORA				S		**Sn 16 51 05.7**	**+0.7**
BORA	**Eskisehir**	**1.31**	**56**	*i* P		**Pn 16 50 46.8**	**-0.5**
BORA				*i* S		**Sn 16 51 05.7**	**+0.7**
ARMT	**Armutlu**	**1.43**	**354**	*e*PN		**Pg 16 50 49.7**	**-0.3**
ARMT	**Armutlu**	**1.43**	**354**	*e*Pn		**Pg 16 50 49.7**	**-0.3**
GULT	**Gulveren**	**1.71**	**41**	*e*PN		**Pn 16 50 53.1**	**+0.3**
GULT	**Gulveren**	**1.71**	**41**	*e*Pn		**Pn 16 50 53.1**	**+0.3**

*IDC **13** 17:26:25.1±1.5, 46°.63S×163°.81E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/25, mbtmp3.9/4, ML5.1/1, MS3.8/8, Ms1 3.7/8, ms1mx3.5/27, Error ellipse: s-maj=47.8km s-min=27.6km az=1.0*
*NEIC **13** 17:26:27.1±0.8, 46°.39S×163°.82E, h10km, mb4.7/1, Error ellipse: s-maj=24.5km s-min=6.5km az=174.0*
*ISCJB **13** 17:26:31.4±0.6, 45°.93S±0°.05×164°.08E±0°.05, h33km, mb4.0/5, MS3.7/6, Error ellipse: s-maj=7.3km s-min=4.9km az=178.4*
ISC 13 17:26:32.4±0.7, 46°.03S±0°.08×164°.06E±0°.06, h35km, n85, σ1°85/103, mb3.8/5, MS3.6/6, 1C-2D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**1.83**	**95**	*e*Pn		**Pn 17 27 01.5**	**+0.1**
PYZ	**Puysegur Point**	**1.83**	**95**	⇓PN		**Pn 17 27 01.4**	**+0.1**
PYZ				SN		**Sn 17 27 23.2**	**0.0**
DCZ	**Deep Cove**	**2.24**	**76**	*e*Pn		**Pn 17 27 07.0**	**+0.1**
DCZ	**Deep Cove**	**2.24**	**76**	PN		**Pn 17 27 07.1**	**+0.1**
DCZ				SN		**Sn 17 27 32.9**	**-0.4**
WHZ	**Wether Hill Ro**	**2.71**	**88**	*e*Pn		**Pn 17 27 14.4**	**+0.9**
WHZ	**Wether Hill Ro**	**2.71**	**88**	PN		**Pn 17 27 14.7**	**+1.1**
WHZ				SN		**Sn 17 27 46.8**	**+1.7**
APZ	**The Paps**	**2.83**	**108**	PN		**Pn 17 27 15.0**	**-0.2**
APZ				SN		**Sn 17 27 46.9**	**-1.2**
MLZ	**Mavora Lakes**	**2.92**	**78**	*e*Pn		**Pn 17 27 18.5**	**+2.1**
MLZ	**Mavora Lakes**	**2.92**	**78**	PN		**Pn 17 27 18.3**	**+1.9**
MSZ	**Milford Sound**	**3.04**	**65**	PN		**Pn 17 27 19.2**	**+1.1**
SYZ	**Scrubby Hill**	**3.56**	**100**	⇓PN		**Pn 17 27 25.7**	**+0.7**
WKZ	**Wanaka**	**3.69**	**73**	*e*Pn		**Pn 17 27 30.5**	**+3.5**
WKZ	**Wanaka**	**3.69**	**73**	PN		**Pn 17 27 29.9**	**+2.9**
EAZ	**Earnscleugh**	**3.77**	**80**	PN		**Pn 17 27 30.4**	**+2.4**
EAZ				SN		**Sn 17 28 13.2**	**+2.1**
JCZ	**Jackson Bay**	**3.88**	**61**	PN		**Pn 17 27 30.4**	**+0.8**
JCZ				SN		**Sn 17 28 14.0**	**0.0**
TUZ	**Tuapeka**	**3.88**	**91**	PN		**Pn 17 27 30.5**	**+0.9**
HHSZ	**Highcliff Hill**	**4.56**	**91**	PN		**Pn 17 27 39.8**	**+0.8**
LBZ	**Lake Benmore**	**4.63**	**71**	*e*Pn		**Pn 17 27 42.0**	**+2.1**
LBZ	**Lake Benmore**	**4.63**	**71**	PN		**Pn 17 27 41.3**	**+1.5**
LBZ				SN		**Sn 17 28 34.1**	**+1.7**
ODZ	**Otahua Downs**	**4.73**	**80**	*e*Pn		**Pn 17 27 41.7**	**+0.5**
ODZ	**Otahua Downs**	**4.73**	**80**	PN		**Pn 17 27 41.6**	**+0.4**
ODZ				SN		**Sn 17 28 34.6**	**-0.2**
FOZ	**Fox Glacier**	**4.80**	**61**	*e*Pn		**Pn 17 27 43.5**	**+1.3**
FOZ	**Fox Glacier**	**4.80**	**61**	PN		**Pn 17 27 42.4**	**+0.2**
FOZ				SN		**Sn 17 28 34.6**	**-1.9**
RPZ	**Rata Peaks**	**5.48**	**68**	Pn		**Pn 17 27 52.5**	**+0.9**
	51nm,0.3s,baz=221,slow=5.7,SNR=229						
RPZ				SN		**Sn 17 28 53.6**	**+0.2**
	188nm,0.3s,baz=300,slow=2.5,SNR=32						
RPZ				LR	LR	17 30 15.8	
	comp=Z,2μm,18.3s,baz=230,slow=39						
RPZ	**Rata Peaks**	**5.48**	**68**	Pn		**Pn 17 27 52.5**	**+0.9**
	100nm,0.5s						
RPZ				SN		**Sn 17 28 53.6**	**+0.2**
RPZ	**Rata Peaks**	**5.48**	**68**	PN		**Pn 17 27 52.4**	**+0.9**
RPZ				SN		**Sn 17 28 54.2**	**+0.8**
WVZ	**Waitaha Valley**	**5.61**	**61**	PN		**Pn 17 27 53.6**	**+0.3**
INZ	**Inchbonnie**	**6.24**	**61**	PN		**Pn 17 28 02.5**	**+0.6**
OXZ	**Oxford**	**6.30**	**67**	*e*Pn		**Pn 17 28 03.5**	**+0.7**
OXZ	**Oxford**	**6.30**	**67**	PN		**Pn 17 28 02.4**	**-0.4**
OXZ				SN		**Sn 17 29 10.9**	**-2.6**
MQZ	**McQueen's Vall**	**6.53**	**72**	*e*Pn		**Pn 17 28 06.3**	**+0.3**
MQZ				*e*Sn		**Sn 17 29 18.0**	**-1.2**
MQZ	**McQueen's Vall**	**6.53**	**72**	PN		**Pn 17 28 06.1**	**+0.1**
LTZ	**Lake Taylor**	**6.72**	**64**	*e*Pn		**Pn 17 28 09.1**	**+0.5**
DSZ	**Denniston Nort**	**7.04**	**55**	PN		**Pn 17 28 14.1**	**+1.0**
THZ	**Tophouse**	**7.68**	**59**	*e*Pn		**Pn 17 28 22.7**	**+0.9**
THZ	**Tophouse**	**7.68**	**59**	PN		**Pn 17 28 22.2**	**+0.4**
KHZ	**Kahutara**	**7.71**	**65**	*e*Pn		**Pn 17 28 23.1**	**+1.1**
	64nm,0.5s						
KHZ	**Kahutara**	**7.71**	**65**	PN		**Pn 17 28 23.3**	**+1.3**
KHZ				SN		**Sn 17 29 46.8**	**-1.3**
QRZ	**Quartz Range**	**8.06**	**53**	PN		**Pn 17 28 27.9**	**+0.9**
NNZ	**Nelson**	**8.29**	**58**	PN		**Pn 17 28 31.7**	**+1.6**
NNZ				SN		**Sn 17 30 01.6**	**-0.9**
BSWZ	**Blackbirch Sta**	**8.30**	**62**	SN		**Sn 17 30 03.2**	**+0.6**
TUWZ	**Tuamarina**	**8.50**	**61**	*e*PN		**Pn 17 28 35.5**	**+2.5**
TCW	**Tory Channel**	**8.84**	**61**	*e*PN		**Pn 17 28 39.8**	**+2.3**
DUWZ	**D'Urville Isla**	**8.88**	**57**	PN		**Pn 17 28 39.6**	**+1.5**
KHEZ	**Kahui Hut**	**9.95**	**51**	PN		**Pn 17 28 54.5**	**+1.6**
MRZ	**Mangatainoka R**	**9.96**	**61**	PN		**Pn 17 28 52.4**	**-0.5**
MRZ				SN		**Sn 17 30 38.6**	**-4.8**
NEZ	**North Egmont**	**10.01**	**51**	PN		**Pn 17 28 55.3**	**+1.6**
NEZ				SN		**Sn 17 30 43.8**	**-1.0**
WAZ	**Wanganui**	**10.17**	**56**	⇑PN		**Pn 17 28 59.2**	**+3.3**
MHEZ	**Mangahewa**	**10.27**	**51**	PN		**Pn 17 28 59.5**	**+2.3**
VRZ	**Vera Road**	**10.47**	**53**	PN		**Pn 17 29 01.5**	**+1.4**
VRZ				SN		**Sn 17 30 54.4**	**-1.7**
PKVZ	**Pokaka**	**10.69**	**55**	PN		**Pn 17 29 05.0**	**+2.0**
HIZ	**Hauiti**	**10.96**	**51**	*e*Pn		**Pn 17 29 08.1**	**+1.4**
HIZ				*e*Sn		**Sn 17 31 10.7**	**+2.6**
HIZ	**Hauiti**	**10.96**	**51**	PN		**Pn 17 29 07.7**	**+1.0**
BKZ	**Black Stump Fm**	**11.44**	**58**	*e*Pn		**Pn 17 29 15.9**	**+2.7**
TOZ	**Tahuroa Road**	**11.88**	**50**	PN		**Pn 17 29 20.9**	**+1.6**
AWAZ	**Awhitu Peninsu**	**11.95**	**45**	PN		**Pn 17 29 21.8**	**+1.6**
WTAZ	**Waiatarua**	**12.02**	**45**	PN		**Pn 17 29 23.0**	**+1.8**
MKAZ	**Moumakai**	**12.18**	**47**	PN		**Pn 17 29 24.7**	**+1.4**
MKAZ				SN		**Sn 17 31 34.6**	**-3.2**
TAU	**Tasmania Unive**	**12.36**	**279**	*e*Pn		Pn 17 29 20.4	-5.3
	40nm,0.6s						
URZ	**Urewera**	**12.40**	**56**	Pn		**Pn 17 29 25.4**	**-0.9**
	1.0nm,0.3s,baz=254,slow=10,SNR=6.1						
URZ				SN		**Sn 17 31 36.8**	**-6.5**
	1.4nm,0.3s,baz=60,slow=21,SNR=7.4						
URZ				LR	LR	17 34 49.8	
	comp=Z,242nm,20.8s,baz=234,slow=39						
WIAZ	**Waiheke Island**	**12.41**	**46**	PN		**Pn 17 29 28.5**	**+2.1**
KUZ	**Kuaotunu**	**12.74**	**47**	PN		**Pn 17 29 32.7**	**+1.7**
OUZ	**Omahuta**	**12.99**	**37**	*e*Pn		**Pn 17 29 35.5**	**+1.1**
	24nm,0.5s						

OUZ				*e*S		**Sn**	17 31 51.0	**-6.6**
OUZ	**Omahuta**	**12.99**	**37**	PN		**Pn**	17 29 35.3	**+0.9**
STKA	**Stephens Creek**	**22.37**	**301**	P		**P**	17 31 28.4	**+0.9**
	3.6nm,1.1s,baz=143,slow=12,SNR=3.9							
DZM	**Mont Dzumac**	**23.98**	**5**	P		**P**	17 31 47.4	**+3.7**
	20nm,0.8s,baz=186,slow=9.2,SNR=15							
DZM				LR		LR	17 39 16.1	
	comp=Z,176nm,21.6s,baz=202,slow=31							
VNDA	**Vanda**	**31.61**	**181**	LR		LR	17 40 52.9	
	comp=Z,114nm,21.1s,baz=340,slow=28							
ASAR	**Alice Springs**	**33.00**	**302**	P		**P**	17 33 02.4	**-1.8**
	0.4nm,0.6s,baz=133,slow=8.0,SNR=9.3							
WR1	**Warramunga Arr**	**35.66**	**307**	*e*P		**P**	17 33 25.5	**-1.7**
	20nm,1.6s							
WRA	**Warramunga Arr**	**35.67**	**307**	P		**P**	17 33 25.5	**-1.7**
	0.9nm,1.0s,baz=140,slow=7.9,SNR=5.3							
HNR	**Honiara**	**36.64**	**353**	LR		LR	17 47 36.2	
	comp=Z,119nm,19.3s,baz=220,slow=34							
PPT	**Papeete**	**47.64**	**69**	LR		LR	17 52 12.6	
	comp=Z,60nm,20.3s,baz=214,slow=32							
MAW	**Mawson**	**52.35**	**208**	LR		LR	17 56 07.4	
	comp=Z,176nm,18.3s,baz=60,slow=34							
SNAA	**Sanae**	**62.24**	**185**	P		**P**	17 36 51.3	**+1.2**
VNA1	**Neumayer--Stat**	**63.50**	**183**	P		**P**	17 36 56.9	**-1.4**
BOSA	**Boshof**	**96.84**	**216**	LR		LR	18 18 47.4	
	comp=Z,34nm,18.1s,baz=92,slow=33							
ILAR	**Eielson Array**	**116.90**	**21**	PKP		**PKPdf**	17 45 11.5	**-0.5**
	0.2nm,0.5s,baz=223,slow=3.7,SNR=4.5							
ILB	**Eielson Array**	**116.90**	**21**	*e*PKPdf		**PKPdf**	17 45 11.2	**-0.8**
SPITS	**Spitsbergen Ar**	**145.42**	**349**	PKPbc		**PKPdf**	17 46 06.0	**+0.9**
	2.5nm,0.6s,baz=123,slow=7.1,SNR=6.6							
ARA0	**ARCESS Array S**	**148.78**	**333**	*e*PKPdf		**PKPdf**	17 46 11.8	**+0.9**
ARCES	**ARCESS Array B**	**148.78**	**333**	PKPbc		**PKPdf**	17 46 11.8	**+0.9**
	1.4nm,0.5s,baz=106,slow=3.9,SNR=13							
AKASG	**Malin Array Be**	**150.00**	**296**	PKPbc		**PKPdf**	17 46 16.6	**+3.3**
	0.2nm,0.2s,baz=99,slow=2.3,SNR=4.7							
AKBB	**Malin Array Si**	**150.00**	**296**	*e*PKPdf		**PKPdf**	17 46 10.0	**-3.3**
AKBB				*e*PKPbc		**PKPbc**	17 46 16.6	**-1.6**
FIA0	**FINESS Array S**	**151.38**	**318**	*e*PKPbc		**PKPbc**	17 46 21.0	**-0.2**
FINES	**FINESS Array B**	**151.38**	**318**	PKPbc		**PKPbc**	17 46 21.0	**-0.2**
	1.2nm,0.5s,baz=76,slow=4.1,SNR=11							

TAP ***13*** *17:30:23.8,24˚.39N×121˚.92E,h24km,ML3.4,B*
JMA ***13*** *17:30:23.2±0.2,24˚.32N×121˚.86E,h44km±3km,M2.4*
ISCJB ***13*** *17:30:24.0±0.3,24˚.38N±0˚.02×122˚.00E±0˚.02,h17km±4km, Error ellipse: s-maj=3.6km s-min=2.3km az=147.4*

ISC 13 17:30:22.6±1.1,24˚.35N±0˚.02×121˚.99E±0˚.02,h15km±9km, n58,σ0ˢ79/97,5C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EHP	**Heping Village**	**0.23**	**260**	*e*P		**Pb**	17 30 29.9	**+1.4**
	baz=242							
ENA	**Nanau**	**0.24**	**289**	⇓*i*P		**Pb**	17 30 29.1	**+0.4**
	baz=283							
ENA				*i* S		**Sb**	17 30 32.6	**-0.1**
	baz=283							
TWC	**Suao**	**0.29**	**334**	⇑*i*P		**Pb**	17 30 29.9	**+0.3**
	baz=346							
TWC				*i* S		**Sb**	17 30 33.9	**-0.2**
	baz=346							
TWD	**Chiawan**	**0.45**	**233**	P		**Pb**	17 30 33.1	**+0.9**
	baz=227							
TWD				S		**Sn**	17 30 40.7	**-1.6**
	baz=227							
ILA	**Ilan**	**0.47**	**332**	P		**Pb**	17 30 33.0	**+0.4**
	baz=332							
ILA				S		**Sb**	17 30 39.5	**+0.1**
	baz=332							
TWE	**Neicheng**	**0.47**	**322**	⇓*i*P		**Pb**	17 30 32.8	**+0.1**
	baz=327							
TWE				*i* S		**Sb**	17 30 38.7	**-0.8**
	baz=327							
ENTT	**Nioudou**	**0.48**	**307**	⇓*i*P		**Pb**	17 30 32.9	**0.0**
	baz=309							
ENTT				S		**Sb**	17 30 39.2	**-0.5**
	baz=309							
EGS		**0.50**	**354**	⇑*i*P		**Pb**	17 30 33.8	**+0.7**
	baz=3.0							
HWA	**Hwalien**	**0.51**	**224**	*e*P		**Pn**	17 30 34.9	**-0.5**
	baz=213							
NNS	**Nan Shan**	**0.57**	**279**	*i* P		**Pb**	17 30 34.5	**+0.1**
	baz=282							
NNS				S		**Sb**	17 30 41.6	**-0.7**
	baz=282							
TWB1	**Santiao Chiao**	**0.66**	**360**	⇑P		**Pn**	17 30 36.4	**-1.0**
TWB1				S		**Sb**	17 30 44.2	**-0.5**
NSK	**Sanguang**	**0.66**	**300**	⇓*i*P		**Pb**	17 30 35.7	**-0.2**
	baz=300							
NSK				*i* S		**Sg**	17 30 43.8	**-0.5**
	baz=300							
WHF	**Hehuan Shan**	**0.69**	**253**	*e*S		**Sb**	17 30 46.8	**+0.7**
	baz=255							
TWA	**Mucha**	**0.73**	**330**	P		**Pn**	17 30 38.2	**-0.2**
	baz=325							
TWA				S		**Sb**	17 30 46.6	**-0.3**
	baz=325							
ESL	**Shilin**	**0.74**	**224**	*e*P		**Pb**	17 30 37.6	**+0.4**
	baz=231							
NWF	**Wu-fen Shan**	**0.74**	**345**	*e*P		**Pn**	17 30 37.8	**-0.9**
	baz=344							
NWF				*e*S		**Sb**	17 30 47.9	**+0.6**
	baz=344							
TWT	**Tachien**	**0.75**	**263**	P		**Pn**	17 30 38.4	**-0.5**
	baz=259							
TWT				S		**Sb**	17 30 48.3	**+0.7**
	baz=259							
TAP1	**Taipei**	**0.81**	**328**	*e*P		**Pn**	17 30 39.3	**-0.2**
	baz=325							
TAP1				S		**Sn**	17 30 49.8	**-1.4**
	baz=325							
TAP	**Taipei**	**0.82**	**328**	*e*P		**Pn**	17 30 39.1	**-0.5**
	baz=325							
TAP				*e*S		**Sb**	17 30 49.7	**+0.4**
	baz=325							
JYNG	**Yonagunijimaku**	**0.88**	**83**	P		**Pn**	17 30 41.1	**+0.7**
JYNG				S		**Sn**	17 30 53.5	**+0.6**
TWS1	**Kuangyinshan**	**0.91**	**325**	*e*P		**Pn**	17 30 40.7	**-0.2**
	baz=339							
TWS1				S		**Sn**	17 30 52.9	**-0.9**
	baz=339							
YOJ	**Yonaguni jima**	**0.94**	**83**	P		**Pn**	17 30 42.0	**+0.8**
YOJ				S		**Sn**	17 30 55.0	**+0.6**
YOJ	**Yonaguni jima**	**0.94**	**83**	P		**Pn**	17 30 42.1	**+0.9**
	baz=77							
YOJ				*i* S		**Sn**	17 30 55.8	**+1.4**
	baz=77							
NSTT	**Nanjuang**	**0.94**	**288**	*e*P		**Pn**	17 30 41.3	**0.0**
	baz=287							
NSTT				*e*S		**Sg**	17 30 53.3	**0.0**
	baz=287							
NCU	**National Centr**	**0.96**	**310**	*e*P		**Pn**	17 30 41.6	**0.0**
	baz=298							
NCU				*e*S		**Sn**	17 30 53.9	**-1.0**
	baz=298							
TWY	**Chenhua**	**0.99**	**339**	*e*P		**Pn**	17 30 42.2	**+0.3**
	baz=343							
TWY				*e*S		**Sn**	17 30 55.2	**-0.5**
	baz=343							
HSN	**Hsinchu**	**1.03**	**296**	*e*P		**Pb**	17 30 42.1	**-0.1**
	baz=298							
EHY	**Hungye**	**1.04**	**216**	*e*P		**Pb**	17 30 41.4	**-0.9**
	baz=211							
TWQ1	**Liyutan**	**1.11**	**270**	P		**Pg**	17 30 44.6	**+0.6**
	baz=268							
TWQ1				*e*S		**Sn**	17 30 59.2	**+0.6**
	baz=268							
NSY	**Sanyi**	**1.12**	**274**	*e*P		**Pb**	17 30 43.4	**-0.3**
	baz=272							
NSY				*e*S		**Sn**	17 31 01.2	**+2.2**
	baz=272							
TYC	**Yuchr**	**1.12**	**247**	*e*P		**Pg**	17 30 44.0	**-0.3**
	baz=231							
TYC				*e*S		**Sg**	17 30 59.0	**-0.1**
	baz=231							
TWF1	**Yuli**	**1.18**	**213**	*e*P		**Pn**	17 30 43.4	**-1.1**
	baz=220							
TCU	**Taichung**	**1.22**	**261**	*e*P		**Pg**	17 30 46.7	**+0.6**
	baz=258							
TCU				*e*S		**Sg**	17 31 03.4	**+1.4**
	baz=258							
PCYT	**Pengchaiyu**	**1.28**	**3**	*e*P		**Pb**	17 30 46.0	**-0.4**
	baz=8.0							
YUS	**Yu-Shan**	**1.28**	**228**	⇑P		**Pb**	17 30 46.8	**+0.1**
	baz=210							
YUS				S		**Sg**	17 31 04.0	**0.0**
	baz=210							
WNT	**Mingjian**	**1.28**	**249**	*e*P		**Pg**	17 30 47.3	**0.0**
	baz=246							
WNT				*e*S		**Sg**	17 31 05.5	**+1.4**
	baz=246							
ALS	**Alishan**	**1.37**	**233**	⇑P		**Pb**	17 30 48.4	**+0.3**
	baz=218							
CHKT	**Chengkung**	**1.37**	**205**	*e*P		**Pn**	17 30 47.1	**-0.1**
	baz=187							
CHN5	**Tsauling**	**1.41**	**238**	*e*P		**Pg**	17 30 49.5	**-0.3**
	baz=235							
CHN5				*e*S		**Sg**	17 31 09.1	**+0.8**
	baz=235							
ELDTW	**Lidau**	**1.46**	**218**	*e*P		**Pn**	17 30 48.7	**+0.2**
	baz=203							
WGK	**Gukeng**	**1.46**	**243**	*e*P		**Pg**	17 30 50.3	**-0.4**
	baz=240							
WGK				*e*S		**Sg**	17 31 11.2	**+1.4**
	baz=240							
IRIF	**Iriomote-Funau**	**1.59**	**90**	P		**Pb**	17 30 51.2	**-0.4**
IRIF				S		**Sb**	17 31 11.6	**+0.1**
CHN2	**Minshiung**	**1.61**	**240**	*e*P		**Pb**	17 30 52.6	**+0.7**
	baz=225							
CHN4	**Tsaushan**	**1.62**	**232**	*e*P		**Pb**	17 30 52.6	**+0.4**
	baz=230							
CHN4				*e*S		**Sg**	17 31 14.9	**+0.1**
	baz=230							
STYT	**Tauyuan**	**1.63**	**224**	*e*P		**Pb**	17 30 52.0	**-0.5**
	baz=221							
CHY	**Chiayi**	**1.66**	**240**	*e*P		**Pb**	17 30 53.7	**+0.8**
	baz=225							
WTP	**Ta-pu**	**1.67**	**229**	*e*P		**Pb**	17 30 53.0	**-0.1**
	baz=226							
WTP				*e*S		**Sg**	17 31 16.3	**-0.2**
	baz=226							
TWG	**Pinlang**	**1.74**	**209**	*e*P		**Pn**	17 30 51.3	**-0.9**
	baz=194							
TWK	**Hsinying**	**1.75**	**232**	*e*P		**Pb**	17 30 53.8	**-0.6**
	baz=229							
WSF	**Szhu**	**1.76**	**247**	*e*P		**Pb**	17 30 54.0	**-0.7**
	baz=244							
WSF				*e*S		**Sb**	17 31 17.5	**+0.9**
	baz=244							
CHN1	**Nanshi**	**1.77**	**229**	*e*P		**Pb**	17 30 54.9	**+0.1**
	baz=227							
CHN1				*e*S		**Sg**	17 31 18.4	**-1.2**
	baz=227							
SGST	**Jiashian**	**1.80**	**226**	*e*P		**Pb**	17 30 55.1	**-0.3**
	baz=210							
SGST				*e*S		**Sg**	17 31 19.5	**-1.2**
	baz=210							
JKRS	**Kuro-shima**	**1.85**	**93**	P		**Pb**	17 30 55.9	**-0.2**
JKRS				S		**Sb**	17 31 18.6	**-0.4**
JIJ	**Ishigaki jima**	**1.96**	**89**	P		**Pb**	17 30 56.8	**-1.3**
JIJ				S		**Sn**	17 31 20.3	**+0.6**
JISG	**Ishigakijimahi**	**2.13**	**83**	P		**Pn**	17 30 58.6	**+1.0**
JISG				S		**Sn**	17 31 24.9	**+1.1**
EAST	**Anshuo**	**2.22**	**208**	*e*P		**Pb**	17 31 00.8	**-1.6**
	baz=197							
PNG	**Penghu**	**2.36**	**251**	*e*P		**Pn**	17 31 00.6	**-0.2**
	baz=247							
JTJ	**Tarama**	**2.49**	**83**	P		**Pb**	17 31 05.0	**-2.0**
JTJ				*e*S		**Sn**	17 31 34.2	**+1.5**

IDC 13 17:36:16.3±2.2,15˚.25S×178˚.63W,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.6/24,mbtmp3.8/3,Error ellipse: s-maj=164.8km s-min=31.5km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**44.97**	**257**	P		P	17 44 34.4	+0.7
	0.2nm,0.3s,baz=91,slow=7.8,SNR=15							
ASAR	**Alice Springs**	**45.37**	**252**	P		P	17 44 36.1	-0.7
	2.6nm,0.5s,baz=88,slow=8.7,SNR=86							
TXAR	**Lajitas Array**	**84.76**	**58**	P		P	17 48 54.0	+1.0
	0.2nm,0.6s,baz=202,slow=3.9,SNR=3.5							
GERES	**GERESS Array B**	**145.00**	**346**	PKPbc		PKPab	17 55 52.7	-2.3
	0.1nm,0.4s,baz=20,slow=3.1,SNR=4.3							

IDC 13 17:51:26.3±3.0,6˚.99S×154˚.36E,h0km,mb3.3/2, mb1 3.6/2,mb1mx3.3/19,mbtmp3.3/2,Error ellipse: s-maj=118.4km s-min=41.2km az=124.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**23.30**	**234**	P		P	17 56 35.9	-0.3
	0.3nm,0.5s,baz=61,slow=9.9,SNR=7.0							
ASAR	**Alice Springs**	**25.71**	**228**	P		P	17 56 58.3	-0.3
	0.6nm,0.7s,baz=59,slow=9.5,SNR=9.8							
TORD	**Torodi Ar. Bea**	**152.41**	**285**	PKPbc		PKPbc	18 11 26.3	+0.8
	0.3nm,0.8s,baz=69,slow=1.5,SNR=2.9							
TORD				PKPab		PKPab	18 11 34.6	-1.1
	0.4nm,0.7s,baz=79,slow=1.5,SNR=3.9							

IDC ***13*** *17:56:13.9±3.2,15˚.67N×119˚.52E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.2/32,mbtmp3.3/3,Error ellipse: s-maj=377.3km s-min=25.3km az=61.0*
MAN ***13*** *17:56:14,15˚.57N×118˚.87E,h16km*

ISC 13 17:56:19.1±1.3,15˚.52N±0˚.09×119˚.4E±0˚.1,h31km,n9, σ1ˢ72/10,mb3.1/3,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SCZP	**Santa Cruz**	**0.54**	**62**	*e*P		**Pb**	17 56 27.0	**-3.2**
BOLP	**Bolinao**	**0.98**	**29**	*e*P		**Pb**	17 56 37.5	**0.0**
BALP	**Baler**	**2.10**	**84**	*e*P		**Pb**	17 56 57.2	**+0.7**
ABRA	**Dolores**	**2.45**	**30**	*e*P		**Pn**	17 56 59.2	**+2.2**
CAUP	**Cauayan**	**2.71**	**58**	*e*P		**Pb**	17 57 07.3	**+0.3**
APYP	**Conner**	**2.91**	**37**	*e*P		**Pn**	17 57 04.9	**+1.6**
APYP				*e*S		**Sb**	17 57 44.6	**-1.0**
WRA	**Warramunga Arr**	**38.18**	**157**	P		**P**	18 03 36.0	**-0.1**
	0.5nm,0.7s,baz=338,slow=9.1,SNR=3.8							
ASAR	**Alice Springs**	**41.45**	**160**	P		**P**	18 04 03.4	**+0.1**
	0.3nm,0.7s,baz=335,slow=6.7,SNR=10							
MKAR	**Makanchi Array**	**43.83**	**323**	P		**P**	18 04 21.3	**-1.1**
	0.2nm,0.6s,baz=125,slow=7.4,SNR=2.6							

ISCJB ***13*** *18:03:58.6±0.7,25˚.38N±0˚.08×142˚.6E±0˚.2,h38km, mb4.0/14,Error ellipse: s-maj=23.0km s-min=10.5km az=171.9*
IDC ***13*** *18:04:03.0±2.1,25˚.39N×142˚.57E,h60km±17km,mb3.7/15, mb1 3.9/17,mb1mx3.7/37,mbtmp4.0/17,MS3.2/2, Ms1 3.2/2,ms1mx2.7/39,Error ellipse: s-maj=24.6km s-min=13.5km az=90.0*

ISC 13 18:04:00.5±0.8,25˚.35N±0˚.08×142˚.6E±0˚.2,h38km,n21, σ0ˢ91/21,mb4.1/14,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**1.79**	**347**	P		**Pn**	18 04 28.9	**+0.1**
	314nm,0.3s,baz=130,slow=11,SNR=174							
JCJ				S		**Sn**	18 04 52.8	**+2.5**
	baz=287,slow=19							
MJAR	**Matsushiro Arr**	**11.79**	**342**	P		**Pn**	18 06 45.4	**-0.6**
	0.5nm,0.3s,baz=149,slow=10,SNR=5.1							
JNU	**Nakatsue**	**12.85**	**310**	LR		LR	18 11 21.6	
	comp=Z,73nm,20.1s,baz=120,slow=34							
KSRS	**Korea Array**	**17.39**	**317**	P		**Pn**	18 07 59.6	**-0.5**
	0.1nm,0.3s,baz=129,slow=11,SNR=4.3							
KSRS				LR		LR	18 14 47.4	
	comp=Z,95nm,18.0s,baz=151,slow=37							
USRK	**Ussuriysk Ar.**	**20.71**	**338**	P		**P**	18 08 37.2	**-0.2**
	3.4nm,0.7s,baz=146,slow=8.5,SNR=4.5							
KLR	**Kul'dur**	**25.31**	**343**	P		**P**	18 09 22.8	**-0.6**
	3.6nm,0.6s,baz=148,slow=8.7,SNR=13							
CMAR	**Chiang Mai Arr**	**40.97**	**269**	P		**P**	18 11 40.9	**+1.0**
	0.6nm,0.5s,baz=71,slow=6.2,SNR=9.4							
WRA	**Warramunga Arr**	**45.73**	**191**	P		**P**	18 12 18.5	**+0.4**
	1.1nm,0.3s,baz=7.8,slow=8.6,SNR=46							
ASAR	**Alice Springs**	**49.45**	**191**	P		**P**	18 12 47.5	**+0.6**
	0.3nm,0.6s,baz=7.2,slow=5.8,SNR=8.8							
ZALV	**Zalesovo Beam**	**51.08**	**320**	P		**P**	18 12 57.9	**-1.0**
	0.8nm,0.4s,baz=116,slow=8.1,SNR=3.8							
MKAR	**Makanchi Array**	**51.91**	**311**	P		**P**	18 13 05.2	**-0.1**
	0.6nm,0.5s,baz=92,slow=8.7,SNR=15							
STKA	**Stephens Creek**	**56.91**	**181**	P		**P**	18 13 42.2	**+0.5**
	2.1nm,0.8s,baz=353,slow=14,SNR=4.2							
ILAR	**Eielson Array**	**59.05**	**28**	P		**P**	18 13 55.7	**-0.7**
	0.7nm,0.9s,baz=247,slow=5.5,SNR=6.8							
YKA	**Yellowknife Ar**	**73.48**	**28**	P		**P**	18 15 29.7	**+0.9**
	0.5nm,0.6s,baz=295,slow=5.9,SNR=2.9							
ARCES	**ARCESS Array B**	**75.32**	**341**	P		**P**	18 15 39.6	**+0.2**
	2.7nm,0.9s,baz=72,slow=7.8,SNR=11							
KBZ	**Khabaz**	**79.49**	**313**	P		**P**	18 16 02.1	**-1.0**
	2.0nm,0.6s,baz=126,slow=4.4,SNR=5.5							
FINES	**FINESS Array B**	**79.69**	**334**	P		**P**	18 16 04.0	**+0.1**
	2.2nm,0.4s,baz=75,slow=5.3,SNR=30							
AKASG	**Malin Array Be**	**84.26**	**324**	P		**P**	18 16 27.2	**-0.9**
	0.9nm,0.3s,baz=54,slow=4.9,SNR=9.7							
NB2	**NORSAR Subarra**	**85.38**	**339**	P		**P**	18 16 33.3	**-0.3**
	comp=Z,1.3nm,0.7s,baz=44,slow=5.3							
NOA	**NORSAR Array B**	**85.38**	**339**	P		**P**	18 16 32.6	**-1.0**
	comp=Z,0.7nm,0.5s,baz=36,slow=5.3,SNR=6.0							
LPAZ	**La Paz**	**149.92**	**79**	PKPbc		**PKPbc**	18 23 48.8	**+0.5**
	comp=Z,0.8nm,0.5s,baz=36,slow=8.7,SNR=3.6							

IDC ***13*** *18:08:17.4±1.8,37˚.43N×144˚.06E,h0km,mb3.5/3, mb1 3.7/6,mb1mx3.4/33,mbtmp3.7/6,ML3.6/2,Error ellipse: s-maj=37.5km s-min=26.1km az=76.0*
ISCJB ***13*** *18:08:20.3±0.9,37˚.50N±0˚.04×143˚.92E±0˚.07,h33km, mb3.5/3,Error ellipse: s-maj=7.6km s-min=6.2km az=167.8*
JMA ***13*** *18:08:21.8±0.3,37˚.51N×143˚.79E,h41km,M3.4*

ISC 13 18:08:21.6±1.4,37˚.48N±0˚.05×144˚.0E±0˚.1,h35km,n18, σ1ˢ72/30,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIO	**Ouri**	**2.29**	**296**	P		**Pn**	18 08 56.5	**-0.4**
JIO				*e*S		**Sn**	18 09 22.1	**-1.7**
OFUJ	**Ofunato**	**2.42**	**312**	P		**Pn**	18 08 58.1	**-0.5**
OFUJ				S		**Sn**	18 09 25.0	**-1.9**
JFK	**Kawauchi**	**2.47**	**268**	P		**Pn**	18 08 58.7	**-0.7**
JFK				S		**Sn**	18 09 26.4	**-1.9**
JMK	**Ichinoseki**	**2.62**	**305**	P		**Pn**	18 09 01.9	**+0.5**
JMK				S		**Sn**	18 09 30.7	**-1.2**
JFT	**Otama**	**2.89**	**272**	P		**Pn**	18 09 02.4	**+1.0**
JFT				S		**Sn**	18 09 38.7	**0.0**
JOM	**Ohasama**	**2.89**	**314**	P		**Pn**	18 09 05.2	**0.0**
JOM				*e*S		**Sn**	18 09 37.8	**-1.0**
JYK	**Kaneyama**	**3.19**	**298**	P		**Pn**	18 09 09.8	**+0.6**
JYK				*e*S		**Sn**	18 09 45.5	**-0.5**
JANG	**Nango**	**3.47**	**327**	S		**Sn**	18 09 50.0	**-2.9**
JAG	**Ashikaga**	**3.77**	**255**	P		**Pn**	18 09 17.2	**0.0**
JAG				S		**Sn**	18 09 57.9	**-2.4**
JRY	**Ryogami san**	**4.33**	**252**	P		**Pn**	18 09 24.3	**-0.6**
JRY				*e*S		**Sn**	18 10 10.9	**-3.2**
JOT	**Ohata**	**4.51**	**331**	*e*S		**Sn**	18 10 15.2	**-3.3**
MJAR	**Matsushiro Arr**	**4.71**	**260**	Pn		**Pn**	18 09 31.4	**+1.2**
	2.8nm,0.3s,baz=86,slow=17,SNR=20							
MJAR				Sn		**Sn**	18 10 24.9	**+1.4**
	0.6nm,0.3s,baz=95,slow=26,SNR=5.2							
MAT	**Matsushiro**	**4.71**	**260**	P		**Pn**	18 09 31.8	**+1.7**
MAT				S		**Sn**	18 10 24.3	**+0.8**
JHJ	**Hachijo jima 2**	**5.54**	**219**	Pn		**Pn**	18 09 40.9	**-0.6**
	5.6nm,0.3s,baz=53,slow=20,SNR=3.3							
JHJ				Sn		**Sn**	18 10 39.6	**-4.3**
	6.6nm,0.3s,baz=81,slow=19,SNR=2.7							
ASAJ	**Asahikawa**	**6.71**	**352**	Pn		**Pn**	18 09 57.8	**+0.2**
	baz=200,slow=9.5							
MKAR	**Makanchi Array**	**45.61**	**302**	P		**P**	18 16 39.9	**+1.5**
	0.4nm,0.9s,baz=74,slow=8.9,SNR=3.6							
WRA	**Warramunga Arr**	**57.83**	**191**	P		**P**	18 18 10.2	**+0.6**
	0.6nm,0.7s,baz=12,slow=7.3,SNR=5.5							
ASAR	**Alice Springs**	**61.55**	**191**	P		**P**	18 18 36.1	**+0.8**
	0.3nm,0.7s,baz=4.9,slow=7.2,SNR=3.8							

NEIC ***13*** *18:24:34.5,16˚.56N×98˚.47W,h3km,MD4.1(MEX),After MEX.*

MEX 13 18:24:34.5±0.4,16˚.56N×98˚.47W,h3km,MD4.1,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.37**	**117**	*i* P		Pg	18 24 41.4	-0.2
PNIG				*e*S		Sg	18 24 46.5	+0.1
PNIG	**Pinotepa**	**0.37**	**117**	*i* P		Pg	18 24 41.4	-0.2
PNIG				*e*S		Sg	18 24 46.5	+0.1
TLIG	**Tlapa**	**1.00**	**355**	*e*P		Pg	18 24 51.3	-2.4
TLIG				*i* S		Sg	18 25 04.1	-2.5
ACX	**Acapulco**	**1.37**	**283**	*e*P		Pn	18 24 58.3	-2.2
ACX				*e*S		Sg	18 25 16.2	-2.2
ACX	**Acapulco**	**1.37**	**283**	*e*P		Pn	18 24 58.3	-2.2
ACX				*e*S		Sg	18 25 16.2	-2.2
VHO	**Vista Hermosa**	**1.74**	**73**	*e*P		Pn	18 25 02.6	-3.2
VHO	**Vista Hermosa**	**1.74**	**73**	*e*P		Pn	18 25 02.6	-3.2
CAIG	**El Cayaco**	**1.79**	**286**	*e*P		Pn	18 25 03.2	-3.1
CAIG	**El Cayaco**	**1.79**	**286**	*e*P		Pn	18 25 03.2	-3.1
HUIG	**Huatulco**	**2.40**	**109**	*e*P		Pn	18 25 12.4	-2.4
HUIG	**Huatulco**	**2.40**	**109**	*e*P	

s-maj=156.6km s-min=17.4km az=66.0
NEIC ***13*** *18:37:08.8±0.7, 1°.06N×125°.88E, h10km, mb4.1/1, Error ellipse: s-maj=20.5km s-min=11.6km az=64.0*
ISCJB ***13*** *18:37:11.4±0.9, 1°.0N±0°.1×125°.8E±0°.2, h44km, mb3.9/7, Error ellipse: s-maj=23.9km s-min=14.4km az=155.0*

ISC 13 18:37:13.2±1.2, 1°.0N±0°.2×125°.8E±0°.2, h44km, n8, σ0§90/8, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**3.61**	**237**	*e*Pn		**Pn**	**18 38 06.5**	**-0.1**
WRAB	**Tennant Creek**	**22.40**	**158**	P		**P**	**18 42 08.8**	**+0.8**
	3.0nm,0.4s							
WRA	**Warramunga Arr**	**22.40**	**158**	P		**P**	**18 42 08.3**	**+0.2**
	1.6nm,0.5s,baz=338,slow=12,SNR=6.1							
ASAR	**Alice Springs**	**25.72**	**163**	P		**P**	**18 42 40.8**	**+1.2**
	0.4nm,0.3s,baz=343,slow=7.9,SNR=11							
STKA	**Stephens Creek**	**35.93**	**157**	P		**P**	**18 44 08.6**	**-0.9**
	0.9nm,0.5s,baz=336,slow=10.0,SNR=4.0							
MKAR	**Makanchi Array**	**59.31**	**327**	P		**P**	**18 47 10.8**	**+0.2**
	0.6nm,0.3s,baz=118,slow=7.9,SNR=15							
ZALV	**Zalesovo Beam**	**62.63**	**334**	P		**P**	**18 47 32.4**	**-0.6**
	0.6nm,0.4s,baz=130,slow=6.1,SNR=3.4							
BVAR	**Borovoye Array**	**69.13**	**328**	P		**P**	**18 48 15.7**	**+0.8**
	0.5nm,0.5s,baz=143,slow=14,SNR=3.5							

WEL 13 18:37:43.5±0.1, 43°.60S×172°.72E, h10km, ML3.5/11, 1C-2D, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.07**	**289**		SG	Sg	18 37 47.1	-0.1
CRLZ					AML	AML	18 37 47.2	
MQZ	**McQueen's Vall**	**0.12**	**204**	⇑PG		Pg	18 37 46.6	+0.3
MQZ					SG	Sg	18 37 48.8	+0.6
MQZ					AML	AML	18 37 49.0	
OXZ	**Oxford**	**0.57**	**299**	⇓P*		Pg	18 37 54.3	-0.1
LTZ	**Lake Taylor**	**0.88**	**338**	P*		Pg	18 37 59.9	-0.5
LTZ					AML	AML	18 38 12.7	
LTZ					AML	AML	18 38 12.8	
RPZ	**Rata Peaks**	**1.22**	**264**	⇓P*		Pb	18 38 05.2	-1.4
RPZ					AML	AML	18 38 24.0	
RPZ					AML	AML	18 38 24.3	
INZ	**Inchbonnie**	**1.28**	**313**	P*		Pn	18 38 05.8	-1.7
KHZ	**Kahutara**	**1.33**	**27**	PN		Pn	18 38 05.8	-2.3
WVZ	**Waitaha Valley**	**1.54**	**289**	PN		Pn	18 38 10.1	-0.9
WVZ					AML	AML	18 38 35.1	
THZ	**Tophouse**	**1.84**	**4**	PN		Pn	18 38 13.4	-1.9
THZ					AML	AML	18 38 46.8	
THZ					AML	AML	18 38 52.3	
DSZ	**Denniston Nort**	**1.97**	**340**	*e*PN		Pn	18 38 15.7	-1.3
DSZ					AML	AML	18 38 43.4	
DSZ					AML	AML	18 38 44.0	
DSZ					AML	AML	18 38 44.3	
DSZ					AML	AML	18 38 44.4	
LBZ	**Lake Benmore**	**1.99**	**246**	*e*PN		Pn	18 38 16.3	-1.0
LBZ					AML	AML	18 38 54.6	
LBZ					AML	AML	18 38 54.7	
BSWZ	**Blackbirch Sta**	**2.07**	**25**	PN		Pn	18 38 16.5	-1.7
ODZ	**Otahua Downs**	**2.08**	**225**	*e*PN		Pn	18 38 17.0	-1.4
ODZ					AML	AML	18 38 49.9	
ODZ					AML	AML	18 38 49.9	
ODZ					AML	AML	18 38 55.4	
ODZ					AML	AML	18 38 56.0	
FOZ	**Fox Glacier**	**2.11**	**271**	PN		Pn	18 38 18.9	0.0
NNZ	**Nelson**	**2.43**	**12**	PN		Pn	18 38 21.9	-1.4
JCZ	**Jackson Bay**	**2.89**	**259**	PN		Pn	18 38 29.5	-0.1
WKZ	**Wanaka**	**2.93**	**244**	*e*PN		Pn	18 38 28.7	-1.5
EAZ	**Earnscleugh**	**2.94**	**235**	PN		Pn	18 38 29.2	-1.1
EAZ					AML	AML	18 39 21.7	
EAZ					AML	AML	18 39 21.7	
TUZ	**Tuapeka**	**3.22**	**222**	*e*PN		Pn	18 38 32.6	-1.5
TUZ					AML	AML	18 39 33.6	
TUZ					AML	AML	18 39 34.6	
OGWZ	**Otaki Gorge**	**3.32**	**34**	*e*PN		Pn	18 38 32.9	-2.6
KHEZ	**Kahui Hut**	**4.41**	**13**	*e*PN		Pn	18 38 50.5	-0.1
NEZ	**North Egmont**	**4.45**	**14**	*e*PN		Pn	18 38 50.5	-0.5
VRZ	**Vera Road**	**4.73**	**20**	PN		Pn	18 38 54.4	-0.4
WNVZ	**Wahianoa**	**4.78**	**28**	PN		Pn	18 38 54.7	-1.1
HIZ	**Hauiti**	**5.33**	**18**	PN		Pn	18 39 01.5	-1.6

IDC 13 18:38:26.7±2.1, 0°.82N×125°.29E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/33, mbtmp3.6/3, MS3.0/2, Ms1 3.0/2, ms1mx2.4/35, Error ellipse: s-maj=222.4km s-min=27.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**13.89**	**342**	LR		LR	18 48 30.7	
	comp=Z,43nm,20.0s,baz=158,slow=44							
WRA	**Warramunga Arr**	**22.46**	**157**	P		P	18 43 27.5	-0.1
	1.5nm,0.5s,baz=336,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**25.74**	**162**	P		P	18 43 59.2	+0.1
	0.7nm,0.5s,baz=341,slow=6.7,SNR=4.4							
KLR	**Kul'dur**	**48.55**	**6**	LR		LR	19 07 39.2	
	comp=Z,20nm,20.7s,baz=22,slow=36							
MKAR	**Makanchi Array**	**59.15**	**327**	P		P	18 48 29.4	0.0
	0.3nm,0.4s,baz=118,slow=8.0,SNR=4.3							

ISCJB ***13*** *18:47:41.8±1.7, 56°.12S±0°.05×27°.3W±0°.1, h92km±16km, mb5.0/39, Error ellipse: s-maj=10.5km s-min=8.0km az=146.0*
GCMT ***13*** *18:47:43.5±0.2, 56°.23S×26°.99W, h95km±1km, MW5.3/104, Moment Tensor Solution. s71,c92; s104,c176; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.06±.02; Mθθ0.53±.03; Mϕϕ-0.58±.02; Mrθ-0.72±.01; Mθϕ0.64±.02; Mrϕ0.30±.02; Best double couple: M0 1.15100×10^17 NP1:φs292.00000°, δs88.00000°, λ43.00000°. NP2:φs200.00000°, δ47.00000°, λ178.00000°. Principal axes: T 1.1260, Plg30.0000°, Azm165.0000°; N 0.0500, Plg47.0000°, Azm294.0000°; P -1.1760, Plg27.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *18:47:43.5±0.2, 56°.12S×27°.33W, mb5.1/24 Error ellipse: s-maj=6.9km s-min=5.9km az=220.0*
IDC ***13*** *18:47:44.0±0.5, 56°.10S×27°.24W, h97km±3km, mb4.6/18, mb1 4.7/19, mb1mx4.6/28, mbtmp5.0/19, MS4.1/19, Ms1 4.1/19, ms1mx4.0/21, Error ellipse: s-maj=13.5km s-min=11.1km az=51.0*
BJI ***13*** *18:47:45.3, 56°.10S×27°.40W, h107km, mB5.2/9*

ISC 13 18:47:44.1±0.5, 56°.14S±0°.06×27°.45W±0°.06, h101km±3km, h100km:pP-P, n126, σ1§20/147, mb5.0/38, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.50**	**286**	*e*Pn		**Pn**	**18 49 04.0**	**+0.5**
VNA1	**Neumayer--Stat**	**16.77**	**158**	P		**Pn**	**18 51 31.6**	**-0.8**
SNAA	**Sanae**	**18.72**	**156**	P		**P**	**18 51 54.4**	**0.0**
SNAA	**Sanae**	**18.72**	**156**	*e*P		**P**	**18 51 54.1**	**-0.3**
	6μm,0.6s							
SNAA				*e*ScP		**ScP**	**18 59 43.1**	**-0.5**
PMSA	**Palmer Station**	**19.73**	**229**	P		**Pn**	**18 52 07.9**	**+0.2**
	5.4nm,0.3s,baz=84,slow=11,SNR=32							
PMSA				LR		LR	18 57 35.3	
	comp=Z,627nm,20.9s,baz=79,slow=30							
PMSA	**Palmer Station**	**19.73**	**229**	*e*P		**Pn**	**18 52 07.8**	**+0.1**
	57nm,0.8s							
USHA	**Ushuaia**	**23.02**	**256**	P		**P**	**18 52 42.6**	**+2.4**
	31nm,0.8s,baz=80,slow=24,SNR=7.9							
USHA				LR		LR	19 00 16.4	
	comp=Z,2μm,19.4s,baz=88,slow=32							
TRQA	**Tornquist**	**29.22**	**294**	*e*P		**P**	**18 53 36.4**	**+0.2**
	4.0nm,0.7s							
SYO	**Syowa Base**	**31.61**	**141**	⇓*i*P		**P**	**18 53 55.0**	**-1.8**
PLCA	**Paso Flores**	**31.87**	**280**	LR		LR	19 06 32.4	
	comp=Z,355nm,21.4s,baz=152,slow=35							
PLCA	**Paso Flores**	**31.87**	**280**	*e*P		**P**	**18 53 58.1**	**-1.5**
	35nm,1.5s							
QSPA	**South Pole Qui**	**34.11**	**180**	*e*P		**P**	**18 54 19.5**	**+0.7**
	425nm,0.8s							
CPUP	**Villa Florida**	**36.76**	**312**	P		**P**	**18 54 42.0**	**+0.3**
	4.1nm,0.7s,baz=146,slow=7.9,SNR=7.8							
CPUP				pP		**pP**	**18 55 03.2**	**-1.4**
	28nm,1.0s,baz=143,slow=7.2,SNR=14							
CPUP				LR		LR	19 10 14.0	
	comp=Z,137nm,18.9s,baz=158,slow=37							
CPUP	**Villa Florida**	**36.76**	**312**	*e*P		**P**	**18 54 41.1**	**-0.6**
CPUP				pP		**pP**	**18 55 03.2**	**-1.4**
MAW	**Mawson**	**40.16**	**144**	P		**P**	**18 55 09.6**	**-0.1**
	14nm,0.3s,baz=230,slow=8.0,SNR=86							
MAW				ScP		**ScP**	**19 00 50.3**	**-1.1**
	6.8nm,0.8s,baz=241,slow=6.5,SNR=8.1							
MAW				LR		LR	19 09 18.4	
	comp=Z,119nm,21.4s,baz=246,slow=32							
MAW	**Mawson**	**40.16**	**144**	*e*P		**P**	**18 55 09.9**	**+0.2**
	53nm,1.7s							
MAW				ScP		**ScP**	**19 00 50.3**	**-1.1**
SUR	**Sutherland**	**40.80**	**75**	*e*P		**P**	**18 55 15.6**	**-0.1**
	143nm,1.7s							
BDFB	**Brasilia**	**43.37**	**330**	P		**P**	**18 55 37.9**	**+1.4**
	2.3nm,0.4s,baz=122,slow=2.9,SNR=4.4							
BDFB				pP		**pP**	**18 55 59.6**	**-0.3**
	4.5nm,0.7s,baz=134,slow=7.0,SNR=3.0							
BDFB				LR		LR	19 12 49.5	
	comp=Z,227nm,18.9s,baz=152,slow=35							
SHEL	**Horse Pasture**	**43.39**	**31**	*e*P		**P**	**18 55 37.4**	**+0.9**
	137nm,1.0s							
LVC	**Limon Verde**	**45.22**	**300**	P		**P**	**18 55 53.0**	**+1.5**
	29nm,0.3s,baz=173,slow=5.2,SNR=9.5							
LVC				pP		**pP**	**18 56 15.0**	**-0.1**
	131nm,1.0s,baz=173,slow=4.7,SNR=5.4							
LVC				LR		LR	19 16 54.5	
	comp=Z,346nm,18.7s,baz=165,slow=39							
LVC	**Limon Verde**	**45.22**	**300**	*e*P		**P**	**18 55 51.6**	**+0.1**
	12nm,0.6s							
LVC				pP		**pP**	**18 56 15.0**	**-0.1**
SBA	**Scott Base**	**45.98**	**184**	*e*P		**P**	**18 55 57.7**	**+1.3**
	23nm,0.9s							
BOSA	**Boshof**	**46.13**	**76**	P		**P**	**18 55 58.0**	**-0.4**
	12nm,0.9s,baz=210,slow=7.2,SNR=13							
BOSA				ScP		**ScP**	**19 01 15.0**	**-1.4**
	3.9nm,0.9s,baz=83,slow=6.6,SNR=3.9							
BOSA				LR		LR	19 12 27.1	
	comp=Z,522nm,18.0s,baz=216,slow=32							
BOSA	**Boshof**	**46.13**	**76**	*e*P		**P**	**18 55 57.7**	**-0.6**
	27nm,1.1s							
BOSA				ScP		**ScP**	**19 01 15.0**	**-1.4**
VNDA	**Vanda**	**46.48**	**183**	P		**P**	**18 56 01.6**	**+1.4**
	26nm,0.6s,baz=185,slow=6.6,SNR=235							
VNDA				LR		LR	19 13 50.6	
	comp=Z,137nm,20.8s,baz=172,slow=34							
VNDA	**Vanda**	**46.48**	**183**	*e*P		**P**	**18 56 01.5**	**+1.2**
	71nm,1.3s							
PB01	**IPOC Station P**	**46.83**	**301**	*e*P		**P**	**18 56 04.4**	**+0.5**
PB01				epP		**pP**	**18 56 27.8**	**+0.2**
SIV	**San Ignacio**	**47.53**	**314**	SCP		**ScP**	**19 01 21.0**	**-1.2**
	1.5nm,0.4s,baz=219,slow=8.9,SNR=3.2							
PB11	**IPOC Station P**	**48.01**	**302**	*e*P		**P**	**18 56 13.5**	**+0.5**
PB11				epP		**pP**	**18 56 36.8**	**-0.1**
H10S2	**ASCENSION HYDR**	**48.13**	**17**	T		T	19 48 34.1	
	baz=188,slow=74,SNR=14							
H10S3	**ASCENSION HYDR**	**48.13**	**17**	T		T	19 48 38.8	
	baz=188,slow=74,SNR=15							
H10S1	**ASCENSION HYDR**	**48.15**	**17**	T		T	19 48 38.1	
	baz=188,slow=74,SNR=14							
LBTB	**Lobatse**	**49.17**	**73**	*e*P		**P**	**18 56 20.8**	**-1.0**
	63nm,1.3s							
H10N1	**ASCENSION HYDR**	**49.25**	**17**	T		T	19 49 59.2	
	baz=193,SNR=62							
H10N3	**ASCENSION HYDR**	**49.25**	**17**	T		T	19 50 03.0	
	baz=193,slow=74,SNR=14							
H10N2	**ASCENSION HYDR**	**49.26**	**17**	T		T	19 50 03.0	
	baz=193,slow=74,SNR=12							
TSUM	**Tsumeb**	**49.85**	**61**	*e*P		**P**	**18 56 25.9**	**-1.2**
	16nm,1.1s							
LPAZ	**La Paz**	**50.31**	**306**	P		**P**	**18 56 32.5**	**+1.4**
	7.0nm,0.5s,baz=124,slow=5.2,SNR=28							
LPAZ				LR		LR	19 20 45.1	
	comp=Z,82nm,19.1s,baz=164,slow=39							
LPAZ	**La Paz**	**50.31**	**306**	*e*P		**P**	**18 56 32.3**	**+1.2**
LPAZ				epP		**pP**	**18 56 53.9**	**-1.2**
CASY	**Casey**	**53.88**	**160**	*e*P		**P**	**18 56 56.5**	**+0.3**
	5.3nm,1.0s							
SAML	**Samuel**	**54.76**	**315**	*e*P		**P**	**18 57 03.5**	**+0.2**
	4.6nm,0.9s							
LSZ	**Lusaka**	**58.54**	**69**	*e*P		**P**	**18 57 29.4**	**-0.8**
	16nm,1.0s							
PTGA	**Pitinga**	**61.15**	**322**	P		**P**	**18 57 47.9**	**+0.1**
	1.6nm,0.3s,baz=164,slow=18,SNR=4.3							
PTGA				pP		**pP**	**18 58 10.9**	**-1.7**
	5.3nm,0.8s,baz=155,slow=6.6,SNR=4.1							
LIC	**Lamto**	**64.84**	**25**	*e*P		**P**	**18 58 12.7**	**+0.5**
	26nm,0.5s							
KIC	**Kosan Boka**	**65.04**	**25**	*e*P		**P**	**18 58 13.0**	**-0.5**
	46nm,0.8s							
TIC	**Toumodi**	**65.25**	**25**	*e*P		**P**	**18 58 14.6**	**-0.2**
DBIC	**Dimbokro**	**65.31**	**25**	P		**P**	**18 58 15.3**	**+0.1**
	18nm,0.6s,baz=154,slow=7.5,SNR=41							
DBIC				LR		LR	19 19 34.7	
	comp=Z,223nm,21.7s,baz=174,slow=29							
OPO	**Ambohidratompo**	**66.24**	**88**	P		**P**	**18 58 21.7**	**+0.3**
	2.7nm,0.8s,baz=294,slow=1.5,SNR=4.3							
OTAV	**Otavalo**	**69.58**	**304**	*e*P		**P**	**18 58 44.3**	**+1.5**
	27nm,1.1s							
PRAC	**Prado**	**71.06**	**309**	*e*P		**P**	**18 58 51.6**	**+0.3**
	105nm,1.6s							
ROSC	**El Rosal**	**71.83**	**310**	LR		LR	19 30 54.1	
	comp=Z,86nm,21.2s,baz=264,slow=36							
PCRV	**Puerto La Cruz**	**72.93**	**322**	P		**P**	**18 59 02.6**	**+0.3**
	14nm,0.6s,baz=96,slow=1.5,SNR=5.4							
TOA0	**Torodi Ar. Sit**	**73.20**	**30**	*e*P		**P**	**18 59 04.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.20**	**30**	P		**P**	**18 59 04.2**	**+0.3**
	16nm,0.3s,baz=200,slow=6.2,SNR=321							
TORD				pP		**pP**	**18 59 27.8**	**-1.7**
	16nm,0.9s,baz=193,slow=6.4,SNR=5.7							
TORD				LR		LR	19 26 12.8	
	comp=Z,106nm,18.3s,baz=205,slow=32							
KMBO	**Kilima Mbogo**	**75.21**	**69**	LR		LR	19 30 29.7	
	comp=Z,112nm,18.3s,baz=100,slow=34							
THZ	**Tophouse**	**80.95**	**195**	*e*P		**P**	**18 59 47.4**	**+0.2**
	35nm,0.6s							
TAU	**Tasmania Unive**	**81.22**	**176**	*e*P		**P**	**18 59 46.9**	**-1.5**
	257nm,1.7s							
TAM	**Tamanrasset**	**83.44**	**30**	*e*P		**P**	**19 00 01.9**	**+1.6**
	25nm,1.4s							
TAM				epP		**pP**	**19 00 28.8**	**+2.4**
URZ	**Urewera**	**83.67**	**199**	P		**P**	**19 00 01.7**	**+0.4**
	2.4nm,0.3s,baz=151,slow=19,SNR=4.3							
TBI	**Tubuai**	**86.91**	**231**	*e*LR		LR	19 28 06.7	
	544nm,32.0s							
BBOO	**Buckleboo**	**90.29**	**166**	*e*P		**P**	**19 00 33.2**	**-0.3**
	42nm,1.6s							
MDT	**Midelt**	**90.72**	**19**	P		**P**	**19 00 35.6**	**+0.4**
	9.1nm,0.8s,baz=201,slow=4.1							
TEIG	**Tepich**	**91.64**	**305**	*e*P		**P**	**19 00 37.2**	**-2.4**
	21nm,1.2s							
STKA	**Stephens Creek**	**91.84**	**171**	P		**P**	**19 00 40.6**	**0.0**
	7.1nm,0.6s,baz=165,slow=4.1,SNR=23							
STKA				PP		**PP**	**19 04 20.2**	**+0.3**
	3.0nm,0.8s,baz=182,slow=11,SNR=4.6							
STKA				LR		LR	19 40 12.6	
	comp=Z,79nm,19.5s,baz=204,slow=34							
PPT2	**Papeete2**	**92.01**	**234**	*e*PS		PS	19 12 59.6	+2.1
	193nm,32.0s							
PPT2	**Papeete2**	**92.01**	**234**	*e*LR		LR	19 30 31.7	
	868nm,32.5s							
PPT	**Papeete**	**92.03**	**234**	*e*LR		LR	19 32 58.3	
	comp=Z,81nm,21.6s,baz=176,slow=30							
TAOE	**Nuku Hiva Isla**	**94.97**	**246**	*e*LR		LR	19 31 38.4	
	274nm,32.8s							
KEST	**Kesra**	**96.72**	**29**	LR		LR	19 36 55.4	
	comp=Z,98nm,21.9s,baz=238,slow=30							
ESDC	**Sonseca Array**	**97.51**	**18**	P		Pdif	19 01 06.4	+0.2
	0.3nm,0.4s,baz=193,slow=4.5,SNR=4.2							
ESDC				LR		LR	19 40 43.6	
	comp=Z,61nm,19.5s,baz=60,slow=33							
ES19	**SONSECA Array**	**97.55**	**18**	*e*P		Pdif	19 01 08.3	+2.0
ASAR	**Alice Springs**	**98.95**	**163**	P		**P**	**19 01 12.3**	**-0.8**
	3.8nm,0.7s,baz=188,slow=3.6,SNR=35							
ASAR				PP		**PP**	**19 05 13.2**	**-1.9**
	2.5nm,0.9s,baz=190,slow=6.2,SNR=6.6							
ASAR				PKiKP		**PKiKP**	**19 05 43.4**	**+0.1**
	0.3nm,0.3s,baz=186,slow=1.7,SNR=5.1							
ASAR				PKKPbc		**PKKPdf**	**19 17 38.4**	**-0.3**
	0.3nm,0.6s,baz=21,slow=1.6,SNR=4.7							
ASAR				LR		LR	19 45 47.1	
	comp=Z,118nm,18.0s,baz=226,slow=35							
AS31	**Alice Springs**	**98.95**	**163**	*e*P		**P**	**19 01 12.6**	**-0.6**
	1.6nm,0.8s							
AS01	**Alice Springs**	**98.96**	**163**	*e*P		**P**	**19 01 12.1**	**-1.1**
DZM	**Mont Dzumac**	**101.21**	**193**	*e*LR		LR	19 34 51.0	
	280nm,27.3s							
WRA	**Warramunga Arr**	**102.67**	**162**	P		**Pdif**	**19 01 29.6**	**-0.1**
	0.8nm,0.6s,baz=197,slow=4.3,SNR=9.3							
WRA				PP		**PP**	**19 05 46.1**	**+2.9**
	1.0nm,0.9s,baz=184,slow=6.0,SNR=8.3							
WRA				PKKPbc		**PKKPbc**	**19 17 26.9**	**+1.0**
	0.5nm,0.7s,baz=356,slow=2.9,SNR=8.6							
TKL	**Tuckaleechee C**	**103.19**	**316**	Pdiff		**Pdif**	**19 01 30.7**	**-0.8**
	3.7nm,0.3s,baz=62,slow=9.4,SNR=2.1							
TZTN	**Tazewell**	**103.88**	**316**	*e*Pdif		**Pdif**	**19 01 30.5**	**-4.0**
GERES	**GERESS Array B**	**110.10**	**28**	PP		PP	19 06 36.8	-2.1
	0.8nm,0.9s,baz=206,slow=5.8,SNR=4.3							
PDAR	**Pinedale Array**	**120.27**	**302**	PKP		**PKPdf**	**19 06 21.8**	**-1.0**
	0.5nm,0.3s,baz=110,slow=4.2,SNR=4.4							
NB2	**NORSAR Subarra**	**120.74**	**21**	PKPdf		**PKPdf**	**19 06 23.0**	**+0.2**
	comp=Z,2.3nm,1.1s,baz=202,slow=1.9							
NOA	**NORSAR Array B**	**120.74**	**21**	PKP		**PKPdf**	**19 06 22.7**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=207,slow=2.0,SNR=5.0							
NOA				PKKPbc		**PKKPbc**	**19 16 27.4**	**0.0**
	comp=Z,0.9nm,0.6s,baz=24,slow=3.3,SNR=4.8							
FINES	**FINESS Array B**	**124.53**	**28**	PKP		**PKPdf**	**19 06 29.6**	**-0.3**
	comp=Z,5.5nm,0.5s,baz=162,slow=1.3,SNR=49							
CMAR	**Chiang Mai Arr**	**125.17**	**111**	PKP		**PKPdf**	**19 06 32.7**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=227,slow=4.3,SNR=9.3							
CMAR				pPKP		**pPKPdf**	**19 07 00.6**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=237,slow=3.9,SNR=5.8							
ABKAR	**Akbulak array**	**127.54**	**56**	*e*PKPdf		**PKPdf**	**19 06 35.8**	**-0.3**
KSH	**Kashi**	**128.73**	**75**	*e*PKP		**PKPdf**	**19 06 42.3**	**+3.4**
KSH				sPKP			19 07 20.0	
KSH				PP		**PP**	**19 08 51.4**	**+4.2**
KSH				PKS		**PKSdf**	**19 10 17.1**	**+1.6**
KSH				PPMZ				
	comp=Z,84nm,5.1s							
KSH				LN				
	comp=Z,87nm,4.7s							
KSH				LE				
	comp=Z,66nm,6.4s							
KSH				LZ				
	comp=Z,130nm,7.9s							
ARCES	**ARCESS Array B**	**131.08**	**22**	PKP		**PKPdf**	**19 06 42.3**	**0.0**
	comp=Z,2.7nm,0.5s,baz=194,slow=2.6,SNR=28							
QIZ	**Qiongzhong**	**131.13**	**122**	PKP		**PKPdf**	**19 06 44.9**	**+1.0**
QIZ				PP		**PP**	**19 09 03.4**	**+1.2**
QIZ				SS		SS	19 26 28.6	+3.0
ARU	**Arti**	**131.87**	**48**	*e*P		**PKPdf**	**19 06 43.9**	**-0.2**
BVAR	**Borovoye Array**	**134.95**	**58**	PKP		**PKPdf**	**19 06 49.7**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=173,slow=1.2,SNR=7.4							
BVAR				SKPbc		**SKPbc**	**19 10 09.5**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=245,slow=3.1,SNR=4.1							
GYA	**Guiyang**	**135.77**	**113**	Pdif		**Pdif**	**19 03 56.0**	**-0.7**
GYA				PKP		**PKPdf**	**19 06 52.8**	**+0.2**
GYA				sPKP			19 07 33.6	
GYA				PP		**PP**	**19 09 36.0**	**+4.0**
GYA				PPMZ				
	comp=Z,140nm,8.2s							
YKA	**Yellowknife Ar**	**136.14**	**318**	PKP		**PKPdf**	**19 06 51.8**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=132,slow=2.0,SNR=32							
YKA				pPKP		**pPKPdf**	**19 07 18.3**	**-1.2**
	comp=Z,3.1nm,0.8s,baz=124,slow=2.3,SNR=4.7							
YKA				SKPbc		**SKPbc**	**19 10 12.3**	**-2.1**
	comp=Z,1.1nm,0.5s,baz=130,slow=3.5,SNR=7.7							
MKAR	**Makanchi Array**	**137.06**	**72**	PKhKP		PKPpre	19 06 47.6	
	comp=Z,0.1nm,0.5s,baz=288,slow=1.4,SNR=3.8							
MKAR				PKP		**PKPdf**	**19 06 53.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=256,slow=2.8,SNR=5.5							
MKAR				SKPbc		**SKPbc**	**19 10 15.9**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=232,slow=4.2,SNR=7.4							
CD2	**Chengdu**	**137.78**	**106**	PKP		**PKPdf**	**19 06 55.5**	**-0.6**
CD2				sPKP			19 07 36.1	
CD2				PP		**PP**	**19 09 44.4**	**-0.2**
CD2				SKS		**SKSdf**	**19 13 56.0**	**-1.4**
CD2				SKKS		**SKKSac**	**19 16 27.3**	**-1.6**
CD2				SS		**SS**	**19 27 47.3**	**+1.3**
CD2				PPMZ				
	comp=Z,180nm,5.6s							
WMQ	**Urumqi**	**138.07**	**79**	PKP		**PKPdf**	**19 06 57.8**	**+1.6**
WMQ				LN				
	comp=Z,51nm,27.6s							
WMQ				LE				
	comp=Z,34nm,27.6s							
WMQ				LZ				
	comp=Z,40nm,27.6s							
DLBC	**Dease Lake**	**140.25**	**307**	SKPbc		**SKPbc**	**

H08S3	**Diego Garcia H**	**26.17**	**249**	T	T	19 20 49.0	
	baz=70,slow=75,SNR=242						
H08S1	**Diego Garcia H**	**26.19**	**249**	T	T	19 20 50.1	
	baz=70,slow=75,SNR=110						
WRA	**Warramunga Arr**	**42.54**	**122**	P	**P**	**18 55 55.0**	**-1.2**
	0.5nm,0.6s,baz=302,slow=9.0,SNR=7.8						
ASAR	**Alice Springs**	**43.94**	**127**	P	**P**	**18 56 06.2**	**-1.2**
	0.5nm,0.8s,baz=298,slow=7.3,SNR=5.6						
KSAR	**Wonju Array Be**	**45.45**	**35**	P	**P**	**18 56 17.4**	**-1.7**
KSRS	**Korea Array**	**45.48**	**35**	P	**P**	**18 56 17.4**	**-1.9**
	1.2nm,0.8s,baz=215,slow=8.1,SNR=4.5						
SONM	**Songino Array**	**46.57**	**9**	P	**P**	**18 56 28.2**	**+0.3**
	0.6nm,0.3s,baz=197,slow=8.4,SNR=8.3						
MKAR	**Makanchi Array**	**46.60**	**346**	P	**P**	**18 56 29.4**	**+1.2**
	1.0nm,0.4s,baz=161,slow=8.9,SNR=24						
KURK	**Kurchatov**	**51.15**	**345**	*e*P	**P**	**18 57 03.6**	**+0.7**
	20nm,1.0s						
ZALV	**Zalesovo Beam**	**52.92**	**351**	P	**P**	**18 57 16.8**	**+0.7**
	6.0nm,0.6s,baz=180,slow=7.0,SNR=31						
BVAR	**Borovoye Array**	**55.61**	**341**	P	**P**	**18 57 36.0**	**+0.4**
	1.7nm,0.7s,baz=141,slow=7.6,SNR=11						
BRVK	**Borovoye**	**55.67**	**341**	*e*P	**P**	**18 57 35.8**	**-0.3**
ABKAR	**Akbulak array**	**56.88**	**332**	*e*P	**P**	**18 57 45.5**	**+0.7**
	2.7nm,0.8s						
TIXI	**Tiksi**	**72.63**	**10**	*e*P	**P**	**18 59 26.5**	**-0.5**
	1.2nm,0.6s						
FINES	**FINESS Array B**	**79.36**	**332**	P	**P**	**19 00 06.2**	**+0.6**
	2.5nm,0.9s,baz=100,slow=1.6,SNR=3.3						
SYO	**Syowa Base**	**80.51**	**198**↑	*e*PcP	**PcP**	**19 00 18.0**	**-0.5**
GERES	**GERESS Array B**	**84.21**	**319**	P	**P**	**19 00 32.4**	**+0.8**
	0.3nm,0.8s,baz=104,slow=5.6,SNR=4.0						

NIED ***13*** *18:51:00.37°N×135.00°E, h420km, Mw4.2 Best double couple: M0 2.64000×10^15 NP1:φs 8.00000°, δ 34.00000°, λ 137.00000°. NP2:φs 136.00000°, δ 67.00000°, λ 63.00000°.*
ISCJB ***13*** *18:51:38.5±0.3, 37.03°N±0.05°×135.10°E±0.04°, h386km±3km, mb3.5/16, Error ellipse: s-maj=7.4km s-min=5.0km az=163.2*
JMA ***13*** *18:51:38.8±0.1, 37.05°N×135.04°E, h383km±1km, M3.6*
IDC ***13*** *18:51:39.3±0.6, 37.08°N×135.07°E, h376km±8km, mb3.2/16, mb1 3.4/22, mb1mx3.3/52, mbtmp4.0/22, Error ellipse: s-maj=13.7km s-min=11.3km az=154.0*

ISC 13 18:51:39.3±0.6, 37.04°N±0.06°×135.07°E±0.05°, h378km±6km, n55, σ 1s 01/75, mb3.4/16, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**1.27**	**126**	P	**Pn**	**18 52 29.3**	**+0.2**
JKG				S	**S**	**18 53 09.1**	**-0.1**
JJH	**Hakui**	**1.38**	**94**	P	**Pn**	**18 52 29.6**	**+0.1**
JJH				S	**S**	**18 53 10.6**	**+0.5**
JOI	**OKI**	**1.64**	**243**	P	**Pn**	**18 52 31.2**	**+0.2**
JOI				S	**S**	**18 53 13.0**	**+0.4**
JHG	**Hegura jima**	**1.68**	**61**	S	**S**	**18 53 14.4**	**+1.5**
JWT	**Wachi**	**1.77**	**171**	P	**Pn**	**18 52 32.2**	**+0.4**
JWT				S	**S**	**18 53 13.7**	**-0.4**
JSZ	**Suzu**	**1.88**	**77**	P	**Pn**	**18 52 33.0**	**+0.7**
JSZ				S	**S**	**18 53 15.8**	**+0.7**
JEG	**Eigenji**	**2.18**	**150**	P	**Pn**	**18 52 34.6**	**+0.1**
JEG				*e*S	**S**	**18 53 18.2**	**-0.7**
JAO	**Obara**	**2.51**	**134**	P	**Pn**	**18 52 36.9**	**+0.1**
JAO				*e*S	**S**	**18 53 22.0**	**-1.2**
MAT	**Matsushiro**	**2.57**	**100**	P	**Pn**	**18 52 37.8**	**+0.6**
MAT				S	**S**	**18 53 22.1**	**-1.9**
MAT	**Matsushiro**	**2.57**	**100**	P	**Pn**	**18 52 37.8**	**+0.6**
MAT				S	**S**	**18 53 24.6**	**+0.6**
MJAR	**Matsushiro Arr**	**2.57**	**100**	P	**Pn**	**18 52 38.2**	**+0.9**
	5.1nm,0.3s,baz=280,slow=9.9,SNR=108						
MJAR				S	**S**	**18 53 24.4**	**+0.3**
	0.6nm,0.3s,baz=275,slow=19,SNR=6.9						
JHS	**Saijyo**	**2.58**	**218**	P	**Pn**	**18 52 37.3**	**-0.1**
JHS				S	**S**	**18 53 23.1**	**-1.1**
JSD	**Sado**	**2.73**	**68**	P	**Pn**	**18 52 38.5**	**+0.1**
JNY	**Yasuok**	**2.82**	**126**	P	**Pn**	**18 52 39.5**	**+0.2**
JNY				S	**S**	**18 53 28.1**	**+0.3**
JGT2	**ShimaneMisato**	**2.86**	**227**	P	**Pn**	**18 52 39.7**	**+0.1**
JGT2				S	**S**	**18 53 27.4**	**-0.9**
JIE	**Ise**	**2.96**	**153**	P	**Pn**	**18 52 41.1**	**+0.6**
JIE				S	**S**	**18 53 29.1**	**-0.7**
JKN2	**Miekihoku**	**2.96**	**160**	P	**Pn**	**18 52 40.7**	**+0.2**
JKN2				S	**S**	**18 53 28.5**	**-1.3**
HMMJ	**Hamamatsu 2**	**3.06**	**135**	P	**Pn**	**18 52 42.0**	**+0.7**
HMMJ				S	**S**	**18 53 31.7**	**+0.3**
JWZ	**Kozaga**	**3.54**	**171**	P	**Pn**	**18 52 45.6**	**-0.1**
JAG	**Ashikaga**	**3.58**	**99**	P	**Pn**	**18 52 47.3**	**+1.4**
JHU	**Hanno**	**3.60**	**108**	P	**Pn**	**18 52 46.6**	**+0.5**
JHU				*e*S	**S**	**18 53 37.9**	**-2.3**
TTO1	**TONANKAI O.B.S**	**3.69**	**157**	P	**Pn**	**18 52 48.0**	**+1.3**
JHO	**Hitachi**	**4.44**	**94**	P	**Pn**	**18 52 53.8**	**-0.5**
JHO				S	**S**	**18 53 50.7**	**-4.4**
JTO	**Tosashimizu**	**4.56**	**205**	P	**Pn**	**18 52 56.2**	**+0.5**
JTO				S	**S**	**18 53 57.2**	**-0.4**
JFK	**Kawauchi**	**4.65**	**84**	P	**Pn**	**18 52 56.4**	**-0.1**
BSO4	**Boso 4**	**4.74**	**114**	S	**S**	**18 53 59.3**	**-1.3**
BSO3	**Boso 3**	**4.95**	**115**	P	**Pn**	**18 52 59.5**	**+0.1**
JNU	**Nakatsue**	**5.20**	**223**	P	**Pn**	**18 53 02.8**	**+0.3**
	3.5nm,0.3s,baz=328,slow=1.0,SNR=37						
JNU				S	**S**	**18 54 07.8**	**-2.0**
	baz=316,slow=22,SNR=7.7						
JMK	**Ichinoseki**	**5.22**	**67**	P	**Pn**	**18 53 02.8**	**+0.3**
BSO1	**Boso 1**	**5.36**	**115**	S	**S**	**18 54 10.7**	**-1.2**
JHJ	**Hachijo jima 2**	**5.50**	**134**	S	**S**	**18 54 18.4**	**+2.6**
	10nm,0.3s,baz=74,slow=23,SNR=7.7						
KSRS	**Korea Array**	**5.71**	**276**	P	**Pn**	**18 53 08.6**	**+0.8**
	3.2nm,0.3s,baz=97,slow=12,SNR=247						
KSRS				S	**S**	**18 54 20.9**	**+1.1**
	baz=100,slow=22,SNR=6.0						
JOT	**Ohata**	**6.36**	**45**	P	**Pn**	**18 53 14.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**7.53**	**343**	P	**P**	**18 53 29.3**	**+0.3**
	2.8nm,0.3s,baz=168,slow=11,SNR=74						
ASAJ	**Asahikawa**	**9.10**	**37**	P	**Pn**	**18 53 44.8**	**-1.7**
	12nm,0.3s,baz=242,slow=7.9,SNR=137						
JCJ	**Chichijima**	**11.60**	**147**	S	S	18 56 13.5	-11
	12nm,0.3s,baz=294,slow=22,SNR=8.1						
KLR	**Kul'dur**	**12.42**	**350**	P	**P**	**18 54 23.4**	**-0.7**
	0.4nm,0.3s,baz=146,slow=8.6,SNR=16						
SONM	**Songino Array**	**23.62**	**306**	P	**P**	**18 56 17.9**	**-0.1**
	0.6nm,0.5s,baz=105,slow=9.6,SNR=6.7						
SEY	**Seymchan**	**26.02**	**17**	P	**P**	**18 56 57.4**	**+0.6**
	1.8nm,0.8s,baz=201,slow=6.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**36.65**	**250**	P	**P**	**18 58 13.2**	**+1.5**
	1.7nm,0.7s,baz=46,slow=8.1,SNR=15						
ZALV	**Zalesovo Beam**	**38.16**	**313**	PcP	**PcP**	**19 00 28.6**	**-0.6**
	0.6nm,0.4s,baz=86,slow=3.7,SNR=3.2						
MKAR	**Makanchi Array**	**39.79**	**301**	P	**P**	**18 58 36.6**	**-0.5**
	0.6nm,0.4s,baz=83,slow=11,SNR=14						
NRIK	**Noril'sk**	**41.19**	**337**	P	**P**	**18 58 48.0**	**0.0**
	2.3nm,0.5s,baz=118,slow=11,SNR=4.2						
BVAR	**Borovoye Array**	**46.79**	**311**	P	**P**	**18 59 31.6**	**-0.6**
	1.3nm,0.4s,baz=93,slow=6.5,SNR=14						
ILAR	**Eielson Array**	**52.20**	**32**	P	**P**	**19 00 12.8**	**+0.3**
	1.0nm,0.6s,baz=268,slow=5.3,SNR=13						
WRA	**Warramunga Arr**	**56.68**	**181**	P	**P**	**19 00 44.6**	**-0.2**
	1.0nm,0.8s,baz=358,slow=7.5,SNR=7.6						
ARCES	**ARCESS Array B**	**62.14**	**338**	P	**P**	**19 01 20.6**	**-0.5**
	1.5nm,0.5s,baz=67,slow=9.3,SNR=9.9						
YKA	**Yellowknife Ar**	**66.29**	**28**	P	**P**	**19 01 48.1**	**+0.3**
	0.5nm,0.8s,baz=307,slow=5.1,SNR=4.7						
FINES	**FINESS Array B**	**66.36**	**330**	P	**P**	**19 01 48.1**	**-0.2**
	2.0nm,0.5s,baz=78,slow=5.4,SNR=13						
AKASG	**Malin Array Be**	**71.09**	**320**	P	**P**	**19 02 16.9**	**-0.5**
	2.5nm,0.5s,baz=50,slow=6.3,SNR=16						
NB2	**NORSAR Subarra**	**72.12**	**335**	P	**P**	**19 02 23.3**	**0.0**
	comp=Z,3.9nm,1.0s,baz=46,slow=6.2						
NOA	**NORSAR Array B**	**72.12**	**335**	P	**P**	**19 02 23.7**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=46,slow=6.0,SNR=6.3						
BRTR	**Keskin Array B**	**74.96**	**308**	P	**P**	**19 02 40.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=83,slow=4.8,SNR=2.9						
GERES	**GERESS Array B**	**79.91**	**325**	P	**P**	**19 03 06.3**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=42,slow=6.1,SNR=4.1						
PDAR	**Pinedale Array**	**81.19**	**42**	P	**P**	**19 03 15.2**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=52,slow=2.4,SNR=4.7						

IDC ***13*** *19:17:42.0±1.1, 14.94°N×118.52°E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.3/43, mbtmp3.5/5, ML4.3/1, Error ellipse: s-maj=60.6km s-min=19.3km az=54.0*
ISCJB ***13*** *19:17:43.8±0.9, 15.36°N±0.09°×119.2°E±0.1°, h29km, mb3.3/4, Error ellipse: s-maj=19.3km s-min=9.0km az=29.2*

MAN ***13*** *19:17:45, 15.61°N×119.19°E, h13km, mb5.0, ML3.9, MS4.0*

ISC 13 19:17:45.7±1.2, 15.43°N±0.08°×119.2°E±0.1°, h29km, n8, σ 1s 17/11, mb3.4/4, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**2.13**	**128**	Pn	**Pb**	**19 18 24.1**	**+0.4**
	61nm,0.3s,baz=360,slow=12,SNR=2.3						
ABRA	**Dolores**	**2.64**	**33**	*e*P	**Pn**	**19 18 26.0**	**-0.4**
ABRA				*e*S	**Sn**	**19 18 58.5**	**+1.0**
CAUP	**Cauayan**	**2.94**	**59**	*e*P	**Pn**	**19 18 32.4**	**+1.9**
CAUP				*e*S	**Sb**	**19 19 11.5**	**-1.3**
APYP	**Conner**	**3.11**	**39**	*e*P	**Pn**	**19 18 32.1**	**-0.8**
APYP				*e*S	**Sn**	**19 19 08.9**	**-0.2**
WRA	**Warramunga Arr**	**38.17**	**157**	P	**P**	**19 25 02.3**	**-0.5**
	0.8nm,0.6s,baz=335,slow=9.4,SNR=7.5						
ASAR	**Alice Springs**	**41.42**	**159**	P	**P**	**19 25 28.4**	**-1.5**
	0.5nm,0.4s,baz=337,slow=6.7,SNR=14						
MKAR	**Makanchi Array**	**43.79**	**323**	P	**P**	**19 25 49.8**	**+0.9**
	0.2nm,0.6s,baz=112,slow=9.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**47.96**	**326**	P	**P**	**19 26 22.1**	**+0.5**
	0.2nm,0.9s,baz=113,slow=7.1,SNR=3.2						

MEX 13 19:17:49.3±0.3, 25.71°N×110.02°W, h10km, MD4.1, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLBS	**Sierra La Lagu**	**2.02**	**178**	*e*P	Pn	19 18 20.9	-2.6
SLBS				*i* S	Sn	19 18 44.0	-4.8
GUYB	**Guaymas**	**2.31**	**341**	*e*P	Pn	19 18 24.2	-3.1
GUYB				*i* S	Sn	19 18 51.6	-4.1
SRIG	**Santa Rosalia**	**2.55**	**309**	*e*P	Pg	19 18 42.2	+3.9

TIF ***13*** *19:54:43.6, 44.18°N×44.38°E, h19km±1km*
MOS ***13*** *19:54:45.3±1.1, 44.09°N×44.34°E, h13km, mb3.7/1, Error ellipse: s-maj=13.3km s-min=5.9km az=84.1*

ISC 13 19:54:46.1±1.3, 44.07°N±0.04°×44.38°E±0.05°, h12km±10km, n21, σ 0s 94/33, 1C-4D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRTR	**Priterechnaya**	**0.33**	**192**	*i* PG	**Pg**	**19 54 52.7**	**-0.1**
PRTR				pmax	pmax		
	comp=Z,66nm,0.1s						
TRKR	**Terskaya**	**0.43**	**144**	⇓*i* PG	**Pg**	**19 54 54.4**	**-0.3**
TRKR				*i* S	**Sb**	**19 55 02.4**	**+0.2**
BTKR	**Batakoyurt**	**0.71**	**170**	*i* PG	**Pg**	**19 55 00.1**	**+0.2**
BTKR				*e*S	**Sn**	**19 55 12.0**	**-0.9**
STDR	**Stavd-Durt**	**0.74**	**198**	⇓*i* PG	**Pb**	**19 55 01.4**	**+0.4**
STDR				*e*S	**Sn**	**19 55 13.6**	**0.0**
NCK	**Nalchik**	**0.81**	**225**	*e*PG	**Pb**	**19 55 01.2**	**-1.0**
LSNR	**Lesken**	**0.89**	**207**	*i* PG	**Pb**	**19 55 03.3**	**-0.3**
LSNR				pmax	pmax		
	comp=Z,37nm,0.1s						
KORR	**Kora**	**1.01**	**193**	⇓*i* PG	**Pb**	**19 55 05.7**	**+0.1**
KORR				*e*S	**Sn**	**19 55 21.5**	**+1.1**
VLKR	**Vladikavkaz**	**1.05**	**168**	*e*PG	**Pb**	**19 55 05.6**	**-0.7**
VLKR				*e*S	**Sn**	**19 55 21.7**	**+0.4**
KMGR	**Komgaron**	**1.07**	**161**	⇓*i* PG	**Pb**	**19 55 06.5**	**-0.2**
KMGR				*e*S	**Sn**	**19 55 23.1**	**+1.1**
KIV	**Kislovodsk**	**1.23**	**265**	*e*PG	**Pn**	**19 55 07.9**	**-1.3**
LACR	**Lac**	**1.25**	**183**	*e*PG	**Pn**	**19 55 08.6**	**-0.9**
LACR				*e*S	**Sn**	**19 55 26.8**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.31**	**207**	*i* PG	**Pn**	**19 55 09.7**	**-0.7**
DIGR				pmax	pmax		
	comp=Z,16nm,0.2s						
ZEI	**Tsey**	**1.33**	**195**	*e*PG	**Pn**	**19 55 08.3**	**-2.4**
ZEI				pmax	pmax		
	comp=Z,36nm,0.6s						
GOF	**Gofitskoye**	**1.37**	**316**↑	*e*PG	**Pb**	**19 55 11.2**	**-0.6**
GOF				*e*S	**Sg**	**19 55 31.5**	**+1.2**
GOF				pmax	pmax		
	comp=Z,18nm,0.6s						
GOF				pmax	pmax		
	comp=E,44nm,0.6s						
NEY	**Neytrino**	**1.46**	**236**	*e*PG	**Pn**	**19 55 11.7**	**-0.8**
NEY				*i* S	**Sn**	**19 55 31.4**	**-0.2**
GUDG	**Gudauri**	**1.61**	**177**	P	**Pb**	**19 55 15.5**	**-0.4**
GUDG				S	**Sg**	**19 55 38.1**	**+0.2**
ONI	**Oni**	**1.63**	**205**	P	**Pn**	**19 55 15.2**	**+0.6**
ONI				S	**Sb**	**19 55 37.9**	**+1.2**
ONI	**Oni**	**1.63**	**205**	PN	**Pn**	**19 55 15.3**	**+0.6**
ONI				S	**Sb**	**19 55 37.6**	**+0.9**
TBLG	**Delisi**	**2.36**	**173**	P	**Sb**	**19 55 55.9**	**-1.7**
ANN	**Anapa**	**5.03**	**281**	*e*PN	**Pn**	**19 56 00.5**	**-0.8**
ANN				*e*		19 56 59.3	
ANN				pmax	pmax		
	comp=Z,22nm,0.9s						
BRVK	**Borovoye**	**19.27**	**53**	*i* P	**Pn**	**19 59 12.7**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s						

GUC 13 19:56:07.0±0.5, 34.94°S×71.61°W, h56km±4km, ML4.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.45**	**182**	*i* P	Pn	19 56 17.7	-0.4
TALC				*i* S	Sn	19 56 26.1	0.0
TALC				IAML		19 56 27.6	
	comp=E,29μm,0.0s						
COCH	**Cobquecura**	**1.52**	**219**	*i* P	Pn	19 56 31.6	-0.3
COCH				*i* S	Sn	19 56 50.8	+0.1
SJCH	**San Jose de Ma**	**1.67**	**39**	*i* P	Pn	19 56 33.8	-0.1
SJCH				*i* S	Sn	19 56 54.5	+0.3
CCHI	**Chillan**	**1.70**	**193**	*i* P	Pn	19 56 34.3	0.0
CCHI				*i* S	Sn	19 56 55.0	0.0
STL	**Santa Lucia**	**1.71**	**28**	*i* P	Pn	19 56 34.4	0.0
STL				*i* S	Sn	19 56 55.2	0.0
CLCH	**Cerro Calan**	**1.78**	**30**	*i* P	Pn	19 56 35.3	-0.2
CLCH				*i* S	Sn	19 56 57.5	+0.4
CLCH				IAML		19 57 01.8	
	comp=E,2μm,1.0s						
PEL	**Peldehue**	**1.95**	**24**	*i* P	Pn	19 56 37.9	0.0
PEL				*i* S	Sn	19 57 01.2	0.0
PEL				IAML		19 57 06.6	
	comp=N,1μm,0.5s						
ROCH	**El Roble**	**2.03**	**14**	*i* P	Pn	19 56 39.0	-0.1
ROCH				*i* S	Sn	19 57 04.2	+0.9
ROCH				IAML		19 57 09.6	
	comp=N,2μm,0.3s						

VIE ***13*** *20:02:51.9±0.2, 45.91°N×14.62°E, h6km, ML1.1/2, Error ellipse: s-maj=2.2km s-min=1.4km az=122.0*
CSEM ***13*** *20:02:52.0±0.1, 45.92°N×14.59°E, h5km, ML1.5/11, Error ellipse: s-maj=1.5km s-min=1.2km az=20.0*

LJU 13 20:02:51.8, 45.92°N×14.60°E, h8km, ML0.9, 1C-20D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBAS	**Gorenja Brezov**	**0.11**	**278**	⇓*i* Pg	Pg	20 02 54.4	+0.1
GBAS				*i* Sg	Sg	20 02 56.0	-0.1
	comp=Z,30nm,0.1s						
GBAS	**Gorenja Brezov**	**0.11**	**278**	Pg	Pg	20 02 54.4	+0.1
GBAS				*i* Sg	Sg	20 02 56.0	-0.1
LJU	**Ljubljana**	**0.13**	**339**	⇓*i* Pg	Pg	20 02 55.0	+0.2
LJU				*i* Sg	Sg	20 02 57.0	+0.2
	comp=Z,15nm,0.1s						
LJU	**Ljubljana**	**0.13**	**339**	⇓*i* Pg	Pg	20 02 55.0	+0.3
LJU				*i* Sg	Sg	20 02 57.0	+0.2
	comp=Z,15nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.20**	**22**	⇓*i* Pg	Pg	20 02 56.1	+0.3
VNDS				*i* Sg	Sg	20 02 58.6	+0.1
	comp=Z,12nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.20**	**22**	⇓*i* Pg	Pg	20 02 56.1	+0.3
VNDS				*i* Sg	Sg	20 02 58.6	0.0
	comp=Z,12nm,0.1s						
VISS	**Visnje**	**0.21**	**125**	⇓*i* Pg	Pg	20 02 56.1	+0.2
VISS				*i* Sg	Sg	20 02 59.7	+0.9
	comp=Z,10.0nm,0.1s						
VISS	**Visnje**	**0.21**	**125**	⇓*i* Pg	Pg	20 02 56.2	+0.2
VISS				*i* Sg	Sg	20 02 59.7	+0.9
	comp=Z,10.0nm,0.1s						
CEY	**Cerknica**	**0.22**	**213**	⇓*i* Pg	Pg	20 02 56.4	+0.2
CEY				*i* Sg	Sg	20 02 59.5	+0.3
	comp=Z,21nm,0.1s						
CEY	**Cerknica**	**0.22**	**213**	⇓*i* Pg	Pg	20 02 56.4	+0.2
CEY				*i* Sg	Sg	20 02 59.5	+0.4
	comp=Z,21nm,0.1s						
CRNS	**Crni Vrh**	**0.28**	**305**	⇓*i* Pg	Pg	20 02 57.6	+0.2
CRNS				*i* Sg	Sg	20 03 01.5	+0.2
	comp=Z,11nm,0.1s						
CRNS	**Crni Vrh**	**0.28**	**305**	⇓*i* Pg	Pg	20 02 57.7	+0.2
CRNS				*i* Sg	Sg	20 03 01.5	+0.2
	comp=Z,11nm,0.1s						
PDKS	**Podkum**	**0.31**	**63**	⇓*i* Pg	Pg	20 02 58.4	+0.4
PDKS				*i* Sg	Sg	20 03 02.6	+0.4
	comp=Z,5.0nm,0.1s						
PDKS	**Podkum**	**0.31**	**63**	⇓*i* Pg	Pg	20 02 58.4	+0.4
PDKS				*i* Sg	Sg	20 03 02.6	+0.4
	comp=Z,5.0nm,0.1s						
JAVS	**Javornik**	**0.37**	**266**	*i* Pg	Pg	20 02 59.2	0.0
	comp=Z,2.0nm,0.1s						
JAVS	**Javornik**	**0.37**	**266**	*i* Pg	Pg	20 02 59.2	+0.1
	comp=Z,2.0nm,0.1s						
MOZS	**Mozjanca**	**0.39**	**344**	⇓*i* Pg	Pg	20 02 59.8	+0.3
MOZS				*i* Sg	Sg	20 03 04.8	+0.2
MOZS	**Mozjanca**	**0.39**	**344**	⇓*i* Pg	Pg	20 02 59.8	+0.4
MOZS				*i* Sg	Sg	20 03 04.8	+0.2
GBRS	**Gornja Briga**	**0.42**	**159**	⇓*i* Pg	Pg	20 03 00.1	+0.2
LEGS	**Legarje**	**0.50**	**86**	*i* Sg	Sg	20 03 08.8	+0.6
LEGS	**Legarje**	**0.50**	**86**	*i* Sg	Sg	20 03 08.8	+0.6
VOJS	**Vojsko**	**0.51**	**283**	*i* Pg	Pg	20 03 01.6	-0.1
VOJS				*i* Sg	Sg	20 03 09.5	+1.1
VOJS	**Vojsko**	**0.51**	**283**	*i* Pg	Pg	20 03 01.6	-0.1
VOJS				*i* Sg	Sg	20 03 09.5	+1.1
SKDS	**Skadanscina**	**0.55**	**228**	⇓*i* Pg	Pg	20 03 02.3	-0.2
SKDS				*i* Sg	Sb	20 03 10.8	-1.0
	comp=Z,4.0nm,0.1s						
SKDS	**Skadanscina**	**0.55**	**228**	⇓*i* Pg	Pg	20 03 02.3	-0.2
SKDS				*i* Sg	Sb	20 03 10.8	-1.0
	comp=Z,4.0nm,0.1s						
GORS	**Gorjuse**	**0.58**	**314**	⇓*i* Pg	Pg	20 03 02.8	-0.2
GORS				*i* Sg	Sg	20 03 11.4	+0.8
	comp=Z,3.0nm,0.1s						
GORS	**Gorjuse**	**0.58**	**314**	⇓*i* Pg	Pg	20 03 02.8	-0.2
GORS				*i* Sg	Sg	20 03 11.4	+0.8
	comp=Z,3.0nm,0.1s						
OBKA	**Obir**	**0.59**	**357**	Pg	Pg	20 03 03.6	+0.4
	comp=Z,2.0nm,0.1s						
OBKA				Sg	Sb	20 03 12.6	-0.4
	comp=Z,1.7nm,0.1s						
CRES	**Cresnjev**	**0.61**	**99**	*i* Pg	Pg	20 03 03.7	+0.2
	comp=Z,1.0nm,0.1s						
CRES	**Cresnjev**	**0.61**	**99**	*i* Pg	Pg	20 03 03.7	+0.2
	comp=Z,1.0nm,0.1s						
BOJS	**Bojanci**	**0.62**	**132**	*i* Pg	Pg	20 03 03.7	0.0
BOJS				*i* Sg	Sb	20 03 13.4	-0.3
	comp=Z,1.0nm,0.1s						
BOJS	**Bojanci**	**0.62**	**132**	*i* Pg	Pg	20 03 03.7	0.0
BOJS				*i* Sg	Sb	20 03 13.4	-0.3
	comp=Z,1.0nm,0.1s						
DOBS	**Dobrina**	**0.65**	**69**	*i* Pg	Pg	20 03 04.3	0.0
DOBS				*i* Sg	Sb	20 03 13.9	-0.7
DOBS	**Dobrina**	**0.65**	**69**	*i* Pg	Pg	20 03 04.3	0.0
DOBS				*i* Sg	Sb	20 03 13.9	-0.7
CADS	**Cadrg**	**0.67**	**298**	*i* Pg	Pg	20 03 04.4	-0.4
CADS				*i* Sg	Sb	20 03 15.4	0.0
CADS	**Cadrg**	**0.67**	**298**	*i* Pg	Pg	20 03 04.4	-0.4
CADS				*i* Sg	Sb	20 03 15.4	+0.1
SABO	**M.te Sabotino**	**0.70**	**275**↑	*e*Pg	Pg	20 03 04.9	-0.4
SABO				*e*Sg	Sg	20 03 15.1	+0.8
SABO	**M.te Sabotino**	**0.70**	**275**	*e*P	Pg	20 03 04.9	-0.4
DRE	**Drenchia**	**0.71**	**291**	*e*Pg	Pg	20 03 05.2	-0.3
DRE	**Drenchia**	**0.71**	**291**	*e*Pg	Pg	20 03 05.2	-0.3
GOLS	**Golise**	**0.72**	**82**	*i* Pg	Pg	20 03 06.0	+0.3
	comp=Z,1.0nm,0.1s						
GOLS	**Golise**	**0.72**	**82**	*i* Pg	Pg	20 03 06.0	+0.3
	comp=Z,1.0nm,0.1s						
PERS	**Pernice**	**0.80**	**27**	*i* Pg	Pg	20 03 07.0	-0.2
PERS	**Pernice**	**0.80**	**27**	*i* Pg	Pg	20 03 07.0	-0.2
SOKA	**Soboth

σ2^{s}24/42, **mb4.1**/21, **Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.82**	**353**	P	Pn	20 04 01.9	-5.9
MMRI	**Maumere**	**1.82**	**353**	*e*Pn	Pn	20 04 01.8	-5.9
BASI	**Baing, Sumba**	**1.87**	**277**	P	Pn	20 04 12.1	+3.8
SOEI	**Soe**	**1.91**	**69**	P	**Pn**	**20 04 07.7**	**-1.2**
SOEI	**Soe**	**1.91**	**69**	*e*Pn	**Pn**	**20 04 07.7**	**-1.2**
WSI	**Waingapu**	**2.27**	**290**	P	**Pn**	**20 04 11.6**	**-1.9**
BSSI	**Bau Bau, Buton**	**4.71**	**335**	P	Pn	20 04 53.3	+7.1
PLAI	**Plampang**	**4.90**	**289**	P	Pn	20 04 40.0	-8.8
TWSI	**Taliwang, Sumb**	**5.76**	**287**	P	Pn	20 04 54.9	-5.6
	129nm,0.8s,2μm0.6nm						
KAPI	**Kappang**	**6.04**	**333**	Pn	**Pn**	**20 05 00.8**	**-3.4**
	1.7nm,0.3s,baz=188,slow=11,SNR=9.6						
KAPI				LR	LR	20 07 46.2	
	comp=Z,943nm,20.2s,baz=166,slow=44						
KDI	**Kendari**	**6.46**	**1**	P	**Pn**	**20 05 09.3**	**-0.7**
TTSI	**Tana Toraja**	**7.81**	**340**	P	Pn	20 05 21.1	-7.4
	34nm,1.0s,0.1nm						
FITZ	**Fitzroy Crossi**	**8.20**	**158**	Pn	Pn	20 05 28.6	-5.1
	1.5nm,0.3s,baz=342,slow=11,SNR=81						
FITZ				Sn	Sn	20 06 54.5	-10
	15nm,0.3s,baz=221,slow=20,SNR=15						
FITZ				LR	LR	20 08 53.9	
	comp=Z,239nm,20.0s,baz=352,slow=39						
FITZ	**Fitzroy Crossi**	**8.20**	**158**	*e*Pn	Pn	20 05 27.9	-5.8
	14nm,0.4s						
FITZ				Sn	Sn	20 06 54.5	-10
JAGI	**Jajag, Banyuwa**	**8.43**	**283**	P	Pn	20 05 28.2	-8.7
	68nm,0.7s						
LUWI	**Luwuk**	**9.36**	**2**	P	Pn	20 05 52.1	+2.7
LUWI	**Luwuk**	**9.36**	**2**	*e*Pn	**Pn**	**20 05 49.7**	**+0.2**
	72nm,0.9s						
PCI	**Palu**	**9.84**	**344**	P	Pn	20 05 57.1	+1.1
MRSI	**Marisa**	**10.87**	**357**	P	Pn	20 06 16.8	+6.7
MBWA	**Marble Bar**	**10.96**	**194**	*e*Pn	Pn	20 06 03.5	-7.8
	122nm,1.0s						
WRA	**Warramunga Arr**	**14.84**	**131**	Pn	**Pn**	**20 06 55.8**	**-6.4**
	1.8nm,0.3s,baz=307,slow=14,SNR=115						
WRA				Sn	Sn	20 09 32.0	-14
	3.2nm,0.3s,baz=303,slow=23,SNR=13						
WRAB	**Tennant Creek**	**14.84**	**131**	*e*Pn	**Pn**	**20 06 55.8**	**-6.4**
	57nm,0.8s						
STKI	**Sintang**	**15.12**	**313**	P	**P**	**20 07 08.4**	**-0.2**
KSM	**Kuching**	**16.93**	**314**	*e*P	**P**	**20 07 26.8**	**-1.9**
	7.5nm,0.8s						
ASAR	**Alice Springs**	**17.08**	**142**	P	**Pn**	**20 07 27.3**	**-2.8**
	2.6nm,0.3s,baz=320,slow=12,SNR=238						
ASAR				S	Sn	20 10 27.2	-13
	1.3nm,0.3s,baz=316,slow=24,SNR=13						
ASAR				LR	LR	20 15 02.7	
	comp=Z,39nm,20.2s,baz=320,slow=40						
DAV	**Davao City (W)**	**17.68**	**10**	LR	LR	20 16 31.2	
	comp=Z,62nm,18.0s,baz=192,slow=45						
COEN	**Coen**	**20.54**	**102**	*e*P	Pn	20 08 10.1	-1.1
	14nm,0.8s						
NWAO	**Narrogin (SRO)**	**22.88**	**191**	P	**P**	**20 08 31.2**	**-1.4**
	13nm,0.6s,baz=338,slow=5.4,SNR=10						
NWAO				S	**S**	**20 12 34.3**	**-0.4**
	12nm,0.6s,baz=331,slow=13,SNR=5.4						
NWAO				LR	LR	20 16 45.2	
	comp=Z,100nm,20.4s,baz=206,slow=35						
PMG	**Port Moresby**	**24.35**	**90**	LR	LR	20 19 57.9	
	comp=Z,150nm,19.5s,baz=249,slow=40						
TGY	**Tagaytay City**	**24.44**	**356**	LR	LR	20 19 55.8	
	comp=Z,70nm,18.7s,baz=123,slow=41						
CTA	**Charters Tower**	**24.84**	**115**	P	**P**	**20 08 53.5**	**+2.8**
	2.4nm,0.6s,baz=286,slow=13,SNR=6.0						
CTAO	**Charters Tower**	**24.84**	**115**	*e*P	**P**	**20 08 53.5**	**+2.8**
BBOO	**Buckleboo**	**25.53**	**153**	*e*P	**P**	**20 08 57.4**	**+0.6**
	31nm,0.9s						
STKA	**Stephens Creek**	**27.71**	**143**	P	**P**	**20 09 18.3**	**+2.0**
	3.8nm,0.7s,baz=310,slow=9.2,SNR=12						
STKA				LR	LR	20 20 48.0	
	comp=Z,152nm,20.2s,baz=1.7,slow=37						
YHNB	**Yeheng**	**34.92**	**358**	*e*P	**P**	**20 10 20.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**36.93**	**321**	P	**P**	**20 10 36.0**	**-1.0**
	0.6nm,0.8s,baz=147,slow=7.8,SNR=3.7						
CMAR				PcP	**PcP**	**20 12 58.9**	**+2.3**
	1.0nm,0.6s,baz=176,slow=2.6,SNR=8.2						
CMAR				LR	LR	20 28 03.2	
	comp=Z,125nm,18.2s,baz=135,slow=40						
KSAR	**Wonju Array Be**	**47.91**	**6**	P	**P**	**20 12 05.3**	**-0.3**
KSRS	**Korea Array**	**47.93**	**6**	P	**P**	**20 12 05.3**	**-0.4**
	0.3nm,0.3s,baz=184,slow=9.4,SNR=5.8						
KSRS				LR	LR	20 34 08.8	
	comp=Z,18nm,18.3s,baz=200,slow=39						
MJAR	**Matsushiro Arr**	**49.04**	**17**	P	**P**	**20 12 13.3**	**-1.0**
	0.7nm,0.4s,baz=190,slow=8.9,SNR=3.6						
LSA	**Lhasa**	**50.04**	**324**	*e*P	**P**	**20 12 22.4**	**-0.2**
	12nm,1.0s						
USRK	**Ussuriysk Ar.**	**55.08**	**8**	P	**P**	**20 12 59.0**	**0.0**
	3.5nm,0.4s,baz=200,slow=7.3,SNR=14						
MDJ	**Mudanjiang**	**55.19**	**6**	*e*P	**P**	**20 12 59.9**	**+0.1**
SONM	**Songino Array**	**59.76**	**348**	P	**P**	**20 13 32.0**	**+0.1**
	0.6nm,0.4s,baz=165,slow=9.9,SNR=5.7						
MKAR	**Makanchi Array**	**67.33**	**331**	P	**P**	**20 14 21.9**	**+0.2**
	5.7nm,0.6s,baz=139,slow=7.5,SNR=75						
EKS2	**Erkin-Say**	**69.07**	**324**	*e*P	**P**	**20 14 33.2**	**+0.4**
	3.6nm,1.0s						
MAW	**Mawson**	**69.07**	**201**	P	**P**	**20 14 34.6**	**+2.5**
	3.6nm,0.8s,baz=75,slow=5.6,SNR=8.0						
MAW				LR	LR	20 41 52.1	
	comp=Z,42nm,19.7s,baz=62,slow=33						
VNDA	**Vanda**	**70.04**	**172**	P	**P**	**20 14 40.4**	**+2.3**
	3.3nm,1.1s,baz=311,slow=6.5,SNR=7.4						
VNDA				LR	LR	20 44 23.4	
	comp=Z,73nm,19.4s,baz=312,slow=35						
ZALV	**Zalesovo Beam**	**71.64**	**338**	P	**P**	**20 14 47.4**	**-0.6**
	1.3nm,0.4s,baz=145,slow=5.9,SNR=9.3						
KURK	**Kurchatov**	**71.83**	**332**	*e*P	**P**	**20 14 49.7**	**+0.5**
	41nm,0.9s						
OPO	**Ambohidratompo**	**72.89**	**254**	P	**P**	**20 14 58.4**	**+1.9**
	3.7nm,0.9s,baz=80,slow=6.1,SNR=3.8						
GEYT	**Alibeck**	**76.92**	**313**	P	**P**	**20 15 20.5**	**+1.4**
	1.9nm,0.6s,baz=150,slow=6.8,SNR=6.2						
BVAR	**Borovoye Array**	**77.20**	**331**	P	**P**	**20 15 20.1**	**-0.2**
	0.2nm,0.4s,baz=155,slow=7.9,SNR=2.7						
QSPA	**South Pole Qui**	**79.55**	**180**	*e*P	**P**	**20 15 36.1**	**+2.9**
ABKAR	**Akbulak array**	**80.72**	**324**	*e*P	**P**	**20 15 39.5**	**-0.1**
TIXI	**Tiksi**	**82.03**	**2**	*e*P	**P**	**20 15 47.4**	**+1.4**
	3.4nm,0.8s						
AKTO	**Aktyubinsk**	**82.37**	**324**	P	**P**	**20 15 48.6**	**+0.3**
	1.3nm,0.6s,baz=191,slow=5.2,SNR=5.4						
AKASG	**Malin Array Be**	**100.05**	**320**	LR	LR	21 09 34.3	
	comp=Z,22nm,20.2s,baz=350,slow=40						
TORD	**Torodi Ar. Bea**	**122.07**	**279**	PKP	**PKPdf**	**20 22 23.5**	**+2.1**
	0.5nm,0.6s,baz=86,slow=2.0,SNR=5.3						
LPAZ	**La Paz**	**151.44**	**158**	PKPbc	**PKPab**	**20 23 25.3**	**-4.5**
	3.0nm,0.7s,baz=262,slow=1.7,SNR=13						

MAN 13 20:09:08.8±0.01N×126°44E, **h6**km, **mb3.9, ML2.7, MS2.3, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.19**	**336**	*e*P	Pg	20 09 14.8	+3.0
BIPH				*e*S	Sg	20 09 17.8	+3.5
MATI	**Mati**	**1.07**	**190**	*e*P	Pb	20 09 29.1	+0.1
MATI				*e*S	Sn	20 09 44.4	-0.4
BUKP	**Musuan**	**1.37**	**265**	*e*P	Pn	20 09 33.3	-0.4
BUKP				*e*S	Sn	20 09 53.1	+0.9

IDC ***13*** *20:14:24.8±4.6, 29°17N×129°35E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.6/3, Error ellipse: s-maj=236.5km s-min=27.1km az=64.0*
ISCJB ***13*** *20:14:25.6±0.9, 29°22N±0°03×129°21E±0°07, h13km±6km, mb3.5/3, Error ellipse: s-maj=10.5km s-min=5.1km az=12.5*
JMA ***13*** *20:14:25.4±0.1, 29°22N×129°21E, h14km±1km, M2.9*
JMA Felt II J1.

ISC 13 20:14:26.0±1.0, **29°19N**±0°04×**129°30E**±0°06, **h9**km±7km, **n14**, σ0^{s}67/19, **mb3.6**/3, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.09**	**248**	P	**Pg**	**20 14 28.2**	**-0.1**
JTAJ				S	**Sg**	**20 14 30.1**	**+0.1**
JAM	**Amami Oshima**	**0.82**	**161**	P	**Pg**	**20 14 41.6**	**-0.2**
JAM				*e*S	**Sg**	**20 14 52.9**	**+0.5**
JNN	**Nakanoshima**	**0.82**	**37**	P	**Pg**	**20 14 41.5**	**-0.3**
JAMN	**Amaminishikomi**	**0.95**	**187**	P	**Pg**	**20 14 43.8**	**-0.4**
JZK	**Kikaishima**	**1.05**	**146**	P	**Pn**	**20 14 46.9**	**-0.1**
JZK				*e*S	**Sn**	**20 15 02.4**	**+0.7**
JTK	**Tokunoshima**	**1.43**	**192**	P	**Pn**	**20 14 50.9**	**-1.3**
JTK				*e*S	**Sn**	**20 15 09.7**	**-1.4**
JYAK	**Yakushimahirau**	**1.48**	**45**	P	**Pn**	**20 14 52.2**	**-0.7**
JKC	**Kuchinoerabu**	**1.49**	**31**	P	**Pn**	**20 14 52.6**	**-0.4**
JOKE	**Okinoerabujima**	**1.93**	**200**	P	**Pn**	**20 14 59.0**	**-0.1**
JTN	**Tanegashima 3**	**2.06**	**45**	P	**Pn**	**20 15 00.9**	**0.0**
JTN				*e*S	**Sn**	**20 15 27.0**	**+0.2**
JOW	**Kunigami**	**2.52**	**201**	P	**Pn**	**20 15 08.1**	**+1.0**
SONM	**Songino Array**	**25.68**	**323**	P	**P**	**20 19 57.1**	**+0.7**
	1.1nm,0.8s,baz=128,slow=8.4,SNR=7.2						
MKAR	**Makanchi Array**	**40.34**	**309**	P	**P**	**20 22 04.2**	**+0.3**
	0.6nm,0.6s,baz=94,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**49.09**	**174**	P	**P**	**20 23 13.8**	**-0.1**
	0.5nm,0.8s,baz=355,slow=8.3,SNR=3.7						

IPEC ***13*** *20:20:54.8±0.1, 47°60N×14°35E, h3km±1km, ML2.0/7, Error ellipse: s-maj=0.7km s-min=0.4km az=89.0*
VIE ***13*** *20:20:54.7±0.2, 47°60N×14°34E, h6km, mb1.6/14, ML2.2/18, Error ellipse: s-maj=1.5km s-min=1.1km az=179.0*
CSEM ***13*** *20:20:54.6±0.1, 47°64N×14°35E, h2km, ML2.5/21, Error ellipse: s-maj=2.6km s-min=2.0km az=110.0*
BGR ***13*** *20:20:55.5±0.4, 47°63N×14°41E, h10km, ML2.0/9, Error ellipse: s-maj=5.6km s-min=4.4km az=87.0*
PRU ***13*** *20:20:56.1, 47°66N×14°38E, h3km, E Of Spital Am Pyhrn*

ISC 13 20:20:55.1±1.0, **47°62N**±0°01×**14°36E**±0°02, **h6**km±9km, **n53**, σ0^{s}83/93, **Austria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOA	**Molln**	**0.23**	**344**	*e*Pg	**Pg**	**20 20 59.3**	**-0.4**
MOA				*e*Sg	**Sg**	**20 21 04.8**	**+1.9**
MOA	**Molln**	**0.23**	**344**	Pg	**Pg**	**20 20 59.3**	**-0.4**
MOA				Sg	**Sg**	**20 21 03.7**	**+0.8**
	9.3nm,0.1s						
ARSA	**Arzberg**	**0.87**	**115**	*e*Pg	**Pg**	**20 21 11.8**	**0.0**
ARSA	**Arzberg**	**0.87**	**115**	Pg	**Pg**	**20 21 11.8**	**0.0**
ARSA				Sg	**Sg**	**20 21 23.5**	**+0.3**
	0.9nm,0.1s						
KBA	**Koelnbreinsper**	**0.88**	**232**	*e*Pg	**Pg**	**20 21 11.5**	**-0.5**
KBA				*e*Sg	**Sb**	**20 21 24.3**	**-0.7**
KBA	**Koelnbreinsper**	**0.88**	**232**	Pg	**Pg**	**20 21 11.5**	**-0.5**
KBA				Sg	**Sb**	**20 21 24.0**	**-1.0**
	4.6nm,0.2s						
SOKA	**Soboth**	**1.05**	**154**	Pg	**Pg**	**20 21 14.6**	**-0.7**
	4.0nm,0.3s,SNR=13						
SOKA				Sg	**Sg**	**20 21 29.0**	**+0.1**
	4.5nm,0.4s						
CONA	**Conrad Observa**	**1.06**	**73**	Pg	**Pg**	**20 21 15.2**	**-0.2**
	1.0nm,0.1s,SNR=12						
CONA				Sg	**Sb**	**20 21 30.5**	**+0.6**
	3.7nm,0.2s						
MYKA	**Terra Mystica**	**1.11**	**207**	Pg	**Pg**	**20 21 15.6**	**-0.8**
	1.5nm,0.2s						
MYKA				Sg	**Sg**	**20 21 30.5**	**-0.3**
	0.8nm,0.1s						
OBKA	**Obir**	**1.12**	**173**	*e*Pg	**Pb**	**20 21 17.2**	**+0.2**
OBKA	**Obir**	**1.12**	**173**	Pg	**Pg**	**20 21 16.6**	**0.0**
	1.2nm,0.1s,SNR=10						
OBKA				Sg	**Sb**	**20 21 32.0**	**+0.2**
	6.3nm,0.3s						
GEC2	**GERESS Array S**	**1.30**	**340**	*e*Pg	**Pn**	**20 21 20.1**	**+0.2**
GEC2				*e*Sg	**Sn**	**20 21 38.4**	**+0.8**
GEC2	**GERESS Array S**	**1.30**	**340**	Pg	**Pn**	**20 21 20.1**	**+0.2**
GEC2				Sg	**Sn**	**20 21 38.4**	**+0.8**
ABTA	**Abfaltersbach**	**1.54**	**236**	Pn	**Pn**	**20 21 22.6**	**-0.5**
	0.2nm,0.1s						
ABTA				Sn	**Sn**	**20 21 42.1**	**-1.3**
	3.0nm,0.3s						
VNDS	**Vrh nad Dolski**	**1.54**	**171**	*i* Pn	**Pg**	**20 21 24.5**	**-0.2**
VNDS				*i* Sn	**Sg**	**20 21 44.7**	**+0.1**
VNDS	**Vrh nad Dolski**	**1.54**	**171**	*i* Pn	**Pg**	**20 21 24.5**	**-0.2**
VNDS				*i* Sn	**Sg**	**20 21 44.7**	**+0.1**
KHC	**Kasperske Hory**	**1.60**	**341**	*e*PG	**Pb**	**20 21 24.8**	**-0.2**
KHC				*e*SG	**Sg**	**20 21 46.0**	**-0.4**
KHC	**Kasperske Hory**	**1.60**	**341**	Pg	**Pb**	**20 21 24.8**	**-0.2**
KHC				Sg	**Sg**	**20 21 46.0**	**-0.4**
VOJS	**Vojsko**	**1.63**	**192**	*i* Pn	**Pb**	**20 21 25.4**	**-0.1**
VOJS				*i* Sn	**Sg**	**20 21 47.5**	**+0.1**
VOJS	**Vojsko**	**1.63**	**192**	*i* Pn	**Pb**	**20 21 25.4**	**-0.1**
VOJS				*i* Sn	**Sg**	**20 21 47.5**	**+0.1**
WET	**Wettzell**	**1.81**	**328**	*e*Pg	**Pb**	**20 21 28.3**	**-0.4**
WET				*e*Sg	**Sg**	**20 21 53.2**	**-0.2**
WET	**Wettzell**	**1.81**	**328**	Pg	**Pb**	**20 21 28.3**	**-0.4**
WET				Sg	**Sg**	**20 21 53.2**	**-0.2**
TREC	**Trest**	**1.83**	**24**	*e*PG	**Pn**	**20 21 27.9**	**+0.8**
TREC				*e*SG	**Sb**	**20 21 52.2**	**0.0**
	8.9nm,0.3s						
TREC	**Trest**	**1.83**	**24**	Pg	**Pn**	**20 21 27.9**	**+0.8**
TREC				Sg	**Sb**	**20 21 52.2**	**0.0**
	8.9nm,0.3s						
WTTA	**Wattenberg**	**1.89**	**260**	*e*Pg	**Pg**	**20 21 30.8**	**-0.4**
WTTA				*e*Sg	**Sg**	**20 21 57.7**	**+2.0**
WTTA	**Wattenberg**	**1.89**	**260**	Pg	**Pg**	**20 21 30.8**	**-0.4**
	3.8nm,0.2s						
WTTA				Sg	**Sg**	**20 21 56.8**	**+1.1**
	1.5nm,0.2s						
WATA	**Walderalm**	**1.91**	**262**	Pg	**Pg**	**20 21 31.7**	**0.0**
	1.5nm,0.1s						
KRUC	**Moravsky**	**1.98**	**43**	*e*Pn	**Pn**	**20 21 29.3**	**+0.2**
	baz=224						
KRUC				*e*Sg	**Sb**	**20 21 57.1**	**+0.8**
	6.7nm,0.4s,baz=224						
MOTA	**Moosalm**	**2.23**	**264**	Pg	**Pb**	**20 21 36.3**	**+0.5**
	0.5nm,0.2s						
VRAC	**Vranov**	**2.25**	**41**	*e*Pn	**Pn**	**20 21 33.0**	**+0.2**
	baz=222						
VRAC				*e*Sg	**Sb**	**20 22 05.6**	**+1.5**
	8.7nm,0.7s,baz=222						
GOPC	**GO Pecny, Ondr**	**2.31**	**7**	*e*PN	**Pn**	**20 21 34.8**	**+1.1**
GOPC				*e*PG	**Pg**	**20 21 39.9**	**+0.6**
GOPC				*e*SG	**Sb**	**20 22 07.0**	**+1.1**
	3.9nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.31**	**7**	Pn	**Pn**	**20 21 34.8**	**+1.1**
GOPC	**GO Pecny, Ondr**	**2.31**	**7**	Pg	**Pg**	**20 21 39.9**	**+0.6**
GOPC				Sg	**Sb**	**20 22 07.0**	**+1.1**
	3.9nm,0.3s						
PRU	**Pruhonice**	**2.37**	**3**	*e*PG	**Pg**	**20 21 39.6**	**-0.9**
PRU				*e*SG	**Sb**	**20 22 08.2**	**+0.6**
	3.9nm,0.4s						
PRU	**Pruhonice**	**2.37**	**3**	Pg	**Pg**	**20 21 39.6**	**-0.9**
PRU				Sg	**Sb**	**20 22 08.2**	**+0.6**
	3.9nm,0.4s						
RETA	**Reutte**	**2.44**	**268**	Sg	**Sg**	**20 22 14.2**	**+0.7**
	0.3nm,0.1s,SNR=4.4						
FETA	**Feichten**	**2.54**	**258**	Pg	**Pg**	**20 21 42.4**	**-1.4**
	0.3nm,0.1s,SNR=4.4						
FETA				Sg	**Sg**	**20 22 17.4**	**+0.6**
	0.4nm,0.1s						
NKC	**Novy Kostel**	**2.90**	**335**	*e*SG	**Sg**	**20 22 28.7**	**+0.5**
	5.2nm,0.4s						
NKC	**Novy Kostel**	**2.90**	**335**	Sg	**Sg**	**20 22 28.7**	**+0.5**
	5.2nm,0.4s						
PVCC	**Panska Ves**	**2.91**	**3**	*e*PG	**Pg**	**20 21 50.3**	**-0.5**
PVCC				*e*SG	**Sg**	**20 22 27.0**	**-1.5**
	7.9nm,0.3s						
PVCC	**Panska Ves**	**2.91**	**3**	Pg	**Pg**	**20 21 50.3**	**-0.5**
PVCC				Sg	**Sg**	**20 22 27.0**	**-1.5**
	7.9nm,0.3s						
GRA1	**Grafenberg Arr**	**2.94**	**316**	Sg	**Sg**	**20 22 30.1**	**+0.8**
GRF	**Grafenberg Arr**	**2.94**	**316**	*e*Sg	**Sg**	**20 22 30.1**	**+0.8**
DPC	**Dobruska-Polom**	**3.02**	**25**	*e*PN	**Pn**	**20 21 43.6**	**+0.2**
DPC				*e*PG	**Pg**	**20 21 51.1**	**-1.8**
DPC				*e*SG	**Sg**	**20 22 31.2**	**-0.8**
	5.9nm,0.5s						
DPC	**Dobruska-Polom**	**3.02**	**25**	Pn	**Pn**	**20 21 43.6**	**+0.2**
DPC	**Dobruska-Polom**	**3.02**	**25**	Pg	**Pg**	**20 21 51.1**	**-1.8**
DPC				Sg	**Sg**	**20 22 31.2**	**-0.8**
	5.9nm,0.5s						
DAVA	**Damuels**	**3.06**	**265**	Pg	**Pg**	**20 21 53.1**	**-0.6**
	1.0nm,0.2s						
DAVA				Sg	**Sg**	**20 22 33.9**	**+0.5**
	2.2nm,0.3s						
UPC	**Upice**	**3.08**	**20**	*e*PG	**Pg**	**20 21 53.2**	**-1.0**
UPC				*e*SG	**Sg**	**20 22 33.4**	**-0.7**
	7.7nm,0.4s						
UPC	**Upice**	**3.08**	**20**	Pg	**Pg**	**20 21 53.2**	**-1.0**
UPC				Sg	**Sg**	**20 22 33.4**	**-0.7**
	7.7nm,0.4s						
BRG	**Berggiesshubel**	**3.26**	**355**	SG	**Sg**	**20 22 40.7**	**+0.8**
	4.9nm,0.8s						
CLL	**Collm**	**3.79**	**347**	*e*(Sg)	**Sg**	**20 22 55.0**	**-1.8**
	comp=Z,15nm,1.1s						
CLL	**Collm**	**3.79**	**347**	*e*Sg	**Sg**	**20 22 55.2**	**-1.6**
CLL	**Collm**	**3.79**	**347**	Sg	**Sg**	**20 22 55.2**	**-1.6**

GII ***13*** *20:28:41.5±0.0, 33°91N×35°90E, h1km, MD2.0/2*
CSEM ***13*** *20:28:43.1±0.4, 33°91N×35°84E, h2km, ML2.9, Error ellipse: s-maj=14.0km s-min=5.6km az=96.0*
GRAL ***13*** *20:28:43.7±0.3, 33°87N×35°84E, h5km±8km, MD2.9*
NSSC ***13*** *20:28:43.6±0.8, 33°85N×35°81E, h0km±5km, ML1.7*

ISC 13 20:28:43.3±1.1, **33°89N**±0°03×**35°85E**±0°03, **h3**km±10km, **n34**, σ0^{s}59/57, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.16**	**276**	*e*P	**Pg**	**20 28 46.6**	**+0.2**
BHL				*e*S	**Sg**	**20 28 48.9**	**+0.2**
BHL	**Bhannes**	**0.16**	**276**	*e*P	**Pg**	**20 28 46.7**	**+0.2**
BHL				*e*S	**Sg**	**20 28 48.8**	**+0.2**
DQRL	**Deir Qamar**	**0.29**	**232**	*e*P	**Pg**	**20 28 48.8**	**-0.2**
DQRL				*e*S	**Sg**	**20 28 52.4**	**-0.5**
DQRL	**Deir Qamar**	**0.29**	**232**	*e*P	**Pg**	**20 28 48.8**	**-0.2**
DQRL				*e*S	**Sg**	**20 28 52.4**	**-0.5**
BEYL	**Beirut**	**0.29**	**267**	*e*P	**Pg**	**20 28 48.9**	**-0.1**
RCY	**Rachaya**	**0.39**	**181**	*e*P	**Pg**	**20 28 50.5**	**-0.4**
RCY				*e*S	**Sg**	**20 28 55.5**	**-0.5**
HWQ	**Hawqa**	**0.40**	**12**	*e*P	**Pg**	**20 28 51.2**	**+0.2**
HWQ	**Hawqa**	**0.40**	**12**	*e*P	**Pg**	**20 28 51.2**	**+0.2**
BRBR	**Barbar**	**0.48**	**170**	*i* P	**Pg**	**20 28 52.3**	**-0.3**
BRBR				*e*S	**Sg**	**20 28 59.9**	**+0.9**
BRBR				AML	AML	20 29 03.8	
	comp=E,117nm,0.4s						
BRBR				AML	AML	20 29 04.6	
	comp=N,138nm,0.4s						
KSDI	**Kefar Szold**	**0.71**	**193**	Pg	**Pg**	**20 28 57.4**	**+0.4**
KSDI				Sg	**Sb**	**20 29 08.8**	**+0.3**
KSDI	**Kefar Szold**	**0.71**	**193**	Pg	**Pg**	**20 28 57.4**	**+0.4**
KSDI				Sg	**Sb**	**20 29 08.8**	**+0.3**
KSHT	**Keshet**	**0.91**	**182**	Pg	**Pg**	**20 29 01.1**	**+0.4**
KSHT				Sg	**Sn**	**20 29 15.8**	**-0.7**
KSHT	**Keshet**	**0.91**	**182**	Pg	**Pg**	**20 29 01.1**	**+0.4**
KSHT				Sg	**Sn**	**20 29 15.8**	**-0.7**
MMC3	**Mount Meron ar**	**0.94**	**203**	Pg	**Pg**	**20 29 00.8**	**-0.6**
MMC3	**Mount Meron ar**	**0.94**	**203**	Pg	**Pg**	**20 29 00.8**	**-0.6**
MMA0B	**Mount Meron ar**	**0.95**	**203**	Pg	**Pg**	**20 29 01.4**	**-0.1**
MMA0B				Sg	**Sn**	**20 29 17.3**	**-0.3**
MMA0B	**Mount Meron ar**	**0.95**	**203**	Pg	**Pg**	**20 29 01.4**	**-0.1**
MMA0B				Sg	**Sn**	**20 29 17.3**	**-0.3**
HNTI	**Hanita**	**0.98**	**215**	Pg	**Pn**	**20 29 03.6**	**-0.3**
HNTI				Sg	**Sn**	**20 29 18.8**	**+0.5**
HNTI	**Hanita**	**0.98**	**215**	Pg	**Pn**	**20 29 03.6**	**-0.3**
HNTI				Sg	**Sn**	**20 29 18.8**	**+0.5**
TCHB	**Talchebab**	**1.22**	**175**	*i* P	**Pg**	**20 29 06.2**	**-0.5**
TCHB				*e*S	**Sg**	**20 29 22.3**	**-0.2**
TCHB				AML	AML	20 29 25.6	
	comp=E,43nm,0.6s						
TCHB				AML	AML	20 29 32.4	
	comp=N,27nm,0.4s						
BLGI	**Bet Lehem HaGe**	**1.28**	**206**	Pn	**Pn**	**20 29 07.3**	**-0.7**
BLGI	**Bet Lehem HaGe**	**1.28**	**206**	Pn	**Pn**	**20 29 07.3**	**-0.7**
SALA	**Sala**	**1.39**	**147**	*i* P	**Pg**	**20 29 10.2**	**+0.2**
SALA				*e*S	**Sb**	**20 29 28.2**	**0.0**
SALA				AML	AML	20 29 33.3	
	comp=E,5.2nm,0.5s						
SALA				AML	AML	20 29 35.2	
	comp=N,20nm,0.4s						
OFRI	**'Ofer**	**1.46**	**210**	Pn	**Pn**	**20 29 10.4**	**-0.1**
OFRI	**'Ofer**	**1.46**	**210**	Pn	**Pn**	**20 29 10.4**	**-0.1**
MMLI	**Mount Malkishu**	**1.49**	**194**	Pn	**Pn**	**20 29 10.5**	**-0.5**
MMLI				Sn	**Sg**	**20 29 33.1

BVAR	**Borovoye Array**	**51.72**	**312**	P	**P**	**20 46 31.4**	**+1.4**
	0.3nm,0.5s,baz=73,slow=5.1,SNR=3.9							
WRA	**Warramunga Arr**	**57.84**	**191**	P	**P**	**20 47 13.9**	**-0.7**
	0.3nm,0.4s,baz=9.6,slow=7.0,SNR=5.5							
ASAR	**Alice Springs**	**61.56**	**190**	P	**P**	**20 47 39.1**	**-1.1**
	0.6nm,0.8s,baz=15,slow=5.3,SNR=4.1							

IDC 13 20:43:42.9±2.5, 0.86S×133.29E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/32, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=102.4km s-min=25.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.70**	**203**	P	P	20 48 03.1	+0.1
	0.2nm,0.3s,baz=29,slow=10,SNR=9.2						
WRA	**Warramunga Arr**	**18.99**	**177**	P	P	20 48 06.2	+0.1
	0.1nm,0.3s,baz=356,slow=12,SNR=8.9						
WRA				S	Sn	20 51 29.2	-11
	0.1nm,0.3s,baz=354,slow=19,SNR=4.6						
ASAR	**Alice Springs**	**22.68**	**179**	P	P	20 48 46.1	0.0
	0.3nm,0.5s,baz=0.2,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**65.07**	**324**	P	P	20 54 25.2	-0.1
	0.3nm,0.4s,baz=109,slow=8.3,SNR=5.9						

DDA ***13*** *20:51:10.0, 37.32N×37.12E, h6km, Md3.2*
ISCJB ***13*** *20:51:10.9±0.6, 37.33N±0.03×37.09E±0.03, h2km±6km, Error ellipse: s-maj=5.9km s-min=4.2km az=160.2*
ISK ***13*** *20:51:11.3, 37.34N×37.06E, h6km, MD2.9*
CSEM ***13*** *20:51:12.1±0.2, 37.32N×37.03E, h10km, MD3.2, Error ellipse: s-maj=6.2km s-min=5.0km az=107.0*
ISC 13 20:51:11.0±1.1, 37.31N±0.03×37.09E±0.03, h3km±10km, n24, σ0§66/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HCB	**Kahramanmara¯**	**0.15**	**282**	*i* P	**Pg**	**20 51 13.7**	**-0.2**
HCB				*i* S	**Sg**	**20 51 16.8**	**+0.9**
KAMA	**Osmaniye**	**0.36**	**249**	*i* P	**Pg**	**20 51 17.9**	**0.0**
KAMA				*i* S	**Sg**	**20 51 23.4**	**+0.7**
GZT	**Gaziantep**	**0.38**	**84**	*i* P	**Pg**	**20 51 17.3**	**-1.1**
GZT				*i* S	**Sg**	**20 51 23.4**	**0.0**
KUZU	**Kuzuini**	**0.54**	**181**	P	**Pg**	**20 51 21.2**	**-0.2**
KUZU				S	**Sb**	**20 51 31.4**	**+0.1**
KUZU	**Kuzuini**	**0.54**	**181**	*i* P	**Pg**	**20 51 21.2**	**-0.2**
KUZU				*i* S	**Sb**	**20 51 31.4**	**+0.1**
KOZT	**Kozan**	**1.02**	**280**	*e*PG	**Pg**	**20 51 30.6**	**0.0**
KOZT	**Kozan**	**1.02**	**280**	*e*Pg	**Pg**	**20 51 30.6**	**0.0**
CEYT	**Ceyhan**	**1.11**	**255**	*e*PN	**Pb**	**20 51 32.8**	**-0.1**
CEYT	**Ceyhan**	**1.11**	**255**	*e*Pn	**Pb**	**20 51 32.8**	**-0.1**
AKCD	**Akcadag**	**1.18**	**34**	S	**Sg**	**20 51 49.8**	**+0.7**
AKCD	**Akcadag**	**1.18**	**34**	*i* P	**Pg**	**20 51 31.8**	**-2.0**
AKCD				*i* S	**Sg**	**20 51 49.8**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.18**	**218**	*e*PN	**Pn**	**20 51 34.3**	**-0.2**
TAHT				*e*SN	**Sn**	**20 51 51.1**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.18**	**218**	*e*Pn	**Pn**	**20 51 34.3**	**-0.2**
TAHT				*e*Sn	**Sn**	**20 51 51.1**	**0.0**
SARI	**SarD1z-Kayseri**	**1.21**	**334**	*e*PN	**Pg**	**20 51 34.3**	**0.0**
SARI				*e*SN	**Sn**	**20 51 51.3**	**-0.9**
DARE	**Darende-Malaty**	**1.29**	**14**	*e*PN	**Pg**	**20 51 36.2**	**+0.3**
DARE				*e*SN	**Sn**	**20 51 54.0**	**0.0**
DARE	**Darende-Malaty**	**1.29**	**14**	*e*Pn	**Pg**	**20 51 36.2**	**+0.3**
DARE				*e*Sn	**Sn**	**20 51 54.0**	**0.0**
YAHY	**KAYSERI_Yahyal**	**1.57**	**300**	P	**Pn**	**20 52 00.4**	**-0.4**
YAHY				S	**Sg**	**20 52 00.9**	**-0.8**
YAHY	**KAYSERI_Yahyal**	**1.57**	**300**	*i* P	**Pn**	**20 51 39.6**	**-0.4**
YAHY				*i* S	**Sg**	**20 52 00.9**	**-0.8**
BNN	**Bunyan**	**1.82**	**328**	*e*PN	**Pn**	**20 51 43.5**	**+0.1**
BNN	**Bunyan**	**1.82**	**328**	*e*Pn	**Pn**	**20 51 43.5**	**+0.1**
SVRC	**Sivrice-ELAZID**	**2.05**	**58**	*e*PN	**Pn**	**20 51 47.5**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.05**	**58**	*e*Pn	**Pn**	**20 51 47.5**	**+0.9**
PTK	**Pertek**	**2.41**	**48**	*e*PN	**Pn**	**20 51 52.6**	**+1.2**
PTK	**Pertek**	**2.41**	**48**	*e*Pn	**Pn**	**20 51 52.7**	**+1.2**

WEL 13 20:52:45.4±0.1, 43.60S×172.78E, h9km, ML3.9/13, 1C-1D, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.14**	**221**	⇑PG	Pg	20 52 48.8	+0.3
MQZ				SG	Sg	20 52 51.1	+0.5
MQZ				AML	AML	20 52 51.2	
OXZ	**Oxford**	**0.61**	**297**	⇓P*	Pg	20 52 57.1	-0.1
LTZ	**Lake Taylor**	**0.90**	**335**	P*	Pg	20 53 02.6	-0.1
LTZ				AML	AML	20 53 15.6	
LTZ				AML	AML	20 53 15.7	
RPZ	**Rata Peaks**	**1.26**	**264**	P*	Pn	20 53 08.0	-1.3
RPZ				AML	AML	20 53 29.1	
RPZ				AML	AML	20 53 31.6	
INZ	**Inchbonnie**	**1.31**	**311**	*e*Pn	Pn	20 53 09.3	-0.7
THZ	**Tophouse**	**1.84**	**3**	PN	Pn	20 53 15.8	-1.5
THZ				AML	AML	20 53 56.6	
THZ				AML	AML	20 53 58.2	
DSZ	**Denniston Nort**	**1.99**	**338**	PN	Pn	20 53 18.8	-0.5
DSZ				AML	AML	20 53 46.6	
DSZ				AML	AML	20 53 47.0	
LBZ	**Lake Benmore**	**2.03**	**246**	PN	Pn	20 53 18.8	-1.1
LBZ				AML	AML	20 53 57.4	
LBZ				AML	AML	20 53 57.6	
ODZ	**Otahua Downs**	**2.10**	**226**	PN	Pn	20 53 19.6	-1.2
ODZ				AML	AML	20 53 54.3	
ODZ				AML	AML	20 53 56.2	
ODZ				AML	AML	20 53 58.5	
ODZ				AML	AML	20 53 58.5	
FOZ	**Fox Glacier**	**2.16**	**271**	AML	AML	20 53 49.5	
FOZ				AML	AML	20 54 00.4	
NNZ	**Nelson**	**2.42**	**11**	PN	Pn	20 53 24.5	-0.7
TCW	**Tory Channel**	**2.63**	**25**	PN	Pn	20 53 26.8	-1.3
JCZ	**Jackson Bay**	**2.93**	**259**	AML	AML	20 54 20.8	
JCZ				AML	AML	20 54 24.6	
WKZ	**Wanaka**	**2.97**	**244**	AML	AML	20 54 26.7	
WKZ				AML	AML	20 54 31.4	
EAZ	**Earnscleugh**	**2.97**	**236**	PN	Pn	20 53 31.6	-1.2
EAZ				AML	AML	20 54 23.4	
EAZ				AML	AML	20 54 24.2	
TUZ	**Tuapeka**	**3.25**	**223**	AML	AML	20 54 38.5	
TUZ				AML	AML	20 54 38.5	
SYZ	**Scrubby Hill**	**3.91**	**220**	AML	AML	20 55 04.5	

NIED ***13*** *20:59:00, 37.30N×141.40E, h20km, Mw4.1 Best double couple: M0 1.69000×10^15 NP1:φs=60.00000°, δ 10.00000°, λ=-64.00000°. NP2:φs=213.00000°, δ 81.00000°, λ=-95.00000°.*
ISCJB ***13*** *20:59:34.1±0.8, 37.29N±0.03×141.42E±0.06, h36km±6km, mb4.1/29, MS3.2/8, Error ellipse: s-maj=8.8km s-min=5.1km az=12.7*
JMA ***13*** *20:59:35.1±0.1, 37.34N×141.33E, h33km±1km, M4.4*
JMA Felt II J1.
IDC ***13*** *20:59:36.5±3.1, 37.31N×141.27E, h37km±27km, mb3.8/23, mb1 4.0/26, mb1mx3.8/52, mbtmp4.1/26, ML4.0/2, MS3.2/13, Ms1 3.3/13, ms1mx3.0/39, Error ellipse: s-maj=17.1km s-min=14.5km az=78.0*
NEIC ***13*** *20:59:39.7±1.1, 37.21N×141.18E, h70km±9km, mb4.3/5, Error ellipse: s-maj=10.0km s-min=9.6km az=109.0*
NEIC Recorded [2 JMA] in Fukushima.
ISC 13 20:59:34.6±1.7, 37.31N±0.04×141.42E±0.06, h25km±11km, n62, σ1§59/62, mb4.0/29, MS3.2/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.44**	**278**	P	**Pb**	**20 59 43.5**	**-0.4**
JFK				S	**Sb**	**20 59 49.1**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.54**	**248**	P	**Pn**	**20 59 45.1**	**-1.6**
ONAJ				S	**Sn**	**20 59 52.0**	**-3.0**
JMM	**Marumori**	**0.75**	**318**	P	**Pn**	**20 59 47.9**	**-1.7**
JMM				S	**Sn**	**20 59 57.0**	**-3.1**
JFT	**Otama**	**0.89**	**284**	P	**Pn**	**20 59 50.8**	**-0.7**
JFT				S	**Sn**	**21 00 01.6**	**-2.1**
JHO	**Hitachi**	**0.97**	**225**	P	**Pn**	**20 59 51.2**	**-1.5**
JHO				S	**Sn**	**21 00 02.8**	**-2.9**
JIO	**Ouri**	**1.15**	**357**	P	**Pn**	**20 59 53.9**	**-1.1**
JIO				S	**Sn**	**21 00 07.5**	**-2.4**
JOU	**Okura**	**1.22**	**331**	P	**Pn**	**20 59 55.5**	**-0.5**
JOU				S	**Sn**	**21 00 10.8**	**-0.9**
JFY	**Yanaizu**	**1.37**	**275**	P	**Pn**	**20 59 57.9**	**-0.3**
JFY				S	**Sn**	**21 00 14.8**	**-0.8**
JYS	**Shirataka**	**1.41**	**311**	P	**Pn**	**20 59 58.6**	**-0.1**
JYS				S	**Sn**	**21 00 16.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.69**	**254**	Pn	**Pn**	**21 00 16.5**	**+0.3**
	22nm,0.3s,baz=78,slow=16,SNR=106						
MJAR				S	**Sn**	**21 00 50.8**	**+2.8**
	37nm,0.3s,baz=68,slow=24,SNR=7.9						
MAJO	**Matsushiro**	**2.69**	**254**	*e*Pn	**Pn**	**21 00 16.9**	**+0.7**
MAT	**Matsushiro**	**2.69**	**254**	P	**Pn**	**21 00 17.2**	**+0.9**
MAT				S	**Sn**	**21 00 50.4**	**+2.4**
JHJ	**Hachijo jima 2**	**4.39**	**198**	Pn	**Pn**	**21 00 40.6**	**+0.9**
	29nm,0.3s,baz=7.2,slow=14,SNR=11						
JHJ				S	**Sn**	**21 01 28.0**	**-1.9**
	41nm,0.3s,baz=115,slow=22,SNR=5.5						
ASAJ	**Asahikawa**	**6.86**	**7**	Pn	**Pn**	**21 01 13.0**	**-0.6**
	baz=270,slow=4.3						
JNU	**Nakatsue**	**9.58**	**247**	LR	LR	21 05 51.3	
	comp=Z,133nm,20.8s,baz=121,slow=40						
USRK	**Ussuriysk Ar.**	**9.93**	**317**	Pn	**Pn**	**21 01 59.8**	**+4.2**
	0.3nm,0.3s,baz=136,slow=13,SNR=21						
USRK				LR	LR	21 05 33.3	
	comp=Z,208nm,18.8s,baz=120,slow=36						
KSRS	**Korea Array**	**10.75**	**275**	Pn	**Pn**	**21 02 09.9**	**+3.1**
	baz=91,slow=14,SNR=17						
KSRS				LR	LR	21 06 09.8	
	comp=Z,155nm,18.1s,baz=72,slow=37						
KSAR	**Wonju Array Be**	**10.78**	**275**	Pn	**Pn**	**21 02 09.9**	**+2.7**
MDJ	**Mudanjiang**	**11.54**	**313**	*e*P	**Pn**	**21 02 21.9**	**+4.3**
	6.3nm,0.6s						
KLR	**Kul'dur**	**13.83**	**333**	LR	LR	21 07 58.4	
	comp=Z,103nm,20.2s,baz=140,slow=36						
PETK	**Petropavlovsk-**	**19.45**	**30**	LR	LR	21 12 19.3	
	comp=Z,30nm,18.7s,baz=243,slow=39						
YAK	**Yakutsk**	**25.81**	**347**	LR	LR	21 15 29.0	
	comp=Z,89nm,20.4s,baz=150,slow=37						
SEY	**Seymchan**	**26.52**	**11**	P	**P**	**21 05 12.5**	**+2.6**
	1.0nm,0.4s,baz=204,slow=8.3,SNR=4.7						
SONM	**Songino Array**	**27.64**	**304**	P	**P**	**21 05 19.2**	**-1.0**
	2.7nm,0.8s,baz=94,slow=9.0,SNR=16						
SONM				LR	LR	21 16 33.7	
	comp=Z,32nm,18.3s,baz=112,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.28**	**121**	T	T	21 35 33.2	
	baz=314,slow=75,SNR=309						
H11N1	**WAKE ISLAND Hy**	**28.29**	**121**	T	T	21 35 28.3	
	baz=314,slow=75,SNR=393						
H11N3	**WAKE ISLAND Hy**	**28.30**	**121**	T	T	21 35 33.9	
	baz=314,slow=75,SNR=427						
H11S1	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	21 36 03.7	
	baz=316,slow=76,SNR=205						
H11S3	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	21 36 28.5	
	baz=316,slow=76,SNR=147						
H11S2	**WAKE ISLAND Hy**	**29.02**	**123**	T	T	21 36 29.6	
	baz=316,slow=76,SNR=144						
TLY	**Talaya**	**30.16**	**311**	P	**P**	**21 05 42.2**	**-0.2**
	1.0nm,0.4s,baz=22,slow=12,SNR=3.3						
TLY				LR	LR	21 18 24.6	
	comp=Z,68nm,18.8s,baz=108,slow=38						
CMAR	**Chiang Mai Arr**	**41.57**	**255**	LR	LR	21 25 39.1	
	comp=Z,27nm,18.4s,baz=80,slow=38						
ZALV	**Zalesovo Beam**	**41.74**	**312**	P	**P**	**21 07 20.8**	**-0.5**
	6.7nm,0.7s,baz=88,slow=6.3,SNR=25						
ZALV				LR	LR	21 25 23.1	
	comp=Z,43nm,19.1s,baz=70,slow=37						
LSA	**Lhasa**	**42.19**	**275**	*e*P	**P**	**21 07 25.5**	**-0.5**
	3.2nm,0.8s						
MKAR	**Makanchi Array**	**43.98**	**302**	P	**P**	**21 07 39.3**	**-0.4**
	4.3nm,0.7s,baz=89,slow=9.8,SNR=41						
MKAR				LR	LR	21 26 33.2	
	comp=Z,27nm,18.7s,baz=52,slow=37						
KURK	**Kurchatov**	**45.77**	**308**	*e*P	**P**	**21 07 52.8**	**-1.0**
	74nm,0.9s						
KURBB	**Kurchatov Arra**	**45.84**	**308**	P	**P**	**21 07 53.7**	**-0.6**
	4.4nm,0.6s,baz=83,slow=8.4,SNR=23						
ILAR	**Eielson Array**	**49.26**	**32**	P	**P**	**21 08 21.6**	**+0.8**
	1.2nm,0.7s,baz=275,slow=6.7,SNR=16						
TKM2	**Tokmak 2**	**49.51**	**298**	*e*P	**P**	**21 08 22.1**	**-1.2**
	2.9nm,0.8s						
BVAR	**Borovoye Array**	**50.40**	**312**	P	**P**	**21 08 28.7**	**-0.9**
	1.0nm,0.6s,baz=81,slow=7.6,SNR=7.7						
KKAR	**Karatay Array**	**52.99**	**300**	*e*P	**P**	**21 08 46.8**	**-2.3**
	2.0nm,0.4s						
INK	**Inuvik**	**54.14**	**27**	P	**P**	**21 08 58.0**	**+0.9**
	1.0nm,0.6s,baz=254,slow=6.0,SNR=5.1						
ARU	**Arti**	**56.16**	**318**	P	**P**	**21 09 11.3**	**-0.5**
	2.2nm,0.5s,baz=79,slow=8.3,SNR=6.1						
ARU	**Arti**	**56.16**	**318**	*e*P	**P**	**21 09 11.1**	**-0.8**
	2.7nm,0.9s						
WRA	**Warramunga Arr**	**57.33**	**188**	P	**P**	**21 09 20.2**	**-0.3**
	1.6nm,0.6s,baz=6.8,slow=7.5,SNR=24						
ABKAR	**Akbulak array**	**57.77**	**310**	*e*P	**P**	**21 09 22.1**	**-1.3**
	1.0nm,0.6s						
AKTO	**Aktyubinsk**	**58.50**	**312**	P	**P**	**21 09 28.2**	**-0.3**
	1.0nm,0.6s,baz=32,slow=9.5,SNR=4.1						
ASAR	**Alice Springs**	**61.06**	**188**	P	**P**	**21 09 46.2**	**-0.1**
	0.3nm,0.6s,baz=11,slow=10,SNR=7.9						
YKA	**Yellowknife Ar**	**63.57**	**30**	P	**P**	**21 10 03.3**	**+0.7**
	0.4nm,0.7s,baz=303,slow=7.0,SNR=3.7						
GEYT	**Alibeck**	**63.71**	**299**	P	**P**	**21 10 03.5**	**-0.6**
	1.6nm,0.8s,baz=60,slow=3.6,SNR=4.9						
ARCES	**ARCESS Array B**	**63.74**	**339**	LR	LR	21 40 39.4	
	comp=Z,11nm,20.0s,baz=56,slow=39						
FINES	**FINESS Array B**	**66.58**	**332**	P	**P**	**21 10 34.7**	**-0.1**
	2.9nm,0.8s,baz=54,slow=7.1,SNR=5.7						
KVAR	**Kislovodsk Ar**	**70.73**	**311**	P	**P**	**21 10 48.3**	**-0.3**
	3.8nm,0.9s,baz=62,slow=4.2,SNR=3.0						
KBZ	**Khabaz**	**70.73**	**311**	P	**P**	**21 10 48.5**	**+0.1**
	1.7nm,0.7s,baz=67,slow=6.0,SNR=4.4						
NB2	**NORSAR Subarra**	**73.94**	**337**	P	**P**	**21 11 07.3**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**73.94**	**337**	P	**P**	**21 11 07.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=37,slow=6.0,SNR=4.7						
NOA				LR	LR	21 46 49.7	
	comp=Z,24nm,19.3s,baz=40,slow=38						
AKASG	**Malin Array Be**	**74.09**	**322**	P	**P**	**21 11 08.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=44,slow=6.2,SNR=5.4						
PDAR	**Pinedale Array**	**77.47**	**45**	P	**P**	**21 11 28.7**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=13,slow=2.0,SNR=3.9						
BRTR	**Keskin Array B**	**78.68**	**312**	P	**P**	**21 11 34.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=56,slow=3.6,SNR=2.8						
GERES	**GERESS Array B**	**82.48**	**329**	P	**P**	**21 11 54.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=32,slow=5.8,SNR=3.9						
TXAR	**Lajitas Array**	**89.95**	**52**	P	**P**	**21 12 32.8**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=305,slow=3.6,SNR=6.2						
LPAZ	**La Paz**	**146.55**	**59**	PKPbc	**PKPbc**	**21 19 15.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=7.2,slow=2.6,SNR=5.0						

ISCJB ***13*** *21:04:49.5±0.5, 34.69N±0.03×29.15E±0.05, h10km, Error ellipse: s-maj=7.0km s-min=3.6km az=145.7*
CSEM ***13*** *21:04:52.4±0.3, 34.76N×29.08E, h20km, ML2.5, Error ellipse: s-maj=9.8km s-min=4.4km az=60.0*
ISK ***13*** *21:04:52.7, 34.97N×29.09E, h13km, ML2.5*
GII ***13*** *21:04:59.0±0.0, 34.49N×29.44E, h30km, MD2.1/1*
DDA ***13*** *21:05:22.1, 35.55N×28.82E, h16km, Md3.4*
ISC 13 21:04:49.9±1.0, 34.79N±0.04×29.14E±0.04, h10km, n47, σ1§58/66, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.49**	**15**	P	**Pg**	**21 05 19.6**	**+1.1**
AKAS				S	**Sg**	**21 05 38.7**	**+0.9**
AKAS	**Kas**	**1.49**	**15**	*i* P	**Pg**	**21 05 19.6**	**+1.1**
AKAS				*i* S	**Sg**	**21 05 38.7**	**+0.9**
KARP	**Karpathos**	**1.79**	**296**	*e*PN	**Pb**	**21 05 23.1**	**+0.4**
KARP				*e*SN	**Sn**	**21 05 43.8**	**+0.2**
KARP	**Karpathos**	**1.79**	**296**	*e*Pn	**Pb**	**21 05 23.1**	**+0.4**
KARP				*e*Sn	**Sn**	**21 05 43.8**	**+0.2**
FETY	**Fethiye**	**1.84**	**359**	*e*PN	**Pn**	**21 05 22.0**	**+0.4**
FETY				*e*SN	**Sb**	**21 05 44.1**	**-2.7**
FETY	**Fethiye**	**1.84**	**359**	*e*Pn	**Pn**	**21 05 22.0**	**+0.4**
FETY				*e*Sn	**Sb**	**21 05 44.1**	**-2.7**
ELL	**Elmali**	**2.05**	**18**	*e*PN	**Pn**	**21 05 26.2**	**+1.6**
ELL	**Elmali**	**2.05**	**18**	*e*Pn	**Pn**	**21 05 26.2**	**+1.6**
DALY	**Dalyan (Mu¯la**	**2.06**	**349**	*e*PN	**Pn**	**21 05 25.3**	**+0.8**
DALY	**Dalyan (Mu¯la**	**2.06**	**349**	*e*Pn	**Pn**	**21 05 25.3**	**+0.8**
TURN	**Turunc**	**2.12**	**348**	*i* P	**Pn**	**21 05 24.9**	**-0.5**
TURN				*i* S	**Sb**	**21 05 51.4**	**-3.4**
GLHS	**Glhisar (BURDU**	**2.38**	**7**	*e*PN	**Pn**	**21 05 29.5**	**+0.4**
GLHS	**Glhisar (BURDU**	**2.38**	**7**	*e*Pn	**Pn**	**21 05 29.5**	**+0.4**
KORT	**Korkueli**	**2.42**	**24**	P	**Pb**	**21 05 33.0**	**-0.5**
KORT				S	**Sb**	**21 06 03.3**	**-0.2**
KORT	**Korkueli**	**2.42**	**24**	*i* P	**Pb**	**21 05 33.0**	**-0.5**
KORT				*i* S	**Sb**	**21 06 03.3**	**-0.2**
YER	**Yerkesik**	**2.44**	**344**	*e*PN	**Pn**	**21 05 30.9**	**+1.1**
YER	**Yerkesik**	**2.44**	**344**	*e*Pn	**Pn**	**21 05 31.0**	**+1.1**
GOLH	**Golhisar**	**2.47**	**8**	P	**Pb**	**21 05 33.9**	**-0.5**
GOLH				S	**Sb**	**21 06 03.2**	**-1.6**
GOLH	**Golhisar**	**2.47**	**8**	*i* P	**Pb**	**21 05 33.9**	**-0.5**
GOLH				*i* S	**Sb**	**21 06 03.2**	**-1.6**
SUTC	**Sutluce-Ispart**	**3.08**	**29**	*e*PN	**Pn**	**21 05 40.2**	**+1.6**
SUTC	**Sutluce-Ispart**	**3.08**	**29**	*e*Pn	**Pn**	**21 05 40.2**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**3.31**	**343**	*e*PN	**Pn**	**21 05 43.0**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**3.31**	**343**	*e*Pn	**Pn**	**21 05 43.0**	**+1.2**
CSS	**Mathiatis**	**3.45**	**86**	Pn	**Pn**	**21 05 46.2**	**+2.5**
CSS				Sn	**Sn**	**21 06 25.4**	**+0.7**
CSS	**Mathiatis**	**3.45**	**86**	Pn	**Pn**	**21 05 46.2**	**+2.5**
CSS				Sn	**Sn**	**21 06 25.4**	**+0.7**
MMA4	**Mount Meron ar**	**5.50**	**107**	Sn	**Sn**	**21 07 13.6**	**-1.7**
MMA4	**Mount Meron ar**	**5.50**	**107**	Sn	**Sn**	**21 07 13.6**	**-1.7**
MMLI	**Mount Malkishu**	**5.75**	**112**	Pn	**Pn**	**21 06 16.9**	**+1.6**
MMLI				Sn	**Sn**	**21 07 18.9**	**-2.4**
MMLI	**Mount Malkishu**	**5.75**	**112**	Pn	**Pn**	**21 06 16.9**	**+1.6**
MMLI				Sn	**Sn**	**21 07 18.9**	**-2.4**
AMAZ	**Amatzia**	**5.83**	**122**	Pn	**Pn**	**21 06 17.7**	**+1.2**
AMAZ				Sn	**Sn**	**21 07 20.8**	**-2.7**
AMAZ	**Amatzia**	**5.83**	**122**	Pn	**Pn**	**21 06 17.7**	**+1.2**
AMAZ				Sn	**Sn**	**21 07 20.8**	**-2.7**
KZIT	**Kziot**	**5.88**	**130**	Pn	**Pn**	**21 06 18.5**	**+1.4**
KZIT				Sn	Sn	21 07 21.1	-3.5
KZIT	**Kziot**	**5.88**	**130**	Pn	**Pn**	**21 06 18.5**	**+1.4**
HMDT	**Nahal Hemdat**	**5.91**	**114**	Sn	**Sn**	**21 07 23.6**	**-1.6**
HMDT	**Nahal Hemdat**	**5.91**	**114**	Sn	**Sn**	**21 07 23.6**	**-1.6**
MZBI	**Masada**	**6.27**	**122**	Pn	**Pn**	**21 06 24.6**	**+2.2**
MZBI	**Masada**	**6.27**	**122**	Pn	**Pn**	**21 06 24.6**	**+2.2**
MZDA	**Masada**	**6.28**	**122**	Pn	**Pn**	**21 06 24.6**	**+2.1**
MZDA				Sn	**Sn**	**21 07 31.9**	**-2.3**
MZDA	**Masada**	**6.28**	**122**	Pn	**Pn**	**21 06 24.6**	**+2.1**
MZDA				Sn	**Sn**	**21 07 31.9**	**-2.3**
KRMI	**Paran Flat**	**6.63**	**133**	Pn	**Pn**	**21 06 28.4**	**+0.9**
KRMI				Sn	Sn	21 07 39.6	-3.6
KRMI	**Paran Flat**	**6.63**	**133**	Pn	**Pn**	**21 06 28.4**	**+0.9**
PRNI	**Paran**	**6.64**	**130**	Pn	**Pn**	**21 06 28.7**	**+1.1**
PRNI				Sn	Sn	21 07 39.7	-3.7
PRNI	**Paran**	**6.64**	**130**	Pn	**Pn**	**21 06 28.7**	**+1.1**
HRFI	**Mount Harif**	**6.88**	**132**	Pn	**Pn**	**21 06 32.1**	**+1.2**
HRFI	**Mount Harif**	**6.88**	**132**	Pn	**Pn**	**21 06 32.1**	**+1.2**
MBRI	**Mt Berech**	**6.98**	**134**	Pn	**Pn**	**21 06 33.7**	**+1.4**
MBRI				Sn	Sn	21 07 47.9	-3.9
MBRI	**Mt Berech**	**6.98**	**134**	Pn	**Pn**	**21 06 33.7**	**+1.4**

ISCJB ***13*** *21:19:30.1±0.5, 32.31N±0.03×115.38W±0.05, h14km±6km, Error ellipse: s-maj=7.7km s-min=5.1km az=152.5*
ECX ***13*** *21:19:31.2±0.6, 32.30N×115.38W, h8km, MD2.4, ML2.6*
MEX ***13*** *21:19:31.1±0.6, 32.45N×115.25W, h21km±12km, MD3.9*
ISC 13 21:19:29.7±0.9, 32.30N±0.04×115.39W±0.04, h16km±9km, n17, σ0§50/23, 4C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.14**	**31**	*e*P	**Pg**	**21 19 33.6**	**0.0**
CPBX				*e*S	**Sg**	**21 19 36.3**	**+0.2**
CPBX				IAML		21 19 38.0	
	comp=E,7μm,0.2s						
CPBX				⇑*e*		21 19 38.0	
CPBX				IAML		21 19 38.5	
	comp=N,4μm,0.2s						
CPBX				⇑*e*		21 19 38.5	
MBIG	**Mexicali**	**0.19**	**56**	*i* P	**Pg**	**21 19 34.9**	**+0.5**
MBIG				*e*S	**Sg**	**21 19 36.8**	**-0.7**
WESC	**Westside Scho

27nm,0.3s,baz=144,slow=21,SNR=20
CTA Charters Tower 14.09 180 P P 21 35 23.9 +1.4
1.0nm,0.3s,baz=1.2,slow=12,SNR=8.2
WRA Warramunga Arr 18.10 219 P P 21 36 06.2 -0.6
0.3nm,0.3s,baz=39,slow=12,SNR=24
ASAR Alice Springs 21.26 213 P P 21 36 40.9 0.0
2.5nm,1.0s,baz=51,slow=8.7,SNR=20
FITZ Fitzroy Crossi 23.45 237 P P 21 37 02.0 -1.0
4.9nm,0.8s,baz=54,slow=8.1,SNR=11
STKA Stephens Creek 26.19 189 P P 21 37 28.7 +1.0
3.6nm,0.8s,baz=5.2,slow=11,SNR=6.8
KSRS Korea Array 46.39 340 P P 21 40 18.2 -0.4
0.5nm,0.5s,baz=162,slow=8.9,SNR=5.0
USRK Ussuriysk Ar. 51.50 347 P P 21 40 57.6 0.0
1.2nm,0.6s,baz=175,slow=5.4,SNR=4.4
CMAR Chiang Mai Arr 52.51 299 P P 21 41 06.2 +0.7
1.2nm,0.8s,baz=116,slow=6.7,SNR=6.0
ILAR Eielson Array 85.71 23 P P 21 44 28.8 -0.7
0.5nm,0.6s,baz=260,slow=5.5,SNR=4.1
TORD Torodi Ar. Bea 144.31 284 PKP PKPbc 21 51 26.5 +0.6
0.3nm,0.6s,baz=56,slow=3.1,SNR=3.7

IDC 13 21:38:43.9±11.0, 20°22S×178°28W, h517km±122km, mb3.0/6, mb1 3.2/6, mb1mx3.0/32, mbtmp3.8/6, Error ellipse: s-maj=54.2km s-min=24.3km az=67.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.33**	**256**	P	P	21 46 08.1	0.0
	0.3nm,0.3s,baz=93,slow=7.9,SNR=7.5						
WRA	**Warramunga Arr**	**44.38**	**262**	P	P	21 46 08.2	-0.2
	0.5nm,0.3s,baz=96,slow=7.7,SNR=33						
VNDA	**Vanda**	**58.17**	**185**	P	P	21 47 47.4	-0.1
	0.5nm,0.5s,baz=31,slow=5.7,SNR=6.8						
MJAR	**Matsushiro Arr**	**69.82**	**321**	P	P	21 49 02.0	-0.4
	0.7nm,0.6s,baz=142,slow=6.3,SNR=4.0						
KSRS	**Korea Array**	**76.50**	**319**	P	P	21 49 40.9	+0.4
	0.6nm,0.4s,baz=123,slow=5.1,SNR=3.0						
ILAR	**Eielson Array**	**88.10**	**13**	P	P	21 50 38.8	+0.1
	0.4nm,0.5s,baz=221,slow=5.4,SNR=4.6						
AKASG	**Malin Array Be**	**142.64**	**331**	PKhKP	PKPpre	21 57 14.2	
	1.6nm,0.4s,baz=43,slow=4.4,SNR=12						
BRTR	**Keskin Array B**	**146.45**	**312**	PKPbc	PKPbc	21 57 26.5	-0.8
	0.3nm,0.5s,baz=156,slow=3.1,SNR=2.8						
GERES	**GERESS Array B**	**149.85**	**344**	PKPbc	PKPbc	21 57 35.2	-0.3
	0.2nm,0.4s,baz=19,slow=4.2,SNR=4.6						

*NIED **13** 21:40:00.37°S×143°E, h5km, Mw3.6 Best double couple: M₀2.98000×10¹⁴ NP1:φs3.00000°, δ41.00000°, λ-106.00000°. NP2:φs205.00000°, δ51.00000°, λ-76.00000°*

*IDC **13** 21:40:47.7±1.8, 37°43N×144°21E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.6/44, mbtmp3.8/9, ML3.8/3, MS2.6/2, Ms1 2.6/2, ms1mx2.2/34, Error ellipse: s-maj=39.9km s-min=22.4km az=69.0*

*ISCJB **13** 21:40:50.9±0.8, 37°55N±0°04×143°96E±0°07, h33km, mb3.8/4, Error ellipse: s-maj=8.3km s-min=6.0km az=162.8*

*JMA **13** 21:40:52.1±0.2, 37°55N×143°85E, h47km, M3.8*

ISC 13 21:40:53.1±1.4, 37°51N±0°05×143°9E±0°1, h35km, n21, σ2s02/33, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.25**	**296**	P	**Pn**	**21 41 27.0**	**-0.8**
JIO				S	**Sn**	**21 41 52.9**	**-1.5**
OFUJ	**Ofunato**	**2.37**	**312**	P	**Pn**	**21 41 28.5**	**-1.1**
OFUJ				S	**Sn**	**21 41 55.5**	**-2.0**
JMK	**Ichinoseki**	**2.58**	**305**	P	**Pn**	**21 41 31.7**	**-0.6**
JMK				S	**Sn**	**21 42 01.2**	**-1.2**
JOM	**Ohasama**	**2.85**	**314**	P	**Pn**	**21 41 35.8**	**-0.4**
JOM				S	**Sn**	**21 42 08.0**	**-1.3**
JFT	**Otama**	**2.86**	**271**	P	**Pn**	**21 41 36.2**	**-0.1**
JFT				S	**Sn**	**21 42 09.3**	**-0.2**
JYK	**Kaneyama**	**3.15**	**298**	P	**Pn**	**21 41 40.3**	**+0.1**
JYK				eS	**Sn**	**21 42 16.5**	**0.0**
JANG	**Nango**	**3.43**	**327**	P	**Pn**	**21 41 43.0**	**-1.0**
JANG				S	**Sn**	**21 42 21.3**	**-2.1**
JAG	**Ashikaga**	**3.75**	**255**	P	**Pn**	**21 41 47.6**	**-0.8**
JAW	**Awa shima**	**3.82**	**286**	P	**Pn**	**21 41 50.0**	**+0.6**
JRY	**Ryogami san**	**4.30**	**251**	P	**Pn**	**21 41 55.0**	**-1.1**
JRY				S	**Sn**	**21 42 41.6**	**-3.5**
JOT	**Ohata**	**4.47**	**331**	P	**Pn**	**21 41 58.6**	**+0.3**
JOT				eS	**Sn**	**21 42 45.6**	**-3.4**
MJAR	**Matsushiro Arr**	**4.68**	**260**	Pn	**Pn**	**21 42 01.7**	**+0.4**
	4.7nm,0.3s,baz=90,slow=15,SNR=46						
MJAR				LR	LR	21 43 59.7	
	comp=Z,66nm,18.5s,baz=95,slow=40						
MAT	**Matsushiro**	**4.68**	**260**	P	**Pn**	**21 42 02.3**	**+1.0**
MAT				S	**Sn**	**21 42 55.8**	**+1.4**
JHJ	**Hachijo jima 2**	**5.54**	**219**	Pn	**Pn**	**21 42 11.9**	**-1.2**
	12nm,0.3s,baz=36,slow=14,SNR=8.7						
JHJ				Sn	**Sn**	**21 43 08.3**	**-7.2**
	13nm,0.3s,baz=317,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**6.68**	**352**	Pn	**Pn**	**21 42 28.5**	**-0.2**
	baz=180,slow=13						
ASAJ				Sn	**Sn**	**21 43 40.4**	**-3.1**
	baz=112,slow=18						
USRK	**Ussuriysk Ar.**	**11.24**	**310**	Pn	**Pn**	**21 43 32.1**	**+0.9**
	0.1nm,0.3s,baz=118,slow=15,SNR=3.4						
KSRS	**Korea Array**	**12.72**	**275**	Pn	**Pn**	**21 43 54.3**	**+2.9**
	0.4nm,0.3s,baz=93,slow=13,SNR=10						
KSRS				LR	LR	21 48 40.0	
	comp=Z,23nm,19.6s,baz=10.0,slow=36						
CMAR	**Chiang Mai Arr**	**43.56**	**257**	P	**P**	**21 48 55.1**	**+1.3**
	0.8nm,0.7s,baz=44,slow=7.6,SNR=4.2						
MKAR	**Makanchi Array**	**45.57**	**302**	P	**P**	**21 49 11.0**	**+1.4**
	0.2nm,0.2s,baz=76,slow=7.6,SNR=3.0						
WRA	**Warramunga Arr**	**57.85**	**191**	P	**P**	**21 50 40.7**	**-0.6**
	0.8nm,0.5s,baz=8.7,slow=7.1,SNR=14						
ASAR	**Alice Springs**	**61.58**	**190**	P	**P**	**21 51 06.9**	**-0.1**
	0.6nm,0.7s,baz=4.8,slow=5.6,SNR=4.6						

*IDC **13** 21:43:34.9±0.9, 12°64N×48°21E, h0km, mb3.9/12, mb1 4.1/14, mb1mx3.8/42, mbtmp3.9/14, ML3.3/2, MS3.5/17, Ms1 3.5/17, ms1mx3.3/37, Error ellipse: s-maj=24.5km s-min=19.5km az=166.0*

*ISCJB **13** 21:43:35.1±0.5, 12°73N±0°08×48°11E±0°05, h12km, mb4.2/23, MS3.5/15, Error ellipse: s-maj=10.9km s-min=7.0km az=4.8*

*NEIC **13** 21:43:35.7±0.5, 12°47N×48°16E, h10km, mb4.6/11, Error ellipse: s-maj=14.1km s-min=9.7km az=208.0*

ISC 13 21:43:36.1±0.6, 12°58N±0°09×48°11E±0°08, h12km, n47, σ1s45/41, mb4.2/23, MS3.5/15, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAMY	**Dhamar**	**4.12**	**299**	ePn	**Pn**	**21 44 39.6**	**+0.3**
DAMY				eSn	**Sn**	**21 45 25.6**	**-2.0**
ATD	**Arta Tunnel**	**5.26**	**259**	Pn	**Pn**	**21 44 56.3**	**+1.7**
	4.9nm,0.3s,baz=90,slow=20,SNR=5.0						
ATD				LR	LR	21 46 29.6	
	comp=Z,633nm,19.9s,baz=76,slow=33						
KMBO	**Kilima Mbogo**	**17.37**	**219**	P	**P**	**21 47 41.2**	**+1.0**
	0.0nm,0.3s,baz=54,slow=13,SNR=3.9						
KMBO				LR	LR	21 54 07.2	
	comp=Z,301nm,19.5s,baz=84,slow=36						
KMBO	**Kilima Mbogo**	**17.37**	**219**	ePn	**P**	**21 47 41.2**	**+1.0**
	17nm,2.0s						
GEYT	**Alibeck**	**26.77**	**18**	P	**P**	**21 49 15.9**	**-0.1**
	0.8nm,0.7s,baz=201,slow=7.6,SNR=2.7						
GEYT				LR	LR	22 01 50.8	
	comp=Z,273nm,18.4s,baz=35,slow=41						
BRTR	**Keskin Array B**	**29.91**	**337**	P	**P**	**21 49 47.5**	**+3.4**
	0.5nm,0.8s,baz=164,slow=7.5,SNR=3.7						
BRTR				LR	LR	22 03 13.4	
	comp=Z,30nm,19.2s,baz=132,slow=39						
BR101	**Keskin Array S**	**29.91**	**337**	eP	**P**	**21 49 47.5**	**+3.4**
BR231	**Keskin MP Arra**	**30.34**	**336**	eP	**P**	**21 49 46.9**	**-0.9**
KBZ	**Khabaz**	**31.36**	**353**	LR	LR	22 04 12.5	
	comp=Z,95nm,18.8s,baz=192,slow=40						
MRIV	**Mauritius Mete**	**33.95**	**164**	eP	**P**	**21 50 16.8**	**-2.8**
AGG	**Agios Georgios**	**34.86**	**324**	eP	**P**	**21 50 25.0**	**-2.4**
	61nm,1.8s						
TIR	**Tirane**	**37.82**	**324**	eP	**P**	**21 50 50.1**	**-2.4**
	48nm,1.4s						
AKASG	**Malin Array Be**	**41.02**	**342**	P	**P**	**21 51 19.9**	**+0.8**
	0.2nm,0.2s,baz=153,slow=7.2,SNR=3.4						
AKBB	**Malin Array Si**	**41.02**	**342**	eP	**P**	**21 51 17.2**	**-1.9**
	7.3nm,0.6s						
TAM	**Tamanrasset**	**41.70**	**290**	eP	**P**	**21 51 22.9**	**-2.4**
	9.3nm,1.9s						
AQU	**L'Aquila**	**42.25**	**321**	eP	**P**	**21 51 32.0**	**+2.5**
MK01	**Makanchi Array**	**44.58**	**33**	eP	**P**	**21 51 48.8**	**+0.6**
MK32	**Makanchi Array**	**44.59**	**33**	eP	**P**	**21 51 47.8**	**-0.4**
MKAR	**Makanchi Array**	**44.59**	**33**	P	**P**	**21 51 47.8**	**-0.4**
	1.0nm,0.7s,baz=219,slow=8.4,SNR=6.5						
MKAR				LR	LR	22 12 54.3	
	comp=Z,49nm,20.1s,baz=205,slow=40						
MKAR	**Makanchi Array**	**44.59**	**33**	eP	**P**	**21 51 49.3**	**+1.1**
TORD	**Torodi Ar. Bea**	**45.21**	**276**	P	**P**	**21 51 54.4**	**+0.8**
	0.6nm,0.7s,baz=94,slow=7.8,SNR=4.9						
TORD				PcP	**PcP**	**21 53 34.9**	**+1.1**
	0.6nm,0.7s,baz=84,slow=4.3,SNR=3.7						
TOA1	**Torodi Ar. Sit**	**45.21**	**276**	eP	**P**	**21 51 54.4**	**+0.8**
	12nm,1.6s						
TOA1				ePcP	**PcP**	**21 53 34.9**	**+1.1**
KURK	**Kurchatov**	**45.43**	**27**	eP	**P**	**21 51 55.8**	**+1.0**
	8.4nm,1.0s						
GEA0	**GERESS Array S**	**46.00**	**329**	eP	**P**	**21 51 59.5**	**+0.1**
GERES	**GERESS Array B**	**46.01**	**329**	P	**P**	**21 51 59.9**	**+0.4**
	0.6nm,0.5s,baz=140,slow=8.5,SNR=8.5						
BOSA	**Boshof**	**46.54**	**208**	LR	LR	22 10 32.7	
	comp=Z,115nm,19.6s,baz=34,slow=35						
CM31	**Chiang Mai Arr**	**49.20**	**76**	eP	**P**	**21 52 24.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**49.20**	**76**	P	**P**	**21 52 24.3**	**-0.4**
	1.1nm,0.6s,baz=269,slow=10,SNR=7.4						
CMAR				LR	LR	22 10 46.6	
	comp=Z,21nm,22.0s,baz=140,slow=33						
SSB	**Saint Sauveur**	**49.25**	**320**	eP	**P**	**21 52 23.8**	**-1.0**
	21nm,2.0s						
ZALV	**Zalesovo Beam**	**50.41**	**27**	P	**P**	**21 52 32.4**	**-1.0**
	0.4nm,0.3s,baz=224,slow=6.0,SNR=3.3						
ZALV				LR	LR	22 16 36.3	
	comp=Z,29nm,19.0s,baz=248,slow=39						
ZAA1	**Zalesovo Array**	**50.41**	**27**	eP	**P**	**21 52 32.4**	**-1.0**
FIA0	**FINESS Array S**	**51.34**	**347**	eP	**P**	**21 52 40.4**	**+0.2**
FINES	**FINESS Array B**	**51.34**	**347**	P	**P**	**21 52 40.4**	**+0.2**
	1.4nm,0.7s,baz=193,slow=5.6,SNR=3.2						
DBIC	**Dimbokro**	**52.48**	**269**	LR	LR	22 15 58.8	
	comp=Z,41nm,18.4s,baz=70,slow=37						
NOA	**NORSAR Array B**	**55.31**	**339**	LR	LR	22 19 53.5	
	comp=Z,22nm,19.4s,baz=130,slow=39						
ARCES	**ARCESS Array B**	**58.69**	**351**	LR	LR	22 22 09.6	
	comp=Z,35nm,19.5s,baz=153,slow=40						
SONA0	**Songino Array**	**59.62**	**42**	eP	**P**	**21 53 41.0**	**+0.8**
	1.9nm,1.1s						
SONM	**Songino Array**	**59.62**	**42**	P	**P**	**21 53 41.0**	**+0.8**
	0.7nm,0.7s,baz=261,slow=7.6,SNR=4.6						
SONM				LR	LR	22 21 55.8	
	comp=Z,45nm,21.0s,baz=250,slow=39						
NRIK	**Noril'sk**	**61.97**	**15**	LR	LR	22 26 04.1	
	comp=Z,76nm,18.5s,baz=112,slow=41						
KAPI	**Kappang**	**73.29**	**99**	LR	LR	22 25 49.5	
	comp=Z,33nm,18.6s,baz=22,slow=35						
KSRS	**Korea Array**	**74.42**	**54**	LR	LR	22 32 05.4	
	comp=Z,16nm,18.8s,baz=250,slow=39						
SEY	**Seymchan**	**85.27**	**26**	P	**P**	**21 56 12.8**	**+0.2**
	1.8nm,0.2s,baz=266,slow=4.6,SNR=4.0						
WRA	**Warramunga Arr**	**90.74**	**110**	P	**P**	**21 56 40.0**	**+0.2**
	2.4nm,0.8s,baz=295,slow=4.0,SNR=11						
WR1	**Warramunga Arr**	**90.74**	**110**	eP	**P**	**21 56 40.0**	**+0.2**
	36nm,1.7s						
ASAR	**Alice Springs**	**91.19**	**114**	P	**P**	**21 56 42.0**	**+0.3**
	1.4nm,0.8s,baz=298,slow=4.8,SNR=8.4						
AS31	**Alice Springs**	**91.19**	**114**	eP	**P**	**21 56 42.0**	**+0.3**
	4.2nm,1.6s						
PETK	**Petropavlovsk-**	**91.41**	**35**	LR	LR	22 39 35.3	
	comp=Z,35nm,18.6s,baz=212,slow=37						

WEL 13 21:43:44.6±0.1, 43°59S×172°78E, h6km, ML3.2/3, 1C, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.14**	**218**	↑P	Pg	21 43 47.5	0.0
MQZ				SG	Sg	21 43 49.7	+0.2
MQZ				SG		21 43 49.8	
MQZ				AML	AML	21 43 49.9	
LTZ	**Lake Taylor**	**0.89**	**335**	P*	Pg	21 44 01.4	-0.4
LTZ				S*	Sg	21 44 13.8	+0.5
LTZ				AML	AML	21 44 14.3	
RPZ	**Rata Peaks**	**1.26**	**264**	P*	Pg	21 44 06.9	-1.8
KHZ	**Kahutara**	**1.30**	**26**	P*	Pn	21 44 07.2	-2.1

WEL 13 21:43:48.5±0.1, 43°60S×172°76E, h8km, ML3.6/12, 1D, Error ellipse: s-maj=1.3km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.13**	**215**	PG	Pg	21 43 51.6	+0.2
MQZ				SG	Sg	21 43 53.8	+0.4
MQZ				SG	Sg	21 43 53.8	+0.5
MQZ				AML	AML	21 43 53.8	
OXZ	**Oxford**	**0.59**	**297**	↓P*	Pg	21 43 59.8	-0.1
LTZ	**Lake Taylor**	**0.89**	**336**	P*	Pg	21 44 05.5	0.0
LTZ				S*	Sg	21 44 17.3	+0.2
LTZ				AML	AML	21 44 20.9	
RPZ	**Rata Peaks**	**1.24**	**264**	AML	AML	21 44 33.3	
RPZ				AML	AML	21 44 34.2	
THZ	**Tophouse**	**1.84**	**3**	AML	AML	21 44 59.6	
THZ				AML	AML	21 45 00.3	
DSZ	**Denniston Nort**	**1.98**	**339**	AML	AML	21 44 49.3	
DSZ				AML	AML	21 44 51.3	
LBZ	**Lake Benmore**	**2.02**	**246**	AML	AML	21 44 59.3	
LBZ				AML	AML	21 45 00.2	
ODZ	**Otahua Downs**	**2.10**	**226**	AML	AML	21 44 57.8	
ODZ				AML	AML	21 44 58.7	
ODZ				AML	AML	21 45 00.8	
ODZ				AML	AML	21 45 00.9	
QRZ	**Quartz Range**	**2.77**	**356**	AML	AML	21 45 24.6	
JCZ	**Jackson Bay**	**2.91**	**259**	AML	AML	21 45 24.3	
JCZ				AML	AML	21 45 27.2	
WKZ	**Wanaka**	**2.96**	**244**	AML	AML	21 45 28.1	
WKZ				AML	AML	21 45 31.5	
EAZ	**Earnscleugh**	**2.96**	**235**	AML	AML	21 45 26.1	
EAZ				AML	AML	21 45 26.8	
TUZ	**Tuapeka**	**3.24**	**222**	AML	AML	21 45 35.6	
TUZ				AML	AML	21 45 42.9	

MEX 13 21:56:32.1±0.3, 14°40N×92°78W, h13km±248km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.97**	**18**	eP	Pn	21 57 02.0	-3.3
CCIG				i S	Sn	21 57 25.4	-4.7

*NSSC **13** 21:57:32.2±0.7, 37°24N×37°52E, h5km±4km, ML2.2*

*ISK **13** 21:57:33.1, 37°31N×37°15E, h5km, ML2.2*

*ISCJB **13** 21:57:34.7±0.5, 37°32N±0°03×37°11E±0°03, h6km±4km, Error ellipse: s-maj=4.4km s-min=3.4km az=158.9*

*DDA **13** 21:57:34.1, 37°32N×37°12E, h10km, Md3.3*

*CSEM **13** 21:57:34.6±0.4, 37°31N×37°13E, h5km, MD3.3, Error ellipse: s-maj=11.0km s-min=8.1km az=152.0*

ISC 13 21:57:34.2±1.1, 37°30N±0°03×37°15E±0°02, h6km±10km, n30, σ0s70/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HCB	**Kahramanmara⁻**	**0.20**	**284**	i P	**Pg**	**21 57 38.1**	**0.0**
HCB				i S	**Sg**	**21 57 41.0**	**+0.2**
GZT	**Gaziantep**	**0.34**	**80**	i P	**Pg**	**21 57 41.5**	**+0.7**
GZT				i S	**Sb**	**21 57 47.5**	**-0.9**
KAMA	**Osmaniye**	**0.40**	**254**	i P	**Pg**	**21 57 41.9**	**0.0**
KAMA				i S	**Sg**	**21 57 47.5**	**+0.3**
KUZU	**Kuzuini**	**0.53**	**186**	P	**Pb**	**21 57 45.5**	**-0.3**
KUZU	**Kuzuini**	**0.53**	**186**	i P	**Pb**	**21 57 45.5**	**-0.3**
KUZU				i S	**Sn**	**21 57 57.8**	**+0.3**
DRWC	**Darouich**	**0.78**	**210**	i P	**Pb**	**21 57 49.9**	**-0.2**
DRWC				eS	**Sb**	**21 58 02.5**	**+1.5**
DRWC				AML	AML	21 58 04.4	
	comp=N,478nm,0.3s						
DRWC				AML	AML	21 58 04.7	
	comp=E,159nm,0.2s						
ATAB	**Bozova**	**0.93**	**79**	P	**Pb**	**21 57 52.3**	**-0.4**
ATAB				S	**Sb**	**21 58 05.1**	**-0.2**
KOZT	**Kozan**	**1.07**	**280**	ePG	**Pg**	**21 57 53.8**	**-0.9**
KOZT				eSG	**Sb**	**21 58 09.7**	**+0.4**
KOZT	**Kozan**	**1.07**	**280**	ePg	**Pg**	**21 57 53.8**	**-0.9**
KOZT				eSg	**Sb**	**21 58 09.7**	**+0.4**
CEYT	**Ceyhan**	**1.16**	**256**	ePN	**Pb**	**21 57 56.7**	**+0.2**
CEYT				eSN	**Sb**	**21 58 11.8**	**0.0**
CEYT	**Ceyhan**	**1.16**	**256**	ePn	**Pb**	**21 57 56.7**	**+0.2**
CEYT				eSn	**Sb**	**21 58 11.8**	**0.0**
AKCD	**Akcadag**	**1.17**	**31**	P	**Pg**	**21 57 56.3**	**-0.3**
AKCD				S	**Sn**	**21 58 13.9**	**+0.3**
AKCD	**Akcadag**	**1.17**	**31**	i P	**Pg**	**21 57 56.3**	**-0.3**
AKCD				i S	**Sn**	**21 58 13.9**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.20**	**220**	ePN	**Pg**	**21 57 56.1**	**-1.1**
TAHT	**Tahtakopru-Hat**	**1.20**	**220**	ePn	**Pg**	**21 57 56.1**	**-1.1**
SARI	**SarD1z-Kayseri**	**1.25**	**333**	ePN	**Pg**	**21 57 57.5**	**-0.7**
SARI				eSN	**Sg**	**21 58 13.9**	**-0.5**
DARE	**Darende-Malaty**	**1.30**	**12**	ePN	**Pg**	**21 57 58.0**	**-1.1**
DARE	**Darende-Malaty**	**1.30**	**12**	ePn	**Pg**	**21 57 58.0**	**-1.1**
BTCH	**Batrach**	**1.37**	**204**	i P	**Pn**	**21 57 59.4**	**-0.6**
BTCH				eS	**Sb**	**21 58 18.6**	**+0.5**
BTCH				AML	AML	21 58 24.8	
	comp=E,55nm,0.6s						
BTCH				AML	AML	21 58 28.1	
	comp=N,46nm,0.7s						
YAHY	**KAYSERI_Yahyal**	**1.62**	**300**	P	**Pn**	**21 58 04.0**	**+0.5**
YAHY				S	**Sg**	**21 58 26.2**	**-0.2**
YAHY	**KAYSERI_Yahyal**	**1.62**	**300**	i P	**Pn**	**21 58 04.0**	**+0.5**
YAHY				i S	**Sg**	**21 58 26.2**	**-0.2**
ARNB	**Al Arnab**	**1.72**	**214**	i P	**Pn**	**21 58 04.3**	**-0.4**
ARNB				eS	**Sb**	**21 58 28.4**	**+0.4**
ARNB				AML	AML	21 58 32.4	
	comp=E,29nm,0.6s						
ARNB				AML	AML	21 58 41.0	
	comp=N,11nm,0.6s						
BNN	**Bunyan**	**1.86**	**327**	ePN	**Pn**	**21 58 07.2**	**+0.5**
BNN	**Bunyan**	**1.86**	**327**	ePn	**Pn**	**21 58 07.2**	**+0.5**
ELZG	**Elazig**	**1.88**	**50**	P	**Pn**	**21 58 07.3**	**+0.2**
ELZG	**Elazig**	**1.88**	**50**	i P	**Pn**	**21 58 07.3**	**+0.2**
ELZG				i S	**Sg**	**21 58 35.0**	**+0.3**
CUALT	**Altinyayla-SIV**	**2.00**	**351**	P	**Pg**	**21 58 11.5**	**-1.0**
CUALT	**Altinyayla-SIV**	**2.00**	**351**	i P	**Pg**	**21 58 11.5**	**-1.0**
CUALT				i S	**Sg**	**21 58 40.5**	**+2.1**
KSRV	**Kasrt alli**	**2.07**	**133**	i P	**Pb**	**21 58 11.8**	**-0.3**
KSRV				eS	**Sb**	**21 58 39.4**	**+1.3**
KSRV				AML	AML	21 58 42.4	
	comp=N,37nm,0.2s						
KSRV				AML	AML	21 58 46.3	
	comp=E,15nm,0.3s						

IDC 13 22:07:04.6±3.6, 6°62S×154°76E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/25, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/25, Error ellipse: s-maj=131.3km s-min=37.7km az=117.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.84**	**234**	P	P	22 12 19.4	-0.3
	2.3nm,0.9s,baz=57,slow=9.4,SNR=6.9						
ASAR	**Alice Springs**	**26.25**	**228**	P	P	22 12 41.9	+0.2
	0.3nm,0.5s,baz=61,slow=9.7,SNR=2.9						
FITZ	**Fitzroy Crossi**	**30.59**	**245**	LR	LR	22 26 36.3	
	comp=Z,66nm,18.4s,baz=48,slow=38						
MKAR	**Makanchi Array**	**82.97**	**319**	P	P	22 19 32.5	+0.7
	0.5nm,0.7s,baz=111,slow=6.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**152.70**	**286**	PKPbc	PKPbc	22 27 03.9	-0.6
	1.3nm,1.0s,baz=75,slow=2.6,SNR=5.1						

*ISK **13** 22:08:48.3, 39°11N×28°93E, h5km, ML1.7*

*ISCJB **13** 22:08:51.0±0.7, 39°08N±0°05×29°01E±0°05, h7km±10km, Error ellipse: s-maj=9.7km s-min=4.9km az=154.8*

*CSEM **13** 22:08:50.3±0.2, 39°01N×29°02E, h10km, MD2.6, Error ellipse: s-maj=9.4km s-min=4.5km az=146.0*

*DDA **13** 22:08:51.2, 39°09N×29°07E, h7km, Md2.6*

ISC 13 22:08:50.8±1.0, 39°02N±0°05×29°04E±0°03, h12km±9km, n12, σ0s89/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**276**	P	**Pg**	**22 08 56.4**	**+0.3**
DEMI				S	**Sg**	**22 08 59.9**	**+0.2**
DEMI	**Demirci**	**0.25**	**276**	i P	**Pg**	**22 08 56.4**	**+0.3**
DEMI				i S	**Sg**	**22 08 59.9**	**+0.2**
GEDZ	**Gediz**	**0.29**	**84**	ePG	**Pg**	**22 08 56.6**	**-0.2**
GEDZ				eSG	**Sb**	**22 09 04.2**	**+1.4**
GEDZ	**Gediz**	**0.29**	**84**	ePg	**Pg**	**22 08 56.6**	**-0.2**
GEDZ				eSg	**Sb**	**22 09 04.2**	**+1.4**
GDZ	**Gediz**	**0.35**	**78**	P	**Pb**	**22 08 58.4**	**-0.6**
GDZ				S	**Sg**	**22 09 03.4**	**+0.8**
GDZ	**Gediz**	**0.35**	**78**	i P	**Pb**	**22 08 58.4**	**-0.6**
GDZ				i S	**Sg**	**22 09 03.4**	**+0.8**
TVSB	**Tavsanli**	**0.54**	**37**	ePG	**Pg**	**22 09 00.3**	**-1.0**
TVSB				eSG	**Sg**	**22 09 07.7**	**-0.9**
TVSB	**Tavsanli**	**0.54**	**37**	ePg	**Pg**	**22 09 00.3**	**-1.0**
TVSB				eSg	**Sg**	**22 09 07.7**	**-0.9**
KULA	**Kula-Manisa**	**0.58**	**211**	ePG	**Pg**	**22 09 00.9**	**-1.2**
KULA				eSG	**Sb**	**22 09 12.0**	**+0.8**
KULA	**Kula-Manisa**	**0.58**	**211**	ePg	**Pg**	**22 09 00.9**	**-1.2**
BORA	**Eskisehir**	**1.39**	**51**	P	**Pb**	**22 09 16.3**	**

OFUJ	**Ofunato**	**2.47 314**	P	Pn	22 25 42.4	+1.2
OFUJ			*e*S	Sn	22 26 11.6	+1.5
JMK	**Ichinoseki**	**2.66 307**	P	Pn	22 25 45.4	+1.6
JMK			*e*S	Sn	22 26 16.5	+1.7
JOU	**Okura**	**2.78 292**	P	Pn	22 25 47.5	+2.1
JOU			*e*S	Sn	22 26 20.4	+2.7
JOM	**Ohasama**	**2.96 316**	P	Pn	22 25 49.6	+1.8
JOM			S	Sn	22 26 24.1	+2.1
JYK	**Kaneyama**	**3.22 300**	P	Pn	22 25 53.8	+2.4
JANG	**Nango**	**3.55 328**	P	Pn	22 25 57.9	+2.0
JANG			S	Sn	22 26 38.1	+1.5
JRY	**Ryogami san**	**4.27 253**	P	Pn	22 26 06.2	+0.3
JKB	**Kayabe**	**5.04 334**	P	Pn	22 26 18.3	+1.9
JCH	**Churui**	**5.26 355**	P	Pn	22 26 19.6	+0.2
JCH			*e*S	Sn	22 27 16.7	-2.0

NIED ***13*** *22:38:00.37˚.30N×141˚.80E.h50km.Mw3.4 Best double couple: M₀1.55000×10¹⁴ NP1:φs62.00000°.δ7.00000°.λ68.00000°. NP2:φs264.00000°.δ83.00000°.λ93.00000°.*

JMA 13 22:38:10.8±0.1,37˚.35N×141˚.83E,h42km±3km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.76**	**272**	P	Pn	22 38 25.3	+0.1
JFK				S	Sn	22 38 35.1	-0.4
ONAJ	**Iwakimizuishiy**	**0.86**	**254**	P	Pn	22 38 26.5	0.0
ONAJ				S	Sn	22 38 37.4	-0.5
JMM	**Marumori**	**0.97**	**302**	P	Pn	22 38 28.1	+0.1
JMM				S	Sn	22 38 40.9	+0.3
JIO	**Ouri**	**1.17**	**341**	P	Pn	22 38 30.8	+0.2
JIO				S	Sn	22 38 44.6	-0.8
JFT	**Otama**	**1.20**	**278**	P	Pn	22 38 32.3	+1.2
JFT				S	Sn	22 38 47.5	+1.3
JHO	**Hitachi**	**1.25**	**234**	P	Pn	22 38 31.7	-0.1
JHO				S	Sn	22 38 46.3	-1.1
JOU	**Okura**	**1.37**	**318**	P	Pn	22 38 34.4	+0.9
JOU				S	Sn	22 38 51.9	+1.5
JYS	**Shirataka**	**1.65**	**302**	P	Pn	22 38 38.9	+1.7
JYS				*e*S	Sn	22 39 00.1	+2.9
JMK	**Ichinoseki**	**1.67**	**343**	P	Pn	22 38 38.4	+0.9
JFY	**Yanaizu**	**1.69**	**273**	P	Pn	22 38 39.3	+1.4
JFY				S	Sn	22 39 00.5	+2.1
MAT	**Matsushiro**	**3.01**	**256**	P	Pn	22 38 59.1	+3.1
MAT				S	Sn	22 39 30.9	0.0

ISCJB ***13*** *22:50:39.8±0.3,50˚.20N±0˚.02×18˚.90E±0˚.02,h0km, Error ellipse: s-maj=3.5km s-min=2.0km az=15.0*
IPEC ***13*** *22:50:40.8±0.2,50˚.21N×19˚.02E,h0km,ML2.1/3, Error ellipse: s-maj=2.6km s-min=1.1km az=166.0*
CSEM ***13*** *22:50:41.1±0.2,50˚.22N×18˚.96E,h2km,ML3.0/10, Error ellipse: s-maj=5.2km s-min=2.6km az=11.0*

ISC 13 22:50:40.9±0.7,50˚.17N±0˚.03×18˚.95E±0˚.02,h0km,n58, σ0s78/104,9C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.12**	**11**	*e*Pg	**Pg**	**22 50 43.0**	**-0.3**
CHZP				*e*Sg	**Sg**	**22 50 44.6**	**-0.3**
RAC	**Raciborz**	**0.50**	**260**	*e*Pg	**Pb**	**22 50 52.3**	**-0.1**
RAC				*e*Sg	**Sb**	**22 51 00.2**	**0.0**
OJC	**Ojcow**	**0.55**	**84**	*e*Pg	**Pg**	**22 50 50.8**	**-0.5**
OJC				*e*Sg	**Sg**	**22 50 57.8**	**-0.6**
OJC	**Ojcow**	**0.55**	**84**	*e*Pg	**Pg**	**22 50 50.8**	**-0.5**
OJC				*e*Sg	**Sg**	**22 50 57.8**	**-0.6**
OKC	**Ostrava-Krasne**	**0.62**	**238**	*e*PG	**Pb**	**22 50 54.6**	**+0.1**
OKC				*e*SG	**Sb**	**22 51 03.1**	**-0.6**
	31nm,0.4s						
OKC	**Ostrava-Krasne**	**0.62**	**238**	Pg	**Pb**	**22 50 54.6**	**+0.1**
OKC				Sg	**Sb**	**22 51 03.1**	**-0.6**
	31nm,0.4s						
MORC	**Moravsky Berou**	**0.99**	**247**	⇑*i*P	**Pb**	**22 51 01.0**	**+0.1**
MORC	**Moravsky Berou**	**0.99**	**247**	*e*Pg	**Pb**	**22 51 00.8**	**-0.1**
MORC				*e*Sg	**Sg**	**22 51 13.7**	**+1.0**
	24nm,0.3s						
MORC				S	**Sb**	**22 51 15.6**	**+1.0**
LANS	**Liptovska Anna**	**1.07**	**162**	*e*Pg	**Pb**	**22 51 02.5**	**+0.2**
LANS				*e*Sg	**Sb**	**22 51 17.6**	**+0.7**
LANS	**Liptovska Anna**	**1.07**	**162**	*e*PG	**Pb**	**22 51 02.5**	**+0.2**
LANS				*e*SG	**Sb**	**22 51 17.6**	**+0.7**
NIE	**Niedzica**	**1.15**	**130**	*e*Pg	**Pg**	**22 51 03.0**	**+0.1**
NIE				*e*Sg	**Sb**	**22 51 19.7**	**+0.6**
NIE	**Niedzica**	**1.15**	**130**	*e*Pg	**Pg**	**22 51 03.0**	**+0.1**
NIE				*e*Sg	**Sb**	**22 51 19.7**	**+0.6**
JAVC	**Velka Javorina**	**1.56**	**213**	*e*Pn	**Pg**	**22 51 11.3**	**+0.7**
STHS	**Stebnicka Huta**	**1.66**	**116**	*e*Pn	**Pg**	**22 51 12.7**	**0.0**
STHS	**Stebnicka Huta**	**1.66**	**116**	*e*PN	**Pg**	**22 51 12.7**	**0.0**
STHS				*e*LG	Lg	22 51 46.4	
VYHS	**Vyhne**	**1.68**	**183**	*e*Pn	**Pn**	**22 51 11.6**	**+0.1**
VYHS				*e*Sn	**Sn**	**22 51 34.5**	**+0.2**
VYHS	**Vyhne**	**1.68**	**183**	*e*PN	**Pn**	**22 51 11.6**	**+0.1**
VYHS				*e*SN	**Sn**	**22 51 34.5**	**+0.2**
VYHS				*e*LG	Lg	22 51 43.0	
DPC	**Dobruska-Polom**	**1.70**	**277**	*e*PG	**Pn**	**22 51 11.8**	**0.0**
DPC				*e*SG	**Sg**	**22 51 35.6**	**+0.2**
	22nm,0.3s						
DPC	**Dobruska-Polom**	**1.70**	**277**	Pg	**Pn**	**22 51 11.8**	**0.0**
DPC				Sg	**Sg**	**22 51 35.6**	**+0.2**
	22nm,0.3s						
VRAC	**Vranov**	**1.76**	**242**	⇓*i*P	**Pb**	**22 51 14.2**	**+0.3**
VRAC	**Vranov**	**1.76**	**242**	*e*Pn	**Pb**	**22 51 13.5**	**-0.4**
VRAC	**Vranov**	**1.76**	**242**	⇓*i*P	**Pb**	**22 51 14.2**	**+0.3**
VRAC				*e*Sg	**Sg**	**22 51 37.7**	**+0.4**
VRAC				S	**Sb**	**22 51 38.5**	**+2.0**
KSP	**Ksiaz**	**1.83**	**293**	*e*Pg	**Pg**	**22 51 15.9**	**0.0**
KSP				*e*Sg	**Sg**	**22 51 40.5**	**+0.9**
KSP	**Ksiaz**	**1.83**	**293**	*e*Pg	**Pg**	**22 51 15.9**	**0.0**
KSP				*e*Sg	**Sg**	**22 51 40.5**	**+0.9**
UPC	**Upice**	**1.92**	**281**	*e*PG	**Pg**	**22 51 17.3**	**-0.2**
UPC				*e*SG	**Sg**	**22 51 42.2**	**-0.2**
	15nm,0.4s						
UPC	**Upice**	**1.92**	**281**	Pg	**Pg**	**22 51 17.3**	**-0.2**
UPC				Sg	**Sg**	**22 51 42.2**	**-0.2**
	15nm,0.4s						
KECS	**Kecovo**	**1.96**	**149**	*e*Sn	**Sg**	**22 51 43.8**	**0.0**
KECS	**Kecovo**	**1.96**	**149**	*e*SN	**Sg**	**22 51 43.8**	**0.0**
KECS				*e*LG	Lg	22 51 48.6	
KRUC	**Moravsky**	**2.00**	**237**	*e*Pn	**Pn**	**22 51 16.5**	**+0.6**
KRUC				*e*Sg	**Sg**	**22 51 45.2**	**+0.2**
	9.1nm,0.3s						
CRVS	**Cervenica-Dubn**	**2.07**	**127**	*e*Pn	**Pg**	**22 51 19.9**	**-0.6**
CRVS	**Cervenica-Dubn**	**2.07**	**127**	*e*PN	**Pg**	**22 51 19.9**	**-0.6**
PSZ	**Piszkesteto**	**2.33**	**164**	⇑*i*P	**Pn**	**22 51 20.0**	**-0.6**
PSZ	**Piszkesteto**	**2.33**	**164**	⇑*i*P	**Pn**	**22 51 20.0**	**-0.6**
PSZ				S	**Sn**	**22 51 50.0**	**0.0**
TREC	**Trest**	**2.41**	**250**	*e*PN	**Pn**	**22 51 22.1**	**+0.5**
TREC				*e*PG	**Pg**	**22 51 28.1**	**+1.0**
TREC				*e*SG	**Sg**	**22 51 57.5**	**-0.8**
	13nm,0.2s						
TREC	**Trest**	**2.41**	**250**	Pn	**Pn**	**22 51 22.1**	**+0.5**
KWP	**Kalwaria Pacla**	**2.49**	**101**	⇓*i*P	**Pn**	**22 51 22.8**	**+0.2**
KWP	**Kalwaria Pacla**	**2.49**	**101**	⇓*i*P	**Pn**	**22 51 22.8**	**+0.2**
KWP				S	**Sn**	**22 51 54.8**	**+1.2**
GOPC	**GO Pecny, Ondr**	**2.70**	**266**	*e*PG	**Pb**	**22 51 30.0**	**0.0**
GOPC				*e*SN	**Sn**	**22 51 58.4**	**-0.5**
GOPC				*e*SG	**Sg**	**22 52 07.0**	**-0.5**
	8.1nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.70**	**266**	Pg	**Pb**	**22 51 30.0**	**0.0**
GOPC				Sn	**Sn**	**22 51 58.4**	**-0.5**
GOPC				Sg	**Sg**	**22 52 07.0**	**-0.5**
	8.1nm,0.3s						
PVCC	**Panska Ves**	**2.83**	**279**	*e*PN	**Pn**	**22 51 27.8**	**+0.5**
PVCC				*e*PG	**Pg**	**22 51 34.0**	**-1.1**
PVCC				*e*SG	**Sg**	**22 52 12.4**	**+0.6**
	17nm,0.4s						
PVCC	**Panska Ves**	**2.83**	**279**	Pn	**Pn**	**22 51 27.8**	**+0.5**
PRU	**Pruhonice**	**2.85**	**268**	*e*PG	**Pb**	**22 51 32.5**	**0.0**
PRU				*e*SG	**Sg**	**22 52 10.8**	**-1.5**
	7.3nm,0.5s						
PRU	**Pruhonice**	**2.85**	**268**	Pg	**Pb**	**22 51 32.5**	**0.0**
PRU				Sg	**Sg**	**22 52 10.8**	**-1.5**
	7.3nm,0.5s						
BRG	**Berggiesshubel**	**3.27**	**284**	PG	**Pg**	**22 51 42.3**	**-1.3**
BRG				SG	**Sg**	**22 52 25.7**	**-0.3**
	12nm,0.5s						
KHC	**Kasperske Hory**	**3.64**	**256**	*e*PN	**Pn**	**22 51 39.3**	**+0.8**
KHC				*e*x	x	22 51 46.2	
KHC				*e*PG	**Pg**	**22 51 49.2**	**-1.5**
KHC				*e*SN	**Sn**	**22 52 22.5**	**+0.3**
KHC				*e*SG	**Sg**	**22 52 34.8**	**-3.1**
	12nm,0.4s						
KHC	**Kasperske Hory**	**3.64**	**256**	Pn	**Pn**	**22 51 39.3**	**+0.8**
KHC	**Kasperske Hory**	**3.64**	**256**	Pg	**Pg**	**22 51 49.2**	**-1.5**
KHC				Sn	**Sn**	**22 52 22.5**	**+0.3**
KHC				Sg	**Sg**	**22 52 34.8**	**-3.1**
	12nm,0.4s						
CLL	**Collm**	**3.95**	**289**	*i* Pg	**Pg**	**22 51 58.2**	**+1.7**
CLL				*e*Sg	**Sg**	**22 52 48.0**	**+0.4**
	comp=Z,9.0nm,0.8s						
NKC	**Novy Kostel**	**4.18**	**273**	*e*SG	**Sg**	**22 52 53.6**	**-1.5**
	comp=Z,7.5nm,0.5s						
NKC	**Novy Kostel**	**4.18**	**273**	Sg	**Sg**	**22 52 53.6**	**-1.5**
	comp=Z,7.5nm,0.5s						
DRGR		**4.20**	**142**	⇑*i*P	**Pn**	**22 51 46.8**	**+0.6**
DRGR		**4.20**	**142**	⇑*i*P	**Pn**	**22 51 46.8**	**+0.6**
DRGR				S	**Sn**	**22 52 35.7**	**-0.3**
SIRR	**Siria**	**4.30**	**154**	⇓*i*P	**Pn**	**22 51 47.3**	**-0.2**
SIRR	**Siria**	**4.30**	**154**	⇓*i*P	**Pn**	**22 51 47.3**	**-0.2**
SIRR				S	**Sn**	**22 52 38.3**	**-0.1**
BURAR	**Bucovina Array**	**4.86**	**119**	⇑*i*P	**Pn**	**22 51 55.1**	**-0.1**
BURAR	**Bucovina Array**	**4.86**	**119**	⇑*i*P	**Pn**	**22 51 55.1**	**-0.1**
BURAR				S	**Sn**	**22 52 51.5**	**-0.7**
BZS	**Buzias**	**4.89**	**158**	⇑*i*P	**Pn**	**22 51 56.2**	**+0.6**
BZS	**Buzias**	**4.89**	**158**	⇑*i*P	**Pn**	**22 51 56.2**	**+0.6**
BZS				S	**Sn**	**22 52 52.7**	**-0.2**

IDC ***13*** *22:51:26.2±0.6,56˚.34S×25˚.47W,h0km,mb4.5/9, mb1 4.6/9,mb1mx4.2/24,mbtmp4.5/9,MS3.9/8,Ms1 3.9/8, ms1mx3.6/17,Error ellipse: s-maj=22.0km s-min=19.3km az=72.0*
NEIC ***13*** *22:51:27.8±3.7,56˚.35S×25˚.52W,h11km±22km,mb5.1/19, Error ellipse: s-maj=10.3km s-min=5.9km az=224.0*
ISCJB ***13*** *22:51:28.6±0.3,56˚.38S±0˚.06×25˚.69W±0˚.10,h29km, mb4.9/24,MS3.9/8, Error ellipse: s-maj=9.8km s-min=6.5km az=35.5*

ISC 13 22:51:30.3±0.4,56˚.39S±0˚.09×25˚.61W±0˚.08,h29km,n76, σ0s83/68,mb5.0/22,MS3.8/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.55**	**284**	*e*Pn	**Pn**	**22 53 04.9**	**+0.3**
HOPE				*e*Sn	**Sn**	**22 54 17.8**	**-0.5**
VNA1	**Neumayer--Stat**	**16.16**	**159**	P	**Pn**	**22 55 14.9**	**0.0**
SNAA	**Sanae**	**18.08**	**157**	P	**Pn**	**22 55 38.5**	**-0.5**
SNAA	**Sanae**	**18.08**	**157**	*e*Pn	**Pn**	**22 55 38.5**	**-0.5**
	28nm,1.3s						
PMSA	**Palmer Station**	**20.35**	**230**	P	**P**	**22 56 04.7**	**+0.8**
	11nm,0.5s,baz=90,slow=11,SNR=5.7						
PMSA				LR	LR	23 02 39.7	
	comp=Z,439nm,19.7s,baz=64,slow=33						
PMSA	**Palmer Station**	**20.35**	**230**	*e*P	**P**	**22 56 04.7**	**+0.8**
	60nm,1.1s						
USHA	**Ushuaia**	**23.95**	**256**	LR	LR	23 04 46.6	
	comp=Z,851nm,18.5s,baz=91,slow=33						
TRQA	**Tornquist**	**30.27**	**292**	*e*P	**P**	**22 57 37.0**	**-1.5**
	16nm,1.4s						
PLCA	**Paso Flores**	**32.92**	**279**	LR	LR	23 10 53.0	
	comp=Z,248nm,19.3s,baz=174,slow=35						
QSPA	**South Pole Qui**	**33.86**	**180**	*e*P	**P**	**22 58 10.1**	**+0.1**
CPUP	**Villa Florida**	**37.70**	**310**	P	**P**	**22 58 43.2**	**+0.2**
	6.0nm,0.9s,baz=156,slow=8.3,SNR=8.7						
CPUP				LR	LR	23 12 49.0	
	comp=Z,101nm,21.2s,baz=168,slow=34						
ROC1	**El Roble**	**38.88**	**288**	*e*P	**P**	**22 58 52.7**	**-0.5**
	41nm,1.4s						
MAW	**Mawson**	**39.35**	**143**	P	**P**	**22 58 56.5**	**+0.1**
	4.7nm,0.9s,baz=240,slow=10,SNR=5.1						
MAW				LR	LR	23 14 37.9	
	comp=Z,118nm,18.0s,baz=242,slow=35						
MAW	**Mawson**	**39.35**	**143**	*e*P	**P**	**22 58 56.5**	**+0.1**
	3.3nm,1.4s						
LCO	**Las Campanas**	**41.85**	**292**	*e*P	**P**	**22 59 17.5**	**-0.3**
	138nm,2.0s						
BOSA	**Boshof**	**45.21**	**74**	LR	LR	23 14 41.2	
	comp=Z,249nm,19.8s,baz=212,slow=31						
SBA	**Scott Base**	**45.80**	**184**	*e*P	**P**	**22 59 50.3**	**+1.7**
	39nm,2.0s						
LVC	**Limon Verde**	**46.23**	**299**	*e*P	**P**	**22 59 53.6**	**+0.5**
	18nm,0.8s						
VNDA	**Vanda**	**46.27**	**182**	P	**P**	**22 59 52.9**	**+0.5**
	4.1nm,0.7s,baz=186,slow=7.3,SNR=38						
CRZF	**Crozet Islands**	**46.87**	**112**	*e*P	**P**	**22 59 57.1**	**-0.4**
	252nm,1.5s						
PB04	**IPOC Station P**	**47.07**	**298**	*e*P	**P**	**22 59 59.1**	**-0.3**
	68nm,1.4s						
PB01	**IPOC Station P**	**47.84**	**299**	*e*P	**P**	**23 00 05.3**	**-0.1**
	20nm,0.7s						
H10S2	**ASCENSION HYDR**	**48.09**	**15**	T	T	23 52 56.4	
	baz=189,slow=74,SNR=31						
H10S3	**ASCENSION HYDR**	**48.09**	**15**	T	T	23 53 00.2	
	baz=189,slow=74,SNR=35						
H10S1	**ASCENSION HYDR**	**49.10**	**15**	T	T	23 52 56.2	
	baz=189,slow=74,SNR=27						
LBTB	**Lobatse**	**48.27**	**71**	P	**P**	**23 00 08.1**	**-0.6**
	2.4nm,0.7s,baz=252,slow=9.4,SNR=4.2						
LBTB	**Lobatse**	**48.27**	**71**	*e*P	**P**	**23 00 08.1**	**-0.6**
	48nm,1.9s						
PB11	**IPOC Station P**	**49.02**	**300**	*e*P	**P**	**23 00 14.7**	**+0.2**
	23nm,0.8s						
LPAZ	**La Paz**	**51.29**	**304**	P	**P**	**23 00 33.0**	**+0.7**
	12nm,0.5s,baz=123,slow=6.6,SNR=89						
LPAZ	**La Paz**	**51.29**	**304**	*e*P	**P**	**23 00 32.1**	**-0.2**
	14nm,0.4s						
CASY	**Casey**	**53.29**	**160**	*e*P	**P**	**23 00 44.9**	**-0.9**
	8.9nm,1.2s						
SAML	**Samuel**	**55.67**	**313**	*e*P	**P**	**23 01 04.0**	**+0.3**
	12nm,0.8s						
LIC	**Lamto**	**64.65**	**23**	*e*P	**P**	**23 02 08.7**	**+3.5**
KIC	**Kosan Boka**	**64.85**	**23**	*e*P	**P**	**23 02 06.8**	**+0.4**
	34nm,1.1s						
TIC	**Toumodi**	**65.06**	**23**	*e*P	**P**	**23 02 08.1**	**+0.3**
DBIC	**Dimbokro**	**65.12**	**23**	P	**P**	**23 02 08.2**	**0.0**
	4.7nm,0.6s,baz=176,slow=8.4,SNR=9.7						
DBIC				LR	LR	23 23 41.0	
	comp=Z,58nm,20.4s,baz=158,slow=30						
DBIC	**Dimbokro**	**65.12**	**23**	*e*P	**P**	**23 02 08.2**	**0.0**
	16nm,1.3s						
OTAV	**Otavalo**	**70.58**	**302**	*e*P	**P**	**23 02 42.0**	**-1.2**
	34nm,1.6s						
TOA0	**Torodi Ar. Sit**	**72.93**	**28**	*e*P	**P**	**23 02 57.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**72.93**	**28**	P	**P**	**23 02 56.8**	**+0.2**
	8.0nm,0.8s,baz=201,slow=6.5,SNR=75						
TOA1	**Torodi Ar. Sit**	**72.93**	**28**	*e*P	**P**	**23 02 56.8**	**+0.2**
	6.8nm,0.8s						
BBGH	**Gun Hill**	**74.83**	**326**	*e*P	**P**	**23 03 08.7**	**+0.9**
	1μm,1.5s						
PPT	**Papeete**	**92.70**	**232**	LR	LR	23 38 36.0	
	comp=Z,34nm,18.0s,baz=184,slow=30						
ASAR	**Alice Springs**	**98.39**	**161**	P	Pdif	23 05 06.6	+1.1
	0.4nm,0.6s,baz=195,slow=4.8,SNR=4.9						
AS31	**Alice Springs**	**98.39**	**161**	*e*P	Pdif	23 05 06.6	+1.1
	2.5nm,1.4s						
CM31	**Chiang Mai Arr**	**124.12**	**109**	*e*PKPdf	**PKPdf**	**23 10 25.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**124.12**	**109**	PKP	**PKPdf**	**23 10 25.9**	**+0.1**
	0.9nm,0.3s,baz=237,slow=3.2,SNR=5.5						
FIA0	**FINESS Array S**	**124.28**	**27**	*e*PKPdf	**PKPdf**	**23 10 24.6**	**0.0**
FINES	**FINESS Array B**	**124.28**	**27**	PKP	**PKPdf**	**23 10 24.6**	**0.0**
	1.8nm,0.6s,baz=216,slow=1.6,SNR=6.1						
KCPM	**Cahto Peak**	**126.02**	**289**	*e*PKPdf	**PKPdf**	**23 10 27.0**	**-1.9**
ARA0	**ARCESS Array S**	**130.94**	**21**	*e*PKPdf	**PKPdf**	**23 10 36.8**	**-0.3**
ARCES	**ARCESS Array B**	**130.94**	**21**	PKP	**PKPdf**	**23 10 36.8**	**-0.3**
	2.3nm,0.9s,baz=207,slow=2.2,SNR=6.8						
RPW	**Rockport**	**131.16**	**298**	*e*PKPpre	PKPpre	23 10 30.6	
BVAR	**Borovoye Array**	**134.22**	**57**	PKP	**PKPdf**	**23 10 44.4**	**+0.6**
	1.0nm,0.8s,baz=335,slow=2.5,SNR=5.3						
KURBB	**Kurchatov Arra**	**136.66**	**64**	PKP	**PKPdf**	**23 10 48.2**	**-0.2**
	0.5nm,0.2s,baz=239,slow=1.8,SNR=4.4						
KURK	**Kurchatov**	**136.76**	**64**	*e*PKPdf	**PKPdf**	**23 10 48.2**	**-0.4**
YKA	**Yellowknife Ar**	**137.01**	**317**	PKP	**PKPdf**	**23 10 48.4**	**-0.4**
	1.0nm,0.7s,baz=131,slow=1.7,SNR=5.6						
YKB5	**Yellowknife Ar**	**137.01**	**317**	*e*PKPdf	**PKPdf**	**23 10 48.4**	**-0.4**
INK	**Inuvik**	**146.62**	**320**	PKPbc	**PKPbc**	**23 11 07.3**	**0.0**
	4.9nm,0.6s,baz=95,slow=3.4,SNR=14						
NRIK	**Noril'sk**	**148.72**	**39**	PKPbc	**PKPbc**	**23 11 13.0**	**0.0**
	4.0nm,0.8s,baz=85,slow=3.4,SNR=4.1						
DOT	**Dot Lake**	**149.54**	**309**	*e*PKPbc	**PKPbc**	**23 11 16.7**	**+1.5**
SONA0	**Songino Array**	**149.87**	**86**	*e*PKPbc	**PKPbc**	**23 11 16.5**	**-0.2**
SONM	**Songino Array**	**149.87**	**86**	PKPbc	**PKPbc**	**23 11 16.5**	**-0.2**
	6.1nm,1.0s,baz=225,slow=2.2,SNR=18						
SONA1	**Songino Array**	**149.88**	**86**	*e*PKPbc	**PKPbc**	**23 11 16.3**	**-0.4**
ULN	**Ulaanbaatar**	**150.25**	**86**	*e*PKPbc	**PKPbc**	**23 11 17.5**	**-0.1**
TLY	**Talaya**	**150.40**	**77**	PKPbc	**PKPbc**	**23 11 17.7**	**0.0**
	2.3nm,0.7s,baz=288,slow=6.0,SNR=5.6						
DHY	**Denali Highway**	**150.84**	**307**	*e*PKPbc	**PKPbc**	**23 11 20.2**	**+1.7**
SML	**Sawmill**	**150.94**	**305**	*e*PKPbc	**PKPbc**	**23 11 20.0**	**+1.3**
ILAR	**Eielson Array**	**151.00**	**311**	PKP	**PKPdf**	**23 11 12.3**	**-0.5**
	0.4nm,0.8s,baz=132,slow=1.3,SNR=4.2						
ILAR				PKPbc	**PKiKP**	**23 11 19.2**	**0.0**
	5.0nm,0.9s,baz=118,slow=1.5,SNR=39						
ILB	**Eielson Array**	**151.00**	**311**	*e*PKPdf	**PKPdf**	**23 11 12.3**	**-0.5**
CCB	**Clear Creek Bu**	**151.36**	**311**	*e*PKPbc	**PKPbc**	**23 11 19.9**	**+0.4**
WRH	**Wood River Hil**	**151.45**	**310**	*e*PKPbc	**PKPbc**	**23 11 20.4**	**+0.7**
RND	**Reindeer**	**151.56**	**308**	*e*PKPbc	**PKPbc**	**23 11 21.7**	**+1.6**
BPAW	**Bear Paw Mtn.**	**152.63**	**309**	*e*PKPbc	**PKPbc**	**23 11 23.1**	**+0.6**
COLD	**Coldfoot**	**152.68**	**316**	*e*PKPbc	**PKPbc**	**23 11 23.8**	**+1.4**
CAST	**Castle Rocks**	**152.99**	**307**	*e*PKPbc	**PKPbc**	**23 11 24.4**	**+1.2**

ISCJB ***13*** *23:02:29.4±0.3,60˚.02N±0˚.02×152˚.98W±0˚.05, h127km,3km,mb3.6/4, Error ellipse: s-maj=4.7km s-min=3.2km az=37.1*
NEIC ***13*** *23:02:31.7,60˚.01N×153˚.03W,h113km,MG3.6(AEIC), After AEIC.*
IDC ***13*** *23:02:32.0±4.4,60˚.36N×153˚.21W,h113km±39km, mb3.3/4, mb1 3.7/8,mb1mx3.3/45,mbtmp3.9/8,MS2.4/1,Ms1 2.6/1, ms1mx2.1/18,Error ellipse: s-maj=32.8km s-min=20.3km az=39.0*

ISC 13 23:02:30.8±0.8,60˚.03N±0˚.03×153˚.05W±0˚.04, h118km±6km,n99,σ1s00/113,mb3.8/4,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INE	**Iliamna NE**	**0.03**	**347**	P	**Pn**	**23 02 46.9**	**-0.2**
ILW	**Iliamna West**	**0.05**	**305**	P	**Pn**	**23 02 46.8**	**-0.3**
OPT	**Oil Point**	**0.39**	**194**	P	**Pn**	**23 02 47.8**	**-0.2**
RDWB	**Redoubt West**	**0.47**	**13**	P	**Pn**	**23 02 48.2**	**-0.3**
RDWB				S	**Sn**	**23 03 01.4**	**-0.4**
NCT	**North Crescent**	**0.54**	**6**	P	**Pn**	**23 02 48.8**	**0.0**
RDJH	**Redoubt Jeurge**	**0.58**	**12**	P	**Pn**	**23 02 49.0**	**-0.1**
RDJH				S	**Sn**	**23 03 02.7**	**-0.3**
AUE	**Augustine Isla**	**0.69**	**194**	P	**Pn**	**23 02 49.5**	**-0.3**
AUW	**Augustine West**	**0.70**	**198**	P	**Pn**	**23 02 49.8**	**-0.1**
AUI	**Augustine Isla**	**0.72**	**196**	P	**Pn**	**23 02 49.8**	**-0.2**
AUI				S	**Sn**	**23 03 04.2**	**-0.4**
HOM	**Homer**	**0.80**	**117**	P	**Pn**	**23 02 51.1**	**+0.4**
HOM				S	**Sn**	**23 03 06.3**	**+0.6**
CNPM	**China Poot**	**1.05**	**118**	P	**Pn**	**23 02 52.8**	**-0.3**
CNPM				S	**Sn**	**23 03 09.6**	**-0.3**
MCNL	**McNeil River**	**1.07**	**218**	P	**Pn**	**23 02 53.0**	**-0.4**
BRLK	**Bradley Lake**	**1.12**	**103**	P	**Pn**	**23 02 53.5**	**-0.4**
BRLK				S	**Sn**	**23 03 10.7**	**-0.6**
CDD	**Cape Douglas**	**1.14**	**196**	P	**Pn**	**23 02 53.6**	**-0.6**
NKA	**Nikishka**	**1.15**	**51**	P	**Pn**	**23 02 55.8**	**+1.8**
CKL	**Chakachamna La**	**1.22**	**16**	P	**Pn**	**23 02 55.4**	**+0.4**
SPCR	**Spurr Chakacha**	**1.25**	**19**	P	**Pn**	**23 02 55.4**	**+0.2**
SPCR				S	**Sn**	**23 03 13.5**	**-0.3**
SPWE	**Spurr West**	**1.27**	**11**	P	**Pn**	**23 02 56.2**	**+0.6**
FOSS	**Fourpeaked Sta**	**1.28**	**195**	P	**Pn**	**23 02 55.2**	**-0.4**
FONW	**Fourpeaked Sta**	**1.28**	**201**	P	**Pn**	**23 02 55.1**	**-0.5**
FOPK	**Fourpeaked Vol**	**1.29**	**190**

az=8.8

IDC ***13*** *23:07:57.1±3.8, 18°.50S×168°.90E, h86km±33km, mb4.0/12, mb1 4.2/13, mb1mx4.1/23, mbtmp4.4/13, MS2.6/1, Ms1 2.6/1, ms1mx2.3/23, Error ellipse: s-maj=28.4km s-min=21.7km az=93.0*

NEIC ***13*** *23:07:58.3±1.8, 18°.53S×168°.92E, h104km±16km, mb4.8/16, Error ellipse: s-maj=11.7km s-min=9.3km az=46.0*

ISC 13 23:07:57.8±0.6, **18°.57S**±0°.07×**169°.0E**±0°.1, **h100**km, **n66,** σ1¶**12**/64, **mb4.6**/26, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.22**	**214**	P			**Pn**	**23 09 00.9**	**+1.0**
	32nm,0.3s,baz=63,slow=7.8,SNR=405								
DZM				S			**Sn**	**23 09 47.5**	**-0.7**
	168nm,0.3s,baz=134,slow=21,SNR=27								
OUZ	**Omahuta**	**17.08**	**167**	*e*P			**Pn**	**23 11 46.0**	**-4.2**
	18nm,1.0s								
AFI	**Afiamalu**	**19.04**	**79**	LR			LR	23 19 30.9	
	comp=Z,17nm,18.9s,baz=95,slow=36								
HIZ	**Hauiti**	**20.52**	**167**	*e*P			**P**	**23 12 26.2**	**-1.8**
	145nm,1.5s								
URZ	**Urewera**	**20.86**	**162**	*e*P			Pn	23 12 35.2	+0.2
	19nm,1.0s								
BKZ	**Black Stump Fm**	**21.53**	**164**	*e*P			**P**	**23 12 41.7**	**+2.8**
	52nm,1.5s								
PMG	**Port Moresby**	**23.03**	**290**	P			**P**	**23 12 55.1**	**+0.6**
	22nm,0.9s,baz=107,slow=6.6,SNR=5.0								
KHZ	**Kahutara**	**24.08**	**172**	*e*P			**P**	**23 13 05.5**	**+1.7**
	146nm,1.9s								
MQZ	**McQueen's Vall**	**25.25**	**174**	*e*P			**P**	**23 13 15.1**	**+0.7**
	82nm,1.4s								
MANU	**Manus Island**	**26.81**	**305**	*e*P			**P**	**23 13 28.5**	**-0.3**
	9.3nm,0.9s								
STKA	**Stephens Creek**	**28.00**	**236**	P			**P**	**23 13 40.6**	**+1.3**
	3.0nm,0.8s,baz=72,slow=12,SNR=6.1								
STKA	**Stephens Creek**	**28.00**	**236**	*e*P			**P**	**23 13 38.1**	**-1.2**
	5.7nm,1.8s								
WB2	**Warramunga Arr**	**32.69**	**262**	*e*P			**P**	**23 14 19.9**	**-0.9**
WR1	**Warramunga Arr**	**32.70**	**262**	*e*P			**P**	**23 14 19.9**	**-1.1**
	41nm,1.8s								
WRA	**Warramunga Arr**	**32.70**	**262**	P			**P**	**23 14 19.9**	**-1.1**
	2.0nm,1.0s,baz=94,slow=8.9,SNR=12								
BBOO	**Buckleboo**	**32.73**	**238**	*e*P			**P**	**23 14 21.9**	**+0.9**
	52nm,1.9s								
AS01	**Alice Springs**	**33.01**	**255**	*e*P			**P**	**23 14 22.7**	**-0.9**
AS31	**Alice Springs**	**33.06**	**255**	*e*P			**P**	**23 14 23.6**	**-0.4**
	4.6nm,0.5s								
ASAR	**Alice Springs**	**33.06**	**255**	P			**P**	**23 14 23.6**	**-0.4**
	7.6nm,0.4s,baz=83,slow=8.6,SNR=84								
XMAS	**Kiritimati**	**38.87**	**62**	*e*P			**P**	**23 15 14.3**	**+0.6**
	318nm,1.6s								
FAKI	**Fak Fak**	**39.17**	**289**	*e*P			**P**	**23 15 15.7**	**-0.5**
	111nm,1.4s								
FITZ	**Fitzroy Crossi**	**41.07**	**264**	*e*P			**P**	**23 15 32.6**	**+0.8**
	58nm,1.8s								
MBWA	**Marble Bar**	**46.25**	**258**	*e*P			**P**	**23 16 12.6**	**-0.8**
	46nm,1.4s								
JHJ2	**Mitsune**	**58.46**	**331**	*e*P			**P**	**23 17 41.2**	**-2.2**
	889nm,1.4s								
VNDA	**Vanda**	**59.09**	**182**	P			**P**	**23 17 49.0**	**+1.9**
	0.9nm,0.8s,baz=3.5,slow=7.8,SNR=5.2								
VNDA	**Vanda**	**59.09**	**182**	*e*P			**P**	**23 17 47.6**	**+0.5**
CASY	**Casey**	**60.64**	**203**	*e*P			**P**	**23 17 58.9**	**+1.1**
	8.2nm,1.4s								
MJAR	**Matsushiro Arr**	**62.05**	**332**	P			**P**	**23 18 07.4**	**-0.4**
	7.3nm,0.9s,baz=168,slow=6.9,SNR=15								
KSRS	**Korea Array**	**67.82**	**326**	P			**P**	**23 18 45.1**	**0.0**
	0.5nm,0.3s,baz=128,slow=7.2,SNR=4.9								
KS15	**Wonju Array Si**	**67.83**	**326**	*e*P			**P**	**23 18 45.1**	**-0.1**
KSAR	**Wonju Array Be**	**67.83**	**326**	P			**P**	**23 18 45.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**71.04**	**333**	P			**P**	**23 19 05.6**	**+0.8**
	0.9nm,0.3s,baz=98,slow=7.6,SNR=9.1								
CM31	**Chiang Mai Arr**	**78.01**	**294**	*e*P			**P**	**23 19 47.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**78.01**	**294**	P			**P**	**23 19 47.2**	**+1.4**
	2.8nm,0.4s,baz=135,slow=4.5,SNR=18								
SEY	**Seymchan**	**82.28**	**352**	P			**P**	**23 20 08.1**	**+0.5**
	1.4nm,0.2s,baz=244,slow=17,SNR=6.4								
SONA0	**Songino Array**	**86.54**	**323**	*e*P			**P**	**23 20 30.0**	**+0.3**
	7.3nm,1.0s								
SONM	**Songino Array**	**86.54**	**323**	P			**P**	**23 20 30.0**	**+0.3**
	4.0nm,0.8s,baz=139,slow=5.3,SNR=17								
ILAR	**Eielson Array**	**89.67**	**17**	P			**P**	**23 20 43.5**	**-0.6**
	0.5nm,0.8s,baz=234,slow=5.5,SNR=6.1								
ILB	**Eielson Array**	**89.67**	**17**	*e*P			**P**	**23 20 43.5**	**-0.6**
YKA	**Yellowknife Ar**	**100.19**	**27**	P			**Pdif**	**23 21 33.5**	**+1.5**
	0.4nm,0.6s,baz=255,slow=5.1,SNR=4.5								
YKB5	**Yellowknife Ar**	**100.19**	**27**	*e*Pdif			**Pdif**	**23 21 33.5**	**+1.5**
MK32	**Makanchi Array**	**101.09**	**316**	*e*Pdif			**Pdif**	**23 21 37.3**	**+0.8**
MKAR	**Makanchi Array**	**101.09**	**316**	P			**Pdif**	**23 21 37.3**	**+0.8**
	0.8nm,0.6s,baz=100,slow=5.6,SNR=11								
ZALV	**Zalesovo Beam**	**101.04**	**323**	P			**Pdif**	**23 21 37.6**	**-0.2**
	0.5nm,0.3s,baz=104,slow=3.0,SNR=3.0								
ZAA1	**Zalesovo Array**	**101.44**	**323**	*e*Pdif			**Pdif**	**23 21 37.6**	**-0.2**
CONA	**Conrad Observa**	**143.45**	**329**	*i* PKPdf			**PKPdf**	**23 27 19.1**	**-1.6**
	3.2nm,1.3s								
KHC	**Kasperske Hory**	**143.63**	**333**	*e*PKP			**PKPdf**	**23 27 20.2**	**-0.7**
GERES	**GERESS Array B**	**143.79**	**332**	PKP			**PKPdf**	**23 27 20.1**	**-1.2**
	2.1nm,1.0s,baz=60,slow=3.2,SNR=13								
ARSA	**Arzberg**	**144.08**	**329**	*i* PKPdf			**PKPdf**	**23 27 21.1**	**-0.7**
	3.2nm,1.1s								
MOA	**Molln**	**144.26**	**330**	*i* PKPdf			**PKPdf**	**23 27 21.6**	**-0.5**
	6.2nm,1.3s								
SOKA	**Soboth**	**144.72**	**328**	*i* PKPdf			**PKPdf**	**23 27 22.3**	**-0.7**
	11nm,1.4s,SNR=8.1								
GCIS	**Gornji Cirnik**	**144.97**	**327**	*i* PKPbc			**PKPdf**	**23 27 23.4**	**+0.1**
OBKA	**Obir**	**145.08**	**329**	*i* PKPbc			PKPbc	23 27 21.2	-2.0
	6.6nm,1.0s								
KBA	**Koelnbreinsper**	**145.25**	**330**	*i* PKPdf			**PKPdf**	**23 27 24.0**	**0.0**
BOJS	**Bojanci**	**145.41**	**327**	*i* PKPbc			**PKPab**	**23 27 24.8**	**+0.3**
LJU	**Ljubljana**	**145.41**	**328**	*i* PKPbc			**PKPab**	**23 27 24.6**	**+0.1**
MYKA	**Terra Mystica**	**145.44**	**330**	*i* PKPab			**PKPab**	**23 27 24.4**	**-0.2**
	5.9nm,0.8s								
CRNS	**Crni Vrh**	**145.52**	**328**	*i* PKPbc			**PKPab**	**23 27 24.5**	**-0.4**
WATA	**Walderalm**	**145.87**	**332**	*i* PKPab			**PKPab**	**23 27 25.9**	**-0.4**
	9.5nm,1.1s								
ABTA	**Abfaltersbach**	**145.88**	**331**	*i* PKPab			**PKPbc**	**23 27 25.0**	**-0.8**
	15nm,0.9s,SNR=8.7								
WTTA	**Wattenberg**	**145.90**	**332**	*i* PKPab			**PKPab**	**23 27 26.4**	**-0.1**
	8.1nm,0.9s								
MOTA	**Moosalm**	**146.07**	**333**	*i* PKPab			**PKPab**	**23 27 25.9**	**-1.1**
	8.2nm,0.9s,SNR=7.5								
RETA	**Reutte**	**146.10**	**333**	*i* PKPab			**PKPab**	**23 27 26.8**	**-0.3**
	6.8nm,1.4s								
FETA	**Feichten**	**146.48**	**333**	*i* PKPab			**PKPab**	**23 27 27.2**	**-1.5**
	11nm,1.0s,SNR=6.5								
DAVA	**Damuels**	**146.63**	**334**	*i* PKPab			**PKPab**	**23 27 29.2**	**-0.1**
	10nm,0.9s								
TORD	**Torodi Ar. Bea**	**166.63**	**248**	PKP			**PKPdf**	**23 27 52.4**	**0.0**
	2.1nm,1.1s,baz=124,slow=0.0,SNR=7.4								

IDC ***13*** *23:36:46.7±4.1, 12°.57N×85°.54W, h0km, mb3.2/2, mb1 3.7/2, mb1mx3.3/23, mbtmp3.2/2, Error ellipse: s-maj=125.9km s-min=78.6km az=59.0*

ISCJB ***13*** *23:37:04.3±1.0, 12°.2N±0°.1×86°.86W±0°.08, h120km±7km, mb3.2/2, Error ellipse: s-maj=27.0km s-min=6.7km az=24.9*

CASC ***13*** *23:37:04.8±0.6, 12°.17N×86°.91W, h112km±3km, MD3.9, ML3.6*

ISC 13 23:37:04.1±1.1, **12°.2N**±0°.1×**86°.86W**±0°.08, **h121**km±7km, **n20,** σ0¶**87**/26, **Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.26**	**99**	*e*P			**Pn**	**23 37 21.2**	**+0.1**
CNGN	**Cerro Negro**	**0.32**	**29**	*e*P			**Pn**	**23 37 21.0**	**-0.3**
CNGN				*e*S			**Sn**	**23 37 34.1**	**-0.3**
CNGN				AML			AML	23 37 35.7	
	comp=N,1μm,0.5s								
MOMN	**Momotombo**	**0.36**	**59**	*e*P			**Pn**	**23 37 21.4**	**-0.1**
APYN	**Apoyeque**	**0.49**	**89**	*e*P			**Pn**	**23 37 22.5**	**+0.3**
CRIN	**San Cristobal**	**0.51**	**338**	*e*P			**Pn**	**23 37 22.4**	**0.0**
XAVN	**Gruta Xavier**	**0.52**	**98**	*e*P			**Pn**	**23 37 22.6**	**+0.2**
XAVN				AML			AML	23 37 39.6	
	comp=Z,2μm,0.5s								
TISN	**Laguna Tiscapa**	**0.58**	**98**	*e*P			**Pn**	**23 37 23.0**	**+0.2**
TISN				AML			AML	23 37 38.2	
	comp=Z,1μm,0.2s								
MGAN	**Managua**	**0.60**	**97**	*e*P			**Pn**	**23 37 23.0**	**+0.1**
MGAN				*e*S			**Sn**	**23 37 37.3**	**+0.3**
ESTN	**Estel**	**0.99**	**28**	*e*P			**Pn**	**23 37 26.9**	**+0.6**
BOAB	**BOACO BROADBAN**	**1.18**	**79**	*e*P			**Pn**	**23 37 28.6**	**+0.5**
BOAB				*e*S			**Sn**	**23 37 47.3**	**+1.0**
CNCH	**Conchagua**	**1.42**	**318**	*e*P			**Pn**	**23 37 30.8**	**0.0**
CNCH				*e*S			**Sn**	**23 37 51.3**	**+0.2**
VSM	**San Miguel**	**1.83**	**311**	*e*P			**Pn**	**23 37 36.7**	**+0.8**
VSM				*e*S			**Sn**	**23 38 01.3**	**+1.3**
LCY	**Lacayo**	**1.84**	**311**	*e*P			**Pn**	**23 37 36.3**	**+0.5**
PACA	**Pacayal**	**1.89**	**311**	*e*P			**Pn**	**23 37 37.0**	**+0.6**
PACA				*e*S			**Sn**	**23 38 02.0**	**+0.9**
ESPN	**Las Esperanzas**	**2.50**	**90**	*e*P			**Pn**	**23 37 45.2**	**+1.3**
LFRS	**El Faro**	**2.56**	**303**	*e*P			**Pn**	**23 37 45.8**	**+0.9**
TXAR	**Lajitas Array**	**23.12**	**320**	P			**P**	**23 42 00.4**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=135,slow=9.0,SNR=7.9								
YKA	**Yellowknife Ar**	**53.98**	**344**	P			**P**	**23 46 12.6**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=135,slow=7.0,SNR=5.2								
ASAR	**Alice Springs**	**139.72**	**248**	PKP			**PKPdf**	**23 56 19.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=107,slow=2.2,SNR=3.8								
WRA	**Warramunga Arr**	**139.76**	**254**	PKP			**PKPdf**	**23 56 19.3**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=87,slow=2.2,SNR=6.2								

JMA 13 23:47:20.6±0.1, **38°.22N**×**142°.07E**, **h11**km±1km, **M2.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.61**	**293**	P			Pg	23 47 32.4	-0.1
JIO				S			Sg	23 47 40.7	+0.1
OFUJ	**Ofunato**	**0.91**	**340**	P			Pg	23 47 37.5	-0.7
OFUJ				S			Sg	23 47 50.0	-0.2
JMK	**Ichinoseki**	**0.99**	**318**	P			Pg	23 47 39.3	-0.3
JMK				*e*S			Sg	23 47 52.3	-0.2
JOU	**Okura**	**1.12**	**278**	P			Pb	23 47 41.5	-0.4
JOM	**Ohasama**	**1.39**	**334**	S			Sn	23 48 03.8	-0.5

ISCJB ***13*** *23:47:27.7±1.2, 10°.21S±0°.08×79°.0W±0°.1, h55km, mb3.6/4, MS2.9/1, Error ellipse: s-maj=21.2km s-min=7.7km az=155.9*

IDC ***13*** *23:47:31.6±2.1, 10°.08S×78°.64W, h74km±17km, mb3.4/4, mb1 3.7/6, mb1mx3.5/28, mbtmp3.8/6, MS3.1/1, Ms1 3.1/1, ms1mx2.7/13, Error ellipse: s-maj=35.8km s-min=7.8km az=70.0*

ISC 13 23:47:29.7±1.1, **10°.14S**±0°.09×**78°.8W**±0°.2, **h55**km, **n15,** σ1¶**11**/10, **mb3.6**/3, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.66**	**134**	P			**Pn**	**23 48 11.0**	**+0.8**
	32nm,0.3s,baz=337,slow=8.5,SNR=64								
NNA				S			**Sn**	**23 48 42.5**	**+1.2**
	148nm,0.3s,baz=351,slow=19,SNR=16								
ATAH	**Atahualpa**	**3.02**	**8**	P			**Pn**	**23 48 16.4**	**+1.0**
	22nm,0.3s,baz=195,slow=6.4,SNR=36								
ATAH				S			**Sn**	**23 48 51.6**	**+1.1**
	30nm,0.3s,baz=355,slow=20,SNR=8.9								
PTGA	**Pitinga**	**20.94**	**65**	P			**P**	**23 52 06.4**	**-1.7**
	1.4nm,0.5s,baz=256,slow=17,SNR=2.9								
PTGA				LR			LR	23 59 29.7	
	comp=Z,51nm,21.7s,baz=236,slow=35								
TXAR	**Lajitas Array**	**45.99**	**329**	P			**P**	**23 55 48.1**	**+0.3**
	0.5nm,0.7s,baz=146,slow=9.5,SNR=7.9								
YKA	**Yellowknife Ar**	**77.53**	**344**	P			**P**	**23 59 18.5**	**-0.7**
	0.3nm,0.5s,baz=143,slow=6.1,SNR=7.4								
TORD	**Torodi Ar. Bea**	**83.19**	**75**	P			**P**	**23 59 49.8**	**-0.8**
	1.3nm,0.9s,baz=283,slow=6.0,SNR=6.6								
H11N3	**WAKE ISLAND Hyl**	**16.11**	**287**	T			T	02 12 48.3	
	baz=92,slow=74,SNR=5.1								
H11N2	**WAKE ISLAND Hyl**	**16.12**	**287**	T			T	02 12 48.8	
	baz=92,slow=74,SNR=5.9								
H11N1	**WAKE ISLAND Hyl**	**16.13**	**287**	T			T	02 12 43.6	
	baz=92,slow=74,SNR=5.1								
H11S2	**WAKE ISLAND Hyl**	**16.26**	**286**	T			T	02 12 50.3	
	baz=95								
H11S1	**WAKE ISLAND Hyl**	**16.26**	**286**	T			T	02 12 53.7	
	baz=95								
H11S3	**WAKE ISLAND Hyl**	**16.27**	**286**	T			T	02 12 54.7	
	baz=95								
ASAR	**Alice Springs**	**133.61**	**223**	PKP			**PKPdf**	**00 06 41.1**	**+0.1**
	0.4nm,0.6s,baz=135,slow=1.2,SNR=4.4								
WRA	**Warramunga Arr**	**135.74**	**227**	PKP			**PKPdf**	**00 06 45.5**	**+0.4**
	0.9nm,0.6s,baz=125,slow=1.8,SNR=8.0								
KSRS	**Korea Array**	**143.68**	**323**	PKP			PKPbc	00 06 56.5	0.0
	1.8nm,0.8s,baz=60,slow=3.2,SNR=6.5								

CSEM ***13*** *23:48:48.2, 44°.21N×20°.13E, h4km, ML1.4*

BEO 13 23:48:48.2±0.3, **44°.21N**×**20°.13E**, **h4**km±3km, **M1.4/8, 1C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DIVS	**Divibare**	**0.15**	**222**	*e*Pg			Pg	23 48 51.0	-0.2
DIVS	**Divibare**	**0.15**	**222**	*e*Pg			Pg	23 48 51.0	-0.2
TRUS	**Trudelj**	**0.20**	**86**	*e*Pg			Pg	23 48 52.1	0.0
TRUS				*e*Sg			Sg	23 48 55.5	+0.8
TRUS	**Trudelj**	**0.20**	**86**	*e*Pg			Pg	23 48 52.1	0.0
TRUS				*e*Sg			Sg	23 48 55.5	+0.8
GRUS	**Gruza**	**0.53**	**127**	*e*Pg			Pg	23 48 58.3	-0.1
GRUS				*e*Sg			Sg	23 49 05.9	+0.6
GRUS	**Gruza**	**0.53**	**127**	*e*Pg			Pg	23 48 58.3	-0.1
GRUS				*e*Sg			Sg	23 49 05.9	+0.6
TEKS	**Tekeris**	**0.55**	**308**	*e*Pg			Pg	23 48 58.0	-0.7
TEKS				*e*Sg			Sg	23 49 07.1	+1.2
TEKS	**Tekeris**	**0.55**	**308**	*e*Pg			Pg	23 48 58.0	-0.7
TEKS				*e*Sg			Sg	23 49 07.1	+1.2
BBLS	**Lazići**	**0.63**	**237**	*e*Pg			Pg	23 48 59.3	-0.9
BBLS				*e*Sg			Sg	23 49 08.4	+0.1
BBLS	**Lazići**	**0.63**	**237**	*e*Pg			Pg	23 48 59.3	-0.9
BBLS				*e*Sg			Sg	23 49 08.4	+0.1
IVAS	**Ivanjica**	**0.63**	**179**	*e*Pg			Pg	23 48 59.9	-0.5
IVAS				*e*Sg			Sg	23 49 08.7	+0.1
IVAS	**Ivanjica**	**0.63**	**179**	*e*Pg			Pg	23 48 59.9	-0.5
IVAS				*e*Sg			Sg	23 49 08.7	+0.1
FGSL	**Fruska Gora**	**0.97**	**347**	*e*Pg			Pg	23 49 06.0	-0.9
FGSL				*e*Sg			Sg	23 49 18.2	-1.3
FRGS	**Fruska Gora**	**0.97**	**347**	*e*Pg			Pg	23 49 06.0	-0.9
FRGS				*e*Sg			Sg	23 49 18.2	-1.3
KUBS	**Kucevo**	**1.13**	**79**	*e*Pg			Pg	23 49 08.0	-1.8
KUBS				*e*Sg			Sg	23 49 23.4	-1.0
KUBS	**Kucevo**	**1.13**	**79**	*e*Pg			Pg	23 49 08.0	-1.8
KUBS				*e*Sg			Sg	23 49 23.4	-1.0
MDVR	**Moldovita**	**1.27**	**63**	S			Sb	23 49 29.6	+0.2
BZS	**Buzias**	**1.76**	**36**	↑*i*P			Pb	23 49 21.0	0.0
BZS	**Buzias**	**1.76**	**36**	S			Sb	23 49 43.5	+0.1

IDC 14 00:03:42.9±1.9, **1°.50N**×**127°.05E**, **h0**km, **mb3.8**/4, **mb1 4.0**/4, **mb1mx3.6**/37, **mbtmp3.8**/4, **Error ellipse: s-maj=162.2km s-min=23.9km az=65.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.48**	**162**	P			P	00 08 43.0	-1.0
	2.3nm,0.6s,baz=340,slow=11,SNR=18								
ASAR	**Alice Springs**	**25.89**	**165**	P			P	00 09 17.9	+1.2
	0.6nm,0.4s,baz=341,slow=11,SNR=9.0								
STKA	**Stephens Creek**	**35.95**	**159**	P			P	00 10 44.8	-0.6
	0.5nm,0.5s,baz=337,slow=14,SNR=3.1								
MKAR	**Makanchi Array**	**59.56**	**326**	P			P	00 13 48.2	-0.1
	0.6nm,0.4s,baz=116,slow=8.8,SNR=6.7								

IDC 14 00:07:56.4±1.8, **16°.75S**×**178°.28W**, **h0**km, **mb4.3**/3, **mb1 4.5**/3, **mb1mx3.8**/35, **mbtmp4.3**/3, **Error ellipse: s-maj=228.1km s-min=31.5km az=153.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.31**	**240**	P			P	00 15 27.6	+0.3
	2.0nm,0.5s,baz=91,slow=10,SNR=7.8								
ASAR	**Alice Springs**	**45.24**	**253**	P			P	00 16 15.3	-0.5
	9.4nm,0.6s,baz=88,slow=8.4,SNR=97								
TXAR	**Lajitas Array**	**85.27**	**58**	P			P	00 20 35.6	0.0
	0.4nm,0.7s,baz=218,slow=5.7,SNR=5.7								

KLM ***14*** *00:08:28.3, 1°.64N×98°.95E, h10km, mb5.3, ML5.8, MS6.2*

IDC ***14*** *00:08:28.1±0.4, 1°.76N×99°.10E, h0km, mb4.6/49, mb1 4.6/50, mb1mx4.6/57, mbtmp4.6/50, ML4.0/1, MS4.9/32, Ms1 4.9/32, ms1mx4.7/38, Error ellipse: s-maj=13.7km s-min=9.5km az=49.0*

BJI ***14*** *00:08:29.4, 1°.37N×98°.90E, h24km, mb4.9/44, mB5.1/48, Ms5.7/70, Ms7 5.4/66*

NEIC ***14*** *00:08:32.5±0.2, 1°.83N×99°.23E, h17km, mb5.2/76, MS5.2/144, MW5.5, MW5.4, MW5.5, Error ellipse: s-maj=7.5km s-min=5.3km az=222.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17}Nm; M_{rr}0.05; $M_{\theta\theta}$-1.66; $M_{\phi\phi}$ 1.61; $M_{r\theta}$0.28; $M_{\theta\phi}$0.93; $M_{r\phi}$-0.31; Best double couple: M_{o}1.90000×10^{17} NP1:ϕ_s330.00000°, δ78.00000°, λ-2.00000°. NP2:ϕ_s330.00000°, δ88.00000°, λ-168.00000°. Principal axes: T 1.8900, Plg7.0000°, Azm104.0000°; N 0.0800, Plg78.0000°, Azm339.0000°; P -1.9700, Plg10.0000°, Azm195.0000°; Moment Tensor Solution. s18 Moment tensor: Scale 10^{17} Nm; M_{rr}0.20; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$ 1.14; $M_{r\theta}$-0.15; $M_{\theta\phi}$0.68; $M_{r\phi}$0.34; Best double couple: M_{o}1.50000×10^{17} NP1:ϕ_s60.00000°, δ75.00000°, λ5.00000°. NP2:ϕ_s329.00000°, δ86.00000°, λ165.00000°. Principal axes: T 1.3900, Plg14.0000°, Azm283.0000°; N 0.1600, Plg74.0000°, Azm133.0000°; P -1.5500, Plg8.0000°, Azm15.0000°;*

NEIC Felt [IV] at Sibolga and Tarutung and [III] at Medan. Also felt at Pematangsiantar. Felt [III] at Gunungsitoli, Nias. Felt [III] in the Kuala Lumpur area and at Subang Jaya; [II] at Kajang, Klang, Petaling Jaya and Shah Alam, Malaysia. Also felt at Kampung Gelugor, Sepang and Tanjong Karang.

ISCJB ***14*** *00:08:33.0±0.6, 1°.82N±0°.02×99°.16E±0°.02, h25km±4km, mb5.0/159, MS5.1/195 Error ellipse: s-maj=3.8km s-min=3.1km az=141.6*

NEIC ***14*** *00:08:33.0±0.0, 1°.63N×99°.28E, h23km, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10; $M_{\theta\theta}$-1.60; $M_{\phi\phi}$ 1.70; $M_{r\theta}$0.60; $M_{\theta\phi}$0.60; $M_{r\phi}$-0.20; Best double couple: M_{o}2.00000×10^{17} NP1:ϕ_s326.00000°, δ78.00000°, λ-165.00000°. NP2:ϕ_s233.00000°, δ76.00000°, λ-11.00000°. Principal axes: T 1.9000, Plg2.0000°, Azm99.0000°; N 0.1000, Plg71.0000°, Azm3.0000°; P -1.9000, Plg17.0000°, Azm190.0000°;*

MOS ***14*** *00:08:34.7±2.0, 2°.05N×99°.20E, h33km, mb5.4/60, MS5.1/47 Error ellipse: s-maj=8.9km s-min=4.3km az=115.9*

DJA ***14*** *00:08:35.7±0.1, 2°.1N±2°×9°.9E±°, h10km, M5.3/58, mb5.2/58, mB5.7/32, MLv5.8/18, Mw(mB)5.2/32, Mwp6.1/2*

GCMT ***14*** *00:08:35.2±0.1, 1°.85N×99°.11E, h21km, MW5.5/124, Moment Tensor Solution. s97,c160; s124,c250; Duration: 1¶4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.03; $M_{\theta\theta}$-1.93±.03; $M_{\phi\phi}$ 1.86±.03; $M_{r\theta}$-0.73±.06; $M_{\theta\phi}$0.94±.02; $M_{r\phi}$-0.71±.06; Best double couple: M_{o}2.34500×10^{17} NP1:ϕ_s239.00000°, δ85.00000°, λ25.00000°. NP2:ϕ_s147.00000°, δ65.00000°, λ175.00000°. Principal axes: T 2.4050, Plg21.0000°, Azm106.0000°; N -0.1200, Plg65.0000°, Azm249.0000°; P -2.2850, Plg14.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 00:08:34.4±0.3, **1°.78N**±0°.03×**99°.07E**±0°.03, **h29**km±2km, **h29**km:**pP-P, n869,** σ2¶**18**/861, **mb5.2**/175, **MS5.1**/196, **28C-24D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.03**	**352**	*e*P			Pn	00 08 47.7	-5.3
PSI				*e*				00 09 02.6	
PSI	**Prapat**	**1.03**	**352**	*e*Pn			Pn	00 08 47.7	-5.3
PSI				*e*Sn			**Sn**	**00 09 02.5**	**-4.0**
MNSI	**Mandailing Nat**	**1.10**	**153**	P			**Pn**	**00 08 51.4**	**-2.4**
GSI	**Gunungsitoli**	**1.57**	**253**	P			**Pn**	**00 08 59.1**	**-1.2**
GSI	**Gunungsitoli**	**1.57**	**253**	*e*Pn		

NONG Nongkai 16.67 14 P Pn 00 12 26.6 +0.5
91nm,2.0s,6µm
CMMT Chiang Mai 16.93 360 P P 00 12 30.5 -0.6
169nm,1.8s,3µm
CHTO Chiang Mai 16.93 360 P P 00 12 30.6 -0.5
1µm,1.9s,13µm
CHTO Chiang Mai 16.93 360 eP Pn 00 12 30.1 +0.7
CHTO pmax pmax
comp=Z,313nm,1.9s
CHTO Chiang Mai 16.93 360 P P 00 12 30.6 -0.5
SNR=34
CHTO Chiang Mai 16.93 360 ePn Pn 00 12 30.1 +0.7
comp=Z,313nm,1.9s
BLJI Banyuglugur 17.30 123 P P 00 12 37.8 +2.6
comp=Z,142nm,0.8s,comp=Z,3µm
GMJI Gumukmas 17.46 125 P P 00 12 42.5 +5.5
comp=Z,142nm,1.6s
KKM Kota Kinabalu 17.61 76 ⇓P P 00 12 39.2 +0.4
KKM Kota Kinabalu 17.61 76 ePn P 00 12 41.2 +2.5
comp=Z,114nm,1.2s
JAGI Jajag, Banyuwa 18.15 124 ePn P 00 12 47.6 +3.0
comp=Z,160nm,1.3s
KDM Kudat 18.42 73 ⇓P Pn 00 12 48.1 +0.3
TSM Tawau 18.94 82 ⇑P P 00 12 52.9 -0.4
PALK Pallekele 19.11 287 P P 00 12 54.3 -0.8
comp=Z,0.5nm,0.3s,baz=113,slow=12,SNR=3.5
PALK LR LR 00 19 20.8
comp=Z,4µm,20.6s,baz=116,slow=34
PALK Pallekele 19.11 287 i P Pn 00 13 00.2 +4.0
SNR=10
PALK Pallekele 19.11 287 eP P 00 12 52.9 -2.3
PALK Pallekele 19.11 287 eP P 00 12 52.9 -2.3
PALK ePn pP 00 13 00.0 -3.0
MYLDM Lahad Datu 19.68 80 ⇑P P 00 13 01.6 +0.2
MYLDM Lahad Datu 19.68 80 eP Pn 00 13 04.3 +1.4
comp=Z,363nm,1.5s
QIZ Qiongzhong 20.13 31 P P 00 13 06.0 -0.3
QIZ pP pP 00 13 13.5 -0.7
QIZ sP sP 00 13 15.8 -2.1
QIZ S Sn 00 16 57.5 +3.3
QIZ sS sS 00 17 02.9 -0.7
QIZ LN
comp=Z,9µm,14.6s
QIZ LE
comp=Z,13µm,14.9s
QIZ LZ
comp=Z,9µm,17.2s
QIZ Qiongzhong 20.13 31 PFAKE 00 13 20.0 +12
QIZ LR LR
comp=Z,2µm,22.0s
TWSI Taliwang, Sumb 20.59 121 P Pn 00 13 16.4 +2.7
comp=Z,101nm,1.2s
PCI Palu 20.93 97 P Pn 00 13 17.0 -0.7
comp=Z,177nm,1.7s,comp=Z,3µm
TTSI Tana Toraja 21.28 103 P P 00 13 21.7 +2.9
comp=Z,106nm,1.4s,comp=Z,2µm
PLAI Plampang 21.41 120 P P 00 13 26.0 +5.9
comp=Z,106nm,1.1s
SPSI Sidrap Palu 21.45 105 P P 00 13 25.1 +4.5
comp=Z,65nm,1.2s,comp=Z,2µm
KAPI Kappang 21.73 108 P P 00 13 21.9 -1.6
comp=Z,13nm,0.9s,baz=294,slow=9.2,SNR=2.4
KAPI LR LR 00 22 51.1
comp=Z,5µm,18.9s,baz=270,slow=40
KAPI Kappang 21.73 108 eP P 00 13 21.9 -1.6
KAPI epP pP 00 13 27.4 -4.1
KAPI LR LR
comp=Z,5µm,21.0s
MDRS Chennai 21.76 302 eP P 00 13 25.7 +1.9
VIS Vishakhapatnam 22.14 317 eP P 00 13 27.6 -0.3
BWNR Bhubaneshwar 22.51 326 eP P 00 13 32.7 +0.8
BSSI Bau Bau, Buton 22.78 110 P P 00 13 41.6 +6.7
comp=Z,236nm,1.2s,comp=Z,2µmcomp=Z,162µm
MRSI Marisa 22.90 93 P P 00 13 38.1 +2.0
comp=Z,119nm,1.5s,comp=Z,5µm
KMI Kunming 23.48 8 P P 00 13 43.3 +1.3
KMI pP pP 00 13 48.8 -1.5
KMI sP sP 00 13 51.4 -2.5
KMI S S 00 17 52.3 -1.8
KMI PMZ
comp=Z,550nm,3.9s
KMI LN
comp=Z,9µm,12.4s
KMI LE
comp=Z,6µm,17.1s
KMI LZ
comp=Z,8µm,13.6s
LUWI Luwuk 23.86 97 P P 00 13 46.9 +1.4
comp=Z,382nm,1.5s
LUWI Luwuk 23.86 97 eP P 00 13 46.3 +0.8
comp=Z,877nm,1.5s
KDI Kendari 24.21 104 P P 00 13 51.8 +3.0
comp=Z,62nm,1.1s
SHL Shillong 24.65 344 eP P 00 13 53.5 +0.7
TGY Tagaytay City 24.84 59 LR LR 00 23 58.7
comp=Z,3µm,18.1s,baz=268,slow=38
GZH Guangzhou 25.31 32 P P 00 14 07.3 +8.7
GZH S S 00 18 43.3 +20
GZH pmax pmax
comp=Z,440nm,9.0s
BOK Bokaro 25.34 331 eP P 00 13 59.6 +0.7
BOK IAmb IAmb 00 14 03.5
comp=Z,41nm,0.6s
HYB Hyderabad 25.46 309 i P P 00 14 04.0 +3.8
HYB eS S 00 18 24.0 -1.7
HYB Hyderabad 25.46 309 eP P 00 13 59.3 -0.8
HYB IAmb IAmb 00 14 05.0
comp=Z,88nm,1.1s
GYA Guiyang 25.60 16⇑ iP P 00 14 06.4 +5.0
GYA pP pP 00 14 10.8 +0.8
GYA PP PnPn 00 14 43.3 +5.2
GYA PcP PcP 00 17 35.0 +2.9
GYA S S 00 18 27.8 -0.1
GYA SS SnSn 00 19 32.3 +9.1
GYA ScP ScP 00 21 10.0 +0.3
GYA PMZ
comp=Z,40nm,0.9s
GYA PMZ
comp=Z,140nm,4.9s
GYA LN
comp=Z,4µm,14.8s
GYA LE
comp=Z,2µm,15.2s
GYA LZ
comp=Z,2µm,15.0s
DAV Davao City (W) 26.93 78 LR LR 00 27 51.7
comp=Z,2µm,18.6s,baz=217,slow=43
DAV Davao City (W) 26.93 78 PFAKE 00 14 20.0 +6.5
DAV LR LR
comp=Z,3µm,20.0s
NGP Nagpur 27.42 316 eP P 00 14 16.3 -1.5
SOEI Soe 27.58 115 P P 00 14 25.1 +5.7
comp=Z,151nm,1.0s
SOEI Soe 27.58 115 eP P 00 14 16.9 -2.5
comp=Z,117nm,0.9s
RAMN Ramite 27.75 336 eP P 00 14 20.4 -0.5
DGAR Diego Garcia 28.09 251 PFAKE 00 14 40.0 +16
DGAR LR LR
comp=Z,3µm,20.0s
LSA Lhasa 28.78 346 PFAKE 00 14 40.0 +10
LSA LR LR
comp=Z,2µm,21.0s
PKIN Phulchoki 28.81 334 eP P 00 14 29.7 -0.7
GUN Gumba 28.89 335 eP P 00 14 27.8 -3.4
comp=Z,62nm,0.8s
KKN Kakani 29.04 334 eP P 00 14 30.2 -2.2
comp=Z,50nm,0.9s
CD2 Chengdu 29.32 8 P P 00 14 35.5 +0.9
CD2 pP pP 00 14 42.3 -0.9
CD2 sP sP 00 14 45.3 -1.4
CD2 PcP PcP 00 17 40.8 -0.1
CD2 S S 00 19 29.1 +2.9
CD2 sS sS 00 19 40.8 +0.5
CD2 PMZ
comp=Z,20nm,0.6s
CD2 PMZ
comp=Z,190nm,5.2s
CD2 LN
comp=Z,6µm,11.7s
CD2 LE
comp=Z,10µm,12.9s
CD2 LZ
comp=Z,7µm,10.7s
GKN Gorkha 29.51 333 eP P 00 14 34.9 -1.6
comp=Z,58nm,0.9s
QZH Quanzhou 29.76 38 eP P 00 14 39.8 +1.3
QZH S S 00 19 28.0 -5.2
QZH LN
comp=Z,20µm,13.9s
QZH LE
comp=Z,32µm,15.1s
QZH LZ
comp=Z,13µm,14.0s
KOLN Koldanda 29.79 332 eP P 00 14 37.3 -1.8
comp=Z,64nm,0.7s
POO Poona 29.82 306 eP P 00 14 40.1 +0.9
POO IAmb IAmb 00 14 44.6
comp=Z,32nm,0.9s
BHPL Bhopal 29.93 317 eP P 00 14 40.3 +0.1
BHPL IAmb IAmb 00 14 44.4
comp=Z,30nm,0.6s
ENH Enshi 30.02 18 eP P 00 14 41.3 +0.5
comp=Z,59nm,1.4s
ENH LR LR
comp=Z,7µm,19.0s
PYUN Piuthan 30.36 331 eP P 00 14 42.8 -1.3
SSLB Suanglung 30.46 42 eP P 00 14 48.0 +3.2
comp=Z,16nm,0.9s
MBWA Marble Bar 30.47 140 PFAKE 00 15 00.0 +15
MBWA LR LR
comp=Z,2µm,22.0s
YHNB Yeheng 31.34 42 eP P 00 14 51.5 -1.2
comp=Z,212nm,2.0s
YHNB LR LR
comp=Z,3µm,19.0s
TATO Taipei 31.62 41 PFAKE 00 15 10.0 +15
TATO LR LR
comp=Z,3µm,19.0s
WHN Wuhan 32.07 25 eP P 00 15 03.0 +4.2
WHN eS S 00 20 07.6 -1.6
WHN LN
comp=Z,5µm,11.9s
WHN LE
comp=Z,14µm,11.8s
WHN LZ
comp=Z,18µm,14.4s
XAN Xi'an 33.39 15 P P 00 15 11.3 +0.8
XAN pP pP 00 15 17.3 -1.8
XAN S S 00 20 24.3 -5.6
XAN PMZ
comp=Z,24nm,1.0s
XAN PMZ
comp=Z,77nm,3.5s
XAN LN
comp=Z,3µm,16.2s
XAN LE
comp=Z,11µm,16.9s
XAN LZ
comp=Z,7µm,11.6s
LZH Lanzhou 34.43 7 ⇑P P 00 15 22.0 +2.4
LZH pP pP 00 15 28.8 +0.6
LZH sP sP 00 15 32.0 +0.2
LZH PP PP 00 16 38.0 +0.1
LZH S S 00 20 45.3 -0.8
LZH PMZ
comp=Z,77nm,1.2s
LZH PMZ
comp=Z,230nm,4.5s
LZH LN
comp=Z,3µm,11.8s
LZH LE
comp=Z,5µm,12.1s
LZH LZ
comp=Z,5µm,15.0s
MORW Morawa 34.71 153 P P 00 15 23.4 +1.5
baz=35,SNR=3.4
NJ2 Nanjing 35.42 30 eP P 00 15 32.8 +4.8
NJ2 S S 00 21 03.3 +2.2
NJ2 PMZ
comp=Z,20nm,1.0s
NJ2 LN
comp=Z,7µm,12.5s
NJ2 LE
comp=Z,7µm,15.2s
NJ2 LZ
comp=Z,8µm,14.6s
BHJ Bhuj 35.63 309 eP P 00 15 27.7 -2.2
SMLA Simla 35.80 327 eP P 00 15 31.2 0.0
DHRM DHARAMSHALA 37.13 327 eP P 00 15 41.1 -1.9
DHRM IAmb IAmb 00 15 46.9
comp=Z,93nm,1.0s
GTA Gaotai 37.47 1 eP P 00 15 47.6 +2.1
GTA pP pP 00 15 54.1 -0.1
GTA sP sP 00 15 57.5 -0.2
GTA PcP PcP 00 18 03.4 -0.3
GTA S S 00 21 35.8 +3.3
GTA sS ScP 00 21 48.3 -0.8
GTA ScP ScP 00 21 50.5 +1.4
GTA SS SnSn 00 24 09.9 -1.4
GTA PMZ
comp=Z,16nm,1.3s
GTA LN
comp=Z,3µm,15.7s
GTA LE
comp=Z,4µm,15.2s
GTA LZ
comp=Z,3µm,18.5s
THN Thein Dam 37.59 327 eP P 00 15 44.0 -2.5
THN ex x 00 21 26.0
TIA Tai'an 38.12 24 ⇑P P 00 15 53.0 +2.0
TIA PP PnPn 00 17 26.3 +6.2
TIA S S 00 21 52.8 +10
TIA PMZ
comp=Z,10.0nm,0.8s
TIA LN
comp=Z,5µm,17.8s
TIA LE
comp=Z,9µm,17.0s
TIA LZ
comp=Z,2µm,23.0s
NWAO Narrogin (SRO) 38.55 155 P P 00 15 51.2 -3.4
comp=Z,14nm,1.0s,baz=322,slow=13,SNR=1.7
NWAO Narrogin (SRO) 38.55 155 eP P 00 15 51.2 -3.4
NWAO pmax pmax
comp=Z,87nm,1.4s
NWAO MLR MLR
comp=Z,8µm,22.0s
NWAO Narrogin (SRO) 38.55 155 eP P 00 15 51.1 -3.4
comp=Z,86nm,1.4s
NWAO LR LR
comp=Z,8µm,22.0s
WRKA Warakurna 38.89 135 P P 00 15 55.4 -2.2
baz=39,SNR=12
KMBL Kambalda 39.45 149 P P 00 16 01.9 -0.2
baz=39,SNR=6.6
BTO Baotou 39.91 13 eP P 00 16 06.1 +0.1
HHC Hu-ho-hao-te 40.51 15 eP P 00 16 13.8 +2.9
HHC pP pP 00 16 19.6 -0.1
HHC sP sP 00 16 22.1 -1.1
HHC PP PnPn 00 17 49.5 +0.9
HHC S S 00 22 20.3 +2.1
HHC PMZ
comp=Z,24nm,1.5s
HHC PMZ
comp=Z,150nm,5.4s
HHC LN
comp=Z,5µm,16.2s
HHC LE
comp=Z,5µm,16.2s
HHC LZ
comp=Z,5µm,14.9s
WRA Warramunga Arr 40.77 124 P P 00 16 10.5 -2.8
comp=Z,39nm,0.9s,baz=301,slow=9.2,SNR=79
WRA PcP PcP 00 18 12.8 -1.5
comp=Z,5.6nm,0.7s,baz=311,slow=2.4,SNR=8.3
WRA LR LR 00 36 11.8
comp=Z,2µm,19.5s,baz=295,slow=41
WR1 Warramunga Arr 40.77 124 eP P 00 16 10.5 -2.8
comp=Z,36nm,0.8s
WR1 ePcP PcP 00 18 12.8 -1.5
WRAB Tennant Creek 40.77 124 i P P 00 16 10.6 -2.8
WRAB pmax pmax
comp=Z,125nm,1.0s
WRAB Tennant Creek 40.77 124 eP P 00 16 12.1 -1.2
comp=Z,39nm,0.8s
WRAB LR LR
comp=Z,2µm,20.0s
WB2 Warramunga Arr 40.78 124 eP P 00 16 11.6 -1.8
comp=Z,39nm,0.8s
BJT Baijiatuan 41.12 20 PFAKE 00 16 30.0 +14
BJT LR LR
comp=Z,3µm,20.0s
BJI Beijing 41.14 20 P P 00 16 17.4 +1.4
BJI S S 00 22 29.3 +2.0
BJI SS SnSn 00 25 35.5 -4.1
BJI PMZ
comp=Z,13nm,0.5s
BJI PMZ
comp=Z,190nm,4.4s
BJI LN
comp=Z,5µm,18.6s
BJI LE
comp=Z,4µm,19.2s
BJI LZ
comp=Z,4µm,17.2s
GENI Genyem 41.31 96 P P 00 16 19.7 +1.8
comp=Z,77nm,1.0s
JAY Jayapura 41.84 96 P P 00 16 20.2 -2.0
comp=Z,2.1nm,0.8s,baz=270,slow=20,SNR=7.8
JAY Jayapura 41.84 96 P P 00 16 24.2 +2.0
comp=Z,32nm,0.9s,comp=Z,437nm
ASAR Alice Springs 42.27 129 P P 00 16 22.6 -3.0
comp=Z,4.6nm,0.8s,baz=306,slow=7.9,SNR=21
ASAR PcP PcP 00 18 17.7 -1.5
comp=Z,5.8nm,0.7s,baz=308,slow=3.6,SNR=12
ASAR LR LR 00 33 60.0
comp=Z,2µm,22.0s,baz=295,slow=36
AS31 Alice Springs 42.27 129 ePcP PcP 00 18 17.7 -1.5
DL2 Dalian 42.31 26 P P 00 16 33.1 +7.5
DL2 S S 00 22 57.4 +13
DL2 pmax pmax
comp=Z,16nm,0.8s
DL2 LR LR
comp=E,5µm,17.2s
DL2 LR LR
comp=Z,5µm,16.3s
KBL Kabul 42.97 323 eP P 00 16 33.7 +2.4
KBL pmax pmax
comp=Z,28nm,0.8s
KBL Kabul 42.97 323 eP P 00 16 33.7 +2.4
comp=Z,28nm,0.8s
KSH Kashi 43.06 334 P P 00 16 29.9 -2.0
KSH pP pP 00 16 36.8 -3.8
KSH PP PP 00 18 12.9 +0.7
KSH PcP PcP 00 18 21.8 +0.1
KSH S S 00 22 51.6 -4.5
KSH SS SS 00 25 58.8 -10
KSH ScS ScS 00 26 26.0 -4.7
KSH PMZ
comp=Z,7.0nm,0.5s
KSH PMZ
comp=Z,140nm,3.0s
KSH LN
comp=Z,910nm,15.1s
KSH LE
comp=Z,3µm,18.4s
KSH LZ
comp=Z,3µm,20.8s
WMQ Urumqi 43.07 348 P P 00 16 32.1 +0.3
WMQ pP pP 00 16 40.3 -0.3
WMQ sP sP 00 16 42.9 -1.2
WMQ PcP PcP 00 18 22.8 +1.3
WMQ S S 00 22 55.8 -0.2
WMQ SS SS 00 26 01.6 -7.5
WMQ PMZ
comp=Z,15nm,1.0s
WMQ PMZ
comp=Z,110nm,4.2s
WMQ LN
comp=Z,680nm,14.8s
WMQ LE
comp=Z,1µm,21.4s
WMQ LZ
comp=Z,750nm,23.6s
INCN Inchon 43.65 32 PFAKE 00 16 50.0 +13
INCN LR LR
comp=Z,2µm,22.0s
KS15 Wonju Array Si 44.30 33 eP P 00 16 40.9 -0.8
KSAR Wonju Array Be 44.30 33 P P 00 16 40.9 -0.8
KSAR Wonju Array Be 44.30 33 P P 00 16 40.9 -0.8
KSRS Korea Array 44.33 33 P P 00 16 40.9 -1.0
comp=Z,1.8nm,0.7s,baz=222,slow=9.5,SNR=7.8
KSRS LR LR 00 35 13.9
comp=Z,1µm,18.4s,baz=216,slow=36
KS01 Wonju Array Si 44.33 33 eP P 00 16 45.8 +3.8
SHLS Shalkode 44.62 340 eP P 00 16 43.9 -0.7
comp=Z,141nm,1.1s
UZB Uzynbulak 44.91 339 i P P 00 16 46.0 -0.7
comp=Z,260nm,0.7s
UZB LR LR 00 35 24.6
comp=Z,262nm,16.1s
SATY Saty 45.06 339 i P P 00 16 47.2 -0.6
comp=Z,481nm,0.8s
SATY i S S 00 23 24.4 -0.7
KPKS Kokpek 45.31 339 eP P 00 16 48.7 -1.1
comp=Z,204nm,0.9s
KPKS eS S 00 23 27.4 -1.3
KPKS LR LR 00 37 14.6
comp=Z,683nm,13.9s
QIS Mount Isa 45.48 121 P P 00 16 50.9 -0.5
baz=45,SNR=11
SNY Shenyang 45.56 26 ⇓P P 00 16 58.8 +7.1
SNY S S 00 23 31.5 -0.5
SNY pmax pmax
comp=Z,11nm,0.5s
SNY pmax pmax
comp=Z,120nm,3.2s
SNY LR LR
comp=N,5µm,17.3s
SNY LR LR
comp=E,5µm,15.7s
SNY LR LR
comp=Z,5µm,19.6s
MDOK Medeo 45.66 337 i P P 00 16 52.0 -0.7
comp=Z,165nm,0.8s
MDOK eS S 00 23 33.1 -0.7
MDOK LR LR 00 36 28.8
comp=Z,416nm,19.0s
AAA Alma-Ata 45.79 337 eP P 00 16 50.5 -3.1
AAA eS S 00 23 34.1 -1.4
AAA pmax pmax
comp=Z,300nm,1.5s
AAA smax smax
comp=E,600nm,3.1s
AAA MLR MLR
comp=Z,2µm,19.0s
TKM2 Tokmak 2 46.03 336 eP P 00 16 54.9 -0.8
TKM2 pmax pmax
comp=Z,131nm,1.5s
TKM2 MLR MLR
comp=Z,2µm,21.0s
TKM2 Tokmak 2 46.03 336 eP P 00 16 54.9 -0.8
comp=Z,131nm,1.5s
TKM2 LR LR
comp=Z,2µm,21.0s
AAK Ala-Archa 46.25 335 P P 00 16 56.7 -0.7
baz=145,slow=7.6
AAK Ala-Archa 46.25 335 c iP P 00 16 57.6 +0.3
AAK pmax pmax
comp=Z,74nm,1.3s
AAK Ala-Archa 46.25 335 P P 00 16 57.9 +0.5
SNR=37
AAK P P 00 16 57.9 +0.5
SNR=37
AAK Ala-Archa 46.25 335 eP P 00 16 58.1 +0.8
comp=Z,106nm,1.6s
AAK LR LR
comp=Z,3µm,20.0s
SONA0 Songino Array 46.32 7 eP P 00 16 56.0 -1.7
comp=Z,38nm,1.4s
SONM Songino Array 46.32 7 P P 00 16 56.0 -1.7
comp=Z,4.3nm,0.8s,baz=190,slow=8.6,SNR=18
SONM LR LR 00 39 16.7
comp=Z,3µm,18.1s,baz=190,slow=40
SONM Songino Array 46.32 7 P P 00 16 56.0 -1.7
SONA1 Songino Array 46.33 7 eP P 00 16 56.9 -1.0
FRU Bishkek 46.36 335 i P P 00 17 00.0 +2.0
FRU eS S 00 23 46.0 +2.3
FRU pmax pmax
comp=Z,100nm,2.0s
FRU MLR MLR
comp=E,3.0nm,21.0s
COEN Coen 46.41 111 P P 00 16 58.2 -0.6
baz=46,SNR=6.7
COEN Coen 46.41 111 eP P 00 16 58.2 -0.6
comp=E,74nm,1.6s
ULN Ulaanbaatar 46.43 7 eP P 00 16 57.9 -0.7
ULN pmax pmax

comp=Z,12nm,1.1s
ULN Ulaanbaatar 46.43 7 P P 00 16 58.0 -0.6
SNR=15
ULN Ulaanbaatar 46.43 7 eP P 00 16 57.7 -0.9
comp=Z,32nm,1.4s
ULN LR LR
comp=Z,3μm,21.0s
EKS2 Erkin-Say 46.58 334 eP P 00 16 59.7 -0.2
EKS2 pmax pmax
comp=Z,28nm,0.8s
EKS2 MLR MLR
comp=Z,2μm,22.0s
EKS2 Erkin-Say 46.58 334 eP P 00 16 59.7 -0.2
comp=Z,26nm,0.8s
EKS2 LR LR
comp=Z,2μm,22.0s
GUMO Guam 46.78 73 PFAKE 00 17 10.0 +8.3
GUMO LR LR
comp=Z,745nm,19.0s
MK01 Makanchi Array 47.14 344 eP P 00 17 02.6 -1.5
MK31 Makanchi Array 47.17 344 eP P 00 17 02.9 -1.4
MK31 Makanchi Array 47.17 344 eP P 00 17 02.9 -1.4
MK32 Makanchi Array 47.17 344 eP P 00 17 02.2 -2.1
MKAR Makanchi Array 47.17 344 P **P 00 17 02.2 -2.1**
comp=Z,18nm,0.7s,baz=153,slow=7.2,SNR=50
MKAR LR LR 00 39 45.1
comp=Z,1μm,21.5s,baz=155,slow=40
MKAR Makanchi Array 47.17 344 eP P 00 17 02.9 -1.4
MKAR Makanchi Array 47.17 344 eP P 00 17 02.9 -1.4
ZSN Zaisan 47.25 346 *i* P **P 00 17 03.0 -1.9**
comp=Z,154nm,1.0s
ZSN *eS* **S 00 23 54.5 -1.7**
ZSN LR LR 00 37 12.2
comp=Z,249nm,12.6s
MAKZ Makanchi 47.27 344 eP P 00 17 03.7 -1.3
MAKZ pmax pmax
comp=Z,17nm,0.8s
MAKZ Makanchi 47.27 344 eP P 00 17 03.7 -1.3
comp=Z,17nm,0.8s
UOSS Minazif 47.32 303 eP P 00 17 05.4 -0.4
comp=Z,2.9nm,1.3s
HATD Hatta, Dubai 47.34 303 *i* P **P 00 17 10.0 +4.0**
SNR=9.4
ASHO Ashiyiah 47.34 302 *i* P **P 00 17 09.5 +3.5**
SNR=10
FAQ Al Faqa, Dubai 47.76 302 *i* P **P 00 17 12.6 +3.4**
SNR=11
NAZ Nazwa, Dubai 47.79 303 *i* P **P 00 17 13.2 +3.7**
SNR=8.2
IUG Iuzhnay 47.90 331 *i* P **P 00 17 09.5 -0.7**
comp=Z,353nm,0.9s
IUG *eS* **S 00 24 04.7 -1.1**
IUG LR LR 00 37 15.1
comp=Z,753nm,17.1s
CN2 Changchun 47.96 26 eP P 00 17 12.9 +2.4
CN2 *eS* **S 00 24 08.4 +2.0**
CN2 SS **SS 00 27 32.0 -3.6**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 LN
comp=Z,5μm,17.0s
CN2 LE
comp=Z,6μm,17.0s
CN2 LZ
comp=Z,3μm,17.0s
KKAR Karatay Array 48.40 332 eP P 00 17 14.7 +0.8
KKAR Karatay Array 48.40 332 eP P 00 17 14.7 +0.8
MANU Manus Island 48.43 94 eP P 00 17 14.8 +0.2
comp=Z,93nm,1.5s
BRLS Borolday 48.55 331 eP P 00 17 13.9 -1.2
comp=Z,35nm,0.9s
BRLS *i* S **S 00 24 13.7 -1.1**
BRLS LR LR 00 37 57.5
comp=Z,498nm,17.9s
ZAK Zakamensk 48.56 4 eP P 00 17 16.5 +1.4
ZAK pmax pmax
comp=Z,8.0nm,1.6s
MTSU Mount Surprise 48.72 116 P **P 00 17 15.9 -0.9**
baz=48,SNR=31
BBOO Buckleboo 49.02 138 P **P 00 17 16.7 -2.1**
baz=49,SNR=6.1
BBOO Buckleboo 49.02 138 eP P 00 17 17.0 -1.9
comp=Z,18nm,1.0s
PMG Port Moresby 49.17 104 PFAKE 00 17 30.0 +10
PMG LR LR
comp=Z,942nm,20.0s
MOY Mondy 49.74 2 eP P 00 17 28.6 +4.5
TLY Talaya 49.88 4 P **P 00 17 22.2 -2.9**
comp=Z,1.4nm,0.5s,baz=204,slow=7.7,SNR=2.8
TLY Talaya 49.88 4*c i***P P 00 17 26.3 +1.2**
TLY *eS* **S 00 24 34.6 +1.4**
TLY pmax pmax
comp=Z,20nm,1.8s
TLY MLR MLR
comp=Z,2μm,16.0s
TLY Talaya 49.88 4 eP P 00 17 24.5 -0.6
comp=Z,34nm,1.8s
TLY LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 50.01 42 PFAKE 00 17 40.0 +14
MAJO LR LR
comp=Z,1μm,19.0s
MJAR Matsushiro Arr 50.01 42 P **P 00 17 24.4 -2.0**
comp=Z,1.2nm,0.4s,baz=236,slow=8.7,SNR=3.1
MJAR LR LR 00 37 42.9
comp=Z,789nm,21.8s,baz=245,slow=35
MDJ Mudanjiang 50.47 28 P **P 00 17 30.9 +1.3**
MDJ pP pP 00 17 37.1 -1.4
MDJ sP sP 00 17 39.9 -2.1
MDJ PP **PP 00 19 24.4 -1.2**
MDJ S **S 00 24 40.8 -0.8**
MDJ ScS **ScS 00 27 17.0 -1.7**
MDJ SS **SS 00 28 19.9 +4.0**
MDJ PMZ
comp=Z,7.0nm,0.6s
MDJ PMZ
comp=Z,120nm,6.4s
MDJ LN
comp=Z,3μm,20.4s
MDJ LE
comp=Z,5μm,19.9s
MDJ LZ
comp=Z,3μm,15.5s
MDJ Mudanjiang 50.47 28 PFAKE 00 17 40.0 +10
MDJ LR LR
comp=Z,2μm,20.0s
IRK Irkutsk 50.48 4 eP P 00 17 32.1 +2.5
IRK pmax pmax
comp=Z,42nm,1.7s
VLA Vladivostok 50.50 31⇑ eP P 00 17 30.1 +0.2
VLA *e**SP **sP 00 17 41.8 -0.5**
VLA *e* 00 18 46.3
VLA *e* 00 19 24.8
VLA *eS* **S 00 24 40.0 -2.0**
VLA pmax pmax
comp=Z,19nm,0.7s
HIA Hailar 50.52 17 PFAKE 00 17 40.0 +10
HIA LR LR
comp=Z,2μm,21.0s
SEM Semipalatinsk 51.02 345 eP P 00 17 32.0 -1.6
comp=Z,40nm,0.8s
SEM LR LR 00 39 14.1
comp=Z,228nm,16.7s
CTAO Charters Tower 51.09 118 eP P 00 17 35.2 +0.4
CTAO pmax pmax
comp=Z,42nm,1.1s
CTAO MLR MLR
comp=Z,2μm,19.0s
CTAO Charters Tower 51.09 118 eP P 00 17 35.2 +0.4
comp=Z,42nm,1.1s
CTAO LR LR
comp=Z,2μm,19.0s
USRK Ussuriysk Ar. 51.33 30 P **P 00 17 33.8 -2.3**
comp=Z,2.3nm,0.7s,baz=227,slow=3.6,SNR=4.0
USRK LR LR 00 42 13.2
comp=Z,2μm,19.2s,baz=209,slow=40
HTT Hallett 51.33 137 P **P 00 17 35.0 -1.4**
baz=51,SNR=4.5
KURBB Kurchatov Arra 51.69 343 P **P 00 17 36.7 -2.0**
comp=Z,17nm,0.8s,baz=164,slow=7.0,SNR=43
KURK Kurchatov 51.75 344 eP P 00 17 37.4 -1.7
KURK MLR MLR
comp=Z,2μm,20.0s
KURK Kurchatov 51.75 344 eP P 00 17 37.4 -1.7
KURK LR LR
comp=Z,2μm,20.0s

GEYT Alibeck 51.99 319 P **P 00 17 39.8 -1.5**
comp=Z,33nm,1.0s,baz=149,slow=6.4,SNR=52
GEYT LR LR 00 42 36.8
comp=Z,2μm,19.8s,baz=145,slow=39
STKA Stephens Creek 52.37 133 P **P 00 17 40.9 -3.2**
comp=Z,11nm,0.7s,baz=310,slow=7.5,SNR=27
STKA LR LR 00 40 57.8
comp=Z,2μm,21.3s,baz=295,slow=37
STKA Stephens Creek 52.37 133 P **P 00 17 42.6 -1.5**
baz=52,SNR=14
STKA Stephens Creek 52.37 133 *eP* **P 00 17 40.9 -3.2**
STKA pmax pmax
comp=Z,15nm,1.8s
STKA Stephens Creek 52.37 133 *eP* **P 00 17 40.9 -3.2**
comp=Z,15nm,1.8s
ZAA0 Zalesovo Array 53.31 350 *eP* **P 00 17 48.7 -1.9**
ZALV Zalesovo Beam 53.31 350 P **P 00 17 48.4 -2.2**
comp=Z,31nm,0.7s,baz=179,slow=6.5,SNR=41
ZALV LR LR 00 45 07.6
comp=Z,1μm,18.8s,baz=226,slow=41
ZAA1 Zalesovo Array 53.32 350 *eP* **P 00 17 48.4 -2.2**
NVS Novosibirsk 54.46 349⇓ *i* P **P 00 17 57.3 -1.7**
NVS *eS* **S 00 25 34.8 -1.0**
NVS pmax pmax
comp=Z,22nm,1.3s
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,14nm,1.0s
NVS smax smax
comp=N,18nm,2.0s
NVS smax smax
comp=E,15nm,2.0s
KLR Kul'dur 54.92 26 P **P 00 17 59.8 -2.7**
comp=E,1.4nm,0.5s,baz=199,slow=10
ABPO Ambohimpanom 54.95 245 PFAKE 00 18 20.0 +17
ABPO LR LR
comp=Z,448nm,20.0s
CMSA Cobar Meteorol 55.24 131 P **P 00 18 04.3 -0.8**
baz=55,SNR=39
RMQ Roma 55.53 124 P **P 00 18 06.9 -0.4**
baz=55,SNR=6.9
VOSK Vostochnaya 55.89 340 *eP* **P 00 18 07.7 -1.7**
VOSK pmax pmax
comp=Z,23nm,0.7s
VOSK Vostochnaya 55.89 340 *eP* **P 00 18 07.7 -1.7**
comp=Z,22nm,0.7s
ERM Erimo 56.25 39 PFAKE 00 18 20.0 +7.9
ERM LR LR
comp=Z,1μm,21.0s
BVAR Borovoye Array 56.35 340 P **P 00 18 10.3 -2.4**
comp=Z,18nm,0.7s,baz=141,slow=9.0,SNR=36
BRVK Borovoye 56.41 340 *eP* **P 00 18 11.4 -1.7**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 56.41 340 *eP* **P 00 18 11.1 -2.1**
comp=Z,43nm,0.7s
BRVK LR LR
comp=Z,953nm,20.0s
ZRNK Zerenda 56.78 339 *eP* **P 00 18 13.9 -1.8**
ZRNK pmax pmax
comp=Z,19nm,0.8s
ZRNK Zerenda 56.78 339 *eP* **P 00 18 13.9 -1.8**
comp=Z,19nm,0.8s
EIDS Eidsvold 57.08 122 P **P 00 18 17.7 -0.7**
baz=57,SNR=5.4
EIDS Eidsvold 57.08 122 *eP* **P 00 18 17.9 -0.5**
comp=Z,46nm,1.6s
ABKAR Akbulak array 57.91 331 *eP* **P 00 18 21.4 -2.4**
YSS Yuzh-Sakhalins 58.83 34 *i* P **P 00 18 31.6 +1.4**
YSS pmax pmax
comp=Z,13nm,0.8s
YSS Yuzh-Sakhalins 58.83 34 PFAKE 00 18 40.0 +10
YSS LR LR
comp=Z,248nm,22.0s
CAN Canberra 59.44 133 PFAKE 00 18 50.0 +15
CAN LR LR
comp=Z,1μm,22.0s
AKTO Aktyubinsk 59.63 331 P **P 00 18 33.3 -2.5**
comp=Z,7.2nm,0.7s,baz=144,slow=7.4,SNR=9.5
HNR Honiara 61.64 102 PFAKE 00 19 00.0 +10
HNR LR LR
comp=Z,778nm,22.0s
NKL Nikolayevsk 61.66 27 *eP* **P 00 18 49.0 -0.5**
NKL *e* 00 27 05.0
NKL *e* 00 31 06.0
NKL MLR MLR
comp=N,2μm,16.0s
NKL MLR MLR
comp=E,2μm,16.0s
NKL MLR MLR
comp=Z,4μm,16.0s
KMBO Kilima Mbogo 61.88 268 P **P 00 18 49.9 -2.1**
comp=Z,3.0nm,0.8s,baz=85,slow=8.6,SNR=3.6
KMBO LR LR 00 41 08.7
comp=Z,1μm,21.7s,baz=90,slow=32
KMBO Kilima Mbogo 61.88 268 *eP* **P 00 18 53.5 +1.4**
KMBO pmax pmax
comp=Z,18nm,0.9s
KMBO Kilima Mbogo 61.88 268 P **P 00 18 53.7 +1.7**
SNR=5.2
KMBO P **P 00 18 53.7 +1.7**
SNR=5.2
KMBO Kilima Mbogo 61.88 268 *eP* **P 00 18 53.5 +1.4**
comp=Z,18nm,0.9s
TAU Tasmania Unive 62.09 142 PFAKE 00 19 00.0 +7.5
TAU LR LR
comp=Z,2μm,22.0s
GNI Garni 62.19 315 *i* P **P 00 18 56.6 +3.0**
SNR=14
GNI Garni 62.19 315 *i* P **P 00 18 52.5 -1.1**
GNI pmax pmax
comp=Z,227nm,1.7s
GNI Garni 62.19 315 P **P 00 18 53.7 +0.1**
SNR=17
GNI P **P 00 18 53.7 +0.1**
SNR=17
GNI Garni 62.19 315 *eP* **P 00 18 53.6 0.0**
comp=Z,59nm,1.0s
GNI LR LR
comp=Z,871nm,21.0s
TBLG Delisi 62.83 317 P **P 00 18 56.7 -0.9**
TBLG Delisi 62.83 317 P **P 00 18 56.7 -0.9**
SVE Sverdlovsk 62.86 337 *eP* **P 00 19 00.0 +2.5**
SVE pmax pmax
comp=Z,43nm,1.2s
SVE MLR MLR
comp=Z,2μm,20.0s
GUDG Gudauri 63.31 318 P **P 00 19 02.4 +1.3**
ARU Arti 63.40 336 P **P 00 18 59.5 -1.6**
comp=Z,4.4nm,0.6s,baz=100,slow=6.1,SNR=6.9
ARU Arti 63.40 336*d i***P P 00 19 03.2 +2.1**
ARU 00 19 39.1
ARU 00 21 22.6
ARU PPP PPP 00 22 52.7
ARU S **S 00 27 37.4 +5.6**
ARU 00 28 52.3
ARU SS **SS 00 31 44.3 +5.3**
ARU pmax pmax
comp=Z,42nm,1.7s
ARU MLR MLR
comp=Z,2μm,20.0s
ARU Arti 63.40 336 *eP* **P 00 18 59.5 -1.6**
comp=Z,19nm,0.9s
ARU LR LR
comp=Z,2μm,20.0s
AKH Akhalkalaki 63.56 316 P **P 00 19 05.9 +3.2**
AKH Akhalkalaki 63.56 316 P **P 00 19 05.9 +3.2**
MZRK Al-Mazaregh 63.69 309 *i* P **P 00 19 05.0 +1.6**
ZEI Tsey 63.83 318 *eP* **P 00 19 02.8 -1.7**
ZEI pmax pmax
comp=Z,80nm,0.6s
ONI Oni 64.05 317 P **P 00 19 08.9 +3.1**
SFNV Sufian 64.29 310 *i* P **P 00 19 07.5 +0.1**
NCK Nalchik 64.32 318 *eP* **P 00 19 04.6 -2.8**
NCK pmax pmax
comp=Z,18nm,0.9s
YAK Yakutsk 64.36 15 P **P 00 19 05.7 -1.6**
comp=Z,1.8nm,0.3s,baz=218,slow=20,SNR=2.4
YAK Yakutsk 64.36 15 *eP* **P 00 19 09.1 +1.9**
YAK *e**PP **sP 00 19 20.1 +0.3**
YAK *eS* **S 00 27 44.7 +1.2**
YAK *e* 00 28 50.0
YAK *eSS* **SS 00 31 56.2 +2.5**
YAK *eSSS* SSS 00 34 36.4
YAK pmax pmax
comp=Z,23nm,1.3s
YAK pmax pmax
comp=N,13nm,1.5s
YAK pmax pmax
comp=E,12nm,1.6s
YAK pmax pmax
comp=Z,24nm,5.4s
YAK pmax pmax
comp=N,13nm,5.7s
YAK pmax pmax
comp=E,14nm,5.8s
YAK smax smax
comp=E,214nm,9.3s
YAK smax smax
comp=N,65nm,6.6s
YAK MLR MLR
comp=Z,2μm,16.0s
YAK MLR MLR
comp=N,1μm,16.0s
YAK MLR MLR
comp=E,990nm,15.0s
YAK Yakutsk 64.36 15 *eP* **P 00 19 05.7 -1.6**
comp=E,29nm,0.8s
YAK LR LR
comp=Z,2μm,19.0s
NEY Neytrino 64.81 318 *eP* **P 00 19 09.1 -1.7**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 64.88 318 P **P 00 19 09.5 -1.5**
comp=Z,25nm,0.8s,baz=125,slow=6.2,SNR=28
KBZ LR LR 00 50 52.0
comp=Z,523nm,22.0s,baz=119,slow=39
CHVG Ch'k'valeri 65.03 317 P **P 00 19 14.2 +2.1**
KIV Kislovodsk 65.11 318 *i* P **P 00 19 15.1 +2.4**
SNR=11
KIV Kislovodsk 65.11 318 *eP* **P 00 19 12.2 -0.5**
KIV *e* 00 19 40.7
KIV *eS* **S 00 27 51.7 -1.9**
KIV *eSS* **SS 00 32 06.3 0.0**
KIV pmax pmax
comp=Z,62nm,4.0s
KIV pmax pmax
comp=Z,41nm,0.9s
KIV MLR MLR
comp=Z,533nm,17.0s
KIV Kislovodsk 65.11 318 P **P 00 19 12.3 -0.3**
SNR=18
KIV P **P 00 19 12.3 -0.3**
SNR=18
KIV Kislovodsk 65.11 318 PFAKE 00 19 30.0 +17
KIV LR LR
comp=Z,770nm,22.0s
GOF Gofitskoye 65.32 320⇑ *eP* **P 00 19 15.6 +1.7**
GOF *eS* **S 00 28 00.4 +4.4**
GOF pmax pmax
comp=Z,38nm,1.0s
GOF smax smax
comp=E,42nm,1.6s
ASF Jabal al Asfar 65.67 305 P **P 00 19 14.4 -2.2**
baz=163,slow=11
TOTH TOTAH 66.35 306 *i* P **P 00 19 23.9 +3.1**
BRBR Barbar 66.75 306 *i* P **P 00 19 26.0 +2.4**
EIL Elat 66.75 302 P **P 00 19 21.5 -1.8**
comp=E,3.1nm,0.6s,baz=101,slow=2.0
SOC Sochi 66.96 317 *eP* **P 00 19 22.3 -2.1**
SOC *e* 00 21 53.7
SOC *eS* **S 00 28 13.0 -3.0**
SOC *eSS* **SS 00 32 36.9 +2.0**
SOC pmax pmax
comp=Z,57nm,0.9s
SOC MLR MLR
comp=Z,606nm,20.0s
DRWC Darouich 67.00 309 *i* P **P 00 19 24.5 -0.5**
BTCH Batrach 67.00 309 *i* P **P 00 19 25.2 +0.2**
MMAI Mount Meron Ar 67.10 305 P **P 00 19 24.1 -1.6**
comp=Z,3.4nm,0.7s,baz=106,slow=5.1,SNR=2.9
NRIK Noril'sk 67.89 356 P **P 00 19 28.4 -1.4**
comp=Z,14nm,0.9s,baz=144,slow=5.6,SNR=7.4
NRIK LR LR 00 51 54.4
comp=Z,1μm,20.4s,baz=178,slow=38
CASY Casey 68.40 175 *eP* **P 00 19 34.0 +1.0**
comp=Z,20nm,1.1s
CASY LR LR
comp=Z,162nm,21.0s
VRH Novokhopyorsk 68.71 325 *eP* **P 00 19 33.6 -1.6**
VRH pmax pmax
comp=Z,40nm,0.7s
VRH MLR MLR
comp=Z,1μm,21.0s
ANN Anapa 68.92 318 *eP* **P 00 19 36.2 -0.5**
ANN *eS* **S 00 28 38.2 -1.1**
ANN pmax pmax
comp=Z,24nm,1.0s
CSS Mathiatis 69.22 307 *eP* **P 00 19 41.1 +2.2**
comp=Z,19nm,1.3s
CSS LR LR
comp=Z,245nm,20.0s
DZM Mont Dzumac 69.80 114 *eP* **P 00 19 43.9 +1.1**
comp=Z,46nm,1.5s
DZM *eS* **S 00 28 51.6 +0.9**
comp=Z,1μm,27.8s
DZM *eSS* **SS 00 33 23.0 +3.1**
comp=Z,544nm,28.1s
DZM *eLR* LR 00 41 02.9
comp=Z,2μm,24.6s
DZM Mont Dzumac 69.80 114 P **P 00 19 40.8 -2.0**
comp=Z,22nm,1.2s
MA2 Magadan 70.01 25 P **P 00 19 41.9 -1.3**
comp=Z,3.1nm,0.4s,baz=218,slow=19,SNR=2.0
MA2 Magadan 70.01 25 *eP* **P 00 19 41.9 -1.3**
MA2 MLR MLR
comp=Z,938nm,20.0s
MA2 Magadan 70.01 25 *eP* **P 00 19 41.9 -1.3**
MA2 LR LR
comp=Z,938nm,20.0s
BR101 Keskin Array S 70.12 312 *eP* **P 00 19 43.0 -1.4**
BR131 Keskin Array S 70.12 312 *eP* **P 00 19 43.1 -1.4**
BRTR Keskin Array B 70.12 312 P **P 00 19 43.0 -1.4**
comp=Z,16nm,0.8s,baz=130,slow=7.3,SNR=44
BRTR LR LR 00 51 45.7
comp=Z,730nm,21.8s,baz=101,slow=37
VSR Storozhevoye 70.18 325 *eP* **P 00 19 42.1 -2.3**
VSR pmax pmax
comp=Z,30nm,0.9s
VSR MLR MLR
comp=Z,760nm,20.0s
PEA0 Petropavlovsk- 70.23 33 *eP* P 00 19 49.5 +4.8
PETK Petropavlovsk- 70.23 33 P **P 00 19 43.4 -1.3**
comp=Z,3.0nm,0.8s,baz=210,slow=4.8,SNR=3.2
PETK LR LR 00 50 21.1
comp=Z,499nm,20.7s,baz=225,slow=36
PEA1 Petropavlovsk- 70.23 33 *eP* **P 00 19 43.4 -1.3**
PET Petropavlovsk 70.72 33 *eP* **P 00 19 46.6 -1.0**
PET *eS* **S 00 28 58.5 -1.6**
PET pmax pmax
comp=Z,24nm,1.4s
PET MLR MLR
comp=Z,1μm,17.0s
PET MLR MLR
comp=Z,1μm,17.0s
PET Petropavlovsk 70.72 33 PFAKE 00 20 00.0 +12
PET LR LR
comp=Z,622nm,20.0s
ANTO Ankara 70.79 312 *eP* **P 00 19 48.0 -0.5**
ANTO pmax pmax
comp=Z,30nm,0.9s
ANTO MLR MLR
comp=Z,12nm,20.0s
ANTO Ankara 70.79 312 *eP* **P 00 19 48.0 -0.5**
comp=Z,30nm,0.9s
ANTO LR LR
comp=Z,12nm,20.0s
BR231 Keskin MP Arra 70.79 312 *eP* **P 00 19 47.6 -0.9**
LPSR Galich'ya Gora 70.86 326 *eP* **P 00 19 47.2 -1.3**
LPSR pmax pmax
comp=Z,20nm,0.7s
LPSR MLR MLR
comp=Z,760nm,26.0s
SIM Simferopol' 71.21 317 *eP* **P 00 19 48.7 -2.1**
SIM *eS* **S 00 29 00.0 -6.2**
SIM pmax pmax
comp=Z,34nm,0.8s
ISP Isparta 72.05 309 P **P 00 19 57.9 +1.8**
ISP Isparta 72.05 309 P **P 00 19 57.9 +1.8**

ISP MLR MLR
comp=Z,983nm,19.0s
ISP Isparta 72.05 309 P **P 00 19 57.9 +1.8**
ISP LR LR
comp=Z,983nm,19.0s
LSZ Lusaka 72.07 253 *eP* **P 00 19 58.5 +1.8**
LSZ pmax pmax
comp=Z,58nm,1.9s
LSZ MLR MLR
comp=Z,2µm,20.0s
LSZ Lusaka 72.07 253 *eP* **P 00 19 58.5 +1.8**
comp=Z,58nm,1.9s
LSZ LR LR
comp=Z,2µm,20.0s
TIXI Tiksi 72.31 10 P **P 00 19 54.8 -2.0**
comp=Z,22nm,0.9s,baz=213,slow=2.5,SNR=22
TIXI Tiksi 72.31 10 *eP* **P 00 19 54.8 -2.0**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TIXI MLR MLR
comp=Z,2µm,19.0s
TIXI Tiksi 72.31 10 *eP* **P 00 19 54.8 -2.0**
comp=Z,4.1nm,0.9s
TIXI LR LR
comp=Z,2µm,19.0s
SEY Seymchan 72.51 23 P **P 00 19 57.2 -1.0**
comp=Z,4.2nm,0.8s,baz=291,slow=5.8,SNR=13
SEY Seymchan 72.51 23 *i P* **P 00 20 00.1 +1.9**
MOS Moscow 72.81 329 *eP* **P 00 19 59.1 -1.0**
MOS *e* 00 20 19.3
MOS *e* 00 22 43.4
MOS *eS* **S 00 29 21.7 -2.4**
MOS pmax pmax
comp=Z,100nm,1.1s
MOS pmax pmax
comp=Z,50nm,0.8s
MOS smax smax
comp=N,500nm,3.2s
MOS smax smax
comp=E,200nm,3.2s
MOS MLR MLR
comp=N,1µm,20.0s
MOS MLR MLR
comp=E,700nm,20.0s
MOS MLR MLR
comp=Z,1µm,20.0s
OBN Obninsk 73.12 328 P **P 00 20 00.9 -1.1**
comp=Z,8.9nm,0.5s,baz=29,slow=1.4,SNR=12
OBN Obninsk 73.12 328 *eP* **P 00 20 03.9 +1.9**
OBN *PP **pP** 00 20 12.0 +0.8
OBN 00 20 16.0
OBN *i* *SP **sP** 00 20 16.1 +1.4
OBN *eS* **S 00 29 26.9 -0.8**
OBN *eSS* **SS 00 34 11.5 +2.3**
OBN pmax pmax
comp=Z,67nm,1.7s
OBN MLR MLR
comp=Z,1µm,20.0s
OBN Obninsk 73.12 328 *eP* **P 00 20 00.9 -1.1**
comp=Z,72nm,1.4s
OBN LR LR
comp=Z,1µm,21.0s
KULA Kula-Manisa 73.62 310 P **P 00 20 07.8 +2.3**
KULA Kula-Manisa 73.62 310 P **P 00 20 07.8 +2.3**
MAW Mawson 73.70 194 P **P 00 20 03.6 -1.5**
comp=Z,2.6nm,0.6s,baz=37,slow=8.4,SNR=6.8
MAW LR LR 00 46 56.5
comp=Z,956nm,21.8s,baz=54,slow=31
MAW Mawson 73.70 194 *eP* **P 00 20 07.2 +2.1**
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 73.70 194 *eP* **P 00 20 07.2 +2.1**
comp=Z,2.7nm,0.9s
TARA Tarawa 73.82 89 PFAKE 00 20 20.0 +13
TARA LR LR
comp=Z,35nm,20.0s
ISK Istanbul-Kandi 73.83 312 P **P 00 20 08.9 +2.4**
ISK Istanbul-Kandi 73.83 312 P **P 00 20 08.9 +2.4**
ISK Istanbul-Kandi 73.83 312 P **P 00 20 08.9 +2.4**
KLMR Klimovskoe 74.05 334 *eP* **P 00 20 04.8 -2.5**
KLMR pmax pmax
comp=Z,29nm,1.4s
SMG Samos 74.89 309 P **P 00 20 15.1 +2.3**
SMG Samos 74.89 309 P **P 00 20 15.1 +2.3**
TLCR 74.90 316⇑ *iP* **P 00 20 15.9 +3.3**
TIRR Tirgusor 75.02 316‖ *iP* **P 00 20 15.6 +2.3**
TIRR Tirgusor 75.02 316 *eP* **P 00 20 13.8 +0.5**
TIRR pmax pmax
comp=Z,21nm,1.0s
TIRR Tirgusor 75.02 316 *eP* **P 00 20 13.8 +0.5**
comp=Z,21nm,1.0s
KIS Kishinev 75.31 318 *eP* **P 00 20 17.0 +2.0**
KIS *eL* L 00 52 10.0
KIS LRM MLR 00 58 10.0
comp=Z,600nm,20.0s
MSAB Monastry St. A 75.35 315⇑ *iP* **P 00 20 17.6 +2.4**
CFR Carcaliu 75.37 316‖ *iP* **P 00 20 17.6 +2.3**
HARR Harsova 75.41 316‖ *iP* **P 00 20 18.2 +2.7**
PRD Provadia 75.47 314 P **P 00 20 18.5 +2.5**
PRK Paraskevi 75.59 310 P **P 00 20 19.1 +2.4**
PRK Paraskevi 75.59 310 P **P 00 20 19.1 +2.4**
PRK Paraskevi 75.59 310 P **P 00 20 19.1 +2.4**
SANT Santorini 75.78 307 PFAKE 00 20 30.0 +12
SANT LR LR
comp=Z,495nm,20.0s
LBTB Lobatse 75.82 244 *eP* **P 00 20 19.3 +0.8**
LBTB pmax pmax
comp=Z,21nm,1.0s
LBTB Lobatse 75.82 244 *eP* **P 00 20 19.3 +0.8**
comp=Z,21nm,1.0s
SIGR SIGRI 75.90 310 P **P 00 20 20.9 +2.4**
SIGR SIGRI 75.90 310 P **P 00 20 20.9 +2.4**
JMB Yambol 75.92 313 P **P 00 20 21.1 +2.5**
ENEZ Enez 75.93 312 P **P 00 20 21.3 +2.7**
AKASG Malin Array Be 75.95 322 P **P 00 20 16.6 -2.0**
comp=Z,4.1nm,0.5s,baz=85,slow=5.2,SNR=13
AKASG PP **PP 00 23 11.4 +2.2**
comp=Z,0.4nm,0.4s,baz=95,slow=7.2,SNR=6.2
AKASG LR LR 00 58 47.3
comp=Z,324nm,18.1s,baz=95,slow=40
AKBB Malin Array Si 75.95 322 *eP* **P 00 20 16.6 -2.0**
AKBB *e* 00 23 11.4
AKBB pmax pmax
comp=Z,25nm,1.1s
AKBB Malin Array Si 75.95 322 *eP* **P 00 20 16.6 -2.0**
comp=Z,25nm,1.1s
AKBB *ePP **PP 00 23 11.4 +2.2**
KIEV Kiev 75.96 322 PFAKE 00 20 30.0 +11
KIEV LR LR
comp=Z,713nm,21.0s
AK11 Malin Array Si 75.98 322 *eP* **P 00 20 20.4 +1.7**
GADA Gvkgeada 76.03 311 P **P 00 20 21.5 +2.3**
GADA Gvkgeada 76.03 311 P **P 00 20 21.5 +2.3**
ALN Alexandroupoli 76.04 312 P **P 00 20 21.4 +2.1**
ALN Alexandroupoli 76.04 312 P **P 00 20 21.4 +2.1**
ALN Alexandroupoli 76.04 312 P **P 00 20 21.4 +2.1**
IDI Anoyia 76.08 306 P **P 00 20 17.4 -2.3**
comp=Z,6.7nm,0.9s,baz=90,slow=12,SNR=5.0
IDI Anoyia 76.08 306 *eP* **P 00 20 17.4 -2.3**
comp=Z,30nm,1.0s
SMTH Samothraki Isl 76.36 311 P **P 00 20 23.0 +1.9**
SMTH Samothraki Isl 76.36 311 P **P 00 20 23.0 +1.9**
ISR Istrita 76.46 316‖ *iP* **P 00 20 24.9 +3.3**
VRI Vrincioaia 76.48 317‖ *iP* **P 00 20 25.2 +3.5**
LIA Limnos Island 76.53 311 P **P 00 20 21.8 -0.2**
LIA Limnos Island 76.53 311 P **P 00 20 21.8 -0.2**
PLOR Plostina 76.53 317‖ *iP* **P 00 20 25.4 +3.4**
KDZ Kurdzhali 76.64 312 P **P 00 20 24.4 +1.7**
VAM Vamos 76.66 306 P **P 00 20 26.1 +3.2**
VAM Vamos 76.66 306 P **P 00 20 26.1 +3.2**
VAM Vamos 76.66 306 P **P 00 20 26.1 +3.2**
TESR Tescani 76.66 317⇑ *iP* **P 00 20 25.3 +2.6**
BOSA Boshof 76.69 240 P **P 00 20 20.6 -2.8**
comp=Z,3.0nm,0.7s,baz=85,slow=10,SNR=3.6
BOSA LR LR 00 50 15.3
comp=Z,566nm,18.2s,baz=79,slow=33
BOSA Boshof 76.69 240 *eP* **P 00 20 24.7 +1.3**
BOSA Boshof 76.69 240 *eP* **P 00 20 24.7 +1.3**
KARY Karystos 76.82 309 P **P 00 20 25.7 +1.9**
IMMV Iera Moni Meta 76.84 306 P **P 00 20 22.5 -1.4**
MLR Muntele Rosu 76.94 316 P **P 00 20 22.5 -2.0**
comp=Z,0.5nm,0.8s,baz=112,slow=2.5,SNR=3.3
MLR Muntele Rosu 76.94 316⇑ *iP* **P 00 20 27.7 +3.2**
MLR Muntele Rosu 76.94 316 *eP* **P 00 20 22.5 -2.0**

MLR pmax pmax
comp=Z,44nm,1.2s
MLR Muntele Rosu 76.94 316 *eP* **P 00 20 22.5 -2.0**
comp=Z,44nm,1.2s
PRAR RASCA 77.12 318‖ *iP* **P 00 20 28.3 +3.1**
RZN Rozhen 77.16 312 P **P 00 20 27.3 +1.5**
KAVA Kavala 77.20 312 P **P 00 20 28.2 +2.4**
KAVA Kavala 77.20 312 P **P 00 20 28.2 +2.4**
PLD Plovdiv 77.24 313 P **P 00 20 27.8 +1.8**
PTL Penteli 77.27 309 P **P 00 20 28.2 +1.9**
PTL Penteli 77.27 309 P **P 00 20 28.2 +1.9**
ATHU Athens Univers 77.32 308 P **P 00 20 27.9 +1.3**
ATHU Athens Univers 77.32 308 P **P 00 20 27.9 +1.3**
ATH Athens Observa 77.38 308 P **P 00 20 28.4 +1.5**
ATH Athens Observa 77.38 308 P **P 00 20 28.4 +1.5**
ATH Athens Observa 77.38 308 P **P 00 20 28.4 +1.5**
DOPR Dopca 77.42 317‖ *iP* **P 00 20 30.4 +3.4**
HUMR Humele 77.44 315⇑ *iP* **P 00 20 30.3 +3.2**
OUR Ouranopolis 77.50 311 P **P 00 20 29.7 +2.2**
OUR Ouranopolis 77.50 311 P **P 00 20 29.7 +2.2**
OUR Ouranopolis 77.50 311 P **P 00 20 29.7 +2.2**
VOIR 77.55 316‖ *iP* **P 00 20 31.3 +3.5**
KYTH Kithira 77.69 307 P **P 00 20 30.7 +2.0**
KYTH Kithira 77.69 307 P **P 00 20 30.7 +2.0**
DID Didima 77.69 308 P **P 00 20 29.5 +0.8**
DID Didima 77.69 308 P **P 00 20 29.5 +0.8**
MICGM Minsk 77.70 326 *e* **P 00 20 31.0 +2.7**
MICGM *eLR LR 00 57 04.0
MNK Minsk 77.70 326 *eP* **P 00 20 31.0 +2.7**
NVR Nevrokopi 77.74 312 P **P 00 20 30.3 +1.4**
NVR Nevrokopi 77.74 312 P **P 00 20 30.3 +1.4**
KRND KRANIDI 77.75 308 P **P 00 20 30.3 +1.3**
ARR Arges 77.83 316⇑ *iP* **P 00 20 32.0 +2.6**
BURAR Bucovina Array 77.84 318‖ *iP* **P 00 20 32.2 +2.8**
BUR08 Bucovina Ar. S 77.86 318 *eP* **P 00 20 29.4 -0.1**
MMB Musomiste 77.88 312 P **P 00 20 30.4 +0.7**
SRS Serrai 77.91 312 P **P 00 20 30.6 +0.8**
SRS Serrai 77.91 312 P **P 00 20 30.6 +0.8**
SRS Serrai 77.91 312 P **P 00 20 30.6 +0.8**
PLG Polygyros 77.91 311 P **P 00 20 31.8 +1.9**
PLG Polygyros 77.91 311 P **P 00 20 31.8 +1.9**
PLG Polygyros 77.91 311 P **P 00 20 31.8 +1.9**
LTK Loutraki 77.97 308 P **P 00 20 30.4 +0.2**
LTK Loutraki 77.97 308 P **P 00 20 30.4 +0.2**
ATAL Atalanti 78.01 309 P **P 00 20 31.5 +1.1**
ATAL Atalanti 78.01 309 P **P 00 20 31.5 +1.1**
SOH Sokhos 78.05 311 P **P 00 20 32.2 +1.6**
SOH Sokhos 78.05 311 P **P 00 20 32.2 +1.6**
SOH Sokhos 78.05 311 P **P 00 20 32.2 +1.6**
MPEP Malo Peshtene 78.13 314 P **P 00 20 33.4 +2.4**
THAL Thalero 78.21 308 P **P 00 20 31.9 +0.4**
THE Thessaloniki 78.31 311 P **P 00 20 33.5 +1.5**
THE Thessaloniki 78.31 311 P **P 00 20 33.5 +1.5**
THE Thessaloniki 78.31 311 P **P 00 20 33.5 +1.5**
ARCR ARCALIA 78.32 318‖ *iP* **P 00 20 35.6 +3.6**
DSF Desfina 78.36 309 P **P 00 20 32.9 +0.5**
DSF Desfina 78.36 309 P **P 00 20 32.9 +0.5**
NACGM Naroch 78.42 326 *e* **P 00 20 33.0 +0.7**
NACGM *eLR LR 00 52 35.0
LOT Lotru 78.44 316⇑ *iP* **P 00 20 35.8 +3.0**
IDID Didziasalis 78.54 326 *eP* **P 00 20 35.1 +2.1**
IDID IAmb IAmb 00 20 41.2
comp=Z,16nm,0.9s
AGG Agios Georgios 78.59 309 *eP* **P 00 20 34.7 +1.1**
AGG pmax pmax
comp=Z,72nm,1.6s
AGG Agios Georgios 78.59 309 *eP* **P 00 20 34.7 +1.1**
comp=Z,72nm,1.6s
LIT Litokhoron 78.60 310 P **P 00 20 35.2 +1.5**
LIT Litokhoron 78.60 310 P **P 00 20 35.2 +1.5**
LIT Litokhoron 78.60 310 P **P 00 20 35.2 +1.5**
KLV Kalavryta, Ach 78.61 308 P **P 00 20 30.4 -3.4**
KLV Kalavryta, Ach 78.61 308 P **P 00 20 30.4 -3.4**
KALE Kalithea 78.66 309 P **P 00 20 34.9 +0.8**
KALE Kalithea 78.66 309 P **P 00 20 34.9 +0.8**
CJR Cluj-Napoca 78.77 317‖ *iP* **P 00 20 38.2 +3.7**
LAKA Lakka 78.77 309 P **P 00 20 33.4 -1.3**
LAKA Lakka 78.77 309 P **P 00 20 33.4 -1.3**
GRG Griva 78.78 311 P **P 00 20 36.2 +1.5**
GRG Griva 78.78 311 P **P 00 20 36.2 +1.5**
GRG Griva 78.78 311 P **P 00 20 36.2 +1.5**
ANX Ano Chora 78.86 309 P **P 00 20 33.8 -1.4**
AMT Artemida-Makis 78.90 308 P **P 00 20 34.2 -1.2**
IZAR Zarasai 78.92 327 *eP* **P 00 20 37.0 +2.0**
IZAR IAmb IAmb 00 20 43.3
comp=Z,11nm,0.6s
ISAL Salakas 78.94 326 *eP* **P 00 20 37.2 +2.0**
ISAL IAmb IAmb 00 20 42.2
comp=Z,40nm,1.7s
LVZ Lovozero 78.94 340 PFAKE 00 20 50.0 +15
LVZ LR LR
comp=Z,2µm,20.0s
DRO Drossia 78.95 308 P **P 00 20 38.4 +2.8**
BMR Baia Mare 78.99 318‖ *iP* **P 00 20 39.2 +3.6**
LVV L'vov 79.02 320 *eP* **P 00 20 39.6 +3.9**
LVV *eS* **S 00 30 36.6 +3.8**
DEV Deva 79.11 316‖ *iP* **P 00 20 39.8 +3.5**
RLS Riolos of Patr 79.15 308 P P 00 20 50.7 +14
RLS Riolos of Patr 79.15 308 P P 00 20 50.7 +14
THZ Tophouse 79.17 133 *eP* **P 00 20 36.5 -0.4**
comp=Z,360nm,0.6s
APA Apatity 79.25 339⇑ *iP* **P 00 20 37.7 +1.1**
APA *i* S **S 00 30 33.0 -1.6**
APA pmax pmax
comp=Z,18nm,1.1s
APA MLR MLR
comp=Z,2µm,19.0s
VSU Vasula 79.31 329 *eP* **P 00 20 37.8 +0.7**
VSU pmax pmax
comp=Z,56nm,1.0s
DRGR 79.38 317⇑ *iP* **P 00 20 41.2 +3.3**
PDO Prodromos 79.43 309 P **P 00 20 38.2 0.0**
TRPA Tarpa 79.70 319‖ *eP* **P 00 20 42.7 +3.2**
KWP Kalwaria Pacla 79.83 320 *eP* **P 00 20 43.2 +3.0**
KWP Kalwaria Pacla 79.83 320‖ *iP* **P 00 20 43.7 +3.5**
KWP Kalwaria Pacla 79.83 320 *eP* **P 00 20 43.2 +3.0**
UZH Uzhgorod 79.94 319 *eP* **P 00 20 43.4 +2.6**
UZH *e* 00 20 50.6
UZH *eS* **S 00 30 44.8 +2.2**
BZS Buzias 79.96 316⇑ *iP* **P 00 20 43.9 +2.9**
BILL Bilibino 79.97 21 *d iP* **P 00 20 42.2 +1.7**
BILL *e* 00 20 48.4
BILL *e* *PP **pP 00 20 52.3 +2.5**
BILL *SP **sP 00 20 56.0 +2.7**
BILL *i* SS SS 00 35 58.1 +5.9
BILL pmax pmax
comp=Z,18nm,2.2s
BILL MLR MLR
comp=Z,1µm,18.0s
BILL Bilibino 79.97 21 PFAKE 00 20 50.0 +9.5
BILL LR LR
comp=Z,1µm,19.0s
KOLS Kolonicke sedl 80.00 319 *eP* **P 00 20 44.4 +3.3**
KOLS pmax pmax
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 80.00 319 *eP* **P 00 20 44.4 +3.3**
KOLS *eS* **S 00 30 41.4 -1.9**
SIRR Siria 80.02 317⇑ *iP* **P 00 20 44.7 +3.4**
MSVF Nonsavu 80.05 108 PFAKE 00 20 50.0 +8.0
MSVF LR LR
comp=Z,1µm,20.0s
SUW Suwalki 80.29 324 *eP* **P 00 20 44.9 +2.4**
SUW Suwalki 80.29 324 *eP* **P 00 20 44.9 +2.4**
FIA1 FINESS Array S 80.36 332 *eP* **P 00 20 42.6 -0.1**
FIA0 FINESS Array S 80.36 332 *eP* **P 00 20 40.8 -2.0**
FIA0 FINESS Array S 80.36 332 *eP* **P 00 20 40.8 -2.0**
FINES FINESS Array B 80.36 332 P **P 00 20 40.8 -2.0**
comp=Z,9.9nm,0.7s,baz=106,slow=5.6,SNR=18
FINES LR LR 01 00 31.4
comp=Z,1µm,21.9s,baz=113,slow=39
SNZO South Karori 80.41 132 PFAKE 00 20 50.0 +6.6
SNZO LR LR
comp=Z,2µm,20.0s
FUNA Funafuti 80.50 99 PFAKE 00 21 00.0 +16
FUNA LR LR
comp=Z,4µm,19.0s
CRVS Cervenica-Dubn 80.53 319 *eP* **P 00 20 47.1 +3.1**
CRVS *e* 00 20 55.7
CRVS *eS* **S 00 30 45.7 -3.1**
CRVS Cervenica-Dubn 80.53 319 *eP* **P 00 20 47.1 +3.1**
CRVS *e* 00 20 55.7

CRVS *eS* **S 00 30 45.7 -3.1**
TIR Tirane 80.73 311 PFAKE 00 21 00.0 +15
TIR LR LR
comp=Z,718nm,21.0s
STHS Stebnicka Huta 80.74 320 *eP* **P 00 20 48.1 +3.0**
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 80.74 320 *eP* **P 00 20 48.1 +3.0**
STHS Stebnicka Huta 80.74 320 *eS* **S 00 30 54.2 +3.1**
DIVS Divibare 80.92 314 P **P 00 20 46.4 +0.1**
SYO Syowa Base 81.13 198‖ *eX* 00 20 43.0
PDG Podgorica 81.29 313 P **P 00 20 49.4 +1.3**
TTG Podgorica 81.29 313 P **P 00 20 49.4 +1.3**
TTG Podgorica 81.29 313 P **P 00 20 49.4 +1.3**
NIE Niedzica 81.35 320 *eP* **P 00 20 51.7 +3.3**
NIE Niedzica 81.35 320 *eP* **P 00 20 51.7 +3.3**
BEL Belsk 81.37 322 *eP* **P 00 20 51.7 +3.3**
BEL Belsk 81.37 322 *eP* **P 00 20 51.7 +3.3**
BKZ Black Stump Fm 81.38 130 *eP* **P 00 20 48.2 -0.5**
comp=Z,32nm,1.1s
PSZ Piszkesteto 81.43 318⇑ *iP* **P 00 20 52.0 +3.1**
PSZ Piszkesteto 81.43 318⇑ *eP* **P 00 20 51.7 +2.8**
PSZ Piszkesteto 81.43 318 *eP* **P 00 20 50.1 +1.2**
PSZ pmax pmax
comp=Z,34nm,1.4s
PSZ MLR MLR
comp=Z,553nm,19.0s
PSZ Piszkesteto 81.43 318 *eP* **P 00 20 50.1 +1.2**
comp=Z,34nm,1.4s
PSZ LR LR
comp=Z,553nm,19.0s
OJC Ojcow 81.78 320 *eP* **P 00 20 53.6 +3.1**
OJC Ojcow 81.78 320 *eP* **P 00 20 53.6 +3.1**
OJC Ojcow 81.78 320 *eP* **P 00 20 53.7 +3.1**
comp=Z,17nm,1.1s
KLNR Kaliningrad 82.11 325 *eP* **P 00 20 51.6 -0.5**
KEV Kevo 82.19 340 PFAKE 00 21 00.0 +7.7
KEV LR LR
comp=Z,1µm,21.0s
VYHS Vyhne 82.20 319 *eP* **P 00 20 53.9 +1.1**
VYHS pmax pmax
comp=Z,10.0nm,1.6s
VYHS Vyhne 82.20 319 *eP* **P 00 20 53.9 +1.1**
VYHS Vyhne 82.20 319 *eS* **S 00 31 06.7 +0.5**
TSUM Tsumeb 82.55 250 *eP* **P 00 20 56.8 +1.4**
comp=Z,12nm,1.1s
TSUM LR LR
comp=Z,719nm,21.0s
ARA0 ARCESS Array S 82.63 340 *eP* **P 00 20 53.5 -1.2**
ARCES ARCESS Array B 82.63 340 P **P 00 20 53.5 -1.2**
comp=Z,9.0nm,1.1s,baz=89,slow=5.2,SNR=14
ARCES LR LR 01 00 37.1
comp=Z,2µm,21.4s,baz=114,slow=38
OKC Ostrava-Krasne 82.79 320 *eP* **P 00 20 59.0 +3.1**
OKC *epP **pP 00 21 03.6 -1.6**
OKC *esP **sP 00 21 06.6 -2.0**
OKC *ex* x 00 21 11.5
OKC *eS* **S 00 31 10.3 -1.9**
OKC AMS AMS 01 03 30.0
comp=Z,400nm,18.3s
OKC Ostrava-Krasne 82.79 320 *eP* **P 00 20 59.0 +3.1**
OKC *e* 00 21 06.6
OKC *e* 00 21 11.5
OKC *eS* **S 00 31 10.3 -1.9**
OKC MLR MLR
comp=Z,400nm,18.3s
TIP Timpagrande 82.92 309 *eP* **P 00 21 00.7 +3.8**
comp=Z,23nm,1.2s
TIP LR LR
comp=Z,626nm,22.0s
MORC Moravsky Berou 83.17 320⇑ *iP* **P 00 21 01.2 +3.3**
MORC Moravsky Berou 83.17 320 *eP* **P 00 21 00.5 +2.6**
MORC pmax pmax
comp=Z,45nm,1.0s
MORC Moravsky Berou 83.17 320 *eP* **P 00 21 00.5 +2.6**
comp=Z,45nm,1.0s
CUC Castrocucco 83.69 310 PFAKE 00 21 10.0 +9.2
CUC LR LR
comp=Z,436nm,22.0s
VRAC Vranov 83.75 319 P **P 00 20 59.5 -1.4**
comp=Z,2.3nm,0.9s,baz=104,slow=12,SNR=1.8
VRAC Vranov 83.75 319‖ *iP* **P 00 21 04.1 +3.3**
DPC Dobruska-Polom 84.01 320 *eP* **P 00 21 05.2 +3.0**
DPC *epP **pP 00 21 10.5 -1.1**
DPC AMS AMS 01 06 20.0
comp=Z,600nm,17.2s
DPC Dobruska-Polom 84.01 320 *eP* **P 00 21 05.2 +3.0**
DPC *e* 00 21 10.5
DPC MLR MLR
comp=Z,600nm,17.2s
KSP Ksiaz 84.06 321 *eP* **P 00 21 05.4 +3.0**
KSP Ksiaz 84.06 321 *eP* **P 00 21 05.4 +3.0**
CONA Conrad Observa 84.13 318 *i P* **P 00 21 04.4 +1.4**
comp=Z,5.1nm,0.9s
UPC Upice 84.22 320 *eP* **P 00 21 06.6 +3.4**
UPC *epP **pP 00 21 11.5 -1.1**
UPC *eSKS **S 00 31 23.4 -3.2**
UPC AMS AMS 01 05 50.0
comp=Z,600nm,17.9s
UPC Upice 84.22 320 *eP* **P 00 21 06.6 +3.4**
UPC *eS* **S 00 31 23.4 -3.2**
UPC MLR MLR
comp=Z,600nm,17.9s
ARSA Arzberg 84.32 317 *i PcP* **PcP 00 21 06.4 -1.1**
comp=Z,14nm,1.3s,SNR=8.1
BOJS Bojanci 84.40 315 *i P* **P 00 21 03.1 -1.1**
TREC Trest 84.47 319 *eP* **P 00 21 07.1 +2.6**
TREC *epP **pP 00 21 12.2 -1.7**
TREC *eSKS **S 00 31 26.3 -2.9**
TREC AMS AMS 01 05 40.0
comp=Z,400nm,16.2s
TREC Trest 84.47 319 *eP* **P 00 21 07.1 +2.6**
TREC *e* 00 21 12.2
TREC *eS* **S 00 31 26.3 -2.9**
TREC MLR MLR
comp=Z,400nm,16.2s
WDD Wied Dalam 84.55 306 PFAKE 00 21 20.0 +15
WDD LR LR
comp=Z,620nm,20.0s
SOKA Soboth 84.62 317 *i PcP* **PcP 00 21 07.8 -1.1**
comp=Z,21nm,1.6s,SNR=14
VAE Valguarnera 84.69 307 P **P 00 21 04.7 -1.3**
comp=Z,1.7nm,0.4s,baz=72,slow=3.2,SNR=2.2
VISS Visnje 84.71 316 *i P* **P 00 21 05.2 -0.6**
LJU Ljubljana 84.94 316 *eP* **P 00 21 09.5 +2.6**
OBKA Obir 84.94 316 *i PcP* **PcP 00 21 10.5 +0.1**
comp=Z,18nm,1.9s,SNR=7.2
GOPC GO Pecny, Ondr 84.96 320 *eSKS* **S 00 31 30.3 -3.8**
GOPC AMS AMS 01 06 00.0
comp=Z,600nm,17.6s
PRU Pruhonice 85.13 320 *eP* **P 00 21 10.9 +3.1**
PRU *epP **pP 00 21 15.7 -1.5**
PRU *ex* x 00 21 23.2
PRU *eSKS **S 00 31 32.1 -3.5**
PRU AMS AMS 01 06 10.0
comp=Z,600nm,18.5s
PRU Pruhonice 85.13 320 *eP* **P 00 21 10.9 +3.1**
PRU *e* 00 21 23.2
PRU *eS* **S 00 31 32.1 -3.5**
PRU MLR MLR
comp=Z,600nm,18.5s
PVCC Panska Ves 85.14 320 *eP* **P 00 21 11.2 +3.4**
PVCC AMS AMS 01 05 00.0
comp=Z,600nm,16.0s
PVCC Panska Ves 85.14 320 *eP* **P 00 21 11.2 +3.4**
PVCC MLR MLR
comp=Z,600nm,16.0s
MOA Molln 85.20 318 *i PcP* **PcP 00 21 11.4 0.0**
comp=Z,6.7nm,1.1s
JAVS Javornik 85.25 316 *i P* **P 00 21 05.8 -2.9**
TRI Trieste 85.46 316 *eP* **P 00 21 11.2 +1.7**
TRI pmax pmax
comp=Z,11nm,1.1s
TRI Trieste 85.46 316 *eP* **P 00 21 11.2 +1.7**
comp=Z,11nm,1.1s
BRG Berggiesshubel 85.55 321 *eP* **P 00 21 13.3 +3.4**
comp=Z,41nm,2.0s
BRG Berggiesshubel 85.55 321 S **S 00 31 37.0 -2.8**
comp=N,405nm,17.7s
comp=E,397nm,17.9s
comp=Z,671nm,17.3s
BRG Berggiesshubel 85.55 321 *eP* **P 00 21 13.3 +3.4**
BRG S **S 00 31 37.0 -2.8**
BRG pmax pmax

comp=Z,41nm,2.0s
BRG MLR MLR
comp=N,405nm,17.7s
BRG MLR MLR
comp=E,397nm,17.9s
BRG MLR MLR
comp=Z,671nm,17.3s
MYKA Terra Mystica 85.58 316 *i* PcP **P 00 21 13.9 +3.7**
comp=Z,11nm,1.3s
AQU L'Aquila 85.61 312 *e*P **P 00 21 09.2 -1.2**
AQU MLR MLR
comp=Z,625nm,19.0s
AQU L'Aquila 85.61 312 *e*P **P 00 21 09.2 -1.2**
AQU LR LR
comp=Z,625nm,19.0s
GEA0 GERESS Array S 85.62 319 *e*P **P 00 21 09.7 -0.7**
GEC2 GERESS Array S 85.62 319 *e*P **P 00 21 12.0 +1.6**
GEC2 pmax pmax
comp=Z,28nm,1.4s
GEC2 GERESS Array S 85.62 319 *e*P **P 00 21 12.0 +1.6**
comp=Z,28nm,1.4s
GERES GERESS Array B 85.62 319 P **P 00 21 08.9 -1.5**
comp=Z,1.4nm,0.8s,baz=64,slow=3.1,SNR=22
GERES LR LR 01 05 52.0
comp=Z,282nm,18.7s,baz=80,slow=40
CLTB Caltabellotta 85.64 307 PFAKE 00 21 20.0 +9.3
CLTB LR LR
comp=Z,549nm,21.0s
KHC Kasperske Hory 85.71 319 *e*P **P 00 21 13.6 +2.8**
KHC *e*SKS **S 00 31 36.0 -5.5**
KHC AMS AMS 01 05 10.0
comp=Z,500nm,19.8s
KHC Kasperske Hory 85.71 319 *e*P **P 00 21 13.6 +2.8**
KHC *e*S **S 00 31 36.0 -5.5**
KHC MLR MLR
comp=Z,500nm,19.8s
KHC Kasperske Hory 85.71 319 *e*P **P 00 21 14.2 +3.4**
comp=Z,1.9nm,1.0s
KBA Koelnbreinsper 85.80 317 *i* PcP **P 00 21 14.2 +2.8**
comp=Z,5.3nm,0.7s
VNDA Vanda 86.02 169 P **P 00 21 11.4 -0.3**
comp=Z,3.9nm,0.8s,baz=309,slow=6.2,SNR=14
VNDA LR LR 00 59 21.1
comp=Z,406nm,18.2s,baz=311,slow=36
VNDA Vanda 86.02 169 *e*P **P 00 21 11.4 -0.3**
VNDA pmax pmax
comp=Z,12nm,1.1s
VNDA Vanda 86.02 169 *e*P **P 00 21 11.4 -0.3**
comp=Z,12nm,1.1s
CLL Collm 86.16 321 *e*P **P 00 21 14.0 +1.1**
comp=Z,41nm,2.2s
CLL *i* 00 21 20.4
CLL *e* 00 21 27.0
CLL *i* 00 21 41.7
CLL *e*S **S 00 31 44.0 -1.7**
comp=N,300nm,26.9s
CLL *e*S **S 00 31 44.0 -1.7**
comp=E,300nm,24.0s
CLL *e*PS PnS 00 33 06.0 +20
CLL *e*SSS SSS 00 40 53.0
CLL *e*SSSS 00 43 48.0
CLL *e* 00 44 54.0
CLL LmH 01 03 00.0
comp=N,500nm,21.0s
CLL LmH 01 03 00.0
comp=E,400nm,20.7s
CLL LmV 01 08 00.0
comp=Z,500nm,20.8s
CLL Collm 86.16 321 *e*P **P 00 21 15.2 +2.3**
comp=Z,13nm,1.2s
HFS Hagfors 86.16 330 P **P 00 21 10.9 -1.8**
comp=Z,5.2nm,0.7s,baz=101,slow=7.8,SNR=14
ABTA Abfaltersbach 86.36 317 *i* PcP **P 00 21 16.4 +2.3**
comp=Z,5.7nm,0.9s
NKC Novy Kostel 86.48 320 *e*P **P 00 21 17.8 +3.3**
NKC *e*pP **pP 00 21 22.5 -1.5**
NKC *e*SKS **S 00 31 40.7 -8.3**
NKC AMS AMS 01 08 00.0
comp=Z,700nm,18.1s
NKC Novy Kostel 86.48 320 *e*P **P 00 21 17.8 +3.3**
NKC *e*S **S 00 31 40.7 -8.3**
NKC MLR MLR
comp=Z,700nm,18.1s
SPA0 Spitsbergen Ar 86.77 348 *e*P **P 00 21 15.7 +0.3**
SPITS Spitsbergen Ar 86.77 348 P **P 00 21 13.8 -1.6**
comp=Z,5.4nm,0.7s,baz=134,slow=8.2,SNR=9.9
WTTA Wattenberg 86.96 317 *i* PcP **P 00 21 20.1 +2.9**
comp=Z,9.8nm,0.9s
WATA Walderalm 87.01 317 *i* PcP **P 00 21 20.1 +2.7**
comp=Z,3.3nm,0.6s
SBA Scott Base 87.11 169 *e*P **P 00 21 18.5 +1.5**
SBA pmax pmax
comp=Z,9.0nm,0.8s
SBA MLR MLR
comp=Z,828nm,20.0s
SBA Scott Base 87.11 169 *e*P **P 00 21 18.5 +1.5**
comp=Z,9.2nm,0.8s
SBA LR LR
comp=Z,828nm,20.0s
NC405 NORSAR Array S 87.18 331 *e*P **P 00 21 17.3 -0.4**
NC602 NORSAR Array S 87.25 331 *e*P **P 00 21 20.9 +2.9**
MOTA Moosalm 87.33 317 *i* P **P 00 21 18.3 -0.6**
comp=Z,7.5nm,0.8s
NC303 NORSAR Array S 87.35 331 *e*P **P 00 21 21.5 +3.0**
NB2 NORSAR Subarra 87.42 331 P **P 00 21 17.6 -1.3**
comp=Z,18nm,1.1s,baz=93,slow=4.6
NB2 NORSAR Subarra 87.42 331 P **P 00 21 17.6 -1.3**
baz=93,slow=4.6
NB200 NORSAR Array S 87.42 331 *e*P **P 00 21 17.6 -1.3**
NOA NORSAR Array B 87.42 331 P **P 00 21 17.6 -1.3**
comp=Z,3.6nm,0.8s,baz=93,slow=4.9,SNR=9.7
NOA LR LR 01 06 27.8
comp=Z,650nm,18.8s,baz=105,slow=40
RETA Reutte 87.56 317 *i* PcP **P 00 21 22.9 +2.9**
comp=Z,11nm,0.9s
NAO01 NORSAR Array S 87.58 331 *e*P **P 00 21 22.2 +2.6**
FETA Feichten 87.58 317 *i* PcP **P 00 21 23.0 +2.8**
comp=Z,7.1nm,1.0s
NBO02 NORSAR Array S 87.59 331 *e*P **P 00 21 22.8 +3.1**
KBS Kingsbay 87.72 349 *e*P **P 00 21 21.0 +1.1**
KBS pmax pmax
comp=Z,15nm,1.1s
KBS MLR MLR
comp=Z,1μm,21.0s
KBS Kingsbay 87.72 349 *e*P **P 00 21 21.0 +1.1**
comp=Z,15nm,1.1s
KBS LR LR
comp=Z,1μm,21.0s
VLC Villacollemand 87.83 314 PFAKE 00 21 30.0 +8.8
VLC LR LR
comp=Z,298nm,21.0s
FUORN Ofenpass-Fuorn 87.90 316 *e*P **P 00 21 25.4 +3.6**
comp=Z,22nm,1.3s
DAVA Damuels 88.16 317 *i* PcP **P 00 21 24.0 +1.1**
comp=Z,16nm,1.1s
DAVOX Davos/Dischmat 88.17 317 P **P 00 21 21.7 -1.2**
comp=Z,8.8nm,0.8s,baz=111,slow=14,SNR=5.2
KONO Kongsberg 88.22 329 PFAKE 00 21 30.0 +7.4
KONO LR LR
comp=Z,2μm,20.0s
TUE Stuetta 88.54 316 PFAKE 00 21 40.0 +15
TUE LR LR
comp=Z,553nm,20.0s
VSL Villasalto 88.65 309 *e*P **P 00 21 28.6 +3.4**
comp=Z,21nm,1.1s
VSL LR LR
comp=Z,250nm,20.0s
KEST Kesra 88.75 306 P **P 00 21 25.9 0.0**
comp=Z,15nm,1.0s,baz=31,slow=12,SNR=6.3
KEST LR LR 01 07 36.2
comp=Z,253nm,19.4s,baz=354,slow=40
KEST Kesra 88.75 306 *e*P **P 00 21 25.9 0.0**
comp=Z,28nm,1.1s
BFO Black Forest 89.18 318 *e*P **P 00 21 30.8 +3.3**
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO MLR MLR
comp=Z,405nm,20.0s
BFO Black Forest 89.18 318 *e*P **P 00 21 30.8 +3.3**
comp=Z,6.8nm,0.9s
BFO LR LR
comp=Z,405nm,20.0s
SENIN Lac Senin/Sane 89.96 316 *e*P **P 00 21 31.7 +0.3**
comp=Z,15nm,1.1s
BNI Bardonecchia 90.45 315 PFAKE 00 21 50.0 +16
BNI LR LR
comp=Z,534nm,20.0s
WLF Walferdange 90.56 320 *e*P **P 00 21 36.7 +2.9**
WLF pmax pmax
comp=Z,14nm,1.0s
WLF MLR MLR
comp=Z,437nm,21.0s
WLF Walferdange 90.56 320 *e*P **P 00 21 36.7 +2.9**
comp=Z,14nm,1.0s
WLF LR LR
comp=Z,437nm,21.0s
NVL N'lazarevskaya 90.75 199 *e*P P 00 21 39.9 +5.6
QSPA South Pole Qui 91.71 180 *e*P **P 00 21 40.1 +1.1**
QSPA LR LR
comp=Z,1μm,21.0s
SSB Saint Sauveur 91.95 315 *e*P **P 00 21 40.4 -0.1**
SSB pmax pmax
comp=Z,11nm,0.9s
SSB MLR MLR
comp=Z,321nm,22.0s
SSB Saint Sauveur 91.95 315 *e*P **P 00 21 40.4 -0.1**
comp=Z,11nm0.9s
SSB LR LR
comp=Z,321nm,22.0s
TAM Tamanrasset 92.59 293 *e*P **P 00 21 45.2 +1.1**
TAM pmax pmax
comp=Z,13nm,1.2s
TAM MLR MLR
comp=Z,632nm,22.0s
TAM Tamanrasset 92.59 293 *e*P **P 00 21 45.2 +1.1**
comp=Z,13nm,1.2s
TAM LR LR
comp=Z,632nm,22.0s
TT01 Tatalina 95.19 26 *e*P **P 00 21 54.7 -0.2**
EKA Eskdalemuir Ar 95.50 326 P **P 00 21 55.3 -1.2**
comp=Z,0.7nm,0.7s,baz=69,slow=6.4,SNR=2.9
ESK Eskdalemuir 95.52 326 PFAKE 00 22 10.0 +13
ESK LR LR
comp=Z,1μm,22.0s
SVW2 Sparrevohn 95.83 28 *e*P P 00 22 04.4 +6.5
comp=Z,8.4nm,1.0s
COLD Coldfoot 96.28 21 *e*P P 00 22 06.2 +6.3
comp=Z,5.6nm,1.2s
TOA0 Torodi Ar. Sit 96.78 283 *e*P **P 00 22 06.7 +3.5**
TORD Torodi Ar. Bea 96.78 283 P **P 00 22 03.0 -0.2**
comp=Z,2.1nm,1.2s,baz=85,slow=4.6,SNR=7.7
TORD PP **PP 00 26 01.2 +2.7**
comp=Z,1.9nm,1.0s,baz=90,slow=7.1,SNR=6.8
TORD LR LR 01 04 26.8
comp=Z,817nm,19.4s,baz=105,slow=35
TOA1 Torodi Ar. Sit 96.78 283 *e*P **P 00 22 03.0 -0.2**
comp=Z,15nm,1.7s
TOA1 *e*PP **PP 00 26 01.2 +2.7**
MLY Manley 96.81 24 *e*P P 00 22 08.9 +6.5
comp=Z,15nm,1.5s
BPAW Bear Paw Mtn. 97.01 25 *e*P **P 00 22 02.5 -0.7**
comp=Z,15nm,0.9s
TRF Thorofare Moun 97.52 25 *e*P **P 00 22 05.5 -0.2**
comp=Z,7.1nm,0.9s
MCK McKinley 97.99 25 *e*P **P 00 22 07.1 -0.5**
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 97.99 25 *e*P **P 00 22 07.1 -0.5**
comp=Z,15nm,1.0s
COLA College 98.02 23 PFAKE 00 22 20.0 +12
COLA LR LR
comp=Z,549nm,20.0s
KDAK Kodiak Island 98.19 31 PFAKE 00 22 20.0 +11
KDAK LR LR
comp=Z,806nm,20.0s
ILAR Eielson Array 98.44 23 P **P 00 22 07.1 -2.5**
comp=Z,0.2nm,0.5s,baz=309,slow=5.7,SNR=2.9
ILAR PKKP **PKKPbc 00 38 42.6 +0.1**
comp=Z,0.6nm,0.8s,baz=158,slow=2.6,SNR=5.6
ILAR LR LR 01 10 55.6
comp=Z,438nm,18.8s,baz=305,slow=38
ILB Eielson Array 98.44 23 *e*P **P 00 22 07.1 -2.5**
ILB *e*PKKPbc **PKKPbc 00 38 42.6 +0.1**
ESDC Sonseca Array 98.89 310 PP PP 00 26 12.1 -1.9
comp=Z,0.1nm,0.4s,baz=62,slow=7.0,SNR=3.5
ESDC LR LR 01 10 12.1
comp=Z,268nm,20.5s,baz=110,slow=37
PAB San Pablo 99.20 310 PFAKE 00 22 30.0 +16
PAB LR LR
comp=Z,561nm,21.0s
MDT Midelt 100.52 304 PP PP 00 26 25.8 -1.0
comp=Z,3.3nm,0.7s,baz=96,slow=6.6,SNR=6.8
EGAK Eagle 100.65 22 PFAKE 00 22 30.0 +11
EGAK LR LR
comp=Z,936nm,20.0s
BORG Borgarnes 100.91 338 PFAKE 00 22 30.0 +9.4
BORG LR LR
comp=Z,1μm,20.0s
INK Inuvik 101.37 18 *e*P **Pdif 00 22 25.9 +3.3**
INK Inuvik 101.37 18 *e*Pdif **Pdif 00 22 25.9 +3.3**
RTC Rabat Centre 102.17 305 PFAKE 00 22 40.0 +13
RTC LR LR
comp=Z,2μm,19.0s
SHEL Horse Pasture 104.73 254 PFAKE 00 22 50.0 +11
SHEL LR LR
comp=Z,724nm,19.0s
SFJD Kangerlussuaq 108.11 348 PFAKE 00 27 10.0
SFJD LR LR
comp=Z,903nm,20.0s
WRAK Wrangell Islan 108.71 27 PFAKE 00 27 10.0
WRAK LR LR
comp=Z,687nm,19.0s
TBI Tubuai 110.38 114 *e*LR LR 00 59 53.9
comp=Z,1μm,24.0s
PPT2 Papeete2 110.87 108 *e*LR LR 01 00 07.8
comp=Z,944nm,23.0s
YKA Yellowknife Ar 111.03 16 PKiKP **PKiKP 00 27 02.7 -2.0**
comp=Z,0.5nm,0.8s,baz=316,slow=2.1,SNR=4.9
YKB5 Yellowknife Ar 111.03 16 *e*PKiKP **PKiKP 00 27 02.7 -2.0**
ASCN Ascension 113.45 262 PFAKE 00 27 20.0
ASCN LR LR
comp=Z,1μm,20.0s
NLWA Neilton Lookou 118.33 32 PFAKE 00 27 30.0 +11
NLWA LR LR
comp=Z,568nm,21.0s
TAOE Nuku Hiva Isla 120.67 99 *e*SP SP 00 38 35.7 -5.3
comp=Z,124nm,27.4s
TAOE Nuku Hiva Isla 120.67 99 *e*LR LR 01 04 35.9
comp=Z,710nm,24.0s
I03D Drain, OR 120.93 35 P **PKPdf 00 27 21.9 -2.4**
baz=308
NEW Newport 121.07 27 PFAKE 00 27 40.0 +15
NEW LR LR
comp=Z,612nm,22.0s
HAWA Hanford 121.22 30 PFAKE 00 27 40.0 +15
HAWA LR LR
comp=Z,409nm,21.0s
J05D Fort Rock, OR 122.38 34 P **PKPdf 00 27 26.8 -0.5**
baz=310
BSMT Bassoo Peak 122.43 26 *e*PKPdf **PKPdf 00 27 26.8 -0.6**
M02C Callahan 122.63 37 P **PKPdf 00 27 27.2 -0.6**
baz=308
F10A Beach Ranch, E 122.67 29 *e*PKPdf **PKPdf 00 27 27.2 -0.5**
M04C Macdoel 122.99 36 P **PKPdf 00 27 27.6 -0.9**
baz=309
BMO Blue Mountains 123.42 30 PFAKE 00 27 40.0 +11
BMO LR LR
comp=Z,434nm,21.0s
RKT Rikitea 123.52 117 *e*LR LR 01 05 40.1
comp=Z,1μm,24.2s
MSO Missoula 123.58 27 P **PKPdf 00 27 28.1 -1.4**
baz=319
MSO Missoula 123.58 27 *e*PKPdf **PKPdf 00 27 28.5 -1.0**
MOD Modoc Plateau 123.80 35 *e*PKPdf **PKPdf 00 27 30.1 -0.1**
O03D Paynes Creek 123.93 37 P **PKPdf 00 27 28.4 -1.9**
baz=308
WVOR Wild Horse Val 124.38 33 PFAKE 00 27 40.0 +8.8
WVOR LR LR
comp=Z,425nm,21.0s
EGMT Eagleton 124.40 23 P **PKPdf 00 27 30.1 -0.9**
baz=324
EGMT Eagleton 124.40 23 *e*PKPdf **PKPdf 00 27 30.6 -0.4**
EGMT LR LR
comp=Z,490nm,19.0s
LRM Limekiln Ridge 125.02 27 *e*PKPdf **PKPdf 00 27 31.7 -0.8**
MFID Camas Ranch 125.19 31 *e*PKPdf **PKPdf 00 27 33.1 +0.4**
DLMT Dillon 125.30 27 *e*PKPdf **PKPdf 00 27 33.2 +0.3**
BOZ Bozeman (W) 125.52 26 P **PKPdf 00 27 32.8 -0.5**
baz=321
BOZ Bozeman (W) 125.52 26 *e*PKIKP **PKPdf 00 27 32.9 -0.4**
BOZ MLR MLR
comp=Z,634nm,19.0s
BOZ Bozeman (W) 125.52 26 *e*PKPdf **PKPdf 00 27 32.9 -0.4**
BOZ LR LR
comp=Z,634nm,19.0s
MCMT McKenzie Canyo 125.60 28 *e*PKPdf **PKPdf 00 27 33.5 -0.1**
HLID Hailey 125.79 30 P **PKPdf 00 27 33.3 -0.6**
baz=317
HLID Hailey 125.79 30 *e*PKPdf **PKPdf 00 27 34.4 +0.5**
HLID LR LR
comp=Z,683nm,20.0s
DGMT Dagmar 126.02 19 PFAKE 00 27 50.0 +16
DGMT LR LR
comp=Z,793nm,19.0s
ULM Lac du Bonnet 126.61 12 PKP **PKPdf 00 27 34.2 -0.8**
comp=Z,7.6nm,0.9s,baz=291,slow=2.6,SNR=4.6
EFI East Falkland 126.70 198 PFAKE 00 27 50.0 +15
EFI LR LR
comp=Z,329nm,20.0s
LAO LASA Array 126.85 22 P **PKPdf 00 27 35.7 0.0**
baz=328
LAO LASA Array 126.85 22 *e*PKPdf **PKPdf 00 27 36.2 +0.5**
LAO LR LR
comp=Z,536nm,21.0s
LKWY Lake 126.90 26 PFAKE 00 27 50.0 +14
LKWY LR LR
comp=Z,2μm,19.0s
RLMT Red Lodge 126.95 25 P **PKPdf 00 27 35.9 -0.2**
baz=324
RLMT Red Lodge 126.95 25 *e*PKPdf **PKPdf 00 27 36.6 +0.5**
RLMT LR LR
comp=Z,553nm,21.0s
A29A Manning Farm, 127.07 15 P **PKPdf 00 27 36.9 +1.0**
baz=337
FXWY Fox Creek 127.35 27 *e*PKPdf **PKPdf 00 27 37.2 +0.2**
ELK Elko 127.39 33 *e*PKIKP **PKPdf 00 27 37.8 +0.6**
ELK Elko 127.39 33 *e*PKPdf **PKPdf 00 27 37.8 +0.6**
SNOW Snow King Moun 127.61 27 *e*PKPdf **PKPdf 00 27 38.5 +1.0**
REDW Red Top Meadow 127.64 27 *e*PKPdf **PKPdf 00 27 37.8 +0.3**
B30A Myrvik Farm, E 127.74 15 P **PKPdf 00 27 39.4 +2.2**
baz=338
HVU Hansel Valley 127.92 30 *e*PKIKP **PKPdf 00 27 38.7 +0.7**
HVU Hansel Valley 127.92 30 *e*PKPdf **PKPdf 00 27 38.7 +0.7**
AHID Auburn Hatcher 127.99 28 PFAKE 00 27 50.0 +12
AHID LR LR
comp=Z,639nm,19.0s
C30A Mose, Pekin 128.39 15 P **PKPdf 00 27 40.6 +2.1**
baz=337
BGU Big Grassy Mou 128.42 31 *e*PKPdf **PKPdf 00 27 39.7 +0.7**
AGMN Agassiz Nation 128.46 13 PFAKE 00 27 50.0 +11
AGMN LR LR
comp=Z,1μm,20.0s
B34A Aery, Baudette 128.54 12 P **PKPdf 00 27 39.5 +0.8**
baz=342
HWUT Hardware Ranch 128.65 29 *e*PKPdf **PKPdf 00 27 39.6 +0.1**
HWUT LR LR
comp=Z,459nm,21.0s
BW06 Boulder Array 128.70 27 *e*PKPdf **PKPdf 00 27 38.9 -0.6**
BW06 LR LR
comp=Z,598nm,20.0s
PD31 Pinedale Array 128.70 27 *e*PKPdf **PKPdf 00 27 38.9 -0.7**
PDAR Pinedale Array 128.70 27 PKP **PKPdf 00 27 38.9 -0.7**
comp=Z,1.1nm,0.6s,baz=132,slow=2.2,SNR=5.8
R11A Troy Canyon, C 128.86 35 P **PKPdf 00 27 40.0 0.0**
baz=313
R11A Troy Canyon, C 128.86 35 *e*PKPdf **PKPdf 00 27 40.2 +0.3**
DUG Dugway, Tooele 129.07 31 P **PKPdf 00 27 40.5 +0.3**
baz=317
DUG Dugway, Tooele 129.07 31 *e*PKIKP **PKPdf 00 27 41.1 +0.8**
DUG MLR MLR
comp=Z,471nm,19.0s
DUG Dugway, Tooele 129.07 31 *e*PKPdf **PKPdf 00 27 41.1 +0.8**
DUG LR LR
comp=Z,471nm,19.0s
MPMC Manual Prospec 129.23 39 P **PKPdf 00 27 40.9 +0.1**
baz=310
TPNV Topopah Spring 129.41 37 P **PKPdf 00 27 40.4 -0.6**
baz=312
C36A Pine Crest Far 129.58 10 P **PKPdf 00 27 40.5 -0.3**
baz=344
EYMN Ely 129.63 9 P **PKPdf 00 27 39.0 -1.9**
baz=346
EYMN Ely 129.63 9 PFAKE 00 27 50.0 +9.1
EYMN LR LR
comp=Z,818nm,22.0s
NLU North Lily Min 129.63 31 *e*PKPpre PKPpre 00 27 30.3
RSSD Black Hills 129.85 22 P **PKPdf 00 27 40.6 -1.1**
baz=329
RSSD Black Hills 129.85 22 *e*PKIKP **PKPdf 00 27 41.6 -0.1**
RSSD Black Hills 129.85 22 *e*PKPdf **PKPdf 00 27 41.6 -0.1**
C39A Grand Marais 129.96 8 P **PKPdf 00 27 41.0 -0.5**
baz=348
K22A Casper 130.11 25 P **PKPdf 00 27 40.9 -1.3**
baz=326
K22A Casper 130.11 25 *e*PKPdf **PKPdf 00 27 41.8 -0.4**
SHPR Sheep Range 130.36 37 *e*PKPdf **PKPdf 00 27 47.7 +4.9**
MSU Marysvale 130.64 32 *e*PKIKP **PKPdf 00 27 45.0 +1.6**
MSU Marysvale 130.64 32 *e*PKPdf **PKPdf 00 27 45.0 +1.6**
F33A 5 Mile Ranch, 130.67 14 P **PKPdf 00 27 42.3 -0.6**
baz=339
E36A McGregor 130.70 11 P **PKPdf 00 27 42.4 -0.5**
baz=344
GMRC Granite Mounta 131.19 39 P **PKPdf 00 27 45.0 +0.6**
baz=311
F36A Milaca 131.27 12 P **PKPdf 00 27 43.5 -0.6**
baz=343
KNB Kanab 131.36 34 *e*PKIKP **PKPdf 00 27 46.8 +2.1**
KNB Kanab 131.36 34 *e*PKPdf **PKPdf 00 27 46.8 +2.1**
O20A White River Ci 131.38 28 P **PKPdf 00 27 44.3 -0.4**
baz=322
O20A White River Ci 131.38 28 *e*PKPdf **PKPdf 00 27 45.1 +0.4**
PFO Pinyon Flats O 131.44 40 PFAKE 00 28 00.0 +15
PFO LR LR
comp=Z,516nm,21.0s
COWI Conover 131.78 8 *e*PKPdf **PKPdf 00 27 44.5 -0.5**
COWI LR LR
comp=Z,839nm,21.0s
N23A Red Feather La 131.80 25 *e*PKPdf **PKPdf 00 27 50.6 +5.0**
PKME Peaks-Kenny Pk 132.04 349 PFAKE 00 28 00.0 +15
PKME LR LR
comp=Z,880nm,20.0s
U15A North Rim 132.08 34 *e*PKPdf **PKPdf 00 27 47.0 +0.8**
PV10 Paradox Valley 132.37 30 *e*PKPdf **PKPdf 00 27 47.5 +0.9**
ECSD EROS Data Cent 132.56 15 P **PKPdf 00 27 45.7 -0.9**
baz=338
ECSD EROS Data Cent 132.56 15 *e*PKPdf **PKPdf 00 27 45.9 -0.6**
ECSD LR LR
comp=Z,865nm,19.0s
PV05 Paradox Valley 132.57 30 *e*PKPdf **PKPdf 00 27 46.7 -0.3**
ISCO Idaho Springs 132.85 26 PFAKE 00 28 00.0 +12
ISCO LR LR
comp=Z,651nm,22.0s
WUAZ Wupatki 133.25 35 P **PKPdf 00 27 48.8 +0.5**
baz=316
WUAZ Wupatki 133.25 35 PFAKE 00 28 00.0 +12
WUAZ LR LR
comp=Z,462nm,21.0s
OGNE Ogallala 133.34 22 PFAKE 00 28 00.0 +12
OGNE LR LR
comp=Z,682nm,19.0s
LONY Lake Ozonia 133.46 354 PFAKE 00 28 00.0 +12
LONY LR LR
comp=Z,877nm,21.0s
MVCO Mesa Verde 133.54 31 *e*PKPdf **PKPdf 00 27 50.2 +1.3**
MVCO LR LR
comp=Z,505nm,21.0s
SDCO Great Sand Dun 134.57 28 *e*PKPdf **PKPdf 00 27 52.9 +2.0**
SDCO LR LR
comp=Z,614nm,21.0s
JFWS Jewell Farm 134.73 10 PFAKE 00 28 00.0 +9.4
JFWS LR LR
comp=Z,685nm,22.0s
RCBR Riachuelo 134.91 264 PFAKE 00 28 00.0 +8.2
RCBR LR LR
comp=Z,363nm,20.0s
L39A Vinton 135.17 12 P **PKPdf 00 27 53.4 +1.9**
baz=344
T25A Trinidad 135.57 27 P **PKPdf 00 27 51.9 -0.8**
baz=325
T25A Trinidad 135.57 27 *e*PKPdf **PKPdf 00 27 53.1 +0.5**

TUC	**Tucson**	**135.86**	**37**	P	**PKPdf**	**00 27 53.3**	**+0.1**
	baz=314						
TUC	**Tucson**	**135.86**	**37**	*e*PKIKP	**PKPdf**	**00 27 55.2**	**+2.0**
TUC				MLR	MLR		
	comp=Z,435nm,21.0s						
TUC	**Tucson**	**135.86**	**37**	*e*PKPdf	**PKPdf**	**00 27 55.2**	**+2.0**
TUC				LR	LR		
	comp=Z,435nm,21.0s						
BINY	**Binghamton**	**136.00**	**355**	PFAKE		00 28 00.0	+6.9
BINY				LR	LR		
	comp=Z,932nm,22.0s						
AAM	**Ann Arbor**	**136.06**	**3**	PFAKE		00 28 00.0	+6.9
AAM				LR	LR		
	comp=Z,649nm,19.0s						
ANMO	**Albuquerque**	**136.33**	**31**	P	**PKPdf**	**00 27 54.1**	**0.0**
	baz=321						
ANMO	**Albuquerque**	**136.33**	**31**	*i* PKIKP	**PKPdf**	**00 27 53.6**	**-0.5**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ANMO	**Albuquerque**	**136.33**	**31**	PFAKE		00 28 10.0	+16
ANMO				LR	LR		
	comp=Z,466nm,20.0s						
KSU1	**Kansas State U**	**136.84**	**18**	PFAKE		00 28 10.0	+15
KSU1				LR	LR		
	comp=Z,789nm,19.0s						
P37A	**Lathrop**	**137.03**	**15**	P	**PKPdf**	**00 27 54.0**	**-1.1**
	baz=340						
HDIL	**Hopedale**	**137.18**	**9**	PFAKE		00 28 10.0	+15
HDIL				LR	LR		
	comp=Z,592nm,20.0s						
Q35A	**Mercer Eighty,**	**137.24**	**17**	P	**PKPdf**	**00 27 54.4**	**-1.1**
	baz=337						
P39B	**Salisbury**	**137.53**	**14**	P	**PKPdf**	**00 27 55.9**	**0.0**
	baz=342						
P40A	**Paris**	**137.65**	**13**	P	**PKPdf**	**00 27 55.9**	**-0.2**
	baz=343						
P41A	**Barry, Barry**	**137.72**	**12**	P	**PKPdf**	**00 27 56.0**	**-0.2**
	baz=345						
Q38A	**Cooks Store, C**	**137.81**	**15**	P	**PKPdf**	**00 27 57.6**	**+1.1**
	baz=341						
R36A	**Gordon, Harris**	**137.89**	**17**	P	**PKPdf**	**00 27 56.4**	**-0.3**
	baz=338						
O56A	**Blue Knob Stat**	**138.10**	**357**	P	**PKPdf**	**00 27 56.4**	**-0.7**
	baz=3.3						
ACSO	**Alum Creek Sta**	**138.15**	**2**	PFAKE		00 28 10.0	+13
ACSO				LR	LR		
	comp=Z,606nm,19.0s						
S36A	**Lake Cedric, C**	**138.42**	**18**	P	**PKPdf**	**00 27 58.3**	**+0.7**
	baz=338						
R38A	**Fenwick Farm,**	**138.47**	**15**	P	**PKPdf**	**00 27 57.2**	**-0.5**
	baz=340						
R40A	**Maddies Statio**	**138.78**	**14**	P	**PKPdf**	**00 27 55.8**	**-2.5**
	baz=342						
S38A	**Stockton**	**138.99**	**16**	P	**PKPdf**	**00 27 56.9**	**-1.7**
	baz=340						
MNTX	**Cornudas Mount**	**139.42**	**33**	*e*PKPdf	**PKPdf**	**00 27 59.7**	**0.0**
MNTX				LR	LR		
	comp=Z,536nm,20.0s						
V34A	**Guthrie**	**139.50**	**21**	*e*PKPdf	**PKPdf**	**00 28 01.7**	**+2.0**
TRQA	**Tornquist**	**139.92**	**203**	*e*PKPpre	PKPpre	00 27 55.5	
TRQA				LR	LR		
	comp=Z,447nm,19.0s						
WMOK	**Wichita Mounta**	**140.00**	**23**	PFAKE		00 28 10.0	+9.3
WMOK				LR	LR		
	comp=Z,637nm,20.0s						
TUL1	**Leonard**	**140.02**	**19**	*e*PKPdf	**PKPdf**	**00 28 02.0**	**+1.3**
CBN	**Corbin Frederi**	**140.08**	**356**	PFAKE		00 28 10.0	+9.4
CBN				LR	LR		
	comp=Z,701nm,21.0s						
HHAR	**Hobbs**	**140.24**	**17**	*e*PKPdf	**PKPdf**	**00 27 58.9**	**-2.2**
PBMO	**Poplar Bluff**	**140.64**	**12**	*e*PKPdf	**PKPdf**	**00 28 00.9**	**-0.8**
SPB	**Sao Paulo**	**140.98**	**234**	PFAKE		00 28 10.0	+7.3
SPB				LR	LR		
	comp=Z,408nm,22.0s						
BLA	**Blacksburg**	**141.21**	**359**	PFAKE		00 28 10.0	+7.2
BLA				LR	LR		
	comp=Z,1μm,22.0s						
ABTX	**Abilene, Hawle**	**141.48**	**26**	*e*PKPpre	PKPpre	00 27 58.5	
X201	**Greenbrier Sit**	**141.60**	**15**	*e*PKPpre	PKPpre	00 27 56.3	
WVT	**Waverly**	**141.74**	**9**	*e*PKPpre	PKPpre	00 27 58.3	
MIAR	**Mount Ida**	**141.97**	**17**	*e*PKPpre	PKPpre	00 27 58.5	
MIAR				LR	LR		
	comp=Z,668nm,20.0s						
TX31	**Lajitas Ar. Si**	**142.18**	**33**	*e*PKPpre	PKPpre	00 28 00.7	
LTX	**Lajitas**	**142.18**	**33**	*e*PKPpre	PKPpre	00 28 00.8	
LTX				*e*PKPdf	**PKPdf**	**00 28 04.3**	**-0.5**
TXAR	**Lajitas Array**	**142.18**	**33**	PKhKP	PKPpre	00 28 00.8	
	comp=Z,2.8nm,0.8s,baz=242,slow=2.4,SNR=14						
TXAR				PKP	**PKPdf**	**00 28 04.3**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=229,slow=1.5,SNR=23						
BBSR	**BB Station**	**142.72**	**337**	PFAKE		00 28 20.0	+14
BBSR				LR	LR		
	comp=Z,629nm,20.0s						
CPCT	**Cooper Cave**	**142.82**	**5**	*e*PKPdf	**PKPdf**	**00 28 05.2**	**-0.5**
PLAL	**Pickwick Lake**	**142.83**	**10**	*e*PKPdf	**PKPdf**	**00 28 05.7**	**0.0**
SWET	**Sewanee**	**142.90**	**7**	*e*PKPdf	**PKPdf**	**00 28 08.4**	**+2.6**
CNNC	**Cliffs of the**	**143.07**	**356**	PFAKE		00 28 20.0	+14
CNNC				LR	LR		
	comp=Z,1μm,22.0s						
JCT	**Junction City**	**143.22**	**28**	*e*PKIKP	PKPbc	00 28 03.7	+0.2
JCT				MLR	MLR		
	comp=Z,611nm,21.0s						
JCT	**Junction City**	**143.22**	**28**	*e*PKPdf	PKPbc	00 28 03.7	+0.2
JCT				LR	LR		
	comp=Z,611nm,21.0s						
NATX	**Nacogdoches**	**144.19**	**20**	*e*PKPdf	**PKPab**	**00 28 06.2**	**+0.3**
NATX				LR	LR		
	comp=Z,778nm,19.0s						
BDFB	**Brasilia**	**144.75**	**245**	PKP	**PKPdf**	**00 28 09.3**	**-0.3**
	comp=Z,16nm,0.7s,baz=120,slow=4.9,SNR=8.6						
LRAL	**Lakeview Retre**	**144.91**	**9**	*e*PKPdf	**PKPab**	**00 28 08.0**	**-0.4**
GOGA	**Godfrey**	**144.92**	**4**	*e*PKIKP	**PKPab**	**00 28 08.1**	**-0.4**
GOGA				MLR	MLR		
	comp=Z,828nm,21.0s						
GOGA	**Godfrey**	**144.92**	**4**	*e*PKPbc	**PKPab**	**00 28 08.1**	**-0.4**
GOGA				LR	LR		
	comp=Z,828nm,21.0s						
NHSC	**New Hope**	**145.30**	**359**	PFAKE		00 28 20.0	+10
NHSC				LR	LR		
	comp=Z,1μm,21.0s						
HKT	**Hockley**	**145.39**	**23**	*e*PKIKP	**PKPdf**	**00 28 11.2**	**+1.0**
HKT	**Hockley**	**145.39**	**23**	*e*PKPbc	**PKPdf**	**00 28 11.2**	**+1.0**
RGRS	**Roger Stewart**	**145.50**	**359**	*e*PKPdf	**PKPbc**	**00 28 10.0**	**-0.4**
CPUP	**Villa Florida**	**146.68**	**221**	PKPbc	**PKPdf**	**00 28 12.5**	**-0.1**
	comp=Z,18nm,0.9s,baz=113,slow=2.4,SNR=19						
BRAL	**Brewton**	**146.72**	**10**	PFAKE		00 28 20.0	+4.7
BRAL				LR	LR		
	comp=Z,685nm,21.0s						
ZAIG	**Zacatecas**	**147.75**	**40**	*e*PKPab	**PKPab**	**00 28 20.1**	**+0.2**
LCO	**Las Campanas**	**151.22**	**199**	*e*PKPbc	**PKPbc**	**00 28 25.8**	**-0.3**
ANWB	**Willy Bob**	**153.00**	**316**	PFAKE		00 28 30.0	0.0
ANWB				LR	LR		
	comp=Z,413nm,22.0s						
FDF	**Fort de France**	**154.46**	**311**	PFAKE		00 28 40.0	+6.7
FDF				LR	LR		
	comp=Z,556nm,22.0s						
GRTK	**Grand Turk**	**154.95**	**338**	PFAKE		00 28 40.0	+5.9
GRTK				LR	LR		
	comp=Z,508nm,20.0s						
SJG	**San Juan**	**155.46**	**324**	PFAKE		00 28 40.0	-12
SJG				LR	LR		
	comp=Z,508nm,20.0s						
GRGR	**Grenville**	**156.39**	**306**	PFAKE		00 28 40.0	+12
GRGR				LR	LR		
	comp=Z,489nm,21.0s						
TEIG	**Tepich**	**156.98**	**18**	PFAKE		00 28 40.0	+12
TEIG				LR	LR		
	comp=Z,301nm,22.0s						
SDDR	**Presa de Saban**	**157.30**	**336**	PFAKE		00 28 40.0	+11
SDDR				LR	LR		
	comp=Z,655nm,20.0s						
GTBY	**Guantanamo Bay**	**157.69**	**345**	PFAKE		00 28 40.0	+11
GTBY				LR	LR		
	comp=Z,676nm,21.0s						
PTGA	**Pitinga**	**159.02**	**273**	*e*PKPab	**PKPab**	**00 29 11.3**	**+3.9**
MTDJ	**Mount Denham**	**159.85**	**351**	PFAKE		00 28 40.0	+8.2
MTDJ				LR	LR		
	comp=Z,797nm,22.0s						
LPAZ	**La Paz**	**160.85**	**220**	*e*PKIKP	**PKPdf**	**00 28 34.1**	**+0.5**
LPAZ	**La Paz**	**160.85**	**220**	*e*PKPdf	**PKPdf**	**00 28 34.1**	**+0.5**
SAML	**Samuel**	**160.96**	**247**	PFAKE		00 28 40.0	+7.0
SAML				LR	LR		
	comp=Z,638nm,20.0s						
SDV	**Santo Domingo**	**165.26**	**316**	PFAKE		00 28 50.0	+13
SDV				LR	LR		
	comp=Z,456nm,21.0s						
OTAV	**Otavalo**	**176.82**	**309**	*e*PKPdf	**PKPdf**	**00 28 45.5**	**+1.8**
OTAV				LR	LR		
	comp=Z,417nm,22.0s						

WEL 14 00:11:35.8±0.2, 43.62S×172.81E, h5km, ML3.5/10, 1D, Error ellipse: s-maj=1.5km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.14**	**234**	PG	Pg	00 11 39.0	+0.2
MQZ				SG	Sg	00 11 41.0	+0.3
MQZ				SG		00 11 41.2	
MQZ				AML	AML	00 11 41.7	
OXZ	**Oxford**	**0.64**	**297**	⇓P*	Pg	00 11 48.2	+0.1
OXZ				SG	Sg	00 11 57.5	+1.1
LTZ	**Lake Taylor**	**0.93**	**335**	P*	Pg	00 11 53.7	+0.1
LTZ				S*	Sb	00 12 06.6	-0.5
LTZ				AML	AML	00 12 07.1	
RPZ	**Rata Peaks**	**1.28**	**265**	P*	Pg	00 11 59.4	-1.0
RPZ				AML	AML	00 12 20.1	
RPZ				AML	AML	00 12 24.7	
KHZ	**Kahutara**	**1.32**	**24**	P*	Pn	00 11 59.2	-1.7
INZ	**Inchbonnie**	**1.35**	**311**	*e*PN	Pn	00 12 00.8	-0.5
WVZ	**Waitaha Valley**	**1.61**	**289**	PN	Pn	00 12 04.1	-0.8
WVZ				AML	AML	00 12 30.3	
WVZ				AML	AML	00 12 32.2	
THZ	**Tophouse**	**1.86**	**2**	AML	AML	00 12 36.8	
THZ				AML	AML	00 12 44.3	
DSZ	**Denniston Nort**	**2.02**	**338**	AML	AML	00 12 39.4	
DSZ				AML	AML	00 12 49.8	
LBZ	**Lake Benmore**	**2.04**	**247**	AML	AML	00 12 50.0	
LBZ				AML	AML	00 12 51.1	
ODZ	**Otahua Downs**	**2.11**	**227**	AML	AML	00 12 51.2	
ODZ				AML	AML	00 12 54.8	
ODZ				AML	AML	00 12 54.8	
ODZ				AML	AML	00 12 58.6	
EAZ	**Earnscleugh**	**2.98**	**236**	AML	AML	00 13 17.9	
EAZ				AML	AML	00 13 22.5	
TUZ	**Tuapeka**	**3.25**	**223**	AML	AML	00 13 33.4	
TUZ				AML	AML	00 13 34.1	

WEL 14 00:22:56.5±0.1, 43.60S×172.76E, h10km, ML4.2/23, 3C, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0, CRLZ not around., South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.14**	**215**	⇑PG	Pg	00 22 59.9	+0.3
MQZ				SG	Sg	00 23 02.3	+0.5
MQZ				AML	AML	00 23 02.4	
OXZ	**Oxford**	**0.59**	**297**	⇑P*	Pg	00 23 07.8	-0.2
OXZ				S*	Sg	00 23 16.2	+0.5
LTZ	**Lake Taylor**	**0.89**	**336**	⇑P*	Pg	00 23 13.2	-0.4
LTZ				S*	Sg	00 23 25.5	+0.3
LTZ				AML	AML	00 23 26.1	
RPZ	**Rata Peaks**	**1.25**	**264**	P*	Pn	00 23 18.6	-1.4
RPZ				S*	Sn	00 23 36.8	-0.1
RPZ				AML	AML	00 23 42.4	
INZ	**Inchbonnie**	**1.30**	**312**	PN	Pn	00 23 19.0	-1.8
INZ				S*	Sg	00 23 38.6	+0.2
WVZ	**Waitaha Valley**	**1.57**	**289**	PN	Pn	00 23 23.4	-1.1
WVZ				SN	Sg	00 23 47.6	+0.7
WVZ				AML	AML	00 23 55.9	
THZ	**Tophouse**	**1.83**	**3**	PN	Pn	00 23 26.4	-1.8
THZ				SN	Sn	00 23 51.7	+0.2
THZ				AML	AML	00 24 07.2	
DSZ	**Denniston Nort**	**1.98**	**339**	PN	Pn	00 23 29.0	-1.1
DSZ				SN	Sb	00 23 56.5	-0.9
DSZ				AML	AML	00 23 56.8	
DSZ				AML	AML	00 24 04.7	
DSZ				AML	AML	00 24 08.3	
LBZ	**Lake Benmore**	**2.02**	**246**	PN	Pn	00 23 29.3	-1.4
LBZ				AML	AML	00 24 08.1	
LBZ				AML	AML	00 24 08.1	
LBZ				AML	AML	00 24 08.6	
LBZ				AML	AML	00 24 08.6	
BSWZ	**Blackbirch Sta**	**2.05**	**24**	PN	Pn	00 23 29.5	-1.6
BSWZ				AML	AML	00 24 21.1	
BSWZ				AML	AML	00 24 26.9	
ODZ	**Otahua Downs**	**2.10**	**226**	PN	Pn	00 23 30.7	-1.6
ODZ				AML	AML	00 24 09.2	
ODZ				AML	AML	00 24 09.2	
ODZ				AML	AML	00 24 10.0	
ODZ				AML	AML	00 24 10.0	
FOZ	**Fox Glacier**	**2.14**	**271**	PN	Pn	00 23 31.8	-0.5
FOZ				SN	Sn	00 23 58.4	-0.6
FOZ				AML	AML	00 24 00.0	
FOZ				AML	AML	00 24 00.1	
FOZ				AML	AML	00 24 14.6	
TUWZ	**Tuamarina**	**2.33**	**22**	AML	AML	00 23 46.0	
TUWZ				AML	AML	00 24 25.2	
NNZ	**Nelson**	**2.42**	**11**	PN	Pn	00 23 35.0	-1.1
NNZ				SN	Sn	00 24 03.6	-2.3
NNZ				AML	AML	00 24 26.1	
NNZ				AML	AML	00 24 26.1	
TCW	**Tory Channel**	**2.63**	**26**	AML	AML	00 23 52.4	
TCW				AML	AML	00 24 29.9	
QRZ	**Quartz Range**	**2.77**	**356**	PN	Pn	00 23 40.3	-0.7
QRZ				AML	AML	00 24 28.1	
QRZ				AML	AML	00 24 28.1	
QRZ				AML	AML	00 24 30.8	
QRZ				AML	AML	00 24 30.8	
MSWZ	**Moikau Station**	**2.85**	**41**	AML	AML	00 24 13.1	
MSWZ				AML	AML	00 24 14.1	
JCZ	**Jackson Bay**	**2.92**	**259**	PN	Pn	00 23 42.4	-0.7
JCZ				AML	AML	00 24 35.7	
JCZ				AML	AML	00 24 35.9	
WKZ	**Wanaka**	**2.96**	**244**	PN	Pn	00 23 42.2	-1.4
WKZ				AML	AML	00 24 38.7	
WKZ				AML	AML	00 24 38.7	
WKZ				AML	AML	00 24 44.5	
WKZ				AML	AML	00 24 44.5	
EAZ	**Earnscleugh**	**2.97**	**235**	PN	Pn	00 23 42.0	-1.7
EAZ				AML	AML	00 24 35.5	
EAZ				AML	AML	00 24 35.6	
EAZ				AML	AML	00 24 41.7	
EAZ				AML	AML	00 24 41.8	
CAW	**Cannon Point**	**3.02**	**35**	AML	AML	00 24 20.9	
CAW				AML	AML	00 24 24.5	
MTW	**Mount Morrison**	**3.17**	**41**	AML	AML	00 24 27.9	
MTW				AML	AML	00 24 35.3	
TUZ	**Tuapeka**	**3.25**	**222**	PN	Pn	00 23 45.8	-1.7
TUZ				AML	AML	00 24 46.9	
TUZ				AML	AML	00 24 47.2	
TUZ				AML	AML	00 24 49.6	
TUZ				AML	AML	00 24 49.6	
MRZ	**Mangatainoka R**	**3.60**	**36**	*e*PN	Pn	00 23 49.1	-3.4
MLZ	**Mavora Lakes**	**3.77**	**240**	PN	Pn	00 23 53.1	-1.6
MLZ				AML	AML	00 24 59.6	
MLZ				AML	AML	00 25 03.9	
SYZ	**Scrubby Hill**	**3.90**	**220**	*e*PN	Pn	00 23 56.4	-0.1
SYZ				AML	AML	00 25 12.4	
SYZ				AML	AML	00 25 15.7	
WNVZ	**Wahianoa**	**4.77**	**27**	PN	Pn	00 24 07.0	-1.6

CASC 14 00:44:29.4±0.9, 11.02N×87.50W, h33km±40km, MD3.6, ML3.1, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.46**	**38**	*e*P	Pn	00 44 53.2	-0.3
COPN				*e*S	Sn	00 45 12.3	+0.8
COPN				AML	AML	00 45 14.1	
	comp=Z,278nm,0.2s						
TISN	**Laguna Tiscapa**	**1.65**	**47**	*e*P	Pn	00 44 55.9	-0.2
TISN				*e*S	Sn	00 45 17.2	+1.1
MGAN	**Managua**	**1.67**	**47**	*e*P	Pn	00 44 56.3	0.0
MGAN				*e*S	Sn	00 45 17.5	+0.9
CNGN	**Cerro Negro**	**1.67**	**28**	*e*P	Pn	00 44 56.4	0.0
MOMN	**Momotombo**	**1.67**	**34**	*e*P	Pn	00 44 56.0	-0.4
CNCH	**Conchagua**	**2.27**	**352**	*e*P	Pn	00 45 05.4	+0.6
CNCH				*e*S	Sn	00 45 32.4	+0.8
BOAB	**BOACO BROADBAN**	**2.29**	**51**	*e*P	Pn	00 45 04.4	-0.5
PACA	**Pacayal**	**2.57**	**342**	*e*P	Pn	00 45 09.6	+0.8
PACA				*e*S	Sn	00 45 39.7	+0.7
TGUH	**Tegucigalpa,Un**	**3.03**	**4**	*e*P	Pn	00 45 16.1	+1.0
TGUH				*e*S	Sn	00 45 51.0	+0.8

ISCJB 14 00:58:43.0±0.8, 1.69N±0.07×99.23E±0.07, h33km, Error ellipse: s-maj=11.7km s-min=7.7km az=139.2
DJA 14 00:58:42.7±0.3, 2.°N±3.°×9.°9E±.°, h10km, M4.0/10, MLv4.0/10

ISC 14 00:58:45.2±1.5, 1.76N±0.05×99.06E±0.06, h35km, n11, σ2.°45/12, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBSI	**Sibolga**	**0.27**	**220**	P	**Pn**	**00 58 50.0**	**-2.8**
SBSI				S	**Sn**	**00 58 57.8**	**-0.2**
MNSI	**Mandailing Nat**	**1.09**	**152**	P	**Pn**	**00 59 01.4**	**-2.6**
GSI	**Gunungsitoli**	**1.56**	**253**	P	**Pn**	**00 59 10.1**	**-0.3**
TSI	**Tuntungan**	**1.80**	**344**	P	**Pn**	**00 59 14.6**	**+0.8**
KCSI	**Kotacane, Aceh**	**2.17**	**324**	P	**Pn**	**00 59 21.3**	**+2.3**
TPTI		**2.40**	**308**	P	**Pn**	**00 59 23.2**	**+1.2**
BKNI	**Bangkinang**	**2.44**	**126**	P	**Pn**	**00 59 25.5**	**+3.0**
PPI	**Padang Panjang**	**2.57**	**149**	P	**Pn**	**00 59 28.2**	**+3.8**
IPM	**Ipoh**	**3.34**	**36**	⇓P	**Pn**	**00 59 33.8**	**-1.1**
KULM	**Kulim**	**3.85**	**24**	⇑P	**Pn**	**00 59 40.2**	**-1.7**
KTGM	**Kuala Trenggan**	**5.39**	**49**	⇑P	**Pn**	**01 00 01.1**	**-2.1**

MEX 14 00:59:26.8±0.3, 14.20N×92.47W, h54km±25km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.10**	**9**	*e*P	Pn	00 59 58.6	-1.1
CCIG				*e*S	Sn	01 00 22.6	-2.2

ISCJB 14 01:00:55.2±0.7, 17.8S±0.1×41.89E±0.08, h10km, mb3.4/7, Error ellipse: s-maj=15.6km s-min=10.5km az=166.6
IDC 14 01:00:55.2±0.9, 17.78S×41.88E, h0km, mb3.4/7, mb1 3.5/12, mb1mx3.5/34, mbtmp3.6/12, ML3.5/5, Error ellipse: s-maj=25.8km s-min=18.0km az=157.0

ISC 14 01:00:56.3±0.7, 17.8S±0.1×41.98E±0.07, h10km, n13, σ1.936/14, mb3.5/7, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.01**	**99**	Pn	**Pn**	**01 02 12.8**	**+1.1**
	6.2nm,0.3s,baz=272,slow=15,SNR=51						
OPO				Sn	**Sn**	**01 03 07.0**	**-2.8**
	5.2nm,0.3s,baz=189,slow=23,SNR=5.4						
MATP	**Matopo**	**13.00**	**256**	Pn	**Pn**	**01 04 01.2**	**-0.1**
	0.1nm,0.3s,baz=79,slow=16,SNR=3.0						
MATP				Sn	Sn	01 06 07.6	-18
	0.2nm,0.3s,baz=119,slow=19,SNR=2.7						
LSZ	**Lusaka**	**13.46**	**279**	Pn	**Pn**	**01 04 07.1**	**-0.5**
	0.2nm,0.3s,baz=96,slow=14,SNR=2.1						
KMBO	**Kilima Mbogo**	**17.23**	**344**	P	**P**	**01 04 58.6**	**-0.3**
	0.1nm,0.3s,baz=202,slow=18,SNR=3.2						
BOSA	**Boshof**	**18.73**	**232**	P	**Pn**	**01 05 14.7**	**-1.0**
	0.1nm,0.3s,baz=69,slow=11,SNR=3.8						
TSUM	**Tsumeb**	**23.17**	**263**	P	**P**	**01 06 03.7**	**+0.3**
	0.5nm,0.7s,baz=97,slow=11,SNR=2.1						
SUR	**Sutherland**	**23.97**	**229**	P	**P**	**01 06 11.8**	**+0.7**
	0.3nm,0.7s,baz=56,slow=15,SNR=3.6						
TORD	**Torodi Ar. Bea**	**50.27**	**305**	P	**P**	**01 09 51.9**	**-1.3**
	0.2nm,0.4s,baz=138,slow=8.3,SNR=3.4						
BRTR	**Keskin Array B**	**57.77**	**352**	P	**P**	**01 10 47.4**	**-0.4**
	0.4nm,0.6s,baz=162,slow=10.0,SNR=3.0						
MKAR	**Makanchi Array**	**73.86**	**28**	P	**P**	**01 12 31.6**	**+0.4**
	0.3nm,0.6s,baz=214,slow=5.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**80.36**	**24**	P	**P**	**01 13 09.9**	**+2.4**
	0.4nm,0.4s,baz=232,slow=7.1,SNR=2.7						
ASAR	**Alice Springs**	**84.72**	**113**	P	**P**	**01 13 32.3**	**+1.1**
	0.4nm,0.6s,baz=273,slow=3.4,SNR=4.0						
TXAR	**Lajitas Array**	**146.61**	**296**	PKPbc	**PKPdf**	**01 20 36.8**	**-0.6**
	0.7nm,0.8s,baz=110,slow=3.8,SNR=8.0						

ISN 14 01:06:50.7±0.3, 35.58N×49.88E, h5km±10km, ML4.0
CSEM 14 01:06:57.0±0.3, 35.62N×49.87E, h2km, ML4.0, Error ellipse: s-maj=10.3km s-min=4.8km az=52.0
TEH 14 01:06:57.6, 35.56N×49.89E, h7km, ML4.0
THR 14 01:06:57.7±0.3, 35.55N×50.00E, h17km±3km, ML3.5
AZER 14 01:06:59.5±0.5, 35.60N×48.99E, h10km, Error ellipse: s-maj=9.4km s-min=4.0km az=81.0

ISC 14 01:06:56.9±1.4, 35.57N±0.04×49.81E±0.04, h6km±12km, n71, σ1.968/86, 14C-18D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRAZ	**Razeghan**	**0.19**	**148**	*e*Pg	**Pg**	**01 07 00.8**	**+0.1**
IRAZ				*e*AMB	AMB	01 07 04.5	
	comp=Z,72μm,0.1s						
IRAZ	**Razeghan**	**0.19**	**148**	*e*Pg	**Pg**	**01 07 00.8**	**+0.1**
IMHD	**Mahdasht**	**0.71**	**80**	*e*AMB	AMB	01 07 18.6	
	comp=Z,24μm,0.1s						
IMHD				*e*Pg	**Pg**	**01 07 08.7**	**-1.8**
ASAO	**Ashtian**	**1.03**	**170**	*e*Pg	**Pg**	**01 07 16.5**	**-0.2**
ASAO				*e*Sg	**Sg**	**01 07 30.3**	**+0.2**
ASAO				AML	AML	01 07 32.8	
	comp=E,567nm,0.4s						
CHTH	**Charan**	**1.13**	**72**	*e*Pg	**Pg**	**01 07 16.4**	**-2.1**
IAFJ	**Afjeh**	**1.58**	**79**	*e*AMB	AMB	01 07 46.7	
	comp=Z,55μm,0.1s						
GHVR	**GHOM**	**1.63**	**131**	*e*Pg	**Pn**	**01 07 25.0**	**-1.3**
GHVR				AML	AML	01 07 47.8	
	comp=N,1μm,0.4s						
GHVR				AML	AML	01 07 52.1	
	comp=E,954nm,0.7s						
IVRN	**Varamin**	**1.67**	**109**	*e*Pn	**Pn**	**01 07 25.6**	**-1.2**
IVRN				*e*AMB	AMB	01 07 51.2	
	comp=Z,21μm,0.2s						
IVRN	**Varamin**	**1.67**	**109**	*e*Pn	**Pn**	**01 07 25.6**	**-1.2**
IDMV	**Damavand**	**1.81**	**89**	*e*Pn	**Pn**	**01 07 28.1**	**-0.8**
IDMV				*e*Sg	**Sn**	**01 07 51.8**	**-0.6**
IDMV				*e*AMB	AMB	01 07 55.2	
	comp=Z,18μm,0.2s						
IDMV	**Damavand**	**1.81**	**89**	*e*Pn	**Pn**	**01 07 28.1**	**-0.8**
IDMV				*e*Sg	**Sn**	**01 07 51.8**	**-0.6**
SNGE	**Sanandaj**	**2.07**	**257

IZEF					eAMB	AMB	01 08 48.9	
	comp=Z,986nm,0.3s							
IZEF	**Zefreh**	**3.39**	**141**		*e*Pn	**Pn**	**01 07 51.2**	**+0.7**
IGLO	**Ghaloghah**	**3.39**	**73**		*e*Pn	**Pn**	**01 07 50.3**	**-0.3**
IGLO					eAMB	AMB	01 09 05.3	
	comp=Z,3µm,0.3s							
IHRS	**Heris**	**3.53**	**322**		*e*Pn	**Pn**	**01 07 53.2**	**+0.8**
IHRS					eAMB	AMB	01 08 04.7	
	comp=Z,3µm,0.2s							
IHRS	**Heris**	**3.53**	**322**		*e*Pn	**Pn**	**01 07 53.2**	**+0.8**
SHGR	**Shooshtar-Gavs**	**3.55**	**194**		*e*Pn	Pn	01 07 43.3	-9.2
NASN	**Na'in**	**3.72**	**137**		*e*Pn	**Pn**	**01 07 55.1**	**0.0**
GLBA	**Clilabad**	**3.84**	**343**	⇓	P	**Pn**	**01 07 56.3**	**-0.2**
	SNR=4.0							
GLBA				⇑	S	**Sn**	**01 08 39.8**	**-2.1**
GLBA	**Clilabad**	**3.84**	**343**		P	**Pn**	**01 07 56.3**	**-0.2**
	SNR=4.0							
GOBA	**Gobu**	**4.83**	**359**	⇓	P	**Pn**	**01 08 12.3**	**+2.3**
GOBA	**Gobu**	**4.83**	**359**		P	**Pn**	**01 08 12.3**	**+2.3**
GALA	**Gala**	**4.84**	**3**	⇓	S	**Sn**	**01 09 10.7**	**+4.1**
GALA	**Gala**	**4.84**	**3**		S	**Sn**	**01 09 10.7**	**+4.1**
GBS	**Qobustan**	**5.01**	**352**	⇑	S	**Sn**	**01 09 12.1**	**+1.3**
GBS	**Qobustan**	**5.01**	**352**		S	**Sn**	**01 09 12.1**	**+1.3**
NDR	**Nardaran**	**5.01**	**2**	⇓	P	**Pn**	**01 08 15.6**	**+3.1**
NDR				⇑	S	**Sn**	**01 09 14.5**	**+3.8**
NDR	**Nardaran**	**5.01**	**2**		P	**Pn**	**01 08 15.6**	**+3.1**
NDR					S	**Sn**	**01 09 14.5**	**+3.8**
BRDA	**Brd**	**5.13**	**337**	⇑	P	**Pn**	**01 08 13.4**	**-0.8**
BRDA	**Brd**	**5.13**	**337**		P	**Pn**	**01 08 13.4**	**-0.8**
PQL	**Pirkuli**	**5.30**	**350**	⇓	P	**Pn**	**01 08 17.8**	**+1.1**
PQL				⇓	S	**Sn**	**01 09 18.4**	**+0.2**
PQL	**Pirkuli**	**5.30**	**350**		P	**Pn**	**01 08 17.8**	**+1.1**
PQL					S	**Sn**	**01 09 18.4**	**+0.2**
IML	**Ismayilli**	**5.37**	**347**	⇓	P	**Pn**	**01 08 18.6**	**+1.0**
IML				⇑	S	**Sn**	**01 09 19.2**	**-0.6**
IML	**Ismayilli**	**5.37**	**347**		P	**Pn**	**01 08 18.6**	**+1.0**
SIZA	**Siyzn**	**5.55**	**353**	⇑	P	**Pn**	**01 08 21.6**	**+1.5**
SIZA	**Siyzn**	**5.55**	**353**		P	**Pn**	**01 08 21.6**	**+1.5**
QBL	**Gabala**	**5.59**	**344**	⇓	S	**Sn**	**01 09 23.8**	**-1.3**
MNGR	**Mingechevir, A**	**5.62**	**338**	⇑	P	**Pn**	**01 08 20.4**	**-0.6**
MNGR				⇓	S	**Sn**	**01 09 23.2**	**-2.7**
MNGR	**Mingechevir, A**	**5.62**	**338**		P	**Pn**	**01 08 20.4**	**-0.6**
XNQ	**Khinaliq**	**5.75**	**347**	⇑	P	**Pn**	**01 08 23.2**	**+0.3**
XNQ	**Khinaliq**	**5.75**	**347**		P	**Pn**	**01 08 23.2**	**+0.3**
GANJ	**Ganja**	**5.77**	**333**	⇓	P	**Pn**	**01 08 21.1**	**-1.9**
GANJ				⇓	S	**Sn**	**01 09 24.9**	**-4.6**
GANJ	**Ganja**	**5.77**	**333**		P	**Pn**	**01 08 21.1**	**-1.9**
QUBA	**Quba, Azerbaij**	**5.87**	**350**	⇑	P	**Pn**	**01 08 25.3**	**+0.8**
QUBA	**Quba, Azerbaij**	**5.87**	**350**		P	**Pn**	**01 08 25.3**	**+0.8**
SEKA	**Sheki**	**5.99**	**341**	⇑	P	**Pn**	**01 08 25.5**	**-0.7**
SEKA	**Sheki**	**5.99**	**341**		P	**Pn**	**01 08 25.5**	**-0.7**
GDB	**GEDABAY**	**6.06**	**329**	⇓	P	**Pn**	**01 08 24.7**	**-2.4**
GDB				⇓	S	**Sn**	**01 09 32.4**	**-4.5**
QSAR	**Qusar**	**6.06**	**349**	⇓	P	**Pn**	**01 08 27.4**	**+0.3**
QZX	**Qazax, Azerbai**	**6.50**	**329**	⇓	P	**Pn**	**01 08 30.6**	**-2.4**
ZKTA	**Zakatala**	**6.55**	**339**	⇓	P	**Pn**	**01 08 32.9**	**-0.9**

*ISCJB **14** 01:09:52.1±0.5,50°.24N±0°.04×18°.71E±0°.03,h0km, Error ellipse: s-maj=5.3km s-min=2.7km az=8.1*
*CSEM **14** 01:09:52.8±0.3,50°.28N×18°.73E,h2km,ML2.5/8, Error ellipse: s-maj=8.3km s-min=3.9km az=5.0*
*IPEC **14** 01:09:53.2±0.2,50°.31N×18°.76E,h0km±2km,ML1.6/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
*PRU **14** 01:09:53.8,50°.25N×18°.73E,h0km*
ISC 14 01:09:53.0±0.8,**50°.20N**±0°.04×**18°.76E**±0°.02,**h0**km,**n29,** σ0°**69**/52,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.18**	**60**	*e*Pg	**Pg**	**01 09 55.6**	**-0.8**
OKC	**Ostrava-Krasne**	**0.54**	**227**	*e*PG	**Pb**	**01 10 05.5**	**+0.2**
OKC				*e*SG	**Sb**	**01 10 14.0**	**+0.5**
	9.0nm,0.4s						
OKC	**Ostrava-Krasne**	**0.54**	**227**	Pg	**Pb**	**01 10 05.5**	**+0.2**
OKC				Sg	**Sb**	**01 10 14.0**	**+0.5**
	9.0nm,0.4s						
OJC	**Ojcow**	**0.67**	**88**	*e*Pg	**Pg**	**01 10 05.7**	**-0.1**
OJC				*e*Sg	**Sg**	**01 10 14.5**	**0.0**
OJC	**Ojcow**	**0.67**	**88**	*e*Pg	**Pg**	**01 10 05.7**	**-0.1**
OJC				*e*Sg	**Sg**	**01 10 14.5**	**0.0**
MORC	**Moravsky Berou**	**0.89**	**242**	*e*Pg	**Pb**	**01 10 11.2**	**-0.2**
MORC				*e*Sg	**Sg**	**01 10 22.9**	**+1.3**
	6.9nm,0.4s						
LANS	**Liptovska Anna**	**1.15**	**156**	*e*Pg	**Pn**	**01 10 16.6**	**+0.2**
LANS				*e*Sg	**Sb**	**01 10 31.3**	**0.0**
LANS	**Liptovska Anna**	**1.15**	**156**	*e*PG	**Pn**	**01 10 16.6**	**+0.2**
LANS				*e*SG	**Sb**	**01 10 31.3**	**0.0**
NIE	**Niedzica**	**1.27**	**128**	*e*Pg	**Pn**	**01 10 18.0**	**0.0**
NIE				*e*Sg	**Sn**	**01 10 36.5**	**+0.6**
NIE	**Niedzica**	**1.27**	**128**	*e*Pg	**Pn**	**01 10 18.0**	**0.0**
NIE				*e*Sg	**Sn**	**01 10 36.5**	**+0.6**
JAVC	**Velka Javorina**	**1.52**	**208**	*e*Pn	**Pg**	**01 10 22.7**	**+0.6**
DPC	**Dobruska-Polom**	**1.57**	**276**	*e*PG	**Pn**	**01 10 22.2**	**+0.1**
DPC				*e*SG	**Sg**	**01 10 44.3**	**+1.0**
	3.4nm,0.3s						
DPC	**Dobruska-Polom**	**1.57**	**276**	Pg	**Pn**	**01 10 22.2**	**+0.1**
DPC				Sg	**Sg**	**01 10 44.3**	**+1.0**
	3.4nm,0.3s						
VRAC	**Vranov**	**1.66**	**238**	*e*Pn	**Pb**	**01 10 24.5**	**0.0**
VRAC				*e*Sg	**Sg**	**01 10 47.2**	**+0.8**
	6.8nm,0.3s						
KSP	**Ksiaz**	**1.70**	**293**	*e*Pg	**Pg**	**01 10 25.4**	**-0.1**
KSP				*e*Sg	**Sg**	**01 10 47.8**	**+0.3**
KSP	**Ksiaz**	**1.70**	**293**	*e*Pg	**Pg**	**01 10 25.4**	**-0.1**
KSP				*e*Sg	**Sg**	**01 10 47.8**	**+0.3**
VYHS	**Vyhne**	**1.71**	**178**	*e*Pn	**Pn**	**01 10 24.5**	**+0.4**
VYHS				*e*Sn	**Sn**	**01 10 45.4**	**-1.3**
VYHS	**Vyhne**	**1.71**	**178**	*e*PN	**Pn**	**01 10 24.5**	**+0.4**
VYHS				*e*SN	**Sn**	**01 10 45.4**	**-1.3**
VYHS				*e*LG	Lg	01 10 51.5	
STHS	**Stebnicka Huta**	**1.79**	**115**	*e*Pn	**Pg**	**01 10 27.1**	**-0.3**
STHS	**Stebnicka Huta**	**1.79**	**115**	*e*PN	**Pg**	**01 10 27.1**	**-0.3**
STHS				*e*LG	Lg	01 11 02.6	
KRUC	**Moravsky**	**1.91**	**234**	*e*Pn	**Pb**	**01 10 28.1**	**-0.6**
KRUC				*e*Sg	**Sg**	**01 10 55.1**	**+0.7**
	2.8nm,0.3s						
TREC	**Trest**	**2.31**	**248**	*e*PG	**Pb**	**01 10 35.7**	**+0.2**
TREC				*e*SG	**Sg**	**01 11 06.6**	**-0.5**
	2.5nm,0.2s						
TREC	**Trest**	**2.31**	**248**	Pg	**Pb**	**01 10 35.7**	**+0.2**
TREC				Sg	**Sg**	**01 11 06.6**	**-0.5**
	2.5nm,0.2s						
GOPC	**GO Pecny, Ondr**	**2.57**	**265**	*e*PG	**Pb**	**01 10 40.2**	**+0.2**
GOPC				*e*SG	**Sb**	**01 11 13.4**	**+1.2**
GOPC	**GO Pecny, Ondr**	**2.57**	**265**	Pg	**Pb**	**01 10 40.2**	**+0.2**
GOPC				Sg	**Sb**	**01 11 13.4**	**+1.2**
PVCC	**Panska Ves**	**2.70**	**279**	*e*SG	**Sg**	**01 11 19.5**	**-0.2**
	3.3nm,0.2s						
PVCC	**Panska Ves**	**2.70**	**279**	Sg	**Sg**	**01 11 19.5**	**-0.2**
	3.3nm,0.2s						
KHC	**Kasperske Hory**	**3.53**	**254**	*e*PG	**Pg**	**01 10 58.9**	**-1.7**
KHC				*e*SG	**Sg**	**01 11 45.2**	**-1.1**
	1.6nm,0.4s						
KHC	**Kasperske Hory**	**3.53**	**254**	Pg	**Pg**	**01 10 58.9**	**-1.7**
KHC				Sg	**Sg**	**01 11 45.2**	**-1.1**
	1.6nm,0.4s						

*SJA **14** 01:23:12.7±0.8,23°.89S×67°.21W,h190km±10km,ML2.5, MW3.4*
*ISCJB **14** 01:23:13.4±0.6,23°.90S±0°.05×67°.12W±0°.06,h195km±5km, mb3.6/4,Error ellipse: s-maj=10.5km s-min=7.0km az=135.9*
*IDC **14** 01:23:13.5±1.2,23°.82S×67°.00W,h176km±12km,mb3.6/4, mb1 3.6/9,mb1mx3.4/22,mbtmp4.0/9,Error ellipse: s-maj=19.3km s-min=14.9km az=171.0*
ISC 14 01:23:14.3±0.9,**23°.82S**±0°.07×**67°.09W**±0°.07,**h189**km±7km, **n20,** σ1°**32**/28,**mb3.7**/4,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.66**	**69**	*e*P	**Pn**	**01 23 49.8**	**+0.9**
HJA				*e*S	**Sn**	**01 24 17.1**	**+1.4**
SLA	**San Lorenzo**	**1.70**	**122**	*e*P	**Pn**	**01 23 49.5**	**+0.4**
SLA				IAML		01 23 51.4	
	comp=Z,60nm,0.5s						
SLA				*e*S	**Sn**	**01 24 15.7**	**-0.4**
AZAP	**Zapla**	**1.89**	**103**	*e*P	**Pn**	**01 23 51.2**	**+0.2**
LVC	**Limon Verde**	**2.07**	**305**	P	**Pn**	**01 23 52.9**	**-0.2**
	comp=Z,547nm,0.3s,baz=187,slow=6.7,SNR=270						
LVC				S	**Sn**	**01 24 21.9**	**-1.3**
	comp=Z,3µm,0.3s,baz=277,slow=5.9,SNR=10						
YJA	**Yavi**	**2.19**	**42**	*e*P	**Pn**	**01 23 55.8**	**+1.3**
YJA				IAML		01 23 57.2	
	comp=Z,20nm,0.3s						
YJA				*e*S	**Sn**	**01 24 27.2**	**+1.5**
ASTB	**Santa Barbara**	**2.41**	**93**	*e*P	**Pn**	**01 23 56.9**	**+0.2**
ASTB				*e*S	**Sn**	**01 24 29.6**	**0.0**
FSA	**Cafayete**	**2.49**	**156**	*e*P	**Pn**	**01 23 56.4**	**-1.2**
FSA				IAML		01 24 10.7	
	comp=Z,6,8nm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.84**	**90**	*e*P	**Pn**	**01 24 01.8**	**+0.3**
ALOL				*e*S	**Sn**	**01 24 38.9**	**+0.6**
AHML	**Horco Molle**	**3.35**	**152**	*e*P	**Pn**	**01 24 06.7**	**-0.9**
AHML				IAML		01 24 12.3	
	comp=Z,4.9nm,0.5s						
LPAZ	**La Paz**	**7.56**	**352**	P	**Pn**	**01 25 03.6**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=158,slow=6.3,SNR=39						
LPAZ				S	**Sn**	**01 26 27.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=313,slow=17,SNR=4.1						
CPUP	**Villa Florida**	**9.19**	**108**	P	**Pn**	**01 25 21.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=286,slow=15,SNR=2.3						
SIV	**San Ignacio**	**9.63**	**37**	P	**Pn**	**01 25 27.5**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=225,slow=11,SNR=12						
SIV				S	**Sn**	**01 27 11.7**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=236,slow=11,SNR=2.9						
BDFB	**Brasilia**	**19.70**	**69**	P	**P**	**01 27 29.5**	**0.0**
	comp=Z,0.9nm,0.3s,baz=239,slow=10,SNR=9.8						
TORD	**Torodi Ar. Bea**	**76.58**	**69**	P	**P**	**01 34 44.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=260,slow=5.9,SNR=16						
ULM	**Lac du Bonnet**	**78.04**	**342**	P	**P**	**01 34 52.7**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=164,slow=2.9,SNR=3.6						
MAW	**Mawson**	**81.63**	**163**	P	**P**	**01 35 11.3**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=254,slow=15,SNR=3.7						
YKA	**Yellowknife Ar**	**93.93**	**340**	P	**P**	**01 36 09.9**	**0.0**
	comp=Z,2.0nm,0.6s,baz=127,slow=4.7,SNR=4.7						
ASAR	**Alice Springs**	**128.58**	**205**	PKP	**PKPdf**	**01 41 59.7**	**+0.1**
	comp=Z,0.9nm,1.1s,baz=140,slow=2.0,SNR=4.3						
WRA	**Warramunga Arr**	**131.75**	**207**	PKP	**PKPdf**	**01 42 05.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=156,slow=1.8,SNR=7.3						
MKAR	**Makanchi Array**	**146.44**	**39**	PKPbc	**PKPbc**	**01 42 33.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=295,slow=4.1,SNR=6.2						

*DDA **14** 01:23:46.5,37°.32N×37°.10E,h6km,Ml3.0*
*CSEM **14** 01:23:47.7±0.3,37°.31N×37°.08E,h2km,ML3.0,Error ellipse: s-maj=9.7km s-min=6.6km az=141.0*
*ISK **14** 01:23:47.3,37°.28N×37°.05E,h5km,MD3.0*
ISC 14 01:23:47.3±1.1,**37°.30N**±0°.03×**37°.11E**±0°.02,**h2**km±11km, **n30,** σ0°**68**/43,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HCB	**Kahramanmara¯**	**0.16**	**286**	*i* P	**Pg**	**01 23 50.2**	**-0.2**
HCB				*i* S	**Sg**	**01 23 53.6**	**+1.0**
KAMA	**Osmaniye**	**0.37**	**252**	*i* P	**Pg**	**01 23 54.4**	**0.0**
KAMA				*i* S	**Sg**	**01 23 59.7**	**+0.5**
GZT	**Gaziantep**	**0.37**	**81**	*i* P	**Pg**	**01 23 53.8**	**-0.6**
KUZU	**Kuzuini**	**0.53**	**183**	P	**Pg**	**01 23 57.8**	**+0.4**
KUZU	**Kuzuini**	**0.53**	**183**	*i* P	**Pg**	**01 23 57.8**	**+0.4**
ATAB	**Bozova**	**0.96**	**79**	P	**Pg**	**01 24 05.4**	**-0.3**
ATAB				S	**Sg**	**01 24 19.0**	**+0.8**
ATAB	**Bozova**	**0.96**	**79**	*i* P	**Pg**	**01 24 05.4**	**-0.3**
ATAB				*i* S	**Sg**	**01 24 19.0**	**+0.8**
KOZT	**Kozan**	**1.03**	**280**	*e*PG	**Pb**	**01 24 07.2**	**-0.7**
KOZT	**Kozan**	**1.03**	**280**	*e*Pg	**Pb**	**01 24 07.2**	**-0.7**
CEYT	**Ceyhan**	**1.12**	**255**	*e*PG	**Pb**	**01 24 09.0**	**-0.4**
CEYT	**Ceyhan**	**1.12**	**255**	*e*Pg	**Pb**	**01 24 09.0**	**-0.4**
TAHT	**Tahtakopru-Hat**	**1.18**	**219**	*e*PN	**Pn**	**01 24 10.4**	**-0.4**
TAHT				*e*SN	**Sn**	**01 24 26.9**	**-0.5**
TAHT	**Tahtakopru-Hat**	**1.18**	**219**	*e*Pn	**Pn**	**01 24 10.4**	**-0.4**
TAHT				*e*Sn	**Sn**	**01 24 27.0**	**-0.5**
AKCD	**Akcadag**	**1.19**	**33**	P	**Pg**	**01 24 08.9**	**-1.2**
AKCD				S	**Sb**	**01 24 26.1**	**-0.3**
AKCD	**Akcadag**	**1.19**	**33**	*i* P	**Pg**	**01 24 08.8**	**-1.2**
AKCD				*i* S	**Sb**	**01 24 26.1**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.23**	**334**	*e*PN	**Pn**	**01 24 12.1**	**+0.4**
SARI				*e*SN	**Sn**	**01 24 30.0**	**+1.0**
DARE	**Darende-Malaty**	**1.30**	**13**	*e*PN	**Pb**	**01 24 13.2**	**+0.6**
DARE	**Darende-Malaty**	**1.30**	**13**	*e*Pn	**Pb**	**01 24 13.2**	**+0.6**
YAYL	**Yayladag**	**1.50**	**213**	P	**Pn**	**01 24 14.7**	**-0.5**
YAYL	**Yayladag**	**1.50**	**213**	*i* P	**Pn**	**01 24 14.7**	**-0.5**
BNN	**Bunyan**	**1.84**	**328**	*e*PN	**Pb**	**01 24 21.6**	**-0.1**
BNN				*e*SN	**Sg**	**01 24 46.2**	**-0.2**
BNN	**Bunyan**	**1.84**	**328**	*e*Pn	**Pb**	**01 24 21.6**	**-0.1**
BNN				*e*Sn	**Sg**	**01 24 46.2**	**-0.2**
ELZG	**Elazig**	**1.91**	**51**	P	**Pn**	**01 24 21.5**	**+0.5**
ELZG	**Elazig**	**1.91**	**51**	*i* P	**Pn**	**01 24 21.5**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.05**	**58**	*e*PN	**Pb**	**01 24 24.9**	**-0.3**
SVRC				*e*SN	**Sb**	**01 24 52.4**	**+1.1**
SVRC	**Sivrice-ELAZID**	**2.05**	**58**	*e*Pn	**Pb**	**01 24 25.0**	**-0.3**
SVRC				*e*Sn	**Sb**	**01 24 52.4**	**+1.1**
NIG	**Nigde**	**2.14**	**293**	*e*PN	**Pn**	**01 24 24.6**	**+0.5**
NIG	**Nigde**	**2.14**	**293**	*e*Pn	**Pn**	**01 24 24.7**	**+0.5**
PTK	**Pertek**	**2.40**	**48**	*e*PN	**Pb**	**01 24 30.1**	**-1.3**
PTK	**Pertek**	**2.40**	**48**	*e*Pn	**Pb**	**01 24 30.1**	**-1.3**

*ISCJB **14** 01:25:19.6±0.6,37°.30N±0°.04×37°.12E±0°.03,h1km±6km, Error ellipse: s-maj=7.0km s-min=4.2km az=162.3*
*DDA **14** 01:25:19.5,37°.32N×37°.11E,h3km,Ml3.0*
*CSEM **14** 01:25:19.7±0.3,37°.32N×37°.11E,h2km,ML3.0,Error ellipse: s-maj=8.4km s-min=6.1km az=142.0*
*ISK **14** 01:25:21.3,37°.34N×36°.95E,h4km,MD3.0*
ISC 14 01:25:20.0±1.1,**37°.33N**±0°.03×**37°.11E**±0°.02,**h5**km±10km, **n27,** σ0°**51**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HCB	**Kahramanmara¯**	**0.16**	**274**	*i* P	**Pg**	**01 25 23.1**	**-0.2**
HCB				*i* S	**Sg**	**01 25 26.3**	**+0.9**
GZT	**Gaziantep**	**0.36**	**86**	*i* P	**Pg**	**01 25 26.8**	**-0.3**
GZT	**Gaziantep**	**0.36**	**86**	*i* S	**Pg**	**01 25 26.9**	**-0.2**
KAMA	**Osmaniye**	**0.38**	**247**	*i* P	**Pg**	**01 25 27.2**	**-0.2**
KAMA				*i* S	**Sg**	**01 25 32.5**	**0.0**
KUZU	**Kuzuini**	**0.56**	**183**	P	**Pg**	**01 25 30.6**	**-0.2**
KUZU	**Kuzuini**	**0.56**	**183**	*i* P	**Pg**	**01 25 30.6**	**-0.2**
ATAB	**Bozova**	**0.95**	**81**	P	**Pg**	**01 25 37.9**	**-0.5**
ATAB				S	**Sg**	**01 25 50.5**	**-0.2**
ATAB	**Bozova**	**0.95**	**81**	*i* P	**Pg**	**01 25 37.9**	**-0.5**
ATAB				*i* S	**Sg**	**01 25 50.5**	**-0.2**
KOZT	**Kozan**	**1.03**	**279**	*e*PG	**Pg**	**01 25 39.1**	**-0.7**
KOZT	**Kozan**	**1.03**	**279**	*e*Pg	**Pg**	**01 25 39.1**	**-0.7**
CEYT	**Ceyhan**	**1.13**	**254**	*e*PG	**Pg**	**01 25 41.5**	**-0.2**
CEYT	**Ceyhan**	**1.13**	**254**	*e*Pg	**Pg**	**01 25 41.6**	**-0.2**
AKCD	**Akcadag**	**1.16**	**34**	P	**Pg**	**01 25 41.9**	**-0.3**
AKCD				S	**Sn**	**01 25 59.0**	**-0.4**
AKCD	**Akcadag**	**1.16**	**34**	*i* P	**Pg**	**01 25 41.9**	**-0.3**
AKCD				*i* S	**Sn**	**01 25 59.0**	**-0.4**
SARI	**SarD1z-Kayseri**	**1.20**	**333**	*e*PN	**Pn**	**01 25 44.0**	**+0.3**
SARI				*e*SN	**Sb**	**01 25 59.6**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.21**	**218**	*e*PN	**Pn**	**01 25 43.8**	**+0.1**
TAHT				*e*SN	**Sb**	**01 25 59.5**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.21**	**218**	*e*Pn	**Pn**	**01 25 43.8**	**+0.1**
TAHT				*e*Sn	**Sb**	**01 25 59.5**	**+0.1**
DARE	**Darende-Malaty**	**1.27**	**13**	*e*PN	**Pn**	**01 25 45.8**	**+1.2**
DARE	**Darende-Malaty**	**1.27**	**13**	*e*Pn	**Pn**	**01 25 45.8**	**+1.2**
BNN	**Bunyan**	**1.81**	**327**	*e*PN	**Pb**	**01 25 53.2**	**-0.6**
BNN				*e*SN	**Sb**	**01 26 16.8**	**-0.2**
BNN	**Bunyan**	**1.81**	**327**	*e*Pn	**Pb**	**01 25 53.2**	**-0.6**
BNN				*e*Sn	**Sb**	**01 26 16.8**	**-0.2**
SVRC	**Sivrice-ELAZID**	**2.03**	**58**	*e*PN	**Pg**	**01 25 58.6**	**-0.3**
SVRC	**Sivrice-ELAZID**	**2.03**	**58**	*e*Pn	**Pg**	**01 25 58.6**	**-0.3**
NIG	**Nigde**	**2.13**	**292**	*e*PN	**Pn**	**01 25 57.4**	**+0.9**
NIG	**Nigde**	**2.13**	**292**	*e*Pn	**Pn**	**01 25 57.4**	**+0.9**
PTK	**Pertek**	**2.38**	**48**	*e*PN	**Pb**	**01 26 03.7**	**+0.2**
PTK	**Pertek**	**2.38**	**48**	*e*Pn	**Pb**	**01 26 03.7**	**+0.2**

*DHMR **14** 01:29:16.1±1.3,13°.20N×41°.93E,h6km±16km,ML4.1*
ISC 14 01:29:20.2±1.3,**13°.1N**±0°.1×**41°.9E**±0°.1,**h10**km,**n5,** σ1°**29**/8, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**2.16**	**66**	*i* P	Pn	01 29 53.8	-2.7
UDYN				*i* S	**Sn**	**01 30 23.2**	**-0.2**
UDYN				AML	AML	01 30 31.4	
	comp=E,1µm,0.3s						
DHBB	**Dhamar BB**	**2.80**	**58**	*i* P	**Pn**	**01 30 04.4**	**-1.0**
DHBB				*i* S	**Sn**	**01 30 41.4**	**+1.9**
HAJJ	**Hajjah**	**3.05**	**32**	*i* P	Pn	01 30 05.9	-2.8
HAJJ				*i* S	**Sn**	**01 30 46.1**	**+0.6**
HAJJ				AML	AML	01 31 06.2	
	comp=Z,900nm,0.5s						
BDHA	**Al Bayda'**	**3.64**	**76**	*i* P	**Pn**	**01 30 15.8**	**-1.2**
BDHA				*i* S	**Sn**	**01 31 01.4**	**+1.3**
BDHA				AML	AML	01 31 24.3	
	comp=N,1µm,0.5s						
FURI	**Furi**	**5.25**	**218**	P	**Pb**	**01 30 52.7**	**+0.3**
FURI				S	**Sb**	**01 31 55.8**	**+0.1**

MEX 14 01:30:11.5±0.2,**14°.57N**×**93°.58W**,**h20**km,**MD3.9**,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.20**	**39**	*e*P	Pn	01 30 44.0	-3.0
CCIG				*i* S	Sn	01 31 10.3	-3.5

*JMA **14** 01:47:35.7±0.4,47°.12N×146°.57E,h547km,M3.6*
*IDC **14** 01:47:36.9±1.5,48°.16N×145°.47E,h495km±18km, mb2.8/12,mb1 3.1/19,mb1mx3.0/35,mbtmp3.8/19,Error ellipse: s-maj=15.3km s-min=11.6km az=128.0*
ISC 14 01:47:35.2±0.7,**47°.28N**±0°.09×**146°.3E**±0°.1,**h550**km,**n25,** σ2°**45**/21,**mb3.2**/13,**Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTKR	**Abashiri--Toko**	**3.71**	**208**	P	**P**	**01 48 55.5**	**+0.5**
NEM2	**Nemuro 2**	**3.94**	**186**	P	**P**	**01 48 56.0**	**-0.7**
NEM2				*e*S	**S**	**01 50 00.6**	**-2.4**
JAR	**Ashorobuto**	**4.36**	**205**	P	**P**	**01 49 00.5**	**+0.6**
JAK	**Akkeshi**	**4.43**	**195**	P	**P**	**01 49 00.5**	**+0.1**
JAK				*e*S	**S**	**01 50 08.5**	**-1.9**
JOH	**Churui**	**5.11**	**205**	P	**P**	**01 49 06.6**	**+0.6**
JCH				*e*S	**S**	**01 50 16.9**	**-3.2**
PETK	**Petropavlovsk-**	**9.35**	**47**	P	**P**	**01 49 44.6**	**-1.7**
	0.2nm,0.3s,baz=156,slow=7.8,SNR=3.8						
KLR	**Kul'dur**	**9.89**	**287**	P	P	01 49 45.7	-6.2
	0.7nm,0.3s,baz=80,slow=10,SNR=8.0						
USRK	**Ussuriysk Ar.**	**10.46**	**258**	P	**P**	**01 49 55.2**	**-2.5**
	0.6nm,0.3s,baz=69,slow=11,SNR=9.7						
MJAR	**Matsushiro Arr**	**12.29**	**212**	P	P	01 50 23.6	+6.8
	0.7nm,0.3s,baz=13,slow=13,SNR=3.7						
MA2	**Magadan**	**12.60**	**10**	P	P	01 50 14.2	-5.4
	0.9nm,0.3s,baz=197,slow=17,SNR=3.1						
SEY	**Seymchan**	**16.05**	**10**	P	**P**	**01 50 49.9**	**-4.9**
	0.8nm,0.3s,baz=203,slow=10,SNR=9.5						
KSRS	**Korea Array**	**16.72**	**241**	P	**P**	**01 51 06.0**	**+4.6**
	0.2nm,0.3s,baz=306,slow=12,SNR=2.7						
SONM	**Songino Array**	**26.73**	**286**	P	**P**	**01 52 34.4**	**+3.3**
	0.6nm,0.6s,baz=81,slow=8.9,SNR=

KSP				*e*Sg		**Sg**	**02 40 40.2**	**+0.9**
UPC	**Upice**	**1.02**	**181**	*e*PG		**Pg**	**02 40 36.4**	**0.0**
UPC				*e*SG		**Sg**	**02 40 50.3**	**+0.8**
	15nm,0.2s							
UPC	**Upice**	**1.02**	**181**	Pg		**Pg**	**02 40 36.4**	**0.0**
UPC				Sg		**Sg**	**02 40 50.3**	**+0.8**
	15nm,0.2s							
DPC	**Dobruska-Polom**	**1.19**	**171**	*e*PG		**Pg**	**02 40 39.3**	**-0.3**
DPC				*e*SG		**Sg**	**02 40 54.8**	**-0.2**
	6.1nm,0.3s							
DPC	**Dobruska-Polom**	**1.19**	**171**	Pg		**Pg**	**02 40 39.3**	**-0.3**
DPC				Sg		**Sg**	**02 40 54.8**	**-0.2**
	6.1nm,0.3s							
PVCC	**Panska Ves**	**1.36**	**224**	*e*PG		**Pb**	**02 40 43.4**	**+0.2**
PVCC				*e*SG		**Sn**	**02 41 02.0**	**+0.1**
	30nm,0.2s							
PVCC	**Panska Ves**	**1.36**	**224**	Pg		**Pb**	**02 40 43.4**	**+0.2**
PVCC				Sg		**Sn**	**02 41 02.0**	**+0.1**
	30nm,0.2s							
BRG	**Berggiesshubel**	**1.47**	**245**	PG		**Pb**	**02 40 45.1**	**0.0**
BRG				SG		**Sn**	**02 41 05.3**	**+0.7**
	11nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.80**	**207**	*e*PG		**Pb**	**02 40 50.7**	**0.0**
GOPC				*e*SG		**Sg**	**02 41 14.7**	**+0.1**
	3.7nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.80**	**207**	Pg		**Pb**	**02 40 50.7**	**0.0**
GOPC				Sg		**Sg**	**02 41 14.7**	**+0.1**
	3.7nm,0.2s							
PRU	**Pruhonice**	**1.81**	**212**	*e*PN		**Pn**	**02 40 49.3**	**0.0**
PRU				*e*PG		**Pb**	**02 40 51.0**	**+0.2**
PRU				*e*SG		**Sg**	**02 41 14.8**	**-0.1**
	4.2nm,0.4s							
PRU	**Pruhonice**	**1.81**	**212**	Pn		**Pn**	**02 40 49.3**	**0.0**
CLL	**Collm**	**1.91**	**265**	*e*Pn		**Pn**	**02 40 49.0**	**-1.7**
CLL				*e*Pg		**Pb**	**02 40 52.0**	**-0.6**
CLL				*e*Sg		**Sg**	**02 41 19.0**	**+0.7**
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Pn		**Pn**	**02 40 50.7**	**-1.2**
MORC				*e*Sg		**Sb**	**02 41 19.0**	**-0.4**
OKC	**Ostrava-Krasne**	**2.16**	**141**	*e*PG		**Pb**	**02 40 56.8**	**0.0**
OKC				*e*SG		**Sb**	**02 41 23.7**	**-0.3**
OKC	**Ostrava-Krasne**	**2.16**	**141**	Pg		**Pb**	**02 40 56.8**	**0.0**
OKC				Sg		**Sb**	**02 41 23.7**	**-0.3**
VRAC	**Vranov**	**2.25**	**171**	*e*Pn		**Pn**	**02 40 54.6**	**-0.7**
VRAC				*e*Sg		**Sb**	**02 41 27.0**	**+0.3**
TREC	**Trest**	**2.26**	**189**	*e*PN		**Pn**	**02 40 56.2**	**+0.7**
TREC				*e*PG		**Pb**	**02 40 58.8**	**+0.2**
TREC				*e*SG		**Sg**	**02 41 29.1**	**-0.3**
	4.7nm,0.2s							
TREC	**Trest**	**2.26**	**189**	Pn		**Pn**	**02 40 56.2**	**+0.7**
TREC	**Trest**	**2.26**	**189**	Pg		**Pb**	**02 40 58.8**	**+0.2**
TREC				Sg		**Sg**	**02 41 29.1**	**-0.3**
	4.7nm,0.2s							
KRUC	**Moravsky**	**2.48**	**175**	*e*Pn		**Pn**	**02 40 58.2**	**-0.3**
KRUC				*e*Sg		**Sg**	**02 41 34.9**	**-1.5**
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN		**Pn**	**02 41 00.8**	**+0.4**
NKC				*e*PG		**Pg**	**02 41 07.3**	**+0.3**
NKC				*e*SG		**Sg**	**02 41 42.3**	**+1.4**
	4.4nm,0.3s							
NKC	**Novy Kostel**	**2.62**	**242**	Pn		**Pn**	**02 41 00.8**	**+0.4**
NKC	**Novy Kostel**	**2.62**	**242**	Pg		**Pg**	**02 41 07.3**	**+0.3**
NKC				Sg		**Sg**	**02 41 42.3**	**+1.4**
	4.4nm,0.3s							
OJC	**Ojcow**	**2.72**	**117**	*e*Pg		**Pg**	**02 41 08.6**	**-0.3**
OJC				*e*Sg		**Sg**	**02 41 44.8**	**+0.7**
OJC	**Ojcow**	**2.72**	**117**	*e*Pg		**Pg**	**02 41 08.6**	**-0.3**
OJC				*e*Sg		**Sg**	**02 41 44.8**	**+0.7**
OJC	**Ojcow**	**2.72**	**117**	*e*Pg		**Pg**	**02 41 08.6**	**-0.3**
OJC				*e*Sg		**Sg**	**02 41 44.8**	**+0.7**
KHC	**Kasperske Hory**	**2.87**	**214**	*e*PN		**Pn**	**02 41 03.5**	**-0.4**
KHC				*e*PG		**Pb**	**02 41 09.6**	**+0.7**
KHC				*e*SN		**Sn**	**02 41 39.6**	**+0.5**
KHC				*e*SG		**Sg**	**02 41 47.8**	**-1.2**
KHC	**Kasperske Hory**	**2.87**	**214**	Pn		**Pn**	**02 41 03.5**	**-0.4**
CONA	**Conrad Observa**	**3.60**	**182**	Sg		**Sb**	**02 42 04.6**	**-1.1**
	0.7nm,0.4s							
MOA	**Molln**	**3.85**	**198**	Pn		Pn	02 41 10.9	-6.5
MOA				Sg		**Sb**	**02 42 09.5**	**-3.4**
	0.3nm,0.2s							
STHS	**Stebnicka Huta**	**3.94**	**120**	*e*Pg		**Pg**	**02 41 32.8**	**+0.5**
STHS	**Stebnicka Huta**	**3.94**	**120**	*e*PG		**Pg**	**02 41 32.8**	**+0.5**
ARSA	**Arzberg**	**4.29**	**185**	Sg		**Sb**	**02 42 27.7**	**+2.2**
	1.2nm,0.5s							

IDC 14 02:47:11.5±2.3, 65°.03S×178°.64E, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.9/16, mbtmp3.8/3, ML3.9/1, MS4.2/4, Ms1 4.2/4, ms1mx3.6/15, Error ellipse: s-maj=77.6km s-min=41.0km az=69.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.55**	**196**	Pn	Pn	02 50 25.0	+0.5
VNDA	0.6nm,0.3s,baz=41,slow=14,SNR=21			LR	LR	02 54 26.8	
	comp=Z,736nm,20.5s,baz=24,slow=32						
MAW	**Mawson**	**40.04**	**212**	LR	LR	03 11 24.8	
	comp=Z,640nm,18.1s,baz=142,slow=36						
DZM	**Mont Dzumac**	**43.69**	**344**	*e*LR	LR	03 07 29.2	
	549nm,23.3s						
TBI	**Tubuai**	**46.53**	**42**	*e*LQ	LQ	03 06 11.7	
	443nm,29.2s						
TBI				*e*LR	LR	03 08 20.0	
	408nm,29.0s,baz=195						
TBI	**Tubuai**	**46.53**	**42**	*e*T	T	03 44 37.0	
	43nm,0.4s						
H01W1	**Cape Leeuwin H**	**48.25**	**276**	T	T	03 48 51.4	
	baz=148,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**48.25**	**276**	T	T	03 48 45.2	
	baz=148,slow=76,SNR=18						
H01W3	**Cape Leeuwin H**	**48.27**	**276**	T	T	03 48 45.9	
	baz=148,slow=76,SNR=21						
NWAO	**Narrogin (SRO)**	**48.65**	**280**	LR	LR	03 11 33.9	
	comp=Z,320nm,21.6s,slow=30						
ASAR	**Alice Springs**	**50.37**	**303**	P	P	02 56 10.4	+0.3
	0.6nm,0.7s,baz=156,slow=7.1,SNR=4.6						
RKT	**Rikitea**	**51.46**	**58**	*e*T	T	03 50 38.0	
	6.4nm,0.2s						
TVO	**Taravao**	**51.87**	**40**	*e*T	T	03 51 19.0	
	5.3nm,0.3s						
PAE	**Paea**	**51.90**	**40**	*e*T	T	03 51 21.0	
	2.5nm,0.3s						
PPT2	**Papeete2**	**51.97**	**40**	*e*S	S	03 03 35.6	-11
	71nm,28.5s						
PPT2				*e*LR	LR	03 11 00.5	
	338nm,25.8s,baz=197						
PPT2	**Papeete2**	**51.97**	**40**	*e*T	T	03 51 26.6	
	8.1nm,0.3s						
PPT	**Papeete**	**51.99**	**40**	LR	LR	03 12 14.4	
	comp=Z,108nm,20.4s,baz=175,slow=29						
TIAR	**Tiarei**	**52.06**	**40**	*e*T	T	03 51 33.1	
	3.3nm,0.3s						
WRA	**Warramunga Arr**	**53.65**	**305**	P	P	02 56 34.1	-0.4
	0.6nm,0.7s,baz=158,slow=6.7,SNR=3.5						
VAH	**Vaihoa**	**54.75**	**41**	*e*T	T	03 54 53.3	
	91nm,0.3s						
H08S2	**Diego Garcia H**	**89.85**	**252**	T	T	04 41 01.6	
	baz=155,slow=76,SNR=40						
H08S1	**Diego Carcia H**	**89.85**	**252**	T	T	04 41 00.4	
	baz=155,slow=76,SNR=43						
H08S3	**Diego Garcia H**	**89.87**	**252**	T	T	04 40 59.9	
	baz=155,slow=76,SNR=44						
ILAR	**Eielson Array**	**131.92**	**19**	PKP	PKPdf	03 06 25.0	+0.1
	0.6nm,0.8s,baz=193,slow=3.5,SNR=5.5						
BRTR	**Keskin Array B**	**147.62**	**236**	PKPbc	PKPbc	03 06 55.6	-1.3
	0.7nm,0.8s,baz=148,slow=7.3,SNR=3.6						

NIED ***14*** *02:47:00,38°.00N×143°.60E, h8km, Mw4.0 Best double couple: M0 9.90000×10^14 NP1:ϕs=5.00000°, δ23.00000°, λ-110.00000°. NP2:ϕs=206.00000°, δ69.00000°, λ-82.00000°.*

IDC ***14*** *02:47:39.2±0.7, 37°.84N×143°.71E, h0km, mb3.9/10, mb1 4.0/17, mb1mx3.9/43, mbtmp4.0/17, ML4.0/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/50, Error ellipse: s-maj=18.9km s-min=15.1km az=104.0*

ISCJB ***14*** *02:47:40.0±0.5, 37°.94N±0°.04×143°.55E±0°.05, h19km, mb4.0/13, Error ellipse: s-maj=5.8km s-min=4.8km az=31.9*

JMA ***14*** *02:47:41.5±0.2, 38°.01N×143°.57E, h49km, M4.0*

NEIC ***14*** *02:47:44.4±0.7, 37°.99N×143°.58E, h35km, mb4.1/2, Error ellipse: s-maj=13.5km s-min=9.7km az=126.0*

ISC 14 02:47:41.6±0.6, 37°.95N±0°.05×143°.68E±0°.06, h19km, n44, σ2°31/52, mb4.0/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.91**	**286**	P	Pn	**02 48 11.1**	**-2.0**
OFUJ	**Ofunato**	**1.94**	**306**	P	Pn	**02 48 11.4**	**-2.2**
JMK	**Ichinoseki**	**2.18**	**298**	P	Pn	**02 48 15.0**	**-1.8**
JMK				S	Sn	**02 48 39.7**	**-3.5**
JOM	**Ohasama**	**2.41**	**310**	P	Pn	**02 48 18.4**	**-1.6**
JOM				*e*S	Sn	**02 48 45.5**	**-3.5**
JFT	**Otama**	**2.69**	**262**	P	Pn	**02 48 23.0**	**-0.8**
JFT				S	Sn	**02 48 53.2**	**-2.7**
JYK	**Kaneyama**	**2.78**	**291**	P	Pn	**02 48 24.0**	**-1.1**
JYK				S	Sn	**02 48 55.4**	**-2.8**
JANG	**Nango**	**2.95**	**326**	P	Pn	**02 48 25.5**	**-1.9**
JAG	**Ashikaga**	**3.71**	**247**	P	Pn	**02 48 36.7**	**-1.1**
BSO1	**Boso 1**	**3.95**	**214**	P	Pn	**02 48 39.5**	**-1.2**
BSO1				*e*S	Sn	**02 49 24.4**	**-1.8**
ERM	**Erimo**	**4.08**	**354**	*e*Pn	Pn	**02 48 41.9**	**-1.0**
ERM				*e*S	Sn	**02 49 24.9**	**-5.2**
JSD	**Sado**	**4.28**	**273**	P	Pn	**02 48 44.3**	**-1.5**
JRY	**Ryogami san**	**4.29**	**245**	P	Pn	**02 48 45.1**	**-0.8**
JKB	**Kayabe**	**4.43**	**333**	P	Pn	**02 48 48.8**	**+1.1**
MJAR	**Matsushiro Arr**	**4.59**	**254**	Pn	Pn	**02 48 50.4**	**+0.4**
	2.9nm,0.3s,baz=76,slow=12,SNR=23						
MAJO	**Matsushiro**	**4.59**	**254**	*e*Pn	Pn	**02 48 50.2**	**+0.2**
MAJO				*e*S	Sn	**02 49 38.9**	**-3.9**
MAT	**Matsushiro**	**4.59**	**254**	P	Pn	**02 48 50.5**	**+0.5**
MAT				*e*S	Sn	**02 49 40.4**	**-2.4**
MAT	**Matsushiro**	**4.59**	**254**	P	Pg	**02 49 12.6**	**+3.1**
JCH	**Churui**	**4.67**	**357**	P	Pn	**02 48 49.6**	**-1.4**
JCH				*e*S	Sn	**02 49 39.5**	**-5.1**
JHJ	**Hachijo jima 2**	**5.77**	**215**	Pn	Pn	**02 49 04.9**	**-1.4**
	18nm,0.3s,baz=302,slow=21,SNR=7.8						
JHJ				Sn	Sn	**02 50 05.9**	**-6.0**
	30nm,0.3s,baz=279,slow=21,SNR=4.9						
ASAJ	**Asahikawa**	**6.21**	**353**	Pn	Pn	**02 49 13.0**	**+0.7**
	3.8nm,0.3s,baz=152,slow=15,SNR=5.0						
USRK	**Ussuriysk Ar.**	**10.81**	**309**	Pn	Pn	**02 50 16.6**	**+1.4**
	0.3nm,0.3s,baz=97,slow=14,SNR=6.3						
CBIJ	**Chichi jima**	**10.90**	**187**	Pn	Pn	**02 50 13.0**	**-3.5**
JCJ	**Chichijima**	**10.90**	**187**	Pn	Pn	**02 50 13.0**	**-3.6**
	4.9nm,0.3s,baz=272,slow=23,SNR=5.6						
JNU	**Nakatsue**	**11.49**	**249**	Pn	Pn	**02 50 24.5**	**-0.1**
	baz=74,slow=17,SNR=3.7						
JNU				LR	LR	02 55 41.4	
	comp=Z,48nm,18.6s,baz=116,slow=42						
KSRS	**Korea Array**	**12.49**	**273**	Pn	Pn	**02 50 40.0**	**+1.7**
	0.1nm,0.3s,baz=95,slow=14,SNR=10						
KSAR	**Wonju Array Be**	**12.53**	**273**	Pn	Pn	**02 50 40.0**	**+1.2**
KLR	**Kul'dur**	**14.19**	**326**	Pn	Pn	**02 50 59.0**	**-2.4**
	0.1nm,0.3s,baz=131,slow=13,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**27.14**	**126**	T	T	03 22 39.0	
	baz=317,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.14**	**126**	T	T	03 22 38.1	
	baz=317,slow=75,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**27.15**	**126**	T	T	03 22 33.4	
	baz=317,slow=75,SNR=8.2						
SONM	**Songino Array**	**28.80**	**302**	P	**P**	**02 53 39.7**	**+1.3**
	1.5nm,0.7s,baz=83,slow=9.5,SNR=8.7						
ZALV	**Zalesovo Beam**	**42.64**	**312**	P	**P**	**02 55 39.4**	**+2.8**
	4.9nm,0.6s,baz=87,slow=7.9,SNR=7.3						
MKAR	**Makanchi Array**	**45.17**	**302**	P	**P**	**02 55 56.8**	**-0.2**
	0.4nm,0.6s,baz=87,slow=7.4,SNR=4.4						
KURK	**Kurchatov**	**46.79**	**308**	*e*P	**P**	**02 56 08.9**	**-0.8**
	34nm,0.6s						
KURBB	**Kurchatov Arra**	**46.87**	**308**	P	**P**	**02 56 10.1**	**-0.2**
	2.1nm,0.5s,baz=82,slow=8.0,SNR=15						
ILAR	**Eielson Array**	**47.75**	**33**	P	**P**	**02 56 18.1**	**+1.1**
	1.1nm,0.7s,baz=262,slow=6.6,SNR=16						
INK	**Inuvik**	**52.74**	**28**	P	**P**	**02 56 56.5**	**+1.7**
	0.3nm,0.4s,baz=295,slow=1.6,SNR=3.7						
WRAB	**Tennant Creek**	**58.24**	**190**	*e*P	**P**	**02 57 34.8**	**0.0**
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**58.25**	**190**	P	**P**	**02 57 34.6**	**-0.3**
	4.3nm,0.7s,baz=10,slow=7.3,SNR=30						
WRA				PcP	**PcP**	**02 58 26.7**	**+0.7**
	1.0nm,1.1s,baz=360,slow=4.2,SNR=5.1						
ABKAR	**Akbulak array**	**58.73**	**310**	P	**P**	**02 57 38.6**	**+0.7**
	0.3nm,0.6s						
ASAR	**Alice Springs**	**61.98**	**190**	P	**P**	**02 58 00.5**	**+0.1**
	1.3nm,0.8s,baz=12,slow=10.0,SNR=9.5						
YKA	**Yellowknife Ar**	**62.10**	**31**	P	**P**	**02 58 01.5**	**+0.7**
	0.3nm,0.7s,baz=301,slow=6.9,SNR=4.1						
FINES	**FINESS Array B**	**68.83**	**333**	PcP	**PcP**	**02 59 12.2**	**+3.4**
	1.2nm,0.8s,baz=54,slow=9.7,SNR=4.3						
TXAR	**Lajitas Array**	**88.13**	**54**	P	**P**	**03 00 32.5**	**+1.0**
	0.2nm,0.6s,baz=319,slow=4.3,SNR=4.2						

BJI ***14*** *03:01:24.2, 1°.39N×98°.94E, h23km, mb5.1/50, mB5.2/58, Ms6.0/70, Ms7 5.8/67*

IDC ***14*** *03:01:25.6±0.4, 1°.90N×99°.13E, h0km, mb5.0/39, mb1 5.0/39, mb1mx5.0/42, mbtmp5.0/39, MS5.2/37, Ms1 5.2/37, ms1mx5.0/50, Error ellipse: s-maj=14.0km s-min=9.8km az=63.0*

KLM ***14*** *03:01:29.4, 1°.86N×99°.25E, h10km, mb5.5, ML5.8, MS6.4*

ISCJB ***14*** *03:01:29.1±0.6, 1°.87N±0°.02×99°.13E±0°.02, h29km±4km, mb5.2/199, MS5.5/473, Error ellipse: s-maj=3.5km s-min=2.7km az=135.1*

GCMT ***14*** *03:01:29.8±0.1, 1°.81N×99°.11E, h17km, MW5.7/125, Moment Tensor Solution. s114,c203; s125,c350; Duration: 1ſ7 Moment tensor: Scale 10^17Nm; Mrr 0.07±.04; Mθθ-3.44±.04; Mϕϕ 3.37±.04; Mrθ-2.09±.13; Mθϕ 1.52±.04; Mϕr-0.79±.11; Best double couple: M0 4.32900×10^17 NP1:ϕs 57.00000°, δ87.00000°, λ-30.00000°. NP2:ϕs 149.00000°, δ60.00000°, λ-177.00000°. Principal axes: T 4.1000, Plg19.0000°, Azm107.0000°; N 0.4540, Plg60.0000°, Azm232.0000°; P -4.5580, Plg23.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***14*** *03:01:29.0±0.0, 1°.83N×99°.13E, h22km, Moment Tensor Solution. s28 Moment tensor: Scale 10^17Nm; Mrr-0.10; Mθθ-2.90; Mϕϕ 2.90; Mrθ 1.00; Mϕr 1.30; Mϕr-0.50; Best double couple: M0 3.00000×10^17 NP1:ϕs 328.00000°, δ80.00000°, λ-164.00000°. NP2:ϕs 235.00000°, δ74.00000°, λ-9.00000°. Principal axes: T 3.2000, Plg4.0000°, Azm101.0000°; N 0.3000, Plg71.0000°, Azm357.0000°; P -3.5000, Plg17.0000°, Azm192.0000°;*

NEIC ***14*** *03:01:29.8±0.2, 1°.84N×99°.11E, h22km, mb5.4/108, MS5.5/299, MW5.6, MW5.6, MW5.6 Error ellipse: s-maj=6.0km s-min=4.1km az=46.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^17Nm; Mrr 0.58; Mθθ-2.93; Mϕϕ 2.35; Mrθ 0.35; Mϕr 1.20; Mϕr 0.11; Best double couple: M0 3.00000×10^17 NP1:ϕs 327.00000°, δ83.00000°, λ 180.00000°. NP2:ϕs 57.00000°, δ90.00000°, λ 7.00000°. Principal axes: T 2.6200, Plg5.0000°, Azm282.0000°; N 0.5900, Plg83.0000°, Azm58.0000°; P -3.2100, Plg5.0000°, Azm192.0000°; Moment Tensor Solution. s16 Moment tensor: Scale 10^17 Nm; Mrr 0.54; Mθθ-2.92; Mϕϕ 2.38; Mrθ-0.59; Mθϕ 0.47; Mϕr-0.03; Best double couple: M0 2.80000×10^17 NP1:ϕs 50.00000°, δ85.00000°, λ-8.00000°. NP2:ϕs 140.00000°, δ82.00000°, λ-175.00000°. Principal axes: T 2.4200, Plg2.0000°, Azm95.0000°; N 0.6300, Plg80.0000°, Azm200.0000°; P -3.0500, Plg9.0000°, Azm5.0000°;*

NEIC Felt [IV] at Sibolga and Tarutung. Felt [III] at Gunungsitoli, Nias. Felt [III] at Subang Jaya and [II] at Ampang, Kampung Salak Tinggi, George Town, Kajang, Klang, Kuala Lumpur, Petaling Jaya and Shah Alam, Malaysia. Felt widely in the George Town-Melaka area.

DJA ***14*** *03:01:30.6±0.1, 2°.N±2°×9°.9E±°, h10km, M5.5/51, mb5.4/51, mB5.9/32, MLv5.8/14, Mw(mB)5.5/32, Mwp5.8/1*

MOS ***14*** *03:01:31.0±1.3, 2°.02N×99°.15E, h40km, mb5.4/94, MS5.4/89, Error ellipse: s-maj=7.4km s-min=4.1km az=108.6*

ISC 14 03:01:30.7±0.3, 1°.85N±0°.02×99°.08E±0°.03, h29km±1km, h29km:pP-P, n1379, σ1°76/1254, mb5.3/214, MS5.5/475, 47C-23D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.96**	**351**	*e*P	Pn	03 01 43.4	-4.9
PSI	**Prapat**	**0.96**	**351**	*e*Pg	Pn	03 01 43.4	-4.9
MNSI	**Mandailing Nat**	**1.16**	**154**	P	**Pn**	**03 01 46.7**	**-4.3**
GSI	**Gunungsitoli**	**1.59**	**250**	P	**Pn**	**03 01 54.7**	**-2.3**
GSI				S	**Sb**	**03 02 19.5**	**+0.2**
GSI	**Gunungsitoli**	**1.59**	**250**	*e*Pn	**Pn**	**03 01 54.9**	**-2.1**
GSI				*e*Sn	**Sn**	**03 02 13.9**	**-2.7**
TSI	**Tuntungan**	**1.72**	**343**	P	**Pn**	**03 01 59.1**	**+0.5**
KCSI	**Kotacane, Aceh**	**2.11**	**322**	P	**Pn**	**03 02 04.7**	**+0.6**
KCSI				S	**Sb**	**03 02 33.0**	**-1.1**
TPTI		**2.35**	**307**	P	**Pn**	**03 02 06.3**	**-1.1**
TPTI				S	**Sb**	**03 02 39.0**	**-2.1**
BKNI	**Bangkinang**	**2.48**	**128**	P	**Pn**	**03 02 07.2**	**-1.9**
BKNI	**Bangkinang**	**2.48**	**128**	*e*Pn	**Pn**	**03 02 07.3**	**-1.9**
BKNI				*e*Sn	**Sn**	**03 02 31.9**	**-6.6**
PPI	**Padang Panjang**	**2.65**	**150**	P	**Pn**	**03 02 10.3**	**-1.1**
PDSI	**Padang**	**3.08**	**153**	P	**Pn**	**03 02 17.4**	**0.0**
IPM	**Ipoh**	**3.26**	**37**	ſſP	**Pn**	**03 02 19.6**	**-0.2**
IPM	**Ipoh**	**3.26**	**37**	*e*Pn	**Pn**	**03 02 19.4**	**-0.5**
IPM				*e*Sn	**Sn**	**03 02 54.5**	**-3.2**
MLSI	**Meulaboh, Aceh**	**3.59**	**312**	P	**Pn**	**03 02 25.5**	**+1.1**
SDSI	**Sungai Dareh**	**3.63**	**140**	P	**Pn**	**03 02 23.5**	**-1.5**
KULM	**Kulim**	**3.76**	**25**	ſſP	**Pn**	**03 02 25.9**	**-0.8**
KULM	**Kulim**	**3.76**	**25**	*e*Pn	**Pn**	**03 02 25.1**	**-1.7**
RGRI	**Rengat**	**3.92**	**124**	P	**Pn**	**03 02 31.2**	**+2.2**
LHMI	**Lhok Sumawe**	**3.97**	**328**	P	**Pn**	**03 02 30.1**	**+0.5**
LHMI	**Lhok Sumawe**	**3.97**	**328**	*e*Pn	**Pn**	**03 02 30.1**	**+0.5**
LHMI				*e*Sn	**Sn**	**03 03 07.5**	**-7.8**
KGM	**Kluang**	**4.24**	**88**	ſſP	**Pn**	**03 02 30.9**	**-2.6**
PPSI	**Pulau Pagai**	**4.68**	**168**	P	**Pn**	**03 02 37.8**	**-1.6**
MYKOM	**Kota Tinggi**	**4.77**	**91**	ſſP	**Pn**	**03 02 37.8**	**-2.9**
MYKOM	**Kota Tinggi**	**4.77**	**91**	*e*Pn	**Pn**	**03 02 37.8**	**-2.9**
MYKOM				*e*Sn	**Sn**	**03 03 33.9**	**-1.1**
KTGM	**Kuala Trenggan**	**5.32**	**49**	ſſP	**Pn**	**03 02 47.5**	**-0.7**
SKLT	**Songkhla**	**5.50**	**16**	P	**Pn**	**03 02 49.9**	**-0.8**
	1μm,1.8s,32μm11nm						
TPRI	**Tanjung Pinang**	**5.53**	**100**	P	**Pn**	**03 02 53.4**	**+2.3**
JMBI	**JAMBI**	**5.73**	**127**	P	**Pn**	**03 02 55.8**	**+2.0**
TRTT	**Trang**	**5.98**	**6**	P	**Pn**	**03 02 57.0**	**-0.3**
	611nm,1.0s,10μm12nm						
PKDT	**Phuket**	**6.05**	**353**	P	**Pn**	**03 02 59.9**	**+1.7**
	1μm,0.9s,14μm6.3nm						
KSI	**Kapahiang**	**6.50**	**147**	P	**Pn**	**03 03 05.9**	**+1.4**
	1μm,1.4s,21μm14nm						
SURT	**Suratani**	**7.07**	**358**	P	**Pn**	**03 03 12.9**	**+0.7**
	118nm,0.9s,3μm2.4nm						
MNAI	**Manna**	**7.29**	**148**	P	**Pn**	**03 03 16.0**	**+0.7**
	598nm,2.2s,14μm12nm						
MNAI	**Manna**	**7.29**	**148**	*e*Pn	**Pn**	**03 03 14.0**	**-1.3**
SURA	**Surathani**	**7.29**	**4**	P	**Pn**	**03 03 15.2**	**-0.1**
	497nm,1.1s,3.9nm						
PPBI	**Pangkal Pinang**	**8.11**	**119**	P	Pn	03 03 31.7	+5.2
	459nm,0.8s,2.3nm						
LWLI	**Liwa**	**8.45**	**144**	P	**Pn**	**03 03 32.7**	**+1.4**
KASI	**Kota Agung**	**9.11**	**144**	P	**Pn**	**03 03 38.3**	**-2.0**
BLSI	**Bandar Lampung**	**9.46**	**139**	P	**Pn**	**03 03 47.5**	**+2.5**
SBJI	**Serang**	**10.60**	**138**	P	**Pn**	**03 04 01.5**	**+0.8**
	419nm,1.6s,22μm						
PHET	**Kaeng Krachan**	**11.00**	**3**	P	**Pn**	**03 04 07.5**	**+1.3**
	41nm,0.8s,508nm						
KSM	**Kuching**	**11.23**	**92**	ſſP	**Pn**	**03 04 08.3**	**-1.2**
KSM	**Kuching**	**11.23**	**92**	*e*Pn	**Pn**	**03 04 10.2**	**+0.7**
CHBT	**CHBT**	**11.30**	**16**	P	**Pn**	**03 04 12.8**	**+2.5**
	348nm,0.9s,4μm						
SKJI	**Sukabumi**	**11.54**	**140**	P	Pn	03 04 24.9	+11
LEM	**Lembang**	**12.12**	**135**	P	P	03 04 29.1	-5.0
CNJI	**Cibinong**	**12.14**	**139**	P	**Pn**	**03 04 18.9**	**-2.9**
SRDT	**SRDT**	**12.42**	**0**	P	Pn	03 04 31.0	+5.4
STKI	**Sintang**	**12.53**	**98**	P	P	03 04 33.0	-5.4
CISI	**Cisompet, Garu**	**12.78**	**137**	P	**Pn**	**03 04 30.7**	**+0.1**
	230nm,1.2s,44μm						
CISI	**Cisompet, Garu**	**12.78**	**137**	*e*Pn	**Pn**	**03 04 27.6**	**-3.0**
DGPR	**DIGLIPUR**	**12.79**	**332**	*e*P	**Pn**	**03 04 30.7**	**0.0**
DGPR				IAmb	IAmb	03 04 40.4	
	comp=Z,2μm,2.4s						
KHLT	**Khaolaem Dam**	**12.87**	**358**	P	**P**	**03 04 37.6**	**-4.7**
SBUM	**Sibu**	**13.15**	**87**	*e*Pn	**Pn**	**03 04 36.5**	**+0.9**
KPJI	**Karang Pucung**	**13.41**	**133**	P	**Pn**	**03 04 39.4**	**+0.2**
	comp=Z,227nm,1.5s,comp=Z,4μm						
UMPA	**Umpang Tak**	**14.27**	**359**	P	**P**	**03 04 54.8**	**-3.0**
	comp=Z,24nm,1.3s,comp=Z,1μm						
SMRI	**Semarang**	**14.38**

QIZ LZ
comp=Z,15µm,14.7s
QIZ Qiongzhong 20.07 31 *e*P Pn 03 06 04.3 +0.6
comp=Z,262nm,1.2s
QIZ LR LR
comp=Z,5µm,21.0s
TWSI Taliwang, Sumb 20.63 121 P Pn 03 06 10.7 +0.2
comp=Z,213nm,1.1s,comp=Z,2µm
TTSI Tana Toraja 21.30 103 P **P** **03 06 18.2 +2.9**
comp=Z,158nm,1.2s,comp=Z,2µm
PLAI Plampang 21.45 120 P **P** **03 06 19.5 +2.7**
comp=Z,101nm,1.1s,comp=Z,3µm
MDRS Chennai 21.72 302 *e*P **P** **03 06 21.5 +1.8**
KAPI Kappang 21.75 108 P **P** **03 06 19.8 -0.3**
comp=Z,7.0nm,0.6s,baz=286,slow=14,SNR=3.5
KAPI Kappang 21.75 108 *e*P **P** **03 06 20.9 +0.8**
comp=Z,187nm,1.1s
KAPI LR LR
comp=Z,12µm,20.0s
VIS Vishakhapatnam 22.09 317 *e*P **P** **03 06 25.2 +1.5**
VIS IAmb IAmb 03 06 28.3
comp=Z,84nm,0.6s
CHLP Challavanipeta 22.16 319 *e*P **P** **03 06 24.8 +0.4**
CHLP IAmb IAmb 03 06 31.6
comp=Z,91nm,1.0s
CHLP *e*S **S** **03 10 28.9 +1.8**
CHLP IVMs_BB IVMs_BB 03 14 52.1
comp=Z,4µm,20.6s
BWNR Bhubaneshwar 22.45 326 *e*P **P** **03 06 25.7 -1.8**
BWNR IAmb IAmb 03 06 28.6
comp=Z,324nm,1.7s
SKHT Srikalahasti 22.50 303 *e*P **P** **03 06 31.7 +3.6**
SKHT IAmb IAmb 03 06 34.0
comp=Z,304nm,1.2s
SKHT *e*S **S** **03 10 36.4 +2.9**
SKHT IVMs_BB IVMs_BB 03 14 04.3
comp=Z,4µm,21.1s
BSSI Bau Bau, Buton 22.81 111 P **P** **03 06 33.9 +2.4**
comp=Z,429nm,1.1s,comp=Z,4µm
MRSI Marisa 22.90 93 P **P** **03 06 33.7 +1.3**
comp=Z,144nm,1.6s,comp=Z,8µm
TRD Trivandrum 22.99 288 *e*P **P** **03 06 34.9 +1.6**
PVM Polavaram 22.99 313 *e*P **P** **03 06 34.3 +1.1**
PVM IAmb IAmb 03 06 37.2
comp=Z,65nm,0.9s
PVM *e*S **S** **03 10 43.4 +1.4**
PVM IVMs_BB IVMs_BB 03 14 43.1
comp=Z,2µm,21.9s
KMI Kunming 23.41 8 P **P** **03 06 37.5 -0.1**
KMI pP pP 03 06 42.6 -3.1
KMI S **S** **03 10 49.3 +0.1**
KMI PMZ
comp=Z,740nm,4.1s
KMI LN
comp=Z,20µm,13.7s
KMI LE
comp=Z,10µm,13.4s
KMI LZ
comp=Z,20µm,14.6s
LUWI Luwuk 23.87 97 P **P** **03 06 43.9 +2.0**
comp=Z,664nm,1.4s,comp=Z,7µm
LUWI Luwuk 23.87 97 *e*P **P** **03 06 42.6 +0.7**
comp=Z,1µm,1.3s
RCLA Racherla 24.01 305 *e*P **P** **03 06 44.3 +1.0**
RCLA IAmb IAmb 03 06 48.1
comp=Z,334nm,1.1s
RCLA *e*S **S** **03 10 59.7 +1.0**
RCLA IVMs_BB IVMs_BB 03 16 04.5
comp=Z,3µm,20.3s
KDI Kendari 24.23 104 P **P** **03 06 47.5 +2.2**
comp=Z,66nm,1.0s,comp=Z,2µm
NJS Nagarjunasagar 24.33 308 *e*P **P** **03 06 44.0 -2.2**
NJS IAmb IAmb 03 06 51.2
comp=Z,188nm,1.0s
NJS *e*S **S** **03 11 08.3 +4.4**
NJS IVMs_BB IVMs_BB 03 16 45.4
comp=Z,3µm,20.5s
SRLM Srisailam 24.41 307 *e*P **P** **03 06 47.7 +0.7**
SRLM IAmb IAmb 03 06 52.7
comp=Z,393nm,1.1s
SRLM *e*S **S** **03 11 05.3 +0.1**
SRLM IVMs_BB IVMs_BB 03 16 36.2
comp=Z,3µm,20.0s
SHL Shillong 24.58 344 *e*P **P** **03 06 49.9 +1.4**
SHL *e*S **S** **03 11 10.0 +2.0**
GZH Guangzhou 25.24 32 P **P** **03 07 00.3 +5.9**
GZH S S 03 11 34.9 +17
GZH pmax pmax
comp=Z,270nm,6.9s
BOK Bokaro 25.28 331 *e*P **P** **03 06 54.1 -0.7**
MMRI Maumere 25.33 115 *e*P **P** **03 06 52.4 -2.9**
comp=Z,269nm,1.3s
MMRI LR LR
comp=Z,15µm,21.0s
HYB Hyderabad 25.42 309 *i*P **P** **03 06 57.0 +0.9**
HYB *e*S **S** **03 11 24.0 +2.7**
HYB LR LR
comp=Z,17nm,20.0s
HYB Hyderabad 25.42 309 *e*P **P** **03 06 55.9 -0.2**
HYB IAmb IAmb 03 07 00.7
comp=Z,174nm,1.3s
HYBB Hyderabad (bro 25.42 309 *e*P **P** **03 06 57.3 +1.2**
HYBB IAmb IAmb 03 07 00.6
comp=Z,118nm,1.1s
HYBB *e*S **S** **03 11 23.4 +2.0**
HYBB IVMs_BB IVMs_BB 03 17 28.8
comp=Z,4µm,17.2s
GYA Guiyang 25.53 16⇓ *i*P **P** **03 06 57.6 +0.5**
GYA pP pP 03 07 05.8 +0.3
GYA PP **PnPn** **03 07 40.0 +6.6**
GYA PcP **PcP** **03 10 30.4 +2.1**
GYA S **S** **03 11 25.4 +2.3**
GYA sS sS 03 11 35.3 -1.7
GYA SS **SnSn** **03 12 28.6 +11**
GYA ScP **ScP** **03 14 07.0 +1.1**
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,370nm,6.8s
GYA LN
comp=Z,17µm,16.8s
GYA LE
comp=Z,15µm,14.6s
GYA LZ
comp=Z,20µm,16.2s
RPR Rampur 25.72 312 *e*P **P** **03 06 59.0 +0.3**
RPR IAmb IAmb 03 07 02.8
comp=Z,177nm,1.1s
RPR *e*S **S** **03 11 30.5 +4.5**
RPR IVMs_BB IVMs_BB 03 16 28.2
comp=Z,2µm,19.5s
SRSP Sriramsagar 26.47 311 *e*P **P** **03 07 06.0 +0.4**
SRSP IAmb IAmb 03 07 10.1
comp=Z,292nm,1.1s
SRSP *e*S **S** **03 11 40.4 +2.5**
SRSP IVMs_BB IVMs_BB 03 16 21.4
comp=Z,2µm,26.5s
DAV Davao City (W) 26.92 78 P **P** **03 07 13.8 +4.1**
comp=Z,202nm,0.4s,baz=246,slow=3.9,SNR=4.4
KLRI Killari 27.32 308 *e*P **P** **03 07 13.6 +0.3**
KLRI IAmb IAmb 03 07 16.6
comp=Z,81nm,1.1s
KLRI *e*S **S** **03 11 52.4 +1.0**
KLRI IVMs_BB IVMs_BB 03 18 13.3
comp=Z,4µm,22.2s
NGP Nagpur 27.37 316 *e*P **P** **03 07 12.6 -1.1**
NGP IAmb IAmb 03 07 17.9
comp=Z,235nm,1.9s
NGP *ex* x 03 12 03.6
SOEI Soe 27.61 115 P **P** **03 07 15.9 -0.1**
comp=Z,159nm,1.1s
SOEI Soe 27.61 115 *e*P **P** **03 07 14.6 -1.4**
comp=Z,150nm,1.0s
SOEI LR LR
comp=Z,19µm,18.0s
DGAR Diego Garcia 28.11 251 PFAKE 03 07 30.0 +10
DGAR LR LR
comp=Z,4µm,18.0s
H08S2 Diego Garcia H 28.14 250 T T 03 35 04.4
baz=72,slow=75,SNR=43
H08S3 Diego Garcia H 28.15 250 T T 03 35 05.7
baz=72,slow=75,SNR=45
H08S1 Diego Carcia H 28.16 250 T T 03 35 00.0
baz=72,slow=75,SNR=473
LSA Lhasa 28.70 346 P **P** **03 07 25.9 -0.1**
LSA Lhasa 28.70 346 *e*P **P** **03 07 27.1 +1.1**
LSA *e* 03 10 38.4
LSA pmax pmax
comp=Z,22nm,1.0s
LSA MLR MLR
comp=Z,3µm,22.0s
LSA Lhasa 28.70 346 *e*P **P** **03 07 27.1 +1.1**
comp=Z,22nm,1.0s
LSA *e*PcP **PcP** **03 10 38.4 +2.1**
LSA LR LR
comp=Z,3µm,22.0s
GUN Gumba 28.82 335 *e*P **P** **03 07 24.7 -2.3**
comp=Z,73nm,0.8s
DMN Daman 28.89 334 *e*P **P** **03 07 25.5 -2.0**
KKN Kakani 28.98 334 *e*P **P** **03 07 26.8 -1.3**
comp=Z,46nm,0.9s
CD2 Chengdu 29.24 8⇓ P **P** **03 07 31.0 +0.7**
CD2 pP pP 03 07 37.6 -1.1
CD2 sP sP 03 07 40.6 -1.6
CD2 PcP **PcP** **03 10 36.3 -0.7**
CD2 S **S** **03 12 24.6 +3.2**
CD2 sS sS 03 12 36.0 +0.7
CD2 PMZ
comp=Z,40nm,0.6s
CD2 PMZ
comp=Z,220nm,5.2s
CD2 LN
comp=Z,20µm,13.1s
CD2 LE
comp=Z,19µm,13.5s
CD2 LZ
comp=Z,18µm,12.9s
GKN Gorkha 29.44 333 *e*P **P** **03 07 30.4 -1.8**
comp=Z,64nm,1.0s
QZH Quanzhou 29.70 38⇓ *i*P P 03 07 26.0 -8.3
QZH S **S** **03 12 22.0 -6.6**
QZH LR LR
comp=N,44µm,14.6s
QZH LR LR
comp=E,64µm,15.4s
QZH LR LR
comp=Z,37µm,12.0s
KOLN Koldanda 29.73 332 *e*P **P** **03 07 33.0 -1.8**
comp=Z,56nm,0.8s
TWG Pinlang 29.84 44 PFAKE 03 07 50.0 +14
TWG LR LR
comp=Z,20µm,20.0s
TPUB Ta-pu 29.86 43 *e*P **P** **03 07 35.5 -0.3**
comp=Z,75nm,1.0s
TPUB LR LR
comp=Z,4µm,19.0s
BHPL Bhopal 29.88 317 *e*P **P** **03 07 37.4 +1.4**
BHPL IAmb IAmb 03 07 40.7
comp=Z,30nm,0.6s
ENH Enshi 29.94 18 *e*P **P** **03 07 36.2 -0.3**
comp=Z,50nm,1.0s
ENH *e*PcP **PcP** **03 10 39.2 +0.4**
ENH LR LR
comp=Z,7µm,19.0s
PYUN Piuthan 30.29 331 *e*P **P** **03 07 38.5 -1.3**
comp=Z,90nm,1.0s
YULB Yu-li 30.37 43 *e*P **P** **03 07 40.6 +0.3**
YULB comp=Z,41nm,0.9s LR LR
comp=Z,5µm,18.0s
SSLB Suanglung 30.40 42 *e*P **P** **03 07 41.4 +0.8**
comp=Z,72nm,0.9s
SSLB LR LR
comp=Z,4µm,20.0s
MBWA Marble Bar 30.52 140 PFAKE 03 07 50.0 +8.3
MBWA LR LR
comp=Z,4µm,20.0s
NACB Ninganchiao 31.09 43 *e*P **P** **03 07 43.3 -3.4**
comp=Z,45nm,0.9s
NACB LR LR
comp=Z,5µm,18.0s
YHNB Yeheng 31.28 42 PFAKE 03 08 00.0 +12
YHNB LR LR
comp=Z,5µm,19.0s
TATO Taipei 31.56 41 PFAKE 03 08 00.0 +9.2
TATO LR LR
comp=Z,6µm,19.0s
WHN Wuhan 32.00 25⇑ P **P** **03 07 56.1 +1.5**
WHN S **S** **03 13 03.1 -1.4**
YOJ Yonaguni jima 32.25 44 PFAKE 03 08 10.0 +13
YOJ LR LR
comp=Z,2µm,20.0s
XAN Xi'an 33.32 15 P **P** **03 08 05.8 -0.4**
XAN PP **PP** **03 09 21.4 -0.5**
XAN S **S** **03 13 20.9 -4.2**
XAN SS **SnSn** **03 15 33.8 +6.6**
XAN PMZ
comp=Z,38nm,1.1s
XAN PMZ
comp=Z,150nm,4.9s
XAN LN
comp=Z,6µm,17.0s
XAN LE
comp=Z,23µm,17.2s
XAN LZ
comp=Z,19µm,17.2s
FAKI Fak Fak 33.50 98 PFAKE 03 08 20.0 +12
FAKI LR LR
comp=Z,2µm,19.0s
LZH Lanzhou 34.35 7⇑ P **P** **03 08 15.5 +0.3**
LZH pP pP 03 08 22.3 -1.4
LZH sP sP 03 08 25.4 -1.8
LZH PP **PP** **03 09 32.0 -1.4**
LZH S **S** **03 13 43.0 +1.7**
LZH SS **SnSn** **03 15 52.8 +0.5**
LZH PMZ
comp=Z,85nm,1.2s
LZH PMZ
comp=Z,370nm,4.7s
LZH LN
comp=Z,8µm,11.5s
LZH LE
comp=Z,11µm,12.1s
LZH LZ
comp=Z,11µm,16.8s
MORW Morawa 34.78 153 P **P** **03 08 20.8 +2.0**
baz=35,SNR=7.3
MTN Manton Dam 35.01 116 PFAKE 03 08 30.0 +9.0
MTN LR LR
comp=Z,5µm,20.0s
NJ2 Nanjing 35.35 30 *e*P **P** **03 08 26.1 +2.4**
NJ2 PP **PP** **03 09 49.6 +5.3**
NJ2 S **S** **03 13 51.6 -4.8**
NJ2 PMZ
comp=Z,12nm,0.6s
NJ2 PMZ
comp=Z,160nm,4.1s
NJ2 LN
comp=Z,18µm,14.9s
NJ2 LE
comp=Z,18µm,14.6s
NJ2 LZ
comp=Z,22µm,15.7s
SMLA Simla 35.74 327 *e*P **P** **03 08 26.4 -0.6**
SSE Sheshan 35.82 33 P **P** **03 08 25.9 -1.9**
SSE sP **sP** **03 08 40.8 +1.0**
SSE S **S** **03 14 02.3 -1.4**
SSE PMZ
comp=Z,19nm,0.7s
SSE PMZ
comp=Z,63nm,5.5s
SSE LN
comp=Z,15µm,17.2s
SSE LE
comp=Z,12µm,17.2s
SSE LZ
comp=Z,16µm,12.0s
DHRM DHARAMSHALA 37.07 327 *e*P **P** **03 08 37.2 -1.5**
DHRM IAmb IAmb 03 08 40.0
comp=Z,131nm,1.2s
GTA Gaotai 37.39 1 P **P** **03 08 40.3 -0.9**
GTA pP pP 03 08 46.4 -3.3
GTA sP sP 03 08 49.9 -3.3
GTA PP **PnPn** **03 10 11.9 +4.3**
GTA S **S** **03 14 27.9 +0.2**
GTA SS **SnSn** **03 17 02.9 -2.9**
GTA PMZ
comp=Z,170nm,6.0s
GTA LN
comp=Z,7µm,17.6s
GTA LE
comp=Z,8µm,15.2s
GTA LZ
comp=Z,7µm,15.7s
THN Thein Dam 37.53 327 *e*P **P** **03 08 39.4 -2.9**
THN *ex* x 03 14 21.0
KLBR Kellerberrin 37.70 153 P **P** **03 08 44.5 +0.8**
baz=38,SNR=6.0
TIY Taiyuan 37.74 17 *e*P **P** **03 08 45.6 +1.4**
TIY PP **PnPn** **03 10 17.4 +5.5**
TIY S **S** **03 14 33.3 +0.3**
TIY PMZ
comp=Z,150nm,5.1s
TIY LN
comp=Z,10µm,11.9s
TIY LE
comp=Z,7µm,10.8s
TIY LZ
comp=Z,9µm,13.0s
TIA Tai'an 38.06 24 *e*P **P** **03 08 47.1 +0.4**
TIA PP **PnPn** **03 10 22.4 +6.8**
TIA S **S** **03 14 37.9 +0.3**
TIA PMZ
comp=Z,290nm,7.0s
TIA LN
comp=Z,8µm,15.5s
TIA LE
comp=Z,12µm,13.1s
TIA LZ
comp=Z,16µm,13.1s
NWAO Narrogin (SRO) 38.61 155 P **P** **03 08 52.4 +1.0**
comp=Z,46nm,1.0s,baz=322,slow=12,SNR=5.4
NWAO Narrogin (SRO) 38.61 155 P **P** **03 08 52.6 +1.2**
baz=39,SNR=4.1
NWAO Narrogin (SRO) 38.61 155 *e*P **P** **03 08 52.8 +1.3**
comp=Z,5.9nm,1.3s
NWAO LR LR
comp=Z,12µm,22.0s
KMBL Kambalda 39.51 149 P **P** **03 08 59.1 +0.1**
baz=40,SNR=12
BTO Baotou 39.83 13 *e*P **P** **03 09 00.3 -1.4**
HHC Hu-ho-hao-te 40.43 15⇑ P **P** **03 09 09.4 +2.8**
HHC PP **PnPn** **03 10 47.6 +3.6**
HHC S **S** **03 15 16.5 +3.0**
HHC PMZ
comp=Z,24nm,1.3s
HHC PMZ
comp=Z,220nm,4.8s
HHC LN
comp=Z,16µm,14.8s
HHC LE
comp=Z,9µm,16.3s
HHC LZ
comp=Z,16µm,16.2s
WB0 Warramunga Arr 40.77 124 PFAKE 03 09 20.0 +10
WB0 LR LR
comp=Z,4µm,20.0s
WB9 Warramunga Arr 40.78 124 PFAKE 03 09 20.0 +10
WB9 LR LR
comp=Z,8µm,20.0s
WB8 Warramunga Arr 40.79 124 PFAKE 03 09 20.0 +10
WB8 LR LR
comp=Z,4µm,20.0s
WB6 Warramunga Arr 40.79 124 PFAKE 03 09 20.0 +10
WB6 LR LR
comp=Z,4µm,20.0s
WC1 Warramunga Arr 40.80 124 PFAKE 03 09 20.0 +10
WC1 LR LR
comp=Z,3µm,21.0s
WB5 Warramunga Arr 40.80 124 PFAKE 03 09 20.0 +10
WB5 LR LR
comp=Z,4µm,21.0s
WB4 Warramunga Arr 40.81 124 PFAKE 03 09 20.0 +10
WB4 LR LR
comp=Z,3µm,20.0s
WR1 Warramunga Arr 40.81 124 PFAKE 03 09 20.0 +10
WR1 LR LR
comp=Z,4µm,22.0s
WRA Warramunga Arr 40.81 124 P **P** **03 09 07.3 -2.7**
comp=Z,64nm,0.9s,baz=304,slow=8.9,SNR=53
WRA PcP **PcP** **03 11 09.6 -1.2**
comp=Z,14nm,0.8s,baz=305,slow=2.8,SNR=9.8
WRA LR LR 03 27 57.4
comp=Z,4µm,21.1s,baz=285,slow=39
WB3 Warramunga Arr 40.82 124 PFAKE 03 09 20.0 +10
WB3 LR LR
comp=Z,4µm,21.0s
WRAB Tennant Creek 40.82 124 *i*P **P** **03 09 06.5 -3.5**
WRAB pmax pmax
comp=Z,203nm,1.0s
WRAB Tennant Creek 40.82 124 *e*P **P** **03 09 07.8 -2.2**
comp=Z,84nm,1.0s
WRAB LR LR
comp=Z,3µm,20.0s
WC4 Warramunga Arr 40.82 124 PFAKE 03 09 20.0 +10
WC4 LR LR
comp=Z,3µm,19.0s
WB2 Warramunga Arr 40.82 124 *e*P **P** **03 09 07.8 -2.3**
comp=Z,82nm,1.0s
WB2 LR LR
comp=Z,4µm,20.0s
WR2 Warramunga Arr 40.83 124 PFAKE 03 09 20.0 +10
WR2 LR LR
comp=Z,3µm,20.0s
WC3 Warramunga Arr 40.85 124 PFAKE 03 09 20.0 +10
WC3 LR LR
comp=Z,4µm,22.0s
WR3 Warramunga Arr 40.85 124 PFAKE 03 09 20.0 +10
WR3 LR LR
comp=Z,3µm,20.0s
WR4 Warramunga Arr 40.87 124 PFAKE 03 09 20.0 +10
WR4 LR LR
comp=Z,3µm,21.0s
WR5 Warramunga Arr 40.89 124 PFAKE 03 09 20.0 +9.4
WR5 LR LR
comp=Z,3µm,20.0s
WR6 Warramunga Arr 40.91 124 PFAKE 03 09 20.0 +9.2
WR6 LR LR
comp=Z,3µm,20.0s
WR7 Warramunga Arr 40.93 124 PFAKE 03 09 20.0 +9.0
WR7 LR LR
comp=Z,3µm,20.0s
WR8 Warramunga Arr 40.95 124 PFAKE 03 09 20.0 +8.9
WR8 LR LR
comp=Z,4µm,20.0s
WR9 Warramunga Arr 40.97 124 PFAKE 03 09 20.0 +8.8
WR9 LR LR
comp=Z,4µm,20.0s
WR0 Warramunga Arr 40.99 124 PFAKE 03 09 20.0 +8.6
WR0 LR LR
comp=Z,3µm,20.0s
BJT Baijiatuau 41.04 20 *e*P **P** **03 09 13.1 +1.5**
BJT pmax pmax
comp=Z,40nm,1.2s
BJT MLR MLR
comp=Z,6µm,20.0s
BJT Baijiatuau 41.04 20 *e*P **P** **03 09 13.1 +1.5**
comp=Z,40nm,1.2s
BJT LR LR
comp=Z,6µm,20.0s
BJI Beijing 41.06 20 P **P** **03 09 13.0 +1.3**
BJI S **S** **03 15 26.5 +3.9**
BJI SS **SnSn** **03 18 30.6 -3.6**
BJI PMZ
comp=Z,20nm,1.2s
BJI PMZ
comp=Z,290nm,4.6s
BJI LN
comp=Z,11µm,18.7s
BJI LE
comp=Z,9µm,16.8s
BJI LZ
comp=Z,8µm,18.2s
GENI Genyem 41.32 96 P P 03 09 21.8 +7.6
JAY Jayapura 41.84 96 P **P** **03 09 19.9 +1.3**
comp=Z,45nm,1.1s
DL2 Dalian 42.25 26 P **P** **03 09 23.0 +1.6**
DL2 S **S** **03 15 44.6 +4.4**
DL2 SS **SS** **03 18 50.4 +1.2**
DL2 PMZ
comp=Z,43nm,0.8s
DL2 PMZ
comp=Z,200nm,5.9s
DL2 LN
comp=Z,3µm,18.5s
DL2 LE
comp=Z,12µm,19.2s
DL2 LZ

comp=Z,7μm,14.7s
AS31 Alice Springs 42.32 129 eP P 03 09 19.9 -2.4
comp=Z,4.2nm,0.9s
AS31 LR LR
comp=Z,100nm,22.0s
ASAR Alice Springs 42.32 129 P P 03 09 19.4 -2.9
comp=Z,8.7nm,0.8s,baz=303,slow=7.7,SNR=36
ASAR PcP **PcP 03 11 14.8 -1.0**
comp=Z,14nm,0.8s,baz=308,slow=2.9,SNR=17
ASAR LR LR 03 27 05.2
comp=Z,4μm,21.3s,baz=296,slow=36
AS01 Alice Springs 42.35 129 eP P 03 09 19.3 -3.3
AS01 ePcP **PcP 03 11 14.2 -1.7**
KBL Kabul 42.91 323 eP P 03 09 27.8 +0.6
KBL *e* 03 11 02.7
KBL pmax pmax
comp=Z,28nm,0.8s
KBL MLR MLR
comp=Z,3μm,20.0s
KBL Kabul 42.91 323 eP P 03 09 27.8 +0.6
comp=Z,28nm,0.8s
KBL ePP **PP 03 11 02.7 -4.4**
KBL LR LR
comp=Z,3μm,20.0s
KSH Kashi 42.99 334 P P 03 09 26.1 -1.5
KSH pP pP 03 09 36.4 +0.1
KSH PP **PP 03 11 08.6 +0.8**
KSH PcP **PcP 03 11 16.9 -0.9**
KSH S **S 03 15 50.9 -0.5**
KSH SS **SS 03 18 55.8 -8.3**
KSH ScS **ScS 03 19 22.6 -4.0**
KSH PMZ
comp=Z,18nm,1.0s
KSH PMZ
comp=Z,170nm,3.8s
KSH LN
comp=Z,2μm,15.3s
KSH LE
comp=Z,4μm,17.8s
KSH LZ
comp=Z,6μm,21.1s
WMQ Urumqi 43.00 348 P P 03 09 28.8 +1.2
WMQ pP pP 03 09 34.8 -1.4
WMQ sP sP 03 09 37.8 -1.9
WMQ PP **PP 03 11 11.3 +3.5**
WMQ S **S 03 15 52.9 +1.6**
WMQ SS **SS 03 18 58.6 -5.4**
WMQ PMZ
comp=Z,23nm,0.8s
WMQ PMZ
comp=Z,180nm,4.0s
WMQ LN
comp=Z,1μm,21.0s
WMQ LE
comp=Z,2μm,19.2s
JNU Nakatsue 43.09 40 eP P 03 09 26.4 -2.0
comp=Z,47nm,1.3s
JNU LR LR
comp=Z,3μm,20.0s
TJN Taejon 43.18 34 *i* P P 03 09 28.0 -1.0
INCN Inchon 43.59 32 PFAKE 03 09 40.0 +7.6
INCN LR LR
comp=Z,6μm,20.0s
KS15 Wonju Array Si 44.23 33 eP P 03 09 38.8 +1.3
KSAR Wonju Array Be 44.23 33 P P 03 09 37.0 -0.5
KSAR Wonju Array Be 44.23 33 P P 03 09 37.0 -0.5
KS01 Wonju Array Si 44.27 33 eP P 03 09 37.6 -0.2
KSRS Korea Array 44.27 33 P P 03 09 37.0 -0.7
comp=Z,9.3nm,0.9s,baz=224,slow=8.9,SNR=14
KSRS LR LR 03 28 02.0
comp=Z,3μm,19.4s,baz=216,slow=36
KSRS Korea Array 44.27 33 P P 03 09 37.0 -0.7
KSRS pmax pmax
comp=Z,10.0nm,0.9s
KSRS MLR MLR
comp=Z,3μm,19.5s
WSAR Wadi Sarin 44.58 302 LR LR 03 27 42.2
comp=Z,1μm,20.0s,baz=124,slow=35
UZB Uzynbulak 44.84 339 *i* P P 03 09 41.8 -0.7
comp=Z,241nm,1.3s
UZB *e*S **S 03 16 18.6 +0.1**
UZB *e*SS **SS 03 19 42.5 +2.2**
UZB LR LR 03 29 37.4
comp=Z,456nm,15.6s
SATY Saty 44.99 339 *i* P P 03 09 42.6 -1.0
comp=Z,708nm,1.3s
SATY *e*S **S 03 16 21.2 +0.7**
SATY LR LR 03 32 11.9
comp=Z,2μm,16.6s
ZHN Zhinishke 45.07 339 eP P 03 09 43.8 -0.5
comp=Z,188nm,1.5s
BIDO Bidbid 45.12 302 P P 03 09 47.1 +2.3
SNR=10
BIDO P P **03 09 47.1 +2.3**
SNR=10
SNY Shenyang 45.49 26 ||P P 03 09 46.1 -1.3
SNY S **S 03 16 24.8 -2.6**
SNY PMZ
comp=Z,11nm,0.5s
SNY PMZ
comp=Z,190nm,4.6s
SNY LN
comp=Z,10μm,18.6s
SNY LE
comp=Z,9μm,15.7s
SNY LZ
comp=Z,11μm,18.6s
QIS Mount Isa 45.52 121 P P 03 09 46.0 -2.0
baz=46,SNR=17
MDOK Medeo 45.59 337 *i* P P 03 09 47.3 -1.1
comp=Z,635nm,1.5s
MDOK *e*S **S 03 16 28.8 -0.4**
MDOK *e*SS **SS 03 19 54.1 +0.6**
MDOK LR LR 03 30 41.7
comp=Z,2μm,16.6s
AAA Alma-Ata 45.72 337 eP P 03 09 49.9 +0.6
AAA *e*S **S 03 16 28.4 -2.5**
AAA pmax pmax
comp=Z,100nm,0.3s
AAA smax smax
comp=E,2μm,5.3s
AAA MLR MLR
comp=Z,5μm,18.0s
TKM2 Tokmak 2 45.96 336 eP P 03 09 50.8 -0.6
TKM2 pmax pmax
comp=Z,71nm,1.1s
TKM2 MLR MLR
comp=Z,3μm,21.0s
TKM2 Tokmak 2 45.96 336 eP P 03 09 50.8 -0.6
comp=Z,71nm,1.1s
TKM2 LR LR
comp=Z,3μm,21.0s
AAK Ala-Archa 46.18 335 P P 03 09 52.1 -1.0
comp=Z,23nm,1.0s,baz=144,slow=6.2,SNR=36
AAK Ala-Archa 46.18 335 eP P 03 09 53.4 +0.3
AAK pmax pmax
comp=Z,71nm,0.8s
AAK Ala-Archa 46.18 335 P P 03 09 55.7 +2.6
SNR=39
AAK P P **03 09 55.7 +2.6**
SNR=39
AAK Ala-Archa 46.18 335 eP P 03 09 54.4 +1.3
comp=Z,66nm,1.1s
AAK LR LR
comp=Z,6μm,20.0s
SONM Songino Array 46.24 7 P P 03 09 52.5 -1.0
comp=Z,15nm,1.0s,baz=191,slow=8.8,SNR=46
SONM PcP **PcP 03 11 28.9 +0.1**
comp=Z,5.6nm,0.9s,baz=201,slow=2.9,SNR=3.8
SONM ScP **ScP 03 15 22.4 +2.2**
comp=Z,0.9nm,0.8s,baz=191,slow=2.9,SNR=3.6
SONM LR LR 03 31 23.8
comp=Z,10μm,19.4s,baz=186,slow=39
SONA1 Songino Array 46.25 7 eP P 03 09 52.2 -1.3
FRU Bishkek 46.29 335 eP P 03 09 53.5 -0.3
FRU *i* 03 10 11.5
FRU *e*S **S 03 16 40.0 +0.9**
FRU pmax pmax
comp=Z,265nm,2.3s
FRU smax smax
comp=E,420nm,3.5s
FRU MLR MLR
comp=E,4μm,20.5s
ULN Ulaanbaatar 46.35 7 *d* *i*P P 03 09 53.2 -1.2
ULN pmax pmax
comp=Z,35nm,1.7s
ULN Ulaanbaatar 46.35 7 P P 03 09 53.6 -0.7
SNR=19
ULN P P **03 09 53.6 -0.7**
SNR=19
ULN Ulaanbaatar 46.35 7 eP P 03 09 53.6 -0.7
comp=Z,39nm,1.4s
ULN LR LR
comp=Z,6μm,18.0s
COEN Coen 46.44 111 P P 03 09 55.1 -0.2
baz=46,SNR=7.1
COEN Coen 46.44 111 eP P 03 09 53.2 -2.1
comp=Z,49nm,1.2s
COEN LR LR
comp=Z,3μm,21.0s
EKS2 Erkin-Say 46.51 334 eP P 03 09 54.7 -1.0
EKS2 pmax pmax
comp=Z,38nm,0.8s
EKS2 MLR MLR
comp=Z,4μm,21.0s
EKS2 Erkin-Say 46.51 334 eP P 03 09 54.7 -1.0
comp=Z,38nm,0.8s
EKS2 LR LR
comp=Z,4μm,21.0s
MK01 Makanchi Array 47.07 344 eP P 03 09 58.0 -1.8
MK31 Makanchi Array 47.10 344 eP P 03 09 58.7 -1.3
MK31 Makanchi Array 47.10 344 eP P 03 09 58.7 -1.3
MKAR Makanchi Array 47.10 344 P P 03 09 58.6 -1.5
comp=Z,28nm,0.9s,baz=148,slow=7.1,SNR=39
MKAR LR LR 03 32 41.6
comp=Z,2μm,20.6s,baz=159,slow=40
MKAR Makanchi Array 47.10 344 eP P 03 09 58.7 -1.3
MKAR Makanchi Array 47.10 344 eP P 03 09 58.7 -1.3
ZSN Zaisan 47.17 346 *i* P P 03 09 59.5 -1.1
comp=Z,266nm,1.0s
ZSN *e*S **S 03 16 51.4 -0.1**
ZSN LR LR 03 30 30.1
comp=Z,752nm,12.4s
MAKZ Makanchi 47.20 344 eP P 03 09 59.3 -1.5
MAKZ pmax pmax
comp=Z,17nm,0.8s
MAKZ Makanchi 47.20 344 eP P 03 09 59.3 -1.5
comp=Z,17nm,0.8s
UOSS Minazif 47.28 303 eP P 03 10 02.5 +0.6
comp=Z,4.4nm,1.6s
UOSS LR LR
comp=Z,2μm,22.0s
ASHO Ashiyiah 47.30 302 *i* P P 03 10 03.6 +1.5
SNR=7.3
FAQ Al Faqa, Dubai 47.72 302 P P 03 10 06.4 +1.1
NAZ Nazwa, Dubai 47.75 303 P P 03 10 06.6 +1.1
IUG Iuzhnay 47.84 331 *i* P P 03 10 04.4 -1.6
comp=Z,1μm,1.0s
IUG *e*S **S 03 17 01.9 +0.6**
IUG LR LR 03 30 11.6
comp=Z,2μm,19.3s
CN2 Changchun 47.89 26 eP P 03 10 05.9 -0.4
CN2 PcP **PcP 03 11 34.8 +0.3**
CN2 *e*S **S 03 17 01.4 -0.4**
CN2 SS **SS 03 20 25.3 -5.5**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,9μm,17.0s
CN2 LE
comp=Z,11μm,17.0s
CN2 LZ
comp=Z,3μm,18.0s
JCJ Chichijima 48.31 55 LR LR 03 30 36.1
comp=Z,577nm,19.0s,baz=281,slow=36
KKAR Karatay Array 48.34 332 eP P 03 10 10.3 +0.6
KKAR Karatay Array 48.34 332 eP P 03 10 10.3 +0.6
MANU Manus Island 48.44 94 eP P 03 10 09.7 -1.3
comp=Z,111nm,1.4s
INU Inuyama 48.48 42 PFAKE 03 10 20.0 +9.0
INU LR LR
comp=Z,4μm,22.0s
ZAK Zakamensk 48.49 4 eP P 03 10 10.9 0.0
ZAK pmax pmax
comp=Z,10.0nm,1.6s
MTSU Mount Surprise 48.75 116 P P 03 10 12.0 -1.3
baz=49,SNR=31
BBOO Buckleboo 49.08 138 eP P 03 10 12.5 -3.1
comp=Z,30nm,1.0s
BBOO LR LR
comp=Z,4μm,19.0s
PMG Port Moresby 49.18 104 *i* P P 03 10 14.4 -2.3
PMG pmax pmax
comp=Z,96nm,1.2s
PMG Port Moresby 49.18 104 PFAKE 03 10 30.0 +13
PMG LR LR
comp=Z,2μm,20.0s
MOY Mondy 49.67 2 eP P 03 10 20.6 +0.7
MOY pmax pmax
comp=Z,29nm,2.7s
MSHR Mys Shultsa 49.68 31 eP P 03 10 19.8 -0.1
TLY Talaya 49.80 4 P P 03 10 20.3 -0.5
comp=Z,2.8nm,0.6s,baz=201,slow=9.9,SNR=5.3
TLY LR LR 03 32 23.5
comp=Z,2μm,20.1s,baz=179,slow=37
TLY Talaya 49.80 4 eP P 03 10 21.6 +0.8
TLY *e*S **S 03 17 32.0 +3.5**
TLY pmax pmax
comp=Z,13nm,1.0s
TLY MLR MLR
comp=Z,5μm,16.0s
MAJO Matsushiro 49.95 42 eP P 03 10 22.0 -0.2
MAJO pmax pmax
comp=Z,93nm,1.3s
MAJO Matsushiro 49.95 42 eP P 03 10 20.5 -1.7
comp=Z,27nm,1.3s
MAJO LR LR
comp=Z,3μm,19.0s
MAT Matsushiro 49.95 42 P P 03 10 21.2 -1.0
MAT S **S 03 17 32.8 +1.7**
MJB9 Matsu-Tunnel 49.95 42 eP P 03 10 21.5 -0.8
comp=Z,7.1nm,1.3s
MJB9 LR LR
comp=Z,700nm,20.0s
MJAR Matsushiro Arr 49.96 42 P P 03 10 21.6 -0.7
comp=Z,6.5nm,0.9s,baz=226,slow=6.8,SNR=20
MJAR PcP **PcP 03 11 42.9 +0.7**
comp=Z,3.5nm,1.0s,baz=258,slow=4.2,SNR=4.2
MJAR LR LR 03 32 58.0
comp=Z,2μm,18.8s,baz=230,slow=38
MDJ Mudanjiang 50.40 28 P P 03 10 25.6 +0.2
MDJ pP pP 03 10 31.9 -2.3
MDJ sP sP 03 10 34.5 -3.2
MDJ PP **PP 03 12 20.8 -0.5**
MDJ S **S 03 17 33.4 -3.6**
MDJ ScS **ScS 03 20 14.8 +0.2**
MDJ SS **SS 03 21 12.1 +0.9**
MDJ PMZ
comp=Z,100nm,6.6s
MDJ LN
comp=Z,6μm,20.3s
MDJ LE
comp=Z,11μm,20.3s
MDJ LZ
comp=Z,10μm,13.6s
MDJ Mudanjiang 50.40 28 PFAKE 03 10 40.0 +15
MDJ LR LR
comp=Z,6μm,18.0s
IRK Irkutsk 50.41 4 eP P 03 10 25.7 +0.3
IRK pmax pmax
comp=Z,48nm,2.0s
VLA Vladivostok 50.44 31 ||*i*P P 03 10 23.1 -2.6
VLA *i* *PP **pP 03 10 33.5 -1.0**
VLA *i* *SP **sP 03 10 38.6 +0.7**
VLA pmax pmax
comp=Z,7.0nm,0.6s
HIA Hailar 50.44 17 eP P 03 10 26.8 +1.1
HIA pmax pmax
comp=Z,10.0nm,1.0s
HIA Hailar 50.44 17 PFAKE 03 10 40.0 +14
HIA LR LR
comp=Z,4μm,22.0s
SEM Semipalatinsk 50.95 345 eP P 03 10 28.3 -1.2
comp=Z,245nm,1.1s
SEM *e*S **S 03 17 44.0 -0.5**
SEM LR LR 03 32 27.6
comp=Z,798nm,18.3s
CTAO Charters Tower 51.13 118 eP P 03 10 30.3 -1.1
CTAO pmax pmax
comp=Z,162nm,1.8s
CTAO MLR MLR
comp=Z,2μm,20.0s
CTAO Charters Tower 51.13 118 eP P 03 10 30.3 -1.1
comp=Z,162nm,1.8s
CTAO LR LR
comp=Z,2μm,20.0s
USRK Ussuriysk Ar. 51.26 30 P P 03 10 31.8 -0.1
comp=Z,7.5nm,0.9s,baz=233,slow=7.3,SNR=13
USRK LR LR 03 35 09.7
comp=Z,5μm,19.1s,baz=211,slow=40
HTT Hallett 51.38 137 P P 03 10 31.9 -1.2
baz=51,SNR=11
KURBB Kurchatov Arra 51.62 343 P P 03 10 32.8 -1.7
comp=Z,32nm,1.0s,baz=160,slow=6.7,SNR=60
KURBB PcP **PcP 03 11 48.8 +0.8**
comp=Z,6.1nm,0.7s,baz=154,slow=3.5,SNR=6.0
KURK Kurchatov 51.68 344 eP P 03 10 33.5 -1.4
KURK 03 11 48.8
KURK pmax pmax
comp=Z,172nm,1.0s
KURK MLR MLR
comp=Z,8μm,18.0s
KURK Kurchatov 51.68 344 eP P 03 10 33.5 -1.4
comp=Z,172nm,1.0s
KURK PcP **PcP 03 11 48.8 +0.6**
KURK LR LR
comp=Z,8μm,18.0s
GEYT Alibeck 51.94 319 P P 03 10 36.3 -0.9
comp=Z,28nm,1.0s,baz=138,slow=6.9,SNR=36
GEYT LR LR 03 35 52.8
comp=Z,3μm,18.9s,baz=120,slow=40
STKA Stephens Creek 52.42 133 P P 03 10 38.6 -2.2
comp=Z,22nm,0.8s,baz=311,slow=7.9,SNR=32
STKA LR LR 03 34 58.3
comp=Z,3μm,20.9s,baz=293,slow=38
STKA Stephens Creek 52.42 133 eP P 03 10 38.8 -2.0
comp=Z,17nm,1.4s
ZAA0 Zalesovo Array 53.24 350 eP P 03 10 44.7 -1.7
ZALV Zalesovo Beam 53.24 350 P P 03 10 44.7 -1.7
comp=Z,36nm,0.7s,baz=178,slow=6.6,SNR=36
ZALV LR LR 03 38 14.4
comp=Z,3μm,18.5s,baz=214,slow=42
ZALV Zalesovo Beam 53.24 350 P P 03 10 44.7 -1.7
ZALV pmax pmax
comp=Z,36nm,0.7s
ZALV MLR MLR
comp=Z,3μm,18.5s
RABL Rabaul 53.39 97 PFAKE 03 11 00.0 +12
RABL LR LR
comp=Z,1μm,22.0s
NVS Novosibirsk 54.38 349 ||*i*P P 03 10 54.6 -0.2
NVS pmax pmax
comp=N,21nm,1.3s
NVS pmax pmax
comp=E,21nm,1.3s
NVS pmax pmax
comp=Z,37nm,1.3s
KLR Kul'dur 54.85 26 P P 03 10 58.5 +0.2
comp=Z,8.4nm,0.9s,baz=257,slow=4.9,SNR=21
KLR LR LR 03 37 19.7
comp=Z,4μm,19.2s,baz=210,slow=39
CMSA Cobar Meteorol 55.28 131 P P 03 10 59.2 -2.6
baz=55,SNR=21
DAMY Dhamar 55.43 286 PFAKE 03 11 20.0 +17
DAMY LR LR
comp=Z,2μm,21.0s
HABR Khabarovsk 55.79 28 eP P 03 11 02.2 -2.9
HABR *e**PP **pP 03 11 12.1 -1.8**
HABR *e**SP **sP 03 11 16.3 -1.1**
HABR *e*PPP PPP 03 14 20.3
HABR *e*S **S 03 18 47.4 -2.8**
HABR *e**SS **sS 03 19 04.3 -0.5**
HABR *e*SS **SS 03 22 34.3 -1.8**
HABR pmax pmax
comp=Z,18nm,0.9s
HABR pmax pmax
comp=Z,22nm,0.9s
HABR pmax pmax
comp=Z,28nm,0.9s
HABR pmax pmax
comp=E,27nm,0.9s
HABR pmax pmax
comp=N,15nm,0.9s
HABR MLR MLR
comp=Z,8μm,17.0s
VOSK Vostochnaya 55.82 340 eP P 03 11 03.1 -2.2
VOSK pmax pmax
comp=Z,37nm,1.0s
VOSK MLR MLR
comp=Z,2μm,20.0s
VOSK Vostochnaya 55.82 340 eP P 03 11 03.1 -2.2
comp=Z,37nm,1.0s
VOSK LR LR
comp=Z,2μm,20.0s
ERM Erimo 56.19 39 eP P 03 11 06.6 -1.4
ERM pmax pmax
comp=Z,9.0nm,1.0s
ERM Erimo 56.19 39 PFAKE 03 11 20.0 +12
ERM LR LR
comp=Z,3μm,18.0s
BVAR Borovoye Array 56.27 340 P P 03 11 06.2 -2.3
comp=Z,18nm,0.8s,baz=141,slow=8.6,SNR=39
BRVK Borovoye 56.34 340 *i* P P 03 11 07.0 -1.9
BRVK pmax pmax
comp=Z,100nm,1.2s
BRVK Borovoye 56.34 340 eP P 03 11 07.2 -1.7
comp=Z,74nm,1.0s
BRVK LR LR
comp=Z,8μm,19.0s
ZRNK Zerenda 56.71 339 eP P 03 11 09.8 -1.8
ZRNK pmax pmax
comp=Z,20nm,0.8s
ZRNK MLR MLR
comp=Z,3μm,20.0s
ZRNK Zerenda 56.71 339 eP P 03 11 09.8 -1.8
comp=Z,20nm,0.8s
ZRNK LR LR
comp=Z,3μm,20.0s
ASAJ Asahikawa 57.03 36 P P 03 11 15.1 +1.1
comp=Z,20nm,1.1s,baz=195,slow=13,SNR=5.0
ASAJ Asahikawa 57.03 36 eP P 03 11 14.7 +0.7
comp=Z,60nm,1.4s
BOD Bodaibo 57.05 9 eP P 03 11 10.2 -3.7
BOD pmax pmax
comp=Z,30nm,1.0s
EIDS Eidsvold 57.12 122 P P 03 11 14.6 -0.3
baz=57,SNR=6.4
EIDS Eidsvold 57.12 122 eP P 03 11 14.2 -0.8
comp=Z,55nm,1.4s
EIDS LR LR
comp=Z,3μm,20.0s
ABKAR Akbulak array 57.84 331 eP P 03 11 17.7 -2.0
TOO Toolangi 58.13 137 P P 03 11 22.7 +0.8
baz=58,SNR=8.3
YNG Young 58.58 133 P P 03 11 24.0 -1.1
baz=59,SNR=8.2
CLNS Chul'man 58.58 16 eP P 03 11 23.6 -1.1
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=Z,17nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS MLR MLR
comp=Z,4μm,12.0s
CLNS MLR MLR
comp=N,2μm,12.0s
CLNS MLR MLR
comp=E,2μm,11.0s
YSS Yuzh-Sakhalins 58.77 34 ||eP P 03 11 27.0 +0.9
YSS *e* 03 11 34.0
YSS *e*S **S 03 19 26.0 -3.4**
YSS pmax pmax
comp=Z,50nm,1.0s
YSS smax smax
comp=Z,2μm,16.0s
YSS smax smax
comp=N,2μm,15.0s
YSS smax smax
comp=E,2μm,18.0s
YSS Yuzh-Sakhalins 58.77 34 PFAKE 03 11 40.0 +14
YSS LR LR
comp=Z,600nm,20.0s
ARMA Armidale 59.42 127 PFAKE 03 11 40.0 +8.9
ARMA LR LR
comp=Z,5μm,18.0s
CAN Canberra 59.49 133 eP P 03 11 29.6 -1.8

CAN pmax pmax
comp=Z,37nm,1.0s
CAN MLR MLR
comp=Z,3μm,20.0s
CAN Canberra 59.49 133 *e*P **P 03 11 29.6 -1.8**
comp=Z,37nm,1.0s
CAN LR LR
comp=Z,3μm,20.0s
AKTO Aktyubinsk 59.56 331 P **P 03 11 29.4 -2.2**
comp=Z,13nm,0.9s,baz=128,slow=7.6,SNR=27
FURI Furi 60.48 279 PFAKE 03 11 50.0 +11
FURI LR LR
comp=Z,2μm,22.0s
KUR Kuril'sk 60.79 38 *i* P **P 03 11 39.6 -0.5**
TYV Tymovskoe 61.08 30 *e*P **P 03 11 39.0 -2.9**
NKL Nikolayevsk 61.59 27 *e*P **P 03 11 42.0 -3.3**
NKL *e* 03 20 08.0
NKL *e* 03 21 36.0
NKL *e* 03 24 00.5
NKL pmax pmax
comp=Z,33nm,1.1s
NKL MLR MLR
comp=N,3μm,17.0s
NKL MLR MLR
comp=E,5μm,17.0s
NKL MLR MLR
comp=Z,9μm,17.0s
HNR Honiara 61.65 102 LR LR 03 40 58.6
comp=Z,1μm,21.9s,baz=278,slow=38
KMBO Kilima Mbogo 61.88 268 P **P 03 11 49.3 +0.9**
comp=Z,5.5nm,0.8s,baz=57,slow=12,SNR=10
KMBO LR LR 03 34 06.3
comp=Z,2μm,21.9s,baz=88,slow=32
KMBO Kilima Mbogo 61.88 268 *e*P **P 03 11 48.9 +0.5**
KMBO pmax pmax
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 61.88 268 *e*P **P 03 11 48.9 +0.5**
comp=Z,11nm,0.9s
GNI Garni 62.14 315 *i* P **P 03 11 50.4 +0.8**
SNR=11
GNI Garni 62.14 315*c i*P **P 03 11 48.1 -1.5**
GNI pmax pmax
comp=Z,250nm,1.7s
GNI Garni 62.14 315 P **P 03 11 50.4 +0.8**
SNR=20
GNI P **P 03 11 50.4 +0.8**
SNR=20
GNI Garni 62.14 315 *e*P **P 03 11 50.3 +0.8**
comp=Z,63nm,1.1s
GNI *e*PcP **PcP 03 12 23.7 -5.9**
GNI LR LR
comp=Z,1μm,20.0s
TAU Tasmania Unive 62.14 142 PFAKE 03 12 00.0 +11
TAU LR LR
comp=Z,4μm,20.0s
DGRG David-gareji 62.23 317 P **P 03 11 50.9 +0.9**
DGRG David-gareji 62.23 317 P **P 03 11 50.9 +0.9**
TBLG Delisi 62.78 317 P **P 03 11 53.7 +0.1**
TBLG Delisi 62.78 317 P **P 03 11 53.7 +0.1**
SVE Sverdlovsk 62.79 337*d i*P **P 03 11 53.5 +0.1**
SVE *e*S **S 03 20 17.4 -3.2**
SVE pmax pmax
comp=Z,94nm,1.4s
SVE MLR MLR
comp=Z,5μm,21.0s
GUDG Gudauri 63.26 318 P **P 03 11 58.7 +1.7**
ARU Arti 63.33 336 P **P 03 11 55.3 -1.6**
comp=Z,6.9nm,0.2s,baz=137,slow=5.2,SNR=30
ARU Arti 63.33 336*c i*P **P 03 11 57.0 +0.1**
ARU 03 12 33.8
ARU 03 14 17.5
ARU PPP PPP 03 15 43.8
ARU S **S 03 20 29.6 +2.3**
ARU 03 21 49.4
ARU SS **SS 03 24 35.3 +1.0**
ARU pmax pmax
comp=Z,70nm,1.7s
ARU MLR MLR
comp=Z,6μm,21.0s
ARU Arti 63.33 336 *e*P **P 03 11 56.5 -0.5**
comp=Z,97nm,1.6s
ARU LR LR
comp=Z,6μm,20.0s
AKH Akhalkalaki 63.51 316 P **P 03 11 59.2 +0.6**
AKH Akhalkalaki 63.51 316 P **P 03 11 59.2 +0.6**
ZEI Tsey 63.77 318 *e*P **P 03 11 59.0 -1.4**
ZEI pmax pmax
comp=Z,83nm,0.7s
ONI Oni 64.00 317 P **P 03 12 02.5 +0.8**
ONI Oni 64.00 317 P **P 03 12 02.5 +0.8**
SFNV Sufian 64.24 310 *i* P **P 03 12 03.5 0.0**
NCK Nalchik 64.27 318 *e*P **P 03 12 02.9 -0.5**
NCK pmax pmax
comp=Z,28nm,1.2s
YAK Yakutsk 64.29 15 LR LR 03 42 53.8
comp=Z,5μm,18.1s,baz=217,slow=39
YAK Yakutsk 64.29 15 *e*P **P 03 12 02.2 -0.9**
YAK *e**PP **pP 03 12 09.8 -2.3**
YAK *e* 03 12 37.0
YAK *e* 03 14 22.2
YAK *e*S **S 03 20 38.6 -0.3**
YAK *e**SS **sS 03 20 49.6 -4.1**
YAK *e* 03 21 56.0
YAK *e*SSS SSS 03 27 40.8
YAK pmax pmax
comp=Z,49nm,1.4s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,30nm,1.5s
YAK pmax pmax
comp=Z,14nm,0.3s
YAK smax smax
comp=E,97nm,2.5s
YAK MLR MLR
comp=Z,6μm,16.0s
YAK MLR MLR
comp=E,2μm,16.0s
YAK MLR MLR
comp=N,5μm,16.0s
NEY Neytrino 64.75 318 *e*P **P 03 12 05.2 -1.6**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 64.82 318 P **P 03 12 06.0 -0.9**
comp=Z,36nm,0.9s,baz=100,slow=5.4,SNR=21
KBZ LR LR 03 44 10.7
comp=Z,1μm,21.9s,baz=118,slow=40
KIV Kislovodsk 65.05 318 *i* P **P 03 12 09.0 +0.4**
SNR=12
KIV Kislovodsk 65.05 318 *e*P **P 03 12 08.0 -0.6**
KIV *e* 03 12 39.9
KIV *e*S **S 03 20 48.7 -0.6**
KIV *e*SS **SS 03 25 03.2 +1.4**
KIV pmax pmax
comp=Z,69nm,1.1s
KIV pmax pmax
comp=Z,52nm,5.5s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 65.05 318 P **P 03 12 09.6 +1.0**
SNR=22
KIV P **P 03 12 09.6 +1.0**
SNR=22
KIV Kislovodsk 65.05 318 *e*P **P 03 12 09.3 +0.7**
comp=Z,72nm,1.1s
KIV *e*PP **PP 03 14 36.7 +4.7**
KIV LR LR
comp=Z,2μm,22.0s
TOTH TOTAH 66.30 306 *i* P **P 03 12 17.1 +0.2**
SOC Sochi 66.91 317 *e*P **P 03 12 20.2 -0.2**
SOC *e* 03 14 51.1
SOC *e*PPP PPP 03 16 25.9
SOC *e*S **S 03 21 10.2 -1.5**
SOC *e*SS **SS 03 25 22.3 -8.1**
SOC pmax pmax
comp=Z,58nm,0.9s
SOC MLR MLR
comp=Z,1μm,21.0s
DRWC Darouich 66.95 309 *i* P **P 03 12 21.9 +1.0**
BTCH Batrach 66.96 309 *i* P **P 03 12 21.8 +0.8**
ARNB Al Arnab 67.29 308 *i* P **P 03 12 23.7 +0.5**
NRIK Noril'sk 67.82 356 P **P 03 12 24.7 -1.0**
comp=Z,70nm,1.1s,baz=162,slow=5.7,SNR=47
NRIK LR LR 03 44 01.8
comp=Z,4μm,19.3s,baz=168,slow=38

SKR Severo-Kuril's 68.24 35 *i* P **P 03 12 28.2 -0.5**
MIR Mirnyy 68.39 183 *e*P **P 03 12 31.0 +1.8**
MIR pmax pmax
comp=Z,6.0nm,1.5s
CASY Casey 68.47 175 *e*P **P 03 12 30.3 +0.5**
comp=Z,68nm,1.0s
CASY LR LR
comp=Z,2μm,18.0s
VRH Novokhopyorsk 68.64 325 *e*P **P 03 12 29.9 -1.3**
VRH *e*S **S 03 21 25.9 -6.3**
VRH pmax pmax
comp=Z,100nm,1.4s
VRH smax smax
comp=N,850nm,6.8s
VRH MLR MLR
comp=Z,3μm,27.0s
ANN Anapa 68.87 318 *e*P **P 03 12 30.0 -2.7**
ANN *e*S **S 03 21 33.1 -2.0**
ANN pmax pmax
comp=Z,22nm,0.9s
ANN MLR MLR
comp=Z,995nm,19.0s
CSS Mathiatis 69.17 307 *e*P **P 03 12 35.1 +0.2**
comp=Z,16nm,1.2s
CSS LR LR
comp=Z,500nm,18.0s
DZM Mont Dzumac 69.83 114 *e*P **P 03 12 39.0 -0.3**
comp=Z,80nm,1.6s
DZM *e*S **S 03 21 49.0 +1.5**
comp=Z,605nm,29.0s
DZM *e*SS **SS 03 26 17.2 +0.5**
comp=Z,1μm,27.9s
DZM *e*LR LR 03 34 00.3
comp=Z,4μm,24.1s
DZM Mont Dzumac 69.83 114 *e*P **P 03 12 38.6 -0.6**
comp=Z,78nm,1.6s
DZM LR LR
comp=Z,2μm,20.0s
MA2 Magadan 69.94 25 P **P 03 12 39.3 +0.2**
comp=Z,41nm,1.1s,baz=255,slow=6.7,SNR=8.2
MA2 LR LR 03 45 12.4
comp=Z,1μm,18.6s,baz=246,slow=38
BR131 Keskin Array S 70.07 312 *e*P **P 03 12 39.5 -1.0**
BRTR Keskin Array B 70.07 312 P **P 03 12 38.7 -1.8**
comp=Z,13nm,0.8s,baz=126,slow=5.6,SNR=42
BRTR PKPPKP **P'P'df 03 40 44.5 -0.7**
comp=Z,0.4nm,0.4s,baz=341,slow=3.1,SNR=4.1
BRTR LR LR 03 44 54.7
comp=Z,1μm,21.9s,baz=104,slow=37
VSR Storozhevoye 70.12 325 *e*P **P 03 12 39.5 -0.8**
VSR *e*S **S 03 21 40.7 -8.8**
VSR *e*SS **SS 03 26 15.4 -4.3**
VSR pmax pmax
comp=Z,70nm,1.6s
VSR smax smax
comp=N,660nm,8.1s
VSR MLR MLR
comp=Z,2μm,26.0s
PEA0 Petropavlovsk- 70.16 33 *e*P **P 03 12 39.7 -0.9**
PEA0B Petropavlovsk- 70.16 33 *e*P **P 03 12 40.6 0.0**
comp=Z,38nm,1.1s
PEA0B LR LR
comp=Z,2μm,18.0s
PETK Petropavlovsk- 70.16 33 P **P 03 12 39.6 -1.0**
comp=Z,12nm,0.8s,baz=200,slow=3.9,SNR=11
PETK LR LR 03 44 30.9
comp=Z,1μm,18.7s,baz=230,slow=37
PET Petropavlovsk 70.65 34 *e*P **P 03 12 45.2 +1.7**
PET *e*S **S 03 21 56.4 +0.7**
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,2μm,16.0s
PET Petropavlovsk 70.65 34 PFAKE 03 13 00.0 +16
PET LR LR
comp=Z,2μm,18.0s
ANTO Ankara 70.74 312 *e*P **P 03 12 44.8 +0.3**
ANTO *e* 03 15 16.1
ANTO pmax pmax
comp=Z,24nm,1.0s
ANTO MLR MLR
comp=Z,2μm,22.0s
ANTO Ankara 70.74 312 *e*P **P 03 12 44.8 +0.3**
comp=Z,24nm,1.0s
ANTO *e*PP **PP 03 15 16.1 -5.3**
ANTO LR LR
comp=Z,2μm,22.0s
BR231 Keskin MP Arra 70.74 312 *e*P **P 03 12 43.3 -1.3**
LPSR Galich'ya Gora 70.80 326 *e*P **P 03 12 43.8 -0.6**
LPSR *e*S **S 03 21 48.7 -8.7**
LPSR pmax pmax
comp=Z,50nm,1.3s
LPSR smax smax
comp=N,570nm,5.6s
LPSR MLR MLR
comp=Z,2μm,24.0s
SIM Simferopol' 71.16 317*c e*P **P 03 12 45.8 -1.0**
SIM *e*S **S 03 22 03.0 +1.1**
SIM pmax pmax
comp=Z,33nm,0.8s
ISP Isparta 72.00 309 P **P 03 12 51.4 -0.8**
ISP Isparta 72.00 309 PFAKE 03 13 00.0 +7.8
ISP LR LR
comp=Z,2μm,19.0s
LSZ Lusaka 72.09 253 *e*P **P 03 12 54.3 +1.2**
LSZ pmax pmax
comp=Z,21nm,1.3s
LSZ MLR MLR
comp=Z,2μm,21.0s
LSZ Lusaka 72.09 253 *e*P **P 03 12 54.3 +1.2**
comp=Z,21nm,1.3s
LSZ LR LR
comp=Z,2μm,21.0s
TIXI Tiksi 72.23 10 P **P 03 12 49.4 -3.3**
comp=Z,79nm,1.0s,baz=205,slow=3.6,SNR=105
TIXI Tiksi 72.23 10 *e*P **P 03 12 50.7 -2.0**
TIXI pmax pmax
comp=Z,186nm,1.2s
TIXI MLR MLR
comp=Z,4μm,20.0s
TIXI Tiksi 72.23 10 *e*P **P 03 12 50.7 -2.0**
comp=Z,186nm,1.2s
TIXI LR LR
comp=Z,4μm,20.0s
MOS Moscow 72.75 329 *e*P **P 03 12 53.2 -2.9**
MOS *e*S **S 03 22 16.2 -3.5**
MOS pmax pmax
comp=Z,200nm,1.5s
MOS pmax pmax
comp=Z,118nm,1.2s
MOS smax smax
comp=E,1μm,5.7s
MOS smax smax
comp=N,1μm,5.0s
MOS MLR MLR
comp=N,2μm,20.0s
MOS MLR MLR
comp=E,1μm,20.0s
MOS MLR MLR
comp=Z,3μm,20.0s
OBN Obninsk 73.06 328 P **P 03 12 57.6 -0.3**
comp=Z,50nm,1.0s,baz=76,slow=4.3
OBN LR LR 03 48 43.2
comp=Z,1μm,21.5s,baz=160,slow=39
OBN Obninsk 73.06 328*c i*P **P 03 12 57.8 -0.1**
OBN *e**PP **pP 03 13 07.6 +0.6**
OBN *e**SP **sP 03 13 11.1 +0.7**
OBN *i* S **S 03 22 22.1 -1.2**
OBN *e* 03 22 58.2
OBN *e*SS **SS 03 27 09.5 +4.9**
OBN pmax pmax
comp=Z,132nm,1.7s
OBN MLR MLR
comp=Z,2μm,21.0s
OBN Obninsk 73.06 328 *e*P **P 03 12 57.4 -0.5**
comp=Z,92nm,1.2s
OBN *e*PP **PP 03 15 42.8 +1.9**
KULA Kula-Manisa 73.58 310 P **P 03 12 59.6 -1.9**
MAW Mawson 73.78 194 P **P 03 13 02.2 +0.3**
comp=Z,20nm,0.9s,baz=28,slow=8.5,SNR=20
MAW LR LR 03 38 33.5
comp=Z,3μm,21.6s,baz=36,slow=30
MAW Mawson 73.78 194 P **P 03 13 03.2 +1.3**
baz=74,SNR=8.4
MAW Mawson 73.78 194 *e*P **P 03 13 03.1 +1.3**
MAW pmax pmax
comp=Z,9.0nm,1.1s
MAW Mawson 73.78 194 *e*P **P 03 13 03.1 +1.3**
comp=Z,9.2nm,1.1s
ISK Istanbul-Kandi 73.78 312 P **P 03 13 02.5 0.0**
KLMR Klimovskoe 73.98 334 *e*P **P 03 13 01.2 -2.1**
KLMR pmax pmax
comp=Z,52nm,1.3s
KARP Karpathos 74.24 306 *e*P **P 03 13 05.4 0.0**
comp=Z,29nm,1.0s
KARP LR LR
comp=Z,700nm,22.0s
TIRR Tirgusor 74.97 316⇓*i*P **P 03 13 09.6 +0.3**
TIRR Tirgusor 74.97 316⇓P **P 03 13 09.6 +0.3**
TIRR Tirgusor 74.97 316 *e*P **P 03 13 07.9 -1.4**
comp=Z,34nm,1.2s
TIRR *e*PP PP 03 15 47.9 -9.4
TIRR LR LR
comp=Z,700nm,22.0s
KIS Kishinev 75.26 318 *e*P **P 03 13 11.0 0.0**
KIS *e*S **S 03 22 48.0 -0.4**
CFR Carcaliu 75.31 316⇑*i*P **P 03 13 11.6 +0.3**
CFR Carcaliu 75.31 316⇑P **P 03 13 11.6 +0.3**
PRD Provadia 75.42 314 P **P 03 13 12.9 +0.9**
PRK Paraskevi 75.54 310 P **P 03 13 09.0 -3.8**
LAST Lasithi 75.54 306 PFAKE 03 13 30.0 +17
LAST LR LR
comp=Z,2μm,21.0s
EDRB Edirne 75.64 313 P **P 03 13 13.3 0.0**
SANT Santorini 75.73 307 PFAKE 03 13 30.0 +16
SANT LR LR
comp=Z,900nm,19.0s
LBTB Lobatse 75.85 244 *e*P **P 03 13 15.3 +0.3**
LBTB pmax pmax
comp=Z,28nm,1.0s
LBTB Lobatse 75.85 244 *e*P **P 03 13 15.3 +0.3**
comp=Z,28nm,1.0s
JMB Yambol 75.87 313 P **P 03 13 15.5 +0.9**
ENEZ Enez 75.88 311 P **P 03 13 14.9 +0.2**
AKASG Malin Array Be 75.89 322 P **P 03 13 13.9 -0.6**
comp=Z,11nm,1.0s,baz=85,slow=5.1,SNR=45
AKASG PP **PP 03 16 04.3 -0.7**
comp=Z,1.7nm,0.7s,baz=94,slow=7.0,SNR=6.7
AKASG LR LR 03 50 14.2
comp=Z,1μm,21.6s,baz=105,slow=39
AKBB Malin Array Si 75.89 322 PFAKE 03 13 30.0 +15
AKBB LR LR
comp=Z,1μm,22.0s
KIEV Kiev 75.90 322 *e*P **P 03 13 13.6 -1.0**
KIEV pmax pmax
comp=Z,27nm,1.2s
KIEV MLR MLR
comp=Z,1μm,21.0s
KIEV Kiev 75.90 322 *e*P **P 03 13 13.6 -1.0**
comp=Z,27nm,1.2s
KIEV LR LR
comp=Z,1μm,21.0s
AK11 Malin Array Si 75.92 322 *e*P **P 03 13 13.1 -1.6**
AK11 *e*PP **PP 03 16 00.4 -4.9**
ALN Alexandroupoli 75.99 312 P **P 03 13 15.3 0.0**
IDI Anoyia 76.04 306 *e*P **P 03 13 15.5 -0.3**
comp=Z,35nm,1.1s
IDI LR LR
comp=Z,1μm,22.0s
SMTH Samothraki Isl 76.31 311 P **P 03 13 15.7 -1.4**
VRI Vrincioaia 76.42 317⇑*i*P **P 03 13 18.6 +0.9**
VRI Vrincioaia 76.42 317⇑P **P 03 13 18.6 +0.9**
PLOR Plostina 76.47 317⇑*i*P **P 03 13 18.6 +0.6**
PLOR Plostina 76.47 317⇑P **P 03 13 18.6 +0.6**
LIA Limnos Island 76.48 311 P **P 03 13 17.5 -0.6**
KDZ Kurdzhali 76.58 312 P **P 03 13 19.5 +0.8**
TESR Tescani 76.61 317⇓*i*P **P 03 13 18.5 -0.2**
VAM Vamos 76.61 306 P **P 03 13 19.4 +0.4**
BOSA Boshof 76.73 240 P **P 03 13 20.6 +0.7**
comp=Z,25nm,1.1s,baz=100,slow=7.1,SNR=16
BOSA LR LR 03 42 59.3
comp=Z,1μm,18.2s,baz=84,slow=32
BOSA Boshof 76.73 240 *e*P **P 03 13 20.6 +0.7**
BOSA pmax pmax
comp=Z,43nm,1.4s
BOSA Boshof 76.73 240 *e*P **P 03 13 20.6 +0.7**
comp=Z,43nm,1.4s
KARY Karystos 76.78 309 P **P 03 13 18.3 -1.5**
IMMV Iera Moni Meta 76.80 306 P **P 03 13 18.6 -1.4**
MLR Muntele Rosu 76.89 316⇓*i*P **P 03 13 20.0 -0.5**
MLR Muntele Rosu 76.89 316⇓P **P 03 13 20.0 -0.5**
MLR Muntele Rosu 76.89 316 *e*P **P 03 13 20.2 -0.3**
comp=Z,180nm,1.8s
MLR LR LR
comp=Z,1μm,20.0s
PVL Pavlikeni 76.91 314 P P 03 13 25.5 +5.0
RZN Rozhen 77.11 312 P **P 03 13 23.9 +2.0**
PTL Penteli 77.22 308 P P 03 13 16.3 -6.1
FOZ Fox Glacier 77.42 135 PFAKE 03 13 30.0 +6.7
FOZ LR LR
comp=Z,3μm,20.0s
VOIR 77.50 316⇓*i*P **P 03 13 23.3 -0.5**
VOIR 77.50 316⇓P **P 03 13 23.3 -0.5**
MICGM Minsk 77.64 326 *e*P **P 03 13 24.0 -0.3**
MICGM *e*PcP **PcP 03 13 35.0 +0.6**
MICGM *e*S **S 03 23 16.0 +1.8**
MICGM *e*SS **SS 03 28 12.0 -2.2**
MICGM *e*SSS SSS 03 31 48.0
MICGM *e*LR LR 03 46 12.0
MICGM LRM MLR 03 52 34.0
comp=Z,2.1nm,18.0s
MNK Minsk 77.64 326 *e*P **P 03 13 24.0 -0.3**
MNK *e* 03 13 35.0
MNK *e*S **S 03 23 16.0 +1.8**
MNK *e*SS **SS 03 28 12.0 -2.2**
MNK MLR MLR
comp=Z,2μm,18.0s
PGB Panagyurishte 77.65 313 P **P 03 13 24.7 0.0**
NVR Nevrokopi 77.69 312 P **P 03 13 24.5 -0.5**
KRND KRANIDI 77.70 308 P **P 03 13 23.6 -1.4**
ARR Arges 77.78 316⇑*i*P **P 03 13 25.3 -0.1**
BURAR Bucovina Array 77.78 318⇓*i*P **P 03 13 26.8 +1.4**
BURAR Bucovina Array 77.78 318⇓P **P 03 13 26.8 +1.4**
BUR08 Bucovina Ar. S 77.80 318 *e*P **P 03 13 26.5 +1.0**
MMB Musomniste 77.83 312 P **P 03 13 25.5 -0.2**
SRS Serrai 77.86 312 P **P 03 13 24.1 -1.8**
ATAL Atalanti 77.97 309 P **P 03 13 25.1 -1.4**
MPEP Malo Peshtene 78.08 314 P **P 03 13 27.3 +0.3**
DSF Desfina 78.32 309 P **P 03 13 26.6 -1.9**
RPZ Rata Peaks 78.34 135 PFAKE 03 13 40.0 +12
RPZ LR LR
comp=Z,4μm,20.0s
NACGM Naroch 78.36 326 *e* **P 03 13 27.0 -1.3**
NACGM *e*LR LR 03 46 26.0
OUZ Omahuta 78.46 126 PFAKE 03 13 40.0 +11
OUZ LR LR
comp=Z,3μm,21.0s
IDID Didziasalis 78.48 326 *e*P **P 03 13 29.8 +0.8**
IDID IAmb IAmb 03 13 33.4
comp=Z,24nm,1.0s
AGG Agios Georgios 78.54 309 *e*P **P 03 13 28.2 -1.5**
AGG pmax pmax
comp=Z,20nm,0.8s
AGG Agios Georgios 78.54 309 *e*P **P 03 13 28.2 -1.5**
comp=Z,20nm,0.8s
LIT Litokhoron 78.55 310 P **P 03 13 28.3 -1.4**
KLV Kalavryta, Ach 78.57 308 P **P 03 13 28.6 -1.3**
KALE Kalithea 78.62 309 P **P 03 13 29.0 -1.2**
LAKA Lakka 78.72 308 P **P 03 13 30.2 -0.5**
ANX Ano Chora 78.81 309 P **P 03 13 32.2 +0.9**
IZAR Zarasai 78.86 327 *e*P **P 03 13 31.9 +0.9**
IZAR IAmb IAmb 03 13 35.3
comp=Z,22nm,1.1s
LVZ Lovozero 78.87 340 PFAKE 03 13 40.0 +9.1
LVZ LR LR
comp=Z,5μm,20.0s
ISAL Salakas 78.88 326 *e*P **P 03 13 32.0 +0.8**
ISAL IAmb IAmb 03 13 35.5
comp=Z,14nm,0.9s
DRO Drossia 78.90 308 P **P 03 13 31.8 +0.1**
EVR Evrytania 78.93 309 P P 03 13 22.9 -9.1
LVV L'vov 78.96 320*d i*P **P 03 13 32.4 +0.7**
LVV *e*S **S 03 23 28.9 +0.3**
LTZ Lake Taylor 78.99 134 PFAKE 03 13 40.0 +7.9
LTZ LR LR
comp=Z,4μm,20.0s
APA Apatity 79.18 339⇑*i*P **P 03 13 31.8 -0.8**
APA *i* 03 13 41.7
APA *i* 03 16 33.0

APA *i* S **S** **03 23 30.0 -0.3**
APA *i* SS **SS** **03 28 42.0 +5.2**
APA pmax pmax
comp=Z,15nm,1.0s
APA MLR MLR
comp=Z,5µm,20.0s
THZ **Tophouse** **79.22 133** *e*P **P** **03 13 34.3 +0.8**
comp=Z,186nm,1.9s
THZ LR LR
comp=Z,4µm,19.0s
VSU **Vasula** **79.24 329** *i* P **P** **03 13 32.9 -0.1**
VSU pmax pmax
comp=Z,127nm,1.7s
DRGR **79.33 317**⇑ *i*P **P** **03 13 34.8 +0.9**
DRGR **79.33 317** ⇑P **P** **03 13 34.8 +0.9**
PDO **Prodromos** **79.39 309** P **P** **03 13 34.4 +0.1**
FNA **Florina** **79.48 311** P **P** **03 13 32.3 -2.6**
SMY **Shemya** **79.48 37** PFAKE 03 13 50.0 +16
SMY LR LR
comp=Z,900nm,18.0s
TRPA **Tarpa** **79.65 319**⇑ *e*P **P** **03 13 36.0 +0.5**
MDVR **Moldovita** **79.73 315**⇑ *i*P **P** **03 13 36.0 -0.1**
KWP **Kalwaria Pacla** **79.77 320** *e*P **P** **03 13 37.1 +0.9**
KWP **Kalwaria Pacla** **79.77 320**⇑ *i*P **P** **03 13 36.8 +0.6**
KWP **Kalwaria Pacla** **79.77 320** ⇑P **P** **03 13 36.8 +0.6**
KHZ **Kahutara** **79.82 134** PFAKE 03 13 50.0 +13
KHZ LR LR
comp=Z,3µm,21.0s
UZH **Uzhgorod** **79.89 319** *e*P **P** **03 13 36.6 -0.2**
UZH *i* 03 13 47.4
UZH *i* S **S** **03 23 36.2 -2.2**
UZH *e* 03 23 56.8
UZH *e* 03 24 17.6
BILL **Bilibino** **79.90 21** *c i*P **P** **03 13 36.4 0.0**
BILL *e* 03 13 41.1
BILL *e**PP **sP** **03 13 47.7 -1.3**
BILL *e**SP **pP** **03 13 50.6 +5.0**
BILL *e*S **S** **03 23 42.9 +5.1**
BILL *e* 03 24 45.4
BILL *e*SSS SSS 03 32 05.6
BILL pmax pmax
comp=Z,23nm,1.2s
BILL MLR MLR
comp=Z,4µm,17.0s
BILL **Bilibino** **79.90 21** *e*P **P** **03 13 36.6 +0.1**
comp=Z,32nm,1.4s
BILL LR LR
comp=Z,4µm,18.0s
BZS **Buzias** **79.91 316**⇑ *i*P **P** **03 13 36.8 -0.2**
BZS **Buzias** **79.91 316** ⇑P **P** **03 13 36.8 -0.2**
KOLS **Kolonicke sedl** **79.94 319** *e*P **P** **03 13 38.2 +1.1**
KOLS pmax pmax
comp=Z,29nm,1.3s
KOLS **Kolonicke sedl** **79.94 319** *e*P **P** **03 13 38.2 +1.1**
KOLS **Kolonicke sedl** **79.94 319** *e*S **S** **03 23 44.5 +5.4**
HIZ **Hauiti** **80.06 129** PFAKE 03 13 50.0 +12
HIZ LR LR
comp=Z,3µm,20.0s
MSVF **Nonsavu** **80.07 108** PFAKE 03 13 50.0 +12
MSVF LR LR
comp=Z,1µm,20.0s
IGT **Igoumenitsa** **80.14 310** P **P** **03 13 37.9 -0.5**
SUW **Suwalki** **80.23 324** *e*P **P** **03 13 38.5 0.0**
SUW **Suwalki** **80.23 324** *e*P **P** **03 13 38.5 0.0**
FIA1 **FINESS Array S** **80.30 332** *e*P **P** **03 13 38.5 -0.1**
FINES **FINESS Array B** **80.30 332** P **P** **03 13 38.1 -0.6**
comp=Z,11nm,0.9s,baz=105,slow=6.0,SNR=26
FINES PKKPbc **PKKPbc** **03 32 22.2 -1.8**
comp=Z,2.5nm,1.0s,baz=4.8,slow=2.3,SNR=4.6
FINES LR LR 03 55 19.1
comp=Z,2µm,19.3s,baz=109,slow=40
SNZO **South Karori** **80.46 132** PFAKE 03 13 50.0 +10
SNZO LR LR
comp=Z,4µm,20.0s
CRVS **Cervenica-Dubn** **80.47 319** *e*P **P** **03 13 40.7 +0.7**
CRVS *e*S **S** **03 23 44.9 +0.3**
CRVS **Cervenica-Dubn** **80.47 319** *e*P **P** **03 13 40.7 +0.7**
TIR **Tirane** **80.68 311** PFAKE 03 13 50.0 +8.8
TIR LR LR
comp=Z,1µm,22.0s
STHS **Stebnicka Huta** **80.68 320** *e*P **P** **03 13 42.2 +1.1**
STHS pmax pmax
comp=Z,15nm,1.2s
STHS **Stebnicka Huta** **80.68 320** *e*P **P** **03 13 42.2 +1.1**
STHS **Stebnicka Huta** **80.68 320** *e*S **S** **03 23 48.5 +1.6**
DIVS **Divibare** **80.87 314** P **P** **03 13 42.8 +0.5**
KECS **Kecovo** **81.05 319** *e*P **P** **03 13 43.7 +0.6**
KECS pmax pmax
comp=Z,6.0nm,1.2s
KECS **Kecovo** **81.05 319** *e*P **P** **03 13 43.7 +0.6**
SUR **Sutherland** **81.09 237** *e*P **P** **03 13 41.8 -2.1**
comp=Z,60nm,1.1s
SYO **Syowa Base** **81.20 198**⇓ *e*P **P** **03 13 43.0 -0.4**
SYO **Syowa Base** **81.20 198**⇓ *e*X **P** **03 13 44.7 +1.3**
PDG **Podgorica** **81.24 312** P **P** **03 13 43.6 -0.6**
NIE **Niedzica** **81.30 320** *e*P **P** **03 13 45.3 +0.9**
NIE **Niedzica** **81.30 320** *e*P **P** **03 13 45.3 +0.9**
PSZ **Piszkesteto** **81.38 318**⇑ *i*P **P** **03 13 45.3 +0.4**
PSZ **Piszkesteto** **81.38 318**⇑ *e*P **P** **03 13 45.4 +0.5**
PSZ **Piszkesteto** **81.38 318** ⇑P **P** **03 13 45.3 +0.4**
PSZ **Piszkesteto** **81.38 318** *e*P **P** **03 13 44.3 -0.6**
comp=Z,28nm,1.2s
PSZ *e*PP **PP** **03 16 45.3 -5.6**
PSZ LR LR
comp=Z,800nm,20.0s
BKZ **Black Stump Fm** **81.43 130** *e*P **P** **03 13 44.1 -1.3**
comp=Z,36nm,0.9s
BKZ LR LR
comp=Z,4µm,20.0s
BFZ **Birch Farm** **81.49 131** PFAKE 03 14 00.0 +14
BFZ LR LR
comp=Z,4µm,18.0s
OJC **Ojcow** **81.72 320** *e*P **P** **03 13 47.0 +0.4**
OJC **Ojcow** **81.72 320** *e*P **P** **03 13 47.0 +0.4**
OJC **Ojcow** **81.72 320** *e*P **P** **03 13 47.1 +0.6**
comp=Z,18nm,1.0s
URZ **Urewera** **81.76 129** PFAKE 03 14 00.0 +13
URZ LR LR
comp=Z,4µm,22.0s
LANS **Liptovska Anna** **81.80 319** *e*P **P** **03 13 47.5 +0.4**
LANS **Liptovska Anna** **81.80 319** *e*P **P** **03 13 47.5 +0.4**
KLNR **Kaliningrad** **82.05 325** *e*P **P** **03 13 47.8 -0.3**
KLNR pmax pmax
comp=Z,78nm,0.9s
KEV **Kevo** **82.11 340** *e*P **P** **03 13 47.7 -0.5**
KEV pmax pmax
comp=Z,34nm,1.3s
KEV MLR MLR
comp=Z,3µm,21.0s
KEV **Kevo** **82.11 340** *e*P **P** **03 13 47.7 -0.5**
comp=Z,34nm,1.3s
KEV LR LR
comp=Z,3µm,21.0s
VYHS **Vyhne** **82.14 319** *e*P **P** **03 13 49.1 +0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.3s
VYHS **Vyhne** **82.14 319** *e*P **P** **03 13 49.1 +0.2**
VYHS **Vyhne** **82.14 319** *e*S **S** **03 24 01.2 -0.8**
ARA0 **ARCESS Array S** **82.56 340** *e*P **P** **03 13 50.8 +0.2**
ARCES **ARCESS Array B** **82.56 340** P **P** **03 13 50.7 +0.1**
comp=Z,14nm,1.0s,baz=113,slow=4.3,SNR=28
ARCES LR LR 03 53 33.2
comp=Z,5µm,21.8s,baz=114,slow=38
ARCES **ARCESS Array B** **82.56 340** P **P** **03 13 50.7 +0.1**
ARCES pmax pmax
comp=Z,15nm,1.0s
ARCES MLR MLR
comp=Z,5µm,21.8s
ARE0 **ARCESS Array S** **82.56 340** *e*P **P** **03 13 50.1 -0.5**
comp=Z,29nm,1.2s
ARE0 LR LR
comp=Z,5µm,21.0s
TSUM **Tsumeb** **82.57 250** *e*P **P** **03 13 54.0 +2.2**
comp=Z,20nm,1.2s
MXZ **Matakaoa Point** **82.59 128** PFAKE 03 14 00.0 +8.6
MXZ LR LR
comp=Z,4µm,19.0s
OKC **Ostrava-Krasne** **82.73 320** *e*P **P** **03 13 52.6 +0.7**
OKC *e*S **S** **03 24 08.4 +0.5**
OKC AMS AMS 03 59 20.0
comp=Z,700nm,15.7s
OKC **Ostrava-Krasne** **82.73 320** *e*P **P** **03 13 52.6 +0.7**
OKC *e*S **S** **03 24 08.4 +0.5**
OKC MLR MLR
comp=Z,700nm,15.7s
TIP **Timpagrande** **82.87 309** *e*P **P** **03 13 53.7 +0.7**
comp=Z,24nm,1.1s
SMOL **Smolenice** **83.08 318** *e*P **P** **03 13 55.1 +1.4**
SMOL **Smolenice** **83.08 318** *e*P **P** **03 13 55.1 +1.4**
MORC **Moravsky Berou** **83.12 320**⇓ *i*P **P** **03 13 55.1 +1.1**
MORC **Moravsky Berou** **83.12 320** ⇓P **P** **03 13 55.1 +1.1**
MORC **Moravsky Berou** **83.12 320** *e*P **P** **03 13 54.3 +0.3**
comp=Z,78nm,1.2s
MORC LR LR
comp=Z,3µm,22.0s
BEHE **Becsehely** **83.35 316**⇑ *e*P **P** **03 13 56.3 +1.1**
CUC **Castrocucco** **83.65 310** PFAKE 03 14 10.0 +13
CUC LR LR
comp=Z,800nm,22.0s
VRAC **Vranov** **83.69 319**⇑ *i*P **P** **03 13 58.5 +1.6**
VRAC **Vranov** **83.69 319** ⇑P **P** **03 13 58.5 +1.6**
DPC **Dobruska-Polom** **83.95 320** *e*P **P** **03 13 58.3 +0.1**
DPC *e*pP **PcP** **03 14 03.9 +1.7**
DPC *e*x x 03 14 11.7
DPC *e*S **S** **03 24 21.7 +1.3**
DPC AMS AMS 03 59 20.0
comp=Z,1µm,16.5s
DPC **Dobruska-Polom** **83.95 320** *e*P **P** **03 13 58.3 +0.1**
DPC *e* 03 14 11.7
DPC *e*S **S** **03 24 21.7 +1.3**
DPC MLR MLR
comp=Z,1µm,16.5s
KSP **Ksiaz** **84.01 321** *e*P **P** **03 13 59.4 +1.0**
KSP **Ksiaz** **84.01 321** *e*P **P** **03 13 59.4 +1.0**
CONA **Conrad Observa** **84.08 318** *i* P **P** **03 13 59.5 +0.5**
comp=Z,8.3nm,1.2s,SNR=5.5
UPC **Upice** **84.16 320** *e*P **P** **03 14 00.0 +0.8**
UPC *e*S **S** **03 24 23.0 +0.6**
UPC AMS AMS 03 58 50.0
comp=Z,1µm,16.5s
UPC **Upice** **84.16 320** *e*P **P** **03 14 00.0 +0.8**
UPC *e*S **S** **03 24 23.0 +0.6**
UPC MLR MLR
comp=Z,1µm,16.5s
ARSA **Arzberg** **84.26 317** *i* P **P** **03 14 00.6 +0.8**
comp=Z,22nm,1.2s,SNR=16
BOJS **Bojanci** **84.35 315** *i* P **P** **03 14 00.8 +0.5**
BOJS *e*S **S** **03 24 21.3 -3.2**
TREC **Trest** **84.42 319** *e*P **P** **03 14 01.1 +0.5**
TREC *e*S **S** **03 24 27.0 +2.0**
TREC AMS AMS 03 59 50.0
comp=Z,800nm,19.5s
TREC **Trest** **84.42 319** *e*P **P** **03 14 01.1 +0.5**
TREC *e*S **S** **03 24 27.0 +2.0**
TREC MLR MLR
comp=Z,800nm,19.5s
WDD **Wied Dalam** **84.50 306** PFAKE 03 14 10.0 +8.7
WDD LR LR
comp=Z,900nm,18.0s
SOKA **Soboth** **84.57 317** *i* P **P** **03 14 01.9 +0.5**
comp=Z,33nm,1.2s,SNR=24
VAE **Valguarnera** **84.64 307** LR LR 03 57 51.7
comp=Z,219nm,18.2s,baz=50,slow=40
VISS **Visnje** **84.66 316** *i* P **P** **03 14 02.3 +0.5**
VISS *e*S **S** **03 24 25.8 -1.7**
OBKA **Obir** **84.89 316** *i* P **P** **03 14 03.8 +0.7**
comp=Z,19nm,1.2s,SNR=7.4
GOPC **GO Pecny, Ondr** **84.91 320** *e*P **P** **03 14 03.7 +0.7**
GOPC *e*S **S** **03 24 31.2 +1.3**
GOPC AMS AMS 04 00 10.0
comp=Z,1µm,16.1s
GOPC **GO Pecny, Ondr** **84.91 320** *e*P **P** **03 14 03.7 +0.7**
GOPC *e*S **S** **03 24 31.2 +1.3**
GOPC MLR MLR
comp=Z,1µm,16.1s
PRU **Pruhonice** **85.07 320** *e*P **P** **03 14 04.5 +0.7**
PRU *e*S **S** **03 24 31.7 +0.3**
PRU AMS AMS 03 59 20.0
comp=Z,1µm,15.6s
PRU **Pruhonice** **85.07 320** *e*P **P** **03 14 04.5 +0.7**
PRU *e*S **S** **03 24 31.7 +0.3**
PRU MLR MLR
comp=Z,1µm,15.6s
PVCC **Panska Ves** **85.08 320** AMS AMS 04 04 50.0
comp=Z,1µm,16.7s
BSD **Bornholm Skovb** **85.14 325** *i* P **P** **03 14 04.0 0.0**
BSD pmax pmax
comp=Z,38nm,1.1s
BSD **Bornholm Skovb** **85.14 325** *i* P **P** **03 14 04.0 0.0**
comp=Z,38nm,1.1s
MOA **Molln** **85.15 318** *i* P **P** **03 14 04.1 -0.2**
comp=Z,11nm,1.3s,SNR=7.1
JAVS **Javornik** **85.20 316** *i* P **P** **03 14 04.6 -0.1**
JAVS *i* S **S** **03 24 29.3 -3.8**
TRI **Trieste** **85.40 316** PFAKE 03 14 20.0 +14
TRI LR LR
comp=Z,800nm,20.0s
BRG **Berggiesshubel** **85.49 321** *e*P **P** **03 14 06.7 +0.8**
comp=Z,26nm,1.4s
BRG **Berggiesshubel** **85.49 321** S **S** **03 24 38.0 +2.4**
BRG PS **PnS** **03 25 31.0 -3.2**
BRG SS **SS** **03 30 09.0 -2.2**
BRG pmax pmax
comp=Z,26nm,1.4s
BRG MLR MLR
comp=N,1µm,19.1s
BRG MLR MLR
comp=E,802nm,19.9s
BRG MLR MLR
comp=Z,1µm,20.7s
BRG **Berggiesshubel** **85.49 321** *e*P **P** **03 14 06.7 +0.8**
BRG S **S** **03 24 38.0 +2.4**
BRG PS **PnS** **03 25 31.0 -3.2**
BRG SS **SS** **03 30 09.0 -2.2**
BRG pmax pmax
comp=Z,26nm,1.4s
BRG MLR MLR
comp=N,1µm,19.1s
BRG MLR MLR
comp=E,802nm,19.9s
BRG MLR MLR
comp=Z,1µm,20.7s
MYKA **Terra Mystica** **85.52 316** *i* P **P** **03 14 06.5 +0.2**
comp=Z,14nm,1.4s,SNR=5.1
AQU **L'Aquila** **85.56 312** *e*P **P** **03 14 07.6 +1.1**
AQU pmax pmax
comp=Z,52nm,1.1s
AQU MLR MLR
comp=Z,800nm,20.0s
AQU **L'Aquila** **85.56 312** *e*P **P** **03 14 07.5 +1.1**
comp=Z,52nm,1.1s
AQU LR LR
comp=Z,800nm,20.0s
GEA0 **GERESS Array S** **85.56 319** *e*P **P** **03 14 06.5 0.0**
GEC2 **GERESS Array S** **85.56 319** *e*P **P** **03 14 07.6 +1.1**
GEC2 pmax pmax
comp=Z,28nm,1.3s
GEC2 MLR MLR
comp=Z,500nm,18.0s
GEC2 **GERESS Array S** **85.56 319** *e*P **P** **03 14 07.6 +1.1**
comp=Z,28nm,1.3s
GEC2 LR LR
comp=Z,500nm,18.0s
GERES **GERESS Array B** **85.56 319** P **P** **03 14 06.7 +0.3**
comp=Z,16nm,1.1s,baz=90,slow=5.3,SNR=50
CLTB **Caltabellotta** **85.59 307** PFAKE 03 14 20.0 +13
CLTB LR LR
comp=Z,700nm,22.0s
KHC **Kasperske Hory** **85.66 319** *e*P **P** **03 14 07.2 +0.4**
KHC *e*pP **PcP** **03 14 11.8 +2.1**
KHC *e*sP **sP** **03 14 19.3 -0.1**
KHC *e*S **S** **03 24 34.9 -2.5**
KHC AMS AMS 04 00 50.0
comp=Z,800nm,18.1s
KHC **Kasperske Hory** **85.66 319** *e*P **P** **03 14 07.2 +0.4**
KHC *e* 03 14 19.3
KHC *e*S **S** **03 24 34.9 -2.5**
KHC MLR MLR
comp=Z,800nm,18.1s
KHC **Kasperske Hory** **85.66 319** *e*P **P** **03 14 07.3 +0.4**
comp=Z,5.1nm,1.2s
KHC LR LR
comp=Z,299nm,22.0s
KBA **Koelnbreinsper** **85.74 317** *i* P **P** **03 14 07.7 +0.2**
comp=Z,9.8nm,1.1s
RGN **Rugen** **86.03 324** PFAKE 03 14 20.0 +12
RGN LR LR
comp=Z,2µm,20.0s
VNDA **Vanda** **86.09 169** P **P** **03 14 08.0 -0.4**
comp=Z,9.4nm,0.9s,baz=291,slow=5.2,SNR=30
VNDA LR LR 03 47 12.7
comp=Z,1µm,22.0s,baz=310,slow=32
VNDA **Vanda** **86.09 169** P **P** **03 14 08.0 -0.4**
VNDA pmax pmax
comp=Z,9.0nm,1.0s
VNDA **Vanda** **86.09 169** *e*P **P** **03 14 08.6 +0.3**
comp=Z,45nm,1.4s
CLL **Collm** **86.10 321**⇑ *i*P **P** **03 14 09.2 +0.3**
comp=Z,28nm,1.7s
CLL *e* 03 14 17.0
CLL *e*S **S** **03 24 42.0 +0.5**
CLL *e*PS **PnS** **03 25 48.0 +6.4**
CLL *e*SSS SSS 03 33 51.0
CLL *e*SSSS 03 36 48.0
CLL Lm MLR 03 56 00.0
comp=N,1µm,19.9s
CLL Lm MLR 03 56 00.0
comp=E,1µm,21.4s
CLL Lm MLR 03 56 00.0
comp=Z,1µm,21.9s
CLL **Collm** **86.10 321**⇑ *i*P **P** **03 14 09.2 +0.3**
CLL *e* 03 14 17.0
CLL *e*S **S** **03 24 42.0 +0.5**
CLL pmax pmax
comp=Z,28nm,1.7s
CLL MLR MLR
comp=Z,1µm,21.9s
CLL **Collm** **86.10 321** *e*P **P** **03 14 08.8 -0.2**
comp=Z,19nm,1.3s
CLL LR LR
comp=Z,1µm,21.0s
ABTA **Abfaltersbach** **86.30 317** *i* P **P** **03 14 10.1 0.0**
comp=Z,11nm,1.3s
NKC **Novy Kostel** **86.42 320** *e*P **P** **03 14 11.5 +0.9**
NKC *e*S **S** **03 24 47.7 +2.9**
NKC AMS AMS 04 00 00.0
comp=Z,1µm,19.7s
NKC **Novy Kostel** **86.42 320** *e*P **P** **03 14 11.5 +0.9**
NKC *e*S **S** **03 24 47.7 +2.9**
SPA0 **Spitsbergen Ar** **86.70 348** *e*P **P** **03 14 12.1 +0.7**
SPITS **Spitsbergen Ar** **86.70 348** P **P** **03 14 10.3 -1.1**
comp=Z,13nm,0.8s,baz=98,slow=6.0,SNR=17
WTTA **Wattenberg** **86.91 317** *i* P **P** **03 14 13.0 -0.2**
comp=Z,13nm,1.3s
WATA **Walderlm** **86.95 317** *i* P **P** **03 14 13.9 +0.5**
comp=Z,9.2nm,0.9s
NC405 **NORSAR Array S** **87.11 331** *e*P **P** **03 14 12.7 -1.0**
NC602 **NORSAR Array S** **87.19 331** *e*P **P** **03 14 14.5 +0.5**
SBA **Scott Base** **87.19 169** *e*P **P** **03 14 15.0 +1.3**
SBA pmax pmax
comp=Z,36nm,1.0s
SBA MLR MLR
comp=Z,1µm,22.0s
SBA **Scott Base** **87.19 169** *e*P **P** **03 14 15.0 +1.3**
comp=Z,36nm,1.0s
SBA LR LR
comp=Z,1µm,22.0s
GRFO **Grafenberg** **87.21 319** *e*P **P** **03 14 15.1 +0.7**
GRFO pmax pmax
comp=Z,21nm,1.1s
GRFO MLR MLR
comp=Z,1µm,19.0s
GRFO **Grafenberg** **87.21 319** *e*P **P** **03 14 15.1 +0.7**
comp=Z,21nm,1.1s
GRFO LR LR
comp=Z,1µm,19.0s
MOTA **Moosalm** **87.27 317** *i* P **P** **03 14 15.2 +0.2**
comp=Z,15nm,1.0s,SNR=8.0
NC303 **NORSAR Array S** **87.28 331** *e*P **P** **03 14 14.8 +0.3**
NB2 **NORSAR Subarra** **87.35 331** P **P** **03 14 13.2 -1.7**
comp=Z,24nm,1.1s,baz=92,slow=4.8
NB2 **NORSAR Subarra** **87.35 331** P **P** **03 14 13.2 -1.7**
baz=92,slow=4.8
NOA **NORSAR Array B** **87.35 331** P **P** **03 14 13.4 -1.4**
comp=Z,18nm,1.1s,baz=92,slow=4.9,SNR=13
NOA PP **PP** **03 17 39.3 0.0**
comp=Z,0.9nm,0.8s,baz=96,slow=7.8,SNR=3.3
NOA LR LR 03 57 26.0
comp=Z,2µm,20.4s,baz=105,slow=38
RETA **Reutte** **87.50 317** *i* P **P** **03 14 16.0 +0.1**
comp=Z,19nm,1.1s,SNR=13
NAO01 **NORSAR Array S** **87.51 331** *e*P **P** **03 14 15.2 -0.3**
NBO02 **NORSAR Array S** **87.53 331** *e*P **P** **03 14 15.9 +0.2**
FETA **Feichten** **87.53 317** *i* P **P** **03 14 15.0 -1.2**
comp=Z,1nm,1.1s
NBO00 **NORSAR Array S** **87.56 331** *e*P **P** **03 14 16.1 +0.3**
NC204 **NORSAR Array S** **87.58 331** *e*P **P** **03 14 16.6 +0.6**
KBS **Kingsbay** **87.64 349** *e*P **P** **03 14 15.1 -0.8**
KBS pmax pmax
comp=Z,21nm,1.2s
KBS MLR MLR
comp=Z,2µm,21.0s
KBS **Kingsbay** **87.64 349** *e*P **P** **03 14 15.1 -0.8**
comp=Z,21nm,1.2s
KBS LR LR
comp=Z,2µm,21.0s
VLC **Villacollemand** **87.78 314** PFAKE 03 14 30.0 +13
VLC LR LR
comp=Z,800nm,21.0s
FUORN **Ofenpass-Fuorn** **87.85 316** *e*P **P** **03 14 19.1 +1.2**
comp=Z,42nm,1.4s
GAMB **Gambell** **88.01 26** *e*P **P** **03 14 19.6 +1.7**
comp=Z,28nm,1.0s
DAVA **Damuels** **88.11 317** *i* PcP **PcP** **03 14 20.1 -0.6**
comp=Z,29nm,1.1s,SNR=11
DAVOX **Davos/Dischmat** **88.11 317** LR LR 04 02 51.1
comp=Z,311nm,18.4s,baz=62,slow=42
KONO **Kongsberg** **88.15 329** *e*P **P** **03 14 19.2 +0.6**
KONO pmax pmax
comp=Z,40nm,1.1s
KONO **Kongsberg** **88.15 329** *e*P **P** **03 14 19.2 +0.6**
comp=Z,40nm,1.1s
MUD **Monsted U'grnd** **88.42 326** *i* P **P** **03 14 21.5 +1.6**
MUD pmax pmax
comp=Z,61nm,1.2s
MUD **Monsted U'grnd** **88.42 326** *i* P **P** **03 14 21.5 +1.6**
comp=Z,61nm,1.2s
TUE **Stuetta** **88.48 316** *e*P **P** **03 14 21.0 +0.2**
comp=Z,29nm,1.4s
TUE LR LR
comp=Z,1µm,21.0s
VSL **Villasalto** **88.60 309** *e*P **P** **03 14 22.9 +1.6**
comp=Z,15nm,1.0s
VSL LR LR
comp=Z,400nm,19.0s
KEST **Kesra** **88.71 306** P **P** **03 14 23.6 +1.6**
comp=Z,20nm,0.9s,baz=73,slow=1.0,SNR=26
KEST LR LR 04 00 14.9
comp=Z,454nm,19.3s,baz=20,slow=40
KEST **Kesra** **88.71 306** *e*P **P** **03 14 23.8 +1.8**
comp=Z,44nm,1.0s
BFO **Black Forest** **89.13 318** *e*P **P** **03 14 23.8 +0.2**
BFO pmax pmax
comp=Z,14nm,1.1s
BFO **Black Forest** **89.13 318** *e*P **P** **03 14 23.8 +0.2**
comp=Z,14nm,1.1s
LANF **Langenberg** **89.45 319**⇑ *e*P **P** **03 14 26.0 +0.9**
SENIN **Lac Senin/Sane** **89.90 316** *e*P **P** **03 14 28.7 +1.2**
comp=Z,24nm,1.3s
ECH **Echery** **89.91 318**⇑ *e*P **P** **03 14 27.8 +0.5**
MOF **Molkenrain** **89.95 318**⇑ *e*P **P** **03 14 27.5 0.0**
LOMF **Lomont** **90.18 317**⇑ *e*P **P** **03 14 29.1 +0.5**
CMAH **Djebel Manchou** **90.24 306** P **P** **03 14 30.8 +1.7**
OG01 **Vacheresse** **90.33 316** *e*P **P** **03 14 30.2 +0.9**
BNI **Bardonecchia** **90.40 315** PFAKE 03 14 40.0 +10
BNI LR LR
comp=Z,900nm,22.0s
RSL **Roselend** **90.41 316** *e*P **P** **03 14 30.2 +0.4**
WLF **Walferdange** **90.50 320** P **P** **03 14 31.7 +1.7**
comp=Z,23nm,1.6s
WLF **Walferdange** **90.50 320** *e*P **P** **03 14 31.8 +1.9**
WLF pmax pmax
comp=Z,50nm,1.4s
WLF MLR MLR
comp=Z,1µm,21.0s
WLF **Walferdange** **90.50 320** *e*P **P** **03 14 31.8 +1.9**
comp=Z,50nm,1.4s
WLF LR LR
comp=Z,1µm,21.0s
MEM **Membach** **90.54 320** P **P** **03 14 31.5 +1.4**
comp=Z,13nm,1.3s
GDM **Grand'Maison** **90.79 315** *e*P **P** **03 14 32.2 +0.6**
NVL **N'lazarevskaya** **90.82 199** *e*P P 03 14 36.0 +5.1
BCLA **Clavier** **91.00 320** P **P** **03 14 32.9 +0.7**
GRN **Grenoble** **91.05 315** *e*P **P** **03 14 33.8 +1.1**
UNV **Unalaska Valle** **91.14 36** PFAKE 03 14 40.0 +7.3
UNV LR LR
comp=Z,1µm,21.0s
DOU **Dourbes** **91.47 320** P **P** **03 14 35.5 +1.1**
comp=Z,16nm,2.1s

DFRA Djebel Bou Aff 91.48 306 P P 03 14 36.9 +1.9
SNF Seneffe 91.64 320 P P 03 14 37.4 +2.3
QSPA South Pole Qui 91.79 180 eP P 03 14 36.6 +1.0
QSPA LR LR
comp=Z,2µm,20.0s
SSB Saint Sauveur 91.89 315 eP P 03 14 36.7 +0.1
SSB Saint Sauveur 91.89 315 eP P 03 14 37.1 +0.5
SSB pmax pmax
comp=Z,18nm,1.0s
SSB MLR MLR
comp=Z,500nm,19.0s
SSB Saint Sauveur 91.89 315 eP P 03 14 37.1 +0.5
comp=Z,18nm,1.0s
SSB LR LR
comp=Z,500nm,19.0s
PLDF La Plantade 92.48 316 eP P 03 14 40.4 +1.1
TAM Tamanrasset 92.57 293 eP P 03 14 41.0 +0.7
TAM pmax pmax
comp=Z,8.0nm,1.0s
TAM MLR MLR
comp=Z,1µm,22.0s
TAM Tamanrasset 92.57 293 eP P 03 14 41.0 +0.7
comp=Z,8.4nm,1.0s
TAM LR LR
comp=Z,1µm,22.0s
LBL Lubilhac 92.81 315 eP P 03 14 42.1 +1.3
AGO Saint Agoulin 92.81 316 eP P 03 14 42.1 +1.3
PYM Petit Puy Mans 92.93 316 eP P 03 14 42.5 +1.1
DAG Danmarks Havn 94.35 348 i P P 03 14 46.6 -0.5
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 94.35 348 i P P 03 14 46.6 -0.5
comp=Z,6.4nm,0.9s
SDPT Sand Point 94.43 34 PFAKE 03 15 00.0 +12
SDPT LR LR
comp=Z,1µm,18.0s
CWF Charnwood Fore 94.82 323 PFAKE 03 15 00.0 +10
CWF LR LR
comp=Z,1µm,20.0s
TTA Tatalina 95.11 26 eP P 03 14 52.7 +1.7
TTA pmax pmax
comp=Z,15nm,1.1s
TTA MLR MLR
comp=Z,2µm,18.0s
TTA Tatalina 95.11 26 eP P 03 14 52.7 +1.7
comp=Z,15nm,1.1s
TTA LR LR
comp=Z,2µm,18.0s
TT01 Tatalina 95.12 26 eP P 03 14 51.9 +1.0
SNAA Sanae 95.49 198 P P 03 14 54.8 +2.2
SNAA Sanae 95.49 198 PFAKE 03 15 00.0 +7.5
SNAA LR LR
comp=Z,1µm,18.0s
SVW2 Sparrevohn 95.77 28 eP P 03 14 55.5 +1.6
comp=Z,18nm,1.3s
SVW2 LR LR
comp=Z,2µm,18.0s
COLD Coldfoot 96.21 21 eP P 03 14 56.8 +1.0
comp=Z,11nm,1.3s
COLD LR LR
comp=Z,3µm,18.0s
CAST Castle Rocks 96.69 25 PFAKE 03 15 10.0 +12
CAST LR LR
comp=Z,1µm,20.0s
MLY Manley 96.74 24 eP P 03 14 58.9 +0.5
comp=Z,13nm,1.1s
MLY LR LR
comp=Z,2µm,18.0s
TOC2 Torodi Ar. Sit 96.74 283 PFAKE 03 15 10.0 +11
TOC2 LR LR
comp=Z,1µm,21.0s
TOC3 Torodi Ar. Sit 96.74 283 PFAKE 03 15 10.0 +11
TOC3 LR LR
comp=Z,1µm,22.0s
TOB2 Torodi Ar. Sit 96.75 283 PFAKE 03 15 10.0 +11
TOB2 LR LR
comp=Z,1µm,22.0s
TOB3 Torodi Ar. Sit 96.76 283 PFAKE 03 15 10.0 +11
TOB3 LR LR
comp=Z,1µm,22.0s
TOC1 Torodi Ar. Sit 96.76 283 PFAKE 03 15 10.0 +11
TOC1 LR LR
comp=Z,1µm,21.0s
TOC4 Torodi Ar. Sit 96.76 283 PFAKE 03 15 10.0 +11
TOC4 LR LR
comp=Z,1µm,22.0s
TOA0 Torodi Ar. Sit 96.77 283 eP P 03 15 00.9 +1.4
TOA0 ePP PP 03 18 57.2 +2.5
TOA0 LR LR
comp=Z,1µm,22.0s
TORD Torodi Ar. Bea 96.77 283 P P 03 15 00.4 +0.9
comp=Z,1.3nm,0.9s,baz=95,slow=4.6,SNR=6.7
TORD PP PP 03 18 55.6 +0.9
comp=Z,1.9nm,1.2s,baz=101,slow=5.7,SNR=4.2
TORD LR LR 03 57 05.1
comp=Z,885nm,19.5s,baz=70,slow=34
TOB1 Torodi Ar. Sit 96.77 283 PFAKE 03 15 10.0 +11
TOB1 LR LR
comp=Z,1µm,22.0s
TOA1 Torodi Ar. Sit 96.77 283 PFAKE 03 15 10.0 +11
TOA1 LR LR
comp=Z,1µm,21.0s
TOB4 Torodi Ar. Sit 96.78 283 PFAKE 03 15 10.0 +10
TOB4 LR LR
comp=Z,1µm,22.0s
TOB5 Torodi Ar. Sit 96.78 283 PFAKE 03 15 10.0 +10
TOB5 LR LR
comp=Z,1µm,21.0s
TOC7 Torodi Ar. Sit 96.78 283 PFAKE 03 15 10.0 +10
TOC7 LR LR
comp=Z,1µm,21.0s
TOC5 Torodi Ar. Sit 96.79 283 PFAKE 03 15 10.0 +10
TOC5 LR LR
comp=Z,1µm,21.0s
PPLA Purkeypile 96.81 26 eP P 03 14 59.2 +0.4
comp=Z,18nm,1.4s
PPLA LR LR
comp=Z,1µm,20.0s
DYA Yadsworthy 96.84 321 PFAKE 03 15 10.0 +11
DYA LR LR
comp=Z,2µm,20.0s
BPAW Bear Paw Mtn. 96.94 25 eP P 03 14 58.3 -0.9
comp=Z,39nm,1.1s
BPAW LR LR
comp=Z,3µm,18.0s
KTH Kantishna Hill 97.15 25 eP Pdif 03 15 00.4 +0.1
comp=Z,7.9nm,1.0s
KTH LR LR
comp=Z,2µm,18.0s
SPU Mount Spurr 97.39 28 eP P 03 15 01.2 -0.2
TRF Thorofare Moun 97.45 25 eP P 03 15 01.5 -0.3
comp=Z,12nm,1.0s
TRF LR LR
comp=Z,2µm,18.0s
BWN Browne 97.55 24 PFAKE 03 15 10.0 +8.0
BWN LR LR
comp=Z,2µm,19.0s
DSB Dublin 97.72 324 PFAKE 03 15 10.0 +7.0
DSB LR LR
comp=Z,1µm,20.0s
MDM Murphy Dome 97.76 23 eP Pdif 03 15 04.1 +1.1
comp=Z,7.6nm,1.1s
MDM LR LR
comp=Z,2µm,18.0s
MCK McKinley 97.92 25 eP Pdif 03 15 04.1 +0.4
MCK pmax pmax
comp=Z,26nm,1.0s
MCK MLR MLR
comp=Z,3µm,18.0s
MCK McKinley 97.92 25 eP Pdif 03 15 04.1 +0.4
comp=Z,26nm,1.0s
MCK LR LR
comp=Z,3µm,18.0s
OHAK Old Harbor 97.92 32 PFAKE 03 15 20.0 +16
OHAK LR LR
comp=Z,2µm,20.0s
COLA College 97.94 23 PFAKE 03 15 20.0 +16
COLA LR LR
comp=Z,2µm,18.0s
WRH Wood River Hil 98.00 24 PFAKE 03 15 20.0 +16
WRH LR LR
comp=Z,2µm,18.0s
HOM Homer 98.04 29 PFAKE 03 15 20.0 +16
HOM LR LR
comp=Z,1µm,18.0s
CCB Clear Creek Bu 98.05 24 PFAKE 03 15 20.0 +16
CCB LR LR
comp=Z,2µm,20.0s
RND Reindeer 98.07 25 eP Pdif 03 15 04.5 +0.1
RND pmax pmax
comp=Z,18nm,1.4s
RND MLR MLR
comp=Z,2µm,19.0s
RND Reindeer 98.07 25 eP Pdif 03 15 04.5 +0.1
comp=Z,18nm,1.4s
RND LR LR
comp=Z,2µm,19.0s
KDAK Kodiak Island 98.13 31 PFAKE 03 15 20.0 +15
KDAK LR LR
comp=Z,2µm,19.0s
FYU Fort Yukon 98.27 21 PFAKE 03 15 20.0 +15
FYU LR LR
comp=Z,2µm,19.0s
CNPM China Poot 98.28 29 eP P 03 15 04.6 -0.8
comp=Z,28nm,1.4s
CNPM LR LR
comp=Z,1µm,19.0s
IL1 Eielson Array 98.37 23 eP P 03 15 04.1 -1.5
ILAR Eielson Array 98.37 23 P P 03 15 04.4 -1.2
comp=Z,1.0nm,0.9s,baz=287,slow=4.4,SNR=11
ILAR PP PP 03 19 00.3 -5.1
comp=Z,2.0nm,1.1s,baz=310,slow=7.8,SNR=7.3
ILAR PKKPbc PKKPbc 03 31 37.9 -1.1
comp=Z,1.1nm,1.0s,baz=163,slow=2.2,SNR=9.3
ILAR LR LR 04 05 09.3
comp=Z,1µm,18.1s,baz=316,slow=39
BRLK Bradley Lake 98.38 29 eP P 03 15 04.1 -1.7
comp=Z,25nm,1.2s
BRLK LR LR
comp=Z,1µm,18.0s
HDA Harding Lake 98.48 24 PFAKE 03 15 20.0 +14
HDA LR LR
comp=Z,2µm,19.0s
RC01 Rabbit Creek A 98.48 27 PFAKE 03 15 20.0 +14
RC01 LR LR
comp=Z,2µm,20.0s
PMR Palmer 98.58 27 eP Pdif 03 15 06.8 +0.2
PMR pmax pmax
comp=Z,7.0nm,1.1s
PMR MLR MLR
comp=Z,2µm,20.0s
PMR Palmer 98.58 27 eP Pdif 03 15 06.8 +0.1
comp=Z,6.9nm,1.1s
PMR LR LR
comp=Z,2µm,20.0s
ES19 SONSECA Array 98.78 310 eP Pdif 03 15 10.4 +2.3
DHY Denali Highway 98.81 25 eP P 03 15 07.3 -0.6
comp=Z,6.3nm,1.2s
DHY LR LR
comp=Z,2µm,21.0s
ESDC Sonseca Array 98.84 310 P Pdif 03 15 08.5 +0.1
comp=Z,0.4nm,0.7s,baz=77,slow=4.9,SNR=5.0
ESDC LR LR 04 03 00.9
comp=Z,406nm,20.9s,baz=60,slow=37
ESLA Sonseca Array 98.84 310 PFAKE 03 15 20.0 +12
ESLA LR LR
comp=Z,600nm,20.0s
SML Sawmill 98.86 26 eP Pdif 03 15 09.1 +1.1
SML pmax pmax
comp=Z,22nm,1.0s
SML MLR MLR
comp=Z,1µm,18.0s
SML Sawmill 98.86 26 eP Pdif 03 15 09.1 +1.1
comp=Z,22nm,1.0s
SML LR LR
comp=Z,1µm,18.0s
SEW Seward 98.95 28 PFAKE 03 15 20.0 +12
SEW LR LR
comp=Z,2µm,18.0s
PAB San Pablo 99.15 310 PFAKE 03 15 20.0 +10
PAB LR LR
comp=Z,1µm,22.0s
SCM Sheep Creek Mo 99.30 26 PFAKE 03 15 20.0 +10
SCM LR LR
comp=Z,1µm,21.0s
PAX Paxson 99.66 25 PFAKE 03 15 20.0 +8.5
PAX LR LR
comp=Z,2µm,18.0s
DOT Dot Lake 99.95 24 ePdif Pdif 03 15 11.8 -1.0
comp=Z,11nm,1.1s
DOT LR LR
comp=Z,5µm,18.0s
KLU Klutina 100.05 26 PFAKE 03 15 20.0 +6.7
KLU LR LR
comp=Z,1µm,19.0s
MENT Mentasta 100.40 24 PFAKE 03 15 30.0 +15
MENT LR LR
comp=Z,2µm,18.0s
EYAK Cordova Ski Ar 100.50 27 ePdif Pdif 03 15 14.2 -1.0
EYAK LR LR
comp=Z,2µm,19.0s
EGAK Eagle 100.58 22 PFAKE 03 15 30.0 +15
EGAK LR LR
comp=Z,1µm,20.0s
MID Middleton Isla 100.66 28 PFAKE 03 15 30.0 +14
MID LR LR
comp=Z,1µm,20.0s
BORG Borgarnes 100.83 338 PFAKE 03 15 30.0 +13
BORG LR LR
comp=Z,3µm,21.0s
BMRM Bremner River 100.85 26 ePdif Pdif 03 15 16.9 +0.1
BMRM LR LR
comp=Z,1µm,20.0s
SUMG Summit 101.04 348 PFAKE 03 15 30.0 +12
SUMG LR LR
comp=Z,2µm,20.0s
RAGM Ragged Mountai 101.05 27 PFAKE 03 15 30.0 +12
RAGM LR LR
comp=Z,3µm,18.0s
INK Inuvik 101.30 18 P Pdif 03 15 17.2 -1.4
comp=Z,3.1nm,1.1s,baz=308,slow=7.3,SNR=6.3
INK Inuvik 101.30 18 ePdif Pdif 03 15 19.0 +0.4
INK LR LR
comp=Z,2µm,19.0s
BALM Baldy 101.81 26 PFAKE 03 15 30.0 +8.8
BALM LR LR
comp=Z,1µm,22.0s
RTC Rabat Centre 102.13 305 PFAKE 03 15 30.0 +7.0
RTC LR LR
comp=Z,4µm,22.0s
PFVI Vila Bisbo 103.08 309 PFAKE 03 15 40.0 +13
PFVI LR LR
comp=Z,1µm,21.0s
YKU2 Yakutat 103.70 27 PFAKE 03 15 40.0 +11
YKU2 LR LR
comp=Z,2µm,18.0s
DHAK Deception Hill 104.56 27 PFAKE 03 15 40.0 +6.7
DHAK LR LR
comp=Z,2µm,22.0s
SFJD Kangerlussuaq 108.04 348 PFAKE 03 20 10.0
SFJD LR LR
comp=Z,2µm,20.0s
DLBC Dease Lake 108.48 25 PFAKE 03 20 10.0
DLBC LR LR
comp=Z,2µm,18.0s
WRAK Wrangell Islan 108.64 27 PFAKE 03 20 10.0
WRAK LR LR
comp=Z,1µm,19.0s
CRAG Craig 108.81 28 PFAKE 03 20 10.0
CRAG LR LR
comp=Z,1µm,20.0s
TBI Tubuai 110.41 114 ePS PS 03 30 01.5 -5.5
comp=Z,185nm,27.5s
TBI eSS SS 03 35 59.4 -3.7
comp=Z,261nm,34.8s
TBI Tubuai 110.41 114 eLQ LQ 03 48 00.3
comp=Z,2µm,37.8s
TBI eLR LR 03 52 45.1
comp=Z,1µm,24.5s
PPT2 Papeete2 110.90 108 ePS PS 03 30 07.4 -4.4
comp=Z,201nm,26.5s
PPT2 Papeete2 110.90 108 eLQ LQ 03 48 17.7
comp=Z,1µm,30.0s
PPT2 eLR LR 03 53 03.6
comp=Z,1µm,23.2s
YKA Yellowknife Ar 110.96 16 PKiKP PKiKP 03 19 59.5 -1.5
comp=Z,0.4nm,0.8s,baz=312,slow=2.0,SNR=6.0
YKA PKKPbc PKKPbc 03 30 59.1 -1.7
comp=Z,0.4nm,0.8s,baz=140,slow=3.4,SNR=6.6
YKA PKKPab PKKPab 03 31 08.4 -1.2
comp=Z,0.5nm,0.9s,baz=148,slow=3.9,SNR=5.5
ASCN Ascension 113.46 262 PFAKE 03 20 20.0
ASCN LR LR
comp=Z,1µm,20.0s
PGC Sidney 117.67 30 PFAKE 03 20 30.0 +16
PGC LR LR
comp=Z,1µm,19.0s
NLWA Neilton Lookou 118.27 32 PFAKE 03 20 30.0 +15
NLWA LR LR
comp=Z,1µm,20.0s
B05A Bryant 118.61 30 P PKPdf 03 20 15.6 -0.4
baz=312
FCC Fort Churchill 118.67 8 PFAKE 03 20 30.0 +14
FCC LR LR
comp=Z,2µm,20.0s
B06A Marblemount 118.74 30 PFAKE 03 20 30.0 +14
B06A LR LR
comp=Z,900nm,19.0s
EDM Edmonton 118.79 22 PFAKE 03 20 30.0 +14
EDM LR LR
comp=Z,3µm,20.0s
E03A Lebam 118.96 32 PFAKE 03 20 30.0 +13
E03A LR LR
comp=Z,700nm,20.0s
F03A Seaside 119.36 33 PFAKE 03 20 30.0 +12
F03A LR LR
comp=Z,900nm,20.0s
B08A Colville Reser 119.90 29 PFAKE 03 20 30.0 +11
B08A LR LR
comp=Z,1µm,20.0s
F04A Amboy 119.97 32 PFAKE 03 20 30.0 +11
F04A LR LR
comp=Z,1µm,22.0s
LTY Liberty 120.00 30 PFAKE 03 20 30.0 +11
LTY LR LR
comp=Z,1µm,21.0s
TAOE Nuku Hiva Isla 120.69 99 ePS PS 03 31 35.0 -6.1
comp=Z,184nm,27.8s
TAOE eSS SS 03 37 54.8 -24
comp=Z,2µm,26.8s
TAOE Nuku Hiva Isla 120.69 99 eLR LR 03 57 32.2
comp=Z,1µm,24.7s
C09A Chrisman Ranch 120.80 28 PFAKE 03 20 30.0 +10
C09A LR LR
comp=Z,1µm,19.0s
I03D Drain, OR 120.87 35 P PKPdf 03 20 20.8 +0.3
baz=308
E07A Sunnyside 120.88 30 PFAKE 03 20 30.0 +9.5
E07A LR LR
comp=Z,900nm,19.0s
H04A Detroit Lake 120.89 33 PFAKE 03 20 30.0 +9.4
H04A LR LR
comp=Z,1µm,21.0s
NEW Newport 121.00 27 PFAKE 03 20 30.0 +9.3
NEW LR LR
comp=Z,1µm,19.0s
D08A Wollman Farm, 121.00 29 PFAKE 03 20 30.0 +9.3
D08A LR LR
comp=Z,800nm,21.0s
HAWA Hanford 121.16 30 PFAKE 03 20 30.0 +9.0
HAWA LR LR
comp=Z,801nm,18.0s
G06A Carlson Farm, 121.37 32 PFAKE 03 20 30.0 +8.5
G06A LR LR
comp=Z,800nm,21.0s
I05D Terrebonne, OR 121.58 33 P PKPdf 03 20 22.3 +0.3
baz=310
L02D Cave Junction, 121.66 36 P PKPdf 03 20 22.5 +0.3
baz=307
E09A Wood Farm, Sta 121.77 29 PFAKE 03 20 30.0 +7.8
E09A LR LR
comp=Z,1µm,21.0s
HUMO Hull Mountain 121.77 36 ePKPdf PKPdf 03 20 24.9 +2.6
HUMO LR LR
comp=Z,900nm,19.0s
WALA Waterton Lakes 121.82 25 PFAKE 03 20 30.0 +7.6
WALA LR LR
comp=Z,2µm,19.0s
JCC Jacoby Creek, 122.20 38 PFAKE 03 20 30.0 +6.8
JCC LR LR
comp=Z,1µm,19.0s
J05D Fort Rock, OR 122.32 34 P PKPdf 03 20 23.6 0.0
baz=310
SCHQ Schefferville 122.32 350 PKP PKPdf 03 20 21.5 -1.6
comp=Z,4.1nm,0.8s,baz=260,slow=3.9,SNR=7.7
SCHQ PKKPbc PKKPab 03 30 19.1 -0.6
comp=Z,1.6nm,0.9s,baz=236,slow=7.2,SNR=3.8
SCHQ Schefferville 122.32 350 PKP PKPdf 03 20 21.5 -1.6
SCHQ PKKPbc PKKPab 03 30 19.1 -0.6
SCHQ LR LR
comp=Z,2µm,20.0s
KHMM Horse Mountain 122.35 38 ePKPdf PKPdf 03 20 26.1 +2.4
KHMM LR LR
comp=Z,1µm,20.0s
BSMT Basoo Peak 122.36 26 ePKPdf PKPdf 03 20 24.2 +0.6
YBH Yreka Blue Hor 122.45 36 PFAKE 03 20 40.0 +16
YBH LR LR
comp=Z,1µm,19.0s
M02C Callahan 122.57 37 P PKPdf 03 20 24.3 +0.3
baz=308
F10A Beach Ranch, E 122.60 29 ePKPdf PKPdf 03 20 24.4 +0.4
F10A LR LR
comp=Z,1µm,19.0s
K05A Summer Lake 122.87 34 ePKPdf PKPdf 03 20 26.4 +1.7
K05A LR LR
comp=Z,1µm,22.0s
N02D Trinity Center 122.91 37 P PKPdf 03 20 25.0 +0.4
baz=308
M04C Macdoel 122.93 36 P PKPdf 03 20 25.0 +0.2
baz=309
SWMT Swartz Lake 122.97 26 ePKPdf PKPdf 03 20 25.9 +1.2
BMO Blue Mountains 123.35 30 PFAKE 03 20 40.0 +15
BMO LR LR
comp=Z,698nm,19.0s
MSO Missoula 123.51 27 P PKPdf 03 20 26.1 +0.4
baz=319
MSO Missoula 123.51 27 ePKPdf PKPdf 03 20 25.7 0.0
MSO LR LR
comp=Z,2µm,18.0s
RKT Rikitea 123.56 117 eLR LR 03 58 43.2
comp=Z,2µm,25.0s
MOD Modoc Plateau 123.74 35 ePKPdf PKPdf 03 20 27.1 +0.8
MOD LR LR
comp=Z,700nm,20.0s
CHMT Chamberlain Mo 123.75 26 ePKPdf PKPdf 03 20 26.8 +0.5
O03D Paynes Creek 123.87 37 P PKPdf 03 20 26.8 +0.2
baz=308
WVOR Wild Horse Val 124.32 33 ePKIKP PKPdf 03 20 29.0 +1.6
WVOR MLR MLR
comp=Z,798nm,19.0s
WVOR Wild Horse Val 124.32 33 ePKPdf PKPdf 03 20 29.0 +1.6
WVOR LR LR
comp=Z,798nm,19.0s
EGMT Eagleton 124.33 23 PFAKE 03 20 40.0 +13
EGMT LR LR
comp=Z,1µm,20.0s
ORV Oroville 124.51 38 PFAKE 03 20 40.0 +12
ORV LR LR
comp=Z,700nm,22.0s
LRM Limekiln Ridge 124.95 26 ePKPdf PKPdf 03 20 30.3 +1.6
MFID Camas Ranch 125.12 31 ePKPdf PKPdf 03 20 29.7 +0.8
MFID LR LR
comp=Z,800nm,22.0s
AFDM Forest Hills D 125.21 38 ePKPdf PKPdf 03 20 29.9 +0.8
AFDM LR LR
comp=Z,500nm,19.0s
DLMT Dillon 125.24 27 ePKPdf PKPdf 03 20 30.0 +0.9
DLMT LR LR
comp=Z,1µm,18.0s
BOZ Bozeman (W) 125.45 26 P PKPdf 03 20 30.3 +0.8
baz=321
BOZ Bozeman (W) 125.45 26 ePKIKP PKPdf 03 20 30.3 +0.8
BOZ MLR MLR
comp=Z,2µm,18.0s
BOZ Bozeman (W) 125.45 26 ePKPdf PKPdf 03 20 30.3 +0.8
BOZ LR LR
comp=Z,2µm,18.0s
MCMT McKenzie Canyo 125.53 28 ePKPdf PKPdf 03 20 30.8 +1.0
PAHR Pah Rah Range 125.69 36 ePKPdf PKPdf 03 20 32.3 +2.2
PAHR LR LR
comp=Z,900nm,20.0s
HLID Hailey 125.73 30 P PKPdf 03 20 30.8 +0.7
baz=317
HLID Hailey 125.73 30 ePKPdf PKPdf 03 20 31.3 +1.2
HLID LR LR
comp=Z,1µm,20.0s
A25A Svangstu Ranch 125.88 18 P PKPdf 03 20 31.0 +0.9
baz=332

DGMT **Dagmar** **125.95** **19** PFAKE 03 20 40.0 +10
DGMT LR LR
comp=Z,1µm,22.0s
CMB **Columbia Colle** **126.13** **38** PFAKE 03 20 40.0 +9.1
CMB LR LR
comp=Z,800nm,21.0s
GCMT **Greycliff** **126.17** **25** *e*PKPdf **PKPdf** **03 20 32.2 +1.3**
GCMT *e*PP **PP** **03 22 26.4 +2.1**
SAO **San Andreas Ge** **126.23** **40** PFAKE 03 20 40.0 +9.0
SAO LR LR
comp=Z,700nm,19.0s
BMN **Battle Mountai** **126.45** **34** PFAKE 03 20 40.0 +8.4
BMN LR LR
comp=Z,800nm,21.0s
ULM **Lac du Bonnet** **126.54** **12** PKP **PKPdf** **03 20 30.4 -0.8**
comp=Z,8.0nm,0.7s,baz=351,slow=1.7,SNR=8.6
ULM **Lac du Bonnet** **126.54** **12** *e*PKPdf **PKPdf** **03 20 31.2 0.0**
ULM *e*PP PP 03 22 17.4 -8.8
ULM LR LR
comp=Z,2µm,21.0s
A28A **Rude Farm, Bot** **126.73** **16** P **PKPdf** **03 20 32.5 +0.8**
baz=336
LAO **LASA Array** **126.78** **22** P **PKPdf** **03 20 32.5 +0.6**
baz=328
LAO **LASA Array** **126.78** **22** *e*PKPdf **PKPdf** **03 20 32.9 +1.0**
LAO LR LR
comp=Z,1µm,21.0s
LKWY **Lake** **126.84** **26** PFAKE 03 20 40.0 +7.7
LKWY LR LR
comp=Z,3µm,19.0s
RLMT **Red Lodge** **126.88** **25** P **PKPdf** **03 20 32.4 +0.1**
baz=324
RLMT **Red Lodge** **126.88** **25** *e*PKPdf **PKPdf** **03 20 33.9 +1.6**
RLMT LR LR
comp=Z,1µm,22.0s
H17A **Grant Village** **126.89** **26** P **PKPdf** **03 20 32.8 +0.3**
baz=322
H17A **Grant Village** **126.89** **26** PFAKE 03 20 40.0 +7.6
H17A LR LR
comp=Z,2µm,20.0s
A29A **Manning Farm,** **127.00** **15** P **PKPdf** **03 20 32.6 +0.4**
baz=337
FLWY **Flagg Ranch** **127.08** **27** PFAKE 03 20 40.0 +7.2
FLWY LR LR
comp=Z,1µm,20.0s
IMW **Indian Meadow** **127.12** **27** PFAKE 03 20 40.0 +7.1
IMW LR LR
comp=Z,1µm,19.0s
B28A **Dugan Ranch, T** **127.13** **16** P **PKPdf** **03 20 33.1 +0.7**
baz=335
FXWY **Fox Creek** **127.28** **27** *e*PKPdf **PKPdf** **03 20 34.2 +1.0**
FXWY LR LR
comp=Z,1µm,19.0s
MOOW **Moose Ponds** **127.32** **27** *e*PKPdf **PKPdf** **03 20 34.6 +1.4**
MOOW LR LR
comp=Z,1µm,18.0s
ELK **Elko** **127.33** **33** *e*PKIKP **PKPdf** **03 20 35.1 +1.8**
ELK **Elko** **127.33** **33** *e*PKPdf **PKPdf** **03 20 35.1 +1.8**
B29A **Wagenman Farm,** **127.39** **15** P **PKPdf** **03 20 33.2 +0.3**
baz=337
D25A **Fairfield** **127.39** **19** P **PKPdf** **03 20 34.2 +1.2**
baz=331
TPAW **Teton Pass** **127.43** **27** *e*PKPdf **PKPdf** **03 20 35.0 +1.5**
TPAW LR LR
comp=Z,2µm,18.0s
LOHW **Long Hollow** **127.49** **27** *e*PKPdf **PKPdf** **03 20 34.5 +1.0**
LOHW LR LR
comp=Z,1µm,21.0s
SNOW **Snow King Moun** **127.54** **27** *e*PKPdf **PKPdf** **03 20 35.4 +1.6**
SNOW LR LR
comp=Z,1µm,19.0s
REDW **Red Top Meadow** **127.58** **27** *e*PKPdf **PKPdf** **03 20 34.8 +1.1**
REDW *e*PP **PP** **03 22 33.9 +0.2**
REDW LR LR
comp=Z,2µm,19.0s
B30A **Myrvik Farm, E** **127.66** **15** P **PKPdf** **03 20 33.6 +0.2**
baz=338
C28A **Hausauer Farms** **127.78** **17** P **PKPdf** **03 20 33.9 +0.2**
baz=335
B31A **Greenbush Farm** **127.86** **14** P **PKPdf** **03 20 34.3 +0.5**
baz=339
HVU **Hansel Valley** **127.86** **30** *e*PKIKP **PKPdf** **03 20 35.6 +1.4**
HVU **Hansel Valley** **127.86** **30** *e*PKPdf **PKPdf** **03 20 35.6 +1.4**
A33A **Warroad** **127.88** **12** P **PKPdf** **03 20 34.4 +0.6**
baz=342
MDND **Maddock** **127.88** **16** P **PKPdf** **03 20 34.3 +0.4**
baz=336
MDND **Maddock** **127.88** **16** *e*PKPdf **PKPdf** **03 20 34.6 +0.7**
MDND *e*PP **PP** **03 22 33.3 -1.9**
MDND LR LR
comp=Z,2µm,19.0s
AHID **Auburn Hatcher** **127.92** **28** PFAKE 03 20 50.0 +16
AHID LR LR
comp=Z,2µm,18.0s
B32A **Ashes, Strandq** **128.14** **13** P **PKPdf** **03 20 34.7 +0.3**
baz=340
D28A **Regan** **128.21** **17** P **PKPdf** **03 20 34.8 +0.2**
baz=335
E26A **Carlson Angus** **128.27** **19** P **PKPdf** **03 20 34.8 +0.1**
baz=332
VES **Vestal, Richgr** **128.30** **40** P **PKPdf** **03 20 35.0 0.0**
baz=308
C30A **Mose, Pekin** **128.32** **15** P **PKPdf** **03 20 34.9 +0.2**
baz=337
BGU **Big Grassy Mou** **128.36** **31** *e*PKPdf **PKPdf** **03 20 35.3 +0.1**
AGMN **Agassiz Nation** **128.39** **13** P **PKPdf** **03 20 35.4 +0.5**
baz=341
AGMN **Agassiz Nation** **128.39** **13** *e*PKPdf **PKPdf** **03 20 35.8 +1.0**
AGMN *e*PP **PP** **03 22 36.5 -1.9**
AGMN LR LR
comp=Z,3µm,20.0s
C31A **Landman Farms,** **128.42** **14** P **PKPdf** **03 20 35.4 +0.5**
baz=338
B34A **Aery, Baudette** **128.46** **12** P **PKPdf** **03 20 35.6 +0.7**
baz=342
HWUT **Hardware Ranch** **128.58** **29** *e*PKPdf **PKPdf** **03 20 36.6 +1.0**
HWUT *e*PP **PP** **03 22 40.7 +0.3**
HWUT LR LR
comp=Z,900nm,20.0s
BW06 **Boulder Array** **128.63** **27** P **PKPdf** **03 20 35.8 +0.1**
baz=322
BW06 **Boulder Array** **128.63** **27** *e*PKPdf **PKPdf** **03 20 35.8 +0.1**
BW06 LR LR
comp=Z,1µm,21.0s
PD31 **Pinedale Array** **128.63** **27** *e*PKPdf **PKPdf** **03 20 36.6 +0.8**
PDAR **Pinedale Array** **128.63** **27** PKP **PKPdf** **03 20 34.4 -1.4**
comp=Z,3.8nm,0.8s,baz=246,slow=1.0,SNR=22
F26A **Lodgepole** **128.75** **19** P **PKPdf** **03 20 36.5 +0.8**
baz=332
B35A **Bob, Littlefor** **128.76** **11** P **PKPdf** **03 20 36.4 +0.8**
baz=344
D30A **Buchanan** **128.79** **16** P **PKPdf** **03 20 36.5 +0.9**
baz=337
R11A **Troy Canyon, C** **128.80** **35** P **PKPdf** **03 20 37.2 +1.0**
baz=313
R11A **Troy Canyon, C** **128.80** **35** *e*PKPdf **PKPdf** **03 20 37.3 +1.2**
R11A LR LR
comp=Z,700nm,22.0s
ISA **Isabella, Lake** **128.80** **40** PFAKE 03 20 50.0 +14
ISA LR LR
comp=Z,700nm,21.0s
DAC **Darwin (Calif)** **128.97** **38** PFAKE 03 20 50.0 +13
DAC LR LR
comp=Z,700nm,22.0s
DUG **Dugway, Tooele** **129.01** **31** P **PKPdf** **03 20 37.2 +0.7**
baz=317
DUG **Dugway, Tooele** **129.01** **31** *e*PKIKP **PKPdf** **03 20 37.8 +1.4**
DUG MLR MLR
comp=Z,798nm,19.0s
DUG **Dugway, Tooele** **129.01** **31** *e*PKPdf **PKPdf** **03 20 37.8 +1.4**
DUG LR LR
comp=Z,798nm,19.0s
MPMC **Manual Prospec** **129.17** **39** P **PKPdf** **03 20 37.5 +0.6**
baz=310
OSI **Osito Audit: C** **129.29** **41** PFAKE 03 20 50.0 +13
OSI LR LR
comp=Z,700nm,22.0s
FURC **Furnace Creek,** **129.30** **38** P **PKPdf** **03 20 38.1 +1.3**
baz=311
E30A **Jud** **129.31** **16** P **PKPdf** **03 20 37.7 +1.0**
baz=336
C35A **Jirik Farms, M** **129.35** **11** P **PKPdf** **03 20 37.2 +0.5**
baz=343
TPNV **Topopah Spring** **129.35** **37** P **PKPdf** **03 20 37.6 +0.4**
baz=312
TPNV **Topopah Spring** **129.35** **37** PFAKE 03 20 50.0 +13
TPNV LR LR
comp=Z,900nm,21.0s
JLU **Jordanelle** **129.40** **30** *e*PKPdf **PKPdf** **03 20 38.9 +1.6**
C36A **Pine Crest Far** **129.51** **10** P **PKPdf** **03 20 37.8 +0.9**
baz=344
EYMN **Ely** **129.55** **9** P **PKPdf** **03 20 38.3 +1.2**
baz=346
EYMN **Ely** **129.55** **9** *e*PKPdf **PKPdf** **03 20 37.8 +0.7**
EYMN *e*PP **PP** **03 22 44.6 -1.4**
EYMN LR LR
comp=Z,1µm,20.0s
EDW2 **Edwards Air Fo** **129.60** **40** P **PKPdf** **03 20 38.3 +0.7**
baz=309
C37A **Embarrass** **129.65** **10** P **PKPdf** **03 20 38.3 +1.0**
baz=345
F29A **Eureka** **129.66** **17** P **PKPdf** **03 20 38.4 +1.0**
baz=335
D34A **Park Rapids** **129.68** **13** P **PKPdf** **03 20 37.9 +0.6**
baz=341
MPU **Maple Canyon** **129.75** **31** *e*PKPdf **PKPdf** **03 20 39.7 +1.8**
MPU LR LR
comp=Z,900nm,20.0s
RSSD **Black Hills** **129.78** **22** P **PKPdf** **03 20 38.8 +0.9**
baz=329
RSSD **Black Hills** **129.78** **22** *e*PKIKP **PKPdf** **03 20 38.8 +0.9**
RSSD MLR MLR
comp=Z,1µm,19.0s
RSSD **Black Hills** **129.78** **22** *e*PKPdf **PKPdf** **03 20 38.8 +0.9**
RSSD LR LR
comp=Z,1µm,19.0s
C39A **Grand Marais** **129.88** **8** P **PKPdf** **03 20 38.4 +0.7**
baz=348
PASC **Pasadena Art C** **129.91** **41** PFAKE 03 20 50.0 +12
PASC LR LR
comp=Z,600nm,20.0s
D35A **Remer** **129.93** **12** P **PKPdf** **03 20 38.6 +0.8**
baz=343
LMQ **La Malbaie** **129.94** **351** PFAKE 03 20 50.0 +12
LMQ LR LR
comp=Z,2µm,20.0s
MWC **Mount Wilson** **129.96** **41** PFAKE 03 20 50.0 +12
MWC LR LR
comp=Z,800nm,21.0s
D36A **Goodland** **130.01** **11** P **PKPdf** **03 20 38.7 +0.8**
baz=344
SHOC **Shoshone, Teco** **130.03** **38** P **PKPdf** **03 20 38.7 +0.4**
baz=311
K22A **Casper** **130.04** **25** P **PKPdf** **03 20 38.9 +0.5**
baz=326
K22A **Casper** **130.04** **25** *e*PKPdf **PKPdf** **03 20 39.2 +0.8**
K22A LR LR
comp=Z,1µm,19.0s
E33A **Westby DABS, E** **130.05** **14** P **PKPdf** **03 20 38.8 +0.7**
baz=340
F31A **Hecla** **130.08** **16** P **PKPdf** **03 20 39.0 +0.9**
baz=337
GSC **Goldstone, Bar** **130.09** **39** P **PKPdf** **03 20 39.1 +0.5**
baz=310
GSC **Goldstone, Bar** **130.09** **39** *e*PKIKP **PKPdf** **03 20 40.8 +2.2**
GSC MLR MLR
comp=Z,700nm,21.0s
GSC **Goldstone, Bar** **130.09** **39** *e*PKPdf **PKPdf** **03 20 40.8 +2.2**
GSC LR LR
comp=Z,700nm,21.0s
D37A **Cotton** **130.16** **10** P **PKPdf** **03 20 39.0 +0.8**
baz=345
G29A **Hoven** **130.21** **18** P **PKPdf** **03 20 39.2 +0.8**
baz=335
BFSC **Mount Baldy Ra** **130.21** **40** P **PKPdf** **03 20 39.6 +0.7**
baz=309
E34A **Wadena** **130.23** **13** P **PKPdf** **03 20 39.2 +0.8**
baz=341
SHPR **Sheep Range** **130.30** **36** *e*PKPdf **PKPdf** **03 20 42.0 +3.0**
SHPR LR LR
comp=Z,1µm,20.0s
SCI2 **San Clemente I** **130.39** **42** P **PKPdf** **03 20 39.8 +0.7**
baz=307
LMN **Caledonia Moun** **130.40** **345** PFAKE 03 20 50.0 +11
LMN LR LR
comp=Z,2µm,22.0s
G30A **Faulkton** **130.50** **17** P **PKPdf** **03 20 39.7 +0.8**
baz=336
TUQ **Turquoise Moun** **130.55** **38** P **PKPdf** **03 20 41.3 +1.8**
baz=311
MSU **Marysvale** **130.57** **32** *e*PKIKP **PKPdf** **03 20 41.4 +1.8**
MSU **Marysvale** **130.57** **32** *e*PKPdf **PKPdf** **03 20 41.4 +1.8**
F33A **5 Mile Ranch,** **130.60** **14** P **PKPdf** **03 20 39.9 +0.8**
baz=340
P17A **Butcher Ranch,** **130.61** **30** *e*PKPpre PKPpre 03 20 29.5
P17A *e*PKPdf **PKPdf** **03 20 39.3 -0.2**
CCUT **Cedar City** **130.61** **34** *e*PKPdf **PKPdf** **03 20 42.1 +2.4**
E36A **McGregor** **130.62** **11** P **PKPdf** **03 20 40.0 +0.9**
baz=344
H29A **Onida** **130.63** **18** P **PKPdf** **03 20 41.9 +2.7**
baz=334
MTPU **Mount Pierson** **130.91** **33** *e*PKPdf **PKPdf** **03 20 43.1 +2.7**
SRU **San Rafael Swe** **130.99** **31** *e*PKIKP **PKPdf** **03 20 42.0 +1.7**
SRU *e* 03 22 51.4
SRU **San Rafael Swe** **130.99** **31** *e*PKPdf **PKPdf** **03 20 42.0 +1.7**
SRU *e*PP **PP** **03 22 51.4 -4.8**
LCMT **Little Creek M** **131.06** **35** *e*PKPdf **PKPdf** **03 20 41.7 +1.3**
GMRC **Granite Mounta** **131.13** **39** P **PKPdf** **03 20 41.5 +0.9**
baz=311
F36A **Milaca** **131.20** **12** P **PKPdf** **03 20 41.3 +1.0**
baz=343
LDFC **Landfair** **131.28** **38** PFAKE 03 20 50.0 +9.1
LDFC LR LR
comp=Z,1µm,19.0s
KNB **Kanab** **131.30** **34** *e*PKIKP **PKPdf** **03 20 43.6 +2.7**
KNB **Kanab** **131.30** **34** *e*PKPdf **PKPdf** **03 20 43.6 +2.7**
O20A **White River Ci** **131.32** **28** P **PKPdf** **03 20 41.4 +0.4**
baz=322
O20A **White River Ci** **131.32** **28** *e*PKPdf **PKPdf** **03 20 41.8 +0.9**
O20A *e*PP **PP** **03 23 05.4 +7.2**
O20A LR LR
comp=Z,2µm,19.0s
G34A **Benson** **131.32** **14** P **PKPdf** **03 20 41.6 +1.1**
baz=340
PFO **Pinyon Flats O** **131.38** **40** PKP **PKPdf** **03 20 42.2 +1.1**
comp=Z,4.9nm,1.1s,baz=192,slow=0.6,SNR=3.6
PFO SKPbc **SKPab** **03 24 06.5 +1.7**
comp=Z,5.6nm,1.1s,baz=280,slow=5.2,SNR=6.6
PFO **Pinyon Flats O** **131.38** **40** P **PKPdf** **03 20 41.9 +0.8**
baz=309
PFO **Pinyon Flats O** **131.38** **40** *e*PKIKP **PKPdf** **03 20 43.2 +2.1**
PFO MLR MLR
comp=Z,700nm,20.0s
PFO **Pinyon Flats O** **131.38** **40** *e*PKPdf **PKPdf** **03 20 43.2 +2.1**
PFO SKPbc **SKPab** **03 24 06.5 +1.7**
PFO LR LR
comp=Z,700nm,20.0s
TPFO **Pinon Flats** **131.39** **40** P **PKPdf** **03 20 42.1 +0.9**
baz=309
BELC **Belle Mtn. Jos** **131.43** **40** P **PKPdf** **03 20 42.1 +0.9**
baz=310
I30A **Oacoma** **131.51** **18** P **PKPdf** **03 20 42.1 +1.2**
baz=335
PHWY **Pilot Hill** **131.60** **25** *e*PKPdf **PKPdf** **03 20 41.8 +0.3**
PHWY LR LR
comp=Z,1µm,18.0s
G35A **Watkins** **131.61** **13** P **PKPdf** **03 20 42.3 +1.3**
baz=342
COWI **Conover** **131.70** **8** *e*PKPdf **PKPdf** **03 20 42.4 +1.2**
COWI LR LR
comp=Z,1µm,18.0s
N23A **Red Feather La** **131.73** **25** P **PKPdf** **03 20 42.4 +0.7**
baz=326
N23A **Red Feather La** **131.73** **25** *e*PKPdf **PKPdf** **03 20 43.6 +1.8**
N23A LR LR
comp=Z,2µm,21.0s
G36A **St. Michael** **131.75** **12** P **PKPdf** **03 20 42.7 +1.4**
baz=343
TRQ **Mont Tremblant** **131.80** **354** *e*PKPdf **PKPdf** **03 20 43.9 +2.5**
BAR **Barrett** **131.82** **41** PFAKE 03 20 50.0 +8.1
BAR LR LR
comp=Z,500nm,21.0s
H34A **Spellman Lake,** **131.83** **14** P **PKPdf** **03 20 42.7 +1.2**
baz=340
MONP2 **Monument Peak** **131.86** **41** P **PKPdf** **03 20 42.9 +0.7**
baz=309
IRM **Iron Mountain** **131.87** **39** P **PKPdf** **03 20 42.4 +0.5**
baz=311
SPMN **Marine on St.** **131.95** **11** P **PKPdf** **03 20 42.6 +0.9**
baz=344
SPMN **Marine on St.** **131.95** **11** *e*PKPdf **PKPdf** **03 20 42.1 +0.4**
SPMN LR LR
comp=Z,1µm,19.0s
PKME **Peaks-Kenny Pk** **131.96** **349** PFAKE 03 20 50.0 +8.3
PKME LR LR
comp=Z,1µm,20.0s
BC3 **Big Chuckawall** **132.00** **40** P **PKPdf** **03 20 43.4 +1.1**
baz=310
W13A **Hualapai Mount** **132.01** **37** PFAKE 03 20 50.0 +7.6
W13A LR LR
comp=Z,900nm,20.0s
U15A **North Rim** **132.01** **34** *e*PKPdf **PKPdf** **03 20 43.6 +1.2**
U15A LR LR
comp=Z,800nm,20.0s
H35A **Sunnyside Ranc** **132.02** **13** P **PKPdf** **03 20 43.0 +1.1**
baz=341
J30A **Dallas** **132.03** **18** P **PKPdf** **03 20 43.0 +1.1**
baz=335
EMMW **East Machias** **132.11** **347** PFAKE 03 20 50.0 +8.1
EMMW LR LR
comp=Z,3µm,21.0s
IKP **In-Ko-Pah, Jac** **132.21** **41** P **PKPdf** **03 20 43.5 +0.9**
baz=309
PV10 **Paradox Valley** **132.30** **30** *e*PKPdf **PKPdf** **03 20 44.5 +1.6**
H36A **Jessenland, He** **132.34** **13** P **PKPdf** **03 20 43.8 +1.3**
baz=342
ECSD **EROS Data Cent** **132.49** **15** P **PKPdf** **03 20 44.1 +1.4**
baz=338
ECSD **EROS Data Cent** **132.49** **15** *e*PKPdf **PKPdf** **03 20 41.2 -1.5**
ECSD *e*PP **PP** **03 23 03.6 -1.5**
ECSD LR LR
comp=Z,2µm,21.0s
PV05 **Paradox Valley** **132.50** **30** *e*PKPdf **PKPdf** **03 20 45.2 +2.0**
Y12C **Blythe** **132.52** **39** PFAKE 03 20 50.0 +6.9
Y12C LR LR
comp=Z,700nm,20.0s
H37A **Dierke Farm, C** **132.55** **12** P **PKPdf** **03 20 44.2 +1.4**
baz=344
K30A **Basset** **132.58** **19** P **PKPdf** **03 20 44.3 +1.3**
baz=334
SMCO **Snowmass** **132.67** **28** *e*PP PP 03 23 10.8 +3.7
SMCO LR LR
comp=Z,1µm,20.0s
WVL **Waterville** **132.71** **349** PFAKE 03 20 50.0 +6.9
WVL LR LR
comp=Z,2µm,20.0s
PV01 **Paradox Valley** **132.72** **30** *e*PKPdf **PKPdf** **03 20 45.8 +2.1**
PV01 *e*PP **PP** **03 23 09.7 +2.4**
J33A **Davis** **132.78** **16** P **PKPdf** **03 20 44.7 +1.4**
baz=338
ISCO **Idaho Springs** **132.78** **26** P **PKPdf** **03 20 44.8 +0.9**
baz=325
ISCO **Idaho Springs** **132.78** **26** *e*PKIKP **PKPdf** **03 20 45.7 +1.9**
ISCO MLR MLR
comp=Z,1µm,20.0s
ISCO **Idaho Springs** **132.78** **26** *e*PKPdf **PKPdf** **03 20 45.7 +1.9**
ISCO LR LR
comp=Z,1µm,20.0s
GLA **Glamis** **132.79** **40** P **PKPdf** **03 20 44.7 +1.0**
baz=311
GLA **Glamis** **132.79** **40** PFAKE 03 21 00.0 +16
GLA LR LR
comp=Z,600nm,21.0s
I37A **Lemond, Waseca** **132.99** **12** P **PKPdf** **03 20 45.0 +1.3**
baz=343
FRNY **Flat Rock** **133.06** **353** PFAKE 03 21 00.0 +16
FRNY LR LR
comp=Z,1µm,21.0s
J34A **George** **133.08** **15** P **PKPdf** **03 20 45.5 +1.6**
baz=339
K32A **Verdigre** **133.10** **17** P **PKPdf** **03 20 45.4 +1.5**
baz=336
I38A **Scanlan Farm,** **133.18** **11** P **PKPdf** **03 20 45.4 +1.4**
baz=344
WUAZ **Wupatki** **133.18** **35** P **PKPdf** **03 20 45.6 +1.1**
baz=316
WUAZ **Wupatki** **133.18** **35** *e*PKPdf **PKPdf** **03 20 46.0 +1.4**
WUAZ LR LR
comp=Z,698nm,20.0s
OGNE **Ogallala** **133.26** **22** PFAKE 03 21 00.0 +16
OGNE LR LR
comp=Z,2µm,21.0s
Y14A **Wickenburg** **133.33** **37** *e*PKPdf **PKPdf** **03 20 46.7 +2.0**
Y14A LR LR
comp=Z,3µm,20.0s
LONY **Lake Ozonia** **133.39** **354** PFAKE 03 21 00.0 +16
LONY LR LR
comp=Z,2µm,20.0s
MVCO **Mesa Verde** **133.47** **31** P **PKPdf** **03 20 45.7 +0.6**
baz=320
MVCO **Mesa Verde** **133.47** **31** *e*PKPdf **PKPdf** **03 20 47.4 +2.2**
MVCO LR LR
comp=Z,1µm,18.0s
SADO **Sadowa** **133.56** **358** PFAKE 03 21 00.0 +15
SADO LR LR
comp=Z,2µm,22.0s
K34A **Le Mars** **133.60** **15** P **PKPdf** **03 20 46.4 +1.6**
baz=339
113A **Mohawk Valley,** **133.65** **39** PFAKE 03 21 00.0 +15
113A LR LR
comp=Z,700nm,20.0s
Q24A **Divide** **133.67** **26** PFAKE 03 21 00.0 +14
Q24A LR LR
comp=Z,1µm,21.0s
S22A **4UR Ranch, Cre** **133.88** **29** P **PKPdf** **03 20 46.5 +0.6**
baz=323
S22A **4UR Ranch, Cre** **133.88** **29** *e*PKPdf **PKPdf** **03 20 46.0 0.0**
S22A LR LR
comp=Z,2µm,20.0s
X16A **Lo Mia Camp, P** **133.93** **36** *e*PKPdf **PKPdf** **03 20 45.4 -0.6**
X16A LR LR
comp=Z,1µm,19.0s
FFD **Franklin Falls** **134.12** **351** PFAKE 03 21 00.0 +14
FFD LR LR
comp=Z,3µm,21.0s
K37A **Belmond** **134.13** **13** P **PKPdf** **03 20 47.9 +2.1**
baz=342
BGNE **Belgrade** **134.18** **18** PFAKE 03 21 00.0 +14
BGNE LR LR
comp=Z,2µm,19.0s
L34A **Svendsen Farm,** **134.19** **16** P **PKPdf** **03 20 47.6 +1.6**
baz=338
L35A **Bielow Farm, R** **134.28** **15** P **PKPdf** **03 20 48.2 +2.0**
baz=339
W18A **Petrified Fore** **134.39** **34** P **PKPdf** **03 20 48.1 +1.3**
baz=318
W18A **Petrified Fore** **134.39** **34** *e*PKPdf **PKPdf** **03 20 48.1 +1.3**
W18A LR LR
comp=Z,900nm,19.0s
K38A **Parkersburg** **134.43** **12** P **PKPdf** **03 20 48.1 +1.7**
baz=343
ACCN **Adirondack Com** **134.50** **353** PFAKE 03 21 00.0 +13
ACCN LR LR
comp=Z,1µm,22.0s
SDCO **Great Sand Dun** **134.50** **28** P **PKPdf** **03 20 48.7 +1.6**
baz=324
SDCO **Great Sand Dun** **134.50** **28** *e*PKPdf **PKPdf** **03 20 46.6 -0.5**
SDCO LR LR
comp=Z,2µm,22.0s
JFWS **Jewell Farm** **134.65** **10** *e*PKIKP **PKPdf** **03 20 49.1 +2.2**
JFWS *e* 03 23 18.4
JFWS MLR MLR
comp=Z,1µm,20.0s
JFWS **Jewell Farm** **134.65** **10** *e*PKPdf **PKPdf** **03 20 49.0 +2.2**
JFWS *e*PP **PP** **03 23 18.4 -0.4**
JFWS LR LR
comp=Z,1µm,20.0s
KSCO **Kaye Shedlock'** **134.70** **24** PFAKE 03 21 00.0 +13
KSCO LR LR
comp=Z,2µm,18.0s
214A **Organ Pipe Nat** **134.79** **39** P **PKPdf** **03 20 49.5 +2.0**
baz=312
L38A **Oak Wood Farm,** **134.88** **13** P **PKPdf** **03 20 48.9 +1.6**
baz=343
RCBR **Riachuelo** **134.92** **264** PFAKE 03 21 00.0 +12
RCBR LR LR
comp=Z,600nm,21.0s
N33A **J Bar K, Exete** **135.01** **18** P **PKPdf** **03 20 49.1 +1.5**
baz=336
HRV **Adam Dziewonsk** **135.04** **350** PFAKE 03 21 00.0 +12
HRV LR LR
comp=Z,2µm,20.0s
WES **Weston** **135.12** **350** PFAKE 03 21 00.0 +12
WES LR LR
comp=Z,3µm,20.0s
TRY **Troy** **135.14** **352** PFAKE 03 21 00.0 +12
TRY LR LR
comp=Z,3µm,22.0s

N34A	Lincoln	135.20	17	P		PKPdf	03 20 49.4	+1.5	
	baz=338								
M37A	Trindle Farm,	135.32	14	P		PKPdf	03 20 49.6	+1.5	
	baz=341								
QUA2	Belchertown	135.39	351	PFAKE			03 21 00.0	+12	
QUA2				LR		LR			
	comp=Z,1µm,20.0s								
T25A	Trinidad	135.50	27	P		PKPdf	03 20 50.1	+1.2	
	baz=325								
T25A	Trinidad	135.50	27	ePKPpre		PKPpre	03 20 39.9		
T25A				ePKPdf		PKPdf	03 20 48.4	-0.5	
T25A				ePP		PP	03 23 26.6	+1.8	
T25A				LR		LR			
	comp=Z,1µm,21.0s								
M38A	Pleasantville	135.51	13	P		PKPdf	03 20 49.8	+1.4	
	baz=342								
BRYW	Bryant College	135.61	350	PFAKE			03 21 00.0	+11	
BRYW				LR		LR			
	comp=Z,2µm,20.0s								
P32A	Huiting Farm,	135.66	20	P		PKPdf	03 20 50.3	+1.5	
	baz=334								
O34A	Beatrice	135.75	17	P		PKPdf	03 20 50.5	+1.5	
	baz=337								
TUC	Tucson	135.80	37	P		PKPdf	03 20 50.7	+1.3	
	baz=315								
TUC	Tucson	135.80	37	ePKIKP		PKPdf	03 20 49.8	+0.4	
TUC				MLR		MLR			
	comp=Z,700nm,21.0s								
TUC	Tucson	135.80	37	ePKPdf		PKPdf	03 20 49.8	+0.4	
TUC				LR		LR			
	comp=Z,700nm,21.0s								
BINY	Binghamton	135.93	355	PFAKE			03 21 00.0	+11	
BINY				LR		LR			
	comp=Z,2µm,22.0s								
CBKS	Cedar Bluff	135.98	21	PFAKE			03 21 00.0	+11	
CBKS				LR		LR			
	comp=Z,1µm,22.0s								
AAM	Ann Arbor	135.98	3	PFAKE			03 21 00.0	+11	
AAM				LR		LR			
	comp=Z,2µm,20.0s								
N38A	Joes South For	136.10	14	P		PKPdf	03 20 51.0	+1.4	
	baz=342								
N39A	Derby Farms, D	136.18	13	P		PKPdf	03 20 51.1	+1.3	
	baz=343								
ANMO	Albuquerque	136.27	31	P		PKPdf	03 20 50.6	+0.2	
	baz=322								
ANMO	Albuquerque	136.27	31	i PKIKP		PKPdf	03 20 49.3	-1.1	
ANMO				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ANMO	Albuquerque	136.27	31	ePKPdf		PKPdf	03 20 48.9	-1.4	
ANMO				LR		LR			
	comp=Z,1µm,22.0s								
P34A	Walnut Farm, R	136.29	18	P		PKPdf	03 20 51.3	+1.3	
	baz=337								
YLE	Yale	136.43	351	PFAKE			03 21 00.0	+10	
YLE				LR		LR			
	comp=Z,2µm,19.0s								
O37A	Wolven Farm, M	136.47	15	P		PKPdf	03 20 50.6	+0.4	
	baz=341								
Q33A	Connelly Farm,	136.47	19	P		PKPdf	03 20 51.7	+1.3	
	baz=335								
KSPA	Keystone Colle	136.54	354	PFAKE			03 21 00.0	+10	
KSPA				LR		LR			
	comp=Z,2µm,22.0s								
P35A	Duane Minner,	136.55	17	P		PKPdf	03 20 51.8	+1.3	
	baz=338								
R32A	Long Quarter,	136.69	20	P		PKPdf	03 20 51.9	+1.1	
	baz=334								
ALLY	Alegheny Colle	136.70	359	PFAKE			03 21 00.0	+9.3	
ALLY				LR		LR			
	comp=Z,1µm,20.0s								
P36A	Good Intent, A	136.70	16	P		PKPdf	03 20 51.8	+1.0	
	baz=339								
Y22D	IRIS PASSCAL I	136.70	32	PFAKE			03 21 00.0	+8.9	
Y22D				LR		LR			
	comp=Z,1µm,18.0s								
KSU1	Kansas State U	136.77	18	P		PKPdf	03 20 52.2	+1.3	
	baz=337								
KSU1	Kansas State U	136.77	18	PFAKE			03 21 00.0	+9.1	
KSU1				LR		LR			
	comp=Z,2µm,18.0s								
BNM	Barren Site	136.80	32	ePKPdf		PKPdf	03 20 52.0	+0.6	
BNM				ePP		PP	03 23 38.8	+5.6	
M54A	Oil Creek Stat	136.83	359	P		PKPdf	03 20 52.4	+1.4	
	baz=1.8								
Q34A	Chapman	136.83	18	P		PKPdf	03 20 52.4	+1.4	
	baz=336								
PAL	Palisades	136.87	352	PFAKE			03 21 00.0	+9.0	
PAL				LR		LR			
	comp=Z,2µm,21.0s								
ODNJ	Ogdensburg	136.88	353	PFAKE			03 21 00.0	+9.0	
ODNJ				LR		LR			
	comp=Z,1µm,21.0s								
P37A	Lathrop	136.96	15	P		PKPdf	03 20 52.7	+1.4	
	baz=340								
O40A	La Belle	137.04	12	P		PKPdf	03 20 52.7	+1.4	
	baz=344								
R33A	Olander Ranch,	137.05	20	P		PKPdf	03 20 52.8	+1.4	
	baz=335								
CPNY	Central Park	137.09	352	PFAKE			03 21 00.0	+8.6	
CPNY				LR		LR			
	comp=Z,2µm,22.0s								
HDIL	Hopedale	137.11	9	P		PKPdf	03 20 52.6	+1.2	
	baz=348								
HDIL	Hopedale	137.11	9	PFAKE			03 21 00.0	+8.5	
HDIL				LR		LR			
	comp=Z,1µm,20.0s								
P38A	Dawn	137.13	14	P		PKPdf	03 20 53.2	+1.7	
	baz=341								
Q35A	Mercer Eighty,	137.16	17	P		PKPdf	03 20 53.2	+1.5	
	baz=338								
N59A	State Game Lan	137.18	354	P		PKPdf	03 20 52.7	+1.1	
	baz=7.5								
BRNJ	Basking Ridge	137.27	353	PFAKE			03 21 00.0	+8.3	
BRNJ				LR		LR			
	comp=Z,2µm,21.0s								
319A	Douglas	137.37	37	ePKPdf		PKPdf	03 20 50.0	-2.4	
319A				LR		LR			
	comp=Z,600nm,20.0s								
N54A	Moraine State	137.38	359	P		PKPdf	03 20 53.6	+1.6	
	baz=1.3								
121A	Cookes Peak, D	137.39	34	P		PKPdf	03 20 53.8	+1.3	
	baz=318								
LUPA	Lehigh Univers	137.45	354	PFAKE			03 21 00.0	+7.9	
LUPA				LR		LR			
	comp=Z,2µm,22.0s								
P39B	Salisbury	137.45	14	P		PKPdf	03 20 53.6	+1.4	
	baz=342								
P40A	Paris	137.57	13	P		PKPdf	03 20 53.5	+1.1	
	baz=343								
SFIN	Lafayette	137.59	7	P		PKPdf	03 20 53.9	+1.5	
	baz=351								
SFIN	Lafayette	137.59	7	PFAKE			03 21 00.0	+7.6	
SFIN				LR		LR			
	comp=Z,2µm,20.0s								
R35A	Emporia Munici	137.61	18	P		PKPdf	03 20 53.6	+1.1	
	baz=337								
SSPA	Standing Stone	137.62	357	ePKPpre		PKPpre	03 20 42.4		
SSPA				ePKPdf		PKPdf	03 20 52.3	-0.1	
SSPA				LR		LR			
	comp=Z,2µm,20.0s								
P41A	Barry, Barry	137.64	12	P		PKPdf	03 20 53.7	+1.3	
	baz=345								
Q38A	Cooks Store, C	137.74	15	P		PKPdf	03 20 54.0	+1.3	
	baz=341								
R36A	Gordon, Harris	137.82	17	P		PKPdf	03 20 54.3	+1.4	
	baz=338								
Q39A	Willow Grove F	137.82	14	P		PKPdf	03 20 54.1	+1.3	
	baz=342								
S34A	Willow Spring	137.89	19	P		PKPdf	03 20 54.6	+1.6	
	baz=336								
R37A	Teagarden Farm	138.02	16	P		PKPdf	03 20 54.5	+1.3	
	baz=339								
O56A	Blue Knob Stat	138.03	357	P		PKPdf	03 20 54.9	+1.7	
	baz=3.5								
T33A	Patterson Ranc	138.06	21	P		PKPdf	03 20 54.7	+1.4	
	baz=334								
ACSO	Alum Creek Sta	138.08	2	ePKPdf		PKPdf	03 20 55.0	+1.7	
ACSO				LR		LR			
	comp=Z,2µm,19.0s								
Q40A	Laux Farm, Aux	138.08	13	P		PKPdf	03 20 54.8	+1.5	
	baz=343								
S35A	Otter Creek Ra	138.16	18	P		PKPdf	03 20 54.9	+1.3	
	baz=337								
S36A	Lake Cedric, C	138.34	18	P		PKPdf	03 20 55.1	+1.3	
	baz=338								
R38A	Fenwick Farm,	138.39	15	P		PKPdf	03 20 55.1	+1.2	
	baz=340								
T34A	McClaskey Farm	138.48	20	P		PKPdf	03 20 55.5	+1.4	
	baz=335								
Q42A	Golden Eagle	138.48	11	P		PKPdf	03 20 55.5	+1.5	
	baz=345								
R39A	Chumby, Stover	138.50	14	P		PKPdf	03 20 55.7	+1.6	
	baz=342								
S37A	Fort Scott	138.54	17	P		PKPdf	03 20 55.5	+1.4	
	baz=339								
AMTX	Amarillo	138.60	26	PFAKE			03 21 10.0	+15	
AMTX				LR		LR			
	comp=Z,2µm,20.0s								
Q43A	New Douglas	138.61	10	P		PKPdf	03 20 55.8	+1.5	
	baz=347								
MCWV	Mont Chateau	138.68	359	PFAKE			03 21 10.0	+16	
MCWV				LR		LR			
	comp=Z,2µm,20.0s								
U33A	Lingo Farm, Me	138.68	21	P		PKPdf	03 20 56.0	+1.4	
	baz=334								
R40A	Maddies Statio	138.71	14	P		PKPdf	03 20 56.1	+1.7	
	baz=343								
Q44A	Meyer Farm, Va	138.77	10	P		PKPdf	03 20 56.2	+1.6	
	baz=348								
SDMD	Soldier's Deli	138.77	355	PFAKE			03 21 10.0	+15	
SDMD				LR		LR			
	comp=Z,900nm,20.0s								
T35A	Sooner Cattle	138.80	19	P		PKPdf	03 20 56.2	+1.5	
	baz=336								
SLM	Saint Louis	138.81	11	PFAKE			03 21 10.0	+15	
SLM				LR		LR			
	comp=Z,1µm,20.0s								
T36A	Boggs Farm, Ca	138.87	18	P		PKPdf	03 20 56.5	+1.7	
	baz=337								
U34A	Anderson Ranch	138.88	21	P		PKPdf	03 20 56.7	+1.8	
	baz=334								
U34A	Anderson Ranch	138.88	21	PFAKE			03 21 10.0	+15	
U34A				LR		LR			
	comp=Z,2µm,19.0s								
S38A	Stockton	138.91	16	P		PKPdf	03 20 56.2	+1.3	
	baz=340								
S39A	Bolivar	139.01	15	P		PKPdf	03 20 56.4	+1.3	
	baz=341								
OLIL	Olney	139.08	9	ePKPpre		PKPpre	03 20 47.7		
OLIL				ePKPdf		PKiKP	03 20 57.0	-0.3	
OLIL				ePP		PP	03 23 41.8	-4.6	
OLIL				LR		LR			
	comp=Z,2µm,20.0s								
T37A	Cheneyville 18	139.10	17	P		PKPdf	03 20 56.5	+1.3	
	baz=338								
V33A	Lossen Ranch,	139.16	22	P		PKPdf	03 20 56.9	+1.5	
	baz=333								
MNTX	Cornudas Mount	139.35	33	ePKPpre		PKPpre	03 20 50.3		
MNTX				LR		LR			
	comp=Z,1µm,21.0s								
V34A	Guthrie	139.43	21	PFAKE			03 21 10.0	+14	
V34A				LR		LR			
	comp=Z,2µm,20.0s								
WCI	Wyandotte Cave	139.81	7	ePKIKP		PKPdf	03 20 56.7	+0.1	
WCI				e			03 23 50.0		
WCI				MLR		MLR			
	comp=Z,1µm,20.0s								
WCI	Wyandotte Cave	139.81	7	ePKPdf		PKPdf	03 20 56.7	+0.1	
WCI				ePP		PP	03 23 50.0	-1.0	
WCI				LR		LR			
	comp=Z,1µm,20.0s								
W34A	Bridge Creek,	139.88	22	PFAKE			03 21 10.0	+13	
W34A				LR		LR			
	comp=Z,2µm,18.0s								
SIUC	Southern Illin	139.89	10	ePKPdf		PKPdf	03 20 57.7	+1.1	
SIUC				ePP		PP	03 23 49.4	-2.1	
SIUC				LR		LR			
	comp=Z,2µm,20.0s								
USIN	University of	139.89	8	PFAKE			03 21 10.0	+13	
USIN				LR		LR			
	comp=Z,1µm,19.0s								
WMOK	Wichita Mounta	139.93	23	ePKHKP		PKPpre	03 20 48.1		
WMOK				e			03 23 52.1		
WMOK				MLR		MLR			
	comp=Z,2µm,21.0s								
WMOK	Wichita Mounta	139.93	23	ePKPpre		PKPpre	03 20 48.0		
WMOK				ePP		PP	03 23 52.1	+0.1	
WMOK				LR		LR			
	comp=Z,2µm,21.0s								
TUL1	Leonard	139.95	19	ePKPpre		PKPpre	03 20 48.7		
TUL1				ePKPdf		PKPdf	03 20 57.2	+0.4	
TUL1				ePP		PP	03 23 53.4	+1.4	
TUL1				LR		LR			
	comp=Z,2µm,19.0s								
CBN	Corbin Frederi	140.01	356	PFAKE			03 21 10.0	+13	
CBN				LR		LR			
	comp=Z,2µm,21.0s								
HHAR	Hobbs	140.17	17	ePKPpre		PKPpre	03 20 50.7		
HHAR				LR		LR			
	comp=Z,2µm,19.0s								
PLCA	Paso Flores	140.17	192	PKP		PKPdf	03 20 57.3	+0.1	
	comp=Z,2.8nm,0.7s,baz=258,slow=6.3,SNR=3.4								
PLCA	Paso Flores	140.17	192	ePKIKP		PKPdf	03 20 57.4	+0.2	
PBMO	Poplar Bluff	140.56	12	ePKPpre		PKPpre	03 20 49.5		
PBMO				ePKPdf		PKPdf	03 20 56.5	-1.4	
PBMO				LR		LR			
	comp=Z,2µm,21.0s								
SPB	Sao Paulo	141.03	234	PFAKE			03 21 10.0	+11	
SPB				LR		LR			
	comp=Z,900nm,18.0s								
PVMO	Portageville	141.06	11	PFAKE			03 21 10.0	+11	
PVMO				LR		LR			
	comp=Z,2µm,20.0s								
BLA	Blacksburg	141.13	359	PFAKE			03 21 10.0	+11	
BLA				LR		LR			
	comp=Z,3µm,22.0s								
ABTX	Abilene, Hawle	141.41	26	ePKPdf		PKPdf	03 20 56.0	-3.6	
ABTX				LR		LR			
	comp=Z,2µm,18.0s								
X201	Greenbrier Sit	141.53	15	ePKPpre		PKPpre	03 20 50.3		
X201				LR		LR			
	comp=Z,1µm,22.0s								
WHAR	Wooly Hollow	141.55	15	ePKPpre		PKPpre	03 20 51.9		
WHAR				ePP		PP	03 24 02.0	+0.3	
WHAR				LR		LR			
	comp=Z,2µm,22.0s								
X301	Greenbrier Sit	141.57	15	ePKPpre		PKPpre	03 20 51.0		
X301				ePP		PP	03 23 58.5	-3.3	
X301				LR		LR			
	comp=Z,1µm,21.0s								
HALT	Halls	141.62	11	PFAKE			03 21 10.0	+10	
HALT				LR		LR			
	comp=Z,2262µm,20.0s								
WVT	Waverly	141.67	9	ePKIKP		PKPpre	03 20 54.6		
WVT				e			03 23 58.7		
WVT				MLR		MLR			
	comp=Z,2µm,20.0s								
WVT	Waverly	141.67	9	ePKPpre		PKPpre	03 20 54.6		
WVT				ePP		PP	03 23 58.7	-3.6	
WVT				LR		LR			
	comp=Z,2µm,20.0s								
TZTN	Tazewell	141.72	3	ePKPpre		PKPpre	03 20 53.8		
TZTN				LR		LR			
	comp=Z,2µm,20.0s								
MIAR	Mount Ida	141.90	17	ePKHKP		PKPpre	03 20 54.6		
MIAR				MLR		MLR			
	comp=Z,2µm,20.0s								
MIAR	Mount Ida	141.90	17	ePKPpre		PKPpre	03 20 54.6		
MIAR				LR		LR			
	comp=Z,2µm,20.0s								
UALR	University of	142.02	15	PFAKE			03 21 10.0	+9.4	
UALR				LR		LR			
	comp=Z,1µm,21.0s								
TX31	Lajitas Ar. Si	142.11	33	ePKPpre		PKPpre	03 20 55.9		
TX31				ePP		PP	03 24 05.5	-0.4	
TXAR	Lajitas Array	142.11	33	PKhKP		PKPpre	03 20 56.9		
	comp=Z,5.3nm,1.1s,baz=191,slow=0.7,SNR=17								
TXAR				PP		PP	03 24 09.9	+4.0	
	comp=Z,0.9nm,1.0s,baz=308,slow=4.4,SNR=3.7								
MET	Memphis--Engin	142.26	12	PFAKE			03 21 10.0	+9.0	
MET				LR		LR			
	comp=Z,2µm,20.0s								
TKL	Tuckaleechee C	142.59	4	ePKHKP		PKPpre	03 20 56.2		
TKL				MLR		MLR			
	comp=Z,2µm,20.0s								
TKL	Tuckaleechee C	142.59	4	ePKPpre		PKPpre	03 20 56.2		
TKL				LR		LR			
	comp=Z,2µm,20.0s								
BBSR	BB Station	142.65	337	PFAKE			03 21 10.0	+8.3	
BBSR				LR		LR			
	comp=Z,1µm,21.0s								
CPCT	Cooper Cave	142.74	5	ePKPpre		PKPpre	03 20 58.3		
CPCT				LR		LR			
	comp=Z,2µm,20.0s								
HPIG		142.74	38	PFAKE			03 21 10.0	+7.6	
HPIG				LR		LR			
	comp=Z,1µm,20.0s								
PLAL	Pickwick Lake	142.75	10	PFAKE			03 21 10.0	+8.1	
PLAL				LR		LR			
	comp=Z,1µm,21.0s								
Y41A	Eaglette Beard	142.79	16	P		PKPdf	03 20 58.2	-3.7	
	baz=340								
136A	Ennis	142.80	22	P		PKPdf	03 20 58.7	-3.3	
	baz=334								
333A	Richland Sprin	142.81	26	P		PKPdf	03 20 59.0	-3.2	
	baz=329								
X44A	Crenshaw	142.82	13	P		PKPdf	03 20 59.1	-2.9	
	baz=345								
SWET	Sewanee	142.83	7	ePKPdf		PKPdf	03 20 59.7	-2.4	
SWET				LR		LR			
	comp=Z,500nm,21.0s								
WLAR	White Oak Lake	142.83	17	PFAKE			03 21 10.0	+8.0	
WLAR				LR		LR			
	comp=Z,2µm,20.0s								
WHTX	Lake Whitney,	142.87	24	P		PKPdf	03 20 59.2	-3.0	
	baz=332								
WHTX	Lake Whitney,	142.87	24	ePKPpre		PKPpre	03 20 58.8		
WHTX				LR		LR			
	comp=Z,2µm,19.0s								
Z39A	Irene McRaven,	142.92	19	P		PKPdf	03 20 58.4	-3.8	
	baz=338								
OXF	Oxford	142.96	12	ePKIKP		PKPdf	03 20 59.8	-2.4	
OXF				e			03 24 06.2		
OXF				MLR		MLR			
	comp=Z,2µm,20.0s								
OXF	Oxford	142.96	12	ePKPdf		PKPdf	03 20 59.8	-2.4	
OXF				ePP		PP	03 24 06.2	-4.0	
OXF				LR		LR			
	comp=Z,2µm,20.0s								
137A	Heron Place, G	142.97	21	P		PKPdf	03 20 59.0	-3.3	
	baz=335								
CCAR	Cane Creek	142.99	15	PFAKE			03 21 10.0	+7.7	
CCAR				LR		LR			
	comp=Z,2µm,20.0s								
X45A	UM Field Stati	143.05	12	P		PKPbc	03 20 58.7	-0.4	
	baz=346								
Y42A	Garnett, Star	143.06	15	P		PKPbc	03 20 59.1	0.0	
	baz=342								
334A	Lometa	143.12	25	P		PKPbc	03 20 59.7	+0.2	
	baz=330								
Z40A	Long Farm, Mag	143.15	18	P		PKPbc	03 20 59.3	-0.1	
	baz=339								
138A	Matatall Enter	143.15	20	P		PKPbc	03 20 59.8	+0.4	
	baz=336								
JCT	Junction City	143.15	28	P		PKPbc	03 20 59.4	-0.2	
	baz=327,SNR=24								
JCT	Junction City	143.15	28	ePKIKP		PKPbc	03 21 00.5	+0.9	
JCT				MLR		MLR			
	comp=Z,1µm,19.0s								
JCT	Junction City	143.15	28	ePKPdf		PKPbc	03 21 00.5	+0.9	
JCT				LR		LR			
	comp=Z,1µm,19.0s								
KMSC	Kings Mountain	143.20	1	P		PKPbc	03 20 59.9	+0.3	
	baz=359								
KMSC	Kings Mountain	143.20	1	PFAKE			03 21 10.0	+7.3	
KMSC				LR		LR			
	comp=Z,2µm,22.0s								
Y43A	Makayla and Ka	143.20	14	P		PKPbc	03 20 59.5	0.0	
	baz=343								
236A	Katherine and	143.22	22	P		PKPbc	03 21 00.4	+0.7	
	baz=333								
433A	Art	143.25	27	P		PKPbc	03 20 59.5	-0.4	
	baz=329								
Y44A	Strider, Charl	143.32	13	P		PKPbc	03 20 59.5	-0.4	
	baz=344,SNR=6.7								
Z41A	Richland Creek	143.32	17	P		PKPbc	03 20 59.8	-0.2	
	baz=340								
237A	Washetta, Mont	143.49	22	P		PKPbc	03 21 00.1	-0.3	
	baz=334								
335A	Moody	143.50	24	P		PKPbc	03 21 00.8	+0.2	
	baz=332								
Z42A	Norrel Spur, H	143.55	16	P		PKPbc	03 21 00.8	+0.3	
	baz=341								
434A	Burnet	143.56	26	P		PKPbc	03 21 00.3	-0.4	
	baz=330								
Y45A	Yeager Farm, C	143.56	12	P		PKPbc	03 21 00.6	0.0	
	baz=345								
336A	Riesel	143.65	23	P		PKPbc	03 21 01.3	+0.4	
	baz=332								
140A	Cam and Jess,	143.67	18	P		PKPbc	03 21 00.9	0.0	
	baz=338								
Y46A	Houston	143.68	11	P		PKPab	03 21 00.3	+0.1	
	baz=346,SNR=8.9								
238A	Jacksonville	143.74	21	P		PKPbc	03 21 01.2	0.0	
	baz=336								
Z43A	Armstrong Fami	143.79	15	P		PKPbc	03 21 01.4	+0.1	
	baz=342								
Y47A	UCPAC, Winfie	143.84	10	P		PKPab	03 21 01.1	+0.3	
	baz=348								
533A	Kerrville	143.85	27	P		PKPab	03 21 00.9	-0.1	
	baz=328								
435B	Jarrell	143.88	25	P		PKPab	03 21 01.2	+0.2	
	baz=331								
141A	Papa Simpson,	143.90	17	P		PKPbc	03 21 01.5	-0.1	
	baz=339,SNR=9.8								
Z44A	Pea Ridge, Bel	143.93	14	P		PKPbc	03 21 01.9	+0.2	
	baz=344,SNR=24								
239A	Gary	143.95	20	P		PKPbc	03 21 01.7	-0.1	
	baz=337								
Z45A	Winona	144.00	13	P		PKPbc	03 21 01.9	0.0	
	baz=345								
337A	Centerville	144.08	22	P		PKPab	03 21 01.9	+0.2	
	baz=334,SNR=10								
NATX	Nacogdoches	144.12	20	P		PKPbc	03 21 02.3	-0.1	
	baz=336								
NATX	Nacogdoches	144.12	20	ePKPdf		PKPbc	03 21 02.3	-0.1	
NATX				LR		LR			
	comp=Z,2µm,18.0s								
534A	Blanco	144.14	27	P		PKPbc	03 21 02.9	+0.4	
	baz=329,SNR=8.6								
240A	Hunter Patters	144.16	19	P		PKPbc	03 21 02.7	+0.2	
	baz=338								
436A	Wall Ranch, Ga	144.21	24	P		PKPbc	03 21 02.8	+0.1	
	baz=332								
142A	Monroe	144.23	16	P		PKPbc	03 21 02.6	0.0	
	baz=341,SNR=6.8								
143A	Socs Landing,	144.23	15	P		PKPbc	03 21 02.9	+0.3	
	baz=342,SNR=17								
338A	Crockett	144.25	21	P		PKPab	03 21 02.5	+0.1	
	baz=335,SNR=8.8								
633A	Saathoff Ranch	144.30	28	P		PKPbc	03 21 03.2	+0.2	
	baz=328,SNR=60								
Z46A	Louisville	144.33	12	P		PKPbc	03 21 03.0	+0.1	
	baz=346,SNR=12								
Z48A	Northport	144.41	10	P		PKPab	03 21 01.9	-1.0	
	baz=349,SNR=7.6								
437A	Phantom Ranch,	144.42	23	P		PKPab	03 21 03.2	+0.2	
	baz=333								
241A	Mo Tay, Goldon	144.44	18	P		PKPbc	03 21 03.5	+0.1	
	baz=339,SNR=12								
Z47A	Carrollton	144.49	10	P		PKPab	03 21 03.0	-0.2	
	baz=348,SNR=11								
535A	Dale	144.53	25	P		PKPab	03 21 03.5	+0.1	
	baz=330								
339A	Huntington	144.54	20	P		PKPbc	03 21 03.9	+0.2	
	baz=336								
144A	Alexander Plac	144.55	14	P		PKPbc	03 21 04.2	+0.6

GOGA	**Godfrey**	**144.84**	**4**	*e*PKIKP	PKPbc	03 21 04.6	0.0		
GOGA				MLR	MLR				
	comp=Z,2μm,22.0s								
GOGA	**Godfrey**	**144.84**	**4**	*e*PKPdf	PKPbc	03 21 04.6	0.0		
GOGA				LR	LR				
	comp=Z,2μm,22.0s								
146A	**Union**	**144.85**	**12**	P	PKPbc	03 21 05.0	+0.4		
	baz=346,SNR=19								
733A	**Divot King Ran**	**144.87**	**29**	P	**PKPdf**	**03 21 05.3**	**-0.4**		
	baz=327,SNR=28								
832A	**Faith Ranch, C**	**144.89**	**30**	P	**PKPdf**	**03 21 05.7**	**-0.2**		
	baz=326,SNR=58								
439A	**Center Grove,**	**144.96**	**21**	P	PKPbc	03 21 05.3	+0.3		
	baz=335								
147A	**Livingston**	**144.97**	**11**	P	**PKPab**	**03 21 04.9**	**-0.1**		
	baz=347,SNR=30								
243A	**Waterproof**	**144.99**	**16**	P	PKPbc	03 21 05.5	+0.4		
	baz=341,SNR=6.5								
635A	**Leesville**	**145.00**	**26**	P	**PKPbc**	**03 21 05.6**	**+0.4**		
	baz=330,SNR=15								
341A	**Kurthwood**	**145.00**	**18**	P	**PKPbc**	**03 21 05.5**	**+0.3**		
	baz=338,SNR=44								
537A	**Green Hill Far**	**145.01**	**24**	P	**PKPdf**	**03 21 05.6**	**-0.3**		
	baz=332,SNR=9.3								
244A	**Avery, Jackson**	**145.04**	**15**	P	**PKPab**	**03 21 05.6**	**+0.3**		
	baz=343,SNR=38								
734A	**La Parita Cree**	**145.11**	**28**	P	**PKPdf**	**03 21 06.3**	**+0.1**		
	baz=328,SNR=9.8								
833A	**Chaparral WMA,**	**145.15**	**29**	P	**PKPdf**	**03 21 06.4**	**+0.2**		
	baz=326,SNR=22								
538A	**Harpers Horsep**	**145.21**	**22**	P	**PKPdf**	**03 21 06.9**	**+0.6**		
	baz=334								
NHSC	**New Hope**	**145.22**	**359**	*e*PKPbc	**PKPdf**	**03 21 09.3**	**+3.1**		
NHSC				LR	LR				
	comp=Z,2μm,20.0s								
342A	**Flagon Creek P**	**145.22**	**17**	P	**PKPdf**	**03 21 06.8**	**+0.5**		
	baz=340,SNR=22								
636A	**Smothers Creek**	**145.23**	**25**	P	**PKPdf**	**03 21 07.1**	**+0.7**		
	baz=331,SNR=12								
245A	**Little AP, Sta**	**145.24**	**13**	P	**PKPdf**	**03 21 06.4**	**+0.1**		
	baz=344,SNR=22								
440A	**Kirbyville**	**145.29**	**20**	P	**PKPdf**	**03 21 06.8**	**+0.4**		
	baz=337,SNR=14								
HKT	**Hockley**	**145.32**	**23**	*e*PKIKP	**PKPdf**	**03 21 07.0**	**+0.6**		
HKT				MLR	MLR				
	comp=Z,1μm,20.0s								
HKT	**Hockley**	**145.32**	**23**	*e*PKPbc	**PKPdf**	**03 21 07.0**	**+0.6**		
HKT				LR	LR				
	comp=Z,1μm,20.0s								
CSU	**Charleston Sou**	**145.34**	**359**	*e*PKPbc	**PKPdf**	**03 21 07.0**	**+0.5**		
246A	**Jackson Lee, B**	**145.43**	**12**	P	**PKPab**	**03 21 07.5**	**+0.8**		
	baz=345								
735A	**Kenedy**	**145.44**	**27**	P	**PKPab**	**03 21 08.0**	**+1.1**		
	baz=329,SNR=45								
247A	**Quitman**	**145.50**	**12**	P	**PKPab**	**03 21 07.5**	**+0.6**		
	baz=346,SNR=18								
343A	**Vidalia**	**145.51**	**16**	P	**PKPab**	**03 21 07.6**	**+0.6**		
	baz=341								
441A	**DeRidder**	**145.54**	**19**	P	**PKPab**	**03 21 08.0**	**+0.8**		
	baz=338,SNR=12								
637A	**Eagle Lake**	**145.57**	**24**	P	**PKPab**	**03 21 08.4**	**+1.1**		
	baz=332,SNR=21								
344A	**Westbrook Farm**	**145.59**	**15**	P	**PKPab**	**03 21 08.1**	**+0.8**		
	baz=342,SNR=28								
539A	**Cross D Ranch,**	**145.60**	**21**	P	**PKPab**	**03 21 08.2**	**+0.8**		
	baz=335,SNR=6.5								
248A	**Dixon Mills**	**145.63**	**10**	P	**PKPab**	**03 21 07.9**	**+0.4**		
	baz=348,SNR=17								
736A	**Circle Diamond**	**145.68**	**26**	P	**PKPab**	**03 21 09.2**	**+1.5**		
	baz=330,SNR=37								
834A	**Tilden**	**145.72**	**28**	P	**PKPab**	**03 21 09.0**	**+1.1**		
	baz=328,SNR=58								
540A	**Vidor**	**145.77**	**20**	P	**PKPab**	**03 21 09.4**	**+1.4**		
	baz=336,SNR=7.6								
933A	**Laredo**	**145.79**	**30**	P	**PKPab**	**03 21 09.3**	**+1.1**		
	baz=326,SNR=63								
442A	**Mamou**	**145.81**	**18**	P	**PKPab**	**03 21 09.0**	**+0.8**		
	baz=339								
345A	**Thompson Farm,**	**145.91**	**14**	P	**PKPab**	**03 21 08.9**	**+0.4**		
	baz=344,SNR=8.4								
835A	**Beeville**	**145.92**	**27**	P	**PKPab**	**03 21 10.1**	**+1.5**		
	baz=329,SNR=45								
638A	**Rosharon**	**145.94**	**23**	P	**PKPab**	**03 21 09.9**	**+1.2**		
	baz=334								
443A	**Delano Plantat**	**145.96**	**17**	P	**PKPab**	**03 21 09.3**	**+0.6**		
	baz=340								
346A	**Big Creek Wild**	**145.96**	**13**	P	**PKPab**	**03 21 08.9**	**+0.2**		
	baz=345,SNR=8.6								
737A	**Port Lavaca**	**146.12**	**25**	P	**PKPab**	**03 21 10.0**	**+0.7**		
	baz=331								
347A	**Saraland**	**146.15**	**12**	P	**PKPab**	**03 21 09.6**	**+0.2**		
	baz=346								
934A	**Benavides**	**146.17**	**29**	P	**PKPab**	**03 21 10.7**	**+1.1**		
	baz=327,SNR=21								
541A	**Lake Charles**	**146.18**	**19**	P	**PKPab**	**03 21 10.3**	**+0.8**		
	baz=338								
348A	**Jackson**	**146.26**	**11**	P	**PKPab**	**03 21 10.2**	**+0.4**		
	baz=347								
444A	**Pine Grove**	**146.29**	**15**	P	**PKPab**	**03 21 10.4**	**+0.5**		
	baz=342								
542A	**Morse**	**146.32**	**18**	P	**PKPab**	**03 21 11.0**	**+0.9**		
	baz=339								
738A	**Farr-Stevens R**	**146.38**	**24**	P	**PKPab**	**03 21 11.2**	**+0.8**		
	baz=333								
MRA	**San Martin**	**146.39**	**204**	*e*P	**PKPbc**	**03 21 09.8**	**+0.2**		
034A	**Hebbronville**	**146.54**	**30**	P	**PKPab**	**03 21 11.7**	**+0.7**		
	baz=326								
446A	**Poplarville**	**146.56**	**13**	P	**PKPab**	**03 21 10.8**	**-0.2**		
	baz=345								
543A	**St. Martinvill**	**146.57**	**17**	P	**PKPab**	**03 21 11.5**	**+0.4**		
	baz=340								
447A	**Lucedale**	**146.71**	**12**	P	**PKPbc**	**03 21 10.9**	**+0.4**		
	baz=346								
CPUP	**Villa Florida**	**146.73**	**221**	PKPbc	**PKPdf**	**03 21 09.7**	**+0.7**		
	comp=Z,34nm,0.9s,baz=119,slow=2.3,SNR=45								
CPUP	**Villa Florida**	**146.73**	**221**	*e*PKPdf	**PKPbc**	**03 21 10.5**	**-0.2**		
544A	**White Castle**	**146.75**	**16**	P	**PKPab**	**03 21 11.9**	**+0.2**		
	baz=341								
TIGA	**Tifton**	**146.80**	**4**	P	**PKPbc**	**03 21 10.5**	**-0.1**		
	baz=355								
TIGA	**Tifton**	**146.80**	**4**	PFAKE		03 21 20.0	+8.1		
TIGA				LR	LR				
	comp=Z,2μm,20.0s								
TCA	**Tanti**	**146.86**	**206**	*e*P	**PKPbc**	**03 21 10.5**	**-0.5**		
AAGR	**Agrelo**	**146.92**	**199**	*e*P	**PKPab**	**03 21 12.4**	**-0.1**		
035A	**Encino**	**146.93**	**29**	P	**PKPab**	**03 21 12.6**	**+0.1**		
	baz=327								
ACAN	**Cantantal**	**147.09**	**202**	*e*P	**PKPab**	**03 21 13.3**	**+0.2**		
ARCO	**CERRO ARCO**	**147.18**	**199**	*e*P	**PKPab**	**03 21 13.6**	**0.0**		
035Z	**Hargill**	**147.34**	**29**	P	**PKPbc**	**03 21 12.5**	**+0.2**		
	baz=327								
ASAL	**Salagasta**	**147.38**	**199**	*e*P	**PKPbc**	**03 21 12.6**	**+0.2**		
645A	**Chauvin**	**147.52**	**16**	P	**PKPab**	**03 21 14.5**	**-0.3**		
	baz=342								
ZAIG	**Zacatecas**	**147.69**	**40**	*e*PKPdf	**PKPbc**	**03 21 12.5**	**-1.3**		
ZAIG				LR	LR				
	comp=Z,1μm,21.0s								
AUSP	**Uspallata**	**147.89**	**199**	*e*P	**PKPbc**	**03 21 13.3**	**-0.8**		
RTCV	**Cerro Valdivia**	**147.94**	**200**	*e*P	**PKPbc**	**03 21 14.6**	**+0.7**		
RTLS	**Leoncito**	**148.26**	**199**	*e*P	**PKPbc**	**03 21 15.6**	**+0.5**		
RTLL	**Cerro Villicun**	**148.41**	**201**	*e*P	**PKPbc**	**03 21 13.7**	**-1.5**		
AVFE	**Valle Fertil**	**148.63**	**203**	*i* P	**PKPbc**	**03 21 17.2**	**+1.4**		
AMOG	**MOGNA**	**148.77**	**201**	*e*P	**PKPbc**	**03 21 16.5**	**+0.3**		
CYA	**Choya**	**149.87**	**207**	*i* P	**PKPbc**	**03 21 20.5**	**+1.5**		
AGUA	**GUANDACOL**	**150.08**	**202**	*e*P	**PKPbc**	**03 21 20.0**	**+0.5**		
DWPF	**Disney Wildern**	**150.21**	**1**	*e*PKPbc	**PKPbc**	**03 21 20.6**	**+0.9**		
DWPF				LR	LR				
	comp=Z,2μm,20.0s								
VCA	**Vinchina**	**150.64**	**203**	*e*P	**PKPbc**	**03 21 18.6**	**-2.4**		
MOIG	**Morelia**	**150.78**	**42**	PFAKE		03 21 30.0	+1.4		
MOIG				LR	LR				
	comp=Z,1μm,21.0s								
AHML	**Horco Molle**	**151.04**	**210**	*i* P	**PKPbc**	**03 21 23.6**	**+1.7**		
LCO	**Las Campanas**	**151.29**	**199**	*e*PKPdf	**PKPdf**	**03 21 15.6**	**-1.0**		
LCO				*e*PKPbc	**PKiKP**	**03 21 24.1**	**+1.0**		
FSA	**Cafayete**	**151.92**	**210**	*e*P	**PKPdf**	**03 21 19.4**	**+1.9**		
ASTB	**Santa Barbara**	**152.86**	**215**	*i* P	**PKPab**	**03 21 39.5**	**+2.5**		
ANWB	**Willy Bob**	**152.94**	**317**	PFAKE		03 21 30.0	+3.8		
ANWB				LR	LR				
	comp=Z,799nm,20.0s								
AZAP	**Zapla**	**152.98**	**213**	*i* P	**PKPbc**	**03 21 27.4**	**+0.9**		
SMRT	**St. Maarten**	**153.54**	**319**	PFAKE		03 21 30.0	+2.4		
SMRT				LR	LR				
	comp=Z,500nm,21.0s								
ABVI	**Anegada Island**	**153.84**	**322**	PFAKE		03 21 30.0	+1.9		
ABVI				LR	LR				
	comp=Z,900nm,20.0s								
SEUS	**St. Eustatius**	**153.88**	**318**	PFAKE		03 21 30.0	+1.7		
SEUS				LR	LR				
	comp=Z,900nm,21.0s								
SABA	**Saba**	**153.96**	**319**	PFAKE		03 21 30.0	+1.5		
SABA				LR	LR				
	comp=Z,800nm,21.0s								
FDF	**Fort de France**	**154.41**	**311**	PFAKE		03 21 30.0	+0.5		
FDF				LR	LR				
	comp=Z,700nm,21.0s								
GRTK	**Grand Turk**	**154.88**	**338**	PFAKE		03 21 30.0	-0.3		
GRTK				LR	LR				
	comp=Z,901nm,20.0s								
CBYP	**Canovanas**	**155.10**	**324**	PFAKE		03 21 30.0	+7.9		
CBYP				LR	LR				
	comp=Z,900nm,21.0s								
HUMP	**Col San Antoni**	**155.20**	**324**	PFAKE		03 21 30.0	+7.8		
HUMP				LR	LR				
	comp=Z,1μm,22.0s								
SJG	**San Juan**	**155.40**	**324**	PFAKE		03 21 30.0	+7.6		
SJG				LR	LR				
	comp=Z,900nm,22.0s								
MPR	**Mayaguez**	**155.88**	**326**	PFAKE		03 21 30.0	+6.9		
MPR				LR	LR				
	comp=Z,700nm,21.0s								
LVC	**Limon Verde**	**156.29**	**209**	*e*PKPdf	**PKPdf**	**03 21 23.4**	**-0.7**		
LVC				*e*PKPab	**PKPab**	**03 21 54.7**	**+2.8**		
TEIG	**Tepich**	**156.91**	**18**	PFAKE		03 21 40.0	-14		
TEIG				LR	LR				
	comp=Z,2μm,22.0s								
SDD	**Santo Domingo**	**157.09**	**332**	PFAKE		03 21 40.0	-15		
SDD				LR	LR				
	comp=Z,700nm,19.0s								
SDDR	**Presa de Saban**	**157.23**	**336**	*e*PKPdf	**PKPdf**	**03 21 26.4**	**+1.5**		
SDDR				*e*PKPab	**PKPab**	**03 21 57.1**	**+1.5**		
SDDR				LR	LR				
	comp=Z,1μm,20.0s								
GTBY	**Guantanamo Bay**	**157.62**	**346**	PFAKE		03 21 40.0	+15		
GTBY				LR	LR				
	comp=Z,1μm,21.0s								
PB01	**IPOC Station P**	**157.90**	**209**	*e*PKPdf	**PKPdf**	**03 21 23.3**	**-2.5**		
PB01				*e*PKPab	**PKPab**	**03 21 58.9**	**+0.4**		
PAPH	**Port-au-Prince**	**158.05**	**338**	PFAKE		03 21 40.0	+14		
PAPH				LR	LR				
	comp=Z,1μm,20.0s								
CCIG	**Comitan**	**158.85**	**31**	PFAKE		03 21 40.0	+13		
CCIG				LR	LR				
	comp=Z,2μm,22.0s								
PTGA	**Pitinga**	**159.02**	**273**	*e*PKPdf	**PKPdf**	**03 21 27.4**	**+0.2**		
PTGA				*e*PKPab	**PKPab**	**03 22 05.1**	**+1.4**		
PTGA				LR	LR				
	comp=Z,1μm,20.0s								
MTDJ	**Mount Denham**	**159.77**	**351**	PFAKE		03 21 40.0	+12		
MTDJ				LR	LR				
	comp=Z,2μm,22.0s								
LPAZ	**La Paz**	**160.91**	**221**	PKP	**PKPdf**	**03 21 30.2**	**+0.2**		
	comp=Z,5.0nm,1.0s,baz=353,slow=1.5,SNR=12								
LPAZ	**La Paz**	**160.91**	**221**	*e*PKPdf	**PKPdf**	**03 21 30.9**	**+1.0**		
LPAZ				*e*PKPab	**PKPab**	**03 22 13.3**	**+0.9**		
SDV	**Santo Domingo**	**165.20**	**316**	*e*PKPdf	**PKPdf**	**03 21 33.6**	**0.0**		
SDV				*e*PKPab	**PKPab**	**03 22 29.0**	**-1.8**		
ROSC	**El Rosal**	**170.63**	**315**	*e*PKPdf	**PKPdf**	**03 21 38.0**	**+0.3**		
PRAC	**Prado**	**171.82**	**312**	*e*PKPdf	**PKPdf**	**03 21 36.5**	**-1.4**		
PRAC				*e*PP	**PP**	**03 26 49.9**	**-0.4**		
OTAV	**Otavalo**	**176.77**	**310**	*e*PKPdf	**PKPdf**	**03 21 40.5**	**+0.4**		
OTAV				*e*PKPab	**PKPab**	**03 23 23.6**	**+1.2**		

BJI ***14*** *03:12:26.9, 45˚.27N×78˚.80E, h5km, ML3.6/8*
ISCJB ***14*** *03:12:27.6±0.7, 45˚.08N±0˚.02×78˚.92E±0˚.04, h3km±5km, mb3.6/2, Error ellipse: s-maj=4.7km s-min=3.4km az=27.1*
NNC ***14*** *03:12:28.7±0.6, 45˚.03N×78˚.81E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=13.4km s-min=4.5km az=137.0*
SOME ***14*** *03:12:29.9, 44˚.92N×78˚.85E, h10km, MS2.9*
IDC ***14*** *03:12:29.7±1.1, 45˚.09N×78˚.97E, h0km, mb3.5/1, mb1 3.5/7, mb1mx3.3/50, mbtmp3.5/7, ML3.2/6, Error ellipse: s-maj=16.3km s-min=9.8km az=139.0*
MOS ***14*** *03:12:32.0±1.8, 45˚.33N×78˚.67E, h25km, mb4.3/2, Error ellipse: s-maj=12.3km s-min=7.8km az=81.8*
MOS Felt (III) at Tekeli.

ISC 14 03:12:29.1±1.1, 45˚.05N±0˚.03×78˚.92E±0˚.03, h7km±8km, n51, σ1°77/77, 17C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDK	**Taldyqorghan**	**0.36**	**264**	*e*P	**Pg**	**03 12 36.2**	**0.0**
	4μm,0.1s						
TDK				*e*S	**Sg**	**03 12 40.5**	**-0.6**
	9μm,0.3s						
KAPS	**Kapalarasan**	**0.39**	**53**	*e*P	**Pg**	**03 12 38.5**	**+1.8**
	2μm,0.3s						
KAPS				*e*S	**Sg**	**03 12 44.6**	**+2.7**
	6μm,0.3s						
DJR	**Jarkent**	**0.95**	**139**	*e*P	**Pg**	**03 12 46.4**	**-0.9**
	703nm,0.2s						
DJR				*e*S	**Sg**	**03 12 58.1**	**-1.5**
	3μm,0.3s						
MNBS	**Baschi**	**1.04**	**201**	*e*P	**Pg**	**03 12 48.7**	**-0.3**
	326nm,0.2s						
MNBS				*e*S	**Sg**	**03 13 01.5**	**-0.9**
	2μm,0.4s						
ARXS	**Arharly**	**1.14**	**223**	*e*P	**Pg**	**03 12 49.3**	**-1.6**
	701nm,0.2s						
ARXS				*e*S	**Sg**	**03 13 03.0**	**-2.7**
	1μm,0.3s						
KPKS	**Kokpek**	**1.59**	**186**	*e*P	**Pn**	**03 12 57.1**	**-0.7**
	795nm,0.3s						
KPKS				*e*S	**Sn**	**03 13 16.3**	**-2.4**
	4μm,0.3s						
KURS	**Kuram**	**1.65**	**199**	*e*P	**Pn**	**03 12 58.6**	**0.0**
	100nm,0.4s						
KURS				*e*S	**Sn**	**03 13 18.5**	**-1.6**
	341nm,0.3s						
CHKK	**Chushkaly**	**1.81**	**230**	*e*P	**Pn**	**03 13 01.6**	**+0.9**
	263nm,0.3s						
CHKK				*e*S	**Sn**	**03 13 23.8**	**-0.2**
	2μm,0.3s						
UZB	**Uzynbulak**	**1.90**	**178**	*e*P	**Pn**	**03 13 02.4**	**+0.3**
	218nm,0.2s						
UZB				*e*S	**Sn**	**03 13 25.6**	**-0.9**
	738nm,0.2s						
KTMS	**Ketmen**	**1.91**	**147**	*e*P	**Pn**	**03 13 03.0**	**+0.9**
	298nm,0.3s						
KTMS				*e*S	**Sn**	**03 13 26.4**	**-0.1**
	842nm,0.3s						
SHLS	**Shalkode**	**2.02**	**159**	*e*P	**Pn**	**03 13 04.7**	**+0.9**
	345nm,0.3s						
SHLS				*e*S	**Sn**	**03 13 29.6**	**+0.2**
	2μm,0.5s						
SATY	**Saty**	**2.02**	**191**	*e*P	**Pn**	**03 13 05.4**	**+1.6**
	376nm,0.2s						
SATY				*e*S	**Sn**	**03 13 30.2**	**+0.8**
	3μm,0.2s						
KTBS	**Karatobe**	**2.09**	**231**	*e*P	**Pn**	**03 13 05.0**	**+0.4**
KTBS				*e*S	**Sn**	**03 13 29.5**	**-1.4**
KOTS	**Kotyrbulak**	**2.23**	**216**	*e*P	**Pn**	**03 13 07.8**	**+1.1**
KOTS				*e*S	**Sn**	**03 13 34.3**	**-0.3**
AAA	**Alma-Ata**	**2.27**	**219**	*e*P	**Pb**	**03 13 09.5**	**-1.0**
	311nm,0.2s						
AAA				*e*S	**Sn**	**03 13 37.2**	**+1.7**
	1μm,0.4s						
AAA	**Alma-Ata**	**2.27**	**219**	*e*PN	**Pb**	**03 13 09.5**	**-1.0**
KNDC	**Almaty**	**2.31**	**218**	⇑Pn	**Pn**	**03 13 08.8**	**+1.2**
	123nm,0.5s						
KNDC				⇑Lg	Lg	03 13 38.8	
	651nm,0.7s						
MDOK	**Medeo**	**2.32**	**216**	*e*P	**Pn**	**03 13 10.1**	**+2.3**
	97nm,0.4s						
MDOK				*e*S	**Sn**	**03 13 38.2**	**+1.5**
	559nm,0.5s						
TNSS	**Tian-Shan**	**2.46**	**216**	*e*P	**Pb**	**03 13 12.7**	**-1.2**
	96nm,0.3s						
TNSS				*e*S	**Sn**	**03 13 43.0**	**+2.5**
	664nm,0.2s						
IZV	**Izvestkoviy**	**2.61**	**220**	*e*P	**Pb**	**03 13 15.1**	**-1.2**
	90nm,0.5s						
IZV				*e*S	**Sb**	**03 13 47.2**	**-1.4**
	409nm,0.5s						
MAKZ	**Makanchi**	**2.77**	**49**	⇓Pn	**Pn**	**03 13 14.5**	**+0.6**
	3.2nm,0.5s						
MAKZ				⇑Pg	**Pg**	**03 13 22.1**	**0.0**
	22nm,0.3s						
MAKZ				⇑Lg	Lg	03 13 57.0	
	155nm,0.6s						
MAKZ	**Makanchi**	**2.77**	**49**	PN	**Pn**	**03 13 14.5**	**+0.6**
DGS	**Degeres**	**2.90**	**233**	*e*P	**Pb**	**03 13 20.1**	**-1.0**
	113nm,0.5s						
DGS				*e*S	**Sb**	**03 13 55.6**	**-1.2**
	348nm,0.5s						
MK31	**Makanchi Array**	**2.93**	**52**	Pn	**Pn**	**03 13 17.6**	**+1.4**
	4.2nm,0.3s,baz=227,slow=11,SNR=320						
MK31				Pg	**Pb**	**03 13 23.0**	**+1.3**
	11nm,0.2s,baz=228,slow=13,SNR=31						
MK31				Lg	Lg	03 14 01.6	
	103nm,0.6s,baz=232,slow=30,SNR=7.7						
MK31	**Makanchi Array**	**2.93**	**52**	PN	**Pn**	**03 13 17.6**	**+1.4**
MKAR	**Makanchi Array**	**2.93**	**52**	Pn	**Pn**	**03 13 17.9**	**+1.7**
	4.7nm,0.3s,baz=227,slow=14,SNR=51						
MKAR				Lg	Lg	03 14 00.8	
	60nm,0.3s,baz=232,slow=28,SNR=11						
TKM2	**Tokmak 2**	**3.20**	**230**	⇑Pn	**Pn**	**03 13 18.8**	**-1.3**
	1.7nm,0.4s						
TKM2				⇑Pg	**Pb**	**03 13 26.7**	**+0.2**
	50nm,0.5s						
TKM2				⇑Lg	Lg	03 14 05.3	
TKM2	**Tokmak 2**	**3.20**	**230**	PN	**Pb**	**03 13 26.7**	**+0.2**
AAK	**Ala-Archa**	**4.01**	**235**	Pn	**Pn**	**03 13 35.3**	**+4.2**
	4.6nm,0.3s,baz=68,slow=8.2,SNR=15						
AAK	**Ala-Archa**	**4.01**	**235**	⇑Pg	**Pb**	**03 13 38.9**	**-1.2**
	14nm,0.3s						
AAK				⇑Lg	Lg	03 14 33.1	
	81nm,0.7s						
AAK	**Ala-Archa**	**4.01**	**235**	*e*PN	**Pn**	**03 13 33.4**	**+2.3**
KURBB	**Kurchatov Arra**	**5.58**	**357**	Pn	**Pn**	**03 13 53.5**	**+1.0**
	0.1nm,0.3s,baz=184,slow=11,SNR=3.8						
KURBB				Pg	**Pg**	**03 14 13.1**	**-2.9**
	0.9nm,0.3s,baz=185,slow=16,SNR=12						
KURBB				Lg	Lg	03 15 24.4	
	2.7nm,0.3s,baz=185,slow=28,SNR=14						
KURBB	**Kurchatov Arra**	**5.58**	**357**	⇑Pg	**Pg**	**03 14 13.1**	**-2.9**
	18nm,0.8s						
KURBB				⇓Lg	Lg	03 15 24.4	
	123nm,0.6s						
KURK	**Kurchatov**	**5.67**	**358**	PN	**Pn**	**03 13 53.5**	**-0.3**
KURK						03 14 13.1	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSH	**Kashi**	**5.94**	**203**	Pg	**Pg**	**03 14 23.9**	**+1.0**
KSH				Sg	**Sg**	**03 15 45.3**	**+5.4**
KSH				SMN			
	comp=Z,24nm,1.0s						
KSH				SME			
	comp=Z,36nm,1.0s						
KK31	**Karatay Array**	**6.36**	**255**	⇑Pn	**Pn**	**03 14 02.7**	**-0.6**
	comp=Z,1.1nm,0.5s						
KK31				⇑Pg	**Pb**	**03 14 24.4**	**+4.3**
	comp=Z,5.2nm,0.5s						
KK31				⇑Lg	Lg	03 15 48.4	
	comp=Z,29nm,0.4s						
KK31	**Karatay Array**	**6.36**	**255**	PN	**Pn**	**03 14 02.7**	**-0.6**
VOSK	**Vostochnaya**	**9.29**	**329**	⇑Pn	**Pn**	**03 14 43.3**	**-0.1**
	comp=Z,2.2nm,0.8s						
VOSK				⇑Lg	Lg	03 17 21.0	
	comp=Z,36nm,1.0s						
VOSK	**Vostochnaya**	**9.29**	**329**	P	**Pn**	**03 14 43.3**	**-0.1**
ZALV	**Zalesovo Beam**	**9.70**	**21**	Pn	**Pn**	**03 14 49.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=209,slow=14,SNR=4.2						
ZALV				Sn	**Sn**	**03 16 33.4**	**-4.7**
	comp=Z,2.0nm,0.3s,baz=208,slow=24,SNR=8.4						
ZALV				Lg	Lg	03 17 34.7	
	comp=Z,0.6nm,0.3s,baz=195,slow=23,SNR=3.5						
BVA0	**Borovoye Array**	**9.74**	**328**	⇑Pn	**Pn**	**03 14 50.5**	**+0.8**
	baz=140,slow=13,SNR=7.3						
BVA0				⇓Lg	Lg	03 17 37.1	
	comp=Z,15nm,0.8s,baz=9.2,slow=14,SNR=4.3						
BVA0	**Borovoye Array**	**9.74**	**328**	P	**Pn**	**03 14 50.4**	**+0.8**
BVAR	**Borovoye Array**	**9.74**	**328**	Pn	**Pn**	**03 14 49.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=143,slow=12,SNR=5.7						
BVAR				Lg	Lg	03 17 38.7	
	comp=Z,1.8nm,0.3s,baz=137,slow=22,SNR=7.9						
BRVK	**Borovoye**	**9.81**	**328**	*e*P	**Pn**	**03 14 49.9**	**-0.6**
NVS	**Novosibirsk**	**10.19**	**14**	*e*P	**Pn**	**03 14 54.8**	**-0.9**
NVS				*e*		03 16 45.6	
ZRNK	**Zerenda**	**10.24**	**324**	⇓Pn	**Pn**	**03 14 55.1**	**-1.3**
	comp=Z,5.2nm,0.9s						
ZRNK				⇑Lg	Lg	03 17 49.6	
	comp=Z,30nm,1.2s						
ZRNK	**Zerenda**	**10.24**	**324**	P	**Pn**	**03 14 55.1**	**-1.3**
AKTO	**Aktyubinsk**	**15.04**	**298**	Pn	**Pn**	**03 15 59.1**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=107,slow=14,SNR=4.3						
AKTO				Lg	Lg	03 20 26.1	
	comp=Z,0.2nm,0.3s,baz=138,slow=16,SNR=4.1						
GNI	**Garni**	**25.51**	**271**	*e*P	**P**	**03

WHN				LN			
	740nm,3.2s						
WHN				LE			
	990nm,3.2s						
GTA	**Gaotai**	**8.20**	**330**	*e*P	**Pn**	03 46 16.8	**-1.3**
GTA				pP	pP	03 46 20.9	
GTA				sP	sP	03 46 24.3	
GTA				PMZ			
	9.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**14.99**	**203**	Pn	**Pn**	**03 47 52.5**	**+1.6**
	0.3nm,0.3s,baz=13,slow=12,SNR=3.2						
SONM	**Songino Array**	**15.42**	**3**	Pn	**Pn**	**03 47 56.7**	**+0.3**
	0.2nm,0.3s,baz=191,slow=12,SNR=4.5						
WMQ	**Urumqi**	**17.80**	**315**	P	**Pn**	**03 48 25.3**	**-1.3**
KSRS	**Korea Array**	**19.31**	**69**	P	**Pn**	**03 48 46.0**	**+1.0**
	0.2nm,0.3s,baz=249,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**22.61**	**316**	P	**P**	**03 49 18.8**	**-0.8**
	3.1nm,0.7s,baz=116,slow=11,SNR=19						
USRK	**Ussuriysk Ar.**	**24.00**	**53**	P	**P**	**03 49 35.0**	**+1.5**
	1.1nm,0.6s,baz=254,slow=9.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**25.95**	**332**	P	**P**	**03 49 50.5**	**-0.6**
	1.3nm,0.5s,baz=129,slow=9.1,SNR=6.8						
KLR	**Kul'dur**	**26.01**	**42**	P	**P**	**03 49 53.5**	**+1.9**
	2.1nm,0.7s,baz=258,slow=11,SNR=13						
KURBB	**Kurchatov Arra**	**26.75**	**321**	P	**P**	**03 49 57.6**	**-0.8**
	1.1nm,0.6s,baz=133,slow=8.8,SNR=23						
BVAR	**Borovoye Array**	**32.34**	**320**	P	**P**	**03 50 47.2**	**-0.7**
	1.1nm,0.7s,baz=92,slow=10,SNR=6.1						
AKTO	**Aktyubinsk**	**38.91**	**312**	P	**P**	**03 51 46.3**	**+1.9**
	1.5nm,0.5s,baz=126,slow=12,SNR=7.2						
ARU	**Arti**	**39.95**	**321**	P	**P**	**03 51 53.0**	**0.0**
	2.0nm,0.3s,baz=234,slow=0.9,SNR=4.5						
ARCES	**ARCESS Array B**	**56.43**	**335**	P	**P**	**03 53 59.3**	**-0.7**
	2.4nm,0.7s,baz=83,slow=7.3,SNR=16						
BRTR	**Keskin Array B**	**56.88**	**299**	P	**P**	**03 54 03.4**	**-0.5**
	0.6nm,0.6s,baz=114,slow=5.5,SNR=4.3						
FINES	**FINESS Array B**	**56.98**	**326**	P	**P**	**03 54 03.2**	**-0.8**
	1.3nm,0.7s,baz=116,slow=8.7,SNR=4.3						
AKASG	**Malin Array Be**	**57.14**	**313**	P	**P**	**03 54 04.3**	**-1.0**
	0.5nm,0.4s,baz=66,slow=7.2,SNR=4.1						
WRA	**Warramunga Arr**	**59.09**	**148**	P	**P**	**03 54 19.7**	**+0.4**
	1.0nm,0.6s,baz=341,slow=7.3,SNR=5.9						
ASAR	**Alice Springs**	**62.17**	**150**	P	**P**	**03 54 41.0**	**+0.7**
	0.6nm,0.8s,baz=330,slow=5.8,SNR=3.8						
NOA	**NORSAR Array B**	**64.03**	**327**	P	**P**	**03 54 50.5**	**-1.7**
	0.7nm,0.6s,baz=68,slow=6.4,SNR=2.5						
GERES	**GERESS Array B**	**67.27**	**314**	P	**P**	**03 55 12.4**	**-1.0**
	0.6nm,0.7s,baz=72,slow=4.3,SNR=4.9						
DAVOX	**Davos/Dischmat**	**70.47**	**313**	P	**P**	**03 55 32.8**	**-0.7**
	1.5nm,0.6s,baz=20,slow=18,SNR=4.2						
YKA	**Yellowknife Ar**	**80.16**	**18**	P	**P**	**03 56 27.5**	**-1.2**
	0.4nm,0.7s,baz=330,slow=5.0,SNR=5.8						

DJA 14 03:57:23.3±0.3, 2°N±3°×99°E±°, h10km, M3.8/6, MLv3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.44**	**225**	P	Pg	03 57 31.3	-0.6
MNSI	**Mandailing Nat**	**1.12**	**160**	P	Pb	03 57 42.3	-2.5
MNSI				S	Sg	03 57 59.6	+0.1
GSI	**Gunungsitoli**	**1.71**	**251**	P	Pn	03 57 51.9	-1.4
GSI				S	Sn	03 58 10.3	-5.0
KCSI	**Kotacane, Aceh**	**2.18**	**319**	P	Pb	03 58 01.5	-1.4
BKNI	**Bangkinang**	**2.39**	**130**	P	Pn	03 58 03.3	+0.8
TPTI		**2.45**	**305**	P	Pn	03 58 05.0	+1.6
TPTI				S	Sn	03 58 33.8	+0.4
PPI	**Padang Panjang**	**2.59**	**153**	P	Pn	03 58 05.7	+0.3
PDSI	**Padang**	**3.03**	**155**	P	Pg	03 58 21.9	+0.5
MLSI	**Meulaboh, Aceh**	**3.68**	**311**	P	Pn	03 58 21.9	+1.7

*ISCJB **14** 04:04:14.4±0.6,48.4°N±0.1°×149.0°E±0.2,h400km, mb3.3/8, Error ellipse: s-maj=18.0km s-min=8.6km az=44.6*
*IDC **14** 04:04:15.8±1.5,48.38N×148.97E,h400km±18km,mb3.1/9, mb1 3.3/16,mb1mx3.1/41,mbtmp3.9/16,Error ellipse: s-maj=23.3km s-min=10.4km az=134.0*

ISC 14 04:04:15.5±0.7, 48.4°N±0.1°×149.0°E±0.1, h400km, n16, σ0s88/16, mb3.3/8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.16**	**229**	P	**Pn**	**04 05 49.8**	**-0.1**
	baz=90,slow=5.1						
PETK	**Petropavlovsk-**	**7.26**	**46**	P	**Pn**	**04 06 00.7**	**-1.3**
	1.6nm,0.3s,baz=116,slow=3.4,SNR=6.0						
MA2	**Magadan**	**11.26**	**5**	P	**P**	**04 06 47.2**	**+0.4**
	0.9nm,0.3s,baz=260,slow=5.7,SNR=3.8						
KLR	**Kul'dur**	**11.42**	**281**	P	**Pn**	**04 06 50.5**	**+0.7**
	0.3nm,0.3s,baz=80,slow=9.8,SNR=12						
USRK	**Ussuriysk Ar.**	**12.49**	**257**	P	**P**	**04 07 00.0**	**-0.5**
	0.2nm,0.3s,baz=70,slow=12,SNR=4.8						
MJAR	**Matsushiro Arr**	**14.25**	**218**	P	**P**	**04 07 20.2**	**+0.4**
	0.8nm,0.3s,baz=25,slow=11,SNR=9.0						
KSRS	**Korea Array**	**18.85**	**242**	P	**P**	**04 08 09.8**	**+0.9**
	0.2nm,0.3s,baz=43,slow=10,SNR=11						
JNU	**Nakatsue**	**20.44**	**228**	P	**P**	**04 08 24.7**	**+0.7**
	4.2nm,0.7s,baz=58,slow=19,SNR=3.9						
ILAR	**Eielson Array**	**37.04**	**40**	P	**P**	**04 10 49.2**	**+0.5**
	0.8nm,0.7s,baz=276,slow=8.3,SNR=18						
INK	**Inuvik**	**41.78**	**33**	P	**P**	**04 11 27.8**	**+0.6**
	1.7nm,0.5s,baz=307,slow=5.7,SNR=14						
MKAR	**Makanchi Array**	**43.73**	**294**	P	**P**	**04 11 42.6**	**-0.4**
	0.3nm,0.3s,baz=65,slow=7.8,SNR=4.2						
YKA	**Yellowknife Ar**	**51.26**	**36**	P	**P**	**04 12 40.1**	**+0.3**
	0.4nm,0.5s,baz=302,slow=6.9,SNR=8.2						
FINES	**FINESS Array B**	**61.34**	**333**	P	**P**	**04 13 49.0**	**-1.1**
	1.6nm,0.9s,baz=30,slow=8.7,SNR=4.2						
WRA	**Warramunga Arr**	**69.27**	**195**	P	**P**	**04 14 39.2**	**-1.5**
	0.9nm,0.9s,baz=8.5,slow=6.4,SNR=3.5						
ASAR	**Alice Springs**	**72.99**	**194**	P	**P**	**04 15 03.4**	**+0.7**
	0.6nm,0.8s,baz=15,slow=6.2,SNR=3.7						
TXAR	**Lajitas Array**	**79.05**	**58**	P	**P**	**04 15 37.9**	**+1.2**
	0.5nm,0.6s,baz=293,slow=4.4,SNR=10						

*VIE **14** 04:04:04.8±1.2,51.60N×15.25E,h0km,mb2.9/2,ML2.8/5, Error ellipse: s-maj=6.4km s-min=3.9km az=1.0, Suspected Mining induced.*
*IPEC **14** 04:04:14.9±0.4,51.62N×16.23E,h0km±1km,ML2.3/3, Error ellipse: s-maj=3.4km s-min=2.1km az=64.0*
*ISCJB **14** 04:04:14.6±0.5,51.51N±0.03×16.18E±0.03,h0km, Error ellipse: s-maj=4.1km s-min=2.5km az=13.3*
*CSEM **14** 04:04:16.0±0.3,51.53N×16.12E,h2km,ML3.5/9, Error ellipse: s-maj=5.1km s-min=3.6km az=6.0*
*PRU **14** 04:04:17.5,51.51N×16.13E,h0km*
*WAR **14** 04:04:17.2,51.53N×16.17E,h1km,Mw2.7*

ISC 14 04:04:15.4±0.8, 51.58N±0.03×16.14E±0.02, h0km, n55, σ0s97/96, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**173**	*i* Pg	**Pg**	**04 04 30.1**	**+0.5**
KSP				*e*Sg	**Sg**	**04 04 39.3**	**0.0**
KSP	**Ksiaz**	**0.75**	**173**	↓*i* Pg	**Pg**	**04 04 30.1**	**+0.5**
KSP				*e*Sg	**Sg**	**04 04 39.3**	**0.0**
KSP	**Ksiaz**	**0.75**	**173**	*i* Pgd	**Pg**	**04 04 30.1**	**+0.5**
KSP				*e*Sg	**Sg**	**04 04 39.3**	**0.0**
UPC	**Upice**	**1.08**	**184**	*e*PG	**Pg**	**04 04 36.3**	**+0.3**
UPC				*e*SG	**Sg**	**04 04 49.9**	**-0.1**
UPC	**Upice**	**1.08**	**184**	Pg	**Pg**	**04 04 36.3**	**+0.3**
UPC				Sg	**Sg**	**04 04 49.9**	**-0.1**
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*PG	**Pg**	**04 04 38.0**	**-1.1**
DPC				*e*SG	**Sg**	**04 04 54.3**	**-0.8**
	52nm,0.2s						
DPC	**Dobruska-Polom**	**1.24**	**175**	Pg	**Pg**	**04 04 38.0**	**-1.1**
DPC				Sg	**Sg**	**04 04 54.3**	**-0.8**
	52nm,0.2s						
PVCC	**Panska Ves**	**1.45**	**224**	*e*PG	**Pb**	**04 04 43.2**	**0.0**
PVCC				*e*SG	**Sb**	**04 05 02.1**	**-0.1**
	95nm,0.2s						
PVCC	**Panska Ves**	**1.45**	**224**	Pg	**Pb**	**04 04 43.2**	**0.0**
PVCC				Sg	**Sb**	**04 05 02.1**	**-0.1**
	95nm,0.2s						
BRG	**Berggiesshubel**	**1.56**	**244**	PN	**Pn**	**04 04 44.2**	**0.0**
BRG				PG	**Pg**	**04 04 46.1**	**+0.9**
BRG				SG	**Sg**	**04 05 06.7**	**+1.4**
	109nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.88**	**208**	*e*PN	**Pn**	**04 04 49.4**	**+0.6**
GOPC				*e*PG	**Pb**	**04 04 50.7**	**+0.2**
GOPC				*e*SG	**Sb**	**04 05 15.0**	**+0.4**
	16nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.88**	**208**	Pn	**Pn**	**04 04 49.4**	**+0.6**

PRU	**Pruhonice**	**1.89**	**213**	*e*SG	**Sg**	**04 05 15.8**	**-0.3**
	32nm,0.3s						
PRU	**Pruhonice**	**1.89**	**213**	Sg	**Sg**	**04 05 15.8**	**-0.3**
	32nm,0.3s						
CLL	**Collm**	**1.98**	**263**	*i* Pn	**Pn**	**04 04 50.4**	**+0.2**
CLL				*e*Pg	**Pg**	**04 04 54.0**	**+0.6**
CLL				*i*		04 04 56.6	
CLL				*i* Sg	**Sg**	**04 05 20.5**	**+1.4**
	comp=Z,42nm,0.8s						
RAC	**Raciborz**	**1.99**	**138**	*e*Pg	**Pg**	**04 04 53.2**	**-0.2**
RAC				*e*Sg	**Sg**	**04 05 18.4**	**-0.7**
MORC	**Moravsky Berou**	**2.02**	**153**	↓*i*P	**Pn**	**04 04 50.3**	**-0.3**
MORC	**Moravsky Berou**	**2.02**	**153**	↓*i*P	**Pn**	**04 04 50.3**	**-0.3**
MORC				*e*Sg	**Sb**	**04 05 18.3**	**-0.2**
	comp=Z,25nm,0.5s,baz=336						
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*PG	**Pb**	**04 04 55.8**	**+0.5**
OKC				*e*SG	**Sb**	**04 05 22.2**	**-0.5**
OKC	**Ostrava-Krasne**	**2.16**	**143**	Pg	**Pb**	**04 04 55.8**	**+0.5**
OKC				Sg	**Sb**	**04 05 22.2**	**-0.5**
VRAC	**Vranov**	**2.30**	**173**	↓*i*P	**Pn**	**04 04 54.8**	**+0.3**
VRAC	**Vranov**	**2.30**	**173**	*e*Pn	**Pn**	**04 04 54.5**	**0.0**
VRAC	**Vranov**	**2.30**	**173**	↓*i*P	**Pn**	**04 04 54.8**	**+0.3**
VRAC				*e*Sg	**Sb**	**04 05 27.5**	**+1.0**
	comp=Z,16nm,0.2s,baz=354						
TREC	**Trest**	**2.33**	**191**	*e*PG	**Pb**	**04 04 58.8**	**+0.6**
TREC	**Trest**	**2.33**	**191**	Pg	**Pb**	**04 04 58.8**	**+0.6**
KRUC	**Moravsky**	**2.53**	**176**	*e*Pn	**Pn**	**04 04 57.7**	**0.0**
KRUC				*e*Sg	**Sg**	**04 05 35.1**	**-1.4**
	comp=Z,13nm,0.3s,baz=358						
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**04 04 59.5**	**-0.2**
OJC				*e*Pg	**Pg**	**04 05 07.2**	**+0.4**
OJC				*e*Sg	**Sg**	**04 05 42.5**	**+0.9**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**04 04 59.6**	**-0.2**
OJC				*e*Pg	**Pg**	**04 05 07.2**	**+0.4**
OJC				*e*Sg	**Sg**	**04 05 42.5**	**+0.9**
NKC	**Novy Kostel**	**2.70**	**241**	*e*PN	**Pn**	**04 05 00.7**	**+0.7**
NKC				*e*PG	**Pg**	**04 05 06.9**	**-0.2**
NKC				*e*SG	**Sg**	**04 05 42.7**	**+0.6**
	comp=Z,58nm,0.3s						
NKC	**Novy Kostel**	**2.70**	**241**	Pn	**Pn**	**04 05 00.7**	**+0.7**
JAVC	**Velka Javorina**	**2.90**	**160**	*e*Pn	**Pn**	**04 05 03.6**	**+0.8**
JAVC				*e*Sg	**Sg**	**04 05 48.8**	**+0.4**
KHC	**Kasperske Hory**	**2.95**	**215**	*e*PN	**Pn**	**04 05 03.9**	**+0.4**
KHC				*e*PG	**Pb**	**04 05 09.7**	**+0.8**
KHC				*e*SG	**Sg**	**04 05 48.8**	**-1.4**
	comp=Z,19nm,0.5s						
KHC	**Kasperske Hory**	**2.95**	**215**	Pn	**Pn**	**04 05 03.9**	**+0.4**
KHC	**Kasperske Hory**	**2.95**	**215**	Pg	**Pb**	**04 05 09.7**	**+0.8**
KHC				Sg	**Sg**	**04 05 48.8**	**-1.4**
	comp=Z,19nm,0.5s						
SMOL	**Smolenice**	**3.18**	**164**	*e*Pg	**Pg**	**04 05 18.3**	**+2.0**
SMOL	**Smolenice**	**3.18**	**164**	*e*PG	**Pg**	**04 05 18.3**	**+2.0**
LANS	**Liptovska Anna**	**3.23**	**138**	*e*Pg	**Pg**	**04 05 16.7**	**-0.6**
LANS				*e*Sg	**Sg**	**04 05 59.7**	**+0.5**
LANS	**Liptovska Anna**	**3.23**	**138**	*e*PG	**Pg**	**04 05 16.7**	**-0.6**
LANS				*e*SG	**Sg**	**04 05 59.7**	**+0.5**
NIE	**Niedzica**	**3.43**	**128**	*e*P	**Pg**	**04 05 21.3**	**+0.3**
NIE				*e*S	**Sg**	**04 06 07.2**	**+1.9**
NIE	**Niedzica**	**3.43**	**128**	*e*P	**Pg**	**04 05 21.3**	**+0.3**
NIE				*e*S	**Sg**	**04 06 07.2**	**+1.9**
VYHS	**Vyhne**	**3.55**	**150**	*e*Pg	**Pg**	**04 05 23.4**	**+0.1**
VYHS				*e*Sg	**Sg**	**04 06 07.6**	**-1.6**
VYHS	**Vyhne**	**3.55**	**150**	*e*PG	**Pg**	**04 05 23.4**	**+0.1**
VYHS				*e*SG	**Sg**	**04 06 07.6**	**-1.6**
VYHS				*e*LG	Lg	04 06 21.1	
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**04 05 12.8**	**+0.3**
BSD				*i* S	**Sn**	**04 05 52.9**	**-2.9**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**04 05 12.8**	**+0.3**
BSD				*i* S	**Sn**	**04 05 52.9**	**-2.9**
CONA	**Conrad Observa**	**3.66**	**183**	Pg	**Pn**	**04 05 14.8**	**+1.5**
	comp=Z,0.3nm,0.1s						
CONA				Sg	**Sb**	**04 06 07.0**	**+1.0**
	comp=Z,9.1nm,0.4s						
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*Pg	**Pg**	**04 05 30.3**	**0.0**
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*PG	**Pg**	**04 05 30.3**	**0.0**
MOA	**Molln**	**3.93**	**199**	Pg	**Pn**	**04 05 17.6**	**+0.7**
	comp=Z,2.8nm,0.4s						
MOA				Sg	**Sb**	**04 06 10.9**	**-2.7**
	comp=Z,4.5nm,0.4s						
KECS	**Kecovo**	**4.18**	**136**	*e*Pg	**Pg**	**04 05 35.7**	**+0.3**
KECS	**Kecovo**	**4.18**	**136**	*e*PG	**Pg**	**04 05 35.7**	**+0.3**
KECS				*e*LG	Lg	04 06 42.8	
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*Pg	**Pg**	**04 05 39.7**	**+1.2**
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*PG	**Pg**	**04 05 39.6**	**+1.1**
KOLS	**Kolonicke sedl**	**4.74**	**122**	*e*Pg	**Pg**	**04 05 48.2**	**+2.0**
KOLS	**Kolonicke sedl**	**4.74**	**122**	*e*PG	**Pg**	**04 05 48.2**	**+2.0**
KOLS				*e*LG	Lg	04 07 04.1	
KBA	**Koelnbreinsper**	**4.87**	**203**	Sg	**Sb**	**04 06 41.4**	**+0.8**
	comp=Z,4.4nm,0.5s						

*NEIC **14** 04:08:15.9,43.59S×172.75E,h10km,ML3.9(WEL), After WEL.*
NEIC Felt at Christchurch.

WEL 14 04:08:16.0±0.1, 43.59S×172.75E, h9km, ML3.9/18, 4C-6D, Error ellipse: s-maj=0.9km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.14**	**210**	↑↑PG	Pg	04 08 19.3	+0.2
MQZ				SG	Sg	04 08 21.6	+0.3
MQZ				AML	AML	04 08 21.7	
MQZ				SG		04 08 22.1	
MQZ	**McQueen's Vall**	**0.14**	**210**	↑↑Pg	Pg	04 08 19.3	+0.2
MQZ				Sg	Sg	04 08 22.1	+0.9
OXZ	**Oxford**	**0.58**	**296**	↓↓P*	Pg	04 08 27.1	-0.2
OXZ	**Oxford**	**0.58**	**296**	↓↓P*	Pg	04 08 27.1	-0.2
LTZ	**Lake Taylor**	**0.88**	**336**	P*	Pg	04 08 32.8	-0.1
LTZ				S*	Sg	04 08 44.6	+0.3
LTZ				AML	AML	04 08 45.4	
LTZ	**Lake Taylor**	**0.88**	**336**	P*	Pg	04 08 32.8	-0.1
LTZ				S*	Sg	04 08 44.6	+0.3
RPZ	**Rata Peaks**	**1.24**	**264**	↓↓P*	Pn	04 08 38.0	-1.4
RPZ				AML	AML	04 08 58.0	
RPZ				AML	AML	04 09 01.4	
RPZ	**Rata Peaks**	**1.24**	**264**	P*	Pn	04 08 38.0	-1.4
INZ	**Inchbonnie**	**1.29**	**312**	P*	Pn	04 08 38.5	-1.6
KHZ	**Kahutara**	**1.31**	**27**	↑↑Pn	Pn	04 08 38.8	-1.6
KHZ	**Kahutara**	**1.31**	**27**	*e*Pn	Pn	04 08 38.7	-1.7
KHZ				*e*S	Sb	04 08 55.9	-1.6
WVZ	**Waitaha Valley**	**1.56**	**289**	↓↓PN	Pn	04 08 42.9	-0.9
WVZ				AML	AML	04 09 08.0	
WVZ				AML	AML	04 09 13.0	
WVZ	**Waitaha Valley**	**1.56**	**289**	Pn	Pn	04 08 42.9	-0.9
THZ	**Tophouse**	**1.83**	**4**	PN	Pn	04 08 46.1	-1.5
THZ				AML	AML	04 09 15.6	
THZ				AML	AML	04 09 20.9	
THZ	**Tophouse**	**1.83**	**4**	Pn	Pn	04 08 46.1	-1.6
DSZ	**Denniston Nort**	**1.97**	**339**	*e*PN	Pn	04 08 48.7	-0.8
DSZ				AML	AML	04 09 16.8	
DSZ				AML	AML	04 09 16.8	
DSZ				AML	AML	04 09 17.1	
DSZ				AML	AML	04 09 17.1	
DSZ	**Denniston Nort**	**1.97**	**339**	*e*Pn	Pn	04 08 48.7	-0.8
LBZ	**Lake Benmore**	**2.02**	**246**	PN	Pn	04 08 49.1	-1.1
LBZ				AML	AML	04 09 25.1	
LBZ				AML	AML	04 09 25.1	
LBZ				AML	AML	04 09 27.5	
LBZ				AML	AML	04 09 27.6	
LBZ	**Lake Benmore**	**2.02**	**246**	Pn	Pn	04 08 49.1	-1.1
BSWZ	**Blackbirch Sta**	**2.05**	**24**	PN	Pn	04 08 49.2	-1.4
BSWZ				AML	AML	04 09 30.1	
BSWZ	**Blackbirch Sta**	**2.05**	**24**	Pn	Pn	04 08 49.2	-1.4
ODZ	**Otahua Downs**	**2.10**	**225**	↑↑PN	Pn	04 08 49.7	-1.6
ODZ				AML	AML	04 09 24.3	
ODZ				AML	AML	04 09 28.9	
ODZ				AML	AML	04 09 30.6	
ODZ				AML	AML	04 09 30.6	
ODZ	**Otahua Downs**	**2.10**	**225**	*e*Pn	Pn	04 08 52.0	+0.6
ODZ				*e*Pg	Pg	04 08 55.9	-0.4
ODZ				*e*S	Sg	04 09 22.4	-1.0
FOZ	**Fox Glacier**	**2.13**	**270**	↓↓PN	Pn	04 08 52.0	+0.2
FOZ				AML	AML	04 09 19.7	
FOZ				AML	AML	04 09 19.7	
FOZ				AML	AML	04 09 33.9	
FOZ				AML	AML	04 09 34.0	
FOZ	**Fox Glacier**	**2.13**	**270**	Pn	Pn	04 08 52.0	+0.2
NNZ	**Nelson**	**2.41**	**11**	PN	Pn	04 08 54.8	-0.9
NNZ	**Nelson**	**2.41**	**11**	Pn	Pn	04 08 54.8	-0.9
TCW	**Tory Channel**	**2.63**	**26**	PN	Pn	04 08 56.5	-2.1
TCW				AML	AML	04 09 42.6	
TCW	**Tory Channel**	**2.63**	**26**	Pn	Pn	04 08 56.5	-2.1
SNZO	**South Karori**	**2.70**	**33**	*e*Pn	Pn	04 08 57.5	-2.0
SNZO				*e*S	Sn	04 09 29.0	-3.2
PLWZ	**Palliser**	**2.74**	**43**	Pn	Pn	04 08 57.7	-2.4
QRZ	**Quartz Range**	**2.76**	**357**	AML	AML	04 09 40.1	
QRZ				AML	AML	04 09 47.5	
QRZ				AML	AML	04 09 47.5	
QRZ				AML	AML	04 09 50.2	
JCZ	**Jackson Bay**	**2.91**	**259**	PN	Pn	04 09 01.7	-0.8
JCZ				AML	AML	04 09 52.3	
JCZ				AML	AML	04 09 53.7	
JCZ	**Jackson Bay**	**2.91**	**259**	Pn	Pn	04 09 01.7	-0.8
WKZ	**Wanaka**	**2.96**	**244**	PN	Pn	04 09 02.1	-1.1
WKZ				AML	AML	04 09 55.7	
WKZ				AML	AML	04 09 55.7	
WKZ				AML	AML	04 09 56.8	
WKZ				AML	AML	04 09 56.8	
WKZ	**Wanaka**	**2.96**	**244**	Pn	Pn	04 09 02.1	-1.1
EAZ	**Earnscleugh**	**2.96**	**235**	↓PN	Pn	04 09 02.0	-1.2
EAZ				AML	AML	04 09 54.7	
EAZ				AML	AML	04 09 54.7	
EAZ				AML	AML	04 09 54.8	
EAZ				AML	AML	04 09 56.5	
EAZ	**Earnscleugh**	**2.96**	**235**	Pn	Pn	04 09 02.0	-1.2
CAW	**Cannon Point**	**3.02**	**36**	*e*PN	Pn	04 09 00.9	-3.0
CAW				AML	AML	04 09 40.6	
CAW				AML	AML	04 09 49.5	
MTW	**Mount Morrison**	**3.17**	**41**	PN	Pn	04 09 03.3	-2.7
MTW	**Mount Morrison**	**3.17**	**41**	Pn	Pn	04 09 03.3	-2.7
TUZ	**Tuapeka**	**3.25**	**222**	PN	Pn	04 09 05.7	-1.3
TUZ				AML	AML	04 10 03.4	
TUZ				AML	AML	04 10 03.4	
TUZ				AML	AML	04 10 12.1	
TUZ				AML	AML	04 10 12.1	
TUZ	**Tuapeka**	**3.25**	**222**	Pn	Pn	04 09 05.7	-1.3
OGWZ	**Otaki Gorge**	**3.30**	**34**	Pn	Pn	04 09 05.8	-2.0
MLZ	**Mavora Lakes**	**3.76**	**240**	PN	Pn	04 09 12.6	-1.6
MLZ	**Mavora Lakes**	**3.76**	**240**	Pn	Pn	04 09 12.6	-1.6
SYZ	**Scrubby Hill**	**3.90**	**220**	PN	Pn	04 09 15.3	-0.8
SYZ				AML	AML	04 10 28.5	
SYZ				AML	AML	04 10 37.8	
SYZ	**Scrubby Hill**	**3.90**	**220**	Pn	Pn	04 09 15.3	-0.8
WHZ	**Wether Hill Ro**	**4.12**	**234**	*e*Pn	Pn	04 09 19.9	+0.7
WHZ				*e*Pg	Pg	04 09 32.6	-2.4
WHZ				*e*S	Sb	04 10 21.5	+2.8
WNVZ	**Wahianoa**	**4.76**	**28**	PN	Pn	04 09 27.6	-0.5
WNVZ	**Wahianoa**	**4.76**	**28**	Pn	Pn	04 09 27.6	-0.5

MEX 14 04:13:33.7±0.3, 29.86N×114.56W, h3km, MD3.9, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**1.42**	**327**	*e*P	Pn	04 13 56.9	-3.8
SPIG				*e*S	Sg	04 14 15.0	-4.3
CBX	**Cerro Bola**	**3.04**	**324**	*e*P	Pn	04 14 26.9	-1.7
CBX				*e*S	Sn	04 15 02.5	+2.7
TJIG	**Tijuana**	**3.14**	**325**	*e*P	Pn	04 14 21.6	-2.6
TJIG				*e*S	Sn	04 14 58.0	-4.2

*ISCJB **14** 04:16:25.4±0.4,43.55S±0.03×171.18E±0.03,h25km,3km, mb4.3/7,MS3.9/3,Error ellipse: s-maj=5.4km s-min=2.8km az=139.0*
*WEL **14** 04:16:25.9±0.1,43.48S×171.15E,h5km,ML4.8/40,Error ellipse: s-maj=0.7km s-min=0.4km az=90.0*
WEL Felt from West Coast to Otago, maximum reported intensity MM 5.
*NEIC **14** 04:16:25.9,43.48S×171.15E,h5km,mb4.3/3,MW4.4, ML4.8(WEL),Moment Tensor Solution. s34 Moment tensor: Scale 10^{15}Nm; M_{rr}0.80; $M_{\theta\theta}$2.96; $M_{\phi\phi}$-3.76; $M_{r\theta}$-0.93; $M_{\theta\phi}$-3.82; $M_{\phi r}$-0.52; Best double couple: M_o5.20000×10^{15} NP1:ϕ_s339.00000°,δ78.00000°, λ1.00000°. NP2:ϕ_{ea}249.00000°,δ89.00000°,λ168.00000°. Princip

EAZ				AML	AML	04 17 45.9		
HHSZ	**Highcliff Hill**	**2.40**	**190**	PN	**Pn**	**04 17 03.8**	**-1.3**	
MSZ	**Milford Sound**	**2.62**	**243**	AML	AML	04 17 48.6		
MSZ				AML	AML	04 17 48.6		
MSZ				AML	AML	04 17 53.0		
TUZ	**Tuapeka**	**2.67**	**204**	PN	**Pn**	**04 17 07.6**	**-1.2**	
TUZ				AML	AML	04 17 56.6		
TUZ				AML	AML	04 17 56.7		
TUZ				AML	AML	04 18 00.3		
TUZ				AML	AML	04 18 00.4		
BSWZ	**Blackbirch Sta**	**2.68**	**49**	PN	**Pn**	**04 17 08.9**	**0.0**	
BSWZ				AML	AML	04 17 19.8		
BSWZ				AML	AML	04 18 05.3		
NNZ	**Nelson**	**2.81**	**36**	PN	**Pn**	**04 17 11.4**	**+0.7**	
NNZ				AML	AML	04 18 05.4		
NNZ				AML	AML	04 18 05.4		
NNZ				AML	AML	04 18 13.7		
NNZ				AML	AML	04 18 13.7		
CMWZ	**Cape Campbell**	**2.85**	**53**	PN	**Pn**	**04 17 13.8**	**+2.6**	
CMWZ				AML	AML	04 18 04.0		
CMWZ				AML	AML	04 18 17.1		
QRZ	**Quartz Range**	**2.87**	**21**	PN	**Pn**	**04 17 11.1**	**-0.4**	
QRZ				AML	AML	04 17 19.8		
QRZ				AML	AML	04 17 19.8		
QRZ				AML	AML	04 18 01.6		
QRZ				AML	AML	04 18 01.6		
MLZ	**Mavora Lakes**	**2.87**	**229**	PN	**Pn**	**04 17 09.9**	**-1.6**	
MLZ				AML	AML	04 18 03.4		
MLZ				AML	AML	04 18 06.4		
MLZ	**Mavora Lakes**	**2.87**	**229**	*e*Pn	**Pn**	**04 17 10.4**	**-1.2**	
TUWZ	**Tuamarina**	**2.92**	**45**	PN	**Pn**	**04 17 12.2**	**+0.1**	
TUWZ				AML	AML	04 18 13.5		
TUWZ				AML	AML	04 18 13.5		
TCW	**Tory Channel**	**3.25**	**46**	*e*PN	**Pn**	**04 17 16.4**	**-0.3**	
TCW				AML	AML	04 18 05.8		
TCW				AML	AML	04 18 06.2		
WHZ	**Wether Hill Ro**	**3.31**	**223**	*e*PN	**Pn**	**04 17 15.2**	**-2.4**	
WHZ				AML	AML	04 18 26.2		
WHZ				AML	AML	04 18 31.5		
WHZ	**Wether Hill Ro**	**3.31**	**223**	*e*Pn	**Pn**	**04 17 16.5**	**-1.1**	
SYZ	**Scrubby Hill**	**3.35**	**205**	*e*PN	**Pn**	**04 17 16.2**	**-1.9**	
SYZ				AML	AML	04 18 27.3		
SYZ				AML	AML	04 18 27.4		
SYZ				AML	AML	04 18 31.0		
SYZ				AML	AML	04 18 31.0		
DUWZ	**D'Urville Isla**	**3.39**	**38**	PN	**Pn**	**04 17 18.7**	**0.0**	
SNZO	**South Karori**	**3.41**	**51**	*e*Pn	**Pn**	**04 17 19.6**	**+0.6**	
DCZ	**Deep Cove**	**3.48**	**235**	PN	**Pn**	**04 17 18.4**	**-1.5**	
DCZ				AML	AML	04 18 23.4		
DCZ				AML	AML	04 18 23.4		
DCZ				AML	AML	04 18 25.6		
DCZ				AML	AML	04 18 25.6		
DCZ	**Deep Cove**	**3.48**	**235**	*e*Pn	**Pn**	**04 17 18.4**	**-1.5**	
DCZ				*e*Sn	**Sn**	**04 17 58.7**	**-2.3**	
PLWZ	**Palliser**	**3.58**	**58**	PN	**Pn**	**04 17 20.3**	**-1.0**	
MSWZ	**Moikau Station**	**3.66**	**56**	PN	**Pn**	**04 17 21.6**	**-0.8**	
MSWZ				AML	AML	04 18 05.0		
MSWZ				AML	AML	04 18 48.8		
CAW	**Cannon Point**	**3.75**	**51**	*e*PN	**Pn**	**04 17 22.4**	**-1.2**	
CAW				AML	AML	04 18 08.0		
CAW				AML	AML	04 18 26.7		
PAWZ	**Paruwai Farm**	**3.79**	**57**	AML	AML	04 18 11.9		
PAWZ				AML	AML	04 18 53.0		
KIW	**Kapiti Island**	**3.83**	**47**	*e*PN	**Pn**	**04 17 23.9**	**-0.8**	
KIW				AML	AML	04 18 24.3		
KIW				AML	AML	04 18 27.7		
MTW	**Mount Morrison**	**3.97**	**55**	*e*PN	**Pn**	**04 17 25.8**	**-0.9**	
MTW				AML	AML	04 18 16.2		
MTW				AML	AML	04 18 17.0		
OGWZ	**Otaki Gorge**	**4.00**	**49**	*e*PN	**Pn**	**04 17 25.8**	**-1.3**	
APZ	**The Paps**	**4.01**	**213**	*e*PN	**Pn**	**04 17 25.2**	**-2.0**	
APZ				AML	AML	04 18 46.1		
APZ				AML	AML	04 18 50.6		
HOWZ	**Holdsworth Sta**	**4.14**	**52**	PN	**Pn**	**04 17 28.6**	**-0.4**	
TMWZ	**Te Maipa**	**4.24**	**57**	PN	**Pn**	**04 17 29.2**	**-1.1**	
MRZ	**Mangatainoka R**	**4.34**	**50**	*e*PN	**Pn**	**04 17 29.5**	**-2.2**	
BFZ	**Birch Farm**	**4.71**	**55**	*e*Pn	**Pn**	**04 17 35.8**	**-1.0**	
BFZ				*e*Sn	**Sn**	**04 18 27.1**	**-4.2**	
WAZ	**Wanganui**	**4.71**	**38**	AML	AML	04 19 05.0		
WAZ				AML	AML	04 19 34.0		
KHEZ	**Kahui Hut**	**4.73**	**28**	PN	**Pn**	**04 17 37.7**	**+0.6**	
PREZ	**Palmer Road**	**4.73**	**29**	PN	**Pn**	**04 17 38.0**	**+0.8**	
NEZ	**North Egmont**	**4.78**	**28**	*e*PN	**Pn**	**04 17 37.9**	**+0.1**	
PKE	**Pukeiti**	**4.81**	**27**	PN	**Pn**	**04 17 38.7**	**+0.6**	
PKE				AML	AML	04 17 45.5		
PKE				AML	AML	04 17 50.5		
VRZ	**Vera Road**	**5.15**	**33**	AML	AML	04 18 48.5		
VRZ				AML	AML	04 19 22.0		
PKVZ	**Pokaka**	**5.26**	**38**	PN	**Pn**	**04 17 45.7**	**+1.3**	
PKVZ				AML	AML	04 18 57.2		
PKVZ				AML	AML	04 19 34.4		
FWVZ	**Far West T-bar**	**5.38**	**39**	AML	AML	04 18 58.6		
FWVZ				AML	AML	04 19 39.2		
TUVZ	**Tukino**	**5.41**	**40**	PN	**Pn**	**04 17 46.9**	**+0.3**	
TUVZ				AML	AML	04 18 53.3		
TUVZ				AML	AML	04 18 56.3		
TWVZ	**Taurewa**	**5.47**	**37**	AML	AML	04 18 59.1		
TWVZ				AML	AML	04 19 35.6		
KRVZ	**Karewarewa**	**5.55**	**39**	AML	AML	04 19 04.3		
KRVZ				AML	AML	04 19 12.7		
HIZ	**Hauiti**	**5.72**	**30**	PN	**Pn**	**04 17 49.8**	**-0.8**	
HIZ				AML	AML	04 19 33.7		
HIZ				AML	AML	04 19 40.2		
HIZ	**Hauiti**	**5.72**	**30**	*e*Pn	**Pn**	**04 17 50.5**	**-0.1**	
HIZ				*e*Sn	**Sn**	**04 18 53.0**	**-3.1**	
BKZ	**Black Stump Fm**	**5.90**	**44**	*e*Pn	**Pn**	**04 17 52.8**	**-0.4**	
BKZ				*e*Sn	**Sn**	**04 18 58.7**	**-2.1**	
URZ	**Urewera**	**6.91**	**42**	*e*Pn	**Pn**	**04 18 04.4**	**-2.5**	
URZ				*e*Sn	**Sn**	**04 19 19.5**	**-6.0**	
MWZ	**Matawai**	**7.06**	**45**	*e*PN	**Pn**	**04 18 06.4**	**-2.7**	
MWZ				AML	AML	04 19 24.4		
MWZ				AML	AML	04 19 28.8		
MXZ	**Matakaoa Point**	**8.04**	**45**	*e*Pn	**Pn**	**04 18 20.4**	**-2.2**	
MXZ				*e*Sn	Sn	04 19 42.0	-11	
OUZ	**Omahuta**	**8.50**	**13**	*e*Pn	**Pn**	**04 18 29.7**	**+0.9**	
OUZ				*e*Sn	**Sn**	**04 20 01.5**	**-3.1**	
DZM	**Mont Dzumac**	**21.75**	**348**	P	**P**	**04 21 18.5**	**+1.0**	
	3.8nm,0.9s,baz=277,slow=4.4,SNR=3.1							
STKA	**Stephens Creek**	**26.01**	**287**	P	**P**	**04 22 00.7**	**+1.9**	
STKA	1.4nm,0.7s,baz=138,slow=18,SNR=2.1			LR	LR	04 29 37.3		
	comp=Z,188nm,20.2s,baz=8.2,slow=30							
STKA	**Stephens Creek**	**26.01**	**287**	P	**P**	**04 22 00.7**	**+1.9**	
	7.8nm,1.9s							
VNDA	**Vanda**	**34.32**	**184**	LR	LR	04 34 07.2		
	comp=Z,146nm,18.9s,baz=312,slow=31							
AS01	**Alice Springs**	**36.41**	**291**	*e*P	**P**	**04 23 27.2**	**-3.2**	
ASAR	**Alice Springs**	**36.44**	**291**	P	**P**	**04 23 30.7**	**+0.1**	
	2.1nm,0.6s,baz=130,slow=7.8,SNR=21							
ASAR				PcP	**PcP**	**04 25 57.1**	**+2.5**	
	0.4nm,0.7s,baz=128,slow=4.1,SNR=4.1							
WB2	**Warramunga Arr**	**38.71**	**296**	*e*P	**P**	**04 23 50.5**	**+0.6**	
	7.1nm,0.8s							
WRA	**Warramunga Arr**	**38.72**	**296**	P	**P**	**04 23 49.8**	**-0.2**	
	1.2nm,0.6s,baz=133,slow=7.6,SNR=10							
WRA				PcP	**PcP**	**04 26 04.5**	**+2.9**	
	0.9nm,0.7s,baz=131,slow=2.5,SNR=4.0							
WRAB	**Tennant Creek**	**38.72**	**296**	*e*P	**P**	**04 23 49.7**	**-0.2**	
	12nm,1.5s							
HHC	**Hu-ho-hao-te**	**99.68**	**318**	*e*P	**Pdif**	**04 30 08.0**	**-1.3**	
HHC				pmax	pmax			
	comp=Z,19nm,1.2s							
HHC				pmax	pmax			
	comp=Z,83nm,6.2s							
LZH	**Lanzhou**	**100.11**	**311**	*e*P	**Pdif**	**04 30 13.0**	**+1.6**	
LZH				pP	pP	04 30 15.1	-0.4	
LZH				sP	sP	04 30 17.5	+0.6	
LZH				*e*PP	**PP**	**04 34 22.3**	**+4.8**	
LZH				pmax	pmax			
	comp=Z,14nm,1.5s							
LZH				pmax	pmax			
	comp=Z,43nm,9.7s							
LZH				LR	LR			
	comp=N,93nm,17.5s							
LZH				LR	LR			
	comp=E,82nm,17.2s							
LZH				LR	LR			
	comp=Z,100nm,19.6s							
SPITS	**Spitsbergen Ar**	**143.82**	**351**	PKP	**PKPdf**	**04 36 00.5**	**+0.9**	
	comp=Z,1.5nm,0.8s,baz=166,slow=6.7,SNR=2.9							
BRTR	**Keskin Array B**	**148.30**	**278**	PKPbc	**PKPbc**	**04 36 11.8**	**-0.1**	
	comp=Z,3.9nm,0.7s,baz=140,slow=5.2,SNR=15							
TORD	**Torodi Ar. Bea**	**148.41**	**200**	PKPbc	**PKPbc**	**04 36 12.8**	**+0.2**	
	comp=Z,2.0nm,0.8s,baz=160,slow=2.0,SNR=10.0							
ARCES	**ARCESS Array B**	**148.61**	**338**	PKPbc	**PKPbc**	**04 36 10.8**	**-0.8**	
	comp=Z,2.8nm,0.8s,baz=76,slow=5.1,SNR=4.8							
BR231	**Keskin MP Arra**	**148.96**	**278**	*e*PKPbc	**PKPbc**	**04 36 13.1**	**-0.4**	
FINES	**FINESS Array B**	**152.69**	**323**	PKPbc	**PKPbc**	**04 36 21.6**	**+0.2**	
	comp=Z,1.5nm,0.8s,baz=77,slow=7.3,SNR=2.7							

IDC 14 04:16:36.0±28.0, 21°.17S×174°.00W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/22, mbtmp4.1/4, MS3.5/2, Ms1 3.5/2, ms1mx3.0/34, Error ellipse: s-maj=519.9km s-min=162.4km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.14**	**264**	P	P	04 23 50.0	+1.1
	0.8nm,0.4s,baz=97,slow=9.4,SNR=5.8						
STKA	**Stephens Creek**	**40.89**	**245**	P	P	04 24 18.6	-1.5
	0.7nm,0.6s,baz=62,slow=8.8,SNR=3.1						
JAY	**Jayapura**	**47.81**	**287**	LR	LR	04 42 12.9	
	comp=Z,6.0nm,19.2s,slow=32						
ASAR	**Alice Springs**	**48.01**	**257**	P	P	04 25 17.1	-0.2
	0.5nm,0.3s,baz=97,slow=7.4,SNR=6.0						
WRA	**Warramunga Arr**	**48.21**	**262**	P	P	04 25 18.6	-0.2
	1.7nm,0.7s,baz=94,slow=8.5,SNR=30						
NNA	**Nana**	**92.28**	**104**	LR	LR	05 02 12.7	
	comp=Z,225nm,21.9s,baz=9.5,slow=30						

IDC 14 04:22:20.2±6.5, 53°.57N×169°.98E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/39, mbtmp3.2/3, ML2.2/1, Error ellipse: s-maj=218.6km s-min=33.6km az=163.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.37**	**271**	Pn	Pn	04 24 08.9	0.0
	0.2nm,0.3s,baz=82,slow=14,SNR=3.1						
ILAR	**Eielson Array**	**24.25**	**46**	P	P	04 27 38.3	-0.2
	0.6nm,0.8s,baz=251,slow=7.8,SNR=8.3						
YKA	**Yellowknife Ar**	**38.68**	**46**	P	P	04 29 45.2	+0.1
	0.3nm,0.6s,baz=292,slow=8.0,SNR=3.7						

*IDC **14** 04:24:22.0±0.8, 17°.15S×172°.85W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.3/29, mbtmp4.2/10, MS4.2/11, Ms1 4.1/11, ms1mx3.8/34, Error ellipse: s-maj=34.9km s-min=20.1km az=149.0*

*NEIC **14** 04:24:27.3±0.5, 17°.16S×172°.70W, h35km, mb4.7/7, Error ellipse: s-maj=20.0km s-min=12.2km az=133.0*

ISC 14 04:24:25.3±0.5, 17°.2S±0°.1×172°.7W±0°.1, h17km, n71, σ1s69/63, mb4.4/21, MS4.2/10, 14C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.34**	**15**	Pn	Pn	04 25 09.1	-7.8
	16nm,0.3s,baz=29,slow=3.1,SNR=8.8						
AFI				Sn	Sn	04 25 44.9	-11
	52nm,0.3s,baz=326,slow=23,SNR=10						
AFI	**Afiamalu**	**3.34**	**15**	*e*Pn	Pn	04 25 09.2	-7.7
AFI				*e*S	Sn	04 25 37.8	-19
MSVF	**Nonsavu**	**8.88**	**265**	*e*Pn	**Pn**	**04 26 36.8**	**+3.8**
	71nm,1.1s						
RAR	**Rarotonga**	**12.83**	**110**	Pn	Pn	04 27 20.8	-6.2
	0.9nm,0.3s,baz=286,slow=3.3,SNR=5.6						
RAR				LR	LR	04 31 11.1	
	comp=Z,381nm,19.7s,baz=294,slow=32						
RAR	**Rarotonga**	**12.83**	**110**	*e*Pn	Pn	04 27 20.4	-6.5
	46nm,0.9s						
DZM	**Mont Dzumac**	**20.27**	**253**	*e*LR	LR	04 34 06.9	
	1μm,25.6s						
DZM	**Mont Dzumac**	**20.27**	**253**	LR	LR	04 35 27.7	
	comp=Z,802nm,19.5s,baz=79,slow=33						
PPT2	**Papeete2**	**22.04**	**95**	*e*LQ	LQ	04 33 31.3	
PPT2				*e*LR	LR	04 34 25.0	
	759nm,26.8s						
PPT	**Papeete**	**22.04**	**95**	LR	LR	04 36 24.0	
	comp=Z,392nm,18.1s,baz=254,slow=32						
URZ	**Urewera**	**22.85**	**201**	*e*P	**P**	**04 29 26.6**	**-1.1**
	52nm,1.2s						
HNR	**Hanra**	**27.71**	**283**	LR	LR	04 39 23.0	
	comp=Z,1μm,19.8s,baz=131,slow=33						
TAOE	**Nuku Hiva Isla**	**32.70**	**80**	*e*LR	LR	04 38 59.3	
	557nm,29.1s						
STKA	**Stephens Creek**	**43.80**	**242**	P	**P**	**04 32 27.6**	**-2.9**
	2.5nm,0.7s,baz=73,slow=9.8,SNR=4.2						
STKA				LR	LR	04 49 01.1	
	comp=Z,170nm,18.4s,baz=35,slow=34						
WRAB	**Tennant Creek**	**50.14**	**258**	*e*P	**P**	**04 33 17.4**	**-2.8**
	4.3nm,1.0s						
WRA	**Warramunga Arr**	**50.15**	**258**	P	**P**	**04 33 17.1**	**-3.2**
	1.7nm,0.5s,baz=96,slow=6.9,SNR=12						
WRA				LR	LR	04 53 34.2	
	comp=Z,408nm,18.3s,baz=120,slow=35						
ASAR	**Alice Springs**	**50.26**	**253**	P	**P**	**04 33 18.6**	**-2.5**
	5.6nm,0.6s,baz=89,slow=8.9,SNR=37						
ASAR				LR	LR	04 54 43.3	
	comp=Z,357nm,18.6s,baz=82,slow=36						
FITZ	**Fitzroy Crossi**	**58.55**	**259**	LR	LR	04 59 11.2	
	comp=Z,308nm,18.4s,baz=120,slow=36						
VNDA	**Vanda**	**61.71**	**186**	P	**P**	**04 34 44.1**	**+2.0**
	1.4nm,0.8s,baz=12,slow=5.8,SNR=7.2						
CASY	**Casey**	**69.11**	**205**	*e*P	**P**	**04 35 29.3**	**-0.9**
	0.6nm,1.0s						
MJAR	**Matsushiro Arr**	**70.73**	**320**	P	**P**	**04 35 40.2**	**-0.5**
	1.0nm,0.3s,baz=161,slow=4.8,SNR=3.9						
MJAR				LR	LR	05 01 15.1	
	comp=Z,91nm,22.0s,baz=110,slow=31						
QSPA	**South Pole Qui**	**72.89**	**180**	*e*P	**P**	**04 35 53.6**	**+0.3**
	59nm,1.1s						
PETK	**Petropavlovsk-**	**74.52**	**342**	P	**P**	**04 36 02.2**	**-0.5**
	6.2nm,0.8s,baz=139,slow=9.2,SNR=6.6						
KSRS	**Korea Array**	**77.91**	**316**	P	**P**	**04 36 22.4**	**+0.1**
	0.9nm,0.4s,baz=120,slow=7.2,SNR=4.7						
KSRS				LR	LR	05 05 43.0	
	comp=Z,54nm,20.8s,baz=335,slow=32						
KSAR	**Wonju Array Be**	**77.92**	**315**	P	**P**	**04 36 22.4**	**-0.1**
TXAR	**Lajitas Array**	**81.01**	**56**	P	**P**	**04 36 39.7**	**+0.1**
	1.7nm,1.0s,baz=223,slow=5.0,SNR=8.8						
ANMO	**Albuquerque**	**81.39**	**49**	*e*P	**P**	**04 36 41.6**	**-0.1**
	3.8nm,1.2s						
PV01	**Paradox Valley**	**81.43**	**46**	*e*P	**P**	**04 36 41.1**	**-0.7**
	331nm,1.0s						
MCK	**McKinley**	**82.72**	**10**	*e*P	**P**	**04 36 46.3**	**-1.5**
	9.0nm,1.0s						
PDAR	**Pinedale Array**	**83.11**	**41**	P	**P**	**04 36 49.4**	**-1.1**
	1.1nm,0.8s,baz=204,slow=3.3,SNR=7.5						
CMIG	**Matias Romero**	**83.81**	**70**	LR	LR	05 07 15.8	
	comp=Z,106nm,18.0s,baz=144,slow=31						
COLA	**College**	**83.95**	**10**	*e*P	**P**	**04 36 53.2**	**-0.8**
	7.0nm,1.0s						
ILAR	**Eielson Array**	**84.03**	**11**	P	**P**	**04 36 53.0**	**-1.4**
	1.0nm,0.6s,baz=226,slow=6.1,SNR=20						
EGAK	**Eagle**	**85.17**	**13**	*e*P	**P**	**04 36 59.6**	**-0.6**
	9.3nm,1.7s						
COLD	**Coldfoot**	**85.77**	**9**	*e*P	**P**	**04 37 02.2**	**-0.9**
	5.4nm,1.3s						
YKA	**Yellowknife Ar**	**91.43**	**23**	P	**P**	**04 37 29.2**	**-0.9**
	0.3nm,0.7s,baz=240,slow=4.2,SNR=5.8						
MKAR	**Makanchi Array**	**112.56**	**314**	PKiKP	**PKiKP**	**04 42 59.5**	**-1.3**
	0.3nm,0.3s,baz=48,slow=1.8,SNR=4.0						
AKASG	**Malin Array Be**	**142.23**	**337**	PKP	**PKPdf**	**04 43 56.6**	**-0.1**
	0.3nm,0.4s,baz=38,slow=3.1,SNR=2.6						
KWP	**Kalwaria Pacla**	**145.31**	**342**	*i*P	**PKPbc**	**04 44 01.7**	**-0.2**
KMBO	**Kilima Mbogo**	**145.36**	**241**	PKPbc	**PKPbc**	**04 44 03.4**	**-0.1**
	3.8nm,0.8s,baz=98,slow=3.3,SNR=7.6						
KMBO	**Kilima Mbogo**	**145.36**	**241**	PKPbc	**PKPbc**	**04 44 03.4**	**-0.1**
KMBO				*e*PKPdf	**PKPdf**	**04 44 04.6**	**+0.9**
CLL	**Collm**	**145.63**	**354**	↓*i*P	**PKPdf**	**04 44 02.8**	**+0.1**
	comp=Z,10.0nm,1.3s						
CLL				*i*		04 44 07.9	
CLL				*e*		04 47 04.0	
CLL				*e*		05 07 24.0	
CLL				LmV		05 31 00.0	
	comp=Z,100nm,19.3s						
STHS	**Stebnicka Huta**	**145.91**	**344**	*e*PKP	**PKPdf**	**04 44 02.5**	**-0.7**
BRG	**Berggiesshubel**	**145.96**	**353**	*e*P	**PKPbc**	**04 44 04.6**	**+0.7**
	comp=Z,3.7nm,0.9s						
UPC	**Upice**	**146.01**	**350**	*e*PKP	**PKPdf**	**04 44 04.3**	**+0.9**
KOLS	**Kolonicke sedl**	**146.06**	**342**	*e*PKP	**PKPdf**	**04 44 03.3**	**-0.2**
DPC	**Dobruska-Polom**	**146.11**	**350**	*e*PKP	**PKPbc**	**04 44 04.9**	**+0.4**
DPC				*ep*PKP	**pPKPdf**	**04 44 15.6**	**+6.2**
DPC				*ex*	x	04 44 23.5	
BURAR	**Bucovina Array**	**146.26**	**338**	↑*i*P	**PKPdf**	**04 44 04.8**	**+0.8**
CRVS	**Cervenica-Dubn**	**146.32**	**343**	*e*PKP	**PKPdf**	**04 44 04.8**	**+0.9**
MORC	**Moravsky Berou**	**146.44**	**348**	↑*i*P	**PKPdf**	**04 44 04.8**	**+0.6**
TESR	**Tescani**	**146.64**	**335**	↑*i*P	**PKPab**	**04 44 07.8**	**+0.6**
PRU	**Pruhonice**	**146.74**	**352**	*e*PKP	**PKPbc**	**04 44 07.2**	**+0.9**
PRU				AMS	AMS	05 27 30.0	
	comp=Z,200nm,18.4s						
NKC	**Novy Kostel**	**146.75**	**354**	*e*PKP	**PKPbc**	**04 44 06.9**	**+0.5**
GOPC	**GO Pecny, Ondr**	**146.78**	**351**	*e*PKP	**PKPab**	**04 44 08.2**	**+0.6**
GOPC				*ep*PKP	**pPKPdf**	**04 44 17.7**	**+7.2**
KECS	**Kecovo**	**146.97**	**344**	*e*PKP	**PKPdf**	**04 44 06.1**	**+1.1**
VRAC	**Vranov**	**147.07**	**349**	↑*i*P	**PKPbc**	**04 44 07.2**	**-0.1**
VRI	**Vrincioaia**	**147.13**	**335**	↑*i*P	**PKPbc**	**04 44 07.5**	**-0.1**
VYHS	**Vyhne**	**147.37**	**346**	*e*PKP	**PKPbc**	**04 44 08.0**	**-0.1**
DOPR	**Dopca**	**147.58**	**336**	↑*i*P	**PKPbc**	**04 44 09.2**	**+0.4**
PSZ	**Piszkesteto**	**147.64**	**344**	↑*i*P	**PKPab**	**04 44 11.2**	**0.0**
KHC	**Kasperske Hory**	**147.71**	**352**	*e*PKP	**PKPbc**	**04 44 09.8**	**+0.7**
KHC				*ex*	x	04 44 27.7	
KHC	**Kasperske Hory**	**147.71**	**352**	*e*PKPbc	**PKPbc**	**04 44 09.9**	**+0.8**
MLR	**Muntele Rosu**	**147.75**	**335**	↑*i*P	**PKPbc**	**04 44 09.8**	**+0.4**
ISR	**Istrita**	**147.81**	**334**	↓*i*P	**PKPbc**	**04 44 09.8**	**+0.3**
DRGR		**147.83**	**340**	↑*i*P	**PKPbc**	**04 44 09.6**	**+0.1**
BRTR	**Keskin Array B**	**147.96**	**320**	PKPbc	**PKPbc**	**04 44 10.4**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=120,slow=2.2,SNR=16						
GERES	**GERESS Array B**	**147.98**	**352**	PKPbc	**PKPdf**	**04 44 08.6**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=86,slow=1.7,SNR=10						
VOIR		**148.15**	**336**	↑*i*P	**PKPbc**	**04 44 11.1**	**+0.7**
ARR	**Arges**	**148.37**	**336**	↑*i*P	**PKPbc**	**04 44 11.9**	**+0.9**
BZS	**Buzias**	**149.22**	**340**	↑*i*P	**PKPbc**	**04 44 12.7**	**-0.4**
MDVR	**Moldovita**	**149.93**	**339**	↑*i*P	**PKPbc**	**04 44 15.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**173.25**	**125**	PKP	**PKPdf**	**04 44 33.4**	**-1.2**
	comp=Z,0.8nm,1.0s,baz=85,slow=1.6,SNR=2.7						
TORD				PKPab	**PKPab**	**04 46 04.1**	**+1.6**
	comp=Z,1.0nm,1.0s,baz=256,slow=4.1,SNR=4.4						

JMA 14 04:29:20.3±0.7, 34°.95N×142°.84E, h22km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.56**	**260**	P	Pn	04 29 47.0	+0.8
BSO1				X		04 30 06.8	
BSO3	**Boso 3**	**1.92**	**266**	P	Pb	04 29 53.0	-1.5
BSO4	**Boso 4**	**2.06**	**272**	P	Pb	04 29 55.8	-1.0
JHO	**Hitachi**	**2.48**	**313**	P	Pn	04 30 00.6	+1.2
JYT	**Yasato**	**2.50**	**301**	P	Pn	04 30 01.9	+2.2
JFK	**Kawauchi**	**2.89**	**327**	P	Pn	04 30 05.7	+0.7
JFK				S	Sn	04 30 38.1	-1.0
JAG	**Ashikaga**	**3.12**	**299**	P	Pn	04 30 10.6	+2.4
JFT	**Otama**	**3.27**	**322**	P	Pn	04 30 12.5	+2.3
JFT				S	Sn	04 30 49.0	+0.6

IDC 14 04:36:59.0±1.6, 1°.64N×124°.16E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/35, mbtmp3.5/4, Error ellipse: s-maj=192.1km s-min=23.2km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.66**	**156**	P	P	04 42 11.8	-0.5
	0.7nm,0.4s,baz=333,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.88**	**160**	P	P	04 42 43.4	+1.6
	0.1nm,0.4s,baz=342,slow=8.8,SNR=3.3						
STKA	**Stephens Creek**	**37.21**	**155**	P	P	04 44 11.1	-1.1
	2.0nm,0.7s,baz=330,slow=8.5,SNR=3.5						
MKAR	**Makanchi Array**	**57.86**	**327**	P	P	04 46 52.4	-0.3
	0.3nm,0.5s,baz=139,slow=7.3,SNR=3.3						

*ISK **14** 04:41:30.8, 35°.51N×27°.71E, h7km, MD3.0*

*CSEM **14** 04:41:31.4±0.4, 35°.57N×27°.72E, h2km, MD3.0, Error ellipse: s-maj=10.9km s-min=4.2km az=156.0*

ISC 14 04:41:30.3±2.1, 35°.4N±0°.1×27°.7E±0°.0, 7, h30km, n19, σ1s65/24, Dodecanese Islands

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |

baz=101,slow=75,SNR=124
H11S1 WAKE ISLAND Hy 88.70 289 T T 06 47 21.7
baz=101,slow=75,SNR=75
H11S3 WAKE ISLAND Hy 88.71 289 T T 06 47 27.8
baz=101,slow=75,SNR=111
H11N3 WAKE ISLAND Hy 88.72 290 T T 06 47 27.4
baz=102,slow=74,SNR=20
H11N2 WAKE ISLAND Hy 88.73 290 T T 06 47 28.6
baz=102,slow=74,SNR=22
H11N1 WAKE ISLAND Hy 88.73 290 T T 06 47 29.6
baz=102,slow=74,SNR=13

ISCJB **14** *04:59:11.7±0.5, 1°.80N±0°.05×99°.15E±0°.05, h10km, mb3.8/8, Error ellipse: s-maj=8.1km s-min=5.7km az=140.6*
DJA **14** *04:59:12.7±0.2,2°N±2°×9°9E±°, h10km, M4.2/6, MLv4.2/6*
IDC **14** *04:59:26.3±9.8,2°.07N×99°.79E, h148km±92km, mb3.4/8, mb1 3.5/9, mb1mx3.3/41, mbtmp3.8/9, Error ellipse: s-maj=42.5km s-min=15.0km az=58.0*

ISC 14 04:59:10.7±0.6, 1°.84N±0°.04×99°.19E±0°.05, h10km, n22, σ1°74/25, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.42**	**227**	P	**Pb**	**04 59 19.8**	**-0.4**
SBSI				S	**Sb**	**04 59 30.2**	**+3.7**
MNSI	**Mandailing Nat**	**1.10**	**160**	P	**Pb**	**04 59 31.0**	**-0.9**
GSI	**Gunungsitoli**	**1.70**	**252**	P	**Pn**	**04 59 40.1**	**-0.4**
GSI				S	**Sn**	**05 00 03.0**	**+0.7**
TSI	**Tuntungan**	**1.77**	**339**	P	**Pg**	**04 59 44.9**	**+0.2**
KCSI	**Kotacane, Aceh**	**2.20**	**320**	P	**Pb**	**04 59 49.6**	**-1.0**
KCSI				S	**Sg**	**05 00 22.1**	**+0.7**
BKNI	**Bangkinang**	**2.38**	**129**	P	**Pb**	**04 59 54.5**	**+0.9**
TPTI		**2.46**	**305**	P	**Pn**	**04 59 52.1**	**+1.2**
TPTI				S	**Sn**	**05 00 22.7**	**+1.7**
PPI	**Padang Panjang**	**2.58**	**152**	P	**Pb**	**04 59 55.0**	**-2.0**
PDSI	**Padang**	**3.01**	**155**	P	**Pn**	**05 00 01.0**	**+2.5**
MLSI	**Meulaboh, Aceh**	**3.69**	**311**	P	**Pn**	**05 00 09.8**	**+2.0**
RGRI	**Rengat**	**3.82**	**125**	P	**Pn**	**05 00 12.7**	**+3.1**
SURA	**Surathani**	**7.30**	**3**	P	Pn	05 01 03.2	+5.8
CMAR	**Chiang Mai Arr**	**16.52**	**359**	P	**P**	**05 03 07.5**	**+2.2**
	0.3nm,0.3s,baz=196,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**40.70**	**124**	P	**P**	**05 06 50.0**	**-1.9**
	2.3nm,0.9s,baz=302,slow=9.4,SNR=7.6						
ASAR	**Alice Springs**	**42.21**	**129**	P	**P**	**05 07 01.9**	**-2.4**
	0.7nm,0.8s,baz=309,slow=7.4,SNR=4.6						
SONM	**Songino Array**	**46.24**	**7**	P	**P**	**05 07 35.8**	**-0.5**
	0.3nm,0.6s,baz=163,slow=5.6,SNR=2.0						
MKAR	**Makanchi Array**	**47.14**	**344**	P	**P**	**05 07 43.3**	**+0.1**
	1.2nm,0.7s,baz=156,slow=7.9,SNR=10						
STKA	**Stephens Creek**	**52.32**	**134**	P	**P**	**05 08 21.6**	**-1.3**
	1.6nm,0.6s,baz=322,slow=9.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**53.28**	**349**	P	**P**	**05 08 29.4**	**-0.2**
	1.4nm,0.6s,baz=182,slow=5.9,SNR=5.9						
BRTR	**Keskin Array B**	**70.17**	**312**	P	**P**	**05 10 23.2**	**-0.8**
	0.5nm,0.6s,baz=115,slow=8.7,SNR=3.5						
FINES	**FINESS Array B**	**80.36**	**332**	P	**P**	**05 11 21.9**	**-0.1**
	0.6nm,0.5s,baz=67,slow=11,SNR=3.1						
TXAR	**Lajitas Array**	**142.06**	**33**	PKP	**PKPdf**	**05 18 42.1**	**-2.0**
	0.2nm,0.7s,baz=298,slow=1.9,SNR=3.3						

JMA 14 05:07:02.4, 33°.03N×130°.74E, h11km, M0.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**0.15**	**52**	P	Pg	05 07 05.7	-0.2
	8.4nm,0.2s,baz=277,slow=3.9,SNR=66						
JNU	**Nakatsue**	**0.15**	**52**	P	Pg	05 07 05.9	0.0
JNU				*e*S	Sg	05 07 08.4	+0.1
JTA	**Tamana**	**0.19**	**249**	P	Pg	05 07 06.5	+0.1
JTA				*e*S	Sg	05 07 09.4	+0.2

DJA 14 05:22:11.9±0.3, 2°N±3°×9°9E±°, h10km, M4.0/9, MLv4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.39**	**218**	P	Pg	05 22 17.0	-2.6
MNSI	**Mandailing Nat**	**1.15**	**157**	P	Pb	05 22 28.0	-5.9
GSI	**Gunungsitoli**	**1.65**	**250**	P	Pn	05 22 37.9	-3.1
TSI	**Tuntungan**	**1.73**	**341**	P	Pb	05 22 43.3	-0.4
KCSI	**Kotacane, Aceh**	**2.14**	**321**	P	Pn	05 22 48.9	+1.2
TPTI		**2.39**	**306**	P	Pn	05 22 51.5	+0.3
TPTI				S	Sn	05 23 22.0	+1.4
BKNI	**Bangkinang**	**2.44**	**129**	P	Pn	05 22 52.1	+0.2
BKNI				S	Sn	05 23 22.7	+0.9
PPI	**Padang Panjang**	**2.63**	**151**	P	Pn	05 22 55.1	+0.7
PDSI	**Padang**	**3.06**	**154**	P	Pn	05 23 01.3	+0.9
SDSI	**Sungai Dareh**	**3.60**	**140**	P	Pn	05 23 10.6	+2.8
MLSI	**Meulaboh, Aceh**	**3.62**	**311**	P	Pb	05 23 17.1	+1.0
RGRI	**Rengat**	**3.88**	**124**	P	Pn	05 23 10.7	-1.0

MAN 14 05:38:40, 17°.52N×121°.33E, h22km, mb4.0, ML2.8, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.35**	**347**	*e*P	Pn	05 38 49.4	-0.4
APYP				*e*S	Sn	05 38 58.1	+2.0
ABRA	**Dolores**	**0.60**	**283**	*e*P	Pn	05 38 52.8	-0.4
ABRA				*e*S	Sn	05 39 04.0	+1.8
CAUP	**Cauayan**	**0.74**	**140**	*e*P	Pn	05 38 55.5	+0.3
SGCP	**Mt. Cagua**	**0.99**	**44**	*e*P	Pn	05 39 09.7	+11

IDC 14 05:56:36.7±1.9, 10°.56S×118°.84E, h0km, mb3.9/1, mb1 3.7/5, mb1mx3.4/43, mbtmp3.6/5, ML3.2/4, Error ellipse: s-maj=79.4km s-min=23.6km az=56.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.58**	**9**	Pn	Pn	05 58 01.6	+0.5
	0.4nm,0.3s,baz=187,slow=8.1,SNR=2.2						
KAPI				Sn	Sn	05 59 01.6	-4.4
	5.4nm,0.3s,baz=270,slow=23,SNR=8.6						
FITZ	**Fitzroy Crossi**	**9.98**	**139**	Pn	Pn	05 59 03.2	+1.7
	0.2nm,0.3s,baz=332,slow=12,SNR=6.4						
FITZ				Sn	Sn	06 00 45.8	-8.4
	0.3nm,0.3s,baz=175,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**17.61**	**124**	P	Pn	06 00 42.2	-1.5
	0.1nm,0.3s,baz=297,slow=14,SNR=8.2						
WRA				S	Sn	06 03 45.2	-15
	0.1nm,0.3s,baz=306,slow=29,SNR=4.9						
ASAR	**Alice Springs**	**19.39**	**134**	P	P	06 01 04.5	0.0
	0.0nm,0.3s,baz=310,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**65.77**	**333**	P	P	06 07 23.5	-0.1
	0.9nm,0.6s,baz=145,slow=7.5,SNR=9.8						

WEL 14 06:01:15.2±0.3, 43°.58S×172°.75E, h8km±1km, ML3.0/8, 1D, Error ellipse: s-maj=3.0km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.14**	**209**	PG	Pg	06 01 18.4	+0.2
MQZ				SG	Sg	06 01 21.0	+0.7
MQZ				AML	AML	06 01 21.1	
OXZ	**Oxford**	**0.58**	**296**	P*	Pg	06 01 26.5	+0.1
OXZ				SG	Sb	06 01 35.2	-0.8
LTZ	**Lake Taylor**	**0.87**	**336**	P*	Pg	06 01 32.1	+0.1
LTZ				AML	AML	06 01 44.8	
LTZ				AML	AML	06 01 44.9	
RPZ	**Rata Peaks**	**1.24**	**263**	P*	Pb	06 01 37.4	-1.5
INZ	**Inchbonnie**	**1.28**	**311**	*e*P*	Pn	06 01 38.9	-0.6
KHZ	**Kahutara**	**1.30**	**27**	⇓P*	Pn	06 01 37.9	-1.8
THZ	**Tophouse**	**1.82**	**4**	*e*PN	Pn	06 01 44.8	-2.2
LBZ	**Lake Benmore**	**2.02**	**246**	PN	Pn	06 01 48.7	-1.0
ODZ	**Otahua Downs**	**2.10**	**225**	*e*PN	Pn	06 01 49.2	-1.5
FOZ	**Fox Glacier**	**2.13**	**270**	PN	Pn	06 01 51.8	+0.6
TUZ	**Tuapeka**	**3.25**	**222**	AML	AML	06 04 35.2	
TUZ				AML	AML	06 04 37.2	

ISCJB **14** *06:08:18.8±0.9, 38°.37N±0°.07×39°.02E±0°.05, h20km±9km, Error ellipse: s-maj=12.1km s-min=7.0km az=172.8*
CSEM **14** *06:08:18.3±0.3, 38°.33N×38°.99E, h10km, MD2.5, Error ellipse: s-maj=10.4km s-min=6.1km az=167.0*

DDA **14** *06:08:19.3, 38°.35N×38°.95E, h7km, Md2.4*
ISK **14** *06:08:20.5, 38°.40N×39°.53E, h12km, MD2.5*

ISC 14 06:08:18.1±1.2, 38°.36N±0°.08×38°.97E±0°.04, h18km±4km, n11, σ0°37/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.14**	**4**	P	**Pg**	**06 08 22.8**	**+0.3**
ELZG				S	**Sg**	**06 08 25.4**	**0.0**
ELZG	**Elazig**	**0.14**	**4**	*i* P	**Pg**	**06 08 22.8**	**+0.3**
ELZG				*i* S	**Sg**	**06 08 25.4**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.26**	**86**	*e*PG	**Pb**	**06 08 24.7**	**+0.4**
SVRC				*e*SG	**Sg**	**06 08 28.2**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.26**	**86**	*e*P	**Pb**	**06 08 24.7**	**+0.4**
SVRC				*e*Sg	**Sg**	**06 08 28.2**	**-0.2**
PTK	**Pertek**	**0.62**	**32**	*e*PG	**Pg**	**06 08 30.9**	**+0.3**
PTK				*e*SG	**Sg**	**06 08 38.4**	**-0.6**
PTK	**Pertek**	**0.62**	**32**	*e*P	**Pg**	**06 08 30.9**	**+0.3**
PTK				*e*Sg	**Sg**	**06 08 38.4**	**-0.6**
AKCD	**Akcadag**	**0.83**	**266**	P	**Pn**	**06 08 34.9**	**-0.1**
AKCD				S	**Sn**	**06 08 46.5**	**-0.3**
AKCD	**Akcadag**	**0.83**	**266**	*i* P	**Pn**	**06 08 34.9**	**-0.1**
AKCD				*i* S	**Sn**	**06 08 46.5**	**-0.3**
DARE	**Darende-Malaty**	**1.19**	**281**	*e*PN	Pg	06 08 49.4	+8.2
MAZI	**Mazidag**	**1.47**	**127**	*e*PN	**Pn**	**06 08 43.6**	**-0.3**
MAZI	**Mazidag**	**1.47**	**127**	*e*Pn	**Pn**	**06 08 43.6**	**-0.3**

ISCJB **14** *06:10:14.3±0.5, 21°.32S±0°.03×68°.97W±0°.09, h112km±6km, mb3.5/3, Error ellipse: s-maj=13.2km s-min=4.5km az=178.7*
GUC **14** *06:10:15.1±0.6, 21°.32S×69°.00W, h99km±3km, ML4.0*
IDC **14** *06:10:15.2±1.2, 21°.31S×68°.75W, h102km±15km, mb3.4/4, mb1 3.5/6, mb1mx3.4/20, mbtmp3.8/6, Error ellipse: s-maj=32.3km s-min=17.2km az=106.0*

ISC 14 06:10:14.7±0.8, 21°.31S±0°.03×68°.93W±0°.08, h102km±8km, n19, σ1°21/32, mb3.5/3, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.57**	**211**	⇑*i* P	**Pn**	**06 10 31.6**	**0.0**
PB09				*i* S	**Sn**	**06 10 44.4**	**+0.3**
PB09				AML	AML	06 10 46.1	
	comp=E,12μm,0.5s						
PB01	**IPOC Station P**	**0.59**	**297**	⇑*i* P	**Pn**	**06 10 31.5**	**-0.1**
PB01				*i* S	**Sn**	**06 10 43.6**	**-0.5**
PB01				AML	AML	06 10 44.8	
	comp=E,10μm,0.3s						
PB07	**IPOC Station P**	**0.99**	**245**	⇑*i* P	**Pn**	**06 10 35.5**	**+0.1**
PB07				*i* S	**Sn**	**06 10 50.7**	**-0.2**
PB07				AML	AML	06 10 52.4	
	comp=E,3μm,0.2s						
PB08	**IPOC Station P**	**1.18**	**350**	⇓*i* P	**Pn**	**06 10 38.9**	**+1.1**
PB08				*i* S	**Sn**	**06 10 56.4**	**+1.4**
PB08				AML	AML	06 10 58.5	
	comp=E,1μm,0.7s						
LVC	**Limon Verde**	**1.30**	**179**	P	**Pn**	**06 10 39.8**	**+0.8**
	comp=E,1μm,0.3s,baz=0.9,slow=8.7,SNR=393						
LVC				S	**Sn**	**06 10 57.8**	**+0.4**
	comp=E,5μm,0.3s,baz=105,slow=20,SNR=70						
HMBC	**Humberstone**	**1.36**	**319**	⇑*i* P	**Pn**	**06 10 40.0**	**+0.4**
HMBC				*i* S	**Sn**	**06 10 58.8**	**+0.4**
HMBC				AML	AML	06 11 00.0	
	comp=E,6μm,0.3s						
PB06	**IPOC Station P**	**1.52**	**203**	⇑*i* P	**Pn**	**06 10 42.0**	**+0.5**
PB06				*i* S	**Sn**	**06 11 02.0**	**+0.2**
PB04	**IPOC Station P**	**1.53**	**228**	⇑*i* P	**Pn**	**06 10 41.5**	**-0.1**
PB04				*i* S	**Sn**	**06 11 02.5**	**+0.4**
PB04				AML	AML	06 11 08.2	
	comp=N,1μm,0.6s						
PSGC	**Pisagua**	**2.04**	**326**	⇑*i* P	**Pn**	**06 10 47.9**	**-0.1**
PSGC				*i* S	**Sn**	**06 11 12.5**	**-0.9**
MNMC	**Minye Minye**	**2.25**	**344**	⇑*i* P	**Pn**	**06 10 52.1**	**+1.1**
MNMC				*i* S	**Sn**	**06 11 20.3**	**+1.6**
MNMC				AML	AML	06 11 27.6	
	comp=E,1μm,0.2s						
PB10	**IPOC Station P**	**2.66**	**214**	*i* P	**Pn**	**06 10 57.3**	**+1.2**
PB10				*i* S	**Sn**	**06 11 28.4**	**+0.6**
PB10				AML	AML	06 11 36.4	
	comp=E,881nm,0.3s						
PB12	**IPOC Station P**	**2.99**	**334**	*e*P	**Pn**	**06 10 59.8**	**-0.7**
PB12				*e*S	**Sn**	**06 11 35.4**	**-0.3**
PB13	**IPOC Station P**	**3.00**	**350**	*e*P	**Pn**	**06 11 03.2**	**+2.0**
PB13				*e*S	**Sn**	**06 11 39.9**	**+3.0**
LPAZ	**La Paz**	**5.05**	**9**	P	**Pn**	**06 11 30.6**	**+1.8**
	comp=E,1.0nm,0.3s,baz=189,slow=6.2,SNR=42						
LPAZ				S	Sn	06 12 17.1	-9.1
	comp=E,0.4nm,0.3s,baz=210,slow=22,SNR=3.7						
SIV	**San Ignacio**	**9.13**	**56**	P	**Pn**	**06 12 21.0**	**-2.7**
	comp=E,1.5nm,0.3s,baz=255,slow=15,SNR=28						
BDFB	**Brasilia**	**20.61**	**78**	P	**P**	**06 14 44.7**	**-1.4**
	comp=E,2.2nm,0.5s,baz=257,slow=12,SNR=9.9						
PTGA	**Pitinga**	**22.24**	**24**	P	**P**	**06 15 01.5**	**-1.8**
	comp=E,1.3nm,0.3s,baz=221,slow=19,SNR=4.6						
TORD	**Torodi Ar. Bea**	**77.31**	**70**	P	**P**	**06 21 58.8**	**+0.2**
	comp=E,0.4nm,0.4s,baz=249,slow=4.7,SNR=10						
YKA	**Yellowknife Ar**	**91.00**	**341**	P	**P**	**06 23 07.2**	**+0.4**
	comp=E,0.1nm,0.4s,baz=139,slow=4.4,SNR=6.0						

ISCJB **14** *06:19:51.6±1.7, 6°.1S±0°.3×152°.9E±0°.3, h36km, mb3.7/5, Error ellipse: s-maj=52.0km s-min=14.7km az=137.6*
IDC **14** *06:20:02.1±5.6, 5°.91S×152°.10E, h92km±46km, mb3.5/5, mb1 3.7/6, mb1mx3.4/40, mbtmp3.9/6, Error ellipse: s-maj=64.5km s-min=26.8km az=118.0*

ISC 14 06:19:53.4±1.7, 6°.1S±0°.3×152°.9E±0°.3, h36km, n7, σ2°29/8, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.59**	**240**	P	**Pn**	**06 21 28.1**	**+0.3**
	4.1nm,0.3s,baz=41,slow=6.9,SNR=7.0						
PMG				S	**Sn**	**06 22 44.2**	**+2.4**
	1.3nm,0.3s,baz=197,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**22.70**	**231**	P	**P**	**06 24 50.8**	**-1.4**
	1.6nm,0.6s,baz=55,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.29**	**224**	P	**P**	**06 25 17.4**	**+0.6**
	2.2nm,0.8s,baz=56,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**29.18**	**243**	P	**P**	**06 25 48.4**	**-3.2**
	2.2nm,0.7s,baz=52,slow=12,SNR=4.2						
SONM	**Songino Array**	**67.50**	**328**	P	**P**	**06 30 45.4**	**-0.6**
	0.3nm,0.4s,baz=134,slow=4.2,SNR=2.3						
ILAR	**Eielson Array**	**83.32**	**22**	P	**P**	**06 32 18.8**	**+2.5**
	0.5nm,0.7s,baz=252,slow=5.5,SNR=8.4						
TORD	**Torodi Ar. Bea**	**150.82**	**286**	PKPbc	**PKPbc**	**06 39 42.1**	**-1.1**
	0.3nm,0.7s,baz=53,slow=3.0,SNR=2.7						

ISCJB **14** *06:28:59.6±0.6, 6°.50N±0°.04×72°.97W±0°.05, h194km±5km, mb2.5/1, Error ellipse: s-maj=10.3km s-min=4.7km az=36.7*
FUNV **14** *06:28:59.1, 6°.39N×73°.14W, h204km, MW3.6*
IDC **14** *06:29:00.4±6.9, 6°.51N×72°.94W, h192km±45km, mb2.4/1, mb1 2.8/2, mb1mx2.6/40, mbtmp2.9/2, MS3.3/1, Ms1 3.3/1, ms1mx3.0/2, Error ellipse: s-maj=109.0km s-min=44.8km az=73.0*
RSNC **14** *06:29:02.1±0.8, 6°.46N×73°.05W, h179km±6km, ML3.1*

ISC 14 06:28:59.7±1.0, 6°.49N±0°.05×72°.97W±0°.06, h195km±7km, n28, σ1°37/43, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**296**	*i* P	**Pn**	**06 29 25.6**	**-0.2**
BARC				*e*S	**Sn**	**06 29 43.7**	**-2.1**
BARC				*i*		06 29 45.3	
	comp=Z,268nm,0.3s						
BTLC	**Betulia, Santa**	**0.52**	**325**	*i* P	**Pn**	**06 29 26.7**	**+0.1**
RUSC	**La Rusia**	**0.60**	**191**	⇑*i* P	**Pn**	**06 29 27.7**	**+0.4**
RUSC				*e*S	**Sn**	**06 29 46.7**	**-1.9**
RUSC				*i*		06 29 48.5	
	comp=Z,160nm,0.3s						
GIRC	**Giron, Santand**	**0.63**	**339**	*e*P	**Pn**	**06 29 27.3**	**+0.3**
BRRC	**Barranca, Sant**	**0.96**	**310**	⇑*i* P	**Pn**	**06 29 28.9**	**+0.1**
BRRC				*i*		06 29 29.2	
	comp=Z,611nm,0.1s						
BRRC				*e*S	**Sn**	**06 29 50.1**	**-1.0**
CBRI	**Barrientos, No**	**1.23**	**8**	*i* P	**Pn**	**06 29 31.8**	**+0.9**
CBRI				*e*S	**Sn**	**06 29 54.6**	**-0.6**
CBRI				*i*		06 29 56.4	
	comp=Z,152nm,0.4s						
GRMC	**Gramalote, San**	**1.23**	**7**	*i* P	**Pn**	**06 29 33.2**	**+2.3**
GRMC				*e*S	**Sn**	**06 29 56.6**	**+1.4**
GRMC				*i*		06 29 58.3	
	comp=Z,119nm,0.3s						
CAPV	**Capacho**	**1.52**	**25**	*e*P	**Pn**	**06 29 34.6**	**+1.2**
CAPV				*e*S	**Sn**	**06 29 59.7**	**+0.1**
OCAC	**Ocana**	**1.78**	**349**	*e*P	**Pn**	**06 29 36.2**	**+0.4**
OCAC				*e*S	**Sn**	**06 30 03.0**	**-0.9**
CHIC	**Chingaza**	**2.00**	**202**	*e*P	**Pn**	**06 29 38.4**	**+0.1**
CHIC				*e*S	**Sn**	**06 30 06.6**	**-1.7**
CHIC				*i*		06 30 12.9	
	comp=Z,19nm,0.5s						
NORC	**Norcasia**	**2.10**	**244**	*e*P	**Pn**	**06 29 39.2**	**+0.2**
NORC				*e*S	**Sn**	**06 30 07.3**	**-2.2**
ROSC	**El Rosal**	**2.12**	**220**	P	**Pn**	**06 29 40.2**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=97,slow=15,SNR=6.0						
ROSC				S	**Sn**	**06 30 11.7**	**+1.2**
	comp=Z,11nm,0.3s,baz=138,slow=22,SNR=11						
SOCV	**Socops**	**2.75**	**49**	*e*P	**Pn**	**06 29 47.3**	**+1.1**
SOCV				*e*S	**Sn**	**06 30 23.0**	**+0.5**
VIGV	**El Vigia**	**2.83**	**34**	*e*P	**Pn**	**06 29 47.9**	**+0.8**
VIGV				*e*S	**Sn**	**06 30 24.6**	**+0.4**
SDV	**Santo Domingo**	**3.32**	**44**	LR	LR	06 31 26.4	
	comp=Z,506nm,21.5s,baz=298,slow=44						
PRAC	**Prado**	**3.35**	**215**	*e*P	**Pn**	**06 29 53.9**	**+0.4**
ELOV	**Elorza**	**3.50**	**81**	*e*P	**Pn**	**06 29 55.9**	**+0.8**
VIRV	**Villa del Rosa**	**4.03**	**8**	*e*P	**Pn**	**06 30 01.6**	**-0.1**
VIRV				*e*S	**Sn**	**06 30 47.5**	**-3.0**
QARV	**Quebrada Arrib**	**4.42**	**33**	*e*P	**Pn**	**06 30 07.7**	**+1.0**
CURV	**Curarigua**	**4.60**	**40**	*e*P	**Pn**	**06 30 09.9**	**+1.0**
CURV				*e*S	**Sn**	**06 31 01.9**	**-1.6**
TEPV	**Terepaima**	**5.09**	**47**	*e*P	**Pn**	**06 30 15.1**	**-0.1**
BAUV	**El Baul**	**5.46**	**63**	*e*P	**Pn**	**06 30 19.5**	**-0.4**
BAUV				*e*S	**Sn**	**06 31 20.6**	**-2.5**
MAPV	**Macapo**	**5.56**	**53**	*e*P	**Pn**	**06 30 21.4**	**+0.1**
MONV	**Montecano**	**6.19**	**28**	*e*P	**Pn**	**06 30 29.6**	**+0.2**
MONV				*e*S	**Sn**	**06 31 36.1**	**-4.2**
TURV	**Turiamo**	**6.42**	**52**	*e*P	**Pn**	**06 30 33.4**	**+0.9**
CUPV	**Cepira**	**7.94**	**63**	*e*P	**Pn**	**06 30 52.8**	**+0.4**
TXAR	**Lajitas Array**	**36.80**	**312**	P	**P**	**06 35 50.1**	**+0.9**
	comp=Z,0.1nm,0.7s,baz=126,slow=9.3,SNR=2.4						
WRA	**Warramunga Arr**	**150.31**	**241**	PKPbc	**PKPbc**	**06 48 29.6**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=107,slow=3.0,SNR=7.9						

NIED **14** *06:29:00, 39°.90N×142°.40E, h44km, Mw3.8 Best double couple: M₀5.04000×10¹⁴ NP1:φ₁215.00000°, δ23.00000°, λ109.00000°. NP2:φ₂14.00000°, δ68.00000°, λ82.00000°.*
JMA **14** *06:29:15.6±0.1, 39°.92N×142°.40E, h39km±1km, M3.8*
IDC **14** *06:29:20.1±2.4, 39°.82N×142°.36E, h85km±18km, mb3.6/11, mb1 3.7/14, mb1mx3.4/54, mbtmp3.9/14, MS2.6/1, Ms1 2.6/1, ms1mx2.1/42, Error ellipse: s-maj=29.4km s-min=15.5km az=105.0*

ISC 14 06:29:12.7±1.3, 39°.99N±0°.05×142°.59E±0°.07, h21km±4km, n31, σ1°32/31, mb4.0/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.56**	**265**	P	**Pn**	**06 29 25.1**	**-0.4**
JTH				S	**Sb**	**06 29 31.9**	**+0.4**
MIYJ	**Miyakonagasawa**	**0.72**	**236**	P	**Pb**	**06 29 27.0**	**+0.4**
MIYJ				S	**Sb**	**06 29 35.0**	**-1.1**
JANG	**Nango**	**0.91**	**295**	P	**Pn**	**06 29 30.2**	**-0.1**
JKZ	**Kuzumaki**	**0.97**	**270**	P	**Pn**	**06 29 31.2**	**+0.1**
JKZ				S	**Sb**	**06 29 42.0**	**-1.2**
JOM	**Ohasama**	**1.13**	**243**	P	**Pn**	**06 29 32.9**	**-0.3**
JOM				S	**Sb**	**06 29 45.5**	**-2.1**
OFUJ	**Ofunato**	**1.15**	**219**	P	**Pn**	**06 29 33.4**	**-0.2**
JTM	**Tenmabayashi**	**1.41**	**305**	P	**Pb**	**06 29 38.2**	**-0.1**
JTM				S	**Sn**	**06 29 54.9**	**-0.2**
JMK	**Ichinoseki**	**1.48**	**226**	P	**Pn**	**06 29 38.2**	**+0.1**
JMK				S	**Sn**	**06 29 54.7**	**-2.2**
JAH	**Hinai**	**1.51**	**278**	P	**Pn**	**06 29 39.1**	**+0.5**
ASAJ	**Asahikawa**	**4.12**	**0**	P	**Pb**	**06 30 21.9**	**-2.7**
	2.9nm,0.3s,baz=217,slow=10,SNR=6.6						
ASAJ				S	**Sb**	**06 31 13.1**	**-0.8**
	baz=270,slow=20						
MAT	**Matsushiro**	**4.87**	**226**	P	**Pn**	**06 30 27.7**	**+2.9**
MAT				*e*S	**Sn**	**06 31 19.5**	**-1.1**
MJAR	**Matsushiro Arr**	**4.87**	**226**	P	**Pn**	**06 30 27.8**	**+3.0**
	1.1nm,0.3s,baz=33,slow=13,SNR=15						
MJAR				LR	LR	06 32 31.3	
	comp=Z,62nm,19.7s,baz=85,slow=41						
USRK	**Ussuriysk Ar.**	**8.93**	**302**	P	Pn	06 31 25.6	+5.1
	0.4nm,0.3s,baz=98,slow=14,SNR=8.5						
KSRS	**Korea Array**	**11.74**	**262**	P	Pn	06 32 10.9	+12
	0.3nm,0.3s,baz=69,slow=13,SNR=9.4						
SONM	**Songino Array**	**27.04**	**299**	P	**P**	**06 34 53.1**	**-0.4**
	0.3nm,0.4s,baz=71,slow=6.6,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**29.02**	**127**	T	T	07 05 51.6	
	baz=319,slow=75,SNR=131						
H11N1	**WAKE ISLAND Hy**	**29.03**	**127**	T	T	07 05 52.4	
	baz=319,slow=75,SNR=114						
H11N3	**WAKE ISLAND Hy**	**29.04**	**127**	T	T	07 05 49.4	
	baz=319,slow=75,SNR

KULLO Trac 07 01 01.0
comp=Z,36nm,0.1s
KULLO SG **Sb** **07 01 01.0 +0.1**
KULLO Kullorsuaq 1.27 67 *i* P **Pg** **07 00 45.8 +0.7**
KULLO *i* S **Sb** **07 01 01.1 +0.1**
CLRN Clyde River 4.25 214 PN **Pn** **07 01 28.5 +3.0**
CLRN SN **Sn** **07 02 14.0 -1.1**
CLRN Trac 07 02 15.7
comp=Z,2.5nm,0.2s
SUMG Summit 6.80 92 *i* P **Pn** **07 02 02.1 +1.3**
SUMG *e*S **Sn** **07 03 12.3 -6.1**
GIFN Gifford Fjord, 7.42 246 PN **Pn** **07 02 12.2 +3.2**
GIFN SN **Sn** **07 03 30.8 -2.2**
GIFN Trac 07 03 35.5
comp=Z,0.9nm,0.5s
ILON Igloolik, Nuna 7.91 243 PN **Pn** **07 02 19.1 +3.5**
ILON SN **Sn** **07 03 42.9 -2.1**
ILON Trac 07 03 57.9
comp=Z,0.4nm,0.2s
AP3N Apex site 3 Nu 8.51 248 PN **Pn** **07 02 26.5 +2.6**
AP3N SN **Sn** **07 03 55.9 -3.9**
AP3N Trac 07 03 59.5
comp=Z,0.4nm,0.2s
LAIN Lailor River, 8.52 245 PN **Pn** **07 02 28.3 +4.2**
LAIN SN **Sn** **07 03 57.1 -3.1**
LAIN Trac 07 03 59.9
comp=Z,0.9nm,0.5s
KUGN Kugaaruk Camp, 10.92 251 SN **Sn** **07 04 53.8 -5.1**
SMLN Simpson Lake, 11.06 255 PN **Pn** **07 03 01.5 +2.7**
SMLN SN **Sn** **07 04 58.1 -4.1**

IDC ***14*** *07:13:04.8±3.9,5.°07S×153.°30E,h22^{km}±24^{km},mb4.5/24, mb1 4.6/27,mb1mx4.5/40,mbtmp4.7/27,ML3.3/3,MS4.1/24, Ms1 4.1/24,ms1mx4.0/36,Error ellipse: s-maj=17.2km s-min=11.0km az=86.0*

MOS ***14*** *07:13:05.2±1.0,5.°00S×153.°27E,h33^{km},mb5.2/16,Error ellipse: s-maj=9.6km s-min=7.4km az=94.0*

BJI ***14*** *07:13:06.9,4.°56S×153.°37E,h31^{km},mb4.9/47,mB5.0/34, Ms4.8/28,Ms7 4.4/25*

ISCJB ***14*** *07:13:07.3±0.2,5.°16S±0.°03×153.°35E±0.°03,h56^{km}, mb4.8/70,MS4.1/23,Error ellipse: s-maj=4.9km s-min=4.1km az=177.2*

GCMT ***14*** *07:13:08.3±0.3,5.°07S×153.°16E,h40^{km}±1^{km},MW5.0/63, Moment Tensor Solution. s25,c33; s63,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.25±.20; $M_{\theta\theta}$3.13±.12; $M_{\phi\phi}$-1.89±.15; $M_{r\theta}$1.43±.15; $M_{\theta\phi}$-0.21±.11; $M_{\phi r}$-1.40±.16; Best double couple: M_o3.36200×10^{16} NP1:ϕ_s309.00000°,δ76.00000°,λ-45.00000°. NP2: ϕ_s53.00000°,δ47.00000°,λ-160.00000°. Principal axes: T 3.6250, Plg18.0000°, Azm7.0000°; N -0.5370, Plg43.0000°, Azm115.0000°; P -3.0980, Plg41.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***14*** *07:13:08.3±0.6,5.°09S×153.°29E,h49^{km}±6^{km},mb5.0/46 Error ellipse: s-maj=5.5km s-min=4.1km az=88.0*

DJA ***14*** *07:13:09.0±0.6,5.°S±4.°×15.°4E±.°,h45^{km}±7^{km},M5.3/19, mb4.9/19,mB5.4/3,MLv5.6/1,Mw(mB)4.8/3*

ISC 14 07:13:08.9±0.3,**5.°18S**±0.°04×**153.°41E**±0.°05,**h56**^{km},**n192,** σ1**852**/211,**mb4.8**/69,**MS4.0**/24,**5C-4D,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
RABL	**Rabaul**	**1.59**	**308**	*e*Pn		**Pn**	**07 13 33.3 -1.5**
RABL				*e*Sn		**Sn**	**07 13 55.8 +1.5**
PMG	**Port Moresby**	**7.49**	**236**	Pn		**Pn**	**07 14 53.9 -1.7**
	18nm,0.3s,baz=53,slow=3.8,SNR=23						
PMG				Sn		**Sn**	**07 16 18.0 -1.1**
	27nm,0.3s,baz=298,slow=23,SNR=14						
PMG	**Port Moresby**	**7.49**	**236**	*d* iP		**Pn**	**07 14 55.5 -0.1**
PMG				pmax	pmax		
	comp=Z,294nm,0.8s						
PMG	**Port Moresby**	**7.49**	**236**	*e*Pn		**Pn**	**07 14 55.9 +0.3**
PMG				Sn		**Sn**	**07 16 18.0 -1.1**
HNR	**Honiara**	**7.73**	**123**	Pn		**Pn**	**07 15 00.4 +1.5**
	comp=Z,11nm,0.3s,baz=252,slow=6.4,SNR=2.3						
HNR				Sn		**Sn**	**07 16 28.9 +3.7**
	baz=115,slow=14,SNR=1.5						
HNR	**Honiara**	**7.73**	**123**	*e*P		**Pn**	**07 14 55.0 -4.0**
HNR				*e*S		**Sn**	**07 16 26.0 +0.8**
PATS	**Pohnpei**	**12.90**	**22**	P		**Pn**	**07 16 06.9 -2.7**
	baz=13,SNR=3.7						
PATS	**Pohnpei**	**12.90**	**22**	*e*Pn		**Pn**	**07 16 07.2 -2.4**
JAY	**Jayapura**	**12.95**	**281**	Pn		**Pn**	**07 16 06.4 -4.0**
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.5						
JAY	**Jayapura**	**12.95**	**281**	P		**Pn**	**07 16 10.8 +0.4**
COEN	**Coen**	**13.33**	**228**	P		**Pn**	**07 16 16.2 +0.7**
	baz=13,SNR=3.8						
COEN	**Coen**	**13.33**	**228**	*e*Pn		**Pn**	**07 16 15.3 -0.2**
GENI	**Genyem**	**13.46**	**281**	P		**Pn**	**07 16 18.7 +1.4**
MTSU	**Mount Surprise**	**15.64**	**214**	P		**Pn**	**07 16 46.9 +1.0**
	baz=16,SNR=8.9						
CTA	**Charters Tower**	**16.37**	**205**	Pn		**Pn**	**07 16 55.5 +0.3**
	comp=Z,0.3nm,0.3s,baz=34,slow=12,SNR=8.6						
CTA				LR		LR	07 23 00.0
	comp=Z,2μm,19.4s,baz=20,slow=36						
CTAO	**Charters Tower**	**16.37**	**205**	*e*P		**P**	**07 16 56.8 -0.4**
CTAO				pmax	pmax		
	comp=Z,66nm,1.6s						
CTAO	**Charters Tower**	**16.37**	**205**	*e*Pn		**P**	**07 16 56.8 -0.4**
	comp=Z,66nm,1.6s						
RKPI	**Ransiki, Papua**	**19.54**	**280**	P		**Pn**	**07 17 34.8 +0.9**
EIDS	**Eidsvold**	**20.20**	**186**	*e*P		**P**	**07 17 39.8 +0.6**
	comp=Z,60nm,1.5s						
QIS	**Mount Isa**	**20.34**	**220**	P		**P**	**07 17 40.1 -0.7**
	baz=20,SNR=12						
GUMO	**Guam**	**20.49**	**336**	P		**P**	**07 17 39.9 -2.4**
	comp=Z,56nm,0.8s,baz=196,slow=20,SNR=2.1						
GUMO	**Guam**	**20.49**	**336**	*e*P		**P**	**07 17 38.9 -3.5**
GUMO				pmax	pmax		
	comp=Z,241nm,1.1s						
GUMO	**Guam**	**20.49**	**336**	*e*P		**P**	**07 17 38.9 -3.5**
	comp=Z,241nm,1.1s						
DZM	**Mont Dzumac**	**21.00**	**144**	*e*P		**P**	**07 17 48.1 +0.1**
	comp=Z,194nm,1.3s						
DZM				*e*S		**S**	**07 21 37.7 -1.3**
	comp=Z,405nm,26.6s						
DZM				*e*LR		LR	07 23 00.6
	comp=Z,1μm,21.9s						
DZM	**Mont Dzumac**	**21.00**	**144**	P		**P**	**07 17 49.0 +1.0**
	comp=Z,23nm,0.4s,baz=308,slow=9.6,SNR=36						
DZM				LR		LR	07 25 00.5
	comp=Z,556nm,21.2s,baz=318,slow=34						
DZM	**Mont Dzumac**	**21.00**	**144**	*e*P		**P**	**07 17 48.3 +0.3**
	comp=Z,192nm,1.6s						
FAKI	**Fak Fak**	**21.23**	**275**	P		**P**	**07 17 49.2 -1.2**
FAKI	**Fak Fak**	**21.23**	**275**	*e*P		**P**	**07 17 48.4 -2.0**
	comp=Z,123nm,1.4s						
SWI	**Sorong**	**22.53**	**280**	P		**P**	**07 18 03.8 -0.6**
	comp=Z,83nm,0.9s,comp=Z,1μm						
PALU	**Palau**	**22.63**	**303**	P		**P**	**07 18 04.6 -0.8**
	baz=23,SNR=5.3						
MTN	**Manton Dam**	**23.27**	**249**	P		**P**	**07 18 11.4 -0.5**
	baz=23,SNR=6.9						
MTN	**Manton Dam**	**23.27**	**249**	*e*P		**P**	**07 18 11.4 -0.5**
	comp=Z,54nm,0.9s						
WRAB	**Tennant Creek**	**23.64**	**230**	*c* iP		**P**	**07 18 15.2 -0.2**
WRAB				pmax	pmax		
	comp=Z,82nm,1.2s						
WRAB	**Tennant Creek**	**23.64**	**230**	*e*P		**P**	**07 18 15.3 -0.1**
	comp=Z,40nm,0.9s						
WB2	**Warramunga Arr**	**23.65**	**230**	*e*P		**P**	**07 18 14.5 -1.0**
	comp=Z,37nm,0.8s						
WRA	**Warramunga Arr**	**23.66**	**230**	P		**P**	**07 18 14.1 -1.4**
	comp=Z,14nm,0.7s,baz=54,slow=9.8,SNR=70						
WRA				PcP		**PcP**	**07 22 00.2 +1.3**
	comp=Z,2.1nm,0.6s,baz=55,slow=2.6,SNR=5.3						
WRA				LR		LR	07 27 15.9
	comp=Z,1μm,21.6s,baz=60,slow=36						
AS01	**Alice Springs**	**26.26**	**224**	*e*P		**P**	**07 18 38.4 -0.7**
AS31	**Alice Springs**	**26.29**	**224**	*e*P		**P**	**07 18 38.5 -1.0**
	comp=Z,5.3nm,1.0s						
ASAR	**Alice Springs**	**26.29**	**224**	P		**P**	**07 18 38.2 -1.2**
	comp=Z,2.9nm,0.4s,baz=54,slow=9.1,SNR=36						
ASAR				PcP		**PcP**	**07 22 06.8 +2.0**
	comp=Z,2.3nm,0.9s,baz=51,slow=3.0,SNR=4.1						
ASAR				ScP		**ScP**	**07 25 43.3 +3.3**
	comp=Z,1.0nm,0.6s,baz=51,slow=3.3,SNR=4.8						
ASAR				LR		LR	07 28 47.1
	comp=Z,1μm,21.4s,baz=54,slow=36						
STKA	**Stephens Creek**	**28.77**	**201**	P		**P**	**07 19 00.7 -0.8**
	comp=Z,2.7nm,0.7s,baz=18,slow=11,SNR=10						
STKA				LR		LR	07 30 50.7
	comp=Z,1μm,18.9s,baz=19,slow=37						
STKA	**Stephens Creek**	**28.77**	**201**	P		**P**	**07 19 00.6 -0.9**
	baz=29,SNR=5.7						
STKA	**Stephens Creek**	**28.77**	**201**	*e*P		**P**	**07 19 01.0 -0.5**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
STKA	**Stephens Creek**	**28.77**	**201**	*e*P		**P**	**07 19 01.0 -0.5**
	comp=Z,2.3nm,1.2s						
FITZ	**Fitzroy Crossi**	**30.02**	**242**	P		**P**	**07 19 11.0 -1.7**
	comp=Z,14nm,0.4s,baz=43,slow=9.4,SNR=68						
FITZ				LR		LR	07 31 51.9
	comp=Z,414nm,20.1s,baz=63,slow=38						
FITZ	**Fitzroy Crossi**	**30.02**	**242**	P		**P**	**07 19 11.3 -1.4**
	baz=30,SNR=55						
FITZ	**Fitzroy Crossi**	**30.02**	**242**	*e*P		**P**	**07 19 11.3 -1.4**
	comp=Z,34nm,0.8s						
DAV	**Davao City (W)**	**30.33**	**293**	LR		LR	07 32 16.0
	comp=Z,182nm,18.3s,baz=132,slow=38						
WRKA	**Warakurna**	**31.15**	**228**	P		**P**	**07 19 20.9 -1.8**
	baz=31,SNR=16						
HTT	**Hallett**	**31.18**	**204**	P		**P**	**07 19 22.4 -0.5**
	baz=31,SNR=5.5						
BBOO	**Buckleboo**	**31.90**	**208**	P		**P**	**07 19 28.0 -1.1**
	baz=32,SNR=7.4						
BBOO	**Buckleboo**	**31.90**	**208**	*e*P		**P**	**07 19 27.7 -1.5**
	comp=Z,33nm,1.5s						
SPSI	**Sidrap Palu**	**33.56**	**271**	P		**P**	**07 19 44.4 +0.5**
	comp=Z,20nm,1.4s						
OUZ	**Omahuta**	**35.22**	**151**	*e*P		**P**	**07 20 00.2 +2.2**
	comp=Z,50nm,1.5s						
TAU	**Tasmania Unive**	**37.96**	**187**	*e*P		**P**	**07 20 22.6 +1.4**
TAU				pmax	pmax		
	comp=Z,132nm,1.9s						
TAU	**Tasmania Unive**	**37.96**	**187**	*e*P		**P**	**07 20 22.6 +1.4**
	comp=Z,132nm,1.9s						
URZ	**Urewera**	**39.35**	**150**	*e*P		**P**	**07 20 34.0 +1.1**
	comp=Z,15nm,0.9s						
KMBL	**Kambalda**	**39.41**	**225**	P		**P**	**07 20 32.5 -1.0**
	baz=40,SNR=6.4						
BKZ	**Black Stump Fm**	**39.76**	**152**	*e*P		**P**	**07 20 37.0 +0.7**
	comp=Z,24nm,1.3s						
THZ	**Tophouse**	**40.36**	**157**	*e*P		**P**	**07 20 42.7 +1.3**
	comp=Z,71nm,1.5s						
SNZO	**Seoh Karori**	**40.70**	**155**	*e*P		**P**	**07 20 45.7 +1.7**
	comp=Z,106nm,1.3s						
BFZ	**Birch Farm**	**40.86**	**153**	*e*P		**P**	**07 20 46.3 +0.9**
	comp=Z,126nm,1.6s						
KHZ	**Kahutara**	**41.17**	**157**	*e*P		**P**	**07 20 48.6 +0.8**
	comp=Z,131nm,2.0s						
KLBR	**Kellerberrin**	**42.49**	**227**	P		**P**	**07 20 57.0 -2.0**
	baz=43,SNR=7.2						
JNU	**Nakatsue**	**43.68**	**332**	P		**P**	**07 21 06.6 -1.9**
	comp=Z,29nm,0.8s,baz=93,slow=3.3,SNR=13						
JNU				LR		LR	07 38 38.8
	comp=Z,120nm,18.8s,baz=120,slow=35						
JNU	**Nakatsue**	**43.68**	**332**	*e*P		**P**	**07 21 06.8 -1.7**
	comp=Z,36nm,0.8s						
MJAR	**Matsushiro Arr**	**43.88**	**342**	P		**P**	**07 21 07.5 -2.5**
	comp=Z,1.0nm,0.4s,baz=169,slow=7.2,SNR=5.4						
MJAR				LR		LR	07 37 30.2
	comp=Z,213nm,21.4s,baz=190,slow=34						
RKGY	**Rocky Gully**	**44.63**	**224**	P		**P**	**07 21 15.8 -0.2**
	baz=45,SNR=12						
CISI	**Cisompet, Garu**	**45.36**	**265**	*e*P		**P**	**07 21 20.6 -1.7**
	comp=Z,110nm,0.9s						
TJN	**Taejon**	**48.00**	**332**	⇑*i*P		**P**	**07 21 41.6 -0.8**
KSRS	**Korea Array**	**48.62**	**333**	P		**P**	**07 21 46.8 -0.4**
	comp=Z,6.1nm,0.8s,baz=149,slow=8.7,SNR=28						
KSRS				LR		LR	07 41 55.3
	comp=Z,95nm,18.0s,baz=135,slow=36						
KSAR	**Wonju Array Be**	**48.62**	**333**	P		**P**	**07 21 46.8 -0.4**
KSAR	**Wonju Array Be**	**48.62**	**333**	P		**P**	**07 21 46.8 -0.4**
KS01	**Wonju Array Si**	**48.65**	**333**	*e*P		**P**	**07 21 46.0 -1.4**
QIZ	**Qiongzhong**	**49.19**	**301**	P		**P**	**07 21 51.0 -0.9**
QIZ				S		**S**	**07 28 54.8 +1.0**
QIZ				PMZ			
	comp=Z,11nm,1.1s						
QIZ				LE			
	comp=Z,180nm,24.3s						
QIZ				LZ			
	comp=Z,300nm,24.2s						
ASAJ	**Asahikawa**	**50.03**	**350**	P		**P**	**07 22 00.6 +2.8**
	comp=Z,2.7nm,0.3s,baz=225,slow=24,SNR=3.8						
USRK	**Ussuriysk Ar.**	**52.81**	**341**	P		**P**	**07 22 17.6 -1.0**
	comp=Z,5.6nm,0.7s,baz=177,slow=6.9,SNR=18						
USRK				LR		LR	07 41 38.2
	comp=Z,106nm,21.9s,baz=151,slow=32						
MDJ	**Mudanjiang**	**53.99**	**339**	P		**P**	**07 22 28.3 +1.0**
MDJ				pP		pP	07 22 37.3 -5.0
MDJ				sP		sP	07 22 41.1 -7.6
MDJ				PP		**PP**	**07 24 29.5 +0.2**
MDJ				S		**S**	**07 30 02.6 +3.5**
MDJ				ScS		**ScS**	**07 32 12.0 +0.3**
MDJ				PMZ			
	comp=Z,7.0nm,0.6s						
MDJ				PMZ			
	comp=Z,42nm,3.9s						
MDJ				LN			
	comp=Z,86nm,15.2s						
MDJ				LE			
	comp=Z,100nm,18.9s						
NONG	**Nongkai**	**54.69**	**296**	P		**P**	**07 22 35.1 +2.3**
	comp=Z,13nm,1.0s						
ENH	**Enshi**	**54.86**	**313**	*e*P		**P**	**07 22 33.0 -0.9**
	comp=Z,20nm,1.0s						
CN2	**Changchun**	**54.90**	**335**	*e*P		**P**	**07 22 33.3 -0.6**
GYA	**Guiyang**	**55.11**	**307**	*e*P		**P**	**07 22 36.0 +0.1**
GYA				pP		pP	07 22 48.3 -2.6
GYA				PP		**PP**	**07 24 41.6 +1.8**
GYA				ScP		**ScP**	**07 27 32.3 +1.4**
GYA				S		**S**	**07 30 14.0 -1.0**
GYA				sS		sS	07 30 33.3 -7.0
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,6.8s						
PBKT	**Sadao Pong**	**56.17**	**294**	P		**P**	**07 22 47.1 +3.6**
	comp=Z,8.3nm,1.4s						
UTTA	**Uttaradit**	**56.91**	**295**	P		**P**	**07 22 50.4 +1.7**
	comp=Z,3.8nm,1.1s						
PPT	**Papeete**	**57.03**	**107**	LR		LR	07 44 48.8
	comp=Z,100nm,19.2s,baz=295,slow=33						
PPT2	**Papeete2**	**57.03**	**108**	*e*S		**S**	**07 30 37.4 -3.3**
	comp=Z,66nm,27.8s						
PPT2				*e*LR		LR	07 39 32.8
	comp=Z,146nm,25.2s						
XAN	**Xi'an**	**57.32**	**316**	P		**P**	**07 22 51.1 -0.3**
XAN				PMZ			
	comp=Z,9.0nm,0.7s						
XAN				PMZ			
	comp=Z,57nm,5.9s						
XAN				LN			
	comp=Z,130nm,23.2s						
XAN				LE			
	comp=Z,200nm,23.1s						
XAN				LZ			
	comp=Z,280nm,19.0s						
KLR	**Kul'dur**	**57.38**	**343**	LR		LR	07 46 22.6
	comp=Z,120nm,20.3s,baz=172,slow=35						
KLR	**Kul'dur**	**57.38**	**343**	*i* P		**P**	**07 22 51.0 -0.5**
SUKH	**Sukhothai**	**57.67**	**294**	P		**P**	**07 22 56.3 +2.2**
	comp=Z,4.0nm,1.1s						
PEA0	**Petropavlovsk-**	**58.18**	**3**	*e*P		**P**	**07 22 56.4 -0.6**
PEA0B	**Petropavlovsk-**	**58.18**	**3**	*e*P		**P**	**07 22 57.4 +0.3**
	comp=Z,36nm,1.3s						
PETK	**Petropavlovsk-**	**58.18**	**3**	P		**P**	**07 22 55.5 -1.5**
	comp=Z,2.2nm,0.7s,baz=152,slow=9.5,SNR=3.0						
PETK				LR		LR	07 43 58.8
	comp=Z,207nm,21.7s,baz=199,slow=32						
CM01	**Chiang Mai Arr**	**58.56**	**295**	*e*P		**P**	**07 23 01.3 +1.0**
CM31	**Chiang Mai Arr**	**58.59**	**295**	*e*P		**P**	**07 23 00.6 0.0**
CMAR	**Chiang Mai Arr**	**58.59**	**295**	P		**P**	**07 22 59.2 -1.4**
	comp=Z,7.3nm,0.8s,baz=118,slow=5.1,SNR=7.1						
CMAR				LR		LR	07 46 45.2
	comp=Z,82nm,21.8s,baz=290,slow=35						
CHTO	**Chiang Mai**	**58.70**	**296**	P		**P**	**07 23 02.8 +1.5**
	comp=Z,55nm,1.6s						
CHTO	**Chiang Mai**	**58.70**	**296**	*e*P		**P**	**07 23 01.1 -0.2**
CHTO				pmax	pmax		
	comp=Z,21nm,1.3s						
CHTO	**Chiang Mai**	**58.70**	**296**	*e*P		**P**	**07 23 01.1 -0.2**
	comp=Z,21nm,1.3s						
CD2	**Chengdu**	**59.45**	**310**	*e*P		**P**	**07 23 05.5 -0.8**
CD2				pP		pP	07 23 17.1 -4.4
CD2				sP		sP	07 23 21.9 -6.0
CD2				PcS		**PcS**	**07 27 55.0 -0.8**
CD2				S		**S**	**07 31 12.0 +0.2**
CD2				sS		sS	07 31 31.8 -5.5
CD2				SS		**SS**	**07 35 08.6 +0.8**
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
HHC	**Hu-ho-hao-te**	**59.71**	**324**	*e*P		**P**	**07 23 06.8 -1.2**
HHC				sP		pP	07 23 20.8 -2.4
HHC				PcS		**PcS**	**07 27 51.9 -4.8**
HHC				S		**S**	**07 31 15.4 +0.5**
HHC				sS		sS	07 31 31.3 -9.2
HHC				PMZ			
	comp=Z,32nm,1.4s						
HHC				PMZ			
	comp=Z,50nm,4.6s						
HHC				LN			
	comp=Z,180nm,12.6s						
HHC				LE			
	comp=Z,160nm,14.3s						
HHC				LZ			
	comp=Z,160nm,17.3s						
HIA	**Hailar**	**61.63**	**336**	*e*P		**P**	**07 23 19.8 -1.0**
HIA				pmax	pmax		
	comp=Z,18nm,1.2s						
HIA	**Hailar**	**61.63**	**336**	*e*P		**P**	**07 23 19.8 -1.0**
	comp=Z,18nm,1.2s						
LZH	**Lanzhou**	**61.93**	**316**	*e*P		**P**	**07 23 24.0 +0.7**
LZH				pP		pP	07 23 35.6 -2.9
LZH				sP		sP	07 23 40.1 -4.8
LZH				PP		**PP**	**07 25 43.0 +2.8**
LZH				*e*S		**S**	**07 31 44.3 +0.8**
LZH				sS		sS	07 32 03.3 -5.9
LZH				PMZ			
	comp=Z,32nm,1.6s						
LZH				PMZ			
	comp=Z,130nm,6.8s						
LZH				LN			
	comp=Z,230nm,14.0s						
LZH				LE			
	comp=Z,250nm,15.0s						
LZH				LZ			
	comp=Z,500nm,16.1s						
TAOE	**Nuku Hiva Isla**	**65.97**	**97**	*e*LR		LR	07 43 40.9
	comp=Z,215nm,22.8s						
GTA	**Gaotai**	**66.35**	**317**	⇑P		**P**	**07 23 53.3 +1.1**
GTA				pP		pP	07 24 04.3 -3.3
GTA				sP		sP	07 24 09.0 -4.9
GTA				S		**S**	**07 32 37.4 -0.6**
GTA				sS		sS	07 32 54.0 -10
GTA				SS		**SS**	**07 36 54.3 -1.3**
GTA				PMZ			
	comp=Z,19nm,1.2s						
GTA				PMZ			
	comp=Z,66nm,5.2s						
GTA				LN			
	comp=Z,130nm,20.9s						
GTA				LE			
	comp=Z,170nm,21.4s						
GTA				LZ			
	comp=Z,180nm,21.4s						
ULN	**Ulaanbaatar**	**66.64**	**328**	⇑*i*P		**P**	**07 23 54.3 +0.4**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ULN	**Ulaanbaatar**	**66.64**	**328**	*e*P		**P**	**07 23 54.5 +0.6**
	comp=Z,13nm,1.2s						
SONM	**Songino Array**	**66.97**	**328**	P		**P**	**07 23 55.7 -0.2**
	comp=Z,2.8nm,0.5s,baz=149,slow=7.0,SNR=21						
SONA1	**Songino Array**	**66.97**	**328**	*e*P		**P**	**07 23 55.5 -0.5**
CASY	**Casey**	**67.83**	**197**	*e*P		**P**	**07 24 00.9 0.0**
	comp=Z,22nm,1.7s						
SEY	**Seymchan**	**67.93**	**359**	⇑P		**P**	**07 24 01.7 +0.2**
TLY	**Talaya**	**70.71**	**330**	P		**P**	**07 24 18.4 -0.6**
	comp=Z,2.0nm,0.6s,baz=162,slow=3.8,SNR=7.5						
RKT	**Rikitea**	**71.08**	**113**	*e*LR		LR	07 46 00.4
	comp=Z,333nm,26.8s						
MOY	**Mondy**	**72.06**	**329**	*e*P		**P**	**07 24 27.6 +0.4**
MOY				pmax	pmax		
	comp=Z,16nm,1.4s						
VNDA	**Vanda**	**72.43**	**178**	P		**P**	**07 24 29.3 +0.4**
	comp=Z,3.1nm,0.8s,baz=328,slow=6.3,SNR=15						
VNDA	**Vanda**	**72.43**	**178**	*e*P		**P**	**07 24 29.7 +0.8**
VNDA				pmax	pmax		
	comp=Z,11nm,1.1s						
VNDA	**Vanda**	**72.43**	**178**	*e*P		**P**	**07 24 29.7 +0.8**
	comp=Z,11nm,1.1s						
BILL	**Bilibino**	**73.61**	**5**	⇓*e*P		**P**	**07 24 36.0 +0.1**
BILL				*e*			07 24 43.9
BILL							07 24 52.0
BILL							07 27 21.0
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OHAK	**Old Harbor**	**75.61**	**27**	*e*P		**P**	**07 24 49.7 +2.0**
	comp=Z,37nm,1.4s						
WMQ	**Urumqi**	**76.44**	**317**	P		**P**	**07 24 53.6 +0.8**
SVW2	**Sparrevohn**	**76.94**	**23**	*e*P		**P**	**07 24 56.5 +1.3**
	comp=Z,4.5nm,1.0s						
CNPM	**China Poot**	**77.80**	**25**	*e*P		**P**	**07 24 59.9 -0.1**
	comp=Z,21nm,0.7s						
TT01	**Tatalina**	**77.88**	**21**	*e*P		**P**	**07 24 59.4 -1.0**
TTA	**Tatalina**	**77.90**	**21**	*e*P		**P**	**07 25 00.0 -0.6**
TTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TTA	**Tatalina**	**77.90**	**21**	*e*P		**P**	**07 25 00.0 -0.6**
	comp=Z,5.6nm,0.6s						
BRLK	**Bradley Lake**	**78.07**	**25**	*e*P		**P**	**07 25 03.3 +1.7**
	comp=Z,16nm,1.2s						
TIXI	**Tiksi**	**78.36**	**352**	LR		LR	07 55 16.9
	comp=Z,70nm,21.9s,baz=136,slow=32						
RC01	**Rabbit Creek A**	**79.27**	**24**	*e*P		**P**	**07 25 09.0 +0.9**
	comp=Z,22nm,1.3s						
PPLA	**Purkeypile**	**79.29**	**22**	*e*P		**P**	**07 25 11.4 +3.1**
	comp=Z,29nm,1.7s						
PMR	**Palmer**	**79.78**	**24**	*e*P		**P**	**07 25 10.5 -0.3**
PMR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PMR	**Palmer**	**79.78**	**24**	*e*P		**P**	**07 25 10.5 -0.3**
	comp=Z,5.1nm,1.0s						
KTH	**Kantishna Hill**	**80.14**	**22**	*e*P		**P**	**07 25 15.0 +2.2**
	comp=Z,13nm,1.6s						
SML	**Sawmill**	**80.22**	**24**	*e*P		**P**	**07 25 13.1 -0.2**
SML				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SML	**Sawmill**	**80.22**	**24**	*e*P		**P**	**07 25 13.1 -0.2**
	comp=Z,8.9nm,0.7s						
MCK	**McKinley**	**80.98**	**22**	*e*P		**P

KURK					pmax	pmax					
	comp=Z,65nm,1.0s										
KURK	**Kurchatov**	**84.44**	**322**	*e*P		**P**		**07 25 34.6**	**-0.9**		
	comp=Z,65nm,1.0s										
EGAK	**Eagle**	**84.47**	**23**	*e*P		**P**		**07 25 35.1**	**-0.2**		
	comp=Z,7.2nm,1.1s										
KURBB	**Kurchatov Arra**	**84.47**	**322**	P		**P**		**07 25 35.2**	**-0.4**		
	comp=Z,6.1nm,0.9s,baz=109,slow=4.1,SNR=29										
TKM2	**Tokmak 2**	**84.63**	**314**	*e*P		**P**		**07 25 37.5**	**+0.6**		
TKM2					pmax	pmax					
	comp=Z,11nm,0.6s										
TKM2	**Tokmak 2**	**84.63**	**314**	*e*P		**P**		**07 25 37.5**	**+0.6**		
	comp=Z,11nm,0.6s										
QSPA	**South Pole Qui**	**84.78**	**180**	*e*P		**P**		**07 25 37.8**	**+0.7**		
FRU	**Bishkek**	**85.32**	**314**	*e*P		**P**		**07 25 40.0**	**-0.2**		
AAK	**Ala-Archa**	**85.37**	**313**	P		**P**		**07 25 40.8**	**+0.2**		
	comp=Z,9.1nm,0.7s,baz=124,slow=5.1,SNR=13										
AAK	**Ala-Archa**	**85.37**	**313**	⇓*i*P		**P**		**07 25 41.3**	**+0.7**		
AAK					pmax	pmax					
	comp=Z,21nm,0.9s										
AAK	**Ala-Archa**	**85.37**	**313**	*e*P		**P**		**07 25 41.6**	**+1.0**		
	comp=Z,11nm,0.8s										
MAW	**Mawson**	**85.45**	**203**	P		**P**		**07 25 40.8**	**+0.6**		
	comp=Z,1.7nm,0.5s,baz=119,slow=5.9,SNR=7.6										
MAW					LR	LR		08 00 15.5			
	comp=Z,161nm,21.1s,baz=64,slow=33										
NRIK	**Noril'sk**	**86.52**	**341**	P		**P**		**07 25 44.5**	**-1.0**		
	comp=Z,3.4nm,0.6s,baz=180,slow=3.1,SNR=5.0										
INK	**Inuvik**	**88.59**	**21**	*e*P		**P**		**07 25 56.1**	**+0.7**		
INK	**Inuvik**	**88.59**	**21**	*e*P		**P**		**07 25 56.0**	**+0.7**		
BVAR	**Borovoye Array**	**89.91**	**323**	P		**P**		**07 26 01.2**	**-0.8**		
	comp=Z,5.5nm,0.7s,baz=102,slow=6.2,SNR=32										
BRVK	**Borovoye**	**89.98**	**323**	*d*P		**P**		**07 26 01.1**	**-1.2**		
BRVK					pmax	pmax					
	comp=Z,39nm,2.5s										
BRVK	**Borovoye**	**89.98**	**323**	*e*P		**P**		**07 26 01.0**	**-1.2**		
	comp=Z,29nm,1.1s										
YKA	**Yellowknife Ar**	**95.48**	**28**	P		**P**		**07 26 27.1**	**-0.3**		
	comp=Z,0.5nm,0.8s,baz=270,slow=4.9,SNR=6.1										
YKA					LR	LR		08 05 08.8			
	comp=Z,24nm,20.2s,baz=360,slow=33										
WSAR	**Wadi Sarin**	**96.41**	**293**	LR		LR		08 09 54.8			
	comp=Z,24nm,18.9s,baz=122,slow=35										
GEYT	**Alibeck**	**97.33**	**307**	LR		LR		08 11 00.9			
	comp=Z,44nm,21.8s,baz=45,slow=36										
PDAR	**Pinedale Array**	**98.65**	**48**	LR		LR		08 07 26.7			
	comp=Z,328nm,19.0s,baz=280,slow=33										
KLMR	**Klimovskoe**	**106.00**	**332**	P		**Pdif**		**07 27 11.1**	**-3.4**		
KLMR				*e*				07 31 36.3			
KLMR					pmax	pmax					
	comp=Z,7.0nm,1.3s										
AKASG	**Malin Array Be**	**115.16**	**324**	PKP		**PKPdf**		**07 31 43.6**	**-0.3**		
	comp=Z,1.5nm,0.5s,baz=55,slow=2.7,SNR=5.5										
BRTR	**Keskin Array B**	**116.01**	**312**	PKP		**PKPdf**		**07 31 45.7**	**-0.5**		
	comp=Z,0.4nm,0.4s,baz=165,slow=5.1,SNR=3.9										
NOA	**NORSAR Array B**	**117.48**	**340**	PKP		**PKPdf**		**07 31 47.8**	**-0.4**		
	comp=Z,0.4nm,0.5s,baz=44,slow=1.2,SNR=2.4										
KLNR	**Kaliningrad**	**118.01**	**331**	*e*PKPdf		**PKPdf**		**07 31 52.2**	**+2.9**		
BOSA	**Boshof**	**119.89**	**233**	PKP		**PKPdf**		**07 31 54.6**	**+0.6**		
	comp=Z,1.5nm,0.9s,baz=138,slow=3.4,SNR=3.7										
KOLS	**Kolonicke sedl**	**119.97**	**325**	*e*PKIKP		**PKPdf**		**07 31 53.9**	**+0.5**		
KOLS	**Kolonicke sedl**	**119.97**	**325**	*e*PKP		**PKPdf**		**07 31 53.9**	**+0.5**		
CLL	**Collm**	**123.48**	**331**	*e*PKPdf		**PKPdf**		**07 32 00.0**	**0.0**		
	comp=Z,4.0nm,0.6s										
CLL					Lm	MLR		08 30 00.0			
	comp=Z,100nm,21.7s										
CLL	**Collm**	**123.48**	**331**	*e*PKIKP		**PKPdf**		**07 32 00.0**	**0.0**		
CLL					pmax	pmax					
	comp=Z,4.0nm,0.6s										
GEC2	**GERESS Array S**	**124.70**	**329**	*e*PKIKP		**PKPdf**		**07 32 03.6**	**+1.0**		
GEC2	**GERESS Array S**	**124.70**	**329**	*e*PKPdf		**PKPdf**		**07 32 03.6**	**+1.0**		
GERES	**GERESS Array B**	**124.70**	**329**	PKP		**PKPdf**		**07 32 02.3**	**-0.2**		
	comp=Z,1.7nm,0.5s,baz=70,slow=1.6,SNR=13										
GEA0	**GERESS Array S**	**124.70**	**329**	*e*PKPdf		**PKPdf**		**07 32 02.7**	**+0.1**		
LPAZ	**La Paz**	**133.70**	**118**	PKP		**PKPdf**		**07 32 21.1**	**-0.1**		
	comp=Z,0.4nm,0.6s,baz=305,slow=1.2,SNR=3.8										
CPUP	**Villa Florida**	**136.77**	**138**	PKP		**PKPdf**		**07 32 26.5**	**+0.6**		
	comp=Z,1.8nm,1.0s,baz=299,slow=2.8,SNR=3.1										
TAM	**Tamanrasset**	**144.40**	**303**	*e*PKIKP		PKPbc		07 32 39.0	+0.5		
TAM	**Tamanrasset**	**144.40**	**303**	*e*PKPdf		PKPbc		07 32 39.0	+0.5		
BDFB	**Brasilia**	**150.36**	**135**	PKPbc		**PKPbc**		**07 32 56.2**	**+1.0**		
	comp=Z,2.8nm,0.5s,baz=141,slow=1.0,SNR=7.3										
TOA0	**Torodi Ar. Sit**	**151.00**	**288**	*e*PKPdf		**PKPdf**		**07 32 50.6**	**-0.3**		
TOA0				*e*		PKPbc		**PKPbc**	**07 32 56.2**	**-0.4**	
TORD	**Torodi Ar. Bea**	**151.00**	**288**	PKP		**PKPdf**		**07 32 50.4**	**-0.5**		
	comp=Z,1.7nm,1.0s,baz=340,slow=2.8,SNR=4.2										
TORD					PKPbc			**PKPbc**	**07 32 56.2**	**-0.4**	
	comp=Z,10nm,0.6s,baz=48,slow=2.2,SNR=64										

*IDC **14** 07:32:03.4±0.9, 37.53N×144.34E, h0km, mb3.6/9, mb1 3.9/13, mb1mx3.7/57, mbtmp3.7/13, ML3.3/4, Error ellipse: s-maj=24.6km s-min=17.2km az=127.0*
*ISCJB **14** 07:32:06.6±0.6, 37.73N±0.05×144.08E±0.05, h33km, mb3.6/9, Error ellipse: s-maj=7.1km s-min=5.5km az=2.4*
*JMA **14** 07:32:08.1±0.1, 37.85N×143.90E, h20km, M3.7*
ISC 14 07:32:08.8±0.8, 37.71N±0.06×144.10E±0.07, h35km, n23, σ2s02/32, mb3.6/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**2.29**	**290**	P		**Pn**	**07 32 43.2**	**-0.9**
JIO				*e*S		**Sn**	**07 33 09.1**	**-2.0**
OFUJ	**Ofunato**	**2.35**	**306**	*e*S		**Sn**	**07 33 10.3**	**-2.2**
JMK	**Ichinoseki**	**2.58**	**300**	P		**Pn**	**07 32 47.2**	**-0.8**
JMK				*e*S		**Sn**	**07 33 16.2**	**-2.0**
JOM	**Ohasama**	**2.82**	**309**	P		**Pn**	**07 32 50.8**	**-0.5**
JOM				*e*S		**Sn**	**07 33 22.3**	**-1.7**
JFT	**Otama**	**3.00**	**267**	*e*S		**Sn**	**07 33 27.4**	**-1.1**
JYK	**Kaneyama**	**3.18**	**293**	P		**Pn**	**07 32 56.2**	**-0.1**
JYK				*e*S		**Sn**	**07 33 31.5**	**-1.5**
JANG	**Nango**	**3.33**	**324**	*e*S		**Sn**	**07 33 33.7**	**-3.1**
JRY	**Ryogami san**	**4.50**	**249**	P		**Pn**	**07 33 13.2**	**-1.3**
JRY				*e*S		**Sn**	**07 34 01.8**	**-3.8**
MJAR	**Matsushiro Arr**	**4.85**	**258**	Pn		**Pn**	**07 33 19.6**	**+0.3**
	4.0nm,0.3s,baz=87,slow=15,SNR=58							
MJAR					Sn	**Sn**	**07 34 15.3**	**+1.1**
	baz=167,slow=18,SNR=2.3							
MAT	**Matsushiro**	**4.85**	**258**	P		**Pn**	**07 33 19.5**	**+0.2**
MAT				*e*S		**Sn**	**07 34 15.9**	**+1.6**
JCH	**Churui**	**4.93**	**354**	P		**Pn**	**07 33 18.5**	**-1.8**
JCH				*e*S		**Sn**	**07 34 11.7**	**-4.3**
JHJ	**Hachijo jima 2**	**5.78**	**219**	Pn		**Pn**	**07 33 29.3**	**-2.8**
	3.9nm,0.3s,baz=73,slow=19,SNR=3.7							
JHJ					Sn	**Sn**	**07 34 32.5**	**-4.6**
	21nm,0.3s,baz=53,slow=22,SNR=4.9							
USRK	**Ussuriysk Ar.**	**11.21**	**309**	Pn		**Pn**	**07 34 47.5**	**+1.0**
	0.2nm,0.3s,baz=101,slow=15,SNR=3.9							
KSRS	**Korea Array**	**12.84**	**274**	Pn		**Pn**	**07 35 10.2**	**+1.4**
	0.3nm,0.3s,baz=88,slow=13,SNR=11							
SEY	**Seymchan**	**25.75**	**9**	P		**P**	**07 37 36.7**	**+0.9**
	1.2nm,0.5s,baz=218,slow=4.7,SNR=3.6							
SONM	**Songino Array**	**29.21**	**302**	P		**P**	**07 38 09.6**	**+2.5**
	0.3nm,0.7s,baz=90,slow=7.2,SNR=2.2							
MKAR	**Makanchi Array**	**45.57**	**302**	P		**P**	**07 40 26.5**	**+1.3**
	0.3nm,0.7s,baz=86,slow=7.9,SNR=3.3							
ILAR	**Eielson Array**	**47.77**	**33**	P		**P**	**07 40 42.9**	**+0.8**
	1.3nm,0.7s,baz=263,slow=6.6,SNR=22							
INK	**Inuvik**	**52.80**	**28**	P		**P**	**07 41 20.7**	**+0.7**
	0.2nm,0.4s,baz=294,slow=4.8,SNR=3.0							
WRA	**Warramunga Arr**	**58.08**	**191**	P		**P**	**07 41 57.5**	**-1.0**
	2.2nm,0.9s,baz=12,slow=7.5,SNR=8.7							
ASAR	**Alice Springs**	**61.80**	**191**	P		**P**	**07 42 23.2**	**-0.9**
	0.4nm,0.8s,baz=9.9,slow=5.9,SNR=3.7							
YKA	**Yellowknife Ar**	**62.13**	**31**	P		**P**	**07 42 26.5**	**+0.6**
	0.3nm,0.6s,baz=299,slow=6.1,SNR=4.7							
PDAR	**Pinedale Array**	**75.65**	**47**	P		**P**	**07 43 48.8**	**-1.8**
	0.2nm,0.3s,baz=294,slow=6.8,SNR=3.1							

*NNC **14** 07:32:40.3±3.9, 50.18N×79.27E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=82.2km s-min=19.8km az=49.0, Suspected Mining explosion.*
*IDC **14** 07:32:43.4±3.8, 50.11N×79.03E, h0km, mb1 2.7/2, mb1mx2.7/63, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=45.4km s-min=17.0km az=91.0*
ISC 14 07:32:37.1±3.8, 49.97N±0.05×78.10E±0.3, h0km, n7, σ0s86/11, 4C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.74**	**28**	⇑P		**Pb**	**07 32 52.2**	**-0.7**
	36nm,0.6s							
KURBB				⇓S		**Sg**	**07 33 01.2**	**+0.2**
	97nm,0.8s							
KURK	**Kurchatov**	**0.85**	**29**	⇓P		**Pb**	**07 32 54.0**	**-0.8**
	94nm,0.5s							
KURK				⇓S		**Sg**	**07 33 04.7**	**+0.2**
	293nm,0.6s							
MAKZ	**Makanchi**	**4.14**	**138**	⇑Pg		**Pb**	**07 33 49.4**	**-1.3**
	4.0nm,0.8s							
MAKZ				⇑Lg		Lg	07 34 41.3	
	18nm,0.6s							
MK31	**Makanchi Array**	**4.29**	**136**	⇑Pn		**Pn**	**07 33 43.9**	**+0.4**
	0.2nm,0.4s,baz=336,slow=12,SNR=11							
MK31					Pg	**Pb**	**07 33 53.1**	**-0.2**
	1.6nm,0.5s,baz=343,slow=16,SNR=18							
MK31				⇓Lg		Lg	07 34 45.3	
	16nm,0.7s,baz=352,slow=26,SNR=6.5							
MKAR	**Makanchi Array**	**4.29**	**136**	Pn		**Pn**	**07 33 45.0**	**+1.4**
	0.2nm,0.3s,baz=330,slow=11,SNR=6.7							
MKAR					Pg	**Pb**	**07 33 52.7**	**-0.6**
	0.7nm,0.3s,baz=328,slow=14,SNR=17							
MKAR					Sn	**Sn**	**07 34 34.0**	**-0.3**
	0.6nm,0.3s,baz=348,slow=21,SNR=8.7							
MKAR					Lg	Lg	07 34 48.0	
	2.1nm,0.3s,baz=330,slow=26,SNR=19							
I46RU	**ZALESOVO INFRA**	**5.81**	**44**	*i*			08 01 40.0	
	baz=224,slow=323,SNR=4.4							
ZALV	**Zalesovo Beam**	**5.81**	**44**	Pn		**Pn**	**07 34 05.1**	**+0.7**
	0.4nm,0.3s,baz=233,slow=14,SNR=5.6							
ZALV					Lg	Lg	07 35 29.0	
	0.3nm,0.3s,baz=227,slow=25,SNR=3.3							

*JMA **14** 07:33:39.9±0.4, 36.37N×142.40E, h31km, M3.0*
*IDC **14** 07:33:59.8±1.4, 34.83N×137.34E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/54, mbtmp3.6/4, Error ellipse: s-maj=40.3km s-min=23.4km az=83.0*
ISC 14 07:33:42.8±4.2, 36.24N±0.07×142.3E±0.2, h30km±23km, n11, σ1s47/14, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**1.26**	**245**	P		**Pn**	**07 34 04.2**	**-0.2**
CHOJ				*e*S		**Sb**	**07 34 22.8**	**+0.9**
JHO	**Hitachi**	**1.42**	**286**	P		**Pn**	**07 34 05.7**	**-0.9**
JHO				*e*S		**Sb**	**07 34 25.5**	**-0.9**
BSO1	**Boso 1**	**1.90**	**214**	P		**Pn**	**07 34 12.4**	**-0.3**
BSO1				*e*S		**Sn**	**07 34 37.9**	**+2.6**
BSO3	**Boso 3**	**2.03**	**226**	P		**Pn**	**07 34 15.2**	**+0.5**
BSO3				S		**Sn**	**07 34 36.6**	**-2.3**
JAG	**Ashikaga**	**2.28**	**276**	P		**Pn**	**07 34 18.5**	**0.0**
JAG				*e*S		**Sn**	**07 34 46.7**	**+1.1**
MJAR	**Matsushiro Arr**	**3.29**	**277**	Pn		**Pn**	**07 34 32.8**	**+0.5**
	0.7nm,0.3s,baz=203,slow=6.4,SNR=2.5							
JHJ	**Hachijo jima 2**	**3.72**	**214**	Sn		**Sn**	**07 35 18.9**	**-2.3**
	10nm,0.3s,baz=263,slow=23,SNR=3.7							
SONM	**Songino Array**	**28.80**	**305**	P		**P**	**07 39 38.5**	**+0.2**
	0.4nm,0.5s,baz=110,slow=8.5,SNR=4.2							
MKAR	**Makanchi Array**	**45.13**	**303**	P		**P**	**07 41 56.5**	**+0.1**
	0.9nm,0.7s,baz=91,slow=7.7,SNR=6.1							
WRA	**Warramunga Arr**	**56.38**	**189**	P		P	07 43 29.0	+7.7
	0.6nm,0.5s,baz=3.7,slow=7.4,SNR=5.3							
ASAR	**Alice Springs**	**60.10**	**189**	P		P	07 43 57.0	+10
	0.3nm,0.8s,baz=3.5,slow=7.6,SNR=3.1							

*IDC **14** 07:35:18.9±0.7, 38.23N×144.83E, h0km, mb4.0/18, mb1 4.1/24, mb1mx4.0/60, mbtmp4.0/24, ML3.8/5, MS4.0/3, Ms1 4.0/3, ms1mx3.1/37, Error ellipse: s-maj=17.7km s-min=15.2km az=126.0*
*ISCJB **14** 07:35:22.6±0.4, 38.38N±0.03×144.58E±0.04, h29km, mb4.1/25, MS4.0/4, Error ellipse: s-maj=5.1km s-min=3.8km az=145.7*
*MOS **14** 07:35:22.6±1.0, 38.27N×144.69E, h32km, mb4.3/15, Error ellipse: s-maj=10.5km s-min=7.8km az=99.4*
*NEIC **14** 07:35:23.1±2.6, 38.30N×144.76E, h25km±18km, mb4.3/4, Error ellipse: s-maj=11.7km s-min=6.8km az=109.0*
*JMA **14** 07:35:24.6±0.1, 38.39N×144.47E, h42km, M4.6*
ISC 14 07:35:23.8±0.6, 38.33N±0.05×144.68E±0.06, h29km, n77, σ1s95/91, mb4.1/25, MS3.9/4, 7C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**2.47**	**289**	P		**Pn**	**07 36 01.3**	**-0.8**
MIYJ	**Miyakonagasawa**	**2.56**	**300**	P		**Pn**	**07 36 02.3**	**-1.0**
MIYJ				S		**Sn**	**07 36 30.5**	**-2.9**
JIO	**Ouri**	**2.62**	**274**	P		**Pn**	**07 36 03.3**	**-0.9**
JIO				S		**Sn**	**07 36 32.0**	**-3.0**
JMK	**Ichinoseki**	**2.78**	**284**	P		**Pn**	**07 36 05.8**	**-0.6**
JMK				S		**Sn**	**07 36 36.7**	**-2.2**
JOM	**Ohasama**	**2.88**	**294**	P		**Pn**	**07 36 07.3**	**-0.4**
JANG	**Nango**	**3.19**	**311**	P		**Pn**	**07 36 11.0**	**-1.0**
JYK	**Kaneyama**	**3.44**	**281**	P		**Pn**	**07 36 15.3**	**-0.1**
JYK				*e*S		**Sn**	**07 36 53.3**	**-1.8**
JFT	**Otama**	**3.53**	**258**	P		**Pn**	**07 36 16.8**	**+0.1**
JFT				S		**Sn**	**07 36 55.6**	**-1.9**
ERM	**Erimo**	**3.86**	**343**	*e*P		**Pn**	**07 36 22.2**	**+1.0**
ERM				pmax		pmax		
	comp=Z,46nm,0.8s							
ERM	**Erimo**	**3.86**	**343**	*e*Pn		**Pn**	**07 36 21.4**	**+0.2**
ERM				*e*Sn		**Sn**	**07 37 04.5**	**-1.1**
JOT	**Ohata**	**4.14**	**319**	*e*S		**Sn**	**07 37 09.2**	**-3.2**
JCH	**Churui**	**4.40**	**347**	P		**Pn**	**07 36 27.8**	**-0.8**
JCH				*e*S		**Sn**	**07 37 14.0**	**-4.8**
NEM2	**Nemuro 2**	**5.09**	**9**	P		**Pn**	**07 36 35.4**	**-2.7**
NEM2				*e*S		**Sn**	**07 37 28.8**	**-7.1**
JRY	**Ryogami san**	**5.16**	**245**	P		**Pn**	**07 36 38.4**	**-0.7**
JRY				*e*S		**Sn**	**07 37 32.7**	**-5.0**
MJA0	**Matsu Arr-Jizo**	**5.42**	**253**	*e*P		**Pn**	**07 36 43.6**	**+0.9**
MJA0				pmax		pmax		
	comp=Z,5.0nm,0.3s							
MJAR	**Matsushiro Arr**	**5.45**	**253**	Pn		**Pn**	**07 36 43.7**	**+0.6**
	comp=Z,5.2nm,0.3s,baz=87,slow=16,SNR=13							
MJAR					Sn	**Sn**	**07 37 44.7**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=99,slow=20,SNR=3.5							
MAJO	**Matsushiro**	**5.45**	**253**	*c*P		**Pn**	**07 36 43.9**	**+0.8**
MAJO	**Matsushiro**	**5.45**	**253**	*e*Pn		**Pn**	**07 36 43.6**	**+0.4**
	comp=Z,31nm,0.4s							
MAT	**Matsushiro**	**5.45**	**253**	P		**Pn**	**07 36 43.9**	**+0.8**
MAT				S		**Sn**	**07 37 44.1**	**-0.8**
JTKR	**Abashiri--Toko**	**5.67**	**354**	P		**Pn**	**07 36 44.5**	**-1.5**
JTKR				*e*S		**Sn**	**07 37 44.6**	**-5.4**
JHR	**Hokuryu**	**5.85**	**338**	P		**Pn**	**07 36 49.7**	**+1.2**
JHR				*e*S		**Sn**	**07 37 52.8**	**-1.8**
ASAJ	**Asahikawa**	**5.99**	**345**	Pn		**Pn**	**07 36 51.6**	**+1.1**
	comp=Z,2.6nm,0.3s,baz=245,slow=14,SNR=7.6							
ASAJ					Sn	**Sn**	**07 37 55.4**	**-2.7**
	baz=90,slow=20							
ASAJ	**Asahikawa**	**5.99**	**345**	*e*Pn		**Pn**	**07 36 50.5**	**0.0**
	comp=Z,4.1nm,0.5s							
ASAJ					Sn	**Sn**	**07 37 55.4**	**-2.7**
JHJ2	**Mitsune**	**6.54**	**219**	*e*Pn		**Pn**	**07 36 58.2**	**+0.2**
JHJ	**Hachijo jima 2**	**6.55**	**219**	Pn		**Pn**	**07 36 57.0**	**-1.2**
	comp=Z,20nm,0.3s,baz=86,slow=8.0,SNR=4.6							
JHJ					Sn	**Sn**	**07 38 04.9**	**-7.0**
	comp=Z,31nm,0.3s,baz=68,slow=18,SNR=5.1							
YSS	**Yuzh-Sakhalins**	**8.73**	**351**	*i* P		**Pn**	**07 37 31.7**	**+3.6**
YSS				pmax		pmax		
	comp=Z,35nm,2.5s							
USRK	**Ussuriysk Ar.**	**11.20**	**306**	Pn		**Pn**	**07 38 03.9**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=107,slow=14,SNR=8.3							
KSRS	**Korea Array**	**13.27**	**271**	Pn		**Pn**	**07 38 31.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=86,slow=14,SNR=6.1							
KSAR	**Wonju Array Be**	**13.30**	**271**	P		**Pn**	**07 38 31.4**	**+0.8**
KSAR	**Wonju Array Be**	**13.30**	**271**	Pn		**Pn**	**07 38 31.4**	**+0.8**
KLR	**Kul'dur**	**14.33**	**324**	Pn		**Pn**	**07 38 43.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=141,slow=16,SNR=3.1							
SEY	**Seymchan**	**25.08**	**8**	P		**P**	**07 40 45.9**	**+0.5**
	comp=Z,10nm,0.7s,baz=186,slow=7.8,SNR=25							
SEY	**Seymchan**	**25.08**	**8**	⇑*i*P		**P**	**07 40 47.0**	**+1.5**
SEY				*i* *PP		**sP**	**07 40 57.8**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**26.73**	**128**	T		T	08 08 49.3	
	baz=319,slow=74,SNR=6.1							
H11N1	**WAKE ISLAND Hy**	**26.74**	**128**	T		T	08 08 48.4	
	baz=319,slow=74,SNR=11							
H11N3	**WAKE ISLAND Hy**	**26.75**	**128**	T		T	08 08 51.3	
	baz=319,slow=74,SNR=5.8							
SONM	**Songino Array**	**29.27**	**301**	P		**P**	**07 41 22.7**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=97,slow=8.8,SNR=2.5							
BILL	**Bilibino**	**32.08**	**15**	⇑*e*P		**P**	**07 41 48.0**	**+0.2**
BILL				*i* *PP		**sP**	**07 41 58.7**	**-1.2**
BILL				*e*			07 48 58.5	
BILL				pmax		pmax		
	comp=Z,6.0nm,1.7s							
BILL				MLR		MLR		

	comp=Z,178nm,20.0s										
TIXI	**Tiksi**	**34.36**	**351**	P		**P**		**07 42 07.7**	**0.0**		
	comp=Z,1.4nm,0.3s,baz=216,slow=1.2,SNR=4.3										
ZALV	**Zalesovo Beam**	**42.98**	**311**	P		**P**		**07 43 20.1**	**0.0**		
	comp=Z,1.0nm,0.4s,baz=93,slow=8.9,SNR=4.4										
ZALV	**Zalesovo Beam**	**42.98**	**311**	*e*P		**P**		**07 43 21.5**	**+1.4**		
ZALV				pmax		pmax					
	comp=Z,1.0nm,0.4s										
KDAK	**Kodiak Island**	**44.40**	**43**	*c*eP		**P**		**07 43 32.7**	**+1.3**		
MKAR	**Makanchi Array**	**45.64**	**302**	P		**P**		**07 43 42.8**	**+1.2**		
	comp=Z,1.9nm,0.7s,baz=84,slow=9.3,SNR=15										
ILAR	**Eielson Array**	**47.01**	**33**	P		**P**		**07 43 51.1**	**-0.9**		
	comp=Z,0.9nm,1.0s,baz=258,slow=6.7,SNR=6.2										
ILAR	**Eielson Array**	**47.01**	**33**	*e*P		**P**		**07 43 52.4**	**+0.4**		
ILAR				pmax		pmax					
	comp=Z,1.0nm,1.0s										
KURK	**Kurchatov**	**47.19**	**308**	P		**P**		**07 43 55.1**	**+1.5**		
KURK				pmax		pmax					
	comp=Z,5.0nm,0.6s										
KURK	**Kurchatov**	**47.19**	**308**	*e*P		**P**		**07 43 54.1**	**+0.5**		
	comp=Z,33nm,0.6s										
KURBB	**Kurchatov Arra**	**47.26**	**308**	P		**P**		**07 43 55.1**	**+0.9**		
	comp=Z,5.2nm,0.6s,baz=81,slow=8.3,SNR=8.4										
BVAR	**Borovoye Array**	**51.62**	**312**	P		**P**		**07 44 28.7**	**+1.2**		
	comp=Z,1.5nm,0.6s,baz=74,slow=11,SNR=8.6										
BVAR					LR	LR		08 08 22.2			
	comp=Z,142nm,21.1s,baz=72,slow=38										
BRVK	**Borovoye**	**51.68**	**312**	⇑*i*P		**P**		**07 44 29.9**	**+2.1**		
INK	**Inuvik**	**52.04**	**28**	P		**P**		**07 44 31.2**	**+0.9**		
	comp=Z,0.7nm,0.5s,baz=293,slow=5.2,SNR=7.4										
INK	**Inuvik**	**52.04**	**28**	*e*P		**P**		**07 44 31.0**	**+0.7**		
INK				pmax		pmax					
	comp=Z,1.0nm,0.6s										
INK	**Inuvik**	**52.04**	**28**	*e*P		**P**		**07 44 31.0**	**+0.7**		
	comp=Z,0.9nm,0.6s										
ARU	**Arti**	**57.10**	**319**	*c* *i*P		**P**		**07 45 08.3**	**+1.1**		
ARU								07 47 12.6			
ARU				S		**S**		**07 53 03.1**	**+3.0**		
ARU				SS		**SS**		**07 56 48.6**	**+0.1**		
ARU				pmax		pmax					
	comp=Z,4.0nm,1.2s										
WRAB	**Tennant Creek**	**58.76**	**191**	*e*P		**P**		**07 45 19.3**	**+0.2**		
WRAB				pmax		pmax					
	comp=Z,21nm,1.8s										
WRAB	**Tennant Creek**	**58.76**	**191**	*e*P		**P**		**07 45 19.3**	**+0

ASAR	Alice Springs	28.77	122	P		P	07 58 47.2	+1.9	
	0.5nm,0.5s,baz=298,slow=9.1,SNR=7.7								
MKAR	Makanchi Array	60.68	340	P		P	08 02 56.9	-1.6	
	1.7nm,0.5s,baz=147,slow=8.4,SNR=18								
KURBB	Kurchatov Arra	65.24	340	P		P	08 03 28.6	0.0	
	1.0nm,0.8s,baz=152,slow=6.4,SNR=5.9								
BVAR	Borovoye Array	70.12	337	P		P	08 04 01.0	+1.6	
	1.3nm,0.6s,baz=124,slow=7.6,SNR=6.1								

WEL 14 07:54:15.7±0.1, 43.54S×172.74E, h7km, ML3.7/15, 2C-2D, Error ellipse: s-maj=1.3km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	McQueen's Vall	0.18	201	⇑Pg	Pg	07 54 19.4	+0.1
MQZ				SG	Sg	07 54 22.3	+0.6
MQZ				SG		07 54 22.3	
MQZ				AML	AML	07 54 22.5	
OXZ	Oxford	0.55	293	⇓P*	Pg	07 54 26.4	+0.1
LTZ	Lake Taylor	0.83	336	⇑P*	Pg	07 54 32.0	+0.3
LTZ				S*	Sb	07 54 43.6	-0.3
LTZ				AML	AML	07 54 45.1	
RPZ	Rata Peaks	1.24	261	⇓P*	Pg	07 54 38.2	-1.2
RPZ				AML	AML	07 54 56.7	
RPZ				AML	AML	07 55 03.4	
INZ	Inchbonnie	1.25	310	P*	Pn	07 54 38.2	-1.4
KHZ	Kahutara	1.27	28	P*	Pn	07 54 38.3	-1.5
WVZ	Waitaha Valley	1.53	287	ePN	Pn	07 54 42.8	-0.7
WVZ				AML	AML	07 55 10.7	
WVZ				AML	AML	07 55 15.7	
THZ	Tophouse	1.78	4	PN	Pn	07 54 45.4	-1.5
THZ				AML	AML	07 55 12.4	
THZ				AML	AML	07 55 21.4	
DSZ	Denniston Nort	1.92	339	ePN	Pn	07 54 47.7	-1.2
DSZ				AML	AML	07 55 22.7	
DSZ				AML	AML	07 55 22.7	
DSZ				AML	AML	07 55 27.5	
DSZ				AML	AML	07 55 27.5	
BSWZ	Blackbirch Sta	2.01	25	PN	Pn	07 54 48.7	-1.4
LBZ	Lake Benmore	2.03	245	ePN	Pn	07 54 49.1	-1.3
LBZ				AML	AML	07 55 27.8	
LBZ				AML	AML	07 55 28.0	
FOZ	Fox Glacier	2.13	269	PN	Pn	07 54 51.7	+0.1
FOZ				AML	AML	07 55 36.9	
ODZ	Otahua Downs	2.13	224	ePN	Pn	07 54 50.4	-1.3
ODZ				AML	AML	07 55 23.6	
ODZ				AML	AML	07 55 24.3	
ODZ				AML	AML	07 55 33.3	
ODZ				AML	AML	07 55 33.3	
QRZ	Quartz Range	2.72	357	AML	AML	07 55 49.0	
QRZ				AML	AML	07 55 50.7	
JCZ	Jackson Bay	2.91	258	ePN	Pn	07 55 02.3	-0.3
JCZ				AML	AML	07 55 55.4	
WKZ	Wanaka	2.97	243	AML	AML	07 55 55.4	
WKZ				AML	AML	07 56 00.2	
CAW	Cannon Point	2.98	36	AML	AML	07 55 39.1	
CAW				AML	AML	07 55 40.3	
EAZ	Earnscleugh	2.98	234	AML	AML	07 55 54.6	
EAZ				AML	AML	07 55 55.2	
TUZ	Tuapeka	3.27	221	AML	AML	07 56 08.1	
TUZ				AML	AML	07 56 10.8	
HIZ	Hauiti	5.27	18	PN	Pn	07 55 33.8	-1.1

WEL 14 07:55:14.5±0.1, 43.54S×172.75E, h6km, ML3.6/10, 1C-1D, Error ellipse: s-maj=1.4km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	McQueen's Vall	0.18	202	⇑PG	Pg	07 55 18.2	+0.1
MQZ				SG	Sg	07 55 20.9	+0.5
MQZ				AML	AML	07 55 21.2	
MQZ				AML	AML	07 55 21.3	
OXZ	Oxford	0.56	292	⇓P*	Pg	07 55 25.3	0.0
LTZ	Lake Taylor	0.84	335	P*	Pg	07 55 30.8	+0.3
LTZ				S*	Sb	07 55 42.3	-0.6
LTZ				AML	AML	07 55 43.9	
RPZ	Rata Peaks	1.24	261	eP*	Pg	07 55 36.9	-1.3
RPZ				AML	AML	07 55 55.4	
RPZ				AML	AML	07 55 55.5	
INZ	Inchbonnie	1.26	310	P*	Pn	07 55 38.3	-0.2
KHZ	Kahutara	1.27	28	P*	Pn	07 55 37.3	-1.3
WVZ	Waitaha Valley	1.54	287	ePN	Pb	07 55 43.0	-0.4
THZ	Tophouse	1.78	4	ePN	Pn	07 55 45.3	-0.5
THZ				AML	AML	07 56 10.0	
THZ				AML	AML	07 56 16.6	
DSZ	Denniston Nort	1.93	339	AML	AML	07 56 13.9	
LBZ	Lake Benmore	2.03	245	AML	AML	07 56 21.2	
LBZ				AML	AML	07 56 23.4	
ODZ	Otahua Downs	2.13	224	AML	AML	07 56 22.4	
ODZ				AML	AML	07 56 22.4	
ODZ				AML	AML	07 56 22.4	
ODZ				AML	AML	07 56 23.1	
JCZ	Jackson Bay	2.92	258	AML	AML	07 56 55.3	
EAZ	Earnscleugh	2.99	234	AML	AML	07 56 49.9	
EAZ				AML	AML	07 56 50.7	
TUZ	Tuapeka	3.28	222	AML	AML	07 57 02.7	
TUZ				AML	AML	07 57 03.1	

NIED 14 08:01:00.39°.30N×142°.40E,h32km,Mw3.4 Best double couple: Mo1.54000×10^14 NP1:ϕ=171.00000°,δ=46.00000°, λ=9.00000°. NP2:ϕ=75.00000°,δ=84.00000°,λ=136.00000°.

JMA 14 08:01:05.8±0.1, 39.35N×142.37E, h31km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	Miyakonagasawa	0.48	298	P	Pb	08 01 15.8	-0.2
MIYJ				S	Sb	08 01 22.7	-0.3
OFUJ	Ofunato	0.61	244	P	Pb	08 01 17.7	-0.3
OFUJ				S	Sb	08 01 25.9	-0.5
JTH	Tanohata	0.71	327	P	Pn	08 01 19.1	-0.6
JTH				S	Sb	08 01 28.7	-0.4
JOM	Ohasama	0.84	279	P	Pn	08 01 21.5	0.0
JOM				S	Sn	08 01 32.6	-0.3
JMK	Ichinoseki	0.98	246	P	Pn	08 01 23.4	0.0
JMK				S	Sn	08 01 35.8	-0.4
JKZ	Kuzumaki	1.02	309	P	Pn	08 01 24.4	+0.3
JKZ				eS	Sn	08 01 37.7	+0.3
JIO	Ouri	1.20	222	P	Pn	08 01 26.3	-0.1
JIO				eS	Sn	08 01 40.7	-0.9
JANG	Nango	1.22	328	P	Pn	08 01 26.8	+0.1
JANG				eS	Sn	08 01 42.4	+0.3
JRG	Rokugo	1.35	273	P	Pb	08 01 29.9	-0.5
JRG				eS	Sb	08 01 47.5	+0.2

ISCJB 14 08:16:18.0±0.7, 17.6S±0.2×178.7W±0.1, h547km, mb3.7/9, Error ellipse: s-maj=26.9km s-min=10.0km az=153.3
IDC 14 08:16:18.1±1.6, 17.58S×178.71W, h528km,21km, mb3.2/9, mb1 3.4/10, mb1mx3.2/34, mbtmp4.1/10, Error ellipse: s-maj=26.9km s-min=13.9km az=146.0

ISC 14 08:16:19.2±0.7, 17.6S±0.2×178.6W±0.1, h547km, n12, σ0=83/15, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.52	62	P	P	08 18 12.4	+0.2
	1.1nm,0.3s,baz=249,slow=19,SNR=2.4						
AFI				S	S	08 19 43.2	-1.6
	0.8nm,0.3s,baz=305,slow=18,SNR=1.9						
STKA	Stephens Creek	38.62	241	P	P	08 22 55.7	-0.2
	3.2nm,1.0s,baz=104,slow=13,SNR=5.4						
WRA	Warramunga Arr	44.50	259	P	P	08 23 41.5	-1.0
	1.7nm,0.7s,baz=98,slow=6.9,SNR=23						
WRA				PcP	PcP	08 25 14.1	0.0
	0.2nm,0.3s,baz=92,slow=3.5,SNR=3.6						
ASAR	Alice Springs	44.69	254	P	P	08 23 43.6	-0.4
	12nm,0.6s,baz=88,slow=8.2,SNR=182						
ASAR				PcP	PcP	08 25 14.9	+0.2
	0.3nm,0.4s,baz=96,slow=4.2,SNR=3.8						
FITZ	Fitzroy Crossi	52.89	260	P	P	08 24 44.6	-0.2
	5.7nm,1.1s,baz=100,slow=11,SNR=3.2						
VNDA	Vanda	60.76	185	P	P	08 25 37.4	-0.3
	0.5nm,0.6s,baz=20,slow=4.9,SNR=4.3						
MJAR	Matsushiro Arr	67.52	323	P	P	08 26 21.4	+0.2
	2.2nm,0.8s,baz=150,slow=6.4,SNR=7.5						
SEY	Seymchan	83.41	347	P	P	08 27 48.6	-0.2
	1.2nm,0.2s,baz=19,slow=18,SNR=4.5						
ILAR	Eielson Array	85.61	13	P	P	08 27 58.9	-0.5
	0.1nm,0.3s,baz=226,slow=5.6,SNR=3.8						
TXAR	Lajitas Array	85.98	58	P	P	08 28 04.0	+1.8
	0.7nm,0.8s,baz=218,slow=5.8,SNR=10						
BRTR	Keskin Array B	144.41	315	PKP	PKPdf	08 34 53.9	+0.2
	1.5nm,0.9s,baz=101,slow=3.9,SNR=5.3						
GERES	GERESS Array B	147.24	345	PKPbc	PKPbc	08 35 02.0	+0.7
	0.9nm,0.5s,baz=16,slow=3.7,SNR=7.0						

IDC 14 08:20:50.7±3.4, 53.58N×88.05E, h0km, mb1 2.8/2, mb1mx2.7/42, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=29.8km s-min=18.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.95	282	i		08 32 55.0	
	baz=97,slow=324,SNR=5.2						
ZALV	Zalesovo Beam	1.95	282	Pg	Pn	08 21 25.8	+0.7
	0.5nm,0.3s,baz=101,slow=16,SNR=6.3						
ZALV				Lg	Lg	08 21 52.9	
	1.3nm,0.3s,baz=100,slow=25,SNR=13						
KURBB	Kurchatov Arra	6.57	247	Pn	Pn	08 22 29.2	+0.7
	0.1nm,0.3s,baz=64,slow=14,SNR=4.8						
KURBB				Lg	Lg	08 24 19.1	
	0.1nm,0.3s,baz=64,slow=32,SNR=5.8						
MKAR	Makanchi Array	7.73	211	Pn	Pn	08 22 45.7	+1.2
	0.1nm,0.3s,baz=30,slow=15,SNR=3.5						
MKAR				Lg	Lg	08 24 55.1	
	baz=23,slow=22,SNR=1.8						

IDC 14 08:23:18.9±1.1, 14.79S×167.85E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/29, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=45.3km s-min=20.9km az=140.0
ISCJB 14 08:23:22.6±0.8, 15.05S±0.08×167.9E±0.2, h36km, mb3.8/8, Error ellipse: s-maj=23.0km s-min=10.4km az=12.1

ISC 14 08:23:24.1±0.9, 15.0S±0.1×167.9E±0.2, h36km, n9, σ0=99/11, mb3.8/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	7.20	191	Pn	Pn	08 25 06.6	-0.4
	2.4nm,0.3s,baz=160,slow=16,SNR=16						
DZM				Sn	Sn	08 26 27.3	-0.4
	0.7nm,0.3s,baz=331,slow=19,SNR=2.4						
STKA	Stephens Creek	29.32	230	P	P	08 29 25.0	+1.6
	1.4nm,0.8s,baz=66,slow=10,SNR=4.5						
WRA	Warramunga Arr	32.37	256	P	P	08 29 49.7	-0.9
	0.3nm,0.6s,baz=85,slow=9.0,SNR=2.9						
ASAR	Alice Springs	33.17	250	P	P	08 29 56.9	-0.7
	0.6nm,0.6s,baz=80,slow=8.8,SNR=11						
ASAR				PcP	PcP	08 32 39.5	-0.5
	0.2nm,0.8s,baz=83,slow=1.7,SNR=4.3						
FITZ	Fitzroy Crossi	40.59	260	P	P	08 31 01.1	+0.5
	3.5nm,1.0s,baz=75,slow=12,SNR=1.8						
ILAR	Eielson Array	86.56	18	P	P	08 36 01.9	-1.2
	0.5nm,0.7s,baz=230,slow=6.1,SNR=10						
TXAR	Lajitas Array	95.84	61	P	P	08 36 48.7	+1.3
	0.3nm,0.8s,baz=241,slow=5.6,SNR=3.1						
YKA	Yellowknife Ar	97.47	27	P	P	08 36 53.4	-0.4
	0.2nm,0.8s,baz=252,slow=4.5,SNR=3.3						
MKAR	Makanchi Array	97.81	316	P	P	08 36 55.9	+0.2
	0.5nm,0.7s,baz=103,slow=4.6,SNR=3.8						

ISCJB 14 08:38:18.6±0.3, 10.27S±0.03×71.05W±0.04, h552km±4km, mb4.2/78, Error ellipse: s-maj=6.2km s-min=3.7km az=159.0
NEIC 14 08:38:19.5±0.3, 10.28S×70.97W, h540km±4km, mb4.2/71, Error ellipse: s-maj=6.7km s-min=3.5km az=76.0
NEIC Felt [II] at Puerto Maldonado, Peru. Also felt at Iberia.
IDC 14 08:38:19.1±0.5, 10.35S×71.09W, h542km±5km, mb3.4/13, mb1 3.7/20, mb1mx3.5/34, mbtmp4.5/20, Error ellipse: s-maj=14.2km s-min=8.7km az=54.0

ISC 14 08:38:19.3±0.4, 10.25S±0.04×71.05W±0.06, h540km±4km, h540km:pP-P, n359, σ1=13/391, mb4.1/78, 8C, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	5.94	253	P	P	08 39 57.3	+0.3
	3.2nm,0.3s,baz=68,slow=6.0,SNR=11						
NNA				S	S	08 41 15.1	-1.7
	3.4nm,0.3s,baz=166,slow=22,SNR=5.4						
NNA	Nana	5.94	253	eP	P	08 39 57.5	+0.5
NNA				eS	S	08 41 18.0	+1.2
LPAZ	La Paz	6.64	155	P	P	08 40 04.0	-0.1
	22nm,0.3s,baz=334,slow=6.9,SNR=531						
LPAZ				S	S	08 41 26.9	-2.8
	0.8nm,0.3s,baz=30,slow=20,SNR=3.1						
LPAZ	La Paz	6.64	155	⇑P	P	08 40 04.0	-0.1
LPAZ	La Paz	6.64	155	eP	P	08 40 04.1	-0.1
LPAZ				eS	S	08 41 32.4	+2.7
SAML	Samuel	7.86	81	eP	P	08 40 16.5	+1.1
SAML				eS	S	08 41 49.6	-1.0
ATAH	Atahualpa	7.90	293	P	P	08 40 17.9	+1.6
	4.0nm,0.3s,baz=110,slow=7.8,SNR=34						
ATAH				S	S	08 41 49.0	-2.9
	4.3nm,0.3s,baz=51,slow=15,SNR=3.2						
PB13	IPOC Station P	8.17	170	⇑iP	P	08 40 17.6	-1.5
MNMC	Minye Minye	8.94	171	⇑iP	P	08 40 24.4	-2.0
PSGC	Pisagua	9.33	175	⇑iP	P	08 40 27.5	-2.8
PB08	IPOC Station P	10.00	170	⇑iP	P	08 40 36.4	-1.0
PB01	IPOC Station P	10.83	172	⇑iP	P	08 40 44.9	-0.9
PB01	IPOC Station P	10.83	172	eP	P	08 40 44.9	-0.9
PB01				eS	S	08 42 41.3	-4.9
SIV	San Ignacio	11.26	121	P	P	08 40 50.9	+0.6
	4.9nm,0.3s,baz=303,slow=11,SNR=67						
PB07	IPOC Station P	11.46	175	⇑iP	P	08 40 51.7	-0.7
PB09	IPOC Station P	11.61	172	⇑iP	P	08 40 53.5	-0.4
PB04	IPOC Station P	12.04	176	eP	P	08 40 57.3	-1.2
PB04				eS	S	08 43 14.8	+5.4
LVC	Limon Verde	12.46	171	P	P	08 41 02.4	-0.5
	140nm,0.3s,baz=21,slow=8.7,SNR=35						
LVC				S	S	08 43 09.9	-7.7
	64nm,0.3s,baz=338,slow=10.0,SNR=3.4						
LVC	Limon Verde	12.46	171	eP	P	08 41 02.2	-0.8
LVC				eS	S	08 43 19.6	+2.0
OTAV	Otavalo	12.76	324	eP	P	08 41 08.1	+1.8
OTAV	Otavalo	12.76	324	eP	P	08 41 08.0	+1.6
OTAV				eS	S	08 43 21.8	-1.9
CRUC	La Cruz	13.13	333	eP	P	08 41 10.1	0.0
PB10	IPOC Station P	13.20	178	eP	P	08 41 09.2	-1.0
POPC	Popayan, Colom	13.89	336	eP	P	08 41 17.1	-0.8
HJA	Humahuaca	13.96	158	eP	P	08 41 17.8	-0.9
PRAC	Prado	14.39	344	eP	P	08 41 22.0	-0.8
PRAC	Prado	14.39	344	eP	P	08 41 22.6	-0.2
PTGA	Pitinga	14.52	50	P	P	08 41 25.5	+1.4
	7.3nm,0.3s,baz=230,slow=12,SNR=76						
PTGA	Pitinga	14.52	50	eP	P	08 41 25.2	+1.1
PTGA				eS	S	08 43 53.7	-2.9
AZAP	Zapla	15.02	158	eP	P	08 41 27.8	-1.6
ROSC	El Rosal	15.34	348	P	P	08 41 33.8	+0.7
	2.0nm,0.3s,baz=50,slow=19,SNR=6.1						
ROSC	El Rosal	15.34	348	eP	P	08 41 32.4	-0.7
ROSC	El Rosal	15.34	348	eP	P	08 41 33.7	+0.7
	14nm,0.6s						
ROSC				eS	S	08 44 07.8	-4.5
MALC	Bahia Malaga	15.49	336	eP	P	08 41 34.4	+0.2
NORC	Norcasia	16.17	346	eP	P	08 41 39.1	-1.9
FSA	Cafayete	16.49	164	eP	P	08 41 42.2	-1.8
BARC	Barichara	16.87	353	eP	P	08 41 46.5	-1.2
AHML	Horco Molle	17.31	163	eP	P	08 41 50.5	-0.9
BRRC	Barranca, Sant	17.45	351	eP	P	08 41 50.7	-2.1
DBBC	Dabeiba	17.91	343	eP	P	08 41 56.7	-0.4
CBRI	Barrientos, No	17.94	354	eP	P	08 41 57.4	0.0
GRMC	Gramalote, San	17.94	354	eP	P	08 41 58.4	+1.0
VCA	Vinchina	18.58	172	eP	P	08 42 04.6	+1.5
LCO	Las Campanas	18.66	179	eP	P	08 42 03.7	-0.3
	17nm,0.6s						
LCO				eS	S	08 45 10.1	+3.3
SDV	Santo Domingo	19.02	1	P	P	08 42 09.4	+2.1
	8.5nm,0.3s,baz=158,slow=7.6,SNR=4.6						
SDV	Santo Domingo	19.02	1	eP	P	08 42 08.2	+0.9
	26nm,0.6s						
SJCC	San Jacinto, C	20.44	348	eP	P	08 42 19.4	-0.6
CPUP	Villa Florida	20.59	143	P	P	08 42 20.5	-0.7
	7.5nm,0.7s,baz=333,slow=8.8,SNR=29						
AMOG	MOGNA	20.72	174	eP	P	08 42 21.5	-0.9

ASAL	Salagasta	22.32	175	eP		P	08 42 36.8	0.0	
MRA	San Martin	22.60	168	eP		P	08 42 38.1	-1.3	
ROC1	El Roble	22.61	180	eP		P	08 42 39.4	-0.2	
	15nm,0.6s								
BDFB	Brasilia	23.07	106	P		P	08 42 44.2	+0.4	
	1.6nm,0.6s,baz=235,slow=12,SNR=4.0								
BDFB	Brasilia	23.07	106	eP		P	08 42 43.5	-0.3	
	51nm,1.9s								
SVB	Belmont	25.31	23	eP		P	08 43 03.8	+0.2	
	48nm,0.9s								
CELP	Cerrillos	28.49	9	eP		P	08 43 31.1	-0.3	
MPR	Mayaguez	28.55	8	eP		P	08 43 32.1	+0.3	
	93nm,1.9s								
HUMP	Col San Antoni	28.68	10	eP		P	08 43 33.3	+0.3	
	14nm,0.9s								
CBYP	Canovanas	28.80	10	eP		P	08 43 34.1	-0.1	
	25nm,0.7s								
TRQA	Tornquist	28.86	165	eP		P	08 43 34.0	-0.4	
	24nm,1.6s								
MTDJ	Mount Denham	29.01	347	eP		P	08 43 36.2	+0.2	
	69nm,1.3s								
STVI	Saint Thomas	29.05	12	eP		P	08 43 36.0	-0.3	
	26nm,1.1s								
SMRT	St. Maarten	29.20	16	eP		P	08 43 37.1	-0.5	
	59nm,0.5s								
ANWB	Willy Bob	29.21	18	eP		P	08 43 36.7	-0.9	
	46nm,0.7s								
ABVI	Anegada Island	29.55	13	eP		P	08 43 40.2	-0.3	
	67nm,0.9s								
PLCA	Paso Flores	30.36	179	P		P	08 43 46.8	-0.6	
	4.2nm,0.5s,baz=14,slow=9.4,SNR=12								
PLCA	Paso Flores	30.36	179	eP		P	08 43 47.1	-0.3	
	46nm,1.9s								
GRTK	Grand Turk	31.57	360	eP		P	08 43 59.1	+1.3	
	53nm,0.9s								
CCIG	Comitan	33.63	321	eP		P	08 44 17.4	+1.8	
	2nm,1.5s								
TEIG	Tepich	34.71	331	P		P	08 44 24.7	+0.2	
	2.9nm,0.3s,baz=90,slow=24,SNR=17								
TEIG	Tepich	34.71	331	eP		P	08 44 24.5	+0.1	
	11nm,1.1s								
CMIG	Matias Romero	35.97	319	P		P	08 44 35.5	+0.6	
	7.9nm,0.8s,baz=114,slow=6.6,SNR=8.6								
CHRN	Cochrane	36.90	182	eP		P	08 44 42.6	+0.4	
	3.8nm,0.8s								
NHSC	New Hope	43.99	349	eP		P	08 45 39.9	+1.0	
	33nm,0.7s								
248A	Dixon Mills	45.03	340	P		P	08 45 46.3	-0.7	
	baz=156								
LRAL	Lakeview Retre	45.65	341	eP		P	08 45 51.6	-0.2	
	7.1nm,0.9s								
147A	Livingston	45.74	340	P		P	08 45 51.9	-0.5	
	baz=156								
034A	Hebbronville	45.77	325	P		P	08 45 51.4	-1.4	
	baz=140								
934A	Benavides	46.09	325	P		P	08 45 55.1	-0.1	
	baz=141								
Z48A	Northport	46.15	341	P		P	08 45 54.7	-0.8	
	baz=157,SNR=6.2								
Z47A	Carrollton	46.16	340	P		P	08 45 54.1	-1.4	
	baz=156								
736A	Circle Diamond	46.37	328	P		P	08 45 57.5	+0.2	
	baz=144								
Z46A	Louisville	46.45	339	P		P	08 45 57.2	-0.5	
	baz=155								
834A	Tilden	46.52	326	P		P	08 45 57.2	-1.2	
	baz=141								
933A	Laredo	46.53	325	P		P	08 45 57.2	-1.3	
	baz=140								
HKT	Hockley	46.55	330	eP		P	08 45 59.6	+1.1	
	7.2nm,1.3s								
Y47A	UCPARC, Winfie	46.73	341	P		P	08 45 58.9	-0.9	
	baz=157,SNR=6.4								
Z45A	Winona	46.88	338	P		P	08 46 00.4	-0.6	
	baz=154								
Y46A	Houston	47.05	340	P		P	08 46 01.1	-1.2	
	baz=156								
Z44A	Pea Ridge, Bel	47.06	338	P		P	08 46 01.7	-0.7	
	baz=154								
339A	Huntington	47.09	332	P		P	08 46 02.7	+0.1	
	baz=148								
833A	Chaparral WMA,	47.14	325	P		P	08 46 03.0	-0.1	
	baz=140								
TKL	Tuckaleechee C	47.22	346	eP		P	08 46 03.6	0.0	
	4.1nm,0.8s								
Y45A	Yeager Farm, C	47.27	339	P		P	08 46 04.4	+0.5	
	baz=155								
536A	Bastrop	47.27	329	P		P	08 46 03.5	-0.5	
	baz=144								
SWET	Sewanee	47.37	343	eP		P	08 46 04.4	-0.3	
	2.1nm,0.8s								
733A	Divot King Ran	47.39	326	P		P	08 46 04.8	-0.1	
	baz=141								
832A	Faith Ranch, C	47.44	325	P		P	08 46 04.2	-1.2	
	baz=140								
Y44A	Strider, Charl	47.59	338	P		P	08 46 05.9	-0.5	
	baz=154								
PLAL	Pickwick Lake	47.79	341	eP		P	08 46 07.3	-0.5	
	6.1nm,0.9s								
633A	Saathoff Ranch	47.90	326	P		P	08 46 08.4	-0.4	
	baz=141								
VWCC	Virginia Weste	47.98	350	eP		P	08 46 10.7	+1.4	
TZTN	Tazewell	48.01	346	eP		P	08 46 09.7	+0.2	
	19nm,1.4s								
Z40A	Long Farm, Mag	48.23	335	P		P	08 46 11.3	+0.2	
	baz=150								
533A	Kerrville	48.30	327	P		P	08 46 12.1	+0.3	
	baz=142								
W45A	Hickory Valley	48.31	340	P		P	08 46 11.3	-0.5	
	baz=156								
Y41A	Eaglette Beard	48.44	336	P		P	08 46 12.9	+0.2	
	baz=151								
138A	Matatall Enter	48.45	333	P		P	08 46 13.1	+0.3	
	baz=148								
434A	Burnet	48.48	328	P		P	08 46 13.9	+0.8	
	baz=143								
V45A	Humboldt	48.77	341	P		P	08 46 15.6	+0.5	
	baz=156								
Y40A	Okolona	48.83	335	P		P	08 46 15.2	-0.4	
	baz=150								
433A	Art	48.87	327	P		P	08 46 15.6	-0.4	
	baz=142,SNR=5.3								
334A	Lometa	48.88	329	P		P	08 46 15.6	-0.4	
	baz=143								
Z38A	Mt. Pleasant	48.91	333	P		P	08 46 15.4	-0.7	
	baz=148								
136A	Ennis	48.97	331

X37A	Clayton	50.21	334	P	P	08	46	26.1 +0.3
	baz=148,SNR=5.1							
133A	Hamilton Ranch	50.24	329	P	P	08	46	26.9 +0.8
	baz=143							
W38A	Poteau	50.26	335	P	P	08	46	26.2 +0.2
	baz=149							
Z34A	Collier Ranch,	50.37	331	P	P	08	46	27.1 +0.1
	baz=145							
TXAR	Lajitas Array	50.38	322	P	P	08	46	27.5 +0.3
	1.4nm,0.8s,baz=150,slow=7.7,SNR=19							
TXAR				PcP	PcP	08	47	36.8 +0.7
	0.6nm,0.6s,baz=141,slow=5.3,SNR=8.7							
TXAR				pP	pP	08	48	10.1 +1.1
	0.7nm,0.7s,baz=152,slow=8.0,SNR=5.6							
TX31	Lajitas Ar. Si	50.38	322	eP	P	08	46	27.4 +0.1
TX31				epP	pP	08	48	10.0 +1.1
Y35A	Marietta	50.39	332	P	P	08	46	27.6 +0.5
	baz=146							
S45A	Carrier Mills	50.43	342	P	P	08	46	26.8 -0.5
	baz=157							
V39A	Pettigrew	50.56	336	P	P	08	46	27.5 -0.9
	baz=151,SNR=6.4							
X36A	Centrahoma	50.63	333	P	P	08	46	28.1 -0.7
	baz=147,SNR=5.1							
S44A	Carbondale	50.65	341	P	P	08	46	28.2 -0.7
	baz=157,SNR=8.2							
SIUC	Southern Illin	50.66	341	eP	P	08	46	28.6 -0.3
	27nm,0.8s							
W37B	Quinton	50.70	334	P	P	08	46	28.7 -0.7
	baz=148							
U40A	Yellville	50.71	337	P	P	08	46	29.1 -0.3
	baz=152							
Z33A	Whitaker Ranch	50.71	330	P	P	08	46	29.4 0.0
	baz=144							
O56A	Blue Knob Stat	50.74	353	P	P	08	46	30.1 +0.5
	baz=170							
Y34A	Reagan Ranch,	50.77	331	P	P	08	46	29.5 -0.3
	baz=145							
S43A	Fulton Ridge,	50.81	340	P	P	08	46	29.7 -0.4
	baz=156							
V38A	Canehill	50.89	335	P	P	08	46	30.1 -0.6
	baz=150							
T41A	Mountain View	50.91	339	P	P	08	46	30.2 -0.6
	baz=153							
U39A	Green Forest	50.97	337	P	P	08	46	30.8 -0.5
	baz=151							
SSPA	Standing Stone	51.03	353	eP	P	08	46	32.0 +0.4
	7.7nm,1.0s							
W36A	Wetumka	51.05	333	P	P	08	46	31.1 -0.8
	baz=148							
HHAR	Hobbs	51.06	336	eP	P	08	46	31.7 -0.3
	6.1nm,1.0s							
N59A	State Game Lan	51.10	355	P	P	08	46	31.9 -0.2
	baz=174							
R44A	Waltonville	51.11	342	P	P	08	46	31.2 -1.0
	baz=157,SNR=5.1							
V37A	Hulbert	51.21	335	P	P	08	46	32.8 -0.2
	baz=149							
Y33A	Hilltop Ranch,	51.23	330	P	P	08	46	33.2 0.0
	baz=144							
BLO	Bloomington	51.24	345	eP	P	08	46	33.1 0.0
	37nm,1.6s							
T40A	Mansfield	51.28	338	P	P	08	46	32.7 -0.8
	baz=152,SNR=5.2							
X34A	Smith Ranch, M	51.33	332	P	P	08	46	34.2 +0.2
	baz=145,SNR=5.2							
W35A	Tecumseh	51.35	333	P	P	08	46	34.4 +0.3
	baz=147							
U38A	Gravette	51.38	336	P	P	08	46	34.4 +0.1
	baz=150							
V36A	Jenks	51.47	334	P	P	08	46	34.9 0.0
	baz=148							
T39A	Clever	51.49	337	P	P	08	46	34.7 -0.3
	baz=152							
TUL1	Leonard	51.51	334	P	P	08	46	34.9 -0.2
	baz=148							
X33A	Lawton	51.60	331	P	P	08	46	35.8 -0.1
	baz=145							
N54A	Moraine State	51.62	351	P	P	08	46	36.4 +0.4
	baz=169							
S40A	Lebanon	51.67	338	P	P	08	46	36.0 -0.3
	baz=153							
HOPE	Hope Point	51.79	155	eP	P	08	46	37.6 +0.7
	639nm,1.9s							
V35A	Meyer Ranch, C	51.84	333	P	P	08	46	37.4 -0.2
	baz=147							
T38A	Diamond	51.86	336	P	P	08	46	37.6 -0.1
	baz=150							
WMOK	Wichita Mounta	51.89	331	P	P	08	46	38.0 0.0
	baz=144							
WMOK	Wichita Mounta	51.89	331	eP	P	08	46	38.7 +0.7
	4.9nm,1.3s							
U36A	Oologah	51.90	335	P	P	08	46	38.1 +0.1
	baz=149							
S39A	Bolivar	52.06	338	P	P	08	46	38.4 -0.7
	baz=152,SNR=7.2							
W33A	Caddo, Fort Co	52.08	331	P	P	08	46	39.6 +0.3
	baz=145							
Q42A	Golden Eagle	52.17	341	P	P	08	46	40.3 +0.4
	baz=155							
T37A	Chenevville 18	52.18	336	P	P	08	46	39.3 -0.7
	baz=150							
V34A	Guthrie	52.20	333	P	P	08	46	39.1 -1.1
	baz=146							
V34A	Guthrie	52.20	333	eP	P	08	46	40.4 +0.2
	10nm,0.4s							
R40A	Maddies Statio	52.20	339	P	P	08	46	39.2 -1.0
	baz=153							
S38A	Stockton	52.23	337	P	P	08	46	39.5 -0.8
	baz=151							
U35A	Pawnee	52.30	334	P	P	08	46	39.7 -1.2
	baz=147							
BINY	Binghamton	52.39	355	eP	P	08	46	42.2 +0.8
	7.6nm,0.6s							
W32A	Sentinel	52.43	331	P	P	08	46	41.4 -0.4
	baz=144,SNR=6.0							
R39A	Chumby, Stover	52.50	338	P	P	08	46	41.7 -0.5
	baz=152,SNR=5.2							
SFIN	Lafayette	52.52	345	P	P	08	46	40.7 -1.6
	baz=160							
T36A	Boggs Farm, Ca	52.52	335	P	P	08	46	42.2 -0.2
	baz=149							
T35A	Sooner Cattle	52.67	334	P	P	08	46	43.0 -0.5
	baz=148							
S37A	Fort Scott	52.70	336	P	P	08	46	42.9 -0.7
	baz=150,SNR=5.4							
R38A	Fenwick Farm,	52.71	337	P	P	08	46	43.2 -0.5
	baz=151							
U34A	Anderson Ranch	52.71	333	P	P	08	46	43.7 -0.1
	baz=147							
V32A	Arapaho	52.81	331	P	P	08	46	44.5 -0.1
	baz=145							
S36A	Lake Cedric, C	52.97	336	P	P	08	46	44.6 -1.1
	baz=149							
P41A	Barry, Barry	53.04	341	P	P	08	46	45.1 -0.9
	baz=155							
T34A	McClaskey Farm	53.05	334	P	P	08	46	46.2 0.0
	baz=147							
MMNY	Mt. Morris Dam	53.10	354	eP	P	08	46	46.9 +0.5
MNTX	Cornudas Mount	53.11	323	P	P	08	46	46.2 -0.6
	baz=136							
MNTX	Cornudas Mount	53.11	323	eP	P	08	46	46.8 +0.1
	12nm,1.8s							
P40A	Paris	53.24	340	P	P	08	46	46.5 -1.0
	baz=154,SNR=6.2							
S35A	Otter Creek Ra	53.24	335	P	P	08	46	47.1 -0.5
	baz=148							
Q38A	Cooks Store, C	53.29	338	P	P	08	46	46.9 -0.9
	baz=152							
O41A	Passleys Farm,	53.38	341	P	P	08	46	47.8 -0.7
	baz=155							
P39B	Salisbury	53.44	339	P	P	08	46	47.5 -1.4
	baz=153							
R36A	Gordon, Harris	53.45	336	P	P	08	46	47.7 -1.4
	baz=150							
O40A	La Belle	53.71	340	P	P	08	46	49.6 -1.2
	baz=154							
P38A	Dawn	53.84	339	P	P	08	46	50.9 -0.9
	baz=152							
O39A	Kirksville	54.05	340	P	P	08	46	52.3 -1.0
	baz=154							
P37A	Lathrop	54.11	338	P	P	08	46	53.1 -0.5
	baz=151							
Q35A	Mercer Eighty,	54.13	336	P	P	08	46	53.6 -0.2
	baz=149							
R34A	Isabella, Hill	54.15	335	P	P	08	46	53.3 -0.7
	baz=148							
S32A	Newby Ranch, P	54.38	333	P	P	08	46	55.7 +0.1
	baz=146							
CBKS	Cedar Bluff	55.66	333	P	P	08	47	04.1 -0.5
	baz=145							
JFWS	Jewell Farm	55.75	343	eP	P	08	47	04.4 -0.7
	12nm,0.9s							
O33A	Hebron	55.79	336	P	P	08	47	04.8 -0.6
	baz=148							
P32A	Huiting Farm,	55.83	334	P	P	08	47	04.8 -0.9
	baz=147							
ANMO	Albuquerque	56.07	325	P	P	08	47	08.2 +0.5
	baz=137							
O32A	Brockman Farm,	56.23	335	P	P	08	47	08.0 -0.5
	baz=147							
T25A	Trinidad	56.59	328	P	P	08	47	12.2 +0.9
	baz=140							
T25A	Trinidad	56.59	328	eP	P	08	47	12.8 +1.5
	3.7nm,0.9s							
TUC	Tucson	56.85	320	P	P	08	47	13.2 +0.3
	baz=131							
TUC	Tucson	56.85	320	eP	P	08	47	13.6 +0.6
	1.6nm,0.8s							
I38A	Scanlan Farm,	57.39	342	P	P	08	47	15.9 -0.5
	baz=155							
K34A	Le Mars	57.45	338	P	P	08	47	15.9 -0.9
	baz=150							
SDCO	Great Sand Dun	57.62	328	P	P	08	47	18.8 +0.5
	baz=139,SNR=8.2							
SDCO	Great Sand Dun	57.62	328	eP	P	08	47	19.2 +0.9
	3.1nm,0.7s							
SDCO				epP	pP	08	49	04.5 +0.4
I37A	Lemond, Waseca	57.70	341	P	P	08	47	18.8 +0.4
	baz=154							
214A	Organ Pipe Nat	57.93	318	P	P	08	47	21.5 +1.2
	baz=129							
H37A	Dierke Farm, C	58.06	342	P	P	08	47	20.2 -0.6
	baz=154							
L31A	Butterfield Fa	58.07	336	P	P	08	47	21.2 +0.2
	baz=147							
S22A	4UR Ranch, Cre	58.32	327	P	P	08	47	23.9 +0.8
	baz=138							
SPMN	Marine on St.	58.61	342	P	P	08	47	23.8 -0.8
	baz=155							
X16A	Lo Mia Camp, P	58.65	321	eP	P	08	47	26.6 +1.3
X16A				epP	pP	08	49	14.1 +2.6
H35A	Sunnyside Ranc	58.78	340	P	P	08	47	25.1 -0.6
	baz=152							
MVCO	Mesa Verde	58.85	325	P	P	08	47	26.7 +0.1
	baz=136							
H34A	Spellman Lake,	59.07	340	P	P	08	47	27.0 -0.6
	baz=151							
113A	Mohawk Valley,	59.07	318	eP	P	08	47	28.7 +0.8
	2.2nm,0.7s							
I32A	Karley and Nic	59.11	338	P	P	08	47	27.7 -0.3
	baz=149							
ISCO	Idaho Springs	59.23	329	P	P	08	47	29.4 +0.2
	baz=140							
J30A	Dallas	59.29	336	P	P	08	47	28.8 -0.4
	baz=147							
WUAZ	Wupatki	59.35	322	P	P	08	47	30.6 +0.7
	baz=132							
F36A	Milaca	59.40	342	P	P	08	47	29.1 -0.7
	baz=154							
H33A	Prehn Over Nor	59.42	339	P	P	08	47	29.9 -0.1
	baz=150							
SMCO	Snowmass	59.45	328	eP	P	08	47	32.3 +1.5
	1.7nm,0.7s							
H32A	Carlson Farm,	59.51	338	P	P	08	47	30.4 -0.2
	baz=150							
I31A	Royce, Wessing	59.52	337	P	P	08	47	30.8 +0.2
	baz=148							
PV01	Paradox Valley	59.55	326	eP	P	08	47	32.4 +1.1
E36A	McGregor	59.91	342	P	P	08	47	32.5 -0.7
	baz=154							
C39A	Grand Marais	60.25	345	P	P	08	47	33.8 -1.6
	baz=158							
D37A	Cotton	60.25	343	P	P	08	47	34.4 -1.1
	baz=156							
D36A	Goodland	60.48	343	P	P	08	47	36.2 -0.8
	baz=155							
E34A	Wadena	60.50	341	P	P	08	47	36.4 -0.7
	baz=152							
U15A	North Rim	60.51	322	eP	P	08	47	39.2 +1.5
	2.0nm,0.9s							
G30A	Faulkton	60.68	338	P	P	08	47	37.9 -0.5
	baz=148							
C37A	Embarrass	60.70	344	P	P	08	47	37.7 -0.7
	baz=156							
EYMN	Ely	60.72	344	P	P	08	47	37.9 -0.6
	baz=157							
EYMN	Ely	60.72	344	eP	P	08	47	38.0 -0.6
	4.1nm,1.0s							
BC3	Big Chuckawall	60.73	318	P	P	08	47	39.1 +0.1
	baz=129							
O20A	White River Ci	60.82	328	P	P	08	47	40.0 +0.4
	baz=137							
IRM	Iron Mountain	60.84	319	P	P	08	47	40.2 +0.6
	baz=128							
C36A	Pine Crest Far	60.91	343	P	P	08	47	39.4 -0.5
	baz=155							
F31A	Hecla	60.97	339	P	P	08	47	40.0 -0.3
	baz=149							
KNB	Kanab	61.22	323	eP	P	08	47	44.1 +1.9
	4.9nm,0.8s							
SRU	San Rafael Swe	61.32	326	eP	P	08	47	43.7 +0.8
	3.0nm,0.9s							
E31A	Nome	61.45	339	P	P	08	47	43.4 +0.1
	baz=150							
LCMT	Little Creek M	61.47	322	eP	P	08	47	45.4 +1.5
	9.8nm,1.8s							
MTPU	Mount Pierson	61.53	324	eP	P	08	47	45.4 +0.9
	8.1nm,1.7s							
P18A	Preston Nutter	61.53	326	eP	P	08	47	45.7 +1.3
	4.9nm,1.3s							
F29A	Eureka	61.53	337	P	P	08	47	43.5 -0.5
	baz=147							
GMRC	Granite Mounta	61.56	319	P	P	08	47	44.9 +0.5
	baz=128							
B35A	Bob, Littlefor	61.71	343	P	P	08	47	44.5 -0.6
	baz=154							
E30A	Juzi	61.76	339	P	P	08	47	44.9 -0.5
	baz=148							
TMUT	Trail Mountain	61.83	325	eP	P	08	47	46.7 +0.3
	12nm,1.9s							
MSU	Marysvale	61.84	324	eP	P	08	47	46.5 +0.1
CCUT	Cedar City	61.89	323	eP	P	08	47	47.5 +0.8
	2.2nm,0.9s							
HEC	Hector,Ludlow	62.02	319	P	P	08	47	48.4 +0.9
	baz=128							
B34A	Aery, Baudette	62.09	342	P	P	08	47	47.1 -0.5
	baz=144							
D30A	Buchanan	62.22	339	P	P	08	47	48.1 -0.3
	baz=149							
AGMN	Agassiz Nation	62.30	342	P	P	08	47	48.7 -0.1
	baz=152							
AGMN	Agassiz Nation	62.30	342	eP	P	08	47	49.3 +0.4
	13nm,1.8s							
SHPR	Sheep Range	62.31	321	eP	P	08	47	50.8 +1.4
	1.6nm,0.7s							
C31A	Landman Farms,	62.46	340	P	P	08	47	49.6 -0.3
	baz=150							
GSC	Goldstone, Bar	62.62	319	P	P	08	47	52.1 +0.8
	baz=128							
GSC	Goldstone, Bar	62.62	319	eP	P	08	47	52.7 +1.4
	2.3nm,0.8s							
C30A	Mose, Pekin	62.63	339	P	P	08	47	51.0 -0.1
	baz=149							
F26A	Lodgepole	62.66	336	P	P	08	47	51.1 -0.2
	baz=144							
A33A	Warroad	62.72	342	P	P	08	47	51.6 0.0
	baz=153							
JLU	Jordanelle	62.87	326	eP	P	08	47	54.2 +1.2
	4.4nm,1.1s							
D28A	Regan	62.95	338	P	P	08	47	53.4 +0.3
	baz=147							
E26A	Carlson Angus	63.08	336	P	P	08	47	54.2 +0.2
	baz=145							
EDW2	Edwards Air Fo	63.15	318	P	P	08	47	55.3 +0.6
	baz=126							
MDND	Maddock	63.15	339	P	P	08	47	55.2 +0.8
	baz=148							
TPNV	Topopah Spring	63.27	320	P	P	08	47	57.0 +1.4
	baz=129							
TPNV	Topopah Spring	63.27	320	eP	P	08	47	57.4 +1.8
	2.6nm,0.8s							
LRMC	Laurel Mtn Rad	63.30	318	P	P	08	47	56.6 +0.9
	baz=127							
DUG	Dugway, Tooele	63.34	325	P	P	08	47	55.4 +1.5
	baz=133							
DUG	Dugway, Tooele	63.34	325	eP	P	08	47	57.4 +1.5
	6.3nm,1.0s							
FURC	Furnace Creek,	63.36	320	P	P	08	47	57.4 +1.5
	baz=128							
PDAR	Pinedale Array	63.42	329	P	P	08	47	55.6 -0.9
	0.4nm,0.5s,baz=123,slow=5.5,SNR=4.4							
MPMC	Manual Prospec	63.52	319	P	P	08	47	57.9 +0.7
	baz=127							
HWUT	Hardware Ranch	63.63	327	eP	P	08	47	58.1 +0.3
	3.0nm,0.8s							
A29A	Manning Farm,	63.94	340	P	P	08	47	59.0 -0.4
	baz=149							
BGU	Big Grassy Mou	63.96	326	eP	P	08	48	01.4 +1.5
	6.1nm,1.3s							
VES	Vestal, Richgr	64.43	318	P	P	08	48	03.9 +1.2
	baz=126							
PAHR	Pah Rah Range	66.91	321	eP	P	08	48	20.7 +2.3
	2.8nm,0.8s							
MFID	Camas Ranch	67.17	326	eP	P	08	48	21.5 +1.7
	4.5nm,0.8s							
EGMT	Eagleton	67.39	333	eP	P	08	48	21.6 +0.5
	4.9nm,0.6s							
DBIC	Dimbokro	68.02	79	P	P	08	48	25.6 +0.1
	3.5nm,0.4s,baz=257,slow=8.0,SNR=9.7							
DBIC	Dimbokro	68.02	79	eP	P	08	48	25.8 +0.3
	11nm,1.0s							
WDC	Whiskeytown Da	69.38	320	eP	P	08	48	32.5 -0.6
	20nm,1.8s							
YBH	Yreka Blue Hor	70.14	321	eP	P	08	48	37.7 -0.1
	47nm,1.9s							
J05D	Fort Rock, OR	70.16	323	P	P	08	48	38.2 +0.2
	baz=127							
HUMO	Hull Mountain	70.79	322	eP	P	08	48	42.0 +0.4
	35nm,1.9s							
I05D	Terrebonne, OR	70.85	324	P	P	08	48	43.0 +1.1
	baz=127							
SNAA	Sanae	73.54	162	eP	P	08	48	57.0 0.0
	10nm,0.9s							
SNAA				epP	pP	08	50	52.7 +2.8
B05A	Bryant	73.63	327	P	P	08	48	58.5 +0.7
	baz=127							
TOA0	Torodi Ar. Sit	75.85	74	eP	P	08	49	10.8 -0.2
TORD	Torodi Ar. Bea	75.85	74	P	P	08	49	10.9 0.0
	4.0nm,0.4s,baz=236,slow=4.2,SNR=76							
TORD				pP	pP	08	51	05.5 +0.6
	10nm,0.8s,baz=261,slow=5.4,SNR=43							
ESDC	Sonseca Array	79.44	46	P	P	08	49	30.6 +0.7
	0.3nm,0.4s,baz=275,slow=5.6,SNR=2.5							
QSPA	South Pole Qui	79.87	180	eP	P	08	49	32.0 +0.2
YKA	Yellowknife Ar	79.95	341	P	P	08	49	32.1 +0.2
	2.5nm,0.7s,baz=135,slow=5.5,SNR=56							
YKA				pP	pP	08	51	26.4 -1.1
	1.0nm,0.8s,baz=136,slow=6.2,SNR=9.6							
SUMG	Summit	85.34	9	eP	P	08	49	59.5 0.0
	8.0nm,1.2s							
VNDA	Vanda	87.51	190	P	P	08	50	09.8 +0.6
	2.3nm,0.9s,baz=143,slow=3.2,SNR=12							
VNDA	Vanda	87.51	190	eP	P	08	50	10.4 +1.2
	3.7nm,1.0s							
INK	Inuvik	89.72	341	eP	P	08	50	20.1 +0.6
	5.7nm,1.0s							
KLU	Klutina	91.83	332	eP	P	08	50	30.2 +0.6
	8.4nm,1.2s							
ILAR	Eielson Array	93.24	335	P	P	08	50	35.8 -0.1
	0.2nm,0.5s,baz=76,slow=3.8,SNR=3.6							
ILAR				pP	pP	08	52	34.1 -0.9
	0.4nm,0.9s,baz=109,slow=3.9,SNR=4.3							
STKA	Stephens Creek	127.75	215	PKP	PKPdf	08	56	23.7 -0.4
	3.4nm,0.7s,baz=109,slow=3.7,SNR=11							
STKA	Stephens Creek	127.75	215	ePKPdf	PKPdf	08	56	24.5 +0.4
ZAA0	Zalesovo Array	132.34	19	ePKPdf	PKPdf	08	56	32.4 +0.3
ZAA0				ePKPdf	PKiKP	08	56	32.8 -0.5
ZALV	Zalesovo Beam	132.34	19	PKP	PKPdf	08	56	32.1 0.0
	2.6nm,0.6s,baz=287,slow=3.0,SNR=11							
ZALV				pPKP	pPKPdf	08	58	37.7 -1.1
	1.8nm,0.8s,baz=264,slow=1.3,SNR=3.2							
ZALV				SKPab	SKPbc	08	59	09.0 +0.4
	1.6nm,0.7s,baz=306,slow=5.0,SNR=6.2							
KURBB	Kurchatov Arra	132.60	26	SKPab	SKPbc	08	59	09.6 -0.1
	2.5nm,1.0s,baz=313,slow=4.4,SNR=6.3							
EKS2	Erkin-Say	135.47	37	ePKPdf	PKPdf	08	56	40.3 +1.8
MK31	Makanchi Array	137.12	27	ePKPdf	PKPdf	08	56	41.4 +0.1
MKAR	Makanchi Array	137.12	27	PKP	PKPdf	08	56	41.7 +0.4
	1.2nm,0.7s,baz=351,slow=2.3,SNR=10							
MKAR				SKP		08	59	22.9
	1.2nm,0.9s,baz=328,slow=4.3,SNR=5.6							
MK01	Makanchi Array	137.15	27	ePKPdf	PKPdf	08	56	41.2 -0.1
AS01	Alice Springs	138.36	216	ePKPdf	PKPdf	08	56	43.7 -0.6
ASAR	Alice Springs	138.38	216	PKhKP	PKPpre	08	56	34.5
	0.8nm,0.7s,baz=142,slow=2.9,SNR=11							
ASAR				PKP	PKPdf	08	56	44.0 -0.4
	1.9nm,0.6s,baz=133,slow=2.0,SNR=16							
ASAR				pPKP	pPKPdf	08	58	49.4 -1.7
	0.6nm,0.8s,baz=141,slow=1.9,SNR=3.6							
ASAR				SKP		08	59	25.6
	0.4nm,0.7s,baz=141,slow=4.5,SNR=4.5							
KSH	Kashi	138.66	40	PKPbc	PKPdf	08	56	43.8 -0.7
KSH				sPKP		08	59	42.3
KSH				PP	PP	08	59	45.8 +3.4
KSH				SKS	SKSdf	09	03	02.3 -1.8
KSH				SKKS	SKKSac	09	05	43.1 +0.9
KSH				AMB	AMB			
	comp=Z,92nm,4.9s							
KSH				LR	LR			
	comp=N,130nm,6.0s							
KSH				LR	LR			
	comp=E,160nm,8.3s							
KSH				LR	LR			
	comp=Z,180nm,5.8s							
MANU	Manus Island	139.86	254	ePKPdf	PKPdf	08	56	46.3 -0.9
WRA	Warramunga Arr	140.95	220	PKhKP	PKPpre	08	56	42.4
	comp=Z,1.9nm,0.5s,baz=144,slow=3.1,SNR=39							
WRA				PKP	PKPdf	08	56	48.9 -0.1
	comp=Z,2.6nm,0.4s,baz=140,slow=1.6,SNR=33							
WRA				pPKP	pPKPdf	08	58	53.3 -2.5
	comp=Z,1.0nm,0.8s,baz=136,slow=1.9,SNR=4.3							
SONA1	Songino Array	142.47	3	ePKPdf	PKPdf	08	56	49.0 -2.1
ULN	Ulaanbaatar	142.48	2	ePKPdf	PKPdf	08	56	49.5 -1.7
SONM	Songino Array	142.48	3	PKP	PKPdf	08	56	49.0 -2.1
	comp=Z,0.8nm,0.5s,baz=355,slow=3.4,SNR=6.0							
MAT	Matsushiro	142.78	319	PKP	PKPdf	08	56	49.3 -2.5
MJAR	Matsushiro Arr	142.78	319	PKP	PKPdf	08	56	49.3 -2.5
	comp=Z,3.3nm,0.7s,baz=79,slow=1.5,SNR=12							
INU	Inuyama	144.28	319	ePKPbc	PKPbc	08	56	54.0 -0.2
FITZ	Fitzroy Cr

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.97**	**202**	Pn	Pn	08 45 00.8	+1.9
	4.4nm,0.3s,baz=356,slow=2.3,SNR=8.6						
PMG				Sn	Sb	08 45 38.3	-3.0
	2.3nm,0.3s,baz=68,slow=19,SNR=2.5						
WRA	**Warramunga Arr**	**18.94**	**224**	P	P	08 48 33.4	+0.1
	0.1nm,0.3s,baz=52,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**21.87**	**218**	P	P	08 49 04.3	-0.8
	0.5nm,0.4s,baz=51,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**24.86**	**241**	P	P	08 49 33.7	-1.3
	2.9nm,0.7s,baz=90,slow=1.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**146.50**	**284**	PKPbc	PKPbc	09 03 55.0	+0.1
	0.2nm,0.4s,baz=58,slow=4.0,SNR=6.2						

*ISCJB **14** 08:51:07.7±0.6, 37°.28N±0°.04×28°.18E±0°.04, h0km, Error ellipse: s-maj=5.7km s-min=4.4km az=15.2*
*DDA **14** 08:51:07.5, 37°.25N×28°.21E, h7km, Md2.8, Suspected Mining explosion.*
*ISK **14** 08:51:07.8, 37°.29N×28°.17E, h9km, MD2.6*
*CSEM **14** 08:51:08.0±0.2, 37°.30N×28°.17E, h1km, MD2.6, Error ellipse: s-maj=4.9km s-min=3.9km az=14.0, Suspected Mining explosion.*

ISC 14 08:51:07.4±0.9, 37°.25N±0°.04×28°.16E±0°.03, h0km, n17, σ1s31/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.52**	**137**	*i* P	**Pg**	**08 51 16.6**	**-0.7**
TURN				*i* S	**Sg**	**08 51 24.4**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.59**	**137**	*e*PG	**Pb**	**08 51 19.8**	**-0.7**
DALY				*e*SG	**Sb**	**08 51 29.0**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.59**	**137**	*e*Pg	**Pb**	**08 51 19.8**	**-0.7**
DALY				*e*Sg	**Sb**	**08 51 29.0**	**-0.3**
BDRM	**Kayabasi**	**0.60**	**252**	P	**Pb**	**08 51 19.8**	**-0.9**
BDRM				S	**Sb**	**08 51 29.5**	**-0.3**
BDRM	**Kayabasi**	**0.60**	**252**	*i* P	**Pb**	**08 51 19.8**	**-0.9**
BDRM				*i* S	**Sb**	**08 51 29.5**	**-0.3**
BODT	**Bodrum**	**0.70**	**255**	*e*PG	**Pb**	**08 51 22.1**	**-0.4**
BODT	**Bodrum**	**0.70**	**255**	*e*Pg	**Pb**	**08 51 22.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.73**	**343**	*e*PG	**Pg**	**08 51 21.6**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.73**	**343**	*e*Pg	**Pg**	**08 51 21.6**	**+0.3**
DNZL	**Cakiroluk**	**0.83**	**58**	P	**Pg**	**08 51 23.1**	**-0.2**
DNZL				S	**Sb**	**08 51 35.7**	**-0.9**
DNZL	**Cakiroluk**	**0.83**	**58**	*i* P	**Pg**	**08 51 23.1**	**-0.2**
DNZL				*i* S	**Sb**	**08 51 35.7**	**-0.9**
FETY	**Fethiye**	**0.96**	**129**	*e*PG	**Pn**	**08 51 27.2**	**-1.0**
FETY	**Fethiye**	**0.96**	**129**	*e*Pg	**Pn**	**08 51 27.2**	**-1.0**
IZM	**Izmir**	**1.35**	**328**	*e*PN	**Pg**	**08 51 33.0**	**-0.2**
IZM	**Izmir**	**1.35**	**328**	*e*Pn	**Pg**	**08 51 33.0**	**-0.2**
AKAS	**Kas**	**1.54**	**131**	P	**Pg**	**08 51 36.6**	**-0.3**
AKAS	**Kas**	**1.54**	**131**	*i* P	**Pg**	**08 51 36.6**	**-0.3**
AKAS				*i* S	**Sn**	**08 52 02.5**	**+5.5**

IDC 14 08:59:51.9±49.0, 18°.89S×177°.49W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/22, mbtmp3.9/3, Error ellipse: s-maj=898.6km s-min=145.7km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.94**	**242**	P	P	09 07 19.9	0.0
	1.6nm,0.5s,baz=78,slow=11,SNR=12						
WRA	**Warramunga Arr**	**45.32**	**260**	P	P	09 08 11.3	-0.8
	0.3nm,0.3s,baz=97,slow=7.5,SNR=18						
ASAR	**Alice Springs**	**45.38**	**255**	P	P	09 08 12.9	+0.4
	1.1nm,0.6s,baz=93,slow=8.2,SNR=23						

TRN 14 09:15:48.0, 18°.78N×61°.68W, h25km, MD4.0, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.11**	**185**	*e*P	Pb	09 16 10.1	+1.5
ANWB				*e*S	Sb	09 16 25.4	+2.9
SMRT	**St. Maarten**	**1.51**	**242**	*e*P	Pb	09 16 16.1	+0.7
SMRT				*e*S	Sb	09 16 35.0	+0.8
BPA	**Boggy Peak**	**1.73**	**186**	*e*P	Pb	09 16 18.9	-0.2
BPA				*e*S	Sb	09 16 39.8	-0.8
SEUS	**St. Eustatius**	**1.78**	**224**	*e*P	Pb	09 16 18.7	-1.3
SEUS				*e*S	Sb	09 16 42.1	+0.2
SABA	**Saba**	**1.88**	**233**	*e*P	Pn	09 16 20.0	+1.4
SABA				*e*S	Sn	09 16 43.0	+1.4
MLYT	**Lee's Yard**	**2.11**	**194**	*e*P	Pn	09 16 23.2	+1.6
MLYT				*e*S	Sb	09 16 50.1	-1.2
SEG	**Port Louis**	**2.37**	**176**	*e*P	Pn	09 16 27.6	+2.3
DEG	**La Desirade**	**2.52**	**166**	*e*P	Pn	09 16 28.6	+1.1
LZG	**Guadaloupe-1**	**2.63**	**182**	⇑*i*P	Pn	09 16 30.8	+1.9

KLM 14 09:21:29.7, 5°.28N×117°.31E, h8km, mb3.6, ML3.1, MS4.6, 3C-3D, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDKM	**Sandakan**	**0.37**	**343**	⇓P	Pg	09 21 37.0	0.0
TSM	**Tawau**	**1.14**	**150**	⇓P	Pg	09 21 51.5	0.0
MYLDM	**Lahad Datu**	**1.19**	**95**	⇑P	Pb	09 21 51.9	-0.7
KKM	**Kota Kinabalu**	**1.32**	**305**	⇑P	Pn	09 21 53.9	-0.7
KDM	**Kudat**	**1.69**	**344**	⇑P	Pn	09 21 59.9	+0.4
SBUM	**Sibu**	**5.80**	**241**	⇓P	Pn	09 22 58.3	+2.1

*ISCJB **14** 09:23:57.9±0.7, 37°.01N±0°.03×140°.89E±0°.06, h12km±3km, mb3.6/3, Error ellipse: s-maj=8.0km s-min=4.3km az=7.3*
*IDC **14** 09:23:57.5±1.4, 37°.06N×140°.77E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/43, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=21.2km s-min=17.8km az=168.0*
*JMA **14** 09:23:59.0, 37°.02N×140°.77E, h8km±1km, M3.1*
JMA Felt I J1.

ISC 14 09:23:58.8±0.9, 37°.04N±0°.03×140°.80E±0°.05, h10km±6km, n21, σ0s70/25, mb3.6/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.07**	**359**	P	**Pg**	**09 24 01.3**	**+0.2**
ONAJ				S	**Sg**	**09 24 02.5**	**-0.2**
JFK	**Kawauchi**	**0.34**	**10**	P	**Pg**	**09 24 06.0**	**+0.5**
JFK				S	**Sb**	**09 24 11.4**	**-1.0**
JHO	**Hitachi**	**0.46**	**204**	P	**Pg**	**09 24 07.4**	**-0.5**
JHO				S	**Sg**	**09 24 13.6**	**-0.4**
JFT	**Otama**	**0.61**	**323**	P	**Pb**	**09 24 11.1**	**-0.4**
JFT				S	**Sb**	**09 24 19.7**	**-0.4**
JSB	**Shiboa**	**0.71**	**265**	P	**Pb**	**09 24 13.0**	**-0.2**
JSB				S	**Sb**	**09 24 22.8**	**-0.2**
JMM	**Marumori**	**0.83**	**360**	P	**Pb**	**09 24 15.0**	**-0.3**
JMM				S	**Sb**	**09 24 26.4**	**-0.1**
JYT	**Yasato**	**0.94**	**211**	P	**Pg**	**09 24 16.2**	**-0.8**
JYT				S	**Sb**	**09 24 30.5**	**+0.7**
JFY	**Yanaizu**	**0.95**	**293**	P	**Pg**	**09 24 16.9**	**-0.2**
JFY				S	**Sg**	**09 24 29.2**	**-0.2**
MJAR	**Matsushiro Arr**	**2.14**	**257**	Pg	**Pn**	**09 24 35.8**	**+1.2**
	4.9nm,0.3s,baz=75,slow=16,SNR=32						
MJAR				Lg	Lg	09 25 04.3	
	9.6nm,0.3s,baz=86,slow=27,SNR=22						
MAT	**Matsushiro**	**2.14**	**257**	P	**Pn**	**09 24 36.1**	**+1.5**
MAT				S	**Sb**	**09 25 04.0**	**-0.2**
JHJ	**Hachijo jima 2**	**4.00**	**192**	Pn	**Pn**	**09 25 01.0**	**+0.9**
	3.3nm,0.3s,baz=113,slow=13,SNR=2.4						
JHJ				Sn	**Sn**	**09 25 47.2**	**+0.2**
	2.8nm,0.3s,baz=246,slow=19,SNR=3.2						
ASAJ	**Asahikawa**	**7.20**	**10**	Pn	**Pn**	**09 25 44.4**	**+0.2**
	0.3nm,0.3s,baz=240,slow=16,SNR=3.8						
H11N2	**WAKE ISLAND Hy 28.57**	**120**		T	T	09 59 38.7	
	baz=313,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy 28.58**	**120**		T	T	09 59 39.3	
	baz=313,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy 28.59**	**120**		T	T	09 59 40.0	
	baz=313,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy 29.28**	**122**		T	T	10 00 30.5	
	baz=314,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy 29.28**	**122**		T	T	10 00 31.1	
	baz=314,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy 29.29**	**122**		T	T	10 00 38.5	
	baz=314,slow=75,SNR=11						
KURBB	**Kurchatov Arra**	**45.61**	**308**	P	**P**	**09 32 18.4**	**-0.6**
	0.6nm,0.6s,baz=78,slow=7.5,SNR=3.5						
WRA	**Warramunga Arr**	**57.00**	**187**	P	**P**	**09 33 44.2**	**-0.5**
	0.3nm,0.5s,baz=2.8,slow=7.1,SNR=8.6						
ASAR	**Alice Springs**	**60.73**	**187**	P	**P**	**09 34 11.8**	**+1.2**
	0.4nm,0.9s,baz=10.0,slow=7.9,SNR=3.3						

NNC 14 09:26:41.9±1.1, 51°.91N×75°.53E, h0km, mb3.5, mpv3.1, 7C-6D, Error ellipse: s-maj=19.1km s-min=6.9km az=23.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.28**	**120**	⇓Pg	Pb	09 27 23.2	-0.7
	65nm,0.6s						
KURK				⇓Lg	Lg	09 27 54.8	
	99nm,0.7s						
KURBB	**Kurchatov Arra**	**2.29**	**123**	⇑Pg	Pb	09 27 24.2	+0.3
	9.8nm,0.5s,baz=308,slow=18						
KURBB				⇑Lg	Lg	09 27 54.5	
	33nm,0.5s,baz=310,slow=29						
VOSK	**Vostochnaya**	**2.91**	**288**	⇑Pg	Pg	09 27 36.9	-0.6
	3.9nm,0.6s						
VOSK				⇓Lg	Lg	09 28 13.3	
	21nm,0.7s						
BVA0	**Borovoye Array**	**3.33**	**292**	⇑Pg	Pb	09 27 42.7	+0.8
	2.3nm,0.6s,baz=106,slow=15,SNR=8.0						
BVA0				⇓Lg	Lg	09 28 29.6	
	9.9nm,0.6s,baz=106,slow=26,SNR=7.9						
ZRNK	**Zerenda**	**4.13**	**287**	⇑Pg	Pb	09 27 55.1	-0.2
	0.9nm,0.6s						
ZRNK				⇑Lg	Lg	09 28 51.5	
	8.9nm,0.7s						
OTUK	**Ortayu**	**4.20**	**210**	⇓Pg	Pb	09 27 55.9	-0.7
	2.4nm,0.7s						
OTUK				⇓Lg	Lg	09 28 52.0	
	14nm,0.6s						
MK31	**Makanchi Array**	**6.76**	**137**	⇑Lg	Lg	09 30 16.4	
	3.5nm,0.6s,baz=317,slow=26,SNR=6.3						

*ISK **14** 09:27:26.3, 41°.61N×34°.92E, h5km, MD2.7*
*ISCJB **14** 09:27:27.8±0.6, 41°.63N±0°.03×34°.91E±0°.05, h0km, Error ellipse: s-maj=5.6km s-min=4.2km az=22.3*
*CSEM **14** 09:27:27.7±0.3, 41°.62N×34°.88E, h2km, MD2.8, Error ellipse: s-maj=7.2km s-min=6.2km az=120.0, Suspected Mining explosion.*
*DDA **14** 09:27:29.3, 41°.48N×34°.82E, h7km, Md2.8, Suspected Mining explosion.*

ISC 14 09:27:27.7±0.8, 41°.64N±0°.03×34°.90E±0°.03, h0km, n22, σ1s00/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYBT	**Boyabat**	**0.20**	**211**	*e*PG	**Pg**	**09 27 30.6**	**-0.7**
BYBT				*e*SG	**Sg**	**09 27 34.2**	**+0.3**
BYBT	**Boyabat**	**0.20**	**211**	*e*Pg	**Pg**	**09 27 30.7**	**-0.7**
BYBT				*e*Sg	**Sg**	**09 27 34.2**	**+0.3**
BOYT	**Boyabat**	**0.22**	**180**	P	**Pg**	**09 27 31.4**	**-0.4**
BOYT	**Boyabat**	**0.22**	**180**	*i* P	**Pg**	**09 27 31.4**	**-0.4**
BOYT				*i* S	**Sg**	**09 27 38.2**	**+3.6**
SNOP	**Sinop**	**0.45**	**31**	*e*PG	**Pg**	**09 27 36.1**	**-0.1**
SNOP				*e*SG	**Sb**	**09 27 44.4**	**-1.2**
SNOP	**Sinop**	**0.45**	**31**	*e*Pg	**Pg**	**09 27 36.1**	**-0.1**
SNOP				*e*Sg	**Sb**	**09 27 44.4**	**-1.2**
BZK	**Bozkurt**	**0.74**	**296**	*e*PG	**Pg**	**09 27 41.7**	**-0.2**
BZK				*e*SG	**Sb**	**09 27 54.4**	**+0.2**
BZK	**Bozkurt**	**0.74**	**296**	*e*Pg	**Pg**	**09 27 41.7**	**-0.2**
BZK				*e*Sg	**Sb**	**09 27 54.4**	**+0.2**
HAVZ	**Havza**	**0.83**	**132**	P	**Pb**	**09 27 44.8**	**-0.2**
HAVZ	**Havza**	**0.83**	**132**	*i* P	**Pb**	**09 27 44.8**	**-0.2**
HAVZ				*i* S	**Sn**	**09 28 01.2**	**+1.6**
TOS	**Tosya**	**0.89**	**228**	*e*PG	**Pg**	**09 27 44.4**	**-0.4**
TOS	**Tosya**	**0.89**	**228**	*e*Pg	**Pg**	**09 27 44.4**	**-0.4**
ILGA	**Ilgaz**	**1.07**	**237**	P	**Pg**	**09 27 46.6**	**-1.5**
ILGA				S	**Sb**	**09 28 03.9**	**+0.2**
ILGA	**Ilgaz**	**1.07**	**237**	*i* P	**Pg**	**09 27 46.6**	**-1.5**
ILGA				*i* S	**Sb**	**09 28 03.9**	**+0.2**
COAL	**Corum-Alaca**	**1.38**	**177**	P	**Pg**	**09 27 52.9**	**-1.2**
COAL				S	**Sn**	**09 28 14.0**	**+0.6**
COAL	**Corum-Alaca**	**1.38**	**177**	*i* P	**Pg**	**09 27 52.9**	**-1.2**
COAL				*i* S	**Sn**	**09 28 14.0**	**+0.6**
CORM	**Corum**	**1.47**	**188**	*e*PN	**Pn**	**09 27 54.8**	**-0.8**
CORM	**Corum**	**1.47**	**188**	*e*Pn	**Pn**	**09 27 54.8**	**-0.8**
ELDT	**Eldivan**	**1.60**	**225**	P	**Pn**	**09 27 57.2**	**-0.1**
ELDT				S	**Sg**	**09 28 20.1**	**+1.1**
ELDT	**Eldivan**	**1.60**	**225**	*i* P	**Pn**	**09 27 57.2**	**-0.1**
ELDT				*i* S	**Sg**	**09 28 20.1**	**+1.1**
YOZ	**Yozgat**	**2.02**	**171**	*e*PN	**Pn**	**09 28 02.6**	**-0.5**
YOZ	**Yozgat**	**2.02**	**171**	*e*Pn	**Pn**	**09 28 02.6**	**-0.5**

*NEIC **14** 09:41:55.2, 43°.61S×172°.76E, h10km, ML4.0(WEL), After WEL.*
NEIC Felt at Christchurch.

WEL 14 09:41:55.7±0.1, 43°.61S×172°.76E, h9km, ML4.0/22, 2C-2D, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.13**	**219**	⇑PG	Pg	09 41 58.9	+0.3
MQZ				SG	Sg	09 42 01.1	+0.5
MQZ				AML	AML	09 42 01.2	
MQZ				AML	AML	09 42 01.2	
MQZ	**McQueen's Vall**	**0.13**	**219**	Pg	Pg	09 41 58.9	+0.3
MQZ				Sg	Sg	09 42 01.1	+0.5
OXZ	**Oxford**	**0.60**	**298**	⇓P*	Pg	09 42 07.2	-0.1
OXZ				S*	Sg	09 42 15.5	+0.4
OXZ	**Oxford**	**0.60**	**298**	P*	Pg	09 42 07.2	-0.1
LTZ	**Lake Taylor**	**0.90**	**336**	⇓P*	Pg	09 42 12.7	-0.3
LTZ				AML	AML	09 42 25.8	
LTZ				AML	AML	09 42 31.3	
LTZ	**Lake Taylor**	**0.90**	**336**	P*	Pg	09 42 12.7	-0.3
RPZ	**Rata Peaks**	**1.25**	**264**	P*	Pn	09 42 17.9	-1.4
RPZ				AML	AML	09 42 39.8	
RPZ				AML	AML	09 42 46.1	
RPZ	**Rata Peaks**	**1.25**	**264**	P*	Pn	09 42 17.9	-1.4
INZ	**Inchbonnie**	**1.31**	**312**	PN	Pn	09 42 18.8	-1.3
KHZ	**Kahutara**	**1.32**	**26**	⇑PN	Pn	09 42 18.6	-1.6
KHZ	**Kahutara**	**1.32**	**26**	Pn	Pn	09 42 18.6	-1.6
WVZ	**Waitaha Valley**	**1.57**	**289**	PN	Pn	09 42 23.3	-0.5
WVZ				AML	AML	09 42 47.7	
WVZ				AML	AML	09 42 48.3	
WVZ	**Waitaha Valley**	**1.57**	**289**	Pn	Pn	09 42 23.3	-0.5
THZ	**Tophouse**	**1.85**	**3**	PN	Pn	09 42 25.9	-1.7
THZ				AML	AML	09 43 06.8	
THZ				AML	AML	09 43 08.4	
DSZ	**Denniston Nort**	**1.99**	**339**	PN	Pn	09 42 29.7	-0.6
DSZ				AML	AML	09 42 56.7	
DSZ				AML	AML	09 42 56.8	
DSZ				AML	AML	09 42 57.1	
DSZ				AML	AML	09 43 06.2	
LBZ	**Lake Benmore**	**2.02**	**246**	PN	Pn	09 42 28.8	-1.1
LBZ				AML	AML	09 43 07.7	
LBZ				AML	AML	09 43 07.7	
LBZ				AML	AML	09 43 07.8	
LBZ				AML	AML	09 43 07.8	
BSWZ	**Blackbirch Sta**	**2.06**	**24**	AML	AML	09 42 39.3	
BSWZ				AML	AML	09 43 17.9	
ODZ	**Otahua Downs**	**2.09**	**226**	PN	Pn	09 42 29.1	-1.8
ODZ				AML	AML	09 43 05.2	
ODZ				AML	AML	09 43 05.2	
ODZ				AML	AML	09 43 08.5	
ODZ				AML	AML	09 43 08.5	
ODZ	**Otahua Downs**	**2.09**	**226**	*e*Pn	Pn	09 42 30.4	-0.6
ODZ				*e*Sg	Sg	09 43 02.0	-0.3
FOZ	**Fox Glacier**	**2.14**	**271**	PN	Pn	09 42 32.0	+0.3
FOZ				AML	AML	09 42 59.5	
FOZ				AML	AML	09 42 59.5	
FOZ				AML	AML	09 43 10.5	
FOZ				AML	AML	09 43 10.5	
TUWZ	**Tuamarina**	**2.34**	**22**	AML	AML	09 42 45.1	
TUWZ				AML	AML	09 43 31.9	
NNZ	**Nelson**	**2.43**	**11**	PN	Pn	09 42 34.5	-1.1
TCW	**Tory Channel**	**2.64**	**26**	PN	Pn	09 42 36.2	-2.3
TCW				AML	AML	09 43 09.2	
TCW	**Tory Channel**	**2.64**	**26**	Pn	Pn	09 42 36.4	-2.1
SNZO	**South Karori**	**2.71**	**33**	*e*Pn	Pn	09 42 39.6	+0.2
SNZO				*e*Sn	Sn	09 43 09.3	-2.9
QRZ	**Quartz Range**	**2.79**	**356**	AML	AML	09 42 50.0	
QRZ				AML	AML	09 42 50.0	
QRZ				AML	AML	09 43 27.7	
QRZ				AML	AML	09 43 30.2	
JCZ	**Jackson Bay**	**2.92**	**259**	PN	Pn	09 42 41.9	-0.5
JCZ				AML	AML	09 43 30.9	
JCZ				AML	AML	09 43 34.6	
WKZ	**Wanaka**	**2.96**	**244**	AML	AML	09 43 39.7	
WKZ				AML	AML	09 43 40.2	
EAZ	**Earnscleugh**	**2.96**	**236**	PN	Pn	09 42 41.4	-1.5
EAZ				AML	AML	09 43 33.4	
EAZ				AML	AML	09 43 33.5	
EAZ				AML	AML	09 43 34.7	
EAZ				AML	AML	09 43 34.7	
CAW	**Cannon Point**	**3.02**	**35**	AML	AML	09 43 20.4	
CAW				AML	AML	09 43 25.6	
MTW	**Mount Morrison**	**3.18**	**41**	AML	AML	09 43 21.9	
TUZ	**Tuapeka**	**3.24**	**222**	*e*PN	Pn	09 42 46.0	-0.7
TUZ				AML	AML	09 43 43.1	
TUZ				AML	AML	09 43 44.1	
TUZ				AML	AML	09 43 49.0	
TUZ				AML	AML	09 43 49.5	
OGWZ	**Otaki Gorge**	**3.31**	**33**	*e*PN	Pn	09 42 45.6	-2.1
MSZ	**Milford Sound**	**3.64**	**251**	AML	AML	09 43 56.5	
MSZ				AML	AML	09 43 57.8	
MLZ	**Mavora Lakes**	**3.76**	**241**	AML	AML	09 44 02.9	
SYZ	**Scrubby Hill**	**3.90**	**220**	AML	AML	09 44 05.5	
SYZ				AML	AML	09 45 28.2	
NEZ	**North Egmont**	**4.45**	**13**	Pn	Pn	09 43 03.0	-0.3
VRZ	**Vera Road**	**4.72**	**19**	*e*PN	Pn	09 43 05.7	-1.4
PKVZ	**Pokaka**	**4.73**	**25**	*e*PN	Pn	09 43 06.9	-0.4
BHHZ	**Black Hill Sta**	**4.80**	**32**	Pn	Pn	09 43 06.3	-2.0
HIZ	**Hauiti**	**5.33**	**18**	*e*PN	Pn	09 43 13.8	-1.6
MWZ	**Matawai**	**6.38**	**36**	Pn	Pn	09 43 26.3	-3.6
MKAZ	**Moumakai**	**6.75**	**17**	*e*PN	Pn	09 43 33.0	-1.9
MKAZ	**Moumakai**	**6.75**	**17**	Pn	Pn	09 43 33.1	-1.8

MEX 14 09:42:03.9±0.3, 14°.89N×92°.89W, h87km±22km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.56**	**27**	*e*P	Pn	09 42 29.2	-1.3
CCIG				*e*S	Sn	09 42 48.9	-1.6

*ISCJB **14** 09:50:06.4±1.0, 9°.6S±0°.2×109°.6W±0°.3, h10km, mb3.6/7, MS3.7/10, Error ellipse: s-maj=38.0km s-min=21.4km az=165.0*
*IDC **14** 09:50:06.4±1.2, 9°.70S×109°.54W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.9/26, mbtmp3.7/7, MS3.7/10, Ms1 3.7/10, ms1mx3.5/19, Error ellipse: s-maj=46.2km s-min=26.1km az=75.0*

ISC 14 09:50:08.0±1.2, 9°.7S±0°.2×109°.5W±0°.3, h10km, n19, σ1s00/7, mb3.7/7, MS3.7/10, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**39.20**	**8**	P	**P**	**09 57 35.8**	**-0.8**
	0.4nm,1.0s,baz=192,slow=9.5,SNR=2.8						
TXAR				LR	LR	10 10 33.0	
	comp=Z,52nm,19.1s,baz=0.0,slow=31						
PPT	**Papeete**	**39.64**	**254**	LR	LR	10 10 19.3	
	comp=Z,79nm,19.5s,baz=86,slow=31						
LPAZ	**La Paz**	**40.80**	**104**	P	**P**	**09 57 50.8**	**0.0**
	1.1nm,0.8s,baz=219,slow=3.6,SNR=6.0						
LPAZ				LR	LR	10 11 07.9	
	comp=Z,54nm,18.5s,baz=262,slow=31						
PLCA	**Paso Flores**	**46.28**	**139**	LR	LR	10 12 48.6	
	comp=Z,204nm,20.8s,baz=316,slow=29						
CPUP	**Villa Florida**	**51.97**	**116**	LR	LR	10 16 48.7	
	comp=Z,83nm,21.1s,baz=233,slow=31						
PDAR	**Pinedale Array**	**52.20**	**360**	P	**P**	**09 59 18.2**	**-1.1**
	0.6nm,0.6s,baz=167,slow=7.4,SNR=5.2						
PDAR				LR	LR	10 18 20.8	
	comp=Z,82nm,18.4s,baz=204,slow=32						
ULM	**Lac du Bonnet**	**60.86**	**10**	P	**P**	**10 00 21.9**	**+1.3**
	2.0nm,0.6s,baz=227,slow=12,SNR=2.9						
AFI	**Afiamalu**	**60.95**	**259**	LR	LR	10 18 34.9	
	comp=Z,51nm,21.8s,baz=120,slow=28						
YKA	**Yellowknife Ar**	**72.07**	**358**	P	**P**	**10 01 32.4**	**+0.4**
	0.5nm,0.6s,baz=166,slow=5.9,SNR=4.0						
SCHQ	**Schefferville**	**73.56**	**24**	LR	LR	10 32 35.9	
	comp=Z,40nm,20.5s,baz=98,slow=35						
ILAR	**Eielson Array**	**79.35**	**345**	P	**P**	**10 02 14.2**	**+0.5**
	0.2nm,0.9s,baz=161,slow=6.0,SNR=2.9						
ILAR				LR	LR	10 30 19.0	
	comp=Z,39nm,18.4s,baz=238,slow=30						
VNDA	**Vanda**	**80.31**	**193**	P	**P**	**10 02 18.6**	**-0.2**
	0.8nm,0.6s,baz=92,slow=13,SNR=4.5						
H11S2	**WAKE ISLAND Hy 87.20**	**289**		T	T	11 39 36.3	
	baz=101,slow=74,SNR=188						
H11S1	**WAKE ISLAND Hy 87.21**	**289**		T	T	11 39 40.6	
	baz=101,slow=74,SNR=115						
H11S3	**WAKE ISLAND Hy 87.22**	**289**		T	T	11 39 37.3	
	baz=101,slow=74,SNR=106						
H11N3	**WAKE ISLAND Hy 87.25**	**290**		T	T	11 39 40.1	
	baz=100,slow=75,SNR=38						
H11N2	**WAKE ISLAND Hy 87.26**	**290**		T	T	11 39 44.9	
	baz=100,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy 87.27**	**290**		T	T	11 39 45.3	
	baz=100,slow=75,SNR=26						
PETK	**Petropavlovsk-**	**99.33**	**322**	LR	LR	10 40 44.6	
	comp=Z,28nm,20.6s,baz=91,slow=31						

*CSEM **14** 09:52:25.9±0.2, 37°.27N×28°.19E, h1km, MD2.7, Error ellipse: s-maj=4.3km s-min=3.5km az=16.0, Suspected Mining explosion.*
*ISK **14** 09:52:25.4, 37°.25N×28°.18E, h11km, MD2.7*
*DDA **14** 09:52:26.9, 37°.24N×28°.17E, h9km, Md2.7, Suspected

SMG	**Samos**	**1.16**	**294**	P	**Pg**	**09 52 48.2**	**-0.1**
SMG				S	**Sg**	**09 53 03.9**	**+0.6**
DGB	**˜zmir**	**1.30**	**308**	*i* P	**Pg**	**09 52 51.1**	**+0.1**
DGB				*i* S	**Sn**	**09 53 11.9**	**+2.3**
KULA	**Kula-Manisa**	**1.32**	**17**	*e*PN	**Pg**	**09 52 50.5**	**-0.9**
KULA	**Kula-Manisa**	**1.32**	**17**	P	**Pg**	**09 52 51.0**	**-0.4**
KULA				S	**Sn**	**09 53 10.4**	**+0.2**
KULA	**Kula-Manisa**	**1.32**	**17**	*e*Pn	**Pg**	**09 52 50.5**	**-0.9**
KULA	**Kula-Manisa**	**1.32**	**17**	P	**Pg**	**09 52 51.0**	**-0.4**
KULA				S	**Sn**	**09 53 10.4**	**+0.2**
IZM	**Izmir**	**1.35**	**328**	*e*PN	**Pg**	**09 52 50.7**	**-1.3**
IZM	**Izmir**	**1.35**	**328**	*e*Pn	**Pg**	**09 52 50.7**	**-1.3**
ELL	**Elmali**	**1.48**	**109**	*e*PN	**Pn**	**09 52 52.4**	**-1.7**
ELL	**Elmali**	**1.48**	**109**	*e*Pn	**Pn**	**09 52 52.4**	**-1.7**
KHL	**Karahalli**	**1.52**	**45**	*e*PN	**Pn**	**09 52 53.0**	**-1.5**
KHL	**Karahalli**	**1.52**	**45**	*e*Pn	**Pn**	**09 52 53.0**	**-1.5**
AKAS	**Kas**	**1.53**	**131**	P	**Pg**	**09 52 56.0**	**+0.5**
AKAS	**Kas**	**1.53**	**131**	*i* P	**Pg**	**09 52 56.0**	**+0.5**
AKAS				*i* S	**Sn**	**09 53 20.0**	**+4.5**
AKS	**Akhisar**	**1.65**	**350**	*e*PN	**Pn**	**09 52 55.1**	**-1.2**
AKS	**Akhisar**	**1.65**	**350**	*e*Pn	**Pn**	**09 52 55.1**	**-1.2**
KARP	**Karpathos**	**1.89**	**206**	*e*PN	**Pn**	**09 52 58.0**	**-1.6**
KARP	**Karpathos**	**1.89**	**206**	*e*Pn	**Pn**	**09 52 58.0**	**-1.6**

*ISK **14** 09:54:28.1,35°.84N×31°.06E,h12km,MD3.5*
*DDA **14** 09:54:30.2,35°.84N×30°.88E,h23km,Md3.4*
*CSEM **14** 09:54:30.5±0.5,35°.92N×30°.95E,h10km,MD3.5, Error ellipse: s-maj=14.4km s-min=5.8km az=179.0*
ISC 14 09:54:30.5±1.4,35°.82N±0°.05×30°.97E±0°.02,h15km±10km, n62,σ1§40/76,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**1.11**	**347**	*e*PN	**Pb**	**09 54 49.8**	**-1.6**
ANTB				*e*SN	**Sg**	**09 55 05.4**	**-1.0**
ANTB	**Antalya**	**1.11**	**347**	*e*Pn	**Pb**	**09 54 49.8**	**-1.6**
ANTB				*e*Sn	**Sg**	**09 55 05.4**	**-1.0**
GAZI	**Gazipasa**	**1.17**	**69**	P	**Pg**	**09 54 53.6**	**+0.7**
GAZI				S	**Sn**	**09 55 10.7**	**+2.7**
GAZI	**Gazipasa**	**1.17**	**69**	*i* P	**Pg**	**09 54 53.6**	**+0.7**
GAZI				*i* S	**Sn**	**09 55 10.7**	**+2.7**
AKAS	**Kas**	**1.18**	**291**	P	**Pb**	**09 54 50.9**	**-1.9**
AKAS				S	**Sn**	**09 55 09.6**	**+1.0**
AKAS	**Kas**	**1.18**	**291**	*i* P	**Pb**	**09 54 50.9**	**-1.9**
AKAS				*i* S	**Sn**	**09 55 09.6**	**+1.0**
ELL	**Elmali**	**1.27**	**317**	*e*PN	**Pn**	**09 54 52.5**	**-1.3**
ELL				*e*SN	**Sn**	**09 55 10.5**	**-0.2**
ELL	**Elmali**	**1.27**	**317**	*e*Pn	**Pn**	**09 54 52.5**	**-1.3**
ELL				*e*Sn	**Sn**	**09 55 10.5**	**-0.2**
KORT	**Korkueli**	**1.28**	**337**	P	**Pn**	**09 54 53.7**	**-0.4**
KORT	**Korkueli**	**1.28**	**337**	*i* P	**Pn**	**09 54 53.6**	**-0.4**
KORT				*i* S	**Sg**	**09 55 16.7**	**+4.7**
SUTC	**Sutluce-Ispart**	**1.66**	**1**	*e*PN	**Pn**	**09 54 57.3**	**-1.9**
SUTC	**Sutluce-Ispart**	**1.66**	**1**	*e*Pn	**Pn**	**09 54 57.3**	**-1.9**
BCK	**Bucak**	**1.67**	**349**	*e*PN	**Pn**	**09 54 58.0**	**-1.3**
BCK	**Bucak**	**1.67**	**349**	*e*Pn	**Pn**	**09 54 58.0**	**-1.3**
LEF	**Lefka**	**1.71**	**113**	*e*PN	**Pn**	**09 54 57.3**	**-2.5**
FETY	**Fethiye**	**1.73**	**299**	*e*PN	**Pn**	**09 54 59.7**	**-0.4**
FETY	**Fethiye**	**1.73**	**299**	*e*Pn	**Pn**	**09 54 59.7**	**-0.4**
ERMK	**Ermenek**	**1.77**	**62**	P	**Pb**	**09 55 02.9**	**+0.1**
ERMK	**Ermenek**	**1.77**	**62**	*i* P	**Pb**	**09 55 02.9**	**+0.1**
ERMK				*i* S	**Sg**	**09 55 27.8**	**+0.3**
GLHS	**Glhisar (BURDU**	**1.79**	**319**	*e*PN	**Pn**	**09 54 60.0**	**-1.0**
GLHS	**Glhisar (BURDU**	**1.79**	**319**	*e*Pn	**Pn**	**09 55 00.0**	**-1.0**
GOLH	**Golhisar**	**1.82**	**322**	P	**Pb**	**09 55 02.8**	**-0.7**
GOLH	**Golhisar**	**1.82**	**322**	*i* P	**Pb**	**09 55 02.8**	**-0.7**
GOLH				*i* S	Sg	09 55 36.8	+7.8
ISP	**Isparta**	**2.03**	**350**	*e*PN	**Pn**	**09 55 02.5**	**-1.8**
ISP	**Isparta**	**2.03**	**350**	*e*Pn	**Pn**	**09 55 02.5**	**-1.8**
DALY	**Dalyan (Mu˘la**	**2.12**	**299**	*e*PN	**Pn**	**09 55 04.8**	**-0.6**
DALY	**Dalyan (Mu˘la**	**2.12**	**299**	*e*Pn	**Pn**	**09 55 04.8**	**-0.6**
KONT	**Konya--Tatoy**	**2.40**	**27**	*e*PN	**Pn**	**09 55 07.8**	**-1.5**
KONT	**Konya--Tatoy**	**2.40**	**27**	*e*Pn	**Pn**	**09 55 07.8**	**-1.5**
DNZL	**Cakiroluk**	**2.43**	**321**	P	**Pn**	**09 55 11.0**	**+1.2**
DNZL	**Cakiroluk**	**2.43**	**321**	*i* P	**Pn**	**09 55 11.0**	**+1.2**
DNZL				*i* S	**Sg**	**09 55 48.1**	**-0.4**
YER	**Yerkesik**	**2.54**	**302**	*e*PN	**Pn**	**09 55 11.4**	**+0.2**
YER	**Yerkesik**	**2.54**	**302**	*e*Pn	**Pn**	**09 55 11.4**	**+0.2**
LADK	**Ladik-KONYA**	**2.63**	**25**	*e*PN	**Pn**	**09 55 10.8**	**-1.7**
LADK	**Ladik-KONYA**	**2.63**	**25**	*e*Pn	**Pn**	**09 55 10.8**	**-1.7**
KIZK	**Mersin**	**2.65**	**75**	P	**Pb**	**09 55 16.6**	**-1.1**
KIZK	**Mersin**	**2.65**	**75**	*i* P	**Pb**	**09 55 16.6**	**-1.1**
KIZK				*i* S	**Sb**	**09 55 51.1**	**+1.1**
KHL	**Karahalli**	**2.76**	**336**	*e*PN	**Pn**	**09 55 14.1**	**-0.2**
KHL	**Karahalli**	**2.76**	**336**	*e*Pn	**Pn**	**09 55 14.1**	**-0.2**
KDHN	**Kadinhani**	**2.85**	**18**	P	**Pn**	**09 55 17.2**	**+1.7**
KDHN	**Kadinhani**	**2.85**	**18**	*i* P	**Pn**	**09 55 17.2**	**+1.7**
KDHN				*i* S	**Sn**	**09 55 51.2**	**+1.5**
KERG	**Konya-Eregli**	**3.00**	**57**	P	**Pb**	**09 55 20.7**	**-2.9**
KERG	**Konya-Eregli**	**3.00**	**57**	*i* P	**Pb**	**09 55 20.7**	**-2.9**
KERG				*i* S	**Sb**	**09 55 59.5**	**-0.6**
KARP	**Karpathos**	**3.12**	**266**	*e*PN	**Pn**	**09 55 19.2**	**+0.1**
KARP	**Karpathos**	**3.12**	**266**	*e*Pn	**Pn**	**09 55 19.2**	**+0.1**
KIZT	**Kizilcal**	**3.14**	**13**	*e*PN	**Pn**	**09 55 17.7**	**-1.9**
KIZT	**Kizilcal**	**3.14**	**13**	*e*Pn	**Pn**	**09 55 17.7**	**-1.9**
BODT	**Bodrum**	**3.20**	**294**	*e*PN	**Pn**	**09 55 21.0**	**+0.6**
BODT	**Bodrum**	**3.20**	**294**	*e*Pn	**Pn**	**09 55 21.0**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**3.26**	**312**	*e*PN	**Pn**	**09 55 20.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**3.26**	**312**	*e*Pn	**Pn**	**09 55 20.7**	**-0.5**
KULA	**Kula-Manisa**	**3.27**	**326**	*e*PN	**Pn**	**09 55 21.3**	**0.0**
KULA	**Kula-Manisa**	**3.27**	**326**	*e*Pn	**Pn**	**09 55 21.3**	**0.0**
KARA	**Karaisali**	**3.59**	**65**	*e*PN	**Pn**	**09 55 24.3**	**-1.3**
KARA	**Karaisali**	**3.59**	**65**	*e*Pn	**Pn**	**09 55 24.3**	**-1.3**
SARI	**SarD1z-Kayseri**	**5.06**	**58**	*e*PN	**Pn**	**09 55 46.2**	**+0.1**
GAZ	**Gaziantep**	**5.20**	**73**	*e*PN	**Pn**	**09 55 47.7**	**-0.2**
GAZ	**Gaziantep**	**5.20**	**73**	*e*Pn	**Pn**	**09 55 47.7**	**-0.2**
CORM	**Corum**	**5.22**	**32**	*e*PN	**Pn**	**09 55 48.0**	**-0.2**
CORM	**Corum**	**5.22**	**32**	*e*Pn	**Pn**	**09 55 48.0**	**-0.2**
DARE	**Darende-Malaty**	**5.88**	**60**	*e*PN	**Pn**	**09 55 57.0**	**-0.2**
DARE	**Darende-Malaty**	**5.88**	**60**	*e*Pn	**Pn**	**09 55 57.0**	**-0.2**

*NNC **14** 09:55:25.0±6.9,56°.50N×91°.13E,h0km,mb3.9, Error ellipse: s-maj=42.7km s-min=30.8km az=42.0*
IDC 14 09:56:44.0±2.7,54°.21N×87°.28E,h0km,mb1 3.3/2, mb1mx3.1/49,mbtmp3.3/2,ML3.0/2,8C-4D,Error ellipse: s-maj=22.5km s-min=16.3km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**261**	*i*		10 06 10.0	
	baz=80,slow=314,SNR=20						
ZALV	**Zalesovo Beam**	**1.47**	**261**	Pg	Pn	09 57 10.0	-1.7
	8.7nm,0.3s,baz=79,slow=16,SNR=48						
ZALV				Lg	Lg	09 57 31.1	
	4.5nm,0.3s,baz=80,slow=25,SNR=5.8						
KURK	**Kurchatov**	**6.34**	**240**	⇑Pg	Pn	09 58 19.5	+0.9
	11nm,0.6s						
KURK				⇑Sn	Sn	09 59 29.2	-2.5
	8.6nm,0.6s						
KURK				⇓Lg	Lg	10 00 24.3	
	7.3nm,0.8s						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	09 58 20.5	+0.5
	0.3nm,0.3s,baz=56,slow=14,SNR=9.4						
KURBB				Sn	Sn	09 59 33.2	-1.0
	0.1nm,0.3s,baz=59,slow=21,SNR=3.6						
KURBB				Lg	Lg	10 00 08.6	
	0.0nm,0.3s,baz=47,slow=29,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.45**	**240**	⇑Pg	Pn	09 58 19.1	-0.9
	1.2nm,0.3s						
KURBB				⇓Sn	Sn	09 59 31.5	-2.7
	4.6nm,0.5s						
KURBB				⇑Lg	Lg	10 00 27.6	
	8.8nm,0.8s						
MK31	**Makanchi Array**	**8.08**	**205**	⇑Pg	Pn	09 58 44.6	+2.2
	0.5nm,0.7s,baz=28,slow=14,SNR=17						
MK31				⇓Sn	Sn	10 00 14.4	-0.1
	0.4nm,0.6s,baz=24,slow=25,SNR=4.0						
MK31				⇓Lg	Lg	10 01 16.4	
	2.3nm,0.9s,baz=32,slow=31,SNR=4.3						
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	09 58 43.9	+1.4
	0.3nm,0.3s,baz=27,slow=14,SNR=13						
MKAR				Sn	Sn	10 00 14.3	-0.2
	0.2nm,0.3s,baz=24,slow=25,SNR=5.3						
MKAR				Lg	Lg	10 01 01.5	
	0.1nm,0.3s,baz=23,slow=26,SNR=6.6						
MAKZ	**Makanchi**	**8.14**	**207**	⇑Pg	Pn	09 58 47.4	+4.0
	0.9nm,0.8s						
MAKZ				⇑Sn	Sn	10 00 14.5	-1.6
	0.4nm,0.4s						
MAKZ				⇑Lg	Lg	10 01 20.1	
	0.2nm,0.5s						

IDC 14 10:01:47.9±51.0,16°.33S×176°.49W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.6/21,mbtmp3.9/3,Error ellipse: s-maj=946.0km s-min=171.8km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.00**	**240**	P	P	10 09 32.9	0.0
	1.3nm,0.9s,baz=96,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**46.74**	**258**	P	P	10 10 19.2	-0.1
	0.2nm,0.3s,baz=91,slow=8.2,SNR=14						
ASAR	**Alice Springs**	**46.99**	**253**	P	P	10 10 21.1	-0.2
	3.1nm,0.6s,baz=88,slow=8.4,SNR=67						

IDC 14 10:11:31.9±14.0,14°.53S×167°.67E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/23,mbtmp3.7/4,ML3.7/1,Error ellipse: s-maj=245.8km s-min=41.4km az=68.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.59**	**189**	Pn	Pn	10 13 23.7	-0.3
	1.2nm,0.3s,baz=339,slow=12,SNR=19						
DZM				Sn	Sn	10 14 50.1	-0.8
	0.3nm,0.3s,baz=127,slow=20,SNR=2.3						
STKA	**Stephens Creek**	**29.42**	**230**	P	P	10 17 38.0	+0.7
	0.8nm,0.5s,baz=40,slow=10,SNR=6.0						
WRA	**Warramunga Arr**	**32.25**	**256**	P	P	10 18 01.5	-1.0
	0.6nm,1.0s,baz=84,slow=8.3,SNR=3.5						
ASAR	**Alice Springs**	**33.11**	**249**	P	P	10 18 10.3	+0.4
	0.7nm,0.7s,baz=77,slow=8.9,SNR=9.0						

*DDA **14** 10:23:08.2,37°.27N×42°.63E,h7km,Md3.0*
*ISCJB **14** 10:23:09.7±0.7,37°.50N±0°.09×42°.68E±0°.05,h15km, Error ellipse: s-maj=12.7km s-min=5.3km az=176.9*
*CSEM **14** 10:23:09.6±0.2,37°.53N×42°.68E,h10km,MD2.8, Error ellipse: s-maj=8.3km s-min=3.8km az=5.0*
*ISK **14** 10:23:09.3,37°.56N×42°.68E,h11km,MD2.8*
ISC 14 10:23:09.6±1.0,37°.46N±0°.08×42°.70E±0°.04,h15km,n21, σ0§73/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.21**	**280**	*e*PG	**Pg**	**10 23 13.8**	**-0.7**
SIRT				*e*SG	**Sg**	**10 23 17.5**	**-0.3**
SIRT	**Sirnak**	**0.21**	**280**	*e*Pg	**Pg**	**10 23 13.8**	**-0.7**
SIRT				*e*Sg	**Sg**	**10 23 17.5**	**-0.3**
SIRN	**S˙˙rnak**	**0.23**	**278**	P	**Pg**	**10 23 13.6**	**-1.2**
SIRN				S	**Sg**	**10 23 18.2**	**-0.1**
SIRN	**S˙˙rnak**	**0.23**	**278**	*i* P	**Pg**	**10 23 13.6**	**-1.2**
SIRN				*i* S	**Sg**	**10 23 18.2**	**-0.1**
CUKT	**Cukurca**	**0.76**	**106**	*e*PG	**Pb**	**10 23 25.3**	**+0.7**
CUKT	**Cukurca**	**0.76**	**106**	*e*Pg	**Pb**	**10 23 25.3**	**+0.7**
HAKT	**HAKKARI**	**0.81**	**83**	P	**Pb**	**10 23 25.9**	**+0.3**
HAKT	**HAKKARI**	**0.81**	**83**	*i* P	**Pb**	**10 23 25.9**	**+0.3**
BTMN	**Batman**	**1.21**	**291**	P	**Pb**	**10 23 32.6**	**+0.3**
BTMN				S	**Sg**	**10 23 50.4**	**+1.6**
BTMN	**Batman**	**1.21**	**291**	*i* P	**Pb**	**10 23 32.6**	**+0.3**
BTMN				*i* S	**Sg**	**10 23 50.4**	**+1.6**
SVAN	**Silvan-Diyarba**	**1.37**	**300**	*e*PN	**Pn**	**10 23 34.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.37**	**300**	*e*Pn	**Pn**	**10 23 34.5**	**+0.2**
MARD	**Mardin**	**1.54**	**265**	*i* P	**Pn**	**10 23 35.7**	**-0.9**
MARD				*i* S	**Sn**	**10 23 56.9**	**+0.5**
MAZI	**Mazidag**	**1.79**	**271**	*e*PN	**Pn**	**10 23 40.5**	**+0.4**
MAZI	**Mazidag**	**1.79**	**271**	*e*Pn	**Pn**	**10 23 40.5**	**+0.4**
AGRB	**Hanur-Agry**	**2.12**	**6**	*e*PN	**Pn**	**10 23 44.3**	**-0.5**
AGRB	**Hanur-Agry**	**2.12**	**6**	*e*Pn	**Pn**	**10 23 44.3**	**-0.5**
BNGB	**Bing˘l**	**2.20**	**314**	*e*PN	**Pn**	**10 23 45.6**	**-0.2**
BINT	**Bingol**	**2.24**	**310**	*e*Pn	**Pn**	**10 23 45.6**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.60**	**320**	*e*PN	**Pn**	**10 23 51.4**	**+0.2**
YEDI	**Yedisu-Bingol**	**2.60**	**320**	*e*Pn	**Pn**	**10 23 51.4**	**+0.2**

*IDC **14** 10:26:59.2±0.7,35°.86N×141°.84E,h0km,mb3.7/9, mb1 3.9/15,mb1mx3.7/47,mbtmp3.7/15,ML3.0/3,MS3.1/7, Ms1 3.1/7,ms1mx2.8/42,Error ellipse: s-maj=17.5km s-min=15.9km az=101.0*
*NIED **14** 10:27:00,36°.00N×141°.80E,h11km,Mw3.8 Best double couple: M0:6.49000×10^14 NP1:φ§102.00000°,δ§3.00000°, λ-42.00000°. NP2:φ§221.00000°,δ§58.00000°, λ-134.00000°.*
*JMA **14** 10:27:01.8±0.2,35°.99N×141°.75E,h51km,M3.5*
ISC 14 10:27:00.6±2.2,35°.88N±0°.06×141°.83E±0°.07,h10km±13km, n33,σ1§41/26,mb3.6/9,MS3.3/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.81**	**257**	P	**Pg**	**10 27 16.7**	**+0.5**
CHOJ				S	**Sb**	**10 27 27.3**	**-0.5**
JHO	**Hitachi**	**1.25**	**306**	P	**Pn**	**10 27 21.7**	**-2.5**
JHO				*e*S	**Sb**	**10 27 38.2**	**-2.3**
JYT	**Yasato**	**1.37**	**285**	P	**Pn**	**10 27 23.6**	**-2.2**
JYT				S	**Sb**	**10 27 41.7**	**-2.2**
ONAJ	**Iwakimizuishiy**	**1.47**	**326**	P	**Pn**	**10 27 25.0**	**-2.3**
MJAR	**Matsushiro Arr**	**3.00**	**284**	Pn	**Pn**	**10 27 48.6**	**+0.4**
	2.2nm,0.3s,baz=102,slow=8.6,SNR=23						
MJAR				Sn	**Sn**	**10 28 26.5**	**+2.1**
	2.8nm,0.3s,baz=48,slow=19,SNR=5.7						
MJAR				LR	LR	10 28 34.0	
	comp=Z,19nm,20.9s,baz=95,slow=32						
MAT	**Matsushiro**	**3.00**	**284**	P	**Pn**	**10 27 48.3**	**0.0**
MAT				*e*S	**Sn**	**10 28 26.2**	**+1.8**
JHJ	**Hachijo jima 2**	**3.24**	**212**	Pn	**Pn**	**10 27 51.8**	**+0.3**
	22nm,0.3s,baz=334,slow=16,SNR=16						
JHJ				Sn	**Sn**	**10 28 28.6**	**-1.5**
	28nm,0.3s,baz=79,slow=23,SNR=6.3						
ASAJ	**Asahikawa**	**8.24**	**4**	Pn	**Pn**	**10 29 00.2**	**0.0**
JCJ	**Chichijima**	**8.77**	**178**	Pn	Pn	10 29 06.5	-0.9
	baz=0.8,slow=15						
JCJ				Sn	Sn	10 30 38.2	-8.1
	4.6nm,0.3s,baz=315,slow=18,SNR=2.5						
JCJ				LR	LR	10 34 11.0	
	comp=Z,76nm,18.7s,baz=104,slow=49						
JNU	**Nakatsue**	**9.45**	**256**	LR	LR	10 33 15.3	
	comp=Z,82nm,18.6s,baz=302,slow=40						
USRK	**Ussuriysk Ar.**	**11.21**	**321**	Pn	**Pn**	**10 29 41.4**	**+0.5**
	0.2nm,0.3s,baz=142,slow=15,SNR=2.6						
KSRS	**Korea Array**	**11.28**	**282**	Pn	**Pn**	**10 29 43.8**	**+2.0**
	baz=104,slow=15,SNR=2.9						
KLR	**Kul'dur**	**15.25**	**334**	LR	LR	10 36 08.0	
	comp=Z,43nm,18.2s,baz=122,slow=36						
MA2	**Magadan**	**24.41**	**11**	LR	LR	10 41 15.0	
	comp=Z,34nm,20.4s,baz=136,slow=35						
H11N2	**WAKE ISLAND Hy 27.28**	**119**		T	T	11 01 24.5	
	baz=311,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy 27.29**	**119**		T	T	11 01 20.3	
	baz=311,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy 27.30**	**119**		T	T	11 01 25.9	
	baz=311,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy 27.96**	**122**		T	T	11 02 08.8	
	baz=314,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy 27.96**	**122**		T	T	11 02 09.4	
	baz=314,slow=76,SNR=6.2						
H11S2	**WAKE ISLAND Hy 27.98**	**122**		T	T	11 02 09.4	
	baz=314,slow=76,SNR=31						
SONM	**Songino Array**	**28.72**	**306**	P	**P**	**10 32 57.4**	**-0.7**
	0.3nm,0.3s,baz=145,slow=7.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**42.94**	**313**	P	**P**	**10 34 59.5**	**0.0**
	0.7nm,0.7s,baz=87,slow=8.8,SNR=3.0						
NRIK	**Noril'sk**	**44.45**	**336**	LR	LR	10 55 11.7	
	comp=Z,38nm,18.1s,baz=86,slow=38						
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**10 35 15.8**	**-0.5**
	0.5nm,0.7s,baz=91,slow=9.9,SNR=5.5						
ILAR	**Eielson Array**	**50.29**	**32**	P	**P**	**10 35 57.5**	**+0.6**
	1.4nm,0.8s,baz=268,slow=6.7,SNR=20						
BVAR	**Borovoye Array**	**51.60**	**313**	LR	LR	11 00 11.1	
	comp=Z,68nm,20.8s,baz=253,slow=39						
WRA	**Warramunga Arr**	**55.97**	**189**	P	**P**	**10 36 39.3**	**+0.1**
	1.6nm,0.9s,baz=4.6,slow=7.4,SNR=8.4						
AKTO	**Aktyubinsk**	**59.70**	**313**	LR	LR	11 02 56.3	
	comp=Z,19nm,18.0s,baz=129,slow=36						
ASAR	**Alice Springs**	**59.70**	**189**	P	**P**	**10 37 04.9**	**-0.5**
	0.3nm,0.8s,baz=5.9,slow=6.7,SNR=3.9						
YKA	**Yellowknife Ar**	**64.63**	**30**	P	**P**	**10 37 38.5**	**+0.5**
	0.8nm,0.7s,baz=302,slow=6.8,SNR=13						
PDAR	**Pinedale Array**	**78.23**	**45**	P	**P**	**10 39 00.7**	**-0.1**
	0.3nm,0.5s,baz=247,slow=4.7,SNR=2.9						
TXAR	**Lajitas Array**	**90.55**	**53**	P	**P**	**10 40 04.0**	**+0.7**
	0.5nm,0.9s,baz=324,slow=1.7,SNR=5.9						
LPAZ	**La Paz**	**146.96**	**62**	PKPbc	**PKPbc**	**10 46 45.0**	**+0.3**
	1.0nm,0.5s,baz=313,slow=0.9,SNR=8.3						

DJA 14 10:41:57.7±0.2,2°.N±2°.×9°.9E±°,h10km,M3.6/11, MLv3.6/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBSI	**Sibolga**	**0.34**	**225**	P	Pb	10 42 06.2	+0.4
MNSI	**Mandailing Nat**	**1.08**	**156**	P	Pb	10 42 15.8	-2.8
GSI	**Gunungsitoli**	**1.63**	**253**	P	Pn	10 42 23.5	-3.0
GSI				S	Sn	10 42 47.9	+0.4
TSI	**Tuntungan**	**1.79**	**342**	P	Pn	10 42 28.8	+0.1
KCSI	**Kotacane, Aceh**	**2.19**	**322**	P	Pn	10 42 34.8	+0.6
BKNI	**Bangkinang**	**2.40**	**127**	P	Pb	10 42 39.2	-1.8
TPTI		**2.44**	**307**	P	Pn	10 42 37.7	+0.1
TPTI				S	Sn	10 43 08.4	+1.0
PPI	**Padang Panjang**	**2.57**	**150**	P	Pb	10 42 42.9	-1.0
PDSI	**Padang**	**3.00**	**154**	P	Pn	10 42 44.6	-0.7
SDSI	**Sungai Dareh**	**3.55**	**140**	P	Pn	10 42 52.7	-0.2
MLSI	**Meulaboh, Aceh**	**3.67**	**312**	P	Pn	10 42 54.5	-0.1

*ISCJB **14** 10:46:11.0±0.8,31°.22N±0°.07×115°.58W±0°.07, h16km±15km, Error ellipse: s-maj=12.0km s-min=10.3km az=5.3*
*ECX **14** 10:46:11.9±0.4,31°.23N×115°.59W,h5km,MD2.2,ML2.3*
*MEX **14** 10:46:12.0±0.3,31°.03N×115°.60W,h25km±11km,MD3.7*
ISC 14 10:46:10.8±3.1,31°.2N±0°.1×115°.6W±0°.1,h18km±7km,n7, σ0§32/13,1D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.21**	**153**	*e*P	**Pb**	**10 46 16.1**	**+0.1**
SPIG				*i* S	**Sb**	**10 46 19.2**	**0.0**
SPIG	**San Pedro Mart**	**0.21**	**153**	*e*P	**Pb**	**10 46 15.7**	**-0.2**
SPIG				*e*S	**Sb**	**10 46 19.2**	**0.0**
ECBX	**El Chinero**	**0.51**	**62**	*e*P	**Pg**	**10 46 20.9**	**-0.2**
ECBX				*e*S	**Sg**	**10 46 28.3**	**+0.3**
ECBX				⇓*e*		10 46 30.0	
ECBX				IAML		10 46 30.0	
	comp=E,224nm,0.4s						
CBX	**Cerro Bola**	**1.42**	**320**	*e*P	**Pn**	**10 46 36.1**	**+0.2**
CBX				*i* S	**Sn**	**10 46 54.0**	**-0.3**
CBX	**Cerro Bola**	**1.42**	**320**	*e*P	**Pn**	**10 46 36.4**	**+0.5**
CBX				*e*S	**Sb**	**10 46 55.2**	**+0.5**
CBX				IAML		10 46 58.2	
	comp=E,54nm,0.6s						
CBX				*e*		10 46 58.2	
TJIG	**Tijuana**	**1.52**	**322**	*e*P	**Pn**	**10 46 37.1**	**0.0**
TJIG				*i* S	**Sb**	**10 46 57.5**	**+0.1**
BAR	**Barrett**	**1.72**	**327**	*e*P	**Pb**	**10 46 41.5**	**-0.4**

*ISCJB **14** 10:48:48.3±0.2,45°.68N±0°.02×26°.55E±0°.03,h148km±2km, mb3.7/6, Error ellipse: s-maj=3.0km s-min=2.9km az=37.8*
*CSEM **14** 10:48:48.7±0.2,45°.67N×26°.52E,h148km±2km,MD4.2, Error ellipse: s-maj=4.0km s-min=3.3km az=173.0*
*SIGU **14** 10:48:48.0±0.7,45°.69N×26°.57E,h155km,mb3.7*
*BUC **14** 10:48:49.0±0.7,45°.70N×26°.52E,h152km±9km,MD4.2/5, Error ellipse: s-maj=8.0km s-min=6.6km az=126.

BUC1				*i* S		**Sn**	**10 49 38.6**	**-0.8**
BUC1	**Bucharest**	**1.39**	**195**	⇓ *i* P		**Pn**	**10 49 17.6**	**0.0**
BUC1				*i* S		**Sn**	**10 49 38.6**	**-0.8**
LEOM	**Leova**	**1.43**	**56**	P		**Pn**	**10 49 18.1**	**+0.1**
LEOM				S		**Sn**	**10 49 39.2**	**-0.9**
LEOM	**Leova**	**1.43**	**56**	⇑ *i* P		**Pn**	**10 49 18.1**	**+0.1**
LEOM	**Leova**	**1.43**	**56**	⇑ *i* P		**Pn**	**10 49 18.1**	**+0.1**
LEOM				*i* S		**Sn**	**10 49 39.2**	**-0.9**
LEOM	**Leova**	**1.43**	**56**	⇑ *i* P		**Pn**	**10 49 18.1**	**+0.1**
LEOM				*i* S		**Sn**	**10 49 39.2**	**-0.9**
HUMR	**Humele**	**1.60**	**224**	⇓ *i* P		**Pn**	**10 49 19.5**	**-0.3**
HUMR	**Humele**	**1.60**	**224**	⇓ *i* P		**Pn**	**10 49 19.5**	**-0.3**
HUMR				*i* S		**Sn**	**10 49 42.3**	**-1.0**
HUMR	**Humele**	**1.60**	**224**	⇓ *i* P		**Pn**	**10 49 19.5**	**-0.3**
HUMR				*i* S		**Sn**	**10 49 42.3**	**-1.0**
IAS	**Iasi**	**1.67**	**25**	S		**Sn**	**10 49 42.8**	**-1.9**
IAS	**Iasi**	**1.67**	**25**	*i* S		**Sn**	**10 49 42.8**	**-1.9**
IAS	**Iasi**	**1.67**	**25**	*i* S		**Sn**	**10 49 42.8**	**-1.9**
TLCR		**1.68**	**106**	⇑ *i* P		**Pn**	**10 49 20.5**	**-0.2**
TLCR		**1.68**	**106**	⇑ *i* P		**Pn**	**10 49 20.5**	**-0.2**
TLCR				*i* S		**Sn**	**10 49 44.1**	**-0.8**
TLCR		**1.68**	**106**	⇑ *i* P		**Pn**	**10 49 20.5**	**-0.2**
TLCR				*i* S		**Sn**	**10 49 44.1**	**-0.8**
CVDA	**Cernavoda**	**1.72**	**141**	⇓ *i* P		**Pn**	**10 49 21.1**	**-0.1**
CVDA	**Cernavoda**	**1.72**	**141**	⇓ *i* P		**Pn**	**10 49 21.1**	**-0.1**
CVDA				*i* S		**Sn**	**10 49 44.6**	**-1.1**
CVDA	**Cernavoda**	**1.72**	**141**	⇓ *i* P		**Pn**	**10 49 21.1**	**-0.1**
CVDA				*i* S		**Sn**	**10 49 44.6**	**-1.1**
TIRR	**Tirgusor**	**1.81**	**132**	⇓ *i* P		**Pn**	**10 49 21.9**	**-0.3**
TIRR	**Tirgusor**	**1.81**	**132**	⇓ *i* P		**Pn**	**10 49 21.9**	**-0.3**
TIRR				*i* S		**Sn**	**10 49 45.4**	**-2.1**
TIRR	**Tirgusor**	**1.81**	**132**	⇓ *i* P		**Pn**	**10 49 21.9**	**-0.3**
TIRR				*i* S		**Sn**	**10 49 45.4**	**-2.1**
MSAB	**Monastry St. A**	**1.84**	**150**	⇓ *i* P		**Pn**	**10 49 22.5**	**0.0**
MSAB	**Monastry St. A**	**1.84**	**150**	⇓ *i* P		**Pn**	**10 49 22.5**	**0.0**
MSAB				*i* S		**Sn**	**10 49 46.6**	**-1.5**
MSAB	**Monastry St. A**	**1.84**	**150**	⇓ *i* P		**Pn**	**10 49 22.5**	**0.0**
MSAB				*i* S		**Sn**	**10 49 46.6**	**-1.5**
LOT	**Lotru**	**1.96**	**264**	S		**Sn**	**10 49 49.0**	**-1.7**
LOT	**Lotru**	**1.96**	**264**	*i* S		**Sn**	**10 49 49.0**	**-1.7**
LOT	**Lotru**	**1.96**	**264**	*i* S		**Sn**	**10 49 49.0**	**-1.7**
MILM	**Milestii Mici**	**2.00**	**51**	P		**Pn**	**10 49 24.3**	**-0.1**
MILM				S		**Sn**	**10 49 49.3**	**-2.1**
MILM	**Milestii Mici**	**2.00**	**51**	⇑ *i* P		**Pn**	**10 49 24.2**	**-0.1**
MILM	**Milestii Mici**	**2.00**	**51**	⇑ *i* P		**Pn**	**10 49 24.2**	**-0.1**
MILM				*i* S		**Sn**	**10 49 49.5**	**-1.9**
MILM	**Milestii Mici**	**2.00**	**51**	⇑ *i* P		**Pn**	**10 49 24.2**	**-0.1**
MILM				*i* S		**Sn**	**10 49 49.5**	**-1.9**
KIS	**Kishinev**	**2.06**	**50**	P		**Pn**	**10 49 24.9**	**0.0**
	500nm,0.7s							
KIS				S		**Sn**	**10 49 50.6**	**-1.9**
	3μm,0.7s							
KIS	**Kishinev**	**2.06**	**50**	⇑ *i* P		**Pn**	**10 49 24.9**	**0.0**
KIS	**Kishinev**	**2.06**	**50**	⇑ *i* P		**Pn**	**10 49 24.9**	**0.0**
KIS				*i* S		**Sn**	**10 49 50.6**	**-1.9**
KIS	**Kishinev**	**2.06**	**50**	*i* P		**Pn**	**10 49 24.9**	**0.0**
KIS				*i* S		**Sn**	**10 49 50.6**	**-1.9**
BURAR	**Bucovina Array**	**2.13**	**335**	⇑ *i* P		**Pn**	**10 49 27.2**	**+1.2**
BURAR				*i* S		**Sn**	**10 49 53.3**	**-1.1**
BURAR	**Bucovina Array**	**2.13**	**335**	⇑ *i* P		**Pn**	**10 49 27.2**	**+1.2**
BURAR				*i* S		**Sn**	**10 49 53.3**	**-1.1**
EFOR	**EFORIE**	**2.19**	**136**	⇑ *i* P		**Pn**	**10 49 26.7**	**+0.1**
EFOR				S		**Sn**	**10 49 54.1**	**-1.2**
EFOR	**EFORIE**	**2.19**	**136**	⇑ *i* P		**Pn**	**10 49 26.7**	**+0.1**
EFOR				*i* S		**Sn**	**10 49 54.1**	**-1.2**
EFOR	**EFORIE**	**2.19**	**136**	⇑ *i* P		**Pn**	**10 49 26.7**	**+0.1**
EFOR				*i* S		**Sn**	**10 49 54.1**	**-1.2**
ZIMR		**2.19**	**203**	⇓ *i* P		**Pn**	**10 49 26.4**	**-0.2**
ZIMR		**2.19**	**203**	⇓ *i* P		**Pn**	**10 49 26.4**	**-0.2**
ZIMR				*i* S		**Sn**	**10 49 53.5**	**-1.9**
MANR	**Mangalia**	**2.37**	**141**	⇑ *i* P		**Pn**	**10 49 28.6**	**-0.2**
MANR				S		**Sn**	**10 49 56.4**	**-2.8**
MANR	**Mangalia**	**2.37**	**141**	⇑ *i* P		**Pn**	**10 49 28.6**	**-0.2**
MANR				*i* S		**Sn**	**10 49 56.4**	**-2.8**
MANR	**Mangalia**	**2.37**	**141**	⇑ *i* P		**Pn**	**10 49 28.6**	**-0.2**
SZH	**Strazhica**	**2.46**	**190**	*i* P		**Pn**	**10 49 29.5**	**-0.3**
PRD	**Provadia**	**2.56**	**166**	*i* P		**Pn**	**10 49 31.7**	**+0.6**
SRE	**Strehaia**	**2.57**	**248**	⇓ *i* P		**Pn**	**10 49 30.8**	**-0.3**
SRE	**Strehaia**	**2.57**	**248**	⇓ *i* P		**Pn**	**10 49 30.8**	**-0.3**
SRE				*i* S		**Sn**	**10 50 01.0**	**-2.5**
SRE	**Strehaia**	**2.57**	**248**	⇓ *i* P		**Pn**	**10 49 30.8**	**-0.3**
SRE				*i* S		**Sn**	**10 50 01.0**	**-2.5**
ROIA	**ROIAK**	**2.66**	**167**	P		**Pn**	**10 49 32.7**	**+0.4**
KSV	**Kosov**	**2.81**	**340**	*i* P		**Pn**	**10 49 33.7**	**-0.5**
KSV				Pm			10 49 40.7	
KSV				*i* S		**Sn**	**10 50 09.1**	**0.0**
KSV				Sm			10 50 13.1	
RAKU	**Rahkiv**	**2.85**	**326**	*i* P		**Pn**	**10 49 34.4**	**-0.2**
DRGR		**2.88**	**294**	⇑ *i* P		**Pn**	**10 49 35.0**	**0.0**
DRGR		**2.88**	**294**	⇑ *i* P		**Pn**	**10 49 35.0**	**0.0**
DRGR		**2.88**	**294**	⇑ *i* P		**Pn**	**10 49 35.0**	**0.0**
NSLU	**Nyzhne Selyshc**	**2.89**	**331**	*i* P		**Pn**	**10 49 39.5**	**+4.4**
NSLU				Pm			10 49 39.9	
NSLU				*i* S		Sn	10 50 19.7	+9.1
NSLU				Sm			10 50 42.1	
NDNU	**Novodnistrovsk**	**2.96**	**11**	*i* P		**Pn**	**10 49 36.2**	**-0.9**
NDNU				Pm			10 49 36.5	
NDNU				*i* S		**Sn**	**10 50 12.1**	**-0.3**
NDNU				Sm			10 50 13.3	
MPEP	**Malo Peshtene**	**3.07**	**222**	*i* P		**Pn**	**10 49 37.0**	**-0.4**
JMB	**Yambol**	**3.22**	**179**	*i* P		**Pn**	**10 49 38.9**	**-0.4**
STNU	**Starunia**	**3.33**	**336**	*i* P		**Pn**	**10 49 40.9**	**+0.2**
STNU				*i* S		**Sn**	**10 50 20.7**	**0.0**
BZS	**Buzias**	**3.45**	**271**	⇑ *i* P		**Pn**	**10 49 42.1**	**-0.1**
BZS	**Buzias**	**3.45**	**271**	⇑ *i* P		**Pn**	**10 49 42.1**	**-0.1**
BZS	**Buzias**	**3.45**	**271**	⇑ *i* P		**Pn**	**10 49 42.1**	**-0.1**
MEZ	**Mezhgor'ye**	**3.50**	**325**	*i* P		**Pn**	**10 49 43.0**	**+0.1**
MDVR	**Moldovita**	**3.52**	**257**	⇓ *i* P		**Pn**	**10 49 42.8**	**-0.5**
MDVR				S		**Sn**	**10 50 22.0**	**-3.2**
MDVR	**Moldovita**	**3.52**	**257**	⇓ *i* P		**Pn**	**10 49 42.8**	**-0.5**
MDVR				*i* S		**Sn**	**10 50 22.0**	**-3.2**
MDVR	**Moldovita**	**3.52**	**257**	⇓ *i* P		**Pn**	**10 49 42.8**	**-0.5**
HORU	**Horodok**	**3.53**	**359**	*i* P		**Pn**	**10 49 42.9**	**-0.4**
HORU				*i* S		**Sn**	**10 50 25.1**	**-0.2**
PGB	**Panagyurishte**	**3.57**	**209**	*i* P		**Pn**	**10 49 44.1**	**+0.2**
BRIU	**Brid**	**3.58**	**319**	*i* P		**Pn**	**10 49 43.7**	**-0.2**
BRIU				Pm			10 49 48.9	
KUBS	**Kucevo**	**3.67**	**251**	*e*Pn		**Pn**	**10 49 42.7**	**-2.4**
KUBS				*e*Sn		Sn	10 50 17.2	-11
KUBS	**Kucevo**	**3.67**	**251**	*e*Pn		**Pn**	**10 49 42.7**	**-2.4**
ZAPS	**Zavoj**	**3.69**	**231**	*e*Pn		**Pn**	**10 49 45.0**	**-0.4**
ZAPS				*e*Sn		Sn	10 50 17.0	-12
ZAPS	**Zavoj**	**3.69**	**231**	*e*Pn		**Pn**	**10 49 45.0**	**-0.4**
MUKU	**Mukachevo**	**3.82**	**318**	*i* P		**Pn**	**10 49 46.6**	**-0.3**
MUKU				Pm			10 49 48.8	
MORS	**Morshin**	**3.89**	**333**	*i* P		**Pn**	**10 49 48.0**	**+0.1**
KDZ	**Kurdzhali**	**4.12**	**192**	*i* P		**Pn**	**10 49 50.9**	**-0.1**
SHIU	**Shidnytsya**	**4.14**	**330**	*i* P		**Pn**	**10 49 51.9**	**+0.7**
SHIU				Pm			10 49 52.0	
RZN	**Rozhen**	**4.21**	**199**	*i* P		**Pn**	**10 49 52.1**	**-0.2**
STZU	**Stuzhytsya**	**4.26**	**323**	*i* P		**Pn**	**10 49 52.6**	**-0.4**
KOLS	**Kolonicke sedl**	**4.35**	**320**	*e*PN		**Pn**	**10 49 54.8**	**-0.8**
BARS	**Barje**	**4.44**	**231**	*e*Pn		**Pn**	**10 49 54.8**	**-0.4**
BARS				*e*Sn		Sn	10 50 35.2	-11
BARS	**Barje**	**4.44**	**231**	*e*Pn		**Pn**	**10 49 54.8**	**-0.4**
GRUS	**Gruza**	**4.52**	**249**	*e*Pn		**Pn**	**10 49 55.4**	**-0.7**
GRUS				*e*Sn		Sn	10 50 37.8	-11
GRUS	**Gruza**	**4.52**	**249**	*e*Pn		**Pn**	**10 49 55.4**	**-0.7**
MMB	**Musomiste**	**4.57**	**207**	P		**Pn**	**10 49 57.3**	**+0.3**
SELS	**Selova**	**4.59**	**239**	*e*Pn		**Pn**	**10 49 56.4**	**-0.8**
CRVS	**Cervenica-Dubn**	**4.72**	**315**	*e*PN		**Pn**	**10 49 59.6**	**+0.8**
DIVS	**Divibare**	**4.91**	**253**	*e*Pn		**Pn**	**10 50 00.4**	**-1.1**
DIVS				*e*Sn		Sn	10 50 47.5	-10
DIVS	**Divibare**	**4.91**	**253**	*e*Pn		**Pn**	**10 50 00.4**	**-1.1**
SEV	**Sevastopol'**	**5.18**	**100**	*i* P		**Pn**	**10 50 03.9**	**-0.9**
SEV				Pm			10 50 04.2	
SEV				*e*S		**Sn**	**10 51 02.2**	**-1.7**
SEV				Sm			10 51 03.3	
AKASG	**Malin Array Be**	**5.33**	**19**	P		**Pn**	**10 50 05.4**	**-1.4**
	6.7nm,0.3s,baz=204,slow=13,SNR=21							
AKASG				S		**Sn**	**10 51 01.7**	**-5.9**
	6.8nm,0.3s,baz=202,slow=21,SNR=19							
SIM	**Simferopol'**	**5.40**	**95**	*e*P		**Pn**	**10 50 08.4**	**+0.6**
SIM				Pm			10 50 08.8	
SIM				*e*S		**Sn**	**10 51 06.7**	**-2.5**
SIM				Sm			10 51 11.8	
YAL	**Yalta**	**5.53**	**100**	*i* P		**Pn**	**10 50 09.5**	**0.0**
YAL				*e*S		**Sn**	**10 51 10.8**	**-1.4**
YAL				Sm			10 51 10.9	
ALU	**Alushta**	**5.65**	**97**	*i* P		**Pn**	**10 50 10.1**	**-1.0**
ALU				Pm			10 50 10.3	
ALU				*e*S		**Sn**	**10 51 12.9**	**-2.3**
ALU				Sm			10 51 13.4	
SUDU	**Sudak**	**6.03**	**95**	*e*P		**Pn**	**10 50 18.6**	**+2.5**
SUDU				Pm			10 50 25.1	
SUDU				*e*S		**Sn**	**10 51 26.0**	**+1.8**
SUDU				Sm			10 51 35.4	
FINES	**FINESS Array B**	**15.79**	**359**	P		**Pn**	**10 52 20.6**	**-2.3**
	0.1nm,0.3s,baz=185,slow=14,SNR=4.2							
ARCES	**ARCESS Array B**	**23.92**	**359**	P		**P**	**10 53 49.5**	**+0.8**
	1.5nm,0.9s,baz=174,slow=11,SNR=4.0							
JMIC	**Jan Mayen**	**30.47**	**338**	LR		LR	11 07 29.0	
	comp=Z,9.9nm,18.7s,baz=256,slow=37							
KURBB	**Kurchatov Arra**	**34.44**	**63**	P		**P**	**10 55 23.6**	**+1.7**
	0.4nm,0.4s,baz=287,slow=8.9,SNR=2.8							
ZALV	**Zalesovo Beam**	**37.53**	**56**	P		**P**	**10 55 49.8**	**+1.6**
	1.4nm,0.5s,baz=276,slow=10.0,SNR=4.3							
MKAR	**Makanchi Array**	**37.89**	**68**	P		**P**	**10 55 52.8**	**+1.5**
	0.4nm,0.6s,baz=273,slow=6.9,SNR=3.7							
TORD	**Torodi Ar. Bea**	**38.66**	**221**	P		**P**	**10 55 59.1**	**+1.2**
	1.4nm,0.5s,baz=24,slow=8.6,SNR=13							
DBIC	**Dimbokro**	**47.41**	**225**	P		**P**	**10 57 08.8**	**+0.5**
	2.5nm,0.4s,baz=18,slow=8.4,SNR=12							

*LJU **14** 10:50:48.7, 46°39.9N × 15°07.6E, h0km, ML0.1 Rockburst*
CSEM 14 10:50:48.7±99.0, 46°39N×15°07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

*ISK **14** 11:10:13.0, 37°31N × 37°10E, h5km, MD3.0*
*DDA **14** 11:10:13.4, 37°32N × 37°11E, h6km, Ml3.1*
*ISCJB **14** 11:10:14.1±0.5, 37°27N±0°02×37°12E±0°03, h7km±4km, Error ellipse: s-maj=4.1km s-min=3.5km az=163.6*
*CSEM **14** 11:10:14.4±0.2, 37°28N × 37°12E, h10km, MD3.0, Error ellipse: s-maj=5.9km s-min=4.3km az=156.0*
*NSSC **14** 11:10:17.3±1.6, 36°82N × 37°46E, h2km±7km, ML2.5*
ISC 14 11:10:13.7±0.8, 37°27N±0°02×37°17E±0°02, h15km±5km, n57, σ1s36/79, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.11**	**161**	PG		**Pg**		**11 10 16.9**	**-0.2**
GAZ				SG		**Sg**		**11 10 19.8**	**+0.4**
GAZ	**Gaziantep**	**0.11**	**161**	*i* Pg		**Pg**		**11 10 16.9**	**-0.2**
GAZ				*i* Sg		**Sg**		**11 10 19.8**	**+0.4**
HCB	**Kahramanmara˘**	**0.22**	**289**	*i* P		**Pg**		**11 10 16.9**	**-1.8**
KAMA	**Osmaniye**	**0.41**	**258**	*i* P		**Pg**		**11 10 21.2**	**-0.8**
KAMA				*i* S		**Sg**		**11 10 26.3**	**-1.3**
KUZU	**Kuzuini**	**0.50**	**189**	P		**Pb**		**11 10 25.5**	**+1.2**
KUZU	**Kuzuini**	**0.50**	**189**	*i* P		**Pb**		**11 10 25.4**	**+1.2**
DRWC	**Darouich**	**0.76**	**212**	*e*P		**Pb**		**11 10 29.6**	**+0.8**
DRWC				*e*S		**Sb**		**11 10 39.8**	**+0.8**
DRWC				AML	AML			11 10 43.5	
	comp=N,875nm,0.5s								
DRWC				AML	AML			11 10 43.6	
	comp=E,334nm,0.5s								
ATAB	**Bozova**	**0.92**	**77**	P		**Pb**		**11 10 32.3**	**+0.9**
ATAB	**Bozova**	**0.92**	**77**	*i* P		**Pb**		**11 10 32.3**	**+0.9**
KOZT	**Kozan**	**1.09**	**281**	PG		**Pb**		**11 10 33.5**	**-0.8**
KOZT				SG		**Sb**		**11 10 48.9**	**+0.6**
KOZT	**Kozan**	**1.09**	**281**	*i* Pg		**Pb**		**11 10 33.5**	**-0.8**
KOZT				*i* Sg		**Sb**		**11 10 48.9**	**+0.6**
CEYT	**Ceyhan**	**1.16**	**257**	PN		**Pb**		**11 10 35.4**	**-0.2**
CEYT	**Ceyhan**	**1.16**	**257**	*i* Pn		**Pb**		**11 10 35.4**	**-0.2**
AKCD	**Akcadag**	**1.18**	**30**	P		**Pb**		**11 10 35.8**	**-0.2**
AKCD				S		**Sg**		**11 10 52.2**	**+0.1**
AKCD	**Akcadag**	**1.18**	**30**	*i* P		**Pb**		**11 10 35.8**	**-0.2**
AKCD				*i* S		**Sg**		**11 10 52.2**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.19**	**222**	PN		**Pn**		**11 10 36.6**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.19**	**222**	*i* Pn		**Pn**		**11 10 36.6**	**+0.7**
SARI	**SarD1z-Kayseri**	**1.28**	**333**	PN		**Pn**		**11 10 37.4**	**+0.2**
YURE	**YUREGIR**	**1.31**	**251**	P		**Pg**		**11 10 39.3**	**+0.4**
YURE				S		**Sg**		**11 10 57.2**	**+1.3**
YURE	**YUREGIR**	**1.31**	**251**	*i* P		**Pg**		**11 10 39.3**	**+0.4**
YURE				*i* S		**Sg**		**11 10 57.2**	**+1.3**
DARE	**Darende-Malaty**	**1.32**	**11**	PN		**Pb**		**11 10 38.8**	**+0.5**
DARE	**Darende-Malaty**	**1.32**	**11**	*i* Pn		**Pb**		**11 10 38.8**	**+0.5**
BTCH	**Batrach**	**1.36**	**205**	*e*P		**Pb**		**11 10 39.5**	**+0.6**
BTCH				*e*S		**Sb**		**11 10 54.4**	**-1.7**
BTCH				AML	AML			11 11 03.8	
	comp=E,146nm,0.7s								
BTCH				AML	AML			11 11 07.8	
	comp=N,139nm,0.4s								
AKO	**Adana**	**1.39**	**278**	*i* P		**Pn**		**11 10 38.9**	**+0.3**
AKO				*i* S		**Sg**		**11 10 57.9**	**-0.6**
YAYL	**Yayladag**	**1.50**	**215**	P		**Pn**		**11 10 39.9**	**-0.4**
YAYL				S		**Sn**		**11 10 58.8**	**-0.8**
YAYL	**Yayladag**	**1.50**	**215**	*i* P		**Pn**		**11 10 39.9**	**-0.4**
YAYL				*i* S		**Sn**		**11 10 58.8**	**-0.8**
KRTS	**Karatas**	**1.60**	**245**	*e*PN		**Pb**		**11 10 42.9**	**0.0**
KRTS	**Karatas**	**1.60**	**245**	*e*Pn		**Pb**		**11 10 42.9**	**0.0**
YAHY	**KAYSERI_Yahyal**	**1.65**	**300**	*i* P		Pn		11 10 37.9	-4.5
KARA	**Karaisali**	**1.69**	**270**	*e*PN		**Pn**		**11 10 43.7**	**+1.0**
KARA	**Karaisali**	**1.69**	**270**	*e*Pn		**Pn**		**11 10 43.7**	**+1.0**
ARNB	**Al Arnab**	**1.71**	**215**	*e*P		**Pb**		**11 10 44.9**	**0.0**
ARNB				*e*S		**Sb**		**11 11 06.4**	**+0.2**
ARNB				AML	AML			11 11 10.5	
	comp=E,66nm,0.6s								
ARNB				AML	AML			11 11 19.8	
	comp=N,23nm,0.6s								
BNN	**Bunyan**	**1.89**	**327**	*e*PN		**Pn**		**11 10 46.9**	**+1.2**
BNN	**Bunyan**	**1.89**	**327**	*e*Pn		**Pn**		**11 10 46.9**	**+1.2**
GULE	**Gulek**	**1.91**	**271**	P		**Pn**		**11 10 46.2**	**+0.3**
GULE				S		**Sn**		**11 11 11.1**	**+1.3**
GULE	**Gulek**	**1.91**	**271**	*i* P		**Pn**		**11 10 46.2**	**+0.3**
GULE				*i* S		**Sn**		**11 11 11.1**	**+1.3**
SVRC	**Sivrice-ELAZID**	**2.02**	**56**	*e*PN		**Pb**		**11 10 49.8**	**-0.5**
SVRC	**Sivrice-ELAZID**	**2.02**	**56**	*e*Pn		**Pb**		**11 10 49.8**	**-0.5**
CUALT	**Altinyayla-SIV**	**2.02**	**351**	P		**Pg**		**11 10 52.1**	**-0.5**
CUALT	**Altinyayla-SIV**	**2.02**	**351**	*i* P		**Pg**		**11 10 52.1**	**-0.5**
KSRV	**Kasrt alli**	**2.04**	**133**	*e*P		**Pg**		**11 10 52.7**	**-0.1**
KSRV				*e*S		**Sb**		**11 11 16.7**	**+1.1**
KSRV				AML	AML			11 11 20.2	
	comp=Z,44nm,0.3s								
CUKAN	**kangal_SIVAS**	**2.05**	**6**	P		**Pb**		**11 10 52.1**	**+1.3**
CUKAN	**kangal_SIVAS**	**2.05**	**6**	*i* P		**Pb**		**11 10 52.1**	**+1.3**
MNKR	**ALMNKUR**	**2.15**	**127**	*e*P		**Pn**		**11 10 48.8**	**-0.3**
MNKR				*e*S		**Sn**		**11 11 09.4**	**-6.1**
MNKR				AML	AML			11 11 28.2	
	comp=Z,261nm,0.2s								
NIG	**Nigde**	**2.19**	**293**	*e*PN		**Pn**		**11 10 50.9**	**+1.0**
NIG	**Nigde**	**2.19**	**293**	*e*Pn		**Pn**		**11 10 50.9**	**+1.0**
CUSAR	**Sarkisla-SIVAS**	**2.26**	**342**	P		**Pb**		**11 10 55.7**	**+1.3**
CUSAR				S		**Sg**		**11 11 24.3**	**-2.2**
CUSAR	**Sarkisla-SIVAS**	**2.26**	**342**	*i* P		**Pb**		**11 10 55.7**	**+1.3**
CUSAR				*i* S		**Sg**		**11 11 24.3**	**-2.2**
PTK	**Pertek**	**2.39**	**47**	*e*PN		**Pn**		**11 10 55.0**	**+2.5**
PTK	**Pertek**	**2.39**	**47**	*e*Pn		**Pn**		**11 10 55.0**	**+2.5**
SFNV	**Sufian**	**2.51**	**109**	*e*P		**Pn**		**11 10 55.0**	**+0.9**
SFNV				*e*S		**Sn**		**11 11 22.0**	**-2.5**
SFNV				AML	AML			11 11 47.9	
	comp=Z,31nm,0.5s								
GULA	**Gulagac**	**2.56**	**296**	*e*PN		**Pn**		**11 10 56.1**	**+1.4**
GULA	**Gulagac**	**2.56**	**296**	*e*Pn		**Pn**		**11 10 56.2**	**+1.4**
MAZI	**Mazidag**	**2.62**	**85**	*e*PN		**Pn**		**11 10 58.6**	**+3.0**
MAZI	**Mazidag**	**2.62**	**85**	*e*Pn		**Pn**		**11 10 58.6**	**+3.0**
KBSD	**Kabsdagh**	**2.71**	**95**	*e*P		**Pn**		**11 10 58.1**	**+1.3**
KBSD				*e*S		**Sn**		**11 11 28.4**	**-0.9**
KBSD				AML	AML			11 11 51.5	
	comp=Z,37nm,0.6s								
ECAT	**Cat-ERZURUM**	**3.79**	**51**	*i* P		**Pb**		**11 11 18.7**	**-1.8**

*ISCJB **14** 11:44:10.3±0.6, 33°77N±0°04×35°92E±0°05, h9km±7km, Error ellipse: s-maj=7.9km s-min=4.7km az=43.9*
*GRAL **14** 11:44:10.8±0.3, 33°77N × 35°94E, h5km±13km, MD2.7*
*CSEM **14** 11:44:10.8, 33°77N × 35°94E, h4km, ML2.7*
*NSSC **14** 11:44:10.8±1.1, 33°75N × 35°93E, h9km±5km, ML1.7*
ISC 14 11:44:10.3±1.0, 33°77N±0°03×35°92E±0°04, h13km±10km, n12, σ0s32/22, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.26**	**301**	*e*P		**Pg**		**11 44 15.8**	**0.0**
BHL				*e*S		**Sg**		**11 44 19.6**	**+0.1**
BHL	**Bhannes**	**0.26**	**301**	*e*P		**Pg**		**11 44 15.8**	**0.0**
BHL				*e*S		**Sg**		**11 44 19.6**	**+0.1**
RCY	**Rachaya**	**0.28**	**194**	*e*P		**Pg**		**11 44 15.9**	**-0.3**
RCY				*e*S		**Sg**		**11 44 19.8**	**-0.5**
DQRL	**Deir Qamar**	**0.30**	**258**	*e*P		**Pg**		**11 44 16.6**	**+0.1**
DQRL				*e*S		**Sg**		**11 44 20.7**	**0.0**
DQRL	**Deir Qamar**	**0.30**	**258**	*e*P		**Pg**		**11 44 16.6**	**+0.1**
DQRL				*e*S		**Sg**		**11 44 20.7**	**0.0**
BRBR	**Barbar**	**0.36**	**176**	*e*P		**Pg**		**11 44 17.1**	**-0.5**
BRBR				*e*S		**Sg**		**11 44 22.9**	**+0.4**
BRBR				AML	AML			11 44 25.2	
	comp=N,144nm,0.4s								
BRBR				AML	AML			11 44 26.2	
	comp=E,131nm,0.3s								
QASN	**Qassioun**	**0.38**	**129**	*e*P		**Pg**		**11 44 18.2**	**+0.3**
QASN				*e*S		**Sg**		**11 44 23.0**	**-0.1**
QASN				AML	AML			11 44 25.8	
	comp=E,464nm,0.5s								
QASN				AML	AML			11 44 28.0	
	comp=N,236nm,0.7s								
HWQ	**Hawqa**	**0.51**	**2**	*e*P		**Pg**		**11 44 19.9**	**-0.3**
HWQ	**Hawqa**	**0.51**	**2**	*e*P		**Pg**		**11 44 20.0**	**-0.3**
TOTH	**TOTAH**	**0.59**	**134**	*e*P		**Pg**		**11 44 22.0**	**+0.2**
TOTH				*e*S		**Sb**		**11 44 30.4**	**-0.2**
TOTH				AML	AML			11 44 32.7	
	comp=N,46nm,0.3s								
TOTH				AML	AML			11 44 33.6	
	comp=E,37nm,1.0s								
SALA	**Sala**	**1.26**	**147**	*e*P		**Pb**		**11 44 34.3**	**+0.3**
SALA				*e*S		**Sb**		**11 44 49.3**	**-0.7**
SALA				AML	AML			11 44 54.1	
	comp=N,16nm,0.8s								
SALA				AML	AML			11 44 54.4	
	comp=E,3.0nm,0.5s								
ZALF	**Zalf**	**1.46**	**125**	*e*P		**Pb**		**11 44 37.5**	**+0.3**
ZALF				*e*S		**Sn**		**11 44 55.4**	**+0.2**
ZALF				AML	AML			11 44 58.8	
	comp=N,14nm,0.5s								
ZALF				AML

TXAR	**Lajitas Array**	**62.15**	**77**	P		**P**	**12 37 50.1**	**+0.7**
	0.4nm,0.6s,baz=318,slow=3.5,SNR=6.5							
AKASG	**Malin Array Be**	**73.55**	**338**	P		**P**	**12 39 00.4**	**-0.2**
	0.2nm,0.3s,baz=26,slow=6.7,SNR=4.7							
BRTR	**Keskin Array B**	**82.58**	**331**	P		**P**	**12 39 51.7**	**+0.6**
	0.2nm,0.4s,baz=53,slow=4.4,SNR=3.6							

WEL 14 12:28:41.9±0.2, 43.64S×172.84E, h6km, ML3.6/12, 3D, Error ellipse: s-maj=1.4km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.15**	**243**	PG	Pg	12 28 45.3	+0.2
MQZ				SG	Sg	12 28 47.3	+0.2
MQZ				SG		12 28 47.5	
MQZ				AML	AML	12 28 47.7	
OXZ	**Oxford**	**0.66**	**298**	⇓P*	Pg	12 28 54.7	0.0
LTZ	**Lake Taylor**	**0.95**	**334**	P*	Pg	12 29 00.0	-0.1
LTZ				S*	Sb	12 29 13.5	-0.3
LTZ				AML	AML	12 29 16.3	
RPZ	**Rata Peaks**	**1.30**	**266**	*e*P*	Pn	12 29 05.5	-1.2
RPZ				AML	AML	12 29 24.5	
RPZ				AML	AML	12 29 28.3	
KHZ	**Kahutara**	**1.32**	**23**	P*	Pn	12 29 05.4	-1.6
INZ	**Inchbonnie**	**1.37**	**311**	PN	Pn	12 29 06.0	-1.6
WVZ	**Waitaha Valley**	**1.64**	**289**	⇓PN	Pn	12 29 10.4	-0.9
WVZ				AML	AML	12 29 33.0	
WVZ				AML	AML	12 29 44.0	
THZ	**Tophouse**	**1.87**	**1**	PN	Pn	12 29 13.0	-1.6
THZ				AML	AML	12 29 49.7	
THZ				AML	AML	12 29 53.2	
DSZ	**Denniston Nort**	**2.04**	**338**	PN	Pn	12 29 15.8	-1.1
DSZ				AML	AML	12 29 45.0	
DSZ				AML	AML	12 29 45.0	
DSZ				AML	AML	12 29 51.7	
DSZ				AML	AML	12 29 51.9	
LBZ	**Lake Benmore**	**2.06**	**248**	PN	Pn	12 29 16.3	-0.8
LBZ				AML	AML	12 29 53.3	
LBZ				AML	AML	12 29 55.0	
BSWZ	**Blackbirch Sta**	**2.06**	**22**	PN	Pn	12 29 16.1	-1.1
ODZ	**Otahua Downs**	**2.12**	**228**	*e*PN	Pn	12 29 16.4	-1.4
ODZ				AML	AML	12 29 58.0	
ODZ				AML	AML	12 29 58.1	
ODZ				AML	AML	12 29 58.6	
ODZ				AML	AML	12 30 01.1	
FOZ	**Fox Glacier**	**2.20**	**272**	*e*Pn	Pn	12 29 19.2	+0.1
NNZ	**Nelson**	**2.45**	**9**	⇓PN	Pn	12 29 21.6	-0.9
QRZ	**Quartz Range**	**2.82**	**355**	PN	Pn	12 29 26.4	-1.1
EAZ	**Earnscleugh**	**2.99**	**237**	PN	Pn	12 29 28.7	-1.2
EAZ				AML	AML	12 30 23.3	
EAZ				AML	AML	12 30 34.3	
WKZ	**Wanaka**	**3.00**	**245**	AML	AML	12 30 25.0	
WKZ				AML	AML	12 30 32.8	
CAW	**Cannon Point**	**3.02**	**34**	AML	AML	12 30 06.9	
TUZ	**Tuapeka**	**3.26**	**224**	*e*PN	Pn	12 29 32.2	-1.3
TUZ				AML	AML	12 30 29.8	
TUZ				AML	AML	12 30 34.4	

IDC 14 12:29:14.4±708.0, 46.84N×47.32E, h0km, Error ellipse: s-maj=240.9km s-min=162.4km az=43.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.94**	**59**	*i*		13 23 10.0	
	baz=246,slow=308,SNR=1.1						
I43RU	**DUBNA INFRASON**	**11.69**	**331**	*i*		13 36 40.0	
	baz=141,slow=318,SNR=0.6						
I46RU	**ZALESOVO INFRA**	**24.71**	**59**	*i*		15 18 30.0	
	baz=266,slow=298,SNR=2.8						

*ISK **14** 12:32:55.2, 40.56N×37.31E, h5km, ML2.6*
*DDA **14** 12:32:56.6, 40.49N×37.32E, h7km, Md2.8*
*ISCJB **14** 12:32:57.2±0.6, 40.52N±0.03×37.29E±0.04, h8km±5km, Error ellipse: s-maj=5.7km s-min=4.5km az=8.3*
*CSEM **14** 12:32:57.1±0.2, 40.50N×37.31E, h5km, ML2.6, Error ellipse: s-maj=5.5km s-min=4.4km az=171.0*

ISC 14 12:32:56.9±1.0, 40.51N±0.03×37.30E±0.02, h7km±8km, n23, σ0.973/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.12**	**169**	PG	**Pg**	**12 32 58.8**	**-0.6**
RSDY				*e*SG	**Sg**	**12 33 02.2**	**+1.0**
RSDY	**Resadiye-TOKAT**	**0.12**	**169**	*i* Pg	**Pg**	**12 32 58.8**	**-0.6**
RSDY				*e*Sg	**Sg**	**12 33 02.2**	**+1.0**
ERBA	**Erbaa**	**0.45**	**292**	P	**Pg**	**12 33 05.5**	**-0.1**
ERBA				S	**Sb**	**12 33 13.1**	**-1.0**
ERBA	**Erbaa**	**0.45**	**292**	*i* P	**Pg**	**12 33 05.5**	**-0.1**
ERBA				*i* S	**Sb**	**12 33 13.1**	**-1.0**
ORDU	**Ordu-Boztepe**	**0.64**	**41**	P	**Pb**	**12 33 09.8**	**-0.6**
ORDU				S	**Sb**	**12 33 20.4**	**+0.8**
ORDU	**Ordu-Boztepe**	**0.64**	**41**	*i* P	**Pb**	**12 33 09.8**	**-0.6**
ORDU				*i* S	**Sb**	**12 33 20.4**	**+0.8**
CUZAR	**Zara_SIVAS**	**0.72**	**150**	P	**Pg**	**12 33 10.0**	**-0.8**
CUZAR	**Zara_SIVAS**	**0.72**	**150**	*i* P	**Pg**	**12 33 10.0**	**-0.8**
SUSE	**Susehri**	**0.75**	**113**	P	**Pg**	**12 33 11.2**	**-0.2**
SUSE				S	**Sb**	**12 33 23.6**	**+0.6**
SUSE	**Susehri**	**0.75**	**113**	*i* P	**Pg**	**12 33 11.2**	**-0.2**
SUSE				*i* S	**Sb**	**12 33 23.6**	**+0.6**
GRSN	**GIRESUNGRSN**	**0.84**	**61**	P	**Pg**	**12 33 12.8**	**-0.3**
GRSN	**GIRESUNGRSN**	**0.84**	**61**	*i* P	**Pg**	**12 33 12.8**	**-0.3**
KVT	**Kavak**	**1.11**	**301**	*e*PN	**Pg**	**12 33 17.1**	**-1.1**
KVT				*e*SN	**Sb**	**12 33 33.3**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**1.36**	**217**	P	**Pb**	**12 33 22.4**	**-0.4**
CUSAR				S	**Sn**	**12 33 41.3**	**+0.5**
CUSAR	**Sarkisla-SIVAS**	**1.36**	**217**	*i* P	**Pb**	**12 33 22.4**	**-0.4**
CUSAR				*i* S	**Sn**	**12 33 41.3**	**+0.5**
KELT	**Kelkit**	**1.54**	**103**	P	**Pn**	**12 33 24.6**	**-0.4**
KELT				S	**Sg**	**12 33 46.5**	**+0.1**
KELT	**Kelkit**	**1.54**	**103**	*i* P	**Pn**	**12 33 24.6**	**-0.4**
KELT				*i* S	**Sg**	**12 33 46.5**	**+0.1**
YOZ	**Yozgat**	**1.75**	**241**	*e*PN	**Pn**	**12 33 28.5**	**+0.7**
YOZ	**Yozgat**	**1.75**	**241**	*e*Pn	**Pn**	**12 33 28.5**	**+0.7**
BNN	**Bunyan**	**2.00**	**215**	*e*PN	**Pb**	**12 33 32.7**	**-1.0**
BNN	**Bunyan**	**2.00**	**215**	*e*Pn	**Pb**	**12 33 32.7**	**-1.0**
CORM	**Corum**	**2.07**	**262**	*e*PN	**Pn**	**12 33 33.3**	**+1.2**
CORM	**Corum**	**2.07**	**262**	*e*Pn	**Pn**	**12 33 33.3**	**+1.2**

IDC 14 12:45:05.0±59.0, 19.44S×178.82W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/35, mbtmp4.2/3, Error ellipse: s-maj=1072.0km s-min=150.9km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.57**	**243**	P	P	12 52 21.5	+0.1
	2.0nm,0.6s,baz=89,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**43.99**	**261**	P	P	12 53 14.4	-0.1
	1.3nm,0.4s,baz=97,slow=7.7,SNR=82						
ASAR	**Alice Springs**	**44.02**	**256**	P	P	12 53 14.4	-0.3
	2.8nm,0.5s,baz=96,slow=7.4,SNR=47						

*NIED **14** 12:48:00, 43.10N×145.40E, h80km, Mw5.0 Best double couple: M0 3.62000×10^16 NP1:φs36.00000°, δ50.00000°, λ137.00000°. NP2:φs157.00000°, δ59.00000°, λ49.00000°.*
*BJI **14** 12:48:52.8, 43.22N×145.29E, h74km, mb5.1/78, mB5.0/42, Ms4.3/53, Ms7 4.0/51*
*IDC **14** 12:48:52.7±1.6, 43.24N×145.34E, h55km±14km, mb4.8/46, mb1 4.9/53, mb1mx4.8/65, mbtmp5.1/53, MS3.8/9, Ms1 3.8/9, ms1mx3.5/50, Error ellipse: s-maj=12.1km s-min=9.3km az=155.0*
*ISCJB **14** 12:48:53.8±0.2, 43.13N±0.02×145.28E±0.02, h79km±1km, mb5.1/356, Error ellipse: s-maj=3.1km s-min=1.9km az=164.0*
*NEIC **14** 12:48:53.2±0.4, 43.22N×145.24E, h56km±3km, mb5.3/260, Error ellipse: s-maj=3.7km s-min=2.1km az=160.0*
NEIC Felt at Obihiro and Sapporo. Also felt at Misawa, Honshu. Felt [III] at Shakotan and Yuzhno-Kuril'sk, Kuril Islands. Recorded [4 JMA] in eastern Hokkaido.
*GCMT **14** 12:48:53.2±0.3, 43.21N×145.24E, h82km±2km, MW5.0/78, Moment Tensor Solution. s44,c57; s78,c136; Duration: 0 Moment tensor: Scale 10^16Nm; MH1.81±.12; Mθθ2.22±.12; Mϕϕ-4.03±.11; Mrθ1.46±.08; Mrϕ-0.53±.10; Mrr-1.15±.09; Best double couple: M0 3.96200×10^16 NP1:φs149.00000°, δ70.00000°, λ40.00000°. NP2: φs43.00000°, δ53.00000°, λ154.00000°. Principal axes: T 3.6650, Plg42.0000°, Azm12.0000°; N 0.5930, Plg46.0000°, Azm172.0000°; P -4.2590, Plg10.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **14** 12:48:54.0±0.9, 43.22N×145.24E, h79km, mb5.5/112 Error ellipse: s-maj=5.4km s-min=3.8km az=102.4*
MOS Felt (III) Yuzhno-Kuril'sk, Malokuril'skoye.
*JMA **14** 12:48:54.9±0.1, 43.12N×145.36E, h73km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φs2.00000°, δ48.00000°, λ65.00000°. NP2:φs216.00000°, δ48.00000°, λ115.00000°. Principal axes: T Plg72.0000°, Azm199.0000°; N Plg18.0000°, Azm19.0000°; P Plg0.0000°, Azm109.0000°;*
JMA Felt IV J1.
*SKHL **14** 12:48:55.7±0.9, 43.19N×145.38E, h91km±7km, mb5.6/3, mbh5.4/3, Ms4.4/1, msh5.6/6*
SKHL Felt (III) at Yushno-Kurilsk (102 km).

ISC 14 12:48:54.0±0.4, 43.14N±0.03×145.29E±0.03, h70km±3km, h70km:pP-P,n1302,σ1.920/1416, mb5.2/361, 93C-47D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.40**	**55**	⇑P	**Pn**	**12 49 06.9**	**+1.0**
NEM2				*e*S	**Sn**	**12 49 15.5**	**+0.9**
JAK	**Akkeshi**	**0.46**	**252**	⇑P	**Pn**	**12 49 08.1**	**+1.7**
JAK				*e*S	**Sn**	**12 49 17.8**	**+2.3**
JNK	**Nakash**	**0.61**	**317**	⇓P	**Pn**	**12 49 09.3**	**+1.4**
JNK				*e*S	**Sn**	**12 49 19.7**	**+1.5**
JRA	**Rausu**	**0.81**	**351**	⇑P	**Pn**	**12 49 11.7**	**+1.6**
JRA				*e*S	**Sn**	**12 49 23.9**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**0.99**	**25**	*d i*PN	**Pn**	**12 49 13.6**	**+1.3**
YUK				*i* S	**Sn**	**12 49 27.0**	**+1.1**
YUK				pmax	pmax		
	comp=E,7μm,0.4s						
YUK				pmax	pmax		
	comp=Z,20μm,0.4s						
YUK				pmax	pmax		
	comp=N,10μm,0.5s						
YUK				smax	smax		
	comp=E,62μm,0.3s						
YUK				smax	smax		
	comp=N,72μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.99**	**25**	*e*P	**Pn**	**12 49 13.5**	**+1.3**
YUK				AMB	AMB	12 49 14.2	
	comp=N,10μm,0.4s						
YUK				AMB	AMB	12 49 14.2	
	comp=N,7μm,0.4s						
YUK				AMB	AMB	12 49 14.2	
	comp=N,20μm,0.4s						
YUK				*e*S	**Sn**	**12 49 27.0**	**+1.1**
YUK				A	A	12 49 30.6	
	comp=N,72μm,0.4s						
YUK				A	A	12 49 30.6	
	comp=N,62μm,0.4s						
JOB	**Onbets**	**1.09**	**258**	⇓P	**Pn**	**12 49 15.5**	**+1.9**
JOB				*e*S	**Sn**	**12 49 30.5**	**+2.2**
JAR	**Ashorobuto**	**1.12**	**279**	⇓P	**Pn**	**12 49 16.0**	**+2.0**
JAR				*e*S	**Sn**	**12 49 31.5**	**+2.5**
JTKR	**Abashiri--Toko**	**1.30**	**310**	⇓P	**Pn**	**12 49 18.5**	**+2.2**
JTKR				*e*S	**Sn**	**12 49 35.6**	**+2.5**
SHO	**Shikotan**	**1.34**	**56**	*d i*PN	**Pn**	**12 49 17.0**	**+0.3**
SHO				*i* S	**Sn**	**12 49 33.0**	**-0.8**
SHO				pmax	pmax		
	comp=Z,8μm,0.5s						
SHO				pmax	pmax		
	comp=N,2μm,0.3s						
SHO				pmax	pmax		
	comp=E,3μm,0.3s						
SHO				smax	smax		
	comp=E,62nm,0.7s						
SHO				smax	smax		
	comp=N,76nm,0.6s						
SHO	**Shikotan**	**1.34**	**56**	*e*P	**Pn**	**12 49 17.1**	**+0.3**
SHO				AMB	AMB	12 49 17.7	
	comp=N,4μm,0.3s						
SHO				*e*S	**Sn**	**12 49 33.1**	**-0.8**
SHO				A	A	12 49 34.1	
	comp=N,34μm,0.5s						
JCH	**Churui**	**1.51**	**250**	⇓P	**Pn**	**12 49 20.5**	**+1.5**
JCH				*e*S	**Sn**	**12 49 39.9**	**+2.0**
HRK	**Horoka**	**1.61**	**283**	*e*P	**Pn**	**12 49 22.8**	**+2.4**
JMP	**Maruseppu**	**1.65**	**302**	⇓P	**Pn**	**12 49 23.2**	**+2.3**
ERM	**Erimo**	**1.93**	**235**	*c i*PN	**Pn**	**12 49 28.3**	**+3.6**
ERM	**Erimo**	**1.93**	**235**	*e*Pn	**Pn**	**12 49 25.4**	**+0.7**
ERM				*e*Sn	**Sn**	**12 49 47.0**	**-1.1**
JFR	**Furan**	**1.97**	**272**	⇓P	**Pn**	**12 49 27.3**	**+2.1**
JKK2	**Kamakawa 2**	**1.99**	**293**	⇓P	**Pn**	**12 49 28.0**	**+2.5**
ASAJ	**Asahikawa**	**2.19**	**298**	P	**Pn**	**12 49 30.9**	**+2.8**
	baz=125,slow=9.4						
ASAJ				S	**Sn**	**12 49 56.2**	**+2.1**
	comp=N,770nm,0.3s,baz=113,slow=12,SNR=7.9						
ASAJ	**Asahikawa**	**2.19**	**298**	⇓P	**Pn**	**12 49 31.1**	**+3.0**
ASAJ	**Asahikawa**	**2.19**	**298**	*e*Pn	**Pn**	**12 49 31.2**	**+3.1**
ASAJ				*e*Sn	**Sn**	**12 49 51.5**	**-2.7**
JAB	**Ashibetsu**	**2.27**	**280**	⇓P	**Pn**	**12 49 32.5**	**+3.3**
JSE	**Soyaes**	**2.67**	**314**	⇓P	**Pn**	**12 49 36.6**	**+2.0**
JSS	**Shosan**	**2.79**	**298**	⇓P	**Pn**	**12 49 40.0**	**+3.7**
KUR	**Kuril'sk**	**2.80**	**41**	*d i*PN	**Pn**	**12 49 38.4**	**+2.1**
KUR				*i* S	**Sn**	**12 50 10.9**	**+1.9**
KUR				pmax	pmax		
	comp=Z,1μm,0.7s						
KUR				pmax	pmax		
	comp=N,210nm,0.2s						
KUR				pmax	pmax		
	comp=E,268nm,0.1s						
KUR				smax	smax		
	comp=E,4μm,0.5s						
KUR				smax	smax		
	comp=N,5μm,0.4s						
KUR	**Kuril'sk**	**2.80**	**41**	*e*P	**Pn**	**12 49 38.4**	**+2.1**
KUR				AMB	AMB	12 49 48.7	
	comp=N,575nm,0.7s						
KUR				AMB	AMB	12 49 48.7	
	comp=N,380nm,0.7s						
KUR				AMB	AMB	12 49 48.7	
	comp=N,1μm,0.7s						
KUR				*e*S	**Sn**	**12 50 08.0**	**-1.0**
KUR				A	A	12 50 08.4	
	comp=N,26μm,2.0s						
KUR				A	A	12 50 08.4	
	comp=N,9μm,2.0s						
KUR				A	A	12 50 15.5	
	comp=N,2μm,0.6s						
KUR				A	A	12 50 15.5	
	comp=N,2μm,0.6s						
JEW	**Eniwo**	**2.83**	**265**	⇓P	**Pn**	**12 49 39.5**	**+2.6**
JYG	**Yagishiri**	**3.08**	**296**	⇓P	**Pn**	**12 49 43.1**	**+2.9**
JNB	**Noboribetsu**	**3.20**	**259**	⇓P	**Pn**	**12 49 43.7**	**+1.9**
JWK2	**Keihoku**	**3.27**	**313**	⇓P	**Pn**	**12 49 46.2**	**+3.4**
JSK	**Shakotan**	**3.52**	**275**	P	**Pn**	**12 49 48.1**	**+1.9**
JOT	**Ohata**	**3.60**	**242**	⇓P	**Pn**	**12 49 48.3**	**+1.0**
JYM2	**Yakumo 2**	**3.77**	**256**	⇓P	**Pn**	**12 49 51.7**	**+2.1**
JANG	**Nango**	**3.95**	**227**	P	**Pn**	**12 49 51.8**	**-0.3**
JSR	**Shiriuchi**	**3.95**	**248**	⇓P	**Pn**	**12 49 53.3**	**+1.2**
JSI2	**Shiura 2**	**4.18**	**242**	⇓P	**Pn**	**12 49 56.4**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.22**	**336**	‖*e*PN	**Pn**	**12 49 57.9**	**+2.2**
YSS				*e*S	**Sn**	**12 50 44.5**	**+0.9**
YSS				pmax	pmax		
	comp=Z,290nm,0.7s						
YSS				smax	smax		
	comp=N,3μm,0.6s						
YSS				smax	smax		
	comp=N,1.0nm,1.4s						
YSS				smax	smax		
	comp=Z,1μm,8.0s						
YSS	**Yuzh-Sakhalins**	**4.22**	**336**	*e*P	**Pn**	**12 49 57.9**	**+2.2**
YSS				AMB	AMB	12 49 59.3	
	comp=Z,290nm,0.7s						
YSS				*e*S	**Sn**	**12 50 44.5**	**+0.9**
YSS				A	A	12 50 46.7	
	comp=Z,3μm,2.0s						
YSS				A	A	12 50 46.8	
	comp=Z,1μm,1.0s						
YSS				AMS	AMS	12 51 39.0	
	comp=Z,1μm,8.0s						
YSS	**Yuzh-Sakhalins**	**4.22**	**336**	*e*Pn	**Pn**	**12 49 58.0**	**+2.2**
YSS				*e*Sn	**Sn**	**12 50 38.3**	**-5.4**

MIYJ	**Miyakonagasawa**	**4.41**	**217**	P		**Pn**	**12 49 57.7**	**-0.7**
JRG	**Rokugo**	**5.13**	**225**	⇓P		**Pn**	**12 50 08.6**	**+0.4**
JMK	**Ichinoseki**	**5.19**	**218**	⇑P		**Pn**	**12 50 08.5**	**-0.5**
JIO	**Ouri**	**5.55**	**214**	⇑P		**Pn**	**12 50 12.9**	**-1.1**
UGL	**Uglegorsk**	**6.35**	**340**	*e*PN		**Pn**	**12 50 24.3**	**-0.5**
UGL				*e*S		**Sn**	**12 51 35.6**	**-0.2**
UGL	**Uglegorsk**	**6.35**	**340**	*e*P		**Pn**	**12 50 27.8**	**+3.0**
UGL				AMB	AMB	12 50 29.2		
	comp=Z,600nm,4.0s							
UGL				AMB	AMB	12 50 29.2		
	comp=Z,500nm,4.0s							
UGL				AMB	AMB	12 50 29.2		
	comp=Z,1μm,4.0s							
UGL				AMB	AMB	12 50 29.7		
	comp=Z,180nm,0.9s							
UGL				AMB	AMB	12 50 29.7		
	comp=Z,270nm,0.9s							
UGL				AMB	AMB	12 50 29.7		
	comp=Z,450nm,0.9s							
UGL				*e*S	**Sn**	**12 51 36.8**	**+1.0**	
UGL				A	A	12 51 44.9		
	comp=Z,400nm,0.9s							
UGL				A	A	12 51 46.3		
	comp=Z,2μm,3.0s							
UGL				A	A	12 51 46.3		
	comp=Z,1μm,3.0s							
UGL				A	A	12 51 46.3		
	comp=Z,800nm,3.0s							
TEY	**Ternei**	**6.54**	**290**	*e*P		**Pn**	**12 50 30.0**	**+2.6**
TEY				AMB	AMB	12 50 30.3		
	comp=Z,800nm,2.0s							
TEY				AMB	AMB	12 50 30.3		
	comp=Z,800nm,2.0s							
TEY				AMB	AMB	12 50 30.3		
	comp=Z,42nm,0.8s							
TEY				AMB	AMB	12 50 30.3		
	comp=Z,66nm,0.8s							
TEY				AMB	AMB	12 50 30.3		
	comp=Z,79nm,0.8s							
JAW	**Awa shima**	**6.55**	**226**	⇓P		**Pn**	**12 50 28.3**	**+0.7**
JSD	**Sado**	**7.39**	**229**	⇓P		**Pn**	**12 50 39.6**	**+0.6**
TYV	**Tymovskoe**	**7.94**	**348**	*e*P		**Pn**	**12 50 49.1**	**+2.6**
TYV				AMB	AMB	12 50 55.5		
	comp=Z,62nm,0.8s							
TYV				AMB	AMB	12 50 55.5		
	comp=Z,121nm,0.8s							
TYV				*e*S	**Sn**	**12 52 15.0**	**+0.4**	
MJAR	**Matsushiro Arr**	**8.54**	**222**	P		**Pn**	**12 50 55.2**	**+0.3**
	comp=Z,8.4nm,0.3s,baz=29,slow=13,SNR=123							
MJAR				S		**Sn**	**12 52 26.7**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=19,slow=27,SNR=2.5							
MJAR				LR		LR	12 55 01.6	
	comp=Z,848nm,18.8s,baz=45,slow=43							
MJB9	**Matsu-Tunnel**	**8.54**	**222**	*e*Pn		**Pn**	**12 50 55.4**	**+0.5**
MJB9				*e*Sn		**Sn**	**12 52 27.5**	**-2.2**
MAJO	**Matsushiro**	**8.54**	**222**	‖*e*PN		**Pn**	**12 50 55.6**	**+0.7**
MAJO	**Matsushiro**	**8.54**	**222**	*e*Pn		**Pn**	**12 50 55.2**	**+0.3**
MAJO				*e*Sn		**Sn**	**12 52 29.2**	**-0.5**
MAT	**Matsushiro**	**8.54**	**222**	P		**Pn**	**12 50 55.4**	**+0.5**
MAT				S		**Sn**	**12 52 29.8**	**+0.1**
JNG	**Nsakai**	**8.71**	**222**	P		**Pn**	**12 50 57.6**	**+0.4**
HABR	**Khabarovsk**	**8.92**	**310**	*e*PN		**Pn**	**12 50 59.9**	**0.0**
HABR				*e*S		**Sn**	**12 52 39.2**	**+0.5**
HABR				pmax	pmax			
	comp=N,35nm,0.9s							
HABR				pmax	pmax			
	comp=E,79nm,0.9s							
HABR				pmax	pmax			
	comp=Z,128nm,0.9s							
USRK	**Ussuriysk Ar.**	**9.70**	**281**	P		**Pn**	**12 51 10.4**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=81,slow=14,SNR=34							
USRK				LR		LR	12 54 46.6	
	comp=Z,749nm,21.9s,baz=93,slow=36							
GRNR	**Gornyy**	**9.74**	**325**	*e*P		**Pn**	**12 51 13.0**	**+1.8**
GRNR				AMB	AMB	12 51 15.2		
	comp=Z,81nm,1.0s							
GRNR				AMB	AMB	12 51 15.2		
	comp=Z,84nm,1.0s							
GRNR				AMB	AMB	12 51 15.2		
	comp=Z,160nm,1.0s							
VLA	**Vladivostok**	**9.80**	**274**	*d i*PN		**Pn**	**12 51 13.8**	**+1.8**
VLA	**Vladivostok**	**9.80**	**274**	*e*P		**Pn**	**12 51 13.8**	**+1.8**
INU	**Inuyama**	**10.08**	**222**	*e*Pn		**Pn**	**12 51 16.6**	**+0.8**
INU				*e*Sn		**Sn**	**12 53 03.7**	**-3.4**
MSHR	**Mys Shultsa**	**10.39**	**272**	⇓*i*PN		**Pn**	**12 51 21.8**	**+1.7**
NKL	**Nikolayevsk**	**10.48**	**345**	*e*PN		**Pn**	**12 51 22.0**	**+0.9**
NKL				*e*S		**Sn**	**12 53 24.0**	**+7.3**
NKL				pmax	pmax			
	comp=N,400nm,4.0s							
NKL				pmax	pmax			
	comp=Z,500nm,4.0s							
NKL				pmax	pmax			
	comp=N,21nm,1.2s							
NKL				pmax	pmax			
	comp=Z,84nm,1.2s							
NKL				smax	smax			
	comp=E,600nm,10.0s							
NKL	**Nikolayevsk**	**10.48**	**345**	*e*P		**Pn**	**12 51 22.0**	**+0.9**
NKL				AMB	AMB	12 51 24.0		
	comp=E,400nm,4.0s							
NKL				AMB	AMB	12 51 24.0		
	comp=E,500nm,4.0s							
NKL				AMB	AMB	12 51 24.0		
	comp=E,21nm,1.0s							
NKL				AMB	AMB	12 51 24.0		
	comp=E,84nm,1.0s							
NKL				*e*S	**Sn**	**12 53 14.0**	**-2.7**	
NKL				A	A	12 53 24.0		
	comp=E,600nm,10.0s							
NKL				AMS	AMS	12 58 54.0		
	comp=E,300nm,10.0s							
JHJ2	**Mitsune**	**10.89**	**205**	*e*Pn		**Pn**	**12 51 25.0**	**-1.9**
JHJ	**Hachijo jima 2**	**10.90**	**205**	P		**Pn**	**12 51 25.6**	**-1.5**
	comp=E,44nm,0.3s,baz=78,slow=5.1,SNR=26							
JHJ				S		**Sn**	**12 53 20.9**	**-6.3**
	comp=E,67nm,0.3s,baz=145,slow=18,SNR=10							
KLR	**Kul'dur**	**11.18**	**308**	P		**Pn**	**12 51 33.1**	**+2.3**
	comp=E,0.8nm,0.3s,baz=113,slow=15,SNR=60							
MDJ	**Mudanjiang**	**11.43**	**283**	P		**Pn**	**12 51 35.1**	**+0.9**
MDJ				S		**Sn**	**12 53 41.5**	**+1.4**
MDJ				PcP		**PcP**	**12 57 23.6**	**+2.1**
MDJ				ScS		**ScS**	**13 04 21.4**	**-1.8**
MDJ				PMZ				
	comp=E,46nm,1.1s							
MDJ				PMZ				
	comp=E,260nm,8.0s							
MDJ	**Mudanjiang**	**11.43**	**283**	*e*Pn		**Pn**	**12 51 35.4**	**+1.2**
EKMR	**Ekimchan**	**12.89**	**325**	*e*P		**Pn**	**12 51 54.0**	**-0.1**
EKMR				A

KS15 eSn S 12 55 02.0 -7.2
JNU Nakatsue 15.10 233 P Pn **12 52 22.0 -1.2**
comp=Z,0.2nm,0.3s,baz=62,slow=11,SNR=5.1
JNU LR LR 12 58 19.2
comp=Z,523nm,19.6s,baz=82,slow=37
JNU Nakatsue 15.10 233 ePn Pn **12 52 22.0 -1.2**
comp=Z,57nm,1.1s
INCN Inchon 15.30 255 ePn Pn **12 52 26.5 +0.8**
comp=Z,33nm,0.9s
TJN Taejon 15.34 250c iP Pn **12 52 27.0 +0.8**
BMKR Bomnak 15.79 323 eP Pn **12 52 32.0 +0.1**
BMKR AMB AMB 12 52 36.9
comp=Z,10.0nm,0.6s
ZEA Zeya 15.94 318 eP Pn **12 52 34.5 +0.7**
ZEA AMB AMB 12 52 41.0
comp=Z,26nm,0.8s
ZEA AMB AMB 12 52 41.0
comp=Z,38nm,0.8s
ZEA AMS AMS 12 59 27.0
comp=Z,500nm,14.0s
ZEA AMS AMS 12 59 27.0
comp=Z,400nm,14.0s
ZEA AMS AMS 12 59 27.0
comp=Z,600nm,14.0s
CBIJ Chichi jima 16.20 190 ePn Pn **12 52 36.3 -0.9**
comp=Z,284nm,0.8s
JCJ Chichijima 16.20 190 P Pn **12 52 35.9 -1.3**
baz=75,slow=20
JCJ S Sn **12 55 27.5 -8.6**
comp=Z,8.1nm,0.3s,baz=94,slow=23,SNR=5.2
KROS Kirovskiy 16.48 320 eP Pn **12 52 40.5 0.0**
KROS AMB AMB 12 52 50.2
comp=Z,6.0nm,0.6s
MA2 Magadan 16.80 10 P Pn **12 52 42.2 -2.2**
comp=Z,2.0nm,0.3s,baz=214,slow=8.8,SNR=24
MA2 LR LR 12 59 32.5
comp=Z,116nm,18.2s,baz=210,slow=38
DL2 Dalian 18.33 265⇓ iP P **12 53 01.9 -0.6**
DL2 sP **sP** **12 53 25.8 +0.1**
DL2 S S **12 56 27.8 +0.2**
DL2 PMZ
comp=Z,220nm,0.8s
DL2 PMZ
comp=Z,300nm,4.6s
DL2 LN
comp=Z,360nm,13.6s
DL2 LE
comp=Z,280nm,15.8s
DL2 LZ
comp=Z,350nm,13.6s
HIA Hailar 18.67 298⇓ iP Pn **12 53 07.2 0.0**
HIA pmax pmax
comp=Z,22nm,0.8s
HIA Hailar 18.67 298 eP P **12 53 05.9 -0.3**
comp=Z,24nm,0.7s
CLNS Chul'man 18.87 324 eP P **12 53 08.5 +0.2**
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=Z,18nm,0.8s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS Chul'man 18.87 324 eP P **12 53 08.5 +0.2**
SEY Seymchan 20.26 9 P P **12 53 21.0 -2.3**
comp=E,47nm,0.9s,baz=184,slow=7.6,SNR=80
YAK Yakutsk 21.06 339 P P **12 53 28.8 -3.1**
comp=E,2.7nm,0.3s,baz=209,slow=2.4,SNR=6.2
YAK S S **12 57 14.8 -7.3**
comp=E,1.7nm,0.3s,baz=10,slow=23,SNR=9.0
YAK LR LR 13 01 57.7
comp=E,172nm,21.1s,baz=148,slow=37
YAK Yakutsk 21.06 339 eP P **12 53 28.1 -3.8**
YAK e 12 53 53.8
YAK eS S **12 57 12.7 -9.4**
YAK eSS Sn 12 57 38.1 +5.7
YAK pmax pmax
comp=Z,39nm,0.8s
YAK pmax pmax
comp=Z,60nm,0.6s
YAK pmax pmax
comp=N,109nm,1.4s
YAK pmax pmax
comp=E,48nm,1.1s
YAK smax smax
comp=N,275nm,1.9s
YAK smax smax
comp=E,51nm,0.9s
YAK Yakutsk 21.06 339 eP P **12 53 28.8 -3.1**
comp=E,55nm,0.8s
YAK eS S **12 57 15.1 -7.0**
SMY Shemya 21.42 53 eP P **12 53 37.5 +1.6**
SMY pmax pmax
comp=Z,421nm,1.6s
SMY Shemya 21.42 53 eP P **12 53 37.5 +1.6**
comp=Z,421nm,1.6s
BJI Beijing 21.95 272 P P **12 53 41.4 -0.2**
BJI S S **12 57 40.4 +0.6**
BJI PMZ
comp=Z,220nm,0.9s
BJI PMZ
comp=Z,490nm,3.5s
BJI LN
comp=Z,240nm,14.7s
BJI LE
comp=Z,250nm,13.2s
BJI LZ
comp=Z,480nm,26.0s
BJT Baijiatuau 21.96 272 eP P **12 53 41.3 -0.4**
BJT pmax pmax
comp=Z,172nm,0.8s
BJT Baijiatuau 21.96 272 eP P **12 53 41.3 -0.4**
comp=Z,172nm,0.8s
TIA Tai'an 22.69 262⇓ P P **12 53 49.0 -0.6**
TIA PMZ
comp=Z,310nm,1.1s
NJ2 Nanjing 23.59 251 eP P **12 53 59.3 +0.9**
NJ2 S S **12 58 12.8 +5.4**
NJ2 PMZ
comp=Z,90nm,1.2s
NJ2 LN
comp=Z,400nm,18.5s
NJ2 LE
comp=Z,720nm,21.7s
NJ2 LZ
comp=Z,490nm,17.3s
HHC Hu-ho-hao-te 25.08 276 eP P **12 54 12.9 +1.0**
HHC sP sP 12 54 42.6 +5.9
HHC S S **12 58 30.9 -0.4**
HHC PMZ
comp=Z,71nm,1.0s
HHC PMZ
comp=Z,320nm,4.6s
HHC LN
comp=Z,290nm,10.0s
HHC LE
comp=Z,390nm,13.7s
HHC LZ
comp=Z,180nm,15.7s
TIY Taiyuan 25.49 269 eP P **12 54 18.4 +2.8**
TIY S S **12 58 41.3 +3.5**
TIY PMZ
comp=Z,59nm,0.6s
TIY LN
comp=Z,150nm,8.6s
TIY LE
comp=Z,170nm,11.4s
TIY LZ
comp=Z,150nm,12.8s
BTO Baotou 26.27 277 eP P **12 54 22.8 +0.1**
BTO PMZ
comp=Z,40nm,0.8s
ULN Ulaanbaatar 27.02 293⇓ iP P **12 54 30.2 +0.7**
ULN pmax pmax
comp=Z,49nm,0.8s
ULN Ulaanbaatar 27.02 293 eP P **12 54 30.2 +0.7**
ULN Ulaanbaatar 27.02 293 eP P **12 54 30.1 +0.7**
comp=Z,46nm,0.9s
BILL Bilibino 27.33 17⇓ eP P **12 54 28.4 -3.4**
BILL e 12 57 51.0
BILL pmax pmax
comp=Z,8.0nm,0.9s
BILL MLR MLR
comp=Z,229nm,18.0s
SONA1 Songino Array 27.46 293 eP P **12 54 34.1 +0.7**
SONA0 Songino Array 27.46 293 eP P **12 54 34.2 +0.8**
comp=Z,67nm,0.8s
SONA0 eS S **12 59 08.2 -0.7**
SONA0 eScP ScP **13 01 24.0 -0.3**
SONM Songino Array 27.46 293 P P **12 54 34.2 +0.8**
comp=Z,72nm,0.8s,baz=84,slow=8.8,SNR=259
SONM S S **12 59 08.2 -0.7**
comp=Z,0.4nm,0.4s,baz=314,slow=24,SNR=3.1
SONM ScP ScP **13 01 24.0 -0.3**
comp=Z,0.9nm,0.8s,baz=124,slow=7.7,SNR=3.8
SONM LR LR 13 06 09.2
comp=Z,258nm,21.2s,baz=92,slow=38
WHN Wuhan 27.60 253⇓ iP P **12 54 35.9 +1.3**
WHN pP pP **12 54 53.0 +1.8**
WHN eS S **12 59 11.8 +0.7**
WHN PMZ
comp=Z,88nm,0.8s
WHN LN
comp=Z,1μm,16.8s
WHN LE
comp=Z,510nm,13.7s
QZH Quanzhou 28.43 239 P P **12 54 42.1 +0.1**
QZH S S **12 59 20.9 -3.2**
QZH PMZ
comp=Z,110nm,0.9s
QZH LZ
comp=Z,330nm,12.6s
IRK Irkutsk 28.73 303 eP P **12 54 45.0 +0.5**
IRK pmax pmax
comp=Z,32nm,1.4s
IRK Irkutsk 28.73 303 eP P **12 54 45.0 +0.5**
TLY Talaya 29.11 302 P P **12 54 49.1 +1.3**
comp=Z,1.8nm,0.5s,baz=295,slow=17,SNR=3.9
TLY PcP PcP **12 57 53.2 -0.7**
comp=Z,2.2nm,0.6s,baz=232,slow=5.2,SNR=3.5
TLY LR LR 13 07 10.4
comp=Z,258nm,19.8s,baz=80,slow=38
TLY Talaya 29.11 302 eP P **12 54 46.9 -0.9**
TLY eS S **12 59 35.4 +0.9**
TLY pmax pmax
comp=Z,5.0nm,0.5s
TLY MLR MLR
comp=Z,179nm,12.0s
ZAK Zakamensk 29.36 299 eP P **12 54 51.0 +0.9**
ZAK pmax pmax
comp=Z,11nm,1.3s
ZAK Zakamensk 29.36 299 eP P **12 54 51.0 +0.9**
H11N2 WAKE ISLAND Hy 29.57 135 T T 13 25 57.9
baz=328,slow=75,SNR=2741
H11N1 WAKE ISLAND Hy 29.58 135 T T 13 25 57.3
baz=328,slow=75,SNR=1724
H11N3 WAKE ISLAND Hy 29.59 135 T T 13 25 59.2
baz=328,slow=75,SNR=2180
XAN Xi'an 29.65 264 P P **12 54 53.3 +0.5**
XAN S S **12 59 48.9 +5.5**
XAN PMZ
comp=Z,96nm,1.3s
XAN PMZ
comp=Z,100nm,5.1s
XAN LN
comp=Z,150nm,26.9s
XAN LE
comp=Z,170nm,24.2s
XAN LZ
comp=Z,220nm,28.1s
TIXI Tiksi 29.70 350 P P **12 54 48.6 -4.2**
comp=Z,5.5nm,0.7s,baz=145,slow=7.5,SNR=17
TIXI Tiksi 29.70 350⇑ iP P **12 54 48.2 -4.6**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
H11S1 WAKE ISLAND Hy 30.50 137 T T 13 27 06.4
baz=329,slow=76,SNR=8028
H11S3 WAKE ISLAND Hy 30.50 137 T T 13 27 07.5
baz=329,slow=76,SNR=3930
H11S2 WAKE ISLAND Hy 30.52 137 T T 13 27 06.8
baz=329,slow=76,SNR=3932
MOY Mondy 30.76 302 eP P **12 55 04.7 +2.2**
MOY pmax pmax
comp=Z,15nm,1.6s
ENH Enshi 31.20 258 eP P **12 55 07.4 +0.9**
comp=Z,46nm,0.9s
GAMB Gambell 31.99 35 eP P **12 55 13.7 +0.7**
comp=Z,41nm,1.1s
LZH Lanzhou 32.44 272 eP P **12 55 18.6 +1.1**
LZH pP pP 12 55 36.3 +2.0
LZH sP sP 12 55 45.5 +3.0
LZH eS S **13 00 26.5 -0.6**
LZH sS sS 13 00 57.5 +1.6
LZH SS SnSn **13 02 26.3 0.0**
LZH PMZ
comp=Z,32nm,1.0s
LZH PMZ
comp=Z,130nm,4.9s
LZH LN
comp=Z,1μm,14.5s
LZH LE
comp=Z,2μm,12.0s
GTA Gaotai 34.06 280 P P **12 55 32.3 +0.8**
GTA pP pP 12 55 49.4 +1.0
GTA sP sP 12 55 59.4 +2.8
GTA PcP PcP **12 58 08.1 +0.4**
GTA S S **13 00 50.5 -1.6**
GTA sS sS 13 01 21.4 +0.4
GTA ScP ScP **13 01 45.8 -0.4**
GTA SS SnSn **13 03 01.6 -3.9**
GTA ScS ScS **13 05 47.8 -0.7**
GTA PMZ
comp=Z,20nm,1.1s
GTA PMZ
comp=Z,92nm,5.3s
GTA LN
comp=Z,140nm,15.2s
GTA LE
comp=Z,170nm,14.7s
GTA LZ
comp=Z,160nm,14.3s
TNA Tin City 34.10 33 eP P **12 55 31.7 +0.3**
comp=Z,86nm,0.9s
CD2 Chengdu 34.99 264⇓ P P **12 55 40.3 +0.7**
CD2 pP pP 12 55 58.0 +1.5
CD2 sP sP 12 56 06.9 +2.2
CD2 PcP PcP **12 58 11.3 +0.9**
CD2 S S **13 01 07.3 +0.8**
CD2 sS sS 13 01 38.3 +2.8
CD2 PMZ
comp=Z,80nm,0.6s
CD2 PMZ
comp=Z,220nm,5.2s
CD2 LN
comp=Z,340nm,11.9s
CD2 LE
comp=Z,200nm,16.4s
CD2 LZ
comp=Z,220nm,24.8s
GYA Guiyang 35.45 255⇓ iP P **12 55 43.9 +0.2**
GYA pP pP 12 56 04.0 +3.4
GYA PP PP **12 57 08.3 +3.1**
GYA PcP PcP **12 58 14.0 +2.1**
GYA S S **13 01 14.4 +0.6**
GYA sS sS 13 01 46.6 +3.8
GYA SS SnSn **13 03 36.3 -3.2**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,520nm,17.8s
GYA LE
comp=Z,480nm,18.0s
GYA LZ
comp=Z,510nm,17.9s
TT01 Tatalina 38.75 39 eP P **12 56 11.9 +0.8**
TTA Tatalina 38.76 39 eP P **12 56 12.2 +1.1**
TTA pmax pmax
comp=Z,39nm,1.0s
TTA Tatalina 38.76 39 eP P **12 56 12.2 +1.1**
comp=Z,38nm,1.0s
SVW2 Sparrevohn 38.92 42 eP P **12 56 13.7 +1.2**
comp=Z,46nm,1.0s
KMI Kunming 39.06 257 P P **12 56 15.8 +1.5**
KMI pP pP 12 56 31.9 +0.4
KMI S S **13 02 06.9 -1.8**
KMI PMZ
comp=Z,38nm,1.0s
KMI PMZ
comp=Z,140nm,3.1s
NRIK Noril'sk 39.14 332 P P **12 56 12.8 -1.4**
comp=Z,3.0nm,0.4s,baz=188,slow=2.8,SNR=4.5
NRIK PcP PcP **12 58 22.4 +0.2**
comp=Z,5.5nm,0.6s,baz=96,slow=4.7,SNR=6.3
ZAA0 Zalesovo Array 40.29 307 eP P **12 56 24.0 +0.1**
ZAA1 Zalesovo Array 40.29 307 eP P **12 56 23.5 -0.4**
ZAA1 ePcP PcP **12 58 26.2 +0.1**
ZAA1 eScP ScP **13 02 08.5 -0.6**
ZALV Zalesovo Beam 40.29 307 P P **12 56 23.5 -0.4**
comp=Z,3.0nm,0.3s,baz=87,slow=8.4,SNR=20
ZALV PcP PcP **12 58 26.2 +0.1**
comp=Z,15nm,0.9s,baz=90,slow=3.0,SNR=9.7
ZALV ScP ScP **13 02 08.5 -0.6**
comp=Z,2.6nm,0.8s,baz=85,slow=3.1,SNR=4.9
RSO Redoubt South 40.33 43 eP P **12 56 25.1 +0.7**
OHAK Old Harbor 40.34 48 eP P **12 56 23.9 -0.4**
comp=Z,88nm,1.2s
PPLA Purkeypile 40.51 39 eP P **12 56 27.3 +1.6**
comp=Z,96nm,1.0s
SPU Mount Spurr 40.63 41 eP P **12 56 27.7 +1.0**
KDAK Kodiak Island 40.66 47 iP P **12 56 26.5 -0.3**
KDAK Kodiak Island 40.66 47 eP P **12 56 26.5 -0.3**
KDAK Kodiak Island 40.66 47 eP P **12 56 26.6 -0.2**
comp=Z,85nm,0.6s
HOM Homer 40.95 44 eP P **12 56 29.9 +0.7**
comp=Z,166nm,1.0s
BPAW Bear Paw Mtn. 41.03 37 eP P **12 56 30.8 +0.9**
comp=Z,52nm,1.0s
NVS Novosibirsk 41.05 309 eP P **12 56 30.2 +0.1**
NVS eS S **13 02 34.5 -2.8**
NVS pmax pmax
comp=Z,17nm,1.4s
NVS smax smax
comp=Z,52nm,1.7s
NVS Novosibirsk 41.05 309 eP P **12 56 30.2 +0.1**
WMQ Urumqi 41.06 292 P P **12 56 32.1 +1.6**
WMQ pP pP 12 56 49.1 +1.3
WMQ sP sP 12 56 58.9 +3.0
WMQ PcP PcP **12 58 31.5 +2.5**
WMQ S S **13 02 38.5 +0.6**
WMQ sS sS 13 03 10.3 +3.0
WMQ SS SS **13 05 38.8 -3.5**
WMQ PMZ
comp=E,22nm,0.8s
WMQ PMZ
comp=E,56nm,3.8s
WMQ LN
comp=E,120nm,22.4s
WMQ LE
comp=E,100nm,31.0s
WMQ LZ
comp=E,61nm,29.0s
KTH Kantishna Hill 41.07 38 eP P **12 56 31.4 +1.1**
comp=E,118nm,1.0s
MLY Manley 41.13 35 eP P **12 56 32.0 +1.2**
comp=E,131nm,1.2s
CNPM China Poot 41.17 44 eP P **12 56 31.1 0.0**
comp=E,34nm,0.8s
BRLK Bradley Lake 41.32 43 eP P **12 56 29.9 -2.5**
comp=E,33nm,0.9s
TRF Thorofare Moun 41.35 38 eP P **12 56 33.3 +0.5**
comp=E,32nm,1.0s
COLD Coldfoot 41.39 32 eP P **12 56 33.3 +0.5**
comp=E,57nm,1.0s
BWN Browne 41.69 37 eP P **12 56 37.1 +1.8**
comp=E,359nm,1.0s
RC01 Rabbit Creek A 41.76 41 eP P **12 56 36.2 +0.3**
comp=E,88nm,1.0s
MCK McKinley 41.95 37 eP P **12 56 37.7 +0.3**
MCK pmax pmax
comp=E,81nm,1.0s
MCK McKinley 41.95 37 eP P **12 56 37.7 +0.3**
MCK McKinley 41.95 37 eP P **12 56 37.7 +0.3**
comp=Z,81nm,1.0s
RND Reindeer 42.00 38 eP P **12 56 37.9 0.0**
RND pmax pmax
comp=Z,58nm,0.9s
RND Reindeer 42.00 38 eP P **12 56 37.9 0.0**
comp=Z,58nm,0.9s
SEW Seward 42.00 43 eP P **12 56 37.7 -0.2**
comp=Z,46nm,1.0s
PMR Palmer 42.01 41 eP P **12 56 37.7 -0.2**
PMR pmax pmax
comp=Z,54nm,1.0s
PMR Palmer 42.01 41 eP P **12 56 37.7 -0.2**
PMR Palmer 42.01 41 eP P **12 56 37.7 -0.2**
comp=Z,54nm,1.0s
MDM Murphy Dome 42.20 36 eP P **12 56 40.3 +0.9**
comp=Z,104nm,0.8s
WRH Wood River Hil 42.28 36 eP P **12 56 40.5 +0.4**
comp=Z,120nm,1.2s
COLA College 42.36 36⇑ iP P **12 56 41.6 +0.9**
COLA pmax pmax
comp=Z,183nm,0.8s
COLA College 42.36 36 eP P **12 56 41.6 +0.9**
COLA College 42.36 36 eP P **12 56 41.6 +0.9**
comp=Z,178nm,0.8s
SML Sawmill 42.36 40 eP P **12 56 41.2 +0.3**
SML pmax pmax
comp=Z,181nm,1.0s
SML Sawmill 42.36 40 eP P **12 56 41.2 +0.3**
comp=Z,181nm,1.0s
CCB Clear Creek Bu 42.39 36 eP P **12 56 41.3 +0.3**
comp=Z,185nm,2.0s
DHY Denali Highway 42.69 38 eP P **12 56 43.6 0.0**
comp=Z,96nm,1.1s
HDA Harding Lake 42.78 36 eP P **12 56 43.9 -0.2**
comp=Z,44nm,0.7s
IL1 Eielson Array 42.78 36 eP P **12 56 43.9 -0.2**
ILAR Eielson Array 42.78 36 P P **12 56 44.0 -0.1**
comp=Z,62nm,0.9s,baz=251,slow=5.7,SNR=236
ILAR Eielson Array 42.78 36 P P **12 56 44.1 -0.1**
ILAR pmax pmax
comp=Z,67nm,0.9s
ILB Eielson Array 42.78 36 eP P **12 56 44.0 -0.1**
FYU Fort Yukon 43.36 33 eP P **12 56 50.2 +1.5**
comp=Z,216nm,0.9s
NONG Nongkai 43.42 248 P P **12 56 51.7 +1.9**
comp=Z,45nm,1.1s
PAX Paxson 43.57 38 eP P **12 56 52.5 +1.9**
PAX pmax pmax
comp=Z,28nm,0.8s
PAX Paxson 43.57 38 eP P **12 56 52.5 +1.9**
comp=Z,28nm,0.8s
SKNT Sakolnakorn 43.62 246 P P **12 56 53.2 +1.7**
comp=Z,27nm,0.9s
MK31 Makanchi Array 43.67 298 iP P **12 56 52.1 +0.5**
MK31 pmax pmax
comp=Z,28nm,0.6s
MK31 Makanchi Array 43.67 298 eP P **12 56 52.3 +0.8**
MK31 eS S **13 03 16.5 +0.4**
MK32 Makanchi Array 43.67 298 eP P **12 56 52.3 +0.7**
MK32 ePcP PcP **12 58 38.0 +0.4**
MK32 eS S **13 03 15.4 -0.7**
MKAR Makanchi Array 43.67 298 P P **12 56 52.3 +0.7**
comp=Z,34nm,0.7s,baz=82,slow=9.1,SNR=261
MKAR PcP PcP **12 58 38.0 +0.4**
comp=Z,1.7nm,0.4s,baz=82,slow=3.8,SNR=5.8
MKAR S S **13 03 15.4 -0.6**
comp=Z,2.4nm,0.9s,baz=77,slow=16,SNR=6.4
MKAR Makanchi Array 43.67 298 P P **12 56 52.3 +0.7**
MKAR 12 58 38.0
MKAR S S **13 03 15.5 -0.6**
MKAR pmax pmax
comp=Z,35nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR smax smax
comp=N,2.0nm,0.9s
MKAR Makanchi Array 43.67 298 eP P **12 56 52.3 +0.7**
MKAR eS S **13 03 16.5 +0.4**
MK01 Makanchi Array 43.67 298 eP P **12 56 52.1 +0.5**
EYAK Cordova Ski Ar 43.77 42 eP P **12 56 52.9 +0.8**
comp=N,66nm,1.1s
MAKZ Makanchi 43.87 298 eP P **12 56 54.0 +0.8**
MAKZ eS S **13 03 18.0 -1.0**
MAKZ pmax pmax
comp=Z,40nm,0.8s
MAKZ Makanchi 43.87 298 eP P **12 56 54.0 +0.8**
comp=Z,40nm,0.8s
MAKZ eS S **13 03 18.0 -1.0**
DOT Dot Lake 44.12 37 eP P **12 56 54.6 -0.3**
comp=Z,80nm,0.8s
BMRM Bremner River 44.26 41 eP P **12 56 57.0 +0.9**
comp=Z,80nm,1.0s
RAGM Ragged Mountai 44.32 42 eP P **12 56 57.9 +1.3**
comp=Z,83nm,1.1s
MENT Mentasta 44.36 38 eP P **12 56 57.8 +0.9**

comp=Z,77nm,1.1s
KURK Kurchatov 44.75 304 P P 12 57 00.0 -0.1
KURK pmax pmax
comp=Z,162nm,0.5s
KURK Kurchatov 44.75 304 *eP* **P 12 57 00.4 +0.3**
KURK Kurchatov 44.75 304 *eP* **P 12 57 00.4 +0.3**
comp=Z,131nm,0.5s
KURK *eS* **S 13 03 31.5 -0.1**
KURBB Kurchatov Arra 44.83 304 P **P 12 57 01.1 +0.3**
comp=Z,34nm,0.5s,baz=71,slow=8.8,SNR=210
KURBB S **S 13 03 31.5 -1.3**
comp=Z,1.1nm,0.2s,baz=69,slow=12,SNR=6.9
LSA Lhasa 44.85 271 *eP* **P 12 57 03.6 +1.8**
LSA pmax pmax
comp=Z,26nm,1.0s
LSA Lhasa 44.85 271 *eP* **P 12 57 03.5 +1.8**
comp=Z,26nm,1.0s
KHON Khomkaen 44.85 247 P **P 12 57 05.5 +4.2**
comp=Z,16nm,0.8s,comp=Z,843nm
CRQM Cirque 45.00 41 *eP* **P 12 57 03.4 +1.3**
comp=Z,196nm,1.1s
LOEI Loei 45.09 249 P **P 12 57 01.9 -1.3**
comp=Z,19nm,0.8s,comp=Z,904nm
EGAK Eagle 45.22 35 *eP* **P 12 57 03.8 +0.1**
comp=Z,132nm,0.8s
BALM Baldy 45.33 41 *eP* **P 12 57 05.6 +0.9**
BALM pmax pmax
comp=Z,73nm,1.0s
BALM Baldy 45.33 41 *eP* **P 12 57 05.6 +0.9**
comp=Z,73nm,1.0s
UTTA Uttaradit 45.42 250 P **P 12 57 07.6 +1.9**
comp=Z,6.2nm,0.8s
LAMP Lampang 45.53 252 P **P 12 57 08.6 +2.0**
comp=Z,11nm,0.8s
CMMT Chiang Mai 45.81 253 P **P 12 57 10.4 +1.5**
comp=Z,21nm,0.8s
CHTO Chiang Mai 45.81 253 P **P 12 57 10.4 +1.5**
comp=Z,92nm,0.8s
CHTO Chiang Mai 45.81 253 *eP* **P 12 57 10.1 +1.2**
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 45.81 253 *eP* **P 12 57 10.1 +1.2**
comp=Z,14nm,0.8s
CM31 Chiang Mai Arr 46.05 253 *eP* **P 12 57 12.2 +1.4**
CMAR Chiang Mai Arr 46.05 253 P **P 12 57 12.2 +1.4**
comp=Z,3.0nm,0.8s,baz=43,slow=7.1,SNR=13
CM01 Chiang Mai Arr 46.06 252 *eP* **P 12 57 12.0 +1.2**
SHL Shillong 46.64 266 *eP* **P 12 57 16.0 +0.4**
SRAK Srakaew 47.04 245 P **P 12 57 17.9 -0.6**
comp=Z,40nm,1.1s,comp=Z,428nm
INK Inuvik 47.61 30 P **P 12 57 22.7 +0.4**
comp=Z,47nm,0.4s,baz=294,slow=6.7,SNR=279
INK Inuvik 47.61 30 *eP* **P 12 57 22.3 0.0**
INK Inuvik 47.61 30 *eP* **P 12 57 22.7 +0.4**
comp=Z,98nm,0.8s
DHAK Deception Hill 47.80 43 *eP* **P 12 57 25.4 +1.4**
comp=Z,54nm,1.1s
VOSK Vostochnaya 48.61 309 *eP* **P 12 57 30.0 -0.3**
VOSK *eS* **S 13 04 26.2 -0.5**
VOSK pmax pmax
comp=Z,16nm,0.6s
VOSK Vostochnaya 48.61 309 *eP* **P 12 57 30.0 -0.3**
comp=Z,16nm,0.6s
VOSK *eS* **S 13 04 26.2 -0.5**
BVA0 Borovoye Array 48.84 309 P **P 12 57 31.5 -0.5**
BVA0 pmax pmax
comp=Z,10.0nm,0.7s
BVAR Borovoye Array 48.84 309 P **P 12 57 32.1 +0.1**
comp=Z,8.8nm,0.5s,baz=62,slow=8.0,SNR=45
BVAR S **S 13 04 28.4 -1.5**
comp=Z,1.4nm,0.8s,baz=290,slow=36,SNR=4.4
BRVK Borovoye 48.89 309*c iP* **P 12 57 32.7 +0.3**
BRVK pmax pmax
comp=Z,27nm,0.6s
BRVK Borovoye 48.89 309 *eP* **P 12 57 32.7 +0.3**
BRVK Borovoye 48.89 309 *eP* **P 12 57 32.9 +0.5**
comp=Z,33nm,0.8s
SKAG Skagway 49.11 42 *eP* **P 12 57 35.6 +1.7**
comp=Z,45nm,1.2s
PHET Kaeng Krachan 49.45 247 P **P 12 57 40.1 +3.0**
comp=Z,12nm,0.9s
TKM2 Tokmak 2 49.54 295 *eP* **P 12 57 39.1 +1.3**
TKM2 pmax pmax
comp=Z,31nm,0.8s
TKM2 Tokmak 2 49.54 295 *eP* **P 12 57 39.1 +1.3**
comp=Z,32nm,0.8s
ZRNK Zerenda 49.65 310 *eP* **P 12 57 38.6 +0.4**
ZRNK *eS* **S 13 04 40.0 -1.3**
ZRNK pmax pmax
comp=Z,24nm,0.6s
ZRNK Zerenda 49.65 310 *eP* **P 12 57 38.6 +0.4**
comp=Z,24nm,0.6s
ZRNK *eS* **S 13 04 40.0 -1.3**
GUN Gumba 49.69 273 *eP* **P 12 57 39.9 +0.7**
comp=Z,69nm,0.8s
RAMN Ramite 49.71 271 *eP* **P 12 57 39.6 +0.3**
comp=Z,43nm,0.7s
KKN Kakani 50.20 273 *eP* **P 12 57 43.6 +0.7**
comp=Z,32nm,0.9s
FRU Bishkek 50.23 295⇓ *iP* **P 12 57 43.0 +0.3**
FRU *eS* **S 13 04 49.5 -0.2**
FRU pmax pmax
comp=Z,38nm,2.0s
PKIN Phulchoki 50.23 273 *eP* **P 12 57 43.9 +0.7**
comp=Z,7.9nm,0.5s
AAK Ala-Archa 50.40 295⇑ *iP* **P 12 57 44.5 +0.3**
AAK pmax pmax
comp=Z,25nm,1.0s
AAK Ala-Archa 50.40 295 *eP* **P 12 57 44.5 +0.3**
AAK Ala-Archa 50.40 295 *eP* **P 12 57 44.7 +0.5**
comp=Z,31nm,0.5s
DMN Daman 50.43 273 *eP* **P 12 57 45.3 +0.6**
comp=Z,18nm,0.6s
GKN Gorkha 50.55 273 *eP* **P 12 57 46.0 +0.5**
comp=Z,36nm,0.7s
KSH Kashi 50.82 291 P P 12 57 52.4 +5.0
KSH pP sP 12 58 11.6 -1.5
KSH PcP **PcP 12 59 07.5 +4.3**
KSH PP **PP 12 59 50.8 +6.9**
KSH S **S 13 05 02.3 +4.2**
KSH ScS **ScS 13 07 31.4 -0.1**
KSH SS **SS 13 08 36.4 +3.3**
KSH PMZ
comp=Z,11nm,0.9s
KSH PMZ
comp=Z,83nm,2.9s
KSH LZ
comp=Z,1μm,12.7s
EKS2 Erkin-Say 50.86 296 *eP* **P 12 57 48.1 +0.5**
EKS2 *eS* **S 13 04 56.5 -2.1**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 50.86 296 *eP* **P 12 57 48.1 +0.5**
comp=Z,10nm,0.8s
EKS2 *eS* **S 13 04 56.5 -2.1**
KOLN Koldanda 51.44 274 *eP* **P 12 57 53.0 +0.8**
comp=Z,25nm,0.6s
WRAK Wrangell Islan 51.65 45 *eP* **P 12 57 55.2 +2.2**
comp=Z,56nm,1.4s
PYUN Piuthan 51.70 275 *eP* **P 12 57 54.9 +0.7**
comp=Z,71nm,0.8s
MNAS Manas 51.78 296 P **P 12 57 55.1 +0.6**
MNAS pmax pmax
comp=Z,30nm,0.8s
DLBC Dease Lake 52.04 42 P **P 12 57 57.0 +0.9**
comp=Z,15nm,0.8s,baz=292,slow=8.2,SNR=42
DLBC Dease Lake 52.04 42 *eP* **P 12 57 57.9 +1.8**
comp=Z,25nm,0.9s
PMG Port Moresby 52.32 178 LR LR 13 17 28.7
comp=Z,110nm,20.0s,baz=238,slow=33
SVE Sverdlovsk 52.66 316⇓ *eP* **P 12 58 00.6 0.0**
SVE pmax pmax
comp=Z,32nm,0.6s
KK31 Karatay Array 52.80 297 P **P 12 58 01.9 0.0**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 52.80 297 *eP* **P 12 58 02.4 +0.5**
KKAR Karatay Array 52.80 297 *eP* **P 12 58 02.4 +0.5**
SKLT Songkhla 53.06 241 P **P 12 58 07.3 +3.3**
comp=Z,41nm,1.3s
ARU Arti 53.87 317 P **P 12 58 09.2 -0.3**
comp=Z,24nm,0.5s,baz=85,slow=4.6,SNR=47
ARU Arti 53.87 317*c iP* **P 12 58 09.1 -0.3**
ARU **PP* **sP 12 58 32.5 -2.9**
ARU 12 59 13.7
ARU S **S 13 05 39.6 +0.7**
ARU SS **SS 13 09 21.5 +1.4**
ARU pmax pmax
comp=Z,43nm,1.0s
ARU Arti 53.87 317 *eP* **P 12 58 09.1 -0.3**
ARU Arti 53.87 317 *eP* **P 12 58 09.2 -0.3**
comp=Z,34nm,0.6s
SPITS Spitsbergen Ar 55.12 349 P **P 12 58 16.0 -2.3**
comp=Z,4.1nm,0.6s,baz=83,slow=7.1,SNR=18
SPITS PcP **PcP 12 59 18.8 +0.1**
comp=Z,2.2nm,0.5s,baz=98,slow=6.0,SNR=5.4
KBS Kingsbay 55.16 350 *eP* **P 12 58 15.7 -2.8**
KBS Kingsbay 55.16 350 *eP* **P 12 58 17.4 -1.1**
KBS pmax pmax
comp=Z,18nm,0.8s
KBS Kingsbay 55.16 350 *eP* **P 12 58 17.4 -1.1**
comp=Z,18nm,0.8s
NDI New Delhi 55.56 279 *eP* P 12 58 16.0 -6.2
RES Resolute Bay 55.94 16 P **P 12 58 23.1 -1.0**
comp=Z,196nm,0.7s,baz=303,slow=6.8,SNR=101
RES Resolute Bay 55.94 16 *eP* **P 12 58 23.2 -1.0**
comp=Z,223nm,0.8s
DZET Dzherino 56.01 294 P **P 12 58 24.6 -0.8**
DZET pmax pmax
comp=Z,7.0nm,0.5s
HSPB Hornsund (broa 56.11 348 *eP* **P 12 58 24.8 -0.5**
HSPB IAmb IAmb 12 58 25.9
comp=Z,34nm,1.1s
AB31 Akbulak array 56.39 308 P **P 12 58 27.9 +0.2**
AB31 pmax pmax
comp=Z,23nm,0.4s
ABKAR Akbulak array 56.39 308 *eP* **P 12 58 28.4 +0.6**
comp=Z,43nm,0.4s
ABKAR *eS* **S 13 06 12.7 -0.2**
AKTO Aktyubinsk 56.90 310 P **P 12 58 31.4 +0.1**
comp=Z,14nm,0.6s,baz=75,slow=7.8,SNR=60
YKW3 Yellowknife Ar 57.02 33 *eP* **P 12 58 31.9 -0.1**
comp=Z,27nm,0.9s
YKA Yellowknife Ar 57.06 33 P **P 12 58 32.3 +0.1**
comp=Z,24nm,0.8s,baz=304,slow=7.1,SNR=124
YKB5 Yellowknife Ar 57.06 33 *eP* **P 12 58 31.5 -0.8**
LVZ Lovozero 57.79 335*c iP* **P 12 58 37.6 +0.2**
LVZ pmax pmax
comp=Z,24nm,0.8s
LVZ Lovozero 57.79 335 *eP* **P 12 58 37.4 0.0**
comp=Z,31nm,0.7s
APA Apatity 58.37 335⇑ *iP* **P 12 58 40.0 -1.4**
APA *i* 12 58 59.5
APA *i* S S 13 06 26.0 -12
APA pmax pmax
comp=Z,26nm,0.8s
KEV Kevo 58.80 339 *eP* **P 12 58 43.7 -0.7**
KEV pmax pmax
comp=Z,31nm,0.8s
KEV Kevo 58.80 339 *eP* **P 12 58 43.7 -0.7**
comp=Z,31nm,0.8s
ARA0 ARCESS Array S 59.34 339 *eP* **P 12 58 47.8 -0.3**
ARCES ARCESS Array B 59.34 339 P **P 12 58 47.4 -0.8**
comp=Z,16nm,0.7s,baz=42,slow=7.2,SNR=52
ARE0 ARCESS Array S 59.34 339 *eP* **P 12 58 46.1 -2.1**
ARE0 ARCESS Array S 59.34 339 *eP* **P 12 58 47.8 -0.3**
comp=Z,23nm,0.8s
DAG Danmarks Havn 59.94 356⇑ *iP* **P 12 58 50.7 -1.4**
DAG pmax pmax
comp=Z,16nm,0.7s
DAG MLR MLR
comp=Z,2μm,17.0s
DAG Danmarks Havn 59.94 356⇑ *iP* **P 12 58 50.7 -1.4**
comp=Z,24nm,0.7s
DAG *i* 13 26 11.8
KLMR Klimovskoe 60.22 327 *eP* P 12 58 48.9 -5.3
KLMR *e*PP* pP 12 59 14.4 +1.9
KLMR *e* 12 59 35.4
KLMR pmax pmax
comp=Z,35nm,1.0s
KTK1 Kautokeino 60.29 339 *eP* **P 12 58 54.2 -0.4**
KTK1 IAmb IAmb 12 58 55.2
comp=Z,51nm,0.8s
A04D Lummi Island 60.43 50 P **P 12 58 56.7 +0.9**
baz=303
NLWA Neilton Lookou 60.49 51 *eP* **P 12 58 57.9 +1.6**
comp=Z,30nm,1.0s
TRO Tromso 60.91 341 *eP* **P 12 58 58.1 -0.7**
TRO IAmb IAmb 12 58 59.2
comp=Z,83nm,0.8s
B05A Bryant 61.02 50 P **P 12 59 00.5 +0.7**
baz=304,SNR=7.3
E03A Lebam 61.13 52 *eP* **P 12 59 02.3 +1.7**
comp=Z,60nm,1.0s
JCW Jim Creek 61.15 50 *eP* **P 12 59 01.9 +1.0**
F03A Seaside 61.47 53 *eP* **P 12 59 04.6 +1.6**
comp=Z,105nm,1.3s
KULLO Kullorsuaq 61.61 7⇑ *iP* **P 12 59 02.5 -0.9**
KULLO pmax pmax
comp=Z,58nm,0.8s
KULLO MLR MLR
comp=Z,6μm,17.0s
KULLO Kullorsuaq 61.61 7⇑ *iP* **P 12 59 02.5 -0.9**
comp=Z,58nm,0.8s
D05A Enumclaw 61.67 51 *eP* **P 12 59 05.7 +1.4**
comp=Z,34nm,1.0s
F04D Rainier, OR 61.70 52 P **P 12 59 05.6 +1.0**
baz=304
C06D Leavenworth 61.88 50 P **P 12 59 06.6 +0.9**
baz=304
OBSR Observation Ro 61.93 51 *eP* **P 12 59 07.5 +1.1**
TDL Tradedollar La 62.01 52 *eP* **P 12 59 08.1 +1.3**
LON Longmire 62.02 51 *eP* **P 12 59 07.8 +1.0**
LON pmax pmax
comp=Z,11nm,1.2s
LON Longmire 62.02 51 *eP* **P 12 59 07.8 +1.0**
comp=Z,11nm,1.2s
G03D McMinnville, O 62.04 53 P **P 12 59 07.9 +1.1**
baz=304
VALT Mount Saint He 62.10 52 *eP* **P 12 59 08.9 +1.5**
B08A Colville Reser 62.49 48 *eP* **P 12 59 10.7 +0.9**
comp=Z,30nm,1.3s
I03D Drain, OR 62.84 55 P **P 12 59 13.7 +1.5**
baz=305
H04A Detroit Lake 62.97 53 *eP* **P 12 59 14.0 +0.9**
comp=Z,35nm,1.0s
STEI Steigen 63.08 341 *eP* **P 12 59 12.1 -1.2**
STEI IAmb IAmb 12 59 13.6
comp=Z,31nm,0.8s
G05D Wamic, OR 63.16 52 P **P 12 59 15.5 +1.2**
baz=305
I04A Tendick Farm, 63.35 54 P **P 12 59 16.5 +0.9**
baz=305,SNR=7.4
C09A Chrisman Ranch 63.39 49 *eP* **P 12 59 16.8 +1.0**
comp=Z,27nm,1.0s
GEYT Alibeck 63.54 298 P **P 12 59 16.9 0.0**
comp=Z,4.9nm,0.5s,baz=35,slow=3.6,SNR=10.0
WRAB Tennant Creek 63.56 192 *eP* **P 12 59 17.5 +0.4**
WRAB pmax pmax
comp=Z,19nm,0.9s
WRAB Tennant Creek 63.56 192 *eP* **P 12 59 17.5 +0.4**
comp=Z,19nm,0.9s
WB2 Warramunga Arr 63.57 192 *eP* **P 12 59 18.2 +1.1**
comp=Z,27nm,1.0s
WR1 Warramunga Arr 63.57 192 *eP* **P 12 59 17.2 0.0**
comp=Z,25nm,1.0s
WRA Warramunga Arr 63.57 192 P **P 12 59 17.2 0.0**
comp=Z,2.8nm,1.0s,baz=8.1,slow=6.8,SNR=16
WRA PKP2bc 13 28 17.5
comp=Z,2.6nm,1.0s,baz=180,slow=2.4,SNR=5.4
L02D Cave Junction, 63.57 56 P **P 12 59 18.2 +1.1**
baz=305
I05D Terrebonne, OR 63.66 53 P **P 12 59 18.7 +1.0**
baz=306,SNR=6.0
NEW Newport 63.75 48 P **P 12 59 18.4 +0.2**
comp=Z,13nm,0.9s,baz=314,slow=6.3,SNR=14
NEW Newport 63.75 48 P **P 12 59 18.7 +0.5**
baz=306,SNR=9.7
NEW Newport 63.75 48 *eP* **P 12 59 18.8 +0.6**
comp=Z,29nm,1.1s
MOS Moscow 64.14 323 *eP* **P 12 59 19.5 -1.0**
MOS pmax pmax
comp=Z,68nm,1.4s
E09A Wood Farm, Sta 64.22 50 *eP* **P 12 59 22.1 +0.9**
comp=Z,48nm,1.1s
KHMM Horse Mountain 64.24 57 *eP* **P 12 59 23.3 +1.7**
comp=Z,85nm,1.3s
J05D Fort Rock, OR 64.34 54 P **P 12 59 23.5 +1.3**
baz=306,SNR=14
YBH Yreka Blue Hor 64.36 56 *eP* **P 12 59 23.5 +1.1**
YBH pmax pmax
comp=Z,35nm,1.0s
YBH Yreka Blue Hor 64.36 56 *eP* **P 12 59 23.5 +1.1**
comp=Z,35nm,1.0s
K04D Chiloquin, OR 64.42 55 P **P 12 59 23.8 +1.1**
baz=306
M02C Callahan 64.47 56 P **P 12 59 24.6 +1.5**
baz=306,SNR=8.7
G08A Pilot Rock 64.48 51 *eP* **P 12 59 23.9 +0.8**
comp=Z,8.2nm,0.9s
SUMG Summit 64.56 1⇑ *iP* **P 12 59 24.0 +0.5**
SUMG pmax pmax
comp=Z,210nm,0.9s
SUMG Summit 64.56 1⇑ *iP* **P 12 59 24.0 +0.5**
comp=Z,213nm,0.9s
SUMG *i* 13 27 11.0
SUMG Summit 64.56 1 *eP* **P 12 59 23.8 +0.3**
comp=Z,219nm,0.9s
LHEM Herd Peak 64.72 56 *eP* **P 12 59 26.0 +1.1**
FIA1 FINESS Array S 64.80 332 *eP* **P 12 59 24.5 -0.2**
FIA0 FINESS Array S 64.80 332 *eP* **P 12 59 24.4 -0.3**
FIA0 FINESS Array S 64.80 332 *eP* **P 12 59 24.4 -0.3**
FINES FINESS Array B 64.80 332 P **P 12 59 24.4 -0.3**
comp=Z,86nm,0.6s,baz=47,slow=7.6,SNR=290
N02D Trinity Center 64.81 57 P **P 12 59 26.6 +1.4**
baz=306,SNR=12
M04C Macdoel 64.86 56 P **P 12 59 26.7 +1.1**
baz=306,SNR=8.8
K05A Summer Lake 64.87 54 *eP* **P 12 59 27.3 +1.5**
comp=Z,56nm,1.1s
STOK Stokkvaagen 64.88 341 *eP* **P 12 59 24.9 -0.2**
WALA Waterton Lakes 64.98 45 *eP* **P 12 59 26.9 +0.6**
comp=Z,27nm,1.0s
OBN Obninsk 65.00 323 P **P 12 59 25.1 -1.0**
comp=Z,32nm,0.6s,baz=186,slow=21,SNR=12
OBN Obninsk 65.00 323*c iP* **P 12 59 25.8 -0.3**
OBN *i* 13 00 00.0
OBN *i* S **S 13 08 04.2 +1.9**
OBN pmax pmax
comp=Z,85nm,1.7s
OBN Obninsk 65.00 323 *eP* **P 12 59 25.8 -0.3**
OBN Obninsk 65.00 323 *eP* **P 12 59 25.9 -0.2**
comp=Z,36nm,0.7s
F10A Beach Ranch, E 65.05 50 *eP* **P 12 59 27.9 +1.1**
comp=Z,10nm,1.1s
VRH Novokhopyorsk 65.07 318 *eP* **P 12 59 26.5 -0.1**
VRH pmax pmax
comp=Z,70nm,0.6s
WDC Whiskeytown Da 65.14 57 *eP* **P 12 59 28.3 +1.0**
WDC pmax pmax
comp=Z,26nm,1.0s
WDC Whiskeytown Da 65.14 57 *eP* **P 12 59 28.3 +1.0**
comp=Z,26nm,1.0s
BSMT Bassoo Peak 65.25 47 *eP* **P 12 59 29.2 +1.0**
BLMT Blacktail Moun 65.38 47 *eP* **P 12 59 30.0 +1.0**
LPSR Galich'ya Gora 65.54 320 *eP* **P 12 59 29.6 0.0**
LPSR pmax pmax
comp=Z,70nm,0.8s
JTMT Jette 65.58 47 *eP* **P 12 59 31.4 +1.1**
YBMT Yellow Bay 65.66 47 *eP* **P 12 59 31.7 +1.0**
BMO Blue Mountains 65.68 51 *eP* **P 12 59 32.1 +1.3**
comp=Z,18nm,1.1s
O03D Paynes Creek 65.77 57 P **P 12 59 32.0 +0.5**
baz=307,SNR=12
SWMT Swartz Lake 65.88 47 *eP* **P 12 59 33.0 +0.9**
VSR Storozhevoye 66.31 319 *eP* **P 12 59 34.5 -0.1**
VSR pmax pmax
comp=Z,130nm,0.9s
SCO Scoresbysund 66.31 355 *i* P **P 12 59 34.4 +0.1**
SCO pmax pmax
comp=Z,61nm,0.9s
SCO MLR MLR
comp=Z,2μm,16.0s
SCO Scoresbysund 66.31 355 *i* P **P 12 59 34.4 +0.1**
comp=Z,61nm,0.9s
MSO Missoula 66.33 47 P **P 12 59 35.6 +0.5**
baz=308,SNR=15
MSO Missoula 66.33 47 *eP* **P 12 59 35.5 +0.5**
comp=Z,29nm,1.1s
WVOR Wild Horse Val 66.38 53 *eP* **P 12 59 36.2 +0.8**
WVOR pmax pmax
comp=Z,23nm,1.0s
WVOR Wild Horse Val 66.38 53 *eP* **P 12 59 36.2 +0.8**
comp=Z,23nm,1.0s
ORV Oroville 66.39 57 *eP* **P 12 59 36.1 +0.7**
ORV pmax pmax
comp=Z,16nm,0.9s
ORV Oroville 66.39 57 *eP* **P 12 59 36.1 +0.7**
comp=Z,16nm,0.9s
NSS Namsos 66.60 340 *eP* **P 12 59 33.6 -2.6**
CHMT Chamberlain Mo 66.65 47 *eP* **P 12 59 37.4 +0.2**
VSU Vasula 66.69 330*c iP* **P 12 59 36.7 -0.2**
VSU pmax pmax
comp=Z,375nm,1.7s
AFDM Forest Hills D 67.09 58 *eP* **P 12 59 40.4 +0.5**
comp=Z,20nm,1.1s
FCC Fort Churchill 67.22 29 *eP* **P 12 59 40.3 0.0**
FCC pmax pmax
comp=Z,50nm,1.0s
FCC Fort Churchill 67.22 29 *eP* **P 12 59 40.3 0.0**
FCC Fort Churchill 67.22 29 *eP* **P 12 59 40.2 0.0**
comp=Z,50nm,1.0s
AS01 Alice Springs 67.28 191 *eP* **P 12 59 42.1 +1.1**
AS31 Alice Springs 67.29 191 *eP* **P 12 59 41.9 +0.7**
comp=Z,5.0nm,1.0s
ASAR Alice Springs 67.29 191 P **P 12 59 42.2 +1.1**
comp=Z,2.3nm,0.6s,baz=7.6,slow=5.3,SNR=48
ASAR PKP2bc 13 28 08.7
comp=Z,2.6nm,1.1s,baz=180,slow=2.6,SNR=4.5
ILULI Ilulissat 67.31 6⇑ *iP* **P 12 59 40.1 -0.6**
ILULI pmax pmax
comp=Z,120nm,0.9s
ILULI MLR MLR
comp=Z,4μm,16.0s
ILULI Ilulissat 67.31 6⇑ *iP* **P 12 59 40.1 -0.6**
comp=Z,118nm,0.9s
MFID Camas Ranch 67.40 51 *eP* **P 12 59 42.6 +0.7**
comp=Z,13nm,1.0s
HRY Holter Researc 67.54 47 *eP* **P 12 59 43.5 +0.9**
PAHR Pah Rah Range 67.60 56 *eP* **P 12 59 44.0 +0.7**
comp=Z,31nm,1.0s
LRM Limekiln Ridge 67.77 48 *eP* **P 12 59 44.9 +0.5**
EGMT Eagleton 67.78 44 P **P 12 59 44.5 +0.3**
baz=310,SNR=17
EGMT Eagleton 67.78 44 *eP* **P 12 59 44.7 +0.5**
comp=Z,44nm,0.9s
DLMT Dillon 67.98 48 *eP* **P 12 59 46.5 +0.9**
comp=Z,37nm,1.0s
CMB Columbia Colle 68.01 58 *eP* **P 12 59 46.7 +1.0**
CMB pmax pmax
comp=Z,29nm,1.1s
CMB Columbia Colle 68.01 58 *eP* **P 12 59 46.7 +1.0**
comp=Z,29nm,1.1s
TBLU Trondheim 68.08 340 *eP* **P 12 59 45.0 -0.7**
HLID Hailey 68.11 50 P **P 12 59 47.3 +0.8**
baz=309,SNR=22
HLID Hailey 68.11 50 *eP* **P 12 59 47.2 +0.8**
comp=Z,16nm,1.0s
YERR Yerington 68.13 57 *eP* **P 12 59 47.7 +1.1**
comp=Z,46nm,1.0s
MCMT McKenzie Canyo 68.19 49 *eP* **P 12 59 47.2 +0.3**
GOF Gofitskoye 68.25 312⇑ *iP* **P 12 59 47.8 +0.8**
GOF *eS* **S 13 08 42.9 +0.9**
GOF pmax pmax
comp=Z,84nm,0.8s
GOF smax smax
comp=E,75nm,1.0s
BOZ Bozeman (W) 68.32 47 P **P 12 59 48.7 +1.0**
baz=310,SNR=61
BOZ Bozeman (W) 68.32 47 *eP* **P 12 59 48.7 +1.0**
BOZ pmax pmax
comp=Z,44nm,1.0s
BOZ Bozeman (W) 68.32 47 *eP* **P 12 59 48.7 +1.0**
BOZ Bozeman (W) 68.32 47 *eP* **P 12 59 48.7 +1.0**
comp=Z,44nm,1.0s
BMN Battle Mountai 68.45 54 *eP* **P 12 59 49.6 +1.0**
BMN pmax pmax
comp=Z,14nm,0.8s
BMN Battle Mountai 68.45 54 *eP* **P 12 59 49.6 +1.0**
comp=Z,14nm,0.8s
TVH1 TV Hill, Hawth 68.75 57 *eP* **P 12 59 51.7 +0.9**
comp=Z,26nm,1.0s
TVH3 East Aurora ar 68.78 57 *eP* **P 12 59 51.9 +1.2**
comp=Z,26nm,1.0s
TVH2 Borealis Mine 68.80 57 *eP* **P 12 59 52.0 +1.1**
comp=Z,14nm,1.0s
NCK Nalchik 68.94 310⇑ *iP* **P 12 59 50.8 -0.6**
NCK pmax pmax

comp=Z,16nm,0.3s
QLMT Earthquake Lak 68.96 48 *e*P **P 12 59 53.0 +1.2**
GUDG Gudauri 69.10 309 P **P 12 59 55.6 +3.0**
KVAR Kislovodsk Arr 69.15 311 P **P 12 59 54.2 +1.4**
comp=Z,34nm,0.8s,baz=297,slow=6.8,SNR=19
KIV Kislovodsk 69.15 311 *e*P **P 12 59 54.2 +1.4**
KIV *e*S **S 13 08 53.3 +0.3**
KIV pmax pmax
comp=Z,78nm,1.1s
KIV pmax pmax
comp=Z,51nm,4.3s
KIV Kislovodsk 69.15 311 *e*P **P 12 59 53.0 +0.2**
comp=Z,57nm,0.8s
KBZ Khabaz 69.18 311 P **P 12 59 54.0 +1.2**
comp=Z,27nm,0.8s,baz=64,slow=4.1,SNR=55
MLAC Mammoth, Mammo 69.22 58 P **P 12 59 54.7 +1.1**
baz=309
ZEI Tsey 69.22 309 *e*P **P 12 59 52.5 -0.9**
ZEI pmax pmax
comp=Z,73nm,1.0s
NACGM Naroch 69.24 327 *e*P **P 12 59 52.0 -1.0**
NACGM PM 12 59 54.0
comp=Z,0.3nm,1.0s
ELK Elko 69.42 53 *e*P **P 12 59 55.7 +1.0**
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK Elko 69.42 53 *e*P **P 12 59 55.6 +1.0**
comp=Z,9.4nm,1.1s
NC405 NORSAR Array S 69.48 338 *e*P **P 12 59 54.5 +0.1**
NC303 NORSAR Array S 69.48 338 *e*P **P 12 59 54.5 +0.1**
SFJD Kangerlussuaq 69.53 7 P **P 12 59 54.0 -0.5**
comp=Z,36nm,0.8s,baz=346,slow=6.2,SNR=15
SFJD Kangerlussuaq 69.53 7 *i* P **P 12 59 53.9 -0.6**
SFJD pmax pmax
comp=Z,44nm,0.9s
SFJD Kangerlussuaq 69.53 7 *i* P **P 12 59 53.9 -0.6**
comp=Z,44nm,0.9s
SFJD Kangerlussuaq 69.53 7 *e*P **P 12 59 54.3 -0.3**
PAGB Antelope Grade 69.53 60 *e*P **P 12 59 56.6 +1.4**
comp=Z,33nm,1.0s
YFT Old Faithful 69.53 48 *e*P **P 12 59 57.9 +2.6**
comp=Z,32nm,0.9s
NEY Neytrino 69.59 310 ⇓*i*P **P 12 59 57.0 +1.4**
NEY pmax pmax
comp=Z,2.0nm,0.8s
NC204 NORSAR Array S 69.60 338 *e*P **P 12 59 55.2 0.0**
ONI Oni 69.61 310 P **P 12 59 57.1 +1.5**
NB201 NORSAR Array S 69.64 338 *e*P **P 12 59 55.4 -0.1**
NB2 NORSAR Subarra 69.67 338 P **P 12 59 55.5 -0.1**
comp=Z,80nm,0.8s,baz=35,slow=6.2
NB2 NORSAR Subarra 69.67 338 P **P 12 59 55.5 -0.1**
baz=35,slow=6.2
NB200 NORSAR Array S 69.67 338 *e*P **P 12 59 55.5 -0.1**
NOA NORSAR Array B 69.67 338 P **P 12 59 55.5 -0.1**
comp=Z,66nm,0.7s,baz=36,slow=6.2,SNR=172
LKWY Lake 69.69 48 *e*P **P 12 59 59.0 +2.7**
LKWY pmax pmax
comp=Z,28nm,1.1s
LKWY Lake 69.69 48 *e*P **P 12 59 59.0 +2.7**
comp=Z,28nm,1.1s
H17A Grant Village 69.70 48 P **P 12 59 58.5 +2.1**
baz=311,SNR=36
H17A Grant Village 69.70 48 *e*P **P 12 59 58.9 +2.5**
comp=Z,49nm,1.0s
HFS Hagfors 69.72 336 P **P 12 59 55.5 -0.4**
comp=Z,72nm,0.6s,baz=36,slow=7.2,SNR=130
NBO02 NORSAR Array S 69.76 338 *e*P **P 12 59 56.0 -0.1**
RCTC Rector, Farmer 69.80 59 P **P 12 59 57.1 +0.3**
baz=309
NBO00 NORSAR Array S 69.80 338 *e*P **P 12 59 56.4 0.0**
AKN Aaknes 69.80 341 *e*P **P 12 59 54.9 -1.5**
IMW Indian Meadow 69.83 48 *e*P **P 12 59 58.8 +1.5**
comp=Z,39nm,1.0s
NC602 NORSAR Array S 69.84 338 *e*P **P 12 59 55.7 -0.8**
NC602 NORSAR Array S 69.84 338 *e*P **P 12 59 56.2 -0.4**
FLWY Flagg Ranch 69.84 48 *e*P **P 12 59 58.9 +1.7**
comp=Z,20nm,0.9s
NAO01 NORSAR Array S 69.93 338 *e*P **P 12 59 57.0 -0.2**
RLMT Red Lodge 69.93 47 P **P 12 59 58.5 +0.8**
baz=312,SNR=12
RLMT Red Lodge 69.93 47 *e*P **P 12 59 58.7 +1.0**
comp=Z,15nm,0.9s
SMMC Simmler 69.95 60 P **P 12 59 58.3 +0.6**
baz=309
TIN Tinemaha, Big 69.96 58 P **P 12 59 58.6 +0.7**
baz=310
MOOW Moose Ponds 70.03 48 *e*P **P 12 59 59.7 +1.3**
comp=Z,34nm,1.0s
TPAW Teton Pass 70.09 49 *e*P **P 13 00 00.2 +1.4**
comp=Z,45nm,1.0s
HVU Hansel Valley 70.18 51 *e*P **P 13 00 00.1 +0.8**
HVU pmax pmax
comp=Z,18nm,0.9s
HVU Hansel Valley 70.18 51 *e*P **P 13 00 00.1 +0.8**
comp=Z,18nm,0.9s
VES Vestal, Richgr 70.19 59 P **P 12 59 59.1 -0.1**
baz=310,SNR=7.2
LOHW Long Hollow 70.20 48 *e*P **P 13 00 00.8 +1.4**
comp=Z,22nm,1.1s
SNOW Snow King Moun 70.22 49 *e*P **P 13 00 01.4 +1.8**
comp=Z,33nm,1.0s
REDW Red Top Meadow 70.23 49 *e*P **P 13 00 00.7 +1.1**
comp=Z,34nm,1.0s
DGMT Dagmar 70.26 41 P **P 12 59 59.4 0.0**
baz=313,SNR=5.1
DGMT Dagmar 70.26 41 *e*P **P 13 00 00.2 +0.7**
comp=Z,47nm,0.8s
PKM Mcpherson Peak 70.33 60 P **P 13 00 01.2 +0.9**
baz=310
GNI Garni 70.44 307 P **P 13 00 01.9 +1.0**
comp=Z,5.2nm,0.5s,baz=209,slow=2.4,SNR=4.6
GNI Garni 70.44 307 ⇓*i*P **P 13 00 02.3 +1.5**
GNI pmax pmax
comp=Z,50nm,1.2s
CWC Cottonwood Cre 70.44 58 P **P 13 00 01.6 +0.6**
baz=310
A25A Svangstu Ranch 70.45 41 P **P 13 00 01.1 +0.5**
baz=314
LAO LASA Array 70.47 44 P **P 13 00 01.1 +0.3**
baz=313,SNR=10
LAO LASA Array 70.47 44 *e*P **P 13 00 01.4 +0.6**
comp=Z,58nm,1.3s
AHID Auburn Hatcher 70.48 49 *e*P **P 13 00 01.8 +0.7**
comp=Z,19nm,0.9s
GRAC Grapevine Rang 70.53 57 P **P 13 00 02.1 +0.8**
baz=310,SNR=32
BGU Big Grassy Mou 70.59 52 *e*P **P 13 00 02.6 +0.8**
comp=Z,8.8nm,1.1s
SPUT South Promonto 70.67 51 *e*P **P 13 00 03.6 +1.3**
comp=Z,26nm,1.2s
SBC Santa Barbara 70.68 61 P **P 13 00 02.7 +0.5**
baz=310
ISA Isabella, Lake 70.69 59 P **P 13 00 02.3 0.0**
baz=310
ISA Isabella, Lake 70.69 59 *e*P **P 13 00 02.6 +0.3**
ISA pmax pmax
comp=Z,12nm,1.1s
ISA Isabella, Lake 70.69 59 *e*P **P 13 00 02.6 +0.3**
comp=Z,12nm,1.1s
R11A Troy Canyon, C 70.75 55 P **P 13 00 03.5 +0.7**
baz=310,SNR=29
R11A Troy Canyon, C 70.75 55 *e*P **P 13 00 03.5 +0.7**
comp=Z,17nm,1.0s
ARVC Arvin 70.81 60 P **P 13 00 03.4 +0.4**
baz=310
HYA Hoyanger 70.87 340 *e*P **P 13 00 03.3 +0.4**
HYA IAmb IAmb 13 00 03.9
comp=Z,99nm,0.9s
HWUT Hardware Ranch 70.98 51 *e*P **P 13 00 05.0 +0.8**
comp=Z,22nm,0.9s
A26A Wade Farm, Ken 70.99 40 P **P 13 00 04.3 +0.4**
baz=315,SNR=7.5
SCZ2 Santa Cruz Isl 71.01 61 P **P 13 00 04.8 +0.5**
baz=310
MPMC Manual Prospec 71.05 58 P **P 13 00 05.2 +0.5**
baz=310,SNR=10
FURC Furnace Creek, 71.18 58 P **P 13 00 05.9 +0.8**
baz=310,SNR=19
DUG Dugway, Tooele 71.19 52 P **P 13 00 06.1 +0.7**
baz=311,SNR=36
DUG Dugway, Tooele 71.19 52 *e*P **P 13 00 06.4 +1.0**
DUG pmax pmax
comp=Z,20nm,0.8s
DUG Dugway, Tooele 71.19 52 *e*P **P 13 00 06.4 +1.0**
DUG Dugway, Tooele 71.19 52 *e*P **P 13 00 06.4 +1.0**
comp=Z,20nm,0.8s
C25A Freed Ranch, W 71.24 42 P **P 13 00 06.0 +0.6**
baz=314
TPNV Topopah Spring 71.25 57 P **P 13 00 06.5 +0.8**
baz=310,SNR=38
TPNV Topopah Spring 71.25 57 *e*P **P 13 00 06.6 +0.8**
TPNV pmax pmax
comp=Z,42nm,1.0s
TPNV Topopah Spring 71.25 57 *e*P **P 13 00 06.6 +0.8**
comp=Z,42nm,1.0s
AKASG Malin Array Be 71.26 323 P **P 13 00 05.3 -0.1**
comp=Z,44nm,0.7s,baz=41,slow=6.5,SNR=124
AKASG Malin Array Be 71.26 323 P **P 13 00 05.3 -0.1**
AKASG pmax pmax
comp=Z,44nm,0.7s
AKBB Malin Array Si 71.26 323 *e*P **P 13 00 05.3 -0.1**
AKBB pmax pmax
comp=Z,62nm,0.8s
AKBB Malin Array Si 71.26 323 *e*P **P 13 00 05.3 -0.1**
comp=Z,62nm,0.8s
B26A Jensen Ranch, 71.27 41 P **P 13 00 06.3 +0.7**
baz=315
AK11 Malin Array Si 71.30 323 *e*P **P 13 00 05.3 -0.4**
LRMC Laurel Mtn Rad 71.30 59 P **P 13 00 06.6 +0.5**
baz=310
BLG Laguna Peak, P 71.30 61 P **P 13 00 06.6 +0.6**
baz=310
SUW Suwalki 71.32 328 *e*P **P 13 00 05.3 -0.4**
SUW Suwalki 71.32 328 *e*P **P 13 00 05.3 -0.4**
BW06 Boulder Array 71.33 49 P **P 13 00 06.6 +0.3**
baz=312,SNR=41
BW06 Boulder Array 71.33 49 *e*P **P 13 00 06.7 +0.4**
PD31 Pinedale Array 71.33 49 *e*P **P 13 00 06.7 +0.3**
PDAR Pinedale Array 71.33 49 P **P 13 00 06.7 +0.3**
comp=Z,9.4nm,0.4s,baz=276,slow=2.8,SNR=103
TCUT Toone Canyon 71.39 51 *e*P **P 13 00 07.5 +0.7**
comp=Z,53nm,1.2s
ANN Anapa 71.42 314 *e*P **P 13 00 05.2 -1.2**
ANN *e*S **S 13 09 15.9 -3.2**
ANN pmax pmax
comp=Z,28nm,0.6s
EDW2 Edwards Air Fo 71.49 59 P **P 13 00 07.8 +0.6**
baz=310,SNR=16
SNCC San Nicolas Is 71.56 62 P **P 13 00 08.5 +0.9**
baz=310
D25A Fairfield 71.59 42 P **P 13 00 08.4 +0.8**
baz=314
DECC Green Verdugo 71.68 60 P **P 13 00 08.8 +0.5**
baz=310
JLU Jordanelle 71.71 51 *e*P **P 13 00 09.3 +0.7**
comp=Z,20nm,1.1s
BER Beer 71.76 340 *e*P **P 13 00 07.7 -0.5**
A28A Rude Farm, Bot 71.81 39 P **P 13 00 09.0 +0.1**
baz=316,SNR=11
MWC Mount Wilson 71.87 60 *e*P **P 13 00 10.4 +0.8**
MWC pmax pmax
comp=Z,19nm,1.0s
MWC Mount Wilson 71.87 60 *e*P **P 13 00 10.4 +0.8**
comp=Z,19nm,1.0s
SHOC Shoshone, Teco 71.91 58 P **P 13 00 09.9 +0.3**
baz=311,SNR=9.4
BORG Borgarnes 71.94 354 P **P 13 00 10.5 +1.3**
comp=Z,31nm,0.7s,baz=17,slow=3.7,SNR=14
BORG Borgarnes 71.94 354 *e*P **P 13 00 10.9 +1.6**
comp=Z,150nm,1.5s
GSC Goldstone, Bar 71.96 58 P **P 13 00 10.5 +0.5**
baz=310,SNR=11
GSC Goldstone, Bar 71.96 58 *e*P **P 13 00 10.7 +0.6**
GSC pmax pmax
comp=Z,13nm,0.9s
GSC Goldstone, Bar 71.96 58 *e*P **P 13 00 10.7 +0.6**
comp=Z,13nm,0.9s
KLNR Kaliningrad 71.98 330 *i* P **P 13 00 09.7 +0.1**
KLNR pmax pmax
comp=Z,141nm,0.8s
MPU Maple Canyon 71.99 52 *e*P **P 13 00 11.2 +0.9**
comp=Z,21nm,1.0s
E25A Miller Ranch, 72.01 43 P **P 13 00 10.4 +0.4**
baz=314,SNR=9.4
FMP Fort Macarthur 72.05 61 P **P 13 00 11.0 +0.6**
baz=310
B28A Dugan Ranch, T 72.10 40 P **P 13 00 10.9 +0.4**
baz=316,SNR=8.6
D26A Manning 72.11 42 P **P 13 00 11.0 +0.3**
baz=315
BFSC Mount Baldy Ra 72.11 60 P **P 13 00 11.1 +0.1**
baz=310,SNR=11
RRX Edison Barstow 72.12 59 P **P 13 00 11.9 +1.0**
baz=311
SHPR Shep Range 72.20 57 *e*P **P 13 00 12.7 +1.1**
comp=Z,27nm,1.0s
A29A Manning Farm, 72.28 39 P **P 13 00 11.8 +0.2**
baz=316,SNR=27
SCI2 San Clemente I 72.36 61 P **P 13 00 13.0 +0.7**
baz=310
F25A Bowman 72.38 43 P **P 13 00 12.9 +0.6**
baz=314
TUQ Turquoise Moun 72.42 58 P **P 13 00 13.5 +0.7**
baz=311,SNR=24
E26A Carlson Angus 72.49 42 P **P 13 00 12.7 -0.3**
baz=315,SNR=7.4
B29A Wagenman Farm, 72.55 39 P **P 13 00 13.5 +0.2**
baz=316,SNR=12
BBRC Big Bear Solar 72.56 59 P **P 13 00 14.2 +0.4**
baz=311
HEC Hector,Ludlow 72.56 59 P **P 13 00 14.3 +0.7**
baz=311,SNR=17
CCUT Cedar City 72.60 55 *e*P **P 13 00 15.0 +1.0**
comp=Z,19nm,1.2s
C28A Hausauer Farms 72.61 40 P **P 13 00 14.1 +0.5**
baz=316,SNR=5.8
MSU Marysvale 72.67 53 *e*P **P 13 00 15.6 +1.2**
MSU Marysvale 72.67 53 *e*P **P 13 00 15.6 +1.2**
A30A Hoffart Farm, 72.69 38 P **P 13 00 14.3 +0.2**
baz=317,SNR=9.8
TMUT Trail Mountain 72.71 52 *e*P **P 13 00 15.4 +0.7**
comp=Z,16nm,1.1s
SZCU Shurtz Canyon 72.74 55 *e*P **P 13 00 15.5 +0.7**
comp=Z,16nm,1.0s
ULM Lac du Bonnet 72.80 36 P **P 13 00 14.2 -0.4**
comp=Z,19nm,0.9s,baz=310,slow=6.1,SNR=15
ULM Lac du Bonnet 72.80 36 *e*P **P 13 00 14.2 -0.4**
comp=Z,29nm,1.0s
MURC Murrieta 72.82 60 P **P 13 00 15.4 +0.3**
baz=311
F26A Lodgepole 72.83 43 P **P 13 00 15.0 0.0**
baz=315,SNR=7.5
P17A Butcher Ranch, 72.87 52 *e*P **P 13 00 16.2 +0.7**
comp=Z,42nm,1.2s
MDND Maddock 72.88 40 P **P 13 00 15.6 +0.5**
baz=316
MDND Maddock 72.88 40 *e*P **P 13 00 15.7 +0.5**
comp=Z,84nm,1.0s
D28A Regan 72.90 41 P **P 13 00 15.8 +0.5**
baz=316
MTPU Mount Pierson 72.98 54 *e*P **P 13 00 17.7 +1.3**
comp=Z,15nm,1.0s
GMRC Granite Mounta 73.01 58 P **P 13 00 16.8 +0.5**
baz=311,SNR=14
LCMT Little Creek M 73.03 55 *e*P **P 13 00 17.4 +1.0**
comp=Z,18nm,0.9s
B30A Myrvik Farm, E 73.03 39 P **P 13 00 16.2 +0.1**
baz=317,SNR=14
K22A Casper 73.06 47 P **P 13 00 16.5 0.0**
baz=314,SNR=14
K22A Casper 73.06 47 *e*P **P 13 00 16.7 +0.2**
comp=Z,27nm,1.0s
LDFC Landfair 73.16 58 *e*P **P 13 00 17.9 +0.7**
comp=Z,51nm,1.0s
A31A Linda, St. Vin 73.20 38 P **P 13 00 16.8 -0.2**
baz=318
H25A Fruitdale 73.22 44 P **P 13 00 17.3 0.0**
baz=315
SRU San Rafael Swe 73.23 52 *e*P **P 13 00 18.2 +0.6**
SRU pmax pmax
comp=Z,21nm,0.7s
SRU San Rafael Swe 73.23 52 *e*P **P 13 00 18.2 +0.6**
comp=Z,21nm,0.7s
KNB Kanab 73.28 55 *e*P **P 13 00 19.2 +1.3**
KNB pmax pmax
comp=Z,27nm,1.1s
KNB Kanab 73.28 55 *e*P **P 13 00 19.2 +1.3**
comp=Z,27nm,1.1s
PFO Pinyon Flats O 73.28 60 P **P 13 00 17.9 -0.1**
comp=Z,8.5nm,0.9s,baz=309,slow=3.9,SNR=12
PFO Pinyon Flats O 73.28 60 P **P 13 00 18.1 +0.2**
baz=311,SNR=9.2
PFO Pinyon Flats O 73.28 60 *e*P **P 13 00 17.8 -0.1**
PFO pmax pmax
comp=Z,24nm,1.2s
PFO Pinyon Flats O 73.28 60 *e*P **P 13 00 17.8 -0.1**
comp=Z,24nm,1.2s
TPFO Pinon Flats 73.28 60 P **P 13 00 18.2 +0.2**
baz=311,SNR=11
PKCU Pink Cliffs 73.30 54 *e*P **P 13 00 19.7 +1.4**
comp=Z,12nm,1.0s
BELC Belle Mtn. Jos 73.31 59 P **P 13 00 18.1 0.0**
baz=311,SNR=7.8
109C Camp Elliot, M 73.34 61 P **P 13 00 18.6 +0.5**
baz=311
RSSD Black Hills 73.35 45 P **P 13 00 18.3 0.0**
baz=315
RSSD Black Hills 73.35 45 *e*P **P 13 00 18.3 0.0**
RSSD pmax pmax
comp=Z,23nm,0.9s
RSSD Black Hills 73.35 45 *e*P **P 13 00 18.3 0.0**
comp=Z,23nm,0.9s
B31A Greenbush Farm 73.36 38 P **P 13 00 18.0 0.0**
baz=317
MMU Miners Mountai 73.40 53 *e*P **P 13 00 19.9 +1.1**
D29A Pettibone, Tap 73.45 40 P **P 13 00 18.3 -0.3**
baz=316
C30A Mose, Pekin 73.51 39 P **P 13 00 18.6 -0.3**
baz=317,SNR=6.3
A32A Rocking H Ranc 73.52 37 P **P 13 00 18.3 -0.6**
baz=318,SNR=12
SORM Soroca 73.52 321 ⇑*i*P **P 13 00 18.9 0.0**
NEE2 Needles Airpor 73.67 58 P **P 13 00 20.4 +0.3**
baz=312
IRM Iron Mountain 73.75 58 P **P 13 00 21.1 +0.6**
baz=312,SNR=19
BAR Barrett 73.75 60 *e*P **P 13 00 20.9 +0.3**
comp=Z,15nm,1.0s
COP Copenhagen 73.77 334 *e*P **P 13 00 20.4 +0.2**
COP pmax pmax
comp=Z,46nm,0.8s
COP MLR MLR
comp=Z,5μm,18.0s
COP Copenhagen 73.77 334 *i* P **P 13 00 20.4 +0.2**
comp=Z,46nm,0.8s
MONP2 Monument Peak 73.77 60 P **P 13 00 21.2 +0.3**
baz=311,SNR=8.0
C31A Landman Farms, 73.79 39 P **P 13 00 20.1 -0.4**
baz=317,SNR=11
E29A Napoleon 73.79 41 P **P 13 00 20.3 -0.3**
baz=316
D30A Buchanan 73.81 40 P **P 13 00 20.5 -0.2**
baz=317,SNR=14
O20A White River Ci 73.84 50 P **P 13 00 21.4 +0.2**
baz=313,SNR=9.1
O20A White River Ci 73.84 50 *e*P **P 13 00 21.6 +0.4**
comp=Z,23nm,1.0s
BC3 Big Chuckawall 73.88 59 P **P 13 00 21.8 +0.3**
baz=312,SNR=16
B32A Ashes, Strandq 73.88 38 P **P 13 00 20.5 -0.6**
baz=318,SNR=11
W13A Hualapai Mount 73.90 57 *e*P **P 13 00 22.4 +0.7**
comp=Z,13nm,1.0s
BEL Belsk 73.92 328 *e*P **P 13 00 21.9 +0.8**
BEL Belsk 73.92 328 *e*P **P 13 00 21.9 +0.8**
U15A North Rim 73.99 55 *e*P **P 13 00 23.3 +1.1**
comp=Z,26nm,1.0s
A33A Warroad 73.99 37 P **P 13 00 21.2 -0.4**
baz=319,SNR=18
MUD Monsted U'grnd 74.11 336 *i* P **P 13 00 23.1 +0.9**
MUD pmax pmax
comp=Z,22nm,0.8s
MUD MLR MLR
comp=Z,5μm,16.0s
MUD Monsted U'grnd 74.11 336 *i* P **P 13 00 23.1 +0.9**
comp=Z,22nm,0.8s
IKP In-Ko-Pah, Jac 74.13 60 P **P 13 00 23.1 +0.3**
baz=311,SNR=10
SWSC Sam W. Stewart 74.13 60 P **P 13 00 23.1 +0.3**
baz=312
KIS Kishinev 74.14 320 *e*P **P 13 00 22.0 -0.5**
KIS Kishinev 74.14 320 *e*P **P 13 00 22.0 -0.5**
KIS *e* 13 09 48.0
LVV L'vov 74.16 325 *e*P **P 13 00 22.4 -0.2**
E30A Jud 74.18 40 P **P 13 00 22.6 -0.2**
baz=317,SNR=7.2
F29A Eureka 74.23 41 P **P 13 00 23.1 0.0**
baz=317
AGMN Agassiz Nation 74.26 37 P **P 13 00 22.5 -0.8**
baz=318,SNR=16
AGMN Agassiz Nation 74.26 37 *e*P **P 13 00 22.6 -0.6**
comp=Z,35nm,1.0s
PDMCI Parker Dam,Lak 74.27 58 P **P 13 00 24.0 +0.5**
baz=312,SNR=10
C32A Crookston 74.31 38 P **P 13 00 22.8 -0.7**
baz=318
D31A Mcclaflin, Tow 74.34 39 P **P 13 00 23.4 -0.3**
baz=318
B33A Robert and Kas 74.40 37 P **P 13 00 23.4 -0.6**
baz=319
Y12C Blythe 74.40 58 P **P 13 00 24.9 +0.7**
baz=312,SNR=8.7
Y12C Blythe 74.40 58 *e*P **P 13 00 25.0 +0.7**
comp=Z,34nm,1.1s
PV09 Paradox Valley 74.45 52 *e*P **P 13 00 25.6 +0.7**
PHWY Pilot Hill 74.57 48 *e*P **P 13 00 25.2 -0.3**
comp=Z,12nm,1.1s
PV10 Paradox Valley 74.58 52 *e*P **P 13 00 26.6 +0.9**
N23A Red Feather La 74.59 48 P **P 13 00 26.2 +0.6**
baz=314,SNR=18
N23A Red Feather La 74.59 48 *e*P **P 13 00 25.6 -0.1**
comp=Z,29nm,1.1s
D32A Dogwood Acres, 74.60 39 P **P 13 00 24.6 -0.6**
baz=318
F30A Leola 74.61 41 P **P 13 00 25.0 -0.4**
baz=317
E31A Nome 74.62 40 P **P 13 00 25.1 -0.3**
baz=318,SNR=17
G29A Hoven 74.65 42 P **P 13 00 25.2 -0.4**
baz=317
B34A Aery, Baudette 74.65 37 P **P 13 00 24.9 -0.6**
baz=319,SNR=11
GLA Glamis 74.67 59 P **P 13 00 26.7 +0.7**
baz=312,SNR=18
GLA Glamis 74.67 59 *e*P **P 13 00 26.8 +0.8**
GLA pmax pmax
comp=Z,26nm,1.0s
GLA Glamis 74.67 59 *e*P **P 13 00 26.8 +0.8**
comp=Z,26nm,1.0s
C33A Trail 74.70 38 P **P 13 00 25.0 -0.8**
baz=319
PV05 Paradox Valley 74.75 52 *e*P **P 13 00 27.3 +0.8**
KWP Kalwaria Pacla 74.85 325 *e*P **P 13 00 27.4 +0.8**
KWP Kalwaria Pacla 74.85 325 ⇑*i*P **P 13 00 27.3 +0.6**
KWP Kalwaria Pacla 74.85 325 *e*P **P 13 00 27.5 +0.8**
H29A Onida 74.92 42 P **P 13 00 27.1 -0.1**
baz=317
F31A Hecla 74.96 40 P **P 13 00 27.0 -0.3**
baz=317,SNR=12
E32A Braaten, Kindr 74.98 39 P **P 13 00 27.1 -0.3**
baz=318
PV01 Paradox Valley 75.02 52 *e*P **P 13 00 28.6 +0.5**
G30A Faulkton 75.07 41 P **P 13 00 27.7 -0.3**
baz=317,SNR=16
D33A AnnSam, Waubun 75.13 38 P **P 13 00 27.6 -0.7**
baz=319
B35A Bob, Littlefor 75.15 36 P **P 13 00 27.9 -0.4**
baz=320,SNR=25
WUAZ Wupatki 75.15 55 P **P 13 00 29.7 +0.9**
baz=313,SNR=15
WUAZ Wupatki 75.15 55 *e*P **P 13 00 30.0 +1.2**
comp=Z,24nm,1.1s
C34A RKJ Ranch, Bem 75.17 37 P **P 13 00 27.7 -0.8**
baz=319
SMCO Snowmass 75.21 50 *e*P **P 13 00 30.1 +0.7**
comp=Z,20nm,1.0s
Y14A Wickenburg 75.22 57 *e*P **P 13 00 29.9 +0.8**
comp=Z,112nm,1.0s
BUR08 Bucovina Ar. S 75.30 323 *e*P **P 13 00 29.9 +0.5**
I29A Vivian Onida 75.31 43 P **P 13 00 29.1 -0.3**
baz=317
BURAR Bucovina Array 75.31 323 ⇑*i*P **P 13 00 30.0 +0.5**
G31A Conde 75.45 41 P **P 13 00 29.9 -0.3**
baz=318
D34A Park Rapids 75.47 38 P **P 13 00 29.7 -0.6**
baz=319,SNR=9.2
TLCR 75.47 319 ⇑*i*P **P 13 00 30.6 +0.4**
F32A Veblen 75.49 40 P **P 13 00 29.8 -0.5**
baz=318
TESR Tescani 75.50 321 ⇑*i*P **P 13 00 30.9 +0.5**
113A Mohawk Valley, 75.53 59 *e*P **P 13 00 31.1 +0.3**

comp=Z,16nm,1.1s
ISCO Idaho Springs 75.53 49 P P 13 00 31.6 +0.4
baz=315,SNR=13
ISCO Idaho Springs 75.53 49 *e*P P 13 00 32.0 +0.9
ISCO pmax pmax
comp=Z,22nm,1.2s
ISCO Idaho Springs 75.53 49 *e*P P 13 00 32.0 +0.9
comp=Z,22nm,1.2s
E33A Westby DABS, E 75.53 39 P P 13 00 30.3 -0.3
baz=319,SNR=9.3
C35A Jirik Farms, M 75.54 37 P P 13 00 29.7 -0.9
baz=320,SNR=13
KOLS Kolonicke sedl 75.57 325 *e*P P 13 00 31.3 +0.5
KOLS pmax pmax
comp=Z,24nm,1.0s
KOLS Kolonicke sedl 75.57 325 *e*P P 13 00 31.3 +0.5
OJC Ojcow 75.57 327 *e*P P 13 00 31.6 +0.8
OJC Ojcow 75.57 327 *e*P P 13 00 31.6 +0.8
OJC Ojcow 75.57 327 *e*P P 13 00 31.4 +0.7
comp=Z,96nm,0.9s
STHS Stebnicka Huta 75.62 326 *e*P P 13 00 32.1 +1.0
STHS pmax pmax
comp=Z,26nm,1.0s
STHS Stebnicka Huta 75.62 326 *e*P P 13 00 32.1 +1.0
SUSD Miller 75.67 42 P P 13 00 31.1 -0.3
baz=317
MVCO Mesa Verde 75.69 52 P P 13 00 32.7 +0.6
baz=314,SNR=10
MVCO Mesa Verde 75.69 52 *e*P P 13 00 32.6 +0.6
comp=Z,10nm,0.6s
G32A Webster 75.77 40 P P 13 00 31.9 -0.1
baz=318
CFR Carcaliu 75.80 320⇑ *i*P P 13 00 32.6 +0.5
UZH Uzhgorod 75.80 325 *e*P P 13 00 28.0 -4.1
UZH *i* 13 00 44.4
I30A Oacoma 75.82 42 P P 13 00 32.2 -0.2
baz=317
X16A Lo Mia Camp, P 75.85 56 *e*P P 13 00 34.1 +1.2
comp=Z,31nm,1.0s
H31A Wolsey 75.87 41 P P 13 00 32.2 -0.4
baz=318
F33A 5 Mile Ranch, 75.90 39 P P 13 00 32.3 -0.4
baz=319,SNR=13
E34A Wadena 75.91 38 P P 13 00 32.3 -0.5
baz=319
CRVS Cervenica-Dubn 75.94 326 *e*P P 13 00 33.5 +0.6
CRVS Cervenica-Dubn 75.94 326 *e*P P 13 00 33.5 +0.6
VRI Vrincioaia 75.95 321⇑ *i*P P 13 00 34.0 +1.0
D35A Remer 75.98 37 P P 13 00 32.4 -0.8
baz=320,SNR=5.6
C36A Pine Crest Far 75.99 36 P P 13 00 32.6 -0.6
baz=320,SNR=18
PLOR Plostina 75.99 321⇑ *i*P P 13 00 34.2 +0.9
NIE Niedzica 76.00 327 *e*P P 13 00 34.4 +1.1
NIE Niedzica 76.00 327 *e*P P 13 00 34.4 +1.1
TRPA Tarpa 76.08 325⇑ *e*P P 13 00 34.6 +0.9
ARCR ARCALIA 76.10 323⇑ *i*P P 13 00 35.5 +1.7
I31A Royce, Wessing 76.17 42 P P 13 00 33.9 -0.5
baz=318
TIRR Tirgusor 76.20 319⇓ *i*P P 13 00 34.9 +0.5
E35A Pequot Lakes 76.22 38 P P 13 00 34.0 -0.5
baz=320
J30A Dallas 76.22 43 P P 13 00 34.4 -0.3
baz=317,SNR=6.0
S22A 4UR Ranch, Cre 76.28 51 P P 13 00 36.3 +0.9
baz=314,SNR=11
S22A 4UR Ranch, Cre 76.28 51 *e*P P 13 00 36.5 +1.1
comp=Z,16nm,1.1s
C37A Embarrass 76.30 36 P P 13 00 34.4 -0.5
baz=321,SNR=16
D36A Goodland 76.30 37 P P 13 00 34.2 -0.7
baz=320,SNR=7.9
G33A Ortonville 76.31 40 P P 13 00 34.8 -0.2
baz=319,SNR=7.2
H32A Carlson Farm, 76.36 41 P P 13 00 35.0 -0.4
baz=318
Q24A Divide 76.37 49 P P 13 00 36.2 +0.2
baz=315,SNR=7.5
Q24A Divide 76.37 49 *e*P P 13 00 36.8 +0.8
comp=Z,11nm,0.9s
W18A Petrified Fore 76.40 55 P P 13 00 36.9 +0.9
baz=314
F34A Alexandria 76.41 39 P P 13 00 35.1 -0.5
baz=319
KSP Ksiaz 76.42 330 *e*P P 13 00 36.1 +0.5
KSP Ksiaz 76.42 330 *e*P P 13 00 36.1 +0.5
EYMN Ely 76.42 35 P P 13 00 35.3 -0.4
baz=321,SNR=21
EYMN Ely 76.42 35 *e*P P 13 00 35.3 -0.4
comp=Z,50nm,1.0s
DOPR Dopca 76.48 322⇑ *i*P P 13 00 37.3 +1.2
OKC Ostrava-Krasne 76.53 328⇑ *e*P P 13 00 36.6 +0.4
OKC Ostrava-Krasne 76.53 328 *e*P P 13 00 36.6 +0.4
LANS Liptovska Anna 76.55 327 *e*P P 13 00 37.9 +1.5
LANS Liptovska Anna 76.55 327 *e*P P 13 00 37.9 +1.5
H33A Prehn Over Nor 76.55 40 P P 13 00 36.4 -0.1
baz=318,SNR=12
MLR Muntele Rosu 76.59 321 P P 13 00 37.1 +0.3
comp=Z,2.2nm,0.6s,baz=108,slow=22,SNR=15
MLR Muntele Rosu 76.59 321⇑ *i*P P 13 00 38.1 +1.3
MLR Muntele Rosu 76.59 321 *e*P P 13 00 37.1 +0.3
comp=Z,14nm,0.8s
ISR Istrita 76.59 320⇑ *i*P P 13 00 38.2 +1.5
MDO Dochfour 76.61 344⇑ *e*P P 13 00 36.4 -0.1
J31A Geddes 76.62 42 P P 13 00 36.6 -0.2
baz=318,SNR=7.5
D37A Cotton 76.63 36 P P 13 00 36.1 -0.7
baz=321,SNR=9.0
K30A Basset 76.64 43 P P 13 00 37.0 0.0
baz=317
OGNE Ogallala 76.64 46 P P 13 00 37.1 -0.1
baz=316,SNR=9.4
OGNE Ogallala 76.64 46 *e*P P 13 00 37.4 +0.3
comp=Z,73nm,1.0s
G34A Benson 76.65 39 P P 13 00 36.7 -0.3
baz=319,SNR=5.6
KECS Kecovo 76.67 326 *e*P P 13 00 38.1 +1.1
KECS pmax pmax
comp=Z,11nm,1.0s
KECS Kecovo 76.67 326 *e*P P 13 00 38.1 +1.1
214A Organ Pipe Nat 76.67 59 P P 13 00 37.9 +0.5
baz=313,SNR=12
F35A Swanville 76.67 38 P P 13 00 36.5 -0.6
baz=320
C38A Sawbill Land. 76.69 35 P P 13 00 36.6 -0.6
baz=321,SNR=28
I32A Karley and Nic 76.70 41 P P 13 00 36.9 -0.4
baz=318
CJR Cluj-Napoca 76.72 323⇑ *i*P P 13 00 38.0 +0.6
KAC Achnashellach 76.75 344⇑ *i*P P 13 00 37.3 0.0
MSAB Monastry St. A 76.75 319⇑ *i*P P 13 00 38.7 +1.2
E36A McGregor 76.76 37 P P 13 00 37.2 -0.4
baz=320,SNR=18
UPC Upice 76.80 329⇑ *i*P P 13 00 38.4 +0.7
UPC Upice 76.80 329⇑ *i*P P 13 00 38.4 +0.7
DPC Dobruska-Polom 76.81 329⇑ *i*P P 13 00 38.8 +1.0
DPC *e*pP pP 13 00 57.1 +0.3
DPC Dobruska-Polom 76.81 329⇑ *i*P P 13 00 38.8 +1.0
DPC *e* 13 00 57.1
MORC Moravsky Berou 76.81 328⇑ *i*P P 13 00 38.6 +0.8
MORC Moravsky Berou 76.81 328 *e*P P 13 00 38.7 +0.9
MORC pmax pmax
comp=Z,158nm,0.9s
MORC Moravsky Berou 76.81 328 *e*P P 13 00 38.7 +0.9
comp=Z,158nm,0.9s
KPL Plockton 76.97 344⇑ *e*P P 13 00 38.8 +0.3
BR101 Keskin Array S 76.97 313 *e*P P 13 00 39.6 +0.5
BR131 Keskin Array S 76.97 313 *e*P P 13 00 39.7 +0.6
BRTR Keskin Array B 76.97 313 P P 13 00 39.6 +0.5
comp=Z,5.6nm,0.8s,baz=78,slow=3.4,SNR=30
J32A Parkston 77.00 42 P P 13 00 38.5 -0.5
baz=318
I33A Coleman 77.00 41 P P 13 00 38.7 -0.3
baz=319
H34A Spellman Lake, 77.02 40 P P 13 00 38.6 -0.4
baz=319
SDCO Great Sand Dun 77.03 50 P P 13 00 40.1 +0.5
baz=315,SNR=15
SDCO Great Sand Dun 77.03 50 *e*P P 13 00 40.2 +0.5
comp=Z,14nm,1.3s
VOIR 77.04 321⇓ *i*P P 13 00 40.4 +1.1
KSB Sheil Bridge 77.04 344⇑ *e*P P 13 00 39.2 +0.3
DRGR 77.05 324⇑ *i*P P 13 00 39.5 +0.2
C39A Grand Marais 77.10 35 P P 13 00 38.5 -0.9
baz=322,SNR=7.5
K31A O'Neill 77.10 43 P P 13 00 39.6 0.0
baz=318
F36A Milaca 77.15 38 P P 13 00 40.2 +0.5
baz=320,SNR=6.0
EDU Dundee 77.15 343⇑ *e*P P 13 00 39.4 -0.2
G35A Watkins 77.20 39 P P 13 00 40.0 -0.1
baz=320
CLL Collm 77.22 332⇑ *i*P P 13 00 40.1 +0.1
comp=Z,55nm,0.8s
CLL *e*(SS) 13 15 54.0
CLL Collm 77.22 332⇑ *i*P P 13 00 40.1 +0.1
CLL pmax pmax
comp=Z,55nm,0.8s
CLL Collm 77.22 332 *e*P P 13 00 40.1 +0.1
CLL Collm 77.22 332 *e*P P 13 00 40.0 -0.1
comp=Z,49nm,0.8s
BRG Berggiesshubel 77.25 331 *e*P P 13 00 40.5 +0.3
comp=Z,18nm,0.9s
BRG S S 13 10 28.0 +3.9
BRG Berggiesshubel 77.25 331 *e*P P 13 00 40.5 +0.3
BRG S S 13 10 28.0 +3.9
BRG pmax pmax
comp=Z,18nm,0.9s
BRG Berggiesshubel 77.25 331 *e*P P 13 00 40.5 +0.3
ARR Arges 77.28 322⇑ *i*P P 13 00 42.3 +1.7
PVCC Panska Ves 77.31 330⇑ *i*P P 13 00 41.2 +0.6
PVCC Panska Ves 77.31 330⇑ *i*P P 13 00 41.2 +0.6
ANTO Ankara 77.32 313 *e*P P 13 00 42.0 +1.0
ANTO pmax pmax
comp=Z,30nm,0.8s
ANTO Ankara 77.32 313 *e*P P 13 00 42.0 +1.0
comp=Z,30nm,0.8s
ECSD EROS Data Cent 77.32 41 P P 13 00 40.4 -0.4
baz=319,SNR=22
ECSD EROS Data Cent 77.32 41 *e*P P 13 00 40.6 -0.2
comp=Z,31nm,1.0s
VYHS Vyhne 77.33 327 *e*P P 13 00 41.6 +0.9
VYHS pmax pmax
comp=Z,18nm,1.1s
VYHS Vyhne 77.33 327 *e*P P 13 00 41.6 +0.9
BR231 Keskin MP Arra 77.35 313 *e*P P 13 00 40.2 -1.0
PSZ Piszkesteto 77.35 326⇓ *i*P P 13 00 42.0 +1.0
PSZ Piszkesteto 77.35 326⇓ *e*P P 13 00 41.8 +0.9
PSZ Piszkesteto 77.35 326 *e*P P 13 00 41.9 +1.0
PSZ pmax pmax
comp=Z,39nm,0.9s
PSZ Piszkesteto 77.35 326 *e*P P 13 00 41.9 +0.9
comp=Z,39nm,0.9s
L31A Butterfield Fa 77.39 43 P P 13 00 41.1 -0.2
baz=318,SNR=8.1
H35A Sunnyside Ranc 77.44 39 P P 13 00 41.4 0.0
baz=320
I34A Hadley 77.45 40 P P 13 00 41.3 -0.2
baz=319
K32A Verdigre 77.46 42 P P 13 00 40.9 -0.7
baz=318
J33A Davis 77.46 41 P P 13 00 41.2 -0.4
baz=319
G36A St. Michael 77.52 38 P P 13 00 41.6 -0.3
baz=320
VRAC Vranov 77.55 328 P P 13 00 42.5 +0.5
comp=Z,23nm,0.8s,baz=36,slow=5.3,SNR=35
VRAC Vranov 77.55 328⇓ *i*P P 13 00 42.9 +0.9
VRAC Vranov 77.55 328 P P 13 00 42.5 +0.5
VRAC pmax pmax
comp=Z,29nm,0.9s
ESY Stoneypath 77.64 342⇑ *e*P P 13 00 42.5 +0.2
TUC Tucson 77.69 57 P P 13 00 44.1 +1.0
baz=314
TUC Tucson 77.69 57 *e*P P 13 00 43.9 +0.8
TUC pmax pmax
comp=Z,19nm,1.0s
TUC Tucson 77.69 57 *e*P P 13 00 43.9 +0.8
comp=Z,19nm,1.0s
KSCO Kaye Shedlock' 77.72 48 P P 13 00 43.2 -0.1
baz=316
GOPC GO Pecny, Ondr 77.73 330⇑ *i*P P 13 00 43.7 +0.7
GOPC GO Pecny, Ondr 77.73 330⇑ *i*P P 13 00 43.7 +0.7
PRU Pruhonice 77.76 330⇑ *i*P P 13 00 43.7 +0.6
PRU *e*S S 13 10 27.1 -2.6
PRU Pruhonice 77.76 330⇑ *i*P P 13 00 43.7 +0.6
PRU *e*S S 13 10 27.1 -2.6
EAB Aberfoyle 77.77 343⇑ *i*P P 13 00 43.3 +0.3
SMOL Smolenice 77.87 328 *e*P P 13 00 44.9 +1.2
SMOL Smolenice 77.87 328 *e*P P 13 00 44.9 +1.2
SIRR Siria 77.91 324⇑ *i*P P 13 00 44.8 +0.8
L32A Elgin 77.93 43 P P 13 00 44.1 -0.2
baz=318
M31A Lambtecht Ranc 77.93 44 P P 13 00 43.7 -0.6
baz=318
H36A Jessenland, He 77.95 39 P P 13 00 44.5 +0.2
baz=320
SPMN Marine on St. 77.96 38 P P 13 00 43.6 -0.7
baz=321
SPMN Marine on St. 77.96 38 *e*P P 13 00 44.0 -0.3
comp=Z,21nm,1.0s
J34A George 77.98 41 P P 13 00 44.0 -0.4
baz=319
K33A Hardington 77.98 42 P P 13 00 44.2 -0.3
baz=319
TREC Trest 77.98 329⇑ *i*P P 13 00 45.0 +0.6
TREC Trest 77.98 329⇑ *i*P P 13 00 45.0 +0.6
I35A Creekview Farm 78.01 40 P P 13 00 44.0 -0.6
baz=320
T25A Trinidad 78.07 50 P P 13 00 45.6 +0.2
baz=316,SNR=18
T25A Trinidad 78.07 50 *e*P P 13 00 45.9 +0.5
comp=Z,23nm,1.0s
PGBU Glenifferbraes 78.15 343⇑ *e*P P 13 00 45.6 +0.5
PGBU AMB AMB 13 00 46.8
comp=Z,133nm,1.5s
L33A Hoskins 78.18 42 P P 13 00 44.9 -0.7
baz=319
J35A Milford 78.27 40 P P 13 00 45.4 -0.7
baz=320
BGNE Belgrade 78.30 43 P P 13 00 45.8 -0.5
baz=318
EKA Eskdalemuir Ar 78.31 342 P P 13 00 46.2 +0.2
comp=Z,18nm,0.6s,baz=28,slow=4.9,SNR=47
NKC Novy Kostel 78.31 331⇑ *i*P P 13 00 46.4 +0.2
NKC Novy Kostel 78.31 331⇑ *i*P P 13 00 46.4 +0.2
N31A Bailey Ranch, 78.33 44 P P 13 00 45.8 -0.6
baz=318
ESK Eskdalemuir 78.33 342⇑ *e*P P 13 00 46.3 +0.2
ESK AMB AMB 13 00 47.4
comp=Z,42nm,1.7s
ESK Eskdalemuir 78.33 342 *i*P P 13 00 47.1 +1.0
ESK Eskdalemuir 78.33 342 *e*P P 13 00 46.6 +0.4
comp=Z,32nm,0.8s
I36A Fitzsimmons Fa 78.33 39 P P 13 00 46.0 -0.4
baz=320
K34A Le Mars 78.36 41 P P 13 00 46.0 -0.6
baz=319,SNR=5.8
H37A Dierke Farm, C 78.40 38 P P 13 00 46.6 -0.2
baz=321
LAZ Ladron 78.44 54 *e*P P 13 00 48.6 +1.2
BZS Buzias 78.44 323⇑ *i*P P 13 00 47.1 +0.2
ECK Cauldkaine Hil 78.44 342⇑ *i*P P 13 00 47.0 +0.2
ANMO Albuquerque 78.45 53 P P 13 00 48.3 +0.8
baz=315
ANMO Albuquerque 78.45 53 *d*iP P 13 00 47.8 +0.3
ANMO pmax pmax
comp=Z,19nm,1.7s
ANMO Albuquerque 78.45 53 *e*P P 13 00 48.5 +1.0
comp=Z,27nm,1.6s
BHH Howats Hill 78.54 342⇑ *e*P P 13 00 47.6 +0.3
BWH Wardlaw 78.56 342 *e*P P 13 00 47.8 +0.4
I37A Lemond, Waseca 78.62 39 P P 13 00 47.9 0.0
baz=320,SNR=6.3
O31A Woolen Ranch, 78.63 45 P P 13 00 47.4 -0.8
baz=318
SCHQ Schefferville 78.64 18 P P 13 00 47.9 0.0
comp=Z,18nm,0.9s,baz=346,slow=6.1,SNR=11
SCHQ Schefferville 78.64 18 *e*P P 13 00 47.9 0.0
comp=Z,31nm,1.1s
M33A Taylor Creek F 78.66 43 P P 13 00 47.7 -0.6
baz=319
N32A Stulken Farm, 78.71 44 P P 13 00 47.9 -0.6
baz=318
J36A Seneca 1, Swea 78.71 40 P P 13 00 47.8 -0.7
baz=320
K35A Storm Lake 78.75 41 P P 13 00 48.1 -0.7
baz=320
L34A Svendsen Farm, 78.77 42 P P 13 00 48.3 -0.6
baz=319,SNR=5.2
LPM Los Pinos Moun 78.80 53 *e*P P 13 00 50.6 +1.2
KHC Kasperske Hory 78.83 330⇑ *i*P P 13 00 49.7 +0.6
KHC *es*P pP 13 01 10.0 +1.9
KHC Kasperske Hory 78.83 330⇑ *i*P P 13 00 49.7 +0.6
KHC *e* 13 01 10.0
KHC Kasperske Hory 78.83 330 *e*P P 13 00 49.7 +0.6
KHC Kasperske Hory 78.83 330 *e*P P 13 00 49.8 +0.8
comp=Z,16nm,0.8s
COWI Conover 78.87 35 *e*P P 13 00 48.8 -0.5
comp=Z,18nm,0.8s
BBO1 Bothel 78.88 342⇑ *e*P P 13 00 49.6 +0.5
SOP Sopron 78.89 328⇑ *e*P P 13 00 50.4 +1.1
BNM Barren Site 78.91 53 *e*P P 13 00 51.1 +1.0
CONA Conrad Observa 78.96 328 *i*P P 13 00 50.9 +1.0
comp=Z,14nm,0.7s,SNR=17
CONA Conrad Observa 78.96 328 *i*P P 13 00 50.9 +1.0
comp=Z,14nm,0.7s,SNR=17
KESW Keswick, Cumbr 78.98 342⇑ *e*P P 13 00 50.3 +0.6
KESW AMB AMB 13 00 50.9
comp=Z,105nm,1.2s
M34A Aspy Farms, Fr 79.02 42 P P 13 00 49.6 -0.6
baz=319
GEC2 GERESS Array S 79.02 330 *e*P P 13 00 50.4 +0.2
GEC2 pmax pmax
comp=Z,11nm,0.8s
GEC2 GERESS Array S 79.02 330 *e*P P 13 00 50.4 +0.2
comp=Z,11nm,0.8s
GERES GERESS Array B 79.02 330 P P 13 00 50.0 -0.1
comp=Z,9.1nm,0.8s,baz=32,slow=5.2,SNR=51
GEA0 GERESS Array S 79.03 330 *e*P P 13 00 50.3 +0.1
MDVR Moldovita 79.05 323⇑ *i*P P 13 00 50.5 +0.1
L35A Bielow Farm, R 79.06 41 P P 13 00 49.7 -0.8
baz=320
GAL1 Galloway 79.08 343⇑ *e*P P 13 00 50.5 +0.3
I38A Scanlan Farm, 79.09 38 P P 13 00 49.7 -0.8
baz=321
J37A Redenius Farm, 79.09 40 P P 13 00 50.2 -0.4
baz=321
O32A Brockman Farm, 79.09 44 P P 13 00 49.6 -1.0
baz=318
N33A J Bar K, Exete 79.16 43 P P 13 00 50.0 -1.0
baz=319
K36A Gilmore City 79.19 40 P P 13 00 50.7 -0.4
baz=320
319A Douglas 79.26 57 *e*P P 13 00 52.9 +1.0
comp=Z,62nm,0.8s
121A Cookes Peak, D 79.36 55 P P 13 00 53.4 +1.0
baz=315,SNR=26
P32A Huiting Farm, 79.40 45 P P 13 00 51.5 -0.8
baz=318
CBKS Cedar Bluff 79.41 46 P P 13 00 51.8 -0.6
baz=318
CBKS Cedar Bluff 79.41 46 *e*P P 13 00 51.8 -0.6
CBKS pmax pmax
comp=Z,23nm,0.9s
CBKS Cedar Bluff 79.41 46 *e*P P 13 00 51.8 -0.6
comp=Z,23nm,0.9s
K37A Belmond 79.47 40 P P 13 00 52.0 -0.7
baz=321,SNR=8.7
M35A Neola 79.48 42 P P 13 00 52.4 -0.3
baz=320
L36A Harm Buss Farm 79.49 41 P P 13 00 52.2 -0.6
baz=320
N34A Lincoln 79.56 43 P P 13 00 52.3 -0.9
baz=319
J38A Wedel Dairy, R 79.58 39 P P 13 00 52.9 -0.4
baz=321
O33A Hebron 79.58 44 P P 13 00 52.3 -1.0
baz=319
MOA Molln 79.63 329 *i*P P 13 00 53.9 +0.4
comp=Z,7.1nm,0.5s,SNR=6.4
MOA Molln 79.63 329 *i*P P 13 00 53.9 +0.4
comp=Z,7.1nm,0.5s,SNR=6.4
ARSA Arzberg 79.64 328 *i*P P 13 00 53.8 +0.2
comp=Z,4.3nm,0.6s,SNR=6.0
ARSA Arzberg 79.64 328 *i*P P 13 00 53.8 +0.2
comp=Z,4.3nm,0.6s,SNR=6.0
WIM Isle of Man 79.74 343⇑ *e*P P 13 00 54.1 +0.3
HSIG 79.84 60 *e*P P 13 00 55.2 +0.3
comp=Z,16nm,1.1s
Q32A Meitler Ranch, 79.89 45 P P 13 00 54.3 -0.7
baz=318,SNR=9.1
L37A Phoenix Point, 79.91 40 P P 13 00 54.5 -0.6
baz=321,SNR=8.7
M36A Felix, Anita 79.92 41 P P 13 00 55.0 -0.2
baz=320
GMM Mts of Mourne 79.93 343⇑ *e*P P 13 00 54.8 0.0
O34A Beatrice 79.95 43 P P 13 00 54.6 -0.7
baz=319
N35A Tabor 79.96 42 P P 13 00 55.3 -0.1
baz=320
P33A Williams Farm, 80.01 44 P P 13 00 55.1 -0.5
baz=319
MEM Membach 80.12 335 P P 13 00 56.4 +0.4
comp=Z,12nm,1.2s
R32A Long Quarter, 80.23 46 P P 13 00 56.2 -0.7
baz=318
CWF Charnwood Fore 80.25 340 *e*P P 13 00 56.8 +0.2
comp=Z,92nm,1.8s
Q33A Connelly Farm, 80.26 45 P P 13 00 56.3 -0.7
baz=319,SNR=14
L38A Oak Wood Farm, 80.27 40 P P 13 00 56.5 -0.5
baz=321,SNR=5.2
O35A Humboldt 80.28 43 P P 13 00 56.6 -0.5
baz=320
GROS Grobnik 80.30 327 *i*P P 13 00 57.2 +0.1
GROS Grobnik 80.30 327 *i*P P 13 00 57.2 +0.1
SOKA Soboth 80.31 328 *i*P P 13 00 57.6 +0.5
comp=Z,12nm,0.6s,SNR=23
SOKA Soboth 80.31 328 *i*P P 13 00 57.6 +0.5
comp=Z,12nm,0.6s,SNR=23
M37A Trindle Farm, 80.32 41 P P 13 00 57.2 0.0
baz=320
N36A Muff Farm, Cla 80.33 42 P P 13 00 57.3 -0.1
baz=320
P34A Walnut Farm, R 80.36 44 P P 13 00 56.7 -0.8
baz=319
WPM1 Penmaenmawr 80.39 342⇑ *e*P P 13 00 57.8 +0.4
ASF Jabal al Asfar 80.49 305 P P 13 00 59.9 +1.4
comp=Z,1.8nm,0.3s,baz=8.3,slow=14,SNR=3.9
BCLA Clavier 80.50 335 P P 13 00 57.9 -0.1
FOEL Foel Wylfa 80.57 341⇑ *e*P P 13 00 58.6 +0.2
FOEL AMB AMB 13 00 59.6
comp=Z,94nm,0.9s
KBA Koelnbreinsper 80.62 329 *i*P P 13 00 60.0 +1.0
comp=Z,20nm,0.7s,SNR=20
KBA Koelnbreinsper 80.62 329 *i*P P 13 00 60.0 +1.0
comp=Z,20nm,0.7s,SNR=20
OBKA Obir 80.63 328 *i*P P 13 00 59.3 +0.3
comp=Z,11nm,0.6s,SNR=7.4
OBKA Obir 80.63 328 *i*P P 13 00 59.3 +0.3
comp=Z,11nm,0.6s,SNR=7.4
S32A Newby Ranch, P 80.65 46 P P 13 00 58.7 -0.4
baz=318
R33A Olander Ranch, 80.70 45 P P 13 00 58.8 -0.6
baz=319
M38A Pleasantville 80.72 41 P P 13 00 59.0 -0.3
baz=321,SNR=6.0
N37A Le Faris, Mou 80.74 42 P P 13 00 59.5 -0.1
baz=320
YRE Yr Eifl 80.77 342⇑ *e*P P 13 00 59.8 +0.4
MMAI Mount Meron Ar 80.78 307 P P 13 01 01.1 +1.2
comp=Z,20nm,0.8s,baz=51,slow=6.6,SNR=13
Q34A Chapman 80.78 44 P P 13 00 59.1 -0.7
baz=319
P35A Duane Minner, 80.79 43 P P 13 00 59.3 -0.5
baz=320
KSU1 Kansas State U 80.81 44 P P 13 00 59.3 -0.6
baz=319
HLM1 Long Mynd 80.84 341 *e*P P 13 01 00.1 +0.3
O36A Bolckow 80.85 42 P P 13 01 00.0 -0.1
baz=320
MYKA Terra Mystica 80.88 329 *i*P P 13 01 00.3 0.0
comp=Z,7.3nm,0.5s,SNR=7.7
MYKA Terra Mystica 80.88 329 *i*P P 13 01 00.3 0.0
comp=Z,7.3nm,0.5s,SNR=7.7
JFWS Jewell Farm 80.91 38 *e*P P 13 00 59.9 -0.5
JFWS pmax pmax
comp=Z,11nm,0.9s
JFWS Jewell Farm 80.91 38 *e*P P 13 00 59.9 -0.5
comp=Z,11nm,0.9s
LANF Langenberg 80.96 333⇑ *e*P P 13 01 00.7 +0.1
DOU Dourbes 81.00 336 P P 13 01 00.5 -0.3
T32A Huddler Ranch, 81.05 47 P P 13 01 00.4 -0.9
baz=318
WATA Walderalm 81.06 330 *i*P P 13 01 01.8 +0.5
comp=Z,23nm,0.9s,SNR=7.7
WATA Walderalm 81.06 330 *i*P P 13 01 01.8 +0.5
comp=Z,23nm,0.9s,SNR=7.7

R34A	**Isabella, Hill**	81.09	45	P		P		13 01 00.6	-0.8
	baz=319								
WTTA	**Wattenberg**	81.10	330	*i* P		P		13 01 01.7	+0.2
	comp=Z,14nm,0.8s,SNR=7.0								
WTTA	**Wattenberg**	81.10	330	*i* P		P		13 01 01.7	+0.2
	comp=Z,14nm,0.8s,SNR=7.0								
VISS	**Visnje**	81.10	327	*i* P		P		13 01 01.1	-0.2
VISS	**Visnje**	81.10	327	*i* P		P		13 01 01.1	-0.2
P36A	**Good Intent, A**	81.12	43	P		P		13 01 00.8	-0.7
	baz=320,SNR=6.7								
N38A	**Joes South For**	81.19	41	P		P		13 01 01.5	-0.3
	baz=321,SNR=5.1								
BOJS	**Bojanci**	81.19	327	*i* P		P		13 01 01.9	+0.1
BOJS	**Bojanci**	81.19	327	*i* P		P		13 01 01.9	+0.1
ABTA	**Abfaltersbach**	81.21	329	*i* P		P		13 01 02.0	0.0
	comp=Z,2.5nm,0.2s,SNR=5.7								
ABTA	**Abfaltersbach**	81.21	329	*i* P		P		13 01 02.0	0.0
	comp=Z,2.5nm,0.2s,SNR=5.7								
MOTA	**Moosalm**	81.22	330	*i* P		P		13 01 02.7	+0.5
	comp=Z,29nm,1.0s,SNR=14								
MOTA	**Moosalm**	81.22	330	*i* P		P		13 01 02.7	+0.5
	comp=Z,29nm,1.0s,SNR=14								
S33A	**Kaszmaul Farm,**	81.22	46	P		P		13 01 02.0	-0.2
	baz=319								
RETA	**Reutte**	81.23	331	*i* P		P		13 01 02.8	+0.8
	comp=Z,3.2nm,0.3s,SNR=8.8								
RETA	**Reutte**	81.23	331	*i* P		P		13 01 02.8	+0.8
	comp=Z,3.2nm,0.3s,SNR=8.8								
O37A	**Wolven Farm, M**	81.23	42	P		P		13 01 01.8	-0.3
	baz=321								
AMTX	**Amarillo**	81.23	50	P		P		13 01 02.5	+0.2
	baz=317								
AMTX	**Amarillo**	81.23	50	*e*P		P		13 01 03.0	+0.7
	comp=Z,17nm,0.8s								
Q35A	**Mercer Eighty,**	81.29	44	P		P		13 01 01.9	-0.5
	baz=320								
JAVS	**Javornik**	81.33	328	*i* P		P		13 01 01.5	-1.2
JAVS	**Javornik**	81.33	328	*i* P		P		13 01 01.5	-1.2
MCH1	**Michaelchurch**	81.35	341⇑	*e*P		P		13 01 02.7	+0.2
MCH1					AMB	AMB		13 01 03.9	
	comp=Z,40nm,0.8s								
BFO	**Black Forest**	81.35	333	*i* P		P		13 01 02.9	+0.2
BFO	**Black Forest**	81.35	333	*e*P		P		13 01 02.7	0.0
	comp=Z,15nm,1.0s								
VAY	**Valandovo**	81.37	320	*i* P		P		13 01 03.5	+0.7
MNTX	**Cornudas Mount**	81.39	54	P		P		13 01 03.8	+0.7
	baz=316,SNR=40								
MNTX	**Cornudas Mount**	81.39	54	*e*P		P		13 01 03.7	+0.6
	comp=Z,22nm,0.9s								
MONM	**Monmouth**	81.44	341	*e*P		P		13 01 03.2	+0.2
N39A	**Derby Farms, D**	81.47	40	P		P		13 01 03.2	-0.2
	baz=321,SNR=9.9								
T33A	**Patterson Ranc**	81.48	46	P		P		13 01 03.5	-0.1
	baz=319								
LPW	**Lampeter**	81.49	341⇑	*e*P		P		13 01 03.7	+0.4
LPW					AMB	AMB		13 01 04.2	
	comp=Z,39nm,0.9s								
Q36A	**Arnold C. Orve**	81.50	43	P		P		13 01 03.0	-0.6
	baz=320								
P37A	**Lathrop**	81.57	42	P		P		13 01 03.4	-0.6
	baz=320								
O38A	**Galt**	81.59	42	P		P		13 01 03.7	-0.3
	baz=321								
U32A	**Winter Ranch,**	81.60	47	P		P		13 01 04.5	+0.3
	baz=318								
TRI	**Trieste**	81.60	328	*e*P		P		13 01 03.3	-0.7
TRI					pmax	pmax			
	comp=Z,27nm,0.8s								
TRI	**Trieste**	81.60	328	*e*P		P		13 01 03.3	-0.7
	comp=Z,27nm,0.8s								
S34A	**Willow Spring**	81.61	45	P		P		13 01 03.6	-0.6
	baz=319								
R35A	**Emporia Munici**	81.61	44	P		P		13 01 03.9	-0.2
	baz=320,SNR=10								
FETA	**Feichten**	81.64	330	*i* P		P		13 01 04.5	+0.2
	comp=Z,11nm,1.0s,SNR=8.4								
FETA	**Feichten**	81.64	330	*i* P		P		13 01 04.5	+0.2
	comp=Z,11nm,1.0s,SNR=8.4								
DAVA	**Damuels**	81.71	331	*i* P		P		13 01 04.7	-0.1
	comp=Z,12nm,0.8s,SNR=8.8								
DAVA	**Damuels**	81.71	331	*i* P		P		13 01 04.7	-0.1
	comp=Z,12nm,0.8s,SNR=8.8								
ECH	**Echery**	81.84	333⇑	*e*P		P		13 01 05.2	0.0
O39A	**Kirksville**	81.94	41	P		P		13 01 05.8	0.0
	baz=321								
P38A	**Dawn**	81.95	42	P		P		13 01 05.8	-0.1
	baz=321,SNR=8.0								
R36A	**Gordon, Harris**	81.96	44	P		P		13 01 05.9	-0.2
	baz=320,SNR=17								
S35A	**Otter Creek Ra**	82.03	45	P		P		13 01 06.4	0.0
	baz=320,SNR=6.9								
U33A	**Lingo Farm, Me**	82.03	47	P		P		13 01 06.5	0.0
	baz=319								
V32A	**Arapaho**	82.07	48	P		P		13 01 07.2	+0.6
	baz=318								
Q37A	**Longview Farm,**	82.07	43	P		P		13 01 06.2	-0.4
	baz=320								
T34A	**McClaskey Farm**	82.08	46	P		P		13 01 06.5	-0.1
	baz=319,SNR=7.2								
DAVOX	**Davos/Dischmat**	82.14	331	P		P		13 01 07.0	-0.1
	comp=Z,8.3nm,0.7s,baz=73,slow=1.5,SNR=11								
DAVOX	**Davos/Dischmat**	82.14	331	P		P		13 01 07.0	-0.1
DAVOX					pmax	pmax			
	comp=Z,8.0nm,0.7s								
FUORN	**Ofenpass-Fuorn**	82.14	331	*e*P		P		13 01 07.7	+0.6
	comp=Z,27nm,0.8s								
MOF	**Molkenrain**	82.17	333	*e*P		P		13 01 06.4	-0.6
R37A	**Teagarden Farm**	82.31	43	P		P		13 01 07.4	-0.4
	baz=320								
U34A	**Anderson Ranch**	82.34	46	P		P		13 01 08.3	+0.2
	baz=319								
U34A	**Anderson Ranch**	82.34	46	*e*P		P		13 01 08.5	+0.5
	comp=Z,73nm,1.3s								
OHR	**Ohrid**	82.36	321	*i* P		P		13 01 08.1	0.0
O40A	**La Belle**	82.36	41	P		P		13 01 07.8	-0.3
	baz=322,SNR=12								
S36A	**Lake Cedric, C**	82.38	44	P		P		13 01 08.0	-0.2
	baz=320,SNR=15								
V33A	**Lossen Ranch,**	82.40	47	P		P		13 01 08.6	+0.2
	baz=319								
W32A	**Sentinel**	82.40	48	P		P		13 01 08.6	+0.2
	baz=318,SNR=7.3								
Q38A	**Cooks Store, C**	82.42	42	P		P		13 01 08.1	-0.2
	baz=321,SNR=15								
P39B	**Salisbury**	82.43	41	P		P		13 01 08.2	-0.3
	baz=321,SNR=7.4								
T35A	**Sooner Cattle**	82.52	45	P		P		13 01 09.0	+0.1
	baz=320,SNR=12								
TIR	**Tirane**	82.59	322	*e*P		P		13 01 09.5	+0.2
TIR					pmax	pmax			
	comp=Z,69nm,1.1s								
TIR	**Tirane**	82.59	322	*e*P		P		13 01 09.5	+0.2
	comp=Z,69nm,1.1s								
TUE	**Stuetta**	82.60	331	*e*P		P		13 01 08.9	-0.5
	comp=Z,16nm,0.9s								
Q39A	**Willow Grove F**	82.67	42	P		P		13 01 09.6	0.0
	baz=321,SNR=28								
LOMF	**Lomont**	82.70	333⇑	*e*P		P		13 01 09.9	+0.1
T36A	**Boggs Farm, Ca**	82.73	45	P		P		13 01 10.2	+0.1
	baz=320,SNR=12								
S37A	**Fort Scott**	82.74	44	P		P		13 01 09.6	-0.4
	baz=320,SNR=12								
P40A	**Paris**	82.74	41	P		P		13 01 09.9	-0.1
	baz=322,SNR=17								
V34A	**Guthrie**	82.80	47	P		P		13 01 10.7	+0.3
	baz=319								
V34A	**Guthrie**	82.80	47	*e*P		P		13 01 10.7	+0.3
	comp=Z,42nm,1.0s								
W33A	**Caddo, Fort Co**	82.80	48	P		P		13 01 10.9	+0.4
	baz=319								
U35A	**Pawnee**	82.81	46	P		P		13 01 10.4	-0.1
	baz=320,SNR=5.3								
O41A	**Passleys Farm,**	82.83	40	P		P		13 01 10.2	-0.3
	baz=322,SNR=10.0								
R38A	**Fenwick Farm,**	82.87	43	P		P		13 01 09.7	-1.1
	baz=321,SNR=10								
X32A	**Elmer**	82.90	49	P		P		13 01 11.1	0.0
	baz=318,SNR=5.2								
WMOK	**Wichita Mounta**	82.94	48	P		P		13 01 11.2	0.0
	baz=319,SNR=16								
WMOK	**Wichita Mounta**	82.94	48	*e*P		P		13 01 11.4	+0.2
WMOK					pmax	pmax			
	comp=Z,17nm,1.0s								
WMOK	**Wichita Mounta**	82.94	48	*e*P		P		13 01 11.4	+0.2
	comp=Z,17nm,1.0s								
DYA	**Yadsworthy**	83.02	341	*e*P		P		13 01 11.5	+0.2
	comp=Z,65nm,1.2s								
P41A	**Barry, Barry**	83.10	40	P		P		13 01 11.6	-0.3
	baz=322,SNR=5.5								
W34A	**Bridge Creek,**	83.12	47	P		P		13 01 12.8	+0.7
	baz=319								
W34A	**Bridge Creek,**	83.12	47	*e*P		P		13 01 12.5	+0.4
	comp=Z,29nm,0.9s								
Q40A	**Laux Farm, Aux**	83.15	41	P		P		13 01 12.0	-0.2
	baz=322,SNR=10								
T37A	**Cheneyville 18**	83.18	44	P		P		13 01 12.0	-0.4
	baz=320,SNR=13								
R39A	**Chumby, Stover**	83.21	42	P		P		13 01 11.8	-0.7
	baz=321,SNR=15								
V35A	**Meyer Ranch, C**	83.22	46	P		P		13 01 12.8	+0.2
	baz=320								
HDIL	**Hopedale**	83.22	39	P		P		13 01 12.4	-0.2
	baz=323								
HDIL	**Hopedale**	83.22	39	*e*P		P		13 01 12.8	+0.3
	comp=Z,63nm,1.0s								
X33A	**Lawton**	83.24	48	P		P		13 01 12.9	+0.1
	baz=319								
AGG	**Agios Georgios**	83.28	319	*e*P		P		13 01 12.4	-0.5
AGG					pmax	pmax			
	comp=Z,37nm,0.9s								
AGG	**Agios Georgios**	83.28	319	*e*P		P		13 01 12.4	-0.5
	comp=Z,37nm,0.9s								
S38A	**Stockton**	83.30	43	P		P		13 01 12.1	-0.9
	baz=321,SNR=5.1								
U36A	**Oologah**	83.32	45	P		P		13 01 13.4	+0.3
	baz=320								
SENIN	**Lac Senin/Sane**	83.41	332	*e*P		P		13 01 13.6	0.0
	comp=Z,14nm,1.0s								
S39A	**Bolivar**	83.55	43	P		P		13 01 13.3	-0.9
	baz=321,SNR=21								
X34A	**Smith Ranch, M**	83.56	48	P		P		13 01 14.8	+0.4
	baz=319,SNR=8.6								
T38A	**Diamond**	83.57	44	P		P		13 01 14.1	-0.2
	baz=321,SNR=28								
Y33A	**Hilltop Ranch,**	83.57	49	P		P		13 01 14.4	0.0
	baz=319,SNR=8.9								
R40A	**Maddies Statio**	83.60	42	P		P		13 01 14.1	-0.4
	baz=322,SNR=15								
U37A	**Salina**	83.63	45	P		P		13 01 14.8	+0.1
	baz=320,SNR=12								
TUL1	**Leonard**	83.66	46	P		P		13 01 14.9	+0.1
	baz=320,SNR=5.1								
TUL1	**Leonard**	83.66	46	*e*P		P		13 01 15.1	+0.3
	comp=Z,28nm,0.9s								
W35A	**Tecumseh**	83.66	47	P		P		13 01 15.0	+0.1
	baz=320,SNR=7.2								
V36A	**Jenks**	83.67	46	P		P		13 01 14.7	-0.2
	baz=320,SNR=7.4								
JSA	**Saint Aubin**	83.73	339	*e*P		P		13 01 14.7	-0.2
Q42A	**Golden Eagle**	83.95	40	P		P		13 01 16.3	0.0
	baz=323,SNR=6.7								
U38A	**Gravette**	83.98	44	P		P		13 01 16.1	-0.4
	baz=321,SNR=8.8								
W36A	**Wetumka**	84.02	46	P		P		13 01 16.7	0.0
	baz=320,SNR=6.7								
V37A	**Hulbert**	84.02	45	P		P		13 01 16.7	0.0
	baz=320,SNR=18								
S40A	**Lebanon**	84.03	43	P		P		13 01 16.3	-0.4
	baz=322,SNR=11								
Z33A	**Whitaker Ranch**	84.04	49	P		P		13 01 16.8	-0.1
	baz=319								
ABTX	**Abilene, Hawle**	84.04	50	P		P		13 01 17.1	+0.2
	baz=318								
ABTX	**Abilene, Hawle**	84.04	50	*e*P		P		13 01 17.7	+0.8
	comp=Z,35nm,1.3s								
T39A	**Clever**	84.04	43	P		P		13 01 16.5	-0.3
	baz=321								
Y34A	**Reagan Ranch,**	84.09	48	P		P		13 01 17.1	0.0
	baz=319,SNR=8.3								
LTX	**Lajitas**	84.11	55	*e*P		P		13 01 17.5	+0.1
LTX	**Lajitas**	84.11	55	*e*P		P		13 01 17.5	+0.1
TX31	**Lajitas Ar. Si**	84.11	55	*e*P		P		13 01 18.1	+0.6
TXAR	**Lajitas Array**	84.11	55	P		P		13 01 17.5	+0.1
	comp=Z,12nm,0.8s,baz=293,slow=3.8,SNR=94								
X35A	**Drake**	84.18	47	P		P		13 01 17.4	-0.2
	baz=320,SNR=11								
TRQ	**Mont Tremblant**	84.25	27	*e*P		P		13 01 17.2	-0.6
Q43A	**New Douglas**	84.32	40	P		P		13 01 18.1	-0.1
	baz=323								
HHAR	**Hobbs**	84.33	44	*e*P		P		13 01 17.9	-0.4
	comp=Z,20nm,0.9s								
SFIN	**Lafayette**	84.36	37	P		P		13 01 17.9	-0.4
	baz=325,SNR=5.1								
SFIN	**Lafayette**	84.36	37	*e*P		P		13 01 18.2	0.0
	comp=Z,17nm,0.8s								
T40A	**Mansfield**	84.37	43	P		P		13 01 17.8	-0.7
	baz=322,SNR=9.6								
LMQ	**La Malbaie**	84.37	23	*e*P		P		13 01 18.1	-0.1
X36A	**Centrahoma**	84.38	47	P		P		13 01 18.5	0.0
	baz=320,SNR=7.0								
V38A	**Canehill**	84.41	45	P		P		13 01 18.6	-0.1
	baz=321,SNR=22								
W37B	**Quinton**	84.44	46	P		P		13 01 19.1	+0.3
	baz=320,SNR=8.3								
Z34A	**Collier Ranch,**	84.44	49	P		P		13 01 18.9	0.0
	baz=319								
133A	**Hamilton Ranch**	84.46	50	P		P		13 01 18.9	-0.1
	baz=319,SNR=6.2								
U39A	**Green Forest**	84.48	44	P		P		13 01 18.8	-0.3
	baz=321,SNR=22								
Y35A	**Marietta**	84.52	48	P		P		13 01 19.2	0.0
	baz=320								
HPIG		84.62	58	*e*P		P		13 01 20.6	+0.4
	comp=Z,32nm,1.1s								
Q44A	**Meyer Farm, Va**	84.67	40	P		P		13 01 19.9	0.0
	baz=324								
LAST	**Lasithi**	84.70	314	*e*P		P		13 01 20.7	+0.5
	comp=Z,88nm,0.9s								
U40A	**Yellville**	84.82	44	P		P		13 01 20.4	-0.3
	baz=322,SNR=27								
V39A	**Pettigrew**	84.82	44	P		P		13 01 20.5	-0.4
	baz=321,SNR=11								
T41A	**Mountain View**	84.83	42	P		P		13 01 20.3	-0.5
	baz=322,SNR=14								
Z35A	**Perchaven, San**	84.83	48	P		P		13 01 20.7	-0.1
	baz=320,SNR=6.6								
X37A	**Clayton**	84.89	46	P		P		13 01 21.5	+0.4
	baz=320								
IDI	**Arvia**	84.91	315	*e*P		P		13 01 20.6	-0.6
	comp=Z,67nm,1.4s								
233A	**Rising Star**	84.91	50	P		P		13 01 21.6	+0.3
	baz=319,SNR=8.7								
Y36A	**Durant**	84.93	47	P		P		13 01 21.2	-0.1
	baz=320,SNR=7.0								
134A	**White-Moore Ra**	84.95	49	P		P		13 01 21.7	+0.3
	baz=319								
PLDF	**La Plantade**	84.97	334	*e*P		P		13 01 21.4	0.0
W38A	**Poteau**	84.97	45	P		P		13 01 21.6	+0.2
	baz=321,SNR=12								
AGO	**Saint Agoulin**	85.05	335	*e*P		P		13 01 22.4	+0.7
X38A	**Whitesboro**	85.11	46	P		P		13 01 22.5	+0.3
	baz=321,SNR=17								
R44A	**Waltonville**	85.17	40	P		P		13 01 22.2	-0.2
	baz=324								
OLIL	**Olney**	85.23	39	*e*P		P		13 01 22.9	+0.2
	comp=Z,46nm,1.3s								
S43A	**Fulton Ridge,**	85.23	41	P		P		13 01 22.6	-0.1
	baz=323								
W39A	**Magazine**	85.25	45	P		P		13 01 22.8	0.0
	baz=321,SNR=10.0								
SSB	**Saint Sauveur**	85.28	333	*e*P		P		13 01 23.4	+0.5
SSB					pmax	pmax			
	comp=Z,14nm,1.1s								
SSB	**Saint Sauveur**	85.28	333	*e*P		P		13 01 23.4	+0.5
	comp=Z,14nm,1.1s								
Z36A	**Blue Ridge**	85.33	48	P		P		13 01 23.2	-0.1
	baz=320								
135A	**Vickery Place,**	85.33	49	P		P		13 01 23.4	+0.1
	baz=320								
234A	**Clairette**	85.35	50	P		P		13 01 23.7	+0.3
	baz=319,SNR=9.4								
333A	**Richland Sprin**	85.38	51	P		P		13 01 23.7	0.0
	baz=319,SNR=11								
CUC	**Castrocucco**	85.49	323	*e*P		P		13 01 23.0	-1.0
	comp=Z,5.3nm,0.9s								
S44A	**Carbondale**	85.53	40	P		P		13 01 24.4	+0.2
	baz=321,SNR=10								
SIUC	**Southern Illin**	85.53	40	*e*P		P		13 01 24.6	+0.4
	comp=Z,68nm,1.0s								
JCT	**Junction City**	85.54	52	P		P		13 01 24.4	-0.1
	baz=318,SNR=8.2								
JCT	**Junction City**	85.54	52	*e*P		P		13 01 24.7	+0.2
JCT					pmax	pmax			
	comp=Z,29nm,1.1s								
JCT	**Junction City**	85.54	52	*e*P		P		13 01 24.7	+0.2
	comp=Z,29nm,1.1s								
X39A	**Fountain Ranch**	85.61	45	P		P		13 01 25.0	+0.3
	baz=321,SNR=18								
V41A	**Mountainview**	85.62	43	P		P		13 01 24.2	-0.5
	baz=322,SNR=13								
W40A	**Ferguson Farm,**	85.62	44	P		P		13 01 24.7	0.0
	baz=322,SNR=8.5								
OG26	**St.-Nazaire-De**	85.65	333	*e*P		P		13 01 25.5	+0.7
LONY	**Lake Ozonia**	85.66	27	*e*P		P		13 01 24.3	-0.5
	comp=Z,16nm,1.0s								
PBMO	**Poplar Bluff**	85.69	42	*e*P		P		13 01 25.3	+0.2
	comp=Z,63nm,1.1s								
Y38A	**Idabel**	85.73	46	P		P		13 01 25.2	-0.1
	baz=321								
WHTX	**Lake Whitney,**	85.73	49	*e*P		P		13 01 25.9	+0.5
	comp=Z,52nm,1.3s								
LBL	**Lubilhac**	85.74	334	*e*P		P		13 01 26.0	+0.7
TIP	**Timpagrande**	85.74	322	*e*P		P		13 01 25.0	-0.4
	comp=Z,46nm,1.3s								
433A	**Art**	85.75	51	P		P		13 01 25.4	-0.1
	baz=319,SNR=9.9								
334A	**Lometa**	85.80	50	P		P		13 01 25.7	0.0
	baz=319,SNR=14								
Z37A	**Pogue Cattle C**	85.82	47	P		P		13 01 26.0	+0.3
	baz=320								
DRLN	**Deer Lake**	85.84	15	*e*P		P		13 01 25.6	0.0
	comp=Z,52nm,1.4s								
S45A	**Carrier Mills**	85.86	40	P		P		13 01 26.1	+0.2
	baz=324								
MIAR	**Mount Ida**	85.86	45	P		P		13 01 26.2	+0.3
	baz=321,SNR=18								
MIAR	**Mount Ida**	85.86	45	*e*P		P		13 01 26.2	+0.3
MIAR					pmax	pmax			
	comp=Z,34nm,1.0s								
MIAR	**Mount Ida**	85.86	45	*e*P		P		13 01 26.2	+0.3
	comp=Z,34nm,1.0s								
136A	**Ennis**	85.88	48	P		P		13 01 26.1	+0.1
	baz=320								
X201	**Greenbrier Sit**	85.90	44	*e*P		P		13 01 26.0	-0.1
	comp=Z,44nm,1.1s								
X301	**Greenbrier Sit**	85.92	44	*e*P		P		13 01 26.0	-0.2
	comp=Z,31nm,1.1s								
WHAR	**Wooly Hollow**	85.94	44	*e*P		P		13 01 26.1	-0.2
	comp=Z,63nm,1.1s								
V42A	**Cord**	85.99	43	P		P		13 01 26.4	-0.1
	baz=322								
W41B	**Gary Mavity, V**	86.05	44	P		P		13 01 26.6	-0.3
	baz=322,SNR=15								
Y39A	**Lockesburg**	86.06	46	P		P		13 01 27.1	+0.2
	baz=321								
Z38A	**Mt. Pleasant**	86.12	47	P		P		13 01 27.7	+0.4
	baz=321								
MMNY	**Mt. Morris Dam**	86.13	30	*e*P		P		13 01 26.8	-0.3
434A	**Burnet**	86.17	51	P		P		13 01 27.3	-0.3
	baz=319,SNR=5.3								
137A	**Heron Place, G**	86.21	48	P		P		13 01 27.7	+0.1
	baz=320								
236A	**Katherine and**	86.24	49	P		P		13 01 28.3	+0.4
	baz=320								
335A	**Moody**	86.29	50	P		P		13 01 28.3	+0.2
	baz=320								
533A	**Kerrville**	86.29	52	P		P		13 01 28.2	0.0
	baz=319,SNR=6.4								
X40A	**Basin Creek Fa**	86.29	45	P		P		13 01 28.1	+0.1
	baz=322,SNR=10								
Y40A	**Okolona**	86.43	45	P		P		13 01 29.0	+0.2
	baz=322								
X41A	**Kaden, Bauxite**	86.45	44	P		P		13 01 29.1	+0.2
	baz=322								
WCI	**Wyandotte Cave**	86.47	38	*e*P		P		13 01 29.0	+0.1
WCI					pmax	pmax			
	comp=Z,16nm,0.8s								
WCI	**Wyandotte Cave**	86.47	38	*e*P		P		13 01 29.0	+0.1
	comp=Z,16nm,0.8s								
M54A	**Oil Creek Stat**	86.52	32	P		P		13 01 29.2	+0.1
	baz=329								
138A	**Matatall Enter**	86.52	47	P		P		13 01 29.9	+0.7
	baz=321								
336A	**Riesel**	86.53	49	P		P		13 01 29.5	+0.3
	baz=320								
Z39A	**Irene McRaven,**	86.55	46	P		P		13 01 30.0	+0.6
	baz=321								
435B	**Jarrell**	86.58	50	P		P		13 01 29.8	+0.2
	baz=320								
237A	**Washetta, Mont**	86.63	48	P		P		13 01 29.9	+0.2
	baz=320								
534A	**Blanco**	86.64	51	P		P		13 01 29.9	0.0
	baz=319,SNR=7.5								
633A	**Saathoff Ranch**	86.66	52	P		P		13 01 30.3	+0.3
	baz=319								
N54A	**Moraine State**	86.86	33	P		P		13 01 31.0	+0.2
	baz=329,SNR=6.4								
Y41A	**Eaglette Beard**	86.88	45	P		P		13 01 31.4	+0.5
	baz=322								
Z40A	**Long Farm, Mag**	86.95	46	P		P		13 01 31.9	+0.6
	baz=321								
238A	**Jacksonville**	87.01	48	P		P		13 01 32.7	+1.1
	baz=321								
436A	**Wall Ranch, Ga**	87.03	50	P		P		13 01 32.4	+0.7
	baz=320								
ACCN	**Adirondack Com**	87.06	27	*e*P		P		13 01 31.4	-0.3
	comp=Z,38nm,1.3s			

baz=319
SSPA Standing Stone 87.95 31 *e*P **P 13 01 36.1 +0.2**
comp=Z,28nm,1.0s
OXF Oxford 88.00 42 *e*P **P 13 01 36.6 +0.3**
OXF pmax pmax
comp=Z,79nm,1.2s
OXF Oxford 88.00 42 *e*P **P 13 01 36.6 +0.3**
comp=Z,79nm,1.2s
O56A Blue Knob Stat 88.01 32 P **P 13 01 36.4 +0.1**
baz=330,SNR=14
834A Tilden 88.03 52 P **P 13 01 36.9 +0.4**
baz=319
Y44A Strider, Charl 88.04 43 P **P 13 01 36.7 +0.2**
baz=323
X45A UM Field Stati 88.08 42 P **P 13 01 36.7 0.0**
baz=324
Z43A Armstrong Fami 88.11 44 P **P 13 01 37.2 +0.4**
baz=323
340A Bronson 88.12 47 P **P 13 01 37.2 +0.2**
baz=321
439A Center Grove, 88.13 48 P **P 13 01 37.6 +0.6**
baz=321
241A Mo Tay, Goldon 88.17 46 P **P 13 01 37.8 +0.6**
baz=322
736A Circle Diamond 88.25 51 P **P 13 01 38.9 +1.3**
baz=320
142A Monroe 88.27 45 P **P 13 01 38.4 +0.8**
baz=322
PLAL Pickwick Lake 88.27 41 *e*P **P 13 01 37.0 -0.6**
comp=Z,11nm,0.9s
637A Eagle Lake 88.30 50 P **P 13 01 38.8 +1.1**
baz=320
835A Beeville 88.32 52 P **P 13 01 38.7 +0.7**
baz=320
143A Socs Landing, 88.43 45 P **P 13 01 38.9 +0.5**
baz=322
Y45A Yeager Farm, C 88.45 43 P **P 13 01 38.9 +0.4**
baz=323,SNR=5.3
Z44A Pea Ridge, Bel 88.47 44 P **P 13 01 39.3 +0.7**
baz=323
N59A State Game Lan 88.50 30 P **P 13 01 38.9 +0.3**
baz=331,SNR=13
242A Grayson 88.54 46 P **P 13 01 39.4 +0.6**
baz=322
341A Kurthwood 88.57 47 P **P 13 01 39.6 +0.5**
baz=322
539A Cross D Ranch, 88.68 49 P **P 13 01 40.0 +0.5**
baz=321
WES Weston 88.72 26 *e*P **P 13 01 40.3 +0.7**
WES pmax pmax
comp=Z,62nm,1.1s
WES Weston 88.72 26 *e*P **P 13 01 40.3 +0.7**
comp=Z,62nm,1.1s
034A Hebbronville 88.74 53 P **P 13 01 41.0 +1.0**
baz=319
Z45A Winona 88.77 43 P **P 13 01 40.7 +0.7**
baz=323
Y46A Houston 88.77 42 P **P 13 01 40.0 +0.1**
baz=324,SNR=6.5
LUPA Lehigh Univers 88.92 30 *e*P **P 13 01 40.6 +0.1**
comp=Z,38nm,1.2s
144A Alexander Plac 88.99 44 P **P 13 01 41.6 +0.6**
baz=323
342A Flagon Creek P 88.99 46 P **P 13 01 41.6 +0.6**
baz=322
441A DeRidder 89.02 47 P **P 13 01 41.7 +0.5**
baz=322
243A Waterproof 89.03 45 P **P 13 01 41.8 +0.6**
baz=322
TZTN Tazewell 89.09 37 *e*P **P 13 01 41.6 +0.2**
comp=Z,28nm,0.9s
SWET Sewanee 89.10 40 *e*P **P 13 01 41.3 -0.2**
comp=Z,11nm,1.0s
BRNJ Basking Ridge 89.14 29 *e*P **P 13 01 41.5 0.0**
comp=Z,56nm,1.0s
035A Encino 89.18 53 P **P 13 01 42.8 +0.8**
baz=319
Y47A UCPARC, Winfie 89.25 42 P **P 13 01 41.6 -0.6**
baz=324,SNR=5.6
145A Houston Renfro 89.26 44 P **P 13 01 43.3 +1.0**
baz=323
Z46A Louisville 89.29 43 P **P 13 01 43.1 +0.7**
baz=324
244A Avery, Jackson 89.32 45 P **P 13 01 43.1 +0.6**
baz=323
343A Vidalia 89.43 46 P **P 13 01 43.7 +0.6**
baz=322
PSUB Penn St. - Bra 89.48 30 *e*P **P 13 01 43.0 -0.1**
comp=Z,20nm,0.9s
541A Lake Charles 89.56 48 P **P 13 01 44.5 +0.9**
baz=322
035Z Hargill 89.56 53 P **P 13 01 44.7 +1.0**
baz=319
CPCT Cooper Cave 89.56 39 *e*P **P 13 01 43.7 +0.1**
comp=Z,15nm,1.0s
146A Union 89.67 43 P **P 13 01 44.9 +0.7**
baz=324
Z47A Carrollton 89.71 42 P **P 13 01 44.4 +0.1**
baz=324
TKL Tuckaleechee C 89.72 38 *e*P **P 13 01 44.5 +0.1**
TKL pmax pmax
comp=Z,28nm,1.0s
TKL Tuckaleechee C 89.72 38 *e*P **P 13 01 44.5 +0.1**
comp=Z,28nm,1.0s
245A Little AP, Sta 89.73 44 P **P 13 01 45.0 +0.5**
baz=323
344A Westbrook Farm 89.76 45 P **P 13 01 45.6 +0.9**
baz=323
Z48A Northport 89.82 42 P **P 13 01 44.5 -0.3**
baz=324
BLA Blacksburg 89.88 35 *e*P **P 13 01 45.7 +0.6**
BLA pmax pmax
comp=Z,15nm,0.6s
BLA Blacksburg 89.88 35 *e*P **P 13 01 45.7 +0.6**
comp=Z,15nm,0.6s
147A Livingston 90.04 43 P **P 13 01 46.2 +0.4**
baz=324
247A Quitman 90.37 43 P **P 13 01 48.1 +0.6**
baz=324
LRAL Lakeview Retre 90.37 42 *e*P **P 13 01 48.0 +0.6**
comp=Z,5.6nm,0.8s
347A Saraland 90.93 44 P **P 13 01 50.4 +0.4**
baz=324
KMSC Kings Mountain 91.24 37 P **P 13 01 51.1 -0.3**
baz=328
KMSC Kings Mountain 91.24 37 *e*P **P 13 01 51.3 -0.1**
comp=Z,15nm,0.9s
KEST Kesra 91.83 326 P **P 13 01 54.0 -0.3**
comp=Z,8.0nm,0.8s,baz=255,slow=2.3,SNR=7.9
KEST Kesra 91.83 326 *e*P **P 13 01 54.0 -0.3**
comp=Z,13nm,0.6s
ES19 SONSECA Array 92.96 337 *e*P **P 13 01 59.0 -0.3**
ESDC Sonseca Array 93.00 337 P **P 13 01 58.8 -0.8**
comp=Z,2.9nm,0.7s,baz=19,slow=3.9,SNR=18
ESLA Sonseca Array 93.00 337 *e*P **P 13 01 59.5 -0.1**
comp=Z,47nm,2.0s
MTE Manteigas 93.30 340 *e*P **P 13 02 00.7 -0.3**
comp=Z,21nm,1.2s
TOA1 Torodi Ar. Sit 114.83 320 *e*PKiKP **PKiKP 13 07 25.7 -1.2**
TOA1 *e*PKKPbc **PKKPbc 13 18 04.5 +2.3**
TORD Torodi Ar. Bea 114.83 320 PKP PKPdf 13 07 25.7 -1.2
comp=Z,0.4nm,0.3s,baz=26,slow=2.4,SNR=9.2
TORD PP PP 13 08 16.7 -8.4
comp=Z,1.1nm,0.7s,baz=21,slow=9.2,SNR=6.2
TORD PKKPbc **PKKPbc 13 18 04.5 +2.3**
comp=Z,0.4nm,0.4s,baz=218,slow=2.5,SNR=5.7
QSPA South Pole Qui 132.87 180 *e*PKPdf **PKPdf 13 08 01.1 +1.2**
SYO Syowa Base 134.98 209‖ *e*PKPdf **PKPdf 13 08 03.4 -0.2**
LPAZ La Paz 140.96 57 *e*PKiKP **PKPdf 13 08 16.9 -0.1**
LPAZ La Paz 140.96 57 *e*PKPdf **PKPdf 13 08 16.9 -0.1**
NVL N'lazarevskaya 144.06 204 *e*PKiKP **PKPdf 13 08 20.6 +0.5**
LVC Limon Verde 145.07 65 *e*PKPbc **PKPdf 13 08 24.6 +0.8**
SNAA Sanae 147.46 198 *e*PKP2 **PKPbc 13 08 29.5 +0.9**
SNAA Sanae 147.46 198 *e*PKPbc **PKPbc 13 08 29.5 +0.9**
BDFB Brasilia 150.33 27 PKPbc **PKPbc 13 08 37.9 +0.3**
comp=Z,16nm,0.9s,baz=354,slow=2.9,SNR=14
BDFB Brasilia 150.33 27 *e*PKiKP **PKPdf 13 08 30.9 -1.4**
BDFB Brasilia 150.33 27 *e*PKPdf **PKPdf 13 08 30.9 -1.4**
BDFB *e*PKPbc **PKPbc 13 08 37.8 +0.3**
BDFB *e*PKPbc **PKPbc 13 08 37.9 +0.3**
BDFB *e*PKPab **PKPab 13 08 44.4 +0.5**
CPUP Villa Florida 155.09 55 PKPbc PKPbc 13 08 47.4
comp=Z,1.2nm,0.7s,baz=338,slow=1.5,SNR=3.6
CPUP PKPab **PKPab 13 09 03.0 -0.7**
comp=Z,6.8nm,1.0s,baz=323,slow=8.0,SNR=5.3

MEX 14 12:53:10.2±0.7, 13.76N×92.22W, h20km±999km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.51**	**2**	*i* P	Pn	12 53 51.3	+1.2

NIED ***14*** *13:06:00, 37.80N×143.60E, h20km, Mw5.8 Best double couple: M0 4.89000×10^17 NP1:φs227.00000°, δ45.00000°, λ-157.00000°. NP2:φs220.00000°, δ74.00000°, λ-48.00000°.*

IDC ***14*** *13:06:50.0±0.3, 37.72N×143.60E, h0km, mb5.4/46, mb1 5.4/52, mb1mx5.4/56, mbtmp5.4/52, ML5.2/5, MS5.5/38, Ms1 5.5/38, ms1mx5.3/45, Error ellipse: s-maj=10.0km s-min=8.3km az=84.0*

ISCJB ***14*** *13:06:51.0±0.4, 37.72N±0.01×143.55E±0.01, h16km±2km, mb5.6/428, MS5.5/439, Error ellipse: s-maj=2.4km s-min=1.6km az=161.6*

GCMT ***14*** *13:06:51.5±0.1, 37.73N×143.58E, h20km, MW5.8/146, Moment Tensor Solution. s116,c235; s146,c418; Duration: ≥0 Moment tensor: Scale 10^17Nm; Mrr-1.51±.05; Mθθ-4.76±.05; Mφφ6.27±.06; Mrθ2.16±.12; Mθφ1.33±.04; Mφr2.81±.13; Best double couple: M0 6.66400×10^17 NP1:φs228.00000°, δ85.00000°, λ-34.00000°. NP2:φs322.00000°, δ57.00000°, λ-174.00000°. Principal axes: T 7.4900, Plg19.0000°, Azm280.0000°; N -1.6510, Plg56.0000°, Azm41.0000°; P -5.8380, Plg27.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***14*** *13:06:52.2±0.1, 37.73N×143.51E, h14km, mb5.7/295, ME6.2, MS5.4/297, MW5.7, MW5.8 Error ellipse: s-maj=2.6km s-min=1.9km az=146.0, Moment Tensor Solution. s71 Moment tensor: Scale 10^17Nm; Mrr-0.53; Mθθ-5.82; Mφφ6.35; Mrθ1.71; Mθφ1.07; Mφr1.65; Best double couple: M0 6.60000×10^17 NP1:φs320.00000°, δ69.00000°, λ-179.00000°. NP2:φs230.00000°, δ89.00000°, λ-21.00000°. Principal axes: T 6.8900, Plg14.0000°, Azm277.0000°; N -0.5400, Plg69.0000°, Azm46.0000°; P -6.3500, Plg16.0000°, Azm183.0000°; Broadband fault plane solution: P waves. NP1: φs308.00000°, δ60.00000°, λ-174.00000°. NP2: φs215.00000°, δ85.00000°, λ-30.00000°. Principal axes: T Plg17.0000°, Azm265.0000°; N Plg0.0000°, Azm0.0000°; P Plg24.0000°, Azm167.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [II] at Tokyo. Also felt at Akiruno, Atsugi, Ichinoseki, Kasama, Kumagaya, Sagamihara, Yokosuka and Zushi. Recorded [3 JMA] in Miyagi.

JMA ***14*** *13:06:52.8±0.2, 37.81N×143.58E, h50km, M6.0*

JMA Felt III J1.

MOS ***14*** *13:06:53.3±0.9, 37.70N×143.51E, h33km, mb5.8/135, MS5.8/91, Error ellipse: s-maj=5.8km s-min=4.2km az=110.2*

NEIC ***14*** *13:06:55.0±0.0, 37.76N×143.62E, h15km, Moment Tensor Solution. s26 Moment tensor: Scale 10^17Nm; Mrr-1.30; Mθθ-3.40; Mφφ4.70; Mrθ2.90; Mθφ0.60; Mφr-0.20; Best double couple: M0 5.00000×10^17 NP1:φs324.00000°, δ66.00000°, λ-153.00000°. NP2:φs223.00000°, δ66.00000°, λ-25.00000°. Principal axes: T 4.7000, Plg0.0000°, Azm93.0000°; N 0.7000, Plg55.0000°, Azm3.0000°; P -5.4000, Plg34.0000°, Azm184.0000°;*

BJI ***14*** *13:06:56.8, 37.91N×142.92E, h33km, mb5.8/83, mB6.0/64, Ms5.9/92, Ms7 5.7/63*

ISC 14 13:06:54.3±0.4, 37.78N±0.03×143.57E±0.03, h30km±2km, h29km:pP-P, n1913, σ1943/1972, mb5.7/453, MS5.5/446, 132C-33D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.87**	**292**	⇑P	**Pn**	**13 07 23.4**	**-0.9**
JIO				*e*S	**Sn**	**13 07 45.7**	**-1.3**
OFUJ	**Ofunato**	**1.98**	**312**	⇑P	**Pn**	**13 07 24.5**	**-1.2**
OFUJ				S	**Sn**	**13 07 47.9**	**-1.6**
JFK	**Kawauchi**	**2.18**	**260**	⇑P	**Pn**	**13 07 27.1**	**-1.5**
JMK	**Ichinoseki**	**2.18**	**303**	⇑P	**Pn**	**13 07 27.8**	**-0.8**
JMK				*e*S	**Sn**	**13 07 53.2**	**-1.4**
JMM	**Marumori**	**2.20**	**273**	⇑P	**Pn**	**13 07 27.8**	**-1.0**
JOU	**Okura**	**2.36**	**285**	⇑P	**Pn**	**13 07 30.8**	**-0.3**
JOM	**Ohasama**	**2.45**	**314**	⇑P	**Pn**	**13 07 31.6**	**-0.7**
JOM				*e*S	**Sn**	**13 08 00.4**	**-0.9**
JTH	**Tanohata**	**2.53**	**329**	⇑P	**Pn**	**13 07 31.8**	**-1.5**
JFT	**Otama**	**2.58**	**265**	⇑P	**Pn**	**13 07 33.9**	**-0.1**
JFT				*e*S	**Sn**	**13 08 03.6**	**-0.8**
JHO	**Hitachi**	**2.66**	**245**	⇑P	**Pn**	**13 07 33.5**	**-1.7**
JYK	**Kaneyama**	**2.77**	**295**	⇑P	**Pn**	**13 07 36.4**	**-0.2**
JYS	**Shirataka**	**2.80**	**280**	⇑P	**Pn**	**13 07 37.0**	**-0.1**
JRG	**Rokugo**	**2.81**	**306**	⇑P	**Pn**	**13 07 36.7**	**-0.5**
JKZ	**Kuzumaki**	**2.81**	**322**	⇑P	**Pn**	**13 07 36.3**	**-0.9**
JSB	**Shiboa**	**3.02**	**255**	⇑P	**Pn**	**13 07 39.9**	**-0.2**
JANG	**Nango**	**3.04**	**329**	⇑P	**Pn**	**13 07 38.8**	**-1.6**
JANG				*e*S	**Sn**	**13 08 12.6**	**-3.2**
JYA	**Atsumi**	**3.14**	**286**	⇑P	**Pn**	**13 07 41.8**	**0.0**
JYW	**Yuwa**	**3.16**	**305**	⇑P	**Pn**	**13 07 42.1**	**+0.1**
JAH	**Hinai**	**3.31**	**317**	P	**Pn**	**13 07 43.6**	**-0.5**
JNS	**Sasagawa**	**3.37**	**272**	⇑P	**Pn**	**13 07 44.9**	**+0.1**
JTB	**Tobi-shima**	**3.45**	**295**	⇑P	**Pn**	**13 07 45.8**	**-0.1**
JAW	**Awa shima**	**3.47**	**283**	⇑P	**Pn**	**13 07 46.6**	**+0.3**
JAG	**Ashikaga**	**3.56**	**249**	⇑P	**Pn**	**13 07 46.8**	**-0.7**
JAG				*e*S	**Sn**	**13 08 27.3**	**-1.2**
JKT	**Katashina**	**3.59**	**255**	⇑P	**Pn**	**13 07 48.1**	**+0.1**
JOG2	**Oga 2**	**3.64**	**307**	⇑P	**Pn**	**13 07 47.9**	**-0.7**
JHK	**Hiroka**	**3.66**	**263**	⇑P	**Pn**	**13 07 48.5**	**-0.3**
BSO1	**Boso 1**	**3.76**	**215**	P	**Pn**	**13 07 48.0**	**-1.7**
BSO4	**Boso 4**	**3.81**	**224**	‖P	**Pn**	**13 07 49.9**	**-1.0**
JIZZ	**Izumozaki**	**3.86**	**268**	P	**Pn**	**13 07 52.2**	**+0.6**
JOT	**Ohata**	**4.09**	**332**	P	**Pn**	**13 07 54.3**	**-0.4**
JOT				*e*S	**Sn**	**13 08 38.8**	**-2.8**
JRY	**Ryogami san**	**4.13**	**246**	⇑P	**Pn**	**13 07 54.8**	**-0.6**
JRY				*e*S	**Sn**	**13 08 39.5**	**-3.3**
ERM	**Erimo**	**4.24**	**356**	*ce*P	**Pn**	**13 07 54.7**	**-2.1**
ERM				pmax	pmax		
comp=Z,512nm,0.5s							
ERM	**Erimo**	**4.24**	**356**	*e*Pn	**Pn**	**13 07 54.5**	**-2.3**
ERM				*e*Sn	**Sn**	**13 08 41.1**	**-4.2**
JOD2	**Odawara 2**	**4.40**	**236**	‖P	**Pn**	**13 07 58.3**	**-0.7**
JOD2				*e*S	**Sn**	**13 08 46.0**	**-3.2**
MJAR	**Matsushiro Arr**	**4.46**	**255**	Pn	**Pn**	**13 08 00.0**	**+0.2**
comp=Z,474nm,0.3s,baz=82,slow=15,SNR=1568							
MJAR				Sn	**Sn**	**13 08 51.1**	**+0.5**
comp=Z,234nm,0.3s,baz=85,slow=28,SNR=4.9							
MAJO	**Matsushiro**	**4.46**	**256**	*c i*P	**Pn**	**13 08 00.5**	**+0.6**
MAJO	**Matsushiro**	**4.46**	**256**	*e*Pn	**Pn**	**13 08 00.4**	**+0.5**
MAT	**Matsushiro**	**4.46**	**256**	P	**Pn**	**13 08 00.9**	**+1.0**
MAT				S	**Sn**	**13 08 50.9**	**+0.2**
MAT	**Matsushiro**	**4.46**	**256**	P	**Pn**	**13 08 00.4**	**+0.5**
MJB9	**Matsu-Tunnel**	**4.46**	**256**	*e*Pn	**Pn**	**13 08 00.4**	**+0.6**
AJI	**Ajiro2**	**4.53**	**234**	‖P	**Pn**	**13 07 59.4**	**-1.4**
JKB	**Kayabe**	**4.54**	**335**	P	**Pn**	**13 08 00.7**	**-0.3**
JKB				S	**Sn**	**13 08 49.1**	**-3.6**
JNG	**Nsakai**	**4.58**	**254**	⇑P	**Pn**	**13 08 02.0**	**+0.4**
JYN	**Shimob**	**4.64**	**242**	P	**Pn**	**13 08 02.2**	**-0.2**
JNT	**Takato**	**4.75**	**248**	⇑P	**Pn**	**13 08 04.7**	**+0.7**
JCH	**Churui**	**4.83**	**358**	‖P	**Pn**	**13 08 02.7**	**-2.2**
JCH				*e*S	**Sn**	**13 08 54.3**	**-5.5**
JIZS	**Izushimoda**	**4.87**	**233**	P	**Pn**	**13 08 03.8**	**-1.7**
JSZ	**Suzu**	**4.94**	**268**	P	**Pn**	**13 08 06.0**	**-0.4**
JTT	**Ttatey**	**5.11**	**259**	P	**Pn**	**13 08 10.1**	**+1.2**
JOB	**Onbets**	**5.12**	**2**	‖P	**Pn**	**13 08 06.8**	**-2.1**
JNY	**Yasuok**	**5.19**	**244**	P	**Pn**	**13 08 10.7**	**+0.7**
JGN	**Niukaw**	**5.24**	**255**	P	**Pn**	**13 08 11.6**	**+0.9**
JAK	**Akkeshi**	**5.28**	**9**	‖P	**Pn**	**13 08 08.4**	**-2.7**
JGF	**Kuroka**	**5.44**	**248**	P	**Pn**	**13 08 14.3**	**+0.9**
JYZW	**Yoshizawa**	**5.46**	**241**	P	**Pn**	**13 08 13.5**	**-0.2**
JJH	**Hakui**	**5.47**	**263**	P	**Pn**	**13 08 14.4**	**+0.6**
JHJ	**Hachijo jima 2**	**5.58**	**215**	Pn	**Pn**	**13 08 12.4**	**-2.9**
comp=Z,724nm,0.3s,baz=340,slow=21,SNR=382							
JHJ				Sn	**Sn**	**13 09 11.3**	**-7.1**
comp=Z,641nm,0.3s,baz=29,slow=20,SNR=4.8							
JHJ				LR	LR	13 10 01.1	
comp=Z,23μm,20.8s,baz=56,slow=34							
JAO	**Obara**	**5.67**	**246**	P	**Pn**	**13 08 16.8**	**+0.3**
INU	**Inuyama**	**5.80**	**247**	*e*Pn	**Pn**	**13 08 18.6**	**+0.2**
NEM2	**Nemuro 2**	**5.82**	**16**	‖P	**Pn**	**13 08 14.8**	**-3.7**
JNK	**Nakash**	**5.86**	**8**	P	**Pn**	**13 08 15.8**	**-3.3**
JKG	**Kaga**	**5.98**	**258**	P	**Pn**	**13 08 22.0**	**+1.3**
JKK2	**Kamakawa 2**	**6.12**	**354**	‖P	**Pn**	**13 08 20.8**	**-1.8**
JTKR	**Abashiri--Toko**	**6.19**	**2**	‖P	**Pn**	**13 08 21.3**	**-2.3**
JMP	**Maruseppu**	**6.22**	**359**	‖P	**Pn**	**13 08 21.5**	**-2.6**
ASAJ	**Asahikawa**	**6.37**	**354**	Pn	**Pn**	**13 08 24.7**	**-1.4**
ASAJ	**Asahikawa**	**6.37**	**354**	*e*Pn	**Pn**	**13 08 24.4**	**-1.7**
comp=Z,414nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**6.48**	**15**	*i* P	**Pn**	**13 08 24.0**	**-3.6**
JFM	**Mihama**	**6.50**	**252**	P	**Pn**	**13 08 28.5**	**+0.6**
JWT	**Wachi**	**7.03**	**252**	⇑P	**Pn**	**13 08 35.5**	**+0.3**
JKY	**Yasaka**	**7.13**	**255**	⇑P	**Pn**	**13 08 37.2**	**+0.6**
JKSM	**Kasumi**	**7.48**	**256**	⇑P	**Pn**	**13 08 41.8**	**+0.4**
JAD	**Aida**	**8.10**	**252**	⇑P	**Pn**	**13 08 49.8**	**0.0**
KUR	**Kuril'sk**	**8.11**	**22**	*d i*P	**Pn**	**13 08 47.7**	**-2.3**
KUR				pmax	pmax		
comp=N,194nm,0.7s							
KUR				pmax	pmax		
comp=E,323nm,0.7s							
KUR				pmax	pmax		
comp=Z,697nm,0.7s							
KUR				pmax	pmax		
comp=Z,2μm,3.3s							
JHS	**Saijyo**	**8.87**	**255**	P	**Pn**	**13 09 00.8**	**+0.3**
YSS	**Yuzh-Sakhalins**	**9.19**	**357**	⇑P	**Pn**	**13 09 03.0**	**-1.7**
YSS				pmax	pmax		
comp=N,36μm,14.0s							
YSS				pmax	pmax		
comp=Z,34μm,14.0s							
YSS	**Yuzh-Sakhalins**	**9.19**	**357**	*e*Pn	**Pn**	**13 09 02.8**	**-1.9**
comp=Z,421nm,0.6s							
VLA	**Vladivostok**	**10.37**	**305**	*c i*P	**Pn**	**13 09 21.7**	**+0.7**
MSHR	**Mys Shultsa**	**10.63**	**301**	*c i*P	**Pn**	**13 09 25.0**	**+0.5**
CBIJ	**Chichi jima**	**10.72**	**187**	*e*Pn	Pn	13 09 19.3	-6.5
comp=Z,572nm,0.4s							
CBIJ				Sn	Sn	13 11 11.6	-13
JCJ	**Chichijima**	**10.72**	**187**	Pn	Pn	13 09 19.8	-6.0
comp=Z,395nm,0.3s,baz=72,slow=13,SNR=88							
JCJ				Sn	Sn	13 11 11.6	-13
comp=Z,181nm,0.3s,baz=284,slow=20,SNR=5.1							
JCJ				LR	LR	13 16 31.8	
comp=Z,4μm,18.8s,baz=350,slow=55							
USRK	**Ussuriysk Ar.**	**10.84**	**310**	Pn	**Pn**	**13 09 27.2**	**-0.2**
comp=Z,18nm,0.3s,baz=115,slow=9.0,SNR=285							
USRK				Sn	**Sn**	**13 11 31.0**	**+3.3**
baz=113,slow=13,SNR=1.5							
USRK				LR	LR	13 13 34.2	
comp=Z,35μm,19.3s,baz=116,slow=37							
JNU	**Nakatsue**	**11.34**	**250**	Pn	**Pn**	**13 09 34.2**	**-0.1**
comp=Z,12nm,0.3s,baz=63,slow=7.4,SNR=204							
JNU				Sn	**Sn**	**13 11 43.2**	**+3.1**
baz=336,slow=6.0,SNR=1.5							
JNU				LR	LR	13 14 11.1	
comp=Z,18μm,19.4s,baz=67,slow=39							
JNU	**Nakatsue**	**11.34**	**250**	*e*Pn	**Pn**	**13 09 33.7**	**-0.6**
comp=Z,251nm,0.9s							
JNU				Sn	**Sn**	**13 11 43.2**	**+3.1**
HABR	**Khabarovsk**	**12.35**	**333**	*e*P	**Pn**	**13 09 44.9**	**-3.1**
HABR				*e*S	**Sn**	**13 12 02.6**	**-2.0**
HABR				pmax	pmax		
comp=Z,94nm,0.6s							
HABR				MLR	MLR		
comp=Z,27μm,15.0s							
KSRS	**Korea Array**	**12.41**	**273**	Pn	**Pn**	**13 09 50.5**	**+1.6**
comp=Z,14nm,0.3s,baz=87,slow=13,SNR=287							
KSRS				Sn	**Sn**	**13 12 06.8**	**+0.7**
baz=57,slow=9.4,SNR=2.5							
KSRS				LR	LR	13 14 38.6	
comp=Z,17μm,18.6s,baz=82,slow=38							
KS01	**Wonju Array Si**	**12.43**	**273**	*e*Pn	**Pn**	**13 09 49.2**	**+0.1**
KS15	**Wonju Array Si**	**12.44**	**273**	*e*Pn	**Pn**	**13 09 50.2**	**+0.9**
KSAR	**Wonju Array Be**	**12.44**	**273**	P	**Pn**	**13 09 50.5**	**+1.1**
KSAR						13 12 06.9	
KSAR	**Wonju Array Be**	**12.44**	**273**	Pn	**Pn**	**13 09 50.5**	**+1.1**
KSAR				Sn	**Sn**	**13 12 06.8**	**-0.1**
MDJ	**Mudanjiang**	**12.54**	**307**	P	**Pn**	**13 09 50.8**	**+0.2**
MDJ				S	**Sn**	**13 12 04.9**	**-4.2**
MDJ				PcP	**PcP**	**13 15 27.5**	**-0.9**
MDJ				ScP	**ScP**	**13 19 01.5**	**+2.3**
MDJ				ScS	**ScS**	**13 22 35.5**	**+0.2**
MDJ				PMZ			
comp=Z,200nm,1.1s							
MDJ				PMZ			
comp=Z,5μm,10.7s							
MDJ				LN			
comp=Z,39μm,17.2s							
MDJ				LE			
comp=Z,32μm,19.2s							
MDJ				LZ			
comp=Z,30μm,16.4s							
MDJ	**Mudanjiang**	**12.54**	**307**	*e*Pn	**Pn**	**13 09 50.3**	**-0.2**
TJN	**Taejon**	**13.02**	**269**	*c i*P	**Pn**	**13 09 57.7**	**+0.5**
TYV	**Tymovskoe**	**13.10**	**357**	*e*P	**Pn**	**13 09 54.8**	**-3.3**
TYV				*e*S	**Sn**	**13 12 18.0**	**-4.7**
TYV				pmax	pmax		
comp=Z,136nm,0.8s							
TYV				pmax	pmax		
comp=N,4μm,9.0s							
TYV				pmax	pmax		
comp=Z,2μm,13.0s							
TYV				smax	smax		
comp=E,5μm,11.0s							
TYV				MLR	MLR		
comp=E,30μm,19.0s							
TYV				MLR	MLR		
comp=Z,42μm,19.0s							
INCN	**Inchon**	**13.43**	**274**	*e*Pn	**Pn**	**13 10 03.4**	**+0.6**
comp=Z,2μm,1.6s							
KLR	**Kul'dur**	**14.28**	**327**	Pn	**Pn**	**13 10 11.8**	**-2.5**
comp=Z,5.7nm,0.3s,baz=133,slow=12,SNR=164							
KLR				LR	LR	13 15 55.8	
comp=Z,38μm,18.9s,baz=144,slow=38							
CN2	**Changchun**	**14.97**	**299**	⇑P	**Pn**	**13 10 21.5**	**-2.2**
CN2				*es*P	P	13 10 28.5	-0.4
CN2				PP	**PnPn**	**13 10 33.6**	**+1.9**
CN2				*e*S	**Sn**	**13 13 06.3**	**-2.2**
CN2				PMZ			
comp=Z,80nm,1.1s							
CN2				PMZ			
comp=Z,2μm,5.0s							
CN2				LN			
comp=Z,29μm,17.0s							
CN2				LE			
comp=Z,20μm,17.0s							
CN2				LZ			
comp=Z,16μm,21.0s							
NKL	**Nikolayevsk**	**15.50**	**353**	*i* P	**Pn**	**13 10 28.0**	**-2.6**
NKL				*e*S	**Sn**	**13 13 14.0**	**-7.2**
NKL				pmax	pmax		
comp=Z,210nm,1.2s							
NKL				pmax	pmax		
comp=N,2μm,12.0s							
NKL				pmax	pmax		
comp=E,500nm,12.0s							
NKL				pmax	pmax		
comp=Z,2μm,12.0s							
NKL				smax	smax		
comp=E,2μm,10.0s							
NKL				MLR	MLR		
comp=N,14μm,14.0s							
NKL				MLR	MLR		
comp=E,11μm,14.0s							
NKL				MLR	MLR		
comp=Z,17μm,14.0s							
SKR	**Severo-Kuril's**	**15.69**	**31**	*e*P	**P**	**13 10 36.0**	**-0.8**
SKR				S	**S**	**13 13 34.0**	**-6.3**
SKR				MLR	MLR		
comp=Z,8μm,12.0s							
OKH	**Okha**	**15.78**	**359**	*e*P	**P**	**13 10 36.2**	**-1.5**
OKH				*e*S	**S**	**13 13 39.8**	**-2.1**
OKH				pmax	pmax		
comp=Z,3μm,12.0s							
OKH				smax	smax		
comp=E,4μm,8.0s							
OKH				smax	smax		
comp=Z,36μm,17.0s							
SNY	**Shenyang**	**15.88**	**291**	⇑P	**Pn**	**13 10 33.8**	**-1.7**
SNY				PMZ			
comp=Z,160nm,1.6s							
SNY				PMZ			
comp=Z,2μm,4.3s							
SNY				LN			
comp=Z,46μm,13.2s							
SNY				LE			
comp=Z,43μm,16.2s							

JOW	**Kunigami**	**16.90**	**234**	*e*P		**P**	**13 10 50.5**	**+0.1**
	comp=Z,48nm,0.9s								
DL2	**Dalian**	**17.25**	**281**	⇑*i*P		**Pn**	**13 10 51.4**	**-1.5**
DL2				S		**Sn**	**13 14 02.8**	**-1.0**
DL2				PMZ					
	comp=Z,1μm,1.3s								
DL2				PMZ					
	comp=Z,7μm,6.3s								
DL2				LN					
	comp=Z,18μm,14.0s								
DL2				LE					
	comp=Z,29μm,17.8s								
DL2				LZ					
	comp=Z,30μm,18.0s								
PEA0	**Petropavlovsk-**	**18.20**	**28**	*e*Pn		**P**	**13 11 05.4**	**+0.8**
PEA0B	**Petropavlovsk-**	**18.20**	**28**	*e*Pn		**P**	**13 11 05.5**	**+0.9**
	comp=Z,247nm,1.0s								
PETK	**Petropavlovsk-**	**18.20**	**28**	P		**Pn**	**13 11 01.2**	**-3.4**
	comp=Z,2.0nm,0.3s,baz=207,slow=7.1,SNR=58								
PETK				LR		LR	13 19 53.0		
	comp=Z,7μm,18.4s,baz=213,slow=43								
PETK				SKKP			13 42 07.3		
	comp=Z,1.0nm,0.3s,baz=333,slow=1.6,SNR=5.4								
PET	**Petropavlovsk**	**18.50**	**30**	*e*P		**P**	**13 11 04.4**	**-3.5**
PET				*e*S		**Sn**	**13 14 24.1**	**-10**
PET				pmax	pmax				
	comp=Z,3μm,9.5s								
PET				pmax	pmax				
	comp=Z,6μm,4.0s								
PET				pmax	pmax				
	comp=Z,208nm,1.1s								
PET				MLR	MLR				
	comp=Z,12μm,19.0s								
PET				MLR	MLR				
	comp=Z,10μm,19.0s								
PET	**Petropavlovsk**	**18.50**	**30**	*e*P		**P**	**13 11 07.9**	**0.0**
	comp=Z,222nm,1.1s								
SSE	**Sheshan**	**19.60**	**257**	P		**P**	**13 11 18.6**	**-1.5**
SSE				pP		**Pn**	**13 11 23.9**	**+2.3**
SSE				PMZ					
	comp=Z,31nm,0.7s								
SSE				PMZ					
	comp=Z,1μm,4.5s								
SSE				LN					
	comp=Z,29μm,20.3s								
SSE				LE					
	comp=Z,6μm,20.3s								
SSE				LZ					
	comp=Z,22μm,15.3s								
HIA	**Hailar**	**20.65**	**311**	*c i*P		**P**	**13 11 29.0**	**-2.4**
HIA				pmax	pmax				
	comp=Z,609nm,1.8s								
HIA				MLR	MLR				
	comp=Z,22μm,16.0s								
HIA	**Hailar**	**20.65**	**311**	*e*P		**P**	**13 11 28.9**	**-2.6**
	comp=Z,234nm,0.7s								
HIA				LR	LR				
	comp=Z,25μm,20.0s								
NJ2	**Nanjing**	**21.03**	**262**	*e*P		**P**	**13 11 33.9**	**-1.7**
NJ2				pP		**pP**	**13 11 42.3**	**-1.2**
NJ2				PMZ					
	comp=Z,140nm,1.1s								
NJ2				PMZ					
	comp=Z,3μm,6.5s								
NJ2				LN					
	comp=Z,25μm,16.3s								
NJ2				LE					
	comp=Z,22μm,15.7s								
NJ2				LZ					
	comp=Z,25μm,16.3s								
TIA	**Tai'an**	**21.16**	**274**	⇑P		**P**	**13 11 34.8**	**-2.2**
TIA				S		**S**	**13 15 23.8**	**-7.0**
TIA				PMZ					
	comp=Z,420nm,1.7s								
TIA				PMZ					
	comp=Z,4μm,8.0s								
TIA				LN					
	comp=Z,14μm,15.0s								
TIA				LE					
	comp=Z,18μm,16.0s								
TIA				LZ					
	comp=Z,20μm,17.0s								
BJI	**Beijing**	**21.41**	**285**	P		**P**	**13 11 36.8**	**-2.8**
BJI				S		**S**	**13 15 34.6**	**-0.9**
BJI				PMZ					
	comp=Z,460nm,2.1s								
BJI				PMZ					
	comp=Z,5μm,3.7s								
BJI				LN					
	comp=Z,35μm,15.8s								
BJI				LE					
	comp=Z,15μm,16.4s								
BJI				LZ					
	comp=Z,12μm,23.2s								
BJT	**Baijiatuau**	**21.41**	**285**	*e*P		**P**	**13 11 36.9**	**-2.7**
BJT				pmax	pmax				
	comp=Z,617nm,0.7s								
BJT				MLR	MLR				
	comp=Z,15μm,19.0s								
BJT	**Baijiatuau**	**21.41**	**285**	*e*P		**P**	**13 11 36.9**	**-2.7**
	comp=Z,617nm,0.7s								
BJT				LR	LR				
	comp=Z,15μm,19.0s								
YOJ	**Yonaguni jima**	**21.98**	**239**	*e*P		**P**	**13 11 43.5**	**-2.4**
YOJ				pmax	pmax				
	comp=Z,43nm,0.7s								
YOJ				MLR	MLR				
	comp=Z,10μm,19.0s								
YOJ	**Yonaguni jima**	**21.98**	**239**	*e*P		**P**	**13 11 43.5**	**-2.4**
	comp=Z,43nm,0.7s								
YOJ				LR	LR				
	comp=Z,10μm,19.0s								
MA2	**Magadan**	**22.30**	**10**	P		**P**	**13 11 49.1**	**+0.1**
	comp=Z,120nm,0.7s,baz=218,slow=8.9,SNR=36								
MA2				LR		LR	13 21 39.9		
	comp=Z,7μm,19.7s,baz=219,slow=40								
MA2	**Magadan**	**22.30**	**10**	*e*P		**P**	**13 11 49.6**	**+0.7**
	comp=Z,698nm,0.8s								
TATO	**Taipei**	**22.70**	**242**	P		**P**	**13 11 53.0**	**-0.5**
	comp=Z,147nm,0.8s								
TATO				LR	LR				
	comp=Z,7μm,18.0s								
CLNS	**Chul'man**	**22.75**	**333**	*e*P		**P**	**13 11 52.6**	**-1.2**
CLNS				*e**PP		**pP**	**13 12 02.2**	**+0.4**
CLNS				*e*			13 15 43.2		
CLNS				*e*S		**S**	**13 15 59.3**	**-1.3**
CLNS				pmax	pmax				
	comp=N,136nm,1.1s								
CLNS				pmax	pmax				
	comp=Z,169nm,1.0s								
CLNS				pmax	pmax				
	comp=E,57nm,1.0s								
CLNS				pmax	pmax				
	comp=Z,144nm,0.8s								
CLNS				pmax	pmax				
	comp=E,102nm,0.9s								
CLNS				pmax	pmax				
	comp=N,266nm,0.9s								
CLNS				smax	smax				
	comp=N,352nm,1.2s								
CLNS				smax	smax				
	comp=E,179nm,1.4s								
CLNS				MLR	MLR				
	comp=N,13μm,15.0s								
CLNS				MLR	MLR				
	comp=Z,19μm,18.0s								
CLNS				MLR	MLR				
	comp=E,11μm,13.0s								
YHNB	**Yeheng**	**22.97**	**242**	*e*P		**P**	**13 11 54.9**	**-1.6**
	comp=E,245nm,1.0s								
YHNB				LR	LR				
	comp=Z,10μm,20.0s								
NACB	**Ninganchiao**	**23.14**	**240**	*e*P		**P**	**13 11 56.7**	**-1.5**
	comp=Z,182nm,0.9s								
NACB				LR	LR				
	comp=Z,10μm,20.0s								
SSLB	**Suanglung**	**23.84**	**241**	*e*P		**P**	**13 12 03.0**	**-1.9**
	comp=Z,252nm,1.0s								
SSLB				LR	LR				
	comp=Z,7μm,20.0s								
YULB	**Yu-li**	**23.86**	**239**	*e*P		**P**	**13 12 02.9**	**-2.3**
	comp=Z,195nm,0.9s								
GUMO	**Guam**	**24.12**	**177**	P		**P**	**13 12 06.1**	**-1.5**
	comp=Z,105nm,0.6s,baz=228,slow=7.8,SNR=9.4								
GUMO				LR		LR	13 20 22.6		
	comp=Z,9μm,22.0s,baz=8.0,slow=34								
GUMO	**Guam**	**24.12**	**177**	*e*P		**P**	**13 12 06.3**	**-1.3**
GUMO				pmax	pmax				
	comp=Z,674nm,1.0s								
GUMO	**Guam**	**24.12**	**177**	*e*P		**P**	**13 12 06.3**	**-1.3**
	comp=Z,674nm,1.0s								
TPUB	**Ta-pu**	**24.38**	**240**	*e*P		**P**	**13 12 07.4**	**-2.6**
	comp=Z,704nm,0.9s								
TPUB				LR	LR				
	comp=Z,11μm,20.0s								
TWG	**Pinlang**	**24.40**	**239**	*e*P		**P**	**13 12 09.2**	**-0.9**
	comp=Z,2μm,1.0s								
TIY	**Taiyuan**	**24.56**	**279**	*e*P		**P**	**13 12 09.5**	**-2.1**
TIY				PP		**PnPn**	**13 12 43.9**	**+0.6**
TIY				PMZ					
	comp=Z,520nm,0.9s								
TIY				LN					
	comp=Z,10μm,14.3s								
TIY				LE					
	comp=Z,10μm,12.7s								
TIY				LZ					
	comp=Z,16μm,13.9s								
QZH	**Quanzhou**	**24.78**	**246**	⇑*i*P		P	13 12 05.6	-8.0	
QZH				S		**S**	**13 16 25.3**	**-8.9**	
QZH				pmax	pmax				
	comp=Z,350nm,0.9s								
QZH				pmax	pmax				
	comp=Z,6μm,7.2s								
QZH				LR	LR				
	comp=N,11μm,12.0s								
QZH				LR	LR				
	comp=E,15μm,11.9s								
QZH				LR	LR				
	comp=Z,21μm,13.1s								
HHC	**Hu-ho-hao-te**	**24.88**	**287**	⇑*i*P		**P**	**13 12 13.3**	**-1.1**	
HHC				sP		sP	13 12 26.8	+0.2	
HHC				PP		**PnPn**	**13 12 50.3**	**+2.8**	
HHC				S		**S**	**13 16 31.4**	**-4.3**	
HHC				sS		sS	13 16 43.8	-6.0	
HHC				PcS		**PcS**	**13 19 29.6**	**-0.4**	
HHC				PMZ					
	comp=Z,170nm,1.0s								
HHC				PMZ					
	comp=Z,3μm,6.5s								
HHC				LN					
	comp=Z,32μm,16.2s								
HHC				LE					
	comp=Z,19μm,16.2s								
HHC				LZ					
	comp=Z,21μm,16.2s								
WHN	**Wuhan**	**25.16**	**262**	⇑P		**P**	**13 12 16.0**	**-1.0**	
WHN				pP		**sP**	**13 12 28.4**	**-0.7**	
WHN				S		**S**	**13 16 41.6**	**+1.4**	
WHN				PMZ					
	comp=Z,10μm,2.4s								
WHN				LN					
	comp=Z,18μm,13.9s								
WHN				LE					
	comp=Z,56μm,16.0s								
CIT	**Chita**	**25.36**	**314**	*e*P		**P**	**13 12 18.6**	**-0.1**	
CIT				*e*			13 12 27.7		
CIT				*e*S		**S**	**13 16 41.8**	**-1.3**	
CIT				pmax	pmax				
	comp=Z,2μm,2.2s								
SEY	**Seymchan**	**25.75**	**9**	P		**P**	**13 12 23.5**	**+1.5**	
	comp=Z,184nm,1.0s,baz=189,slow=6.5,SNR=190								
YAK	**Yakutsk**	**25.75**	**345**	P		**P**	**13 12 21.7**	**-0.4**	
	comp=Z,33nm,0.7s,baz=327,slow=20,SNR=31								
YAK				S		**S**	**13 16 52.7**	**+3.8**	
	comp=Z,2.1nm,0.5s,baz=205,slow=24,SNR=3.1								
YAK				LR		LR	13 22 52.5		
	comp=Z,5μm,19.6s,baz=158,slow=37								
YAK	**Yakutsk**	**25.75**	**345**	*e*P		**P**	**13 12 21.6**	**-0.4**	
YAK				*e**PP		**pP**	**13 12 29.5**	**-1.1**	
YAK				*i* PPP		PPP	13 13 05.7		
YAK				*e*S		**S**	**13 16 45.5**	**-3.4**	
YAK				*e**SS		**sS**	**13 17 03.4**	**+0.3**	
YAK				pmax	pmax				
	comp=E,45nm,0.9s								
YAK				pmax	pmax				
	comp=Z,418nm,0.8s								
YAK				pmax	pmax				
	comp=N,102nm,1.0s								
YAK				pmax	pmax				
	comp=Z,365nm,0.7s								
YAK				pmax	pmax				
	comp=N,168nm,0.8s								
YAK				pmax	pmax				
	comp=E,172nm,0.8s								
YAK				smax	smax				
	comp=E,2μm,2.7s								
YAK				smax	smax				
	comp=N,3μm,3.3s								
YAK				MLR	MLR				
	comp=Z,8μm,16.0s								
YAK				MLR	MLR				
	comp=N,8μm,16.0s								
YAK				MLR	MLR				
	comp=E,6μm,17.0s								
YAK	**Yakutsk**	**25.75**	**345**	*e*P		**P**	**13 12 21.4**	**-0.6**	
	comp=E,881nm,0.7s								
YAK				S		**S**	**13 16 52.7**	**+3.8**	
SMY	**Shemya**	**25.93**	**45**	*e*P		**P**	**13 12 26.2**	**+2.5**	
SMY				pmax	pmax				
	comp=Z,232nm,1.1s								
SMY				MLR	MLR				
	comp=Z,4μm,18.0s								
SMY	**Shemya**	**25.93**	**45**	*e*P		**P**	**13 12 26.2**	**+2.5**	
	comp=Z,232nm,1.1s								
SMY				LR	LR				
	comp=Z,4μm,18.0s								
BTO	**Baotou**	**26.06**	**287**	*e*P		**P**	**13 12 24.0**	**-1.2**	
BTO				PMZ					
	comp=Z,48nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**27.11**	**125**	T		T	13 40 54.2		
	baz=317,slow=75,SNR=176								
H11N1	**WAKE ISLAND Hy**	**27.12**	**125**	T		T	13 40 54.1		
	baz=317,slow=75,SNR=106								
H11N3	**WAKE ISLAND Hy**	**27.13**	**125**	T		T	13 40 53.6		
	baz=317,slow=75,SNR=126								
BOD	**Bodaibo**	**27.85**	**326**	⇓*i*P		**P**	**13 12 40.6**	**-0.3**	
BOD				pmax	pmax				
	comp=Z,251nm,1.4s								
APYP	**Conner**	**27.86**	**231**	*e*P		**P**	**13 12 39.8**	**-1.6**	
H11S1	**WAKE ISLAND Hy**	**27.88**	**127**	T		T	13 41 56.3		
	baz=319,slow=76,SNR=22								
H11S3	**WAKE ISLAND Hy**	**27.89**	**127**	T		T	13 41 52.5		
	baz=319,slow=76,SNR=19								
H11S2	**WAKE ISLAND Hy**	**27.90**	**127**	T		T	13 41 57.2		
	baz=319,slow=76,SNR=39								
XAN	**Xi'an**	**28.21**	**273**	P		**P**	**13 12 44.4**	**-0.1**	
XAN				pP		pP	13 12 54.3	+1.2	
XAN				PP		**PnPn**	**13 13 31.6**	**-1.5**	
XAN				S		S	13 17 18.3	-10	
XAN				SS		**SnSn**	**13 18 42.5**	**-3.3**	
XAN				PMZ					
	comp=Z,240nm,1.4s								
XAN				PMZ					
	comp=Z,3μm,6.5s								
XAN				LN					
	comp=Z,17μm,15.9s								
XAN				LE					
	comp=Z,9μm,15.6s								
XAN				LZ					
	comp=Z,10μm,16.8s								
CAUP	**Cauayan**	**28.22**	**229**	*e*P		**P**	**13 12 44.2**	**-0.4**	
ABRA	**Dolores**	**28.35**	**231**	*e*P		**P**	**13 12 44.4**	**-1.4**	
ULN	**Ulaanbaatar**	**28.38**	**303**	*c i*P		**P**	**13 12 46.9**	**+0.9**	
ULN				pmax	pmax				
	comp=Z,225nm,0.8s								
ULN				MLR	MLR				
	comp=Z,13μm,14.0s								
ULN	**Ulaanbaatar**	**28.38**	**303**	P		**P**	**13 12 47.4**	**+1.5**	
	SNR=168								
ULN	**Ulaanbaatar**	**28.38**	**303**	*e*P		**P**	**13 12 47.1**	**+1.1**	
	comp=Z,210nm,0.8s								
ULN				LR	LR				
	comp=Z,8μm,19.0s								
SONA1	**Songino Array**	**28.81**	**302**	*e*P		**P**	**13 12 50.4**	**+0.6**	
SONM	**Songino Array**	**28.81**	**302**	P		**P**	**13 12 51.0**	**+1.2**	
	comp=Z,51nm,0.6s,baz=93,slow=8.7,SNR=185								
SONM				LR		LR	13 24 29.3		
	comp=Z,8μm,19.7s,baz=102,slow=37								
ENH	**Enshi**	**29.10**	**265**	*e*P		**P**	**13 12 52.0**	**-0.5**	
	comp=Z,642nm,0.9s								
ENH				LR	LR				
	comp=Z,13μm,21.0s								
BALP	**Baler**	**29.31**	**227**	*e*P		**P**	**13 12 55.5**	**+1.2**	
PVCP	**Virac**	**29.64**	**221**	*e*P		**P**	**13 12 57.1**	**-0.1**	
GZH	**Guangzhou**	**29.73**	**249**	P		**P**	**13 12 54.6**	**-3.4**	
GZH				S		**S**	**13 17 46.6**	**-5.8**	
GZH				SS		**SnSn**	**13 19 21.3**	**-1.8**	
GZH				PMZ					
	comp=Z,2μm,6.7s								
BOLP	**Bolinao**	**29.81**	**231**	*e*P		**P**	**13 12 56.9**	**-1.8**	
POLP	**Polilio Island**	**29.91**	**226**	*e*P		P	13 13 05.9	+6.3	
SCZP	**Santa Cruz**	**30.28**	**230**	*e*P		**P**	**13 13 02.2**	**-0.6**	
AUQP	**San Andres**	**30.65**	**223**	*e*P		P	13 13 11.4	+5.3	
BESP	**Borongan**	**30.71**	**217**	*e*P		**P**	**13 13 07.0**	**+0.3**	
IRK	**Irkutsk**	**30.89**	**311**	⇑*i*P		**P**	**13 13 07.9**	**-0.1**	
IRK				*e*S		**S**	**13 18 05.2**	**-4.8**	
IRK				pmax	pmax				
	comp=Z,466nm,2.2s								
BOAC	**Boac**	**31.00**	**224**	*e*P		**P**	**13 13 07.1**	**-2.1**	
TLY	**Talaya**	**31.16**	**309**	P		**P**	**13 13 11.0**	**+0.6**	
	comp=Z,164nm,0.7s,baz=107,slow=2.7,SNR=106								
TLY				LR		LR	13 26 03.4		
	comp=Z,15μm,19.4s,baz=98,slow=37								
TLY	**Talaya**	**31.16**	**309**	*i* P		**P**	**13 13 11.4**	**+1.0**	
TLY				pmax	pmax				
	comp=Z,232nm,0.8s								
TLY	**Talaya**	**31.16**	**309**	*e*P		**P**	**13 13 11.0**	**+0.6**	
	comp=Z,176nm,0.7s								
ZAK	**Zakamensk**	**31.17**	**307**	*e*P		**P**	**13 13 11.0**	**+0.4**	
ZAK				pmax	pmax				
	comp=Z,184nm,1.1s								
PLP	**Palo**	**31.31**	**217**	⇓*e*P		**P**	**13 13 07.8**	**-4.2**	
OCLP	**Ormoc**	**31.59**	**218**	*e*P		**P**	**13 13 13.6**	**-0.8**	
LZH	**Lanzhou**	**31.64**	**279**	⇑P		**P**	**13 13 15.8**	**+0.9**	
LZH				pP		pP	13 13 25.3	+1.8	
LZH				sP		sP	13 13 29.5	+2.4	
LZH				PP		**PnPn**	**13 14 21.0**	**+2.0**	
LZH				S		**S**	**13 18 21.0**	**-1.3**	
LZH				sS		sS	13 18 38.0	+1.4	
LZH				PMZ					
	comp=Z,460nm,1.2s								
LZH				PMZ					
	comp=Z,2μm,5.7s								
LZH				LN					
	comp=Z,16μm,15.3s								
LZH				LE					
	comp=Z,14μm,16.0s								
LUBP	**Lubang**	**31.68**	**227**	*e*P		**P**	**13 13 12.6**	**-2.6**	
QTRP	**Odiongan**	**31.80**	**223**	*e*P		**P**	**13 13 14.8**	**-1.5**	
SJMP	**San Jose**	**32.21**	**224**	*e*P		**P**	**13 13 20.2**	**+0.3**	
MOY	**Mondy**	**32.78**	**309**	*e*P		**P**	**13 13 25.3**	**+0.5**	
MOY				pmax	pmax				
	comp=Z,356nm,2.4s								
BILL	**Bilibino**	**32.84**	**16**	*i* P		**P**	**13 13 25.6**	**+0.7**	
BILL				pmax	pmax				
	comp=Z,31nm,1.0s								
BILL	**Bilibino**	**32.84**	**16**	*e*P		**P**	**13 13 25.3**	**+0.4**	
	comp=Z,70nm,1.0s								
BILL				LR	LR				
	comp=Z,7μm,22.0s								
GUIM	**Jordan**	**32.96**	**220**	*e*P		**P**	**13 13 26.0**	**-0.4**	
GYA	**Guiyang**	**33.03**	**261**	⇑*i*P		**P**	**13 13 26.8**	**-0.4**	
GYA				pP		pP	13 13 37.0	+1.1	
GYA				PP		**PnPn**	**13 14 38.3**	**+1.3**	
GYA				PcP		**PcP**	**13 16 12.0**	**+1.5**	
GYA				S		**S**	**13 18 43.3**	**-0.9**	
GYA				sS		sS	13 18 58.9	+0.5	
GYA				ScP		**ScP**	**13 19 52.4**	**-0.1**	
GYA				ScS		**ScS**	**13 23 51.5**	**-1.6**	
GYA				PMZ					
	comp=Z,150nm,0.7s								
GYA				PMZ					
	comp=Z,900nm,8.4s								
GYA				LN					
	comp=Z,10μm,14.2s								
GYA				LE					
	comp=Z,9μm,16.8s								
GYA				LZ					
	comp=Z,14μm,14.8s								
BUSP	**Coron**	**33.10**	**225**	*e*P		**P**	**13 13 27.4**	**-0.3**	
CD2	**Chengdu**	**33.39**	**270**	P		**P**	**13 13 29.3**	**-0.9**	
CD2				pP		pP	13 13 38.6	-0.2	
CD2				sP		sP	13 13 42.8	+0.4	
CD2				PcP		**PcP**	**13 16 10.8**	**-0.5**	
CD2				S		**S**	**13 18 48.0**	**-1.4**	
CD2				sS		sS	13 19 04.1	+0.4	
CD2				PMZ					
	comp=Z,210nm,0.5s								
CD2				PMZ					
	comp=Z,2μm,5.0s								
CD2				LN					
	comp=Z,20μm,16.5s								
CD2				LE					
	comp=Z,14μm,14.9s								
CD2				LZ					
	comp=Z,16μm,16.9s								
PATS	**Pohnpei**	**33.59**	**153**	*e*P		**P**	**13 13 32.1**	**+0.2**	
	comp=Z,567nm,1.6s								
PATS				LR	LR				
	comp=Z,9μm,20.0s								
CUYO	**Cuyo Island**	**33.60**	**223**	*e*P		**P**	**13 13 31.1**	**-1.0**	
MIDW	**Midway**	**33.92**	**95**	PFAKE			13 13 50.0	+15	
MIDW				LR	LR				
	comp=Z,6μm,20.0s								
GTA	**Gaotai**	**33.99**	**287**	⇑P		**P**	**13 13 36.6**	**+1.2**	
GTA				pP		sP	13 13 46.5	-1.2	
GTA				sP		pP	13 13 50.0	+5.9	
GTA				S		**S**	**13 19 02.4**	**+3.6**	
GTA				ScS		**ScS**	**13 23 57.1**	**-0.6**	
GTA				PMZ					
	comp=Z,320nm,1.6s								
GTA				PMZ					
	comp=Z,3μm,5.0s								
GTA				LN					
	comp=Z,25μm,16.2s								
GTA				LE					
	comp=Z,15μm,20.0s								
BUKP	**Musuan**	**34.16**	**214**	*e*P		**P**	**13 13 34.7**	**-2.3**	
ENPP	**El Nido**	**34.19**	**226**	*e*P		**P**	**13 13 36.8**	**-0.3**	
MATI	**Mati**	**34.49**	**211**	*e*P		**P**	**13 13 38.4**	**-1.3**	
DAV	**Davao City (W)**	**34.66**	**213**	P		**P**	**13 13 41.8**	**+0.5**	
	SNR=5.7								
DAV	**Davao City (W)**	**34.66**	**213**	PFAKE			13 13 50.0	+8.8	
DAV				LR	LR				
	comp=Z,6μm,19.0s								
TIXI	**Tiksi**	**34.77**	**352**	P		**P**	**13 13 41.0**	**-0.6**	
	comp=Z,19nm,0.9s,baz=139,slow=7.0,SNR=32								
TIXI				LR		LR	13 29 42.8		
	comp=Z,8μm,18.8s,baz=154,slow=39								
TIXI	**Tiksi**	**34.77**	**352**	*c i*P		**P**	**13 13 41.1**	**-0.6**	
TIXI				pmax	pmax				
	comp=Z,63nm,2.5s								
TIXI				MLR	MLR				
	comp=Z,8μm,16.0s								
TIXI	**Tiksi**	**34.77**	**352**	*e*P		**P**	**13 13 40.8**	**-0.8**	
	comp=Z,27nm,0.6s								
QIZ	**Qiongzhong**	**34.80**	**247**	P		**P**	**13 13 45.0**	**+2.6**	
QIZ				pP		**pP**	**13 13 51.4**	**+0.3**	
QIZ				sP		**sP**	**13 13 55.0**	**+0.3**	
QIZ				S		**S**	**13 19 15.5**	**+4.2**	
QIZ				sS		**sS**	**13 19 27.6**	**+2.0**	
QIZ				PMZ					
	comp=Z,470nm,12.1s								
QIZ				LN					
	comp=Z,8μm,24.1s								
QIZ				LE					
	comp=Z,8μm,22.5s								
QIZ				LZ					
	comp=Z,9μm,15.3s								
QIZ	**Qiongzhong**	**34.80**	**247**	*e*P		**P**	**13 13 45.6**	**+3.2**	
	comp=Z,156nm,1.6s								
QIZ				LR	LR				
	comp=Z,8μm,19.0s								
PAGZ	**Pagadian**	**34.96**	**217**	*e*P		**P**	**13 13 42.4**	**-1.4**	
IPIL	**Ipil**	**35.40**	**218**	*e*P		**P**	**13 13 45.4**	**-2.2**	
SPIA	**Saint Paul Isl**	**35.86**	**42**	*e*P		**P**	**13 13 53.2**	**+2.0**	
	comp=Z,215nm,1.3s								
NIKH	**Nikolski High**	**35.99**	**49**	*e*P		**P**	**13 13 55.8**	**+3.4**	
	comp=Z,56nm,0.8s								
NIKH				LR	LR				
	comp=Z,3μm,18.0s								
KWAJ	**Kwajalein Atol**	**36.11**	**137**	PFAKE			13 14 00.0	+6.3	
KWAJ				LR	LR				
	comp=Z,16μm,19.0s								
KMI	**Kunming**	**36.77**	**262**	P		**P**	**13 13 59.6**	**+0.1**	
KMI				pP		sP	13 14 10.3	-1.5	
KMI				sP		pP	13 14 14.8	+6.5	
KMI				PP		**PP**	**13 15 21.3**	**-2.2**	

KMI S **S** **13 19 40.0 -1.8**
KMI PMZ
comp=Z,110nm,1.0s
KMI PMZ
comp=Z,1µm,8.8s
KMI LN
comp=Z,7µm,15.3s
KMI LE
comp=Z,12µm,16.6s
KMI LZ
comp=Z,14µm,17.7s
BATP Bataraza 37.06 225 *e*P **P** **13 14 03.1 +1.3**
GAMB Gambell 37.19 31 PFAKE 13 14 10.0 +7.6
GAMB LR LR
comp=Z,2µm,19.0s
UNV Unalaska Valle 37.47 48 PFAKE 13 14 20.0 +15
UNV LR LR
comp=Z,3µm,19.0s
AKUT Akutan 37.92 48 PFAKE 13 14 20.0 +11
AKUT LR LR
comp=Z,4µm,19.0s
TNA Tin City 39.36 29 *e*P **P** **13 14 23.2 +2.6**
comp=Z,72nm,0.9s
TNA LR LR
comp=Z,3µm,18.0s
MYLDM Lahad Datu 39.69 221 *e*P **P** **13 14 25.8 +1.9**
comp=Z,207nm,1.1s
MANU Manus Island 39.78 174 *e*P **P** **13 14 21.7 -3.0**
comp=Z,124nm,1.3s
MANU LR LR
comp=Z,4µm,20.0s
PANO Nakornpanom 39.84 250 P **P** **13 14 28.9 +3.7**
comp=Z,51nm,1.5s
SDKM Sandakan 40.00 223 ⇓P **P** **13 14 27.6 +1.0**
SWI Sorong 40.10 199 P **P** **13 14 27.0 -0.3**
JAY Jayapura 40.18 184 P **P** **13 14 27.9 -0.1**
comp=Z,18nm,0.8s,baz=288,slow=24,SNR=50
JAY LR LR 13 31 33.5
comp=Z,37nm,19.1s,baz=0.0,slow=37
JAY Jayapura 40.18 184 P **P** **13 14 27.8 -0.2**
KKM Kota Kinabalu 40.21 225 PFAKE 13 14 40.0 +12
KKM LR LR
comp=Z,3µm,21.0s
GENI Genyem 40.29 185 P **P** **13 14 29.6 +0.7**
NONG Nongkai 40.37 252 P **P** **13 14 30.8 +1.2**
comp=Z,144nm,1.2s
UBPT Khong Chiam 40.40 247 P **P** **13 14 32.8 +3.0**
comp=Z,106nm,1.4s
SKNT Sakolnakorn 40.41 250 P **P** **13 14 31.6 +1.6**
comp=Z,125nm,1.1s
TSM Tawau 40.77 221 ⇑P **P** **13 14 33.5 +0.7**
LBMI Labuha 41.01 205 P **P** **13 14 35.6 +0.8**
SDPT Sand Point 41.05 46 *e*P **P** **13 14 36.3 +1.5**
comp=Z,64nm,0.7s
SDPT LR LR
comp=Z,3µm,22.0s
GTOI Gorontalo 41.53 212 P **P** **13 14 37.7 -1.4**
comp=Z,22nm,0.8s,comp=Z,18µm
KHON Khomkaen 41.67 250 P **P** **13 14 42.9 +2.6**
comp=Z,42nm,1.1s,comp=Z,726nm
FAKI Fak Fak 41.84 197 P **P** **13 14 40.4 -1.2**
FAKI Fak Fak 41.84 197 *e*P **P** **13 14 41.3 -0.3**
comp=Z,64nm,0.8s
FAKI LR LR
comp=Z,5µm,19.0s
WMQ Urumqi 42.04 297 P **P** **13 14 43.8 +0.7**
WMQ pP pP 13 14 51.0 -0.9
WMQ sP sP 13 14 56.5 +1.0
WMQ PP **PP** **13 16 24.6 +4.1**
WMQ S **S** **13 21 00.1 -0.2**
WMQ ScS **ScS** **13 24 41.4 -2.0**
WMQ PMZ
comp=Z,180nm,0.6s
WMQ PMZ
comp=Z,1µm,6.6s
WMQ LN
comp=Z,7µm,15.6s
WMQ LE
comp=Z,2µm,15.6s
WMQ LZ
comp=Z,3µm,21.4s
LOEI Loei 42.13 253 P **P** **13 14 42.0 -2.1**
comp=Z,65nm,1.2s
MRSI Marisa 42.13 213 P **P** **13 14 44.7 +0.7**
CHGN Chignik 42.23 45 *e*P **P** **13 14 44.2 -0.2**
RABL Rabaul 42.52 167 *e*P **P** **13 14 46.1 -1.1**
comp=Z,777nm,1.8s
RABL LR LR
comp=Z,3µm,20.0s
UTTA Uttaradit 42.53 254 P **P** **13 14 48.3 +1.0**
comp=Z,20nm,1.0s,comp=Z,193nm
CHAI Chaiyaphum 42.57 251 P **P** **13 14 48.4 +0.7**
comp=Z,37nm,1.1s,comp=Z,340nm
ZAA0 Zalesovo Array 42.69 312 *e*P **P** **13 14 48.1 -0.1**
ZALV Zalesovo Beam 42.69 312 P **P** **13 14 48.5 +0.3**
comp=Z,82nm,0.8s,baz=90,slow=6.9,SNR=191
ZALV PcP **PcP** **13 16 40.1 +0.5**
comp=Z,35nm,0.8s,baz=116,slow=3.4,SNR=2.7
ZALV ScP **ScP** **13 20 29.8 +1.5**
comp=Z,6.0nm,0.9s,baz=52,slow=2.4,SNR=3.7
ZALV S **S** **13 21 10.7 +1.2**
comp=Z,2.9nm,0.8s,baz=194,slow=12,SNR=2.5
ZALV LR LR 13 33 33.7
comp=Z,14µm,18.1s,baz=78,slow=38
ZALV Zalesovo Beam 42.69 312 P **P** **13 14 48.5 +0.3**
ZALV 13 16 40.1
ZALV S **S** **13 21 10.7 +1.2**
ZALV pmax pmax
comp=Z,83nm,0.8s
ZALV pmax pmax
comp=Z,35nm,0.9s
ZALV pmax pmax
comp=N,6.0nm,0.9s
ZALV smax smax
comp=N,3.0nm,0.8s
ZALV MLR MLR
comp=Z,14µm,18.1s
LAMP Lampang 42.77 256 P **P** **13 14 50.6 +1.3**
comp=Z,42nm,0.8s,comp=Z,335nm
SANI Sanana 42.85 206 P **P** **13 14 48.6 -1.2**
PBKT Sadao Pong 42.92 252 P **P** **13 14 54.9 +4.4**
comp=Z,105nm,1.2s,comp=Z,2µm
MSAI Masohi 43.12 202 P **P** **13 14 53.1 +1.1**
CMMT Chiang Mai 43.13 257 P **P** **13 14 52.9 +0.7**
comp=Z,148nm,2.0s,comp=Z,3µm
CHTO Chiang Mai 43.13 257 P **P** **13 14 53.0 +0.8**
comp=Z,656nm,1.4s,comp=Z,11µm
CHTO Chiang Mai 43.13 257 *e*P **P** **13 14 51.4 -0.8**
CHTO pmax pmax
comp=Z,266nm,1.4s
CHTO MLR MLR
comp=Z,7µm,19.0s
CHTO Chiang Mai 43.13 257 *e*P **P** **13 14 51.4 -0.8**
comp=Z,266nm,1.4s
CHTO LR LR
comp=Z,7µm,19.0s
LUWI Luwuk 43.15 211 P **P** **13 14 48.3 -4.0**
LUWI Luwuk 43.15 211 *e*P **P** **13 14 49.9 -2.4**
comp=Z,72nm,0.6s
LUWI LR LR
comp=Z,3µm,19.0s
NRIK Noril'sk 43.32 335 P **P** **13 14 53.3 +0.3**
comp=Z,32nm,1.0s,baz=107,slow=9.7,SNR=35
NRIK S **S** **13 21 16.3 -2.0**
comp=Z,6.5nm,0.8s,baz=116,slow=8.0,SNR=2.3
NRIK LR LR 13 33 58.0
comp=Z,24µm,19.3s,baz=108,slow=38
CM31 Chiang Mai Arr 43.34 256 *e*P **P** **13 14 55.1 +1.2**
CMAR Chiang Mai Arr 43.34 256 P **P** **13 14 54.9 +1.0**
comp=Z,33nm,0.8s,baz=46,slow=6.6,SNR=106
CMAR S **S** **13 21 21.7 +1.8**
comp=Z,0.4nm,0.3s,baz=14,slow=6.3,SNR=3.0
CMAR LR LR 13 35 51.8
comp=Z,5µm,18.7s,baz=50,slow=40
CMAR Chiang Mai Arr 43.34 256 P **P** **13 14 54.9 +1.0**
CMAR S **S** **13 21 21.7 +1.8**
CMAR pmax pmax
comp=Z,35nm,0.8s
CMAR MLR MLR
comp=Z,5µm,18.7s
CM01 Chiang Mai Arr 43.35 256 *e*P **P** **13 14 54.3 +0.3**
SUKH Sukhothai 43.39 255 P **P** **13 14 55.3 +1.0**
comp=Z,32nm,0.9s,comp=Z,284nm
NVS Novosibirsk 43.57 313⇑ *i*P **P** **13 14 55.9 +0.6**
NVS *e*S **S** **13 21 19.3 -3.1**
NVS pmax pmax
comp=E,140nm,0.5s
NVS pmax pmax
comp=Z,180nm,0.5s
NVS smax smax
comp=E,132nm,1.9s
ZSN Zaisan 43.64 302 *i* P **P** **13 14 52.8 -3.3**
comp=E,1µm,1.1s
ZSN *i* S **S** **13 21 21.1 -2.7**
ZSN LR LR 13 33 25.7
comp=E,4µm,13.2s
SRAK Srakaew 43.73 249 P **P** **13 14 54.9 -2.1**
comp=E,195nm,1.0s,comp=E,2µm
TT01 Tatalina 43.82 35 *e*P **P** **13 14 58.3 +1.1**
TTA Tatalina 43.83 35 *e*P **P** **13 14 58.9 +1.5**
TTA pmax pmax
comp=Z,24nm,0.9s
TTA Tatalina 43.83 35 *e*P **P** **13 14 58.9 +1.5**
comp=Z,24nm,0.9s
LSA Lhasa 43.85 276 P **P** **13 14 59.9 +1.5**
LSA S **S** **13 21 26.3 -1.7**
LSA PMZ
comp=Z,25nm,1.1s
LSA PMZ
comp=Z,1µm,12.3s
LSA LN
comp=Z,3µm,20.3s
LSA LE
comp=Z,5µm,16.4s
LSA LZ
comp=Z,8µm,19.3s
LSA Lhasa 43.85 276 *e*P **P** **13 14 59.5 +1.1**
LSA pmax pmax
comp=Z,73nm,0.6s
LSA MLR MLR
comp=Z,8µm,21.0s
LSA Lhasa 43.85 276 *e*P **P** **13 14 59.5 +1.1**
comp=Z,73nm,0.6s
LSA LR LR
comp=Z,8µm,21.0s
SVW2 Sparrevohn 43.88 38 *e*P **P** **13 14 59.2 +1.4**
comp=Z,72nm,1.0s
SVW2 LR LR
comp=Z,3µm,20.0s
BNDI Bandanaira 43.97 200 P **P** **13 14 58.0 -0.8**
PCI Palu 44.30 215 P **P** **13 15 01.5 -0.1**
comp=E,385nm,1.3s,comp=Z,5µm
BTM Bintulu 44.31 226⇑ P **P** **13 15 02.2 +0.5**
CHBT CHBT 44.35 247 P **P** **13 15 03.6 +1.7**
comp=Z,125nm,1.0s,comp=Z,2µm
UMPA Umpang Tak 44.74 254 P **P** **13 15 08.2 +3.0**
comp=Z,30nm,1.1s,comp=Z,484nm
OHAK Old Harbor 45.04 43 *e*P **P** **13 15 07.9 +0.9**
comp=Z,98nm,0.9s
OHAK LR LR
comp=Z,3µm,20.0s
SHL Shillong 45.13 270⇑ *i*P **P** **13 15 09.0 +0.7**
SHL *e*S **S** **13 21 48.0 +1.9**
MK01 Makanchi Array 45.18 302 *e*P **P** **13 15 08.6 +0.3**
MK31 Makanchi Array 45.18 302 *i* P **P** **13 15 08.7 +0.4**
MK31 pmax pmax
comp=Z,135nm,0.6s
MK31 Makanchi Array 45.18 302 *e*P **P** **13 15 08.7 +0.4**
MKAR Makanchi Array 45.18 302 P **P** **13 15 09.0 +0.7**
comp=Z,108nm,0.8s,baz=83,slow=9.9,SNR=428
MKAR S **S** **13 21 46.0 0.0**
comp=Z,2.3nm,0.8s,baz=225,slow=20,SNR=2.6
MKAR LR LR 13 34 04.2
comp=Z,6µm,19.1s,baz=79,slow=36
MKAR PKPPKP P'P'df 13 46 39.0 -11
comp=Z,0.4nm,0.7s,baz=45,slow=0.9,SNR=3.6
TARA Tarawa 45.19 136 PFAKE
TARA LR LR 13 15 20.0 +11
comp=Z,9µm,21.0s
RSO Redoubt South 45.25 39 *e*P **P** **13 15 09.8 +0.9**
PATY Pattaya 45.31 248 P **P** **13 15 11.6 +2.0**
comp=Z,36nm,0.8s
MAKZ Makanchi 45.39 302 P **P** **13 15 10.3 +0.4**
MAKZ pmax pmax
comp=Z,192nm,0.8s
MAKZ Makanchi 45.39 302 *e*P **P** **13 15 10.4 +0.4**
comp=Z,184nm,0.7s
MAKZ LR LR
comp=Z,6µm,20.0s
KDAK Kodiak Island 45.39 42 *i* P **P** **13 15 10.6 +0.8**
KDAK Kodiak Island 45.39 42 *e*P **P** **13 15 10.0 +0.2**
comp=Z,102nm,0.7s
KDAK LR LR
comp=Z,4µm,19.0s
SBUM Sibu 45.41 227 *e*P **P** **13 15 11.3 +0.9**
comp=Z,244nm,1.4s
SBUM LR LR
comp=Z,3µm,20.0s
PPLA Purkeypile 45.57 35 *e*P **P** **13 15 13.4 +2.1**
comp=Z,317nm,1.6s
PPLA LR LR
comp=Z,2µm,19.0s
SPU Mount Spurr 45.60 38 *e*P **P** **13 15 12.6 +1.1**
SRDT SRDT 45.69 252 P **P** **13 15 14.6 +1.9**
comp=Z,275nm,1.0s,comp=Z,6µm
SEM Semipalatinsk 45.85 307 *i* P **P** **13 15 11.5 -2.1**
comp=Z,1µm,1.1s
SEM *i* PP **PP** **13 16 59.8 -1.3**
SEM *i* S **S** **13 21 54.0 -1.6**
SEM LR LR 13 34 32.7
comp=Z,4µm,13.7s
KDI Kendari 45.86 210 P **P** **13 15 14.9 +1.0**
comp=Z,140nm,2.4s,comp=Z,3µm
CNPM China Poot 46.03 40 *e*P **P** **13 15 16.1 +1.3**
comp=Z,62nm,1.1s
CNPM LR LR
comp=Z,2µm,18.0s
JOHN Johnston Islan 46.11 104 PFAKE 13 15 30.0 +14
JOHN LR LR
comp=Z,7µm,20.0s
BPAW Bear Paw Mtn. 46.16 34 *e*P **P** **13 15 17.1 +1.3**
comp=Z,7.6nm,0.9s
BPAW LR LR
comp=Z,2µm,20.0s
KTH Kantishna Hill 46.17 34 *e*P **P** **13 15 17.4 +1.5**
comp=Z,114nm,1.0s
KTH LR LR
comp=Z,2µm,18.0s
BRLK Bradley Lake 46.20 40 *e*P **P** **13 15 17.0 +0.8**
comp=Z,43nm,0.8s
BRLK LR LR
comp=Z,4µm,19.0s
TTSI Tana Toraja 46.21 214 P **P** **13 15 16.5 -0.2**
PHET Kaeng Krachan 46.23 250 P **P** **13 15 18.8 +1.9**
comp=Z,90nm,0.9s,comp=Z,649nm
MLY Manley 46.30 32 *e*P **P** **13 15 17.7 +0.7**
comp=Z,108nm,1.0s
MLY LR LR
comp=Z,3µm,21.0s
TRF Thorofare Moun 46.45 35 *e*P **P** **13 15 19.3 +1.0**
comp=Z,53nm,0.8s
TRF LR LR
comp=Z,3µm,18.0s
COLD Coldfoot 46.66 29 *e*P **P** **13 15 21.1 +1.4**
comp=Z,33nm,0.8s
COLD LR LR
comp=Z,3µm,18.0s
RC01 Rabbit Creek A 46.72 38 *e*P **P** **13 15 20.2 0.0**
comp=Z,97nm,0.7s
RC01 LR LR
comp=Z,3µm,20.0s
MTKI Muara Teweh, K 46.75 221 P **P** **13 15 21.8 +0.8**
KURK Kurchatov 46.82 308 P **P** **13 15 21.2 0.0**
KURK Kurchatov 46.82 308 *e*P **P** **13 15 21.5 +0.4**
comp=Z,5µm,0.6s
KURK S **S** **13 22 09.1 -0.4**
KURK LR LR
comp=Z,27µm,20.0s
BWN Browne 46.83 34 *e*P **P** **13 15 23.1 +2.1**
comp=Z,289nm,0.9s
BWN LR LR
comp=Z,3µm,18.0s
KURBB Kurchatov Arra 46.90 308 P **P** **13 15 22.1 +0.4**
comp=Z,277nm,0.6s,baz=82,slow=8.1,SNR=776
KURBB S **S** **13 22 09.1 -1.5**
comp=Z,3.2nm,1.0s,baz=82,slow=14,SNR=2.9
SEW Seward 46.91 39 *e*P **P** **13 15 21.9 +0.3**
comp=Z,99nm,0.9s
SEW LR LR
comp=Z,3µm,20.0s
SAUI Saumlaki 46.95 197 P **P** **13 15 21.0 -1.4**
PMR Palmer 47.00 37 *e*P **P** **13 15 22.9 +0.5**
PMR pmax pmax
comp=Z,117nm,0.9s
PMR MLR MLR
comp=Z,2µm,19.0s
PMR Palmer 47.00 37 *e*P **P** **13 15 22.9 +0.5**
comp=Z,117nm,0.9s
PMR LR LR
comp=Z,2µm,19.0s
SPSI Sidrap Palu 47.05 213 P **P** **13 15 22.9 -0.4**
MCK McKinley 47.06 34 *e*P **P** **13 15 23.8 +1.0**
MCK pmax pmax
comp=Z,80nm,0.9s
MCK MLR MLR
comp=Z,3µm,19.0s
MCK McKinley 47.06 34 *e*P **P** **13 15 23.8 +1.0**
comp=Z,80nm,0.9s
MCK LR LR
comp=Z,3µm,19.0s
PMG Port Moresby 47.06 175 P **P** **13 15 23.3 0.0**
comp=Z,153nm,0.8s,baz=60,slow=3.8,SNR=63
PMG Port Moresby 47.06 175*d* *i*P **P** **13 15 23.0 -0.3**
PMG MLR MLR
comp=Z,6µm,14.0s
PMG Port Moresby 47.06 175 *e*P **P** **13 15 23.1 -0.2**
comp=Z,164nm,0.8s
PMG LR LR
comp=Z,2µm,19.0s
RND Reindeer 47.09 35 *e*P **P** **13 15 23.4 +0.2**
RND pmax pmax
comp=Z,132nm,1.1s
RND MLR MLR
comp=Z,4µm,18.0s
RND Reindeer 47.09 35 *e*P **P** **13 15 23.4 +0.2**
comp=Z,132nm,1.1s
RND LR LR
comp=Z,4µm,18.0s
KSM Kuching 47.32 228 *e*P **P** **13 15 26.8 +1.4**
comp=Z,59nm,0.7s
MDM Murphy Dome 47.37 32 *e*P **P** **13 15 26.1 +0.9**
comp=Z,174nm,1.0s
MDM LR LR
comp=Z,2µm,19.0s
SML Sawmill 47.37 37 *e*P **P** **13 15 26.2 +0.9**
SML pmax pmax
comp=Z,26nm,0.8s
SML MLR MLR
comp=Z,2µm,18.0s
SML Sawmill 47.37 37 *e*P **P** **13 15 26.2 +0.9**
comp=Z,26nm,0.8s
SML LR LR
comp=Z,2µm,18.0s
WRH Wood River Hil 47.43 33 *e*P **P** **13 15 26.1 +0.4**
comp=Z,69nm,0.8s
WRH LR LR
comp=Z,4µm,18.0s
COLA College 47.53 33*d* *i*P **P** **13 15 28.1 +1.7**
COLA pmax pmax
comp=Z,37nm,0.9s
COLA MLR MLR
comp=Z,2µm,15.0s
COLA College 47.53 33 *e*P **P** **13 15 27.8 +1.4**
comp=Z,77nm,0.8s
COLA LR LR
comp=Z,2µm,19.0s
CCB Clear Creek Bu 47.55 33 *e*P **P** **13 15 26.9 +0.3**
comp=Z,43nm,1.1s
CCB LR LR
comp=Z,3µm,18.0s
SHLS Shalkode 47.71 298 *i* P **P** **13 15 27.1 -1.4**
comp=Z,942nm,0.9s
SHLS *i* PP **PP** **13 17 19.0 -1.2**
SHLS *i* S **S** **13 22 21.8 -1.0**
SHLS LR LR 13 35 53.8
comp=Z,4µm,15.7s
DHY Denali Highway 47.77 35 *e*P **P** **13 15 29.0 +0.4**
comp=Z,56nm,1.0s
DHY LR LR
comp=Z,2µm,18.0s
STKI Sintang 47.78 226 P **P** **13 15 30.3 +1.3**
SCM Sheep Creek Mo 47.85 37 PFAKE 13 15 40.0 +11
SCM LR LR
comp=Z,2µm,19.0s
HDA Harding Lake 47.92 33 *e*P **P** **13 15 29.9 +0.3**
comp=Z,104nm,1.0s
HDA LR LR
comp=Z,3µm,21.0s
ILAR Eielson Array 47.94 33 P **P** **13 15 30.1 +0.5**
comp=Z,39nm,0.8s,baz=263,slow=6.2,SNR=203
ILAR LR LR 13 39 46.0
comp=Z,2µm,18.3s,baz=275,slow=41
ILB Eielson Array 47.94 33 *e*P **P** **13 15 29.8 +0.1**
IL1 Eielson Array 47.94 33 *e*P **P** **13 15 29.7 0.0**
KAPI Kappang 48.00 213 *e*P **P** **13 15 31.1 +0.4**
comp=Z,207nm,1.1s
KPKS Kokpek 48.47 298 *i* P **P** **13 15 32.9 -1.3**
comp=Z,1µm,1.1s
KPKS *i* PP **PP** **13 17 26.0 -0.8**
KPKS *i* S **S** **13 22 32.5 -0.7**
KPKS LR LR 13 34 50.3
comp=Z,4µm,14.8s
MID Middleton Isla 48.53 40 *e*P **P** **13 15 35.7 +1.5**
MID pmax pmax
comp=Z,51nm,0.9s
MID Middleton Isla 48.53 40 *e*P **P** **13 15 35.7 +1.5**
comp=Z,51nm,0.9s
KLU Klutina 48.54 37 *e*P **P** **13 15 35.6 +1.2**
comp=Z,105nm,0.9s
KLU LR LR
comp=Z,2µm,18.0s
FYU Fort Yukon 48.60 30 *e*P **P** **13 15 36.9 +2.2**
comp=Z,106nm,0.8s
FYU LR LR
comp=Z,2µm,20.0s
DIV Divide 48.64 38 *e*P **P** **13 15 36.7 +1.5**
comp=Z,135nm,0.9s
DIV LR LR
comp=Z,3µm,21.0s
PAX Paxson 48.64 35 *e*P **P** **13 15 39.0 +3.7**
PAX pmax pmax
comp=Z,33nm,0.9s
PAX MLR MLR
comp=Z,4µm,18.0s
PAX Paxson 48.64 35 *e*P **P** **13 15 39.0 +3.7**
comp=Z,33nm,0.9s
PAX LR LR
comp=Z,4µm,18.0s
RAMN Ramite 48.66 275 *e*P **P** **13 15 36.8 +0.8**
comp=Z,523nm,0.5s
BSSI Bau Bau, Buton 48.70 211 P **P** **13 15 36.4 +0.3**
SURA Surathani 48.71 246 P **P** **13 15 38.7 +2.5**
comp=Z,57nm,1.1s,comp=Z,2µm
EYAK Cordova Ski Ar 48.71 38 *e*P **P** **13 15 36.8 +1.2**
comp=Z,106nm,0.9s
SATY Saty 48.78 298 *i* P **P** **13 15 35.4 -1.2**
comp=Z,775nm,0.9s
SATY *i* PP **PP** **13 17 28.9 -0.8**
SATY *i* S **S** **13 22 37.7 -0.1**
SATY LR LR 13 36 33.6
comp=Z,6µm,14.3s
GUN Gumba 48.78 276 *e*P **P** **13 15 38.1 +1.0**
comp=Z,628nm,0.5s
BBKI Banjar Baru 48.93 220 P **P** **13 15 38.0 +0.1**
BMRM Bremner River 49.22 38 *e*P **P** **13 15 41.0 +1.3**
comp=Z,134nm,0.9s
BMRM LR LR
comp=Z,2µm,19.0s
DOT Dot Lake 49.23 34 *e*P **P** **13 15 40.3 +0.7**
comp=Z,128nm,0.7s
RAGM Ragged Mountai 49.25 39 *e*P **P** **13 15 41.2 +1.3**
comp=Z,137nm,0.9s
RAGM LR LR
comp=Z,3µm,18.0s
KKN Kakani 49.31 276 *e*P **P** **13 15 41.9 +0.9**
comp=Z,370nm,0.5s
KKN Kakani 49.31 276 *e*P **P** **13 15 41.9 +0.9**
comp=Z,394nm,0.5s
PKIN Phulchoki 49.32 276 *e*P **P** **13 15 42.1 +1.0**
comp=Z,231nm,0.7s
SKLT Songkhla 49.37 243 P **P** **13 15 42.9 +1.6**
comp=Z,102nm,1.0s,comp=Z,2µm
HNR Honiara 49.41 159 P **P** **13 15 40.7 -0.7**
comp=Z,46nm,0.7s,baz=121,slow=7.0,SNR=6.2
HNR PP **PP** **13 17 33.3 -2.6**
comp=Z,54nm,0.8s,baz=181,slow=22,SNR=2.3
HNR Honiara 49.41 159 *e*P **P** **13 15 42.4 +1.0**
comp=Z,233nm,1.0s
HNR PP **PP** **13 17 33.3 -2.6**
HNR LR LR

comp=Z,9μm,21.0s
MENT Mentasta 49.44 35 *e*P **P 13 15 43.0 +1.7**
comp=Z,78nm,0.8s
MENT LR LR
comp=Z,3μm,18.0s
SURT Suratani 49.45 246 P **P 13 15 44.3 +2.4**
comp=Z,50nm,1.3s,comp=Z,1μm
DMN Daman 49.53 276 *e*P **P 13 15 43.4 +0.7**
comp=Z,196nm,0.5s
TRTT Trang 49.57 244 P **P 13 15 44.6 +1.8**
comp=Z,78nm,1.3s,comp=Z,2μm
MDOK Medeo 49.70 298 *i* P **P 13 15 42.8 -0.8**
comp=Z,1μm,1.1s
MDOK *i* PP **PP 13 17 38.2 +0.1**
MDOK *i* S **S 13 22 50.6 -0.1**
MDOK LR LR 13 35 26.6
comp=Z,4μm,15.8s
GKN Gorkha 49.72 277 *e*P **P 13 15 44.8 +0.8**
comp=Z,472nm,0.5s
AAA Alma-Ata 49.73 299 *e*P **P 13 15 45.6 +1.8**
AAA *e*S **S 13 22 54.7 +3.7**
AAA pmax pmax
comp=Z,2μm,2.5s
AAA smax smax
comp=E,2μm,6.6s
AAA MLR MLR
comp=Z,8μm,16.0s
PBKI Pangkalan Bun 49.96 224 P **P 13 15 46.6 +0.9**
CRQM Cirque 49.96 38 *e*P **P 13 15 46.3 +0.8**
comp=Z,202nm,0.8s
CRQM LR LR
comp=Z,4μm,20.0s
KUU Kurty 49.97 299 *i* P **P 13 15 44.5 -1.1**
comp=Z,3μm,1.0s
KUU *i* PP **PP 13 17 39.6 -0.8**
KUU *i* S **S 13 22 54.1 0.0**
KUU LR LR 13 36 42.3
comp=Z,3μm,15.4s
MMRI Maumere 50.30 208 P **P 13 15 48.0 -0.2**
MMRI Maumere 50.30 208 *e*P **P 13 15 48.1 -0.2**
comp=Z,240nm,1.3s
EGAK Eagle 50.39 33 *e*P **P 13 15 49.2 +0.8**
comp=Z,38nm,0.9s
EGAK LR LR
comp=Z,2μm,19.0s
PKDT Phuket 50.51 246 P **P 13 15 52.0 +2.1**
comp=Z,277nm,1.2s,comp=Z,4μm
SOEI Soe 50.62 205 P **P 13 15 50.5 -0.3**
SOEI Soe 50.62 205 *e*P **P 13 15 49.7 -1.1**
comp=Z,325nm,1.0s
SOEI LR LR
comp=Z,2μm,22.0s
KOLN Koldanda 50.64 277 *e*P **P 13 15 51.8 +0.7**
comp=Z,163nm,0.5s
KULM Kulim 50.68 241 *e*P **P 13 15 52.3 +1.1**
comp=Z,74nm,1.0s
KULM LR LR
comp=Z,4μm,20.0s
TKM2 Tokmak 2 50.78 298 *e*P **P 13 15 53.2 +1.3**
TKM2 pmax pmax
comp=Z,212nm,0.6s
TKM2 MLR MLR
comp=Z,6μm,18.0s
TKM2 Tokmak 2 50.78 298 *e*P **P 13 15 53.2 +1.3**
comp=Z,212nm,0.6s
TKM2 LR LR
comp=Z,6μm,18.0s
PYUN Piuthan 50.97 278 *e*P **P 13 15 54.5 +0.9**
comp=Z,546nm,0.5s
IPM Ipoh 51.00 240 *e*P **P 13 15 53.9 +0.2**
comp=Z,135nm,0.9s
IPM LR LR
comp=Z,3μm,19.0s
VOSK Vostochnaya 51.06 312 *e*P **P 13 15 53.7 +0.1**
VOSK pmax pmax
comp=Z,137nm,0.8s
VOSK MLR MLR
comp=Z,9μm,18.0s
VOSK Vostochnaya 51.06 312 *e*P **P 13 15 53.7 +0.1**
comp=Z,137nm,0.8s
VOSK LR LR
comp=Z,9μm,18.0s
MYKOM Kota Tinggi 51.09 235 *e*P **P 13 15 55.4 +1.1**
comp=Z,131nm,1.3s
MYKOM LR LR
comp=Z,2μm,20.0s
TPRI Tanjung Pinang 51.31 234 P **P 13 15 57.6 +1.6**
BVA0 Borovoye Array 51.34 312 *i* P **P 13 15 55.8 +0.1**
BVA0 pmax pmax
comp=Z,151nm,1.3s
BVAR Borovoye Array 51.34 312 P **P 13 15 56.4 +0.7**
comp=Z,94nm,0.8s,baz=76,slow=8.2,SNR=237
BVAR PP **PP 13 17 54.0 +1.4**
comp=Z,6.0nm,0.5s,baz=220,slow=36,SNR=2.2
BVAR S **S 13 23 14.9 +2.0**
comp=Z,1.1nm,0.4s,baz=245,slow=41,SNR=2.2
BVAR LR LR 13 39 01.6
comp=Z,10μm,18.5s,baz=77,slow=38
BVAR Borovoye Array 51.34 312 P **P 13 15 56.4 +0.7**
BVAR 13 17 54.0
BVAR S **S 13 23 14.9 +2.0**
BVAR pmax pmax
comp=Z,93nm,0.8s
BVAR pmax pmax
comp=Z,6.0nm,0.5s
BVAR smax smax
comp=N,1.0nm,0.4s
BVAR MLR MLR
comp=Z,10μm,18.5s
BRVK Borovoye 51.39 312*c i*P **P 13 15 56.7 +0.6**
BRVK pmax pmax
comp=Z,302nm,0.8s
BRVK MLR MLR
comp=Z,22μm,15.0s
BRVK Borovoye 51.39 312 *e*P **P 13 15 56.7 +0.6**
comp=Z,293nm,0.8s
BRVK LR LR
comp=Z,24μm,18.0s
COEN Coen 51.47 180 *e*P **P 13 15 56.9 0.0**
comp=Z,329nm,1.0s
COEN LR LR
comp=Z,2μm,19.0s
FRU Bishkek 51.49 299⇑ *i*P **P 13 15 57.5 +0.4**
FRU *i* 13 16 04.0
FRU *i* 13 17 58.0
FRU *e*S **S 13 23 17.0 +1.6**
FRU *i* 13 23 27.0
FRU pmax pmax
comp=Z,430nm,1.9s
FRU smax smax
comp=E,770nm,3.5s
FRU MLR MLR
comp=E,9μm,16.5s
AAK Ala-Archa 51.64 298 P **P 13 15 59.3 +1.0**
comp=E,61nm,0.8s,baz=106,slow=4.0,SNR=84
AAK PP **PP 13 17 57.7 +1.9**
comp=E,13nm,0.9s,baz=100,slow=8.1,SNR=2.9
AAK S **S 13 23 20.1 +2.4**
comp=E,1.5nm,0.3s,baz=212,slow=22,SNR=3.0
AAK Ala-Archa 51.64 298 P **P 13 15 58.4 0.0**
AAK pmax pmax
comp=Z,113nm,0.9s
AAK Ala-Archa 51.64 298 P **P 13 15 59.6 +1.3**
SNR=49
AAK P **P 13 15 59.6 +1.3**
SNR=49
AAK Ala-Archa 51.64 298 *e*P **P 13 15 59.0 +0.6**
comp=Z,100nm,0.7s
AAK PP **PP 13 17 57.7 +1.9**
AAK S **S 13 23 20.1 +2.4**
AAK LR LR
comp=Z,6μm,19.0s
KSH Kashi 51.66 294 P **P 13 16 03.3 +4.8**
KSH pP sP 13 16 13.5 +2.5
KSH PcP **PcP 13 17 16.5 +4.6**
KSH PP **PP 13 18 02.1 +6.1**
KSH S **S 13 23 23.6 +5.6**
KSH ScS **ScS 13 25 47.3 +0.5**
KSH SS **SS 13 26 57.9 +3.7**
KSH PMZ
comp=Z,51nm,0.7s
KSH LN
comp=Z,9μm,15.8s
KSH LE
comp=Z,6μm,16.0s
MTN Manton Dam 51.69 196 *e*P **P 13 15 57.6 -1.0**
comp=Z,305nm,0.8s
MTN LR LR
comp=Z,1μm,22.0s
EKS2 Erkin-Say 52.13 299 P **P 13 16 02.8 +0.8**
EKS2 pmax pmax
comp=Z,120nm,0.8s
EKS2 Erkin-Say 52.13 299 *e*P **P 13 16 02.8 +0.8**
comp=Z,120nm,0.8s
EKS2 LR LR
comp=Z,9μm,18.0s
ZRNK Zerenda 52.17 312 *e*P **P 13 16 02.4 +0.5**
ZRNK pmax pmax
comp=Z,104nm,0.7s
ZRNK MLR MLR
comp=Z,10μm,20.0s
ZRNK Zerenda 52.17 312 *e*P **P 13 16 02.4 +0.5**
comp=Z,104nm,0.7s
ZRNK LR LR
comp=Z,10μm,20.0s
PLAI Plampang 52.26 213 P **P 13 16 01.5 -1.4**
OPA Opana 52.41 90 *e*P **P 13 16 05.7 +1.6**
OPA pmax pmax
comp=Z,149nm,0.9s
OPA Opana 52.41 90 *e*P **P 13 16 05.7 +1.6**
comp=Z,149nm,0.9s
PTH Pithoragarh 52.48 281 *e*P **P 13 16 03.9 -0.9**
LGTI Lohaghat 52.50 281 *e*P **P 13 16 05.7 +1.0**
KIP Kipapa 52.54 91 *e*P **P 13 16 07.2 +2.1**
KIP pmax pmax
comp=Z,448nm,0.9s
KIP Kipapa 52.54 91 *e*P **P 13 16 07.2 +2.1**
comp=Z,448nm,0.9s
TWSI Taliwang, Sumb 52.57 214 P **P 13 16 04.1 -1.2**
BWNR Bhubaneshwar 52.62 268 *e*P **P 13 16 05.2 -0.4**
DHAK Deception Hill 52.70 39 *e*P **P 13 16 09.1 +3.3**
comp=Z,142nm,1.4s
DHAK LR LR
comp=Z,2μm,18.0s
PPBI Pangkal Pinang 52.71 230 P **P 13 16 07.8 +1.5**
INK Inuvik 52.94 28 P **P 13 16 08.2 +0.9**
comp=Z,7.8nm,0.5s,baz=299,slow=5.5,SNR=35
INK LR LR 13 39 46.5
comp=Z,2μm,21.3s,baz=280,slow=37
INK Inuvik 52.94 28 *e*P **P 13 16 08.5 +1.2**
INK pmax pmax
comp=Z,47nm,0.7s
INK Inuvik 52.94 28 *e*P **P 13 16 08.5 +1.2**
comp=Z,47nm,0.7s
ABJI Asem Bagus 52.97 217 P **P 13 16 08.5 +0.3**
MNAS Manas 53.08 299 P **P 13 16 09.8 +0.8**
MNAS pmax pmax
comp=Z,339nm,0.8s
DNP Denpasar 53.28 216 P **P 13 16 09.7 -0.7**
LHMI Lhok Sumawe 53.33 244 PFAKE 13 16 20.0 +9.1
LHMI LR LR
comp=Z,4μm,21.0s
TSI Tuntungan 53.40 242 P **P 13 16 12.4 +1.0**
JAGI Jajag, Banyuwa 53.59 217 P **P 13 16 11.6 -1.2**
JAGI Jajag, Banyuwa 53.59 217 *e*P **P 13 16 11.1 -1.7**
comp=Z,52nm,0.8s
PSI Prapat 53.65 241 *e*P **P 13 16 13.0 -0.4**
PSI pmax pmax
comp=Z,79nm,0.9s
PSI MLR MLR
comp=Z,3μm,21.0s
PSI Prapat 53.65 241 *e*P **P 13 16 13.0 -0.4**
comp=Z,79nm,0.9s
PSI LR LR
comp=Z,3μm,21.0s
GMJI Gumukmas 53.77 218 P **P 13 16 12.8 -1.2**
JMBI JAMBI 53.84 233 P **P 13 16 16.0 +1.4**
NGJI Ngawi 53.99 221 P **P 13 16 16.9 +1.2**
BKNI Bangkinang 54.03 237 P **P 13 16 18.0 +1.9**
comp=Z,428nm,1.1s,comp=Z,10μm
BKNI Bangkinang 54.03 237 *e*P **P 13 16 17.5 +1.5**
comp=Z,481nm,1.0s
BKNI LR LR
comp=Z,2μm,20.0s
SKAG Skagway 54.05 39 *e*P **P 13 16 17.8 +2.1**
comp=Z,66nm,1.1s
SKAG LR LR
comp=Z,2μm,20.0s
SDNR Sundarnagar 54.12 285 *e*P **P 13 16 14.3 -2.4**
KK31 Karatay Array 54.23 300 P **P 13 16 17.2 -0.1**
KK31 pmax pmax
comp=Z,111nm,0.9s
KKAR Karatay Array 54.23 300 P **P 13 16 18.0 +0.7**
KKAR pmax pmax
comp=Z,56nm,0.6s
KKAR Karatay Array 54.23 300 *e*P **P 13 16 17.7 +0.4**
comp=Z,56nm,0.6s
SMRI Semarang 54.25 222 P **P 13 16 20.4 +2.8**
comp=Z,395nm,1.3s,comp=Z,7μm
SMRI Semarang 54.25 222 *e*P **P 13 16 18.0 +0.4**
comp=Z,328nm,1.1s
PWJI Pagerwojo 54.37 220 P **P 13 16 17.8 -0.6**
comp=Z,319nm,1.2s,comp=Z,5μm
MLSI Meulaboh, Aceh 54.38 244 P **P 13 16 20.3 +1.6**
comp=Z,130nm,1.1s
JWA Jwalamukhi 54.45 285 *e*P **P 13 16 19.0 +0.1**
JWA *ex* x 13 16 29.0
TPTI 54.54 243 P **P 13 16 22.5 +2.7**
comp=Z,46nm,1.5s,comp=Z,1μm
BHK Bhakra 54.58 285 *e*P **P 13 16 20.0 0.0**
MNSI Mandailing Nat 54.66 238 P **P 13 16 21.0 +0.4**
comp=Z,67nm,0.8s,comp=Z,1μm
PONG Pong 54.70 286 *e*P **P 13 16 21.0 +0.2**
SDSI Sungai Dareh 54.72 235 P **P 13 16 22.7 +1.7**
comp=Z,239nm,1.2s,comp=Z,37μm
IUG Iuzhnay 54.91 299 *i* P **P 13 16 21.3 -1.0**
comp=Z,3μm,1.1s
IUG *i* PP **PP 13 18 24.6 -0.6**
IUG *i* S **S 13 24 02.4 +0.4**
IUG LR LR 13 38 55.8
comp=Z,2μm,15.4s
UGM Wanagama 54.94 221 P **P 13 16 23.1 +0.5**
comp=Z,526nm,1.2s
CHLP Challavanipeta 54.97 267 *e*P **P 13 16 23.1 +0.2**
CHLP IAmb IAmb 13 16 26.0
comp=Z,68nm,0.9s
CHLP *e*S **S 13 24 06.2 +3.1**
CHLP IVMs_BB IVMs_BB 13 42 02.1
comp=Z,1μm,15.8s
PPI Padang Panjang 55.04 237 P **P 13 16 24.0 +0.6**
comp=Z,58nm,1.0s,comp=Z,1μm
HPAH Hawaii Prepara 55.12 91 PFAKE 13 16 30.0 +6.0
HPAH LR LR
comp=Z,2μm,18.0s
KPJI Karang Pucung 55.30 223 P **P 13 16 25.0 -0.2**
comp=Z,239nm,1.3s,comp=Z,3μm
POHA Pohakuloa 55.39 91 *e*P **P 13 16 27.1 +0.8**
comp=Z,806nm,0.9s
MLOA Mauna Loa Obse 55.48 91 *e*P **P 13 16 28.9 +1.9**
LEM Lembang 55.60 225 P **P 13 16 33.2 +5.6**
LHSI Lahat 55.61 231 P **P 13 16 28.4 +0.9**
comp=Z,392nm,1.2s,comp=Z,4μm
KLI Kotabumi 55.62 229 P **P 13 16 28.3 +0.8**
comp=Z,288nm,1.4s,comp=Z,5μm
GSI Gunungsitoli 55.66 241 P **P 13 16 29.2 +1.3**
comp=Z,213nm,1.1s,comp=Z,8μm
GSI Gunungsitoli 55.66 241 *e*P **P 13 16 28.6 +0.8**
comp=Z,390nm,1.0s
GSI LR LR
comp=Z,4μm,20.0s
SVE Sverdlovsk 55.72 319*d i*P **P 13 16 29.0 +1.2**
SVE *e* 13 18 33.1
SVE *e*S **S 13 24 12.0 -0.1**
SVE *e* 13 27 51.6
SVE pmax pmax
comp=Z,163nm,0.8s
SVE MLR MLR
comp=Z,19μm,17.0s
SVE MLR MLR
comp=E,13μm,17.0s
KSI Kapahiang 56.05 232 P **P 13 16 30.8 +0.1**
comp=E,140nm,1.1s
CRAG Craig 56.35 43 PFAKE 13 16 40.0 +7.7
CRAG LR LR
comp=Z,2μm,19.0s
KASI Kota Agung 56.36 229 P **P 13 16 32.1 -0.7**
comp=Z,94nm,1.2s,comp=Z,1μm
WRAK Wrangell Islan 56.46 42 *e*P **P 13 16 36.5 +3.5**
comp=Z,33nm,0.9s
WRAK LR LR
comp=Z,2μm,19.0s
ARU Arti 56.93 319 P **P 13 16 37.2 +0.7**
comp=Z,108nm,0.8s,baz=78,slow=4.4,SNR=148
ARU S **S 13 24 29.2 +0.9**
comp=Z,1.4nm,0.5s,baz=4.5,slow=5.4,SNR=1.7
ARU Arti 56.93 319*c i*P **P 13 16 36.9 +0.5**
ARU 13 17 31.5
ARU 13 18 43.9
ARU PPP PPP 13 19 59.5
ARU S **S 13 24 32.6 +4.3**
ARU 13 26 22.5
ARU SS **SS 13 28 19.6 +3.4**
ARU pmax pmax
comp=Z,231nm,1.1s
ARU MLR MLR
comp=Z,17μm,17.0s
ARU Arti 56.93 319 *e*P **P 13 16 36.9 +0.5**
comp=Z,115nm,0.7s
ARU S **S 13 24 29.1 +0.9**
ARU LR LR
comp=Z,16μm,18.0s
DLBC Dease Lake 56.98 39 P **P 13 16 38.9 +2.1**
comp=Z,16nm,0.9s,baz=286,slow=7.8,SNR=28
DLBC Dease Lake 56.98 39 *e*P **P 13 16 39.1 +2.3**
comp=Z,105nm,1.4s
DLBC LR LR
comp=Z,2μm,19.0s
DZET Dzherino 57.06 296 P **P 13 16 38.4 +0.6**
DZET pmax pmax
comp=Z,248nm,0.7s
NGP Nagpur 57.52 273 *e*P **P 13 16 40.9 -0.2**
NGP IAmb IAmb 13 16 43.7
comp=Z,284nm,1.5s
NGP *ex* x 13 16 53.7
NGP *ex* x 13 16 57.5
comp=N,43nm,1.0s
PVM Polavaram 57.59 267 *e*P **P 13 16 42.0 +0.4**
PVM IAmb IAmb 13 16 44.2
comp=Z,64nm,0.9s
PVM *e*S **S 13 24 38.9 +1.0**
PVM IVMs_BB IVMs_BB 13 41 35.0
comp=Z,1μm,18.0s
CTAO Charters Tower 57.62 177 *e*P **P 13 16 40.5 -1.1**
CTAO MLR MLR
comp=Z,2μm,21.0s
CTAO Charters Tower 57.62 177 *e*P **P 13 16 40.5 -1.1**
comp=Z,2μm,1.9s
CTAO LR LR
comp=Z,2μm,21.0s
WRAB Tennant Creek 58.06 190*d i*P **P 13 16 43.8 -0.9**
WRAB MLR MLR
comp=Z,7μm,21.0s
WRAB Tennant Creek 58.06 190 *e*P **P 13 16 43.8 -0.9**
comp=Z,393nm,1.0s
WRAB LR LR
comp=Z,3μm,22.0s
WB2 Warramunga Arr 58.07 190 *e*P **P 13 16 43.7 -1.0**
comp=Z,298nm,0.8s
WRA Warramunga Arr 58.07 190 P **P 13 16 43.7 -1.0**
comp=Z,245nm,0.8s,baz=9.8,slow=7.3,SNR=403
WRA S **S 13 24 42.1 -1.7**
comp=Z,2.9nm,1.2s,baz=5.9,slow=13,SNR=6.9
WRA LR LR 13 41 06.1
comp=Z,716nm,21.8s,baz=35,slow=35
WRA PKP2ab 13 46 52.8
comp=Z,4.1nm,1.1s,baz=200,slow=2.1,SNR=6.1
FITZ Fitzroy Crossi 58.09 200 *e*P **P 13 16 45.0 +0.1**
comp=Z,456nm,1.5s
RPR Rampur 58.55 270 *e*P **P 13 16 48.5 +0.2**
RPR IAmb IAmb 13 16 50.6
comp=Z,102nm,0.9s
RPR *e*S **S 13 24 52.4 +1.9**
RPR IVMs_BB IVMs_BB 13 43 02.5
comp=Z,1μm,17.2s
KBL Kabul 58.74 291 *e*P **P 13 16 49.4 -0.3**
KBL pmax pmax
comp=Z,110nm,0.8s
KBL MLR MLR
comp=Z,7μm,18.0s
KBL Kabul 58.74 291 *e*P **P 13 16 49.4 -0.3**
comp=Z,110nm,0.8s
KBL LR LR
comp=Z,7μm,18.0s
AB31 Akbulak array 58.77 310 *i* P **P 13 16 49.4 0.0**
AB31 pmax pmax
comp=Z,41nm,0.6s
ABKAR Akbulak array 58.77 310 *e*P **P 13 16 49.7 +0.3**
comp=Z,98nm,0.5s
SRSP Sriramsagar 59.27 271 *e*P **P 13 16 52.9 -0.4**
SRSP IAmb IAmb 13 16 55.5
comp=Z,144nm,0.9s
SRSP *e*S **S 13 25 00.5 +0.8**
SRSP IVMs_BB IVMs_BB 13 44 09.7
comp=Z,1μm,18.3s
AKTO Aktyubinsk 59.45 312 P **P 13 16 54.5 +0.3**
comp=Z,89nm,0.8s,baz=71,slow=7.6,SNR=103
AKTO PP **PP 13 19 05.5 +0.3**
comp=Z,25nm,1.1s,baz=82,slow=15,SNR=1.8
AKTO S **S 13 25 01.8 +0.5**
comp=Z,0.6nm,0.3s,baz=223,slow=14,SNR=3.0
ADKI Addanki 59.69 267 *e*P **P 13 16 56.8 +0.6**
ADKI IAmb IAmb 13 16 59.0
comp=Z,64nm,1.1s
ADKI *e*S **S 13 25 07.1 +1.9**
ADKI IVMs_BB IVMs_BB 13 44 18.7
comp=Z,1μm,16.6s
HOPEN Hopen 59.73 346⇑ *i*P **P 13 16 56.5 +0.9**
HOPEN *e*S **S 13 25 05.6 +1.5**
NJS Nagarjunasagar 59.82 268 *e*P **P 13 16 57.2 +0.1**
NJS IAmb IAmb 13 16 59.3
comp=Z,41nm,1.0s
NJS *e*S **S 13 25 08.2 +1.4**
NJS IVMs_BB IVMs_BB 13 42 29.2
comp=Z,1μm,22.0s
HYB Hyderabad 59.93 269 *i* P **P 13 16 57.0 -0.9**
HYB *e*S **S 13 25 08.0 -0.4**
HYBB Hyderabad (bro 59.93 269 *e*P **P 13 16 57.8 -0.1**
HYBB IAmb IAmb 13 16 60.0
comp=Z,103nm,1.0s
HYBB *e*S **S 13 25 07.4 -1.0**
HYBB IVMs_BB IVMs_BB 13 43 30.2
comp=Z,1μm,18.7s
SPA0 Spitsbergen Ar 60.12 349 *e*P **P 13 16 59.3 +1.0**
SPA0 IAmb IAmb 13 17 01.7
comp=Z,38nm,0.8s
SPA0 *e*S **S 13 25 09.2 0.0**
SPA0 IAms_20 IAms_20 13 42 18.3
comp=Z,6μm,21.0s
SPA0 Spitsbergen Ar 60.12 349 *e*P **P 13 16 58.6 +0.3**
SPITS Spitsbergen Ar 60.12 349 P **P 13 16 57.7 -0.7**
comp=Z,19nm,0.6s,baz=96,slow=7.6,SNR=37
KBS Kingsbay 60.21 350⇑ *i*P **P 13 16 58.6 -0.3**
KBS IAmb IAmb 13 17 00.5
comp=Z,135nm,1.2s
KBS *e*S **S 13 25 11.5 +1.2**
KBS Kingsbay 60.21 350 *e*P **P 13 16 59.5 +0.6**
KBS pmax pmax
comp=Z,73nm,0.9s
KBS MLR MLR
comp=Z,2μm,18.0s
KBS Kingsbay 60.21 350 *e*P **P 13 16 59.5 +0.6**
comp=Z,73nm,0.9s
KBS LR LR
comp=Z,2μm,18.0s
SRLM Srisailam 60.40 268 *e*P **P 13 17 00.9 -0.2**
SRLM IAmb IAmb 13 17 03.1
comp=Z,41nm,0.9s
SRLM *e*S **S 13 25 11.2 -3.3**
SRLM IVMs_BB IVMs_BB 13 42 57.9
comp=Z,2μm,19.4s
RCLA Racherla 60.71 267 *e*P **P 13 17 03.1 -0.2**
RCLA IAmb IAmb 13 17 05.5
comp=Z,65nm,0.8s
RCLA *e*S **S 13 25 20.3 +1.9**
RCLA IVMs_BB IVMs_BB 13 45 35.1
comp=Z,2μm,22.3s
HSPB Hornsund (broa 61.07 348⇑ *i*P **P 13 17 05.6 +0.8**
HSPB IAmb IAmb 13 17 07.6
comp=Z,69nm,0.6s
HSPB *e*S **S 13 25 22.4 +1.1**
HSPB IVMs_BB IVMs_BB 13 44 07.0
comp=Z,2μm,20.2s
HSPB Hornsund (broa 61.07 348 *e*P **P 13 17 05.6 +0.8**
HSPB *e*S **S 13 25 22.5 +1.2**
SKHT Srikalahasti 61.10 265 *e*P **P 13 17 06.3 +0.5**
SKHT IAmb IAmb 13 17 08.7
comp=Z,81nm,0.8s
SKHT *e*S **S 13 25 25.3 +2.0**
SKHT IVMs_BB IVMs_BB 13 46 57.2

comp=Z,1µm,20.3s
KLRI Killari 61.12 271 *e*P **P 13 17 05.7 -0.4**
KLRI IAmb IAmb 13 17 07.4
comp=Z,128nm,0.7s
KLRI *e*S **S 13 25 20.8 -2.9**
KLRI IVMs_BB IVMs_BB 13 44 29.6
comp=Z,2µm,15.7s
RES Resolute Bay 61.44 15 P **P 13 17 07.6 +0.3**
comp=Z,34nm,1.0s,baz=321,slow=6.2,SNR=12
RES Resolute Bay 61.44 15 *e*P **P 13 17 08.5 +1.2**
RES pmax pmax
comp=Z,80nm,0.8s
RES Resolute Bay 61.44 15 *e*P **P 13 17 08.5 +1.2**
comp=Z,80nm,0.8s
AS01 Alice Springs 61.78 190 *e*P **P 13 17 08.8 -1.4**
AS31 Alice Springs 61.79 190 *e*P **P 13 17 09.5 -0.8**
comp=Z,33nm,1.1s
ASAR Alice Springs 61.79 190 P **P 13 17 09.8 -0.5**
comp=Z,35nm,0.5s,baz=3.6,slow=6.5,SNR=777
ASAR PP **PP 13 19 23.8 -3.0**
comp=Z,5.1nm,0.8s,baz=7.0,slow=8.4,SNR=2.2
ASAR LR LR 13 42 47.9
comp=Z,2µm,22.0s,baz=16,slow=35
ASAR PKP2bc 13 46 30.9
comp=Z,0.8nm,0.8s,baz=159,slow=1.8,SNR=5.9
LVZ Lovozero 62.13 336*d* i*P* **P 13 17 12.7 +0.6**
LVZ pmax pmax
comp=Z,71nm,1.0s
LVZ MLR MLR
comp=Z,6µm,17.0s
LVZ Lovozero 62.13 336 *e*P **P 13 17 12.4 +0.3**
comp=Z,79nm,1.0s
LVZ LR LR
comp=Z,6µm,19.0s
YKA Yellowknife Ar 62.29 31 P **P 13 17 13.8 +0.6**
comp=Z,7.1nm,0.7s,baz=300,slow=6.9,SNR=60
YKA PKPPKP P'P'df 13 46 14.6 -11
comp=Z,0.5nm,0.8s,baz=124,slow=2.8,SNR=5.9
APA Apatity 62.70 336⇑ *i*P **P 13 17 15.4 -0.5**
APA *i* PPP PPP 13 21 06.0
APA *i* S **S 13 25 36.0 -6.2**
APA *i* 13 27 03.0
APA *i* SSS SSS 13 32 30.0
APA pmax pmax
comp=Z,68nm,0.8s
APA MLR MLR
comp=Z,7µm,17.0s
MBWA Marble Bar 62.77 205 P **P 13 17 17.2 +0.3**
SNR=5.7
MBWA P **P 13 17 17.2 +0.3**
SNR=5.7
MBWA Marble Bar 62.77 205 *e*P **P 13 17 16.4 -0.5**
comp=Z,317nm,1.0s
POO Poona 63.04 273⇑ *i*P **P 13 17 18.0 -1.0**
comp=Z,90nm,1.0s
EIDS Eidsvold 63.21 172 *e*P **P 13 17 19.9 +0.2**
comp=Z,387nm,1.7s
EIDS LR LR
comp=Z,2µm,20.0s
DZM Mont Dzumac 63.31 156 *e*P **P 13 17 20.6 +0.1**
comp=Z,423nm,1.4s
DZM *e*S **S 13 25 46.5 -4.3**
comp=Z,3µm,28.1s
DZM *e*LQ LQ 13 33 07.8
comp=Z,13µm,31.8s
DZM *e*LR LR 13 36 06.2
comp=Z,9µm,22.8s
DZM Mont Dzumac 63.31 156 LR LR 13 41 11.7
comp=Z,5µm,21.9s,baz=324,slow=33
DZM Mont Dzumac 63.31 156 *e*P **P 13 17 20.1 -0.4**
comp=Z,344nm,1.4s
KEV Kevo 63.34 340 *e*P **P 13 17 20.3 +0.2**
KEV pmax pmax
comp=Z,51nm,0.9s
KEV MLR MLR
comp=Z,6µm,22.0s
KEV Kevo 63.34 340 *e*P **P 13 17 20.3 +0.2**
comp=Z,51nm,0.9s
KEV LR LR
comp=Z,6µm,22.0s
BOM Bombay 63.66 274 *ex* P **13 17 25.8 +2.9**
BOM *e*S **S 13 25 57.0 +1.5**
HAMF Hammerfest 63.67 341 *e*P **P 13 17 21.7 -0.5**
HAMF *e*S **S 13 25 53.5 -0.6**
ARA0 ARCESS Array S 63.90 340 *e*P **P 13 17 23.8 +0.1**
ARCES ARCESS Array B 63.90 340 P **P 13 17 24.4 +0.6**
comp=Z,28nm,0.8s,baz=61,slow=9.9,SNR=42
ARCES LR LR 13 50 13.4
comp=Z,5µm,18.6s,baz=54,slow=41
ARCES ARCESS Array B 63.90 340 P **P 13 17 24.4 +0.6**
ARCES pmax pmax
comp=Z,28nm,0.8s
ARCES MLR MLR
comp=Z,5µm,18.6s
ARE0 ARCESS Array S 63.90 340 *e*P **P 13 17 22.6 -1.2**
ARE0 *e*S **S 13 25 56.4 -0.6**
ARE0 *e*SS **SS 13 30 06.2 +1.5**
ARE0 IAMs_20 IAMs_20 13 45 23.0
comp=Z,6µm,20.3s
ARE0 ARCESS Array S 63.90 340 *e*P **P 13 17 24.0 +0.3**
comp=Z,64nm,1.3s
ARE0 LR LR
comp=Z,6µm,22.0s
KLMR Klimovskoe 64.03 328 *e*P **P 13 17 22.6 -2.2**
KLMR *e* 13 19 43.5
KLMR pmax pmax
comp=Z,106nm,1.3s
MSVF Nonsavu 64.04 143 *e*P **P 13 17 26.3 +0.9**
MSVF pmax pmax
comp=Z,89nm,1.0s
MSVF MLR MLR
comp=Z,5µm,20.0s
MSVF Nonsavu 64.04 143 *e*P **P 13 17 26.3 +0.9**
comp=Z,89nm,1.0s
MSVF LR LR
comp=Z,5µm,20.0s
PALK Pallekele 64.20 259 P **P 13 17 26.7 +0.1**
comp=Z,29nm,0.8s,baz=114,slow=0.5,SNR=5.3
PALK Pallekele 64.20 259 *e*P **P 13 17 26.2 -0.4**
comp=Z,31nm,0.9s
PALK LR LR
comp=Z,3µm,21.0s
XMAS Kiritimati 64.56 108 PFAKE 13 17 40.0 +11
XMAS LR LR
comp=Z,8µm,20.0s
KTK1 Kautokeino 64.85 340 *e*P **P 13 17 30.5 +0.4**
KTK1 *es*P **sP 13 17 43.3 +0.6**
NLWA Neilton Lookou 64.94 49 *e*P **P 13 17 33.0 +2.0**
comp=Z,66nm,0.9s
GEYT Alibeck 64.97 300 P **P 13 17 32.2 +0.8**
comp=Z,115nm,0.9s,baz=29,slow=3.4,SNR=128
GEYT LR LR 13 47 14.7
comp=Z,5µm,19.3s,baz=60,slow=37
A04D Lummi Island 64.97 47 P **P 13 17 32.1 +0.9**
baz=299
DAG Danmarks Havn 65.17 356⇑ *i*P **P 13 17 32.1 +0.1**
DAG pmax pmax
comp=Z,23nm,0.8s
DAG Danmarks Havn 65.17 356⇑ *i*P **P 13 17 32.1 +0.1**
comp=Z,31nm,0.8s
E03A Lebam 65.54 49 PFAKE 13 17 50.0 +15
E03A LR LR
comp=Z,1µm,18.0s
B05A Bryant 65.55 47 P **P 13 17 35.3 +0.4**
baz=300
TRO Tromso 65.56 342 *e*P **P 13 17 33.9 -0.7**
TRO IAmb IAmb 13 17 36.6
comp=Z,52nm,0.7s
TRO *e*PP **PP 13 19 59.0 +0.6**
TRO *e*S **S 13 26 15.8 -1.5**
TRO IVMs_BB IVMs_BB 13 50 25.1
comp=Z,2µm,18.7s
F03A Seaside 65.85 50 PFAKE 13 17 50.0 +13
F03A LR LR
comp=Z,1µm,19.0s
F04D Rainier, OR 66.10 49 P **P 13 17 40.1 +1.7**
baz=300
D05A Enumclaw 66.15 48 *e*P **P 13 17 40.3 +1.5**
comp=Z,374nm,1.8s
D05A LR LR
comp=Z,700nm,20.0s
AFI Afiamalu 66.32 132 LR LR 13 41 43.4
comp=Z,2µm,20.4s,baz=332,slow=32
G03D McMinnville, O 66.39 50 P **P 13 17 42.1 +1.8**
baz=300
OBSR Observation Ro 66.40 48 P **P 13 17 42.3 +1.6**
C06D Leavenworth 66.42 47 P **P 13 17 41.0 +0.5**
baz=301
TDL Tradedollar La 66.44 49 P **P 13 17 42.6 +1.8**
COR Corvallis 66.68 51 P **P 13 17 44.0 +1.8**
COR pmax pmax
comp=Z,59nm,1.0s
COR Corvallis 66.68 51 P **P 13 17 44.0 +1.8**
comp=Z,59nm,1.0s
KULLO Kullorsuaq 67.07 6 *i*P **P 13 17 44.1 -0.1**
KULLO pmax pmax
comp=Z,51nm,1.1s
KULLO Kullorsuaq 67.07 6 *i*P **P 13 17 44.1 -0.1**
comp=Z,51nm,1.1s
I03D Drain, OR 67.10 52 P **P 13 17 46.7 +1.8**
baz=301
H04A Detroit Lake 67.31 50 *e*P **P 13 17 47.1 +0.8**
comp=Z,70nm,1.1s
G05D Wamic, OR 67.55 50 P **P 13 17 47.5 -0.3**
baz=301
I04A Tendick Farm, 67.64 51 P **P 13 17 47.8 -0.5**
baz=301
MOS Moscow 67.66 324 *e*P **P 13 17 46.0 -2.2**
MOS *e* 13 18 03.8
MOS *e* 13 18 13.5
MOS *e* 13 20 16.0
MOS *i*S **S 13 26 42.7 -0.6**
MOS pmax pmax
comp=Z,139nm,1.1s
MOS pmax pmax
comp=Z,600nm,2.4s
MOS smax smax
comp=N,2µm,4.3s
MOS smax smax
comp=E,2µm,4.7s
MOS MLR MLR
comp=N,7µm,16.0s
MOS MLR MLR
comp=Z,9µm,16.0s
MOS MLR MLR
comp=E,5µm,17.0s
STEI Steigen 67.72 341 *e*P **P 13 17 50.2 +1.9**
L02D Cave Junction, 67.74 53 P **P 13 17 49.3 +0.3**
baz=301
G06A Carlson Farm, 67.97 49 *e*P **P 13 17 51.6 +1.2**
comp=E,50nm,1.3s
C09A Chrisman Ranch 67.99 46 PFAKE 13 18 00.0 +10
C09A LR LR
comp=Z,2µm,20.0s
LOF Lofoten 67.99 342 *e*P **P 13 17 51.6 +1.6**
LOF *e*S **S 13 26 47.1 +0.2**
LOF IVMs_BB IVMs_BB 13 52 17.6
comp=Z,2µm,16.9s
I05D Terrebonne, OR 68.01 50 P **P 13 17 51.0 +0.3**
baz=302
VRH Novokhopyorsk 68.17 318 *e*P **P 13 17 51.7 +0.2**
VRH *e*S **S 13 26 47.8 -1.7**
VRH *e* 13 27 46.3
VRH pmax pmax
comp=Z,110nm,0.7s
VRH pmax pmax
comp=Z,110nm,0.6s
VRH smax smax
comp=E,810nm,4.8s
VRH MLR MLR
comp=Z,18µm,22.0s
ARMA Armidale 68.26 173 *e*P **P 13 17 53.0 +0.7**
comp=Z,308nm,1.5s
ARMA LR LR
comp=Z,2µm,21.0s
NEW Newport 68.39 45 P **P 13 17 53.5 +0.5**
comp=Z,11nm,1.1s,baz=291,slow=4.7,SNR=5.9
NEW Newport 68.39 45 P **P 13 17 52.4 -0.6**
baz=303
NEW Newport 68.39 45 *e*P **P 13 17 53.2 +0.1**
NEW pmax pmax
comp=Z,45nm,1.3s
NEW Newport 68.39 45 *e*P **P 13 17 53.2 +0.1**
comp=Z,45nm,1.3s
OBN Obninsk 68.52 324 P **P 13 17 53.8 +0.2**
comp=Z,50nm,0.6s,baz=73,slow=2.1,SNR=24
OBN Obninsk 68.52 324*c* i*P* **P 13 17 54.1 +0.5**
OBN *i* *SP **sP 13 18 08.8 +2.5**
OBN 13 18 23.0
OBN *i*S **S 13 26 54.4 +1.0**
OBN *e* 13 27 17.1
OBN *i*SS **SS 13 31 24.2 +7.4**
OBN pmax pmax
comp=Z,115nm,1.2s
OBN MLR MLR
comp=Z,6µm,15.0s
OBN Obninsk 68.52 324 *e*P **P 13 17 53.6 +0.1**
comp=Z,126nm,1.0s
OBN LR LR
comp=Z,6µm,19.0s
YBH Yreka Blue Hor 68.53 53 *e*P **P 13 17 55.7 +1.6**
YBH pmax pmax
comp=Z,73nm,1.3s
YBH Yreka Blue Hor 68.53 53 *e*P **P 13 17 55.7 +1.6**
comp=Z,73nm,1.3s
M02C Callahan 68.61 54 P **P 13 17 55.6 +1.1**
baz=302
J05D Fort Rock, OR 68.63 51 P **P 13 17 56.3 +1.6**
baz=302,SNR=13
K04D Chiloquin, OR 68.66 52 P **P 13 17 55.3 +0.4**
baz=302
LPSR Galich'ya Gora 68.82 321 *e*P **P 13 17 56.4 +0.9**
LPSR *e*S **S 13 26 56.3 -0.9**
LPSR *e* 13 27 50.6
LPSR *e*SS **SS 13 31 26.4 +4.8**
LPSR pmax pmax
comp=Z,80nm,0.9s
LPSR pmax pmax
comp=Z,70nm,0.9s
LPSR smax smax
comp=N,380nm,4.0s
N02D Trinity Center 68.93 54 P **P 13 17 57.5 +0.9**
baz=302
FIA1 FINESS Array S 68.94 333 *e*P **P 13 17 56.4 +0.3**
FINES FINESS Array B 68.94 333 P **P 13 17 56.6 +0.4**
comp=N,77nm,0.7s,baz=50,slow=6.2,SNR=109
FINES LR LR 13 50 43.6
comp=N,13µm,18.1s,baz=50,slow=38
M04C Macdoel 69.05 53 P **P 13 17 58.1 +0.7**
baz=302
K05A Summer Lake 69.14 52 *e*P **P 13 17 59.6 +1.7**
comp=N,90nm,1.0s
K05A LR LR
comp=Z,2µm,22.0s
WDC Whiskeytown Da 69.25 54 *e*P **P 13 17 59.4 +1.0**
WDC pmax pmax
comp=Z,41nm,1.2s
WDC Whiskeytown Da 69.25 54 *e*P **P 13 17 59.4 +1.0**
comp=Z,41nm,1.2s
STKA Stephens Creek 69.33 182 P **P 13 17 58.6 -0.1**
comp=Z,26nm,0.8s,baz=344,slow=7.2,SNR=49
STKA LR LR 13 47 13.6
comp=Z,2µm,21.8s,baz=7.7,slow=35
STKA Stephens Creek 69.33 182 *e*P **P 13 17 58.2 -0.5**
STKA pmax pmax
comp=Z,15nm,1.1s
STKA Stephens Creek 69.33 182 *e*P **P 13 17 58.2 -0.5**
comp=Z,15nm,1.1s
VSR Storozhevoye 69.49 319 *e*P **P 13 18 00.0 +0.3**
VSR *e*S **S 13 26 59.1 -6.0**
VSR *e* 13 27 52.4
VSR *e*SS **SS 13 31 27.6 -4.4**
VSR pmax pmax
comp=Z,100nm,0.8s
VSR pmax pmax
comp=Z,160nm,1.6s
VSR smax smax
comp=E,820nm,5.8s
VSR MLR MLR
comp=Z,11µm,22.0s
JMIC Jan Mayen 69.70 351 *e*P **P 13 18 02.9 +2.2**
JMIC *e*S **S 13 27 08.2 +1.2**
JMIC *e*SS **SS 13 31 37.0 +2.7**
WALA Waterton Lakes 69.73 43 *e*P **P 13 18 02.1 +0.7**
comp=Z,174nm,1.8s
WALA LR LR
comp=Z,3µm,19.0s
HOPS Hopland Field 69.75 56 PFAKE 13 18 10.0 +8.4
HOPS LR LR
comp=Z,2µm,19.0s
O03D Paynes Creek 69.88 54 P **P 13 18 03.2 +0.8**
baz=303
BSMT Bassoo Peak 69.93 45 *e*P **P 13 18 03.5 +0.7**
SUMG Summit 69.93 1⇑ *i*P **P 13 18 03.7 +1.1**
SUMG pmax pmax
comp=Z,68nm,0.7s
SUMG Summit 69.93 1⇑ *i*P **P 13 18 03.7 +1.1**
comp=Z,68nm,0.7s
SUMG Summit 69.93 1 *e*P **P 13 18 03.3 +0.7**
comp=Z,76nm,0.7s
SUMG LR LR
comp=Z,3µm,20.0s
MOD Modoc Plateau 69.95 52 PFAKE 13 18 10.0 +7.0
MOD LR LR
comp=Z,2µm,18.0s
BMO Blue Mountains 70.16 48 *e*P **P 13 18 04.5 +0.4**
BMO pmax pmax
comp=Z,24nm,1.1s
BMO MLR MLR
comp=Z,900nm,20.0s
BMO Blue Mountains 70.16 48 *e*P **P 13 18 04.5 +0.4**
comp=Z,24nm,1.1s
BMO LR LR
comp=Z,900nm,20.0s
JTMT Jette 70.27 45 *e*P **P 13 18 05.6 +0.9**
LHI Lord Howe Isla 70.45 166 *e*P **P 13 18 06.3 +0.7**
comp=Z,281nm,0.9s
SWMT Swartz Lake 70.56 45 *e*P **P 13 18 07.5 +1.0**
BBOO Buckleboo 70.58 187 *e*P **P 13 18 05.7 -0.7**
comp=Z,142nm,1.1s
BBOO LR LR
comp=Z,2µm,22.0s
VSU Vasula 70.67 330*c* i*P* **P 13 18 07.2 +0.4**
VSU pmax pmax
comp=Z,243nm,0.8s
VSU MLR MLR
comp=Z,26µm,17.0s
WVOR Wild Horse Val 70.70 51 *e*P **P 13 18 08.3 +0.8**
WVOR pmax pmax
comp=Z,25nm,0.9s
WVOR Wild Horse Val 70.70 51 *e*P **P 13 18 08.2 +0.8**
comp=Z,25nm,0.9s
GOF Gofitskoye 70.86 312⇑ *i*P **P 13 18 09.4 +1.1**
GOF *e*S **S 13 27 23.9 +2.4**
GOF pmax pmax
comp=Z,289nm,0.8s
MSO Missoula 70.98 45 P **P 13 18 09.8 +0.6**
baz=305,SNR=6.0
MSO Missoula 70.98 45 *e*P **P 13 18 09.6 +0.5**
comp=Z,74nm,1.8s
MSO LR LR
comp=Z,2µm,18.0s
AFDM Forest Hills D 71.15 55 *e*P **P 13 18 11.1 +1.0**
comp=Z,36nm,1.4s
NSS Namsos 71.18 340 *e*P **P 13 18 07.5 -2.3**
CHMT Chamberlain Mo 71.32 45 *e*P **P 13 18 10.7 -0.6**
NCK Nalchik 71.42 311 *i*P **P 13 18 12.4 +0.7**
NCK pmax pmax
comp=Z,102nm,0.8s
NCK MLR MLR
comp=Z,5µm,16.0s
GUDG Gudauri 71.47 310 P **P 13 18 14.1 +1.8**
SCO Scoresbysund 71.53 355 *i*P **P 13 18 14.1 +2.3**
SCO Scoresbysund 71.53 355 *i*P **P 13 18 14.1 +2.3**
DUS Dusheti 71.55 309 P **P 13 18 15.2 +2.6**
DUS Dusheti 71.55 309 P **P 13 18 15.2 +2.6**
ZEI Tsey 71.64 310 *e*P **P 13 18 11.1 -2.2**
ZEI pmax pmax
comp=Z,182nm,0.8s
ZEI pmax pmax
comp=N,204nm,0.9s
ZEI pmax pmax
comp=E,324nm,0.9s
KVAR Kislovodsk Arr 71.70 312 P **P 13 18 14.8 +1.3**
comp=E,191nm,0.9s,baz=247,slow=2.6,SNR=105
KVAR S **S 13 27 33.0 +1.7**
comp=E,1.7nm,0.4s,baz=183,slow=23,SNR=7.6
KIV Kislovodsk 71.70 312 *i*P **P 13 18 14.8 +1.3**
SNR=53
KIV Kislovodsk 71.70 312 *e*P **P 13 18 14.8 +1.3**
KIV *e* 13 18 30.6
KIV *e* 13 20 54.8
KIV *e*S **S 13 27 35.1 +3.7**
KIV *e*SS **SS 13 32 11.6 +5.0**
KIV pmax pmax
comp=Z,367nm,0.9s
KIV pmax pmax
comp=Z,128nm,3.5s
KIV Kislovodsk 71.70 312 *e*P **P 13 18 14.3 +0.9**
comp=Z,342nm,0.9s
KIV LR LR
comp=Z,5µm,21.0s
KBZ Khabaz 71.71 311 P **P 13 18 14.7 +1.3**
comp=Z,167nm,0.9s,baz=61,slow=4.6,SNR=170
KBZ LR LR 13 55 02.2
comp=Z,4µm,18.2s,baz=36,slow=40
TBLG Delisi 71.73 309 P **P 13 18 14.8 +1.2**
TBLG Delisi 71.73 309 P **P 13 18 14.8 +1.2**
PAHR Pah Rah Range 71.75 54 *e*P **P 13 18 14.6 +0.7**
comp=Z,37nm,1.1s
MFID Camas Ranch 71.85 49 P **P 13 18 14.9 +0.5**
comp=Z,29nm,0.9s
ONI Oni 72.02 310 P **P 13 18 17.0 +1.6**
ONI Oni 72.02 310 P **P 13 18 17.0 +1.6**
CMB Columbia Colle 72.04 56 *e*P **P 13 18 15.0 -0.5**
CMB pmax pmax
comp=Z,66nm,1.4s
CMB Columbia Colle 72.04 56 *e*P **P 13 18 15.0 -0.5**
comp=Z,66nm,1.4s
NEY Neytrino 72.09 311 *e*P **P 13 18 17.2 +1.3**
NEY pmax pmax
comp=Z,25nm,1.0s
NEY MLR MLR
comp=Z,2µm,14.0s
HRY Holter Researc 72.23 44 *e*P **P 13 18 17.6 +1.0**
LRM Limekiln Ridge 72.41 45 *e*P **P 13 18 18.3 +0.4**
WBK Wadi Bani Khal 72.41 285 P **P 13 18 19.8 +1.8**
SNR=16
BIDO Bidbid 72.55 286 P **P 13 18 20.5 +1.8**
SNR=14
BIDO P **P 13 18 20.5 +1.8**
SNR=14
FCC Fort Churchill 72.56 27 *e*P **P 13 18 17.9 -0.2**
FCC pmax pmax
comp=Z,47nm,0.9s
FCC MLR MLR
comp=Z,2µm,20.0s
FCC Fort Churchill 72.56 27 *e*P **P 13 18 17.9 -0.2**
comp=Z,47nm,0.9s
FCC LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 72.57 42 P **P 13 18 19.3 +0.8**
baz=307,SNR=8.5
EGMT Eagleton 72.57 42 *e*P **P 13 18 18.7 +0.1**
comp=Z,30nm,0.9s
EGMT LR LR
comp=Z,2µm,20.0s
BANOM Banah 72.59 289 *i*P **P 13 18 20.0 +1.0**
SNR=6.7
BANOM Banah 72.59 289 P **P 13 18 20.0 +1.0**
BANOM P **P 13 18 20.0 +1.0**
DLMT Dillon 72.60 46 *e*P **P 13 18 19.6 +0.7**
comp=Z,25nm,0.8s
DLMT LR LR
comp=Z,1µm,22.0s
HLID Hailey 72.60 48 P **P 13 18 19.8 +0.8**
baz=306,SNR=24
HLID Hailey 72.60 48 *e*P **P 13 18 19.9 +0.9**
comp=Z,18nm,0.9s
HLID LR LR
comp=Z,1µm,18.0s
GNI Garni 72.62 307 P **P 13 18 20.0 +0.9**
comp=Z,38nm,0.8s,baz=328,slow=2.2,SNR=27
GNI Garni 72.62 307 *i*P **P 13 18 21.1 +1.9**
SNR=14
GNI Garni 72.62 307*c* i*P* **P 13 18 20.7 +1.5**
GNI pmax pmax
comp=Z,175nm,0.8s
GNI MLR MLR
comp=Z,8µm,17.0s
GNI Garni 72.62 307 *e*P **P 13 18 20.5 +1.3**
comp=Z,118nm,1.0s
GNI LR LR
comp=Z,4µm,21.0s
AKH Akhalkalaki 72.68 309 P **P 13 18 21.1 +1.6**
AKH Akhalkalaki 72.68 309 P **P 13 18 21.1 +1.6**
BGD Bogdanovka 72.70 309 P **P 13 18 21.5 +1.9**
BMN Battle Mountai 72.70 52 *e*P **P 13 18 20.6 +1.0**
BMN pmax pmax

comp=Z,107nm,1.6s
BMN Battle Mountai 72.70 52 *e*P **P 13 18 20.6 +1.0**
comp=Z,107nm,1.6s
LCCM Lewis and Clar 72.72 45 P **P 13 18 20.8 +1.1**
MCMT McKenzie Canyo 72.77 46 *e*P **P 13 18 20.6 +0.6**
IDID Didziasalis 72.77 328 *e*P **P 13 18 20.7 +1.2**
CHVG Ch'k'valeri 72.78 311 P **P 13 18 21.2 +1.4**
MICGM Minsk 72.83 327⇓ *e*P **P 13 18 20.0 +0.1**
MICGM PM 13 18 22.0
comp=Z,0.5nm,0.5s
MICGM *e*PcP **sP 13 18 32.0 -0.6**
MICGM *e*PP **PP 13 21 04.0 +2.5**
MICGM *e*PPP PPP 13 22 48.0
MICGM *e*S **S 13 27 44.0 +0.3**
MICGM *e*PS **PnS 13 28 30.0 +13**
MICGM *e*SS **SS 13 32 20.0 -2.9**
MICGM *e*SSS SSS 13 35 10.0
MICGM *e*LQ LQ 13 44 04.0
MICGM LQM 13 47 26.0
comp=E,7.6nm,18.0s
MICGM *e*LR LR 13 48 55.0
MICGM LRM MLR 13 52 54.0
comp=E,14nm,16.0s
MICGM LRM MLR 13 53 00.0
comp=Z,14nm,18.0s
MICGM LRM MLR 13 53 10.0
comp=N,5.9nm,15.0s
MNK Minsk 72.83 327⇓ *e*P **P 13 18 20.0 +0.1**
MNK *e* 13 18 32.0
MNK *e* 13 21 04.0
MNK *e*PPP PPP 13 22 48.0
MNK *e*S **S 13 27 44.0 +0.3**
MNK *e*PS **PnS 13 28 30.0 +13**
MNK *e*SS **SS 13 32 20.0 -2.9**
MNK MLR MLR
comp=E,14µm,16.0s
MNK MLR MLR
comp=Z,14µm,18.0s
MNK MLR MLR
comp=N,6µm,15.0s
ISAL Salakas 72.86 328 *e*P **P 13 18 21.3 +1.3**
ISAL IAmb IAmb 13 18 23.6
comp=Z,66nm,1.0s
SMDO Samad 72.86 286 P **P 13 18 23.2 +2.4**
SNR=16
CAN Canberra 72.91 175 *e*P **P 13 18 19.8 -0.7**
CAN pmax pmax
comp=Z,137nm,1.3s
CAN MLR MLR
comp=Z,2µm,21.0s
CAN Canberra 72.91 175 *e*P **P 13 18 19.8 -0.7**
comp=Z,137nm,1.3s
CAN LR LR
comp=Z,2µm,21.0s
BOZ Bozeman (W) 72.97 45 P **P 13 18 22.2 +1.1**
baz=307,SNR=43
BOZ Bozeman (W) 72.97 45 *e*P **P 13 18 21.8 +0.7**
BOZ pmax pmax
comp=Z,21nm,0.8s
BOZ MLR MLR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 72.97 45 *e*P **P 13 18 21.8 +0.7**
comp=Z,21nm,0.8s
BOZ LR LR
comp=Z,2µm,20.0s
NACGM Naroch 73.03 327 *e*P **P 13 18 21.0 -0.1**
NACGM *e*P **P 13 18 21.0 -0.1**
NACGM PM 13 18 23.0
comp=Z,0.3nm,1.0s
NACGM *e*PP **PP 13 21 09.0 +5.8**
NACGM *e*PPP PPP 13 22 48.0
NACGM *e*S **S 13 27 44.0 -2.0**
NACGM *e*SS SS 13 31 40.0 -46
NACGM *e*SSS SSS 13 35 46.0
NACGM *e*LQ LQ 13 44 24.0
NACGM *e*LR LR 13 47 24.0
NACGM LRM MLR 13 53 08.0
comp=Z,15nm,16.0s
HOQ Hoqain 73.13 287 P **P 13 18 23.1 +0.9**
SNR=7.1
UOSS Minazif 73.20 289 *e*P **P 13 18 22.9 +0.3**
comp=Z,11nm,1.2s
UOSS LR LR
comp=Z,2µm,19.0s
JMDO Jabal Madar 73.21 285 P **P 13 18 23.7 +1.0**
SNR=13
MLAC Mammoth, Mammo 73.28 55 P **P 13 18 24.4 +1.2**
baz=305
HATD Hatta, Dubai 73.32 289 *i* P **P 13 18 24.1 +0.7**
SNR=20
HATD Hatta, Dubai 73.32 289 P **P 13 18 24.0 +0.7**
SNR=17
HATD P **P 13 18 24.0 +0.7**
SNR=17
ASHO Ashiyiah 73.46 289 *i* P **P 13 18 24.7 +0.5**
SNR=13
ASHO Ashiyiah 73.46 289 P **P 13 18 25.1 +0.9**
SNR=14
ASHO P **P 13 18 25.1 +0.9**
SNR=14
QLMT Earthquake Lak 73.58 46 *e*P **P 13 18 25.3 +0.6**
SOC Sochi 73.66 313*c i*P **P 13 18 25.5 +0.5**
SOC *e* 13 18 38.4
SOC *e* 13 21 05.9
SOC *e*PPP PPP 13 22 55.5
SOC *i* S **S 13 27 53.7 +0.1**
SOC *e* 13 28 31.8
SOC pmax pmax
comp=Z,72nm,0.9s
SOC MLR MLR
comp=Z,5µm,16.0s
BSY Bisya 73.69 286 P **P 13 18 26.8 +1.3**
SNR=10
ELK Elko 73.75 51 *e*P **P 13 18 26.6 +0.7**
ELK pmax pmax
comp=Z,11nm,0.9s
ELK Elko 73.75 51 *e*P **P 13 18 26.6 +0.7**
comp=Z,11nm,0.9s
RCTC Rector, Farmer 73.77 57 P **P 13 18 26.4 +0.7**
baz=305
FAQ Al Faqa, Dubai 73.77 289 *i* P **P 13 18 26.4 +0.4**
SNR=7.9
SMMC Simmler 73.83 58 P **P 13 18 27.0 +0.7**
baz=305
YMR Madison River 73.94 46 PFAKE 13 18 40.0 +13
YMR LR LR
comp=Z,1µm,19.0s
NC405 NORSAR Array S 73.94 338 *e*P **P 13 18 26.5 +0.1**
NC303 NORSAR Array S 73.95 338 *e*P **P 13 18 26.2 -0.2**
TIN Tinemaha, Big 74.00 55 P **P 13 18 28.3 +1.0**
baz=305
NC204 NORSAR Array S 74.09 338 *e*P **P 13 18 27.3 0.0**
NB201 NORSAR Array S 74.12 338 *e*P **P 13 18 27.3 -0.1**
VES Vestal, Richgr 74.14 57 P **P 13 18 28.0 +0.1**
baz=305
YFT Old Faithful 74.14 46 PFAKE 13 18 40.0 +12
YFT LR LR
comp=Z,3µm,19.0s
NB2 NORSAR Subarra 74.15 338 P **P 13 18 28.0 +0.4**
comp=Z,98nm,1.2s,baz=35,slow=5.9
NB2 NORSAR Subarra 74.15 338 P **P 13 18 28.0 +0.4**
baz=35,slow=5.9
NOA NORSAR Array B 74.15 338 P **P 13 18 28.1 +0.4**
comp=Z,3.5nm,0.4s,baz=43,slow=4.6,SNR=39
NOA LR LR 13 56 14.3
comp=Z,6µm,18.4s,baz=35,slow=40
NOA NORSAR Array B 74.15 338 P **P 13 18 28.1 +0.4**
NOA pmax pmax
comp=Z,28nm,1.0s
NOA MLR MLR
comp=Z,6µm,18.4s
PKM Mcpherson Peak 74.20 58 P **P 13 18 28.5 -0.1**
baz=305
ANN Anapa 74.24 315 *i* P **P 13 18 28.7 +0.4**
ANN *i* 13 18 42.1
ANN *e* 13 21 21.5
ANN *e*PPP PPP 13 22 59.3
ANN *i* S **S 13 28 00.3 +0.4**
ANN pmax pmax
comp=Z,112nm,1.2s
ANN MLR MLR
comp=Z,5µm,20.0s
NBO02 NORSAR Array S 74.25 338 *e*P **P 13 18 28.3 +0.2**
NBO00 NORSAR Array S 74.28 338 *e*P **P 13 18 28.8 +0.4**
NC602 NORSAR Array S 74.29 338 *e*P **P 13 18 29.2 +0.8**
NC602 *e*S **S 13 27 60.0 -0.1**
NC602 IAMs_20 IAMs_20 13 56 03.1
comp=Z,7µm,19.0s
LKWY Lake 74.32 46 *e*P **P 13 18 32.0 +2.8**
LKWY pmax pmax
comp=Z,21nm,0.9s
LKWY Lake 74.32 46 *e*P **P 13 18 32.0 +2.8**
comp=Z,21nm,0.9s
H17A Grant Village 74.33 46 P **P 13 18 32.0 +2.8**
baz=308,SNR=32
H17A Grant Village 74.33 46 *e*P **P 13 18 31.6 +2.4**
comp=Z,42nm,0.9s
H17A LR LR
comp=Z,4µm,20.0s
NAO01 NORSAR Array S 74.40 338 *e*P **P 13 18 28.6 -0.4**
AKN Aaknes 74.41 340 *e*P **P 13 18 30.0 +1.0**
IMW Indian Meadow 74.42 46 *e*P **P 13 18 31.2 +1.4**
comp=Z,36nm,0.8s
FLWY Flagg Ranch 74.45 46 *e*P **P 13 18 32.1 +2.2**
comp=Z,75nm,1.3s
FLWY LR LR
comp=Z,1µm,19.0s
CWC Cottonwood Cre 74.46 56 P **P 13 18 30.4 +0.4**
baz=306
NWAO Narrogin (SRO) 74.50 203 *e*P **P 13 18 29.8 0.0**
NWAO pmax pmax
comp=Z,135nm,1.3s
NWAO Narrogin (SRO) 74.50 203 *e*P **P 13 18 29.8 0.0**
comp=Z,135nm,1.3s
SBC Santa Barbara 74.52 58 P **P 13 18 30.8 +0.6**
baz=305
GRAC Grapevine Rang 74.60 55 P **P 13 18 31.7 +1.1**
baz=306,SNR=17
RLMT Red Lodge 74.61 45 P **P 13 18 31.8 +1.0**
baz=308,SNR=12
RLMT Red Lodge 74.61 45 *e*P **P 13 18 31.2 +0.4**
comp=Z,42nm,1.3s
RLMT LR LR
comp=Z,1µm,19.0s
MOOW Moose Ponds 74.63 46 *e*P **P 13 18 32.2 +1.3**
comp=Z,40nm,1.3s
MOOW LR LR
comp=Z,1µm,19.0s
HVU Hansel Valley 74.63 49 *e*P **P 13 18 31.0 +0.1**
HVU pmax pmax
comp=Z,28nm,1.0s
HVU MLR MLR
comp=Z,900nm,19.0s
HVU Hansel Valley 74.63 49 *e*P **P 13 18 31.0 +0.1**
comp=Z,28nm,1.0s
HVU LR LR
comp=Z,900nm,19.0s
ISA Isabella, Lake 74.65 57 P **P 13 18 31.6 +0.6**
baz=306
ISA Isabella, Lake 74.65 57 PFAKE 13 18 40.0 +9.0
ISA LR LR
comp=Z,1µm,19.0s
TPAW Teton Pass 74.67 47 *e*P **P 13 18 32.3 +1.0**
comp=Z,132nm,1.5s
TPAW LR LR
comp=Z,1µm,18.0s
ARVC Arvin 74.72 57 P **P 13 18 32.1 +0.8**
baz=306
AKASG Malin Array Be 74.74 323 P **P 13 18 31.5 +0.4**
comp=Z,25nm,0.6s,baz=45,slow=6.2,SNR=117
AKASG PP **PP 13 21 16.4 -1.5**
comp=Z,12nm,0.8s,baz=42,slow=8.9,SNR=3.9
AKASG LR LR 13 54 46.6
comp=Z,9µm,18.3s,baz=45,slow=38
AKASG Malin Array Be 74.74 323 P **P 13 18 31.5 +0.4**
AKASG 13 21 16.4
AKASG pmax pmax
comp=Z,24nm,0.6s
AKASG pmax pmax
comp=Z,12nm,0.8s
AKASG MLR MLR
comp=Z,9µm,18.3s
AKBB Malin Array Si 74.74 323 *e*P **P 13 18 30.8 -0.3**
AKBB pmax pmax
comp=Z,177nm,1.4s
AKBB MLR MLR
comp=Z,9µm,19.0s
AKBB Malin Array Si 74.74 323 *e*P **P 13 18 30.8 -0.3**
comp=Z,177nm,1.4s
AKBB LR LR
comp=Z,9µm,19.0s
KIEV Kiev 74.75 323 *e*P **P 13 18 31.3 +0.1**
KIEV pmax pmax
comp=Z,57nm,0.8s
KIEV MLR MLR
comp=Z,9µm,18.0s
KIEV Kiev 74.75 323 *e*P **P 13 18 31.3 +0.1**
comp=Z,57nm,0.8s
KIEV LR LR
comp=Z,9µm,18.0s
AK11 Malin Array Si 74.78 323 *e*P **P 13 18 30.9 -0.5**
LOHW Long Hollow 74.79 46 *e*P **P 13 18 33.3 +1.4**
comp=Z,23nm,1.2s
LOHW LR LR
comp=Z,1µm,19.0s
SNOW Snow King Moun 74.80 47 *e*P **P 13 18 33.4 +1.5**
comp=Z,65nm,1.4s
SNOW LR LR
comp=Z,1µm,20.0s
REDW Red Top Meadow 74.80 47 *e*P **P 13 18 32.7 +0.8**
comp=Z,91nm,1.4s
REDW LR LR
comp=Z,1µm,18.0s
SCZ2 Santa Cruz Isl 74.84 59 P **P 13 18 32.1 0.0**
baz=306
DAC Darwin (Calif) 74.87 56 *e*P **P 13 18 33.0 +0.6**
DAC pmax pmax
comp=Z,23nm,1.3s
DAC Darwin (Calif) 74.87 56 *e*P **P 13 18 33.0 +0.6**
comp=Z,23nm,1.3s
R11A Troy Canyon, C 74.95 53 P **P 13 18 33.9 +1.1**
baz=306,SNR=32
R11A Troy Canyon, C 74.95 53 *e*P **P 13 18 33.1 +0.3**
comp=Z,34nm,1.2s
SFJD Kangerlussuaq 74.98 6 P **P 13 18 32.8 +0.5**
comp=Z,18nm,0.9s,baz=345,slow=7.5,SNR=6.5
SFJD Kangerlussuaq 74.98 6 *i* P **P 13 18 33.9 +1.7**
SFJD Kangerlussuaq 74.98 6 *e*P **P 13 18 32.7 +0.4**
comp=Z,45nm,0.8s
SFJD LR LR
comp=Z,4µm,21.0s
BGU Big Grassy Mou 74.99 50 *e*P **P 13 18 33.9 +0.9**
comp=Z,19nm,0.9s
BGU LR LR
comp=Z,1µm,19.0s
AHID Auburn Hatcher 75.02 47 *e*P **P 13 18 33.8 +0.6**
comp=Z,22nm,0.8s
AHID LR LR
comp=Z,1µm,19.0s
MPMC Manual Prospec 75.07 56 P **P 13 18 34.3 +0.8**
baz=306,SNR=9.5
OSI Osito Audit: C 75.09 58 P **P 13 18 34.1 +0.6**
baz=306
SPUT South Promonto 75.11 49 *e*P **P 13 18 35.2 +1.5**
comp=Z,34nm,1.2s
SPUT LR LR
comp=Z,1µm,20.0s
BLG Laguna Peak, P 75.15 58 P **P 13 18 34.4 +0.5**
baz=306
SUW Suwalki 75.17 328 *e*P **P 13 18 33.9 +0.3**
SUW Suwalki 75.17 328 *e*P **P 13 18 33.9 +0.3**
OSL Oslo 75.18 338 *e*P **P 13 18 35.2 +1.7**
DGMT Dagmar 75.18 40 P **P 13 18 34.0 +0.3**
baz=311
DGMT Dagmar 75.18 40 *e*P **P 13 18 34.2 +0.4**
comp=Z,175nm,1.8s
DGMT LR LR
comp=Z,1µm,21.0s
FURC Furnace Creek, 75.23 55 P **P 13 18 35.3 +1.1**
baz=306
LRMC Laurel Mtn Rad 75.28 57 P **P 13 18 35.3 +0.6**
baz=306
LAO LASA Array 75.28 42 P **P 13 18 35.2 +0.7**
baz=310
LAO LASA Array 75.28 42 *e*P **P 13 18 33.8 -0.6**
comp=Z,109nm,1.4s
LAO LR LR
comp=Z,1µm,18.0s
SNCC San Nicolas Is 75.34 59 P **P 13 18 35.0 +0.1**
baz=306
SNCC San Nicolas Is 75.34 59 PFAKE 13 18 50.0 +15
SNCC LR LR
comp=Z,2µm,19.0s
TPNV Topopah Spring 75.35 55 P **P 13 18 36.2 +1.0**
baz=306,SNR=37
TPNV Topopah Spring 75.35 55 *e*P **P 13 18 35.2 +0.1**
TPNV pmax pmax
comp=Z,61nm,1.2s
TPNV MLR MLR
comp=Z,1µm,20.0s
TPNV Topopah Spring 75.35 55 *e*P **P 13 18 35.2 +0.1**
comp=Z,61nm,1.2s
TPNV LR LR
comp=Z,1µm,20.0s
FOO Floro 75.40 341 *e*P **P 13 18 31.7 -3.0**
FOO *e*S **S 13 28 13.8 +1.4**
FOO IAMs_20 IAMs_20 13 55 35.3
comp=Z,5µm,19.1s
A25A Svangstu Ranch 75.41 39 P **P 13 18 35.8 +0.6**
baz=311
EDW2 Edwards Air Fo 75.42 57 P **P 13 18 36.5 +1.1**
baz=306,SNR=10
HWUT Hardware Ranch 75.46 48 *e*P **P 13 18 36.4 +0.7**
comp=Z,91nm,1.4s
HWUT LR LR
comp=Z,1µm,18.0s
FSU Fish Springs 75.50 51 *e*P **P 13 18 37.2 +1.2**
DECC Green Verdugo 75.56 58 P **P 13 18 36.7 +0.5**
baz=306
DUG Dugway, Tooele 75.56 50 P **P 13 18 37.5 +1.2**
baz=307,SNR=29
DUG Dugway, Tooele 75.56 50 *e*P **P 13 18 36.8 +0.5**
DUG pmax pmax
comp=Z,23nm,0.8s
DUG MLR MLR
comp=Z,1µm,19.0s
DUG Dugway, Tooele 75.56 50 *e*P **P 13 18 36.8 +0.5**
comp=Z,23nm,0.8s
DUG LR LR
comp=Z,1µm,19.0s
PASC Pasadena Art C 75.71 58 PFAKE 13 18 50.0 +13
PASC LR LR
comp=Z,2µm,20.0s
KONO Kongsberg 75.75 338 *e*P **P 13 18 37.3 +0.5**
KONO pmax pmax
comp=Z,23nm,0.9s
KONO MLR MLR
comp=Z,7µm,18.0s
KONO Kongsberg 75.75 338 *e*P **P 13 18 37.3 +0.5**
comp=Z,23nm,0.9s
KONO LR LR
comp=Z,7µm,18.0s
MWC Mount Wilson 75.76 58 PFAKE 13 18 50.0 +12
MWC LR LR
comp=Z,2µm,20.0s
B25A Knox Farm, Ray 75.83 39 P **P 13 18 37.9 +0.4**
baz=311
TCUT Toone Canyon 75.85 49 *e*P **P 13 18 38.3 +0.3**
comp=Z,66nm,1.1s
TCUT LR LR
comp=Z,2µm,19.0s
FMP Fort Macarthur 75.91 58 P **P 13 18 38.8 +0.7**
baz=306
BW06 Boulder Array 75.91 47 P **P 13 18 38.7 +0.3**
baz=309,SNR=37
BW06 Boulder Array 75.91 47 *e*P **P 13 18 38.2 -0.2**
comp=Z,1.1nm,0.8s
BW06 LR LR
comp=Z,2µm,19.0s
PD31 Pinedale Array 75.91 47 *e*P **P 13 18 37.9 -0.5**
PDAR Pinedale Array 75.91 47 P **P 13 18 38.9 +0.5**
comp=Z,15nm,0.8s,baz=266,slow=2.5,SNR=65
PSUT Pine Spring 75.93 52 *e*P **P 13 18 39.5 +1.0**
comp=Z,23nm,0.9s
SHOC Shoshone, Teco 75.95 55 P **P 13 18 39.0 +0.6**
baz=307
GSC Goldstone, Bar 75.96 56 P **P 13 18 39.1 +0.5**
baz=306,SNR=12
GSC Goldstone, Bar 75.96 56 *e*P **P 13 18 39.2 +0.6**
GSC pmax pmax
comp=Z,13nm,0.9s
GSC Goldstone, Bar 75.96 56 *e*P **P 13 18 39.2 +0.6**
comp=Z,13nm,0.9s
A26A Wade Farm, Ken 75.97 38 P **P 13 18 38.9 +0.6**
baz=312
SIM Simferopol' 75.98 316*c i*P **P 13 18 37.9 -0.5**
SIM *e* 13 18 51.0
SIM *e* 13 21 29.0
SIM *e*PPP PPP 13 23 21.0
SIM *e*S **S 13 28 19.0 -0.4**
SIM pmax pmax
comp=Z,69nm,0.7s
SIM pmax pmax
comp=Z,420nm,11.3s
SIM MLR MLR
comp=Z,1µm,16.0s
BFSC Mount Baldy Ra 76.02 58 P **P 13 18 39.5 +0.5**
baz=306
RRX Edison Barstow 76.09 57 P **P 13 18 40.2 +1.0**
baz=306
JLU Jordanelle 76.14 49 *e*P **P 13 18 40.7 +1.0**
comp=Z,20nm,0.9s
C25A Freed Ranch, W 76.15 40 P **P 13 18 40.1 +0.7**
baz=312
SCI2 San Clemente I 76.16 59 P **P 13 18 39.5 -0.2**
baz=306
B26A Jensen Ranch, 76.22 39 P **P 13 18 40.3 +0.5**
baz=312
SHPR Sheep Range 76.32 54 *e*P **P 13 18 41.8 +1.1**
comp=Z,18nm,1.0s
A27A Ledoux Ranch, 76.32 38 P **P 13 18 41.0 +0.8**
baz=312
TUQ Turquoise Moun 76.46 56 P **P 13 18 42.3 +0.8**
baz=307,SNR=18
D25A Fairfield 76.49 40 P **P 13 18 41.6 +0.2**
baz=312
BBRC Big Bear Solar 76.50 57 P **P 13 18 42.3 +0.5**
baz=307
HEC Hector,Ludlow 76.55 56 P **P 13 18 42.6 +0.7**
baz=307,SNR=14
MURC Murrieta 76.71 58 P **P 13 18 42.9 +0.1**
baz=307
A28A Rude Farm, Bot 76.82 37 P **P 13 18 43.9 +0.7**
baz=313,SNR=7.2
CCUT Cedar City 76.83 53 *e*P **P 13 18 44.5 +0.9**
comp=Z,24nm,1.0s
CCUT LR LR
comp=Z,2µm,19.0s
E25A Miller Ranch, 76.88 41 P **P 13 18 44.0 +0.5**
baz=312,SNR=9.6
SORM Soroca 76.89 322⇑ *i*P **P 13 18 43.8 +0.4**
MSU Marysvale 76.98 51 *e*P **P 13 18 45.2 +0.7**
MSU Marysvale 76.98 51 *e*P **P 13 18 45.2 +0.7**
D26A Manning 77.02 40 P **P 13 18 44.4 +0.1**
baz=312
GMRC Granite Mounta 77.02 56 P **P 13 18 45.0 +0.3**
baz=307,SNR=16
B28A Dugan Ranch, T 77.09 38 P **P 13 18 45.1 +0.5**
baz=313,SNR=6.3
TMUT Trail Mountain 77.09 50 *e*P **P 13 18 46.0 +0.8**
comp=Z,34nm,1.3s
BORG Borgarnes 77.12 353 PFAKE 13 18 50.0 +5.6
BORG LR LR
comp=Z,2µm,22.0s
KBSD Kabsdagh 77.14 307 *e*P **P 13 18 45.9 +0.7**
109C Camp Elliot, M 77.19 58 P **P 13 18 46.1 +0.7**
baz=307
PFO Pinyon Flats O 77.20 57 P **P 13 18 45.6 0.0**
baz=307
PFO Pinyon Flats O 77.20 57 *e*P **P 13 18 46.1 +0.4**
PFO pmax pmax
comp=Z,96nm,1.8s
PFO MLR MLR
comp=Z,2µm,19.0s
PFO Pinyon Flats O 77.20 57 *e*P **P 13 18 46.0 +0.4**
comp=Z,96nm,1.8s
PFO LR LR
comp=Z,2µm,19.0s
HOMB Homborsund 77.20 337 *e*P **P 13 18 45.8 +0.8**
HOMB IAMs_20 IAMs_20 13 55 57.2
comp=Z,8µm,20.8s
TPFO Pinon Flats 77.20 57 P **P 13 18 45.8 +0.1**
baz=307
LDFC Landfair 77.21 56 *e*P **P 13 18 45.9 +0.2**
comp=Z,35nm,1.1s
F25A Bowman 77.23 41 P **P 13 18 46.0 +0.5**
baz=312
LCMT Little Creek M 77.23 53 *e*P **P 13 18 46.5 +0.7**
comp=Z,34nm,1.1s

LCMT LR LR
comp=Z,1µm,20.0s
MTPU Mount Pierson 77.27 52 *e*P **P 13 18 47.6 +1.3**
comp=Z,26nm,0.9s
P17A Butcher Ranch, 77.27 50 PFAKE 13 19 00.0 +14
P17A LR LR
comp=Z,1µm,18.0s
BELC Belle Mtn. Jos 77.27 57 P **P 13 18 46.3 +0.2**
baz=307
A29A Manning Farm, 77.31 37 P **P 13 18 46.7 +0.9**
baz=314,SNR=16
E26A Carlson Angus 77.38 40 P **P 13 18 46.8 +0.5**
baz=312,SNR=5.4
KIS Kishinev 77.42 320 *e*P **P 13 18 48.0 +1.5**
KIS Kishinev 77.42 320 *e*PcP **PcP 13 19 02.0 +5.1**
KIS Kishinev 77.42 320 *e*PP PP 13 21 38.0 -2.6
KIS Kishinev 77.42 320 *e*PPP PPP 13 23 36.0
KIS Kishinev 77.42 320 *e*PsP 13 24 20.0
KIS *e*S **S 13 28 36.0 +1.0**
KIS Kishinev 77.42 320 *e*P **P 13 18 48.0 +1.5**
KIS *e* 13 19 02.0
KIS *e* 13 21 38.0
KIS *e*PPP PPP 13 23 36.0
KIS *e*S **S 13 28 36.0 +1.0**
KIS *e*PS PnS 13 28 50.0 -27
KIS MLR MLR
comp=Z,7µm,16.0s
KIS MLR MLR
comp=N,4µm,15.0s
KIS MLR MLR
comp=E,5µm,15.0s
KIS MLR MLR
comp=Z,8µm,16.0s
P18A Preston Nutter 77.47 49 *e*P **P 13 18 48.6 +1.3**
comp=Z,40nm,1.0s
P18A LR LR
comp=Z,1µm,20.0s
KNB Kanab 77.50 53 *e*P **P 13 18 48.6 +1.3**
KNB pmax pmax
comp=Z,126nm,1.7s
KNB MLR MLR
comp=Z,1µm,20.0s
KNB Kanab 77.50 53 *e*P **P 13 18 48.6 +1.3**
comp=Z,126nm,1.7s
KNB LR LR
comp=Z,1µm,20.0s
B29A Wagenman Farm, 77.57 37 P **P 13 18 47.7 +0.4**
baz=314,SNR=9.4
C28A Hausauer Farms 77.58 38 P **P 13 18 47.9 +0.5**
baz=313
BSD Bornholm Skovb 77.58 333 *i* P **P 13 18 47.8 +0.6**
BSD pmax pmax
comp=Z,56nm,1.0s
BSD Bornholm Skovb 77.58 333 *i* P **P 13 18 47.8 +0.6**
comp=Z,56nm,1.0s
BAR Barrett 77.61 58 *e*P **P 13 18 48.1 +0.3**
comp=Z,21nm,1.0s
BAR LR LR
comp=Z,1µm,19.0s
SRU San Rafael Swe 77.62 50 *e*P **P 13 18 48.6 +0.6**
SRU pmax pmax
comp=Z,51nm,1.0s
SRU MLR MLR
comp=Z,1µm,19.0s
SRU San Rafael Swe 77.62 50 *e*P **P 13 18 48.6 +0.6**
comp=Z,51nm,1.0s
SRU LR LR
comp=Z,1µm,19.0s
BTU Barney Top 77.64 52 *e*P **P 13 18 49.3 +1.0**
MONP2 Monument Peak 77.65 58 P **P 13 18 48.7 +0.4**
baz=307
F26A Lodgepole 77.69 41 P **P 13 18 48.6 +0.5**
baz=312,SNR=9.4
K22A Casper 77.71 45 P **P 13 18 48.7 +0.2**
baz=310,SNR=10.0
K22A Casper 77.71 45 *e*P **P 13 18 48.8 +0.3**
comp=Z,53nm,1.2s
NEE2 Needles Airpor 77.72 56 P **P 13 18 49.1 +0.7**
baz=308
MMU Miners Mountai 77.72 51 *e*P **P 13 18 49.5 +0.8**
IRM Iron Mountain 77.74 56 P **P 13 18 49.3 +0.7**
baz=307
A30A Hoffart Farm, 77.74 37 P **P 13 18 49.0 +0.7**
baz=314,SNR=11
BEL Belsk 77.74 328 *e*P **P 13 18 49.6 +1.4**
BEL Belsk 77.74 328 *e*P **P 13 18 49.6 +1.4**
SFNV Sufian 77.77 307 *e*P **P 13 18 50.0 +1.3**
LVV L'vov 77.77 325 *e*P **P 13 18 47.8 -0.6**
LVV *e*S **S 13 28 36.1 -2.6**
LVV MLR MLR
comp=Z,4µm,15.0s
OUZ Omahuta 77.80 155 *e*P **P 13 18 50.0 +1.5**
comp=Z,87nm,1.3s
OUZ LR LR
comp=Z,6µm,21.0s
BC3 Big Chuckawall 77.84 57 P **P 13 18 49.7 +0.5**
baz=307
D28A Regan 77.85 39 P **P 13 18 49.5 +0.6**
baz=313
MDND Maddock 77.88 38 P **P 13 18 49.6 +0.7**
baz=314
MDND Maddock 77.88 38 *e*P **P 13 18 49.7 +0.7**
comp=Z,105nm,1.0s
MDND LR LR
comp=Z,2µm,20.0s
ULM Lac du Bonnet 77.93 34 P **P 13 18 49.8 +0.6**
comp=Z,16nm,0.8s,baz=311,slow=7.0,SNR=12
ULM LR LR 13 57 35.9
comp=Z,712nm,18.8s,baz=330,slow=39
ULM Lac du Bonnet 77.93 34 *e*P **P 13 18 49.0 -0.2**
ULM pmax pmax
comp=Z,44nm,0.9s
ULM Lac du Bonnet 77.93 34 *e*P **P 13 18 49.0 -0.2**
comp=Z,44nm,0.9s
W13A Hualapai Mount 77.99 55 *e*P **P 13 18 50.7 +0.5**
comp=Z,50nm,1.8s
IKP In-Ko-Pah, Jac 78.01 58 P **P 13 18 50.8 +0.7**
baz=307
COP Copenhagen 78.02 334 *i* P **P 13 18 49.9 +0.3**
COP Copenhagen 78.02 334 *i* P **P 13 18 49.9 +0.3**
H25A Fruitdale 78.03 42 P **P 13 18 50.7 +0.7**
baz=312
SWSC Sam W. Stewart 78.04 58 P **P 13 18 51.0 +0.8**
baz=307
B30A Myrvik Farm, E 78.07 37 P **P 13 18 50.8 +0.7**
baz=314,SNR=15
RSSD Black Hills 78.12 43 P **P 13 18 50.9 +0.1**
baz=312
RSSD Black Hills 78.12 43 *e*P **P 13 18 50.7 0.0**
RSSD pmax pmax
comp=Z,32nm,1.0s
RSSD MLR MLR
comp=Z,1µm,18.0s
RSSD Black Hills 78.12 43 *e*P **P 13 18 50.7 0.0**
comp=Z,32nm,1.0s
RSSD LR LR
comp=Z,1µm,18.0s
U15A North Rim 78.19 53 *e*P **P 13 18 51.8 +0.5**
comp=Z,23nm,0.9s
A31A Linda, St. Vin 78.27 36 P **P 13 18 51.4 +0.3**
baz=315
PDMCI Parker Dam,Lak 78.31 56 P **P 13 18 52.3 +0.6**
baz=308
O20A White River Ci 78.34 48 P **P 13 18 52.5 +0.5**
baz=310,SNR=8.7
O20A White River Ci 78.34 48 *e*P **P 13 18 52.5 +0.5**
comp=Z,37nm,0.9s
O20A LR LR
comp=Z,1µm,18.0s
Y12C Blythe 78.40 56 P **P 13 18 53.0 +0.9**
baz=308
Y12C Blythe 78.40 56 *e*P **P 13 18 52.5 +0.3**
comp=Z,29nm,1.3s
Y12C LR LR
comp=Z,2µm,19.0s
B31A Greenbush Farm 78.41 37 P **P 13 18 51.5 -0.5**
baz=315
D29A Pettibone, Tap 78.42 39 P **P 13 18 52.1 0.0**
baz=314
PRAR RASCA 78.46 322 *i*P **P 13 18 53.8 +1.5**
KWP Kalwaria Pacla 78.51 325 *e*P **P 13 18 53.9 +1.4**
KWP Kalwaria Pacla 78.51 325 *i*P **P 13 18 53.9 +1.4**
KWP Kalwaria Pacla 78.51 325 *e*P **P 13 18 53.9 +1.4**
C30A Mose, Pekin 78.52 38 P **P 13 18 52.7 +0.1**
baz=314,SNR=6.2
A32A Rocking H Ranc 78.60 36 P **P 13 18 52.9 -0.1**
baz=316

RGN Rugen 78.60 333 PFAKE 13 19 00.0 +7.2
RGN LR LR
comp=Z,10µm,19.0s
GLA Glamis 78.62 57 P **P 13 18 54.3 +0.8**
baz=308,SNR=11
GLA Glamis 78.62 57 *e*P **P 13 18 53.9 +0.4**
GLA pmax pmax
comp=Z,25nm,1.0s
GLA MLR MLR
comp=Z,2µm,19.0s
GLA Glamis 78.62 57 *e*P **P 13 18 53.9 +0.4**
comp=Z,25nm,1.0s
GLA LR LR
comp=Z,2µm,19.0s
TLCR 78.65 319⇑ *i*P **P 13 18 54.2 +0.9**
E29A Napoleon 78.74 39 P **P 13 18 53.8 0.0**
baz=314
BUR08 Bucovina Ar. S 78.76 323 *e*P **P 13 18 54.6 +0.5**
BURAR Bucovina Array 78.77 323⇑ *i*P **P 13 18 55.1 +1.0**
D30A Buchanan 78.80 38 P **P 13 18 54.3 +0.1**
baz=314,SNR=6.1
C31A Landman Farms, 78.82 37 P **P 13 18 54.3 +0.1**
baz=315
TESR Tescani 78.84 321⇑ *i*P **P 13 18 55.4 +1.0**
PV09 Paradox Valley 78.85 50 *e*P **P 13 18 55.9 +1.0**
B32A Ashes, Strandq 78.95 36 P **P 13 18 54.9 0.0**
baz=316,SNR=12
PV10 Paradox Valley 78.99 50 *e*P **P 13 18 56.9 +1.2**
CFR Carcaliu 79.01 319⇑ *i*P **P 13 18 56.0 +0.7**
PV04 Paradox Valley 79.06 50 *e*P **P 13 18 57.2 +1.2**
A33A Warroad 79.09 35 P **P 13 18 55.5 -0.2**
baz=316,SNR=13
PV05 Paradox Valley 79.14 50 *e*P **P 13 18 57.3 +0.8**
E30A Jud 79.15 39 P **P 13 18 56.3 +0.2**
baz=314,SNR=5.5
F29A Eureka 79.16 40 P **P 13 18 56.4 +0.2**
baz=314
ODBI Odobesti 79.16 320⇑ *i*P **P 13 18 58.5 +2.4**
N23A Red Feather La 79.19 46 P **P 13 18 57.8 +1.1**
baz=311,SNR=24
N23A Red Feather La 79.19 46 *e*P **P 13 18 58.0 +1.2**
comp=Z,72nm,1.3s
N23A LR LR
comp=Z,1µm,19.0s
PHWY Pilot Hill 79.20 46 *e*P **P 13 18 58.0 +1.2**
comp=Z,31nm,1.3s
PHWY LR LR
comp=Z,1µm,19.0s
KOLS Kolonicke sedl 79.21 325 *e*P **P 13 18 57.5 +1.1**
KOLS pmax pmax
comp=Z,70nm,1.6s
KOLS Kolonicke sedl 79.21 325 *e*P **P 13 18 57.5 +1.1**
KOLS *e*PP **PP 13 21 54.4 -1.0**
KOLS *e*S **S 13 28 55.5 +1.3**
KOLS *e*L L 13 56 46.8
RAR Rarotonga 79.23 127 LR LR 13 58 38.0
comp=Z,209nm,18.2s,baz=304,slow=39
VRI Vrincioaia 79.25 321⇑ *i*P **P 13 18 58.7 +2.0**
Y14A Wickenburg 79.28 55 *e*P **P 13 18 57.6 +0.5**
comp=Z,60nm,0.8s
Y14A LR LR
comp=Z,4µm,20.0s
PLOR Plostina 79.30 321⇑ *i*P **P 13 18 58.3 +1.3**
STHS Stebnicka Huta 79.32 326 *e*P **P 13 18 58.6 +1.6**
STHS pmax pmax
comp=Z,29nm,0.9s
STHS Stebnicka Huta 79.32 326 *e*P **P 13 18 58.6 +1.6**
AGMN Agassiz Nation 79.34 36 P **P 13 18 56.6 -0.4**
baz=316,SNR=9.9
AGMN Agassiz Nation 79.34 36 *e*P **P 13 18 56.8 -0.3**
comp=Z,34nm,0.9s
AGMN LR LR
comp=Z,2µm,18.0s
WUAZ Wupatki 79.34 53 P **P 13 18 58.9 +1.3**
baz=309,SNR=22
WUAZ Wupatki 79.34 53 *e*P **P 13 18 58.5 +1.0**
comp=Z,43nm,1.0s
D31A Mcclaflin, Tow 79.35 38 P **P 13 18 57.1 0.0**
baz=315
TIRR Tirgusor 79.36 319⇑ *i*P **P 13 18 57.9 +0.7**
TIRR Tirgusor 79.36 319 *e*P **P 13 18 57.2 0.0**
TIRR pmax pmax
comp=Z,90nm,1.4s
TIRR MLR MLR
comp=Z,13µm,19.0s
TIRR Tirgusor 79.36 319 *e*P **P 13 18 57.2 0.0**
comp=Z,90nm,1.4s
TIRR LR LR
comp=Z,13µm,19.0s
OJC Ojcow 79.36 327 *e*P **P 13 18 58.4 +1.3**
OJC Ojcow 79.36 327 *e*P **P 13 18 57.8 +0.6**
OJC pmax pmax
comp=Z,71nm,0.9s
OJC Ojcow 79.36 327 *e*P **P 13 18 57.8 +0.6**
comp=Z,71nm,0.9s
C32A Crookston 79.36 36 P **P 13 18 57.1 -0.1**
baz=316
UZH Uzhgorod 79.42 325 *e*P **P 13 18 57.2 -0.3**
UZH *e* 13 19 08.4
UZH *e* 13 21 58.4
UZH *e* 13 23 49.4
UZH *i* S **S 13 28 52.4 -3.9**
UZH *e* 13 29 02.2
UZH *i* 13 29 12.8
UZH *e* 13 29 32.4
UZH MLR MLR
comp=N,7µm,16.5s
UZH MLR MLR
comp=E,6µm,16.5s
UZH MLR MLR
comp=Z,5µm,16.5s
PV01 Paradox Valley 79.43 50 *e*P **P 13 18 58.7 +0.7**
HARR Harsova 79.45 319⇓ *i*P **P 13 18 59.0 +1.3**
GRER 79.47 320⇓ *i*P **P 13 19 01.0 +3.2**
B33A Robert and Kas 79.48 36 P **P 13 18 57.4 -0.4**
baz=316
113A Mohawk Valley, 79.50 57 *e*P **P 13 18 58.6 +0.4**
comp=Z,20nm,1.2s
113A LR LR
comp=Z,1µm,19.0s
G29A Hoven 79.55 40 P **P 13 18 58.2 -0.2**
baz=314
F30A Leola 79.56 39 P **P 13 18 58.2 -0.2**
baz=314
ARCR ARCALIA 79.56 323⇑ *i*P **P 13 19 00.4 +2.1**
CRVS Cervenica-Dubn 79.60 325 *e*P **P 13 18 59.8 +1.3**
CRVS *e* 13 21 59.3
CRVS *e*S **S 13 28 57.9 -0.4**
CRVS Cervenica-Dubn 79.60 325 *e*P **P 13 18 59.8 +1.3**
CRVS *e*PP **PP 13 21 59.3 +0.6**
CRVS *e*S **S 13 28 57.9 -0.4**
E31A Nome 79.61 38 P **P 13 18 58.6 0.0**
baz=315,SNR=8.4
BR131 Keskin Array S 79.62 313 *e*P **P 13 18 59.4 +0.4**
BRTR Keskin Array B 79.62 313 P **P 13 18 59.8 +0.8**
comp=Z,19nm,1.0s,baz=70,slow=4.1,SNR=56
BRTR PP **PP 13 21 58.0 -1.3**
comp=Z,4.3nm,0.8s,baz=82,slow=6.9,SNR=2.5
BRTR PKKPbc **PKKPbc 13 37 46.5 +1.1**
comp=Z,0.4nm,0.5s,baz=187,slow=1.5,SNR=4.4
BRTR LR LR 13 58 06.1
comp=Z,2µm,18.5s,baz=40,slow=39
BRTR Keskin Array B 79.62 313 P **P 13 18 59.8 +0.8**
BRTR 13 21 58.0
BRTR pmax pmax
comp=Z,23nm,1.0s
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR MLR MLR
comp=Z,2µm,18.5s
D32A Dogwood Acres, 79.62 37 P **P 13 18 58.6 0.0**
baz=316
TRPA Tarpa 79.67 324⇑ *e*P **P 13 19 00.3 +1.5**
SMCO Snowmass 79.71 48 *e*P **P 13 19 00.8 +1.0**
comp=Z,131nm,1.9s
SMCO LR LR
comp=Z,1µm,19.0s
NIE Niedzica 79.74 326 *e*P **P 13 19 00.8 +1.5**
NIE Niedzica 79.74 326 *e*P **P 13 19 00.8 +1.5**
B34A Aery, Baudette 79.76 35 P **P 13 18 58.9 -0.4**
baz=317,SNR=8.2
C33A Trail 79.77 36 P **P 13 18 59.4 0.0**
baz=316
H29A Onida 79.80 41 P **P 13 18 59.5 -0.1**
baz=314
DRWC Darouich 79.80 309 *e*P **P 13 19 01.5 +1.6**

DOPR Dopca 79.85 321⇑ *i*P **P 13 19 02.0 +2.1**
ISR Istrita 79.87 320⇑ *i*P **P 13 19 01.8 +1.7**
MLR Muntele Rosu 79.91 321⇑ *i*P **P 13 18 59.9 -0.5**
MLR Muntele Rosu 79.91 321 *e*P **P 13 19 00.5 +0.1**
MLR pmax pmax
comp=Z,74nm,1.1s
MLR MLR MLR
comp=Z,10µm,19.0s
MLR Muntele Rosu 79.91 321 *e*P **P 13 19 00.5 +0.1**
comp=Z,74nm,1.1s
MLR LR LR
comp=Z,10µm,19.0s
MSAB Monastry St. A 79.92 319⇑ *i*P **P 13 19 01.8 +1.5**
F31A Hecla 79.93 39 P **P 13 19 00.3 0.0**
baz=315,SNR=6.9
E32A Braaten, Kindr 79.99 38 P **P 13 19 00.2 -0.4**
baz=316
X16A Lo Mia Camp, P 79.99 54 *e*P **P 13 19 02.0 +0.8**
comp=Z,27nm,1.1s
G30A Faulkton 79.99 40 P **P 13 19 00.8 +0.1**
baz=314,SNR=12
ANTO Ankara 80.02 313 *e*P **P 13 19 01.9 +0.9**
ANTO pmax pmax
comp=Z,68nm,0.8s
ANTO MLR MLR
comp=Z,2µm,20.0s
ANTO Ankara 80.02 313 *e*P **P 13 19 01.9 +0.9**
comp=Z,68nm,0.8s
ANTO LR LR
comp=Z,2µm,20.0s
BR231 Keskin MP Arra 80.05 313 *e*P **P 13 19 02.2 +1.0**
MVCO Mesa Verde 80.06 50 P **P 13 19 02.1 +0.6**
baz=310,SNR=17
MVCO Mesa Verde 80.06 50 *e*P **P 13 19 01.9 +0.4**
comp=Z,28nm,0.8s
MVCO LR LR
comp=Z,2µm,18.0s
ISCO Idaho Springs 80.09 47 P **P 13 19 02.9 +1.2**
baz=311,SNR=12
ISCO Idaho Springs 80.09 47 *e*P **P 13 19 02.8 +1.0**
ISCO pmax pmax
comp=Z,34nm,1.4s
ISCO MLR MLR
comp=Z,2µm,19.0s
ISCO Idaho Springs 80.09 47 *e*P **P 13 19 02.8 +1.0**
comp=Z,34nm,1.4s
ISCO LR LR
comp=Z,2µm,19.0s
SECR 80.17 320⇑ *i*P **P 13 19 03.7 +2.1**
I29A Vivian Onida 80.17 41 P **P 13 19 01.8 +0.1**
baz=314
D33A AnnSam, Waubun 80.18 37 P **P 13 19 01.5 -0.2**
baz=316
CJR Cluj-Napoca 80.19 323⇑ *i*P **P 13 19 04.2 +2.4**
C34A RKJ Ranch, Bem 80.25 36 P **P 13 19 01.8 -0.2**
baz=317
AKSY AKSARAY - Alti 80.26 312 *i* P **P 13 19 03.2 +0.9**
B35A Bob, Littlefor 80.27 35 P **P 13 19 02.0 -0.1**
baz=318,SNR=13
LANS Liptovska Anna 80.30 327 *e*P **P 13 19 04.1 +1.8**
LANS Liptovska Anna 80.30 327 *e*P **P 13 19 04.1 +1.8**
SULR 80.32 320⇑ *i*P **P 13 19 03.5 +1.1**
KECS Kecovo 80.34 326 *e*P **P 13 19 03.9 +1.4**
KECS pmax pmax
comp=Z,9.0nm,0.9s
KECS Kecovo 80.34 326 *e*P **P 13 19 03.9 +1.4**
KECS *e*PP **PP 13 22 06.2 +1.4**
OKC Ostrava-Krasne 80.35 328⇑ *e*P **P 13 19 03.6 +1.1**
OKC *ex* x 13 19 19.6
OKC *e*S **S 13 29 08.2 +2.0**
OKC AMS AMS 13 57 00.0
comp=Z,6µm,18.7s
OKC Ostrava-Krasne 80.35 328 *e*P **P 13 19 03.6 +1.1**
OKC *e* 13 19 19.6
OKC *e*S **S 13 29 08.2 +2.0**
OKC MLR MLR
comp=Z,6µm,18.7s
KSP Ksiaz 80.35 329 *e*P **P 13 19 03.7 +1.2**
KSP Ksiaz 80.35 329 *e*P **P 13 19 03.7 +1.2**
TAU Tasmania Unive 80.39 177 *e*P **P 13 19 03.0 +0.6**
TAU pmax pmax
comp=Z,73nm,0.9s
TAU Tasmania Unive 80.39 177 *e*P **P 13 19 03.0 +0.6**
comp=Z,73nm,0.9s
VOIR 80.39 321⇑ *i*P **P 13 19 04.8 +1.9**
G31A Conde 80.40 39 P **P 13 19 02.8 0.0**
baz=315
KKUL Konya-Kulu 80.41 312 *i* P **P 13 19 05.0 +1.8**
F32A Veblen 80.47 38 P **P 13 19 03.0 -0.3**
baz=316
D34A Park Rapids 80.53 36 P **P 13 19 03.6 +0.1**
baz=317,SNR=7.5
DRGR 80.56 323⇑ *i*P **P 13 19 04.9 +1.1**
E33A Westby DABS, E 80.56 37 P **P 13 19 03.4 -0.3**
baz=316
SUSD Miller 80.57 40 P **P 13 19 03.4 -0.4**
baz=315
W18A Petrified Fore 80.63 53 P **P 13 19 05.2 +0.7**
baz=310
W18A Petrified Fore 80.63 53 P **P 13 19 06.0 +1.5**
comp=Z,11nm,0.8s
214A Organ Pipe Nat 80.64 57 P **P 13 19 03.6 -0.8**
baz=309
214A Organ Pipe Nat 80.64 57 *e*P **P 13 19 05.0 +0.6**
comp=Z,212nm,1.7s
C35A Jirik Farms, M 80.64 35 P **P 13 19 03.8 -0.3**
baz=317,SNR=10
ARR Arges 80.65 321⇑ *i*P **P 13 19 06.7 +2.4**
MORC Moravsky Berou 80.65 328⇑ *i*P **P 13 19 05.4 +1.2**
MORC Moravsky Berou 80.65 328 *e*P **P 13 19 05.1 +0.9**
MORC pmax pmax
comp=Z,265nm,1.2s
MORC MLR MLR
comp=Z,36µm,19.0s
MORC Moravsky Berou 80.65 328 *e*P **P 13 19 05.1 +0.9**
comp=Z,265nm,1.2s
MORC LR LR
comp=Z,36µm,19.0s
I30A Oacoma 80.70 41 P **P 13 19 04.1 -0.4**
baz=314
DPC Dobruska-Polom 80.72 329⇑ *i*P **P 13 19 06.0 +1.4**
DPC *ex* x 13 19 19.1
DPC *e*S **S 13 29 10.3 +0.1**
DPC AMS AMS 13 57 30.0
comp=Z,10µm,17.3s
DPC Dobruska-Polom 80.72 329⇑ *i*P **P 13 19 06.0 +1.4**
DPC *e* 13 19 19.1
DPC *e*S **S 13 29 10.3 +0.1**
DPC MLR MLR
comp=Z,10µm,17.3s
S22A 4UR Ranch, Cre 80.72 49 P **P 13 19 06.6 +1.5**
baz=311,SNR=25
S22A 4UR Ranch, Cre 80.72 49 *e*P **P 13 19 06.2 +1.1**
comp=Z,20nm,0.8s
S22A LR LR
comp=Z,1µm,19.0s
UPC Upice 80.73 329⇑ *i*P **P 13 19 05.8 +1.3**
UPC *ex* x 13 19 20.0
UPC *e*S **S 13 29 09.5 -0.6**
UPC AMS AMS 13 57 30.0
comp=Z,10µm,17.2s
UPC Upice 80.73 329⇑ *i*P **P 13 19 05.8 +1.3**
UPC *e* 13 19 20.0
UPC *e*S **S 13 29 09.5 -0.6**
UPC MLR MLR
comp=Z,10µm,17.2s
G32A Webster 80.73 39 P **P 13 19 04.6 -0.1**
baz=316
DED Mersin 80.73 310 *i* P **P 13 19 06.3 +1.4**
PRD Provadia 80.76 318 P **P 13 19 05.9 +1.1**
H31A Wolsey 80.79 40 P **P 13 19 04.7 -0.3**
baz=315
KERG Konya-Eregli 80.84 310 *i* P **P 13 19 06.4 +0.8**
F33A 5 Mile Ranch, 80.90 38 P **P 13 19 05.9 +0.3**
baz=316,SNR=12
Q24A Divide 80.92 47 P **P 13 19 07.2 +1.0**
baz=312,SNR=7.5
Q24A Divide 80.92 47 *e*P **P 13 19 06.9 +0.7**
comp=Z,13nm,0.8s
E34A Wadena 80.95 37 P **P 13 19 05.5 -0.3**
baz=317
PSZ Piszkesteto 81.03 325⇑ *i*P **P 13 19 07.6 +1.3**
PSZ Piszkesteto 81.03 325⇑ *e*P **P 13 19 07.6 +1.3**
PSZ Piszkesteto 81.03 325 *e*P **P 13 19 07.2 +0.9**
PSZ pmax pmax
comp=Z,119nm,1.3s

PSZ MLR MLR
comp=Z,10µm,18.0s
PSZ Piszkesteto 81.03 325 *e*P **P 13 19 07.2 +0.9**
comp=Z,119nm,1.3s
PSZ LR LR
comp=Z,10µm,18.0s
D35A Remer 81.06 36 P **P 13 19 06.1 -0.3**
baz=318
VYHS Vyhne 81.07 326 *e*P **P 13 19 07.6 +1.2**
VYHS *e* 13 19 22.8
VYHS *e* 13 22 10.8
VYHS *e*S **S 13 29 15.8 +2.0**
VYHS pmax pmax
comp=Z,76nm,1.9s
VYHS MLR MLR
comp=Z,5µm,18.0s
VYHS Vyhne 81.07 326 *e*P **P 13 19 07.6 +1.2**
VYHS *e* 13 19 22.8
VYHS *e*PP **PP 13 22 10.8 0.0**
VYHS *e*S **S 13 29 15.8 +2.0**
VYHS *e*L L 13 58 18.8
HUMR Humele 81.07 321⇑ *i*P **P 13 19 08.1 +1.6**
I31A Royce, Wessing 81.08 40 P **P 13 19 06.1 -0.4**
baz=315
J30A Dallas 81.08 41 P **P 13 19 06.6 +0.1**
baz=314
C36A Pine Crest Far 81.11 35 P **P 13 19 06.7 0.0**
baz=318,SNR=7.9
DEV Deva 81.12 323⇑ *i*P **P 13 19 08.9 +2.2**
HIZ Hauiti 81.21 156 *e*P **P 13 19 07.9 +0.9**
comp=Z,129nm,1.0s
HIZ LR LR
comp=Z,2µm,20.0s
BRG Berggiesshubel 81.27 330 *i*P **P 13 19 08.2 +0.8**
comp=Z,39nm,1.1s
BRG *i* 13 19 22.7
comp=Z,38nm,1.0s
BRG PP **PP 13 22 13.0 +0.7**
BRG S **S 13 29 18.0 +2.3**
comp=N,7µm,17.4s
comp=E,4µm,16.3s
comp=Z,8µm,17.6s
BRG Berggiesshubel 81.27 330 *i*P **P 13 19 08.2 +0.8**
BRG *i* 13 19 22.7
BRG 13 22 13.0
BRG S **S 13 29 18.0 +2.3**
BRG pmax pmax
comp=Z,39nm,1.1s
BRG MLR MLR
comp=N,7µm,17.4s
BRG MLR MLR
comp=E,4µm,16.3s
BRG MLR MLR
comp=Z,8µm,17.6s
E35A Pequot Lakes 81.28 36 P **P 13 19 07.4 -0.2**
baz=317
CLL Collm 81.29 331⇑ *i*P **P 13 19 08.0 +0.5**
comp=Z,53nm,1.1s
CLL *e*Pmax 13 19 16.0
CLL *e* 13 19 21.0
CLL *e*PP **PP 13 22 12.0 -0.5**
CLL *e*PPP PPP 13 24 08.0
CLL *e*S **S 13 29 17.0 +1.1**
CLL *e* 13 30 42.0
CLL *e*SS SS 13 34 18.0 -12
CLL *e*SSS SSS 13 38 00.0
CLL *e*SSSS 13 40 42.0
CLL LmH 13 53 00.0
comp=N,9µm,18.8s
CLL LmH 13 53 00.0
comp=E,11µm,18.1s
CLL Lmax 13 59 00.0
CLL Collm 81.29 331⇑ *i*P **P 13 19 08.0 +0.5**
CLL *e*S **S 13 29 17.0 +1.1**
CLL pmax pmax
comp=Z,53nm,1.1s
CLL Collm 81.29 331 *e*P **P 13 19 07.6 +0.2**
comp=Z,43nm,0.9s
CLL LR LR
comp=Z,4µm,19.0s
PVCC Panska Ves 81.29 330⇑ *e*P **P 13 19 08.8 +1.3**
PVCC AMS AMS 13 58 00.0
comp=Z,9µm,17.9s
PVCC Panska Ves 81.29 330 *e*P **P 13 19 08.8 +1.3**
PVCC MLR MLR
comp=Z,9µm,17.9s
H32A Carlson Farm, 81.30 39 P **P 13 19 07.6 -0.1**
baz=316,SNR=6.0
G33A Ortonville 81.30 38 P **P 13 19 08.0 +0.3**
baz=316,SNR=10
KDHN Kadinhani 81.31 312 *i*P **P 13 19 08.9 +0.9**
OGNE Ogallala 81.35 44 P **P 13 19 07.7 -0.5**
baz=313
OGNE Ogallala 81.35 44 *e*P **P 13 19 09.0 +0.8**
comp=Z,79nm,1.1s
BORA Eskisehir 81.36 314 *i*P **P 13 19 09.6 +1.4**
ESKT Eskisehir 81.37 314 *i*P **P 13 19 08.9 +0.6**
DRUM Mains of Drumt 81.40 342 AMS AMS 13 59 47.4
comp=Z,4µm,16.9s
D36A Goodland 81.40 35 P **P 13 19 07.7 -0.5**
baz=318
VRAC Vranov 81.41 328⇑ *i*P **P 13 19 09.3 +1.1**
C37A Embarrass 81.43 34 P **P 13 19 08.2 -0.1**
baz=319,SNR=8.8
F34A Alexandria 81.43 37 P **P 13 19 08.2 -0.2**
baz=317
SIRR Siria 81.44 323⇑ *i*P **P 13 19 08.9 +0.5**
KIZK Mersin 81.44 310 *i*P **P 13 19 09.4 +0.8**
K30A Basset 81.47 42 P **P 13 19 08.4 -0.3**
baz=314
SZH Strazhica 81.48 319 P **P 13 19 09.2 +0.6**
J31A Geddes 81.49 41 P **P 13 19 08.7 0.0**
baz=315,SNR=6.0
ZIMR 81.49 320⇑ *i*P **P 13 19 11.0 +2.3**
H33A Prehn Over Nor 81.51 39 P **P 13 19 09.3 +0.4**
baz=316,SNR=14
SDCO Great Sand Dun 81.52 48 P **P 13 19 10.3 +1.0**
baz=312,SNR=21
SDCO Great Sand Dun 81.52 48 *e*P **P 13 19 09.8 +0.5**
comp=Z,50nm,1.6s
SDCO LR LR
comp=Z,1µm,20.0s
KAC Achnashellach 81.52 344⇑ *e*P **P 13 19 09.7 +1.0**
EYMN Ely 81.57 34 P **P 13 19 08.8 -0.2**
baz=319,SNR=11
EYMN Ely 81.57 34 *e*P **P 13 19 09.1 0.0**
comp=Z,41nm,1.1s
EYMN LR LR
comp=Z,2µm,22.0s
I32A Karley and Nic 81.62 40 P **P 13 19 08.6 -0.8**
baz=316
G34A Benson 81.65 38 P **P 13 19 09.9 +0.3**
baz=317,SNR=5.8
SMOL Smolenice 81.66 327 *e*P **P 13 19 11.1 +1.6**
SMOL Smolenice 81.66 327 *e*P **P 13 19 11.1 +1.6**
GOPC GO Pecny, Ondr 81.68 329⇑ *i*P **P 13 19 10.8 +1.2**
GOPC *ex* x 13 19 26.3
GOPC *e*PP **PP 13 22 16.2 +0.3**
GOPC *e*S **S 13 29 17.6 -2.5**
GOPC AMS AMS 13 58 10.0
comp=Z,10µm,17.3s
GOPC GO Pecny, Ondr 81.68 329⇑ *i*P **P 13 19 10.8 +1.2**
GOPC *e* 13 19 26.3
GOPC *e* 13 22 16.2
GOPC *e*S **S 13 29 17.6 -2.5**
GOPC MLR MLR
comp=Z,10µm,17.3s
F35A Swanville 81.72 37 P **P 13 19 09.2 -0.7**
baz=317
PRU Pruhonice 81.72 330⇑ *e*P **P 13 19 10.8 +1.0**
PRU *ex* x 13 19 25.4
PRU *e*PP **PP 13 22 18.3 +2.2**
PRU *e*S **S 13 29 20.0 -0.5**
PRU AMS AMS 13 58 00.0
comp=Z,10µm,18.8s
PRU Pruhonice 81.72 330 *e*P **P 13 19 10.8 +1.0**
PRU *e* 13 19 25.4
PRU *e* 13 22 18.3
PRU *e*S **S 13 29 20.0 -0.5**
PRU MLR MLR
comp=Z,10µm,18.8s
URZ Urewera 81.74 154 *e*P **P 13 19 07.8 -1.9**
comp=Z,42nm,0.8s
URZ LR LR
comp=Z,3µm,18.0s

TUC Tucson 81.75 55 P **P 13 19 10.5 +0.1**
baz=310
TUC Tucson 81.75 55 *e*P **P 13 19 11.2 +0.8**
TUC pmax pmax
comp=Z,47nm,1.8s
TUC MLR MLR
comp=Z,2µm,18.0s
TUC Tucson 81.75 55 *e*P **P 13 19 11.2 +0.8**
comp=Z,47nm,1.8s
TUC LR LR
comp=Z,2µm,18.0s
D37A Cotton 81.75 35 P **P 13 19 08.6 -1.5**
baz=318
KPL Plockton 81.75 344 *e*P **P 13 19 11.0 +1.2**
KSB Sheil Bridge 81.82 344⇑ *e*P **P 13 19 11.1 +1.0**
C38A Sawbill Land. 81.84 34 P **P 13 19 10.6 +0.1**
baz=319,SNR=14
E36A McGregor 81.85 36 P **P 13 19 10.8 +0.3**
baz=318,SNR=5.7
BOLV Bolvadin 81.86 313 *i*P **P 13 19 12.2 +1.3**
TREC Trest 81.88 329⇑ *i*P **P 13 19 11.8 +1.1**
TREC AMS AMS 13 58 20.0
comp=Z,8µm,17.9s
TREC Trest 81.88 329⇑ *i*P **P 13 19 11.8 +1.1**
TREC MLR MLR
comp=Z,8µm,17.9s
J32A Parkston 81.89 40 P **P 13 19 10.7 -0.2**
baz=316
BZS Buzias 81.94 323⇑ *i*P **P 13 19 11.6 +0.6**
I33A Coleman 81.94 39 P **P 13 19 10.8 -0.3**
baz=316
MWZ Matawai 81.95 154 PN **P 13 19 09.8 -1.2**
K31A O'Neill 81.95 41 P **P 13 19 11.3 +0.1**
baz=315
H34A Spellman Lake, 82.00 38 P **P 13 19 11.2 -0.2**
baz=317
E37A Wrenshall 82.20 35 P **P 13 19 12.3 -0.1**
baz=319
F36A Milaca 82.21 36 P **P 13 19 12.0 -0.5**
baz=318
G35A Watkins 82.22 37 P **P 13 19 12.2 -0.3**
baz=317
L31A Butterfield Fa 82.22 42 P **P 13 19 12.8 +0.2**
baz=315,SNR=17
ECSD EROS Data Cent 82.26 39 P **P 13 19 13.0 +0.2**
baz=316,SNR=21
ECSD EROS Data Cent 82.26 39 *e*P **P 13 19 12.2 -0.5**
comp=Z,31nm,0.9s
ECSD LR LR
comp=Z,2µm,18.0s
C39A Grand Marais 82.27 33 P **P 13 19 12.2 -0.5**
baz=320,SNR=6.4
BRBR Barbar 82.31 306 *e*P **P 13 19 12.6 -0.9**
ESY Stoneypath 82.32 342 *e*P **P 13 19 13.6 +0.8**
K32A Verdigre 82.33 41 P **P 13 19 12.3 -0.9**
baz=315
KSCO Kaye Shedlock' 82.34 46 P **P 13 19 12.8 -0.6**
baz=313
BKZ Black Stump Fm 82.34 155 *e*P **P 13 19 11.4 -1.6**
comp=Z,60nm,1.1s
BKZ LR LR
comp=Z,5µm,22.0s
NKC Novy Kostel 82.36 331⇑ *e*P **P 13 19 14.3 +1.1**
NKC AMS AMS 14 02 40.0
comp=Z,4µm,17.0s
NKC Novy Kostel 82.36 331 *e*P **P 13 19 14.3 +1.1**
NKC MLR MLR
comp=Z,4µm,17.0s
J33A Davis 82.38 40 P **P 13 19 13.4 -0.1**
baz=316
I34A Hadley 82.42 39 P **P 13 19 13.4 -0.2**
baz=317
BAGO Egridir - ISPA 82.44 313 *i*P **P 13 19 15.0 +1.1**
H35A Sunnyside Ranc 82.44 38 P **P 13 19 14.4 +0.7**
baz=317,SNR=5.4
EDI Edinburgh 82.46 342 AMS AMS 14 00 30.5
comp=Z,3µm,18.2s
EAB Aberfoyle 82.50 343 *e*P **P 13 19 14.7 +1.0**
MDVR Moldovita 82.50 322⇑ *i*P **P 13 19 14.9 +0.8**
MPEP Malo Peshtene 82.54 320 P **P 13 19 15.4 +1.2**
G36A St. Michael 82.56 37 P **P 13 19 14.7 +0.4**
baz=318
T25A Trinidad 82.57 48 P **P 13 19 15.6 +0.8**
baz=312,SNR=19
T25A Trinidad 82.57 48 *e*P **P 13 19 15.6 +0.8**
comp=Z,41nm,0.8s
T25A LR LR
comp=Z,1µm,22.0s
SOP Sopron 82.68 327⇑ *e*P **P 13 19 16.2 +1.4**
ISP Isparta 82.71 313 P **P 13 19 15.5 +0.2**
ISP Isparta 82.71 313 P **P 13 19 15.5 +0.2**
ISP MLR MLR
comp=Z,2µm,20.0s
ISP Isparta 82.71 313 P **P 13 19 15.5 +0.2**
ISP LR LR
comp=Z,2µm,20.0s
GAZI Gazipasa 82.71 311 *i*P **P 13 19 15.2 -0.1**
LAZ Ladron 82.72 52 *e*P **P 13 19 16.2 +0.5**
M31A Lambtecht Ranc 82.74 42 P **P 13 19 15.5 +0.2**
baz=315
L32A Elgin 82.78 41 P **P 13 19 15.7 +0.2**
baz=316
CONA Conrad Observa 82.78 328 *i*pP **P 13 19 17.2 +1.6**
comp=Z,23nm,0.8s,SNR=31
KHC Kasperske Hory 82.79 330⇑ *i*P **P 13 19 16.5 +1.0**
KHC *ex* x 13 19 29.0
KHC *e*PP PP 13 22 33.2 +8.3
KHC *e*S **S 13 29 29.4 -2.1**
KHC AMS AMS 13 58 40.0
comp=Z,10µm,19.1s
KHC Kasperske Hory 82.79 330⇑ *i*P **P 13 19 16.5 +1.0**
KHC *e* 13 19 29.0
KHC *e* 13 22 33.2
KHC *e*S **S 13 29 29.4 -2.1**
KHC MLR MLR
comp=Z,10µm,19.1s
KHC Kasperske Hory 82.79 330 *e*P **P 13 19 16.2 +0.7**
comp=Z,37nm,1.4s
KHC LR LR
comp=Z,4µm,20.0s
ANMO Albuquerque 82.79 51 P **P 13 19 17.0 +1.1**
baz=312
ANMO Albuquerque 82.79 51⇑ *i*P **P 13 19 16.8 +0.9**
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO MLR MLR
comp=Z,1µm,18.0s
ANMO Albuquerque 82.79 51 *e*P **P 13 19 17.0 +1.1**
comp=Z,52nm,1.3s
ANMO LR LR
comp=Z,2µm,20.0s
PGBU Gleniferbraes 82.87 342 AMS AMS 13 55 56.0
comp=Z,2µm,18.3s
K33A Hardington 82.88 40 P **P 13 19 15.8 -0.2**
baz=316
KDZ Kurdzhali 82.89 318 P **P 13 19 16.9 +0.8**
PGB Panagyurishte 82.90 320 P **P 13 19 18.2 +2.0**
J34A George 82.92 39 P **P 13 19 15.6 -0.6**
baz=317
CSS Mathiatis 82.94 309 P **P 13 19 18.4 +1.9**
CSS Mathiatis 82.94 309 P **P 13 19 17.3 +0.8**
CSS Mathiatis 82.94 309 *e*P **P 13 19 17.0 +0.5**
comp=Z,20nm,0.8s
CSS LR LR
comp=Z,700nm,21.0s
PLD Plovdiv 82.94 319 P **P 13 19 17.4 +1.1**
GEC2 GERESS Array S 82.96 329 *e*P **P 13 19 16.7 +0.2**
GEC2 pmax pmax
comp=Z,51nm,1.4s
GEC2 MLR MLR
comp=Z,10µm,19.0s
GEC2 GERESS Array S 82.96 329 *e*P **P 13 19 16.7 +0.2**
comp=Z,51nm,1.4s
GEC2 LR LR
comp=Z,10µm,19.0s
GERES GERESS Array B 82.96 329 P **P 13 19 17.1 +0.6**
comp=Z,8.4nm,0.7s,baz=36,slow=5.0,SNR=53
GERES PP **PP 13 22 24.5 -2.0**
comp=Z,3.1nm,0.7s,baz=40,slow=8.0,SNR=4.3
GERES PKKPbc **PKKPbc 13 37 36.5 -1.6**
comp=Z,0.6nm,0.6s,baz=188,slow=2.0,SNR=6.5
GERES LR LR 13 59 26.5
comp=Z,9µm,18.3s,baz=33,slow=38
H36A Jessenland, He 82.97 37 P **P 13 19 17.1 +0.7**
baz=318
GEA0 GERESS Array S 82.97 329 *e*P **P 13 19 16.7 +0.3**

I35A Creekview Farm 82.98 38 P **P 13 19 16.3 -0.2**
baz=317
ESK Eskdalemuir 83.01 342 *e*P **P 13 19 17.5 +1.1**
ESK AMB AMB 13 19 23.0
comp=Z,57nm,2.2s
ESK AMS AMS 14 00 46.5
comp=Z,4µm,17.8s
ESK Eskdalemuir 83.01 342 *e*P **P 13 19 17.2 +0.8**
ESK pmax pmax
comp=Z,27nm,0.7s
ESK MLR MLR
comp=Z,4µm,18.0s
ESK Eskdalemuir 83.01 342 *e*P **P 13 19 17.2 +0.8**
comp=Z,27nm,0.7s
ESK LR LR
comp=Z,4µm,18.0s
SPMN Marine on St. 83.02 36 P **P 13 19 16.8 +0.2**
baz=318
SPMN Marine on St. 83.02 36 PFAKE 13 19 30.0 +13
SPMN LR LR
comp=Z,1µm,20.0s
L33A Hoskins 83.05 41 P **P 13 19 16.6 -0.3**
baz=316
Y22D IRIS PASSCAL I 83.08 52 P **P 13 19 17.1 -0.3**
baz=311
Y22D IRIS PASSCAL I 83.08 52 PFAKE 13 19 30.0 +13
Y22D LR LR
comp=Z,1µm,20.0s
ALN Alexandroupoli 83.09 317 P **P 13 19 17.7 +0.6**
ALN Alexandroupoli 83.09 317 P **P 13 19 17.7 +0.6**
ALN Alexandroupoli 83.09 317 P **P 13 19 17.7 +0.6**
LPM Los Pinos Moun 83.10 52 *e*P **P 13 19 17.7 +0.2**
ECK Cauldkaine Hil 83.11 342 *e*P **P 13 19 19.5 +2.6**
N31A Bailey Ranch, 83.12 43 P **P 13 19 17.3 -0.1**
baz=315
BGNE Belgrade 83.13 42 P **P 13 19 17.6 +0.2**
baz=316
BGNE Belgrade 83.13 42 *e*P **P 13 19 17.4 0.0**
comp=Z,204nm,1.2s
ENEZ Enez 83.14 317 P **P 13 19 18.1 +0.7**
BNM Barren Site 83.21 52 *e*P **P 13 19 18.8 +0.7**
J35A Milford 83.23 39 P **P 13 19 17.8 -0.1**
baz=317
DSZ Denniston Nort 83.24 159 PN **P 13 19 17.5 -0.1**
GRFO Grafenberg 83.26 331 *e*P **P 13 19 18.5 +0.6**
GRFO pmax pmax
comp=Z,161nm,1.5s
GRFO MLR MLR
comp=Z,5µm,19.0s
GRFO Grafenberg 83.26 331 *e*P **P 13 19 18.5 +0.6**
comp=Z,161nm,1.5s
GRFO LR LR
comp=Z,5µm,19.0s
K34A Le Mars 83.28 40 P **P 13 19 18.1 +0.1**
baz=317,SNR=6.7
KULA Kula-Manisa 83.31 314 P **P 13 19 19.1 +0.7**
KULA Kula-Manisa 83.31 314 P **P 13 19 19.1 +0.7**
I36A Fitzsimmons Fa 83.34 38 P **P 13 19 18.4 0.0**
baz=318
KORT Korkueli 83.36 312 *i*P **P 13 19 18.7 -0.1**
MRZ Mangatainoka R 83.39 156 PN **P 13 19 17.6 -0.7**
O31A Woolen Ranch, 83.39 43 P **P 13 19 18.6 -0.2**
baz=315
H37A Dierke Farm, C 83.45 37 P **P 13 19 17.9 -1.0**
baz=318
PPT Papeete 83.45 118 LR LR 13 48 02.5
comp=Z,1µm,21.5s,baz=302,slow=30
ARSA Arzberg 83.46 327 *i*pP **P 13 19 20.3 +1.3**
comp=Z,9.4nm,0.6s,SNR=15
PPT2 Papeete2 83.47 118 *e*PP PP 13 22 27.9 -4.1
comp=Z,108nm,25.2s
PPT2 *e*S **S 13 29 38.1 -1.0**
comp=Z,3µm,32.2s
PPT2 Papeete2 83.47 118 *e*LQ LQ 13 41 20.0
comp=Z,4µm,29.5s
PPT2 *e*LR LR 13 45 14.6
comp=Z,5µm,24.8s,baz=319
PPT2 Papeete2 83.47 118 *e*T T 14 51 09.3
comp=Z,3.1nm,0.3s
AKMC Akamas 83.51 310 P **P 13 19 20.0 +0.6**
N32A Skulken Farm, 83.51 42 P **P 13 19 18.8 -0.6**
baz=315
M33A Taylor Creek F 83.52 41 P **P 13 19 19.3 -0.1**
baz=316
MOA Molln 83.52 328 *i*pP **P 13 19 20.4 +1.1**
comp=Z,4.7nm,0.4s,SNR=10.0
121A Cookes Peak, D 83.54 54 P **P 13 19 21.0 +1.2**
baz=311,SNR=16
121A Cookes Peak, D 83.54 54 *e*P **P 13 19 21.0 +1.2**
comp=Z,19nm,0.7s
BBO1 Bothel 83.54 341 *e*P **P 13 19 20.0 +0.9**
THZ Tophouse 83.57 158 *e*P **P 13 19 18.8 -0.6**
comp=Z,118nm,1.0s
THZ LR LR
comp=Z,3µm,20.0s
THZ Tophouse 83.57 158 PN **P 13 19 18.7 -0.6**
PPCY Paphos 83.59 310 P **P 13 19 20.3 +0.5**
BFZ Birch Farm 83.62 156 *e*P **P 13 19 19.0 -0.5**
comp=Z,102nm,0.9s
BFZ LR LR
comp=Z,3µm,19.0s
I37A Lemond, Waseca 83.64 37 P **P 13 19 20.3 +0.4**
baz=318,SNR=5.4
KESW Keswick, Cumbr 83.64 341 *e*P **P 13 19 20.8 +1.1**
KESW AMB AMB 13 19 26.4
comp=Z,87nm,2.2s
KESW AMS AMS 14 00 46.1
comp=Z,3µm,19.4s
L34A Svendsen Farm, 83.66 41 P **P 13 19 20.1 +0.1**
baz=316
GOLH Golhisar 83.67 313 *i*P **P 13 19 21.0 +0.7**
GADA Gvkgeada 83.67 317 P **P 13 19 20.6 +0.5**
GADA Gvkgeada 83.67 317 P **P 13 19 20.6 +0.5**
SMTH Samothraki Isl 83.67 317 P **P 13 19 19.7 -0.4**
SMTH Samothraki Isl 83.67 317 P **P 13 19 19.7 -0.4**
J36A Seneca 1, Swea 83.69 38 P **P 13 19 20.2 0.0**
baz=318
K35A Storm Lake 83.69 39 P **P 13 19 19.2 -1.0**
baz=317
SNZO South Karori 83.70 157 PFAKE 13 19 30.0 +10
SNZO LR LR
comp=Z,4µm,21.0s
HSIG 83.73 58 PFAKE 13 19 30.0 +9.3
HSIG LR LR
comp=Z,2µm,19.0s
GAL1 Galloway 83.79 342 *e*P **P 13 19 21.4 +1.0**
GAL1 AMB AMB 13 19 25.3
comp=Z,31nm,2.6s
GAL1 AMS AMS 14 01 29.7
comp=Z,1µm,19.1s
MMB Musomiste 83.82 319 P **P 13 19 21.5 +0.6**
KAVA Kavala 83.83 318 P **P 13 19 21.6 +0.7**
KAVA Kavala 83.83 318 P **P 13 19 21.6 +0.7**
DIVS Divibare 83.84 323 P **P 13 19 21.5 +0.5**
O32A Brockman Farm, 83.88 43 P **P 13 19 20.4 -0.8**
baz=316
M34A Aspy Farms, Fr 83.89 41 P **P 13 19 21.0 -0.2**
baz=316
NVR Nevrokopi 83.92 319 P **P 13 19 22.4 +1.0**
NVR Nevrokopi 83.92 319 P **P 13 19 22.4 +1.0**
SRIG Santa Rosalia 83.93 60 PFAKE 13 19 30.0 +8.3
SRIG LR LR
comp=Z,2µm,18.0s
KKB Krupnik 83.95 320 P P 13 19 26.4 +4.9
L35A Bielow Farm, R 83.98 40 P **P 13 19 21.5 -0.2**
baz=317
N33A J Bar K, Exete 83.98 42 P **P 13 19 21.5 -0.2**
baz=316
COWI Conover 84.02 34 *e*P **P 13 19 21.4 -0.5**
comp=Z,22nm,1.0s
COWI LR LR
comp=Z,1µm,20.0s
INZ Inchbonnie 84.05 160 PN **P 13 19 21.1 -0.5**
GROS Grobnik 84.08 327 *i*P **P 13 19 22.5 +0.3**
J37A Redenius Farm, 84.09 38 P **P 13 19 22.9 +0.6**
baz=318
CBKS Cedar Bluff 84.10 45 P **P 13 19 22.2 -0.2**
baz=315
CBKS Cedar Bluff 84.10 45 *e*P **P 13 19 21.7 -0.7**
CBKS pmax pmax
comp=Z,35nm,0.9s
CBKS Cedar Bluff 84.10 45 *e*P **P 13 19 21.7 -0.7**
comp=Z,35nm,0.9s
SOKA Soboth 84.11 327 *i*pP **P 13 19 23.1 +0.7**
comp=Z,41nm,0.9s,SNR=37
PRK Paraskevi 84.13 316 P **P 13 19 23.1 +0.6**

PRK Paraskevi 84.13 316 P P 13 19 23.1 +0.6
PRK Paraskevi 84.13 316 P P 13 19 23.1 +0.6
I38A Scanlan Farm, 84.13 37 P P 13 19 22.7 +0.3
baz=319
SCHQ Schefferville 84.13 17 P P 13 19 22.9 +0.7
comp=Z,6.0nm,0.8s,baz=334,slow=6.0,SNR=4.2
SCHQ LR LR 14 02 50.1
comp=Z,2µm,18.1s,baz=338,slow=40
SCHQ Schefferville 84.13 17 eP P 13 19 24.1 +1.8
K36A Gilmore City 84.14 39 P P 13 19 22.4 -0.1
baz=318
P32A Huiting Farm, 84.16 43 P P 13 19 22.1 -0.6
baz=315
WVZ Waitaha Valley 84.18 160 PN P 13 19 21.1 -1.2
SRS Serrai 84.23 319 P P 13 19 23.5 +0.5
SRS Serrai 84.23 319 P P 13 19 23.5 +0.5
SRS Serrai 84.23 319 P P 13 19 23.5 +0.5
LIA Limnos Island 84.26 317 P P 13 19 23.4 +0.3
LIA Limnos Island 84.26 317 P P 13 19 23.4 +0.3
AKAS Kas 84.33 312 iP P 13 19 23.5 -0.2
LTZ Lake Taylor 84.33 159 eP P 13 19 22.6 -0.6
comp=Z,63nm,0.6s
BEBN Eben Emael 84.35 335 P P 13 19 23.9 +0.5
FETY Fethiye 84.36 313 P P 13 19 24.3 +0.6
FETY Fethiye 84.36 313 P P 13 19 24.3 +0.6
KHZ Kahutara 84.36 158 eP P 13 19 22.0 -1.2
KHZ LR LR
comp=Z,4µm,21.0s
KHZ Kahutara 84.36 158 PN P 13 19 22.3 -0.9
FOZ Fox Glacier 84.37 161 PFAKE 13 19 30.0 +6.8
FOZ LR LR
comp=Z,3µm,19.0s
FOZ Fox Glacier 84.37 161 PN P 13 19 23.5 +0.3
M35A Neola 84.37 40 P P 13 19 24.1 +0.4
baz=317
O33A Hebron 84.38 42 P P 13 19 23.2 -0.6
baz=316
SIGR SIGRI 84.38 316 P P 13 19 26.1 +2.3
SIGR SIGRI 84.38 316 P P 13 19 26.1 +2.3
KSL Kastellorizon 84.40 312 P P 13 19 23.8 -0.1
KSL Kastellorizon 84.40 312 P P 13 19 23.8 -0.1
MEM Membach 84.40 334 P P 13 19 24.2 +0.6
comp=Z,15nm,1.1s
N34A Lincoln 84.41 41 P P 13 19 23.2 -0.7
baz=316
L36A Harm Buss Farm 84.43 39 P P 13 19 24.1 +0.2
baz=318,SNR=5.5
K37A Belmond 84.45 38 P P 13 19 24.1 0.0
baz=318,SNR=6.3
OBKA Obir 84.45 327 i pP P 13 19 24.9 +0.7
comp=Z,13nm,0.6s,SNR=6.5
TURN Turunc 84.47 313 iP P 13 19 26.8 +2.5
YER Yerkesik 84.47 313 P P 13 19 25.6 +1.2
YER Yerkesik 84.47 313 P P 13 19 25.6 +1.2
YER Yerkesik 84.47 313 P P 13 19 25.6 +1.2
KBA Koelnbreinsper 84.51 328 i pP P 13 19 25.1 +0.6
comp=Z,25nm,0.7s,SNR=28
SOH Sokhos 84.57 319 P P 13 19 25.1 +0.4
SOH Sokhos 84.57 319 P P 13 19 25.1 +0.4
SOH Sokhos 84.57 319 P P 13 19 25.1 +0.4
URLA Izmir 84.58 315 iP P 13 19 25.5 +0.7
OUR Ouranopolis 84.59 318 P P 13 19 25.3 +0.5
OUR Ouranopolis 84.59 318 P P 13 19 25.3 +0.5
OUR Ouranopolis 84.59 318 P P 13 19 25.3 +0.5
J38A Wedel Dairy, R 84.60 37 P P 13 19 24.3 -0.5
baz=319
VAY Valandovo 84.61 320 iP P 13 19 25.8 +0.9
Q32A Meitler Ranch, 84.63 44 P P 13 19 24.6 -0.4
baz=315
GMM Mts of Mourne 84.66 343 eP P 13 19 25.7 +0.9
PLE Pljevlja 84.70 323 ǁiP P 13 19 26.4 +0.9
TAOE Nuku Hiva Isla 84.70 105 eS S 13 29 49.7 -2.1
comp=Z,2µm,34.4s
TAOE Nuku Hiva Isla 84.70 105 eLR LR 13 45 47.5
comp=Z,5µm,29.6s,baz=313
ZEY ¯zmir 84.71 315 iP P 13 19 25.6 +0.2
MEH Mehetia 84.72 117 eT T 14 52 42.4
comp=Z,18nm,0.3s
MYKA Terra Mystica 84.74 328 iP P 13 19 25.7 +0.2
comp=Z,13nm,0.6s,SNR=16
STNC Stoke 84.75 340 AMS AMS 14 01 35.2
comp=Z,3µm,17.0s
O34A Beatrice 84.78 42 P P 13 19 25.5 -0.3
baz=316
P33A Williams Farm, 84.78 43 P P 13 19 24.9 -0.9
baz=316
STU Stuttgart 84.78 332 eP P 13 19 25.0 -0.6
STU pmax pmax
comp=Z,18nm,0.6s
STU MLR MLR
comp=Z,4µm,18.0s
STU Stuttgart 84.78 332 eP P 13 19 25.0 -0.6
comp=Z,18nm,0.6s
STU LR LR
comp=Z,4µm,18.0s
BCLA Clavier 84.80 335 P P 13 19 26.1 +0.5
IVA Berane 84.80 322 ǁiP P 13 19 26.3 +0.4
CWF Charnwood Fore 84.82 339 eP P 13 19 26.2 +0.5
CWF AMS AMS 14 01 28.3
comp=Z,3µm,16.4s
CWF Charnwood Fore 84.82 339 eP P 13 19 26.4 +0.7
comp=Z,43nm,1.0s
CWF LR LR
comp=Z,4µm,19.0s
LJU Ljubljana 84.83 327 eP P 13 19 26.0 +0.1
M36A Felix, Anita 84.84 40 P P 13 19 25.8 -0.2
baz=318
N35A Tabor 84.84 41 P P 13 19 25.6 -0.4
baz=317
PLG Polygyros 84.84 318 P P 13 19 26.6 +0.5
PLG Polygyros 84.84 318 P P 13 19 26.6 +0.5
PLG Polygyros 84.84 318 P P 13 19 26.6 +0.5
CHOS Chios Island 84.86 316 P P 13 19 26.4 +0.1
CHOS Chios island 84.86 316 P P 13 19 26.4 +0.1
HORT Hortiatis 84.86 319 P P 13 19 26.2 -0.1
HORT Hortiatis 84.86 319 P P 13 19 26.2 -0.1
RPZ Rata Peaks 84.86 160 eP P 13 19 25.2 -0.6
comp=Z,51nm,1.2s
RPZ Rata Peaks 84.86 160 PN P 13 19 25.2 -0.6
L37A Phoenix Point, 84.87 39 P P 13 19 26.2 0.0
baz=318
VISS Visnje 84.88 327 iP P 13 19 26.1 0.0
BOJS Bojanci 84.94 326 iP P 13 19 26.7 +0.2
R32A Long Quarter, 84.95 44 P P 13 19 26.1 -0.6
baz=315
GRG Griva 84.96 319 P P 13 19 27.1 +0.4
GRG Griva 84.96 319 P P 13 19 27.1 +0.4
GRG Griva 84.96 319 P P 13 19 27.1 +0.4
K38A Parkersburg 84.96 38 P P 13 19 25.9 -0.7
baz=319
PVY Plav 84.98 322 ǁiP P 13 19 26.3 -0.6
BDRM Kayabasi 85.00 314 iP P 13 19 27.9 +1.0
Q33A Connelly Farm, 85.02 43 P P 13 19 26.7 -0.3
baz=316,SNR=6.2
WATA Walderalm 85.03 330 i PcP P 13 19 28.2 +1.1
comp=Z,6.5nm,0.5s
UPM Unac-Piva 85.03 323 ǁiP P 13 19 27.3 +0.1
WPM1 Penmaenmawr 85.05 341 eP P 13 19 27.1 +0.3
WTTA Wattenberg 85.06 329 i PcP P 13 19 28.3 +1.0
comp=Z,7.4nm,0.4s
SNF Seneffe 85.06 335 P P 13 19 27.9 +1.0
ABTA Abfaltersbach 85.12 329 iP P 13 19 27.7 +0.2
comp=Z,3.7nm,0.3s,SNR=12
O35A Humboldt 85.13 41 P P 13 19 26.9 -0.7
baz=317
WLF Walferdange 85.14 334 P P 13 19 28.9 +1.5
comp=Z,69nm,1.7s
WLF Walferdange 85.14 334 eP P 13 19 28.2 +0.8
WLF pmax pmax
comp=Z,290nm,1.9s
WLF MLR MLR
comp=Z,7µm,21.0s
WLF Walferdange 85.14 334 eP P 13 19 28.2 +0.8
comp=Z,290nm,1.9s
WLF LR LR
comp=Z,7µm,21.0s
WLF1 Llynfaes 85.14 341 eP P 13 19 28.0 +0.7
WLF1 AMB AMB 13 19 33.6
comp=Z,113nm,2.2s
WLF1 AMS AMS 14 01 31.6
comp=Z,6µm,16.2s
JAVS Javornik 85.14 327 iP P 13 19 27.0 -0.6
P34A Walnut Farm, R 85.17 42 P P 13 19 27.1 -0.7
baz=316
FOEL Foel Wylfa 85.20 341 eP P 13 19 28.3 +0.7
FOEL AMS AMS 14 02 01.3
comp=Z,3µm,18.9s
MOTA Moosalm 85.21 330 i PcP P 13 19 29.0 +1.0
comp=Z,20nm,0.7s,SNR=15
YLL Llanberis 85.22 341 eP P 13 19 28.9 +1.2
N36A Muff Farm, Cla 85.22 41 P P 13 19 28.3 +0.3
baz=317
RETA Reutte 85.23 330 i PcP P 13 19 29.1 +1.1
comp=Z,47nm,0.8s,SNR=26
L38A Oak Wood Farm, 85.25 38 P P 13 19 28.4 +0.3
baz=319
M37A Trindle Farm, 85.25 40 P P 13 19 28.4 +0.3
baz=318
LBZ Lake Benmore 85.26 161 eP P 13 19 28.2 +0.5
comp=Z,66nm,0.7s
NKY Niksic 85.28 323 ǁiP P 13 19 28.4 0.0
DOU Dourbes 85.31 335 P P 13 19 28.7 +0.5
comp=Z,22nm,1.6s
S32A Newby Ranch, P 85.33 45 P P 13 19 28.3 -0.3
baz=315
TRI Trieste 85.42 327 eP P 13 19 28.3 -0.6
TRI pmax pmax
comp=Z,45nm,1.2s
TRI MLR MLR
comp=Z,7µm,19.0s
TRI Trieste 85.42 327 eP P 13 19 28.2 -0.6
comp=Z,45nm,1.2s
TRI LR LR
comp=Z,7µm,19.0s
R33A Olander Ranch, 85.43 44 P P 13 19 28.7 -0.4
baz=316
BRY Bratogost 85.43 323 ǁiP P 13 19 28.8 -0.4
PDG Podgorica 85.44 322 P P 13 19 29.5 +0.5
TTG Podgorica 85.44 322 ⇑iP P 13 19 29.2 +0.2
TTG Podgorica 85.44 322 P P 13 19 29.5 +0.5
TTG Podgorica 85.44 322 P P 13 19 29.5 +0.5
HLM1 Long Mynd 85.44 340 eP P 13 19 29.6 +0.8
HLM1 AMB AMB 13 19 35.2
comp=Z,47nm,2.2s
HLM1 AMS AMS 14 03 42.7
comp=Z,3µm,17.2s
BFO Black Forest 85.47 332 iP P 13 19 30.0 +0.9
BFO Black Forest 85.47 332 eP P 13 19 29.5 +0.4
comp=Z,217nm,1.5s
BFO LR LR
comp=Z,4µm,19.0s
ELSH Elham, Standar 85.51 337 AMS AMS 14 01 50.5
comp=Z,5µm,17.9s
LIT Litokhoron 85.54 319 P P 13 19 29.6 0.0
LIT Litokhoron 85.54 319 P P 13 19 29.6 0.0
LIT Litokhoron 85.54 319 P P 13 19 29.6 0.0
Q34A Chapman 85.56 43 P P 13 19 29.5 -0.2
baz=316
KSU1 Kansas State U 85.61 43 P P 13 19 29.6 -0.3
baz=316
KSU1 Kansas State U 85.61 43 eP P 13 19 30.1 +0.2
comp=Z,53nm,0.7s
KSU1 LR LR
comp=Z,1µm,19.0s
P35A Duane Minner, 85.61 42 P P 13 19 29.4 -0.6
baz=317
FNA Florina 85.61 320 P P 13 19 30.0 0.0
FNA Florina 85.61 320 P P 13 19 30.0 0.0
FNA Florina 85.61 320 P P 13 19 30.0 0.0
MNTX Cornudas Mount 85.62 53 P P 13 19 30.5 +0.4
baz=312
MNTX Cornudas Mount 85.62 53 eP P 13 19 30.5 +0.4
comp=Z,63nm,1.7s
MNTX LR LR
comp=Z,700nm,20.0s
FETA Feichten 85.62 330 i PcP P 13 19 30.9 +0.8
comp=Z,32nm,0.8s,SNR=20
N37A Lee Faris, Mou 85.65 40 P P 13 19 30.3 +0.2
baz=318
OHR Ohrid 85.67 320 iP P 13 19 30.6 +0.4
DSB Dublin 85.67 342 eP P 13 19 30.5 +0.6
comp=Z,23nm,0.7s
DSB LR LR
comp=Z,2µm,19.0s
M38A Pleasantville 85.67 39 P P 13 19 30.2 0.0
baz=318,SNR=7.3
MLZ Mavora Lakes 85.68 163 eP P 13 19 30.0 +0.2
comp=Z,43nm,0.8s
SKIA Skiathos 85.71 318 P P 13 19 30.2 -0.2
T32A Huddler Ranch, 85.71 45 P P 13 19 31.0 +0.4
baz=315,SNR=6.3
BUM Brajici-Budva 85.72 322 ⇑iP P 13 19 30.6 +0.1
AMTX Amarillo 85.72 48 P P 13 19 31.0 +0.3
baz=314
AMTX Amarillo 85.72 48 eP P 13 19 31.5 +0.8
comp=Z,56nm,0.8s
AMTX LR LR
comp=Z,1µm,21.0s
O36A Bolckow 85.72 41 P P 13 19 30.5 0.0
baz=317
DAVA Damuels 85.74 330 i PcP P 13 19 31.6 +0.9
comp=Z,49nm,0.8s,SNR=32
WLS Welschbruch 85.76 332 eP P 13 19 31.3 +0.7
KZN Kozani 85.77 319 P P 13 19 30.6 -0.2
KZN Kozani 85.77 319 P P 13 19 30.6 -0.2
KZN Kozani 85.77 319 P P 13 19 30.6 -0.2
HCY Herceg Novi 85.80 323 ǁiP P 13 19 30.4 -0.4
ULC Ulcinj 85.80 322 ǁiP P 13 19 31.4 +0.5
FYTO Fytoko, Volos 85.81 318 P P 13 19 30.8 -0.1
FYTO Fytoko, Volos 85.81 318 P P 13 19 30.8 -0.1
R34A Isabella, Hill 85.84 44 P P 13 19 31.2 +0.1
baz=316
STRD Stroud 85.92 339 AMS AMS 14 02 09.8
comp=Z,3µm,19.6s
S33A Kaszmaul Farm, 85.93 44 P P 13 19 31.8 +0.2
baz=316
MCH1 Michaelchurch 85.95 340 eP P 13 19 32.2 +0.9
MCH1 AMS AMS 14 03 46.0
comp=Z,2µm,18.3s
TIR Tirane 85.96 321 eP P 13 19 31.4 -0.2
TIR pmax pmax
comp=Z,339nm,1.9s
TIR MLR MLR
comp=Z,9µm,20.0s
TIR Tirane 85.96 321 eP P 13 19 31.4 -0.2
comp=Z,339nm,1.9s
TIR LR LR
comp=Z,9µm,20.0s
JFWS Jewell Farm 85.97 36 eP P 13 19 31.5 -0.2
JFWS pmax pmax
comp=Z,28nm,0.9s
JFWS MLR MLR
comp=Z,1µm,20.0s
JFWS Jewell Farm 85.97 36 eP P 13 19 31.5 -0.2
comp=Z,28nm,0.9s
JFWS LR LR
comp=Z,1µm,20.0s
P36A Good Intent, A 85.97 41 P P 13 19 31.5 -0.2
baz=317,SNR=6.7
ODZ Otahua Downs 85.99 161 eP P 13 19 32.5 +1.1
comp=Z,96nm,1.3s
ODZ Otahua Downs 85.99 161 PN P 13 19 32.4 +1.1
HMNX Herstmonceux 86.00 338 AMS AMS 14 01 57.2
comp=Z,5µm,18.0s
ECH Echery 86.00 332 ⇑eP P 13 19 32.3 +0.6
KARY Karystos 86.00 316 P P 13 19 31.6 -0.3
MONM Monmouth 86.03 340 eP P 13 19 32.7 +0.9
MONM AMB AMB 13 19 37.9
comp=Z,108nm,2.4s
MONM AMS AMS 14 02 16.9
comp=Z,4µm,17.2s
SWN1 Swindon 86.05 339 AMS AMS 14 00 17.1
comp=Z,4µm,19.4s
SMIA Simia 86.05 318 P P 13 19 32.0 -0.2
Q35A Mercer Eighty, 86.09 42 P P 13 19 32.3 -0.1
baz=317,SNR=7.0
N38A Joes South For 86.12 40 P P 13 19 32.5 0.0
baz=318
O37A Wolven Farm, M 86.12 40 P P 13 19 32.7 +0.3
baz=318
LPW Lampeter 86.13 341 eP P 13 19 33.3 +1.1
LPW AMB AMB 13 19 39.5
comp=Z,45nm,1.4s
LPW AMS AMS 14 02 29.5
comp=Z,3µm,19.4s
OLDB Oldbury-Upon-S 86.13 340 AMS AMS 14 02 18.2
comp=Z,4µm,19.0s
FUORN Ofenpass-Fuorn 86.13 330 eP P 13 19 33.1 +0.4
comp=Z,96nm,0.9s
FUORN LR LR
comp=Z,7µm,18.0s
T33A Patterson Ranc 86.16 45 P P 13 19 32.7 -0.1
baz=316
PENT Pentalofos 86.17 320 P P 13 19 32.7 -0.1
THL Klokotos Trika 86.18 319 P P 13 19 36.2 +3.4
KARP Karpathos 86.23 313 eP P 13 19 33.5 +0.4
comp=Z,50nm,1.2s
KARP LR LR
comp=Z,900nm,20.0s
U32A Winter Ranch, 86.23 46 P P 13 19 33.1 -0.1
baz=315
KPRO Kipourio 86.23 319 P P 13 19 36.0 +2.9
BATH Bath 86.26 339 AMS AMS 14 02 11.8
comp=Z,3µm,19.0s
ATAL Atalanti 86.29 318 P P 13 19 32.5 -0.8
ATAL Atalanti 86.29 318 P P 13 19 32.5 -0.8
MOF Molkenrain 86.31 332 ⇑eP P 13 19 33.9 +0.5
Q36A Arnold C. Orve 86.32 42 P P 13 19 33.6 +0.2
baz=317
LKR Lokris 86.33 318 P P 13 19 32.7 -0.8
LKR Lokris 86.33 318 P P 13 19 32.7 -0.8
S34A Willow Spring 86.34 44 P P 13 19 33.7 +0.1
baz=316
R35A Emporia Munici 86.39 43 P P 13 19 34.1 +0.3
baz=317,SNR=5.1
AGG Agios Georgios 86.42 318 eP P 13 19 32.9 -1.1
AGG pmax pmax
comp=Z,124nm,1.3s
AGG MLR MLR
comp=Z,17µm,18.0s
AGG Agios Georgios 86.42 318 eP P 13 19 32.9 -1.1
comp=Z,124nm,1.3s
AGG LR LR
comp=Z,17µm,18.0s
N39A Derby Farms, D 86.42 39 P P 13 19 34.2 +0.3
baz=319,SNR=9.6
P37A Lathrop 86.44 41 P P 13 19 34.0 -0.1
baz=318
O38A Galt 86.50 40 P P 13 19 34.1 -0.2
baz=318
TUE Stuetta 86.62 330 eP P 13 19 34.8 -0.2
comp=Z,44nm,0.9s
TUE LR LR
comp=Z,9µm,18.0s
SANT Santorini 86.62 315 PFAKE 13 19 50.0 +15
SANT LR LR
comp=Z,3µm,18.0s
V32A Arapaho 86.67 46 P P 13 19 35.6 +0.3
baz=315
U33A Lingo Farm, Me 86.70 45 P P 13 19 35.8 +0.4
baz=316
JAN Janina 86.72 319 P P 13 19 36.0 +0.5
JAN Janina 86.72 319 P P 13 19 36.0 +0.5
JAN Janina 86.72 319 P P 13 19 36.0 +0.5
DSF Desfina 86.76 318 P P 13 19 36.4 +0.7
DSF Desfina 86.76 318 P P 13 19 36.4 +0.7
R36A Gordon, Harris 86.77 43 P P 13 19 35.7 0.0
baz=317,SNR=8.9
S35A Otter Creek Ra 86.79 43 P P 13 19 36.4 +0.6
baz=317,SNR=7.6
T34A McClaskey Farm 86.79 44 P P 13 19 35.9 +0.1
baz=316
P38A Dawn 86.84 40 P P 13 19 36.4 +0.4
baz=318,SNR=7.1
LOMF Lomont 86.85 332 ⇑eP P 13 19 36.7 +0.7
O39A Kirksville 86.87 40 P P 13 19 36.5 +0.4
baz=319
Q37A Longview Farm, 86.92 42 P P 13 19 36.2 -0.2
baz=318
ANX Ano Chora 86.95 318 P P 13 19 36.2 -0.5
W32A Sentinel 86.98 47 P P 13 19 37.4 +0.6
baz=315,SNR=6.2
U34A Anderson Ranch 87.02 45 P P 13 19 37.3 +0.3
baz=316
U34A Anderson Ranch 87.02 45 eP P 13 19 37.1 +0.1
comp=Z,124nm,1.4s
U34A LR LR
comp=Z,1µm,19.0s
V33A Lossen Ranch, 87.04 46 P P 13 19 37.1 +0.1
baz=316
SGD Sagiada 87.07 320 P P 13 19 37.0 -0.1
IGT Igoumenitsa 87.08 320 P P 13 19 37.0 -0.2
IGT Igoumenitsa 87.08 320 P P 13 19 37.0 -0.2
IGT Igoumenitsa 87.08 320 P P 13 19 37.0 -0.2
ZKR Zakros 87.08 313 P P 13 19 38.3 +1.0
ZKR Zakros 87.08 313 P P 13 19 38.3 +1.0
R37A Teagarden Farm 87.13 42 P P 13 19 36.9 -0.6
baz=318
PVO Paravola 87.14 318 P P 13 19 37.3 -0.2
S36A Lake Cedric, C 87.16 43 P P 13 19 37.6 +0.1
baz=317
LAKA Lakka 87.18 318 P P 13 19 37.1 -0.6
LAKA Lakka 87.18 318 P P 13 19 37.1 -0.6
KEK Kerkira 87.22 320 P P 13 19 37.6 -0.2
KEK Kerkira 87.22 320 P P 13 19 37.6 -0.2
KLV Kalavryta, Ach 87.23 318 P P 13 19 37.2 -0.8
KLV Kalavryta, Ach 87.23 318 P P 13 19 37.2 -0.8
T35A Sooner Cattle 87.24 44 P P 13 19 37.9 -0.1
baz=317
HTL Hartland 87.25 340 AMS AMS 14 03 14.7
comp=Z,2µm,16.3s
Q38A Cooks Store, C 87.29 41 P P 13 19 38.1 -0.1
baz=318,SNR=6.9
O40A La Belle 87.31 39 P P 13 19 38.6 +0.4
baz=319,SNR=8.9
PDO Prodromos 87.33 319 P P 13 19 38.2 -0.2
P39B Salisbury 87.34 40 P P 13 19 38.4 0.0
baz=319,SNR=7.0
W33A Caddo, Fort Co 87.41 46 P P 13 19 39.3 +0.4
baz=316
TBI Tubuai 87.45 122 eT T 14 56 05.7
comp=Z,29nm,0.4s
X32A Elmer 87.45 47 P P 13 19 38.8 -0.3
baz=315
V34A Guthrie 87.46 45 P P 13 19 39.7 +0.6
baz=316,SNR=5.0
V34A Guthrie 87.46 45 eP P 13 19 39.5 +0.4
comp=Z,43nm,0.8s
V34A LR LR
comp=Z,1µm,19.0s
LKD2 Lefkada island 87.47 319 P P 13 19 38.4 -0.7
LKD2 Lefkada island 87.47 319 P P 13 19 38.4 -0.7
LAST Lasithi 87.47 314 P P 13 19 40.5 +1.2
LAST Lasithi 87.47 314 eP P 13 19 39.5 +0.3
comp=Z,158nm,1.3s
LAST LR LR
comp=Z,2µm,21.0s
T36A Boggs Farm, Ca 87.48 44 P P 13 19 39.4 +0.2
baz=317,SNR=7.8
SENIN Lac Senin/Sane 87.50 331 eP P 13 19 39.2 -0.1
comp=Z,24nm,0.8s
SENIN LR LR
comp=Z,5µm,21.0s
U35A Pawnee 87.52 45 P P 13 19 39.5 +0.2
baz=317
WMOK Wichita Mounta 87.52 47 P P 13 19 39.5 +0.1
baz=316
WMOK Wichita Mounta 87.52 47 eP P 13 19 39.6 +0.1
WMOK pmax pmax
comp=Z,25nm,1.1s
WMOK MLR MLR
comp=Z,1µm,21.0s
WMOK Wichita Mounta 87.52 47 eP P 13 19 39.6 +0.2
comp=Z,25nm,1.1s
WMOK LR LR
comp=Z,1µm,21.0s
DRO Drossia 87.53 318 P P 13 19 44.1 +4.7
S37A Fort Scott 87.54 43 P P 13 19 39.5 0.0
baz=318,SNR=5.8
Q39A Willow Grove F 87.56 41 P P 13 19 39.9 +0.4
baz=319,SNR=9.0
VLX Vlachokerasia 87.60 317 P P 13 19 40.9 +1.0
VLX Vlachokerasia 87.60 317 P P 13 19 40.9 +1.0
DYA Yadsworthy 87.61 340 AMS AMS 14 02 34.1
comp=Z,3µm,17.9s
DYA Yadsworthy 87.61 340 PFAKE 13 19 50.0 +11
DYA LR LR
comp=Z,3µm,18.0s
P40A Paris 87.67 40 P P 13 19 40.1 +0.1
baz=319,SNR=17
R38A Fenwick Farm, 87.72 42 P P 13 19 39.5 -0.7
baz=318
IDI Anoyia 87.72 314 P P 13 19 40.4 0.0
IDI Anoyia 87.72 314 eP P 13 19 39.0 -1.4
comp=Z,85nm,1.3s
IDI LR LR
comp=Z,1µm,21.0s

	comp=Z,2µm,21.0s								
W34A	**Bridge Creek,** baz=316	**87.75**	**46**	P		**P**	**13 19 40.8**	**+0.3**	
W34A	**Bridge Creek,**	**87.75**	**46**	*e*P		**P**	**13 19 40.9**	**+0.5**	
W34A				LR		LR			
	comp=Z,2µm,18.0s								
OG01	**Vacheresse**	**87.76**	**332**	*e*P		**P**	**13 19 40.9**	**+0.5**	
VLI	**Veliai**	**87.78**	**316**	P		**P**	**13 19 38.3**	**-2.3**	
VLI	**Veliai**	**87.78**	**316**	P		**P**	**13 19 38.3**	**-2.3**	
O41A	**Passleys Farm,** baz=320,SNR=13	**87.81**	**39**	P		**P**	**13 19 40.6**	**0.0**	
X33A	**Lawton** baz=316	**87.83**	**47**	P		**P**	**13 19 41.2**	**+0.3**	
SLBS	**Sierra La Lagu** comp=Z,95nm,1.8s	**87.85**	**62**	*e*P		**P**	**13 19 42.6**	**+1.4**	
SLBS				LR		LR			
	comp=Z,2µm,20.0s								
V35A	**Meyer Ranch, C** baz=316	**87.90**	**45**	P		**P**	**13 19 41.5**	**+0.3**	
VLS	**Valsamata**	**87.96**	**319**	P		**P**	**13 19 41.3**	**-0.1**	
VLS	**Valsamata**	**87.96**	**319**	P		**P**	**13 19 41.3**	**-0.1**	
VLS	**Valsamata**	**87.96**	**319**	P		**P**	**13 19 41.3**	**-0.1**	
T37A	**Cheneyville 18** baz=318	**87.96**	**43**	P		**P**	**13 19 41.4**	**-0.1**	
ITM	**Ithomi**	**87.99**	**317**	P		**P**	**13 19 40.9**	**-0.7**	
ITM	**Ithomi**	**87.99**	**317**	P		**P**	**13 19 40.9**	**-0.7**	
U36A	**Oologah** baz=317	**88.05**	**44**	P		**P**	**13 19 42.2**	**+0.3**	
P41A	**Barry, Barry** baz=320	**88.05**	**39**	P		**P**	**13 19 42.0**	**+0.1**	
Q40A	**Laux Farm, Aux** baz=319,SNR=6.3	**88.06**	**40**	P		**P**	**13 19 41.6**	**-0.2**	
R39A	**Chumby, Stover** baz=319,SNR=6.0	**88.07**	**41**	P		**P**	**13 19 41.6**	**-0.4**	
VLC	**Villacollemand**	**88.09**	**328**	PFAKE			13 19 50.0	+8.0	
VLC				LR		LR			
	comp=Z,3µm,20.0s								
IMMV	**Iera Moni Meta**	**88.11**	**315**	P		**P**	**13 19 42.2**	**0.0**	
S38A	**Stockton** baz=318	**88.13**	**42**	P		**P**	**13 19 41.6**	**-0.6**	
Y33A	**Hilltop Ranch,** baz=316	**88.13**	**47**	P		**P**	**13 19 41.5**	**-0.8**	
X34A	**Smith Ranch, M** baz=316	**88.17**	**46**	P		**P**	**13 19 42.9**	**+0.4**	
CCA1	**Carnmenellis** comp=Z,4µm,16.7s	**88.18**	**341**	AMS		AMS	14 03 43.3		
JSA	**Saint Aubin** comp=Z,4µm,20.3s	**88.24**	**338**	AMS		AMS	14 01 35.0		
AQU	**L'Aquila**	**88.24**	**325**	*e*P		**P**	**13 19 43.7**	**+0.9**	
AQU				pmax		pmax			
	comp=Z,84nm,1.2s								
AQU				MLR		MLR			
	comp=Z,11µm,18.0s								
AQU	**L'Aquila** comp=Z,84nm,1.2s	**88.24**	**325**	*e*P		**P**	**13 19 43.6**	**+0.9**	
AQU				LR		LR			
	comp=Z,11µm,18.0s								
HDIL	**Hopedale** baz=321	**88.24**	**37**	P		**P**	**13 19 42.9**	**+0.2**	
HDIL	**Hopedale** comp=Z,64nm,1.0s	**88.24**	**37**	*e*P		**P**	**13 19 42.9**	**+0.2**	
HDIL				LR		LR			
	comp=Z,1µm,20.0s								
DAMY	**Dhamar**	**88.27**	**287**	PFAKE			13 19 50.0	+6.4	
DAMY				LR		LR			
	comp=Z,2µm,18.0s								
PYL	**PYLOS**	**88.30**	**317**	P		**P**	**13 19 41.3**	**-1.7**	
PYL	**PYLOS**	**88.30**	**317**	P		**P**	**13 19 41.3**	**-1.7**	
TX31	**Lajitas Ar. Si**	**88.30**	**54**	*e*P		**P**	**13 19 43.2**	**-0.2**	
TXAR	**Lajitas Array** comp=Z,4.9nm,0.7s,baz=298,slow=3.2,SNR=28	**88.30**	**54**	P		**P**	**13 19 43.7**	**+0.3**	
W35A	**Tecumseh** baz=316	**88.32**	**45**	P		**P**	**13 19 43.0**	**-0.2**	
RSL	**Roselend**	**88.32**	**331**	*e*P		**P**	**13 19 44.1**	**+0.9**	
T38A	**Diamond** baz=318,SNR=8.7	**88.36**	**43**	P		**P**	**13 19 43.5**	**+0.1**	
TUL1	**Leonard** baz=317	**88.37**	**44**	P		**P**	**13 19 43.6**	**+0.2**	
TUL1	**Leonard**	**88.37**	**44**	PFAKE			13 19 50.0	+6.6	
TUL1				LR		LR			
	comp=Z,1µm,22.0s								
V36A	**Jenks** baz=317	**88.38**	**44**	P		**P**	**13 19 43.5**	**+0.1**	
U37A	**Salina** baz=318	**88.38**	**44**	P		**P**	**13 19 43.1**	**-0.3**	
S39A	**Bolivar** baz=318,SNR=9.6	**88.39**	**42**	P		**P**	**13 19 42.9**	**-0.6**	
R40A	**Maddies Statio** baz=319,SNR=8.7	**88.49**	**41**	P		**P**	**13 19 43.9**	**0.0**	
ABTX	**Abilene, Hawle** baz=315	**88.51**	**49**	P		**P**	**13 19 44.8**	**+0.6**	
ABTX	**Abilene, Hawle** comp=Z,22nm,0.9s	**88.51**	**49**	*e*P		**P**	**13 19 44.1**	**0.0**	
ABTX				LR		LR			
	comp=Z,1µm,18.0s								
Z33A	**Whitaker Ranch** baz=316	**88.56**	**48**	P		**P**	**13 19 44.3**	**0.0**	
HPIG		**88.62**	**57**	*e*P		**P**	**13 19 44.9**	**-0.1**	
	comp=Z,15nm,1.0s								
HPIG				LR		LR			
	comp=Z,2µm,18.0s								
Y34A	**Reagan Ranch,** baz=316	**88.67**	**47**	P		**P**	**13 19 44.7**	**-0.2**	
W36A	**Wetumka** baz=317	**88.69**	**45**	P		**P**	**13 19 44.9**	**-0.1**	
V37A	**Hulbert** baz=318,SNR=6.5	**88.75**	**44**	P		**P**	**13 19 45.7**	**+0.5**	
U38A	**Gravette** baz=318,SNR=5.2	**88.75**	**43**	P		**P**	**13 19 45.4**	**+0.1**	
X35A	**Drake** baz=316	**88.80**	**46**	P		**P**	**13 19 45.3**	**-0.2**	
BNI	**Bardonecchia**	**88.83**	**331**	PFAKE			13 20 00.0	+14	
BNI				LR		LR			
	comp=Z,6µm,20.0s								
T39A	**Clever** baz=318	**88.86**	**42**	P		**P**	**13 19 45.6**	**-0.1**	
S40A	**Lebanon** baz=319,SNR=6.3	**88.89**	**41**	P		**P**	**13 19 45.7**	**-0.1**	
Q42A	**Golden Eagle** baz=320,SNR=6.1	**88.90**	**39**	P		**P**	**13 19 46.5**	**+0.6**	
133A	**Hamilton Ranch** baz=316	**88.95**	**48**	P		**P**	**13 19 46.2**	**0.0**	
CUC	**Castrocucco** comp=Z,21nm,1.2s	**88.97**	**323**	*e*P		**P**	**13 19 45.0**	**-1.2**	
CUC				LR		LR			
	comp=Z,3µm,20.0s								
Z34A	**Collier Ranch,** baz=316	**89.00**	**47**	P		**P**	**13 19 46.1**	**-0.3**	
X36A	**Centrahoma** baz=317	**89.03**	**46**	P		**P**	**13 19 46.2**	**-0.3**	
HHAR	**Hobbs** comp=Z,13nm,0.8s	**89.11**	**43**	*e*P		**P**	**13 19 46.5**	**-0.4**	
HHAR				LR		LR			
	comp=Z,1µm,19.0s								
Y35A	**Marietta** baz=316	**89.12**	**46**	P		**P**	**13 19 46.4**	**-0.5**	
W37B	**Quinton** baz=317	**89.14**	**45**	P		**P**	**13 19 47.7**	**+0.7**	
TIP	**Timpagrande**	**89.15**	**322**	P		**P**	**13 19 47.5**	**+0.4**	
TIP	**Timpagrande** comp=Z,41nm,1.0s	**89.15**	**322**	*e*P		**P**	**13 19 47.2**	**+0.2**	
TIP				LR		LR			
	comp=Z,5µm,18.0s								
V38A	**Canehill** baz=318,SNR=9.9	**89.17**	**44**	P		**P**	**13 19 47.1**	**-0.1**	
PLDF	**La Plantade**	**89.19**	**333**	*e*P		**P**	**13 19 48.8**	**+1.6**	
T40A	**Mansfield** baz=319,SNR=5.6	**89.22**	**42**	P		**P**	**13 19 47.4**	**0.0**	
SADO	**Sadowa**	**89.23**	**29**	PFAKE			13 20 00.0	+13	
SADO				LR		LR			
	comp=Z,1µm,20.0s								
SLM	**Saint Louis**	**89.26**	**39**	PFAKE			13 20 00.0	+12	
SLM				LR		LR			
	comp=Z,2µm,19.0s								
U39A	**Green Forest** baz=318,SNR=11	**89.28**	**43**	P		**P**	**13 19 47.5**	**-0.3**	
AGO	**Saint Agoulin**	**89.29**	**334**	*e*P		**P**	**13 19 48.8**	**+1.2**	
Q43A	**New Douglas** baz=321	**89.29**	**39**	P		**P**	**13 19 47.7**	**0.0**	
233A	**Rising Star** baz=316	**89.38**	**49**	P		**P**	**13 19 48.7**	**+0.4**	
Z35A	**Perchaven, San** baz=316	**89.41**	**47**	P		**P**	**13 19 48.4**	**+0.1**	
SFIN	**Lafayette** baz=322	**89.43**	**36**	P		**P**	**13 19 48.3**	**+0.1**	
SFIN	**Lafayette** comp=Z,38nm,1.0s	**89.43**	**36**	*e*P		**P**	**13 19 48.0**	**-0.2**	
SFIN				LR		LR			
	comp=Z,2µm,21.0s								
AAM	**Ann Arbor**	**89.43**	**33**	PFAKE			13 20 00.0	+12	
AAM				LR		LR			
	comp=Z,1µm,20.0s								
SSB	**Saint Sauveur**	**89.44**	**332**	*e*P		**P**	**13 19 48.6**	**+0.3**	
SSB				pmax		pmax			
	comp=Z,21nm,1.1s								
SSB				MLR		MLR			
	comp=Z,4µm,18.0s								
SSB	**Saint Sauveur** comp=Z,21nm,1.1s	**89.44**	**332**	*e*P		**P**	**13 19 48.6**	**+0.3**	
SSB				LR		LR			
	comp=Z,4µm,18.0s								
134A	**White-Moore Ra** baz=316	**89.47**	**48**	P		**P**	**13 19 49.0**	**+0.3**	
Y36A	**Durant** baz=317	**89.56**	**46**	P		**P**	**13 19 49.1**	**+0.1**	
X37A	**Clayton** baz=317	**89.57**	**45**	P		**P**	**13 19 49.2**	**+0.2**	
V39A	**Pettigrew** baz=318,SNR=8.0	**89.60**	**43**	P		**P**	**13 19 49.0**	**-0.3**	
TRQ	**Mont Tremblant**	**89.64**	**25**	*e*P		**P**	**13 19 49.3**	**+0.1**	
U40A	**Yellville** baz=319,SNR=21	**89.64**	**42**	P		**P**	**13 19 49.4**	**0.0**	
Q44A	**Meyer Farm, Va** baz=321	**89.66**	**38**	P		**P**	**13 19 49.5**	**+0.1**	
W38A	**Poteau** baz=318,SNR=6.5	**89.69**	**44**	P		**P**	**13 19 49.8**	**+0.2**	
T41A	**Mountain View** baz=320,SNR=12	**89.69**	**41**	P		**P**	**13 19 49.6**	**0.0**	
OG26	**St.-Nazaire-De**	**89.76**	**332**	*e*P		**P**	**13 19 50.8**	**+0.9**	
LMQ	**La Malbaie**	**89.81**	**22**	*e*P		**P**	**13 19 50.3**	**+0.4**	
LMQ				LR		LR			
	comp=Z,2µm,19.0s								
X38A	**Whitesboro** baz=318,SNR=8.4	**89.81**	**45**	P		**P**	**13 19 50.9**	**+0.7**	
333A	**Richland Sprin** baz=315	**89.83**	**49**	P		**P**	**13 19 50.9**	**+0.6**	
234A	**Clairette** baz=316	**89.85**	**48**	P		**P**	**13 19 51.4**	**+0.9**	
135A	**Vickery Place,** baz=316	**89.88**	**48**	P		**P**	**13 19 51.1**	**+0.6**	
JCT	**Junction City** baz=315	**89.92**	**51**	P		**P**	**13 19 50.8**	**-0.1**	
JCT	**Junction City**	**89.92**	**51**	*e*P		**P**	**13 19 51.0**	**+0.2**	
JCT				pmax		pmax			
	comp=Z,17nm,0.8s								
JCT				MLR		MLR			
	comp=Z,1µm,18.0s								
JCT	**Junction City** comp=Z,17nm,0.8s	**89.92**	**51**	*e*P		**P**	**13 19 51.0**	**+0.2**	
JCT				LR		LR			
	comp=Z,1µm,18.0s								
Z36A	**Blue Ridge** baz=317	**89.93**	**47**	P		**P**	**13 19 51.2**	**+0.4**	
W39A	**Magazine** baz=318	**90.00**	**44**	P		**P**	**13 19 51.3**	**+0.3**	
R44A	**Waltonville** baz=321	**90.14**	**39**	P		**P**	**13 19 51.7**	**+0.1**	
S43A	**Fulton Ridge,** baz=320	**90.16**	**40**	P		**P**	**13 19 51.9**	**+0.1**	
433A	**Art** baz=315	**90.16**	**50**	P		**P**	**13 19 52.0**	**+0.1**	
OLIL	**Olney** comp=Z,46nm,0.9s	**90.24**	**38**	*e*P		**P**	**13 19 52.6**	**+0.5**	
OLIL				LR		LR			
	comp=Z,1µm,19.0s								
334A	**Lometa** baz=316	**90.27**	**49**	P		**P**	**13 19 52.4**	**-0.1**	
X39A	**Fountain Ranch** baz=318,SNR=15	**90.33**	**44**	P		**P**	**13 19 53.3**	**+0.6**	
W40A	**Ferguson Farm,** baz=319,SNR=6.0	**90.39**	**43**	P		**P**	**13 19 52.7**	**-0.2**	
Y38A	**Idabel** baz=318	**90.42**	**45**	P		**P**	**13 19 53.2**	**+0.2**	
V41A	**Mountainview** baz=319,SNR=15	**90.44**	**42**	P		**P**	**13 19 52.5**	**-0.7**	
Z37A	**Pogue Cattle C** baz=317	**90.45**	**46**	P		**P**	**13 19 53.4**	**+0.2**	
136A	**Ennis** baz=317	**90.45**	**47**	P		**P**	**13 19 53.4**	**+0.2**	
S44A	**Carbondale** baz=321	**90.48**	**39**	P		**P**	**13 19 53.3**	**+0.1**	
SIUC	**Southern Illin** comp=Z,34nm,0.7s	**90.48**	**39**	*e*P		**P**	**13 19 50.0**	**-3.2**	
SIUC				LR		LR			
	comp=Z,1µm,19.0s								
PBMO	**Poplar Bluff** comp=Z,29nm,0.9s	**90.59**	**41**	*e*P		**P**	**13 19 53.4**	**-0.3**	
PBMO				LR		LR			
	comp=Z,1µm,19.0s								
MIAR	**Mount Ida** baz=318,SNR=13	**90.60**	**44**	P		**P**	**13 19 53.8**	**-0.1**	
MIAR	**Mount Ida**	**90.60**	**44**	*e*P		**P**	**13 19 53.3**	**-0.6**	
MIAR				pmax		pmax			
	comp=Z,37nm,0.8s								
MIAR				MLR		MLR			
	comp=Z,1µm,20.0s								
MIAR	**Mount Ida** comp=Z,37nm,0.8s	**90.60**	**44**	*e*P		**P**	**13 19 53.3**	**-0.6**	
MIAR				LR		LR			
	comp=Z,1µm,20.0s								
434A	**Burnet** baz=316	**90.62**	**49**	P		**P**	**13 19 53.5**	**-0.6**	
BLO	**Bloomington**	**90.65**	**37**	PFAKE			13 20 00.0	+6.0	
BLO				LR		LR			
	comp=Z,2µm,19.0s								
533A	**Kerrville** baz=315	**90.68**	**50**	P		**P**	**13 19 54.6**	**+0.2**	
X201	**Greenbrier Sit** comp=Z,32nm,0.8s	**90.70**	**43**	*e*P		**P**	**13 19 53.4**	**-0.9**	
X201				LR		LR			
	comp=Z,1µm,18.0s								
X301	**Greenbrier Sit** comp=Z,18nm,0.8s	**90.72**	**43**	*e*P		**P**	**13 19 53.9**	**-0.5**	
X301				LR		LR			
	comp=Z,1µm,18.0s								
WHAR	**Wooly Hollow** comp=Z,48nm,0.8s	**90.74**	**43**	*e*P		**P**	**13 19 54.4**	**-0.2**	
WHAR				LR		LR			
	comp=Z,1µm,18.0s								
Y39A	**Lockesburg** baz=318	**90.77**	**45**	P		**P**	**13 19 54.7**	**0.0**	
Z38A	**Mt. Pleasant** baz=318	**90.77**	**46**	P		**P**	**13 19 54.6**	**-0.1**	
335A	**Moody** baz=316	**90.79**	**48**	P		**P**	**13 19 54.6**	**-0.2**	
236A	**Katherine and** baz=317	**90.80**	**47**	P		**P**	**13 19 54.0**	**-0.8**	
137A	**Heron Place, G** baz=317	**90.81**	**47**	P		**P**	**13 19 54.2**	**-0.7**	
S45A	**Carrier Mills** baz=321	**90.83**	**39**	P		**P**	**13 19 55.2**	**+0.3**	
V42A	**Cord** baz=320,SNR=9.4	**90.83**	**42**	P		**P**	**13 19 54.8**	**-0.1**	
W41B	**Gary Mavity, V** baz=319,SNR=9.0	**90.85**	**43**	P		**P**	**13 19 55.0**	**0.0**	
LONY	**Lake Ozonia**	**91.03**	**26**	PFAKE			13 20 10.0	+14	
LONY				LR		LR			
	comp=Z,2µm,19.0s								
633A	**Saathoff Ranch** baz=315	**91.03**	**51**	P		**P**	**13 19 55.7**	**-0.3**	
X40A	**Basin Creek Fa** baz=319,SNR=6.5	**91.05**	**43**	P		**P**	**13 19 56.5**	**+0.5**	
435B	**Jarrell** baz=316	**91.05**	**49**	P		**P**	**13 19 55.6**	**-0.4**	
534A	**Blanco** baz=316	**91.05**	**50**	P		**P**	**13 19 55.7**	**-0.4**	
USIN	**University of**	**91.05**	**38**	PFAKE			13 20 10.0	+14	
USIN				LR		LR			
	comp=Z,1µm,18.0s								
336A	**Riesel** baz=317	**91.06**	**48**	P		**P**	**13 19 55.6**	**-0.4**	
UALR	**University of**	**91.10**	**43**	PFAKE			13 20 10.0	+14	
UALR				LR		LR			
	comp=Z,2µm,18.0s								
138A	**Matatall Enter** baz=318	**91.15**	**46**	P		**P**	**13 19 56.1**	**-0.3**	
Y40A	**Okolona** baz=319	**91.16**	**44**	P		**P**	**13 19 56.3**	**-0.1**	
237A	**Washetta, Mont** baz=317	**91.21**	**47**	P		**P**	**13 19 56.4**	**-0.3**	
X41A	**Kaden, Bauxite** baz=319	**91.22**	**43**	P		**P**	**13 19 56.5**	**-0.2**	
Z39A	**Irene McRaven,** baz=318	**91.23**	**45**	P		**P**	**13 19 57.2**	**+0.4**	
PVMO	**Portageville**	**91.24**	**40**	PFAKE			13 20 10.0	+13	
PVMO				LR		LR			
	comp=Z,2µm,19.0s								
DRLN	**Deer Lake**	**91.35**	**14**	PFAKE			13 20 10.0	+13	
DRLN				LR		LR			
	comp=Z,3µm,21.0s								
832A	**Faith Ranch, C** baz=315	**91.36**	**52**	P		**P**	**13 19 57.4**	**-0.1**	
ACSO	**Alum Creek Sta** comp=Z,16nm,0.8s	**91.41**	**34**	*e*P		**P**	**13 19 58.5**	**+0.9**	
ACSO				LR		LR			
	comp=Z,2µm,19.0s								
733A	**Divot King Ran** baz=315	**91.48**	**51**	P		**P**	**13 19 57.5**	**-0.5**	
WLAR	**White Oak Lake**	**91.50**	**44**	PFAKE			13 20 10.0	+12	
WLAR				LR		LR			
	comp=Z,1µm,18.0s								
WCI	**Wyandotte Cave**	**91.51**	**37**	*e*P		**P**	**13 19 58.5**	**+0.4**	
WCI				pmax		pmax			
	comp=Z,29nm,0.6s								
WCI				MLR		MLR			
	comp=Z,2µm,19.0s								
WCI	**Wyandotte Cave** comp=Z,29nm,0.6s	**91.51**	**37**	*e*P		**P**	**13 19 58.5**	**+0.4**	
WCI				LR		LR			
	comp=Z,2µm,19.0s								
436A	**Wall Ranch, Ga** baz=317	**91.53**	**48**	P		**P**	**13 19 57.6**	**-0.7**	
634A	**China Grove, S** baz=316	**91.59**	**50**	P		**P**	**13 19 58.7**	**+0.2**	
535A	**Dale** baz=316	**91.60**	**49**	P		**P**	**13 19 58.3**	**-0.3**	
238A	**Jacksonville** baz=318	**91.61**	**47**	P		**P**	**13 19 58.3**	**-0.3**	
Y41A	**Eaglette Beard** baz=319	**91.63**	**44**	P		**P**	**13 19 58.4**	**-0.2**	
Z40A	**Long Farm, Mag** baz=318	**91.66**	**45**	P		**P**	**13 19 58.9**	**+0.2**	
337A	**Centerville** baz=317	**91.67**	**48**	P		**P**	**13 19 59.4**	**+0.6**	
833A	**Chaparral WMA,** baz=315	**91.70**	**52**	P		**P**	**13 19 59.2**	**+0.1**	
M54A	**Oil Creek Stat** baz=327	**91.77**	**31**	P		**P**	**13 19 59.4**	**+0.2**	
HALT	**Halls**	**91.82**	**40**	PFAKE			13 20 10.0	+11	
HALT				LR		LR			
	comp=Z,1795µm,18.0s								
734A	**La Parita Cree** baz=316	**91.84**	**51**	P		**P**	**13 19 59.9**	**+0.2**	
536A	**Bastrop** baz=316	**91.87**	**49**	P		**P**	**13 20 00.0**	**+0.2**	
437A	**Phantom Ranch,** baz=317	**91.87**	**48**	P		**P**	**13 20 00.0**	**+0.2**	
635A	**Leesville** baz=316	**91.94**	**50**	P		**P**	**13 20 00.3**	**+0.1**	
239A	**Gary** baz=318	**91.97**	**46**	P		**P**	**13 19 59.9**	**-0.3**	
338A	**Crockett** baz=317	**91.97**	**47**	P		**P**	**13 20 00.2**	**-0.1**	
Z41A	**Richland Creek** baz=319	**91.99**	**44**	P		**P**	**13 20 00.2**	**-0.1**	
140A	**Cam and Jess,** baz=318	**92.02**	**45**	P		**P**	**13 20 01.2**	**+0.8**	
NATX	**Nacogdoches** baz=318	**92.05**	**46**	P		**P**	**13 20 01.0**	**+0.4**	
NATX	**Nacogdoches**	**92.05**	**46**	PFAKE			13 20 10.0	+9.3	
NATX				LR		LR			
	comp=Z,1µm,20.0s								
CCAR	**Cane Creek**	**92.06**	**43**	PFAKE			13 20 10.0	+9.4	
CCAR				LR		LR			
	comp=Z,1µm,19.0s								
X43A	**Marvell** baz=320	**92.08**	**42**	P		**P**	**13 20 00.8**	**+0.1**	
N54A	**Moraine State** baz=327	**92.09**	**31**	P		**P**	**13 20 00.7**	**0.0**	
MET	**Memphis--Engin**	**92.12**	**41**	PFAKE			13 20 10.0	+9.1	
MET				LR		LR			
	comp=Z,1µm,20.0s								
CLTB	**Caltabellotta**	**92.13**	**323**	PFAKE			13 20 10.0	+9.0	
CLTB				LR		LR			
	comp=Z,6µm,18.0s								
V45A	**Humboldt** baz=321	**92.14**	**40**	P		**P**	**13 20 00.9**	**-0.1**	
W44A	**Shelby Farms P** baz=321	**92.16**	**41**	P		**P**	**13 20 02.5**	**+1.4**	
PKME	**Peaks-Kenny Pk**	**92.18**	**23**	PFAKE			13 20 10.0	+9.0	
PKME				LR		LR			
	comp=Z,2µm,18.0s								
LRDF	**Laroque-de-Fa**	**92.19**	**332**	*e*P		**P**	**13 20 02.4**	**+1.3**	
933A	**Laredo** baz=315	**92.27**	**52**	P		**P**	**13 20 01.9**	**+0.2**	
735A	**Kenedy** baz=316	**92.30**	**50**	P		**P**	**13 20 02.4**	**+0.6**	
636A	**Smothers Creek** baz=316	**92.30**	**50**	P		**P**	**13 20 02.4**	**+0.6**	
537A	**Green Hill Far** baz=317	**92.31**	**49**	P		**P**	**13 20 02.7**	**+0.8**	
438A	**Sam Houston St** baz=317	**92.32**	**48**	P		**P**	**13 20 02.6**	**+0.7**	
VSL	**Villasalto** comp=Z,20nm,1.1s	**92.34**	**326**	*e*P		**P**	**13 20 02.7**	**+0.8**	
VSL				LR		LR			
	comp=Z,5µm,18.0s								
240A	**Hunter Patters** baz=318	**92.36**	**46**	P		**P**	**13 20 01.5**	**-0.6**	
834A	**Tilden** baz=316	**92.36**	**51**	P		**P**	**13 20 01.5**	**-0.6**	
WVT	**Waverly**	**92.41**	**39**	*e*P		**P**	**13 20 02.4**	**+0.2**	
WVT				pmax		pmax			
	comp=Z,12nm,0.8s								
WVT				MLR		MLR			
	comp=Z,2µm,18.0s								
WVT	**Waverly** comp=Z,12nm,0.8s	**92.41**	**39**	*e*P		**P**	**13 20 02.4**	**+0.2**	
WVT				LR		LR			
	comp=Z,2µm,18.0s								
141A	**Papa Simpson,** baz=319	**92.42**	**45**	P		**P**	**13 20 02.0**	**-0.4**	
339A	**Huntington** baz=318	**92.43**	**47**	P		**P**	**13 20 03.2**	**+0.8**	
Z42A	**Norrel Spur, H** baz=319	**92.45**	**44**	P		**P**	**13 20 02.0**	**-0.4**	
W45A	**Hickory Valley** baz=321	**92.48**	**41**	P		**P**	**13 20 02.1**	**-0.4**	
Y43A	**Makayla and Ka** baz=320	**92.52**	**43**	P		**P**	**13 20 02.8**	**+0.1**	
BINY	**Binghamton**	**92.62**	**28**	PFAKE			13 20 10.0	+6.9	
BINY				LR		LR			
	comp=Z,1µm,19.0s								
HNH	**Hanover**	**92.62**	**25**	PFAKE			13 20 10.0	+7.0	
HNH				LR		LR			
	comp=Z,1µm,21.0s								
736A	**Circle Diamond** baz=316	**92.67**	**50**	P		**P**	**13 20 03.0**	**-0.5**	
835A	**Beeville** baz=316	**92.69**	**51**	P		**P**	**13 20 03.8**	**+0.2**	
HKT	**Hockley**	**92.69**	**48**	PFAKE			13 20 10.0	+6.4	
HKT				LR		LR			
	comp=Z,2µm,19.0s								
538A	**Harpers Horsep** baz=317	**92.70**	**48**	P		**P**	**13 20 03.8**	**+0.2**	
WVL	**Waterville**	**92.70**	**23**	PFAKE			13 20 10.0	+6.6	
WVL				LR		LR			
	comp=Z,2µm,19.0s								
340A	**Bronson** baz=318	**92.75**	**46**	P		**P**	**13 20 04.6**	**+0.8**	
637A	**Eagle Lake** baz=317	**92.77**	**49**	P		**P**	**13 20 04.4**	**+0.4**	
WDD	**Wied Dalam**	**92.84**	**321**	PFAKE			13 20 10.0	+5.8	
WDD				LR		LR			
	comp=Z,3µm,20.0s								
241A	**Mo Tay, Goldon** baz=319	**92.85**	**45**	P		**P**	**13 20 04.4**	**+0.1**	
OXF	**Oxford**	**92.86**	**41**	*e*P		**P**	**13 20 04.6**	**+0.3**	
OXF				pmax		pmax			
	comp=Z,54nm,0.9s								
OXF				MLR		MLR			
	comp=Z,1µm,18.0s								
OXF	**Oxford** comp=Z,54nm,0.9s	**92.86**	**41**	*e*P		**P**	**13 20 04.6**	**+0.3**	
OXF				LR		LR			
	comp=Z,1µm,18.0s								
Y44A	**Strider, Charl** baz=320	**92.86**	**42**	P		**P**	**13 20 04.5**	**+0.2**	
Z43A	**Armstrong Fami** baz=320	**92.88**	**43**	P		**P**	**13 20 05.0**	**+0.6**	
LMN	**Caledonia Moun**	**92.92**	**19**	PFAKE			13 20 20.0	+16	
LMN				LR		LR			
	comp=Z,2µm,18.0s								

X45A **UM Field Stati** 92.94 41 P P 13 20 04.4 -0.3
baz=321
142A **Monroe** 92.99 44 P P 13 20 04.6 -0.4
baz=319
TRY **Troy** 93.00 27 PFAKE 13 20 20.0 +15
TRY LR LR
comp=Z,3μm,19.0s
034A **Hebbronville** 93.03 52 P P 13 20 05.2 0.0
baz=316
FFD **Franklin Falls** 93.04 25 PFAKE 13 20 20.0 +15
FFD LR LR
comp=Z,4μm,20.0s
143A **Socs Landing,** 93.18 44 P P 13 20 06.1 +0.3
baz=320
PLAL **Pickwick Lake** 93.18 40 PFAKE 13 20 20.0 +14
PLAL LR LR
comp=Z,2μm,18.0s
440A **Kirbyville** 93.21 47 P P 13 20 05.0 -1.0
baz=318
SSPA **Standing Stone** 93.22 30 PFAKE 13 20 20.0 +14
SSPA LR LR
comp=Z,1μm,20.0s
EMMW **East Machias** 93.23 22 PFAKE 13 20 20.0 +14
EMMW LR LR
comp=Z,4μm,21.0s
MCWV **Mont Chateau** 93.24 32 PFAKE 13 20 20.0 +14
MCWV LR LR
comp=Z,800nm,19.0s
242A **Grayson** 93.25 45 P P 13 20 05.5 -0.6
baz=319
KSPA **Keystone Colle** 93.25 28 PFAKE 13 20 20.0 +14
KSPA LR LR
comp=Z,1μm,21.0s
O56A **Blue Knob Stat** 93.26 31 P P 13 20 06.2 0.0
baz=328
Z44A **Pea Ridge, Bel** 93.27 43 P P 13 20 06.0 -0.2
baz=320
Y45A **Yeager Farm, C** 93.29 42 P P 13 20 06.2 -0.1
baz=321
ZAIG **Zacatecas** 93.50 58 *e*P P 13 20 09.1 +1.2
comp=Z,13nm,1.0s
ZAIG LR LR
comp=Z,2μm,19.0s
Z45A **Winona** 93.59 42 P P 13 20 07.8 0.0
baz=321
Y46A **Houston** 93.64 41 P P 13 20 07.9 0.0
baz=321
441A **DeRidder** 93.64 46 P P 13 20 08.5 +0.5
baz=318
342A **Flagon Creek P** 93.67 45 P P 13 20 08.3 +0.2
baz=319
243A **Waterproof** 93.76 44 P P 13 20 07.9 -0.6
baz=320
144A **Alexander Plac** 93.77 43 P P 13 20 08.9 +0.4
baz=320
N59A **State Game Lan** 93.81 29 P P 13 20 08.2 -0.5
baz=330
035Z **Hargill** 93.84 52 P P 13 20 09.2 +0.2
baz=316
QUA2 **Belchertown** 93.86 26 PFAKE 13 20 20.0 +11
QUA2 LR LR
comp=Z,2μm,18.0s
HRV **Adam Dziewonsk** 93.93 25 PFAKE 13 20 20.0 +11
HRV LR LR
comp=Z,2μm,19.0s
145A **Houston Renfro** 94.05 43 P P 13 20 10.3 +0.4
baz=320
244A **Avery, Jackson** 94.07 44 P P 13 20 10.1 +0.2
baz=320
SWET **Sewanee** 94.08 39 *e*P P 13 20 09.6 -0.4
comp=Z,4.9nm,0.7s
SWET LR LR
comp=Z,400nm,18.0s
ODNJ **Ogdensburg** 94.10 28 PFAKE 13 20 20.0 +10
ODNJ LR LR
comp=Z,2μm,20.0s
WES **Weston** 94.11 25 PFAKE 13 20 20.0 +10
WES LR LR
comp=Z,4μm,20.0s
Z46A **Louisville** 94.13 42 P P 13 20 10.8 +0.7
baz=321
Y47A **UCPARC, Winfie** 94.14 41 P P 13 20 10.2 0.0
baz=322
TZTN **Tazewell** 94.16 36 PFAKE 13 20 20.0 +10
TZTN LR LR
comp=Z,2μm,20.0s
LUPA **Lehigh Univers** 94.23 29 PFAKE 13 20 20.0 +9.5
LUPA LR LR
comp=Z,1μm,20.0s
PAL **Palisades** 94.42 28 PFAKE 13 20 20.0 +8.6
PAL LR LR
comp=Z,2μm,20.0s
BRYW **Bryant College** 94.46 26 PFAKE 13 20 20.0 +8.4
BRYW LR LR
comp=Z,4μm,19.0s
146A **Union** 94.50 42 P P 13 20 11.8 -0.1
baz=321
344A **Westbrook Farm** 94.50 44 P P 13 20 12.1 +0.2
baz=320
YLE **Yale** 94.50 27 PFAKE 13 20 20.0 +8.3
YLE LR LR
comp=Z,2μm,19.0s
245A **Little AP, Sta** 94.51 43 P P 13 20 12.0 0.0
baz=320
Z47A **Carrollton** 94.58 41 P P 13 20 11.5 -0.7
baz=322
CPCT **Cooper Cave** 94.58 38 *e*P P 13 20 12.0 -0.2
comp=Z,6.1nm,0.9s
CPCT LR LR
comp=Z,900nm,18.0s
SDMD **Soldier's Deli** 94.68 30 PFAKE 13 20 20.0 +7.4
SDMD LR LR
comp=Z,700nm,20.0s
Z48A **Northport** 94.71 41 P P 13 20 13.1 +0.2
baz=322
TKL **Tuckaleechee C** 94.77 37 PFAKE 13 20 20.0 +6.9
TKL LR LR
comp=Z,2μm,19.0s
147A **Livingston** 94.88 42 P P 13 20 13.8 +0.1
baz=321
345A **Thompson Farm,** 94.99 44 P P 13 20 14.0 -0.2
baz=320
BLA **Blacksburg** 95.03 34 PFAKE 13 20 30.0 +16
BLA LR LR
comp=Z,2μm,20.0s
247A **Quitman** 95.19 42 P P 13 20 14.7 -0.4
baz=321
346A **Big Creek Wild** 95.24 43 P P 13 20 15.3 0.0
baz=321
445A **Amite** 95.26 44 P P 13 20 15.3 -0.1
baz=320
LRAL **Lakeview Retre** 95.27 41 PFAKE 13 20 30.0 +15
LRAL LR LR
comp=Z,1μm,19.0s
KEST **Kesra** 95.44 324 P P 13 20 16.5 +0.2
comp=Z,12nm,0.9s,baz=306,slow=4.8,SNR=9.6
KEST LR LR 14 08 14.8
comp=Z,4μm,18.7s,baz=339,slow=39
KEST **Kesra** 95.44 324 *e*P P 13 20 16.1 -0.1
comp=Z,36nm,1.3s
CBN **Corbin Frederi** 95.50 31 PFAKE 13 20 30.0 +14
CBN LR LR
comp=Z,2μm,20.0s
CMAH **Djebel Manchou** 95.58 326 P P 13 20 15.9 -1.0
248A **Dixon Mills** 95.61 42 P P 13 20 17.8 +0.8
baz=322
CAEH **'Ain El Ouahch** 95.70 326 P P 13 20 17.0 -0.4
347A **Saraland** 95.73 43 P P 13 20 17.5 0.0
baz=321
446A **Poplarville** 95.75 44 P P 13 20 17.8 +0.1
baz=321
ABSA **Djebel Ababsia** 95.85 326 P P 13 20 17.5 -0.6
348A **Jackson** 96.06 42 P P 13 20 19.0 -0.1
baz=322
CKFL **Kef-Lekhel** 96.08 326 P P 13 20 18.1 -1.1
645A **Chauvin** 96.09 45 P P 13 20 19.2 0.0
baz=320
447A **Lucedale** 96.14 43 P P 13 20 19.4 0.0
baz=321
FURI **Furi** 96.17 286 PFAKE 13 20 30.0 +10
FURI LR LR
comp=Z,2μm,20.0s
DFRA **Djebel Bou Aff** 96.32 327 P P 13 20 21.0 +0.7
KMSC **Kings Mountain** 96.34 36 PFAKE 13 20 30.0 +10
KMSC LR LR
comp=Z,1μm,20.0s
448A **Bay Minette** 96.46 43 P P 13 20 20.1 -0.7
baz=322
PGAV **Gavieira, Arco** 96.58 339 *e*P P 13 20 23.4 +2.1
PGAV **Gavieira, Arco** 96.58 339 *e*PP PP 13 24 18.9 +4.2
PGAV **Gavieira, Arco** 96.58 339 *e*LQ LQ 13 54 30.2
PGAV *e*LR LR 13 56 26.6
comp=Z,3μm,18.0s
BRAL **Brewton** 96.70 42 PFAKE 13 20 30.0 +8.0
BRAL LR LR
comp=Z,1μm,20.0s
GOGA **Godfrey** 96.74 38 PFAKE 13 20 30.0 +7.9
GOGA LR LR
comp=Z,2μm,19.0s
CKHR **Kef el Ahmar** 96.93 327 P P 13 20 22.5 -0.6
MVO **Moncorvo** 96.96 338 *e*P P 13 20 22.4 -0.6
MVO **Moncorvo** 96.96 338 *e*PP PP 13 24 21.3 +3.7
MVO *e*SKS SKSac 13 31 01.6 +3.5
MVO **Moncorvo** 96.96 338 *e*LQ LQ 13 48 54.9
MVO *e*LR LR 13 55 56.3
comp=Z,5μm,20.0s
POLO **Lamas de Olo** 96.99 339 *e*P P 13 20 23.4 +0.2
comp=Z,8.2nm,1.3s
ES19 **SONSECA Array** 97.31 335 *e*P P 13 20 24.0 -0.6
ESDC **Sonseca Array** 97.35 335 P Pdif 13 20 25.2 +0.3
comp=Z,1.5nm,0.6s,baz=25,slow=3.9,SNR=11
ESDC PP PP 13 24 14.0 -6.7
comp=Z,4.1nm,0.8s,baz=22,slow=6.9,SNR=6.0
ESDC PKKPbc PKKPbc 13 37 01.1 -1.1
comp=Z,0.1nm,0.3s,baz=222,slow=1.7,SNR=4.3
ESDC LR LR 14 09 28.5
comp=Z,5μm,18.3s,baz=25,slow=39
ESLA **Sonseca Array** 97.35 335 PFAKE 13 20 40.0 +15
ESLA LR LR
comp=Z,6μm,18.0s
RKT **Rikitea** 97.46 113 *e*PS PS 13 33 14.3 +0.2
comp=Z,752nm,29.8s
RKT *e*SS SS 13 38 23.0 -5.0
comp=Z,642nm,30.0s
RKT **Rikitea** 97.46 113 *e*LR LR 13 51 49.4
comp=Z,3μm,23.0s,baz=311
PAB **San Pablo** 97.60 336 *e*P Pdif 13 20 26.5 +0.5
PAB pmax pmax
comp=Z,7.0nm,0.9s
PAB MLR MLR
comp=Z,6μm,18.0s
PAB **San Pablo** 97.60 336 *e*P Pdif 13 20 26.5 +0.4
comp=Z,7.2nm,0.9s
PAB LR LR
comp=Z,6μm,18.0s
PVIS **Viseu** 97.62 339 *e*P Pdif 13 20 29.7 +3.6
comp=Z,22nm,1.7s
CNNC **Cliffs of the** 97.80 33 PFAKE 13 20 40.0 +13
CNNC LR LR
comp=Z,2μm,20.0s
MTE **Manteigas** 97.81 338 *e*P Pdif 13 20 27.6 +0.6
MTE **Manteigas** 97.81 338 *e*PP PP 13 24 26.3 +2.1
MTE *e*SKS SKSac 13 31 06.3 +3.8
MTE **Manteigas** 97.81 338 *e*LQ LQ 13 50 27.6
MTE *e*LR LR 13 56 26.6
comp=Z,4μm,18.0s
MTE **Manteigas** 97.81 338 PFAKE 13 20 40.0 +13
MTE LR LR
comp=Z,4μm,18.0s
UNM **Universidad Na** 98.16 58 PFAKE 13 20 40.0 +11
UNM LR LR
comp=Z,2μm,19.0s
TIGA **Tifton** 98.27 39 PFAKE 13 20 40.0 +11
TIGA LR LR
comp=Z,2μm,19.0s
NHSC **New Hope** 98.56 36 PFAKE 13 20 40.0 +10
NHSC LR LR
comp=Z,2μm,20.0s
PMRV **Marv??o** 98.66 338 *e*P P 13 20 27.8 -2.9
PMRV **Marv??o** 98.66 338 *e*PP PP 13 24 40.1 +9.4
PMRV *e*SKS SKSac 13 31 14.7 +7.9
PMRV **Marv??o** 98.66 338 *e*LQ LQ 13 50 26.1
PMRV *e*LR LR 13 57 33.1
comp=Z,2μm,20.0s
PVAQ **Vaqueiros** 100.62 337 *e*P Pdif 13 20 42.4 +3.0
PVAQ **Vaqueiros** 100.62 337 *e*PP PP 13 24 51.1 +5.5
PVAQ **Vaqueiros** 100.62 337 *e*LQ LQ 13 52 25.8
PVAQ *e*LR LR 13 58 39.0
comp=Z,7μm,18.0s
PFVI **Vila Bisbo** 101.21 338 PFAKE 13 20 50.0 +8.0
PFVI LR LR
comp=Z,4μm,19.0s
DWPF **Disney Wildern** 102.06 40 PFAKE 13 21 00.0 +14
DWPF LR LR
comp=Z,1μm,19.0s
RTC **Rabat Centre** 103.48 335 PFAKE 13 21 00.0 +7.8
RTC LR LR
comp=Z,10μm,18.0s
KMBO **Kilima Mbogo** 103.56 279 PP PP 13 25 15.3 +5.9
comp=Z,3.4nm,0.9s,baz=66,slow=6.1,SNR=5.2
BBSR **BB Station** 105.39 25 PFAKE 13 25 20.0
BBSR LR LR
comp=Z,1μm,20.0s
CASY **Casey** 106.81 193 *e*PP PP 13 25 31.7 -0.8
CASY LR LR
comp=Z,800nm,20.0s
PMOZ **Porto Moniz, M** 107.50 343 *e*LR LR 13 58 28.5
comp=Z,1μm,20.0s
GTBY **Guantanamo Bay** 112.04 39 PFAKE 13 25 40.0
GTBY LR LR
comp=Z,1μm,19.0s
MTDJ **Mount Denham** 112.20 42 PFAKE 13 25 40.0
MTDJ LR LR
comp=Z,1μm,18.0s
GRTK **Grand Turk** 112.59 35 PFAKE 13 25 40.0
GRTK LR LR
comp=Z,1μm,20.0s
SDDR **Presa de Saban** 114.71 37 PFAKE 13 25 40.0 +7.7
SDDR LR LR
comp=Z,1μm,21.0s
HDC **Heredia** 114.85 53 PFAKE 13 25 40.0 +7.2
HDC LR LR
comp=Z,800nm,21.0s
VNDA **Vanda** 115.58 176 PKP PKPdf 13 25 32.2 +0.1
comp=Z,1.9nm,0.8s,baz=305,slow=4.4,SNR=8.5
VNDA PP PP 13 26 32.2 -3.1
comp=Z,6.1nm,1.2s,baz=328,slow=7.5,SNR=7.3
MPR **Mayaguez** 117.26 33 PFAKE 13 25 50.0 +13
MPR LR LR
comp=Z,600nm,19.0s
SJG **San Juan** 117.77 32 PFAKE 13 25 50.0 +12
SJG LR LR
comp=Z,1μm,20.0s
TOC1 **Torodi Ar. Sit** 117.96 317 PFAKE 13 25 50.0 +11
TOC1 LR LR
comp=Z,3μm,20.0s
ABVI **Anegada Island** 117.96 30 PFAKE 13 25 50.0 +12
ABVI LR LR
comp=Z,1μm,21.0s
TOC2 **Torodi Ar. Sit** 117.97 317 PFAKE 13 25 50.0 +11
TOC2 LR LR
comp=Z,3μm,19.0s
TOB2 **Torodi Ar. Sit** 117.97 317 PFAKE 13 25 50.0 +11
TOB2 LR LR
comp=Z,3μm,19.0s
TOB1 **Torodi Ar. Sit** 117.98 317 PFAKE 13 25 50.0 +11
TOB1 LR LR
comp=Z,3μm,19.0s
TOC3 **Torodi Ar. Sit** 117.98 317 PFAKE 13 25 50.0 +11
TOC3 LR LR
comp=Z,3μm,20.0s
TOC7 **Torodi Ar. Sit** 117.98 317 PFAKE 13 25 50.0 +11
TOC7 LR LR
comp=Z,3μm,19.0s
TOA1 **Torodi Ar. Sit** 117.98 317 PFAKE 13 25 50.0 +11
TOA1 LR LR
comp=Z,3μm,20.0s
TOA0 **Torodi Ar. Sit** 117.99 317 *e*PKKPbc PKKPbc 13 35 58.9 +1.7
TOA0 LR LR
comp=Z,3μm,19.0s
TORD **Torodi Ar. Bea** 117.99 317 PKP PKPdf 13 25 37.9 -0.8
comp=Z,0.6nm,0.5s,baz=14,slow=1.3,SNR=10.0
TORD PP PP 13 26 45.5 -6.7
comp=Z,6.1nm,0.9s,baz=34,slow=5.9,SNR=4.5
TORD PKKPbc PKKPbc 13 35 59.5 +2.3
comp=Z,3.2nm,0.7s,baz=210,slow=3.4,SNR=16
TOB5 **Torodi Ar. Sit** 117.99 317 PFAKE 13 25 50.0 +11
TOB5 LR LR
comp=Z,3μm,20.0s
TOB3 **Torodi Ar. Sit** 117.99 317 PFAKE 13 25 50.0 +11
TOB3 LR LR
comp=Z,3μm,20.0s
TOB4 **Torodi Ar. Sit** 118.00 317 PFAKE 13 25 50.0 +11
TOB4 LR LR
comp=Z,3μm,19.0s
TOC4 **Torodi Ar. Sit** 118.00 317 PFAKE 13 25 50.0 +11
TOC4 LR LR
comp=Z,3μm,19.0s
TOC5 **Torodi Ar. Sit** 118.01 317 PFAKE 13 25 50.0 +11
TOC5 LR LR
comp=Z,3μm,19.0s
SMRT **St. Maarten** 119.07 29 PFAKE 13 25 50.0 +9.3
SMRT LR LR
comp=Z,2μm,22.0s
SEUS **St. Eustatius** 119.61 29 PFAKE 13 25 50.0 +8.3
SEUS LR LR
comp=Z,1μm,22.0s
ANWB **Willy Bob** 119.91 28 PFAKE 13 25 50.0 +7.8
ANWB LR LR
comp=Z,700nm,21.0s
MAW **Mawson** 120.96 206 PKP PKPdf 13 25 43.2 +0.6
comp=Z,10.0nm,0.7s,baz=73,slow=2.6,SNR=20
MAW **Mawson** 120.96 206 *e*PKIKP PKPdf 13 25 42.7 +0.1
MAW MLR MLR
comp=Z,200nm,19.0s
MAW **Mawson** 120.96 206 *e*PKPdf PKPdf 13 25 42.7 +0.1
MAW PKP PKPdf 13 25 43.2 +0.6
MAW LR LR
comp=Z,200nm,19.0s
FDF **Fort de France** 122.83 29 PFAKE 13 26 00.0 +12
FDF LR LR
comp=Z,1μm,22.0s
SDV **Santo Domingo** 123.64 42 PFAKE 13 26 00.0 +10
SDV LR LR
comp=Z,900nm,19.0s
LBTB **Lobatse** 126.42 265 *e*PKIKP PKPdf 13 25 55.0 +0.4
LBTB **Lobatse** 126.42 265 *e*PKPdf PKPdf 13 25 55.0 +0.4
DBIC **Dimbokro** 126.88 319 PKP PKPdf 13 25 56.2 +0.5
comp=Z,10nm,1.2s,baz=299,slow=8.3,SNR=3.5
DBIC PP PP 13 27 48.5 -4.0
comp=Z,25nm,1.0s,baz=38,slow=6.0,SNR=8.4
TIC **Toumodi** 126.98 320 *e*P PP 13 27 51.8 -1.4
KIC **Kosan Boka** 127.08 319 *e*P PP 13 27 51.8 -2.0
comp=Z,80nm,1.1s
LIC **Lamto** 127.34 319 *e*P PP 13 27 53.3 -2.2
comp=Z,55nm,1.3s
QSPA **South Pole Qui** 127.52 180 *e*PKPdf PKPdf 13 25 55.1 -0.3
QSPA LR LR
comp=Z,1μm,20.0s
BOSA **Boshof** 128.39 261 PKP PKPdf 13 25 58.4 +0.1
comp=Z,8.7nm,1.0s,baz=100,slow=0.6,SNR=6.8
BOSA **Boshof** 128.39 261 PKP PKPdf 13 25 58.4 +0.1
BOSA *e*PKPdf PKiKP 13 25 59.3 +0.4
SYO **Syowa Base** 129.65 207‖ *e*P PKPdf 13 25 58.0 -1.2
SYO **Syowa Base** 129.65 207‖ *e*PKPdf PKPdf 13 26 00.0 +0.8
TSUM **Tsumeb** 129.75 276 *e*PKPdf PKPdf 13 26 01.8 +0.7
ATAH **Atahualpa** 131.30 62 PKP PKPdf 13 26 06.2 +1.6
comp=Z,9.0nm,0.8s,baz=49,slow=21,SNR=5.5
PTGA **Pitinga** 137.23 36 *e*PKPdf PKPdf 13 26 15.5 +0.2
PTGA LR LR
comp=Z,800nm,22.0s
NVL **N'lazarevskaya** 138.62 202 *e*PKHKP PKPpre 13 26 08.7
SNAA **Sanae** 141.96 197 PKP PKPpre 13 26 15.9
SNAA **Sanae** 141.96 197 *e*PKHKP PKPpre 13 26 15.7
SNAA **Sanae** 141.96 197 *e*PKPpre PKPpre 13 26 15.7
SAML **Samuel** 142.50 47 *e*PKPpre PKPpre 13 26 22.1
SAML LR LR
comp=Z,700nm,20.0s
VNA1 **Neumayer--Stat** 143.90 195 PKP PKPbc 13 26 23.3 0.0
ASCN **Ascension** 144.19 320 PFAKE 13 26 40.0 +12
ASCN LR LR
comp=Z,2μm,19.0s
LPAZ **La Paz** 144.83 61 PKP PKPbc 13 26 29.0 +0.4
comp=Z,14nm,0.8s,baz=348,slow=5.3,SNR=42
LPAZ **La Paz** 144.83 61 *e*PKIKP PKPab 13 26 28.5 -0.1
LPAZ **La Paz** 144.83 61 *e*PKPdf PKPab 13 26 28.4 -0.1
LPAZ PKP PKPbc 13 26 29.0 +0.4
SHEL **Horse Pasture** 145.30 300 *i* PKIKP PKPdf 13 26 31.5 +1.9
PB11 **IPOC Station P** 146.03 67 *e*PKPdf PKPab 13 26 32.5 +0.2
PB01 **IPOC Station P** 146.94 69 *e*PKPdf PKPdf 13 26 32.9 +0.6
RCBR **Riachuelo** 148.19 359 *e*PKPbc PKPbc 13 26 38.6 +0.7
LVC **Limon Verde** 148.31 71 PKPbc PKPbc 13 26 37.1 -1.3
comp=Z,86nm,0.8s,baz=293,slow=21,SNR=32
LVC **Limon Verde** 148.31 71 *e*PKPdf PKPdf 13 26 35.5 +0.6
LVC PKPbc PKPbc 13 26 37.1 -1.3
LVC *e*PKPbc PKiKP 13 26 39.5 -0.5
PMSA **Palmer Station** 148.44 158 PKPbc PKPbc 13 26 35.5 -1.4
comp=Z,25nm,0.8s,baz=310,slow=2.5,SNR=5.2
LCO **Las Campanas** 150.22 83 *e*PKPbc PKPbc 13 26 43.3 +0.5
HJA **Humahuaca** 151.26 68 *e*P PKPdf 13 26 42.0 +2.3
ROC1 **El Roble** 151.50 91 *e*PKPbc PKPbc 13 26 45.8 0.0
CHRN **Cochrane** 151.94 121 *e*PKPbc PKPbc 13 26 47.0 +1.1
AZAP **Zapla** 152.11 69 *e*P PKPdf 13 26 42.0 +1.3
AGUA **GUANDACOL** 152.16 82 *e*P PKPdf 13 26 41.8 +1.4
USHA **Ushuaia** 152.42 139 PKPbc PKPbc 13 26 47.9 +1.1
comp=Z,76nm,0.8s,baz=219,slow=1.2,SNR=14
RTLS **Leoncito** 152.45 87 *e*P PKPdf 13 26 42.5 +1.5
FSA **Cafayete** 152.47 74 *e*P PKPdf 13 26 42.5 +1.4
AUSP **Uspallata** 152.53 88 *e*P PKPdf 13 26 41.7 +0.5
RTCV **Cerro Valdivia** 153.07 87 *e*P PKPdf 13 26 41.7 +0.1
ASAL **Salagasta** 153.10 89 *e*P PKPdf 13 26 42.4 +0.7
AAGR **Agrelo** 153.27 90 *e*P PKPdf 13 26 43.0 +1.0
AHML **Horco Molle** 153.32 74 *e*P PKPdf 13 26 43.0 +0.9
PLCA **Paso Flores** 153.51 107 PKPbc PKPbc 13 26 50.7 +0.9
comp=Z,17nm,1.0s,baz=276,slow=2.6,SNR=9.2
PLCA PKPab PKPab 13 27 02.8 +0.5
comp=Z,22nm,0.8s,baz=260,slow=3.4,SNR=10
PLCA **Paso Flores** 153.51 107 *e*PKPbc PKPbc 13 26 50.4 +0.6
PLCA PKPab PKPab 13 27 02.8 +0.5
CYA **Choya** 153.78 78 *e*P PKPdf 13 26 43.5 +0.8
ACHE **Chepes** 154.29 84 *e*P PKPdf 13 26 43.8 +0.3
BDFB **Brasilia** 155.68 28 PKP PKPdf 13 26 46.1 +0.3
comp=Z,1.4nm,0.4s,baz=314,slow=7.8,SNR=2.2
BDFB PKPab PKPab 13 27 12.7 +0.7
comp=Z,3.3nm,0.5s,baz=323,slow=0.2,SNR=4.2
TCA **Tanti** 155.99 83 *e*P PKPdf 13 26 45.7 -0.1
CPUP **Villa Florida** 158.98 63 PKP PKPdf 13 26 49.5 0.0
comp=Z,3.4nm,0.9s,baz=211,slow=4.0,SNR=4.7
TRQA **Tornquist** 159.86 99 *e*PKPab PKPab 13 27 29.8 +0.2

IDC 14 13:32:37.6±4.7, 30°41S×178°21W, h78km±38km, mb3.3/2, mb1 3.6/2, mb1mx3.3/17, mbtmpg3.6/2, Error ellipse: s-maj=62.2km s-min=35.1km az=159.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.18**	**12**	P	P	Pn	13 32 59.3	+0.5
	154nm,0.3s,baz=189,slow=23,SNR=4.1			S		Sn	13 33 14.5	-0.1
	126nm,0.3s,baz=53,slow=22,SNR=6.3							
ASAR	**Alice Springs**	**42.93**	**267**	P	P		13 40 28.6	-0.3
	0.6nm,0.9s,baz=107,slow=7.4,SNR=6.1							
WRA	**Warramunga Arr**	**43.92**	**272**	P	P		13 40 36.6	-0.3
	0.9nm,0.6s,baz=112,slow=8.0,SNR=9.0							
FINES	**FINESS Array B**	**145.09**	**340**	PKPbc	PKPbc		13 52 04.2	-0.6
	1.2nm,0.7s,baz=46,slow=6.0,SNR=4.1							

*ISCJB **14** 13:40:02.8±0.4, 24°.84N±0°.02×122°.01E±0°.02, h10km±2km, Error ellipse: s-maj=3.6km s-min=3.1km az=144.2*
*TAP **14** 13:40:02.2, 24°.85N×121°.99E, h11km, ML3.0, D*
*JMA **14** 13:40:03.1±0.1, 24°.80N×121°.92E, h31km, M2.3*

ISC 14 13:40:01.3±0.9, 24°.85N±0°.02×122°.07E±0°.02, h13km±7km, n32, σ0°63/58, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EGS		**0.12**	**270**	*i* P		**Pb**	**13 40 05.1**	**-0.5**
	baz=260							
EGS				*i* S		**Sg**	**13 40 06.5**	**-0.3**
	baz=260							
TWB1	**Santiao Chiao**	**0.18**	**336**	*i* P		**Pb**	**13 40 06.3**	**-0.2**
	baz=1.0							
TWB1				*i* S		**Sg**	**13 40 08.8**	**+0.6**
	baz=1.0							
ILA	**Ilan**	**0.30**	**255**	P		**Pg**	**13 40 07.3**	**-0.2**
	baz=248							
ILA				S		**Sg**	**13 40 12.2**	**+0.5**
	baz=248							
TWC	**Suao**	**0.31**	**220**	*i* P		**Pb**	**13 40 08.5**	**-0.2**
	baz=206							
TWC				S		**Sb**	**13 40 13.6**	**-0.1**
	baz=206							
NWF	**Wu-fen Shan**	**0.34**	**311**	*i* P		**Pb**	**13 40 09.3**	**-0.1**

baz=318
TWE **Neicheng** **0.39 251** *i* P **Pb** **13 40 09.5 -0.6**
baz=245
TWE *i* S **Sg** **13 40 14.3 +0.1**
baz=245
TWA **Mucha** **0.46 287** P **Pb** **13 40 11.2 -0.1**
baz=289
TWA S **Sg** **13 40 16.7 +0.1**
baz=289
ENTT **Nioudou** **0.50 246** *i* P **Pb** **13 40 11.7 -0.3**
baz=241
ENA **Nanau** **0.51 216** *e*P **Pb** **13 40 12.2 0.0**
baz=207
ENA *e*S **Sb** **13 40 19.3 -0.3**
baz=207
TAP1 **Taipei** **0.53 291** *e*P **Pb** **13 40 13.0 +0.4**
baz=293
TAP1 *e*S **Sg** **13 40 19.5 +0.7**
baz=293
TAP **Taipei** **0.55 291** *e*P **Pb** **13 40 12.5 -0.3**
baz=293
TAP *e*S **Sg** **13 40 19.8 +0.5**
baz=293
TWY **Chenhua** **0.60 315** P **Pb** **13 40 14.4 +0.6**
baz=320
TWY *e*S **Sb** **13 40 22.9 +0.6**
baz=320
TWS1 **Kuangyinshan** **0.64 294** P **Pn** **13 40 15.4 -0.8**
baz=295
TWS1 *e*S **Sg** **13 40 22.8 +0.5**
baz=295
NSK **Sanguang** **0.67 256** ||*i* P **Pg** **13 40 14.3 0.0**
baz=252
NSK *e*S **Sb** **13 40 23.8 -0.4**
baz=252
NNS **Nan Shan** **0.75 238** *e*P **Pb** **13 40 16.6 +0.2**
baz=233
NNS *e*S **Sg** **13 40 25.6 -0.2**
baz=233
PCYT **Pengchaiyu** **0.78 0** P **Pn** **13 40 18.2 +0.1**
baz=5.0
PCYT *e*S **Sn** **13 40 28.7 -1.0**
baz=5.0
TWD **Chiawan** **0.87 210** *e*P **Pn** **13 40 19.4 0.0**
baz=204
TWD *e*S **Sn** **13 40 31.1 -0.9**
baz=204
JYNG **Yonaguni jima** **0.89 116** P **Pn** **13 40 20.5 +0.9**
JYNG S **Sn** **13 40 34.0 +1.6**
YOJ **Yonaguni jima** **0.94 114** P **Pn** **13 40 21.4 +1.1**
YOJ S **Sn** **13 40 35.3 +1.7**
NSTT **Nanjuang** **0.99 258** *e*P **Pg** **13 40 20.6 +0.1**
baz=256
NSTT *e*S **Sb** **13 40 33.7 +0.2**
baz=256
TWT **Tachien** **1.00 234** P **Pn** **13 40 22.1 +0.7**
baz=231
TWT *e*S **Sn** **13 40 35.0 -0.5**
baz=231
ESL **Shilin** **1.18 210** *e*P **Pg** **13 40 24.7 +0.7**
baz=206
ESL *e*S **Sn** **13 40 39.6 +0.1**
baz=206
TWQ1 **Liyutan** **1.28 248** *e*P **Pg** **13 40 25.9 -0.1**
baz=245
TWQ1 *e*S **Sg** **13 40 42.5 -0.1**
baz=245
WDT **Danda** **1.38 218** *e*P **Pg** **13 40 28.4 +0.4**
baz=215
WDT *e*S **Sb** **13 40 44.3 -0.6**
baz=215
EHY **Hungye** **1.50 207** *e*P **Pb** **13 40 28.6 -0.5**
baz=204
EHY *e*S **Sb** **13 40 47.6 -0.4**
baz=204
IRIF **Iriomote-Funau** **1.60 108** P **Pb** **13 40 30.6 -0.1**
TWF1 **Yuli** **1.64 206** *e*P **Pg** **13 40 32.0 -0.9**
baz=202
TWF1 *e*S **Sb** **13 40 51.8 -0.5**
baz=202
ALS **Alishan** **1.76 221** *e*P **Pb** **13 40 34.1 +0.4**
baz=218
ALS *e*S **Sn** **13 40 54.1 -0.2**
baz=218
JKRS **Kuro-shima** **1.87 108** P **Pb** **13 40 34.8 -0.6**
JIJ **Ishigaki jima** **1.95 104** P **Pb** **13 40 35.9 -0.8**
CHN4 **Tsaushan** **2.01 222** *e*P **Pn** **13 40 35.7 +0.7**
baz=220
CHN4 *e*S **Sn** **13 40 59.9 -0.1**
baz=220
JISG **Ishigakijimahi** **2.06 97** P **Pg** **13 40 39.4 -1.4**

TAP 14 13:40:07.3, 24.85N×122.04E, h17km, ML3.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGS		**0.10**	**266**	*i* P	Pg	13 40 11.4	+0.6
	baz=263						
EGS				*i* S	Sg	13 40 13.8	+0.7
	baz=263						
TWB1	**Santiao Chiao**	**0.16**	**344**	P	Pb	13 40 12.3	+0.5
	baz=346						
TWB1				*i* S	Sb	13 40 15.4	+0.5
	baz=346						
ILA	**Ilan**	**0.28**	**252**	*e*P	Pb	13 40 14.0	+0.2
	baz=250						
ILA				S	Sb	13 40 19.0	+0.8
	baz=250						
TWC	**Suao**	**0.30**	**215**	*i* P	Pb	13 40 14.4	+0.3
	baz=213						
TWC				*i* S	Sb	13 40 18.8	+0.1
	baz=213						
NWF	**Wu-fen Shan**	**0.32**	**313**	P	Pb	13 40 14.4	-0.2
	baz=313						
NWF				*i* S	Sb	13 40 20.9	+1.4
	baz=313						
NWF	**Wu-fen Shan**	**0.32**	**313**	*i* S	Pb	13 40 14.2	-0.4
	baz=318						
TWE	**Neicheng**	**0.36**	**249**	*e*P	Pb	13 40 15.2	0.0
	baz=247						
TWE				S	Sb	13 40 20.7	+0.1
	baz=247						
ENTT	**Nioudou**	**0.48**	**244**	P	Pb	13 40 17.7	+0.5
	baz=243						
ENTT				*e*S	Sb	13 40 24.6	+0.6
	baz=243						
ENTT	**Nioudou**	**0.48**	**244**	S	Pb	13 40 18.0	+0.8
	baz=241						
ENA	**Nanau**	**0.50**	**213**	*e*P	Pb	13 40 18.0	+0.4
	baz=211						
ENA				*e*S	Sb	13 40 25.9	+1.3
	baz=211						
TWY	**Chenhua**	**0.58**	**317**	*e*P	Pg	13 40 18.8	0.0
	baz=317						
TWY				*e*S	Sb	13 40 27.8	+0.9
	baz=317						
TWS1	**Kuangyinshan**	**0.61**	**294**	*e*P	Pb	13 40 19.9	+0.3
	baz=294						
TWS1				*e*S	Sb	13 40 28.7	+0.8
	baz=294						
NSK	**Sanguang**	**0.64**	**254**	*e*P	Pb	13 40 20.2	+0.1
	baz=253						
NSK				*e*S	Sg	13 40 28.3	-0.3
	baz=253						
NNS	**Nan Shan**	**0.73**	**236**	*e*P	Pg	13 40 22.2	+0.5
	baz=235						
NNS				*e*S	Sn	13 40 32.8	-1.0
	baz=235						
PCYT	**Pengchaiyu**	**0.78**	**2**	P	Pg	13 40 22.4	0.0
	baz=2.0						
PCYT				S	Sg	13 40 33.3	+0.6
	baz=2.0						
TWD	**Chiawan**	**0.87**	**208**	*e*P	Pg	13 40 24.4	+0.2
	baz=207						
TWD				*e*S	Sg	13 40 36.3	+0.6
	baz=207						
NSTT	**Nanjuang**	**0.97**	**257**	*e*P	Pn	13 40 26.2	+0.1
	baz=256						
NSTT				*e*S	Sn	13 40 39.5	0.0
	baz=256						
TWT	**Tachien**	**0.98**	**233**	*e*P	Pn	13 40 26.8	+0.3
	baz=233						
TWT				*e*S	Sn	13 40 40.5	+0.4
	baz=233						

IDC 14 13:50:48.5±6.3, 6.91S×147.79E, h59km±49km, mb3.7/3, mb1 3.8/5, mb1mx3.3/40, mbtmp3.8/5, ML3.8/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/35, Error ellipse: s-maj=56.7km s-min=50.8km az=133.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.56**	**194**	P	Pn	13 51 27.7	+0.1
	11nm,0.3s,baz=2.2,slow=7.6,SNR=30						
PMG				S	Sn	13 52 07.8	+10
	11nm,0.3s,baz=61,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**18.39**	**224**	P	P	13 54 58.7	-0.1
	0.3nm,0.3s,baz=50,slow=11,SNR=10						
ASAR	**Alice Springs**	**21.35**	**217**	P	P	13 55 31.1	+0.2
	1.1nm,0.4s,baz=51,slow=9.3,SNR=26						
FITZ	**Fitzroy Crossi**	**24.29**	**241**	P	P	13 56 00.3	-0.2
	3.9nm,0.4s,baz=50,slow=8.5,SNR=26						
STKA	**Stephens Creek**	**25.51**	**192**	P	P	13 56 11.7	+0.2
	1.6nm,0.7s,baz=17,slow=9.8,SNR=5.5						
RAR	**Rarotonga**	**52.57**	**111**	LR	LR	14 21 14.6	
	comp=Z,184nm,18.9s,baz=150,slow=35						
TORD	**Torodi Ar. Bea**	**146.07**	**283**	PKPbc	PKPdf	14 10 22.1	+0.1
	0.8nm,0.4s,baz=59,slow=3.8,SNR=14						

WAR 14 14:12:36.3, 51.48N×16.11E, h1km
CSEM 14 14:12:37.8±0.7, 51.41N×16.18E, h1km, Error ellipse: s-maj=10.7km s-min=6.3km az=20.0
PRU 14 14:12:38.8, 51.38N×16.19E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.54**	**173**	*e*Pg	Pg	14 12 48.5	-0.6
KSP				*e*Sg	Sg	14 12 57.1	+0.9
KSP	**Ksiaz**	**0.54**	**173**	*e*Pg	Pg	14 12 48.5	-0.7
KSP				*e*Sg	Sg	14 12 57.1	+0.9
KSP	**Ksiaz**	**0.54**	**173**	*e*Pg	Pg	14 12 48.5	-0.7
KSP				*e*Sg	Sg	14 12 57.1	+0.9
UPC	**Upice**	**0.88**	**187**	*e*PG	Pg	14 12 54.9	-0.8
UPC				*e*SG	Sg	14 13 07.5	+0.4
	16nm,0.4s						
UPC	**Upice**	**0.88**	**187**	Pg	Pg	14 12 54.9	-0.8
UPC				Sg	Sg	14 13 07.5	+0.4
	16nm,0.4s						
DPC	**Dobruska-Polom**	**1.03**	**175**	*e*PG	Pg	14 12 58.7	+0.1
DPC				*e*SG	Sg	14 13 12.0	0.0
	6.9nm,0.7s						
DPC	**Dobruska-Polom**	**1.03**	**175**	Pg	Pg	14 12 58.7	+0.1
DPC				Sg	Sg	14 13 12.0	0.0
	6.9nm,0.7s						
PVCC	**Panska Ves**	**1.33**	**231**	*e*PG	Pg	14 13 04.1	-0.2
PVCC				*e*SG	Sg	14 13 20.4	-1.2
	21nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**231**	Pg	Pg	14 13 04.1	-0.2
PVCC				Sg	Sg	14 13 20.4	-1.2
	21nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**251**	PG	Pn	14 13 04.7	-2.3
BRG				SG	Sg	14 13 24.3	-2.8
	10nm,0.3s						
KHC	**Kasperske Hory**	**2.81**	**218**	*e*SG	Sg	14 14 08.8	-0.1
KHC	**Kasperske Hory**	**2.81**	**218**	Sg	Sg	14 14 08.8	-0.1

IDC 14 13:13:42.0±0.9, 15.46N×119.11E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/46, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=40.8km s-min=15.6km az=73.0
MAN 14 14:13:41, 15.61N×119.02E, h0km, mb4.6, ML3.5, MS3.4
NEIC 14 14:13:48.3±2.5, 15.46N×119.23E, h51km±23km, mb4.2/1, Error ellipse: s-maj=34.8km s-min=10.5km az=77.0
ISC 14 14:13:42.1±2.8, 15.51N±0.05×119.20E±0.07, h1km±18km, n18, σ1s15/26, mb3.9/8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.73**	**69**	*e*P	Pn	14 13 59.0	-0.6
SCZP				*e*S	Sn	14 14 09.8	-1.6
BOLP	**Bolinao**	**1.10**	**38**	*e*P	Pb	14 14 03.6	-0.4
LUBP	**Lubang**	**2.04**	**150**	*e*P	Pb	14 14 20.2	+0.3
TGY	**Tagaytay City**	**2.19**	**130**	Pn	Pb	14 14 21.9	-0.7
	36nm,0.3s,baz=234,slow=14,SNR=2.6						
TGY				Sn	Sg	14 14 52.5	+0.1
	44nm,0.3s,baz=252,slow=20,SNR=3.5						
BALP	**Baler**	**2.30**	**84**	*e*P	Pn	14 14 22.9	+1.7
BALP				*e*S	Sb	14 14 55.1	+1.7
ABRA	**Dolores**	**2.57**	**34**	*e*P	Pn	14 14 25.9	+1.0
ABRA				*e*S	Sn	14 14 58.7	+1.9
POLP	**Polilio Island**	**2.75**	**106**	*e*P	Pb	14 14 31.0	-1.2
POLP				*e*S	Sb	14 15 08.4	+1.9
CAUP	**Cauayan**	**2.89**	**60**	*e*P	Pb	14 14 32.9	-1.6
APYP	**Conner**	**3.04**	**40**	*e*P	Pn	14 14 32.3	+0.8
APYP				*e*S	Sn	14 15 07.7	-0.9
KSAR	**Wonju Array Be**	**23.16**	**18**	P	P	14 18 49.9	-0.2
KSRS	**Korea Array**	**23.18**	**18**	P	P	14 18 49.9	-0.4
	1.1nm,0.7s,baz=193,slow=12,SNR=6.9						
SONM	**Songino Array**	**33.92**	**344**	P	P	14 20 27.4	+0.5
	0.3nm,0.4s,baz=162,slow=10.0,SNR=2.7						
WRAB	**Tennant Creek**	**38.24**	**157**	*e*P	P	14 21 02.3	-1.8
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**38.25**	**157**	P	P	14 21 02.9	-1.2
	2.8nm,0.7s,baz=336,slow=9.4,SNR=20						
WRA				PcP	PcP	14 23 18.6	0.0
	0.2nm,0.5s,baz=346,slow=3.1,SNR=3.7						
ASAR	**Alice Springs**	**41.51**	**159**	P	P	14 21 30.8	-0.4
	1.1nm,0.5s,baz=336,slow=7.0,SNR=40						
ASAR				PcP	PcP	14 23 29.1	+0.2
	0.5nm,0.8s,baz=337,slow=3.1,SNR=4.5						
MKAR	**Makanchi Array**	**43.72**	**323**	P	P	14 21 49.0	0.0
	0.3nm,0.7s,baz=122,slow=5.2,SNR=2.9						
PETK	**Petropavlovsk-**	**48.17**	**30**	P	P	14 22 24.5	+0.5
	3.2nm,0.7s,baz=204,slow=3.3,SNR=5.0						
STKA	**Stephens Creek**	**51.78**	**156**	P	P	14 22 51.2	-0.5
	1.4nm,0.8s,baz=315,slow=10.0,SNR=2.8						

ISK 14 14:16:02.9, 39.46N×26.89E, h10km, ML2.1
ISCJB 14 14:16:03.7±0.8, 39.43N±0.04×26.89E±0.06, h8km±8km, Error ellipse: s-maj=8.1km s-min=7.0km az=155.0
CSEM 14 14:16:03.7±0.4, 39.43N×26.90E, h10km, ML2.1, Error ellipse: s-maj=13.6km s-min=7.1km az=99.0
DDA 14 14:16:06.0, 39.41N×26.74E, h6km, Md2.6
ISC 14 14:16:03.8±1.1, 39.43N±0.03×26.89E±0.05, h10km±9km, n21, σ0s98/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.20**	**233**	S	Sg	14 16 10.8	+0.1
AYVA	**Ayvalik**	**0.20**	**233**	*i* P	Pg	14 16 08.3	+0.4
AYVA				*i* S	Sg	14 16 10.8	+0.1
DKL	**Dikili**	**0.35**	**178**	*e*PG	Pb	14 16 11.5	-0.7
DKL				*e*SG	Sg	14 16 16.7	+1.2
DKL	**Dikili**	**0.35**	**178**	*e*Pg	Pb	14 16 11.5	-0.7
DKL				*e*Sg	Sg	14 16 16.7	+1.2
BOZC	**Bozcaada**	**0.77**	**303**	*i* P	Pb	14 16 19.2	-0.1
BOZC				*i* S	Sb	14 16 29.6	-0.2
SIGR	**SIGRI**	**0.83**	**255**	*e*PG	Pb	14 16 20.1	-0.2
SIGR				*e*SG	Sb	14 16 31.2	-0.3
SIGR	**SIGRI**	**0.83**	**255**	*e*Pg	Pb	14 16 20.1	-0.2
SIGR				*e*Sg	Sb	14 16 31.3	-0.3
LPK	**Lapseki**	**0.95**	**354**	*e*PG	Pg	14 16 20.5	-1.6
LPK	**Lapseki**	**0.95**	**354**	*e*Pg	Pg	14 16 20.5	-1.6
IZM	**Izmir**	**1.07**	**164**	*e*PN	Pg	14 16 23.9	-0.4
IZM	**Izmir**	**1.07**	**164**	*e*Pn	Pg	14 16 24.0	-0.4
CHOS	**Chios island**	**1.23**	**212**	*e*PN	Pn	14 16 26.7	-0.4
CHOS	**Chios island**	**1.23**	**212**	*e*Pn	Pn	14 16 26.7	-0.4
ERIK	**Erikli-Kesan**	**1.28**	**347**	*e*PN	Pn	14 16 26.6	-1.1
ERIK	**Erikli-Kesan**	**1.28**	**347**	*e*Pn	Pn	14 16 26.6	-1.1
SART	**Tekirdag**	**1.28**	**10**	P	Pg	14 16 29.8	+1.4
SART				S	Sn	14 16 46.7	+1.6
SART	**Tekirdag**	**1.28**	**10**	*i* P	Pg	14 16 29.8	+1.4
SART				*i* S	Sn	14 16 46.7	+1.6
MRMT	**Marmara Adasi**	**1.29**	**24**	*e*PN	Pn	14 16 26.9	-1.1
MRMT	**Marmara Adasi**	**1.29**	**24**	*e*Pn	Pn	14 16 26.9	-1.1
ALN	**Alexandroupoli**	**1.61**	**336**	*e*PN	Pn	14 16 32.4	+0.2
ALN	**Alexandroupoli**	**1.61**	**336**	*e*Pn	Pn	14 16 32.4	+0.2

IDC 14 14:36:43.3±0.8, 37.71N×143.79E, h0km, mb3.9/11, mb1 4.1/18, mb1mx3.9/37, mbtmp4.0/18, ML3.4/6, Error ellipse: s-maj=18.7km s-min=15.2km az=127.0
NEIC 14 14:36:44.5±0.6, 37.75N×143.86E, h10km, mb4.4/2, Error ellipse: s-maj=11.1km s-min=7.3km az=128.0
ISCJB 14 14:36:46.5±0.5, 37.82N±0.04×143.64E±0.05, h33km, mb4.2/18, MS3.8/1, Error ellipse: s-maj=5.8km s-min=4.7km az=40.3
JMA 14 14:36:46.1±0.2, 37.89N×143.64E, h34km, M3.9
ISC 14 14:36:48.3±0.7, 37.79N±0.05×143.74E±0.06, h35km, n63, σ1s94/67, mb4.1/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.00**	**290**	P	Pn	14 37 17.3	-2.3
JIO				*e*S	Sn	14 37 40.2	-3.1
OFUJ	**Ofunato**	**2.07**	**309**	P	Pn	14 37 18.0	-2.6
JMK	**Ichinoseki**	**2.29**	**301**	P	Pn	14 37 21.5	-2.1
JMK				*e*S	Sn	14 37 47.8	-2.8
JOU	**Okura**	**2.49**	**284**	P	Pn	14 37 24.9	-1.5
JOM	**Ohasama**	**2.55**	**312**	P	Pn	14 37 25.2	-1.9
JOM				*e*S	Sn	14 37 54.2	-2.7
JFT	**Otama**	**2.71**	**265**	P	Pn	14 37 28.1	-1.3
JFT				*e*S	Sn	14 37 59.0	-2.1
JYK	**Kaneyama**	**2.89**	**294**	P	Pn	14 37 29.5	-2.3
JRG	**Rokugo**	**2.91**	**304**	P	Pn	14 37 30.4	-1.8
JANG	**Nango**	**3.10**	**327**	P	Pn	14 37 33.4	-1.4
JAH	**Hinai**	**3.40**	**316**	P	Pn	14 37 37.8	-1.1
JNS	**Sasagawa**	**3.50**	**272**	P	Pn	14 37 39.4	-0.9
JAW	**Awa shima**	**3.60**	**282**	P	Pn	14 37 40.8	-0.8
JTM	**Tennabayashi**	**3.64**	**326**	*e*S	Sn	14 38 20.1	-3.7
JAG	**Ashikaga**	**3.69**	**250**	P	Pn	14 37 41.3	-1.5
BSO1	**Boso 1**	**3.85**	**216**	P	Pn	14 37 42.8	-1.7
JOT	**Ohata**	**4.14**	**331**	P	Pn	14 37 49.0	-0.1
ERM	**Erimo**	**4.24**	**354**	*e*Pn	Pn	14 37 48.5	-1.9
JRY	**Ryogami san**	**4.26**	**247**	P	Pn	14 37 49.0	-1.8
JSD	**Sado**	**4.34**	**275**	P	Pn	14 37 50.8	-1.0
JOD2	**Odawara 2**	**4.52**	**237**	P	Pn	14 37 52.9	-1.3
MJAR	**Matsushiro Arr**	**4.59**	**256**	Pn	Pn	14 37 55.3	+0.1
	9.6nm,0.3s,baz=89,slow=15,SNR=78						
MJAR				Sn	Sn	14 38 46.9	-0.5
	baz=99,slow=18,SNR=2.8						
MAJO	**Matsushiro**	**4.59**	**256**	*e*Pn	Pn	14 37 55.1	-0.2
MAT	**Matsushiro**	**4.59**	**256**	P	Pn	14 37 54.5	-0.8
MAT				*e*S	Sn	14 38 45.2	-2.2
MJB9	**Matsu-Tunnel**	**4.59**	**256**	*e*Pn	Pn	14 37 55.1	-0.1
JCH	**Churui**	**4.83**	**357**	P	Pn	14 37 56.5	-1.9
JCH				S	Sn	14 38 47.2	-5.8
JHJ	**Hachijo jima 2**	**5.67**	**216**	Pn	Pn	14 38 07.9	-2.2
	10nm,0.3s,baz=344,slow=22,SNR=31						
JHJ				Sn	Sn	14 39 06.8	-7.1
	14nm,0.3s,baz=115,slow=22,SNR=6.7						
INU	**Inuyama**	**5.94**	**248**	*e*Pn	Pn	14 38 12.7	-1.0
ASAJ	**Asahikawa**	**6.38**	**353**	*e*Pn	Pn	14 38 18.5	-1.3
	3.6nm,0.7s						
CBIJ	**Chichi jima**	**10.75**	**187**	Pn	Pn	14 39 16.2	-3.5
JCJ	**Chichijima**	**10.75**	**187**	Pn	Pn	14 39 16.2	-3.5
USRK	**Ussuriysk Ar.**	**10.94**	**309**	Pn	Pn	14 39 21.9	-0.4
	0.3nm,0.3s,baz=92,slow=13,SNR=5.2						
JNU	**Nakatsue**	**11.47**	**250**	Pn	Pn	14 39 28.8	-0.9
	0.2nm,0.3s,baz=42,slow=12,SNR=6.3						
JNU	**Nakatsue**	**11.47**	**250**	*e*Pn	Pn	14 39 31.5	+1.8
KSRS	**Korea Array**	**12.55**	**273**	Pn	Pn	14 39 42.9	-1.4
	0.2nm,0.3s,baz=93,slow=14,SNR=11						
KSAR	**Wonju Array Be**	**12.58**	**273**	Pn	Pn	14 39 42.9	-1.8
PETK	**Petropavlovsk-**	**18.13**	**28**	P	Pn	14 40 55.4	-1.7
	0.4nm,0.3s,baz=207,slow=12,SNR=2.3						
HHC	**Hu-ho-hao-te**	**25.00**	**287**	*e*P	P	14 42 09.8	+0.9
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,130nm,7.1s						
WHN	**Wuhan**	**25.30**	**262**	P	P	14 42 13.0	+1.5
H11N2	**WAKE ISLAND Hy**	**27.01**	**125**	T	T	15 10 43.6	
	baz=317,slow=74,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**27.02**	**125**	T	T	15 10 44.2	
	baz=317,slow=74,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**27.02**	**125**	T	T	15 10 48.3	
	baz=317,slow=74,SNR=5.8						
ULN	**Ulaanbaatar**	**28.49**	**302**	*e*P	P	14 42 42.9	+2.6
	comp=Z,2.6nm,0.7s						
SONM	**Songino Array**	**28.92**	**302**	P	P	14 42 44.9	+0.8
	comp=Z,0.6nm,0.5s,baz=81,slow=8.8,SNR=5.7						
ENH	**Enshi**	**29.24**	**265**	*e*P	P	14 42 48.3	+1.4
	comp=Z,12nm,0.9s						
LZH	**Lanzhou**	**31.77**	**279**	*e*P	P	14 43 08.3	-1.1
LZH				pP	pP	14 43 11.5	-8.0
LZH				sP	sP	14 43 13.3	-10
LZH				*e*PP	PnPn	14 44 13.5	-0.7
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,56nm,5.3s						
LZH				LR	LR		
	comp=N,110nm,12.5s						
LZH				LR	LR		
	comp=E,100nm,13.2s						
LZH				LR	LR		
	comp=Z,150nm,16.3s						
GTA	**Gaotai**	**34.12**	**287**	*e*P	P	14 43 31.8	+2.0
GTA				pP	pP	14 43 36.3	-3.7
GTA				sP	sP	14 43 38.8	-5.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KMI	**Kunming**	**36.90**	**262**	P	P	14 43 56.5	+2.5
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
WMQ	**Urumqi**	**42.16**	**297**	P	P	14 44 38.0	+0.6
ZAA0	**Zalesovo Array**	**42.78**	**312**	*e*P	P	14 44 42.7	+0.5
ZALV	**Zalesovo Beam**	**42.78**	**312**	P	P	14 44 42.9	+0.7
	comp=Z,2.0nm,0.5s,baz=59,slow=9.3,SNR=5.0						
CMAR	**Chiang Mai Arr**	**43.48**	**256**	P	P	14 44 48.4	+0.1
	comp=Z,0.6nm,0.7s,baz=52,slow=5.9,SNR=4.0						
MK01	**Makanchi Array**	**45.29**	**302**	*e*P	P	14 45 02.6	+0.1
MK31	**Makanchi Array**	**45.29**	**302**	*e*P	P	14 45 02.6	+0.1
MKAR	**Makanchi Array**	**45.29**	**302**	P	P	14 45 02.9	+0.4
	comp=Z,2.0nm,0.7s,baz=86,slow=9.2,SNR=8.3						
MKAR	**Makanchi Array**	**45.29**	**302**	*e*P	P	14 45 02.6	+0.1
KURK	**Kurchatov**	**46.93**	**308**	*e*P	P	14 45 15.5	+0.2
	comp=Z,17nm,0.6s						
ILAR	**Eielson Array**	**47.86**	**33**	P	P	14 45 23.8	+1.5
	comp=Z,1.1nm,0.7s,baz=265,slow=6.9,SNR=18						
WRA	**Warramunga Array**	**58.10**	**190**	P	P	14 46 38.1	-0.1
	comp=Z,1.1nm,0.7s,baz=12,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**61.83**	**190**	P	P	14 47 03.9	+0.1
	comp=Z,0.3nm,0.4s,baz=1.9,slow=6.8,SNR=9.4						
YKA	**Yellowknife Ar**	**62.22**	**31**	P	P	14 47 06.9	+1.0
	comp=Z,0.1nm,0.4s,baz=308,slow=6.7,SNR=4.8						
GEYT	**Alibeck**	**65.08**	**300**	P	P	14 47 25.6	+0.3
	comp=Z,1.8nm,0.7s,baz=79,slow=7.5,SNR=3.5						
KBZ	**Khabaz**	**71.80**	**311**	P	P	14 48 09.0	+1.8
	comp=Z,0.9nm,0.5s,baz=40,slow=4.0,SNR=2.5						
TXAR	**Lajitas Array**	**88.19**	**54**	P	P	14 49 35.0	-1.0
	comp=Z,0.5nm,0.9s,baz=329,slow=3.2,SNR=2.2						

JMA 14 14:51:47.6±0.1, 37.01N×142.18E, h0km, M3.7
ISCJB 14 14:51:48.6±0.8, 36.99N±0.05×142.28E±0.06, h19km, mb3.3/3, Error ellipse: s-maj=7.5km s-min=6.7km az=173.4
IDC 14 14:51:48.0±1.6, 37.00N×142.21E, h0km, mb3.3/3, mb1 3.4/6, mb1mx3.2/53, mbtmp3.4/6, ML3.3/2, Error ellipse: s-maj=34.8km s-min=23.6km az=78.0
ISC 14 14:51:50.3±1.3, 36.96N±0.06×142.21E±0.08, h19km, n17, σ1s68/23, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.14**	**277**	P	Pn	14 52 09.1	-2.1
ONAJ				*e*S	Sb	14

5.7nm,0.3s,baz=90,slow=20,SNR=3.1
ASAJ Asahikawa 7.15 2 Pn **Pn 14 53 34.6 +0.8**
baz=258,slow=20
KURBB Kurchatov Arra 46.55 308 P **P 15 00 16.1 -0.4**
0.1nm,0.4s,baz=82,slow=7.7,SNR=3.1
WRA Warramunga Arr 57.08 189 P **P 15 01 35.8 +0.5**
0.2nm,0.6s,baz=6.3,slow=7.0,SNR=4.1
ASAR Alice Springs 60.81 189 P **P 15 02 02.9 +1.8**
0.2nm,0.7s,baz=0.8,slow=6.6,SNR=2.9

IDC 14 14:55:25.4±1.1, 37.70N×143.75E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.4/53, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=34.6km s-min=20.8km az=103.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**4.57**	**257**	Pn		Pn	Pn	14 56 36.9	+1.1
	2.7nm,0.3s,baz=90,slow=15,SNR=18								
MAT	**Matsushiro**	**4.57**	**257**	P		Pn	Pn	14 56 36.4	+0.6
JHJ	**Hachijo jima 2**	**5.60**	**216**	Pn		Pn	Pn	14 56 49.4	-0.5
	2.0nm,0.3s,baz=127,slow=20,SNR=3.9								
ASAJ	**Asahikawa**	**6.47**	**353**	Pn		Pn	Pn	14 57 00.2	-1.6
	baz=90,slow=20								
KURBB	**Kurchatov Arra**	**47.06**	**308**	P		P	P	15 03 58.3	-0.2
	0.7nm,0.5s,baz=82,slow=8.0,SNR=6.5								
ILAR	**Eielson Array**	**47.94**	**33**	P		P	P	15 04 05.6	+0.5
	0.6nm,0.8s,baz=268,slow=5.9,SNR=7.4								
WRA	**Warramunga Arr**	**58.01**	**190**	P		P	P	15 05 19.8	-0.2
	1.4nm,1.2s,baz=10,slow=7.3,SNR=3.6								
ASAR	**Alice Springs**	**61.74**	**190**	P		P	P	15 05 45.3	-0.2
	0.2nm,0.8s,baz=7.0,slow=8.0,SNR=2.8								

*BJI **14** 14:55:57.2, 39.40N×142.52E, h19km, mb5.1/81, mB5.4/58, Ms5.3/83, Ms7 5.2/60*
*NIED **14** 14:56:00, 39.50N×142.60E, h17km, Mw5.2 Best double couple: M0 6.73000×10^16 NP1:φs 141.00000°, δ16.00000°, λ23.00000°. NP2:φs 29.00000°, δ84.00000°, λ105.00000°.*
*GCMT **14** 14:56:00.7±0.2, 39.57N×142.62E, h15km, MW5.4/83, Moment Tensor Solution. s42,c56; s83,c132; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.00±.02; Mθθ 0.08±.01; Mφφ-0.08±.01; Mrθ 0.78±.04; Mφθ 0.02±.01; Mrφ 1.56±.04; Best double couple: M0 1.74500×10^17 NP1:φs 27.00000°, δ90.00000°, λ92.00000° NP2: φs 123.00000°, δ2.00000°, λ6.00000°. Principal axes: T 1.7260, Plg45.0000°, Azm299.0000°; N 0.0370, Plg2.0000°, Azm207.0000°; P -1.7630, Plg45.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **14** 14:56:00.7±0.3, 39.48N×142.39E, h20km±2km, mb5.2/193 Error ellipse: s-maj=3.4km s-min=2.3km az=145.0*
NEIC Felt [III] at Misawa. Also felt at Aomori and Ichinoseki. Recorded [3 JMA] in Akita, Aomori, Iwate and Miyagi.
*JMA **14** 14:56:00.0±0.1, 39.49N×142.53E, h28km±1km, M5.3 Broadband fault plane solution: P waves. NP1: φs 22.00000°, δ89.00000°, λ118.00000°. NP2: φs 114.00000°, δ28.00000°, λ2.00000°. Principal axes: T Plg40.0000°, Azm317.0000°; N Plg28.0000°, Azm201.0000°; P Plg38.0000°, Azm87.0000°;*
JMA Felt III J1.
*ISCJB **14** 14:56:01.6±0.3, 39.50N±0.02×142.41E±0.02, h36km±2km, mb5.2/293, MS5.2/62 Error ellipse: s-maj=3.1km s-min=2.2km az=155.5*
*IDC **14** 14:56:02.5±2.8, 39.49N×142.47E, h32km±20km, mb4.7/38, mb1 4.7/45, mb1mx4.7/57, mbtmp4.8/45, ML4.2/6, MS4.9/30, Ms1 4.9/30, ms1mx4.8/37, Error ellipse: s-maj=11.5km s-min=8.8km az=99.0*
*MOS **14** 14:56:02.0±0.9, 39.55N×142.42E, h39km, mb5.4/101, MS5.4/40, Error ellipse: s-maj=5.8km s-min=3.9km az=105.2*

ISC 14 14:56:01.2±0.4, 39.49N±0.03×142.50E±0.03, h25km±2km, h24km: pP-P, n866, σ1§57/984, mb5.2/302, MS5.3/63, 75C-19D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.53**	**280**	⇓P		**Pb**	**Pb**	**14 56 11.2**	**-0.7**
MIYJ				S		**Sb**	**Sb**	**14 56 18.9**	**-0.3**
JTH	**Tanohata**	**0.66**	**313**	P		**Pb**	**Pb**	**14 56 12.8**	**-1.3**
JTH				S		**Sb**	**Sb**	**14 56 21.9**	**-1.0**
OFUJ	**Ofunato**	**0.76**	**238**	⇓P		**Pn**	**Pn**	**14 56 14.5**	**-1.9**
OFUJ				eS		**Sb**	**Sb**	**14 56 24.9**	**-0.8**
JOM	**Ohasama**	**0.93**	**269**	⇓P		**Pn**	**Pn**	**14 56 17.6**	**-1.1**
JOM				S		**Sn**	**Sn**	**14 56 30.1**	**-1.2**
JKZ	**Kuzumaki**	**1.03**	**299**	⇓P		**Pn**	**Pn**	**14 56 19.0**	**-1.1**
JKZ				eS		**Sn**	**Sn**	**14 56 32.2**	**-1.5**
JMK	**Ichinoseki**	**1.13**	**242**	⇓P		**Pn**	**Pn**	**14 56 20.5**	**-0.9**
JANG	**Nango**	**1.16**	**320**	⇑P		**Pn**	**Pn**	**14 56 20.6**	**-1.3**
JANG				S		**Sn**	**Sn**	**14 56 36.1**	**-0.9**
JIO	**Ouri**	**1.37**	**221**	P		**Pn**	**Pn**	**14 56 23.7**	**-1.0**
JIO				S		**Sn**	**Sn**	**14 56 40.6**	**-1.4**
JRG	**Rokugo**	**1.45**	**267**	⇑P		**Pn**	**Pn**	**14 56 25.9**	**+0.1**
JRG				eS		**Sb**	**Sb**	**14 56 45.9**	**+0.5**
JAH	**Hinai**	**1.59**	**297**	⇑P		**Pn**	**Pn**	**14 56 28.2**	**+0.4**
JAH				eS		**Sn**	**Sn**	**14 56 48.9**	**+1.3**
JTM	**Tenmabayashi**	**1.70**	**320**	⇑P		**Pn**	**Pn**	**14 56 29.1**	**-0.1**
JYK	**Kaneyama**	**1.76**	**252**	⇑P		**Pn**	**Pn**	**14 56 30.3**	**+0.2**
JYW	**Yuwa**	**1.77**	**272**	⇑P		**Pn**	**Pn**	**14 56 31.0**	**+0.8**
ERM	**Erimo**	**2.57**	**11**	⇓*i*P		**Pn**	**Pn**	**14 56 41.1**	**-0.1**
ERM				pmax	pmax				
	comp=Z,449nm,0.8s								
ERM	**Erimo**	**2.57**	**11**	*e*Pn		**Pn**	**Pn**	**14 56 40.8**	**-0.4**
JOB	**Onbets**	**3.56**	**16**	⇑P		**Pn**	**Pn**	**14 56 54.2**	**-0.6**
JIZZ	**Izumozaki**	**3.56**	**238**	P		**Pn**	**Pn**	**14 56 56.8**	**+2.0**
JSD	**Sado**	**3.62**	**248**	⇑P		**Pn**	**Pn**	**14 56 56.0**	**+0.4**
MJAR	**Matsushiro Arr**	**4.49**	**230**	Pn		**Pn**	**Pn**	**14 57 09.4**	**+1.8**
	comp=Z,31nm,0.3s,baz=37,slow=11,SNR=127								
MJAR				Sn		**Sn**	**Sn**	**14 58 01.2**	**+2.2**
	comp=Z,5.2nm,0.3s,baz=45,slow=14,SNR=2.6								
MJB9	**Matsu-Tunnel**	**4.49**	**230**	*e*Pn		**Pn**	**Pn**	**14 57 09.6**	**+2.0**
MAJO	**Matsushiro**	**4.49**	**230**	*e*P		**Pn**	**Pn**	**14 57 09.5**	**+1.9**
MAJO	**Matsushiro**	**4.49**	**230**	*e*Pn		**Pn**	**Pn**	**14 57 09.5**	**+1.9**
MAT	**Matsushiro**	**4.49**	**230**	P		**Pn**	**Pn**	**14 57 08.9**	**+1.3**
MAT				eS		**Sn**	**Sn**	**14 58 06.1**	**+7.0**
ASAJ	**Asahikawa**	**4.62**	**1**	Pn		**Pn**	**Pn**	**14 57 10.4**	**+1.0**
ASAJ	**Asahikawa**	**4.62**	**1**	*e*Pn		**Pn**	**Pn**	**14 57 09.7**	**+0.3**
JNG	**Nsakai**	**4.64**	**230**	P		**Pn**	**Pn**	**14 57 12.3**	**+2.5**
JHG	**Hegura jima**	**4.66**	**251**	⇓P		**Pn**	**Pn**	**14 57 11.4**	**+1.4**
JYN	**Shimob**	**5.08**	**219**	⇑P		**Pn**	**Pn**	**14 57 18.0**	**+2.2**
YUK	**Yuzh-Kuril'sk**	**5.19**	**28**	*i* P		**Pn**	**Pn**	**14 57 16.8**	**-0.4**
JIZS	**Izushimoda**	**5.57**	**212**	P		**Pn**	**Pn**	**14 57 22.8**	**+0.3**
INU	**Inuyama**	**6.01**	**228**	*e*Pn		**Pn**	**Pn**	**14 57 30.8**	**+2.3**
JHJ2	**Mitsune**	**6.72**	**200**	*e*Pn		**Pn**	**Pn**	**14 57 38.0**	**-0.4**
JHJ	**Hachijo jima 2**	**6.72**	**200**	Pn		**Pn**	**Pn**	**14 57 37.5**	**-0.8**
	comp=Z,90nm,0.3s,baz=87,slow=21,SNR=33								
JHJ				Sn		**Sn**	**Sn**	**14 58 50.4**	**-3.8**
	comp=Z,77nm,0.3s,baz=70,slow=23,SNR=7.4								
KUR	**Kuril'sk**	**6.98**	**33**	*d* iP		**Pn**	**Pn**	**14 57 40.1**	**-1.7**
KUR				*i* S		**Sn**	**Sn**	**14 58 55.7**	**-4.6**
KUR				pmax	pmax				
	comp=Z,642nm,4.3s								
KUR				pmax	pmax				
	comp=Z,168nm,0.9s								
KUR				smax	smax				
	comp=N,394nm,0.8s								
KUR				smax	smax				
	comp=E,250nm,0.9s								
KUR				smax	smax				
	comp=N,3μm,4.0s								
KUR				MLR	MLR				
	comp=Z,3μm,13.0s								
YSS	**Yuzh-Sakhalins**	**7.46**	**1**	⇑*e*P		**Pn**	**Pn**	**14 57 48.7**	**+0.3**
YSS				*e*S		**Sn**	**Sn**	**14 59 14.7**	**+2.5**
YSS				pmax	pmax				
	comp=Z,100nm,1.0s								
YSS				smax	smax				
	comp=E,7μm,11.0s								
YSS				smax	smax				
	comp=N,6μm,12.0s								
YSS				smax	smax				
	comp=E,4μm,18.0s								
YSS	**Yuzh-Sakhalins**	**7.46**	**1**	*e*Pn		**Pn**	**Pn**	**14 57 48.5**	**+0.1**
VLA	**Vladivostok**	**8.77**	**298**	*c i*P		**Pn**	**Pn**	**14 58 09.0**	**+2.6**
MSHR	**Mys Shultsa**	**9.11**	**293**	*c i*P		**Pn**	**Pn**	**14 58 13.6**	**+2.6**
USRK	**Ussuriysk Ar.**	**9.14**	**304**	Pn		**Pn**	**Pn**	**14 58 13.7**	**+2.2**
	comp=E,3.2nm,0.3s,baz=108,slow=10,SNR=117								
USRK				LR		LR	LR	15 01 29.3	
	comp=E,15μm,20.3s,baz=107,slow=36								
HABR	**Khabarovsk**	**10.45**	**332**	*c*eP		**Pn**	**Pn**	**14 58 27.8**	**-1.6**
HABR				*e*S		**Sn**	**Sn**	**15 00 24.3**	**-1.3**
HABR				pmax	pmax				
	comp=N,17nm,1.2s								
HABR				pmax	pmax				
	comp=E,17nm,1.2s								
HABR				pmax	pmax				
	comp=Z,29nm,1.2s								
HABR				MLR	MLR				
	comp=Z,8μm,13.0s								
MDJ	**Mudanjiang**	**10.87**	**302**	P		**Pn**	**Pn**	**14 58 38.0**	**+2.8**
MDJ				S		**Sn**	**Sn**	**15 00 42.9**	**+6.9**
MDJ				PcP		**PcP**	**PcP**	**15 04 34.4**	**+0.2**
MDJ				ScP		**ScP**	**ScP**	**15 08 08.3**	**+3.3**
MDJ				ScS		**ScS**	**ScS**	**15 11 42.3**	**+2.3**
MDJ				PMZ					
	comp=Z,69nm,1.5s								
MDJ				PMZ					
	comp=Z,1μm,4.8s								
MDJ				LN					
	comp=Z,8μm,12.6s								
MDJ				LE					
	comp=Z,13μm,14.7s								
MDJ				LZ					
	comp=Z,18μm,14.5s								
MDJ	**Mudanjiang**	**10.87**	**302**	*e*Pn		**Pn**	**Pn**	**14 58 37.8**	**+2.6**
JNU	**Nakatsue**	**11.32**	**239**	Pn		**Pn**	**Pn**	**14 58 43.4**	**+2.0**
	comp=Z,1.5nm,0.3s,baz=67,slow=7.4,SNR=7.4								
JNU				LR		LR	LR	15 03 18.7	
	comp=Z,7μm,19.2s,baz=40,slow=39								
JNU	**Nakatsue**	**11.32**	**239**	*e*Pn		**Pn**	**Pn**	**14 58 42.3**	**+0.9**
TYV	**Tymovskoe**	**11.37**	**1**	*e*P		**Pn**	**Pn**	**14 58 41.0**	**-1.0**
TYV				*e*S		**Sn**	**Sn**	**15 00 45.0**	**-3.1**
TYV				pmax	pmax				
	comp=E,35nm,0.8s								
TYV				pmax	pmax				
	comp=Z,57nm,0.8s								
TYV				pmax	pmax				
	comp=Z,1μm,7.0s								
TYV				smax	smax				
	comp=E,3μm,12.0s								
TYV				MLR	MLR				
	comp=N,14μm,20.0s								
TYV				MLR	MLR				
	comp=Z,12μm,18.0s								
KSRS	**Korea Array**	**11.61**	**265**	Pn		**Pn**	**Pn**	**14 58 47.9**	**+2.7**
	comp=Z,3.6nm,0.3s,baz=78,slow=14,SNR=50								
KSRS				Sn		**Sn**	**Sn**	**15 00 59.3**	**+5.4**
	comp=Z,2.7nm,0.3s,baz=74,slow=24,SNR=6.4								
KSRS				LR		LR	LR	15 02 51.9	
	comp=Z,6μm,19.3s,baz=80,slow=35								
KS01	**Wonju Array Si**	**11.62**	**265**	*e*Pn		**Pn**	**Pn**	**14 58 47.8**	**+2.3**
KS15	**Wonju Array Si**	**11.64**	**264**	*e*Pn		**Pn**	**Pn**	**14 58 49.6**	**+3.9**
KSAR	**Wonju Array Be**	**11.64**	**264**	P		**Pn**	**Pn**	**14 58 47.9**	**+2.2**
KSAR								15 00 59.3	
KSAR	**Wonju Array Be**	**11.64**	**264**	Pn		**Pn**	**Pn**	**14 58 47.9**	**+2.2**
KSAR				Sn		**Sn**	**Sn**	**15 00 59.3**	**+4.6**
TJN	**Taejon**	**12.35**	**260**	⇑*i*P		**Pn**	**Pn**	**14 58 58.9**	**+3.6**
CBIJ	**Chichi jima**	**12.37**	**181**	*e*Pn		**Pn**	**Pn**	**14 58 51.7**	**-4.0**
CBIJ				Sn		Sn	Sn	15 00 59.2	-13
CBIJ				*e*Sn		Sn	Sn	15 01 12.5	-0.1
JCJ	**Chichijima**	**12.37**	**181**	Pn		**Pn**	**Pn**	**14 58 51.4**	**-4.3**
JCJ				Sn		Sn	Sn	15 00 59.2	-13
	comp=Z,4.6nm,0.3s,baz=179,slow=23,SNR=4.1								
JCJ				LR		LR	LR	15 05 03.0	
	comp=Z,1μm,20.7s,slow=44								
KLR	**Kul'dur**	**12.39**	**325**	Pn		**Pn**	**Pn**	**14 58 56.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=135,slow=13,SNR=21								
KLR				LR		LR	LR	15 03 44.2	
	comp=Z,9μm,19.2s,baz=138,slow=37								
INCN	**Inchon**	**12.59**	**266**	*e*Pn		**Pn**	**Pn**	**14 59 01.8**	**+3.0**
CN2	**Changchun**	**13.46**	**294**	*e*P		**Pn**	**Pn**	**14 59 11.5**	**+1.1**
CN2				*e*S		**Sn**	**Sn**	**15 01 41.1**	**+2.0**
CN2				PMZ					
	comp=Z,30nm,1.5s								
CN2				PMZ					
	comp=Z,2μm,6.0s								
CN2				LN					
	comp=Z,8μm,16.0s								
CN2				LE					
	comp=Z,7μm,16.0s								
CN2				LZ					
	comp=Z,8μm,16.0s								
NKL	**Nikolayevsk**	**13.72**	**355**	*e*P		**Pn**	**Pn**	**14 59 12.0**	**-2.0**
NKL				*e*S		**Sn**	**Sn**	**15 01 44.0**	**-1.4**
NKL				pmax	pmax				
	comp=N,500nm,4.0s								
NKL				pmax	pmax				
	comp=Z,500nm,4.0s								
NKL				pmax	pmax				
	comp=N,60nm,1.3s								
NKL				pmax	pmax				
	comp=Z,100nm,1.3s								
NKL				smax	smax				
	comp=E,1μm,11.0s								
NKL				MLR	MLR				
	comp=N,3μm,16.0s								
NKL				MLR	MLR				
	comp=E,5μm,16.0s								
NKL				MLR	MLR				
	comp=Z,6μm,16.0s								
OKH	**Okha**	**14.07**	**1**	*e*P		**P**	**P**	**14 59 26.4**	**+0.2**
SNY	**Shenyang**	**14.55**	**285**	⇑P		**Pn**	**Pn**	**14 59 26.3**	**+0.9**
SNY				S		**Sn**	**Sn**	**15 02 04.4**	**-1.4**
SNY				PMZ					
	comp=Z,41nm,1.6s								
SNY				PMZ					
	comp=Z,2μm,8.3s								
SNY				LN					
	comp=Z,4μm,13.9s								
SNY				LE					
	comp=Z,9μm,16.7s								
SNY				LZ					
	comp=Z,13μm,16.7s								
DL2	**Dalian**	**16.19**	**275**	⇑*i*P		**Pn**	**Pn**	**14 59 47.1**	**+0.2**
DL2				S		**Sn**	**Sn**	**15 02 48.8**	**+3.1**
DL2				PMZ					
	comp=Z,150nm,1.3s								
DL2				PMZ					
	comp=Z,2μm,7.7s								
DL2				LN					
	comp=Z,6μm,13.7s								
DL2				LE					
	comp=Z,5μm,15.9s								
DL2				LZ					
	comp=Z,6μm,16.8s								
PEA0	**Petropavlovsk-**	**17.15**	**32**	*e*Pn		**Pn**	**Pn**	**14 59 54.9**	**-4.1**
PEA0B	**Petropavlovsk-**	**17.15**	**32**	*e*Pn		**Pn**	**Pn**	**14 59 59.1**	**+0.2**
	comp=E,56nm,1.0s								
PETK	**Petropavlovsk-**	**17.15**	**32**	P		**Pn**	**Pn**	**14 59 55.1**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=208,slow=12,SNR=5.2								
PETK				LR		LR	LR	15 07 12.9	
	comp=Z,3μm,18.6s,baz=216,slow=39								
PET	**Petropavlovsk**	**17.49**	**34**	*e*P		**P**	**P**	**15 00 05.2**	**+1.0**
PET				*e*S		**Sn**	**Sn**	**15 03 17.4**	**+0.3**
PET				pmax	pmax				
	comp=Z,43nm,1.2s								
PET				MLR	MLR				
	comp=Z,3μm,20.0s								
PET				MLR	MLR				
	comp=Z,2μm,20.0s								
PET	**Petropavlovsk**	**17.49**	**34**	*e*Pn		**Pn**	**Pn**	**15 00 03.5**	**+0.3**
	comp=Z,103nm,1.2s								
HIA	**Hailar**	**18.91**	**309**	*e*P		**P**	**P**	**15 00 16.9**	**-3.0**
HIA				pmax	pmax				
	comp=Z,50nm,1.0s								
HIA	**Hailar**	**18.91**	**309**	*e*P		**P**	**P**	**15 00 16.9**	**-3.0**
	comp=Z,50nm,1.0s								
BJI	**Beijing**	**20.22**	**280**	P		**P**	**P**	**15 00 32.3**	**-2.0**
BJI				S		**S**	**S**	**15 04 19.5**	**-0.5**
BJI				PMZ					
	comp=Z,49nm,1.0s								
BJI				PMZ					
	comp=Z,740nm,3.4s								
BJI				LN					
	comp=Z,3μm,14.2s								
BJI				LE					
	comp=Z,7μm,14.9s								
BJI				LZ					
	comp=Z,4μm,17.4s								
BJT	**Baijiatuan**	**20.23**	**280**	*e*P		**P**	**P**	**15 00 31.7**	**-2.7**
BJT				pmax	pmax				
	comp=Z,52nm,0.8s								
BJT	**Baijiatuan**	**20.23**	**280**	*e*P		**P**	**P**	**15 00 31.7**	**-2.7**
	comp=Z,52nm,0.8s								
TIA	**Tai'an**	**20.28**	**269**	⇑P		**P**	**P**	**15 00 32.9**	**-2.1**
TIA				S		**S**	**S**	**15 04 14.5**	**-6.8**
TIA				PMZ					
	comp=Z,120nm,1.3s								
TIA				PMZ					
	comp=Z,770nm,4.0s								
TIA				LN					
	comp=Z,4μm,12.0s								
TIA				LE					
	comp=Z,8μm,16.5s								
NJ2	**Nanjing**	**20.54**	**256**	*e*P		**P**	**P**	**15 00 36.0**	**-1.7**
NJ2				S		Sn	Sn	15 04 29.5	-1.3
NJ2				PMZ					
	comp=Z,59nm,1.0s								
NJ2				LN					
	comp=Z,4μm,14.6s								
NJ2				LE					
	comp=Z,4μm,11.9s								
NJ2				LZ					
	comp=Z,5μm,14.1s								
MA2	**Magadan**	**20.78**	**12**	P		**P**	**P**	**15 00 40.4**	**+0.3**
	comp=Z,40nm,0.7s,baz=211,slow=9.3,SNR=17								
MA2				LR		LR	LR	15 09 17.0	
	comp=Z,1μm,19.6s,baz=221,slow=38								
MA2	**Magadan**	**20.78**	**12**	*e*P		**P**	**P**	**15 00 40.4**	**+0.3**
	comp=Z,172nm,0.7s								
CLNS	**Chul'man**	**20.85**	**332**	*e*P		**P**	**P**	**15 00 39.4**	**-1.6**
CLNS				*e*				15 00 55.0	
CLNS				*e*S		**S**	**S**	**15 04 27.0**	**-5.1**
CLNS				*e*				15 04 44.3	
CLNS				*e*SS		SnSn	SnSn	15 05 14.8	+22
CLNS				pmax	pmax				
	comp=E,64nm,1.2s								
CLNS				pmax	pmax				
	comp=N,149nm,1.3s								
CLNS				pmax	pmax				
	comp=Z,153nm,1.1s								
CLNS				pmax	pmax				
	comp=Z,71nm,1.0s								
CLNS				pmax	pmax				
	comp=N,87nm,1.0s								
CLNS				pmax	pmax				
	comp=E,64nm,0.8s								
CLNS				smax	smax				
	comp=E,543nm,10.5s								
CLNS				smax	smax				
	comp=N,839nm,11.0s								
CLNS				MLR	MLR				
	comp=E,4μm,14.0s								
CLNS				MLR	MLR				
	comp=Z,7μm,15.0s								
CLNS				MLR	MLR				
	comp=N,3μm,13.0s								
YHNB	**Yeheng**	**23.13**	**237**	*e*P		**P**	**P**	**15 01 03.4**	**-2.2**
	comp=N,38nm,0.9s								
NACB	**Ninganchiao**	**23.34**	**235**	*e*P		**P**	**P**	**15 01 04.7**	**-2.9**
	comp=N,28nm,0.5s								
TIY	**Taiyuan**	**23.51**	**275**	*e*P		**P**	**P**	**15 01 12.8**	**+3.5**
TIY				pP		sP	sP	15 01 29.3	+10
TIY				S		**S**	**S**	**15 05 16.8**	**-4.9**
TIY				SS		**SnSn**	**SnSn**	**15 06 13.0**	**+14**
TIY				LR		LR	LR		
	comp=N,980nm,11.1s								
TIY				LR		LR	LR		
	comp=E,2μm,11.5s								
TIY				LR		LR	LR		
	comp=Z,3μm,12.7s								
CIT	**Chita**	**23.59**	**312**	*e*P		**P**	**P**	**15 01 07.0**	**-2.9**
CIT				*e*				15 01 22.2	
CIT				*e*				15 01 47.5	
CIT				pmax	pmax				
	comp=Z,903nm,1.6s								
HHC	**Hu-ho-hao-te**	**23.62**	**283**	*e*P		**P**	**P**	**15 01 07.5**	**-2.9**
HHC				pP		pP	pP	15 01 12.5	-5.0
HHC				PP		**PnPn**	**PnPn**	**15 01 39.0**	**+1.3**
HHC				S		**S**	**S**	**15 05 18.3**	**-5.2**
HHC				SS		**SnSn**	**SnSn**	**15 06 11.9**	**+11**
HHC				PMZ					
	comp=Z,23nm,1.0s								
HHC				PMZ					
	comp=Z,330nm,7.8s								
HHC				LN					
	comp=Z,2μm,14.9s								
HHC				LE					
	comp=Z,7μm,15.3s								
HHC				LZ					
	comp=Z,9μm,15.1s								
YAK	**Yakutsk**	**23.89**	**345**	P		**P**	**P**	**15 01 11.2**	**-1.3**
	comp=Z,6.1nm,0.3s,baz=338,slow=22,SNR=42								
YAK				S		**S**	**S**	**15 05 21.6**	**-5.5**
	comp=Z,0.9nm,0.3s,baz=83,slow=23,SNR=2.6								
YAK				LR		LR	LR	15 10 26.4	
	comp=Z,724nm,20.6s,baz=143,slow=36								
YAK	**Yakutsk**	**23.89**	**345**	*c i*P		**P**	**P**	**15 01 10.3**	**-2.3**
YAK				*e**PP		**pP**	**pP**	**15 01 18.7**	**-1.1**
YAK				*e*S		**S**	**S**	**15 05 21.8**	**-5.3**
YAK				*e**SS		**sS**	**sS**	**15 05 34.7**	**-4.3**
YAK				*e*SSS		SSS	SSS	15 06 09.9	
YAK				pmax	pmax				
	comp=N,74nm,0.9s								
YAK				pmax	pmax				
	comp=E,36nm,1.0s								
YAK				pmax	pmax				
	comp=Z,235nm,1.0s								
YAK				pmax	pmax				
	comp=Z,43nm,0.5s								
YAK				smax	smax				
	comp=E,357nm,1.9s								
YAK				smax	smax				
	comp=N,1μm,2.8s								
YAK				MLR	MLR				
	comp=E,2μm,16.0s								
YAK				MLR	MLR				
	comp=N,3μm,16.0s								
YAK				MLR	MLR				
	comp=Z,4μm,14.0s								
YAK	**Yakutsk**	**23.89**	**345**	*e*P		**P**	**P**	**15 01 09.9**	**-2.6**
	comp=Z,329nm,1.1s								
YAK				S		**S**	**S**	**15 05 21.6**	**-5.5**
YAK				*e*S		**S**	**S**	**15 05 31.0**	**+3.9**
SSLB	**Suanglung**	**24.02**	**236**	*e*P		**P**	**P**	**15 01 10.9**	**-3.3**
	comp=Z,66nm,1.1s								
YULB	**Yu-li**	**24.09**	**234**	*e*P		**P**	**P**	**15 01 11.6**	**-3.2**
	comp=Z,35nm,0.8s								
SEY	**Seymchan**	**24.22**	**11**	P		**P**	**P**	**15 01 15.8**	**+0.2**
	comp=Z,125nm,1.0s,baz=197,slow=7.4,SNR=109								
SEY	**Seymchan**	**24.22**	**11**	⇑*i*P		**P**	**P**	**15

ULN **Ulaanbaatar** **26.77 300** P **P** **15 01 38.9 -0.2**
SNR=22
ULN **Ulaanbaatar** **26.77 300** *eP* **P** **15 01 38.4 -0.7**
comp=Z,68nm,1.4s
SONA1 **Songino Array** **27.21 300** *eP* **P** **15 01 42.0 -1.0**
SONM **Songino Array** **27.21 300** P **P** **15 01 42.7 -0.4**
comp=Z,9.2nm,0.6s,baz=85,slow=8.1,SNR=49
SONM LR LR 15 13 02.4
comp=Z,8µm,18.1s,baz=98,slow=38
XAN **Xi'an** **27.34 269** P **P** **15 01 42.5 -1.7**
XAN pP pP 15 01 47.9 -3.6
XAN PMZ
comp=Z,35nm,1.6s
XAN PMZ
comp=Z,3µm,6.5s
XAN LN
comp=Z,690nm,15.2s
XAN LE
comp=Z,4µm,15.2s
XAN LZ
comp=Z,4µm,15.0s
ENH **Enshi** **28.47 261** *eP* **P** **15 01 53.1 -1.3**
comp=Z,132nm,1.3s
H11N2 **WAKE ISLAND Hy** **28.79 126** T T 15 32 32.7
baz=318,slow=75,SNR=6138
H11N1 **WAKE ISLAND Hy** **28.80 126** T T 15 32 33.4
baz=318,slow=75,SNR=5719
H11N3 **WAKE ISLAND Hy** **28.81 126** T T 15 32 27.0
baz=318,slow=75,SNR=7194
IRK **Irkutsk** **29.16 309** *eP* **P** **15 01 59.2 -1.0**
IRK pmax pmax
comp=Z,216nm,1.7s
TLY **Talaya** **29.44 307** P **P** **15 02 03.2 +0.5**
comp=Z,28nm,0.8s,baz=112,slow=6.5,SNR=40
TLY LR LR 15 14 25.6
comp=Z,5µm,19.2s,baz=98,slow=38
TLY **Talaya** **29.44 307** *c iP* **P** **15 02 03.0 +0.3**
TLY *e* 15 02 54.3
TLY *e*PPP PPP 15 03 12.1
TLY *e*S **S** **15 06 59.4 +4.1**
TLY pmax pmax
comp=Z,119nm,1.3s
TLY MLR MLR
comp=Z,6µm,17.0s
TLY **Talaya** **29.44 307** *eP* **P** **15 02 02.8 0.0**
comp=Z,148nm,1.3s
ZAK **Zakamensk** **29.50 305** *eP* **P** **15 02 02.6 -0.7**
ZAK pmax pmax
comp=Z,114nm,1.5s
H11S1 **WAKE ISLAND Hy** **29.59 128** T T 15 33 24.5
baz=320,slow=76,SNR=1749
H11S3 **WAKE ISLAND Hy** **29.59 128** T T 15 33 25.6
baz=320,slow=76,SNR=1551
H11S2 **WAKE ISLAND Hy** **29.60 128** T T 15 33 41.9
baz=320,slow=76,SNR=1127
GZH **Guangzhou** **29.63 245** P P 15 01 58.3 -6.3
GZH S S 15 06 46.6 -12
GZH pmax pmax
comp=Z,510nm,8.0s
LZH **Lanzhou** **30.58 276** ⇑P **P** **15 02 10.6 -2.5**
LZH pP pP 15 02 16.3 -4.1
LZH sP sP 15 02 19.3 -4.2
LZH PP **PnPn** **15 03 11.4 -1.1**
LZH S **S** **15 07 11.0 -2.7**
LZH SS **SnSn** **15 08 50.0 -1.2**
LZH PMZ
comp=Z,79nm,1.0s
LZH PMZ
comp=Z,360nm,4.8s
LZH LN
comp=Z,4µm,12.1s
LZH LE
comp=Z,7µm,14.0s
MOY **Mondy** **31.07 307** *eP* **P** **15 02 17.6 +0.3**
MOY pmax pmax
comp=Z,217nm,2.0s
BILL **Bilibino** **31.43 17** *c iP* **P** **15 02 19.9 -0.2**
BILL *i* *PP **pP** **15 02 27.1 -0.3**
BILL *SP **sP** **15 02 35.0 +4.6**
BILL *e* 15 05 12.5
BILL *i* S **S** **15 07 24.8 -1.3**
BILL *e*SS **SnSn** **15 09 12.4 +1.5**
BILL pmax pmax
comp=Z,44nm,1.7s
BILL MLR MLR
comp=Z,1µm,16.0s
BILL **Bilibino** **31.43 17** *eP* **P** **15 02 19.6 -0.5**
comp=Z,138nm,1.6s
GYA **Guiyang** **32.53 257** ⇑*iP* **P** **15 02 29.6 -0.8**
GYA PP **PnPn** **15 03 38.0 0.0**
GYA PcP **PcP** **15 05 18.4 +1.7**
GYA S **S** **15 07 40.5 -3.8**
GYA ScP **ScP** **15 08 59.0 +0.1**
GYA SS **SnSn** **15 09 38.8 0.0**
GYA ScS **ScS** **15 12 56.8 -1.8**
GYA PMZ
comp=Z,120nm,1.0s
GYA PMZ
comp=Z,290nm,7.5s
GYA LN
comp=Z,2µm,16.5s
GYA LE
comp=Z,2µm,16.5s
GYA LZ
comp=Z,2µm,19.6s
CD2 **Chengdu** **32.59 267** ⇓P **P** **15 02 30.0 -0.7**
CD2 pP pP 15 02 36.1 -2.0
CD2 sP sP 15 02 38.6 -2.5
CD2 PcP **PcP** **15 05 17.1 +0.4**
CD2 S **S** **15 07 44.6 -0.4**
CD2 sS sS 15 07 54.6 -2.5
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,360nm,6.8s
CD2 LN
comp=Z,5µm,12.7s
CD2 LE
comp=Z,4µm,15.7s
GTA **Gaotai** **32.73 284** P **P** **15 02 31.1 -0.9**
GTA pP pP 15 02 36.6 -2.7
GTA sP sP 15 02 39.5 -2.9
GTA PcP **PcP** **15 05 18.5 +1.4**
GTA S **S** **15 07 46.3 -0.9**
GTA sS sS 15 07 54.9 -4.4
GTA ScP **ScP** **15 09 00.8 +1.4**
GTA PcS **PcS** **15 09 02.8 +0.4**
GTA SS **SnSn** **15 09 42.4 -1.0**
GTA ScS **ScS** **15 12 59.1 -0.2**
GTA PMZ
comp=Z,280nm,5.4s
GTA LN
comp=Z,3µm,17.6s
GTA LE
comp=Z,8µm,17.6s
TIXI **Tiksi** **32.97 352** P **P** **15 02 32.8 -0.7**
comp=Z,5.6nm,0.8s,baz=137,slow=9.9,SNR=16
TIXI **Tiksi** **32.97 352** *c iP* **P** **15 02 33.0 -0.5**
TIXI *i* *PP **pP** **15 02 42.7 +1.9**
TIXI pmax pmax
comp=Z,30nm,1.7s
TIXI MLR MLR
comp=Z,2µm,15.0s
TIXI **Tiksi** **32.97 352** *eP* **P** **15 02 32.0 -1.4**
comp=Z,21nm,1.0s
QIZ **Qiongzhong** **34.75 244** P **P** **15 02 49.1 -0.5**
QIZ sP **pP** **15 02 54.8 -2.1**
QIZ S **S** **15 08 19.5 +1.0**
QIZ sS **sS** **15 08 25.8 -4.9**
QIZ PMZ
comp=Z,21nm,1.6s
QIZ LN
comp=Z,2µm,14.5s
QIZ LE
comp=Z,1µm,14.6s
QIZ LZ
comp=Z,3µm,15.8s
KMI **Kunming** **36.23 259** P **P** **15 03 02.4 -0.1**
KMI pP pP 15 03 08.8 -1.0
KMI PP **PnPn** **15 04 19.3 -5.0**
KMI S **S** **15 08 39.8 -1.7**
KMI sS sS 15 08 49.3 -4.4
KMI SS **SnSn** **15 11 03.8 -4.7**
KMI PMZ
comp=Z,110nm,1.4s
KMI PMZ
comp=Z,400nm,3.1s
KMI LN
comp=Z,2µm,15.5s
KMI LE
comp=Z,2µm,23.7s
KMI LZ
comp=Z,2µm,17.4s
TNA **Tin City** **38.30 31** *eP* **P** **15 03 20.6 +1.3**
comp=Z,58nm,1.0s
PANO **Nakornpanom** **39.69 247** P **P** **15 03 33.0 +1.5**
comp=Z,33nm,1.9s,comp=Z,2µm
NONG **Nongkai** **40.14 249** P **P** **15 03 35.9 +0.7**
comp=Z,82nm,1.3s
SKNT **Sakolnakorn** **40.25 247** P **P** **15 03 36.8 +0.6**
comp=Z,44nm,1.3s
UBPT **Khong Chiam** **40.35 244** P **P** **15 03 38.3 +1.3**
comp=Z,68nm,1.8s
WMQ **Urumqi** **40.55 295** P **P** **15 03 39.3 +0.9**
WMQ pP pP 15 03 45.3 -0.6
WMQ sP sP 15 03 46.9 -2.0
WMQ PcP **PcP** **15 05 40.8 +0.4**
WMQ S **S** **15 09 46.9 +0.7**
WMQ SS **SS** **15 12 41.3 -4.7**
WMQ PMZ
comp=Z,70nm,1.4s
WMQ PMZ
comp=Z,400nm,3.6s
WMQ LN
comp=Z,1µm,14.4s
WMQ LE
comp=Z,990nm,13.0s
ZAA0 **Zalesovo Array** **40.93 310** *eP* **P** **15 03 41.0 -0.4**
ZALV **Zalesovo Beam** **40.93 310** P **P** **15 03 41.3 -0.1**
comp=Z,29nm,0.5s,baz=93,slow=8.1,SNR=70
ZALV LR LR 15 21 18.8
comp=Z,4µm,19.4s,baz=68,slow=37
NRIK **Noril'sk** **41.42 334** P **P** **15 03 45.0 -0.2**
comp=Z,28nm,1.2s,baz=108,slow=9.4,SNR=35
NRIK S **S** **15 09 57.4 -0.9**
comp=Z,2.4nm,0.7s,baz=120,slow=18,SNR=2.9
NRIK LR LR 15 21 56.2
comp=Z,6µm,18.9s,baz=106,slow=38
NRIK **Noril'sk** **41.42 334** P **P** **15 03 45.0 -0.2**
NRIK S **S** **15 09 57.4 -0.9**
NRIK pmax pmax
comp=Z,29nm,1.2s
NRIK smax smax
comp=N,2.0nm,0.7s
NRIK MLR MLR
comp=Z,6µm,18.9s
SWI **Sorong** **41.46 197** P **P** **15 03 46.1 +0.1**
comp=Z,38nm,0.8s
KHON **Khomkaen** **41.50 248** P **P** **15 03 47.6 +1.1**
comp=Z,16nm,0.8s
MANU **Manus Island** **41.57 173** *eP* **P** **15 03 45.9 -1.0**
comp=Z,52nm,1.3s
NVS **Novosibirsk** **41.80 312** ⇑*iP* **P** **15 03 48.1 -0.4**
NVS pmax pmax
comp=Z,85nm,1.7s
NVS pmax pmax
comp=E,59nm,1.5s
JAY **Jayapura** **41.83 183** P **P** **15 03 49.5 +0.4**
comp=E,3.6nm,1.0s,baz=263,slow=23,SNR=6.2
JAY **Jayapura** **41.83 183** P **P** **15 03 48.6 -0.5**
comp=E,46nm,1.3s
JAY **Jayapura** **41.83 183** P **P** **15 03 49.5 +0.4**
JAY pmax pmax
comp=Z,3.0nm,1.0s
LOEI **Loei** **41.87 250** P **P** **15 03 47.0 -2.4**
comp=Z,27nm,1.7s
GENI **Genyem** **41.93 183** P **P** **15 03 49.3 -0.6**
comp=Z,103nm,1.2s
ZSN **Zaisan** **42.03 301** *i* P **P** **15 03 47.4 -3.2**
comp=Z,542nm,1.1s
UTTA **Uttaradit** **42.23 251** P **P** **15 03 53.1 +0.7**
comp=Z,7.8nm,0.7s,comp=Z,91nm
CHAI **Chaiyaphum** **42.39 248** P **P** **15 03 54.0 +0.3**
comp=Z,16nm,1.2s,comp=Z,193nm
PBKT **Sadao Pong** **42.69 250** P **P** **15 03 56.7 +0.6**
comp=Z,30nm,1.4s
CMMT **Chiang Mai** **42.75 254** P **P** **15 03 57.1 +0.4**
comp=Z,35nm,1.2s,comp=Z,999nm
CHTO **Chiang Mai** **42.76 254** P **P** **15 03 57.2 +0.5**
comp=Z,155nm,1.2s,comp=Z,4µm
CHTO **Chiang Mai** **42.76 254** *eP* **P** **15 03 56.6 -0.1**
CHTO pmax pmax
comp=Z,49nm,1.3s
CHTO **Chiang Mai** **42.76 254** *eP* **P** **15 03 56.6 -0.1**
comp=Z,49nm,1.3s
LSA **Lhasa** **42.88 273** P **P** **15 03 58.9 +0.7**
LSA PMZ
comp=Z,26nm,1.7s
LSA **Lhasa** **42.88 273** *eP* **P** **15 03 58.8 +0.6**
LSA pmax pmax
comp=Z,145nm,1.6s
LSA **Lhasa** **42.88 273** *eP* **P** **15 03 58.8 +0.6**
comp=Z,145nm,1.6s
TT01 **Tatalina** **42.92 36** *eP* **P** **15 03 58.8 +1.3**
TTA **Tatalina** **42.93 36** *eP* **P** **15 03 59.0 +1.3**
TTA pmax pmax
comp=Z,12nm,1.0s
TTA **Tatalina** **42.93 36** *eP* **P** **15 03 59.0 +1.3**
comp=Z,12nm,1.0s
CMAR **Chiang Mai Arr** **42.98 254** P **P** **15 03 59.2 +0.7**
comp=Z,4.9nm,0.7s,baz=48,slow=7.1,SNR=20
CMAR ScP **ScP** **15 09 38.2 +0.1**
comp=Z,1.9nm,1.0s,baz=3.5,slow=3.3,SNR=5.9
CMAR LR LR 15 23 33.9
comp=Z,999nm,18.3s,baz=68,slow=38
CM01 **Chiang Mai Arr** **42.99 254** *eP* **P** **15 03 58.2 -0.3**
SVW2 **Sparrevohn** **43.06 39** *eP* **P** **15 03 59.7 +1.0**
comp=Z,30nm,1.2s
SUKH **Sukhothai** **43.08 252** P **P** **15 04 00.2 +0.9**
comp=Z,15nm,0.8s,comp=Z,122nm
MRSI **Marisa** **43.13 211** P **P** **15 04 00.4 +0.7**
comp=Z,55nm,1.4s,comp=Z,8µm
MK01 **Makanchi Array** **43.58 300** *eP* **P** **15 04 02.8 -0.3**
MK31 **Makanchi Array** **43.58 300** *i* P **P** **15 04 02.6 -0.5**
MK31 pmax pmax
comp=Z,41nm,0.9s
MK31 **Makanchi Array** **43.58 300** *eP* **P** **15 04 03.1 0.0**
MKAR **Makanchi Array** **43.58 300** P **P** **15 04 03.2 +0.1**
comp=Z,48nm,1.0s,baz=82,slow=9.1,SNR=146
MKAR S **S** **15 10 29.9 -0.9**
comp=Z,1.6nm,0.8s,baz=94,slow=8.9,SNR=3.8
MKAR LR LR 15 22 50.3
comp=Z,3µm,20.0s,baz=67,slow=37
SRAK **Srakaew** **43.62 246** P **P** **15 04 01.3 -2.4**
comp=Z,114nm,1.2s,comp=Z,1µm
MAKZ **Makanchi** **43.79 300** *eP* **P** **15 04 04.9 +0.1**
MAKZ pmax pmax
comp=Z,103nm,1.2s
MAKZ **Makanchi** **43.79 300** *eP* **P** **15 04 04.8 +0.1**
comp=Z,103nm,1.2s
SEM **Semipalatinsk** **44.16 306** *i* P **P** **15 04 05.0 -2.7**
comp=Z,540nm,1.5s
SEM *e*S **S** **15 10 36.3 -2.9**
SEM LR LR 15 22 48.0
comp=Z,2µm,16.1s
CHBT **CHBT** **44.29 244** P **P** **15 04 10.4 +1.4**
comp=Z,58nm,1.3s,comp=Z,844nm
OHAK **Old Harbor** **44.39 44** *eP* **P** **15 04 09.0 -0.3**
comp=Z,55nm,0.8s
RSO **Redoubt South** **44.46 40** *eP* **P** **15 04 10.8 +0.7**
PPLA **Purkeypile** **44.68 36** *eP* **P** **15 04 13.5 +1.7**
comp=Z,160nm,1.7s
KDAK **Kodiak Island** **44.72 44** *i* P **P** **15 04 12.6 +0.6**
KDAK **Kodiak Island** **44.72 44** *eP* **P** **15 04 10.8 -1.2**
comp=Z,52nm,1.1s
CAST **Castle Rocks** **44.73 36** *eP* **P** **15 04 14.5 +2.4**
comp=Z,124nm,2.0s
SPU **Mount Spurr** **44.77 39** *eP* **P** **15 04 12.8 +0.3**
KURK **Kurchatov** **45.13 306** P **P** **15 04 14.9 -0.4**
KURK pmax pmax
comp=Z,892nm,1.0s
KURK **Kurchatov** **45.13 306** *eP* **P** **15 04 15.0 -0.4**
comp=Z,327nm,0.8s
KURK S **S** **15 10 50.2 -2.9**
PATY **Pattaya** **45.20 246** P **P** **15 04 18.7 +2.4**
comp=Z,10.0nm,1.2s
KURBB **Kurchatov Arra** **45.20 306** P **P** **15 04 15.9 0.0**
comp=Z,58nm,0.8s,baz=81,slow=8.3,SNR=39
KURBB S **S** **15 10 50.2 -4.0**
comp=Z,3.3nm,0.7s,baz=82,slow=8.3,SNR=7.0
BPAW **Bear Paw Mtn.** **45.21 35** *eP* **P** **15 04 17.4 +1.5**
comp=Z,67nm,1.6s
KTH **Kantishna Hill** **45.24 35** *eP* **P** **15 04 17.6 +1.4**
comp=Z,72nm,1.3s
PCI **Palu** **45.25 213** P **P** **15 04 17.1 +0.4**
comp=Z,57nm,1.1s,comp=Z,715nm
CNPM **China Poot** **45.27 41** *eP* **P** **15 04 16.9 +0.4**
comp=Z,16nm,0.8s
MLY **Manley** **45.32 33** *eP* **P** **15 04 18.2 +1.4**
comp=Z,42nm,1.3s
BRLK **Bradley Lake** **45.43 41** *eP* **P** **15 04 18.6 +0.9**
comp=Z,50nm,1.4s
TRF **Thorofare Moun** **45.53 35** *eP* **P** **15 04 19.1 +0.5**
comp=Z,22nm,1.0s
COLD **Coldfoot** **45.60 30** *eP* **P** **15 04 19.8 +0.9**
comp=Z,43nm,1.2s
RC01 **Rabbit Creek A** **45.90 39** *eP* **P** **15 04 21.2 -0.2**
comp=Z,91nm,1.4s
SEW **Seward** **46.13 40** *eP* **P** **15 04 22.9 -0.2**
comp=Z,27nm,1.0s
MCK **McKinley** **46.13 35** *eP* **P** **15 04 23.5 +0.3**
MCK pmax pmax
comp=Z,51nm,1.5s
MCK **McKinley** **46.13 35** *eP* **P** **15 04 23.4 +0.3**
comp=Z,51nm,1.5s
PMR **Palmer** **46.16 38** *eP* **P** **15 04 23.5 +0.2**
PMR pmax pmax
comp=Z,62nm,1.6s
PMR **Palmer** **46.16 38** *eP* **P** **15 04 23.5 +0.2**
comp=Z,62nm,1.6s
RND **Reindeer** **46.18 36** *eP* **P** **15 04 23.8 +0.2**
RND pmax pmax
comp=Z,56nm,1.2s
RND **Reindeer** **46.18 36** *eP* **P** **15 04 23.8 +0.2**
comp=Z,56nm,1.2s
SHLS **Shalkode** **46.20 296** *eP* **P** **15 04 21.8 -2.4**
comp=Z,297nm,1.3s
SHLS *i* S **S** **15 11 06.4 -2.9**
SHLS LR LR 15 24 45.4
comp=Z,1µm,15.2s
MDM **Murphy Dome** **46.39 33** *eP* **P** **15 04 25.5 +0.3**
comp=Z,62nm,1.2s
WRH **Wood River Hil** **46.47 34** *eP* **P** **15 04 26.4 +0.6**
comp=Z,18nm,0.9s
SML **Sawmill** **46.52 38** *eP* **P** **15 04 26.4 +0.1**
SML pmax pmax
comp=Z,105nm,1.2s
SML **Sawmill** **46.52 38** *eP* **P** **15 04 26.4 +0.1**
comp=Z,105nm,1.2s
COLA **College** **46.55 33**⇑ *eP* **P** **15 04 26.8 +0.4**
COLA pmax pmax
comp=Z,36nm,1.2s
COLA MLR MLR
comp=Z,483nm,18.0s
COLA **College** **46.55 33** *eP* **P** **15 04 27.5 +1.1**
comp=Z,34nm,0.8s
CCB **Clear Creek Bu** **46.58 34** *eP* **P** **15 04 29.1 +2.4**
comp=Z,26nm,1.3s
UZB **Uzynbulak** **46.80 296** *eP* **P** **15 04 26.4 -2.5**
comp=Z,414nm,1.5s
UZB *e*S **S** **15 11 15.0 -2.7**
UZB LR LR 15 24 31.9
comp=Z,984nm,15.6s
DHY **Denali Highway** **46.87 36** *eP* **P** **15 04 29.7 +0.6**
comp=Z,30nm,1.0s
KPKS **Kokpek** **46.94 297** *i* P **P** **15 04 27.6 -2.3**
comp=Z,898nm,1.5s
KPKS *e*S **S** **15 11 16.8 -2.7**
KPKS LR LR 15 24 31.6
comp=Z,2µm,15.8s
HDA **Harding Lake** **46.97 34** *eP* **P** **15 04 31.0 +1.3**
comp=Z,24nm,1.0s
IL1 **Eielson Array** **46.97 34** *eP* **P** **15 04 30.2 +0.5**
ILAR **Eielson Array** **46.97 34** P **P** **15 04 30.4 +0.7**
comp=Z,7.3nm,0.7s,baz=268,slow=4.9,SNR=58
ILB **Eielson Array** **46.97 34** *eP* **P** **15 04 30.3 +0.6**
SCM **Sheep Creek Mo** **46.99 38** *eP* **P** **15 04 31.0 +1.0**
SCM **Sheep Creek Mo** **46.99 38** *eP* **P** **15 04 31.0 +1.0**
SATY **Saty** **47.26 296** *i* P **P** **15 04 30.9 -1.5**
comp=Z,576nm,1.6s
SATY LR LR 15 24 53.6
comp=Z,2µm,16.3s
MTKI **Muara Teweh, K** **47.52 219** P **P** **15 04 36.1 +1.6**
comp=Z,79nm,0.8s,comp=Z,11µm
FYU **Fort Yukon** **47.56 31** *eP* **P** **15 04 36.2 +2.0**
comp=Z,147nm,1.4s
KLU **Klutina** **47.70 38** *eP* **P** **15 04 36.4 +0.9**
comp=Z,53nm,1.0s
RAMN **Ramite** **47.72 272** *eP* **P** **15 04 36.7 +0.4**
comp=Z,223nm,1.0s
PAX **Paxson** **47.74 36** *eP* **P** **15 04 37.0 +1.2**
PAX pmax pmax
comp=Z,10.0nm,0.8s
PAX **Paxson** **47.74 36** *eP* **P** **15 04 37.0 +1.2**
comp=Z,9.5nm,0.8s
GUN **Gumba** **47.80 274** *eP* **P** **15 04 37.3 +0.2**
comp=Z,347nm,1.1s
DIV **Divide** **47.81 38** *eP* **P** **15 04 37.4 +1.0**
comp=Z,43nm,0.9s
KSM **Kuching** **47.87 226** *eP* **P** **15 04 37.6 +0.4**
comp=Z,25nm,0.9s
EYAK **Cordova Ski Ar** **47.90 39** *eP* **P** **15 04 38.4 +1.4**
comp=Z,33nm,1.0s
SPSI **Sidrap Palu** **48.05 211** P **P** **15 04 38.1 -0.4**
comp=Z,26nm,1.3s
MDOK **Medeo** **48.16 297** *i* P **P** **15 04 37.3 -2.2**
comp=Z,427nm,1.6s
MDOK *e*S **S** **15 11 34.7 -2.4**
MDOK LR LR 15 24 58.5
comp=Z,2µm,16.9s
DOT **Dot Lake** **48.30 35** *eP* **P** **15 04 40.6 +0.5**
KKN **Kakani** **48.32 274** *eP* **P** **15 04 41.2 +0.3**
comp=Z,154nm,0.8s
PKIN **Phulchoki** **48.34 274** *eP* **P** **15 04 41.9 +0.8**
comp=Z,63nm,1.2s
BMRM **Bremner River** **48.40 39** *eP* **P** **15 04 41.9 +1.0**
comp=Z,77nm,1.4s
STKI **Sintang** **48.40 224** P **P** **15 04 41.3 -0.1**
comp=Z,30nm,1.3s
KUU **Kurty** **48.41 298** *i* P **P** **15 04 39.0 -2.2**
comp=Z,722nm,1.6s
KUU *e*S **S** **15 11 38.5 -1.8**
KUU LR LR 15 25 26.3
comp=Z,2µm,14.6s
RAGM **Ragged Mountai** **48.45 39** *eP* **P** **15 04 40.2 -1.1**
comp=Z,57nm,1.3s
MENT **Mentasta** **48.54 36** *eP* **P** **15 04 43.3 +1.3**
comp=Z,33nm,1.0s
DMN **Daman** **48.54 274** *eP* **P** **15 04 43.0 +0.3**
comp=Z,272nm,1.4s
GKN **Gorkha** **48.71 275** *eP* **P** **15 04 44.0 +0.1**
comp=Z,201nm,1.1s
BRZS **Berezniki** **49.00 307** *eP* **P** **15 04 43.3 -2.3**
comp=Z,88nm,1.4s
BRZS *e*S **S** **15 11 46.7 -1.7**
KAPI **Kappang** **49.01 211** P **P** **15 04 47.7 +1.8**
comp=Z,14nm,0.7s,baz=64,slow=1.2,SNR=5.2
KAPI **Kappang** **49.01 211** *eP* **P** **15 04 49.8 +3.8**
comp=Z,78nm,1.3s
CRQM **Cirque** **49.14 39** *eP* **P** **15 04 48.0 +1.2**
comp=Z,82nm,1.0s
TKM2 **Tokmak 2** **49.25 297** *eP* **P** **15 04 48.5 +0.6**
TKM2 pmax pmax
comp=Z,128nm,1.2s
TKM2 **Tokmak 2** **49.25 297** *eP* **P** **15 04 48.5 +0.6**
comp=Z,128nm,1.2s
VOSK **Vostochnaya** **49.31 310** *eP* **P** **15 04 47.7 -0.3**
VOSK pmax pmax
comp=Z,61nm,1.1s
VOSK **Vostochnaya** **49.31 310** *eP* **P** **15 04 47.7 -0.3**
comp=Z,61nm,1.1s
EGAK **Eagle** **49.41 33** *eP* **P** **15 04 49.1 +0.6**
comp=Z,30nm,1.0s
SKLT **Songkhla** **49.44 241** P **P** **15 04 50.9 +1.6**
comp=Z,23nm,1.5s
BVA0 **Borovoye Array** **49.58 311** *i* P **P** **15 04 49.4 -0.6**
BVA0 pmax pmax
comp=Z,49nm,1.2s
BVAR **Borovoye Array** **49.58 311** P **P** **15 04 50.2 +0.2**
comp=Z,16nm,0.8s,baz=78,slow=9.2,SNR=90
BVAR **Borovoye Array** **49.58 311** P **P** **15 04 50.2 +0.2**
BVAR pmax pmax
comp=Z,20nm,0.9s
KOLN **Koldanda** **49.63 275** *eP* **P** **15 04 51.4 +0.5**
comp=Z,202nm,1.2s
BRVK **Borovoye** **49.63 311** *c iP* **P** **15 04 51.0 +0.6**
BRVK pmax pmax
comp=Z,285nm,2.5s
BRVK **Borovoye** **49.63 311** *eP* **P** **15 04 50.3 -0.1**

comp=Z,116nm,1.1s
OTUK Ortayu 49.71 304 P P 15 04 50.7 -0.4
OTUK pmax pmax
comp=Z,60nm,1.1s
BBKI Banjar Baru 49.75 217 P P 15 04 52.3 +0.7
comp=Z,59nm,1.1s
PYUN Piuthan 49.93 276 *e*P **P 15 04 53.7 +0.4**
comp=Z,441nm,1.1s
FRU Bishkek 49.95 297⇑ *i*P **P 15 04 53.0 0.0**
FRU *e*S **S 15 12 04.0 +2.0**
FRU pmax pmax
comp=Z,185nm,1.9s
AAK Ala-Archa 50.11 297*c i*P **P 15 04 54.9 +0.5**
AAK pmax pmax
comp=Z,156nm,1.7s
AAK MLR MLR
comp=Z,4μm,18.0s
AAK Ala-Archa 50.11 297 P P **15 04 53.6 -0.8**
SNR=21
AAK Ala-Archa 50.11 297 *e*P **P 15 04 54.2 -0.1**
comp=Z,107nm,1.7s
KSH Kashi 50.22 293 P P **15 04 59.5 +4.3**
KSH pP pP 15 05 05.8 +3.0
KSH PcP **PcP 15 06 17.8 +3.7**
KSH PP **PP 15 06 54.1 +3.7**
KSH S **S 15 12 10.4 +4.4**
KSH ScS **ScS 15 14 46.0 +1.1**
KSH SS **SS 15 15 41.3 +2.1**
KSH PMZ
comp=Z,71nm,1.5s
KSH PMZ
comp=Z,340nm,3.9s
KSH LN
comp=Z,2μm,13.2s
KSH LE
comp=Z,2μm,14.1s
KSH LZ
comp=Z,3μm,17.0s
ZRNK Zerenda 50.41 311 *e*P **P 15 04 56.5 +0.2**
ZRNK pmax pmax
comp=Z,92nm,1.1s
ZRNK Zerenda 50.41 311 *e*P **P 15 04 56.5 +0.2**
comp=Z,92nm,1.1s
EKS2 Erkin-Say 50.59 297 *e*P **P 15 04 58.0 0.0**
EKS2 pmax pmax
comp=Z,27nm,1.0s
EKS2 Erkin-Say 50.59 297 *e*P **P 15 04 58.0 0.0**
comp=Z,27nm,1.0s
KULM Kulim 50.80 239 *e*P **P 15 04 59.6 0.0**
comp=Z,22nm,1.1s
IPM Ipoh 51.16 238 *e*P **P 15 05 02.0 -0.4**
comp=Z,31nm,1.2s
MYKOM Kota Tinggi 51.41 233 *e*P **P 15 05 04.2 0.0**
comp=Z,33nm,1.5s
MNAS Manas 51.53 297 P P **15 05 03.4 -1.7**
INK Inuvik 51.82 28 P P **15 05 07.0 +0.4**
comp=Z,5.2nm,0.6s,baz=273,slow=7.6,SNR=13
INK Inuvik 51.82 28 P P **15 05 07.0 +0.4**
INK pmax pmax
comp=Z,5.0nm,0.6s
KK31 Karatay Array 52.66 299 P P **15 05 11.9 -1.4**
KK31 pmax pmax
comp=Z,48nm,1.1s
KKAR Karatay Array 52.66 299 *e*P **P 15 05 13.1 -0.2**
KKAR Karatay Array 52.66 299 *e*P **P 15 05 13.1 -0.2**
SDNR Sundarnagar 52.90 283 *e*P **P 15 05 12.3 -3.0**
WSI Waingapu 53.08 208 P P **15 05 18.3 +1.8**
COEN Coen 53.17 179 *e*P **P 15 05 17.2 +0.1**
comp=Z,62nm,1.6s
SKAG Skagway 53.24 39 *e*P **P 15 05 21.5 +4.2**
comp=Z,46nm,1.4s
BRLS Borolday 53.34 299 *e*P **P 15 05 16.4 -1.9**
BRLS *e*S **S 15 12 46.7 -2.0**
BRLS LR LR 15 28 13.7
IUG Iuzhnay 53.36 298 *i*P **P 15 05 17.2 -1.4**
comp=Z,917nm,1.5s
IUG *e*S **S 15 12 48.1 -0.9**
IUG LR LR 15 28 11.6
comp=Z,706nm,13.6s
PSI Prapat 53.79 239 *e*P **P 15 05 21.9 -0.1**
PSI pmax pmax
comp=Z,18nm,1.1s
PSI Prapat 53.79 239 *e*P **P 15 05 21.9 -0.1**
comp=Z,18nm,1.1s
SVE Sverdlovsk 53.89 318*d i*P **P 15 05 22.9 +0.8**
SVE pmax pmax
comp=Z,141nm,1.4s
SVE MLR MLR
comp=Z,7μm,16.0s
NDI New Delhi 54.07 280 *e*P P 15 05 16.5 -7.3
ARU Arti 55.10 318*c i*P **P 15 05 31.0 +0.1**
ARU 15 07 40.2
ARU PPP PPP 15 08 46.4
ARU S **S 15 13 13.0 +1.1**
ARU 15 15 10.7
ARU SS **SS 15 16 57.5 +2.1**
ARU pmax pmax
comp=Z,147nm,1.2s
ARU MLR MLR
comp=Z,6μm,17.0s
ARU Arti 55.10 318 *e*P **P 15 05 30.9 -0.1**
comp=Z,161nm,1.3s
GSI Gunungsitoli 55.80 239 *e*P **P 15 05 35.2 -1.2**
comp=Z,99nm,1.3s
DLBC Dease Lake 56.18 39 P P **15 05 40.7 +2.0**
comp=Z,3.0nm,0.3s,baz=285,slow=3.5
DLBC Dease Lake 56.18 39 *e*P **P 15 05 40.3 +1.6**
comp=Z,27nm,1.1s
AB31 Akbulak array 57.03 309 *i*P **P 15 05 44.1 -0.7**
AB31 pmax pmax
comp=Z,13nm,0.5s
ABKAR Akbulak array 57.03 309 *e*P **P 15 05 44.5 -0.3**
KBL Kabul 57.36 290 *e*P **P 15 05 46.7 -0.9**
KBL pmax pmax
comp=Z,109nm,1.1s
KBL Kabul 57.36 290 *e*P **P 15 05 46.7 -0.9**
comp=Z,109nm,1.1s
AKTO Aktyubinsk 57.69 311 P P **15 05 49.3 -0.1**
comp=Z,18nm,0.9s,baz=76,slow=8.2,SNR=35
AKTO Aktyubinsk 57.69 311 P P **15 05 48.5 -0.9**
AKTO pmax pmax
comp=Z,46nm,1.2s
SPA0 Spitsbergen Ar 58.28 349 *e*P **P 15 05 52.4 -0.8**
KBS Kingsbay 58.39 350 *e*P **P 15 05 54.0 +0.1**
KBS pmax pmax
comp=Z,35nm,1.1s
KBS Kingsbay 58.39 350 *e*P **P 15 05 54.0 +0.1**
comp=Z,35nm,1.1s
HYB Hyderabad 59.14 268 *i*P **P 15 06 00.0 0.0**
HSPB Hornsund (broa 59.23 348 *e*P **P 15 06 00.4 +0.7**
FITZ Fitzroy Crossi 59.42 199 P P **15 06 01.2 -0.5**
comp=Z,5.8nm,0.8s,baz=85,slow=2.8,SNR=8.4
FITZ Fitzroy Crossi 59.42 199 *e*P **P 15 06 01.7 0.0**
comp=Z,28nm,1.2s
WRAB Tennant Creek 59.60 189*d i*P **P 15 06 02.1 -0.9**
WRAB pmax pmax
comp=Z,49nm,0.8s
WRAB Tennant Creek 59.60 189 *e*P **P 15 06 01.9 -1.0**
comp=Z,25nm,1.0s
WB2 Warramunga Arr 59.61 189 *e*P **P 15 06 01.9 -1.1**
comp=Z,22nm,0.8s
WRA Warramunga Arr 59.61 189 P P **15 06 02.0 -1.0**
comp=Z,21nm,0.9s,baz=6.5,slow=7.1,SNR=94
WRA LR LR 15 31 21.4
comp=Z,214nm,21.9s,baz=25,slow=36
LVZ Lovozero 60.23 335‖ *e*P **P 15 06 06.9 +0.1**
LVZ MLR MLR
comp=Z,1μm,16.0s
APA Apatity 60.81 335⇓ *i*P **P 15 06 09.1 -1.6**
APA *i* 15 08 30.0
APA *i*S S 15 14 16.0 -10
APA *i*SS **SS 15 18 29.0 +4.6**
APA *i*SSS SSS 15 20 54.0
APA pmax pmax
comp=Z,10.0nm,1.2s
APA MLR MLR
comp=Z,2μm,15.0s
YKW3 Yellowknife Ar 61.22 31 *e*P **P 15 06 13.9 +0.3**
comp=Z,28nm,1.4s
YKA Yellowknife Ar 61.26 31 P P **15 06 14.5 +0.6**
comp=Z,2.4nm,0.5s,baz=301,slow=6.4,SNR=23
YKB5 Yellowknife Ar 61.26 31 *e*P **P 15 06 14.6 +0.7**
KEV Kevo 61.45 339 *e*P **P 15 06 14.8 -0.2**
KEV pmax pmax
comp=Z,37nm,1.2s
KEV Kevo 61.45 339 *e*P **P 15 06 14.8 -0.2**
comp=Z,37nm,1.2s
ARA0 ARCESS Array S 62.00 339 *e*P **P 15 06 18.4 -0.4**
ARCES ARCESS Array B 62.00 339 P P **15 06 19.1 +0.3**
comp=Z,4.1nm,0.7s,baz=52,slow=7.9,SNR=20
ARCES PP **PP 15 08 33.6 -1.2**
comp=Z,6.5nm,1.0s,baz=40,slow=15,SNR=4.0
ARCES LR LR 15 37 53.8
comp=Z,1μm,18.4s,baz=57,slow=40
ARE0 ARCESS Array S 62.00 339 *e*P **P 15 06 18.5 -0.2**
comp=Z,108nm,1.8s
KLMR Klimovskoe 62.15 327*c i*P **P 15 06 19.7 -0.1**
KLMR *e* 15 06 59.6
KLMR pmax pmax
comp=Z,83nm,1.4s
AS01 Alice Springs 63.33 189 *e*P **P 15 06 27.5 -0.6**
AS31 Alice Springs 63.34 189 *e*P **P 15 06 27.3 -0.9**
comp=Z,2.9nm,0.8s
ASAR Alice Springs 63.34 189 P P **15 06 27.7 -0.5**
comp=Z,12nm,1.0s,baz=10,slow=5.2,SNR=48
ASAR LR LR 15 33 58.4
comp=Z,250nm,21.9s,baz=12,slow=36
ASAR Alice Springs 63.34 189 P P **15 06 27.7 -0.5**
ASAR pmax pmax
comp=Z,12nm,1.0s
ASAR MLR MLR
comp=Z,250nm,21.9s
DAG Danmarks Havn 63.40 355 *i*P **P 15 06 27.4 -0.6**
DAG pmax pmax
comp=Z,17nm,0.9s
DAG Danmarks Havn 63.40 355 *i*P **P 15 06 27.4 -0.6**
comp=Z,20nm,0.9s
GEYT Alibeck 63.41 298 P P **15 06 28.7 0.0**
comp=Z,18nm,0.9s,baz=56,slow=3.7,SNR=28
GEYT LR LR 15 36 23.7
comp=Z,895nm,18.6s,baz=85,slow=38
DZM Mont Dzumac 65.20 155 *e*P **P 15 06 40.2 -0.3**
comp=Z,158nm,1.3s
DZM Mont Dzumac 65.20 155 *e*LR LR 15 26 07.3
comp=Z,2μm,22.6s
DZM Mont Dzumac 65.20 155 P P **15 06 42.0 +1.5**
comp=Z,47nm,1.1s,baz=355,slow=9.7,SNR=7.7
DZM Mont Dzumac 65.20 155 *e*P **P 15 06 40.9 +0.4**
comp=Z,97nm,1.3s
MOS Moscow 65.79 323 *e*P **P 15 06 43.7 -0.2**
MOS *e* 15 09 05.6
MOS *e*S **S 15 15 28.8 +0.1**
MOS pmax pmax
comp=Z,300nm,1.8s
MOS pmax pmax
comp=Z,144nm,1.6s
MOS MLR MLR
comp=N,2μm,16.0s
MOS MLR MLR
comp=E,2μm,16.0s
MOS MLR MLR
comp=Z,4μm,16.0s
MSVF Nonsavu 65.90 143 *e*P **P 15 06 46.2 +1.1**
MSVF pmax pmax
comp=Z,57nm,1.2s
MSVF Nonsavu 65.90 143 *e*P **P 15 06 46.2 +1.1**
comp=Z,57nm,1.2s
VRH Novokhopyorsk 66.34 318 *e*P **P 15 06 46.9 -0.6**
VRH pmax pmax
comp=Z,70nm,1.7s
VRH MLR MLR
comp=Z,5μm,20.0s
B08A Colville Reser 66.51 46 *e*P **P 15 06 49.3 +0.6**
comp=Z,24nm,1.3s
OBN Obninsk 66.65 323*c i*P **P 15 06 49.5 +0.2**
OBN *i* *PP **sP 15 07 01.0 +0.9**
OBN *e**SP **pP 15 07 04.4 +7.3**
OBN *e* 15 09 15.7
OBN *e*S **S 15 15 37.6 -1.4**
OBN *e*SS **SS 15 20 01.1 +5.3**
OBN pmax pmax
comp=Z,194nm,2.5s
OBN MLR MLR
comp=Z,4μm,15.0s
OBN Obninsk 66.65 323 *e*P **P 15 06 49.0 -0.4**
comp=Z,72nm,1.1s
I03D Drain, OR 66.71 52 P P **15 06 51.0 +1.0**
baz=303
H04A Detroit Lake 66.87 51 *e*P **P 15 06 52.0 +0.9**
comp=Z,32nm,1.3s
LPSR Galich'ya Gora 66.97 320 *e*P **P 15 06 51.9 +0.4**
LPSR pmax pmax
comp=Z,40nm,1.1s
LPSR MLR MLR
comp=Z,2μm,21.0s
FIA1 FINESS Array S 67.04 332 *e*P **P 15 06 51.4 -0.3**
comp=Z,70nm,1.4s
FINES FINESS Array B 67.04 332 P P **15 06 51.7 -0.1**
comp=Z,12nm,0.5s,baz=29,slow=9.4,SNR=47
FINES PP **PP 15 09 14.9 -4.1**
comp=Z,13nm,1.2s,baz=58,slow=13,SNR=4.0
FINES LR LR 15 38 23.7
comp=Z,3μm,19.2s,baz=41,slow=38
FINES FINESS Array B 67.04 332 P P **15 06 51.7 -0.1**
FINES 15 09 14.9
FINES pmax pmax
comp=Z,12nm,0.5s
FINES pmax pmax
comp=Z,13nm,1.2s
FINES MLR MLR
comp=Z,3μm,19.2s
I04A Tendick Farm, 67.23 51 P P **15 06 54.4 +1.1**
baz=303
I05D Terrebonne, OR 67.57 51 P P **15 06 56.2 +0.7**
baz=304
VSR Storozhevoye 67.65 319 *e*P **P 15 06 55.7 -0.1**
VSR pmax pmax
comp=Z,70nm,1.4s
VSR MLR MLR
comp=Z,6μm,22.0s
NEW Newport 67.78 45 P P **15 06 57.0 +0.2**
comp=Z,1.5nm,0.3s,baz=272,slow=5.3,SNR=5.5
NEW Newport 67.78 45 P P **15 06 56.9 +0.1**
baz=305
NEW Newport 67.78 45 *e*P **P 15 06 57.0 +0.2**
NEW pmax pmax
comp=Z,21nm,1.2s
NEW Newport 67.78 45 *e*P **P 15 06 57.0 +0.2**
comp=Z,21nm,1.2s
J05D Fort Rock, OR 68.22 51 P P **15 07 01.4 +1.6**
baz=304
SUMG Summit 68.23 0⇑ *i*P **P 15 07 00.6 +1.0**
SUMG pmax pmax
comp=Z,36nm,1.0s
SUMG Summit 68.23 0⇑ *i*P **P 15 07 00.6 +1.0**
comp=Z,36nm,1.0s
SUMG Summit 68.23 0 *e*P **P 15 07 00.3 +0.7**
comp=Z,107nm,1.4s
M02C Callahan 68.28 54 P P **15 07 01.3 +1.2**
baz=304
N02D Trinity Center 68.61 54 P P **15 07 03.0 +0.9**
baz=304
M04C Macdoel 68.69 53 P P **15 07 03.9 +1.1**
baz=304
K05A Summer Lake 68.74 52 *e*P **P 15 07 04.5 +1.4**
comp=Z,75nm,1.5s
VSU Vasula 68.77 329*c i*P **P 15 07 02.7 0.0**
VSU pmax pmax
comp=Z,171nm,1.2s
VSU MLR MLR
comp=Z,5μm,16.0s
GOF Gofitskoye 69.10 312⇑ *i*P **P 15 07 05.4 +0.4**
GOF *e*S **S 15 16 11.1 +2.3**
GOF pmax pmax
comp=Z,69nm,0.7s
GOF smax smax
comp=E,48nm,1.5s
O03D Paynes Creek 69.56 54 P P **15 07 08.7 +0.7**
baz=305
MOD Modoc Plateau 69.57 52 *e*P **P 15 07 09.2 +1.0**
comp=E,7.4nm,0.9s
JTMT Jette 69.64 44 *e*sP P 15 07 17.4 +9.0
BMO Blue Mountains 69.65 48 *e*P **P 15 07 09.4 +0.9**
BMO pmax pmax
comp=Z,18nm,1.4s
BMO Blue Mountains 69.65 48 *e*P **P 15 07 09.4 +0.9**
comp=Z,18nm,1.4s
NCK Nalchik 69.68 310⇓ *i*P **P 15 07 09.5 +0.8**
NCK pmax pmax
comp=Z,36nm,1.3s
NCK MLR MLR
comp=Z,1μm,15.0s
GUDG Gudauri 69.75 309 P P **15 07 10.5 +1.1**
ZEI Tsey 69.91 309 *e*P **P 15 07 08.5 -1.8**
ZEI pmax pmax
comp=Z,87nm,1.3s
SWMT Swartz Lake 69.93 45 *e*P **P 15 07 11.0 +0.8**
KIV Kislovodsk 69.95 311 *i*P **P 15 07 11.3 +0.8**
SNR=25
KIV Kislovodsk 69.95 311 *e*P **P 15 07 11.2 +0.8**
KIV *e*S **S 15 16 19.3 +0.3**
KIV *e*SS **SS 15 20 49.8 +2.2**
KIV pmax pmax
comp=Z,120nm,1.1s
KIV pmax pmax
comp=Z,50nm,3.0s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 69.95 311 P P **15 07 11.2 +0.8**
SNR=37
KIV Kislovodsk 69.95 311 *e*P **P 15 07 10.2 -0.2**
comp=Z,127nm,1.1s
KBZ Khabaz 69.96 310 P P **15 07 11.0 +0.8**
comp=Z,21nm,0.9s,baz=62,slow=4.6,SNR=45
TBLG Delisi 70.01 308 P P **15 07 11.3 +0.6**
TBLG Delisi 70.01 308 P P **15 07 11.3 +0.6**
WVOR Wild Horse Val 70.27 51 *e*P **P 15 07 13.3 +0.8**
WVOR pmax pmax
comp=Z,24nm,1.4s
WVOR Wild Horse Val 70.27 51 *e*P **P 15 07 13.3 +0.8**
comp=Z,24nm,1.4s
ONI Oni 70.29 309 P P **15 07 13.4 +0.9**
ONI Oni 70.29 309 P P **15 07 13.4 +0.9**
NEY Neytrino 70.34 310‖ *i*P **P 15 07 14.3 +1.4**
NEY pmax pmax
comp=Z,12nm,1.4s
NEY MLR MLR
comp=Z,748nm,15.0s
MSO Missoula 70.37 45 P P **15 07 13.9 +0.9**
baz=307
MSO Missoula 70.37 45 *e*P **P 15 07 13.6 +0.6**
comp=Z,46nm,1.9s
IZAR Zarasai 70.80 328 *e*P **P 15 07 16.2 +1.0**
IZAR IAmb IAmb 15 07 23.6
comp=Z,14nm,0.7s
AFDM Forest Hills D 70.86 55 *e*P **P 15 07 16.4 +0.4**
comp=Z,12nm,1.3s
IDID Didziasalis 70.89 327 *e*P **P 15 07 16.7 +1.0**
IDID IAmb IAmb 15 07 25.0
comp=Z,15nm,0.8s
GNI Garni 70.93 307 *i*P **P 15 07 17.8 +1.3**
SNR=5.3
GNI Garni 70.93 307*c i*P **P 15 07 17.7 +1.2**
GNI pmax pmax
comp=Z,178nm,1.7s
GNI MLR MLR
comp=Z,4μm,16.0s
GNI Garni 70.93 307 P P **15 07 17.8 +1.3**
SNR=12
GNI Garni 70.93 307 *e*P **P 15 07 16.9 +0.3**
comp=Z,74nm,1.5s
MICGM Minsk 70.94 326 *e*P **P 15 07 16.0 -0.1**
MICGM *e*LR LR 15 37 30.0
MICGM LRM MLR 15 40 14.0
comp=Z,5.0nm,16.0s
MNK Minsk 70.94 326 *e*P **P 15 07 16.0 -0.1**
MNK MLR MLR
comp=Z,5μm,16.0s
AKH Akhalkalaki 70.96 308 P P **15 07 17.8 +1.1**
AKH Akhalkalaki 70.96 308 P P **15 07 17.8 +1.1**
ISAL Salakas 70.97 327 *e*P **P 15 07 17.2 +1.0**
ISAL IAmb IAmb 15 07 25.5
comp=Z,28nm,0.8s
STKA Stephens Creek 71.01 181 P P **15 07 15.5 -1.2**
comp=Z,5.1nm,1.0s,baz=320,slow=7.0,SNR=7.2
STKA LR LR 15 43 49.6
comp=Z,182nm,19.1s,baz=22,slow=40
STKA Stephens Creek 71.01 181 *e*P **P 15 07 16.2 -0.5**
STKA pmax pmax
comp=Z,3.0nm,1.4s
STKA Stephens Creek 71.01 181 *e*P **P 15 07 16.2 -0.5**
comp=Z,3.2nm,1.4s
NACGM Naroch 71.14 327 *e* P 15 07 07.0 -10
NACGM *e*LQ LQ 15 36 08.0
NACGM *e*LR LR 15 40 06.0
BIDO Bidbid 71.28 285 P P **15 07 17.6 -1.1**
SNR=5.6
MFID Camas Ranch 71.36 49 *e*P **P 15 07 18.7 -0.3**
comp=Z,18nm,1.3s
PAHR Pah Rah Range 71.41 54 *e*P **P 15 07 20.1 +0.6**
comp=Z,20nm,1.2s
FCC Fort Churchill 71.43 27 *e*P **P 15 07 19.4 +0.4**
FCC pmax pmax
comp=Z,92nm,1.7s
FCC Fort Churchill 71.43 27 *e*P **P 15 07 19.4 +0.4**
comp=Z,92nm,1.7s
SMDO Samad 71.60 285 P P **15 07 21.5 +0.7**
SNR=5.7
CMB Columbia Colle 71.76 56 *e*P **P 15 07 22.2 +0.7**
CMB pmax pmax
comp=Z,17nm,1.1s
CMB Columbia Colle 71.76 56 *e*P **P 15 07 22.2 +0.7**
comp=Z,17nm,1.1s
LRM Limekiln Ridge 71.80 45 *e*P **P 15 07 22.3 +0.5**
HOQ Hoqain 71.85 286 P P **15 07 22.7 +0.5**
SNR=6.8
UOSS Minazif 71.88 288 *e*P **P 15 07 22.3 0.0**
comp=Z,5.1nm,1.1s
SOC Sochi 71.90 312 *e*P **P 15 07 20.5 -1.6**
SOC *e* 15 10 01.0
SOC *e*PPP PPP 15 11 50.6
SOC *e*S **S 15 16 37.9 -3.5**
SOC *e* 15 17 31.8
SOC pmax pmax
comp=Z,30nm,0.8s
SOC MLR MLR
comp=Z,1μm,18.0s
HATD Hatta, Dubai 72.00 288 *i*P **P 15 07 23.6 +0.5**
SNR=12
HATD Hatta, Dubai 72.00 288 P P **15 07 23.1 +0.1**
SNR=6.7
DLMT Dillon 72.01 46 *e*P **P 15 07 23.9 +0.9**
comp=Z,15nm,0.9s
NC405 NORSAR Array S 72.04 337 *e*P **P 15 07 22.9 +0.2**
NC303 NORSAR Array S 72.06 337 *e*P **P 15 07 22.5 -0.3**
HLID Hailey 72.09 48 P P **15 07 24.3 +0.8**
baz=308
HLID Hailey 72.09 48 *e*P **P 15 07 23.4 -0.1**
comp=Z,8.9nm,1.1s
ASHO Ashiyiah 72.14 287 *i*P **P 15 07 24.2 +0.3**
SNR=13
ASHO Ashiyiah 72.14 287 P P **15 07 24.1 +0.2**
SNR=7.5
BBOO Buckleboo 72.19 186 *e*P **P 15 07 22.2 -1.5**
comp=Z,40nm,1.4s
NC204 NORSAR Array S 72.20 338 *e*P **P 15 07 23.4 -0.3**
NB201 NORSAR Array S 72.22 337 *e*P **P 15 07 23.0 -0.8**
NB2 NORSAR Subarra 72.25 337 P P **15 07 23.9 -0.1**
comp=Z,48nm,1.0s,baz=36,slow=6.2
NB2 NORSAR Subarra 72.25 337 P P **15 07 23.9 -0.1**
baz=36,slow=6.2
NOA NORSAR Array B 72.25 337 P P **15 07 23.9 -0.1**
comp=Z,15nm,0.9s,baz=39,slow=6.0,SNR=22
NOA LR LR 15 44 13.5
comp=Z,1μm,18.4s,baz=40,slow=40
BMN Battle Mountai 72.32 52 *e*P **P 15 07 25.5 +0.6**
BMN pmax pmax
comp=Z,13nm,1.0s
BMN Battle Mountai 72.32 52 *e*P **P 15 07 25.5 +0.6**
comp=Z,13nm,1.0s
NBO02 NORSAR Array S 72.35 338 *e*P **P 15 07 24.0 -0.6**
BOZ Bozeman (W) 72.36 45 P P **15 07 26.1 +1.0**
baz=309
BOZ Bozeman (W) 72.36 45 *e*P **P 15 07 25.2 +0.1**
BOZ pmax pmax
comp=Z,20nm,1.2s
BOZ Bozeman (W) 72.36 45 *e*P **P 15 07 25.2 +0.1**
comp=Z,20nm,1.2s
NBO00 NORSAR Array S 72.39 338 *e*P **P 15 07 24.3 -0.4**
FAQ Al Faqa, Dubai 72.44 288 P P **15 07 25.7 0.0**
ANN Anapa 72.44 314 *e*P **P 15 07 24.9 -0.4**
ANN *e**PP **sP 15 07 37.3 +1.2**
ANN *e*S **S 15 16 47.5 -0.1**
ANN *e* 15 17 27.1
ANN pmax pmax
comp=Z,67nm,1.4s
ANN MLR MLR
comp=Z,1μm,14.0s
NAO01 NORSAR Array S 72.50 337 *e*P **P 15 07 25.4 -0.1**

AKASG **Malin Array Be** 72.88 322 P **P** 15 07 27.7 -0.1
comp=Z,5.0nm,0.4s,baz=44,slow=6.5,SNR=75
AKASG PP **PP** 15 10 08.7 -0.8
comp=Z,0.2nm,0.3s,baz=41,slow=8.7,SNR=4.0
AKASG LR LR 15 42 52.9
comp=Z,1μm,18.9s,baz=355,slow=39
AKBB Malin Array Si 72.88 322 *e*P **P** 15 07 27.1 -0.7
AKBB pmax pmax
comp=Z,41nm,1.1s
AKBB Malin Array Si 72.88 322 *e*P **P** 15 07 27.1 -0.7
comp=Z,41nm,1.1s
KIEV Kiev 72.89 322 *c i*P **P** 15 07 27.5 -0.4
KIEV pmax pmax
comp=Z,43nm,1.1s
KIEV MLR MLR
comp=Z,1μm,16.0s
KIEV Kiev 72.89 322 *e*P **P** 15 07 27.3 -0.5
comp=Z,43nm,1.1s
AK11 Malin Array Si 72.92 322 *e*P **P** 15 07 27.0 -1.0
SUW Suwalki 73.28 327 *e*P **P** 15 07 30.0 -0.1
SUW Suwalki 73.28 327 *e*P **P** 15 07 30.0 -0.1
ELK Elko 73.33 51 *e*P **P** 15 07 31.5 +0.5
ELK pmax pmax
comp=Z,18nm,1.8s
ELK Elko 73.33 51 *e*P **P** 15 07 31.5 +0.5
comp=Z,18nm,1.8s
SFJD Kangerlussuaq 73.37 5 *e*P **P** 15 07 30.4 0.0
SFJD pmax pmax
comp=Z,43nm,1.1s
SFJD Kangerlussuaq 73.37 5 *e*P **P** 15 07 30.4 0.0
comp=Z,43nm,1.1s
H17A Grant Village 73.73 46 P **P** 15 07 34.0 +0.7
baz=310
H17A Grant Village 73.73 46 *e*P **P** 15 07 33.6 +0.3
comp=Z,25nm,1.1s
IMW Indian Meadow 73.85 46 *e*P **P** 15 07 35.5 +1.5
comp=Z,43nm,1.7s
FXWY Fox Creek 73.96 46 *e*P **P** 15 07 36.2 +1.5
comp=Z,12nm,1.2s
RLMT Red Lodge 73.98 44 P **P** 15 07 35.7 +0.9
baz=310
RLMT Red Lodge 73.98 44 *e*P **P** 15 07 35.6 +0.9
comp=Z,36nm,1.6s
MOOW Moose Ponds 74.05 46 *e*P **P** 15 07 36.6 +1.4
comp=Z,34nm,1.6s
TPAW Teton Pass 74.10 47 *e*P **P** 15 07 35.5 0.0
comp=Z,11nm,0.9s
HVU Hansel Valley 74.14 49 *e*P **P** 15 07 36.4 +0.8
HVU pmax pmax
comp=Z,19nm,1.2s
HVU Hansel Valley 74.14 49 *e*P **P** 15 07 36.4 +0.8
comp=Z,19nm,1.2s
SIM Simferopol' 74.17 316 *e*P **P** 15 07 34.7 -0.9
SIM *e*S **S** 15 17 07.0 -0.3
SIM pmax pmax
comp=Z,28nm,1.5s
CWC Cottonwood Cre 74.19 56 P **P** 15 07 37.0 +0.9
baz=308
LOHW Long Hollow 74.22 46 *e*P **P** 15 07 37.1 +1.0
comp=Z,28nm,1.6s
REDW Red Top Meadow 74.24 47 *e*P **P** 15 07 37.5 +1.2
comp=Z,27nm,1.4s
GRAC Grapevine Rang 74.31 55 P **P** 15 07 37.8 +1.3
baz=308
ISA Isabella, Lake 74.41 57 P **P** 15 07 38.1 +0.9
baz=308
BGU Big Grassy Mou 74.53 50 *e*P **P** 15 07 38.6 +0.7
comp=Z,17nm,1.5s
R11A Troy Canyon, C 74.59 53 P **P** 15 07 38.5 +0.2
baz=308
R11A Troy Canyon, C 74.59 53 *e*P **P** 15 07 38.9 +0.6
comp=Z,34nm,1.6s
DAC Darwin (Calif) 74.60 56 *e*P **P** 15 07 39.1 +0.6
DAC pmax pmax
comp=Z,12nm,1.3s
DAC Darwin (Calif) 74.60 56 *e*P **P** 15 07 39.1 +0.6
comp=Z,12nm,1.3s
A25A Svangstu Ranch 74.60 39 P **P** 15 07 38.8 +0.7
baz=313
MPMC Manual Prospec 74.80 56 P **P** 15 07 40.2 +0.5
baz=308
FURC Furnace Creek, 74.95 55 P **P** 15 07 41.2 +1.0
baz=308
HWUT Hardware Ranch 74.95 48 *e*P **P** 15 07 41.2 +0.8
comp=Z,22nm,1.3s
LRMC Laurel Mtn Rad 75.03 56 P **P** 15 07 41.5 +0.6
baz=308
SORM Soroca 75.03 321 ⇑*i*P **P** 15 07 40.4 -0.1
TPNV Topopah Spring 75.04 54 P **P** 15 07 41.3 +0.4
baz=308
TPNV Topopah Spring 75.04 54 *e*P **P** 15 07 41.2 +0.2
TPNV pmax pmax
comp=Z,22nm,1.2s
TPNV Topopah Spring 75.04 54 *e*P **P** 15 07 41.2 +0.2
comp=Z,22nm,1.2s
DUG Dugway, Tooele 75.11 50 P **P** 15 07 42.5 +1.2
baz=309
DUG Dugway, Tooele 75.11 50 *e*P **P** 15 07 41.9 +0.6
DUG pmax pmax
comp=Z,28nm,1.4s
DUG Dugway, Tooele 75.11 50 *e*P **P** 15 07 41.9 +0.6
comp=Z,28nm,1.4s
EDW2 Edwards Air Fo 75.20 57 P **P** 15 07 42.3 +0.6
baz=308
BW06 Boulder Array 75.35 46 P **P** 15 07 42.7 0.0
baz=311
BW06 Boulder Array 75.35 46 *e*P **P** 15 07 42.7 0.0
comp=Z,0.4nm,1.3s
PD31 Pinedale Array 75.35 46 *e*P **P** 15 07 42.3 -0.4
PDAR Pinedale Array 75.35 46 P **P** 15 07 43.2 +0.5
comp=Z,1.4nm,0.6s,baz=327,slow=2.5,SNR=12
TCUT Toone Canyon 75.35 49 *e*P **P** 15 07 43.8 +1.0
comp=Z,40nm,1.3s
A27A Ledoux Ranch, 75.49 38 P **P** 15 07 44.6 +1.5
baz=314
MWC Mount Wilson 75.56 58 *e*P **P** 15 07 44.4 +0.4
MWC pmax pmax
comp=Z,16nm,1.1s
MWC Mount Wilson 75.56 58 *e*P **P** 15 07 44.4 +0.4
comp=Z,16nm,1.1s
KIS Kishinev 75.58 320 *e*P **P** 15 07 43.0 -0.6
KIS *e*S **S** 15 17 22.0 -0.8
KIS Kishinev 75.58 320 *e*PS 15 17 56.0
KIS LRM MLR 15 44 20.0
comp=Z,2μm,16.0s
KIS Kishinev 75.58 320 *e*P **P** 15 07 43.0 -0.6
KIS *e* 15 08 02.0
KIS *e*S **S** 15 17 22.0 -0.8
KIS *e*PS **PnS** 15 17 56.0 -4.3
KIS MLR MLR
comp=Z,2μm,14.0s
KIS MLR MLR
comp=N,2μm,15.0s
KIS MLR MLR
comp=Z,2μm,16.0s
SHOC Shoshone, Teco 75.67 55 P **P** 15 07 45.0 +0.6
baz=309
GSC Goldstone, Bar 75.70 56 P **P** 15 07 44.9 +0.2
baz=308
GSC Goldstone, Bar 75.70 56 *e*P **P** 15 07 45.0 +0.3
GSC pmax pmax
comp=Z,15nm,1.3s
GSC Goldstone, Bar 75.70 56 *e*P **P** 15 07 45.0 +0.3
comp=Z,15nm,1.3s
BFSC Mount Baldy Ra 75.81 57 P **P** 15 07 45.7 +0.3
baz=308
LVV L'vov 75.90 324 *e*P **P** 15 07 45.8 +0.4
LVV *e*S **S** 15 17 26.8 +0.5
LVV MLR MLR
comp=Z,3μm,15.0s
A28A Rude Farm, Bot 75.97 37 P **P** 15 07 47.1 +1.2
baz=315
SHPR Sheep Range 76.00 54 *e*P **P** 15 07 47.4 +1.0
comp=Z,26nm,1.4s
E25A Miller Ranch, 76.13 41 P **P** 15 07 47.4 +0.5
baz=314
TUQ Turquoise Moun 76.19 55 P **P** 15 07 48.3 +0.8
baz=309
B28A Dugan Ranch, T 76.25 38 P **P** 15 07 48.2 +0.7
baz=315
HEC Hector,Ludlow 76.30 56 P **P** 15 07 49.3 +1.2
baz=309
CCUT Cedar City 76.46 52 *e*P **P** 15 07 50.1 +0.9
comp=Z,19nm,1.3s
MSU Marysvale 76.56 51 *e*P **P** 15 07 50.4 +0.7
MSU Marysvale 76.56 51 *e*P **P** 15 07 50.4 +0.7
E26A Carlson Angus 76.62 40 P **P** 15 07 50.0 +0.4
baz=314
KWP Kalwaria Pacla 76.63 325 *e*P **P** 15 07 50.6 +1.1
KWP Kalwaria Pacla 76.63 325 ⇑*i*P **P** 15 07 50.7 +1.1
KWP Kalwaria Pacla 76.63 325 *e*P **P** 15 07 50.6 +1.1
TMUT Trail Mountain 76.64 50 *e*P **P** 15 07 51.2 +0.9
comp=Z,18nm,1.3s
B29A Wagenman Farm, 76.72 37 P **P** 15 07 51.4 +1.3
baz=316
C28A Hausauer Farms 76.76 38 P **P** 15 07 51.8 +1.5
baz=315
GMRC Granite Mounta 76.76 56 P **P** 15 07 51.2 +0.5
baz=309
P17A Butcher Ranch, 76.80 50 *e*P **P** 15 07 52.0 +1.0
comp=Z,18nm,0.8s
A30A Hoffart Farm, 76.86 36 P **P** 15 07 52.0 +1.1
baz=316
MTPU Mount Pierson 76.86 51 *e*P **P** 15 07 52.8 +1.2
comp=Z,18nm,1.2s
LCMT Little Creek M 76.87 53 *e*P **P** 15 07 52.6 +1.2
comp=Z,22nm,1.2s
BUR08 Bucovina Ar. S 76.90 322 *e*P **P** 15 07 51.4 +0.1
BURAR Bucovina Array 76.91 322 ⇓*i*P **P** 15 07 51.8 +0.5
LDFC Landfair 76.93 55 *e*P **P** 15 07 52.1 +0.4
comp=Z,23nm,1.1s
PFO Pinyon Flats O 76.98 57 P **P** 15 07 52.4 +0.3
comp=Z,2.4nm,0.5s,baz=320,slow=7.5,SNR=7.1
PFO Pinyon Flats O 76.98 57 P **P** 15 07 52.1 +0.1
baz=309
PFO Pinyon Flats O 76.98 57 *e*P **P** 15 07 52.1 +0.1
comp=Z,20nm,1.5s
TPFO Pinon Flats 76.99 57 P **P** 15 07 52.2 +0.1
baz=309
ULM Lac du Bonnet 76.99 34 P **P** 15 07 52.1 +0.5
comp=Z,4.0nm,0.7s,baz=307,slow=3.2,SNR=5.4
ULM Lac du Bonnet 76.99 34 *e*P **P** 15 07 51.5 -0.1
comp=Z,15nm,1.0s
P18A Preston Nutter 76.99 49 *e*P **P** 15 07 53.1 +0.9
comp=Z,80nm,0.3s
TESR Tescani 76.99 320 ⇑*i*P **P** 15 07 52.2 +0.5
BELC Belle Mtn. Jos 77.03 57 P **P** 15 07 52.3 -0.1
baz=309
K22A Casper 77.10 45 P **P** 15 07 53.0 +0.4
baz=312
K22A Casper 77.10 45 *e*P **P** 15 07 52.9 +0.3
comp=Z,84nm,1.8s
KNB Kanab 77.13 53 *e*P **P** 15 07 53.2 +0.3
KNB pmax pmax
comp=Z,37nm,1.4s
KNB Kanab 77.13 53 *e*P **P** 15 07 53.2 +0.3
comp=Z,37nm,1.4s
SRU San Rafael Swe 77.17 50 *e*P **P** 15 07 53.7 +0.7
SRU pmax pmax
comp=Z,18nm,0.9s
SRU San Rafael Swe 77.17 50 *e*P **P** 15 07 53.7 +0.7
comp=Z,18nm,0.9s
CFR Carcaliu 77.17 319 ⇑*i*P **P** 15 07 53.0 +0.3
BTU Barney Top 77.23 52 *e*P **P** 15 07 54.8 +1.2
KOLS Kolonicke sedl 77.33 324 *e*P **P** 15 07 54.0 +0.4
KOLS pmax pmax
comp=Z,21nm,1.3s
KOLS Kolonicke sedl 77.33 324 *e*P **P** 15 07 54.0 +0.4
KOLS *e*PP **PP** 15 10 48.3 +1.0
KOLS *e*L L 15 45 11.2
VRI Vrincioaia 77.41 320 ⇑*i*P **P** 15 07 54.8 +0.8
BAR Barrett 77.42 58 *e*P **P** 15 07 54.6 +0.2
comp=Z,12nm,0.4s
RSSD Black Hills 77.44 43 P **P** 15 07 54.7 +0.2
baz=314
RSSD Black Hills 77.44 43 *e*P **P** 15 07 54.5 0.0
RSSD pmax pmax
comp=Z,10.0nm,0.6s
RSSD Black Hills 77.44 43 *e*P **P** 15 07 54.5 0.0
comp=Z,10nm,0.6s
STHS Stebnicka Huta 77.44 325 *e*P **P** 15 07 55.0 +0.8
STHS pmax pmax
comp=Z,15nm,1.0s
STHS Stebnicka Huta 77.44 325 *e*P **P** 15 07 55.0 +0.8
MONP2 Monument Peak 77.45 58 P **P** 15 07 55.5 +0.7
baz=309
PLOR Plostina 77.45 320 ⇑*i*P **P** 15 07 55.2 +0.9
OJC Ojcow 77.47 326 *e*P **P** 15 07 55.1 +0.8
OJC Ojcow 77.47 326 *e*P **P** 15 07 54.6 +0.3
OJC pmax pmax
comp=Z,92nm,1.3s
OJC Ojcow 77.47 326 *e*P **P** 15 07 54.6 +0.3
comp=Z,92nm,1.3s
IRM Iron Mountain 77.49 56 P **P** 15 07 55.5 +0.8
baz=309
TIRR Tirgusor 77.53 318 ⇑*i*P **P** 15 07 55.9 +1.2
TIRR Tirgusor 77.53 318 *e*P **P** 15 07 54.9 +0.2
TIRR pmax pmax
comp=Z,44nm,1.5s
TIRR Tirgusor 77.53 318 *e*P **P** 15 07 54.9 +0.2
comp=Z,44nm,1.5s
UZH Uzhgorod 77.54 324 *e*P **P** 15 07 54.6 -0.1
UZH *i* 15 08 02.0
UZH *e* 15 08 07.2
UZH *e* 15 12 46.0
UZH *i*S **S** 15 17 40.6 -3.7
UZH *e* 15 18 04.2
UZH *e* 15 18 19.0
UZH MLR MLR
comp=N,3μm,15.0s
UZH MLR MLR
comp=E,6μm,15.0s
UZH MLR MLR
comp=Z,3μm,15.0s
BC3 Big Chuckawall 77.60 57 P **P** 15 07 55.6 +0.1
baz=309
C30A Mose, Pekin 77.67 37 P **P** 15 07 56.4 +0.9
baz=316
W13A Hualapai Mount 77.69 55 *e*P **P** 15 07 56.8 +0.7
comp=Z,4.9nm,0.8s
CRVS Cernica-Dubn 77.72 325 *e*P **P** 15 07 56.5 +0.8
CRVS Cervenica-Dubn 77.72 325 *e*P **P** 15 07 56.5 +0.8
IKP In-Ko-Pah, Jac 77.81 58 P **P** 15 07 57.3 +0.7
baz=309
O20A White River Ci 77.82 48 P **P** 15 07 56.2 -0.5
baz=312
O20A White River Ci 77.82 48 *e*P **P** 15 07 56.4 -0.3
comp=Z,16nm,0.6s
U15A North Rim 77.83 53 *e*P **P** 15 07 57.4 +0.4
comp=Z,27nm,1.3s
NIE Niedzica 77.85 326 *e*P **P** 15 07 57.5 +1.0
NIE Niedzica 77.85 326 *e*P **P** 15 07 57.5 +1.0
BR131 Keskin Array S 77.86 312 *e*P **P** 15 07 56.1 -0.8
BRTR Keskin Array B 77.86 312 P **P** 15 07 56.9 0.0
comp=Z,16nm,1.2s,baz=100,slow=3.8,SNR=36
BRTR PP **PP** 15 10 52.2 +0.1
comp=Z,1.3nm,0.8s,baz=33,slow=3.4,SNR=4.1
BRTR LR LR 15 47 28.3
comp=Z,897nm,18.4s,baz=42,slow=40
D30A Buchanan 77.97 38 P **P** 15 07 58.1 +0.9
baz=316
DOPR Dopjca 78.00 321 ⇓*i*P **P** 15 07 57.2 -0.1
ISR Istrita 78.02 319 ⇑*i*P **P** 15 07 58.8 +1.3
PDMCI Parker Dam,Lak 78.03 55 P **P** 15 07 58.5 +0.8
baz=310
MLR Muntele Rosu 78.06 320 ⇑*i*P **P** 15 07 58.5 +0.7
MLR Muntele Rosu 78.06 320 *e*P **P** 15 07 57.8 0.0
MLR pmax pmax
comp=Z,38nm,1.3s
MLR Muntele Rosu 78.06 320 *e*P **P** 15 07 57.8 0.0
comp=Z,38nm,1.3s
MSAB Monastry St. A 78.09 318 ⇑*i*P **P** 15 07 59.0 +1.2
Y12C Blythe 78.14 56 P **P** 15 07 59.0 +0.6
baz=310
A33A Warroad 78.17 35 P **P** 15 07 58.4 +0.2
baz=318
ANTO Ankara 78.25 312 *e*P **P** 15 07 58.4 -0.5
ANTO pmax pmax
comp=Z,37nm,1.1s
ANTO Ankara 78.25 312 *e*P **P** 15 07 58.4 -0.5
comp=Z,37nm,1.1s
BR231 Keskin MP Arra 78.28 312 *e*P **P** 15 07 57.5 -1.6
E30A Jud 78.33 38 P **P** 15 07 59.7 +0.5
baz=316
PV09 Paradox Valley 78.39 49 *e*P **P** 15 07 59.8 -0.2
GLA Glamis 78.39 57 P **P** 15 08 00.0 +0.2
baz=310
GLA Glamis 78.39 57 *e*P **P** 15 08 00.0 +0.2
GLA pmax pmax
comp=Z,12nm,0.4s
GLA Glamis 78.39 57 *e*P **P** 15 08 00.0 +0.2
comp=Z,12nm,0.4s
LANS Liptovska Anna 78.42 326 *e*P **P** 15 08 01.4 +1.8
LANS Liptovska Anna 78.42 326 *e*P **P** 15 08 01.4 +1.8
AGMN Agassiz Nation 78.44 35 P **P** 15 07 59.5 -0.2
baz=318
AGMN Agassiz Nation 78.44 35 *e*P **P** 15 07 59.5 -0.2
comp=Z,22nm,1.3s
KSP Ksiaz 78.46 329 *e*P **P** 15 08 00.7 +0.8
KSP Ksiaz 78.46 329 *e*P **P** 15 08 00.6 +0.8
OKC Ostrava-Krasne 78.46 327 ⇓*e*P **P** 15 08 00.5 +0.7
OKC *e*pP **PcP** 15 08 07.7 -1.2
OKC *e*S **S** 15 17 58.9 +4.7
OKC AMS AMS 15 46 40.0
comp=Z,2μm,15.2s
OKC Ostrava-Krasne 78.46 327 *e*P **P** 15 08 00.5 +0.7
OKC *e* 15 08 07.7
OKC *e*S **S** 15 17 58.9 +4.7
OKC MLR MLR
comp=Z,2μm,15.2s
KECS Kecovo 78.47 325 *e*P **P** 15 08 00.8 +0.9
KECS pmax pmax
comp=Z,10.0nm,1.5s
KECS Kecovo 78.47 325 *e*P **P** 15 08 00.8 +0.9
PV10 Paradox Valley 78.52 50 *e*P **P** 15 08 00.3 -0.4
VOIR 78.54 320 ⇓*i*P **P** 15 08 00.6 +0.2
PV04 Paradox Valley 78.59 49 *e*P **P** 15 08 01.9 +0.9
N23A Red Feather La 78.61 46 P **P** 15 08 02.7 +1.6
baz=313
PV05 Paradox Valley 78.68 50 *e*P **P** 15 08 01.3 -0.3
MORC Moravsky Berou 78.76 327 ⇑*i*P **P** 15 08 02.2 +0.7
MORC Moravsky Berou 78.76 327 *e*P **P** 15 08 01.5 -0.1
MORC pmax pmax
comp=Z,123nm,1.0s
MORC Moravsky Berou 78.76 327 *e*P **P** 15 08 01.5 -0.1
comp=Z,123nm,1.0s
E31A Nome 78.78 38 P **P** 15 08 02.0 +0.4
baz=317
ARR Arges 78.80 321 ⇑*i*P **P** 15 08 03.4 +1.6
DPC Dobruska-Polom 78.83 328 ⇑*i*P **P** 15 08 02.9 +1.0
DPC *e*pP **PcP** 15 08 09.5 -1.1
DPC AMS AMS 15 45 10.0
comp=Z,2μm,17.5s
DPC Dobruska-Polom 78.83 328 ⇑*i*P **P** 15 08 02.9 +1.0
DPC *e* 15 08 09.5
DPC MLR MLR
comp=Z,2μm,17.5s
UPC Upice 78.83 328 ⇑*e*P **P** 15 08 02.5 +0.7
UPC AMS AMS 15 45 20.0
comp=Z,2μm,18.2s
UPC Upice 78.83 328 *e*P **P** 15 08 02.5 +0.7
UPC MLR MLR
comp=Z,2μm,18.2s
B34A Aery, Baudette 78.84 35 P **P** 15 08 02.3 +0.4
baz=319
PRD Provadia 78.93 318 *e*P **P** 15 08 03.3 +0.8
PV01 Paradox Valley 78.96 49 *e*P **P** 15 08 03.3 +0.2
WUAZ Wupatki 78.99 53 P **P** 15 08 03.6 +0.4
baz=311
WUAZ Wupatki 78.99 53 *e*P **P** 15 08 03.9 +0.7
comp=Z,22nm,1.2s
F31A Hecla 79.11 38 P **P** 15 08 04.0 +0.6
baz=317
PSZ Piszkesteto 79.15 325 ⇑*i*P **P** 15 08 04.6 +0.9
PSZ Piszkesteto 79.15 325 ⇑*e*P **P** 15 08 04.6 +0.9
PSZ Piszkesteto 79.15 325 *e*P **P** 15 08 04.1 +0.4
PSZ pmax pmax
comp=Z,71nm,1.4s
PSZ Piszkesteto 79.15 325 *e*P **P** 15 08 04.1 +0.4
comp=Z,71nm,1.4s
VYHS Vyhne 79.19 326 *e*P **P** 15 08 04.4 +0.6
VYHS pmax pmax
comp=Z,19nm,1.4s
VYHS Vyhne 79.19 326 *e*P **P** 15 08 04.4 +0.6
VYHS *e*PP **PP** 15 10 58.8 -3.9
VYHS *e*L L 15 45 51.0
G30A Faulkton 79.21 39 P **P** 15 08 04.8 +0.7
baz=316
B35A Bob, Littlefor 79.34 34 P **P** 15 08 04.6 0.0
baz=319
BRG Berggiesshubel 79.37 330 *e*P **P** 15 08 05.2 +0.4
comp=Z,21nm,1.1s
BRG Berggiesshubel 79.37 330 S **S** 15 18 06.0 +2.2
comp=N,2μm,15.4s
comp=E,1μm,14.9s
comp=Z,2μm,15.2s
BRG Berggiesshubel 79.37 330 *e*P **P** 15 08 05.2 +0.4
BRG S **S** 15 18 06.0 +2.2
BRG pmax pmax
comp=Z,21nm,1.1s
BRG MLR MLR
comp=N,2μm,15.4s
BRG MLR MLR
comp=E,1μm,14.9s
BRG MLR MLR
comp=Z,2μm,15.2s
CLL Collm 79.39 330 ⇑*i*P **P** 15 08 04.8 0.0
comp=Z,30nm,1.1s
CLL *i* 15 08 11.5
comp=Z,42nm,1.1s
CLL *e* 15 08 20.0
CLL *e*S **S** 15 18 05.0 +1.0
CLL *e*SSS SSS 15 26 36.0
CLL LmH 15 44 00.0
comp=N,800nm,18.7s
CLL LmH 15 44 00.0
comp=E,1μm,18.4s
CLL Collm 79.39 330 ⇑*i*P **P** 15 08 04.8 0.0
CLL *i* 15 08 11.5
CLL *e*S **S** 15 18 05.0 +1.0
CLL pmax pmax
comp=Z,30nm,1.1s
CLL Collm 79.39 330 *e*P **P** 15 08 03.7 -1.1
comp=Z,40nm,1.1s
PVCC Panska Ves 79.39 329 ⇑*e*P **P** 15 08 06.0 +1.1
PVCC AMS AMS 15 46 00.0
comp=Z,2μm,16.3s
PVCC Panska Ves 79.39 329 *e*P **P** 15 08 06.0 +1.1
PVCC MLR MLR
comp=Z,2μm,16.3s
VRAC Vranov 79.52 327 ⇑*i*P **P** 15 08 05.9 +0.3
ISCO Idaho Springs 79.54 47 P **P** 15 08 07.6 +1.3
baz=313
ISCO Idaho Springs 79.54 47 *e*P **P** 15 08 07.2 +0.9
ISCO pmax pmax
comp=Z,24nm,1.5s
ISCO Idaho Springs 79.54 47 *e*P **P** 15 08 07.2 +0.9
comp=Z,24nm,1.5s
MVCO Mesa Verde 79.62 50 P **P** 15 08 07.6 +0.9
baz=312
MVCO Mesa Verde 79.62 50 *e*P **P** 15 08 07.2 +0.5
comp=Z,37nm,1.5s
D34A Park Rapids 79.64 36 P **P** 15 08 07.2 +0.9
baz=318
SZH Strazhica 79.64 318 *e*P **P** 15 08 06.8 +0.4
X16A Lo Mia Camp, P 79.67 54 *e*P **P** 15 08 08.3 +1.3
comp=Z,38nm,1.8s
OUZ Omahuta 79.70 155 *e*P **P** 15 08 09.6 +3.1
C35A Jirik Farms, M 79.72 35 P **P** 15 08 06.0 -0.7
baz=319
SMOL Smolenice 79.78 326 *e*P **P** 15 08 08.9 +1.9
SMOL Smolenice 79.78 326 *e*P **P** 15 08 08.9 +1.9
GOPC GO Pecny, Ondr 79.79 329 ⇑*e*P **P** 15 08 07.7 +0.6
GOPC *e*pP **PcP** 15 08 15.0 +0.2
GOPC *e*S **S** 15 18 10.2 +1.8
GOPC AMS AMS 15 45 50.0
comp=Z,2μm,19.3s
GOPC GO Pecny, Ondr 79.79 329 *e*P **P** 15 08 07.7 +0.6
GOPC *e* 15 08 15.0
GOPC *e*S **S** 15 18 10.2 +1.8
GOPC MLR MLR
comp=Z,2μm,19.3s
SUSD Miller 79.80 40 P **P** 15 08 07.6 +0.4
baz=316
PRU Pruhonice 79.83 329 ⇑*e*P **P** 15 08 08.1 +0.8
PRU *e*pP **PcP** 15 08 14.7 -0.2
PRU *e*S **S** 15 18 08.1 -0.6
PRU AMS AMS 15 46 00.0
comp=Z,2μm,17.0s
PRU Pruhonice 79.83 329 *e*P **P** 15 08 08.1 +0.8
PRU *e* 15 08 14.7
PRU *e*S **S** 15 18 08.1 -0.6
PRU MLR MLR
comp=Z,2μm,17.0s
G32A Webster 79.92 38 P **P** 15 08 09.0 +1.1
baz=317
TREC Trest 79.99 328 ⇑*e*P **P** 15 08 08.9 +0.7
TREC *e*pP **PcP** 15 08 16.1 +0.5

TREC AMS AMS 15 46 10.0
comp=Z,2µm,17.5s
TREC Trest 79.99 328 *e*P **P** **15 08 08.9 +0.7**
TREC *e* 15 08 16.1
TREC MLR MLR
comp=Z,2µm,17.5s
F33A 5 Mile Ranch, 80.06 37 P **P** **15 08 08.8 +0.2**
baz=318
BZS Buzias 80.07 322 ⇓*i*P **P** **15 08 08.8 +0.1**
S22A 4UR Ranch, Cre 80.24 49 P **P** **15 08 11.5 +1.3**
baz=313
S22A 4UR Ranch, Cre 80.24 49 *e*P **P** **15 08 11.4 +1.3**
comp=Z,15nm,1.1s
214A Organ Pipe Nat 80.40 57 P **P** **15 08 11.7 +0.9**
baz=311
214A Organ Pipe Nat 80.40 57 *e*P **P** **15 08 11.2 +0.5**
comp=Z,34nm,1.1s
NKC Novy Kostel 80.46 330⇈ *e*P **P** **15 08 11.0 +0.3**
NKC *e*pP **PcP** **15 08 17.9 +0.2**
NKC *e*S **S** **15 18 17.4 +2.0**
NKC AMS AMS 15 49 40.0
comp=Z,2µm,16.1s
NKC Novy Kostel 80.46 330 *e*P **P** **15 08 11.0 +0.3**
NKC *e* 15 08 17.9
NKC *e*S **S** **15 18 17.4 +2.0**
NKC MLR MLR
comp=Z,2µm,16.1s
G33A Ortonville 80.47 38 P **P** **15 08 11.7 +0.9**
baz=318
C37A Embarrass 80.49 34 P **P** **15 08 10.3 -0.6**
baz=320
EYMN Ely 80.62 33 P **P** **15 08 12.1 +0.5**
baz=321
EYMN Ely 80.62 33 *e*P **P** **15 08 11.9 +0.3**
comp=Z,29nm,1.2s
MDVR Moldovita 80.64 322⇑ *i*P **P** **15 08 12.1 +0.3**
MPEP Malo Peshtene 80.69 320 *e*P **P** **15 08 12.7 +0.6**
H33A Prehn Over Nor 80.70 38 P **P** **15 08 12.7 +0.5**
baz=318
OGNE Ogallala 80.71 44 P **P** **15 08 14.2 +1.9**
baz=315
DIM Dimitrovgrad 80.72 318 *e*P **P** **15 08 13.1 +0.9**
J31A Geddes 80.74 40 P **P** **15 08 13.1 +0.7**
baz=317
SOP Sopron 80.79 326⇈ *e*P **P** **15 08 13.6 +1.1**
D37A Cotton 80.82 34 P **P** **15 08 12.8 +0.1**
baz=320
C38A Sawbill Land. 80.89 33 P **P** **15 08 13.5 +0.5**
baz=321
KHC Kasperske Hory 80.89 329⇑ *i*P **P** **15 08 13.6 +0.5**
KHC *e*pP **PcP** **15 08 20.9 +1.3**
KHC *ex* x 15 08 30.0
KHC *e*S **S** **15 18 18.2 -1.8**
KHC AMS AMS 15 48 30.0
comp=Z,2µm,16.0s
KHC Kasperske Hory 80.89 329⇑ *i*P **P** **15 08 13.6 +0.5**
KHC *e* 15 08 20.9
KHC *e* 15 08 30.0
KHC *e*S **S** **15 18 18.2 -1.8**
KHC MLR MLR
comp=Z,2µm,16.0s
KHC Kasperske Hory 80.89 329 *e*P **P** **15 08 12.5 -0.5**
comp=Z,15nm,1.1s
CONA Conrad Observa 80.90 327 *i*P **P** **15 08 14.2 +1.0**
comp=Z,39nm,1.7s,SNR=20
E36A McGregor 80.94 35 P **P** **15 08 13.5 +0.2**
baz=320
SDCO Great Sand Dun 81.01 48 P **P** **15 08 15.2 +1.0**
baz=314
SDCO Great Sand Dun 81.01 48 *e*P **P** **15 08 14.2 0.0**
comp=Z,11nm,1.3s
KDZ Kurdzhali 81.06 318 *e*P **P** **15 08 14.9 +0.8**
GEC2 GERESS Array S 81.07 329 *e*P **P** **15 08 13.9 -0.2**
GEC2 pmax pmax
comp=Z,17nm,1.1s
GEC2 GERESS Array S 81.07 329 *e*P **P** **15 08 13.9 -0.2**
comp=Z,17nm,1.1s
GERES GERESS Array B 81.07 329 P **P** **15 08 14.3 +0.2**
comp=Z,2.2nm,0.6s,baz=46,slow=5.8,SNR=25
GERES PP **PP** **15 11 16.9 -1.5**
comp=Z,0.4nm,0.4s,baz=18,slow=5.6,SNR=3.9
GERES LR LR 15 47 05.6
comp=Z,2µm,20.1s,baz=20,slow=38
GEA0 GERESS Array S 81.08 329 *e*P **P** **15 08 13.8 -0.3**
ESK Eskdalemuir 81.12 341 *i*P **P** **15 08 15.5 +1.4**
C39A Grand Marais 81.29 33 P **P** **15 08 15.0 -0.2**
baz=322
GRFO Grafenberg 81.37 330 *e*P **P** **15 08 15.8 +0.3**
GRFO pmax pmax
comp=Z,63nm,1.1s
GRFO Grafenberg 81.37 330 *e*P **P** **15 08 15.8 +0.3**
comp=Z,63nm,1.1s
RZN Rozhen 81.40 318 *e*P **P** **15 08 16.7 +0.6**
TUC Tucson 81.46 55 P **P** **15 08 16.4 -0.1**
baz=312
TUC Tucson 81.46 55 *e*P **P** **15 08 16.2 -0.3**
TUC pmax pmax
comp=Z,11nm,1.2s
TUC Tucson 81.46 55 *e*P **P** **15 08 16.1 -0.3**
comp=Z,11nm,1.2s
ECSD EROS Data Cent 81.47 39 P **P** **15 08 16.2 0.0**
baz=318
ECSD EROS Data Cent 81.47 39 *e*P **P** **15 08 16.3 +0.1**
comp=Z,24nm,1.3s
L31A Butterfield Fa 81.50 41 P **P** **15 08 16.6 +0.2**
baz=317
ARSA Arzberg 81.57 327 *i*P **P** **15 08 17.4 +0.7**
comp=Z,23nm,1.3s,SNR=8.4
MOA Molln 81.63 328 *i*P **P** **15 08 17.9 +0.9**
comp=Z,28nm,1.5s,SNR=5.5
KSCO Kaye Shedlock' 81.75 46 *e*P **P** **15 08 18.5 +0.6**
MMB Musomiste 81.98 318 *e*P **P** **15 08 19.2 +0.2**
T25A Trinidad 82.05 48 P **P** **15 08 20.1 +0.4**
baz=314
T25A Trinidad 82.05 48 *e*P **P** **15 08 19.8 +0.1**
comp=Z,12nm,0.9s
KKB Krupnik 82.11 319 *e*P **P** **15 08 19.9 +0.3**
GROS Grobnik 82.19 326 *i*P **P** **15 08 20.1 0.0**
SOKA Soboth 82.23 327 *i*P **P** **15 08 20.8 +0.6**
comp=Z,50nm,1.3s,SNR=28
ANMO Albuquerque 82.36 51 P **P** **15 08 22.5 +1.2**
baz=313
ANMO Albuquerque 82.36 51⇓ *i*P **P** **15 08 21.7 +0.4**
ANMO pmax pmax
comp=Z,19nm,1.7s
ANMO MLR MLR
comp=Z,201nm,19.0s
ANMO Albuquerque 82.36 51 *e*P **P** **15 08 21.5 +0.2**
comp=Z,15nm,1.1s
MEM Membach 82.50 334 P **P** **15 08 21.8 +0.4**
comp=Z,15nm,1.3s
MEM AP **PcP** **15 08 28.7 +2.2**
OBKA Obir 82.56 327 *i*P **P** **15 08 21.7 -0.3**
comp=Z,25nm,1.8s,SNR=7.9
KBA Koelnbreinsper 82.62 328 *i*P **P** **15 08 22.6 +0.2**
comp=Z,33nm,1.0s,SNR=14
SCHQ Schefferville 82.74 17 LR LR 15 48 47.9
comp=Z,298nm,20.1s,baz=327,slow=38
I37A Lemond, Waseca 82.79 37 P **P** **15 08 23.6 +0.5**
baz=320
BNM Barren Site 82.80 51 *e*P **P** **15 08 23.9 +0.2**
VNDS Vrh nad Dolski 82.82 326 *i*P **P** **15 08 23.2 -0.1**
MYKA Terra Mystica 82.85 327 *i*P **P** **15 08 23.4 -0.1**
comp=Z,26nm,1.2s,SNR=9.3
BCLA Clavier 82.90 334 P **P** **15 08 23.4 -0.1**
comp=Z,15nm,1.5s
BCLA AP **PcP** **15 08 30.6 +2.3**
L34A Svendsen Farm, 82.90 40 P **P** **15 08 23.9 +0.2**
baz=318
CWF Charnwood Fore 82.92 339 *e*P **P** **15 08 23.8 +0.2**
comp=Z,58nm,1.3s
BOJS Bojanci 83.05 326 *i*P **P** **15 08 24.5 0.0**
COWI Conover 83.06 33 *e*P **P** **15 08 28.1 +3.6**
WATA Walderalm 83.13 329 *i*PcP **P** **15 08 25.8 +0.7**
comp=Z,18nm,1.0s
WTTA Wattenberg 83.17 329 *i*PcP **P** **15 08 25.8 +0.5**
comp=Z,27nm,1.8s,SNR=5.9
121A Cookes Peak, D 83.20 53 P **P** **15 08 26.9 +1.2**
baz=313
121A Cookes Peak, D 83.20 53 *e*P **P** **15 08 26.6 +0.9**
comp=Z,21nm,1.3s
LANF Langenberg 83.22 332 *e*P **P** **15 08 25.6 +0.3**
ABTA Abfaltersbach 83.23 328 *i*P **P** **15 08 25.4 0.0**
comp=Z,16nm,1.2s,SNR=7.0
J37A Redenius Farm, 83.25 38 P **P** **15 08 26.2 +0.7**
baz=320
JAVS Javornik 83.26 327 *i*P **P** **15 08 24.9 -0.7**
MOTA Moosalm 83.31 329 *i*PcP **P** **15 08 26.5 +0.5**
comp=Z,34nm,1.1s,SNR=9.5
RETA Reutte 83.33 329 *i*P **P** **15 08 26.5 +0.6**
comp=Z,45nm,1.3s,SNR=23
DOU Dourbes 83.41 334 P **P** **15 08 26.5 +0.3**
comp=Z,11nm,1.7s
DOU AP **PcP** **15 08 32.8 +2.3**
CBKS Cedar Bluff 83.47 44 P **P** **15 08 29.3 +2.5**
baz=317
BFO Black Forest 83.57 331 *i*P **P** **15 08 27.7 +0.6**
BFO Black Forest 83.57 331 *e*P **P** **15 08 26.8 -0.3**
comp=Z,65nm,1.5s
K37A Belmond 83.63 38 P **P** **15 08 28.7 +1.2**
baz=320
URZ Urewera 83.64 153 *e*P **P** **15 08 26.1 -1.1**
comp=Z,26nm,1.1s
FETA Feichten 83.73 329 *i*PcP **P** **15 08 28.8 +0.7**
comp=Z,34nm,1.2s,SNR=8.7
DAVA Damuels 83.84 330 *i*PcP **P** **15 08 29.1 +0.4**
comp=Z,60nm,1.1s,SNR=13
WLS Welschbruch 83.86 332 *e*P **P** **15 08 28.6 0.0**
J39A Decorah 84.09 37 P **P** **15 08 29.6 -0.2**
baz=321
ECH Echery 84.10 332 *e*P **P** **15 08 29.9 +0.1**
FUORN Ofenpass-Fuorn 84.24 329 *e*P **P** **15 08 30.0 -0.8**
comp=Z,62nm,1.1s
Q33A Connelly Farm, 84.35 43 P **P** **15 08 31.2 0.0**
baz=318
MOF Molkenrain 84.42 332⇈ *e*P **P** **15 08 31.6 +0.1**
L38A Oak Wood Farm, 84.43 38 P **P** **15 08 31.9 +0.3**
baz=320
K39A Oelwein 84.50 37 P **P** **15 08 31.5 -0.4**
baz=321
AGG Agios Georgios 84.59 317 *e*P **P** **15 08 31.4 -1.1**
AGG pmax pmax
comp=Z,45nm,1.0s
AGG Agios Georgios 84.59 317 *e*P **P** **15 08 31.4 -1.1**
comp=Z,45nm,1.0s
S32A Newby Ranch, P 84.71 44 P **P** **15 08 33.8 +0.7**
baz=317
TUE Stuetta 84.72 330 *e*P **P** **15 08 33.0 -0.3**
comp=Z,27nm,1.1s
K40A Colesburg 84.85 37 P **P** **15 08 34.0 +0.3**
baz=321
M38A Pleasantville 84.87 39 P **P** **15 08 33.6 -0.2**
baz=320
L39A Vinton 84.90 37 P **P** **15 08 34.2 +0.3**
baz=321
LOMF Lomont 84.95 332⇈ *e*P **P** **15 08 34.4 +0.2**
PPT Papeete 84.99 117 LR LR 15 39 21.7
comp=Z,794nm,21.6s,baz=268,slow=31
PPT2 Papeete2 85.00 117 *e*LR LR 15 35 17.9
comp=Z,2µm,22.2s,baz=317
PPT2 Papeete2 85.00 117 *e*T T 16 42 19.1
comp=Z,29nm,0.3s
PAE Paea 85.05 118 *e*T T 16 42 21.9
comp=Z,5.1nm,0.3s
TIAR Tiarei 85.14 117 *e*T T 16 42 28.7
comp=Z,11nm,0.3s
AMTX Amarillo 85.21 48 P **P** **15 08 36.2 +0.5**
baz=316
AMTX Amarillo 85.21 48 *e*P **P** **15 08 36.1 +0.4**
comp=Z,20nm,1.0s
P36A Good Intent, A 85.24 41 P **P** **15 08 36.2 +0.5**
baz=319
MNTX Cornudas Mount 85.25 52 P **P** **15 08 36.2 +0.3**
baz=314
MNTX Cornudas Mount 85.25 52 *e*P **P** **15 08 35.9 0.0**
comp=Z,17nm,1.4s
TVO Taravao 85.36 117 *e*T T 16 42 45.2
comp=Z,2.0nm,0.4s
Q35A Mercer Eighty, 85.39 42 P **P** **15 08 37.0 +0.5**
baz=319
SENIN Lac Senin/Sane 85.60 331 *e*P **P** **15 08 37.3 -0.3**
comp=Z,22nm,1.6s
N39A Derby Farms, D 85.62 39 P **P** **15 08 37.3 -0.2**
baz=321
L41A Preston 85.63 37 P **P** **15 08 37.7 +0.1**
baz=322
LAST Lasithi 85.69 313 *e*P **P** **15 08 37.8 -0.3**
R35A Emporia Munici 85.70 42 P **P** **15 08 37.9 -0.2**
baz=319
DYA Yadsworthy 85.72 339 *e*P **P** **15 08 38.0 +0.1**
comp=Z,86nm,1.5s
IDI Anoyia 85.93 313 *e*P **P** **15 08 38.6 -0.7**
comp=Z,48nm,1.4s
TAOE Nuku Hiva Isla 85.95 105 *e*LR LR 15 35 40.5
comp=Z,1µm,20.7s,baz=325
R36A Gordon, Harris 86.06 42 P **P** **15 08 39.5 -0.4**
baz=319
S35A Otter Creek Ra 86.12 43 P **P** **15 08 40.5 +0.4**
baz=319
T34A McClaskey Farm 86.15 44 P **P** **15 08 40.6 +0.4**
baz=318
MEH Mehetia 86.24 117 *e*T T 16 43 51.4
comp=Z,129nm,0.3s
U34A Anderson Ranch 86.40 44 P **P** **15 08 41.9 +0.4**
baz=318
U34A Anderson Ranch 86.40 44 P **P** **15 08 41.7 +0.2**
R37A Teagarden Farm 86.42 42 P **P** **15 08 41.0 -0.5**
baz=319
O40A La Belle 86.51 39 P **P** **15 08 41.6 -0.4**
baz=321
Q38A Cooks Store, C 86.54 40 P **P** **15 08 41.8 -0.4**
baz=320
P39B Salisbury 86.57 40 P **P** **15 08 42.8 +0.5**
baz=321
T35A Sooner Cattle 86.59 43 P **P** **15 08 43.2 +0.7**
baz=318
Q39A Willow Grove F 86.80 40 P **P** **15 08 42.5 -0.9**
baz=320
T36A Boggs Farm, Ca 86.82 43 P **P** **15 08 42.8 -0.7**
baz=319
S37A Fort Scott 86.84 42 P **P** **15 08 43.3 -0.4**
baz=320
P40A Paris 86.88 39 P **P** **15 08 44.1 +0.3**
baz=321
O41A Passleys Farm, 86.99 38 P **P** **15 08 44.8 +0.5**
baz=322
R38A Fenwick Farm, 86.99 41 P **P** **15 08 44.0 -0.4**
baz=320
P41A Barry, Barry 87.25 38 P **P** **15 08 45.9 +0.3**
baz=322
Q40A Laux Farm, Aux 87.28 39 P **P** **15 08 46.1 +0.3**
baz=321
PLDF La Plantade 87.28 333 *e*P **P** **15 08 46.5 +0.8**
R39A Chumby, Stover 87.33 40 P **P** **15 08 46.3 +0.3**
baz=320
AGO Saint Agoulin 87.39 333 *e*P **P** **15 08 47.0 +0.8**
SSB Saint Sauveur 87.55 332 *e*P **P** **15 08 47.2 +0.3**
SSB pmax pmax
comp=Z,20nm,1.3s
SSB Saint Sauveur 87.55 332 *e*P **P** **15 08 47.2 +0.3**
comp=Z,20nm,1.3s
S39A Bolivar 87.66 41 P **P** **15 08 47.1 -0.6**
baz=320
T38A Diamond 87.67 42 P **P** **15 08 47.6 0.0**
baz=320
PYM Petit Puy Mans 87.69 333 *e*P **P** **15 08 47.8 +0.1**
U37A Salina 87.71 43 P **P** **15 08 48.1 +0.2**
baz=319
R40A Maddies Statio 87.73 40 P **P** **15 08 47.7 -0.2**
baz=321
TX31 Lajitas Ar. Si 87.95 53 *e*P **P** **15 08 49.5 +0.3**
TXAR Lajitas Array 87.96 53 P **P** **15 08 49.6 +0.3**
comp=Z,2.5nm,0.9s,baz=306,slow=4.3,SNR=16
TXAR PP **PP** **15 12 14.8 -0.3**
comp=Z,0.5nm,0.8s,baz=328,slow=4.6,SNR=3.7
TXAR LR LR 15 43 23.9
comp=Z,226nm,20.7s,baz=0.0,slow=32
LBL Lubilhac 88.05 333 *e*P **P** **15 08 50.4 +1.0**
Q42A Golden Eagle 88.10 39 P **P** **15 08 49.6 0.0**
baz=322
TRQ Mont Tremblant 88.45 25 *e*P **P** **15 08 51.5 +0.3**
T40A Mansfield 88.49 41 P **P** **15 08 51.5 0.0**
baz=321
V38A Canehill 88.50 43 P **P** **15 08 51.8 +0.2**
baz=320
SFIN Lafayette 88.53 36 *e*P **P** **15 08 51.9 +0.2**
comp=Z,30nm,1.3s
U39A Green Forest 88.58 42 P **P** **15 08 52.5 +0.5**
baz=320
233A Rising Star 88.88 48 P **P** **15 08 54.1 +0.6**
baz=317
U40A Yellville 88.93 42 P **P** **15 08 53.8 +0.1**
baz=321
T41A Mountain View 88.95 41 P **P** **15 08 53.7 0.0**
baz=321
W38A Poteau 89.04 43 P **P** **15 08 54.7 +0.6**
baz=320
TBI Tubuai 89.06 122 *e*T T 16 47 22.2
comp=Z,101nm,0.3s
X38A Whitesboro 89.18 44 P **P** **15 08 55.2 +0.4**
baz=320
234A Clairette 89.33 48 P **P** **15 08 56.0 +0.4**
baz=318
W39A Magazine 89.33 43 P **P** **15 08 56.1 +0.5**
baz=320
333A Richland Sprin 89.34 49 P **P** **15 08 55.9 +0.2**
baz=317
OLIL Olney 89.40 37 *e*P **P** **15 08 59.8 +4.1**
X39A Fountain Ranch 89.68 44 P **P** **15 08 57.4 +0.2**
baz=320
433A Art 89.69 49 P **P** **15 08 57.8 +0.4**
baz=317
V41A Mountainview 89.73 42 P **P** **15 08 57.9 +0.5**
baz=321
334A Lometa 89.77 48 P **P** **15 08 57.7 0.0**
baz=318
MIAR Mount Ida 89.94 43 P **P** **15 08 58.9 +0.5**
baz=320
MIAR Mount Ida 89.94 43 *e*P **P** **15 08 58.9 +0.5**
MIAR pmax pmax
comp=Z,26nm,1.5s
MIAR Mount Ida 89.94 43 *e*P **P** **15 08 58.9 +0.5**
comp=Z,26nm,1.5s
X201 Greenbrier Sit 90.00 42 *e*P **P** **15 08 57.6 -1.1**
comp=Z,73nm,2.0s
X301 Greenbrier Sit 90.02 42 *e*P **P** **15 08 58.2 -0.6**
comp=Z,15nm,1.2s
WHAR Wooly Hollow 90.04 42 *e*P **P** **15 08 59.5 +0.6**
W41B Gary Mavity, V 90.15 42 P **P** **15 08 59.4 0.0**
baz=321
534A Blanco 90.59 49 P **P** **15 09 02.1 +0.6**
baz=318
633A Saathoff Ranch 90.59 50 P **P** **15 09 02.5 +1.0**
baz=317
WCI Wyandotte Cave 90.64 36 *e*P **P** **15 09 00.5 -1.1**
WCI pmax pmax
comp=Z,22nm,1.0s
WCI Wyandotte Cave 90.64 36 *e*P **P** **15 09 00.5 -1.1**
comp=Z,22nm,1.0s
M54A Oil Creek Stat 90.72 30 P **P** **15 09 03.0 +1.0**
baz=329
N54A Moraine State 91.06 31 P **P** **15 09 04.0 +0.5**
baz=329
ACCN Adirondack Com 91.26 25 *e*sP sP 15 09 13.5 -1.8
034A Hebbronville 92.63 51 P **P** **15 09 12.9 +1.9**
baz=318
N59A State Game Lan 92.70 28 P **P** **15 09 13.2 +2.0**
baz=332
KEST Kesra 93.57 324 PP PP 15 12 59.1 -0.1
comp=Z,6.0nm,1.0s,baz=333,slow=2.3,SNR=5.1
KEST LR LR 15 55 28.1
comp=Z,738nm,19.2s,baz=345,slow=38
KEST Kesra 93.57 324 *e*PP PP 15 13 01.7 +2.5
ES19 SONSECA Array 95.41 335 *e*P **P** **15 09 22.8 -0.9**
ESDC Sonseca Array 95.45 335 P **P** **15 09 23.2 -0.6**
comp=Z,0.4nm,0.4s,baz=15,slow=3.7,SNR=7.2
ESDC PP **PP** **15 13 14.8 +1.2**
comp=Z,0.3nm,0.3s,baz=28,slow=6.5,SNR=6.4
ESDC LR LR 15 58 01.3
comp=Z,803nm,18.2s,baz=25,slow=39
RKT Rikitea 98.90 112 *e*LR LR 15 41 49.6
comp=Z,1µm,22.0s,baz=308
TORD Torodi Ar. Bea 116.17 317 PKP **PKPdf** **15 14 44.5 +1.8**
comp=Z,0.5nm,0.6s,baz=61,slow=2.0,SNR=3.9
TORD PP **PP** **15 15 45.8 -1.3**
comp=Z,9.2nm,1.2s,baz=30,slow=5.5,SNR=14
VNDA Vanda 117.35 175 PKP **PKPdf** **15 14 43.4 +0.3**
comp=Z,0.3nm,0.5s,baz=342,slow=4.6,SNR=3.9
DBIC Dimbokro 125.04 319 PP PP 15 16 48.1 +0.3
comp=Z,9.0nm,1.1s,baz=15,slow=7.1,SNR=3.8
QSPA South Pole Qui 129.23 180 *e*PKPdf **PKPdf** **15 15 06.1 -0.1**
QSPA *e*PKPdf **PKiKP** **15 15 07.8 +0.9**
SNAA Sanae 143.34 198 PKP PKPbc 15 15 28.8 -0.6
SNAA Sanae 143.34 198 *e*PKHKP PKPpre 15 15 27.5
SNAA Sanae 143.34 198 *e*PKPpre PKPpre 15 15 27.5
LPAZ La Paz 144.69 58 PKP **PKPab** **15 15 35.4 -0.2**
comp=Z,1.0nm,0.4s,baz=344,slow=1.6,SNR=4.6
VNA1 Neumayer--Stat 145.31 197 PKP **PKPbc** **15 15 35.2 -0.2**
PB11 IPOC Station P 146.09 64 *e*PKPdf **PKPab** **15 15 40.0 -0.2**
LVC Limon Verde 148.47 67 *e*PKPbc **PKPbc** **15 15 46.4 0.0**

ISK ***14*** *14:56:16.7, 39.°09N×29.°07E, h6km, ML2.3*
ISCJB ***14*** *14:56:17.1±0.5, 39.°10N±0.°04×29.°05E±0.°04, h3km±7km, Error ellipse: s-maj=7.0km s-min=4.4km az=159.9*
DDA ***14*** *14:56:17.0, 39.°11N×29.°06E, h13km, Md2.6*
CSEM ***14*** *14:56:17.3±0.1, 39.°10N×29.°05E, h5km, ML2.3, Error ellipse: s-maj=3.1km s-min=2.5km az=149.0*
ISC 14 14:56:17.6±0.9, 39.°10N±0.°03×29.°05E±0.°02, h11km±9km, n33, σ0.9s2/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
DEMI	**Demirci**	**0.27**	**257**	P		**Pg**	**14 56 23.2**	**+0.1**
DEMI				S		**Sg**	**14 56 27.2**	**+0.4**
DEMI	**Demirci**	**0.27**	**257**	*i* P		**Pg**	**14 56 23.2**	**+0.1**
DEMI				*i* S		**Sg**	**14 56 27.2**	**+0.4**
GEDZ	**Gediz**	**0.28**	**102**	*e*PG		**Pg**	**14 56 23.0**	**-0.4**
GEDZ	**Gediz**	**0.28**	**102**	*e*Pg		**Pg**	**14 56 23.0**	**-0.4**
GDZ	**Gediz**	**0.33**	**92**	P		**Pg**	**14 56 24.2**	**-0.1**
GDZ				S		**Sg**	**14 56 28.8**	**0.0**
GDZ	**Gediz**	**0.33**	**92**	*i* P		**Pg**	**14 56 24.2**	**-0.1**
GDZ				*i* S		**Sg**	**14 56 28.8**	**0.0**
TVSB	**Tavsanli**	**0.47**	**42**	PG		**Pg**	**14 56 26.4**	**-0.4**
TVSB				*e*SG		**Sg**	**14 56 32.9**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**42**	*i* Pg		**Pg**	**14 56 26.4**	**-0.4**
TVSB				*e*Sg		**Sg**	**14 56 32.9**	**-0.2**
DST	**Dursunbey**	**0.60**	**326**	*e*PG		**Pg**	**14 56 29.2**	**-0.1**
DST	**Dursunbey**	**0.60**	**326**	*e*Pg		**Pg**	**14 56 29.2**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**208**	*e*PG		**Pg**	**14 56 30.1**	**-0.3**
KULA				*e*SG		**Sg**	**14 56 39.0**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**208**	*e*Pg		**Pg**	**14 56 30.1**	**-0.3**
KULA				*e*Sg		**Sg**	**14 56 39.0**	**-0.1**
KHL	**Karahalli**	**0.86**	**155**	*e*PG		**Pg**	**14 56 33.1**	**-1.1**
KHL	**Karahalli**	**0.86**	**155**	*e*Pg		**Pg**	**14 56 33.1**	**-1.1**
AKS	**Akhisar**	**0.99**	**257**	*e*PG		**Pb**	**14 56 37.1**	**+0.3**
AKS	**Akhisar**	**0.99**	**257**	*e*Pg		**Pb**	**14 56 37.1**	**+0.3**
BALB	**Balikesir**	**1.06**	**301**	*e*PG		**Pg**	**14 56 36.6**	**-1.3**
BALB	**Balikesir**	**1.06**	**301**	*e*Pg		**Pg**	**14 56 36.6**	**-1.3**
IGD	**Bursa**	**1.17**	**6**	*i* P		**Pn**	**14 56 38.9**	**-1.1**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN		**Pg**	**14 56 41.2**	**-0.5**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*Pn		**Pg**	**14 56 41.2**	**-0.5**
IZI	**Iznik**	**1.27**	**15**	*e*PN		**Pb**	**14 56 42.2**	**+0.6**
IZI	**Iznik**	**1.27**	**15**	*e*Pn		**Pb**	**14 56 42.2**	**+0.6**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN		**Pn**	**14 56 41.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn		**Pn**	**14 56 41.5**	**+0.1**
BORA	**Eskisehir**	**1.33**	**54**	P		**Pg**	**14 56 43.3**	**+0.1**
BORA				S		**Sn**	**14 57 00.5**	**+0.5**
BORA	**Eskisehir**	**1.33**	**54**	*i* P		**Pg**	**14 56 43.3**	**+0.1**
BORA				*i* S		**Sn**	**14 57 00.5**	**+0.5**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*PN		**Pb**	**14 56 43.9**	**-0.3**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*Pn		**Pb**	**14 56 43.9**	**-0.3**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN		**Pb**	**14 56 45.0**	**+0.1**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn		**Pb**	**14 56 45.0**	**+0.1**
GULT	**Gulveren**	**1.74**	**40**	*e*PN		**Pn**	**14 56 48.1**	**+0.3**
GULT	**Gulveren**	**1.74**	**40**	*e*Pn		**Pn**	**14 56 48.1**	**+0.3**

IDC ***14*** *15:01:56.4±0.9, 37.°77N×143.°79E, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.8/41, mbtmp3.9/14, ML3.8/2, Error ellipse: s-maj=21.1km s-min=18.4km az=115.0*
ISCJB ***14*** *15:01:57.4±0.6, 37.°78N±0.°07×143.°71E±0.°08, h19km, mb4.0/13, Error ellipse: s-maj=11.4km s-min=6.7km az=140.7*
NEIC ***14*** *15:02:00.0±3.0, 37.°83N×143.°75E, h25km±21km, mb4.5/1, Error ellipse: s-maj=15.1km s-min=8.5km az=114.0*
ISC 14 15:01:58.7±0.8, 37.°77N±0.°07×143.°76E±0.°09, h19km, n22, σ1.9s77/26, mb4.1/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ERM	**Erimo**	**4.26**	**354**	*e*Pn		**Pn**	**15 03 02.6**	**0.0**
MJAR	**Matsushiro Arr**	**4.60**	**256**	Pn		**Pn**	**15 03 07.9**	**+0.6**
	7.2nm,0.3s,baz=89,slow=15,SNR=22							
MJAR					Sn	**Sn**	**15 04 00.1**	**-0.1**
	baz=335,slow=44,SNR=3.5							

MAJO	Matsushiro	4.60 256	ePn	Pn	15 03 08.3	+1.0
MAT	Matsushiro	4.60 256	P	Pn	15 03 08.1	+0.8
MAT			eS	Sn	15 03 58.4	-1.9
JHJ2	Mitsune	5.66 216	ePn	Pn	15 03 22.9	+1.1
JHJ	Hachijo jima 2	5.67 216	Pn	Pn	15 03 21.1	-0.8
	5.7nm,0.3s,baz=328,slow=19,SNR=8.7					
JHJ			Sn	Sn	15 04 20.7	-5.7
	10nm,0.3s,baz=73,slow=22,SNR=3.5					
ASAJ	Asahikawa	6.40 352	Pn	Pn	15 03 31.1	-0.8
ASAJ			Sn	Sn	15 04 41.1	-3.4
	0.6nm,0.3s,baz=215,slow=33,SNR=3.5					
KSRS	Korea Array	12.57 273	Pn	Pn	15 04 58.2	+1.8
	baz=90,slow=12,SNR=4.9					
KSAR	Wonju Array Be	12.60 273	Pn	Pn	15 04 58.2	+1.3
SONM	Songino Array	28.95 302	P	P	15 07 57.7	+0.8
	0.8nm,0.6s,baz=92,slow=11,SNR=2.9					
ENH	Enshi	29.26 265	eP	P	15 07 59.8	+0.1
	6.3nm,0.7s					
ZALV	Zalesovo Beam	42.81 312	P	P	15 09 55.5	+0.5
	1.1nm,0.4s,baz=99,slow=9.2,SNR=2.6					
MKAR	Makanchi Array	45.31 302	P	P	15 10 15.9	+0.5
	1.7nm,0.7s,baz=82,slow=9.9,SNR=3.6					
KURK	Kurchatov	46.95 308	eP	P	15 10 28.4	+0.3
	27nm,0.6s					
KURBB	Kurchatov Arra	47.03 308	P	P	15 10 29.5	+0.8
	2.5nm,0.8s,baz=82,slow=8.7,SNR=8.9					
ILAR	Eielson Array	47.87 33	P	P	15 10 36.5	+1.5
	0.7nm,0.8s,baz=264,slow=5.8,SNR=5.3					
WRA	Warramunga Arr	58.09 190	P	P	15 11 51.2	+0.4
	1.8nm,0.8s,baz=11,slow=7.3,SNR=5.7					
ASAR	Alice Springs	61.81 190	P	P	15 12 17.1	+0.7
	0.6nm,0.8s,baz=5.9,slow=7.4,SNR=4.7					
YKA	Yellowknife Ar	62.22 31	P	P	15 12 18.5	-0.2
	0.1nm,0.3s,baz=295,slow=6.8,SNR=2.6					
FINES	FINESS Array B	69.02 333	P	P	15 12 59.9	-2.7
	1.2nm,0.6s,baz=75,slow=7.4,SNR=4.8					
KBZ	Khabaz	71.83 311	P	P	15 13 20.7	+0.7
	1.5nm,0.7s,baz=8.1,slow=7.1,SNR=3.3					
TXAR	Lajitas Array	88.18 54	P	P	15 14 50.1	+1.3
	0.4nm,1.0s,baz=327,slow=4.8,SNR=2.4					

MEX 14 15:09:36.6±0.4, 32.32N×115.16W, h10km±999km, MD3.7, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBX	Cerro Bola	1.27 270		eP	Pn	15 09 56.1	-4.5
CBX				eS	Sb	15 10 12.8	-4.5
SPIG	San Pedro Mart	1.30 192		eP	Pn	15 09 57.6	-3.6
SPIG				eS	Sb	15 10 13.3	-4.9

*IDC **14** 15:15:09.7±0.8, 37.73N×143.71E, h0km, mb3.8/10, mb1 4.0/16, mb1mx3.8/37, mbtmp3.9/16, ML3.6/4, Error ellipse: s-maj=19.2km s-min=15.7km az=123.0*
*NEIC **14** 15:15:10.6±0.6, 37.73N×143.78E, h10km, mb4.2/4, Error ellipse: s-maj=11.8km s-min=8.0km az=104.0*
*JMA **14** 15:15:12.5±0.2, 37.87N×143.60E, h37km, M3.9*
ISC 14 15:15:11.7±4.1, 37.78N±0.04×143.66E±0.07, h16km±26km, n55, σ1s76/67, mb4.1/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.94 291		P	Pn	15 15 43.4	-0.6
OFUJ	Ofunato	2.03 310		P	Pn	15 15 44.1	-1.2
OFUJ				eS	Sn	15 16 07.6	-2.7
JMK	Ichinoseki	2.25 302		P	Pn	15 15 47.5	-0.7
JMK				S	Sn	15 16 13.5	-2.1
JOU	Okura	2.43 285		P	Pn	15 15 50.9	+0.1
JOM	Ohasama	2.51 313		P	Pn	15 15 51.2	-0.6
JOM				eS	Sn	15 16 19.9	-2.2
JFT	Otama	2.65 265		P	Pn	15 15 54.2	+0.4
JFT				eS	Sn	15 16 24.1	-1.4
JYK	Kaneyama	2.83 295		P	Pn	15 15 56.3	0.0
JYK				eS	Sn	15 16 28.1	-1.9
JRG	Rokugo	2.87 305		P	Pn	15 15 56.6	-0.2
JRG				eS	Sn	15 16 28.8	-2.1
JANG	Nango	3.08 328		P	Pn	15 15 59.5	-0.2
JAH	Hinai	3.37 317		P	Pn	15 16 03.3	-0.3
JNS	Sasagawa	3.44 272		P	Pn	15 16 05.4	+0.8
JAW	Awa shima	3.54 282		P	Pn	15 16 06.9	+0.9
JTM	Tenmabayashi	3.62 327		P	Pn	15 16 07.5	+0.5
JAG	Ashikaga	3.62 249		P	Pn	15 16 07.5	+0.4
JAG				eS	Sn	15 16 48.9	-0.6
BSO1	Boso 1	3.80 216		P	Pn	15 16 09.3	+0.3
BSO1				eX		15 16 53.4	
JOT	Ohata	4.12 332		P	Pn	15 16 14.1	+0.1
JOT				S	Sn	15 16 59.8	-2.1
JRY	Ryogami san	4.20 247		P	Pn	15 16 15.4	+0.3
JRY				S	Sn	15 17 01.0	-2.8
ERM	Erimo	4.25 355	ePn	Pn	Pn	15 16 14.6	-1.1
JSD	Sado	4.28 275	P	Pn	Pn	15 16 16.8	+0.7
JOD2	Odawara 2	4.45 237	P	Pn	Pn	15 16 19.0	+0.4
JOD2				eS	Sn	15 17 07.0	-3.1
MJAR	Matsushiro Arr	4.52 256	Pn	Pn	Pn	15 16 21.2	+1.7
	9.7nm,0.3s,baz=88,slow=15,SNR=60						
MJAR				Sn	Sn	15 17 12.9	+1.1
	baz=204,slow=14,SNR=3.5						
MAJO	Matsushiro	4.52 256	ePn	Pn	Pn	15 16 21.1	+1.5
MAT	Matsushiro	4.52 256	P	Pn	Pn	15 16 20.6	+1.0
MAT				eS	Sn	15 17 10.0	-1.8
JKB	Kayabe	4.58 335	P	Pn	Pn	15 16 20.8	+0.6
JKB				eS	Sn	15 17 11.0	-2.0
JCH	Churui	4.84 357	P	Pn	Pn	15 16 22.3	-1.5
JCH				S	Sn	15 17 13.3	-6.1
JHJ2	Mitsune	5.61 215	ePn	Pn	Pn	15 16 32.7	-1.8
JHJ	Hachijo jima 2	5.62 215	Pn	Pn	Pn	15 16 33.8	-0.8
	9.1nm,0.3s,baz=149,slow=23,SNR=16						
JHJ				Sn	Sn	15 17 33.5	-5.3
	16nm,0.3s,baz=253,slow=23,SNR=4.0						
ASAJ	Asahikawa	6.38 353	Pn	Pn	Pn	15 16 44.8	-0.3
ASAJ	Asahikawa	6.38 353	ePn	Pn	Pn	15 16 44.1	-0.9
	3.7nm,0.6s						
CBIJ	Chichi jima	10.72 187	Pn	Pn	Pn	15 17 42.1	-2.5
CBIJ				Sn	Sn	15 19 33.0	-11
JCJ	Chichijima	10.72 187	Pn	Pn	Pn	15 17 41.3	-3.4
	5.4nm,0.3s,baz=271,slow=22,SNR=6.3						
JCJ				Sn	Sn	15 19 33.0	-11
	2.8nm,0.3s,baz=96,slow=24,SNR=4.0						
USRK	Ussuriysk Arr.	10.90 310	Pn	Pn	Pn	15 17 47.7	+0.7
	0.2nm,0.3s,baz=116,slow=13,SNR=6.6						
JNU	Nakatsue	11.41 250	Pn	Pn	Pn	15 17 53.8	-0.3
	0.2nm,0.3s,baz=50,slow=9.5,SNR=6.2						
KSRS	Korea Array	12.48 273	Pn	Pn	Pn	15 18 11.3	+2.7
	0.2nm,0.3s,baz=88,slow=13,SNR=12						
KSAR	Wonju Array Be	12.52 273	Pn	Pn	Pn	15 18 11.3	+2.2
KLR	Kul'dur	14.32 327	Pn	Pn	Pn	15 18 32.1	-1.6
	0.1nm,0.3s,baz=127,slow=13,SNR=5.6						
H11N2	WAKE ISLAND Hy	27.05 125	T	T	T	15 49 11.2	
	baz=317,slow=75,SNR=6.9						
H11N1	WAKE ISLAND Hy	27.06 125	T	T	T	15 49 09.0	
	baz=317,slow=75,SNR=6.9						
H11N3	WAKE ISLAND Hy	27.07 125	T	T	T	15 49 12.5	
	baz=317,slow=75,SNR=9.9						
ULN	Ulaanbaatar	28.44 303	P	P	P	15 21 07.5	+1.7
	2.1nm,0.6s						
SONM	Songino Array	28.88 302	P	P	P	15 21 11.3	+1.7
	0.9nm,0.5s,baz=87,slow=8.5,SNR=5.8						
ENH	Enshi	29.17 265	eP	P	P	15 21 14.8	+2.4
	7.2nm,0.9s						
ZALV	Zalesovo Beam	42.74 312	P	P	P	15 23 08.9	+0.9
	1.6nm,0.4s,baz=72,slow=9.4,SNR=5.7						
MKAR	Makanchi Array	45.24 302	P	P	P	15 23 29.0	+0.8
	1.6nm,0.7s,baz=90,slow=6.1,SNR=9.7						
KURK	Kurchatov	46.88 308	eP	P	P	15 23 41.0	0.0
	30nm,0.5s						
ILAR	Eielson Array	47.91 33	P	P	P	15 23 50.6	+1.8
	0.8nm,0.7s,baz=259,slow=6.3,SNR=15						
WRAB	Tennant Creek	58.07 190	eP	P	P	15 25 03.8	-0.4
	1.9nm,0.6s						
WRA	Warramunga Arr	58.08 190	P	P	P	15 25 04.0	-0.2
	1.7nm,0.6s,baz=9.7,slow=7.2,SNR=18						
ABKAR	Akbulak array	58.82 310	eP	P	P	15 25 09.1	-0.1
	0.7nm,0.5s						
ASAR	Alice Springs	61.80 190	P	P	P	15 25 30.1	+0.3
	0.4nm,0.6s,baz=7.8,slow=7.9,SNR=9.0						
YKA	Yellowknife Ar	62.26 31	P	P	P	15 25 32.4	0.0
	0.3nm,0.8s,baz=301,slow=7.2,SNR=3.4						
MBWA	Marble Bar	62.80 205	eP	P	P	15 25 35.4	-1.0
	46nm,1.1s						
FINES	FINESS Array B	68.98 333	P	P	P	15 26 15.4	-0.4
	1.0nm,0.7s,baz=32,slow=7.5,SNR=3.9						
AKASG	Malin Array Be	74.79 323	P	P	P	15 26 51.5	+0.6
	0.4nm,0.4s,baz=48,slow=6.4,SNR=3.6						

PDAR	Pinedale Array	75.86 47	P	P	15 26 58.6	+1.1
	0.3nm,0.6s,baz=289,slow=5.5,SNR=3.5					

WEL 14 15:17:50.2±0.3, 38.53S×178.65E, h30km±1km, ML3.7/17, 10C-3D, Error ellipse: s-maj=3.7km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	Carnagh Statio	0.35 277		↑P*	Pn	15 17 59.0	-0.3
PUZ	Puketiti	0.55 325		P*	Pb	15 18 01.0	-0.5
PUZ				AML	AML	15 18 09.4	
PUZ				AML	AML	15 18 12.7	
TWGZ	Tauwhareparae	0.63 303		↑P*	Pb	15 18 02.7	-0.1
TKGZ	Te Karaka	0.64 277		↑P*	Pb	15 18 02.5	-0.3
PRGZ	Paritu Road	0.72 236		PN	Pb	15 18 03.8	-0.4
RIGZ	Rimuhau	0.72 255		↑PN	Pb	15 18 03.9	-0.3
WMGZ	Waiomatatini S	0.73 345		PN	Pb	15 18 04.0	-0.4
MHGZ	Mahia Peninsul	0.85 223		PN	Pn	15 18 05.5	-0.7
MWZ	Matawai	0.90 282		↑PN	Pn	15 18 06.2	-0.7
MWZ				SN	Sn	15 18 18.1	-0.8
MWZ				AML	AML	15 18 18.4	
MWZ				AML	AML	15 18 18.7	
MWZ				AML	AML	15 18 22.9	
KNZ	Kokohu	0.91 237		PN	Pn	15 18 06.2	-0.8
KNZ				AML	AML	15 18 19.5	
KNZ				AML	AML	15 18 21.9	
RAGZ	Rawiri	0.97 271		↑PN	Pn	15 18 07.3	-0.6
MXZ	Matakaoa Point	1.00 344		↑PN	Pn	15 18 08.0	-0.2
MXZ				SN	Sn	15 18 21.5	+0.2
MXZ				AML	AML	15 18 22.4	
MXZ				AML	AML	15 18 22.4	
HAZ	Te Kaha	1.03 318		PN	Pn	15 18 07.7	-0.9
HAZ				SN	Sn	15 18 20.5	-1.5
SNGZ	Shannon Statio	1.06 256		PN	Pn	15 18 08.4	-0.7
WHHZ	Waihua	1.24 243		PN	Pn	15 18 11.1	-0.3
URZ	Urewera	1.24 282		↑PN	Pn	15 18 11.0	-0.5
URZ				AML	AML	15 18 29.9	
URZ				AML	AML	15 18 30.9	
RAHZ	Arahi	1.29 252		PN	Pn	15 18 11.5	-0.7
RTZ	Ruatahuna	1.31 266		PN	Pn	15 18 11.9	-0.6
MUGZ	Murupara	1.48 271		PN	Pn	15 18 14.6	-0.1
ARHZ	Aropaoanui	1.49 240		PN	Pn	15 18 14.6	-0.3
NMHZ	Naumai	1.55 248		PN	Pn	15 18 15.4	-0.5
MARZ	Manawahe	1.65 288		PN	Pn	15 18 16.7	-0.4
CKHZ	Cape Kidnapper	1.67 227		PN	Pn	15 18 16.4	-1.0
RRRZ	Republican Roa	1.69 276		PN	Pn	15 18 17.6	-0.1
TARZ	Mount Tarawera	1.71 279		PN	Pn	15 18 18.0	0.0
PRRZ	Plateau Road	1.77 270		PN	Pn	15 18 18.7	-0.1
MRHZ	Matea Rd	1.78 259		PN	Pn	15 18 18.4	-0.5
MCHZ	McNeill Hill	1.78 238		PN	Pn	15 18 18.7	-0.2
OPRZ	Ohinepanea	1.79 292		PN	Pn	15 18 17.8	-1.2
BKZ	Black Stump Fm	1.80 249		PN	Pn	15 18 18.7	-0.6
BKZ				AML	AML	15 18 42.7	
BKZ				AML	AML	15 18 42.8	
HRRZ	Handcock Road	1.86 273		PN	Pn	15 18 19.9	-0.2
KAHZ	Kahuranaki	1.87 227		PN	Pn	15 18 19.4	-0.9
WPRZ	Whakapapatarin	1.95 269		PN	Pn	15 18 21.3	0.0
KWHZ	Kaweka Forest	1.96 242		PN	Pn	15 18 20.6	-0.8
TGRZ	Tauranga	2.05 292		ePN	Pn	15 18 21.4	-1.1
PXZ	Pawanui	2.05 222		ePN	Pn	15 18 20.9	-1.7
PXZ				AML	AML	15 18 47.5	
PXZ				AML	AML	15 18 47.5	
PXZ				AML	AML	15 18 47.9	
PXZ				AML	AML	15 18 48.0	
KRHZ	Kereru	2.10 237		PN	Pn	15 18 22.3	-1.1
RITZ	Rihia Road	2.23 257		PN	Pn	15 18 25.2	0.0
BHHZ	Black Hill Sta	2.23 244		ePN	Pn	15 18 23.9	-1.3
WPHZ	Waipukurau	2.30 227		ePN	Pn	15 18 24.6	-1.6
PRHZ	Porangahau	2.34 221		PN	Pn	15 18 24.7	-1.9
PNHZ	Pukenui	2.36 233		PN	Pn	15 18 25.5	-1.4
MOVZ	Moawhango	2.42 248		PN	Pn	15 18 27.5	-0.4
MOVZ				AML	AML	15 18 57.4	
MOVZ				AML	AML	15 18 57.8	
TLZ	Tolley Road	2.45 274		PN	Pn	15 18 27.7	-0.5
TUVZ	Tukino	2.45 251	↓	PN	Pn	15 18 28.3	-0.1
NGZ	Ngauruhoe	2.47 254	↓	PN	Pn	15 18 28.4	-0.1
WHVZ	Whangaehu Hut	2.51 251		PN	Pn	15 18 28.8	-0.3
WNVZ	Wahianoa	2.51 250		↑PN	Pn	15 18 28.9	-0.3
WNVZ				SN	Sn	15 18 57.5	-1.4
FWVZ	Far West T-bar	2.53 252		PN	Pn	15 18 29.0	-0.4
FWVZ				AML	AML	15 18 58.8	
FWVZ				AML	AML	15 18 59.8	
TRVZ	Turoa	2.54 251		PN	Pn	15 18 29.1	-0.5
ANWZ	Angora Road	2.56 220		PN	Pn	15 18 27.7	-1.9
TSZ	Takapari Road	2.59 233		PN	Pn	15 18 28.4	-1.7
TSZ				AML	AML	15 18 59.6	
TOZ	Tahuroa Road	2.61 287		PN	Pn	15 18 29.5	-0.8
MTVZ	Mangateitei	2.62 250		PN	Pn	15 18 30.2	-0.4
MTVZ				AML	AML	15 19 02.9	
MTVZ				AML	AML	15 19 03.4	
PKVZ	Pokaka	2.69 252		PN	Pn	15 18 31.9	-0.1
BFZ	Birch Farm	2.84 220		ePN	Pn	15 18 31.2	-2.4
BFZ				SN	Sn	15 19 04.0	-2.9
BFZ				AML	AML	15 19 04.9	
BFZ				AML	AML	15 19 05.3	
PRWZ	Pori Road	2.90 225		ePN	Pn	15 18 32.4	-1.9
POWZ	Post Office Ro	2.91 229		PN	Pn	15 18 32.9	-1.5
KUZ	Kuaotunu	2.93 306		PN	Pn	15 18 33.5	-1.2
HIZ	Hauiti	2.98 269		PN	Pn	15 18 35.8	+0.4
VRZ	Vera Road	3.10 258		PN	Pn	15 18 37.2	+0.1
WAZ	Wanganui	3.10 246		↑PN	Pn	15 18 37.4	+0.3
MKAZ	Moumakai	3.11 296		PN	Pn	15 18 36.4	-0.7
MRZ	Mangatainoka R	3.19 227		PN	Pn	15 18 35.9	-2.5
TMWZ	Te Maipa	3.34 219		PN	Pn	15 18 37.1	-3.3
HOWZ	Holdsworth Sta	3.39 225		ePN	Pn	15 18 38.0	-3.1
GRZ	Great Barrier	3.41 311		PN	Pn	15 18 40.5	-0.8
MHEZ	Mangahewa	3.43 259		PN	Pn	15 18 42.5	+0.9
LREZ	Lake Rotokare	3.44 253		PN	Pn	15 18 41.9	+0.1
OGWZ	Otaki Gorge	3.53 228		PN	Pn	15 18 40.3	-2.7
MTW	Mount Morrison	3.58 222		PN	Pn	15 18 40.3	-3.3
MTW				AML	AML	15 19 23.5	
PREZ	Palmer Road	3.60 255		PN	Pn	15 18 44.8	+0.8
NEZ	North Egmont	3.63 257		PN	Pn	15 18 45.2	+0.7
TRWZ	Traveller	3.66 218		PN	Pn	15 18 41.3	-3.6
KHEZ	Kahui Hut	3.70 257		PN	Pn	15 18 46.2	+0.9
KIW	Kapiti Island	3.71 230		PN	Pn	15 18 43.1	-2.4
KIW				SN	Sn	15 19 24.2	-4.0
KIW				AML	AML	15 19 26.3	
CAW	Cannon Point	3.78 226		PN	Pn	15 18 43.2	-3.2
CAW				SN	Sn	15 19 25.9	-4.0
CAW				AML	AML	15 19 29.6	
MSWZ	Moikau Station	3.90 221		PN	Pn	15 18 44.1	-3.9
PLWZ	Palliser	4.00 220		ePN	Pn	15 18 45.2	-4.3
DUWZ	D'Urville Isla	4.30 237		PN	Pn	15 18 51.0	-2.6
TCW	Tory Channel	4.30 230		PN	Pn	15 18 50.3	-3.3
TCW				AML	AML	15 19 40.8	
TUWZ	Tuamarina	4.64 230	↓	PN	Pn	15 18 54.3	-3.9
BSWZ	Blackbirch Sta	4.85 227		PN	Pn	15 18 57.2	-4.0
NNZ	Nelson	4.87 235		ePN	Pn	15 18 58.1	-3.2
QRZ	Quartz Range	5.25 242		PN	Pn	15 19 03.3	-3.4
QRZ				SN	Sn	15 20 00.4	-5.8
THZ	Tophouse	5.46 232		PN	Pn	15 19 05.4	-4.2
THZ				AML	AML	15 20 08.8	
THZ				AML	AML	15 20 09.5	
DSZ	Denniston Nort	6.15 236		PN	Pn	15 19 15.0	-4.1
CTZ	Chatham Island	6.31 147		PN	Pn	15 19 20.7	-0.5
CTZ				SN	Sn	15 20 24.5	-7.7
LTZ	Lake Taylor	6.45 227		ePN	Pn	15 19 18.2	-4.9
MQZ	McQueen's Vall	6.88 219		SN	Sn	15 20 35.6	-10

*JMA **14** 15:26:07.4±0.4, 47.25N×142.27E, h18km, M3.4*
*SKHL **14** 15:26:08.9±0.3, 46.99N×142.14E, h10km, mb4.5/2*
SKHL Felt (IV) at Pyatirech'ye, Chaplanovo, (III) at Kholmsk.
*ISCJB **14** 15:26:09.2±0.6, 46.99N±0.03×142.15E±0.05, h12km, Error ellipse: s-maj=5.4km s-min=4.2km az=162.8*
*MOS **14** 15:26:09.0±2.3, 47.01N×142.14E, h10km, mb4.1/1, Error ellipse: s-maj=57.2km s-min=32.2km az=100.8*
MOS Felt (IV) at Pyatirech'e, Chaplanovo; (III) at Holmsk.
ISC 14 15:26:10.0±1.0, 46.95N±0.03×142.22E±0.04, h12km, n14, σ1s65/16, 1C-3D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVR	Nevel'sk	0.36 222		eSg	Sg	15 26 21.7	-0.5
NEVR				A	A	15 26 33.4	
	6μm,0.4s						

YSS	Yuzh-Sakhalins	0.37 88	×i	PN	Pg	15 26 17.5 +0.1
YSS			i			15 26 23.6
YSS			pmax	pmax		
	comp=Z,330nm,0.2s					
YSS			smax	smax		
	comp=N,9μm,0.2s					
YSS	Yuzh-Sakhalins	0.37 88	↓i	Pg	Pg	15 26 17.5 +0.1
YSS			AMB	AMB		15 26 17.6
	comp=N,330nm,0.2s					
YSS			i Sg	Sg	Sg	15 26 23.6 +1.2
YSS			A	A		15 26 24.1
	comp=N,9μm,0.3s					
YSS			AMS	AMS		15 26 37.1
	comp=N,2μm,3.0s					
JWK2	Keihoku	1.64 188	eS	Sg	Sg	15 27 04.0 +1.1
JSE	Soyaes	2.00 172	P	Pn	Pn	15 26 45.0 +1.4
UGL	Uglegorsk	2.14 357	ePN	Pn	Pn	15 26 44.7 -0.8
UGL			e			15 27 11.1
UGL	Uglegorsk	2.14 357	ePg	Pg	Pg	15 26 50.6 -0.4
UGL			AMB	AMB		15 27 13.0
	comp=N,69nm,0.5s					
UGL			eSg	Sg	Sg	15 27 19.2 +0.5
TYV	Tymovskoe	3.93 4	ePN	Pb	Pb	15 27 16.5 -2.7
TYV	Tymovskoe	3.93 4	eP	Pn	Pn	15 27 10.2 +0.1
TYV			ePg	Pg	Pg	15 27 26.2 +0.9
TYV			AMB	AMB		15 27 29.0
	comp=N,7.0nm,0.5s					
TYV			eSg	Sg	Sg	15 28 19.2 +3.0
TYV			A	A		15 28 20.0
	comp=N,7.0nm,0.6s					
ERM	Erimo	4.97 172	↑PN	Pb	Pb	15 27 31.0 -6.0
HABR	Khabarovsk	5.07 290	ePN	Pn	Pn	15 27 25.4 -0.4
HABR			pmax	pmax		
	comp=N,5.0nm,1.3s					
HABR			pmax	pmax		
	comp=E,13nm,1.3s					
HABR			pmax	pmax		
	comp=Z,5.0nm,1.3s					
HABR			MLR	MLR		
	comp=Z,154nm,12.0s					
GRNR	Gornyy	5.41 317	ePg	Pg	Pg	15 27 54.0 +0.5
GRNR			eSg	Sg	Sg	15 29 07.0 +3.5
GRNR			A	A		15 29 11.5
	comp=Z,10.0nm,0.6s					
OKH	Okha	6.63 4	eSg	Sg	Sg	15 29 54.0 +11
OKH			A	A		15 29 54.5
	comp=Z,70nm,0.5s					
EKMR	Ekimchan	8.55 319	eSg	Sg	Sg	15 30 54.5 +10
EKMR			A	A		15 30 57.5
	comp=Z,5.0nm,0.7s					

*GUC **14** 15:26:30.3±0.5, 20.20S×69.24W, h97km±5km, ML3.3*
*ISCJB **14** 15:26:42.1±0.5, 22.14S±0.06×68.66W±0.06, h115km, mb4.8/6, Error ellipse: s-maj=9.6km s-min=6.5km az=28.6*
*IDC **14** 15:26:42.2±0.8, 22.17S×68.60W, h96km±8km, mb4.2/5, mb1 3.9/8, mb1mx3.7/23, mbtmp4.3/8, Error ellipse: s-maj=32.9km s-min=19.0km az=135.0*
*NEIC **14** 15:26:43.5±0.7, 22.21S×68.52W, h105km±7km, mb4.3/2, Error ellipse: s-maj=17.8km s-min=11.1km az=106.0*
*SJA **14** 15:26:43.0±1.2, 22.36S×68.81W, h110km±13km, ML2.8*
ISC 14 15:26:43.5±0.7, 22.22S±0.07×68.73W±0.07, h115km, n27, σ1s85/32, mb4.6/6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.42 203		eP	Pn	15 26 60.0	-1.0
LVC				eS	Sn	15 27 12.0	-2.0
LVC	Limon Verde	0.42 203		P	Pn	15 26 59.9	-1.0
	38μm,0.3s,baz=343,slow=3.9						
LVC				S	Sn	15 27 11.5	-2.5
	49μm,0.3s,baz=215,slow=20,SNR=109						
LVC	Limon Verde	0.42 203		ePn	Pn	15 27 00.1	-0.8
LVC				eSn	Sn	15 27 10.8	-3.2
LVC				S	Sn	15 27 11.5	-2.5
PB09	IPOC Station P	0.63 312		iP	Pn	15 26 58.0	-4.1
PB09				iS	Sn	15 27 16.5	+0.5
PB07	IPOC Station P	1.18 294		iP	Pn	15 26 59.0	-8.1
PB07				iS	Sn	15 27 25.2	+0.1
AZAP	Zapla	3.92 121		eP	Pn	15 27 42.4	+0.3
AZAP				IAML		15 27 45.3	
	comp=Z,21nm,0.3s						
AZAP				eS	Sn	15 28 28.0	+0.6
ASTB	Santa Barbara	4.30 114		eP	Pn	15 27 47.2	+0.1
FSA	Cafayete	4.62 148		eP	Pn	15 27 51.7	+0.3
FSA				IAML		15 28 45.3	
	comp=Z,3.9nm,0.4s						
ALOL	LOMAS DE OLMED	4.66 111		eP	Pn	15 27 50.8	-1.0
LPAZ	La Paz	5.93 6		eP	Pn	15 28 12.6	+3.1
LPAZ	La Paz	5.93 6		P	Pn	15 28 12.1	+2.5
	comp=Z,0.7nm,0.3s,baz=154,slow=2.0,SNR=13						
LCO	Las Campanas	6.99 194		ePn	Pn	15 28 18.5	-5.0
	comp=Z,27nm,0.6s						
SIV	San Ignacio	9.53 51		P	Pn	15 28 54.5	-3.3
	comp=Z,1.5nm,0.3s,baz=253,slow=11,SNR=15						
SIV				S	Sn	15 30 32.6	-11
	comp=Z,0.5nm,0.3s,baz=210,slow=14,SNR=3.4						
CPUP	Villa Florida	11.18 114		P	Pn	15 29 17.8	-2.1
	comp=Z,0.2nm,0.3s,baz=287,slow=9.5,SNR=2.2						
TRQA	Tornquist	16.82 161		eP	Pn	15 30 32.1	0.0
	comp=Z,3.6nm,0.8s						
PLCA	Paso Flores	18.52

MIYJ				*e*S	**Sn**	15 34 29.5	-0.4
JTH	**Tanohata**	**1.24**	**286**	P	**Pn**	15 34 13.2	-1.5
JTH				S	**Sn**	15 34 29.6	-0.5
OFUJ	**Ofunato**	**1.45**	**249**	P	**Pn**	15 34 16.5	-1.1
OFUJ				*e*S	**Sn**	15 34 35.9	+0.6
JOM	**Ohasama**	**1.64**	**266**	P	**Pn**	15 34 19.9	-0.3
JOM				S	**Sn**	15 34 41.4	+1.3
JANG	**Nango**	**1.64**	**298**	P	**Pn**	15 34 18.8	-1.5
JMK	**Ichinoseki**	**1.82**	**250**	P	**Pn**	15 34 21.9	-0.8
JTM	**Tenmabayashi**	**2.15**	**304**	P	**Pn**	15 34 26.6	-0.5
JTM				S	**Sn**	15 34 52.9	+0.4
JRG	**Rokugo**	**2.16**	**265**	P	**Pn**	15 34 27.1	-0.2
JAH	**Hinai**	**2.21**	**286**	P	**Pn**	15 34 27.9	-0.2
ERM	**Erimo**	**2.41**	**356**	*e*Pn	**Pn**	15 34 30.4	-0.4
JYK	**Kaneyama**	**2.47**	**255**	P	**Pn**	15 34 31.3	-0.3
JOU	**Okura**	**2.47**	**241**	P	**Pn**	15 34 31.1	-0.6
JOT	**Ohata**	**2.53**	**315**	P	**Pn**	15 34 33.6	+1.2
JOT				*e*S	**Sn**	15 35 01.9	**0.0**
JNBK	**Urakawa-nobuka**	**2.71**	**350**	P	**Pn**	15 34 34.7	-0.3
ASAJ	**Asahikawa**	**4.54**	**353**	Pn	**Pn**	15 34 60.0	-0.2
	4.5nm,0.3s,baz=202,slow=15,SNR=28						
MJAR	**Matsushiro Arr**	**5.12**	**235**	Pn	**Pn**	15 35 08.6	**+0.5**
	2.6nm,0.3s,baz=38,slow=12,SNR=53						
MAJO	**Matsushiro**	**5.12**	**235**	*e*Pn	**Pn**	15 35 08.4	**+0.3**
MAT	**Matsushiro**	**5.12**	**235**	P	**Pn**	15 35 08.3	**+0.2**
MAT				*e*S	**Sn**	15 36 09.7	**+3.8**
MJB9	**Matsu-Tunnel**	**5.12**	**235**	*e*Pn	**Pn**	15 35 08.5	**+0.4**
INU	**Inuyama**	**6.63**	**232**	*e*Pn	**Pn**	15 35 28.8	**+0.1**
JHJ	**Hachijo jima 2**	**7.11**	**205**	Pn	**Pn**	15 35 32.6	**-2.7**
	6.5nm,0.3s,baz=246,slow=23,SNR=4.9						
JHJ				Sn	Sn	15 36 46.1	-8.7
	8.5nm,0.3s,baz=128,slow=23,SNR=4.6						
USRK	**Ussuriysk Ar.**	**9.67**	**302**	Pn	**Pn**	15 36 10.1	**-0.3**
	0.3nm,0.3s,baz=103,slow=12,SNR=9.5						
KSRS	**Korea Array**	**12.32**	**265**	Pn	**Pn**	15 36 47.6	**+1.0**
	0.1nm,0.3s,baz=83,slow=13,SNR=5.8						
KLR	**Kul'dur**	**12.71**	**323**	Pn	**Pn**	15 36 51.6	**-0.4**
	0.1nm,0.3s,baz=129,slow=14,SNR=2.6						
MA2	**Magadan**	**20.52**	**11**	P	**P**	15 38 28.8	**+0.1**
	3.5nm,0.6s,baz=204,slow=12,SNR=3.6						
SEY	**Seymchan**	**23.97**	**10**	P	**P**	15 39 04.4	**-0.1**
	1.1nm,0.6s,baz=162,slow=19,SNR=4.0						
HHC	**Hu-ho-hao-te**	**24.28**	**283**	*e*P	**P**	15 39 08.4	**+0.7**
HHC				pmax	pmax		
	comp=Z,25nm,1.1s						
HHC				pmax	pmax		
	comp=Z,84nm,7.4s						
WHN	**Wuhan**	**25.36**	**258**	⇓P	**P**	15 39 17.6	**+0.2**
SONA1	**Songino Array**	**27.76**	**300**	*e*P	**P**	15 39 39.3	**+0.1**
SONM	**Songino Array**	**27.77**	**299**	P	**P**	15 39 39.6	**+0.4**
	comp=Z,0.8nm,0.5s,baz=91,slow=8.9,SNR=7.5						
LZH	**Lanzhou**	**31.27**	**276**	*e*P	**P**	15 40 11.3	**+1.0**
LZH				pP	pP	15 40 21.8	+0.9
LZH				sP	sP	15 40 25.8	+0.3
LZH				*e*PP	**PnPn**	15 41 14.5	**+1.4**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,45nm,4.9s						
LZH				LR	LR		
	comp=N,120nm,12.9s						
LZH				LR	LR		
	comp=E,130nm,13.0s						
LZH				LR	LR		
	comp=Z,150nm,16.5s						
WMQ	**Urumqi**	**41.14**	**295**	P	**P**	15 41 36.3	**+1.9**
ZALV	**Zalesovo Beam**	**41.40**	**310**	P	**P**	15 41 36.4	**+0.1**
	comp=Z,0.9nm,0.6s,baz=82,slow=11,SNR=4.2						
MK31	**Makanchi Array**	**44.13**	**300**	*e*P	**P**	15 41 58.9	**+0.2**
MKAR	**Makanchi Array**	**44.13**	**300**	P	**P**	15 41 58.0	**-0.6**
	comp=Z,1.2nm,0.8s,baz=83,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**44.13**	**300**	*e*P	**P**	15 41 58.8	**+0.2**
MAKZ	**Makanchi**	**44.34**	**300**	*e*P	**P**	15 42 00.0	**-0.2**
	comp=Z,3.1nm,1.2s						
KURK	**Kurchatov**	**45.62**	**306**	*e*P	**P**	15 42 10.3	**0.0**
	comp=Z,9.8nm,0.7s						
ILAR	**Eielson Array**	**46.48**	**34**	P	**P**	15 42 17.1	**+0.2**
	comp=Z,0.7nm,0.7s,baz=267,slow=6.7,SNR=9.9						
ABKAR	**Akbulak array**	**57.50**	**309**	*e*P	**P**	15 43 39.4	**+0.3**
	comp=Z,0.7nm,0.4s						
WRA	**Warramunga Arr**	**59.84**	**190**	P	**P**	15 43 54.0	**-1.6**
	comp=Z,0.4nm,0.5s,baz=8.0,slow=6.9,SNR=9.6						
ASAR	**Alice Springs**	**63.57**	**190**	P	**P**	15 44 19.5	**-1.2**
	comp=Z,0.3nm,0.6s,baz=7.3,slow=6.2,SNR=5.7						
FINES	**FINESS Array B**	**67.27**	**332**	P	**P**	15 44 44.5	**+0.3**
	comp=Z,0.6nm,0.5s,baz=48,slow=8.5,SNR=4.5						

JMA 14 15:39:10.0±0.2, 38°.15N×144°.49E, h33km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.40**	**294**	P	Pn	15 39 48.5	+1.6
MIYJ	**Miyakonagasawa**	**2.52**	**305**	P	Pn	15 39 49.9	+1.2
MIYJ				S	Sn	15 40 19.3	+1.0
JMK	**Ichinoseki**	**2.69**	**288**	P	Pn	15 39 52.7	+1.8
JMK				*e*S	Sn	15 40 24.5	+2.2
JOM	**Ohasama**	**2.83**	**299**	P	Pn	15 39 54.8	+2.0
JRG	**Rokugo**	**3.26**	**294**	P	Pn	15 40 01.0	+2.2
JYK	**Kaneyama**	**3.33**	**285**	P	Pn	15 40 02.6	+2.9
JYK				*e*S	Sn	15 40 41.1	+3.0
JFT	**Otama**	**3.35**	**260**	P	Pn	15 40 02.4	+2.4
JFT				*e*S	Sn	15 40 41.5	+2.9
JAH	**Hinai**	**3.62**	**305**	P	Pn	15 40 06.5	+2.8
JAH				S	Sn	15 40 48.0	+2.7
JTM	**Tenmabayashi**	**3.73**	**316**	P	Pn	15 40 07.8	+2.5
JTM				*e*S	Sn	15 40 49.0	+0.9

*ATH **14** 15:43:52.0, 40°.58N×24°.11E, h26km±1km, ML1.8/6, Error ellipse: s-maj=1.9km s-min=1.0km az=337.0*
*CSEM **14** 15:43:52.8±0.3, 40°.57N×24°.11E, h18km±2km, ML1.8, Error ellipse: s-maj=5.1km s-min=4.2km az=3.0*
THE 14 15:43:53.1, 40°.60N×24°.11E, h12km±2km, ML2.0/9, Error ellipse: s-maj=2.5km s-min=0.6km az=287.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.29**	**200**	P	Pg	15 43 59.0	0.0
OUR				S	Sb	15 44 03.9	-1.0
OUR	**Ouranopolis**	**0.29**	**200**	P	Pg	15 43 59.1	+0.1
OUR				S	Sb	15 44 03.9	-1.0
OUR	**Ouranopolis**	**0.29**	**200**	P	Pg	15 43 59.1	+0.2
OUR				S	Sg	15 44 02.8	-0.1
OUR				AML	AML	15 44 04.0	
	comp=N,718μm,0.3s						
OUR				AML	AML	15 44 04.5	
	comp=E,877μm,0.2s						
KAVA	**Kavala**	**0.50**	**38**	P	Pg	15 44 02.8	-0.1
KAVA				S	Sg	15 44 09.6	+0.1
KAVA	**Kavala**	**0.50**	**38**	P	Pg	15 44 02.8	-0.1
KAVA				S	Sg	15 44 09.6	+0.1
KAVA	**Kavala**	**0.50**	**38**	P	Pg	15 44 03.0	+0.1
PLG	**Polygyros**	**0.56**	**246**	P	Pg	15 44 03.8	-0.2
PLG				S	Sg	15 44 11.6	+0.2
PLG	**Polygyros**	**0.56**	**246**	P	Pg	15 44 03.8	-0.2
PLG				S	Sg	15 44 11.6	+0.2
PLG	**Polygyros**	**0.56**	**246**	P	Pg	15 44 04.3	+0.3
PLG				S	Sg	15 44 10.6	-0.7
PLG				AML	AML	15 44 12.8	
	comp=E,417μm,0.2s						
PLG				AML	AML	15 44 13.1	
	comp=N,446μm,0.3s						
SOH	**Sokhos**	**0.61**	**291**	P	Pg	15 44 05.3	+0.2
SOH				S	Sb	15 44 14.1	-0.4
SOH	**Sokhos**	**0.61**	**291**	P	Pg	15 44 05.3	+0.2
SOH				S	Sg	15 44 13.4	+0.2
SOH	**Sokhos**	**0.61**	**291**	P	Pb	15 44 06.0	+0.2
SOH				S	Sg	15 44 13.3	+0.1
SOH				AML	AML	15 44 16.6	
	comp=N,210μm,0.3s						
SOH				AML	AML	15 44 19.0	
	comp=E,147μm,0.3s						
SRS	**Serrai**	**0.65**	**323**	P	Pg	15 44 05.6	-0.1
SRS				S	Sb	15 44 14.9	-0.4
SRS	**Serrai**	**0.65**	**323**	P	Pg	15 44 05.8	+0.1
SRS				S	Sb	15 44 14.8	-0.5
SRS	**Serrai**	**0.65**	**323**	P	Pg	15 44 05.8	+0.1
SRS				S	Sb	15 44 14.8	-0.5
SRS				AML	AML	15 44 17.5	
	comp=E,470μm,0.2s						
SRS				AML	AML	15 44 18.4	
	comp=N,239μm,0.1s						
NVR	**Nevrokopi**	**0.77**	**346**	P	Pg	15 44 07.6	-0.4
NVR				S	Sb	15 44 18.8	-0.1
NVR	**Nevrokopi**	**0.77**	**346**	P	Pg	15 44 07.7	-0.3
NVR				S	Sb	15 44 18.8	-0.1
HORT	**Hortiatis**	**0.77**	**270**	P	Pg	15 44 07.8	-0.2
HORT				S	Sg	15 44 18.3	+0.2
HORT	**Hortiatis**	**0.77**	**270**	P	Pg	15 44 08.2	+0.2
HORT				S	Sg	15 44 18.3	+0.2
HORT	**Hortiatis**	**0.77**	**270**	P	Pg	15 44 08.2	+0.2
HORT				S	Sg	15 44 17.6	-0.5
HORT				AML	AML	15 44 21.9	
	comp=E,87μm,0.2s						
HORT				AML	AML	15 44 22.3	
	comp=N,81μm,0.1s						
LIA	**Limnos Island**	**1.08**	**130**	P	Pb	15 44 12.9	-0.8
LIA				S	Sn	15 44 28.6	-0.4
LIA	**Limnos Island**	**1.08**	**130**	P	Pb	15 44 12.9	-0.8
LIA				S	Sb	15 44 26.6	-1.2
SMTH	**Samothraki Isl**	**1.09**	**97**	P	Pn	15 44 14.2	0.0
SMTH				S	Sn	15 44 28.8	-0.4
SMTH	**Samothraki Isl**	**1.09**	**97**	P	Pb	15 44 12.1	-1.8
SMTH				S	Sn	15 44 28.8	-0.4
SMTH	**Samothraki Isl**	**1.09**	**97**	P	Pb	15 44 12.1	-1.8
SMTH				S	Sn	15 44 29.5	+0.3
SMTH				AML	AML	15 44 36.6	
	comp=E,35μm,0.2s						
SMTH				AML	AML	15 44 36.8	
	comp=N,28μm,0.3s						
LIT	**Litokhoron**	**1.34**	**248**	P	Pn	15 44 15.4	-2.2
LIT				S	Sn	15 44 35.6	+0.3
LIT	**Litokhoron**	**1.34**	**248**	P	Pn	15 44 15.4	-2.2
LIT				S	Sn	15 44 35.6	+0.3
ALN	**Alexandroupoli**	**1.50**	**78**	P	Pb	15 44 20.8	-0.1
ALN	**Alexandroupoli**	**1.50**	**78**	P	Pb	15 44 20.8	0.0
ALN				S	Sg	15 44 42.1	+0.8
SKIA	**Skiathos**	**1.52**	**199**	P	Pn	15 44 17.6	-2.5
SKIA	**Skiathos**	**1.52**	**199**	P	Pn	15 44 17.6	-2.5
SKIA				S	Sn	15 44 36.0	-3.8

*IDC **14** 15:45:00.6±0.8, 21°.67S×170°.00E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.3/21, mbtmp4.3/14, ML4.1/2, MS4.0/7, Ms1 4.0/7, ms1mx3.7/27, Error ellipse: s-maj=25.5km s-min=19.2km az=129.0*
*ISCJB **14** 15:45:02.7±0.3, 21°.67S±0°.07×169°.79E±0°.06, h21km, mb4.5/26, MS4.1/6, Error ellipse: s-maj=10.1km s-min=7.4km az=163.2*
*NEIC **14** 15:45:03.2±5.9, 21°.60S×170°.01E, h17km±34km, mb5.0/11, Error ellipse: s-maj=15.1km s-min=8.6km az=90.0*
*GCMT **14** 15:45:03.2±0.3, 21°.70S×169°.61E, h31km±1km, MW5.0/54, Moment Tensor Solution. s36,c42; s54,c71; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{r}3.17±.21; $M_{\theta\theta}$-0.66±.17; $M_{\phi\phi}$-2.50±.14; $M_{r\theta}$1.66±.26; $M_{\theta\phi}$1.52±.09; $M_{\phi r}$-0.77±.19; Best double couple: M_{o}3.74500×10^{16} NP1:ϕ_{s}134.00000°, δ59.00000°, λ72.00000°. NP2: ϕ_{s}346.00000°, δ35.00000°, λ117.00000°. Principal axes: T 3.7960, Plg70.0000°, Azm6.0000°; N -0.0930, Plg15.0000°, Azm144.0000°; P -3.6940, Plg13.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **14** 15:45:05.7±1.2, 21°.62S×169°.68E, h33km, mb5.0/14 Error ellipse: s-maj=13.3km s-min=10.5km az=123.9*
*BJI **14** 15:45:06.0, 21°.70S×169°.60E, h49km, mb4.7/31, mB5.1/20, Ms5.0/5, Ms7 4.7/3*
ISC 14 15:45:04.5±0.4, 21°.71S±0°.09×169°.71E±0°.06, h21km, n161, σ1°39/170, mb4.7/26, MS4.1/6, 5C-4D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.05**	**263**	Pn	**Pn**	**15 45 53.3**	**+1.8**
	13nm,0.3s,baz=137,slow=6.8,SNR=487						
DZM				Sn	**Sn**	**15 46 28.0**	**+0.5**
	50nm,0.3s,baz=328,slow=22,SNR=11						
DZM	**Mont Dzumac**	**3.05**	**263**	*e*Pn	**Pn**	**15 45 51.5**	**-0.1**
DZM				Sn	**Sn**	**15 46 28.0**	**+0.5**
MSVF	**Nonsavu**	**8.80**	**65**	*e*P	**Pn**	**15 47 14.8**	**+4.2**
MSVF	**Nonsavu**	**8.80**	**65**	*e*Pn	**Pn**	**15 47 14.8**	**+4.2**
HNR	**Honiara**	**15.40**	**321**	Pn	**Pn**	**15 48 41.1**	**+0.5**
	1.2nm,0.3s,baz=108,slow=3.3,SNR=2.3						
HNR				LR	LR	15 53 28.0	
	comp=Z,414nm,18.2s,baz=165,slow=33						
HNR	**Honiara**	**15.40**	**321**	P	**P**	**15 48 47.0**	**+1.9**
AFI	**Afiamalu**	**19.25**	**69**	P	P	15 49 19.9	-7.8
	1.2nm,0.3s,baz=112,slow=15,SNR=2.1						
AFI				LR	LR	15 54 50.6	
	comp=Z,270nm,20.3s,baz=146,slow=31						
CTA	**Charters Tower**	**21.97**	**270**	P	**P**	**15 50 00.3**	**+3.2**
	1.6nm,0.5s,baz=105,slow=16,SNR=3.3						
PMG	**Port Moresby**	**24.89**	**296**	LR	LR	15 59 00.7	
	comp=Z,256nm,19.9s,baz=154,slow=33						
STKA	**Stephens Creek**	**26.99**	**242**	P	**P**	**15 50 46.3**	**+1.4**
	3.4nm,0.9s,baz=77,slow=14,SNR=5.2						
STKA				LR	LR	16 00 27.2	
	comp=Z,540nm,21.2s,baz=92,slow=34						
ASAR	**Alice Springs**	**33.04**	**260**	P	**P**	**15 51 39.4**	**+0.8**
	1.8nm,0.7s,baz=84,slow=9.0,SNR=21						
ASAR				PcP	**PcP**	**15 54 22.5**	**+0.3**
	0.8nm,1.1s,baz=77,slow=4.2,SNR=4.1						
ASAR				LR	LR	16 04 04.0	
	comp=Z,417nm,20.9s,baz=90,slow=34						
WRA	**Warramunga Arr**	**33.06**	**267**	P	**P**	**15 51 39.9**	**+1.0**
	0.3nm,0.3s,baz=100,slow=8.8,SNR=13						
VNDA	**Vanda**	**55.98**	**182**	P	**P**	**15 54 41.4**	**+0.5**
	1.2nm,0.8s,baz=5.3,slow=5.1,SNR=6.1						
SBA	**Scott Base**	**56.21**	**181**	*e*P	**P**	**15 54 43.6**	**+1.1**
SBA				pmax	pmax		
	comp=Z,15nm,1.1s						
SBA	**Scott Base**	**56.21**	**181**	*e*P	**P**	**15 54 43.6**	**+1.1**
	comp=Z,15nm,1.1s						
MJA0	**Matsu Arr-Jizo**	**65.12**	**332**	*e*P	**P**	**15 55 43.4**	**-0.4**
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MJAR	**Matsushiro Arr**	**65.14**	**332**	P	**P**	**15 55 42.9**	**-0.9**
	comp=Z,5.3nm,0.9s,baz=166,slow=6.5,SNR=13						
MAJO	**Matsushiro**	**65.14**	**332**	*e*P	**P**	**15 55 43.2**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,16nm,1.1s						
MAJO	**Matsushiro**	**65.14**	**332**	*e*P	**P**	**15 55 43.2**	**-0.7**
	comp=Z,16nm,1.1s						
MAT	**Matsushiro**	**65.14**	**332**	P	**P**	**15 55 42.7**	**-1.2**
MJB9	**Matsu-Tunnel**	**65.14**	**332**	*e*P	**P**	**15 55 43.1**	**-0.8**
	comp=Z,4.4nm,1.2s						
JNU	**Nakatsue**	**65.93**	**325**	*e*P	**P**	**15 55 48.7**	**-0.4**
	comp=Z,16nm,1.0s						
QSPA	**South Pole Qui**	**68.35**	**180**	*e*P	**P**	**15 56 04.7**	**+0.5**
TJN	**Taejon**	**70.28**	**325**	*ce*P	**P**	**15 56 17.3**	**+1.1**
KSRS	**Korea Array**	**70.79**	**326**	P	**P**	**15 56 20.1**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=137,slow=6.5,SNR=11						
KSAR	**Wonju Array Be**	**70.80**	**326**	P	**P**	**15 56 20.1**	**+0.7**
KSAR	**Wonju Array Be**	**70.80**	**326**	P	**P**	**15 56 20.1**	**+0.7**
KS01	**Wonju Array Si**	**70.82**	**326**	*e*P	**P**	**15 56 19.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**72.55**	**341**	*i* P	**P**	**15 56 30.7**	**+1.0**
YSS				pmax	pmax		
	comp=Z,12nm,0.8s						
MSHR	**Mys Shultsa**	**73.19**	**331**	*c* P	**P**	**15 56 34.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**74.13**	**333**	P	**P**	**15 56 39.5**	**+0.4**
	comp=Z,8.1nm,1.1s,baz=145,slow=4.6,SNR=16						
PETK	**Petropavlovsk-**	**75.23**	**353**	P	**P**	**15 56 45.1**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=124,slow=9.2,SNR=3.8						
MDJ	**Mudanjiang**	**75.50**	**332**	P	**P**	**15 56 47.8**	**+0.8**
MDJ				pP	PcP	15 56 59.8	-0.2
MDJ				sP	sP	15 57 04.6	+8.2
MDJ				PMZ			
	comp=Z,12nm,1.1s						
MDJ				PMZ			
	comp=Z,81nm,5.1s						
MDJ	**Mudanjiang**	**75.50**	**332**	*e*P	**P**	**15 56 47.5**	**+0.5**
	comp=Z,11nm,0.9s						
ENH	**Enshi**	**77.58**	**310**	*e*P	**P**	**15 56 59.2**	**-0.1**
	comp=Z,15nm,1.1s						
GYA	**Guiyang**	**77.59**	**305**	P	**P**	**15 57 00.3**	**+0.8**
GYA				pP	PcP	15 57 14.5	+4.8
GYA				PP	**PP**	**15 59 57.3**	**+2.4**
GYA				S	**S**	**16 06 47.0**	**-3.3**
GYA				SKS	**SKSac**	**16 07 03.4**	**-8.7**
GYA				sS	SKKSac	16 07 11.3	-1.6
GYA				PMZ			
	comp=Z,20nm,1.0s						
KLR	**Kul'dur**	**78.30**	**336**	*i* P	**P**	**15 57 03.2**	**+0.5**
CM01	**Chiang Mai Arr**	**79.89**	**294**	*e*P	**P**	**15 57 13.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**79.92**	**294**	P	**P**	**15 57 14.7**	**+2.4**
	comp=Z,2.3nm,0.9s,baz=127,slow=4.4,SNR=12						
KMI	**Kunming**	**79.95**	**302**	P	**P**	**15 57 13.8**	**+1.2**
KMI				PMZ			
	comp=Z,11nm,0.5s						
XAN	**Xi'an**	**80.10**	**313**	P	**P**	**15 57 14.3**	**+1.3**
XAN				PMZ			
	comp=Z,5.0nm,1.1s						
CD2	**Chengdu**	**82.08**	**308**	*e*P	**P**	**15 57 23.5**	**-0.2**
CD2				pP	sP	15 57 37.6	+4.5
CD2				sP	pP	15 57 43.3	+13
CD2				PP	**PP**	**16 00 32.3**	**+0.2**
CD2				S	**S**	**16 07 35.8**	**-1.6**
CD2				SKS	**SKSac**	**16 07 39.0**	**-4.2**
CD2				sS	ScS	16 08 00.0	+6.5
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
HHC	**Hu-ho-hao-te**	**82.38**	**319**	*e*P	**P**	**15 57 27.4**	**+2.4**
HHC				S	**S**	**16 07 39.6**	**-0.5**
HHC				PMZ			
	comp=Z,14nm,1.1s						
HHC				PMZ			
	comp=Z,220nm,7.6s						
HHC				LN			
	comp=Z,120nm,13.7s						
HHC				LE			
	comp=Z,240nm,14.9s						
HHC				LZ			
	comp=Z,140nm,14.9s						
SYO	**Syowa Base**	**82.69**	**196**	⇑*e*P	**P**	**15 57 24.0**	**-2.1**
LZH	**Lanzhou**	**84.70**	**312**	*e*P	**P**	**15 57 36.0**	**-1.2**
LZH				pP	sP	15 57 50.5	+3.9
LZH				sP	pP	15 57 56.0	+12
LZH				*e*PP	**PP**	**16 00 54.3**	**+0.7**
LZH				SKS	S	16 07 52.3	-12
LZH				*e*S	**SKSac**	**16 07 59.1**	**-1.3**
LZH				sS	sS	16 08 24.3	+8.8
LZH				*e*SS	**SS**	**16 13 35.3**	**-1.0**
LZH				PMZ			
	comp=Z,25nm,1.5s						
LZH				PMZ			
	comp=Z,100nm,9.2s						
SNAA	**Sanae**	**86.72**	**182**	PKP	**P**	**15 57 45.5**	**-1.1**
SNAA	**Sanae**	**86.72**	**182**	*d* P	**P**	**15 57 46.3**	**-0.3**
SNAA				pmax	pmax		
	comp=Z,548nm,1.1s						
SNAA	**Sanae**	**86.72**	**182**	*e*P	**P**	**15 57 45.5**	**-1.1**
	comp=Z,14nm,1.1s						
VNA1	**Neumayer--Stat**	**87.88**	**181**	PKP	**P**	**15 57 51.7**	**-0.3**
MONP2	**Monument Peak**	**88.94**	**54**	P	**P**	**15 57 56.8**	**-1.1**
	baz=243						
ULN	**Ulaanbaatar**	**89.10**	**323**	*d* P	**P**	**15 57 59.1**	**+0.8**
ULN				pmax	pmax		
	comp=Z,11nm,1.3s						
ULN	**Ulaanbaatar**	**89.10**	**323**	*e*P	**P**	**15 57 57.3**	**-1.0**
	comp=Z,11nm,1.2s						
GTA	**Gaotai**	**89.14**	**313**	*e*P	**P**	**15 57 59.4**	**+0.8**
GTA				pP	sP	15 58 12.6	+4.5
GTA				sP	pP	15 58 17.4	+12
GTA				PMZ			
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**89.45**	**323**	P	**P**	**15 58 00.3**	**+0.4**
	comp=Z,3.8nm,1.0s,baz=136,slow=5.0,SNR=20						
SONA1	**Songino Array**	**89.45**	**323**	*e*P	**P**	**15 57 59.2**	**-0.7**
BILL	**Bilibino**	**89.52**	**359**	⇓*e*P	**P**	**15 57 58.8**	**-0.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,108nm,19.0s						
BILL	**Bilibino**	**89.52**	**359**	*e*P	**P**	**15 57 58.3**	**-1.3**
	comp=Z,9.0nm,1.2s						
BELC	**Belle Mtn. Jos**	**89.75**	**53**	P	**P**	**15 58 00.1**	**-1.5**
	baz=243						
HEC	**Hector,Ludlow**	**89.87**	**52**	P	**P**	**15 58 01.6**	**-0.5**
	baz=243						
BC3	**Big Chuckawall**	**90.00**	**54**	P	**P**	**15 58 03.2**	**+0.4**
	baz=244						
TUQ	**Turquoise Moun**	**90.44**	**52**	P	**P**	**15 58 04.9**	**+0.1**
	baz=243						
IRM	**Iron Mountain**	**90.45**	**53**	P	**P**	**15 58 04.7**	**-0.1**
	baz=244						
TPNV	**Topopah Spring**	**90.88**	**50**	*e*P	**P**	**15 58 05.7**	**-1.2**
TPNV				pmax	pmax		
	comp=Z,18nm,1.9s						
TPNV	**Topopah Spring**	**90.88**	**50**	*e*P	**P**	**15 58 05.7**	**-1.2**
	comp=Z,18nm,1.9s						
PDMCI	**Parker Dam,Lak**	**91.27**	**54**	P	**P**	**15 58 07.3**	**-1.2**
	baz=244						
R11A	**Troy Canyon, C**	**91.97**	**49**	P	**P**	**15 58 12.5**	**+0.5**
	baz=244						
IL1	**Eielson Array**	**92.45**	**17**	*e*P	**P**	**15 58 10.9**	**-2.4**
ILAR	**Eielson Array**	**92.45**	**17**	P	**P**	**15 58 11.1**	**-2.2**
	comp=Z,0.7nm,0.9s,baz=226,slow=4.8,SNR=6.8						
ZAK	**Zakamensk**	**92.55**	**324**	*e*P	**P**	**15 58 11.5**	**-2.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TLY	**Talaya**	**93.03**	**325**	*e*P	**P**	**15 58 16.1**	**-0.2**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
EGAK	**Eagle**	**94.11**	**19**	*e*P	**P**	**15 58 19.0**	**-1.9**
	comp=Z,5.0nm,1

	comp=Z,19nm,0.9s							
CLL	**Collm**	**145.33 334**	⇑	*i* PKIKP	**PKPbc**	**16 04 39.8**	**-0.5**	
CLL				pmax	pmax			
	comp=Z,19nm,0.9s							
CLL	**Collm**	**145.33 334**		*e*PKPbc	**PKPbc**	**16 04 39.3**	**-1.0**	
GOPC	**GO Pecny, Ondr**	**145.60 331**		*e*PKP	**PKPdf**	**16 04 41.1**	**0.0**	
GOPC	**GO Pecny, Ondr**	**145.60 331**		*e*PKP2	**PKPdf**	**16 04 41.1**	**0.0**	
PRU	**Pruhonice**	**145.66 331**		*e*PKP	**PKPdf**	**16 04 40.9**	**-0.2**	
PRU				*ex*	x	16 05 01.8		
PRU	**Pruhonice**	**145.66 331**		*e*PKP2	**PKPdf**	**16 04 40.9**	**-0.2**	
TREC	**Trest**	**145.71 330**		*e*PKP	**PKPdf**	**16 04 41.4**	**+0.1**	
TREC	**Trest**	**145.71 330**		*e*PKP2	**PKPdf**	**16 04 41.4**	**+0.1**	
LAST	**Lasithi**	**146.00 301**		*e*PKPdf	**PKPdf**	**16 04 42.5**	**+0.1**	
EKA	**Eskdalemuir Ar**	**146.01 353**		PKPbc	**PKPdf**	**16 04 40.9**	**-0.7**	
	comp=Z,13nm,0.7s,baz=355,slow=2.7,SNR=38							
NKC	**Novy Kostel**	**146.38 333**		*e*PKP	**PKPbc**	**16 04 43.4**	**-0.3**	
NKC	**Novy Kostel**	**146.38 333**		*e*PKP2	**PKPbc**	**16 04 43.4**	**-0.3**	
IDI	**Anoyia**	**146.44 301**		PKPbc	**PKPab**	**16 04 45.0**	**-0.3**	
	comp=Z,9.4nm,0.9s,baz=129,slow=7.5,SNR=5.4							
CONA	**Conrad Observa**	**146.47 328**		*i* PKPab	**PKPdf**	**16 04 43.3**	**+0.5**	
	comp=Z,20nm,1.2s,SNR=6.6							
KHC	**Kasperske Hory**	**146.71 331**		*e*PKP	**PKPbc**	**16 04 44.4**	**-0.3**	
KHC				*ex*	x	16 04 57.0		
KHC				*ex*	x	16 05 06.7		
KHC	**Kasperske Hory**	**146.71 331**		*e*PKP2	**PKPbc**	**16 04 44.4**	**-0.3**	
GEC2	**GERESS Array S**	**146.86 331**		*e*PKP2	**PKPbc**	**16 04 44.7**	**-0.5**	
GEC2	**GERESS Array S**	**146.86 331**		*e*PKPdf	**PKPbc**	**16 04 44.7**	**-0.5**	
GERES	**GERESS Array B**	**146.86 331**		PKPbc	**PKPbc**	**16 04 44.9**	**-0.4**	
	comp=Z,13nm,0.8s,baz=33,slow=3.2,SNR=78							
GEA0	**GERESS Array S**	**146.87 331**		*e*PKPdf	**PKPbc**	**16 04 44.3**	**-0.9**	
ARSA	**Arzberg**	**147.09 327**		*i* PKPab	**PKPbc**	**16 04 45.5**	**-0.3**	
	comp=Z,5.9nm,1.2s							
AGG	**Agios Georgios**	**147.22 309**		*e*PKIKP	**PKPdf**	**16 04 44.8**	**+0.6**	
AGG	**Agios Georgios**	**147.22 309**		*e*PKPdf	**PKPdf**	**16 04 44.8**	**+0.6**	
MOA	**Molln**	**147.30 329**		*i* PKPab	**PKPbc**	**16 04 46.2**	**-0.2**	
	comp=Z,8.7nm,0.9s							
GROS	**Grobnik**	**147.62 326**		*i* PKPdf	**PKPbc**	**16 04 46.2**	**-1.2**	
SOKA	**Soboth**	**147.72 327**		*i* PKPbc	**PKPbc**	**16 04 47.3**	**-0.3**	
	comp=Z,12nm,1.0s,SNR=7.5							
OBKA	**Obir**	**148.08 327**		*i* PKPbc	**PKPbc**	**16 04 48.1**	**-0.5**	
	comp=Z,6.5nm,1.1s							
CWF	**Charnwood Fore**	**148.26 350**		*e*PKPbc	**PKPbc**	**16 04 47.7**	**-1.1**	
KBA	**Koelnbreinsper**	**148.29 329**		*i* PKPbc	**PKPbc**	**16 04 48.2**	**-1.1**	
	comp=Z,13nm,1.1s,SNR=7.5							
BOJS	**Bojanci**	**148.38 325**		*i* PKPdf	**PKPbc**	**16 04 49.2**	**-0.1**	
VISS	**Visnje**	**148.40 325**		*i* PKPdf	**PKPbc**	**16 04 48.9**	**-0.5**	
LJU	**Ljubljana**	**148.41 326**		*e*PKPdf	**PKPbc**	**16 04 49.1**	**-0.3**	
MEM	**Membach**	**148.45 340**		PKPbc	**PKPbc**	**16 04 48.9**	**-0.4**	
MYKA	**Terra Mystica**	**148.46 328**		*i* PKPbc	**PKPbc**	**16 04 48.7**	**-0.9**	
	comp=Z,7.0nm,0.7s							
JAVS	**Javornik**	**148.75 326**		*i* PKPdf	**PKPbc**	**16 04 49.5**	**-0.9**	
BCLA	**Clavier**	**148.84 341**		PKPbc	**PKPbc**	**16 04 50.3**	**-0.1**	
ABTA	**Abfaltersbach**	**148.93 329**		*i* PKPbc	**PKPbc**	**16 04 49.7**	**-1.1**	
	comp=Z,12nm,0.8s,SNR=6.7							
WATA	**Walderalm**	**148.94 331**		*i* PKPbc	**PKPbc**	**16 04 50.0**	**-0.9**	
	comp=Z,11nm,0.9s							
WTTA	**Wattenberg**	**148.96 330**		*i* PKPbc	**PKPbc**	**16 04 50.4**	**-0.6**	
	comp=Z,21nm,1.3s,SNR=5.5							
MOTA	**Moosalm**	**149.15 331**		*i* pPKPdf	**PKPbc**	**16 04 51.0**	**-0.4**	
	comp=Z,16nm,0.8s,SNR=8.3							
RETA	**Reutte**	**149.19 332**		*i* PKPbc	**PKPbc**	**16 04 50.4**	**-1.0**	
	comp=Z,13nm,1.2s,SNR=6.6							
LANF	**Langenberg**	**149.21 336**		PKP	**PKPbc**	**16 04 51.1**	**-0.3**	
WLF	**Walferdange**	**149.22 339**		PKPbc	**PKPbc**	**16 04 51.9**	**+0.6**	
WLF	**Walferdange**	**149.22 339**		*e*PKP2	**PKPbc**	**16 04 51.3**	**0.0**	
WLF	**Walferdange**	**149.22 339**		*e*PKPbc	**PKPbc**	**16 04 51.3**	**0.0**	
DOU	**Dourbes**	**149.34 341**		PKPbc	**PKPbc**	**16 04 51.2**	**-0.3**	
BFO	**Black Forest**	**149.54 335**		*i* PKP2	**PKPbc**	**16 04 51.7**	**-0.5**	
BFO	**Black Forest**	**149.54 335**		*e*PKPbc	**PKPbc**	**16 04 50.9**	**-1.3**	
FETA	**Feichten**	**149.56 331**		*i* pPKPdf	**PKPbc**	**16 04 52.1**	**-0.4**	
	comp=Z,27nm,1.1s,SNR=12							
DAVA	**Damuels**	**149.73 332**		*i* pPKPdf	**PKPbc**	**16 04 52.7**	**-0.1**	
	comp=Z,20nm,1.1s,SNR=6.9							
WLS	**Welschbruch**	**149.85 336**		PKP	**PKPbc**	**16 04 52.4**	**-0.6**	
FUORN	**Ofenpass-Fuorn**	**150.07 331**		*e*PKPbc	**PKPbc**	**16 04 53.2**	**-0.6**	
ECH	**Echery**	**150.08 336**		PKP	**PKPbc**	**16 04 52.8**	**-0.7**	
DAVOX	**Davos/Dischmat**	**150.12 332**		PKPbc	**PKPbc**	**16 04 53.6**	**-0.3**	
	comp=Z,24nm,0.9s,baz=350,slow=1.0,SNR=27							
MOF	**Molkenrain**	**150.40 336**		PKP	**PKPbc**	**16 04 53.8**	**-0.6**	
DYA	**Yadsworthy**	**150.90 352**		*e*PKPbc	**PKPbc**	**16 04 53.6**	**-1.8**	
LOMF	**Lomont**	**150.93 336**		PKP	**PKPbc**	**16 04 55.1**	**-0.6**	
SENIN	**Lac Senin/Sane**	**151.55 334**		*e*PKPbc	**PKPbc**	**16 04 56.5**	**-0.8**	
TORD	**Torodi Ar. Bea**	**165.75 235**		PKP	**PKPdf**	**16 05 07.3**	**-1.2**	
	comp=Z,0.3nm,0.4s,baz=339,slow=3.7,SNR=3.4							
TORD				PKPab	**PKPab**	**16 06 07.2**	**-0.6**	
	comp=Z,1.0nm,1.0s,baz=131,slow=4.0,SNR=3.0							

DDA 14 15:45:34.4, 39.19N × 29.03E, h7km, Md2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.28**	**240**	*i* P	Pg	15 45 40.7	+0.7
DEMI				*i* S	Sg	15 45 44.5	+0.7
GDZ	**Gediz**	**0.36**	**106**	S	Sg	15 45 47.1	+0.8
GDZ	**Gediz**	**0.36**	**106**	*i* P	Pg	15 45 42.1	+0.6
GDZ				*i* S	Sg	15 45 47.1	+0.7

*IDC **14** 15:54:22.3±0.7, 21.74S × 169.99E, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, ML4.6/2, MS3.9/12, Ms1 3.9/12, ms1mx3.7/30, Error ellipse: s-maj=22.2km s-min=17.9km az=145.0*

*ISCJB **14** 15:54:25.3±0.4, 21.58S±0.07 × 169.68E±0.05, h21km, mb4.7/46, MS3.9/9, Error ellipse: s-maj=11.1km s-min=6.2km az=158.9*

*BJI **14** 15:54:27.4, 21.28S × 170.09E, h35km, mb4.9/31, mB5.1/16, Ms4.8/5, Ms7 4.6/3*

*MOS **14** 15:54:27.6±1.3, 21.60S × 169.69E, h33km, mb5.0/28, Error ellipse: s-maj=10.5km s-min=8.7km az=44.9*

*GCMT **14** 15:54:29.7±0.4, 21.71S × 169.65E, h32km±1km, MW5.0/57, Moment Tensor Solution. s25,c30; s57,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.47±.27; $M_{\theta\theta}$-0.09±.18; $M_{\phi\phi}$-2.38±.16; $M_{r\theta}$1.08±.21; $M_{\theta\phi}$1.73±.09; $M_{\phi r}$-1.02±.18; Best double couple: $M_0$3.26700×10^{16} NP1:ϕ_s140.00000°, δ59.00000°, λ76.00000°. NP2: ϕ_s346.00000°, δ34.00000°, λ112.00000°. Principal axes: T 2.8970, Plg72.0000°, Azm17.0000°; N 0.7420, Plg12.0000°, Azm148.0000°; P -3.6370, Plg13.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **14** 15:54:29.7±0.9, 21.72S × 169.75E, h48km±8km, mb5.0/27 Error ellipse: s-maj=10.9km s-min=8.2km az=167.0*

ISC 14 15:54:27.0±0.4, 21.54S±0.08 × 169.65E±0.06, h21km, n235, σ1§43/253, mb4.9/45, MS3.9/9, 13C-5D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.03**	**259**	Pn	**Pn**	**15 55 14.6**	**+0.8**
	20nm,0.3s,baz=195,slow=4.1,SNR=806						
DZM				Sn	**Sn**	**15 55 49.4**	**-0.1**
	22nm,0.3s,baz=28,slow=22,SNR=5.4						
DZM				LR	LR	15 55 57.1	
	comp=Z,1μm,20.7s,baz=306,slow=29						
DZM	**Mont Dzumac**	**3.03**	**259**	*e*Pn	**Pn**	**15 55 13.3**	**-0.5**
DZM				Sn	**Sn**	**15 55 49.4**	**-0.1**
MSVF	**Nonsavu**	**8.77**	**66**	*e*Pn	**Pn**	**15 56 36.5**	**+3.8**
MSVF	**Nonsavu**	**8.77**	**66**	*e*Pn	**Pn**	**15 56 36.5**	**+3.8**
RAO	**Raoul Island**	**13.60**	**127**	LR	LR	16 01 43.3	
	comp=Z,543nm,18.8s,baz=322,slow=33						
HNR	**Honiara**	**15.23**	**321**	Pn	**P**	**15 58 05.3**	**-0.5**
	6.0nm,0.3s,baz=282,slow=0.2,SNR=4.7						
HNR				LR	LR	16 03 52.9	
	comp=Z,309nm,18.2s,baz=154,slow=37						
HNR	**Honiara**	**15.23**	**321**	P	**P**	**15 58 06.0**	**+0.3**
HNR	**Honiara**	**15.23**	**321**	*e*Pn	**P**	**15 58 06.8**	**+1.1**
	78nm,0.8s						
AFI	**Afiamalu**	**19.24**	**70**	LR	LR	16 04 46.1	
	comp=Z,269nm,18.2s,baz=100,slow=33						
AFI	**Afiamalu**	**19.24**	**70**	*e*P	**Pn**	**15 58 51.8**	**+0.6**
AFI				pmax	pmax		
	comp=Z,74nm,0.9s						
AFI	**Afiamalu**	**19.24**	**70**	*e*P	**Pn**	**15 58 51.8**	**+0.6**
	comp=Z,74nm,0.9s						
OXZ	**Oxford**	**21.82**	**175**	*e*pP	pP	15 59 24.8	+1.0
CTA	**Charters Tower**	**21.92**	**270**	P	**P**	**15 59 21.7**	**+2.6**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						

CTAO	**Charters Tower**	**21.92**	**270**	*e*P	**P**	**15 59 20.5**	**+1.4**	
CTAO				pmax	pmax			
	comp=Z,104nm,1.0s							
CTAO	**Charters Tower**	**21.92**	**270**	*e*P	**P**	**15 59 20.5**	**+1.4**	
	comp=Z,104nm,1.0s							
PMG	**Port Moresby**	**24.77**	**296**	P	**P**	**15 59 50.9**	**+3.5**	
	comp=Z,18nm,1.1s,baz=96,slow=22,SNR=2.5							
PMG				LR	LR	16 08 04.3		
	comp=Z,230nm,18.6s,baz=154,slow=33							
STKA	**Stephens Creek**	**27.02**	**242**	P	**P**	**16 00 07.9**	**+0.1**	
	comp=Z,4.1nm,0.8s,baz=76,slow=10,SNR=11							
STKA				PcP	**PcP**	**16 03 28.2**	**-0.8**	
	comp=Z,1.1nm,0.7s,baz=90,slow=2.0,SNR=3.1							
STKA				LR	LR	16 10 08.4		
	comp=Z,332nm,19.8s,baz=59,slow=35							
STKA	**Stephens Creek**	**27.02**	**242**	*e*P	**P**	**16 00 08.7**	**+0.9**	
	comp=Z,4.1nm,1.4s							
STKA				PcP	**PcP**	**16 03 28.2**	**-0.8**	
RAR	**Rarotonga**	**28.45**	**95**	LR	LR	16 09 00.7		
	comp=Z,142nm,20.5s,baz=264,slow=31							
AS01	**Alice Springs**	**32.98**	**259**	*e*P	**P**	**16 01 01.1**	**+0.5**	
WRAB	**Tennant Creek**	**33.01**	**266**	⇑ *e*P	**P**	**16 01 01.4**	**+0.4**	
WRAB				pmax	pmax			
	comp=Z,11nm,1.1s							
AS31	**Alice Springs**	**33.02**	**259**	*e*P	**P**	**16 01 01.9**	**+0.9**	
	comp=Z,1.6nm,0.8s							
ASAR	**Alice Springs**	**33.02**	**259**	P	**P**	**16 01 01.4**	**+0.4**	
	comp=Z,2.4nm,0.7s,baz=85,slow=8.8,SNR=29							
ASAR				PcP	**PcP**	**16 03 42.8**	**-1.9**	
	comp=Z,1.5nm,0.9s,baz=91,slow=4.6,SNR=4.1							
ASAR				LR	LR	16 13 25.2		
	comp=Z,234nm,21.8s,baz=92,slow=34							
WRA	**Warramunga Arr**	**33.02**	**266**	P	**P**	**16 01 00.7**	**-0.3**	
	comp=Z,1.1nm,0.8s,baz=93,slow=8.3,SNR=13							
WRA	**Warramunga Arr**	**33.02**	**266**	*e*P	**P**	**16 01 00.4**	**-0.6**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
PPT	**Papeete**	**38.55**	**91**	LR	LR	16 13 25.2		
	comp=Z,98nm,21.4s,baz=264,slow=30							
FITZ	**Fitzroy Crossi**	**41.45**	**267**	*e*P	**P**	**16 02 16.6**	**+4.0**	
	comp=Z,17nm,1.0s							
VNDA	**Vanda**	**56.16**	**182**	P	**P**	**16 04 02.9**	**-1.7**	
	comp=Z,0.7nm,0.9s,baz=336,slow=2.8,SNR=3.1							
VNDA				LR	LR	16 25 14.4		
	comp=Z,221nm,18.3s,baz=2.5,slow=33							
SBA	**Scott Base**	**56.38**	**181**	*e*P	**P**	**16 04 07.0**	**+0.8**	
SBA				pmax	pmax			
	comp=Z,17nm,1.3s							
SBA	**Scott Base**	**56.38**	**181**	*e*P	**P**	**16 04 07.0**	**+0.8**	
	comp=Z,16nm,1.3s							
MJA0	**Matsu Arr-Jizo**	**64.94**	**332**	*e*P	**P**	**16 05 05.1**	**0.0**	
MJA0				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MJAR	**Matsushiro Arr**	**64.96**	**332**	P	**P**	**16 05 05.1**	**-0.1**	
	comp=Z,9.4nm,0.9s,baz=167,slow=7.1,SNR=19							
MAJO	**Matsushiro**	**64.96**	**332**	*e*P	**P**	**16 05 04.4**	**-0.8**	
MAJO				pmax	pmax			
	comp=Z,20nm,1.0s							
MAJO	**Matsushiro**	**64.96**	**332**	*e*P	**P**	**16 05 04.3**	**-0.8**	
	comp=Z,20nm,1.0s							
MAT	**Matsushiro**	**64.96**	**332**	P	**P**	**16 05 05.0**	**-0.2**	
MJB9	**Matsu-Tunnel**	**64.96**	**332**	*e*P	**P**	**16 05 04.2**	**-1.0**	
	comp=Z,5.2nm,1.0s							
TPUB	**Ta-pu**	**65.31**	**310**	*e*P	**P**	**16 05 07.0**	**-0.7**	
	comp=Z,26nm,1.1s							
SSLB	**Suanglung**	**65.39**	**311**	*e*P	**P**	**16 05 07.8**	**-0.4**	
	comp=Z,11nm,0.6s							
YHNB	**Yeheng**	**65.65**	**312**	*e*P	**P**	**16 05 11.0**	**+0.9**	
	comp=Z,25nm,1.0s							
QSPA	**South Pole Qui**	**68.53**	**180**	*e*P	**P**	**16 05 27.0**	**-0.8**	
KUR	**Kuril'sk**	**69.35**	**344**	*e*P	**P**	**16 05 33.8**	**+0.9**	
TJN	**Taejon**	**70.10**	**325**	⇑ *i*P	**P**	**16 05 39.1**	**+1.4**	
KSRS	**Korea Array**	**70.61**	**326**	P	**P**	**16 05 42.0**	**+1.2**	
	comp=Z,3.8nm,0.9s,baz=146,slow=6.3,SNR=16							
KSRS				LR	LR	16 33 47.6		
	comp=Z,50nm,21.4s,baz=345,slow=33							
KSAR	**Wonju Array Be**	**70.62**	**326**	P	**P**	**16 05 42.0**	**+1.1**	
KSAR	**Wonju Array Be**	**70.62**	**326**	P	**P**	**16 05 42.0**	**+1.1**	
KS01	**Wonju Array Si**	**70.65**	**326**	*e*P	**P**	**16 05 41.4**	**+0.3**	
YSS	**Yuzh-Sakhalins**	**72.37**	**341**	⇓ *i*P	**P**	**16 05 53.0**	**+1.8**	
YSS				pmax	pmax			
	comp=Z,20nm,0.7s							
YSS	**Yuzh-Sakhalins**	**72.37**	**341**	*e*P	**P**	**16 05 52.3**	**+1.2**	
	comp=Z,22nm,0.8s							
MSHR	**Mys Shultsa**	**73.01**	**331**	*d i*P	**P**	**16 05 56.4**	**+1.3**	
USRK	**Ussuriysk Ar.**	**73.95**	**333**	P	**P**	**16 06 01.6**	**+1.1**	
	comp=Z,8.4nm,0.9s,baz=150,slow=4.6,SNR=27							
PET	**Petropavlovsk**	**74.86**	**353**	*i* P	**P**	**16 06 06.9**	**+1.3**	
PET				pmax	pmax			
	comp=Z,26nm,1.2s							
PEA0	**Petropavlovsk-**	**75.05**	**353**	*e*P	**P**	**16 06 07.1**	**+0.3**	
PETK	**Petropavlovsk-**	**75.05**	**353**	P	**P**	**16 06 07.2**	**+0.3**	
	comp=Z,6.3nm,0.8s,baz=155,slow=7.6,SNR=7.0							
PETK				LR	LR	16 32 46.2		
	comp=Z,138nm,20.1s,baz=176,slow=31							
MDJ	**Mudanjiang**	**75.32**	**332**	*e*P	**P**	**16 06 09.8**	**+1.2**	
	comp=Z,17nm,0.9s							
TIA	**Tai'an**	**75.91**	**319**	*e*P	**P**	**16 06 12.6**	**+0.4**	
TIA				PMZ				
	comp=Z,10.0nm,1.0s							
HABR	**Khabarovsk**	**76.26**	**337**	*e*P	**P**	**16 06 12.8**	**-1.0**	
HABR				*e*		16 06 24.8		
HABR				*e**SP	**PcP**	**16 06 27.5**	**+1.8**	
HABR				*e*PPP	PPP	16 10 50.6		
HABR				*e*S	**S**	**16 15 54.9**	**-2.1**	
HABR				*e*		16 16 25.0		
HABR				*e*SS	**SS**	**16 20 49.1**	**-2.6**	
HABR				*e*SSS	SSS	16 24 12.1		
HABR				pmax	pmax			
	comp=N,6.0nm,1.3s							
HABR				pmax	pmax			
	comp=E,8.0nm,1.3s							
HABR				pmax	pmax			
	comp=Z,21nm,1.3s							
HABR				MLR	MLR			
	comp=Z,80nm,18.0s							
NIKH	**Nikolski High**	**76.51**	**13**	*e*P	**P**	**16 06 13.0**	**-2.1**	
	comp=Z,56nm,0.6s							
CN2	**Changchun**	**76.61**	**329**	⇑ P	**P**	**16 06 16.3**	**+0.4**	
CN2				PMZ				
	comp=Z,20nm,1.0s							
ENH	**Enshi**	**77.43**	**310**	*e*P	**P**	**16 06 21.2**	**+0.3**	
	comp=Z,14nm,0.9s							
GYA	**Guiyang**	**77.45**	**305**	P	**P**	**16 06 23.0**	**+1.8**	
GYA				pP	PcP	16 06 34.8	+3.2	
GYA				PP	**PP**	**16 09 20.0**	**+3.8**	
GYA				S	**S**	**16 16 10.4**	**-0.8**	
GYA				SKS	**SKSac**	**16 16 28.3**	**-5.3**	
GYA				sS	SKKSac	16 16 30.3	-4.0	
GYA				PMZ				
	comp=Z,20nm,1.0s							
KLR	**Kul'dur**	**78.11**	**336**	*i* P	**P**	**16 06 25.1**	**+0.9**	
CM01	**Chiang Mai Arr**	**79.77**	**294**	*e*P	**P**	**16 06 35.7**	**+1.7**	
CMAR	**Chiang Mai Arr**	**79.80**	**294**	P	**P**	**16 06 36.0**	**+1.8**	
	comp=Z,3.6nm,0.9s,baz=136,slow=4.7,SNR=14							
CMAR	**Chiang Mai Arr**	**79.80**	**294**	*e*P	**P**	**16 06 36.3**	**+2.1**	
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KMI	**Kunming**	**79.81**	**302**	P	**P**	**16 06 35.5**	**+1.1**	
KMI				PMZ				
	comp=Z,17nm,0.8s							
CHTO	**Chiang Mai**	**79.96**	**295**	*e*P	**P**	**16 06 36.0**	**+0.9**	
CHTO				pmax	pmax			
	comp=Z,8.0nm,0.9s							
CHTO	**Chiang Mai**	**79.96**	**295**	*e*P	**P**	**16 06 36.0**	**+0.9**	
	comp=Z,7.7nm,0.9s							
CD2	**Chengdu**	**81.94**	**308**	*e*P	**P**	**16 06 46.0**	**+0.6**	
CD2				sP	sP	16 07 02.8	+7.9	
CD2				PP	**PP**	**16 09 54.3**	**+0.9**	
CD2				S	**S**	**16 16 58.5**	**+0.1**	
CD2				SKS	**SKSac**	**16 17 02.3**	**-2.4**	
CD2				sS	ScS	16 17 19.0	+4.1	
CD2				SS	**SS**	**16 22 19.5**	**+1.7**	
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,160nm,5.2s							
HHC	**Hu-ho-hao-te**	**82.21**	**319**	*e*P	**P**	**16 06 49.4**	**+2.7**	
HHC				PMZ				
	comp=Z,13nm,1.1s							
HHC				PMZ				
	comp=Z,130nm,8.0s							
OHAK	**Old Harbor**	**84.38**	**19**	*e*P	**P**	**16 06 55.8**	**-1.5**	
	comp=Z,26nm,1.0s							
SEY	**Seymchan**	**85.29**	**352**	*c e*P	**P**	**16 07 01.2**	**-0.5**	
GAMB	**Gambell**	**86.28**	**8**	*e*P	**P**	**16 07 08.2**	**+1.6**	

	comp=Z,16nm,0.7s							
SNAA	**Sanae**	**86.89**	**182**	⇓ *e*P	**P**	**16 07 09.5**	**-0.4**	
SNAA	**Sanae**	**86.89**	**182**	*e*P	**P**	**16 07 07.6**	**-2.4**	
	comp=Z,33nm,1.9s							
ULN	**Ulaanbaatar**	**88.93**	**323**	⇓ *i*P	**P**	**16 07 20.7**	**+0.7**	
ULN				pmax	pmax			
	comp=Z,13nm,1.2s							
ULN	**Ulaanbaatar**	**88.93**	**323**	*e*P	**P**	**16 07 20.2**	**+0.2**	
	comp=Z,12nm,1.2s							
GTA	**Gaotai**	**88.98**	**313**	*e*P	**P**	**16 07 21.5**	**+1.1**	
GTA				pP	sP	16 07 31.8	+1.9	
GTA				sP	pP	16 07 35.9	+8.5	
GTA				PMZ				
	comp=Z,5.0nm,0.9s							
YAK	**Yakutsk**	**89.17**	**342**	*i* P	**P**	**16 07 20.0**	**-0.5**	
YAK				pmax	pmax			
	comp=Z,8.0nm,0.5s							
SONM	**Songino Array**	**89.28**	**323**	P	**P**	**16 07 21.6**	**-0.1**	
	comp=Z,5.3nm,0.9s,baz=135,slow=4.7,SNR=28							
SONM	**Songino Array**	**89.28**	**323**	*e*P	**P**	**16 07 22.2**	**+0.6**	
SONM				pmax	pmax			
	comp=Z,5.0nm,0.9s							
SONA1	**Songino Array**	**89.28**	**323**	*e*P	**P**	**16 07 21.1**	**-0.5**	
BILL	**Bilibino**	**89.35**	**359**	*c i*P	**P**	**16 07 20.2**	**-1.1**	
BILL				*PP	**sP**	**16 07 33.0**	**+2.2**	
BILL				*e*SSS	SSS	16 27 36.2		
BILL				pmax	pmax			
	comp=Z,10.0nm,1.7s							
BILL	**Bilibino**	**89.35**	**359**	*e*P	**P**	**16 07 18.7**	**-2.6**	
RND	**Reindeer**	**90.69**	**17**	*e*P	**P**	**16 07 27.3**	**-0.5**	
RND				pmax	pmax			
	comp=Z,10.0nm,1.5s							
RND	**Reindeer**	**90.69**	**17**	*e*P	**P**	**16 07 27.3**	**-0.5**	
	comp=Z,10nm,1.5s							
TPNV	**Topopah Spring**	**90.81**	**50**	*e*P	**P**	**16 07 28.8**	**-0.3**	
TPNV				pmax	pmax			
	comp=Z,10.0nm,1.6s							
TPNV	**Topopah Spring**	**90.81**	**50**	*e*P	**P**	**16 07 28.8**	**-0.3**	
	comp=Z,10nm,1.6s							
WRH	**Wood River Hil**	**91.74**	**17**	*e*P	**P**	**16 07 31.9**	**-0.6**	
	comp=Z,2.9nm,1.0s							
CCB	**Clear Creek Bu**	**91.95**	**17**	*e*P	**P**	**16 07 33.4**	**-0.1**	
	comp=Z,12nm,2.0s							
ILAR	**Eielson Array**	**92.30**	**17**	P	**P**	**16 07 32.4**	**-2.7**	
	comp=Z,0.7nm,0.7s,baz=232,slow=4.6,SNR=7.9							
ILAR	**Eielson Array**	**92.30**	**17**	*e*P	**P**	**16 07 32.6**	**-2.5**	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZAK	**Zakamensk**	**92.38**	**324**	*e*P	**P**	**16 07 34.9**	**-1.0**	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.2s							
TLY	**Talaya**	**92.86**	**325**	*e*P	**P**	**16 07 37.5**	**-0.5**	
TLY				pmax	pmax			
	comp=Z,1.0nm,0.7s							
COLD	**Coldfoot**	**93.39**	**15**	*e*P	**P**	**16 07 39.4**	**-0.7**	
	comp=Z,3.7nm,1.0s							
U15A	**North Rim**	**93.46**	**52**	*e*P	**P**	**16 07 41.5**	**0.0**	
	comp=Z,7.4nm,1.5s							
EGAK	**Eagle**	**93.96**	**19**	*e*P	**P**	**16 07 41.4**	**-1.3**	
	comp=Z,8.4nm,0.9s							
TXAR	**Lajitas Array**	**97.52**	**62**	P	**P**	**16 07 59.3**	**-0.6**	
	comp=Z,0.1nm,0.5s,baz=261,slow=3.4,SNR=2.6							
BW06	**Boulder Array**	**97.89**	**47**	*e*P	**P**	**16 08 01.6**	**+0.1**	
S22A	**4UR Ranch, Cre**	**98.00**

GOPC			*ep*PKP	pPKPdf	16 14 23.4	+13	
GOPC	**GO Pecny, Ondr**	**145.42 331**	*e*PKIKP	**PKPdf**	**16 14 02.9**	**-0.4**	
PRU	**Pruhonice**	**145.48 331**	*e*PKP	**PKPdf**	**16 14 03.0**	**-0.4**	
PRU	**Pruhonice**	**145.48 331**	*e*PKP2	**PKPdf**	**16 14 03.0**	**-0.4**	
PRU			smax	smax			
	comp=N,14nm,0.4s						
TREC	**Trest**	**145.54 330**	*e*PKP	**PKPdf**	**16 14 03.2**	**-0.3**	
TREC	**Trest**	**145.54 330**	*e*PKP2	**PKPdf**	**16 14 03.2**	**-0.3**	
EKA	**Eskdalemuir Ar**	**145.82 353**	PKPbc	**PKPdf**	**16 14 02.6**	**-1.1**	
	comp=N,27nm,0.7s,baz=354,slow=2.6,SNR=73						
ESK	**Eskdalemuir**	**145.85 353**	*i* PKP2	**PKPdf**	**16 14 03.7**	**-0.1**	
ESK	**Eskdalemuir**	**145.85 353**	*e*PKPdf	**PKPdf**	**16 14 02.6**	**-1.2**	
LAST	**Lasithi**	**145.87 301**	*e*PKPdf	**PKPdf**	**16 14 05.2**	**+0.6**	
ECK	**Cauldkaine Hil**	**145.97 353**	*e*P	**PKPdf**	**16 14 03.2**	**-0.8**	
BWH	**Wardlaw**	**146.04 353**	*e*P	**PKPdf**	**16 14 03.8**	**-0.4**	
GMK	**Mull of Kintyr**	**146.05 355**	*e*P	**PKPdf**	**16 14 03.7**	**-0.4**	
NKC	**Novy Kostel**	**146.20 333**	*e*PKP	**PKPdf**	**16 14 05.5**	**+0.9**	
NKC	**Novy Kostel**	**146.20 333**	*e*PKP2	**PKPdf**	**16 14 05.5**	**+0.9**	
CONA	**Conrad Observa**	**146.29 328**	*i* PKPab	**PKPdf**	**16 14 05.8**	**+0.9**	
	comp=N,18nm,1.0s,SNR=7.1						
IDI	**Anoyia**	**146.30 302**	PKPbc	**PKPdf**	**16 14 05.4**	**0.0**	
	comp=N,12nm,1.0s,baz=98,slow=7.1,SNR=5.6						
IDI	**Anoyia**	**146.30 302**	*e*PKPdf	**PKPbc**	**16 14 07.1**	**+0.6**	
BBO1	**Bothel**	**146.42 353**	*e*P	**PKPdf**	**16 14 04.9**	**+0.1**	
GAL1	**Galloway**	**146.45 354**	*e*P	**PKPdf**	**16 14 04.7**	**-0.1**	
KHC	**Kasperske Hory**	**146.53 331**	*e*PKP	**PKPdf**	**16 14 06.5**	**+1.2**	
KHC			*ep*PKP	**pPKPdf**	**16 14 16.0**	**+3.6**	
KHC			*ex*	x	16 14 27.0		
KHC	**Kasperske Hory**	**146.53 331**	*e*PKP2	**PKPdf**	**16 14 06.5**	**+1.2**	
KHC	**Kasperske Hory**	**146.53 331**	*e*PKPbc	**PKPdf**	**16 14 06.2**	**+1.0**	
KESW	**Keswick, Cumbr**	**146.55 352**	*e*P	**PKPdf**	**16 14 05.2**	**+0.2**	
GEC2	**GERESS Array S**	**146.68 331**	*e*PKP2	**PKPdf**	**16 14 06.3**	**+0.7**	
GEC2	**GERESS Array S**	**146.68 331**	*e*PKPdf	**PKPdf**	**16 14 06.3**	**+0.7**	
GERES	**GERESS Array B**	**146.68 331**	PKPbc	**PKPdf**	**16 14 06.8**	**+1.2**	
	comp=N,18nm,0.8s,baz=33,slow=3.2,SNR=119						
GEA0	**GERESS Array S**	**146.69 331**	*e*PKPbc	**PKPdf**	**16 14 06.4**	**+0.8**	
ARSA	**Arzberg**	**146.92 327**	*i* PKPab	**PKPbc**	**16 14 07.6**	**-0.2**	
	comp=N,4.7nm,0.8s						
AGG	**Agios Georgios**	**147.07 309**	*e*PKP2	**PKPdf**	**16 14 07.4**	**+0.9**	
AGG	**Agios Georgios**	**147.07 309**	*e*PKPbc	**PKPdf**	**16 14 07.4**	**+0.9**	
GRFO	**Grafenberg**	**147.12 334**	*e*PKP2	**PKPbc**	**16 14 08.0**	**-0.3**	
GRFO	**Grafenberg**	**147.12 334**	*e*PKPbc	**PKPbc**	**16 14 08.0**	**-0.3**	
MOA	**Molln**	**147.13 329**	*i* PKPab	**PKPbc**	**16 14 08.2**	**-0.2**	
	comp=N,13nm,1.2s						
GROS	**Grobnik**	**147.45 326**	*i* PKPdf	**PKPdf**	**16 14 08.6**	**+1.6**	
SOKA	**Soboth**	**147.55 327**	*i* PKPbc	**PKPdf**	**16 14 08.9**	**+1.8**	
	comp=N,13nm,1.0s,SNR=10						
OBKA	**Obir**	**147.91 327**	*i* PKPbc	**PKPbc**	**16 14 10.0**	**-0.7**	
	comp=N,9.0nm,0.9s						
WPM1	**Penmaenmawr**	**147.95 353**	*e*P	**PKPdf**	**16 14 09.1**	**+1.7**	
WLF1	**Llynfaes**	**147.97 353**	*e*P	**PKPdf**	**16 14 09.2**	**+1.8**	
YRC	**Rhoscolyn**	**148.03 353**	*e*P	**PKPdf**	**16 14 09.2**	**+1.7**	
CWF	**Charnwood Fore**	**148.08 350**	*e*P	**PKPdf**	**16 14 09.3**	**+1.7**	
CWF	**Charnwood Fore**	**148.08 350**	*e*PKPdf	**PKPdf**	**16 14 09.3**	**+1.7**	
KBA	**Koelnbreinsper**	**148.11 329**	*i* PKPbc	**PKPdf**	**16 14 10.1**	**+1.9**	
	comp=N,15nm,0.8s,SNR=9.4						
BOJS	**Bojanci**	**148.21 325**	*i* PKPdf	**PKPbc**	**16 14 11.1**	**-0.3**	
FOEL	**Foel Wylfa**	**148.22 352**	*e*P	**PKPdf**	**16 14 10.1**	**+2.2**	
VISS	**Visnje**	**148.23 326**	*i* PKPdf	**PKPbc**	**16 14 10.7**	**-0.7**	
LJU	**Ljubljana**	**148.23 326**	*e*PKPdf	**PKPbc**	**16 14 10.5**	**-1.0**	
MEM	**Membach**	**148.27 340**	PKPbc	**PKPbc**	**16 14 10.6**	**-0.8**	
MYKA	**Terra Mystica**	**148.28 328**	*i* PKPbc	**PKPdf**	**16 14 10.5**	**+2.2**	
	comp=N,12nm,0.7s,SNR=8.4						
HLM1	**Long Mynd**	**148.54 351**	*e*P	**PKPdf**	**16 14 10.6**	**+2.2**	
JAVS	**Javornik**	**148.57 326**	*i* PKPdf	**PKPbc**	**16 14 11.4**	**-1.1**	
BCLA	**Clavier**	**148.65 341**	PKPbc	**PKPbc**	**16 14 11.8**	**-0.6**	
BCLA			PKPab	**PKiKP**	**16 14 15.4**	**+1.6**	
STU	**Stuttgart**	**148.66 335**	*e*PKP2	**PKPbc**	**16 14 11.9**	**-0.6**	
STU	**Stuttgart**	**148.66 335**	*e*PKPbc	**PKPbc**	**16 14 11.8**	**-0.6**	
ABTA	**Abfaltersbach**	**148.75 329**	*i* PKPbc	**PKPdf**	**16 14 11.6**	**+2.5**	
	comp=N,15nm,0.8s,SNR=8.1						
WATA	**Walderalm**	**148.76 331**	*i* PKPbc	**PKPdf**	**16 14 10.4**	**+1.3**	
	comp=N,7.5nm,0.7s						
WTTA	**Wattenberg**	**148.78 331**	*i* PKiKP	**PKPbc**	**16 14 12.7**	**-0.4**	
	comp=N,25nm,1.3s,SNR=6.2						
SNF	**Seneffe**	**148.88 342**	PKPbc	**PKPbc**	**16 14 12.4**	**-0.6**	
MOTA	**Moosalm**	**148.97 331**	*i* PKPbc	**PKPbc**	**16 14 12.7**	**-0.8**	
	comp=N,21nm,0.8s,SNR=14						
RETA	**Reutte**	**149.01 332**	*i* PKPbc	**PKPbc**	**16 14 12.6**	**-0.9**	
	comp=N,11nm,1.0s,SNR=5.2						
LANF	**Langenberg**	**149.03 336**	PKP	**PKPbc**	**16 14 13.0**	**-0.4**	
WLF	**Walferdange**	**149.03 339**	PKPbc	**PKPbc**	**16 14 13.3**	**-0.1**	
WLF	**Walferdange**	**149.03 339**	*e*PKP2	**PKPbc**	**16 14 13.0**	**-0.4**	
WLF	**Walferdange**	**149.03 339**	*e*PKPbc	**PKPbc**	**16 14 13.0**	**-0.4**	
MCH1	**Michaelchurch**	**149.06 351**	*e*P	**PKPbc**	**16 14 12.0**	**-1.4**	
LPW	**Lampeter**	**149.09 352**	*e*P	**PKPbc**	**16 14 12.1**	**-1.3**	
DOU	**Dourbes**	**149.15 341**	PKPbc	**PKPbc**	**16 14 13.1**	**-0.5**	
MONM	**Monmouth**	**149.19 351**	*e*P	**PKPdf**	**16 14 12.0**	**+2.6**	
BFO	**Black Forest**	**149.36 335**	*i* PKP2	**PKPbc**	**16 14 13.6**	**-0.7**	
BFO	**Black Forest**	**149.36 335**	*e*PKPbc	**PKPbc**	**16 14 13.0**	**-1.3**	
FETA	**Feichten**	**149.38 331**	*i* PKiKP	**PKPbc**	**16 14 14.2**	**-0.4**	
	comp=N,22nm,0.9s,SNR=14						
WOL	**Wolverton**	**149.44 349**	*e*P	**PKPbc**	**16 14 13.2**	**-1.1**	
DAVA	**Damuels**	**149.55 332**	*i* PKPbc	**PKPbc**	**16 14 14.3**	**-0.7**	
	comp=N,15nm,0.8s,SNR=8.7						
WLS	**Welschbruch**	**149.66 336**	PKP	**PKPbc**	**16 14 14.3**	**-0.8**	
FUORN	**Ofenpass-Fuorn**	**149.89 331**	*e*PKPbc	**PKPbc**	**16 14 15.3**	**-0.6**	
ECH	**Echery**	**149.90 336**	PKP	**PKPbc**	**16 14 14.6**	**-1.0**	
DAVOX	**Davos/Dischmat**	**149.94 332**	PKPbc	**PKPbc**	**16 14 15.5**	**-0.4**	
	comp=N,36nm,0.9s,baz=230,slow=0.5,SNR=30						
MOF	**Molkenrain**	**150.21 336**	PKP	**PKPbc**	**16 14 15.5**	**-1.0**	
TUE	**Stuetta**	**150.41 332**	*e*PKPbc	**PKPbc**	**16 14 16.7**	**-0.5**	
DYA	**Yadsworthy**	**150.72 352**	*e*P	**PKPbc**	**16 14 16.0**	**-1.5**	
DYA	**Yadsworthy**	**150.72 352**	*e*PKPbc	**PKPbc**	**16 14 15.7**	**-1.8**	
LOMF	**Lomont**	**150.74 336**	PKP	**PKPbc**	**16 14 17.1**	**-0.7**	
TIP	**Timpagrande**	**150.90 313**	*e*PKPbc	**PKPbc**	**16 14 17.5**	**-0.9**	
CCA1	**Carnmenellis**	**151.12 353**	*e*P	**PKPbc**	**16 14 17.0**	**-1.4**	
SENIN	**Lac Senin/Sane**	**151.37 334**	*e*PKPbc	**PKPbc**	**16 14 18.3**	**-1.1**	
PLDF	**La Plantade**	**153.09 338**	PKP	**PKPbc**	**16 14 22.4**	**-0.7**	
AGO	**Saint Agoulin**	**153.18 339**	PKP	**PKPbc**	**16 14 22.6**	**-0.6**	
SSB	**Saint Sauveur**	**153.34 336**	*e*PKIKP	**PKPbc**	**16 14 22.8**	**-0.9**	
SSB			*e*		16 14 35.5		
SSB	**Saint Sauveur**	**153.34 336**	*e*PKPbc	**PKPbc**	**16 14 22.8**	**-0.9**	
SSB			*e*PKPab	**PKPab**	**16 14 35.5**	**-0.1**	
LBL	**Lubilhac**	**153.86 338**	PKP	**PKPbc**	**16 14 25.3**	**+0.5**	
TORD	**Torodi Ar. Bea**	**165.80 236**	PKP	**PKPdf**	**16 14 28.7**	**-2.5**	
	comp=N,0.6nm,0.8s,baz=52,slow=2.2,SNR=3.8						

CSEM **14** *16:01:39.4±0.3, 49.°85N×18.°50E, h1km, ML2.3/5, Error ellipse: s-maj=7.3km s-min=3.5km az=8.0*
IPEC 14 16:01:39.4±0.2, 49.°83N×18.°59E, h0km, ML1.4/3, 3D, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.29 271**		*i* PG	Pg	16 01 45.4	+0.5
OKC				*e*SG	Sg	16 01 48.3	-0.3
	46nm,0.5s						
OKC	**Ostrava-Krasne**	**0.29 271**		Pg	Pg	16 01 45.4	+0.5
OKC				Sg	Sg	16 01 48.3	-0.3
	46nm,0.5s						
MORC	**Moravsky Berou**	**0.68 266**		*e*Pg	Pg	16 01 52.5	+0.1
MORC				*e*Sg	Sg	16 02 00.6	-0.7
	5.5nm,0.2s						
OJC	**Ojcow**	**0.87 63**		*e*Pg	Pg	16 01 56.5	+0.4
OJC				*e*Sg	Sb	16 02 08.7	-0.9
OJC	**Ojcow**	**0.87 63**		*e*P	Pg	16 01 56.5	+0.4
OJC	**Ojcow**	**0.87 63**		*e*Pg	Pg	16 01 56.5	+0.4
OJC				*e*Sg	Sb	16 02 08.7	-0.9
LANS	**Liptovska Anna**	**0.89 140**		*e*P	Pb	16 01 57.1	-0.6
LANS	**Liptovska Anna**	**0.89 140**		*e*Pg	Pb	16 01 57.1	-0.6
LANS				*e*Sg	Sb	16 02 10.1	-0.1
LANS	**Liptovska Anna**	**0.89 140**		*e*PG	Pb	16 01 57.1	-0.6
LANS				*e*SG	Sb	16 02 10.1	-0.1
JAVC	**Velka Javorina**	**1.15 212**		*e*Pg	Pb	16 02 02.4	+0.3
NIE	**Niedzica**	**1.19 110**		*e*Pg	Pn	16 02 03.4	+0.1
NIE				*e*Sg	Sn	16 02 21.0	+0.8
NIE	**Niedzica**	**1.19 110**		*e*P	Pn	16 02 03.4	+0.1
NIE	**Niedzica**	**1.19 110**		*e*Pg	Pn	16 02 03.4	+0.1
NIE				*e*Sg	Sn	16 02 21.0	+0.9
VYHS	**Vyhne**	**1.35 173**		*e*Pn	Pg	16 02 04.9	-0.3
VYHS				*e*Sn	Sb	16 02 23.6	+0.2
VYHS	**Vyhne**	**1.35 173**		*e*PN	Pg	16 02 04.9	-0.3
VYHS				*e*SN	Sb	16 02 23.6	+0.2
VYHS				*e*LG	Lg	16 02 25.6	
VRAC	**Vranov**	**1.40 249**		*e*Pg	Pn	16 02 05.4	-0.8
VRAC				*e*Sg	Sg	16 02 23.3	-1.1
	7.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.55 290**		*e*PG	Pn	16 02 07.6	-0.7
DPC				*e*SG	Sn	16 02 27.1	-2.0
	4.1nm,0.3s						
DPC	**Dobruska-Polom**	**1.55 290**		Pg	Pn	16 02 07.6	-0.7
DPC				Sg	Sn	16 02 27.1	-2.0
	4.1nm,0.3s						
KRUC	**Moravsky**	**1.63 243**		*e*Pg	Pn	16 02 08.7	-0.6
KRUC				*e*Sg	Sn	16 02 30.4	-0.6
	4.3nm,0.2s						
STHS	**Stebnicka Huta**	**1.77 103**		*e*Pn	Pg	16 02 14.1	+0.7
STHS	**Stebnicka Huta**	**1.77 103**		*e*PN	Pg	16 02 14.1	+0.7
STHS				*e*SN	Sg	16 02 39.4	+3.0
STHS				*e*LG	Lg	16 02 45.9	
UPC	**Upice**	**1.79 293**		*e*PG	Pn	16 02 11.9	+0.3
UPC				*e*SG	Sn	16 02 35.4	+0.4
UPC	**Upice**	**1.79 293**		Pg	Pn	16 02 11.9	+0.3
UPC				Sg	Sn	16 02 35.4	+0.4
KECS	**Kecovo**	**1.84 137**		*e*P	Pn	16 02 12.1	-0.1
KECS	**Kecovo**	**1.84 137**		*e*Pn	Pn	16 02 12.1	-0.1
KECS				*e*Sn	Sb	16 02 37.0	-0.3
KECS	**Kecovo**	**1.84 137**		*e*PN	Pn	16 02 12.1	-0.1
KECS				*e*SN	Sb	16 02 37.0	-0.3
KECS				*e*LG	Lg	16 02 37.1	
PRU	**Pruhonice**	**2.62 275**		*e*SG	Sg	16 03 02.0	-1.6
PRU	**Pruhonice**	**2.62 275**		Sg	Sg	16 03 02.0	-1.6
KHC	**Kasperske Hory**	**3.34 260**		*e*PG	Pb	16 02 40.5	+0.9
KHC				*e*SG	Sb	16 03 22.8	+2.0
KHC	**Kasperske Hory**	**3.34 260**		Pg	Pb	16 02 40.5	+0.9

ISCJB **14** *16:20:36.7±0.7, 51.°44N±0.°03×16.°18E±0.°04, h0km, Error ellipse: s-maj=5.1km s-min=3.5km az=15.6*
CSEM **14** *16:20:38.1±0.4, 51.°44N×16.°16E, h2km, ML3.2/6, Error ellipse: s-maj=6.4km s-min=5.4km az=170.0*
WAR **14** *16:20:39.3, 51.°44N×16.°19E, h1km, Mw2.4*
ISC 14 16:20:38.5±1.0, 51.°46N±0.°04×16.°18E±0.°03, h0km, n30, σ0§64/52, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63 173**		*e*Pg	**Pg**	**16 20 50.6**	**+0.2**
KSP				*e*Sg	**Sg**	**16 20 58.4**	**-0.1**
KSP	**Ksiaz**	**0.63 173**		*e*Pg	**Pg**	**16 20 50.6**	**+0.2**
KSP				*e*Sg	**Sg**	**16 20 58.4**	**-0.1**
KSP	**Ksiaz**	**0.63 173**		*e*Pg	**Pg**	**16 20 50.6**	**+0.2**
KSP				*e*Sg	**Sg**	**16 20 58.4**	**-0.1**
UPC	**Upice**	**0.96 186**		*e*PG	**Pg**	**16 20 56.9**	**0.0**
UPC				*e*SG	**Sg**	**16 21 09.3**	**-0.1**
	54nm,0.3s						
UPC	**Upice**	**0.96 186**		Pg	**Pg**	**16 20 56.9**	**0.0**
UPC				Sg	**Sg**	**16 21 09.3**	**-0.1**
	54nm,0.3s						
UPC	**Upice**	**0.96 186**		*e*	**Sg**	**16 21 09.3**	**-0.1**
DPC	**Dobruska-Polom**	**1.12 175**		*e*PG	**Pg**	**16 20 59.5**	**-0.4**
DPC				*e*SG	**Sg**	**16 21 13.4**	**-1.0**
	16nm,0.4s						
DPC	**Dobruska-Polom**	**1.12 175**		Pg	**Pg**	**16 20 59.5**	**-0.4**
DPC				Sg	**Sg**	**16 21 13.4**	**-1.0**
	16nm,0.4s						
PVCC	**Panska Ves**	**1.38 228**		*e*PG	**Pb**	**16 21 05.2**	**0.0**
PVCC				*e*SG	**Sb**	**16 21 23.3**	**-0.1**
	91nm,0.3s						
PVCC	**Panska Ves**	**1.38 228**		Pg	**Pb**	**16 21 05.2**	**0.0**
PVCC				Sg	**Sb**	**16 21 23.3**	**-0.1**
	91nm,0.3s						
PVCC	**Panska Ves**	**1.38 228**		*e*	**Pb**	**16 21 05.2**	**0.0**
BRG	**Berggiesshubel**	**1.53 248**		PG	**Pg**	**16 21 07.8**	**+0.1**
BRG				SG	**Sn**	**16 21 28.1**	**+0.5**
	30nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.79 210**		*e*PG	**Pb**	**16 21 12.0**	**-0.1**
GOPC				*e*SG	**Sb**	**16 21 34.8**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.79 210**		Pg	**Pb**	**16 21 12.0**	**-0.1**
GOPC				Sg	**Sb**	**16 21 34.8**	**-0.2**
PRU	**Pruhonice**	**1.81 216**		*e*PG	**Pb**	**16 21 11.7**	**-0.7**
PRU				*e*SG	**Sb**	**16 21 35.4**	**-0.2**
	14nm,0.4s						
PRU	**Pruhonice**	**1.81 216**		Pg	**Pb**	**16 21 11.7**	**-0.7**
PRU				Sg	**Sb**	**16 21 35.4**	**-0.2**
	14nm,0.4s						
PRU	**Pruhonice**	**1.81 216**		*e*	**Pb**	**16 21 11.7**	**-0.7**
MORC	**Moravsky Berou**	**1.90 152**		*e*Pn	**Pn**	**16 21 11.1**	**-1.1**
MORC				*e*Sg	**Sn**	**16 21 36.8**	**0.0**
CLL	**Collm**	**2.00 267**		*e*Pg	**Pb**	**16 21 16.0**	**+0.4**
CLL				*e*Sg	**Sg**	**16 21 43.0**	**+0.4**
	comp=Z,11nm,0.3s						
KRUC	**Moravsky**	**2.41 177**		*e*Pg	**Pb**	**16 21 22.7**	**0.0**
KRUC				*e*Sg	**Sb**	**16 21 53.6**	**+0.7**
OJC	**Ojcow**	**2.61 117**		*e*Pg	**Pg**	**16 21 29.1**	**+0.6**
OJC				*e*Sg	**Sg**	**16 22 02.9**	**+0.6**
OJC	**Ojcow**	**2.61 117**		*e*Pg	**Pg**	**16 21 29.1**	**+0.6**
OJC				*e*Sg	**Sg**	**16 22 02.9**	**+0.6**
OJC	**Ojcow**	**2.61 117**		*e*Pg	**Pg**	**16 21 29.1**	**+0.6**
OJC				*e*Sg	**Sg**	**16 22 02.9**	**+0.6**
NKC	**Novy Kostel**	**2.67 244**		*e*SG	**Sg**	**16 22 03.1**	**-1.0**
	comp=Z,24nm,0.3s						
NKC	**Novy Kostel**	**2.67 244**		Sg	**Sg**	**16 22 03.1**	**-1.0**
	comp=Z,24nm,0.3s						
KHC	**Kasperske Hory**	**2.87 217**		*e*PN	**Pn**	**16 21 26.4**	**+0.9**
KHC				*e*PG	**Pb**	**16 21 31.4**	**+0.8**
KHC				*e*SG	**Sb**	**16 22 07.9**	**+1.7**
	comp=Z,5.3nm,0.3s						
KHC	**Kasperske Hory**	**2.87 217**		Pn	**Pn**	**16 21 26.4**	**+0.9**
BSD	**Bornholm Skovb**	**3.73 349**		*e*P	**Pn**	**16 21 36.2**	**-1.1**
STHS	**Stebnicka Huta**	**3.83 120**		*e*Sg	**Sg**	**16 22 40.2**	**-1.3**
STHS	**Stebnicka Huta**	**3.83 120**		*e*SG	**Sg**	**16 22 40.2**	**-1.3**
STHS				*e*LG	Lg	16 22 47.9	

CSEM **14** *16:23:25.9±0.2, 51.°45N×16.°18E, h2km, ML3.2/16, Error ellipse: s-maj=4.1km s-min=3.3km az=179.0*
WAR **14** *16:23:26.9, 51.°44N×16.°19E, h1km, Mw2.9*
IDC **14** *16:23:26.9±0.9, 51.°41N×16.°16E, h0km, mb1 3.3/5, mb1mx3.0/52, mbtmp3.2/5, ML2.9/5, Error ellipse: s-maj=15.7km s-min=7.8km az=122.0*
VIE **14** *16:23:30.8±1.1, 51.°16N×16.°10E, h0km, mb2.5/5, ML2.5/11, Error ellipse: s-maj=8.3km s-min=5.8km az=104.0, Suspected Mining induced.*
ISC 14 16:23:24.6±0.8, 51.°52N±0.°03×16.°20E±0.°02, h0km, n60, σ1§25/108, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68 175**		*i* Pg	**Pg**	**16 23 38.2**	**+0.5**
KSP				*e*Sg	**Sg**	**16 23 46.3**	**-0.2**
KSP	**Ksiaz**	**0.68 175**		*i* Pg	**Pg**	**16 23 38.2**	**+0.5**
KSP				*e*Sg	**Sg**	**16 23 46.3**	**-0.2**
KSP	**Ksiaz**	**0.68 175**		*i* Pgd	**Pg**	**16 23 38.2**	**+0.5**
KSP				*e*Sg	**Sg**	**16 23 46.3**	**-0.2**
UPC	**Upice**	**1.02 187**		*e*PG	**Pg**	**16 23 44.4**	**+0.2**
UPC				*e*SG	**Sg**	**16 23 57.3**	**-0.1**
	128nm,0.3s						
UPC	**Upice**	**1.02 187**		Pg	**Pg**	**16 23 44.4**	**+0.2**
UPC				Sg	**Sg**	**16 23 57.3**	**-0.1**
	128nm,0.3s						
DPC	**Dobruska-Polom**	**1.18 176**		*e*PG	**Pg**	**16 23 47.0**	**-0.1**
DPC				*e*SG	**Sg**	**16 24 02.1**	**-0.2**
	46nm,0.3s						
DPC	**Dobruska-Polom**	**1.18 176**		Pg	**Pg**	**16 23 47.0**	**-0.1**
DPC				Sg	**Sg**	**16 24 02.1**	**-0.2**
	46nm,0.3s						
PVCC	**Panska Ves**	**1.43 227**		*e*PG	**Pb**	**16 23 52.7**	**+0.5**
PVCC				*e*SG	**Sn**	**16 24 11.4**	**+0.1**
	292nm,0.3s						
PVCC	**Panska Ves**	**1.43 227**		Pg	**Pb**	**16 23 52.7**	**+0.5**
PVCC				Sg	**Sn**	**16 24 11.4**	**+0.1**
	292nm,0.3s						
BRG	**Berggiesshubel**	**1.56 246**		PN	**Pn**	**16 23 53.8**	**+0.2**
BRG				PG	**Pg**	**16 23 55.7**	**+1.2**
BRG				SG	**Sg**	**16 24 15.7**	**+1.0**
	82nm,0.7s						
GOPC	**GO Pecny, Ondr**	**1.84 210**		*e*PN	**Pn**	**16 23 58.3**	**+0.8**
GOPC				*e*PG	**Pb**	**16 23 59.4**	**+0.2**
GOPC				*e*SG	**Sb**	**16 24 22.6**	**-0.2**
	31nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.84 210**		Pn	**Pn**	**16 23 58.3**	**+0.8**
PRU	**Pruhonice**	**1.86 215**		*e*PG	**Pb**	**16 23 59.6**	**+0.1**
PRU				*e*SG	**Sb**	**16 24 23.2**	**-0.1**
	44nm,0.3s						
PRU	**Pruhonice**	**1.86 215**		Pg	**Pb**	**16 23 59.6**	**+0.1**
PRU				Sg	**Sb**	**16 24 23.2**	**-0.1**
	44nm,0.3s						
MORC	**Moravsky Berou**	**1.94 153**		*e*Pn	**Pn**	**16 23 58.8**	**-0.1**
MORC				*e*Sg	**Sb**	**16 24 25.2**	**-0.5**
CLL	**Collm**	**2.01 265**		*e*Pg	**Pg**	**16 24 03.0**	**-0.2**
CLL				*e*Sg	**Sg**	**16 24 31.0**	**+1.7**
	comp=Z,34nm,0.5s						
OKC	**Ostrava-Krasne**	**2.09 143**		*e*PG	**Pg**	**16 24 04.4**	**-0.3**
OKC				*e*SG	**Sb**	**16 24 30.2**	**+0.3**
	comp=Z,53nm,0.6s						
OKC	**Ostrava-Krasne**	**2.09 143**		Pg	**Pg**	**16 24 04.4**	**-0.3**
OKC				Sg	**Sb**	**16 24 30.2**	**+0.3**
	comp=Z,53nm,0.6s						
VRAC	**Vranov**	**2.23 173**		Pn	**Pn**	**16 24 03.0**	**+0.2**
	comp=Z,4.4nm,0.3s,baz=346,slow=16,SNR=11						
VRAC				Lg	Lg	16 24 32.9	
	comp=Z,9.3nm,0.3s,baz=96,slow=20,SNR=8.6						
VRAC	**Vranov**	**2.23 173**		*e*Pn	**Pn**	**16 24 03.3**	**+0.5**
VRAC				*e*Sg	**Sb**	**16 24 33.0**	**-0.9**
TREC	**Trest**	**2.28 192**		*e*PG	**Pb**	**16 24 07.1**	**+0.5**
TREC	**Trest**	**2.28 192**		Pg	**Pb**	**16 24 07.1**	**+0.5**
KRUC	**Moravsky**	**2.47 177**		*e*Pn	**Pn**	**16 24 06.9**	**+0.8**
KRUC				*e*Sg	**Sb**	**16 24 42.2**	**+1.5**
OJC	**Ojcow**	**2.63 118**		*e*Pg	**Pg**	**16 24 15.3**	**+0.4**
OJC				*e*Sg	**Sg**	**16 24 50.0**	**+1.0**
OJC	**Ojcow**	**2.63 118**		*e*Pg	**Pg**	**16 24 15.3**	**+0.4**
OJC				*e*Sg	**Sg**	**16 24 50.0**	**+1.0**
OJC	**Ojcow**	**2.63 118**		*e*Pg	**Pg**	**16 24 15.3**	**+0.4**
OJC				*e*Sg	**Sg**	**16 24 50.0**	**+1.0**
NKC	**Novy Kostel**	**2.70 243**		*e*PN	**Pn**	**16 24 10.2**	**+0.8**
NKC				*e*PG	**Pg**	**16 24 16.3**	**-0.1**
NKC				*e*SG	**Sg**	**16 24 51.4**	**0.0**
	comp=Z,54nm,0.3s						
NKC	**Novy Kostel**	**2.70 243**		Pn	**Pn**	**16 24 10.2**	**+0.8**
JAVC	**Velka Javorina**	**2.83 160**		*e*Pn	**Pn**	**16 24 12.2**	**+1.1**
JAVC				*e*Sg	**Sg**	**16 24 54.5**	**-0.9**
KHC	**Kasperske Hory**	**2.92 216**		*e*PN	**Pn**	**16 24 12.7**	**+0.3**
KHC				*e*PG	**Pb**	**16 24 19.1**	**+1.5**
KHC				*e*SG	**Sb**	**16 24 55.7**	**+1.8**
	comp=Z,26nm,0.5s						
KHC	**Kasperske Hory**	**2.92 216**		Pn	**Pn**	**16 24 12.7**	**+0.3**
SMOL	**Smolenice**	**3.11 165**		*e*Pg	**Pg**	**16 24 24.9**	**+0.6**
SMOL				*e*Sg	**Sg**	**16 25 05.1**	**+0.5**
SMOL	**Smolenice**	**3.11 165**		*e*PG	**Pg**	**16 24 24.9**	**

WUAZ	**Wupatki**	**56.83**	**324**	*e*P	**P**	**16 34 38.4**	**+1.3**
	4.4nm,0.9s						
U15A	**North Rim**	**58.00**	**324**	*e*P	**P**	**16 34 47.0**	**+1.5**
	2.9nm,1.0s						
R11A	**Troy Canyon, C**	**61.23**	**324**	*e*P	**P**	**16 35 08.5**	**+1.0**
	2.1nm,0.6s						
PDAR	**Pinedale Array**	**61.23**	**331**	P	**P**	**16 35 07.1**	**-0.3**
	0.7nm,0.6s,baz=100,slow=7.7,SNR=5.5						
HWUT	**Hardware Ranch**	**61.34**	**329**	*e*P	**P**	**16 35 08.5**	**+0.4**
	3.2nm,0.8s						
ULM	**Lac du Bonnet**	**62.55**	**345**	P	**P**	**16 35 15.2**	**-0.7**
	4.3nm,0.5s,baz=181,slow=8.3,SNR=4.3						
MFID	**Camas Ranch**	**64.83**	**328**	*e*P	**P**	**16 35 31.9**	**+0.8**
DBIC	**Dimbokro**	**71.38**	**80**	P	**P**	**16 36 11.9**	**-0.5**
	1.3nm,0.4s,baz=232,slow=5.1,SNR=3.7						
SNAA	**Sanae**	**75.11**	**162**	P	**P**	**16 36 33.8**	**+0.4**
YKA	**Yellowknife Ar**	**78.36**	**342**	P	**P**	**16 36 51.0**	**-0.5**
	0.5nm,0.4s,baz=131,slow=6.3,SNR=7.4						
YKA				pP	**pP**	**16 37 24.3**	**+0.2**
	0.3nm,0.5s,baz=140,slow=6.1,SNR=2.9						
TOA0	**Torodi Ar. Sit**	**79.09**	**75**	*e*P	**P**	**16 36 56.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**79.09**	**75**	P	**P**	**16 36 56.0**	**-0.6**
	1.3nm,0.8s,baz=273,slow=5.9,SNR=7.4						
ESDC	**Sonseca Array**	**81.65**	**47**	P	**P**	**16 37 10.3**	**+0.4**
	0.2nm,0.4s,baz=269,slow=6.1,SNR=4.9						
SUMG	**Summit**	**85.44**	**10**	*e*P	**P**	**16 37 29.9**	**+0.9**
	3.4nm,0.7s						
VNDA	**Vanda**	**87.39**	**190**	P	**P**	**16 37 39.4**	**+1.4**
	0.7nm,0.8s,baz=168,slow=2.6,SNR=2.8						
INK	**Inuvik**	**88.09**	**341**	*e*P	**P**	**16 37 41.1**	**-0.2**
	3.9nm,0.7s						
ILAR	**Eielson Array**	**91.33**	**336**	P	**P**	**16 37 56.6**	**+0.1**
	0.4nm,0.7s,baz=143,slow=1.7,SNR=5.1						
DAVOX	**Davos/Dischmat**	**93.28**	**43**	LR	LR	17 14 59.0	
	comp=Z,144nm,22.0s,baz=258,slow=32						
STKA	**Stephens Creek**	**126.04**	**218**	PKP	**PKPdf**	**16 43 52.5**	**-0.8**
	1.0nm,0.6s,baz=55,slow=6.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**132.93**	**16**	PKP	**PKPdf**	**16 44 06.0**	**+0.2**
	0.9nm,0.5s,baz=234,slow=1.6,SNR=4.5						
KURK	**Kurchatov**	**133.57**	**23**	PKP	**PKPdf**	**16 44 07.2**	**+0.2**
KURBB	**Kurchatov Arra**	**133.61**	**23**	PKP	**PKPdf**	**16 44 07.2**	**+0.1**
	0.3nm,0.7s,baz=309,slow=2.7,SNR=6.0						
ASAR	**Alice Springs**	**136.64**	**220**	PKP	**PKPdf**	**16 44 13.1**	**-0.6**
	0.9nm,0.6s,baz=120,slow=2.0,SNR=14						
MKAR	**Makanchi Array**	**138.17**	**24**	PKP	**PKPdf**	**16 44 15.9**	**+0.1**
	0.3nm,0.8s,baz=346,slow=1.8,SNR=3.4						
WRA	**Warramunga Arr**	**138.98**	**224**	PKP	**PKPdf**	**16 44 18.1**	**0.0**
	1.5nm,0.5s,baz=121,slow=2.1,SNR=20						
WRA				pPKP	**pPKPdf**	**16 44 49.9**	**-3.0**
	0.3nm,0.5s,baz=128,slow=1.9,SNR=1.4						
KSRS	**Korea Array**	**145.73**	**327**	PKPbc	**PKPdf**	**16 44 29.5**	**+0.1**
	1.2nm,0.5s,baz=29,slow=2.6,SNR=5.9						
KSRS				pPKPbc	pPKPbc	16 45 03.2	-1.3
	1.0nm,0.7s,baz=29,slow=2.6,SNR=3.7						
KSAR	**Wonju Array Be**	**145.75**	**327**	PKPbc	**PKPdf**	**16 44 29.5**	**0.0**
KSAR				pPKPbc	pPKPbc	16 45 03.2	-1.4
FITZ	**Fitzroy Crossi**	**145.86**	**216**	PKPbc	**PKPbc**	**16 44 30.9**	**0.0**
	3.6nm,0.8s,baz=194,slow=4.7,SNR=5.6						
GTA	**Gaotai**	**150.04**	**9**	*e*PKPbc	**PKPbc**	**16 44 42.3**	**+0.5**
GTA				pPKP	pPKPdf	16 45 08.3	-3.4
GTA				sPKP		16 45 17.8	

IDC **14** *16:25:59.5±1.5,26.6°N×144.0°E,h0km,mb3.5/7, mb1 3.6/7,mb1mx3.4/53,mbtmp3.5/7,Error ellipse: s-maj=38.5km s-min=19.0km az=68.0*

ISC 14 16:26:05.0±1.4,26°5N±0°2×143°8E±0°2,h31km,n8, σ0s53/9,mb3.6/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.53**	**292**	Pn	**Pn**	**16 26 29.9**	**-0.3**
	5.2nm,0.3s,baz=297,slow=18,SNR=5.0						
JCJ				Sn	**Sb**	**16 26 52.1**	**+0.2**
	11nm,0.3s,baz=101,slow=22,SNR=4.7						
SONM	**Songino Array**	**36.11**	**316**	P	**P**	**16 33 05.0**	**+0.8**
	0.5nm,0.6s,baz=124,slow=7.2,SNR=4.7						
WRA	**Warramunga Arr**	**47.09**	**192**	P	**P**	**16 34 34.5**	**+0.2**
	0.6nm,0.6s,baz=17,slow=8.7,SNR=9.6						
ASAR	**Alice Springs**	**50.81**	**192**	P	**P**	**16 35 02.6**	**-0.1**
	0.2nm,0.8s,baz=12,slow=5.8,SNR=3.4						
ZALV	**Zalesovo Beam**	**50.85**	**319**	P	**P**	**16 35 02.2**	**-0.4**
	0.4nm,0.4s,baz=85,slow=6.5,SNR=2.4						
MKAR	**Makanchi Array**	**51.93**	**310**	P	**P**	**16 35 11.1**	**+0.1**
	0.5nm,0.8s,baz=99,slow=7.5,SNR=5.1						
KURBB	**Kurchatov Arra**	**54.45**	**315**	P	**P**	**16 35 28.6**	**-0.7**
	0.3nm,0.5s,baz=89,slow=8.0,SNR=9.3						
BVAR	**Borovoye Array**	**59.42**	**318**	P	**P**	**16 36 04.2**	**-0.3**
	0.3nm,0.4s,baz=88,slow=8.8,SNR=3.7						

IDC **14** *16:42:57.3±3.5,35°.47N×141°.61E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.3/49,mbtmp3.3/4,ML3.1/1,Error ellipse: s-maj=104.1km s-min=26.1km az=57.0*
ISCJB **14** *16:43:01.5±1.0,35°.18N±0°.05×141°.25E±0°.10,h35km, mb3.3/3,Error ellipse: s-maj=11.6km s-min=7.6km az=168.0*
JMA **14** *16:43:01.2±0.1,35°.21N×141°.22E,h37km±2km,M3.1*

ISC 14 16:43:03.2±1.3,35°19N±0°.05×141°20E±0°.10,h35km,n14, σ1s83/17,mb3.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.56**	**199**	P	**Pn**	**16 43 13.0**	**-1.2**
CHOJ	**Chosi**	**0.59**	**332**	P	**Pn**	**16 43 12.7**	**-2.4**
CHOJ				S	**Sn**	**16 43 21.4**	**-2.0**
BSO3	**Boso 3**	**0.69**	**236**	P	**Pn**	**16 43 14.9**	**-1.3**
KTR	**Katsuura**	**0.73**	**267**	P	**Pn**	**16 43 15.5**	**-1.5**
KTR				eS	**Sn**	**16 43 25.4**	**-1.5**
BSO4	**Boso 4**	**0.73**	**255**	P	**Pn**	**16 43 15.5**	**-1.5**
JCN	**Nagara**	**0.85**	**286**	P	**Pn**	**16 43 17.8**	**-0.9**
JYT	**Yasato**	**1.32**	**322**	P	**Pn**	**16 43 23.7**	**-1.5**
JHO	**Hitachi**	**1.51**	**340**	P	**Pn**	**16 43 27.0**	**-0.8**
JIM2	**Oshima 3**	**1.53**	**253**	P	**Pn**	**16 43 26.0**	**-2.0**
MJAR	**Matsushiro Arr**	**2.78**	**300**	Pn	**Pn**	**16 43 46.5**	**+1.2**
	2.4nm,0.3s,baz=107,slow=13,SNR=28						
MAT	**Matsushiro**	**2.78**	**300**	P	**Pn**	**16 43 46.6**	**+1.3**
MAT				eS	**Sn**	**16 44 20.0**	**+2.3**
MKAR	**Makanchi Array**	**44.98**	**304**	P	**P**	**16 51 14.7**	**-0.2**
	0.3nm,0.7s,baz=81,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**55.21**	**188**	P	**P**	**16 52 32.5**	**-0.2**
	0.4nm,0.5s,baz=1.9,slow=7.2,SNR=9.7						
ASAR	**Alice Springs**	**58.94**	**188**	P	**P**	**16 53 02.3**	**+3.3**
	0.1nm,0.5s,baz=0.8,slow=6.1,SNR=3.5						

IDC 14 16:44:39.1±3.8,13°.37N×87°.25W,h0km,mb3.2/2, mb1 3.8/2,mb1mx3.4/42,mbtmp3.3/2,MS3.0/1,Ms1 3.0/1, ms1mx2.6/18,Error ellipse: s-maj=124.9km s-min=71.6km az=60.0,Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**22.00**	**319**	P	P	16 49 35.2	0.0
	0.5nm,0.5s,baz=134,slow=10,SNR=6.3						
PCRV	**Puerto La Cruz**	**22.36**	**96**	LR	LR	17 00 20.8	
	comp=Z,40nm,19.2s,baz=100,slow=42						
YKA	**Yellowknife Ar**	**52.78**	**344**	P	P	16 53 55.7	-0.1
	0.3nm,0.6s,baz=130,slow=8.4,SNR=4.4						
WRA	**Warramunga Arr**	**139.71**	**255**	PKP	PKPdf	17 04 09.1	-0.9
	0.3nm,0.5s,baz=89,slow=2.6,SNR=8.2						
ASAR	**Alice Springs**	**139.78**	**249**	PKP	PKPdf	17 04 09.7	-0.4
	0.5nm,0.9s,baz=113,slow=2.1,SNR=3.6						

IDC 14 16:50:53.1±2.3,6°43S×129°.84E,h0km,mb3.5/1, mb1 3.5/4,mb1mx3.3/39,mbtmp3.4/4,ML3.3/3,Error ellipse: s-maj=88.7km s-min=29.1km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.31**	**199**	Pn	Pn	16 53 51.5	+1.7
	0.1nm,0.3s,baz=26,slow=11,SNR=9.2						
FITZ				Sn	Sn	16 55 56.5	-11
	0.6nm,0.3s,baz=226,slow=18,SNR=8.2						
WRA	**Warramunga Arr**	**14.13**	**162**	Pn	Pn	16 54 12.8	-1.9
	0.2nm,0.3s,baz=339,slow=12,SNR=11						
WRA				Sn	Sn	16 56 37.0	-15
	0.4nm,0.3s,baz=330,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.58**	**168**	P	Pn	16 54 59.8	0.0
	0.1nm,0.3s,baz=342,slow=8.8,SNR=5.2						
ASAR				S	Sn	16 58 00.3	-16
	0.1nm,0.3s,baz=354,slow=27,SNR=4.0						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	17 01 52.1	0.0
	0.3nm,0.5s,baz=120,slow=7.3,SNR=4.4						

NIED **14** *16:51:00,39°.00N×140°.90E,h5km,Mw3.7 Best double couple: M0 3.96000×10^14 NP1:φs207.00000°,δ72.00000°, λ16.00000°. NP2:φs112.00000°,δ75.00000°,λ161.00000°.*
ISCJB **14** *16:51:40.0±0.5,39°.04N±0°.03×140°.90E±0°.04,h11km±5km, mb3.8/2,Error ellipse: s-maj=5.8km s-min=5.4km az=161.7*
IDC **14** *16:51:39.8±1.6,38°.88N×141°.20E,h0km,mb3.7/2, mb1 3.7/7,mb1mx3.4/55,mbtmp3.7/7,ML3.2/5,MS2.7/3, Ms1 2.7/3,ms1mx2.4/48,Error ellipse: s-maj=41.3km s-min=22.8km az=93.0*
JMA **14** *16:51:40.3,39°.04N×140°.87E,h5km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φs302.00000°,δ77.00000°,λ-148.00000°. NP2: φs203.00000°,δ58.00000°,λ-15.00000°. Principal axes: T Plg12.0000°, Azm69.0000°; N Plg55.0000°, Azm321.0000°; P Plg32.0000°, Azm167.0000°;*
JMA Felt II J1.

ISC 14 16:51:40.7±0.9,38°98N±0°.05×140°95E±0°.04,h10km±7km, n23,σ1s68/23,3C-3D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMK	**Ichinoseki**	**0.21**	**96**	⇑P	**Pb**	**16 51 45.9**	**+0.7**
JMK				S	**Sb**	**16 51 49.9**	**+1.7**
JYK	**Kaneyama**	**0.46**	**263**	⇑P	**Pg**	**16 51 48.6**	**-1.2**
JYK				*e*S	**Sg**	**16 51 54.3**	**-1.6**
JRG	**Rokugo**	**0.49**	**330**	⇓P	**Pg**	**16 51 48.2**	**-2.0**
JOM	**Ohasama**	**0.56**	**28**	⇑P	**Pg**	**16 51 50.6**	**-1.1**
JOM				S	**Sg**	**16 51 57.9**	**-1.3**
JIO	**Ouri**	**0.61**	**149**	⇓P	**Pb**	**16 51 53.3**	**-0.1**
JIO				*e*S	**Sn**	**16 52 02.9**	**-2.4**
JOU	**Okura**	**0.65**	**200**	⇓P	**Pb**	**16 51 53.8**	**-0.4**
JOU				S	**Sb**	**16 52 02.9**	**-0.4**
MJAR	**Matsushiro Arr**	**3.26**	**223**	Pn	**Pn**	**16 52 33.3**	**+1.4**
	1.9nm,0.3s,baz=26,slow=14,SNR=23						
MJAR				Sn	**Sb**	**16 53 18.8**	**+0.4**
	1.4nm,0.3s,baz=19,slow=16,SNR=4.1						
MJAR				LR	LR	16 54 04.9	
	comp=Z,67nm,18.3s,baz=10.0,slow=44						
MAT	**Matsushiro**	**3.26**	**223**	P	**Pn**	**16 52 33.2**	**+1.3**
MAT				*e*S	**Sn**	**16 53 13.1**	**+2.3**
ASAJ	**Asahikawa**	**5.28**	**13**	Pn	**Pn**	**16 53 00.8**	**+1.0**
	0.5nm,0.3s,baz=223,slow=8.8,SNR=8.1						
JHJ	**Hachijo jima 2**	**5.92**	**190**	Pn	**Pn**	**16 53 08.8**	**+0.4**
	4.8nm,0.3s,baz=298,slow=16,SNR=14						
JHJ				Sn	**Sn**	**16 54 15.1**	**-1.3**
	3.4nm,0.3s,baz=270,slow=20,SNR=1.8						
USRK	**Ussuriysk Ar.**	**8.50**	**311**	Pn	**Pn**	**16 53 42.3**	**-1.6**
	0.2nm,0.3s,baz=111,slow=14,SNR=5.1						
JNU	**Nakatsue**	**10.03**	**237**	LR	LR	16 58 40.3	
	comp=Z,55nm,18.1s,baz=296,slow=42						
KSRS	**Korea Array**	**10.36**	**266**	Pn	**Pn**	**16 54 12.8**	**+3.4**
	0.8nm,0.3s,baz=75,slow=14,SNR=13						
KLR	**Kul'dur**	**12.19**	**330**	Pn	**Pn**	**16 54 36.9**	**+2.5**
	0.1nm,0.3s,baz=104,slow=14,SNR=4.1						
PETK	**Petropavlovsk-**	**18.24**	**34**	LR	LR	17 02 03.0	
	comp=Z,24nm,19.4s,baz=189,slow=34						
H11N2	**WAKE ISLAND Hy**	**29.49**	**123**	T	T	17 28 17.6	
	baz=317,slow=75,SNR=251						
H11N1	**WAKE ISLAND Hy**	**29.50**	**123**	T	T	17 28 13.5	
	baz=317,slow=75,SNR=267						
H11N3	**WAKE ISLAND Hy**	**29.50**	**123**	T	T	17 28 14.3	
	baz=317,slow=75,SNR=238						
H11S1	**WAKE ISLAND Hy**	**30.25**	**125**	T	T	17 29 11.1	
	baz=318,slow=76,SNR=80						
H11S3	**WAKE ISLAND Hy**	**30.25**	**125**	T	T	17 29 02.8	
	baz=318,slow=76,SNR=92						
H11S2	**WAKE ISLAND Hy**	**30.26**	**125**	T	T	17 29 14.4	
	baz=318,slow=76,SNR=51						
WRA	**Warramunga Arr**	**58.93**	**187**	P	**P**	**17 01 40.0**	**-0.2**
	0.6nm,0.5s,baz=4.5,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**62.66**	**187**	P	**P**	**17 02 05.8**	**+0.2**
	0.4nm,0.7s,baz=352,slow=5.1,SNR=5.0						

SOME **14** *16:52:17.9,42°.55N×79°.43E,h15km*
KRNET **14** *16:52:17.7±0.1,42°.60N×79°.37E,h13km,mb3.2*
NNC **14** *16:52:18.6±1.6,42°.62N×79°.58E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=11.9km s-min=4.8km az=122.0*

ISC 14 16:52:19.0±1.4,42°68N±0°.05×79°35E±0°.03,h1km±11km, n31,σ1s18/58,19C-10D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.52**	**333**	*e*P	**Pb**	**16 52 30.2**	**-0.8**
	14nm,0.2s						
UZB				*e*S	**Sb**	**16 52 39.0**	**-0.1**
	156nm,0.2s						
SHLS	**Shalkode**	**0.62**	**40**	*e*P	**Pg**	**16 52 31.2**	**+0.3**
	85nm,0.2s						
SHLS				*e*S	**Sb**	**16 52 40.9**	**-1.1**
	120nm,0.2s						
PDGK	**Podgornoye**	**0.65**	**9**	⇓*i*P	**Pb**	**16 52 32.3**	**-0.9**
	baz=7.0						
PDGK				⇓*i*S	**Sb**	**16 52 42.7**	**-0.1**
	baz=7.0						
PDGK	**Podgornoye**	**0.65**	**9**	⇑P	**Pb**	**16 52 32.3**	**-0.9**
	29nm,0.4s						
PDGK				⇓S	**Sb**	**16 52 42.7**	**-0.1**
	55nm,0.4s						
PRZ	**Przheval'sk**	**0.73**	**254**	⇑*i*P	**Pg**	**16 52 32.4**	**-0.5**
	baz=260						
PRZ				⇑*i*S	**Sg**	**16 52 43.0**	**+0.7**
	baz=260						
SATY	**Saty**	**0.79**	**299**	*e*P	**Pg**	**16 52 34.3**	**+0.2**
	31nm,0.2s						
SATY				*e*S	**Sb**	**16 52 46.3**	**-0.5**
	324nm,0.2s						
ZHN	**Zhinishke**	**0.83**	**306**	*e*P	**Pg**	**16 52 35.1**	**+0.3**
	24nm,0.2s						
ZHN				*e*S	**Sb**	**16 52 47.0**	**-0.9**
	156nm,0.2s						
KPKS	**Kokpek**	**0.92**	**328**	*e*P	**Pb**	**16 52 37.3**	**-0.6**
	19nm,0.2s						
KPKS				*e*S	**Sn**	**16 52 51.3**	**-1.9**
	436nm,0.3s						
KTMS	**Ketmen**	**1.06**	**44**	*e*P	**Pg**	**16 52 39.3**	**0.0**
	49nm,0.1s						
KTMS				*e*S	**Sb**	**16 52 54.3**	**-0.3**
	46nm,0.2s						
KURS	**Kuram**	**1.18**	**313**	*e*P	**Pn**	**16 52 42.3**	**-0.4**
	5.1nm,0.2s						
KURS				*e*S	**Sn**	**16 52 59.6**	**+0.1**
	83nm,0.2s						
ANVS	**Anan'yevo**	**1.24**	**275**	⇑*i*P	**Pg**	**16 52 42.1**	**-0.7**
	baz=279						
ANVS				⇑*i*S	**Sb**	**16 53 00.0**	**+0.1**
	baz=279						
DJR	**Jarkent**	**1.68**	**11**	*e*P	**Pb**	**16 52 50.2**	**-0.6**
	88nm,0.2s						
DJR				*e*S	**Sg**	**16 53 13.4**	**+0.5**
	111nm,0.2s						
KOTS	**Kotyrbulak**	**1.73**	**289**	*e*P	**Pb**	**16 52 51.1**	**-0.5**
KOTS				*e*S	**Sg**	**16 53 15.8**	**+1.3**
TNSS	**Tian-Shan**	**1.80**	**282**	*e*P	**Pb**	**16 52 52.5**	**-0.5**
	60nm,0.2s						
TNSS				*e*S	**Sg**	**16 53 17.7**	**+0.8**
	78nm,0.2s						
KNDC	**Almaty**	**1.83**	**288**	⇓Pn	**Pb**	**16 52 52.4**	**-0.9**
	9.5nm,0.5s						
KNDC				⇓Sn	**Sg**	**16 53 20.4**	**+2.7**
	66nm,0.6s						
ARXS	**Arharly**	**1.89**	**325**	*e*P	**Pg**	**16 52 55.0**	**-0.2**
	14nm,0.3s						
ARXS				*e*S	**Sg**	**16 53 21.3**	**+1.7**
	115nm,0.3s						
IZV	**Izvestkoviy**	**2.04**	**281**	*e*P	**Pb**	**16 52 56.8**	**-0.2**
	100nm,0.2s						
IZV				*e*S	**Sg**	**16 53 24.6**	**0.0**
	120nm,0.3s						
CHKK	**Chushkaly**	**2.08**	**305**	*e*P	**Pg**	**16 52 58.0**	**-0.9**
	20nm,0.2s						
CHKK				*e*S	**Sg**	**16 53 26.8**	**+0.9**
	164nm,0.3s						
KTBS	**Karatobe**	**2.20**	**299**	*e*P	**Pb**	**16 52 59.8**	**+0.2**
KTBS				*e*S	**Sg**	**16 53 30.5**	**+0.8**
ULHL	**Ulahol**	**2.34**	**260**	⇑*i*P	**Pn**	**16 52 59.2**	**+0.4**
	baz=262						
ULHL				⇑*i*S	**Sb**	**16 53 30.7**	**-0.8**
	baz=262						
BOOM	**Boomskoye usch**	**2.52**	**267**	⇑*e*P	**Pn**	**16 53 01.1**	**-0.2**
	baz=269						
BOOM				⇑*e*S	**Sn**	**16 53 32.7**	**-0.1**
	baz=269						
KAPS	**Kapalarasan**	**2.60**	**0**	*e*P	**Pb**	**16 53 06.2**	**-0.2**
	11nm,0.3s						
KAPS				*e*S	**Sg**	**16 53 41.1**	**-1.4**
	50nm,0.5s						
DGS	**Degeres**	**2.68**	**283**	*e*P	**Pb**	**16 53 08.2**	**+0.4**
	23nm,0.2s						
DGS				*e*S	**Sg**	**16 53 44.0**	**-1.2**
	92nm,0.5s						
TKM2	**Tokmak 2**	**2.77**	**276**	⇑*i*P	**Pn**	**16 53 06.3**	**+1.6**
	baz=278						
TKM2				⇑*i*S	**Sb**	**16 53 41.7**	**-2.2**
	baz=278						
TKM2	**Tokmak 2**	**2.77**	**276**	⇓Pn	**Pn**	**16 53 07.0**	**+2.3**
	6.8nm,0.4s						
TKM2				⇑Sn	**Sb**	**16 53 45.4**	**+1.4**
	14nm,0.3s						
KZA	**Kyzart**	**3.10**	**260**	⇑*i*P	**Pn**	**16 53 10.4**	**+1.0**
	baz=262						
KZA				⇑*i*S	**Sn**	**16 53 48.8**	**+1.6**
	baz=262						
KBK	**Karagaybulak**	**3.24**	**271**	⇑*i*P	**Pn**	**16 53 12.5**	**+1.3**
	baz=272						
KBK				⇑*i*S	**Sn**	**16 53 52.6**	**+2.1**
	baz=272						
AAK	**Ala-Archa**	**3.58**	**271**	⇑Pn	**Pb**	**16 53 21.0**	**-2.2**
	3.3nm,0.6s						
AAK				⇓Sn	**Sb**	**16 54 03.5**	**-3.7**
	6.3nm,0.4s						
MAKZ	**Makanchi**	**4.53**	**24**	⇑Pn	**Pn**	**16 53 29.8**	**+1.1**
	1.3nm,0.4s						
MAKZ				⇓Lg	Lg	16 54 40.6	
	0.8nm,0.4s						
MK31	**Makanchi Array**	**4.61**	**26**	⇓Pn	**Pn**	**16 53 30.4**	**+0.5**
	0.5nm,0.3s,baz=208,slow=13,SNR=32						
MK31				⇑Lg	Lg	16 54 45.2	
	0.6nm,0.3s,baz=204,slow=32,SNR=4.0						
KURBB	**Kurchatov Arra**	**7.96**	**356**	⇓Lg	Lg	16 56 32.4	
	5.2nm,0.7s						

DJA 14 16:53:34.5±0.2,2°N±2°×97°9E±°,h10km,M3.7/12, MLv3.7/12,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBSI	**Sibolga**	**0.32**	**234**	P	Pb	16 53 42.0	-0.4
MNSI	**Mandailing Nat**	**1.03**	**155**	P	Pg	16 53 52.5	-1.9
MNSI				S	Sn	16 54 08.9	-0.7
GSI	**Gunungsitoli**	**1.63**	**255**	P	Pn	16 54 00.9	-2.4
GSI				S	Sn	16 54 23.5	-0.9
TSI	**Tuntungan**	**1.84**	**342**	P	Pn	16 54 06.9	+0.7
KCSI	**Kotacane, Aceh**	**2.24**	**322**	P	Pb	16 54 14.9	-0.3
BKNI	**Bangkinang**	**2.35**	**127**	P	Pb	16 54 15.3	-1.7
BKNI				S	Sn	16 54 43.2	+1.0
TPTI		**2.48**	**308**	P	Pn	16 54 16.1	+1.1
TPTI				S	Sn	16 54 47.3	+1.9
PPI	**Padang Panjang**	**2.51**	**150**	P	Pn	16 54 14.5	-0.9
MLSI	**Meulaboh, Aceh**	**3.72**	**313**	P	Pn	16 54 33.8	+1.8

IDC **14** *17:10:04.1±9.8,13°.04N×87°.15W,h154km±73km,mb3.7/3, mb1 3.8/4,mb1mx3.3/47,mbtmp4.1/4,Error ellipse: s-maj=87.6km s-min=56.1km az=142.0*
CASC **14** *17:10:06.3±1.7,12°.55N×87°.54W,h152km±16km,MD4.4, ML3.9*

ISC 14 17:10:05.1±0.9,13°1N±0°.2×87°2W±0°.2,h159km±13km,n13, σ1s15/20,mb4.1/3,1C,Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.10**	**148**	*e*P	**Pn**	**17 10 31.6**	**0.0**
COPN				*e*S	**Sn**	**17 10 50.4**	**-1.5**
LFRS	**El Faro**	**1.89**	**286**	⇑P	**Pn**	**17 10 39.4**	**-0.2**
LFRS				*e*S	**Sn**	**17 11 07.0**	**+0.7**
SNET	**Serv Nac Est T**	**2.07**	**286**	*e*P	**Pn**	**17 10 41.6**	**0.0**
SNET				*e*S	**Sn**	**17 11 10.8**	**+1.0**
SNET				AML	AML	17 11 12.6	
	comp=Z,1μm,0.2s						
BOQS	**Boqueron**	**2.13**	**287**	*e*P	**Pn**	**17 10 42.4**	**0.0**
BOQS				*e*S	**Sn**	**17 11 12.9**	**+1.7**
SBLS	**San Blas**	**2.48**	**287**	*e*P	**Pn**	**17 10 46.6**	**0.0**
SBLS				*e*S	**Sn**	**17 11 18.6**	**0.0**
CGA2	**Cerro Gallo 2**	**4.08**	**139**	*e*P	**Pn**	**17 11 07.4**	**+0.6**
CGA2				*e*S	**Sn**	**17 11 53.7**	**-1.1**
URSC	**Urasca**	**4.67**	**134**	*e*P	**Pn**	**17 11 16.5**	**+1.9**
URSC				*e*S	**Sn**	**17 12 11.0**	**+2.2**
CMIG	**Matias Romero**	**8.41**	**299**	P	**Pn**	**17 12 03.7**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=110,slow=9.5,SNR=18						
CMIG				S	Sn	17 13 26.5	-11
	comp=Z,0.4nm,0.3s,baz=147,slow=17,SNR=4.0						
TXAR	**Lajitas Array**	**22.23**	**319**	P	**P**	**17 14 50.0**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=145,slow=11,SNR=7.9						
ULM	**Lac du Bonnet**	**37.70**	**351**	P	**P**	**17 17 04.1**	**-1.0**

JOU	**Okura**	**1.27**	**268**	P	**Pn**	**17 14 46.3**	**+0.7**
JOU				*e*S	**Sn**	**17 15 02.5**	**+0.7**
JMM	**Marumori**	**1.30**	**245**	P	**Pn**	**17 14 46.1**	**+0.2**
JMM				*e*S	**Sn**	**17 15 02.5**	**+0.1**
JOM	**Ohasama**	**1.30**	**324**	P	**Pn**	**17 14 46.2**	**+0.3**
JOM				*e*S	**Sn**	**17 15 02.1**	**-0.4**
JFK	**Kawauchi**	**1.54**	**227**	P	**Pn**	**17 14 48.9**	**-0.3**
JFK				*e*S	**Sn**	**17 15 07.2**	**-1.1**
MJAR	**Matsushiro Arr**	**3.75**	**241**	Pn	**Pn**	**17 15 22.1**	**+2.5**
	0.3nm,0.3s,baz=63,slow=10,SNR=2.8						
MJAR				Sn	Sn	17 16 10.5	+7.6
	0.5nm,0.3s,baz=32,slow=44,SNR=2.8						
JHJ	**Hachijo jima 2**	**5.67**	**202**	Pn	**Pn**	**17 15 46.7**	**+0.7**
	3.4nm,0.3s,baz=66,slow=20,SNR=3.8						
JHJ				Sn	**Sn**	**17 16 48.3**	**-1.9**
	4.1nm,0.3s,baz=60,slow=20,SNR=3.5						
ASAJ	**Asahikawa**	**5.69**	**2**	Pn	**Pn**	**17 15 48.6**	**+2.4**
	0.7nm,0.3s,baz=189,slow=11,SNR=9.2						
JCJ	**Chichijima**	**11.30**	**180**	LR	LR	17 21 30.9	
	comp=Z,43nm,20.7s,baz=128,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.31**	**124**	T	T	17 50 12.0	
	baz=317,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**28.32**	**124**	T	T	17 50 10.5	
	baz=317,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**28.33**	**124**	T	T	17 50 05.9	
	baz=317,slow=75,SNR=44						
WRA	**Warramunga Arr**	**58.53**	**189**	P	**P**	**17 24 17.5**	**-0.2**
	0.7nm,0.7s,baz=7.8,slow=7.7,SNR=6.0						
ASAR	**Alice Springs**	**62.26**	**189**	P	**P**	**17 24 43.2**	**+0.1**
	0.4nm,0.8s,baz=24,slow=7.1,SNR=4.6						
ULM	**Lac du Bonnet**	**77.97**	**34**	LR	LR	18 03 05.3	
	comp=Z,27nm,19.3s,baz=281,slow=38						

IDC 14 17:23:22.7±6.9, 18.61S×66.60W, h261km±43km, mb3.2/1, mb1 3.1/2, mb1mx2.9/21, mbtmp3.5/2, Error ellipse: s-maj=136.3km s-min=59.2km az=18.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.73**	**327**	P	Pn	17 24 13.8	0.0
	1.8nm,0.3s,baz=143,slow=7.3,SNR=35						
LPAZ				S	S	17 24 54.6	+0.4
	0.2nm,0.3s,baz=169,slow=16,SNR=3.0						
TORD	**Torodi Ar. Bea**	**74.33**	**70**	P	P	17 34 32.3	0.0
	0.3nm,0.4s,baz=247,slow=5.4,SNR=5.4						
SONM	**Songino Array**	**150.29**	**10**	PKPbc	PKPbc	17 42 42.8	-0.3
	0.2nm,0.6s,baz=323,slow=2.2,SNR=2.3						

*IDC **14** 17:32:46.7±1.4, 34.˚54N×23.˚52E, h0km, mb3.6/4, mb1 3.5/6, mb1mx3.3/37, mbtmp3.4/6, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/53, Error ellipse: s-maj=47.8km s-min=22.7km az=142.0*

*THE **14** 17:32:49.8, 34.˚32N×23.˚57E, h0km±3km, ML3.3/5, Error ellipse: s-maj=5.1km s-min=1.6km az=218.0*

*CSEM **14** 17:32:55.7±0.5, 34.˚65N×23.˚81E, h20km, ML2.7, Error ellipse: s-maj=11.3km s-min=5.9km az=24.0*

*ATH **14** 17:32:56.9, 34.˚74N×23.˚93E, h36km±2km, ML2.7/6, Error ellipse: s-maj=3.3km s-min=1.9km az=34.0*

ISC 14 17:32:53.2±1.9, 34.52N±0.˚08×23.71E±0.˚05, h33km±10km, n55, σ1s98/73, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.44**	**44**	P	**Pb**	**17 33 02.7**	**-0.3**
GVD				S	**Sn**	**17 33 13.6**	**+3.4**
GVD	**Gavdhos**	**0.44**	**44**	P	**Pb**	**17 33 02.7**	**-0.3**
GVD	**Gavdhos**	**0.44**	**44**	P	**Pb**	**17 33 02.2**	**-0.7**
GVD				S	**Sn**	**17 33 10.2**	**0.0**
GVD				AML	AML	17 33 17.8	
	comp=E,5821μm,0.6s						
GVD				AML	AML	17 33 18.5	
	comp=N,9671μm,0.4s						
IMMV	**Iera Moni Meta**	**0.96**	**13**	P	**Pb**	**17 33 11.2**	**-0.3**
IMMV				S	**Sn**	**17 33 29.7**	**+6.7**
IMMV	**Iera Moni Meta**	**0.96**	**13**	P	**Pb**	**17 33 11.2**	**-0.3**
IMMV				S	**Sb**	**17 33 20.7**	**-3.2**
IMMV	**Iera Moni Meta**	**0.96**	**13**	P	**Pn**	**17 33 10.6**	**+0.2**
IMMV				S	**Sb**	**17 33 20.7**	**-3.2**
IMMV				AML	AML	17 33 40.7	
	comp=N,1389μm,0.5s						
IMMV				AML	AML	17 33 40.9	
	comp=E,2198μm,0.5s						
VAM	**Vamos**	**0.97**	**24**	P	**Pb**	**17 33 11.7**	**+0.1**
VAM				S	**Sn**	**17 33 29.3**	**+6.1**
VAM	**Vamos**	**0.97**	**24**	P	**Pb**	**17 33 11.7**	**+0.1**
VAM				S	**Sb**	**17 33 21.7**	**-2.4**
SIVA	**Sivas**	**1.03**	**61**	P	**Pb**	**17 33 12.9**	**+0.3**
SIVA				S	**Sb**	**17 33 31.5**	**+5.7**
SIVA	**Sivas**	**1.03**	**61**	P	**Pb**	**17 33 12.9**	**+0.3**
SIVA				S	**Sn**	**17 33 23.8**	**-0.9**
SIVA	**Sivas**	**1.03**	**61**	P	**Pb**	**17 33 13.4**	**+0.8**
SIVA				S	**Sn**	**17 33 23.8**	**-0.9**
SIVA				AML	AML	17 33 46.0	
	comp=N,3053μm,0.7s						
SIVA				AML	AML	17 33 47.1	
	comp=E,2152μm,0.7s						
IDI	**Anoyia**	**1.23**	**51**	P	**Pb**	**17 33 16.1**	**0.0**
IDI	**Anoyia**	**1.23**	**51**	P	**Pb**	**17 33 16.1**	**0.0**
IDI				S	**Sn**	**17 33 30.1**	**+0.3**
IDI	**Anoyia**	**1.23**	**51**	P	**Pb**	**17 33 16.8**	**+0.7**
IDI				S	**Sn**	**17 33 30.1**	**+0.3**
IDI				AML	AML	17 33 46.3	
	comp=E,392μm,0.8s						
IDI				AML	AML	17 33 48.5	
	comp=N,392μm,0.6s						
ANKY	**Antikythira Is**	**1.38**	**346**	P	**Pb**	**17 33 18.5**	**0.0**
ANKY	**Antikythira Is**	**1.38**	**346**	P	**Pb**	**17 33 18.9**	**+0.3**
ANKY				S	**Sb**	**17 33 34.8**	**-1.1**
ANKY	**Antikythira Is**	**1.38**	**346**	P	**Pb**	**17 33 18.9**	**+0.3**
ANKY				S	**Sb**	**17 33 34.8**	**-1.1**
ANKY				AML	AML	17 33 44.2	
	comp=N,336μm,1.4s						
ANKY				AML	AML	17 34 05.2	
	comp=E,383μm,1.1s						
LAST	**Lasithi**	**1.59**	**66**	P	**Pb**	**17 33 21.0**	**-1.0**
LAST				S	**Sb**	**17 33 46.1**	**+4.3**
LAST	**Lasithi**	**1.59**	**66**	P	**Pb**	**17 33 21.0**	**-1.0**
LAST	**Lasithi**	**1.59**	**66**	P	**Pn**	**17 33 19.9**	**+0.8**
NPS	**Neapolis**	**1.73**	**64**	P	**Pb**	**17 33 23.1**	**-1.3**
NPS	**Neapolis**	**1.73**	**64**	P	**Pb**	**17 33 23.1**	**-1.3**
KYTH	**Kithira**	**1.82**	**343**	P	**Pb**	**17 33 25.7**	**-0.3**
KYTH	**Kithira**	**1.82**	**343**	P	**Pb**	**17 33 25.7**	**-0.3**
KYTH	**Kithira**	**1.82**	**343**	P	**Pb**	**17 33 27.6**	**+1.6**
ZKR	**Zakros**	**2.15**	**73**	P	**Pn**	**17 33 27.7**	**+1.0**
ZKR	**Zakros**	**2.15**	**73**	P	**Pb**	**17 33 29.8**	**-1.6**
ZKR				S	**Sn**	**17 33 52.7**	**+0.5**
ZKR	**Zakros**	**2.15**	**73**	P	**Pb**	**17 33 29.8**	**-1.6**
ZKR				S	**Sn**	**17 33 52.7**	**+0.5**
MHLO	**Agia Marina, M**	**2.24**	**14**	P	**Pb**	**17 33 30.9**	**-2.1**
MHLO	**Agia Marina, M**	**2.24**	**14**	P	**Pb**	**17 33 30.5**	**-2.5**
MHLO	**Agia Marina, M**	**2.24**	**14**	P	**Pb**	**17 33 30.5**	**-2.5**
VLI	**Veliai**	**2.28**	**344**	P	**Pb**	**17 33 34.4**	**+0.6**
THR5	**Thira Island,**	**2.32**	**35**	P	**Pn**	**17 33 30.6**	**+1.5**
THR5	**Thira Island,**	**2.32**	**35**	P	**Pn**	**17 33 30.6**	**+1.5**
SANT	**Santorini**	**2.33**	**37**	P	**Pn**	**17 33 29.4**	**0.0**
SANT	**Santorini**	**2.33**	**37**	P	**Pn**	**17 33 29.4**	**0.0**
THR3	**Thira Island,**	**2.33**	**36**	P	**Pn**	**17 33 31.9**	**+2.6**
THR3	**Thira Island,**	**2.33**	**36**	P	**Pn**	**17 33 31.9**	**+2.6**
SERI	**Serifos**	**2.71**	**13**	P	**Pn**	**17 33 37.1**	**+2.6**
SERI				S	**Sn**	**17 34 06.5**	**+0.4**
SERI	**Serifos**	**2.71**	**13**	P	**Pn**	**17 33 37.1**	**+2.6**
SERI				AML	AML	17 33 51.9	
	comp=N,61μm,0.8s						
SERI				S	**Sn**	**17 34 06.5**	**+0.4**
SERI				AML	AML	17 34 26.3	
	comp=E,45μm,0.5s						
PYL	**PYLOS**	**2.86**	**326**	P	**Pn**	**17 33 38.1**	**+1.6**
PYL	**PYLOS**	**2.86**	**326**	P	**Pn**	**17 33 38.1**	**+1.6**
APE	**Apeiranthos**	**2.94**	**30**	P	**Pn**	**17 33 38.3**	**+0.6**
APE	**Apeiranthos**	**2.94**	**30**	P	**Pn**	**17 33 38.3**	**+0.6**
APE				S	**Sn**	**17 34 08.6**	**-3.3**
DID	**Didima**	**3.00**	**353**	P	**Pn**	**17 33 40.0**	**+1.4**
DID	**Didima**	**3.00**	**353**	P	**Pn**	**17 33 40.0**	**+1.4**
KARP	**Karpathos**	**3.01**	**69**	P	**Pn**	**17 33 39.3**	**+0.6**
KARP	**Karpathos**	**3.01**	**69**	P	**Pn**	**17 33 39.3**	**+0.6**
BRTR	**Keskin Array B**	**9.47**	**54**	Pn	**Pn**	**17 35 07.8**	**+0.3**
	comp=E,0.1nm,0.3s,baz=226,slow=13,SNR=3.5						
GERES	**GERESS Array B**	**16.12**	**336**	Pn	**Pn**	**17 36 35.5**	**-1.9**
	comp=E,0.2nm,0.3s,baz=150,slow=12,SNR=2.4						
GNI	**Garni**	**17.63**	**65**	LR	LR	17 45 21.4	
	comp=E,36nm,21.0s,baz=281,slow=42						
TORD	**Torodi Ar. Bea**	**29.17**	**229**	P	P	17 38 48.7	-2.9
	comp=E,0.6nm,0.9s,baz=31,slow=8.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**42.45**	**50**	P	**P**	**17 40 44.1**	**-0.7**
	comp=E,0.4nm,0.5s,baz=273,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**45.12**	**56**	P	**P**	**17 41 06.0**	**-0.4**
	comp=E,0.5nm,0.5s,baz=272,slow=7.7,SNR=10						
ZALV	**Zalesovo Beam**	**46.30**	**46**	P	**P**	**17 41 14.1**	**-1.5**
	comp=E,0.5nm,0.3s,baz=264,slow=9.8,SNR=2.7						

MEX 14 17:33:24.2±0.3, 14.˚34N×92.˚73W, h3km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.44**	**341**	*e*P	Pn	17 33 48.5	-2.6
PCIG				*e*S	Sb	17 34 05.4	-4.9

*NIED **14** 17:54:00.39.˚50N×142.˚50E, h17km, Mw4.6 Best double couple: M0 7.96000×10^15 NP1:φ=262.00000°, δ=4.00000°, λ=141.00000°. NP2:φ=31.00000°, δ=88.00000°, λ=87.00000°.*

*JMA **14** 17:54:46.6±0.1, 39.˚50N×142.˚55E, h28km±1km, M4.6*

JMA Felt II J1.

*ISCJB **14** 17:54:48.0±0.4, 39.˚49N±0.˚02×142.˚48E±0.˚03, h35km±3km, mb4.6/147, MS4.3/34, Error ellipse: s-maj=4.2km s-min=3.2km az=136.8*

*BJI **14** 17:54:47.9, 39.˚39N×142.˚29E, h31km, mb4.6/39, mB4.8/31, Ms4.5/30, Ms7 4.3/29*

*MOS **14** 17:54:48.4±1.1, 39.˚56N×142.˚51E, h35km, mb4.8/63, MS4.5/15, Error ellipse: s-maj=6.6km s-min=4.5km az=95.3*

*NEIC **14** 17:54:50.7±0.5, 39.˚47N×142.˚44E, h46km±5km, mb4.7/109, Error ellipse: s-maj=4.1km s-min=3.0km az=137.0*

NEIC Recorded [2 JMA] in Iwate and Miyagi.

*IDC **14** 17:54:50.8±1.8, 39.˚45N×142.˚44E, h45km±16km, mb4.0/30, mb1 4.1/36, mb1mx4.0/59, mbtmp4.2/36, ML3.7/5, MS4.1/28, Ms1 4.1/28, ms1mx3.9/46, Error ellipse: s-maj=15.0km s-min=12.2km az=111.0*

ISC 14 17:54:49.7±0.4, 39.50N±0.˚03×142.51E±0.˚04, h38km±1km, h38km:pP-P, n369, σ1s67/378, mb4.6/147, MS4.3/34, 17C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.54**	**278**	P	**Pn**	**17 54 57.9**	**-3.0**
MIYJ				*e*S	**Sn**	**17 55 05.7**	**-3.1**
JTH	**Tanohata**	**0.66**	**311**	P	**Pn**	**17 54 59.6**	**-3.0**
OFUJ	**Ofunato**	**0.78**	**237**	P	**Pn**	**17 55 01.5**	**-2.6**
JOM	**Ohasama**	**0.94**	**268**	P	**Pn**	**17 55 04.5**	**-1.9**
JOM				*e*S	**Sn**	**17 55 17.4**	**-1.2**
JKZ	**Kuzumaki**	**1.03**	**298**	P	**Pn**	**17 55 05.7**	**-1.9**
JKZ				*e*S	**Sn**	**17 55 19.8**	**-1.0**
JMK	**Ichinoseki**	**1.14**	**242**	P	**Pn**	**17 55 07.4**	**-1.7**
JMK				*e*S	**Sn**	**17 55 22.7**	**-0.8**
JANG	**Nango**	**1.16**	**319**	P	**Pn**	**17 55 07.2**	**-2.1**
JANG				*e*S	**Sn**	**17 55 22.6**	**-1.3**
JIO	**Ouri**	**1.39**	**221**	P	**Pn**	**17 55 10.2**	**-2.2**
JIO				*e*S	**Sn**	**17 55 27.6**	**-1.9**
JRG	**Rokugo**	**1.46**	**266**	P	**Pn**	**17 55 12.6**	**-0.8**
JRG				*e*S	**Sn**	**17 55 33.6**	**+2.3**
JAH	**Hinai**	**1.60**	**296**	P	**Pn**	**17 55 15.0**	**-0.4**
JAH				*e*S	**Sn**	**17 55 36.3**	**+1.6**
ERM	**Erimo**	**2.56**	**11**	*e*P	**Pn**	**17 55 28.0**	**-0.5**
ERM				pmax	pmax		
	comp=Z,76nm,0.6s						
MJA0	**Matsu Arr-Jizo**	**4.48**	**230**	*e*P	**Pn**	**17 55 57.1**	**+2.0**
MJA0				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MAT	**Matsushiro**	**4.50**	**230**	P	**Pn**	**17 55 56.3**	**+0.9**
MAT				*e*S	**Sn**	**17 56 48.5**	**+2.0**
MJAR	**Matsushiro Arr**	**4.50**	**230**	P	**Pn**	**17 55 57.2**	**+1.8**
	comp=Z,5.6nm,0.3s,baz=40,slow=12,SNR=134						
ASAJ	**Asahikawa**	**4.61**	**1**	P	**Pn**	**17 55 57.1**	**+0.3**
	comp=Z,5.0nm,0.3s,baz=194,slow=16,SNR=49						
ASAJ				S	**Sn**	**17 56 49.6**	**+0.6**
	comp=Z,18nm,0.3s,baz=46,slow=32,SNR=7.0						
ASAJ	**Asahikawa**	**4.61**	**1**	*e*Pn	**Pn**	**17 55 56.6**	**-0.1**
ASAJ				S	**Sn**	**17 56 49.6**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**5.17**	**28**	*e*P	**Pn**	**17 56 03.5**	**-1.0**
INU	**Inuyama**	**6.03**	**228**	*e*Pn	**Pn**	**17 56 18.1**	**+1.9**
JHJ2	**Mitsune**	**6.74**	**200**	*e*Pn	**Pn**	**17 56 24.6**	**-1.4**
JHJ	**Hachijo jima 2**	**6.74**	**200**	P	**Pn**	**17 56 24.5**	**-1.6**
	comp=Z,19nm,0.3s,baz=336,slow=22,SNR=24						
JHJ				S	**Sn**	**17 57 36.7**	**-4.8**
	comp=Z,25nm,0.3s,baz=261,slow=21,SNR=3.4						
KUR	**Kuril'sk**	**6.96**	**33**	*c iP*	**Pn**	**17 56 27.3**	**-1.7**
KUR				*e*S	**Sn**	**17 57 42.3**	**-4.6**
KUR				pmax	pmax		
	comp=Z,127nm,3.0s						
KUR				pmax	pmax		
	comp=Z,62nm,0.8s						
KUR				pmax	pmax		
	comp=N,38nm,0.6s						
KUR				smax	smax		
	comp=N,127nm,0.5s						
KUR				smax	smax		
	comp=E,117nm,0.5s						
KUR				smax	smax		
	comp=E,382nm,4.3s						
KUR				smax	smax		
	comp=N,362nm,3.4s						
YSS	**Yuzh-Sakhalins**	**7.45**	**1**	*e*P	**Pn**	**17 56 35.2**	**-0.5**
YSS	**Yuzh-Sakhalins**	**7.45**	**1**	*e*Pn	**Pn**	**17 56 35.2**	**-0.5**
VLA	**Vladivostok**	**8.77**	**298**	*c iP*	**Pn**	**17 56 56.5**	**+2.6**
MSHR	**Mys Shultsa**	**9.11**	**293**	*c*eP	**Pn**	**17 57 00.0**	**+1.5**
USRK	**Ussuriysk Ar.**	**9.14**	**304**	P	**Pn**	**17 57 00.1**	**+1.1**
	comp=N,0.6nm,0.3s,baz=113,slow=13,SNR=30						
USRK				LR	LR	18 00 16.0	
	comp=N,2μm,20.4s,baz=115,slow=36						
HABR	**Khabarovsk**	**10.45**	**332**	*e*P	**Pn**	**17 57 14.9**	**-1.9**
HABR				*e*S	**Sn**	**17 59 10.8**	**-1.6**
HABR				pmax	pmax		
	comp=Z,15nm,1.6s						
HABR				MLR	MLR		
	comp=Z,749nm,12.0s						
MDJ	**Mudanjiang**	**10.87**	**302**	*e*Pn	**Pn**	**17 57 24.6**	**+1.9**
JNU	**Nakatsue**	**11.34**	**239**	P	**Pn**	**17 57 31.0**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=306,slow=4.6,SNR=5.2						
JNU				LR	LR	18 02 06.3	
	comp=Z,713nm,19.0s,baz=326,slow=39						
JNU	**Nakatsue**	**11.34**	**239**	*e*Pn	**Pn**	**17 57 29.1**	**0.0**
TYV	**Tymovskoe**	**11.36**	**0**	*e*P	**Pn**	**17 57 27.5**	**-1.7**
TYV				pmax	pmax		
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**11.62**	**264**	P	**Pn**	**17 57 37.1**	**+4.3**
	comp=Z,1.4nm,0.3s,baz=72,slow=14,SNR=15						
KSRS				LR	LR	18 01 38.9	
	comp=Z,699nm,19.4s,baz=76,slow=35						
KSRS	**Korea Array**	**11.62**	**264**	*e*P	**Pn**	**17 57 37.5**	**+4.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KS01	**Wonju Array Si**	**11.63**	**265**	*e*Pn	**Pn**	**17 57 36.0**	**+3.0**
KS15	**Wonju Array Si**	**11.65**	**264**	*e*Pn	**Pn**	**17 57 37.7**	**+4.4**
KSAR	**Wonju Array Be**	**11.65**	**264**	P	**Pn**	**17 57 37.1**	**+3.8**
KSAR	**Wonju Array Be**	**11.65**	**264**	P	**Pn**	**17 57 37.1**	**+3.8**
TJN	**Taejon**	**12.36**	**260**	*i* P	**Pn**	**17 57 45.5**	**+2.5**
CBIJ	**Chichi jima**	**12.38**	**181**	*e*Pn	**Pn**	**17 57 44.6**	**+1.3**
KLR	**Kul'dur**	**12.39**	**325**	P	**Pn**	**17 57 44.6**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=125,slow=14,SNR=3.5						
KLR				LR	LR	18 02 30.7	
	comp=Z,1μm,19.3s,baz=135,slow=37						
CN2	**Changchun**	**13.46**	**294**	*e*P	**Pn**	**17 57 53.3**	**-4.7**
CN2				*e*S	**Sn**	**18 00 23.8**	**-2.3**
CN2				PMZ			
	comp=Z,20nm,0.6s						
CN2				PMZ			
	comp=Z,200nm,8.0s						
CN2				LN			
	comp=Z,1μm,15.0s						
CN2				LE			
	comp=Z,800nm,15.0s						
CN2				LZ			
	comp=Z,800nm,16.0s						
DL2	**Dalian**	**16.20**	**275**	P	**Pn**	**17 58 33.8**	**-0.5**
DL2				*e*S	**Sn**	**18 01 32.5**	**-0.3**
DL2				PMZ			
	comp=Z,37nm,0.9s						
DL2				PMZ			
	comp=Z,240nm,6.0s						
DL2				LN			
	comp=Z,710nm,13.5s						
DL2				LE			
	comp=Z,540nm,17.1s						
DL2				LZ			
	comp=Z,670nm,18.0s						
PEA0	**Petropavlovsk-**	**17.13**	**32**	*e*Pn	**P**	**17 58 48.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**17.13**	**32**	*e*Pn	**P**	**17 58 48.4**	**+1.1**
	comp=Z,33nm,1.2s						
PETK	**Petropavlovsk-**	**17.13**	**32**	LR	LR	18 05 59.0	
	comp=Z,309nm,18.5s,baz=217,slow=39						
JOW	**Kunigami**	**17.34**	**227**	*e*Pn	**Pn**	**17 58 47.5**	**-1.3**
	comp=Z,21nm,0.9s						
PET	**Petropavlovsk**	**17.48**	**34**	*e*P	**P**	**17 58 51.0**	**-0.1**
PET				pmax	pmax		
	comp=Z,25nm,1.1s						
PET	**Petropavlovsk**	**17.48**	**34**	*e*Pn	**P**	**17 58 51.0**	**-0.1**
	comp=Z,25nm,1.1s						
HIA	**Hailar**	**18.91**	**309**	*e*P	**P**	**17 59 05.0**	**-2.0**
HIA				pmax	pmax		
	comp=Z,11nm,0.9s						
HIA	**Hailar**	**18.91**	**309**	*e*P	**P**	**17 59 03.0**	**-3.9**
	comp=Z,57nm,1.8s						
BJI	**Beijing**	**20.23**	**280**	P	**P**	**17 59 19.8**	**-1.6**
BJI				PMZ			
	comp=Z,11nm,1.2s						
BJI				PMZ			
	comp=Z,130nm,3.8s						
BJT	**Baijiatuau**	**20.24**	**280**	*e*P	**P**	**17 59 18.6**	**-2.9**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuau**	**20.24**	**280**	*e*P	**P**	**17 59 18.6**	**-2.9**
	comp=Z,8.8nm,0.6s						
TIA	**Tai'an**	**20.29**	**269**	*i*P	**P**	**17 59 21.3**	**-0.8**
TIA				PMZ			
	comp=Z,30nm,1.0s						
TIA				LN			
	comp=Z,200nm,11.0s						
TIA				LE			
	comp=Z,1μm,15.5s						
TIA				LZ			
	comp=Z,1μm,14.3s						
MA2	**Magadan**	**20.76**	**12**	P	**P**	**17 59 25.7**	**-1.3**
	comp=Z,7.6nm,0.7s,baz=240,slow=11,SNR=4.0						
ANA2	**Anatahan**	**23.25**	**172**	*e*P	**P**	**17 59 55.1**	**+1.5**
NACB	**Ninganchiao**	**23.36**	**235**	*e*P	**P**	**17 59 54.4**	**-0.3**
	comp=Z,13nm,0.8s						
CIT	**Chita**	**23.59**	**312**	*e*P	**P**	**17 59 57.4**	**+0.6**
CIT				*e*		18 00 09.1	
CIT				*e*		18 00 31.8	
CIT				pmax	pmax		
	comp=Z,139nm,1.5s						
YAK	**Yakutsk**	**23.88**	**345**	P	**P**	**17 59 57.8**	**-1.5**
	comp=Z,2.6nm,0.4s,baz=338,slow=22,SNR=5.1						
YAK	**Yakutsk**	**23.88**	**345**	*e*P	**P**	**17 59 57.3**	**-2.0**
YAK				*e*PP	**pP**	**18 00 04.2**	**-5.6**
YAK				*e*S	**S**	**18 04 08.7**	**-3.9**
YAK				*e*SS	**sS**	**18 04 22.8**	**-7.4**
YAK				*e*SSS	SSS	18 05 02.1	
YAK				pmax	pmax		
	comp=N,11nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,39nm,0.9s						
YAK				pmax	pmax		
	comp=E,18nm,0.9s						
YAK				pmax	pmax		
	comp=Z,26nm,0.7s						
YAK				pmax	pmax		
	comp=N,18nm,0.9s						
YAK				smax	smax		
	comp=E,90nm,2.3s						
YAK				smax	smax		
	comp=N,124nm,2.1s						
YAK				MLR	MLR		
	comp=E,319nm,19.0s						
YAK				MLR	MLR		
	comp=N,390nm,16.0s						
YAK				MLR	MLR		
	comp=Z,547nm,17.0s						
YAK	**Yakutsk**	**23.88**	**345**	*e*P	**P**	**17 59 57.4**	**-1.9**
	comp=Z,45nm,0.9s						
SSLB	**Suanglung**	**24.04**	**236**	*e*P	**P**	**17 59 57.7**	**-3.5**
	comp=Z,8.9nm,0.9s						
YULB	**Yu-li**	**24.11**	**234**	*e*P	**P**	**17 59 59.9**	**-1.9**
	comp=Z,17nm,1.3s						
SEY	**Seymchan**	**24.20**	**11**	P	**P**	**18 00 02.5**	**+0.2**
	comp=Z,20nm,0.9s,baz=191,slow=7.3,SNR=23						
SEY	**Seymchan**	**24.20**	**11**	*i*P	**P**	**18 00 03.6**	**+1.3**
SEY				*i* *P	**pP**	**18 00 11.1**	**-1.9**
TPUB	**Ta-pu**	**24.59**	**235**	*e*P	**P**	**18 00 04.0**	**-2.3**
	comp=Z,58nm,1.7s						
WHN	**Wuhan**	**24.65**	**257**	*i*P	**P**	**18 00 07.0**	**+0.3**
WHN				LN			
	comp=Z,520nm,13.6s						
WHN				LE			
	comp=Z,980nm,10.2s						
WHN				LZ			
	comp=Z,1μm,12.4s						
GUMO	**Guam**	**25.90**	**175**	LR	LR	18 09 44.6	
	comp=Z,179nm,21.6s,baz=19,slow=35						
GUMO	**Guam**	**25.90**	**175**	*e*P	**P**	**18 00 17.1**	**-0.9**
GUMO				pmax	pmax		
	comp=Z,244nm,1.5s						
GUMO	**Guam**	**25.90**	**175**	*e*P	**P**	**18 00 17.1**	**-0.9**
	comp=Z,244nm,1.5s						
BOD	**Bodaibo**	**25.96**	**324**	*e*P	**P**	**18 00 11.3**	**-7.0**
BOD				pmax	pmax		
	comp=Z,17nm,1.3s						
ULN	**Ulaanbaatar**	**26.78**	**300**	*i*P	**P**	**18 00 25.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ULN	**Ulaanbaatar**	**26.78**	**300**	*e*P	**P**	**18 00 26.3**	**+0.3**
	comp=Z,12nm,1.4s						
SONA1	**Songino Array**	**27.21**	**

BILL *e* 18 02 08.7
BILL *e* 18 04 01.0
BILL *eS* **S** **18 06 10.8 -0.7**
BILL *eSS* **SnSn** **18 08 06.7 +9.2**
BILL pmax pmax
comp=Z,8.0nm,1.3s
BILL MLR MLR
comp=Z,153nm,17.0s
BILL Bilibino 31.42 17 *eP* **P** **18 01 07.0 +0.3**
comp=Z,17nm,1.4s
GYA Guiyang 32.55 257 P **P** **18 01 16.8 -0.5**
GYA PMZ
comp=Z,20nm,0.8s
GTA Gaotai 32.74 284 *eP* **P** **18 01 19.3 +0.4**
GTA pP pP 18 01 25.6 -4.0
GTA sP sP 18 01 29.1 -5.1
GTA S **S** **18 06 33.3 +0.3**
GTA PMZ
comp=Z,4.0nm,1.1s
GTA PMZ
comp=Z,43nm,4.9s
GTA LN
comp=Z,380nm,18.1s
GTA LE
comp=Z,830nm,18.1s
GTA LZ
comp=Z,940nm,18.5s
TIXI Tiksi 32.95 352 P **P** **18 01 20.3 +0.1**
comp=Z,1.0nm,0.4s,baz=146,slow=8.8,SNR=4.8
TIXI LR LR 18 16 03.6
comp=Z,190nm,18.0s,baz=189,slow=39
TIXI Tiksi 32.95 352⇑ *iP* **P** **18 01 22.0 +1.8**
TIXI *e**PP **pP** **18 01 27.7 -3.2**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 32.95 352 *eP* **P** **18 01 20.6 +0.4**
comp=Z,15nm,1.7s
ZAA1 Zalesovo Array 40.93 310 *eP* **P** **18 02 28.1 0.0**
ZAA0 Zalesovo Array 40.93 310 *eP* **P** **18 02 27.7 -0.5**
ZALV Zalesovo Beam 40.93 310 P **P** **18 02 28.1 0.0**
comp=Z,5.8nm,0.5s,baz=95,slow=8.0,SNR=28
ZALV LR LR 18 20 05.4
comp=Z,434nm,19.4s,baz=70,slow=37
ZALV Zalesovo Beam 40.93 310 *eP* **P** **18 02 28.5 +0.3**
ZALV pmax pmax
comp=Z,6.0nm,0.5s
NRIK Noril'sk 41.41 334 P **P** **18 02 32.2 +0.4**
comp=Z,2.3nm,0.5s,baz=106,slow=8.4,SNR=4.7
NRIK LR LR 18 20 42.8
comp=Z,688nm,18.9s,baz=122,slow=38
NVS Novosibirsk 41.80 312 *eP* **P** **18 02 34.9 -0.3**
LSA Lhasa 42.89 273 *eP* **P** **18 02 46.1 +1.1**
LSA Lhasa 42.89 273 *eP* **P** **18 02 46.1 +1.1**
TT01 Tatalina 42.91 36 *eP* **P** **18 02 43.3 -0.9**
TTA Tatalina 42.91 36 *eP* **P** **18 02 44.5 +0.2**
TTA pmax pmax
comp=Z,8.0nm,1.2s
TTA Tatalina 42.91 36 *eP* **P** **18 02 44.5 +0.2**
comp=Z,7.6nm,1.2s
CM31 Chiang Mai Arr 42.99 254 *eP* **P** **18 02 44.6 -0.7**
CMAR Chiang Mai Arr 42.99 254 P **P** **18 02 45.8 +0.4**
comp=Z,1.3nm,0.9s,baz=220,slow=24,SNR=6.2
CMAR LR LR 18 21 49.1
comp=Z,79nm,18.1s,baz=50,slow=38
CM01 Chiang Mai Arr 43.00 254 *eP* **P** **18 02 46.3 +0.9**
SVW2 Sparrevohn 43.05 39 *eP* **P** **18 02 45.7 +0.4**
MK01 Makanchi Array 43.58 300 *eP* **P** **18 02 49.7 -0.1**
MK31 Makanchi Array 43.58 300 *eP* **P** **18 02 49.2 -0.7**
MK31 Makanchi Array 43.58 300 *eP* **P** **18 02 49.2 -0.7**
MK32 Makanchi Array 43.58 300 *eP* **P** **18 02 50.1 +0.2**
MKAR Makanchi Array 43.58 300 P **P** **18 02 50.1 +0.2**
comp=Z,6.1nm,0.9s,baz=81,slow=7.6,SNR=36
MKAR LR LR 18 21 46.0
comp=Z,415nm,18.1s,baz=60,slow=37
MKAR Makanchi Array 43.58 300 *eP* **P** **18 02 49.4 -0.5**
MAKZ Makanchi 43.79 300 *eP* **P** **18 02 51.7 +0.1**
MAKZ pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 43.79 300 *eP* **P** **18 02 51.7 +0.1**
comp=Z,8.8nm,0.9s
OHAK Old Harbor 44.37 44 *eP* **P** **18 02 55.8 -0.1**
comp=Z,46nm,1.7s
RSO Redoubt South 44.44 40 *eP* **P** **18 02 53.0 -3.8**
PPLA Purkeypile 44.66 36 *eP* **P** **18 03 00.0 +1.6**
comp=Z,29nm,1.6s
KDAK Kodiak Island 44.70 44*ceP* **P** **18 02 59.7 +1.1**
KDAK Kodiak Island 44.70 44 *eP* **P** **18 02 59.3 +0.7**
comp=Z,16nm,1.2s
CAST Castle Rocks 44.71 36 *eP* **P** **18 02 59.5 +0.8**
comp=Z,36nm,1.5s
SPU Mount Spurr 44.76 39 *eP* **P** **18 03 00.1 +1.0**
HOM Homer 45.04 41 *eP* **P** **18 03 00.6 -0.7**
comp=Z,206nm,1.2s
BPAW Bear Paw Mtn. 45.20 35 *eP* **P** **18 03 03.8 +1.2**
comp=Z,14nm,1.5s
KTH Kantishna Hill 45.23 35 *eP* **P** **18 03 04.6 +1.7**
comp=Z,14nm,1.0s
MLY Manley 45.31 33 *eP* **P** **18 03 03.9 +0.4**
comp=Z,5.7nm,1.0s
BRLK Bradley Lake 45.42 41 *eP* **P** **18 03 04.9 +0.6**
comp=Z,29nm,1.5s
TRF Thorofare Moun 45.52 35 *eP* **P** **18 03 06.6 +1.3**
comp=Z,6.1nm,1.0s
COLD Coldfoot 45.58 30 *eP* **P** **18 03 05.1 -0.4**
comp=Z,5.0nm,1.1s
BWN Browne 45.86 34 *eP* **P** **18 03 09.1 +1.3**
comp=Z,51nm,1.4s
RC01 Rabbit Creek A 45.89 39 *eP* **P** **18 03 08.4 +0.4**
comp=Z,9.8nm,1.0s
MCK McKinley 46.11 35 *eP* **P** **18 03 10.7 +1.0**
MCK pmax pmax
comp=Z,8.0nm,1.1s
MCK McKinley 46.11 35 *eP* **P** **18 03 10.7 +1.0**
comp=Z,8.1nm,1.1s
PMR Palmer 46.14 38 *eP* **P** **18 03 09.8 -0.2**
PMR pmax pmax
comp=Z,12nm,1.4s
PMR Palmer 46.14 38 *eP* **P** **18 03 09.8 -0.2**
comp=Z,12nm,1.4s
RND Reindeer 46.16 36 *eP* **P** **18 03 10.9 +0.7**
RND pmax pmax
comp=Z,12nm,1.2s
RND Reindeer 46.16 36 *eP* **P** **18 03 10.8 +0.7**
comp=Z,12nm,1.2s
MDM Murphy Dome 46.37 33 *eP* **P** **18 03 12.9 +1.1**
comp=Z,11nm,1.2s
WRH Wood River Hil 46.45 34 *eP* **P** **18 03 13.3 +0.9**
comp=Z,3.7nm,0.9s
SML Sawmill 46.50 38 *eP* **P** **18 03 12.4 -0.5**
SML pmax pmax
comp=Z,14nm,1.0s
SML Sawmill 46.50 38 *eP* **P** **18 03 12.3 -0.5**
comp=Z,14nm,1.0s
CCB Clear Creek Bu 46.57 34 *eP* **P** **18 03 13.8 +0.5**
comp=Z,3.3nm,1.0s
DHY Denali Highway 46.85 36 *eP* **P** **18 03 16.1 +0.4**
comp=Z,6.8nm,1.0s
HDA Harding Lake 46.95 34 *eP* **P** **18 03 16.7 +0.4**
comp=Z,7.4nm,0.9s
IL1 Eielson Array 46.95 34 *eP* **P** **18 03 17.0 +0.6**
ILAR Eielson Array 46.95 34 P **P** **18 03 17.4 +1.1**
comp=Z,4.0nm,0.7s,baz=268,slow=6.4,SNR=53
ILB Eielson Array 46.95 34 *eP* **P** **18 03 17.0 +0.6**
SCM Sheep Creek Mo 46.98 38 *eP* **P** **18 03 17.7 +1.1**
SCM pmax pmax
comp=Z,9.0nm,0.8s
SCM Sheep Creek Mo 46.98 38 *eP* **P** **18 03 17.6 +1.1**
comp=Z,8.9nm,0.8s
TARA Tarawa 47.01 136 *eP* **P** **18 03 17.2 -0.1**
comp=Z,496nm,1.8s
KLU Klutina 47.68 38 *eP* **P** **18 03 22.7 +0.6**
comp=Z,9.3nm,1.0s
PAX Paxson 47.72 36 *eP* **P** **18 03 23.6 +1.2**
PAX pmax pmax
comp=Z,3.0nm,0.8s
PAX Paxson 47.72 36 *eP* **P** **18 03 23.6 +1.2**
comp=Z,3.2nm,0.8s
RAMN Ramite 47.72 272 *eP* **P** **18 03 23.6 +0.5**
comp=Z,41nm,1.0s
MID Middleton Isla 47.75 41 *eP* **P** **18 03 23.4 +0.9**
MID pmax pmax
comp=Z,32nm,0.8s
MID Middleton Isla 47.75 41 *eP* **P** **18 03 23.4 +0.9**
comp=Z,32nm,0.8s
DIV Divide 47.80 38 *eP* **P** **18 03 23.8 +0.7**
comp=Z,16nm,1.2s

DOT Dot Lake 48.28 35 *eP* **P** **18 03 26.8 +0.2**
comp=Z,48nm,2.0s
KKN Kakani 48.33 274 *eP* **P** **18 03 28.2 +0.5**
comp=Z,25nm,0.8s
BMRM Bremner River 48.38 39 *eP* **P** **18 03 28.8 +1.3**
comp=Z,9.7nm,0.9s
RAGM Ragged Mountai 48.44 39 *eP* **P** **18 03 27.8 -0.2**
comp=Z,14nm,0.8s
MENT Mentasta 48.52 36 *eP* **P** **18 03 30.0 +1.5**
GKN Gorkha 48.72 275 *eP* **P** **18 03 31.1 +0.4**
comp=Z,14nm,0.6s
PMG Port Moresby 48.85 174 *eP* **P** **18 03 32.8 +1.4**
PMG pmax pmax
comp=Z,17nm,1.0s
PMG Port Moresby 48.85 174 *eP* **P** **18 03 32.8 +1.4**
comp=Z,16nm,1.0s
CRQM Cirque 49.12 39 *eP* **P** **18 03 35.6 +2.2**
TKM2 Tokmak 2 49.25 297 *eP* **P** **18 03 35.5 +0.9**
TKM2 pmax pmax
comp=Z,18nm,1.1s
TKM2 Tokmak 2 49.25 297 *eP* **P** **18 03 35.5 +0.9**
comp=Z,18nm,1.1s
VOSK Vostochnaya 49.31 310 *eP* **P** **18 03 34.3 -0.4**
VOSK pmax pmax
comp=Z,6.0nm,0.9s
VOSK Vostochnaya 49.31 310 *eP* **P** **18 03 34.3 -0.4**
comp=Z,6.1nm,0.9s
EGAK Eagle 49.40 33 *eP* **P** **18 03 36.3 +1.1**
comp=Z,7.2nm,0.9s
BALM Baldy 49.46 38 *eP* **P** **18 03 37.1 +1.3**
BALM pmax pmax
comp=Z,6.0nm,0.8s
BALM Baldy 49.46 38 *eP* **P** **18 03 37.1 +1.3**
comp=Z,6.4nm,0.8s
BRVK Borovoye 49.63 311*c iP* **P** **18 03 37.4 +0.3**
BRVK pmax pmax
comp=Z,44nm,2.5s
BRVK Borovoye 49.63 311 *eP* **P** **18 03 37.9 +0.8**
comp=Z,62nm,1.8s
KOLN Koldanda 49.63 275 *eP* **P** **18 03 38.3 +0.6**
comp=Z,14nm,0.6s
PYUN Piuthan 49.94 276 *eP* **P** **18 03 40.5 +0.4**
comp=Z,79nm,1.0s
FRU Bishkek 49.96 297 *eP* **P** **18 03 40.0 +0.2**
AAK Ala-Archa 50.11 297 P **P** **18 03 41.1 -0.1**
comp=Z,1.7nm,0.4s,baz=104,slow=8.3,SNR=6.4
AAK Ala-Archa 50.11 297⇑ *iP* **P** **18 03 41.6 +0.5**
AAK pmax pmax
comp=Z,11nm,1.4s
AAK Ala-Archa 50.11 297 *eP* **P** **18 03 40.7 -0.4**
comp=Z,4.7nm,1.0s
KSH Kashi 50.22 293 *eP* P 18 03 47.4 +5.4
KSH PcP **PcP** **18 05 04.6 +3.9**
KSH PP PP 18 05 45.1 +7.8
KSH S **S** **18 10 54.1 +2.6**
KSH ScS **ScS** **18 13 29.9 -0.2**
KSH SS **SS** **18 14 27.0 +2.1**
KSH PMZ
comp=Z,5.0nm,0.4s
KSH PMZ
comp=Z,110nm,4.1s
KSH LN
comp=Z,150nm,5.3s
KSH LE
comp=Z,220nm,5.7s
KSH LZ
comp=Z,340nm,11.8s
ZRNK Zerenda 50.41 311 *eP* **P** **18 03 42.9 -0.1**
ZRNK pmax pmax
comp=Z,12nm,1.1s
ZRNK Zerenda 50.41 311 *eP* **P** **18 03 42.9 -0.1**
comp=Z,12nm,1.1s
EKS2 Erkin-Say 50.59 297 *eP* **P** **18 03 44.7 0.0**
EKS2 pmax pmax
comp=Z,5.0nm,1.0s
EKS2 Erkin-Say 50.59 297 *eP* **P** **18 03 44.7 0.0**
comp=Z,4.8nm,1.0s
HNR Honiara 51.31 158 LR LR 18 23 13.6
comp=Z,161nm,21.6s,baz=340,slow=33
INK Inuvik 51.80 28 P **P** **18 03 54.3 +1.1**
comp=Z,2.2nm,0.7s,baz=267,slow=11,SNR=7.0
INK Inuvik 51.80 28 *eP* **P** **18 03 53.8 +0.6**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 51.80 28 *eP* **P** **18 03 53.8 +0.6**
comp=Z,4.9nm,0.8s
SOEI Soe 51.86 203 *eP* **P** **18 03 53.6 -0.7**
comp=Z,59nm,1.3s
DHAK Deception Hill 51.91 40 *eP* **P** **18 03 54.3 +0.1**
comp=Z,58nm,1.4s
KKAR Karatay Array 52.66 299 *eP* **P** **18 03 59.6 -0.4**
KKAR Karatay Array 52.66 299 *eP* **P** **18 03 59.6 -0.4**
OPA Opana 53.26 91 *eP* **P** **18 04 04.3 -0.4**
OPA Opana 53.26 91 *eP* **P** **18 04 04.3 -0.4**
comp=Z,137nm,1.2s
LHMI Lhok Sumawe 53.36 242 *eP* **P** **18 04 06.7 +1.2**
comp=Z,74nm,1.0s
SVE Sverdlovsk 53.89 318⇑ *eP* **P** **18 04 09.7 +0.9**
SVE pmax pmax
comp=Z,25nm,1.5s
SVE MLR MLR
comp=Z,910nm,16.0s
SMRI Semarang 55.01 220 *eP* **P** **18 04 18.6 +1.2**
comp=Z,95nm,1.3s
ARU Arti 55.10 318 P **P** **18 04 17.9 +0.3**
comp=Z,3.6nm,0.6s,baz=65,slow=4.9,SNR=8.8
ARU LR LR 18 30 18.1
comp=Z,737nm,19.7s,baz=118,slow=39
ARU Arti 55.10 318*c iP* **P** **18 04 18.1 +0.5**
ARU 18 05 17.4
ARU 18 06 21.6
ARU S **S** **18 12 00.8 +3.4**
ARU SS **SS** **18 15 41.6 +0.6**
ARU pmax pmax
comp=Z,28nm,1.7s
ARU MLR MLR
comp=Z,676nm,17.0s
ARU Arti 55.10 318 *eP* **P** **18 04 17.4 -0.2**
comp=Z,17nm,1.1s
GSI Gunungsitoli 55.81 239 *eP* **P** **18 04 22.9 -0.4**
comp=Z,31nm,1.5s
DLBC Dease Lake 56.16 39 P **P** **18 04 27.7 +2.4**
comp=Z,8.2nm,1.2s,baz=269,slow=8.4,SNR=4.8
DLBC Dease Lake 56.16 39 *eP* **P** **18 04 27.9 +2.6**
comp=Z,5.7nm,0.6s
MNAI Manna 56.84 229 *eP* **P** **18 04 30.7 +0.1**
ABKAR Akbulak array 57.03 309 *eP* **P** **18 04 31.2 -0.2**
KBL Kabul 57.36 290 *eP* **P** **18 04 33.9 -0.4**
KBL pmax pmax
comp=Z,20nm,1.3s
KBL Kabul 57.36 290 *eP* **P** **18 04 33.9 -0.4**
comp=Z,20nm,1.3s
AKTO Aktyubinsk 57.69 311 P **P** **18 04 36.2 +0.1**
comp=Z,1.9nm,0.5s,baz=67,slow=13,SNR=3.3
AKTO LR LR 18 30 30.1
comp=Z,209nm,19.5s,baz=62,slow=37
KBS Kingsbay 58.38 350 *eP* **P** **18 04 41.4 +0.9**
KBS pmax pmax
comp=Z,11nm,1.3s
KBS Kingsbay 58.38 350 *eP* **P** **18 04 41.4 +0.9**
comp=Z,11nm,1.3s
WRAB Tennant Creek 59.62 189⇓ *eP* **P** **18 04 53.8 +4.0**
WRAB pmax pmax
comp=Z,16nm,1.1s
WRAB Tennant Creek 59.62 189 *eP* **P** **18 04 48.1 -1.7**
comp=Z,40nm,1.8s
WB2 Warramunga Arr 59.63 189 *eP* **P** **18 04 48.8 -1.0**
WR1 Warramunga Arr 59.63 189 *eP* **P** **18 04 48.9 -0.9**
comp=Z,31nm,1.6s
WRA Warramunga Arr 59.63 189 P **P** **18 04 48.9 -0.9**
comp=Z,3.3nm,0.8s,baz=6.1,slow=7.0,SNR=16
WRA Warramunga Arr 59.63 189 *eP* **P** **18 04 50.0 +0.2**
WRA pmax pmax
comp=Z,3.0nm,0.8s
XMIS Christmas Isla 60.37 223 *eP* **P** **18 04 53.4 -1.7**
comp=Z,138nm,1.2s
YKW3 Yellowknife Ar 61.21 31 *eP* **P** **18 05 01.0 +0.8**
comp=Z,19nm,0.7s
YKA Yellowknife Ar 61.25 31 P **P** **18 05 01.3 +0.9**
comp=Z,1.2nm,0.6s,baz=300,slow=6.3,SNR=9.2
YKB5 Yellowknife Ar 61.25 31 *eP* **P** **18 05 00.9 +0.4**
ARA0 ARCESS Array S 61.99 339 *eP* **P** **18 05 04.3 -1.1**
ARCES ARCESS Array B 61.99 339 P **P** **18 05 05.8 +0.4**
comp=Z,1.1nm,0.6s,baz=46,slow=6.9,SNR=4.7
ARCES LR LR 18 36 40.5
comp=Z,164nm,18.1s,baz=43,slow=40

ARCES ARCESS Array B 61.99 339 *eP* **P** **18 05 08.2 +2.8**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARE0 ARCESS Array S 61.99 339 *eP* **P** **18 05 05.9 +0.5**
comp=Z,25nm,1.4s
KLMR Klimovskoe 62.14 327 *eP* **P** **18 05 07.2 +0.7**
KLMR *e* 18 05 46.9
KLMR pmax pmax
comp=Z,15nm,1.4s
AS01 Alice Springs 63.35 189 *eP* **P** **18 05 14.5 -0.4**
AS31 Alice Springs 63.35 189 *eP* **P** **18 05 14.9 0.0**
comp=Z,1.2nm,1.0s
ASAR Alice Springs 63.35 189 P **P** **18 05 14.8 -0.2**
comp=Z,1.4nm,1.0s,baz=8.4,slow=8.0,SNR=9.2
DAG Danmarks Havn 63.39 355 *i P* **P** **18 05 14.4 -0.2**
DAG pmax pmax
comp=Z,4.0nm,1.0s
DAG Danmarks Havn 63.39 355 *i P* **P** **18 05 14.4 -0.2**
comp=Z,4.3nm,1.0s
GEYT Ailbeck 63.41 298 P **P** **18 05 15.6 +0.2**
comp=Z,3.7nm,0.9s,baz=81,slow=4.9,SNR=6.6
GEYT LR LR 18 34 01.4
comp=Z,61nm,18.1s,baz=105,slow=37
DZM Mont Dzumac 65.21 156 *e*LR LR 18 24 52.3
comp=Z,238nm,22.9s
VRH Novokhopyorsk 66.33 318 *eP* P 18 05 28.3 -5.8
VRH pmax pmax
comp=Z,6.0nm,0.5s
VRH MLR MLR
comp=Z,450nm,17.0s
OBN Obninsk 66.64 323⇑ *iP* **P** **18 05 37.0 +1.0**
OBN *e**SP **pP** **18 05 46.6 -0.9**
OBN *eS* **S** **18 14 28.8 +4.4**
OBN pmax pmax
comp=Z,4.0nm,0.5s
OBN MLR MLR
comp=Z,401nm,15.0s
OBN Obninsk 66.64 323 *eP* **P** **18 05 37.1 +1.2**
comp=Z,11nm,0.6s
LPSR Galich'ya Gora 66.97 320 *eP* **P** **18 05 38.1 0.0**
LPSR pmax pmax
comp=Z,9.0nm,1.0s
LPSR MLR MLR
comp=Z,250nm,19.0s
FIA1 FINESS Array S 67.03 332 *eP* **P** **18 05 38.8 +0.4**
FIA0 FINESS Array S 67.03 332 *eP* **P** **18 05 38.6 +0.2**
FIA0 FINESS Array S 67.03 332 *eP* **P** **18 05 38.6 +0.2**
FINES FINESS Array B 67.03 332 P **P** **18 05 38.6 +0.2**
comp=Z,1.8nm,0.4s,baz=38,slow=7.4,SNR=15
FINES LR LR 18 37 10.4
comp=Z,294nm,19.6s,baz=36,slow=38
FINES FINESS Array B 67.03 332 *eP* **P** **18 05 41.5 +3.1**
FINES pmax pmax
comp=Z,2.0nm,0.4s
VSR Storozhevoye 67.65 319 *eP* **P** **18 05 41.6 -0.9**
VSR pmax pmax
comp=Z,10.0nm,1.5s
VSR MLR MLR
comp=Z,740nm,22.0s
KHMM Horse Mountain 68.00 55 *eP* **P** **18 05 45.0 -0.1**
comp=Z,30nm,1.3s
AFI Afiamalu 68.08 131 *eP* **P** **18 05 43.3 -2.4**
AFI pmax pmax
comp=Z,45nm,1.0s
AFI Afiamalu 68.08 131 *eP* **P** **18 05 43.3 -2.4**
comp=Z,45nm,1.0s
SUMG Summit 68.22 0 *eP* **P** **18 05 46.7 +0.5**
SUMG pmax pmax
comp=Z,16nm,0.6s
SUMG Summit 68.22 0 *i P* **P** **18 05 46.9 +0.7**
SUMG Summit 68.22 0 *eP* **P** **18 05 46.7 +0.5**
comp=Z,16nm,0.6s
WDC Whiskeytown Da 68.92 54 *eP* **P** **18 05 51.8 +1.2**
WDC pmax pmax
comp=Z,26nm,1.9s
WDC Whiskeytown Da 68.92 54 *eP* **P** **18 05 51.8 +1.2**
comp=Z,26nm,1.9s
GOF Gofitskoye 69.10 312⇑ *eP* P 18 05 57.5 +5.8
GOF pmax pmax
comp=Z,18nm,0.8s
KVAR Kislovodsk Arr 69.94 311 P **P** **18 05 57.9 +0.9**
comp=Z,11nm,1.1s,baz=276,slow=3.6,SNR=7.9
KVAR LR LR 18 42 12.2
comp=Z,148nm,18.8s,baz=43,slow=41
KIV Kislovodsk 69.95 311 *eP* **P** **18 05 57.9 +0.9**
KIV Kislovodsk 69.95 311 *eP* **P** **18 05 57.9 +0.9**
KBZ Khabaz 69.95 310 P **P** **18 05 57.5 +0.5**
comp=Z,2.0nm,0.7s,baz=47,slow=11,SNR=5.1
KBZ LR LR 18 41 50.7
comp=Z,164nm,18.8s,baz=47,slow=40
GNI Garni 70.93 307 LR LR 18 40 27.1
comp=Z,171nm,18.3s,baz=66,slow=39
GNI Garni 70.93 307⇑ *eP* **P** **18 06 03.9 +0.7**
GNI pmax pmax
comp=Z,16nm,1.1s
GNI Garni 70.93 307 *eP* **P** **18 06 02.1 -1.1**
comp=Z,18nm,1.5s
MFID Camas Ranch 71.34 49 *eP* **P** **18 06 05.2 -0.4**
comp=Z,4.0nm,0.5s
CMB Columbia Colle 71.75 56 *eP* **P** **18 06 08.7 +0.7**
CMB pmax pmax
comp=Z,3.0nm,0.8s
CMB Columbia Colle 71.75 56 *eP* **P** **18 06 08.7 +0.7**
comp=Z,3.2nm,0.8s
LRM Limekiln Ridge 71.79 45 *eP* **P** **18 06 09.8 +1.4**
SAO San Andreas Ge 71.81 57 *eP* **P** **18 06 09.7 +1.4**
SAO pmax pmax
comp=Z,20nm,1.2s
SAO San Andreas Ge 71.81 57 *eP* **P** **18 06 09.7 +1.4**
comp=Z,20nm,1.2s
UOSS Minazif 71.88 288 *eP* **P** **18 06 08.5 -0.5**
comp=Z,36nm,1.4s
YERR Yerington 71.91 54 *eP* **P** **18 06 10.5 +1.3**
comp=Z,6.0nm,0.9s
DLMT Dillon 71.99 46 *eP* **P** **18 06 09.7 +0.1**
comp=Z,2.7nm,0.8s
NC405 NORSAR Array S 72.03 337 *eP* **P** **18 06 10.6 +1.3**
NC204 NORSAR Array S 72.19 338 *eP* **P** **18 06 10.3 +0.1**
HFS Hagfors 72.19 336 P **P** **18 06 10.7 +0.5**
comp=Z,1.5nm,0.4s,baz=55,slow=5.5,SNR=11
NB201 NORSAR Array S 72.21 337 *eP* **P** **18 06 10.6 +0.3**
NB2 NORSAR Subarra 72.24 337 P **P** **18 06 10.5 -0.1**
comp=Z,15nm,1.4s,baz=39,slow=6.2
NB200 NORSAR Array S 72.24 337 *eP* **P** **18 06 10.8 +0.2**
NOA NORSAR Array B 72.24 337 P **P** **18 06 10.8 +0.2**
comp=Z,4.4nm,1.0s,baz=39,slow=6.0,SNR=6.4
NOA NORSAR Array B 72.24 337 *eP* **P** **18 06 13.8 +3.2**
NOA pmax pmax
comp=Z,4.0nm,1.0s
BMN Battle Mountai 72.30 52 *eP* **P** **18 06 10.5 -0.9**
BMN pmax pmax
comp=Z,5.0nm,1.2s
BMN Battle Mountai 72.30 52 *eP* **P** **18 06 10.5 -0.9**
comp=Z,5.0nm,1.2s
NBO02 NORSAR Array S 72.34 338 *eP* **P** **18 06 10.3 -0.8**
NBO00 NORSAR Array S 72.38 338 *eP* **P** **18 06 12.4 +1.1**
TVH1 TV Hill, Hawth 72.53 54 *eP* **P** **18 06 14.7 +1.6**
comp=Z,7.0nm,1.2s
TVH3 East Aurora ar 72.55 55 *eP* **P** **18 06 13.9 +0.9**
comp=Z,2.2nm,0.8s
TVH2 Borealis Mine 72.58 55 *eP* **P** **18 06 12.6 -0.6**
comp=Z,3.2nm,0.7s
AKASG Malin Array Be 72.87 322 P **P** **18 06 14.5 +0.1**
comp=Z,1.3nm,0.4s,baz=44,slow=6.5,SNR=8.9
AKASG LR LR 18 41 49.1
comp=Z,131nm,19.4s,baz=355,slow=39
AKBB Malin Array Si 72.87 322 *eP* **P** **18 06 14.2 -0.2**
AKBB pmax pmax
comp=Z,10.0nm,0.6s
AKBB Malin Array Si 72.87 322 *eP* **P** **18 06 14.2 -0.2**
comp=Z,9.5nm,0.6s
KIEV Kiev 72.89 322⇓ *iP* **P** **18 06 14.9 +0.4**
KIEV pmax pmax
comp=Z,5.0nm,1.2s
KIEV Kiev 72.89 322 *eP* **P** **18 06 14.6 +0.1**
comp=Z,13nm,1.3s
AK11 Malin Array Si 72.92 322 *eP* **P** **18 06 14.3 -0.4**
ELK Elko 73.31 51 *eP* **P** **18 06 15.7 -1.8**
ELK pmax pmax
comp=Z,5.0nm,1.5s
ELK Elko 73.31 51 *eP* **P** **18 06 15.7 -1.8**
comp=Z,4.7nm,1.5s
SFJD Kangerlussuaq 73.35 5 *eP* **P** **18 06 17.4 +0.4**
SFJD pmax pmax
comp=Z,74nm,2.0s
SFJD Kangerlussuaq 73.35 5 *eP* **P** **18 06 17.4 +0.4**

comp=Z,74nm,2.0s
FXWY Fox Creek 73.95 46 *e*P **P 18 06 23.4 +2.1**
comp=Z,4.6nm,1.4s
MOOW Moose Ponds 74.03 46 *e*P **P 18 06 23.8 +2.0**
comp=Z,2.6nm,0.8s
TPAW Teton Pass 74.08 47 *e*P **P 18 06 23.4 +1.3**
comp=Z,2.2nm,0.8s
HVU Hansel Valley 74.12 49 *e*P **P 18 06 23.5 +1.3**
HVU pmax pmax
comp=Z,2.0nm,0.8s
HVU Hansel Valley 74.12 49 *e*P **P 18 06 23.4 +1.3**
comp=Z,2.4nm,0.8s
LOHW Long Hollow 74.20 46 *e*P **P 18 06 21.9 -0.8**
comp=Z,2.1nm,0.6s
BGU Big Grassy Mou 74.51 50 *e*P **P 18 06 22.8 -1.7**
comp=Z,7.7nm,1.7s
R11A Troy Canyon, C 74.57 53 *e*P **P 18 06 26.2 +1.3**
comp=Z,3.3nm,1.1s
DAC Darwin (Calif) 74.58 56 *e*P **P 18 06 25.9 +0.9**
DAC pmax pmax
comp=Z,3.0nm,0.8s
DAC Darwin (Calif) 74.58 56 *e*P **P 18 06 25.9 +0.9**
comp=Z,2.5nm,0.8s
SPUT South Promonto 74.61 49 *e*P **P 18 06 26.3 +1.3**
comp=Z,13nm,2.0s
TPNV Topopah Spring 75.03 54 *e*P **P 18 06 29.1 +1.6**
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV Topopah Spring 75.03 54 *e*P **P 18 06 29.1 +1.6**
comp=Z,7.6nm,1.1s
PD31 Pinedale Array 75.33 46 *e*P **P 18 06 29.9 +0.7**
PDAR Pinedale Array 75.33 46 P **P 18 06 30.5 +1.3**
comp=Z,0.9nm,0.6s,baz=262,slow=3.0,SNR=4.7
MTPU Mount Pierson 76.85 51 *e*P **P 18 06 38.7 +0.6**
comp=Z,3.3nm,0.9s
BUR08 Bucovina Ar. S 76.89 322 *e*P **P 18 06 38.6 +0.7**
ULM Lac du Bonnet 76.97 34 LR LR 18 43 41.8
comp=Z,1nm,18.7s,baz=49,slow=38
SRU San Rafael Swe 77.15 50 *e*P **P 18 06 40.9 +1.3**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 77.15 50 *e*P **P 18 06 40.9 +1.3**
comp=Z,5.5nm,0.9s
KOLS Kolonicke sedl 77.33 324 *e*P **P 18 06 41.7 +1.5**
KOLS pmax pmax
comp=Z,5.0nm,1.4s
KOLS Kolonicke sedl 77.33 324 *e*P **P 18 06 41.7 +1.5**
STHS Stebnicka Huta 77.43 325 *e*P **P 18 06 41.7 +0.9**
STHS pmax pmax
comp=Z,3.0nm,1.1s
STHS Stebnicka Huta 77.43 325 *e*P **P 18 06 41.7 +0.9**
U15A North Rim 77.82 53 *e*P **P 18 06 45.2 +1.7**
comp=Z,5.7nm,1.0s
BR101 Keskin Array S 77.86 312 *e*P **P 18 06 43.8 +0.3**
BRTR Keskin Array B 77.86 312 P **P 18 06 43.8 +0.3**
comp=Z,1.7nm,1.1s,baz=116,slow=2.9,SNR=5.2
BRTR LR LR 18 46 14.7
comp=Z,95nm,18.6s,baz=43,slow=40
MLR Muntele Rosu 78.06 320 P **P 18 06 44.9 +0.5**
comp=Z,0.2nm,0.3s,baz=159,slow=2.2,SNR=3.4
MLR Muntele Rosu 78.06 320 *e*P **P 18 06 44.5 +0.1**
comp=Z,6.0nm,1.2s
BR231 Keskin MP Arra 78.28 312 *e*P **P 18 06 44.9 -0.9**
LANS Liptovska Anna 78.41 326 *e*P **P 18 06 47.7 +1.5**
LANS Liptovska Anna 78.41 326 *e*P **P 18 06 47.7 +1.5**
OKC Ostrava-Krasne 78.46 327 AMS AMS 18 45 10.0
comp=Z,300nm,12.2s
KECS Kecovo 78.46 325 *e*P **P 18 06 47.8 +1.4**
KECS Kecovo 78.46 325 *e*P **P 18 06 47.8 +1.4**
MORC Moravsky Berou 78.76 327 *e*P **P 18 06 48.5 +0.3**
MORC pmax pmax
comp=Z,40nm,1.4s
MORC Moravsky Berou 78.76 327 *e*P **P 18 06 48.5 +0.3**
comp=Z,40nm,1.4s
DPC Dobruska-Polom 78.82 328 *e*P **P 18 06 50.7 +2.2**
DPC *e*PCP **PcP 18 06 56.4 -0.7**
DPC AMS AMS 18 43 50.0
comp=Z,200nm,16.4s
DPC Dobruska-Polom 78.82 328 *e*P **P 18 06 50.7 +2.2**
DPC *e* 18 06 56.4
DPC MLR MLR
comp=Z,200nm,16.4s
UPC Upice 78.83 328 AMS AMS 18 44 10.0
comp=Z,200nm,16.3s
VYHS Vyhne 79.18 326 *e*P **P 18 06 51.5 +1.1**
VYHS Vyhne 79.18 326 *e*P **P 18 06 51.5 +1.1**
BRG Berggiesshubel 79.36 330 *e*P P 18 06 59.1 +7.8
comp=Z,12nm,1.5s
comp=N,229nm,15.1s
comp=E,137nm,15.0s
comp=Z,286nm,15.8s
BRG Berggiesshubel 79.36 330 *e*P P 18 06 59.2 +7.9
BRG pmax pmax
comp=Z,12nm,1.5s
BRG MLR MLR
comp=N,229nm,15.1s
BRG MLR MLR
comp=E,137nm,15.0s
BRG MLR MLR
comp=Z,286nm,15.8s
CLL Collm 79.38 330 *e*P **P 18 06 52.0 +0.6**
comp=Z,4.0nm,1.1s
CLL *i* 18 06 59.1
CLL *e*S **S 18 16 53.0 +3.8**
CLL *e*(SS) 18 22 54.0
CLL Collm 79.38 330 *e*P **P 18 06 52.0 +0.6**
CLL *i* 18 06 59.1
CLL *e*S **S 18 16 53.0 +3.8**
CLL pmax pmax
comp=Z,4.0nm,1.1s
PVCC Panska Ves 79.39 329 AMS AMS 18 44 50.0
comp=Z,300nm,14.6s
VRAC Vranov 79.51 327 P **P 18 06 53.5 +1.3**
comp=Z,1.7nm,0.3s,baz=5.3,slow=1.4,SNR=4.0
GOPC GO Pecny, Ondr 79.78 329 AMS AMS 18 44 50.0
comp=Z,200nm,21.0s
PRU Pruhonice 79.82 329 *e*P **P 18 06 55.2 +1.3**
PRU AMS AMS 18 44 50.0
comp=Z,200nm,14.7s
PRU Pruhonice 79.82 329 *e*P **P 18 06 55.2 +1.3**
PRU MLR MLR
comp=Z,200nm,14.7s
TREC Trest 79.98 328 AMS AMS 18 44 40.0
comp=Z,200nm,20.6s
KHC Kasperske Hory 80.89 329 *e*P **P 18 07 00.4 +0.7**
KHC *e*PCP **PcP 18 07 07.1 +0.9**
KHC *e*pP **pP 18 07 13.5 +2.1**
KHC AMS AMS 18 47 10.0
comp=Z,300nm,14.8s
KHC Kasperske Hory 80.89 329 *e*P **P 18 07 00.4 +0.7**
KHC *e* 18 07 07.1
KHC *e* 18 07 13.5
KHC MLR MLR
comp=Z,300nm,14.8s
GERES GERESS Array B 81.06 329 P **P 18 07 01.1 +0.4**
comp=Z,0.2nm,0.3s,baz=29,slow=6.7,SNR=3.6
GERES LR LR 18 46 02.1
comp=Z,182nm,19.9s,baz=30,slow=38
ECSD EROS Data Cent 81.45 39 *e*P **P 18 07 03.3 +0.6**
comp=Z,3.6nm,0.8s
ANMO Albuquerque 82.35 51 *ce*P **P 18 07 10.3 +2.5**
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO Albuquerque 82.35 51 *e*P **P 18 07 08.7 +0.9**
comp=Z,4.3nm,1.2s
SCHQ Schefferville 82.73 17 LR LR 18 46 41.7
comp=Z,46nm,19.6s,baz=284,slow=38
PPT2 Papeete2 85.00 117 *e*LR LR 18 34 20.4
comp=Z,217nm,22.5s,baz=322
TAOE Nuku Hiva Isla 85.95 105 *e*LR LR 18 34 41.5
comp=Z,152nm,21.5s
MEH Mehetia 86.24 117 *e*T T 19 42 43.3
comp=Z,24nm,0.3s
LTX Lajitas 87.94 53 *e*P **P 18 07 37.0 +1.2**
LTX Lajitas 87.94 53 *e*P **P 18 07 37.0 +1.2**
TXAR Lajitas Array 87.94 53 P **P 18 07 37.0 +1.2**
comp=Z,0.7nm,0.6s,baz=335,slow=5.5,SNR=5.2
TXAR Lajitas Array 87.94 53 P **P 18 07 37.0 +1.2**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TBI Tubuai 89.06 122 *e*LR LR 18 36 02.8
comp=Z,124nm,22.2s
TBI Tubuai 89.06 122 *e*T T 19 46 10.9
comp=Z,16nm,0.3s
ESDC Sonseca Array 95.44 335 LR LR 18 56 30.1
comp=Z,98nm,18.3s,baz=15,slow=39

LPAZ La Paz 144.67 58 PKP **PKPab 18 14 21.4 -0.7**
comp=Z,1.6nm,0.8s,baz=12,slow=6.4,SNR=4.8

*ISCJB **14** 17:55:12.7±0.2,6.80N±0.02×73.02W±0.02,h162km±1km, mb4.7/195, Error ellipse: s-maj=4.2km s-min=3.0km az=141.9*
*NEIC **14** 17:55:13.8±0.3,6.76N×72.99W,h158km±3km, mb4.7/184, Error ellipse: s-maj=3.1km s-min=3.0km az=122.0*
NEIC Felt at Bogota and Los Santos.
*IDC **14** 17:55:14.2±0.5,6.77N×72.98W,h162km±4km, mb4.1/16, mb1 4.3/23, mb1mx4.0/47, mbtmp4.6/23, MS3.2/3, Ms1 3.2/3, ms1mx2.7/35, Error ellipse: s-maj=10.5km s-min=6.9km az=125.0*
*RSNC **14** 17:55:15.3±1.1,6.79N×73.11W,h148km±5km, ML4.8*
*FUNV **14** 17:55:17.4,6.90N×72.87W,h166km, MW4.1*

ISC 14 17:55:14.0±0.4, 6.79N±0.03×72.97W±0.04, h161km±3km, h161km:pP-P,n707,σ1908/755, mb4.7/195, 17C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**227**	*i* P		**Pn**	**17 55 35.2**	**-0.9**
BARC				*e*S		**Sn**	**17 55 50.3**	**-2.7**
BARC				*i*			17 55 51.6	
	comp=Z,16μm,0.3s							
GIRC	**Giron, Santand**	**0.36**	**322**	*i* P		**Pn**	**17 55 35.3**	**-0.9**
GIRC				*e*S		**Sn**	**17 55 50.3**	**-3.0**
PAMC	**Pamplona, Colo**	**0.61**	**26**	*i* P		**Pn**	**17 55 38.0**	**+0.3**
PAMC				*e*S		**Sn**	**17 55 55.0**	**-0.9**
BRRC	**Barranca, Sant**	**0.80**	**293**	↑*i* P		**Pn**	**17 55 37.0**	**-1.3**
BRRC				*e*S		**Sn**	**17 55 53.8**	**-3.1**
BRRC				*i*			17 55 56.3	
	comp=Z,5μm,0.1s							
RUSC	**La Rusia**	**0.90**	**187**	↓*i* P		**Pn**	**17 55 39.1**	**-0.5**
RUSC				*e*S		**Sn**	**17 55 57.5**	**-1.8**
RUSC				*i*			17 55 59.7	
	comp=Z,7μm,0.5s							
RUSC	**La Rusia**	**0.90**	**187**	*e*Pn		**Pn**	**17 55 38.9**	**-0.7**
RUSC				*e*Sn		**Sn**	**17 55 55.9**	**-3.4**
CBRI	**Barrientos, No**	**0.94**	**11**	*i* P		**Pn**	**17 55 39.7**	**+0.2**
CBRI				*e*S		**Sn**	**17 55 58.5**	**-0.7**
CBRI				*i*			17 56 03.8	
	comp=Z,8μm,0.6s							
GRMC	**Gramalote, San**	**0.94**	**10**	*i* P		**Pn**	**17 55 41.0**	**+1.5**
GRMC				*e*S		**Sn**	**17 55 59.9**	**+0.7**
GRMC				*i*			17 56 03.5	
	comp=Z,6μm,0.4s							
CAPV	**Capacho**	**1.25**	**31**	↑*i* P		**Pn**	**17 55 43.3**	**+1.1**
CAPV				*e*S		**Sn**	**17 56 04.1**	**+0.1**
OCAC	**Ocana**	**1.48**	**346**	*e*P		**Pn**	**17 55 43.7**	**-0.7**
OCAC				*e*S		**Sn**	**17 56 06.6**	**-1.2**
OCAC				*i*			17 56 11.5	
	comp=Z,7μm,0.3s							
NORC	**Norcasia**	**2.25**	**237**	*e*P		**Pn**	**17 55 50.8**	**-1.9**
NORC				*e*S		**Sn**	**17 56 19.6**	**-3.0**
ROSC	**El Rosal**	**2.36**	**215**	P		**Pn**	**17 55 55.0**	**+0.7**
	comp=Z,633nm,0.3s,baz=305,slow=16,SNR=620							
ROSC				S		**Sn**	**17 56 25.5**	**-0.1**
	comp=Z,2μm,0.3s,baz=206,slow=23,SNR=9.7							
ROSC	**El Rosal**	**2.36**	**215**	↓*i* P		**Pn**	**17 55 54.9**	**+0.5**
ROSC				*e*S		**Sn**	**17 56 24.4**	**-1.2**
ROSC				*i*			17 56 29.9	
	comp=Z,13μm,0.3s							
SOCV	**Socops**	**2.57**	**55**	↑*i* P		**Pn**	**17 55 57.7**	**+1.2**
SOCV				*e*S		**Sn**	**17 56 26.9**	**-2.5**
VIGV	**El Vigia**	**2.58**	**38**	↑*i* P		**Pn**	**17 55 57.8**	**+1.1**
VIGV				*e*S		**Sn**	**17 56 28.0**	**-1.8**
VILC	**Villavicencio,**	**2.76**	**195**	*i* P		**Pn**	**17 55 58.4**	**-0.6**
VILC				*e*S		**Sn**	**17 56 32.4**	**-1.5**
VILC				*i*			17 56 43.1	
	comp=Z,3μm,0.5s							
GUYC	**Guyana, Colomb**	**2.87**	**237**	*e*P		**Pn**	**17 55 59.5**	**-1.1**
GUYC				*i*			17 56 43.0	
	comp=Z,8μm,0.3s							
SDV	**Santo Domingo**	**3.11**	**48**	P		**Pn**	**17 56 04.7**	**+1.3**
	comp=Z,528nm,0.3s,baz=229,slow=13,SNR=244							
SDV				S		**Sn**	**17 56 42.7**	**+0.9**
	comp=Z,242nm,0.3s,baz=84,slow=23,SNR=11							
SDV	**Santo Domingo**	**3.11**	**48**	*e*P		**Pn**	**17 56 04.5**	**+1.1**
SDV				*i*			17 56 05.9	
	comp=Z,1μm,0.4s							
SDV	**Santo Domingo**	**3.11**	**48**	*e*Pn		**Pn**	**17 56 04.6**	**+1.3**
SDV				*e*Sn		**Sn**	**17 56 40.9**	**-0.8**
SDV	**Santo Domingo**	**3.11**	**48**	↑*e*P		**Pn**	**17 56 04.8**	**+1.4**
SDV				*e*S		**Sn**	**17 56 39.2**	**-2.6**
TOLC	**Tolima**	**3.21**	**227**	*e*P		**Pn**	**17 56 03.4**	**-1.4**
DBBC	**Dabeiba**	**3.23**	**274**	*i* P		**Pn**	**17 56 03.0**	**-1.7**
PRAC	**Prado**	**3.60**	**212**	*e*P		**Pn**	**17 56 08.2**	**-1.4**
PRAC				*e*S		**Sn**	**17 56 51.2**	**-1.6**
PRAC	**Prado**	**3.60**	**212**	*e*Pn		**Pn**	**17 56 08.3**	**-1.3**
PRAC				*e*Sn		**Sn**	**17 56 45.5**	**-7.3**
VIRV	**Villa del Rosa**	**3.73**	**9**	*e*S		**Sn**	**17 56 52.2**	**-3.4**
SANV	**Sanarito**	**4.34**	**51**	↑*e*P		**Pn**	**17 56 19.5**	**+0.5**
CURV	**Curarigua**	**4.37**	**43**	↑*i* P		**Pn**	**17 56 19.9**	**+0.5**
CURV				*e*S		**Sn**	**17 57 05.5**	**-5.1**
SOLC	**Bahia Solano**	**4.45**	**263**	*e*P		**Pn**	**17 56 18.7**	**-1.6**
DABV	**Dabajuro**	**4.71**	**29**	↑*e*P		**Pn**	**17 56 24.1**	**+0.3**
DABV				*e*S		**Sn**	**17 57 13.5**	**-4.8**
TEPV	**Terepaima**	**4.89**	**50**	↑*e*P		**Pn**	**17 56 26.9**	**+0.7**
SIQV	**Siquisique**	**4.95**	**39**	↑*i* P		**Pn**	**17 56 26.2**	**-0.7**
SIQV				*e*S		**Sn**	**17 57 18.2**	**-5.8**
BAUV	**El Baul**	**5.33**	**66**	↑*i* P		**Pn**	**17 56 31.3**	**-0.7**
BAUV				*e*S		**Sn**	**17 57 26.6**	**-6.4**
MAPV	**Macapo**	**5.39**	**56**	↑*e*P		**Pn**	**17 56 33.2**	**+0.4**
PAYV	**Puerto Ayacuch**	**5.46**	**104**	*e*P		**Pn**	**17 56 34.1**	**+0.5**
PAYV				*e*S		**Sn**	**17 57 32.0**	**-3.9**
MONV	**Montecano**	**5.92**	**30**	↑*e*P		**Pn**	**17 56 38.8**	**-1.0**
MONV				*e*S		**Sn**	**17 57 40.6**	**-6.5**
TURV	**Turiamo**	**6.24**	**54**	↑*e*P		**Pn**	**17 56 43.6**	**-0.4**
TURV				*e*S		**Sn**	**17 57 47.2**	**-7.4**
MERV	**Las Mercedes**	**7.04**	**69**	*e*P		**Pn**	**17 56 54.2**	**-0.5**
MERV				*e*S		Sn	17 58 06.0	-7.8
FUNV	**FUNVISIS**	**7.10**	**59**	↑*e*P		**Pn**	**17 56 55.0**	**-0.6**
BIRV	**Birongo**	**7.57**	**61**	↑*i* P		**Pn**	**17 57 01.0**	**-0.7**
BIRV				*e*S		Sn	17 58 17.1	-9.3
CUPV	**Cœpira**	**7.81**	**65**	↑*i* P		**Pn**	**17 57 04.4**	**-0.6**
PRGV	**PARIAGUAN**	**8.48**	**76**	*e*P		**Pn**	**17 57 13.2**	**-0.5**
PRGV				*e*S		Sn	17 58 38.2	-10
OTAV	**Otavalo**	**8.50**	**220**	*e*Pn		**Pn**	**17 57 12.2**	**-2.3**
PCRV	**Puerto La Cruz**	**8.90**	**67**	P		**Pn**	**17 57 18.8**	**-0.6**
	comp=Z,7.8nm,0.3s,baz=215,slow=7.9,SNR=20							
PCRV				S		**Sn**	**17 58 57.0**	**-1.5**
	comp=Z,3.2nm,0.3s,baz=265,slow=17,SNR=1.7							
PCRV	**Puerto La Cruz**	**8.90**	**67**	*e*P		**Pn**	**17 57 18.7**	**-0.7**
SDDR	**Presa de Saban**	**12.23**	**8**	*e*Pn		**Pn**	**17 58 03.4**	**+0.4**
MPR	**Mayaguez**	**12.69**	**26**	*e*Pn		**Pn**	**17 58 07.7**	**-1.3**
CELP	**Cerrillos**	**12.83**	**28**	*e*Pn		**Pn**	**17 58 08.5**	**-2.2**
LRS	**Lares**	**12.89**	**27**	*e*Pn		**Pn**	**17 58 11.2**	**-0.4**
SJG	**San Juan**	**13.07**	**30**	P		**Pn**	**17 58 12.9**	**-0.8**
	comp=Z,4.9nm,0.3s,baz=204,slow=16,SNR=6.7							
SJG				S		Sn	18 00 27.9	-11
	comp=Z,5.1nm,0.3s,baz=22,slow=21,SNR=4.3							
SVB	**Belmont**	**13.21**	**60**	*e*Pn		**Pn**	**17 58 15.2**	**-0.3**
HUMP	**Col San Antoni**	**13.25**	**31**	*e*Pn		**Pn**	**17 58 15.2**	**-0.8**
CBYP	**Canovanas**	**13.35**	**31**	*e*Pn		**Pn**	**17 58 17.2**	**-0.2**
CDVI	**St. Croix**	**13.52**	**36**	*e*Pn		**Pn**	**17 58 20.0**	**+0.6**
STVI	**Saint Thomas**	**13.89**	**33**	*e*Pn		**Pn**	**17 58 24.8**	**+0.7**
FDF	**Fort de France**	**14.03**	**55**	*e*Pn		**Pn**	**17 58 25.8**	**-0.2**
MGAN	**Managua**	**14.13**	**293**	*e*Pn		**Pn**	**17 58 23.2**	**-4.0**
ABVI	**Anegada Island**	**14.54**	**35**	*e*Pn		**P**	**17 58 34.4**	**-0.1**
SMRT	**St. Maarten**	**14.78**	**40**	*e*Pn		**P**	**17 58 36.8**	**-0.3**
ATAH	**Atahualpa**	**14.86**	**201**	P		**P**	**17 58 38.0**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=113,slow=1.7,SNR=5.3							
ATAH				LR		LR	18 05 12.4	
	comp=Z,100nm,18.3s,baz=41,slow=40							
PTGA	**Pitinga**	**14.97**	**119**	P		**Pn**	**17 58 38.7**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=26,slow=22,SNR=5.0							
PTGA	**Pitinga**	**14.97**	**119**	*e*Pn		**Pn**	**17 58 38.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**15.80**	**298**	*e*Pn		**Pn**	**17 58 47.2**	**-0.7**
	comp=Z,32nm,0.8s							
SAML	**Samuel**	**18.43**	**148**	*e*P		**P**	**17 59 17.9**	**+0.6**
	comp=Z,23nm,0.6s							
TEIG	**Tepich**	**19.97**	**313**	P		**P**	**17 59 34.5**	**+0.6**
	comp=Z,4.9nm,0.3s,baz=89,slow=23,SNR=36							
TEIG	**Tepich**	**19.97**	**313**	*e*P		**P**	**17 59 34.2**	**+0.3**
CCIG	**Comitan**	**21.00**	**298**	*e*P		**P**	**17 59 43.1**	**-2.1**
	comp=Z,19nm,0.6s							
LPAZ	**La Paz**	**23.43**	**168**	P		**P**	**18 00 08.5**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=318,slow=7.6,SNR=4.1							
LPAZ				pP		**pP**	**18 00 40.7**	**+0.5**
	comp=Z,12nm,0.6s,baz=348,slow=12,SNR=16							
LPAZ	**La Paz**	**23.43**	**168**	*e*P		**P**	**18 00 09.6**	**+0.1**
SIV	**San Ignacio**	**25.52**	**153**	pP		**pP**	**18 01 00.4**	**-0.8**
	comp=Z,5.1nm,0.6s,baz=323,slow=10,SNR=6.8							
SIV				LR		LR	18 11 33.9	
	comp=Z,66nm,19.5s,baz=6.5,slow=38							
PB11	**IPOC Station P**	**26.59**	**173**	*e*P		**P**	**18 00 37.2**	**-0.4**
	comp=Z,14nm,0.8s							
447A	**Lucedale**	**28.05**	**330**	P		**P**	**18 00 52.1**	**+1.9**
	baz=145							
348A	**Jackson**	**28.20**	**332**	P		**P**	**18 00 53.4**	**+1.8**
	baz=147							
GOGA	**Godfrey**	**28.22**	**341**	*e*P		**P**	**18 00 52.0**	**+0.2**
	comp=Z,16nm,0.9s							
446A	**Poplarville**	**28.40**	**329**	P		**P**	**18 00 55.3**	**+1.9**
	baz=144							
JSC	**Jenkinsville**	**28.41**	**345**	*e*P		**P**	**18 00 54.5**	**+1.1**
	comp=Z,14nm,0.6s							
347A	**Saraland**	**28.49**	**331**	P		**P**	**18 00 56.0**	**+1.8**
	baz=146							
248A	**Dixon Mills**	**28.70**	**333**	P		**P**	**18 00 57.8**	**+1.8**
	baz=148							
445A	**Amite**	**28.85**	**328**	P		**P**	**18 00 59.3**	**+1.9**
	baz=142							
346A	**Big Creek Wild**	**28.93**	**330**	P		**P**	**18 00 59.8**	**+1.7**
	baz=144							
444A	**Pine Grove**	**29.06**	**327**	P		**P**	**18 01 01.0**	**+1.8**
	baz=142							
247A	**Quitman**	**29.06**	**332**	P		**P**	**18 01 00.9**	**+1.7**
	baz=147							
345A	**Thompson Farm,**	**29.15**	**329**	P		**P**	**18 01 01.8**	**+1.8**
	baz=144							
LRAL	**Lakeview Retre**	**29.18**	**335**	*e*P		**P**	**18 01 01.9**	**+1.6**
	comp=Z,24nm,1.1s							
KMSC	**Kings Mountain**	**29.25**	**346**	P		**P**	**18 01 02.2**	**+1.3**
	baz=163							
KMSC	**Kings Mountain**	**29.25**	**346**	*e*P		**P**	**18 01 01.9**	**+1.1**
	comp=Z,7.3nm,0.6s							
147A	**Livingston**	**29.43**	**333**	P		**P**	**18 01 03.7**	**+1.2**
	baz=148							
344A	**Westbrook Farm**	**29.63**	**328**	P		**P**	**18 01 05.9**	**+1.6**
	baz=142							
245A	**Little AP, Sta**	**29.66**	**330**	P		**P**	**18 01 06.1**	**+1.5**
	baz=144							
Z48A	**Northport**	**29.71**	**335**	P		**P**	**18 01 06.5**	**+1.5**
	baz=150							
146A	**Union**	**29.76**	**332**	P		**P**	**18 01 06.7**	**+1.3**
	baz=146							
Z47A	**Carrollton**	**29.78**	**334**	P		**P**	**18 01 07.0**	**+1.4**
	baz=149							
541A	**Lake Charles**	**29.95**	**323**	P		**P**	**18 01 08.1**	**+1.0**
	baz=137							
244A	**Avery, Jackson**	**30.07**	**329**	P		**P**	**18 01 09.3**	**+1.1**
	baz=143,SNR=5.3							
145A	**Houston Renfro**	**30.14**	**331**	P		**P**	**18 01 10.3**	**+1.5**
	baz=145							
Z46A	**Louisville**	**30.17**	**333**	P		**P**	**18 01 10.6**	**+1.6**
	baz=147							
Y47A	**UCPARC, Winfie**	**30.29**	**335**	P		**P**	**18 01 11.5**	**+1.4**
	baz=150,SNR=7.9							
243A	**Waterproof**	**30.36**	**328**	P		**P**	**18 01 11.6**	**+0.9**
	baz=142							
TKL	**Tuckaleechee C**	**30.39**	**342**	*e*P		**P**	**18 01 12.2**	**+1.2**
	comp=Z,13nm,1.1s							
144A	**Alexander Plac**	**30.41**	**330**	P		**P**	**18 01 12.3**	**+1.2**
	baz=144							
342A	**Flagon Creek P**	**30.43**	**326**	P		**P**	**18 01 12.5**	**+1.1**
	baz=140							
CPCT	**Cooper Cave**	**30.43**	**341**	*e*P		**P**	**18 01 12.8**	**+1.5**
	comp=Z,9.9nm,0.8s							
Z45A	**Winona**	**30.66**	**332**	P		**P**	**18 01 14.6**	**+1.3**
	baz=146							
Y46A	**Houston**	**30.71**	**334**	P		**P**	**18 01 15.0**	**+1.3**
	baz=148,SNR=8.5							
341A	**Kurthwood**	**30.87**	**325**	P		**P**	**18 01 15.4**	**+0.1**
	baz=138							
035Z	**Hargill**	**30.88**	**312**	P		**P**	**18 01 16.7**	**+1.4**
	baz=125							
936A	**North Padre Is**	**30.89**	**314**	P		**P**	**18 01 17.1**	**+1.6**
	baz=127							
Z44A	**Pea Ridge, Bel**	**30.94**	**331**	P		**P**	**18 01 17.0**	**+1.2**
	baz=145							
Y45A	**Yeager Farm, C**	**31.00**	**333**	P		**P**	**18 01 17.9**	**+1.6**
	baz=147,SNR=7.4							
737A	**Port Lavaca**	**31.13**	**317**	P		**P**	**18 01 19.4**	**+1.9**
	baz=130							
035A	**Encino**	**31.18**	**313**	P		**P**	**18 01 18.0**	**0.0**
	baz=126							
Z43A	**Armstrong Fami**	**31.29**	**330**	P		**P**	**18 01 19.8**	**+1.0**
	baz=143							
PLAL	**Pickwick Lake**	**31.32**	**336**	*e*P		**P**	**18 01 19.6**	**+0.5**
	comp=Z,28nm,0.8s							
Y44A	**Strider, Charl**	**31.39**	**332**	P		**P**	**18 01 20.6**	**+0.8**
	baz=146							
X45A	**UM Field Stati**	**31.40**	**333**	P		**P**	**18 01 20.2**	**+0.4**
	baz=148							
439A	**Center Grove,**	**31.43**	**322**	P		**P**	**18 01 20.8**	**+0.7**
	baz=135							
538A	**Harpers Horsep**	**31.48**	**321**	P		**P**	**18 01 21.6**	**+1.0**
	baz=133							
HKT	**Hockley**	**31.51**	**320**	*e*P		**P**	**18 01 20.8**	**0.0**
	comp=Z,6.3nm,1.0s							
034A	**Hebbronville**	**31.68**	**313**	P		**P**	**18 01 22.2**	**-0.1**
	baz=125,SNR=14							
Y43A	**Makayla and Ka**	**31.69**	**331**	P		**P**	**18 01 23.6**	**+1.2**
	baz=144							
835A	**Beeville**	**31.79**	**315**	P		**P**	**18 01 23.7**	**+0.4**
	baz=128							
438A	**Sam Houston St**	**31.83**	**321**	P		**P**	**18 01 24.3**	**+0.7**
	baz=134							
934A	**Benavides**	**31.87**	**314**	P		**P**	**18 01 24.3**	**+0.3**
	baz=126							
W45A	**Hickory Valley**	**31.93**	**334**	P		**P**	**18 01 25.1**	**+0.7**
	baz=148							
636A	**Smothers Creek**	**32.00**	**318**	P		**P**	**18 01 25.8**	**+0.7**
	baz=130							
NATX	**Nacogdoches**	**32.05**	**324**	P		**P**	**18 01 26.3**	**+0.7**
	baz=136							
NATX	**Nacogdoches**	**32.05**	**324**	*e*P		**P**	**18 01 25.9**	**+0.3**
	comp=Z,27nm,0.9s							
Y42A	**Garnett, Star**	**32.06**	**330**	P		**P**	**18 01 26.3**	**+0.8**
	baz=143							
CCAR	**Cane Creek**	**32.11**	**330**	*e*P		**P**	**18 01 27.0**	**+0.9**
	comp=Z,48nm,1.0s							
338A	**Crockett**	**32.15**	**322**	P		**P**	**18 01 27.2**	**+0.7**
	baz=135							
WVT	**Waverly**	**32.22**	**337**	*e*P		**P**	**18 01 27.4**	**+0.4**
	comp=Z,39nm,1.0s							
V45A	**Humboldt**	**32.33**	**335**	P		**P**	**18 01 28.4**	**+0.5**
	baz=149							
933A	**Laredo**	**32.42**	**313**	P		**P**	**18 01 28.5**	**-0.4**
	baz=125

MVL **Millersville** 33.20 355 eP P 18 01 35.3 -0.1
comp=Z,5,8nm,0.7s
BDFB **Brasilia** 33.28 132 P P 18 01 37.4 +0.8
comp=Z,1.3nm,0.3s,baz=304,slow=11,SNR=3.3
137A **Heron Place, G** 33.30 323 P P 18 01 36.9 +0.5
baz=136
534A **Blanco** 33.30 317 P P 18 01 35.2 -1.4
baz=129
832A **Faith Ranch, C** 33.31 313 P P 18 01 36.4 -0.2
baz=125
Z38A **Mt. Pleasant** 33.32 325 P P 18 01 36.4 -0.2
baz=138
Y39A **Lockesburg** 33.34 327 P P 18 01 37.0 +0.3
baz=140
236A **Katherine and** 33.35 322 P P 18 01 37.0 +0.2
baz=134
W41B **Gary Mavity, V** 33.35 331 P P 18 01 37.1 +0.3
baz=144,SNR=7.8
335A **Moody** 33.42 320 P P 18 01 37.5 0.0
baz=132
V42A **Cord** 33.46 332 P P 18 01 37.8 +0.1
baz=146,SNR=11
WHAR **Wooly Hollow** 33.47 331 eP P 18 01 37.8 0.0
comp=Z,21nm,0.7s
X301 **Greenbrier Sit** 33.48 330 eP P 18 01 37.9 -0.1
comp=Z,16nm,0.6s
X201 **Greenbrier Sit** 33.50 331 eP P 18 01 38.2 +0.1
comp=Z,22nm,0.6s
MIAR **Mount Ida** 33.53 328 P P 18 01 38.0 -0.4
baz=141,SNR=5.2
MIAR **Mount Ida** 33.53 328 eP P 18 01 38.0 -0.4
comp=Z,7.7nm,0.6s
WCI **Wyandotte Cave** 33.55 341 eP P 18 01 39.4 +0.9
comp=Z,27nm,0.7s
434A **Burnet** 33.66 318 P P 18 01 38.7 -1.0
baz=130
136A **Ennis** 33.67 322 P P 18 01 40.4 +0.7
baz=134
O56A **Blue Knob Stat** 33.71 352 P P 18 01 41.9 +2.0
baz=170
533A **Kerrville** 33.71 317 P P 18 01 39.5 -0.6
baz=128
LUPA **Lehigh Univers** 33.73 357 eP P 18 01 42.0 +1.9
comp=Z,31nm,0.9s
W40A **Ferguson Farm,** 33.77 330 P P 18 01 41.0 +0.5
baz=142,SNR=10
BRNJ **Basking Ridge** 33.78 358 eP P 18 01 42.4 +2.0
comp=Z,26nm,0.9s
USIN **University of** 33.78 339 eP P 18 01 41.0 +0.5
comp=Z,54nm,0.8s
X39A **Fountain Ranch** 33.79 328 P P 18 01 40.7 +0.1
baz=140,SNR=6.7
V41A **Mountainview** 33.80 331 P P 18 01 40.8 +0.1
baz=144,SNR=35
PBMO **Poplar Bluff** 33.84 334 eP P 18 01 41.8 +0.8
comp=Z,44nm,0.7s
S45A **Carrier Mills** 33.86 337 P P 18 01 41.8 +0.6
baz=152,SNR=10.0
WHTX **Lake Whitney,** 33.91 321 P P 18 01 41.8 0.0
baz=133
WHTX **Lake Whitney,** 33.91 321 eP P 18 01 42.0 +0.2
comp=Z,14nm,0.9s
334A **Lometa** 33.98 319 P P 18 01 41.8 -0.5
baz=131
SSPA **Standing Stone** 33.98 353 eP P 18 01 44.1 +1.8
comp=Z,22nm,1.3s
N59A **State Game Lan** 34.07 356 P P 18 01 44.2 +1.2
baz=175
PAL **Palisades** 34.08 359 eP P 18 01 43.1 +0.1
comp=Z,13nm,0.6s
S44A **Carbondale** 34.14 337 P P 18 01 44.1 +0.5
baz=150,SNR=12
SIUC **Southern Illin** 34.14 337 eP P 18 01 44.1 +0.5
comp=Z,56nm,0.7s
W39A **Magazine** 34.14 329 P P 18 01 43.9 +0.2
baz=141,SNR=16
433A **Art** 34.17 318 P P 18 01 43.5 -0.5
baz=129,SNR=32
135A **Vickery Place,** 34.27 322 P P 18 01 44.9 +0.1
baz=133
X38A **Whitesboro** 34.29 327 P P 18 01 45.0 0.0
baz=139,SNR=8.8
234A **Clairette** 34.35 320 P P 18 01 45.2 -0.3
baz=132
S43A **Fulton Ridge,** 34.36 336 P P 18 01 45.5 0.0
baz=149,SNR=8.9
W38A **Poteau** 34.43 328 P P 18 01 46.1 0.0
baz=140
333A **Richland Sprin** 34.46 318 P P 18 01 46.1 -0.4
baz=130,SNR=18
BLO **Bloomington** 34.48 341 eP P 18 01 47.8 +1.2
comp=Z,57nm,0.6s
JCT **Junction City** 34.48 317 P P 18 01 46.1 -0.7
baz=128
ACSO **Alum Creek Sta** 34.48 346 eP P 18 01 48.1 +1.5
comp=Z,63nm,0.8s
X37A **Clayton** 34.53 326 P P 18 01 46.7 -0.3
baz=138
Y36A **Durant** 34.54 325 P P 18 01 47.7 +0.6
baz=136
R44A **Waltonville** 34.55 337 P P 18 01 47.7 +0.5
baz=151,SNR=11
V39A **Pettigrew** 34.57 330 P P 18 01 47.4 0.0
baz=142,SNR=20
U40A **Yellville** 34.59 331 P P 18 01 47.9 +0.3
baz=144,SNR=58
OLIL **Olney** 34.62 339 eP P 18 01 48.1 +0.4
comp=Z,41nm,0.7s
T41A **Mountain View** 34.65 333 P P 18 01 48.1 +0.1
baz=146,SNR=28
134A **White-Moore Ra** 34.70 321 P P 18 01 48.3 -0.2
baz=132
Z35A **Perchaven, San** 34.70 323 P P 18 01 48.6 0.0
baz=134
KSPA **Keystone Colle** 34.71 356 eP P 18 01 50.0 +1.6
comp=Z,34nm,1.2s
233A **Rising Star** 34.85 319 P P 18 01 49.8 0.0
baz=131,SNR=5.9
U39A **Green Forest** 34.92 330 P P 18 01 50.0 -0.3
baz=143,SNR=11
W37B **Quinton** 34.97 327 P P 18 01 50.5 -0.3
baz=139
V38A **Canehill** 34.98 329 P P 18 01 50.4 -0.5
baz=141,SNR=19
Y35A **Marietta** 34.98 324 P P 18 01 51.5 +0.6
baz=135
HHAR **Hobbs** 35.07 330 eP P 18 01 50.9 -0.7
comp=Z,15nm,0.7s
T40A **Mansfield** 35.08 332 P P 18 01 52.0 +0.2
baz=145,SNR=20
M54A **Oil Creek Stat** 35.08 351 P P 18 01 53.4 +1.7
baz=168
Q44A **Meyer Farm, Va** 35.10 338 P P 18 01 51.9 0.0
baz=152
Z34A **Collier Ranch,** 35.13 322 P P 18 01 52.4 +0.2
baz=134
133A **Hamilton Ranch** 35.25 320 P P 18 01 53.1 -0.1
baz=131
X35A **Drake** 35.29 324 P P 18 01 52.9 -0.7
baz=136
ALLY **Alegheny Colle** 35.29 351 eP P 18 01 54.1 +0.6
comp=Z,62nm,1.4s
BINY **Binghamton** 35.36 356 eP P 18 01 55.5 +1.5
comp=Z,30nm,1.2s
V37A **Hulbert** 35.38 328 P P 18 01 53.7 -0.6
baz=140
T39A **Clever** 35.38 331 P P 18 01 54.0 -0.3
baz=143,SNR=8.6
Q43A **New Douglas** 35.39 337 P P 18 01 54.1 -0.2
baz=151
W36A **Wetumka** 35.41 326 P P 18 01 54.0 -0.6
baz=138,SNR=6.2
U38A **Gravette** 35.41 329 P P 18 01 53.8 -0.8
baz=141,SNR=5.8
S40A **Lebanon** 35.44 333 P P 18 01 55.1 +0.3
baz=145,SNR=46
Y34A **Reagan Ranch,** 35.44 323 P P 18 01 54.8 -0.1
baz=134,SNR=9.9
WES **Weston** 35.48 2 eP P 18 01 55.5 +0.5
comp=Z,65nm,1.4s
Z33A **Whitaker Ranch** 35.60 321 P P 18 01 56.3 +0.1
baz=132,SNR=6.4
Q42A **Golden Eagle** 35.70 336 P P 18 01 57.1 +0.2
baz=149,SNR=5.1
ABTX **Abilene, Hawle** 35.72 320 P P 18 01 57.2 -0.1
baz=130
ABTX **Abilene, Hawle** 35.72 320 eP P 18 01 56.9 -0.4
comp=Z,20nm,0.8s

V36A **Jenks** 35.73 327 P P 18 01 57.0 -0.3
baz=139
TUL1 **Leonard** 35.74 327 P P 18 01 56.9 -0.5
baz=139
TUL1 **Leonard** 35.74 327 eP P 18 01 56.4 -1.0
comp=Z,18nm,0.8s
SFIN **Lafayette** 35.76 341 P P 18 01 58.2 +0.8
baz=156,SNR=17
SFIN **Lafayette** 35.76 341 eP P 18 01 57.8 +0.3
comp=Z,74nm,0.5s
U37A **Salina** 35.76 329 P P 18 01 56.9 -0.6
baz=140,SNR=7.8
W35A **Tecumseh** 35.78 325 P P 18 01 56.9 -0.8
baz=137
T38A **Diamond** 35.83 330 P P 18 01 57.6 -0.6
baz=142,SNR=11
S39A **Bolivar** 35.89 332 P P 18 01 58.4 -0.2
baz=144,SNR=18
R40A **Maddies Statio** 35.90 334 P P 18 01 58.6 -0.1
baz=146,SNR=20
X34A **Smith Ranch, M** 35.94 324 P P 18 01 58.8 -0.3
baz=135
Y33A **Hilltop Ranch,** 36.00 322 P P 18 01 59.5 -0.1
baz=133,SNR=5.9
MMNY **Mt. Morris Dam** 36.06 354 eP P 18 02 01.0 +1.0
U36A **Oologah** 36.07 328 P P 18 01 59.7 -0.5
baz=139
S38A **Stockton** 36.12 331 P P 18 02 00.0 -0.6
baz=143,SNR=9.2
V35A **Meyer Ranch, C** 36.20 326 P P 18 02 00.6 -0.7
baz=137
T37A **Cheneyville 18** 36.21 330 P P 18 02 00.8 -0.6
baz=141,SNR=24
R39A **Chumby, Stover** 36.26 333 P P 18 02 01.6 -0.2
baz=145,SNR=26
X33A **Lawton** 36.29 323 P P 18 02 01.2 -0.8
baz=134
W34A **Bridge Creek,** 36.35 325 P P 18 02 02.2 -0.4
baz=136,SNR=5.5
W34A **Bridge Creek,** 36.35 325 eP P 18 02 02.0 -0.6
comp=Z,42nm,0.6s
Q40A **Laux Farm, Aux** 36.40 335 P P 18 02 02.9 0.0
baz=147,SNR=18
ACCN **Adirondack Com** 36.45 359 eP P 18 02 05.0 +1.7
comp=Z,49nm,1.8s
P41A **Barry, Barry** 36.56 336 P P 18 02 04.0 -0.3
baz=149,SNR=11
R38A **Fenwick Farm,** 36.56 332 P P 18 02 03.8 -0.5
baz=144,SNR=14
U35A **Pawnee** 36.59 327 P P 18 02 04.0 -0.6
baz=138,SNR=5.9
WMOK **Wichita Mounta** 36.59 323 P P 18 02 03.7 -1.0
baz=134,SNR=12
WMOK **Wichita Mounta** 36.59 323 eP P 18 02 03.9 -0.8
comp=Z,12nm,0.6s
LTX **Lajitas** 36.59 312 eP P 18 02 04.7 -0.2
LTX ePcP PcP 18 04 26.1 +1.3
TX31 **Lajitas Ar. Si** 36.59 312 eP P 18 02 04.6 -0.3
TX31 ePcP PcP 18 04 25.8 +1.0
TXAR **Lajitas Array** 36.59 312 P P 18 02 04.7 -0.2
comp=Z,8.0nm,0.7s,baz=133,slow=7.0,SNR=4.0
TXAR PcP PcP 18 04 26.1 +1.3
comp=Z,1.9nm,0.7s,baz=132,slow=5.7,SNR=8.1
TXAR LR LR 18 19 52.0
comp=Z,22nm,18.9s,baz=0.0,slow=40
V34A **Guthrie** 36.63 326 P P 18 02 04.2 -0.8
baz=136
V34A **Guthrie** 36.63 326 eP P 18 02 04.1 -0.8
comp=Z,72nm,1.5s
HDIL **Hopedale** 36.66 339 P P 18 02 04.6 -0.5
baz=152,SNR=7.0
HDIL **Hopedale** 36.66 339 eP P 18 02 04.5 -0.6
comp=Z,42nm,0.6s
T36A **Boggs Farm, Ca** 36.66 329 P P 18 02 04.4 -0.7
baz=140,SNR=5.4
S37A **Fort Scott** 36.67 330 P P 18 02 04.5 -0.7
baz=142,SNR=11
X32A **Elmer** 36.68 322 P P 18 02 05.0 -0.4
baz=133
Q39A **Willow Grove F** 36.84 334 P P 18 02 06.4 -0.3
baz=146,SNR=9.9
P40A **Paris** 36.84 335 P P 18 02 06.4 -0.2
baz=147,SNR=14
O41A **Paleys Farm,** 36.87 337 P P 18 02 06.3 -0.6
baz=150,SNR=8.4
T35A **Sooner Cattle** 36.88 328 P P 18 02 06.4 -0.7
baz=139
HPIG 36.96 307 eP P 18 02 07.8 -0.4
comp=Z,7.1nm,0.6s
S36A **Lake Cedric, C** 37.02 330 P P 18 02 07.3 -0.9
baz=141
Q38A **Cooks Store, C** 37.05 333 P P 18 02 08.5 0.0
baz=145,SNR=34
V33A **Lossen Ranch,** 37.06 325 P P 18 02 08.0 -0.6
baz=135,SNR=6.4
MDV **Middlebury** 37.06 360 eP P 18 02 10.4 +2.0
U34A **Anderson Ranch** 37.08 326 P P 18 02 08.2 -0.6
baz=137,SNR=5.1
U34A **Anderson Ranch** 37.08 326 eP P 18 02 07.6 -1.1
comp=Z,31nm,0.6s
R37A **Teagarden Farm** 37.10 331 P P 18 02 07.9 -0.9
baz=142
P39B **Salisbury** 37.10 334 P P 18 02 08.6 -0.3
baz=146,SNR=8.8
W32A **Sentinel** 37.13 323 P P 18 02 08.7 -0.5
baz=133,SNR=11
O40A **La Belle** 37.27 336 P P 18 02 09.9 -0.3
baz=148,SNR=8.6
T34A **McClaskey Farm** 37.32 327 P P 18 02 10.2 -0.5
baz=138,SNR=7.1
S35A **Otter Creek Ra** 37.36 329 P P 18 02 10.2 -0.9
baz=140
Q37A **Longview Farm,** 37.37 332 P P 18 02 10.7 -0.5
baz=143,SNR=6.5
U33A **Lingo Farm, Me** 37.40 326 P P 18 02 10.7 -0.7
baz=136
R36A **Gordon, Harris** 37.44 330 P P 18 02 11.6 -0.2
baz=141
P38A **Dawn** 37.56 334 P P 18 02 12.4 -0.3
baz=145,SNR=13
O39A **Kirksville** 37.65 335 P P 18 02 13.2 -0.3
baz=147
LONY **Lake Ozonia** 37.71 358 eP P 18 02 14.2 +0.3
comp=Z,14nm,1.3s
S34A **Willow Spring** 37.78 328 P P 18 02 14.0 -0.6
baz=139
R35A **Emporia Munici** 37.78 330 P P 18 02 14.0 -0.7
baz=140
U32A **Winter Ranch,** 37.86 325 P P 18 02 14.8 -0.6
baz=135
P37A **Lathrop** 37.89 333 P P 18 02 14.9 -0.6
baz=144
Q36A **Arnold C. Orve** 37.92 331 P P 18 02 14.6 -1.1
baz=142
O38A **Galt** 37.94 334 P P 18 02 15.5 -0.4
baz=146,SNR=5.5
EMMW **East Machias** 38.08 6 eP P 18 02 18.4 +1.4
comp=Z,100nm,1.5s
Q35A **Mercer Eighty,** 38.12 330 P P 18 02 16.5 -0.9
baz=141,SNR=5.8
N39A **Derby Farms, D** 38.16 336 P P 18 02 17.4 -0.4
baz=148,SNR=6.9
S33A **Kaszmaul Farm,** 38.18 327 P P 18 02 17.5 -0.5
baz=137
SADO **Sadowa** 38.21 353 eP P 18 02 19.1 +1.0
comp=Z,13nm,0.6s
O37A **Wolven Farm, M** 38.27 333 P P 18 02 18.4 -0.3
baz=145
R34A **Isabella, Hill** 38.30 329 P P 18 02 18.4 -0.6
baz=139
P36A **Good Intent, A** 38.32 332 P P 18 02 18.4 -0.7
baz=143,SNR=8.5
N38A **Joes South For** 38.39 335 P P 18 02 19.5 -0.2
baz=146
AMTX **Amarillo** 38.47 321 P P 18 02 20.4 -0.1
baz=130
AMTX **Amarillo** 38.47 321 eP P 18 02 20.4 -0.1
comp=Z,35nm,1.0s
KSU1 **Kansas State U** 38.59 330 P P 18 02 20.5 -0.8
baz=140
O36A **Bolckow** 38.61 333 P P 18 02 20.8 -0.7
baz=144
Q34A **Chapman** 38.62 329 P P 18 02 20.8 -0.8
baz=140
P35A **Duane Minner,** 38.63 331 P P 18 02 20.9 -0.8
baz=142
R33A **Olander Ranch,** 38.69 328 P P 18 02 21.9 -0.4
baz=138

S32A **Newby Ranch, P** 38.76 326 P P 18 02 22.3 -0.5
baz=136
N37A **Lee Faris, Mou** 38.78 334 P P 18 02 22.6 -0.4
baz=145,SNR=5.2
M38A **Pleasantville** 38.90 336 P P 18 02 23.5 -0.4
baz=147,SNR=7.1
P34A **Walnut Farm, R** 39.04 330 P P 18 02 24.3 -0.8
baz=140
JFWS **Jewell Farm** 39.07 340 eP P 18 02 25.3 0.0
comp=Z,62nm,0.6s
MNTX **Cornudas Mount** 39.10 314 P P 18 02 25.8 +0.1
baz=123,SNR=31
MNTX **Cornudas Mount** 39.10 314 eP P 18 02 25.9 +0.1
comp=Z,17nm,0.8s
Q33A **Connelly Farm,** 39.13 329 P P 18 02 25.4 -0.4
baz=139,SNR=7.1
N36A **Muff Farm, Cla** 39.16 333 P P 18 02 25.7 -0.4
baz=144
R32A **Long Quarter,** 39.16 327 P P 18 02 25.6 -0.6
baz=137
M37A **Trindle Farm,** 39.25 335 P P 18 02 26.3 -0.4
baz=146
SLBS **Sierra La Lagu** 39.26 299 eP P 18 02 28.5 +1.2
comp=Z,48nm,1.8s
P33A **Williams Farm,** 39.39 329 P P 18 02 27.3 -0.7
baz=139
L38A **Oak Wood Farm,** 39.41 336 P P 18 02 27.8 -0.3
baz=148
O34A **Beatrice** 39.46 331 P P 18 02 28.5 -0.1
baz=141
Q32A **Meitler Ranch,** 39.50 328 P P 18 02 28.5 -0.5
baz=138
N35A **Tabor** 39.51 333 P P 18 02 28.4 -0.6
baz=143
M36A **Felix, Anita** 39.61 334 P P 18 02 29.2 -0.6
baz=145,SNR=6.8
L37A **Phoenix Point,** 39.72 336 P P 18 02 30.1 -0.6
baz=147
K38A **Parkersburg** 39.77 337 P P 18 02 30.7 -0.3
baz=148
O33A **Hebron** 39.82 330 P P 18 02 30.9 -0.6
baz=140
N34A **Lincoln** 39.88 332 P P 18 02 31.1 -1.0
baz=142
P32A **Hulting Farm,** 39.99 329 P P 18 02 32.5 -0.5
baz=138
CBKS **Cedar Bluff** 40.00 327 P P 18 02 32.7 -0.5
baz=136
CBKS **Cedar Bluff** 40.00 327 eP P 18 02 32.4 -0.7
comp=Z,48nm,1.4s
M35A **Neola** 40.01 333 P P 18 02 32.8 -0.3
baz=144,SNR=8.3
L36A **Harm Buss Farm** 40.08 335 P P 18 02 33.3 -0.4
baz=145
K37A **Belmond** 40.21 336 P P 18 02 34.2 -0.5
baz=147
J38A **Wedel Dairy, R** 40.23 338 P P 18 02 33.8 -1.0
baz=149
N33A **J Bar K, Exete** 40.26 331 P P 18 02 34.9 -0.3
baz=141
O32A **Brockman Farm,** 40.30 330 P P 18 02 35.0 -0.6
baz=139
K36A **Gilmore City** 40.43 335 P P 18 02 35.9 -0.6
baz=146
M34A **Aspy Farms, Fr** 40.45 332 P P 18 02 36.0 -0.7
baz=142
L35A **Bielow Farm, R** 40.47 334 P P 18 02 36.3 -0.6
baz=144,SNR=8.3
J37A **Redenius Farm,** 40.63 337 P P 18 02 38.4 +0.2
baz=148
LMQ **La Malbaie** 40.67 3 eP P 18 02 39.7 +1.3
comp=Z,9.9nm,0.6s
N32A **Stulken Farm,** 40.69 330 P P 18 02 37.7 -1.0
baz=140
L34A **Svendsen Farm,** 40.72 333 P P 18 02 38.2 -0.8
baz=143,SNR=8.9
O31A **Woolen Ranch,** 40.76 329 P P 18 02 38.5 -0.8
baz=138
M33A **Taylor Creek F** 40.78 332 P P 18 02 38.3 -1.2
baz=142
I38A **Scanlan Farm,** 40.79 339 P P 18 02 38.9 -0.6
baz=150
K35A **Storm Lake** 40.83 335 P P 18 02 39.2 -0.6
baz=145
J36A **Seneca 1, Swea** 40.96 336 P P 18 02 40.1 -0.8
baz=147
N31A **Bailey Ranch,** 41.07 330 P P 18 02 41.3 -0.6
baz=139
BGNE **Belgrade** 41.11 331 P P 18 02 41.4 -0.8
baz=140
I37A **Lemond, Waseca** 41.17 338 P P 18 02 42.0 -0.6
baz=148
K34A **Le Mars** 41.17 334 P P 18 02 42.2 -0.5
baz=144,SNR=12
121A **Cookes Peak, D** 41.27 313 P P 18 02 44.9 +1.0
baz=121,SNR=5.1
L33A **Hoskins** 41.28 332 P P 18 02 42.8 -0.8
baz=142
BNM **Barren Site** 41.31 316 eP P 18 02 44.5 +0.4
J35A **Milford** 41.34 335 P P 18 02 43.7 -0.3
baz=146
LPM **Los Pinos Moun** 41.40 316 eP P 18 02 45.6 +0.7
M31A **Lambtecht Ranc** 41.47 330 P P 18 02 44.3 -0.8
baz=139
H37A **Dierke Farm, C** 41.47 338 P P 18 02 44.7 -0.3
baz=149
L32A **Elgin** 41.50 332 P P 18 02 44.5 -0.9
baz=141
K33A **Hardington** 41.51 333 P P 18 02 45.0 -0.4
baz=142,SNR=6.6
COWI **Conover** 41.58 343 eP P 18 02 46.2 +0.4
comp=Z,22nm,0.9s
J34A **George** 41.59 335 P P 18 02 45.4 -0.6
baz=144,SNR=8.3
T25A **Trinidad** 41.61 321 P P 18 02 47.6 +1.1
baz=129,SNR=6.5
T25A **Trinidad** 41.61 321 eP P 18 02 47.6 +1.1
comp=Z,8.9nm,0.6s
ANMO **Albuquerque** 41.64 317 P P 18 02 47.1 +0.3
baz=125
ANMO **Albuquerque** 41.64 317 eP P 18 02 47.0 +0.2
comp=Z,4.1nm,0.7s
KSCO **Kaye Shedlock'** 41.76 325 eP P 18 02 47.7 +0.1
comp=Z,20nm,0.7s
LAZ **Ladron** 41.80 316 eP P 18 02 48.8 +0.6
319A **Douglas** 41.81 311 eP P 18 02 48.8 +0.6
comp=Z,13nm,0.8s
H36A **Jessenland, He** 41.85 337 P P 18 02 47.2 -0.8
baz=148
K32A **Verdigre** 41.99 332 P P 18 02 48.3 -1.0
baz=141,SNR=7.2
L31A **Butterfield Fa** 42.03 331 P P 18 02 48.8 -0.9
baz=140
J33A **Davis** 42.06 334 P P 18 02 49.1 -0.7
baz=143
I34A **Hadley** 42.17 335 P P 18 02 49.9 -0.8
baz=145
ECSD **EROS Data Cent** 42.24 334 P P 18 02 50.4 -0.9
baz=144,SNR=14
ECSD **EROS Data Cent** 42.24 334 eP P 18 02 50.6 -0.7
comp=Z,17nm,1.0s
H35A **Sunnyside Ranc** 42.30 337 P P 18 02 51.1 -0.6
baz=147
K31A **O'Neill** 42.33 332 P P 18 02 51.5 -0.6
baz=140
G36A **St. Michael** 42.34 338 P P 18 02 51.8 -0.3
baz=149
J32A **Parkston** 42.49 333 P P 18 02 52.5 -0.9
baz=142,SNR=9.8
G35A **Watkins** 42.60 337 P P 18 02 53.7 -0.5
baz=148
H34A **Spellman Lake,** 42.65 336 P P 18 02 54.0 -0.5
baz=146
SDCO **Great Sand Dun** 42.67 321 P P 18 02 56.1 +0.9
baz=128,SNR=22
SDCO **Great Sand Dun** 42.67 321 eP P 18 02 55.9 +0.8
comp=Z,11nm,0.8s
K30A **Basset** 42.78 331 P P 18 02 55.4 -0.3
baz=139,SNR=9.9
F36A **Milaca** 42.79 339 P P 18 02 55.2 -0.5
baz=149,SNR=7.1
J31A **Geddes** 42.84 332 P P 18 02 55.7 -0.4
baz=141
I32A **Karley and Nic** 42.84 334 P P 18 02 55.4 -0.8
baz=143,SNR=14
F35A **Swanville** 43.17 338 P P 18 02 58.6 -0.2
baz=148
H32A **Carlson Farm,** 43.21 334 P P 18 02 58.2 -0.9

baz=143,SNR=8.0
Q24A Divide 43.21 323 P P 18 02 59.8 +0.2
baz=130
Q24A Divide 43.21 323 eP P 18 02 57.9 -1.7
comp=Z,7.3nm,1.0s
J30A Dallas 43.22 332 P P 18 02 59.1 -0.1
baz=140
E36A McGregor 43.26 340 P P 18 02 59.3 -0.2
baz=150,SNR=16
I31A Royce, Wessing 43.32 333 P P 18 02 59.4 -0.6
baz=142,SNR=9.8
G33A Ortonville 43.35 336 P P 18 02 59.3 -0.8
baz=145
TUC Tucson 43.38 311 P P 18 03 01.0 +0.3
baz=118
TUC Tucson 43.38 311 eP P 18 03 00.8 0.0
comp=Z,7.4nm,0.8s
C39A Grand Marais 43.42 343 P P 18 03 00.5 -0.2
baz=155,SNR=9.4
S22A 4UR Ranch, Cre 43.50 320 P P 18 03 02.7 +0.8
baz=127,SNR=14
S22A 4UR Ranch, Cre 43.50 320 eP P 18 03 03.0 +1.1
comp=Z,19nm,1.3s
D37A Cotton 43.54 341 P P 18 03 02.0 +0.3
baz=151,SNR=10
I30A Oacoma 43.64 332 P P 18 03 01.7 -0.8
baz=140
H31A Wolsey 43.65 333 P P 18 03 02.0 -0.6
baz=142,SNR=13
C38A Sawbill Land. 43.67 342 P P 18 03 02.1 -0.6
baz=153,SNR=8.9
E35A Pequot Lakes 43.70 339 P P 18 03 02.9 -0.1
baz=148
D36A Goodland 43.80 340 P P 18 03 03.4 -0.4
baz=150,SNR=8.4
F33A 5 Mile Ranch, 43.82 336 P P 18 03 03.1 -0.8
baz=146,SNR=6.4
SUSD Miller 43.83 333 P P 18 03 03.4 -0.6
baz=141,SNR=14
EYMN Ely 43.94 342 P P 18 03 04.7 -0.2
baz=153,SNR=20
EYMN Ely 43.94 342 eP P 18 03 04.5 -0.4
comp=Z,46nm,0.6s
E34A Wadena 43.95 338 P P 18 03 04.8 -0.2
baz=147
C37A Embarrass 43.97 341 P P 18 03 05.0 -0.1
baz=152,SNR=8.8
W18A Petrified Fore 43.99 315 P P 18 03 04.7 -1.1
baz=121
ISCO Idaho Springs 44.02 323 P P 18 03 06.7 +0.7
baz=130,SNR=13
ISCO Idaho Springs 44.02 323 eP P 18 03 06.3 +0.3
comp=Z,13nm,0.8s
D35A Remer 44.03 339 P P 18 03 05.0 -0.6
baz=149
G31A Conde 44.12 334 P P 18 03 05.5 -0.8
baz=143,SNR=8.0
I29A Vivian Onida 44.13 332 P P 18 03 05.4 -1.0
baz=139
F32A Veblen 44.18 336 P P 18 03 05.7 -1.1
baz=144
C36A Pine Crest Far 44.20 341 P P 18 03 07.0 0.0
baz=151,SNR=13
E33A Westby DABS, E 44.26 337 P P 18 03 06.7 -0.7
baz=146
MVCO Mesa Verde 44.28 318 P P 18 03 08.4 +0.4
baz=124
MVCO Mesa Verde 44.28 318 eP P 18 03 08.8 +0.7
comp=Z,30nm,1.4s
D34A Park Rapids 44.44 338 P P 18 03 08.5 -0.4
baz=148
G30A Faulkton 44.45 334 P P 18 03 08.3 -0.7
baz=141
SMCO Snowmass 44.45 322 eP P 18 03 10.4 +0.8
comp=Z,5.8nm,0.6s
C35A Jirik Farms, M 44.53 340 P P 18 03 09.3 -0.3
baz=150,SNR=6.6
H29A Onida 44.55 332 P P 18 03 08.6 -1.1
baz=140
F31A Hecla 44.64 335 P P 18 03 09.5 -0.9
baz=143,SNR=5.0
D33A AnnSam, Waubun 44.73 338 P P 18 03 11.1 -0.1
baz=147,SNR=11
E32A Braaten, Kindr 44.75 336 P P 18 03 10.7 -0.6
baz=145
214A Organ Pipe Nat 44.76 309 P P 18 03 12.3 +0.6
baz=116,SNR=6.9
C34A RKJ Ranch, Bem 44.82 339 P P 18 03 11.6 -0.2
baz=148
G29A Hoven 44.85 333 P P 18 03 11.4 -0.7
baz=140
PV01 Paradox Valley 44.85 319 eP P 18 03 13.7 +1.2
X16A Lo Mia Camp, P 44.86 313 eP P 18 03 13.1 +0.5
comp=Z,7.1nm,0.9s
PHWY Pilot Hill 44.90 325 eP P 18 03 13.1 +0.2
comp=Z,28nm,1.3s
PV15 Paradox Valley 44.91 320 eP P 18 03 14.9 +1.8
N23A Red Feather La 44.91 324 P P 18 03 13.8 +0.8
baz=130,SNR=7.4
N23A Red Feather La 44.91 324 eP P 18 03 13.5 +0.5
comp=Z,14nm,0.9s
F30A Leola 44.95 334 P P 18 03 12.4 -0.5
baz=142,SNR=7.1
B35A Bob, Littlefor 45.02 340 P P 18 03 13.0 -0.4
baz=150,SNR=18
E31A Nome 45.05 336 P P 18 03 12.9 -0.8
baz=144
PV05 Paradox Valley 45.16 319 eP P 18 03 14.8 -0.2
D32A Dogwood Acres, 45.17 337 P P 18 03 14.5 -0.2
baz=145
C33A Trail 45.22 338 P P 18 03 14.7 -0.3
baz=147
PV10 Paradox Valley 45.29 319 eP P 18 03 16.2 +0.2
WUAZ Wupatki 45.35 315 P P 18 03 17.3 +0.8
baz=120,SNR=18
WUAZ Wupatki 45.35 315 eP P 18 03 17.3 +0.8
comp=Z,28nm,0.9s
E30A Jud 45.43 335 P P 18 03 16.3 -0.4
baz=143
B34A Aery, Baudette 45.44 340 P P 18 03 16.6 -0.1
baz=149,SNR=19
C32A Crookston 45.55 338 P P 18 03 17.5 -0.1
baz=146
B33A Robert and Kas 45.59 339 P P 18 03 17.6 -0.2
baz=148
AGMN Agassiz Nation 45.71 339 P P 18 03 18.7 -0.1
baz=147
AGMN Agassiz Nation 45.71 339 eP P 18 03 18.8 0.0
comp=Z,25nm,0.7s
Y14A Wickenburg 45.78 312 eP P 18 03 20.0 +0.2
comp=Z,58nm,0.7s
E29A Napoleon 45.79 334 P P 18 03 19.4 -0.2
baz=142
O20A White River Ci 45.81 322 P P 18 03 20.7 +0.6
baz=127
O20A White River Ci 45.81 322 eP P 18 03 20.5 +0.5
comp=Z,9.9nm,0.6s
113A Mohawk Valley, 45.84 310 eP P 18 03 20.7 +0.6
comp=Z,5.4nm,0.8s
D30A Buchanan 45.85 336 P P 18 03 19.7 -0.2
baz=143
C31A Landman Farms, 45.99 337 P P 18 03 20.7 -0.3
baz=145,SNR=12
B32A Ashes, Strandq 46.03 338 P P 18 03 21.3 -0.1
baz=147,SNR=6.0
RSSD Black Hills 46.04 329 P P 18 03 21.9 +0.1
baz=135
RSSD Black Hills 46.04 329 eP P 18 03 21.3 -0.5
comp=Z,12nm,1.1s
A33A Warroad 46.08 340 P P 18 03 21.6 -0.1
baz=148,SNR=15
D29A Pettibone, Tap 46.16 335 P P 18 03 22.1 -0.3
baz=142
H25A Fruitdale 46.17 330 P P 18 03 22.5 -0.1
baz=136
C30A Mose, Pekin 46.21 336 P P 18 03 22.2 -0.5
baz=144
K22A Casper 46.38 326 P P 18 03 24.5 +0.1
baz=131
K22A Casper 46.38 326 eP P 18 03 24.0 -0.4
comp=Z,10nm,1.1s
U15A North Rim 46.45 315 eP P 18 03 26.0 +0.9
comp=Z,18nm,1.0s
A32A Rocking H Ranc 46.45 339 P P 18 03 24.2 -0.4
baz=147,SNR=7.5
B31A Greenbush Farm 46.47 337 P P 18 03 24.4 -0.4
baz=145,SNR=6.8
F26A Lodgepole 46.61 332 P P 18 03 25.4 -0.6
baz=138
SRU San Rafael Swe 46.66 319 eP P 18 03 27.2 +0.6
comp=Z,14nm,0.9s
D28A Regan 46.68 334 P P 18 03 26.3 -0.1
baz=141
GLA Glamis 46.77 310 P P 18 03 27.8 +0.4
baz=115,SNR=9.8
GLA Glamis 46.77 310 eP P 18 03 27.6 +0.2
comp=Z,13nm,0.7s
P18A Preston Nutter 46.77 320 eP P 18 03 28.3 +0.6
comp=Z,18nm,1.3s
MDND Maddock 46.78 336 P P 18 03 27.1 -0.1
baz=142,SNR=6.4
MDND Maddock 46.78 336 eP P 18 03 27.4 +0.2
comp=Z,4µm,0.8s
PDMCI Parker Dam,Lak 46.79 312 P P 18 03 27.8 +0.4
baz=116
Y12C Blythe 46.83 311 P P 18 03 28.2 +0.4
baz=116
Y12C Blythe 46.83 311 eP P 18 03 28.3 +0.4
comp=Z,9.7nm,1.2s
W13A Hualapai Mount 46.95 313 eP P 18 03 29.4 +0.3
comp=Z,2.7nm,0.9s
PKCU Pink Cliffs 46.97 316 eP P 18 03 29.9 +0.6
comp=Z,8.7nm,1.1s
E26A Carlson Angus 46.97 332 P P 18 03 28.7 -0.1
baz=138,SNR=11
P17A Butcher Ranch, 47.00 320 eP P 18 03 29.5 +0.2
comp=Z,15nm,0.8s
F25A Bowman 47.04 331 P P 18 03 29.1 -0.3
baz=137
KNB Kanab 47.11 316 eP P 18 03 31.0 +0.9
comp=Z,22nm,0.9s
A30A Hoffart Farm, 47.15 337 P P 18 03 29.7 -0.4
baz=145
B29A Wagenman Farm, 47.17 336 P P 18 03 30.3 0.0
baz=143,SNR=10
MTPU Mount Pierson 47.19 317 eP P 18 03 31.4 +0.4
comp=Z,9.9nm,1.1s
TMUT Trail Mountain 47.21 319 eP P 18 03 31.6 +0.6
comp=Z,9.1nm,1.1s
PLCA Paso Flores 47.34 178 P P 18 03 31.9 +0.2
comp=Z,0.6nm,0.5s,baz=326,slow=11,SNR=3.0
ULM Lac du Bonnet 47.36 340 P P 18 03 31.1 -0.6
comp=Z,26nm,0.5s,baz=145,slow=6.9,SNR=28
ULM Lac du Bonnet 47.36 340 eP P 18 03 31.0 -0.6
comp=Z,26nm,0.6s
D26A Manning 47.38 333 P P 18 03 31.9 0.0
baz=138,SNR=6.4
LCMT Little Creek M 47.40 315 eP P 18 03 33.3 +0.9
comp=Z,16nm,0.9s
MSU Marysvale 47.43 318 eP P 18 03 33.7 +1.0
E25A Miller Ranch, 47.44 332 P P 18 03 32.3 -0.1
baz=137,SNR=5.8
SWSC Sam W. Stewart 47.47 309 P P 18 03 33.2 +0.4
baz=114
IRM Iron Mountain 47.47 311 P P 18 03 33.4 +0.5
baz=115,SNR=5.6
A29A Manning Farm, 47.49 337 P P 18 03 32.4 -0.3
baz=144,SNR=8.8
BC3 Big Chuckawall 47.49 310 P P 18 03 33.4 +0.3
baz=115,SNR=5.4
B28A Dugan Ranch, T 47.57 335 P P 18 03 33.4 +0.1
baz=142,SNR=6.0
SZCU Shurtz Canyon 47.58 316 eP P 18 03 33.9 0.0
comp=Z,25nm,1.2s
IKP In-Ko-Pah, Jac 47.59 309 P P 18 03 34.8 +0.9
baz=113
TCRU Three Creeks R 47.66 318 eP P 18 03 34.7 +0.2
comp=Z,24nm,0.7s
CCUT Cedar City 47.74 316 eP P 18 03 35.7 +0.6
comp=Z,4.6nm,0.8s
LDFC Landfair 47.84 312 eP P 18 03 36.9 +1.1
comp=Z,15nm,1.0s
D25A Fairfield 47.87 332 P P 18 03 36.1 +0.3
baz=138
MPU Maple Canyon 47.88 320 eP P 18 03 36.4 +0.3
comp=Z,14nm,0.8s
A28A Rude Farm, Bot 47.89 336 P P 18 03 35.6 -0.3
baz=142
MONP2 Monument Peak 47.93 309 P P 18 03 37.0 +0.4
baz=113
BELC Belle Mtn. Jos 48.05 310 P P 18 03 37.7 +0.2
baz=114,SNR=5.2
JLU Jordanelle 48.08 320 eP P 18 03 37.2 -0.5
comp=Z,9.2nm,1.0s
GMRC Granite Mounta 48.12 311 P P 18 03 38.4 +0.4
baz=115
SCHQ Schefferville 48.16 5 P P 18 03 38.5 +0.7
comp=Z,14nm,0.6s,baz=201,slow=5.9,SNR=12
SCHQ Schefferville 48.16 5 eP P 18 03 38.4 +0.7
comp=Z,15nm,0.6s
BW06 Boulder Array 48.19 324 P P 18 03 38.3 -0.2
baz=128,SNR=12
BW06 Boulder Array 48.19 324 eP P 18 03 37.9 -0.5
comp=Z,17nm,1.3s
PD31 Pinedale Array 48.19 324 eP P 18 03 38.2 -0.2
PDAR Pinedale Array 48.19 324 P P 18 03 38.3 -0.2
comp=Z,5.4nm,0.6s,baz=120,slow=8.8,SNR=34
PDAR PcP PcP 18 05 01.7 -1.6
comp=Z,0.8nm,0.6s,baz=137,slow=6.8,SNR=2.4
TPFO Pinon Flats 48.24 310 P P 18 03 39.1 +0.3
baz=114
PFO Pinyon Flats O 48.24 310 P P 18 03 39.1 +0.2
baz=114
PFO Pinyon Flats O 48.24 310 eP P 18 03 39.4 +0.5
comp=Z,7.5nm,1.4s
B26A Jensen Ranch, 48.30 334 P P 18 03 39.4 +0.4
baz=140
A27A Ledoux Ranch, 48.33 335 P P 18 03 39.6 +0.5
baz=141
TCUT Toone Canyon 48.34 321 eP P 18 03 40.0 +0.3
comp=Z,46nm,0.6s
SHPR Sheep Range 48.52 314 eP P 18 03 41.8 +0.8
comp=Z,8.0nm,1.2s
PSUT Pine Spring 48.57 317 eP P 18 03 42.0 +0.6
comp=Z,14nm,1.1s
TUQ Turquoise Moun 48.60 312 P P 18 03 41.9 +0.3
baz=116,SNR=5.6
A26A Wade Farm, Ken 48.62 335 P P 18 03 41.3 -0.1
baz=140
B25A Knox Farm, Ray 48.63 333 P P 18 03 42.4 +0.9
baz=138,SNR=10
HEC Hector,Ludlow 48.65 311 P P 18 03 42.5 +0.6
baz=115,SNR=8.3
HWUT Hardware Ranch 48.72 321 eP P 18 03 42.2 -0.3
comp=Z,9.3nm,0.6s
DUG Dugway, Tooele 48.73 319 P P 18 03 43.1 +0.6
baz=122,SNR=8.2
DUG Dugway, Tooele 48.73 319 eP P 18 03 43.2 +0.6
comp=Z,7.8nm,0.8s
AHID Auburn Hatcher 49.10 323 eP P 18 03 45.4 0.0
comp=Z,15nm,0.9s
SPUT South Promonto 49.10 321 eP P 18 03 45.5 +0.1
comp=Z,19nm,1.7s
A25A Svangstu Ranch 49.11 334 P P 18 03 45.6 +0.5
baz=139,SNR=8.0
GSC Goldstone, Bar 49.19 312 P P 18 03 46.7 +0.6
baz=115
GSC Goldstone, Bar 49.19 312 eP P 18 03 46.4 +0.4
comp=Z,11nm,0.9s
DGMT Dagmar 49.24 333 P P 18 03 46.9 +0.7
baz=137,SNR=15
DGMT Dagmar 49.24 333 eP P 18 03 46.6 +0.4
comp=Z,83nm,0.6s
BGU Big Grassy Mou 49.26 320 eP P 18 03 46.7 +0.1
comp=Z,20nm,0.7s
REDW Red Top Meadow 49.31 324 eP P 18 03 46.8 -0.1
comp=Z,21nm,0.6s
SNOW Snow King Moun 49.31 324 eP P 18 03 46.9 -0.2
comp=Z,14nm,0.6s
LOHW Long Hollow 49.31 324 eP P 18 03 47.1 +0.2
comp=Z,11nm,0.6s
TPAW Teton Pass 49.44 324 eP P 18 03 48.5 +0.5
comp=Z,11nm,0.6s
MOOW Moose Ponds 49.47 324 eP P 18 03 48.0 -0.2
comp=Z,7.7nm,0.8s
RLMT Red Lodge 49.49 327 P P 18 03 48.6 +0.3
baz=130
RLMT Red Lodge 49.49 327 eP P 18 03 47.9 -0.4
comp=Z,34nm,1.8s
TPNV Topopah Spring 49.50 314 P P 18 03 49.3 +0.9
baz=117,SNR=11
TPNV Topopah Spring 49.50 314 eP P 18 03 48.9 +0.5
comp=Z,11nm,1.0s
HVU Hansel Valley 49.57 321 eP P 18 03 49.2 +0.3
comp=Z,6.3nm,0.7s
FXWY Fox Creek 49.57 324 eP P 18 03 48.7 -0.3
comp=Z,6.0nm,0.8s
FLWY Flagg Ranch 49.65 325 eP P 18 03 49.3 -0.2
comp=Z,7.1nm,0.6s
R11A Troy Canyon, C 49.67 316 P P 18 03 50.3 +0.6
baz=118,SNR=15
R11A Troy Canyon, C 49.67 316 eP P 18 03 49.8 +0.1
comp=Z,6.1nm,0.9s
IMW Indian Meadow 49.67 324 eP P 18 03 49.8 0.0
comp=Z,11nm,0.6s
MWC Mount Wilson 49.70 310 eP P 18 03 49.6 -0.5
comp=Z,18nm,1.5s
FURC Furnace Creek, 49.73 313 P P 18 03 50.9 +0.9
baz=116
EDW2 Edwards Air Fo 49.91 311 P P 18 03 51.9 +0.4
baz=114
LRMC Laurel Mtn Rad 49.92 311 P P 18 03 52.0 +0.4
baz=114
YFT Old Faithful 49.95 325 eP P 18 03 52.5 +0.7
comp=Z,7.4nm,0.5s
MPMC Manual Prospec 50.02 312 P P 18 03 52.4 -0.1
baz=115
GRAC Grapevine Rang 50.32 313 P P 18 03 55.4 +0.8
baz=116
SNCC San Nicolas Is 50.48 308 P P 18 03 56.7 +1.0
baz=111
QLMT Earthquake Lak 50.52 325 eP P 18 03 57.5 +1.4
ELK Elko 50.60 319 eP P 18 03 56.5 -0.3
comp=Z,3.9nm,0.9s
CWC Cottonwood Cre 50.61 312 P P 18 03 57.2 +0.4
baz=115
SCZ2 Santa Cruz Isl 50.83 309 P P 18 03 59.1 +0.7
baz=111
BOZ Bozeman (W) 51.12 326 P P 18 04 00.8 +0.3
baz=127,SNR=12
BOZ Bozeman (W) 51.12 326 eP P 18 04 00.4 -0.1
comp=Z,8.2nm,0.6s
PKM Mcpherson Peak 51.30 310 P P 18 04 02.8 +0.8
baz=112
MCMT McKenzie Canyo 51.33 324 eP P 18 04 03.3 +1.1
DLMT Dillon 51.50 325 eP P 18 04 03.6 +0.3
comp=Z,11nm,1.1s
HLID Hailey 51.55 322 P P 18 04 03.9 +0.1
baz=123,SNR=11
HLID Hailey 51.55 322 eP P 18 04 03.9 +0.1
comp=Z,10nm,1.0s
EGMT Eagleton 51.61 329 eP P 18 04 04.2 +0.2
comp=Z,82nm,1.1s
LRM Limekiln Ridge 51.69 325 eP P 18 04 04.8 0.0
BMN Battle Mountai 51.77 317 eP P 18 04 05.6 +0.2
comp=Z,5.8nm,0.8s
HRY Holter Researc 51.88 327 eP P 18 04 06.1 +0.1
PAGB Antelope Grade 51.94 311 eP P 18 04 06.5 -0.1
comp=Z,13nm,0.8s
TVH3 East Aurora ar 51.95 314 eP P 18 04 07.0 +0.2
comp=Z,13nm,1.8s
MFID Camas Ranch 52.34 321 eP P 18 04 09.4 -0.1
comp=Z,14nm,0.6s
WAKR Walker 52.45 314 eP P 18 04 10.4 -0.1
comp=Z,4.1nm,0.8s
YERR Yerington 52.51 315 eP P 18 04 11.3 +0.4
comp=Z,10nm,0.8s
CHMT Chamberlain Mo 52.78 326 eP P 18 04 12.3 -0.5
PAHR Pah Rah Range 52.92 316 eP P 18 04 13.7 -0.2
comp=Z,4.9nm,0.7s
MSO Missoula 53.11 326 P P 18 04 15.2 +0.1
baz=126
MSO Missoula 53.11 326 eP P 18 04 15.2 +0.1
comp=Z,5.2nm,0.9s
WVOR Wild Horse Val 53.65 319 eP P 18 04 18.9 -0.2
comp=Z,16nm,1.0s
AFDM Forest Hills D 53.72 314 eP P 18 04 18.4 -1.2
comp=Z,16nm,1.7s
YBMT Yellow Bay 53.76 327 eP P 18 04 18.9 -0.9
JTMT Jette 53.84 327 eP P 18 04 20.7 +0.3
BMO Blue Mountains 54.00 322 eP P 18 04 21.6 0.0
comp=Z,10.0nm,1.6s
BLMT Blacktail Moun 54.03 327 eP P 18 04 22.3 +0.4
BSMT Bassoo Peak 54.17 326 eP P 18 04 23.4 +0.5
MOD Modoc Plateau 54.51 318 eP P 18 04 24.6 -0.8
comp=Z,3.6nm,0.8s
F10A Beach Ranch, E 54.53 323 eP P 18 04 25.0 -0.4
comp=Z,12nm,0.6s
O03D Paynes Creek 54.85 315 P P 18 04 27.3 -0.5
baz=114
LTIM Timbered Crate 55.00 316 P P 18 04 29.3 +0.4
G08A Pilot Rock 55.23 322 eP P 18 04 30.7 +0.2
comp=Z,19nm,0.7s
K05A Summer Lake 55.26 318 eP P 18 04 31.4 +0.5
comp=Z,18nm,1.4s
M04C Macdoel 55.49 317 P P 18 04 32.5 +0.1
baz=115,SNR=5.6
NEW Newport 55.70 326 P P 18 04 33.3 -0.4
baz=123
J05D Fort Rock, OR 55.74 319 P P 18 04 34.5 +0.3
baz=116,SNR=10
KCPM Cahto Peak 55.88 314 eP P 18 04 38.6 +3.4
comp=Z,26µm,0.9s
KCPM eS S 18 12 11.2 +0.9
BUOR Burton Butte 55.97 317 eP P 18 04 36.0 0.0
YBH Yreka Blue Hor 56.06 316 eP P 18 04 35.1 -1.4
comp=Z,6.9nm,0.6s
C09A Chrisman Ranch 56.11 325 eP P 18 04 36.6 0.0
comp=Z,15nm,0.8s
G06A Carlson Farm, 56.24 321 eP P 18 04 38.4 +0.8
comp=Z,13nm,1.1s
I05D Terrebonne, OR 56.27 320 P P 18 04 38.0 +0.2
baz=117
KHMM Horse Mountain 56.43 315 eP P 18 04 39.9 +0.8
comp=Z,30nm,1.3s
HUMO Hull Mountain 56.59 317 eP P 18 04 38.6 -1.4
comp=Z,30nm,1.8s
I04A Tendick Farm, 56.73 319 P P 18 04 40.9 -0.1
baz=116
L02D Cave Junction, 56.85 317 P P 18 04 41.8 -0.1
baz=114
TDH Tom, Dick, Har 56.99 321 P P 18 04 43.3 +0.3
B08A Colville Reser 57.00 325 eP P 18 04 42.4 -0.5
comp=Z,8.0nm,0.7s
LTY Liberty 57.23 323 eP P 18 04 44.7 +0.2
comp=Z,10.0nm,0.6s
I03D Drain, OR 57.30 318 P P 18 04 45.3 +0.3
baz=115
RNO Roman Nose 57.65 318 eP P 18 04 48.2 +0.6
B05A Bryant 58.56 324 P P 18 04 53.5 -0.2
baz=118
NLWA Neilton Lookou 59.22 322 eP P 18 04 59.5 +1.2
comp=Z,50nm,1.7s
YKA Yellowknife Ar 63.34 340 P P 18 05 25.4 -0.2
comp=Z,17nm,0.5s,baz=132,slow=6.6,SNR=47
YKA pP pP 18 06 05.2 +1.5
comp=Z,2.6nm,0.8s,baz=128,slow=7.2,SNR=1.8
YKB5 Yellowknife Ar 63.34 340 eP P 18 05 25.3 -0.3
YKW3 Yellowknife Ar 63.39 340 eP P 18 05 26.0 0.0
DLBC Dease Lake 67.42 331 P P 18 05 52.9 +0.8
comp=Z,3.4nm,0.4s,baz=91,slow=4.2,SNR=9.3
DLBC Dease Lake 67.42 331 eP P 18 05 53.2 +1.1
comp=Z,5.7nm,0.6s
DBIC Dimbokro 67.59 86 P P 18 05 53.7 -0.1
comp=Z,1.8nm,0.4s,baz=241,slow=5.5,SNR=13
DBIC pP pP 18 06 34.4 +2.1
comp=Z,2.5nm,0.7s,baz=264,slow=9.2,SNR=2.1
DBIC Dimbokro 67.59 86 eP P 18 05 53.7 -0.1
comp=Z,13nm,1.2s
SUMG Summit 68.99 11 eP P 18 06 02.4 +0.4
comp=Z,16nm,0.6s
INK Inuvik 73.11 340 P P 18 06 26.6 +0.4
comp=Z,5.4nm,0.6s,baz=104,slow=6.2,SNR=12
INK Inuvik 73.11 340 eP P 18 06 26.7 +0.4
comp=Z,6.8nm,0.7s
TOA1 Torodi Ar. Sit 73.59 78 eP P 18 06 29.5 -0.7
comp=Z,12nm,1.6s
TOA0 Torodi Ar. Sit 73.60 78 eP P 18 06 29.4 -0.8
comp=Z,14nm,1.8s
TORD Torodi Ar. Bea 73.60 78 P P 18 06 29.5 -0.7
comp=Z,0.7nm,0.3s,baz=284,slow=6.6,SNR=16
BALM Baldy 74.16 332 eP P 18 06 34.1 +1.3
comp=Z,6.5nm,0.9s
EGAK Eagle 74.68 336 eP P 18 06 36.3 +0.7
comp=Z,14nm,1.3s
RAGM Ragged Mountai 75.12 331 eP P 18 06 40.0 +1.7
comp=Z,23nm,0.9s
BMRM Bremner River 75.22 331 eP P 18 06 40.1 +1.3
comp=Z,26nm,1.3s
DOT Dot Lake 75.60 334 eP P 18 06 42.1 +1.2
comp=Z,33nm,0.7s
PAX Paxson 76.06 333 eP P 18 06 44.1 +0.6
comp=Z,5.8nm,0.9s
PAX ePcP PcP 18 06 56.1 +1.0

HDA	**Harding Lake**	**77.01**	**335**	*e*P		**P**	**18 06 48.6**	**-0.1**
	comp=Z,40nm,1.8s								
IL1	**Eielson Array**	**77.05**	**335**	*e*P		**P**	**18 06 48.7**	**-0.3**
ILAR	**Eielson Array**	**77.05**	**335**	P		**P**	**18 06 49.0**	**0.0**
	comp=Z,2.5nm,0.7s,baz=108,slow=4.4,SNR=16								
ILAR				PP		**PP**	**18 09 44.2**	**-0.4**	
	comp=Z,0.6nm,0.6s,baz=113,slow=8.6,SNR=5.5								
ILB	**Eielson Array**	**77.05**	**335**	*e*P		**P**	**18 06 49.1**	**+0.1**
SML	**Sawmill**	**77.14**	**332**	*e*P		**P**	**18 06 50.4**	**+0.8**
	comp=Z,14nm,1.0s								
CCB	**Clear Creek Bu**	**77.42**	**335**	*e*P		**P**	**18 06 51.2**	**+0.2**
	comp=Z,4.8nm,1.3s								
PMR	**Palmer**	**77.48**	**332**	*e*P		**P**	**18 06 51.3**	**-0.1**
	comp=Z,5.7nm,0.8s								
RND	**Reindeer**	**77.65**	**333**	*e*P		**P**	**18 06 53.2**	**+0.7**
	comp=Z,16nm,0.7s								
MDM	**Murphy Dome**	**77.65**	**335**	*e*P		**P**	**18 06 52.7**	**+0.3**
	comp=Z,7.7nm,1.1s								
BWN	**Browne**	**78.04**	**334**	*e*P		**P**	**18 06 55.1**	**+0.6**
	comp=Z,10nm,0.6s								
TRF	**Thorofare Moun**	**78.29**	**333**	*e*P		**P**	**18 06 56.2**	**+0.1**
	comp=Z,53nm,2.0s								
KTH	**Kantishna Hill**	**78.59**	**333**	*e*P		**P**	**18 06 57.8**	**+0.2**
	comp=Z,5.6nm,0.7s								
BPAW	**Bear Paw Mtn.**	**78.69**	**334**	*e*P		**P**	**18 06 57.7**	**-0.4**
	comp=Z,5.3nm,0.8s								
SPU	**Mount Spurr**	**78.82**	**331**	*e*P		**P**	**18 06 58.1**	**-0.8**
COLD	**Coldfoot**	**78.83**	**337**	*e*P		**P**	**18 06 59.6**	**+0.8**
	comp=Z,6.9nm,1.1s								
PPLA	**Purkeypile**	**79.08**	**333**	*e*P		**P**	**18 07 00.3**	**-0.1**
	comp=Z,15nm,0.6s								
SVW2	**Sparrevohn**	**80.52**	**331**	*e*P		**P**	**18 07 07.2**	**-0.8**
	comp=Z,6.3nm,0.6s								
TTA	**Tatalina**	**80.82**	**333**	*e*P		**P**	**18 07 09.7**	**0.0**
	comp=Z,3.7nm,0.7s								
NB2	**NORSAR Subarra**	**81.28**	**29**	P		**P**	**18 07 13.0**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=268,slow=5.3								
NB200	**NORSAR Array S**	**81.28**	**29**	*e*P		**P**	**18 07 12.9**	**+0.8**
NOA	**NORSAR Array B**	**81.28**	**29**	P		**P**	**18 07 12.9**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=268,slow=5.4,SNR=4.8								
SPITS	**Spitsbergen Ar**	**83.26**	**12**	P		**P**	**18 07 22.8**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=205,slow=2.4,SNR=5.2								
ARA0	**ARCESS Array S**	**86.65**	**20**	*e*P		**P**	**18 07 39.3**	**+0.2**
ARCES	**ARCESS Array B**	**86.65**	**20**	P		**P**	**18 07 39.3**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=276,slow=4.6,SNR=9.0								
BFZ	**Birch Farm**	**110.14**	**229**	*e*Pdif		**Pdif**	**18 09 23.5**	**-2.6**
ZAA1	**Zalesovo Array**	**116.66**	**14**	*e*PKPdf		**PKPdf**	**18 13 39.0**	**0.0**
ZAA0	**Zalesovo Array**	**116.66**	**14**	*e*PKPdf		**PKPdf**	**18 13 38.0**	**-1.0**
ZALV	**Zalesovo Beam**	**116.66**	**14**	PKP		**PKPdf**	**18 13 39.0**	**0.0**
	comp=Z,1.4nm,0.4s,baz=259,slow=3.2,SNR=6.6								
KURK	**Kurchatov**	**117.68**	**20**	*e*PKPdf		**PKPdf**	**18 13 41.4**	**+0.4**
KURBB	**Kurchatov Arra**	**117.73**	**20**	PKP		**PKPdf**	**18 13 41.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=313,slow=1.9,SNR=8.7								
MK32	**Makanchi Array**	**122.30**	**20**	*e*PKPdf		**PKPdf**	**18 13 49.8**	**-0.3**
MKAR	**Makanchi Array**	**122.30**	**20**	PKP		**PKPdf**	**18 13 49.8**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=297,slow=1.9,SNR=26								
SONA0	**Songino Array**	**125.61**	**1**	*e*PKPdf		**PKPdf**	**18 13 56.9**	**+0.3**
SONM	**Songino Array**	**125.61**	**1**	PKP		**PKPdf**	**18 13 56.8**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=307,slow=1.1,SNR=7.4								
HHC	**Hu-ho-hao-te**	**132.41**	**355**	*e*PKP		**PKPdf**	**18 14 09.3**	**-0.4**
HHC				PP		**PP**	**18 16 38.8**	**+5.6**
HHC				SKS		**SKSdf**	**18 21 03.8**	**-2.5**
HHC	**Hu-ho-hao-te**	**132.41**	**355**	SS		SS	18 34 04.8	+6.4
HHC				AMB		AMB			
	comp=Z,97nm,9.2s								
LZH	**Lanzhou**	**137.25**	**4**	*e*PKP		**PKPdf**	**18 14 18.8**	**-0.1**
LZH				pPKP		pPKPdf	18 15 01.3	-0.1
LZH				sPKP			18 15 20.5		
CD2	**Chengdu**	**142.38**	**5**	PKP		**PKPdf**	**18 14 26.3**	**-2.0**
AS01	**Alice Springs**	**149.18**	**234**	*e*PKPdf		**PKPdf**	**18 14 39.0**	**-1.0**
AS01				*e*PKPbc		**PKPbc**	**18 14 43.6**	**-0.8**
AS31	**Alice Springs**	**149.22**	**234**	*e*PKPbc		**PKPbc**	**18 14 43.5**	**-0.9**
ASAR	**Alice Springs**	**149.22**	**234**	PKP		**PKPdf**	**18 14 40.3**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=118,slow=3.4,SNR=72								
ASAR				PKPbc		**PKPbc**	**18 14 43.5**	**-0.9**	
	comp=Z,2.9nm,0.5s,baz=117,slow=3.6,SNR=78								
ASAR				pPKPbc		**pPKPbc**	**18 15 25.4**	**-1.2**	
	comp=Z,0.2nm,0.6s,baz=122,slow=3.6,SNR=1.2								
WR1	**Warramunga Arr**	**150.45**	**241**	*e*PKPdf		**PKPdf**	**18 14 42.0**	**-0.1**
WR1				*e*PKPbc		**PKPbc**	**18 14 46.6**	**-0.8**
WR1				*e*pPKPdf		**pPKPdf**	**18 15 28.9**	**+4.2**
WRA	**Warramunga Arr**	**150.45**	**241**	PKP		**PKPdf**	**18 14 42.0**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=107,slow=2.7,SNR=72								
WRA				PKPbc		**PKPbc**	**18 14 46.6**	**-0.8**	
	comp=Z,4.1nm,0.5s,baz=111,slow=2.4,SNR=69								
WRA				pPKPbc		**pPKPbc**	**18 15 28.9**	**-0.9**	
	comp=Z,1.2nm,0.5s,baz=112,slow=2.5,SNR=2.4								
CMAR	**Chiang Mai Arr**	**153.67**	**18**	PKP		**PKPdf**	**18 14 48.0**	**+1.2**
	comp=Z,0.9nm,1.1s,baz=284,slow=2.4,SNR=5.2								
CMAR				PKPbc		**PKiKP**	**18 14 55.1**	**+0.3**	
	comp=Z,1.9nm,0.5s,baz=322,slow=3.2,SNR=27								

*ISCJB **14** 18:02:46.0±0.8,25.13N±0.09×98.84E±0.06,h10km, mb3.3/4, Error ellipse: s-maj=13.6km s-min=7.8km az=10.6*
*BJI **14** 18:02:47.0,25.03N×98.67E,h9km,ML3.7/7*
*IDC **14** 18:02:47.0±1.1,25.02N×98.44E,h0km,mb3.2/4, mb1 3.4/5,mb1mx3.2/72,mbtmp3.2/5,ML3.7/1,MS2.7/1, Ms1 2.9/1,ms1mx2.6/25, Error ellipse: s-maj=49.7km s-min=16.9km az=70.0*

ISC 14 18:02:49.1±1.0,25.3N±0.1×98.89E±0.06,h10km,n9, σ1s55/13,mb3.4/4,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.49**	**93**	Pg	**Pg**	**18 03 55.3**	**-0.7**
KMI				Sg	**Sg**	**18 04 43.4**	**+2.1**
KMI				smax	smax		
	comp=N,140nm,1.1s						
KMI				smax	smax		
	comp=E,74nm,1.1s						
KMI	**Kunming**	**3.49**	**93**	Pn	**Pn**	**18 03 44.8**	**+1.1**
KMI				Pg	**Pg**	**18 03 55.3**	**-0.7**
KMI				Sn	**Sb**	**18 04 30.3**	**-3.4**
KMI				Sg	**Sg**	**18 04 43.4**	**+2.1**
KMI				SMN			
	comp=E,98nm,0.7s						
KMI				SME			
	comp=E,38nm,0.9s						
CMAR	**Chiang Mai Arr**	**6.84**	**180**	Pn	Pn	18 04 24.2	-5.3
	comp=E,0.4nm,0.3s,baz=353,slow=13,SNR=10						
CMAR				Pg	**Pb**	**18 04 48.1**	**0.0**
	comp=E,1.0nm,0.3s,baz=352,slow=17,SNR=22						
CMAR				Lg	Lg	18 06 10.8	
	comp=E,0.4nm,0.3s,baz=355,slow=30,SNR=4.8						
CMAR				LR	LR	18 07 07.7	
	comp=E,58nm,18.2s,baz=185,slow=40						
WMQ	**Urumqi**	**20.59**	**336**	P	**P**	**18 07 28.3**	**0.0**
WMQ	**Urumqi**	**20.59**	**336**	P	**P**	**18 07 29.1**	**+0.8**
MKAR	**Makanchi Array**	**25.18**	**333**	P	**P**	**18 08 14.9**	**+0.3**
	comp=E,0.9nm,0.8s,baz=141,slow=10,SNR=4.8						
KURBB	**Kurchatov Arra**	**29.73**	**333**	P	**P**	**18 08 54.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=142,slow=9.3,SNR=2.6						
WRA	**Warramunga Arr**	**56.68**	**139**	P	**P**	**18 12 32.7**	**-0.3**
	comp=E,0.2nm,0.4s,baz=327,slow=7.6,SNR=3.5						
ASAR	**Alice Springs**	**59.35**	**142**	P	**P**	**18 12 51.9**	**+0.2**
	comp=E,0.2nm,0.8s,baz=323,slow=5.9,SNR=3.8						

*ISK **14** 18:11:40.7,39.11N×29.14E,h11km, MD2.6*
*ISCJB **14** 18:11:41.6±0.6,39.14N±0.05×29.08E±0.04,h4km±9km, Error ellipse: s-maj=8.8km s-min=4.2km az=156.5*
*DDA **14** 18:11:41.5,39.16N×29.08E,h7km,Md2.6*
*CSEM **14** 18:11:41.6±0.1,39.14N×29.09E,h8km, MD2.6, Error ellipse: s-maj=3.0km s-min=2.0km az=146.0*

ISC 14 18:11:41.9±1.1,39.16N±0.03×29.08E±0.02,h7km±10km, n19,σ0s41/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.31**	**248**	P	**Pg**	**18 11 48.2**	**+0.2**
DEMI				S	**Sg**	**18 11 52.2**	**+0.1**
DEMI	**Demirci**	**0.31**	**248**	*i* P	**Pg**	**18 11 48.1**	**+0.2**
DEMI				*i* S	**Sg**	**18 11 52.2**	**+0.1**
GDZ	**Gediz**	**0.32**	**102**	P	**Pg**	**18 11 48.2**	**+0.1**
GDZ				S	**Sg**	**18 11 52.9**	**+0.5**
GDZ	**Gediz**	**0.32**	**102**	*i* P	**Pg**	**18 11 48.2**	**+0.1**
GDZ				*i* S	**Sg**	**18 11 52.9**	**+0.5**
TVSB	**Tavsanli**	**0.41**	**45**	*e*PG	**Pg**	**18 11 49.7**	**-0.3**
TVSB				*e*SG	**Sg**	**18 11 55.5**	**+0.2**
TVSB	**Tavsanli**	**0.41**	**45**	*e*Pg	**Pg**	**18 11 49.7**	**-0.3**
TVSB				*e*Sg	**Sg**	**18 11 55.6**	**+0.2**
KULA	**Kula-Manisa**	**0.72**	**207**	*e*PG	**Pg**	**18 11 55.2**	**-0.6**
KULA				*e*SG	**Sg**	**18 12 04.7**	**-0.5**
KULA	**Kula-Manisa**	**0.72**	**207**	*e*Pg	**Pg**	**18 11 55.2**	**-0.6**
KULA				*e*Sg	**Sg**	**18 12 04.7**	**-0.5**
IGD	**Bursa**	**1.11**	**5**	*i* P	**Pg**	**18 12 02.5**	**-0.6**
IGD				*i* S	**Sb**	**18 12 18.4**	**+0.3**
CAVI	**Cavuskoy**	**1.20**	**29**	*e*PN	**Pg**	**18 12 04.1**	**-0.8**
CAVI	**Cavuskoy**	**1.20**	**29**	*e*Pn	**Pg**	**18 12 04.1**	**-0.8**
KCTX	**Karacabey (Bur**	**1.24**	**333**	*e*PN	**Pn**	**18 12 05.6**	**-0.1**
KCTX				*e*SN	**Sn**	**18 12 23.4**	**+0.7**
KCTX	**Karacabey (Bur**	**1.24**	**333**	*e*Pn	**Pn**	**18 12 05.6**	**-0.1**
KCTX				*e*Sn	**Sn**	**18 12 23.4**	**+0.7**
BALY	**Balya**	**1.27**	**298**	P	**Pn**	**18 12 06.1**	**0.0**
BALY				S	**Sg**	**18 12 23.0**	**+0.1**
BALY	**Balya**	**1.27**	**298**	*i* P	**Pn**	**18 12 06.1**	**0.0**
BALY				*i* S	**Sg**	**18 12 23.0**	**+0.1**
BORA	**Eskisehir**	**1.28**	**55**	P	**Pn**	**18 12 06.1**	**-0.2**
BORA				S	**Sn**	**18 12 23.9**	**+0.1**
BORA	**Eskisehir**	**1.28**	**55**	*i* P	**Pn**	**18 12 06.1**	**-0.2**
BORA				*i* S	**Sn**	**18 12 23.9**	**+0.1**
ARMT	**Armutlu**	**1.42**	**353**	*e*PN	**Pn**	**18 12 07.9**	**-0.2**
ARMT	**Armutlu**	**1.42**	**353**	*e*Pn	**Pn**	**18 12 07.9**	**-0.2**

*IDC **14** 18:12:20.6±2.7,43.32N×105.13W,h0km,mb2.7/1, mb1 3.7/4,mb1mx3.4/48,mbtmp3.7/4,ML4.2/2, Error ellipse: s-maj=58.8km s-min=9.1km az=155.0*
*ISCJB **14** 18:12:22.2±0.4,43.72N±0.03×105.26W±0.05,h0km, Error ellipse: s-maj=4.9km s-min=4.5km az=146.7*
*NEIC **14** 18:12:23.9±0.4,43.70N×105.24W,h0km,ML3.3, Error ellipse: s-maj=5.5km s-min=5.1km az=70.0, Suspected Mining explosion.*
NEIC 69 km [43 miles] SSE of Gillette.

ISC 14 18:12:23.0±0.9,43.78N±0.05×105.18W±0.05,h0km,n60, σ1s54/62,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**67**	*e*Pg	**Pb**	**18 12 41.9**	**+0.3**
K22A	**Casper**	**1.49**	**221**	*e*Pn	**Pn**	**18 12 48.2**	**-2.4**
PHWY	**Pilot Hill**	**2.48**	**185**	*e*Pn	**Pn**	**18 13 05.0**	**0.0**
N23A	**Red Feather La**	**2.94**	**191**	*e*Pn	**Pn**	**18 13 11.6**	**+0.4**
LAO	**LASA Array**	**3.00**	**346**	*e*Pn	**Pn**	**18 13 13.9**	**+2.0**
RLMT	**Red Lodge**	**3.22**	**296**	*e*Pn	**Pn**	**18 13 14.2**	**-0.8**
BW06	**Boulder Array**	**3.35**	**254**	*e*Pn	**Pn**	**18 13 15.9**	**-0.9**
PD31	**Pinedale Array**	**3.35**	**254**	*e*Pn	**Pn**	**18 13 16.0**	**-0.8**
PDAR	**Pinedale Array**	**3.35**	**254**	Pn	**Pn**	**18 13 16.1**	**-0.8**
	5.9nm,0.3s,baz=76,slow=14,SNR=47						
PDAR				Pg	**Pb**	**18 13 24.4**	**+1.0**
	14nm,0.3s,baz=57,slow=23,SNR=43						
PDAR				Sn	**Sn**	**18 13 57.1**	**-0.3**
	5.0nm,0.3s,baz=67,slow=23,SNR=3.3						
PDAR				Lg	Lg	18 14 04.0	
	21nm,0.3s,baz=64,slow=29,SNR=9.7						
OGNE	**Ogallala**	**3.67**	**139**	*e*Pn	**Pn**	**18 13 22.1**	**+1.0**
H17A	**Grant Village**	**3.93**	**281**	*e*Pn	**Pn**	**18 13 27.5**	**+2.7**
LOHW	**Long Hollow**	**3.94**	**269**	*e*Pn	**Pn**	**18 13 26.4**	**+1.5**
ISCO	**Idaho Springs**	**3.99**	**185**	*e*Pn	**Pn**	**18 13 26.4**	**+0.7**
FLWY	**Flagg Ranch**	**4.00**	**276**	*e*Pn	**Pn**	**18 13 25.4**	**-0.3**
MOOW	**Moose Ponds**	**4.03**	**272**	*e*Pn	**Pn**	**18 13 26.5**	**+0.4**
SNOW	**Snow King Moun**	**4.06**	**267**	*e*Pn	**Pn**	**18 13 28.8**	**+2.3**
YFT	**Old Faithful**	**4.13**	**281**	*e*Pn	**Pn**	**18 13 24.5**	**-2.9**
REDW	**Red Top Meadow**	**4.14**	**266**	*e*Pn	**Pn**	**18 13 29.4**	**+1.7**
IMW	**Indian Meadow**	**4.17**	**274**	*e*Pn	**Pn**	**18 13 30.1**	**+2.0**
TPAW	**Teton Pass**	**4.20**	**268**	*e*Pn	**Pn**	**18 13 30.5**	**+2.0**
FXWY	**Fox Creek**	**4.24**	**270**	*e*Pn	**Pn**	**18 13 29.4**	**+0.4**
O20A	**White River Ci**	**4.29**	**213**	*e*Pn	**Pn**	**18 13 27.2**	**-2.5**
AHID	**Auburn Hatcher**	**4.44**	**259**	*e*Pn	**Pn**	**18 13 29.8**	**+0.5**
DGMT	**Lagmar**	**4.74**	**8**	*e*Pn	**Pn**	**18 13 43.5**	**-3.4**
SMCO	**Snowmass**	**4.79**	**197**	*e*Pn	**Pn**	**18 13 37.7**	**+1.0**
Q24A	**Divide**	**4.81**	**180**	*e*Pn	**Pn**	**18 13 37.4**	**+0.4**
BOZ	**Bozeman (W)**	**4.96**	**294**	*e*Pn	**Pn**	**18 13 43.1**	**+4.3**
KSCO	**Kaye Shedlock'**	**5.13**	**157**	*e*Pn	**Pn**	**18 13 41.5**	**+0.3**
HWUT	**Hardware Ranch**	**5.18**	**247**	*e*Pn	**Pn**	**18 13 41.3**	**-0.6**
TCUT	**Toone Canyon**	**5.32**	**242**	*e*Pn	**Pn**	**18 13 42.6**	**-1.2**
DLMT	**Dillon**	**5.53**	**289**	*e*Pn	**Pn**	**18 13 46.8**	**+0.1**
HRY	**Holter Researc**	**5.54**	**304**	*e*Pn	**Pn**	**18 13 46.5**	**-0.2**
LRM	**Limekiln Ridge**	**5.56**	**294**	*e*Pn	**Pn**	**18 13 48.2**	**+1.0**
MCMT	**McKenzie Canyo**	**5.60**	**283**	*e*Pn	**Pn**	**18 13 51.5**	**+3.8**
P18A	**Preston Nutter**	**5.62**	**224**	*e*Pn	**Pn**	**18 13 48.2**	**+0.2**
MDND	**Maddock**	**5.64**	**42**	*e*Pn	**Pn**	**18 13 52.1**	**+4.1**
SPUT	**South Promonto**	**5.91**	**248**	*e*Pn	**Pn**	**18 13 52.4**	**+0.5**
HVU	**Hansel Valley**	**5.93**	**253**	*e*Pn	**Pn**	**18 13 52.5**	**+0.3**
P17A	**Butcher Ranch,**	**5.99**	**226**	*e*Pn	**Pn**	**18 13 53.3**	**+0.4**
SDCO	**Great Sand Dun**	**6.03**	**182**	*e*Pn	**Pn**	**18 13 52.8**	**-0.9**
PV09	**Paradox Valley**	**6.06**	**211**	*e*Pn	**Pn**	**18 13 51.9**	**-2.2**
MPU	**Maple Canyon**	**6.11**	**234**	*e*Pn	**Pn**	**18 13 54.6**	**0.0**
PV10	**Paradox Valley**	**6.13**	**210**	*e*Pn	**Pn**	**18 13 53.7**	**-1.3**
SRU	**San Rafael Swe**	**6.15**	**223**	*e*Pn	**Pn**	**18 13 55.2**	**-0.1**
S22A	**4UR Ranch, Cre**	**6.15**	**192**	*e*Pn	**Pn**	**18 13 54.3**	**-1.1**
PV01	**Paradox Valley**	**6.19**	**206**	*e*Pn	**Pn**	**18 13 56.6**	**+0.8**
ECSD	**EROS Data Cent**	**6.21**	**87**	*e*Pn	**Pn**	**18 13 57.6**	**+1.8**
TMUT	**Trail Mountain**	**6.36**	**227**	*e*Pn	**Pn**	**18 13 57.8**	**-0.5**
PV05	**Paradox Valley**	**6.42**	**209**	*e*Pn	**Pn**	**18 13 58.4**	**-0.6**
BGU	**Big Grassy Mou**	**6.47**	**247**	*e*Pn	**Pn**	**18 13 59.2**	**-0.5**
CHMT	**Chamberlain Mo**	**6.49**	**302**	*e*Pn	**Pn**	**18 13 59.0**	**-0.9**
DUG	**Dugway, Tooele**	**6.72**	**240**	*e*Pn	**Pn**	**18 14 01.9**	**-1.1**
SWMT	**Swartz Lake**	**7.22**	**304**	*e*Pn	**Pn**	**18 14 09.5**	**-0.2**
YBMT	**Yellow Bay**	**7.40**	**307**	*e*Pn	**Pn**	**18 14 12.3**	**+0.1**
MSU	**Marysvale**	**7.45**	**227**	*e*Pn	**Pn**	**18 14 13.4**	**+0.3**
MTPU	**Mount Pierson**	**7.80**	**225**	*e*Pn	**Pn**	**18 14 17.4**	**-0.6**
ELK	**Elko**	**8.05**	**251**	*e*Pn	**Pn**	**18 14 21.7**	**+0.4**
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**	**18 14 35.2**	**+0.2**
	0.9nm,0.3s,baz=242,slow=11,SNR=4.0						
BBB	**Bella Bella**	**17.45**	**307**	P	**Pn**	**18 16 28.2**	**+0.7**
	0.2nm,0.3s,baz=83,slow=8.1,SNR=5.9						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**Pn**	**18 16 52.7**	**-0.3**
	0.1nm,0.3s,baz=153,slow=11,SNR=4.4						

*IDC **14** 18:14:29.5±3.6,41.29N×141.21E,h82km±35km,mb3.4/8, mb1 3.5/9,mb1mx3.2/49,mbtmp3.7/9, Error ellipse: s-maj=30.2km s-min=23.8km az=67.0*
*ISCJB **14** 18:14:31.5±0.5,41.63N±0.05×141.23E±0.07, h103km±4km,mb3.6/8, Error ellipse: s-maj=9.2km s-min=7.1km az=41.3*
*JMA **14** 18:14:32.7±0.1,41.65N×141.29E,h92km±1km,M2.9*

ISC 14 18:14:32.2±0.8,41.58N±0.05×141.23E±0.06,h100km±7km, n27,σ1s30/26,mb3.7/8,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.24**	**215**	P	**Pn**	**18 14 46.5**	**0.0**
JKB	**Kayabe**	**0.34**	**334**	P	**Pn**	**18 14 46.5**	**-0.5**
JSR	**Shiriuchi**	**0.61**	**266**	P	**Pn**	**18 14 49.1**	**+0.3**
JSR				*e*S	**Sn**	**18 15 01.1**	**-0.2**
JTM	**Tenmabayashi**	**0.80**	**189**	*e*S	**Sn**	**18 15 05.9**	**+1.6**
JYM2	**Yakumo 2**	**0.84**	**310**	P	**Pn**	**18 14 50.9**	**-0.1**
JNB	**Noboribetsu**	**0.90**	**351**	P	**Pn**	**18 14 50.6**	**-1.0**
JANG	**Nango**	**1.22**	**170**	*e*S	**Sn**	**18 15 13.0**	**+0.5**
JEW	**Eniwo**	**1.27**	**7**	P	**Pn**	**18 14 55.3**	**-0.4**
JEW				*e*S	**Sn**	**18 15 12.2**	**-1.3**
JOSM	**Okushiri--Mats**	**1.41**	**292**	P	**Pn**	**18 14 57.0**	**-0.3**
JOSM				*e*S	**Sn**	**18 15 15.8**	**-0.5**
JBT2	**Biratori 2**	**1.47**	**35**	P	**Pn**	**18 14 57.7**	**-0.3**
JFR	**Furan**	**1.88**	**32**	P	**Pn**	**18 15 02.3**	**-0.9**
JCH	**Churui**	**1.89**	**56**	P	**Pn**	**18 15 03.3**	**-0.1**
JCH				S	**Sn**	**18 15 26.4**	**-0.8**
ASAJ	**Asahikawa**	**2.73**	**21**	P	**Pn**	**18 15 13.6**	**-0.7**
ASAJ				S	**Sn**	**18 15 50.9**	**+4.2**
H11N2	**WAKE ISLAND Hy**	**30.81**	**127**	T	T	18 53 02.1	
	baz=322,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**30.82**	**127**	T	T	18 53 10.2	
	baz=322,slow=76,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**30.82**	**127**	T	T	18 53 06.3	
	baz=322,slow=76,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**31.64**	**129**	T	T	18 53 49.4	
	baz=323						
H11S3	**WAKE ISLAND Hy**	**31.64**	**129**	T	T	18 53 44.8	
	baz=323						
H11S2	**WAKE ISLAND Hy**	**31.66**	**129**	T	T	18 53 42.4	
	baz=323						
ZALV	**Zalesovo Beam**	**38.87**	**308**	P	**P**	**18 21 47.3**	**-0.1**
	0.7nm,0.4s,baz=76,slow=7.4,SNR=3.5						
MKAR	**Makanchi Array**	**41.73**	**298**	P	**P**	**18 22 10.8**	**-0.4**
	0.6nm,0.6s,baz=85,slow=9.0,SNR=8.8						
KURBB	**Kurchatov Arra**	**43.21**	**304**	P	**P**	**18 22 23.0**	**-0.1**
	1.1nm,0.6s,baz=78,slow=8.7,SNR=8.9						
ILAR	**Eielson Array**	**45.79**	**35**	P	**P**	**18 22 44.0**	**+0.6**
	0.3nm,0.6s,baz=275,slow=7.0,SNR=4.4						
BVAR	**Borovoye Array**	**47.50**	**309**	P	**P**	**18 22 57.2**	**+0.3**
	0.4nm,0.4s,baz=75,slow=6.1,SNR=4.0						
AKTO	**Aktyubinsk**	**55.60**	**310**	P	**P**	**18 23 59.6**	**+2.3**
	0.3nm,0.3s,baz=40,slow=8.1,SNR=4.5						
WRA	**Warramunga Arr**	**61.54**	**187**	P	**P**	**18 24 36.3**	**-2.4**
	0.2nm,0.5s,baz=5.0,slow=7.2,SNR=2.7						
FINES	**FINESS Array B**	**64.75**	**331**	P	**P**	**18 24 59.5**	**+0.1**
	1.3nm,0.9s,baz=40,slow=12,SNR=4.2						

WEL 14 18:26:49.8±0.4,43.63S×172.79E,h4km±1km,ML3.5/8,1C, Error ellipse: s-maj=4.0km s-min=1.5km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.13**	**232**	⇑PG	Pg	18 26 52.4	+0.1
MQZ				SG	Sg	18 26 54.5	+0.5
MQZ				SG		18 26 54.6	
MQZ				AML	AML	18 26 55.1	
OXZ	**Oxford**	**0.63**	**299**	P*	Pg	18 27 01.8	+0.1
LTZ	**Lake Taylor**	**0.93**	**336**	P*	Pg	18 27 07.9	+0.3
LTZ				S*	Sb	18 27 20.8	-0.3
LTZ				AML	AML	18 27 22.9	
RPZ	**Rata Peaks**	**1.26**	**265**	P*	Pg	18 27 12.2	-1.8
RPZ				AML	AML	18 27 31.5	
RPZ				AML	AML	18 27 32.5	
KHZ	**Kahutara**	**1.33**	**25**	P*	Pn	18 27 12.7	-2.4
INZ	**Inchbonnie**	**1.34**	**312**	*e*P*	Pn	18 27 14.0	-1.1
WVZ	**Waitaha Valley**	**1.60**	**290**	AML	AML	18 27 40.4	
THZ	**Tophouse**	**1.87**	**3**	AML	AML	18 27 27.6	
THZ				AML	AML	18 27 48.6	
DSZ	**Denniston Nort**	**2.02**	**339**	AML	AML	18 27 32.8	
LBZ	**Lake Benmore**	**2.03**	**247**	AML	AML	18 27 34.2	
FOZ	**Fox Glacier**	**2.17**	**272**	AML	AML	18 27 36.4	

*BJI **14** 18:27:19.0,44.44S×173.32E,h5km,mb5.3/5,mB5.7/4, Ms5.0/5,Ms7 4.7/3*
*ISCJB **14** 18:27:21.9±0.4,43.69S±0.04×172.98E±0.04,h10km, mb4.7/24,MS3.9/12, Error ellipse: s-maj=5.9km s-min=2.3km az=146.7*
*WEL **14** 18:27:24.2±0.1,43.65S×172.84E,h5km,ML5.2/57, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, 6.*
WEL Felt between West Coast, Otago and Canterbury, maximum reported intensity MM.
*NEIC **14** 18:27:26.8±0.5,43.64S×172.93E,h35km,mb5.0/15, MW4.8, Error ellipse: s-maj=12.1km s-min=4.1km az=138.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^16Nm; Mrr=0.27; Mθθ 1.37; Mϕϕ -1.64; M

PAWZ	Paruwai Farm	2.78	44	ePn	Pn	18 28 09.6	-0.7		
CAW	Cannon Point	2.83	36	AML	AML	18 28 51.1			
CAW				AML	AML	18 28 54.5			
TRWZ	Traveller	2.90	47	AML	AML	18 29 44.9			
TRWZ				AML	AML	18 29 54.9			
KIW	Kapiti Island	2.97	31	PN	Pn	18 28 12.7	-0.2		
KIW				AML	AML	18 28 49.3			
KIW				AML	AML	18 28 54.2			
MTW	Mount Morrison	2.98	42	AML	AML	18 29 04.1			
MTW				AML	AML	18 29 06.5			
JCZ	Jackson Bay	3.03	256	AML	AML	18 29 04.5			
JCZ				AML	AML	18 29 04.9			
OGWZ	Otaki Gorge	3.11	34	Pn	Pn	18 28 14.5	-0.3		
WKZ	Wanaka	3.11	242	AML	AML	18 29 10.9			
WKZ				AML	AML	18 29 10.9			
WKZ				AML	AML	18 29 12.4			
WKZ				AML	AML	18 29 12.4			
WKZ	Wanaka	3.11	242	ePn	Pn	18 28 10.3	-4.6		
EAZ	Earnscleugh	3.13	234	AML	AML	18 29 01.9			
EAZ				AML	AML	18 29 01.9			
EAZ				AML	AML	18 29 04.0			
EAZ				AML	AML	18 29 08.8			
HOWZ	Holdsworth Sta	3.20	39	ePN	Pn	18 28 14.9	-1.1		
TMWZ	Te Maipa	3.22	45	Pn	Pn	18 28 15.7	-0.6		
MRZ	Mangatainoka R	3.42	37	ePn	Pn	18 28 18.8	-0.2		
TUZ	Tuapeka	3.43	221	AML	AML	18 29 11.0			
TUZ				AML	AML	18 29 12.2			
TUZ				AML	AML	18 29 12.2			
TUZ				AML	AML	18 29 20.8			
TIWZ	Tintock	3.46	41	AML	AML	18 29 04.6			
TIWZ				AML	AML	18 29 05.6			
PRWZ	Pori Road	3.68	40	ePN	Pn	18 28 23.7	+1.1		
PRWZ	Pori Road	3.68	40	Pn	Pn	18 28 23.9	+1.3		
BFZ	Birch Farm	3.71	44	AML	AML	18 29 08.4			
BFZ				AML	AML	18 29 08.4			
BFZ				AML	AML	18 29 10.4			
BFZ				AML	AML	18 29 10.4			
BFZ	Birch Farm	3.71	44	ePn	Pn	18 28 22.1	-1.0		
BFZ				eSn	Sn	18 29 07.3	+0.6		
MSZ	Milford Sound	3.78	249	AML	AML	18 29 24.3			
MSZ				AML	AML	18 29 24.3			
MSZ				AML	AML	18 29 31.5			
MSZ				AML	AML	18 29 31.5			
MSZ	Milford Sound	3.78	249	ePn	Pn	18 28 21.8	-2.2		
MSZ				eSg	Sg	18 29 24.3	-3.2		
MSZ				eLg	Lg	18 29 31.6			
MLZ	Mavora Lakes	3.92	239	AML	AML	18 29 34.8			
MLZ				AML	AML	18 29 35.4			
MLZ	Mavora Lakes	3.92	239	ePn	Pn	18 28 21.7	-4.3		
MLZ				eLg	Lg	18 29 34.8			
DVHZ	Dannevirke	3.97	39	Pn	Pn	18 28 26.5	-0.2		
WAZ	Wanganui	3.99	24	AML	AML	18 30 06.3			
WAZ				AML	AML	18 30 11.0			
WAZ	Wanganui	3.99	24	Pn	Pb	18 28 29.9	-6.4		
TSZ	Takapari Road	4.08	36	ePN	Pn	18 28 27.1	-1.0		
TSZ				AML	AML	18 29 22.1			
TSZ				AML	AML	18 30 05.9			
TSZ	Takapari Road	4.08	36	Pn	Pn	18 28 27.3	-0.8		
SYZ	Scrubby Hill	4.09	219	PN	Pn	18 28 23.6	-4.6		
SYZ				AML	AML	18 29 10.5			
SYZ				AML	AML	18 29 10.6			
SYZ				AML	AML	18 29 40.0			
SYZ				AML	AML	18 29 44.3			
LREZ	Lake Rotokare	4.12	17	PN	Pb	18 28 31.3	-7.1		
PREZ	Palmer Road	4.19	14	Pn	Pb	18 28 33.5	-6.1		
KHEZ	Kahui Hut	4.21	12	Pn	Pb	18 28 32.8	-7.2		
KHEZ	Kahui Hut	4.21	12	Pn	Pb	18 28 33.1	-6.9		
NEZ	North Egmont	4.25	13	ePN	Pn	18 28 32.3	+1.8		
NEZ	North Egmont	4.25	13	Pn	Pn	18 28 32.6	+2.1		
WHZ	Wether Hill Ro	4.30	233	AML	AML	18 29 45.1			
WHZ				AML	AML	18 29 48.4			
WHZ	Wether Hill Ro	4.30	233	ePn	Pn	18 28 25.9	-5.3		
WHZ				eLg	Lg	18 29 48.4			
PNHZ	Pukenui	4.30	37	Pn	Pn	18 28 30.1	-1.0		
DREZ	Durham Road	4.34	14	Pn	Pn	18 28 34.5	+2.7		
MHEZ	Mangahewa	4.48	15	Pn	Pb	18 28 37.3	-7.2		
MTVZ	Mangateitei	4.48	27	AML	AML	18 29 31.6			
MTVZ				AML	AML	18 29 44.0			
MTVZ	Mangateitei	4.48	27	ePn	Pn	18 28 36.2	+2.5		
PXZ	Pawanui	4.51	43	AML	AML	18 29 33.5			
PXZ				AML	AML	18 29 33.8			
PXZ	Pawanui	4.51	43	ePn	Pn	18 28 34.4	+0.4		
VRZ	Vera Road	4.52	19	PN	Pn	18 28 35.3	+1.2		
VRZ				AML	AML	18 29 34.1			
VRZ				AML	AML	18 29 55.9			
PKVZ	Pokaka	4.53	25	AML	AML	18 30 05.8			
PKVZ				AML	AML	18 30 24.6			
PKVZ	Pokaka	4.53	25	Pn	Pn	18 28 36.8	+2.5		
MOVZ	Moawhango	4.56	29	PN	Pn	18 28 36.1	+1.3		
MOVZ				AML	AML	18 29 31.8			
MOVZ				AML	AML	18 29 32.6			
MOVZ	Moawhango	4.56	29	ePn	Pn	18 28 36.3	+1.5		
WNVZ	Wahianoa	4.58	28	ePN	Pn	18 28 35.1	+0.1		
WNVZ	Wahianoa	4.58	28	ePn	Pn	18 28 36.2	+1.1		
DCZ	Deep Cove	4.58	242	ePN	Pn	18 28 31.2	-3.8		
DCZ				AML	AML	18 29 51.3			
DCZ				AML	AML	18 29 51.3			
DCZ				AML	AML	18 29 57.5			
DCZ				AML	AML	18 29 57.5			
DCZ	Deep Cove	4.58	242	ePn	Pn	18 28 31.1	-3.8		
DCZ				eSg	Sg	18 29 51.3	-1.7		
DCZ				eLg	Lg	18 29 57.5			
TRVZ	Turoa	4.58	27	AML	AML	18 29 33.4			
TRVZ				AML	AML	18 29 34.1			
TRVZ	Turoa	4.58	27	ePn	Pn	18 28 36.7	+1.4		
KRHZ	Kereru	4.60	36	ePN	Pn	18 28 34.5	-0.7		
BHHZ	Black Hill Sta	4.60	32	ePN	Pn	18 28 36.3	+1.0		
BHHZ	Black Hill Sta	4.60	32	Pn	Pn	18 28 36.5	+1.1		
WHVZ	Whangaehu Hut	4.61	27	Pn	Pn	18 28 36.8	+1.1		
FWVZ	Far West T-bar	4.62	27	AML	AML	18 29 34.3			
FWVZ				AML	AML	18 29 39.5			
TUVZ	Tukino	4.65	28	ePN	Pn	18 28 37.0	+0.9		
TUVZ				AML	AML	18 29 33.1			
TUVZ				AML	AML	18 29 44.7			
TUVZ	Tukino	4.65	28	ePn	Pn	18 28 37.3	+1.2		
KAHZ	Kahuranaki	4.70	41	PN	Pn	18 28 36.6	-0.2		
KAHZ	Kahuranaki	4.70	41	Pn	Pn	18 28 36.9	+0.1		
NGZ	Ngauruhoe	4.71	27	AML	AML	18 29 41.7			
NGZ				AML	AML	18 29 44.2			
NGZ	Ngauruhoe	4.71	27	ePn	Pn	18 28 37.8	+0.8		
TWVZ	Taurewa	4.76	25	AML	AML	18 30 01.4			
TWVZ				AML	AML	18 30 12.3			
APZ	The Paps	4.86	224	AML	AML	18 30 01.3			
APZ				AML	AML	18 30 06.2			
MCHZ	McNeill Hill	4.90	37	Pn	Pn	18 28 40.0	+0.6		
RATZ	Rangitukua	5.05	27	AML	AML	18 30 39.4			
RATZ				AML	AML	18 31 08.9			
BKZ	Black Stump Fm	5.05	34	ePN	Pn	18 28 40.6	-1.0		
BKZ				AML	AML	18 29 42.2			
BKZ				AML	AML	18 29 43.4			
BKZ	Black Stump Fm	5.05	34	ePn	Pn	18 28 41.5	-0.1		
HIZ	Hauiti	5.13	18	ePn	Pn	18 28 43.8	+1.3		
HIZ				AML	AML	18 29 50.1			
HIZ				AML	AML	18 30 34.2			
HIZ	Hauiti	5.13	18	ePn	Pn	18 28 43.7	+1.1		
ARHZ	Aropaoanui	5.18	38	ePN	Pn	18 28 43.0	-0.3		
ARHZ	Aropaoanui	5.18	38	Pn	Pn	18 28 43.5	+0.2		
PYZ	Puysegur Point	5.19	236	ePn	Pn	18 28 41.3	-2.1		
NMHZ	Naumai	5.24	36	Pn	Pn	18 28 44.6	+0.5		
TLZ	Tolley Road	5.47	23	Pn	Pn	18 28 48.0	+0.7		
KNZ	Kokohu	5.69	41	AML	AML	18 30 04.7			
KNZ				AML	AML	18 30 14.0			
SNGZ	Shannon Statio	5.73	38	ePN	Pn	18 28 49.5	-1.3		
SNGZ	Shannon Statio	5.73	38	Pn	Pn	18 28 50.5	-0.3		
TOZ	Tahuroa Road	6.03	20	ePN	Pn	18 28 54.5	-0.4		
TOZ				AML	AML	18 30 18.4			
TOZ				AML	AML	18 30 51.0			
URZ	Urewera	6.07	33	ePN	Pn	18 28 53.0	-2.5		
URZ				AML	AML	18 30 05.6			
URZ				AML	AML	18 30 10.3			
URZ	Urewera	6.07	33	ePn	Pn	18 28 53.7	-1.8		
MWZ	Matawai	6.18	36	ePN	Pn	18 28 54.8	-2.3		
MWZ				AML	AML	18 30 08.1			
MWZ				AML	AML	18 30 09.4			
MWZ	Matawai	6.18	36	ePn	Pn	18 28 55.3	-1.8		
TWGZ	Tauwhareparae	6.51	38	ePN	Pn	18 28 59.8	-1.8		
TWGZ	Tauwhareparae	6.51	38	Pn	Pn	18 29 01.1	-0.5		
MKAZ	Moumakai	6.55	16	ePN	Pn	18 29 02.3	+0.2		
MKAZ				AML	AML	18 31 16.9			
MKAZ				AML	AML	18 31 24.2			
MKAZ	Moumakai	6.55	16	ePn	Pn	18 29 02.4	+0.3		
WTAZ	Waiatarua	6.61	12	ePn	Pn	18 29 05.2	+2.3		
ETAZ	East Tamaki Re	6.65	14	ePN	Pn	18 29 03.9	+0.5		
ETAZ	East Tamaki Re	6.65	14	Pn	Pn	18 29 04.5	+1.1		
PUZ	Puketiti	6.73	39	ePN	Pn	18 29 01.8	-2.7		
PUZ				AML	AML	18 30 25.0			
PUZ				AML	AML	18 30 39.7			
PUZ	Puketiti	6.73	39	Pn	Pn	18 29 03.0	-1.5		
HAZ	Te Kaha	6.78	35	ePN	Pn	18 29 02.3	-2.9		
WIAZ	Waiheke Island	6.84	15	PN	Pn	18 29 07.4	+1.4		
WMGZ	Waiomatatini S	7.00	39	ePN	Pn	18 29 05.9	-2.4		
WMGZ	Waiomatatini S	7.00	39	Pn	Pn	18 29 07.3	-1.0		
KUZ	Kuaotunu	7.02	19	ePN	Pn	18 29 08.6	+0.2		
KUZ				AML	AML	18 31 52.5			
KUZ				AML	AML	18 32 13.4			
MXZ	Matakaoa Point	7.17	37	AML	AML	18 30 40.7			
MXZ				AML	AML	18 30 42.9			
MXZ	Matakaoa Point	7.17	37	ePn	Pn	18 29 10.3	-0.2		
OUZ	Omahuta	8.21	4	ePn	Pn	18 29 26.5	+1.7		
DZM	Mont Dzumac	21.95	344	eP	P	18 32 20.1	+0.5		
	47nm,1.3s								
DZM				eLR	LR	18 37 36.6			
	1µm,26.7s								
DZM	Mont Dzumac	21.95	344	P	P	18 32 22.3	+2.7		
	9.7nm,0.8s,baz=152,slow=22,SNR=4.9								
DZM				LR	LR	18 40 23.0			
	comp=Z,1µm,18.6s,baz=183,slow=35								
DZM	Mont Dzumac	21.95	344	eP	P	18 32 20.1	+0.5		
	24nm,1.2s								
EIDS	Eidsvold	25.32	308	eP	P	18 32 52.9	+0.4		
	16nm,1.3s								
MSVF	Nonsavu	25.98	11	eP	P	18 32 58.0	-0.5		
	33nm,1.3s								
STKA	Stephens Creek	27.16	285	P	P	18 33 09.8	+0.7		
	6.0nm,1.0s,baz=125,slow=10.0,SNR=5.8								
STKA				LR	LR	18 43 14.0			
	comp=Z,274nm,18.1s,baz=91,slow=35								
STKA	Stephens Creek	27.16	285	eP	P	18 33 10.3	+1.2		
	2.9nm,1.1s								
BBOO	Buckleboo	30.62	278	eP	P	18 33 40.1	+0.3		
	39nm,1.4s								
RAR	Rarotonga	31.76	55	LR	LR	18 46 53.5			
	comp=Z,137nm,18.4s,baz=241,slow=36								
RAR	Rarotonga	31.76	55	eP	P	18 33 47.9	-2.0		
	32nm,1.3s								
CTA	Charters Tower	32.21	308	P	P	18 33 53.0	-1.0		
	2.9nm,0.8s,baz=351,slow=14,SNR=2.3								
AFI	Afiamalu	32.23	29	LR	LR	18 45 22.7			
	comp=Z,174nm,21.3s,baz=175,slow=33								
VNDA	Vanda	34.50	184	P	P	18 34 14.2	+0.9		
	1.1nm,1.1s,baz=53,slow=6.5,SNR=3.4								
VNDA				LR	LR	18 45 39.6			
	comp=Z,372nm,20.7s,baz=28,slow=32								
HNR	Honiara	35.69	338	P	P	18 34 25.4	+1.3		
	41nm,0.8s,baz=220,slow=9.2,SNR=4.5								
HNR	Honiara	35.69	338	eP	P	18 34 24.7	+0.6		
	93nm,1.1s								
TBI	Tubuai	36.87	69	eLR	LR	18 44 31.1			
	166nm,28.2s								
TBI	Tubuai	36.87	69	eT	T	19 12 55.6			
	21nm,0.4s								
AS01	Alice Springs	37.52	289	eP	P	18 34 38.9	-0.9		
AS31	Alice Springs	37.55	289	eP	P	18 34 39.1	-1.0		
	11nm,1.5s								
ASAR	Alice Springs	37.55	289	P	P	18 34 39.5	-0.6		
	16nm,1.2s,baz=123,slow=6.1,SNR=41								
ASAR				LR	LR	18 49 03.8			
	comp=Z,286nm,21.2s,baz=126,slow=34								
WB2	Warramunga Arr	39.78	294	eP	P	18 34 58.2	-0.6		
	60nm,1.5s								
WR1	Warramunga Arr	39.79	294	eP	P	18 34 58.0	-0.9		
	65nm,1.5s								
WRA	Warramunga Arr	39.79	294	P	P	18 34 58.0	-0.9		
	6.5nm,0.6s,baz=134,slow=7.7,SNR=75								
WRAB	Tennant Creek	39.79	294	eP	P	18 34 58.2	-0.7		
	59nm,1.6s								
PMG	Port Moresby	40.63	319	P	P	18 35 07.7	+2.0		
	12nm,0.8s,baz=124,slow=15,SNR=4.0								
PMG	Port Moresby	40.63	319	eP	P	18 35 07.8	+2.1		
	42nm,1.3s								
PAE	Paea	40.77	63	eT	T	19 17 47.1			
	6.5nm,0.3s								
PPT2	Papeete2	40.82	63	eLR	LR	18 46 22.5			
	218nm,24.2s								
TVO	Taravao	40.89	63	eT	T	19 17 56.8			
	2.0nm,0.4s								
RABL	Rabaul	43.16	329	eP	P	18 35 27.1	+0.6		
	39nm,0.6s								
VAH	Vaihoa	43.81	62	eT	T	19 21 35.7			
	4.4nm,0.2s								
FITZ	Fitzroy Crossi	47.00	287	P	P	18 35 57.1	+0.1		
	6.9nm,0.9s,baz=124,slow=12,SNR=6.7								
FITZ	Fitzroy Crossi	47.00	287	eP	P	18 35 56.6	-0.4		
	10nm,1.0s								
MTN	Manton Dam	47.04	297	eP	P	18 35 56.3	-1.1		
	54nm,1.4s								
MANU	Manus Island	47.04	324	eP	P	18 35 58.0	+0.6		
	52nm,1.5s								
MAW	Mawson	57.51	205	P	P	18 37 15.4	+1.0		
	3.4nm,0.9s,baz=343,slow=6.0,SNR=2.9								
MAW				LR	LR	19 01 12.6			
	comp=Z,251nm,18.1s,baz=68,slow=35								
MJAR	Matsushiro Arr	85.61	333	P	P	18 40 04.0	+0.1		
	0.5nm,0.5s,baz=160,slow=8.4,SNR=3.3								
MJAR				LR	LR	19 18 11.7			
	comp=Z,24nm,19.0s,baz=120,slow=36								
KSRS	Korea Array	90.25	326	P	P	18 40 27.8	+1.7		
	2.3nm,0.9s,baz=164,slow=6.5,SNR=5.7								
KSRS				LR	LR	19 16 23.6			
	comp=Z,48nm,21.2s,baz=163,slow=32								
KSAR	Wonju Array Be	90.26	326	P	P	18 40 27.8	+1.7		
KS01	Wonju Array Si	90.28	326	eP	P	18 40 27.8	+1.6		
CM01	Chiang Mai Arr	91.35	294	eP	P	18 40 33.1	+1.5		
CMAR	Chiang Mai Arr	91.38	294	P	P	18 40 32.0	+0.2		
	0.7nm,0.8s,baz=238,slow=4.9,SNR=4.3								
CMAR				LR	LR	19 23 52.4			
	comp=Z,46nm,21.4s,baz=138,slow=37								
GYA	Guiyang	92.30	305	eP	P	18 40 37.3	+1.3		
GYA				PMZ					
	10.0nm,1.0s								
USRK	Ussuriysk Ar.	94.57	332	LR	LR	19 21 40.0			
	comp=Z,24nm,19.2s,baz=131,slow=34								
PETK	Petropavlovsk-	97.04	351	LR	LR	19 19 57.6			
	comp=Z,50nm,19.6s,baz=163,slow=32								
CD2	Chengdu	97.29	306	eP	P	18 40 58.0	-0.7		
CD2				pP	Pdif	18 40 59.8	+1.0		
CD2				SKS	SKSac	18 51 36.6	+1.1		
CD2				S	ScS	18 52 24.8	+2.3		
CD2				SS	SS	18 59 06.8	+5.8		
CD2				PMZ					
	120nm,5.2s								
HHC	Hu-ho-hao-te	100.42	317	eP	Pdif	18 41 13.8	+1.3		
HHC				PP	PP	18 45 25.8	+6.1		
HHC				SKS	SKSac	18 51 50.1	-0.8		
HHC				S	Sdif	18 52 50.1	+1.8		
HHC				SS	SS	18 59 54.8	+10		
HHC				PMZ					
	42nm,6.8s								
HHC				LN					
	100nm,13.7s								
HHC				LE					
	100nm,14.9s								
HHC				LZ					
	97nm,14.9s								
LZH	Lanzhou	100.98	310	eP	Pdif	18 41 15.6	+0.4		
LZH				pP	pP	18 41 18.8	-0.9		
LZH				sP	sP	18 41 20.4	-0.8		
LZH				ePP	PP	18 45 28.5	+4.5		
LZH				PMZ					
	98nm,9.7s								
LZH				LN					
	170nm,17.3s								
LZH				LE					
	160nm,17.0s								
LZH				LZ					
	220nm,19.7s								
WMQ	Urumqi	115.36	307	PKP	PKPdf	18 46 05.3	-1.7		
WMQ				LN					
	18nm,20.0s								
WMQ				LE					
	33nm,21.4s								
KSH	Kashi	120.12	297	ePKP	PKPdf	18 46 08.5	-7.8		
KSH				PP	PP	18 47 40.1	-2.0		
KSH				PKS	PKSdf	18 49 44.5	-8.6		
KSH				PPMZ					
	56nm,3.4s								
KSH				LN					
	110nm,4.6s								
KSH				LE					
	100nm,5.5s								
MK01	Makanchi Array	120.17	307	ePKPdf	PKPdf	18 46 13.3	-2.7		
MK31	Makanchi Array	120.18	307	ePKPdf	PKPdf	18 46 15.1	-1.0		
MK32	Makanchi Array	120.18	307	ePKPdf	PKPdf	18 46 14.9	-1.2		
MKAR	Makanchi Array	120.18	307	PKP	PKPdf	18 46 14.9	-1.2		
	0.4nm,0.5s,baz=214,slow=0.8,SNR=5.8								
MKAR	Makanchi Array	120.18	307	ePKPdf	PKPdf	18 46 14.7	-1.4		
YKA	Yellowknife Ar	120.33	31	PKP	PKPdf	18 46 14.0	-1.8		
	0.2nm,0.5s,baz=241,slow=35,SNR=2.5								
ZALV	Zalesovo Beam	122.54	316	PKP	PKPdf	18 46 18.1	-2.2		
	0.5nm,0.4s,baz=97,slow=5.1,SNR=3.1								
ZAA1	Zalesovo Array	122.54	316	ePKPdf	PKPdf	18 46 18.1	-2.2		
DBIC	Dimbokro	143.34	184	PKP	PKPbc	18 46 59.0	+1.5		
	1.9nm,0.6s,baz=168,slow=4.3,SNR=5.9								
TOA0	Torodi Ar. Sit	148.89	197	ePKPbc	PKPdf	18 47 11.8	+1.9		
TORD	Torodi Ar. Bea	148.89	197	PKPbc	PKPdf	18 47 12.4	+2.6		
	3.9nm,0.7s,baz=161,slow=2.1,SNR=18								
TOA1	Torodi Ar. Sit	148.90	197	ePKPbc	PKPdf	18 47 12.4	+2.6		
ARA0	ARCESS Array S	148.98	338	ePKPdf	PKPdf	18 47 05.2	-3.2		
ARA0				ePKPbc	PKPbc	18 47 12.0	-0.4		
ARCES	ARCESS Array B	148.98	338	PKPbc	PKPbc	18 47 12.1	-0.4		
	8.6nm,0.8s,baz=38,slow=2.2,SNR=12								
BR101	Keskin Array S	149.50	277	ePKPbc	PKPbc	18 47 14.5	-0.3		
BRTR	Keskin Array B	149.50	277	PKPbc	PKPbc	18 47 14.5	-0.3		
	2.7nm,0.8s,baz=141,slow=6.3,SNR=15								
OBN	Obninsk	149.69	308	PKPbc	PKPab	18 47 17.8	-2.0		
	6.9nm,0.5s,baz=84,slow=7.1,SNR=5.3								
OBN	Obninsk	149.69	308	ePKPbc	PKPbc	18 47 14.5	0.0		
FIA0	FINESS Array S	153.33	324	ePKPbc	PKPbc	18 47 23.1	+0.3		
FINES	FINESS Array B	153.33	324	PKPbc	PKPbc	18 47 23.1	+0.3		
	2.6nm,0.7s,baz=113,slow=4.4,SNR=8.9								
AKASG	Malin Array Be	154.39	299	PKPbc	PKPbc	18 47 25.4	0.0		
	0.9nm,0.6s,baz=74,slow=2.8,SNR=5.1								

SJA 14 18:31:13.5±0.3, 28°.64S×66°.13W, h118km±7km, ML2.1, MW3.6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGUA	GUANDACOL	2.23	247	*i* P	Pn	18 31 51.0	+1.1
AGUA				*i* S	Sn	18 32 18.7	+1.0
AVFE	Valle Fertil	2.32	210	*i* P	Pn	18 31 52.0	+1.1
AVFE				IAML		18 32 30.4	
	comp=Z,5.0nm,0.6s						
FSA	Cafayete	2.52	3	*i* P	Pn	18 31 55.2	+1.5
FSA				*i* S	Sn	18 32 25.6	+1.1
FSA				IAML		18 32 29.6	
	comp=Z,7.5nm,0.2s						
ACHE	Chepes	2.56	190	*i* P	Pn	18 31 55.3	+1.3
ACHE				*i* S	Sn	18 32 26.3	+1.1
TCA	Tanti	3.00	154	*i* P	Pn	18 32 00.9	+1.1
TCA				*i* S	Sn	18 32 36.2	+0.7
TCA				IAML		18 32 41.2	
	comp=Z,7.0nm,0.2s						
RTLL	Cerro Villicun	3.37	217	*i* P	Pn	18 32 05.7	+1.1
MRA	San Martin	3.78	175	*i* P	Pn	18 32 11.4	+1.2

NEIC ***14*** *18:32:02.0, 43°.66S×172°.87E, h1km, ML4.2(WEL), After WEL.*
NEIC Felt in parts of Canterbury.
WEL ***14*** *18:32:02.3±0.2, 43°.65S×172°.85E, h6km, ML4.2/19, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0*
WEL Felt from Canterbury to Otago, maximum reported intensity MM 5.
IDC ***14*** *18:32:04.0±1.6, 43°.19S×172°.89E, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/33, mbtmp3.9/2, Error ellipse: s-maj=98.0km s-min=41.7km az=27.0*

ISC 14 18:32:01.6±1.2, 43°.62S±0°.05×172°.90E±0°.05, h6km±8km, n51, σ1.9 18/42, 1C, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	McQueen's Vall	0.20	245	⇑PG	Pg	18 32 05.7	+0.2
MQZ				SG	Sg	18 32 07.9	-0.4
MQZ				AML	AML	18 32 08.0	
MQZ				AML	AML	18 32 08.0	
MQZ	McQueen's Vall	0.20	245	*e*Pg	Pg	18 32 05.8	+0.2
MQZ				*e*Sg	Sg	18 32 08.0	-0.2
OXZ	Oxford	0.70	295	P*	Pg	18 32 15.0	+0.1
OXZ	Oxford	0.70	295	*e*Pg	Pg	18 32 15.1	+0.1
OXZ				*e*Pn	Pn	18 32 24.4	+6.5
LTZ	Lake Taylor	0.96	331	P*	Pg	18 32 20.5	+0.6
LTZ				S*	Sb	18 32 33.8	+0.3
LTZ				AML	AML	18 32 35.5	
LTZ	Lake Taylor	0.96	331	*e*Pg	Pg	18 32 20.5	+0.6
LTZ				*e*Sn	Sg	18 32 31.4	-1.0
KHZ	Kahutara	1.29	21	*e*Pn	Pb	18 32 25.9	-0.3
RPZ	Rata Peaks	1.35	265	P*	Pn	18 32 25.4	-1.4
R

ARCES	**ARCESS Array B**	**149.17**	**338**	PKPbc	**PKPab**	**18**	**51**	**52.2** **-1.8**
	1.6nm,0.8s,baz=243,slow=0.3,SNR=3.7							
FINES	**FINESS Array B**	**153.51**	**324**	PKPbc	**PKPbc**	**18**	**52**	**02.1** **+2.3**
	1.1nm,0.6s,baz=113,slow=6.4,SNR=2.8							

IDC 14 18:35:04.9±6.5, 1°.58N×122°.89E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/42, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=137.5km s-min=99.0km az=82.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
FITZ	**Fitzroy Crossi**	**19.75**	**172**	P	P	18	39	37.1	+0.6
	0.4nm,0.3s,baz=359,slow=11,SNR=18								
WRA	**Warramunga Arr**	**24.16**	**153**	P	P	18	40	21.5	-1.6
	2.2nm,0.6s,baz=334,slow=9.9,SNR=39								
ASAR	**Alice Springs**	**27.29**	**158**	P	P	18	40	51.7	+0.3
	0.6nm,0.6s,baz=341,slow=15,SNR=90								
STKA	**Stephens Creek**	**37.71**	**154**	P	P	18	42	23.2	+0.8
	0.5nm,0.5s,baz=336,slow=13,SNR=3.7								

MAN 14 18:45:19, 10°.10N×125°.23E, h24km, mb4.0, ML2.8, MS2.4, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
PLP	**Palo**	**1.09**	**347**	*eP*	Pn	18	45	38.7	-0.1
PLP				*eS*	Sn	18	45	53.9	+0.9
LLP	**Lapu-Lapu**	**1.27**	**280**	*eP*	Pn	18	45	41.4	+0.2
LLP				*i* S	Sb	18	45	58.5	+0.4
CGP	**Cagayan de Oro**	**1.72**	**198**	*eP*	Pn	18	45	45.0	-2.5
CGP				*eS*	Sn	18	46	09.2	+0.5
BUKP	**Musuan**	**2.21**	**184**	*eP*	Pn	18	45	55.4	+1.0

CSEM 14 18:45:41.4±0.6, 35°.17N×30°.88E, h2km, ML3.4, Error ellipse: s-maj=13.7km s-min=6.6km az=36.0
NIC 14 18:45:41.8±0.1, 35°.35N×30°.78E, h16km, ML3.4
DDA 14 18:45:41.6, 35°.32N×30°.93E, h7km, Md3.3
ISC 14 18:45:41.2±1.9, 35°.27N±0°.06×30°.89E±0°.04, h3km±14km, n20, σ1s12/31, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
AKMC	**Akamas**	**1.21**	**101**	P	**Pb**	**18**	**46**	**04.5**	**-0.2**
	baz=284								
AKMC	**Akamas**	**1.21**	**101**	P	**Pb**	**18**	**46**	**04.5**	**-0.2**
PPCY	**Paphos**	**1.26**	**107**	P	**Pn**	**18**	**46**	**05.4**	**-0.2**
	baz=290								
PPCY	**Paphos**	**1.26**	**107**	P	**Pn**	**18**	**46**	**05.4**	**-0.2**
ALFC	**Alefka**	**1.41**	**94**	P	**Pn**	**18**	**46**	**07.5**	**-0.3**
	baz=277								
ALFC				S	**Sg**	**18**	**46**	**26.9**	**+0.5**
ALFC	**Alefka**	**1.41**	**94**	P	**Pn**	**18**	**46**	**07.5**	**-0.3**
ALFC				S	**Sg**	**18**	**46**	**26.9**	**+0.5**
AKAS	**Kas**	**1.42**	**313**	S	**Sg**	**18**	**46**	**28.5**	**+1.7**
AKAS	**Kas**	**1.42**	**313**	*i* P	Pg	18	46	15.8	+7.4
AKAS				*eS*	**Sg**	**18**	**46**	**28.5**	**+1.7**
GAZI	**Gazipasa**	**1.51**	**50**	P	**Pn**	**18**	**46**	**08.9**	**-0.3**
GAZI				S	**Sg**	**18**	**46**	**29.7**	**0.0**
GAZI	**Gazipasa**	**1.51**	**50**	*i* P	**Pn**	**18**	**46**	**08.9**	**-0.3**
GAZI				*i* S	**Sg**	**18**	**46**	**29.7**	**0.0**
SZAC	**Souni**	**1.72**	**107**	P	**Pn**	**18**	**46**	**11.6**	**-0.4**
	baz=289								
SZAC				S	**Sn**	**18**	**46**	**35.1**	**+0.6**
SZAC	**Souni**	**1.72**	**107**	P	**Pn**	**18**	**46**	**11.6**	**-0.4**
SZAC				S	**Sn**	**18**	**46**	**35.1**	**+0.6**
CSS	**Mathiatis**	**2.03**	**98**	P	**Pn**	**18**	**46**	**15.9**	**-0.4**
	baz=281								
CSS	**Mathiatis**	**2.03**	**98**	P	**Pn**	**18**	**46**	**15.9**	**-0.4**
ERMK	**Ermenek**	**2.14**	**50**	P	**Pb**	**18**	**46**	**19.8**	**-1.0**
ERMK				S	**Sg**	**18**	**46**	**49.2**	**-0.8**
ERMK	**Ermenek**	**2.14**	**50**	*i* P	**Pb**	**18**	**46**	**19.8**	**-1.0**
ERMK				*i* S	**Sg**	**18**	**46**	**49.2**	**-0.8**
GOLH	**Golhisar**	**2.24**	**332**	P	**Pb**	**18**	**46**	**21.3**	**-1.0**
GOLH	**Golhisar**	**2.24**	**332**	*i* P	**Pb**	**18**	**46**	**21.3**	**-1.0**
GOLH				*eS*	**Sn**	**18**	**46**	**44.8**	**-2.6**
KERG	**Konya-Eregli**	**3.38**	**50**	P	**Pn**	**18**	**46**	**37.2**	**+2.2**
KERG				S	**Sn**	**18**	**47**	**17.1**	**+1.4**
KERG	**Konya-Eregli**	**3.38**	**50**	*i* P	**Pn**	**18**	**46**	**37.2**	**+2.2**
KERG				*i* S	**Sn**	**18**	**47**	**17.1**	**+1.4**

BKK 14 18:52:13.3±0.9, 21°.N±6°×100°.0E±°, h59km±33km, M3.8/8, mb3.6/1, mb4.1/1, MLv3.9/8, Mw(mB)3.2/1, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
CHTO	**Chiang Mai**	**1.83**	**203**	P	Pn	18	52	42.2	-0.4
CHTO				S	Sn	18	53	06.1	+1.4
CMMT	**Chiang Mai**	**1.83**	**203**	P	Pn	18	52	42.1	-0.5
CMMT				S	Sn	18	53	06.0	+1.3
UTTA	**Uttaradit**	**2.87**	**164**	P	Pn	18	52	56.1	-0.5
UTTA				S	Sn	18	53	31.0	+1.1
SUKH	**Sukhothai**	**3.01**	**181**	P	Pn	18	52	57.9	-0.7
SUKH				S	Sn	18	53	35.9	+2.4
LOEI	**Loei**	**3.33**	**154**	P	Pn	18	53	03.8	+0.9
LOEI				S	Sn	18	53	47.1	+5.8
NONG	**Nongkai**	**4.06**	**126**	P	Pn	18	53	09.9	-3.0
PBKT	**Sadao Pong**	**4.10**	**163**	P	Pn	18	53	13.3	-0.1
PBKT				S	Sn	18	54	01.3	+1.2
CHAI	**Chaiyaphum**	**5.07**	**154**	P	Pn	18	53	27.0	+0.2

IDC 14 19:03:37.0±29.0, 1°.88N×99°.40E, h439km±362km, mb2.7/6, mb1 2.8/6, mb1mx2.6/30, mbtmp3.5/6, Error ellipse: s-maj=130.7km s-min=17.1km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**40.56**	**124**	P	P	19	10	36.3	-0.6
	0.3nm,0.4s,baz=298,slow=8.6,SNR=5.2								
ASAR	**Alice Springs**	**42.08**	**129**	P	P	19	10	50.0	+1.0
	0.3nm,1.0s,baz=193,slow=10,SNR=1.7								
SONM	**Songino Array**	**46.18**	**7**	P	P	19	11	20.5	-0.2
	0.3nm,0.7s,baz=151,slow=3.4,SNR=3.3								
MKAR	**Makanchi Array**	**47.16**	**344**	P	P	19	11	27.6	-0.5
	0.2nm,0.4s,baz=148,slow=9.3,SNR=5.2								
STKA	**Stephens Creek**	**52.20**	**134**	P	P	19	12	05.2	-0.6
	1.7nm,0.6s,baz=329,slow=23,SNR=4.0								
ZALV	**Zalesovo Beam**	**53.27**	**349**	P	P	19	12	13.4	+0.4
	0.8nm,0.4s,baz=162,slow=6.6,SNR=5.1								

ATH 14 19:20:46.8, 34°.88N×29°.01E, h21km±6km, ML3.3/7, Error ellipse: s-maj=9.4km s-min=0.9km az=115.0
ISCJB 14 19:20:47.3±0.2, 34°.71N±0°.02×29°.08E±0°.02, h89km±10km, Error ellipse: s-maj=4.2km s-min=2.7km az=14.1
ISK 14 19:20:47.3, 34°.83N×29°.06E, h17km, ML3.2
DDA 14 19:20:47.9, 34°.94N×28°.91E, h23km, Md3.9
CSEM 14 19:20:48.3±0.1, 34°.71N×29°.09E, h30km, ML3.3, Error ellipse: s-maj=3.9km s-min=3.0km az=13.0
THE 14 19:20:50.6, 34°.82N×29°.09E, h50km±5km, ML3.2/5, Error ellipse: s-maj=5.2km s-min=1.0km az=2.0
GII 14 19:20:53.6±0.0, 34°.55N×29°.46E, h30km, MD2.4/4
ISC 14 19:20:48.2±1.0, 34°.73N±0°.04×29°.10E±0°.03, h67km±27km, n179, σ1s48/229, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
KSL	**Kastellorizon**	**1.47**	**16**	P	**Pn**	**19**	**21**	**12.3**	**-0.4**
KSL				S	**Sn**	**19**	**21**	**31.4**	**+0.3**
KSL	**Kastellorizon**	**1.47**	**16**	P	**Pn**	**19**	**21**	**12.3**	**-0.4**
KSL				AML	AML	19	21	32.2	
	comp=E,377μm,0.3s								
KSL				AML	AML	19	21	32.2	
	comp=N,364μm,0.7s								
KSL				S	**Sn**	**19**	**21**	**32.5**	**+1.4**
AKAS	**Kas**	**1.56**	**15**	P	**Pn**	**19**	**21**	**14.3**	**+0.4**
AKAS				S	**Sn**	**19**	**21**	**33.7**	**+0.4**
AKAS	**Kas**	**1.56**	**15**	*i* P	**Pn**	**19**	**21**	**14.3**	**+0.4**
AKAS				*i* S	**Sn**	**19**	**21**	**33.7**	**+0.4**
ARG	**Arkhangelos**	**1.68**	**332**	P	**Pn**	**19**	**21**	**15.0**	**-0.5**
ARG				S	**Sn**	**19**	**21**	**35.5**	**-0.6**
ARG	**Arkhangelos**	**1.68**	**332**	P	**Pn**	**19**	**21**	**15.5**	**0.0**
ARG				S	**Sn**	**19**	**21**	**35.5**	**-0.6**
KARP	**Karpathos**	**1.78**	**298**	*e*PN	**Pn**	**19**	**21**	**17.8**	**+1.0**
KARP				*e*SN	**Sn**	**19**	**21**	**39.3**	**+0.7**
KARP	**Karpathos**	**1.78**	**298**	P	**Pn**	**19**	**21**	**17.4**	**+0.5**
KARP				S	**Sn**	**19**	**21**	**39.6**	**+1.0**
KARP	**Karpathos**	**1.78**	**298**	P	**Pn**	**19**	**21**	**17.4**	**+0.5**
KARP				*e*PN	**Pn**	**19**	**21**	**17.8**	**+1.0**
KARP				*e*Sn	**Sn**	**19**	**21**	**39.3**	**+0.7**
KARP	**Karpathos**	**1.78**	**298**	P	**Pn**	**19**	**21**	**17.9**	**+1.0**
KARP				S	**Sn**	**19**	**21**	**40.2**	**+1.6**
KARP				AML	AML	19	21	41.5	
	comp=N,626μm,0.4s								
KARP				AML	AML	19	21	41.8	
	comp=E,525μm,0.2s								
FETY	**Fethiye**	**1.90**	**360**	*e*PN	**Pn**	**19**	**21**	**18.3**	**-0.2**
FETY				*e*SN	**Sn**	**19**	**21**	**41.0**	**-0.4**
FETY	**Fethiye**	**1.90**	**360**	P	**Pn**	**19**	**21**	**18.1**	**-0.3**
FETY				S	**Sn**	**19**	**21**	**40.6**	**-0.9**
FETY	**Fethiye**	**1.90**	**360**	*e*Pn	**Pn**	**19**	**21**	**18.3**	**-0.2**
FETY				S	**Sn**	**19**	**21**	**40.6**	**-0.9**
FETY				*e*Sn	**Sn**	**19**	**21**	**41.1**	**-0.4**
DALY	**Dalyan (Mu¨la**	**2.11**	**350**	*e*PN	**Pn**	**19**	**21**	**21.1**	**-0.1**
DALY	**Dalyan (Mu¨la**	**2.11**	**350**	*e*Pn	**Pn**	**19**	**21**	**21.1**	**-0.1**
ELL	**Elmali**	**2.12**	**18**	*e*PN	**Pn**	**19**	**21**	**22.1**	**+0.6**
ELL	**Elmali**	**2.12**	**18**	*e*Pn	**Pn**	**19**	**21**	**22.1**	**+0.6**
TURN	**Turunc**	**2.18**	**350**	*i* P	**Pn**	**19**	**21**	**22.2**	**+0.1**
TURN				*i* S	**Sn**	**19**	**21**	**47.6**	**-0.4**
ZKR	**Zakros**	**2.40**	**280**	P	**Pn**	**19**	**21**	**26.6**	**+1.5**
ZKR				S	**Sn**	**19**	**21**	**54.5**	**+1.1**
ZKR	**Zakros**	**2.40**	**280**	P	**Pn**	**19**	**21**	**26.0**	**+0.9**
ZKR				S	**Sn**	**19**	**21**	**54.5**	**+1.1**
ZKR	**Zakros**	**2.40**	**280**	P	**Pn**	**19**	**21**	**26.0**	**+0.9**
ZKR				S	**Sn**	**19**	**21**	**54.6**	**+1.1**
ZKR				AML	AML	19	21	54.9	
	comp=E,686μm,0.6s								
ZKR				AML	AML	19	21	55.4	
	comp=N,793μm,0.6s								
NIS1	**Nisyros Isl.**	**2.44**	**321**	P	**Pn**	**19**	**21**	**26.2**	**+0.6**
NIS1	**Nisyros Isl.**	**2.44**	**321**	P	**Pn**	**19**	**21**	**26.2**	**+0.6**
GLHS	**Gihisar (BURDU**	**2.44**	**8**	*e*PN	**Pn**	**19**	**21**	**26.4**	**+0.6**
GLHS	**Gihisar (BURDU**	**2.44**	**8**	*e*Pn	**Pn**	**19**	**21**	**26.4**	**+0.6**
KORT	**Korkueli**	**2.48**	**24**	P	**Pn**	**19**	**21**	**27.6**	**+1.2**
KORT				S	**Sn**	**19**	**21**	**58.8**	**+3.1**
KORT	**Korkueli**	**2.48**	**24**	*i* P	**Pn**	**19**	**21**	**27.6**	**+1.2**
KORT				*i* S	**Sn**	**19**	**21**	**58.9**	**+3.1**
YER	**Yerkesik**	**2.49**	**345**	*e*PN	**Pn**	**19**	**21**	**27.1**	**+0.7**
YER	**Yerkesik**	**2.49**	**345**	P	**Pn**	**19**	**21**	**27.3**	**+0.9**
YER	**Yerkesik**	**2.49**	**345**	*e*Pn	**Pn**	**19**	**21**	**27.1**	**+0.7**
ANTB	**Antalya**	**2.51**	**30**	*e*PN	**Pn**	**19**	**21**	**27.7**	**+1.1**
ANTB	**Antalya**	**2.51**	**30**	*e*Pn	**Pn**	**19**	**21**	**27.7**	**+1.1**
GOLH	**Golhisar**	**2.53**	**8**	P	**Pn**	**19**	**21**	**28.4**	**+1.4**
GOLH				S	**Sn**	**19**	**21**	**58.9**	**+2.1**
GOLH	**Golhisar**	**2.53**	**8**	*i* P	**Pn**	**19**	**21**	**28.4**	**+1.4**
GOLH				*i* S	**Sn**	**19**	**21**	**58.9**	**+2.1**
BDRM	**Kayabasi**	**2.69**	**331**	P	**Pn**	**19**	**21**	**29.2**	**+0.1**
BDRM				S	**Sn**	**19**	**21**	**59.8**	**-0.8**
BDRM	**Kayabasi**	**2.69**	**331**	*i* P	**Pn**	**19**	**21**	**29.2**	**+0.1**
BDRM				*i* S	**Sn**	**19**	**21**	**59.8**	**-0.8**
BODT	**Bodrum**	**2.74**	**329**	*e*PN	**Pn**	**19**	**21**	**29.5**	**-0.3**
BODT	**Bodrum**	**2.74**	**329**	P	**Pn**	**19**	**21**	**29.2**	**-0.6**
BODT				S	**Sn**	**19**	**22**	**00.3**	**-1.6**
BODT	**Bodrum**	**2.74**	**329**	P	**Pn**	**19**	**21**	**29.2**	**-0.6**
BODT	**Bodrum**	**2.74**	**329**	*e*Pn	**Pn**	**19**	**21**	**29.5**	**-0.3**
BODT				S	**Sn**	**19**	**22**	**00.3**	**-1.6**
NPS	**Neapolis**	**2.91**	**282**	P	**Pn**	**19**	**21**	**34.1**	**+2.0**
NPS				S	**Sn**	**19**	**22**	**06.3**	**+0.4**
NPS	**Neapolis**	**2.91**	**282**	P	**Pn**	**19**	**21**	**34.1**	**+2.0**
NPS				S	**Sn**	**19**	**22**	**06.3**	**+0.4**
NPS	**Neapolis**	**2.91**	**282**	P	**Pn**	**19**	**21**	**34.6**	**+2.5**
DNZL	**Cakiroluk**	**2.96**	**359**	P	**Pn**	**19**	**21**	**34.5**	**+1.6**
DNZL				S	**Sn**	**19**	**22**	**09.3**	**+2.0**
DNZL	**Cakiroluk**	**2.96**	**359**	*i* P	**Pn**	**19**	**21**	**34.5**	**+1.6**
DNZL				*i* S	**Sn**	**19**	**22**	**09.3**	**+2.0**
BCK	**Bucak**	**2.98**	**23**	*e*PN	**Pn**	**19**	**21**	**34.9**	**+1.8**
BCK	**Bucak**	**2.98**	**23**	*e*Pn	**Pn**	**19**	**21**	**34.9**	**+1.8**
LAST	**Lasithi**	**3.00**	**279**	P	**Pn**	**19**	**21**	**34.3**	**+0.9**
LAST				S	**Sn**	**19**	**22**	**08.1**	**-0.2**
LAST	**Lasithi**	**3.00**	**279**	P	**Pn**	**19**	**21**	**34.3**	**+0.9**
GAZI	**Gazipasa**	**3.03**	**59**	P	**Pn**	**19**	**21**	**33.0**	**-0.7**
GAZI				S	**Sn**	**19**	**22**	**07.7**	**-1.1**
GAZI	**Gazipasa**	**3.03**	**59**	*i* P	**Pn**	**19**	**21**	**33.0**	**-0.7**
GAZI				*i* S	**Sn**	**19**	**22**	**07.7**	**-1.1**
LEF	**Lefka**	**3.14**	**82**	*e*PN	**Pn**	**19**	**21**	**36.8**	**+1.6**
LEF	**Lefka**	**3.14**	**82**	*e*Pn	**Pn**	**19**	**21**	**36.8**	**+1.6**
SUTC	**Sutluce-Ispart**	**3.15**	**29**	*e*PN	**Pn**	**19**	**21**	**37.1**	**+1.7**
SUTC	**Sutluce-Ispart**	**3.15**	**29**	*e*Pn	**Pn**	**19**	**21**	**37.1**	**+1.7**
ISP	**Isparta**	**3.29**	**20**	*e*PN	**Pn**	**19**	**21**	**38.6**	**+1.2**
ISP	**Isparta**	**3.29**	**20**	Pn	**Pn**	**19**	**21**	**40.1**	**+2.7**
ISP	**Isparta**	**3.29**	**20**	*e*Pn	**Pn**	**19**	**21**	**38.7**	**+1.2**
GCAM	**G?zelcaml?**	**3.33**	**334**	P	**Pn**	**19**	**21**	**38.6**	**+0.9**
GCAM				S	**Sn**	**19**	**22**	**13.4**	**-2.6**
GCAM	**G?zelcaml?**	**3.33**	**334**	*i* P	**Pn**	**19**	**21**	**38.6**	**+0.9**
GCAM				*i* S	**Sn**	**19**	**22**	**13.4**	**-2.6**
AYDB	**Zeytinkoy-Aydi**	**3.35**	**343**	*e*PN	**Pn**	**19**	**21**	**38.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**3.35**	**343**	*e*Pn	**Pn**	**19**	**21**	**38.8**	**+0.5**
SANT	**Santorini**	**3.39**	**300**	P	**Pn**	**19**	**21**	**39.6**	**+1.0**
SANT	**Santorini**	**3.39**	**300**	P	**Pn**	**19**	**21**	**39.6**	**+1.0**
THR5	**Thira Island,**	**3.49**	**300**	*e*PN	**Pn**	**19**	**21**	**41.3**	**+1.3**
THR5	**Thira Island,**	**3.49**	**300**	*e*Pn	**Pn**	**19**	**21**	**41.3**	**+1.3**
CSS	**Mathiatis**	**3.49**	**85**	Pn	**Pn**	**19**	**21**	**40.5**	**+0.5**
CSS	**Mathiatis**	**3.49**	**85**	Pn	**Pn**	**19**	**21**	**40.5**	**+0.5**
SMG	**Samos**	**3.49**	**329**	P	**Pn**	**19**	**21**	**39.0**	**-1.0**
SMG	**Samos**	**3.49**	**329**	P	**Pn**	**19**	**21**	**39.0**	**-1.0**
IDI	**Anoyia**	**3.50**	**280**	P	**Pn**	**19**	**21**	**41.8**	**+1.6**
IDI	**Anoyia**	**3.50**	**280**	P	**Pn**	**19**	**21**	**41.8**	**+1.6**
IDI				AML	AML	19	22	22.9	
	comp=E,361μm,0.4s								
IDI				AML	AML	19	22	23.4	
	comp=N,503μm,0.3s								
BAGO	**Egridir - ISPA**	**3.53**	**22**	*i* P	**Pn**	**19**	**21**	**43.7**	**+3.0**
BAGO				*i* S	**Sn**	**19**	**22**	**25.0**	**+3.8**
SIVA	**Sivas**	**3.54**	**276**	P	**Pn**	**19**	**21**	**42.5**	**+1.9**
SIVA	**Sivas**	**3.54**	**276**	P	**Pn**	**19**	**21**	**42.5**	**+1.9**
ERMK	**Ermenek**	**3.65**	**57**	P	**Pn**	**19**	**21**	**44.5**	**+2.2**
ERMK				S	**Sn**	**19**	**22**	**28.0**	**+3.8**
ERMK	**Ermenek**	**3.65**	**57**	*i* P	**Pn**	**19**	**21**	**44.5**	**+2.2**
ERMK				*i* S	**Sn**	**19**	**22**	**28.1**	**+3.8**
LFK	**Lefkose**	**3.68**	**80**	*e*PN	**Pn**	**19**	**21**	**45.5**	**+2.8**
LFK	**Lefkose**	**3.68**	**80**	*e*Pn	**Pn**	**19**	**21**	**45.5**	**+2.8**
APE	**Apeiranthos**	**3.72**	**310**	*e*PN	**Pn**	**19**	**21**	**44.7**	**+1.6**
APE	**Apeiranthos**	**3.72**	**310**	P	**Pn**	**19**	**21**	**41.8**	**-1.3**
APE	**Apeiranthos**	**3.72**	**310**	*e*Pn	**Pn**	**19**	**21**	**44.7**	**+1.6**
APE	**Apeiranthos**	**3.72**	**310**	P	**Pn**	**19**	**21**	**41.9**	**-1.3**
DGB	**¯zmir**	**3.77**	**332**	*i* P	**Pn**	**19**	**21**	**47.2**	**+3.5**
KULA	**Kula-Manisa**	**3.79**	**355**	*e*PN	**Pn**	**19**	**21**	**44.6**	**+0.4**
KULA	**Kula-Manisa**	**3.79**	**355**	*e*Pn	**Pn**	**19**	**21**	**44.6**	**+0.4**
IZM	**Izmir**	**3.95**	**339**	*e*PN	**Pn**	**19**	**21**	**47.2**	**+0.9**
IZM	**Izmir**	**3.95**	**339**	*e*Pn	**Pn**	**19**	**21**	**47.2**	**+0.9**
VAM	**Vamos**	**4.07**	**281**	P	**Pn**	**19**	**21**	**48.9**	**+1.0**
ZEY	**¯zmir**	**4.08**	**330**	*i* P	**Pn**	**19**	**21**	**47.2**	**-0.8**
ZEY				*i* S	**Sn**	**19**	**22**	**31.3**	**-3.2**
KONT	**Konya--Tatoy**	**4.15**	**38**	*e*PN	**Pn**	**19**	**21**	**51.1**	**+2.0**
KONT	**Konya--Tatoy**	**4.15**	**38**	*e*Pn	**Pn**	**19**	**21**	**51.1**	**+2.0**
BOLV	**Bolvadin**	**4.25**	**20**	P	**Pn**	**19**	**21**	**52.4**	**+1.9**
BOLV	**Bolvadin**	**4.25**	**20**	*i* P	**Pn**	**19**	**21**	**52.4**	**+1.9**
IMMV	**Iera Moni Meta**	**4.26**	**281**	P	**Pn**	**19**	**21**	**52.6**	**+2.1**
IMMV	**Iera Moni Meta**	**4.26**	**281**	P	**Pn**	**19**	**21**	**52.6**	**+2.1**
IMMV				AML	AML	19	22	39.6	
	comp=N,394μm,0.4s								
IMMV				AML	AML	19	22	40.9	
	comp=E,441μm,0.3s								
MHLO	**Agia Marina, M**	**4.29**	**298**	P	**Pn**	**19**	**21**	**53.4**	**+2.5**
MHLO	**Agia Marina, M**	**4.29**	**298**	P	**Pn**	**19**	**21**	**53.4**	**+2.5**
DEMI	**Demirci**	**4.32**	**356**	P	**Pn**	**19**	**21**	**51.1**	**-0.3**
DEMI				S	**Sn**	**19**	**22**	**39.1**	**-1.3**
DEMI	**Demirci**	**4.32**	**356**	*i* P	**Pn**	**19**	**21**	**51.1**	**-0.3**
DEMI				*i* S	**Sn**	**19**	**22**	**39.1**	**-1.3**
GDZ	**Gediz**	**4.36**	**4**	P	**Pn**	**19**	**21**	**52.4**	**+0.4**
GDZ	**Gediz**	**4.36**	**4**	*i* P	**Pn**	**19**	**21**	**52.4**	**+0.4**
SERI	**Serifos**	**4.46**	**304**	P	**Pn**	**19**	**21**	**54.3**	**+1.0**
SERI	**Serifos**	**4.46**	**304**	P	**Pn**	**19**	**21**	**54.3**	**+1.0**
KIZK	**Mersin**	**4.47**	**66**	P	**Pn**	**19**	**21**	**52.4**	**-1.0**
KIZK				S	**Sn**	**19**	**22**	**44.3**	**+0.2**
KIZK	**Mersin**	**4.47**	**66**	*i* P	**Pn**	**19**	**21**	**52.4**	**-1.0**
KIZK				*i* S	**Sn**	**19**	**22**	**44.3**	**+0.2**
SLUM	**Salum**	**4.59**	**226**	P	**Pn**	**19**	**21**	**54.4**	**-0.6**
KIZT	**Kizilcal**	**4.71**	**28**	*e*PN	**Pn**	**19**	**21**	**58.7**	**+2.0**
KIZT	**Kizilcal**	**4.71**	**28**	*e*Pn	**Pn**	**19**	**21**	**58.7**	**+2.0**
TVSB	**Tavsanli**	**4.72**	**3**	*e*PN	**Pn**	**19**	**21**	**58.3**	**+1.4**
TVSB	**Tavsanli**	**4.72**	**3**	*e*Pn	**Pn**	**19**	**21**	**58.3**	**+1.4**
ANKY	**Antikythira Is**	**4.87**	**285**	P	**Pn**	**19**	**21**	**57.7**	**-1.2**
ANKY	**Antikythira Is**	**4.87**	**285**	P	**Pn**	**19**	**21**	**57.6**	**-1.2**
KERG	**Konya-Eregli**	**4.88**	**55**	P	**Pn**	**19**	**21**	**58.9**	**-0.2**
KERG				S	**Sn**	**19**	**22**	**52.0**	**-2.2**
KERG	**Konya-Eregli**	**4.88**	**55**	*i* P	**Pn**	**19**	**21**	**58.9**	**-0.2**
KERG				*i* S	**Sn**	**19**	**22**	**52.0**	**-2.2**
VLI	**Veliai**	**5.39**	**293**	P	**Pn**	**19**	**22**	**04.7**	**-1.3**
VLI	**Veliai**	**5.39**	**293**	P	**Pn**	**19**	**22**	**04.7**	**-1.3**
KARA	**Karaisali**	**5.45**	**61**	*e*PN	**Pn**	**19**	**22**	**10.0**	**+3.2**
DID	**Didima**	**5.49**	**302**	P	**Pn**	**19**	**22**	**08.1**	**+0.7**
DID	**Didima**	**5.49**	**302**	P	**Pn**	**19**	**22**	**08.1**	**+0.7**
DID				AML	AML	19	23	12.7	
	comp=N,73μm,0.8s								
DID				AML	AML	19	23	17.9	
	comp=E,104μm,0.3s								
KRND	**KRANIDI**	**5.50**	**301**	P	**Pn**	**19**	**22**	**08.4**	**+1.0**
KRND	**KRANIDI**	**5.50**	**301**	P	**Pn**	**19**	**22**	**08.4**	**+1.0**
MMA0B	**Mount Meron ar**	**5.52**	**106**	Pn	**Pn**	**19**	**22**	**08.2**	**+0.4**
MMA0B				S	**Sn**	**19**	**23**	**08.5**	**-1.4**
SLTI	**Sal'it**	**5.55**	**115**	Pn	**Pn**	**19**	**22**	**09.7**	**+1.5**
SLTI	**Sal'it**	**5.55**	**115**	Pn	**Pn**	**19**	**22**	**09.7**	**+1.5**
KSDI	**Kefar Szold**	**5.67**	**104**	Pn	**Pn**	**19**	**22**	**10.3**	**+0.6**
KSDI	**Kefar Szold**	**5.67**	**104**	Pn	**Pn**	**19**	**22**	**10.3**	**+0.6**
MMLI	**Mount Malkishu**	**5.75**	**112**	Pn	**Pn**	**19**	**22**	**11.8**	**+0.8**
VILL	**Villia**	**5.79**	**308**	P	**Pn**	**19**	**22**	**11.5**	**+0.1**
AMAZ	**Amatzia**	**5.83**	**122**	Pn	**Pn**	**19**	**22**	**13.8**	**+1.8**
AMAZ				S	**Sn**	**19**	**23**	**16.0**	**-1.5**
VIL2	**Platees**	**5.84**	**308**	P	**Pn**	**19**	**22**	**11.5**	**-0.7**
KZIT	**Kziot**	**5.87**	**129**	Pn	**Pn**	**19**	**22**	**13.5**	**+1.0**
KZIT	**Kziot**	**5.87**	**129**	Pn	**Pn**	**19**	**22**	**13.5**	**+1.0**
HMDT	**Nahal Hemdat**	**5.91**	**113**	Pn	**Pn**	**19**	**22**	**14.9**	**+1.8**
HMDT				S	**Sn**	**19**	**23**	**18.3**	**-1.2**
LTK	**Loutraki**	**5.94**	**305**	P	**Pn**	**19**	**22**	**14.1**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**264**	P	**Pg**	**19 31 24.0**	**-0.1**
DEMI				S	**Sg**	**19 31 27.6**	**0.0**
DEMI	**Demirci**	**0.27**	**264**	*i* P	**Pg**	**19 31 23.9**	**-0.1**
DEMI				*i* S	**Sg**	**19 31 27.6**	**0.0**
GEDZ	**Gediz**	**0.28**	**96**	*e*Pg	**Pb**	**19 31 25.5**	**-0.7**
GEDZ	**Gediz**	**0.28**	**96**	*e*Pg	**Pb**	**19 31 25.5**	**-0.7**
GDZ	**Gediz**	**0.33**	**87**	P	**Pg**	**19 31 25.7**	**+0.3**
GDZ				S	**Sg**	**19 31 30.6**	**+0.8**
GDZ	**Gediz**	**0.33**	**87**	*i* P	**Pg**	**19 31 25.7**	**+0.3**
GDZ				*i* S	**Sg**	**19 31 30.6**	**+0.8**
TVSB	**Tavsanli**	**0.49**	**40**	*e*PG	**Pg**	**19 31 27.8**	**-0.6**
TVSB	**Tavsanli**	**0.49**	**40**	*e*Pg	**Pg**	**19 31 27.8**	**-0.6**
DST	**Dursunbey**	**0.63**	**328**	*e*PG	**Pb**	**19 31 31.7**	**-0.4**
DST	**Dursunbey**	**0.63**	**328**	*e*Pg	**Pb**	**19 31 31.7**	**-0.4**
KULA	**Kula-Manisa**	**0.64**	**209**	*e*PG	**Pg**	**19 31 31.0**	**-0.1**
KULA				*e*SG	**Sg**	**19 31 39.4**	**0.0**
KULA	**Kula-Manisa**	**0.64**	**209**	*e*Pg	**Pg**	**19 31 31.0**	**-0.1**
KULA				*e*Sg	**Sg**	**19 31 39.4**	**0.0**
KHL	**Karahalli**	**0.83**	**154**	*e*PG	**Pb**	**19 31 35.4**	**-0.2**
KHL	**Karahalli**	**0.83**	**154**	*e*Pg	**Pb**	**19 31 35.4**	**-0.2**
AKS	**Akhisar**	**0.99**	**259**	*e*PG	**Pg**	**19 31 37.9**	**+0.1**
AKS				*e*SG	**Sb**	**19 31 51.0**	**-0.3**
AKS	**Akhisar**	**0.99**	**259**	*e*Pg	**Pg**	**19 31 37.9**	**+0.1**
AKS				*e*Sg	**Sb**	**19 31 51.1**	**-0.3**
BALB	**Balikesir**	**1.07**	**302**	*e*PG	**Pg**	**19 31 39.4**	**0.0**
BALB				*e*SG	**Sb**	**19 31 54.1**	**+0.3**
BALB	**Balikesir**	**1.07**	**302**	*e*Pg	**Pg**	**19 31 39.4**	**0.0**
BALB				*e*Sg	**Sb**	**19 31 54.1**	**+0.3**
IGD	**Bursa**	**1.20**	**5**	*i* P	**Pg**	**19 31 40.6**	**-1.1**
IGD				*i* S	**Sn**	**19 31 58.0**	**+0.3**
CAVI	**Cavuskoy**	**1.28**	**28**	*e*PN	**Pg**	**19 31 43.4**	**0.0**
CAVI	**Cavuskoy**	**1.28**	**28**	*e*Pn	**Pg**	**19 31 43.4**	**0.0**
BALY	**Balya**	**1.30**	**301**	P	**Pn**	**19 31 43.0**	**-0.3**
BALY				S	**Sg**	**19 32 00.4**	**-0.1**
BALY	**Balya**	**1.30**	**301**	*i* P	**Pn**	**19 31 43.0**	**-0.3**
BALY				*i* S	**Sg**	**19 32 00.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**354**	*e*PN	**Pg**	**19 31 43.7**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**354**	*e*Pn	**Pg**	**19 31 43.7**	**-0.1**
IZI	**Iznik**	**1.30**	**14**	*e*PN	**Pg**	**19 31 43.9**	**+0.1**
IZI	**Iznik**	**1.30**	**14**	*e*Pn	**Pg**	**19 31 43.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*PN	**Pg**	**19 31 43.7**	**-0.2**
KCTX				*e*SN	**Sn**	**19 32 01.7**	**+0.5**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*Pn	**Pg**	**19 31 43.7**	**-0.2**
KCTX				*e*Sn	**Sn**	**19 32 01.7**	**+0.5**
BORA	**Eskisehir**	**1.35**	**53**	P	**Pn**	**19 31 43.8**	**-0.3**
BORA				S	**Sg**	**19 32 02.3**	**+0.1**
BORA	**Eskisehir**	**1.35**	**53**	*i* P	**Pn**	**19 31 43.9**	**-0.3**
BORA				*i* S	**Sg**	**19 32 02.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.44**	**313**	*e*PN	**Pb**	**19 31 45.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.44**	**313**	*e*Pn	**Pn**	**19 31 45.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**219**	*e*PN	**Pb**	**19 31 46.2**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**219**	*e*Pn	**Pb**	**19 31 46.2**	**+0.1**
ADVT	**Abdulvahap**	**1.46**	**21**	*e*PN	**Pg**	**19 31 46.6**	**-0.2**
ADVT	**Abdulvahap**	**1.46**	**21**	*e*Pn	**Pg**	**19 31 46.6**	**-0.2**
ESKT	**Eskisehir**	**1.46**	**72**	*i* P	**Pn**	**19 31 45.6**	**-0.1**
SEYT	**Eskypehyr**	**1.46**	**72**	P	**Pn**	**19 31 45.6**	**-0.1**
ARMT	**Armutlu**	**1.50**	**354**	*e*PN	**Pb**	**19 31 47.1**	**+0.2**
ARMT				*e*SN	**Sg**	**19 32 07.4**	**+0.4**
ARMT	**Armutlu**	**1.50**	**354**	*e*Pn	**Pb**	**19 31 47.1**	**+0.2**
ARMT				*e*Sn	**Sg**	**19 32 07.4**	**+0.4**
EDC	**Edincik**	**1.57**	**325**	*e*PN	**Pb**	**19 31 48.4**	**+0.3**
EDC	**Edincik**	**1.57**	**325**	*e*Pn	**Pb**	**19 31 48.4**	**+0.3**
GULT	**Gulveren**	**1.76**	**39**	*e*PN	**Pb**	**19 31 51.5**	**0.0**
GULT	**Gulveren**	**1.76**	**39**	*e*Pn	**Pb**	**19 31 51.5**	**0.0**
HRT	**Hereke**	**1.81**	**15**	*e*PN	**Pb**	**19 31 51.8**	**-0.5**
HRT	**Hereke**	**1.81**	**15**	*e*Pn	**Pb**	**19 31 51.8**	**-0.5**
MRMT	**Marmara Adasi**	**1.90**	**324**	*e*PN	**Pb**	**19 31 52.9**	**-0.9**
MRMT	**Marmara Adasi**	**1.90**	**324**	*e*Pn	**Pb**	**19 31 52.9**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.95**	**78**	*e*PN	**Pb**	**19 31 54.3**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.95**	**78**	*e*Pn	**Pb**	**19 31 54.3**	**-0.4**
KLYT	**Kilyos**	**2.18**	**360**	*e*PN	**Pn**	**19 31 55.9**	**+0.5**
KLYT	**Kilyos**	**2.18**	**360**	*e*Pn	**Pn**	**19 31 55.9**	**+0.5**
CTKS	**Kestanelik-??a**	**2.20**	**349**	*e*PN	**Pn**	**19 31 56.2**	**+0.6**
CTKS	**Kestanelik-??a**	**2.20**	**349**	*e*Pn	**Pn**	**19 31 56.3**	**+0.6**

*ISCJB **14** 19:35:32.6±0.5, 6°.82N±0°.04×73°.02W±0°.05, h158km±5km, Error ellipse: s-maj=10.6km s-min=4.0km az=35.4*
*FUNV **14** 19:35:34.6, 6°.91N×73°.12W, h168km, MW3.1*
*RSNC **14** 19:35:35.6±1.0, 6°.80N×73°.13W, h141km±6km, ML3.1*

ISC 14 19:35:31.2±1.4, **6°.85N**±0°.04×**73°.06W**±0°.06, **h172**km±9km, **n26**, σ2**s03**/47, **3C**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**205**	*i* P	**Pn**	**19 35 54.8**	**+0.1**
BARC				*e*S	**Sn**	**19 36 09.2**	**-3.4**
BARC				*i*		19 36 13.4	
	comp=Z,301nm,0.6s						
PAMC	**Pamplona, Colo**	**0.60**	**36**	*e*P	**Pn**	**19 35 57.5**	**+1.3**
PAMC				*e*S	**Sn**	**19 36 14.1**	**-1.2**
BRRC	**Barranca, Sant**	**0.69**	**292**	*i* P	**Pn**	**19 35 56.5**	**+0.5**
BRRC				*e*S	**Sn**	**19 36 13.0**	**-2.1**
BRRC				*i*		19 36 15.6	
	comp=Z,206nm,0.1s						
GRMC	**Gramalote, San**	**0.90**	**16**	*i* P	**Pn**	**19 36 00.4**	**+2.9**
GRMC				*e*S	**Sn**	**19 36 20.0**	**+2.0**
GRMC				*i*		19 36 21.1	
	comp=Z,308nm,0.2s						
CBRI	**Barrientos, No**	**0.90**	**17**	*e*P	**Pn**	**19 35 59.1**	**+1.5**
CBRI				*e*S	**Sn**	**19 36 17.1**	**-0.9**
RUSC	**La Rusia**	**0.95**	**181**	*e*P	**Pn**	**19 35 58.6**	**+0.3**
RUSC				*e*S	**Sn**	**19 36 16.6**	**-2.5**
RUSC				*i*		19 36 19.2	
	comp=Z,156nm,0.3s						
CAPV	**Capacho**	**1.25**	**36**	*i* P	**Pn**	**19 36 02.6**	**+2.2**
CAPV				*e*S	**Sn**	**19 36 23.3**	**+0.3**
OCAC	**Ocana**	**1.40**	**350**	*e*P	**Pn**	**19 36 03.2**	**+1.4**
OCAC				*e*S	**Sn**	**19 36 24.5**	**-0.9**
OCAC				*i*		19 36 29.4	
	comp=Z,171nm,0.2s						
NORC	**Norcasia**	**2.21**	**235**	*e*P	**Pn**	**19 36 11.0**	**+0.9**
NORC				*e*S	**Sn**	**19 36 38.3**	**-1.9**
ROSC	**El Rosal**	**2.36**	**212**	*e*P	**Pn**	**19 36 14.6**	**+2.4**
ROSC				*e*S	**Sn**	**19 36 44.2**	**+0.3**
VIGV	**El Vigia**	**2.60**	**40**	*e*P	**Pn**	**19 36 16.4**	**+1.7**
VIGV				*e*S	**Sn**	**19 36 48.4**	**0.0**
SOCV	**Socops**	**2.61**	**57**	*e*P	**Pn**	**19 36 17.2**	**+2.4**
SOCV				*e*S	**Sn**	**19 36 48.7**	**0.0**
VILC	**Villavicencio,**	**2.79**	**193**	*e*P	**Pn**	**19 36 18.8**	**+1.7**
VILC				*e*S	**Sn**	**19 36 52.1**	**-0.7**
VILC				*i*		19 37 02.5	
	comp=Z,61nm,0.5s						
DBBC	**Dabeiba**	**3.13**	**273**	*e*P	**Pn**	**19 36 22.9**	**+1.7**
TOLC	**Tolima**	**3.18**	**225**	*e*P	**Pn**	**19 36 24.8**	**+2.7**
PRAC	**Prado**	**3.61**	**210**	*e*P	**Pn**	**19 36 28.3**	**+1.2**
PRAC				*e*S	**Sn**	**19 37 10.8**	**0.0**
SJAC	**San Juan de Ar**	**3.66**	**194**	*e*P	**Pn**	**19 36 29.0**	**+1.1**
VIRV	**Villa del Rosa**	**3.69**	**10**	*i* P	**Pn**	**19 36 29.4**	**+1.3**
VIRV				*e*S	**Sn**	**19 37 09.7**	**-2.9**
SANV	**Sanarito**	**4.37**	**53**	*e*P	**Pn**	**19 36 38.7**	**+1.6**
SANV				*e*S	**Sn**	**19 37 26.4**	**-2.1**
CURV	**Curarigua**	**4.39**	**44**	*e*P	**Pn**	**19 36 39.5**	**+2.3**
CURV				*e*S	**Sn**	**19 37 26.4**	**-2.5**
DABV	**Dabajuro**	**4.70**	**30**	*e*P	**Pn**	**19 36 43.1**	**+1.9**
DABV				*e*S	**Sn**	**19 37 33.1**	**-2.9**
TEPV	**Terepaima**	**4.92**	**51**	*e*P	**Pn**	**19 36 45.9**	**+1.8**
SIQV	**Siquisique**	**4.96**	**40**	*e*P	**Pn**	**19 36 45.5**	**+0.9**
SIQV				*e*S	**Sn**	**19 37 39.0**	**-3.1**
BAUV	**El Baul**	**5.39**	**67**	*e*P	**Pn**	**19 36 51.3**	**+1.1**
BAUV				*e*S	**Sn**	**19 37 49.5**	**-2.6**
MONV	**Montecano**	**5.92**	**31**	*e*P	**Pn**	**19 36 58.8**	**+1.7**
MONV				*e*S	**Sn**	**19 37 59.8**	**-4.9**
CUPV	**Cœpira**	**7.87**	**66**	*e*P	**Pn**	**19 37 24.6**	**+1.7**

*DDA **14** 19:39:58.5, 34°.91N×28°.87E, h6km, Md3.6*
*ISK **14** 19:39:59.1, 34°.94N×28°.98E, h3km,*
*ATH **14** 19:40:00.5, 34°.90N×28°.98E, h28km±4km, ML3.2/7, Error ellipse: s-maj=6.0km s-min=1.2km az=147.0*
*CSEM **14** 19:40:01.2±0.1, 34°.73N×29°.05E, h30km, ML3.2, Error ellipse: s-maj=3.3km s-min=2.5km az=33.0*
*THE **14** 19:40:02.5, 34°.77N×29°.10E, h28km±39km, ML3.3/5, Error ellipse: s-maj=39.7km s-min=1.1km az=159.0*
*HLW **14** 19:40:04.6, 34°.57N×29°.03E, h35km±30km, Md3.3, MI3.2*
*GII **14** 19:40:07.5±0.5, 34°.31N×29°.38E, h45km, MD3.2/3*

ISC 14 19:39:57.2±1.3, **34°.81N**±0°.04×**28°.98E**±0°.02, **h9**km±10km, **n170**, σ2**s16**/212, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.42**	**20**	P	**Pg**	**19 40 25.6**	**+1.1**
KSL	**Kastellorizon**	**1.42**	**20**	P	**Pg**	**19 40 25.3**	**+0.8**
KSL				S	**Sn**	**19 40 43.3**	**+1.1**
KSL				AML	AML	19 40 52.5	
	comp=N,192μm,0.8s						
KSL				AML	AML	19 40 53.9	
	comp=E,414μm,0.8s						
AKAS	**Kas**	**1.51**	**20**	P	**Pg**	**19 40 27.1**	**+1.0**
AKAS				S	**Sg**	**19 40 46.1**	**+0.4**
AKAS	**Kas**	**1.51**	**20**	*i* P	**Pg**	**19 40 27.1**	**+1.0**
AKAS				*i* S	**Sg**	**19 40 46.1**	**+0.4**
ARG	**Arkhangelos**	**1.56**	**334**	P	**Pg**	**19 40 27.9**	**+0.7**
ARG				S	**Sg**	**19 40 48.7**	**+1.2**
ARG	**Arkhangelos**	**1.56**	**334**	P	**Pg**	**19 40 28.1**	**+0.9**
ARG				S	**Sg**	**19 40 48.7**	**+1.2**
KARP	**Karpathos**	**1.66**	**297**	*e*PN	**Pg**	**19 40 29.0**	**-0.1**
KARP				*e*SN	**Sg**	**19 40 51.5**	**+0.8**
KARP	**Karpathos**	**1.66**	**297**	P	**Pg**	**19 40 30.2**	**+1.2**
KARP				S	**Sg**	**19 40 51.4**	**+0.8**
KARP	**Karpathos**	**1.66**	**297**	*e*Pn	**Pg**	**19 40 29.0**	**-0.1**
KARP	**Karpathos**	**1.66**	**297**	P	**Pg**	**19 40 30.2**	**+1.2**
KARP				S	**Sg**	**19 40 51.4**	**+0.8**
KARP	**Karpathos**	**1.66**	**297**	P	**Pg**	**19 40 30.2**	**+1.2**
KARP				AML	AML	19 40 54.2	
	comp=N,459μm,0.4s						
KARP				AML	AML	19 40 54.2	
	comp=E,545μm,0.4s						
FETY	**Fethiye**	**1.82**	**3**	*e*PN	**Pb**	**19 40 30.5**	**-0.2**
FETY				*e*SN	**Sb**	**19 40 52.9**	**-0.8**
FETY	**Fethiye**	**1.82**	**3**	P	**Pb**	**19 40 31.0**	**+0.3**
FETY				S	**Sg**	**19 40 53.5**	**-2.2**
FETY	**Fethiye**	**1.82**	**3**	*e*Pn	**Pb**	**19 40 30.5**	**-0.2**
FETY	**Fethiye**	**1.82**	**3**	P	**Pb**	**19 40 31.0**	**+0.3**
FETY				*e*Sn	**Sb**	**19 40 52.9**	**-0.8**
FETY				S	**Sg**	**19 40 53.5**	**-2.2**
DALY	**Dalyan (Mu¨la**	**2.02**	**353**	*e*PN	**Pb**	**19 40 33.6**	**-0.4**
DALY	**Dalyan (Mu¨la**	**2.02**	**353**	*e*Pn	**Pb**	**19 40 33.6**	**-0.4**
ELL	**Elmali**	**2.07**	**21**	*e*PN	**Pn**	**19 40 34.2**	**+1.9**
ELL	**Elmali**	**2.07**	**21**	*e*Pn	**Pn**	**19 40 34.3**	**+1.9**
TURN	**Turunc**	**2.08**	**352**	*i* P	**Pb**	**19 40 34.6**	**-0.5**
TURN				*i* S	**Sg**	**19 41 00.8**	**-3.3**
ZKR	**Zakros**	**2.29**	**278**	P	**Pb**	**19 40 37.8**	**0.0**
ZKR				S	**Sb**	**19 41 07.2**	**+0.1**
ZKR	**Zakros**	**2.29**	**278**	P	**Pb**	**19 40 38.7**	**0.0**
ZKR				S	**Sb**	**19 41 07.2**	**+0.1**
ZKR	**Zakros**	**2.29**	**278**	P	**Pb**	**19 40 38.7**	**0.0**
ZKR				AML	AML	19 41 07.6	
	comp=E,526μm,0.7s						
ZKR				S	**Sg**	**19 41 07.7**	**-3.0**
ZKR				AML	AML	19 41 08.1	
	comp=N,625μm,0.6s						
GLHS	**Glhisar (BURDU**	**2.38**	**10**	*e*PN	**Pn**	**19 40 38.3**	**+1.8**
GLHS	**Glhisar (BURDU**	**2.38**	**10**	*e*Pn	**Pn**	**19 40 38.3**	**+1.8**
YER	**Yerkesik**	**2.39**	**346**	*e*PN	**Pb**	**19 40 38.3**	**-2.1**
YER	**Yerkesik**	**2.39**	**346**	P	**Pb**	**19 40 40.2**	**-0.2**
YER	**Yerkesik**	**2.39**	**346**	*e*Pn	**Pb**	**19 40 38.3**	**-2.1**
YER	**Yerkesik**	**2.39**	**346**	P	**Pb**	**19 40 40.2**	**-0.2**
KORT	**Korkueli**	**2.45**	**27**	P	**Pb**	**19 40 40.7**	**-0.8**
KORT				S	**Sb**	**19 41 11.9**	**0.0**
KORT	**Korkueli**	**2.45**	**27**	*i* P	**Pb**	**19 40 40.7**	**-0.8**
KORT				*i* S	**Sb**	**19 41 11.9**	**0.0**
GOLH	**Golhisar**	**2.46**	**11**	P	**Pb**	**19 40 41.5**	**-0.2**
GOLH				S	**Sb**	**19 41 11.9**	**-0.4**
GOLH	**Golhisar**	**2.46**	**11**	*i* P	**Pb**	**19 40 41.5**	**-0.2**
GOLH				*i* S	**Sb**	**19 41 11.9**	**-0.4**
BDRM	**Kayabasi**	**2.57**	**331**	P	**Pb**	**19 40 41.5**	**-2.0**
BDRM				S	**Sn**	**19 41 10.4**	**-0.1**
BDRM	**Kayabasi**	**2.57**	**331**	*i* P	**Pb**	**19 40 41.5**	**-2.0**
BDRM				*i* S	**Sn**	**19 41 10.4**	**-0.1**
BODT	**Bodrum**	**2.62**	**329**	*e*PN	**Pb**	**19 40 42.1**	**-2.3**
BODT	**Bodrum**	**2.62**	**329**	P	**Pb**	**19 40 42.1**	**-2.3**
BODT	**Bodrum**	**2.62**	**329**	P	**Pb**	**19 40 42.1**	**-2.3**
NPS	**Neapolis**	**2.80**	**280**	P	**Pb**	**19 40 47.8**	**+0.4**
NPS	**Neapolis**	**2.80**	**280**	P	**Pb**	**19 40 46.9**	**-0.5**
NPS	**Neapolis**	**2.80**	**280**	P	**Pb**	**19 40 46.9**	**-0.5**
NPS				AML	AML	19 41 20.3	
	comp=N,349μm,0.9s						
NPS				AML	AML	19 41 21.2	
	comp=E,411μm,0.5s						
DNZL	**Cakiroluk**	**2.87**	**1**	P	**Pb**	**19 40 46.2**	**-2.5**
DNZL				S	**Sb**	**19 41 22.0**	**-2.1**
DNZL	**Cakiroluk**	**2.87**	**1**	*i* P	**Pb**	**19 40 46.2**	**-2.5**
DNZL				*i* S	**Sb**	**19 41 22.0**	**-2.1**
LAST	**Lasithi**	**2.90**	**278**	P	**Pb**	**19 40 47.7**	**-1.4**
LAST				S	**Sb**	**19 41 22.2**	**-2.5**
LAST	**Lasithi**	**2.90**	**278**	P	**Pb**	**19 40 47.7**	**-1.4**
LAST				S	**Sn**	**19 41 20.6**	**+2.0**
LAST	**Lasithi**	**2.90**	**278**	P	**Pb**	**19 40 48.2**	**-0.9**
GAZI	**Gazipasa**	**3.07**	**61**	P	**Pn**	**19 40 46.5**	**+0.6**
GAZI				S	**Sn**	**19 41 20.4**	**-2.4**
GAZI	**Gazipasa**	**3.07**	**61**	*i* P	**Pn**	**19 40 46.5**	**+0.6**
GAZI				*i* S	**Sn**	**19 41 20.4**	**-2.4**
SUTC	**Sutluce-Ispart**	**3.12**	**31**	*e*PN	**Pn**	**19 40 48.9**	**+2.2**
SUTC	**Sutluce-Ispart**	**3.12**	**31**	*e*Pn	**Pn**	**19 40 48.9**	**+2.2**
GCAM	**G?zelcaml?**	**3.21**	**334**	P	**Pn**	**19 40 47.0**	**-0.8**
GCAM				S	**Sb**	**19 41 29.0**	**-4.6**
GCAM	**G?zelcaml?**	**3.21**	**334**	*i* P	**Pn**	**19 40 47.0**	**-0.8**
GCAM				*i* S	**Sb**	**19 41 29.0**	**-4.6**
AYDB	**Zeytinkoy-Aydi**	**3.25**	**345**	*e*PN	**Pn**	**19 40 51.1**	**+2.6**
AYDB	**Zeytinkoy-Aydi**	**3.25**	**345**	*e*Pn	**Pn**	**19 40 51.1**	**+2.6**
SANT	**Santorini**	**3.27**	**299**	P	**Pn**	**19 40 50.2**	**+1.6**
SANT	**Santorini**	**3.27**	**299**	P	**Pn**	**19 40 50.2**	**+1.6**
THR6	**Thira Island,**	**3.30**	**299**	P	**Pb**	**19 40 52.2**	**-3.7**
THR6	**Thira Island,**	**3.30**	**299**	P	**Pb**	**19 40 52.2**	**-3.7**
THR3	**Thira Island,**	**3.32**	**300**	P	**Pn**	**19 40 52.3**	**+2.9**
THR3	**Thira Island,**	**3.32**	**300**	P	**Pn**	**19 40 52.3**	**+2.9**
CMBO	**Columbo, Santo**	**3.35**	**301**	P	**Pb**	**19 40 52.9**	**-3.8**
CMBO	**Columbo, Santo**	**3.35**	**301**	P	**Pb**	**19 40 52.9**	**-3.8**
CMBO	**Columbo, Santo**	**3.35**	**301**	P	**Pn**	**19 40 52.7**	**+3.0**
THR5	**Thira Island,**	**3.37**	**299**	*e*PN	**Pn**	**19 40 53.1**	**+3.1**
THR5	**Thira Island,**	**3.37**	**299**	P	**Pb**	**19 40 53.5**	**-3.5**
THR5	**Thira Island,**	**3.37**	**299**	*e*Pn	**Pn**	**19 40 53.1**	**+3.1**
THR5	**Thira Island,**	**3.37**	**299**	P	**Pb**	**19 40 53.5**	**-3.5**
SMG	**Samos**	**3.37**	**330**	P	**Pn**	**19 40 52.4**	**+2.3**
SMG	**Samos**	**3.37**	**330**	P	**Pn**	**19 40 52.4**	**+2.3**
IDI	**Anoyia**	**3.39**	**279**	P	**Pb**	**19 40 54.5**	**-3.0**
IDI				S	**Sn**	**19 41 32.6**	**+1.8**
IDI	**Anoyia**	**3.39**	**279**	P	**Pn**	**19 40 53.5**	**+3.1**
IDI				S	**Sn**	**19 41 32.6**	**+1.8**
IDI	**Anoyia**	**3.39**	**279**	P	**Pn**	**19 40 53.5**	**+3.1**
IDI				S	**Sn**	**19 41 32.2**	**+1.4**
IDI				AML	AML	19 41 35.6	
	comp=E,294μm,0.4s						
IDI				AML	AML	19 41 36.0	
	comp=N,422μm,0.4s						
CSS	**Mathiatis**	**3.58**	**86**	P	**Pn**	**19 40 53.6**	**+0.7**
CSS				S	**Sn**	**19 41 33.4**	**-2.0**
CSS	**Mathiatis**	**3.58**	**86**	Pn	**Pn**	**19 40 53.5**	**+0.7**
CSS	**Mathiatis**	**3.58**	**86**	P	**Pn**	**19 40 53.6**	**+0.7**
CSS				S	**Sn**	**19 41 33.4**	**-2.0**
APE	**Apeiranthos**	**3.59**	**310**	*e*PN	**Pn**	**19 40 56.1**	**+3.0**
APE	**Apeiranthos**	**3.59**	**310**	P	**Pn**	**19 40 55.1**	**+1.9**
APE	**Apeiranthos**	**3.59**	**310**	*e*Pn	**Pn**	**19 40 56.2**	**+3.0**
APE	**Apeiranthos**	**3.59**	**310**	P	**Pn**	**19 40 55.1**	**+1.9**
DGB	**˙zmir**	**3.65**	**333**	*i* P	**Pn**	**19 40 56.6**	**+2.8**
ERMK	**Ermenek**	**3.68**	**59**	P	**Pn**	**19 40 57.4**	**+2.9**
ERMK				S	**Sn**	**19 41 40.0**	**+1.8**
ERMK	**Ermenek**	**3.68**	**59**	*i* P	**Pn**	**19 40 57.4**	**+2.9**
ERMK				*i* S	**Sn**	**19 41 40.0**	**+1.8**
KULA	**Kula-Manisa**	**3.70**	**356**	*e*PN	**Pn**	**19 40 57.0**	**+2.3**
KULA	**Kula-Manisa**	**3.70**	**356**	*e*Pn	**Pn**	**19 40 57.0**	**+2.3**
VAM	**Vamos**	**3.96**	**280**	P	**Pn**	**19 41 01.8**	**+3.6**
IKL	**Isikli**	**4.09**	**68**	*e*PN	**Pn**	**19 41 04.2**	**+4.3**
IKL	**Isikli**	**4.09**	**68**	*e*Pn	**Pn**	**19 41 04.2**	**+4.3**
IMMV	**Iera Moni Meta**	**4.15**	**280**	P	**Pn**	**19 41 04.5**	**+3.8**
IMMV	**Iera Moni Meta**	**4.15**	**280**	P	**Pn**	**19 41 03.9**	**+3.2**
IMMV	**Iera Moni Meta**	**4.15**	**280**	P	**Pn**	**19 41 03.9**	**+3.2**
IMMV				AML	AML	19 41 52.3	
	comp=N,353μm,0.4s						
IMMV				AML	AML	19 41 53.6	
	comp=E,310μm,0.3s						
KONT	**Konya--Tatoy**	**4.15**	**40**	*e*PN	**Pn**	**19 41 04.2**	**+3.4**
KONT	**Konya--Tatoy**	**4.15**	**40**	*e*Pn	**Pn**	**19 41 04.2**	**+3.4**
MHLO	**Agia Marina, M**	**4.17**	**298**	P	**Pn**	**19 41 03.2**	**+2.2**
MHLO	**Agia Marina, M**	**4.17**	**298**	P	**Pn**	**19 41 03.2**	**+2.2**
CHOS	**Chios island**	**4.27**	**327**	P	**Pb**	**19 41 08.7**	**-3.9**
SERI	**Serifos**	**4.33**	**304**	P	**Pn**	**19 41 06.0**	**+2.7**
SERI	**Serifos**	**4.33**	**304**	P	**Pn**	**19 41 06.0**	**+2.7**
KDHN	**Kadinhani**	**4.48**	**33**	P	**Pn**	**19 41 08.0**	**+2.6**
KDHN				S	**Sn**	**19 41 58.4**	**+0.7**
KDHN	**Kadinhani**	**4.48**	**33**	*i* P	**Pn**	**19 41 08.0**	**+2.6**
KDHN				*i* S	**Sn**	**19 41 58.4**	**+0.7**
SLUM	**Salum** baz=228	**4.58**	**225**	P	**Pn**	**19 41 08.8**	**+2.2**
SLUM				AMP		19 41 00.0	
	comp=N,50μm,0.1s,logA/T=5.5,baz=228						
SLUM				S	**Sn**	**19 41 55.9**	**-4.1**
	baz=228						
SLUM	**Salum**	**4.58**	**225**	P	**Pn**	**19 41 08.8**	**+2.2**
TVSB	**Tavsanli**	**4.64**	**5**	*e*PN	**Pn**	**19 41 11.1**	**+3.4**
TVSB	**Tavsanli**	**4.64**	**5**	*e*Pn	**Pn**	**19 41 11.1**	**+3.4**
KIZT	**Kizilcal**	**4.68**	**29**	*e*PN	**Pn**	**19 41 12.0**	**+3.9**
KIZT	**Kizilcal**	**4.68**	**29**	*e*Pn	**Pn**	**19 41 12.0**	**+3.9**
ANKY	**Antikythira Is**	**4.76**	**284**	P	**Pn**	**19 41 09.9**	**+0.7**
ANKY	**Antikythira Is**	**4.76**	**284**	P	**Pn**	**19 41 09.9**	**+0.7**
KERG	**Konya-Eregli**	**4.91**	**57**	P	**Pn**	**19 41 13.2**	**+1.9**
KERG				S	**Sn**	**19 42 07.3**	**-1.0**
KERG	**Konya-Eregli**	**4.91**	**57**	*i* P	**Pn**	**19 41 13.2**	**+1.9**
KERG				*i* S	**Sn**	**19 42 07.3**	**-1.0**
KYTH	**Kithira**	**5.05**	**288**	P	**Pn**	**19 41 13.9**	**+0.7**
KYTH	**Kithira**	**5.05**	**288**	P	**Pn**	**19 41 13.9**	**+0.7**
VLY	**Voula,Athens**	**5.17**	**307**	P	**Pn**	**19 41 19.4**	**+4.6**
VLY	**Voula,Athens**	**5.17**	**307**	P	**Pn**	**19 41 19.4**	**+4.6**
VLI	**Veliai**	**5.27**	**293**	P	**Pn**	**19 41 18.6**	**+2.5**
VLI	**Veliai**	**5.27**	**293**	P	**Pn**	**19 41 18.6**	**+2.5**
VLI	**Veliai**	**5.27**	**293**	P	**Pn**	**19 41 17.6**	**+1.5**
DID	**Didima**	**5.37**	**302**	P	**Pn**	**19 41 21.0**	**+3.5**
DID	**Didima**	**5.37**	**302**	P	**Pn**	**19 41 21.0**	**+3.5**
KRND	**KRANIDI**	**5.37**	**300**	P	**Pn**	**19 41 21.4**	**+3.9**
KRND	**KRANIDI**	**5.37**	**300**	P	**Pn**	**19 41 21.4**	**+3.9**
KOT	**Kottamia** baz=152	**5.43**	**153**	P	**Pn**	**19 41 19.3**	**+0.9**

ISCJB **14** *19:49:21.4±0.8, 6.°94S×0.°06×130.°2E±0.°1, h104km, mb3.7/3, Error ellipse: s-maj=17.7km s-min=8.6km az=177.4*
IDC **14** *19:49:21.2±2.6, 6.°94S×130.°05E, h75km±30km, mb3.5/3, mb1 3.9/8, mb1mx3.5/28, mbtmp4.0/8, Error ellipse: s-maj=34.7km s-min=18.5km az=82.0*

ISC 14 19:49:22.4±0.8, 7.°06S±0.°07×130.°2E±0.°1, h104km, n8, σ2ş42/11, mb3.6/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.24**	**10**	P	**Pn**	**19 50 49.4**	**-2.6**
	17nm,0.3s,baz=358,slow=6.7,SNR=3.7						
SIJI				S	Sn	19 51 52.7	-9.3
	9.0nm,0.3s,baz=272,slow=23,SNR=3.3						
JAY	**Jayapura**	**11.37**	**67**	P	**Pn**	**19 52 02.5**	**+0.6**
	0.1nm,0.3s,baz=92,slow=24,SNR=3.4						
FITZ	**Fitzroy Crossi**	**11.85**	**202**	P	**Pn**	**19 52 08.8**	**+0.8**
	1.6nm,0.3s,baz=29,slow=10,SNR=47						
FITZ				S	**Sn**	**19 54 15.9**	**-2.6**
	1.1nm,0.3s,baz=123,slow=22,SNR=8.7						
WRA	**Warramunga Arr**	**13.41**	**163**	P	**Pn**	**19 52 28.7**	**+0.1**
	1.0nm,0.3s,baz=340,slow=13,SNR=29						
WRA				S	**Sn**	**19 54 52.8**	**-3.6**
	1.6nm,0.3s,baz=341,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**16.88**	**168**	P	**P**	**19 53 14.7**	**+1.9**
	0.8nm,0.3s,baz=346,slow=13,SNR=48						
ASAR				S	**Sn**	**19 56 18.3**	**-1.9**
	0.5nm,0.3s,baz=355,slow=25,SNR=9.5						
STKA	**Stephens Creek**	**26.87**	**158**	P	**P**	**19 54 57.0**	**+3.5**
	1.4nm,0.8s,baz=344,slow=9.7,SNR=3.9						
CMAR	**Chiang Mai Arr**	**39.94**	**310**	P	**P**	**19 56 47.2**	**+0.3**
	0.5nm,0.6s,baz=138,slow=6.4,SNR=5.3						
MKAR	**Makanchi Array**	**68.40**	**327**	P	**P**	**20 00 13.3**	**+0.4**
	1.0nm,0.4s,baz=114,slow=8.5,SNR=27						

IDC **14** *20:06:47.7±2.9, 37.°93N×142.°95E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/25, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=69.7km s-min=32.4km az=63.0*
ISCJB **14** *20:06:50.2±1.2, 37.°82N±0.°06×142.°6E±0.°1, h18km, mb3.2/3, Error ellipse: s-maj=12.6km s-min=8.4km az=176.3*
JMA **14** *20:06:52.1±0.2, 37.°83N×142.°49E, h37km±4km, M3.4*

ISC 14 20:06:51.5±1.5, 37.°95N±0.°08×142.°5E±0.°1, h18km, n20, σ1ş52/17, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.06**	**299**	P	**Pg**	**20 07 11.3**	**-0.8**
JIO				S	**Sb**	**20 07 25.5**	**+0.6**
JMM	**Marumori**	**1.38**	**267**	P	**Pn**	**20 07 14.9**	**-1.0**
JMK	**Ichinoseki**	**1.44**	**314**	P	**Pb**	**20 07 17.6**	**-0.1**
JFK	**Kawauchi**	**1.44**	**247**	P	**Pn**	**20 07 15.0**	**-1.7**
JOU	**Okura**	**1.53**	**286**	P	**Pb**	**20 07 18.3**	**-1.1**
JFT	**Otama**	**1.80**	**257**	P	**Pn**	**20 07 21.3**	**-0.3**
JOM	**Ohasama**	**1.80**	**328**	P	**Pg**	**20 07 24.2**	**-2.0**
JOM				S	**Sb**	**20 07 47.8**	**+1.5**
JYK	**Kaneyama**	**1.96**	**300**	P	**Pb**	**20 07 25.1**	**-1.6**
JYS	**Shirataka**	**1.97**	**279**	P	**Pb**	**20 07 24.7**	**-2.1**
MJAR	**Matsushiro Arr**	**3.73**	**249**	Pn	**Pn**	**20 07 50.5**	**+2.3**
	1.2nm,0.3s,baz=58,slow=9.8,SNR=12						
MAT	**Matsushiro**	**3.73**	**249**	P	**Pn**	**20 07 48.7**	**+0.5**
MAT				eS	**Sn**	**20 08 33.3**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**27.88**	**124**	T	T	20 41 46.3	
	baz=317,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.89**	**124**	T	T	20 41 46.4	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**27.90**	**124**	T	T	20 41 46.4	
	baz=317,slow=75						
SONM	**Songino Array**	**28.03**	**302**	P	**P**	**20 12 43.2**	**+1.6**
	0.2nm,0.4s,baz=112,slow=7.1,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	20 42 45.0	
	baz=318,slow=76,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	20 42 46.4	
	baz=318,slow=76,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**28.66**	**126**	T	T	20 42 42.7	
	baz=318,slow=76,SNR=6.2						
MKAR	**Makanchi Array**	**44.39**	**302**	P	**P**	**20 15 02.1**	**+1.2**
	0.1nm,0.5s,baz=74,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**58.10**	**189**	P	**P**	**20 16 43.0**	**-0.8**
	0.3nm,0.5s,baz=5.9,slow=7.0,SNR=5.2						

WEL 14 20:44:58.4±0.3, 43.°65S×172.°85E, h7km, ML3.7/11, 1C-1D, Error ellipse: s-maj=2.2km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.15**	**249**	⇑PG	Pg	20 45 02.0	+0.4
MQZ				SG	Sg	20 45 04.2	+0.4
MQZ				SG		20 45 04.4	
MQZ				AML	AML	20 45 04.4	
OXZ	**Oxford**	**0.68**	**298**	⇓P*	Pg	20 45 11.4	0.0
LTZ	**Lake Taylor**	**0.97**	**334**	P*	Pg	20 45 16.9	-0.1
LTZ				S*	Sb	20 45 30.0	-0.5
LTZ				AML	AML	20 45 32.7	
RPZ	**Rata Peaks**	**1.31**	**267**	P*	Pn	20 45 21.5	-1.6
RPZ				AML	AML	20 45 42.1	
RPZ				AML	AML	20 45 50.2	
KHZ	**Kahutara**	**1.33**	**22**	PN	Pn	20 45 22.2	-1.1
INZ	**Inchbonnie**	**1.39**	**311**	ePN	Pn	20 45 21.2	-2.9
WVZ	**Waitaha Valley**	**1.65**	**290**	PN	Pn	20 45 27.2	-0.5
WVZ				AML	AML	20 47 45.1	
WVZ				AML	AML	20 47 45.3	
THZ	**Tophouse**	**1.89**	**1**	PN	Pn	20 45 30.0	-1.1
THZ				AML	AML	20 46 06.0	
THZ				AML	AML	20 46 06.9	
LBZ	**Lake Benmore**	**2.06**	**248**	PN	Pn	20 45 32.6	-0.9
LBZ				AML	AML	20 46 14.6	
LBZ				AML	AML	20 46 15.1	
BSWZ	**Blackbirch Sta**	**2.08**	**22**	PN	Pn	20 45 32.9	-0.7
ODZ	**Otahua Downs**	**2.11**	**228**	PN	Pn	20 45 33.2	-0.9
ODZ				AML	AML	20 46 18.3	
ODZ				AML	AML	20 46 18.3	
ODZ				AML	AML	20 46 22.3	
ODZ				AML	AML	20 46 22.3	
FOZ	**Fox Glacier**	**2.21**	**272**	PN	Pn	20 45 35.9	+0.5
FOZ				AML	AML	20 46 16.2	
FOZ				AML	AML	20 46 19.6	
PLWZ	**Palliser**	**2.73**	**41**	PN	Pn	20 45 40.9	-1.8
JCZ	**Jackson Bay**	**2.97**	**260**	PN	Pn	20 45 46.2	+0.2
JCZ				AML	AML	20 46 39.3	
EAZ	**Earnscleugh**	**2.99**	**237**	AML	AML	20 46 40.9	
EAZ				AML	AML	20 46 42.8	
CAW	**Cannon Point**	**3.03**	**34**	ePN	Pn	20 45 44.9	-1.8
MTW	**Mount Morrison**	**3.17**	**39**	PN	Pn	20 45 46.6	-2.1
TUZ	**Tuapeka**	**3.25**	**224**	PN	Pn	20 45 49.5	-0.3
TUZ				AML	AML	20 46 51.2	
TUZ				AML	AML	20 46 57.0	

ISK **14** *20:46:39.8, 39.°10N×29.°07E, h6km, MD2.5*
CSEM **14** *20:46:40.4±0.1, 39.°11N×29.°04E, h2km, MD2.7, Error ellipse: s-maj=2.4km s-min=1.8km az=167.0*
DDA **14** *20:46:40.1, 39.°12N×29.°04E, h10km, Md2.7*

ISC 14 20:46:40.4±0.9, 39.°10N±0.°03×29.°05E±0.°02, h9km±9km, n23, σ0ş37/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**257**	P	**Pg**	**20 46 46.1**	**+0.3**
DEMI				S	**Sg**	**20 46 49.7**	**+0.2**
DEMI	**Demirci**	**0.27**	**257**	*i* P	**Pg**	**20 46 46.1**	**+0.3**
DEMI				*i* S	**Sg**	**20 46 49.7**	**+0.2**
GEDZ	**Gediz**	**0.28**	**102**	ePG	**Pg**	**20 46 45.8**	**-0.3**
GEDZ				eSG	**Sg**	**20 46 49.9**	**0.0**
GEDZ	**Gediz**	**0.28**	**102**	ePg	**Pg**	**20 46 45.8**	**-0.3**
GEDZ				eSg	**Sg**	**20 46 49.9**	**0.0**
GDZ	**Gediz**	**0.33**	**92**	P	**Pg**	**20 46 47.4**	**+0.3**
GDZ				S	**Sg**	**20 46 51.8**	**+0.3**
GDZ	**Gediz**	**0.33**	**92**	*i* P	**Pg**	**20 46 47.4**	**+0.3**
GDZ				*i* S	**Sg**	**20 46 51.9**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**42**	ePG	**Pg**	**20 46 49.6**	**0.0**
TVSB				eSG	**Sg**	**20 46 55.8**	**0.0**
TVSB	**Tavsanli**	**0.47**	**42**	ePg	**Pg**	**20 46 49.6**	**0.0**
TVSB				eSg	**Sg**	**20 46 55.8**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**208**	ePG	**Pg**	**20 46 53.3**	**+0.1**
KULA				eSG	**Sg**	**20 47 02.0**	**+0.1**
KULA	**Kula-Manisa**	**0.66**	**208**	ePg	**Pg**	**20 46 53.3**	**+0.1**
KULA				eSg	**Sg**	**20 47 02.0**	**+0.1**
BALB	**Balikesir**	**1.06**	**301**	ePG	**Pb**	**20 47 00.8**	**0.0**
BALB	**Balikesir**	**1.06**	**301**	ePg	**Pb**	**20 47 00.8**	**0.0**
IGD	**Bursa**	**1.17**	**6**	*i* P	**Pb**	**20 47 02.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.28**	**335**	ePN	**Pg**	**20 47 05.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	ePn	**Pg**	**20 47 05.1**	**+0.1**
BALY	**Balya**	**1.28**	**300**	P	**Pn**	**20 47 03.8**	**-0.7**
BALY				S	**Sb**	**20 47 21.1**	**-0.2**
BALY	**Balya**	**1.28**	**300**	*i* P	**Pn**	**20 47 03.8**	**-0.7**
BALY				*i* S	**Sb**	**20 47 21.1**	**-0.2**
BORA	**Eskisehir**	**1.33**	**54**	P	**Pg**	**20 47 05.7**	**-0.3**
BORA				S	**Sn**	**20 47 24.2**	**+1.1**
BORA	**Eskisehir**	**1.33**	**54**	*i* P	**Pg**	**20 47 05.7**	**-0.3**
BORA				*i* S	**Sn**	**20 47 24.2**	**+1.1**
ARMT	**Armutlu**	**1.47**	**354**	ePN	**Pb**	**20 47 07.9**	**0.0**
ARMT	**Armutlu**	**1.47**	**354**	ePn	**Pb**	**20 47 07.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**219**	ePN	**Pg**	**20 47 08.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**219**	ePn	**Pg**	**20 47 08.5**	**-0.1**

SJA 14 20:48:49.8±0.4, 31.°86S×68.°30W, h100km±2km, ML2.7, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.20**	**268**	*i* P	Pn	20 49 04.7	+0.7
RTCV				*i* S	Sn	20 49 15.7	+0.9
RTLL	**Cerro Villicun**	**0.55**	**344**	*i* P	Pn	20 49 06.7	+0.6
RTLL				*i* S	Sn	20 49 19.2	+1.1
ASAL	**Salagasta**	**0.86**	**212**	*i* P	Pn	20 49 09.7	+0.9
ASAL				*i* S	Sn	20 49 24.5	+1.3
AMOG	**MOGNA**	**0.93**	**350**	*i* P	Pn	20 49 10.3	+0.7
AMOG				*i* S	Sn	20 49 25.5	+1.1
AUSP	**Uspallata**	**0.99**	**248**	*i* P	Pn	20 49 11.6	+1.2
AUSP				*i* S	Sn	20 49 27.5	+1.5
ACAN	**Cantantal**	**1.03**	**114**	*i* P	Pn	20 49 11.4	+0.8
ACAN				*i* S	Sn	20 49 27.5	+1.2
ARCO	**CERRO ARCO**	**1.12**	**208**	*i* P	Pn	20 49 12.6	+0.8
ARCO				*i* S	Sn	20 49 29.5	+1.3
ARCO				IAML		20 49 31.8	
	comp=Z,139nm,0.3s						
AAGR	**Agrelo**	**1.30**	**200**	*i* P	Pn	20 49 15.1	+1.3
AAGR				*i* S	Sn	20 49 33.5	+1.6
AVFE	**Valle Fertil**	**1.40**	**31**	*i* P	Pn	20 49 16.2	+1.3
AVFE				*i* S	Sn	20 49 35.3	+1.4
AVFE				IAML		20 49 36.3	
	comp=Z,65nm,0.2s						
ACHE	**Chepes**	**1.56**	**64**	*i* P	Pn	20 49 18.1	+1.2
ACHE				*i* S	Sn	20 49 39.1	+1.6
MRA	**San Martin**	**2.26**	**105**	*i* P	Pn	20 49 27.1	+1.2
MRA				*i* S	Sn	20 49 54.6	+1.1
MRA				IAML		20 49 57.9	
	comp=Z,49nm,0.7s						
TCA	**Tanti**	**3.21**	**82**	*i* P	Pn	20 49 39.8	+1.4

DHMR 14 20:51:08.7±1.2, 12.°84N×41.°64E, h2km±14km, ML3.5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**2.53**	**64**	*i* P	Pb	20 51 54.0	-1.0
UDYN				*i* S	Sb	20 52 28.0	+1.4
UDYN				AML	AML	20 52 39.5	
	comp=Z,249nm,0.6s						
HAJJ	**Hajjah**	**3.42**	**34**	*i* P	Pn	20 52 05.2	+2.0
HAJJ				AML	AML	20 52 18.4	
	comp=Z,269nm,0.4s						
HAJJ				*i* S	Sb	20 52 50.7	-1.6
BDHA	**Al Bayda'**	**3.99**	**73**	*i* S	Sb	20 53 04.1	-4.6

NIED **14** *21:00:00, 37.°90N×143.°70E, h11km, Mw3.8 Best double couple: M₀5.79000×10¹⁴ NP1:φs8.00000°, δ18.00000°, λ-112.00000°. NP2:φs212.00000°, δ73.00000°, λ-83.00000°.*
IDC **14** *21:00:30.4±0.7, 37.°67N×143.°76E, h0km, mb3.9/14, mb1 4.0/20, mb1mx3.8/41, mbtmp4.0/20, ML3.3/5, MS2.6/3, Ms1 2.6/3, ms1mx2.3/39, Error ellipse: s-maj=17.3km s-min=13.3km az=94.0*
ISCJB **14** *21:00:31.6±1.4, 37.°72N±0.°03×143.°62E±0.°04, h20km±11km, mb4.2/22, Error ellipse: s-maj=5.8km s-min=5.0km az=23.8*
JMA **14** *21:00:32.8±0.2, 37.°85N×143.°66E, h46km, M3.9*
NEIC **14** *21:00:35.5±0.3, 37.°65N×143.°74E, h35km, mb4.5/9, Error ellipse: s-maj=8.1km s-min=6.9km az=102.0*

ISC 14 21:00:32.3±4.0, 37.°77N±0.°04×143.°68E±0.°07, h15km±25km, n61, σ1ş91/74, mb4.2/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.96**	**291**	P	**Pn**	**21 01 04.0**	**-1.1**
JIO				eS	**Sn**	**21 01 26.5**	**-3.0**
OFUJ	**Ofunato**	**2.05**	**310**	P	**Pn**	**21 01 04.7**	**-1.7**
OFUJ				eS	**Sn**	**21 01 28.1**	**-3.6**
JMK	**Ichinoseki**	**2.27**	**302**	P	**Pn**	**21 01 08.2**	**-1.1**
JMK				eS	**Sn**	**21 01 34.3**	**-2.7**
JOM	**Ohasama**	**2.53**	**313**	P	**Pn**	**21 01 11.8**	**-1.1**
JOM				eS	**Sn**	**21 01 40.7**	**-2.8**
JFT	**Otama**	**2.67**	**266**	P	**Pn**	**21 01 14.8**	**0.0**
JFT				eS	**Sn**	**21 01 45.3**	**-1.6**
JYK	**Kaneyama**	**2.85**	**295**	P	**Pn**	**21 01 16.9**	**-0.5**
JAW	**Awa shima**	**3.56**	**282**	P	**Pn**	**21 01 27.5**	**+0.4**
JAG	**Ashikaga**	**3.63**	**250**	P	**Pn**	**21 01 28.1**	**0.0**
JAG				eS	**Sn**	**21 02 09.8**	**-1.0**
BSO1	**Boso 1**	**3.80**	**216**	P	**Pn**	**21 01 29.9**	**0.0**
BSO1				S	**Sn**	**21 02 12.5**	**-1.5**
JRY	**Ryogami san**	**4.21**	**247**	P	**Pn**	**21 01 36.1**	**0.0**
JRY				eS	**Sn**	**21 02 22.0**	**-3.0**
ERM	**Erimo**	**4.26**	**355**	ePn	**Pn**	**21 01 35.6**	**-1.1**
ERM				eSn	Sn	21 02 15.6	-11
MJAR	**Matsushiro Arr**	**4.54**	**256**	Pn	**Pn**	**21 01 41.5**	**+0.9**
	5.3nm,0.3s,baz=90,slow=15,SNR=38						
MJAR				Sn	**Sn**	**21 02 33.8**	**+0.8**
	1.7nm,0.3s,baz=359,slow=14,SNR=3.3						
MJAR				LR	LR	21 03 17.4	
	comp=Z,32nm,19.1s,baz=95,slow=37						
MAJO	**Matsushiro**	**4.54**	**256**	ePn	**Pn**	**21 01 42.1**	**+1.6**
MAJO				eSn	Sn	21 02 25.1	-8.0
MAT	**Matsushiro**	**4.54**	**256**	P	**Pn**	**21 01 41.7**	**+1.1**
MAT				eS	**Sn**	**21 02 31.7**	**-2.1**
MJB9	**Matsu-Tunnel**	**4.54**	**256**	ePn	**Pn**	**21 01 42.1**	**+1.6**
MJB9				eSn	**Sn**	**21 02 31.8**	**-1.3**
JCH	**Churui**	**4.85**	**357**	P	**Pn**	**21 01 43.0**	**-1.8**
JCH				eS	**Sn**	**21 02 33.7**	**-6.9**
JHJ2	**Mitsune**	**5.61**	**215**	ePn	**Pn**	**21 01 54.5**	**-0.8**
JHJ2				eSn	**Sn**	**21 02 54.1**	**-5.5**
JHJ	**Hachijo jima 2**	**5.62**	**216**	Pn	**Pn**	**21 01 55.1**	**-0.3**
	6.5nm,0.3s,baz=340,slow=16,SNR=30						
JHJ				Sn	**Sn**	**21 02 55.8**	**-4.0**
	20nm,0.3s,baz=285,slow=21,SNR=8.0						
INU	**Inuyama**	**5.88**	**248**	ePn	**Pn**	**21 01 58.4**	**-0.6**
ASAJ	**Asahikawa**	**6.40**	**353**	Pn	**Pn**	**21 02 04.9**	**-1.1**
	2.5nm,0.3s,baz=199,slow=9.0,SNR=24						
ASAJ				Sn	**Sn**	**21 03 17.9**	**-0.9**
	0.9nm,0.3s,baz=277,slow=33,SNR=4.3						
CBIJ	**Chichi jima**	**10.71**	**187**	ePn	**Pn**	**21 03 03.2**	**-2.1**
CBIJ				eSn	Sn	21 04 57.3	-7.8
JCJ	**Chichijima**	**10.72**	**187**	Pn	**Pn**	**21 03 03.2**	**-2.1**
JCJ				Sn	Sn	21 04 57.3	-7.8
USRK	**Ussuriysk Ar.**	**10.92**	**310**	Pn	**Pn**	**21 03 10.5**	**+2.5**
	0.3nm,0.3s,baz=107,slow=14,SNR=6.6						
JNU	**Nakatsue**	**11.42**	**250**	Pn	**Pn**	**21 03 15.3**	**+0.3**
	0.1nm,0.3s,baz=34,slow=14,SNR=4.8						
KSRS	**Korea Array**	**12.50**	**273**	Pn	**Pn**	**21 03 32.6**	**+2.9**
	0.3nm,0.3s,baz=90,slow=14,SNR=6.2						
KSRS				LR	LR	21 08 00.4	
	comp=Z,30nm,19.8s,baz=91,slow=36						
KSAR	**Wonju Array Be**	**12.53**	**273**	Pn	**Pn**	**21 03 32.6**	**+2.5**
KLR	**Kul'dur**	**14.34**	**327**	Pn	**Pn**	**21 03 52.5**	**-2.2**
	0.1nm,0.3s,baz=127,slow=12,SNR=9.8						
KLR				LR	LR	21 09 43.3	
	comp=Z,50nm,18.5s,baz=138,slow=38						
GUMO	**Guam**	**24.10**	**177**	P	**P**	**21 05 45.8**	**-1.7**
	112nm,1.1s,baz=12,slow=13,SNR=2.7						
SEY	**Seymchan**	**25.75**	**9**	P	**P**	**21 06 04.2**	**+2.1**
	1.6nm,0.2s,baz=347,slow=6.2,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**27.03**	**125**	T	T	21 34 30.6	
	baz=322,slow=75,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**27.05**	**125**	T	T	21 34 32.6	
	baz=312,slow=75,SNR=4.2						
ULN	**Ulaanbaatar**	**28.46**	**303**	eP	**P**	**21 06 29.8**	**+3.0**
	2.7nm,0.8s						
SONA1	**Songino Array**	**28.89**	**302**	*e*P	**P**	**21 06 31.8**	**+1.1**
SONA0	**Songino Array**	**28.89**	**302**	*e*P	**P**	**21 06 32.0**	**+1.3**
	1.8nm,0.6s						
SONM	**Songino Array**	**28.89**	**302**	P	**P**	**21 06 32.0**	**+1.3**
	1.1nm,0.8s,baz=92,slow=8.7,SNR=7.3						
ENH	**Enshi**	**29.19**	**265**	*e*P	**P**	**21 06 35.7**	**+2.3**
	6.9nm,0.9s						
ZAA1	**Zalesovo Array**	**42.76**	**312**	*e*P	**P**	**21 08 30.2**	**+1.2**
ZAA0	**Zalesovo Array**	**42.76**	**312**	*e*P	**P**	**21 08 29.2**	**+0.2**
ZALV	**Zalesovo Beam**	**42.76**	**312**	P	**P**	**21 08 30.2**	**+1.2**
	1.6nm,0.4s,baz=90,slow=8.6,SNR=3.6						
LUWI	**Luwuk**	**43.18**	**211**	*e*P	**P**	**21 08 29.9**	**-2.8**
	42nm,1.0s						
MK32	**Makanchi Array**	**45.26**	**302**	*e*P	**P**	**21 08 49.7**	**+0.5**
MKAR	**Makanchi Array**	**45.26**	**302**	P	**P**	**21 08 49.7**	**+0.5**
	2.2nm,0.7s,baz=85,slow=9.8,SNR=20						
KURK	**Kurchatov**	**46.90**	**308**	*e*P	**P**	**21 09 02.9**	**+0.9**
KURBB	**Kurchatov Arra**	**46.98**	**308**	P	**P**	**21 09 02.9**	**+0.3**
	1.0nm,0.4s,baz=82,slow=8.1,SNR=25						
ILAR	**Eielson Array**	**47.91**	**33**	P	**P**	**21 09 10.2**	**+0.6**
	0.7nm,0.7s,baz=260,slow=6.3,SNR=9.8						
ILB	**Eielson Array**	**47.91**	**33**	*e*P	**P**	**21 09 10.2**	**+0.6**
INK	**Inuvik**	**52.91**	**28**	P	**P**	**21 09 47.6**	**+0.2**
	0.8nm,0.5s,baz=116,slow=29,SNR=2.9						
INK	**Inuvik**	**52.91**	**28**	*e*P	**P**	**21 09 47.6**	**+0.2**
	16nm,1.8s						
WB2	**Warramunga Arr**	**58.07**	**190**	*e*P	**P**	**21 10 24.6**	**-0.4**
	40nm,1.7s						
WR1	**Warramunga Arr**	**58.07**	**190**	*e*P	**P**	**21 10 24.5**	**-0.5**
	56nm,1.9s						
WRA	**Warramunga Arr**	**58.07**	**190**	P	**P**	**21 10 24.5**	**-0.5**
	1.9nm,0.8s,baz=8.6,slow=6.9,SNR=16						
AS31	**Alice Springs**	**61.79**	**190**	*e*P	**P**	**21 10 51.1**	**+0.5**
	3.9nm,1.5s						
ASAR	**Alice Springs**	**61.79**	**190**	P	**P**	**21 10 51.1**	**+0.5**
	0.3nm,0.4s,baz=7.0,slow=8.4,SNR=6.0						
ARA0	**ARCESS Array S**	**63.94**	**340**	*e*P	**P**	**21 11 05.9**	**+1.6**
ARCES	**ARCESS Array B**	**63.94**	**340**	P	**P**	**21 11 05.9**	**+1.6**
	1.8nm,0.9s,baz=42,slow=9.7,SNR=3.5						
GEYT	**Alibeck**	**65.05**	**300**	P	**P**	**21 11 13.1**	**+0.9**
	0.8nm,0.5s,baz=71,slow=4.9,SNR=2.7						
FIA0	**FINESS Array S**	**69.00**	**333**	*e*P	**P**	**21 11 37.4**	**+0.6**
FINES	**FINESS Array B**	**69.00**	**333**	P	**P**	**21 11 37.4**	**+0.6**
	0.8nm,0.8s,baz=32,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**69.31**	**182**	P	**P**	**21 11 39.4**	**+0.4**
	1.2nm,0.8s,baz=319,slow=3.4,SNR=3.0						
STKA	**Stephens Creek**	**69.31**	**182**	*e*P	**P**	**21 11 39.4**	**+0.4**
	4.1nm,1.8s						
TXAR	**Lajitas Array**	**88.24**	**54**	P	**P**	**21 13 24.1**	**+0.6**
	0.1nm,0.5s,baz=325,slow=4.4,SNR=3.0						

NIED **14** *21:05:00, 38.°30N×142.°10E, h20km, Mw3.3 Best double couple: M₀1.06000×10¹⁴ NP1:φs99.00000°, δ23.00000°, λ-24.00000°. NP2:φs211.00000°, δ81.00000°, λ-112.00000°.*

JMA 14 21:05:32.1±0.1, 38.°28N×142.°12E, h38km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.63**	**286**	P	Pn	21 05 44.6	0.0
JIO				eS	Sn	21 05 53.0	-0.4
OFUJ	**Ofunato**	**0.87**	**336**	P	Pn	21 05 47.9	0.0
OFUJ				S	Sn	21 05 59.3	-0.1
JMK	**Ichinoseki**	**0.97**	**314**	P	Pn	21 05 49.7	+0.5
JMK				eS	Sn	21 06 02.2	+0.4
JMM	**Marumori**	**1.13**	**249**	P	Pn	21 05 51.2	-0.1
JMM				S	Sn	21 06 04.6	-0.9
JOU	**Okura**	**1.15**	**275**	S	Sn	21 06 07.0	+0.9
JFK	**Kawauchi**	**1.34**	**228**	P	Pn	21 05 53.8	-0.5
JFK				S	Sn	21 06 09.1	-1.8
JOM	**Ohasama**	**1.35**	**332**	P	Pn	21 05 55.5	+1.0
JOM				S	Sn	21 06 12.4	+1.2
JYK	**Kaneyama**	**1.52**	**295**	P	Pn	21 05 57.7	+1.0
JFT	**Otama**	**1.60**	**242**	P	Pn	21 05 59.1	+1.2
JFT				S	Sn	21 06 18.2	+0.9
JRG	**Rokugo**	**1.61**	**314**	P	Pn	21 05 59.3	+1.3

ISCJB **14** *21:12:51.5±1.3, 33.°95S±0.°07×73.°22W±0.°05, h20km±11km, mb4.0/4, MS3.2/2, Error ellipse: s-maj=12.1km s-min=7.0km az=164.3*
GUC **14** *21:12:53.2±0.7, 33.°81S×73.°07W, h25km±4km, ML3.7*
IDC **14** *21:12:56.8±3.3, 34.°08S×73.°19W, h49km±30km, mb3.7/5, mb1 3.9/8, mb1mx3.7/25, mbtmp3.9/8, ML4.1/3, MS3.1/3, Ms1 3.1/3, ms1mx2.9/21, Error ellipse: s-maj=33.3km s-min=26.

WRA	**Warramunga Arr**	**120.37**	**210**	PKP	**PKPdf**	**21 31 42.9**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=158,slow=1.7,SNR=4.6						
BVAR	**Borovoye Array**	**147.85**	**42**	PKPbc	**PKPdf**	**21 32 34.9**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=229,slow=37,SNR=3.9						
KURBB	**Kurchatov Arra**	**153.45**	**43**	PKPbc	**PKPbc**	**21 32 49.6**	**-0.5**
	comp=Z,1.5nm,0.9s,baz=305,slow=2.6,SNR=9.8						
ZALV	**Zalesovo Beam**	**154.65**	**31**	PKPbc	**PKPbc**	**21 32 52.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=298,slow=7.5,SNR=3.9						

*CSEM **14** 21:14:40.9±0.1, 47.°17N×9.°52E, h15km, ML2.1/14, Error ellipse: s-maj=2.6km s-min=1.6km az=26.0*
*IASPEI **14** 21:14:40.7±0.8, 47.°17N±0.°02×9.°52E±0.°02, h13km±5km, Error ellipse: s-maj=3.6km s-min=2.4km az=32.6, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*BGR **14** 21:14:41.8±0.5, 47.°15N×9.°50E, h10km, ML1.7/7, Error ellipse: s-maj=4.4km s-min=4.4km az=1.0*
*ZUR **14** 21:14:41.0, 47.°18N×9.°54E, h9km, ML1.9/13*
*LDG **14** 21:14:41.2±0.1, 47.°15N×9.°54E, h10km, Md2.6/1, Ml2.2/6, Error ellipse: s-maj=2.0km s-min=1.4km az=39.0*
*ROM **14** 21:14:42.3±0.2, 47.°07N×9.°54E, h6km±1km, Md2.1/6, Ml1.0/4, Error ellipse: s-maj=3.7km s-min=1.4km az=19.0*
*STR **14** 21:14:43.6±0.6, 47.°22N×9.°38E, h5km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 14 21:14:40.6±0.8, **47.°17N**±0.°02×**9.°52E**±0.°02, **h13**km±4km, **n83**, σ0°**66**/125, **6C-19D, Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SBUB	**Buchserberg Ma**	**0.07**	**249**	⇑*i*	**Pg**	**21 14 43.4**	**+0.1**
SBUB				*i*	Sg	**21 14 45.1**	**-0.2**
SBUB	**Buchserberg Ma**	**0.07**	**249**	⇑*i*	**Pg**	**21 14 43.4**	**+0.1**
SBUB				*i*	Sg	**21 14 45.1**	**-0.2**
LIENZ	**Kamor/St.Gall**	**0.13**	**350**	⇓*i*	**Pg**	**21 14 44.1**	**0.0**
	443nm,0.2s						
LIENZ	**Kamor/St.Gall**	**0.13**	**350**	⇓*i*	**Pg**	**21 14 44.1**	**0.0**
	443nm,0.2s						
PLONS	**Plons/SG**	**0.15**	**219**	Pg	**Pg**	**21 14 44.7**	**+0.4**
PLONS				Sg	**Sg**	**21 14 47.3**	**+0.3**
PLONS	**Plons/SG**	**0.15**	**219**	⇓*i*	**Pg**	**21 14 44.7**	**+0.4**
	245nm,0.3s						
PLONS				*i* Sg	**Sg**	**21 14 47.3**	**+0.3**
	245nm,0.3s						
PLONS	**Plons/SG**	**0.15**	**219**	*e*Pg	**Pg**	**21 14 44.7**	**+0.4**
PLONS				*e*Sg	**Sg**	**21 14 47.4**	**+0.4**
PLONS	**Plons/SG**	**0.15**	**219**	⇓*i*	**Pg**	**21 14 44.7**	**+0.4**
	245nm,0.3s						
PLONS				*i* Sg	**Sg**	**21 14 47.3**	**+0.3**
	245nm,0.3s						
DAVA	**Damuels**	**0.27**	**64**	*i* Pg	**Pg**	**21 14 46.5**	**+0.2**
	1.4nm,0.1s						
DAVA				*e*Sg	**Sb**	**21 14 51.5**	**-0.5**
	16nm,0.2s						
DAVA	**Damuels**	**0.27**	**64**	⇑*i*	**Pg**	**21 14 46.5**	**+0.2**
	210nm,0.4s						
DAVA	**Damuels**	**0.27**	**64**	⇑*i*	**Pg**	**21 14 46.5**	**+0.2**
	210nm,0.4s						
DAVA				Sg	**Sb**	**21 14 51.5**	**-0.5**
	16nm,0.2s						
DAVOX	**Davos/Dischmat**	**0.46**	**148**	Pg	**Pg**	**21 14 50.2**	**+0.5**
DAVOX				Sg	**Sb**	**21 14 56.9**	**-0.5**
DAVOX	**Davos/Dischmat**	**0.46**	**148**	⇓*i*	**Pg**	**21 14 50.2**	**+0.5**
	51nm,0.2s						
DAVOX				*e*Sg	**Sb**	**21 14 56.9**	**-0.5**
	51nm,0.2s						
DAVOX	**Davos/Dischmat**	**0.46**	**148**	⇓*i*	**Pg**	**21 14 50.2**	**+0.5**
	51nm,0.2s						
DAVOX				*e*Sg	**Sb**	**21 14 56.9**	**-0.5**
	51nm,0.2s						
WILA	**Wila**	**0.49**	**301**	⇓*i*	**Pg**	**21 14 51.2**	**+1.0**
	388nm,0.3s						
WILA				*i* Sg	**Sb**	**21 14 58.4**	**+0.3**
	388nm,0.3s						
WILA	**Wila**	**0.49**	**301**	*e*Pg	**Pg**	**21 14 51.2**	**+1.0**
WILA				*e*Sg	**Sb**	**21 14 58.4**	**+0.3**
WILA	**Wila**	**0.49**	**301**	⇓*i*	**Pg**	**21 14 51.2**	**+1.0**
	388nm,0.3s						
WILA				*i* Sg	**Sb**	**21 14 58.4**	**+0.3**
	388nm,0.3s						
WEIN	**Weingarten**	**0.51**	**315**	⇓*i*	**Pb**	**21 14 51.7**	**+0.2**
	103nm,0.2s						
WEIN				*i* Sg	**Sb**	**21 14 59.2**	**+0.3**
	103nm,0.2s						
WEIN	**Weingarten**	**0.51**	**315**	⇓*i*	**Pb**	**21 14 51.7**	**+0.2**
	103nm,0.2s						
WEIN				*i* Sg	**Sb**	**21 14 59.2**	**+0.3**
	103nm,0.2s						
ZUR	**Degenried**	**0.67**	**288**	⇓*i*	**Pg**	**21 14 54.1**	**+0.4**
	308nm,0.2s						
ZUR				*i* Sg	Sg	21 14 54.6	-7.9
	308nm,0.2s						
ZUR	**Degenried**	**0.67**	**288**	⇓*i*	**Pg**	**21 14 54.1**	**+0.4**
	308nm,0.2s						
TUE	**Stuetta**	**0.71**	**190**	Pg	**Pg**	**21 14 54.7**	**+0.4**
TUE				Sg	**Sg**	**21 15 03.8**	**+0.1**
	21nm,1.5s						
TUE	**Stuetta**	**0.71**	**190**	Pg	**Pg**	**21 14 54.7**	**+0.4**
TUE				Sg	**Sg**	**21 15 03.8**	**+0.1**
	21nm,1.5s						
EWZT2	**Wettswil, ZR**	**0.72**	**284**	⇓*i*	Pg	Pn	21 15 04.1	+7.6
	228nm,0.4s						
EWZT2				*e*Sg	**Sn**	**21 15 08.2**	**+0.7**
	228nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**0.75**	**137**	Pg	**Pb**	**21 14 55.8**	**+0.2**
	4.0nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**0.75**	**137**	Pg	**Pb**	**21 14 55.8**	**+0.2**
	4.0nm,0.5s						
TRULL	**Truellikon**	**0.75**	**310**	⇓*i*	**Pg**	**21 14 55.5**	**+0.5**
	56nm,0.2s						
TRULL	**Truellikon**	**0.75**	**310**	⇓*i*	**Pg**	**21 14 55.5**	**+0.5**
	56nm,0.2s						
CURA	**Stauanlage Cun**	**0.77**	**227**	⇓*i*	**Pb**	**21 14 57.1**	**+1.1**
	35nm,0.2s						
CURA	**Stauanlage Cun**	**0.77**	**227**	⇓*i*	**Pb**	**21 14 57.1**	**+1.1**
	35nm,0.2s						
BNALP	**Bannalp**	**0.81**	**249**	Pg	**Pn**	**21 14 58.2**	**+0.4**
	29nm,0.3s						
BNALP	**Bannalp**	**0.81**	**249**	Pg	**Pn**	**21 14 58.2**	**+0.4**
	29nm,0.3s						
BERNI	**Berninapass**	**0.83**	**155**	Pg	**Pb**	**21 14 57.1**	**+0.1**
	15nm,1.6s						
BERNI	**Berninapass**	**0.83**	**155**	Pg	**Pb**	**21 14 57.1**	**+0.1**
	15nm,1.6s						
FETA	**Feichten**	**0.84**	**100**	Pg	**Pn**	**21 14 57.3**	**-0.9**
	0.1nm,0.1s						
FETA				*e*Sg	**Sn**	**21 15 09.2**	**-1.3**
	0.4nm,0.1s						
FETA	**Feichten**	**0.84**	**100**	Pg	**Pn**	**21 14 57.3**	**-0.9**
	0.1nm,0.1s						
FETA				Sg	**Sn**	**21 15 09.2**	**-1.3**
	0.4nm,0.1s						
RETA	**Reutte**	**0.90**	**69**	Sg	**Sn**	**21 15 11.7**	**-0.2**
	1.3nm,0.2s						
RETA	**Reutte**	**0.90**	**69**	Sg	**Sn**	**21 15 11.7**	**-0.2**
	1.3nm,0.2s						
SLE	**Schleitheim**	**0.92**	**311**	⇓*i*	**Pb**	**21 14 57.8**	**-0.6**
	116nm,0.3s						
SLE	**Schleitheim**	**0.92**	**311**	*e*Pg	**Pg**	**21 14 58.9**	**+0.6**
SLE				*e*Sg	**Sg**	**21 15 11.3**	**+0.9**
SLE	**Schleitheim**	**0.92**	**311**	Pg	**Pg**	**21 14 58.9**	**+0.6**
SLE				Sg	**Sg**	**21 15 11.3**	**+0.9**
GUT	**Gutenstein**	**0.94**	**343**	⇓*i*	Pg	Pn	21 15 05.7	+6.1
SULZ	**Cheisacher**	**1.02**	**291**	⇑*i*	Pg	Pg	21 15 09.5	+9.2
	135nm,0.5s						
SPAK	**Spaichingen-Ko**	**1.06**	**332**	Pg	**Pg**	**21 15 01.9**	**+0.9**
SPAK				Sg	**Sn**	**21 15 16.0**	**+0.1**
MOTA	**Moosalm**	**1.09**	**80**	*e*Pn	**Pg**	**21 15 02.0**	**+0.4**
	0.2nm,0.1s						
MOTA	**Moosalm**	**1.09**	**80**	Pg	**Pg**	**21 15 02.0**	**+0.4**
	0.2nm,0.1s						
FELD	**Feldberg im Sc**	**1.25**	**305**	Pg	**Pb**	**21 15 04.8**	**+0.7**
FELD				Sg	**Sg**	**21 15 21.5**	**+0.6**
BALST	**Balsthal**	**1.26**	**278**	⇑*i*	Pn	21 14 56.0	-7.9
	71nm,0.2s						
BALST	**Balsthal**	**1.26**	**278**	*e*Sg	**Sn**	**21 15 21.2**	**+0.5**
BALST	**Balsthal**	**1.26**	**278**	Sg	**Sn**	**21 15 21.2**	**+0.5**
ABSI	**Aberstueckl**	**1.31**	**109**	Pg	**Pg**	**21 15 06.3**	**+0.6**
ABSI	**Aberstueckl**	**1.31**	**109**	Pg	**Pg**	**21 15 06.3**	**+0.6**
BBS	**Basel-Blauen**	**1.40**	**283**	Pn	**Pn**	**21 15 06.7**	**+0.8**
BBS	**Basel-Blauen**	**1.40**	**283**	Pg	**Pg**	**21 15 08.4**	**+0.9**
BBS				Sg	**Sg**	**21 15 26.7**	**+1.0**
WATA	**Walderalm**	**1.41**	**82**	*e*Pg	**Pg**	**21 15 08.1**	**+0.5**
	1.0nm,0.2s						
WATA	**Walderalm**	**1.41**	**82**	Pg	**Pg**	**21 15 08.1**	**+0.5**
	1.0nm,0.2s						
BFO	**Black Forest**	**1.41**	**326**	*e*Pn	**Pg**	**21 15 08.0**	**+0.3**
BFO				*e*Sg	**Sg**	**21 15 26.5**	**+0.4**
BFO	**Black Forest**	**1.41**	**326**	Pn	**Pg**	**21 15 08.0**	**+0.3**
BFO				Sg	**Sg**	**21 15 26.5**	**+0.4**
WTTA	**Wattenberg**	**1.44**	**85**	Sg	**Sg**	**21 15 29.1**	**+2.0**
	1.0nm,0.1s						
WTTA	**Wattenberg**	**1.44**	**85**	Sg	**Sg**	**21 15 29.1**	**+2.0**
	1.0nm,0.1s						
FUR	**Furstenfeldbru**	**1.55**	**49**	*e*Sg	**Sg**	**21 15 31.3**	**+0.9**
MOF	**Molkenrain**	**1.76**	**294**	Pg	**Pg**	**21 15 15.1**	**+0.8**
MOF				Sg	**Sg**	**21 15 36.9**	**-0.2**
MOF	**Molkenrain**	**1.76**	**294**	Pg	**Pg**	**21 15 15.1**	**+0.8**
MOF				Sg	**Sg**	**21 15 36.9**	**-0.2**
ECH	**Echery**	**1.91**	**304**	*e*Pn	**Pn**	**21 15 13.5**	**+0.6**
ECH				*e*Sn	**Sn**	**21 15 35.6**	**-1.2**
ECH				*e*Sg	**Sg**	**21 15 41.5**	**-0.5**
ECH	**Echery**	**1.91**	**304**	Pn	**Pn**	**21 15 13.5**	**+0.6**
ECH				Sn	**Sn**	**21 15 35.6**	**-1.2**
ECH				Sg	**Sg**	**21 15 41.5**	**-0.5**
WLS	**Welschbruch**	**1.92**	**311**	Pg	**Pg**	**21 15 17.6**	**+0.2**
WLS				Sg	**Sg**	**21 15 42.2**	**-0.1**
WLS	**Welschbruch**	**1.92**	**311**	Pg	**Pg**	**21 15 17.6**	**+0.2**
WLS				Sg	**Sg**	**21 15 42.2**	**-0.1**
HINF	**Hinteralfeld**	**1.92**	**291**	*e*Pn	**Pn**	**21 15 12.6**	**-0.5**
HINF				*e*Sn	**Sn**	**21 15 35.5**	**-1.6**
HINF				*e*Sg	**Sg**	**21 15 42.0**	**-0.4**
	3.2nm,0.2s						
HINF	**Hinteralfeld**	**1.92**	**291**	*e*Pn	**Pn**	**21 15 12.6**	**-0.5**
HINF				*e*Sn	**Sn**	**21 15 35.5**	**-1.6**
HINF				*e*Sg	**Sg**	**21 15 42.0**	**-0.4**
	1.6nm,0.2s						
CDF	**Champ du Feu**	**1.96**	**310**	*e*Pn	**Pn**	**21 15 13.2**	**-0.4**
CDF	**Champ du Feu**	**1.96**	**310**	*e*Pg	**Pg**	**21 15 18.1**	**-0.1**
CDF				*e*Sg	**Sg**	**21 15 43.5**	**-0.1**
	4.6nm,0.3s						
CDF	**Champ du Feu**	**1.96**	**310**	*e*Pn	**Pn**	**21 15 13.2**	**-0.4**
CDF	**Champ du Feu**	**1.96**	**310**	*e*Pg	**Pg**	**21 15 18.1**	**-0.1**
CDF				*e*Sg	**Sg**	**21 15 43.5**	**-0.1**
	2.3nm,0.3s						
HAU	**Haudompre**	**2.31**	**292**	*e*Pn	**Pn**	**21 15 17.8**	**-0.5**
HAU	**Haudompre**	**2.31**	**292**	*e*Pg	**Pg**	**21 15 24.2**	**-0.6**
HAU				*e*Sg	**Sg**	**21 15 54.3**	**-0.4**
	6.2nm,0.4s						
HAU	**Haudompre**	**2.31**	**292**	*e*Pn	**Pn**	**21 15 17.8**	**-0.5**
HAU	**Haudompre**	**2.31**	**292**	*e*Pg	**Pg**	**21 15 24.2**	**-0.6**
HAU				*e*Sg	**Sg**	**21 15 54.3**	**-0.4**
	3.1nm,0.4s						
CABF	**La Chapelle**	**2.42**	**258**	*e*Sg	**Sg**	**21 15 58.1**	**-0.3**
	1.5nm,0.2s						
CABF	**La Chapelle**	**2.42**	**258**	*e*Sg	**Sg**	**21 15 58.1**	**-0.3**
	0.8nm,0.2s						
PAGF	**Fort de Pagny**	**2.91**	**300**	*e*Pg	**Pg**	**21 15 36.0**	**-0.3**
PAGF				*e*Sg	**Sg**	**21 16 13.8**	**-0.2**
	0.6nm,0.4s						
PAGF	**Fort de Pagny**	**2.91**	**300**	*e*Pg	**Pg**	**21 15 36.0**	**-0.3**
PAGF				*e*Sg	**Sg**	**21 16 13.8**	**-0.2**
	0.3nm,0.4s						
LOR	**Lormes**	**3.86**	**274**	*e*Sg	**Sg**	**21 16 43.3**	**-1.2**
	1.5nm,0.3s						
LOR	**Lormes**	**3.86**	**274**	*e*Sg	**Sg**	**21 16 43.3**	**-1.2**
	0.8nm,0.3s						

*JMA **14** 21:17:03.9±0.1, 23.°99N×121.°51E, h16km±2km, M3.8*
*ISCJB **14** 21:17:05.6±0.2, 24.°03N±0.°01×121.°60E±0.°02, h21km±2km, mb3.7/8, MS2.7/2, Error ellipse: s-maj=2.9km s-min=1.7km az=136.4*
*IASPEI **14** 21:17:05.7±0.9, 24.°04N±0.°02×121.°57E±0.°03, h18km±3km, mb3.8/8, Error ellipse: s-maj=4.0km s-min=2.3km az=114.2, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*TAP **14** 21:17:05.3, 24.°04N×121.°52E, h21km, ML4.2, B*
*BJI **14** 21:17:05.0, 24.°08N×121.°49E, h15km, mb3.9/3, ML3.6/5*
*IDC **14** 21:17:18.3±6.4, 24.°04N×121.°71E, h152km±64km, mb3.4/8, mb1 3.5/9, mb1mx3.3/30, mbtmp3.8/9, MS2.6/4, Ms1 2.7/4, ms1mx2.5/19, Error ellipse: s-maj=27.1km s-min=14.3km az=73.0*

ISC 14 21:17:06.0±0.7, **24.°03N**±0.°02×**121.°58E**±0.°02, **h22**km±4km, **n104**, σ1°**11**/143, **mb3.8**/8, **16C-16D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**17**	⇓*i*P	**Pb**	**21 17 09.4**	**-0.6**
	baz=62						
HWA	**Hwalien**	**0.06**	**156**	⇑*i*P	**Pb**	**21 17 09.8**	**-0.2**
	baz=125						
ESF	**Shoufeng Towns**	**0.17**	**203**	*e*P	**Pb**	**21 17 10.7**	**-0.5**
	baz=183						
ESF				*e*S	**Sb**	**21 17 14.2**	**-0.4**
	baz=183						
ESL	**Shilin**	**0.25**	**212**	⇓*i*P	**Pb**	**21 17 10.8**	**-1.3**
	baz=191						
WHF	**Hehuan Shan**	**0.31**	**292**	⇓*i*P	**Pb**	**21 17 11.7**	**-1.6**
	baz=290						
EHP	**Heping Village**	**0.32**	**28**	*e*P	**Pb**	**21 17 13.3**	**+0.2**
	baz=38						
EHP				*e*S	**Sb**	**21 17 18.6**	**+0.7**
	baz=38						
TEGC	**Jichi Village**	**0.32**	**186**	⇓*e*P	**Pb**	**21 17 13.7**	**+0.6**
	baz=175						
ENA	**Nanau**	**0.42**	**20**	⇓*i*P	**Pb**	**21 17 14.2**	**-0.7**
	baz=29						
TWT	**Tachien**	**0.43**	**301**	⇑*i*P	**Pb**	**21 17 14.1**	**-0.9**
	baz=302						
TWT				S	**Sb**	**21 17 19.4**	**-1.8**
	baz=302						
NNS	**Nan Shan**	**0.45**	**335**	⇑*i*P	**Pb**	**21 17 14.3**	**-1.0**
	baz=342						
NNS				S	**Sb**	**21 17 19.9**	**-1.8**
	baz=342						
EHY	**Hungye**	**0.57**	**204**	⇑*e*P	**Pb**	**21 17 15.2**	**-2.2**
	baz=187						
ENTT	**Nioudou**	**0.61**	**359**	⇓*i*P	**Pb**	**21 17 17.2**	**-0.8**
	baz=5.0						
TWC	**Suao**	**0.63**	**23**	P	**Pb**	**21 17 17.7**	**-0.6**
	baz=29						
TWC				S	**Sb**	**21 17 26.4**	**-0.3**
	baz=29						
SMLT	**Sun Moon Lake**	**0.64**	**257**	⇓P	**Pb**	**21 17 17.2**	**-1.3**
	baz=249						
SMLT				S	**Sb**	**21 17 24.7**	**-2.4**
	baz=249						
TYC	**Yuchr**	**0.67**	**259**	⇓*e*P	**Pb**	**21 17 17.6**	**-1.4**
	baz=252						
TYC				*e*S	**Sb**	**21 17 25.4**	**-2.5**
	baz=252						
NSK	**Sanguang**	**0.67**	**343**	⇓P	**Pb**	**21 17 18.3**	**-0.9**
	baz=347						
NSK				S	**Sb**	**21 17 27.0**	**-1.2**
	baz=347						
TWE	**Neicheng**	**0.69**	**7**	⇓*i*P	**Pb**	**21 17 18.6**	**-0.9**
	baz=19						
TWE				*e*S	**Sb**	**21 17 27.6**	**-0.9**
	baz=19						
TWF1	**Yuli**	**0.72**	**201**	*e*P	**Pb**	**21 17 17.3**	**-2.6**
	baz=195						
ILA	**Ilan**	**0.75**	**12**	*e*P	**Pb**	**21 17 18.7**	**-1.7**
	baz=17						
YUS	**Yu-Shan**	**0.79**	**227**	⇑P	**Pb**	**21 17 20.3**	**-1.0**
	baz=213						
YUS				S	**Sb**	**21 17 30.8**	**-0.9**
	baz=213						
NSTT	**Nanjuang**	**0.80**	**319**	⇑*i*P	**Pb**	**21 17 20.5**	**-0.7**
	baz=321						
NSTT				*e*S	**Sb**	**21 17 30.6**	**-0.9**
	baz=321						
TWQ1	**Liyutan**	**0.80**	**293**	⇑*i*P	**Pb**	**21 17 20.9**	**-0.4**
	baz=295						
WNT	**Mingjian**	**0.83**	**260**	⇑*i*P	**Pb**	**21 17 21.6**	**-0.2**
	baz=258						
WNT				S	**Sb**	**21 17 33.0**	**+0.4**
	baz=258						
TCU	**Taichung**	**0.83**	**278**	⇑*i*P	**Pb**	**21 17 21.7**	**-0.1**
	baz=277						
TCU				*e*S	**Sb**	**21 17 33.0**	**+0.4**
	baz=277						
NSY	**Sanyi**	**0.84**	**297**	⇑*i*P	**Pb**	**21 17 21.9**	**-0.1**
	baz=306						
NSY				S	**Sb**	**21 17 33.1**	**+0.3**
	baz=306						
EGS		**0.87**	**22**	*e*P	**Pb**	**21 17 21.9**	**-0.6**
	baz=26						
ALS	**Alishan**	**0.88**	**234**	⇓*i*P	**Pb**	**21 17 22.0**	**-0.7**
	baz=223						
ALS				*e*S	**Sb**	**21 17 34.1**	**-0.1**
	baz=223						
CHN5	**Tsauling**	**0.93**	**243**	⇓P	**Pb**	**21 17 23.1**	**-0.4**
	baz=240						
CHN5				*e*S	**Sn**	**21 17 36.1**	**-0.4**
	baz=240						
TWA	**Mucha**	**0.95**	**0**	⇑P	**Pb**	**21 17 23.4**	**-0.3**
	baz=357						
TWA				*e*S	**Sb**	**21 17 35.6**	**-0.3**
	baz=357						
CHKT	**Chengkung**	**0.95**	**192**	*e*P	**Pb**	**21 17 21.7**	**-2.0**
	baz=187						
HSN	**Hsinchu**	**0.95**	**324**	*e*P	**Pn**	**21 17 24.2**	**+0.2**
	baz=336						
HSN				*e*S	**Sn**	**21 17 37.9**	**+1.1**
	baz=336						
ELDTW	**Lidau**	**0.98**	**212**	*e*P	**Pn**	**21 17 23.3**	**-1.2**
	baz=198						
WGK	**Gukeng**	**0.99**	**250**	⇑*e*P	**Pn**	**21 17 24.2**	**-0.3**
	baz=247						
WGK				*e*S	**Sn**	**21 17 37.9**	**0.0**
	baz=247						
NCU	**National Centr**	**1.00**	**339**	*e*P	**Pn**	**21 17 24.7**	**0.0**
	baz=342						
NCU				S	**Sn**	**21 17 39.4**	**+1.2**
	baz=342						
TAP1	**Taipei**	**1.01**	**357**	⇑*e*P	**Pn**	**21 17 23.6**	**-1.2**
	baz=360						
TAP1				S	**Sb**	**21 17 37.6**	**0.0**
	baz=360						
TAP	**Taipei**	**1.01**	**356**	*e*P	**Pn**	**21 17 24.2**	**-0.5**
	baz=360						
TAP				*e*S	**Sb**	**21 17 37.9**	**+0.3**
	baz=360						
TWB1	**Santiao Chiao**	**1.04**	**21**	*e*P	**Pn**	**21 17 24.4**	**-0.9**
	baz=16						
NWF	**Wu-fen Shan**	**1.05**	**10**	⇓*e*P	**Pn**	**21 17 24.8**	**-0.7**
	baz=13						
NWF				*e*S	**Sb**	**21 17 39.1**	**+0.1**
	baz=13						
TWS1	**Kuangyinshan**	**1.08**	**352**	*e*P	**Pn**	**21 17 25.6**	**-0.1**
	baz=7.0						
TWS1				*e*S	**Sn**	**21 17 41.4**	**+1.4**
	baz=7.0						
CHN2	**Minshiung**	**1.13**	**244**	*e*P	**Pn**	**21 17 26.4**	**-0.1**
	baz=241						
CHN2				*e*S	**Sb**	**21 17 42.3**	**+1.3**
	baz=241						
CHN4	**Tsaushan**	**1.13**	**233**	⇑*e*P	**Pn**	**21 17 26.4**	**-0.1**
	baz=230						
CHN4				*e*S	**Sb**	**21 17 42.6**	**+1.6**
	baz=230						
STYT	**Tauyuan**	**1.15**	**221**	⇓*e*P	**Pn**	**21 17 26.1**	**-0.6**
	baz=210						
STYT				*e*S	**Sn**	**21 17 41.6**	**-0.2**
	baz=210						
WTP	**Ta-pu**	**1.18**	**229**	⇓P	**Pn**	**21 17 27.4**	**+0.2**
	baz=216						
WTP				*e*S	**Sb**	**21 17 43.1**	**+0.5**
	baz=216						
CHY	**Chiayi**	**1.18**	**244**	*e*P	**Pn**	**21 17 26.9**	**-0.3**
	baz=251						
CHY				*e*S	**Sb**	**21 17 43.2**	**+0.5**
	baz=251						
WTCT	**Ta-ch'eng**	**1.20**	**262**	*e*P	**Pn**	**21 17 27.7**	**+0.3**
	baz=260						
WTCT				*e*S	**Sb**	**21 17 43.2**	**+0.1**
	baz=260						
TWY	**Chenhua**	**1.24**	**1**	*e*P	**Pn**	**21 17 27.3**	**-0.7**
	baz=4.0						
TWK	**Hsinying**	**1.26**	**233**	*e*P	**Pn**	**21 17 28.7**	**+0.5**
	baz=229						
CHN1	**Nanshi**	**1.28**	**229**	⇓*e*P	**Pn**	**21 17 29.0**	**+0.5**
	baz=225						
TWG	**Pinlang**	**1.29**	**201**	*e*P	**Pn**	**21 17 28.3**	**-0.4**
	baz=182						
WSF	**Szhu**	**1.30**	**253**	*e*P	**Pn**	**21 17 28.9**	**0.0**
	baz=250						
WSF				*e*S	**Sb**	**21 17 46.0**	**0.0**
	baz=250						
SGST	**Jiashian**	**1.31**	**224**	*e*P	**Pn**	**21 17 29.5**	**+0.5**
	baz=210						
SGST				*e*S	**Sb**	**21 17 48.0**	**+1.6**
	baz=210						
JYNG	**Yonagunijimaku**	**1.31**	**71**	P	**Pn**	**21 17 28.8**	**-0.2**
JYNG				*e*S	**Sb**	**21 17 46.4**	**-0.1**
TTN	**Taitung**	**1.33**	**197**	*e*P	**Pn**	**21 17 29.8**	**+0.6**
	baz=178						
YOJ	**Yonaguni jima**	**1.38**	**72**	P	**Pn**	**21 17 29.6**	**-0.3**
YOJ				S	**Sb**	**21 17 48.0**	**-0.2**
YOJ	**Yonaguni jima**	**1.38**	**72**	⇑*i*P	**Pn**	**21 17 29.5**	**-0.3**
	baz=86						
YOJ				*e*S	**Sb**	**21 17 48.0**	**-0.2**
	baz=86						
CHN8	**Yiju**	**1.43**	**242**	*e*P	**Pn**	**21 17 30.8**	**+0.2**
	baz=224						
CHN8				*e*S	**Sb**	**21 17 50.9**	**+1.2**
	baz=224						
CHN3	**Shinhua**	**1.46**	**230**	*e*P	**Pn**	**21 17 32.4**	**-0.1**
	baz=225						
SCLT	**Jiali**	**1.53**	**236**	*e*P	**Pb**	**21 17 33.6**	**0.0**
	baz=233						
SCLT				*e*S	**Sb**	**21 17 53.5**	**+0.8**
	baz=233						
ECL	**Taimali**	**1.54**	**202**	*e*P	**Pn**	**21 17 31.8**	**-0.3**
	baz=186						
SSD	**Sandimen**	**1.55**	**214**	⇑*e*P	**Pn**	**21 17 32.7**	**+0.5**
	baz=211						
TAI1	**Yung-k'ang**	**1.58

JTJ	**Tarama**	**2.91**	**77**	P	**Pn**	21 17 51.1	**+0.1**
JTJ				*eS*	**Sn**	21 18 27.3	**+2.0**
JIRB	**Irabujima**	**3.37**	**76**	P	**Pn**	21 17 57.7	**+0.4**
JIRB				*eS*	**Sn**	21 18 36.9	**+0.3**
JIKM	**Ikemajima**	**3.46**	**74**	P	**Pn**	21 17 59.2	**+0.7**
JIKM				*eS*	**Sn**	21 18 39.9	**+1.1**
JMJ	**Miyako jima 2**	**3.48**	**76**	P	**Pn**	21 17 59.3	**+0.6**
JOGS	**Gusukube**	**3.56**	**77**	P	**Pn**	21 18 00.7	**+0.7**
JOGS				*eS*	**Sn**	21 18 43.1	**+1.7**
JKE	**Kume jima 2**	**5.24**	**63**	P	**Pn**	21 18 23.2	**+0.2**
KSRS	**Korea Array**	**14.44**	**21**	P	**P**	21 20 35.5	**-0.2**
	comp=Z,0.4nm,0.3s,baz=202,slow=12,SNR=10						
KSRS				LR	LR	21 26 08.9	
	comp=Z,15nm,18.3s,baz=340,slow=37						
MJAR	**Matsushiro Arr**	**18.98**	**45**	LR	LR	21 30 23.2	
	comp=Z,14nm,18.6s,baz=210,slow=42						
CMAR	**Chiang Mai Arr**	**21.80**	**260**	P	**P**	21 22 00.8	**+4.1**
	comp=Z,0.9nm,0.4s,baz=76,slow=7.5,SNR=3.5						
CMAR				LR	LR	21 31 17.0	
	comp=Z,18nm,20.5s,baz=260,slow=38						
GTA	**Gaotai**	**23.95**	**315**	*eP*	**P**	21 22 23.1	**+4.3**
GTA				pP	sP	21 22 27.9	-0.3
GTA				sP	pP	21 22 30.1	+4.7
GTA				PMZ			
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**26.65**	**337**	P	**P**	21 22 42.5	**-0.7**
	comp=Z,1.0nm,0.7s,baz=160,slow=9.2,SNR=7.8						
WMQ	**Urumqi**	**34.02**	**314**	P	**P**	21 23 51.0	**+2.6**
MKAR	**Makanchi Array**	**38.70**	**316**	P	**P**	21 24 27.7	**-0.5**
	comp=Z,1.4nm,0.7s,baz=102,slow=9.6,SNR=11						
MKAR				LR	LR	21 43 22.3	
	comp=Z,16nm,18.2s,baz=118,slow=40						
ZALV	**Zalesovo Beam**	**40.57**	**327**	P	**P**	21 24 42.7	**-0.9**
	comp=Z,1.3nm,0.6s,baz=117,slow=7.2,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**42.13**	**87**	T	T	22 10 06.4	
	baz=283,slow=75,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**42.14**	**87**	T	T	22 10 22.1	
	baz=283,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**42.15**	**87**	T	T	22 10 04.6	
	baz=283,slow=75,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**42.26**	**89**	T	T	22 10 11.9	
	baz=284,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**42.27**	**89**	T	T	22 10 15.2	
	baz=284,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**42.28**	**89**	T	T	22 10 15.1	
	baz=284,slow=75,SNR=7.0						
WRA	**Warramunga Arr**	**45.44**	**163**	P	**P**	21 25 20.8	**-2.6**
	comp=Z,0.6nm,0.5s,baz=345,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**48.90**	**165**	P	**P**	21 25 48.7	**-1.7**
	comp=Z,0.4nm,0.3s,baz=340,slow=6.9,SNR=11						
STKA	**Stephens Creek**	**50.80**	**160**	P	**P**	21 27 01.1	**-1.4**
	comp=Z,1.4nm,0.8s,baz=326,slow=12,SNR=3.1						
ILAR	**Eielson Array**	**69.18**	**27**	P	**P**	21 28 08.5	**-2.0**
	comp=Z,0.3nm,0.5s,baz=280,slow=5.6,SNR=5.5						

MEX 14 21:17:29.8±0.4, 15°32N×93°48W, h75km±9km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.46**	**33**	*eP*	Pn	21 17 41.2	-1.5
PCIG				*i* S	Sn	21 17 50.8	-1.4
CCIG	**Comitan**	**1.61**	**53**	*eP*	Pn	21 17 55.3	-1.3
CCIG				*eS*	Sn	21 18 15.1	-1.7

PGC 14 21:33:18.6±0.0, 57°86N×137°99W, h1km, ML2.9/4, 181km southeast of Yakutat, Ak Off Coast Of Southeastern Alaska, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**1.81**	**27**	Pn	Pn	21 33 50.6	-0.3
PLBC				Sg	Sn	21 34 14.9	+0.4
YUK7	**Dusty Glacier**	**2.68**	**358**	Pn	Pn	21 34 02.1	-0.9
HYT	**Haines Junctio**	**2.99**	**5**	Pn	Pn	21 34 06.6	-0.5
HYT				Sg	Sb	21 34 49.9	+0.2
CTGM	**Chitina Glacie**	**3.55**	**333**	Pn	Pn	21 34 13.9	-1.0
BALM	**Baldy**	**3.88**	**327**	Pn	Pn	21 34 18.1	-1.4
YUK3	**Moose Creek**	**4.12**	**343**	Pn	Pn	21 34 22.0	-0.8
YUK2	**White River**	**4.20**	**341**	Pn	Pn	21 34 23.0	-0.8
VIB	**Van Inlet**	**5.56**	**144**	Pn	Pn	21 34 41.0	-1.3
DIB	**Dawson Inlet,**	**5.62**	**144**	Pn	Pn	21 34 42.2	-1.0
MOBC	**Moresby Island**	**5.83**	**142**	Pn	Pn	21 34 45.0	-1.2
BNB	**Barry Inlet**	**6.38**	**143**	Pn	Pn	21 34 52.2	-1.6
DOT	**Dot Lake**	**6.52**	**335**	Pn	Pn	21 34 54.6	-1.0

PGC 14 21:37:45.4±0.1, 57°87N×137°98W, h5km, ML2.6/2, 180km southeast of Yakutat, Ak Off Coast Of Southeastern Alaska, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**1.80**	**27**	Pn	Pn	21 38 17.2	+0.1
PLBC				Sg	Sn	21 38 40.7	+0.5
YUK7	**Dusty Glacier**	**2.67**	**358**	Pn	Pn	21 38 28.6	-0.6
HYT	**Haines Junctio**	**2.97**	**4**	Pn	Pn	21 38 33.1	-0.2
CTGM	**Chitina Glacie**	**3.54**	**332**	Pn	Pn	21 38 40.0	-1.2
BALM	**Baldy**	**3.88**	**327**	Pn	Pn	21 38 45.0	-0.7

WEL 14 21:41:41.9±0.2, 43°63S×172°82E, h6km, ML3.8/13, 1C-2D, Error ellipse: s-maj=1.6km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.14**	**236**	⇓PG	Pg	21 41 45.0	+0.2
MQZ				SG	Sg	21 41 47.1	+0.3
MQZ				SG		21 41 47.1	
MQZ				AML	AML	21 41 47.7	
OXZ	**Oxford**	**0.64**	**298**	⇓P*	Pg	21 41 54.3	+0.1
OXZ				SG	Sg	21 42 03.5	+1.0
LTZ	**Lake Taylor**	**0.93**	**335**	P*	Pg	21 41 59.8	-0.1
LTZ				AML	AML	21 42 13.5	
LTZ				AML	AML	21 42 16.0	
RPZ	**Rata Peaks**	**1.28**	**265**	P*	Pn	21 42 05.1	-1.3
RPZ				AML	AML	21 42 25.4	
RPZ				AML	AML	21 42 28.3	
KHZ	**Kahutara**	**1.32**	**24**	P*	Pn	21 42 05.2	-1.7
INZ	**Inchbonnie**	**1.35**	**311**	PN	Pn	21 42 06.8	-0.6
WVZ	**Waitaha Valley**	**1.61**	**289**	PN	Pn	21 42 10.3	-0.7
WVZ				AML	AML	21 42 37.6	
WVZ				AML	AML	21 42 45.1	
THZ	**Tophouse**	**1.86**	**2**	⇑PN	Pn	21 42 13.0	-1.5
THZ				AML	AML	21 42 43.7	
THZ				AML	AML	21 42 51.0	
DSZ	**Denniston Nort**	**2.02**	**338**	PN	Pn	21 42 17.2	+0.5
DSZ				AML	AML	21 42 50.6	
DSZ				AML	AML	21 42 54.2	
DSZ				AML	AML	21 42 54.4	
DSZ				AML	AML	21 42 56.0	
LBZ	**Lake Benmore**	**2.04**	**247**	PN	Pn	21 42 15.8	-1.1
LBZ				AML	AML	21 42 52.0	
LBZ				AML	AML	21 42 59.5	
BSWZ	**Blackbirch Sta**	**2.06**	**23**	PN	Pn	21 42 15.7	-1.5
ODZ	**Otahua Downs**	**2.11**	**227**	PN	Pn	21 42 16.2	-1.5
ODZ				AML	AML	21 42 56.5	
ODZ				AML	AML	21 43 00.4	
ODZ				AML	AML	21 43 00.4	
ODZ				AML	AML	21 43 06.4	
FOZ	**Fox Glacier**	**2.18**	**271**	PN	Pn	21 42 18.8	0.0
QRZ	**Quartz Range**	**2.81**	**356**	AML	AML	21 43 16.5	
JCZ	**Jackson Bay**	**2.95**	**260**	AML	AML	21 43 27.3	
JCZ				AML	AML	21 43 30.9	
EAZ	**Earnscleugh**	**2.98**	**236**	AML	AML	21 43 26.2	
EAZ				AML	AML	21 43 26.3	
WKZ	**Wanaka**	**2.98**	**245**	AML	AML	21 43 22.2	
WKZ				AML	AML	21 43 28.2	
TUZ	**Tuapeka**	**3.25**	**223**	AML	AML	21 43 33.5	
TUZ				AML	AML	21 43 38.3	

PGC 14 21:42:25.8±0.2, 57°87N×137°96W, h1km, ML2.0/2, 181km Wnw of Sitka, Ak Off Coast Of Southeastern Alaska, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**1.80**	**27**	Pn	Pn	21 42 57.8	-0.2
PLBC				Sg	Sn	21 43 21.2	-0.1
YUK7	**Dusty Glacier**	**2.67**	**358**	Pn	Pn	21 43 10.4	+0.2
HYT	**Haines Junctio**	**2.98**	**4**	Pn	Pn	21 43 13.9	-0.3

CSEM 14 21:48:42.8±0.6, 34°34N×16°13W, h30km, mb3.7, Error ellipse: s-maj=31.0km s-min=5.4km az=126.0
MDD 14 21:48:43.8±1.2, 34°34N×16°08W, h30km, mb3.7/5, Error ellipse: s-maj=26.4km s-min=5.5km az=130.0, PRXIMO
INMG 14 21:48:46.7±2.4, 34°38N×16°20W, h31km, ML2.7, Error ellipse: s-maj=17.8km s-min=3.9km az=120.0

ISC 14 21:48:40.5±0.9, 33°73N±0°06×15°29W±0°07, h10km, n46, σ2s79/78, 2C, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**1.10**	**233**	*eP*	**Pn**	21 49 05.7	**+3.7**
PMPS				*eS*	**Sn**	21 49 20.5	**+3.3**
PMPS				A	A	21 49 22.4	
	99nm,0.1s						
PMPS	**Porto Santo**	**1.10**	**233**	P	**Pn**	21 49 05.7	**+3.7**
PMPS				S	**Sn**	21 49 20.5	**+3.3**
	50nm,0.1s						
PMPS	**Porto Santo**	**1.10**	**233**	P	**Pn**	21 49 05.7	**+3.7**
PMPS				*eS*	**Sn**	21 49 20.5	**+3.3**
	99nm,0.1s						
PMAR	**Madeira**	**1.69**	**234⇑**	*eP*	**Pn**	21 49 11.3	**+1.0**
PMAR				*eS*	**Sn**	21 49 31.1	**-1.0**
PMAR				A	A	21 49 36.7	
	66nm,0.3s						
PMAR	**Madeira**	**1.69**	**234**	P	**Pn**	21 49 11.3	**+1.0**
PMAR				S	**Sn**	21 49 31.1	**-1.0**
	33nm,0.3s						
PMAR	**Madeira**	**1.69**	**234**	P	**Pn**	21 49 11.3	**+1.0**
PMAR				*eS*	**Sn**	21 49 31.1	**-1.0**
	66nm,0.3s						
FUL	**Funchal**	**1.73**	**232**	*eP*	**Pn**	21 49 12.1	**+1.6**
FUL				*eS*	**Sn**	21 49 31.9	**-0.7**
FUL				A	A	21 49 36.4	
	55nm,0.2s						
FUL	**Funchal**	**1.73**	**232**	P	**Pn**	21 49 12.1	**+1.6**
FUL				S	**Sn**	21 49 31.9	**-0.7**
	28nm,0.2s						
PMOZ	**Porto Moniz, M**	**1.84**	**241⇑**	*eP*	**Pn**	21 49 11.4	**-0.8**
PMOZ	**Porto Moniz, M**	**1.84**	**241**	P	**Pn**	21 49 11.4	**-0.8**
PMOZ				*eS*	**Sn**	21 49 32.1	**-3.5**
PMOZ				S	**Sn**	21 49 32.4	**-3.2**
PMOZ				A	A	21 49 34.9	
	74nm,0.5s						
PMOZ	**Porto Moniz, M**	**1.84**	**241**	P	**Pn**	21 49 11.4	**-0.8**
PMOZ				S	**Sn**	21 49 32.1	**-3.5**
PMOZ	**Porto Moniz, M**	**1.84**	**241**	P	**Pn**	21 49 11.4	**-0.8**
PMOZ				S	**Sn**	21 49 32.4	**-3.2**
	74nm,0.5s						
CFUE	**Fuerteventura**	**5.20**	**167**	P	**Pb**	21 50 10.0	**-1.5**
	1.6nm,0.2s,SNR=7.9						
CFUE				S	**Sb**	21 51 11.7	**-2.3**
	3.6nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**5.20**	**167**	P	**Pb**	21 50 10.0	**-1.5**
	1.6nm,0.2s,SNR=7.9						
CFUE				S	**Sb**	21 51 11.7	**-2.3**
	3.6nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**6.56**	**53**	*eS*	**Sn**	21 51 31.3	**-0.5**
PTEO	**Sao Teotonio**	**6.56**	**53**	S	**Sn**	21 51 31.3	**-0.5**
PTEO	**Sao Teotonio**	**6.56**	**53**	S	**Sn**	21 51 31.3	**-0.5**
PNCL	**Nicolau / Gran**	**7.01**	**50**	*eP*	**Pn**	21 50 24.1	**+0.9**
PNCL				*eS*	**Sn**	21 51 37.5	**-5.4**
PNCL				A	A	21 51 49.6	
	2.5nm,0.7s						
PNCL	**Nicolau / Gran**	**7.01**	**50**	*eP*	**Pn**	21 50 24.1	**+0.9**
MESJ	**Messejana**	**7.05**	**52**	*eP*	**Pn**	21 50 27.2	**+3.4**
MESJ				*eS*	**Sn**	21 51 43.3	**-0.7**
MESJ				A	A	21 51 54.5	
	2.0nm,0.6s						
MESJ	**Messejana**	**7.05**	**52**	P	**Pn**	21 50 27.2	**+3.4**
MESJ				S	**Sn**	21 51 43.3	**-0.7**
	2.0nm,0.6s						
MESJ	**Messejana**	**7.05**	**52**	P	**Pn**	21 50 27.2	**+3.4**
MESJ				S	**Sn**	21 51 43.3	**-0.7**
	2.0nm,0.6s						
PCVE	**Castro Verde**	**7.07**	**55**	*eP*	**Pn**	21 50 28.3	**+4.4**
PCVE				*eS*	**Sn**	21 51 41.4	**-2.9**
PCVE	**Castro Verde**	**7.07**	**55**	P	**Pn**	21 50 28.3	**+4.4**
PCVE				S	**Sn**	21 51 41.4	**-2.9**
PCVE	**Castro Verde**	**7.07**	**55**	P	**Pn**	21 50 28.3	**+4.4**
PCVE				S	**Sn**	21 51 41.4	**-2.9**
PMAFR	**Mafra**	**7.12**	**41**	*eP*	**Pn**	21 50 28.0	**+3.4**
PMAFR	**Mafra**	**7.12**	**41**	*eP*	**Pn**	21 50 28.0	**+3.4**
PVAQ	**Vaqueiros**	**7.17**	**57**	*eP*	Pn	21 50 30.7	+5.3
PVAQ				*eS*	**Sn**	21 51 45.6	**-1.4**
PVAQ				A	A	21 51 49.0	
	3.3nm,0.8s						
PVAQ	**Vaqueiros**	**7.17**	**57**	P	Pn	21 50 30.7	+5.3
PVAQ				S	**Sn**	21 51 45.6	**-1.4**
	3.3nm,0.8s						
PVAQ	**Vaqueiros**	**7.17**	**57**	P	Pn	21 50 30.7	+5.3
PVAQ				S	**Sn**	21 51 45.6	**-1.4**
	3.3nm,0.8s						
EGRO	**El Granado**	**7.40**	**57**	S	**Sn**	21 51 51.6	**-0.9**
	2.5nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**7.40**	**57**	S	**Sn**	21 51 51.6	**-0.9**
	2.5nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**8.02**	**54**	*eP*	**Pn**	21 50 41.6	**+4.5**
PBAR				*eS*	**Sn**	21 52 04.6	**-3.2**
PBAR				A	A	21 52 09.0	
	2.9nm,0.9s						
PBAR	**Barrancos**	**8.02**	**54**	P	**Pn**	21 50 41.6	**+4.5**
PBAR				S	**Sn**	21 52 04.6	**-3.2**
	2.9nm,0.9s						
PBAR	**Barrancos**	**8.02**	**54**	P	**Pn**	21 50 41.6	**+4.5**
PBAR				S	**Sn**	21 52 04.6	**-3.2**
	2.9nm,0.9s						
EMIN	**Mina Concepcio**	**8.08**	**58**	P	**Pn**	21 50 41.7	**+3.9**
	0.9nm,0.4s,SNR=7.9						
EMIN				S	**Sn**	21 52 06.8	**-2.4**
	0.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.08**	**58**	P	**Pn**	21 50 41.7	**+3.9**
	0.9nm,0.4s,SNR=7.9						
EMIN				S	**Sn**	21 52 06.8	**-2.4**
	0.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**8.35**	**51**	P	**Pn**	21 50 43.2	**+1.6**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	21 52 13.0	**-3.0**
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**8.35**	**51**	P	**Pn**	21 50 43.2	**+1.6**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	21 52 13.0	**-3.0**
	0.4nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**8.52**	**46**	*eP*	**Pn**	21 50 45.8	**+1.9**
PMRV	**Marv??o**	**8.52**	**46**	P	**Pn**	21 50 45.8	**+1.9**
PMRV	**Marv??o**	**8.52**	**46**	P	**Pn**	21 50 45.8	**+1.9**
ECAB	**El Cabril**	**9.10**	**59**	P	**Pn**	21 50 56.0	**+4.1**
	0.5nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	21 52 32.5	**-1.9**
	0.0nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**9.10**	**59**	P	**Pn**	21 50 56.0	**+4.1**
	0.5nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	21 52 32.5	**-1.9**
	SNR=7.9						
EADA	**Adamuz**	**9.74**	**60**	P	**Pn**	21 51 05.3	**+4.6**
	0.4nm,0.3s,SNR=7.9						
EADA				S	**Sn**	21 52 49.1	**-1.1**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**9.74**	**60**	P	**Pn**	21 51 05.3	**+4.6**
	0.4nm,0.3s,SNR=7.9						
EADA				S	**Sn**	21 52 49.1	**-1.1**
	0.2nm,0.1s,SNR=7.9						

IDC 14 21:53:39.4±1.6, 15°83S×172°66W, h0km, mb3.8/6, mb1 4.2/7, mb1mx3.8/37, mbtmp3.8/7, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/34, Error ellipse: s-maj=77.7km s-min=21.5km az=143.0
ISCJB 14 21:53:41.9±1.2, 15°75S±0°2×172°8W±0°3, h24km, mb3.8/6, MS3.7/1, Error ellipse: s-maj=50.5km s-min=10.4km az=40.7

ISC 14 21:53:43.4±1.3, 15°75S±0°3×172°8W±0°3, h24km, n14, σ0s73/10, mb3.9/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**28**	Pn	**Pn**	21 54 16.1	**+0.4**
	37nm,0.3s,baz=332,slow=0.3,SNR=14						
AFI				Sn	**Sn**	21 54 39.5	**-0.5**
	318nm,0.3s,baz=37,slow=23,SNR=32						
AFI				LR	LR	21 54 57.4	

DDA 14 21:54:56.3, 34°38N×28°93E, h72km, Md3.9
IDC 14 21:54:58.6±0.7, 34°81N×29°01E, h0km, mb3.9/18, mb1 3.9/28, mb1mx3.8/59, mbtmp3.9/28, ML4.0/9, MS3.1/5, Ms1 3.2/5, ms1mx2.6/58, Error ellipse: s-maj=13.5km s-min=12.4km az=3.0
JSO 14 21:54:59.7±0.8, 34°58N×28°78E, h31km±398km, MD4.2
NEIC 14 21:55:01.2±2.4, 34°77N×29°01E, h18km±16km, mb4.1/15, Error ellipse: s-maj=7.1km s-min=5.2km az=181.0
ATH 14 21:55:02.6, 34°93N×28°96E, h33km±4km, ML3.7/15, Error ellipse: s-maj=5.3km s-min=1.1km az=143.0
ISK 14 21:55:02.2, 35°00N×28°97E, h13km, ML3.9
CSEM 14 21:55:02.2±0.1, 34°73N×29°08E, h30km, mb4.5/7, Error ellipse: s-maj=2.6km s-min=1.7km az=32.0
HLW 14 21:55:03.6, 34°72N×29°12E, h33km±38km, Md4.1, Ml3.7
THE 14 21:55:03.5, 34°74N×29°09E, h27km±14km, ML3.8/11, Error ellipse: s-maj=14.0km s-min=1.0km az=151.0
NIC 14 21:55:06.0±0.0, 34°93N×29°40E, h38km, mb4.4, ML4.1
GII 14 21:55:07.1±0.2, 34°23N×29°41E, h10km, MD3.2/7

ISC 14 21:55:00.2±2.5, 34°72N±0°03×29°10E±0°02, h16km±16km, n525, σ1s58/607, mb4.0/23, 2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.48**	**15**	P	**Pn**	21 55 26.3	**+0.2**
KSL				S	**Sn**	21 55 45.1	**0.0**
KSL	**Kastellorizon**	**1.48**	**15**	P	**Pn**	21 55 25.9	**-0.2**
KSL				S	**Sn**	21 55 44.8	**-0.3**
KSL				AML	AML	21 55 48.7	
	comp=N,1828μm,0.7s						
KSL				AML	AML	21 55 51.7	
	comp=E,2237μm,0.6s						
AKAS	**Kas**	**1.56**	**15**	P	**Pn**	21 55 27.5	**+0.1**
AKAS				S	**Sn**	21 55 45.7	**-1.7**
AKAS	**Kas**	**1.56**	**15**	*i* P	**Pn**	21 55 27.5	**+0.1**
AKAS				*i* S	**Sn**	21 55 45.7	**-1.7**
ARG	**Arkhangelos**	**1.69**	**332**	P	**Pn**	21 55 29.5	**+0.5**
ARG				S	**Sn**	21 55 49.0	**-1.4**
ARG	**Arkhangelos**	**1.69**	**332**	P	**Pb**	21 55 29.7	**-1.2**
ARG				S	**Sn**	21 55 46.2	**-4.2**
KARP	**Karpathos**	**1.79**	**298**	*e*PN	**Pn**	21 55 30.8	**+0.4**
KARP				*e*SN	**Sn**	21 55 51.8	**-1.1**
KARP	**Karpathos**	**1.79**	**298**	P	**Pb**	21 55 31.3	**-1.3**
KARP				S	**Sn**	21 55 53.1	**+0.2**
KARP	**Karpathos**	**1.79**	**298**	*e*Pn	**Pn**	21 55 30.8	**+0.4**
KARP	**Karpathos**	**1.79**	**298**	P	**Pb**	21 55 31.3	**-1.3**
KARP				S	**Sn**	21 55 50.8	**-2.1**
KARP				*e*Sn	**Sn**	21 55 51.8	**-1.1**
KARP	**Karpathos**	**1.79**	**298**	*e*Pn	**Pb**	21 55 31.3	**-1.3**
KARP				*e*Sn	**Sn**	21 55 47.6	**-5.3**
KARP	**Karpathos**	**1.79**	**298**	P	**Pb**	21 55 32.2	**-0.4**
KARP				S	**Sn**	21 55 50.8	**-2.1**
KARP				AML	AML	21 55 55.3	
	comp=N,1853μm,0.7s						
KARP				AML	AML	21 55 55.6	
	comp=E,1451μm,0.5s						
FETY	**Fethiye**	**1.91**	**360**	*e*PN	**Pn**	21 55 31.5	**-0.6**
FETY				*e*SN	**Sn**	21 55 53.1	**-2.7**
FETY	**Fethiye**	**1.91**	**360**	P	**Pn**	21 55 32.1	**0.0**
FETY				S	**Sn**	21 55 54.3	**-1.5**
FETY	**Fethiye**	**1.91**	**360**	*e*Pn	**Pn**	21 55 31.5	**-0.6**
FETY	**Fethiye**	**1.91**	**360**	P	**Pn**	21 55 32.1	**0.0**
FETY				*e*Sn	**Sn**	21 55 53.1	**-2.7**
FETY				S	**Sn**	21 55 54.3	**-1.5**
DALY	**Dalyan (Mu˘la**	**2.12**	**350**	*e*PN	**Pn**	21 55 34.4	**-0.6**
DALY	**Dalyan (Mu˘la**	**2.12**	**350**	*e*Pn	**Pn**	21 55 34.4	**-0.6**
ELL	**Elmali**	**2.13**	**18**	*e*PN	**Pn**	21 55 35.6	**+0.5**
ELL				*e*SN	**Sn**	21 55 59.1	**-2.2**
ELL	**Elmali**	**2.13**	**18**	*e*Pn	**Pn**	21 55 35.6	**+0.5**
ELL				*e*Sn	**Sn**	21 55 59.1	**-2.2**
TURN	**Turunc**	**2.19**	**349**	*i* P	**Pn**	21 55 35.9	**+0.1**
ZKR	**Zakros**	**2.40**	**280**	P	**Pn**	21 55 39.7	**+0.9**
ZKR				S	**Sn**	21 56 08.2	**+0.3**
ZKR	**Zakros**	**2.40**	**280**	P	**Pn**	21 55 39.3	**+0.5**
ZKR				S	**Sn**	21 56 06.6	**-1.3**
ZKR	**Zakros**	**2.40**	**280**	P	**Pn**	21 55 39.3	**+0.5**
ZKR				S	**Sn**	21 56 06.5	**-1.3**
ZKR				AML	AML	21 56 08.7	
	comp=E,1375μm,0.6s						
ZKR				AML	AML	21 56 09.2	
	comp=N,1641μm,0.6s						
NIS1	**Nisyros Isl.**	**2.45**	**321**	*e*PN	**Pn**	21 55 39.2	**-0.2**
NIS1	**Nisyros Isl.**	**2.45**	**321**	P	**Pn**	21 55 39.1	**-0.3**
NIS1				S	**Sn**	21 56 09.2	**+0.2**
NIS1	**Nisyros Isl.**	**2.45**	**321**	P	**Pn**	21 55 37.9	**-1.5**
NIS1	**Nisyros Isl.**	**2.45**	**321**	*e*Pn	**Pn**	21 55 39.2	**-0.2**
NIS1				S	**Sn**	21 56 09.2	**+0.2**
NIS1	**Nisyros Isl.**	**2.45**	**321**	P	**Pn**	21 55 37.9	**-1.5**
NIS1				AML	AML	21 56 10.2	
	comp=N,1714μm,0.6s						
NIS1				AML	AML	21 56 24.6	
	comp=E,1429μm,0.4s						
GLHS	**Glhisar (BURDU**	**2.45**	**7**	*e*PN	**Pn**	21 55 39.7	**+0.1**
GLHS	**Glhisar (BURDU**	**2.45**	**7**	*e*Pn	**Pn**	21 55 39.7	**+0.1**
KORT	**Korkueli**	**2.49**	**24**	P	**Pn**	21 55 41.9	**+1.7**
KORT				S	**Sn**	21 56 12.3	**+2.0**
KORT	**Korkueli**	**2.49**	**24**	*i* P	**Pn**	21 55 41.9	**+1.7**
KORT				*i* S	**Sn**	21 56 12.3	**+2.0**
YER	**Yerkesik**	**2.50**	**345**	*e*PN	**Pn**	21 55 40.2	**0.0**
YER	**Yerkesik**	**2.50**	**345**	P	**Pn**	21 55 41.1	**+0.9**
YER	**Yerkesik**

BODT Bodrum 2.75 329 ePn Pn 21 55 43.4 -0.2
ALFC Alefka 2.91 80 P Pn 21 55 46.5 +0.8
baz=266
ALFC S Sn 21 56 18.2 -2.1
ALFC Alefka 2.91 80 P Pn 21 55 46.5 +0.8
ALFC S Sn 21 56 18.2 -2.1
NPS Neapolis 2.92 282 P Pn 21 55 47.3 +1.4
NPS S Sn 21 56 21.2 +0.6
NPS Neapolis 2.92 282 P Pn 21 55 48.2 +2.3
NPS S Sn 21 56 22.1 +1.5
NPS Neapolis 2.92 282 P Pn 21 55 48.2 +2.3
NPS AML AML 21 56 21.0
comp=E,1084µm,0.7s
NPS AML AML 21 56 21.4
comp=N,1052µm,0.7s
NPS S Sn 21 56 22.1 +1.5
DNZL Cakiroluk 2.96 359 P Pn 21 55 47.3 +0.6
DNZL S Sn 21 56 20.0 -2.0
DNZL Cakiroluk 2.96 359 i P Pn 21 55 47.3 +0.6
DNZL i S Sn 21 56 20.0 -2.0
BCK Bucak 2.99 23 ePN Pn 21 55 48.1 +1.2
BCK Bucak 2.99 23 ePn Pn 21 55 48.1 +1.2
LAST Lasithi 3.01 279 P Pn 21 55 48.4 +1.2
LAST S Sn 21 56 22.2 -0.8
LAST Lasithi 3.01 279 P Pn 21 55 48.8 +1.6
LAST eSn Sn 21 56 17.6 -5.4
LAST S Sn 21 56 22.2 -0.8
LAST Lasithi 3.01 279 ePn Pn 21 55 48.5 +1.3
LAST eSn Sn 21 56 17.6 -5.4
LAST Lasithi 3.01 279 P Pn 21 55 48.8 +1.6
GAZI Gazipasa 3.03 59 P Pn 21 55 48.0 +0.6
GAZI S Sn 21 56 21.1 -2.2
GAZI Gazipasa 3.03 59 i P Pn 21 55 48.0 +0.6
GAZI i S Sn 21 56 21.1 -2.2
DENT Denizli 3.03 359 ePN Pn 21 55 47.9 +0.4
DENT Denizli 3.03 359 ePn Pn 21 55 47.9 +0.4
SZAC Souni 3.11 88 P Pn 21 55 49.9 +1.3
baz=274
SZAC Souni 3.11 88 P Pn 21 55 49.9 +1.3
LEF Lefka 3.14 82 ePN Pb 21 55 52.9 -2.7
LEF Lefka 3.14 82 ePn Pb 21 55 52.9 -2.7
SUTC Sutluce-Ispart 3.15 29 ePN Pn 21 55 50.6 +1.4
SUTC Sutluce-Ispart 3.15 29 ePn Pn 21 55 50.6 +1.4
AKDN Akdeniz- K¨–br 3.23 79 ePN Pb 21 55 55.2 -1.8
AKDN Akdeniz- K¨–br 3.23 79 ePn Pb 21 55 55.2 -1.8
ISP Isparta 3.30 20 ePN Pn 21 55 52.3 +1.0
ISP Isparta 3.30 20 P Pn 21 55 53.4 +2.1
ISP Isparta 3.30 20 Pn Pn 21 55 52.7 +1.4
ISP Isparta 3.30 20 ePn Pn 21 55 52.3 +1.0
ISP Isparta 3.30 20 P Pn 21 55 53.4 +2.1
ISP Isparta 3.30 20 ePn Pn 21 55 53.5 +2.3
ISP eSn Sn 21 56 25.4 -4.9
GCAM G?zelcaml? 3.34 334 P Pn 21 55 52.2 +0.6
GCAM S Sn 21 56 28.0 -2.9
GCAM G?zelcaml? 3.34 334 i P Pn 21 55 52.2 +0.6
GCAM i S Sn 21 56 28.0 -2.9
AYDB Zeytinkoy-Aydi 3.37 343 ePN Pn 21 55 52.7 +0.5
AYDB Zeytinkoy-Aydi 3.37 343 ePn Pn 21 55 52.7 +0.5
SANT Santorini 3.40 300 P Pn 21 55 52.9 +0.4
SANT Santorini 3.40 300 P Pn 21 55 52.9 +0.4
SANT Santorini 3.40 300 ePn Pn 21 55 52.7 +0.2
SANT eSn Sn 21 56 26.5 -6.0
SANT Santorini 3.40 300 P Pn 21 55 52.6 +0.1
THT1 Athinios (Pele 3.42 300 P Pn 21 55 52.9 +0.1
THT1 S Sn 21 56 33.2 +0.1
THT1 Athinios (Pele 3.42 300 P Pn 21 55 52.9 +0.1
THT1 S Sn 21 56 33.2 +0.1
THR6 Thira Island, 3.43 299 P Pn 21 55 53.3 +0.3
THR6 Thira Island, 3.43 299 P Pn 21 55 53.3 +0.3
THR2 Thira island, 3.45 301 P Pn 21 55 53.4 +0.2
THR2 Thira island, 3.45 301 P Pn 21 55 53.4 +0.2
THR3 Thira Island, 3.46 300 P Pn 21 55 53.6 +0.3
THR3 Thira Island, 3.46 300 P Pn 21 55 53.6 +0.3
CMBO Columbo, Santo 3.48 301 P Pn 21 55 53.9 +0.3
CMBO Columbo, Santo 3.48 301 P Pn 21 55 53.9 +0.3
CMBO S Sn 21 56 30.5 -4.0
CMBO Columbo, Santo 3.48 301 P Pn 21 55 53.6 0.0
CMBO S Sn 21 56 30.5 -4.0
CMBO AML AML 21 56 32.3
comp=N,1733µm,0.6s
CMBO AML AML 21 56 36.2
comp=E,1684µm,0.5s
CSS Mathiatis 3.49 85 P Pn 21 55 54.8 +1.1
baz=270
CSS Mathiatis 3.49 85 P Pn 21 55 54.6 +0.9
CSS S Sn 21 56 35.3 +0.7
CSS Mathiatis 3.49 85 Pn Pn 21 55 54.5 +0.9
CSS Mathiatis 3.49 85 P Pn 21 55 54.8 +1.1
CSS S Sn 21 56 35.3 +0.7
CSS Mathiatis 3.49 85 ePn Pn 21 55 54.7 +0.9
CSS eSn Sn 21 56 21.6 -13
THR5 Thira Island, 3.50 300 ePN Pn 21 55 54.6 +0.7
THR5 Thira Island, 3.50 300 P Pn 21 55 54.2 +0.4
THR5 Thira Island, 3.50 300 P Pn 21 55 54.2 +0.4
THR5 Thira Island, 3.50 300 ePn Pn 21 55 54.6 +0.7
SMG Samos 3.50 329 P Pn 21 55 53.5 -0.4
SMG S Sn 21 56 31.6 -3.4
SMG Samos 3.50 329 P Pn 21 55 53.5 -0.4
SMG S Sn 21 56 31.6 -3.4
SMG AML AML 21 56 35.1
comp=E,429µm,0.4s
SMG AML AML 21 56 35.2
comp=N,390µm,0.4s
IDI Anoyia 3.50 281 Pn Pn 21 55 55.3 +1.3
comp=N,7.6nm,0.3s,baz=272,slow=13,SNR=108
IDI Sn Sn 21 56 34.1 -1.0
comp=N,19nm,0.3s,baz=338,slow=23,SNR=17
IDI Anoyia 3.50 281 P Pn 21 55 55.4 +1.5
IDI S Sn 21 56 34.1 -1.0
IDI Anoyia 3.50 281 P Pn 21 55 55.5 +1.5
IDI S Sn 21 56 33.2 -1.9
IDI Anoyia 3.50 281 P Pn 21 55 55.5 +1.5
IDI S Sn 21 56 33.2 -1.9
IDI AML AML 21 56 36.7
comp=E,599µm,0.5s
IDI AML AML 21 56 37.2
comp=N,974µm,0.8s
BAGO Egridir - ISPA 3.54 22 i P Pn 21 55 57.7 +3.2
SIVA Sivas 3.54 276 P Pn 21 55 55.9 +1.5
SIVA S Sn 21 56 35.3 -0.7
SIVA Sivas 3.54 276 P Pn 21 55 55.0 +0.6
SIVA S Sn 21 56 35.3 -0.7
SIVA Sivas 3.54 276 P Pn 21 55 55.0 +0.6
SIVA AML AML 21 56 37.5
comp=N,1595µm,0.5s
SIVA AML AML 21 56 40.0
comp=E,1257µm,0.5s
KHL Karahalli 3.61 5 ePN Pn 21 55 55.5 0.0
KHL Karahalli 3.61 5 ePn Pn 21 55 55.5 0.0
ERMK Ermenek 3.65 57 P Pn 21 55 58.8 +2.7
ERMK Ermenek 3.65 57 i P Pn 21 55 58.8 +2.7
LFK Lefkose 3.68 80 ePN Pb 21 56 01.2 -3.6
LFK Lefkose 3.68 80 ePn Pb 21 56 01.2 -3.6
MATC Matruh 3.71 206 P Pn 21 55 58.2 +1.4
baz=206
APE Apeiranthos 3.73 310 ePN Pn 21 55 56.9 -0.2
APE Apeiranthos 3.73 310 P Pn 21 55 56.5 -0.6
APE Apeiranthos 3.73 310 ePn Pn 21 55 56.9 -0.2
APE Apeiranthos 3.73 310 P Pn 21 55 56.5 -0.6
APE AML AML 21 56 39.4
comp=N,253µm,0.5s
APE AML AML 21 56 40.0
comp=E,242µm,0.7s
DGB ¯zmir 3.78 332 i P Pn 21 55 57.9 +0.3
KULA Kula-Manisa 3.80 355 ePN Pn 21 55 58.0 -0.1
KULA Kula-Manisa 3.80 355 P Pn 21 55 58.1 -0.1
KULA Kula-Manisa 3.80 355 P Pn 21 55 58.1 -0.1
IZM Izmir 3.96 339 ePN Pn 21 56 00.4 +0.2
IZM Izmir 3.96 339 ePn Pn 21 56 00.4 +0.2
HMAT Matruh 3.99 206 P Pn 21 55 58.2 -2.4
IKL Isikli 4.04 67 ePN Pb 21 56 07.6 -3.3
VAM Vamos 4.08 281 P Pn 21 56 03.5 +1.7
VAM Vamos 4.08 281 P Pn 21 56 03.7 +1.9
ZEY ¯zmir 4.09 330 i P Pn 21 56 01.3 -0.7
ZEY i S Sn 21 56 45.5 -3.9
GVD Gavdhos 4.13 273 P Pn 21 56 03.0 +0.5
GVD S Sn 21 56 48.6 -1.9
GVD Gavdhos 4.13 273 P Pn 21 56 03.0 +0.5
GVD S Sn 21 56 48.6 -1.9
GVD Gavdhos 4.13 273 P Pn 21 56 01.1 -1.5
GVD AML AML 21 56 51.9
comp=E,585µm,0.4s
GVD AML AML 21 56 52.9
comp=N,659µm,0.3s
KONT Konya--Tatoy 4.16 38 ePN Pn 21 56 05.3 +2.4
KONT Konya--Tatoy 4.16 38 ePn Pn 21 56 05.3 +2.4
IMMV Iera Moni Meta 4.26 281 P Pn 21 56 05.3 +0.9
IMMV Iera Moni Meta 4.26 281 P Pn 21 56 04.4 0.0
IMMV Iera Moni Meta 4.26 281 P Pn 21 56 04.4 0.0
IMMV AML AML 21 56 54.1
comp=N,817µm,0.4s
IMMV AML AML 21 56 54.7
comp=E,674µm,0.3s
MHLO Agia Marina, M 4.30 299 P Pn 21 56 05.8 +0.9
MHLO Agia Marina, M 4.30 299 P Pn 21 56 05.8 +0.9
LADK Ladik-KONYA 4.36 36 ePN Pn 21 56 08.9 +3.2
LADK Ladik-KONYA 4.36 36 ePn Pn 21 56 09.0 +3.2
CHOS Chios island 4.41 327 ePN Pn 21 56 07.0 +0.6
CHOS Chios island 4.41 327 P Pn 21 56 05.9 -0.5
CHOS Chios island 4.41 327 ePn Pn 21 56 07.0 +0.6
CHOS Chios island 4.41 327 P Pn 21 56 05.9 -0.5
SERI Serifos 4.47 304 P Pn 21 56 06.9 -0.3
SERI Serifos 4.47 304 P Pn 21 56 06.9 -0.3
KDHN Kadinhani 4.50 32 P Pn 21 56 09.1 +1.3
KDHN S Sn 21 56 59.0 -0.8
KDHN Kadinhani 4.50 32 i P Pn 21 56 09.1 +1.3
KDHN i S Sn 21 56 59.0 -0.8
SLUM Salum 4.58 226 P Pn 21 56 09.4 +0.6
baz=227
SLUM Salum 4.58 226 P Pn 21 56 09.4 +0.6
KIZT Kizilcal 4.71 27 ePN Pn 21 56 13.0 +2.3
KIZT Kizilcal 4.71 27 ePn Pn 21 56 13.0 +2.3
TVSB Tavsanli 4.73 3 ePN Pn 21 56 11.2 +0.3
TVSB Tavsanli 4.73 3 ePn Pn 21 56 11.2 +0.3
ANKY Antikythira Is 4.88 285 P Pn 21 56 11.3 -1.5
ANKY Antikythira Is 4.88 285 P Pn 21 56 11.3 -1.5
ANKY AML AML 21 57 09.4
comp=N,538µm,0.6s
ANKY AML AML 21 57 18.0
comp=E,578µm,0.7s
CHBY Cihanbeyli 4.91 37 ePN Pn 21 56 16.2 +2.8
CHBY Cihanbeyli 4.91 37 ePn Pn 21 56 16.2 +2.8
ESKT Eskisehir 4.99 16 ePN Pn 21 56 14.6 +0.1
ESKT Eskisehir 4.99 16 ePn Pn 21 56 14.6 +0.1
ESKT Eskisehir 4.99 16 i P Pn 21 56 15.0 +0.5
SEYT Eskypehyr 4.99 16 P Pn 21 56 15.0 +0.5
BALB Balikesir 5.01 349 ePN Pn 21 56 15.5 +0.9
BALB Balikesir 5.01 349 ePn Pn 21 56 15.5 +0.9
KARY Karystos 5.01 313 P Pn 21 56 15.1 +0.5
KARY Karystos 5.01 313 P Pn 21 56 15.1 +0.5
SVRH Sivrihisar-ESK 5.10 22 ePN Pn 21 56 17.4 +1.4
SVRH Sivrihisar-ESK 5.10 22 ePn Pn 21 56 17.4 +1.4
HMYD Mayadein 5.12 163 P Pn 21 56 16.7 +0.6
baz=163
HMYD Mayadein 5.12 163 P Pn 21 56 16.7 +0.6
KYTH Kithira 5.17 289 P Pn 21 56 16.6 -0.3
KYTH Kithira 5.17 289 P Pn 21 56 16.6 -0.3
KYTH Kithira 5.17 289 P Pn 21 56 14.8 -2.2
HNTI Hanita 5.31 106 Pn Pn 21 56 20.4 +1.7
HNTI Hanita 5.31 106 Pn Pn 21 56 20.4 +1.7
KOT Kottamia 5.31 153 P Pn 21 56 20.0 +1.2
baz=153
KOT Kottamia 5.31 153 P Pn 21 56 20.0 +1.2
VLY Voula,Athens 5.31 308 P Pn 21 56 19.6 +0.9
VLY Voula,Athens 5.31 308 P Pn 21 56 19.6 +0.9
OFRI ‘Ofer 5.33 111 Pn Pn 21 56 20.4 +1.3
OFRI ‘Ofer 5.33 111 Pn Pn 21 56 20.4 +1.3
PTL Penteli 5.38 310 P Pn 21 56 20.8 +1.1
PTL Penteli 5.38 310 P Pn 21 56 20.6 +0.9
PTL Penteli 5.38 310 P Pn 21 56 20.6 +0.9
ATHU Athens Univers 5.38 309 P Pn 21 56 20.8 +1.1
ATHU Athens Univers 5.38 309 P Pn 21 56 20.8 +1.1
VLI Veliai 5.40 293 P Pn 21 56 19.7 -0.3
VLI Veliai 5.40 293 P Pn 21 56 19.7 -0.3
VLI Veliai 5.40 293 P Pn 21 56 18.1 -1.9
VLI AML AML 21 57 19.0
comp=E,507µm,0.6s
VLI AML AML 21 57 20.3
comp=N,630µm,0.8s
RSH 5.40 133 P Pn 21 56 20.3 +0.3
baz=132
RSH 5.40 133 P Pn 21 56 20.3 +0.3
BLGI Bet Lehem HaGe 5.45 110 Pn Pn 21 56 21.7 +1.1
BLGI Bet Lehem HaGe 5.45 110 Pn Pn 21 56 21.7 +1.1
DQRL Deir Qamar 5.45 99 eP Pn 21 56 21.2 +0.4
DQRL Deir Qamar 5.45 99 eP Pn 21 56 21.2 +0.4
BHL Bhannes 5.48 97 eP Pn 21 56 20.2 -1.1
BHL Bhannes 5.48 97 eP Pn 21 56 20.2 -1.1
DID Didima 5.50 302 P Pn 21 56 22.1 +0.7
DID Didima 5.50 302 P Pn 21 56 21.8 +0.3
DID Didima 5.50 302 P Pn 21 56 21.8 +0.3
KRND KRANIDI 5.51 301 P Pn 21 56 22.6 +1.2
KRND KRANIDI 5.51 301 P Pn 21 56 22.4 +1.0
KRND KRANIDI 5.51 301 P Pn 21 56 22.4 +1.0
MMAI Mount Meron Ar 5.51 106 Pn Pn 21 56 22.8 +1.2
comp=N,8.9nm,0.3s,baz=299,slow=12,SNR=26
MMAI Sn Sn 21 57 22.3 -2.3
comp=N,45nm,0.3s,baz=198,slow=13,SNR=13
MMAI LR LR 21 59 41.1
comp=N,66nm,18.9s,baz=285,slow=50
SLTI Sal'it 5.54 115 Pn Pn 21 56 23.4 +1.4
SLTI Sn Sn 21 57 22.8 -2.6
SLTI Sal'it 5.54 115 Pn Pn 21 56 23.4 +1.4
EZN Ezine 5.56 337 ePN Pn 21 56 23.3 +1.2
EZN Ezine 5.56 337 ePn Pn 21 56 23.3 +1.2
EREA Eretria 5.56 313 P Pn 21 56 23.5 +1.2
EREA Eretria 5.56 313 P Pn 21 56 23.5 +1.2
GLL Jalalah 5.58 156 P Pn 21 56 22.9 +0.4
baz=156
GLL Jalalah 5.58 156 P Pn 21 56 22.9 +0.4
HWQ Hawqa 5.67 93 eP Pn 21 56 18.0 -5.8
AFSR Af'ar-Bala (A 5.69 33 ePN Pn 21 56 25.3 +1.3
AFSR Af'ar-Bala (A 5.69 33 ePn Pn 21 56 25.3 +1.3
RCY Rachaya 5.72 100 eP Pn 21 56 25.5 +1.0
RCY Rachaya 5.72 100 eP Pn 21 56 25.5 +1.0
MMLI Mount Malkishu 5.74 112 Pn Pn 21 56 26.1 +1.3
MMLI Mount Malkishu 5.74 112 Pn Pn 21 56 26.1 +1.3
BBAL Bala 5.79 33 P Pn 21 56 26.8 +1.4
BBAL Bala 5.79 33 i P Pn 21 56 26.8 +1.4
VILL Villia 5.80 308 P Pn 21 56 26.7 +1.2
VILL Villia 5.80 308 P Pn 21 56 26.6 +1.1
SUZ Suez 5.80 146 P Pn 21 56 26.7 +1.2
baz=146
SUZ Suez 5.80 146 P Pn 21 56 26.7 +1.2
GULT Gulveren 5.81 11 ePN Pn 21 56 27.9 +2.2
GULT Gulveren 5.81 11 ePn Pn 21 56 27.9 +2.2
AMAZ Amatzia 5.82 121 Pn Pn 21 56 26.7 +0.9
AMAZ Sn Sn 21 57 29.4 -2.8
AMAZ Amatzia 5.82 121 Pn Pn 21 56 26.7 +0.9
ARMT Armutlu 5.84 358 ePN Pn 21 56 27.6 +1.6
ARMT Armutlu 5.84 358 ePn Pn 21 56 27.6 +1.6
KRBG Karabiga-Canak 5.84 346 ePN Pn 21 56 25.2 -0.8
KRBG Karabiga-Canak 5.84 346 ePn Pn 21 56 25.2 -0.8
KSHT Keshet 5.84 105 Pn Pn 21 56 28.1 +1.9
KSHT Keshet 5.84 105 Pn Pn 21 56 28.1 +1.9
VIL2 Platees 5.85 308 P Pn 21 56 26.6 +0.4
KZIT Kziot 5.86 129 Pn Pn 21 56 26.7 +0.4
KZIT Sn Sn 21 57 29.1 -4.0
KZIT Kziot 5.86 129 Pn Pn 21 56 26.7 +0.4
BR231 Keskin MP Arra 5.89 29 eSn Sn 21 57 33.0 -1.1
BR231 Keskin MP Arra 5.89 29 ePn Pn 21 56 30.9 +4.1
BR231 eSn Sn 21 57 33.0 -1.1
SHMJ Saham 5.90 108 eP Pn 21 56 28.6 +1.7
SHMJ eS Sn 21 57 34.0 0.0
HMDT Nahal Hemdat 5.90 113 Pn Pn 21 56 28.4 +1.5
HMDT Sn Sn 21 57 33.1 -1.1
HMDT Nahal Hemdat 5.90 113 Pn Pn 21 56 28.4 +1.5
HMDT Sn Sn 21 57 33.1 -1.1
ANTO Ankara 5.92 29 ePn Pn 21 56 28.5 +1.3
ANTO Ankara 5.92 29 ePn Pn 21 56 28.5 +1.3
LPK Lapseki 5.94 342 ePN Pn 21 56 27.2 -0.2
LPK Lapseki 5.94 342 ePn Pn 21 56 27.2 -0.2
LTK Loutraki 5.95 305 P Pn 21 56 29.1 +1.6
LTK Loutraki 5.95 305 P Pn 21 56 29.6 +2.1
LTK Loutraki 5.95 305 P Pn 21 56 29.6 +2.1
MRMT Marmara Adasi 5.99 349 ePN Pn 21 56 27.6 -0.6
MRMT Marmara Adasi 5.99 349 ePn Pn 21 56 27.6 -0.6
AJLJ Ajlon 6.03 111 eP Pn 21 56 30.1 +1.4
AJLJ eS Sn 21 57 38.2 +0.8
GADA Gvkgeada 6.03 336 ePN Pn 21 56 30.0 +1.4
GADA Gvkgeada 6.03 336 ePn Pn 21 56 30.0 +1.4
GELI Tayfur-Gelibol 6.04 341 ePN Pn 21 56 28.6 -0.2
GELI Tayfur-Gelibol 6.04 341 ePn Pn 21 56 28.6 -0.2
VLX Vlachokerasia 6.05 298 P Pn 21 56 29.3 +0.2
VLX Vlachokerasia 6.05 298 P Pn 21 56 29.3 +0.2
VLX Vlachokerasia 6.05 298 P Pn 21 56 27.6 -1.5
DSI Dead Sea 6.13 119 Pn Pn 21 56 31.1 +1.1
DSI Dead Sea 6.13 119 Pn Pn 21 56 31.1 +1.1
THAL Thalero 6.16 304 P Pn 21 56 32.0 +1.6
THAL Thalero 6.16 304 P Pn 21 56 32.0 +1.6
ZAF Zafarana 6.16 151 P Pn 21 56 31.6 +1.1
baz=150
ZAF Zafarana 6.16 151 P Pn 21 56 31.6 +1.1
BR101 Keskin Array S 6.17 35 ePn Pn 21 56 31.6 +0.9
BR101 eSn Sn 21 57 39.5 -1.5
BR101 Keskin Array S 6.17 35 ePn Pn 21 56 31.6 +0.9
BR101 eSn Sn 21 57 39.5 -1.5
BR131 Keskin Array S 6.17 35 ePn Pn 21 56 31.7 +1.0
BR131 Keskin Array S 6.17 35 ePn Pn 21 56 31.7 +1.0
BRTR Keskin Array B 6.17 35 Pn Pn 21 56 31.6 +0.9
comp=N,2.0nm,0.3s,baz=221,slow=16,SNR=37
BRTR Sn Sn 21 57 39.5 -1.5
comp=N,2.1nm,0.3s,baz=205,slow=26,SNR=9.8
TRIP Tripoli 6.20 299 P Pn 21 56 30.5 -0.6
TRIP Tripoli 6.20 299 P Pn 21 56 30.4 -0.6
MZBI Masada 6.26 121 Pn Pn 21 56 32.9 +1.2
MZBI Masada 6.26 121 Pn Pn 21 56 32.9 +1.2
MZDA Masada 6.26 121 Pn Pn 21 56 32.7 +0.9
MZDA Masada 6.26 121 Pn Pn 21 56 32.7 +0.9
ATAL Atalanti 6.29 311 P Pn 21 56 31.8 -0.4
ATAL Atalanti 6.29 311 P Pn 21 56 31.8 -0.4
SMIA Simia 6.29 313 P Pn 21 56 33.9 +1.6
SMIA Simia 6.29 313 P Pn 21 56 33.7 +1.4
SMIA Simia 6.29 313 P Pn 21 56 33.7 +1.4
RMNI Mount Ramon 6.30 129 Pn Pn 21 56 32.7 +0.3
RMNI Mount Ramon 6.30 129 Pn Pn 21 56 32.7 +0.3
HNKL Nakhl 6.31 138 P Pn 21 56 32.4 -0.2
baz=137
HNKL Nakhl 6.31 138 P Pn 21 56 32.4 -0.2
ITM Ithomi 6.32 295 P Pn 21 56 32.8 +0.2
ITM Ithomi 6.32 295 P Pn 21 56 32.8 +0.2
ITM Ithomi 6.32 295 P Pn 21 56 31.4 -1.2
ITM AML AML 21 57 46.8
comp=E,108µm,0.3s
ITM AML AML 21 57 47.1
comp=N,151µm,0.3s
SKIA Skiathos 6.33 316 P Pn 21 56 33.9 +1.1
SKIA Skiathos 6.33 316 P Pn 21 56 33.9 +1.1
NBNS Bani Suef 6.36 162 P Pn 21 56 33.4 +0.2
baz=162
NBNS Bani Suef 6.36 162 P Pn 21 56 33.4 +0.2
PYL PYLOS 6.36 292 P Pn 21 56 29.0 -4.2
PYL PYLOS 6.36 292 P Pn 21 56 29.0 -4.2
AWBH 6.38 182 P Pn 21 56 33.5 0.0
baz=182
AWBH 6.38 182 P Pn 21 56 33.5 0.0
DSF Desfina 6.45 307 P Pn 21 56 35.9 +1.5
DSF Desfina 6.45 307 P Pn 21 56 36.1 +1.7
DSF Desfina 6.45 307 P Pn 21 56 36.1 +1.7
WALJ Wala 6.45 117 eP Pn 21 56 36.3 +2.0
CDAG Cicekdag 6.45 39 i P Pn 21 56 30.7 -3.8
KLV Kalavryta, Ach 6.51 303 P Pn 21 56 36.0 +0.6
KLV Kalavryta, Ach 6.51 303 P Pn 21 56 36.0 +0.6
KLV Kalavryta, Ach 6.51 303 P Pn 21 56 34.5 -0.9
NEO Neokhori 6.56 316 P Pn 21 56 37.2 +1.2
NEO Neokhori 6.56 316 P Pn 21 56 37.2 +1.2
KARJ 6.57 121 eP Pn 21 56 30.6 -5.5
ZFRI Zfri 6.59 127 Pn Pn 21 56 36.5 +0.1
ZFRI Sn Sn 21 57 47.5 -3.7
ZFRI Zfri 6.59 127 Pn Pn 21 56 36.5 +0.1
AMT Artemida-Makis 6.61 297 P Pn 21 56 36.3 -0.3
AMT Artemida-Makis 6.61 297 P Pn 21 56 36.3 -0.3
PRNI Paran 6.62 130 Pn Pn 21 56 37.2 +0.4
PRNI Sn Sn 21 57 46.8 -5.1
PRNI Paran 6.62 130 Pn Pn 21 56 37.2 +0.4
KALE Kalithea 6.69 305 P Pn 21 56 39.2 +1.4
KALE Kalithea 6.69 305 P Pn 21 56 38.9 +1.1
KALE Kalithea 6.69 305 P Pn 21 56 38.9 +1.1
LAKA Lakka 6.73 304 P Pn 21 56 38.9 +0.6
LAKA Lakka 6.73 304 P Pn 21 56 38.9 +0.6
SERG Sergoula 6.76 305 P Pn 21 56 40.3 +1.6
SERG Sergoula 6.76 305 P Pn 21 56 40.3 +1.6
DRO Drossia 6.78 301 P Pn 21 56 40.8 +1.9
DRO Drossia 6.78 301 P Pn 21 56 40.9 +1.9
DRO Drossia 6.78 301 P Pn 21 56 40.9 +1.9
SWQJ Swaqa 6.80 119 eP Pn 21 56 40.8 +1.5
JDRJ Daraweish 6.81 124 eP Pn 21 56 41.2 +1.7
HRFI Mount Harif 6.86 131 Pn Pn 21 56 40.5 +0.5
HRFI Sn Sn 21 57 53.5 -4.2
HRFI Mount Harif 6.86 131 Pn Pn 21 56 40.5 +0.5
AGG Agios Georgios 6.92 310 P Pn 21 56 42.9 +2.0
AGG Agios Georgios 6.92 310 ePn Pn 21 56 41.5 +0.6
AGG Agios Georgios 6.92 310 P Pn 21 56 43.5 +2.6
AGG Agios Georgios 6.92 310 ePn Pn 21 56 41.5 +0.6
AGG Agios Georgios 6.92 310 P Pn 21 56 43.5 +2.6
ANX Ano Chora 6.95 306 P Pn 21 56 42.7 +1.4
ANX Ano Chora 6.95 306 P Pn 21 56 42.7 +1.4
MBRI Mt Berech 6.95 133 Pn Pn 21 56 41.1 -0.3
MBRI Sn Sn 21 57 55.1 -5.1
MBRI Mt Berech 6.95 133 Pn Pn 21 56 41.1 -0.3
ASF Jabal al Asfar 6.99 109 Pn Pn 21 56 43.9 +1.9
comp=N,1.4nm,0.3s,baz=228,slow=8.3,SNR=16
ASF Sn Sn 21 57 58.8 -2.4
comp=N,1.8nm,0.3s,baz=92,slow=9.7,SNR=3.8
RLS Riolos of Patr 7.00 301 P Pn 21 56 43.7 +1.7
RLS Riolos of Patr 7.00 301 P Pn 21 56 43.3 +1.3
EIL Elat 7.06 134 Pn Pn 21 56 43.9 +1.0
comp=N,6.1nm,0.3s,baz=344,slow=4.6,SNR=36
EIL Sn Sn 21 57 58.3 -4.6
comp=N,20nm,0.3s,baz=42,slow=11,SNR=13
EIL Elat 7.06 134 Pn Pn 21 56 43.4 +0.5
EIL Elat 7.06 134 Pn Pn 21 56 43.4 +0.5
AQBJ Aqaba 7.08 133 eP Pn 21 56 43.2 +0.1
AXS Araxos 7.13 301 P Pn 21 56 45.5 +1.8
AXS Araxos 7.13 301 P Pn 21 56 45.5 +1.8
GRB Gharib 7.16 153 P Pn 21 56 45.0 +0.8
baz=153
GRB Gharib 7.16 153 P Pn 21 56 45.0 +0.8
EVR Evrytania 7.19 308 P Pn 21 56 46.7 +2.0
EVR Evrytania 7.19 308 P Pn 21 56 46.7 +2.0
PVO Paravola 7.22 305 P Pn 21 56 47.8 +2.8
PVO Paravola 7.22 305 P Pn 21 56 48.1 +3.1
PVO Paravola 7.22 305 P Pn 21 56 48.1 +3.1
HQLS 7.40 135 S Sn 21 58 05.4 -5.8
HQLS P Pn 21 56 48.7 +1.2
THL Klokotos Trika 7.44 313 P Pn 21 56 50.2 +2.2
THL Klokotos Trika 7.44 313 P Pn 21 56 50.2 +2.2
BYRJ Bayer 7.44 121 eP Pn 21 56 50.0 +1.8
PDO Prodromos 7.45 304 P Pn 21 56 49.2 +1.1
PDO Prodromos 7.45 304 P Pn 21 56 48.3 +0.2
PDO Prodromos 7.45 304 P Pn 21 56 48.3 +0.2
HAQS Haql 7.51 137 S Sn 21 58 08.9 -5.0
HAQS P Pn 21 56 50.2 +1.2
HITJ Hittiya 7.56 129 eP Pn 21 56 51.0 +1.2
HFRF Wahat Farafira 7.58 185 P Pn 21 56 50.2 +0.3
baz=186
HFRF AMP 21 58 00.0
comp=N,50µm,0.5s,logA/T=5.0,baz=186
HFRF Wahat Farafira 7.58 185 P Pn 21 56 50.2 +0.3
ASUT 7.60 163 P Pn 21 56 50.6 +0.5
baz=163
ASUT 7.60 163 P Pn 21 56 50.7 +0.5
HDHB Dhahab 7.60 140 P Pn 21 56 50.8 +0.6
baz=140
HDHB Dhahab 7.60 140 P Pn 21 56 50.8 +0.6
RZN Rozhen 7.77 335 eP Pn 21 56 55.0 +2.4
DSL Palaion Diasel 7.78 307 P Pn 21 56 53.4 +0.7
DSL Palaion Diasel 7.78 307 P Pn 21 56 53.4 +0.7
DSL Palaion Diasel 7.78 307 P Pn 21 56 52.6 -0.1
RSHS 8.04 141 S Sn 21 58 22.6 -4.1
RSHS P Pn 21 56 57.2 +1.0
MMB Musomiste 8.06 330 eP Pn 21 56 58.5 +2.0
JLOS 8.07 136 S Sn 21 58 18.3 -10
JLOS P Pn 21 56 57.9 +1.0
BDAS Al Bad' 8.09 139 P Pn 21 56 57.6 +0.6
KKB Krupnik 8.56 328 eP Pn 21 57 05.7 +2.3
TIRR Tirgusor 9.74 357 ePn Pn 21 57 19.6 +0.1
TIRR Tirgusor 9.74 357 ePn Pn 21 57 19.6 +0.1
BARS Barje 9.88 327 ePn Pn 21 57 22.4 +0.9
TIP Timpagrande 10.83 298 ePn Pn 21 57 31.6 -3.0
TIP eSn Sn 21 59 20.0 -15
MLR Muntele Rosu 11.03 348 Pn Pn 21 57 37.4 +0.2
IVAS Ivanjica 11.24 325 ePn Pn 21 57 41.8 +1.7

TRUS	Trudelj	11.62	327	*e*Pn	Pn	21 57 46.0	+0.7
CUC	Castrocucco	11.81	300	*e*Pn	Pn	21 57 44.5	-3.4
CUC				*e*Sn	Sn	21 59 51.2	-8.1
BBLS	Lazići	11.82	323	*e*Pn	Pn	21 57 49.3	+1.3
KBZ	Khabaz	13.96	46	Pn	P	21 58 24.5	-0.7
	comp=N,0.1nm,0.3s,baz=330,slow=16,SNR=2.7						
KIV	Kislovodsk	13.97	45	*e*P	P	21 58 26.4	+1.0
KIV	Kislovodsk	13.97	45	*e*P	P	21 58 26.4	+1.0
KVAR	Kislovodsk Arr	13.97	45	Pn	P	21 58 26.4	+0.9
	baz=183,slow=4.6,SNR=7.6						
PSZ	Piszkesteto	14.88	335‖	*e*Pn	P	21 58 35.2	-0.2
PSZ	Piszkesteto	14.88	335‖	*e*P	P	21 58 35.2	-0.2
PSZ	Piszkesteto	14.88	335	*e*Pn	P	21 58 35.0	-0.4
KOLS	Kolonicke sedl	15.08	342	*e*P	P	21 58 38.1	+0.5
KOLS	Kolonicke sedl	15.08	342	*e*P	P	21 58 38.1	+0.5
VYHS	Vyhne	15.74	334	*e*P	P	21 58 44.5	-0.4
VYHS	Vyhne	15.74	334	*e*P	P	21 58 44.5	-0.4
KIEV	Kiev	15.97	0	*e*Pn	P	21 58 49.7	+2.3
	comp=N,3.2nm,0.6s						
AKASG	Malin Array Be	15.97	0	Pn	Pn	21 58 42.6	-1.4
	comp=N,0.1nm,0.3s,baz=194,slow=13,SNR=2.8						
AKBB	Malin Array Si	15.97	0	*e*Pn	Pn	21 58 42.6	-1.4
	comp=N,6.9nm,0.6s						
AKBB	Malin Array Si	15.97	0	*e*Pn	Pn	21 58 42.6	-1.4
	comp=N,6.9nm,0.6s						
SOKA	Soboth	15.99	323	*i* Pn	Pn	21 58 42.6	-1.7
	comp=N,4.7nm,1.1s						
SOKA	Soboth	15.99	323	Pn	Pn	21 58 42.6	-1.7
	comp=N,4.7nm,1.1s						
OBKA	Obir	16.12	321	*i* Pn	Pn	21 58 45.7	-0.4
	comp=N,1.2nm,0.4s						
OBKA	Obir	16.12	321	Pn	Pn	21 58 45.7	-0.4
	comp=N,1.2nm,0.4s						
ARSA	Arzberg	16.15	325	*i* Pn	Pn	21 58 45.4	-0.9
	comp=N,5.1nm,1.2s						
ARSA	Arzberg	16.15	325	Pn	Pn	21 58 45.4	-0.9
	comp=N,5.1nm,1.2s						
KEST	Kesra	16.18	279	Pn	P	21 58 51.2	+1.2
	comp=N,0.3nm,0.3s,baz=53,slow=6.0,SNR=6.1						
KEST	Kesra	16.18	279	*e*Pn	P	21 58 51.2	+1.2
	comp=N,5.1nm,0.8s						
VSL	Villasalto	16.43	293	*e*Pn	P	21 58 51.8	-0.9
	comp=N,16nm,1.3s						
VSL	Villasalto	16.43	293	*e*Pn	P	21 58 51.8	-0.9
	comp=N,16nm,1.3s						
JAVC	Velka Javorina	16.47	333	*e*P	P	21 58 52.9	-0.2
KBA	Koelnbreinsper	17.11	321	*i* Pn	Pn	21 58 57.3	-1.4
	comp=N,1.7nm,0.5s						
KBA	Koelnbreinsper	17.11	321	Pn	Pn	21 58 57.3	-1.4
	comp=N,1.7nm,0.5s						
KRUC	Moravsky	17.14	331	*e*P	Pn	21 58 59.4	+0.6
MOA	Molln	17.18	324	*i* Pn	Pn	21 58 58.5	-0.9
	comp=N,2.9nm,1.0s						
MOA	Molln	17.18	324	Pn	Pn	21 58 58.5	-0.9
	comp=N,2.9nm,1.0s						
VRAC	Vranov	17.25	331	P	P	21 59 01.2	-0.5
	comp=N,0.3nm,0.3s,baz=149,slow=9.4,SNR=11						
VRAC				LR	LR	22 07 24.4	
	comp=N,70nm,18.9s,baz=164,slow=44						
MORC	Moravsky Berou	17.28	334	*e*Pn	Pn	21 59 00.0	-0.6
	comp=N,8.7nm,0.7s						
MORC	Moravsky Berou	17.28	334	*e*P	P	21 59 01.8	-0.2
MORC	Moravsky Berou	17.28	334	*e*Pn	Pn	21 59 00.0	-0.6
	comp=N,8.7nm,0.7s						
ABTA	Abfaltersbach	17.35	319	*i* Pn	Pn	21 58 59.5	-2.1
	comp=N,2.5nm,0.6s						
ABTA	Abfaltersbach	17.35	319	Pn	Pn	21 58 59.5	-2.1
	comp=N,2.5nm,0.6s						
TREC	Trest	17.69	330	*e*P	Pn	21 59 05.5	-0.2
TREC	Trest	17.69	330	P	Pn	21 59 05.5	-0.2
GEA0	GERESS Array S	18.14	326	*e*Pn	Pn	21 59 10.4	-0.9
GEA0	GERESS Array S	18.14	326	*e*Pn	Pn	21 59 10.4	-0.9
GEC2	GERESS Array S	18.14	326	*e*Pn	Pn	21 59 11.4	0.0
	comp=N,25nm,1.9s						
GEC2	GERESS Array S	18.14	326	*e*Pn	Pn	21 59 11.3	0.0
	comp=N,25nm,1.9s						
GERES	GERESS Array B	18.14	326	P	Pn	21 59 10.2	-1.2
	comp=N,0.4nm,0.3s,baz=136,slow=12,SNR=26						
DPC	Dobruska-Polom	18.20	333	*e*P	Pn	21 59 11.5	-0.5
DPC	Dobruska-Polom	18.20	333	P	Pn	21 59 11.5	-0.5
WATA	Walderalm	18.21	319	*i* Pn	Pn	21 59 12.9	+0.4
	comp=N,5.1nm,0.6s						
WATA	Walderalm	18.21	319	Pn	P	21 59 12.9	+0.4
	comp=N,5.1nm,0.6s						
KHC	Kasperske Hory	18.41	326	*e*P	Pn	21 59 13.2	-1.3
KHC	Kasperske Hory	18.41	326	*e*P	Pn	21 59 13.4	-1.1
	comp=N,1.5nm,1.1s						
KHC	Kasperske Hory	18.41	326	*e*P	Pn	21 59 13.4	-1.1
	comp=N,1.5nm,1.1s						
UPC	Upice	18.44	333	*e*P	P	21 59 14.6	-0.2
UPC	Upice	18.44	333	P	P	21 59 14.6	-0.2
GOPC	GO Pecny, Ondr	18.46	330	*e*P	P	21 59 14.8	-0.2
GOPC	GO Pecny, Ondr	18.46	330	P	P	21 59 14.8	-0.2
MOTA	Moosalm	18.48	318	*i* Pn	Pn	21 59 15.4	-0.1
	comp=N,3.1nm,0.7s						
MOTA	Moosalm	18.48	318	Pn	Pn	21 59 15.4	-0.1
	comp=N,3.1nm,0.7s						
FETA	Feichten	18.49	317	*i* Pn	Pn	21 59 16.2	+0.4
	comp=N,5.1nm,0.9s						
FETA	Feichten	18.49	317	Pn	Pn	21 59 16.2	+0.4
	comp=N,5.1nm,0.9s						
PRU	Pruhonice	18.62	329	*e*P	P	21 59 15.6	-1.1
PRU	Pruhonice	18.62	329	P	P	21 59 15.6	-1.1
RETA	Reutte	18.75	318	*i* P	P	21 59 15.6	-2.7
	comp=N,2.1nm,0.5s						
DAVOX	Davos/Dischmat	18.84	316	P	P	21 59 18.0	-1.4
	comp=N,0.3nm,0.3s,baz=155,slow=19,SNR=2.7						
DAVOX				LR	LR	22 09 03.0	
	comp=N,86nm,18.1s,baz=98,slow=45						
PVCC	Panska Ves	19.02	331	*e*P	P	21 59 21.0	-0.2
PVCC	Panska Ves	19.02	331	P	P	21 59 21.0	-0.2
DAVA	Damuels	19.12	317	*i* P	P	21 59 20.3	-2.2
	comp=N,2.9nm,0.4s						
DAVA	Damuels	19.12	317	P	P	21 59 20.3	-2.2
	comp=N,2.9nm,0.4s						
BRG	Berggiesshubel	19.54	330	*e*P	P	21 59 25.6	-1.3
	comp=N,5.6nm,1.3s						
BNI	Bardonecchia	20.00	308	*e*P	P	21 59 31.7	-0.4
	comp=N,4.9nm,1.3s						
BNI	Bardonecchia	20.00	308	*e*P	P	21 59 31.7	-0.4
	comp=N,4.9nm,1.3s						
SENIN	Lac Senin/Sane	20.17	312	*e*P	P	21 59 33.2	-0.9
	comp=N,9.4nm,0.8s						
SENIN	Lac Senin/Sane	20.17	312	*e*P	P	21 59 33.2	-0.9
	comp=N,9.4nm,0.8s						
CLL	Collm	20.26	330	*e*(P)	P	21 59 33.0	-1.7
CLL				*i*		21 59 37.7	
	comp=Z,4.0nm,0.8s						
OBN	Obninsk	21.04	12	P	P	21 59 43.0	-0.1
	comp=Z,10nm,0.5s,baz=12,slow=17,SNR=4.1						
OBN	Obninsk	21.04	12	*e*P	P	21 59 43.0	-0.1
	comp=Z,11nm,0.7s						
OBN	Obninsk	21.04	12	*e*P	P	21 59 43.0	-0.1
	comp=Z,11nm,0.7s						
GEYT	Alibeck	23.55	74	P	P	22 00 11.3	+1.4
	comp=Z,1.0nm,0.5s,baz=225,slow=57,SNR=2.0						
LLD	Lille Linde	23.70	336	*i* P	P	22 00 14.6	+3.7
TAM	Tamanrasset	23.78	246	*e*P	P	22 00 11.4	-0.8
	comp=Z,9.1nm,1.3s						
TAM	Tamanrasset	23.78	246	*e*P	P	22 00 11.4	-0.8
	comp=Z,9.1nm,1.3s						
AKTO	Aktyubinsk	26.23	44	P	P	22 00 35.0	+0.8
	comp=Z,1.2nm,0.6s,baz=291,slow=1.3,SNR=5.4						
AKTO	Aktyubinsk	26.23	44	P	P	22 00 35.0	+0.8
ES19	SONSECA Array	26.66	291	*e*P	P	22 00 40.3	+2.1
ESDC	Sonseca Array	26.71	290	P	P	22 00 38.8	+0.1
	comp=Z,1.2nm,0.6s,baz=80,slow=9.5,SNR=13						
ESLA	Sonseca Array	26.71	290	*e*P	P	22 00 36.6	-2.1
	comp=Z,3.5nm,1.0s						
ESLA	Sonseca Array	26.71	290	*e*P	P	22 00 36.6	-2.1
	comp=Z,3.5nm,1.0s						
FIA0	FINESS Array S	26.81	357	*e*P	P	22 00 39.0	-0.3
FIA0	FINESS Array S	26.81	357	*e*P	P	22 00 39.0	-0.3
FINES	FINESS Array B	26.81	357	P	P	22 00 39.0	-0.3
	comp=Z,1.3nm,0.7s,baz=176,slow=11,SNR=9.1						
FIA1	FINESS Array S	26.81	357	*e*P	P	22 00 39.5	+0.2
FIA1	FINESS Array S	26.81	357	*e*P	P	22 00 39.5	+0.2
HFS	Hagfors	27.34	343	P	P	22 00 43.4	-0.7
	comp=Z,1.7nm,0.6s,baz=140,slow=11,SNR=6.0						
NB200	NORSAR Array S	28.74	342	*e*P	P	22 00 55.1	-1.5
NB200	NORSAR Array S	28.74	342	*e*P	P	22 00 55.1	-1.5
NOA	NORSAR Array B	28.74	342	P	P	22 00 55.1	-1.5
	comp=Z,0.3nm,0.5s,baz=145,slow=9.3,SNR=2.6						
NOA				LR	LR	22 15 11.8	
	comp=Z,20nm,18.4s,baz=50,slow=42						
EKA	Eskdalemuir Ar	30.31	323	P	P	22 01 10.4	-0.1
	comp=Z,0.3nm,0.5s,baz=122,slow=11,SNR=3.9						
TOA1	Torodi Ar. Sit	32.80	236	*e*P	P	22 01 33.5	+0.7
	comp=Z,7.9nm,1.4s						
TOA1	Torodi Ar. Sit	32.80	236	*e*P	P	22 01 33.5	+0.7
	comp=Z,7.9nm,1.4s						
TOA0	Torodi Ar. Sit	32.81	236	*e*P	P	22 01 33.5	+0.6
	comp=Z,16nm,1.8s						
TOA0	Torodi Ar. Sit	32.81	236	*e*P	P	22 01 33.5	+0.6
	comp=Z,16nm,1.8s						
TORD	Torodi Ar. Bea	32.81	236	P	P	22 01 33.5	+0.7
	comp=Z,1.6nm,0.8s,baz=32,slow=11,SNR=11						
ARA0	ARCESS Array S	34.93	358	*e*P	P	22 01 52.3	+1.5
ARA0	ARCESS Array S	34.93	358	*e*P	P	22 01 52.3	+1.5
ARCES	ARCESS Array B	34.93	358	P	P	22 01 52.3	+1.5
	comp=Z,1.4nm,0.7s,baz=168,slow=7.1,SNR=4.3						
MK32	Makanchi Array	41.32	56	*e*P	P	22 02 45.2	+0.3
MK32	Makanchi Array	41.32	56	*e*P	P	22 02 45.2	+0.3
MKAR	Makanchi Array	41.32	56	P	P	22 02 45.2	+0.3
	comp=Z,0.8nm,0.7s,baz=274,slow=7.2,SNR=7.4						
MK01	Makanchi Array	41.32	56	*e*P	P	22 02 47.0	+2.0
MK01	Makanchi Array	41.32	56	*e*P	P	22 02 47.0	+2.0
DBIC	Dimbokro	41.92	236	P	P	22 02 50.2	+0.1
	comp=Z,2.4nm,0.6s,baz=36,slow=6.2,SNR=5.6						
DBIC	Dimbokro	41.92	236	*e*P	P	22 02 50.2	+0.1
	comp=Z,12nm,1.3s						
DBIC	Dimbokro	41.92	236	*e*P	P	22 02 50.2	+0.1
	comp=Z,12nm,1.3s						
ZALV	Zalesovo Beam	42.98	46	P	P	22 02 58.3	0.0
	comp=Z,0.7nm,0.5s,baz=254,slow=11,SNR=3.7						
ZAA1	Zalesovo Array	42.98	46	*e*P	P	22 02 58.3	0.0
ZAA1	Zalesovo Array	42.98	46	*e*P	P	22 02 58.3	0.0
SPITS	Spitsbergen Ar	43.91	356	P	P	22 03 05.9	+0.4
	comp=Z,1.7nm,0.7s,baz=157,slow=8.9,SNR=6.2						
SONA0	Songino Array	57.24	51	*e*P	P	22 04 49.7	+2.9
	comp=Z,8.2nm,2.0s						
SONM	Songino Array	57.24	51	P	P	22 04 49.7	+2.9
	comp=Z,0.2nm,0.3s,baz=284,slow=5.8,SNR=3.8						
BOSA	Boshof	63.10	184	P	P	22 05 28.8	+1.9
	comp=Z,4.3nm,1.1s,baz=9.5,slow=6.1,SNR=3.3						
CMAR	Chiang Mai Arr	63.39	85	LR	LR	22 36 36.4	
	comp=Z,53nm,20.6s,baz=119,slow=39						
SCHQ	Schefferville	65.60	321	P	P	22 05 42.8	-0.2
	comp=Z,1.2nm,0.5s,baz=78,slow=6.3,SNR=4.5						
SCHQ	Schefferville	65.60	321	*e*P	P	22 05 42.8	-0.2
	comp=Z,36nm,1.8s						
SCHQ	Schefferville	65.60	321	*e*P	P	22 05 42.8	-0.2
	comp=Z,36nm,1.8s						
YKA	Yellowknife Ar	78.82	344	P	P	22 07 03.1	+1.2
	comp=Z,0.5nm,0.8s,baz=41,slow=5.9,SNR=3.8						
YKB5	Yellowknife Ar	78.82	344	*e*P	P	22 07 03.1	+1.2
YKB5	Yellowknife Ar	78.82	344	*e*P	P	22 07 03.1	+1.2

IDC 14 22:15:08.9±3.9, 9°10S×154°44E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/34, mbtmp3.8/5, Error ellipse: s-maj=118.4km s-min=30.9km az=120.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.22	239	P	P	22 20 05.6	-1.6
	2.3nm,0.7s,baz=62,slow=11,SNR=12						
ASAR	Alice Springs	24.40	231	P	P	22 20 28.6	-0.7
	2.2nm,0.7s,baz=65,slow=8.8,SNR=18						
FITZ	Fitzroy Crossi	29.35	249	P	P	22 21 15.7	+1.9
	1.9nm,0.8s,baz=61,slow=10,SNR=2.5						
SONM	Songino Array	70.81	328	P	P	22 26 26.1	-1.4
	0.2nm,0.3s,baz=130,slow=6.0,SNR=3.4						
MKAR	Makanchi Array	84.62	319	P	P	22 27 45.3	+0.9
	0.3nm,0.8s,baz=106,slow=5.1,SNR=2.8						
TORD	Torodi Ar. Bea	152.97	281	PKPbc	PKPbc	22 35 10.2	+0.9
	0.2nm,0.7s,baz=90,slow=1.4,SNR=2.8						

*ATH **14** 22:17:49.6, 34°.88N×28°.99E, h20km±8km, ML2.6/5, Error ellipse: s-maj=11.5km s-min=1.0km az=109.0*
*ISCJB **14** 22:17:50.4±1.9, 34°.80N±0°.08×29°.04E±0°.05, h24km±22km, Error ellipse: s-maj=13.8km s-min=4.8km az=155.4*
*CSEM **14** 22:17:50.5±0.6, 34°.82N×29°.03E, h15km, ML2.6, Error ellipse: s-maj=14.1km s-min=5.5km az=154.0*
*DDA **14** 22:18:07.0, 34°.77N×29°.05E, h15km, Md3.3*

ISC 14 22:17:48.9±1.7, 34°.87N±0°.06×28°.96E±0°.04, h12km±10km, n36, σ1°70/54, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	Kastellorizon	1.38	21	P	Pg	22 18 15.5	+0.2
KSL				S	Sg	22 18 33.7	+0.5
KSL				AML	AML	22 18 47.3	
	comp=N,77μm,0.9s						
KSL				AML	AML	22 18 51.8	
	comp=E,92μm,1.0s						
AKAS	Kas	1.46	21	P	Pb	22 18 16.6	+0.6
AKAS				S	Sg	22 18 35.5	-0.4
AKAS	Kas	1.46	21	*i* P	Pb	22 18 16.6	+0.6
AKAS				*i* S	Sg	22 18 35.5	-0.4
ARG	Arkhangelos	1.51	333	P	Pg	22 18 17.9	+0.1
KARP	Karpathos	1.62	295	P	Pg	22 18 20.4	+0.4
KARP				S	Sg	22 18 41.5	+0.4
KARP	Karpathos	1.62	295	P	Pg	22 18 20.4	+0.4
KARP				S	Sg	22 18 41.5	+0.4
TURN	Turunc	2.02	352	*i* P	Pb	22 18 25.2	-0.3
TURN				*i* S	Sb	22 18 48.9	-1.7
ZKR	Zakros	2.27	277	P	Pn	22 18 28.2	+2.1
ZKR				S	Sb	22 18 56.5	-1.2
ZKR	Zakros	2.27	277	P	Pn	22 18 28.2	+2.1
ZKR				S	Sb	22 18 56.5	-1.2
ZKR				AML	AML	22 18 57.7	
	comp=E,147μm,0.3s						
ZKR				AML	AML	22 18 58.2	
	comp=N,144μm,0.6s						
GOLH	Golhisar	2.41	11	P	Pb	22 18 30.5	-1.8
GOLH				S	Sb	22 19 00.8	-1.2
GOLH	Golhisar	2.41	11	*i* P	Pb	22 18 30.5	-1.8
GOLH				*i* S	Sb	22 19 00.8	-1.2
BDRM	Kayabasi	2.51	331	P	Pb	22 18 32.3	-1.6
BDRM				S	Sn	22 19 00.8	+0.7
BDRM	Kayabasi	2.51	331	*i* P	Pb	22 18 32.3	-1.6
BDRM				*i* S	Sn	22 19 00.8	+0.7
NPS	Neapolis	2.77	279	P	Pb	22 18 36.8	-1.5
NPS				S	Sb	22 19 10.3	-2.0
NPS	Neapolis	2.77	279	P	Pb	22 18 36.8	-1.5
NPS				AML	AML	22 19 10.1	
	comp=N,79μm,0.7s						
NPS				S	Sb	22 19 10.3	-2.0
NPS				AML	AML	22 19 10.8	
	comp=E,124μm,0.6s						
LAST	Lasithi	2.87	277	P	Pn	22 18 37.5	+3.0
LAST				S	Sb	22 19 12.8	-2.4
LAST	Lasithi	2.87	277	P	Pn	22 18 37.5	+3.0
SANT	Santorini	3.22	299	P	Pn	22 18 41.9	+2.6
SANT	Santorini	3.22	299	P	Pn	22 18 41.9	+2.6
SMG	Samos	3.31	329	P	Pn	22 18 42.3	+1.8
SMG	Samos	3.31	329	P	Pn	22 18 42.3	+1.8
IDI	Anoyia	3.36	278	P	Pn	22 18 44.2	+2.9
IDI	Anoyia	3.36	278	P	Pn	22 18 44.2	+2.9
IDI				S	Sn	22 19 21.3	+0.2
IDI				AML	AML	22 19 25.7	
	comp=E,75μm,0.4s						
IDI				AML	AML	22 19 26.2	
	comp=N,93μm,0.3s						
APE	Apeiranthos	3.54	309	P	Pn	22 18 45.8	+2.1
APE	Apeiranthos	3.54	309	P	Pn	22 18 45.8	+2.1
ERMK	Ermenek	3.67	60	P	Pn	22 18 46.5	+0.9
ERMK				S	Sn	22 19 28.7	-0.2
ERMK	Ermenek	3.67	60	*i* P	Pn	22 18 46.5	+0.9
ERMK				*i* S	Sn	22 19 28.7	-0.2
VAM	Vamos	3.94	279	P	Pn	22 18 52.1	+3.0
IMMV	Iera Moni Meta	4.12	280	P	Pn	22 18 52.1	+0.5
IMMV	Iera Moni Meta	4.12	280	P	Pn	22 18 52.1	+0.5
ANKY	Antikythira Is	4.73	284	P	Pn	22 19 00.6	+0.6
ANKY	Antikythira Is	4.73	284	P	Pn	22 19 00.6	+0.6
VLI	Veliai	5.23	292	P	Pn	22 19 06.9	0.0
VLI	Veliai	5.23	292	P	Pn	22 19 06.9	0.0
VLI				AML	AML	22 20 07.9	
	comp=E,49μm,0.3s						
VLI				AML	AML	22 20 08.6	
	comp=N,64μm,0.7s						
KRND	KRANIDI	5.33	300	P	Pn	22 19 11.2	+3.0
KRND	KRANIDI	5.33	300	P	Pn	22 19 11.2	+3.0

*NIED **14** 22:18:00, 39°.50N×142°.50E, h23km, Mw3.5 Best double couple: M0 1.88000×10^14 NP1:φs 167.00000°, δ 26.00000°, λ 25.00000°. NP2:φs 55.00000°, δ 80.00000°, λ 114.00000°.*
*ISCJB **14** 22:18:11.9±1.3, 39°.49N±0°.05×142°.63E±0°.08, h19km±8km, mb3.5/5, MS3.4/1, Error ellipse: s-maj=10.0km s-min=8.5km az=22.7*
*JMA **14** 22:18:13.5±0.1, 39°.51N×142°.53E, h28km±1km, M3.7*
*IDC **14** 22:18:17.6±3.2, 39°.51N×142°.56E, h54km±29km, mb3.3/5, mb1 3.4/7, mb1mx3.2/43, mbtmp3.5/7, ML3.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.3/29, Error ellipse: s-maj=34.1km s-min=21.1km az=104.0*

ISC 14 22:18:12.6±2.4, 39°.50N±0°.05×142°.53E±0°.09, h12km±14km, n18, σ1°90/24, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	Miyakonagasawa	0.55	278	P	Pb	22 18 24.5	+0.3
MIYJ				S	Sb	22 18 32.2	+0.1
JTH	Tanohata	0.67	311	P	Pb	22 18 26.1	-0.2
OFUJ	Ofunato	0.79	238	P	Pb	22 18 28.1	-0.1
OFUJ				S	Sb	22 18 38.4	-0.5
JOM	Ohasama	0.96	269	P	Pg	22 18 31.1	0.0
JOM				S	Sg	22 18 43.5	-0.1
JKZ	Kuzumaki	1.04	298	P	Pb	22 18 32.3	-0.3
JKZ				*e*S	Sg	22 18 46.1	-0.2
JMK	Ichinoseki	1.16	242	P	Pb	22 18 34.1	-0.4
JMK				S	Sb	22 18 48.8	-0.6
JANG	Nango	1.17	319	P	Pb	22 18 33.9	-0.8
JIO	Ouri	1.39	222	P	Pn	22 18 37.4	-0.4
JRG	Rokugo	1.47	266	P	Pb	22 18 39.7	-0.2
JRG				*e*S	Sg	22 18 59.2	-0.7
JAH	Hinai	1.61	296	P	Pb	22 18 41.7	-0.5
JAH				*e*S	Sb	22 19 02.3	-0.2
MJAR	Matsushiro Arr	4.51	230	P	Pn	22 19 24.4	+3.6
	0.5nm,0.3s,baz=37,slow=11,SNR=8.5						
ASAJ	Asahikawa	4.61	1	P	Pn	22 19 23.6	+1.6
	1.2nm,0.3s,baz=234,slow=28,SNR=7.1						
DAV	Davao City (W)	35.71	210	LR	LR	22 37 14.7	
	comp=Z,68nm,21.7s,baz=28,slow=32						
ZALV	Zalesovo Beam	40.94	310	P	P	22 25 55.1	+0.4
	1.3nm,0.6s,baz=95,slow=9.0,SNR=4.4						
MKAR	Makanchi Array	43.59	300	P	P	22 26 16.2	-0.3
	0.3nm,0.7s,baz=81,slow=8.9,SNR=4.3						
ILAR	Eielson Array	46.95	34	P	P	22 26 42.9	+0.1
	0.2nm,0.6s,baz=263,slow=7.2,SNR=3.0						
WRA	Warramunga Arr	59.63	189	P	P	22 28 15.8	-0.7
	0.5nm,0.8s,baz=8.6,slow=7.0,SNR=3.1						
FINES	FINESS Array B	67.04	332	P	P	22 29 04.3	-0.8
	0.8nm,0.8s,baz=42,slow=8.9,SNR=4.9						

*NIED **14** 22:21:00, 37°.50N×143°.80E, h8km, Mw4.0 Best double couple: M0 9.91000×10^14 NP1:φs 31.00000°, δ 32.00000°, λ -63.00000°. NP2:φs 180.00000°, δ 62.00000°, λ -106.00000°.*
*IDC **14** 22:21:20.6±0.9, 37°.41N×144°.20E, h0km, mb3.8/13, mb1 4.0/19, mb1mx3.8/45, mbtmp3.9/19, ML4.1/5, MS3.1/6, Ms1 3.1/6, ms1mx2.7/54, Error ellipse: s-maj=22.9km s-min=15.4km az=104.0*
*ISCJB **14** 22:21:23.2±1.4, 37°.50N±0°.03×143°.92E±0°.04, h26km±10km, mb4.0/18, MS3.2/3, Error ellipse: s-maj=6.1km s-min=5.4km az=142.9*
*JMA **14** 22:21:25.4±0.3, 37°.53N×143°.81E, h49km, M4.0*
*NEIC **14** 22:21:26.0±0.3, 37°.47N×144°.14E, h35km, mb4.3/4, Error ellipse: s-maj=8.3km s-min=6.0km az=126.0*

ISC 14 22:21:21.8±3.9, 37°.53N±0°.05×144°.03E±0°.07, h7km±25km, n63, σ1°97/74, mb3.9/18, MS3.1/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	Ouri	2.31	294	P	Pn	22 22 00.0	-0.2
JIO				S	Sn	22 22 25.7	-3.1
OFUJ	Ofunato	2.42	311	P	Pn	22 22 01.6	-0.1
OFUJ				S	Sn	22 22 28.2	-3.3
JFK	Kawauchi	2.51	267	P	Pn	22 22 02.8	-0.3
JFK				*e*S	Sn	22 22 30.1	-3.8
JMK	Ichinoseki	2.63	304	P	Pn	22 22 03.2	+0.6
JMK				S	Sn	22 22 34.4	-2.3
JOM	Ohasama	2.89	313	P	Pn	22 22 08.5	+0.2
JOM				S	Sn	22 22 41.0	-2.3
JFT	Otama	2.93	271	P	Pn	22 22 09.4	+0.6
JFT				S	Sn	22 22 42.0	-2.3
JYK	Kaneyama	3.20	297	P	Pn	22 22 13.4	+0.9
JYK				S	Sn	22 22 48.2	-2.7
JANG	Nango	3.45	326	P	Pn	22 22 16.2	+0.3
JANG				*e*S	Sn	22 22 52.

ZALV	**Zalesovo Beam**	**43.13**	**312**	P	**P**	**22 29 24.2**	**+1.7**
	0.6nm,0.3s,baz=82,slow=10,SNR=3.2						
ZALV				PcP	**PcP**	**22 31 12.5**	**+0.4**
	0.9nm,0.4s,baz=90,slow=3.8,SNR=3.8						
ZALV				LR	LR	22 47 56.9	
	comp=Z,24nm,18.1s,baz=68,slow=37						
CM31	**Chiang Mai Arr**	**43.64**	**257**	*e*P	**P**	**22 29 28.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**43.64**	**257**	P	**P**	**22 29 28.5**	**+1.4**
	0.7nm,0.3s,baz=43,slow=7.4,SNR=7.1						
TT01	**Tatalina**	**43.82**	**35**	*e*P	**P**	**22 29 27.9**	**-0.1**
MK32	**Makanchi Array**	**45.62**	**302**	*e*P	**P**	**22 29 44.1**	**+1.5**
MKAR	**Makanchi Array**	**45.62**	**302**	P	**P**	**22 29 44.1**	**+1.5**
	0.8nm,0.8s,baz=82,slow=8.7,SNR=6.0						
ILAR	**Eielson Array**	**47.96**	**33**	P	**P**	**22 30 00.1**	**-0.6**
	0.8nm,0.7s,baz=263,slow=6.3,SNR=6.5						
ILB	**Eielson Array**	**47.96**	**33**	*e*P	**P**	**22 30 00.1**	**-0.6**
INK	**Inuvik**	**52.99**	**27**	P	**P**	**22 30 38.7**	**+0.1**
	0.6nm,0.5s,baz=203,slow=13,SNR=2.4						
WR1	**Warramunga Arr**	**57.88**	**191**	*e*P	**P**	**22 31 13.9**	**-0.4**
WRA	**Warramunga Arr**	**57.88**	**191**	P	**P**	**22 31 13.9**	**-0.4**
	0.9nm,0.6s,baz=8.7,slow=7.1,SNR=14						
ABKAR	**Akbulak array**	**59.21**	**311**	*e*P	**P**	**22 31 23.6**	**+0.2**
	0.8nm,0.7s						
AS31	**Alice Springs**	**61.61**	**191**	*e*P	**P**	**22 31 39.2**	**-0.7**
	3.9nm,1.5s						
ASAR	**Alice Springs**	**61.61**	**191**	P	**P**	**22 31 39.3**	**-0.7**
	0.6nm,0.8s,baz=9.7,slow=7.7,SNR=3.9						
MBWA	**Marble Bar**	**62.70**	**206**	*e*P	**P**	**22 31 47.6**	**+0.3**
	46nm,1.4s						
FIA0	**FINESS Array S**	**69.33**	**333**	*e*P	**P**	**22 32 30.4**	**+0.8**
FINES	**FINESS Array B**	**69.33**	**333**	P	**P**	**22 32 30.4**	**+0.8**
	0.9nm,0.8s,baz=61,slow=11,SNR=4.0						
NB200	**NORSAR Array S**	**74.52**	**338**	*e*P	**P**	**22 33 01.7**	**+0.9**
NOA	**NORSAR Array B**	**74.52**	**338**	P	**P**	**22 33 01.7**	**+0.9**
	2.1nm,0.9s,baz=31,slow=5.4,SNR=3.8						
AKASG	**Malin Array Be**	**75.16**	**323**	P	**P**	**22 33 05.7**	**+1.1**
	0.3nm,0.3s,baz=36,slow=5.4,SNR=4.0						
AKBB	**Malin Array Si**	**75.16**	**323**	*e*P	**P**	**22 33 05.7**	**+1.1**
	6.8nm,0.6s						
PFO	**Pinyon Flats O**	**77.03**	**58**	LR	LR	22 58 04.9	
	comp=Z,40nm,21.0s,baz=42,slow=29						
BR101	**Keskin Array S**	**80.06**	**313**	*e*P	**P**	**22 33 33.6**	**+1.2**
BRTR	**Keskin Array B**	**80.06**	**313**	P	**P**	**22 33 33.6**	**+1.2**
	0.3nm,0.7s,baz=43,slow=2.8,SNR=2.4						

IDC 14 22:35:15.8±9.7, 4.°90N×127.°35E, h299km±107km, mb3.3/7, mb1 3.4/7, mb1mx3.1/36, mbtmp3.9/7, MS4.1/2, Ms1 4.1/2, ms1mx2.9/19, Error ellipse: s-maj=48.5km s-min=22.3km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.62**	**165**	P	P	22 40 18.7	0.0
	0.5nm,0.8s,baz=337,slow=10,SNR=10						
SONM	**Songino Array**	**46.40**	**341**	P	P	22 43 13.0	0.0
	0.2nm,0.3s,baz=134,slow=6.2,SNR=2.8						
PETK	**Petropavlovsk-**	**54.12**	**22**	P	P	22 44 10.4	0.0
	3.2nm,0.7s,baz=165,slow=2.2,SNR=4.0						
PETK				LR	LR	23 04 40.2	
	comp=Z,262nm,21.1s,baz=62,slow=33						
MKAR	**Makanchi Array**	**56.96**	**325**	P	P	22 44 30.9	+0.3
	1.6nm,0.4s,baz=114,slow=7.8,SNR=41						
MA2	**Magadan**	**57.43**	**14**	LR	LR	23 07 06.8	
	comp=Z,139nm,20.5s,baz=133,slow=33						
ZALV	**Zalesovo Beam**	**59.84**	**332**	P	P	22 44 49.4	-0.8
	0.4nm,0.4s,baz=121,slow=8.0,SNR=2.9						
ARCES	**ARCESS Array B**	**89.57**	**340**	P	P	22 47 39.1	-0.2
	1.7nm,1.0s,baz=81,slow=7.5,SNR=4.7						
FINES	**FINESS Array B**	**91.10**	**332**	P	P	22 47 46.7	+0.2
	1.2nm,1.0s,baz=92,slow=7.6,SNR=1.7						

WEL 14 22:41:52.1±0.2, 41.°04S×176.°79E, h33km, ML3.6/13, 11C, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPWZ	**Castlepoint**	**0.47**	**286**	⇑P*	Pn	22 42 02.5	0.0
CPWZ				S*	Sn	22 42 09.9	+0.3
BFZ	**Birch Farm**	**0.55**	**311**	⇑P*	Pb	22 42 02.9	-0.6
BFZ				S*	Sn	22 42 11.5	-0.1
BFZ				AML	AML	22 42 14.6	
BFZ				AML	AML	22 42 15.4	
BFZ				AML	AML	22 42 23.0	
ANWZ	**Angora Road**	**0.63**	**337**	⇑P*	Pn	22 42 04.1	-0.6
ANWZ				S*	Sb	22 42 13.4	-0.1
TMWZ	**Te Maipa**	**0.69**	**264**	⇑P*	Pn	22 42 05.5	0.0
TIWZ	**Tintock**	**0.74**	**291**	P*	Pn	22 42 05.9	-0.4
TIWZ				AML	AML	22 42 27.4	
TIWZ				AML	AML	22 42 29.2	
PRWZ	**Porangahau**	**0.78**	**351**	P*	Pn	22 42 06.2	-0.6
PRWZ	**Pori Road**	**0.79**	**308**	P*	Pn	22 42 06.8	-0.2
DVHZ	**Dannevirke**	**0.88**	**327**	P*	Pn	22 42 07.7	-0.5
TRWZ	**Traveller**	**0.91**	**247**	P*	Pn	22 42 08.4	-0.1
TRWZ				AML	AML	22 42 36.9	
TRWZ				AML	AML	22 42 44.8	
HOWZ	**Holdsworth Sta**	**0.98**	**278**	P*	Pn	22 42 09.2	-0.4
MTW	**Mount Morrison**	**0.98**	**263**	⇑P*	Pn	22 42 09.4	-0.2
MTW				AML	AML	22 42 31.5	
MTW				AML	AML	22 42 31.7	
MRZ	**Mangatainoka R**	**1.00**	**292**	⇑P*	Pn	22 42 09.5	-0.3
PXZ	**Pawanui**	**1.01**	**3**	⇑P*	Pn	22 42 09.6	-0.4
PXZ				AML	AML	22 42 37.8	
PXZ				AML	AML	22 42 37.8	
PXZ				AML	AML	22 42 48.1	
PXZ				AML	AML	22 42 48.1	
WPHZ	**Waipukurau**	**1.01**	**344**	P*	Pn	22 42 09.8	-0.2
POWZ	**Post Office Ro**	**1.01**	**309**	P*	Pn	22 42 10.0	-0.1
PAWZ	**Paruwai Farm**	**1.09**	**251**	P*	Pn	22 42 10.8	-0.3
PAWZ				AML	AML	22 42 38.8	
PAWZ				AML	AML	22 42 39.1	
TSZ	**Takapari Road**	**1.17**	**327**	P*	Pn	22 42 12.0	-0.2
TSZ				AML	AML	22 42 40.5	
TSZ				AML	AML	22 42 41.0	
PNHZ	**Pukenui**	**1.22**	**338**	P*	Pn	22 42 12.7	-0.2
MSWZ	**Moikau Station**	**1.22**	**252**	P*	Pn	22 42 12.5	-0.4
MSWZ				AML	AML	22 42 42.4	
MSWZ				AML	AML	22 42 44.1	
KAHZ	**Kahuranaki**	**1.25**	**3**	PN	Pn	22 42 12.9	-0.4
OGWZ	**Otaki Gorge**	**1.25**	**280**	⇑P*	Pn	22 42 13.3	+0.1
PLWZ	**Palliser**	**1.27**	**245**	P*	Pn	22 42 13.1	-0.6
CAW	**Cannon Point**	**1.31**	**267**	⇑PN	Pn	22 42 14.0	0.0
CAW				AML	AML	22 42 31.2	
CAW				AML	AML	22 42 42.6	
KIW	**Kapiti Island**	**1.44**	**277**	⇑PN	Pn	22 42 16.2	+0.3
KIW				AML	AML	22 42 34.9	
KIW				AML	AML	22 42 44.9	
MCHZ	**McNeill Hill**	**1.60**	**357**	PN	Pn	22 42 18.2	+0.1
MOVZ	**Moawhango**	**1.82**	**334**	PN	Pn	22 42 21.9	+0.7
MOVZ				AML	AML	22 42 44.0	
MOVZ				AML	AML	22 42 44.0	
BKZ	**Black Stump Fm**	**1.89**	**353**	⇑PN	Pn	22 42 22.0	-0.1
BKZ				AML	AML	22 42 45.2	
BKZ				AML	AML	22 43 01.7	
TCW	**Tory Channel**	**1.91**	**264**	PN	Pn	22 42 22.3	-0.1
TCW				AML	AML	22 42 46.7	
TCW				AML	AML	22 42 49.2	
DUWZ	**D'Urville Isla**	**2.19**	**275**	PN	Pn	22 42 26.9	+0.7
SNGZ	**Shannon Statio**	**2.30**	**11**	PN	Pn	22 42 26.7	-1.0
MWZ	**Matawai**	**2.76**	**12**	*e*PN	Pn	22 42 32.3	-1.8
THZ	**Tophouse**	**3.01**	**255**	PN	Pn	22 42 36.9	-0.6
QRZ	**Quartz Range**	**3.24**	**272**	*e*PN	Pn	22 42 41.1	+0.5

DJA 14 22:44:40.1±0.7, 9.°S±4.°×11.°1E±.°, h26km±7km, M4.2/17, mb4.8/1, MLv4.0/17, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.86**	**1**	P	Pb	22 44 54.8	-1.6
PCJI				S	Sb	22 45 04.2	-3.4
UGM	**Wanagama**	**1.30**	**331**	P	Pn	22 45 02.3	-0.4
UGM				S	Sn	22 45 18.2	-1.1
NGJI	**Ngawi**	**1.71**	**10**	P	Pb	22 45 09.9	-0.9
NGJI				S	Sb	22 45 31.4	-0.5
TBJI	**Tambak Boyo**	**2.33**	**17**	P	Pn	22 45 16.7	-0.1
GMJI	**Gumukmas**	**2.39**	**71**	P	Pn	22 45 16.7	-0.9
GMJI				S	Sn	22 45 44.5	-1.6
GRJI	**Gresik**	**2.50**	**32**	P	Pn	22 45 19.4	+0.3
BLJI	**Banyuglugur**	**2.74**	**62**	P	Pn	22 45 23.0	+0.6
KPJI	**Karang Pucung**	**2.79**	**308**	P	Pn	22 45 24.2	+1.0
CMJI	**Cimerak**	**2.97**	**295**	P	Pn	22 45 25.5	0.0
JAGI	**Jajag, Banyuwa**	**3.02**	**79**	P	Pn	22 45 26.0	-0.2
CISI	**Cisompet, Garu**	**3.63**	**294**	P	Pn	22 45 34.6	-0.1
CNJI	**Cibinong**	**4.35**	**293**	P	Pn	22 45 44.5	-0.1

IDC 14 22:44:51.9±15.0, 17.°98S×178.°07W, h603km±150km, mb3.2/3, mb1 3.4/3, mb1mx2.9/32, mbtmp4.3/3, Error ellipse: s-maj=139.0km s-min=73.3km az=114.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.88**	**241**	P	P	22 51 27.9	+0.6
	2.3nm,0.7s,baz=79,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**44.94**	**260**	P	P	22 52 14.6	-0.4
	1.6nm,0.5s,baz=96,slow=8.5,SNR=51						
WRA				PcP	PcP	22 53 42.4	-0.7
	0.8nm,1.2s,baz=89,slow=3.5,SNR=4.6						
ASAR	**Alice Springs**	**45.08**	**254**	P	P	22 52 16.0	0.0
	2.8nm,0.4s,baz=89,slow=8.0,SNR=34						
ASAR				PcP	PcP	22 53 42.5	-1.1
	0.6nm,0.5s,baz=102,slow=3.8,SNR=5.3						
BRTR	**Keskin Array B**	**145.06**	**315**	PKPbc	PKPbc	23 03 22.8	-0.3
	0.4nm,0.6s,baz=58,slow=1.9,SNR=3.2						
GERES	**GERESS Array B**	**147.77**	**345**	PKPbc	PKPbc	23 03 29.5	-0.6
	0.2nm,0.5s,baz=2.3,slow=4.9,SNR=2.5						

IDC 14 22:58:21.0±0.9, 35.°92N×72.°69E, h0km, mb3.8/13, mb1 3.9/20, mb1mx3.8/52, mbtmp3.8/20, ML3.7/6, MS3.0/3, Ms1 3.0/3, ms1mx2.6/45, Error ellipse: s-maj=18.9km s-min=18.3km az=156.0
ISCJB 14 22:58:26.2±0.3, 35.°99N±0.°03×72.°62E±0.°06, h49km, mb4.0/19, MS3.4/1, Error ellipse: s-maj=7.3km s-min=4.5km az=156.8
NNC 14 22:58:29.1±5.0, 37.°53N×72.°46E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=35.5km s-min=27.3km az=162.0
NEIC 14 22:58:31.8±1.5, 36.°10N×72.°63E, h83km±13km, mb4.3/9, Error ellipse: s-maj=11.9km s-min=9.5km az=130.0

ISC 14 22:58:28.0±0.5, 36.°04N±0.°05×72.°67E±0.°05, h49km, n57, σ1s82/64, mb3.9/19, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**3.32**	**244**	*e*Pn	Pn	22 59 21.6	+3.9
KBL				*e*Sn	**Sn**	**22 59 59.3**	**+3.3**
THN	**Thein Dam**	**4.39**	**144**	*e*P	**Pn**	**22 59 30.5**	**-1.7**
THN				*e*S	**Sn**	**23 00 23.6**	**+1.5**
SDNR	**Sundarnagar**	**5.77**	**140**	*e*P	**Pn**	**22 59 50.3**	**-0.9**
SDNR				*e*S	**Sn**	**23 00 56.3**	**+0.2**
MNAS	**Manas**	**6.44**	**359**	⇑Pg	**Pn**	**23 00 01.2**	**+0.8**
	10.0nm,1.0s						
MNAS				⇓Lg	Lg	23 01 08.0	
	11nm,0.7s						
EKS2	**Erkin-Say**	**6.67**	**7**	*e*Pn	**Pn**	**23 00 06.3**	**+2.8**
EKS2				*e*Sn	**Sn**	**23 01 15.6**	**-2.6**
AAK	**Ala-Archa**	**6.74**	**12**	Pn	**Pn**	**23 00 06.8**	**+2.3**
	2.6nm,0.3s,baz=120,slow=2.5,SNR=9.2						
AAK				Sn	**Sn**	**23 01 21.6**	**+1.7**
	0.6nm,0.3s,baz=187,slow=23,SNR=4.3						
AAK				LR	LR	23 02 54.9	
	comp=Z,61nm,18.4s,baz=172,slow=40						
AAK	**Ala-Archa**	**6.74**	**12**	Pg	**Pn**	**23 00 06.7**	**+2.2**
	5.3nm,0.5s						
AAK				Lg	Lg	23 01 16.9	
	7.9nm,0.7s						
AAK	**Ala-Archa**	**6.74**	**12**	*e*Pn	**Pn**	**23 00 07.3**	**+2.9**
AAK				*e*Sn	**Sn**	**23 01 21.6**	**+1.7**
TKM2	**Tokmak 2**	**7.24**	**17**	⇑Pg	**Pn**	**23 00 16.0**	**+4.7**
	3.5nm,0.5s						
TKM2				⇑Lg	Lg	23 01 34.0	
	5.4nm,0.8s						
TKM2	**Tokmak 2**	**7.24**	**17**	*e*Pn	**Pn**	**23 00 13.9**	**+2.6**
KK31	**Karatay Array**	**7.25**	**347**	Pg	**Pn**	**23 00 12.5**	**+1.2**
	3.7nm,0.4s,baz=164,slow=12,SNR=52						
KK31				⇓Lg	Lg	23 01 33.1	
	4.8nm,0.5s,baz=166,slow=21						
KKAR	**Karatay Array**	**7.25**	**347**	*e*Pn	**Pn**	**23 00 12.9**	**+1.6**
GEYT	**Alibeck**	**11.79**	**284**	Pn	**Pn**	**23 01 12.6**	**-0.9**
	0.6nm,0.3s,baz=113,slow=11,SNR=3.6						
GEYT				Sn	**Sn**	**23 03 20.2**	**-3.4**
	0.8nm,0.3s,baz=128,slow=16,SNR=4.8						
MAKZ	**Makanchi**	**12.82**	**30**	*e*Pn	Pn	23 01 32.6	+5.1
MK01	**Makanchi Array**	**12.92**	**31**	*e*Pn	**Pn**	**23 01 31.7**	**+2.9**
MK31	**Makanchi Array**	**12.94**	**31**	*e*Pn	**Pn**	**23 01 30.7**	**+1.7**
MK32	**Makanchi Array**	**12.94**	**31**	*e*Pn	**Pn**	**23 01 28.4**	**-0.7**
MK32				*e*PcP	**PcP**	**23 06 56.7**	**-3.3**
MKAR	**Makanchi Array**	**12.94**	**31**	Pn	**Pn**	**23 01 28.4**	**-0.7**
	0.1nm,0.3s,baz=216,slow=16,SNR=5.4						
MKAR				LR	LR	23 06 56.7	
	comp=Z,32nm,18.5s,baz=206,slow=40						
MKAR	**Makanchi Array**	**12.94**	**31**	*e*Pn	**Pn**	**23 01 30.7**	**+1.7**
KURBB	**Kurchatov Arra**	**15.18**	**14**	Pn	**Pn**	**23 01 55.6**	**-3.5**
	0.0nm,0.3s,baz=206,slow=12,SNR=4.2						
KURK	**Kurchatov**	**15.29**	**14**	*e*Pn	**P**	**23 02 03.6**	**-0.8**
ABKAR	**Akbulak array**	**16.16**	**329**	*e*Pn	**Pn**	**23 02 10.9**	**-0.7**
ABKAR				*e*Sn	**Sn**	**23 05 04.9**	**-4.8**
VOSK	**Vostochnaya**	**16.73**	**356**	*e*Pn	**P**	**23 02 22.9**	**+2.5**
	6.5nm,1.5s						
BVAR	**Borovoye Array**	**17.06**	**355**	P	**Pn**	**23 02 23.5**	**+0.6**
	0.4nm,0.3s,baz=165,slow=12,SNR=5.6						
BRVK	**Borovoye**	**17.10**	**355**	*e*Pn	**P**	**23 02 26.0**	**+1.5**
	8.1nm,0.8s						
ZRNK	**Zerenda**	**17.11**	**352**	*e*Pn	**Pn**	**23 02 22.9**	**-0.5**
	2.6nm,0.8s						
AKTO	**Aktyubinsk**	**17.87**	**328**	P	**Pn**	**23 02 32.5**	**-0.4**
	1.1nm,0.3s,baz=148,slow=9.1,SNR=16						
ZAA0	**Zalesovo Array**	**19.81**	**22**	*e*P	**P**	**23 02 54.2**	**0.0**
ZALV	**Zalesovo Beam**	**19.81**	**22**	P	**P**	**23 02 54.0**	**-0.3**
	0.6nm,0.3s,baz=214,slow=13,SNR=8.6						
ZAA1	**Zalesovo Array**	**19.82**	**22**	*e*P	**P**	**23 02 54.0**	**-0.3**
GNI	**Garni**	**22.32**	**289**	P	**P**	**23 03 24.4**	**+2.9**
	3.0nm,1.0s,baz=108,slow=20,SNR=2.4						
ARU	**Arti**	**22.52**	**339**	P	**P**	**23 03 23.7**	**+0.3**
	4.0nm,0.7s,baz=124,slow=3.8,SNR=10						
ARU	**Arti**	**22.52**	**339**	*e*P	**P**	**23 03 23.7**	**+0.3**
	6.0nm,0.8s						
BR101	**Keskin Array S**	**30.86**	**289**	*e*P	**P**	**23 04 40.7**	**+1.0**
BRTR	**Keskin Array B**	**30.86**	**289**	P	**P**	**23 04 40.7**	**+1.0**
	0.5nm,0.8s,baz=93,slow=5.8,SNR=2.9						
BRTR				LR	LR	23 20 56.5	
	comp=Z,92nm,21.8s,baz=201,slow=44						
OBN	**Obninsk**	**31.16**	**319**	*e*P	**P**	**23 04 39.8**	**-2.3**
	6.8nm,0.7s						
AKASG	**Malin Array Be**	**34.28**	**309**	P	**P**	**23 05 09.7**	**+0.4**
	1.0nm,0.5s,baz=81,slow=6.7,SNR=6.8						
NRIK	**Noril'sk**	**34.35**	**9**	P	**P**	**23 05 11.3**	**+1.6**
	0.9nm,0.3s,baz=222,slow=1.5,SNR=3.7						
LAST	**Lasithi**	**38.08**	**283**	*e*P	**P**	**23 05 42.0**	**-0.1**
	30nm,1.7s						
FIA1	**FINESS Array S**	**38.62**	**326**	*e*P	**P**	**23 05 45.9**	**-0.2**
FIA0	**FINESS Array S**	**38.62**	**326**	*e*P	**P**	**23 05 46.3**	**+0.2**
FINES	**FINESS Array B**	**38.62**	**326**	P	**P**	**23 05 46.3**	**+0.2**
	0.7nm,0.5s,baz=118,slow=9.8,SNR=7.7						
ARA0	**ARCESS Array S**	**42.09**	**337**	*e*P	**P**	**23 06 15.0**	**+0.3**
ARCES	**ARCESS Array B**	**42.09**	**337**	P	**P**	**23 06 15.0**	**+0.3**
	3.6nm,1.1s,baz=114,slow=8.1,SNR=5.6						
NB200	**NORSAR Array S**	**45.56**	**323**	*e*P	**P**	**23 06 42.6**	**-0.1**
NOA	**NORSAR Array B**	**45.56**	**323**	P	**P**	**23 06 42.6**	**-0.1**
	0.8nm,0.7s,baz=90,slow=8.1,SNR=3.3						
ESDC	**Sonseca Array**	**58.86**	**299**	P	**P**	**23 08 22.6**	**+0.8**
	0.2nm,0.5s,baz=49,slow=7.4,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**67.06**	**270**	*e*P	**P**	**23 09 15.2**	**-1.2**
	13nm,1.8s						
TORD	**Torodi Ar. Bea**	**67.06**	**270**	P	**P**	**23 09 15.2**	**-1.2**
	0.7nm,0.7s,baz=47,slow=5.4,SNR=21						
ILAR	**Eielson Array**	**74.85**	**16**	P	**P**	**23 10 03.4**	**+0.5**
	0.5nm,0.8s,baz=303,slow=5.3,SNR=2.9						
ILB	**Eielson Array**	**74.85**	**16**	*e*P	**P**	**23 10 03.4**	**+0.5**
WR1	**Warramunga Arr**	**80.61**	**123**	*e*P	**P**	**23 10 37.1**	**+1.5**
	21nm,1.2s						
WRA	**Warramunga Arr**	**80.61**	**123**	P	**P**	**23 10 37.1**	**+1.5**
	0.4nm,0.7s,baz=320,slow=5.1,SNR=5.3						
YKA	**Yellowknife Ar**	**81.63**	**3**	P	**P**	**23 10 39.9**	**-0.5**
	0.9nm,0.6s,baz=348,slow=5.4,SNR=2.9						
YKB5	**Yellowknife Ar**	**81.63**	**3**	*e*P	**P**	**23 10 39.9**	**-0.5**
AS31	**Alice Springs**	**82.89**	**126**	*e*P	**P**	**23 10 46.5**	**-1.1**
	5.4nm,1.4s						
ASAR	**Alice Springs**	**82.89**	**126**	P	**P**	**23 10 46.5**	**-1.0**
	0.5nm,0.5s,baz=313,slow=5.5,SNR=5.9						

KRSC 14 23:01:31.1±0.7, 55.°27N×162.°52E, h90km±17km, ML5.4, FELT [II] at Ust-Kamchatsk.
BJI 14 23:01:31.8, 55.°30N×162.°07E, h85km, mb4.7/29, mB4.9/17, Ms4.5/8, Ms7 4.3/3
IDC 14 23:01:32.1±1.8, 55.°35N×162.°07E, h53km±15km, mb4.4/38, mb1 4.5/43, mb1mx4.4/53, mbtmp4.6/43, ML4.3/4, MS3.7/32, Ms1 3.7/32, ms1mx3.6/48, Error ellipse: s-maj=13.5km s-min=8.9km az=148.0
MOS 14 23:01:34.5±0.9, 55.°32N×162.°10E, h91km, mb4.8/59, Error ellipse: s-maj=6.0km s-min=3.5km az=84.7
MOS Felt (II) at Ust'-Kamchatsk.
ISCJB 14 23:01:34.6±0.2, 55.°32N±0.°02×162.°13E±0.°03, h93km±2km, mb4.7/201, Error ellipse: s-maj=3.5km s-min=2.3km az=144.6
NEIC 14 23:01:35.5±0.5, 55.°46N×161.°94E, h81km±4km, mb4.8/118, Error ellipse: s-maj=4.5km s-min=2.5km az=159.0
NEIC Felt [II] at Ust'-Kamchatsk.

ISC 14 23:01:35.5±0.5, 55.°30N±0.°03×162.°20E±0.°04, h87km±3km, n685, σ1s31/727, mb4.8/201, 19C-20D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.79**	**200**	PN	Pn	23 01 49.7	-2.9
MKZ	**Mys Kozlova**	**0.79**	**200**	*i* P	Pn	23 01 49.7	-2.9
KBG	**Krutoberegovo**	**1.00**	**16**	PN	Pn	23 01 52.0	-2.9
KBG				S	Sn	23 02 06.1	-3.4
KBG	**Krutoberegovo**	**1.00**	**16**	*i* P	Pn	23 01 52.0	-2.9
KBG				*i* S	Sn	23 02 06.1	-3.4
ZLN	**Zelenaya**	**1.07**	**313**	PN	**Pn**	**23 01 55.6**	**-0.3**
ZLN	**Zelenaya**	**1.07**	**313**	*i* P	**Pn**	**23 01 55.6**	**-0.3**
KZV	**Kizimen**	**1.11**	**261**	PN	**Pn**	**23 01 55.6**	**-0.8**
KZV	**Kizimen**	**1.11**	**261**	*e*P	**Pn**	**23 01 55.6**	**-0.8**
CIRR	**Tsirk**	**1.16**	**315**	PN	**Pn**	**23 01 56.6**	**-0.4**
CIRR	**Tsirk**	**1.16**	**315**	*i* P	**Pn**	**23 01 56.6**	**-0.4**
BZMR	**Bezymyannaya**	**1.16**	**304**	PN	**Pn**	**23 01 56.4**	**-0.6**
BZMR	**Bezymyannaya**	**1.16**	**304**	*i* P	**Pn**	**23 01 56.4**	**-0.6**
LGNR	**Loginova**	**1.17**	**313**	PN	**Pn**	**23 01 57.1**	**-0.1**
LGNR	**Loginova**	**1.17**	**313**	*i* P	**Pn**	**23 01 57.1**	**-0.1**
TUMR	**Tumrok**	**1.18**	**270**	PN	**Pn**	**23 01 57.3**	**+0.1**
TUMR	**Tumrok**	**1.18**	**270**	*i* P	**Pn**	**23 01 57.3**	**+0.1**
KMNR	**Kamenistaya**	**1.21**	**293**	PN	**Pn**	**23 01 57.3**	**-0.2**
KMNR	**Kamenistaya**	**1.21**	**293**	*i* P	**Pn**	**23 01 57.3**	**-0.2**
KIRR	**Kirishev**	**1.25**	**303**	PN	**Pn**	**23 01 57.9**	**-0.1**
KIRR	**Kirishev**	**1.25**	**303**	*i* P	**Pn**	**23 01 57.9**	**-0.1**
KRSR	**Krestovskiy**	**1.31**	**316**	PN	**Pn**	**23 01 58.1**	**-0.6**
KRSR				S	**Sn**	**23 02 16.5**	**+0.2**
KRSR	**Krestovskiy**	**1.31**	**316**	*i* P	**Pn**	**23 01 58.1**	**-0.6**
KRSR				*i* S	**Sn**	**23 02 16.5**	**+0.2**
KPT	**Kopyto**	**1.31**	**302**	PN	**Pn**	**23 01 58.3**	**-0.4**
KPT				S	**Sn**	**23 02 17.1**	**+0.8**
KPT	**Kopyto**	**1.31**	**302**	*e*P	**Pn**	**23 01 58.3**	**-0.4**
KPT				*e*S	**Sn**	**23 02 17.1**	**+0.8**
KLY	**Klyuchi**	**1.34**	**320**	PN	Pn	23 01 57.5	-1.6
KLY	**Klyuchi**	**1.34**	**320**	*i* P	Pn	23 01 57.5	-1.6
SMKR	**Semkarok**	**1.35**	**342**	PN	Pn	23 01 58.1	-1.2
SMKR	**Semkarok**	**1.35**	**342**	*i* P	Pn	23 01 58.1	-1.2
BDR	**Baidarnaya**	**1.39**	**337**	PN	**Pn**	**23 01 59.0**	**-0.8**
BDR	**Baidarnaya**	**1.39**	**337**	*i* P	**Pn**	**23 01 59.0**	**-0.8**
SRKR	**Sorokina**	**1.48**	**337**	PN	**Pn**	**23 01 59.9**	**-1.0**
SRKR	**Sorokina**	**1.48**	**337**	*i* P	**Pn**	**23 01 59.9**	**-1.0**
KOZ	**Kozyrevsk**	**1.52**	**301**	PN	**Pn**	**23 02 01.8**	**+0.4**
KOZ	**Kozyrevsk**	**1.52**	**301**	*e*P	**Pn**	**23 02 01.8**	**+0.4**
KII	**Kar

KMSK Kamenskaya 7.48 14 *e*P **Pn** **23 03 21.3 -0.4**
MA2 Magadan 7.51 309 P Pn 23 03 17.7 -4.5
comp=Z,0.9nm,0.3s,baz=41,slow=20,SNR=2.3
SEY Seymchan 9.16 331 P Pn 23 03 40.6 -3.9
comp=Z,0.0nm,0.3s,baz=235,slow=16,SNR=2.2
SEY Seymchan 9.16 331*c i*PN **Pn** **23 03 46.2 +1.6**
TYV Tymovskoe 12.55 257 *e*PN **Pn** **23 04 28.8 -1.7**
TYV pmax pmax
comp=Z,26nm,1.0s
NKL Nikolayevsk 12.77 269 *e*PN **Pn** **23 04 34.0 +0.6**
NKL pmax pmax
comp=E,26nm,1.0s
NKL pmax pmax
comp=Z,34nm,1.0s
NKL pmax pmax
comp=Z,350nm,6.0s
NKL MLR MLR
comp=E,300nm,15.0s
NKL MLR MLR
comp=Z,400nm,15.0s
BILL Bilibino 12.93 7*d i*PN **Pn** **23 04 36.7 +1.2**
BILL *e*S Sn 23 07 08.0 +11
BILL pmax pmax
comp=Z,125nm,1.2s
BILL MLR MLR
comp=Z,525nm,21.0s
BILL Bilibino 12.93 7 Pn **Pn** **23 04 35.2 -0.3**
KUR Kuril'sk 13.59 228 P **P** **23 04 51.5 +1.3**
UGL Uglegorsk 13.81 252 *e*P **Pn** **23 04 45.7 -1.4**
UGL *e*S **Sn** **23 07 18.0 -0.7**
YSS Yuzh-Sakhalins 14.75 244 *e*P **P** **23 05 01.9 -1.2**
YSS Yuzh-Sakhalins 14.75 244 *e*P **P** **23 05 01.9 -1.2**
GAMB Gambell 15.61 47 *e*Pn **P** **23 05 14.1 +1.6**
comp=Z,42nm,1.1s
ASAJ Asahikawa 16.84 237 P **P** **23 05 25.6 -0.7**
comp=Z,3.5nm,0.3s,baz=34,slow=5.8,SNR=42
ASAJ Asahikawa 16.84 237 *e*Pn **P** **23 05 25.6 -0.7**
comp=Z,88nm,0.9s
TNA Tin City 17.77 43 *e*P **P** **23 05 37.4 +1.1**
comp=Z,35nm,1.2s
HABR Khabarovsk 18.02 259 *e*P **P** **23 05 37.6 -1.6**
HABR *e*S **S** **23 08 59.0 -1.5**
HABR pmax pmax
comp=N,28nm,1.2s
HABR pmax pmax
comp=E,75nm,1.2s
HABR pmax pmax
comp=Z,114nm,1.2s
HABR MLR MLR
comp=Z,155nm,13.0s
YAK Yakutsk 18.05 305 P **P** **23 05 38.4 -1.0**
comp=Z,0.0nm,0.3s,baz=90,slow=20,SNR=9.4
YAK LR LR 23 12 54.6
comp=Z,222nm,20.6s,baz=90,slow=38
YAK Yakutsk 18.05 305 *e*P **P** **23 05 39.3 -0.1**
YAK *e*S **S** **23 08 59.6 -1.3**
YAK pmax pmax
comp=Z,102nm,1.3s
YAK pmax pmax
comp=E,85nm,1.3s
YAK pmax pmax
comp=N,28nm,1.4s
YAK smax smax
comp=N,117nm,2.3s
YAK smax smax
comp=E,102nm,2.5s
YAK Yakutsk 18.05 305 *e*P **P** **23 05 38.5 -1.0**
comp=E,73nm,0.9s
ERM Erimo 18.22 231⇓ *e*P **P** **23 05 41.3 -0.1**
ERM Erimo 18.22 231 *e*P **Pn** **23 05 41.4 -0.8**
comp=E,66nm,1.1s
KLR Kul'dur 19.50 265 P **P** **23 05 53.8 -1.6**
comp=E,0.5nm,0.3s,baz=69,slow=8.7,SNR=14
KLR LR LR 23 14 29.4
comp=E,193nm,18.7s,baz=62,slow=40
CLNS Chul'man 20.72 290 *e*P **P** **23 06 10.2 +1.7**
CLNS *e* 23 06 30.2
CLNS *e*S **S** **23 09 58.8 +4.0**
CLNS *e* 23 10 18.4
CLNS *e*SS SS 23 10 23.0
CLNS pmax pmax
comp=Z,20nm,0.8s
CLNS pmax pmax
comp=E,27nm,0.9s
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=Z,31nm,1.1s
CLNS pmax pmax
comp=E,18nm,1.3s
CLNS pmax pmax
comp=N,29nm,1.0s
CLNS smax smax
comp=E,152nm,16.8s
CLNS smax smax
comp=N,147nm,12.1s
CLNS MLR MLR
comp=E,98nm,12.0s
CLNS MLR MLR
comp=Z,223nm,16.0s
CLNS MLR MLR
comp=N,135nm,13.0s
TIXI Tiksi 21.66 332 P **P** **23 06 18.2 -0.1**
comp=N,28nm,0.5s,baz=112,slow=11,SNR=50
TIXI LR LR 23 15 21.2
comp=N,144nm,19.8s,baz=92,slow=38
TIXI Tiksi 21.66 332⇑ *i*P **P** **23 06 18.5 +0.2**
TIXI pmax pmax
comp=Z,55nm,1.0s
TIXI Tiksi 21.66 332 *e*P **P** **23 06 17.6 -0.6**
comp=Z,40nm,0.6s
USRK Ussuriysk Ar. 22.27 253 P **P** **23 06 22.6 -2.5**
comp=Z,1.9nm,0.7s,baz=46,slow=12,SNR=5.9
USRK LR LR 23 15 24.6
comp=Z,204nm,21.3s,baz=52,slow=38
TT01 Tatalina 22.40 53 *e*P **P** **23 06 26.1 -0.2**
TTA Tatalina 22.40 53 *e*P **P** **23 06 26.6 +0.1**
TTA pmax pmax
comp=Z,17nm,0.9s
TTA Tatalina 22.40 53 *e*P **P** **23 06 26.6 +0.1**
comp=Z,17nm,0.9s
SVW2 Sparrevohn 22.66 58 *e*P **P** **23 06 32.4 +3.3**
comp=Z,21nm,1.5s
VLA Vladivostok 23.05 251⇓ *e*P **P** **23 06 31.2 -1.9**
VLA *e* 23 10 17.5
VLA *e*S **S** **23 10 36.4 -0.4**
VLA pmax pmax
comp=Z,5.0nm,0.8s
RSO Redoubt South 24.11 59 *e*P **P** **23 06 46.2 +3.4**
PPLA Purkeypile 24.15 53 *e*P **P** **23 06 44.1 +1.0**
comp=Z,105nm,1.7s
SPU Mount Spurr 24.36 57 *e*P **P** **23 06 45.7 +0.8**
BPAW Bear Paw Mtn. 24.65 50 *e*P **P** **23 06 47.6 +0.1**
comp=Z,26nm,1.1s
KTH Kantishna Hill 24.70 51 *e*P **P** **23 06 48.3 +0.3**
comp=Z,17nm,1.0s
KDAK Kodiak Island 24.70 65 *i*P **P** **23 06 47.2 -0.7**
KDAK Kodiak Island 24.70 65 *e*P **P** **23 06 48.8 +0.8**
comp=Z,19nm,0.6s
MLY Manley 24.75 48 *e*P **P** **23 06 48.6 +0.2**
comp=Z,12nm,1.0s
MJB9 Matsu-Tunnel 24.89 231 *e*P **P** **23 06 50.5 +0.5**
comp=Z,25nm,0.9s
MAJO Matsushiro 24.89 231 *e*P **P** **23 06 50.4 +0.4**
MAJO pmax pmax
comp=Z,104nm,0.9s
MAJO Matsushiro 24.89 231 *e*P **P** **23 06 50.4 +0.4**
comp=Z,104nm,0.9s
MAT Matsushiro 24.89 231 P **P** **23 06 50.0 0.0**
MAT *e*S **S** **23 10 58.4 -8.3**
MJAR Matsushiro Arr 24.89 231 P **P** **23 06 50.5 +0.5**
comp=Z,94nm,1.1s,baz=19,slow=8.8,SNR=125
MJAR PcP **PcP** **23 10 23.4 +0.1**
comp=Z,0.7nm,0.3s,baz=34,slow=0.4,SNR=4.4
MJAR LR LR 23 17 51.8
comp=Z,175nm,21.4s,baz=55,slow=39
TRF Thorofare Moun 24.98 52 *e*P **P** **23 06 50.8 0.0**
comp=Z,27nm,0.8s
COLD Coldfoot 25.08 43 *e*P **P** **23 06 50.9 -0.4**
comp=Z,14nm,0.7s
BWN Browne 25.31 50 *e*P **P** **23 06 58.4 +5.0**
comp=Z,52nm,1.0s
MCK McKinley 25.57 51 *e*P **P** **23 06 56.2 +0.4**
MCK pmax pmax
comp=Z,19nm,0.9s
MCK McKinley 25.57 51 *e*P **P** **23 06 56.2 +0.4**
comp=Z,19nm,0.9s
RND Reindeer 25.63 52 *e*P **P** **23 06 55.7 -0.8**
RND pmax pmax
comp=Z,22nm,1.0s
RND Reindeer 25.63 52 *e*P **P** **23 06 55.7 -0.8**
comp=Z,22nm,1.0s
MDM Murphy Dome 25.82 48 *e*P **P** **23 06 57.9 -0.2**
comp=Z,15nm,1.0s
WRH Wood River Hil 25.90 49 *e*P **P** **23 06 58.8 0.0**
comp=Z,27nm,1.0s
COLA College 25.98 48⇑ *i*P **P** **23 06 59.5 0.0**
CCB Clear Creek Bu 26.01 49 *e*P **P** **23 06 59.3 -0.5**
comp=Z,19nm,1.0s
SML Sawmill 26.05 55 *e*P **P** **23 07 01.9 +1.7**
SML pmax pmax
comp=Z,21nm,0.8s
SML Sawmill 26.05 55 *e*P **P** **23 07 01.9 +1.7**
comp=Z,21nm,0.8s
BOD Bodaibo 26.24 296 *e*P P 23 07 11.9 +10
BOD pmax pmax
comp=Z,18nm,0.8s
HDA Harding Lake 26.40 49 *e*P **P** **23 07 02.4 -0.9**
comp=Z,8.5nm,0.8s
IL1 Eielson Array 26.40 48 *e*P **P** **23 07 01.9 -1.4**
ILAR Eielson Array 26.40 48 P **P** **23 07 02.7 -0.6**
comp=Z,5.6nm,0.8s,baz=267,slow=8.4,SNR=60
ILAR LR LR 23 17 40.1
comp=Z,116nm,20.0s,baz=268,slow=37
ILB Eielson Array 26.40 48 *e*P **P** **23 07 02.7 -0.6**
INU Inuyama 26.42 231 *e*P **P** **23 07 03.7 -0.1**
comp=Z,39nm,1.0s
SCM Sheep Creek Mo 26.52 55 *e*P **P** **23 07 04.2 -0.2**
SCM pmax pmax
comp=Z,51nm,1.1s
SCM Sheep Creek Mo 26.52 55 *e*P **P** **23 07 04.2 -0.2**
comp=Z,51nm,1.1s
FYU Fort Yukon 27.01 44 *e*S **S** **23 11 42.1 +2.5**
JHJ Hachijo jima 2 27.16 225 LR LR 23 19 14.7
comp=Z,29nm,18.9s,baz=124,slow=39
KLU Klutina 27.23 56 *e*P **P** **23 07 14.0 +3.1**
comp=Z,18nm,1.1s
DOT Dot Lake 27.74 51 *e*P **P** **23 07 13.9 -1.4**
comp=Z,22nm,1.0s
CRQM Cirque 28.71 56 *e*P **P** **23 07 24.6 +0.5**
comp=Z,17nm,1.0s
EGAK Eagle 28.84 48 *e*P **P** **23 07 24.0 -1.0**
comp=Z,9.5nm,0.8s
KS01 Wonju Array Si 29.21 247 *e*P **P** **23 07 26.5 -2.0**
KS01 *e*PcP **PcP** **23 10 34.8 +1.3**
KSRS Korea Array 29.21 247 P **P** **23 07 27.6 -1.0**
comp=Z,5.2nm,0.8s,baz=39,slow=8.8,SNR=20
KSRS PcP **PcP** **23 10 34.9 +1.4**
comp=Z,3.1nm,1.1s,baz=340,slow=0.8,SNR=8.1
KSRS LR LR 23 18 56.6
comp=Z,151nm,21.1s,baz=55,slow=36
KS15 Wonju Array Si 29.24 247 *e*P **P** **23 07 27.6 -1.3**
KS15 *e*PcP **PcP** **23 10 34.9 +1.3**
KSAR Wonju Array Be 29.24 247 P **P** **23 07 27.6 -1.3**
KSAR 23 10 34.9
KSAR Wonju Array Be 29.24 247 P **P** **23 07 27.6 -1.3**
KSAR PcP **PcP** **23 10 34.9 +1.3**
JNU Nakatsue 31.12 238 P **P** **23 07 45.5 0.0**
comp=Z,18nm,1.2s,baz=38,slow=5.4,SNR=6.9
JNU Nakatsue 31.12 238 *e*P **P** **23 07 45.5 0.0**
comp=Z,26nm,1.3s
INK Inuvik 31.37 40 P **P** **23 07 47.2 0.0**
comp=Z,7.2nm,0.6s,baz=290,slow=7.2,SNR=31
INK PcP **PcP** **23 10 38.6 -0.1**
comp=Z,1.2nm,0.4s,baz=242,slow=2.6,SNR=3.7
TLY Talaya 34.14 289 LR LR 23 23 03.2
comp=Z,289nm,21.5s,baz=49,slow=38
TLY Talaya 34.14 289 *e*P **P** **23 08 12.6 +0.9**
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,334nm,25.0s
ULN Ulaanbaatar 34.26 281 *e*P **P** **23 08 16.7 +3.8**
ULN pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 34.26 281 *e*P **P** **23 08 16.7 +3.8**
comp=Z,4.4nm,1.1s
SONA1 Songino Array 34.63 281 *e*P **P** **23 08 19.7 +3.6**
SONA1 *e*PcP **PcP** **23 10 48.6 +0.3**
SONA0 Songino Array 34.64 281 *e*P **P** **23 08 15.4 -0.8**
comp=Z,2.3nm,0.8s
SONA0 *e*PcP **PcP** **23 10 48.8 +0.4**
SONA0 *e*ScP **ScP** **23 14 30.1 +4.7**
SONM Songino Array 34.64 281 P **P** **23 08 15.4 -0.8**
comp=Z,2.5nm,0.6s,baz=53,slow=9.1,SNR=13
SONM PcP **PcP** **23 10 48.8 +0.4**
comp=Z,2.6nm,0.6s,baz=55,slow=2.3,SNR=9.3
SONM ScP **ScP** **23 14 30.1 +4.7**
comp=Z,1.4nm,1.0s,baz=58,slow=3.7,SNR=5.9
SONM LR LR 23 24 08.6
comp=Z,133nm,19.6s,baz=63,slow=39
NRIK Noril'sk 34.85 323 LR LR 23 23 18.7
comp=Z,200nm,20.9s,baz=68,slow=38
ZAK Zakamensk 35.00 287 *e*P **P** **23 08 17.2 -2.0**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
H11N2 WAKE ISLAND Hy 35.69 172 T T 23 45 53.0
baz=355,slow=76,SNR=182
H11N3 WAKE ISLAND Hy 35.70 172 T T 23 45 59.3
baz=355,slow=76,SNR=193
H11N1 WAKE ISLAND Hy 35.70 172 T T 23 45 57.6
baz=355,slow=76,SNR=282
DLBC Dease Lake 35.76 56 P **P** **23 08 26.4 +0.8**
comp=Z,3.8nm,0.7s,baz=294,slow=13,SNR=6.3
DLBC Dease Lake 35.76 56 *e*P **P** **23 08 26.4 +0.8**
DLBC *e*pP pP 23 08 39.7 -6.1
YKW3 Yellowknife Ar 40.67 45 *e*P **P** **23 09 07.1 +0.5**
comp=Z,11nm,0.6s
YKA Yellowknife Ar 40.71 45 P **P** **23 09 07.1 +0.2**
comp=Z,8.8nm,0.6s,baz=299,slow=7.9,SNR=42
YKA PcP **PcP** **23 11 07.3 +0.7**
comp=Z,1.1nm,0.7s,baz=313,slow=3.2,SNR=3.9
YKA LR LR 23 27 11.5
comp=Z,7.1nm,18.1s,baz=0.0,slow=38
YKB5 Yellowknife Ar 40.71 45 *e*P **P** **23 09 07.1 +0.2**
YKB5 *e*PcP **PcP** **23 11 07.3 +0.7**
RES Resolute Bay 40.81 23 P **P** **23 09 07.9 +0.3**
comp=Z,5.6nm,0.6s,baz=346,slow=8.2,SNR=8.5
ZAA1 Zalesovo Array 42.65 302 *e*P **P** **23 09 20.9 -1.9**
ZAA1 *e*PcP **PcP** **23 11 11.5 -1.7**
ZAA1 *e*ScP **ScP** **23 14 59.9 +4.1**
ZAA0 Zalesovo Array 42.65 302 *e*P **P** **23 09 21.1 -1.8**
ZALV Zalesovo Beam 42.65 302 P **P** **23 09 20.9 -1.9**
comp=Z,1.3nm,0.6s,baz=79,slow=9.2,SNR=4.4
ZALV PcP **PcP** **23 11 11.5 -1.7**
comp=Z,1.6nm,0.4s,baz=43,slow=6.7,SNR=5.8
ZALV ScP **ScP** **23 14 59.9 +4.1**
comp=Z,0.6nm,0.4s,baz=57,slow=5.3,SNR=2.6
ZALV LR LR 23 27 59.3
comp=Z,98nm,21.5s,baz=70,slow=37
NVS Novosibirsk 42.91 303 *e*P **P** **23 09 21.8 -3.1**
GTA Gaotai 43.61 276 *e*P **P** **23 09 29.3 -1.6**
GTA PMZ
comp=Z,6.0nm,0.7s
GTA PMZ
comp=Z,40nm,4.4s
GTA LN
comp=Z,150nm,15.7s
GTA LE
comp=Z,140nm,17.6s
GUMO Guam 43.75 205 LR LR 23 25 05.9
comp=Z,54nm,20.9s,baz=26,slow=32
ENH Enshi 44.67 258 *e*P **P** **23 09 37.3 -2.1**
comp=Z,7.1nm,0.8s
SPA0 Spitsbergen Ar 45.16 351 *e*P **P** **23 09 42.9 +0.2**
KURK Kurchatov 47.64 301 *e*P **P** **23 10 00.6 -1.7**
KURK pmax pmax
comp=Z,79nm,0.9s
KURK Kurchatov 47.64 301 *e*P **P** **23 10 00.6 -1.7**
comp=Z,79nm,0.9s
NEW Newport 47.76 63 LR LR 23 28 08.9
comp=Z,82nm,21.6s,baz=218,slow=33
DAG Danmarks Havn 48.20 0 *i*P **P** **23 10 05.5 -0.8**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 48.20 0 *i*P **P** **23 10 05.5 -0.8**
comp=Z,4.9nm,0.8s
MK31 Makanchi Array 48.33 295 *e*P **P** **23 10 06.0 -1.8**
MK31 Makanchi Array 48.33 295 *e*P **P** **23 10 06.0 -1.8**
MK32 Makanchi Array 48.33 295 *e*P **P** **23 10 06.2 -1.6**
MKAR Makanchi Array 48.33 295 P **P** **23 10 06.2 -1.6**
comp=Z,2.3nm,0.4s,baz=50,slow=6.4,SNR=66
MKAR LR LR 23 31 42.2
comp=Z,124nm,21.1s,baz=53,slow=38
MKAR Makanchi Array 48.33 295 *i*P **P** **23 10 05.9 -1.9**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 48.33 295 *e*P **P** **23 10 06.0 -1.9**
MK01 Makanchi Array 48.34 295 *e*P **P** **23 10 05.6 -2.2**
MAKZ Makanchi 48.48 295 *e*P **P** **23 10 07.8 -1.2**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 48.48 295 *e*P **P** **23 10 07.8 -1.2**
comp=Z,6.6nm,1.0s
J05D Fort Rock, OR 48.89 71 P **P** **23 10 13.6 +1.3**
baz=313
BSMT Bassoo Peak 49.22 62 *e*P **P** **23 10 16.1 +1.3**
M02C Callahan 49.30 73 P **P** **23 10 17.1 +1.8**
baz=314
M04C Macdoel 49.58 72 P **P** **23 10 18.7 +1.1**
baz=314
VOSK Vostochnaya 49.93 307 *e*P **P** **23 10 18.6 -1.3**
VOSK pmax pmax
comp=Z,7.0nm,1.0s
VOSK Vostochnaya 49.93 307 *e*P **P** **23 10 18.6 -1.3**
comp=Z,7.1nm,1.0s
BRVK Borovoye 50.02 308*d i*P **P** **23 10 19.6 -1.0**
BRVK pmax pmax
comp=Z,33nm,1.0s
BRVK Borovoye 50.02 308 *e*P **P** **23 10 19.3 -1.3**
comp=Z,22nm,0.8s
MSO Missoula 50.33 62 P **P** **23 10 23.5 +0.4**
baz=313
MOD Modoc Plateau 50.34 71 *e*P **P** **23 10 24.9 +1.6**
comp=Z,16nm,1.2s
ZRNK Zerenda 50.67 309 *e*P **P** **23 10 24.2 -1.2**
ZRNK pmax pmax
comp=Z,8.0nm,0.8s
ZRNK Zerenda 50.67 309 *e*P **P** **23 10 24.2 -1.2**
comp=Z,7.6nm,0.8s
SVE Sverdlovsk 51.52 317⇑ *e*P **P** **23 10 31.3 -0.4**
SVE pmax pmax
comp=Z,12nm,0.9s
ARA0 ARCESS Array S 51.57 342 *e*P **P** **23 10 30.8 -1.2**
ARA0 *e*pP **pP** **23 10 53.5 +0.2**
ARA0 *e*PcP **PcP** **23 11 44.9 +0.3**
ARCES ARCESS Array B 51.57 342 P **P** **23 10 30.8 -1.2**
comp=Z,4.0nm,0.8s,baz=45,slow=7.0,SNR=12
ARCES PcP **PcP** **23 11 44.9 +0.3**
comp=Z,1.6nm,0.7s,baz=60,slow=3.6,SNR=4.4
ARCES LR LR 23 37 25.3
comp=Z,80nm,18.2s,baz=50,slow=42
SUMG Summit 51.61 8 *i*P **P** **23 10 32.6 -0.1**
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 51.61 8 *i*P **P** **23 10 32.6 -0.1**
comp=Z,11nm,0.9s
SUMG Summit 51.61 8 *e*P **P** **23 10 32.4 -0.3**
comp=Z,12nm,1.0s
MCMT McKenzie Canyo 52.25 64 *e*P **P** **23 10 38.5 +0.8**
BOZ Bozeman (W) 52.30 62 P **P** **23 10 38.9 +0.9**
baz=314
BOZ Bozeman (W) 52.30 62 *e*P **P** **23 10 39.4 +1.5**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 52.30 62 *e*P **P** **23 10 39.4 +1.5**
comp=Z,3.7nm,0.8s
HLID Hailey 52.32 66 P **P** **23 10 38.8 +0.7**
baz=314
KMI Kunming 52.43 260 P **P** **23 10 37.8 -1.3**
KMI PMZ
comp=Z,9.0nm,0.9s
ARU Arti 52.62 317*c i*P **P** **23 10 38.5 -1.3**
ARU *PP **pP** **23 11 01.9 +0.6**
ARU 23 11 47.6
ARU 23 12 38.9
ARU S **S** **23 18 00.2 +0.1**
ARU 23 20 15.9
ARU SS **SS** **23 21 41.8 +3.2**
ARU pmax pmax
comp=Z,16nm,1.0s
ARU Arti 52.62 317 *e*P **P** **23 10 38.7 -1.1**
comp=Z,13nm,0.9s
YFT Old Faithful 53.54 63 *e*P **P** **23 10 50.3 +3.2**
comp=Z,8.1nm,0.6s
RLMT Red Lodge 53.86 61 P **P** **23 10 50.4 +0.9**
baz=315
RLMT Red Lodge 53.86 61 *e*P **P** **23 10 51.0 +1.6**
comp=Z,14nm,0.9s
ELK Elko 53.87 69 *e*P **P** **23 10 51.9 +2.3**
ELK pmax pmax
comp=Z,7.0nm,1.2s
ELK Elko 53.87 69 *e*P **P** **23 10 51.9 +2.3**
comp=Z,6.8nm,1.2s
FLWY Flagg Ranch 53.87 63 *e*P **P** **23 10 51.9 +2.4**
comp=Z,9.8nm,0.9s
IMW Indian Meadow 53.88 63 *e*P **P** **23 10 51.7 +2.0**
comp=Z,8.6nm,0.9s
FXWY Fox Creek 54.02 64 *e*P **P** **23 10 52.4 +1.8**
comp=Z,4.9nm,0.8s
MOOW Moose Ponds 54.09 63 *e*P **P** **23 10 53.0 +1.9**
comp=Z,4.7nm,1.0s
A25A Svangstu Ranch 54.13 54 P **P** **23 10 51.9 +0.8**
baz=316
TPAW Teton Pass 54.16 64 *e*P **P** **23 10 53.7 +2.0**
comp=Z,9.7nm,1.2s
LAO LASA Array 54.25 58 P **P** **23 10 52.8 +0.8**
baz=316
TKM2 Tokmak 2 54.45 296 *e*P **P** **23 10 53.4 -0.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
TKM2 Tokmak 2 54.45 296 *e*P **P** **23 10 53.4 -0.3**
comp=Z,5.3nm,0.9s
SPUT South Pomonte 54.94 67 *e*P **P** **23 10 59.1 +1.9**
comp=Z,15nm,1.5s
HWUT Hardware Ranch 55.19 66 *e*P **P** **23 11 00.8 +1.8**
comp=Z,8.2nm,0.8s
AAK Ala-Archa 55.22 296⇓ P **P** **23 10 59.1 -0.1**
AAK pmax pmax
comp=Z,26nm,1.0s
AAK Ala-Archa 55.22 296 *e*P **P** **23 10 58.6 -0.6**
comp=Z,9.7nm,0.8s
BW06 Boulder Array 55.39 63 P **P** **23 11 01.4 +0.9**
baz=316
BW06 Boulder Array 55.39 63 *e*P **P** **23 11 01.6 +1.1**
PD31 Pinedale Array 55.39 63 *e*P **P** **23 11 01.8 +1.2**
PDAR Pinedale Array 55.39 63 P **P** **23 11 01.8 +1.2**
comp=Z,4.3nm,0.7s,baz=321,slow=2.7,SNR=34
PDAR LR LR 23 35 46.1
comp=Z,40nm,18.7s,baz=342,slow=37
R11A Troy Canyon, C 55.40 71 P **P** **23 11 01.8 +1.2**
baz=317
R11A Troy Canyon, C 55.40 71 *e*P **P** **23 11 02.0 +1.4**
comp=Z,8.6nm,1.2s
GRAC Grapevine Rang 55.41 74 P **P** **23 11 02.7 +2.1**
baz=317
CWC Cottonwood Cre 55.43 74 P **P** **23 11 02.5 +1.7**
baz=317
A28A Rude Farm, Bot 55.46 53 P **P** **23 11 01.6 +0.9**
baz=317,SNR=6.7
DUG Dugway, Tooele 55.55 68 P **P** **23 11 03.1 +1.5**
baz=317,SNR=11
DUG Dugway, Tooele 55.55 68 *e*P **P** **23 11 03.5 +1.9**
DUG pmax pmax
comp=Z,11nm,1.0s
DUG Dugway, Tooele 55.55 68 *e*P **P** **23 11 03.5 +1.9**
comp=Z,11nm,1.0s
EKS2 Erkin-Say 55.57 297 *e*P **P** **23 11 01.8 +0.1**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 55.57 297 *e*P **P** **23 11 01.8 +0.1**
comp=Z,10nm,0.8s
PKM Mcpherson Peak 55.60 77 P **P** **23 11 03.9 +1.8**
baz=318
TCUT Toone Canyon 55.62 66 *e*P **P** **23 11 00.4 -1.9**
comp=Z,57nm,1.2s
KLMR Klimovskoe 55.66 330 *e*P **P** **23 10 58.6 -3.3**
KLMR *e* 23 11 58.2
KLMR pmax pmax
comp=Z,9.0nm,1.0s
B28A Dugan Ranch, T 55.75 53 P **P** **23 11 03.9 +1.1**
baz=317
ISA Isabella, Lake 55.78 75 P **P** **23 11 05.3 +2.1**
baz=318
A29A Manning Farm, 55.92 52 P **P** **23 11 04.8 +0.9**
baz=317,SNR=6.7
JLU Jordanelle 55.98 66 *e*P **P** **23 11 06.1 +1.4**
comp=Z,13nm,1.4s
MPMC Manual Prospec 56.03 74 P **P** **23 11 06.4 +1.3**

baz=318
TPNV **Topopah Spring** 56.06 73 P P 23 11 06.8 +1.5
baz=317,SNR=6.8
TPNV **Topopah Spring** 56.06 73 eP P 23 11 07.1 +1.8
TPNV pmax pmax
comp=Z,19nm,1.2s
TPNV **Topopah Spring** 56.06 73 eP P 23 11 07.1 +1.8
comp=Z,19nm,1.2s
FURC **Furnace Creek,** 56.08 74 P P 23 11 07.1 +1.9
baz=318
B29A **Wagenman Farm,** 56.20 52 P P 23 11 06.8 +0.8
baz=317
E26A **Carlson Angus** 56.21 56 P P 23 11 06.9 +0.8
baz=317
MPU **Maple Canyon** 56.30 67 eP P 23 11 09.2 +2.1
comp=Z,9.4nm,0.9s
ULM **Lac du Bonnet** 56.42 49 P P 23 11 07.8 +0.3
comp=Z,5.7nm,0.5s,baz=317,slow=7.6,SNR=7.0
ULM LR LR 23 36 55.3
comp=Z,56nm,18.3s,baz=336,slow=38
ULM **Lac du Bonnet** 56.42 49 eP P 23 11 08.2 +0.8
ULM pmax pmax
comp=Z,7.0nm,0.6s
ULM **Lac du Bonnet** 56.42 49 eP P 23 11 08.2 +0.8
comp=Z,6.9nm,0.6s
MDND **Maddock** 56.54 53 P P 23 11 09.4 +1.1
baz=318,SNR=5.0
MDND **Maddock** 56.54 53 eP P 23 11 09.9 +1.5
comp=Z,125nm,0.8s
F26A **Lodgepole** 56.57 57 P P 23 11 09.3 +0.7
baz=317
D28A **Regan** 56.57 54 P P 23 11 09.6 +1.0
baz=318
EDW2 **Edwards Air Fo** 56.62 76 P P 23 11 10.5 +1.4
baz=318
KSH **Kashi** 56.70 293 P P 23 11 12.9 +3.1
KSH pP pP 23 11 36.4 +4.9
KSH PcP **PcP** 23 12 07.5 +2.6
KSH PP **PP** 23 13 21.8 +5.4
KSH S **S** 23 18 52.5 -3.1
KSH ScS **ScS** 23 20 48.3 -2.3
KSH PMZ
comp=Z,5.0nm,0.5s
KSH LN
comp=Z,470nm,14.5s
KSH LE
comp=Z,240nm,12.9s
KKAR **Karatay Array** 56.90 299 eP P 23 11 09.8 -1.2
KKAR **Karatay Array** 56.90 299 eP P 23 11 09.8 -1.2
GSC **Goldstone, Bar** 56.96 75 P P 23 11 13.1 +1.5
baz=318
B31A **Greenbush Farm** 56.99 51 P P 23 11 12.6 +1.1
baz=318
TMUT **Trail Mountain** 57.05 67 eP P 23 11 14.6 +2.1
comp=Z,12nm,1.0s
MSU **Marysvale** 57.11 69 eP P 23 11 15.1 +2.3
MSU **Marysvale** 57.11 69 eP P 23 11 15.1 +2.3
A32A **Rocking H Ranc** 57.14 50 P P 23 11 13.3 +0.7
baz=318
C30A **Mose, Pekin** 57.16 53 P P 23 11 13.5 +0.8
baz=318
P17A **Butcher Ranch,** 57.17 67 eP P 23 11 15.2 +2.0
comp=Z,7.7nm,0.8s
RSSD **Black Hills** 57.17 59 P P 23 11 14.1 +0.9
baz=318
RSSD **Black Hills** 57.17 59 eP P 23 11 14.3 +1.1
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD **Black Hills** 57.17 59 eP P 23 11 14.3 +1.1
comp=Z,10nm,0.8s
CCUT **Cedar City** 57.19 70 eP P 23 11 15.3 +2.0
comp=Z,6.5nm,0.9s
AKTO **Aktyubinsk** 57.25 313 LR LR 23 38 45.3
comp=Z,129nm,19.1s,baz=48,slow=39
ABKAR **Akbulak array** 57.31 310 eP P 23 11 13.2 -0.6
TUQ **Turquoise Moun** 57.35 74 P P 23 11 15.6 +1.2
baz=318
C31A **Landman Farms,** 57.42 52 P P 23 11 15.2 +0.6
baz=318,SNR=8.0
D30A **Buchanan** 57.47 53 P P 23 11 15.5 +0.5
baz=318
B32A **Ashes, Strandq** 57.51 51 P P 23 11 15.8 +0.6
baz=319
SRU **San Rafael Swe** 57.55 67 eP P 23 11 17.6 +1.8
SRU pmax pmax
comp=Z,24nm,0.9s
SRU **San Rafael Swe** 57.55 67 eP P 23 11 17.6 +1.8
comp=Z,24nm,0.9s
HEC **Hector,Ludlow** 57.57 75 P P 23 11 17.3 +1.3
baz=318
A33A **Warroad** 57.61 50 P P 23 11 16.4 +0.6
baz=319
LCMT **Little Creek M** 57.65 71 eP P 23 11 18.5 +2.0
comp=Z,12nm,1.1s
PANO **Nakornpanom** 57.76 253 P P 23 11 20.8 +3.5
comp=Z,56nm,1.6s
E30A **Jud** 57.85 54 P P 23 11 18.4 +0.7
baz=318
AGMN **Agassiz Nation** 57.88 50 P P 23 11 18.6 +0.9
baz=319
AGMN **Agassiz Nation** 57.88 50 eP P 23 11 18.4 +0.6
comp=Z,6.9nm,0.8s
F29A **Eureka** 57.92 55 P P 23 11 18.7 +0.5
baz=318
GMRC **Granite Mounta** 57.98 74 P P 23 11 20.0 +1.2
baz=318
D31A **Mcclaflin, Tow** 57.99 53 P P 23 11 19.1 +0.5
baz=319,SNR=7.2
O20A **White River Ci** 57.99 65 P P 23 11 20.0 +1.1
baz=318,SNR=6.9
O20A **White River Ci** 57.99 65 eP P 23 11 20.1 +1.2
comp=Z,12nm,0.8s
B33A **Robert and Kas** 58.02 50 P P 23 11 19.3 +0.5
baz=319
D32A **Dogwood Acres,** 58.24 52 P P 23 11 20.5 +0.2
baz=319
SKNT **Sakolnakorn** 58.25 253 P P 23 11 22.6 +1.9
comp=Z,25nm,1.4s,comp=Z,5μm
B34A **Aery, Baudette** 58.27 50 P P 23 11 21.2 +0.7
baz=319
E31A **Nome** 58.28 53 P P 23 11 21.3 +0.7
baz=319,SNR=11
BELC **Belle Mtn. Jos** 58.37 75 P P 23 11 22.7 +1.1
baz=319
PFO **Pinyon Flats O** 58.41 76 LR LR 23 34 05.1
comp=Z,52nm,19.3s,baz=96,slow=33
FIA1 **FINESS Array S** 58.58 337 eP P 23 11 21.8 -0.6
FIA0 **FINESS Array S** 58.58 337 eP P 23 11 22.1 -0.3
FIA0 **FINESS Array S** 58.58 337 eP P 23 11 22.1 -0.3
FINES **FINESS Array B** 58.58 337 P P 23 11 22.1 -0.3
comp=Z,22nm,0.5s,baz=35,slow=8.5,SNR=230
FINES LR LR 23 39 10.3
comp=Z,92nm,21.9s,baz=18,slow=39
U15A **North Rim** 58.59 70 eP P 23 11 25.2 +1.9
comp=Z,9.4nm,1.1s
N23A **Red Feather La** 58.60 63 P P 23 11 24.1 +0.8
baz=318,SNR=8.2
N23A **Red Feather La** 58.60 63 eP P 23 11 24.9 +1.6
comp=Z,28nm,1.1s
IRM **Iron Mountain** 58.73 74 P P 23 11 25.2 +1.3
baz=319
G30A **Faulkton** 58.77 55 P P 23 11 24.3 +0.3
baz=319
B35A **Bob, Littlefor** 58.77 49 P P 23 11 24.2 +0.3
baz=320
UBPT **Khong Chiam** 58.83 251 P P 23 11 26.2 +1.5
comp=Z,27nm,1.5s
PV10 **Paradox Valley** 58.87 67 eP P 23 11 27.6 +2.4
BC3 **Big Chuckawall** 58.93 75 P P 23 11 26.6 +1.2
baz=319
PV05 **Paradox Valley** 59.06 67 eP P 23 11 28.0 +1.5
D34A **Park Rapids** 59.09 51 P P 23 11 26.3 0.0
baz=320
C35A **Jirik Farms, M** 59.16 50 P P 23 11 27.1 +0.4
baz=320
PDMCI **Parker Dam,Lak** 59.17 73 P P 23 11 28.3 +1.4
baz=319
LOEI **Loei** 59.31 256 P P 23 11 26.8 -1.3
comp=Z,34nm,1.1s
SMCO **Snowmass** 59.35 65 eP P 23 11 29.6 +0.9
comp=Z,12nm,0.9s
UTTA **Uttaradit** 59.52 257 P P 23 11 29.9 +0.4
comp=Z,5.3nm,0.8s,comp=Z,91nm
CMMT **Chiang Mai** 59.55 259 P P 23 11 30.1 +0.3
comp=Z,11nm,1.2s
CHTO **Chiang Mai** 59.56 259 P P 23 11 30.1 +0.3
comp=Z,54nm,2.5s

CHTO **Chiang Mai** 59.56 259 eP P 23 11 29.6 -0.2
CHTO pmax pmax
comp=Z,26nm,1.6s
CHTO **Chiang Mai** 59.56 259 eP P 23 11 29.6 -0.2
comp=Z,26nm,1.6s
ISCO **Idaho Springs** 59.59 63 P P 23 11 31.4 +1.2
baz=319,SNR=7.6
ISCO **Idaho Springs** 59.59 63 eP P 23 11 32.1 +2.0
ISCO pmax pmax
comp=Z,18nm,1.1s
ISCO **Idaho Springs** 59.59 63 eP P 23 11 32.1 +2.0
comp=Z,18nm,1.1s
D35A **Remer** 59.60 50 P P 23 11 30.3 +0.5
baz=320
WUAZ **Wupatki** 59.77 70 P P 23 11 32.8 +1.6
baz=319
WUAZ **Wupatki** 59.77 70 eP P 23 11 33.3 +2.1
comp=Z,16nm,1.1s
CM31 **Chiang Mai Arr** 59.84 259 eP P 23 11 31.9 +0.2
CMAR **Chiang Mai Arr** 59.84 259 P P 23 11 31.9 +0.2
comp=Z,4.2nm,0.8s,baz=20,slow=6.7,SNR=16
CMAR LR LR 23 40 30.3
comp=Z,70nm,19.0s,baz=45,slow=39
CM01 **Chiang Mai Arr** 59.86 259 eP P 23 11 31.5 -0.4
CM01 ePcP **PcP** 23 12 17.9 +0.4
C37A **Embarrass** 59.92 49 P P 23 11 32.6 +0.7
baz=321
D36A **Goodland** 59.92 50 P P 23 11 32.2 +0.3
baz=321
G33A **Ortonville** 59.97 53 P P 23 11 32.6 +0.3
baz=320
H32A **Carlson Farm,** 60.04 54 P P 23 11 32.9 +0.1
baz=320
EYMN **Ely** 60.04 48 P P 23 11 33.0 +0.2
baz=321
Y14A **Wickenburg** 60.06 73 eP P 23 11 35.0 +1.8
comp=Z,54nm,1.3s
RAMN **Ramite** 60.22 275 eP P 23 11 33.1 -1.4
comp=Z,40nm,0.6s
CHAI **Chaiyaphum** 60.22 254 P P 23 11 35.6 +1.3
comp=Z,7.0nm,0.9s,comp=Z,157nm
PBKT **Sadao Pong** 60.23 256 P P 23 11 36.2 +1.8
comp=Z,13nm,1.2s,comp=Z,844nm
D37A **Cotton** 60.25 49 P P 23 11 34.3 +0.1
baz=321
G34A **Benson** 60.30 53 P P 23 11 34.8 +0.3
baz=320
KKN **Kakani** 60.33 277 eP P 23 11 34.0 -1.2
comp=Z,16nm,0.5s
E36A **McGregor** 60.39 50 P P 23 11 35.5 +0.4
baz=321
PKIN **Phulchoki** 60.42 276 eP P 23 11 35.4 -0.5
comp=Z,11nm,0.7s
S22A **4UR Ranch, Cre** 60.50 66 P P 23 11 37.9 +1.5
baz=319
S22A **4UR Ranch, Cre** 60.50 66 eP P 23 11 38.2 +1.8
comp=Z,10nm,0.9s
GKN **Gorkha** 60.53 277 eP P 23 11 35.9 -0.6
comp=Z,34nm,0.9s
DMN **Daman** 60.56 277 eP P 23 11 36.5 -0.4
H34A **Spellman Lake,** 60.68 53 P P 23 11 37.6 +0.5
baz=320
F36A **Milaca** 60.77 51 P P 23 11 38.3 +0.6
baz=321
G35A **Watkins** 60.84 52 P P 23 11 38.7 +0.5
baz=321
ECSD **EROS Data Cent** 61.01 54 P P 23 11 39.7 +0.3
baz=320
ECSD **EROS Data Cent** 61.01 54 eP P 23 11 40.0 +0.6
comp=Z,7.5nm,1.0s
VSU **Vasula** 61.08 335⇑ iP P 23 11 39.8 +0.2
VSU pmax pmax
comp=Z,54nm,0.9s
SDCO **Great Sand Dun** 61.19 65 P P 23 11 42.1 +1.1
baz=320
SDCO **Great Sand Dun** 61.19 65 eP P 23 11 43.0 +1.9
comp=Z,15nm,1.4s
KOLN **Koldanda** 61.29 278 eP P 23 11 41.1 -0.7
comp=Z,19nm,0.5s
OBN **Obninsk** 61.32 328⇓ eP P 23 11 41.1 -0.1
OBN e*PP **pP** 23 12 02.8 -0.4
OBN e*SP **sP** 23 12 17.4 +4.5
OBN 23 12 29.0
OBN eS S 23 20 01.1 +6.8
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,52nm,20.0s
PYUN **Piuthan** 61.39 279 eP P 23 11 41.9 -0.5
comp=Z,103nm,0.9s
NC303 **NORSAR Array S** 61.56 344 eP P 23 11 42.8 0.0
NC204 **NORSAR Array S** 61.60 345 eP P 23 11 43.2 0.0
NC405 **NORSAR Array S** 61.61 344 eP P 23 11 42.8 -0.4
214A **Organ Pipe Nat** 61.67 74 P P 23 11 45.3 +1.3
baz=320
KSCO **Kaye Shedlock'** 61.70 62 P P 23 11 45.4 +1.1
baz=320
NB201 **NORSAR Array S** 61.74 344 eP P 23 11 43.8 -0.2
NB2 **NORSAR Subarra** 61.76 344 P P 23 11 43.5 -0.7
comp=Z,6.0nm,0.6s,baz=18,slow=6.9
NB200 **NORSAR Array S** 61.76 344 eP P 23 11 43.8 -0.4
NOA **NORSAR Array B** 61.76 344 P P 23 11 43.8 -0.4
comp=Z,6.1nm,0.7s,baz=19,slow=6.8,SNR=18
K34A **Le Mars** 62.05 55 P P 23 11 47.0 +0.6
baz=321
T25A **Trinidad** 62.21 64 P P 23 11 48.3 +0.5
baz=320
I37A **Lemond, Waseca** 62.26 52 P P 23 11 48.6 +0.8
baz=322
J36A **Seneca 1, Swea** 62.37 53 P P 23 11 49.4 +0.9
baz=322
CHBT **CHBT** 62.61 252 P P 23 11 51.9 +1.5
comp=Z,105nm,1.1s,comp=Z,1μm
LPSR **Galich'ya Gora** 62.70 325 eP P 23 11 49.5 -1.0
LPSR pmax pmax
comp=Z,10.0nm,0.9s
L35A **Bielow Farm, R** 62.76 55 P P 23 11 51.2 0.0
baz=321
ANMO **Albuquerque** 62.82 67 P P 23 11 53.1 +1.2
baz=320
ANMO **Albuquerque** 62.82 67 dP P 23 11 53.4 +1.5
ANMO pmax pmax
comp=Z,6.0nm,2.5s
ANMO **Albuquerque** 62.82 67 eP P 23 11 53.1 +1.2
ANMO epP **pP** 23 12 11.8 -2.1
LAZ **Ladron** 62.88 68 eP P 23 11 54.4 +2.2
VRH **Novokhopyorsk** 62.93 322 eP P 23 11 48.2 -3.8
VRH pmax pmax
comp=Z,8.0nm,0.5s
SCHQ **Schefferville** 63.12 29 P P 23 11 52.5 -0.8
comp=Z,3.7nm,0.6s,baz=351,slow=7.9,SNR=11
SCHQ LR LR 23 40 44.8
comp=Z,59nm,21.5s,baz=12,slow=37
SCHQ **Schefferville** 63.12 29 eP P 23 11 52.5 -0.8
SCHQ ePcP **PcP** 23 12 26.0 -4.2
O33A **Hebron** 63.37 58 P P 23 11 55.6 +0.4
baz=321
N35A **Tabor** 63.69 56 P P 23 11 58.1 +0.8
baz=322
O34A **Beatrice** 63.71 57 P P 23 11 57.6 +0.1
baz=322
VSR **Storozhevoye** 63.79 324 eP P 23 11 55.9 -1.9
VSR pmax pmax
comp=Z,10.0nm,1.2s
P33A **Williams Farm,** 63.81 58 P P 23 11 58.9 +0.7
baz=322
KBL **Kabul** 64.09 294 eP P 23 11 58.6 -1.7
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL **Kabul** 64.09 294 eP P 23 11 58.6 -1.7
comp=Z,8.1nm,0.8s
M38A **Pleasantville** 64.39 54 P P 23 12 02.3 +0.4
baz=322
Q35A **Mercer Eighty,** 65.07 57 P P 23 12 06.4 +0.1
baz=322
N39A **Derby Farms, D** 65.14 54 P P 23 12 07.5 +0.8
baz=323
O38A **Galt** 65.29 55 P P 23 12 08.0 +0.2
baz=323
P37A **Lathrop** 65.30 56 P P 23 12 08.2 +0.4
baz=323
P38A **Dawn** 65.65 55 P P 23 12 10.3 +0.3
baz=323
Q37A **Longview Farm,** 65.81 56 P P 23 12 11.1 0.0
baz=323
MNTX **Cornudas Mount** 65.89 69 P P 23 12 12.9 +1.1
baz=322

SUW **Suwalki** 65.96 335 eP P 23 12 11.3 -0.4
SUW **Suwalki** 65.96 335 eP P 23 12 11.3 -0.4
O40A **La Belle** 66.03 54 P P 23 12 12.4 -0.1
baz=323
Q38A **Cooks Store, C** 66.14 56 P P 23 12 13.1 -0.1
baz=323
S36A **Lake Cedric, C** 66.17 58 P P 23 12 13.6 +0.1
baz=323
SBUM **Sibu** 66.28 237 eP P 23 12 16.4 +2.0
comp=Z,63nm,1.1s
Q39A **Willow Grove F** 66.38 55 P P 23 12 14.9 +0.2
baz=323
W32A **Sentinel** 66.41 62 P P 23 12 15.6 +0.5
baz=322
P40A **Paris** 66.42 54 P P 23 12 14.9 -0.1
baz=323
O41A **Passleys Farm,** 66.49 53 P P 23 12 15.2 -0.2
baz=324
S37A **Fort Scott** 66.52 57 P P 23 12 15.3 -0.3
baz=323
V34A **Guthrie** 66.72 61 P P 23 12 16.7 -0.2
baz=323
P41A **Barry, Barry** 66.76 54 P P 23 12 17.1 -0.1
baz=324
W33A **Caddo, Fort Co** 66.78 62 P P 23 12 17.5 +0.1
baz=322
Q40A **Laux Farm, Aux** 66.84 55 P P 23 12 17.7 +0.1
baz=324
HDIL **Hopedale** 66.86 52 P P 23 12 17.7 -0.1
baz=324
GEYT **Alibeck** 66.92 304 P P 23 12 17.6 -0.6
comp=Z,6.4nm,1.0s,baz=344,slow=3.2,SNR=18
GEYT LR LR 23 44 12.1
comp=Z,76nm,19.4s,baz=225,slow=38
R39A **Chumby, Stover** 66.93 56 P P 23 12 18.0 -0.2
baz=323
WMOK **Wichita Mounta** 66.95 62 P P 23 12 18.4 -0.1
baz=322
WMOK **Wichita Mounta** 66.95 62 eP P 23 12 18.9 +0.4
WMOK pmax pmax
comp=Z,12nm,0.8s
WMOK **Wichita Mounta** 66.95 62 eP P 23 12 18.9 +0.4
comp=Z,12nm,0.8s
S39A **Bolivar** 67.29 56 P P 23 12 20.1 -0.5
baz=324
R40A **Maddies Statio** 67.31 55 P P 23 12 20.4 -0.2
baz=324
AKASG **Malin Array Be** 67.35 330 P P 23 12 20.1 -0.5
comp=Z,2.3nm,0.3s,baz=30,slow=6.4,SNR=35
AKBB **Malin Array Si** 67.35 330 eP P 23 12 20.1 -0.5
AKBB pmax pmax
comp=Z,14nm,1.0s
AKBB **Malin Array Si** 67.35 330 eP P 23 12 20.1 -0.5
comp=Z,14nm,1.0s
T38A **Diamond** 67.35 57 P P 23 12 20.6 -0.3
baz=323
KIEV **Kiev** 67.36 330⇓ iP P 23 12 20.7 0.0
KIEV pmax pmax
comp=Z,12nm,1.0s
KIEV **Kiev** 67.36 330 eP P 23 12 20.3 -0.4
comp=Z,17nm,1.1s
AK11 **Malin Array Si** 67.38 330 eP P 23 12 20.5 -0.4
U37A **Salina** 67.45 58 P P 23 12 21.3 -0.3
baz=323
V36A **Jenks** 67.54 59 P P 23 12 22.0 -0.1
baz=323
W35A **Tecumseh** 67.58 61 P P 23 12 22.3 -0.1
baz=323
GOF **Gofitskoye** 67.59 318⇓ iP P 23 12 23.0 +0.7
GOF pmax pmax
comp=Z,46nm,1.3s
Y33A **Hilltop Ranch,** 67.61 62 P P 23 12 22.5 -0.1
baz=323
Q42A **Golden Eagle** 67.62 54 P P 23 12 22.8 +0.2
baz=324
S40A **Lebanon** 67.75 56 P P 23 12 23.2 -0.3
baz=324
U38A **Gravette** 67.78 58 P P 23 12 23.4 -0.2
baz=323
T39A **Clever** 67.80 57 P P 23 12 23.5 -0.2
baz=324
V37A **Hulbert** 67.86 59 P P 23 12 23.9 -0.2
baz=323
W36A **Wetumka** 67.91 60 P P 23 12 24.7 +0.2
baz=323
KSM **Kuching** 68.05 238 eP P 23 12 26.8 +1.3
comp=Z,40nm,1.0s
TRTT **Trang** 68.12 251 P P 23 12 28.4 +2.4
comp=Z,24nm,1.3s
HHAR **Hobbs** 68.12 58 eP P 23 12 25.7 -0.1
HHAR epP PcP 23 12 42.8 -8.4
X35A **Drake** 68.13 61 P P 23 12 26.0 +0.2
baz=323
SKLT **Songkhla** 68.17 250 P P 23 12 28.0 +1.7
comp=Z,30nm,1.3s
ABTX **Abilene, Hawle** 68.18 64 P P 23 12 26.7 +0.5
baz=323
V38A **Canehill** 68.23 58 P P 23 12 26.5 +0.1
baz=324
U39A **Green Forest** 68.26 57 P P 23 12 26.2 -0.5
baz=324
X36A **Centrahoma** 68.30 61 P P 23 12 27.1 +0.2
baz=323
W37B **Quinton** 68.31 59 P P 23 12 27.3 +0.3
baz=323
T41A **Mountain View** 68.55 56 P P 23 12 28.4 -0.1
baz=324
133A **Hamilton Ranch** 68.56 64 P P 23 12 28.6 0.0
baz=323
U40A **Yellville** 68.58 57 P P 23 12 28.5 -0.2
baz=324
V39A **Pettigrew** 68.62 58 P P 23 12 29.2 +0.2
baz=324
KVAR **Kislovodsk Arr** 68.66 318 LR LR 23 46 23.4
comp=Z,25nm,21.2s,baz=360,slow=39
KIV **Kislovodsk** 68.66 318 eP P 23 12 29.5 +0.4
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,67nm,17.0s
KIV **Kislovodsk** 68.66 318 eP P 23 12 29.8 +0.6
comp=Z,14nm,1.2s
LTX **Lajitas** 68.66 69 eP P 23 12 30.1 +0.7
LTX **Lajitas** 68.66 69 eP P 23 12 30.1 +0.7
TX31 **Lajitas Ar. Si** 68.66 69 eP P 23 12 30.4 +1.0
TXAR **Lajitas Array** 68.66 69 P P 23 12 30.1 +0.7
comp=Z,3.0nm,0.5s,baz=297,slow=4.8,SNR=53
TXAR LR LR 23 42 07.5
comp=Z,26nm,18.2s,baz=0.0,slow=35
NCK **Nalchik** 68.69 317⇓ iP P 23 12 30.1 +0.8
NCK pmax pmax
comp=Z,15nm,1.0s
KBZ **Khabaz** 68.77 317 P P 23 12 30.5 +0.9
comp=Z,11nm,0.9s,baz=22,slow=4.7,SNR=18
X37A **Clayton** 68.77 60 P P 23 12 30.2 +0.4
baz=324
W38A **Poteau** 68.81 59 P P 23 12 30.1 0.0
baz=324
R44A **Waltonville** 68.82 53 P P 23 12 30.2 +0.1
baz=325
X38A **Whitesboro** 68.98 59 P P 23 12 31.3 +0.2
baz=324
233A **Rising Star** 69.04 64 P P 23 12 31.5 -0.1
baz=323
W39A **Magazine** 69.07 58 P P 23 12 31.8 +0.2
baz=324
LPIG **La Paz** 69.14 78 LR LR 23 36 53.5
comp=Z,28nm,21.1s,baz=248,slow=31
ZEI **Tsey** 69.17 316 eP P 23 12 29.9 -2.6
ZEI pmax pmax
comp=Z,43nm,1.0s
S44A **Carbondale** 69.19 54 P P 23 12 32.3 -0.1
baz=325
V41A **Mountainview** 69.38 57 P P 23 12 33.3 -0.3
baz=324
X39A **Fountain Ranch** 69.46 59 P P 23 12 34.4 +0.3
baz=324
S45A **Carrier Mills** 69.52 53 P P 23 12 34.3 -0.1
baz=325
333A **Richland Sprin** 69.55 64 P P 23 12 35.3 +0.6
baz=323
MIAR **Mount Ida** 69.69 59 P P 23 12 35.7 +0.2
baz=324
X301 **Greenbrier Sit** 69.70 57 eP P 23 12 35.7 +0.2
comp=Z,11nm,1.2s
KULM **Kulim** 69.73 249 eP P 23 12 36.9 +0.9
comp=Z,23nm,1.1s
JCT **Junction City** 69.80 66 P P 23 12 36.5 +0.2

baz=323
W41B Gary Mavity, V 69.83 57 P **P 23 12 36.1 -0.2**
baz=324
SORM Soroca 69.90 329 ⇓*i*P **P 23 12 36.2 -0.3**
334A Lometa 69.93 64 P **P 23 12 38.0 +0.9**
baz=323
433A Art 69.95 65 P **P 23 12 37.7 +0.5**
baz=323
Z38A Mt. Pleasant 70.04 60 P **P 23 12 37.7 0.0**
baz=324
KWP Kalwaria Pacla 70.09 333 *e*P **P 23 12 38.5 +0.7**
KWP Kalwaria Pacla 70.09 333 ⇑*i*P **P 23 12 38.3 +0.5**
KWP Kalwaria Pacla 70.09 333 *e*P **P 23 12 38.5 +0.7**
X40A Basin Creek Fa 70.10 58 P **P 23 12 38.2 +0.2**
baz=324
IPM Ipoh 70.21 248 *e*P **P 23 12 39.2 +0.3**
comp=Z,24nm,1.0s
OJC Ojcow 70.27 335 *e*P **P 23 12 39.5 +0.6**
OJC Ojcow 70.27 335 *e*P **P 23 12 39.7 +0.9**
OJC pmax pmax
comp=Z,19nm,0.9s
OJC Ojcow 70.27 335 *e*P **P 23 12 39.7 +0.9**
comp=Z,18nm,0.9s
BBKI Banjar Baru 70.28 231 P **P 23 12 38.3 -1.0**
comp=Z,66nm,1.3s,comp=Z,2μm
KSP Ksiaz 70.48 338 *e*P **P 23 12 40.6 +0.5**
KSP Ksiaz 70.48 338 *e*P **P 23 12 40.6 +0.5**
STHS Stebnicka Huta 70.66 334 *e*P **P 23 12 42.9 +1.7**
STHS pmax pmax
comp=Z,12nm,0.8s
STHS Stebnicka Huta 70.66 334 *e*P **P 23 12 42.9 +1.7**
CLL Collm 70.72 340 ⇑*i*P **P 23 12 41.3 -0.2**
comp=Z,13nm,1.1s
CLL *e* 23 12 58.0
CLL *e* 23 13 05.0
CLL Collm 70.72 340 ⇑*i*P **P 23 12 41.3 -0.2**
CLL pmax pmax
comp=Z,13nm,1.1s
CLL Collm 70.72 340 *e*P **P 23 12 41.8 +0.3**
comp=Z,21nm,1.3s
KOLS Kolonicke sedl 70.85 333 *e*P **P 23 12 42.7 +0.3**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 70.85 333 *e*P **P 23 12 42.7 +0.3**
KOLS *e* 23 17 53.5
UPC Upice 70.86 338 *e*P **P 23 12 43.3 +0.9**
UPC Upice 70.86 338 *e*P **P 23 12 43.3 +0.9**
UPC MLR MLR
comp=Z,400nm,16.4s
NIE Niedzica 70.89 335 *e*P **P 23 12 43.3 +0.6**
NIE Niedzica 70.89 335 *e*P **P 23 12 43.3 +0.6**
DPC Dobruska-Polom 70.94 338 *e*P **P 23 12 43.8 +0.9**
DPC *e*pP **PcP 23 13 00.3 -2.6**
DPC Dobruska-Polom 70.94 338 *e*P **P 23 12 43.8 +0.9**
DPC *e* 23 13 00.3
BRG Berggiesshubel 70.94 339 *e*P **P 23 12 43.0 +0.1**
comp=Z,8.5nm,1.1s
BRG Berggiesshubel 70.94 339 *e*P **P 23 12 43.0 +0.1**
BRG pmax pmax
comp=Z,9.0nm,1.1s
MYKOM Kota Tinggi 71.01 244 *e*P **P 23 12 45.0 +1.2**
comp=Z,24nm,1.0s
OKC Ostrava-Krasne 71.01 336 *e*P **P 23 12 44.0 +0.7**
OKC Ostrava-Krasne 71.01 336 *e*P **P 23 12 44.0 +0.7**
GNI Garni 71.05 314 P **P 23 12 44.6 +0.6**
comp=Z,19nm,1.0s,baz=12,slow=2.5,SNR=8.6
GNI Garni 71.05 314 *i* P **P 23 12 44.6 +0.6**
SNR=14
GNI Garni 71.05 314 *e*P **P 23 12 45.5 +1.5**
GNI Garni 71.05 314 *e*P **P 23 12 45.5 +1.5**
CRVS Cervenica-Dubn 71.08 334 *e*P **P 23 12 44.2 +0.4**
CRVS Cervenica-Dubn 71.08 334 *e*P **P 23 12 44.2 +0.4**
UZH Uzhgorod 71.12 333 *e*P **P 23 12 43.3 -0.7**
WVT Waverly 71.13 54 *e*P **P 23 12 44.9 +0.7**
WVT pmax pmax
comp=Z,8.0nm,1.0s
WVT Waverly 71.13 54 *e*P **P 23 12 44.9 +0.7**
comp=Z,7.5nm,1.0s
PVCC Panska Ves 71.14 339 *e*P **P 23 12 45.2 +1.1**
PVCC Panska Ves 71.14 339 *e*P **P 23 12 45.2 +1.1**
MORC Moravsky Berou 71.21 337 ⇑*i*P **P 23 12 45.3 +0.8**
MORC Moravsky Berou 71.21 337 *e*P **P 23 12 45.4 +0.8**
MORC pmax pmax
comp=Z,44nm,0.8s
MORC Moravsky Berou 71.21 337 *e*P **P 23 12 45.4 +0.8**
comp=Z,44nm,0.8s
BUR08 Bucovina Ar. S 71.25 331 *e*P **P 23 12 45.1 +0.2**
BURAR Bucovina Array 71.27 331 ⇓*i*P **P 23 12 45.1 +0.1**
LANS Liptovska Anna 71.34 335 *e*P **P 23 12 47.0 +1.6**
LANS Liptovska Anna 71.34 335 *e*P **P 23 12 47.0 +1.6**
X44A Crenshaw 71.38 56 P **P 23 12 45.5 -0.2**
baz=325
PRU Pruhonice 71.66 339 *e*P **P 23 12 48.0 +0.8**
PRU Pruhonice 71.66 339 *e*P **P 23 12 48.0 +0.8**
GOPC GO Pecny, Ondr 71.68 338 *e*P **P 23 12 48.1 +0.7**
GOPC GO Pecny, Ondr 71.68 338 *e*P **P 23 12 48.1 +0.7**
KECS Kecovo 71.72 334 *e*P **P 23 12 48.3 +0.7**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 71.72 334 *e*P **P 23 12 48.3 +0.7**
NKC Novy Kostel 71.85 340 *e*P **P 23 12 48.8 +0.4**
NKC Novy Kostel 71.85 340 *e*P **P 23 12 48.8 +0.4**
VRAC Vranov 71.86 337 P **P 23 12 49.3 +0.8**
comp=Z,7.5nm,0.7s,baz=49,slow=9.3
VRAC LR LR 23 48 53.6
comp=Z,71nm,19.9s,baz=358,slow=40
VRAC Vranov 71.86 337 ⇓*i*P **P 23 12 49.6 +1.1**
TESR Tescani 71.86 329 ⇓*i*P **P 23 12 48.6 +0.1**
PLAL Pickwick Lake 71.96 54 *e*P **P 23 12 49.6 +0.4**
comp=Z,7.8nm,0.8s
VYHS Vyhne 72.11 335 *e*P **P 23 12 50.8 +0.8**
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 72.11 335 *e*P **P 23 12 50.8 +0.8**
TREC Trest 72.12 338 *e*P **P 23 12 50.3 +0.3**
TREC Trest 72.12 338 *e*P **P 23 12 50.3 +0.3**
PSZ Piszkesteto 72.39 334 *e*P **P 23 12 52.5 +0.8**
PSZ pmax pmax
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 72.39 334 *e*P **P 23 12 52.5 +0.8**
comp=Z,9.0nm,0.9s
VRI Vrincioaia 72.43 329 ⇓*i*P **P 23 12 53.8 +1.9**
Y46A Houston 72.50 56 P **P 23 12 52.1 -0.4**
baz=326
GRFO Grafenberg 72.60 341 *e*P **P 23 12 54.1 +1.2**
GRFO pmax pmax
comp=Z,15nm,0.9s
GRFO Grafenberg 72.60 341 *e*P **P 23 12 54.1 +1.2**
comp=Z,15nm,0.9s
MEM Membach 72.61 344 P **P 23 12 52.9 0.0**
comp=Z,8.4nm,1.1s
CFR Carcaliu 72.63 328 ⇑*i*P **P 23 12 53.4 +0.4**
KHC Kasperske Hory 72.67 339 *e*P **P 23 12 54.1 +0.8**
KHC *e*pP **PcP 23 13 11.2 +0.9**
KHC Kasperske Hory 72.67 339 *e*P **P 23 12 54.1 +0.8**
KHC *e* 23 13 11.2
KHC Kasperske Hory 72.67 339 *e*P **P 23 12 53.9 +0.5**
comp=Z,3.7nm,1.0s
DRGR 72.71 332 ⇑*i*P **P 23 12 53.6 0.0**
DOPR Dopca 72.72 330 ⇑*i*P **P 23 12 54.8 +1.1**
PSI Prapat 72.74 249 *e*P **P 23 12 54.6 +0.3**
PSI pmax pmax
comp=Z,25nm,1.0s
PSI Prapat 72.74 249 *e*P **P 23 12 54.6 +0.3**
comp=Z,25nm,1.0s
GEC2 GERESS Array S 72.92 339 *e*P **P 23 12 55.6 +0.7**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s
GEC2 GERESS Array S 72.92 339 *e*P **P 23 12 55.6 +0.7**
comp=Z,6.3nm,1.0s
GERES GERESS Array B 72.92 339 P **P 23 12 55.3 +0.4**
comp=Z,4.9nm,0.9s,baz=29,slow=5.0,SNR=36
GEA0 GERESS Array S 72.93 339 *e*P **P 23 12 55.0 +0.1**
MLR Muntele Rosu 73.00 329 P **P 23 12 55.8 +0.4**
comp=Z,2.2nm,0.7s,baz=180,slow=6.7,SNR=24
MLR Muntele Rosu 73.00 329 ⇑*i*P **P 23 12 55.7 +0.3**
MLR Muntele Rosu 73.00 329 *e*P **P 23 12 55.8 +0.4**
MLR pmax pmax
comp=Z,12nm,0.8s
MLR Muntele Rosu 73.00 329 *e*P **P 23 12 55.8 +0.4**
comp=Z,12nm,0.8s
TIRR Tirgusor 73.19 327 ⇑*i*P **P 23 12 56.2 -0.2**
TIRR Tirgusor 73.19 327 *e*P **P 23 12 56.7 +0.3**
TIRR pmax pmax
comp=Z,18nm,1.1s
TIRR Tirgusor 73.19 327 *e*P **P 23 12 56.7 +0.3**
comp=Z,18nm,1.1s
VOIR 73.31 330 ⇓*i*P **P 23 12 58.1 +0.9**
DOU Dourbes 73.32 345 P **P 23 12 56.9 -0.2**
CONA Conrad Observa 73.33 337 *i* P **P 23 12 58.5 +1.3**
comp=Z,3.3nm,0.6s,SNR=7.5
Z47A Carrollton 73.43 55 P **P 23 12 57.5 -0.5**
baz=326
SIRR Siria 73.47 333 ⇓*i*P **P 23 12 59.0 +0.9**
ARR Arges 73.49 330 ⇑*i*P **P 23 12 59.3 +1.1**
Z48A Northport 73.52 55 P **P 23 12 58.0 -0.5**
baz=326
MSAB Monastry St. A 73.71 328 ⇓*i*P **P 23 13 00.0 +0.6**
MOA Molln 73.75 338 *i* P **P 23 12 56.7 -2.9**
comp=Z,1.3nm,0.5s
ARSA Arzberg 74.04 337 *i* P **P 23 13 01.7 +0.3**
comp=Z,3.1nm,0.8s
LRAL Lakeview Retre 74.07 55 *e*P **P 23 13 01.3 -0.4**
LRAL *e*PcP **PcP 23 13 11.6 -4.9**
BZS Buzias 74.08 332 ⇑*i*P **P 23 13 02.1 +0.5**
BFO Black Forest 74.44 342 *i* P **P 23 13 04.5 +0.8**
KBA Koelnbreinsper 74.68 339 *i* P **P 23 13 06.6 +1.4**
comp=Z,12nm,0.7s,SNR=12
SOKA Soboth 74.69 337 *i* P **P 23 13 06.3 +1.1**
comp=Z,9.1nm,1.4s,SNR=6.2
PPI Padang Panjang 74.71 246 P **P 23 13 07.9 +2.3**
GSI Gunungsitoli 74.72 249 P **P 23 13 05.5 -0.2**
comp=Z,39nm,1.2s
GSI Gunungsitoli 74.72 249 *e*P **P 23 13 05.7 0.0**
comp=Z,25nm,0.8s
WATA Walderalm 74.79 340 *i* P **P 23 13 06.5 +0.6**
comp=Z,9.2nm,1.0s
RETA Reutte 74.80 340 *i* P **P 23 13 06.6 +0.7**
comp=Z,9.0nm,1.3s
WTTA Wattenberg 74.85 340 *i* P **P 23 13 07.4 +1.2**
comp=Z,6.6nm,0.7s
MOTA Moosalm 74.87 340 *i* P **P 23 13 07.2 +0.8**
comp=Z,7.0nm,0.8s,SNR=6.6
OBKA Obir 74.96 338 *i* P **P 23 13 08.1 +1.3**
comp=Z,15nm,0.9s,SNR=8.3
MYKA Terra Mystica 75.04 338 *i* P **P 23 13 07.6 +0.4**
comp=Z,3.7nm,0.7s
ABTA Abfaltersbach 75.16 339 *i* P **P 23 13 08.7 +0.7**
comp=Z,12nm,1.0s,SNR=6.5
FETA Feichten 75.26 340 *i* P **P 23 13 09.7 +1.1**
comp=Z,12nm,0.9s,SNR=6.9
DAVOX Davos/Dischmat 75.65 341 P **P 23 13 11.0 +0.1**
comp=Z,6.0nm,0.8s,baz=330,slow=8.1
DAVOX Davos/Dischmat 75.65 341 P **P 23 13 11.0 +0.1**
PWJI Pagerwojo 75.68 232 P **P 23 13 10.2 -0.9**
comp=Z,50nm,1.1s
BR101 Keskin Array S 75.69 322 *e*P **P 23 13 11.1 -0.1**
BR131 Keskin Array S 75.69 322 *e*P **P 23 13 11.2 0.0**
BRTR Keskin Array B 75.69 322 P **P 23 13 11.1 -0.1**
comp=Z,6.1nm,0.8s,baz=51,slow=3.4,SNR=42
BRTR LR LR 23 52 42.5
comp=Z,31nm,18.6s,baz=4.5,slow=41
ANTO Ankara 75.86 322 *e*P **P 23 13 12.8 +0.8**
ANTO pmax pmax
comp=Z,21nm,0.9s
ANTO Ankara 75.86 322 *e*P **P 23 13 12.8 +0.8**
comp=Z,21nm,0.9s
BR231 Keskin MP Arra 75.89 322 *e*P **P 23 13 11.5 -0.7**
TUE Stuetta 76.05 341 *e*P **P 23 13 13.4 +0.3**
comp=Z,7.2nm,0.7s
LWLI Liwa 76.74 240 P P 23 13 30.1 +13
SSB Saint Sauveur 78.03 344 *e*P **P 23 13 24.5 +0.4**
SSB pmax pmax
comp=Z,10.0nm,1.3s
SSB Saint Sauveur 78.03 344 *e*P **P 23 13 24.5 +0.4**
comp=Z,10nm,1.3s
UOSS Minazif 78.41 297 *e*P **P 23 13 25.4 -1.1**
comp=Z,3.3nm,1.2s
HATD Hatta, Dubai 78.54 297 *i* P **P 23 13 26.2 -1.0**
SNR=6.7
WRAB Tennant Creek 78.60 207 ⇑*i*P **P 23 13 28.8 +1.5**
WRAB pmax pmax
comp=Z,43nm,1.7s
WB2 Warramunga Arr 78.61 207 *e*P **P 23 13 28.1 +0.8**
comp=Z,14nm,1.0s
WR1 Warramunga Arr 78.61 207 *e*P **P 23 13 27.7 +0.4**
comp=Z,21nm,1.2s
WRA Warramunga Arr 78.61 207 P **P 23 13 27.7 +0.4**
comp=Z,3.6nm,0.7s,baz=7.9,slow=6.0,SNR=23
NAZ Nazwa, Dubai 78.65 297 P **P 23 13 26.6 -1.2**
ASHO Ashiyiah 78.70 297 P **P 23 13 26.4 -1.7**
FITZ Fitzroy Crossi 79.42 215 *e*P **P 23 13 33.0 +1.2**
TAOE Nuku Hiva Isla 79.81 122 *e*LR LR 23 38 08.9
comp=Z,120nm,34.3s
MMAI Mount Meron Ar 80.97 317 P **P 23 13 40.6 +0.4**
comp=Z,77nm,0.6s,baz=31,slow=5.3,SNR=23
ASF Jabal al Asfar 81.12 316 P **P 23 13 41.4 +0.3**
comp=Z,13nm,0.9s,baz=9.6,slow=1.9,SNR=20
TIP Timpagrande 81.37 334 *e*P **P 23 13 43.1 +0.8**
comp=Z,22nm,1.3s
AS01 Alice Springs 82.27 206 *e*P **P 23 13 48.1 +1.1**
AS31 Alice Springs 82.28 206 *e*P **P 23 13 48.0 +1.1**
comp=Z,5.4nm,1.4s
ASAR Alice Springs 82.28 206 P **P 23 13 48.0 +1.1**
comp=Z,5.1nm,0.8s,baz=15,slow=4.8,SNR=32
LAST Lasithi 82.58 326 *e*P **P 23 13 47.5 -1.2**
comp=Z,701nm,0.9s
IDI Anoyia 82.66 326 P **P 23 13 46.7 -2.3**
comp=Z,4.6nm,0.7s,baz=360,slow=8.8,SNR=9.5
PBRG Braganca 82.81 352 *e*P **P 23 13 50.0 +0.3**
PPT Papeete 83.26 134 LR LR 23 41 32.3
comp=Z,27nm,20.9s,baz=350,slow=29
PPT2 Papeete2 83.28 134 *e*LR LR 23 39 38.9
comp=Z,163nm,31.5s
POLO Lamas de Olo 83.32 352 *e*P **P 23 13 53.3 +0.8**
PVRL Vila Real 83.42 352 *e*P **P 23 13 53.6 +0.7**
MVO Moncorvo 83.47 352 *e*P **P 23 13 54.0 +0.8**
comp=Z,10nm,1.8s
PVIS Viseu 83.98 352 *e*P **P 23 13 56.4 +0.6**
comp=Z,19nm,1.9s
EIL Elat 84.11 316 P **P 23 13 55.2 -1.3**
comp=Z,11nm,0.9s,baz=1.8,slow=2.3,SNR=11
MTE Manteigas 84.27 352 *e*P **P 23 13 58.1 +0.8**
comp=Z,21nm,1.4s
ES19 SONSECA Array 84.63 349 *e*P **P 23 13 59.8 +0.8**
ESDC Sonseca Array 84.66 349 P **P 23 13 60.0 +0.7**
comp=Z,3.4nm,0.6s,baz=2.2,slow=4.7,SNR=34
ESLA Sonseca Array 84.66 349 *e*P **P 23 14 00.3 +1.0**
comp=Z,9.2nm,0.9s
PCAS Casmilo, Conde 84.69 353 *e*P **P 23 14 00.0 +0.7**
comp=Z,26nm,1.9s
PCBR Castelo Branco 84.82 352 *e*P **P 23 14 00.6 +0.7**
comp=Z,22nm,1.6s
PAB San Pablo 84.83 350 *e*P **P 23 14 01.1 +1.0**
PAB pmax pmax
comp=Z,11nm,1.1s
PAB San Pablo 84.83 350 *e*P **P 23 14 01.1 +1.0**
comp=Z,12nm,1.1s
KEST Kesra 86.40 338 P **P 23 14 07.8 -0.1**
comp=Z,2.9nm,0.8s,baz=322,slow=1.6,SNR=8.1
KEST LR LR 23 58 49.2
comp=Z,53nm,18.2s,baz=278,slow=40
KEST Kesra 86.40 338 *e*P **P 23 14 07.8 -0.1**
comp=Z,13nm,1.4s
TBI Tubuai 88.50 137 *e*LR LR 23 42 14.0
comp=Z,109nm,34.8s
STKA Stephens Creek 88.61 197 LR LR 23 50 09.1
comp=Z,39nm,20.4s,baz=26,slow=33
MDT Midelt 91.52 349 P **P 23 14 32.2 0.0**
comp=Z,1.8nm,0.8s,baz=302,slow=6.0
RKT Rikitea 94.58 125 *e*LR LR 23 44 55.1
comp=Z,700nm,40.8s
TOA1 Torodi Ar. Sit 109.86 340 *e*PKiKP **PKiKP 23 19 56.1 -0.4**
TOA1 *e*PP **PP 23 20 25.2 -3.7**
TORD Torodi Ar. Bea 109.86 340 PKiKP **PKiKP 23 19 56.1 -0.4**
comp=Z,0.2nm,0.5s,baz=12,slow=2.7,SNR=5.0
TORD PP **PP 23 20 25.2 -3.7**
comp=Z,0.5nm,0.6s,baz=12,slow=6.5,SNR=4.1
DBIC Dimbokro 117.32 346 PKP **PKPdf 23 20 09.7 -1.1**
comp=Z,2.5nm,0.8s,baz=58,slow=1.3,SNR=4.2

CSEM ***14*** *23:09:22.4±0.1, 42.69N×11.95E, h2km, ML3.0/6, Error ellipse: s-maj=2.8km s-min=2.1km az=139.0*
ROM 14 23:09:22.0±0.1, 42.68N×11.93E, h8km±1km, Ml2.4/24**, 3C, Error ellipse: s-maj=1.6km s-min=1.0km az=125.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATE	**Laterza**	**0.12**	**234** ⇑*i*Pg		Pg		23 09 25.1 +0.4
LATE					Sg		23 09 27.6 +1.1
	3μm,0.3s						
LATE	**Laterza**	**0.12**	**234** ⇑*i*Pg		Pg		23 09 25.1 +0.4
LATE					Sg		23 09 27.6 +1.1
	3μm,0.3s						
SACS	**San Casciano d**	**0.17**	**354** ⇑*i*Pg		Pg		23 09 26.0 +0.5
SACS					Sg		23 09 29.2 +1.3
	2μm,0.4s						
MGAB	**Montegabbione**	**0.26**	**30**	Pg	Pg		23 09 27.6 +0.3
MGAB				Sg	Sb		23 09 32.4 -1.4
	1μm,0.4s						
MGAB	**Montegabbione**	**0.26**	**30**	Pg	Pg		23 09 27.6 +0.3
MGAB				Sg	Sb		23 09 32.4 -1.4
	1μm,0.4s						
ARCI	**Arcidosso**	**0.38**	**297**	Pg	Pg		23 09 30.1 +0.7
ARCI				Sg	Sb		23 09 35.9 -1.2
	174nm,0.5s						
ARCI	**Arcidosso**	**0.38**	**297**	Pg	Pg		23 09 30.1 +0.7
ARCI				Sg	Sb		23 09 35.9 -1.2
	174nm,0.5s						
CESX	**Cesi**	**0.48**	**99**	Pg	Pb		23 09 32.6 -0.2
	125nm,0.5s						
CESX	**Cesi**	**0.48**	**99**	Pg	Pb		23 09 32.6 -0.2
	125nm,0.5s						
ATTE	**AVT- Monte Tez**	**0.60**	**31**	Pg	Pg		23 09 34.1 +0.5
ATTE				Sg	Sb		23 09 43.1 -0.4
	313nm,0.5s						
ATTE	**AVT- Monte Tez**	**0.60**	**31**	Pg	Pg		23 09 34.1 +0.5
ATTE				Sg	Sb		23 09 43.1 -0.4
	313nm,0.5s						
TOLF	**Tolfa**	**0.62**	**175**	Pg	Pg		23 09 33.3 -0.7
	130nm,0.6s						
TOLF	**Tolfa**	**0.62**	**175**	Pg	Pg		23 09 33.3 -0.7
	130nm,0.6s						
CAFI	**Castiglion Fio**	**0.65**	**2**	Pg	Pg		23 09 34.3 -0.2
CAFI				Sg	Sb		23 09 44.6 -0.2
	126nm,0.5s						
CAFI	**Castiglion Fio**	**0.65**	**2**	Pg	Pg		23 09 34.3 -0.2
CAFI				Sg	Sb		23 09 44.6 -0.2
	126nm,0.5s						
MAON	**Monte Argentar**	**0.65**	**247**	Pg	Pg		23 09 34.9 +0.5
	258nm,1.1s						
MAON	**Monte Argentar**	**0.65**	**247**	Pg	Pg		23 09 34.9 +0.5
	258nm,1.1s						
ATCC	**AVT- Casa Cast**	**0.72**	**46**	Pg	Pg		23 09 36.1 +0.2
	193nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.72**	**46**	Pg	Pg		23 09 36.1 +0.2
	193nm,0.4s						
MURB	**Monte Urbino**	**0.72**	**37**	Pg	Pg		23 09 36.1 +0.2
	722nm,0.3s						
MURB	**Monte Urbino**	**0.72**	**37**	Pg	Pg		23 09 36.1 +0.2
	722nm,0.3s						
CESI	**CESI - Serrava**	**0.78**	**65**	Pg	Pg		23 09 37.4 +0.3
	20nm,0.3s						
CESI	**CESI - Serrava**	**0.78**	**65**	Pg	Pg		23 09 37.4 +0.3
	20nm,0.3s						
ATMC	**Monte Cedrone**	**0.79**	**14**	Pg	Pg		23 09 37.0 -0.1
	219nm,0.2s						
ATMC	**Monte Cedrone**	**0.79**	**14**	Pg	Pg		23 09 37.0 -0.1
	219nm,0.2s						
CASP	**Castiglione de**	**0.80**	**278**	Pg	Pb		23 09 38.0 -0.1
	49nm,0.4s						
CASP	**Castiglione de**	**0.80**	**278**	Pg	Pb		23 09 38.0 -0.1
	49nm,0.4s						
BADI	**Badiali**	**0.86**	**15**	Pg	Pg		23 09 38.6 +0.1
	104nm,0.4s						
BADI	**Badiali**	**0.86**	**15**	Pg	Pg		23 09 38.6 +0.1
	104nm,0.4s						
NRCA	**Norcia**	**0.88**	**80**	Pg	Pg		23 09 38.8 -0.2
	71nm,0.7s						
NRCA	**Norcia**	**0.88**	**80**	Pg	Pg		23 09 38.8 -0.2
	71nm,0.7s						
ATPC	**Poggio Castell**	**0.88**	**26**	Pg	Pb		23 09 39.4 -0.2
	163nm,0.4s						
ATPC	**Poggio Castell**	**0.88**	**26**	Pg	Pb		23 09 39.4 -0.2
	163nm,0.4s						
MTCE	**Montecelio**	**0.89**	**138**	Pg	Pb		23 09 39.6 -0.1
	39nm,0.4s						
MTCE	**Montecelio**	**0.89**	**138**	Pg	Pb		23 09 39.6 -0.1
	39nm,0.4s						
FDMO	**Fiordimonte**	**0.92**	**67**	Pg	Pg		23 09 39.7 +0.1
	50nm,0.5s						
FDMO	**Fiordimonte**	**0.92**	**67**	Pg	Pg		23 09 39.7 +0.1
	50nm,0.5s						
SNTG	**Esanatoglia**	**0.93**	**52**	Pg	Pg		23 09 40.2 +0.3
	55nm,0.4s						
SNTG	**Esanatoglia**	**0.93**	**52**	Pg	Pg		23 09 40.2 +0.3
	55nm,0.4s						
PIEI	**Pieia**	**0.96**	**27**	Pg	Pg		23 09 40.3 -0.1
	77nm,0.4s						
PIEI	**Pieia**	**0.96**	**27**	Pg	Pg		23 09 40.3 -0.1
	77nm,0.4s						
SSFR	**Montelago di S**	**0.98**	**39**	Pg	Pg		23 09 40.6 -0.1
	132nm,0.2s						
SSFR	**Montelago di S**	**0.98**	**39**	Pg	Pg		23 09 40.6 -0.1
	132nm,0.2s						
PARC	**Parchiule**	**0.99**	**13**	Pg	Pg		23 09 41.1 +0.1
	109nm,1.0s						
PARC	**Parchiule**	**0.99**	**13**	Pg	Pg		23 09 41.1 +0.1
	109nm,1.0s						
FRON	**Frontone**	**1.01**	**35**	Pg	Pg		23 09 41.1 -0.4
	102nm,1.0s						
FRON	**Frontone**	**1.01**	**35**	Pg	Pg		23 09 41.1 -0.4
	102nm,1.0s						
NVLJ	**Novalja**	**2.84**	**48**	*e*Pn	Pn		23 10 09.6 +2.0
NVLJ				Sn	Sn		23 10 42.4 +0.3
NVLJ	**Novalja**	**2.84**	**48**	*e*Pn	Pn		23 10 09.6 +1.9
NVLJ				Sn	Sn		23 10 42.3 +0.2
UDBI	**Udbina**	**3.34**	**55**	*e*Pn	Pn		23 10 16.1 +1.6
UDBI				Sn	Sn		23 10 55.0 +0.6
UDBI	**Udbina**	**3.34**	**55**	*e*Pn	Pn		23 10 16.1 +1.6
UDBI				Sn	Sn		23 10 55.0 +0.6

CSEM ***14*** *23:10:00.1, 42.68N×11.95E, h8km, ML1.9/6*
ROM 14 23:10:00.1±0.2, 42.68N×11.95E, h8km±1km, Ml1.9/6**, Error ellipse: s-maj=3.1km s-min=1.6km az=127.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATE	**Laterza**	**0.12**	**239**	Pg	Pg		23 10 03.4 +0.5
LATE				Sg	Sg		23 10 05.8 +1.0
	371nm,0.3s						
LATE	**Laterza**	**0.12**	**239**	Pg	Pg		23 10 03.4 +0.5
LATE				Sg	Sg		23 10 05.8 +1.0
	371nm,0.3s						
SACS	**San Casciano d**	**0.17**	**351**	Pg	Pg		23 10 04.3 +0.5
SACS				Sg	Sg		23 10 07.6 +1.3
	195nm,0.4s						
MGAB	**Montegabbione**	**0.27**	**27**	Pg	Pg		23 10 06.1 +0.7
MGAB				Sg	Sb		23 10 10.7 -1.2
	232nm,0.4s						
MGAB	**Montegabbione**	**0.27**	**27**	Pg	Pg		23 10 06.1 +0.7
MGAB				Sg	Sb		23 10 10.7 -1.2
	232nm,0.4s						
ARCI	**Arcidosso**	**0.39**	**297**	Pg	Pg		23 10 08.4 +0.6
ARCI				Sg	Sg		23 10 14.2 +1.3
	88nm,0.5s						
ARCI	**Arcidosso**	**0.39**	**297**	Pg	Pg		23 10 08.4 +0.6
ARCI				Sg	Sg		23 10 14.2 +1.3
	88nm,0.5s						
ATTE	**AVT- Monte Tez**	**0.60**	**30**	Pg	Pb		23 10 12.6 -0.3
ATTE				Sg	Sb		23 10 21.5 -0.1
ATTE	**AVT- Monte Tez**	**0.60**	**30**	Pg	Pb		23 10 12.6 -0.3
ATTE				Sg	Sb		23 10 21.5 -0.1
TOLF	**Tolfa**	**0.61**	**176**	Pg	Pg		23 10 11.9 0.0
	43nm,0.6s						
TOLF	**Tolfa**	**0.61**	**176**	Pg	Pg		23 10 11.9 0.0
	43nm,0.6s						
CAFI	**Castiglion Fio**	**0.65**	**1**	Pg	Pg		23 10 12.8 +0.1
CAFI	**Castiglion Fio**	**0.65**	**1**	Pg	Pg		23 10 12.8 +0.1
MAON	**Monte Argentar**	**0.65**	**248**	Pg	Pb		23 10 14.0 +0.3
MAON	**Monte Argentar**	**0.65**	**248**	Pg	Pb		23 10 14.0 +0.3
CASP	**Castiglione de**	**0.81**	**278**	Pg	Pb		23 10 16.7 +0.3
	49nm,0.4s						
CASP	**Castiglione de**	**0.81**	**278**	Pg	Pb		23 10 16.7 +0.3
	49nm,0.4s						

ISCJB ***14*** *23:10:19.3±1.2, 39.48N±0.04×142.57E±0.07, h19km±7km, mb3.5/6, Error ellipse: s-maj=9.6km s-min=6.8km az=16.0*
JMA ***14*** *23:10:20.0±0.1, 39.51N×142.53E, h29km±1km, M3.6*
IDC ***14*** *23:10:25.6±2.9, 39.48N×142.37E, h63km±27km, mb3.4/6,*

mb1 3.5/9,mb1mx3.3/46,mbtmp3.6/9,ML2.7/2,Error ellipse: s-maj=31.0km s-min=21.2km az=114.0

ISC 14 23:10:21.5±1.7,**39.44N**±0.04×**142.40E**±0.08,**h27**km±11km, **n20,σ1§59/28,mb3.5/6,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.47**	**287**	P	**Pb**	**23 10 31.1**	**-0.1**
MIYJ				S	**Sb**	**23 10 38.9**	**+1.2**
JTH	**Tanohata**	**0.64**	**320**	P	**Pb**	**23 10 32.7**	**-1.4**
JTH				*e*S	**Sb**	**23 10 41.7**	**-1.0**
OFUJ	**Ofunato**	**0.67**	**237**	P	**Pn**	**23 10 34.6**	**-0.6**
OFUJ				S	**Sn**	**23 10 45.1**	**+0.3**
JOM	**Ohasama**	**0.85**	**272**	P	**Pn**	**23 10 37.6**	**-0.1**
JOM				S	**Sn**	**23 10 50.2**	**+0.8**
JKZ	**Kuzumaki**	**0.98**	**304**	P	**Pn**	**23 10 38.7**	**-0.9**
JKZ				S	**Sb**	**23 10 51.5**	**-1.0**
JMK	**Ichinoseki**	**1.04**	**242**	P	**Pb**	**23 10 40.5**	**-0.2**
JANG	**Nango**	**1.15**	**324**	P	**Pn**	**23 10 40.4**	**-1.4**
JIO	**Ouri**	**1.28**	**220**	P	**Pb**	**23 10 43.6**	**-1.3**
JIO				S	**Sb**	**23 11 00.9**	**0.0**
JRG	**Rokugo**	**1.36**	**269**	P	**Pb**	**23 10 46.3**	**0.0**
JRG				S	**Sb**	**23 11 05.9**	**+2.5**
JAH	**Hinai**	**1.55**	**299**	P	**Pb**	**23 10 48.2**	**-1.2**
JAH				S	**Sb**	**23 11 09.4**	**+0.8**
MAT	**Matsushiro**	**4.40**	**230**	P	**Pn**	**23 11 30.8**	**+4.3**
MJAR	**Matsushiro Arr** 1.2nm,0.3s,baz=36,slow=12,SNR=25	**4.40**	**230**	P	Pn	23 11 31.1	+4.6
MJAR	0.4nm,0.3s,baz=358,slow=14,SNR=2.4			S	**Sn**	**23 12 14.0**	**-2.8**
ASAJ	**Asahikawa** baz=297,slow=2.3	**4.67**	**2**	P	**Pn**	**23 11 31.5**	**+1.3**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=110,slow=14,SNR=7.7	**9.11**	**305**	P	**Pn**	**23 12 33.8**	**+2.8**
SEY	**Seymchan** 2.1nm,0.6s,baz=206,slow=5.4,SNR=5.0	**24.28**	**1**	P	**P**	**23 15 37.1**	**+0.9**
SONM	**Songino Array** 0.6nm,0.8s,baz=79,slow=7.5,SNR=2.9	**27.17**	**300**	P	**P**	**23 16 03.2**	**+0.5**
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=92,slow=11,SNR=3.6	**40.90**	**310**	P	**P**	**23 17 59.4**	**-1.8**
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=87,slow=9.7,SNR=6.5	**43.54**	**300**	P	**P**	**23 18 23.2**	**+0.5**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=289,slow=5.6,SNR=3.7	**47.05**	**34**	P	**P**	**23 18 50.7**	**+0.3**
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=4.2,slow=6.8,SNR=2.6	**59.55**	**189**	P	**P**	**23 20 22.0**	**-0.6**

*IDC **14** 23:14:20.3±0.6,34.°82N×29.°09E,h0km,mb4.3/20, mb1 4.3/32,mb1mx4.2/58,mbtmp4.3/32,ML4.2/12, MS3.6/12,Ms1 3.6/12,ms1mx3.3/41,Error ellipse: s-maj=13.3km s-min=11.6km az=167.0*

*JSO **14** 23:14:22.0±0.6,34.°73N×29.°24E,h229km±203km*

*DDA **14** 23:14:23.9,34.°96N×28.°87E,h22km,Ml4.6*

*CSEM **14** 23:14:23.4±0.1,34.°74N×29.°08E,h20km,mb4.6/21,Error ellipse: s-maj=2.6km s-min=1.7km az=33.0*

*ISCJB **14** 23:14:23.1±0.2,34.°73N±0.°01×29.°07E±0.°01,h41km±2km, mb4.5/47,MS3.6/9,Error ellipse: s-maj=2.3km s-min=1.5km az=29.1*

*ATH **14** 23:14:23.7,34.°88N×29.°00E,h30km±3km,ML4.2/15,Error ellipse: s-maj=4.6km s-min=1.0km az=145.0*

*ISK **14** 23:14:24.9,34.°92N×29.°04E,h26km,ML4.2*

*THE **14** 23:14:26.1,34.°79N×29.°08E,h24km±3km,ML4.5/12,Error ellipse: s-maj=3.7km s-min=0.8km az=149.0*

*NEIC **14** 23:14:26.2±0.4,34.°84N×29.°07E,h45km±3km,mb4.3/36, Error ellipse: s-maj=4.5km s-min=3.1km az=175.0*

*HLW **14** 23:14:26.8,34.°66N×29.°13E,h54km±36km,Md4.1,Ml3.9*

*NSSC **14** 23:14:27.8±1.3,34.°84N×29.°73E,h0km±111km,ML3.7*

*NIC **14** 23:14:28.6±0.2,35.°08N×29.°44E,h75km,mb4.6,ML4.4*

*GII **14** 23:14:29.9±0.4,34.°35N×29.°38E,h44km,mb4.1/2, MD3.5/10*

ISC 14 23:14:23.9±1.8,**34.81N**±0.03×**29.11E**±0.03,**h25**km±13km, **n879,σ1§59/1007,mb4.5/46,MS3.6/10,34C-4D,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.39**	**16**	P	**Pn**	**23 14 48.4**	**+0.7**
KSL				S	**Sn**	**23 15 04.9**	**-0.4**
KSL	**Kastellorizon**	**1.39**	**16**	*e*Pn	**Pn**	**23 14 48.4**	**+0.7**
KSL	**Kastellorizon**	**1.39**	**16**	P	**Pn**	**23 14 48.5**	**+0.7**
KSL				S	**Sn**	**23 15 06.3**	**+1.0**
KSL	comp=N,6183μm,0.6s			AML	AML	23 15 08.2	
KSL	comp=E,5537μm,0.4s			AML	AML	23 15 08.8	
AKAS	**Kas**	**1.48**	**16**	P	**Pn**	**23 14 50.2**	**+1.2**
AKAS				S	**Sn**	**23 15 09.3**	**+1.8**
AKS	**Kas**	**1.48**	**16**	*i*P	**Pn**	**23 14 50.2**	**+1.2**
AKAS				*i*S	**Sn**	**23 15 09.3**	**+1.8**
ARG	**Arkhangelos**	**1.61**	**331**	P	**Pn**	**23 14 51.2**	**+0.4**
ARG				S	**Sn**	**23 15 11.2**	**+0.4**
ARG	**Arkhangelos**	**1.61**	**331**	P	**Pn**	**23 14 51.7**	**+0.9**
ARG				S	**Sn**	**23 15 12.0**	**+1.2**
ARG	**Arkhangelos**	**1.61**	**331**	P	**Pn**	**23 14 51.2**	**+0.4**
ARG				S	**Sn**	**23 15 11.2**	**+0.4**
KARP	**Karpathos**	**1.75**	**295**	*e*PN	**Pn**	**23 14 53.5**	**+0.8**
KARP	**Karpathos**	**1.75**	**295**	P	**Pn**	**23 14 53.5**	**+0.8**
KARP				S	**Sn**	**23 15 14.1**	**-0.2**
KARP	**Karpathos**	**1.75**	**295**	P	**Pn**	**23 14 53.5**	**+0.8**
KARP				S	**Sn**	**23 15 14.2**	**-0.1**
KARP	**Karpathos**	**1.75**	**295**	*e*Pn	**Pn**	**23 14 53.5**	**+0.8**
KARP				*e*Sn	**Sn**	**23 15 14.1**	**-0.2**
KARP	**Karpathos**	**1.75**	**295**	P	**Pn**	**23 14 53.7**	**+1.0**
KARP				S	**Sn**	**23 15 14.2**	**-0.1**
KARP	comp=N,7545μm,0.8s			AML	AML	23 15 16.4	
KARP	comp=E,4347μm,0.5s			AML	AML	23 15 22.4	
FETY	**Fethiye**	**1.82**	**359**	*e*PN	**Pn**	**23 14 54.3**	**+0.7**
FETY				*e*SN	**Sn**	**23 15 14.8**	**-1.0**
FETY	**Fethiye**	**1.82**	**359**	P	**Pn**	**23 14 54.2**	**+0.5**
FETY				S	**Sn**	**23 15 16.2**	**+0.3**
FETY	**Fethiye**	**1.82**	**359**	*e*Pn	**Pn**	**23 14 54.3**	**+0.7**
FETY				*e*Sn	**Sn**	**23 15 14.9**	**-1.0**
FETY				S	**Sn**	**23 15 16.2**	**+0.3**
FETY	**Fethiye**	**1.82**	**359**	*e*Pn	**Pn**	**23 14 54.2**	**+0.5**
FETY				*e*Sn	**Sn**	**23 15 16.2**	**+0.3**
DALY	**Dalyan (Mu˘la**	**2.03**	**350**	*e*PN	**Pn**	**23 14 57.1**	**+0.6**
DALY	**Dalyan (Mu˘la**	**2.03**	**350**	*e*Pn	**Pn**	**23 14 57.1**	**+0.6**
ELL	**Elmali**	**2.04**	**18**	*e*PN	**Pn**	**23 14 58.2**	**+1.4**
ELL	**Elmali**	**2.04**	**18**	*e*Pn	**Pn**	**23 14 58.2**	**+1.4**
TURN	**Turunc**	**2.10**	**349**	*i*P	**Pn**	**23 14 57.9**	**+0.5**
TURN				*i*S	**Sn**	**23 15 23.0**	**+0.3**
GLHS	**Glhisar (BURDU**	**2.36**	**8**	*e*PN	**Pn**	**23 15 02.4**	**+1.2**
GLHS	**Glhisar (BURDU**	**2.36**	**8**	*e*Pn	**Pn**	**23 15 02.4**	**+1.2**
NIS1	**Nisyros lsl.**	**2.38**	**319**	*e*PN	**Pn**	**23 15 02.0**	**+0.7**
NIS1	**Nisyros lsl.**	**2.38**	**319**	P	**Pn**	**23 15 01.7**	**+0.4**
NIS1	**Nisyros lsl.**	**2.38**	**319**	*e*Pn	**Pn**	**23 15 02.0**	**+0.7**
NIS1	**Nisyros lsl.**	**2.38**	**319**	P	**Pn**	**23 15 02.4**	**+1.1**
NIS1	**Nisyros lsl.**	**2.38**	**319**	*e*Pn	**Pn**	**23 15 01.7**	**+0.4**
NIS1	**Nisyros lsl.**	**2.38**	**319**	P	**Pn**	**23 15 02.4**	**+1.1**
NIS1	comp=N,3065μm,0.6s			AML	AML	23 15 41.6	
NIS1	comp=E,5765μm,0.9s			AML	AML	23 15 43.4	
ZKR	**Zakros**	**2.39**	**278**	P	**Pn**	**23 15 02.0**	**+0.5**
ZKR				S	**Sn**	**23 15 30.3**	**+0.3**
ZKR	**Zakros**	**2.39**	**278**	P	**Pn**	**23 15 02.0**	**+0.5**
ZKR				S	**Sn**	**23 15 30.3**	**+0.3**
ZKR	**Zakros**	**2.39**	**278**	*e*Pn	**Pn**	**23 15 02.0**	**+0.5**
ZKR				*e*Sn	**Sn**	**23 15 30.3**	**+0.3**
ZKR	**Zakros**	**2.39**	**278**	P	**Pn**	**23 15 02.1**	**+0.5**
ZKR				S	**Sn**	**23 15 30.3**	**+0.3**
ZKR	comp=E,5220μm,0.5s			AML	AML	23 15 31.2	
ZKR	comp=N,7189μm,0.7s			AML	AML	23 15 31.8	
KORT	**Korkueli**	**2.41**	**24**	P	**Pn**	**23 15 03.7**	**+1.9**
KORT				S	**Sb**	**23 15 34.8**	**-1.1**
KORT	**Korkueli**	**2.41**	**24**	*i*P	**Pn**	**23 15 03.7**	**+1.9**
KORT				*i*S	**Sb**	**23 15 34.8**	**-1.1**
YER	**Yerkesik**	**2.41**	**344**	*e*PN	**Pn**	**23 15 02.7**	**+0.8**
YER	**Yerkesik**	**2.41**	**344**	P	**Pn**	**23 15 03.1**	**+1.3**
YER				S	**Sn**	**23 15 32.4**	**+1.8**
YER	**Yerkesik**	**2.41**	**344**	*e*Pn	**Pn**	**23 15 03.1**	**+1.3**
YER				*e*Sn	**Sn**	**23 15 32.4**	**+1.8**
ANTB	**Antalya**	**2.43**	**31**	*e*PN	**Pn**	**23 15 03.3**	**+1.2**
ANTB	**Antalya**	**2.43**	**31**	*e*Pn	**Pn**	**23 15 03.3**	**+1.2**
GOLH	**Golhisar**	**2.45**	**9**	P	**Pn**	**23 15 04.8**	**+2.4**
GOLH				S	**Sn**	**23 15 34.3**	**+2.7**
GOLH	**Golhisar**	**2.45**	**9**	*i*P	**Pn**	**23 15 04.8**	**+2.4**
GOLH				*i*S	**Sn**	**23 15 34.3**	**+2.7**
BDRM	**Kayabasi**	**2.62**	**330**	P	**Pn**	**23 15 04.7**	**0.0**
BDRM	**Kayabasi**	**2.62**	**330**	*i*P	**Pn**	**23 15 04.7**	**0.0**
BDRM				*i*S	**Sn**	**23 15 35.4**	**-0.3**
AKMC	**Akamas** baz=272	**2.66**	**84**	P	**Pn**	**23 15 06.0**	**+0.8**
AKMC	**Akamas**	**2.66**	**84**	P	**Pn**	**23 15 06.0**	**+0.8**
PPCY	**Paphos** baz=275	**2.67**	**88**	P	**Pn**	**23 15 06.1**	**+0.9**
PPCY	**Paphos**	**2.67**	**88**	P	**Pn**	**23 15 06.1**	**+0.9**
BODT	**Bodrum**	**2.68**	**328**	*e*PN	**Pn**	**23 15 05.7**	**+0.2**
BODT				*e*SN	**Sn**	**23 15 36.2**	**-0.8**
BODT	**Bodrum**	**2.68**	**328**	P	**Pn**	**23 15 05.5**	**+0.1**
BODT				S	**Sn**	**23 15 37.1**	**+0.1**
BODT	**Bodrum**	**2.68**	**328**	*e*Pn	**Pn**	**23 15 05.7**	**+0.2**
BODT				*e*Sn	**Sn**	**23 15 36.2**	**-0.8**
BODT				S	**Sn**	**23 15 37.1**	**+0.1**
BODT	**Bodrum**	**2.68**	**328**	*e*Pn	**Pn**	**23 15 05.5**	**+0.1**
BODT				*e*Sn	**Sn**	**23 15 37.1**	**+0.1**
DNZL	**Cakiroluk**	**2.87**	**359**	P	**Pn**	**23 15 09.5**	**+1.2**
DNZL	**Cakiroluk**	**2.87**	**359**	*i*P	**Pn**	**23 15 09.5**	**+1.2**
DNZL				*i*S	**Sn**	**23 15 38.0**	**-4.1**
ALFC	**Alefka** baz=269	**2.89**	**82**	P	**Pn**	**23 15 09.0**	**+0.6**
ALFC				S	**Sn**	**23 15 40.4**	**-1.9**
ALFC	**Alefka**	**2.89**	**82**	P	**Pn**	**23 15 09.0**	**+0.6**
ALFC				S	**Sn**	**23 15 40.4**	**-1.9**
NPS	**Neapolis**	**2.90**	**280**	P	**Pn**	**23 15 09.7**	**+1.2**
NPS				S	**Sn**	**23 15 42.4**	**-0.2**
NPS	**Neapolis**	**2.90**	**280**	P	**Pn**	**23 15 09.7**	**+1.2**
NPS				S	**Sn**	**23 15 42.4**	**-0.2**
NPS	**Neapolis**	**2.90**	**280**	P	**Pn**	**23 15 09.7**	**+1.2**
NPS				S	**Sn**	**23 15 42.4**	**-0.2**
NPS	**Neapolis**	**2.90**	**280**	P	**Pn**	**23 15 10.5**	**+2.0**
NPS	comp=N,4800μm,0.7s			AML	AML	23 15 43.9	
NPS	comp=E,5940μm,1.0s			AML	AML	23 15 44.4	
BCK	**Bucak**	**2.90**	**24**	*e*PN	**Pn**	**23 15 09.6**	**+1.0**
BCK	**Bucak**	**2.90**	**24**	*e*Pn	**Pn**	**23 15 09.6**	**+1.0**
DENT	**Denizli**	**2.94**	**359**	*e*PN	**Pn**	**23 15 09.6**	**+0.6**
DENT	**Denizli**	**2.94**	**359**	*e*Pn	**Pn**	**23 15 09.6**	**+0.6**
GAZI	**Gazipasa**	**2.98**	**61**	P	**Pn**	**23 15 09.9**	**+0.3**
GAZI				S	**Sn**	**23 15 43.4**	**-1.1**
GAZI	**Gazipasa**	**2.98**	**61**	*i*P	**Pn**	**23 15 09.9**	**+0.3**
GAZI				*i*S	**Sn**	**23 15 43.4**	**-1.1**
LAST	**Lasithi**	**3.00**	**278**	P	**Pn**	**23 15 10.8**	**+0.9**
LAST				S	**Sn**	**23 15 44.6**	**-0.5**
LAST	**Lasithi**	**3.00**	**278**	P	**Pn**	**23 15 10.8**	**+0.9**
LAST				S	**Sn**	**23 15 45.5**	**+0.4**
LAST	**Lasithi**	**3.00**	**278**	*e*Pn	**Pn**	**23 15 10.8**	**+0.9**
LAST				*e*Sn	**Sn**	**23 15 44.6**	**-0.5**
LAST	**Lasithi**	**3.00**	**278**	P	**Pn**	**23 15 11.2**	**+1.3**
SUTC	**Sutluce-Ispart**	**3.07**	**29**	*e*PN	**Pn**	**23 15 12.8**	**+1.8**
SUTC	**Sutluce-Ispart**	**3.07**	**29**	*e*Pn	**Pn**	**23 15 12.8**	**+1.8**
SZAC	**Souni** baz=277	**3.11**	**90**	P	**Pn**	**23 15 12.4**	**+1.0**
SZAC				S	**Sn**	**23 15 47.1**	**-0.7**
SZAC	**Souni**	**3.11**	**90**	P	**Pn**	**23 15 12.4**	**+1.0**
SZAC				S	**Sn**	**23 15 47.1**	**-0.7**
LEF	**Lefka**	**3.12**	**83**	*e*PN	**Pn**	**23 15 14.0**	**+2.4**
LEF	**Lefka**	**3.12**	**83**	*e*Pn	**Pn**	**23 15 14.0**	**+2.4**
AKDN	**Akdeniz- K¯–br**	**3.21**	**80**	*e*PN	**Pn**	**23 15 15.4**	**+2.7**
AKDN	**Akdeniz- K¯–br**	**3.21**	**80**	*e*Pn	**Pn**	**23 15 15.4**	**+2.7**
ISP	**Isparta**	**3.21**	**20**	*e*PN	**Pn**	**23 15 13.6**	**+0.7**
ISP	**Isparta**	**3.21**	**20**	P	**Pn**	**23 15 15.6**	**+2.7**
ISP	**Isparta**	**3.21**	**20**	*e*Pn	**Pn**	**23 15 13.6**	**+0.7**
ISP	**Isparta**	**3.21**	**20**	P	**Pn**	**23 15 13.6**	**+2.7**
ISP	**Isparta**	**3.21**	**20**	*e*Pn	**Pn**	**23 15 15.2**	**+2.3**
GCAM	**G?zelcaml?**	**3.25**	**333**	P	**Pn**	**23 15 13.6**	**+0.3**
GCAM				S	**Sn**	**23 15 50.2**	**-1.1**
GCAM	**G?zelcaml?**	**3.25**	**333**	*i*P	**Pn**	**23 15 13.6**	**+0.3**
GCAM				*i*S	**Sn**	**23 15 50.2**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**3.28**	**343**	*e*PN	**Pn**	**23 15 14.4**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**3.28**	**343**	*e*Pn	**Pn**	**23 15 14.4**	**+0.6**
SANT	**Santorini**	**3.35**	**299**	P	**Pn**	**23 15 15.0**	**+0.2**
SANT				S	**Sn**	**23 15 53.1**	**-0.7**
SANT	**Santorini**	**3.35**	**299**	P	**Pn**	**23 15 15.0**	**+0.2**
SANT				S	**Sn**	**23 15 53.1**	**-0.7**
SANT	**Santorini**	**3.35**	**299**	*e*Pn	**Pn**	**23 15 15.0**	**+0.2**
SANT				*e*Sn	**Sn**	**23 15 53.1**	**-0.7**
SANT	**Santorini**	**3.35**	**299**	P	**Pn**	**23 15 14.7**	**-0.1**
SANT	comp=N,906μm,0.5s			AML	AML	23 15 59.9	
SANT	comp=E,1928μm,0.4s			AML	AML	23 16 00.4	
THT1	**Athinios (Pele**	**3.38**	**299**	P	**Pn**	**23 15 15.2**	**+0.1**
THT1	**Athinios (Pele**	**3.38**	**299**	P	**Pn**	**23 15 15.2**	**+0.1**
THR6	**Thira Island,**	**3.39**	**298**	P	**Pn**	**23 15 15.5**	**+0.3**
THR6	**Thira Island,**	**3.39**	**298**	P	**Pn**	**23 15 15.5**	**+0.3**
THR6	**Thira Island,**	**3.39**	**298**	*e*Pn	**Pn**	**23 15 15.5**	**+0.3**
MAMC	**Mammari** baz=269	**3.40**	**83**	P	**Pn**	**23 15 16.3**	**+1.0**
MAMC	**Mammari**	**3.40**	**83**	P	**Pn**	**23 15 16.3**	**+1.0**
THR7	**Fira-Santorini**	**3.40**	**299**	P	**Pn**	**23 15 15.9**	**+0.5**
THR7	**Fira-Santorini**	**3.40**	**299**	P	**Pn**	**23 15 15.9**	**+0.5**
THR2	**Thira island,**	**3.41**	**300**	P	**Pn**	**23 15 15.9**	**+0.5**
THR2	**Thira island,**	**3.41**	**300**	P	**Pn**	**23 15 15.9**	**+0.5**
THR2	**Thira island,**	**3.41**	**300**	*e*Pn	**Pn**	**23 15 15.9**	**+0.5**
THR3	**Thira Island,**	**3.41**	**299**	P	**Pn**	**23 15 16.0**	**+0.5**
THR3	**Thira Island,**	**3.41**	**299**	P	**Pn**	**23 15 16.0**	**+0.5**
THR3	**Thira Island,**	**3.41**	**299**	*e*Pn	**Pn**	**23 15 16.0**	**+0.5**
SMG	**Samos**	**3.42**	**328**	P	**Pn**	**23 15 15.7**	**0.0**
SMG				S	**Sn**	**23 15 55.2**	**-0.2**
SMG	**Samos**	**3.42**	**328**	P	**Pn**	**23 15 15.7**	**0.0**
SMG				S	**Sn**	**23 15 55.2**	**-0.2**
SMG	**Samos**	**3.42**	**328**	P	**Pn**	**23 15 15.7**	**0.0**
SMG				S	**Sn**	**23 15 55.2**	**-0.2**
SMG	**Samos**	**3.42**	**328**	P	**Pn**	**23 15 15.3**	**-0.4**
SMG				S	**Sn**	**23 15 53.5**	**-1.9**
SMG	comp=N,1191μm,0.4s			AML	AML	23 15 55.3	
SMG	comp=E,1073μm,0.4s			AML	AML	23 15 57.8	
CMBO	**Columbo, Santo**	**3.44**	**300**	P	**Pn**	**23 15 16.1**	**+0.2**
CMBO	**Columbo, Santo**	**3.44**	**300**	P	**Pn**	**23 15 16.1**	**+0.2**
CMBO	**Columbo, Santo**	**3.44**	**300**	P	**Pn**	**23 15 15.6**	**-0.3**
CMBO				S	**Sn**	**23 15 53.1**	**-2.7**
CMBO	comp=N,6930μm,0.7s			AML	AML	23 15 54.0	
CMBO	comp=E,4023μm,0.6s			AML	AML	23 15 54.1	
BAGO	**Egridir - ISPA**	**3.45**	**23**	*i*P	**Pn**	**23 15 18.2**	**+2.0**
BAGO				*i*S	**Sn**	**23 15 59.6**	**+3.3**
THR5	**Thira Island,**	**3.46**	**299**	*e*PN	**Pn**	**23 15 17.0**	**+0.9**
THR5	**Thira Island,**	**3.46**	**299**	P	**Pn**	**23 15 16.6**	**+0.5**
THR5	**Thira Island,**	**3.46**	**299**	P	**Pn**	**23 15 16.6**	**+0.5**
THR5	**Thira Island,**	**3.46**	**299**	*e*Pn	**Pn**	**23 15 17.0**	**+0.9**
CSS	**Mathiatis** baz=273	**3.48**	**86**	P	**Pn**	**23 15 17.2**	**+0.8**
CSS				S	**Sn**	**23 15 54.9**	**-1.9**
CSS	**Mathiatis**	**3.48**	**86**	P	**Pn**	**23 15 16.9**	**+0.5**
CSS				S	**Sn**	**23 15 58.0**	**+1.2**
CSS	**Mathiatis**	**3.48**	**86**	P	**Pn**	**23 15 16.9**	**+0.5**
CSS				S	**Sn**	**23 15 58.0**	**+1.2**
CSS	**Mathiatis**	**3.48**	**86**	*e*Pn	**Pn**	**23 15 16.9**	**+0.5**
CSS				*e*Sn	**Sn**	**23 15 58.0**	**+1.2**
IDI	**Anoyia**	**3.49**	**279**	Pn	**Pn**	**23 15 17.6**	**+0.9**
IDI	comp=E,36nm,0.3s,baz=126,slow=6.2,SNR=191			Sn	**Sn**	**23 15 55.8**	**-1.4**
IDI	comp=E,50nm,0.3s,baz=25,slow=13,SNR=26						
IDI	**Anoyia**	**3.49**	**279**	P	**Pn**	**23 15 17.6**	**+0.9**
IDI				S	**Sn**	**23 15 56.0**	**-1.2**
IDI	**Anoyia**	**3.49**	**279**	P	**Pn**	**23 15 17.9**	**+1.2**
IDI				S	**Sn**	**23 15 55.4**	**-1.8**
IDI				AML	AML	23 15 58.5	
IDI	comp=E,2741μm,0.9s			AML	AML	23 15 59.7	
KHL	**Karahalli**	**3.52**	**5**	*e*PN	**Pn**	**23 15 18.0**	**+0.9**
KHL	**Karahalli**	**3.52**	**5**	*e*Pn	**Pn**	**23 15 18.0**	**+0.9**
SIVA	**Sivas**	**3.54**	**275**	P	**Pn**	**23 15 18.0**	**+0.8**
SIVA				S	**Sn**	**23 15 58.0**	**-0.2**
SIVA	**Sivas**	**3.54**	**275**	P	**Pn**	**23 15 18.0**	**+0.8**
SIVA				S	**Sn**	**23 15 58.0**	**-0.2**
SIVA	**Sivas**	**3.54**	**275**	P	**Pn**	**23 15 18.0**	**+0.9**
SIVA				S	**Sn**	**23 15 57.2**	**-1.0**
SIVA	comp=N,6025μm,0.5s			AML	AML	23 15 60.0	
SIVA	comp=E,4941μm,0.7s			AML	AML	23 16 00.8	
ERMK	**Ermenek**	**3.59**	**58**	P	**Pn**	**23 15 20.1**	**+1.8**
ERMK				S	**Sn**	**23 16 02.2**	**+2.2**
ERMK	**Ermenek**	**3.59**	**58**	*i*P	**Pn**	**23 15 20.1**	**+1.8**
ERMK				*i*S	**Sn**	**23 16 02.2**	**+2.2**
LFK	**Lefkose**	**3.66**	**81**	*e*PN	**Pn**	**23 15 22.2**	**+3.2**
LFK	**Lefkose**	**3.66**	**81**	*e*Pn	**Pn**	**23 15 22.2**	**+3.2**
APE	**Apeiranthos**	**3.67**	**309**	*e*PN	**Pn**	**23 15 20.8**	**+1.6**
APE	**Apeiranthos**	**3.67**	**309**	P	**Pn**	**23 15 19.3**	**+0.2**
APE	**Apeiranthos**	**3.67**	**309**	P	**Pn**	**23 15 19.3**	**+0.2**
APE	**Apeiranthos**	**3.67**	**309**	*e*Pn	**Pn**	**23 15 20.8**	**+1.6**
APE	**Apeiranthos**	**3.67**	**309**	*e*Pn	**Pn**	**23 15 19.3**	**+0.2**
APE	**Apeiranthos**	**3.67**	**309**	P	**Pn**	**23 15 18.8**	**-0.3**
APE	comp=N,1105μm,0.6s			AML	AML	23 16 01.8	
APE	comp=E,789μm,0.5s			AML	AML	23 16 02.4	
DGB	**˘zmir**	**3.70**	**332**	*i*P	**Pn**	**23 15 19.1**	**-0.3**
DGB				*i*S	**Sn**	**23 15 58.6**	**-3.5**
KULA	**Kula-Manisa**	**3.71**	**355**	*e*PN	**Pn**	**23 15 20.3**	**+0.6**
KULA	**Kula-Manisa**	**3.71**	**355**	P	**Pn**	**23 15 20.2**	**+0.5**
KULA	**Kula-Manisa**	**3.71**	**355**	*e*Pn	**Pn**	**23 15 20.3**	**+0.6**
KULA	**Kula-Manisa**	**3.71**	**355**	P	**Pn**	**23 15 20.2**	**+0.5**
MATC	**Matruh** baz=207	**3.80**	**205**	P	**Pn**	**23 15 20.6**	**-0.2**
IZM	**Izmir**	**3.87**	**338**	*e*PN	**Pn**	**23 15 22.9**	**+1.0**
IZM	**Izmir**	**3.87**	**338**	*e*Pn	**Pn**	**23 15 22.9**	**+1.0**
IKL	**Isikli**	**4.00**	**68**	*e*PN	**Pn**	**23 15 26.1**	**+2.6**
IKL	**Isikli**	**4.00**	**68**	*e*Pn	**Pn**	**23 15 26.1**	**+2.6**
ZEY	**˘zmir**	**4.01**	**329**	*i*P	**Pn**	**23 15 23.2**	**-0.5**
ZEY				*i*S	**Sn**	**23 16 06.9**	**-3.0**
VAM	**Vamos**	**4.07**	**280**	P	**Pn**	**23 15 25.2**	**+0.7**
VAM	**Vamos**	**4.07**	**280**	P	**Pn**	**23 15 24.8**	**+0.3**
VAM	**Vamos**	**4.07**	**280**	P	**Pn**	**23 15 25.2**	**+0.7**
HMAT	**Matruh**	**4.08**	**205**	P	Pn	23 15 20.6	-4.1
URLA	**Izmir**	**4.08**	**331**	P	**Pn**	**23 15 24.5**	**-0.2**
URLA				S	**Sn**	**23 16 09.4**	**-2.2**
URLA	**Izmir**	**4.08**	**331**	*i*P	**Pn**	**23 15 24.5**	**-0.2**
URLA				*i*S	**Sn**	**23 16 09.4**	**-2.2**
KONT	**Konya--Tatoy**	**4.08**	**39**	*e*PN	**Pn**	**23 15 27.2**	**+2.4**
KONT	**Konya--Tatoy**	**4.08**	**39**	*e*Pn	**Pn**	**23 15 27.2**	**+2.4**
GVD	**Gavdhos**	**4.13**	**272**	P	**Pn**	**23 15 25.7**	**+0.3**
GVD				S	**Sn**	**23 16 11.7**	**-1.1**
GVD	**Gavdhos**	**4.13**	**272**	P	**Pn**	**23 15 25.7**	**+0.3**
GVD				S	**Sn**	**23 16 11.7**	**-1.1**
GVD	**Gavdhos**	**4.13**	**272**	*e*Pn	**Pn**	**23 15 25.7**	**+0.3**
GVD	**Gavdhos**	**4.13**	**272**	P	**Pn**	**23 15 24.4**	**-0.9**
GVD	comp=N,2358μm,0.4s			AML	AML	23 16 11.8	
GVD	comp=E,2176μm,0.6s			AML	AML	23 16 14.4	
BOLV	**Bolvadin**	**4.17**	**20**	P	**Pn**	**23 15 28.0**	**+1.9**
BOLV				S	**Sn**	**23 16 14.0**	**-0.1**
BOLV	**Bolvadin**	**4.17**	**20**	*i*P	**Pn**	**23 15 28.0**	**+1.9**
BOLV				*i*S	**Sn**	**23 16 14.0**	**-0.1**
AKHS	**Akhisar**	**4.19**	**346**	P	**Pn**	**23 15 25.8**	**-0.4**
AKHS				S	**Sn**	**23 16 11.8**	**-2.6**
AKHS	**Akhisar**	**4.19**	**346**	*i*P	**Pn**	**23 15 25.8**	**-0.4**
AKHS				*i*S	**Sn**	**23 16 11.8**	**-2.6**
AKS	**Akhisar**	**4.19**	**346**	*e*PN	**Pn**	**23 15 27.3**	**+1.1**
AKS	**Akhisar**	**4.19**	**346**	*e*Pn	**Pn**	**23 15 27.3**	**+1

BORA **Eskisehir** 5.17 12 *i* P **Pn** **23 15 40.4 +0.6**
BORA *i* S **Sn** **23 16 35.3 -3.3**
HMYD Mayadein 5.20 164 P **Pn** **23 15 39.6 -0.6**
baz=163
HMYD Mayadein 5.20 164 P **Pn** **23 15 39.6 -0.6**
VLY Voula,Athens 5.25 307 P **Pn** **23 15 41.8 +1.0**
VLY Voula,Athens 5.25 307 P **Pn** **23 15 41.8 +1.0**
VLY Voula,Athens 5.25 307 *e*Pn **Pn** **23 15 41.8 +1.0**
VLY Voula,Athens 5.25 307 P **Pn** **23 15 41.8 +1.0**
KKUL Konya-Kulu 5.31 34 P **Pn** **23 15 43.5 +1.8**
KKUL S **Sn** **23 16 42.5 +0.3**
KKUL Konya-Kulu 5.31 34 *i* P **Pn** **23 15 43.5 +1.8**
KKUL *i* S **Sn** **23 16 42.5 +0.3**
PTL Penteli 5.32 309 P **Pn** **23 15 43.0 +1.3**
PTL Penteli 5.32 309 P **Pn** **23 15 43.0 +1.3**
PTL Penteli 5.32 309 *e*Pn **Pn** **23 15 43.0 +1.3**
PTL Penteli 5.32 309 P **Pn** **23 15 43.4 +1.7**
ATHU Athens Univers 5.32 308 P **Pn** **23 15 43.0 +1.2**
ATHU Athens Univers 5.32 308 P **Pn** **23 15 43.0 +1.2**
ATHU Athens Univers 5.32 308 *e*Pn **Pn** **23 15 43.0 +1.2**
ATHU Athens Univers 5.32 308 P **Pn** **23 15 43.3 +1.5**
VLI Veliai 5.36 293 P **Pn** **23 15 42.0 -0.3**
VLI Veliai 5.36 293 P **Pn** **23 15 42.0 -0.3**
VLI Veliai 5.36 293 *e*Pn **Pn** **23 15 42.0 -0.3**
VLI Veliai 5.36 293 P **Pn** **23 15 40.6 -1.7**
OFRI 'Ofer 5.37 112 Pn **Pn** **23 15 42.2 -0.2**
OFRI 'Ofer 5.37 112 Pn **Pn** **23 15 42.2 -0.2**
ATH Athens Observa 5.37 308 P **Pn** **23 15 44.0 +1.6**
ATH Athens Observa 5.37 308 P **Pn** **23 15 44.0 +1.6**
ATH Athens Observa 5.37 308 P **Pn** **23 15 44.0 +1.6**
AYT Al 'Ayyat 5.38 161 P **Pn** **23 15 41.6 -1.0**
baz=160
AYT Al 'Ayyat 5.38 161 P **Pn** **23 15 41.6 -1.0**
KOT Kottamia 5.39 154 P **Pn** **23 15 41.6 -1.1**
baz=153
KOT AMP 23 16 00.0
comp=E,230µm,0.4s,logA/T=5.8,baz=153
KOT S **Sn** **23 16 38.2 -5.8**
baz=153
KOT Kottamia 5.39 154 P **Pn** **23 15 41.6 -1.1**
KOT S **Sn** **23 16 38.2 -5.8**
DID Didima 5.46 301 P **Pn** **23 15 44.6 +0.9**
DID Didima 5.46 301 P **Pn** **23 15 44.5 +0.9**
DID Didima 5.46 301 *e*Pn **Pn** **23 15 44.6 +0.9**
DID Didima 5.46 301 P **Pn** **23 15 44.5 +0.9**
SERE Sereflikochisa 5.46 40 *e*PN **Pn** **23 15 46.3 +2.5**
SERE Sereflikochisa 5.46 40 *e*Pn **Pn** **23 15 46.3 +2.5**
KRND KRANIDI 5.46 300 P **Pn** **23 15 44.9 +1.2**
KRND KRANIDI 5.46 300 P **Pn** **23 15 44.9 +1.2**
KRND KRANIDI 5.46 300 P **Pn** **23 15 44.9 +1.2**
RSH 5.46 133 P **Pn** **23 15 42.8 -0.9**
baz=132
RSH 5.46 133 P **Pn** **23 15 42.8 -0.9**
DQRL Deir Qamar 5.47 100 *e*P **Pn** **23 15 44.3 +0.4**
DQRL Deir Qamar 5.47 100 *e*P **Pn** **23 15 44.3 +0.4**
HHAG Hagoal 5.47 152 P **Pn** **23 15 43.4 -0.4**
baz=151
HHAG AMP 23 16 00.0
comp=E,190µm,0.2s,logA/T=5.9,baz=151
HHAG S **Sn** **23 16 40.7 -5.2**
baz=151
HHAG Hagoal 5.47 152 P **Pn** **23 15 43.4 -0.4**
EZN Ezine 5.47 337 *e*PN **Pn** **23 15 45.3 +1.5**
EZN Ezine 5.47 337 *e*Pn **Pn** **23 15 45.3 +1.5**
BLGI Bet Lehem HaGe 5.48 111 Pn **Pn** **23 15 45.0 +1.1**
BLGI Bet Lehem HaGe 5.48 111 Pn **Pn** **23 15 45.0 +1.1**
KCTX Karacabey (Bur 5.48 354 *e*PN **Pn** **23 15 45.2 +1.3**
KCTX Karacabey (Bur 5.48 354 *e*Pn **Pn** **23 15 45.2 +1.3**
BHL Bhannes 5.49 98 *e*P **Pn** **23 15 44.0 -0.2**
BHL Bhannes 5.49 98 *e*P **Pn** **23 15 44.0 -0.2**
IZI Iznik 5.52 3 *e*PN **Pn** **23 15 46.2 +1.6**
IZI Iznik 5.52 3 *e*Pn **Pn** **23 15 46.2 +1.6**
MMA0B Mount Meron ar 5.53 107 Pn **Pn** **23 15 44.6 -0.2**
MMA0B Mount Meron ar 5.53 107 Pn **Pn** **23 15 44.6 -0.2**
MMAI Mount Meron Ar 5.53 107 Pn **Pn** **23 15 44.2 -0.6**
comp=E,14nm,0.3s,baz=295,slow=12,SNR=69
MMAI Sn **Sn** **23 16 43.4 -4.3**
comp=E,45nm,0.3s,baz=297,slow=26,SNR=10.0
HSAF As Saff 5.58 158 P **Pn** **23 15 44.1 -1.3**
baz=157
HSAF As Saff 5.58 158 P **Pn** **23 15 44.1 -1.3**
SLTI Sal'it 5.58 116 Pn **Pn** **23 15 45.2 -0.1**
SLTI Sn **Sn** **23 16 44.8 -3.9**
SLTI Sal'it 5.58 116 Pn **Pn** **23 15 45.2 -0.1**
AFSR Af'ar-Bala (A 5.61 33 *e*PN **Pn** **23 15 48.3 +2.5**
AFSR Af'ar-Bala (A 5.61 33 *e*Pn **Pn** **23 15 48.3 +2.5**
EDC Edincik 5.61 350 *e*PN **Pn** **23 15 48.4 +2.6**
EDC Edincik 5.61 350 *e*Pn **Pn** **23 15 48.4 +2.6**
GLL Jalalah 5.67 156 P **Pn** **23 15 45.2 -1.4**
baz=155
GLL Jalalah 5.67 156 P **Pn** **23 15 45.2 -1.4**
HWQ Hawqa 5.67 93 *e*P **Pn** **23 15 47.0 +0.3**
HWQ Hawqa 5.67 93 *e*P **Pn** **23 15 47.0 +0.3**
KSDI Kefar Szold 5.68 105 Pn **Pn** **23 15 46.3 -0.4**
KSDI Kefar Szold 5.68 105 Pn **Pn** **23 15 46.3 -0.4**
ARNB Al Arnab 5.71 77 *e*P **Pn** **23 15 47.8 +1.0**
ARNB *e*S **Sn** **23 16 45.3 -6.6**
ARNB AML AML 23 16 51.0
comp=N,142nm,0.7s
ARNB AML AML 23 16 54.0
comp=E,295nm,0.5s
GULT Gulveren 5.72 11 *e*PN **Pn** **23 15 49.5 +2.3**
GULT Gulveren 5.72 11 *e*Pn **Pn** **23 15 49.6 +2.3**
VILL Villia 5.74 307 P **Pn** **23 15 49.0 +1.4**
VILL Villia 5.74 307 P **Pn** **23 15 49.0 +1.4**
ARMT Armutlu 5.75 358 *e*PN **Pn** **23 15 48.9 +1.3**
ARMT Armutlu 5.75 358 *e*Pn **Pn** **23 15 48.9 +1.3**
KRBG Karabiga-Canak 5.75 346 *e*PN **Pn** **23 15 49.5 +1.9**
KRBG Karabiga-Canak 5.75 346 *e*Pn **Pn** **23 15 49.6 +1.9**
MMLI Mount Malkishu 5.78 112 Pn **Pn** **23 15 47.8 -0.3**
MMLI Sn **Sn** **23 16 49.9 -3.6**
MMLI Mount Malkishu 5.78 112 Pn **Pn** **23 15 47.8 -0.3**
VIL2 Platees 5.80 308 P **Pn** **23 15 49.4 +1.1**
BR231 Keskin MP Arra 5.81 29 *e*Pn **Pn** **23 15 48.8 +0.2**
BR231 *e*Sn **Sn** **23 16 56.7 +2.3**
BR231 Keskin MP Arra 5.81 29 *e*Pn **Pn** **23 15 48.8 +0.2**
BR231 *e*Sn **Sn** **23 16 56.7 +2.3**
ANTO Ankara 5.84 29 *e*Pn **Pn** **23 15 50.9 +2.0**
ANTO Ankara 5.84 29 *e*Pn **Pn** **23 15 50.9 +2.0**
LPK Lapseki 5.85 342 *e*PN **Pn** **23 15 50.6 +1.5**
LPK Lapseki 5.85 342 *e*Pn **Pn** **23 15 50.6 +1.5**
AMAZ Amatzia 5.87 122 Pn **Pn** **23 15 49.1 -0.2**
AMAZ Sn **Sn** **23 16 51.2 -4.6**
AMAZ Amatzia 5.87 122 Pn **Pn** **23 15 49.1 -0.2**
MDUB Mudurnu 5.89 16 *e*PN **Pn** **23 15 51.9 +2.3**
MDUB Mudurnu 5.89 16 *e*Pn **Pn** **23 15 51.9 +2.3**
LTK Loutraki 5.90 305 P **Pn** **23 15 51.3 +1.6**
LTK Loutraki 5.90 305 P **Pn** **23 15 51.3 +1.6**
LTK Loutraki 5.90 305 *e*Pn **Pn** **23 15 51.3 +1.6**
LTK Loutraki 5.90 305 P **Pn** **23 15 51.3 +1.6**
MRMT Marmara Adasi 5.90 349 *e*PN **Pn** **23 15 51.8 +2.0**
MRMT Marmara Adasi 5.90 349 *e*Pn **Pn** **23 15 51.8 +2.0**
KZIT Kziot 5.92 130 Pn **Pn** **23 15 49.2 -0.7**
KZIT Sn **Sn** **23 16 51.9 -5.0**
KZIT Kziot 5.92 130 Pn **Pn** **23 15 49.2 -0.7**
SHMJ Saham 5.92 109 *e*P **Pn** **23 15 50.6 +0.5**
SHMJ *e*S **Sn** **23 16 55.5 -1.6**
HMDT Nahal Hemdat 5.94 114 Pn **Pn** **23 15 50.4 +0.2**
HMDT Sn **Sn** **23 16 54.0 -3.5**
HMDT Nahal Hemdat 5.94 114 Pn **Pn** **23 15 50.4 +0.2**
HMDT Sn **Sn** **23 16 54.0 -3.5**
GADA Gvkgeada 5.94 336 *e*PN **Pn** **23 15 51.6 +1.3**
GADA Gvkgeada 5.94 336 *e*Pn **Pn** **23 15 51.6 +1.3**
GELI Tayfur-Gelibol 5.95 340 *e*PN **Pn** **23 15 52.2 +1.8**
GELI Tayfur-Gelibol 5.95 340 *e*Pn **Pn** **23 15 52.2 +1.8**
LIA Limnos Island 5.96 330 P **Pn** **23 15 49.3 -1.2**
VLX Vlachokerasia 6.01 297 P **Pn** **23 15 51.6 +0.2**
VLX Vlachokerasia 6.01 297 P **Pn** **23 15 51.6 +0.2**
VLX Vlachokerasia 6.01 297 *e*Pn **Pn** **23 15 51.6 +0.2**
VLX Vlachokerasia 6.01 297 P **Pn** **23 15 50.6 -0.7**
AJLJ Ajlon 6.06 112 *e*P **Pn** **23 15 52.4 +0.4**
AJLJ *e*S **Sn** **23 16 60.0 -0.6**
PROD Prodromos 6.06 306 P **Pn** **23 15 54.2 +2.2**
PROD Prodromos 6.06 306 P **Pn** **23 15 54.2 +2.2**
BR101 Keskin Array S 6.09 35 *e*Pn **Pn** **23 15 53.7 +1.2**
BR101 Keskin Array S 6.09 35 *e*Pn **Pn** **23 15 53.7 +1.2**
BR101 *e*Sn **Sn** **23 16 58.4 -3.0**
BR131 Keskin Array S 6.09 35 *e*Pn **Pn** **23 15 53.7 +1.2**
BR131 Keskin Array S 6.09 35 *e*Pn **Pn** **23 15 53.7 +1.2**
BR131 *e*Sn **Sn** **23 16 59.6 -1.8**
BRTR Keskin Array B 6.09 35 Pn **Pn** **23 15 53.7 +1.2**
comp=E,5.1nm,0.3s,baz=217,slow=15,SNR=60
BRTR Sn **Sn** **23 16 58.4 -3.0**
comp=E,7.0nm,0.3s,baz=206,slow=26,SNR=18
TCHB Talchebab 6.10 109 *e*P **Pn** **23 15 53.3 +0.8**
TCHB *e*S **Sn** **23 16 56.4 -5.2**
TCHB AML AML 23 17 06.6
comp=E,432nm,0.4s
TCHB AML AML 23 17 10.2
comp=N,221nm,0.5s
YTIR Yattir 6.11 123 Pn **Pn** **23 15 52.4 -0.2**
YTIR Yattir 6.11 123 Pn **Pn** **23 15 52.4 -0.2**
THAL Thalero 6.11 304 P **Pn** **23 15 54.0 +1.4**
THAL Thalero 6.11 304 P **Pn** **23 15 54.0 +1.4**
THAL Thalero 6.11 304 P **Pn** **23 15 54.0 +1.4**
BTCH Batrach 6.13 76 *e*P **Pn** **23 15 53.5 +0.6**
BTCH *e*S **Sn** **23 16 55.0 -7.3**
BTCH AML AML 23 17 01.8
comp=E,445nm,0.3s
BTCH AML AML 23 17 06.3
comp=N,493nm,0.4s
TRIP Tripoli 6.16 298 P **Pn** **23 15 52.5 -0.8**
TRIP Tripoli 6.16 298 P **Pn** **23 15 52.5 -0.8**
DSI Dead Sea 6.17 120 Pn **Pn** **23 15 53.2 -0.3**
DSI Sn **Sn** **23 16 59.4 -3.9**
DSI Dead Sea 6.17 120 Pn **Pn** **23 15 53.2 -0.3**
ERIK Erikli-Kesan 6.20 341 *e*PN **Pn** **23 15 55.2 +1.4**
ERIK Erikli-Kesan 6.20 341 *e*Pn **Pn** **23 15 55.2 +1.4**
LKR Lokris 6.22 310 P **Pn** **23 15 56.1 +2.0**
LKR Lokris 6.22 310 P **Pn** **23 15 54.5 +0.4**
LKR Lokris 6.22 310 P **Pn** **23 15 56.1 +2.0**
LKR Lokris 6.22 310 P **Pn** **23 15 54.5 +0.4**
SMIA Simia 6.23 312 P **Pn** **23 15 56.1 +1.8**
SMIA Simia 6.23 312 P **Pn** **23 15 56.1 +1.8**
ATAL Atalanti 6.23 310 P **Pn** **23 15 55.8 +1.5**
ATAL Atalanti 6.23 310 P **Pn** **23 15 55.8 +1.5**
ATAL Atalanti 6.23 310 *e*Pn **Pn** **23 15 55.8 +1.5**
ATAL Atalanti 6.23 310 P **Pn** **23 15 55.9 +1.6**
ZAF Zafarana 6.24 151 P **Pn** **23 15 54.2 -0.2**
baz=150
ZAF Zafarana 6.24 151 P **Pn** **23 15 54.2 -0.2**
TOTH TOTAH 6.25 101 *e*P **Pn** **23 15 55.3 +0.8**
TOTH *e*S **Sn** **23 16 58.9 -6.2**
TOTH AML AML 23 17 06.3
comp=N,309nm,0.4s
TOTH AML AML 23 17 06.7
comp=E,281nm,0.8s
SKIA Skiathos 6.26 316 P **Pn** **23 15 56.3 +1.6**
SKIA Skiathos 6.26 316 P **Pn** **23 15 56.3 +1.6**
SKIA Skiathos 6.26 316 P **Pn** **23 15 56.3 +1.6**
ITM Ithomi 6.28 294 P **Pn** **23 15 55.3 +0.3**
ITM Ithomi 6.28 294 P **Pn** **23 15 55.3 +0.3**
ITM Ithomi 6.28 294 P **Pn** **23 15 55.3 +0.3**
ITM Ithomi 6.28 294 P **Pn** **23 15 54.1 -0.9**
ZNM Zenema 6.29 148 P **Pn** **23 15 55.1 0.0**
baz=147
ZNM Zenema 6.29 148 P **Pn** **23 15 55.1 0.0**
MZBI Masada 6.30 122 Pn **Pn** **23 15 55.2 0.0**
MZBI Sn **Sn** **23 17 03.2 -3.2**
MZBI Masada 6.30 122 Pn **Pn** **23 15 55.2 0.0**
MZBI Sn **Sn** **23 17 03.2 -3.2**
MZDA Masada 6.31 122 Pn **Pn** **23 15 55.6 +0.3**
MZDA Sn **Sn** **23 17 02.9 -3.6**
MZDA Masada 6.31 122 Pn **Pn** **23 15 55.6 +0.3**
MZDA Sn **Sn** **23 17 02.9 -3.6**
SMTH Samothraki Isl 6.32 334 P **Pn** **23 15 55.0 -0.5**
SMTH Samothraki Isl 6.32 334 P **Pn** **23 15 55.0 -0.5**
PYL 6.33 291 P Pn 23 15 51.3 -4.4
RMNI Mount Ramon 6.36 130 Pn **Pn** **23 15 55.3 -0.8**
RMNI Mount Ramon 6.36 130 Pn **Pn** **23 15 55.3 -0.8**
ENEZ Enez 6.36 339 *e*PN **Pn** **23 15 58.2 +2.2**
ENEZ Enez 6.36 339 P **Pn** **23 15 57.3 +1.3**
ENEZ Enez 6.36 339 P **Pn** **23 15 57.3 +1.3**
ENEZ Enez 6.36 339 *e*Pn **Pn** **23 15 58.2 +2.2**
HNKL Nakhl 6.38 138 P **Pn** **23 15 54.9 -1.5**
baz=137
HNKL S **Sn** **23 17 02.1 -6.3**
baz=137
HNKL Nakhl 6.38 138 P **Pn** **23 15 54.9 -1.5**
DSF Desfina 6.39 306 P **Pn** **23 15 58.1 +1.5**
DSF Desfina 6.39 306 P **Pn** **23 15 58.1 +1.5**
DSF Desfina 6.39 306 *e*Pn **Pn** **23 15 58.1 +1.5**
DSF Desfina 6.39 306 P **Pn** **23 15 58.1 +1.5**
DRWC Darouich 6.41 71 *e*P **Pn** **23 15 57.5 +0.7**
DRWC AML AML 23 17 20.1
comp=N,134nm,0.5s
DRWC AML AML 23 17 21.3
comp=E,118nm,0.5s
KLYT Kilyos 6.43 360 *e*PN **Pn** **23 15 59.4 +2.4**
KLYT Kilyos 6.43 360 *e*Pn **Pn** **23 15 59.4 +2.4**
CTKS Kestanelik-??a 6.43 356 *e*PN **Pn** **23 15 59.6 +2.7**
CTKS Kestanelik-??a 6.43 356 *e*Pn **Pn** **23 15 59.6 +2.7**
NBNS Bani Suef 6.45 163 P **Pn** **23 15 56.0 -1.3**
baz=162
NBNS S Sn 23 17 02.4 -7.6
baz=162
NBNS Bani Suef 6.45 163 P **Pn** **23 15 56.0 -1.3**
KLV Kalavryta, Ach 6.47 302 P **Pn** **23 15 58.0 +0.4**
KLV Kalavryta, Ach 6.47 302 P **Pn** **23 15 58.0 +0.4**
KLV Kalavryta, Ach 6.47 302 *e*Pn **Pn** **23 15 58.0 +0.4**
KLV Kalavryta, Ach 6.47 302 P **Pn** **23 15 56.5 -1.0**
WALJ Wala 6.49 118 *e*P **Pn** **23 15 57.9 +0.1**
NEO Neokhori 6.50 315 P **Pn** **23 15 59.5 +1.5**
NEO Neokhori 6.50 315 P **Pn** **23 15 59.5 +1.5**
NEO Neokhori 6.50 315 P **Pn** **23 15 59.5 +1.5**
ALN Alexandroupoli 6.54 339 *e*PN **Pn** **23 16 00.0 +1.6**
ALN Alexandroupoli 6.54 339 P **Pn** **23 15 59.1 +0.6**
ALN Alexandroupoli 6.54 339 P **Pn** **23 15 59.1 +0.6**
ALN Alexandroupoli 6.54 339 *e*Pn **Pn** **23 15 59.1 +0.6**
ALN Alexandroupoli 6.54 339 P **Pn** **23 15 59.1 +0.6**
ALN Alexandroupoli 6.54 339 P **Pn** **23 15 58.0 -0.4**
AMT Artemida-Makis 6.57 297 P **Pn** **23 15 59.5 +0.6**
AMT Artemida-Makis 6.57 297 P **Pn** **23 15 59.5 +0.6**
AMT Artemida-Makis 6.57 297 P **Pn** **23 15 57.3 -1.7**
KARJ 6.62 122 *e*P Pn 23 15 53.0 -6.6
KARJ *e*S Sn 23 16 57.7 -17
KALE Kalithea 6.64 305 P **Pn** **23 16 01.5 +1.5**
KALE Kalithea 6.64 305 P **Pn** **23 16 01.5 +1.5**
KALE Kalithea 6.64 305 *e*Pn **Pn** **23 16 01.5 +1.5**
KALE Kalithea 6.64 305 P **Pn** **23 16 01.5 +1.5**
KRMI Paran Flat 6.67 133 Pn **Pn** **23 15 58.8 -1.5**
KRMI Sn **Sn** **23 17 08.6 -6.9**
KRMI Paran Flat 6.67 133 Pn **Pn** **23 15 58.8 -1.5**
PRNI Paran 6.67 130 Pn **Pn** **23 15 59.7 -0.7**
PRNI Paran 6.67 130 Pn **Pn** **23 15 59.7 -0.7**
TRIZ Trizonia 6.68 304 P **Pn** **23 16 00.6 +0.3**
LAKA Lakka 6.68 303 P **Pn** **23 16 01.1 +0.7**
LAKA Lakka 6.68 303 P **Pn** **23 16 01.1 +0.7**
LAKA Lakka 6.68 303 *e*Pn **Pn** **23 16 01.1 +0.7**
LAKA Lakka 6.68 303 P **Pn** **23 15 59.9 -0.5**
SALA Sala 6.69 106 *e*P **Pn** **23 16 01.5 +0.7**
SALA *e*S Sn 23 17 08.9 -7.3
SALA AML AML 23 17 21.3
comp=E,18nm,0.5s
SALA AML AML 23 17 24.5
comp=N,120nm,0.4s
SERG Sergoula 6.71 304 P **Pn** **23 16 02.5 +1.6**
SERG Sergoula 6.71 304 P **Pn** **23 16 02.5 +1.6**
DRO Drossia 6.74 300 P **Pn** **23 16 02.9 +1.7**
DRO Drossia 6.74 300 P **Pn** **23 16 02.6 +1.4**
DRO Drossia 6.74 300 P **Pn** **23 16 02.6 +1.4**
EFP Efpalio 6.82 304 P **Pn** **23 16 03.5 +1.2**
EFP Efpalio 6.82 304 P **Pn** **23 16 03.5 +1.2**
EFP Efpalio 6.82 304 P **Pn** **23 16 01.2 -1.2**
OUR Ouranopolis 6.85 325 *e*PN **Pn** **23 16 04.6 +1.9**
OUR Ouranopolis 6.85 325 *e*Pn **Pn** **23 16 04.6 +1.9**
AGG Agios Georgios 6.86 310 *e*PN **Pn** **23 16 04.7 +1.8**
AGG Agios Georgios 6.86 310 P **Pn** **23 16 05.0 +2.0**
AGG Agios Georgios 6.86 310 *e*Pn **Pn** **23 16 04.7 +1.8**
AGG Agios Georgios 6.86 310 P **Pn** **23 16 05.0 +2.0**
AGG Agios Georgios 6.86 310 *e*Pn **Pn** **23 16 05.0 +2.0**
AGG *e*Sn **Sn** **23 17 16.6 -3.6**
JDRJ Daraweish 6.86 125 *e*P **Pn** **23 16 04.7 +1.6**
ANX Ano Chora 6.89 305 P **Pn** **23 16 04.7 +1.2**
ANX Ano Chora 6.89 305 P **Pn** **23 16 04.7 +1.2**
HRFI Mount Harif 6.91 132 Pn **Pn** **23 16 03.0 -0.7**
HRFI Sn **Sn** **23 17 15.9 -5.7**
HRFI Mount Harif 6.91 132 Pn **Pn** **23 16 03.0 -0.7**
RLS Riolos of Patr 6.96 300 P **Pn** **23 16 05.9 +1.7**
RLS Riolos of Patr 6.96 300 P **Pn** **23 16 05.8 +1.6**
RLS Riolos of Patr 6.96 300 P **Pn** **23 16 05.9 +1.7**
MBRI Mt Berech 7.01 134 Pn **Pn** **23 16 04.8 -0.3**
MBRI Mt Berech 7.01 134 Pn **Pn** **23 16 04.8 -0.3**
ASF Jabal al Asfar 7.02 110 Pn **Pn** **23 16 05.6 +0.4**
comp=N,2.1nm,0.3s,baz=244,slow=4.3,SNR=11
ASF Sn **Sn** **23 17 21.5 -2.8**
comp=N,3.6nm,0.3s,baz=294,slow=20,SNR=7.3
AXS Araxos 7.08 301 P **Pn** **23 16 07.3 +1.4**
AXS Araxos 7.08 301 P **Pn** **23 16 07.3 +1.4**
ZALF Zalf 7.10 103 *e*P **Pn** **23 16 07.3 +1.1**
ZALF *e*S Sn 23 17 18.2 -8.0
ZALF AML AML 23 17 37.6
ZALF AML AML 23 17 38.0
comp=E,48nm,0.5s
EIL Elat 7.13 134 Pn **Pn** **23 16 06.5 -0.1**
comp=E,5.2nm,0.3s,baz=311,slow=3.5,SNR=63
EIL Sn Sn 23 17 19.2 -7.5
comp=E,26nm,0.3s,baz=274,slow=18,SNR=6.9
EIL LR LR 23 19 34.4
comp=E,200nm,21.3s,baz=338,slow=44
EIL Elat 7.13 134 Pn **Pn** **23 16 05.9 -0.7**
EIL Sn Sn 23 17 19.8 -7.0
EIL Elat 7.13 134 Pn **Pn** **23 16 05.9 -0.7**
EVR Evrytania 7.14 307 P **Pn** **23 16 08.6 +1.8**
EVR Evrytania 7.14 307 P **Pn** **23 16 08.6 +1.8**
EVR Evrytania 7.14 307 P **Pn** **23 16 08.6 +1.8**
EVR Evrytania 7.14 307 P **Pn** **23 16 08.8 +1.9**
AQBJ Aqaba 7.14 134 *e*P **Pn** **23 16 06.5 -0.3**
PVO Paravola 7.17 304 P **Pn** **23 16 09.8 +2.6**
PVO Paravola 7.17 304 P **Pn** **23 16 09.8 +2.6**
GRB Gharib 7.24 153 P **Pn** **23 16 06.6 -1.6**
baz=152
GRB Gharib 7.24 153 P **Pn** **23 16 06.6 -1.6**
EDRB Edirne 7.26 346 *e*PN **Pn** **23 16 10.9 +2.5**
EDRB Edirne 7.26 346 *e*Pn **Pn** **23 16 10.9 +2.5**
HBST Basata 7.34 138 P **Pn** **23 16 09.3 -0.3**
baz=137
HBST S **Sn** **23 17 25.4 -6.8**
baz=137
HBST Basata 7.34 138 P **Pn** **23 16 09.3 -0.3**
THL Klokotos Trika 7.38 312 P **Pn** **23 16 12.0 +2.0**
THL Klokotos Trika 7.38 312 P **Pn** **23 16 12.0 +2.0**
PDO Prodromos 7.40 303 P **Pn** **23 16 11.5 +1.2**
PDO Prodromos 7.40 303 P **Pn** **23 16 11.5 +1.2**
PDO Prodromos 7.40 303 P **Pn** **23 16 10.4 +0.1**
KDZ Kurdzhali 7.42 338 *e*P **Pn** **23 16 11.7 +1.2**
HQLS 7.47 136 S **Sn** **23 17 28.5 -6.7**
HQLS P **Pn** **23 16 11.4 +0.1**
BYRJ Bayer 7.49 122 *e*P **Pn** **23 16 11.5 -0.1**
SOH Sokhos 7.53 325 P **Pn** **23 16 14.5 +2.4**
SOH Sokhos 7.53 325 P **Pn** **23 16 14.5 +2.4**
SOH Sokhos 7.53 325 *e*Pn **Pn** **23 16 14.5 +2.4**
HAQS Haql 7.58 138 S Sn 23 17 30.8 -7.0
HAQS P **Pn** **23 16 12.3 -0.4**
HITJ Hittiya 7.62 130 *e*P **Pn** **23 16 13.2 -0.2**
HITJ *e*S **Sn** **23 17 34.3 -4.7**
SRS Serrai 7.65 327 P **Pn** **23 16 15.6 +1.8**
SRS Serrai 7.65 327 P **Pn** **23 16 15.6 +1.8**
SRS Serrai 7.65 327 *e*Pn **Pn** **23 16 15.6 +1.8**
HFRF Wahat Farafira 7.67 185 P **Pn** **23 16 12.6 -1.5**
baz=186
HFRF S Sn 23 17 32.8 -7.4
baz=186
HFRF Wahat Farafira 7.67 185 P **Pn** **23 16 12.6 -1.5**
RZN Rozhen 7.68 335 *e*P **Pn** **23 16 17.4 +3.1**
DSL Palaion Diasel 7.72 306 P **Pn** **23 16 15.7 +0.9**
DSL Palaion Diasel 7.72 306 P **Pn** **23 16 15.7 +0.9**
DSL Palaion Diasel 7.72 306 *e*Pn **Pn** **23 16 15.7 +0.9**
DSL Palaion Diasel 7.72 306 P **Pn** **23 16 14.6 -0.2**
MMB Musomiste 7.98 330 *e*P **Pn** **23 16 20.4 +2.1**
PLD Plovdiv 8.06 336 *e*P **Pn** **23 16 22.2 +2.9**
RSHS 8.11 142 P **Pn** **23 16 19.4 -0.7**
JLOS 8.14 136 S Sn 23 17 43.4 -8.5
JLOS P **Pn** **23 16 20.3 -0.3**
BDAS Al Bad' 8.16 140 P **Pn** **23 16 20.0 -0.8**
VAY Valandovo 8.29 324 *e*Pn **Pn** **23 16 24.5 +2.0**
VAY Valandovo 8.29 324 *e*Pn **Pn** **23 16 24.5 +2.0**
HHRG Al Ghardaqah 8.48 152 P **Pn** **23 16 24.5 -0.7**
baz=151
HHRG S Sn 23 17 52.6 -7.5
baz=151
HHRG Al Ghardaqah 8.48 152 P **Pn** **23 16 24.5 -0.7**
KKB Krupnik 8.48 328 *e*P **Pn** **23 16 27.1 +1.9**
OHR Ohrid 9.08 316 *i* Pn **Pn** **23 16 34.6 +1.2**
OHR Ohrid 9.08 316 *i* Pn **Pn** **23 16 34.6 +1.2**
TBKS Tabuk 9.13 134 P **Pn** **23 16 35.7 +1.6**
GTR Jabal at Tayr 9.36 172 P **Pn** **23 16 35.5 -1.7**
baz=171
GTR Jabal at Tayr 9.36 172 P **Pn** **23 16 35.5 -1.7**
MPEP Malo Peshtene 9.49 336 *e*P **Pn** **23 16 41.0 +2.0**
TIRR Tirgusor 9.65 357⇑ *i*P **Pn** **23 16 42.0 +0.9**
TIRR Tirgusor 9.65 357⇑ *i*P **Pn** **23 16 42.0 +0.9**
TIR Tirane 9.77 315 *e*Pn **Pn** **23 16 43.5 +0.6**
TIR *e*Sn **Sn** **23 18 32.7 +0.9**
TIR Tirane 9.77 315 *e*Pn **Pn** **23 16 43.5 +0.6**
TIR *e*Sn **Sn** **23 18 32.7 +0.9**
BARS Barje 9.80 327 *e*P **Pn** **23 16 45.2 +1.9**
DRME Dracevica, Mon 10.70 316 *e*Pn **Pn** **23 16 55.0 -0.5**
TIP Timpagrande 10.79 297 *e*Pn **Pn** **23 16 53.9 -3.0**
TIP *e*Sn Sn 23 18 42.2 -15
PDG Podgorica 10.82 318 *e*Pn **Pn** **23 16 56.8 -0.3**
MLR Muntele Rosu 10.94 348 Pn **Pn** **23 17 00.8 +2.0**
comp=E,0.1nm,0.3s,baz=170,slow=8.5,SNR=11
MLR Muntele Rosu 10.94 348⇑ *i*P **Pn** **23 17 00.2 +1.3**
MLR Muntele Rosu 10.94 348⇑ *i*P **Pn** **23 17 00.2 +1.3**
VOIR 11.05 345⇑ *i*P **Pn** **23 17 01.8 +1.4**
VOIR 11.05 345⇑ *i*P **Pn** **23 17 01.8 +1.4**
IVAS Ivanjica 11.17 324 *e*P **Pn** **23 17 03.9 +1.9**
VRI Vrincioaia 11.19 351⇑ *i*P **Pn** **23 17 04.4 +2.2**
VRI Vrincioaia 11.19 351⇑ *i*P **Pn** **23 17 04.4 +2.2**
HCY Herceg Novi 11.26 316 *e*Pn **Pn** **23 17 01.7 -1.5**
BRY Bratogost 11.53 318 *e*Pn **Pn** **23 17 06.3 -0.7**
UPM Unac-Piva 11.53 320 *e*Pn **Pn** **23 17 08.0 +0.9**
DIVS Divibare 11.64 326 *e*P **Pn** **23 17 09.9 +1.5**
BBLS Lazići 11.74 323⇑ *i*Pn **Pn** **23 17 10.8 +0.9**
BBLS Lazići 11.74 323 *e*P **Pn** **23 17 11.4 +1.5**
CUC Castrocucco 11.76 300 *e*Pn **Pn** **23 17 07.2 -2.9**
CUC *e*Sn Sn 23 19 01.3 -19
VAE Valguarnera 12.17 287 Pn **Pn** **23 17 17.6 +1.8**
comp=E,2.5nm,0.3s,baz=343,slow=18,SNR=8.6
VAE Sn Sn 23 19 18.0 -13
comp=E,8.6nm,0.3s,baz=54,slow=3.0,SNR=12
KIS Kishinev 12.18 359 *e*P **Pn** **23 17 18.0 +2.3**
KIS Kishinev 12.18 359 *e*P **Pn** **23 17 18.0 +2.3**
TEKS Tekeris 12.20 326 *e*Pn **Pn** **23 17 17.3 +1.3**
TEKS Tekeris 12.20 326 *e*P **Pn** **23 17 19.2 +3.2**
BZS Buzias 12.21 334⇓ *i*P **Pn** **23 17 16.1 0.0**
BZS Buzias 12.21 334⇓ *i*P **Pn** **23 17 16.1 0.0**
FGSL Fruska Gora 12.54 328 *e*P **Pn** **23 17 21.8 +1.1**
SIRR Siria 12.76 336⇑ *i*P **Pn**

BOJS *i* Sn Sn 23 20 31.2 -8.7
KECS Kecovo 15.09 337 *e*P **P** **23 18 00.4 +0.1**
KECS Kecovo 15.09 337 *e*P **P** **23 18 00.3 0.0**
CRES Cresnjev 15.12 321 *i* Pn **Pn** **23 17 54.2 -1.6**
CRES *i* Sn **Sn** **23 20 35.9 -6.6**
CRVS Cervenica-Dubn 15.17 340 *e*P **Pn** **23 17 58.6 +2.1**
VISS Visnje 15.43 320 *i* Pn **Pn** **23 17 57.5 -2.3**
VISS *i* Sn **Sn** **23 20 40.6 -9.3**
KWP Kalwaria Pacla 15.54 344⇑ *i*P **Pn** **23 18 03.2 +2.0**
VYHS Vyhne 15.65 334 *e*P **P** **23 18 06.6 -0.1**
VYHS Vyhne 15.65 334 *e*P **P** **23 18 06.6 -0.1**
STHS Stebnicka Huta 15.70 341 *e*P **P** **23 18 08.1 +0.9**
STHS Stebnicka Huta 15.70 341 *e*P **P** **23 18 08.0 +0.9**
AK11 Malin Array Si 15.86 0 *e*Pn **Pn** **23 18 05.0 -0.3**
AK11 Malin Array Si 15.86 0 *e*Pn **Pn** **23 18 05.0 -0.3**
KIEV Kiev 15.87 0 *e*Pn **P** **23 18 09.0 0.0**
comp=E,10nm,1.2s
KIEV Kiev 15.87 0 *e*Pn **P** **23 18 09.0 0.0**
comp=E,10nm,1.2s
AKASG Malin Array Be 15.88 0 Pn **Pn** **23 18 04.8 -0.9**
comp=E,2.0nm,0.3s,baz=188,slow=11,SNR=10
AKBB Malin Array Si 15.88 0 *e*Pn **Pn** **23 18 04.8 -0.8**
comp=E,7.6nm,0.6s
AKBB Malin Array Si 15.88 0 *e*Pn **Pn** **23 18 04.8 -0.8**
comp=E,7.6nm,0.6s
JAVS Javornik 15.91 319 *i* Pn **Pn** **23 18 03.7 -2.4**
JAVS *i* Sn Sn 23 20 51.1 -11
SOKA Soboth 15.91 322 *i* Pn **Pn** **23 18 05.7 -0.5**
comp=E,19nm,1.2s,SNR=16
SOKA Soboth 15.91 322 Pn **Pn** **23 18 05.7 -0.5**
comp=E,19nm,1.2s,SNR=16
TRI Trieste 15.96 318 *e*Pn **Pn** **23 18 03.7 -2.9**
comp=E,16nm,0.9s
NIE Niedzica 15.97 339 *e*P **P** **23 18 10.6 +0.4**
NIE Niedzica 15.97 339 *e*P **P** **23 18 10.6 +0.4**
LANS Liptovska Anna 16.00 336 *e*P **P** **23 18 11.5 +1.0**
LANS Liptovska Anna 16.00 336 *e*P **P** **23 18 11.5 +1.0**
OBKA Obir 16.05 321 *i* Pn **Pn** **23 18 07.4 -0.5**
comp=E,4.6nm,0.7s
OBKA Obir 16.05 321 Pn **Pn** **23 18 07.4 -0.5**
comp=E,4.6nm,0.7s
ARSA Arzberg 16.08 325 *i* P **Pn** **23 18 11.0 +2.8**
comp=E,4.6nm,0.6s
ARSA Arzberg 16.08 325 P **Pn** **23 18 11.0 +2.8**
comp=E,4.6nm,0.6s
KEST Kesra 16.17 279 Pn **Pn** **23 18 09.7 +0.2**
comp=E,0.6nm,0.3s,baz=67,slow=7.7,SNR=20
KEST Sn Sn 23 20 54.2 -14
comp=E,0.2nm,0.3s,baz=60,slow=20,SNR=3.9
KEST Kesra 16.17 279 *e*Pn **Pn** **23 18 09.7 +0.2**
comp=E,24nm,0.9s
KEST Kesra 16.17 279 *e*Pn **Pn** **23 18 09.7 +0.2**
comp=E,24nm,0.9s
SMOL Smolenice 16.21 331 *e*P **P** **23 18 12.7 -0.1**
SMOL Smolenice 16.21 331 *e*P **P** **23 18 12.7 -0.1**
JAVC Velka Javorina 16.39 332 *e*Pn **P** **23 18 15.3 +0.4**
VSL Villasalto 16.40 292 *e*Pn **Pn** **23 18 14.9 +2.5**
comp=E,19nm,0.9s
VSL Villasalto 16.40 292 *e*Pn **Pn** **23 18 14.8 +2.5**
comp=E,19nm,0.9s
CONA Conrad Observa 16.41 327 *i* P **P** **23 18 16.7 +1.5**
comp=E,5.7nm,1.2s
CONA Conrad Observa 16.41 327 P **P** **23 18 16.7 +1.5**
comp=E,5.7nm,1.2s
MYKA Terra Mystica 16.60 320 *i* Pn **Pn** **23 18 14.9 0.0**
comp=E,4.5nm,1.1s
MYKA Terra Mystica 16.60 320 Pn **Pn** **23 18 14.9 0.0**
comp=E,4.5nm,1.1s
OJC Ojcow 16.83 339 *e*P **Pn** **23 18 19.6 +1.8**
OJC Ojcow 16.83 339 *e*P **Pn** **23 18 19.6 +1.8**
OJC Ojcow 16.83 339 *e*Pn **Pn** **23 18 19.6 +1.8**
comp=E,13nm,1.3s
OKC Ostrava-Krasne 17.03 335 *e*P **Pn** **23 18 22.1 +1.9**
OKC AMS AMS 23 26 40.0
comp=E,400nm,17.1s
OKC Ostrava-Krasne 17.03 335 P **Pn** **23 18 22.1 +1.9**
KBA Koelnbreinsper 17.05 321 *i* Pn **Pn** **23 18 20.4 -0.2**
comp=E,26nm,1.2s,SNR=17
KBA Koelnbreinsper 17.05 321 P **Pn** **23 18 20.4 -0.2**
comp=E,26nm,1.2s,SNR=17
KRUC Moravsky 17.06 330 *e*Pn **Pn** **23 18 21.5 +0.9**
MOA Molln 17.10 324 *i* Pn **Pn** **23 18 20.8 -0.4**
comp=E,8.0nm,1.5s
MOA Molln 17.10 324 P **Pn** **23 18 20.8 -0.4**
comp=E,8.0nm,1.5s
VRAC Vranov 17.17 331 P **Pn** **23 18 22.7 +0.7**
comp=E,0.8nm,0.3s,baz=144,slow=10,SNR=40
VRAC LR LR 23 26 46.9
comp=E,337nm,19.7s,baz=156,slow=44
VRAC Vranov 17.17 331⇑ *i*P **Pn** **23 18 23.6 +1.6**
VRAC Vranov 17.17 331 *e*Pn **Pn** **23 18 23.1 +1.1**
MORC Moravsky Berou 17.20 334⇑ *i*P **Pn** **23 18 22.7 +0.4**
MORC Moravsky Berou 17.20 334⇑ *i*P **Pn** **23 18 22.7 +0.4**
MORC Moravsky Berou 17.20 334 *e*Pn **Pn** **23 18 23.2 +0.9**
MORC Moravsky Berou 17.20 334 *e*Pn **Pn** **23 18 23.7 +1.4**
comp=E,34nm,1.1s
ABTA Abfaltersbach 17.28 319 *i* Pn **Pn** **23 18 22.0 -1.4**
comp=E,6.3nm,0.7s
ABTA Abfaltersbach 17.28 319 Pn **Pn** **23 18 22.0 -1.4**
comp=E,6.3nm,0.7s
TREC Trest 17.61 329 *e*P **Pn** **23 18 27.7 +0.2**
TREC AMS AMS 23 27 00.0
comp=E,400nm,14.1s
TREC Trest 17.61 329 P **Pn** **23 18 27.7 +0.2**
GEA0 GERESS Array S 18.06 326 *e*Pn **Pn** **23 18 32.5 -0.6**
GEA0 GERESS Array S 18.06 326 *e*Pn **Pn** **23 18 32.5 -0.6**
GEC2 GERESS Array S 18.07 326 *e*Pn **Pn** **23 18 33.0 -0.2**
comp=E,37nm,1.5s
GEC2 GERESS Array S 18.07 326 *e*Pn **Pn** **23 18 33.0 -0.2**
comp=E,37nm,1.5s
GERES GERESS Array B 18.07 326 P **Pn** **23 18 33.1 -0.1**
comp=E,1.1nm,0.3s,baz=138,slow=12,SNR=65
GERES LR LR 23 27 17.2
comp=E,257nm,18.0s,baz=138,slow=43
WTTA Wattenberg 18.07 319 *i* P **Pn** **23 18 31.0 -2.3**
comp=E,17nm,1.4s,SNR=6.1
DPC Dobruska-Polom 18.12 333 *e*P **Pn** **23 18 34.1 +0.4**
DPC AMS AMS 23 27 20.0
comp=E,300nm,17.4s
DPC Dobruska-Polom 18.12 333 P **Pn** **23 18 34.1 +0.4**
WATA Walderalm 18.15 319 *i* Pn **Pn** **23 18 34.0 -0.2**
comp=E,16nm,0.8s,SNR=10
WATA Walderalm 18.15 319 P **Pn** **23 18 34.0 -0.2**
comp=E,16nm,0.8s,SNR=10
KHC Kasperske Hory 18.33 326 *e*P **P** **23 18 35.6 -0.7**
KHC *ex* x 23 18 42.5
KHC AMS AMS 23 27 20.0
comp=E,400nm,15.1s
KHC Kasperske Hory 18.33 326 *e*P **P** **23 18 35.5 -0.7**
comp=E,4.4nm,1.1s
KHC Kasperske Hory 18.33 326 *e*P **P** **23 18 35.5 -0.7**
comp=E,4.4nm,1.1s
UPC Upice 18.36 333 *e*P **P** **23 18 33.0 -3.5**
UPC AMS AMS 23 27 30.0
comp=E,400nm,16.4s
GOPC GO Pecny, Ondr 18.38 330 *e*P **P** **23 18 36.1 -0.7**
GOPC AMS AMS 23 27 20.0
comp=E,400nm,13.7s
GOPC GO Pecny, Ondr 18.38 330 P **P** **23 18 36.1 -0.7**
MOTA Moosalm 18.41 318 *i* Pn **P** **23 18 37.1 -0.2**
comp=E,24nm,1.0s,SNR=14
MOTA Moosalm 18.41 318 P **P** **23 18 37.1 -0.2**
comp=E,24nm,1.0s,SNR=14
FETA Feichten 18.43 317 *i* Pn **P** **23 18 38.3 +0.8**
comp=E,25nm,1.1s,SNR=17
FETA Feichten 18.43 317 Pn **P** **23 18 38.3 +0.8**
comp=E,25nm,1.1s,SNR=17
FUORN Ofenpass-Fuorn 18.47 315 *e*P **P** **23 18 37.7 -0.4**
comp=E,6.3nm,0.8s
FUORN Ofenpass-Fuorn 18.47 315 *e*P **P** **23 18 37.7 -0.4**
comp=E,6.3nm,0.8s
KSP Ksiaz 18.53 334 *e*P **P** **23 18 38.5 +0.1**
KSP Ksiaz 18.53 334 *e*P **P** **23 18 38.5 +0.1**
PRU Pruhonice 18.54 329 *e*P **P** **23 18 38.0 -0.5**
PRU AMS AMS 23 27 20.0
comp=E,300nm,14.8s
PRU Pruhonice 18.54 329 P **P** **23 18 38.0 -0.5**
RETA Reutte 18.68 318 *i* P **P** **23 18 38.8 -1.4**
comp=E,2.8nm,0.5s
RETA Reutte 18.68 318 P **P** **23 18 38.8 -1.4**
comp=E,2.8nm,0.5s
DAVOX Davos/Dischmat 18.78 315 P **P** **23 18 42.3 +1.0**
comp=E,0.7nm,0.3s,baz=129,slow=10,SNR=6.9
TUE Stuetta 18.93 314 *e*P **P** **23 18 40.6 -2.4**
comp=E,12nm,1.0s
PVCC Panska Ves 18.94 330 *e*P **P** **23 18 43.2 +0.3**

PVCC AMS AMS 23 28 00.0
comp=E,400nm,14.3s
PVCC Panska Ves 18.94 330 P **P** **23 18 43.2 +0.3**
DAVA Damuels 19.06 317 *i* P **P** **23 18 44.0 -0.4**
comp=E,4.4nm,0.5s
DAVA Damuels 19.06 317 P **P** **23 18 44.0 -0.4**
comp=E,4.4nm,0.5s
LUCF Luceram 19.07 305 *e*P **P** **23 18 44.1 -0.4**
LUCF Luceram 19.07 305 *e*P **P** **23 18 44.1 -0.4**
MVIF Mont Vial 19.20 305 *e*P **P** **23 18 46.1 +0.1**
MVIF Mont Vial 19.20 305 *e*P **P** **23 18 46.1 +0.1**
NKC Novy Kostel 19.63 327 *e*P **P** **23 18 50.0 -0.5**
NKC AMS AMS 23 29 20.0
comp=E,400nm,14.7s
NKC Novy Kostel 19.63 327 P **P** **23 18 50.0 -0.5**
SUW Suwalki 19.64 350 *e*P **P** **23 18 50.7 +0.2**
SUW Suwalki 19.64 350 *e*P **P** **23 18 50.7 +0.2**
GRFO Grafenberg 19.83 324 *e*P **P** **23 18 51.3 -1.4**
comp=E,18nm,1.2s
GRFO Grafenberg 19.83 324 *e*P **P** **23 18 51.3 -1.4**
comp=E,18nm,1.2s
SENIN Lac Senin/Sane 20.11 312 *e*P **P** **23 18 54.7 -1.3**
comp=E,35nm,0.8s
SENIN Lac Senin/Sane 20.11 312 *e*P **P** **23 18 54.7 -1.3**
comp=E,35nm,0.8s
CLL Collm 20.18 330⇑ *i*P **P** **23 18 55.4 -1.0**
comp=Z,13nm,1.1s
CLL *i* 23 18 58.1
CLL *i* 23 19 08.3
CLL *e*S Sn 23 22 47.0 +2.3
CLL Lm MLR 23 28 00.0
comp=Z,200nm,21.9s
CLL Collm 20.18 330 *e*P **P** **23 18 55.5 -1.0**
comp=Z,17nm,1.1s
CLL Collm 20.18 330 *e*P **P** **23 18 55.5 -0.9**
comp=Z,17nm,1.1s
RSL Roselend 20.24 309 *e*P **P** **23 18 55.7 -1.6**
RSL Roselend 20.24 309 *e*P **P** **23 18 55.7 -1.6**
STU Stuttgart 20.29 319 *e*P **P** **23 18 57.2 -0.4**
comp=Z,22nm,1.0s
STU Stuttgart 20.29 319 *e*P **P** **23 18 57.2 -0.4**
comp=Z,22nm,1.0s
FELD Feldberg im Sc 20.44 316 *e*P **P** **23 18 59.6 +0.1**
BFO Black Forest 20.51 317 *e*P **P** **23 19 00.5 +0.4**
comp=Z,12nm,1.1s
BFO Black Forest 20.51 317 *e*P **P** **23 19 00.5 +0.4**
comp=Z,12nm,1.1s
BBS Basel-Blauen 20.52 315 *e*P **P** **23 19 00.1 -0.1**
LOMF Lomont 20.86 314 *e*P **P** **23 19 03.9 -0.1**
LOMF Lomont 20.86 314 *e*P **P** **23 19 03.9 -0.1**
MOF Molkenrain 20.93 315 *e*P **P** **23 19 04.8 +0.1**
MOF Molkenrain 20.93 315 *e*P **P** **23 19 04.8 +0.1**
OBN Obninsk 20.95 12 P **P** **23 19 05.3 +0.6**
comp=Z,9.8nm,0.4s,baz=174,slow=7.0,SNR=7.0
OBN Obninsk 20.95 12 *e*P **P** **23 19 05.3 +0.6**
comp=Z,19nm,0.6s
OBN Obninsk 20.95 12 *e*P **P** **23 19 05.3 +0.6**
comp=Z,19nm,0.6s
TOD Tromm 20.99 321 *e*P **P** **23 19 03.4 -1.9**
WLS Welschbruch 21.10 317 *e*P **P** **23 19 06.1 -0.4**
WLS Welschbruch 21.10 317 *e*P **P** **23 19 06.1 -0.4**
ECH Echery 21.10 316 *e*P **P** **23 19 05.3 -1.2**
ECH Echery 21.10 316 *e*P **P** **23 19 05.3 -1.2**
LANF Langenberg 21.16 318 *e*P **P** **23 19 05.8 -1.3**
LANF Langenberg 21.16 318 *e*P **P** **23 19 05.8 -1.3**
SSB Saint Sauveur 21.44 307 *e*P **P** **23 19 08.7 -1.4**
comp=Z,12nm,1.5s
SSB Saint Sauveur 21.44 307 *e*P **P** **23 19 08.7 -1.4**
comp=Z,12nm,1.5s
RUP Ruppelstein 21.97 319 *e*P **P** **23 19 14.6 -1.2**
COLF Collangettes 22.08 307 *e*P **P** **23 19 18.6 +1.6**
COLF Collangettes 22.08 307 *e*P **P** **23 19 18.6 +1.6**
LBL Lubilhac 22.28 306 *e*P **P** **23 19 22.6 +3.4**
PLDF La Plantade 22.29 308 *e*P **P** **23 19 21.5 +2.2**
PLDF La Plantade 22.29 308 *e*P **P** **23 19 21.5 +2.2**
WLF Walferdange 22.44 318 *e*P **P** **23 19 19.2 -1.5**
comp=Z,6.9nm,0.8s
WLF Walferdange 22.44 318 *e*P **P** **23 19 19.2 -1.5**
comp=Z,6.9nm,0.8s
PYM Petit Puy Mans 22.61 307 *e*P **P** **23 19 24.4 +1.6**
PYM Petit Puy Mans 22.61 307 *e*P **P** **23 19 24.4 +1.6**
AGO Saint Agoulin 22.63 308 *e*P **P** **23 19 25.2 +2.3**
AGO Saint Agoulin 22.63 308 *e*P **P** **23 19 25.2 +2.3**
FRNF Fournols 22.79 306 *e*P **P** **23 19 22.8 -1.8**
FRNF Fournols 22.79 306 *e*P **P** **23 19 22.8 -1.8**
GEYT Alibeck 23.52 74 P **P** **23 19 32.6 +0.4**
comp=Z,1.1nm,0.4s,baz=274,slow=8.8,SNR=5.0
TAM Tamanrasset 23.82 246 *e*P **P** **23 19 36.5 +1.3**
comp=Z,18nm,1.1s
TAM Tamanrasset 23.82 246 *e*P **P** **23 19 36.5 +1.3**
comp=Z,18nm,1.1s
UOSS Minazif 25.40 105 *e*P **P** **23 19 49.6 +0.1**
UOSS Minazif 25.40 105 *e*P **P** **23 19 49.6 +0.1**
UOSS *e*S **S** **23 24 19.6 +4.9**
AKTO Aktyubinsk 26.17 45 P **P** **23 19 55.8 -0.3**
comp=Z,1.4nm,0.4s,baz=239,slow=5.9,SNR=7.8
ES19 SONSECA Array 26.63 290 *e*P **P** **23 20 00.9 +0.4**
ES19 SONSECA Array 26.63 290 *e*P **P** **23 20 00.9 +0.4**
ESDC Sonseca Array 26.68 290 P **P** **23 20 00.1 -0.8**
comp=Z,3.9nm,0.6s,baz=81,slow=9.6,SNR=30
ESLA Sonseca Array 26.68 290 *e*P **P** **23 20 01.4 +0.4**
comp=Z,8.8nm,0.8s
ESLA Sonseca Array 26.68 290 *e*P **P** **23 20 01.4 +0.4**
comp=Z,8.8nm,0.8s
FIA0 FINESS Array S 26.72 357 *e*P **P** **23 20 00.9 -0.1**
FIA0 FINESS Array S 26.72 357 *e*P **P** **23 20 00.9 -0.1**
FINES FINESS Array B 26.72 357 P **P** **23 20 00.9 -0.1**
comp=Z,2.7nm,0.7s,baz=151,slow=12,SNR=11
FIA1 FINESS Array S 26.72 357 *e*P **P** **23 19 59.8 -1.2**
comp=Z,14nm,1.4s
FIA1 FINESS Array S 26.72 357 *e*P **P** **23 19 59.8 -1.2**
comp=Z,14nm,1.4s
ABKAR Akbulak array 26.85 48 *e*P **P** **23 20 02.0 -0.3**
ABKAR Akbulak array 26.85 48 *e*P **P** **23 20 01.9 -0.3**
PAB San Pablo 26.98 290 *e*P **P** **23 20 04.1 +0.4**
comp=Z,27nm,1.7s
PAB San Pablo 26.98 290 *e*P **P** **23 20 04.1 +0.4**
comp=Z,27nm,1.7s
HFS Hagfors 27.25 343 P **P** **23 20 04.4 -1.4**
comp=Z,3.5nm,0.7s,baz=154,slow=13,SNR=14
KONO Kongsberg 27.94 339 *e*P **P** **23 20 10.4 -1.5**
comp=Z,32nm,1.4s
KONO Kongsberg 27.94 339 *e*P **P** **23 20 10.4 -1.5**
comp=Z,32nm,1.4s
WSAR Wadi Sarin 28.17 106 LR LR 23 34 36.9
comp=Z,98nm,19.4s,baz=325,slow=43
NC602 NORSAR Array S 28.31 342 *e*P **P** **23 20 13.9 -1.3**
NC602 NORSAR Array S 28.31 342 *e*P **P** **23 20 13.9 -1.3**
NAO01 NORSAR Array S 28.57 341 *e*P **P** **23 20 17.3 -0.3**
NAO01 NORSAR Array S 28.57 341 *e*P **P** **23 20 17.3 -0.3**
NC405 NORSAR Array S 28.59 342 *e*P **P** **23 20 14.8 -3.0**
NB201 NORSAR Array S 28.64 342 *e*P **P** **23 20 16.9 -1.3**
NB201 NORSAR Array S 28.64 342 *e*P **P** **23 20 16.9 -1.3**
NB2 NORSAR Subarra 28.65 342 P **P** **23 20 17.5 -0.9**
comp=Z,2.4nm,0.8s,baz=153,slow=9.3
NB2 NORSAR Subarra 28.65 342 P **P** **23 20 17.5 -0.9**
comp=Z,2.4nm,0.8s,SNR=4.1
NB200 NORSAR Array S 28.65 342 *e*P **P** **23 20 17.4 -0.9**
NB200 NORSAR Array S 28.65 342 *e*P **P** **23 20 17.4 -1.0**
NOA NORSAR Array B 28.65 342 P **P** **23 20 17.4 -1.0**
comp=Z,1.4nm,0.8s,baz=145,slow=8.3,SNR=5.3
NOA LR LR 23 33 51.5
comp=Z,71nm,18.5s,baz=165,slow=41
NBO02 NORSAR Array S 28.75 342 *e*P **P** **23 20 19.0 -0.2**
NBO02 NORSAR Array S 28.75 342 *e*P **P** **23 20 19.0 -0.2**
NBO00 NORSAR Array S 28.76 341 *e*P **P** **23 20 18.3 -0.9**
NBO00 NORSAR Array S 28.76 341 *e*P **P** **23 20 18.3 -0.9**
NC303 NORSAR Array S 28.77 342 *e*P **P** **23 20 16.6 -2.7**
PBRG Braganca 28.83 295 *e*P **P** **23 20 21.0 +0.9**
comp=Z,13nm,1.4s
PBRG Braganca 28.83 295 *e*P **P** **23 20 21.0 +0.9**
MVO Moncorvo 29.03 293 *e*P **P** **23 20 22.2 +0.2**
comp=Z,13nm,1.5s
MVO Moncorvo 29.03 293 *e*P **P** **23 20 22.2 +0.2**
PBAR Barrancos 29.14 287 *e*P **P** **23 20 22.5 -0.3**
comp=Z,23nm,1.2s
PBAR Barrancos 29.14 287 *e*P **P** **23 20 22.5 -0.3**
PMRV Marv??o 29.33 290 *e*P **P** **23 20 24.4 -0.2**
comp=Z,9.9nm,1.6s
PMRV Marv??o 29.33 290 *e*P **P** **23 20 24.4 -0.2**
PCBR Castelo Branco 29.38 291 *e*P **P** **23 20 24.9 -0.1**
comp=Z,14nm,1.8s
PCBR Castelo Branco 29.38 291 *e*P **P** **23 20 24.9 -0.1**
ARU Arti 29.48 34 P **P** **23 20 24.4 -1.2**
comp=Z,1.3nm,0.3s,baz=256,slow=22,SNR=4.0
ARU Arti 29.48 34 *e*P **P** **23 20 24.4 -1.2**
comp=Z,2.9nm,0.7s
ARU Arti 29.48 34 *e*P **P** **23 20 24.4 -1.2**
comp=Z,2.9nm,0.7s
PVRL Vila Real 29.55 294 *e*P **P** **23 20 26.9 +0.4**
comp=Z,17nm,1.3s
PVRL Vila Real 29.55 294 *e*P **P** **23 20 26.9 +0.4**
PCAB Cabril 29.79 295 *e*P **P** **23 20 28.2 -0.4**
PCAB Cabril 29.79 295 *e*P **P** **23 20 28.2 -0.4**
PBDV Barranco-do-Ve 29.93 286 *e*P **P** **23 20 30.2 +0.3**
PBDV Barranco-do-Ve 29.93 286 *e*P **P** **23 20 30.2 +0.3**
ESK Eskdalemuir 30.25 323 *e*P **P** **23 20 30.6 -1.9**
comp=Z,70nm,1.8s
ESK Eskdalemuir 30.25 323 *e*P **P** **23 20 30.6 -1.9**
comp=Z,70nm,1.8s
TOA1 Torodi Ar. Sit 32.86 236 *e*P **P** **23 20 55.8 -0.1**
comp=Z,8.0nm,0.9s
TOA1 Torodi Ar. Sit 32.86 236 *e*P **P** **23 20 55.8 -0.1**
comp=Z,8.0nm,0.9s
TOA0 Torodi Ar. Sit 32.86 236 *e*P **P** **23 20 55.6 -0.3**
TOA0 Torodi Ar. Sit 32.86 236 *e*P **P** **23 20 55.6 -0.3**
TORD Torodi Ar. Bea 32.86 236 P **P** **23 20 55.8 -0.1**
comp=Z,5.1nm,0.8s,baz=36,slow=10,SNR=24
KKAR Karatay Array 32.97 63 *e*P **P** **23 20 56.9 +0.3**
KKAR Karatay Array 32.97 63 *e*P **P** **23 20 56.9 +0.3**
ZRNK Zerenda 33.44 45 *e*P **P** **23 21 00.8 +0.2**
comp=Z,1.6nm,0.6s
ZRNK Zerenda 33.44 45 *e*P **P** **23 21 00.8 +0.2**
comp=Z,1.6nm,0.6s
ARA0 ARCESS Array S 34.83 358 *e*P **P** **23 21 11.8 -0.6**
ARA0 ARCESS Array S 34.83 358 *e*P **P** **23 21 11.8 -0.6**
ARCES ARCESS Array B 34.83 358 P **P** **23 21 12.7 +0.2**
comp=Z,4.0nm,0.9s,baz=166,slow=7.3,SNR=11
MAKZ Makanchi 41.05 57 *e*P **P** **23 22 05.3 +0.1**
comp=Z,2.2nm,1.0s
MAKZ Makanchi 41.05 57 *e*P **P** **23 22 05.3 +0.1**
comp=Z,2.2nm,1.0s
MK31 Makanchi Array 41.26 57 *e*P **P** **23 22 07.4 +0.4**
MK31 Makanchi Array 41.26 57 *e*P **P** **23 22 07.4 +0.4**
MK32 Makanchi Array 41.26 57 *e*P **P** **23 22 07.2 +0.3**
MK32 Makanchi Array 41.26 57 *e*P **P** **23 22 07.2 +0.3**
MKAR Makanchi Array 41.26 57 P **P** **23 22 07.2 +0.3**
comp=Z,1.7nm,0.7s,baz=276,slow=6.6,SNR=18
MKAR Makanchi Array 41.26 57 *e*P **P** **23 22 07.4 +0.4**
MKAR Makanchi Array 41.26 57 *e*P **P** **23 22 07.4 +0.4**
MK01 Makanchi Array 41.27 57 *e*P **P** **23 22 07.0 0.0**
MK01 Makanchi Array 41.27 57 *e*P **P** **23 22 07.0 0.0**
DBIC Dimbokro 41.97 236 P **P** **23 22 12.4 -0.6**
comp=Z,7.4nm,0.7s,baz=22,slow=8.0,SNR=7.7
DBIC Dimbokro 41.97 236 *e*P **P** **23 22 12.4 -0.6**
comp=Z,8.9nm,0.8s
DBIC Dimbokro 41.97 236 *e*P **P** **23 22 12.4 -0.6**
comp=Z,8.9nm,0.8s
TIC Toumodi 42.10 236 *e*P **P** **23 22 13.4 -0.7**
KIC Kosan Boka 42.12 236 *e*P **P** **23 22 13.5 -0.7**
comp=Z,31nm,0.9s
LIC Lamto 42.41 236 *e*P **P** 23 22 11.2 -5.4
comp=Z,352nm,2.3s
ZAA0 Zalesovo Array 42.91 46 *e*P **P** **23 22 20.2 -0.1**
ZAA0 Zalesovo Array 42.91 46 *e*P **P** **23 22 20.2 -0.1**
ZALV Zalesovo Beam 42.91 46 P **P** **23 22 19.2 -1.1**
comp=Z,1.5nm,0.4s,baz=258,slow=9.3,SNR=7.0
ZALV LR LR 23 43 37.3
comp=Z,39nm,19.8s,baz=266,slow=41
ZAA1 Zalesovo Array 42.91 46 *e*P **P** **23 22 19.2 -1.1**
ZAA1 Zalesovo Array 42.91 46 *e*P **P** **23 22 19.2 -1.1**
SPA0 Spitsbergen Ar 43.81 356 *e*P **P** **23 22 27.5 +0.2**
SPA0 Spitsbergen Ar 43.81 356 *e*P **P** **23 22 27.4 +0.2**
SPITS Spitsbergen Ar 43.81 356 P **P** **23 22 27.7 +0.5**
comp=Z,0.8nm,0.4s,baz=168,slow=13,SNR=9.7
PYUN Piuthan 45.99 83 *e*P **P** **23 22 46.7 +1.2**
comp=Z,46nm,0.6s
KOLN Koldanda 46.62 83 *e*P **P** **23 22 51.2 +0.8**
comp=Z,31nm,0.7s
NRIK Noril'sk 46.83 24 LR LR 23 47 56.7
comp=Z,54nm,18.6s,baz=181,slow=43
GKN Gorkha 47.38 82 *e*P **P** **23 22 57.1 +0.8**
comp=Z,64nm,0.8s
DMN Daman 47.91 82 *e*P **P** **23 23 01.7 +1.2**
comp=Z,81nm,0.9s
KKN Kakani 47.98 82 *e*P **P** **23 23 02.0 +1.0**
comp=Z,50nm,0.7s
PKIN Phulchoki 48.16 82 *e*P **P** **23 23 03.4 +0.9**
comp=Z,17nm,0.6s
RAMN Ramite 49.39 83 *e*P **P** **23 23 11.9 0.0**
comp=Z,15nm,0.6s
LSZ Lusaka 49.82 181 *e*P **P** **23 23 14.6 -0.3**
comp=Z,11nm,1.3s
LSZ Lusaka 49.82 181 *e*P **P** **23 23 14.6 -0.3**
comp=Z,11nm,1.3s
SUMG Summit 50.47 339 *e*P **P** **23 23 19.1 -0.5**
comp=Z,16nm,1.6s
SUMG Summit 50.47 339 *e*P **P** **23 23 19.1 -0.5**
comp=Z,16nm,1.6s
SONA0 Songino Array 57.19 51 *e*P **P** **23 24 09.8 +1.0**
comp=Z,7.2nm,1.5s
SONA0 Songino Array 57.19 51 *e*P **P** **23 24 09.8 +1.0**
comp=Z,7.2nm,1.5s
SONM Songino Array 57.19 51 P **P** **23 24 09.8 +1.0**
comp=Z,0.6nm,0.6s,baz=291,slow=8.1,SNR=4.4
SONM LR LR 23 53 02.6
comp=Z,76nm,20.4s,baz=288,slow=41
SONA1 Songino Array 57.19 51 *e*P **P** **23 24 09.6 +0.7**
SONA1 Songino Array 57.19 51 *e*P **P** **23 24 09.6 +0.7**
LBTB Lobatse 59.59 184 *e*P **P** **23 24 28.1 +2.4**
comp=Z,26nm,1.3s
DRLN Deer Lake 62.53 313 *e*P **P** **23 24 45.0 -0.4**
comp=Z,70nm,1.8s
DRLN Deer Lake 62.53 313 *e*P **P** **23 24 45.0 -0.4**
comp=Z,70nm,1.8s
BOSA Boshof 63.19 184 P **P** **23 24 50.6 +0.7**
comp=Z,10nm,1.0s,baz=358,slow=6.1,SNR=8.0
HIA Hailar 64.95 46 *e*P **P** **23 25 02.0 +0.6**
comp=Z,12nm,0.4s
HIA Hailar 64.95 46 *e*P **P** **23 25 02.0 +0.6**
comp=Z,12nm,0.4s
SCHQ Schefferville 65.53 321 P **P** **23 25 04.8 -0.2**
comp=Z,5.5nm,0.7s,baz=67,slow=6.7,SNR=12
SCHQ Schefferville 65.53 321 *e*P **P** **23 25 04.8 -0.2**
comp=Z,41nm,2.0s
SCHQ Schefferville 65.53 321 *e*P **P** **23 25 04.8 -0.2**
comp=Z,41nm,2.0s
SUR Sutherland 67.29 188 *e*P **P** **23 25 18.3 +1.7**
comp=Z,51nm,1.4s
EMMW East Machias 70.65 311 *e*P **P** 23 25 32.2 -5.0
comp=Z,74nm,1.4s
SEY Seymchan 72.61 24 P **P** **23 25 50.1 +1.4**
comp=Z,1.7nm,0.2s,baz=240,slow=16,SNR=2.7
KS15 Wonju Array Si 75.87 54 *e*P **P** **23 26 08.7 +0.5**
KS15 Wonju Array Si 75.87 54 *e*P **P** **23 26 08.7 +0.5**
KSAR Wonju Array Be 75.87 54 P **P** **23 26 08.7 +0.5**
KSAR Wonju Array Be 75.87 54 P **P** **23 26 08.7 +0.5**
KSRS Korea Array 75.89 54 P **P** **23 26 08.7 +0.4**
comp=Z,1.1nm,0.6s,baz=231,slow=4.7,SNR=4.8
INK Inuvik 76.37 353 P **P** **23 26 10.7 +0.3**
comp=Z,0.7nm,0.8s,baz=42,slow=7.5,SNR=3.1
PETK Petropavlovsk- 81.72 28 LR LR 00 09 36.1
comp=Z,39nm,18.6s,baz=274,slow=41
ULM Lac du Bonnet 82.36 328 LR LR 00 05 51.4
comp=Z,69nm,18.6s,baz=38,slow=38
MJAR Matsushiro Arr 83.11 50 LR LR 00 08 35.6
comp=Z,29nm,19.2s,baz=0.0,slow=39
PDAR Pinedale Array 94.04 331 LR LR 00 13 40.7
comp=Z,50nm,18.4s,baz=57,slow=38

BUC 14 23:14:31.9N 0.3, **45.82**N **27.23**E, **h6**km, **10**km, **MD2.2**/2, **8C-2D, Error ellipse: s-maj=5.9km s-min=1.6km az=48.0, Romania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.35**	**278**	⇑*i*P			Pg	23 14 39.3	+0.5
VRI	**Vrincioaia**	**0.35**	**278**	S			Sg	23 14 44.5	+1.0
VRI	**Vrincioaia**	**0.35**	**278**	⇑*i*P			Pg	23 14 39.3	+0.5
VRI				*i* S			Sg	23 14 44.5	+1.0
PLOR	**Plostina**	**0.41**	**274**	⇓*i*P			Pg	23 14 40.3	+0.5
PLOR	**Plostina**	**0.41**	**274**	S			Sg	23 14 46.0	+0.8
PLOR	**Plostina**	**0.41**	**274**	⇓*i*P			Pg	23 14 40.3	+0.5
PLOR				*i* S			Sg	23 14 46.0	+0.8
TESR	**Tescani**	**0.80**	**330**	⇑*i*P			Pb	23 14 48.0	-0.3
TESR	**Tescani**	**0.80**	**330**	⇑*i*P			Pb	23 14 48.0	-0.3
TESR				*i* S			Sb	23 14 59.9	+0.5
CFR	**Carcaliu**	**0.90**	**135**	⇑*i*P			Pb	23 14 50.1	+0.1
CFR	**Carcaliu**	**0.90**	**135**

MLR	**Muntele Rosu**	**0.96**	**250**	⇑*i*P	Pn	23 14 51.6 -0.5
MLR	**Muntele Rosu**	**0.96**	**250**	⇑*i*P	Pn	23 14 51.6 -0.5
MLR				*i* S	Sb	23 15 04.8 +0.7

IDC ***14*** *23:15:49.0±0.9, 37.°00N×140.°71E, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.6/49, mbtmp3.7/9, ML3.7/3, Error ellipse: s-maj=24.9km s-min=17.6km az=113.0*

ISCJB ***14*** *23:15:50.0±0.6, 36.°95N±0.°03×140.°80E±0.°05, h18km±4km, mb3.6/6, Error ellipse: s-maj=7.0km s-min=4.2km az=20.4*

JMA ***14*** *23:15:50.8, 36.°97N×140.°67E, h7km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs215.00000°, δ63.00000°, λ-112.00000°. NP2: φs77.00000°, δ35.00000°, λ-54.00000°. Principal axes: T Plg15.0000°, Azm321.0000°; N Plg20.0000°, Azm226.0000°; P Plg65.0000°, Azm86.0000°;*

JMA Felt II J1.

ISC 14 23:15:50.5±0.9, 36.°97N±0.°04×140.°71E±0.°05, h13km±6km, n27, σ0.°74/30, mb3.6/6, 8C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.15**	**28**	⇑P		**Pg**	**23 15 54.4**	**+0.3**
ONAJ				S		**Sg**	**23 15 57.1**	**+0.4**
JHO	**Hitachi**	**0.38**	**198**	⇑P		**Pg**	**23 15 57.8**	**-0.2**
JHO				S		**Sg**	**23 16 03.1**	**0.0**
JFK	**Kawauchi**	**0.41**	**18**	⇑P		**Pb**	**23 15 59.1**	**-0.6**
JFK				S		**Sb**	**23 16 05.0**	**-1.0**
JFT	**Otama**	**0.62**	**331**	⇑P		**Pb**	**23 16 02.8**	**-0.5**
JFT				S		**Sb**	**23 16 11.2**	**-0.7**
JSB	**Shiboa**	**0.64**	**270**	⇑P		**Pb**	**23 16 03.3**	**-0.1**
JSB				S		**Sb**	**23 16 11.9**	**-0.4**
JYT	**Yasato**	**0.85**	**209**	⇑P		**Pg**	**23 16 06.4**	**-0.5**
JYT				S		**Sg**	**23 16 17.6**	**-0.5**
JMM	**Marumori**	**0.90**	**4**	⇑P		**Pb**	**23 16 07.5**	**-0.4**
JMM				S		**Sb**	**23 16 19.6**	**-0.1**
JFY	**Yanaizu**	**0.91**	**299**	⇑P		**Pb**	**23 16 07.9**	**-0.3**
JFY				S		**Sb**	**23 16 19.5**	**-0.8**
MJAR	**Matsushiro Arr** 28nm,0.3s,baz=76,slow=16,SNR=84	**2.06**	**259**	Pn		**Pn**	**23 16 26.0**	**+1.2**
MJAR				Sn		**Sb**	**23 16 52.4**	**-0.8**
MAT	**Matsushiro** 39nm,0.3s,baz=82,slow=29,SNR=21	**2.06**	**259**	P		**Pn**	**23 16 25.9**	**+1.1**
MAT				S		**Sb**	**23 16 52.5**	**-0.7**
JHJ	**Hachijo jima 2** 9.4nm,0.3s,baz=68,slow=19,SNR=7.7	**3.92**	**191**	Pn		**Pn**	**23 16 50.5**	**+0.1**
JHJ				Sn		**Sn**	**23 17 37.1**	**+0.8**
ASAJ	**Asahikawa** 1.7nm,0.3s,baz=289,slow=27,SNR=4.2	**7.28**	**11**	Pn		**Pn**	**23 17 36.5**	**0.0**
USRK	**Ussuriysk Ar.** 0.3nm,0.3s,baz=143,slow=11,SNR=9.1	**9.80**	**320**	Pn		Pn	23 18 17.4	+6.3
KSRS	**Korea Array** 0.2nm,0.3s,baz=85,slow=14,SNR=4.6	**10.21**	**277**	Pn		Pn	23 18 24.1	+7.3
SONM	**Songino Array** 0.2nm,0.3s,baz=106,slow=9.1,SNR=2.6	**27.36**	**304**	P		**P**	**23 21 33.9**	**-1.5**
H11N2	**WAKE ISLAND Hy** baz=313	**28.60**	**120**	T		T	23 51 34.1	
H11N1	**WAKE ISLAND Hy** baz=313	**28.61**	**120**	T		T	23 51 35.3	
H11N3	**WAKE ISLAND Hy** baz=313	**28.62**	**120**	T		T	23 51 34.2	
H11S1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=29	**29.30**	**122**	T		T	23 52 25.9	
H11S3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=20	**29.30**	**122**	T		T	23 52 24.5	
H11S2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=18	**29.32**	**122**	T		T	23 52 27.2	
ILAR	**Eielson Array** 0.4nm,0.6s,baz=256,slow=6.0,SNR=5.9	**49.85**	**32**	P		**P**	**23 24 44.2**	**+1.3**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=346,slow=7.9,SNR=14	**56.92**	**187**	P		**P**	**23 25 35.9**	**+0.5**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=16,slow=11,SNR=2.9	**60.65**	**187**	P		**P**	**23 26 02.1**	**+0.8**
FINES	**FINESS Array B** 1.1nm,0.7s,baz=44,slow=8.3,SNR=3.3	**68.61**	**332**	P		**P**	**23 26 53.0**	**+0.2**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=290,slow=3.7,SNR=3.3	**90.60**	**52**	P		**P**	**23 28 52.1**	**-0.9**
LPAZ	**La Paz** 1.4nm,0.3s,baz=336,slow=9.4,SNR=4.3	**147.21**	**59**	PKPbc		**PKPbc**	**23 35 35.4**	**+0.6**

CSEM ***14*** *23:35:13.6, 36.°43N×22.°02E, h18km, ML1.7/6*

ATH 14 23:35:13.6, 36.°43N×22.°02E, h18km±3km, ML1.7/6, Error ellipse: s-maj=7.2km s-min=2.3km az=22.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.52**	**335**	P		Pg	23 35 23.2	-0.8
PYL				S		Sg	23 35 29.4	-1.6
PYL	**PYLOS**	**0.52**	**335**	P		Pg	23 35 23.2	-0.8
PYL				S		Sg	23 35 29.4	-1.6
PYL	comp=N,553μm,0.4s			AML		AML	23 35 36.3	
PYL	comp=E,421μm,0.2s			AML		AML	23 35 39.7	
ITM	**Ithomi**	**0.76**	**354**	P		Pb	23 35 28.2	0.0
ITM				S		Sb	23 35 38.3	+0.1
ITM	**Ithomi**	**0.76**	**354**	P		Pb	23 35 28.2	-0.1
ITM				S		Sb	23 35 38.3	0.0
ITM	comp=N,172μm,0.2s			AML		AML	23 35 46.0	
ITM	comp=E,150μm,0.2s			AML		AML	23 35 46.5	
VLI	**Veliai**	**0.79**	**68**	P		Pb	23 35 28.8	-0.1
VLI				S		Sn	23 35 41.0	-0.3
VLI	**Veliai**	**0.79**	**68**	P		Pb	23 35 28.8	0.0
VLI				S		Sn	23 35 41.0	-0.3
VLI	comp=E,52μm,0.5s			AML		AML	23 36 01.1	
VLI	comp=N,40μm,0.4s			AML		AML	23 36 01.3	
VLX	**Vlachokerasia**	**0.98**	**17**	P		Pg	23 35 33.6	+0.9
VLX	**Vlachokerasia**	**0.98**	**17**	P		Pg	23 35 33.6	+0.9
VLX	comp=N,143μm,0.5s			AML		AML	23 35 56.5	
VLX	comp=E,173μm,0.7s			AML		AML	23 35 58.9	
TRIP	**Tripoli**	**1.12**	**10**	P		Pg	23 35 36.2	+1.0
TRIP	**Tripoli**	**1.12**	**10**	P		Pg	23 35 36.2	+1.0
TRIP	comp=E,45μm,0.5s			AML		AML	23 36 00.1	
TRIP	comp=N,43μm,0.4s			AML		AML	23 36 02.4	
DID	**Didima**	**1.45**	**42**	P		Pn	23 35 39.3	+0.3
DID	**Didima**	**1.45**	**42**	P		Pn	23 35 39.3	+0.3
DRO	**Drossia**	**1.54**	**351**	P		Pb	23 35 42.4	+0.8
DRO	**Drossia**	**1.54**	**351**	P		Pb	23 35 42.4	+0.8
ZKS	**Zakynthos**	**1.61**	**322**	P		Pg	23 35 44.1	-0.4
ZKS	**Zakynthos**	**1.61**	**322**	P		Pg	23 35 44.1	-0.4
KLV	**Kalavryta, Ach**	**1.62**	**4**	P		Pb	23 35 42.3	-0.7
KLV	**Kalavryta, Ach**	**1.62**	**4**	P		Pb	23 35 42.3	-0.7
KLV	comp=N,15μm,0.7s			AML		AML	23 36 18.6	
KLV	comp=E,22μm,0.8s			AML		AML	23 36 24.6	

IDC ***14*** *23:36:04.9±1.1, 34.°89N×29.°19E, h0km, mb3.5/5, mb1 3.7/12, mb1mx3.5/39, mbtmp3.5/12, ML3.6/7, Error ellipse: s-maj=20.7km s-min=16.9km az=8.0*

ISK ***14*** *23:36:07.3, 34.°69N×29.°04E, h21km, ML3.3*

ISCJB ***14*** *23:36:08.0±0.2, 34.°65N±0.°03×29.°11E±0.°02, h62km±8km, mb3.3/5, Error ellipse: s-maj=4.5km s-min=1.9km az=22.5*

ATH ***14*** *23:36:10.2, 35.°01N×28.°84E, h17km±1km, ML3.2/12, Error ellipse: s-maj=1.6km s-min=0.8km az=344.0*

CSEM ***14*** *23:36:10.1±0.1, 34.°71N×29.°10E, h40km, ML3.2, Error ellipse: s-maj=4.2km s-min=1.9km az=22.0*

NSSC ***14*** *23:36:10.7±1.5, 34.°93N×29.°50E, h0km±184km, ML2.7*

THE ***14*** *23:36:12.0, 34.°84N×29.°09E, h51km±5km, ML3.4/11, Error ellipse: s-maj=5.9km s-min=1.1km az=11.0*

GII ***14*** *23:36:12.2±0.0, 34.°57N×29.°28E, h30km±2km, MD3.0/7*

NIC ***14*** *23:36:13.8±0.1, 34.°84N×29.°44E, h35km, mb4.1, ML3.7*

ISC 14 23:36:09.3±1.2, 34.°75N±0.°04×29.°12E±0.°03, h36km±3km, n223, σ1.°50/299, mb3.5/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.45**	**15**	P		**Pn**	**23 36 33.8**	**+0.8**
KSL				S		**Sn**	**23 36 51.0**	**+0.3**
KSL	**Kastellorizon**	**1.45**	**15**	P		**Pn**	**23 36 33.5**	**+0.5**
KSL				S		**Sn**	**23 36 53.3**	**+2.6**
KSL	comp=N,365μm,0.7s			AML		AML	23 37 06.4	
KSL	comp=E,532μm,1.3s			AML		AML	23 37 22.5	
ARG	**Arkhangelos**	**1.68**	**331**	P		**Pn**	**23 36 36.4**	**+0.3**
ARG				S		Sn	23 36 56.5	+0.2
ARG	**Arkhangelos**	**1.68**	**331**	P		**Pn**	**23 36 37.2**	**+1.1**
ARG				S		Sn	23 36 56.5	+0.2
KARP	**Karpathos**	**1.79**	**297**	*e*PN		**Pn**	**23 36 37.8**	**0.0**
KARP				*e*SN		**Sn**	**23 36 59.4**	**+0.1**
KARP	**Karpathos**	**1.79**	**297**	P		**Pn**	**23 36 38.8**	**+1.0**
KARP				S		**Sn**	**23 36 59.3**	**0.0**
KARP	**Karpathos**	**1.79**	**297**	*e*Pn		**Pn**	**23 36 37.8**	**0.0**
KARP	**Karpathos**	**1.79**	**297**	P		**Pn**	**23 36 38.8**	**+1.0**
KARP				*e*Sn		**Sn**	**23 36 59.4**	**+0.1**
KARP				S		**Sn**	**23 37 00.1**	**+0.8**
KARP	**Karpathos**	**1.79**	**297**	P		**Pn**	**23 36 39.6**	**+1.9**
KARP				S		**Sn**	**23 37 00.1**	**+0.8**
KARP				AML		AML	23 37 01.6	
KARP	comp=N,568μm,0.6s			AML		AML	23 37 02.9	
KARP	comp=E,470μm,0.5s			AML		AML	23 37 17.2	
KARP	comp=N,654μm,0.7s			AML		AML	23 37 07.3	
FETY	**Fethiye**	**1.88**	**359**	*e*PN		**Pn**	**23 36 39.4**	**+0.4**
FETY	**Fethiye**	**1.88**	**359**	P		**Pn**	**23 36 39.4**	**+0.4**
FETY				S		**Sn**	**23 37 01.7**	**+0.2**
ELL	**Elmali**	**2.10**	**18**	*e*PN		**Pn**	**23 36 44.0**	**+2.0**
ELL	**Elmali**	**2.10**	**18**	*e*Pn		**Pn**	**23 36 44.1**	**+2.1**
DALY	**Dalyan (Mu¨la**	**2.10**	**350**	*e*PN		**Pn**	**23 36 42.5**	**+0.6**
DALY	**Dalyan (Mu¨la**	**2.10**	**350**	*e*Pn		**Pn**	**23 36 42.5**	**+0.6**
ZKR	**Zakros**	**2.42**	**280**	P		**Pn**	**23 36 48.2**	**+1.9**
ZKR				S		**Sn**	**23 37 14.7**	**+0.1**
ZKR	**Zakros**	**2.42**	**280**	P		**Pn**	**23 36 48.2**	**+1.9**
ZKR				S		**Sn**	**23 37 14.7**	**+0.1**
ZKR	**Zakros**	**2.42**	**280**	P		**Pn**	**23 36 48.3**	**+1.9**
ZKR				S		**Sn**	**23 37 15.8**	**+1.2**
ZKR	comp=E,457μm,0.7s			AML		AML	23 37 16.0	
ZKR	comp=N,654μm,0.7s			AML		AML	23 37 17.2	
GLHS	**Glhisar (BURDU**	**2.42**	**7**	*e*PN		**Pn**	**23 36 48.1**	**+1.6**
GLHS	**Glhisar (BURDU**	**2.42**	**7**	*e*Pn		**Pn**	**23 36 48.1**	**+1.6**
NIS1	**Nisyros Isl.**	**2.44**	**320**	P		**Pn**	**23 36 49.3**	**+2.7**
NIS1	**Nisyros Isl.**	**2.44**	**320**	P		**Pn**	**23 36 47.1**	**+0.5**
NIS1	**Nisyros Isl.**	**2.44**	**320**	P		**Pn**	**23 36 47.1**	**+0.5**
YER	**Yerkesik**	**2.48**	**344**	*e*PN		**Pn**	**23 36 48.7**	**+1.5**
YER	**Yerkesik**	**2.48**	**344**	P		**Pn**	**23 36 47.6**	**+0.4**
YER				S		**Sn**	**23 37 16.3**	**+0.1**
YER	**Yerkesik**	**2.48**	**344**	P		**Pn**	**23 36 47.6**	**+0.4**
YER	**Yerkesik**	**2.48**	**344**	*e*Pn		**Pn**	**23 36 48.7**	**+1.5**
YER				S		**Sn**	**23 37 16.3**	**+0.1**
ANTB	**Antalya**	**2.48**	**30**	*e*PN		**Pn**	**23 36 48.7**	**+1.5**
ANTB	**Antalya**	**2.48**	**30**	*e*Pn		**Pn**	**23 36 48.7**	**+1.5**
AKMC	**Akamas** baz=266	**2.65**	**83**	P		**Pn**	**23 36 50.7**	**+1.1**
AKMC	**Akamas**	**2.65**	**83**	P		**Pn**	**23 36 50.7**	**+1.1**
BODT	**Bodrum**	**2.74**	**328**	*e*PN		**Pn**	**23 36 50.9**	**+0.1**
BODT	**Bodrum**	**2.74**	**328**	P		**Pn**	**23 36 50.7**	**0.0**
BODT				S		**Sn**	**23 37 21.6**	**-1.0**
BODT	**Bodrum**	**2.74**	**328**	*e*Pn		**Pn**	**23 36 50.9**	**+0.1**
BODT				S		**Sn**	**23 37 21.6**	**-1.0**
ALFC	**Alefka** baz=263	**2.88**	**81**	P		**Pn**	**23 36 53.7**	**+0.9**
ALFC				S		**Sn**	**23 37 25.4**	**-0.8**
ALFC	**Alefka**	**2.88**	**81**	P		**Pn**	**23 36 53.7**	**+0.9**
ALFC				S		**Sn**	**23 37 25.4**	**-0.8**
NPS	**Neapolis**	**2.93**	**281**	P		**Pn**	**23 36 55.1**	**+1.8**
NPS				S		**Sn**	**23 37 27.8**	**+0.6**
NPS	**Neapolis**	**2.93**	**281**	P		**Pn**	**23 36 55.1**	**+1.8**
NPS				S		**Sn**	**23 37 27.4**	**+0.2**
NPS	**Neapolis**	**2.93**	**281**	P		**Pn**	**23 36 55.5**	**+2.1**
NPS				S		**Sn**	**23 37 27.4**	**+0.2**
NPS	comp=N,368μm,0.8s			AML		AML	23 37 28.6	
NPS	comp=E,497μm,1.0s			AML		AML	23 37 29.0	
BCK	**Bucak**	**2.96**	**23**	*e*PN		**Pn**	**23 36 56.4**	**+2.6**
LAST	**Lasithi**	**3.02**	**279**	P		**Pn**	**23 36 56.7**	**+2.0**
LAST				S		**Sn**	**23 37 30.0**	**+0.3**
LAST	**Lasithi**	**3.02**	**279**	P		**Pn**	**23 36 55.9**	**+1.2**
LAST				S		**Sn**	**23 37 30.0**	**+0.3**
LAST	**Lasithi**	**3.02**	**279**	P		**Pn**	**23 36 55.9**	**+1.2**
SZAC	**Souni** baz=272	**3.10**	**89**	P		**Pn**	**23 36 57.2**	**+1.5**
SZAC				S		**Sn**	**23 37 30.8**	**-0.6**
SZAC	**Souni**	**3.10**	**89**	P		**Pn**	**23 36 57.2**	**+1.5**
SZAC				S		**Sn**	**23 37 30.8**	**-0.6**
LEF	**Lefka**	**3.12**	**82**	*e*PN		**Pn**	**23 36 57.0**	**+1.1**
LEF	**Lefka**	**3.12**	**82**	*e*Pn		**Pn**	**23 36 57.1**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.12**	**29**	*e*PN		**Pn**	**23 36 58.0**	**+1.9**
SUTC	**Sutluce-Ispart**	**3.12**	**29**	*e*Pn		**Pn**	**23 36 58.0**	**+1.9**
ISP	**Isparta**	**3.27**	**20**	*e*PN		**Pn**	**23 37 00.1**	**+1.9**
ISP	**Isparta**	**3.27**	**20**	Pn		**Pn**	**23 37 00.6**	**+2.5**
ISP	**Isparta**	**3.27**	**20**	*e*Pn		**Pn**	**23 37 00.1**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**3.34**	**343**	*e*PN		**Pn**	**23 36 59.8**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**3.34**	**343**	*e*Pn		**Pn**	**23 36 59.8**	**+0.7**
MAMC	**Mammari** baz=264	**3.39**	**82**	P		**Pn**	**23 37 01.2**	**+1.5**
MAMC	**Mammari**	**3.39**	**82**	P		**Pn**	**23 37 01.2**	**+1.5**
SANT	**Santorini**	**3.40**	**300**	P		**Pn**	**23 37 00.1**	**+0.3**
SANT	**Santorini**	**3.40**	**300**	P		**Pn**	**23 37 00.1**	**+0.3**
THR8	**Santorini-Mono**	**3.40**	**300**	P		**Pn**	**23 37 00.1**	**+0.3**
THR8	**Santorini-Mono**	**3.40**	**300**	P		**Pn**	**23 37 00.1**	**+0.3**
THT1	**Athinios (Pele**	**3.42**	**300**	P		**Pn**	**23 37 00.5**	**+0.4**
THT1	**Athinios (Pele**	**3.42**	**300**	P		**Pn**	**23 37 00.5**	**+0.4**
THR6	**Thira Island,**	**3.44**	**299**	P		**Pn**	**23 37 00.9**	**+0.6**
THR6	**Thira Island,**	**3.44**	**299**	P		**Pn**	**23 37 00.9**	**+0.6**
THR2	**Thira island,**	**3.45**	**300**	P		**Pn**	**23 37 01.1**	**+0.6**
THR2	**Thira island,**	**3.45**	**300**	P		**Pn**	**23 37 01.1**	**+0.6**
THR3	**Thira Island,**	**3.46**	**300**	P		**Pn**	**23 37 01.1**	**+0.5**
THR3	**Thira Island,**	**3.46**	**300**	P		**Pn**	**23 37 01.1**	**+0.5**
CSS	**Mathiatis**	**3.47**	**85**	P		**Pn**	**23 37 01.9**	**+1.1**
CSS				S		**Sn**	**23 37 41.7**	**+1.1**
CSS	**Mathiatis**	**3.47**	**85**	Pn		**Pn**	**23 37 01.7**	**+0.9**
CSS				Sn		**Sn**	**23 37 42.4**	**+1.8**
CSS	**Mathiatis**	**3.47**	**85**	P		**Pn**	**23 37 01.9**	**+1.1**
CSS				S		**Sn**	**23 37 41.7**	**+1.1**
CSS				Sn		Sn	23 37 42.4	+1.8
CMBO	**Columbo, Santo**	**3.48**	**301**	P		**Pn**	**23 37 01.4**	**+0.5**
CMBO	**Columbo, Santo**	**3.48**	**301**	P		**Pn**	**23 37 01.4**	**+0.5**
CMBO	**Columbo, Santo**	**3.48**	**301**	P		**Pn**	**23 37 00.7**	**-0.3**
SMG	**Samos**	**3.48**	**329**	P		**Pn**	**23 37 01.2**	**+0.2**
SMG				S		**Sn**	**23 37 39.5**	**-1.5**
SMG	**Samos**	**3.48**	**329**	P		**Pn**	**23 37 01.2**	**+0.2**
SMG				S		**Sn**	**23 37 39.5**	**-1.5**
SMG	**Samos**	**3.48**	**329**	P		**Pn**	**23 37 01.1**	**+0.1**
SMG				S		**Sn**	**23 37 38.9**	**-2.1**
SMG	comp=N,132μm,0.4s			AML		AML	23 37 40.7	
SMG	comp=E,162μm,0.5s			AML		AML	23 37 43.6	
THR5	**Thira Island,**	**3.50**	**300**	*e*PN		**Pn**	**23 37 02.6**	**+1.5**
THR5	**Thira Island,**	**3.50**	**300**	P		**Pn**	**23 37 02.3**	**+1.1**
THR5	**Thira Island,**	**3.50**	**300**	P		**Pn**	**23 37 02.3**	**+1.1**
THR5	**Thira Island,**	**3.50**	**300**	*e*Pn		**Pn**	**23 37 02.6**	**+1.5**
IDI	**Anoyia** comp=E,3.3nm,0.3s,baz=358,slow=7.3,SNR=18	**3.52**	**280**	Pn		**Pn**	**23 37 03.3**	**+1.8**
IDI	comp=E,7.7nm,0.3s,baz=31,slow=15,SNR=18			Sn		**Sn**	**23 37 40.7**	**-1.2**
IDI	**Anoyia**	**3.52**	**280**	P		**Pn**	**23 37 02.9**	**+1.4**
IDI				S		**Sn**	**23 37 41.0**	**-0.8**
IDI	**Anoyia**	**3.52**	**280**	P		**Pn**	**23 37 02.6**	**+1.1**
IDI				S		**Sn**	**23 37 41.0**	**-0.8**
IDI	**Anoyia**	**3.52**	**280**	P		**Pn**	**23 37 02.6**	**+1.1**
SIVA	**Sivas**	**3.56**	**276**	P		**Pn**	**23 37 03.5**	**+1.6**
SIVA				S		**Sn**	**23 37 43.3**	**+0.6**
SIVA	**Sivas**	**3.56**	**276**	P		**Pn**	**23 37 03.5**	**+1.6**
SIVA				S		**Sn**	**23 37 42.9**	**+0.2**
SIVA	**Sivas**	**3.56**	**276**	P		**Pn**	**23 37 03.6**	**+1.6**
SIVA				S		**Sn**	**23 37 42.9**	**+0.2**
SIVA	comp=N,520μm,0.5s			AML		AML	23 37 45.3	
SIVA	comp=E,445μm,1.0s			AML		AML	23 37 55.1	
LFK	**Lefkose**	**3.66**	**80**	*e*PN		**Pn**	**23 37 05.4**	**+2.0**
LFK	**Lefkose**	**3.66**	**80**	*e*Pn		**Pn**	**23 37 05.4**	**+2.0**
APE	**Apeiranthos**	**3.72**	**309**	*e*PN		**Pn**	**23 37 05.1**	**+0.8**
APE	**Apeiranthos**	**3.72**	**309**	P		**Pn**	**23 37 04.0**	**-0.3**
APE	**Apeiranthos**	**3.72**	**309**	*e*Pn		**Pn**	**23 37 05.1**	**+0.8**
APE	**Apeiranthos**	**3.72**	**309**	P		**Pn**	**23 37 04.0**	**-0.3**
APE				S		**Sn**	**23 37 43.7**	**-3.2**
APE				AML		AML	23 37 45.7	
APE	comp=N,104μm,0.6s			AML		AML	23 37 47.9	
APE	comp=E,94μm,0.5s			AML		AML	23 37 49.2	
KULA	**Kula-Manisa**	**3.78**	**354**	P		**Pn**	**23 37 05.5**	**+0.4**
KULA	**Kula-Manisa**	**3.78**	**354**	P		**Pn**	**23 37 05.5**	**+0.4**
IKL	**Isikli**	**4.01**	**67**	*e*PN		**Pn**	**23 37 10.4**	**+2.2**
IKL	**Isikli**	**4.01**	**67**	*e*Pn		**Pn**	**23 37 10.4**	**+2.2**
VAM	**Vamos**	**4.09**	**281**	P		**Pn**	**23 37 11.1**	**+1.8**
VAM				S		**Sn**	**23 37 55.1**	**-0.8**
VAM	**Vamos**	**4.09**	**281**	P		**Pn**	**23 37 10.7**	**+1.4**
VAM				S		**Sn**	**23 37 55.2**	**-0.7**
KONT	**Konya--Tatoy**	**4.12**	**38**	*e*PN		**Pn**	**23 37 12.8**	**+3.0**
KONT	**Konya--Tatoy**	**4.12**	**38**	*e*Pn		**Pn**	**23 37 12.8**	**+3.0**
IMMV	**Iera Moni Meta**	**4.27**	**281**	P		**Pn**	**23 37 13.8**	**+2.0**
IMMV				S		**Sn**	**23 37 59.3**	**-1.2**
IMMV	**Iera Moni Meta**	**4.27**	**281**	P		**Pn**	**23 37 13.3**	**+1.5**
IMMV				S		**Sn**	**23 37 59.6**	**-0.9**
IMMV	**Iera Moni Meta**	**4.27**	**281**	P		**Pn**	**23 37 13.3**	**+1.5**
IMMV				S		**Sn**	**23 37 59.6**	**-0.9**
IMMV	comp=N,265μm,0.5s			AML		AML	23 38 01.9	
IMMV	comp=E,385μm,0.6s			AML		AML	23 38 07.7	
MHLO	**Agia Marina, M**	**4.30**	**298**	P		**Pn**	**23 37 14.4**	**+2.2**
MHLO	**Agia Marina, M**	**4.30**	**298**	P		**Pn**	**23 37 14.4**	**+2.2**
MHLO				S		**Sn**	**23 37 59.7**	**-1.4**
MHLO	**Agia Marina, M**	**4.30**	**298**	P		**Pn**	**23 37 14.9**	**+2.7**
MHLO				S		**Sn**	**23 37 59.7**	**-1.4**
MHLO	comp=E,571μm,0.4s			AML		AML	23 38 07.5	
MHLO	comp=N,404μm,0.7s			AML		AML	23 38 10.0	
LADK	**Ladik-KONYA**	**4.32**	**36**	*e*PN		**Pn**	**23 37 16.1**	**+3.5**
CHOS	**Chios island**	**4.39**	**327**	P		**Pn**	**23 37 14.6**	**+1.1**
CHOS				S		**Sn**	**23 38 01.9**	**-1.5**
CHOS	**Chios island**	**4.39**	**327**	P		**Pn**	**23 37 14.6**	**+1.1**
CHOS				S		**Sn**	**23 38 01.9**	**-1.5**
SERI	**Serifos**	**4.47**	**304**	P		**Pn**	**23 37 17.3**	**+2.8**
SERI	**Serifos**	**4.47**	**304**	P		**Pn**	**23 37 17.3**	**+2.8**
ANKY	**Antikythira Is**	**4.89**	**285**	P		**Pn**	**23 37 21.4**	**+1.1**
ANKY	**Antikythira Is**	**4.89**	**285**	P		**Pn**	**23 37 21.4**	**+1.1**
ANKY				S		**Sn**	**23 38 12.0**	**-3.6**
ANKY				AML		AML	23 38 16.1	
ANKY	comp=E,232μm,0.8s			AML		AML	23 38 23.4	
PRK	**Paraskevi**	**5.04**	**334**	P		**Pn**	**23 37 24.7**	**+2.4**
PRK	**Paraskevi**	**5.04**	**334**	P		**Pn**	**23 37 24.7**	**+2.4**
SIGR	**SIGRI**	**5.17**	**331**	P		**Pn**	**23 37 26.7**	**+2.6**
SIGR	**SIGRI**	**5.17**	**331**	P		**Pn**	**23 37 26.7**	**+2.6**
KYTH	**Kithira**	**5.18**	**289**	P		**Pn**	**23 37 24.1**	**-0.2**
KYTH	**Kithira**	**5.18**	**289**	P		**Pn**	**23 37 24.1**	**-0.2**
VLY	**Voula,Athens**	**5.30**	**307**	P		**Pn**	**23 37 27.5**	**+1.5**
VLY	**Voula,Athens**	**5.30**	**307**	P		**Pn**	**23 37 26.8**	**+0.9**
VLY	**Voula,Athens**	**5.30**	**307**	P		**Pn**	**23 37 26.8**	**+0.9**
PTL	**Penteli**	**5.37**	**309**	P		**Pn**	**23 37 28.3**	**+1.4**
PTL	**Penteli**	**5.37**	**309**	P		**Pn**	**23 37 28.3**	**+1.4**
VLI	**Veliai**	**5.40**	**293**	P		**Pn**	**23 37 27.3**	**0.0**
VLI	**Veliai**	**5.40**	**293**	P		**Pn**	**23 37 27.3**	**0.0**
VLI	**Veliai**	**5.40**	**293**	P		**Pn**	**23 37 25.6**	**-1.7**
VLI	comp=E,184μm,0.4s			AML		AML	23 38 26.6	
VLI	comp=N,231μm,0.7s			AML		AML	23 38 27.6	
DID	**Didima**	**5.50**	**302**	P		**Pn**	**23 37 29.8**	**+1.1**
DID	**Didima**	**5.50**	**302**	P		**Pn**	**23 37 29.3**	**+0.6**
DID				S		**Sn**	**23 38 30.5**	**-0.2**
DID	**Didima**	**5.50**	**302**	P		**Pn**	**23 37 29.3**	**+0.6**
DID				S		**Sn**	**23 38 30.5**	**-0.2**
DID	comp=N,61μm,0.6s			AML		AML	23 38 31.6	
DID	comp=E,68μm,0.4s			AML		AML	23 38 39.1	
MMAI	**Mount Meron Ar** comp=E,2.2nm,0.3s,baz=305,slow=12,SNR=10	**5.50**	**107**	Pn		**Pn**	**23 37 29.6**	**+0.8**
MMAI				Sn		**Sn**	**23 38 28.8**	**-2.1**
KRND	**KRANIDI**	**5.50**	**300**	P		**Pn**	**23 37 30.1**	**+1.4**
KRND	**KRANIDI**	**5.50**	**300**	P		**Pn**	**23 37 30.1

DSF	**Desfina**	**6.44**	**306**	P		**Pn**	**23 37 43.5**	**+1.8**
KLV	**Kalavryta, Ach**	**6.51**	**302**	P		**Pn**	**23 37 43.0**	**+0.3**
KLV	**Kalavryta, Ach**	**6.51**	**302**	P		**Pn**	**23 37 43.0**	**+0.3**
ZFRI	**Zfri**	**6.60**	**128**	Sn		**Sn**	**23 38 55.8**	**-2.0**
PRNI	**Paran**	**6.62**	**130**	Pn		**Pn**	**23 37 44.6**	**+0.4**
PRNI				Sn		**Sn**	**23 38 55.0**	**-3.4**
PRNI	**Paran**	**6.62**	**130**	Pn		**Pn**	**23 37 44.6**	**+0.4**
SALA	**Sala**	**6.66**	**106**	*eP*		**Pn**	**23 37 47.0**	**+2.2**
SALA				*eS*		**Sn**	**23 38 58.3**	**-1.2**
SALA				AML	AML		23 39 06.2	
	comp=E,1.5nm,0.4s							
SALA				AML	AML		23 39 07.7	
	comp=N,13nm,0.7s							
KALE	**Kalithea**	**6.69**	**305**	P		**Pn**	**23 37 46.5**	**+1.4**
KALE	**Kalithea**	**6.69**	**305**	P		**Pn**	**23 37 46.5**	**+1.4**
LAKA	**Lakka**	**6.73**	**303**	P		**Pn**	**23 37 45.5**	**0.0**
LAKA	**Lakka**	**6.73**	**303**	P		**Pn**	**23 37 45.5**	**0.0**
SERG	**Sergoula**	**6.76**	**305**	P		**Pn**	**23 37 47.3**	**+1.3**
DRO	**Drossia**	**6.78**	**300**	P		**Pn**	**23 37 48.4**	**+2.1**
DRO	**Drossia**	**6.78**	**300**	P		**Pn**	**23 37 48.4**	**+2.1**
HRFI	**Mount Harif**	**6.86**	**132**	Pn		**Pn**	**23 37 47.6**	**+0.2**
HRFI				Sn		**Sn**	**23 39 01.0**	**-3.3**
HRFI	**Mount Harif**	**6.86**	**132**	Pn		**Pn**	**23 37 47.6**	**+0.2**
AGG	**Agios Georgios**	**6.91**	**310**	*e*PN		**Pn**	**23 37 50.1**	**+2.0**
AGG	**Agios Georgios**	**6.91**	**310**	*e*Pn		**Pn**	**23 37 50.1**	**+2.0**
AGG	**Agios Georgios**	**6.91**	**310**	P		**Pn**	**23 37 50.8**	**+2.7**
AGG	**Agios Georgios**	**6.91**	**310**	P		**Pn**	**23 37 50.8**	**+2.7**
MBRI	**Mt Berech**	**6.96**	**134**	Pn		**Pn**	**23 37 49.3**	**+0.5**
MBRI				Sn		**Sn**	**23 39 05.2**	**-1.6**
MBRI	**Mt Berech**	**6.96**	**134**	Pn		**Pn**	**23 37 49.3**	**+0.5**
MBRI				Sn		**Sn**	**23 39 05.2**	**-1.6**
ASF	**Jabal al Asfar**	**6.99**	**109**	Pn		**Pn**	**23 37 48.6**	**-0.6**
	comp=N,0.3nm,0.3s,baz=233,slow=17,SNR=3.8							
ASF				Sn		**Sn**	**23 39 06.7**	**-0.8**
	comp=N,0.4nm,0.3s,baz=214,slow=8.0,SNR=2.6							
RLS	**Riolos of Patr**	**7.00**	**300**	P		**Pn**	**23 37 50.6**	**+1.3**
EIL	**Elat**	**7.07**	**134**	Pn		**Pn**	**23 37 51.1**	**+0.8**
	comp=N,1.7nm,0.3s,baz=346,slow=9.0,SNR=12							
EIL				Sn		**Sn**	**23 39 05.6**	**-3.8**
	comp=N,3.8nm,0.3s,baz=261,slow=16,SNR=8.6							
EVR	**Evrytania**	**7.19**	**307**	P		**Pn**	**23 37 55.1**	**+3.1**
EVR	**Evrytania**	**7.19**	**307**	P		**Pn**	**23 37 55.1**	**+3.1**
PVO	**Paravola**	**7.22**	**305**	P		**Pn**	**23 37 56.5**	**+4.2**
PDO	**Prodromos**	**7.45**	**303**	P		**Pn**	**23 37 56.6**	**+1.2**
PDO	**Prodromos**	**7.45**	**303**	P		**Pn**	**23 37 56.6**	**+1.2**
KFL	**Anninata**	**7.51**	**299**	P		**Pn**	**23 37 56.8**	**+0.6**
KFL	**Anninata**	**7.51**	**299**	P		**Pn**	**23 37 56.8**	**+0.6**
VLS	**Valsamata**	**7.68**	**299**	P		**Pn**	**23 37 58.1**	**-0.5**
DSL	**Palaion Diasel**	**7.77**	**307**	P		**Pn**	**23 38 00.0**	**+0.1**
DSL	**Palaion Diasel**	**7.77**	**307**	P		**Pn**	**23 37 60.0**	**+0.1**
VAE	**Valguarnera**	**12.21**	**287**	Sn		Sn	23 41 03.8	-12
	comp=N,0.9nm,0.3s,baz=37,slow=5.1,SNR=3.2							
VYHS	**Vyhne**	**15.72**	**334**	*eP*		**P**	**23 39 51.9**	**+0.3**
VRAC	**Vranov**	**17.23**	**331**	Pn		**P**	**23 40 08.0**	**-0.3**
	comp=N,0.1nm,0.3s,baz=144,slow=11,SNR=5.4							
GERES	**GERESS Array B**	**18.13**	**326**	P		**Pn**	**23 40 17.5**	**-0.7**
	comp=N,0.1nm,0.3s,baz=134,slow=13,SNR=11							
ESDC	**Sonseca Array**	**26.71**	**290**	P		**P**	**23 41 45.6**	**+0.3**
	comp=N,0.3nm,0.5s,baz=84,slow=10,SNR=5.6							
FINES	**FINESS Array B**	**26.79**	**357**	P		**P**	**23 41 44.5**	**-1.1**
	comp=N,1.0nm,0.8s,baz=192,slow=13,SNR=2.4							
HFS	**Hagfors**	**27.32**	**343**	P		**P**	**23 41 49.7**	**-0.7**
	comp=N,1.6nm,0.8s,baz=154,slow=14,SNR=3.5							
TORD	**Torodi Ar. Bea**	**32.84**	**236**	P		**P**	**23 42 40.9**	**+1.2**
	comp=N,0.5nm,0.7s,baz=37,slow=9.7,SNR=5.3							
MKAR	**Makanchi Array**	**41.29**	**56**	P		**P**	**23 43 50.0**	**-1.2**
	comp=N,0.1nm,0.5s,baz=277,slow=11,SNR=2.5							

*ISK **14** 23:44:51.8, 34˚.72N×29˚.05E, h32km, ML3.2*
*ISCJB **14** 23:44:52.1±0.4, 34˚.75N±0˚.04×29˚.08E±0˚.02, h78km±13km, Error ellipse: s-maj=6.4km s-min=2.8km az=175.1*
*ATH **14** 23:44:52.2, 34˚.94N×28˚.92E, h19km±2km, ML3.1/9, Error ellipse: s-maj=3.3km s-min=0.9km az=76.0*
*CSEM **14** 23:44:53.4±0.2, 34˚.72N×29˚.10E, h40km, ML3.1, Error ellipse: s-maj=7.1km s-min=3.1km az=174.0*
*NIC **14** 23:44:55.3±0.2, 35˚.01N×29˚.33E, h50km, mb4.2, ML3.8*
*DDA **14** 23:45:08.7, 34˚.56N×28˚.96E, h51km, Md3.7*

ISC 14 23:44:53.4±1.2, **34.74N**±0˚.05×**29.09E**±0˚.02, **h49**km±45km, **n138**, σ1§**23**/181, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.46**	**16**	P		**Pn**	**23 45 16.6**		**-0.8**
KSL				S		**Sn**	**23 45 36.0**		**+0.7**
KSL				AML	AML		23 45 36.2		
	comp=N,227μm,0.6s								
KSL				AML	AML		23 46 10.1		
	comp=E,282μm,0.9s								
AKAS	**Kas**	**1.54**	**16**	P		**Pn**	**23 45 18.0**		**-0.6**
AKAS				S		**Sn**	**23 45 38.6**		**+1.0**
AKAS	**Kas**	**1.54**	**16**	*i* P		**Pn**	**23 45 18.0**		**-0.6**
AKAS				*i* S		**Sn**	**23 45 38.6**		**+1.0**
ARG	**Arkhangelos**	**1.67**	**332**	P		**Pn**	**23 45 19.6**		**-0.6**
ARG				S		**Sn**	**23 45 40.1**		**-0.3**
KARP	**Karpathos**	**1.77**	**297**	*e*PN		**Pn**	**23 45 20.9**		**-0.8**
KARP				*e*SN		**Sn**	**23 45 41.9**		**-1.1**
KARP	**Karpathos**	**1.77**	**297**	*e*Pn		**Pn**	**23 45 20.9**		**-0.8**
KARP	**Karpathos**	**1.77**	**297**	P		**Pn**	**23 45 22.5**		**+0.9**
KARP				*e*Sn		**Sn**	**23 45 41.9**		**-1.1**
KARP				S		**Sn**	**23 45 44.0**		**+1.0**
KARP	**Karpathos**	**1.77**	**297**	P		**Pn**	**23 45 22.6**		**+0.9**
KARP				S		**Sn**	**23 45 44.0**		**+1.0**
FETY	**Fethiye**	**1.89**	**360**	*e*PN		**Pn**	**23 45 22.8**		**-0.5**
FETY				*e*SN		**Sn**	**23 45 45.0**		**-0.8**
FETY	**Fethiye**	**1.89**	**360**	*e*Pn		**Pn**	**23 45 22.8**		**-0.5**
FETY				*e*Sn		**Sn**	**23 45 45.0**		**-0.8**
DALY	**Dalyan (Mu¨la**	**2.10**	**350**	*e*PN		**Pn**	**23 45 25.5**		**-0.6**
DALY	**Dalyan (Mu¨la**	**2.10**	**350**	*e*Pn		**Pn**	**23 45 25.5**		**-0.6**
ELL	**Elmali**	**2.11**	**18**	*e*PN		**Pn**	**23 45 26.8**		**+0.4**
ELL	**Elmali**	**2.11**	**18**	*e*Pn		**Pn**	**23 45 26.8**		**+0.4**
TURN	**Turunc**	**2.16**	**350**	*i* P		**Pn**	**23 45 26.0**		**-0.9**
TURN				*i* S		**Sn**	**23 45 51.0**		**-1.6**
ZKR	**Zakros**	**2.39**	**280**	P		**Pn**	**23 45 29.6**		**-0.5**
ZKR				S		**Sn**	**23 45 59.9**		**+1.7**
ZKR	**Zakros**	**2.39**	**280**	P		**Pn**	**23 45 29.6**		**-0.5**
ZKR				AML	AML		23 45 59.1		
	comp=E,265μm,0.6s								
ZKR				AML	AML		23 45 59.6		
	comp=N,318μm,0.6s								
ZKR				S		**Sn**	**23 45 59.9**		**+1.7**
NIS1	**Nisyros Isl.**	**2.42**	**321**	P		**Pn**	**23 45 31.2**		**+0.7**
NIS1	**Nisyros Isl.**	**2.42**	**321**	P		**Pn**	**23 45 31.2**		**+0.7**
GLHS	**Glhisar (BURDU**	**2.43**	**8**	*e*PN		**Pn**	**23 45 31.5**		**+0.7**
GLHS	**Glhisar (BURDU**	**2.43**	**8**	*e*Pn		**Pn**	**23 45 31.5**		**+0.7**
KORT	**Korkueli**	**2.48**	**24**	P		**Pn**	**23 45 32.1**		**+0.7**
KORT				S		**Sn**	**23 46 02.3**		**+1.9**
KORT	**Korkueli**	**2.48**	**24**	*i* P		**Pn**	**23 45 32.1**		**+0.7**
KORT				*i* S		**Sn**	**23 46 02.3**		**+1.9**
YER	**Yerkesik**	**2.48**	**345**	*e*PN		**Pn**	**23 45 31.8**		**+0.5**
YER	**Yerkesik**	**2.48**	**345**	*e*Pn		**Pn**	**23 45 31.8**		**+0.5**
ANTB	**Antalya**	**2.50**	**30**	*e*PN		**Pn**	**23 45 32.7**		**+1.2**
ANTB	**Antalya**	**2.50**	**30**	*e*Pn		**Pn**	**23 45 32.7**		**+1.2**
GOLH	**Golhisar**	**2.52**	**9**	P		**Pn**	**23 45 33.0**		**+1.1**
GOLH				S		**Sn**	**23 46 02.6**		**+1.1**
GOLH	**Golhisar**	**2.52**	**9**	*i* P		**Pn**	**23 45 33.0**		**+1.1**
GOLH				*i* S		**Sn**	**23 46 02.6**		**+1.1**
BDRM	**Kayabasi**	**2.67**	**331**	P		**Pn**	**23 45 33.0**		**-1.0**
BDRM				S		**Sn**	**23 46 03.6**		**-1.6**
BDRM	**Kayabasi**	**2.67**	**331**	*i* P		**Pn**	**23 45 33.0**		**-1.0**
BDRM				*i* S		**Sn**	**23 46 03.6**		**-1.6**
AKMC	**Akamas** baz=270	**2.68**	**83**	P		**Pn**	**23 45 33.6**		**-0.4**
AKMC	**Akamas**	**2.68**	**83**	P		**Pn**	**23 45 33.6**		**-0.4**
PPCY	**Paphos** baz=273	**2.68**	**86**	P		**Pn**	**23 45 33.6**		**-0.4**
PPCY	**Paphos**	**2.68**	**86**	P		**Pn**	**23 45 33.6**		**-0.4**
BODT	**Bodrum**	**2.73**	**329**	*e*PN		**Pn**	**23 45 34.3**		**-0.4**
BODT	**Bodrum**	**2.73**	**329**	*e*Pn		**Pn**	**23 45 34.3**		**-0.4**
NPS	**Neapolis**	**2.90**	**281**	P		**Pn**	**23 45 39.2**		**+2.1**
NPS				S		**Sn**	**23 46 10.9**		**+0.1**
NPS	**Neapolis**	**2.90**	**281**	P		**Pn**	**23 45 39.2**		**+2.1**
NPS				S		**Sn**	**23 46 10.9**		**+0.1**
NPS				AML	AML		23 46 11.8		
	comp=N,169μm,0.6s								
NPS				AML	AML		23 46 12.8		
	comp=E,201μm,0.4s								
ALFC	**Alefka** baz=267	**2.91**	**81**	P		**Pn**	**23 45 36.7**		**-0.6**
ALFC				S		**Sn**	**23 46 08.5**		**-2.5**
ALFC	**Alefka**	**2.91**	**81**	P		**Pn**	**23 45 36.7**		**-0.6**
ALFC				S		**Sn**	**23 46 08.5**		**-2.5**
BCK	**Bucak**	**2.97**	**24**	*e*PN		**Pn**	**23 45 39.0**		**+0.9**
BCK	**Bucak**	**2.97**	**24**	*e*Pn		**Pn**	**23 45 39.0**		**+0.9**
LAST	**Lasithi**	**3.00**	**279**	P		**Pn**	**23 45 39.1**		**+0.6**
LAST				S		**Sn**	**23 46 12.9**		**-0.3**
LAST	**Lasithi**	**3.00**	**279**	P		**Pn**	**23 45 39.1**		**+0.6**
GAZI	**Gazipasa**	**3.02**	**60**	P		**Pn**	**23 45 37.5**		**-1.3**
GAZI				S		**Sn**	**23 46 11.9**		**-1.9**
GAZI	**Gazipasa**	**3.02**	**60**	*i* P		**Pn**	**23 45 37.5**		**-1.3**
GAZI				*i* S		**Sn**	**23 46 11.9**		**-1.9**
SZAC	**Souni** baz=275	**3.12**	**89**	P		**Pn**	**23 45 39.6**		**-0.5**
SZAC				S		**Sn**	**23 46 15.1**		**-1.1**
SZAC	**Souni**	**3.12**	**89**	P		**Pn**	**23 45 39.6**		**-0.5**
SZAC				S		**Sn**	**23 46 15.1**		**-1.1**
SUTC	**Sutluce-Ispart**	**3.13**	**29**	*e*PN		**Pn**	**23 45 41.8**		**+1.4**
SUTC	**Sutluce-Ispart**	**3.13**	**29**	*e*Pn		**Pn**	**23 45 41.8**		**+1.4**
LEF	**Lefka**	**3.15**	**82**	*e*PN		**Pn**	**23 45 39.9**		**-0.5**
LEF	**Lefka**	**3.15**	**82**	*e*Pn		**Pn**	**23 45 39.9**		**-0.5**
AYDB	**Zeytinkoy-Aydi**	**3.34**	**344**	*e*PN		**Pn**	**23 45 42.8**		**-0.4**
AYDB	**Zeytinkoy-Aydi**	**3.34**	**344**	*e*Pn		**Pn**	**23 45 42.8**		**-0.4**
SANT	**Santorini**	**3.38**	**300**	P		**Pn**	**23 45 44.3**		**+0.6**
SANT	**Santorini**	**3.38**	**300**	P		**Pn**	**23 45 44.3**		**+0.6**
SANT				S		**Sn**	**23 46 19.0**		**-3.5**
CMBO	**Columbo, Santo**	**3.46**	**301**	P		**Pn**	**23 45 44.1**		**-0.6**
CMBO	**Columbo, Santo**	**3.46**	**301**	P		**Pn**	**23 45 44.1**		**-0.6**
SMG	**Samos**	**3.48**	**329**	P		**Pn**	**23 45 43.9**		**-1.1**
SMG	**Samos**	**3.48**	**329**	P		**Pn**	**23 45 43.9**		**-1.1**
SMG				S		**Sn**	**23 46 22.7**		**-2.1**
SMG				AML	AML		23 46 25.9		
	comp=E,90μm,0.4s								
SMG				AML	AML		23 46 26.0		
	comp=N,87μm,0.3s								
THR5	**Thira Island,**	**3.48**	**300**	*e*PN		**Pn**	**23 45 44.8**		**-0.2**
THR5	**Thira Island,**	**3.48**	**300**	*e*Pn		**Pn**	**23 45 44.8**		**-0.2**
IDI	**Anoyia**	**3.49**	**280**	P		**Pn**	**23 45 46.3**		**+1.1**
IDI				S		**Sn**	**23 46 23.4**		**-1.9**
IDI	**Anoyia**	**3.49**	**280**	P		**Pn**	**23 45 46.3**		**+1.1**
IDI				S		**Sn**	**23 46 23.4**		**-1.9**
IDI				AML	AML		23 46 27.2		
	comp=E,134μm,0.4s								
IDI				AML	AML		23 46 28.1		
	comp=N,193μm,0.4s								
SIVA	**Sivas**	**3.53**	**276**	P		**Pn**	**23 45 47.0**		**+1.3**
SIVA				S		**Sn**	**23 46 28.2**		**+2.0**
SIVA	**Sivas**	**3.53**	**276**	P		**Pn**	**23 45 47.0**		**+1.3**
SIVA				S		**Sn**	**23 46 28.2**		**+2.0**
SIVA				AML	AML		23 46 28.4		
	comp=N,340μm,0.5s								
SIVA				AML	AML		23 46 31.0		
	comp=E,254μm,0.5s								
ERMK	**Ermenek**	**3.64**	**58**	P		**Pn**	**23 45 48.3**		**+0.9**
ERMK				S		**Sn**	**23 46 30.0**		**+0.8**
ERMK	**Ermenek**	**3.64**	**58**	*i* P		**Pn**	**23 45 48.3**		**+0.9**
ERMK				*i* S		**Sn**	**23 46 30.0**		**+0.8**
LFK	**Lefkose**	**3.69**	**80**	*e*PN		**Pn**	**23 45 49.0**		**+1.1**
LFK	**Lefkose**	**3.69**	**80**	*e*Pn		**Pn**	**23 45 49.0**		**+1.1**
APE	**Apeiranthos**	**3.71**	**310**	*e*PN		**Pn**	**23 45 48.9**		**+0.8**
APE	**Apeiranthos**	**3.71**	**310**	P		**Pn**	**23 45 46.8**		**-1.4**
APE	**Apeiranthos**	**3.71**	**310**	*e*Pn		**Pn**	**23 45 48.9**		**+0.8**
APE	**Apeiranthos**	**3.71**	**310**	P		**Pn**	**23 45 46.8**		**-1.4**
KULA	**Kula-Manisa**	**3.78**	**355**	*e*PN		**Pn**	**23 45 49.3**		**+0.1**
KULA	**Kula-Manisa**	**3.78**	**355**	*e*Pn		**Pn**	**23 45 49.3**		**+0.1**
IKL	**Isikli**	**4.04**	**67**	*e*PN		**Pn**	**23 45 53.0**		**+0.4**
IKL	**Isikli**	**4.04**	**67**	*e*Pn		**Pn**	**23 45 53.0**		**+0.4**
VAM	**Vamos**	**4.07**	**281**	P		**Pn**	**23 45 53.3**		**+0.3**
VAM				S		**Sn**	**23 46 38.1**		**-1.3**
GVD	**Gavdhos**	**4.12**	**273**	S		**Sn**	**23 46 39.0**		**-1.7**
GVD	**Gavdhos**	**4.12**	**273**	P		**Pn**	**23 45 56.5**		**+2.7**
GVD				S		**Sn**	**23 46 39.0**		**-1.7**
KONT	**Konya--Tatoy**	**4.14**	**39**	*e*PN		**Pn**	**23 45 55.6**		**+1.5**
KONT	**Konya--Tatoy**	**4.14**	**39**	*e*Pn		**Pn**	**23 45 55.6**		**+1.5**
IMMV	**Iera Moni Meta**	**4.25**	**281**	P		**Pn**	**23 45 56.5**		**+0.9**
IMMV				S		**Sn**	**23 46 43.9**		**0.0**
IMMV	**Iera Moni Meta**	**4.25**	**281**	P		**Pn**	**23 45 56.5**		**+0.9**
IMMV				AML	AML		23 46 43.9		
	comp=N,167μm,0.5s								
IMMV				S		**Sn**	**23 46 43.9**		**0.0**
IMMV				AML	AML		23 46 50.8		
	comp=E,193μm,0.4s								
MHLO	**Agia Marina, M**	**4.28**	**298**	P		**Pn**	**23 45 54.0**		**-2.0**
MHLO	**Agia Marina, M**	**4.28**	**298**	P		**Pn**	**23 45 54.0**		**-2.0**
MHLO				AML	AML		23 46 50.5		
	comp=E,330μm,0.4s								
MHLO				AML	AML		23 46 53.0		
	comp=N,295μm,0.8s								
LADK	**Ladik-KONYA**	**4.34**	**36**	*e*PN		**Pn**	**23 45 57.8**		**+0.8**
LADK	**Ladik-KONYA**	**4.34**	**36**	*e*Pn		**Pn**	**23 45 57.8**		**+0.8**
CHOS	**Chios island**	**4.38**	**327**	P		**Pn**	**23 45 57.7**		**+0.2**
CHOS	**Chios island**	**4.38**	**327**	P		**Pn**	**23 45 57.7**		**+0.2**
SERI	**Serifos**	**4.45**	**304**	P		**Pn**	**23 45 59.7**		**+1.4**
SERI	**Serifos**	**4.45**	**304**	P		**Pn**	**23 45 59.6**		**+1.4**
KDHN	**Kadinhani**	**4.49**	**32**	P		**Pn**	**23 45 59.5**		**+0.5**
KDHN				S		**Sn**	**23 46 48.9**		**-1.0**
KDHN	**Kadinhani**	**4.49**	**32**	*i* P		**Pn**	**23 45 59.5**		**+0.5**
KDHN				*i* S		**Sn**	**23 46 48.9**		**-1.0**
KIZT	**Kizilcal**	**4.70**	**28**	*e*PN		**Pn**	**23 46 02.8**		**+1.0**
KIZT	**Kizilcal**	**4.70**	**28**	*e*Pn		**Pn**	**23 46 02.8**		**+1.0**
TVSB	**Tavsanli**	**4.71**	**4**	*e*PN		**Pn**	**23 46 03.2**		**+1.3**
TVSB	**Tavsanli**	**4.71**	**4**	*e*Pn		**Pn**	**23 46 03.2**		**+1.3**
ANKY	**Antikythira Is**	**4.87**	**285**	P		**Pn**	**23 46 03.9**		**-0.1**
ANKY	**Antikythira Is**	**4.87**	**285**	P		**Pn**	**23 46 03.9**		**-0.1**
KYTH	**Kithira**	**5.16**	**289**	P		**Pn**	**23 46 06.5**		**-1.6**
KYTH	**Kithira**	**5.16**	**289**	P		**Pn**	**23 46 06.5**		**-1.6**
VLY	**Voula,Athens**	**5.28**	**307**	P		**Pn**	**23 46 10.8**		**+1.0**
VLY	**Voula,Athens**	**5.28**	**307**	P		**Pn**	**23 46 10.8**		**+1.0**
PTL	**Penteli**	**5.35**	**310**	P		**Pn**	**23 46 11.2**		**+0.5**
PTL	**Penteli**	**5.35**	**310**	P		**Pn**	**23 46 11.2**		**+0.5**
VLI	**Veliai**	**5.38**	**293**	P		**Pn**	**23 46 09.1**		**-2.0**
VLI	**Veliai**	**5.38**	**293**	P		**Pn**	**23 46 09.1**		**-2.0**
VLI				AML	AML		23 47 09.9		
	comp=E,108μm,0.6s								
VLI				AML	AML		23 47 10.7		
	comp=N,122μm,0.7s								
DID	**Didima**	**5.48**	**302**	P		**Pn**	**23 46 12.6**		**+0.1**
DID	**Didima**	**5.48**	**302**	P		**Pn**	**23 46 12.6**		**+0.1**
KRND	**KRANIDI**	**5.49**	**300**	P		**Pn**	**23 46 13.1**		**+0.6**
KRND	**KRANIDI**	**5.49**	**300**	P		**Pn**	**23 46 13.1**		**+0.6**
KRND				S		**Sn**	**23 47 12.1**		**-2.2**
VILL	**Villia**	**5.77**	**308**	P		**Pn**	**23 46 16.6**		**+0.1**
VIL2	**Platees**	**5.83**	**308**	P		**Pn**	**23 46 16.6**		**-0.7**
LTK	**Loutraki**	**5.92**	**305**	P		**Pn**	**23 46 20.3**		**+1.7**
LTK	**Loutraki**	**5.92**	**305**	P		**Pn**	**23 46 20.3**		**+1.7**
PROD	**Prodromos**	**6.10**	**307**	P		**Pn**	**23 46 21.7**		**+0.8**
PROD	**Prodromos**	**6.10**	**307**	P		**Pn**	**23 46 21.7**		**+0.8**
SMIA	**Simia**	**6.27**	**313**	P		**Pn**	**23 46 26.1**		**+2.8**
SMIA	**Simia**	**6.27**	**313**	P		**Pn**	**23 46 26.1**		**+2.8**
ITM	**Ithomi**	**6.30**	**295**	P		**Pn**	**23 46 22.4**		**-1.3**
ITM	**Ithomi**	**6.30**	**295**	P		**Pn**	**23 46 22.4**		**-1.3**
DSF	**Desfina**	**6.42**	**307**	P		**Pn**	**23 46 26.5**		**+1.0**
DSF	**Desfina**	**6.42**	**307**	P		**Pn**	**23 46 26.5**		**+1.0**
KLV	**Kalavryta, Ach**	**6.49**	**302**	P		**Pn**	**23 46 26.4**		**0.0**
KLV	**Kalavryta, Ach**	**6.49**	**302**	P		**Pn**	**23 46 26.4**		**0.0**
DRO	**Drossia**	**6.76**	**300**	P		**Pn**	**23 46 32.2**		**+2.1**
DRO	**Drossia**	**6.76**	**300**	P		**Pn**	**23 46 32.2**		**+2.1**
AGG	**Agios Georgios**	**6.90**	**310**	*e*PN		**Pn**	**23 46 33.1**		**+1.2**
AGG	**Agios Georgios**	**6.90**	**310**	*e*Pn		**Pn**	**23 46 33.1**		**+1.2**
AGG	**Agios Georgios**	**6.90**	**310**	P		**Pn**	**23 46 34.5**		**+2.6**
AGG	**Agios Georgios**	**6.90**	**310**	P		**Pn**	**23 46 34.5**		**+2.6**
PDO	**Prodromos**	**7.43**	**303**	P		**Pn**	**23 46 40.2**		**+1.0**
PDO	**Prodromos**	**7.43**	**303**	P		**Pn**	**23 46 40.2**		**+1.0**
DSL	**Palaion Diasel**	**7.76**	**307**	P		**Pn**	**23 46 42.5**		**-1.2**
DSL	**Palaion Diasel**	**7.76**	**307**	P		**Pn**	**23 46 42.5**		**-1.2**

*IDC **14** 23:50:52.8±1.2, 73˚.25N×7˚.20E, h0km, mb3.6/4, mb1 3.6/8, mb1mx3.3/43, mbtmp3.6/8, ML3.3/4, MS2.6/7, Ms1 2.6/7, ms1mx2.4/42, Error ellipse: s-maj=20.1km s-min=14.3km az=66.0*
*ISCJB **14** 23:50:53.2±0.7, 73˚.32N±0˚.04×7˚.8E±0˚.2, h13km, mb3.5/4, MS2.7/3, Error ellipse: s-maj=9.9km s-min=5.7km az=168.6*
*NAO **14** 23:50:53.0±2.2, 73˚.25N×7˚.16E, ML3.2*
*CSEM **14** 23:50:55.3±0.3, 73˚.33N×7˚.86E, h10km, ML2.0, Error ellipse: s-maj=9.4km s-min=3.7km az=81.0*
*BER **14** 23:50:56.5±2.7, 73˚.33N×7˚.48E, h8km±29km, ML2.0, ML3.2(NAO)*

ISC 14 23:50:54.2±0.9, **73˚.30N**±0˚.06×**7˚.57E**±0˚.08, **h13**km, **n51**, σ1§**57**/53, **mb3.5**/4, **MS2.7**/3, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**3.45**	**64**	*e*P		**Pn**	**23 51 47.5**		**0.0**
BJO	**Bjornoya** SNR=50	**3.45**	**64**	*e*P		**Pn**	**23 51 47.5**		**0.0**
HSPB	**Hornsund (broa**	**4.25**	**25**	*e*P		**Pn**	**23 51 58.3**		**-0.1**
HSPB	**Hornsund (broa** SNR=49	**4.25**	**25**	*e*P		**Pn**	**23 51 58.3**		**-0.1**
BRBA	**Barentsburg A** SNR=50	**5.06**	**16**	Pn		**Pn**	**23 52 11.8**		**+2.3**
TRO	**Tromso**	**5.16**	**130**	*e*P		**Pn**	**23 52 12.1**		**+1.2**
TRO	**Tromso** SNR=49	**5.16**	**130**	*e*P		**Pn**	**23 52 12.1**		**+1.2**
SPA0	**Spitsbergen Ar** baz=204,slow=16	**5.36**	**20**	Pn		**Pn**	**23 52 14.3**		**+0.7**
SPA0	**Spitsbergen Ar** baz=204,slow=16	**5.36**	**20**	Pn		**Pn**	**23 52 14.3**		**+0.7**
SPA0	**Spitsbergen Ar** baz=204,slow=15,SNR=50	**5.36**	**20**	Pn		**Pn**	**23 52 14.3**		**+0.7**
SPITS	**Spitsbergen Ar** baz=194,slow=16,SNR=56	**5.36**	**20**	Pn		**Pn**	**23 52 14.4**		**+0.7**
SPITS	baz=28,slow=45,SNR=1.2			Sn		**Sn**	**23 53 12.9**		**-2.2**
JMIC	**Jan Mayen** comp=Z,33nm,22.0s,baz=74,slow=32	**5.46**	**253**	LR		LR	23 53 42.2		
LOF	**Lofoten**	**5.55**	**156**	*e*P		**Pn**	**23 52 18.9**		**+2.6**
LOF	**Lofoten** SNR=49	**5.55**	**156**	*e*P		**Pn**	**23 52 18.9**		**+2.6**
HOPEN	**Hopen**	**5.56**	**47**	Pn		**Pn**	**23 52 16.9**		**+0.5**
HOPEN	**Hopen**	**5.56**	**47**	*e*P		**Pn**	**23 52 16.7**		**+0.3**
HOPEN	**Hopen**	**5.56**	**47**	Pn		**Pn**	**23 52 16.9**		**+0.5**
HAMF	**Hammerfest**	**5.66**	**110**	*e*P		**Pn**	**23 52 18.7**		**+0.9**
HAMF	**Hammerfest** SNR=49	**5.66**	**110**	*e*P		**Pn**	**23 52 18.7**		**+0.9**

	22nm,0.5s							
TDK					*e*S	**Sg**	**00 03 31.9**	**+2.1**
	89nm,0.2s							
MK31	**Makanchi Array**	**3.02**	**1**	Pn		**Pn**	**00 02 42.5**	**+0.8**
	0.3nm,0.2s,baz=207,slow=2.0,SNR=728							
MK31				⇑Pg		**Pg**	**00 02 50.2**	**-0.9**
	4.2nm,0.3s,baz=176,slow=15,SNR=44							
MK31				⇑Lg		Lg	00 03 30.9	
	69nm,0.8s,baz=181,slow=29,SNR=4.3							
MKAR	**Makanchi Array**	**3.02**	**1**	Pn		**Pn**	**00 02 42.8**	**+1.1**
	0.8nm,0.3s,baz=185,slow=15,SNR=67							
MKAR				Pg		**Pb**	**00 02 47.8**	**+0.3**
	4.3nm,0.3s,baz=185,slow=14,SNR=53							
MKAR				Sn		**Sb**	**00 03 22.3**	**-2.3**
	5.2nm,0.3s,baz=188,slow=29,SNR=7.3							
MKAR				Lg		Lg	00 03 30.5	
	9.3nm,0.3s,baz=189,slow=30,SNR=8.0							
MAKZ	**Makanchi**	**3.04**	**357**	⇑Pn		**Pn**	**00 02 43.2**	**+1.3**
	1.0nm,0.2s							
MAKZ				⇑Pg		**Pg**	**00 02 51.9**	**+0.5**
	6.2nm,0.3s							
MAKZ				⇓Lg		Lg	00 03 32.6	
	12nm,0.6s							
ARXS	**Arharly**	**3.21**	**279**	*e*P		**Pg**	**00 02 53.4**	**-1.4**
	24nm,0.2s							
ARXS				*e*S		**Sg**	**00 03 37.3**	**+1.0**
	41nm,0.5s							
KOTS	**Kotyrbulak**	**3.77**	**263**	*e*P		**Pb**	**00 03 03.0**	**+2.7**
	11nm,0.2s							
KOTS				*e*S		**Sg**	**00 03 53.6**	**-0.5**
	29nm,0.4s							
CHKK	**Chushkaly**	**3.79**	**273**	*e*P		**Pg**	**00 03 04.1**	**-1.8**
	6.0nm,0.2s							
CHKK				*e*S		**Sg**	**00 03 55.5**	**+0.6**
	51nm,0.2s							
MDOK	**Medeo**	**3.82**	**263**	*e*P		**Pg**	**00 03 04.2**	**-2.3**
	8.3nm,0.4s							
MDOK				*e*S		**Sg**	**00 03 55.5**	**-0.6**
	11nm,0.2s							
TNSS	**Tian-Shan**	**3.92**	**261**	*e*P		**Pb**	**00 03 04.4**	**+1.3**
	5.4nm,0.3s							
TNSS				*e*S		**Sg**	**00 03 56.2**	**-3.0**
	36nm,0.6s							
ZSN	**Zaisan**	**3.98**	**22**	*e*P		**Pg**	**00 03 08.7**	**-0.7**
	36nm,0.3s							
ZSN				*e*S		**Sg**	**00 04 03.4**	**+2.5**
	104nm,0.4s							
KTBS	**Karatobe**	**4.02**	**271**	*e*P		**Pg**	**00 03 10.2**	**-0.1**
	4.5nm,0.5s							
KTBS				*e*S		**Sg**	**00 04 06.0**	**+3.5**
	10nm,0.4s							
IZV	**Izvestkoviy**	**4.16**	**262**	*e*P		**Pb**	**00 03 09.0**	**+2.0**
	11nm,0.4s							
IZV				*e*S		**Sg**	**00 04 04.3**	**-2.6**
	37nm,0.7s							
KST	**Kastek**	**4.63**	**263**	*e*P		**Pg**	**00 03 20.3**	**-1.6**
	1.9nm,0.2s							
KST				*e*S		**Sg**	**00 04 23.0**	**+1.2**
	12nm,0.3s							
DGS	**Degeres**	**4.73**	**266**	*e*P		**Pg**	**00 03 20.8**	**-3.1**
	7.9nm,0.4s							
DGS				*e*S		**Sg**	**00 04 24.3**	**-0.8**
	35nm,0.2s							
TKM2	**Tokmak 2**	**4.92**	**262**	⇓Pn		**Pn**	**00 03 09.4**	**+1.5**
	2.0nm,0.6s							
TKM2				⇑Pg		**Pg**	**00 03 26.3**	**-1.1**
	6.9nm,0.8s							
TKM2				⇑Lg		Lg	00 04 30.1	
	15nm,0.6s							
AAK	**Ala-Archa**	**5.77**	**261**	Pg		**Pb**	**00 03 37.7**	**+3.2**
	0.6nm,0.3s,baz=74,slow=7.4,SNR=2.2							
AAK				Lg		Lg	00 04 49.8	
	0.5nm,0.3s,baz=310,slow=16,SNR=1.9							
AAK	**Ala-Archa**	**5.77**	**261**	⇑Pg		**Pg**	**00 03 41.5**	**-2.3**
	3.1nm,0.6s							
AAK				⇓Lg		Lg	00 04 57.8	
	7.5nm,0.6s							
SEM	**Semipalatinsk**	**6.77**	**349**	*e*P		**Pg**	**00 04 00.2**	**-2.7**
	4.1nm,0.4s							
SEM				*e*S		**Sg**	**00 05 30.7**	**+0.1**
	7.1nm,0.4s							
KURBB	**Kurchatov Arra**	**7.30**	**341**	Pn		**Pn**	**00 03 40.0**	**-0.5**
	0.2nm,0.3s,baz=162,slow=12,SNR=23							
KURBB				Lg		Lg	00 05 45.8	
	0.3nm,0.3s,baz=166,slow=32,SNR=8.2							
KURBB	**Kurchatov Arra**	**7.30**	**341**	⇓Pn		**Pn**	**00 03 39.9**	**-0.5**
	2.8nm,0.6s							
KURBB				⇓Sn		**Sn**	**00 05 02.3**	**-1.3**
	8.4nm,0.7s							
KURBB				⇓Lg		Lg	00 05 47.0	
	31nm,0.6s							
KURK	**Kurchatov**	**7.36**	**342**	⇓Pn		**Pn**	**00 03 39.9**	**-1.4**
	5.9nm,0.4s							
KURK				⇑Sn		**Sn**	**00 05 02.8**	**-2.4**
	26nm,0.7s							
KURK				⇑Lg		Lg	00 05 47.7	
	117nm,0.9s							
KK31	**Karatay Array**	**8.56**	**270**	⇑Lg		Lg	00 06 26.5	
	2.1nm,0.6s,baz=71,slow=29,SNR=4.4							
ZALV	**Zalesovo Beam**	**10.32**	**9**	Pn		**Pn**	**00 04 23.2**	**+1.3**
	0.4nm,0.3s,baz=192,slow=14,SNR=3.2							
ZALV				Lg		Lg	00 07 24.5	
	0.2nm,0.3s,baz=188,slow=28,SNR=2.4							
KBZ	**Khabaz**	**28.23**	**284**	LR		LR	00 20 45.1	
	comp=Z,18nm,19.2s,baz=140,slow=41							
TORD	**Torodi Ar. Bea**	**74.23**	**273**	P		P	00 13 26.6	-4.8
	0.3nm,0.3s,baz=45,slow=5.3,SNR=12							

IDC 15 00:28:02.1±2.3, 26°66N×144°10E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/37, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=59.3km s-min=26.4km az=70.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.76**	**285**	Pn	Pn	00 28 33.8	-0.1
	4.7nm,0.3s,baz=107,slow=19,SNR=16						
JCJ				Sn	Sn	00 28 53.7	-3.3
	12nm,0.3s,baz=24,slow=24,SNR=9.1						
MJAR	**Matsushiro Arr**	**11.05**	**334**	Pn	Pn	00 30 39.1	-2.3
	0.9nm,0.3s,baz=156,slow=14,SNR=3.7						
SONM	**Songino Array**	**36.21**	**316**	P	P	00 35 07.5	+0.7
	0.3nm,0.6s,baz=103,slow=7.9,SNR=2.7						
WRA	**Warramunga Arr**	**47.28**	**193**	P	P	00 36 37.1	-0.3
	0.6nm,0.8s,baz=9.1,slow=7.6,SNR=2.0						
BVAR	**Borovoye Array**	**59.51**	**318**	P	P	00 38 06.9	-0.2
	0.6nm,0.6s,baz=89,slow=7.7,SNR=4.4						

ISCJB 15 00:29:08.8±0.6, 39°15N±0°.04×29°.06E±0°.04, h5km±6km, Error ellipse: s-maj=7.1km s-min=3.8km az=143.0
DDA 15 00:29:08.7, 39°15N×29°.08E, h7km, Ml2.5
ISK 15 00:29:08.0, 39°.12N×29°.12E, h6km, MD2.7
CSEM 15 00:29:08.9±0.1, 39°.14N×29°.07E, h8km, ML2.5, Error ellipse: s-maj=3.2km s-min=1.9km az=140.0

ISC 15 00:29:09.1±0.9, 39°15N±0°.03×29°08E±0°.03, h11km±9km, n23, σ0°44/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.30**	**250**	P	**Pg**	**00 29 15.4**	**+0.2**
DEMI				S	**Sg**	**00 29 19.6**	**+0.3**
DEMI	**Demirci**	**0.30**	**250**	*i* P	**Pg**	**00 29 15.4**	**+0.2**
DEMI				*i* S	**Sg**	**00 29 19.6**	**+0.3**
GDZ	**Gediz**	**0.32**	**100**	P	**Pg**	**00 29 15.7**	**+0.1**
GDZ				S	**Sg**	**00 29 20.2**	**+0.3**
GDZ	**Gediz**	**0.32**	**100**	*i* P	**Pg**	**00 29 15.7**	**+0.1**
GDZ				*i* S	**Sg**	**00 29 20.2**	**+0.3**
TVSB	**Tavsanli**	**0.42**	**44**	*e*PG	**Pg**	**00 29 17.6**	**0.0**
TVSB				*e*SG	**Sg**	**00 29 22.6**	**-0.6**
TVSB	**Tavsanli**	**0.42**	**44**	*e*Pg	**Pg**	**00 29 17.6**	**0.0**
TVSB				*e*Sg	**Sg**	**00 29 22.6**	**-0.6**
KULA	**Kula-Manisa**	**0.71**	**208**	*e*PG	**Pg**	**00 29 22.0**	**-0.9**
KULA				*e*SG	**Sg**	**00 29 32.1**	**0.0**
KULA	**Kula-Manisa**	**0.71**	**208**	*e*Pg	**Pg**	**00 29 22.0**	**-0.9**
KULA				*e*Sg	**Sg**	**00 29 32.1**	**0.0**
AKS	**Akhisar**	**1.02**	**255**	*e*PG	**Pg**	**00 29 28.4**	**-0.4**
AKS	**Akhisar**	**1.02**	**255**	*e*Pg	**Pg**	**00 29 28.4**	**-0.4**
BALB	**Balikesir**	**1.05**	**298**	*e*PN	**Pg**	**00 29 29.4**	**0.0**
BALB				*e*SN	**Sn**	**00 29 45.3**	**+0.8**
BALB	**Balikesir**	**1.05**	**298**	*e*Pn	**Pg**	**00 29 29.4**	**0.0**
BALB				*e*Sn	**Sn**	**00 29 45.3**	**+0.8**
IGD	**Bursa**	**1.12**	**5**	*i* P	**Pb**	**00 29 29.4**	**-1.2**
IGD				*i* S	**Sb**	**00 29 44.6**	**-0.6**
IZI	**Iznik**	**1.23**	**14**	*e*PN	**Pn**	**00 29 32.1**	**-0.2**
IZI	**Iznik**	**1.23**	**14**	*e*Pn	**Pn**	**00 29 32.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.23**	**353**	*e*PN	**Pb**	**00 29 32.5**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.23**	**353**	*e*Pn	**Pb**	**00 29 32.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*PN	**Pg**	**00 29 33.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*Pn	**Pg**	**00 29 33.2**	**0.0**
BORA	**Eskisehir**	**1.29**	**55**	P	**Pb**	**00 29 33.6**	**+0.1**
BORA				S	**Sg**	**00 29 50.9**	**+0.1**
BORA	**Eskisehir**	**1.29**	**55**	*i* P	**Pb**	**00 29 33.6**	**+0.1**
BORA				*i* S	**Sg**	**00 29 50.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**218**	*e*PN	**Pn**	**00 29 36.2**	**-0.1**
AYDB				*e*SN	**Sb**	**00 29 57.2**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**218**	*e*Pn	**Pn**	**00 29 36.2**	**-0.1**
AYDB				*e*Sn	**Sb**	**00 29 57.2**	**+0.5**

NIED 15 00:32:00, 27°.00N×143°.90E, h8km, Mw4.1 Best double couple: Mo1.71000×10^15 NP1:φs303.00000°, δ24.00000°, λ-94.00000°. NP2:φs127.00000°, δ66.00000°, λ-88.00000°.
IDC 15 00:32:03.3±0.7, 26°.82N×144°.20E, h0km, mb3.9/16, mb1 4.1/19, mb1mx3.9/38, mbtmp3.9/19, ML3.4/3, MS2.7/4, Ms1 2.8/4, ms1mx2.5/51, Error ellipse: s-maj=18.6km s-min=17.6km az=62.0
NEIC 15 00:32:04.5±0.3, 26°.82N×144°.25E, h10km, mb4.7/18, Error ellipse: s-maj=7.3km s-min=6.6km az=47.0
ISCJB 15 00:32:06.3±0.4, 26°.83N±0°.05×144°.13E±0°.04, h33km, mb4.4/35, MS3.1/1, Error ellipse: s-maj=7.8km s-min=5.3km az=4.4
JMA 15 00:32:07.1±0.1, 26°.95N×143°.88E, h117km, M3.7

ISC 15 00:32:08.3±0.6, 26°92N±0°.08×144°13E±0°.06, h35km, n61, σ1°39/64, mb4.2/35, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.75**	**276**	P	**Pn**	**00 32 34.9**	**-1.2**
CBIJ				*e*S	**Sn**	**00 32 55.9**	**-1.3**
CBIJ	**Chichi jima**	**1.75**	**276**	*e*Pn	**Pn**	**00 32 35.0**	**-1.2**
CBIJ				*e*Sn	**Sn**	**00 32 55.0**	**-2.1**
JCJ	**Chichijima**	**1.75**	**276**	Pn	**Pn**	**00 32 35.0**	**-1.1**
	35nm,0.3s,baz=74,slow=20,SNR=15						
JCJ				Sn	**Sn**	**00 32 55.0**	**-2.1**
	119nm,0.3s,baz=37,slow=20,SNR=27						
JHHJ	**Haha-jima-NKT**	**1.77**	**261**	P	**Pn**	**00 32 35.3**	**-1.1**
BSO1	**Boso 1**	**8.18**	**341**	P	**Pn**	**00 34 03.9**	**0.0**
BSO1				S	**Sn**	**00 35 31.3**	**-3.5**
MJAR	**Matsushiro Arr**	**10.84**	**334**	Pn	**Pn**	**00 34 40.1**	**-0.8**
	1.0nm,0.3s,baz=154,slow=11,SNR=7.4						
MJAR				LR	LR	00 38 43.9	
	comp=Z,21nm,22.0s,baz=140,slow=37						
JNU	**Nakatsue**	**13.04**	**301**	LR	LR	00 40 07.9	
	comp=Z,32nm,19.1s,baz=122,slow=37						
KSRS	**Korea Array**	**17.26**	**312**	Pn	**P**	**00 36 08.4**	**+0.7**
	0.2nm,0.3s,baz=119,slow=12,SNR=5.8						
KSRS				LR	LR	00 42 40.6	
	comp=Z,30nm,18.7s,baz=290,slow=37						
KS15	**Wonju Array Si**	**17.28**	**311**	*e*Pn	**P**	**00 36 08.4**	**+0.5**
KSAR	**Wonju Array Be**	**17.28**	**311**	Pn	**P**	**00 36 08.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**19.84**	**334**	P	**Pn**	**00 36 38.0**	**+0.3**
	0.2nm,0.3s,baz=153,slow=9.7,SNR=7.6						
KLR	**Kul'dur**	**24.25**	**340**	P	**P**	**00 37 23.3**	**+1.4**
	2.7nm,1.0s,baz=146,slow=7.7,SNR=8.2						
PEA0	**Petropavlovsk-**	**28.05**	**18**	*e*P	**P**	**00 37 54.0**	**-2.1**
HIA	**Hailar**	**29.20**	**326**	*e*P	**P**	**00 38 05.9**	**-0.5**
	11nm,0.4s						
SMY	**Shemya**	**34.12**	**33**	*e*P	**P**	**00 38 49.7**	**+0.2**
	371nm,2.0s						
ULN	**Ulaanbaatar**	**35.65**	**316**	*e*P	**P**	**00 39 04.1**	**+1.0**
	1.8nm,0.6s						
SONA1	**Songino Array**	**36.05**	**316**	*e*P	**P**	**00 39 06.3**	**-0.1**
SONA0	**Songino Array**	**36.05**	**316**	*e*P	**P**	**00 39 08.5**	**+2.1**
	5.5nm,1.3s						
SONM	**Songino Array**	**36.05**	**316**	P	**P**	**00 39 08.5**	**+2.1**
	1.4nm,0.8s,baz=115,slow=8.8,SNR=10						
TARA	**Tarawa**	**37.54**	**128**	*e*P	**P**	**00 39 17.2**	**-2.1**
	420nm,1.6s						
CHTO	**Chiang Mai**	**42.23**	**269**	*e*P	**P**	**00 39 55.3**	**-3.0**
CM31	**Chiang Mai Arr**	**42.35**	**268**	*e*P	**P**	**00 39 59.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**42.35**	**268**	P	**P**	**00 39 59.6**	**+0.3**
	0.8nm,0.3s,baz=64,slow=8.1,SNR=3.8						
CMAR				LR	LR	00 57 58.7	
	comp=Z,21nm,18.2s,baz=200,slow=37						
SPIA	**Saint Paul Isl**	**44.13**	**34**	*e*P	**P**	**00 40 11.5**	**-1.6**
	110nm,1.7s						
UNV	**Unalaska Valle**	**44.99**	**39**	*e*P	**P**	**00 40 18.3**	**-1.6**
	43nm,1.4s						
WRAB	**Tennant Creek**	**47.53**	**193**	*e*P	**P**	**00 40 41.5**	**+1.2**
	29nm,0.8s						
WB2	**Warramunga Arr**	**47.54**	**193**	*e*P	**P**	**00 40 37.8**	**-2.5**
	29nm,1.5s						
WR1	**Warramunga Arr**	**47.54**	**193**	*e*P	**P**	**00 40 39.0**	**-1.4**
	10nm,1.0s						
WRA	**Warramunga Arr**	**47.54**	**193**	P	**P**	**00 40 39.0**	**-1.4**
	1.3nm,0.5s,baz=12,slow=8.6,SNR=5.9						
ZAA1	**Zalesovo Array**	**50.76**	**319**	*e*P	**P**	**00 41 04.6**	**-0.1**
ZALV	**Zalesovo Beam**	**50.76**	**319**	P	**P**	**00 41 04.6**	**-0.1**
	0.6nm,0.4s,baz=120,slow=8.9,SNR=4.1						
AS31	**Alice Springs**	**51.25**	**192**	*e*P	**P**	**00 41 09.1**	**+0.4**
	4.4nm,1.7s						
ASAR	**Alice Springs**	**51.25**	**192**	P	**P**	**00 41 09.1**	**+0.4**
	0.3nm,0.6s,baz=17,slow=6.9,SNR=3.5						
MK01	**Makanchi Array**	**51.92**	**310**	*e*P	**P**	**00 41 15.0**	**+1.5**
MK31	**Makanchi Array**	**51.93**	**310**	*e*P	**P**	**00 41 15.7**	**+2.1**
MK32	**Makanchi Array**	**51.93**	**310**	*e*P	**P**	**00 41 15.3**	**+1.7**
MKAR	**Makanchi Array**	**51.93**	**310**	P	**P**	**00 41 15.3**	**+1.7**
	1.2nm,0.9s,baz=84,slow=11,SNR=7.8						
KURK	**Kurchatov**	**54.35**	**315**	*e*P	**P**	**00 41 31.4**	**+0.1**
	29nm,1.3s						
ILAR	**Eielson Array**	**57.04**	**28**	P	**P**	**00 41 50.5**	**+0.2**
	0.9nm,1.0s,baz=268,slow=6.0,SNR=7.8						
ILB	**Eielson Array**	**57.04**	**28**	*e*P	**P**	**00 41 50.5**	**+0.2**
DOT	**Dot Lake**	**58.17**	**30**	*e*P	**P**	**00 41 54.9**	**-3.5**
	5.7nm,0.8s						
VOSK	**Vostochnaya**	**59.02**	**317**	*e*P	**P**	**00 42 05.7**	**+1.3**
	2.1nm,0.8s						
BVAR	**Borovoye Array**	**59.35**	**318**	P	**P**	**00 42 07.8**	**+1.1**
	1.5nm,0.7s,baz=91,slow=7.9,SNR=11						
BRVK	**Borovoye**	**59.41**	**318**	*e*P	**P**	**00 42 08.3**	**+1.2**
	3.5nm,0.6s						
KKAR	**Karatay Array**	**60.60**	**306**	*e*P	**P**	**00 42 16.0**	**+0.6**
	2.9nm,0.7s						
INK	**Inuvik**	**62.47**	**25**	P	**P**	**00 42 28.7**	**+1.1**
	2.4nm,1.1s,baz=289,slow=2.8,SNR=4.3						
INK	**Inuvik**	**62.47**	**25**	*e*P	**P**	**00 42 28.7**	**+1.1**
	4.8nm,1.3s						
ABKAR	**Akbulak array**	**66.46**	**315**	*e*P	**P**	**00 42 54.7**	**+0.6**
	1.2nm,0.6s						
YKA	**Yellowknife Ar**	**71.47**	**29**	P	**P**	**00 43 25.4**	**+0.5**
	1.1nm,0.8s,baz=296,slow=5.8,SNR=4.4						
YKB5	**Yellowknife Ar**	**71.47**	**29**	*e*P	**P**	**00 43 25.4**	**+0.5**
FIA0	**FINESS Array S**	**78.87**	**334**	*e*P	**P**	**00 44 08.4**	**+0.9**
FINES	**FINESS Array B**	**78.87**	**334**	P	**P**	**00 44 08.4**	**+0.9**
	0.5nm,0.7s,baz=72,slow=4.5,SNR=4.0						
KBZ	**Khabaz**	**79.40**	**314**	P	**P**	**00 44 12.7**	**+2.0**
	2.5nm,0.8s,baz=122,slow=1.3,SNR=5.5						
DUG	**Dugway, Tooele**	**82.24**	**49**	*e*P	**P**	**00 44 26.8**	**+0.6**
	1.9nm,0.6s						
PD31	**Pinedale Array**	**83.11**	**45**	*e*P	**P**	**00 44 31.5**	**+0.6**
PDAR	**Pinedale Array**	**83.11**	**45**	P	**P**	**00 44 31.5**	**+0.6**
	0.5nm,0.6s,baz=261,slow=6.8,SNR=4.5						
AKASG	**Malin Array Be**	**83.78**	**325**	P	**P**	**00 44 34.1**	**+0.3**
	0.6nm,0.4s,baz=55,slow=6.8,SNR=5.2						
AKBB	**Malin Array Si**	**83.78**	**325**	*e*P	**P**	**00 44 34.1**	**+0.3**
	7.2nm,0.9s						
LTX	**Lajitas**	**94.31**	**54**	*e*P	**P**	**00 45 25.1**	**+0.5**
TXAR	**Lajitas Array**	**94.31**	**54**	P	**P**	**00 45 25.1**	**+0.5**
	0.4nm,0.7s,baz=289,slow=3.8,SNR=5.3						
LPAZ	**La Paz**	**148.28**	**77**	PKPbc	**PKPbc**	**00 51 53.1**	**+0.9**
	4.3nm,0.9s,baz=321,slow=3.6,SNR=17						

DDA 15 00:39:16.7, 37°.87N×29°.27E, h7km, Ml1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.26**	**225**	*i* P	Pb	00 39 23.4	-0.3
DNZL				*i* S	Sg	00 39 25.8	+0.5

ISCJB 15 00:53:44.9±0.4, 36°.97N±0°.02×28°.24E±0°.02, h2km±5km, Error ellipse: s-maj=4.0km s-min=3.3km az=8.2
DDA 15 00:53:44.7, 37°.00N×28°.14E, h7km, Ml3.0
THE 15 00:53:44.2, 36°.96N×28°.24E, h0km±1km, ML2.5/1, Error ellipse: s-maj=1.3km s-min=0.7km az=238.0
ISK 15 00:53:45.1, 36°.98N×28°.25E, h7km, ML2.9
CSEM 15 00:53:45.4±0.1, 36°.97N×28°.23E, h5km, ML2.9, Error ellipse: s-maj=3.5km s-min=2.7km az=13.0

ISC 15 00:53:45.3±1.1, 36°97N±0°.02×28°23E±0°.02, h2km±9km, n50, σ1°22/82, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.17**	**14**	PG	**Pg**	**00 53 48.3**	**-0.4**
YER				SG	**Sg**	**00 53 51.4**	**+0.5**
YER	**Yerkesik**	**0.17**	**14**	P	**Pg**	**00 53 48.2**	**-0.4**
YER				S	**Sg**	**00 53 51.6**	**+0.7**
YER	**Yerkesik**	**0.17**	**14**	*i* Pg	**Pg**	**00 53 48.3**	**-0.4**
YER				S	**Sg**	**00 53 51.6**	**+0.7**
TURN	**Turunc**	**0.31**	**108**	*i* P	**Pg**	**00 53 49.1**	**-2.3**
TURN				*i* S	**Sg**	**00 53 52.6**	**-2.8**
DALY	**Dalyan (Mu¨la**	**0.37**	**114**	*e*PG	**Pg**	**00 53 52.0**	**-0.5**
DALY				*e*SG	**Sg**	**00 53 58.3**	**+1.0**
DALY	**Dalyan (Mu¨la**	**0.37**	**114**	*e*Pg	**Pg**	**00 53 52.0**	**-0.5**
DALY				*e*Sg	**Sg**	**00 53 58.3**	**+1.0**
BDRM	**Kayabasi**	**0.64**	**279**	P	**Pg**	**00 53 57.0**	**-0.5**
BDRM				S	**Sb**	**00 54 07.5**	**-1.0**
BDRM	**Kayabasi**	**0.64**	**279**	*i* P	**Pg**	**00 53 57.0**	**-0.5**
BDRM				*i* S	**Sb**	**00 54 07.5**	**-1.0**
BODT	**Bodrum**	**0.74**	**277**	*e*PG	**Pg**	**00 53 59.9**	**+0.3**
BODT				*e*SG	**Sb**	**00 54 11.4**	**-0.1**
BODT	**Bodrum**	**0.74**	**277**	P	**Pg**	**00 53 58.8**	**-0.8**
BODT				S	**Sb**	**00 54 10.9**	**-0.7**
BODT	**Bodrum**	**0.74**	**277**	P	**Pg**	**00 53 58.8**	**-0.8**
BODT	**Bodrum**	**0.74**	**277**	*e*Pg	**Pg**	**00 53 59.9**	**+0.3**
BODT				S	**Sb**	**00 54 10.9**	**-0.7**
ARG	**Arkhangelos**	**0.76**	**186**	P	**Pg**	**00 53 59.3**	**-0.5**
ARG				S	**Sg**	**00 54 10.8**	**+1.1**
ARG	**Arkhangelos**	**0.76**	**186**	P	**Pg**	**00 53 59.3**	**-0.5**
ARG				S	**Sg**	**00 54 10.8**	**+1.1**
FETY	**Fethiye**	**0.76**	**116**	*e*PG	**Pg**	**00 53 59.6**	**-0.3**
FETY				*e*SG	**Sb**	**00 54 11.7**	**-0.4**
FETY	**Fethiye**	**0.76**	**116**	P	**Pg**	**00 53 59.0**	**-0.9**
FETY				S	**Sb**	**00 54 10.9**	**-1.2**
FETY	**Fethiye**	**0.76**	**116**	P	**Pg**	**00 53 59.0**	**-0.9**
FETY	**Fethiye**	**0.76**	**116**	*e*Pg	**Pg**	**00 53 59.7**	**-0.3**
FETY				S	**Sb**	**00 54 10.9**	**-1.2**
FETY				*e*Sg	**Sb**	**00 54 11.7**	**-0.4**
NIS1	**Nisyros Isl.**	**0.92**	**247**	*e*PG	**Pb**	**00 54 03.7**	**-0.3**
NIS1	**Nisyros Isl.**	**0.92**	**247**	P	**Pg**	**00 54 02.6**	**-0.4**
NIS1	**Nisyros Isl.**	**0.92**	**247**	*e*Pg	**Pb**	**00 54 03.7**	**-0.3**
DNZL	**Cakiroluk**	**0.97**	**42**	P	**Pg**	**00 54 03.5**	**-0.4**
DNZL				S	**Sb**	**00 54 17.5**	**-0.8**
DNZL	**Cakiroluk**	**0.97**	**42**	*i* P	**Pg**	**00 54 03.5**	**-0.4**
DNZL				*i* S	**Sb**	**00 54 17.5**	**-0.8**
DENT	**Denizli**	**1.01**	**39**	*e*PG	**Pg**	**00 54 04.8**	**+0.1**
DENT				*e*SG	**Sb**	**00 54 18.8**	**-0.5**
DENT	**Denizli**	**1.01**	**39**	*e*Pg	**Pg**	**00 54 04.8**	**+0.1**
DENT				*e*Sg	**Sb**	**00 54 18.8**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**345**	*e*PG	**Pb**	**00 54 05.3**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**345**	*e*Pg	**Pb**	**00 54 05.3**	**-0.4**
GLHS	**Glhisar (BURDU**	**1.03**	**79**	*e*PG	**Pg**	**00 54 05.2**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.03**	**79**	*e*Pg	**Pg**	**00 54 05.2**	**+0.1**
GCAM	**G?zelcaml?**	**1.08**	**313**	P	**Pg**	**00 54 05.7**	**-0.3**
GCAM				S	**Sn**	**00 54 22.7**	**-0.2**
GCAM	**G?zelcaml?**	**1.08**	**313**	*i* P	**Pg**	**00 54 05.7**	**-0.3**
GCAM				*i* S	**Sn**	**00 54 22.7**	**-0.2**
GOLH	**Golhisar**	**1.10**	**76**	P	**Pb**	**00 54 07.1**	**0.0**
GOLH	**Golhisar**	**1.10**	**76**	*e*P	**Pb**	**00 54 07.1**	**0.0**
GOLH				*i* S	**Sn**	**00 54 26.3**	**+2.8**
AKAS	**Kas**	**1.33**	**123**	P	**Pg**	**00 54 10.6**	**-0.2**
AKAS	**Kas**	**1.33**	**123**	*i* P	**Pg**	**00 54 10.6**	**-0.2**
AKAS				*i* S	**Sn**	**00 54 33.0**	**+3.7**
SMG	**Samos**	**1.33**	**304**	P

GRG					AML	AML	01 00 26.5		
	comp=E,125μm,0.2s								
THE	**Thessaloniki**	**0.40**	**91**	P	Pb		01 00 19.7	-0.2	
THE				S	Sb		01 00 26.8	+1.1	
THE	**Thessaloniki**	**0.40**	**91**	P	Pg		01 00 19.0	-0.5	
THE				S	Sb		01 00 25.9	+0.2	
THE				AML	AML		01 00 26.3		
	comp=N,67μm,0.2s								
THE				AML	AML		01 00 26.9		
	comp=E,39μm,0.2s								
THE	**Thessaloniki**	**0.40**	**91**	P	Pg		01 00 19.7	+0.2	
THE				AML	AML		01 00 26.3		
	comp=N,67μm,0.2s								
THE				S	Sb		01 00 26.8	+1.1	
THE				AML	AML		01 00 29.6		
	comp=E,33μm,0.3s								
HORT	**Hortiatis**	**0.50**	**95**	P	Pb		01 00 21.9	+0.1	
HORT				S	Sg		01 00 27.2	-1.0	
HORT	**Hortiatis**	**0.50**	**95**	P	Pb		01 00 21.7	-0.1	
HORT				S	Sb		01 00 28.7	-0.1	
HORT				AML	AML		01 00 30.4		
	comp=E,43μm,0.2s								
HORT				AML	AML		01 00 30.9		
	comp=N,42μm,0.2s								
HORT	**Hortiatis**	**0.50**	**95**	P	Pb		01 00 21.9	+0.2	
HORT				S	Sg		01 00 27.2	-1.0	
HORT				AML	AML		01 00 31.1		
	comp=N,34μm,0.2s								
HORT				AML	AML		01 00 32.5		
	comp=E,30μm,0.2s								
LIT	**Litokhoron**	**0.54**	**176**	P	Pg		01 00 21.8	-0.4	
LIT				S	Sb		01 00 30.2	+0.3	
LIT	**Litokhoron**	**0.54**	**176**	P	Pg		01 00 22.0	-0.1	
LIT				S	Sg		01 00 28.5	-0.9	
LIT				AML	AML		01 00 31.5		
	comp=N,58μm,0.2s								
LIT				AML	AML		01 00 31.9		
	comp=E,76μm,0.3s								
LIT	**Litokhoron**	**0.54**	**176**	P	Pg		01 00 21.8	-0.4	
LIT				S	Sb		01 00 30.2	+0.3	
LIT				AML	AML		01 00 30.4		
	comp=E,71μm,0.3s								
LIT				AML	AML		01 00 31.5		
	comp=N,58μm,0.2s								
KZN	**Kozani**	**0.61**	**237**	P	Pg		01 00 22.5	-1.0	
KZN				S	Sg		01 00 31.0	-0.7	
SOH	**Sokhos**	**0.71**	**75**	P	Pb		01 00 25.7	+0.3	
SOH				S	Sg		01 00 34.1	-0.8	
SOH	**Sokhos**	**0.71**	**75**	P	Pb		01 00 25.6	+0.2	
SOH				S	Sn		01 00 36.5	-0.8	
SOH				AML	AML		01 00 37.7		
	comp=N,51μm,0.3s								
SOH				AML	AML		01 00 38.1		
	comp=E,57μm,0.3s								
SOH	**Sokhos**	**0.71**	**75**	P	Pb		01 00 25.7	+0.3	
SOH				S	Sg		01 00 34.1	-0.8	
SOH				AML	AML		01 00 37.9		
	comp=E,51μm,0.3s								
SOH				AML	AML		01 00 39.7		
	comp=N,54μm,0.5s								
PLG	**Polygyros**	**0.81**	**109**	P	Pb		01 00 26.7	-0.3	
PLG				S	Sb		01 00 37.4	-0.3	
PLG	**Polygyros**	**0.81**	**109**	P	Pb		01 00 26.3	-0.7	
PLG				S	Sb		01 00 37.3	-0.4	
PLG				AML	AML		01 00 40.7		
	comp=E,30μm,0.3s								
PLG				AML	AML		01 00 42.8		
	comp=N,28μm,0.2s								
PLG	**Polygyros**	**0.81**	**109**	P	Pb		01 00 26.7	-0.3	
PLG				S	Sb		01 00 37.4	-0.2	
PLG				AML	AML		01 00 40.7		
	comp=E,30μm,0.3s								
PLG				AML	AML		01 00 41.4		
	comp=N,33μm,0.3s								
FNA	**Florina**	**0.82**	**280**	P	Pn		01 00 28.0	-0.2	
FNA				S	Sb		01 00 37.5	-0.6	
FNA	**Florina**	**0.82**	**280**	P	Pb		01 00 26.8	-0.4	
FNA				AML	AML		01 00 36.8		
	comp=E,15μm,0.4s								
FNA				S	Sb		01 00 37.8	-0.3	
FNA				AML	AML		01 00 41.8		
	comp=N,34μm,0.7s								
FNA	**Florina**	**0.82**	**280**	P	Pn		01 00 28.0	-0.2	
FNA				S	Sb		01 00 37.5	-0.6	
FNA				AML	AML		01 00 41.8		
	comp=N,34μm,0.7s								
FNA				AML	AML		01 00 43.8		
	comp=E,15μm,0.4s								
SRS	**Serrai**	**0.99**	**61**	P	Pn		01 00 30.5	0.0	
SRS				S	Sn		01 00 45.8	+1.6	
SRS	**Serrai**	**0.99**	**61**	P	Pg		01 00 30.9	+0.3	
SRS				S	Sn		01 00 46.0	+1.8	
SRS	**Serrai**	**0.99**	**61**	P	Pn		01 00 30.5	0.0	
SRS				S	Sn		01 00 45.8	+1.6	
SRS				AML	AML		01 00 46.0		
	comp=N,18μm,0.2s								
SRS				AML	AML		01 00 48.0		
	comp=E,19μm,0.4s								
PENT	**Pentalofos**	**1.09**	**246**	P	Pb		01 00 31.5	-0.3	
PENT				S	Sg		01 00 46.8	0.0	
PENT	**Pentalofos**	**1.09**	**246**	P	Pn		01 00 32.1	+0.1	
PENT				S	Sg		01 00 48.0	+1.2	
PENT	**Pentalofos**	**1.09**	**246**	P	Pb		01 00 31.5	-0.3	
PENT				S	Sg		01 00 46.8	0.0	
THL	**Klokotos Trika**	**1.13**	**197**	P	Pg		01 00 33.4	+0.3	
THL				S	Sg		01 00 49.1	+1.3	
OUR	**Ouranopolis**	**1.21**	**104**	P	Pg		01 00 34.3	-0.5	
OUR				S	Sn		01 00 49.7	+0.2	
OUR	**Ouranopolis**	**1.21**	**104**	P	Pg		01 00 34.5	-0.3	
OUR				S	Sg		01 00 51.6	+1.0	
OUR	**Ouranopolis**	**1.21**	**104**	P	Pg		01 00 34.3	-0.4	
OUR				S	Sn		01 00 49.7	+0.2	
NVR	**Nevrokopi**	**1.28**	**56**	P	Pn		01 00 34.5	-0.1	
NVR				S	Sg		01 00 52.5	-0.4	

*ATH **15** 01:01:02.7, 34.°94N×29.°02E, h24km±9km, ML2.7/4, Error ellipse: s-maj=12.0km s-min=1.5km az=133.0*
*ISK **15** 01:01:04.7, 34.°92N×29.°11E, h28km, MD3.4*
*CSEM **15** 01:01:04.8±0.2, 34.°81N×29.°07E, h40km, ML2.7, Error ellipse: s-maj=5.8km s-min=2.8km az=176.0*
*THE **15** 01:01:05.3, 34.°85N×29.°15E, h55km±4km, ML2.9/6, Error ellipse: s-maj=4.7km s-min=0.9km az=2.0*
*NIC **15** 01:01:07.0±0.2, 35.°14N×29.°35E, h34km, mb4.0, ML3.6*
*DDA **15** 01:01:18.2, 36.°01N×29.°09E, h30km, MI3.1*

ISC 15 01:01:04.0±2.4,**34.°80N**±0.°04×**29.°11E**±0.°02,**h31**km±21km, **n120**,σ1°**03**/168,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.40**	**16**	P		**Pn**		**01 01 27.3**	**-0.1**
KSL				S		**Sn**		**01 01 43.6**	**-1.2**
KSL	**Kastellorizon**	**1.40**	**16**	P		**Pn**		**01 01 27.3**	**-0.1**
KSL				S		**Sb**		**01 01 46.6**	**-0.5**
KSL				AML	AML			01 01 57.8	
	comp=N,115μm,0.5s								
KSL				AML	AML			01 01 58.3	
	comp=E,120μm,0.9s								
AKAS	**Kas**	**1.48**	**16**	*i* P		**Pn**		**01 01 28.8**	**+0.1**
AKAS				*i* S		**Sn**		**01 01 48.2**	**+1.1**
ARG	**Arkhangelos**	**1.62**	**331**	P		**Pn**		**01 01 29.9**	**-0.5**
ARG				S		**Sn**		**01 01 50.8**	**+0.5**
ARG	**Arkhangelos**	**1.62**	**331**	P		**Pn**		**01 01 30.0**	**-0.5**
ARG				S		**Sn**		**01 01 50.0**	**-0.3**
KARP	**Karpathos**	**1.76**	**296**	*e*PN		**Pn**		**01 01 34.2**	**+1.8**
KARP				*e*SN		**Sn**		**01 01 53.7**	**-0.1**
KARP	**Karpathos**	**1.76**	**296**	P		**Pn**		**01 01 32.7**	**+0.3**
KARP				S		**Sn**		**01 01 54.2**	**+0.4**
KARP	**Karpathos**	**1.76**	**296**	P		**Pn**		**01 01 32.7**	**+0.3**
KARP	**Karpathos**	**1.76**	**296**	*e*Pn		**Pn**		**01 01 34.2**	**+1.8**
KARP				*e*Sn		**Sn**		**01 01 53.7**	**-0.1**
KARP				S		**Sn**		**01 01 54.2**	**+0.4**
KARP	**Karpathos**	**1.76**	**296**	P		**Pn**		**01 01 33.6**	**+1.2**
FETY	**Fethiye**	**1.83**	**359**	*e*PN		**Pn**		**01 01 33.0**	**-0.3**
FETY				*e*SN		**Sn**		**01 01 53.8**	**-1.7**
FETY	**Fethiye**	**1.83**	**359**	P		**Pn**		**01 01 33.1**	**-0.2**
FETY				S		**Sn**		**01 01 55.0**	**-0.5**
FETY	**Fethiye**	**1.83**	**359**	P		**Pn**		**01 01 33.1**	**-0.2**
FETY				*e*Sn		**Sn**		**01 01 53.8**	**-1.7**
FETY				S		**Sn**		**01 01 55.0**	**-0.5**
DALY	**Dalyan (Mu¨la**	**2.05**	**350**	*e*PN		**Pn**		**01 01 36.3**	**+0.1**
DALY	**Dalyan (Mu¨la**	**2.05**	**350**	*e*Pn		**Pn**		**01 01 36.3**	**+0.1**
ELL	**Elmali**	**2.05**	**18**	*e*PN		**Pn**		**01 01 37.2**	**+0.8**
ELL	**Elmali**	**2.05**	**18**	*e*Pn		**Pn**		**01 01 37.2**	**+0.8**
TURN	**Turunc**	**2.11**	**349**	*i* P		**Pn**		**01 01 37.4**	**+0.3**
TURN				*i* S		**Sn**		**01 02 02.2**	**0.0**
GLHS	**Glhisar (BURDU**	**2.37**	**7**	*e*PN		**Pn**		**01 01 41.9**	**+1.1**
GLHS	**Glhisar (BURDU**	**2.37**	**7**	*e*Pn		**Pn**		**01 01 41.9**	**+1.1**
ZKR	**Zakros**	**2.40**	**278**	P		**Pn**		**01 01 41.8**	**+0.7**
ZKR				S		**Sn**		**01 02 09.7**	**+0.3**
ZKR	**Zakros**	**2.40**	**278**	P		**Pn**		**01 01 41.8**	**+0.7**
ZKR				S		**Sn**		**01 02 09.0**	**-0.4**
ZKR	**Zakros**	**2.40**	**278**	P		**Pn**		**01 01 42.1**	**+1.0**
ZKR				S		**Sn**		**01 02 09.0**	**-0.4**
ZKR				AML	AML			01 02 12.3	
	comp=E,213μm,0.5s								
ZKR				AML	AML			01 02 12.6	
	comp=N,240μm,0.4s								
KORT	**Korkueli**	**2.42**	**24**	*i* P		**Pn**		**01 01 42.2**	**+0.8**
KORT				*i* S		**Sn**		**01 02 13.4**	**+3.4**
YER	**Yerkesik**	**2.42**	**344**	*e*PN		**Pn**		**01 01 42.5**	**+1.0**
YER	**Yerkesik**	**2.42**	**344**	P		**Pn**		**01 01 42.0**	**+0.5**
YER	**Yerkesik**	**2.42**	**344**	P		**Pn**		**01 01 42.0**	**+0.5**
YER	**Yerkesik**	**2.42**	**344**	*e*Pn		**Pn**		**01 01 42.5**	**+1.0**
ANTB	**Antalya**	**2.44**	**30**	*e*PN		**Pn**		**01 01 42.5**	**+0.8**
ANTB	**Antalya**	**2.44**	**30**	*e*Pn		**Pn**		**01 01 42.5**	**+0.8**
GOLH	**Golhisar**	**2.46**	**8**	*i* P		**Pn**		**01 01 43.5**	**+1.4**
GOLH				*i* S		**Sn**		**01 02 13.0**	**+1.9**
BDRM	**Kayabasi**	**2.63**	**330**	*i* P		**Pn**		**01 01 44.3**	**0.0**
BDRM				*i* S		**Sn**		**01 02 12.7**	**-2.5**
AKMC	**Akamas** baz=273	**2.66**	**84**	P		**Pn**		**01 01 44.7**	**+0.1**
AKMC	**Akamas**	**2.66**	**84**	P		**Pn**		**01 01 44.7**	**+0.1**
PPCY	**Paphos** baz=276	**2.66**	**87**	P		**Pn**		**01 01 44.8**	**+0.1**
PPCY	**Paphos**	**2.66**	**87**	P		**Pn**		**01 01 44.8**	**+0.1**
BODT	**Bodrum**	**2.69**	**328**	*e*PN		**Pn**		**01 01 45.0**	**-0.1**
BODT				*e*SN		**Sn**		**01 02 15.8**	**-0.8**
BODT	**Bodrum**	**2.69**	**328**	P		**Pn**		**01 01 44.4**	**-0.7**
BODT	**Bodrum**	**2.69**	**328**	P		**Pn**		**01 01 44.4**	**-0.7**
BODT	**Bodrum**	**2.69**	**328**	*e*Pn		**Pn**		**01 01 45.0**	**-0.1**
BODT				*e*Sn		**Sn**		**01 02 15.8**	**-0.8**
DNZL	**Cakiroluk**	**2.88**	**359**	*i* P		**Pn**		**01 01 48.3**	**+0.4**
DNZL				*i* S		**Sn**		**01 02 21.9**	**+0.2**
ALFC	**Alefka** baz=270	**2.89**	**82**	P		**Pn**		**01 01 47.9**	**+0.1**
ALFC				S		**Sn**		**01 02 19.9**	**-1.6**
ALFC	**Alefka**	**2.89**	**82**	P		**Pn**		**01 01 47.9**	**+0.1**
ALFC				S		**Sn**		**01 02 19.9**	**-1.6**
NPS	**Neapolis**	**2.91**	**280**	P		**Pn**		**01 01 48.8**	**+0.7**
NPS				S		**Sn**		**01 02 21.8**	**-0.2**
NPS	**Neapolis**	**2.91**	**280**	P		**Pn**		**01 01 48.8**	**+0.7**
NPS				S		**Sn**		**01 02 21.8**	**-0.2**
NPS	**Neapolis**	**2.91**	**280**	P		**Pn**		**01 01 49.1**	**+1.0**
NPS				S		**Sn**		**01 02 22.5**	**+0.5**
NPS				AML	AML			01 02 26.9	
	comp=N,90μm,0.4s								
NPS				AML	AML			01 02 27.2	
	comp=E,208μm,0.3s								
BCK	**Bucak**	**2.91**	**24**	*e*PN		**Pn**		**01 01 49.5**	**+1.3**
BCK				*e*SN		**Sn**		**01 02 21.3**	**-0.9**
BCK	**Bucak**	**2.91**	**24**	*e*Pn		**Pn**		**01 01 49.5**	**+1.3**
BCK				*e*Sn		**Sn**		**01 02 21.3**	**-0.9**
GAZI	**Gazipasa**	**2.98**	**60**	*i* P		**Pn**		**01 01 49.1**	**0.0**
GAZI				*i* S		**Sn**		**01 02 22.4**	**-1.4**
LAST	**Lasithi**	**3.00**	**278**	P		**Pn**		**01 01 50.1**	**+0.6**
LAST				S		**Sn**		**01 02 24.7**	**+0.2**
LAST	**Lasithi**	**3.00**	**278**	P		**Pn**		**01 01 50.1**	**+0.6**
LAST				S		**Sn**		**01 02 24.7**	**+0.2**
LAST	**Lasithi**	**3.00**	**278**	P		**Pn**		**01 01 50.6**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.08**	**29**	*e*PN		**Pn**		**01 01 51.5**	**+0.9**
SUTC	**Sutluce-Ispart**	**3.08**	**29**	*e*Pn		**Pn**		**01 01 51.5**	**+0.9**
SZAC	**Souni** baz=278	**3.10**	**90**	P		**Pn**		**01 01 51.9**	**+1.1**
SZAC				S		**Sn**		**01 02 26.3**	**-0.6**
SZAC	**Souni**	**3.10**	**90**	P		**Pn**		**01 01 51.9**	**+1.1**
SZAC				S		**Sn**		**01 02 26.3**	**-0.6**
GCAM	**G?zelcaml?**	**3.27**	**333**	*i* P		**Pn**		**01 01 55.8**	**+2.8**
GCAM				*i* S		**Sn**		**01 02 30.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**3.29**	**343**	*e*PN		**Pn**		**01 01 53.8**	**+0.3**
AYDB				*e*SN		**Sn**		**01 02 31.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**3.29**	**343**	*e*Pn		**Pn**		**01 01 53.8**	**+0.3**
AYDB				*e*Sn		**Sn**		**01 02 31.1**	**-0.5**
SANT	**Santorini**	**3.36**	**299**	P		**Pn**		**01 01 53.4**	**-1.0**
SANT	**Santorini**	**3.36**	**299**	P		**Pn**		**01 01 53.4**	**-1.0**
THR6	**Thira Island,**	**3.40**	**298**	P		**Pn**		**01 01 54.7**	**-0.2**
THR6	**Thira Island,**	**3.40**	**298**	P		**Pn**		**01 01 54.7**	**-0.2**
THR2	**Thira Island,**	**3.42**	**300**	P		**Pn**		**01 01 54.8**	**-0.3**
THR2	**Thira Island,**	**3.42**	**300**	P		**Pn**		**01 01 54.8**	**-0.3**
THR3	**Thira Island,**	**3.42**	**299**	P		**Pn**		**01 01 55.4**	**+0.2**
THR3	**Thira Island,**	**3.42**	**299**	P		**Pn**		**01 01 55.4**	**+0.2**
SMG	**Samos**	**3.44**	**328**	P		**Pn**		**01 01 55.0**	**-0.4**
SMG	**Samos**	**3.44**	**328**	P		**Pn**		**01 01 55.0**	**-0.4**
SMG				S		**Sn**		**01 02 32.9**	**-2.1**
SMG	**Samos**	**3.44**	**328**	P		**Pn**		**01 01 54.6**	**-0.8**
SMG				S		**Sn**		**01 02 32.9**	**-2.1**
CMBO	**Columbo, Santo**	**3.45**	**300**	P		**Pn**		**01 01 55.1**	**-0.4**
CMBO	**Columbo, Santo**	**3.45**	**300**	P		**Pn**		**01 01 55.1**	**-0.4**
THR5	**Thira Island,**	**3.46**	**299**	P		**Pn**		**01 01 56.0**	**+0.3**
THR5	**Thira Island,**	**3.46**	**299**	P		**Pn**		**01 01 56.0**	**+0.3**
CSS	**Mathiatis**	**3.47**	**86**	P		**Pn**		**01 01 55.1**	**-0.8**
CSS	**Mathiatis**	**3.47**	**86**	P		**Pn**		**01 01 55.1**	**-0.8**
IDI	**Anoyia**	**3.50**	**279**	P		**Pn**		**01 01 56.8**	**+0.5**
IDI				S		**Sn**		**01 02 36.6**	**0.0**
IDI	**Anoyia**	**3.50**	**279**	P		**Pn**		**01 01 56.8**	**+0.5**
IDI				S		**Sn**		**01 02 36.6**	**0.0**
IDI	**Anoyia**	**3.50**	**279**	P		**Pn**		**01 01 56.8**	**+0.5**
IDI				S		**Sn**		**01 02 35.8**	**-0.8**
IDI				AML	AML			01 02 38.2	
	comp=E,131μm,0.5s								
IDI				AML	AML			01 02 38.6	
	comp=N,165μm,0.5s								
SIVA	**Sivas**	**3.54**	**275**	P		**Pn**		**01 01 56.7**	**-0.1**
SIVA				S		**Sn**		**01 02 38.2**	**+0.6**
SIVA	**Sivas**	**3.54**	**275**	P		**Pn**		**01 01 56.7**	**-0.1**
SIVA				S		**Sn**		**01 02 38.2**	**+0.6**
LFK	**Lefkose**	**3.66**	**81**	*e*PN		**Pn**		**01 02 01.1**	**+2.6**
LFK	**Lefkose**	**3.66**	**81**	*e*Pn		**Pn**		**01 02 01.1**	**+2.6**
APE	**Apeiranthos**	**3.68**	**309**	*e*PN		**Pn**		**01 01 59.7**	**+0.9**
APE	**Apeiranthos**	**3.68**	**309**	P		**Pn**		**01 01 58.2**	**-0.6**
APE	**Apeiranthos**	**3.68**	**309**	P		**Pn**		**01 01 58.2**	**-0.6**
APE	**Apeiranthos**	**3.68**	**309**	*e*Pn		**Pn**		**01 01 59.7**	**+0.9**
APE	**Apeiranthos**	**3.68**	**309**	P		**Pn**		**01 01 57.6**	**-1.2**
IKL	**Isikli**	**4.00**	**68**	*e*PN		**Pn**		**01 02 05.1**	**+2.0**
IKL	**Isikli**	**4.00**	**68**	*e*Pn		**Pn**		**01 02 05.1**	**+2.0**
VAM	**Vamos**	**4.07**	**280**	P		**Pn**		**01 02 04.6**	**+0.5**
VAM	**Vamos**	**4.07**	**280**	P		**Pn**		**01 02 04.6**	**+0.5**
VAM				S		**Sn**		**01 02 48.3**	**-2.4**
KONT	**Konya--Tatoy**	**4.09**	**39**	*e*PN		**Pn**		**01 02 06.6**	**+2.2**
KONT	**Konya--Tatoy**	**4.09**	**39**	*e*Pn		**Pn**		**01 02 06.6**	**+2.2**
GVD	**Gavdhos**	**4.13**	**272**	P		**Pn**		**01 02 05.6**	**+0.7**
GVD	**Gavdhos**	**4.13**	**272**	P		**Pn**		**01 02 05.3**	**+0.4**
GVD	**Gavdhos**	**4.13**	**272**	P		**Pn**		**01 02 05.3**	**+0.4**
IMMV	**Iera Moni Meta**	**4.26**	**280**	P		**Pn**		**01 02 07.2**	**+0.6**
IMMV	**Iera Moni Meta**	**4.26**	**280**	P		**Pn**		**01 02 06.8**	**+0.2**
IMMV	**Iera Moni Meta**	**4.26**	**280**	P		**Pn**		**01 02 06.8**	**+0.2**
MHLO	**Agia Marina, M**	**4.27**	**298**	P		**Pn**		**01 02 07.5**	**+0.7**
MHLO				S		**Sn**		**01 02 56.0**	**+0.4**
MHLO	**Agia Marina, M**	**4.27**	**298**	P		**Pn**		**01 02 07.5**	**+0.7**
MHLO				S		**Sn**		**01 02 56.0**	**+0.4**
SERI	**Serifos**	**4.43**	**303**	P		**Pn**		**01 02 09.0**	**0.0**
SERI	**Serifos**	**4.43**	**303**	P		**Pn**		**01 02 09.0**	**0.0**
KIZT	**Kizilcal**	**4.64**	**28**	*e*PN		**Pn**		**01 02 13.4**	**+1.5**
KIZT	**Kizilcal**	**4.64**	**28**	*e*Pn		**Pn**		**01 02 13.5**	**+1.5**
ANKY	**Antikythira Is**	**4.87**	**284**	P		**Pn**		**01 02 14.3**	**-0.7**
ANKY	**Antikythira Is**	**4.87**	**284**	P		**Pn**		**01 02 14.3**	**-0.7**
KYTH	**Kithira**	**5.16**	**288**	P		**Pn**		**01 02 16.8**	**-2.2**
KYTH	**Kithira**	**5.16**	**288**	P		**Pn**		**01 02 16.8**	**-2.2**
VLI	**Veliai**	**5.37**	**293**	P		**Pn**		**01 02 21.1**	**-0.9**
VLI	**Veliai**	**5.37**	**293**	P		**Pn**		**01 02 21.1**	**-0.9**
KARA	**Karaisali**	**5.41**	**61**	*e*PN		**Pn**		**01 02 24.6**	**+2.2**
KARA	**Karaisali**	**5.41**	**61**	*e*Pn		**Pn**		**01 02 24.6**	**+2.2**
VLX	**Vlachokerasia**	**6.02**	**297**	P		**Pn**		**01 02 30.8**	**-0.2**
VLX	**Vlachokerasia**	**6.02**	**297**	P		**Pn**		**01 02 30.8**	**-0.2**
ITM	**Ithomi**	**6.29**	**294**	P		**Pn**		**01 02 34.5**	**-0.1**
ITM	**Ithomi**	**6.29**	**294**	P		**Pn**		**01 02 34.5**	**-0.1**
PYL	**PYLOS**	**6.34**	**291**	P		**Pn**		**01 02 33.9**	**-1.4**
PYL	**PYLOS**	**6.34**	**291**	P		**Pn**		**01 02 33.9**	**-1.4**

*ISCJB **15** 01:03:14.7±0.2, 28.°02N±0.°03×57.°79E±0.°03, h10km, mb4.2/52, MS4.3/2, Error ellipse: s-maj=4.0km s-min=3.5km az=31.0*
*DSN **15** 01:03:16.7±19.0, 27.°86N×58.°31E, h36km, ML4.9, Error ellipse: s-maj=10.1km s-min=1.3km az=271.0*
*THR **15** 01:03:16.4±0.3, 28.°03N×57.°80E, h15km, ML4.5*
*CSEM **15** 01:03:18.9±0.1, 27.°93N×57.°80E, h30km, mb4.4/26, Error ellipse: s-maj=5.4km s-min=4.1km az=105.0*
*OMAN **15** 01:03:19.5±11.0, 27.°76N×57.°86E, h33km, Error ellipse: s-maj=7.7km s-min=1.5km az=265.0*
*IDC **15** 01:03:20.5±2.5, 27.°95N×57.°71E, h48km±25km, mb3.8/24, mb1 3.9/28, mb1mx3.8/45, mbtmp4.1/28, ML4.0/3, MS4.6/1, Ms1 4.6/1, ms1mx3.7/33, Error ellipse: s-maj=14.1km s-min=12.7km az=164.0*
*TEH **15** 01:03:22.2, 27.°91N×57.°62E, h31km, ML4.1*
*NEIC **15** 01:03:22.2, 27.°91N×57.°62E, h31km, mb4.3/31, ML4.3(THR), MN4.1(TEH), After TEH.*

ISC 15 01:03:16.1±0.4,**27.°92N**±0.°03×**57.°75E**±0.°03,**h10**km,**n209**, σ1°**66**/212,**mb4.3**/52,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**0.88**	**246**	*e*Pg		**Pn**		**01 03 36.6**	**+2.0**
NIAN	**Nian**	**0.88**	**246**	*e*Pg		**Pn**		**01 03 36.6**	**+2.0**
IBND	**Bandar-abas**	**1.17**	**246**	*e*Pg		**Pg**		**01 03 39.9**	**+1.4**
IBND				*e*Sg		**Sn**		**01 03 57.1**	**+2.6**
IBND				*e*AMB	AMB			01 04 08.7	
	comp=Z,2μm,0.2s								
IBND	**Bandar-abas**	**1.17**	**246**	*e*Pg		**Pg**		**01 03 39.9**	**+1.4**
IBND				*e*Sg		**Sn**		**01 03 57.1**	**+2.6**
KHSK	**Kohestak**	**1.31**	**208**	*e*Pn		**Pg**		**01 03 42.9**	**+1.6**
KHSK	**Kohestak**	**1.31**	**208**	*e*Pn		**Pg**		**01 03 42.9**	**+1.6**
GENO	**Geno**	**1.49**	**250**	*e*Pn		**Pg**		**01 03 45.9**	**+1.2**
GENO	**Geno**	**1.49**	**250**	*e*Pn		**Pg**		**01 03 45.9**	**+1.2**
BNDS	**Bandar-Abbas**	**1.49**	**250**	*e*Pg		**Pg**		**01 03 45.3**	**+0.6**
BNDS				AML	AML			01 04 10.9	
	comp=N,9μm,0.8s								
BNDS	**Bandar-Abbas**	**1.49**	**250**	Pg		**Pg**		**01 03 45.0**	**+0.3**
BNDS	**Bandar-Abbas**	**1.49**	**250**	Pg		**Pg**		**01 03 45.0**	**+0.3**
NGRK	**Negar Kerman**	**1.93**	**333**	*e*Pn		**Pb**		**01 03 51.3**	**-0.3**
NGRK	**Negar Kerman**	**1.93**	**333**	*e*Pn		**Pb**		**01 03 51.3**	**-0.3**
CHMN	**Cheshme madani**	**1.94**	**355**	*e*Pn		**Pb**		**01 03 52.8**	**-0.5**
KRBR	**Kerman**	**2.23**	**337**	*e*Pg		**Pb**		**01 03 55.6**	**-1.0**
KRBR				AML	AML			01 04 32.5	
	comp=N,3μm,0.6s								
KRBR				AML	AML			01 04 34.7	
	comp=E,2μm,0.2s								
KRBR	**Kerman**	**2.23**	**337**	*e*Pg		**Pb**		**01 03 57.0**	**+0.4**
KRBR	**Kerman**	**2.23**	**337**	Pg		**Pb**		**01 03 57.0**	**+0.4**
TVBK	**TV Kerman**	**2.23**	**337**	*e*Pn		**Pb**		**01 03 56.6**	**-0.1**
TVBK	**TV Kerman**	**2.23**	**337**	*e*Pn		**Pb**		**01 03 56.6**	**-0.1**
BANOM	**Banah** SNR=61	**2.37**	**213**	*e*P		**Pn**		**01 03 56.6**	**+1.5**
BANOM	**Banah** SNR=94	**2.37**	**213**	P		**Pn**		**01 03 56.9**	**+1.8**
BANOM	**Banah** SNR=61	**2.37**	**213**	P		**Pn**		**01 03 56.6**	**+1.5**
KHGB	**Koh Gabri**	**2.68**	**336**	*e*Pn		**Pb**		**01 04 04.5**	**+0.1**
ZHSF	**Zahedan**	**3.15**	**57**	Pn		**Pg**		**01 04 18.0**	**+1.6**
UOSS	**Minazif**	**3.27**	**205**	*e*Pn		**Pn**		**01 04 07.1**	**-0.4**
UOSS	**Minazif** SNR=20	**3.

GNI	Garni	16.25	322	*e*Pn		Pn	01 07 05.7	+1.1	
	comp=Z,37nm,1.3s								
GNI	Garni	16.25	322	P		P	01 07 07.7	0.0	
	SNR=11								
GNI	Garni	16.25	322	*e*Pn		Pn	01 07 05.7	+1.1	
	comp=Z,37nm,1.3s								
KKAR	Karatay Array	18.34	31	*e*P		P	01 07 32.5	+1.9	
ASF	Jabal al Asfar	18.53	288	P		P	01 07 30.2	-2.7	
	comp=Z,0.8nm,0.3s,baz=68,slow=5.8,SNR=18								
EKS2	Erkin-Say	19.64	37	*e*P		Pn	01 07 45.7	-0.6	
	comp=Z,7.7nm,0.8s								
EKS2	Erkin-Say	19.64	37	*e*P		Pn	01 07 45.7	-0.6	
	comp=Z,7.7nm,0.8s								
KBZ	Khabaz	19.79	327	P		Pn	01 07 47.8	-0.2	
	comp=Z,0.2nm,0.3s,baz=154,slow=6.6,SNR=6.8								
MMAI	Mount Meron Ar	19.90	290	P		P	01 07 48.5	+0.6	
	comp=Z,0.7nm,0.3s,baz=98,slow=12,SNR=9.3								
AAK	Ala-Archa	20.00	38	P		Pn	01 07 50.0	-0.8	
	comp=Z,1.5nm,0.4s,baz=216,slow=13,SNR=4.8								
AAK	Ala-Archa	20.00	38	*e*P		P	01 07 49.7	+0.7	
	comp=Z,2.9nm,0.6s								
AAK	Ala-Archa	20.00	38	*e*P		P	01 07 49.7	+0.7	
	comp=Z,2.9nm,0.6s								
EIL	Elat	20.05	280	P		P	01 07 50.1	+0.7	
	comp=Z,20nm,0.9s,baz=63,slow=3.7,SNR=16								
KVAR	Kislovodsk Arr	20.06	327	P		Pn	01 07 50.5	-0.8	
	comp=Z,4.5nm,0.7s,baz=177,slow=16,SNR=3.9								
KIV	Kislovodsk	20.06	327	*e*P		P	01 07 49.2	-0.4	
	comp=Z,15nm,1.0s								
KIV	Kislovodsk	20.06	327	*e*P		P	01 07 49.2	-0.4	
	comp=Z,15nm,1.0s								
TKM2	Tokmak 2	20.81	39	*e*P		Pn	01 07 59.3	-0.9	
	comp=Z,3.4nm,0.8s								
TKM2	Tokmak 2	20.81	39	*e*P		Pn	01 07 59.3	-0.9	
	comp=Z,3.4nm,0.8s								
ABKAR	Akbulak array	21.37	4	*e*P		P	01 08 03.3	-0.2	
	comp=Z,7.8nm,0.8s								
ABKAR	Akbulak array	21.37	4	*e*P		P	01 08 03.3	-0.2	
	comp=Z,7.8nm,0.8s								
CSS	Mathiatis	21.95	295	*e*P		P	01 08 09.8	-0.1	
	comp=Z,3.6nm,0.9s								
CSS	Mathiatis	21.95	295	*e*P		P	01 08 09.8	-0.1	
	comp=Z,3.6nm,0.9s								
AKTO	Aktyubinsk	22.48	0	P		P	01 08 15.9	+0.4	
	comp=Z,2.7nm,0.7s,baz=185,slow=9.0,SNR=8.8								
BRTR	Keskin Array B	23.15	307	P		P	01 08 21.9	-0.9	
	comp=Z,15nm,0.9s,baz=118,slow=9.6,SNR=75								
BR131	Keskin Array S	23.15	307	*e*P		P	01 08 22.4	-0.4	
BR131	Keskin Array S	23.15	307	*e*P		P	01 08 22.4	-0.4	
ANTO	Ankara	23.81	306	*e*P		P	01 08 29.2	0.0	
	comp=Z,16nm,1.0s								
ANTO	Ankara	23.81	306	*e*P		P	01 08 29.2	0.0	
	comp=Z,16nm,1.0s								
BR231	Keskin MP Arra	23.81	306	*e*P		P	01 08 29.2	-0.1	
BR231	Keskin MP Arra	23.81	306	*e*P		P	01 08 29.2	-0.1	
ISP	Isparta	24.83	300	*e*P		P	01 08 38.5	-0.2	
	comp=Z,16nm,0.9s								
ISP	Isparta	24.83	300	*e*P		P	01 08 38.5	-0.2	
	comp=Z,16nm,0.9s								
ZRNK	Zerenda	26.36	15	*e*P		P	01 08 52.5	+0.2	
	comp=Z,8.3nm,1.4s								
ZRNK	Zerenda	26.36	15	*e*P		P	01 08 52.5	+0.2	
	comp=Z,8.3nm,1.4s								
VOSK	Vostochnaya	26.66	18	*e*P		P	01 08 54.7	-0.3	
	comp=Z,3.9nm,1.0s								
VOSK	Vostochnaya	26.66	18	*e*P		P	01 08 54.7	-0.3	
	comp=Z,3.9nm,1.0s								
MAKZ	Makanchi	26.77	39	*e*P		P	01 08 56.3	+0.2	
	comp=Z,5.2nm,1.1s								
MAKZ	Makanchi	26.77	39	*e*P		P	01 08 56.3	+0.2	
	comp=Z,5.2nm,1.1s								
BVAR	Borovoye Array	26.77	17	P		P	01 08 55.8	-0.2	
	comp=Z,2.9nm,0.6s,baz=199,slow=7.8,SNR=22								
BRVK	Borovoye	26.78	17	*e*P		P	01 08 56.1	+0.1	
	comp=Z,11nm,1.0s								
BRVK	Borovoye	26.78	17	*e*P		P	01 08 56.1	+0.1	
	comp=Z,11nm,1.0s								
MK01	Makanchi Array	26.93	39	*e*P		P	01 08 57.5	0.0	
MK01				*ep*P		sP	01 09 05.8	+4.0	
MK01	Makanchi Array	26.93	39	*e*P		P	01 08 57.5	0.0	
MK01				*ep*P		sP	01 09 05.8	+4.0	
MK31	Makanchi Array	26.94	39	*e*P		P	01 08 58.0	+0.4	
MK31	Makanchi Array	26.94	39	*e*P		P	01 08 58.0	+0.4	
MKAR	Makanchi Array	26.94	39	P		P	01 08 57.6	0.0	
	comp=Z,2.3nm,0.8s,baz=225,slow=9.4,SNR=14								
MKAR	Makanchi Array	26.94	39	*e*P		P	01 08 58.0	+0.4	
MKAR	Makanchi Array	26.94	39	*e*P		P	01 08 58.0	+0.4	
KURBB	Kurchatov Arra	27.62	29	P		P	01 09 03.5	-0.1	
	comp=Z,1.7nm,0.8s,baz=227,slow=8.6,SNR=25								
KURK	Kurchatov	27.73	29	*e*P		P	01 09 03.7	-0.8	
	comp=Z,14nm,0.6s								
KURK	Kurchatov	27.73	29	*e*P		P	01 09 03.7	-0.8	
	comp=Z,14nm,0.6s								
SANT	Santorini	28.50	295	*e*P		P	01 09 10.9	-0.8	
	comp=Z,7.4nm,0.5s								
SANT	Santorini	28.50	295	*e*P		P	01 09 10.9	-0.8	
	comp=Z,7.4nm,0.5s								
TIRR	Tirgusor	28.65	313	*e*P		P	01 09 12.6	-0.3	
	comp=Z,20nm,1.4s								
TIRR	Tirgusor	28.65	313	*e*P		P	01 09 12.6	-0.3	
	comp=Z,20nm,1.4s								
WMQ	Urumqi	28.79	49	P		P	01 09 15.9	+1.7	
AKASG	Malin Array Be	31.36	324	P		P	01 09 35.7	-1.1	
	comp=Z,0.2nm,0.3s,baz=122,slow=8.3,SNR=4.4								
KIEV	Kiev	31.36	324	*e*P		P	01 09 36.4	-0.4	
	comp=Z,3.7nm,0.8s								
KIEV	Kiev	31.36	324	*e*P		P	01 09 36.4	-0.4	
	comp=Z,3.7nm,0.8s								
ZAA0	Zalesovo Array	32.70	30	*e*P		P	01 09 48.0	-0.5	
ZAA0	Zalesovo Array	32.70	30	*e*P		P	01 09 48.0	-0.5	
ZALV	Zalesovo Beam	32.70	30	P		P	01 09 48.0	-0.5	
	comp=Z,2.4nm,0.3s,baz=245,slow=9.6,SNR=19								
ZALV	Zalesovo Beam	32.70	30	P		P	01 09 48.0	-0.5	
TIR	Tirane	33.65	303	*e*P		P	01 09 56.5	-0.5	
	comp=Z,12nm,0.7s								
TIR	Tirane	33.65	303	*e*P		P	01 09 56.5	-0.5	
	comp=Z,12nm,0.7s								
KOLS	Kolonicke sedl	34.37	317	*e*P		P	01 10 02.3	-0.8	
KOLS				*e*			01 10 11.8		
KOLS				*e*PP		PP	01 11 28.7	+7.8	
PSZ	Piszkesteto	35.44	315	*e*P		P	01 10 11.4	-1.1	
	comp=Z,4.1nm,1.0s								
PSZ	Piszkesteto	35.44	315	*e*P		P	01 10 11.4	-1.1	
	comp=Z,4.1nm,1.0s								
TIP	Timpagrande	35.68	299	*e*P		P	01 10 14.1	-0.6	
	comp=Z,10nm,1.1s								
TIP	Timpagrande	35.68	299	*e*P		P	01 10 14.1	-0.6	
	comp=Z,10nm,1.1s								
VYHS	Vyhne	36.31	315	*e*		P	01 10 28.9	+9.1	
CUC	Castrocucco	36.49	300	*e*P		P	01 10 21.3	-0.3	
	comp=Z,3.7nm,0.8s								
CUC	Castrocucco	36.49	300	*e*P		P	01 10 21.3	-0.3	
	comp=Z,3.7nm,0.8s								
GTA	Gaotai	36.54	61	*e*P		P	01 10 22.6	+0.5	
GTA				pP		pP	01 10 33.5	+8.3	
GTA				sP		sP	01 10 39.1	+13	
GTA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
DPC	Dobruska-Polom	38.49	317	*e*P		P	01 10 45.5	+7.2	
FINES	FINESS Array B	39.61	337	P		P	01 10 46.3	-1.2	
	comp=Z,1.4nm,0.5s,baz=138,slow=8.7,SNR=13								
LZH	Lanzhou	39.63	66	*e*P		P	01 10 46.3	-1.9	
LZH				pP		sP	01 10 56.3	+3.7	
LZH				sP		pP	01 11 00.1	+8.8	
LZH				*e*PP		PnPn	01 12 22.5	+0.3	
LZH				pmax		pmax			
	comp=Z,18nm,1.0s								
LZH				pmax		pmax			
	comp=Z,45nm,5.2s								
LZH				LR		LR			
	comp=N,110nm,13.2s								
LZH				LR		LR			
	comp=E,120nm,13.5s								
LZH				LR		LR			
	comp=Z,140nm,17.0s								
GERES	GERESS Array B	39.66	314	P		P	01 10 46.6	-1.5	
	comp=Z,0.4nm,0.7s,baz=139,slow=8.9,SNR=5.2								
KHC	Kasperske Hory	39.81	314	*e*P		P	01 10 47.4	-2.0	
KHC				*ex*		x	01 10 55.8		
KHC	Kasperske Hory	39.81	314	*e*P		P	01 10 47.8	-1.6	
	comp=Z,2.6nm,1.2s								
KHC	Kasperske Hory	39.81	314	*e*P		P	01 10 47.8	-1.6	
	comp=Z,2.6nm,1.2s								
KMI	Kunming	40.19	83	P		P	01 10 53.6	+0.5	
KMI				pmax		pmax			
	comp=Z,13nm,0.6s								
KMI				pmax		pmax			
	comp=Z,82nm,5.1s								
GRFO	Grafenberg	41.44	315	*e*P		P	01 11 00.9	-2.0	
	comp=Z,5.3nm,0.8s								
GRFO	Grafenberg	41.44	315	*e*P		P	01 11 00.8	-2.0	
	comp=Z,5.3nm,0.8s								
KEST	Kesra	41.51	293	P		P	01 11 05.1	+1.4	
	comp=Z,1.2nm,0.8s,baz=124,slow=7.3,SNR=4.1								
TLY	Talaya	41.59	42	*e*P		P	01 11 03.5	-0.6	
TLY	Talaya	41.59	42	*e*P		P	01 11 03.5	-0.6	
SONM	Songino Array	42.43	49	P		P	01 11 10.5	-0.6	
	comp=Z,1.1nm,0.8s,baz=251,slow=8.0,SNR=7.7								
STU	Stuttgart	42.54	313	*e*P		P	01 11 11.3	-0.5	
STU	Stuttgart	42.54	313	*e*P		P	01 11 11.3	-0.5	
ULN	Ulaanbaatar	42.87	49	*e*P		P	01 11 13.8	-0.9	
	comp=Z,1.9nm,0.5s								
ULN	Ulaanbaatar	42.87	49	*e*P		P	01 11 13.8	-0.9	
	comp=Z,1.9nm,0.5s								
SSB	Saint Sauveur	45.24	307	*e*P		P	01 11 33.0	-0.7	
	comp=Z,3.1nm,0.8s								
SSB	Saint Sauveur	45.24	307	*e*P		P	01 11 33.0	-0.7	
	comp=Z,3.1nm,0.8s								
KEV	Kevo	45.46	346	*e*P		P	01 11 34.8	-0.1	
	comp=Z,9.3nm,0.9s								
KEV	Kevo	45.46	346	*e*P		P	01 11 34.8	-0.1	
	comp=Z,9.3nm,0.9s								
HHC	Hu-ho-hao-te	45.59	59	*e*P		P	01 11 37.8	+1.2	
HHC				pmax		pmax			
	comp=Z,11nm,1.0s								
HHC				pmax		pmax			
	comp=Z,86nm,4.6s								
ARCES	ARCESS Array B	45.63	345	P		P	01 11 35.6	-0.7	
	comp=Z,0.5nm,0.4s,baz=134,slow=8.7,SNR=11								
TAM	Tamanrasset	47.18	276	*e*P		P	01 11 49.0	-0.3	
	comp=Z,3.3nm,0.9s								
TAM	Tamanrasset	47.18	276	*e*P		P	01 11 49.0	-0.3	
	comp=Z,3.3nm,0.9s								
ES19	SONSECA Array	51.64	300	*e*P		P	01 12 22.7	-0.4	
ES19	SONSECA Array	51.64	300	*e*P		P	01 12 22.7	-0.4	
ESDC	Sonseca Array	51.69	300	P		P	01 12 22.4	-1.0	
	comp=Z,0.3nm,0.5s,baz=69,slow=7.4,SNR=7.8								
MDT	Midelt	53.35	292	LR		LR	01 40 17.9		
	comp=Z,540nm,18.1s,slow=42								
SPITS	Spitsbergen Ar	53.65	350	P		P	01 12 35.6	-1.7	
	comp=Z,2.3nm,0.9s,baz=144,slow=11,SNR=4.0								
TORD	Torodi Ar. Bea	54.08	266	P		P	01 12 39.6	-1.7	
	comp=Z,8.6nm,0.5s,baz=64,slow=7.2,SNR=147								
TIXI	Tiksi	57.82	21	*e*P		P	01 13 06.2	-1.1	
TIXI	Tiksi	57.82	21	*e*P		P	01 13 06.2	-1.1	
KSAR	Wonju Array Be	58.58	61	P		P	01 13 11.9	-1.3	
KSAR	Wonju Array Be	58.58	61	P		P	01 13 11.9	-1.3	
KSRS	Korea Array	58.61	61	P		P	01 13 11.9	-1.4	
	comp=Z,0.5nm,0.3s,baz=279,slow=7.4,SNR=4.5								
USRK	Ussuriysk Ar.	60.23	53	P		P	01 13 22.4	-2.1	
	comp=Z,0.5nm,0.5s,baz=295,slow=7.8,SNR=2.7								
BOSA	Boshof	64.26	212	P		P	01 13 51.4	-0.3	
	comp=Z,1.7nm,0.8s,baz=22,slow=5.9,SNR=4.1								
SUMG	Summit	65.45	341	*e*P		P	01 13 58.3	-1.0	
	comp=Z,9.6nm,1.1s								
SUMG	Summit	65.45	341	*e*P		P	01 13 58.3	-1.0	
	comp=Z,9.6nm,1.1s								
COLD	Coldfoot	82.83	11	*e*P		P	01 15 39.5	-0.8	
	comp=Z,1.4nm,0.8s								
COLD	Coldfoot	82.83	11	*e*P		P	01 15 39.5	-0.8	
	comp=Z,1.4nm,0.8s								
INK	Inuvik	83.70	4	*e*P		P	01 15 43.6	-1.1	
	comp=Z,2.0nm,0.9s								
INK	Inuvik	83.70	4	*e*P		P	01 15 43.6	-1.1	
	comp=Z,2.1nm,0.9s								
WRA	Warramunga Arr	87.99	114	P		P	01 16 07.0	+0.2	
	comp=Z,1.7nm,0.9s,baz=318,slow=4.0,SNR=5.9								
WRA	Warramunga Arr	87.99	114	P		P	01 16 07.0	+0.2	
WRAB	Tennant Creek	88.00	114	*e*P		P	01 16 06.4	-0.5	
	comp=Z,4.6nm,0.9s								
WRAB	Tennant Creek	88.00	114	*e*P		P	01 16 06.4	-0.5	
	comp=Z,4.6nm,0.9s								
ASAR	Alice Springs	89.53	117	P		P	01 16 13.8	-0.2	
	comp=Z,0.3nm,0.5s,baz=301,slow=5.8,SNR=3.3								
YKA	Yellowknife Ar	89.69	356	P		P	01 16 13.2	-0.9	
	comp=Z,0.4nm,0.7s,baz=3.8,slow=5.0,SNR=3.0								
MAW	Mawson	95.31	178	P		P	01 16 39.2	-0.3	
	comp=Z,1.3nm,0.3s,baz=336,slow=10.0,SNR=4.2								
SAML	Samuel	121.42	277	*e*PKIKP		PKPdf	01 22 09.3	-1.2	
SAML	Samuel	121.42	277	*e*PKPdf		PKPdf	01 22 09.3	-1.2	

ISCJB ***15*** *01:03:40.3±0.3, 43.69S±0.03×172.96E±0.04, h10km, mb4.7/7, MS3.7/7, Error ellipse: s-maj=5.5km s-min=2.4km az=140.2*

IDC ***15*** *01:03:41.7±1.4, 43.74S×172.82E, h0km, mb4.6/3, mb1 4.8/3, mb1mx4.2/24, mbtmp4.6/3, MS3.8/8, Ms1 3.8/8, ms1mx3.6/19, Error ellipse: s-maj=92.4km s-min=34.3km az=23.0*

NEIC ***15*** *01:03:41.9, 43.66S×172.86E, h5km, mb4.7/4, MW4.5, ML4.6(WEL), Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁵Nm; Mrr-3.13; Mθθ8.58; Mϕϕ-5.45; Mrθ0.66; Mrϕ-2.66; Mθϕ-1.55; Best double couple: M8.20000×10¹⁵ NP1:ϕ323.00000°, δ77.00000°, λ-20.00000°. NP2:ϕ57.00000°, δ71.00000°, λ-167.00000°. Principal axes: T 9.1400, Plg4.0000°, Azm11.0000°; N -2.6100, Plg67.0000°, Azm111.0000°; P -6.5200, Plg23.0000°, Azm279.0000°; After WEL.*

NEIC Felt in the Christchurch area.

WEL ***15*** *01:03:42.1±0.2, 43.66S×172.86E, h5km, ML4.7/41 Error ellipse: s-maj=1.4km s-min=0.7km az=90.0*

WEL Felt in the Canterbury region, maximum reported intensity MM 5.

ISC 15 01:03:42.2±0.7, 43.69S±0.04×172.92E±0.04, h10km, n112, σ1.9 33/107, mb4.6/7, MS3.7/7, 4C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.19	266	PG		Pg		01 03 45.6	-0.6
MQZ				SG		Sg		01 03 48.0	-1.0
MQZ				AML		AML		01 03 48.7	
MQZ	McQueen's Vall	0.19	266	*e*Pg		Pg		01 03 45.5	-0.6
OXZ	Oxford	0.74	300	↑P*		Pg		01 03 55.0	-1.4
OXZ	Oxford	0.74	300	*e*Pg		Pg		01 03 55.0	-1.4
OXZ				*e*Pn		Pn		01 04 04.7	+6.0
LTZ	Lake Taylor	1.03	332	P*		Pg		01 04 00.5	-1.4
LTZ				AML		AML		01 04 17.2	
LTZ				AML		AML		01 04 17.4	
LTZ	Lake Taylor	1.03	332	*e*Pg		Pg		01 04 00.5	-1.4
LTZ				*e*Sg		Sb		01 04 13.8	-1.8
RPZ	Rata Peaks	1.35	268	↑P*		Pn		01 04 05.5	-1.6
RPZ				AML		AML		01 04 25.2	
RPZ				AML		AML		01 04 25.5	
RPZ	Rata Peaks	1.35	268	*e*Pn		Pn		01 04 06.6	-0.5
RPZ				*e*Sg		Sn		01 04 24.0	-1.1
KHZ	Kahutara	1.35	20	P*		Pn		01 04 05.8	-1.2
KHZ	Kahutara	1.35	20	*e*Pn		Pn		01 04 05.9	-1.2
INZ	Inchbonnie	1.45	311	PN		Pn		01 04 06.7	-1.7
WVZ	Waitaha Valley	1.71	291	↓PN		Pn		01 04 10.8	-1.1
WVZ				AML		AML		01 04 33.2	
WVZ				AML		AML		01 04 48.1	
THZ	Tophouse	1.93	360	PN		Pn		01 04 13.5	-1.6
THZ				AML		AML		01 04 53.8	
THZ				AML		AML		01 04 54.0	
THZ	Tophouse	1.93	360	*e*Pn		Pn		01 04 13.5	-1.6
LBZ	Lake Benmore	2.09	250	PN		Pn		01 04 16.5	-0.7
LBZ				AML		AML		01 04 55.7	
LBZ				AML		AML		01 04 55.8	
LBZ				AML		AML		01 04 56.7	
LBZ				AML		AML		01 04 56.7	
LBZ	Lake Benmore	2.09	250	*e*Pn		Pn		01 04 16.8	-0.4
BSWZ	Blackbirch Sta	2.10	20	PN		Pn		01 04 16.5	-0.9
BSWZ				AML		AML		01 05 13.0	
BSWZ				AML		AML		01 05 19.8	
DSZ	Denniston Nort	2.11	337	↓PN		Pn		01 04 16.8	-0.8
DSZ				AML		AML		01 04 53.9	
DSZ				AML		AML		01 04 53.9	
DSZ				AML		AML		01 04 55.8	
DSZ				AML		AML		01 04 55.8	
ODZ	Otahua Downs	2.12	230	PN		Pn		01 04 16.8	-0.8
ODZ				AML		AML		01 05 01.6	
ODZ				AML		AML		01 05 01.6	
ODZ				AML		AML		01 05 01.7	
ODZ				AML		AML		01 05 01.7	
ODZ	Otahua Downs	2.12	230	*e*Pn		Pn		01 04 17.0	-0.6
ODZ				*e*Pg		Pg		01 04 22.7	0.0
ODZ				*e*Sg		Sg		01 04 49.5	-0.7
CMWZ	Cape Campbell	2.17	27	PN		Pn		01 04 18.6	+0.4
CMWZ						AML	AML	01 05 06.8	
CMWZ						AML	AML	01 05 13.1	
FOZ	Fox Glacier	2.26	273	PN		Pn		01 04 19.5	0.0
FOZ						AML	AML	01 04 32.1	
FOZ						AML	AML	01 04 32.1	
FOZ						AML	AML	01 05 08.7	
FOZ						AML	AML	01 05 08.7	
FOZ	Fox Glacier	2.26	273	*e*Pn		Pn		01 04 20.0	+0.4
NNZ	Nelson	2.50	8	PN		Pn		01 04 22.2	-0.7
NNZ						AML	AML	01 05 20.4	
NNZ						AML	AML	01 05 20.5	
NNZ						AML	AML	01 05 30.1	
NNZ						AML	AML	01 05 30.2	
TCW	Tory Channel	2.68	23	PN		Pn		01 04 24.1	-1.2
TCW						AML	AML	01 04 57.6	
TCW						AML	AML	01 05 23.9	
BHW	Baring Head	2.70	33	PN		Pn		01 04 24.1	-1.5
BHW						AML	AML	01 05 38.6	
BHW						AML	AML	01 05 40.6	
SNZO	South Karori	2.72	30	*e*Pn		Pn		01 04 24.5	-1.4
PLWZ	Palliser	2.73	40	PN		Pn		01 04 24.6	-1.6
HHSZ	Highcliff Hill	2.74	216	PN		Pn		01 04 25.7	-0.6
WEL	Wellington	2.77	30	PN		Pn		01 04 25.5	-1.1
WEL						AML	AML	01 05 03.1	
WEL						AML	AML	01 05 37.9	
MSWZ	Moikau Station	2.85	38	PN		Pn		01 04 26.2	-1.5
MSWZ						AML	AML	01 05 04.4	
MSWZ						AML	AML	01 05 14.1	
QRZ	Quartz Range	2.88	354	PN		Pn		01 04 27.1	-1.0
QRZ						AML	AML	01 04 43.1	
QRZ						AML	AML	01 05 18.8	
QRZ						AML	AML	01 05 18.9	
QRZ						AML	AML	01 05 22.7	
PAWZ	Paruwai Farm	2.96	40	PN		Pn		01 04 27.7	-1.5
PAWZ						AML	AML	01 05 10.3	
PAWZ						AML	AML	01 06 13.3	
DUWZ	D'Urville Isla	2.98	15	PN		Pn		01 04 27.9	-1.7
EAZ	Earnscleugh	3.01	238	PN		Pn		01 04 29.2	-0.6
EAZ						AML	AML	01 05 23.2	
EAZ						AML	AML	01 05 23.2	
EAZ						AML	AML	01 05 27.5	
EAZ						AML	AML	01 05 30.6	
JCZ	Jackson Bay	3.01	261	PN		Pn		01 04 30.1	+0.1
JCZ						AML	AML	01 05 21.3	
JCZ						AML	AML	01 05 23.5	
WKZ	Wanaka	3.02	247	PN		Pn		01 04 29.5	-0.6
WKZ						AML	AML	01 05 32.2	
WKZ						AML	AML	01 05 32.2	
WKZ						AML	AML	01 05 41.2	
WKZ						AML	AML	01 05 41.2	
WKZ	Wanaka	3.02	247	*e*Pn		Pn		01 04 30.4	+0.3
TRWZ	Traveller	3.07	43	PN		Pn		01 04 29.3	-1.5
TRWZ						AML	AML	01 06 11.9	
TRWZ						AML	AML	01 06 22.6	
MTW	Mount Morrison	3.17	38	PN		Pn		01 04 30.2	-2.0
MTW						AML	AML	01 05 10.1	
MTW						AML	AML	01 05 56.8	
KIW	Kapiti Island	3.19	28	PN		Pn		01 04 32.4	0.0
KIW						AML	AML	01 05 47.2	
KIW						AML	AML	01 05 50.0	
TUZ	Tuapeka	3.25	225	PN		Pn		01 04 32.7	-0.5
TUZ						AML	AML	01 05 36.5	
TUZ						AML	AML	01 05 36.5	
TUZ						AML	AML	01 05 41.3	
TUZ						AML	AML	01 05 41.4	
OGWZ	Otaki Gorge	3.33	31	PN		Pn		01 04 32.7	-1.6
HOWZ	Holdsworth Sta	3.39	35	PN		Pn		01 04 33.0	-1.6
TMWZ	Te Maipa	3.40	41	PN		Pn		01 04 34.5	-0.7
MRZ	Mangatainoka R	3.62	34	PN		Pn		01 04 36.5	-1.8
MLZ	Mavora Lakes	3.82	242	PN		Pn		01 04 40.0	-1.0
MLZ						AML	AML	01 06 00.6	
MLZ						AML	AML	01 06 01.3	
MLZ	Mavora Lakes	3.82	242	*e*Pn		Pn		01 04 41.5	+0.5
BFZ	Birch Farm	3.90	41	PN		Pn		01 04 41.1	-1.0
BFZ						AML	AML	01 05 27.2	
BFZ						AML	AML	01 05 30.3	
BFZ	Birch Farm	3.90	41	*e*Pn		Pn		01 04 37.6	-4.5
SYZ	Scrubby Hill	3.90	222	↑PN		Pn		01 04 42.1	0.0
SYZ						AML	AML	01 05 58.4	
SYZ						AML	AML	01 06 11.9	
SYZ						AML	AML	01 06 17.2	
SYZ						AML	AML	01 06 17.2	

15nm,1.1s,baz=131,slow=8.3,SNR=34
ASAR LR LR 01 26 12.8
comp=Z,138nm,18.4s,baz=168,slow=36
WRAB Tennant Creek 39.92 294 *eP* **P 01 11 17.0 +0.5**
8.5nm,0.6s
WRA Warramunga Arr 39.93 294 P **P 01 11 16.2 -0.3**
5.6nm,0.8s,baz=133,slow=7.9,SNR=22
PMG Port Moresby 40.85 319 LR LR 01 27 13.8
comp=Z,202nm,18.0s,baz=144,slow=35
PAE Paea 40.87 63 *eT* T 01 53 51.9
6.9nm,0.3s
PPT2 Papeete2 40.92 62 *e*LR LR 01 22 39.9
107nm,23.8s
PPT2 Papeete2 40.92 62 *eT* T 01 53 56.8
6.0nm,0.3s
PPT Papeete 40.94 62 LR LR 01 23 44.1
comp=Z,58nm,20.9s,baz=206,slow=29
KAPI Kappang 60.46 294 *eP* **P 01 13 53.1 +0.8**
29nm,1.4s
KMI Kunming 93.88 301 P **P 01 17 02.4 +2.3**
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI pmax pmax
comp=Z,200nm,5.1s
HHC Hu-ho-hao-te 100.64 317 *eP* **Pdif 01 17 30.4 +0.3**
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,86nm,5.2s
KURK Kurchatov 124.47 310 PKP **PKPdf 01 22 41.4 +0.6**
KURBB Kurchatov Arra 124.47 310 PKP **PKPdf 01 22 41.4 +0.6**
comp=Z,0.8nm,0.7s,baz=124,slow=1.5,SNR=5.5
TORD Torodi Ar. Bea 148.64 197 PKPbc **PKPbc 01 23 29.8 0.0**
comp=Z,1.7nm,0.9s,baz=138,slow=2.1,SNR=2.6
ARCES ARCESS Array B 149.24 338 PKPbc **PKPbc 01 23 30.4 +0.7**
comp=Z,6.3nm,1.0s,baz=3.7,slow=2.8,SNR=4.8
BRTR Keskin Array B 149.56 277 PKPbc **PKPbc 01 23 32.4 +0.8**
comp=Z,2.1nm,0.9s,baz=135,slow=3.2,SNR=6.9
BR231 Keskin MP Arra 150.22 276 *e*PKPdf **PKPbc 01 23 33.1 -0.1**
BR231 *e*PKPbc **PKiKP 01 23 33.8 -0.2**
FINES FINESS Array B 153.57 324 PKPbc **PKPbc 01 23 42.0 +2.2**
comp=Z,1.1nm,0.7s,baz=79,slow=0.7,SNR=3.7

---

*ISCJB **15** 01:04:27.8±2.7,27.6N±0.4×58.0E±0.3,h10km,mb3.8/6, Error ellipse: s-maj=67.4km s-min=20.7km az=155.3*
*IDC **15** 01:04:29.1±2.9,27.7N×57.8E,h0km,mb4.0/6, mb1 4.0/6,mb1mx3.6/44,mbtmp4.0/6,Error ellipse: s-maj=74.5km s-min=23.2km az=153.0*
ISC 15 01:04:30.5±3.0,**27.8N**±0.5×**57.9E**±0.3,**h10**km,**n6**,**s0**59/6, **mb3.9**/6,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BRTR	**Keskin Array B**	**23.34**	**307**	P		**P**	**01 09 39.2**	**0.0**
	2.9nm,0.8s,baz=115,slow=10,SNR=2.4							
BVAR	**Borovoye Array**	**26.90**	**17**	P		**P**	**01 10 11.5**	**-0.1**
	2.9nm,1.0s,baz=202,slow=7.2,SNR=2.1							
MKAR	**Makanchi Array**	**27.00**	**39**	P		**P**	**01 10 12.9**	**+0.3**
	0.9nm,0.7s,baz=226,slow=9.9,SNR=2.4							
KURBB	**Kurchatov Arra**	**27.71**	**29**	P		**P**	**01 10 19.5**	**+0.7**
	0.8nm,0.8s,baz=227,slow=8.6,SNR=2.7							
ZALV	**Zalesovo Beam**	**32.79**	**30**	P		**P**	**01 11 03.1**	**-0.7**
	0.9nm,0.3s,baz=242,slow=9.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**54.18**	**266**	P		**P**	**01 13 56.5**	**0.0**
	3.7nm,0.5s,baz=64,slow=7.4,SNR=8.5							

---

*ISN **15** 01:05:19.3±1.4,27.4N×58.2E,h5km±94km,ML5.3*
*THR **15** 01:05:27.3±0.8,27.9N×57.7E,h18km±6km,ML5.7*
*MOS **15** 01:05:27.1±0.9,27.9N×57.8E,h33km,mb5.5/80, MS4.9/56,Error ellipse: s-maj=5.7km s-min=3.3km az=121.1*
*ISCJB **15** 01:05:27.3±0.1,27.9N±0.0×57.6E±0.0,h35km, mb5.3/241,MS4.9/171,Error ellipse: s-maj=2.7km s-min=1.7km az=7.8*
*BJI **15** 01:05:28.4,28.0N×57.6E,h35km,mb5.1/73,mB5.2/45, Ms5.2/77,Ms7 4.9/73*
*SFS **15** 01:05:29.0,27.9N×57.5E,h40km,ML5.3*
*CSEM **15** 01:05:29.0±0.1,28.0N×57.7E,h33km,mb5.3/99,Ms5.0, Error ellipse: s-maj=3.4km s-min=2.6km az=11.0*
*NEIC **15** 01:05:30.7,27.7N×57.7E,h34km,mb5.4/115, MS5.0/136,ML5.7(THR),MN5.3(TEH),After TEH. NEIC Felt at Bandar Abbas and Kahnuj.*
*GCMT **15** 01:05:30.7±0.1,27.1N×57.5E,h41km,MW5.5/113, Moment Tensor Solution. s109,c196; s113,c226; Duration: 1s3 Moment tensor: Scale 10^17^Nm; Mrr0.70±.02; Mθθ-1.06±.02; Mφφ0.35±.02; Mrθ1.08±.03; Mθφ0.98±.02; Mrφ0.67±.03; Best double couple: M0 1.85400×10^17^ NP1:φs79.00000°,δ74.00000°, λ47.00000°. NP2:φs333.00000°,δ45.00000°,λ157.00000°. Principal axes: T 1.9350, Plg44.0000°, Azm308.0000°; N -0.1600, Plg41.0000°, Azm94.0000°; P -1.7730, Plg18.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **15** 01:05:30.3±1.5,27.9N×57.7E,h46km±13km,mb4.9/35, mb1 5.0/41,mb1mx4.9/47,mbtmp5.2/41,ML5.1/5,MS4.8/10, Ms1 4.8/10,ms1mx4.7/14 Error ellipse: s-maj=10.6km s-min=8.6km az=159.0*
*OMAN **15** 01:05:30.9±0.0,27.8N×57.7E,h25km,Error ellipse: s-maj=2.6km s-min=1.3km az=273.0*
*TEH **15** 01:05:30.7,27.8N×57.7E,h34km,ML5.3*
*DSN **15** 01:05:31.3±0.0,27.9N×57.6E,h36km,mb5.2,ML6.1, Error ellipse: s-maj=1.9km s-min=0.7km az=290.0*
ISC 15 01:05:28.8±0.3,**27.9S**±0.2×**57.6E**±0.2,**h33**km±1km, **h33**km:**pP-P,n1754,**σ1**53**/1865,**mb5.3**/244,**MS5.0**/177, **88C-25D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIAN	**Nian**	**0.82**	**242**	*e*Pn		**Pb**	**01 05 46.3**	**+1.6**
NIAN	**Nian**	**0.82**	**242**	*e*Pn		**Pb**	**01 05 46.3**	**+1.6**
IBND	**Bandar-abas**	**1.11**	**244**	*e*Pg		**Pb**	**01 05 52.0**	**+2.5**
IBND				*e*Sg		**Sb**	**01 06 08.0**	**+4.4**
IBND				*e*AMB		AMB	01 06 19.5	
	comp=Z,2713μm,0.3s							
IBND	**Bandar-abas**	**1.11**	**244**	Pg		**Pb**	**01 05 51.9**	**+2.5**
IBND				Sg		**Sb**	**01 06 07.9**	**+4.4**
IBND	**Bandar-abas**	**1.11**	**244**	Pg		**Pb**	**01 05 51.9**	**+2.5**
IBND				Sg		**Sb**	**01 06 07.9**	**+4.4**
KHSK	**Kohestak**	**1.30**	**204**	*e*Pg		**Pb**	**01 05 52.7**	**0.0**
KHSK	**Kohestak**	**1.30**	**204**	*e*Pg		**Pb**	**01 05 52.7**	**0.0**
GENO	**Geno**	**1.43**	**248**	*e*Pn		**Pb**	**01 05 55.0**	**+0.1**
GENO	**Geno**	**1.43**	**248**	*e*Pn		**Pb**	**01 05 55.0**	**+0.1**
BNDS	**Bandar-Abbas**	**1.43**	**248**	*e*Pg		**Pb**	**01 05 55.0**	**+0.1**
BNDS				*e*Sg		**Sb**	**01 06 15.4**	**+2.6**
BNDS				AML		AML	01 06 19.2	
	comp=N,146μm,0.7s							
BNDS	**Bandar-Abbas**	**1.43**	**248**	*e*Pg		**Pb**	**01 05 55.0**	**+0.1**
BNDS				Sg		**Sb**	**01 06 15.0**	**+2.2**
BNDS	**Bandar-Abbas**	**1.43**	**248**	Pg		**Pb**	**01 05 55.0**	**+0.1**
BNDS				Sg		**Sb**	**01 06 15.0**	**+2.2**
NGRK	**Negar Kerman**	**1.87**	**335**	*e*Pn		**Pb**	**01 06 01.9**	**-0.7**
CHMN	**Cheshme madani**	**1.91**	**357**	*e*Pn		**Pb**	**01 06 02.2**	**-1.0**
KRBR	**Kerman**	**2.17**	**339**	*e*Pg		**Pb**	**01 06 08.1**	**+0.4**
KRBR				AML		AML	01 06 47.0	
	comp=N,32μm,0.7s							
KRBR	**Kerman**	**2.17**	**339**	Pg		**Pb**	**01 06 08.0**	**+0.4**
TVBK	**TV Kerman**	**2.17**	**339**	*e*Pn		**Pb**	**01 06 07.1**	**-0.6**
BANOM	**Banah**	**2.35**	**211**	*e*P		**Pn**	**01 06 07.5**	**+2.4**
	SNR=11							
BANOM	**Banah**	**2.35**	**211**	P		**Pn**	**01 06 07.7**	**+2.6**
BANOM				P		**Pn**	**01 06 07.7**	**+2.6**
BANOM	**Banah**	**2.35**	**211**	P		**Pn**	**01 06 07.5**	**+2.4**
	SNR=11							
KHGB	**Koh Gabri**	**2.63**	**337**	*e*Pn		**Pb**	**01 06 14.1**	**-1.2**
UOSS	**Minazif**	**3.26**	**204**	P		**Pn**	**01 06 18.8**	**+1.2**
UOSS	**Minazif**	**3.26**	**204**	*e*Pn		**Pn**	**01 06 18.2**	**+0.6**
HATD	**Hatta, Dubai**	**3.40**	**204**	P		**Pn**	**01 06 20.0**	**+0.5**
CHBR	**Chabahar**	**3.45**	**132**	*e*Pn		**Pn**	**01 06 21.3**	**+1.2**
CHBR	**Chabahar**	**3.45**	**132**	*e*Pn		**Pn**	**01 06 21.3**	**+1.2**
NAZ	**Nazwa, Dubai**	**3.45**	**212**	P		**Pn**	**01 06 22.7**	**+2.5**
NAZ	**Nazwa, Dubai**	**3.45**	**212**	P		**Pn**	**01 06 22.7**	**+2.5**
ASHO	**Ashiyiah**	**3.56**	**204**	*i* P		**Pn**	**01 06 24.3**	**+2.6**
	SNR=18							
ASHO	**Ashiyiah**	**3.56**	**204**	P		**Pn**	**01 06 24.0**	**+2.3**
ASHO				P		**Pn**	**01 06 24.0**	**+2.3**
ASHO	**Ashiyiah**	**3.56**	**204**	P		**Pn**	**01 06 24.0**	**+2.3**
FAQ	**Al Faqa, Dubai**	**3.69**	**211**	P		**Pn**	**01 06 25.6**	**+2.1**
FAQ	**Al Faqa, Dubai**	**3.69**	**211**	P		**Pn**	**01 06 25.6**	**+2.1**
IBAF	**Bafgh**	**4.06**	**334**	*e*Pn		**Pn**	**01 06 32.8**	**+4.1**
IBAF				*e*AMB		AMB	01 07 48.2	
	comp=Z,38μm,0.4s							
IBAF	**Bafgh**	**4.06**	**334**	Pn		**Pn**	**01 06 32.7**	**+4.1**
IBAF	**Bafgh**	**4.06**	**334**	Pn		**Pn**	**01 06 32.7**	**+4.1**
GHIR	**Ghir-Karzin**	**4.14**	**276**	*e*Pn		**Pn**	**01 06 33.0**	**+3.3**
GHIR	**Ghir-Karzin**	**4.14**	**276**	*e*Pn		**Pn**	**01 06 33.0**	**+3.3**
GHIR	**Ghir-Karzin**	**4.14**	**276**	Pn		**Pn**	**01 06 33.0**	**+3.3**
IMEH	**Mehriz**	**4.33**	**323**	*e*Pn		**Pn**	**01 06 36.0**	**+3.4**
IMEH				*e*AMB		AMB	01 08 01.5	
	comp=Z,49μm,0.7s							
IMEH	**Mehriz**	**4.33**	**323**	Pn		**Pn**	**01 06 35.9**	**+3.4**
IMEH	**Mehriz**	**4.33**	**323**	Pn		**Pn**	**01 06 35.9**	**+3.4**
BIDO	**Bidbid**	**4.43**	**174**	P		**Pn**	**01 06 32.7**	**-1.0**
	SNR=44							
BIDO	**Bidbid**	**4.43**	**174**	P		**Pn**	**01 06 32.7**	**-1.0**
	SNR=44							
IKOO	**Kooshah**	**4.61**	**14**	*e*Pn		**Pn**	**01 06 39.4**	**+3.1**
IKOO				*e*AMB		AMB	01 08 11.6	
	comp=Z,61μm,0.4s							
IKOO	**Kooshah**	**4.61**	**14**	Pn		**Pn**	**01 06 39.4**	**+3.1**
WSAR	**Wadi Sarin**	**4.77**	**169**	P		**Pn**	**01 06 38.2**	**-0.2**
	comp=Z,106nm,0.3s,baz=17,slow=8.1,SNR=26							
WSAR					S	**Sn**	**01 07 29.1**	**-3.4**
	comp=Z,298nm,0.3s,baz=23,slow=12,SNR=16							
WSAR					LR	LR	01 09 19.2	
	comp=Z,8μm,18.2s,baz=16,slow=48							
SMDO	**Samad**	**4.88**	**176**	P		**Pn**	**01 06 40.5**	**+0.5**
	SNR=48							
ITEG	**Tejag**	**5.02**	**11**	*e*Pn		**Pn**	**01 06 45.1**	**+3.1**
ITEG				*e*Sg		Sb	01 08 12.0	+16
ITEG				*e*AMB		AMB	01 08 24.4	
	comp=Z,71μm,0.8s							
ITEG	**Tejag**	**5.02**	**11**	Pn		**Pn**	**01 06 45.0**	**+3.1**
ITEG	**Tejag**	**5.02**	**11**	Pn		**Pn**	**01 06 45.0**	**+3.1**
ITEG				Sg		Sb	01 08 12.0	+16
ICHK	**Chekchek**	**5.12**	**327**	*e*Pn		**Pn**	**01 06 47.7**	**+4.3**
ICHK				*e*AMB		AMB	01 08 31.1	
	comp=Z,68μm,0.7s							
IDAH	**Dahanechah**	**5.14**	**21**	*e*Pn		Pn	01 06 49.3	+5.6
IDAH				*e*AMB		AMB	01 08 32.5	
	comp=Z,50μm,0.6s							
IDAH	**Dahanechah**	**5.14**	**21**	Pn		Pn	01 06 49.2	+5.5
IKAZ	**Kazeroun**	**5.42**	**291**	*e*Pn		**Pn**	**01 06 49.9**	**+2.4**
IKAZ				*e*AMB		AMB	01 08 04.8	
	comp=Z,53μm,0.2s							
IKAZ	**Kazeroun**	**5.42**	**291**	Pn		**Pn**	**01 06 49.8**	**+2.3**
IKAZ	**Kazeroun**	**5.42**	**291**	Pn		**Pn**	**01 06 49.8**	**+2.3**
IMON	**Monand**	**5.50**	**18**	*e*Pn		Pn	01 06 53.7	+5.1
IMON				*e*AMB		AMB	01 07 23.4	
	comp=Z,28μm,0.4s							
IMON	**Monand**	**5.50**	**18**	Pn		Pn	01 06 53.7	+5.1
AHBU	**AHRAM**	**5.68**	**281**	*e*Pn		**Pn**	**01 06 53.5**	**+2.7**
IRAM	**Ramesheh**	**5.98**	**311**	*e*Pn		**Pn**	**01 06 57.5**	**+2.4**
IRAM				*e*AMB		AMB	01 08 13.0	
	comp=Z,9μm,0.2s							
IRAM	**Ramesheh**	**5.98**	**311**	Pn		**Pn**	**01 06 57.5**	**+2.4**
NASN	**Na'in**	**6.39**	**320**	*e*Pn		**Pn**	**01 07 04.2**	**+3.3**
NASN	**Na'in**	**6.39**	**320**	Pn		**Pn**	**01 07 04.0**	**+3.1**
IGAR	**Gharneh**	**6.58**	**314**	*e*AMB		AMB	01 07 09.1	
	comp=Z,9μm,0.2s							
IGAR				*e*Pn		**Pn**	**01 07 06.0**	**+2.6**
IZEF	**Zefreh**	**6.74**	**318**	*e*AMB		AMB	01 07 11.0	
	comp=Z,5μm,0.3s							
IZEF				*e*Pn		**Pn**	**01 07 08.3**	**+2.7**
SLWS		**7.03**	**245**	S		**Sn**	**01 08 26.2**	**-2.0**
SLWS				P		**Pn**	**01 07 11.3**	**+2.0**
BTHS		**7.26**	**239**	S		**Sn**	**01 08 31.6**	**-2.1**
BTHS				P		**Pn**	**01 07 13.1**	**+0.6**
IKLH	**Kolahrood**	**7.49**	**317**	*e*Pn		**Pn**	**01 07 18.3**	**+2.4**
IKLH	**Kolahrood**	**7.49**	**317**	Pn		**Pn**	**01 07 18.3**	**+2.4**
IPIR	**Pirpir**	**7.51**	**311**	*e*Pn		**Pn**	**01 07 19.2**	**+2.9**
IPIR				*e*AMB		AMB	01 08 49.1	
	comp=Z,8μm,0.2s							
IPIR	**Pirpir**	**7.51**	**311**	Pn		**Pn**	**01 07 19.2**	**+2.9**
BQOSS		**7.68**	**256**	S		**Sn**	**01 08 41.0**	**-3.1**
BQOSS				P		**Pn**	**01 07 18.9**	**+0.7**
QAM	**Ghamsar**	**7.88**	**319**	*e*Pn		**Pn**	**01 07 23.9**	**+2.7**
QAM				*e*AMB		AMB	01 07 29.1	
	comp=Z,4μm,0.3s							
SHRO	**Shahrood**	**8.14**	**351**	*e*Pn		**Pn**	**01 07 28.0**	**+3.4**
GHVR	**GHOM**	**8.49**	**322**	*e*Pn		**Pn**	**01 07 33.0**	**+3.6**
GHVR	**GHOM**	**8.49**	**322**	Pn		**Pn**	**01 07 33.0**	**+3.6**
KHMZ	**Khomeyn**	**8.78**	**313**	*e*Pn		**Pn**	**01 07 35.9**	**+2.3**
KHMZ	**Khomeyn**	**8.78**	**313**	Pn		**Pn**	**01 07 35.0**	**+1.5**
KHMZ	**Khomeyn**	**8.78**	**313**	Pn		**Pn**	**01 07 35.0**	**+1.5**
ASAO	**Ashtian**	**9.27**	**317**	*e*Pn		**Pn**	**01 07 43.2**	**+2.9**
ASAO	**Ashtian**	**9.27**	**317**	Pn		**Pn**	**01 07 43.0**	**+2.7**
THKV	**Tehran--Karaj**	**9.81**	**326**	*e*Pn		**Pn**	**01 07 50.7**	**+3.1**
THKV				*e*Sg		Sn	01 10 30.4	+54
THKV	**Tehran--Karaj**	**9.81**	**326**	Pn		**Pn**	**01 07 50.0**	**+2.4**
THKV				Sg		Sn	01 10 30.0	+53
GEYT	**Alibeck**	**9.96**	**2**	P		**Pn**	**01 07 54.0**	**+4.4**
	comp=Z,4.9nm,0.3s,baz=172,slow=12,SNR=35							
GEYT					Lg	Lg	01 10 42.9	
	baz=192,slow=26,SNR=3.7							
GEYT					LR	LR	01 11 59.0	
	comp=Z,15μm,18.1s,baz=185,slow=39							
SHAO	**Shalim**	**10.06**	**191**	P		**Pn**	**01 07 51.8**	**+0.9**
	SNR=7.9							
SHAO	**Shalim**	**10.06**	**191**	P		**Pn**	**01 07 51.8**	**+0.9**
	SNR=7.9							
SNGE	**Sanandaj**	**11.31**	**312**	*e*Pn		**Pn**	**01 08 10.8**	**+2.6**
SNGE	**Sanandaj**	**11.31**	**312**	Pn		**Pn**	**01 08 10.0**	**+1.8**
SNGE	**Sanandaj**	**11.31**	**312**	Pn		**Pn**	**01 08 10.0**	**+1.8**
KBL	**Kabul**	**11.75**	**53**	*e*P		Pn	01 08 20.7	+6.5
KBL	**Kabul**	**11.75**	**53**	*e*Pn		Pn	01 08 20.7	+6.5
THW	**Thamme Wali**	**13.08**	**65**	P		**Pn**	**01 08 34.2**	**+1.9**
SARP	**Sargodha**	**13.61**	**69**	P		**Pn**	**01 08 40.1**	**+0.7**
CHCP	**Chirah Chowk**	**14.56**	**63**	P		**Pn**	**01 08 54.0**	**+1.5**
CUKT	**Cukurca**	**15.02**	**312**	*e*P		**Pn**	**01 08 57.2**	**-1.6**
HAKT	**HAKKARI**	**15.13**	**313**	*i* P		**Pn**	**01 08 59.8**	**-0.5**
TVAN	**Van**	**15.90**	**315**	P		**P**	**01 09 13.5**	**-0.1**
TVAN	**Van**	**15.90**	**315**	*i* P		**P**	**01 09 13.5**	**-0.1**
SIRT	**Sirnak**	**15.94**	**311**	*e*P		**Pn**	**01 09 08.7**	**-1.9**
SIRN	**S¨¨rnak**	**15.96**	**310**	*i* P		**Pn**	**01 09 09.8**	**-1.0**
CLDR	**Caldiran**	**15.97**	**318**	*e*P		**P**	**01 09 13.3**	**-1.0**
CLDR	**Caldiran**	**15.97**	**318**	*e*P		**P**	**01 09 13.4**	**-1.0**
GEVA	**Gevas**	**15.99**	**314**	P		**P**	**01 09 13.4**	**-1.1**
GEVA	**Gevas**	**15.99**	**314**	*i* P		**P**	**01 09 13.4**	**-1.1**
VMUR	**Van-Muradiye**	**16.08**	**317**	P		**P**	**01 09 15.3**	**-0.3**
VMUR	**Van-Muradiye**	**16.08**	**317**	*i* P		**P**	**01 09 15.3**	**-0.3**
GNI	**Garni**	**16.18**	**322**	P		**P**	**01 09 15.9**	**-0.7**
	comp=Z,5.4nm,0.3s,baz=165,slow=3.0,SNR=38							
GNI	**Garni**	**16.18**	**322**	*i* P		**P**	**01 09 16.1**	**-0.6**
	SNR=102							
GNI	**Garni**	**16.18**	**322**	*ce*P		**P**	**01 09 16.8**	**+0.1**
GNI					pmax	pmax		
	comp=Z,1μm,1.0s							
GNI	**Garni**	**16.18**	**322**	P		**P**	**01 09 16.9**	**+0.3**
	SNR=102							
GNI					P	**P**	**01 09 16.9**	**+0.3**
	SNR=102							
GNI					P	**Pn**	**01 09 18.4**	**+4.6**
	SNR=105							
GNI					P	**Pn**	**01 09 18.4**	**+4.6**
	SNR=105							
GNI	**Garni**	**16.18**	**322**	P		**P**	**01 09 16.1**	**-0.6**
	SNR=102							
GNI	**Garni**	**16.18**	**322**	*e*Pn		**P**	**01 09 16.0**	**-0.7**
	comp=Z,787nm,1.2s							
GNI				*e*Sn		Sn	01 11 53.1	-19
THN	**Thein Dam**	**16.24**	**70**	*e*P		**Pn**	**01 09 11.0**	**-3.4**
PONG	**Pong**	**16.35**	**71**	*ex*		**P**	**01 09 18.0**	**-0.3**
TAS	**Tashkent**	**16.40**	**33**	*e*P		**P**	**01 09 17.7**	**-1.2**
TUTA	**Tutak**	**16.80**	**317**	P		**P**	**01 09 23.7**	**+0.1**
TUTA	**Tutak**	**16.80**	**317**	*i* P		**P**	**01 09 23.7**	**+0.1**
AGRB	**Hanur-Agry**	**16.80**	**317**	*e*P		**P**	**01 09 24.0**	**+0.5**
AGRB	**Hanur-Agry**	**16.80**	**317**	*e*P		**P**	**01 09 24.0**	**+0.5**
DGRG	**David-gareji**	**16.81**	**326**	P		**P**	**01 09 24.6**	**+1.1**
BTMN	**Batman**	**16.93**	**310**	*i* P		**Pn**	**01 09 21.9**	**-1.3**
MARD	**Mardin**	**16.99**	**308**	*i* P		**Pn**	**01 09 22.4**	**-1.6**
KBSD	**Kabsdagh**	**17.01**	**306**	*e*P		**P**	**01 09 26.7**	**+1.0**
SFNV	**Sufian**	**17.07**	**304**	*e*P		**Pn**	**01 09 24.6**	**-0.2**
SVAN	**Silvan-Diyarba**	**17.12**	**311**	*e*P		**Pn**	**01 09 23.6**	**-1.9**
DIGO	**Kars**	**17.12**	**320**	P		**P**	**01 09 28.5**	**+1.3**
DIGO	**Kars**	**17.12**	**320**	*i* P		**P**	**01 09 28.5**	**+1.3**
EAK	**Akyaka**	**17.18**	**321**	*i* P		**P**	**01 09 31.2**	**+3.5**
EATA	**Eleskirt**	**17.28**	**317**	P		**P**	**01 09 30.6**	**+1.6**
EATA	**Eleskirt**	**17.28**	**317**	*i* P		**P**	**01 09 30.6**	**+1.6**
MAZI	**Mazidag**	**17.29**	**308**	*e*P		**Pn**	**01 09 25.8**	**-1.9**
TBLG	**Delisi**	**17.33**	**326**	P		**Pn**	**01 09 29.0**	**-0.2**
TBLG	**Delisi**	**17.33**	**326**	P		**P**	**01 09 29.0**	**-0.2**
TBLG	**Delisi**	**17.33**	**326**	P		**P**	**01 09 29.0**	**-0.2**
KARS	**Kars**	**17.43**	**320**	*e*P		**P**	**01 09 31.9**	**+1.4**
KARS	**Kars**	**17.43**	**320**	*e*P		**P**	**01 09 31.9**	**+1.4**
VRTB	**Varto-Mus**	**17.50**	**314**	*e*P		**P**	**01 09 32.8**	**+1.5**
VRTB	**Varto-Mus**	**17.50**	**314**	*e*P		**P**	**01 09 32.8**	**+1.5**
POO	**Poona**	**17.57**	**119**	↑*i*x		**P**	**01 09 32.0**	**0.0**
	comp=Z,278nm,2.0s							
BNGL	**BINGOL**	**17.58**	**313**	*i* P		**P**	**01 09 34.1**	**+1.9**
BGD	**Bogdanovka**	**17.58**	**323**	P		**P**	**01 09 34.1**	**+1.9**
SANA	**San'a**	**17.66**	**228**	*e*P		**Pn**	**01 09 27.2**	**-5.4**
SANA					AMb	AMB	01 09 30.1	
	comp=Z,784nm,1.1s							
KSRV	**Kasrt alli**	**17.68**	**301**	*e*P		**P**	**01 09 32.9**	**-0.2**
DIYA	**Diyarbakir**	**17.74**	**309**	P		**P**	**01 09 35.1**	**+1.3**
DIYA	**Diyarbakir**	**17.74**	**309**	*i* P		**P**	**01 09 35.1**	**+1.3**
AKH	**Akhalkalaki**	**17.74**	**323**	P		**P**	**01 09 35.6**	**+1.7**
AKH	**Akhalkalaki**	**17.74**	**323**	P		**P**	**01 09 35.6**	**+1.7**
HOMI	**Horasan**	**17.75**	**317**	*i* P		**P**	**01 09 36.3**	**+2.2**
SENK	**Senkaya-Erzuru**	**17.81**	**319**	*e*P		**P**	**01 09 36.4**	**+1.7**
SENK	**Senkaya-Erzuru**	**17.81**	**319**	*e*P		**P**	**01 09 36.4**	**+1.7**
HAJJ	**Hajjah**	**17.84**	**230**	*e*P		**Pn**	**01 09 29.3**	**-5.4**
HAJJ					AMb	AMB	01 09 32.1	
	comp=Z,123nm,0.9s							
HAJJ				*i* S		**Sn**	**01 12 47.2**	**-5.5**
BDHA	**Al Bayda'**	**17.89**	**221**	*e*P		**Pn**	**01 09 30.1**	**-5.3**
BDHA					AMb	AMB	01 09 32.1	
	comp=Z,133nm,1.3s							
BDHA				*i* S		**Sn**	**01 12 48.9**	**-5.1**
BDHA	**Al Bayda'**	**17.89**	**221**	*e*P		**Pn**	**01 09 30.1**	**-5.3**
BDHA				*i* S		**Sn**	**01 12 48.9**	**-5.1**
BNGB	**Bing¨¶l**	**17.91**	**312**	*e*P		**P**	**01 09 36.0**	**+0.3**
BINT	**Bingol**	**17.97**	**312**	*e*P		**Pn**	**01 09 36.1**	**0.0**
ERZM	**Erzurum**	**17.99**	**316**	*i* P		**P**	**01 09 39.7**	**+2.9**
EZM	**Erzurum**	**18.00**	**316**	*e*P		**P**	**01 09 38.9**	**+2.0**
GUDG	**Gudauri**	**18.01**	**327**	P		**P**	**01 09 38.4**	**+1.5**
DAMY	**Dhamar**	**18.14**	**226**	*e*Pn		**P**	**01 09 38.8**	**+0.2**
	comp=Z,489nm,0.9s							
DAMY	**Dhamar**	**18.14**	**226**	*e*Pn		**P**	**01 09 38.8**	**+0.2**
	comp=Z,489nm,0.9s							
DAMY					*e*Sn	**Sn**	**01 12 59.0**	**-1.3**
ZALF	**Zalf**	**18.20**	**291**	*e*P		**P**	**01 09 41.1**	**+2.2**
EPOS	**Posof**	**18.22**	**322**	P		**P**	**01 09 41.4**	**+2.2**
EPOS	**Posof**	**18.22**	**322**	*i* P		**P**	**01 09 41.4**	**+2.2**
YEDI	**Yedisu-Bingol**	**18.24**	**313**	*e*P		**Pn**	**01 09 40.9**	**+1.4**
YEDI	**Yedisu-Bingol**	**18.24**	**313**	*e*P		**Pn**	**01 09 40.9**	**+1.4**
KK31	**Karatay Array**	**18.35**	**31**	*e*P		**Pn**	**01 09 41.2**	**+0.6**
KK31					pmax	pmax		
	comp=Z,112nm,0.9s							
KKAR	**Karatay Array**	**18.35**	**31**	*e*P		**Pn**	**01 09 41.4**	**+0.8**
KKAR					pmax	pmax		
	comp=Z,335nm,1.2s							
KKAR	**Karatay Array**	**18.35**	**31**	*e*P		**Pn**	**01 09 41.4**	**+0.8**
	comp=Z,335nm,1.2s							
KKAR	**Karatay Array**	**18.35**	**31**	*e*P		**Pn**	**01 09 41.4**	**+0.8**
	comp=Z,335nm,1.2s							
DDEM	**Demirkent**	**18.37**	**319**	*i* P		**Pn**	**01 09 43.9**	**+3.0**
DAGI	**Agillar**	**18.39**	**319**	*i* P		**Pn**	**01 09 42.9**	**+1.7**
ASF	**Jabal al Asfar**	**18.45**	**288**	P		**P**	**01 09 40.1**	**-1.6**
	comp=Z,8.5nm,0.3s,baz=20,slow=3.7

EIL Elat 19.97 280 P Pn 01 09 59.7 -0.4
comp=Z,479nm,1.0s,baz=96,slow=3.5,SNR=85
EIL S S 01 13 30.9 -10
comp=Z,56nm,0.9s,baz=127,slow=17,SNR=1.9
KVAR Kislovodsk Arr 19.99 327 P Pn 01 10 00.3 -0.1
baz=113,slow=12,SNR=66
KVAR PcP PcP 01 14 15.4 +1.5
baz=199,slow=2.7,SNR=5.2
TAHT Tahtakopru-Hat 20.00 300 eP Pn 01 10 00.0 -0.3
TAHT Tahtakopru-Hat 20.00 300 eP Pn 01 10 00.0 -0.3
KIV Kislovodsk 20.00 327 i P Pn 01 10 01.0 +0.5
SNR=54
KIV Kislovodsk 20.00 327 eP Pn 01 10 00.7 +0.3
KIV eS Sn 01 13 44.0 -0.4
KIV pmax pmax
comp=Z,198nm,1.0s
KIV MLR MLR
comp=Z,1μm,14.0s
KIV Kislovodsk 20.00 327 P Pn 01 10 00.9 +0.4
SNR=54
KIV P Pn 01 10 00.9 +0.4
SNR=54
KIV Kislovodsk 20.00 327 eP Pn 01 10 00.3 -0.1
comp=Z,211nm,1.0s
KIV Kislovodsk 20.00 327 eP Pn 01 10 00.3 -0.1
comp=Z,211nm,1.0s
KIV LR LR
comp=Z,2μm,20.0s
ARNB Al Arnab 20.00 299 eP Pn 01 10 01.4 +0.8
AAK Ala-Archa 20.04 39 P Pn 01 10 00.4 -0.5
comp=Z,3.6nm,0.3s,baz=211,slow=9.0,SNR=31
AAK LR LR 01 18 57.0
comp=Z,3μm,21.1s,baz=220,slow=40
AAK Ala-Archa 20.04 39 i P Pn 01 10 01.5 +0.5
AAK MLR MLR
comp=Z,6μm,20.0s
AAK Ala-Archa 20.04 39 P Pn 01 10 01.9 +0.9
SNR=68
AAK Ala-Archa 20.04 39 eP Pn 01 10 01.1 +0.1
comp=Z,291nm,1.4s
AAK Ala-Archa 20.04 39 eP Pn 01 10 01.1 +0.1
comp=Z,291nm,1.4s
CUGUR Gurin_S^VAS 20.09 308 i P Pn 01 10 02.3 +0.7
SUSE Susehri 20.18 312 P Pn 01 10 02.6 0.0
SUSE Susehri 20.18 312 i P Pn 01 10 02.6 0.0
ESPY Espiye-Giresun 20.22 315 eP P 01 10 01.6 +0.7
ESPY Espiye-Giresun 20.22 315 eP P 01 10 01.6 +0.7
CUKAN kangal_SIVAS 20.23 309 P Pn 01 10 03.0 -0.3
CUKAN kangal_SIVAS 20.23 309 i P Pn 01 10 03.0 -0.3
FRU Bishkek 20.23 38 eP Pn 01 10 03.0 -0.1
FRU i 01 10 14.0
FRU eS S 01 13 47.0 +0.7
FRU pmax pmax
comp=Z,430nm,2.1s
FRU smax smax
comp=E,4μm,9.5s
CUZAR Zara_SIVAS 20.30 311 P Pn 01 10 04.1 0.0
CUZAR Zara_SIVAS 20.30 311 i P Pn 01 10 04.1 0.0
GRSN GIRESUNGRSN 20.52 314 P Pn 01 10 05.7 -0.8
GRSN GIRESUNGRSN 20.52 314 i P Pn 01 10 05.7 -0.8
CEYT Ceyhan 20.54 302 eP Pn 01 10 06.5 -0.2
CEYT Ceyhan 20.54 302 eP Pn 01 10 06.5 -0.2
YURE YUREGIR 20.56 301 i P Pn 01 10 07.7 +0.6
SARI SarD1z-Kayseri 20.57 306 eP Pn 01 10 06.5 -0.7
KOZT Kozan 20.64 303 eP Pn 01 10 07.3 -0.6
KOZT Kozan 20.64 303 eP Pn 01 10 07.3 -0.6
GOF Gofitskoye 20.67 330 i P P 01 10 06.7 +1.0
GOF pmax pmax
comp=Z,170nm,1.1s
KRTS Karatas 20.68 300 eP Pn 01 10 08.6 +0.2
CUALT Altinyayla-SIV 20.70 308 P Pn 01 10 08.2 -0.5
CUALT Altinyayla-SIV 20.70 308 i P Pn 01 10 08.2 -0.6
SCER sogukcermik 20.72 310 i P Pn 01 10 09.1 +0.2
ORDU Ordu-Boztepe 20.81 314 P Pn 01 10 08.7 -1.2
ORDU Ordu-Boztepe 20.81 314 i P Pn 01 10 08.7 -1.2
TKM2 Tokmak 2 20.84 40 eP P 01 10 08.4 +0.6
TKM2 pmax pmax
comp=Z,84nm,0.8s
TKM2 MLR MLR
comp=Z,2μm,20.0s
TKM2 Tokmak 2 20.84 40 eP P 01 10 08.4 +0.6
comp=Z,84nm,0.8s
TKM2 Tokmak 2 20.84 40 eP P 01 10 08.4 +0.6
comp=Z,84nm,0.8s
TKM2 LR LR
comp=Z,2μm,20.0s
RSDY Resadiye-TOKAT 20.85 312 eP P 01 10 08.6 +0.9
RSDY Resadiye-TOKAT 20.85 312 eP P 01 10 08.6 +0.9
AKO Adana 20.92 303 i P Pn 01 10 10.4 -0.8
CUSAR Sarkisla-SIVAS 21.12 308 P P 01 10 12.2 +1.4
CUSAR Sarkisla-SIVAS 21.12 308 i P P 01 10 12.2 +1.4
BNN Bunyan 21.16 307 eP P 01 10 12.5 +1.3
BNN Bunyan 21.16 307 eP P 01 10 12.5 +1.3
YAHY KAYSERI_Yahyal 21.21 304 P P 01 10 13.8 +2.1
YAHY KAYSERI_Yahyal 21.21 304 i P P 01 10 13.8 +2.1
DED Mersin 21.24 301 i P P 01 10 13.4 +1.5
SOC Sochi 21.27 322 c i P P 01 10 12.4 +0.3
SOC e 01 10 29.4
SOC eS S 01 14 08.7 +2.1
SOC eSSS SSS 01 14 49.4
SOC pmax pmax
comp=Z,61nm,0.7s
SOC MLR MLR
comp=Z,3μm,13.0s
PHNC Paralimni 21.31 295 P P 01 10 12.3 -0.4
AB31 Akbulak array 21.35 4 P P 01 10 13.9 +0.9
AB31 pmax pmax
comp=Z,340nm,1.1s
ABKAR Akbulak array 21.35 4 eP P 01 10 13.6 +0.6
comp=Z,60nm,0.5s
ABKAR Akbulak array 21.35 4 eP P 01 10 13.6 +0.6
comp=Z,60nm,0.5s
ERBA Erbaa 21.37 312 P P 01 10 14.7 +1.4
ERBA Erbaa 21.37 312 i P P 01 10 14.7 +1.4
TOKA Tokat 21.38 311 P P 01 10 15.2 +1.8
TOKA Tokat 21.38 311 i P P 01 10 15.2 +1.8
ATD Arta Tunnel 21.44 223 P P 01 10 17.0 +2.8
comp=Z,101nm,0.8s,baz=22,slow=10,SNR=3.5
KIZK Mersin 21.60 299 P P 01 10 17.0 +1.2
KIZK Mersin 21.60 299 i P P 01 10 17.0 +1.2
NIG Nigde 21.77 304 eP P 01 10 19.6 +1.8
NIG Nigde 21.77 304 eP P 01 10 19.6 +1.8
LFK Lefkose 21.77 296 eP P 01 10 18.7 +1.0
LFK Lefkose 21.77 296 eP P 01 10 18.7 +1.0
MDOK Medeo 21.82 41 i P P 01 10 17.9 -0.3
comp=Z,614nm,1.0s
MDOK i S S 01 14 18.8 +1.1
MDOK LR LR 01 18 31.9
comp=Z,1μm,17.0s
AAA Alma-Ata 21.82 40 i P P 01 10 19.7 +1.5
AAA i S S 01 14 12.6 -5.1
AAA pmax pmax
comp=Z,700nm,1.7s
AAA smax smax
comp=E,6μm,10.0s
AAA MLR MLR
comp=Z,3μm,10.0s
AAA Alma-Ata 21.82 40 eP P 01 10 18.9 +0.7
comp=Z,1μm,0.5s
AAA eS S 01 14 19.9 +2.2
AAA LR LR 01 18 35.8
comp=Z,1μm,15.6s
AVNS Nevsehir-Avano 21.85 306 P P 01 10 20.2 +1.6
AVNS Nevsehir-Avano 21.85 306 i P P 01 10 20.2 +1.6
YOZ Yozgat 21.86 308 eP P 01 10 20.2 +1.5
YOZ Yozgat 21.86 308 eP P 01 10 20.2 +1.5
CSS Mathiatis 21.87 295 P P 01 10 19.9 +1.2
CSS Mathiatis 21.87 295 P P 01 10 19.0 +0.3
CSS Mathiatis 21.87 295 eP P 01 10 19.1 +0.3
comp=Z,80nm,1.0s
CSS Mathiatis 21.87 295 eP P 01 10 19.1 +0.4
comp=Z,80nm,1.0s
CSS LR LR
comp=Z,1μm,19.0s
KUU Kurty 21.88 38 i P P 01 10 19.6 +0.9
comp=Z,1μm,0.9s
KUU eS S 01 14 20.2 +1.6
KUU LR LR 01 18 51.6
comp=Z,1μm,12.0s
IKL Isikli 21.89 298 eP P 01 10 19.3 +0.4
IKL Isikli 21.89 298 eP P 01 10 19.3 +0.4
HYB Hyderabad 21.91 114 i P P 01 10 21.0 +1.7
HYB eS S 01 14 24.0 +4.3
MAMC Mammari 22.00 295 P P 01 10 22.7 +2.6

KVT Kavak 22.03 312 eP P 01 10 20.4 -0.1
KVT Kavak 22.03 312 eP P 01 10 20.4 -0.1
SAMS Samsun-Alacam 22.08 313 P P 01 10 21.9 +1.0
SAMS Samsun-Alacam 22.08 313 i P P 01 10 21.9 +1.0
SZAC Souni 22.19 294 P P 01 10 23.6 +1.4
HAVZ Havza 22.25 312 P P 01 10 24.9 +2.2
HAVZ Havza 22.25 312 i P P 01 10 24.9 +2.2
LEF Lefka 22.25 295 eP P 01 10 23.2 +0.4
LEF Lefka 22.25 295 eP P 01 10 23.2 +0.4
PYUN Piuthan 22.36 84 ePn P 01 10 26.0 +1.8
comp=Z,292nm,0.9s
COAL Corum-Alaca 22.36 309 P P 01 10 24.7 +0.7
COAL Corum-Alaca 22.36 309 i P P 01 10 24.7 +0.7
AKTO Aktyubinsk 22.46 1 P P 01 10 25.6 +0.8
comp=Z,70nm,0.7s,baz=182,slow=10.0,SNR=46
AKTO Aktyubinsk 22.46 1 P P 01 10 26.0 +1.1
AKTO pmax pmax
comp=Z,264nm,1.1s
ALFC Alefka 22.49 295 P P 01 10 26.3 +0.8
CDAG Cicekdag 22.52 307 P P 01 10 26.2 +0.5
CDAG Cicekdag 22.52 307 i P P 01 10 26.2 +0.5
CORM Corum 22.57 309 eP P 01 10 26.1 -0.2
CORM Corum 22.57 309 eP P 01 10 26.1 -0.2
AKSY AKSARAY - Alti 22.58 304 P P 01 10 27.7 +1.3
AKSY AKSARAY - Alti 22.58 304 i P P 01 10 27.7 +1.3
ERMK Ermenek 22.59 299 P P 01 10 29.2 +2.5
ERMK Ermenek 22.59 299 i P P 01 10 29.2 +2.5
PPCY Paphos 22.64 294 P P 01 10 28.4 +1.4
AKMC Akamas 22.68 294 P P 01 10 28.8 +1.3
SERE Sereflikochisa 22.83 305 eP P 01 10 29.7 +0.6
SERE Sereflikochisa 22.83 305 eP P 01 10 29.7 +0.6
KAMT Kaman 22.88 306 eP P 01 10 29.5 -0.1
KAMT Kaman 22.88 306 eP P 01 10 29.5 -0.1
KOLN Koldanda 22.93 84 ePn P 01 10 31.5 +1.2
comp=Z,60nm,0.7s
BOYT Boyabat 22.95 312 P P 01 10 31.1 +0.9
BOYT Boyabat 22.95 312 i P P 01 10 31.1 +0.9
GAZI Gazipasa 22.96 297 P P 01 10 31.5 +1.2
GAZI Gazipasa 22.96 297 i P P 01 10 31.5 +1.2
BYBT Boyabat 23.06 312 eP P 01 10 31.1 -0.2
BYBT Boyabat 23.06 312 eP P 01 10 31.1 -0.2
BR131 Keskin Array S 23.07 307 eP P 01 10 31.7 +0.1
BR131 Keskin Array S 23.07 307 eP P 01 10 31.7 +0.1
BR131 eScP ScP 01 17 49.7 -5.8
BRTR Keskin Array B 23.07 307 P P 01 10 31.3 -0.3
comp=Z,161nm,1.0s,baz=128,slow=10,SNR=130
CHBY Cihanbeyli 23.20 304 eP P 01 10 34.6 +1.8
CHBY Cihanbeyli 23.20 304 eP P 01 10 34.6 +1.8
OTUK Ortayu 23.25 25 P P 01 10 34.6 +1.5
OTUK pmax pmax
comp=Z,449nm,1.3s
ANN Anapa 23.31 322 eP P 01 10 33.7 0.0
ANN e*PP pP 01 10 44.5 +1.7
ANN ePPP PPP 01 11 14.1
ANN eS S 01 14 45.3 +1.5
ANN eSS SnSn 01 15 25.0 +5.1
ANN pmax pmax
comp=E,10.0nm,0.6s
ANN pmax pmax
comp=Z,53nm,0.7s
ANN pmax pmax
comp=N,22nm,0.6s
ANN MLR MLR
comp=E,2μm,14.0s
ANN MLR MLR
comp=Z,2μm,14.0s
ANN MLR MLR
comp=N,942nm,14.0s
TOS Tosya 23.36 310 eP P 01 10 34.8 +0.4
TOS Tosya 23.36 310 eP P 01 10 34.8 +0.4
BBAL Bala 23.37 306 P P 01 10 35.2 +0.6
BBAL Bala 23.37 306 i P P 01 10 35.2 +0.6
AFSR Af˙ar-Bala (A 23.37 306 eP P 01 10 34.6 +0.1
AFSR Af˙ar-Bala (A 23.37 306 eP P 01 10 34.6 +0.1
KKUL Konya-Kulu 23.38 305 P P 01 10 36.2 +1.5
KKUL Konya-Kulu 23.38 305 i P P 01 10 36.2 +1.5
KONT Konya--Tatoy 23.39 302 eP P 01 10 36.0 +1.4
KONT Konya--Tatoy 23.39 302 eP P 01 10 36.0 +1.4
CANT Cankiri 23.45 309 eP P 01 10 34.6 -0.7
LADK Ladik-KONYA 23.46 302 eP P 01 10 36.6 +1.1
LADK Ladik-KONYA 23.46 302 eP P 01 10 36.6 +1.1
ELDT Eldivan 23.53 308 P P 01 10 37.5 +1.3
ELDT Eldivan 23.53 308 i P P 01 10 37.5 +1.3
ILGA Ilgaz 23.58 310 P P 01 10 36.8 +0.2
ILGA Ilgaz 23.58 310 i P P 01 10 36.8 +0.2
TDK Taldyqorghan 23.73 39 eP P 01 10 37.7 -0.1
comp=N,446nm,1.3s
TDK eS S 01 14 51.9 +1.1
TDK LR LR 01 19 39.0
comp=N,1μm,14.8s
ANTO Ankara 23.73 306 eP P 01 10 38.4 +0.4
ANTO pmax pmax
comp=Z,364nm,0.8s
ANTO Ankara 23.73 306 eP P 01 10 38.3 +0.4
comp=Z,364nm,0.8s
ANTO Ankara 23.73 306 eP P 01 10 38.4 +0.4
comp=Z,364nm,0.8s
BR231 Keskin MP Arra 23.73 306 eP P 01 10 38.5 +0.5
BR231 Keskin MP Arra 23.73 306 eP P 01 10 38.5 +0.5
BR231 eScP ScP 01 17 49.7 -7.5
KDHN Kadinhani 23.75 303 P P 01 10 39.5 +1.3
KDHN Kadinhani 23.75 303 i P P 01 10 39.5 +1.3
LOD Lodumlu 23.76 307 eP P 01 10 38.2 0.0
LOD Lodumlu 23.76 307 eP P 01 10 38.2 0.0
BZK Bozkurt 23.80 312 eP P 01 10 38.9 +0.4
BZK Bozkurt 23.80 312 eP P 01 10 38.9 +0.4
GKN Gorkha 23.81 83 ePn P 01 10 40.3 +1.4
comp=Z,68nm,0.6s
DMN Daman 24.27 84 ePn P 01 10 44.4 +1.1
comp=Z,122nm,1.1s
SAFT Safranbolu 24.36 309 eP P 01 10 43.7 0.0
SAFT Safranbolu 24.36 309 eP P 01 10 43.7 0.0
KKN Kakani 24.40 84 ePn P 01 10 45.6 +1.1
comp=Z,117nm,0.5s
PKIN Phulchoki 24.53 84 ePn P 01 10 46.7 +1.0
comp=Z,105nm,0.6s
BAGO Egridir - ISPA 24.59 301 i P P 01 10 48.2 +2.3
BCAM Yenicaga 24.61 308 P P 01 10 47.2 +1.1
BCAM Yenicaga 24.61 308 i P P 01 10 47.2 +1.1
KORT Korkueli 24.67 298 P P 01 10 47.5 +0.8
KORT Korkueli 24.67 298 i P P 01 10 47.5 +0.8
BOLV Bolvadin 24.68 303 P P 01 10 47.8 +1.0
BOLV Bolvadin 24.68 303 i P P 01 10 47.8 +1.0
ISP Isparta 24.75 300 P P 01 10 47.7 +0.3
ISP Isparta 24.75 300 eP P 01 10 48.3 +0.9
ISP pmax pmax
comp=Z,582nm,1.5s
ISP MLR MLR
comp=Z,5μm,20.0s
ISP Isparta 24.75 300 eP P 01 10 48.2 +0.9
comp=Z,582nm,1.5s
ISP Isparta 24.75 300 eP P 01 10 48.2 +0.9
comp=Z,582nm,1.5s
ISP LR LR
comp=Z,5μm,20.0s
GUN Gumba 24.92 83 ePn P 01 10 51.0 +1.7
comp=Z,449nm,0.9s
ESKT Eskisehir 25.01 304 i P P 01 10 51.3 +1.6
SEYT Eskypehyr 25.01 304 P P 01 10 51.3 +1.6
AKAS Kas 25.09 296 P P 01 10 50.7 +0.2
AKAS Kas 25.09 296 i P P 01 10 50.7 +0.2
KSL Kastellorizon 25.10 296 P P 01 10 49.7 -0.7
KSL Kastellorizon 25.10 296 P P 01 10 49.7 -0.7
KSL Kastellorizon 25.10 296 P P 01 10 49.7 -0.7
BTAS Taskesti 25.27 307 P P 01 10 52.4 +0.4
BTAS Taskesti 25.27 307 i P P 01 10 52.4 +0.4
SIM Simferopol' 25.28 318 c i P P 01 10 51.2 -0.8
SIM 01 11 25.0
SIM eS S 01 15 15.0 -0.7
SIM SS SnSn 01 16 21.0 +13
SIM pmax pmax
comp=Z,94nm,0.8s
SIM pmax pmax
comp=Z,240nm,12.3s
SIM MLR MLR
comp=N,2μm,20.8s
GOLH Golhisar 25.34 299 P P 01 10 53.6 +0.9
GOLH Golhisar 25.34 299 i P P 01 10 53.6 +0.9
BORA Eskisehir 25.42 305 P P 01 10 53.9 +0.5
BORA Eskisehir 25.42 305 i P P 01 10 53.9 +0.5
SAHE Sakarya_HENDEK 25.48 307 P P 01 10 54.7 +0.9
SAHE Sakarya_HENDEK 25.48 307 i P P 01 10 54.7 +0.9

FETY Fethiye 25.59 297 P P 01 10 55.2 +0.3
FETY Fethiye 25.59 297 P P 01 10 55.2 +0.3
FETY Fethiye 25.59 297 P P 01 10 55.2 +0.3
RAMN Ramite 25.68 85 ePn P 01 10 56.9 +0.8
comp=N,168nm,1.0s
DNZL Cakiroluk 25.84 299 P P 01 10 57.5 +0.1
DNZL Cakiroluk 25.84 299 i P P 01 10 57.5 +0.1
GDZ Gediz 25.88 303 P P 01 10 58.2 +0.5
GDZ Gediz 25.88 303 i P P 01 10 58.2 +0.5
TURN Turunc 26.01 297 i P P 01 11 02.2 +3.5
KAND Kocaeli-Kandir 26.03 307 P P 01 10 59.7 +0.9
KAND Kocaeli-Kandir 26.03 307 i P P 01 10 59.7 +0.9
FURI Furi 26.07 227 eP P 01 11 03.3 +3.6
comp=N,94nm,0.9s
FURI Furi 26.07 227 eP P 01 11 03.3 +3.6
comp=N,94nm,0.9s
VRH Novokhopyorsk 26.16 337 eP P 01 11 00.5 +0.7
VRH pmax pmax
comp=Z,70nm,0.9s
VRH MLR MLR
comp=Z,2μm,20.0s
ARG Arkhangelos 26.27 296 P P 01 11 02.0 +1.0
ARG Arkhangelos 26.27 296 P P 01 11 02.0 +1.0
ARG Arkhangelos 26.27 296 P P 01 11 02.0 +1.0
ARG Arkhangelos 26.27 296 P P 01 11 02.0 +1.0
YER Yerkesik 26.32 298 P P 01 10 59.9 -1.6
YER Yerkesik 26.32 298 P P 01 10 59.9 -1.6
YER Yerkesik 26.32 298 P P 01 10 59.9 -1.6
YER Yerkesik 26.32 298 P P 01 10 59.9 -1.6
KULA Kula-Manisa 26.34 301 P P 01 11 01.4 -0.4
KULA Kula-Manisa 26.34 301 P P 01 11 01.4 -0.4
KULA Kula-Manisa 26.34 301 P P 01 11 01.4 -0.4
ZRNK Zerenda 26.36 16 eP P 01 11 01.8 +0.1
ZRNK pmax pmax
comp=Z,115nm,1.0s
ZRNK Zerenda 26.36 16 eP P 01 11 01.8 +0.1
comp=Z,115nm,1.0s
ZRNK Zerenda 26.36 16 eP P 01 11 01.8 +0.1
comp=Z,115nm,1.0s
VOSK Vostochnaya 26.66 18 eP P 01 11 04.4 0.0
VOSK pmax pmax
comp=Z,143nm,0.9s
VOSK Vostochnaya 26.66 18 eP P 01 11 04.4 0.0
comp=Z,143nm,0.9s
VOSK Vostochnaya 26.66 18 eP P 01 11 04.4 0.0
comp=Z,143nm,0.9s
BVA0 Borovoye Array 26.77 17 P P 01 11 05.4 0.0
BVA0 pmax pmax
comp=Z,158nm,0.9s
BVAR Borovoye Array 26.77 17 P P 01 11 05.6 +0.2
comp=Z,77nm,0.7s,baz=198,slow=7.5,SNR=107
BVAR PcP PcP 01 14 28.4 +0.6
comp=Z,5.4nm,0.5s,baz=213,slow=3.3,SNR=11
BRVK Borovoye 26.77 17 c i P P 01 11 06.0 +0.6
BRVK pmax pmax
comp=Z,259nm,1.2s
BRVK Borovoye 26.77 17 eP P 01 11 05.1 -0.3
comp=Z,418nm,1.0s
BRVK Borovoye 26.77 17 eP P 01 11 05.0 -0.3
comp=Z,418nm,1.0s
BRVK LR LR
comp=Z,5μm,21.0s
MAKZ Makanchi 26.80 39 eP P 01 11 05.7 -0.1
MAKZ pmax pmax
comp=Z,62nm,0.9s
MAKZ Makanchi 26.80 39 eP P 01 11 05.7 -0.1
comp=Z,62nm,0.9s
MAKZ Makanchi 26.80 39 eP P 01 11 05.7 -0.1
comp=Z,62nm,0.9s
ISK Istanbul-Kandi 26.82 307 P P 01 11 05.0 -0.9
ISK Istanbul-Kandi 26.82 307 P P 01 11 05.0 -0.9
ISK Istanbul-Kandi 26.82 307 P P 01 11 05.0 -0.9
ISK Istanbul-Kandi 26.82 307 P P 01 11 05.0 -0.9
KARP Karpathos 26.94 294 P P 01 11 07.6 +0.5
KARP Karpathos 26.94 294 eP P 01 11 08.1 +1.0
comp=Z,154nm,0.8s
KARP Karpathos 26.94 294 eP P 01 11 08.1 +1.0
comp=Z,154nm,0.8s
MK01 Makanchi Array 26.96 39 eP P 01 11 06.8 -0.4
MK01 Makanchi Array 26.96 39 eP P 01 11 06.8 -0.4
BDRM Kayabasi 26.96 297 P P 01 11 07.9 +0.6
BDRM Kayabasi 26.96 297 i P P 01 11 07.9 +0.6
MK31 Makanchi Array 26.97 39 i P P 01 11 07.3 0.0
MK31 pmax pmax
comp=Z,32nm,0.7s
MK31 Makanchi Array 26.97 39 eP P 01 11 07.4 +0.2
MK31 Makanchi Array 26.97 39 eP P 01 11 07.5 +0.2
MKAR Makanchi Array 26.97 39 P P 01 11 06.8 -0.4
comp=Z,40nm,0.7s,baz=223,slow=8.3,SNR=101
MKAR PcP PcP 01 14 29.0 +0.6
comp=Z,2.1nm,0.5s,baz=231,slow=4.0,SNR=4.1
MKAR Makanchi Array 26.97 39 c eP P 01 11 07.3 0.0
MKAR pmax pmax
comp=Z,40nm,0.7s
MKAR Makanchi Array 26.97 39 eP P 01 11 06.3 -0.9
MKAR Makanchi Array 26.97 39 eP P 01 11 06.3 -0.9
MKAR PcP PcP 01 14 29.0 +0.6
NIS1 Nisyros Isl. 27.09 296 P P 01 11 08.3 -0.1
NIS1 Nisyros Isl. 27.09 296 P P 01 11 08.3 -0.1
NIS1 Nisyros Isl. 27.09 296 P P 01 11 08.3 -0.1
VSR Storozhevoye 27.11 334 eP P 01 11 08.9 +0.5
VSR eS S 01 15 43.6 -0.7
VSR pmax pmax
comp=Z,80nm,1.4s
VSR smax smax
comp=N,600nm,5.2s
VSR MLR MLR
comp=Z,1μm,16.0s
GCAM G?zelcami? 27.25 299 P P 01 11 11.3 +1.5
GCAM G?zelcami? 27.25 299 i P P 01 11 11.3 +1.5
VORR Voronezh 27.45 335 eP P 01 11 13.0 +1.5
VORR pmax pmax
comp=Z,250nm,1.2s
SMG Samos 27.56 299 P P 01 11 13.3 +0.6
SMG Samos 27.56 299 P P 01 11 13.3 +0.6
SMG Samos 27.56 299 P P 01 11 13.3 +0.6
KURBB Kurchatov Arra 27.63 29 P P 01 11 13.4 +0.3
comp=Z,32nm,0.7s,baz=227,slow=8.4,SNR=118
KURBB ScP ScP 01 18 06.6 -1.4
comp=Z,3.0nm,1.0s,baz=230,slow=3.5,SNR=4.7
ZKR Zakros 27.65 293 P P 01 11 13.9 +0.4
ZKR Zakros 27.65 293 P P 01 11 13.9 +0.4
ZKR Zakros 27.65 293 P P 01 11 13.9 +0.4
KURK Kurchatov 27.74 29 eP P 01 11 14.4 +0.3
KURK pmax pmax
comp=Z,353nm,1.3s
KURK MLR MLR
comp=Z,5μm,21.0s
KURK Kurchatov 27.74 29 eP P 01 11 14.4 +0.3
comp=Z,353nm,1.3s
KURK ScP ScP 01 18 06.6 -1.7
KURK Kurchatov 27.74 29 eP P 01 11 14.4 +0.3
comp=Z,353nm,1.3s
KURK ScP ScP 01 18 06.6 -1.7
KURK LR LR
comp=Z,5μm,21.0s
NPS Neapolis 28.16 293 P P 01 11 18.2 +0.1
NPS Neapolis 28.16 293 P P 01 11 18.2 +0.1
NPS Neapolis 28.16 293 P P 01 11 18.2 +0.1
NPS Neapolis 28.16 293 P P 01 11 18.2 +0.1
SEM Semipalatinsk 28.25 31 eP P 01 11 18.8 +0.2
comp=Z,401nm,0.8s
SEM eS S 01 16 04.0 +1.7
SEM LR LR 01 22 44.1
comp=Z,641nm,12.4s
LAST Lasithi 28.26 293 P P 01 11 19.6 +0.6
LAST Lasithi 28.26 293 eP P 01 11 19.8 +0.8
comp=Z,74nm,0.8s
LAST Lasithi 28.26 293 eP P 01 11 19.8 +0.8
comp=Z,74nm,0.8s
LPSR Galich'ya Gora 28.30 336 eP P 01 11 21.6 +2.6
LPSR pmax pmax
comp=Z,60nm,1.3s
LPSR MLR MLR
comp=Z,1μm,20.0s
CHOS Chios island 28.30 300 P P 01 11 19.9 +0.5
CHOS Chios island 28.30 300 P P 01 11 19.9 +0.5
CHOS Chios island 28.30 300 P P 01 11 19.9 +0.5
PRK Paraskevi 28.33 302 P P 01 11 19.3 -0.2
PRK Paraskevi 28.33 302 P P 01 11 19.3 -0.2
PRK Paraskevi 28.33 302 P P 01 11 19.3 -0.2
PRK Paraskevi 28.33 302 P P 01 11 19.3 -0.2
THR8 Santorini-Mono 28.41 295 P P 01 11 20.6 +0.4
THR8 Santorini-Mono 28.41 295 P P 01 11 20.6 +0.4

SANT	**Santorini**	**28.42**	**295**	P		**P**	**01 11 19.7**	**-0.7**
SANT	**Santorini**	**28.42**	**295**	*e*P		**P**	**01 11 20.0**	**-0.4**
	comp=Z,198nm,1.2s							
SANT	**Santorini**	**28.42**	**295**	*e*P		**P**	**01 11 19.9**	**-0.4**
	comp=Z,198nm,1.2s							
SANT				LR		LR		
	comp=Z,1µm,22.0s							
EZN	**Ezine**	**28.43**	**303**	P		**P**	**01 11 19.7**	**-0.7**
EZN	**Ezine**	**28.43**	**303**	P		**P**	**01 11 19.7**	**-0.7**
EZN	**Ezine**	**28.43**	**303**	P		**P**	**01 11 19.7**	**-0.7**
EZN	**Ezine**	**28.43**	**303**	P		**P**	**01 11 19.7**	**-0.7**
THT1	**Athinios (Pele**	**28.45**	**295**	P		**P**	**01 11 19.8**	**-0.7**
THT1	**Athinios (Pele**	**28.45**	**295**	P		**P**	**01 11 19.8**	**-0.7**
THR2	**Thira island,**	**28.45**	**296**	P		**P**	**01 11 21.0**	**+0.4**
THR2	**Thira island,**	**28.45**	**296**	P		**P**	**01 11 21.0**	**+0.4**
THR2	**Thira island,**	**28.45**	**296**	P		**P**	**01 11 21.0**	**+0.4**
THR6	**Thira Island,**	**28.47**	**295**	P		**P**	**01 11 20.1**	**-0.6**
THR6	**Thira Island,**	**28.47**	**295**	P		**P**	**01 11 20.1**	**-0.6**
THR6	**Thira Island,**	**28.47**	**295**	P		**P**	**01 11 20.1**	**-0.6**
APE	**Apeiranthos**	**28.47**	**297**	*d* *i*P		**P**	**01 11 22.2**	**+1.4**
APE				*i* *P		**sP**	**01 11 32.6**	**-1.9**
APE				pmax	pmax			
	comp=Z,17nm,0.8s							
ARU	**Arti**	**28.47**	**1**	P		**P**	**01 11 20.2**	**-0.3**
	comp=Z,7.1nm,0.5s,baz=169,slow=2.7,SNR=12							
ARU				PcP		**PcP**	**01 14 32.1**	**+0.3**
	comp=Z,7.5nm,0.5s,baz=274,slow=3.2,SNR=3.5							
ARU	**Arti**	**28.47**	**1**	*c* *i*P		**P**	**01 11 21.2**	**+0.7**
ARU							01 12 12.5	
ARU				PPP		PPP	01 12 22.7	
ARU							01 14 27.3	
ARU				S		**S**	**01 16 08.1**	**+2.5**
ARU				SS		**SnSn**	**01 17 28.6**	**+2.8**
ARU				SSS		SSS	01 17 46.1	
ARU				pmax	pmax			
	comp=Z,31nm,1.7s							
ARU	**Arti**	**28.47**	**1**	*e*P		**P**	**01 11 20.5**	**0.0**
	comp=Z,37nm,1.1s							
ARU	**Arti**	**28.47**	**1**	*e*P		**P**	**01 11 20.6**	**0.0**
	comp=Z,37nm,1.1s							
ARU				PcP		**PcP**	**01 14 32.1**	**+0.3**
ARU				LR		LR		
	comp=Z,2µm,19.0s							
THR3	**Thira Island,**	**28.47**	**295**	P		**P**	**01 11 20.7**	**-0.1**
THR3	**Thira Island,**	**28.47**	**295**	P		**P**	**01 11 20.7**	**-0.1**
THR3	**Thira Island,**	**28.47**	**295**	P		**P**	**01 11 20.7**	**-0.1**
CMBO	**Columbo, Santo**	**28.48**	**296**	P		**P**	**01 11 21.5**	**+0.7**
CMBO	**Columbo, Santo**	**28.48**	**296**	P		**P**	**01 11 21.5**	**+0.7**
THR5	**Thira Island,**	**28.52**	**295**	P		**P**	**01 11 21.1**	**-0.1**
THR5	**Thira Island,**	**28.52**	**295**	P		**P**	**01 11 21.1**	**-0.1**
TIRR	**Tirgusor**	**28.57**	**313**	⇑*i*P		**P**	**01 11 22.7**	**+1.1**
TIRR	**Tirgusor**	**28.57**	**313**	⇑P		**P**	**01 11 22.7**	**+1.1**
TIRR	**Tirgusor**	**28.57**	**313**	*e*P		**P**	**01 11 22.2**	**+0.6**
	comp=Z,35nm,1.2s							
TIRR	**Tirgusor**	**28.57**	**313**	*e*P		**P**	**01 11 22.2**	**+0.6**
	comp=Z,35nm,1.2s							
SIGR	**SIGRI**	**28.64**	**301**	P		**P**	**01 11 21.4**	**-0.8**
SIGR	**SIGRI**	**28.64**	**301**	P		**P**	**01 11 21.4**	**-0.8**
SIGR	**SIGRI**	**28.64**	**301**	P		**P**	**01 11 21.4**	**-0.8**
IDI	**Anoyia**	**28.75**	**293**	P		**P**	**01 11 24.2**	**+0.8**
	comp=Z,77nm,0.7s,baz=84,slow=9.9,SNR=64							
IDI	**Anoyia**	**28.75**	**293**	P		**P**	**01 11 23.1**	**-0.3**
IDI	**Anoyia**	**28.75**	**293**	*e*P		**P**	**01 11 23.5**	**+0.1**
	comp=Z,90nm,0.7s							
IDI	**Anoyia**	**28.75**	**293**	*e*P		**P**	**01 11 23.5**	**+0.1**
	comp=Z,90nm,0.7s							
SIVA	**Sivas**	**28.79**	**292**	P		**P**	**01 11 23.4**	**-0.2**
SIVA	**Sivas**	**28.79**	**292**	P		**P**	**01 11 23.4**	**-0.2**
SIVA	**Sivas**	**28.79**	**292**	P		**P**	**01 11 23.4**	**-0.2**
MSAB	**Monastry St. A**	**28.80**	**312**	⇑*i*P		**P**	**01 11 24.8**	**+1.2**
MSAB	**Monastry St. A**	**28.80**	**312**	⇑*i*P		**P**	**01 11 24.8**	**+1.2**
ENEZ	**Enez**	**28.81**	**305**	P		**P**	**01 11 23.9**	**+0.2**
ENEZ	**Enez**	**28.81**	**305**	P		**P**	**01 11 23.9**	**+0.2**
WMQ	**Urumqi**	**28.83**	**49**	P		**P**	**01 11 26.1**	**+2.1**
WMQ				pP		sP	01 11 36.9	-0.8
WMQ				sP		pP	01 11 40.9	+7.3
WMQ				S		**S**	**01 16 13.6**	**+1.8**
WMQ				sS		sS	01 16 28.4	+0.7
WMQ				SS		**SnSn**	**01 17 42.8**	**+7.8**
WMQ				PMZ				
	comp=Z,55nm,0.8s							
WMQ				LN				
	comp=Z,1µm,12.2s							
WMQ				LE				
	comp=Z,1µm,22.6s							
WMQ				LZ				
	comp=Z,2µm,24.4s							
ALN	**Alexandroupoli**	**28.93**	**305**	P		P	01 11 18.9	-5.9
ALN	**Alexandroupoli**	**28.93**	**305**	P		P	01 11 18.9	-5.9
ALN	**Alexandroupoli**	**28.93**	**305**	P		P	01 11 18.9	-5.9
SVE	**Sverdlovsk**	**28.94**	**3**	⇓*e*P		**P**	**01 11 25.2**	**+0.5**
SVE				pmax	pmax			
	comp=Z,44nm,1.2s							
SVE				MLR		MLR		
	comp=Z,5µm,18.0s							
JMB	**Yambol**	**29.04**	**308**	*i* P		**P**	**01 11 27.6**	**+1.8**
CFR	**Carcaliu**	**29.06**	**314**	⇑*i*P		**P**	**01 11 25.2**	**-0.7**
CFR	**Carcaliu**	**29.06**	**314**	⇑P		**P**	**01 11 25.2**	**-0.7**
CFR	**Carcaliu**	**29.06**	**314**	⇑*i*P		**P**	**01 11 25.2**	**-0.7**
LIA	**Limnos Island**	**29.30**	**302**	P		**P**	**01 11 27.8**	**-0.3**
LIA	**Limnos Island**	**29.30**	**302**	P		**P**	**01 11 27.8**	**-0.3**
LIA	**Limnos Island**	**29.30**	**302**	P		**P**	**01 11 27.8**	**-0.3**
MHLO	**Agia Marina, M**	**29.31**	**296**	P		**P**	**01 11 29.4**	**+1.2**
MHLO	**Agia Marina, M**	**29.31**	**296**	P		**P**	**01 11 29.4**	**+1.2**
VAM	**Vamos**	**29.33**	**293**	P		**P**	**01 11 28.6**	**+0.2**
VAM	**Vamos**	**29.33**	**293**	P		**P**	**01 11 28.6**	**+0.2**
VAM	**Vamos**	**29.33**	**293**	P		**P**	**01 11 28.6**	**+0.2**
VAM	**Vamos**	**29.33**	**293**	P		**P**	**01 11 28.6**	**+0.2**
LSA	**Lhasa**	**29.34**	**78**	P		**P**	**01 11 31.4**	**+2.3**
LSA				PMZ				
	comp=Z,15nm,0.7s							
LSA	**Lhasa**	**29.34**	**78**	*e*P		**P**	**01 11 30.5**	**+1.4**
LSA				pmax	pmax			
	comp=Z,18nm,0.6s							
LSA				MLR		MLR		
	comp=Z,2µm,22.0s							
LSA	**Lhasa**	**29.34**	**78**	*e*P		**P**	**01 11 30.5**	**+1.4**
	comp=Z,18nm,0.6s							
LSA	**Lhasa**	**29.34**	**78**	*e*P		**P**	**01 11 30.4**	**+1.4**
	comp=Z,18nm,0.6s							
LSA				LR		LR		
	comp=Z,2µm,22.0s							
GVD	**Gavdhos**	**29.37**	**292**	P		**P**	**01 11 28.2**	**-0.6**
GVD	**Gavdhos**	**29.37**	**292**	P		**P**	**01 11 28.2**	**-0.6**
GVD	**Gavdhos**	**29.37**	**292**	P		**P**	**01 11 28.2**	**-0.6**
KARY	**Karystos**	**29.49**	**298**	P		**P**	**01 11 28.6**	**-1.2**
KARY	**Karystos**	**29.49**	**298**	P		**P**	**01 11 28.6**	**-1.2**
KIS	**Kishinev**	**29.50**	**318**	*e*P		**P**	**01 11 30.0**	**+0.2**
KIS				*e*S		S	01 16 54.0	+32
KIS				*e*SS		SS	01 19 50.0	+82
KIS				*e*LR		LR	01 24 50.0	
	comp=Z,900nm,16.0s							
KIS	**Kishinev**	**29.50**	**318**	*e*P		**P**	**01 11 30.0**	**+0.2**
KIS				*e*			01 11 43.0	
KIS				*e*			01 12 42.0	
KIS	**Kishinev**	**29.50**	**318**	*e*P		**P**	**01 11 30.0**	**+0.2**
IMMV	**Iera Moni Meta**	**29.51**	**293**	P		**P**	**01 11 30.2**	**+0.2**
IMMV	**Iera Moni Meta**	**29.51**	**293**	P		**P**	**01 11 30.2**	**+0.2**
KDZ	**Kurdzhali**	**29.60**	**306**	*i* P		**P**	**01 11 31.8**	**+1.0**
SZH	**Strazhica**	**29.76**	**309**	*i* P		**P**	**01 11 33.9**	**+1.7**
PTL	**Penteli**	**29.93**	**298**	P		**P**	**01 11 33.9**	**+0.1**
PTL	**Penteli**	**29.93**	**298**	P		**P**	**01 11 33.9**	**+0.1**
PTL	**Penteli**	**29.93**	**298**	P		**P**	**01 11 33.9**	**+0.1**
VLY	**Voula,Athens**	**29.96**	**298**	P		**P**	**01 11 32.9**	**-1.1**
VLY	**Voula,Athens**	**29.96**	**298**	P		**P**	**01 11 32.9**	**-1.1**
VLY	**Voula,Athens**	**29.96**	**298**	P		**P**	**01 11 32.9**	**-1.1**
ATHU	**Athens Univers**	**29.98**	**298**	P		**P**	**01 11 33.7**	**-0.5**
ATHU	**Athens Univers**	**29.98**	**298**	P		**P**	**01 11 33.7**	**-0.5**
ATHU	**Athens Univers**	**29.98**	**298**	P		**P**	**01 11 33.7**	**-0.5**
ATH	**Athens Observa**	**30.04**	**298**	P		**P**	**01 11 34.3**	**-0.3**
ATH	**Athens Observa**	**30.04**	**298**	P		**P**	**01 11 34.3**	**-0.3**
ATH	**Athens Observa**	**30.04**	**298**	P		**P**	**01 11 34.3**	**-0.3**
ATH	**Athens Observa**	**30.04**	**298**	P		**P**	**01 11 34.3**	**-0.3**
ISR	**Istrita**	**30.06**	**313**	⇑*i*P		**P**	**01 11 35.2**	**+0.4**
ISR	**Istrita**	**30.06**	**313**	⇑P		**P**	**01 11 35.2**	**+0.4**
ISR	**Istrita**	**30.06**	**313**	⇑*i*P		**P**	**01 11 35.2**	**+0.4**
ANKY	**Antikythira Is**	**30.10**	**294**	P		**P**	**01 11 35.5**	**+0.3**
ANKY	**Antikythira Is**	**30.10**	**294**	P		**P**	**01 11 35.5**	**+0.3**
ANKY	**Antikythira Is**	**30.10**	**294**	P		**P**	**01 11 35.5**	**+0.3**
RZN	**Rozhen**	**30.12**	**306**	*i* P		**P**	**01 11 36.3**	**+0.8**
PVL	**Pavlikeni**	**30.16**	**309**	*i* P		**P**	**01 11 36.9**	**+1.3**
PLD	**Plovdiv**	**30.25**	**307**	*i* P		P	01 11 30.9	-5.6
VRI	**Vrincioaia**	**30.25**	**315**	⇓*i*P		**P**	**01 11 36.6**	**+0.1**
VRI	**Vrincioaia**	**30.25**	**315**	⇓P		**P**	**01 11 36.6**	**+0.1**
VRI	**Vrincioaia**	**30.25**	**315**	⇓*i*P		**P**	**01 11 36.6**	**+0.1**
PLOR	**Plostina**	**30.30**	**314**	⇑*i*P		**P**	**01 11 38.7**	**+1.8**
PLOR	**Plostina**	**30.30**	**314**	⇑P		**P**	**01 11 38.7**	**+1.8**
PLOR	**Plostina**	**30.30**	**314**	⇑*i*P		**P**	**01 11 38.7**	**+1.8**
DID	**Didima**	**30.34**	**297**	P		**P**	**01 11 35.3**	**-2.1**
DID	**Didima**	**30.34**	**297**	P		**P**	**01 11 35.3**	**-2.1**
DID	**Didima**	**30.34**	**297**	P		**P**	**01 11 35.3**	**-2.1**
KYTH	**Kithira**	**30.34**	**295**	P		**P**	**01 11 36.5**	**-0.9**
KYTH	**Kithira**	**30.34**	**295**	P		**P**	**01 11 36.5**	**-0.9**
KYTH	**Kithira**	**30.34**	**295**	P		**P**	**01 11 36.5**	**-0.9**
SORM	**Soroca**	**30.35**	**320**	⇓*i*P		**P**	**01 11 36.5**	**-0.8**
SORM	**Soroca**	**30.35**	**320**	⇓P		**P**	**01 11 36.5**	**-0.8**
SORM	**Soroca**	**30.35**	**320**	⇓*i*P		**P**	**01 11 36.5**	**-0.8**
VILL	**Villia**	**30.38**	**298**	P		**P**	**01 11 37.2**	**-0.6**
VILL	**Villia**	**30.38**	**298**	P		**P**	**01 11 37.2**	**-0.6**
KRND	**KRANIDI**	**30.39**	**297**	P		**P**	**01 11 36.5**	**-1.3**
KRND	**KRANIDI**	**30.39**	**297**	P		**P**	**01 11 36.5**	**-1.3**
SKIA	**Skiathos**	**30.44**	**300**	P		**P**	**01 11 38.6**	**+0.4**
SKIA	**Skiathos**	**30.44**	**300**	P		**P**	**01 11 38.6**	**+0.4**
VLI	**Veliai**	**30.48**	**296**	P		**P**	**01 11 36.3**	**-2.3**
VLI	**Veliai**	**30.48**	**296**	P		**P**	**01 11 36.3**	**-2.3**
VLI	**Veliai**	**30.48**	**296**	P		**P**	**01 11 36.3**	**-2.3**
SMIA	**Simia**	**30.59**	**300**	P		**P**	**01 11 39.7**	**+0.2**
SMIA	**Simia**	**30.59**	**300**	P		**P**	**01 11 39.7**	**+0.2**
TESR	**Tescani**	**30.59**	**316**	⇓*i*P		**P**	**01 11 39.8**	**+0.4**
TESR	**Tescani**	**30.59**	**316**	⇓*i*P		**P**	**01 11 39.8**	**+0.4**
MLR	**Muntele Rosu**	**30.60**	**313**	P		**P**	**01 11 41.6**	**+2.0**
	comp=Z,1.4nm,0.7s,baz=68,slow=11							
MLR	**Muntele Rosu**	**30.60**	**313**	⇑*i*P		**P**	**01 11 42.6**	**+2.9**
MLR	**Muntele Rosu**	**30.60**	**313**	⇑P		**P**	**01 11 42.6**	**+2.9**
MLR	**Muntele Rosu**	**30.60**	**313**	*e*P		**P**	**01 11 41.9**	**+2.2**
	comp=Z,34nm,0.9s							
MLR	**Muntele Rosu**	**30.60**	**313**	*e*P		**P**	**01 11 41.9**	**+2.2**
	comp=Z,34nm,0.9s							
LTK	**Loutraki**	**30.63**	**298**	P		**P**	**01 11 38.5**	**-1.4**
LTK	**Loutraki**	**30.63**	**298**	P		**P**	**01 11 38.5**	**-1.4**
LTK	**Loutraki**	**30.63**	**298**	P		**P**	**01 11 38.5**	**-1.4**
NVR	**Nevrokopi**	**30.64**	**305**	P		**P**	**01 11 39.6**	**-0.4**
NVR	**Nevrokopi**	**30.64**	**305**	P		**P**	**01 11 39.6**	**-0.4**
NVR	**Nevrokopi**	**30.64**	**305**	P		**P**	**01 11 39.6**	**-0.4**
NEO	**Neokhori**	**30.65**	**301**	P		**P**	**01 11 39.9**	**-0.2**
NEO	**Neokhori**	**30.65**	**301**	P		**P**	**01 11 39.9**	**-0.2**
NEO	**Neokhori**	**30.65**	**301**	P		**P**	**01 11 39.9**	**-0.2**
ATAL	**Atalanti**	**30.70**	**299**	P		**P**	**01 11 40.1**	**-0.4**
ATAL	**Atalanti**	**30.70**	**299**	P		**P**	**01 11 40.1**	**-0.4**
ATAL	**Atalanti**	**30.70**	**299**	P		**P**	**01 11 40.1**	**-0.4**
LKR	**Lokris**	**30.71**	**299**	P		**P**	**01 11 39.5**	**-1.1**
LKR	**Lokris**	**30.71**	**299**	P		**P**	**01 11 39.5**	**-1.1**
LKR	**Lokris**	**30.71**	**299**	P		**P**	**01 11 39.5**	**-1.1**
PLG	**Polygyros**	**30.71**	**303**	P		**P**	**01 11 41.0**	**+0.4**
PLG	**Polygyros**	**30.71**	**303**	P		**P**	**01 11 41.0**	**+0.4**
PLG	**Polygyros**	**30.71**	**303**	P		**P**	**01 11 41.0**	**+0.4**
PLG	**Polygyros**	**30.71**	**303**	P		**P**	**01 11 41.0**	**+0.4**
PGB	**Panagyurishte**	**30.76**	**307**	*i* P		**P**	**01 11 42.3**	**+1.2**
SRS	**Serrai**	**30.78**	**304**	P		**P**	**01 11 41.1**	**-0.1**
SRS	**Serrai**	**30.78**	**304**	P		**P**	**01 11 41.1**	**-0.1**
SRS	**Serrai**	**30.78**	**304**	P		**P**	**01 11 41.1**	**-0.1**
SRS	**Serrai**	**30.78**	**304**	P		**P**	**01 11 41.1**	**-0.1**
MMB	**Musomiste**	**30.80**	**305**	*i* P		**P**	**01 11 41.3**	**-0.1**
THAL	**Thalero**	**30.87**	**298**	P		**P**	**01 11 41.3**	**-0.7**
THAL	**Thalero**	**30.87**	**298**	P		**P**	**01 11 41.3**	**-0.7**
SOH	**Sokhos**	**30.88**	**304**	P		**P**	**01 11 42.1**	**-0.1**
SOH	**Sokhos**	**30.88**	**304**	P		**P**	**01 11 42.1**	**-0.1**
SOH	**Sokhos**	**30.88**	**304**	P		**P**	**01 11 42.1**	**-0.1**
SOH	**Sokhos**	**30.88**	**304**	P		**P**	**01 11 42.1**	**-0.1**
VLX	**Vlachokerasia**	**31.00**	**297**	P		**P**	**01 11 42.1**	**-1.2**
VLX	**Vlachokerasia**	**31.00**	**297**	P		**P**	**01 11 42.1**	**-1.2**
VLX	**Vlachokerasia**	**31.00**	**297**	P		**P**	**01 11 42.1**	**-1.2**
HORT	**Hortiatis**	**31.02**	**303**	P		**P**	**01 11 43.3**	**-0.1**
HORT	**Hortiatis**	**31.02**	**303**	P		**P**	**01 11 43.3**	**-0.1**
HORT	**Hortiatis**	**31.02**	**303**	P		**P**	**01 11 43.3**	**-0.1**
DSF	**Desfina**	**31.03**	**299**	P		**P**	**01 11 42.0**	**-1.5**
DSF	**Desfina**	**31.03**	**299**	P		**P**	**01 11 42.0**	**-1.5**
DSF	**Desfina**	**31.03**	**299**	P		**P**	**01 11 42.0**	**-1.5**
MTUR	**Matau**	**31.06**	**312**	⇑*i*P		**P**	**01 11 45.6**	**+1.9**
MTUR	**Matau**	**31.06**	**312**	⇑P		**P**	**01 11 45.6**	**+1.9**
MTUR	**Matau**	**31.06**	**312**	⇑*i*P		**P**	**01 11 45.6**	**+1.9**
THE	**Thessaloniki**	**31.13**	**303**	P		**P**	**01 11 44.3**	**+0.1**
THE	**Thessaloniki**	**31.13**	**303**	P		**P**	**01 11 44.3**	**+0.1**
THE	**Thessaloniki**	**31.13**	**303**	P		**P**	**01 11 44.3**	**+0.1**
THE	**Thessaloniki**	**31.13**	**303**	P		**P**	**01 11 44.3**	**+0.1**
DOPR	**Dopca**	**31.15**	**314**	⇑*i*P		**P**	**01 11 44.7**	**+0.3**
DOPR	**Dopca**	**31.15**	**314**	⇑*i*P		**P**	**01 11 44.7**	**+0.3**
OBN	**Obninsk**	**31.15**	**336**	*d* *i*P		**P**	**01 11 45.9**	**+1.7**
OBN				*e*			01 12 45.1	
OBN				*e*PPP		PPP	01 12 56.8	
OBN				*e*S		**S**	**01 16 46.3**	**-1.3**
OBN				*e*SS		**SnSn**	**01 18 35.1**	**+4.2**
OBN				pmax	pmax			
	comp=Z,102nm,1.7s							
OBN				MLR		MLR		
	comp=Z,1µm,18.0s							
OBN	**Obninsk**	**31.15**	**336**	*e*P		**P**	**01 11 45.5**	**+1.3**
	comp=Z,121nm,1.3s							
OBN	**Obninsk**	**31.15**	**336**	*e*P		**P**	**01 11 45.5**	**+1.3**
	comp=Z,121nm,1.3s							
OBN				LR		LR		
	comp=Z,1µm,21.0s							
VOIR		**31.15**	**313**	⇑*i*P		**P**	**01 11 45.2**	**+0.7**
VOIR		**31.15**	**313**	⇑P		**P**	**01 11 45.2**	**+0.7**
VOIR		**31.15**	**313**	⇑*i*P		**P**	**01 11 45.2**	**+0.7**
PRAR	**RASCA**	**31.23**	**317**	⇑*i*P		**P**	**01 11 45.8**	**+0.7**
PRAR	**RASCA**	**31.23**	**317**	⇑*i*P		**P**	**01 11 45.8**	**+0.7**
KLV	**Kalavryta, Ach**	**31.27**	**298**	P		**P**	**01 11 44.6**	**-1.0**
KLV	**Kalavryta, Ach**	**31.27**	**298**	P		**P**	**01 11 44.6**	**-1.0**
KLV	**Kalavryta, Ach**	**31.27**	**298**	P		**P**	**01 11 44.6**	**-1.0**
AGG	**Agios Georgios**	**31.29**	**300**	P		**P**	**01 11 44.8**	**-0.9**
AGG	**Agios Georgios**	**31.29**	**300**	*e*P		**P**	**01 11 46.3**	**+0.6**
AGG				pmax	pmax			
	comp=Z,97nm,1.0s							
AGG	**Agios Georgios**	**31.29**	**300**	*e*P		**P**	**01 11 46.3**	**+0.6**
	comp=Z,97nm,1.0s							
AGG				*e*ScP		**ScP**	**01 18 20.3**	**+0.3**
AGG	**Agios Georgios**	**31.29**	**300**	*e*P		**P**	**01 11 46.3**	**+0.6**
	comp=Z,97nm,1.0s							
AGG				*e*ScP		**ScP**	**01 18 20.3**	**+0.3**
MOS	**Moscow**	**31.29**	**338**	*e*P		**P**	**01 11 45.7**	**+0.3**
MOS				*e*			01 11 56.6	
MOS				*e*			01 12 47.9	
MOS				*e*PPP		PPP	01 12 57.5	
MOS				*e*			01 14 41.7	
MOS				*e*S		**S**	**01 16 48.5**	**-1.3**
MOS				*e*SS		**SnSn**	**01 18 35.4**	**+1.1**
MOS				pmax	pmax			
	comp=Z,29nm,1.2s							
MOS				pmax	pmax			
	comp=Z,300nm,2.8s							
MOS				MLR		MLR		
	comp=N,1µm,18.0s							
MOS				MLR		MLR		
	comp=Z,1µm,18.0s							
MOS				MLR		MLR		
	comp=E,1µm,20.0s							
AKASG	**Malin Array Be**	**31.29**	**324**	P		**P**	**01 11 44.0**	**-1.6**
	comp=E,7.7nm,0.6s,baz=127,slow=8.6,SNR=28							
AKASG				PcP		**PcP**	**01 14 39.3**	**+0.1**
	comp=E,6.5nm,0.5s,baz=90,slow=2.8,SNR=13							
AKASG				ScP		**ScP**	**01 18 17.2**	**-2.6**
	comp=E,0.8nm,0.5s,baz=93,slow=2.9,SNR=4.5							
AKASG	**Malin Array Be**	**31.29**	**324**	P		**P**	**01 11 44.0**	**-1.6**
AKBB	**Malin Array Si**	**31.29**	**324**	*e*P		**P**	**01 11 46.2**	**+0.7**
AKBB				pmax	pmax			
	comp=Z,32nm,0.8s							
AKBB	**Malin Array Si**	**31.29**	**324**	*e*P		**P**	**01 11 46.2**	**+0.7**
	comp=Z,32nm,0.8s							
AKBB	**Malin Array Si**	**31.29**	**324**	*e*P		**P**	**01 11 46.2**	**+0.7**
	comp=Z,32nm,0.8s							
KIEV	**Kiev**	**31.30**	**324**	*d* *i*P		**P**	**01 11 45.7**	**+0.1**
KIEV				pmax	pmax			
	comp=Z,17nm,1.0s							
KIEV	**Kiev**	**31.30**	**324**	P		**P**	**01 11 46.0**	**+0.4**
	SNR=16							
KIEV	**Kiev**	**31.30**	**324**	*e*PcP		**PcP**	**01 14 38.8**	**-0.4**
KIEV	**Kiev**	**31.30**	**324**	*e*P		**P**	**01 11 44.0**	**-1.6**
	comp=Z,31nm,0.8s							
KIEV				*e*PcP		**PcP**	**01 14 38.8**	**-0.4**
KIEV				LR		LR		
	comp=Z,2µm,19.0s							
MPEP	**Malo Peshtene**	**31.30**	**308**	*i* P		**P**	**01 11 45.9**	**+0.1**
AK11	**Malin Array Si**	**31.31**	**324**	*e*P		**P**	**01 11 46.2**	**+0.5**
AK11	**Malin Array Si**	**31.31**	**324**	*e*PcP		**PcP**	**01 14 39.3**	**+0.1**
AK11	**Malin Array Si**	**31.31**	**324**	*e*P		**P**	**01 11 46.2**	**+0.5**
AK11				*e*PcP		**PcP**	**01 14 39.3**	**+0.1**
KALE	**Kalithea**	**31.33**	**299**	P		**P**	**01 11 45.4**	**-0.7**
KALE	**Kalithea**	**31.33**	**299**	P		**P**	**01 11 45.4**	**-0.7**
KALE	**Kalithea**	**31.33**	**299**	P		**P**	**01 11 45.4**	**-0.7**
ITM	**Ithomi**	**31.34**	**296**	P		**P**	**01 11 45.1**	**-1.1**
ITM	**Ithomi**	**31.34**	**296**	P		**P**	**01 11 45.1**	**-1.1**
ITM	**Ithomi**	**31.34**	**296**	P		**P**	**01 11 45.1**	**-1.1**
KKB	**Krupnik**	**31.34**	**305**	*i* P		**P**	**01 11 45.7**	**-0.4**
LIT	**Litokhoron**	**31.37**	**302**	P		**P**	**01 11 45.7**	**-0.7**
LIT	**Litokhoron**	**31.37**	**302**	P		**P**	**01 11 45.7**	**-0.7**
LIT	**Litokhoron**	**31.37**	**302**	P		**P**	**01 11 45.7**	**-0.7**
LIT	**Litokhoron**	**31.37**	**302**	P		**P**	**01 11 45.7**	**-0.7**
ARR	**Arges**	**31.40**	**312**	⇓*i*P		**P**	**01 11 48.0**	**+1.3**
ARR	**Arges**	**31.40**	**312**	⇓*i*P		**P**	**01 11 48.0**	**+1.3**
SERG	**Sergoula**	**31.40**	**299**	P		**P**	**01 11 45.2**	**-1.5**
SERG	**Sergoula**	**31.40**	**299**	P		**P**	**01 11 45.2**	**-1.5**
LAKA	**Lakka**	**31.43**	**298**	P		**P**	**01 11 46.1**	**-0.9**
LAKA	**Lakka**	**31.43**	**298**	P		**P**	**01 11 46.1**	**-0.9**
LAKA	**Lakka**	**31.43**	**298**	P		**P**	**01 11 46.1**	**-0.9**
PYL	**PYLOS**	**31.45**	**296**	P		**P**	**01 11 44.8**	**-2.4**
PYL	**PYLOS**	**31.45**	**296**	P		**P**	**01 11 44.8**	**-2.4**
ANX	**Ano Chora**	**31.53**	**299**	P		**P**	**01 11 46.1**	**-1.9**
ANX	**Ano Chora**	**31.53**	**299**	P		**P**	**01 11 46.1**	**-1.9**
AMT	**Artemida-Makis**	**31.55**	**297**	P		**P**	**01 11 46.8**	**-1.3**
AMT	**Artemida-Makis**	**31.55**	**297**	P		**P**	**01 11 46.8**	**-1.3**
VAY	**Valandovo**	**31.58**	**304**	*i* P		**P**	**01 11 49.2**	**+1.0**
VAY	**Valandovo**	**31.58**	**304**	*i* P		**P**	**01 11 49.2**	**+1.0**
DRO	**Drossia**	**31.60**	**298**	P		**P**	**01 11 48.5**	**0.0**
DRO	**Drossia**	**31.60**	**298**	P		**P**	**01 11 48.5**	**0.0**
GRG	**Griva**	**31.62**	**303**	P		**P**	**01 11 46.1**	**-2.5**
GRG	**Griva**	**31.62**	**303**	P		**P**	**01 11 46.1**	**-2.5**
GRG	**Griva**	**31.62**	**303**	P		**P**	**01 11 46.1**	**-2.5**
RLS	**Riolos of Patr**	**31.81**	**298**	P		**P**	**01 11 49.0**	**-1.2**
RLS	**Riolos of Patr**	**31.81**	**298**	P		**P**	**01 11 49.0**	**-1.2**
RLS	**Riolos of Patr**	**31.81**	**298**

KOLS e 01 12 22.6
KOLS pmax pmax
comp=Z,115nm,0.9s
KOLS Kolonicke sedl 34.30 317 eP P 01 12 12.0 +0.1
comp=Z,114nm,0.9s
KOLS Kolonicke sedl 34.30 317 eP P 01 12 12.0 +0.1
KOLS e 01 12 22.6
KWP Kalwaria Pacla 34.34 319 eP P 01 12 11.9 -0.3
KWP epP pP 01 12 22.2 +0.3
KWP LMZ LR 01 27 33.5
comp=Z,1μm,24.3s
KWP Kalwaria Pacla 34.34 319 ⇓iP P 01 12 12.2 0.0
KWP Kalwaria Pacla 34.34 319 ⇓P P 01 12 12.2 0.0
KWP Kalwaria Pacla 34.34 319 eP P 01 12 11.9 -0.3
KWP epP pP 01 12 22.2 +0.3
BBLS Lazići 34.47 308 ⇑iP P 01 12 12.7 -0.8
FGSL Fruska Gora 34.54 310 eP P 01 12 14.5 +0.5
FRGS Fruska Gora 34.54 310 ⇑iP P 01 12 14.5 +0.5
TEKS Tekeris 34.56 309 eP P 01 12 14.0 -0.2
CRVS Cervenica-Dubn 34.77 317 eP P 01 12 16.5 +0.5
CRVS e 01 12 30.4
CRVS e 01 13 35.5
CRVS Cervenica-Dubn 34.77 317 eP P 01 12 16.5 +0.5
CRVS Cervenica-Dubn 34.77 317 eP P 01 12 16.5 +0.5
CRVS e 01 12 30.4
CRVS ePP PP 01 13 35.5 +0.4
HCY Herceg Novi 34.79 305 eP P 01 12 15.7 -0.6
BRY Bratogost 34.86 306 eP P 01 12 16.2 -0.8
KMBO Kilima Mbogo 34.93 218 P P 01 12 19.3 +1.4
comp=Z,7.1nm,0.9s,baz=31,slow=12,SNR=9.4
KMBO LR LR 01 27 43.6
comp=Z,2μm,18.0s,baz=32,slow=38
KMBO Kilima Mbogo 34.93 218 eP P 01 12 18.9 +1.0
comp=Z,32nm,1.0s
KMBO Kilima Mbogo 34.93 218 eP P 01 12 18.9 +1.0
comp=Z,32nm,1.0s
NACGM Naroch 35.00 329 e P 01 12 19.0 +1.2
NACGM eLQ LQ 01 20 07.0
NACGM eLR LR 01 28 06.0
KLMR Klimovskoe 35.10 345 eP P 01 12 16.0 -2.7
KLMR pmax pmax
comp=Z,188nm,1.5s
STHS Stebnicka Huta 35.11 318 eP P 01 12 18.7 -0.2
STHS e 01 12 28.1
STHS pmax pmax
comp=Z,8.0nm,0.8s
STHS Stebnicka Huta 35.11 318 eP P 01 12 18.7 -0.2
comp=Z,7.6nm,0.8s
STHS Stebnicka Huta 35.11 318 eP P 01 12 18.7 -0.2
STHS e 01 12 28.1
KECS Kecovo 35.21 316 eP P 01 12 20.5 +0.8
KECS pmax pmax
comp=Z,13nm,0.9s
KECS Kecovo 35.21 316 eP P 01 12 20.5 +0.8
comp=Z,13nm,0.9s
KECS Kecovo 35.21 316 eP P 01 12 20.5 +0.8
TAR1 Taranto 35.36 301 eP P 01 12 21.0 -0.1
PSZ Piszkesteto 35.37 315 ⇑iP P 01 12 21.4 +0.2
PSZ Piszkesteto 35.37 315 ⇑eP P 01 12 21.4 +0.2
PSZ Piszkesteto 35.37 315 ⇑P P 01 12 21.4 +0.2
PSZ Piszkesteto 35.37 315 eP P 01 12 20.8 -0.4
comp=Z,27nm,1.0s
PSZ Piszkesteto 35.37 315 eP P 01 12 20.8 -0.4
comp=Z,27nm,1.0s
PSZ LR LR
comp=Z,978nm,19.0s
DOB Doboj 35.59 309 eP P 01 12 22.9 -0.2
TIP Timpagrande 35.60 299 P P 01 12 23.2 -0.1
TIP Timpagrande 35.60 299 eP P 01 12 23.8 +0.4
comp=Z,96nm,1.0s
TIP Timpagrande 35.60 299 eP P 01 12 23.8 +0.4
comp=Z,96nm,1.0s
TIP LR LR
comp=Z,2μm,19.0s
NIE Niedzica 35.68 317 eP P 01 12 23.5 -0.3
NIE epP pP 01 12 33.9 +0.4
NIE esP sP 01 12 38.0 +0.5
NIE ePP PP 01 13 45.3 +0.2
NIE LMZ LR 01 28 45.8
comp=Z,1μm,24.5s
NIE Niedzica 35.68 317 eP P 01 12 23.5 -0.3
NIE e*PP pP 01 12 33.9 +0.4
NIE e*SP sP 01 12 38.0 +0.5
NIE e 01 13 45.3
NIE MLR MLR
comp=Z,1μm,24.5s
NIE Niedzica 35.68 317 eP P 01 12 23.5 -0.3
NIE epP pP 01 12 33.9 +0.4
ISAL Salakas 35.71 329 eP P 01 12 24.9 +1.0
ISAL IAmb IAmb 01 12 40.3
comp=Z,47nm,1.0s
ISAL Salakas 35.71 329 eP P 01 12 24.9 +1.0
IZAR Zarasai 35.76 330 eP P 01 12 25.6 +1.2
IZAR IAmb IAmb 01 12 41.7
comp=Z,48nm,1.0s
IZAR Zarasai 35.76 330 eP P 01 12 25.6 +1.2
BUD Budapest 35.77 314 ⇑eP P 01 12 24.7 +0.1
BUD Budapest 35.77 314 ⇑eP P 01 12 24.7 +0.1
LANS Liptovska Anna 36.08 316 eP P 01 12 27.6 +0.3
LANS e 01 12 40.7
LANS Liptovska Anna 36.08 316 eP P 01 12 27.6 +0.3
LANS Liptovska Anna 36.08 316 eP P 01 12 27.6 +0.3
LANS e 01 12 40.7
SUW Suwalki 36.22 326 eP P 01 12 28.0 -0.3
SUW epP sP 01 12 41.2 -0.8
SUW LMZ LR 01 29 35.0
comp=Z,3μm,23.8s
SUW Suwalki 36.22 326 eP P 01 12 28.0 -0.3
SUW e*PP sP 01 12 41.2 -0.8
SUW MLR MLR
comp=Z,3μm,23.8s
SUW Suwalki 36.22 326 eP P 01 12 28.0 -0.3
BLY Banja Luka 36.23 309 ⇑iP P 01 12 28.2 -0.4
VYHS Vyhne 36.23 315 eP P 01 12 27.8 -0.8
VYHS pmax pmax
comp=Z,21nm,0.9s
VYHS Vyhne 36.23 315 eP P 01 12 27.8 -0.8
comp=Z,21nm,0.9s
VYHS Vyhne 36.23 315 eP P 01 12 27.8 -0.8
VYHS ePP PP 01 13 51.9 +0.7
VYHS eS S 01 18 06.1 -0.6
OJC Ojcow 36.29 318 eP P 01 12 28.1 -0.9
OJC epP pP 01 12 38.2 -0.5
OJC esP sP 01 12 42.0 -0.7
OJC LMZ LR 01 28 43.7
comp=Z,1μm,25.2s
OJC Ojcow 36.29 318 eP P 01 12 28.1 -0.9
OJC pmax pmax
comp=Z,84nm,0.8s
OJC Ojcow 36.29 318 eP P 01 12 28.0 -1.0
comp=Z,84nm,0.8s
OJC epP pP 01 12 38.2 -0.5
OJC Ojcow 36.29 318 eP P 01 12 28.1 -1.0
comp=Z,84nm,0.8s
CUC Castrocucco 36.41 300 eP P 01 12 30.5 +0.3
comp=Z,111nm,1.0s
CUC Castrocucco 36.41 300 eP P 01 12 30.5 +0.3
comp=Z,111nm,1.0s
CUC LR LR
comp=Z,2μm,19.0s
BEL Belsk 36.41 321 eP P 01 12 30.3 +0.3
BEL epP pP 01 12 39.7 0.0
BEL esP sP 01 12 42.8 -0.9
BEL LMZ LR 01 28 31.5
comp=Z,2μm,26.5s
BEL Belsk 36.41 321 eP P 01 12 30.3 +0.3
BEL e*PP pP 01 12 39.7 0.0
BEL e*SP sP 01 12 42.8 -0.9
BEL MLR MLR
comp=Z,2μm,26.5s
BEL Belsk 36.41 321 eP P 01 12 30.3 +0.3
BEL epP pP 01 12 39.7 0.0
GTA Gaotai 36.59 61 eP P 01 12 32.8 +0.9
GTA pP pP 01 12 43.0 +1.4
GTA sP sP 01 12 47.5 +1.8
GTA PP PP 01 13 56.8 +1.3
GTA S S 01 18 11.4 -1.2
GTA sS sS 01 18 27.0 -1.7
GTA SS SnSn 01 20 38.6 -5.1
GTA PMZ
comp=Z,44nm,1.2s
GTA PMZ
comp=Z,170nm,4.6s
GTA LN
comp=Z,1μm,18.5s
GTA LE
comp=Z,1μm,18.1s
GTA LZ
comp=Z,1μm,19.0s
BEHE Becsehely 36.94 311 ⇑eP P 01 12 35.2 +0.6
BEHE Becsehely 36.94 311 ⇑iP P 01 12 34.9 +0.3
SISC Sisak 36.96 309 P P 01 12 35.7 +1.0
JAVC Velka Javorina 37.08 315 eP P 01 12 36.6 +0.7
SMOL Smolenice 37.12 315 eP P 01 12 35.8 -0.3
SMOL e 01 12 45.8
SMOL Smolenice 37.12 315 eP P 01 12 35.8 -0.3
SMOL Smolenice 37.12 315 eP P 01 12 35.8 -0.3
SMOL e 01 12 45.8
OKC Ostrava-Krasne 37.13 317 eP P 01 12 35.4 -0.8
OKC epP pP 01 12 45.2 -0.7
OKC ePP PnPn 01 14 07.4 +5.8
OKC AMS AMS 01 30 50.0
comp=Z,1μm,19.1s
OKC Ostrava-Krasne 37.13 317 eP P 01 12 35.4 -0.8
OKC e 01 12 45.2
OKC e 01 14 07.4
OKC MLR MLR
comp=Z,1μm,19.1s
OKC Ostrava-Krasne 37.13 317 P P 01 12 35.4 -0.8
UDBI Udbina 37.17 308 P P 01 12 38.5 +1.8
UDBI Udbina 37.17 308 iP P 01 12 38.4 +1.8
WDD Wied Dalam 37.22 293 PFAKE 01 12 50.0 +13
WDD LR LR
comp=Z,1μm,21.0s
KOGS Kog 37.29 311 eP P 01 12 36.7 -0.8
KOGS e 01 14 14.5
VSU Vasula 37.29 334 c iP P 01 12 37.4 0.0
VSU pmax pmax
comp=Z,340nm,1.0s
ZAG Zagreb 37.31 310 eP P 01 12 38.7 +1.0
SOP Sopron 37.42 313 ⇓ePP P 01 12 38.3 -0.4
SOP Soporn 37.42 313 ⇓eP P 01 12 38.3 -0.4
MORC Moravsky Berou 37.48 317 ⇑iP P 01 12 39.5 +0.3
MORC Moravsky Berou 37.48 317 ⇑P P 01 12 39.5 +0.3
MORC Moravsky Berou 37.48 317 eP P 01 12 38.3 -0.9
comp=Z,109nm,0.9s
MORC Moravsky Berou 37.48 317 eP P 01 12 38.3 -0.9
comp=Z,109nm,0.9s
GOLS Golise 37.60 310 iP P 01 12 40.5 +0.3
CRES Cresnjev 37.67 310 ⇑iP P 01 12 41.0 +0.2
BOJS Bojanci 37.73 309 eP P 01 12 40.7 -0.6
BOJS eS S 01 18 29.8 +0.3
VRAC Vranov 37.90 316 ⇑iP P 01 12 43.7 +1.0
VRAC Vranov 37.90 316 ⇑P P 01 12 43.7 +1.0
VRAC Vranov 37.90 316 eP P 01 12 42.6 -0.1
CONA Conrad Observa 37.94 313 P P 01 12 42.1 -1.1
comp=Z,0.2nm,0.1s,SNR=13
CONA Conrad Observa 37.94 313 P P 01 12 42.1 -1.1
comp=Z,0.2nm,0.1s,SNR=13
KRUC Moravsky 37.95 315 eP P 01 12 43.2 +0.1
DGAR Diego Garcia 37.95 156 PFAKE 01 13 00.0 +17
DGAR LR LR
comp=Z,3μm,19.0s
ARSA Arzberg 37.98 312 iP P 01 12 43.0 -0.4
comp=Z,4.3nm,0.6s,SNR=13
ARSA Arzberg 37.98 312 P P 01 12 43.0 -0.4
comp=Z,4.3nm,0.6s,SNR=13
SOKA Soboth 38.16 311 iP P 01 12 44.4 -0.6
comp=Z,0.2nm,0.1s,SNR=8.5
SOKA Soboth 38.16 311 P P 01 12 44.4 -0.6
comp=Z,0.2nm,0.1s,SNR=8.5
CLTB Caltabellotta 38.28 296 eP P 01 12 46.0 -0.2
comp=Z,56nm,1.1s
CLTB Caltabellotta 38.28 296 eP P 01 12 46.0 -0.2
comp=Z,56nm,1.1s
CLTB LR LR
comp=Z,388nm,21.0s
LJU Ljubljana 38.35 310 eP P 01 12 46.9 +0.3
LJU eS S 01 18 39.2 +0.3
LJU Ljubljana 38.35 310 eP P 01 12 46.8 +0.3
CEY Cerknica 38.35 309 ⇑iP P 01 12 45.9 -0.7
DPC Dobruska-Polom 38.41 317 eP P 01 12 46.1 -1.0
DPC epP pP 01 12 56.2 -0.6
DPC ePP PnPn 01 14 21.4 +4.3
DPC AMS AMS 01 30 20.0
comp=Z,1μm,24.3s
DPC Dobruska-Polom 38.41 317 eP P 01 12 46.1 -1.0
DPC e 01 12 56.2
DPC e 01 14 21.4
DPC MLR MLR
comp=Z,1μm,24.3s
DPC Dobruska-Polom 38.41 317 P P 01 12 46.1 -1.0
OBKA Obir 38.44 311 iP P 01 12 47.1 -0.3
comp=Z,1.4nm,0.3s,SNR=8.4
OBKA Obir 38.44 311 P P 01 12 47.1 -0.3
comp=Z,1.4nm,0.3s,SNR=8.4
AQU L'Aquila 38.50 304 eP P 01 12 48.6 +0.7
AQU pmax pmax
comp=Z,181nm,1.2s
AQU MLR MLR
comp=Z,2μm,21.0s
AQU L'Aquila 38.50 304 eP P 01 12 48.5 +0.7
comp=Z,181nm,1.2s
AQU L'Aquila 38.50 304 eP P 01 12 48.5 +0.7
comp=Z,181nm,1.2s
AQU LR LR
comp=Z,2μm,21.0s
TREC Trest 38.58 315 eP P 01 12 47.6 -0.9
TREC epP pP 01 12 57.5 -0.7
TREC AMS AMS 01 31 40.0
comp=Z,1μm,19.8s
TREC Trest 38.58 315 eP P 01 12 47.6 -0.9
TREC e 01 12 57.5
TREC MLR MLR
comp=Z,1μm,19.8s
TREC Trest 38.58 315 P P 01 12 47.6 -0.9
KSP Ksiaz 38.60 318 eP P 01 12 48.2 -0.4
KSP epP pP 01 12 58.0 -0.3
KSP esP sP 01 13 01.5 -0.9
KSP ePP PnPn 01 14 22.2 +2.8
KSP LMZ LR 01 29 52.6
comp=Z,1μm,26.5s
KSP Ksiaz 38.60 318 eP P 01 12 48.2 -0.4
KSP e*PP pP 01 12 58.0 -0.3
KSP e*SP sP 01 13 01.5 -0.9
KSP e 01 14 22.2
KSP MLR MLR
comp=Z,1μm,26.5s
KSP Ksiaz 38.60 318 eP P 01 12 48.2 -0.4
KSP epP pP 01 12 58.0 -0.3
UPC Upice 38.65 317 eP P 01 12 48.2 -0.8
UPC epP pP 01 12 58.3 -0.5
UPC AMS AMS 01 30 20.0
comp=Z,2μm,25.8s
UPC Upice 38.65 317 eP P 01 12 48.2 -0.8
UPC e 01 12 58.3
UPC MLR MLR
comp=Z,2μm,25.8s
UPC Upice 38.65 317 P P 01 12 48.2 -0.8
TRI Trieste 38.80 309 eP P 01 12 49.7 -0.6
TRI pmax pmax
comp=Z,35nm,0.8s
TRI Trieste 38.80 309 eP P 01 12 49.7 -0.6
comp=Z,35nm,0.8s
TRI Trieste 38.80 309 eP P 01 12 49.7 -0.6
comp=Z,35nm,0.8s
CHTO Chiang Mai 38.82 94 P P 01 12 52.5 +1.7
comp=Z,103nm,1.2s
CHTO Chiang Mai 38.82 94 eP P 01 12 52.1 +1.2
CHTO pmax pmax
comp=Z,26nm,1.1s
CHTO MLR MLR
comp=Z,1μm,22.0s
CHTO Chiang Mai 38.82 94 P P 01 12 52.0 +1.2
CHTO P P 01 12 52.0 +1.2
CHTO P pP 01 12 53.1 -7.5
SNR=8.7
CHTO P pP 01 12 53.1 -7.5
SNR=8.7
CHTO Chiang Mai 38.82 94 P P 01 12 52.0 +1.2
CHTO Chiang Mai 38.82 94 eP P 01 12 52.1 +1.2
comp=Z,26nm,1.1s
CHTO LR LR
comp=Z,1μm,22.0s
CMMT Chiang Mai 38.82 94 P P 01 12 52.4 +1.6
comp=Z,23nm,1.2s
CMAR Chiang Mai Arr 38.95 95 P P 01 12 51.9 0.0
comp=Z,7.4nm,0.5s,baz=288,slow=8.9,SNR=9.1
CMAR PcP PcP 01 15 02.9 +0.8
comp=Z,14nm,0.6s,baz=287,slow=4.5,SNR=14
MOA Molln 38.96 313 iP P 01 12 50.8 -0.8
comp=Z,6.7nm,0.6s,SNR=14
MOA Molln 38.96 313 P P 01 12 50.8 -0.8
comp=Z,6.7nm,0.6s,SNR=14
MYKA Terra Mystica 39.08 311 iP P 01 12 52.6 -0.1
comp=Z,8.8nm,1.2s
MYKA Terra Mystica 39.08 311 P P 01 12 52.6 -0.1
comp=Z,8.8nm,1.2s
GOPC GO Pecny, Ondr 39.21 316 eP P 01 12 53.2 -0.5
GOPC ePP PnPn 01 14 30.6 +4.0
GOPC AMS AMS 01 32 40.0
comp=Z,1μm,16.2s
GOPC GO Pecny, Ondr 39.21 316 eP P 01 12 53.2 -0.5
GOPC e 01 14 30.6
GOPC MLR MLR
comp=Z,1μm,16.2s
GOPC GO Pecny, Ondr 39.21 316 P P 01 12 53.2 -0.5
KBA Koelnbreinsper 39.38 311 iP P 01 12 55.7 +0.4
comp=Z,0.8nm,0.1s,SNR=9.0
KBA Koelnbreinsper 39.38 311 P P 01 12 55.7 +0.4
comp=Z,0.8nm,0.1s,SNR=9.0
PRU Pruhonice 39.38 316 eP P 01 12 54.5 -0.6
PRU epP pP 01 13 04.0 -0.9
PRU ePP PnPn 01 14 29.7 +1.1
PRU eS S 01 18 56.7 +2.4
PRU AMS AMS 01 32 30.0
comp=Z,1μm,17.2s
PRU Pruhonice 39.38 316 eP P 01 12 54.5 -0.6
PRU e 01 13 04.0
PRU e 01 14 29.7
PRU eS S 01 18 56.7 +2.4
PRU MLR MLR
comp=Z,1μm,17.2s
PRU Pruhonice 39.38 316 P P 01 12 54.5 -0.6
PVCC Panska Ves 39.53 317 eP P 01 12 55.9 -0.4
PVCC epP pP 01 13 06.0 -0.1
PVCC AMS AMS 01 30 30.0
comp=Z,2μm,23.6s
PVCC Panska Ves 39.53 317 eP P 01 12 55.9 -0.4
PVCC e 01 13 06.0
PVCC MLR MLR
comp=Z,2μm,23.6s
PVCC Panska Ves 39.53 317 P P 01 12 55.9 -0.4
FIA1 FINESS Array S 39.55 337 eP P 01 12 56.5 +0.2
comp=Z,48nm,0.6s
FIA1 FINESS Array S 39.55 337 eP P 01 12 56.5 +0.2
comp=Z,48nm,0.6s
FINES FINESS Array B 39.55 337 P P 01 12 56.4 0.0
comp=Z,36nm,0.6s,baz=137,slow=8.9,SNR=118
GEA0 GERESS Array S 39.58 314 eP P 01 12 55.6 -1.3
GEA0 GERESS Array S 39.58 314 eP P 01 12 55.6 -1.3
GEA0 eS S 01 18 50.1 -7.3
GEC2 GERESS Array S 39.58 314 eP P 01 12 56.2 -0.7
GEC2 pmax pmax
comp=Z,45nm,1.0s
GEC2 GERESS Array S 39.58 314 eP P 01 12 56.2 -0.7
comp=Z,45nm,1.0s
GEC2 GERESS Array S 39.58 314 eP P 01 12 56.2 -0.7
comp=Z,45nm,1.0s
GERES GERESS Array B 39.58 314 P P 01 12 55.5 -1.4
comp=Z,11nm,1.0s,baz=111,slow=5.9,SNR=41
GERES PcP PcP 01 15 04.5 +0.8
comp=Z,4.5nm,0.7s,baz=129,slow=3.1,SNR=4.1
GERES ScP ScP 01 18 47.1 -2.9
comp=Z,1.8nm,0.9s,baz=108,slow=3.2,SNR=5.1
LZH Lanzhou 39.69 66 ⇓P P 01 13 00.0 +1.9
LZH pP sP 01 13 10.6 -1.3
LZH sP pP 01 13 15.3 +7.4
LZH PP PnPn 01 14 36.1 +3.4
LZH sS sS 01 19 20.0 +4.3
LZH SS SS 01 21 52.0 -3.6
LZH PMZ
comp=Z,69nm,1.0s
LZH PMZ
comp=Z,260nm,5.1s
LZH LN
comp=Z,3μm,14.1s
LZH LE
comp=Z,1μm,13.2s
LZH LZ
comp=Z,3μm,15.0s
KHC Kasperske Hory 39.73 314 eP P 01 12 57.1 -1.0
KHC epP pP 01 13 07.6 -0.3
KHC ePP PnPn 01 14 37.0 +4.1
KHC eS S 01 18 58.5 -1.2
KHC AMS AMS 01 32 50.0
comp=Z,900nm,18.4s
KHC Kasperske Hory 39.73 314 eP P 01 12 57.1 -1.0
KHC e 01 13 07.6
KHC e 01 14 37.0
KHC eS S 01 18 58.5 -1.2
KHC MLR MLR
comp=Z,900nm,18.4s
KHC Kasperske Hory 39.73 314 eP P 01 12 57.2 -0.9
comp=Z,25nm,1.0s
KHC S S 01 18 58.5 -1.2
KHC Kasperske Hory 39.73 314 eP P 01 12 57.2 -0.9
comp=Z,25nm,1.0s
ABTA Abfaltersbach 39.86 310 iP P 01 12 58.4 -0.9
comp=Z,17nm,0.7s,SNR=17
ABTA Abfaltersbach 39.86 310 P P 01 12 58.4 -0.9
comp=Z,17nm,0.7s,SNR=17
BRG Berggiesshubel 40.02 317 eP P 01 12 60.0 -0.4
comp=Z,18nm,1.4s
BRG PP PnPn 01 14 35.0 -1.2
BRG SCP ScP 01 18 50.8 -0.7
comp=Z,14nm,1.5s
BRG S S 01 19 05.0 +1.2
BRG SS SS 01 21 52.0 -9.4
comp=N,833nm,27.2s
comp=E,1μm,26.0s
comp=Z,2μm,23.9s
BRG Berggiesshubel 40.02 317 eP P 01 13 00.0 -0.4
BRG 01 14 35.0
BRG S S 01 19 05.0 +1.2
BRG SS SS 01 21 52.0 -9.4
BRG pmax pmax
comp=Z,19nm,1.4s
BRG MLR MLR
comp=N,833nm,27.2s
BRG MLR MLR
comp=E,1μm,26.0s
BRG MLR MLR
comp=Z,2μm,23.9s
CD2 Chengdu 40.05 74 eP P 01 13 02.3 +1.4
CD2 sP sP 01 13 18.4 +3.7
CD2 PP PP 01 14 34.8 +1.5
CD2 PcS PcS 01 18 57.0 +1.1
CD2 S S 01 19 05.5 +0.7
CD2 sS sS 01 19 24.8 +3.9
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,4.0s
CD2 LN
comp=Z,4μm,19.4s
CD2 LE
comp=Z,1μm,15.9s
CD2 LZ
comp=Z,1μm,14.1s
MOY Mondy 40.05 42 eP P 01 13 01.5 +0.7
MOY pmax pmax
comp=Z,87nm,1.9s
KMI Kunming 40.26 83 P P 01 13 04.9 +1.9
KMI pP sP 01 13 15.6 -1.2
KMI sP pP 01 13 20.0 +7.2
KMI PP PnPn 01 14 42.9 +3.2
KMI S S 01 19 09.1 +0.6
KMI sS sS 01 19 27.8 +3.2
KMI SS SS 01 22 02.9 -4.6
KMI PMZ
comp=Z,74nm,1.2s
KMI PMZ
comp=Z,200nm,5.1s
KMI LN
comp=Z,870nm,19.9s
KMI LE
comp=Z,630nm,17.4s
KMI LZ
comp=Z,700nm,19.3s
WTTA Wattenberg 40.55 311 iP P 01 13 03.9 -1.2
SNR=15

WTTA **Wattenberg** 40.55 311 P P 01 13 03.9 -1.2
SNR=15
WATA **Walderalm** 40.61 311 *i* P P P 01 13 04.4 -1.1
comp=Z,32nm,0.8s,SNR=17
WATA **Walderalm** 40.61 311 P P P 01 13 04.4 -1.1
comp=Z,32nm,0.8s,SNR=17
UTTA **Uttaradit** 40.64 95 P P P 01 13 08.5 +2.6
comp=Z,10nm,0.8s,comp=Z,96nm
CLL **Collm** 40.71 317⇑ *i* P P P 01 13 06.2 +0.1
comp=Z,62nm,1.2s
CLL *i* pP **pP** 01 13 15.8 -0.1
comp=Z,73nm,1.1s
CLL *e*PP **PnPn** 01 14 44.0 -0.4
CLL *e*PPIp 01 14 48.0
CLL *e*(PcP) **PcP** 01 15 02.0 -5.2
CLL *e*ScP **ScP** 01 18 53.0 -1.2
comp=Z,15nm,1.7s
CLL *e*S **S** 01 19 12.0 -2.2
CLL *e*SS **SnSn** 01 22 36.0 +14
CLL L L 01 32 00.0
comp=Z,700nm,21.1s
CLL Collm 40.71 317⇑ *i* P P P 01 13 06.2 +0.1
CLL *i* *PP **pP** 01 13 15.8 -0.1
CLL *e*S **S** 01 19 12.0 -2.2
CLL pmax pmax
comp=Z,62nm,1.2s
CLL MLR MLR
comp=Z,700nm,21.1s
CLL Collm 40.71 317 *e*P P P 01 13 05.7 -0.5
comp=Z,64nm,1.1s
CLL Collm 40.71 317 *e*P P P 01 13 05.7 -0.5
comp=Z,64nm,1.1s
NKC Novy Kostel 40.74 316 *e*P P P 01 13 06.0 -0.4
NKC *e*pP **pP** 01 13 15.9 -0.3
NKC AMS AMS 01 34 40.0
comp=Z,1μm,18.9s
NKC Novy Kostel 40.74 316 *e*P P P 01 13 06.0 -0.4
NKC *e* 01 13 15.9
NKC MLR MLR
comp=Z,1μm,18.9s
NKC Novy Kostel 40.74 316 P P P 01 13 06.0 -0.4
SRDT SRDT 40.77 101 P P 01 13 18.5 +11
VLC Villacollemand 40.91 306 *e*P P P 01 13 08.4 +0.5
comp=Z,28nm,0.9s
VLC Villacollemand 40.91 306 *e*P P P 01 13 08.4 +0.5
comp=Z,28nm,0.9s
VLC LR LR
comp=Z,1μm,21.0s
MOTA Moosalm 40.93 311 *i* P P P 01 13 06.8 -1.3
comp=Z,54nm,1.3s,SNR=14
MOTA Moosalm 40.93 311 P P P 01 13 06.8 -1.3
comp=Z,54nm,1.3s,SNR=14
BSD Bornholm Skovb 40.98 324 *i* P P P 01 13 05.5 -2.8
BSD pmax pmax
comp=Z,62nm,0.7s
BSD Bornholm Skovb 40.98 324 *i* P P P 01 13 05.5 -2.8
comp=Z,62nm,0.7s
ZAK Zakamensk 41.04 44 *e*P P P 01 13 08.4 -0.6
ZAK *e* 01 14 51.0
ZAK pmax pmax
comp=Z,23nm,1.3s
ZAK pmax pmax
comp=Z,11nm,1.4s
FETA Feichten 41.12 311 *i* P P P 01 13 08.6 -1.1
comp=Z,36nm,0.8s,SNR=25
FETA Feichten 41.12 311 P P P 01 13 08.6 -1.1
comp=Z,36nm,0.8s,SNR=25
RETA Reutte 41.18 311 *i* P P P 01 13 08.6 -1.5
comp=Z,15nm,0.6s,SNR=9.7
RETA Reutte 41.18 311 P P P 01 13 08.6 -1.5
comp=Z,15nm,0.6s,SNR=9.7
VSL Villasalto 41.33 299 *e*P P P 01 13 12.6 +1.2
comp=Z,76nm,1.0s
VSL Villasalto 41.33 299 *e*P P P 01 13 12.6 +1.2
comp=Z,76nm,1.0s
VSL LR LR
comp=Z,532nm,19.0s
LOEI Loei 41.35 95 P P P 01 13 16.0 +4.2
comp=Z,49nm,1.2s,comp=Z,561nm
FUORN **Ofenpass-Fuorn** 41.36 310 *e*P P P 01 13 12.9 +1.1
comp=Z,99nm,1.6s
FUORN **Ofenpass-Fuorn** 41.36 310 *e*P P P 01 13 12.9 +1.1
comp=Z,99nm,1.6s
GRFO Grafenberg 41.37 315 *e*P P P 01 13 11.5 -0.1
GRFO pmax pmax
comp=Z,64nm,1.0s
GRFO Grafenberg 41.37 315 *e*P P P 01 13 11.5 -0.1
comp=Z,64nm,1.0s
GRFO Grafenberg 41.37 315 *e*P P P 01 13 11.5 -0.1
comp=Z,64nm,1.0s
KEST Kesra 41.43 293 P P P 01 13 13.6 +1.3
comp=Z,24nm,0.9s,baz=112,slow=2.5,SNR=27
KEST Kesra 41.43 293 *e*P P P 01 13 14.1 +1.7
comp=Z,46nm,1.0s
KEST Kesra 41.43 293 *e*P P P 01 13 14.1 +1.7
comp=Z,46nm,1.0s
PBKT Sadao Pong 41.46 96 P P P 01 13 14.5 +1.9
comp=Z,57nm,1.1s
TLY Talaya 41.62 42 P P P 01 13 14.4 +0.8
comp=Z,10nm,0.6s,baz=236,slow=8.4,SNR=16
TLY Talaya 41.62 42 *c* *i*P P P 01 13 15.5 +1.9
TLY *e*S **S** 01 19 28.2 +0.5
TLY *e*SS **SS** 01 22 32.5 -0.8
TLY pmax pmax
comp=Z,25nm,1.0s
TLY MLR MLR
comp=Z,725nm,13.0s
TLY Talaya 41.62 42 *e*P P P 01 13 14.5 +0.8
comp=Z,16nm,0.7s
TLY Talaya 41.62 42 *e*P P P 01 13 14.5 +0.9
comp=Z,16nm,0.7s
TLY LR LR
comp=Z,1μm,20.0s
DAVOX **Davos/Dischmat** 41.65 310 LR LR 01 35 21.2
comp=Z,1μm,19.9s,baz=92,slow=43
DAVA Damuels 41.73 311 *i* P P P 01 13 13.5 -1.3
comp=Z,37nm,0.6s,SNR=25
DAVA Damuels 41.73 311 P P P 01 13 13.5 -1.3
comp=Z,37nm,0.6s,SNR=25
PHET Kaeng Krachan 41.86 102 P P 01 13 21.2 +5.2
comp=Z,34nm,0.8s,comp=Z,257nm
TUE Stuetta 41.96 309 *e*P P P 01 13 15.4 -1.3
comp=Z,36nm,0.8s
TUE Stuetta 41.96 309 *e*P P P 01 13 15.4 -1.3
comp=Z,36nm,0.8s
TUE LR LR
comp=Z,1μm,20.0s
IRK Irkutsk 42.16 42 *e*P P P 01 13 18.5 +0.5
IRK pmax pmax
comp=Z,77nm,2.0s
APA Apatity 42.26 346⇑ *i*P P P 01 13 18.1 -0.5
APA *i* 01 13 28.0
APA *i* PPP PPP 01 15 13.0
APA *i* S **S** 01 19 33.0 -3.7
APA *i* SS **SS** 01 22 44.0 -1.4
APA pmax pmax
comp=Z,29nm,0.8s
APA MLR MLR
comp=Z,2μm,17.0s
LVZ Lovozero 42.29 347 *d* *i*P P P 01 13 19.6 +0.7
LVZ pmax pmax
comp=Z,60nm,1.7s
LVZ Lovozero 42.29 347 *e*P P P 01 13 18.4 -0.5
comp=Z,36nm,0.9s
LVZ Lovozero 42.29 347 *e*P P P 01 13 18.4 -0.5
comp=Z,36nm,0.9s
LVZ LR LR
comp=Z,2μm,20.0s
STU Stuttgart 42.46 313 *e*P P P 01 13 19.9 -0.6
STU Stuttgart 42.46 313 *e*P P P 01 13 19.9 -0.6
STU Stuttgart 42.46 313 *e*P P P 01 13 19.9 -0.6
SONM Songino Array 42.47 49 P P P 01 13 20.9 +0.1
comp=Z,19nm,0.9s,baz=258,slow=8.5,SNR=69
SONA1 **Songino Array** 42.48 49 *e*P P P 01 13 21.0 +0.2
SONA1 **Songino Array** 42.48 49 *e*P P P 01 13 21.0 +0.2
COP Copenhagen 42.51 323 *e*P P P 01 13 22.9 +2.2
COP Copenhagen 42.51 323 *i*P P P 01 13 22.9 +2.2
COP Copenhagen 42.51 323 *e*P P P 01 13 22.9 +2.2
CHAI Chaiyaphum 42.62 97 P P P 01 13 25.0 +2.8
comp=Z,9.7nm,1.1s,comp=Z,198nm
NONG Nongkai 42.80 93 P P P 01 13 25.0 +1.4
comp=Z,80nm,1.1s,comp=Z,8μm
TOD Tromm 42.88 314 *e*P P P 01 13 23.3 -0.6
ABSA Djebel Ababsia 42.91 294 P P P 01 13 26.1 +1.7
ABSA Djebel Ababsia 42.91 294 P P P 01 13 26.1 +1.7
ULN Ulaanbaatar 42.91 49 *c* *i*P P P 01 13 25.3 +0.9
ULN pmax pmax
comp=Z,68nm,1.7s
ULN Ulaanbaatar 42.91 49 P P P 01 13 25.5 +1.1
SNR=21
ULN P P 01 13 25.5 +1.1
SNR=21
ULN Ulaanbaatar 42.91 49 *e*P P P 01 13 24.2 -0.2
comp=Z,47nm,1.1s
ULN Ulaanbaatar 42.91 49 *e*P P P 01 13 24.2 -0.2
comp=Z,47nm,1.1s
ULN LR LR
comp=Z,3μm,22.0s
CMAH Djebel Manchou 42.93 295 P P P 01 13 26.0 +1.4
CMAH Djebel Manchou 42.93 295 P P P 01 13 26.0 +1.4
BFO Black Forest 42.95 312 *i* P P P 01 13 27.2 +2.7
BFO Black Forest 42.95 312 *e*P P P 01 13 25.4 +0.9
comp=Z,16nm,1.2s
BFO Black Forest 42.95 312 *e*P P P 01 13 25.4 +0.9
comp=Z,16nm,1.2s
BFO LR LR
comp=Z,676nm,19.0s
REVF Revere 43.04 305 *e*P P P 01 13 25.3 0.0
REVF Revere 43.04 305 *e*P P P 01 13 25.3 0.0
LUCF Luceram 43.07 305 *e*P P P 01 13 25.9 +0.3
LUCF Luceram 43.07 305 *e*P P P 01 13 25.9 +0.3
FELD Feldberg im Sc 43.09 311 *e*P P P 01 13 23.8 -1.9
KHON Khomkaen 43.18 96 P P 01 13 32.5 +5.8
comp=Z,19nm,0.8s,comp=Z,1μm
MVIF Mont Vial 43.20 305 *e*P P P 01 13 26.9 +0.1
MVIF Mont Vial 43.20 305 *e*P P P 01 13 26.9 +0.1
KTD Kalmit 43.28 313 *e*P P P 01 13 26.6 -0.6
SENIN Lac Senin/Sane 43.35 309 *e*P P P 01 13 27.3 -0.7
comp=Z,21nm,0.7s
SENIN Lac Senin/Sane 43.35 309 *e*P P P 01 13 27.3 -0.7
comp=Z,21nm,0.7s
BBS Basel-Blauen 43.35 311 *e*P P P 01 13 26.4 -1.4
GYA Guiyang 43.38 80⇑ *i*P P P 01 13 29.3 +0.9
GYA pP sP 01 13 41.0 -1.2
GYA PP **PP** 01 15 12.8 +3.3
GYA ScP **ScP** 01 19 06.0 +0.4
GYA S **S** 01 19 55.4 +1.0
GYA sS sS 01 20 13.6 +3.0
GYA SS **SS** 01 23 02.0 -6.8
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,5.9s
GYA LN
comp=Z,510nm,18.2s
GYA LE
comp=Z,460nm,18.6s
GYA LZ
comp=Z,540nm,19.0s
CAEH 'Ain El Ouahch 43.38 295 P P P 01 13 29.2 +1.1
CAEH 'Ain El Ouahch 43.38 295 P P P 01 13 29.2 +1.1
LIBD Limburg 43.40 312 *e*P P P 01 13 27.3 -0.7
LANF Langenberg 43.40 313 *e*P P P 01 13 26.0 -2.1
LANF Langenberg 43.40 313 *e*P P P 01 13 26.0 -2.1
CKFL Kef-Lekhel 43.51 295 P P P 01 13 30.9 +1.6
CKFL Kef-Lekhel 43.51 295 P P P 01 13 30.9 +1.6
BNI Bardonecchia 43.64 307 PFAKE 01 13 50.0 +20
BNI LR LR
comp=Z,761nm,19.0s
MOF Molkenrain 43.66 311 *e*P P P 01 13 29.3 -1.0
MOF Molkenrain 43.66 311 *e*P P P 01 13 29.3 -1.0
ECH Echery 43.70 312 *e*P P P 01 13 28.5 -2.0
ECH Echery 43.70 312 *e*P P P 01 13 28.5 -2.0
CASM Ain Smara 43.70 294 P P P 01 13 32.0 +1.2
CASM Ain Smara 43.70 294 P P P 01 13 32.0 +1.2
ABH Alteburg 43.73 314 *e*P P P 01 13 29.9 -0.9
RSL Roselend 43.74 308 *e*P P P 01 13 29.1 -2.0
RSL Roselend 43.74 308 *e*P P P 01 13 29.1 -2.0
HFS Hagfors 43.75 330 LR LR 01 35 33.0
comp=Z,1μm,20.5s,baz=122,slow=41
OG01 Vacheresse 43.77 309 *e*P P P 01 13 28.6 -2.6
CTEI Djebel Teioual 43.79 294 P P P 01 13 32.5 +0.9
CTEI Djebel Teioual 43.79 294 P P P 01 13 32.5 +0.9
LOMF Lomont 43.80 310 *e*P P P 01 13 30.9 -0.5
LOMF Lomont 43.80 310 *e*P P P 01 13 30.9 -0.5
SKNT Sakolnakorn 43.95 94 P P P 01 13 35.2 +2.3
comp=Z,52nm,1.2s
XAN Xi'an 43.99 69 P P P 01 13 33.5 +0.4
XAN pP pP 01 13 43.4 +0.4
XAN PP **PP** 01 15 15.9 +0.1
XAN PMZ
comp=Z,24nm,0.7s
XAN LE
comp=Z,3μm,25.6s
XAN LZ
comp=Z,2μm,19.7s
RUP Ruppelstein 44.01 314 *e*P P P 01 13 31.0 -2.1
GDM Grand'Maison 44.05 307 *e*P P P 01 13 32.7 -0.9
GDM Grand'Maison 44.05 307 *e*P P P 01 13 32.7 -0.9
DFRA Djebel Bou Aff 44.18 295 P P P 01 13 36.1 +1.4
DFRA Djebel Bou Aff 44.18 295 P P P 01 13 36.1 +1.4
GRN Grenole 44.31 307 *e*P P P 01 13 32.3 -3.3
PANO Nakornpanom 44.44 94 P P P 01 13 39.0 +2.2
comp=Z,56nm,1.2s
BTO Baotou 44.47 59 *e*P P P 01 13 37.5 +0.5
MUD Monsted U'grnd 44.49 324 *e*P P P 01 13 37.3 +0.6
MUD Monsted U'grnd 44.49 324 *i* P P P 01 13 37.2 +0.6
MUD pmax pmax
comp=Z,49nm,1.1s
MUD Monsted U'grnd 44.49 324 *i* P P P 01 13 37.2 +0.6
comp=Z,49nm,1.1s
MUD Monsted U'grnd 44.49 324 *e*P P P 01 13 37.3 +0.6
SNR=28
CKHR Kef el Ahmar 44.51 294 P P P 01 13 38.3 +0.9
CKHR Kef el Ahmar 44.51 294 P P P 01 13 38.3 +0.9
OG26 St.-Nazaire-De 44.58 306 *e*P P P 01 13 37.9 +0.2
OG26 St.-Nazaire-De 44.58 306 *e*P P P 01 13 37.9 +0.2
WLF Walferdange 44.59 314 P P P 01 13 37.7 +0.1
comp=Z,21nm,1.4s
WLF Walferdange 44.59 314 *e*P P P 01 13 37.4 -0.2
WLF pmax pmax
comp=Z,53nm,1.3s
WLF MLR MLR
comp=Z,1μm,20.0s
WLF Walferdange 44.59 314 *e*P P P 01 13 37.4 -0.2
comp=Z,53nm,1.3s
WLF Walferdange 44.59 314 *e*P P P 01 13 37.4 -0.2
comp=Z,53nm,1.3s
WLF LR LR
comp=Z,1μm,20.0s
SET Setif 44.59 294 P P P 01 13 40.0 +2.1
SET Setif 44.59 294 P P P 01 13 40.0 +2.1
MEM Membach 44.84 315 P P P 01 13 40.2 +0.6
comp=Z,28nm,1.5s
MEM Membach 44.84 315 P P P 01 13 40.2 +0.6
comp=Z,28nm,1.5s
NRIK Noril'sk 44.92 15 P P P 01 13 40.0 0.0
comp=Z,20nm,0.8s,baz=216,slow=5.6,SNR=21
NRIK LR LR 01 35 50.0
comp=Z,6μm,19.4s,baz=219,slow=41
NRIK Noril'sk 44.92 15 P P P 01 13 40.0 0.0
NRIK pmax pmax
comp=Z,20nm,0.8s
NRIK MLR MLR
comp=Z,6μm,19.4s
NC602 NORSAR Array S 44.98 330 *e*P P P 01 13 40.8 +0.3
NC602 NORSAR Array S 44.98 330 *e*P P P 01 13 40.8 +0.3
SNR=28
NC602 NORSAR Array S 44.98 330 *e*P P P 01 13 41.5 +1.0
OSL Oslo 45.01 329 *e*P P P 01 13 41.6 +0.8
OSL Oslo 45.01 329 *e*P P P 01 13 41.6 +0.8
SNR=28
ENH Enshi 45.02 74 *e*P P P 01 13 41.8 +0.4
comp=Z,50nm,1.0s
ENH Enshi 45.02 74 *e*P P P 01 13 41.8 +0.4
comp=Z,50nm,1.0s
ENH LR LR
comp=Z,1μm,20.0s
NC405 NORSAR Array S 45.06 330 *e*P P P 01 13 40.7 -0.6
NC405 NORSAR Array S 45.06 330 *e*P P P 01 13 40.7 -0.6
SSB Saint Sauveur 45.16 307 *e*P P P 01 13 40.5 -1.8
SSB Saint Sauveur 45.16 307 *e*P P P 01 13 41.0 -1.3
SSB pmax pmax
comp=Z,41nm,1.0s
SSB MLR MLR
comp=Z,801nm,22.0s
SSB Saint Sauveur 45.16 307 *e*P P P 01 13 41.0 -1.3
comp=Z,41nm,1.0s
SSB Saint Sauveur 45.16 307 *e*P P P 01 13 41.0 -1.3
comp=Z,41nm,1.0s
SSB LR LR
comp=Z,801nm,22.0s
NB201 NORSAR Array S 45.22 330 *e*P P P 01 13 42.4 -0.1
NB201 NORSAR Array S 45.22 330 *e*P P P 01 13 42.4 -0.1
BCLA Clavier 45.25 315 P P P 01 13 43.4 +0.5
comp=Z,18nm,1.3s
BCLA Clavier 45.25 315 P P P 01 13 43.3 +0.5
comp=Z,18nm,1.3s
NB2 NORSAR Subarra 45.25 330 P P P 01 13 41.5 -1.3
comp=Z,12nm,0.7s,baz=115,slow=7.9
NB2 NORSAR Subarra 45.25 330 P P P 01 13 41.5 -1.3
baz=115,slow=7.9
NB2 NORSAR Subarra 45.25 330 P P P 01 13 41.5 -1.3
comp=Z,12nm,0.7s,SNR=4.8
NOA NORSAR Array B 45.25 330 P P P 01 13 41.4 -1.4
comp=Z,9.6nm,0.7s,baz=116,slow=7.9,SNR=39
NOA PP **PP** 01 15 31.9 +3.1
comp=Z,4.0nm,0.8s,baz=123,slow=8.6,SNR=4.0
NOA LR LR 01 35 52.0
comp=Z,1μm,21.4s,baz=130,slow=40
NC303 NORSAR Array S 45.27 331 *e*P P P 01 13 44.6 +1.8
NC303 NORSAR Array S 45.27 331 *e*P P P 01 13 44.6 +1.8
MAHO Mahon 45.27 300 *i* P P P 01 13 43.4 +0.2
MAHO *i* S **S** 01 20 22.1 +0.8
NAO01 NORSAR Array S 45.31 330 *e*P P P 01 13 43.5 +0.3
NAO01 NORSAR Array S 45.31 330 *e*P P P 01 13 43.5 +0.3
KEV Kevo 45.41 346 *e*P P P 01 13 43.3 -0.5
KEV pmax pmax
comp=Z,112nm,1.0s
KEV MLR MLR
comp=Z,2μm,19.0s
KEV Kevo 45.41 346 *e*P P P 01 13 43.3 -0.5
comp=Z,112nm,1.0s
KEV Kevo 45.41 346 *e*P P P 01 13 43.3 -0.5
comp=Z,112nm,1.0s
KEV LR LR
comp=Z,2μm,19.0s
NBO02 NORSAR Array S 45.41 330 *e*P P P 01 13 43.7 -0.3
NBO02 NORSAR Array S 45.41 330 *e*P P P 01 13 43.7 -0.3
KONO Kongsberg 45.42 328 *e*P P P 01 13 44.7 +0.7
KONO IAmb IAmb 01 13 46.5
comp=Z,170nm,2.0s
KONO *e*PP **PP** 01 15 29.9 -0.6
KONO Kongsberg 45.42 328 *e*P P P 01 13 44.0 -0.1
KONO pmax pmax
comp=Z,15nm,0.8s
KONO MLR MLR
comp=Z,2μm,20.0s
KONO Kongsberg 45.42 328 *e*P P P 01 13 44.0 -0.1
comp=Z,15nm,0.8s
KONO Kongsberg 45.42 328 *e*P P P 01 13 44.0 -0.1
comp=Z,15nm,0.8s
KONO LR LR
comp=Z,2μm,20.0s
NBO00 NORSAR Array S 45.44 330 *e*P P P 01 13 44.5 +0.2
NBO00 NORSAR Array S 45.44 330 *e*P P P 01 13 44.5 +0.2
HOMB Homborsund 45.44 326 *e*P P P 01 13 45.2 +1.0
HOMB *e*PP **PP** 01 15 31.1 +0.4
HOMB Homborsund 45.44 326 *e*P P P 01 13 45.2 +1.0
SNR=28
NC204 NORSAR Array S 45.55 330 *e*P P P 01 13 44.4 -0.8
NC204 NORSAR Array S 45.55 330 *e*P P P 01 13 44.4 -0.8
ARA0 ARCESS Array S 45.58 345 *e*P P P 01 13 45.3 +0.1
ARA0 ARCESS Array S 45.58 345 *e*P P P 01 13 45.3 +0.1
ARE0 ARCESS Array S 45.58 345 *e*P P P 01 13 45.7 +0.5
ARE0 *e*pP **pP** 01 13 55.6 +0.5
ARE0 *e*PP **PP** 01 15 32.7 +0.7
ARE0 *e*S **S** 01 20 25.2 +0.1
ARE0 *e* 01 23 36.2
ARE0 ARCESS Array S 45.58 345 *e*P P P 01 13 45.7 +0.5
SNR=28
ARE0 *e*pP **pP** 01 13 55.6 +0.5
SNR=152
ARE0 ARCESS Array S 45.58 345 *e*P P P 01 13 45.8 +0.6
comp=Z,69nm,1.0s
ARCES **ARCESS Array B** 45.58 345 P P P 01 13 45.1 -0.1
comp=Z,17nm,0.6s,baz=140,slow=6.9,SNR=42
ARCES PcP **PcP** 01 15 23.4 +0.2
comp=Z,12nm,0.7s,baz=150,slow=3.9,SNR=3.9
HHC Hu-ho-hao-te 45.64 59 *e*P P P 01 13 46.8 +0.5
HHC sP sP 01 13 58.8 -1.3
HHC S **S** 01 20 26.0 -0.9
HHC PMZ
comp=Z,23nm,0.9s
HHC PMZ
comp=Z,97nm,4.3s
HHC LN
comp=Z,1μm,17.6s
HHC LE
comp=Z,570nm,19.6s
HHC LZ
comp=Z,690nm,18.2s
DOU Dourbes 45.65 314 P P P 01 13 46.2 +0.2
comp=Z,29nm,1.8s
DOU Dourbes 45.65 314 P P P 01 13 46.2 +0.2
comp=Z,29nm,1.8s
KTK1 Kautokeino 45.74 343 *e*P P P 01 13 47.0 +0.5
KTK1 Kautokeino 45.74 343 *e*P P P 01 13 47.0 +0.5
SNR=28
COLF Collangettes 45.77 307 *e*P P P 01 13 49.0 +1.8
COLF Collangettes 45.77 307 *e*P P P 01 13 49.0 +1.8
PLDF La Plantade 45.85 308 *e*P P P 01 13 46.6 -1.2
PLDF La Plantade 45.85 308 *e*P P P 01 13 46.6 -1.2
SNF Seneffe 45.91 314 P P P 01 13 48.7 +0.6
SNF Seneffe 45.91 314 P P P 01 13 48.6 +0.6
UBPT Khong Chiam 45.94 96 P P P 01 13 51.2 +2.5
comp=Z,39nm,1.1s
LBL Lubilhac 46.08 307 *e*P P P 01 13 49.4 -0.2
LBL Lubilhac 46.08 307 *e*P P P 01 13 49.4 -0.2
AGO Saint Agoulin 46.20 308 *e*P P P 01 13 49.9 -0.6
AGO Saint Agoulin 46.20 308 *e*P P P 01 13 49.9 -0.6
PYM Petit Puy Mans 46.27 308 *e*P P P 01 13 49.9 -1.2
PYM Petit Puy Mans 46.27 308 *e*P P P 01 13 49.9 -1.2
GSI Gunungsitoli 46.46 118 P P 01 14 04.2 +11
comp=Z,60nm,0.8s
FILF Fillols 46.51 303 *e*P P P 01 13 53.1 +0.1
FILF Fillols 46.51 303 *e*P P P 01 13 53.1 +0.1
LRDF Laroque-de-Fa 46.53 304 *e*P P P 01 13 52.2 -0.9
LRDF Laroque-de-Fa 46.53 304 *e*P P P 01 13 52.2 -0.9
NSS Namsos 46.56 335 *e*P P P 01 13 53.0 +0.1
NSS *e*pP **pP** 01 14 02.6 -0.2
NSS Namsos 46.56 335 *e*P P P 01 13 53.0 +0.1
SNR=27
NSS *e*pP **pP** 01 14 02.6 -0.2
SNR=153
EMHD Djebel Mahouad 46.56 295 P P P 01 13 54.3 +0.7
EMHD Djebel Mahouad 46.56 295 P P P 01 13 54.3 +0.7
FRNF Fournols 46.56 307 *e*P P P 01 13 52.7 -0.7
FRNF Fournols 46.56 307 *e*P P P 01 13 52.7 -0.7
KULM Kulim 46.60 111 *e*P P P 01 13 54.6 +0.6
comp=Z,11nm,0.7s
KULM Kulim 46.60 111 *e*P P P 01 13 54.6 +0.6
comp=Z,11nm,0.7s
KULM LR LR
comp=Z,835nm,20.0s
TBLU Trondheim 46.63 333 *e*P P P 01 13 54.7 +1.2
TBLU Trondheim 46.63 333 *e*P P P 01 13 54.7 +1.2
SNR=27
HAMF Hammerfest 46.83 345 *e*P P P 01 13 55.2 +0.2
HAMF *e*PP **PP** 01 15 45.2 -0.1
HAMF *e*S **S** 01 20 45.8 +2.9
HAMF Hammerfest 46.83 345 *e*P P P 01 13 55.2 +0.2
SNR=27
ODD1 Odda 46.91 328 *e*P P P 01 13 57.5 +1.6
ODD1 Odda 46.91 328 *e*P P P 01 13 57.5 +1.6
SNR=27
VALF Valcebollere 46.92 303 *e*P P P 01 13 56.4 +0.1
VALF Valcebollere 46.92 303 *e*P P P 01 13 56.4 +0.1
STAV Stavanger 47.05 326 *e*P P P 01 13 57.5 +0.7
STAV Stavanger 47.05 326 *e*P P P 01 13 57.5 +0.7
SNR=27
TAM Tamanrasset 47.10 276 *e*P P P 01 13 58.1 +0.1
TAM pmax pmax
comp=Z,69nm,1.1s
TAM MLR MLR
comp=Z,1μm,21.0s
TAM Tamanrasset 47.10 276 *e*P P P 01 13 58.1 +0.1
comp=Z,69nm,1.1s
TAM Tamanrasset 47.10 276 *e*P P P 01 13 58.1 +0.1
comp=Z,69nm,1.1s
TAM LR LR
comp=Z,1μm,21.0s
STOK Stokkvaagen 47.10 337 *e*P P P 01 13 58.1 +0.9
STOK Stokkvaagen 47.10 337 *e*P P P 01 13 58.1 +0.9
SNR=27

KONS **Konsvik** 47.16 337 *e*P **P** **01 13 57.6 +0.1**
KONS **Konsvik** 47.16 337 *e*P **P** **01 13 57.7 +0.1**
SNR=27
TRO **Tromso** 47.28 343 *e*P **P** **01 13 58.7 +0.2**
TRO IAmb IAmb 01 14 13.2
comp=Z,167nm,1.2s
TRO *e*PP **PP** **01 15 49.3 -0.4**
TRO *e*S **S** **01 20 49.6 +0.3**
TRO *e*SS **SS** **01 24 17.5 +0.8**
TRO IAMs_20 IAMs_20 01 36 54.2
comp=Z,3μm,18.1s
TRO **Tromso** 47.28 343 *e*P **P** **01 13 58.7 +0.2**
SNR=27
IPM **Ipoh** 47.37 111 *e*P **P** **01 14 00.2 +0.3**
comp=Z,17nm,0.9s
IPM **Ipoh** 47.37 111 *e*P **P** **01 14 00.2 +0.3**
comp=Z,17nm,0.9s
MOL **Molde** 47.47 331 *e*P **P** **01 14 01.1 +1.0**
MOL **Molde** 47.47 331 *e*P **P** **01 14 01.1 +1.0**
SNR=27
HYA **Hoyanger** 47.55 329 *e*P **P** **01 14 02.5 +1.8**
HYA **Hoyanger** 47.55 329 *e*P **P** **01 14 02.5 +1.8**
SNR=27
BER **Bergen** 47.68 328 *e*P **P** **01 14 02.8 +1.1**
BER *e*S **S** **01 20 56.4 +1.2**
BER **Bergen** 47.68 328 *e*P **P** **01 14 02.8 +1.1**
SNR=27
BER *e*S **S** **01 20 56.4 +1.2**
SNR=29
EBNR **Beni Rached** 47.69 295 P **P** **01 14 03.0 +0.7**
EBNR **Beni Rached** 47.69 295 P **P** **01 14 03.0 +0.7**
CIT **Chita** 47.69 44 *e*P **P** **01 14 02.7 +0.6**
CIT *e* 01 14 12.2
CIT pmax pmax
comp=Z,114nm,1.6s
ABPO **Ambohimpanom** 47.77 193 *e*P **P** **01 14 05.1 +2.0**
ABPO pmax pmax
comp=Z,27nm,0.9s
ABPO MLR MLR
comp=Z,527nm,20.0s
ABPO **Ambohimpanom** 47.77 193 *e*P **P** **01 14 05.1 +2.0**
comp=Z,27nm,0.9s
ABPO **Ambohimpanom** 47.77 193 *e*P **P** **01 14 05.1 +2.0**
comp=Z,27nm,0.9s
ABPO LR LR
comp=Z,527nm,20.0s
ASK **Askoy** 47.78 328 *e*P **P** **01 14 03.2 +0.7**
LOF **Lofoten** 47.91 339 *e*P **P** **01 14 02.2 -1.2**
LOF *e*PP **PP** **01 15 58.3 +2.9**
LOF **Lofoten** 47.91 339 *e*P **P** **01 14 02.2 -1.2**
SNR=27
EANR **'Ain N'Sour** 48.08 295 P **P** **01 14 05.5 +0.2**
EANR **'Ain N'Sour** 48.08 295 P **P** **01 14 05.5 +0.2**
RESF **Ens** 48.15 304 *e*P **P** **01 14 06.1 +0.3**
RESF **Ens** 48.15 304 *e*P **P** **01 14 06.1 +0.3**
FOO **Floro** 48.22 329 *e*P **P** **01 14 07.0 +1.1**
FOO **Floro** 48.22 329 *e*P **P** **01 14 07.0 +1.1**
SNR=27
QIZ **Qiongzhong** 48.38 89 P **P** **01 14 09.8 +2.1**
QIZ pP **pP** **01 14 18.5 +0.8**
QIZ sP **sP** **01 14 22.8 +1.1**
QIZ PP **PP** **01 16 01.8 +1.3**
QIZ S **S** **01 21 07.5 +1.3**
QIZ sS **sS** **01 21 25.8 +3.2**
QIZ PMZ
comp=Z,41nm,1.4s
QIZ LN
comp=Z,600nm,23.9s
QIZ LE
comp=Z,310nm,19.5s
QIZ LZ
comp=Z,650nm,20.2s
QIZ **Qiongzhong** 48.38 89 *e*P **P** **01 14 08.1 +0.4**
comp=Z,53nm,1.2s
QIZ **Qiongzhong** 48.38 89 *e*P **P** **01 14 08.1 +0.4**
comp=Z,53nm,1.2s
QIZ LR LR
comp=Z,686nm,21.0s
ATE **Arette** 48.90 304 *e*P **P** **01 14 11.5 0.0**
ATE **Arette** 48.90 304 *e*P **P** **01 14 11.5 0.0**
BOD **Bodaibo** 48.99 36 *e*P **P** **01 14 09.3 -2.6**
BOD pmax pmax
comp=Z,232nm,0.9s
WHN **Wuhan** 49.09 73 P **P** **01 14 14.6 +1.5**
WHN sP **sP** **01 14 26.6 -0.4**
WHN S **S** **01 21 16.8 +0.8**
WHN LN
comp=Z,3μm,11.2s
WHN LE
comp=Z,1μm,13.8s
WHN LZ
comp=Z,1μm,15.2s
LARF **Larrau** 49.11 304 *e*P **P** **01 14 12.8 -0.3**
LARF **Larrau** 49.11 304 *e*P **P** **01 14 12.8 -0.3**
ODJA **Bouhanifia** 49.17 294 P **P** **01 14 15.0 +1.3**
ODJA **Bouhanifia** 49.17 294 P **P** **01 14 15.0 +1.3**
BJT **Baijiatuao** 49.20 60 *e*P **P** **01 14 14.6 +0.8**
BJT pmax pmax
comp=Z,12nm,0.7s
BJT MLR MLR
comp=Z,1μm,19.0s
BJT **Baijiatuao** 49.20 60 *e*P **P** **01 14 14.6 +0.8**
comp=Z,12nm,0.7s
BJT **Baijiatuao** 49.20 60 *e*P **P** **01 14 14.6 +0.8**
comp=Z,12nm,0.7s
BJT LR LR
comp=Z,1μm,19.0s
BJI **Beijing** 49.20 60 P **P** **01 14 14.9 +1.1**
BJI sP **sP** **01 14 27.4 -0.3**
BJI PcP **PcP** **01 15 37.8 +1.2**
BJI S **S** **01 21 17.4 +0.2**
BJI sS **sS** **01 21 34.0 +0.4**
BJI ScS **ScS** **01 24 03.4 +0.1**
BJI PMZ
comp=Z,19nm,1.2s
BJI PMZ
comp=Z,74nm,3.7s
BJI LN
comp=Z,2μm,22.2s
BJI LE
comp=Z,520nm,17.3s
BJI LZ
comp=Z,1μm,18.7s
WOL **Wolverton** 49.46 315 *e*P **P** **01 14 15.1 -0.5**
WOL **Wolverton** 49.46 315 *e*P **P** **01 14 15.1 -0.5**
CART **Cartagena** 49.55 297 *e*P **P** **01 14 15.2 -1.3**
CART *e*S **S** **01 21 21.8 -0.5**
CWF **Charnwood Fore** 49.65 317 *e*P **P** **01 14 15.9 -1.1**
CWF AMB AMB 01 14 19.8
comp=Z,26nm,1.7s
CWF **Charnwood Fore** 49.65 317 *e*P **P** **01 14 17.2 +0.2**
comp=Z,23nm,0.9s
CWF **Charnwood Fore** 49.65 317 *e*P **P** **01 14 17.2 +0.2**
comp=Z,23nm,0.9s
PPI **Padang Panjang** 49.76 117 P P 01 14 24.7 +6.4
comp=Z,24nm,1.1s,comp=Z,974nm
SWN1 **Swindon** 49.84 315 *e*P **P** **01 14 16.5 -2.0**
SWN1 AMB AMB 01 14 19.1
comp=Z,112nm,1.5s
SWN1 **Swindon** 49.84 315 *e*P **P** **01 14 16.5 -2.0**
STRD **Stroud** 50.09 316 *e*P **P** **01 14 18.7 -1.6**
STRD AMB AMB 01 14 22.8
comp=Z,62nm,1.8s
STRD **Stroud** 50.09 316 *e*P **P** **01 14 18.7 -1.6**
TIA **Tai'an** 50.38 65 ⇓P **P** **01 14 23.8 +1.0**
TIA PMZ
comp=Z,30nm,1.4s
TIA LN
comp=Z,580nm,18.0s
TIA LE
comp=Z,900nm,16.0s
TIA LZ
comp=Z,880nm,18.0s
MONM **Monmouth** 50.49 316 *e*P **P** **01 14 22.3 -1.1**
MONM AMB AMB 01 14 23.8
comp=Z,34nm,1.5s
MONM **Monmouth** 50.49 316 *e*P **P** **01 14 22.3 -1.1**
HLM1 **Long Mynd** 50.58 316 *e*P **P** **01 14 24.0 -0.1**
HLM1 **Long Mynd** 50.58 316 *e*P **P** **01 14 24.0 -0.1**
MCH1 **Michaelchurch** 50.62 316 *e*P **P** **01 14 23.7 -0.6**
MCH1 AMB AMB 01 14 25.5
comp=Z,32nm,1.3s
MCH1 **Michaelchurch** 50.62 316 *e*P **P** **01 14 23.7 -0.6**
LRW **Lerwick** 50.74 326 *e*P **P** **01 14 25.0 -0.2**
LRW AMB AMB 01 14 31.2
comp=Z,121nm,2.7s
LRW **Lerwick** 50.74 326 *e*P **P** **01 14 26.1 +1.0**
LRW **Lerwick** 50.74 326 *e*P **P** **01 14 25.0 -0.2**
ESY **Stoneypath** 50.78 321 *e*P **P** **01 14 24.8 -0.7**
ESY **Stoneypath** 50.78 321 *e*P **P** **01 14 24.8 -0.7**
YEL1 **Yell** 50.79 327 *e*P **P** **01 14 25.3 -0.2**
YEL1 **Yell** 50.79 327 *e*P **P** **01 14 25.3 -0.2**
FOEL **Foel Wylfa** 50.81 317 *e*P **P** **01 14 25.7 -0.1**
FOEL AMB AMB 01 14 27.7
comp=Z,51nm,1.6s
FOEL **Foel Wylfa** 50.81 317 *e*P **P** **01 14 25.7 -0.1**
DRUM **Mains of Drumt** 50.84 322 *e*P **P** **01 14 26.3 +0.3**
DRUM **Mains of Drumt** 50.84 322 *e*P **P** **01 14 26.3 +0.3**
KESW **Keswick, Cumbr** 50.90 319 *e*P **P** **01 14 26.6 +0.1**
KESW **Keswick, Cumbr** 50.90 319 *e*P **P** **01 14 26.6 +0.1**
ECK **Cauldkaine Hil** 50.98 320 *e*P **P** **01 14 28.0 +1.0**
ECK **Cauldkaine Hil** 50.98 320 *e*P **P** **01 14 28.0 +1.0**
ESK **Eskdalemuir** 51.04 320 *e*P **P** **01 14 27.5 0.0**
ESK **Eskdalemuir** 51.04 320 *e*P **P** **01 14 28.0 +0.5**
ESK pmax pmax
comp=Z,19nm,0.9s
ESK MLR MLR
comp=Z,1μm,20.0s
ESK **Eskdalemuir** 51.04 320 *e*P **P** **01 14 27.5 0.0**
ESK **Eskdalemuir** 51.04 320 *e*P **P** **01 14 28.0 +0.5**
comp=Z,19nm,0.9s
ESK LR LR
comp=Z,1μm,20.0s
HOPEN **Hopen** 51.09 351 *e*P **P** **01 14 28.5 +0.9**
HOPEN *e*PP **PP** **01 16 24.1 0.0**
HOPEN *e*S **S** **01 21 42.8 +0.2**
HOPEN IAMs_20 IAMs_20 01 39 36.5
comp=Z,3μm,20.5s
HOPEN **Hopen** 51.09 351 *e*P **P** **01 14 28.5 +0.9**
SNR=26
EDI **Edinburgh** 51.10 321 *e*P **P** **01 14 29.0 +1.1**
EDI **Edinburgh** 51.10 321 *e*P **P** **01 14 29.5 +1.6**
EDI **Edinburgh** 51.10 321 *e*P **P** **01 14 29.0 +1.1**
DYA **Yadsworthy** 51.12 314 *e*P **P** **01 14 28.0 -0.2**
DYA AMB AMB 01 14 28.4
comp=Z,38nm,1.4s
DYA **Yadsworthy** 51.12 314 *e*P **P** **01 14 28.3 +0.1**
comp=Z,58nm,1.0s
DYA **Yadsworthy** 51.12 314 *e*P **P** **01 14 28.3 +0.1**
comp=Z,58nm,1.0s
MME1 **Meikle Cairn** 51.16 323 *e*P **P** **01 14 27.6 -0.8**
MME1 *e*P **P** **01 14 28.5 +0.1**
MME1 **Meikle Cairn** 51.16 323 *e*P **P** **01 14 27.6 -0.8**
WPM1 **Penmaenmawr** 51.26 317 *e*P **P** **01 14 30.0 +0.8**
WPM1 **Penmaenmawr** 51.26 317 *e*P **P** **01 14 30.0 +0.8**
HIA **Hailar** 51.42 48 *e*P **P** **01 14 31.6 +1.1**
HIA pmax pmax
comp=Z,74nm,1.4s
HIA MLR MLR
comp=Z,3μm,21.0s
HIA **Hailar** 51.42 48 *e*P **P** **01 14 31.6 +1.1**
comp=Z,74nm,1.4s
HIA **Hailar** 51.42 48 *e*P **P** **01 14 31.6 +1.1**
comp=Z,74nm,1.4s
HIA LR LR
comp=Z,3μm,21.0s
MELI **Melilla** 51.43 294 *e*P **P** **01 14 30.2 -0.5**
ES19 **SONSECA Array** 51.56 300 *e*P **P** **01 14 31.3 -0.4**
ES19 **SONSECA Array** 51.56 300 *e*P **P** **01 14 31.3 -0.4**
ESDC **Sonseca Array** 51.61 300 P **P** **01 14 32.0 -0.1**
comp=Z,16nm,0.6s,baz=72,slow=7.4,SNR=155
ESDC **Sonseca Array** 51.61 300 P **P** **01 14 32.0 -0.1**
ESLA **Sonseca Array** 51.61 300 *e*P **P** **01 14 32.1 0.0**
comp=Z,150nm,1.6s
ESLA **Sonseca Array** 51.61 300 *e*P **P** **01 14 32.1 0.0**
comp=Z,150nm,1.6s
YRC **Rhoscolyn** 51.66 317 *e*P **P** **01 14 32.1 0.0**
YRC **Rhoscolyn** 51.66 317 *e*P **P** **01 14 32.1 0.0**
PAB **San Pablo** 51.92 300 *e*P **P** **01 14 34.5 +0.1**
PAB pmax pmax
comp=Z,55nm,0.8s
PAB MLR MLR
comp=Z,665nm,20.0s
PAB **San Pablo** 51.92 300 *e*P **P** **01 14 34.5 +0.1**
comp=Z,55nm,0.8s
PAB **San Pablo** 51.92 300 *e*P **P** **01 14 34.5 +0.1**
comp=Z,55nm,0.8s
PAB LR LR
comp=Z,665nm,20.0s
EMAL **Malaga-Limoner** 52.38 296 *e*P **P** **01 14 36.3 -1.5**
KAC **Achnashellach** 52.44 323 *e*P **P** **01 14 37.2 -0.7**
KAC **Achnashellach** 52.44 323 *e*P **P** **01 14 37.2 -0.7**
NJ2 **Nanjing** 52.54 70 *e*P **P** **01 14 39.5 +0.4**
NJ2 S **S** **01 22 04.6 +0.8**
NJ2 LN
comp=Z,640nm,15.2s
NJ2 LE
comp=Z,840nm,17.4s
NJ2 LZ
comp=Z,950nm,16.8s
KPL **Plockton** 52.61 322 *e*P **P** **01 14 40.5 +1.4**
KPL **Plockton** 52.61 322 *e*P **P** **01 14 40.5 +1.4**
SNR=26
HSPB **Hornsund (broa** 52.94 349 *e*P **P** **01 14 42.0 +0.7**
HSPB *e*PP **PP** **01 16 43.0 +2.1**
HSPB *e*S **S** **01 22 07.1 -0.8**
HSPB IAMs_20 IAMs_20 01 39 49.6
comp=Z,2μm,19.5s
HSPB **Hornsund (broa** 52.94 349 *e*P **P** **01 14 42.8 +1.5**
HSPB **Hornsund (broa** 52.94 349 *e*P **P** **01 14 42.0 +0.7**
SNR=26
HSPB **Hornsund (broa** 52.94 349 *e*PP PP 01 16 43.0 +2.2
SNR=32
HSPB *e*S **S** **01 22 07.1 -0.8**
SNR=27
ZFT **Errachidia** 53.22 291 *i* P **P** **01 14 46.0 +1.7**
PBRG **Braganca** 53.46 303 *e*P **P** **01 14 46.0 +0.3**
comp=Z,45nm,2.1s
PBRG **Braganca** 53.46 303 *e*P **P** **01 14 46.0 +0.3**
SPA0 **Spitsbergen Ar** 53.61 350 *e*P **P** **01 14 46.4 +0.1**
SPA0 *e*pP **pP** **01 14 56.4 +0.1**
SPA0 *e*PP **PP** **01 16 46.5 -0.4**
SPA0 *e*S **S** **01 22 20.2 +3.1**
SPA0 **Spitsbergen Ar** 53.61 350 *e*P **P** **01 14 46.4 +0.1**
SNR=25
SPA0 *e*pP **pP** **01 14 56.4 +0.1**
SNR=154
SPA0 **Spitsbergen Ar** 53.61 350 *e*P **P** **01 14 47.0 +0.7**
SPITS **Spitsbergen Ar** 53.61 350 P **P** **01 14 45.8 -0.4**
comp=Z,92nm,0.5s,baz=132,slow=11,SNR=32
MVO **Moncorvo** 53.75 302 *e*P **P** **01 14 47.8 -0.1**
comp=Z,82nm,1.1s
MVO *e*S **S** **01 22 21.4 +1.3**
MVO **Moncorvo** 53.75 302 *e*LR LR 01 37 39.7
comp=Z,403nm,18.0s
MVO **Moncorvo** 53.75 302 *e*P **P** **01 14 47.8 -0.1**
MVO *e*S **S** **01 22 21.4 +1.3**
TORD **Torodi Ar. Bea** 54.00 266 P **P** **01 14 49.2 -0.8**
comp=Z,166nm,0.5s,baz=65,slow=6.6,SNR=252
QZH **Quanzhou** 54.15 78 P **P** **01 14 55.1 +4.2**
QZH S **S** **01 22 26.9 +1.1**
QZH LN
comp=Z,1μm,17.8s
QZH LE
comp=Z,2μm,17.2s
QZH LZ
comp=Z,2μm,17.2s
PBAR **Barrancos** 54.20 299 *e*P **P** **01 14 50.9 -0.2**
comp=Z,284nm,1.1s
PBAR **Barrancos** 54.20 299 *e*P **P** **01 14 50.9 -0.2**
MTE **Manteigas** 54.24 301 *e*P **P** **01 14 51.6 +0.1**
comp=Z,118nm,1.9s
MTE *e*S **S** **01 22 27.9 +1.1**
MTE **Manteigas** 54.24 301 *e*LR LR 01 38 43.6
comp=Z,784nm,20.0s
MTE **Manteigas** 54.24 301 *e*P **P** **01 14 51.6 +0.1**
MTE *e*S **S** **01 22 27.9 +1.1**
MTE **Manteigas** 54.24 301 *e*P **P** **01 14 51.4 -0.1**
comp=Z,84nm,1.0s
MTE LR LR
comp=Z,814nm,21.0s
PVRL **Vila Real** 54.25 302 *e*P **P** **01 14 52.5 +1.0**
comp=Z,102nm,1.7s
PVRL **Vila Real** 54.25 302 *e*P **P** **01 14 52.5 +1.0**
PMRV **Marv??o** 54.27 300 *e*P **P** **01 14 51.6 -0.1**
comp=Z,93nm,1.1s
PMRV *e*S **S** **01 22 28.2 +1.1**
PMRV **Marv??o** 54.27 300 *e*LR LR 01 38 21.8
comp=Z,412nm,18.0s
PMRV **Marv??o** 54.27 300 *e*P **P** **01 14 51.6 -0.1**
PMRV *e*S **S** **01 22 28.2 +1.1**
PCBR **Castelo Branco** 54.27 301 *e*P **P** **01 14 51.8 +0.1**
comp=Z,201nm,1.6s
PCBR **Castelo Branco** 54.27 301 *e*P **P** **01 14 51.8 +0.1**
POLO **Lamas de Olo** 54.29 303 *e*P **P** **01 14 52.2 +0.3**
comp=Z,44nm,1.4s
POLO **Lamas de Olo** 54.29 303 *e*P **P** **01 14 52.2 +0.3**
PCAB **Cabril** 54.42 303 *e*P **P** **01 14 54.0 +1.2**
comp=Z,77nm,1.5s
PCAB **Cabril** 54.42 303 *e*P **P** **01 14 54.0 +1.2**
PVIS **Viseu** 54.46 302 *e*P **P** **01 14 53.3 +0.2**
comp=Z,100nm,1.3s
PVIS **Viseu** 54.46 302 *e*P **P** **01 14 53.3 +0.2**
KIB **El Ksiba** 54.49 292 *i* P **P** **01 14 55.0 +1.5**
PESTR **Estremoz** 54.51 299 *e*P **P** **01 14 53.5 +0.1**
comp=Z,58nm,1.4s
PESTR **Estremoz** 54.51 299 *e*P **P** **01 14 53.5 +0.1**
PGAV **Gavieira, Arco** 54.57 303 *e*P **P** **01 14 54.4 +0.5**
comp=Z,119nm,1.4s
PGAV *e*S **S** **01 22 32.0 +0.8**
PGAV **Gavieira, Arco** 54.57 303 *e*LR LR 01 38 06.6
comp=Z,582nm,18.0s
PGAV **Gavieira, Arco** 54.57 303 *e*P **P** **01 14 54.4 +0.5**
PGAV *e*S **S** **01 22 32.0 +0.8**
SNY **Shenyang** 54.58 57 ⇓P **P** **01 14 53.8 -0.1**
SNY S **S** **01 22 32.6 +1.4**
SNY PMZ
comp=Z,20nm,0.9s
SNY PMZ
comp=Z,100nm,4.3s
SNY LN
comp=Z,760nm,14.7s
SNY LE
comp=Z,1μm,17.2s
SNY LZ
comp=Z,1μm,17.9s
SSE **Sheshan** 54.70 70 *e*P **P** **01 14 54.5 -0.4**
SSE S **S** **01 22 31.0 -2.0**
SSE sS **sS** **01 22 50.5 +0.9**
SSE PMZ
comp=Z,18nm,0.8s
SSE PMZ
comp=Z,72nm,3.3s
SSE LN
comp=Z,1μm,20.7s
SSE LE
comp=Z,490nm,20.6s
SSE LZ
comp=Z,710nm,18.2s
CLNS **Chul'man** 54.72 38 *e*P **P** **01 14 55.4 +0.7**
CLNS pmax pmax
comp=Z,31nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS MLR MLR
comp=N,581nm,11.0s
CLNS MLR MLR
comp=E,685nm,16.0s
CLNS MLR MLR
comp=Z,614nm,13.0s
KBS **Kingsbay** 54.77 350 *e*P **P** **01 14 54.3 -0.4**
KBS IAmb IAmb 01 14 56.6
comp=Z,57nm,1.2s
KBS *e*PP **PP** **01 16 58.3 +1.0**
KBS *e*S **S** **01 22 31.1 -1.6**
KBS IAMs_20 IAMs_20 01 42 05.5
comp=Z,3μm,18.3s
KBS **Kingsbay** 54.77 350 *e*P **P** **01 14 54.2 -0.4**
KBS pmax pmax
comp=Z,85nm,0.8s
KBS MLR MLR
comp=Z,1μm,21.0s
KBS **Kingsbay** 54.77 350 *e*P **P** **01 14 54.3 -0.4**
SNR=25
KBS **Kingsbay** 54.77 350 *e*P **P** **01 14 54.2 -0.4**
comp=Z,85nm,0.8s
KBS LR LR
comp=Z,1μm,21.0s
RTC **Rabat Centre** 54.85 293 *e*P **P** **01 14 57.2 +1.3**
comp=Z,728nm,0.6s
RTC **Rabat Centre** 54.85 293 *e*P **P** **01 14 57.2 +1.3**
comp=Z,728nm,0.6s
RTC LR LR
comp=Z,2μm,21.0s
PVAQ **Vaqueiros** 54.86 298 *e*P **P** **01 14 56.0 0.0**
comp=Z,58nm,1.5s
PVAQ *e*S **S** **01 22 34.0 -1.1**
PVAQ **Vaqueiros** 54.86 298 *e*LR LR 01 35 45.6
comp=Z,302nm,22.0s
PVAQ **Vaqueiros** 54.86 298 *e*P **P** **01 14 56.0 0.0**
PVAQ *e*S **S** **01 22 34.0 -1.1**
PBEJ **Beja** 54.87 298 *e*P **P** **01 14 56.6 +0.6**
PBEJ **Beja** 54.87 298 *e*P **P** **01 14 56.6 +0.6**
EVO **Evora** 54.89 299 *e*P **P** **01 14 56.4 +0.2**
comp=Z,95nm,1.2s
EVO **Evora** 54.89 299 *e*P **P** **01 14 56.4 +0.2**
COI **Coimbra** 54.93 301 *e*P **P** **01 14 57.2 +0.8**
PTO **Porto** 54.93 302 *e*P **P** **01 14 58.5 +2.1**
comp=Z,83nm,1.5s
PTO **Porto** 54.93 302 *e*P **P** **01 14 58.5 +2.1**
TZC **Tazercounte** 54.96 291 *i* P **P** **01 14 58.0 +1.0**
PMTG **Montargil** 54.97 300 *e*P **P** **01 14 57.4 +0.7**
comp=Z,71nm,1.9s
PMTG **Montargil** 54.97 300 *e*P **P** **01 14 57.4 +0.7**
PCAS **Casmilo, Conde** 55.02 301 *e*P **P** **01 14 57.8 +0.7**
comp=Z,105nm,0.8s
PCAS **Casmilo, Conde** 55.02 301 *e*P **P** **01 14 57.8 +0.7**
PTOM **Tomar** 55.02 300 *e*P **P** **01 14 57.3 +0.2**
comp=Z,266nm,0.9s
PTOM **Tomar** 55.02 300 *e*P **P** **01 14 57.3 +0.2**
PBDV **Barranco-do-Ve** 55.06 298 *e*P **P** **01 14 57.9 +0.5**
comp=Z,65nm,1.7s
PBDV **Barranco-do-Ve** 55.06 298 *e*P **P** **01 14 57.9 +0.5**
PCVE **Castro Verde** 55.07 298 *e*P **P** **01 14 57.6 +0.1**
comp=Z,84nm,1.5s
PCVE **Castro Verde** 55.07 298 *e*P **P** **01 14 57.6 +0.1**
MESJ **Messejana** 55.17 298 *e*P **P** **01 14 58.1 -0.1**
MESJ AMb AMB 01 15 03.8
comp=Z,49nm,1.6s
MESJ *e*S **S** **01 22 39.2 -0.1**
MESJ **Messejana** 55.17 298 *e*P **P** **01 14 58.3 +0.1**
comp=Z,52nm,1.5s
MESJ **Messejana** 55.17 298 *e*P **P** **01 14 58.3 +0.1**
PNCL **Nicolau / Gran** 55.37 299 *e*P **P** **01 14 59.9 +0.3**
comp=Z,103nm,1.5s
PNCL **Nicolau / Gran** 55.37 299 *e*P **P** **01 14 59.9 +0.3**
MORF **Marmelete** 55.61 298 *e*P **P** **01 15 01.1 -0.3**
MORF AMb AMB 01 15 04.1
comp=Z,61nm,1.5s
MORF **Marmelete** 55.61 298 *e*P **P** **01 15 01.8 +0.4**
MORF **Marmelete** 55.61 298 *e*P **P** **01 15 01.8 +0.4**
CN2 **Changchun** 55.69 54 *e*P **P** **01 15 01.5 -0.3**
CN2 PMZ
comp=Z,40nm,0.8s
CN2 PMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,1μm,16.0s
CN2 LE
comp=Z,1μm,16.0s
CN2 LZ
comp=Z,1μm,18.0s
PMST **Lisbon--Monsan** 55.76 300 *e*P **P** **01 15 03.5 +1.1**
comp=Z,190nm,1.4s
PMST **Lisbon--Monsan** 55.76 300 *e*P **P** **01 15 03.5 +1.1**
PMAFR **Mafra** 55.80 300 *e*P **P** **01 15 02.9 +0.2**
comp=Z,193nm,1.5s
PMAFR **Mafra** 55.80 300 *e*P **P** **01 15 02.9 +0.2**
OUK **Oukaimeden** 56.33 290 *i* P **P** **01 15 06.0 -1.0**
SSLB **Suanglung** 56.55 79 *e*P **P** **01 15 09.6 +1.3**
comp=Z,18nm,0.7s
SSLB **Suanglung** 56.55 79 *e*P **P** **01 15 09.6 +1.3**
comp=Z,18nm,0.7s
YHNB **Yeheng** 56.64 78 *e*P **P** **01 15 10.3 +1.3**
comp=Z,66nm,1.1s
YHNB **Yeheng** 56.64 78 *e*P **P** **01 15 10.3 +1.3**
comp=Z,66nm,1.1s
YHNB LR LR
comp=Z,877nm,20.0s
TATO **Taipei** 56.64 77 PFAKE 01 15 20.0 +11
TATO LR LR
comp=Z,280nm,21.0s
KSM **Kuching** 56.74 108 PFAKE 01 15 20.0 +10
KSM LR LR

comp=Z,663nm,22.0s
TWG Pinlang 56.97 80 *e*P **P** **01 15 14.0 +2.7**
comp=Z,64nm,0.6s
CIA Chichaoua 56.98 291 *i* P **P** **01 15 13.0 +1.8**
YULB Yu-li 56.98 79 *e*P **P** **01 15 11.7 +0.4**
comp=Z,48nm,1.4s
YULB Yu-li 56.98 79 *e*P **P** **01 15 11.7 +0.4**
comp=Z,48nm,1.4s
YAK Yakutsk 57.32 32 *e*P **P** **01 15 12.3 -0.8**
YAK *e**PP **pP** **01 15 23.0 -0.3**
YAK *e* 01 16 05.8
YAK *e* 01 17 19.6
YAK *e*PPP PPP 01 18 35.2
YAK *e*S **S** **01 23 05.1 -1.9**
YAK *e**SS **sS** **01 23 21.3 -2.4**
YAK *e* 01 24 59.8
YAK *e*SS **SS** **01 26 54.3 -1.9**
YAK pmax pmax
comp=E,27nm,1.4s
YAK pmax pmax
comp=Z,39nm,1.6s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=N,42nm,2.0s
YAK pmax pmax
comp=Z,93nm,2.3s
YAK pmax pmax
comp=E,39nm,1.1s
YAK smax smax
comp=E,51nm,2.3s
YAK smax smax
comp=N,78nm,2.2s
YAK MLR MLR
comp=N,518nm,14.0s
YAK MLR MLR
comp=E,1μm,14.0s
YAK MLR MLR
comp=Z,1μm,13.0s
YAK Yakutsk 57.32 32 PFAKE 01 15 30.0 +17
YAK LR LR
comp=Z,701nm,20.0s
INCN Inchon 57.66 62 PFAKE 01 15 30.0 +14
INCN LR LR
comp=Z,889nm,20.0s
TIXI Tiksi 57.83 21*c* *i*P **P** **01 15 16.0 -0.5**
TIXI *i* *PP **sP** **01 15 30.4 -0.2**
TIXI pmax pmax
comp=Z,44nm,1.7s
TIXI MLR MLR
comp=Z,2μm,16.0s
TIXI Tiksi 57.83 21 *e*P **P** **01 15 15.3 -1.2**
comp=Z,46nm,1.0s
TIXI Tiksi 57.83 21 *e*P **P** **01 15 15.3 -1.2**
comp=Z,46nm,1.0s
TIXI LR LR
comp=Z,911nm,21.0s
YBT Youssef Ben Ta 58.04 289 *e*P **P** **01 15 20.0 +1.3**
TJN Taejon 58.47 63⇑ *i*P **P** **01 15 21.4 -0.2**
MDJ Mudanjiang 58.52 53 P **P** **01 15 20.8 -1.0**
MDJ S **S** **01 23 20.4 -2.8**
MDJ SS **SS** **01 27 13.6 -2.0**
MDJ PMZ
comp=Z,6.0nm,0.6s
MDJ LN
comp=Z,630nm,16.4s
MDJ LE
comp=Z,1μm,19.2s
MDJ LZ
comp=Z,2μm,18.8s
MDJ Mudanjiang 58.52 53 PFAKE 01 15 40.0 +18
MDJ LR LR
comp=Z,2μm,19.0s
KS01 Wonju Array Si 58.64 61 *e*P **P** **01 15 21.7 -1.1**
KS01 Wonju Array Si 58.64 61 *e*P **P** **01 15 21.7 -1.1**
KS15 Wonju Array Si 58.64 61 *e*P **P** **01 15 22.8 0.0**
KS15 Wonju Array Si 58.64 61 *e*P **P** **01 15 22.8 0.0**
KSAR Wonju Array Be 58.64 61 P **P** **01 15 21.6 -1.2**
KSAR Wonju Array Be 58.64 61 P **P** **01 15 21.5 -1.2**
KSAR Wonju Array Be 58.64 61 P **P** **01 15 21.6 -1.2**
KSRS Korea Array 58.66 61 P **P** **01 15 21.6 -1.4**
comp=Z,11nm,0.6s,baz=277,slow=6.9,SNR=33
KKM Kota Kinabalu 59.49 100 *e*P **P** **01 15 29.6 +0.5**
comp=Z,62nm,1.2s
KKM Kota Kinabalu 59.49 100 *e*P **P** **01 15 29.6 +0.5**
comp=Z,62nm,1.2s
KKM LR LR
comp=Z,496nm,20.0s
DAG Danmarks Havn 59.87 345 *i* P **P** **01 15 30.7 0.0**
DAG Danmarks Havn 59.87 345 *i* P **P** **01 15 30.7 0.0**
MSHR Mys Shultsa 60.01 55*d* *i*P **P** **01 15 32.7 +0.6**
USRK Ussuriysk Ar. 60.28 53 P **P** **01 15 32.4 -1.6**
comp=Z,8.5nm,0.7s,baz=277,slow=6.2,SNR=32
BORG Borgarnes 60.42 331 LR LR 01 45 18.1
comp=Z,322nm,19.3s,baz=101,slow=40
BORG Borgarnes 60.42 331 PFAKE 01 15 50.0 +15
BORG LR LR
comp=Z,25μm,19.0s
VLA Vladivostok 60.42 54⇑ *i*P **P** **01 15 32.8 -2.2**
VLA *i* *PP **pP** **01 15 43.4 -1.8**
VLA *i* *SP **sP** **01 15 49.1 0.0**
VLA *i* 01 16 16.2
VLA *i* 01 17 45.8
VLA *i* S **S** **01 23 45.0 -2.8**
VLA pmax pmax
comp=Z,45nm,1.1s
SCO Scoresbysund 60.48 338 *e*P **P** **01 15 38.4 +3.5**
SCO pmax pmax
comp=Z,33nm,1.0s
SCO Scoresbysund 60.48 338 *i* P **P** **01 15 38.4 +3.5**
comp=Z,33nm,1.0s
TSUM Tsumeb 60.84 224 *e*P **P** **01 15 38.6 +0.4**
comp=Z,16nm,1.0s
TSUM Tsumeb 60.84 224 *e*P **P** **01 15 38.6 +0.4**
comp=Z,16nm,1.0s
TSUM LR LR
comp=Z,2μm,20.0s
LBTB Lobatse 61.04 213 *e*P **P** **01 15 39.8 +0.4**
LBTB pmax pmax
comp=Z,27nm,0.8s
LBTB Lobatse 61.04 213 *e*P **P** **01 15 39.8 +0.4**
comp=Z,26nm,0.8s
LBTB Lobatse 61.04 213 *e*P **P** **01 15 39.8 +0.4**
comp=Z,26nm,0.8s
JNU Nakatsue 62.10 65 *e*P **P** **01 15 47.6 +1.0**
comp=Z,32nm,1.4s
JNU Nakatsue 62.10 65 *e*P **P** **01 15 47.6 +1.0**
comp=Z,32nm,1.4s
DBIC Dimbokro 62.65 263 P **P** **01 15 49.9 -0.6**
comp=Z,15nm,0.6s,baz=37,slow=7.2,SNR=28
DBIC Dimbokro 62.65 263 *e*P **P** **01 15 50.5 0.0**
DBIC pmax pmax
comp=Z,39nm,1.1s
DBIC Dimbokro 62.65 263 *e*P **P** **01 15 50.5 0.0**
comp=Z,39nm,1.1s
DBIC Dimbokro 62.65 263 *e*P **P** **01 15 50.5 0.0**
comp=Z,39nm,1.1s
KIC Kosan Boka 62.70 262 *e*P **P** **01 15 49.7 -1.1**
comp=Z,46nm,0.8s
TIC Toumodi 62.81 263 *e*P **P** **01 15 51.0 -0.5**
LIC Lamto 63.01 262 *e*P **P** **01 15 52.7 -0.1**
comp=Z,97nm,1.1s
PMOZ Porto Moniz, M 63.50 295 *e*P **P** **01 15 53.0 -3.0**
comp=Z,233nm,1.2s
PMOZ Porto Moniz, M 63.50 295 *e*LR LR 01 40 54.9
comp=Z,334nm,18.0s
NKL Nikolayevsk 64.09 42 *e*P **P** **01 15 57.0 -2.4**
NKL pmax pmax
comp=Z,110nm,1.4s
NKL MLR MLR
comp=E,1μm,15.0s
NKL MLR MLR
comp=Z,1μm,15.0s
BOSA Boshof 64.24 212 P **P** **01 16 00.1 -0.6**
comp=Z,17nm,0.6s,baz=34,slow=7.0,SNR=26
BOSA Boshof 64.24 212 *e*P **P** **01 16 00.6 -0.1**
BOSA pmax pmax
comp=Z,27nm,0.7s
BOSA Boshof 64.24 212 *e*P **P** **01 16 00.6 -0.1**
comp=Z,27nm,0.7s
BOSA Boshof 64.24 212 *e*P **P** **01 16 00.6 -0.1**
comp=Z,27nm,0.7s
SUMG Summit 65.40 341 *i* P **P** **01 16 08.2 +0.1**
SUMG pmax pmax
comp=Z,120nm,1.1s
SUMG Summit 65.40 341 *i* P **P** **01 16 08.2 +0.1**
comp=Z,117nm,1.1s
SUMG Summit 65.40 341 *e*P **P** **01 16 08.0 -0.1**
comp=Z,122nm,1.1s
SUMG Summit 65.40 341 *e*P **P** **01 16 08.0 -0.1**
comp=Z,122nm,1.1s
TYV Tymovskoe 65.82 44 *e*P **P** **01 16 09.0 -1.7**
TYV pmax pmax
comp=N,31nm,1.0s
TYV pmax pmax
comp=Z,48nm,1.0s
TYV MLR MLR
comp=E,2μm,17.0s
TYV MLR MLR
comp=Z,2μm,17.0s
INU Inuyama 66.29 61 *e*P **P** **01 16 14.4 +0.4**
comp=Z,32nm,1.1s
INU Inuyama 66.29 61 *e*P **P** **01 16 14.4 +0.4**
comp=Z,32nm,1.1s
MJB9 Matsu-Tunnel 66.83 60 *e*P **P** **01 16 17.6 +0.1**
comp=Z,4.2nm,1.0s
MJB9 Matsu-Tunnel 66.83 60 *e*P **P** **01 16 17.6 +0.1**
comp=Z,4.2nm,1.0s
MAJO Matsushiro 66.83 60 *e*P **P** **01 16 17.4 -0.1**
MAJO pmax pmax
comp=Z,16nm,0.9s
MAJO MLR MLR
comp=Z,396nm,21.0s
MAJO Matsushiro 66.83 60 *e*P **P** **01 16 17.4 -0.1**
comp=Z,16nm,0.9s
MAJO Matsushiro 66.83 60 *e*P **P** **01 16 17.3 -0.2**
comp=Z,8.2nm,0.8s
MAJO Matsushiro 66.83 60 *e*P **P** **01 16 17.4 -0.1**
comp=Z,16nm,0.9s
MAJO LR LR
comp=Z,396nm,21.0s
MAT Matsushiro 66.83 60 P **P** **01 16 16.4 -1.1**
MAT S **S** **01 25 12.6 +4.7**
MJAR Matsushiro Arr 66.84 60 P **P** **01 16 16.1 -1.3**
comp=Z,9.3nm,1.1s,baz=290,slow=9.1,SNR=17
YSS Yuzh-Sakhalins 66.95 48 *e*P **P** **01 16 16.8 -1.2**
YSS *e* 01 16 27.0
YSS pmax pmax
comp=Z,80nm,1.0s
YSS MLR MLR
comp=Z,900nm,17.0s
YSS MLR MLR
comp=N,500nm,14.0s
DAV Davao City (W) 67.23 94 PFAKE 01 16 30.0 +10
DAV LR LR
comp=Z,352nm,20.0s
SEY Seymchan 67.59 30*c* *i*P **P** **01 16 22.2 +0.5**
SEY *i* *PP **pP** **01 16 31.6 -0.4**
ASAJ Asahikawa 67.69 51 P **P** **01 16 22.3 -0.4**
comp=Z,4.3nm,0.3s,baz=300,slow=16
MA2 Magadan 67.86 33 PFAKE 01 16 40.0 +17
MA2 LR LR
comp=Z,604nm,19.0s
KAPI Kappang 68.16 108 *e*P **P** **01 16 24.9 -1.2**
comp=Z,35nm,1.1s
KAPI Kappang 68.16 108 *e*P **P** **01 16 24.9 -1.2**
comp=Z,35nm,1.1s
KAPI LR LR
comp=Z,279nm,21.0s
ERM Erimo 68.74 53 PFAKE 01 16 40.0 +11
ERM LR LR
comp=Z,1μm,19.0s
SUR Sutherland 69.48 213 *e*P **P** **01 16 34.4 +0.3**
comp=Z,23nm,0.6s
SUR Sutherland 69.48 213 *e*P **P** **01 16 34.4 +0.3**
comp=Z,23nm,0.6s
BILL Bilibino 70.99 22*c* *i*P **P** **01 16 42.7 0.0**
BILL *e* 01 17 03.0
BILL *e* 01 19 19.3
BILL *e*PPP PPP 01 21 01.0
BILL *e*S **S** **01 25 56.7 +0.7**
BILL pmax pmax
comp=Z,10.0nm,0.9s
BILL MLR MLR
comp=Z,1μm,16.0s
BILL Bilibino 70.99 22 *e*P **P** **01 16 42.1 -0.6**
comp=Z,18nm,0.8s
BILL Bilibino 70.99 22 *e*P **P** **01 16 42.1 -0.6**
comp=Z,18nm,0.8s
BILL LR LR
comp=Z,1μm,20.0s
SFJD Kangerlussuaq 71.36 337 *e*P **P** **01 16 46.9 +2.0**
SFJD pmax pmax
comp=Z,25nm,1.1s
SFJD MLR MLR
comp=Z,1μm,19.0s
SFJD Kangerlussuaq 71.36 337 *i* P **P** **01 16 46.9 +2.0**
comp=Z,25nm,1.1s
comp=Z,1μm,19.0s
SFJD Kangerlussuaq 71.36 337 PFAKE 01 17 00.0 +15
SFJD LR LR
comp=Z,1μm,21.0s
NUUK Nuuk 73.11 334 *i* P **P** **01 16 55.4 0.0**
SNR=18
PEA0 Petropavlovsk- 73.80 38 *e*P **P** **01 16 58.1 -1.7**
PEA0 Petropavlovsk- 73.80 38 *e*P **P** **01 16 58.1 -1.7**
PETK Petropavlovsk- 73.80 38 P **P** **01 16 58.7 -1.0**
comp=Z,8.8nm,0.9s,baz=294,slow=1.3,SNR=9.7
PETK PP PP 01 19 52.6 +8.4
comp=Z,1.8nm,0.3s,baz=208,slow=10,SNR=4.6
PET Petropavlovsk 74.36 38 *e*P **P** **01 16 58.3 -4.6**
PET *e* 01 19 45.2
PET *e*S **SKiKP** **01 26 27.2 0.0**
PET *e*SSS SSS 01 34 28.9
PET MLR MLR
comp=Z,642nm,15.0s
PET Petropavlovsk 74.36 38 PFAKE 01 17 20.0 +17
PET LR LR
comp=Z,594nm,20.0s
SOEI Soe 74.47 110 *e*P **P** **01 17 04.8 +0.4**
comp=Z,152nm,1.3s
SOEI Soe 74.47 110 *e*P **P** **01 17 04.8 +0.4**
comp=Z,152nm,1.3s
SHEL Horse Pasture 75.31 243 PFAKE 01 17 20.0 +11
SHEL LR LR
comp=Z,518nm,20.0s
RES Resolute Bay 76.06 353 *e*P **P** **01 17 12.4 0.0**
RES pmax pmax
comp=Z,9.0nm,0.8s
RES Resolute Bay 76.06 353 *e*P **P** **01 17 12.4 0.0**
comp=Z,8.6nm,0.8s
RES Resolute Bay 76.06 353 *e*P **P** **01 17 12.4 0.0**
comp=Z,8.6nm,0.8s
MBWA Marble Bar 77.33 122 *e*P **P** **01 17 20.9 +0.6**
comp=Z,81nm,1.1s
MBWA Marble Bar 77.33 122 *e*P **P** **01 17 20.9 +0.6**
comp=Z,81nm,1.1s
MBWA LR LR
comp=Z,1μm,22.0s
ASCN Ascension 78.08 254 PFAKE 01 17 40.0 +15
ASCN LR LR
comp=Z,1μm,19.0s
FITZ Fitzroy Crossi 80.13 116 *e*P **P** **01 17 36.6 +0.8**
comp=Z,13nm,0.8s
FITZ Fitzroy Crossi 80.13 116 *e*P **P** **01 17 36.6 +0.8**
comp=Z,13nm,0.8s
COLD Coldfoot 82.82 11 *e*P **P** **01 17 48.9 -0.4**
comp=Z,24nm,0.9s
COLD Coldfoot 82.82 11 *e*P **P** **01 17 48.9 -0.4**
comp=Z,24nm,0.9s
INK Inuvik 83.67 4 *e*P **P** **01 17 53.3 -0.4**
INK pmax pmax
comp=Z,28nm,1.2s
INK Inuvik 83.67 4 *e*P **P** **01 17 53.3 -0.4**
comp=Z,28nm,1.2s
INK Inuvik 83.67 4 *e*P **P** **01 17 53.3 -0.4**
comp=Z,28nm,1.2s
DRLN Deer Lake 83.93 323 *e*P **P** **01 17 56.0 +0.7**
DRLN Deer Lake 83.93 323 *e*P **P** **01 17 56.0 +0.7**
FYU Fort Yukon 84.18 9 *e*P **P** **01 17 57.7 +1.4**
FYU Fort Yukon 84.18 9 *e*P **P** **01 17 57.7 +1.4**
MLY Manley 84.73 12 *e*P **P** **01 17 58.6 -0.6**
MLY Manley 84.73 12 *e*P **P** **01 17 58.6 -0.6**
SCHQ Schefferville 84.81 331 P **P** **01 17 59.8 0.0**
comp=Z,6.7nm,0.6s,baz=27,slow=4.1,SNR=18
MDM Murphy Dome 85.23 11 *e*P **P** **01 18 01.0 -0.7**
MDM Murphy Dome 85.23 11 *e*P **P** **01 18 01.0 -0.7**
COLA College 85.37 11*d* *i*P **P** **01 18 03.0 +0.7**
COLA pmax pmax
comp=Z,14nm,1.1s
COLA College 85.37 11 *e*P **P** **01 18 01.3 -1.0**
comp=Z,20nm,1.1s
COLA College 85.37 11 *e*P **P** **01 18 01.3 -1.0**
comp=Z,20nm,1.1s
COLA LR LR
comp=Z,2μm,20.0s
BPAW Bear Paw Mtn. 85.53 12 *e*P **P** **01 18 02.7 -0.5**
BPAW Bear Paw Mtn. 85.53 12 *e*P **P** **01 18 02.7 -0.5**
TTA Tatalina 85.54 15 *e*P **P** **01 18 03.1 -0.2**
TTA Tatalina 85.54 15 *e*P **P** **01 18 03.1 -0.2**
TTA Tatalina 85.54 15 *e*P **P** **01 18 03.1 -0.2**
TT01 Tatalina 85.56 15 *e*P **P** **01 18 02.8 -0.5**
CCB Clear Creek Bu 85.59 11 *e*P **P** **01 18 03.2 -0.2**
CCB Clear Creek Bu 85.59 11 *e*P **P** **01 18 03.2 -0.2**
IL1 Eielson Array 85.62 10 *e*P **P** **01 18 00.9 -2.7**
ILAR Eielson Array 85.62 10 P **P** **01 18 01.8 -1.8**
comp=Z,4.4nm,0.6s,baz=322,slow=4.3,SNR=63
ILAR PP PP 01 21 30.2 +8.5
comp=Z,3.4nm,1.0s,baz=331,slow=7.2,SNR=5.1
ILAR PKKPbc **PKKPbc** **01 36 07.3 +0.1**
comp=Z,0.4nm,0.5s,baz=175,slow=1.8,SNR=5.3
ILB Eielson Array 85.62 10 *e*P **P** **01 18 03.0 -0.6**
ILB Eielson Array 85.62 10 *e*P **P** **01 18 03.0 -0.6**
WRH Wood River Hil 85.70 11 *e*P **P** **01 18 03.7 -0.3**
WRH Wood River Hil 85.70 11 *e*P **P** **01 18 03.7 -0.3**
KTH Kantishna Hill 86.04 12 *e*P **P** **01 18 05.1 -0.7**
comp=Z,22nm,0.9s
KTH Kantishna Hill 86.04 12 *e*P **P** **01 18 05.1 -0.7**
comp=Z,22nm,0.9s
MCK McKinley 86.24 12 *e*P **P** **01 18 05.8 -0.9**
MCK pmax pmax
comp=Z,43nm,1.1s
MCK McKinley 86.24 12 *e*P **P** **01 18 05.8 -0.9**
comp=Z,43nm,1.1s
MCK McKinley 86.24 12 *e*P **P** **01 18 05.8 -0.9**
comp=Z,43nm,1.1s
TRF Thorofare Moun 86.25 12 *e*P **P** **01 18 05.8 -1.2**
comp=Z,28nm,0.9s
TRF Thorofare Moun 86.25 12 *e*P **P** **01 18 05.8 -1.2**
comp=Z,28nm,0.9s
PPLA Purkeypile 86.39 13 *e*P **P** **01 18 07.7 +0.1**
comp=Z,15nm,0.6s
PPLA Purkeypile 86.39 13 *e*P **P** **01 18 07.7 +0.1**
comp=Z,15nm,0.6s
EGAK Eagle 86.42 8 *e*P **P** **01 18 06.5 -1.0**
comp=Z,32nm,1.0s
EGAK Eagle 86.42 8 *e*P **P** **01 18 06.5 -1.0**
comp=Z,32nm,1.0s
EGAK LR LR
comp=Z,993nm,21.0s
RND Reindeer 86.56 12 *e*P **P** **01 18 07.1 -1.2**
RND Reindeer 86.56 12 *e*P **P** **01 18 07.1 -1.2**
RND Reindeer 86.56 12 *e*P **P** **01 18 07.1 -1.2**
DOT Dot Lake 87.11 10 *e*P **P** **01 18 10.2 -0.8**
comp=Z,36nm,0.7s
DOT Dot Lake 87.11 10 *e*P **P** **01 18 10.2 -0.8**
comp=Z,36nm,0.7s
SVW2 Sparrevohn 87.25 15 *e*P **P** **01 18 12.8 +1.1**
SVW2 Sparrevohn 87.25 15 *e*P **P** **01 18 12.8 +1.1**
MENT Mentasta 87.83 10 *e*P **P** **01 18 14.0 -0.5**
MENT Mentasta 87.83 10 *e*P **P** **01 18 14.0 -0.5**
SPU Mount Spurr 87.96 14 *e*P **P** **01 18 14.7 -0.4**
SPU Mount Spurr 87.96 14 *e*P **P** **01 18 14.7 -0.4**
WRA Warramunga Arr 88.07 114 P **P** **01 18 16.2 -0.1**
comp=Z,17nm,0.8s,baz=312,slow=4.1,SNR=40
WRA LR LR 01 58 39.4
comp=Z,226nm,22.0s,baz=305,slow=36
WRAB Tennant Creek 88.08 114⇑ *i*P **P** **01 18 17.5 +1.2**
WRAB pmax pmax
comp=Z,67nm,0.9s
WRAB Tennant Creek 88.08 114 *e*P **P** **01 18 16.4 +0.1**
comp=Z,32nm,0.9s
WRAB Tennant Creek 88.08 114 *e*P **P** **01 18 16.4 +0.1**
comp=Z,32nm,0.9s
WRAB LR LR
comp=Z,507nm,22.0s
SML Sawmill 88.13 12 *e*P **P** **01 18 14.6 -1.3**
SML Sawmill 88.13 12 *e*P **P** **01 18 14.6 -1.3**
SML Sawmill 88.13 12 *e*P **P** **01 18 14.6 -1.3**
PMR Palmer 88.18 12 *e*P **P** **01 18 16.6 +0.5**
PMR Palmer 88.18 12 *e*P **P** **01 18 16.5 +0.5**
PMR Palmer 88.18 12 *e*P **P** **01 18 16.6 +0.5**
SCM Sheep Creek Mo 88.28 12 *e*P **P** **01 18 17.2 +0.5**
SCM Sheep Creek Mo 88.28 12 *e*P **P** **01 18 17.2 +0.5**
SCM Sheep Creek Mo 88.28 12 *e*P **P** **01 18 17.2 +0.5**
RC01 Rabbit Creek A 88.52 13 *e*P **P** **01 18 17.2 -0.5**
comp=Z,17nm,0.6s
RC01 Rabbit Creek A 88.52 13 *e*P **P** **01 18 17.2 -0.5**
comp=Z,17nm,0.6s
KLU Klutina 88.85 11 *e*P **P** **01 18 20.3 +0.9**
KLU Klutina 88.85 11 *e*P **P** **01 18 20.3 +0.9**
DIV Divide 89.21 11 *e*P **P** **01 18 20.5 -0.5**
comp=Z,7.3nm,0.6s
DIV Divide 89.21 11 *e*P **P** **01 18 20.6 -0.5**
comp=Z,7.4nm,0.6s
BMRM Bremner River 89.56 11 *e*P **P** **01 18 23.1 +0.5**
comp=Z,18nm,1.0s
BMRM Bremner River 89.56 11 *e*P **P** **01 18 23.1 +0.5**
comp=Z,18nm,1.0s
AS31 Alice Springs 89.61 117 *e*P **P** **01 18 26.3 +2.8**
AS31 Alice Springs 89.61 117 *e*P **P** **01 18 26.3 +2.8**
ASAR Alice Springs 89.61 117 P **P** **01 18 23.5 0.0**
comp=Z,5.4nm,0.7s,baz=306,slow=4.8,SNR=21
AS01 Alice Springs 89.65 117 *e*P **P** **01 18 23.4 -0.2**
AS01 Alice Springs 89.65 117 *e*P **P** **01 18 23.4 -0.2**
YKA Yellowknife Ar 89.66 356 P **P** **01 18 22.5 -0.5**
comp=Z,14nm,0.6s,baz=0.4,slow=5.3,SNR=84
EYAK Cordova Ski Ar 89.76 11 *e*P **P** **01 18 24.8 +1.3**
EYAK Cordova Ski Ar 89.76 11 *e*P **P** **01 18 24.8 +1.3**
FCC Fort Churchill 90.47 346 *e*P **P** **01 18 23.8 -3.0**
FCC pmax pmax
comp=Z,10.0nm,0.7s
FCC Fort Churchill 90.47 346 *e*P **P** **01 18 23.8 -3.0**
comp=Z,10nm,0.7s
KDAK Kodiak Island 90.90 16 *i* P **P** **01 18 29.1 +0.3**
KDAK Kodiak Island 90.90 16 *e*P **P** **01 18 28.8 0.0**
comp=Z,23nm,0.7s
KDAK Kodiak Island 90.90 16 *e*P **P** **01 18 28.8 0.0**
comp=Z,23nm,0.7s
KDAK LR LR
comp=Z,814nm,19.0s
OHAK Old Harbor 91.23 16 *e*P **P** **01 18 30.1 -0.3**
comp=Z,25nm,0.8s
OHAK Old Harbor 91.23 16 *e*P **P** **01 18 30.1 -0.3**
comp=Z,25nm,0.8s
PKME Peaks-Kenny Pk 92.60 326 PFAKE 01 18 50.0 +13
PKME LR LR
comp=Z,651nm,22.0s
DLBC Dease Lake 93.70 4 *e*P **P** **01 18 43.4 +1.5**
DLBC Dease Lake 93.70 4 *e*P **P** **01 18 43.4 +1.5**
PMG Port Moresby 93.91 99 *e*P **P** **01 18 44.1 +0.6**
PMG pmax pmax
comp=Z,21nm,0.9s
PMG MLR MLR
comp=Z,257nm,20.0s
PMG Port Moresby 93.91 99 *e*P **P** **01 18 44.1 +0.6**
comp=Z,21nm,0.9s
PMG Port Moresby 93.91 99 *e*P **P** **01 18 44.1 +0.6**
comp=Z,21nm,0.9s
PMG LR LR
comp=Z,257nm,20.0s
WRAK Wrangell Islan 95.54 6 PFAKE 01 19 00.0 +10
WRAK LR LR
comp=Z,592nm,20.0s
LONY Lake Ozonia 95.64 328 *e*P **P** **01 18 50.9 -0.1**
comp=Z,21nm,1.1s
LONY Lake Ozonia 95.64 328 *e*P **P** **01 18 50.9 -0.1**
comp=Z,21nm,1.1s
LONY LR LR
comp=Z,558nm,21.0s
RCBR Riachuelo 95.83 267 PFAKE 01 19 10.0 +18
RCBR LR LR
comp=Z,646nm,19.0s
SYO Syowa Base 97.58 186‖ *e*P Pdif 01 19 01.8 +2.9
CTAO Charters Tower 97.98 108 PFAKE 01 19 10.0 +8.0
CTAO LR LR
comp=Z,619nm,22.0s
BINY Binghamton 98.14 327 PFAKE 01 19 20.0 +18
BINY LR LR
comp=Z,623nm,21.0s
BBSR BB Station 98.75 314 PFAKE 01 19 20.0 +15
BBSR LR LR
comp=Z,278nm,20.0s
EYMN Ely 99.52 340 PFAKE 01 19 20.0 +12
EYMN LR LR
comp=Z,685nm,21.0s

COWI	**Conover**	**100.38**	**337**	PFAKE		01 19 30.0	+18
COWI				LR	LR			
	comp=Z,572nm,20.0s							
AGMN	**Agassiz Nation**	**100.47**	**342**	PFAKE		01 19 30.0	+17
AGMN				LR	LR			
	comp=Z,863nm,22.0s							
AAM	**Ann Arbor**	**101.52**	**332**	PFAKE		01 19 30.0	+13
AAM				LR	LR			
	comp=Z,384nm,22.0s							
CBN	**Corbin Frederi**	**101.88**	**325**	PFAKE		01 19 30.0	+11
CBN				LR	LR			
	comp=Z,385nm,21.0s							
CASY	**Casey**	**102.15**	**161**	PFAKE		01 19 30.0	+11
CASY				LR	LR			
	comp=Z,79nm,19.0s							
DGMT	**Dagmar**	**102.21**	**348**	PFAKE		01 19 30.0	+10
DGMT				LR	LR			
	comp=Z,991nm,22.0s							
ACSO	**Alum Creek Sta**	**102.92**	**330**	PFAKE		01 19 40.0	+16
ACSO				LR	LR			
	comp=Z,430nm,20.0s							
EGMT	**Eagleton**	**103.53**	**351**	PFAKE		01 19 40.0	+14
EGMT				LR	LR			
	comp=Z,638nm,21.0s							
JFWS	**Jewell Farm**	**103.55**	**336**	PFAKE		01 19 40.0	+14
JFWS				LR	LR			
	comp=Z,721nm,19.0s							
NEW	**Newport**	**103.99**	**356**	PFAKE		01 19 40.0	+12
NEW				LR	LR			
	comp=Z,880nm,20.0s							
BLA	**Blacksburg**	**104.17**	**327**	PFAKE		01 19 40.0	+11
BLA				LR	LR			
	comp=Z,582nm,20.0s							
LAO	**LASA Array**	**104.29**	**349**	PFAKE		01 19 40.0	+10
LAO				LR	LR			
	comp=Z,707nm,20.0s							
CNNC	**Cliffs of the**	**104.42**	**324**	PFAKE		01 19 40.0	+10
CNNC				LR	LR			
	comp=Z,385nm,20.0s							
ECSD	**EROS Data Cent**	**104.86**	**341**	PFAKE		01 24 00.0		
ECSD				LR	LR			
	comp=Z,829nm,20.0s							
NLWA	**Neilton Lookou**	**105.00**	**1**	PFAKE		01 24 00.0		
NLWA				LR	LR			
	comp=Z,673nm,19.0s							
HDIL	**Hopedale**	**105.25**	**334**	PFAKE		01 24 00.0		
HDIL				LR	LR			
	comp=Z,639nm,19.0s							
HAWA	**Hanford**	**105.97**	**358**	PFAKE		01 24 00.0		
HAWA				LR	LR			
	comp=Z,627nm,21.0s							
BOZ	**Bozeman (W)**	**106.11**	**352**	*e*PKP		**PKiKP**	**01 23 48.6**	**-1.2**
BOZ				*e*PP		**PP**	**01 23 58.8**	**-1.8**
BOZ				LR	LR			
	comp=Z,476nm,19.0s							
RLMT	**Red Lodge**	**106.31**	**350**	PFAKE		01 24 00.0		
RLMT				LR	LR			
	comp=Z,924nm,19.0s							
LKWY	**Lake**	**107.01**	**351**	PFAKE		01 24 10.0		
LKWY				LR	LR			
	comp=Z,1μm,20.0s							
FDF	**Fort de France**	**107.13**	**297**	PFAKE		01 24 10.0		
FDF				LR	LR			
	comp=Z,251nm,21.0s							
NHSC	**New Hope**	**107.27**	**324**	PFAKE		01 24 10.0		
NHSC				LR	LR			
	comp=Z,413nm,19.0s							
BMO	**Blue Mountains**	**107.40**	**356**	PFAKE		01 24 10.0		
BMO				LR	LR			
	comp=Z,769nm,22.0s							
SNAA	**Sanae**	**107.72**	**197**	*e*PKP		**PKiKP**	**01 23 51.9**	**+0.2**
HLID	**Hailey**	**108.47**	**354**	PFAKE		01 24 10.0		
HLID				LR	LR			
	comp=Z,490nm,19.0s							
BW06	**Boulder Array**	**108.66**	**350**	PFAKE		01 24 10.0		
BW06				LR	LR			
	comp=Z,664nm,20.0s							
PDAR	**Pinedale Array**	**108.66**	**350**	PKiKP		**PKiKP**	**01 23 54.8**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=90,slow=1.9,SNR=8.3							
GOGA	**Godfrey**	**108.69**	**326**	PFAKE		01 24 10.0		
GOGA				LR	LR			
	comp=Z,584nm,19.0s							
AHID	**Auburn Hatcher**	**108.88**	**351**	PFAKE		01 24 10.0		
AHID				LR	LR			
	comp=Z,533nm,20.0s							
SJG	**San Juan**	**108.91**	**303**	PFAKE		01 24 10.0		
SJG				LR	LR			
	comp=Z,276nm,19.0s							
OGNE	**Ogallala**	**108.91**	**344**	PFAKE		01 24 10.0		
OGNE				LR	LR			
	comp=Z,627nm,21.0s							
GRGR	**Grenville**	**109.04**	**296**	PFAKE		01 24 10.0		
GRGR				LR	LR			
	comp=Z,231nm,20.0s							
KSU1	**Kansas State U**	**109.10**	**339**	PFAKE		01 24 10.0		
KSU1				LR	LR			
	comp=Z,512nm,19.0s							
WVOR	**Wild Horse Val**	**109.88**	**357**	PFAKE		01 24 10.0		
WVOR				LR	LR			
	comp=Z,757nm,22.0s							
HWUT	**Hardware Ranch**	**110.08**	**351**	*e*PKP		**PKiKP**	**01 23 57.3**	**0.0**
HWUT				LR	LR			
	comp=Z,558nm,22.0s							
CBKS	**Cedar Bluff**	**110.30**	**341**	PFAKE		01 24 10.0		
CBKS				LR	LR			
	comp=Z,469nm,20.0s							
ISCO	**Idaho Springs**	**110.82**	**346**	PFAKE		01 24 10.0		
ISCO				LR	LR			
	comp=Z,673nm,20.0s							
DUG	**Dugway, Tooele**	**111.63**	**352**	PFAKE		01 24 10.0		
DUG				LR	LR			
	comp=Z,521nm,20.0s							
SDDR	**Presa de Saban**	**112.05**	**307**	PFAKE		01 24 20.0		
SDDR				LR	LR			
	comp=Z,477nm,22.0s							
MIAR	**Mount Ida**	**112.14**	**335**	*e*PKIKP		**PKiKP**	**01 24 01.5**	**+0.3**
MIAR				MLR	MLR			
	comp=Z,466nm,19.0s							
MIAR	**Mount Ida**	**112.14**	**335**	*e*PKP		**PKiKP**	**01 24 01.5**	**+0.3**
MIAR				LR	LR			
	comp=Z,466nm,19.0s							
BRAL	**Brewton**	**112.26**	**328**	PFAKE		01 24 20.0		
BRAL				LR	LR			
	comp=Z,506nm,20.0s							
SDCO	**Great Sand Dun**	**112.77**	**346**	PFAKE		01 24 20.0		
SDCO				LR	LR			
	comp=Z,622nm,19.0s							
SPB	**Sao Paulo**	**113.38**	**255**	PFAKE		01 24 20.0		
SPB				LR	LR			
	comp=Z,467nm,20.0s							
WMOK	**Wichita Mounta**	**113.79**	**339**	PFAKE		01 24 20.0		
WMOK				LR	LR			
	comp=Z,610nm,19.0s							
MVCO	**Mesa Verde**	**113.89**	**348**	PFAKE		01 24 20.0		
MVCO				LR	LR			
	comp=Z,696nm,22.0s							
NATX	**Nacogdoches**	**115.03**	**334**	PFAKE		01 24 20.0	+13	
NATX				LR	LR			
	comp=Z,611nm,19.0s							
ANMO	**Albuquerque**	**115.67**	**346**	PFAKE		01 24 20.0	+12	
ANMO				LR	LR			
	comp=Z,658nm,19.0s							
DZM	**Mont Dzumac**	**116.01**	**102**	*e*PS		PS	01 34 55.5	-0.1
	comp=Z,267nm,27.2s							
DZM	**Mont Dzumac**	**116.01**	**102**	*e*LR		LR	01 59 22.7	
	comp=Z,720nm,37.2s							
DZM	**Mont Dzumac**	**116.01**	**102**	*e*PKIKP		**PKPdf**	**01 24 07.9**	**-0.9**
DZM	**Mont Dzumac**	**116.01**	**102**	*e*PKPdf		**PKPdf**	**01 24 08.0**	**-0.9**
WUAZ	**Wupatki**	**116.03**	**350**	*e*PKIKP		**PKPdf**	**01 24 09.5**	**+0.7**
WUAZ	**Wupatki**	**116.03**	**350**	*e*PKPdf		**PKPdf**	**01 24 09.5**	**+0.7**
WUAZ				LR	LR			
	comp=Z,582nm,20.0s							
JCT	**Junction City**	**118.04**	**338**	*e*PKIKP		**PKPdf**	**01 24 12.7**	**0.0**
JCT				MLR	MLR			
	comp=Z,389nm,19.0s							
JCT	**Junction City**	**118.04**	**338**	*e*PKIKP		**PKPdf**	**01 24 12.7**	**0.0**
JCT	**Junction City**	**118.04**	**338**	*e*PKPdf		**PKPdf**	**01 24 12.7**	**0.0**
JCT				LR	LR			
	comp=Z,389nm,19.0s							
SDV	**Santo Domingo**	**118.04**	**299**	PFAKE		01 24 30.0	+17	
SDV				LR	LR			
	comp=Z,253nm,20.0s							
121A	**Cookes Peak, D**	**118.28**	**346**	*e*PKPdf		**PKPdf**	**01 24 13.9**	**+0.6**
MNTX	**Cornudas Mount**	**118.52**	**344**	*e*PKPdf		**PKPdf**	**01 24 13.2**	**-0.3**
MNTX				LR	LR			
	comp=Z,785nm,22.0s							
PFO	**Pinyon Flats O**	**118.52**	**354**	PFAKE		01 24 30.0	+16	
PFO				LR	LR			
	comp=Z,511nm,22.0s							
TUC	**Tucson**	**119.07**	**349**	*e*PKIKP		**PKPdf**	**01 24 14.7**	**+0.1**
TUC				MLR	MLR			
	comp=Z,518nm,19.0s							
TUC	**Tucson**	**119.07**	**349**	*e*PKIKP		**PKPdf**	**01 24 14.7**	**+0.1**
TUC	**Tucson**	**119.07**	**349**	*e*PKPdf		**PKPdf**	**01 24 14.7**	**+0.1**
TUC				LR	LR			
	comp=Z,518nm,19.0s							
VNDA	**Vanda**	**120.15**	**166**	PKP		**PKPdf**	**01 24 15.1**	**0.0**
	comp=Z,1.3nm,1.0s,baz=346,slow=2.9,SNR=3.8							
TXAR	**Lajitas Array**	**120.30**	**341**	PKP		**PKPdf**	**01 24 16.1**	**-1.0**
	comp=Z,3.8nm,0.7s,baz=155,slow=1.0,SNR=48							
SBA	**Scott Base**	**121.13**	**166**	PFAKE		01 24 30.0	+13	
SBA				LR	LR			
	comp=Z,370nm,21.0s							
SAML	**Samuel**	**121.34**	**277**	*e*PKIKP		**PKPdf**	**01 24 18.7**	**-0.5**
SAML	**Samuel**	**121.34**	**277**	*e*PKPdf		**PKPdf**	**01 24 18.7**	**-0.5**
SAML				LR	LR			
	comp=Z,643nm,19.0s							
MOTC	**Monteria, Cord**	**121.95**	**302**	*e*P		**PKPdf**	**01 24 20.1**	**-0.4**
CPUP	**Villa Florida**	**122.75**	**255**	PKP		**PKPdf**	**01 24 21.3**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=93,slow=2.3,SNR=8.2							
NORC	**Norcasia**	**123.39**	**299**	*e*P		**PKPdf**	**01 24 22.8**	**-0.5**
ROSC	**El Rosal**	**123.40**	**297**	PKP		**PKPdf**	**01 24 24.6**	**+0.9**
	comp=Z,5.0nm,0.5s,baz=146,slow=14,SNR=4.5							
ROSC	**El Rosal**	**123.40**	**297**	*e*P		**PKPdf**	**01 24 22.8**	**-0.9**
DBBC	**Dabeiba**	**123.50**	**301**	*e*P		**PKPdf**	**01 24 20.1**	**-3.5**
SJAC	**San Juan de Ar**	**124.06**	**296**	*e*P		**PKPdf**	**01 24 23.9**	**-0.8**
PRAC	**Prado**	**124.53**	**297**	*e*P		**PKPdf**	**01 24 21.8**	**-3.7**
POPC	**Popayan, Colom**	**126.66**	**297**	*e*P		**PKPdf**	**01 24 26.9**	**-2.9**
EFI	**East Falkland**	**127.15**	**225**	PFAKE		01 24 40.0	+11	
EFI				LR	LR			
	comp=Z,792nm,22.0s							
SNZO	**South Karori**	**127.57**	**122**	PFAKE		01 24 40.0	+10	
SNZO				LR	LR			
	comp=Z,465nm,19.0s							
LPAZ	**La Paz**	**128.81**	**271**	PKP		**PKPdf**	**01 24 35.2**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=61,slow=2.7,SNR=10.0							
TRQA	**Tornquist**	**129.16**	**242**	*e*PKIKP		**PKPdf**	**01 24 33.4**	**-0.2**
TRQA	**Tornquist**	**129.16**	**242**	*e*PKPdf		**PKPdf**	**01 24 33.4**	**-0.2**
TRQA				LR	LR			
	comp=Z,989nm,19.0s							
OTAV	**Otavalo**	**129.46**	**296**	*e*PKIKP		**PKPdf**	**01 24 35.6**	**+0.2**
OTAV	**Otavalo**	**129.46**	**296**	*e*PKPdf		**PKPdf**	**01 24 35.6**	**+0.2**
OTAV				LR	LR			
	comp=Z,298nm,21.0s							
LVC	**Limon Verde**	**131.70**	**264**	*e*PKIKP		**PKPdf**	**01 24 40.6**	**+1.4**
LVC	**Limon Verde**	**131.70**	**264**	*e*PKPdf		**PKPdf**	**01 24 40.6**	**+1.4**
NNA	**Nana**	**134.66**	**281**	*e*PKIKP		**PKPdf**	**01 24 44.5**	**-0.1**
NNA				MLR	MLR			
	comp=Z,414nm,20.0s							
NNA	**Nana**	**134.66**	**281**	*e*PKIKP		**PKPdf**	**01 24 44.5**	**-0.1**
NNA	**Nana**	**134.66**	**281**	*e*PKPdf		**PKPdf**	**01 24 44.5**	**-0.1**
NNA				LR	LR			
	comp=Z,414nm,20.0s							
LCO	**Las Campanas**	**134.90**	**256**	*e*PKIKP		**PKPdf**	**01 24 44.7**	**-0.3**
LCO	**Las Campanas**	**134.90**	**256**	*e*PKPdf		**PKPdf**	**01 24 44.7**	**-0.3**
PPT2	**Papeete2**	**152.91**	**73**	*e*LR		LR	02 16 46.2	
	comp=Z,397nm,25.5s							
TAOE	**Nuku Hiva Isla**	**154.65**	**45**	*e*LR		LR	02 17 22.3	
	comp=Z,490nm,23.0s							
TBI	**Tubuai**	**155.15**	**86**	*e*LR		LR	02 17 16.5	
	comp=Z,452nm,26.0s							

IDC ***15*** *01:06:09.6±1.5, 30.°32S×177.°85W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/27, mbtmp4.1/3, Error ellipse: s-maj=38.5km s-min=19.6km az=105.0*

ISC 15 01:06:15.6±1.7, 30.°3S±0.°1×177.°8W±0.°3, h46km, n10, σ1§50/8, mb4.2/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.02**	**353**	Pn		**Pn**		**01 06 32.1**	**-1.4**
	267nm,0.3s,baz=100,slow=11,SNR=16								
RAO				Sn		**Sn**		**01 06 48.2**	**+1.6**
	478nm,0.3s,baz=93,slow=23,SNR=11								
STKA	**Stephens Creek**	**34.69**	**257**	P		**P**		**01 13 02.0**	**+0.9**
	1.9nm,0.6s,baz=99,slow=12,SNR=4.8								
ASAR	**Alice Springs**	**43.31**	**267**	P		**P**		**01 14 12.7**	**-0.5**
	0.7nm,0.5s,baz=105,slow=7.5,SNR=10								
WRA	**Warramunga Arr**	**44.28**	**272**	P		**P**		**01 14 19.9**	**-1.2**
	1.7nm,0.3s,baz=110,slow=8.1,SNR=20								
H10N3	**ASCENSION HYDR**	**138.85**	**154**	T		T		04 01 27.8	
	baz=203,slow=75,SNR=12								
H10N1	**ASCENSION HYDR**	**138.85**	**154**	T		T		04 01 26.5	
	baz=203,slow=75,SNR=13								
H10N2	**ASCENSION HYDR**	**138.87**	**154**	T		T		04 01 27.9	
	baz=203,slow=75,SNR=11								
FINES	**FINESS Array B**	**145.08**	**340**	PKPbc		**PKPbc**		**01 25 45.7**	**-1.0**
	0.9nm,0.3s,baz=56,slow=4.8,SNR=8.0								
AKASG	**Malin Array Be**	**151.31**	**323**	PKPbc		**PKPbc**		**01 26 05.5**	**+1.8**
	0.3nm,0.4s,baz=65,slow=1.4,SNR=2.8								
TORD	**Torodi Ar. Bea**	**162.96**	**178**	PKPab		**PKPab**		**01 27 03.0**	**+0.2**
	0.6nm,1.0s,baz=188,slow=5.0,SNR=2.6								

CSEM ***15*** *01:08:53.9, 35.°14N×24.°57E, h32km, ML1.0/4*

ATH 15 01:08:53.9, 35.°14N×24.°57E, h32km±2km, ML1.0/3, Error ellipse: s-maj=2.3km s-min=1.2km az=223.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.23**	**122**	P		Pn		01 09 01.1	0.0
SIVA				S		Sb		01 09 05.1	-0.2
SIVA	**Sivas**	**0.23**	**122**	P		Pn		01 09 01.1	+0.1
SIVA				S		Sb		01 09 05.1	-0.1
IDI	**Anoyia**	**0.30**	**60**	P		Pn		01 09 01.9	-0.2
IDI				S		Sb		01 09 06.9	+0.1
IDI	**Anoyia**	**0.30**	**60**	P		Pn		01 09 01.9	-0.2
IDI				S		Sb		01 09 06.9	0.0
IDI				AML		AML		01 09 07.4	
	comp=N,40μm,0.3s								
IDI				AML		AML		01 09 07.6	
	comp=E,24μm,0.4s								
VAM	**Vamos**	**0.41**	**311**	P		Pb		01 09 03.2	+0.2
VAM				S		Sn		01 09 10.8	+0.7
GVD	**Gavdhos**	**0.50**	**233**	P		Pn		01 09 04.9	+0.1
GVD				S		Sn		01 09 12.6	+0.2
GVD	**Gavdhos**	**0.50**	**233**	P		Pn		01 09 04.9	0.0
GVD				S		Sn		01 09 12.6	+0.3
GVD				AML		AML		01 09 15.9	
	comp=N,63μm,0.4s								
GVD				AML		AML		01 09 18.0	
	comp=E,52μm,0.2s								
IMMV	**Iera Moni Meta**	**0.58**	**304**	P		Pb		01 09 05.2	-0.6
IMMV				S		Sn		01 09 17.0	+2.6
IMMV	**Iera Moni Meta**	**0.58**	**304**	P		Pb		01 09 05.2	-0.6
IMMV				AML		AML		01 09 16.0	
	comp=E,96μm,0.3s								
IMMV				S		Sn		01 09 17.0	+2.6
IMMV				AML		AML		01 09 18.6	
	comp=N,34μm,0.4s								
LAST	**Lasithi**	**0.74**	**88**	P		Pb		01 09 09.1	+0.6
LAST				S		Sn		01 09 19.8	+1.3
LAST	**Lasithi**	**0.74**	**88**	P		Pb		01 09 09.1	+0.6

IDC ***15*** *01:10:48.6±1.6, 27.°94N×57.°66E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.7/58, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=35.3km s-min=28.6km az=105.0*

ISCJB ***15*** *01:10:50.6±0.6, 27.°72N±0.°05×58.°00E±0.°05, h10km, mb4.2/8, Error ellipse: s-maj=7.4km s-min=6.0km az=34.7*

THR ***15*** *01:10:51.1±0.3, 27.°97N×57.°78E, h15km, ML4.3*

CSEM ***15*** *01:10:52.4±0.6, 27.°84N×57.°96E, h20km, ML3.9, Error ellipse: s-maj=18.5km s-min=13.7km az=116.0*

NEIC ***15*** *01:10:54.6, 27.°79N×57.°88E, h31km, mb4.2/4, ML4.3(THR), MN3.9(TEH), After TEH.*

TEH ***15*** *01:10:54.6, 27.°79N×57.°88E, h31km, ML3.9*

ISC 15 01:10:50.6±0.8, 27.°84N±0.°05×57.°92E±0.°05, h10km, n41, σ1§83/44, mb4.2/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.00**	**254**	*e*Pg		**Pn**		**01 11 12.3**	**+1.5**
NIAN	**Nian**	**1.00**	**254**	*e*Pg		**Pn**		**01 11 12.3**	**+1.5**
IBND	**Bandar-abas**	**1.28**	**252**	*e*Pg		**Pg**		**01 11 17.4**	**+2.1**
IBND				*e*AMB		AMB		01 11 17.5	
	comp=Z,35μm,0.1s								
IBND				*e*Sg		**Sg**		**01 11 34.2**	**+2.2**
IBND	**Bandar-abas**	**1.28**	**252**	Pg		**Pg**		**01 11 17.3**	**+2.0**
IBND	**Bandar-abas**	**1.28**	**252**	*e*Pn		**Pg**		**01 11 19.3**	**+4.0**
IBND				Sg		**Sg**		**01 11 34.0**	**+2.0**
IBND	**Bandar-abas**	**1.28**	**252**	Pg		**Pg**		**01 11 17.3**	**+2.0**
IBND				Sg		**Sg**		**01 11 34.0**	**+2.0**
GENO	**Geno**	**1.61**	**254**	*e*Pn		**Pn**		**01 11 21.2**	**+1.9**
GENO	**Geno**	**1.61**	**254**	*e*Pn		**Pn**		**01 11 21.2**	**+1.9**
BNDS	**Bandar-Abbas**	**1.61**	**254**	*e*Pn		**Pn**		**01 11 19.3**	**0.0**
BNDS	**Bandar-Abbas**	**1.61**	**254**	*e*Pg		**Pn**		**01 11 19.3**	**0.0**
BNDS				AML		AML		01 11 42.9	
	comp=N,6μm,0.5s								
BNDS				AML		AML		01 11 43.5	
	comp=E,5μm,1.2s								
BNDS	**Bandar-Abbas**	**1.61**	**254**	*e*Pg		**Pn**		**01 11 19.3**	**0.0**
BNDS	**Bandar-Abbas**	**1.61**	**254**	Pg		**Pn**		**01 11 19.0**	**-0.3**
CHMN	**Cheshme madani**	**2.04**	**351**	*e*Pn		**Pn**		**01 11 27.3**	**+1.9**
CHMN	**Cheshme madani**	**2.04**	**351**	*e*Pn		**Pn**		**01 11 27.3**	**+1.9**
NGRK	**Negar Kerman**	**2.08**	**330**	*e*Pn		**Pb**		**01 11 28.7**	**0.0**
NGRK	**Negar Kerman**	**2.08**	**330**	*e*Pn		**Pb**		**01 11 28.7**	**0.0**
KRBR	**Kerman**	**2.36**	**335**	*e*Pn		**Pn**		**01 11 31.1**	**+1.3**
KRBR	**Kerman**	**2.36**	**335**	*e*Pg		**Pn**		**01 11 31.1**	**+1.3**
KRBR				AML		AML		01 12 08.2	
	comp=N,1μm,0.5s								
KRBR				AML		AML		01 12 11.4	
	comp=E,2μm,0.1s								
KRBR	**Kerman**	**2.36**	**335**	*e*Pg		**Pn**		**01 11 31.1**	**+1.3**
KRBR	**Kerman**	**2.36**	**335**	Pg		**Pn**		**01 11 31.0**	**+1.3**
TVBK	**TV Kerman**	**2.36**	**335**	*e*Pn		**Pb**		**01 11 33.0**	**-0.6**
TVBK	**TV Kerman**	**2.36**	**335**	*e*Pn		**Pb**		**01 11 33.0**	**-0.6**
KHGB	**Koh Gabri**	**2.82**	**334**	*e*Pn		**Pb**		**01 11 40.1**	**-1.2**
KHGB	**Koh Gabri**	**2.82**	**334**	*e*Pn		**Pb**		**01 11 40.1**	**-1.2**
ZHSF	**Zahedan**	**3.06**	**54**	*e*Pn		**Pn**		**01 11 41.7**	**+2.4**
ZHSF	**Zahedan**	**3.06**	**54**	*e*Pn		**Pn**		**01 11 41.7**	**+2.4**
ZHSF	**Zahedan**	**3.06**	**54**	Pn		**Pn**		**01 11 41.0**	**+1.7**
ZHSF	**Zahedan**	**3.06**	**54**	Pn		**Pn**		**01 11 41.0**	**+1.7**
WSAR	**Wadi Sarin**	**4.63**	**172**	Pn		**Pn**		**01 12 02.6**	**+1.9**
	comp=E,4.5nm,0.3s,baz=349,slow=9.4,SNR=9.3								
WSAR				Sn		**Sn**		**01 12 52.5**	**-2.1**
	comp=E,15nm,0.3s,baz=160,slow=7.6,SNR=5.1								
GNI	**Garni**	**16.41**	**322**	*e*Pn		**Pn**		**01 14 39.8**	**-1.4**
GNI	**Garni**	**16.41**	**322**	*e*Pn		**Pn**		**01 14 39.8**	**-1.4**
ABKAR	**Akbulak array**	**21.44**	**4**	*e*P		**P**		**01 15 43.1**	**+4.3**
	comp=E,3.0nm,0.6s								
BRTR	**Keskin Array B**	**23.32**	**307**	P		**P**		**01 15 56.7**	**-2.4**
	comp=E,2.1nm,1.0s,baz=118,slow=12,SNR=2.7								
KIEV	**Kiev**	**31.52**	**324**	*e*P		**P**		**01 17 12.8**	**+0.1**
	comp=E,2.8nm,0.4s								
KIEV	**Kiev**	**31.52**	**324**	*e*P		**P**		**01 17 12.8**	**+0.1**
	comp=E,2.8nm,0.4s								
ZALV	**Zalesovo Beam**	**32.70**	**30**	P		**P**		**01 17 22.3**	**-0.7**
	comp=E,1.3nm,0.3s,baz=229,slow=8.8,SNR=5.7								
PSZ	**Piszkesteto**	**35.61**	**315**	*e*P		**P**		**01 17 46.9**	**-1.6**
	comp=E,2.8nm,0.7s								
PSZ	**Piszkesteto**	**35.61**	**315**	*e*P		**P**		**01 17 46.9**	**-1.6**
	comp=E,2.8nm,0.7s								
SSB	**Saint Sauveur**	**45.41**	**307**	*e*P		P		01 19 05.0	-4.6
	comp=E,2.0nm,0.7s								
ARCES	**ARCESS Array B**	**45.75**	**345**	P		**P**		**01 19 10.4**	**-1.4**
	comp=E,3.2nm,1.0s,baz=134,slow=6.4,SNR=3.7								
TORD	**Torodi Ar. Bea**	**54.23**	**266**	P		**P**		**01 20 14.3**	**-2.7**
	comp=E,1.6nm,0.4s,baz=65,slow=7.5,SNR=10								

DSN ***15*** *01:12:43.2±0.2, 27.°97N×58.°30E, h36km, ML4.7, Error ellipse: s-maj=11.9km s-min=4.7km az=325.0*

ISCJB ***15*** *01:12:44.7±0.3, 28.°02N±0.°04×57.°76E±0.°06, h30km, mb4.2/21, Error ellipse: s-maj=8.2km s-min=5.3km az=29.9*

CSEM ***15*** *01:12:46.3±0.2, 27.°95N×57.°84E, h30km, ML4.2, Error ellipse: s-maj=9.4km s-min=6.3km az=109.0*

IDC ***15*** *01:12:47.7±2.8, 27.°97N×57.°68E, h45km±29km, mb4.0/17, mb1 4.0/21, mb1mx3.8/69, mbtmp4.2/21, ML4.0/2, Error ellipse: s-maj=17.8km s-min=14.9km az=180.0*

OMAN ***15*** *01:12:49.0±99.0, 27.°76N×57.°79E, h30km, Error ellipse: s-maj=131.9km s-min=12.1km az=15.0*

NEIC ***15*** *01:12:50.3, 27.°85N×57.°62E, h30km, mb4.0/8, ML4.2(THR), MN4.2(TEH), After TEH.*

THR ***15*** *01:12:50.1±0.3, 28.°13N×57.°27E, h15km, ML4.2*

TEH ***15*** *01:12:50.3, 27.°85N×57.°62E, h30km, ML4.2*

ISC 15 01:12:46.2±0.5, 28.°01N±0.°04×57.°65E±0.°05, h30km, n75, σ1§19/68, mb4.2/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**0.85**	**239**	*e*Pg		**Pb**		**01 13 04.7**	**+2.3**
NIAN	**Nian**	**0.85**	**239**	*e*Pg		**Pb**		**01 13 04.7**	**+2.3**
IBND	**Bandar-abas**	**1.13**	**241**	*e*AMB		AMB		01 13 43.2	
	comp=Z,39μm,0.2s								
IBND				*e*Pg		**Pb**		**01 13 09.5**	**+2.4**
GENO	**Geno**	**1.44**	**246**	*e*Pn		**Pb**		**01 13 13.4**	**+0.9**
GENO	**Geno**	**1.44**	**246**	*e*Pn		**Pb**		**01 13 13.4**	**+0.9**
BNDS	**Bandar-Abbas**	**1.44**	**246**	*e*Pg		**Pb**		**01 13 12.7**	**+0.2**
BNDS		

	comp=Z,5.1nm,0.6s								
TKM2	**Tokmak 2**	**20.80**	**40**	*e*P		**P**	**01 17 25.6**	**+0.4**	
	comp=Z,3.7nm,0.6s								
TKM2	**Tokmak 2**	**20.80**	**40**	*e*P		**P**	**01 17 25.6**	**+0.4**	
	comp=Z,3.7nm,0.6s								
ABKAR	**Akbulak array**	**21.29**	**4**	*e*P		**P**	**01 17 31.0**	**+0.8**	
	comp=Z,5.0nm,0.8s								
ABKAR	**Akbulak array**	**21.29**	**4**	*e*P		**P**	**01 17 31.0**	**+0.8**	
	comp=Z,5.0nm,0.8s								
CSS	**Mathiatis**	**21.84**	**295**	*e*P		**P**	**01 17 36.8**	**+0.6**	
	comp=Z,4.2nm,1.1s								
CSS	**Mathiatis**	**21.84**	**295**	*e*P		**P**	**01 17 36.8**	**+0.6**	
	comp=Z,4.2nm,1.1s								
AKTO	**Aktyubinsk**	**22.40**	**1**	P		**P**	**01 17 42.4**	**+0.3**	
	comp=Z,2.7nm,0.5s,baz=185,slow=7.5,SNR=5.2								
BRTR	**Keskin Array B**	**23.04**	**307**	P		**P**	**01 17 49.6**	**+0.5**	
	comp=Z,11nm,0.9s,baz=185,slow=8.5,SNR=15								
BVAR	**Borovoye Array**	**26.72**	**17**	P		**P**	**01 18 23.3**	**+0.5**	
	comp=Z,4.2nm,0.7s,baz=207,slow=6.1,SNR=8.7								
MKAR	**Makanchi Array**	**26.93**	**39**	P		**P**	**01 18 25.1**	**+0.3**	
	comp=Z,3.3nm,0.8s,baz=218,slow=8.5,SNR=6.9								
KURBB	**Kurchatov Arra**	**27.59**	**29**	P		**P**	**01 18 30.8**	**+0.2**	
	comp=Z,2.8nm,0.8s,baz=215,slow=4.3,SNR=5.1								
KURK	**Kurchatov**	**27.70**	**29**	P		**P**	**01 18 30.8**	**-0.7**	
KURK	**Kurchatov**	**27.70**	**29**	P		**P**	**01 18 30.8**	**-0.7**	
IDI	**Anoyia**	**28.73**	**293**	P		**P**	**01 18 41.1**	**+0.1**	
	comp=Z,3.5nm,0.7s,baz=94,slow=13,SNR=3.6								
IDI	**Anoyia**	**28.73**	**293**	*e*P		**P**	**01 18 42.1**	**+1.1**	
	comp=Z,13nm,1.1s								
IDI	**Anoyia**	**28.73**	**293**	*e*P		**P**	**01 18 42.1**	**+1.1**	
	comp=Z,13nm,1.1s								
ZALV	**Zalesovo Beam**	**32.68**	**30**	P		**P**	**01 19 15.2**	**-0.3**	
	comp=Z,5.4nm,0.3s,baz=230,slow=9.2,SNR=20								
TIR	**Tirane**	**33.54**	**303**	*e*P		**P**	**01 19 21.3**	**-1.9**	
	comp=Z,39nm,1.2s								
TIR	**Tirane**	**33.54**	**303**	*e*P		**P**	**01 19 21.3**	**-1.9**	
	comp=Z,39nm,1.2s								
GTA	**Gaotai**	**36.57**	**61**	*e*P		**P**	**01 19 49.8**	**+0.2**	
GTA				pP		pP	01 19 56.0	-2.4	
GTA				sP		sP	01 19 58.8	-3.3	
GTA				pmax		pmax			
	comp=Z,6.0nm,1.0s								
FINES	**FINESS Array B**	**39.50**	**337**	P		**P**	**01 20 13.8**	**+0.1**	
	comp=Z,1.7nm,0.6s,baz=130,slow=8.5,SNR=6.4								
SONM	**Songino Array**	**42.44**	**49**	P		**P**	**01 20 38.3**	**-0.1**	
	comp=Z,0.6nm,0.4s,baz=272,slow=8.9,SNR=4.5								
ARCES	**ARCESS Array B**	**45.53**	**345**	P		**P**	**01 21 02.2**	**-0.5**	
	comp=Z,3.2nm,0.9s,baz=137,slow=8.2,SNR=8.6								
ESDC	**Sonseca Array**	**51.58**	**300**	P		**P**	**01 21 49.8**	**0.0**	
	comp=Z,0.3nm,0.5s,baz=68,slow=7.4,SNR=4.1								
SPITS	**Spitsbergen Ar**	**53.55**	**350**	P		**P**	**01 22 03.2**	**-0.6**	
	comp=Z,0.6nm,0.5s,baz=134,slow=12,SNR=4.7								
TORD	**Torodi Ar. Bea**	**54.00**	**266**	P		**P**	**01 22 07.1**	**-0.8**	
	comp=Z,4.9nm,0.5s,baz=64,slow=7.1,SNR=26								
KLR	**Kul'dur**	**59.23**	**47**	P		**P**	**01 22 43.2**	**-1.4**	
	comp=Z,2.0nm,1.0s,baz=290,slow=7.6,SNR=5.4								
SEY	**Seymchan**	**67.54**	**30**	P		**P**	**01 23 39.1**	**-0.2**	
	comp=Z,1.7nm,0.5s,baz=250,slow=15,SNR=4.1								
WRA	**Warramunga Arr**	**88.10**	**114**	P		**P**	**01 25 34.1**	**-0.2**	
	comp=Z,1.2nm,0.7s,baz=317,slow=4.1,SNR=5.6								
ASAR	**Alice Springs**	**89.64**	**117**	P		**P**	**01 25 41.5**	**0.0**	
	comp=Z,0.8nm,0.9s,baz=304,slow=5.5,SNR=3.7								

ISCJB ***15*** *01:15:12.9±0.6,27.81N±0.05×57.85E±0.07, h30km, mb3.8/8, Error ellipse: s-maj=9.6km s-min=6.3km az=16.9*
CSEM ***15*** *01:15:14.8±0.7,28.02N×57.53E, h20km, ML4.0, Error ellipse: s-maj=25.8km s-min=11.8km az=123.0*
IDC ***15*** *01:15:15.3±2.7,27.83N×57.47E, h43km±32km, mb3.7/7, mb1 3.8/11, mb1mx3.4/73, mbtmp4.0/11, ML3.8/4, Error ellipse: s-maj=28.4km s-min=19.7km az=133.0*
NEIC ***15*** *01:15:17.4,27.93N×57.53E, h32km, mb3.8/2, ML4.1(THR), MN4.0(TEH), After TEH.*
THR ***15*** *01:15:17.4±0.3,28.13N×57.21E, h15km, ML4.1*
TEH ***15*** *01:15:17.4,27.93N×57.53E, h32km, ML4.0*

ISC 15 01:15:14.1±0.7,27.86N±0.05×57.67E±0.06,h30km,n47,
σ1≥82/48,mb3.8/8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIAN	**Nian**	**0.80**	**248**	*e*Pn	**Pn**	**01 15 30.6**	**+1.3**
NIAN	**Nian**	**0.80**	**248**	*e*Pn	**Pn**	**01 15 30.6**	**+1.3**
IBND	**Bandar-abas**	**1.08**	**248**	*e*Pg	**Pb**	**01 15 36.1**	**+1.9**
IBND				*e*AMB	AMB	01 15 54.1	
	comp=Z,80μm,0.1s						
IBND	**Bandar-abas**	**1.08**	**248**	*e*Pg	**Pb**	**01 15 36.1**	**+1.9**
IBND	**Bandar-abas**	**1.08**	**248**	Pg	**Pb**	**01 15 36.1**	**+1.9**
KHSK	**Kohestak**	**1.23**	**206**	*e*Pn	**Pb**	**01 15 39.1**	**+2.3**
KHSK	**Kohestak**	**1.23**	**206**	*e*Pn	**Pb**	**01 15 39.1**	**+2.3**
GENO	**Geno**	**1.40**	**251**	*e*Pn	**Pn**	**01 15 39.8**	**+2.0**
GENO	**Geno**	**1.40**	**251**	*e*Pn	**Pn**	**01 15 39.8**	**+2.0**
BNDS	**Bandar-Abbas**	**1.40**	**251**	*e*Pg	**Pn**	**01 15 39.3**	**+1.5**
BNDS				AML	AML	01 16 00.8	
	comp=E,7μm,0.1s						
BNDS				AML	AML	01 16 01.4	
	comp=N,4μm,0.1s						
BNDS	**Bandar-Abbas**	**1.40**	**251**	*e*Pg	**Pn**	**01 15 39.3**	**+1.5**
BNDS	**Bandar-Abbas**	**1.40**	**251**	Pg	**Pn**	**01 15 39.0**	**+1.2**
CHMN	**Cheshme madani**	**1.99**	**357**	*e*Pn	**Pn**	**01 15 48.0**	**+1.9**
CHMN	**Cheshme madani**	**1.99**	**357**	*e*Pn	**Pn**	**01 15 48.0**	**+1.9**
KRBR	**Kerman**	**2.25**	**340**	*e*Pg	**Pn**	**01 15 52.0**	**+2.3**
KRBR				AML	AML	01 16 27.0	
	comp=N,1μm,0.6s						
KRBR				AML	AML	01 16 27.5	
	comp=E,1μm,0.8s						
KRBR	**Kerman**	**2.25**	**340**	Pg	**Pn**	**01 15 51.0**	**+1.3**
KRBR	**Kerman**	**2.25**	**340**	Pg	**Pn**	**01 15 51.0**	**+1.3**
ZHSF	**Zahedan**	**3.24**	**57**	*e*Pn	**Pb**	**01 16 12.9**	**+1.9**
ZHSF	**Zahedan**	**3.24**	**57**	Pn	**Pb**	**01 16 12.0**	**+1.0**
IBAF	**Bafgh**	**4.14**	**334**	*e*Pn	**Pn**	**01 16 19.1**	**+3.6**
IBAF				*e*AMB	AMB	01 16 40.7	
	comp=Z,730nm,0.2s						
IBAF	**Bafgh**	**4.14**	**334**	Pn	**Pn**	**01 16 19.0**	**+3.6**
IBAF	**Bafgh**	**4.14**	**334**	Pn	**Pn**	**01 16 19.0**	**+3.6**
WSAR	**Wadi Sarin**	**4.69**	**169**	P	**Pn**	**01 16 23.2**	**+0.4**
	comp=Z,5.2nm,0.3s,baz=360,slow=12,SNR=6.8						
WSAR				S	**Sn**	**01 17 14.1**	**-2.2**
	comp=Z,10nm,0.3s,baz=99,slow=18,SNR=4.6						
IKOO	**Kooshah**	**4.69**	**14**	*e*Pn	**Pn**	**01 16 24.9**	**+1.8**
IKOO				*e*AMB	AMB	01 17 57.8	
	comp=Z,857nm,0.2s						
IKOO	**Kooshah**	**4.69**	**14**	*e*Pn	**Pn**	**01 16 24.9**	**+1.8**
IKOO	**Kooshah**	**4.69**	**14**	Pn	**Pn**	**01 16 24.8**	**+1.7**
IKAZ	**Kazeroun**	**5.46**	**292**	*e*Pn	**Pn**	**01 16 34.5**	**+0.8**
IKAZ				*e*AMB	AMB	01 16 38.6	
	comp=Z,2μm,0.1s						
IKAZ	**Kazeroun**	**5.46**	**292**	*e*Pn	**Pn**	**01 16 34.5**	**+0.8**
IKAZ	**Kazeroun**	**5.46**	**292**	Pn	**Pn**	**01 16 34.4**	**+0.8**
GEYT	**Ailbeck**	**10.04**	**2**	P	**Pn**	**01 17 37.7**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=198,slow=8.6,SNR=2.7						
GNI	**Garni**	**16.25**	**322**	*e*Pn	**Pn**	**01 19 01.2**	**+0.8**
GNI	**Garni**	**16.25**	**322**	*e*Pn	**Pn**	**01 19 01.2**	**+0.8**
KKAR	**Karatay Array**	**18.42**	**31**	*e*P	**P**	**01 19 27.2**	**+0.2**
	comp=Z,1.7nm,0.8s						
KKAR	**Karatay Array**	**18.42**	**31**	*e*P	**P**	**01 19 27.2**	**+0.2**
	comp=Z,1.7nm,0.8s						
ASF	**Jabal al Asfar**	**18.48**	**288**	P	**P**	**01 19 25.6**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=107,slow=19,SNR=3.6						
MMAI	**Mount Meron Ar**	**19.86**	**290**	P	**P**	**01 19 42.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=105,slow=17,SNR=3.4						
KIV	**Kislovodsk**	**20.07**	**327**	*e*P	**P**	**01 19 43.0**	**-2.1**
	comp=Z,4.3nm,0.7s						
KIV	**Kislovodsk**	**20.07**	**327**	*e*P	**P**	**01 19 43.0**	**-2.1**
	comp=Z,4.3nm,0.7s						
ABKAR	**Akbulak array**	**21.43**	**4**	*e*P	**P**	**01 20 01.3**	**+1.7**
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**21.43**	**4**	*e*P	**P**	**01 20 01.3**	**+1.7**
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**22.54**	**1**	P	**P**	**01 20 11.8**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=162,slow=8.0,SNR=3.7						
BRTR	**Keskin Array B**	**23.13**	**307**	P	**P**	**01 20 16.7**	**-1.3**
	comp=Z,6.4nm,0.9s,baz=114,slow=9.8,SNR=11						
BVAR	**Borovoye Array**	**26.85**	**17**	P	**P**	**01 20 53.4**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=199,slow=8.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**32.79**	**30**	P	**P**	**01 21 45.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=230,slow=11,SNR=4.3						
FINES	**FINESS Array B**	**39.63**	**337**	P	**P**	**01 22 40.8**	**-2.1**
	comp=Z,2.0nm,0.8s,baz=147,slow=7.8,SNR=5.3						
ESDC	**Sonseca Array**	**51.66**	**300**	P	**P**	**01 24 17.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=66,slow=6.6,SNR=3.2						
TORD	**Torodi Ar. Bea**	**54.00**	**266**	P	**P**	**01 24 34.1**	**-1.7**
	comp=Z,2.8nm,0.5s,baz=62,slow=7.5,SNR=16						

NIED ***15*** *01:19:00,37.80N×143.50E, h20km, Mw4.1 Best double couple: Ms1.55000×10^15 NP1:φ=6.00000°, δ29.00000°, λ=104.00000°. NP2:φ=201.00000°, δ62.00000°, λ=83.00000°.*
IDC ***15*** *01:19:39.4±0.7,37.62N×143.74E, h0km, mb3.9/15, mb1 4.1/21, mb1mx3.9/68, mbtmp4.0/21, ML4.0/5, MS3.0/2, Ms1 3.0/2, ms1mx2.6/46, Error ellipse: s-maj=17.4km s-min=16.3km az=106.0*
ISCJB ***15*** *01:19:40.9±0.4,37.75N±0.03×143.57E±0.04, h19km, mb4.2/28, Error ellipse: s-maj=5.2km s-min=4.2km az=144.1*
JMA ***15*** *01:19:43.1±0.2,37.80N×143.52E, h45km, M4.4*
NEIC ***15*** *01:19:44.7±0.4,37.72N×143.68E, h35km, mb4.4/13, Error ellipse: s-maj=9.7km s-min=6.4km az=147.0*

ISC 15 01:19:42.9±0.6,37.80N±0.05×143.59E±0.07,h19km,n66,
σ1≥69/72,mb4.1/28,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.88**	**291**	P	**Pn**	**01 20 13.2**	**-0.8**
JIO				S	**Sn**	**01 20 35.5**	**-1.7**
OFUJ	**Ofunato**	**1.97**	**311**	P	**Pn**	**01 20 14.3**	**-1.0**
JMK	**Ichinoseki**	**2.19**	**302**	P	**Pn**	**01 20 17.5**	**-0.7**
JOU	**Okura**	**2.37**	**285**	P	**Pn**	**01 20 20.6**	**-0.2**
JOM	**Ohasama**	**2.45**	**314**	P	**Pn**	**01 20 21.5**	**-0.4**
JOM				S	**Sn**	**01 20 49.5**	**-1.8**
JFT	**Otama**	**2.59**	**265**	P	**Pn**	**01 20 23.7**	**-0.1**
JFT				S	**Sn**	**01 20 53.3**	**-1.5**
JYK	**Kaneyama**	**2.77**	**295**	P	**Pn**	**01 20 26.0**	**-0.3**
JYK				*e*S	**Sn**	**01 20 58.3**	**-0.9**
JANG	**Nango**	**3.03**	**329**	P	**Pn**	**01 20 29.8**	**-0.1**
JAH	**Hinai**	**3.31**	**317**	P	**Pn**	**01 20 33.7**	**0.0**
JAW	**Awa shima**	**3.48**	**282**	P	**Pn**	**01 20 36.3**	**+0.3**
JTM	**Tenmabayashi**	**3.56**	**328**	P	**Pn**	**01 20 38.0**	**+0.8**
JTM				*e*S	**Sn**	**01 21 17.4**	**-1.4**
JAG	**Ashikaga**	**3.58**	**249**	P	**Pn**	**01 20 36.5**	**-0.8**
BSO1	**Boso 1**	**3.78**	**215**	P	**Pn**	**01 20 38.4**	**-1.3**
BSO1				S	**Sn**	**01 21 20.7**	**-2.6**
JOT	**Ohata**	**4.08**	**332**	P	**Pn**	**01 20 44.5**	**+0.3**
JRY	**Ryogami san**	**4.15**	**246**	P	**Pn**	**01 20 44.6**	**-0.7**
JSD	**Sado**	**4.22**	**275**	P	**Pn**	**01 20 45.9**	**-0.2**
ERM	**Erimo**	**4.22**	**356**	*e*Pn	**Pn**	**01 20 45.4**	**-0.8**
JOD2	**Odawara 2**	**4.42**	**236**	P	**Pn**	**01 20 48.0**	**-0.9**
MJAR	**Matsushiro Arr**	**4.47**	**255**	Pn	**Pn**	**01 20 50.0**	**+0.3**
	17nm,0.3s,baz=80,slow=15,SNR=91						
MJAR				Sn	**Sn**	**01 21 39.9**	**-1.4**
	2.0nm,0.3s,baz=90,slow=28,SNR=4.4						
MJAR				LR	LR	01 22 56.0	
	comp=Z,174nm,21.6s,baz=85,slow=43						
MAJO	**Matsushiro**	**4.47**	**255**	*e*Pn	**Pn**	**01 20 50.5**	**+0.8**
MAT	**Matsushiro**	**4.47**	**255**	P	**Pn**	**01 20 50.4**	**+0.7**
MAT				S	**Sn**	**01 21 39.9**	**-1.4**
JKB	**Kayabe**	**4.53**	**335**	P	**Pn**	**01 20 51.4**	**+1.0**
JCH	**Churui**	**4.81**	**358**	P	**Pn**	**01 20 52.7**	**-1.6**
JCH				S	**Sn**	**01 21 44.7**	**-4.8**
JHJ	**Hachijo jima 2**	**5.61**	**215**	Sn	**Sn**	**01 22 01.6**	**-7.5**
	54nm,0.3s,baz=76,slow=23,SNR=8.9						
ASAJ	**Asahikawa**	**6.36**	**354**	Pn	**Pn**	**01 21 15.2**	**-0.3**
	2.2nm,0.3s,baz=208,slow=28,SNR=6.5						
ASAJ				Sn	**Sn**	**01 22 21.1**	**-6.4**
	baz=233,slow=20						
CBIJ	**Chichi jima**	**10.74**	**187**	Pn	Pn	01 22 11.0	-4.7
CBIJ				Sn	Sn	01 24 01.6	-14
JCJ	**Chichijima**	**10.74**	**187**	Pn	Pn	01 22 11.0	-4.7
	4.5nm,0.3s,baz=53,slow=20,SNR=4.0						
JCJ				Sn	Sn	01 24 01.6	-14
	4.4nm,0.3s,baz=139,slow=20,SNR=4.1						
USRK	**Ussuriysk Ar.**	**10.84**	**310**	Pn	**Pn**	**01 22 17.7**	**+0.7**
	0.4nm,0.3s,baz=116,slow=13,SNR=14						
JNU	**Nakatsue**	**11.36**	**250**	Pn	**Pn**	**01 22 24.3**	**+0.1**
	0.4nm,0.3s,baz=14,slow=12,SNR=7.4						
JNU	**Nakatsue**	**11.36**	**250**	*e*Pn	**Pn**	**01 22 24.0**	**-0.2**
	5.0nm,0.9s						
KSRS	**Korea Array**	**12.43**	**273**	Pn	**Pn**	**01 22 41.0**	**+2.3**
	0.4nm,0.3s,baz=86,slow=14,SNR=16						
KSRS				LR	LR	01 27 11.0	
	comp=Z,74nm,19.1s,baz=245,slow=36						
KSAR	**Wonju Array Be**	**12.46**	**273**	Pn	**Pn**	**01 22 41.0**	**+1.8**
KLR	**Kul'dur**	**14.27**	**327**	Pn	**Pn**	**01 23 02.5**	**-1.4**
	0.3nm,0.3s,baz=123,slow=13,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**27.11**	**125**	T	T	01 53 51.6	
	baz=317,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.12**	**125**	T	T	01 53 49.4	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**27.13**	**125**	T	T	01 53 58.1	
	baz=317,slow=74						
ULN	**Ulaanbaatar**	**28.38**	**303**	*e*P	**P**	**01 25 38.0**	**+1.9**
	9.3nm,1.3s						
SONM	**Songino Array**	**28.82**	**302**	P	**P**	**01 25 40.1**	**+0.2**
	1.7nm,0.6s,baz=106,slow=9.3,SNR=5.6						
ENH	**Enshi**	**29.12**	**265**	*e*P	**P**	**01 25 44.1**	**+1.5**
	16nm,0.9s						
ZALV	**Zalesovo Beam**	**42.69**	**312**	P	**P**	**01 27 38.8**	**+0.6**
	0.7nm,0.3s,baz=84,slow=7.9,SNR=2.7						
ZALV				PcP	**PcP**	**01 29 29.3**	**-0.5**
	0.7nm,0.3s,baz=98,slow=4.4,SNR=3.7						
MKAR	**Makanchi Array**	**45.18**	**302**	P	**P**	**01 27 58.6**	**+0.1**
	1.5nm,0.6s,baz=88,slow=9.2,SNR=15						
KTH	**Kantishna Hill**	**46.14**	**34**	*e*P	**P**	**01 28 05.6**	**-0.2**
	8.3nm,1.3s						
KURK	**Kurchatov**	**46.83**	**308**	*e*P	**P**	**01 28 11.3**	**0.0**
	60nm,0.6s						
SML	**Sawmill**	**47.35**	**37**	*e*P	**P**	**01 28 15.3**	**+0.1**
	0.9nm,0.7s						
ILAR	**Eielson Array**	**47.92**	**33**	P	**P**	**01 28 19.7**	**+0.1**
	1.5nm,0.8s,baz=264,slow=6.6,SNR=16						
DIV	**Divide**	**48.62**	**38**	*e*P	**P**	**01 28 25.6**	**+0.5**
	4.2nm,0.7s						
DOT	**Dot Lake**	**49.20**	**34**	*e*P	**P**	**01 28 29.3**	**-0.3**
	3.5nm,0.7s						
TKM2	**Tokmak 2**	**50.79**	**298**	*e*P	**P**	**01 28 43.1**	**+1.1**
	4.8nm,0.6s						
BVAR	**Borovoye Array**	**51.34**	**312**	P	**P**	**01 28 47.9**	**+2.1**
	0.5nm,0.5s,baz=55,slow=8.2,SNR=3.9						
EKS2	**Erkin-Say**	**52.14**	**299**	*e*P	**P**	**01 28 51.7**	**-0.4**
	2.3nm,0.8s						
INK	**Inuvik**	**52.91**	**28**	P	**P**	**01 28 57.8**	**+0.5**
	0.9nm,0.9s,baz=281,slow=5.2,SNR=2.8						
INK	**Inuvik**	**52.91**	**28**	*e*P	**P**	**01 28 57.0**	**-0.2**
	1.0nm,0.6s						
ARU	**Arti**	**56.93**	**319**	P	**P**	**01 29 28.2**	**+1.7**
	1.1nm,0.4s,baz=90,slow=14,SNR=2.6						
WRAB	**Tennant Creek**	**58.08**	**190**	*e*P	**P**	**01 29 33.1**	**-1.9**
	4.0nm,0.7s						
WRA	**Warramunga Arr**	**58.09**	**190**	P	**P**	**01 29 33.2**	**-1.8**
	3.5nm,0.7s,baz=11,slow=7.2,SNR=18						
ABKAR	**Akbulak array**	**58.77**	**310**	*e*P	**P**	**01 29 39.4**	**-0.1**
	2.1nm,0.5s						
ASAR	**Alice Springs**	**61.81**	**190**	P	**P**	**01 29 59.0**	**-1.6**
	0.7nm,0.7s,baz=10,slow=6.5,SNR=4.9						
GEYT	**Ailbeck**	**64.97**	**300**	P	**P**	**01 30 23.2**	**+1.7**
	0.8nm,0.5s,baz=77,slow=3.1,SNR=2.7						
FINES	**FINESS Array B**	**68.93**	**333**	P	**P**	**01 30 46.4**	**+0.2**
	0.9nm,0.7s,baz=27,slow=6.1,SNR=3.7						
SUMG	**Summit**	**69.91**	**1**	*e*P	**P**	**01 30 52.6**	**0.0**
	3.6nm,0.8s						
AKASG	**Malin Array Be**	**74.74**	**323**	P	**P**	**01 31 21.5**	**+0.2**
	0.2nm,0.4s,baz=46,slow=6.0,SNR=2.4						
R11A	**Troy Canyon, C**	**74.92**	**53**	*e*P	**P**	**01 31 22.4**	**-0.5**
	1.3nm,1.1s						
PDAR	**Pinedale Array**	**75.89**	**47**	P	**P**	**01 31 28.3**	**-0.1**
	1.2nm,0.8s,baz=248,slow=1.6,SNR=5.5						
BRTR	**Keskin Array B**	**79.62**	**313**	P	**P**	**01 31 50.8**	**+1.7**
	0.2nm,0.5s,baz=61,slow=3.0,SNR=2.4						
TXAR	**Lajitas Array**	**88.28**	**54**	P	**P**	**01 32 33.4**	**0.0**
	0.3nm,0.7s,baz=268,slow=2.7,SNR=2.8						
LPAZ	**La Paz**	**144.81**	**61**	PKP	**PKPab**	**01 39 18.4**	**-0.3**
	0.5nm,0.6s,baz=45,slow=4.3,SNR=2.5						

IDC ***15*** *01:21:20.9±1.2,34.78N×29.12E, h0km, mb3.3/2, mb1 3.4/9, mb1mx3.3/58, mbtmp3.3/9, ML3.5/7, Error ellipse: s-maj=24.7km s-min=19.0km az=15.0*
ATH ***15*** *01:21:24.7,35.00N×28.94E, h21km±3km, ML2.9/5, Error ellipse: s-maj=3.8km s-min=1.1km az=67.0*
ISK ***15*** *01:21:24.3,34.76N×29.05E, h30km, ML3.3*
DDA ***15*** *01:21:25.2,35.08N×28.91E, h17km, Ml3.6*
CSEM ***15*** *01:21:25.1±0.1,34.74N×29.10E, h30km, ML2.9, Error ellipse: s-maj=2.8km s-min=2.5km az=24.0*
HLW ***15*** *01:21:26.2,34.76N×29.16E, h33km±31km, Md3.5*
THE ***15*** *01:21:26.7,34.83N×29.13E, h35km±6km, ML3.3/7, Error ellipse: s-maj=7.0km s-min=1.1km az=8.0*

ISC 15 01:21:23.0±1.3,34.93N±0.04×29.01E±0.02,h14km±8km,
n184,σ2≥35/214,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**1.30**	**21**	P	**Pg**	**01 21 48.6**	**+0.6**
KSL				S	**Sg**	**01 22 06.5**	**+1.6**
KSL	**Kastellorizon**	**1.30**	**21**	P	**Pg**	**01 21 48.8**	**+0.7**
KSL				S	**Sg**	**01 22 07.5**	**+2.5**
KSL				AML	AML	01 22 10.0	
	comp=E,503μm,0.5s						
KSL				AML	AML	01 22 12.3	
	comp=N,261μm,0.3s						
AKAS	**Kas**	**1.38**	**20**	P	**Pg**	**01 21 50.0**	**+0.4**
AKAS				S	**Sg**	**01 22 08.8**	**+1.2**
AKAS	**Kas**	**1.38**	**20**	*i* P	**Pg**	**01 21 50.0**	**+0.4**
AKAS				*i* S	**Sg**	**01 22 08.8**	**+1.2**
ARG	**Arkhangelos**	**1.47**	**331**	P	**Pg**	**01 21 51.5**	**+0.3**
ARG				S	**Sg**	**01 22 11.4**	**+1.0**
ARG	**Arkhangelos**	**1.47**	**331**	P	**Pg**	**01 21 52.3**	**+1.1**
ARG				S	**Sg**	**01 22 11.4**	**+1.0**
KARP	**Karpathos**	**1.64**	**293**	*e*PN	**Pb**	**01 21 53.4**	**+0.5**
KARP	**Karpathos**	**1.64**	**293**	P	**Pg**	**01 21 53.8**	**-0.6**
KARP				S	**Sg**	**01 22 14.8**	**-0.8**
KARP	**Karpathos**	**1.64**	**293**	*e*Pn	**Pb**	**01 21 53.4**	**+0.5**
KARP	**Karpathos**	**1.64**	**293**	P	**Pg**	**01 21 53.8**	**-0.6**
KARP				S	**Sg**	**01 22 14.8**	**-0.8**
KARP	**Karpathos**	**1.64**	**293**	P	**Pg**	**01 21 53.9**	**-0.6**
FETY	**Fethiye**	**1.70**	**2**	*e*PN	**Pb**	**01 21 54.4**	**+0.4**
FETY				*e*SN	**Sg**	**01 22 17.3**	**-0.4**
FETY	**Fethiye**	**1.70**	**2**	P	**Pb**	**01 21 54.4**	**+0.4**
FETY				S	**Sg**	**01 22 16.5**	**-1.2**
FETY	**Fethiye**	**1.70**	**2**	*i* P	**Pb**	**01 21 54.4**	**+0.4**
FETY				*i* S	**Sg**	**01 22 16.5**	**-1.2**
FETY				*e*Sn	**Sg**	**01 22 17.3**	**-0.4**
DALY	**Dalyan (Mu¨la**	**1.90**	**351**	*e*PN	**Pg**	**01 21 58.0**	**-1.5**
DALY	**Dalyan (Mu¨la**	**1.90**	**351**	*e*PN	**Pg**	**01 21 58.0**	**-1.5**
ELL	**Elmali**	**1.95**	**22**	*e*PN	**Pb**	**01 21 58.4**	**+0.1**
ELL	**Elmali**	**1.95**	**22**	*e*Pn	**Pb**	**01 21 58.4**	**+0.1**
TURN	**Turunc**	**1.96**	**350**	*i* P	**Pb**	**01 21 58.7**	**+0.3**
NIS1	**Nisyros Isl.**	**2.24**	**319**	*e*PN	**Pb**	**01 22 02.2**	**-0.9**
NIS1	**Nisyros Isl.**	**2.24**	**319**	*e*Pn	**Pb**	**01 22 02.2**	**-0.9**
GLHS	**Glhisar (BURDU**	**2.25**	**10**	*e*PN	**Pb**	**01 22 03.0**	**-0.5**
GLHS	**Glhisar (BURDU**	**2.25**	**10**	*e*Pn	**Pb**	**01 22 03.0**	**-0.5**
YER	**Yerkesik**	**2.27**	**345**	*e*PN	**Pb**	**01 22 03.9**	**0.0**
YER				*e*SN	**Sg**	**01 22 31.9**	**-4.2**
YER	**Yerkesik**	**2.27**	**345**	P	**Pb**	**01 22 03.2**	**-0.6**
YER	**Yerkesik**	**2.27**	**345**	P	**Pb**	**01 22 03.2**	**-0.6**
YER	**Yerkesik**	**2.27**	**345**	*e*Pn	**Pb**	**01 22 03.9**	**0.0

APE	**Apeiranthos**	**3.54**	**308**	*e*PN	**Pn**	**01 22 20.1**	**+2.6**
APE	**Apeiranthos**	**3.54**	**308**	P	**Pn**	**01 22 19.8**	**+2.3**
APE	**Apeiranthos**	**3.54**	**308**	P	**Pn**	**01 22 19.8**	**+2.3**
APE	**Apeiranthos**	**3.54**	**308**	*e*Pn	**Pn**	**01 22 20.1**	**+2.6**
APE	**Apeiranthos**	**3.54**	**308**	P	**Pn**	**01 22 19.6**	**+2.1**
CSS	**Mathiatis**	**3.55**	**88**	P	**Pn**	**01 22 16.6**	**-1.0**
CSS	**Mathiatis**	**3.55**	**88**	P	**Pn**	**01 22 16.6**	**-1.0**
DGB	**ˇzmir**	**3.55**	**332**	*i* P	**Pn**	**01 22 20.6**	**+3.0**
DGB				*i* S	**Sn**	**01 23 00.9**	**+1.4**
KULA	**Kula-Manisa**	**3.58**	**356**	*e*PN	**Pn**	**01 22 21.6**	**+3.4**
KULA	**Kula-Manisa**	**3.58**	**356**	P	**Pn**	**01 22 20.2**	**+2.0**
KULA	**Kula-Manisa**	**3.58**	**356**	P	**Pn**	**01 22 20.2**	**+2.0**
KULA	**Kula-Manisa**	**3.58**	**356**	*e*Pn	**Pn**	**01 22 21.6**	**+3.4**
LFK	**Lefkose**	**3.72**	**83**	*e*PN	**Pn**	**01 22 21.2**	**+1.1**
LFK	**Lefkose**	**3.72**	**83**	*e*Pn	**Pn**	**01 22 21.2**	**+1.1**
IZM	**Izmir**	**3.73**	**338**	*e*PN	**Pn**	**01 22 23.5**	**+3.3**
IZM	**Izmir**	**3.73**	**338**	*e*Pn	**Pn**	**01 22 23.5**	**+3.3**
VAM	**Vamos**	**3.97**	**278**	P	**Pn**	**01 22 26.2**	**+2.8**
VAM	**Vamos**	**3.97**	**278**	P	**Pn**	**01 22 25.9**	**+2.5**
VAM				S	**Sn**	**01 23 10.3**	**+0.5**
KONT	**Konya--Tatoy**	**4.04**	**41**	*e*PN	**Pn**	**01 22 27.5**	**+3.1**
KONT	**Konya--Tatoy**	**4.04**	**41**	*e*Pn	**Pn**	**01 22 27.5**	**+3.1**
GVD	**Gavdhos**	**4.05**	**270**	P	**Pn**	**01 22 27.2**	**+2.7**
GVD	**Gavdhos**	**4.05**	**270**	P	**Pn**	**01 22 26.9**	**+2.4**
GVD	**Gavdhos**	**4.05**	**270**	P	**Pn**	**01 22 26.9**	**+2.4**
GVD				S	**Sn**	**01 23 08.6**	**-3.1**
DEMI	**Demirci**	**4.11**	**357**	P	**Pn**	**01 22 27.4**	**+2.0**
DEMI	**Demirci**	**4.11**	**357**	*i* P	**Pn**	**01 22 27.4**	**+2.0**
MHLO	**Agia Marina, M**	**4.14**	**296**	P	**Pn**	**01 22 29.9**	**+4.2**
MHLO	**Agia Marina, M**	**4.14**	**296**	P	**Pn**	**01 22 29.9**	**+4.2**
IMMV	**Iera Moni Meta**	**4.15**	**279**	P	**Pn**	**01 22 28.8**	**+2.9**
IMMV	**Iera Moni Meta**	**4.15**	**279**	P	**Pn**	**01 22 28.4**	**+2.4**
IMMV	**Iera Moni Meta**	**4.15**	**279**	P	**Pn**	**01 22 28.4**	**+2.4**
LADK	**Ladik-KONYA**	**4.23**	**39**	*e*PN	**Pn**	**01 22 31.0**	**+3.9**
LADK	**Ladik-KONYA**	**4.23**	**39**	*e*Pn	**Pn**	**01 22 31.0**	**+3.9**
KDHN	**Kadinhani**	**4.36**	**34**	P	**Pn**	**01 22 31.4**	**+2.5**
KDHN				S	**Sn**	**01 23 20.9**	**+1.3**
KDHN	**Kadinhani**	**4.36**	**34**	*i* P	**Pn**	**01 22 31.4**	**+2.5**
KDHN				*i* S	**Sn**	**01 23 20.9**	**+1.3**
TVSB	**Tavsanli**	**4.52**	**4**	*e*PN	**Pn**	**01 22 35.0**	**+3.9**
TVSB	**Tavsanli**	**4.52**	**4**	*e*Pn	**Pn**	**01 22 35.0**	**+3.9**
KIZT	**Kizilcal**	**4.56**	**29**	*e*PN	**Pn**	**01 22 34.9**	**+3.3**
KIZT	**Kizilcal**	**4.56**	**29**	*e*Pn	**Pn**	**01 22 34.9**	**+3.3**
SLUM	**Salum** baz=227	**4.68**	**224**	P	**Pn**	**01 22 32.9**	**-0.3**
SLUM	**Salum**	**4.68**	**224**	P	**Pn**	**01 22 32.9**	**-0.3**
ANKY	**Antikythira Is**	**4.76**	**283**	P	**Pn**	**01 22 35.7**	**+1.5**
ANKY	**Antikythira Is**	**4.76**	**283**	P	**Pn**	**01 22 35.7**	**+1.5**
ANKY	**Antikythira Is**	**4.76**	**283**	P	**Pn**	**01 22 33.2**	**-1.0**
YESY	**Yesilyurt**	**4.76**	**52**	*e*PN	**Pn**	**01 22 37.6**	**+3.2**
YESY	**Yesilyurt**	**4.76**	**52**	*e*Pn	**Pn**	**01 22 37.6**	**+3.2**
VLY	**Voula,Athens**	**5.12**	**306**	P	**Pn**	**01 22 42.9**	**+3.7**
VLY	**Voula,Athens**	**5.12**	**306**	P	**Pn**	**01 22 42.9**	**+3.7**
VLI	**Veliai**	**5.25**	**292**	P	**Pn**	**01 22 42.7**	**+1.7**
VLI	**Veliai**	**5.25**	**292**	P	**Pn**	**01 22 42.7**	**+1.7**
DID	**Didima**	**5.33**	**300**	P	**Pn**	**01 22 45.0**	**+2.9**
DID	**Didima**	**5.33**	**300**	P	**Pn**	**01 22 45.0**	**+2.9**
DID	**Didima**	**5.33**	**300**	P	**Pn**	**01 22 45.5**	**+3.4**
KRND	**KRANIDI**	**5.34**	**299**	P	**Pn**	**01 22 45.5**	**+3.3**
KRND	**KRANIDI**	**5.34**	**299**	P	**Pn**	**01 22 45.5**	**+3.3**
KARA	**Karaisali**	**5.41**	**63**	*e*PN	**Pn**	**01 22 46.8**	**+3.5**
RSH	baz=133	**5.60**	**134**	P	Pn	01 22 43.0	-2.9
RSH		**5.60**	**134**	P	Pn	01 22 43.0	-2.8
HHAG	**Hagoal** baz=151	**5.61**	**151**	P	Pn	01 22 43.1	-2.9
HHAG	baz=151			S	Sn	01 23 40.8	-9.4
HHAG	**Hagoal**	**5.61**	**151**	P	Pn	01 22 43.1	-2.9
MMAI	**Mount Meron Ar** comp=E,2.3nm,0.3s,baz=294,slow=12,SNR=12	**5.64**	**108**	Pn	Pn	01 22 43.9	-2.6
MMAI	comp=E,8.1nm,0.3s,baz=292,slow=28,SNR=11			Sn	Sn	01 23 46.7	-4.4
HSAF	**As Saff** baz=157	**5.72**	**157**	P	Pn	01 22 44.4	-3.1
HSAF	**As Saff**	**5.72**	**157**	P	Pn	01 22 44.4	-3.1
GLL	**Jalalah** baz=156	**5.81**	**156**	P	Pn	01 22 45.4	-3.4
GLL	**Jalalah**	**5.81**	**156**	P	Pn	01 22 45.4	-3.3
SUZ	**Suez** baz=146	**6.02**	**146**	P	Pn	01 22 49.3	-2.3
SUZ	**Suez**	**6.02**	**146**	P	Pn	01 22 49.3	-2.3
BRTR	**Keskin Array B** comp=E,0.2nm,0.3s,baz=220,slow=16,SNR=12	**6.04**	**36**	Pn	**Pn**	**01 22 54.0**	**+2.0**
BRTR	comp=E,0.7nm,0.3s,baz=208,slow=26,SNR=13			Sn	**Sn**	**01 24 00.1**	**-0.9**
ITM	**Ithomi**	**6.16**	**293**	P	**Pn**	**01 22 55.8**	**+2.2**
ITM	**Ithomi**	**6.16**	**293**	P	**Pn**	**01 22 55.8**	**+2.2**
ITM	**Ithomi**	**6.16**	**293**	P	**Pn**	**01 22 54.6**	**+1.0**
DSF	**Desfina**	**6.26**	**306**	P	**Pn**	**01 22 58.8**	**+3.8**
DSF	**Desfina**	**6.26**	**306**	P	**Pn**	**01 22 58.8**	**+3.8**
KLV	**Kalavryta, Ach**	**6.34**	**301**	P	**Pn**	**01 22 58.4**	**+2.4**
KLV	**Kalavryta, Ach**	**6.34**	**301**	P	**Pn**	**01 22 58.4**	**+2.4**
HNKL	**Nakhl** baz=138	**6.52**	**139**	P	Pn	01 22 56.0	-2.5
HNKL	**Nakhl**	**6.52**	**139**	P	Pn	01 22 56.0	-2.5
LAKA	**Lakka**	**6.55**	**302**	P	**Pn**	**01 23 02.1**	**+3.2**
LAKA	**Lakka**	**6.55**	**302**	P	**Pn**	**01 23 02.1**	**+3.2**
AWBH	baz=183	**6.59**	**181**	P	Pn	01 22 56.6	-2.8
AWBH		**6.59**	**181**	P	Pn	01 22 56.7	-2.8
DRO	**Drossia**	**6.61**	**299**	P	**Pn**	**01 23 03.7**	**+4.0**
DRO	**Drossia**	**6.61**	**299**	P	**Pn**	**01 23 03.7**	**+4.0**
ASF	**Jabal al Asfar** comp=E,0.3nm,0.3s,baz=279,slow=17,SNR=3.0	**7.13**	**110**	Pn	**Pn**	**01 23 05.8**	**-1.2**
ASF	comp=E,0.2nm,0.3s,baz=151,slow=19,SNR=1.8			Sn	Sn	01 24 22.1	-5.8
EIL	**Elat** comp=E,1.0nm,0.3s,baz=344,slow=2,2,SNR=21	**7.27**	**135**	Pn	Pn	01 23 06.5	-2.2
EIL	comp=E,6.5nm,0.3s,baz=352,slow=15,SNR=15			Sn	Sn	01 24 19.6	-11
HBST	**Basata** baz=138	**7.49**	**138**	P	Pn	01 23 09.4	-2.3
HBST	**Basata**	**7.49**	**138**	P	Pn	01 23 09.4	-2.3
NUB	baz=139	**7.59**	**139**	P	Pn	01 23 10.8	-2.3
TR2	**Tor 2** baz=147	**7.66**	**147**	P	Pn	01 23 11.5	-2.7
TR2	**Tor 2**	**7.66**	**147**	P	Pn	01 23 11.5	-2.7
ASUT	baz=163	**7.82**	**163**	P	Pn	01 23 13.8	-2.5
ASUT		**7.82**	**163**	P	Pn	01 23 13.8	-2.6
UDBI	**Udbina**	**13.97**	**317**	*i* Pn	**Pn**	**01 24 41.6**	**+1.1**
UDBI				Sn	**Sn**	**01 27 12.2**	**-3.2**
AKASG	**Malin Array Be** comp=E,0.4nm,0.3s,baz=193,slow=10,SNR=3.2	**15.76**	**0**	Pn	**Pn**	**01 25 06.4**	**+2.1**
GERES	**GERESS Array B** comp=E,0.1nm,0.3s,baz=146,slow=13,SNR=5.4	**17.93**	**325**	P	**P**	**01 25 33.4**	**+1.0**
ESDC	**Sonseca Array** comp=E,0.3nm,0.6s,baz=77,slow=9.7,SNR=4.4	**26.56**	**290**	P	**P**	**01 27 02.1**	**+1.6**
TORD	**Torodi Ar. Bea** comp=E,0.3nm,0.8s,baz=39,slow=9.0,SNR=2.6	**32.87**	**235**	P	**P**	**01 27 55.7**	**-0.9**

*ISCJB **15** 01:25:55.8±1.3, 17.6S±0.5×177.1W±0.3, h300km, mb3.5/6, Error ellipse: s-maj=85.4km s-min=9.8km az=150.0*
*IDC **15** 01:25:56.7±2.5, 17.74S×176.99W, h299km±25km, mb3.4/6, mb1 3.7/7, mb1mx3.3/31, mbtmp4.0/7, Error ellipse: s-maj=84.6km s-min=15.2km az=148.0*

ISC 15 01:25:56.7±1.4, 17.6S±0.5×177.0W±0.3, h300km, n13, σ0.56/14, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 5.0nm,0.3s,baz=239,slow=12,SNR=5.2	**6.25**	**55**	P	**Pn**	**01 27 29.7**	**+0.4**
AFI	2.7nm,0.3s,baz=254,slow=20,SNR=3.0			S	**S**	**01 28 42.9**	**-1.0**
STKA	**Stephens Creek** 1.1nm,0.4s,baz=82,slow=9.7,SNR=5.9	**39.92**	**241**	P	**P**	**01 33 02.5**	**-0.1**
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=96,slow=8.3,SNR=10	**45.98**	**259**	P	**P**	**01 33 50.7**	**-0.2**
ASAR	**Alice Springs** 3.5nm,0.4s,baz=90,slow=8.5,SNR=51	**46.13**	**254**	P	**P**	**01 33 52.1**	**0.0**
TXAR	**Lajitas Array** 0.6nm,0.9s,baz=205,slow=5.5,SNR=6.2	**84.73**	**57**	P	**P**	**01 37 58.2**	**+0.4**
ILAR	**Eielson Array** 0.7nm,0.5s,baz=227,slow=5.4,SNR=12	**85.31**	**12**	P	**P**	**01 38 00.2**	**+0.5**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=237,slow=4.7,SNR=4.5	**93.52**	**24**	P	**P**	**01 38 38.3**	**+0.1**
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=79,slow=3.2,SNR=3.6	**117.44**	**321**	PKP	**PKPdf**	**01 44 05.5**	**-1.1**
ARCES	**ARCESS Array B**	**126.25**	**350**	PKP	**PKPdf**	**01 44 22.6**	**-0.5**
BRTR	**Keskin Array B** 4.7nm,1.1s,baz=0.0,slow=0.9,SNR=3.7	**145.49**	**316**	PKPbc	**PKPbc**	**01 45 00.3**	**0.0**
MLR	**Muntele Rosu** 0.4nm,1.0s,baz=321,slow=6.5,SNR=4.0	**146.24**	**330**	PKPbc	**PKPbc**	**01 45 02.8**	**+0.5**
GERES	**GERESS Array B** 0.6nm,0.6s,baz=5.7,slow=2.7,SNR=6.7	**147.64**	**347**	PKPbc	**PKPbc**	**01 45 05.8**	**-0.2**
DAVOX	**Davos/Dischmat** 1.3nm,0.3s,baz=311,slow=4.0,SNR=3.7	**150.35**	**350**	PKPbc	**PKPbc**	**01 45 13.2**	**+0.3**

*NEIC **15** 01:29:34.1, 43.65S×172.86E, h8km, ML4.1(WEL), After WEL.*
NEIC Felt at Christchurch.

WEL 15 01:29:34.1±0.1, 43.65S×172.86E, h8km, ML4.1/17, 1D, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.16**	**250**	Pg	Pg	01 29 37.8	+0.2
MQZ				Sg	Sg	01 29 39.9	+0.1
MQZ				AML	AML	01 29 40.3	
MQZ	**McQueen's Vall**	**0.16**	**250**	Pg	Pg	01 29 37.8	+0.2
MQZ				Sg	Sg	01 29 39.9	+0.1
OXZ	**Oxford**	**0.68**	**298**	P*	Pg	01 29 47.4	+0.1
OXZ	**Oxford**	**0.68**	**298**	P*	Pg	01 29 47.4	+0.1
RPZ	**Rata Peaks**	**1.31**	**267**	PN	Pn	01 29 57.8	-0.9
RPZ				AML	AML	01 30 18.4	
RPZ				AML	AML	01 30 20.0	
RPZ	**Rata Peaks**	**1.31**	**267**	Pn	Pn	01 29 57.9	-0.9
KHZ	**Kahutara**	**1.33**	**22**	*e*Pn	Pn	01 29 58.1	-0.8
WVZ	**Waitaha Valley**	**1.65**	**290**	⇓PN	Pn	01 30 03.3	-0.1
WVZ				AML	AML	01 30 34.2	
WVZ				AML	AML	01 30 36.4	
WVZ	**Waitaha Valley**	**1.65**	**290**	Pn	Pn	01 30 03.3	-0.1
THZ	**Tophouse**	**1.89**	**1**	PN	Pn	01 30 06.1	-0.6
THZ				AML	AML	01 30 46.3	
THZ				AML	AML	01 30 56.3	
THZ	**Tophouse**	**1.89**	**1**	Pn	Pn	01 30 06.0	-0.6
LBZ	**Lake Benmore**	**2.07**	**248**	PN	Pn	01 30 08.9	-0.2
LBZ				AML	AML	01 30 47.7	
LBZ				AML	AML	01 30 47.7	
LBZ				AML	AML	01 30 55.2	
LBZ				AML	AML	01 30 55.2	
LBZ	**Lake Benmore**	**2.07**	**248**	Pn	Pn	01 30 08.9	-0.2
BSWZ	**Blackbirch Sta**	**2.07**	**21**	PN	Pn	01 30 09.0	-0.2
BSWZ				AML	AML	01 30 42.7	
BSWZ				AML	AML	01 31 08.3	
BSWZ	**Blackbirch Sta**	**2.07**	**21**	Pn	Pn	01 30 09.1	-0.1
ODZ	**Otahua Downs**	**2.12**	**228**	PN	Pn	01 30 09.1	-0.7
ODZ				AML	AML	01 30 50.0	
ODZ				AML	AML	01 30 50.4	
ODZ				AML	AML	01 30 50.4	
ODZ				AML	AML	01 30 52.2	
ODZ	**Otahua Downs**	**2.12**	**228**	Pn	Pn	01 30 09.1	-0.7
FOZ	**Fox Glacier**	**2.22**	**272**	PN	Pn	01 30 12.4	+1.3
FOZ				AML	AML	01 30 51.2	
FOZ				AML	AML	01 30 55.9	
FOZ	**Fox Glacier**	**2.22**	**272**	Pn	Pn	01 30 12.4	+1.3
NNZ	**Nelson**	**2.46**	**9**	PN	Pn	01 30 14.8	+0.3
NNZ				AML	AML	01 31 12.9	
NNZ	**Nelson**	**2.46**	**9**	Pn	Pn	01 30 14.8	+0.3
TCW	**Tory Channel**	**2.65**	**24**	PN	Pn	01 30 17.2	0.0
TCW	**Tory Channel**	**2.65**	**24**	Pn	Pn	01 30 17.2	0.0
QRZ	**Quartz Range**	**2.83**	**355**	AML	AML	01 30 35.8	
QRZ				AML	AML	01 30 35.8	
QRZ				AML	AML	01 31 11.8	
QRZ				AML	AML	01 31 11.8	
JCZ	**Jackson Bay**	**2.98**	**260**	AML	AML	01 31 20.6	
JCZ				AML	AML	01 31 34.7	
EAZ	**Earnscleugh**	**3.00**	**237**	PN	Pn	01 30 21.7	-0.2
EAZ				AML	AML	01 31 19.1	
EAZ				AML	AML	01 31 19.1	
EAZ				AML	AML	01 31 21.3	
EAZ				AML	AML	01 31 21.3	
EAZ	**Earnscleugh**	**3.00**	**237**	Pn	Pn	01 30 21.7	-0.2
WKZ	**Wanaka**	**3.00**	**246**	PN	Pn	01 30 21.9	-0.1
WKZ				AML	AML	01 31 24.0	
WKZ				AML	AML	01 31 24.1	
WKZ	**Wanaka**	**3.00**	**246**	Pn	Pn	01 30 21.9	-0.1
CAW	**Cannon Point**	**3.02**	**33**	PN	Pn	01 30 21.5	-0.7
CAW	**Cannon Point**	**3.02**	**33**	Pn	Pn	01 30 21.5	-0.7
TUZ	**Tuapeka**	**3.25**	**224**	PN	Pn	01 30 24.9	-0.5
TUZ				AML	AML	01 31 28.6	
TUZ				AML	AML	01 31 28.6	
TUZ				AML	AML	01 31 31.0	
TUZ				AML	AML	01 31 31.1	
TUZ	**Tuapeka**	**3.25**	**224**	Pn	Pn	01 30 24.9	-0.5
MLZ	**Mavora Lakes**	**3.80**	**242**	PN	Pn	01 30 32.9	-0.1
MLZ				AML	AML	01 31 46.7	
MLZ				AML	AML	01 31 47.5	
MLZ	**Mavora Lakes**	**3.80**	**242**	Pn	Pn	01 30 32.9	-0.1
SYZ	**Scrubby Hill**	**3.91**	**221**	PN	Pn	01 30 34.3	-0.2
SYZ				AML	AML	01 31 52.0	
SYZ				AML	AML	01 32 00.6	
SYZ	**Scrubby Hill**	**3.91**	**221**	Pn	Pn	01 30 34.3	-0.1
WHZ	**Wether Hill Ro**	**4.16**	**236**	AML	AML	01 32 01.2	
WHZ				AML	AML	01 32 01.9	
KHEZ	**Kahui Hut**	**4.44**	**12**	PN	Pn	01 30 44.7	+2.9
KHEZ	**Kahui Hut**	**4.44**	**12**	Pn	Pn	01 30 44.7	+2.9
VRZ	**Vera Road**	**4.74**	**18**	PN	Pn	01 30 48.4	+2.5
VRZ	**Vera Road**	**4.74**	**18**	Pn	Pn	01 30 48.4	+2.5
HIZ	**Hauiti**	**5.35**	**17**	PN	Pn	01 30 55.4	+1.1
HIZ	**Hauiti**	**5.35**	**17**	Pn	Pn	01 30 55.4	+1.1

IDC 15 01:58:56.3±5.8, 32.63S×179.00W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/17, mbtmp3.6/2, Error ellipse: s-maj=251.1km s-min=56.9km az=160.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.4nm,0.5s,baz=108,slow=7.1,SNR=4.3	**42.19**	**270**	P	P	02 06 50.5	-0.6
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=116,slow=8.1,SNR=6.5	**43.38**	**275**	P	P	02 07 01.1	+0.3
FINES	**FINESS Array B** 2.1nm,1.0s,baz=46,slow=4.0,SNR=7.5	**146.91**	**338**	PKPbc	PKPbc	02 18 39.1	-0.8

*DSN **15** 02:00:51.8±1.8, 28.17N×57.93E, h36km, ML4.4, Error ellipse: s-maj=56.0km s-min=10.2km az=135.0*
*ISCJB **15** 02:00:52.6±0.4, 28.00N±0.03×57.81E±0.05, h30km, mb3.8/17, Error ellipse: s-maj=6.8km s-min=4.0km az=26.3*
*IDC **15** 02:00:54.4±3.2, 27.91N×57.61E, h40km±33km, mb3.7/13, mb1 3.8/18, mb1mx3.6/48, mbtmp4.0/18, ML4.0/4, Error ellipse: s-maj=21.1km s-min=14.9km az=161.0*
*CSEM **15** 02:00:54.3±0.3, 27.96N×57.76E, h30km, mb4.1/4, Error ellipse: s-maj=10.0km s-min=6.2km az=110.0*
*OMAN **15** 02:00:55.8±39.0, 27.88N×57.80E, h30km, Error ellipse: s-maj=14.3km s-min=6.7km az=352.0*
*THR **15** 02:00:57.2±0.3, 28.14N×57.22E, h15km, ML4.3*
*TEH **15** 02:00:57.3, 27.90N×57.57E, h30km, ML4.1*
*NEIC **15** 02:00:57.3, 27.90N×57.57E, h30km, mb3.9/8, ML4.3(THR), MN4.1(TEH), After TEH.*

ISC 15 02:00:54.0±0.5, 27.95N±0.03×57.61E±0.04, h30km, n111, σ2.03/119, mb3.9/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**0.79**	**240**	*e*Pg	**Pb**	**02 01 10.7**	**+1.5**
NIAN	**Nian**	**0.79**	**240**	*e*Pg	**Pb**	**02 01 10.7**	**+1.5**
IBND	**Bandar-abas**	**1.07**	**242**	*e*Pg	**Pb**	**02 01 16.1**	**+2.1**
IBND				*e*Sg	**Sb**	**02 01 30.7**	**+3.1**
IBND	comp=Z,14μm,0.2s			*e*AMB	AMB	02 01 43.7	
IBND	**Bandar-abas**	**1.07**	**242**	*e*Pg	**Pb**	**02 01 16.1**	**+2.1**
IBND				*e*Sg	**Sb**	**02 01 30.7**	**+3.1**
IBND	**Bandar-abas**	**1.07**	**242**	Pg	**Pb**	**02 01 16.1**	**+2.1**
IBND				Sg	**Sb**	**02 01 30.7**	**+3.1**
KHSK	**Kohestak**	**1.29**	**203**	*e*Pn	**Pb**	**02 01 18.4**	**+0.8**
KHSK	**Kohestak**	**1.29**	**203**	*e*Pn	**Pb**	**02 01 18.4**	**+0.8**
GENO	**Geno**	**1.39**	**247**	*e*Pn	**Pb**	**02 01 20.0**	**+0.6**
GENO	**Geno**	**1.39**	**247**	*e*Pn	**Pb**	**02 01 20.0**	**+0.6**
BNDS	**Bandar-Abbas**	**1.39**	**247**	*e*Pg	**Pb**	**02 01 19.3**	**-0.1**
BNDS				AML	AML	02 01 41.1	
	comp=E,10μm,0.7s						
BNDS				AML	AML	02 01 43.1	
	comp=N,6μm,0.8s						
BNDS	**Bandar-Abbas**	**1.39**	**247**	*e*Pg	**Pb**	**02 01 19.3**	**-0.1**
BNDS	**Bandar-Abbas**	**1.39**	**247**	Pg	**Pb**	**02 01 19.0**	**-0.4**
NGRK	**Negar Kerman**	**1.85**	**336**	*e*Pn	**Pn**	**02 01 25.4**	**+1.3**
NGRK	**Negar Kerman**	**1.85**	**336**	*e*Pn	**Pn**	**02 01 25.4**	**+1.3**
CHMN	**Cheshme madani**	**1.90**	**358**	*e*Pn	**Pb**	**02 01 27.4**	**-0.8**
CHMN	**Cheshme madani**	**1.90**	**358**	*e*Pn	**Pb**	**02 01 27.4**	**-0.8**
KRBR	**Kerman**	**2.15**	**340**	*e*Pg	**Pb**	**02 01 31.8**	**-0.7**
KRBR	comp=N,2μm,0.1s			AML	AML	02 02 06.8	
KRBR	comp=E,2μm,1.2s			AML	AML	02 02 07.3	
KRBR	**Kerman**	**2.15**	**340**	Pg	**Pb**	**02 01 31.0**	**-1.5**
KRBR	**Kerman**	**2.15**	**340**	Pg	**Pb**	**02 01 31.0**	**-1.5**
BANOM	**Banah** SNR=22	**2.34**	**210**	*e*P	**Pn**	**02 01 31.2**	**+0.8**
BANOM	**Banah** SNR=22	**2.34**	**210**	P	**Pn**	**02 01 32.4**	**+2.0**
BANOM				S	**Sb**	**02 02 02.1**	**-1.8**
BANOM	**Banah** SNR=22	**2.34**	**210**	P	**Pn**	**02 01 32.4**	**+2.0**
BANOM				S	**Sb**	**02 02 02.1**	**-1.8**
KHGB	**Koh Gabri**	**2.61**	**338**	*e*Pn	**Pb**	**02 01 39.2**	**-1.0**
KHGB	**Koh Gabri**	**2.61**	**338**	*e*Pn	**Pb**	**02 01 39.2**	**-1.0**
ZHSF	**Zahedan**	**3.23**	**59**	*e*Pn	**Pb**	**02 01 52.6**	**+1.8**
ZHSF	**Zahedan**	**3.23**	**59**	Pn	**Pb**	**02 01 52.0**	**+1.2**
UOSS	**Minazif**	**3.25**	**203**	P	**Pn**	**02 01 44.6**	**+1.6**
HATD	**Hatta, Dubai**	**3.38**	**203**	P	**Pn**	**02 01 46.3**	**+1.5**
HATD	**Hatta, Dubai**	**3.38**	**203**	P	**Pn**	**02 01 46.3**	**+1.5**
NAZ	**Nazwa, Dubai**	**3.43**	**211**	P	**Pn**	**02 01 48.2**	**+2.8**
NAZ	**Nazwa, Dubai**	**3.43**	**211**	P	**Pn**	**02 01 48.2**	**+2.8**
ASHO	**Ashiyiah** SNR=11	**3.54**	**203**	*i* P	**Pn**	**02 01 48.9**	**+1.9**
ASHO	**Ashiyiah** SNR=11	**3.54**	**203**	P	**Pn**	**02 01 49.1**	**+2.2**
ASHO	**Ashiyiah** SNR=11	**3.54**	**203**	P	**Pn**	**02 01 48.9**	**+1.9**
FAQ	**Al Faqa, Dubai** SNR=7.2	**3.67**	**210**	*i* P	**Pn**	**02 01 51.0**	**+2.2**
FAQ	**Al Faqa, Dubai** SNR=7.2	**3.67**	**210**	P	**Pn**	**02 01 51.0**	**+2.2**
IBAF	**Bafgh**	**4.04**	**334**	*e*Pn	**Pn**	**02 01 57.4**	**+3.5**
IBAF				*e*Sg	Sb	02 03 04.2	+11
IBAF	comp=Z,2μm,0.5s			*e*AMB	AMB	02 03 10.3	
IBAF	**Bafgh**	**4.04**	**334**	*e*Pn	**Pn**	**02 01 57.4**	**+3.5**
IBAF	**Bafgh**	**4.04**	**334**	Pn	Pn	**02 01 57.4**	**+3.5**
IBAF				Sg	Sb	02 03 04.2	+11
IMEH	**Mehriz**	**4.30**	**323**	*e*Pn	**Pn**	**02 02 01.7**	**+4.1**
IMEH	comp=Z,1μm,0.2s			*e*AMB	AMB	02 02 22.0	
IMEH	**Mehriz**	**4.30**	**323**	*e*Pn	**Pn**	**02 02 01.7**	**+4.1**
IMEH	**Mehriz**	**4.30**	**323**	Pn	**Pn**	**02 02 01.7**	**+4.1**
IKOO	**Kooshah**	**4.62**	**15**	*e*Pn	**Pn**	**02 02 05.2**	**+3.3**
IKOO	comp=Z,2μm,0.2s			*e*AMB	AMB	02 03 31.4	
IKOO	**Kooshah**	**4.62**	**15**	*e*Pn	**Pn**	**02 02 05.2**	**+3.3**
IKOO	**Kooshah**	**4.62**	**15**	Pn	**Pn**	**02 02 05.1**	**+3.2**
WSAR	**Wadi Sarin** comp=Z,3.6nm,0.3s,baz=346,slow=7.3,SNR=45	**4.79**	**169**	P	**Pn**	**02 02 03.1**	**-1.0**
WSAR	comp=Z,6.7nm,0.3s,baz=95,slow=20,SNR=13			S	**Sn**	**02 02 54.2**	**-4.4**
ITEG	**Tejag**	**5.02**	**11**	*e*Pn	**Pn**	**02 02 11.1**	**+3.5**
ITEG	comp=Z,1μm,0.4s			*e*AMB	AMB	02 02 28.3	
ITEG	**Tejag**	**5.02**	**11**	Pn	**Pn**	**02 02 11.0**	**+3.5**
ITEG	**Tejag**	**5.02**	**11**	Pn	**Pn**	**02 02 11.0**	**+3.5**
IDAH	**Dahanechah**	**5.15**	**22**	*e*Pn	**Pn**	**02 02 13.4**	**+4.1**
IDAH	comp=Z,983nm,0.5s			*e*AMB	AMB	02 02 39.6	
IDAH	**Dahanechah**	**5.15**	**22**	Pn	**Pn**	**02 02 13.3**	**+4.0**
IDAH	**Dahanechah**	**5.15**	**22**	Pn	**Pn**	**02 02 13.3**	**+4.0**
ISAD	**Sadrabad**	**5.21**	**320**	*e*Pn	**Pn**	**02 02 13.8**	**+3.6**
ISAD	comp=Z,727nm,0.5s			*e*AMB	AMB	02 03 55

FINES	**FINES Array B**	**39.53**	**337**	P		**P**	**02 08 21.1**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=142,slow=7.9,SNR=8.2							
KHC	**Kasperske Hory**	**39.70**	**314**	*eP*		**P**	**02 08 23.0**	**-0.5**
KHC	**Kasperske Hory**	**39.70**	**314**	*eP*		**P**	**02 08 26.1**	**+2.6**
	comp=Z,0.6nm,0.7s							
ARCES	**ARCESS Array B**	**45.57**	**345**	P		**P**	**02 09 09.9**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=128,slow=7.9,SNR=3.9							
TAM	**Tamanrasset**	**47.06**	**276**	*eP*		**P**	**02 09 23.1**	**-0.2**
	comp=Z,1.1nm,0.8s							
TAM	**Tamanrasset**	**47.06**	**276**	*eP*		**P**	**02 09 23.1**	**-0.2**
	comp=Z,1.1nm,0.8s							
ESDC	**Sonseca Array**	**51.57**	**300**	P		**P**	**02 09 56.2**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=74,slow=8.0,SNR=6.0							
TORD	**Torodi Ar. Bea**	**53.96**	**266**	P		**P**	**02 10 14.4**	**-1.0**
	comp=Z,5.4nm,0.6s,baz=65,slow=7.5,SNR=122							
WRA	**Warramunga Arr**	**88.11**	**114**	P		**P**	**02 13 41.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=312,slow=4.0,SNR=4.8							

*ECX **15** 02:05:45.4±1.0,31°.24N×115°.69W, h5km, MD3.4, ML3.6*
ISC 15 02:05:42.7±1.7,31°.23N±0°.06×115°.63W±0°.03, h6km±11km, n29,σ1°33/42, 3C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.55**	**64**	⇑*iP*	**Pb**	**02 05 55.0**	**+0.3**
ECBX				*eS*	**Sb**	**02 06 02.6**	**-0.3**
ECBX				IAML		02 06 05.2	
	comp=E,3μm,0.2s						
ECBX				⇓*e*		02 06 05.2	
ZAX	**El Zacaton**	**0.62**	**297**	⇑*eP*	**Pg**	**02 05 55.2**	**+0.5**
ZAX				*eS*	**Sg**	**02 06 03.5**	**+0.8**
ZAX				IAML		02 06 05.2	
	comp=N,4μm,0.5s						
ZAX				⇑*e*		02 06 05.2	
ECNX	**Esteban Cantu**	**0.93**	**297**	⇓*eP*	**Pb**	**02 06 01.0**	**-0.3**
ECNX				*eS*	**Sb**	**02 06 12.8**	**-1.1**
PBX	**Punta Banda**	**1.06**	**299**	*eP*	**Pb**	**02 06 03.2**	**-0.3**
PBX				*eS*	**Sb**	**02 06 16.9**	**-0.8**
CPBX	**Cerro Prieto**	**1.21**	**13**	*eP*	**Pb**	**02 06 06.2**	**+0.1**
CBX	**Cerro Bola**	**1.39**	**321**	*eP*	**Pb**	**02 06 08.9**	**-0.3**
CBX				*eS*	**Sn**	**02 06 26.8**	**-0.7**
CBX				*e*		02 06 30.7	
CBX				IAML		02 06 30.7	
	comp=N,1μm,0.5s						
RMX	**La Rumorosa**	**1.42**	**344**	*eP*	**Pb**	**02 06 09.5**	**-0.2**
RMX				*eS*	**Sb**	**02 06 27.9**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**1.47**	**344**	P	**Pb**	**02 06 10.9**	**+0.4**
	baz=171,SNR=160						
IKP				S	**Sn**	**02 06 28.6**	**-0.8**
	baz=171						
SWSC	**Sam W. Stewart**	**1.71**	**355**	P	**Pn**	**02 06 13.4**	**+0.3**
	baz=182,SNR=61						
MONP2	**Monument Peak**	**1.79**	**338**	P	**Pb**	**02 06 15.6**	**-0.4**
	baz=163,SNR=140						
MONP2				S	**Sb**	**02 06 38.4**	**-0.3**
	baz=163						
GLA	**Glamis**	**1.94**	**20**	P	**Pn**	**02 06 15.6**	**-0.6**
	baz=207,SNR=12						
109C	**Camp Elliot, M**	**2.07**	**323**	P	**Pb**	**02 06 20.2**	**-0.6**
	baz=146,SNR=26						
109C				S	**Sb**	**02 06 46.4**	**-0.3**
	baz=146						
BC3	**Big Chuckawall**	**2.42**	**3**	P	**Pn**	**02 06 23.7**	**+0.8**
	baz=189,SNR=7.5						
TPFO	**Pinon Flats**	**2.47**	**344**	P	**Pn**	**02 06 24.2**	**+0.6**
	baz=168,SNR=30						
TPFO				Sg	**Sb**	**02 07 00.3**	**+2.1**
	baz=168						
PFO	**Pinyon Flats O**	**2.47**	**344**	P	**Pn**	**02 06 24.4**	**+0.7**
	baz=168						
PFO				Sg	**Sb**	**02 07 00.5**	**+2.1**
	baz=168						
214A	**Organ Pipe Nat**	**2.51**	**73**	P	**Pn**	**02 06 24.7**	**+0.6**
	baz=257						
214A				S	**Sn**	**02 06 53.9**	**-1.1**
	baz=257						
Y12C	**Blythe**	**2.68**	**20**	P	**Pn**	**02 06 27.1**	**+0.7**
	baz=205						
MURC	**Murrieta**	**2.71**	**331**	P	**Pb**	**02 06 28.9**	**-2.6**
	baz=154,SNR=20						
MURC				Sb	**Sb**	**02 07 05.4**	**+0.3**
	baz=154						
BELC	**Belle Mtn. Jos**	**2.78**	**354**	P	**Pn**	**02 06 28.8**	**+1.0**
	baz=178,SNR=9.6						
BBRC	**Big Bear Solar**	**3.21**	**341**	Sg	**Sg**	**02 07 25.0**	**-1.0**
	baz=163						
BFSC	**Mount Baldy Ra**	**3.45**	**331**	Sb	**Sb**	**02 07 27.5**	**+1.0**
	baz=152						
HEC	**Hector Ludlow**	**3.63**	**351**	Sg	**Sg**	**02 07 37.9**	**-1.7**
	baz=174						
EDW2	**Edwards Air Fo**	**4.14**	**332**	Sb	**Sb**	**02 07 48.5**	**+2.0**
	baz=153						
GSC	**Goldstone, Bar**	**4.18**	**347**	Sg	**Sg**	**02 07 56.6**	**-0.3**
	baz=169						
TUQ	**Turquoise Moun**	**4.20**	**357**	Sg	**Sg**	**02 07 55.3**	**-2.3**
	baz=179						
ARVC	**Arvin**	**4.72**	**326**	Sb	**Sb**	**02 08 08.0**	**+5.0**
	baz=146						
MPMC	**Manual Prospec**	**5.06**	**343**	Sg	**Sg**	**02 08 23.9**	**-1.2**
	baz=164						
TPNV	**Topopah Spring**	**5.72**	**355**	Sg	**Sg**	**02 08 46.0**	**-0.6**
	baz=177						
GRAC	**Grapevine Rang**	**5.93**	**346**	Sg	**Sg**	**02 08 53.4**	**+0.4**
	baz=167						

*NEIC **15** 02:27:07.7, 43°.69S×172°.92E, h0km, ML4.3(WEL), After WEL.*
NEIC Felt in the Christchurch area and on the Banks Peninsula.
WEL 15 02:27:08.6±0.2, 43°.66S×172°.87E, h5km, ML4.2/23, 2C-2D, Error ellipse: s-maj=1.7km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.16**	**253**	PG	Pg	02 27 12.2	+0.4
MQZ				SG	Sg	02 27 14.4	+0.4
MQZ				AML	AML	02 27 14.7	
MQZ	**McQueen's Vall**	**0.16**	**253**	Pg	Pg	02 27 12.2	+0.4
MQZ				Sg	Sg	02 27 14.4	+0.4
OXZ	**Oxford**	**0.69**	**299**	P*	Pg	02 27 21.7	-0.1
OXZ	**Oxford**	**0.69**	**299**	Pg	Pg	02 27 21.7	-0.1
LTZ	**Lake Taylor**	**0.98**	**333**	P*	Pg	02 27 27.2	-0.2
LTZ				AML	AML	02 27 41.2	
LTZ				AML	AML	02 27 41.2	
LTZ	**Lake Taylor**	**0.98**	**333**	P*	Pg	02 27 27.2	-0.2
RPZ	**Rata Peaks**	**1.32**	**267**	P*	Pn	02 27 32.2	-1.4
RPZ				AML	AML	02 27 52.5	
RPZ				AML	AML	02 27 54.0	
RPZ	**Rata Peaks**	**1.32**	**267**	P*	Pn	02 27 32.2	-1.4
KHZ	**Kahutara**	**1.34**	**22**	P*	Pn	02 27 32.4	-1.5
KHZ	**Kahutara**	**1.34**	**22**	P*	Pn	02 27 32.4	-1.5
INZ	**Inchbonnie**	**1.40**	**311**	⇓PN	Pn	02 27 33.4	-1.4
WVZ	**Waitaha Valley**	**1.66**	**290**	⇓PN	Pn	02 27 37.5	-0.8
WVZ				AML	AML	02 28 00.2	
WVZ				AML	AML	02 28 09.5	
WVZ	**Waitaha Valley**	**1.66**	**290**	Pn	Pn	02 27 37.5	-0.8
THZ	**Tophouse**	**1.90**	**1**	PN	Pn	02 27 40.0	-1.6
THZ				AML	AML	02 28 17.6	
THZ				AML	AML	02 28 19.8	
THZ	**Tophouse**	**1.90**	**1**	Pn	Pn	02 27 40.0	-1.6
DSZ	**Denniston Nort**	**2.07**	**337**	PN	Pn	02 27 43.6	-0.3
DSZ				AML	AML	02 28 21.3	
DSZ				AML	AML	02 28 21.3	
DSZ				AML	AML	02 28 21.6	
DSZ				AML	AML	02 28 21.6	
DSZ	**Denniston Nort**	**2.07**	**337**	Pn	Pn	02 27 43.6	-0.3
LBZ	**Lake Benmore**	**2.07**	**249**	PN	Pn	02 27 43.0	-1.0
LBZ				AML	AML	02 28 22.0	
LBZ				AML	AML	02 28 22.0	
LBZ				AML	AML	02 28 27.3	
LBZ				AML	AML	02 28 27.3	
LBZ	**Lake Benmore**	**2.07**	**249**	Pn	Pn	02 27 43.0	-1.0
BSWZ	**Blackbirch Sta**	**2.08**	**21**	PN	Pn	02 27 43.2	-0.9
BSWZ				AML	AML	02 28 35.0	
BSWZ				AML	AML	02 28 48.4	
BSWZ	**Blackbirch Sta**	**2.08**	**21**	Pn	Pn	02 27 43.2	-0.9
ODZ	**Otahua Downs**	**2.11**	**228**	⇑PN	Pn	02 27 43.4	-1.2
ODZ				AML	AML	02 28 18.9	
ODZ				AML	AML	02 28 23.1	
ODZ				AML	AML	02 28 28.2	
ODZ				AML	AML	02 28 28.2	
ODZ	**Otahua Downs**	**2.11**	**228**	Pn	Pn	02 27 43.4	-1.2
FOZ	**Fox Glacier**	**2.22**	**272**	PN	Pn	02 27 46.2	+0.2
FOZ				AML	AML	02 28 25.4	
FOZ				AML	AML	02 28 25.4	
FOZ				AML	AML	02 28 30.5	
FOZ				AML	AML	02 28 30.5	
FOZ	**Fox Glacier**	**2.22**	**272**	Pn	Pn	02 27 46.2	+0.2
TUWZ	**Tuamarina**	**2.37**	**20**	PN	Pn	02 27 46.9	-1.1
TUWZ				AML	AML	02 28 29.9	
TUWZ				AML	AML	02 28 40.1	
TUWZ	**Tuamarina**	**2.37**	**20**	Pn	Pn	02 27 46.9	-1.1
NNZ	**Nelson**	**2.47**	**9**	PN	Pn	02 27 48.8	-0.7
NNZ				AML	AML	02 28 34.9	
NNZ				AML	AML	02 28 35.8	
NNZ	**Nelson**	**2.47**	**9**	Pn	Pn	02 27 48.8	-0.7
TCW	**Tory Channel**	**2.66**	**24**	PN	Pn	02 27 50.6	-1.5
TCW				AML	AML	02 28 36.0	
TCW				AML	AML	02 28 51.9	
TCW	**Tory Channel**	**2.66**	**24**	Pn	Pn	02 27 50.6	-1.5
PLWZ	**Palliser**	**2.73**	**41**	PN	Pn	02 27 51.0	-2.1
PLWZ	**Palliser**	**2.73**	**41**	Pn	Pn	02 27 51.0	-2.1
QRZ	**Quartz Range**	**2.84**	**355**	PN	Pn	02 27 53.5	-1.1
QRZ				AML	AML	02 28 42.6	
QRZ				AML	AML	02 28 43.8	
QRZ				AML	AML	02 28 44.6	
QRZ				AML	AML	02 28 50.1	
QRZ	**Quartz Range**	**2.84**	**355**	Pn	Pn	02 27 53.5	-1.1
JCZ	**Jackson Bay**	**2.98**	**261**	PN	Pn	02 27 56.5	-0.1
JCZ				AML	AML	02 28 48.1	
JCZ				AML	AML	02 28 50.5	
JCZ	**Jackson Bay**	**2.98**	**261**	Pn	Pn	02 27 56.5	-0.1
EAZ	**Earnscleugh**	**3.00**	**237**	PN	Pn	02 27 55.8	-0.9
EAZ				AML	AML	02 28 50.6	
EAZ				AML	AML	02 28 50.6	
EAZ				AML	AML	02 28 55.4	
EAZ				AML	AML	02 28 55.4	
EAZ	**Earnscleugh**	**3.00**	**237**	Pn	Pn	02 27 55.8	-0.9
WKZ	**Wanaka**	**3.00**	**246**	PN	Pn	02 27 56.0	-0.8
WKZ				AML	AML	02 28 49.6	
WKZ				AML	AML	02 28 49.8	
WKZ				AML	AML	02 28 55.5	
WKZ				AML	AML	02 28 55.5	
WKZ	**Wanaka**	**3.00**	**246**	Pn	Pn	02 27 56.0	-0.8
CAW	**Cannon Point**	**3.02**	**33**	PN	Pn	02 27 55.3	-1.8
CAW				AML	AML	02 28 35.7	
CAW				AML	AML	02 28 36.1	
CAW	**Cannon Point**	**3.02**	**33**	Pn	Pn	02 27 55.3	-1.8
TRWZ	**Traveller**	**3.07**	**44**	PN	Pn	02 27 55.7	-2.0
TRWZ	**Traveller**	**3.07**	**44**	Pn	Pn	02 27 55.7	-2.0
MTW	**Mount Morrison**	**3.17**	**39**	PN	Pn	02 27 56.8	-2.3
MTW				AML	AML	02 28 34.9	
MTW				AML	AML	02 28 38.8	
MTW	**Mount Morrison**	**3.17**	**39**	Pn	Pn	02 27 56.8	-2.3
KIW	**Kapiti Island**	**3.18**	**29**	PN	Pn	02 27 58.4	-0.9
KIW	**Kapiti Island**	**3.18**	**29**	Pn	Pn	02 27 58.4	-0.9
TUZ	**Tuapeka**	**3.25**	**224**	⇑PN	Pn	02 27 59.2	-1.0
TUZ				AML	AML	02 28 55.6	
TUZ				AML	AML	02 28 55.6	
TUZ				AML	AML	02 28 56.8	
TUZ				AML	AML	02 28 56.8	
TUZ	**Tuapeka**	**3.25**	**224**	Pn	Pn	02 27 59.2	-1.0
HOWZ	**Holdsworth Sta**	**3.39**	**36**	PN	Pn	02 28 00.1	-2.0
HOWZ	**Holdsworth Sta**	**3.39**	**36**	Pn	Pn	02 28 00.1	-2.0
MRZ	**Mangatainoka R**	**3.61**	**35**	PN	Pn	02 28 03.6	-1.5
MRZ	**Mangatainoka R**	**3.61**	**35**	Pn	Pn	02 28 03.6	-1.5
MLZ	**Mavora Lakes**	**3.80**	**242**	PN	Pn	02 28 06.6	-1.2
MLZ				AML	AML	02 29 19.4	
MLZ				AML	AML	02 29 19.9	
MLZ	**Mavora Lakes**	**3.80**	**242**	Pn	Pn	02 28 06.6	-1.2
SYZ	**Scrubby Hill**	**3.91**	**221**	PN	Pn	02 28 08.4	-0.7
SYZ				AML	AML	02 29 22.2	
SYZ				AML	AML	02 29 34.2	
SYZ				AML	AML	02 29 34.2	
SYZ	**Scrubby Hill**	**3.91**	**221**	Pn	Pn	02 28 08.4	-0.7
WHZ	**Wether Hill Ro**	**4.16**	**236**	PN	Pn	02 28 11.2	-1.4
WHZ				AML	AML	02 29 35.6	
WHZ				AML	AML	02 29 43.1	
WHZ	**Wether Hill Ro**	**4.16**	**236**	Pn	Pn	02 28 11.2	-1.4
KHEZ	**Kahui Hut**	**4.45**	**12**	PN	Pn	02 28 17.6	+0.9
KHEZ	**Kahui Hut**	**4.45**	**12**	Pn	Pn	02 28 17.6	+0.9
NEZ	**North Egmont**	**4.48**	**12**	PN	Pn	02 28 19.3	+2.1
NEZ	**North Egmont**	**4.48**	**12**	Pn	Pn	02 28 19.3	+2.1

*IDC **15** 02:34:12.8±0.5, 7°.49S×107°.16E, h0km, mb4.4/28, mb1 4.5/28, mb1mx4.3/56, mbtmp4.4/28, MS3.3/5, Ms1 3.3/5, ms1mx2.9/48, Error ellipse: s-maj=21.1km s-min=11.6km az=51.0*
*NEIC **15** 02:34:18.0±0.9, 7°.65S×106°.97E, h37km±8km, mb4.8/13, Error ellipse: s-maj=9.7km s-min=6.6km az=216.0*
NEIC Felt [II] at Sindangbarang.
*DJA **15** 02:34:18.0±0.6, 8°.5S×107°.7E±°, h12km±4km, M4.9/23, mb5.0/2, MLv4.9/23*
*ISCJB **15** 02:34:20.7±0.4, 7°.56S±0°.06×107°.21E±0°.04, h75km±3km, mb4.3/37, Error ellipse: s-maj=12.2km s-min=4.5km az=30.3*
ISC 15 02:34:20.9±0.8, 7°.67S±0°.08×107°.20E±0°.04, h62km±6km, n103,σ1°35/100, mb4.4/37, 3C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.36**	**349**	P	**Pn**	**02 34 31.5**	**-0.3**
CNJI				S	**Sn**	**02 34 40.2**	**+0.5**
CISI	**Cisompet, Garu**	**0.62**	**80**	P	**Pn**	**02 34 34.3**	**-0.1**
CISI				S	**Sn**	**02 34 44.8**	**+0.5**
CISI	**Cisompet, Garu**	**0.62**	**80**	*eP*	**Pn**	**02 34 34.1**	**-0.3**
CISI				*eS*	**Sn**	**02 34 44.9**	**+0.6**
SKJI	**Sukabumi**	**0.92**	**316**	P	**Pn**	**02 34 37.8**	**-0.2**
LEM	**Lembang**	**0.93**	**26**	P	Pn	02 34 46.4	+8.0
LEM				S	Sn	02 35 02.3	+11
CMJI	**Cimerak**	**1.24**	**95**	P	**Pn**	**02 34 42.4**	**+0.2**
CMJI				S	**Sn**	**02 34 58.6**	**+0.5**
JCJI	**Jatiwangi**	**1.58**	**42**	P	**Pn**	**02 34 48.2**	**+1.5**
TNG	**Tangerang**	**1.58**	**340**	P	**Pn**	**02 34 50.8**	**+3.9**
KPJI	**Karang Pucung**	**1.75**	**79**	P	**Pn**	**02 34 51.2**	**+2.2**
CGJI	**Cibinong**	**1.83**	**305**	P	**Pn**	**02 34 48.8**	**-1.3**
CGJI				S	**Sn**	**02 35 15.1**	**+2.9**
SBJI	**Serang**	**1.87**	**325**	P	**Pn**	**02 34 52.3**	**+1.6**
XMIS	**Christmas Isla**	**3.19**	**209**	*ePn*	Pn	02 35 01.7	-6.9
XMIS				*eSn*	Sn	02 35 34.3	-11
SMRI	**Semarang**	**3.27**	**79**	P	**Pn**	**02 35 12.8**	**+3.0**
SMRI	**Semarang**	**3.27**	**79**	*ePn*	**Pn**	**02 35 12.1**	**+2.3**
SMRI				*eSn*	**Sn**	**02 35 44.4**	**-3.1**
UGM	**Wanagama**	**3.30**	**94**	P	**Pn**	**02 35 11.2**	**+1.0**
KASI	**Kota Agung**	**3.43**	**308**	P	**Pn**	**02 35 13.6**	**+1.6**
KLI	**Kotabumi**	**3.63**	**320**	P	**Pn**	**02 35 16.6**	**+1.8**
PCJI	**Pacitan**	**3.97**	**98**	P	**Pn**	**02 35 20.4**	**+1.0**
PWJI	**Pagerwojo**	**4.57**	**95**	P	**Pn**	**02 35 29.0**	**+1.4**
MNAI	**Manna**	**5.35**	**308**	P	**Pn**	**02 35 39.4**	**+1.1**
	212nm,1.1s,1.1nm						
MNAI	**Manna**	**5.35**	**308**	*ePn*	Pn	02 35 32.0	-6.3
GMJI	**Gumukmas**	**6.21**	**96**	P	**Pn**	**02 35 52.1**	**+2.0**
JAGI	**Jajag, Banyuwa**	**6.93**	**97**	*ePn*	**Pn**	**02 36 01.8**	**+1.9**
	76nm,0.3s						
JAGI				*eSn*	**Sn**	**02 37 15.5**	**-1.8**
KAPI	**Kappang**	**12.75**	**79**	LR	LR	02 42 44.8	
	comp=Z,119nm,19.9s,baz=271,slow=40						
GIRL	**Giralia**	**16.36**	**156**	P	**Pn**	**02 38 05.5**	**-1.1**
	baz=16,SNR=3.9						
SOEI	**Soe**	**17.00**	**98**	*ePn*	**P**	**02 38 15.7**	**-0.1**
	76nm,0.9s						
SOEI				*eSn*	**S**	**02 41 27.5**	**-2.5**
MBWA	**Marble Bar**	**18.07**	**139**	*eP*	**Pn**	**02 38 27.8**	**0.0**
	125nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.73**	**122**	P	**P**	**02 38 57.6**	**+1.1**
	16nm,0.8s,baz=236,slow=6.0,SNR=15						
FITZ	**Fitzroy Crossi**	**20.73**	**122**	P	Pn	02 38 58.0	-1.5
	baz=21,SNR=8.4						
KNRA	**Kununurra**	**22.55**	**113**	P	**P**	**02 39 16.5**	**+0.5**
	baz=23						
DAV	**Davao City (W)**	**23.46**	**52**	LR	LR	02 50 01.4	
	comp=Z,91nm,19.1s,baz=212,slow=41						
MTN	**Manton Dam**	**24.09**	**104**	P	**P**	**02 39 31.5**	**+0.6**
	baz=24,SNR=5.3						
WRKA	**Warakurna**	**26.54**	**133**	P	**P**	**02 39 53.7**	**+0.6**
	baz=27,SNR=11						
NWAO	**Narrogin (SRO)**	**26.80**	**161**	LR	LR	02 50 33.0	
	comp=Z,100nm,20.3s,baz=268,slow=36						
CMAR	**Chiang Mai Arr**	**27.21**	**343**	P	**P**	**02 39 56.1**	**-3.0**
	3.3nm,0.3s,baz=180,slow=8.4,SNR=6.5						
CMAR				LR	LR	02 50 36.9	
	comp=Z,57nm,21.8s,baz=187,slow=36						
H01W3	**Cape Leeuwin H**	**27.83**	**168**	T	T	03 09 36.6	
	baz=347,slow=76,SNR=9.9						
H01W1	**Cape Leeuwin H**	**27.84**	**168**	T	T	03 09 37.6	
	baz=347,slow=76,SNR=10						
H01W2	**Cape Leeuwin H**	**27.84**	**168**	T	T	03 09 39.0	
	baz=347,slow=76,SNR=12						
WRA	**Warramunga Arr**	**28.98**	**118**	P	**P**	**02 40 15.3**	**+0.3**
	4.5nm,0.8s,baz=292,slow=11,SNR=12						
WRA				PcP	**PcP**	**02 43 23.1**	**+0.5**
	0.9nm,0.5s,baz=304,slow=1.9,SNR=5.8						
WRAB	**Tennant Creek**	**28.99**	**118**	*eP*	**P**	**02 40 15.9**	**+0.8**
	7.0nm,0.8s						
ASAR	**Alice Springs**	**30.14**	**125**	P	**P**	**02 40 25.9**	**+0.7**
	3.6nm,0.9s,baz=303,slow=8.3,SNR=19						
ASAR				PcP	**PcP**	**02 43 26.0**	**+0.5**
	1.1nm,0.7s,baz=320,slow=2.8,SNR=6.4						
QIS	**Mount Isa**	**33.85**	**116**	P	**P**	**02 40 59.2**	**+1.3**
	baz=34						
H08S2	**Diego Garcia H**	**34.39**	**268**	T	T	03 18 10.6	
	baz=92,slow=76,SNR=34						
H08S3	**Diego Garcia H**	**34.40**	**268**	T	T	03 18 11.3	
	baz=92,slow=76,SNR=36						
H08S1	**Diego Carcia H**	**34.41**	**268**	T	T	03 18 11.9	
	baz=92,slow=76,SNR=37						
COEN	**Coen**	**35.85**	**103**	*eP*	**P**	**02 41 15.2**	**+0.1**
	8.9nm,0.8s						
MTSU	**Mount Surprise**	**37.57**	**110**	P	**P**	**02 41 32.0**	**+2.3**
	baz=38						
CTA	**Charters Tower**	**39.76**	**112**	P	**P**	**02 41 49.8**	**+1.8**
	baz=40						
CTAO	**Charters Tower**	**39.76**	**112**	*eP*	**P**	**02 41 49.6**	**+1.6**
	62nm,0.8s						
STKA	**Stephens Creek**	**40.05**	**132**	P	**P**	**02 41 51.4**	**+1.1**
	24nm,0.7s,baz=306,slow=8.7,SNR=53						
STKA	**Stephens Creek**	**40.05**	**132**	P	**P**	**02 41 51.4**	**+1.1**
	baz=40,SNR=35						
CMSA	**Cobar Meteorol**	**42.99**	**129**	P	**P**	**02 42 16.6**	**+2.3**
	baz=43,SNR=15						
YNG	**Young**	**46.23**	**131**	P	**P**	**02 42 41.5**	**+1.4**
	baz=46						
KSAR	**Wonju Array Be**	**48.87**	**22**	P	**P**	**02 43 00.8**	**+0.4**
KSRS	**Korea Array**	**48.89**	**22**	P	**P**	**02 43 00.8**	**+0.3**
	1.3nm,0.7s,baz=206,slow=7.8,SNR=5.7						
KSRS				LR	LR	03 05 31.1	
	comp=Z,16nm,19.2s,baz=35,slow=39						
MJAR	**Matsushiro Arr**	**52.73**	**31**	P	**P**	**02 43 28.3**	**-1.3**
	1.0nm,0.5s,baz=205,slow=7.1,SNR=3.1						
SONM	**Songino Array**	**55.27**	**359**	P	**P**	**02 43 47.9**	**0.0**
	0.6nm,0.4s,baz=179,slow=7.1,SNR=3.9						
SONM				PcP	**PcP**	**02 44 47.9**	**-0.2**
	2.0nm,0.7s,baz=180,slow=2.6,SNR=4.9						
WSAR	**Wadi Sarin**	**56.55**	**304**	P	**P**	**02 43 58.3**	**+0.9**
	8.3nm,1.0s,baz=138,slow=6.9,SNR=4.2						
TKM2	**Tokmak 2**	**57.98**	**333**	*eP*	**P**	**02 44 05.2**	**-2.3**
	2.6nm,0.6s						
MKAR	**Makanchi Array**	**58.58**	**340**	P	**P**	**02 44 09.1**	**-2.2**
	2.7nm,0.7s,baz=148,slow=7.4,SNR=15						
EKS2	**Erkin-Say**	**58.62**	**332**	*eP*	**P**	**02 44 11.0**	**-0.8**
	1.9nm,0.7s						
KLR	**Kul'dur**	**60.60**	**18**	P	**P**	**02 44 24.2**	**-0.9**
	2.6nm,0.6s,baz=219,slow=8.4,SNR=12						
KURBB	**Kurchatov Arra**	**63.14**	**340**	P	**P**	**02 44 40.6**	**-1.5**
	3.7nm,0.8s,baz=155,slow=5.7,SNR=20						
KURK	**Kurchatov**	**63.19**	**340**	*eP*	**P**	**02 44 41.6**	**-0.9**
	43nm,0.8s						
ZALV	**Zalesovo Beam**	**64.23**	**346**	P	**P**	**02 44 48.1**	**-1.1**
	0.8nm,0.4s,baz=136,slow=5.0,SNR=3.9						
GEYT	**Alibeck**	**64.39**	**318**	P	**P**	**02 44 49.8**	**-1.0**
	3.0nm,0.5s,baz=165,slow=6.2,SNR=4.9						
BVAR	**Borovoye Array**	**68.06**	**337**	P	**P**	**02 45 12.1**	**-1.8**
	5.3nm,0.5s,baz=144,slow=9.1,SNR=31						
BRVK	**Borovoye**	**68.12**	**337**	*eP*	**P**	**02 45 12.5**	**-1.7**
	9.6nm,0.6s						
KMBO	**Kilima Mbogo**	**69.98**	**272**	P	**P**	**02 45 27.4**	**+0.6**
	0.7nm,0.3s,baz=132,slow=6.6,SNR=4.1						
ABKAR	**Akbulak array**	**70.09**	**329**	*eP*	**P**	**02 45 25.4**	**-1.0**
	13nm,0.6s						
AKTO	**Aktyubinsk**	**71.80**	**329**	P	**P**	**02 45 35.9**	**-0.9**
	3.4nm,0.6s,baz=88,slow=3.9,SNR=15						
VNDA	**Vanda**	**75.28**	**169**	P	**P**	**02 45 57.3**	**+0.4**
	1.6nm,0.7s,baz=316,slow=4.8,SNR=8.3						
ARU	**Arti**	**75.31**	**334**	P	**P**	**02 45 57.1**	**-0.2**
	4.6nm,0.4s,baz=122,slow=4.6,SNR=7.5						
ARU	**Arti**	**75.31**	**334**	*eP*	**P**	**02 45 56.4**	**-0.9**
	6.3nm,0.6s						
KBZ	**Khabaz**	**77.28**	**318**	P	**P**	**02 46 07.9**	**-0.8**
	3.1nm,1.0s,baz=152,slow=4.4,SNR=4.2						
LSZ	**Lusaka**	**77.47**	**256**	*eP*	**P**	**02 46 09.2**	**-1.3**

IBND				*e*Sg		**Sb**	**02 36 25.5**	**+2.7**
IBND	**Bandar-abas**	**1.08**	**245**	Pg		**Pb**	**02 36 11.6**	**+2.5**
IBND				Sg		**Sb**	**02 36 25.5**	**+2.7**
KHSK	**Kohestak**	**1.26**	**205**	*e*Pn		**Pb**	**02 36 13.3**	**+1.2**
KHSK	**Kohestak**	**1.26**	**205**	*e*Pn		**Pb**	**02 36 13.3**	**+1.2**
GENO	**Geno**	**1.40**	**249**	*e*Pn		**Pb**	**02 36 16.0**	**+1.4**
GENO	**Geno**	**1.40**	**249**	*e*Pn		**Pb**	**02 36 16.0**	**+1.4**
BNDS	**Bandar-Abbas**	**1.40**	**249**	*e*Pg		**Pb**	**02 36 14.9**	**+0.3**
BNDS				AML	AML		02 36 37.4	
	comp=N,6μm,0.5s							
BNDS				AML	AML		02 36 40.1	
	comp=E,6μm,0.2s							
BNDS	**Bandar-Abbas**	**1.40**	**249**	*e*Pg		**Pb**	**02 36 14.9**	**+0.3**
BNDS	**Bandar-Abbas**	**1.40**	**249**	Pg		**Pn**	**02 36 14.0**	**+1.4**
CHMN	**Cheshme madani**	**1.95**	**357**	*e*Pn		**Pb**	**02 36 23.8**	**-0.2**
CHMN	**Cheshme madani**	**1.95**	**357**	*e*Pn		**Pb**	**02 36 23.8**	**-0.2**
KRBR	**Kerman**	**2.21**	**340**	*e*Pg		**Pb**	**02 36 26.4**	**-2.0**
KRBR				AML	AML		02 37 06.2	
	comp=E,3μm,0.7s							
KRBR				AML	AML		02 37 08.2	
	comp=N,2μm,1.1s							
KRBR	**Kerman**	**2.21**	**340**	*e*Pg		**Pb**	**02 36 26.4**	**-2.0**
KRBR	**Kerman**	**2.21**	**340**	Pg		**Pn**	**02 36 26.0**	**+2.1**
BANOM	**Banah**	**2.31**	**212**	*e*P		**Pn**	**02 36 26.1**	**+1.0**
	SNR=35							
BANOM				S		**Sb**	**02 36 56.3**	**-1.9**
BANOM	**Banah**	**2.31**	**212**	P		**Pn**	**02 36 26.2**	**+1.2**
	SNR=128							
BANOM				S		**Sb**	**02 36 57.3**	**-0.9**
BANOM	**Banah**	**2.31**	**212**	P		**Pn**	**02 36 26.2**	**+1.2**
	SNR=128							
BANOM				S		**Sb**	**02 36 56.3**	**-1.9**
KHGB	**Koh Gabri**	**2.66**	**338**	*e*Pn		**Pb**	**02 36 35.0**	**-1.1**
KHGB	**Koh Gabri**	**2.66**	**338**	*e*Pn		**Pb**	**02 36 35.0**	**-1.1**
UOSS	**Minazif**	**3.22**	**204**	P		**Pn**	**02 36 36.3**	**-1.2**
	SNR=23							
ZHSF	**Zahedan**	**3.23**	**58**	*e*Pn		**Pb**	**02 36 48.6**	**+2.8**
ZHSF	**Zahedan**	**3.23**	**58**	Pn		**Pb**	**02 36 48.0**	**+2.2**
NAZ	**Nazwa, Dubai**	**3.41**	**212**	*i* P		**Pn**	**02 36 41.9**	**+1.8**
	SNR=8.8							
NAZ	**Nazwa, Dubai**	**3.41**	**212**	P		**Pn**	**02 36 41.9**	**+1.8**
	SNR=8.8							
ASHO	**Ashiyiah**	**3.51**	**204**	*i* P		**Pn**	**02 36 41.7**	**+0.1**
	SNR=70							
ASHO	**Ashiyiah**	**3.51**	**204**	P		**Pn**	**02 36 43.9**	**+2.3**
	SNR=70							
ASHO	**Ashiyiah**	**3.51**	**204**	P		**Pn**	**02 36 43.9**	**+2.3**
	SNR=70							
FAQ	**Al Faqa, Dubai**	**3.65**	**211**	*i* P		**Pn**	**02 36 44.9**	**+1.5**
	SNR=20							
FAQ	**Al Faqa, Dubai**	**3.65**	**211**	P		**Pn**	**02 36 44.9**	**+1.5**
	SNR=20							
IBAF	**Bafgh**	**4.09**	**334**	*e*Pn		**Pn**	**02 36 53.8**	**+4.1**
IBAF				*e*AMB	AMB		02 38 17.0	
	comp=E,3μm,0.4s							
IBAF	**Bafgh**	**4.09**	**334**	Pn		**Pn**	**02 36 53.7**	**+4.1**
IBAF	**Bafgh**	**4.09**	**334**	Pn		**Pn**	**02 36 53.7**	**+4.1**
IMEH	**Mehriz**	**4.36**	**324**	*e*Pn		**Pn**	**02 36 57.0**	**+3.5**
IMEH				*e*AMB	AMB		02 38 25.9	
	comp=E,2μm,0.4s							
IMEH	**Mehriz**	**4.36**	**324**	Pn		**Pn**	**02 36 56.9**	**+3.5**
IMEH	**Mehriz**	**4.36**	**324**	Pn		**Pn**	**02 36 56.9**	**+3.5**
IKOO	**Kooshah**	**4.65**	**14**	*e*Pn		**Pn**	**02 37 00.8**	**+3.3**
IKOO				*e*AMB	AMB		02 38 35.6	
	comp=E,2μm,0.3s							
IKOO	**Kooshah**	**4.65**	**14**	*e*Pn		**Pn**	**02 37 00.8**	**+3.3**
IKOO	**Kooshah**	**4.65**	**14**	Pn		**Pn**	**02 37 00.8**	**+3.3**
WSAR	**Wadi Sarin**	**4.73**	**169**	P		**Pn**	**02 36 58.0**	**-0.4**
	comp=Z,8.2nm,0.3s,baz=342,slow=7.1,SNR=185							
WSAR				S		**Sn**	**02 37 49.0**	**-3.2**
	comp=Z,8.9nm,0.3s,baz=274,slow=19,SNR=12							
WSAR				LR	LR		02 39 42.4	
	comp=Z,126nm,18.1s,baz=48,slow=49							
SMDO	**Samad**	**4.84**	**176**	P		**Pn**	**02 37 01.6**	**+1.6**
	SNR=9.8							
SMDO	**Samad**	**4.84**	**176**	P		**Pn**	**02 37 01.5**	**+1.6**
	SNR=9.8							
ITEG	**Tejag**	**5.06**	**11**	*e*Pn		**Pn**	**02 37 06.7**	**+3.7**
ITEG				*e*AMB	AMB		02 38 47.3	
	comp=Z,3μm,0.4s							
ITEG	**Tejag**	**5.06**	**11**	Pn		**Pn**	**02 37 06.6**	**+3.6**
ITEG	**Tejag**	**5.06**	**11**	Pn		**Pn**	**02 37 06.6**	**+3.6**
ICHK	**Chekchek**	**5.15**	**328**	*e*Pn		Pn	02 37 11.3	+7.0
ICHK				*e*AMB	AMB		02 38 52.5	
	comp=Z,1μm,0.3s							
IDAH	**Dahanechah**	**5.18**	**21**	*e*Pn		**Pn**	**02 37 08.7**	**+3.9**
IDAH				*e*AMB	AMB		02 38 51.5	
	comp=Z,2μm,0.5s							
IDAH	**Dahanechah**	**5.18**	**21**	Pn		**Pn**	**02 37 08.6**	**+3.8**
IDAH	**Dahanechah**	**5.18**	**21**	Pn		**Pn**	**02 37 08.6**	**+3.8**
ISAD	**Sadrabad**	**5.27**	**320**	*e*Pn		**Pn**	**02 37 09.5**	**+3.6**
ISAD				*e*AMB	AMB		02 38 50.9	
	comp=Z,1μm,0.4s							
ISAD	**Sadrabad**	**5.27**	**320**	*e*Pn		**Pn**	**02 37 09.5**	**+3.6**
ISAD	**Sadrabad**	**5.27**	**320**	Pn		**Pn**	**02 37 09.5**	**+3.6**
IKAZ	**Kazeroun**	**5.42**	**292**	*e*Pn		**Pn**	**02 37 09.8**	**+1.7**
IKAZ				*e*AMB	AMB		02 38 15.1	
	comp=Z,5μm,0.2s							
IKAZ	**Kazeroun**	**5.42**	**292**	*e*Pn		**Pn**	**02 37 09.8**	**+1.7**
IKAZ	**Kazeroun**	**5.42**	**292**	Pn		**Pn**	**02 37 09.8**	**+1.7**
IRAM	**Ramesheh**	**6.00**	**312**	*e*Pn		**Pn**	**02 37 17.9**	**+2.0**
IRAM				*e*AMB	AMB		02 38 32.6	
	comp=Z,694nm,0.2s							
IRAM	**Ramesheh**	**6.00**	**312**	*e*Pn		**Pn**	**02 37 17.9**	**+2.0**
IRAM	**Ramesheh**	**6.00**	**312**	Pn		**Pn**	**02 37 17.8**	**+1.9**
IZEF	**Zefreh**	**6.77**	**319**	*e*Pn		**Pn**	**02 37 28.5**	**+2.0**
IZEF				*e*AMB	AMB		02 39 50.0	
	comp=Z,184nm,0.3s							
IZEF	**Zefreh**	**6.77**	**319**	*e*Pn		**Pn**	**02 37 28.5**	**+2.0**
IZEF	**Zefreh**	**6.77**	**319**	Pn		**Pn**	**02 37 28.5**	**+2.0**
IKLH	**Kolahrood**	**7.51**	**317**	*e*Pn		**Pn**	**02 37 38.5**	**+1.8**
IKLH				*e*AMB	AMB		02 39 13.2	
	comp=Z,208nm,0.3s							
IKLH	**Kolahrood**	**7.51**	**317**	*e*Pn		**Pn**	**02 37 38.5**	**+1.8**
IKLH	**Kolahrood**	**7.51**	**317**	Pn		**Pn**	**02 37 38.4**	**+1.8**
IPIR	**Pirpir**	**7.53**	**311**	*e*Pn		**Pn**	**02 37 39.3**	**+2.3**
IPIR				*e*AMB	AMB		02 39 08.0	
	comp=Z,496nm,0.3s							
IPIR	**Pirpir**	**7.53**	**311**	*e*Pn		**Pn**	**02 37 39.3**	**+2.3**
IPIR	**Pirpir**	**7.53**	**311**	Pn		**Pn**	**02 37 39.3**	**+2.3**
GEYT	**Alibeck**	**10.00**	**2**	P		**Pn**	**02 38 15.4**	**+4.8**
	comp=Z,0.8nm,0.3s,baz=178,slow=13,SNR=5.4							
GEYT				Lg	Lg		02 41 04.8	
	baz=171,slow=33,SNR=2.6							
GNI	**Garni**	**16.21**	**322**	P		**P**	**02 39 38.6**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=108,slow=20,SNR=2.3							
GNI	**Garni**	**16.21**	**322**	*e*Pn		**P**	**02 39 38.4**	**+0.9**
	comp=Z,67nm,0.8s							
KKAR	**Karatay Array**	**18.39**	**31**	*e*P		**Pn**	**02 40 03.1**	**+1.4**
	comp=Z,8.5nm,1.1s							
KKAR	**Karatay Array**	**18.39**	**31**	*e*P		**Pn**	**02 40 03.1**	**+1.4**
	comp=Z,8.5nm,1.1s							
ASF	**Jabal al Asfar**	**18.45**	**288**	P		**P**	**02 40 02.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=78,slow=7.4,SNR=5.2							
EKS2	**Erkin-Say**	**19.70**	**37**	*e*P		**P**	**02 40 16.2**	**+0.2**
	comp=Z,6.7nm,1.0s							
EKS2	**Erkin-Say**	**19.70**	**37**	*e*P		**P**	**02 40 16.2**	**+0.2**
	comp=Z,6.7nm,1.0s							
KBZ	**Khabaz**	**19.76**	**327**	P		**Pn**	**02 40 21.6**	**+3.6**
	comp=Z,0.1nm,0.3s,baz=136,slow=14,SNR=2.4							
MMAI	**Mount Meron Ar**	**19.82**	**290**	P		**P**	**02 40 17.2**	**-0.2**
	baz=114,slow=12,SNR=5.4							
EIL	**Elat**	**19.96**	**280**	P		**Pn**	**02 40 20.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=68,slow=4.3,SNR=7.5							
KVAR	**Kislovodsk Arr**	**20.02**	**327**	P		**P**	**02 40 19.2**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=161,slow=7.5,SNR=3.0							
KIV	**Kislovodsk**	**20.03**	**327**	*e*P		**P**	**02 40 18.6**	**-0.8**
	comp=Z,8.9nm,0.9s							
KIV	**Kislovodsk**	**20.03**	**327**	*e*P		**P**	**02 40 18.6**	**-0.8**
	comp=Z,8.9nm,0.9s							
AAK	**Ala-Archa**	**20.07**	**39**	P		**P**	**02 40 20.6**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=217,slow=12,SNR=4.7							
AAK	**Ala-Archa**	**20.07**	**39**	*e*P		**P**	**02 40 20.8**	**+0.7**
	comp=Z,13nm,1.2s							
AAK	**Ala-Archa**	**20.07**	**39**	*e*P		**P**	**02 40 20.8**	**+0.7**
	comp=Z,13nm,1.2s							
TKM2	**Tokmak 2**	**20.88**	**39**	*e*P		**P**	**02 40 28.7**	**-0.1**
	comp=Z,2.4nm,0.6s							
TKM2	**Tokmak 2**	**20.88**	**39**	*e*P		**P**	**02 40 28.7**	**-0.1**
	comp=Z,2.4nm,0.6s							
ABKAR	**Akbulak array**	**21.39**	**4**	*e*P		**P**	**02 40 33.8**	**-0.2**
	comp=Z,3.3nm,0.6s							
ABKAR	**Akbulak array**	**21.39**	**4**	*e*P		**P**	**02 40 33.8**	**-0.2**
	comp=Z,3.3nm,0.6s							
CSS	**Mathiatis**	**21.87**	**295**	*e*P		**P**	**02 40 40.1**	**+0.7**
	comp=Z,5.0nm,1.0s							
CSS	**Mathiatis**	**21.87**	**295**	*e*P		**P**	**02 40 40.1**	**+0.7**
	comp=Z,5.0nm,1.0s							
AKTO	**Aktyubinsk**	**22.50**	**1**	P		**P**	**02 40 45.9**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=189,slow=11,SNR=5.7							
AKTO				LR		LR	02 51 06.4	
	comp=Z,89nm,18.6s,baz=184,slow=41							
BRTR	**Keskin Array B**	**23.09**	**307**	P		**P**	**02 40 51.9**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=125,slow=11,SNR=21							
BVAR	**Borovoye Array**	**26.82**	**17**	P		**P**	**02 41 25.7**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=196,slow=10.0,SNR=10							
MKAR	**Makanchi Array**	**27.01**	**39**	P		**P**	**02 41 27.2**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=221,slow=7.5,SNR=12							
KURBB	**Kurchatov Arra**	**27.68**	**29**	P		**P**	**02 41 33.5**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=226,slow=8.6,SNR=11							
KURK	**Kurchatov**	**27.78**	**29**	*e*P		**P**	**02 41 35.1**	**0.0**
	comp=Z,7.9nm,0.7s							
KURK	**Kurchatov**	**27.78**	**29**	*e*P		**P**	**02 41 35.1**	**0.0**
	comp=Z,7.9nm,0.7s							
ZALV	**Zalesovo Beam**	**32.76**	**30**	P		**P**	**02 42 17.8**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=243,slow=9.3,SNR=12							
TIR	**Tirane**	**33.59**	**304**	*e*P		**P**	**02 42 25.9**	**-0.5**
	comp=Z,32nm,1.2s							
TIR	**Tirane**	**33.59**	**304**	*e*P		**P**	**02 42 25.9**	**-0.5**
	comp=Z,32nm,1.2s							
GTA	**Gaotai**	**36.63**	**61**	*e*P		**P**	**02 42 52.6**	**-0.2**
GTA				pP		pP	02 43 00.1	-1.6
GTA				sP		sP	02 43 03.5	-1.8
GTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
FINES	**FINESS Array B**	**39.59**	**337**	P		**P**	**02 43 16.4**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=128,slow=7.7,SNR=4.6							
GERES	**GERESS Array B**	**39.60**	**314**	P		**P**	**02 43 15.8**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=106,slow=6.4,SNR=2.8							
KHC	**Kasperske Hory**	**39.76**	**314**	*e*P		P	02 43 26.0	+7.0
SONM	**Songino Array**	**42.51**	**49**	P		**P**	**02 43 40.1**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=255,slow=7,SNR=3.8							
ARCES	**ARCESS Array B**	**45.62**	**345**	P		**P**	**02 44 04.1**	**-2.1**
	comp=Z,1.8nm,0.8s,baz=140,slow=7.9,SNR=4.8							
TAM	**Tamanrasset**	**47.09**	**276**	*e*P		**P**	**02 44 18.7**	**+0.1**
	comp=Z,1.6nm,0.9s							
TAM	**Tamanrasset**	**47.09**	**276**	*e*P		**P**	**02 44 18.7**	**+0.1**
	comp=Z,1.6nm,0.9s							
ESDC	**Sonseca Array**	**51.62**	**300**	P		**P**	**02 44 51.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=73,slow=8.0,SNR=3.2							
TORD	**Torodi Ar. Bea**	**53.99**	**266**	P		**P**	**02 45 09.6**	**-1.0**
	comp=Z,3.7nm,0.6s,baz=63,slow=7.4,SNR=91							
SEY	**Seymchan**	**67.63**	**30**	P		**P**	**02 46 41.6**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=15,slow=4.0,SNR=3.8							
GENI	**Genyem**	**84.60**	**96**	P		**P**	**02 48 21.5**	**+1.5**
	comp=Z,164nm,0.5s							
WRA	**Warramunga Arr**	**88.07**	**114**	P		**P**	**02 48 35.5**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=320,slow=4.0,SNR=4.7							
YKA	**Yellowknife Ar**	**89.70**	**356**	P		**P**	**02 48 42.7**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=7.4,slow=4.8,SNR=4.5							

TIF 15 02:36:52.2, 43.25N×45.01E, h7km±3km, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUDG	**Gudauri**	**0.88**	**207**	P	Pb	02 37 09.7	-0.1
GUDG				S	Sb	02 37 22.0	+0.2
DUS	**Dusheti**	**1.18**	**191**	P	Pn	02 37 17.6	+2.3
DUS				S	Sn	02 37 33.3	+1.7
ONI	**Oni**	**1.32**	**241**	P	Pg	02 37 17.8	+0.2
ONI				S	Sn	02 37 36.5	+1.5
TBLG	**Delisi**	**1.53**	**188**	P	Pg	02 37 21.5	0.0
TBLG				S	Sg	02 37 43.2	+1.9

IDC 15 02:39:59.2±1.4, 55.92S×26.69W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/24, mbtmp3.7/2, Error ellipse: s-maj=108.3km s-min=34.9km az=103.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**46.72**	**183**	P	P	02 48 29.0	-0.1
	1.1nm,0.9s,baz=188,slow=7.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**72.80**	**29**	P	P	02 51 29.4	0.0
	0.3nm,0.6s,baz=199,slow=6.5,SNR=9.9						
ILAR	**Eielson Array**	**150.24**	**312**	PKPbc	PKPbc	02 59 50.2	-0.4
	0.3nm,0.6s,baz=108,slow=2.4,SNR=5.8						

NIED ***15*** *02:42:00, 30.30N×138.80E, h440km, Mw4.8 Best double couple: M0 1.84000×10^16 NP1:ϕs 120.00000°, δ 32.00000°, λ -107.00000°. NP2:ϕs 320.00000°, δ 59.00000°, λ -80.00000°.*

ISCJB ***15*** *02:42:25.7±0.2, 30.37N±0.02×138.47E±0.02, h424km±2km, mb4.6/213, Error ellipse: s-maj=3.7km s-min=2.6km az=39.5*

JMA ***15*** *02:42:25.4±0.3, 30.33N×138.82E, h438km±4km, M4.3*

MOS ***15*** *02:42:25.3±0.8, 30.37N×138.40E, h419km, mb4.8/62, Error ellipse: s-maj=7.1km s-min=3.9km az=108.2*

BJI ***15*** *02:42:26.0, 30.33N×138.42E, h436km, mb5.0/63, mB4.6/33*

NEIC ***15*** *02:42:27.1±0.1, 30.36N×138.39E, mb4.6/133, Error ellipse: s-maj=3.0km s-min=2.3km az=132.0*

IDC ***15*** *02:42:27.1±0.5, 30.38N×138.47E, h427km±4km, mb4.3/47, mb1 4.3/54, mb1mx4.3/66, mbtmp5.1/54, Error ellipse: s-maj=8.0km s-min=5.8km az=88.0*

ISC 15 02:42:26.9±0.3, 30.36N±0.03×138.53E±0.04, h427km±2km, h427km:pP-P, n561, σ1°30/700, mb4.7/213, 58C-21D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.92**	**21**	P	**P**	**02 43 31.2**	**-0.2**
JHCJ				*e*S	**S**	**02 43 21.1**	**-2.8**
JHJ	**Hachijo jima 2**	**2.95**	**21**	P	**P**	**02 43 31.6**	**-0.1**
	378nm,0.3s,baz=226,slow=22,SNR=66						
JHJ				S	**S**	**02 44 21.9**	**-2.4**
	294nm,0.3s,baz=238,slow=23,SNR=8.4						
JHJ2	**Mitsune**	**2.96**	**21**	P	**P**	**02 43 31.7**	**0.0**
JHJ2				*e*S	**S**	**02 44 21.3**	**-3.1**
JHJ2	**Mitsune**	**2.96**	**21**	*e*P	**P**	**02 43 31.2**	**-0.4**
JHJ2				*e*S	**S**	**02 44 22.1**	**-2.3**
TK01	**Tokai 1**	**3.49**	**347**	P	**P**	**02 43 37.9**	**+2.3**
TTO1	**TONANKAI O.B.S**	**3.58**	**336**	P	**P**	**02 43 38.4**	**+2.0**
TK02	**Tokai 2**	**3.64**	**350**	P	**P**	**02 43 39.6**	**+2.6**
JWZ	**Kozaga**	**3.97**	**324**	P	**P**	**02 43 41.5**	**+1.3**
JWZ				S	**S**	**02 44 46.6**	**+0.7**
JIE	**Ise**	**4.31**	**339**	P	**P**	**02 43 44.9**	**+1.6**
JIE				S	**S**	**02 44 46.1**	**+0.5**
CBIJ	**Chichi jima**	**4.56**	**134**	P	**P**	**02 43 43.1**	**-2.8**
CBIJ	**Chichi jima**	**4.56**	**134**	*e*P	**P**	**02 43 43.4**	**-2.5**
CBIJ				*e*S	**S**	**02 44 43.9**	**-6.3**
JCJ	**Chichijima**	**4.57**	**134**	P	**P**	**02 43 43.1**	**-2.8**
	79nm,0.3s,baz=354,slow=17,SNR=127						
JCJ				S	**S**	**02 44 44.0**	**-6.2**
	464nm,0.3s,baz=284,slow=23,SNR=28						
BSO1	**Boso 1**	**4.76**	**25**	P	**P**	**02 43 45.8**	**-1.1**
BSO1				*e*S	**S**	**02 44 49.1**	**-3.4**
JOD2	**Odawara 2**	**4.92**	**5**	P	**P**	**02 43 48.4**	**-0.7**
JOD2				*e*S	**S**	**02 44 54.7**	**-1.7**
INU	**Inuyama**	**5.14**	**346**	*e*P	**P**	**02 43 52.4**	**+1.1**
JTO	**Tosashimizu**	**5.49**	**299**	P	**P**	**02 43 56.7**	**+1.8**
JRY	**Ryogami san**	**5.65**	**3**	P	**P**	**02 43 56.1**	**-0.5**
JRY				*e*S	**S**	**02 45 05.1**	**-4.9**
MJAR	**Matsushiro Arr**	**6.17**	**358**	P	**P**	**02 44 00.6**	**-1.4**
	15nm,0.3s,baz=171,slow=11,SNR=138						
MJAR				S	**S**	**02 45 14.1**	**-6.0**
	6.4nm,0.3s,baz=162,slow=14,SNR=8.0						
MAJO	**Matsushiro**	**6.18**	**358**	*e*P	**P**	**02 44 01.1**	**-0.9**
MAJO				*e*S	**S**	**02 45 15.3**	**-4.7**
MAJO	**Matsushiro**	**6.18**	**358**	*e*P	**P**	**02 44 01.1**	**-0.9**
MAJO				*e*S	**S**	**02 45 15.3**	**-4.7**
MAT	**Matsushiro**	**6.18**	**358**	P	**P**	**02 44 00.9**	**-1.1**
MAT				S	**S**	**02 45 15.6**	**-4.4**
MJB9	**Matsu-Tunnel**	**6.18**	**358**	*e*P	**P**	**02 44 01.2**	**-0.9**
JHS	**Saijyo**	**6.50**	**317**	P	**P**	**02 44 07.2**	**+1.4**
JHS				S	**S**	**02 45 27.9**	**+1.5**
JNU	**Nakatsue**	**7.08**	**295**	P	**P**	**02 44 13.4**	**+1.3**
	4.7nm,0.3s,baz=104,slow=3.8,SNR=17						
JNU				S	**S**	**02 45 38.2**	**+0.3**
	baz=346,slow=17,SNR=9.9						
JNU	**Nakatsue**	**7.08**	**295**	*e*P	**P**	**02 44 12.4**	**+0.3**
JNU				S	**S**	**02 45 38.2**	**+0.3**
JMZ	**Minamidaito 2**	**7.88**	**237**	P	**P**	**02 44 22.3**	**+1.4**
JAMN	**Amaminishikomi**	**8.44**	**258**	P	**P**	**02 44 28.1**	**+1.2**
JAMN				S	**S**	**02 46 05.8**	**+0.4**
JTU	**Tsushima**	**8.76**	**301**	P	**P**	**02 44 32.0**	**+1.7**
JTU				*e*S	**S**	**02 46 13.1**	**+1.1**
JMK	**Ichinoseki**	**8.86**	**14**	P	**P**	**02 44 31.0**	**-0.3**
JMK				S	**S**	**02 46 07.7**	**-6.1**
JOW	**Kunigami**	**9.67**	**251**	P	**P**	**02 44 42.4**	**+1.9**
JOW	**Kunigami**	**9.67**	**251**	*e*P	**P**	**02 44 41.9**	**+1.4**
JKE	**Kume jima 2**	**11.10**	**252**	P	**P**	**02 44 57.7**	**+1.6**
JKE				*e*S	**S**	**02 46 59.9**	**+0.5**
TJN	**Taejon**	**11.10**	**306**	*d* P	**P**	**02 44 57.0**	**+1.0**
JOT	**Ohata**	**11.19**	**10**	P	**P**	**02 44 57.4**	**+0.5**
JOT				*e*S	**S**	**02 46 57.8**	**-3.0**
KSRS	**Korea Array**	**11.30**	**312**	P	**P**	**02 44 59.4**	**+1.2**
	3.2nm,0.3s,baz=125,slow=11,SNR=118						
KSRS				S	**S**	**02 47 02.0**	**-1.1**
	baz=138,slow=18,SNR=4.2						
KSRS				PcP	**PcP**	**02 50 13.3**	**+0.8**
	0.1nm,0.3s,baz=104,slow=0.6,SNR=6.4						
KSRS				ScP	**ScP**	**02 53 05.0**	**+0.8**
	baz=155,slow=0.8,SNR=14						
KS15	**Wonju Array Si**	**11.32**	**311**	*e*P	**P**	**02 44 59.9**	**+1.5**
KSAR	**Wonju Array Be**	**11.32**	**311**	P	**P**	**02 44 59.4**	**+1.0**
KSAR				S	**S**	**02 47 02.0**	**-1.5**
KSAR	**Wonju Array Be**	**11.32**	**311**	P	**P**	**02 44 59.4**	**+1.0**
KSAR				S	**S**	**02 47 02.0**	**-1.5**
KSAR				PcP	**PcP**	**02 50 13.3**	**+0.7**
KSAR				ScP	**ScP**	**02 53 05.0**	**+0.8**
KS01	**Wonju Array Si**	**11.33**	**312**	*e*P	**P**	**02 44 58.5**	**0.0**
KS01				*e*ScP	**ScP**	**02 53 04.7**	**+0.5**
JKB	**Kayabe**	**11.68**	**9**	P	**P**	**02 45 02.8**	**+0.5**
JKB				S	**S**	**02 47 07.5**	**-3.2**
JOSM	**Okushiri--Mats**	**11.73**	**3**	P	**P**	**02 45 03.1**	**+0.3**
JOSM				S	**S**	**02 47 09.6**	**-2.0**
ERM	**Erimo**	**12.22**	**16**	*d* P	**P**	**02 45 09.1**	**+0.9**
ERM				pmax	pmax		
	comp=Z,144nm,0.7s						
ERM	**Erimo**	**12.22**	**16**	*e*P	**P**	**02 45 09.0**	**+0.9**
ERM				*e*S	**S**	**02 47 18.4**	**-3.0**
JCH	**Churui**	**12.83**	**16**	P	**P**	**02 45 15.7**	**+0.8**
JCH				*e*S	**S**	**02 47 34.9**	**+1.2**
JHR	**Hokuryu**	**13.60**	**10**	P	**P**	**02 45 24.3**	**+1.1**
JHR				*e*S	**S**	**02 47 49.1**	**+0.1**
VLA	**Vladivostok**	**13.80**	**339**	⇑ *i* P	**P**	**02 45 25.0**	**-0.4**
VLA				*e*S	**S**	**02 47 50.2**	**-2.7**
VLA				pmax	pmax		
	comp=Z,38nm,1.1s						
ASAJ	**Asahikawa**	**14.11**	**12**	P	**P**	**02 45 29.8**	**+1.1**
	comp=Z,10nm,0.3s,baz=224,slow=14,SNR=19						
ASAJ				S	**S**	**02 48 00.3**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=258,slow=20,SNR=4.4						
ASAJ	**Asahikawa**	**14.11**	**12**	*e*P	**P**	**02 45 29.6**	**+0.9**
	comp=Z,29nm,0.6s						
ASAJ				S	**S**	**02 48 00.3**	**+1.3**
NEM2	**Nemuro 2**	**14.20**	**22**	P	**P**	**02 45 30.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**14.76**	**341**	P	**P**	**02 45 35.5**	**-0.2**
	comp=Z,3.8nm,0.3s,baz=150,slow=11,SNR=49						
YUK	**Yuzh-Kuril'sk**	**14.84**	**21**	*e*P	**P**	**02 45 38.0**	**+1.4

HHC PMZ
comp=Z,81nm,4.7s
ENH Enshi 25.05 277 *eP* **P 02 47 14.1 -1.1**
comp=Z,34nm,0.6s
XAN Xi'an 25.28 286 P **P 02 47 16.8 -0.4**
XAN PMZ
comp=Z,110nm,0.7s
PEA0 Petropavlovsk- 26.69 26 *eP* **P 02 47 30.2 +0.8**
PETK Petropavlovsk- 26.69 26 P **P 02 47 30.0 +0.6**
comp=Z,16nm,0.9s,baz=210,slow=5.1,SNR=11
PETK ScP **ScP 02 53 37.5 -1.0**
comp=Z,3.8nm,0.7s,baz=150,slow=3.3,SNR=4.8
PET Petropavlovsk 27.00 27 *i* P **P 02 47 33.0 +0.9**
PET pmax pmax
comp=Z,29nm,1.0s
GYA Guiyang 28.25 270⇑ *i* P **P 02 47 42.3 -1.3**
GYA pP PP 02 48 58.9 +0.4
GYA sP sP 02 49 49.0 -0.5
GYA PcP **PcP 02 50 44.3 +0.2**
GYA S **S 02 51 57.8 -0.5**
GYA ScS **ScS 02 57 36.8 -1.2**
GYA PMZ
comp=Z,40nm,1.0s
QIZ Qiongzhong 28.32 253 P **P 02 47 43.8 -0.4**
QIZ pP **pP 02 49 02.3 +2.2**
QIZ sP **sP 02 49 51.4 +1.4**
QIZ S **S 02 51 59.9 +0.5**
QIZ PMZ
comp=Z,20nm,2.2s
LZH Lanzhou 29.47 290⇑ P **P 02 47 53.6 -0.7**
LZH pP pP 02 49 10.5 -0.1
LZH PMZ
comp=Z,49nm,1.0s
LZH PMZ
comp=Z,96nm,5.2s
ULN Ulaanbaatar 29.76 315 *d i* P **P 02 47 56.7 +0.1**
ULN pmax pmax
comp=Z,29nm,1.0s
ULN Ulaanbaatar 29.76 315 *eP* **P 02 47 56.0 -0.6**
comp=Z,38nm,1.0s
ULN *e*PcP **PcP 02 50 47.7 0.0**
SONA1 Songino Array 30.15 314 *eP* **P 02 47 59.9 -0.1**
SONA1 *e*PcP **PcP 02 50 49.2 +0.5**
SONM Songino Array 30.15 314 P **P 02 48 00.1 +0.2**
comp=Z,13nm,0.5s,baz=120,slow=7.9,SNR=57
SONM PcP **PcP 02 50 49.2 +0.5**
comp=Z,2.3nm,0.6s,baz=125,slow=2.9,SNR=5.9
SONM ScP **ScP 02 53 49.2 -0.6**
comp=Z,0.7nm,0.5s,baz=148,slow=3.2,SNR=3.9
MA2 Magadan 30.37 12 P **P 02 48 02.2 +0.7**
comp=Z,100nm,0.7s,baz=222,slow=7.4,SNR=42
MA2 Magadan 30.37 12 *eP* **P 02 48 02.0 +0.5**
comp=Z,530nm,0.8s
KMI Kunming 32.02 269 P **P 02 48 16.6 +0.1**
KMI PMZ
comp=Z,23nm,1.0s
KMI PMZ
comp=Z,140nm,4.6s
TSM Tawau 32.44 221⇓ P **P 02 48 20.8 +0.8**
JAY Jayapura 32.75 176 P **P 02 48 23.2 +0.6**
comp=Z,1.4nm,0.6s,baz=274,slow=19,SNR=6.8
GTA Gaotai 32.81 297⇓ P **P 02 48 22.5 -0.6**
GTA pP pP 02 49 38.0 -2.5
GTA sP sP 02 50 27.1 -3.0
GTA PcP **PcP 02 50 56.8 +0.6**
GTA S **S 02 53 08.8 +0.1**
GTA ScP **ScP 02 53 59.0 0.0**
GTA PMZ
comp=Z,94nm,1.1s
GTA PMZ
comp=Z,130nm,4.4s
ZAK Zakamensk 33.05 317 *eP* **P 02 48 23.6 -1.3**
ZAK pmax pmax
comp=Z,22nm,1.2s
TLY Talaya 33.39 320 P **P 02 48 28.4 +0.7**
comp=Z,12nm,0.4s,baz=151,slow=4.5,SNR=23
TLY PcP **PcP 02 50 58.1 +0.7**
comp=Z,2.4nm,0.5s,baz=180,slow=1.3,SNR=4.0
TLY Talaya 33.39 320 *d i* P **P 02 48 28.2 +0.5**
TLY pmax pmax
comp=Z,15nm,0.6s
TLY Talaya 33.39 320 *eP* **P 02 48 27.6 -0.1**
comp=Z,16nm,0.6s
TLY *e*PcP **PcP 02 50 57.8 +0.4**
PANO Nakornpanom 33.58 255 P **P 02 48 30.8 +1.1**
comp=Z,85nm,0.7s
FAKI Fak Fak 33.63 191 *eP* **P 02 48 30.4 +0.3**
MRSI Marisa 33.64 211 P **P 02 48 30.2 0.0**
comp=Z,62nm,1.2s,comp=Z,3μm
SEY Seymchan 33.79 11 P **P 02 48 31.7 +0.8**
comp=Z,27nm,0.9s,baz=207,slow=6.6,SNR=36
SEY ScP **ScP 02 54 01.2 -0.5**
comp=Z,0.6nm,0.3s,baz=201,slow=3.2,SNR=3.7
SEY Seymchan 33.79 11⇓ *i* P **P 02 48 32.1 +1.2**
UBPT Khong Chiam 33.82 251 P **P 02 48 32.4 +0.7**
comp=Z,59nm,1.1s
SKNT Sakonakorn 34.19 255 P **P 02 48 35.3 +0.4**
comp=Z,86nm,1.2s
NONG Nongkai 34.37 257 P **P 02 48 36.8 +0.4**
comp=Z,82nm,1.1s,comp=Z,2μm
MOY Mondy 34.89 318 *eP* **P 02 48 40.5 0.0**
MOY pmax pmax
comp=Z,15nm,2.5s
KHON Khomkaen 35.47 255 P **P 02 48 46.8 +1.2**
comp=Z,15nm,0.8s,comp=Z,2μm
PCI Palu 35.83 213 P **P 02 48 48.3 -0.4**
comp=Z,74nm,1.1s
LOEI Loei 36.22 258 P **P 02 48 48.9 -3.0**
comp=Z,67nm,1.0s
CHAI Chaiyaphum 36.38 255 P **P 02 48 53.1 -0.2**
comp=Z,34nm,0.9s,comp=Z,294nm
UTTA Uttaradit 36.71 259 P **P 02 48 55.9 -0.1**
comp=Z,16nm,0.8s,comp=Z,224nm
PBKT Sadao Pong 36.91 257 P **P 02 48 57.8 +0.2**
comp=Z,56nm,1.4s,comp=Z,815nm
LAMP Lampang 37.15 261 P **P 02 49 00.0 +0.3**
comp=Z,25nm,0.8s,comp=Z,218nm
CHTO Chiang Mai 37.61 262 P **P 02 49 03.4 0.0**
comp=Z,374nm,0.9s,comp=Z,3μm
CHTO Chiang Mai 37.61 262 *eP* **P 02 49 03.5 0.0**
CHTO pmax pmax
comp=Z,62nm,0.8s
CHTO Chiang Mai 37.61 262 *eP* **P 02 49 03.5 0.0**
comp=Z,62nm,0.8s
CHBT CHBT 37.74 250 P **P 02 49 05.4 +0.9**
comp=Z,68nm,1.1s,comp=Z,3μm
CM31 Chiang Mai Arr 37.77 261 *eP* **P 02 49 05.3 +0.6**
CMAR Chiang Mai Arr 37.77 261 P **P 02 49 05.0 +0.2**
comp=Z,15nm,0.7s,baz=58,slow=6.5,SNR=44
CMAR PcP **PcP 02 51 11.9 +0.9**
comp=Z,4.9nm,0.5s,baz=35,slow=1.1,SNR=10
CMAR ScP **ScP 02 54 18.4 +1.2**
comp=Z,2.8nm,0.7s,baz=35,slow=2.9,SNR=11
CM01 Chiang Mai Arr 37.77 261 *eP* **P 02 49 04.8 0.0**
CM01 *e*PcP **PcP 02 51 11.7 +0.6**
UMPA Umpang Tak 38.86 258 P **P 02 49 15.9 +2.1**
comp=Z,15nm,1.0s,comp=Z,1μm
KSM Kuching 39.27 228 *eP* **P 02 49 16.4 -0.6**
comp=Z,25nm,0.9s
KAPI Kappang 39.50 210 P **P 02 49 19.0 +0.1**
comp=Z,9.9nm,0.6s,baz=24,slow=7.6,SNR=7.3
KAPI PcP **PcP 02 51 17.4 +0.9**
comp=Z,11nm,0.7s,baz=114,slow=3.0,SNR=4.1
KAPI Kappang 39.50 210 *eP* **P 02 49 18.5 -0.4**
comp=Z,63nm,1.4s
KAPI PcP **PcP 02 51 17.4 +0.9**
SRDT SRDT 39.55 255 P **P 02 49 20.0 +0.7**
comp=Z,189nm,0.9s
PMG Port Moresby 40.39 167 *eP* **P 02 49 26.8 +0.7**
PMG pmax pmax
comp=Z,41nm,1.1s
PMG Port Moresby 40.39 167 *eP* **P 02 49 26.8 +0.7**
comp=Z,41nm,1.1s
BBKI Banjar Baru 40.54 218 P **P 02 49 26.9 -0.5**
comp=Z,81nm,1.1s,comp=Z,6μm
LSA Lhasa 40.79 281 *eP* **P 02 49 29.9 +0.1**
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 40.79 281 *eP* **P 02 49 29.9 +0.1**
comp=Z,19nm,0.6s
BILL Bilibino 41.09 15 *eP* **P 02 49 32.1 +1.0**
BILL pmax pmax
comp=Z,58nm,1.0s
BILL Bilibino 41.09 15 *eP* **P 02 49 32.1 +1.0**
comp=Z,58nm,1.0s
SHL Shillong 41.26 275 *eP* **P 02 49 32.5 -0.8**

KTGM Kuala Trenggan 41.58 240⇑ P **P 02 49 37.1 +1.4**
TIXI Tiksi 41.68 355 P **P 02 49 35.1 -0.5**
comp=Z,11nm,0.6s,baz=139,slow=7.0,SNR=17
TIXI Tiksi 41.68 355 *c i* P **P 02 49 35.4 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
TIXI Tiksi 41.68 355 *eP* **P 02 49 35.2 -0.5**
comp=Z,10.0nm,0.6s
SURA Surathani 41.95 248 P **P 02 49 40.4 +1.8**
comp=Z,108nm,0.7s,comp=Z,16μm
WMQ Urumqi 42.09 303 P **P 02 49 40.1 +0.6**
WMQ PMZ
comp=Z,46nm,0.6s
WMQ PMZ
comp=Z,78nm,5.2s
SOEI Soe 42.17 201 *eP* **P 02 49 39.9 -0.6**
comp=Z,58nm,0.9s
MYKOM Kota Tinggi 43.44 236 *eP* **P 02 49 51.6 +1.1**
comp=Z,28nm,1.0s
KULM Kulim 43.50 243 *eP* **P 02 49 51.0 +0.1**
comp=Z,65nm,1.2s
KULM *e*PcP **PcP 02 51 30.1 +0.2**
IPM Ipoh 43.73 241 *eP* **P 02 49 52.5 -0.2**
comp=Z,84nm,1.4s
IPM *e*PcP **PcP 02 51 31.1 +0.3**
TWSI Taliwang, Sumb 44.09 212 P **P 02 49 54.9 -0.5**
comp=Z,50nm,1.1s
COEN Coen 44.28 174 *eP* **P 02 49 56.8 -0.1**
comp=Z,16nm,0.7s
ZAA0 Zalesovo Array 44.93 318 *eP* **P 02 50 00.7 -0.8**
ZALV Zalesovo Beam 44.93 318 P **P 02 50 00.7 -0.8**
comp=Z,6.6nm,0.3s,baz=106,slow=6.5,SNR=38
ZALV PcP **PcP 02 51 33.8 -0.5**
comp=Z,11nm,0.4s,baz=115,slow=3.8,SNR=17
ZALV ScP **ScP 02 54 44.1 -1.0**
comp=Z,4.1nm,0.6s,baz=117,slow=3.6,SNR=6.5
GUN Gumba 45.72 281 *eP* **P 02 50 08.8 +0.3**
comp=Z,589nm,0.7s
MK01 Makanchi Array 45.94 307 *eP* **P 02 50 08.5 -1.0**
MK31 Makanchi Array 45.94 307 *i* P **P 02 50 09.1 -0.4**
MK31 pmax pmax
comp=Z,19nm,0.6s
MK31 Makanchi Array 45.94 307 *eP* **P 02 50 09.4 -0.1**
MKAR Makanchi Array 45.94 307 P **P 02 50 09.1 -0.4**
comp=Z,37nm,0.8s,baz=92,slow=9.5,SNR=185
MKAR ScP **ScP 02 54 48.6 -1.0**
comp=Z,2.8nm,0.8s,baz=87,slow=5.2,SNR=6.3
MKAR S **S 02 56 20.0 -1.5**
comp=Z,1.7nm,0.9s,baz=89,slow=19,SNR=5.8
MKAR Makanchi Array 45.94 307 *eP* **P 02 50 09.4 -0.1**
MKAR Makanchi Array 45.94 307 *eP* **P 02 50 09.4 -0.1**
MKAR ScP **ScP 02 54 48.6 -1.0**
MKAR S **S 02 56 20.0 -1.5**
NVS Novosibirsk 45.98 319 *eP* **P 02 50 09.0 -0.6**
NVS *e* 02 51 36.9
NVS pmax pmax
comp=Z,24nm,0.8s
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,14nm,0.7s
PWJI Pagerwojo 45.98 218 P **P 02 50 09.0 -1.1**
comp=E,73nm,0.8s
MAKZ Makanchi 46.16 307 P **P 02 50 10.6 -0.6**
MAKZ pmax pmax
comp=Z,23nm,0.8s
MAKZ Makanchi 46.16 307 *eP* **P 02 50 10.8 -0.4**
comp=Z,86nm,1.5s
PKIN Phulchoki 46.22 280 *eP* **P 02 50 11.8 -0.4**
comp=Z,66nm,0.5s
KKN Kani 46.26 281 *eP* **P 02 50 12.3 -0.2**
comp=Z,122nm,0.4s
DMN Daman 46.46 281 *eP* **P 02 50 13.8 -0.2**
comp=Z,118nm,0.4s
GKN Gorkha 46.74 281 *eP* **P 02 50 16.0 -0.1**
comp=Z,115nm,0.3s
KPJI Karang Pucung 47.02 222 P **P 02 50 17.6 -0.5**
comp=Z,95nm,1.1s
SDSI Sungai Dareh 47.06 235 P **P 02 50 19.0 +0.5**
comp=Z,39nm,1.0s,comp=Z,30μm
MNSI Mandailing Nat 47.23 239 P **P 02 50 18.8 -0.9**
comp=Z,57nm,0.9s,comp=Z,6μm
PPI Padang Panjang 47.48 237 P **P 02 50 21.2 -0.4**
comp=Z,34nm,0.9s
KOLN Koldanda 47.69 281 *eP* **P 02 50 23.5 +0.2**
comp=Z,308nm,0.7s
PDGK Podgornoye 48.07 303 P **P 02 50 25.2 -0.5**
PDGK pmax pmax
comp=Z,103nm,1.0s
PYUN Piuthan 48.11 282 *eP* **P 02 50 26.8 +0.3**
comp=Z,770nm,0.4s
KSI Kapahiang 48.19 232 P **P 02 50 26.6 -0.5**
comp=Z,85nm,0.9s
GSI Gunungsitoli 48.40 241 P **P 02 50 27.9 -0.6**
GSI Gunungsitoli 48.40 241 *eP* **P 02 50 28.1 -0.4**
comp=Z,406nm,1.2s
KURK Kurchatov 48.42 313 P **P 02 50 27.7 -0.5**
KURK 02 51 45.9
KURK S **S 02 56 53.2 -2.7**
KURK pmax pmax
comp=Z,33nm,0.6s
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK smax smax
comp=N,1.0nm,0.8s
KURK Kurchatov 48.42 313 *eP* **P 02 50 27.3 -0.9**
comp=N,285nm,1.1s
KURK PcP **PcP 02 51 45.9 -0.9**
KURK S **S 02 56 53.2 -2.7**
NRIK Noril'sk 48.45 338 P **P 02 50 28.4 +0.2**
comp=N,14nm,0.7s,baz=115,slow=10.0,SNR=10
NRIK ScP **ScP 02 54 59.0 -0.7**
comp=N,8.3nm,0.6s,baz=86,slow=2.9,SNR=6.1
NRIK S **S 02 56 54.8 -0.9**
comp=N,3.6nm,0.7s,baz=210,slow=23,SNR=17
MNAI Manna 48.47 231 *eP* **P 02 50 28.1 -0.9**
KURBB Kurchatov Arra 48.48 313 P **P 02 50 27.7 -0.9**
comp=N,33nm,0.6s,baz=92,slow=7.6,SNR=200
KURBB PcP **PcP 02 51 45.9 -1.1**
comp=N,5.0nm,0.8s,baz=92,slow=4.3,SNR=5.6
KURBB S **S 02 56 53.2 -3.5**
comp=N,1.2nm,0.8s,baz=92,slow=14,SNR=7.6
FITZ Fitzroy Crossi 49.75 196 *eP* **P 02 50 38.8 +0.3**
comp=N,19nm,0.8s
WRAB Tennant Creek 50.16 185⇓ *i* P **P 02 50 41.4 -0.1**
WRAB pmax pmax
comp=Z,100nm,0.8s
WRAB Tennant Creek 50.16 185 *eP* **P 02 50 40.9 -0.6**
comp=Z,42nm,0.8s
WB2 Warramunga Arr 50.17 185 *eP* **P 02 50 41.3 -0.3**
comp=Z,41nm,0.8s
WRA Warramunga Arr 50.17 185 P **P 02 50 41.0 -0.5**
comp=Z,34nm,0.4s,baz=1.9,slow=7.7,SNR=395
WRA PcP **PcP 02 51 54.2 +0.6**
comp=Z,9.2nm,0.7s,baz=358,slow=4.0,SNR=8.6
WRA ScP **ScP 02 55 07.1 -0.7**
comp=Z,1.8nm,0.9s,baz=2.8,slow=4.8,SNR=4.7
WRA S **S 02 57 16.6 -3.9**
comp=Z,2.2nm,0.8s,baz=12,slow=15,SNR=6.1
CTA Charters Tower 50.70 171 P **P 02 50 45.6 +0.1**
comp=Z,4.0nm,0.6s,baz=5.9,slow=5.8,SNR=4.6
CTAO Charters Tower 50.70 171 *eP* **P 02 50 45.6 +0.1**
CTAO pmax pmax
comp=Z,85nm,1.1s
CTAO Charters Tower 50.70 171 *eP* **P 02 50 45.5 +0.1**
comp=Z,85nm,1.1s
KSH Kashi 51.18 298 P **P 02 50 52.6 +3.5**
KSH PcP **PcP 02 52 00.1 +2.7**
KSH pP pP 02 52 15.6 +1.2
KSH PP **PP 02 52 55.6 +4.6**
KSH S **S 02 57 35.8 +1.5**
KSH ScS **ScS 02 59 53.5 -0.3**
KSH SS **SS 03 01 20.3 +4.2**
KSH PMZ
comp=Z,39nm,0.7s
KSH PMZ
comp=Z,97nm,3.3s
FRU Bishkek 51.67 303⇓ *i* P **P 02 50 51.5 -0.9**
FRU pmax pmax
comp=Z,57nm,1.6s
AAK Ala-Archa 51.79 302 P **P 02 50 53.4 -0.1**
comp=Z,19nm,0.5s,baz=108,slow=4.1,SNR=3.6
AAK Ala-Archa 51.79 302⇓ *i* P **P 02 50 53.3 -0.1**
AAK pmax pmax
comp=Z,50nm,0.9s
AAK Ala-Archa 51.79 302 *eP* **P 02 50 52.8 -0.7**
comp=Z,17nm,0.4s
TT01 Tatalina 52.30 32 *eP* **P 02 50 56.8 +0.2**
TTA Tatalina 52.31 32 *eP* **P 02 50 57.6 +0.8**
TTA pmax pmax
comp=Z,9.0nm,1.0s
TTA Tatalina 52.31 32 *eP* **P 02 50 57.6 +0.8**
comp=Z,9.3nm,1.0s
SVW2 Sparrevohn 52.33 34 *eP* **P 02 50 58.3 +1.4**
comp=Z,15nm,1.0s
OTUK Ortayu 52.61 310 P **P 02 50 58.7 -0.5**
OTUK pmax pmax
comp=Z,45nm,0.8s
VOSK Vostochnaya 53.14 315 *ceP* **P 02 51 01.8 -1.0**
VOSK pmax pmax
comp=Z,26nm,0.6s
VOSK Vostochnaya 53.14 315 *eP* **P 02 51 02.1 -0.7**
comp=Z,32nm,0.8s
MNAS Manas 53.26 302 P **P 02 51 03.7 -0.4**
MNAS pmax pmax
comp=Z,14nm,0.7s
BVA0 Borovoye Array 53.48 316 *i* P **P 02 51 05.0 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 53.48 316 P **P 02 51 05.0 -0.3**
comp=Z,29nm,0.5s,baz=92,slow=8.9,SNR=152
BVAR PcP **PcP 02 52 05.8 +0.1**
comp=Z,15nm,0.6s,baz=85,slow=3.4,SNR=12
BVAR ScP **ScP 02 55 20.8 -1.0**
comp=Z,1.5nm,0.5s,baz=99,slow=3.1,SNR=3.7
BVAR S **S 02 58 01.6 -2.7**
comp=Z,1.3nm,0.6s,baz=83,slow=12,SNR=4.5
BRVK Borovoye 53.54 316 *eP* **P 02 51 05.5 -0.2**
BRVK *e* 02 52 05.5
BRVK pmax pmax
comp=Z,94nm,0.8s
BRVK Borovoye 53.54 316 *eP* **P 02 51 05.5 -0.2**
comp=Z,94nm,0.8s
BRVK *e*PcP **PcP 02 52 05.5 -0.5**
RSO Redoubt South 53.68 35 *eP* **P 02 51 07.7 +0.8**
KDAK Kodiak Island 53.74 38 *ceP* **P 02 51 07.0 0.0**
KDAK Kodiak Island 53.74 38 *eP* **P 02 51 07.5 +0.5**
comp=Z,29nm,0.6s
AS01 Alice Springs 53.89 185 *eP* **P 02 51 08.0 -0.6**
AS31 Alice Springs 53.90 185 *eP* **P 02 51 08.4 -0.2**
comp=Z,14nm,0.6s
ASAR Alice Springs 53.90 185 P **P 02 51 08.5 -0.1**
comp=Z,14nm,0.5s,baz=17,slow=12,SNR=210
ASAR PcP **PcP 02 52 08.7 +1.0**
comp=Z,4.8nm,0.8s,baz=1.5,slow=4.3,SNR=6.8
ASAR ScP **ScP 02 55 23.9 0.0**
comp=Z,0.5nm,0.6s,baz=353,slow=4.4,SNR=3.3
SPU Mount Spurr 54.05 34 *eP* **P 02 51 05.8 -3.4**
PPLA Purkeypile 54.05 32 *eP* **P 02 51 10.7 +1.3**
comp=Z,20nm,0.8s
MBWA Marble Bar 54.32 202 *eP* **P 02 51 11.3 -0.3**
comp=Z,152nm,0.6s
ZRNK Zerenda 54.32 316 P **P 02 51 10.5 -0.7**
ZRNK pmax pmax
comp=Z,18nm,0.6s
ZRNK Zerenda 54.32 316 *eP* **P 02 51 10.9 -0.3**
comp=Z,22nm,0.6s
KK31 Karatay Array 54.60 304 P **P 02 51 13.1 -0.3**
KK31 pmax pmax
comp=Z,27nm,0.5s
BRLK Bradley Lake 54.61 36 *eP* **P 02 51 13.3 0.0**
comp=Z,31nm,0.8s
BPAW Bear Paw Mtn. 54.65 30 *eP* **P 02 51 14.7 +1.3**
comp=Z,11nm,1.0s
KTH Kantishna Hill 54.65 31 *eP* **P 02 51 14.6 +1.0**
comp=Z,28nm,1.5s
SUA Susitna One 54.68 34 *eP* **P 02 51 14.3 +0.4**
comp=Z,17nm,0.8s
MLY Manley 54.80 29 *eP* **P 02 51 14.1 -0.4**
comp=Z,15nm,1.0s
TRF Thorofare Moun 54.94 31 *eP* **P 02 51 16.2 +0.6**
comp=Z,18nm,1.4s
COLD Coldfoot 55.16 27 *eP* **P 02 51 18.3 +1.3**
comp=Z,6.5nm,1.2s
RC01 Rabbit Creek A 55.17 34 *eP* **P 02 51 17.5 +0.4**
comp=Z,23nm,0.8s
SEW Seward 55.33 35 *eP* **P 02 51 18.6 +0.4**
comp=Z,32nm,0.8s
PMR Palmer 55.46 34 *eP* **P 02 51 19.4 +0.3**
PMR pmax pmax
comp=Z,32nm,1.0s
PMR Palmer 55.46 34 *eP* **P 02 51 19.4 +0.3**
comp=Z,32nm,1.0s
MCK McKinley 55.55 31 *eP* **P 02 51 20.0 +0.3**
MCK pmax pmax
comp=Z,29nm,1.0s
MCK McKinley 55.55 31 *eP* **P 02 51 20.0 +0.3**
comp=Z,29nm,1.0s
HYB Hyderabad 55.77 271 *i* P **P 02 51 22.0 -0.1**
SML Sawmill 55.83 33 *eP* **P 02 51 22.6 +0.8**
SML pmax pmax
comp=Z,37nm,1.0s
SML Sawmill 55.83 33 *eP* **P 02 51 22.6 +0.8**
comp=Z,37nm,1.0s
MDM Murphy Dome 55.87 29 *eP* **P 02 51 22.6 +0.6**
comp=Z,31nm,1.4s
WRH Wood River Hil 55.92 30 *eP* **P 02 51 23.0 +0.7**
comp=Z,5.8nm,0.8s
COLA College 56.03 30⇓ *i* P **P 02 51 24.2 +1.2**
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 56.03 30 *eP* **P 02 51 24.0 +1.0**
comp=Z,3.9nm,0.8s
CCB Clear Creek Bu 56.05 30 *eP* **P 02 51 24.5 +1.3**
comp=Z,4.6nm,0.7s
SCM Sheep Creek Mo 56.31 33 *eP* **P 02 51 26.3 +1.1**
SCM pmax pmax
comp=Z,49nm,0.9s
SCM Sheep Creek Mo 56.31 33 *eP* **P 02 51 26.3 +1.1**
comp=Z,49nm,0.9s
IL1 Eielson Array 56.44 30 *eP* **P 02 51 25.2 -0.7**
ILAR Eielson Array 56.44 30 P **P 02 51 25.4 -0.5**
comp=Z,3.0nm,0.7s,baz=267,slow=4.8,SNR=35
ILAR pP **pP 02 52 53.6 +0.2**
comp=Z,1.2nm,1.0s,baz=253,slow=8.1,SNR=3.1
ILAR ScP **ScP 02 55 32.9 -1.6**
comp=Z,0.3nm,0.7s,baz=275,slow=4.2,SNR=3.7
ILAR PKP2bc 03 21 30.1
comp=Z,0.3nm,0.8s,baz=84,slow=2.1,SNR=4.3
ILB Eielson Array 56.44 30 *eP* **P 02 51 25.7 -0.2**
KLU Klutina 57.00 34 *eP* **P 02 51 31.1 +1.2**
comp=Z,24nm,1.0s
DIV Divide 57.09 34 *eP* **P 02 51 31.0 +0.5**
comp=Z,18nm,0.8s
PAX Paxson 57.12 32 *eP* **P 02 51 31.8 +1.0**
PAX pmax pmax
comp=Z,10.0nm,0.8s
PAX Paxson 57.12 32 *eP* **P 02 51 31.8 +1.0**
comp=Z,9.9nm,0.8s
BMRM Bremner River 57.67 34 *eP* **P 02 51 35.9 +1.3**
comp=Z,37nm,0.8s
DOT Dot Lake 57.72 31 *eP* **P 02 51 34.8 0.0**
comp=Z,50nm,0.8s
KBL Kabul 57.73 294 *eP* **P 02 51 35.3 -0.4**
KBL pmax pmax
comp=Z,33nm,0.9s
KBL Kabul 57.73 294 *eP* **P 02 51 35.3 -0.4**
comp=Z,33nm,0.9s
MENT Mentasta 57.92 32 *eP* **P 02 51 37.4 +1.2**
comp=Z,31nm,1.2s
CRQM Cirque 58.41 34 *eP* **P 02 51 40.9 +1.2**
comp=Z,30nm,1.2s
DZM Mont Dzumac 58.62 149 P **P 02 51 43.0 +1.4**
comp=Z,10nm,0.6s,baz=3.8,slow=4.5,SNR=8.0
DZM Mont Dzumac 58.62 149 *eP* **P 02 51 41.7 +0.1**
comp=Z,14nm,0.8s
PALK Pallekele 58.68 259 P **P 02 51 42.1 -0.1**
comp=Z,22nm,0.7s,baz=118,slow=1.9,SNR=11
PALK Pallekele 58.68 259 P **P 02 51 42.5 +0.4**
PALK Pallekele 58.68 259 *eP* **P 02 51 42.0 -0.1**
PALK pmax pmax
comp=Z,29nm,0.8s
PALK Pallekele 58.68 259 *eP* **P 02 51 42.0 -0.1**
comp=Z,30nm,0.8s
SVE Sverdlovsk 58.69 321⇑ *eP* **P 02 51 41.5 0.0**
SVE pmax pmax
comp=Z,29nm,0.6s
BALM Baldy 58.76 34 *eP* **P 02 51 42.9 +0.8**
BALM pmax pmax
comp=Z,8.0nm,0.7s
BALM Baldy 58.76 34 *eP* **P 02 51 42.9 +0.8**
comp=Z,8.0nm,0.7s
EGAK Eagle 58.89 30 *eP* **P 02 51 43.1 +0.4**

comp=Z,4.1nm,0.6s
ARU Arti 59.88 321 P **P** 02 51 49.2 -0.4
comp=Z,34nm,0.4s,baz=91,slow=3.5,SNR=66
ARU Arti 59.88 321*d* iP **P** 02 51 48.9 -0.6
ARU 02 52 29.9
ARU *PP **pP** 02 53 18.1 -0.2
ARU 02 54 05.4
ARU S **S** 02 59 26.7 -0.4
ARU SS **SS** 03 03 28.6 -3.0
ARU pmax pmax
comp=Z,77nm,1.0s
ARU Arti 59.88 321 *e*P **P** 02 51 49.0 -0.6
comp=Z,56nm,0.7s
ARU *e*PcP **PcP** 02 52 29.8 -1.0
ABKAR Akbulak array 60.53 312 *e*P **P** 02 51 53.5 -0.6
comp=Z,61nm,0.5s
INK Inuvik 61.42 25 P **P** 02 51 59.5 -0.1
comp=Z,4.3nm,0.5s,baz=276,slow=4.6,SNR=16
INK Inuvik 61.42 25 *e*P **P** 02 51 59.5 -0.1
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 61.42 25 *e*P **P** 02 51 59.5 -0.1
comp=Z,4.7nm,0.6s
AKTO Aktyubinsk 61.47 314 P **P** 02 51 59.7 -0.5
comp=Z,38nm,0.6s,baz=76,slow=14,SNR=34
AKTO S **S** 02 59 45.5 -1.7
comp=Z,3.1nm,0.8s,baz=49,slow=20,SNR=6.2
AKTO Aktyubinsk 61.47 314 P **P** 02 51 59.6 -0.6
AKTO pmax pmax
comp=Z,49nm,0.8s
STKA Stephens Creek 61.96 177 P **P** 02 52 03.9 +0.3
comp=Z,24nm,0.6s,baz=350,slow=7.2,SNR=51
STKA Stephens Creek 61.96 177 *e*P **P** 02 52 04.0 +0.5
STKA pmax pmax
comp=Z,6.0nm,0.7s
STKA Stephens Creek 61.96 177 *e*P **P** 02 52 04.0 +0.5
comp=Z,5.8nm,0.7s
BBOO Buckleboo 62.87 182 *e*P **P** 02 52 09.9 +0.4
comp=Z,24nm,0.7s
GEYT Alibeck 65.06 301 P **P** 02 52 23.8 +0.1
comp=Z,17nm,0.9s,baz=55,slow=5.6,SNR=10
DLBC Dease Lake 65.40 35 P **P** 02 52 26.7 +1.2
comp=Z,4.1nm,0.7s,baz=274,slow=6.6,SNR=5.9
DLBC Dease Lake 65.40 35 *e*P **P** 02 52 27.4 +1.9
comp=Z,12nm,1.1s
NWAO Narrogin (SRO) 66.09 200 P **P** 02 52 29.9 -0.1
comp=Z,40nm,0.6s,baz=255,slow=6.4,SNR=25
NWAO Narrogin (SRO) 66.09 200 P **P** 02 52 30.0 -0.1
KLMR Klimovskoe 68.15 329 *e*P **P** 02 52 39.1 -3.4
KLMR *e* 02 53 03.3
KLMR pmax pmax
comp=Z,21nm,0.7s
BBB Bella Bella 68.59 41 P **P** 02 52 45.5 +0.3
comp=Z,10nm,1.0s,baz=298,slow=3.3,SNR=4.1
KEV Kevo 68.84 340 *e*P **P** 02 52 46.5 0.0
KEV pmax pmax
comp=Z,23nm,1.0s
KEV Kevo 68.84 340 *e*P **P** 02 52 46.5 0.0
comp=Z,23nm,1.0s
ARA0 ARCESS Array S 69.40 340 *e*P **P** 02 52 50.1 +0.1
ARCES ARCESS Array B 69.40 340 P **P** 02 52 50.2 +0.2
comp=Z,12nm,0.5s,baz=69,slow=8.3,SNR=119
ARE0 ARCESS Array S 69.40 340 *e*P **P** 02 52 50.1 +0.1
comp=Z,16nm,0.8s
RES Resolute Bay 69.64 13 P **P** 02 52 51.7 +0.4
comp=Z,3.3nm,0.6s,baz=298,slow=2.4,SNR=6.9
RES Resolute Bay 69.64 13 *e*P **P** 02 52 51.4 +0.1
RES pmax pmax
comp=Z,4.0nm,0.6s
RES Resolute Bay 69.64 13 *e*P **P** 02 52 51.4 +0.1
comp=Z,3.7nm,0.6s
WSAR Wadi Sarin 70.32 286 P **P** 02 52 56.3 -0.1
comp=Z,14nm,0.9s,baz=87,slow=6.3,SNR=5.4
YKA Yellowknife Ar 70.80 28 P **P** 02 52 58.4 +0.1
comp=Z,4.8nm,0.7s,baz=296,slow=5.9,SNR=44
YKA pP **pP** 02 54 32.0 +1.2
comp=Z,1.2nm,0.9s,baz=292,slow=6.0,SNR=3.9
VRH Novokhopyorsk 70.95 319 *e*P **P** 02 52 58.9 -0.6
VRH pmax pmax
comp=Z,70nm,0.8s
MOS Moscow 71.20 324 *e*P **P** 02 52 59.2 -1.7
MOS pmax pmax
comp=Z,54nm,1.2s
UOSS Minazif 71.60 289 *e*P **P** 02 53 03.9 0.0
comp=Z,1.3nm,0.9s
HATD Hatta, Dubai 71.71 288 *i* P **P** 02 53 04.5 -0.1
SNR=9.2
ASHO Ashiyiah 71.83 288 *i* P **P** 02 53 05.3 0.0
SNR=5.4
LPSR Galich'ya Gora 71.91 321 *e*P **P** 02 53 04.8 -0.3
LPSR pmax pmax
comp=Z,40nm,0.9s
OBN Obninsk 72.02 324*c* iP **P** 02 53 05.6 -0.1
OBN *e* 02 53 19.5
OBN *e*PP **pP** 02 54 40.0 +1.4
OBN *e* 02 55 51.6
OBN pmax pmax
comp=Z,46nm,0.9s
OBN Obninsk 72.02 324 *e*P **P** 02 53 05.8 0.0
comp=Z,37nm,0.8s
FAQ Al Faqa, Dubai 72.19 289 *i* P **P** 02 53 06.9 -0.4
SNR=6.6
VSR Storozhevoye 72.39 319 *e*P **P** 02 53 07.4 -0.6
VSR pmax pmax
comp=Z,80nm,0.9s
DGRG David-gareji 72.79 308 P **P** 02 53 10.9 +0.3
DGRG David-gareji 72.79 308 P **P** 02 53 10.9 +0.3
GUDG Gudauri 72.96 309 P **P** 02 53 12.8 +1.0
NCK Nalchik 73.10 311⇑ *e*P **P** 02 53 12.1 -0.2
NCK pmax pmax
comp=Z,20nm,0.8s
TBLG Delisi 73.10 309 P **P** 02 53 12.4 0.0
TBLG Delisi 73.10 309 P **P** 02 53 12.4 0.0
ZEI Tsey 73.20 310 *e*P **P** 02 53 11.4 -1.8
ZEI pmax pmax
comp=Z,61nm,0.6s
KBZ Khabaz 73.45 311 P **P** 02 53 14.4 +0.2
comp=Z,55nm,0.8s,baz=87,slow=3.5,SNR=57
KVAR Kislovodsk Arr 73.48 311 P **P** 02 53 14.5 -0.1
comp=Z,29nm,0.8s,baz=32,slow=5.7,SNR=15
KIV Kislovodsk 73.49 311 *i* P **P** 02 53 14.7 +0.1
SNR=14
KIV Kislovodsk 73.49 311 *e*P **P** 02 53 14.6 0.0
KIV pmax pmax
comp=Z,66nm,1.1s
KIV Kislovodsk 73.49 311 *e*P **P** 02 53 14.8 +0.1
comp=Z,49nm,0.8s
ONI Oni 73.59 310 P **P** 02 53 16.0 +0.8
ONI Oni 73.59 310 P **P** 02 53 16.0 +0.8
FIA1 FINESS Array S 73.60 332 *e*P **P** 02 53 14.6 -0.1
comp=Z,52nm,1.1s
FINES FINESS Array B 73.60 332 P **P** 02 53 14.3 -0.5
comp=Z,19nm,0.4s,baz=68,slow=5.3,SNR=235
NEY Neytrino 73.78 311⇑ *e*P **P** 02 53 16.7 +0.3
NEY pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 73.79 307 P **P** 02 53 16.8 +0.3
comp=Z,5.8nm,0.4s,baz=166,slow=3.7,SNR=7.6
GNI Garni 73.79 307*d* iP **P** 02 53 17.1 +0.6
GNI pmax pmax
comp=Z,62nm,1.0s
GNI Garni 73.79 307 *e*P **P** 02 53 17.2 +0.7
comp=Z,40nm,1.2s
BGD Bogdanovka 74.08 309 P **P** 02 53 19.3 +1.1
VSU Vasula 74.98 330⇑ iP **P** 02 53 22.9 +0.2
VSU pmax pmax
comp=Z,88nm,0.9s
DAGI Agillar 75.30 309 *i* P **P** 02 53 25.0 +0.1
B08A Colville Reser 75.32 42 *e*P **P** 02 53 26.1 +1.2
comp=Z,8.5nm,0.9s
DBOC Borcka 75.34 309 *i* P **P** 02 53 25.2 +0.1
DBAD Bademkaya 75.47 309 *i* P **P** 02 53 26.2 +0.3
SOC Sochi 75.57 312*d* iP **P** 02 53 25.6 -0.7
SOC *e*SP **sP** 02 55 42.5 -2.7
SOC *e*S **S** 03 02 30.4 -1.0
SOC *e*SS **SS** 03 07 37.7 +5.1
SOC pmax pmax
comp=Z,46nm,0.7s
ANN Anapa 76.43 314 *e*P **P** 02 53 29.9 -1.1
ANN pmax pmax
comp=Z,95nm,1.0s
NEW Newport 76.64 42 P **P** 02 53 33.0 +0.8
comp=Z,6.8nm,0.7s,baz=300,slow=6.7,SNR=7.2
NEW Newport 76.64 42 *e*P **P** 02 53 33.4 +1.1
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 76.64 42 *e*P **P** 02 53 33.4 +1.1
comp=Z,8.1nm,0.8s
NACGM Naroch 76.97 327 *e* **P** 02 53 34.0 +0.2
K05A Summer Lake 77.11 48 *e*P **P** 02 53 36.8 +1.6
comp=Z,13nm,0.9s
SUMG Summit 77.32 359 *e*P **P** 02 53 36.2 +0.2
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 77.32 359 *e*P **P** 02 53 36.2 +0.2
comp=Z,5.3nm,0.8s
KELT Kelkit 77.52 309 *i* P **P** 02 53 36.9 -0.5
MARD Mardin 77.84 306 *i* P **P** 02 53 39.0 -0.1
WALA Waterton Lakes 78.04 40 *e*P **P** 02 53 41.4 +1.4
comp=Z,8.7nm,0.6s
AKASG Malin Array Be 78.09 322 P **P** 02 53 39.2 -0.8
comp=Z,9.2nm,0.3s,baz=51,slow=5.9,SNR=86
AKASG pP **pP** 02 55 19.1 +4.5
comp=Z,1.3nm,0.5s,baz=55,slow=5.1,SNR=3.0
KIEV Kiev 78.10 322*d* iP **P** 02 53 39.4 -0.7
KIEV pmax pmax
comp=Z,21nm,0.8s
KIEV Kiev 78.10 322 *e*P **P** 02 53 39.2 -0.9
comp=Z,29nm,0.6s
BSMT Bassoo Peak 78.20 41 *e*P **P** 02 53 42.4 +1.5
SWMT Swartz Lake 78.83 41 *e*P **P** 02 53 45.3 +1.0
SAMS Samsun-Alacam 78.94 311 *i* P **P** 02 53 44.9 +0.1
NC405 NORSAR Array S 79.16 337 *e*P **P** 02 53 45.6 0.0
SUW Suwalki 79.19 327 *e*P **P** 02 53 45.7 -0.2
SUW Suwalki 79.19 327 *e*P **P** 02 53 45.7 -0.2
NC303 NORSAR Array S 79.20 337 *e*P **P** 02 53 45.7 -0.1
TOKA Tokat 79.27 310 *i* P **P** 02 53 46.8 +0.2
AKCD Akcadag 79.33 308 *i* P **P** 02 53 47.6 +0.5
NB201 NORSAR Array S 79.35 337 *e*P **P** 02 53 46.4 -0.3
NC204 NORSAR Array S 79.37 337 *e*P **P** 02 53 46.8 +0.1
NB2 NORSAR Subarra 79.38 337 P **P** 02 53 46.3 -0.5
comp=Z,19nm,0.7s,baz=44,slow=5.3
NB2 NORSAR Subarra 79.38 337 P **P** 02 53 46.3 -0.5
baz=44,slow=5.3
NOA NORSAR Array B 79.38 337 P **P** 02 53 46.4 -0.4
comp=Z,16nm,0.7s,baz=45,slow=5.0,SNR=65
HAVZ Havza 79.39 311 *i* P **P** 02 53 48.1 +0.9
NBO02 NORSAR Array S 79.50 337 *e*P **P** 02 53 47.0 -0.5
NBO00 NORSAR Array S 79.54 337 *e*P **P** 02 53 47.4 -0.2
NAO01 NORSAR Array S 79.64 337 *e*P **P** 02 53 47.6 -0.5
BOYT Boyabat 79.73 312 *i* P **P** 02 53 49.1 0.0
CMB Columbia Colle 79.78 52 *e*P **P** 02 53 50.5 +1.1
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 79.78 52 *e*P **P** 02 53 50.5 +1.1
comp=Z,4.8nm,0.9s
MFID Camas Ranch 79.95 45 *e*P **P** 02 53 51.6 +1.3
comp=Z,3.7nm,0.7s
SORM Soroca 80.00 320⇑ iP **P** 02 53 49.8 -0.5
SORM Soroca 80.00 320 ⇑P **P** 02 53 49.8 -0.5
GZT Gaziantep 80.05 307 *i* P **P** 02 53 51.1 +0.1
COAL Corum-Alaca 80.29 311 *i* P **P** 02 53 52.4 +0.2
LRM Limekiln Ridge 80.65 42 *e*P **P** 02 53 55.0 +0.9
LRM epP **pP** 02 55 31.7 +2.3
ILGA Ilgaz 80.69 312 *i* P **P** 02 53 54.7 +0.3
HLID Hailey 80.73 45 *e*P **P** 02 53 56.0 +1.5
comp=Z,2.1nm,0.8s
DLMT Dillon 80.82 43 *e*P **P** 02 53 55.9 +1.0
comp=Z,7.5nm,0.8s
CDAG Cicekdag 81.02 311 *i* P **P** 02 53 56.3 +0.3
ELDT Eldivan 81.17 312 *i* P **P** 02 53 56.4 -0.5
BOZ Bozeman (W) 81.22 42 *e*P **P** 02 53 58.3 +1.3
BOZ pmax pmax
comp=Z,6.0nm,0.7s
BOZ Bozeman (W) 81.22 42 *e*P **P** 02 53 58.3 +1.3
comp=Z,6.2nm,0.7s
TLCR 81.41 318⇑ iP **P** 02 53 57.9 +0.2
TLCR 81.41 318 ⇑P **P** 02 53 57.9 +0.2
BR131 Keskin Array S 81.44 311 *e*P **P** 02 53 58.1 -0.2
BRTR Keskin Array B 81.44 311 P **P** 02 53 58.0 -0.2
comp=Z,34nm,0.8s,baz=100,slow=4.0,SNR=76
PRAR RASCA 81.62 321⇑ iP **P** 02 53 58.5 -0.3
YAYL Yayladag 81.73 307 *i* P **P** 02 53 58.1 -1.6
CFR Carcaliu 81.81 318⇑ iP **P** 02 53 59.9 +0.1
CFR Carcaliu 81.81 318 ⇑P **P** 02 53 59.9 +0.1
BCAM Yenicaga 81.87 313 *i* P **P** 02 53 59.5 -0.8
BBAL Bala 81.88 311 *i* P **P** 02 53 59.9 -0.5
TESR Tescani 81.88 320⇑ iP **P** 02 54 00.4 +0.2
ANTO Ankara 81.92 312 *e*P **P** 02 54 01.0 +0.5
ANTO pmax pmax
comp=Z,34nm,0.8s
ANTO Ankara 81.92 312 *e*P **P** 02 54 01.0 +0.5
comp=Z,34nm,0.8s
AKSY AKSARAY - Alti 81.94 310 *i* P **P** 02 54 00.5 -0.3
BR231 Keskin MP Arra 81.94 312 *e*P **P** 02 54 01.2 +0.5
BUR08 Bucovina Ar. S 82.01 321 *e*P **P** 02 54 01.0 0.0
BURAR Bucovina Array 82.02 321⇑ iP **P** 02 54 01.4 +0.4
BURAR Bucovina Array 82.02 321 ⇑P **P** 02 54 01.4 +0.4
TIRR Tirgusor 82.06 317⇑ iP **P** 02 54 00.9 -0.2
TIRR Tirgusor 82.06 317 ⇑P **P** 02 54 00.9 -0.2
TIRR Tirgusor 82.06 317 *e*P **P** 02 54 00.6 -0.5
comp=Z,25nm,0.9s
ODBI Odbesti 82.09 319⇑ iP **P** 02 54 01.6 +0.4
KWP Kalwaria Pacla 82.11 324 *e*P **P** 02 54 01.3 0.0
KWP Kalwaria Pacla 82.11 324⇑ iP **P** 02 54 01.9 +0.6
KWP Kalwaria Pacla 82.11 324 ⇑P **P** 02 54 01.9 +0.6
HARR Harsova 82.21 318⇑ iP **P** 02 54 02.1 +0.3
HARR Harsova 82.21 318 ⇑P **P** 02 54 02.1 +0.3
KKUL Konya-Kulu 82.21 311 *i* P **P** 02 54 01.4 -0.7
VRI Vrincioaia 82.22 319⇑ iP **P** 02 54 02.5 +0.6
VRI Vrincioaia 82.22 319 ⇑P **P** 02 54 02.5 +0.6
GCMT Greycliff 82.26 41 *e*P **P** 02 54 03.6 +1.3
PLOR Plostina 82.27 319⇑ iP **P** 02 54 02.6 +0.4
PLOR Plostina 82.27 319 ⇑P **P** 02 54 02.6 +0.4
GRER 82.36 319⇑ iP **P** 02 54 04.3 +1.7
H17A Grant Village 82.55 42 *e*P **P** 02 54 07.2 +3.2
comp=Z,9.8nm,0.8s
MSAB Mosastry St. A 82.62 317⇑ iP **P** 02 54 04.6 +0.7
IMW Indian Meadow 82.63 43 *e*P **P** 02 54 05.8 +1.4
comp=Z,5.1nm,0.9s
PGOR Pogoanele 82.63 318⇑ iP **P** 02 54 05.2 +1.2
BTAS Taskesti 82.68 313 *i* P **P** 02 54 04.2 -0.2
FXWY Fox Creek 82.73 43 *e*P **P** 02 54 06.3 +1.5
comp=Z,2.1nm,0.8s
HVU Hansel Valley 82.73 46 *e*P **P** 02 54 06.5 +1.7
HVU pmax pmax
comp=Z,5.0nm,0.8s
HVU Hansel Valley 82.73 46 *e*P **P** 02 54 06.5 +1.7
comp=Z,5.2nm,0.8s
ISR Istrita 82.76 319⇑ iP **P** 02 54 05.7 +1.0
ISR Istrita 82.76 319 ⇑P **P** 02 54 05.7 +1.0
KOLS Kolonicke sedl 82.77 323 *e*P **P** 02 54 04.5 -0.2
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 82.77 323 *e*P **P** 02 54 04.5 -0.2
ARCR ARCALIA 82.81 321⇑ iP **P** 02 54 06.0 +1.1
MOOW Moose Ponds 82.83 43 *e*P **P** 02 54 07.0 +1.7
comp=Z,1.8nm,0.8s
R11A Troy Canyon, C 82.84 50 *e*P **P** 02 54 06.4 +1.0
comp=Z,2.6nm,0.9s
R11A epP **pP** 02 55 43.9 +2.6
KIZK Mersin 82.84 308 *i* P **P** 02 54 04.3 -0.9
TPAW Teton Pass 82.86 43 *e*P **P** 02 54 07.3 +1.8
comp=Z,3.6nm,0.6s
MLR Muntele Rosu 82.88 319⇑ iP **P** 02 54 05.6 +0.2
MLR Muntele Rosu 82.88 319 ⇑P **P** 02 54 05.6 +0.2
MLR Muntele Rosu 82.88 319 *e*P **P** 02 54 04.9 -0.6
comp=Z,15nm,0.8s
RLMT Red Lodge 82.88 41 *e*P **P** 02 54 06.8 +1.2
comp=Z,5.4nm,0.7s
KAND Kocaeli-Kandir 82.89 314 *i* P **P** 02 54 04.9 -0.5
BMR Baia Mare 82.91 322⇑ iP **P** 02 54 06.3 +0.9
BMR Baia Mare 82.91 322 ⇑P **P** 02 54 06.3 +0.9
DOPR Dopca 82.91 320⇑ iP **P** 02 54 06.6 +1.2
UZH Uzhgorod 82.95 323⇓ iP **P** 02 54 05.5 0.0
STHS Stebnicka Huta 82.99 324 *e*P **P** 02 54 06.6 +0.8
STHS pmax pmax
comp=Z,7.0nm,0.7s
STHS Stebnicka Huta 82.99 324 *e*P **P** 02 54 06.6 +0.8
BGU Big Grassy Mou 83.05 46 *e*P **P** 02 54 07.9 +1.5
comp=Z,2.7nm,0.7s
SECR 83.08 319⇑ iP **P** 02 54 07.2 +0.9
KDHN Kadinhani 83.09 311 *i* P **P** 02 54 05.6 -1.0
TPNV Topopah Spring 83.16 51 *e*P **P** 02 54 07.8 +0.7
TPNV *e*PP **pP** 02 55 44.4 +1.3
TPNV pmax pmax
comp=Z,8.0nm,0.8s
TPNV Topopah Spring 83.16 51 *e*P **P** 02 54 07.8 +0.7
comp=Z,8.1nm,0.8s
TPNV *e*pP **pP** 02 55 44.4 +1.3
ASF Jabal al Asfar 83.19 303 P **P** 02 54 07.3 +0.1
comp=Z,21nm,0.9s,baz=3.2,slow=6.2,SNR=8.7
OJC Ojcow 83.20 325 *e*P **P** 02 54 06.5 -0.3
OJC Ojcow 83.20 325 *e*P **P** 02 54 06.5 -0.3
OJC pmax pmax
comp=Z,17nm,1.1s
OJC Ojcow 83.20 325 *e*P **P** 02 54 06.5 -0.3
comp=Z,17nm,1.1s
CRVS Cervenica-Dubn 83.21 324 *e*P **P** 02 54 06.6 -0.3
CRVS Cervenica-Dubn 83.21 324 *e*P **P** 02 54 06.6 -0.3
PRD Provadia 83.39 317 *e*P **P** 02 54 07.7 -0.1
VOIR 83.42 319⇓ iP **P** 02 54 08.9 +0.8
VOIR 83.42 319 ⇓P **P** 02 54 08.9 +0.8
NIE Niedzica 83.47 325 *e*P **P** 02 54 07.8 -0.3
NIE Niedzica 83.47 325 *e*P **P** 02 54 07.8 -0.3
HWUT Hardware Ranch 83.57 45 *e*P **P** 02 54 10.6 +1.6
comp=Z,9.1nm,0.8s
HWUT epP **pP** 02 55 47.0 +1.8
ERMK Ermenek 83.59 309 *i* P **P** 02 54 07.7 -1.6
DUG Dugway, Tooele 83.60 47 *e*P **P** 02 54 10.3 +1.1
DUG *e*PP **pP** 02 55 46.5 +1.2
DUG pmax pmax
comp=Z,5.0nm,0.7s
DUG Dugway, Tooele 83.60 47 *e*P **P** 02 54 10.3 +1.1
comp=Z,5.5nm,0.7s
DUG epP **pP** 02 55 46.5 +1.2
GSC Goldstone, Bar 83.67 53 *e*P **P** 02 54 10.6 +1.0
GSC *e*PP **pP** 02 55 48.4 +2.7
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC Goldstone, Bar 83.67 53 *e*P **P** 02 54 10.6 +1.0
comp=Z,6.4nm,0.9s
GSC epP **pP** 02 55 48.4 +2.7
ARR Arges 83.70 320⇑ iP **P** 02 54 10.1 +0.6
FRB Frobisher Bay 83.79 12 P **P** 02 54 09.5 +0.1
comp=Z,2.3nm,0.3s,baz=298,slow=5.7,SNR=4.9
MMAI Mount Meron Ar 83.81 305 P **P** 02 54 10.4 +0.1
comp=Z,14nm,0.6s,baz=54,slow=7.3,SNR=27
DRGR 83.88 322⇓ iP **P** 02 54 10.0 -0.3
DRGR 83.88 322 ⇓P **P** 02 54 10.0 -0.3
TCUT Toone Canyon 83.95 46 *e*P **P** 02 54 12.5 +1.4
comp=Z,11nm,0.7s
KECS Kecovo 83.97 324 *e*P **P** 02 54 10.9 +0.2
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 83.97 324 *e*P **P** 02 54 10.8 +0.1
LANS Liptovska Anna 84.06 325 *e*P **P** 02 54 11.5 +0.3
LANS Liptovska Anna 84.06 325 *e*P **P** 02 54 11.4 +0.3
BW06 Boulder Array 84.11 43 *e*P **P** 02 54 11.9 +0.2
PDAR Pinedale Array 84.11 43 P **P** 02 54 12.1 +0.3
comp=Z,1.7nm,0.8s,baz=298,slow=3.2,SNR=11
PDAR pP **pP** 02 55 47.6 -0.4
comp=Z,1.5nm,0.9s,baz=295,slow=4.2,SNR=3.7
LOT Lotru 84.13 320⇑ iP **P** 02 54 12.1 +0.4
SHPR Sheep Range 84.13 51 *e*P **P** 02 54 13.3 +1.4
comp=Z,3.7nm,0.9s
SZH Strazhica 84.22 317 *e*P **P** 02 54 12.0 0.0
CSS Mathiatis 84.22 307 *e*P **P** 02 54 11.4 -0.8
comp=Z,5.7nm,0.9s
JLU Jordanelle 84.22 46 *e*P **P** 02 54 13.8 +1.4
comp=Z,4.9nm,0.8s
OKC Ostrava-Krasne 84.25 326 *e*P **P** 02 54 11.8 -0.2
OKC Ostrava-Krasne 84.25 326 *e*P **P** 02 54 11.8 -0.2
KSP Ksiaz 84.46 327 *e*P **P** 02 54 12.4 -0.6
KSP Ksiaz 84.46 327 *e*P **P** 02 54 12.4 -0.6
GDZ Gediz 84.48 312 *i* P **P** 02 54 12.3 -1.3
MORC Moravsky Berou 84.59 326⇑ iP **P** 02 54 13.8 0.0
MORC Moravsky Berou 84.59 326 ⇑P **P** 02 54 13.8 0.0
MORC Moravsky Berou 84.59 326 *e*P **P** 02 54 13.5 -0.2
comp=Z,20nm,0.8s
PSZ Piszkesteto 84.64 324 *e*P **P** 02 54 13.0 -1.1
PSZ pmax pmax
comp=Z,5.0nm,0.7s
PSZ Piszkesteto 84.64 324 *e*P **P** 02 54 13.0 -1.1
comp=Z,4.5nm,0.7s
DPC Dobruska-Polom 84.78 327 *e*P **P** 02 54 14.6 -0.1
DPC Dobruska-Polom 84.78 327 *e*P **P** 02 54 14.6 -0.1
VYHS Vyhne 84.80 325 *e*P **P** 02 54 14.4 -0.4
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 84.80 325 *e*P **P** 02 54 14.4 -0.4
UPC Upice 84.82 327 *e*P **P** 02 54 14.6 -0.2
UPC Upice 84.82 327 *e*P **P** 02 54 14.6 -0.2
PFO Pinyon Flats O 84.82 54 *e*P **P** 02 54 16.3 +0.9
PFO *e*PP **pP** 02 55 52.8 +1.0
PFO pmax pmax
comp=Z,7.0nm,0.9s
PFO Pinyon Flats O 84.82 54 *e*P **P** 02 54 16.3 +0.9
comp=Z,6.8nm,0.9s
PFO epP **pP** 02 55 52.8 +1.0
DEMI Demirci 84.99 313 *i* P **P** 02 54 12.1 -3.9
LCMT Little Creek M 85.12 50 *e*P **P** 02 54 18.2 +1.4
comp=Z,2.7nm,0.8s
BZS Buzias 85.21 321⇑ iP **P** 02 54 16.0 -0.8
BZS Buzias 85.21 321 ⇑P **P** 02 54 16.0 -0.8
MTPU Mount Pierson 85.23 48 *e*P **P** 02 54 19.2 +1.7
comp=Z,2.9nm,0.8s
MTPU epP **pP** 02 55 56.6 +2.5
KNB Kanab 85.40 50 *e*P **P** 02 54 19.9 +1.7
KNB *e*PP **pP** 02 55 57.3 +2.5
KNB pmax pmax
comp=Z,5.0nm,0.8s
KNB Kanab 85.40 50 *e*P **P** 02 54 19.9 +1.7
comp=Z,4.7nm,0.8s
KNB epP **pP** 02 55 57.2 +2.5
MPEP Malo Peshtene 85.43 318 *e*P **P** 02 54 17.3 -0.7
PVCC Panska Ves 85.47 328 *e*P **P** 02 54 17.9 -0.1
PVCC Panska Ves 85.47 328 *e*P **P** 02 54 17.9 -0.1
BRG Berggiesshubel 85.52 328 *e*P **P** 02 54 17.4 -0.9
comp=Z,7.8nm,0.9s
BRG Berggiesshubel 85.52 328 *e*P **P** 02 54 17.4 -0.8
BRG pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 85.63 329⇑ iP **P** 02 54 17.7 -1.1
comp=Z,11nm,1.0s
CLL *i* 02 54 21.7
CLL *e*S **S** 03 04 13.0 -1.1
CLL Collm 85.63 329⇑ iP **P** 02 54 17.7 -1.0
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 85.63 329 *e*P **P** 02 54 17.8 -1.0
comp=Z,9.3nm,0.9s
SRU San Rafael Swe 85.67 47 *e*P **P** 02 54 20.6 +1.1
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 85.67 47 *e*P **P** 02 54 20.6 +1.1
comp=Z,3.4nm,0.7s
MDVR Moldovita 85.68 320⇑ iP **P** 02 54 18.7 -0.5
PRU Pruhonice 85.86 328 *e*P **P** 02 54 19.0 -0.9
PRU Pruhonice 85.86 328 *e*P **P** 02 54 19.0 -0.9
TREC Trest 85.90 327 *e*P **P** 02 54 19.3 -0.8
TREC Trest 85.90 327 *e*P **P** 02 54 19.3 -0.8
NKC Novy Kostel 86.64 329 *e*P **P** 02 54 22.9 -0.8
NKC Novy Kostel 86.64 329 *e*P **P** 02 54 22.9 -0.8
KHC Kasperske Hory 86.91 327 *e*P **P** 02 54 24.1 -0.9
KHC Kasperske Hory 86.91 327 *e*P **P** 02 54 24.1 -0.9
GEC2 GERESS Array S 87.06 327 *e*P **P** 02 54 25.0 -0.8
GEC2 GERESS Array S 87.06 327 *e*P **P** 02 54 25.0 -0.8
GERES GERESS Array B 87.06 327 P **P** 02 54 24.6 -1.1
comp=Z,2.8nm,0.6s,baz=44,slow=5.4,SNR=18
GEA0 GERESS Array S 87.06 327 *e*P **P** 02 54 24.4 -1.3
N23A Red Feather La 87.39 43 *e*P **P** 02 54 29.1 +1.4
comp=Z,4.3nm,0.9s
PDKS Podkum 88.37 325 *i* P **P** 02 54 30.8 -1.1
LJU Ljubljana 88.62 325 *i* P **P** 02 54 31.8 -1.2
AGG Agios Georgios 88.97 316 *e*P **P** 02 54 32.5 -2.3
AGG pmax pmax
comp=Z,14nm,0.8s
AGG Agios Georgios 88.97 316 *e*P **P** 02 54 32.5 -2.3
comp=Z,14nm,0.8s
LAST Lasithi 89.37 311 *e*P **P** 02 54 35.9 -1.0
comp=Z,9.9nm,1.0s
SDCO Great Sand Dun 89.63 45 *e*P **P** 02 54 39.5 +1.3
comp=Z,6.0nm,1.5s
IDI Anoyia 89.68 311 P **P** 02 54 37.4 -0.8
comp=Z,3.2nm,0.5s,baz=97,slow=8.0,SNR=6.3
WLF Walferdange 89.79 331 *e*P **P** 02 54 37.7 -0.7
WLF Walferdange 89.79 331 *e*P **P** 02 54 37.7 -0.7
BFO Black Forest 89.88 329*ce*P **P** 02 54 38.5 -0.3
BFO Black Forest 89.88 329 *e*P **P** 02 54 38.2 -0.6
CWF Charnwood Fore 90.14 337 *e*P **P** 02 54 39.7 -0.2
comp=Z,18nm,0.9s
FUORN Ofenpass-Fuorn 90.27 327 *e*P **P** 02 54 40.6 -0.4

comp=Z,35nm,1.1s
ANMO Albuquerque 90.77 48 *e*P P 02 54 44.9 +1.4
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 90.77 48 *e*P P 02 54 45.4 +1.9
comp=Z,3.2nm,1.0s
TUE Stuetta 90.80 328 *e*P P 02 54 42.9 -0.5
comp=Z,10nm,1.1s
AQU L'Aquila 91.78 323 *e*P P 02 54 47.0 -0.9
AQU pmax pmax
comp=Z,12nm,0.8s
AQU L'Aquila 91.78 323 *e*P P 02 54 47.0 -0.9
comp=Z,12nm,0.8s
TXAR Lajitas Array 96.14 51 P P 02 55 09.8 +1.8
comp=Z,0.5nm,0.6s,baz=307,slow=4.6,SNR=5.0
TXAR pP pP 02 56 46.0 -0.1
comp=Z,1.9nm,0.8s,baz=308,slow=4.0,SNR=11
TXAR PKKPbc **PKKPbc** 03 11 53.5 +1.1
comp=Z,0.1nm,0.7s,baz=148,slow=5.4,SNR=3.5
ESDC Sonseca Array 102.09 331 PP PP 02 59 48.9 -2.2
comp=Z,0.5nm,0.7s,baz=36,slow=8.0,SNR=4.6
TORD Torodi Ar. Bea 120.03 310 PKP **PKPdf** 03 00 27.6 -0.9
comp=Z,3.6nm,0.7s,baz=69,slow=0.9,SNR=85
TORD PP **PP** 03 01 54.2 -5.0
comp=Z,1.6nm,0.8s,baz=29,slow=7.0,SNR=4.7
TORD PKKPbc **PKKPbc** 03 10 37.4 -0.3
comp=Z,0.4nm,0.4s,baz=224,slow=2.7,SNR=15
QSPA South Pole Qui 120.12 180 *e*PKPdf **PKPdf** 03 00 26.6 -0.5
BOSA Boshof 122.67 254 PKP **PKPdf** 03 00 33.5 +0.2
comp=Z,6.2nm,0.6s,baz=87,slow=2.9,SNR=16
TSUM Tsumeb 125.77 267 *e*PKPdf **PKPdf** 03 00 39.9 +0.4
DBIC Dimbokro 129.14 310 PKP **PKPdf** 03 00 46.0 +0.1
comp=Z,5.1nm,0.6s,baz=29,slow=1.7,SNR=9.1
SNAA Sanae 133.68 196 PKP **PKPdf** 03 00 52.8 -0.1
SNAA Sanae 133.68 196 *e*PKIKP **PKPdf** 03 00 52.4 -0.5
SNAA Sanae 133.68 196 *e*PKPdf **PKPdf** 03 00 52.4 -0.5
VNA1 Neumayer--Stat 135.66 195 PKiKP **PKiKP** 03 00 59.2 +1.1
SAML Samuel 150.59 48 *e*PKPbc **PKPbc** 03 01 29.6 -0.4
LPAZ La Paz 151.89 66 PKP **PKPdf** 03 01 27.5 +0.7
comp=Z,1.0nm,0.8s,baz=40,slow=4.1,SNR=5.6
LPAZ PKPbc **PKiKP** 03 01 34.3 +0.4
comp=Z,3.2nm,0.7s,baz=347,slow=4.1,SNR=16
LPAZ pPKPbc **pPKPbc** 03 03 16.1 -0.5
comp=Z,2.6nm,0.8s,baz=256,slow=1.0,SNR=5.7

SJA 15 02:44:26.1±0.4,**31°31S×68°23W,h98**km±2km**, ML2.0, MW3.6, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
RTLL	**Cerro Villicun**	**0.21**	**265**	*i*	P	Pn	02 44 41.0	+0.8
AMOG	**MOGNA**	**0.43**	**329**	*i*	P	Pn	02 44 42.2	+0.8
AMOG				*i*	S	Sn	02 44 53.6	+0.9
RTCV	**Cerro Valdivia**	**0.61**	**206**	*i*	P	Pn	02 44 43.4	+0.7
RTCV				*i*	S	Sn	02 44 56.0	+0.9
AVFE	**Valle Fertil**	**0.93**	**46**	*i*	P	Pn	02 44 46.6	+0.9
AVFE				*i*	S	Sn	02 45 01.8	+1.3
AVFE					IAML		02 45 02.8	
	comp=Z,26nm,0.3s							
RTLS	**Leoncito**	**1.03**	**242**	*i*	P	Pn	02 44 48.4	+1.3
RTLS				*i*	S	Sn	02 45 04.8	+1.9
ACAN	**Cantantal**	**1.31**	**138**	*i*	P	Pn	02 44 51.0	+1.0
ACAN				*i*	S	Sn	02 45 09.2	+1.2
AUSP	**Uspallata**	**1.34**	**227**	*i*	P	Pn	02 44 51.8	+1.1
AUSP				*i*	S	Sn	02 45 11.2	+2.1
ACHE	**Chepes**	**1.35**	**84**	*i*	P	Pn	02 44 51.7	+1.1
ACHE				*i*	S	Sn	02 45 10.7	+1.6
ASAL	**Salagasta**	**1.38**	**202**	*i*	P	Pn	02 44 51.9	+1.0
ASAL				*i*	S	Sn	02 45 11.4	+1.8
MRA	**San Martin**	**2.41**	**118**	*i*	P	Pn	02 45 05.3	+1.2
MRA				*i*	S	Sn	02 45 34.4	+1.3
MRA					IAML		02 45 37.2	
	comp=Z,8.3nm,0.5s							

*ISCJB **15** 02:45:55.4±0.4, 27°.71N±0°.04×57°.85E±0°.05, h10km, mb4.2/27, MS3.5/22, Error ellipse: s-maj=6.3km s-min=5.4km az=44.6*
*ISN **15** 02:45:55.7±0.5, 28°.02N×57°.62E, h0km±6km, ML4.6*
*CSEM **15** 02:46:00.5±0.3, 27°.82N×57°.83E, h30km, mb4.4/9, Error ellipse: s-maj=10.2km s-min=7.5km az=126.0*
*IDC **15** 02:46:01.6±2.5, 27°.89N×57°.76E, h48km±25km, mb3.9/20, mb1 4.0/23, mb1mx3.8/51, mbtmp4.2/23, ML4.5/3, MS3.6/24, Ms1 3.6/24, ms1mx3.4/55, Error ellipse: s-maj=15.9km s-min=14.1km az=166.0*
*NEIC **15** 02:46:02.7, 27°.82N×57°.73E, h27km, mb4.3/15, ML4.6(THR), MN4.6(TEH), After TEH.*
*TEH **15** 02:46:02.7, 27°.82N×57°.73E, h27km, ML4.6*
*THR **15** 02:46:04.6±0.3, 28°.15N×57°.25E, h15km, ML4.7*
*OMAN **15** 02:46:04.6±4.6, 27°.34N×58°.21E, h27km, Error ellipse: s-maj=4.9km s-min=1.4km az=269.0*

ISC 15 02:45:57.1±0.5,**27°.77N**±0°.04×**57°.80E**±0°.04,**h10km, n131,** σ2**s**04/125,**mb4.3**/27,**MS3.5**/22,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NIAN	**Nian**	**0.88**	**256**	*e*Pg	P	**Pn**	**02 46 18.6**	**+3.0**
NIAN	**Nian**	**0.88**	**256**	*e*Pg	P	**Pn**	**02 46 18.6**	**+3.0**
IBND	**Bandar-abas**	**1.16**	**254**	*e*Pg	P	**Pn**	**02 46 22.8**	**+3.4**
IBND				*e*Sg		**Sn**	**02 46 38.5**	**+3.1**
IBND					eAMB	AMB	02 46 52.1	
	comp=Z,71μm,0.2s							
IBND	**Bandar-abas**	**1.16**	**254**	*e*Pg	P	**Pn**	**02 46 22.8**	**+3.4**
IBND				*e*Sg		**Sn**	**02 46 38.5**	**+3.1**
IBND	**Bandar-abas**	**1.16**	**254**	Pg	P	**Pn**	**02 46 22.8**	**+3.4**
IBND				Sg		**Sn**	**02 46 38.5**	**+3.1**
KHSK	**Kohestak**	**1.21**	**214**	*e*Pn	P	**Pn**	**02 46 24.0**	**+3.9**
KHSK	**Kohestak**	**1.21**	**214**	*e*Pn	P	**Pn**	**02 46 24.0**	**+3.9**
GENO	**Geno**	**1.49**	**256**	*e*Pn	P	**Pg**	**02 46 27.7**	**+2.0**
GENO	**Geno**	**1.49**	**256**	*e*Pn	P	**Pg**	**02 46 27.7**	**+2.0**
BNDS	**Bandar-Abbas**	**1.49**	**256**	*e*Pg	P	**Pg**	**02 46 27.2**	**+1.4**
BNDS					AML	AML	02 46 49.7	
	comp=N,20μm,0.6s							
BNDS					AML	AML	02 46 50.2	
	comp=E,15μm,0.2s							
BNDS	**Bandar-Abbas**	**1.49**	**256**	*e*Pg	P	**Pg**	**02 46 27.2**	**+1.4**
BNDS	**Bandar-Abbas**	**1.49**	**256**	Pg	P	**Pg**	**02 46 27.0**	**+1.2**
CHMN	**Cheshme madani**	**2.09**	**354**	*e*Pn	P	**Pn**	**02 46 34.3**	**+1.7**
CHMN	**Cheshme madani**	**2.09**	**354**	*e*Pn	P	**Pn**	**02 46 34.3**	**+1.7**
BANOM	**Banah**	**2.28**	**216**	P	P	**Pb**	**02 46 37.9**	**-0.4**
	SNR=210							
BANOM	**Banah**	**2.28**	**216**	P	P	**Pb**	**02 46 37.9**	**-0.4**
	SNR=210							
KRBR	**Kerman**	**2.38**	**338**	*e*Pg	P	**Pn**	**02 46 39.1**	**+2.6**
KRBR					AML	AML	02 47 15.1	
	comp=N,5μm,0.4s							
KRBR					AML	AML	02 47 18.5	
	comp=E,4μm,0.6s							
KRBR	**Kerman**	**2.38**	**338**	Pg	P	**Pn**	**02 46 39.0**	**+2.5**
KRBR	**Kerman**	**2.38**	**338**	Pg	P	**Pn**	**02 46 39.0**	**+2.5**
KHGB	**Koh Gabri**	**2.84**	**336**	*e*Pn	P	**Pn**	**02 46 46.4**	**+3.7**
KHGB	**Koh Gabri**	**2.84**	**336**	*e*Pn	P	**Pn**	**02 46 46.4**	**+3.7**
ZHSF	**Zahedan**	**3.19**	**54**	*e*Pn	P	**Pg**	**02 46 59.6**	**+1.4**
ZHSF	**Zahedan**	**3.19**	**54**	Pn	P	**Pg**	**02 46 59.0**	**+0.7**
ASHO	**Ashiyiah**	**3.45**	**207**	P	P	**Pb**	**02 46 56.3**	**-2.0**
	SNR=132							
ASHO	**Ashiyiah**	**3.45**	**207**	P	P	**Pb**	**02 46 56.3**	**-2.0**
	SNR=132							
IBAF	**Bafgh**	**4.27**	**333**	*e*Pn	P	**Pn**	**02 47 05.4**	**+3.1**
IBAF					eAMB	AMB	02 48 25.6	
	comp=Z,4μm,0.3s							
IBAF	**Bafgh**	**4.27**	**333**	Pn	P	**Pn**	**02 47 05.3**	**+3.0**
IBAF	**Bafgh**	**4.27**	**333**	Pn	P	**Pn**	**02 47 05.3**	**+3.0**
ISRV	**Sarvestan**	**4.42**	**292**	*e*Pn	P	**Pn**	**02 47 06.5**	**+1.9**
ISRV					eAMB	AMB	02 48 47.1	
	comp=Z,5μm,0.5s							
ISRV	**Sarvestan**	**4.42**	**292**	*e*Pn	P	**Pn**	**02 47 06.5**	**+1.9**
ISRV	**Sarvestan**	**4.42**	**292**	Pn	P	**Pn**	**02 47 06.5**	**+1.9**
IMEH	**Mehriz**	**4.55**	**323**	*e*Pn	P	**Pn**	**02 47 08.2**	**+2.0**
IMEH					eAMB	AMB	02 48 34.5	
	comp=Z,3μm,0.3s							
IMEH	**Mehriz**	**4.55**	**323**	*e*Pn	P	**Pn**	**02 47 08.2**	**+2.0**
IMEH	**Mehriz**	**4.55**	**323**	Pn	P	**Pn**	**02 47 08.1**	**+1.9**
WSAR	**Wadi Sarin**	**4.58**	**170**	P	P	**Pn**	**02 47 09.2**	**+2.8**
	comp=Z,27nm,0.3s,baz=288,slow=2.1,SNR=352							
WSAR					S		**Sn**	**02 47 59.9**	**+0.3**
	comp=Z,39nm,0.3s,baz=29,slow=22,SNR=12							
WSAR					LR	LR	02 49 13.1	
	comp=Z,417nm,21.6s,baz=30,slow=41							
IKOO	**Kooshah**	**4.75**	**12**	*e*Pn	P	**Pn**	**02 47 11.7**	**+2.7**
IKOO					eAMB	AMB	02 48 37.6	
	comp=Z,4μm,0.5s							
IKOO	**Kooshah**	**4.75**	**12**	*e*Pn	P	**Pn**	**02 47 11.7**	**+2.7**
IKOO	**Kooshah**	**4.75**	**12**	Pn	P	**Pn**	**02 47 11.7**	**+2.7**
ITEG	**Tejag**	**5.17**	**9**	*e*Pn	P	**Pn**	**02 47 17.5**	**+2.8**
ITEG					eAMB	AMB	02 48 52.7	
	comp=Z,7μm,0.6s							
ITEG	**Tejag**	**5.17**	**9**	*e*Pn	P	**Pn**	**02 47 17.5**	**+2.8**
ITEG	**Tejag**	**5.17**	**9**	Pn	P	**Pn**	**02 47 17.5**	**+2.8**
IDAH	**Dahanechah**	**5.26**	**19**	*e*Pn	P	**Pn**	**02 47 19.1**	**+3.0**
IDAH					eAMB	AMB	02 49 08.8	
	comp=Z,3μm,0.6s							
IDAH	**Dahanechah**	**5.26**	**19**	*e*Pn	P	**Pn**	**02 47 19.1**	**+3.0**
IDAH	**Dahanechah**	**5.26**	**19**	Pn	P	**Pn**	**02 47 19.1**	**+3.0**
ISAD	**Sadrabad**	**5.46**	**320**	*e*Pn	P	**Pn**	**02 47 21.0**	**+2.2**
ISAD					eAMB	AMB	02 49 12.1	
	comp=Z,2μm,0.4s							
ISAD	**Sadrabad**	**5.46**	**320**	*e*Pn	P	**Pn**	**02 47 21.0**	**+2.2**
ISAD	**Sadrabad**	**5.46**	**320**	Pn	P	**Pn**	**02 47 21.0**	**+2.2**
IKAZ	**Kazeroun**	**5.60**	**292**	*e*Pn	P	**Pn**	**02 47 21.8**	**+1.0**
IKAZ					eAMB	AMB	02 48 31.1	
	comp=Z,7μm,0.2s							
IKAZ	**Kazeroun**	**5.60**	**292**	*e*Pn	P	**Pn**	**02 47 21.8**	**+1.0**
IKAZ	**Kazeroun**	**5.60**	**292**	Pn	P	**Pn**	**02 47 21.7**	**+1.0**
SLWS		**7.07**	**247**	S		**Sn**	**02 48 58.5**	**-2.7**
SLWS				P		**Pn**	**02 47 43.1**	**+2.4**
BTHS		**7.28**	**241**	S		**Sn**	**02 49 03.8**	**-2.5**
BTHS				P		**Pn**	**02 47 45.3**	**+1.8**
BOQSS		**7.76**	**258**	S		**Sn**	**02 49 14.4**	**-3.7**
BOQSS				P		**Pn**	**02 47 51.1**	**+0.9**
GEYT	**Alibeck**	**10.13**	**1**	P		**Pn**	**02 48 25.8**	**+3.2**
	comp=Z,0.7nm,0.3s,baz=178,slow=15,SNR=3.7							
GEYT					Lg	Lg	02 51 16.0	
	comp=Z,0.6nm,0.3s,baz=221,slow=33,SNR=3.1							
GEYT					LR	LR	02 52 58.2	
	comp=Z,344nm,18.9s,baz=200,slow=42							
GNI	**Garni**	**16.40**	**322**	P		**Pn**	**02 49 50.2**	**+2.7**
	comp=Z,0.9nm,0.3s,baz=143,slow=1.5,SNR=5.1							
GNI	**Garni**	**16.40**	**322**	P		P	02 50 00.1	+10
	SNR=6.7							
KKAR	**Karatay Array**	**18.44**	**31**	*e*P		**Pn**	**02 50 15.5**	**+2.7**
	comp=Z,2.3nm,0.6s							
KKAR	**Karatay Array**	**18.44**	**31**	*e*P		**Pn**	**02 50 15.5**	**+2.7**
	comp=Z,2.3nm,0.6s							
ASF	**Jabal al Asfar**	**18.63**	**289**	P		P	**02 50 13.6**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=53,slow=8.4,SNR=12							
EKS2	**Erkin-Say**	**19.72**	**37**	*e*P		P	**02 50 28.1**	**+1.2**
	comp=Z,19nm,0.8s							
EKS2	**Erkin-Say**	**19.72**	**37**	*e*P		P	**02 50 28.1**	**+1.2**
	comp=Z,19nm,0.8s							
KBZ	**Khabaz**	**19.94**	**327**	P		Pn	02 50 33.5	+2.7
	comp=Z,0.1nm,0.3s,baz=105,slow=8.0,SNR=3.8							
MMAI	**Mount Meron Ar**	**20.00**	**291**	P		**P**	**02 50 30.4**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=100,slow=15,SNR=13							
MMAI					LR	LR	03 00 05.8	
	comp=Z,272nm,19.4s,baz=100,slow=42							
AAK	**Ala-Archa**	**20.09**	**38**	P		**P**	**02 50 31.8**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=207,slow=14,SNR=6.4							
AAK	**Ala-Archa**	**20.09**	**38**	*e*P		**P**	**02 50 32.0**	**+1.0**
	comp=Z,2.7nm,0.4s							
AAK	**Ala-Archa**	**20.09**	**38**	*e*P		**P**	**02 50 32.0**	**+1.0**
	comp=Z,2.7nm,0.4s							
EIL	**Elat**	**20.13**	**281**	P		**P**	**02 50 31.7**	**+0.4**
	comp=Z,16nm,0.8s,baz=79,slow=6.7,SNR=13							
EIL					LR	LR	02 59 37.1	
	comp=Z,55nm,19.4s,baz=48,slow=41							
KVAR	**Kislovodsk Arr**	**20.21**	**327**	P		**P**	**02 50 33.0**	**+0.8**
	comp=Z,4.0nm,0.6s,baz=103,slow=17,SNR=3.4							
KVAR	**Kislovodsk Arr**	**20.21**	**327**	P		**P**	**02 50 33.0**	**+0.8**
KIV	**Kislovodsk**	**20.21**	**327**	*e*P		**P**	**02 50 32.4**	**+0.2**
	comp=Z,15nm,0.9s							
KIV	**Kislovodsk**	**20.21**	**327**	*e*P		**P**	**02 50 32.4**	**+0.2**
	comp=Z,15nm,0.9s							
TKM2	**Tokmak 2**	**20.89**	**39**	*e*P		**P**	**02 50 40.5**	**+0.8**
TKM2					pmax	pmax		
	comp=Z,46nm,1.0s							
TKM2	**Tokmak 2**	**20.89**	**39**	*e*P		**P**	**02 50 40.5**	**+0.8**
	comp=Z,46nm,1.0s							
TKM2	**Tokmak 2**	**20.89**	**39**	*e*P		**P**	**02 50 40.5**	**+0.8**
	comp=Z,46nm,1.0s							
ATD	**Arta Tunnel**	**21.40**	**224**	LR		LR	03 00 39.2	
	comp=Z,113nm,21.0s,baz=350,slow=41							
ABKAR	**Akbulak array**	**21.52**	**4**	*e*P		**P**	**02 50 45.2**	**-0.9**
	comp=Z,4.0nm,0.6s							
ABKAR	**Akbulak array**	**21.52**	**4**	*e*P		**P**	**02 50 45.2**	**-0.9**
	comp=Z,4.0nm,0.6s							
CSS	**Mathiatis**	**22.06**	**295**	*e*P		**P**	**02 50 52.2**	**+0.1**
	comp=Z,5.2nm,0.9s							
CSS	**Mathiatis**	**22.06**	**295**	*e*P		**P**	**02 50 52.2**	**+0.1**
	comp=Z,5.2nm,0.9s							
AKTO	**Aktyubinsk**	**22.63**	**0**	P		**P**	**02 50 57.0**	**-1.1**
	comp=Z,4.7nm,0.7s,baz=172,slow=9.2,SNR=13							
AKTO					LR	LR	03 01 18.2	
	comp=Z,232nm,19.6s,baz=167,slow=41							
AKTO	**Aktyubinsk**	**22.63**	**0**	P		**P**	**02 50 57.0**	**-1.1**
BRTR	**Keskin Array B**	**23.28**	**307**	P		**P**	**02 51 03.9**	**-1.2**
	comp=Z,8.7nm,1.0s,baz=116,slow=8.5,SNR=35							
BRTR					LR	LR	03 01 52.2	
	comp=Z,179nm,21.5s,baz=113,slow=41							
ISP	**Isparta**	**24.95**	**301**	*e*P		**P**	**02 51 21.5**	**+0.8**
	comp=Z,15nm,0.8s							
ISP	**Isparta**	**24.95**	**301**	*e*P		**P**	**02 51 21.5**	**+0.8**
	comp=Z,15nm,0.8s							
BVAR	**Borovoye Array**	**26.90**	**17**	LR		LR	03 03 41.3	
	comp=Z,241nm,19.7s,baz=254,slow=40							
MKAR	**Makanchi Array**	**27.02**	**39**	P		**P**	**02 51 37.8**	**-1.6**
	comp=Z,9.0nm,0.6s,baz=236,slow=4.0,SNR=14							
MKAR					LR	LR	03 04 02.8	
	comp=Z,43nm,19.4s,baz=223,slow=40							
ARU	**Arti**	**28.64**	**1**	LR		LR	03 04 43.3	
	comp=Z,88nm,18.3s,baz=190,slow=39							
IDI	**Anoyia**	**28.94**	**293**	P		**P**	**02 51 56.0**	**-0.7**
	comp=Z,3.5nm,0.5s,baz=71,slow=10,SNR=10							
IDI	**Anoyia**	**28.94**	**293**	*e*P		**P**	**02 51 56.2**	**-0.5**
	comp=Z,9.7nm,0.9s							
IDI	**Anoyia**	**28.94**	**293**	*e*P		**P**	**02 51 56.2**	**-0.5**
	comp=Z,9.7nm,0.9s							
PALK	**Pallekele**	**29.77**	**129**	LR		LR	03 02 40.3	
	comp=Z,73nm,21.3s,baz=295,slow=33							
AKASG	**Malin Array Be**	**31.51**	**324**	P		**P**	**02 52 17.2**	**-1.8**
	comp=Z,0.2nm,0.2s,baz=125,slow=8.1,SNR=4.2							
ZALV	**Zalesovo Beam**	**32.81**	**30**	P		**P**	**02 52 29.3**	**-1.2**
	comp=Z,4.4nm,0.4s,baz=255,slow=11,SNR=9.2							
ZALV					LR	LR	03 06 23.2	
	comp=Z,42nm,18.0s,baz=250,slow=37							
KOLS	**Kolonicke sedl**	**34.51**	**317**	*e*P		**P**	**02 52 44.9**	**-0.5**
	comp=Z,10nm,1.0s							
KOLS	**Kolonicke sedl**	**34.51**	**317**	*e*P		**P**	**02 52 44.8**	**-0.6**
KOLS				*e*			02 52 53.1	
CUC	**Castrocucco**	**36.61**	**300**	*e*P		**P**	**02 53 05.8**	**+2.2**
	comp=Z,8.4nm,0.9s							
VRAC	**Vranov**	**38.12**	**316**	LR		LR	03 10 35.2	
	comp=Z,58nm,20.5s,baz=167,slow=39							
FINES	**FINESS Array B**	**39.77**	**337**	LR		LR	03 12 41.0	
	comp=Z,60nm,18.1s,baz=184,slow=40							
GERES	**GERESS Array B**	**39.80**	**314**	P		**P**	**02 53 29.6**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=107,slow=8.3,SNR=3.0							
GERES					PcP	**PcP**	**02 55 35.4**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=108,slow=1.7,SNR=3.5							
GERES					LR	LR	03 12 21.3	
	comp=Z,30nm,19.9s,baz=100,slow=40							
KHC	**Kasperske Hory**	**39.95**	**314**	*e*P		**P**	**02 53 29.5**	**-2.1**
KHC					*e*pP	**sP**	**02 53 38.0**	**+2.1**
KHC	**Kasperske Hory**	**39.95**	**314**	*e*P		**P**	**02 53 36.0**	**+4.5**
	comp=Z,1.8nm,1.0s							
GRFO	**Grafenberg**	**41.58**	**315**	*e*P		**P**	**02 53 44.9**	**-0.1**
	comp=Z,5.9nm,0.9s							
GRFO	**Grafenberg**	**41.58**	**315**	*e*P		**P**	**02 53 44.9**	**-0.1**
	comp=Z,5.9nm,0.9s							
KEST	**Kesra**	**41.62**	**294**	P		**P**	**02 53 46.1**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=148,slow=19,SNR=4.5							
SONM	**Songino Array**	**42.49**	**48**	LR		LR	03 13 23.6	
	comp=Z,153nm,21.7s,baz=188,slow=39							
HFS	**Hagfors**	**43.97**	**330**	LR		LR	03 16 04.0	
	comp=Z,44nm,18.2s,baz=157,slow=41							
NRIK	**Noril'sk**	**45.06**	**14**	LR		LR	03 16 28.2	
	comp=Z,214nm,18.1s,baz=244,slow=41							
NOA	**NORSAR Array B**	**45.47**	**330**	LR		LR	03 16 21.5	
	comp=Z,40nm,21.2s,baz=120,slow=40							
ARCES	**ARCESS Array B**	**45.79**	**345**	P		**P**	**02 54 16.9**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=138,slow=8.4,SNR=4.0							
TAM	**Tamanrasset**	**47.25**	**276**	*e*P		**P**	**02 54 30.3**	**-0.5**
	comp=Z,3.7nm,1.1s							
TAM	**Tamanrasset**	**47.25**	**276**	*e*P		**P**	**02 54 30.3**	**-0.5**
	comp=Z,3.7nm,1.1s							
ESDC	**Sonseca Array**	**51.81**	**300**	P		**P**	**02 55 03.2**	**-2.2**
	comp=Z,0.5nm,0.5s,baz=71,slow=7.4,SNR=9.2							
TORD	**Torodi Ar. Bea**	**54.12**	**266**	P		**P**	**02 55 21.1**	**-1.5**
	comp=Z,11nm,0.4s,baz=64,slow=7.4,SNR=374							
TORD					LR	LR	03 21 14.0	
	comp=Z,92nm,18.9s,baz=100,slow=39							
TIXI	**Tiksi**	**57.95**	**21**	*e*P		**P**	**02 55 47.3**	**-1.8**
	comp=Z,1.9nm,0.6s							
TIXI	**Tiksi**	**57.95**	**21**	*e*P		**P**	**02 55 47.3**	**-1.8**
	comp=Z,1.9nm,0.6s							
KSRS	**Korea Array**	**58.64**	**61**	LR		LR	03 24 44.5	
	comp=Z,37nm,19.7s,baz=25,slow=40							
KLR	**Kul'dur**	**59.29**	**47**	LR		LR	03 23 34.2	
	comp=Z,77nm,20.0s,slow=38							
DBIC	**Dimbokro**	**62.76**	**263**	P		P	**02 56 22.0**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=45,slow=8.4,SNR=4.5							
DBIC					LR	LR	03 27 13.2	
	comp=Z,66nm,18.6s,baz=94,slow=39							
DBIC	**Dimbokro**	**62.76**	**263**	P		P	**02 56 22.0**	**-1.0**
BOSA	**Boshof**	**64.16**	**212**	P		P	**02 56 31.9**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=48,slow=6.6,SNR=3.9							
FRB	**Frobisher Bay**	**79.54**	**339**	P		P	**02 58 01.1**	**-2.7**
	comp=Z,3.6nm,0.8s,baz=84,slow=4.9,SNR=3.9							
INK	**Inuvik**	**83.84**	**4**	*e*P		P	**02 58 26.8**	**+0.3**
	comp=Z,1.8nm,0.7s							
INK	**Inuvik**	**83.84**	**4**	*e*P		P	**02 58 26.8**	**+0.3**
	comp=Z,1.8nm,0.7s							
KTH	**Kantishna Hill**	**86.19**	**12**	*e*P		P	**02 58 40.1**	**+1.7**
KTH	**Kantishna Hill**	**86.19**	**12**	*e*P		P	**02 58 40.1**	**+1.7**
WRA	**Warramunga Arr**	**87.89**	**114**	P		P	**02 58 47.3**	**0.0**
	comp=Z,1.1nm,0.8s,baz=313,slow=4.2,SNR=5.0							
ASAR	**Alice Springs**	**89.42**	**117**	P		P	**02 58 54.8**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=302,slow=5.3,SNR=2.9							
YKA	**Yellowknife Ar**	**89.84**	**356**	P		P	**02 58 54.6**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=359,slow=4.9,SNR=6.0							
STKA	**Stephens Creek**	**99.33**	**121**	LR		LR	03 43 54.2	
	comp=Z,30nm,20.8s,baz=17,slow=35							
TXAR	**Lajitas Array**	**120.51**	**341**	PKP		**PKPdf**	**03 04 47.8**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=95,slow=4.9,SNR=4.1							
OTAV	**Otavalo**	**129.66**	**296**	*e*PKPdf		**PKPdf**	**03 05 09.0**	**+1.1**

*IDC **15** 02:46:02.3±1.9, 7°.00S×154°.88E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/39, mbtmp3.9/6, ML2.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/36, Error ellipse: s-maj=60.6km s-min=28.7km az=128.0*
*ISCJB **15** 02:46:08.3±1.7, 6°.8S±0°.3×154°.5E±0°.2, h41km, mb3.8/5, MS3.2/1, Error ellipse: s-maj=45.1km s-min=11.7km az=144.3*

ISC 15 02:46:09.0±1.7,**7°.0S**±0°.3×**154°.7E**±0°.2,**h41**km,**n9,** σ0**s86**/10,**mb3.8**/5,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**7.80**	**251**	Pn	P	**Pn**	**02 48 00.9**	**+0.8**
	1.1nm,0.3s,baz=74,slow=19,SNR=3.6							
PMG				Sn		**Sn**	**02 49 26.2**	**-1.1**
	1.5nm,0.3s,baz=292,slow=16,SNR=2.6							
PMG					LR	LR	02 50 42.1	
	comp=Z,111nm,20.0s,baz=352,slow=35							
WRA	**Warramunga Arr**	**23.56**	**235**	P		P	**02 51 15.5**	**-0.5**
	3.0nm,0.8s,baz=57,slow=10,SNR=3.3							
ASAR	**Alice Springs**	**25.94**	**228**	LR		LR	03 00 29.1	
	comp=Z,86nm,22.0s,baz=88,slow=33							
KSRS	**Korea Array**	**50.75**	**332**	P		P	**02 55 04.4**	**-0.6**
	0.4nm,0.4s,baz=135,slow=9.3,SNR=4.9							
SONM	**Songino Array**	**69.12**	**327**	P		P	**02 57 11.8**	**+0

MJAR Matsushiro Arr 50.99 38 P **P** **03 15 25.3 -0.7**
1.0nm,0.7s,baz=215,slow=7.9,SNR=5.6
MKAR Makanchi Array 51.62 343 P **P** **03 15 30.3 -0.1**
2.0nm,0.6s,baz=146,slow=8.0,SNR=17
USRK Ussuriysk Ar. 53.21 27 P **P** **03 15 42.6 +0.5**
4.0nm,0.5s,baz=205,slow=5.2,SNR=12
KLR Kul'dur 57.11 23 P **P** **03 16 10.4 +0.5**
0.6nm,0.3s,baz=200,slow=4.7,SNR=4.1
ZALV Zalesovo Beam 57.58 348 P **P** **03 16 13.2 +0.2**
1.6nm,0.3s,baz=165,slow=6.1,SNR=8.8
ABKAR Akbulak array 62.66 330 *eP* **P** **03 16 47.1 -0.5**
0.7nm,0.4s
SEY Seymchan 74.86 21 P **P** **03 18 03.5 +0.9**
2.1nm,0.5s,baz=222,slow=5.1,SNR=5.4
BRTR Keskin Array B 74.87 312 P **P** **03 18 03.1 -0.2**
0.9nm,0.7s,baz=137,slow=7.1,SNR=6.1
VNDA Vanda 81.75 169 P **P** **03 18 41.4 +1.3**
0.9nm,0.6s,baz=325,slow=6.3,SNR=8.0
ARCES ARCESS Array B 87.19 340 P **P** **03 19 07.1 -0.4**
1.1nm,0.8s,baz=99,slow=7.5,SNR=5.1
TXAR Lajitas Array 143.41 40 PKP PKPbc 03 25 54.2 +0.7
1.5nm,0.6s,baz=263,slow=1.1,SNR=34
TXAR SKP 03 29 15.2
0.1nm,0.4s,baz=359,slow=3.9,SNR=2.9
CPUP Villa Florida 145.51 214 PKPbc **PKPab** **03 26 01.0 +0.8**
1.6nm,0.8s,baz=102,slow=3.7,SNR=8.0
BDFB Brasilia 145.62 238 PKPbc **PKPab** **03 26 01.9 +0.8**
1.6nm,0.5s,baz=103,slow=2.4,SNR=5.4

NIED ***15*** *03:08:00,37.˚20N×142.˚30E,h5km,Mw3.5 Best double couple: M₀2.19000×10¹⁴ NP1:φ=277.00000°,δ25.00000°, λ=-126.00000°. NP2:φ=136.00000°,δ70.00000°, λ=-75.00000°.*
ISCJB ***15*** *03:08:52.3±1.5,37.˚15N±0.˚05×142.˚30E±0.˚07,h15km±9km, mb3.5/4, Error ellipse: s-maj=9.7km s-min=7.6km az=172.5*
IDC ***15*** *03:08:52.3±1.4,37.˚16N×142.˚42E,h0km,mb3.5/4, mb1 3.7/6,mb1mx3.5/39,mbtmp3.6/6,ML3.6/2,Error ellipse: s-maj=31.7km s-min=25.4km az=100.0*
JMA ***15*** *03:08:53.7±0.2,37.˚24N×142.˚27E,h25km,M3.9*
ISC 15 03:08:52.3±2.9,37.˚20N±0.˚05×142.˚25E±0.˚08,h2km±17km, n22,σ1°34/24,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.11**	**279**	P	**Pb**	**03 09 13.7**	**-0.5**
JFK				*eS*	**Sg**	**03 09 28.0**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.16**	**266**	P	**Pb**	**03 09 14.6**	**-0.5**
JMM	**Marumori**	**1.33**	**300**	P	**Pn**	**03 09 16.8**	**-1.1**
JMM				*eS*	**Sb**	**03 09 34.1**	**-1.4**
JIO	**Ouri**	**1.44**	**331**	P	**Pn**	**03 09 18.0**	**-1.4**
JHO	**Hitachi**	**1.47**	**247**	P	**Pn**	**03 09 18.9**	**-0.9**
JHO				S	**Sn**	**03 09 37.0**	**-2.5**
JFT	**Otama**	**1.55**	**282**	P	**Pn**	**03 09 21.2**	**+0.2**
JFT				S	**Sn**	**03 09 41.0**	**-0.7**
JOU	**Okura**	**1.71**	**313**	P	**Pn**	**03 09 22.9**	**-0.2**
JOU				*eS*	**Sn**	**03 09 43.9**	**-1.7**
JMK	**Ichinoseki**	**1.93**	**335**	P	**Pn**	**03 09 25.6**	**-0.5**
JYS	**Shirataka**	**2.01**	**301**	P	**Pn**	**03 09 28.1**	**+0.9**
JYS				*eS*	**Sn**	**03 09 53.7**	**+0.8**
MJAR	**Matsushiro Arr**	**3.30**	**260**	Pn	**Pn**	**03 09 46.5**	**+1.4**
	2.4nm,0.3s,baz=89,slow=15,SNR=19						
MAT	**Matsushiro**	**3.31**	**260**	P	**Pn**	**03 09 46.1**	**+1.0**
MAT				*eS*	**Sn**	**03 10 25.4**	**+0.5**
JHJ	**Hachijo jima 2**	**4.54**	**207**	Pn	**Pn**	**03 10 02.8**	**+0.7**
	17nm,0.3s,baz=334,slow=21,SNR=12						
JHJ				Sn	**Sn**	**03 10 52.4**	**-3.1**
	6.6nm,0.3s,baz=94,slow=19,SNR=2.8						
H11N2	**WAKE ISLAND Hy 27.67**	**122**		T	T	03 43 34.3	
	baz=315,slow=75,SNR=97						
H11N1	**WAKE ISLAND Hy 27.68**	**122**		T	T	03 43 36.2	
	baz=315,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy 27.69**	**122**		T	T	03 43 34.6	
	baz=315,slow=75,SNR=56						
SONM	**Songino Array**	**28.25**	**304**	P	**P**	**03 14 47.6**	**+0.9**
	0.4nm,0.5s,baz=97,slow=7.4,SNR=3.5						
H11S1	**WAKE ISLAND Hy 28.40**	**124**		T	T	03 44 30.7	
	baz=317,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy 28.40**	**124**		T	T	03 44 30.7	
	baz=317,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy 28.41**	**124**		T	T	03 44 31.9	
	baz=317,slow=76,SNR=56						
MKAR	**Makanchi Array**	**44.59**	**302**	P	**P**	**03 17 07.8**	**+2.1**
	0.5nm,0.7s,baz=89,slow=8.3,SNR=3.1						
ILAR	**Eielson Array**	**49.00**	**32**	P	**P**	**03 17 39.8**	**-0.2**
	0.3nm,0.7s,baz=262,slow=5.5,SNR=4.8						
WRA	**Warramunga Arr**	**57.32**	**189**	P	**P**	**03 18 41.6**	**-0.1**
	0.7nm,1.0s,baz=3.6,slow=6.7,SNR=3.4						

ISK ***15*** *03:33:35.8,39.˚09N×29.˚05E,h5km,MD2.8*
DDA ***15*** *03:33:35.9,39.˚14N×28.˚99E,h7km,Md2.8*
CSEM ***15*** *03:33:36.4±0.1,39.˚10N×29.˚04E,h2km,MD2.8,Error ellipse: s-maj=2.1km s-min=1.7km az=146.0*
ISC 15 03:33:36.3±1.0,39.˚10N±0.˚02×29.˚02E±0.˚02,h5km±10km, n37,σ0°55/57,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**256**	P	**Pg**	**03 33 41.2**	**+0.1**
DEMI				S	**Sg**	**03 33 44.6**	**+0.2**
DEMI	**Demirci**	**0.24**	**256**	*i* P	**Pg**	**03 33 41.2**	**+0.1**
DEMI				*i* S	**Sg**	**03 33 44.6**	**+0.2**
GEDZ	**Gediz**	**0.31**	**101**	*e*PG	**Pg**	**03 33 42.1**	**-0.1**
GEDZ	**Gediz**	**0.31**	**101**	*e*Pg	**Pg**	**03 33 42.2**	**-0.1**
GDZ	**Gediz**	**0.36**	**92**	P	**Pg**	**03 33 43.4**	**+0.1**
GDZ				S	**Sg**	**03 33 48.5**	**+0.5**
GDZ	**Gediz**	**0.36**	**92**	*i* P	**Pg**	**03 33 43.4**	**+0.1**
GDZ				*i* S	**Sg**	**03 33 48.5**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**44**	*e*PG	**Pg**	**03 33 45.3**	**-0.4**
TVSB				*e*SG	**Sg**	**03 33 51.9**	**-0.1**
TVSB	**Tavsanli**	**0.49**	**44**	*e*Pg	**Pg**	**03 33 45.3**	**-0.4**
TVSB				*e*Sg	**Sg**	**03 33 51.9**	**-0.1**
DST	**Dursunbey**	**0.59**	**328**	*e*PG	**Pb**	**03 33 48.2**	**-1.0**
DST	**Dursunbey**	**0.59**	**328**	*e*Pg	**Pb**	**03 33 48.2**	**-1.0**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG	**Pg**	**03 33 48.9**	**+0.1**
KULA				*e*SG	**Sg**	**03 33 57.5**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg	**Pg**	**03 33 48.9**	**+0.1**
KULA				*e*Sg	**Sg**	**03 33 57.5**	**+0.2**
KHL	**Karahalli**	**0.87**	**153**	*e*PG	**Pb**	**03 33 53.2**	**-0.7**
KHL	**Karahalli**	**0.87**	**153**	*e*Pg	**Pb**	**03 33 53.2**	**-0.7**
AKHS	**Akhisar**	**0.97**	**257**	P	**Pb**	**03 33 55.1**	**-0.4**
AKHS				S	**Sg**	**03 34 07.7**	**+0.3**
AKHS	**Akhisar**	**0.97**	**257**	*i* P	**Pb**	**03 33 55.1**	**-0.4**
AKHS				*i* S	**Sg**	**03 34 07.7**	**+0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pn**	**03 33 57.2**	**-0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pn**	**03 33 57.2**	**-0.3**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pg**	**03 33 57.6**	**-1.2**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pn**	**03 34 00.8**	**+0.2**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pn**	**03 34 00.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pb**	**03 34 00.9**	**+0.2**
MDNY				*e*SN	**Sn**	**03 34 18.7**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn	**Pb**	**03 34 00.9**	**+0.2**
MDNY				*e*Sn	**Sn**	**03 34 18.7**	**+0.5**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pb**	**03 34 00.6**	**-0.1**
KCTX				*e*SN	**Sn**	**03 34 19.0**	**+0.8**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pb**	**03 34 00.6**	**-0.1**
KCTX				*e*Sn	**Sn**	**03 34 19.0**	**+0.8**
IZI	**Iznik**	**1.28**	**16**	*e*PN	**Pb**	**03 34 00.9**	**0.0**
IZI	**Iznik**	**1.28**	**16**	*e*Pn	**Pb**	**03 34 00.9**	**0.0**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pn**	**03 34 01.4**	**-0.5**
BORA				S	**Sn**	**03 34 20.1**	**-0.2**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pn**	**03 34 01.4**	**-0.5**
BORA				*i* S	**Sn**	**03 34 20.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pg**	**03 34 04.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*Pn	**Pg**	**03 34 04.3**	**+0.1**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pg**	**03 34 04.0**	**-0.4**
ARMT				*e*SN	**Sg**	**03 34 24.6**	**+1.1**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pg**	**03 34 04.0**	**-0.4**
ARMT				*e*Sn	**Sg**	**03 34 24.6**	**+1.1**
ESKT	**Eskisehir**	**1.48**	**73**	*i* P	**Pg**	**03 34 05.9**	**+1.3**
ESKT				*i* S	**Sg**	**03 34 23.9**	**+0.1**
SEYT	**Eskypehyr**	**1.48**	**73**	P	**Pg**	**03 34 05.9**	**+1.3**
SEYT				S	**Sg**	**03 34 23.9**	**+0.1**
GULT	**Gulveren**	**1.76**	**40**	*e*PN	**Pb**	**03 34 08.4**	**-0.7**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn	**Pb**	**03 34 08.4**	**-0.7**

ISCJB ***15*** *03:34:15.0±0.5,34.˚46N×0.˚07×137.˚14E±0.˚06, h353km±4km,mb2.9/4,Error ellipse: s-maj=10.8km s-min=7.9km az=160.0*
JMA ***15*** *03:34:15.1±0.4,34.˚46N×137.˚12E,h357km±4km,M2.8*
IDC ***15*** *03:34:16.0±1.0,34.˚38N×137.˚08E,h345km±13km,mb2.8/4, mb1 2.9/10,mb1mx2.8/52,mbtmp3.6/10,Error ellipse: s-maj=30.0km s-min=13.7km az=60.0*
ISC 15 03:34:16.0±0.8,34.49N±0.˚07×137.08E±0.˚06,h348km±7km, n25,σ1°08/35,mb2.9/4,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.15**	**20**	*e*S	**S**	**03 35 34.7**	**+0.3**
JIE	**Ise**	**0.33**	**252**	P	**Pn**	**03 35 00.3**	**+0.5**
TTO1	**TONANKAI O.B.S**	**0.90**	**196**	P	**Pn**	**03 35 01.8**	**+0.9**
JWY	**Kouya**	**1.26**	**258**	P	**Pn**	**03 35 03.2**	**+0.4**
JWZ	**Kozaga**	**1.48**	**230**	P	**Pn**	**03 35 03.6**	**-0.3**
JWT	**Wachi**	**1.59**	**300**	P	**Pn**	**03 35 05.0**	**+0.6**
JWT				*e*S	**S**	**03 35 42.1**	**-1.2**
JOD2	**Odawara 2**	**1.82**	**64**	P	**Pn**	**03 35 06.5**	**+0.6**
JOD2				*e*S	**S**	**03 35 46.6**	**+0.7**
JKG	**Kaga**	**1.89**	**341**	P	**Pn**	**03 35 06.6**	**+0.4**
JRY	**Ryogami san**	**2.13**	**44**	P	**Pn**	**03 35 08.9**	**+0.9**
JRY				S	**S**	**03 35 49.1**	**-0.7**
MAT	**Matsushiro**	**2.24**	**24**	P	**Pn**	**03 35 09.3**	**+0.4**
MAT				S	**S**	**03 35 50.7**	**-0.6**
MAT	**Matsushiro**	**2.24**	**24**	P	**Pn**	**03 35 09.4**	**+0.5**
MAT				*e*S	**S**	**03 35 50.7**	**-0.6**
MJAR	**Matsushiro Arr**	**2.24**	**24**	P	**Pn**	**03 35 09.2**	**+0.3**
	2.7nm,0.3s,baz=198,slow=8.3,SNR=34						
MJAR				S	**S**	**03 35 50.1**	**-1.3**
	0.6nm,0.3s,baz=189,slow=15,SNR=9.4						
JAI	**Aioi**	**2.29**	**253**	P	**Pn**	**03 35 09.3**	**0.0**
JAI				*e*S	**S**	**03 35 50.6**	**-1.4**
JHJ	**Hachijo jima 2**	**2.63**	**121**	P	**Pn**	**03 35 11.8**	**-0.2**
	7.2nm,0.3s,baz=287,slow=12,SNR=11						
JHJ				S	**S**	**03 35 59.2**	**+2.1**
	9.6nm,0.3s,baz=15,slow=16,SNR=6.5						
JAG	**Ashikaga**	**2.73**	**44**	P	**Pn**	**03 35 12.5**	**-0.3**
JAG				*e*S	**S**	**03 35 55.4**	**-3.1**
BSO1	**Boso 1**	**3.22**	**86**	P	**Pn**	**03 35 15.4**	**-1.2**
BSO1				S	**S**	**03 36 03.5**	**-1.9**
JHS	**Saijyo**	**3.30**	**280**	P	**Pn**	**03 35 18.5**	**+0.5**
JNU	**Nakatsue**	**5.34**	**257**	P	**Pn**	**03 35 38.4**	**-1.0**
	0.4nm,0.3s,baz=66,slow=5.0,SNR=4.6						
KSRS	**Korea Array**	**7.99**	**294**	P	**Pn**	**03 36 11.3**	**+1.4**
	0.5nm,0.3s,baz=104,slow=13,SNR=20						
USRK	**Ussuriysk Ar.**	**10.46**	**339**	P	**P**	**03 36 40.3**	**-0.2**
	baz=177,slow=13,SNR=1.7						
KLR	**Kul'dur**	**15.25**	**347**	P	**P**	**03 37 34.1**	**+1.0**
	0.2nm,0.3s,baz=171,slow=7.0,SNR=6.1						
SONM	**Songino Array**	**26.48**	**310**	P	**P**	**03 39 23.2**	**+0.7**
	0.2nm,0.3s,baz=109,slow=9.2,SNR=2.4						
MKAR	**Makanchi Array**	**42.54**	**304**	P	**P**	**03 41 39.4**	**+0.9**
	0.3nm,0.5s,baz=90,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**54.19**	**183**	P	**P**	**03 43 06.0**	**-0.8**
	0.4nm,0.3s,baz=360,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**57.91**	**183**	P	**P**	**03 43 32.3**	**-0.6**
	0.4nm,0.7s,baz=2.0,slow=6.8,SNR=3.8						

ISCJB ***15*** *03:37:43.8±0.5,29.˚91N±0.˚04×139.˚21E±0.˚08,h388km, mb3.2/5,Error ellipse: s-maj=10.2km s-min=4.7km az=159.3*
JMA ***15*** *03:37:43.5±0.2,29.˚93N×139.˚47E,h411km,M3.6*
IDC ***15*** *03:37:44.4±1.1,29.˚88N×139.˚25E,h406km±14km,mb2.9/6, mb1 2.9/12,mb1mx2.8/56,mbtmp3.7/12,Error ellipse: s-maj=37.1km s-min=13.7km az=74.0*
ISC 15 03:37:43.9±0.8,29.˚98N±0.˚07×139.˚3E±0.˚1,h388km,n33, σ2°27/41,mb3.0/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.16**	**8**	*e*S	**S**	**03 39 41.9**	**+3.1**
JHJ	**Hachijo jima 2**	**3.16**	**8**	P	**Pn**	**03 38 50.5**	**+3.0**
	6.6nm,0.3s,baz=240,slow=20,SNR=8.0						
JHJ				S	**S**	**03 39 40.9**	**+2.0**
	31nm,0.3s,baz=100,slow=22,SNR=11						
CBIJ	**Chichi jima**	**3.84**	**138**	P	**Pn**	**03 38 53.8**	**0.0**
CBIJ				S	**S**	**03 39 48.8**	**-1.6**
JCJ	**Chichijima**	**3.84**	**138**	P	**Pn**	**03 38 54.5**	**+0.7**
	2.6nm,0.3s,baz=287,slow=19,SNR=4.8						
JCJ				S	**S**	**03 39 49.2**	**-1.1**
	51nm,0.3s,baz=277,slow=23,SNR=17						
JHHJ	**Haha-jima-NKT**	**4.20**	**142**	S	**S**	**03 39 55.7**	**-1.0**
JWZ	**Kozaga**	**4.66**	**320**	P	**Pn**	**03 39 03.2**	**+1.5**
BSO1	**Boso 1**	**4.88**	**17**	*e*S	**S**	**03 40 09.5**	**+1.5**
JIE	**Ise**	**4.91**	**334**	P	**Pn**	**03 39 07.8**	**+3.5**
BSO3	**Boso 3**	**4.92**	**12**	S	**S**	**03 40 10.6**	**+1.3**
JKN2	**Miekihoku**	**4.95**	**330**	P	**Pn**	**03 39 07.7**	**+3.0**
BSO4	**Boso 4**	**5.08**	**10**	*e*S	**S**	**03 40 15.3**	**+2.7**
JNY	**Yasuok**	**5.50**	**348**	P	**Pn**	**03 39 13.0**	**+2.5**
JAO	**Ibara**	**5.54**	**343**	P	**Pn**	**03 39 12.9**	**+1.9**
JEG	**Eigenji**	**5.69**	**335**	P	**Pn**	**03 39 16.4**	**+3.8**
JHU	**Hanno**	**5.86**	**0**	P	**Pn**	**03 39 15.6**	**+1.2**
JHU				*e*S	**S**	**03 40 24.4**	**-3.7**
JRY	**Ryogami san**	**6.03**	**357**	P	**Pn**	**03 39 17.6**	**+1.3**
JRY				*e*S	**S**	**03 40 28.9**	**-2.7**
JYT	**Yasato**	**6.28**	**7**	*e*S	**S**	**03 40 32.3**	**-4.3**
JAG	**Ashikaga**	**6.43**	**1**	P	**Pn**	**03 39 21.0**	**+0.3**
JAG				S	**S**	**03 40 36.2**	**-3.5**
MJAR	**Matsushiro Arr**	**6.61**	**352**	P	**Pn**	**03 39 23.2**	**+0.6**
	1.8nm,0.3s,baz=173,slow=11,SNR=11						
MJAR				S	**S**	**03 40 39.2**	**-4.2**
	0.8nm,0.3s,baz=184,slow=18,SNR=5.1						
MAT	**Matsushiro**	**6.61**	**352**	P	**Pn**	**03 39 23.7**	**+1.0**
MAT				*e*S	**S**	**03 40 40.6**	**-2.8**
JHO	**Hitachi**	**6.70**	**9**	P	**P**	**03 39 26.2**	**+1.7**
JHS	**Saijyo**	**7.22**	**315**	P	**P**	**03 39 31.8**	**+1.3**
JNU	**Nakatsue**	**7.82**	**296**	P	**P**	**03 39 38.5**	**+1.2**
	0.3nm,0.3s,baz=25,slow=8.3,SNR=3.7						
JMK	**Ichinoseki**	**9.09**	**10**	P	**P**	**03 39 53.5**	**+1.9**
KSRS	**Korea Array**	**12.03**	**311**	P	**P**	**03 40 25.2**	**+1.0**
	0.2nm,0.3s,baz=119,slow=12,SNR=3.2						
USRK	**Ussuriysk Ar.**	**15.33**	**340**	P	**P**	**03 41 01.0**	**+0.8**
	0.3nm,0.3s,baz=167,slow=14,SNR=5.9						
KLR	**Kul'dur**	**20.06**	**345**	P	**P**	**03 41 50.8**	**+1.3**
	0.8nm,0.5s,baz=178,slow=3.6,SNR=3.7						
MKAR	**Makanchi Array**	**46.69**	**308**	P	**P**	**03 45 33.7**	**-1.7**
	0.4nm,0.6s,baz=94,slow=8.6,SNR=4.4						
WRA	**Warramunga Arr**	**49.86**	**186**	P	**P**	**03 45 58.0**	**-1.6**
	0.3nm,0.4s,baz=3.4,slow=7.9,SNR=6.6						
ASAR	**Alice Springs**	**53.59**	**186**	P	**P**	**03 46 24.8**	**-2.0**
	0.2nm,0.5s,baz=19,slow=11,SNR=4.1						
ARCES	**ARCESS Array B**	**69.98**	**340**	P	**P**	**03 48 13.9**	**-0.2**
	2.3nm,0.8s,baz=74,slow=9.5,SNR=5.1						
FINES	**FINESS Array B**	**74.23**	**333**	P	**P**	**03 48 38.1**	**-1.0**
	0.6nm,0.5s,baz=96,slow=3.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**120.77**	**310**	PKP	**PKPdf**	**03 55 49.1**	**-2.1**
	0.3nm,1.0s,baz=76,slow=1.7,SNR=3.7						

BJI ***15*** *03:42:28.4,4.˚03N×61.˚61E,h10km,mb4.6/26,mB4.9/19, Ms4.6/13,Ms7 4.3/13*
MOS ***15*** *03:42:35.6±1.1,4.˚88N×62.˚21E,h10km,mb4.8/21,Error ellipse: s-maj=10.1km s-min=6.4km az=105.2*
IDC ***15*** *03:42:35.6±0.5,4.˚93N×62.˚24E,h0km,mb4.2/21, mb1 4.4/21,mb1mx4.1/57,mbtmp4.2/21,MS3.7/21, Ms1 3.7/21,ms1mx3.5/43,Error ellipse: s-maj=17.1km s-min=12.5km az=151.0*
ISCJB ***15*** *03:42:36.5±0.3,4.˚88N±0.˚05×62.˚18E±0.˚04,h16km, mb4.5/53,MS3.6/20,Error ellipse: s-maj=8.0km s-min=6.1km az=165.2*
NEIC ***15*** *03:42:37.4±0.3,4.˚86N×62.˚22E,h10km,mb4.9/17,Error ellipse: s-maj=7.2km s-min=6.2km az=145.0*
ISC 15 03:42:38.2±0.5,4.˚85N±0.˚09×62.˚23E±0.˚07,h16km,n147, σ1°13/147,mb4.5/53,MS3.6/20,19C-7D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**14.14**	**142**	T	T	04 00 27.9	
	baz=321,slow=75,SNR=240						
H08N3	**Diego Garcia H**	**14.15**	**142**	T	T	04 00 32.6	
	baz=321,slow=75,SNR=279						
H08N1	**Diego Garcia H**	**14.16**	**142**	T	T	04 00 27.8	
	baz=321,slow=75,SNR=260						
PALK	**Pallekele**	**18.52**	**82**	LR	LR	03 52 32.3	
	comp=Z,458nm,19.4s,baz=296,slow=32						
WSAR	**Wadi Sarin**	**18.61**	**350**	LR	LR	03 52 54.4	
	comp=Z,164nm,18.5s,baz=194,slow=33						
ATD	**Arta Tunnel**	**20.29**	**290**	LR	LR	03 54 21.4	
	comp=Z,127nm,18.4s,baz=144,slow=35						
UOSS	**Minazif**	**20.80**	**344**	*e*P	**P**	**03 47 19.4**	**+0.4**
	5.2nm,1.5s						
KMBO	**Kilima Mbogo**	**25.65**	**257**	P	**P**	**03 48 09.8**	**+1.9**
	9.5nm,0.9s,baz=54,slow=12,SNR=16						
KMBO				LR	LR	03 56 39.5	
	comp=Z,275nm,21.9s,baz=24,slow=33						
KMBO	**Kilima Mbogo**	**25.65**	**257**	*ce*P	**P**	**03 48 10.0**	**+2.2**
KMBO				pmax	pmax		
	comp=Z,12nm,1.0s						
KMBO	**Kilima Mbogo**	**25.65**	**257**	*e*P	**P**	**03 48 09.5**	**+1.6**
	comp=Z,39nm,1.5s						
OPO	**Ambohidratompo**	**27.60**	**212**	LR	LR	03 57 35.4	
	comp=Z,300nm,18.1s,baz=70,slow=32						
GEYT	**Alibeck**	**33.13**	**354**	LR	LR	04 02 15.2	
	comp=Z,36nm,19.4s,baz=95,slow=36						
KSH	**Kashi**	**36.68**	**18**	*e*P	**P**	**03 49 45.3**	**+0.8**
KSH				PP	**PP**	**03 51 09.3**	**+1.1**
KSH				S	**S**	**03 55 24.3**	**-3.1**
KSH				ScS	**ScS**	**03 59 59.3**	**-1.1**
KSH				PMZ			
	comp=Z,3.0nm,0.3s						
KSH				PMZ			
	comp=Z,120nm,5.1s						
KSH				LN			
	comp=Z,69nm,4.8s						
KSH				LE			
	comp=Z,120nm,5.6s						
KSH				LZ			
	comp=Z,140nm,12.2s						
CMAR	**Chiang Mai Arr**	**38.31**	**66**	P	**P**	**03 49 59.7**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=238,slow=8.4,SNR=4.7						
CMAR				LR	LR	04 06 19.0	
	comp=Z,67nm,18.1s,baz=279,slow=37						
GNI	**Garni**	**38.51**	**338**	*i*P	**P**	**03 50 00.6**	**+0.5**
GNI				pmax	pmax		
	comp=Z,26nm,1.2s						
EKS2	**Erkin-Say**	**39.02**	**14**	*e*P	**P**	**03 50 05.5**	**+1.2**
EKS2				pmax	pmax		
	comp=Z,27nm,1.5s						
EKS2	**Erkin-Say**	**39.02**	**14**	*e*P	**P**	**03 50 05.5**	**+1.2**
	comp=Z,27nm,1.5s						
AAK	**Ala-Archa**	**39.17**	**14**	P	**P**	**03 50 06.0**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=186,slow=10.0,SNR=4.5						
AAK	**Ala-Archa**	**39.17**	**14**	*i*P	**P**	**03 50 07.6**	**+2.0**
AAK				pmax	pmax		
	comp=Z,28nm,1.9s						
LSZ	**Lusaka**	**39.20**	**239**	P	**P**	**03 50 06.6**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=73,slow=13,SNR=3.3						
FRU	**Bishkek**	**39.39**	**14**	*e*P	**P**	**03 50 09.0**	**+1.7**
MATP	**Matopo**	**41.58**	**232**	P	**P**	**03 50 26.0**	**+0.2**
	comp=Z,6.0nm,1.2s,baz=43,slow=8.3,SNR=3.4						
KBZ	**Khabaz**	**42.31**	**339**	LR	LR	04 09 16.7	
	comp=Z,46nm,19.6s,baz=130,slow=38						
KIV	**Kislovodsk**	**42.58**	**339**	*e*P	**P**	**03 50 34.4**	**+0.8**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,31nm,16.0s						
BRTR	**Keskin Array B**	**43.26**	**327**	P	**P**	**03 50 38.5**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=149,slow=9.9,SNR=6.0						
BRTR				LR	LR	04 09 12.4	
	comp=Z,57nm,18.6s,baz=134,slow=37						
BRTR	**Keskin Array B**	**43.26**	**327**	*ce*P	**P**	**03 50 39.4**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KMI	**Kunming**	**43.76**	**58**	P	**P**	**03 50 45.5**	**+1.9**
KMI				PMZ			
	comp=Z,9.0nm,0.7s						
KMI				PMZ			
	comp=Z,85nm,5.0s						
ABKAR	**Akbulak array**	**44.29**	**358**	*e*P	**P**	**03 50 47.7**	**+0.5**
WMQ	**Urumqi**	**44.83**	**26**	P	**P**	**03 50 52.1**	**+0.4**
MAKZ	**Makanchi**	**45.15**	**19**	*e*P	**P**	**03 50 54.6**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,14nm,1.4s						
MAKZ	**Makanchi**	**45.15**	**19**	*e*P	**P**	**03 50 54.6**	**+0.5**
	comp=Z,14nm,1.4s						
MK01	**Makanchi Array**	**45.22**	**19**	*e*P	**P**	**03 50 54.4**	**-0.4**
MK31	**Makanchi Array**	**45.24**	**19**	*e*P	**P**	**03 50 55.0**	**+0.1**
MK31	**Makanchi Array**	**45.24**	**19**	*e*P	**P**	**03 50

ARR	**Arges**	**51.96**	**327**	⇑*iP*		**P**	**03 51 46.7**	**0.0**	
XAN	**Xi'an**	**52.09**	**50**	P		**P**	**03 51 48.3**	**+0.5**	
XAN				S		**S**	**03 59 12.8**	**+1.3**	
XAN				PMZ					
	comp=Z,10.0nm,1.2s								
XAN				LN					
	comp=Z,44nm,21.9s								
XAN				LE					
	comp=Z,80nm,21.9s								
XAN				LZ					
	comp=Z,2μm,19.7s								
ZAA0	**Zalesovo Array**	**52.29**	**17**	*eP*	P		03 51 42.2	-6.7	
ZALV	**Zalesovo Beam**	**52.29**	**17**	P	**P**		**03 51 48.1**	**-0.8**	
	comp=Z,3.5nm,0.8s,baz=201,slow=7.7,SNR=5.1								
ZALV				LR	LR		04 15 07.8		
	comp=Z,67nm,20.0s,baz=250,slow=37								
MDVR	**Moldovita**	**53.24**	**325**	⇑*iP*		**P**	**03 51 53.8**	**-2.3**	
AKASG	**Malin Array Be**	**53.40**	**334**	P		**P**	**03 51 56.0**	**-1.1**	
	comp=Z,0.6nm,0.4s,baz=129,slow=6.0,SNR=12								
KIEV	**Kiev**	**53.40**	**334**	⇑*eP*		**P**	**03 51 57.0**	**-0.1**	
KIEV				pmax	pmax				
	comp=Z,5.0nm,1.3s								
BZS	**Buzias**	**53.79**	**326**	⇑*iP*		**P**	**03 52 00.2**	**+0.1**	
BZS	**Buzias**	**53.79**	**326**	⇑P		**P**	**03 52 00.2**	**+0.1**	
DRGR		**53.90**	**327**	⇑*iP*		**P**	**03 52 01.6**	**+0.6**	
DRGR		**53.90**	**327**	⇑P		**P**	**03 52 01.6**	**+0.6**	
OBN	**Obninsk**	**54.21**	**342**	*eP*		**P**	**03 52 02.7**	**-0.2**	
OBN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
MOS	**Moscow**	**54.43**	**343**	*eP*		**P**	**03 52 08.9**	**+4.3**	
UZH	**Uzhgorod**	**55.27**	**329**	*eP*		**P**	**03 52 10.7**	**-0.1**	
UZH				*e*			03 52 14.9		
KOLS	**Kolonicke sedl**	**55.47**	**329**	*eP*		**P**	**03 52 12.9**	**+0.7**	
KOLS				pmax	pmax				
	comp=Z,11nm,1.3s								
KOLS	**Kolonicke sedl**	**55.47**	**329**	*eP*		**P**	**03 52 12.9**	**+0.7**	
CRVS	**Cervenica-Dubn**	**55.87**	**329**	*eP*		**P**	**03 52 16.6**	**+1.5**	
CRVS	**Cervenica-Dubn**	**55.87**	**329**	*eP*		**P**	**03 52 16.6**	**+1.5**	
HHC	**Hu-ho-hao-te**	**56.81**	**43**	*eP*		**P**	**03 52 23.0**	**+0.8**	
HHC				pP	sP		03 52 29.8	+0.6	
HHC				S		**S**	**04 00 17.5**	**+2.4**	
HHC				PMZ					
	comp=Z,13nm,1.1s								
HHC				PMZ					
	comp=Z,76nm,7.1s								
HHC				LN					
	comp=Z,150nm,12.9s								
HHC				LE					
	comp=Z,110nm,12.8s								
HHC				LZ					
	comp=Z,130nm,13.5s								
ZAK	**Zakamensk**	**56.93**	**30**	*eP*		**P**	**03 52 19.2**	**-3.6**	
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.7s								
VYHS	**Vyhne**	**57.02**	**327**	*eP*		**P**	**03 52 22.7**	**-0.6**	
VYHS				pmax	pmax				
	comp=Z,6.0nm,1.4s								
VYHS	**Vyhne**	**57.02**	**327**	*eP*		**P**	**03 52 22.7**	**-0.6**	
SONM	**Songino Array**	**57.06**	**34**	P		**P**	**03 52 23.8**	**-0.1**	
	comp=Z,2.5nm,0.9s,baz=231,slow=7.3,SNR=13								
SONM				LR	LR		04 16 51.5		
	comp=Z,113nm,19.1s,baz=142,slow=36								
SONA1	**Songino Array**	**57.08**	**34**	*eP*		**P**	**03 52 24.1**	**+0.2**	
ULN	**Ulaanbaatar**	**57.45**	**34**	⇑*iP*		**P**	**03 52 27.0**	**+0.4**	
ULN				pmax	pmax				
	comp=Z,10.0nm,2.5s								
TAM	**Tamanrasset**	**57.51**	**294**	*eP*		**P**	**03 52 28.0**	**+0.6**	
TAM				pmax	pmax				
	comp=Z,21nm,1.7s								
TAM	**Tamanrasset**	**57.51**	**294**	*eP*		**P**	**03 52 28.0**	**+0.6**	
	comp=Z,21nm,1.7s								
KLMR	**Klimovskoe**	**58.45**	**347**	*eP*		**P**	**03 52 30.4**	**-2.7**	
KLMR				*e**SP		**pP**	**03 52 36.7**	**-1.5**	
KLMR				pmax	pmax				
	comp=Z,17nm,1.4s								
MORC	**Moravsky Berou**	**58.45**	**328**	*eP*		**P**	**03 52 32.9**	**-0.5**	
MORC				pmax	pmax				
	comp=Z,35nm,1.2s								
MORC	**Moravsky Berou**	**58.45**	**328**	*eP*		**P**	**03 52 32.9**	**-0.5**	
	comp=Z,35nm,1.2s								
TREC	**Trest**	**59.30**	**326**	*eP*		**P**	**03 52 38.5**	**-0.8**	
TREC	**Trest**	**59.30**	**326**	*eP*		**P**	**03 52 38.5**	**-0.8**	
NJ2	**Nanjing**	**59.34**	**56**	*eP*		**P**	**03 52 38.8**	**-1.1**	
NJ2				PMZ					
	comp=Z,14nm,0.7s								
DPC	**Dobruska-Polom**	**59.42**	**328**	*eP*		**P**	**03 52 40.0**	**-0.2**	
DPC	**Dobruska-Polom**	**59.42**	**328**	*eP*		**P**	**03 52 40.0**	**-0.2**	
UPC	**Upice**	**59.67**	**328**	*eP*		**P**	**03 52 41.8**	**0.0**	
UPC	**Upice**	**59.67**	**328**	*eP*		**P**	**03 52 41.8**	**0.0**	
BJI	**Beijing**	**59.73**	**46**	P		**P**	**03 52 43.0**	**+0.6**	
BJI				PP		**PP**	**03 54 53.6**	**-0.7**	
BJI				PMZ					
	comp=Z,10.0nm,0.8s								
BJI				PMZ					
	comp=Z,90nm,3.6s								
GOPC	**GO Pecny, Ondr**	**60.01**	**327**	*eP*		**P**	**03 52 44.5**	**+0.3**	
GOPC	**GO Pecny, Ondr**	**60.01**	**327**	*eP*		**P**	**03 52 44.5**	**+0.3**	
GERES	**GERESS Array B**	**60.06**	**325**	P		**P**	**03 52 43.2**	**-1.4**	
	comp=Z,0.2nm,0.6s,baz=108,slow=7.2,SNR=4.4								
GERES				LR	LR		04 18 28.7		
	comp=Z,27nm,21.4s,baz=110,slow=36								
TOA0	**Torodi Ar. Sit**	**60.23**	**282**	*eP*		**P**	**03 52 46.6**	**+0.3**	
TORD	**Torodi Ar. Bea**	**60.23**	**282**	P		**P**	**03 52 45.8**	**-0.5**	
	comp=Z,4.7nm,1.0s,baz=109,slow=6.6,SNR=21								
TORD				LR	LR		04 18 55.0		
	comp=Z,64nm,19.9s,baz=265,slow=36								
KHC	**Kasperske Hory**	**60.28**	**325**	*eP*		**P**	**03 52 44.9**	**-1.2**	
KHC				*ex*		x	03 52 58.3		
KHC	**Kasperske Hory**	**60.28**	**325**	*eP*		**P**	**03 52 44.9**	**-1.2**	
BRG	**Berggiesshubel**	**60.98**	**327**	*eP*		**P**	**03 52 50.1**	**-0.7**	
	comp=Z,12nm,1.7s								
BRG	**Berggiesshubel**	**60.98**	**327**	*eP*		**P**	**03 52 50.1**	**-0.7**	
BRG				pmax	pmax				
	comp=Z,12nm,1.7s								
NKC	**Novy Kostel**	**61.47**	**326**	*eP*		**P**	**03 52 53.9**	**-0.2**	
NKC				*ep*P		**sP**	**03 53 00.4**	**-0.8**	
NKC	**Novy Kostel**	**61.47**	**326**	*eP*		**P**	**03 52 53.9**	**-0.2**	
NKC				*e*			03 53 00.4		
CLL	**Collm**	**61.71**	**327**	*iP*		**P**	**03 52 55.9**	**+0.2**	
	comp=Z,15nm,1.4s								
CLL				*e*			03 53 20.0		
CLL	**Collm**	**61.71**	**327**	*iP*		**P**	**03 52 55.9**	**+0.2**	
CLL				pmax	pmax				
	comp=Z,15nm,1.4s								
CLL	**Collm**	**61.71**	**327**	*eP*		**P**	**03 52 56.6**	**+0.9**	
	comp=Z,12nm,1.3s								
SENIN	**Lac Senin/Sane**	**62.80**	**320**	*eP*		**P**	**03 53 02.5**	**-0.9**	
	comp=Z,12nm,0.9s								
BFO	**Black Forest**	**62.97**	**323**	*ceP*		**P**	**03 53 04.4**	**+0.1**	
BFO	**Black Forest**	**62.97**	**323**	*eP*		**P**	**03 53 04.0**	**-0.3**	
	comp=Z,20nm,1.4s								
NRIK	**Noril'sk**	**66.53**	**10**	LR	LR		04 25 35.4		
	comp=Z,68nm,19.7s,baz=122,slow=39								
KIC	**Kosan Boka**	**66.63**	**275**	*e*PKP2		**P**	**03 53 29.3**	**+0.6**	
	comp=Z,91nm,1.6s								
DBIC	**Dimbokro**	**66.73**	**275**	P		**P**	**03 53 29.7**	**+0.4**	
	comp=Z,5.2nm,0.8s,baz=84,slow=8.3,SNR=4.7								
DBIC				LR	LR		04 21 26.5		
	comp=Z,63nm,20.7s,baz=86,slow=35								
TIC	**Toumodi**	**66.89**	**275**	*e*PKP2		**P**	**03 53 30.8**	**+0.4**	
LIC	**Lamto**	**66.92**	**275**	*e*PKP2		**P**	**03 53 29.9**	**-0.7**	
	comp=Z,79nm,0.9s								
NOA	**NORSAR Array B**	**67.76**	**336**	LR	LR		04 25 15.8		
	comp=Z,24nm,20.6s,baz=30,slow=38								
KSAR	**Wonju Array Be**	**67.80**	**52**	P		**P**	**03 53 35.1**	**-0.6**	
KSAR	**Wonju Array Be**	**67.80**	**52**	P		**P**	**03 53 35.0**	**-0.6**	
KSRS	**Korea Array**	**67.83**	**52**	P		**P**	**03 53 35.0**	**-0.8**	
	comp=Z,2.7nm,1.0s,baz=257,slow=7.9,SNR=7.4								
ES19	**SONSECA Array**	**68.62**	**311**	*eP*		**P**	**03 53 40.6**	**-0.3**	
ESDC	**Sonseca Array**	**68.66**	**311**	P		**P**	**03 53 40.5**	**-0.6**	
	comp=Z,2.5nm,0.8s,baz=94,slow=4.7,SNR=6.6								
ESLA	**Sonseca Array**	**68.66**	**311**	*eP*		**P**	**03 53 40.3**	**-0.8**	
	comp=Z,6.0nm,1.0s								
ARCES	**ARCESS Array B**	**68.92**	**347**	LR	LR		04 26 39.5		
	comp=Z,25nm,19.2s,baz=86,slow=38								
PAB	**San Pablo**	**68.93**	**311**	*eP*		**P**	**03 53 43.1**	**+0.3**	
PAB				pmax	pmax				
	comp=Z,18nm,1.4s								
PAB	**San Pablo**	**68.93**	**311**	*eP*		**P**	**03 53 43.1**	**+0.3**	
	comp=Z,18nm,1.4s								
MAW	**Mawson**	**72.29**	**180**	LR	LR		04 21 14.0		
	comp=Z,111nm,19.9s,baz=243,slow=32								
WRA	**Warramunga Arr**	**74.96**	**112**	P		**P**	**03 54 19.9**	**+0.6**	
	comp=Z,8.9nm,1.1s,baz=288,slow=5.0,SNR=14								
WRAB	**Tennant Creek**	**74.97**	**112**	*di P*		**P**	**03 54 20.6**	**+1.2**	
WRAB				pmax	pmax				
	comp=Z,50nm,1.2s								
WRAB	**Tennant Creek**	**74.97**	**112**	*eP*		**P**	**03 54 20.2**	**+0.8**	
	comp=Z,28nm,1.4s								
ASAR	**Alice Springs**	**75.30**	**116**	P		**P**	**03 54 21.5**	**+0.2**	
	comp=Z,4.9nm,1.0s,baz=288,slow=5.3,SNR=18								
AS31	**Alice Springs**	**75.30**	**116**	*eP*		**P**	**03 54 21.5**	**+0.2**	
	comp=Z,2.7nm,1.1s								
AS01	**Alice Springs**	**75.34**	**116**	*eP*		**P**	**03 54 21.9**	**+0.4**	
MJAR	**Matsushiro Arr**	**75.86**	**54**	P		**P**	**03 54 22.8**	**-1.4**	
	comp=Z,1.0nm,0.6s,baz=268,slow=7.0,SNR=3.1								
TIXI	**Tiksi**	**78.18**	**17**	*ceP*		**P**	**03 54 36.0**	**-0.5**	
TIXI				pmax	pmax				
	comp=Z,5.0nm,1.2s								
STKA	**Stephens Creek**	**83.55**	**123**	P		**P**	**03 55 05.1**	**-1.0**	
	comp=Z,3.4nm,0.9s,baz=319,slow=8.2,SNR=3.9								
BILL	**Bilibino**	**90.75**	**21**	*eP*		**P**	**03 55 37.6**	**-2.6**	
BILL				pmax	pmax				
	comp=Z,1.0nm,0.9s								
VNDA	**Vanda**	**96.79**	**168**	LR	LR		04 33 00.0		
	comp=Z,80nm,18.9s,baz=230,slow=31								
ILAR	**Eielson Array**	**107.29**	**13**	PP	PP		04 01 23.4	+2.1	
	comp=Z,0.9nm,1.2s,baz=318,slow=5.3,SNR=4.8								
TXAR	**Lajitas Array**	**143.41**	**339**	PKhKP	PKPpre		04 02 08.3		
	comp=Z,0.5nm,0.8s,baz=106,slow=2.6,SNR=7.0								
TXAR				PKP		**PKPdf**	**04 02 11.8**	**-1.2**	
	comp=Z,0.5nm,0.8s,baz=67,slow=2.3,SNR=7.1								

*IDC **15** 03:46:05.7±2.8, 46°.80N×152°.44E, h102km±25km, mb3.2/8, mb1 3.3/11, mb1mx3.2/48, mbtmp3.6/11, Error ellipse: s-maj=25.5km s-min=17.1km az=143.0*

ISC 15 03:45:59.3±1.0, 46°.3N±0°.1×152°.8E±0°.1, h50km, n26, σ2s 21/22, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NEM2	**Nemuro 2**	**5.86**	**242**	P		**Pn**	**03 47 24.2**	**+0.7**
NEM2				*eS*		**Sn**	**03 48 29.3**	**0.0**
JNK	**Nakash**	**6.39**	**247**	P		**Pn**	**03 47 32.7**	**+1.9**
JAK	**Akkeshi**	**6.70**	**243**	P		**Pn**	**03 47 35.3**	**+0.2**
JAK				*eS*		**Sn**	**03 48 48.9**	**-1.1**
JTKR	**Abashiri--Toko**	**6.75**	**253**	P		**Pn**	**03 47 38.4**	**+2.7**
JAR	**Ashorobuto**	**7.13**	**248**	P		**Pn**	**03 47 42.5**	**+1.5**
JAR				*eS*		**Sn**	**03 49 02.7**	**+2.1**
PETK	**Petropavlovsk-**	**7.47**	**23**	P		**Pn**	**03 47 48.4**	**+2.9**
	0.4nm,0.3s,baz=191,slow=13,SNR=3.5							
JKK2	**Kamakawa 2**	**7.56**	**255**	P		**Pn**	**03 47 49.9**	**+3.1**
ASAJ	**Asahikawa**	**7.57**	**257**	P		**Pn**	**03 47 50.2**	**+3.3**
	0.5nm,0.3s,baz=54,slow=13,SNR=6.8							
JCH	**Churui**	**7.74**	**245**	P		**Pn**	**03 47 50.1**	**+0.9**
JKB	**Kayabe**	**9.59**	**247**	P		**Pn**	**03 48 14.6**	**0.0**
JANG	**Nango**	**10.18**	**238**	P		**Pn**	**03 48 20.6**	**-2.0**
USRK	**Ussuriysk Ar.**	**14.84**	**269**	P		**Pn**	**03 49 26.5**	**+0.7**
	0.2nm,0.3s,baz=70,slow=12,SNR=3.9							
KSRS	**Korea Array**	**20.50**	**253**	P		Pn	03 50 35.2	-0.3
	1.0nm,0.6s,baz=57,slow=10,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**28.95**	**152**	T		T	04 23 17.4	
	baz=340							
H11N1	**WAKE ISLAND Hy**	**28.96**	**152**	T		T	04 23 12.1	
	baz=340							
H11N3	**WAKE ISLAND Hy**	**28.96**	**152**	T		T	04 23 12.6	
	baz=340							
H11S1	**WAKE ISLAND Hy**	**30.03**	**153**	T		T	04 24 46.2	
	baz=341							
H11S3	**WAKE ISLAND Hy**	**30.04**	**153**	T		T	04 24 38.3	
	baz=341							
H11S2	**WAKE ISLAND Hy**	**30.05**	**153**	T		T	04 24 39.1	
	baz=341							
ZALV	**Zalesovo Beam**	**42.70**	**306**	P		**P**	**03 53 47.7**	**-3.2**
	0.5nm,0.4s,baz=81,slow=8.9,SNR=2.4							
MKAR	**Makanchi Array**	**46.96**	**298**	P		**P**	**03 54 22.3**	**-2.7**
	0.5nm,0.3s,baz=56,slow=7.8,SNR=7.1							
YKA	**Yellowknife Ar**	**51.36**	**36**	P		**P**	**03 54 57.8**	**-0.5**
	0.1nm,0.5s,baz=301,slow=7.2,SNR=2.6							
FINES	**FINESS Array B**	**64.33**	**335**	P		**P**	**03 56 26.5**	**-2.7**
	0.6nm,0.4s,baz=41,slow=8.2,SNR=11							
NOA	**NORSAR Array B**	**68.55**	**341**	P		**P**	**03 56 53.8**	**-2.4**
	0.7nm,0.5s,baz=29,slow=6.3,SNR=4.2							
ASAR	**Alice Springs**	**77.76**	**198**	P		**P**	**03 57 19.1**	**+2.9**
	0.2nm,0.4s,baz=18,slow=6.2,SNR=2.8							
TXAR	**Lajitas Array**	**77.86**	**60**	P		**P**	**03 57 51.9**	**+0.2**
	0.1nm,0.6s,baz=320,slow=5.2,SNR=2.1							

*IDC **15** 03:46:30.2±1.0, 53°.86N×153°.30W, h0km, mb3.8/13, mb1 4.1/15, mb1mx3.9/41, mbtmp3.9/15, ML4.7/3, MS3.0/5, Ms1 3.0/5, ms1mx2.7/44, Error ellipse: s-maj=26.4km s-min=16.7km az=6.0*

*NEIC **15** 03:46:34.5, 54°.15N×153°.57W, h12km, mb4.1/1, ML4.4(AEIC), After AEIC.*

ISC 15 03:46:37.0±0.7, 54°.51N±0°.08×153°.06W±0°.07, h35km, n49, σ2s 30/55, mb3.9/14, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OHAK	**Old Harbor**	**2.73**	**357**	*e*Pn		**Pn**	**03 47 17.6**	**-0.6**
OHAK				*e*S		**Sn**	**03 47 50.2**	**+0.4**
KDAK	**Kodiak Island**	**3.30**	**4**	*e*Pn		**Pn**	**03 47 26.1**	**+0.1**
KDAK				*e*S		**Sn**	**03 48 03.6**	**-0.3**
CHGN	**Chignik**	**3.54**	**303**	*e*Pn		Pn	03 47 23.5	-5.9
CHGN				*e*S		**Sn**	**03 48 01.7**	**-8.3**
SDPT	**Sand Point**	**4.36**	**284**	*e*Pn		Pn	03 47 33.0	-7.6
SDPT				*e*S		Sn	03 48 13.5	-17
SEW	**Seward**	**5.94**	**18**	*e*Pn		**Pn**	**03 48 01.7**	**-0.6**
	50nm,0.5s							
SEW				*e*S		**Sn**	**03 49 06.5**	**-2.6**
MID	**Middleton Isla**	**6.15**	**34**	*e*Pn		**Pn**	**03 48 05.9**	**+0.8**
	300nm,0.3s							
MID				*e*S		**Sn**	**03 49 14.2**	**0.0**
RC01	**Rabbit Creek A**	**6.84**	**14**	*e*Pn		**Pn**	**03 48 14.6**	**0.0**
	123nm,0.5s							
RC01				*e*S		**Sn**	**03 49 28.8**	**-2.3**
PMR	**Palmer**	**7.41**	**15**	*e*Pn		**Pn**	**03 48 22.6**	**+0.2**
	40nm,0.4s							
PMR				*e*S		**Sn**	**03 49 46.3**	**+1.3**
AKUT	**Akutan**	**7.45**	**272**	*e*Pn		Pn	03 48 14.8	-8.2
AKUT				*e*S		Sn	03 49 23.9	-22
DIV	**Divide**	**7.69**	**27**	*e*Pn		**Pn**	**03 48 27.4**	**+1.0**
	147nm,0.6s							
DIV				*e*S		**Sn**	**03 49 49.0**	**-3.2**
SML	**Sawmill**	**7.74**	**17**	*e*Pn		**Pn**	**03 48 27.7**	**+0.7**
	19nm,0.5s							
SML				*e*S		**Sn**	**03 49 55.7**	**+2.4**
BMRM	**Bremner River**	**7.90**	**31**	*e*Pn		**Pn**	**03 48 30.6**	**+1.4**
	128nm,0.5s							
BMRM				*e*S		**Sn**	**03 49 58.7**	**+1.5**
UNV	**Unalaska Valle**	**7.92**	**271**	*e*Pn		Pn	03 48 20.9	-8.5
UNV				*e*S		Sn	03 49 41.1	-17
PPLA	**Purkeypile**	**8.43**	**3**	*e*Pn		**Pn**	**03 48 37.4**	**+0.8**
	14nm,0.8s							
PPLA				*e*S		**Sn**	**03 50 16.1**	**+5.7**
TRF	**Thorofare Moun**	**9.09**	**8**	*e*Pn		**Pn**	**03 48 46.3**	**+0.7**
	26nm,0.4s							
KTH	**Kantishna Hill**	**9.14**	**6**	*e*Pn		**Pn**	**03 48 47.6**	**+1.3**
	36nm,0.3s							
KTH				*e*S		**Sn**	**03 50 30.1**	**+2.3**
PAX	**Paxson**	**9.35**	**22**	*e*Pn		**Pn**	**03 48 51.0**	**+1.8**
	28nm,0.5s							
PAX				*e*S		**Sn**	**03 50 35.7**	**+2.7**
MCK	**McKinley**	**9.49**	**11**	*e*Pn		**Pn**	**03 48 51.7**	**+0.7**
	23nm,0.3s							
MCK				*e*S		**Sn**	**03 50 32.7**	**-3.7**
BPAW	**Bear Paw Mtn.**	**9.68**	**5**	*e*Pn		**Pn**	**03 48 52.7**	**-0.9**
	2.5nm,0.5s							
BPAW				*e*S		Sn	03 50 20.8	-20
DOT	**Dot Lake**	**10.26**	**23**	*e*Pn		**Pn**	**03 49 03.8**	**+2.2**
	736nm,0.2s							
COLA	**College**	**10.72**	**12**	*e*Pn		**Pn**	**03 49 07.8**	**0.0**
	20nm,0.4s							
COLA				*e*S		**Sn**	**03 51 03.6**	**-2.8**
ILAR	**Eielson Array**	**10.75**	**14**	Pn		**Pn**	**03 49 08.5**	**+0.3**
	5.0nm,0.3s,baz=204,slow=14,SNR=284							
ILAR				Sn		**Sn**	**03 51 05.5**	**-1.7**
	2.3nm,0.3s,baz=208,slow=25,SNR=8.6							
ILAR				LR		LR	03 53 18.6	
	comp=Z,65nm,21.9s,baz=156,slow=36							
CRAG	**Craig**	**11.49**	**77**	*e*Pn		**Pn**	**03 49 18.2**	**-0.1**
EGAK	**Eagle**	**11.90**	**25**	*e*Pn		**Pn**	**03 49 25.7**	**+1.8**
	7.1nm,0.7s							
EGAK				*e*S		**Sn**	**03 51 29.3**	**-6.0**
COLD	**Coldfoot**	**12.84**	**5**	*e*Pn		**Pn**	**03 49 35.2**	**-1.5**
	4.3nm,0.5s							
DLBC	**Dease Lake**	**13.30**	**63**	Pn		**Pn**	**03 49 44.6**	**+1.6**
	1.1nm,0.3s,baz=265,slow=12,SNR=13							
DLBC				LR		LR	03 54 00.7	
	comp=Z,97nm,18.9s,baz=198,slow=33							
INK	**Inuvik**	**16.58**	**26**	Pn		**P**	**03 50 29.4**	**+0.9**
	1.6nm,0.3s,baz=209,slow=11,SNR=24							
INK				LR		LR	03 57 27.9	
	comp=Z,90nm,18.2s,baz=218,slow=38							
YKA	**Yellowknife Ar**	**21.33**	**53**	P		**P**	**03 51 21.9**	**+1.4**
	4.9nm,0.8s,baz=266,slow=9.8,SNR=56							
YKA				PcP		**PcP**	**03 55 20.4**	**-3.0**
	0.2nm,0.6s,baz=260,slow=1.8,SNR=4.6							
YKA				LR		LR	03 59 17.4	
	comp=Z,5.0nm,19.0s,baz=180,slow=35							
PETK	**Petropavlovsk-**	**28.64**	**288**	P		**P**	**03 52 29.6**	**-0.3**
	1.1nm,0.5s,baz=62,slow=14,SNR=2.5							
PDAR	**Pinedale Array**	**30.56**	**94**	P		**P**	**03 52 47.0**	**-0.2**
	0.6nm,0.6s,baz=321,slow=4.8,SNR=4.9							
TXAR	**Lajitas Array**	**43.33**	**105**	P		**P**	**03 54 35.2**	**-0.4**
	0.7nm,0.9s,baz=316,slow=5.9,SNR=6.5							
TXAR				PcP		**PcP**	**03 56 21.4**	**-2.4**
	0.4nm,0.7s,baz=297,slow=0.8,SNR=5.6							
TXAR				LR		LR	04 10 06.2	
	comp=Z,52nm,18.3s,baz=0.0,slow=33							
H11N2	**WAKE ISLAND Hy**	**46.12**	**237**	T		T	04 45 06.2	
	baz=28,slow=76,SNR=23							
H11N3	**WAKE ISLAND Hy**	**46.12**	**237**	T		T	04 45 07.7	
	baz=28,slow=76,SNR=20							
H11N1	**WAKE ISLAND Hy**	**46.13**	**237**	T		T	04 45 00.4	
	baz=28,slow=76,SNR=17							
H11S1	**WAKE ISLAND Hy**	**47.25**	**237**	T		T	04 46 27.5	
	baz=28,slow=76,SNR=46							
H11S2	**WAKE ISLAND Hy**	**47.27**	**237**	T		T	04 46 27.5	
	baz=28,slow=76,SNR=41							
H11S3	**WAKE ISLAND Hy**	**47.27**	**237**	T		T	04 46 27.5	
	baz=28,slow=76,SNR=43							
KSRS	**Korea Array**	**54.53**	**286**	P		**P**	**03 55 59.4**	**-1.7**
	0.6nm,0.5s,baz=44,slow=11,SNR=5.0							
KSAR	**Wonju Array Be**	**54.56**	**286**	P		**P**	**03 55 59.4**	**-1.9**
SONM	**Songino Array**	**58.11**	**309**	P		**P**	**03 56 27.6**	**+1.0**
	0.7nm,0.5s,baz=35,slow=7.2,SNR=4.7							
ZALV	**Zalesovo Beam**	**61.84**	**325**	P		**P**	**03 56 52.6**	**+0.6**
	0.7nm,0.3s,baz=44,slow=8.6,SNR=2.4							
NB2	**NORSAR Subarra**	**64.13**	**8**	P		**P**	**03 57 06.0**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=352,slow=6.9							
NOA	**NORSAR Array B**	**64.13**	**8**	P		**P**	**03 57 09.3**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=352,slow=6.5,SNR=2.7							
FINES	**FINESS Array B**	**64.39**	**0**	P		P	03 57 13.4	+4.6
	comp=Z,1.7nm,1.0s,baz=22,slow=4.9,SNR=2.6							
MKAR	**Makanchi Array**	**68.75**	**323**	P		**P**	**03 57 38.3**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=40,slow=7.1,SNR=5.1							
ABKAR	**Akbulak array**	**72.95**	**338**	*eP*		P	03 58 05.8	+3.5
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**76.42**	**9**	P		P	03 58 26.0	+3.5
	comp=Z,0.2nm,0.5s,baz=355,slow=4.4,SNR=2.9							
ESDC	**Sonseca Array**	**82.51**	**24**	P		**P**	**03 58 58.4**	**+2.6**
	comp=Z,2.0nm,0.5s,baz=337,slow=8.7,SNR=3.6							
BRTR	**Keskin Array B**	**85.96**	**355**	P		**P**	**03 59 15.5**	**+2.1**
	comp=Z,0.5nm,0.8s,baz=359,slow=5.8,SNR=3.6							

DJA 15 03:47:18.9±0.3, 7°.S±3°.×10°.6E±°, h10km, M4.0/13, MLv4.0/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SKJI	**Sukabumi**	**0.28**	**93**	P

Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.14**	**247**	⇑PG	Pg	04 15 50.3	+0.5
MQZ				SG	Sg	04 15 52.4	+0.5
MQZ				AML	AML	04 15 52.5	
OXZ	**Oxford**	**0.67**	**299**	⇓P*	Pg	04 15 59.6	0.0
LTZ	**Lake Taylor**	**0.96**	**334**	⇓P*	Pg	04 16 05.3	+0.2
LTZ				AML	AML	04 16 18.7	
LTZ				AML	AML	04 16 18.9	
RPZ	**Rata Peaks**	**1.29**	**267**	⇓P*	Pn	04 16 09.8	-1.4
RPZ				AML	AML	04 16 30.1	
RPZ				AML	AML	04 16 30.7	
KHZ	**Kahutara**	**1.34**	**23**	PN	Pn	04 16 10.5	-1.2
WVZ	**Waitaha Valley**	**1.64**	**290**	⇑PN	Pn	04 16 15.2	-0.6
WVZ				AML	AML	04 16 37.4	
WVZ				AML	AML	04 16 51.9	
THZ	**Tophouse**	**1.89**	**2**	PN	Pn	04 16 18.0	-1.3
THZ				AML	AML	04 16 53.1	
THZ				AML	AML	04 16 53.5	
LBZ	**Lake Benmore**	**2.05**	**248**	PN	Pn	04 16 20.9	-0.7
LBZ				AML	AML	04 16 59.2	
LBZ				AML	AML	04 17 02.6	
DSZ	**Denniston Nort**	**2.05**	**338**	PN	Pn	04 16 22.0	+0.4
DSZ				AML	AML	04 16 51.9	
DSZ				AML	AML	04 16 54.8	
BSWZ	**Blackbirch Sta**	**2.08**	**22**	PN	Pn	04 16 21.0	-0.9
ODZ	**Otahua Downs**	**2.10**	**228**	PN	Pn	04 16 21.3	-0.9
ODZ				AML	AML	04 17 02.2	
ODZ				AML	AML	04 17 06.9	
FOZ	**Fox Glacier**	**2.20**	**272**	PN	Pn	04 16 24.0	+0.5
FOZ				AML	AML	04 17 08.0	

MEX 15 04:17:10.3±0.4, 15°98N×95°98W, h12km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.24**	**212**	*e*P	Pg	04 17 15.0	-0.4
HUIG				*e*S	Sg	04 17 18.5	-0.3
VHO	**Vista Hermosa**	**1.31**	**326**	*e*Pn	Pn	04 17 30.9	-3.8
VHO				*i*S	Sb	04 17 47.1	-4.8
TLIG	**Tlapa**	**2.94**	**303**	*e*P	Pn	04 17 59.8	+2.8

IDC ***15*** *04:19:43.0±1.2, 26°.67N×144°.26E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/37, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=32.8km s-min=23.7km az=50.0*

ISCJB ***15*** *04:19:46.4±1.1, 26°.7N±0°.1×144°.1E±0°.1, h33km, mb3.7/5, Error ellipse: s-maj=21.8km s-min=12.9km az=14.4*

ISC 15 04:19:49.0±1.1, 26°.7N±0°.2×144°.0E±0°.1, h35km, n9, σ1§22/10, mb3.9/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.69**	**285**	Pn	**Pn**	**04 20 15.2**	**-0.8**
	17nm,0.3s,baz=267,slow=23,SNR=14						
JCJ				Sn	**Sn**	**04 20 36.1**	**-0.4**
	46nm,0.3s,baz=288,slow=23,SNR=15						
KSRS	**Korea Array**	**17.35**	**312**	P	**Pn**	**04 23 48.6**	**+0.3**
	0.3nm,0.3s,baz=118,slow=10,SNR=6.1						
USRK	**Ussuriysk Ar.**	**20.02**	**334**	P	**P**	**04 24 19.9**	**+1.2**
	1.5nm,0.7s,baz=152,slow=11,SNR=4.3						
SONM	**Songino Array**	**36.16**	**316**	P	**P**	**04 26 48.8**	**+0.7**
	1.4nm,0.7s,baz=112,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**47.26**	**192**	P	**P**	**04 28 19.0**	**0.0**
	0.7nm,0.5s,baz=13,slow=8.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**50.89**	**319**	P	**P**	**04 28 46.3**	**0.0**
	0.3nm,0.3s,baz=90,slow=5.8,SNR=2.6						
MKAR	**Makanchi Array**	**52.01**	**310**	P	**P**	**04 28 55.3**	**+0.4**
	1.2nm,0.9s,baz=106,slow=7.7,SNR=7.2						
YKA	**Yellowknife Ar**	**71.75**	**29**	P	**P**	**04 31 05.2**	**-2.1**
	0.1nm,0.6s,baz=293,slow=6.6,SNR=3.3						
LPAZ	**La Paz**	**148.44**	**77**	PKPbc	**PKPdf**	**04 39 31.6**	**+1.8**
	2.6nm,0.9s,baz=315,slow=5.7,SNR=5.2						

NIED ***15*** *04:41:00, 26°.90N×143°.90E, h8km, Mw5.4 Best double couple: M0 1.41000×10^17 NP1:φs341.00000°, δ33.00000°, λ-77.00000°. NP2:φs146.00000°, δ57.00000°, λ-98.00000°.*

ISCJB ***15*** *04:41:01.3±0.6, 26°.87N±0°.02×144°.09E±0°.01, h2km±3km, mb5.4/332, MS5.0/398, Error ellipse: s-maj=3.4km s-min=2.2km az=169.2*

IDC ***15*** *04:41:02.2±0.4, 26°.79N×144°.15E, h0km, mb5.1/30, mb1 5.1/36, mb1mx5.1/45, mbtmp5.0/36, ML4.5/5, MS4.5/37, Ms1 4.5/37, ms1mx4.4/49, Error ellipse: s-maj=12.5km s-min=9.4km az=84.0*

NEIC ***15*** *04:41:03.6±0.1, 26°.79N×144°.11E, h10km, mb5.5/232, MS5.1/299, MW5.3, MW5.3, Error ellipse: s-maj=2.7km s-min=2.3km az=148.0, Moment Tensor Solution. s47 Moment tensor: Scale 10^16 Nm; Mrr-8.49; Mθθ 1.61; Mφφ 6.87; Mrθ-1.04; Mrφ-3.61; Mθφ 3.98; Best double couple: M0 9.50000×10^16 NP1:φs328.00000°, δ33.00000°, λ-99.00000°. NP2:φs158.00000°, δ58.00000°, λ-84.00000°. Principal axes: T 9.6000, Plg13.0000°, Azm244.0000°; N -0.1400, Plg5.0000°, Azm335.0000°; P -9.4600, Plg76.0000°, Azm86.0000°;*

GCMT ***15*** *04:41:03.6±0.1, 26°.86N×144°.07E, h12km, MW5.5/139, Moment Tensor Solution. s89,c161; s139,c267; Duration: 1§4 Moment tensor: Scale 10^17 Nm; Mrr-2.09±.02; Mθθ 0.80±.02; Mφφ 1.29±.02; Mrθ 0.04±.06; Mrφ-0.93±.02; Mθφ 0.60±.06; Best double couple: M0 2.13200×10^17 NP1:φs152.00000°, δ52.00000°, λ-78.00000°. NP2:φs313.00000°, δ40.00000°, λ-105.00000°. Principal axes: T 2.0590, Plg6.0000°, Azm234.0000°; N 0.1460, Plg10.0000°, Azm325.0000°; P -2.2060, Plg79.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***15*** *04:41:03.8, 26°.88N×143°.86E, h10km, mb5.2/81, mB5.4/66, Ms5.3/87, Ms7 5.0/80*

NEIC ***15*** *04:41:04.0±0.0, 26°.80N×144°.10E, h12km, Moment Tensor Solution. s8 Moment tensor: Scale 10^17 Nm; Mrr-1.27; Mθθ 0.61; Mφφ 0.66; Mrθ 0.42; Mrφ-0.47; Mθφ 0.37; Best double couple: M0 1.30000×10^17 NP1:φs298.00000°, δ49.00000°, λ-115.00000°. NP2:φs154.00000°, δ47.00000°, λ-63.00000°. Principal axes: T 1.1100, Plg0.0000°, Azm46.0000°; N 0.3500, Plg18.0000°, Azm315.0000°; P -1.4600, Plg71.0000°, Azm138.0000°;*

MOS ***15*** *04:41:04.5±0.9, 26°.78N×144°.18E, h26km, mb5.7/110, MS5.0/88 Error ellipse: s-maj=6.6km s-min=4.0km az=105.3*

JMA ***15*** *04:41:06.0±0.1, 26°.91N×143°.94E, h105km, M5.2*

ISC 15 04:41:05.3±0.4, 26°.84N±0°.03×144°.13E±0°.03, h20km±1km, h20km:pP-P, n1373, σ1§46/1327, mb5.4/366, MS5.1/399, 43C-34D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.75**	**279**	P	**Pn**	**04 41 33.7**	**-0.9**
CBIJ				*e*S	**Sn**	**04 41 55.0**	**-1.3**
CBIJ	**Chichi jima**	**1.75**	**279**	*e*Pn	**Pn**	**04 41 33.9**	**-0.7**
CBIJ				*e*Sn	**Sn**	**04 41 53.2**	**-3.1**
JCJ	**Chichijima**	**1.75**	**279**	Pn	**Pn**	**04 41 33.9**	**-0.7**
	394nm,0.3s,baz=98,slow=24,SNR=160						
JCJ				Sn	**Sn**	**04 41 53.8**	**-2.5**
	baz=270,slow=20						
JHHJ	**Haha-jima-NKT**	**1.76**	**264**	P	**Pn**	**04 41 34.1**	**-0.5**
JHHJ				*e*S	**Sn**	**04 41 54.9**	**-1.5**
JHCJ	**Hachijojimakas**	**7.26**	**330**	P	**Pn**	**04 42 48.9**	**-1.4**
JHCJ				*e*S	**Sn**	**04 44 05.7**	**-6.4**
JHJ2	**Mitsune**	**7.28**	**330**	P	**Pn**	**04 42 49.3**	**-1.3**
JHJ2				*e*S	**Sn**	**04 44 08.6**	**-4.1**
JHJ2	**Mitsune**	**7.28**	**330**	*e*Pn	**Pn**	**04 42 49.7**	**-0.9**
JHJ2				*e*Sn	**Sn**	**04 44 08.0**	**-4.7**
JHJ	**Hachijo jima 2**	**7.30**	**330**	Pn	**Pn**	**04 42 49.5**	**-1.4**
	32nm,0.3s,baz=263,slow=23,SNR=9.5						
JHJ				Sn	**Sn**	**04 44 06.9**	**-6.4**
	111nm,0.3s,baz=223,slow=22,SNR=7.2						
BSO1	**Boso 1**	**8.25**	**342**	P	**Pn**	**04 43 02.2**	**-1.1**
BSO1				*e*S	**Sn**	**04 44 30.9**	**-4.7**
JOD2	**Odawara 2**	**9.44**	**334**	*e*S	**Sn**	**04 44 58.6**	**-7.2**
JYZW	**Yoshizawa**	**9.81**	**328**	P	**Pn**	**04 43 24.9**	**-0.3**
JIE	**Ise**	**9.87**	**321**	*e*S	**Sn**	**04 45 12.2**	**-4.2**
JRY	**Ryogami san**	**10.18**	**335**	P	**Pn**	**04 43 28.9**	**-1.4**
JRY				*e*S	**Sn**	**04 45 20.1**	**-3.8**
JAG	**Ashikaga**	**10.35**	**339**	P	**Pn**	**04 43 30.2**	**-2.5**
JNT	**Takato**	**10.36**	**332**	P	**Pn**	**04 43 33.3**	**+0.4**
INU	**Inuyama**	**10.44**	**326**	*e*Pn	**Pn**	**04 43 32.8**	**-1.1**
INU				*e*Sn	**Sn**	**04 45 22.6**	**-7.7**
JNG	**Nsakai**	**10.83**	**333**	P	**Pn**	**04 43 38.5**	**-0.8**
MJAR	**Matsushiro Arr**	**10.90**	**334**	Pn	**Pn**	**04 43 38.7**	**-1.6**
	8.9nm,0.3s,baz=162,slow=11,SNR=80						
MJAR				Sn	**Sn**	**04 45 39.5**	**-2.2**
	3.5nm,0.3s,baz=150,slow=20,SNR=5.2						
MAJO	**Matsushiro**	**10.91**	**334**	*e*P	**Pn**	**04 43 39.2**	**-1.1**
MAJO	**Matsushiro**	**10.91**	**334**	*e*Pn	**Pn**	**04 43 39.2**	**-1.1**
MAJO				*e*Sn	**Sn**	**04 45 34.2**	**-7.5**
MAT	**Matsushiro**	**10.91**	**334**	P	**Pn**	**04 43 38.9**	**-1.3**
MAT				S	**Sn**	**04 45 37.7**	**-4.0**
MAT	**Matsushiro**	**10.91**	**334**	P	**Pn**	**04 43 39.0**	**-1.3**
MJB9	**Matsu-Tunnel**	**10.91**	**334**	*e*Pn	**Pn**	**04 43 39.5**	**-0.9**
MJB9				*e*Sn	**Sn**	**04 45 35.6**	**-6.2**
JGN	**Niukaw**	**11.01**	**330**	P	**Pn**	**04 43 41.7**	**0.0**
JTO	**Tosashimizu**	**11.51**	**304**	P	**Pn**	**04 43 44.9**	**-3.7**
JMK	**Ichinoseki**	**12.32**	**349**	P	**Pn**	**04 43 56.3**	**-3.3**
JMK				*e*S	Sn	04 46 04.5	-12
JNU	**Nakatsue**	**13.07**	**302**	Pn	**Pn**	**04 44 11.1**	**+1.1**
	0.7nm,0.3s,baz=115,slow=9.9,SNR=17						
JNU				LR	LR	04 49 15.9	
	comp=Z,2μm,18.4s,baz=117,slow=38						
JNU	**Nakatsue**	**13.07**	**302**	*e*Pn	**Pn**	**04 44 11.2**	**+1.3**
GUMO	**Guam**	**13.20**	**177**	LR	LR	04 48 49.5	
	comp=Z,2μm,19.3s,baz=8.5,slow=36						
GUMO	**Guam**	**13.20**	**177**	*e*P	**P**	**04 44 17.9**	**-3.7**
GUMO	**Guam**	**13.20**	**177**	*e*Pn	**Pn**	**04 44 10.3**	**-1.4**
JAMN	**Amaminishikomi**	**13.34**	**279**	P	**Pn**	**04 44 16.8**	**+3.2**
ERM	**Erimo**	**15.16**	**357**	⇑*i*P	**Pn**	**04 44 35.9**	**-2.3**
ERM	**Erimo**	**15.16**	**357**	*e*Pn	**Pn**	**04 44 36.0**	**-2.2**
	261nm,1.4s						
ERM				*e*Sn	Sn	04 47 13.8	-12
TJN	**Taejon**	**17.14**	**308**	*e*P	**P**	**04 45 05.1**	**-0.1**
ASAJ	**Asahikawa**	**17.29**	**356**	P	**Pn**	**04 45 04.6**	**-0.8**
	4.5nm,0.3s,baz=211,slow=16,SNR=15						
ASAJ				S	**Sn**	**04 48 08.2**	**-9.0**
	1.5nm,0.3s,baz=107,slow=19,SNR=5.8						
ASAJ	**Asahikawa**	**17.29**	**356**	*e*Pn	**Pn**	**04 45 03.7**	**-1.7**
	232nm,1.4s						
ASAJ				*e*Sn	Sn	04 48 03.5	-14
KSRS	**Korea Array**	**17.30**	**312**	P	**P**	**04 45 06.4**	**-0.6**
	2.7nm,0.3s,baz=122,slow=11,SNR=51						
KSRS				S	**S**	**04 48 24.7**	**-1.6**
	0.2nm,0.3s,baz=110,slow=21,SNR=5.2						
KSRS				LR	LR	04 51 31.8	
	comp=Z,1μm,18.4s,baz=127,slow=36						
KS15	**Wonju Array Si**	**17.32**	**312**	*e*Pn	**P**	**04 45 07.2**	**-0.1**
KS15				*e*Sn	**Sn**	**04 48 21.9**	**+3.7**
KSAR	**Wonju Array Be**	**17.32**	**312**	P	**Pn**	**04 45 06.4**	**+0.5**
KSAR				S	**S**	**04 48 24.7**	**-2.0**
KSAR	**Wonju Array Be**	**17.32**	**312**	P	**Pn**	**04 45 06.4**	**+0.5**
KSAR				S	**S**	**04 48 24.7**	**-2.0**
KS01	**Wonju Array Si**	**17.34**	**312**	*e*Pn	**Pn**	**04 45 06.0**	**-0.1**
INCN	**Inchon**	**18.19**	**310**	P	**P**	**04 45 18.3**	**+1.4**
	SNR=23						
INCN	**Inchon**	**18.19**	**310**	*e*P	**Pn**	**04 45 16.8**	**+0.1**
	208nm,1.1s						
KUR	**Kuril'sk**	**18.60**	**8**	*e*P	**P**	**04 45 20.0**	**-1.2**
KUR				*e*S	**Sn**	**04 48 39.1**	**-10**
KUR				pmax	pmax		
	comp=Z,3μm,7.1s						
KUR				pmax	pmax		
	comp=Z,52nm,1.1s						
KUR				smax	smax		
	comp=E,3μm,16.6s						
KUR				MLR	MLR		
	comp=Z,2μm,10.0s						
MSHR	**Mys Shultsa**	**18.95**	**329**	⇓*i*P	**P**	**04 45 24.1**	**-1.0**
VLA	**Vladivostok**	**19.06**	**332**	⇑*i*P	**Pn**	**04 45 26.8**	**-0.3**
VLA				pmax	pmax		
	comp=Z,185nm,1.3s						
VLA				MLR	MLR		
	comp=Z,2μm,13.0s						
YOJ	**Yonaguni jima**	**19.18**	**268**	*e*P	**P**	**04 45 26.1**	**-1.7**
YOJ				pmax	pmax		
	comp=Z,757nm,1.4s						
YOJ	**Yonaguni jima**	**19.18**	**268**	*e*P	**P**	**04 45 26.1**	**-1.7**
	comp=Z,757nm,1.4s						
USRK	**Ussuriysk Ar.**	**19.90**	**334**	P	**Pn**	**04 45 36.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=148,slow=11,SNR=68						
USRK				S	**S**	**04 49 19.4**	**+0.8**
	baz=141,slow=30,SNR=2.2						
USRK				LR	LR	04 55 27.6	
	comp=Z,178nm,18.4s,baz=135,slow=43						
YSS	**Yuzh-Sakhalins**	**20.11**	**357**	⇑*i*P	Pn	04 45 39.7	+0.1
YSS				pmax	pmax		
	comp=Z,160nm,1.4s						
YSS				pmax	pmax		
	comp=Z,4μm,7.6s						
YSS				MLR	MLR		
	comp=Z,3μm,16.0s						
YSS				MLR	MLR		
	comp=N,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**20.11**	**357**	PFAKE		04 45 50.0	+10
YSS				LR	LR		
	comp=Z,2μm,19.0s						
TATO	**Taipei**	**20.45**	**270**	*e*P	**P**	**04 45 41.5**	**-0.1**
	comp=Z,889nm,1.8s						
TATO				LR	LR		
	comp=Z,4μm,18.0s						
SSE	**Sheshan**	**20.50**	**287**	⇑P	Pn	04 45 43.5	-0.9
SSE				S	**S**	**04 49 29.3**	**-1.5**
SSE				sS	Sn	04 49 35.9	+0.8
SSE				PMZ			
	comp=Z,22nm,0.7s						
SSE				PMZ			
	comp=Z,540nm,7.6s						
SSE				LN			
	comp=Z,2μm,16.0s						
SSE				LE			
	comp=Z,960nm,16.0s						
SSE				LZ			
	comp=Z,9μm,18.3s						
NACB	**Ninganchiao**	**20.51**	**268**	*e*P	**P**	**04 45 40.5**	**-1.7**
	comp=Z,401nm,1.4s						
NACB				*e*S	Sn	04 49 33.8	-1.4
NACB				LR	LR		
	comp=Z,7μm,22.0s						
YHNB	**Yeheng**	**20.60**	**269**	*e*P	**P**	**04 45 42.7**	**-0.7**
	comp=Z,264nm,1.1s						
YHNB				LR	LR		
	comp=Z,5μm,22.0s						
YULB	**Yu-li**	**20.95**	**266**	*e*P	**P**	**04 45 47.5**	**+0.5**
	comp=Z,486nm,1.4s						
SSLB	**Suanglung**	**21.16**	**267**	*e*P	**P**	**04 45 49.6**	**+0.2**
	comp=Z,257nm,1.1s						
SSLB				*e*S	Sn	04 49 50.4	-0.7
SSLB				LR	LR		
	comp=Z,4μm,21.0s						
MDJ	**Mudanjiang**	**21.25**	**330**	P	**P**	**04 45 51.3**	**+1.2**
MDJ				pP	pP	04 45 54.1	-1.7
MDJ				sP	sP	04 45 55.5	-2.8
MDJ				S	Sn	04 49 49.4	-3.3
MDJ				sS	sS	04 49 53.3	-1.1
MDJ				PMZ			
	comp=Z,66nm,1.5s						
MDJ				PMZ			
	comp=Z,1μm,5.3s						
MDJ				LN			
	comp=Z,2μm,14.6s						
MDJ				LE			
	comp=Z,2μm,13.7s						
MDJ				LZ			
	comp=Z,3μm,14.0s						
MDJ	**Mudanjiang**	**21.25**	**330**	*e*P	**P**	**04 45 51.4**	**+1.3**
	comp=Z,202nm,1.2s						
MDJ				*e*S	**S**	**04 49 47.6**	**+2.2**
MDJ				LR	LR		
	comp=Z,801nm,20.0s						
TWG	**Pinlang**	**21.30**	**264**	*e*P	**P**	**04 45 51.2**	**+0.4**
	comp=Z,920nm,1.1s						
TPUB	**Ta-pu**	**21.57**	**266**	*e*P	**P**	**04 45 54.1**	**+0.4**
	comp=Z,264nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**22.06**	**104**	T	T	05 08 59.0	
	baz=290,slow=77,SNR=38						
H11N1	**WAKE ISLAND Hy**	**22.06**	**104**	T	T	05 08 50.0	
	baz=290,slow=77,SNR=53						
H11N3	**WAKE ISLAND Hy**	**22.08**	**104**	T	T	05 09 06.0	
	baz=290,slow=77,SNR=53						
DL2	**Dalian**	**22.34**	**308**	⇑*i*P	**P**	**04 46 02.1**	**+0.2**
DL2				S	**S**	**04 50 06.4**	**-0.1**
DL2				PMZ			
	comp=Z,97nm,0.8s						
DL2				PMZ			
	comp=Z,820nm,8.2s						
DL2				LE			
	comp=Z,4μm,16.1s						
DL2				LZ			
	comp=Z,4μm,15.1s						
H11S3	**WAKE ISLAND Hy**	**22.39**	**107**	T	T	05 09 18.5	
	baz=294,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**22.39**	**107**	T	T	05 09 13.5	
	baz=294,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**22.41**	**107**	T	T	05 09 14.5	
	baz=294,slow=74,SNR=13						
SNY	**Shenyang**	**22.54**	**317**	⇓P	**P**	**04 46 03.3**	**-0.6**
SNY				S	**S**	**04 50 12.1**	**+2.0**
SNY				PMZ			
	comp=Z,22nm,0.9s						
SNY				PMZ			
	comp=Z,2μm,6.7s						
SNY				LN			
	comp=Z,2μm,14.7s						
SNY				LE			
	comp=Z,3μm,12.9s						
SNY				LZ			
	comp=Z,4μm,12.9s						
NJ2	**Nanjing**	**22.59**	**289**	*e*P	**P**	**04 46 02.5**	**-2.1**
NJ2				pP	**pP**	**04 46 06.5**	**-3.8**
NJ2				S	**S**	**04 50 07.0**	**-4.3**
NJ2				sS	sS	04 50 12.8	-8.1
NJ2				PMZ			
	comp=Z,19nm,0.7s						
NJ2				PMZ			
	comp=Z,1μm,7.6s						
NJ2				LN			
	comp=Z,3μm,13.0s						
NJ2				LE			
	comp=Z,2μm,15.7s						
NJ2				LZ			
	comp=Z,2μm,12.5s						
CN2	**Changchun**	**22.69**	**323**	*e*P	**P**	**04 46 05.8**	**+0.2**
CN2				*e*S	**S**	**04 50 15.8**	**+2.9**
CN2				PMZ			
	comp=Z,30nm,1.2s						
CN2				PMZ			
	comp=Z,1μm,5.0s						
CN2				LN			
	comp=Z,3μm,13.0s						
CN2				LE			
	comp=Z,3μm,13.0s						
CN2				LZ			
	comp=Z,2μm,14.0s						
HABR	**Khabarovsk**	**22.73**	**344**	*e*P	**P**	**04 46 04.4**	**-1.5**
HABR				*e**SP	**pP**	**04 46 10.8**	**-0.8**
HABR				PPP	PPP	04 46 36.7	
HABR				*e*		04 49 55.8	
HABR				*e*S	**S**	**04 50 13.7**	**+0.3**
HABR				*e**SS	**sS**	**04 50 21.0**	**-2.1**
HABR				*e*SSS	SSS	04 50 58.6	
HABR				*e*		04 57 18.6	
HABR				pmax	pmax		
	comp=Z,437nm,1.8s						
HABR				MLR	MLR		
	comp=Z,1μm,16.0s						
QZH	**Quanzhou**	**23.04**	**271**	⇑*i*P	P	04 46 02.0	-7.4
QZH				S	S	04 50 03.1	-16
QZH				pmax	pmax		
	comp=Z,750nm,1.3s						
QZH				pmax	pmax		
	comp=Z,2μm,4.6s						
QZH				LR	LR		
	comp=N,2μm,13.4s						
QZH				LR	LR		
	comp=E,4μm,14.2s						
QZH				LR	LR		
	comp=Z,4μm,15.8s						
TYV	**Tymovskoe**	**24.02**	**358**	*e*P	**P**	**04 46 18.8**	**+0.1**
TYV				*e*S	**S**	**04 50 38.0**	**+3.4**
TYV				pmax	pmax		
	comp=E,26nm,1.0s						
TYV				pmax	pmax		
	comp=Z,80nm,1.2s						
TYV				pmax	pmax		
	comp=Z,2μm,7.0s						
TYV				smax	smax		
	comp=E,3μm,10.0s						
TYV				MLR	MLR		
	comp=N,2μm,15.0s						
TYV				MLR	MLR		
	comp=Z,3μm,15.0s						
KLR	**Kul'dur**	**24.32**	**340**	P	**P**	**04 46 22.4**	**+0.8**
	comp=Z,30nm,0.8s,baz=149,slow=9.4,SNR=102						
KLR				LR	LR	04 58 53.4	
	comp=Z,204nm,19.2s,baz=143,slow=44						
TGY	**Tagaytay City**	**25.10**	**244**	P	**P**	**04 46 29.2**	**+0.3**
	comp=Z,484nm,0.7s,baz=283,slow=3.7,SNR=13						
TGY				LR	LR	04 54 30.4	
	comp=Z,3μm,20.7s,baz=32,slow=32						
SKR	**Severo-Kuril's**	**25.51**	**18**	*e*P	**P**	**04 46 33.1**	**+0.8**
SKR				*e*		04 46 46.8	
SKR				pmax	pmax		
	comp=Z,1μm,5.8s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
WHN	**Wuhan**	**26.34**	**285**	⇑P	**P**	**04 46 40.6**	**+0.5**
WHN				PMZ			
	comp=Z,180nm,0.6s						
WHN				PMZ			
	comp=Z,2μm,7.7s						
WHN				LN			
	comp=Z,4μm,9.8s						
WHN				LE			
	comp=Z,3μm,14.6s						
WHN				LZ			
	comp=Z,4μm,17.3s						
NKL	**Nikolayevsk**	**26.41**	**355**	*e*P	**P**	**04 46 40.0**	**-0.3**
NKL				*e*		04 47 26.0	
NKL				*e*		04 51 18.0	
NKL				pmax	pmax		
	comp=N,290nm,2.0s						
NKL				pmax	pmax		
	comp=Z,580nm,2.0s						
NKL				pmax	pmax		
	comp=N,800nm,8.0s						
NKL				pmax	pmax		
	comp=Z,2μm,8.0s						
NKL				MLR	MLR		
	comp=N,1μm,15.0s						
NKL				MLR	MLR		
	comp=E,2μm,15.0s						
NKL				MLR	MLR		
	comp=Z,3μm,15.0s						
DAV	**Davao City (W)**	**26.41**	**225**	LR	LR	04 55 19.9	
	comp=Z,5μm,21.5s,baz=88,slow=32						
BJT	**Baijiatuau**	**26.66**	**307**	*e*P	**P**	**04 46 45.4**	**+2.6**
BJT				pmax	pmax		
	comp=Z,76nm,1.2s						
BJT				MLR	MLR		
	comp=Z,3μm,18.0s						
BJT	**Baijiatuau**	**26.66**	**307**	*e*P	**P**	**04 46 45.4**	**+2.6**
	comp=Z,76nm,1.2s						
BJT				LR	LR		
	comp=Z,3μm,18.0s						
BJI	**Beijing**	**26.66**	**307**	P	**P**	**04 46 42.9**	**+0.1**
BJI				pP	**pP**	**04 46 46.4**	**-2.4**
BJI				S	**S**	**04 51 15.5**	**-1.5**
BJI				sS	**sS**	**04 51 26.8**	**-0.2**
BJI				PMZ			
	comp=Z,55nm,1.4s						
BJI				PMZ			
	comp=Z,800nm,6.4s						
BJI				LN			
	comp=Z,2μm,17.2s						
BJI				LE			
	comp=Z,3μm,14.9s						
BJI				LZ			
	comp=Z,2μm,17.8s						
GZH	**Guangzhou**	**28.12**	**269**	P	**P**	**04 46 54.4**	**-1.7**
GZH				S	**S**	**04 51 34.3**	**-6.0**
GZH				PMZ			
	comp=Z,920nm,7.1s						
PEA0	**Petropavlovsk-**	**28.13**	**17**	*e*P	**P**	**04 46 56.7**	**+0.8**
PEA0B	**Petropavlovsk-**	**28.13**	**17**	PFAKE

PETK Petropavlovsk- 28.13 17 P **P** **04 46 56.0 +0.2**
comp=Z,5.6nm,1.0s,baz=173,slow=13,SNR=6.0
PETK LR LR 04 56 19.8
comp=Z,1μm,21.9s,baz=195,slow=33
PET Petropavlovsk 28.32 19*d* iP **P** **04 46 57.4 -0.1**
PET *e*S **S** **04 51 40.6 -2.1**
PET pmax pmax
comp=Z,600nm,14.3s
PET pmax pmax
comp=Z,600nm,14.5s
PET smax smax
comp=N,1μm,12.4s
PET smax smax
comp=N,1μm,8.5s
PET MLR MLR
comp=Z,3μm,12.0s
PET MLR MLR
comp=Z,2μm,12.0s
PET Petropavlovsk 28.32 19 PFAKE 04 47 10.0 +13
PET LR LR
comp=Z,3μm,19.0s
TIY Taiyuan 28.78 300 *e*P **P** **04 47 02.9 +1.0**
TIY PP **PnPn** **04 47 55.8 +2.9**
TIY S **S** **04 51 52.8 +2.2**
TIY SS **SnSn** **04 53 16.4 +4.1**
TIY PMZ
comp=Z,500nm,6.6s
TIY LN
comp=Z,3μm,14.0s
TIY LE
comp=Z,2μm,15.6s
TIY LZ
comp=Z,2μm,13.8s
HIA Hailar 29.26 326 PFAKE 04 47 20.0 +14
HIA LR LR
comp=Z,1μm,19.0s
JAY Jayapura 29.37 187 P **P** **04 47 07.0 -0.2**
comp=Z,0.5nm,0.8s,baz=270,slow=20,SNR=2.5
JAY LR LR 04 57 43.1
comp=Z,31nm,20.0s,baz=359,slow=34
JAY Jayapura 29.37 187 P **P** **04 47 07.0 -0.2**
HHC Hu-ho-hao-te 30.25 306 *e*P **P** **04 47 16.3 +1.3**
HHC sP sP 04 47 23.3 -0.2
HHC S **S** **04 52 14.6 +0.9**
HHC sS sS 04 52 24.3 +0.6
HHC PMZ
comp=Z,17nm,1.1s
HHC PMZ
comp=Z,490nm,7.7s
HHC LN
comp=Z,2μm,14.7s
HHC LE
comp=Z,3μm,15.7s
HHC LZ
comp=Z,2μm,15.9s
ENH Enshi 30.55 285 *e*P **P** **04 47 17.2 -0.5**
comp=Z,393nm,1.5s
ENH *e*S **S** **04 52 16.1 -2.4**
ENH LR LR
comp=Z,2μm,18.0s
XAN Xi'an 31.08 292 P **P** **04 47 21.9 -0.4**
XAN pP pP 04 47 27.3 -1.1
XAN S **S** **04 52 20.3 -6.5**
XAN PMZ
comp=Z,65nm,1.6s
XAN PMZ
comp=Z,240nm,3.4s
XAN LN
comp=Z,1μm,13.5s
XAN LE
comp=Z,2μm,14.6s
XAN LZ
comp=Z,2μm,13.8s
BTO Baotou 31.31 305 *e*P **P** **04 47 23.6 -0.7**
LBMI Labuha 31.67 213 P **P** **04 47 29.5 +2.0**
RABL Rabaul 31.81 165 PFAKE 04 47 40.0 +11
RABL LR LR
comp=Z,1μm,20.0s
QIZ Qiongzhong 32.44 263 P **P** **04 47 36.1 +1.7**
QIZ sP **pP** **04 47 39.3 -1.1**
QIZ S **S** **04 52 45.3 -2.9**
QIZ sS **sS** **04 52 54.4 -3.8**
QIZ PMZ
comp=Z,20nm,1.4s
QIZ LN
comp=Z,2μm,18.6s
QIZ LZ
comp=Z,3μm,29.5s
QIZ Qiongzhong 32.44 263 PFAKE 04 47 50.0 +16
QIZ LR LR
comp=Z,3μm,22.0s
MYLDM Lahad Datu 32.58 233 *e*P **P** **04 47 35.8 +0.2**
comp=Z,406nm,1.7s
MYLDM LR LR
comp=Z,4μm,21.0s
CLNS Chul'man 32.98 341 *e*P **P** **04 47 39.5 +0.8**
CLNS *e**PP **sP** **04 47 49.7 +2.4**
CLNS *e* 04 48 48.3
CLNS *e* 04 50 17.4
CLNS *e*S **S** **04 52 59.6 +3.7**
CLNS pmax pmax
comp=N,45nm,1.2s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=Z,63nm,1.4s
CLNS pmax pmax
comp=E,23nm,0.9s
CLNS pmax pmax
comp=N,26nm,0.8s
CLNS pmax pmax
comp=Z,20nm,1.1s
CLNS smax smax
comp=E,323nm,10.6s
CLNS smax smax
comp=N,412nm,9.1s
CLNS MLR MLR
comp=E,1μm,11.0s
CLNS MLR MLR
comp=N,1μm,13.0s
CLNS MLR MLR
comp=Z,1μm,13.0s
MA2 Magadan 33.05 6 P **P** **04 47 39.5 +0.4**
comp=Z,14nm,0.7s,baz=210,slow=8.5,SNR=6.5
GYA Guiyang 33.41 278⇑*i*P **P** **04 47 43.0 +0.1**
GYA PP **PP** **04 48 56.5 -2.0**
GYA PcP **PcP** **04 50 25.6 +1.4**
GYA S **S** **04 53 01.4 -1.9**
GYA ScP **ScP** **04 54 08.9 +1.2**
GYA SS **SnSn** **04 55 06.0 +0.8**
GYA PMZ
comp=Z,70nm,1.0s
GYA PMZ
comp=Z,260nm,6.9s
GYA LN
comp=Z,690nm,16.8s
GYA LE
comp=Z,1μm,16.5s
GYA LZ
comp=Z,1μm,17.1s
SANI Sanana 33.63 214 P **P** **04 47 43.2 -1.5**
comp=Z,88nm,1.1s
TSM Tawau 33.64 233⇑P **P** **04 47 44.1 -0.8**
KKM Kota Kinabalu 33.67 237 PFAKE 04 48 00.0 +15
KKM LR LR
comp=Z,800nm,19.0s
MRSI Marisa 33.80 223 P **P** **04 47 46.4 +0.2**
comp=Z,421nm,1.1s,comp=Z,5μm
CIT Chita 34.06 326 *e*P **P** **04 47 50.1 +1.9**
CIT *e* 04 53 17.0
MIDW Midway 34.08 79 PFAKE 04 48 00.0 +11
MIDW LR LR
comp=Z,1μm,21.0s
SMY Shemya 34.19 33 PFAKE 04 48 00.0 +11
SMY LR LR
comp=Z,2μm,19.0s
LUWI Luwuk 34.52 220 P **P** **04 47 51.3 -1.2**
LUWI Luwuk 34.52 220 *e*P **P** **04 47 50.5 -2.0**
comp=Z,446nm,1.2s
LUWI LR LR
comp=Z,2μm,21.0s
LZH Lanzhou 35.37 295⇑P **P** **04 48 00.3 +0.5**
LZH pP pP 04 48 04.8 -1.1
LZH sP sP 04 48 07.5 -0.9
LZH PP **PP** **04 49 21.0 +0.8**
LZH PcP **PcP** **04 50 28.0 -1.8**
LZH S **S** **04 53 31.0 -2.5**
LZH sS sS 04 53 39.4 -4.2
LZH SS **SnSn** **04 55 48.0 -4.6**
LZH PMZ
comp=Z,130nm,1.2s
LZH PMZ
comp=Z,420nm,6.0s
LZH LN
comp=Z,2μm,14.5s
LZH LE
comp=Z,2μm,14.6s
LZH LZ
comp=Z,3μm,15.5s
CD2 Chengdu 35.45 286⇓P **P** **04 48 00.0 -0.5**
CD2 sP pP 04 48 06.3 -0.3
CD2 PP **PP** **04 49 20.4 -0.6**
CD2 PcP **PcP** **04 50 29.8 -0.1**
CD2 S **S** **04 53 35.0 +0.4**
CD2 sS sS 04 53 42.4 -2.3
CD2 PMZ
comp=Z,230nm,0.7s
CD2 PMZ
comp=Z,510nm,3.4s
CD2 LN
comp=Z,4μm,17.9s
CD2 LE
comp=Z,2μm,14.1s
CD2 LZ
comp=Z,3μm,12.7s
ULN Ulaanbaatar 35.71 316*d* iP **P** **04 48 04.2 +1.6**
ULN pmax pmax
comp=Z,242nm,1.7s
ULN MLR MLR
comp=Z,2μm,14.0s
ULN Ulaanbaatar 35.71 316 P **P** **04 48 04.5 +1.9**
SNR=79
ULN Ulaanbaatar 35.71 316 *e*P **P** **04 48 04.4 +1.9**
comp=Z,414nm,1.7s
ULN LR LR
comp=Z,800nm,22.0s
SONA1 Songino Array 36.10 316 *e*P **P** **04 48 06.7 +0.7**
SONM Songino Array 36.10 316 P **P** **04 48 07.6 +1.6**
comp=Z,47nm,0.8s,baz=118,slow=7.6,SNR=116
SONM LR LR 05 03 30.7
comp=Z,465nm,18.5s,baz=110,slow=37
PMG Port Moresby 36.15 175⇑*i*P **P** **04 48 06.7 +0.3**
PMG pmax pmax
comp=Z,166nm,1.2s
PMG Port Moresby 36.15 175 *e*P **P** **04 48 05.5 -0.8**
comp=Z,46nm,0.9s
PCI Palu 36.17 224 P **P** **04 48 06.6 -0.1**
comp=Z,313nm,1.0s,comp=Z,3μm
YAK Yakutsk 36.49 349 P **P** **04 48 09.9 +1.1**
comp=Z,1.9nm,0.3s,baz=339,slow=23,SNR=9.7
YAK Yakutsk 36.49 349*d* iP **P** **04 48 08.9 0.0**
YAK *e**PP **sP** **04 48 18.6 +1.1**
YAK *e* 04 49 29.6
YAK *e* 04 50 30.2
YAK *e*S **S** **04 53 49.5 -0.2**
YAK *e**SS **sS** **04 54 04.1 +4.3**
YAK *e*SS **SnSn** **04 56 20.3 +1.6**
YAK *e* 04 58 21.8
YAK pmax pmax
comp=Z,85nm,1.2s
YAK pmax pmax
comp=N,60nm,1.3s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,234nm,3.8s
YAK pmax pmax
comp=N,342nm,4.0s
YAK pmax pmax
comp=E,75nm,2.1s
YAK smax smax
comp=N,267nm,4.5s
YAK smax smax
comp=E,416nm,4.8s
YAK MLR MLR
comp=N,1μm,14.0s
YAK MLR MLR
comp=E,1μm,11.0s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK Yakutsk 36.49 349 *e*P **P** **04 48 09.1 +0.3**
comp=Z,69nm,0.7s
YAK LR LR
comp=Z,1μm,22.0s
SEY Seymchan 36.50 6 P **P** **04 48 09.8 +0.8**
comp=Z,17nm,0.8s,baz=177,slow=6.6,SNR=34
SEY Seymchan 36.50 6*ce*P **P** **04 48 10.3 +1.3**
KDI Kendari 37.01 217 P **P** **04 48 14.9 +1.1**
comp=Z,108nm,1.0s,comp=Z,2μm
KMI Kunming 37.13 277 P **P** **04 48 15.8 +0.7**
KMI pP pP 04 48 19.4 -1.8
KMI sP sP 04 48 21.8 -1.9
KMI PP **PnPn** **04 49 44.9 +4.7**
KMI S **S** **04 53 57.9 -2.9**
KMI sS sS 04 54 08.3 -2.6
KMI SS **SnSn** **04 56 30.6 -4.9**
KMI PMZ
comp=Z,45nm,1.4s
KMI PMZ
comp=Z,460nm,5.8s
KMI LN
comp=Z,1μm,15.2s
KMI LE
comp=Z,1μm,14.9s
KMI LZ
comp=Z,2μm,24.2s
UBPT Khong Chiam 37.72 260 P **P** **04 48 22.4 +2.5**
comp=Z,46nm,2.1s
PANO Nakornpanom 37.76 263 P **P** **04 48 21.9 +1.7**
comp=Z,43nm,1.4s
TTSI Tana Toraja 37.87 222 P **P** **04 48 21.0 -0.1**
BTM Bintulu 37.88 237⇑P **P** **04 48 23.5 +2.2**
SKNT Sakolnakorn 38.38 264 P **P** **04 48 26.2 +0.7**
comp=Z,52nm,1.3s
SPSI Sidrap Palu 38.63 221 P **P** **04 48 27.5 0.0**
NONG Nongkai 38.73 266 P **P** **04 48 29.3 +0.9**
comp=Z,75nm,1.2s
GTA Gaotai 38.81 300 P **P** **04 48 28.8 -0.2**
GTA pP pP 04 48 34.3 -0.8
GTA sP sP 04 48 37.0 -0.6
GTA S **S** **04 53 23.9 -1.9**
GTA sS sS 04 54 32.5 -3.4
GTA SS **SnSn** **04 57 07.6 -8.0**
GTA PMZ
comp=Z,13nm,1.1s
GTA PMZ
comp=Z,500nm,7.1s
GTA LN
comp=Z,2μm,14.3s
GTA LE
comp=Z,2μm,14.7s
GTA LZ
comp=Z,2μm,15.2s
ZAK Zakamensk 38.95 318 *e*P **P** **04 48 31.0 +1.0**
ZAK *e* 04 54 31.3
ZAK pmax pmax
comp=Z,125nm,1.4s
SBUM Sibu 39.02 237⇓P **P** **04 48 31.9 +1.0**
SBUM Sibu 39.02 237 *e*P **P** **04 48 30.0 -0.9**
comp=Z,98nm,1.4s
SBUM *e*PP **PP** **04 49 54.9 -5.6**
IRK Irkutsk 39.11 321 *e*P **P** **04 48 32.5 +1.3**
IRK pmax pmax
comp=Z,141nm,2.1s
HNR Honiara 39.19 155 PFAKE 04 48 40.0 +7.9
HNR LR LR
comp=Z,1μm,22.0s
TLY Talaya 39.24 320 P **P** **04 48 33.5 +1.3**
comp=Z,28nm,0.8s,baz=302,slow=1.9,SNR=12
TLY Talaya 39.24 320*d* iP **P** **04 48 33.9 +1.6**
TLY *e*S **S** **04 54 34.0 +2.3**
TLY pmax pmax
comp=Z,81nm,1.6s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 39.24 320 *e*P **P** **04 48 34.0 +1.7**
comp=Z,174nm,1.7s
TLY *e*PP **PP** **04 49 55.9 -6.4**
TLY LR LR
comp=Z,500nm,18.0s
KAPI Kappang 39.48 220 *e*P **P** **04 48 34.5 -0.2**
comp=Z,277nm,1.4s
KHON Khomkaen 39.65 263 P **P** **04 48 38.7 +2.6**
comp=Z,20nm,0.8s
BSSI Bau Bau, Buton 39.99 218 P **P** **04 48 41.6 +2.7**
comp=Z,100nm,1.8s,comp=Z,2μm
CHAI Chaiyaphum 40.56 263 P **P** **04 48 44.1 +0.5**
comp=Z,23nm,1.0s,comp=Z,213nm
COEN Coen 40.56 181 *e*P **P** **04 48 42.3 -1.2**
comp=Z,48nm,1.0s
COEN LR LR
comp=Z,900nm,19.0s
LOEI Loei 40.60 266 P **P** **04 48 41.4 -2.6**
MOY Mondy 40.76 319 *e*P P 04 48 52.5 +7.4
UTTA Uttaradit 41.15 267 P **P** **04 48 49.3 +0.8**
comp=Z,9.2nm,0.8s,comp=Z,81nm
MMRI Maumere 41.16 214 P **P** **04 48 49.8 +1.2**
MMRI Maumere 41.16 214 *e*P **P** **04 48 48.6 0.0**
comp=Z,176nm,0.8s
STKI Sintang 41.16 235 P **P** **04 48 49.2 +0.6**
SOEI Soe 41.17 211 P **P** **04 48 50.9 +2.2**
SOEI Soe 41.17 211 *e*P **P** **04 48 48.6 -0.1**
comp=Z,245nm,1.3s
SOEI LR LR
comp=Z,1μm,21.0s
PBKT Sadao Pong 41.21 265 P **P** **04 48 49.8 +0.8**
comp=Z,83nm,1.1s,comp=Z,1μm
BBKI Banjar Baru 41.33 228 P **P** **04 48 49.6 -0.3**
MTN Manton Dam 41.42 199 *e*P **P** **04 48 49.6 -1.0**
comp=Z,84nm,0.9s
CHBT CHBT 41.55 259 P **P** **04 48 54.5 +2.7**
comp=Z,82nm,1.1s
LAMP Lampang 41.71 268 P **P** **04 48 54.3 +1.2**
comp=Z,11nm,0.8s,comp=Z,112nm
SUKH Sukhothai 42.07 267 P **P** **04 48 58.3 +2.3**
comp=Z,6.1nm,0.7s
CHTO Chiang Mai 42.23 269 P **P** **04 48 57.7 +0.4**
comp=Z,142nm,1.1s
CHTO Chiang Mai 42.23 269 *e*P **P** **04 48 56.8 -0.6**
CHTO pmax pmax
comp=Z,28nm,0.9s
CHTO MLR MLR
comp=Z,2μm,21.0s
CHTO Chiang Mai 42.23 269 P **P** **04 48 57.8 +0.5**
SNR=6.0
CHTO P **P** **04 48 57.8 +0.5**
SNR=6.0
CHTO Chiang Mai 42.23 269 *e*P **P** **04 48 56.8 -0.6**
comp=Z,28nm,0.9s
CHTO LR LR
comp=Z,2μm,21.0s
CM01 Chiang Mai Arr 42.34 268 *e*P **P** **04 48 57.0 -1.3**
CM31 Chiang Mai Arr 42.35 268 *e*P **P** **04 48 58.1 -0.2**
CMAR Chiang Mai Arr 42.35 268 P **P** **04 48 58.2 -0.1**
comp=Z,11nm,0.8s,baz=55,slow=8.5,SNR=33
CMAR LR LR 05 06 51.1
comp=Z,705nm,18.9s,baz=77,slow=37
CMAR Chiang Mai Arr 42.35 268*ce*P **P** **04 48 58.7 +0.4**
CMAR pmax pmax
comp=Z,11nm,0.8s
UMPA Umpang Tak 43.22 265 P P 04 49 11.5 +6.1
comp=Z,12nm,1.2s,comp=Z,1μm
BILL Bilibino 43.33 12*d* iP **P** **04 49 06.3 +0.7**
BILL *e* 04 50 46.1
BILL *e*PPP PPP 04 51 26.4
BILL *e*S **S** **04 55 33.0 +1.0**
BILL *e*SS **ScS** **04 59 07.8 +3.6**
BILL pmax pmax
comp=Z,135nm,2.5s
BILL MLR MLR
comp=Z,813nm,15.0s
BILL Bilibino 43.33 12 *e*P **P** **04 49 06.1 +0.4**
comp=Z,88nm,1.4s
BILL LR LR
comp=Z,2μm,20.0s
NIKH Nikolski High 43.45 40 PFAKE 04 49 20.0 +13
NIKH LR LR
comp=Z,1μm,20.0s
SRDT SRDT 43.71 263 P **P** **04 49 10.7 +1.4**
comp=Z,185nm,1.2s,comp=Z,11μm
PLAI Plampang 43.71 219 P **P** **04 49 11.3 +2.0**
comp=Z,90nm,1.2s,comp=Z,2μm
TWSI Taliwang, Sumb 44.15 221 P **P** **04 49 14.1 +1.3**
comp=Z,56nm,0.9s
KTGM Kuala Trenggan 44.52 249⇓P **P** **04 49 17.3 +1.4**
ABJI Asem Bagus 45.01 224 P **P** **04 49 22.4 +2.8**
comp=Z,211nm,1.9s,comp=Z,5μm
UNV Unalaska Valle 45.05 39 *e*P **P** **04 49 19.5 0.0**
comp=Z,98nm,1.2s
UNV LR LR
comp=Z,3μm,20.0s
BLJI Banyuglugur 45.37 225 P **P** **04 49 24.2 +1.7**
comp=Z,216nm,1.1s,comp=Z,3μm
AKUT Akutan 45.55 39 *e*P **P** **04 49 23.7 +0.2**
comp=Z,92nm,1.0s
AKUT LR LR
comp=Z,2μm,21.0s
SURA Surathani 45.55 256 P **P** **04 49 25.8 +1.8**
comp=Z,60nm,0.9s,comp=Z,3μm
JAGI Jajag, Banyuwa 45.58 224 PFAKE 04 49 40.0 +16
JAGI LR LR
comp=Z,1μm,18.0s
TIXI Tiksi 45.66 353*d* iP **P** **04 49 24.3 +0.2**
TIXI pmax pmax
comp=Z,28nm,0.6s
TIXI MLR MLR
comp=Z,524nm,15.0s
TIXI Tiksi 45.66 353 *e*P **P** **04 49 23.5 -0.6**
comp=Z,31nm,0.8s
TIXI LR LR
comp=Z,700nm,21.0s
GMJI Gumukmas 45.87 225 P **P** **04 49 29.2 +2.7**
comp=Z,96nm,1.2s
MYKOM Kota Tinggi 45.95 244⇓P **P** **04 49 27.6 +0.4**
MYKOM Kota Tinggi 45.95 244 *e*P **P** **04 49 26.9 -0.3**
comp=Z,81nm,1.1s
MYKOM LR LR
comp=Z,1μm,20.0s
TRTT Trang 46.14 254 P **P** **04 49 30.3 +1.6**
comp=Z,62nm,0.7s
SURT Suratani 46.37 256 P P 04 49 35.6 +5.1
comp=Z,21nm,1.3s
LSA Lhasa 46.41 286 P **P** **04 49 33.3 +2.0**
LSA Lhasa 46.41 286 *e*P **P** **04 49 33.4 +2.1**
LSA pmax pmax
comp=Z,26nm,1.1s
LSA MLR MLR
comp=Z,1μm,18.0s
LSA Lhasa 46.41 286 *e*P **P** **04 49 33.4 +2.1**
comp=Z,26nm,1.1s
LSA LR LR
comp=Z,1μm,18.0s
GAMB Gambell 46.60 25 PFAKE 04 49 40.0 +8.3
GAMB LR LR
comp=Z,800nm,21.0s
SHL Shillong 46.62 281 *e*P **P** **04 49 31.5 -1.1**
SHL IAmb IAmb 04 49 36.8
comp=Z,175nm,1.9s
SHL *ex* x 04 56 17.5
PPBI Pangkal Pinang 46.62 238 P **P** **04 49 33.8 +1.3**
comp=Z,81nm,0.9s
KULM Kulim 46.62 250 *e*P **P** **04 49 31.3 -1.2**
comp=Z,109nm,1.2s
KULM LR LR
comp=Z,2μm,22.0s
CTA Charters Tower 46.69 177 P **P** **04 49 32.1 -0.8**
baz=350,slow=9.5
CTAO Charters Tower 46.69 177 *e*P **P** **04 49 32.0 -0.8**
CTAO pmax pmax
comp=Z,39nm,0.9s
CTAO Charters Tower 46.69 177 *e*P **P** **04 49 32.0 -0.8**
comp=Z,38nm,0.9s
PWJI Pagerwojo 46.73 227 P **P** **04 49 34.6 +1.4**
comp=Z,73nm,1.8s
IPM Ipoh 46.74 249⇓P **P** **04 49 34.0 +0.5**
IPM Ipoh 46.74 249 *e*P **P** **04 49 31.9 -1.6**
comp=Z,55nm,1.0s
IPM LR LR
comp=Z,2μm,21.0s
FRIM Kepong 46.93 247⇓P **P** **04 49 36.0 +1.1**
PKDT Phuket 47.28 255 P **P** **04 49 42.3 +4.7**
comp=Z,140nm,1.1s,comp=Z,5μm
WRAB Tennant Creek 47.45 193*d* iP **P** **04 49 38.0 -0.8**
WRAB pmax pmax
comp=Z,345nm,1.2s
WRAB MLR MLR
comp=Z,788nm,16.0s
WRAB Tennant Creek 47.45 193 *e*P **P** **04 49 37.1 -1.7**
comp=Z,168nm,1.3s

WB2 Warramunga Arr 47.46 193 *e*P P **04 49 37.7 -1.1**
comp=Z,152nm,1.1s
WRA Warramunga Arr 47.46 193 P P **04 49 37.7 -1.2**
comp=Z,72nm,1.0s,baz=17,slow=8.7,SNR=105
WRA LR LR 05 08 05.6
comp=Z,740nm,21.9s,baz=5.0,slow=34
JCJI Jatiwangi 48.00 232 P P **04 49 46.1 +2.9**
comp=Z,511nm,1.2s,comp=Z,8μm
WMQ Urumqi 48.13 306 P P **04 49 45.1 +1.1**
WMQ pP pP 04 49 49.6 -0.7
WMQ sP sP 04 49 52.1 -0.6
WMQ S **S** **04 56 42.3 +0.4**
WMQ sS sS 04 56 49.8 -2.4
WMQ ScS **ScS** **04 59 35.1 -1.1**
WMQ PMZ
comp=Z,56nm,1.2s
WMQ LN
comp=Z,790nm,13.8s
WMQ LE
comp=Z,530nm,12.2s
WMQ LZ
comp=Z,310nm,16.8s
KPJI Karang Pucung 48.14 230 P P **04 49 44.7 +0.4**
comp=Z,202nm,1.2s,comp=Z,3μm
FITZ Fitzroy Crossi 48.14 204 LR LR 05 07 42.0
comp=Z,750nm,21.9s,slow=33
FITZ Fitzroy Crossi 48.14 204 *e*P P **04 49 43.6 -0.6**
comp=Z,135nm,0.9s
LEM Lembang 48.69 232 P P 04 49 54.9 +6.2
SDPT Sand Point 48.82 39 PFAKE 04 50 00.0 +11
SDPT LR LR
comp=Z,4μm,22.0s
TNA Tin City 48.90 24 PFAKE 04 50 00.0 +11
TNA LR LR
comp=Z,700nm,20.0s
CBJI Citeko 48.95 233 P P **04 49 52.6 +2.1**
comp=Z,411nm,1.0s
CISI Cisompet, Garu 49.07 231 P P **04 49 51.2 -0.3**
comp=Z,139nm,1.7s,comp=Z,4μm
CISI Cisompet, Garu 49.07 231 *e*P P **04 49 49.7 -1.8**
comp=Z,226nm,1.4s
BKNI Bangkinang 49.08 245 PFAKE 04 50 00.0 +8.5
BKNI LR LR
comp=Z,1μm,20.0s
PSI Prapat 49.41 249 *e*P P **04 49 53.5 -0.8**
PSI *e* 04 51 16.2
PSI pmax pmax
comp=Z,95nm,1.3s
PSI MLR MLR
comp=Z,1μm,21.0s
PSI Prapat 49.41 249 *e*P P **04 49 53.5 -0.8**
comp=Z,95nm,1.3s
PSI *e*PcP **PcP** **04 51 16.2 -0.4**
PSI LR LR
comp=Z,1μm,21.0s
MNSI Mandailing Nat 49.99 246 P P **04 49 58.7 +0.2**
comp=Z,69nm,0.8s,comp=Z,9μmcomp=Z,211μm
PPI Padang Panjang 50.05 244 P P **04 50 01.2 +2.2**
comp=Z,73nm,1.0s,comp=Z,2μm
KASI Kota Agung 50.05 236 P P **04 50 01.6 +2.6**
comp=Z,53nm,1.2s
KSI Kapahiang 50.28 239 P P **04 50 01.9 +1.2**
comp=Z,184nm,1.7s,comp=Z,11μm
TPTI 50.63 251 P P **04 50 06.0 +2.7**
comp=Z,61nm,1.2s
ZAA0 Zalesovo Array 50.82 319 *e*P P **04 50 03.7 -0.6**
ZAA0 *e*PcP **PcP** **04 51 20.1 -0.8**
ZALV Zalesovo Beam 50.82 319 P P **04 50 04.3 0.0**
comp=Z,18nm,0.7s,baz=103,slow=7.1,SNR=44
ZALV PcP **PcP** **04 51 21.7 +0.8**
comp=Z,14nm,0.7s,baz=119,slow=4.0,SNR=4.5
ZALV LR LR 05 13 11.8
comp=Z,470nm,18.9s,baz=72,slow=38
RAMN Ramite 50.90 284 *e*P P **04 50 06.4 +0.8**
comp=Z,206nm,1.1s
AS01 Alice Springs 51.16 192 *e*P P **04 50 05.6 -1.5**
AS01 *e*PcP **PcP** **04 51 21.6 -1.0**
AS31 Alice Springs 51.17 192 *e*P P **04 50 06.1 -1.1**
comp=Z,3.9nm,0.6s
ASAR Alice Springs 51.17 192 P P **04 50 05.5 -1.7**
comp=Z,7.2nm,0.8s,baz=14,slow=5.5,SNR=31
ASAR PcP **PcP** **04 51 23.1 +0.5**
comp=Z,11nm,0.8s,baz=19,slow=4.4,SNR=9.0
ASAR LR LR 05 11 04.3
comp=Z,768nm,20.9s,baz=356,slow=35
GUN Gumba 51.30 285 *e*P P **04 50 09.6 +0.9**
comp=Z,307nm,1.0s
GSI Gunungsitoli 51.36 248 P P **04 50 09.2 +0.3**
GSI Gunungsitoli 51.36 248 *e*P P **04 50 08.4 -0.5**
comp=Z,186nm,1.3s
PKIN Phulchoki 51.80 285 *e*P P **04 50 12.5 +0.2**
comp=Z,121nm,1.2s
KKN Kakani 51.85 285 *e*P P **04 50 13.2 +0.5**
comp=Z,149nm,1.2s
NVS Novosibirsk 51.85 320 *e*P P **04 50 12.0 0.0**
NVS *e*S **S** **04 57 34.3 +1.0**
NVS pmax pmax
comp=Z,126nm,1.5s
NVS pmax pmax
comp=N,22nm,1.2s
NVS pmax pmax
comp=E,62nm,1.3s
NVS smax smax
comp=E,68nm,2.6s
MK01 Makanchi Array 51.97 310 *e*P P **04 50 13.3 +0.3**
MK31 Makanchi Array 51.97 310 *i* P P **04 50 14.3 +1.2**
MK31 pmax pmax
comp=Z,79nm,0.9s
MK31 Makanchi Array 51.97 310 *e*P P **04 50 14.1 +1.0**
MKAR Makanchi Array 51.97 310 P P **04 50 14.0 +0.9**
comp=Z,45nm,0.9s,baz=91,slow=8.2,SNR=146
MKAR LR LR 05 13 29.3
comp=Z,766nm,18.5s,baz=91,slow=37
DMN Daman 52.04 285 *e*P P **04 50 14.6 +0.5**
comp=Z,128nm,0.9s
MAKZ Makanchi 52.19 310 *e*P P **04 50 15.6 +0.9**
MAKZ pmax pmax
comp=Z,192nm,1.3s
MAKZ MLR MLR
comp=Z,800nm,21.0s
MAKZ Makanchi 52.19 310 *e*P P **04 50 15.6 +0.9**
comp=Z,192nm,1.3s
MAKZ LR LR
comp=Z,800nm,21.0s
EIDS Eidsvold 52.34 172 *e*P P **04 50 15.2 -0.6**
comp=Z,20nm,1.0s
BOK Bokaro 52.34 280 *e*P P **04 50 15.8 -0.3**
BOK IAmb IAmb 04 50 21.2
comp=Z,89nm,1.2s
GKN Gorkha 52.35 286 *e*P P **04 50 16.9 +0.6**
comp=Z,258nm,1.2s
SVW2 Sparrevohn 52.58 32 *e*P P **04 50 17.3 0.0**
comp=Z,44nm,1.2s
SVW2 LR LR
comp=Z,800nm,19.0s
TT01 Tatalina 52.79 30 *e*P P **04 50 19.6 +0.8**
TTA Tatalina 52.80 30 *e*P P **04 50 20.0 +1.0**
TTA pmax pmax
comp=Z,38nm,1.3s
TTA Tatalina 52.80 30 *e*P P **04 50 19.6 +0.6**
comp=Z,38nm,1.4s
OHAK Old Harbor 53.09 37 *e*P P **04 50 20.4 -0.6**
comp=Z,32nm,0.9s
OHAK LR LR
comp=Z,3μm,21.0s
DZM Mont Dzumac 53.20 154 *e*P P **04 50 23.9 +1.5**
comp=Z,210nm,1.1s
DZM *e*S **S** **04 57 48.4 -4.2**
comp=Z,975nm,25.4s
DZM *e*LR LR 05 05 39.9
comp=Z,790nm,24.6s
DZM Mont Dzumac 53.20 154 P P **04 50 23.4 +1.0**
comp=Z,64nm,0.9s,baz=28,slow=7.1,SNR=26
DZM LR LR 05 12 25.8
comp=Z,766nm,19.4s,baz=14,slow=35
DZM Mont Dzumac 53.20 154 *e*P P **04 50 22.1 -0.4**
comp=Z,86nm,1.0s
DZM *e*PcP **PcP** **04 51 28.3 -2.0**
KOLN Koldanda 53.30 286 *e*P P **04 50 24.0 +0.6**
comp=Z,68nm,0.7s
SEM Semipalatinsk 53.36 314 *e*P P **04 50 22.5 -0.7**
comp=Z,288nm,0.8s
SEM *e*S **S** **04 57 53.6 -0.4**
SEM LR LR 05 12 47.0
comp=Z,278nm,16.6s
BWNR Bhubaneshwar 53.47 276 *e*P P **04 50 24.2 -0.2**
BWNR IAmb IAmb 04 50 46.2
comp=Z,66nm,1.5s
NRIK Noril'sk 53.52 338 P P **04 50 24.8 +0.7**
comp=Z,44nm,0.8s,baz=109,slow=11,SNR=22
NRIK LR LR 05 13 32.9
comp=Z,159nm,21.6s,baz=112,slow=36
KDAK Kodiak Island 53.53 37 *i* P P **04 50 24.8 +0.4**
KDAK Kodiak Island 53.53 37 *e*P P **04 50 24.1 -0.3**
comp=Z,142nm,1.4s
KDAK LR LR
comp=Z,2μm,21.0s
PYUN Piuthan 53.74 286 *e*P P **04 50 27.4 +0.7**
comp=Z,225nm,0.9s
PDGK Podgornoye 54.11 306 P P **04 50 29.2 +0.4**
PDGK pmax pmax
comp=Z,193nm,1.1s
SPU Mount Spurr 54.28 32 *e*P P **04 50 30.1 +0.2**
KURK Kurchatov 54.40 315 *e*P P **04 50 31.3 +0.5**
KURK pmax pmax
comp=Z,219nm,0.9s
KURK MLR MLR
comp=Z,3μm,21.0s
KURK Kurchatov 54.40 315 *e*P P **04 50 31.3 +0.5**
comp=Z,219nm,0.9s
KURK LR LR
comp=Z,3μm,21.0s
CNPM China Poot 54.45 34 *e*P P **04 50 29.7 -1.4**
comp=Z,73nm,1.2s
CNPM LR LR
comp=Z,2μm,21.0s
KURBB Kurchatov Arra 54.46 315 P P **04 50 31.3 0.0**
comp=Z,25nm,0.6s,baz=90,slow=8.0,SNR=182
PPLA Purkeypile 54.51 30 *e*P P **04 50 32.5 +0.9**
comp=Z,110nm,1.6s
PPLA *e*PcP **PcP** **04 51 36.5 +1.7**
PPLA LR LR
comp=Z,1μm,19.0s
BRLK Bradley Lake 54.65 34 *e*P P **04 50 31.8 -0.8**
comp=Z,53nm,1.2s
BRLK LR LR
comp=Z,2μm,22.0s
SUA Susitna One 54.95 32 PFAKE 04 50 50.0 +15
SUA LR LR
comp=Z,900nm,19.0s
KTH Kantishna Hill 55.19 30 *e*P P **04 50 36.9 +0.4**
comp=Z,96nm,1.8s
KTH LR LR
comp=Z,1μm,21.0s
MSVF Nonsavu 55.20 140 *e*P P **04 50 36.2 -0.9**
MSVF *e* 04 51 32.7
MSVF Nonsavu 55.20 140 *e*P P **04 50 36.2 -0.9**
MSVF *e*PcP **PcP** **04 51 32.7 -5.3**
BPAW Bear Paw Mtn. 55.25 29 *e*P P **04 50 37.5 +0.7**
comp=Z,45nm,1.3s
BPAW LR LR
comp=Z,1μm,21.0s
RC01 Rabbit Creek A 55.38 33 *e*P P **04 50 37.8 +0.1**
comp=Z,48nm,1.2s
RC01 LR LR
comp=Z,2μm,21.0s
SEW Seward 55.41 34 *e*P P **04 50 37.7 -0.2**
comp=Z,46nm,0.9s
SEW LR LR
comp=Z,1μm,21.0s
TRF Thorofare Moun 55.45 30 *e*P P **04 50 38.5 +0.1**
comp=Z,52nm,1.3s
TRF LR LR
comp=Z,1μm,21.0s
MLY Manley 55.52 28 *e*P P **04 50 39.7 +0.9**
comp=Z,32nm,1.2s
MLY LR LR
comp=Z,800nm,19.0s
CHLP Challavanipeta 55.62 275 *e*P P **04 50 39.3 -0.8**
CHLP IAmb IAmb 04 50 45.9
comp=Z,107nm,1.8s
CHLP *e*S **S** **04 58 26.9 +1.6**
CHLP IVMs_BB IVMs_BB 05 11 40.5
comp=Z,464nm,4.8s
PMR Palmer 55.73 32 *e*P P **04 50 39.2 -1.0**
PMR pmax pmax
comp=Z,32nm,0.9s
PMR MLR MLR
comp=Z,1μm,21.0s
PMR Palmer 55.73 32 *e*P P **04 50 39.2 -1.0**
comp=Z,32nm,0.9s
PMR LR LR
comp=Z,1μm,21.0s
MDOK Medeo 55.90 306 *i* P P **04 50 41.7 -0.3**
comp=Z,397nm,0.9s
MDOK *e*S **S** **04 58 29.8 +1.0**
MDOK LR LR 05 14 29.8
comp=Z,518nm,14.9s
BWN Browne 55.92 29 *e*P P **04 50 42.1 +0.5**
comp=Z,65nm,1.1s
BWN LR LR
comp=Z,900nm,20.0s
AAA Alma-Ata 55.96 306 *i* P P **04 50 44.5 +2.2**
AAA *e*S **S** **04 58 25.4 -4.0**
AAA pmax pmax
comp=Z,1μm,1.6s
AAA smax smax
comp=N,1μm,9.5s
AAA MLR MLR
comp=Z,1μm,22.0s
AAA Alma-Ata 55.96 306 *e*P P **04 50 43.5 +1.2**
comp=Z,1μm,0.9s
AAA *e*S **S** **04 58 32.5 +3.1**
AAA LR LR 05 15 07.9
comp=Z,416nm,16.8s
RND Reindeer 56.08 30 *e*P P **04 50 42.4 -0.4**
RND pmax pmax
comp=Z,38nm,1.1s
RND MLR MLR
comp=Z,1μm,22.0s
RND Reindeer 56.08 30 *e*P P **04 50 42.4 -0.4**
comp=Z,38nm,1.1s
RND LR LR
comp=Z,1μm,22.0s
MCK McKinley 56.09 30 *e*P P **04 50 42.6 -0.3**
MCK pmax pmax
comp=Z,73nm,1.3s
MCK MLR MLR
comp=Z,1μm,20.0s
MCK McKinley 56.09 30 *e*P P **04 50 42.6 -0.3**
comp=Z,73nm,1.3s
MCK LR LR
comp=Z,1μm,20.0s
SML Sawmill 56.13 32 *e*P P **04 50 43.7 +0.5**
SML pmax pmax
comp=Z,36nm,0.9s
SML Sawmill 56.13 32 *e*P P **04 50 42.7 -0.5**
comp=Z,36nm,0.9s
SML LR LR
comp=Z,2μm,22.0s
COLD Coldfoot 56.16 25 *e*P P **04 50 44.5 +1.3**
comp=Z,37nm,1.1s
VIS Vishakhapatnam 56.54 274 *e*P P **04 50 46.5 -0.2**
WRH Wood River Hil 56.56 29 *e*P P **04 50 45.8 -0.3**
comp=Z,22nm,1.0s
WRH LR LR
comp=Z,1μm,21.0s
MDM Murphy Dome 56.56 28 *e*P P **04 50 46.7 +0.5**
comp=Z,58nm,1.4s
MDM LR LR
comp=Z,1μm,20.0s
SCM Sheep Creek Mo 56.61 32 *e*P P **04 50 47.1 +0.5**
SCM pmax pmax
comp=Z,69nm,1.1s
SCM MLR MLR
comp=Z,1μm,21.0s
SCM Sheep Creek Mo 56.61 32 *e*P P **04 50 47.1 +0.5**
comp=Z,69nm,1.1s
SCM LR LR
comp=Z,1μm,21.0s
CCB Clear Creek Bu 56.70 29 *e*P P **04 50 46.6 -0.5**
comp=Z,18nm,1.0s
CCB LR LR
comp=Z,1μm,21.0s
COLA College 56.71 28⇑ *i*P P **04 50 47.5 +0.3**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA MLR MLR
comp=Z,797nm,17.0s
COLA College 56.71 28 PFAKE 04 51 00.0 +13
COLA LR LR
comp=Z,1μm,21.0s
TKM2 Tokmak 2 56.98 305 *i* P P **04 50 51.0 +1.2**
TKM2 pmax pmax
comp=Z,126nm,1.3s
TKM2 Tokmak 2 56.98 305 PFAKE 04 51 00.0 +10
TKM2 LR LR
comp=Z,700nm,18.0s
HDA Harding Lake 57.04 29 PFAKE 04 51 00.0 +10
HDA LR LR
comp=Z,1μm,22.0s
ILAR Eielson Array 57.11 28 P P **04 50 49.3 -0.7**
comp=Z,18nm,1.2s,baz=259,slow=5.5,SNR=61
ILAR LR LR 05 13 38.2
comp=Z,567nm,20.5s,baz=245,slow=34
ILAR PKPPKP **P'P'df** **05 20 42.4 -3.5**
comp=Z,0.7nm,1.0s,baz=82,slow=1.6,SNR=4.2
ILB Eielson Array 57.11 28 *e*P P **04 50 49.4 -0.7**
IL1 Eielson Array 57.11 28 *e*P P **04 50 49.0 -1.1**
KSH Kashi 57.20 301 P P **04 50 55.5 +4.2**
KSH pP sP 04 51 00.3 +0.3
KSH PcP **PcP** **04 51 49.9 +4.2**
KSH PP **PP** **04 53 04.6 +6.4**
KSH S **S** **04 58 52.9 +6.9**
KSH ScS **ScS** **05 00 41.1 +1.2**
KSH SS **SS** **05 02 40.9 +6.0**
KSH PMZ
comp=Z,73nm,0.7s
KSH PMZ
comp=Z,420nm,3.3s
KSH LN
comp=Z,510nm,11.2s
KSH LE
comp=Z,1μm,14.0s
KSH LZ
comp=Z,1μm,13.7s
KLU Klutina 57.25 32 *e*P P **04 50 51.0 -0.2**
comp=Z,33nm,1.0s
KLU LR LR
comp=Z,2μm,20.0s
EYAK Cordova Ski Ar 57.28 34 *e*P P **04 50 51.6 +0.3**
comp=Z,49nm,1.2s
EYAK LR LR
comp=Z,2μm,21.0s
DIV Divide 57.30 33 *e*P P **04 50 51.8 +0.2**
comp=Z,69nm,1.3s
DIV LR LR
comp=Z,2μm,20.0s
ARMA Armidale 57.38 172 *e*P P **04 50 50.5 -1.9**
comp=Z,57nm,1.1s
DDI Dehra Dun 57.39 290 *e*P P **04 50 52.4 -0.3**
PAX Paxson 57.56 31 *e*P P **04 50 53.6 +0.2**
PAX pmax pmax
comp=Z,152nm,1.9s
PAX MLR MLR
comp=Z,2μm,22.0s
PAX Paxson 57.56 31 *e*P P **04 50 53.6 +0.2**
comp=Z,152nm,1.9s
PAX LR LR
comp=Z,2μm,22.0s
FRU Bishkek 57.71 305 *e*P P **04 50 56.0 +1.3**
FRU *e*S **S** **04 58 54.0 +1.5**
FRU pmax pmax
comp=Z,200nm,1.9s
FRU MLR MLR
comp=E,1μm,15.0s
RAGM Ragged Mountai 57.81 34 *e*P P **04 50 55.5 +0.4**
comp=E,48nm,1.1s
RAGM LR LR
comp=Z,2μm,21.0s
AAK Ala-Archa 57.82 305 *d i*P P **04 50 56.9 +1.2**
AAK pmax pmax
comp=Z,95nm,1.1s
AAK MLR MLR
comp=Z,1μm,17.0s
AAK Ala-Archa 57.82 305 P P **04 50 57.0 +1.4**
SNR=36
AAK Ala-Archa 57.82 305 *e*P P **04 50 56.1 +0.5**
comp=Z,79nm,1.3s
AAK LR LR
comp=Z,800nm,18.0s
BMRM Bremner River 57.86 33 *e*P P **04 50 55.7 +0.2**
comp=Z,84nm,1.2s
BMRM LR LR
comp=Z,2μm,22.0s
SMLA Simla 57.94 291 *e*P P **04 50 56.8 +0.4**
FYU Fort Yukon 57.99 26 *e*P P **04 50 57.4 +1.2**
comp=Z,122nm,1.4s
FYU LR LR
comp=Z,1μm,21.0s
PVM Polavaram 58.23 274 *e*P P **04 50 58.9 +0.2**
PVM IAmb IAmb 04 51 03.4
comp=Z,136nm,1.9s
PVM *e*S **S** **04 58 58.1 -1.7**
PVM IVMs_BB IVMs_BB 05 11 35.9
comp=Z,336nm,4.1s
DOT Dot Lake 58.24 30 *e*P P **04 50 58.0 -0.1**
comp=Z,129nm,1.4s
DOT LR LR
comp=Z,4μm,22.0s
EKS2 Erkin-Say 58.34 305 *e*P P **04 50 59.8 +0.5**
EKS2 pmax pmax
comp=Z,54nm,1.1s
EKS2 MLR MLR
comp=Z,800nm,18.0s
EKS2 Erkin-Say 58.34 305 *e*P P **04 50 59.8 +0.5**
comp=Z,54nm,1.1s
EKS2 LR LR
comp=Z,800nm,18.0s
MENT Mentasta 58.36 31 *e*P P **04 50 59.4 +0.5**
comp=Z,61nm,1.6s
MENT LR LR
comp=Z,1μm,20.0s
DHRM DHARAMSHALA 58.38 293 *e*P P **04 50 59.5 -0.4**
DHRM IAmb IAmb 04 51 04.1
comp=Z,222nm,1.9s
STKA Stephens Creek 58.44 183 P P **04 50 58.6 -1.1**
comp=Z,18nm,0.8s,baz=351,slow=8.5,SNR=21
STKA LR LR 05 16 04.4
comp=Z,243nm,21.2s,baz=353,slow=36
STKA Stephens Creek 58.44 183 *e*P P **04 50 59.0 -0.7**
comp=Z,7.1nm,0.9s
CRQM Cirque 58.57 33 *e*P P **04 51 01.8 +1.2**
comp=Z,88nm,1.1s
CRQM LR LR
comp=Z,2μm,22.0s
OTUK Ortayu 58.62 312 P P **04 51 01.8 +0.8**
OTUK pmax pmax
comp=Z,105nm,1.5s
BALM Baldy 58.96 33 *e*P P **04 51 03.6 +0.3**
BALM pmax pmax
comp=Z,34nm,1.1s
BALM MLR MLR
comp=Z,1μm,22.0s
BALM Baldy 58.96 33 *e*P P **04 51 03.6 +0.3**
comp=Z,34nm,1.1s
BALM LR LR
comp=Z,1μm,22.0s
VOSK Vostochnaya 59.07 317 *ce*P P **04 51 04.4 +0.4**
VOSK pmax pmax
comp=Z,44nm,0.8s
VOSK Vostochnaya 59.07 317 *e*P P **04 51 04.5 +0.4**
comp=Z,78nm,1.1s
NGP Nagpur 59.17 280 *e*P P **04 51 05.8 +0.6**
NGP IAmb IAmb 04 51 06.4
comp=Z,80nm,1.4s
MNAS Manas 59.30 305 P P **04 51 06.9 +1.0**
MNAS pmax pmax
comp=Z,76nm,1.4s
BVA0 Borovoye Array 59.40 318 *i* P P **04 51 07.0 +0.7**
BVA0 pmax pmax
comp=Z,63nm,1.0s
BRVK Borovoye 59.46 318 *e*P P **04 51 07.4 +0.7**
BRVK pmax pmax
comp=Z,721nm,1.7s
BRVK MLR MLR
comp=Z,1μm,18.0s
BRVK Borovoye 59.46 318 *e*P P **04 51 07.4 +0.7**
comp=Z,721nm,1.7s
BRVK LR LR
comp=Z,1μm,18.0s
EGAK Eagle 59.56 29 *e*P P **04 51 07.3 +0.1**
comp=Z,26nm,1.3s
EGAK LR LR
comp=Z,900nm,20.0s
RPR Rampur 59.73 277 *e*P P **04 51 09.9 +0.8**
RPR IAmb IAmb 04 51 12.9
comp=Z,45nm,1.2s
RPR *e*S **S** **04 59 19.2 -0.1**
RPR IVMs_BB IVMs_BB 05 16 44.1
comp=Z,524nm,6.6s

BBOO Buckleboo 59.81 188 *e*P P 04 51 07.6 -1.6
comp=Z,30nm,0.8s
BHPL Bhopal 59.92 282 *e*P P 04 51 09.8 -0.5
BHPL IAmb IAmb 04 51 12.1
comp=Z,31nm,0.8s
ADKI Addanki 60.22 274 *e*P P 04 51 12.0 -0.4
ADKI IAmb IAmb 04 51 17.0
comp=Z,22nm,1.1s
ADKI *e*S S 04 59 27.6 +2.1
ADKI IVMs_BB IVMs_BB 05 13 25.0
comp=Z,582nm,4.1s
ZRNK Zerenda 60.24 318 *e*P P 04 51 12.7 +0.6
ZRNK pmax pmax
comp=Z,44nm,0.8s
ZRNK MLR MLR
comp=Z,500nm,18.0s
ZRNK Zerenda 60.24 318 *e*P P 04 51 12.7 +0.6
comp=Z,44nm,0.8s
ZRNK LR LR
comp=Z,500nm,18.0s
YKU2 Yakutat 60.33 35 PFAKE 04 51 20.0 +7.5
YKU2 LR LR
comp=Z,2μm,21.0s
NJS Nagarjunasagar 60.55 275 *e*P P 04 51 14.4 -0.3
NJS IAmb IAmb 04 51 18.8
comp=Z,30nm,0.9s
NJS *e*S S 04 59 30.0 +0.2
NJS IVMs_BB IVMs_BB 05 16 02.2
comp=Z,501nm,5.1s
SRSP Sriramsagar 60.55 278 *e*P P 04 51 13.8 -0.8
SRSP IAmb IAmb 04 51 18.3
comp=Z,80nm,1.7s
SRSP *e*S S 04 59 29.2 -0.6
SRSP IVMs_BB IVMs_BB 05 11 47.8
comp=Z,590nm,4.4s
KK31 Karatay Array 60.64 306 *i* P P 04 51 15.6 +0.6
KK31 pmax pmax
comp=Z,38nm,0.7s
KKAR Karatay Array 60.64 306 *e*P P 04 51 15.8 +0.8
KKAR Karatay Array 60.64 306 *e*P P 04 51 15.8 +0.8
HYB Hyderabad 60.90 276 *i* P P 04 51 18.5 +1.4
HYB *e*S S 04 59 32.0 -2.4
HYBB Hyderabad (bro 60.90 276 *e*P P 04 51 16.9 -0.3
HYBB IAmb IAmb 04 51 21.5
comp=Z,134nm,1.6s
HYBB *e*S S 04 59 34.5 +0.1
HYBB IVMs_BB IVMs_BB 05 13 36.0
comp=Z,639nm,3.8s
SRLM Srisailam 61.08 274 *e*P P 04 51 18.3 0.0
SRLM IAmb IAmb 04 51 22.3
comp=Z,26nm,0.9s
SRLM *e*S S 04 59 36.0 -0.8
SRLM IVMs_BB IVMs_BB 05 12 15.8
comp=Z,696nm,4.3s
DHAK Deception Hill 61.11 35 PFAKE 04 51 30.0 +12
DHAK LR LR
comp=Z,2μm,22.0s
RCLA Racherla 61.27 274 *e*P P 04 51 19.5 -0.1
RCLA IAmb IAmb 04 51 23.9
comp=Z,48nm,1.5s
RCLA *e*S S 04 59 40.2 +1.1
RCLA IVMs_BB IVMs_BB 05 14 37.0
comp=Z,470nm,4.3s
CAN Canberra 61.99 175 *e*P P 04 51 23.9 -0.1
CAN pmax pmax
comp=Z,50nm,1.0s
CAN Canberra 61.99 175 *e*P P 04 51 23.9 -0.1
comp=Z,50nm,1.0s
KLRI Killari 62.40 277 *e*P P 04 51 27.0 -0.3
KLRI IAmb IAmb 04 51 28.7
comp=Z,31nm,0.8s
KLRI *e*S S 04 59 52.7 -0.7
KLRI IVMs_BB IVMs_BB 05 13 15.4
comp=Z,824nm,4.9s
INK Inuvik 62.54 25 P P 04 51 27.4 +0.1
comp=Z,9.1nm,0.6s,baz=270,slow=7.0,SNR=20
INK Inuvik 62.54 25 *e*P P 04 51 27.4 +0.1
INK pmax pmax
comp=Z,36nm,1.0s
INK MLR MLR
comp=Z,1μm,20.0s
INK Inuvik 62.54 25 *e*P P 04 51 27.4 +0.1
comp=Z,36nm,1.0s
INK LR LR
comp=Z,1μm,20.0s
SKAG Skagway 62.54 35 *e*P P 04 51 28.5 +1.0
comp=Z,44nm,1.2s
SKAG LR LR
comp=Z,2μm,20.0s
KBL Kabul 63.69 297 *e*P P 04 51 35.5 -0.3
KBL pmax pmax
comp=Z,75nm,0.9s
KBL MLR MLR
comp=Z,500nm,19.0s
KBL Kabul 63.69 297 *e*P P 04 51 35.5 -0.3
comp=Z,75nm,0.9s
KBL *e*PcP PcP 04 51 59.1 -13
KBL LR LR
comp=Z,500nm,19.0s
CRAG Craig 64.32 39 PFAKE 04 51 50.0 +11
CRAG LR LR
comp=Z,700nm,21.0s
SVE Sverdlovsk 64.48 323 *ce*P P 04 51 41.1 +0.8
SVE pmax pmax
comp=Z,93nm,1.5s
WRAK Wrangell Islan 64.58 38 *e*P P 04 51 41.0 +0.1
comp=Z,17nm,0.8s
WRAK LR LR
comp=Z,900nm,19.0s
POO Poona 64.66 279 *e*P P 04 51 42.4 +0.2
POO IAmb IAmb 04 51 44.5
comp=Z,69nm,1.0s
NWAO Narrogin (SRO) 64.71 205 LR LR 05 19 35.4
comp=Z,264nm,19.4s,baz=248,slow=36
NWAO Narrogin (SRO) 64.71 205 *e*P P 04 51 43.3 +1.3
NWAO pmax pmax
comp=Z,87nm,1.3s
NWAO Narrogin (SRO) 64.71 205 *e*P P 04 51 43.3 +1.3
comp=Z,87nm,1.3s
DLBC Dease Lake 65.42 35 P P 04 51 47.5 +0.9
comp=Z,12nm,1.0s,baz=286,slow=6.2,SNR=17
DLBC Dease Lake 65.42 35 P P 04 51 47.5 +0.9
DLBC LR LR
comp=Z,2μm,21.0s
ARU Arti 65.68 323 *d i*P P 04 51 48.5 +0.3
ARU 04 52 18.9
ARU 04 54 10.9
ARU PPP PPP 04 55 49.1
ARU S S 05 00 35.0 +2.1
ARU SS SS 05 04 44.7 -2.0
ARU pmax pmax
comp=Z,117nm,1.2s
ARU MLR MLR
comp=Z,608nm,18.0s
ARU Arti 65.68 323 *e*P P 04 51 48.1 -0.1
comp=Z,160nm,1.4s
ARU LR LR
comp=Z,700nm,18.0s
AB31 Akbulak array 66.51 315 *i* P P 04 51 54.0 +0.4
AB31 pmax pmax
comp=Z,23nm,0.7s
AKTO Aktyubinsk 67.42 316 LR LR 05 22 41.6
comp=Z,391nm,18.5s,slow=37
TAU Tasmania Unive 69.46 177 *e*P P 04 52 11.6 -0.4
TAU pmax pmax
comp=Z,110nm,1.4s
TAU Tasmania Unive 69.46 177 *e*P P 04 52 11.6 -0.4
comp=Z,110nm,1.4s
HOPEN Hopen 70.46 347 *e*P P 04 52 19.1 +1.3
HOPEN IAmb IAmb 04 52 23.2
comp=Z,114nm,1.5s
SPA0 Spitsbergen Ar 70.94 350 ||*i*P P 04 52 21.6 +0.8
SPA0 IAmb IAmb 04 52 25.8
comp=Z,233nm,2.1s
SPA0 Spitsbergen Ar 70.94 350 *e*P P 04 52 21.3 +0.5
SPITS Spitsbergen Ar 70.94 350 LR LR 05 26 04.9
comp=Z,103nm,20.1s,baz=30,slow=38
KBS Kingsbay 71.06 351 ||*i*P P 04 52 22.7 +1.2
KBS Kingsbay 71.06 351 *e*P P 04 52 22.4 +1.0
KBS pmax pmax
comp=Z,46nm,0.8s
KBS Kingsbay 71.06 351 *e*P P 04 52 22.4 +1.0
comp=Z,46nm,0.8s
HIZ Hauiti 71.09 155 PFAKE 04 52 30.0 +7.9
HIZ LR LR
comp=Z,500nm,18.0s

GEYT Alibeck 71.09 304 P P 04 52 23.5 +1.0
comp=Z,9.8nm,0.9s,baz=52,slow=5.8,SNR=8.6
GEYT LR LR 05 26 16.7
comp=Z,341nm,19.5s,baz=70,slow=38
YKA Yellowknife Ar 71.54 29 P P 04 52 24.5 0.0
comp=Z,7.9nm,0.7s,baz=294,slow=5.7,SNR=76
YKA PKP2ab 05 20 09.9
comp=Z,0.3nm,0.8s,baz=107,slow=3.9,SNR=4.1
YKA LR LR 05 23 47.2
comp=Z,38nm,20.5s,baz=0.0,slow=36
HSPB Hornsund (broa 71.87 349 ||*i*P P 04 52 27.4 +1.1
HSPB IAmb IAmb 04 52 29.5
comp=Z,63nm,0.9s
HSPB Hornsund (broa 71.87 349 *e*P P 04 52 27.5 +1.1
PGC Sidney 71.88 44 PFAKE 04 52 40.0 +13
PGC LR LR
comp=Z,1μm,22.0s
RES Resolute Bay 71.90 14 *e*P P 04 52 27.0 +0.5
RES pmax pmax
comp=Z,171nm,2.0s
RES MLR MLR
comp=Z,500nm,20.0s
RES Resolute Bay 71.90 14 *e*P P 04 52 27.0 +0.5
comp=Z,171nm,2.0s
RES LR LR
comp=Z,500nm,20.0s
NLWA Neilton Lookou 72.05 46 *e*P P 04 52 30.0 +2.0
comp=Z,57nm,1.2s
NLWA LR LR
comp=Z,1μm,20.0s
A04D Lummi Island 72.31 44 P P 04 52 30.9 +1.4
baz=291
RAR Rarotonga 72.33 126 LR LR 05 17 12.0
comp=Z,419nm,20.1s,baz=270,slow=30
LVZ Lovozero 72.37 338 PFAKE 04 52 40.0 +10
LVZ LR LR
comp=Z,400nm,19.0s
E03A Lebam 72.54 46 *e*P P 04 52 30.3 -0.6
comp=Z,76nm,1.2s
E03A LR LR
comp=Z,2μm,21.0s
B05A Bryant 72.86 44 P P 04 52 34.0 +1.3
baz=291
APA Apatity 72.94 338 ||*i*P P 04 52 31.7 -1.2
APA *i* 04 52 42.8
APA *i* S S 05 01 53.0 -5.2
APA pmax pmax
comp=Z,20nm,0.8s
APA MLR MLR
comp=Z,600nm,13.0s
F04D Rainier, OR 73.06 47 P P 04 52 35.4 +1.4
baz=291
B06A Marblemount 73.14 44 PFAKE 04 52 50.0 +16
B06A LR LR
comp=Z,1μm,21.0s
G03D McMinnville, O 73.21 48 P P 04 52 35.8 +0.9
baz=291
D05A Enumclaw 73.31 45 *e*P P 04 52 35.3 -0.2
comp=Z,204nm,1.9s
D05A LR LR
comp=Z,1μm,20.0s
COR Corvallis 73.41 48 PFAKE 04 52 50.0 +14
COR LR LR
comp=Z,1μm,20.0s
F04A Amboy 73.50 47 PFAKE 04 52 50.0 +13
F04A LR LR
comp=Z,1μm,22.0s
BFZ Birch Farm 73.51 155 *e*P P 04 52 38.0 +1.5
comp=Z,133nm,0.7s
BFZ LR LR
comp=Z,1μm,22.0s
LON Longmire 73.59 46 *e*P P 04 52 37.6 +0.4
LON pmax pmax
comp=Z,16nm,1.0s
LON MLR MLR
comp=Z,1μm,22.0s
LON Longmire 73.59 46 *e*P P 04 52 37.6 +0.4
comp=Z,16nm,1.0s
LON LR LR
comp=Z,1μm,22.0s
KLMR Klimovskoe 73.67 330 *e*P P 04 52 36.4 -0.9
KLMR *e* 04 52 52.3
KLMR pmax pmax
comp=Z,43nm,1.4s
I03D Drain, OR 73.70 49 P P 04 52 39.3 +1.5
baz=292,SNR=9.6
C06D Leavenworth 73.73 44 P P 04 52 39.1 +1.2
baz=292
KEV Kevo 73.79 341 *e*P P 04 52 38.4 +0.6
KEV pmax pmax
comp=Z,20nm,0.9s
KEV MLR MLR
comp=Z,500nm,18.0s
KEV Kevo 73.79 341 *e*P P 04 52 38.4 +0.6
comp=Z,20nm,0.9s
KEV LR LR
comp=Z,500nm,18.0s
L02D Cave Junction, 74.10 51 P P 04 52 41.6 +1.4
baz=292
LTY Liberty 74.12 45 PFAKE 04 52 50.0 +10
LTY LR LR
comp=Z,1μm,20.0s
HAMF Hammerfest 74.19 343 *e*P P 04 52 40.6 +0.4
I04A Tendick Farm, 74.30 49 P P 04 52 42.3 +0.9
baz=292,SNR=14
ARA0 ARCESS Array S 74.34 341 *e*P P 04 52 40.9 -0.2
ARCES ARCESS Array B 74.34 341 P P 04 52 41.6 +0.5
comp=Z,12nm,0.8s,baz=60,slow=8.1,SNR=25
ARCES LR LR 05 35 33.1
comp=Z,179nm,18.1s,baz=56,slow=44
ARE0 ARCESS Array S 74.34 341 *e*P P 04 52 40.9 -0.2
comp=Z,158nm,2.0s
ARE0 LR LR
comp=Z,400nm,18.0s
HUMO Hull Mountain 74.38 50 *e*P P 04 52 42.9 +1.1
comp=Z,27nm,1.1s
HUMO LR LR
comp=Z,1μm,22.0s
OXZ Oxford 74.39 159 PFAKE 04 52 50.0 +8.4
OXZ LR LR
comp=Z,1μm,21.0s
G05D Wamic, OR 74.47 47 P P 04 52 43.6 +1.2
baz=292
KHMM Horse Mountain 74.49 52 PFAKE 04 52 50.0 +7.3
KHMM LR LR
comp=Z,1μm,21.0s
B08A Colville Reser 74.53 43 P P 04 52 43.3 +0.7
I05D Terrebonne, OR 74.81 48 P P 04 52 45.5 +1.2
baz=293
YBH Yreka Blue Hor 74.88 51 *e*P P 04 52 45.3 +0.4
YBH pmax pmax
comp=Z,41nm,0.8s
YBH MLR MLR
comp=Z,2μm,21.0s
YBH Yreka Blue Hor 74.88 51 *e*P P 04 52 45.3 +0.4
comp=Z,41nm,0.8s
YBH LR LR
comp=Z,2μm,21.0s
M02C Callahan 74.91 51 P P 04 52 46.1 +1.1
baz=292
E07A Sunnyside 74.91 45 PFAKE 04 53 00.0 +15
E07A LR LR
comp=Z,1μm,21.0s
G06A Carlson Farm, 74.92 47 *e*P P 04 52 45.5 +0.6
comp=Z,56nm,1.3s
N02D Trinity Center 75.17 51 P P 04 52 48.0 +1.4
baz=293
HAWA Hanford 75.18 45 PFAKE 04 53 00.0 +14
HAWA LR LR
comp=Z,1μm,21.0s
K04D Chiloquin, OR 75.19 50 P P 04 52 47.5 +0.9
baz=293
J05D Fort Rock, OR 75.28 49 P P 04 52 48.5 +1.3
baz=293,SNR=26
D08A Wollman Farm, 75.30 45 PFAKE 04 53 00.0 +13
D08A LR LR
comp=Z,1μm,20.0s
KTK1 Kautokeino 75.31 341 *e*P P 04 52 47.2 +0.5
C09A Chrisman Ranch 75.40 44 *e*P P 04 52 48.1 +0.5
C09A LR LR
comp=Z,800nm,22.0s
WDC Whiskeytown Da 75.44 52 *e*P P 04 52 48.7 +0.7
WDC pmax pmax
comp=Z,34nm,1.1s
WDC MLR MLR
comp=Z,1μm,22.0s
WDC Whiskeytown Da 75.44 52 *e*P P 04 52 48.7 +0.7
comp=Z,34nm,1.1s
WDC LR LR
comp=Z,1μm,22.0s
M04C Macdoel 75.46 50 P P 04 52 49.3 +1.1
baz=293,SNR=21
K05A Summer Lake 75.73 49 *e*P P 04 52 50.6 +0.7
comp=Z,66nm,0.8s
K05A LR LR
comp=Z,700nm,20.0s
NEW Newport 75.92 43 P P 04 52 51.4 +0.7
comp=Z,18nm,0.8s,baz=293,slow=5.1,SNR=17
NEW Newport 75.92 43 P P 04 52 51.4 +0.7
baz=294
NEW Newport 75.92 43 *e*P P 04 52 51.4 +0.7
NEW pmax pmax
comp=Z,29nm,0.8s
NEW MLR MLR
comp=Z,800nm,21.0s
NEW Newport 75.92 43 *e*P P 04 52 51.4 +0.7
comp=Z,29nm,0.8s
NEW LR LR
comp=Z,800nm,21.0s
G08A Pilot Rock 75.99 46 *e*P P 04 52 51.5 +0.3
comp=Z,52nm,1.5s
G08A LR LR
comp=Z,1μm,21.0s
E09A Wood Farm, Sta 76.01 45 PFAKE 04 53 00.0 +8.9
E09A LR LR
comp=Z,1μm,20.0s
O03D Paynes Creek 76.07 52 P P 04 52 52.0 +0.3
baz=293
DAG Danmarks Havn 76.09 356 *i* P P 04 52 51.1 +0.1
DAG pmax pmax
comp=Z,38nm,1.1s
DAG Danmarks Havn 76.09 356 *i* P P 04 52 51.1 +0.1
comp=Z,30nm,1.1s
TRO Tromso 76.09 343 *e*P P 04 52 52.1 +1.0
MCCM Marconi Confer 76.15 54 PFAKE 04 53 00.0 +8.0
MCCM LR LR
comp=Z,2μm,22.0s
BIDO Bidbid 76.38 290 P P 04 52 55.6 +1.9
SNR=9.4
BIDO P P 04 52 55.6 +1.9
SNR=9.4
MOD Modoc Plateau 76.46 50 *e*P P 04 52 54.0 0.0
comp=Z,32nm,0.9s
MOD LR LR
comp=Z,600nm,20.0s
ORV Oroville 76.58 52 *e*P P 04 52 54.3 -0.2
ORV pmax pmax
comp=Z,37nm,0.9s
ORV MLR MLR
comp=Z,800nm,22.0s
ORV Oroville 76.58 52 *e*P P 04 52 54.3 -0.2
comp=Z,37nm,0.9s
ORV LR LR
comp=Z,800nm,22.0s
VRH Novokhopyorsk 76.80 321 *e*P P 04 52 56.1 +0.6
VRH pmax pmax
comp=Z,40nm,1.4s
VRH MLR MLR
comp=Z,670nm,12.0s
F10A Beach Ranch, E 76.81 45 *e*P P 04 52 57.0 +1.1
comp=Z,26nm,1.0s
F10A LR LR
comp=Z,1μm,21.0s
MOS Moscow 76.89 326 *e*P P 04 52 52.9 -3.0
MOS *e* 04 53 04.2
MOS *e*S S 05 02 40.5 -2.1
MOS *e* 05 03 09.6
MOS pmax pmax
comp=Z,300nm,2.1s
MOS pmax pmax
comp=Z,137nm,1.8s
MOS smax smax
comp=E,500nm,5.0s
MOS smax smax
comp=N,200nm,2.9s
MOS MLR MLR
comp=Z,1μm,20.0s
BANOM Banah 76.95 293 P P 04 52 57.6 +0.7
AFDM Forest Hills D 77.20 53 *e*P P 04 52 57.8 -0.3
comp=Z,68nm,1.6s
AFDM LR LR
comp=Z,1μm,21.0s
BMO Blue Mountains 77.23 46 *e*P P 04 52 59.1 +0.9
BMO pmax pmax
comp=Z,31nm,0.9s
BMO MLR MLR
comp=Z,1μm,22.0s
BMO Blue Mountains 77.23 46 *e*P P 04 52 59.1 +0.9
comp=Z,31nm,0.9s
BMO LR LR
comp=Z,1μm,22.0s
WVOR Wild Horse Val 77.37 49 *e*P P 04 52 59.0 -0.1
WVOR pmax pmax
comp=Z,165nm,1.9s
WVOR Wild Horse Val 77.37 49 *e*P P 04 52 59.0 -0.1
comp=Z,165nm,1.9s
UOSS Minazif 77.42 292 *e*P P 04 53 00.7 +1.1
comp=Z,5.3nm,1.6s
WALA Waterton Lakes 77.50 41 *e*P P 04 53 00.0 +0.4
comp=Z,33nm,0.8s
WALA LR LR
comp=Z,700nm,20.0s
BSMT Bassoo Peak 77.51 43 *e*P P 04 53 00.8 +1.0
HATD Hatta, Dubai 77.53 292 *i* P P 04 53 01.1 +1.0
SNR=7.8
ASHO Ashiyiah 77.65 291 P P 04 53 02.7 +1.9
BLMT Blacktail Moun 77.70 42 *e*P P 04 53 01.9 +1.0
LPSR Galich'ya Gora 77.70 323 *e*P P 04 53 01.3 +0.8
LPSR pmax pmax
comp=Z,60nm,1.8s
LPSR MLR MLR
comp=Z,670nm,24.0s
OBN Obninsk 77.72 326 PFAKE 04 53 10.0 +9.5
OBN LR LR
comp=Z,500nm,20.0s
SAO San Andreas Ge 77.75 55 PFAKE 04 53 10.0 +8.9
SAO LR LR
comp=Z,1μm,20.0s
NAZ Nazwa, Dubai 77.86 292 P P 04 53 02.5 +0.6
JTMT Jette 77.86 43 *e*P P 04 53 02.7 +0.9
KULLO Kullorsuaq 77.88 6 ||*i*P P 04 53 01.2 +0.1
KULLO pmax pmax
comp=Z,190nm,1.7s
KULLO Kullorsuaq 77.88 6 ||*i*P P 04 53 01.2 +0.1
comp=Z,194nm,1.7s
YBMT Yellow Bay 77.98 42 *e*P P 04 53 03.2 +0.8
CMB Columbia Colle 77.99 53 *e*P P 04 53 02.8 +0.3
CMB pmax pmax
comp=Z,43nm,0.8s
CMB MLR MLR
comp=Z,1μm,21.0s
CMB Columbia Colle 77.99 53 *e*P P 04 53 02.8 +0.3
comp=Z,43nm,0.8s
CMB LR LR
comp=Z,1μm,21.0s
PPT Papeete 78.00 117 LR LR 05 19 00.1
comp=Z,140nm,21.6s,baz=348,slow=29
PAHR Pah Rah Range 78.00 52 *e*P P 04 53 03.8 +1.1
comp=Z,29nm,1.0s
PAHR LR LR
comp=Z,700nm,19.0s
PPT2 Papeete2 78.01 117 *e*S S 05 02 54.2 -1.7
comp=Z,772nm,27.0s
PPT2 Papeete2 78.01 117 *e*LR LR 05 17 03.9
comp=Z,1μm,28.0s,baz=320
SWMT Swartz Lake 78.14 43 *e*P P 04 53 03.8 +0.5
VSR Storozhevoye 78.23 322 *e*P P 04 53 03.5 0.0
VSR pmax pmax
comp=Z,90nm,2.0s
VSR MLR MLR
comp=Z,850nm,20.0s
WAKR Walker 78.47 53 *e*P P 04 53 06.0 +0.6
comp=Z,25nm,0.8s
WAKR LR LR
comp=Z,1μm,22.0s
MSO Missoula 78.48 43 P P 04 53 05.3 +0.2
baz=297
MSO Missoula 78.48 43 *e*P P 04 53 05.3 +0.2
comp=Z,92nm,1.9s
MSO LR LR
comp=Z,700nm,22.0s
GOF Gofitskoye 78.75 315 ↑*e*P P 04 53 07.9 +1.4
GOF pmax pmax
comp=Z,68nm,1.0s

MFID Camas Ranch 78.81 47 PFAKE 04 53 20.0 +13
MFID LR LR
comp=Z,800nm,21.0s
CHMT Chamberlain Mo 78.87 43 *e*P **P** **04 53 07.1 -0.3**
FIA1 FINESS Array S 78.93 334 *e*P **P** **04 53 07.3 +0.1**
FINES FINESS Array B 78.93 334 P **P** **04 53 07.2 0.0**
comp=Z,12nm,0.8s,baz=63,slow=4.7,SNR=27
FINES LR LR 05 35 09.7
comp=Z,328nm,18.2s,baz=42,slow=41
GUDG Gudauri 78.97 312 P **P** **04 53 09.8 +1.7**
DUS Dusheti 78.99 312 P P 04 53 14.7 +6.7
DUS Dusheti 78.99 312 P P 04 53 14.7 +6.7
TBLG Delisi 79.12 311 P **P** **04 53 09.3 +0.6**
TBLG Delisi 79.12 311 P **P** **04 53 09.3 +0.6**
BMN Battle Mountai 79.19 50 *e*P **P** **04 53 08.8 -0.4**
BMN pmax pmax
comp=Z,23nm,1.0s
BMN MLR MLR
comp=Z,1µm,21.0s
BMN Battle Mountai 79.19 50 *e*P **P** **04 53 08.8 -0.4**
comp=Z,23nm,1.0s
BMN LR LR
comp=Z,1µm,21.0s
ZEI Tsey 79.21 312 *e*P **P** **04 53 08.9 -0.5**
ZEI pmax pmax
comp=Z,63nm,0.7s
MLAC Mammoth, Mammo 79.27 53 P **P** **04 53 10.9 +1.1**
baz=296
KBZ Khabaz 79.44 314 P **P** **04 53 11.5 +1.2**
comp=Z,62nm,0.8s,baz=86,slow=3.3,SNR=83
KBZ LR LR 05 33 47.1
comp=Z,320nm,18.4s,baz=62,slow=40
KIV Kislovodsk 79.48 314 P **P** **04 53 11.6 +0.9**
KIV Kislovodsk 79.48 314 *e*P **P** **04 53 12.1 +1.5**
KIV *e*S **S** **05 03 13.7 +2.6**
KIV *e*SS **SS** **05 08 22.6 +4.5**
KIV pmax pmax
comp=Z,123nm,1.1s
KIV pmax pmax
comp=Z,208nm,3.4s
KIV MLR MLR
comp=Z,442nm,18.0s
KIV Kislovodsk 79.48 314 P **P** **04 53 12.9 +2.2**
SNR=32
KIV Kislovodsk 79.48 314 *e*P **P** **04 53 11.0 +0.4**
comp=Z,84nm,0.8s
KIV LR LR
comp=Z,400nm,18.0s
RCTC Rector, Farmer 79.55 55 P **P** **04 53 10.8 -0.2**
baz=296
ONI Oni 79.60 312 P **P** **04 53 12.8 +1.5**
ONI Oni 79.60 312 P **P** **04 53 12.8 +1.5**
HLID Hailey 79.67 46 P **P** **04 53 12.6 +0.8**
baz=297
HLID Hailey 79.67 46 *e*P **P** **04 53 12.7 +0.8**
comp=Z,15nm,0.9s
HLID LR LR
comp=Z,800nm,22.0s
PKM Mcpherson Peak 79.74 56 P **P** **04 53 13.3 +0.9**
baz=296,SNR=7.3
NEY Neytrino 79.78 313 ⇓*i*P **P** **04 53 14.3 +1.9**
NEY pmax pmax
comp=Z,5.0nm,0.7s
NEY MLR MLR
comp=Z,185nm,15.0s
GNI Garni 79.82 310 P **P** **04 53 14.2 +1.5**
GNI Garni 79.82 310 *d i*P **P** **04 53 14.6 +1.9**
GNI pmax pmax
comp=Z,198nm,1.7s
GNI MLR MLR
comp=Z,709nm,16.0s
GNI Garni 79.82 310 P **P** **04 53 14.2 +1.5**
SNR=26
GNI Garni 79.82 310 *e*P **P** **04 53 13.4 +0.7**
comp=Z,111nm,1.4s
HRY Holter Researc 79.82 43 *e*P **P** **04 53 13.7 +1.2**
LRM Limekiln Ridge 79.86 44 *e*P **P** **04 53 13.4 +0.5**
VES Vestal, Richgr 79.86 55 P **P** **04 53 12.8 0.0**
baz=296,SNR=20
TIN Tinemaha, Big 79.96 54 P **P** **04 53 14.4 +0.9**
baz=296,SNR=9.8
DLMT Dillon 79.99 44 *e*P **P** **04 53 13.9 +0.4**
comp=Z,42nm,1.2s
SBC Santa Barbara 80.00 57 P **P** **04 53 14.4 +0.8**
baz=296
MCMT McKenzie Canyo 80.08 45 *e*P **P** **04 53 14.5 +0.4**
BGD Bogdanovka 80.10 311 P **P** **04 53 16.1 +1.8**
AKH Akhalkalaki 80.10 311 P **P** **04 53 16.0 +1.8**
AKH Akhalkalaki 80.10 311 P **P** **04 53 16.0 +1.8**
SCZ2 Santa Cruz Isl 80.26 57 P **P** **04 53 14.2 -0.8**
baz=296
CWC Cottonwood Cre 80.33 54 P **P** **04 53 16.0 +0.5**
baz=296
ARVC Arvin 80.36 56 P **P** **04 53 15.8 +0.4**
baz=296,SNR=9.3
ISA Isabella, Lake 80.39 55 P **P** **04 53 15.7 0.0**
baz=296
ISA Isabella, Lake 80.39 55 *e*P **P** **04 53 14.8 -0.9**
ISA pmax pmax
comp=Z,35nm,1.4s
ISA MLR MLR
comp=Z,1µm,20.0s
ISA Isabella, Lake 80.39 55 *e*P **P** **04 53 14.8 -0.9**
comp=Z,35nm,1.4s
ISA LR LR
comp=Z,1µm,20.0s
ELK Elko 80.40 49 *e*P **P** **04 53 15.9 0.0**
ELK pmax pmax
comp=Z,33nm,1.0s
ELK Elko 80.40 49 *e*P **P** **04 53 15.9 0.0**
comp=Z,33nm,1.0s
EGMT Eagleton 80.43 41 P **P** **04 53 16.0 +0.4**
baz=300
EGMT Eagleton 80.43 41 PFAKE 04 53 30.0 +14
EGMT LR LR
comp=Z,900nm,21.0s
CHVG Ch'k'valeri 80.44 313 P **P** **04 53 16.5 +0.8**
VSU Vasula 80.45 332 *c i*P **P** **04 53 17.6 +2.2**
VSU pmax pmax
comp=Z,189nm,1.2s
VSU MLR MLR
comp=Z,1µm,19.0s
BOZ Bozeman (W) 80.45 44 P **P** **04 53 16.5 +0.5**
baz=299
BOZ Bozeman (W) 80.45 44 *e*P **P** **04 53 16.7 +0.7**
BOZ pmax pmax
comp=Z,30nm,0.9s
BOZ MLR MLR
comp=Z,600nm,22.0s
BOZ Bozeman (W) 80.45 44 *e*P **P** **04 53 16.7 +0.7**
comp=Z,30nm,0.9s
BOZ LR LR
comp=Z,600nm,22.0s
GRAC Grapevine Rang 80.60 53 P **P** **04 53 17.5 +0.7**
baz=296,SNR=5.4
BLG Laguna Peak, P 80.63 57 P **P** **04 53 17.1 +0.1**
baz=296
SNCC San Nicolas Is 80.66 58 P **P** **04 53 17.4 +0.3**
baz=296
OSI Osito Audit: C 80.66 56 P **P** **04 53 17.7 +0.5**
baz=296
OSI Osito Audit: C 80.66 56 PFAKE 04 53 30.0 +13
OSI LR LR
comp=Z,1µm,21.0s
DAC Darwin (Calif) 80.76 54 *e*P **P** **04 53 17.5 -0.4**
DAC *e* 04 56 20.3
DAC pmax pmax
comp=Z,20nm,0.9s
DAC MLR MLR
comp=Z,1µm,20.0s
DAC Darwin (Calif) 80.76 54 *e*P **P** **04 53 17.5 -0.4**
comp=Z,20nm,0.9s
DAC *e*PP **PP** **04 56 20.3 -1.3**
DAC LR LR
comp=Z,1µm,20.0s
SUMG Summit 80.83 1 ⇓*i*P **P** **04 53 19.2 +1.4**
SUMG pmax pmax
comp=Z,46nm,0.9s
SUMG Summit 80.83 1 ⇓*i*P **P** **04 53 19.2 +1.4**
comp=Z,46nm,0.9s
SUMG Summit 80.83 1 *e*P **P** **04 53 18.6 +0.8**
comp=Z,49nm,0.9s
SUMG LR LR
comp=Z,499nm,22.0s
MPMC Manual Prospec 80.93 54 P **P** **04 53 19.2 +0.5**
baz=296,SNR=22

QLMT Earthquake Lak 80.97 44 *e*P **P** **04 53 20.1 +1.3**
QLMT *e*PP **PP** **04 56 20.2 -2.9**
LRMC Laurel Mtn Rad 81.05 55 P **P** **04 53 19.8 +0.5**
baz=296,SNR=24
EDW2 Edwards Air Fo 81.09 56 P **P** **04 53 20.1 +0.6**
baz=296,SNR=16
DECC Green Verdugo 81.11 56 P **P** **04 53 20.0 +0.5**
baz=296
FURC Furnace Creek, 81.20 54 P **P** **04 53 20.5 +0.6**
baz=297,SNR=24
R11A Troy Canyon, C 81.26 52 P **P** **04 53 21.0 +0.5**
baz=297,SNR=50
R11A Troy Canyon, C 81.26 52 PFAKE 04 53 30.0 +10
R11A LR LR
comp=Z,800nm,21.0s
PASC Pasadena Art C 81.26 56 *e*P **P** **04 53 18.5 -1.8**
comp=Z,30nm,1.1s
PASC LR LR
comp=Z,1µm,22.0s
TBI Tubuai 81.28 122 *e*S **S** **05 03 28.2 -1.9**
comp=Z,566nm,31.5s
TBI Tubuai 81.28 122 *e*LQ LQ 05 14 39.6
comp=Z,974nm,33.2s
TBI *e*LR LR 05 18 28.8
comp=Z,1µm,33.2s,baz=314
MWC Mount Wilson 81.33 56 *e*P **P** **04 53 20.5 -0.4**
MWC pmax pmax
comp=Z,26nm,0.8s
MWC MLR MLR
comp=Z,1µm,21.0s
MWC Mount Wilson 81.33 56 *e*P **P** **04 53 20.5 -0.4**
comp=Z,26nm,0.8s
MWC LR LR
comp=Z,1µm,21.0s
YMR Madison River 81.34 44 PFAKE 04 53 30.0 +9.2
YMR LR LR
comp=Z,600nm,20.0s
FMP Fort Macarthur 81.38 57 P **P** **04 53 21.2 +0.2**
baz=296
TPNV Topopah Spring 81.42 53 P **P** **04 53 21.6 +0.3**
baz=297,SNR=53
TPNV Topopah Spring 81.42 53 *e*P **P** **04 53 21.4 +0.1**
TPNV pmax pmax
comp=Z,48nm,1.0s
TPNV MLR MLR
comp=Z,800nm,22.0s
TPNV Topopah Spring 81.42 53 *e*P **P** **04 53 21.4 +0.1**
comp=Z,48nm,1.0s
TPNV LR LR
comp=Z,800nm,22.0s
TAOE Nuku Hiva Isla 81.43 104 *e*S **S** **05 03 26.7 -5.6**
comp=Z,393nm,28.4s
TAOE Nuku Hiva Isla 81.43 104 *e*LR LR 05 18 15.2
comp=Z,2µm,32.2s
MCID Moose Creek 81.43 45 *e*P **P** **04 53 23.4 +2.0**
SCI2 San Clemente I 81.52 57 P **P** **04 53 21.7 0.0**
baz=296
YFT Old Faithful 81.53 44 *e*P **P** **04 53 23.6 +1.8**
comp=Z,76nm,1.4s
YFT LR LR
comp=Z,800nm,19.0s
SOC Sochi 81.55 315 *d i*P **P** **04 53 21.1 -0.5**
SOC *e* 04 56 30.4
SOC *e*PPP PPP 04 58 21.5
SOC *e*S **S** **05 03 31.1 -1.5**
SOC *e*SS **SS** **05 08 53.2 +4.4**
SOC pmax pmax
comp=Z,25nm,0.9s
HVU Hansel Valley 81.57 47 *e*P **P** **04 53 23.0 +1.0**
HVU pmax pmax
comp=Z,20nm,0.9s
HVU MLR MLR
comp=Z,800nm,20.0s
HVU Hansel Valley 81.57 47 *e*P **P** **04 53 23.0 +1.0**
comp=Z,20nm,0.9s
HVU LR LR
comp=Z,800nm,20.0s
GCMT Greycliff 81.58 43 *e*P **P** **04 53 22.9 +0.9**
BFSC Mount Baldy Ra 81.62 56 P **P** **04 53 22.5 +0.1**
baz=297,SNR=6.7
H17A Grant Village 81.71 44 P **P** **04 53 25.6 +2.7**
baz=300
H17A Grant Village 81.71 44 *e*P **P** **04 53 24.9 +2.1**
comp=Z,39nm,0.9s
H17A LR LR
comp=Z,800nm,22.0s
IMW Indian Meadow 81.73 45 *e*P **P** **04 53 24.1 +1.1**
comp=Z,44nm,0.9s
IMW LR LR
comp=Z,1µm,20.0s
LKWY Lake 81.74 44 PFAKE 04 53 30.0 +7.0
LKWY LR LR
comp=Z,700nm,19.0s
GSC Goldstone, Bar 81.77 55 P **P** **04 53 23.2 +0.1**
baz=297,SNR=19
GSC Goldstone, Bar 81.77 55 *e*P **P** **04 53 23.2 +0.1**
GSC pmax pmax
comp=Z,30nm,1.0s
GSC MLR MLR
comp=Z,900nm,21.0s
GSC Goldstone, Bar 81.77 55 *e*P **P** **04 53 23.2 +0.1**
comp=Z,30nm,1.0s
GSC LR LR
comp=Z,900nm,21.0s
FLWY Flagg Ranch 81.79 45 *e*P **P** **04 53 24.2 +1.0**
comp=Z,53nm,0.8s
FLWY LR LR
comp=Z,800nm,22.0s
FXWY Fox Creek 81.80 45 *e*P **P** **04 53 24.5 +1.2**
comp=Z,36nm,1.1s
FXWY LR LR
comp=Z,2µm,22.0s
BGU Big Grassy Mou 81.80 48 *e*P **P** **04 53 22.9 -0.4**
comp=Z,15nm,0.9s
BGU *e*PP **PP** **04 56 30.1 +0.1**
BGU LR LR
comp=Z,700nm,22.0s
MTUT Morton Thiokol 81.81 47 *e*P **P** **04 53 24.3 +1.1**
RRX Edison Barstow 81.82 55 P **P** **04 53 24.3 +1.0**
baz=297
SHOC Shoshone, Teco 81.88 54 P **P** **04 53 23.8 +0.2**
baz=297,SNR=10
TPAW Teton Pass 81.92 45 *e*P **P** **04 53 25.1 +1.1**
comp=Z,37nm,0.9s
TPAW LR LR
comp=Z,1µm,21.0s
MOOW Moose Ponds 81.93 45 *e*P **P** **04 53 25.1 +1.1**
comp=Z,66nm,1.6s
MOOW LR LR
comp=Z,1µm,21.0s
SPUT South Promonto 82.01 48 *e*P **P** **04 53 25.0 +0.7**
comp=Z,38nm,1.1s
SPUT LR LR
comp=Z,700nm,21.0s
REDW Red Top Meadow 82.05 45 *e*P **P** **04 53 24.9 +0.3**
comp=Z,33nm,1.2s
REDW LR LR
comp=Z,2µm,22.0s
BEI Bear River Ran 82.06 47 *e*P **P** **04 53 25.7 +1.1**
SNOW Snow King Moun 82.06 45 *e*P **P** **04 53 24.8 +0.1**
comp=Z,20nm,0.9s
SNOW LR LR
comp=Z,2µm,21.0s
FCC Fort Churchill 82.07 27 *e*P **P** **04 53 23.4 -0.7**
FCC pmax pmax
comp=Z,198nm,2.0s
FCC MLR MLR
comp=Z,800nm,20.0s
FCC Fort Churchill 82.07 27 *e*P **P** **04 53 23.4 -0.7**
comp=Z,198nm,2.0s
FCC LR LR
comp=Z,800nm,20.0s
LOHW Long Hollow 82.08 45 *e*P **P** **04 53 25.0 +0.3**
comp=Z,18nm,0.8s
LOHW LR LR
comp=Z,1µm,21.0s
FSU Fish Springs 82.13 49 *e*P **P** **04 53 25.6 +0.6**
BBRC Big Bear Solar 82.15 56 P **P** **04 53 25.5 +0.2**
baz=297
RLMT Red Lodge 82.16 43 P **P** **04 53 26.4 +1.3**
baz=300
RLMT Red Lodge 82.16 43 *e*P **P** **04 53 26.5 +1.3**
comp=Z,37nm,0.9s
RLMT LR LR
comp=Z,500nm,21.0s
AHID Auburn Hatcher 82.18 46 *e*P **P** **04 53 25.9 +0.7**
comp=Z,31nm,0.9s

AHID LR LR
comp=Z,1µm,21.0s
HDU Hyde Park 82.22 47 *e*P **P** **04 53 26.2 +0.7**
MURC Murrieta 82.25 56 P **P** **04 53 25.7 +0.1**
baz=297,SNR=7.1
MICGM Minsk 82.28 328 *e*P **P** **04 53 23.0 -2.2**
MICGM *e*PcP **sP** **04 53 34.0 -0.2**
MICGM *e*PP **PP** **04 56 33.0 -0.3**
MICGM *e*PPP PPP 04 58 20.0
MICGM *e*S **S** **05 03 36.0 -3.7**
MICGM *e*LR LR 05 30 06.0
MNK Minsk 82.28 328 *e*P **P** **04 53 23.0 -2.2**
MNK *e* 04 53 34.0
MNK *e* 04 56 33.0
MNK *e*S **S** **05 03 36.0 -3.7**
IZAR Zarasai 82.29 330 *e*P **P** **04 53 25.6 +0.4**
IZAR IAmb IAmb 04 53 53.8
comp=Z,16nm,0.8s
DUG Dugway, Tooele 82.30 49 P **P** **04 53 26.3 +0.4**
baz=299
DUG Dugway, Tooele 82.30 49 *e*P **P** **04 53 26.6 +0.7**
DUG pmax pmax
comp=Z,31nm,0.7s
DUG MLR MLR
comp=Z,800nm,20.0s
DUG Dugway, Tooele 82.30 49 *e*P **P** **04 53 26.6 +0.7**
comp=Z,31nm,0.7s
DUG LR LR
comp=Z,800nm,20.0s
HEC Hector,Ludlow 82.33 55 P **P** **04 53 26.3 +0.3**
baz=297,SNR=16
IDID Didziasalis 82.33 329 *e*P **P** **04 53 25.8 +0.4**
IDID IAmb IAmb 04 53 53.9
comp=Z,15nm,1.0s
TUQ Turquoise Moun 82.35 54 P **P** **04 53 26.7 +0.5**
baz=297,SNR=18
PSUT Pine Spring 82.37 51 *e*P **P** **04 53 25.1 -1.3**
comp=Z,26nm,0.8s
ANN Anapa 82.38 317 *e*P **P** **04 53 26.0 +0.1**
ANN *e**PP **PcP** **04 53 31.1 0.0**
ANN *e*S **S** **05 03 41.2 +0.2**
ANN pmax pmax
comp=Z,71nm,1.1s
SHPR Sheep Range 82.41 53 *e*P **P** **04 53 27.2 +0.7**
comp=Z,21nm,1.0s
SHPR LR LR
comp=Z,700nm,21.0s
HWUT Hardware Ranch 82.44 47 *e*P **P** **04 53 27.4 +0.7**
comp=Z,38nm,1.0s
HWUT LR LR
comp=Z,700nm,21.0s
SCO Scoresbysund 82.44 355 *e*P **P** **04 53 28.1 +2.3**
SCO Scoresbysund 82.44 355 *i*P **P** **04 53 28.1 +2.3**
ISAL Salakas 82.45 330 *e*P **P** **04 53 26.5 +0.4**
ISAL IAmb IAmb 04 53 54.6
comp=Z,19nm,1.0s
BMUT Black Mountain 82.49 47 *e*P **P** **04 53 27.9 +1.0**
RSUT Red Spur Mount 82.53 47 *e*P **P** **04 53 28.0 +0.8**
NACGM Naroch 82.56 329 *e* P 04 53 39.0 +12
NACGM *e*LQ LQ 05 24 22.0
NACGM *e*LR LR 05 34 40.0
109C Camp Elliot, M 82.64 57 P **P** **04 53 27.8 +0.3**
baz=297
CTU Camp Tracy 82.77 48 *e*P **P** **04 53 28.8 +0.5**
comp=Z,103nm,1.1s
TCUT Toone Canyon 82.79 48 *e*P **P** **04 53 28.7 +0.2**
comp=Z,46nm,0.8s
TCUT LR LR
comp=Z,1µm,21.0s
PFO Pinyon Flats O 82.79 56 P **P** **04 53 28.8 +0.3**
baz=297,SNR=15
PFO Pinyon Flats O 82.79 56 *e*P **P** **04 53 28.1 -0.4**
PFO Pinyon Flats O 82.79 56 *e*P **P** **04 53 28.2 -0.3**
comp=Z,34nm,1.1s
PFO LR LR
comp=Z,1µm,22.0s
TPFO Pinon Flats 82.80 56 P **P** **04 53 28.9 +0.3**
baz=297,SNR=14
GMRC Granite Mounta 82.84 55 P **P** **04 53 29.2 +0.4**
baz=298,SNR=22
BELC Belle Mtn. Jos 82.95 56 P **P** **04 53 29.4 0.0**
baz=298,SNR=13
JLU Jordanelle 83.01 48 *e*P **P** **04 53 30.4 +0.7**
comp=Z,50nm,1.3s
JLU LR LR
comp=Z,900nm,22.0s
BAR Barrett 83.06 57 *e*P **P** **04 53 29.2 -0.6**
comp=Z,28nm,1.1s
BAR LR LR
comp=Z,800nm,21.0s
LDFC Landfair 83.10 54 *e*P **P** **04 53 29.9 -0.2**
comp=Z,53nm,1.1s
LDFC LR LR
comp=Z,800nm,21.0s
MONP2 Monument Peak 83.15 57 P **P** **04 53 30.7 +0.2**
baz=298,SNR=19
BW06 Boulder Array 83.17 45 P **P** **04 53 30.3 -0.1**
baz=300
BW06 Boulder Array 83.17 45 *e*P **P** **04 53 29.8 -0.7**
comp=Z,22nm,1.1s
BW06 *e*PP **PP** **04 56 40.3 -1.0**
BW06 LR LR
comp=Z,2µm,20.0s
PD31 Pinedale Array 83.17 45 *e*P **P** **04 53 30.1 -0.3**
PD31 *e*PP **PP** **04 56 40.9 -0.4**
PDAR Pinedale Array 83.17 45 P **P** **04 53 30.2 -0.3**
comp=Z,11nm,0.8s,baz=270,slow=3.0,SNR=37
PDAR PP **PP** **04 56 39.3 -1.9**
comp=Z,1.7nm,1.0s,baz=297,slow=6.0,SNR=2.8
PDAR PKKPbc **PKKPbc** **05 11 51.9 +0.6**
comp=Z,0.2nm,0.4s,baz=104,slow=3.8,SNR=4.0
PDAR LR LR 05 24 21.9
comp=Z,2µm,21.7s,baz=312,slow=31
LAO LASA Array 83.17 41 P **P** **04 53 31.1 +0.9**
baz=302
LAO LASA Array 83.17 41 *e*P **P** **04 53 31.1 +0.9**
comp=Z,86nm,1.1s
LAO LR LR
comp=Z,700nm,19.0s
MPU Maple Canyon 83.18 49 *e*P **P** **04 53 30.6 +0.1**
comp=Z,17nm,1.0s
MPU LR LR
comp=Z,900nm,22.0s
CCUT Cedar City 83.18 51 *e*P **P** **04 53 30.9 +0.3**
comp=Z,38nm,1.4s
CCUT *e*PP **PP** **04 56 40.4 -1.2**
CCUT LR LR
comp=Z,1µm,21.0s
DGMT Dagmar 83.36 39 P **P** **04 53 30.8 -0.3**
baz=303
DGMT Dagmar 83.36 39 *e*P **P** **04 53 31.4 +0.3**
comp=Z,41nm,1.0s
DGMT LR LR
comp=Z,700nm,22.0s
IKP In-Ko-Pah, Jac 83.49 57 P **P** **04 53 32.4 +0.3**
baz=298,SNR=10
IRM Iron Mountain 83.51 55 P **P** **04 53 32.4 +0.3**
baz=298,SNR=11
BC3 Big Chuckawall 83.52 56 P **P** **04 53 32.6 +0.4**
baz=298,SNR=21
LCMT Little Creek M 83.52 52 *e*P **P** **04 53 32.5 +0.3**
comp=Z,17nm,1.0s
LCMT *e*PP **PP** **04 56 43.3 -0.9**
LCMT LR LR
comp=Z,900nm,21.0s
MSU Marysvale 83.54 50 *e*P **P** **04 53 32.6 +0.2**
MSU Marysvale 83.54 50 *e*P **P** **04 53 32.6 +0.2**
SWSC Sam W. Stewart 83.59 56 P **P** **04 53 32.6 +0.1**
baz=298
NEE2 Needles Airpor 83.61 54 P **P** **04 53 33.1 +0.6**
baz=298
A25A Svangstu Ranch 83.70 38 P **P** **04 53 33.3 +0.5**
baz=304
MTPU Mount Pierson 83.76 51 *e*P **P** **04 53 33.8 0.0**
comp=Z,18nm,1.1s
MTPU *e*PP **PP** **04 56 45.8 -0.7**
MTPU LR LR
comp=Z,800nm,20.0s
TMUT Trail Mountain 83.81 49 *e*P **P** **04 53 34.4 +0.5**
comp=Z,17nm,1.0s
TMUT LR LR
comp=Z,600nm,21.0s
KNB Kanab 83.82 52 *e*P **P** **04 53 33.7 -0.1**
KNB *e* 04 56 48.5
KNB pmax pmax
comp=Z,302nm,2.0s

KNB MLR MLR
comp=Z,1µm,20.0s
KNB Kanab 83.82 52 *e*P **P 04 53 33.7 -0.1**
comp=Z,302nm,2.0s
KNB *e*PP **PP 04 56 48.5 +1.8**
KNB LR LR
comp=Z,1µm,20.0s
AKASG Malin Array Be 83.84 325 P **P 04 53 32.8 -0.6**
comp=Z,9.8nm,0.6s,baz=51,slow=5.3,SNR=49
AKASG PP **PP 04 56 48.3 +2.1**
comp=Z,1.3nm,0.7s,baz=49,slow=8.1,SNR=5.3
AKASG LR LR 05 33 39.4
comp=Z,451nm,19.7s,baz=50,slow=38
AKBB Malin Array Si 83.84 325 *e*P **P 04 53 32.6 -0.8**
AKBB pmax pmax
comp=Z,18nm,0.6s
AKBB MLR MLR
comp=Z,600nm,18.0s
AKBB Malin Array Si 83.84 325 *e*P **P 04 53 32.6 -0.8**
comp=Z,18nm,0.6s
AKBB LR LR
comp=Z,600nm,18.0s
KIEV Kiev 83.85 325⇓ *i*P **P 04 53 33.1 -0.3**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV MLR MLR
comp=Z,490nm,15.0s
KIEV Kiev 83.85 325 *e*P **P 04 53 32.4 -1.0**
KIEV LR LR
comp=Z,21nm,0.7s
comp=Z,500nm,18.0s
AK11 Malin Array Si 83.88 325 *e*P **P 04 53 33.0 -0.6**
PKCU Pink Cliffs 83.97 51 *e*P **P 04 53 34.8 0.0**
comp=Z,105nm,1.9s
PKCU LR LR
comp=Z,1µm,22.0s
W13A Hualapai Mount 83.98 54 *e*P **P 04 53 35.1 +0.4**
comp=Z,11nm,1.0s
W13A LR LR
comp=Z,800nm,21.0s
P17A Butcher Ranch, 84.04 49 *e*P **P 04 53 34.6 -0.3**
comp=Z,78nm,1.6s
P17A LR LR
comp=Z,700nm,20.0s
B25A Knox Farm, Ray 84.05 38 P **P 04 53 35.1 +0.5**
baz=304
BTU Barney Top 84.12 51 *e*P **P 04 53 36.5 +0.9**
Y12C Blythe 84.16 55 P **P 04 53 36.0 +0.6**
baz=298
Y12C Blythe 84.16 55 *e*P **P 04 53 35.4 0.0**
comp=Z,18nm,1.1s
Y12C LR LR
comp=Z,1µm,22.0s
PDMCI Parker Dam,Lak 84.17 55 P **P 04 53 35.9 +0.5**
baz=298,SNR=12
GLA Glamis 84.26 56 P **P 04 53 36.6 +0.6**
baz=298
GLA Glamis 84.26 56 *e*P **P 04 53 36.3 +0.3**
GLA pmax pmax
comp=Z,36nm,1.4s
GLA MLR MLR
comp=Z,800nm,21.0s
GLA Glamis 84.26 56 *e*P **P 04 53 36.3 +0.3**
comp=Z,36nm,1.4s
GLA LR LR
comp=Z,800nm,21.0s
NC405 NORSAR Array S 84.26 339 *e*P **P 04 53 34.6 -0.8**
NC303 NORSAR Array S 84.29 339 *e*P **P 04 53 34.2 -1.3**
P18A Preston Nutter 84.30 48 *e*P **P 04 53 36.5 +0.1**
comp=Z,32nm,1.1s
P18A LR LR
comp=Z,800nm,19.0s
MMU Miners Mountai 84.30 50 *e*P **P 04 53 36.8 +0.5**
C25A Freed Ranch, W 84.31 39 P **P 04 53 36.3 +0.4**
baz=304
A26A Wade Farm, Ken 84.31 37 P **P 04 53 36.3 +0.4**
baz=305
SIM Simferopol' 84.31 318 *e*P **P 04 53 35.2 -0.8**
SIM *e* 04 56 54.0
SIM *e*S **S 05 03 59.0 -1.7**
SIM *e*PS **PnS 05 04 56.0 +1.0**
SIM *e*SS **SS 05 09 35.0 +5.4**
SIM pmax pmax
comp=Z,38nm,0.9s
SIM pmax pmax
comp=Z,130nm,9.5s
SRU San Rafael Swe 84.37 49 *e*P **P 04 53 36.1 -0.5**
SRU pmax pmax
comp=Z,28nm,0.9s
SRU MLR MLR
comp=Z,700nm,21.0s
SRU San Rafael Swe 84.37 49 *e*P **P 04 53 36.1 -0.5**
comp=Z,28nm,0.9s
SRU LR LR
comp=Z,700nm,21.0s
NC204 NORSAR Array S 84.44 339 *e*P **P 04 53 35.7 -0.6**
NB201 NORSAR Array S 84.45 339 *e*P **P 04 53 37.0 +0.6**
U15A North Rim 84.47 52 *e*P **P 04 53 37.4 0.0**
comp=Z,20nm,1.0s
U15A LR LR
comp=Z,900nm,20.0s
NB2 NORSAR Subarra 84.48 339 P **P 04 53 36.3 -0.2**
comp=Z,82nm,1.4s,baz=41,slow=5.1
NB2 NORSAR Subarra 84.48 339 P **P 04 53 36.3 -0.2**
baz=41,slow=5.1
NOA NORSAR Array B 84.48 339 P **P 04 53 35.9 -0.6**
comp=Z,24nm,1.1s,baz=40,slow=5.0,SNR=20
NOA LR LR 05 35 58.6
comp=Z,155nm,21.2s,baz=55,slow=39
B26A Jensen Ranch, 84.50 38 P **P 04 53 37.4 +0.5**
baz=305
NBO02 NORSAR Array S 84.59 339 *e*P **P 04 53 36.1 -1.0**
D25A Fairfield 84.59 39 P **P 04 53 37.9 +0.5**
baz=304
NBO00 NORSAR Array S 84.63 339 *e*P **P 04 53 36.6 -0.6**
A27A Ledoux Ranch, 84.71 37 P **P 04 53 38.4 +0.5**
baz=305
NAO01 NORSAR Array S 84.73 339 *e*P **P 04 53 36.8 -1.0**
SUW Suwalki 84.76 329 *e*P **P 04 53 37.4 -0.6**
SUW Suwalki 84.76 329 *e*P **P 04 53 37.4 -0.6**
E25A Miller Ranch, 84.91 40 P **P 04 53 39.4 +0.4**
baz=304
K22A Casper 85.14 44 P **P 04 53 40.6 +0.2**
baz=302,SNR=16
K22A Casper 85.14 44 *e*P **P 04 53 40.3 -0.1**
comp=Z,23nm,0.8s
K22A LR LR
comp=Z,900nm,22.0s
D26A Manning 85.16 39 P **P 04 53 40.5 +0.2**
baz=305
Y14A Wickenburg 85.17 54 *e*P **P 04 53 40.9 +0.3**
comp=Z,133nm,1.1s
Y14A LR LR
comp=Z,4µm,22.0s
113A Mohawk Valley, 85.18 56 *e*P **P 04 53 40.5 0.0**
comp=Z,78nm,1.9s
113A LR LR
comp=Z,800nm,22.0s
F25A Bowman 85.19 40 P **P 04 53 41.0 +0.5**
baz=304
A28A Rude Farm, Bot 85.26 37 P **P 04 53 41.2 +0.5**
baz=306,SNR=26
O20A White River Ci 85.36 47 P **P 04 53 41.5 -0.1**
baz=301,SNR=12
O20A White River Ci 85.36 47 *e*P **P 04 53 41.1 -0.5**
comp=Z,28nm,1.0s
O20A LR LR
comp=Z,600nm,20.0s
E26A Carlson Angus 85.46 40 P **P 04 53 42.1 +0.4**
baz=305,SNR=15
B28A Dugan Ranch, T 85.48 37 P **P 04 53 42.2 +0.4**
baz=306,SNR=13
WUAZ Wupatki 85.57 52 P **P 04 53 43.2 +0.6**
baz=300,SNR=28
WUAZ Wupatki 85.57 52 *e*P **P 04 53 43.2 +0.6**
comp=Z,31nm,1.0s
WUAZ LR LR
comp=Z,900nm,22.0s
PV09 Paradox Valley 85.61 49 *e*P **P 04 53 43.4 +0.3**
F26A Lodgepole 85.69 40 P **P 04 53 43.5 +0.6**
baz=305
PV10 Paradox Valley 85.74 49 *e*P **P 04 53 44.0 +0.4**
SFJD Kangerlussuaq 85.80 6 *e*P **P 04 53 43.7 +0.8**
SFJD pmax pmax
comp=Z,516nm,1.9s
SFJD Kangerlussuaq 85.80 6⇓ *i*P **P 04 53 43.7 +0.8**
comp=Z,55nm,0.8s
SFJD Kangerlussuaq 85.80 6 *e*P **P 04 53 43.7 +0.8**
comp=Z,516nm,1.9s
A29A Manning Farm, 85.80 36 P **P 04 53 43.8 +0.5**
baz=307,SNR=49
SORM Soroca 85.81 323⇑ *i*P **P 04 53 42.8 -0.5**
SORM Soroca 85.81 323⇑ P **P 04 53 42.8 -0.5**
H25A Fruitdale 85.84 41 P **P 04 53 44.2 +0.5**
baz=304,SNR=16
PV05 Paradox Valley 85.85 49 *e*P **P 04 53 44.0 -0.1**
RSSD Black Hills 85.86 42 P **P 04 53 43.9 0.0**
baz=304
RSSD Black Hills 85.86 42 *e*P **P 04 53 44.0 0.0**
RSSD pmax pmax
comp=Z,54nm,1.2s
RSSD MLR MLR
comp=Z,500nm,19.0s
RSSD Black Hills 85.86 42 *e*P **P 04 53 44.0 0.0**
comp=Z,54nm,1.2s
RSSD LR LR
comp=Z,500nm,19.0s
C28A Hausauer Farms 85.89 38 P **P 04 53 44.3 +0.5**
baz=306,SNR=7.7
B29A Wagenman Farm, 86.01 37 P **P 04 53 44.8 +0.4**
baz=307,SNR=11
X16A Lo Mia Camp, P 86.07 53 *e*P **P 04 53 44.8 -0.4**
comp=Z,17nm,1.0s
X16A LR LR
comp=Z,800nm,22.0s
D28A Regan 86.10 38 P **P 04 53 45.3 +0.4**
baz=306
PV01 Paradox Valley 86.18 49 *e*P **P 04 53 45.8 0.0**
KIS Kishinev 86.22 322 *e*P **P 04 53 45.0 -0.4**
KIS *e*S S 05 04 10.0 -9.4
KIS Kishinev 86.22 322 *e*P **P 04 53 45.0 -0.4**
KIS *e*S S 05 04 10.0 -9.4
KIS MLR MLR
comp=Z,1µm,16.0s
KIS MLR MLR
comp=N,900nm,18.0s
KIS MLR MLR
comp=E,600nm,19.0s
KIS MLR MLR
comp=Z,700nm,20.0s
MDND Maddock 86.24 37 P **P 04 53 45.9 +0.3**
baz=307,SNR=11
MDND Maddock 86.24 37 *e*P **P 04 53 45.3 -0.3**
comp=Z,57nm,1.0s
MDND LR LR
comp=Z,800nm,19.0s
A30A Hoffart Farm, 86.28 36 P **P 04 53 46.3 +0.6**
baz=308,SNR=24
214A Organ Pipe Nat 86.28 56 P **P 04 53 46.8 +0.7**
baz=299,SNR=18
N23A Red Feather La 86.45 46 P **P 04 53 48.0 +0.9**
baz=303,SNR=17
N23A Red Feather La 86.45 46 *e*P **P 04 53 47.2 +0.1**
comp=Z,107nm,1.6s
N23A LR LR
comp=Z,1µm,22.0s
PHWY Pilot Hill 86.53 45 *e*P **P 04 53 48.0 +0.5**
comp=Z,16nm,1.1s
PHWY LR LR
comp=Z,1µm,21.0s
B30A Myrvik Farm, E 86.56 36 P **P 04 53 47.7 +0.6**
baz=308,SNR=52
SMCO Snowmass 86.70 47 *e*P **P 04 53 47.9 -0.6**
comp=Z,17nm,0.9s
SMCO LR LR
comp=Z,1µm,21.0s
ULM Lac du Bonnet 86.70 34 P **P 04 53 47.5 -0.3**
comp=Z,18nm,1.0s,baz=314,slow=5.8,SNR=11
ULM LR LR 05 28 59.4
comp=Z,299nm,21.4s,baz=320,slow=33
ULM Lac du Bonnet 86.70 34 *e*P **P 04 53 46.4 -1.3**
comp=Z,25nm,1.0s
MVCO Mesa Verde 86.71 50 P **P 04 53 48.5 +0.2**
baz=301,SNR=10
MVCO Mesa Verde 86.71 50 *e*P **P 04 53 48.5 +0.2**
comp=Z,17nm,1.1s
MVCO LR LR
comp=Z,800nm,22.0s
D29A Pettibone, Tap 86.72 38 P **P 04 53 47.9 -0.1**
baz=307
A31A Linda, St. Vin 86.86 35 P **P 04 53 48.5 0.0**
baz=308
W18A Petrified Fore 86.93 52 P **P 04 53 49.8 +0.4**
baz=301
W18A Petrified Fore 86.93 52 PFAKE 04 54 00.0 +11
W18A LR LR
comp=Z,800nm,20.0s
B31A Greenbush Farm 86.93 36 P **P 04 53 49.4 +0.5**
baz=308,SNR=36
C30A Mose, Pekin 86.94 37 P **P 04 53 49.2 +0.3**
baz=308,SNR=12
E29A Napoleon 86.98 38 P **P 04 53 49.2 -0.1**
baz=307,SNR=9.7
LVV L'vov 87.02 326 *e*P **P 04 53 51.9 +2.6**
LVV *e*S **S 05 04 24.9 -2.2**
D30A Buchanan 87.14 37 P **P 04 53 50.2 +0.2**
baz=307,SNR=8.4
A32A Rocking H Ranc 87.23 35 P **P 04 53 50.3 0.0**
baz=309,SNR=19
ISCO Idaho Springs 87.25 46 P **P 04 53 51.7 +0.6**
baz=303,SNR=6.1
ISCO Idaho Springs 87.25 46 *e*P **P 04 53 52.1 +1.0**
ISCO pmax pmax
comp=Z,20nm,1.4s
ISCO MLR MLR
comp=Z,900nm,22.0s
ISCO Idaho Springs 87.25 46 *e*P **P 04 53 52.1 +1.0**
comp=Z,20nm,1.4s
ISCO LR LR
comp=Z,900nm,22.0s
C31A Landman Farms, 87.28 37 P **P 04 53 51.0 +0.4**
baz=308,SNR=59
F29A Eureka 87.32 39 P **P 04 53 51.4 +0.5**
baz=307,SNR=12
E30A Jud 87.43 38 P **P 04 53 51.7 +0.3**
baz=307,SNR=20
BR131 Keskin Array S 87.44 314 *e*P **P 04 53 51.0 -0.7**
BR131 *e*PP **PP 04 57 13.1 -2.8**
BRTR Keskin Array B 87.44 314 P **P 04 53 51.2 -0.5**
comp=Z,10nm,0.9s,baz=96,slow=3.2,SNR=43
BRTR PP **PP 04 57 19.2 +3.3**
comp=Z,2.7nm,1.0s,baz=94,slow=5.8,SNR=4.7
BRTR LR LR 05 36 40.6
comp=Z,201nm,19.2s,baz=54,slow=38
BRTR Keskin Array B 87.44 314 *i* P **P 04 53 51.5 -0.2**
BRTR pmax pmax
comp=Z,11nm,0.9s
B32A Ashes, Strandq 87.53 36 P **P 04 53 51.9 +0.1**
baz=309,SNR=23
S22A 4UR Ranch, Cre 87.56 49 P **P 04 53 53.1 +0.6**
baz=302
S22A 4UR Ranch, Cre 87.56 49 *e*P **P 04 53 52.9 +0.4**
comp=Z,19nm,1.4s
S22A LR LR
comp=Z,600nm,20.0s
TUC Tucson 87.60 55 P **P 04 53 53.2 +0.7**
baz=300
TUC Tucson 87.60 55 *e*P **P 04 53 53.2 +0.7**
TUC pmax pmax
comp=Z,23nm,1.3s
TUC MLR MLR
comp=Z,900nm,20.0s
TUC Tucson 87.60 55 *e*P **P 04 53 53.2 +0.7**
comp=Z,24nm,1.3s
TUC LR LR
comp=Z,900nm,20.0s
G29A Hoven 87.65 40 P **P 04 53 52.3 -0.1**
baz=307
TESR Tescani 87.71 322⇑ *i*P **P 04 53 52.6 -0.1**
D31A Mcclaflin, Tow 87.74 37 P **P 04 53 53.1 +0.3**
baz=308,SNR=27
F30A Leola 87.77 39 P **P 04 53 53.0 0.0**
baz=307,SNR=9.1
A33A Warroad 87.78 35 P **P 04 53 53.0 0.0**
baz=310
BUR08 Bucovina Ar. S 87.79 324 *e*P **P 04 53 53.4 +0.2**
BURAR Bucovina Array 87.80 324⇓ *i*P **P 04 53 53.8 +0.6**
BURAR Bucovina Array 87.80 324⇓ P **P 04 53 53.8 +0.6**
KWP Kalwaria Pacla 87.81 326 *e*P **P 04 53 53.4 +0.3**
KWP Kalwaria Pacla 87.81 326⇑ *i*P **P 04 53 53.4 +0.3**
KWP Kalwaria Pacla 87.81 326⇑ P **P 04 53 53.4 +0.3**
H29A Onida 87.82 40 P **P 04 53 53.3 0.0**
baz=306
C32A Crookston 87.89 36 P **P 04 53 53.7 +0.1**
baz=309
ANTO Ankara 87.91 314 *e*P **P 04 53 53.4 -0.5**
ANTO pmax pmax
comp=Z,72nm,1.8s
ANTO MLR MLR
comp=Z,299nm,21.0s
ANTO Ankara 87.91 314 *e*P **P 04 53 53.4 -0.5**
comp=Z,72nm,1.8s
ANTO LR LR
comp=Z,299nm,21.0s
BR231 Keskin MP Arra 87.93 314 *e*P **P 04 53 51.9 -2.1**
BR231 *e*PP **PP 04 57 19.7 -0.1**
AGMN Agassiz Nation 87.94 35 P **P 04 53 53.8 0.0**
baz=309,SNR=23
AGMN Agassiz Nation 87.94 35 *e*P **P 04 53 53.8 0.0**
comp=Z,56nm,1.0s
AGMN LR LR
comp=Z,600nm,20.0s
TIRR Tirgusor 87.95 320 PFAKE 04 54 10.0 +16
TIRR LR LR
comp=Z,400nm,19.0s
E31A Nome 87.95 38 P **P 04 53 54.0 +0.1**
baz=308,SNR=46
Q24A Divide 88.01 47 P **P 04 53 55.0 +0.3**
baz=303
Q24A Divide 88.01 47 PFAKE 04 54 10.0 +15
Q24A LR LR
comp=Z,1µm,22.0s
VRI Vrincioaia 88.06 322⇑ *i*P **P 04 53 55.9 +1.5**
VRI Vrincioaia 88.06 322⇑ P **P 04 53 55.9 +1.5**
D32A Dogwood Acres, 88.07 37 P **P 04 53 54.4 0.0**
baz=308
B33A Robert and Kas 88.10 35 P **P 04 53 54.5 0.0**
baz=310
PLOR Plostina 88.11 322⇑ *i*P **P 04 53 55.7 +1.0**
PLOR Plostina 88.11 322⇑ P **P 04 53 55.7 +1.0**
I29A Vivian Onida 88.12 41 P **P 04 53 54.7 -0.1**
baz=306
G30A Faulkton 88.12 39 P **P 04 53 54.6 -0.1**
baz=307,SNR=13
F31A Hecla 88.18 38 P **P 04 53 55.0 0.0**
baz=308,SNR=26
C33A Trail 88.33 36 P **P 04 53 55.7 +0.1**
baz=309
E32A Braaten, Kindr 88.38 37 P **P 04 53 55.8 0.0**
baz=308
SDCO Great Sand Dun 88.44 48 P **P 04 53 56.9 +0.1**
baz=303
SDCO Great Sand Dun 88.44 48 *e*P **P 04 53 57.1 +0.3**
comp=Z,17nm,1.6s
SDCO LR LR
comp=Z,700nm,20.0s
B34A Aery, Baudette 88.45 35 P **P 04 53 56.0 -0.1**
baz=310,SNR=23
KOLS Kolonicke sedl 88.47 326 *e*P **P 04 53 55.6 -0.7**
KOLS pmax pmax
comp=Z,16nm,1.7s
KOLS Kolonicke sedl 88.47 326 *e*P **P 04 53 55.6 -0.7**
KOLS *e*PP **PP 04 57 24.5 +0.8**
MSAB Monastry St. A 88.50 320⇑ *i*P **P 04 53 58.7 +2.2**
RGN Rugen 88.58 334 PFAKE 04 54 10.0 +13
RGN LR LR
comp=Z,500nm,18.0s
G31A Conde 88.59 39 P **P 04 53 56.9 0.0**
baz=308
SUSD Miller 88.65 40 P **P 04 53 57.1 -0.1**
baz=307
UZH Uzhgorod 88.66 326 *e*P **P 04 53 57.5 +0.4**
UZH *e* 04 54 01.5
UZH *i* 04 54 07.9
STHS Stebnicka Huta 88.67 327 *e*P **P 04 53 58.7 +1.5**
STHS pmax pmax
comp=Z,25nm,1.9s
STHS Stebnicka Huta 88.67 327 *e*P **P 04 53 58.7 +1.5**
D33A AnnSam, Waubun 88.69 36 P **P 04 53 57.6 +0.2**
baz=309
I30A Oacoma 88.69 40 P **P 04 53 57.1 -0.3**
baz=307
MLR Muntele Rosu 88.72 322⇑ *i*P **P 04 54 00.2 +2.5**
MLR Muntele Rosu 88.72 322 *e*P **P 04 53 56.9 -0.8**
MLR pmax pmax
comp=Z,9.0nm,1.0s
MLR MLR
comp=Z,400nm,20.0s
MLR Muntele Rosu 88.72 322 *e*P **P 04 53 56.9 -0.8**
comp=Z,8.6nm,1.0s
MLR LR LR
comp=Z,400nm,20.0s
F32A Veblen 88.79 38 P **P 04 53 57.8 -0.1**
baz=308
OJC Ojcow 88.83 328 *e*P **P 04 53 57.5 -0.4**
OJC Ojcow 88.83 328 *e*P **P 04 53 57.5 -0.4**
OJC Ojcow 88.83 328 *e*P **P 04 53 56.9 -1.0**
comp=Z,64nm,1.8s
OJC *e*PP **PP 04 57 27.0 +0.6**
C34A RKJ Ranch, Bem 88.85 35 P **P 04 53 58.1 0.0**
baz=310,SNR=11
OGNE Ogallala 88.88 44 P **P 04 53 58.2 -0.3**
baz=305
OGNE Ogallala 88.88 44 PFAKE 04 54 10.0 +12
OGNE LR LR
comp=Z,500nm,21.0s
H31A Wolsey 88.90 39 P **P 04 53 57.9 -0.5**
baz=308
CRVS Cervenica-Dubn 88.90 326 *e*P **P 04 53 58.7 +0.4**
CRVS Cervenica-Dubn 88.90 326 *e*P **P 04 53 58.7 +0.4**
G32A Webster 88.97 38 P **P 04 53 58.6 -0.1**
baz=308
B35A Bob, Littlefor 89.00 34 P **P 04 53 58.9 +0.2**
baz=311,SNR=19
E33A Westby DABS, E 89.00 37 P **P 04 53 59.3 +0.4**
baz=309,SNR=14
J30A Dallas 89.01 41 P **P 04 53 58.9 -0.1**
baz=307,SNR=8.9
D34A Park Rapids 89.06 36 P **P 04 53 59.3 +0.1**
baz=310,SNR=11
LAZ Ladron 89.12 52 *e*P **P 04 54 01.1 +1.1**
NIE Niedzica 89.13 327 *e*P **P 04 53 59.6 +0.2**
NIE Niedzica 89.13 327 *e*P **P 04 53 59.6 +0.2**
HSIG 89.13 58 PFAKE 04 54 10.0 +10
HSIG LR LR
comp=Z,1µm,20.0s
I31A Royce, Wessing 89.14 40 P **P 04 53 59.1 -0.5**
baz=308
319A Douglas 89.17 55 *e*P **P 04 54 00.4 +0.3**
comp=Z,16nm,1.0s
319A LR LR
comp=Z,1µm,21.0s
VOIR 89.25 322⇑ *i*P **P 04 54 00.2 +0.1**
VOIR 89.25 322⇑ P **P 04 54 00.2 +0.1**
F33A 5 Mile Ranch, 89.27 37 P **P 04 54 00.4 +0.3**
baz=309,SNR=19
C35A Jirik Farms, M 89.30 35 P **P 04 54 00.1 -0.1**
baz=311,SNR=16
ANMO Albuquerque 89.31 51 P **P 04 54 01.1 +0.4**
baz=303
ANMO Albuquerque 89.31 51*d* *i*P **P 04 54 00.4 -0.4**
ANMO pmax pmax
comp=Z,35nm,2.5s
ANMO MLR MLR
comp=Z,130nm,15.0s
ANMO Albuquerque 89.31 51 *e*P **P 04 54 01.2 +0.4**
comp=Z,15nm,1.2s
ANMO LR LR
comp=Z,800nm,20.0s
K30A Basset 89.33 41 P **P 04 54 00.4 -0.1**
baz=307
E34A Wadena 89.44 36 P **P 04 54 01.1 +0.2**
baz=310
Y22D IRIS PASSCAL I 89.45 52 P **P 04 54 00.5 -0.9**
baz=302
Y22D IRIS PASSCAL I 89.45 52 PFAKE 04 54 10.0 +8.6
Y22D LR LR
comp=Z,800nm,19.0s
J31A Geddes 89.47 41 P **P 04 54 00.8 -0.3**
baz=307
H32A Carlson Farm, 89.47 39 P **P 04 54 00.8 -0.3**
baz=308
T25A Trinidad 89.50 48 P **P 04 54 02.0 +0.4**
baz=304
T25A Trinidad 89.50 48 *e*P **P 04 54 02.5 +0.9**
comp=Z,33nm,1.5s
T25A LR LR
comp=Z,700nm,21.0s
ARR Arges 89.52 322⇑ *i*P **P 04 54 02.0 +0.6**
LPM Los Pinos Moun 89.53 51 *e*P **P 04 54 01.9 +0.1**

G33A	**Ortonville**	89.59	38	P		P	04 54 01.7	+0.1	
	baz=309,SNR=21								
KSCO	**Kaye Shedlock'**	89.61	46	P		P	04 54 01.9	-0.1	
	baz=305								
KSCO	**Kaye Shedlock'**	89.61	46	PFAKE			04 54 10.0	+8.0	
KSCO				LR		LR			
	comp=Z,1μm,20.0s								
BNM	**Barren Site**	89.62	52	*e*P		P	04 54 02.3	0.0	
DRGR		89.64	324	⇑*i*P		P	04 54 01.9	0.0	
DRGR		89.64	324	⇑P		P	04 54 01.9	0.0	
121A	**Cookes Peak, D**	89.66	53	P		P	04 54 03.2	+0.8	
	baz=302,SNR=11								
KECS	**Kecovo**	89.66	326	*e*P		P	04 54 00.6	-1.3	
KECS				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KECS	**Kecovo**	89.66	326	*e*P		P	04 54 00.6	-1.3	
D35A	**Remer**	89.66	36	P		P	04 54 01.6	-0.3	
	baz=311								
H33A	**Prehn Over Nor**	89.75	39	P		P	04 54 02.5	+0.1	
	baz=309,SNR=16								
I32A	**Karley and Nic**	89.75	39	P		P	04 54 02.1	-0.3	
	baz=308								
E35A	**Pequot Lakes**	89.82	36	P		P	04 54 02.6	0.0	
	baz=310,SNR=7.6								
C36A	**Pine Crest Far**	89.84	34	P		P	04 54 02.8	+0.1	
	baz=312								
F34A	**Alexandria**	89.86	37	P		P	04 54 03.1	+0.3	
	baz=310								
K31A	**O'Neill**	89.86	41	P		P	04 54 02.9	-0.1	
	baz=307								
OKC	**Ostrava-Krasne**	89.87	328	*ex*		x	05 05 08.4		
OKC				*e*SP		SP	05 05 53.5	-5.2	
OKC				AMS		AMS	05 40 40.0		
	comp=Z,900nm,14.3s								
J32A	**Parkston**	89.93	40	P		P	04 54 02.9	-0.3	
	baz=308								
G34A	**Benson**	90.00	38	P		P	04 54 03.8	+0.3	
	baz=310,SNR=16								
KSP	**Ksiaz**	90.01	330	*e*P		P	04 54 03.4	-0.1	
KSP	**Ksiaz**	90.01	330	*e*P		P	04 54 03.4	-0.1	
D36A	**Goodland**	90.06	35	P		P	04 54 03.7	-0.1	
	baz=311								
L31A	**Butterfield Fa**	90.08	41	P		P	04 54 03.7	-0.3	
	baz=307								
I33A	**Coleman**	90.11	39	P		P	04 54 04.0	-0.1	
	baz=309								
F35A	**Swanville**	90.18	37	P		P	04 54 04.6	+0.3	
	baz=310								
C37A	**Embarrass**	90.19	34	P		P	04 54 04.3	0.0	
	baz=312								
MORC	**Moravsky Berou**	90.19	329	⇑*i*P		P	04 54 04.3	-0.1	
MORC	**Moravsky Berou**	90.19	329	⇑P		P	04 54 04.3	-0.1	
MORC	**Moravsky Berou**	90.19	329	*e*P		P	04 54 03.3	-1.1	
	comp=Z,216nm,2.0s								
MORC				*e*PP		PP	04 57 37.1	-0.3	
MORC				LR		LR			
	comp=Z,2μm,18.0s								
H34A	**Spellman Lake,**	90.29	38	P		P	04 54 04.9	0.0	
	baz=309								
K32A	**Verdigre**	90.30	41	P		P	04 54 04.4	-0.6	
	baz=308								
PSZ	**Piszkesteto**	90.33	326	⇑*i*P		P	04 54 05.3	+0.2	
PSZ	**Piszkesteto**	90.33	326	‖*e*P		P	04 54 04.6	-0.5	
PSZ	**Piszkesteto**	90.33	326	⇑P		P	04 54 05.3	+0.2	
PSZ	**Piszkesteto**	90.33	326	*e*P		P	04 54 04.9	-0.3	
	comp=Z,63nm,1.6s								
PSZ				LR		LR			
	comp=Z,600nm,19.0s								
DPC	**Dobruska-Polom**	90.35	330	*e*P		P	04 54 05.2	+0.1	
DPC				*ex*		x	04 54 15.4		
DPC				*ex*		x	05 05 10.4		
DPC				AMS		AMS	05 42 00.0		
	comp=Z,600nm,14.8s								
DPC	**Dobruska-Polom**	90.35	330	*e*P		P	04 54 05.2	+0.1	
DPC				*e*			04 54 15.4		
DPC				MLR		MLR			
	comp=Z,600nm,14.8s								
UPC	**Upice**	90.38	330	*e*P		P	04 54 08.4	+3.2	
UPC				*e*PP		PP	04 57 41.7	+3.0	
UPC				AMS		AMS	05 37 30.0		
	comp=Z,900nm,15.4s								
UPC	**Upice**	90.38	330	*e*P		P	04 54 08.4	+3.2	
UPC				*e*			04 57 41.7		
UPC				MLR		MLR			
	comp=Z,900nm,15.4s								
EYMN	**Ely**	90.39	34	P		P	04 54 05.1	-0.2	
	baz=313								
EYMN	**Ely**	90.39	34	*e*P		P	04 54 05.6	+0.3	
	comp=Z,27nm,0.9s								
EYMN				LR		LR			
	comp=Z,1μm,22.0s								
ECSD	**EROS Data Cent**	90.41	39	P		P	04 54 05.5	0.0	
	baz=309,SNR=16								
ECSD	**EROS Data Cent**	90.41	39	*e*P		P	04 54 05.5	0.0	
	comp=Z,23nm,1.1s								
ECSD				LR		LR			
	comp=Z,1μm,22.0s								
E36A	**McGregor**	90.45	36	P		P	04 54 05.8	+0.2	
	baz=311,SNR=13								
D37A	**Cotton**	90.45	35	P		P	04 54 05.5	-0.1	
	baz=312								
VYHS	**Vyhne**	90.46	327	*e*P		P	04 54 05.7	+0.1	
VYHS				pmax		pmax			
	comp=Z,52nm,2.2s								
VYHS	**Vyhne**	90.46	327	*e*P		P	04 54 05.7	+0.1	
J33A	**Davis**	90.47	40	P		P	04 54 05.7	-0.1	
	baz=309								
M31A	**Lambtecht Ranc**	90.50	42	P		P	04 54 05.3	-0.7	
	baz=307								
G35A	**Watkins**	90.64	37	P		P	04 54 07.3	+0.8	
	baz=310,SNR=11								
I34A	**Hadley**	90.64	39	P		P	04 54 06.6	0.0	
	baz=309								
C38A	**Sawbill Land.**	90.65	34	P		P	04 54 06.6	0.0	
	baz=313,SNR=6.5								
L32A	**Elgin**	90.68	41	P		P	04 54 06.0	-0.8	
	baz=308								
F36A	**Milaca**	90.74	36	P		P	04 54 06.9	0.0	
	baz=311,SNR=16								
H35A	**Sunnyside Ranc**	90.79	38	P		P	04 54 07.5	+0.3	
	baz=310,SNR=20								
N31A	**Bailey Ranch,**	90.83	43	P		P	04 54 06.9	-0.7	
	baz=307								
E37A	**Wrenshall**	90.86	35	P		P	04 54 07.1	-0.4	
	baz=312								
K33A	**Hardington**	90.90	40	P		P	04 54 07.6	-0.1	
	baz=309								
BGNE	**Belgrade**	90.96	42	P		P	04 54 07.2	-0.9	
	baz=308								
BGNE	**Belgrade**	90.96	42	PFAKE			04 54 20.0	+12	
BGNE				LR		LR			
	comp=Z,700nm,20.0s								
BZS	**Buzias**	90.98	324	⇑*i*P		P	04 54 06.9	-1.2	
BZS	**Buzias**	90.98	324	⇑P		P	04 54 06.9	-1.2	
PVCC	**Panska Ves**	91.00	331	*e*P		P	04 54 08.1	0.0	
PVCC				*e*PP		PP	04 57 46.8	+3.1	
PVCC				AMS		AMS	05 41 50.0		
	comp=Z,600nm,15.2s								
PVCC	**Panska Ves**	91.00	331	*e*P		P	04 54 08.1	0.0	
PVCC				*e*			04 57 46.8		
PVCC				MLR		MLR			
	comp=Z,600nm,15.2s								
L33A	**Hoskins**	91.01	41	P		P	04 54 07.7	-0.6	
	baz=308								
O31A	**Woolen Ranch,**	91.01	43	P		P	04 54 07.6	-0.8	
	baz=307								
BRG	**Berggiesshubel**	91.02	331	*i* P		P	04 54 07.5	-0.6	
	comp=Z,5.7nm,0.8s								
BRG				PP		PP	04 57 40.0	-3.8	
BRG				S		S	05 05 04.0	-0.6	
BRG				SS		SS	05 11 06.0	-0.9	
	comp=N,658nm,15.0s								
	comp=E,428nm,13.5s								
	comp=Z,844nm,14.0s								
BRG	**Berggiesshubel**	91.02	331	*i* P		P	04 54 07.6	-0.6	
BRG							04 57 40.0		
BRG				S		S	05 05 04.0	-0.6	
BRG				SS		SS	05 11 06.0	-0.9	
BRG				pmax		pmax			
	comp=Z,6.0nm,0.8s								
BRG				MLR		MLR			
	comp=N,658nm,15.0s								
BRG				MLR		MLR			
	comp=E,428nm,13.5s								
BRG				MLR		MLR			
	comp=Z,844nm,14.0s								
G36A	**St. Michael**	91.03	37	P		P	04 54 08.8	+0.5	
	baz=311								
J34A	**George**	91.07	39	P		P	04 54 08.3	-0.2	
	baz=309								
CLL	**Collm**	91.11	332	*i* P		P	04 54 07.8	-0.7	
	comp=Z,65nm,2.0s								
CLL				*i*			04 54 10.9		
CLL				*e*PP		PP	04 57 46.0	+1.6	
CLL				*e*PPIp			04 57 48.0		
CLL				*e*			04 58 11.0		
CLL				*e*SKSac		SKSac	05 04 40.0	+0.4	
CLL				*e*S		ScS	05 05 16.0	+7.5	
CLL				*e*PS		PS	05 06 12.0	-3.3	
CLL				*e*SS		SS	05 11 12.0	+4.0	
CLL				LmH			05 31 00.0		
	comp=N,600nm,19.0s								
CLL				LmH			05 31 00.0		
	comp=E,700nm,20.0s								
CLL				LmV			05 35 00.0		
	comp=Z,400nm,21.4s								
CLL	**Collm**	91.11	332	*i* P		P	04 54 07.8	-0.7	
CLL				pmax		pmax			
	comp=Z,65nm,2.0s								
CLL				MLR		MLR			
	comp=Z,400nm,21.4s								
CLL	**Collm**	91.11	332	*e*P		P	04 54 07.5	-1.0	
	comp=Z,75nm,1.9s								
CLL				LR		LR			
	comp=Z,400nm,22.0s								
C39A	**Grand Marais**	91.15	33	P		P	04 54 08.7	-0.1	
	baz=314								
I35A	**Creekview Farm**	91.25	38	P		P	04 54 09.1	-0.3	
	baz=310								
GOPC	**GO Pecny, Ondr**	91.35	330	*e*P		P	04 54 09.3	-0.4	
GOPC				*e*SP		SP	05 06 15.8	+0.6	
GOPC				AMS		AMS	05 42 40.0		
	comp=Z,800nm,14.5s								
GOPC	**GO Pecny, Ondr**	91.35	330	*e*P		P	04 54 09.3	-0.4	
GOPC				*e*			05 06 15.8		
GOPC				MLR		MLR			
	comp=Z,800nm,14.5s								
H36A	**Jessenland, He**	91.36	37	P		P	04 54 10.7	+0.8	
	baz=311								
K34A	**Le Mars**	91.36	40	P		P	04 54 09.6	-0.4	
	baz=309								
PRU	**Pruhonice**	91.41	330	*e*P		P	04 54 12.0	+2.0	
PRU				*e*PP		PP	04 57 50.2	+3.3	
PRU				*e*S		S	05 05 05.5	-2.7	
PRU				*e*SP		SP	05 06 12.9	-2.9	
PRU				AMS		AMS	05 41 30.0		
	comp=Z,700nm,15.3s								
PRU	**Pruhonice**	91.41	330	*e*P		P	04 54 12.0	+2.0	
PRU				*e*			04 57 50.2		
PRU				*e*			05 05 05.5		
PRU				*e*			05 06 12.9		
PRU				MLR		MLR			
	comp=Z,700nm,15.3s								
M33A	**Taylor Creek F**	91.42	41	P		P	04 54 09.3	-1.0	
	baz=308								
J35A	**Milford**	91.44	39	P		P	04 54 10.3	0.0	
	baz=310								
TREC	**Trest**	91.48	329	*e*P		P	04 54 10.8	+0.4	
TREC				AMS		AMS	05 40 30.0		
	comp=Z,900nm,15.2s								
TREC	**Trest**	91.48	329	*e*P		P	04 54 10.8	+0.4	
TREC				MLR		MLR			
	comp=Z,900nm,15.2s								
MDVR	**Moldovita**	91.48	323	⇑*i*P		P	04 54 09.9	-0.6	
SPMN	**Marine on St.**	91.54	36	P		P	04 54 11.1	+0.5	
	baz=312,SNR=19								
SPMN	**Marine on St.**	91.54	36	*e*P		P	04 54 10.5	-0.1	
	comp=Z,400nm,0.8s								
SPMN				LR		LR			
	comp=Z,500nm,19.0s								
CBKS	**Cedar Bluff**	91.56	45	P		P	04 54 10.5	-0.4	
	baz=307								
CBKS	**Cedar Bluff**	91.56	45	*e*P		P	04 54 11.6	+0.6	
CBKS				pmax		pmax			
	comp=Z,21nm,0.8s								
CBKS				MLR		MLR			
	comp=Z,900nm,22.0s								
CBKS	**Cedar Bluff**	91.56	45	*e*P		P	04 54 11.6	+0.6	
	comp=Z,21nm,0.8s								
CBKS				LR		LR			
	comp=Z,900nm,22.0s								
O32A	**Brockman Farm,**	91.58	43	P		P	04 54 10.2	-0.8	
	baz=308								
L34A	**Svendsen Farm,**	91.66	40	P		P	04 54 10.7	-0.6	
	baz=309								
I36A	**Fitzsimmons Fa**	91.68	38	P		P	04 54 11.7	+0.3	
	baz=311,SNR=5.2								
P32A	**Huiting Farm,**	91.78	43	P		P	04 54 11.2	-0.8	
	baz=308								
N33A	**J Ent, Exete**	91.79	42	P		P	04 54 11.1	-0.8	
	baz=306								
MNTX	**Cornudas Mount**	91.82	53	P		P	04 54 12.9	+0.6	
	baz=303,SNR=18								
MNTX	**Cornudas Mount**	91.82	53	*e*P		P	04 54 12.9	+0.6	
	comp=Z,17nm,1.1s								
MNTX				LR		LR			
	comp=Z,700nm,20.0s								
M34A	**Aspy Farms, Fr**	91.83	41	P		P	04 54 11.6	-0.5	
	baz=309								
K35A	**Storm Lake**	91.83	39	P		P	04 54 11.9	-0.2	
	baz=310								
H37A	**Dierke Farm, C**	91.90	37	P		P	04 54 13.2	+0.8	
	baz=312								
J36A	**Seneca 1, Swea**	91.94	38	P		P	04 54 12.5	-0.1	
	baz=310								
I37A	**Lemond, Waseca**	92.02	38	P		P	04 54 13.3	+0.4	
	baz=311								
L35A	**Biow Farm, R**	92.05	40	P		P	04 54 12.8	-0.3	
	baz=310								
O33A	**Hebron**	92.12	43	P		P	04 54 12.7	-0.8	
	baz=308								
NKC	**Novy Kostel**	92.14	331	AMS		AMS	05 46 10.0		
	comp=Z,1μm,12.6s								
Q32A	**Meitler Ranch,**	92.18	44	P		P	04 54 13.0	-0.8	
	baz=308								
CONA	**Conrad Observa**	92.28	328	*i* PcP		P	04 54 14.5	+0.4	
	comp=Z,15nm,1.4s								
N34A	**Lincoln**	92.29	41	P		P	04 54 13.5	-0.7	
	baz=309								
K36A	**Gilmore City**	92.33	39	P		P	04 54 14.7	+0.3	
	baz=310,SNR=12								
M35A	**Neola**	92.37	41	P		P	04 54 14.5	-0.1	
	baz=310								
J37A	**Redenius Farm,**	92.39	38	P		P	04 54 14.7	+0.1	
	baz=311								
R32A	**Long Quarter,**	92.43	44	P		P	04 54 14.4	-0.6	
	baz=307								
P33A	**Williams Farm,**	92.44	43	P		P	04 54 14.5	-0.5	
	baz=308								
KHC	**Kasperske Hory**	92.46	330	*e*P		P	04 54 14.6	-0.3	
KHC				*ex*		x	04 54 24.3		
KHC				*ex*		x	04 55 06.0		
KHC				*e*PP		PP	04 58 00.6	+5.3	
KHC				AMS		AMS	05 42 20.0		
	comp=Z,1μm,15.4s								
KHC	**Kasperske Hory**	92.46	330	*e*P		P	04 54 14.6	-0.3	
KHC				*e*			04 54 24.3		
KHC				*e*			04 58 00.6		
KHC				MLR		MLR			
	comp=Z,1μm,15.4s								
KHC	**Kasperske Hory**	92.46	330	*e*P		P	04 54 14.2	-0.7	
	comp=Z,9.2nm,1.6s								
KHC				LR		LR			
	comp=Z,201nm,19.0s								
L36A	**Harm Buss Farm**	92.55	40	P		P	04 54 15.8	+0.3	
	baz=310								
I38A	**Scanlan Farm,**	92.58	37	P		P	04 54 15.7	+0.2	
	baz=312,SNR=15								
O34A	**Beatrice**	92.59	42	P		P	04 54 15.1	-0.5	
	baz=309								
RKT	**Rikitea**	92.59	114	*e*LR		LR	05 22 32.3		
	comp=Z,753nm,23.5s								
AMTX	**Amarillo**	92.60	49	P		P	04 54 16.7	+0.8	
	baz=305								
AMTX	**Amarillo**	92.60	49	*e*P		P	04 54 16.7	+0.8	
	comp=Z,31nm,0.9s								
AMTX				LR		LR			
	comp=Z,1μm,21.0s								
GEC2	**GERESS Array S**	92.61	330	*e*P		P	04 54 15.4	-0.3	
GEC2				pmax		pmax			
	comp=Z,30nm,1.9s								
GEC2				MLR		MLR			
	comp=Z,600nm,21.0s								
GEC2	**GERESS Array S**	92.61	330	*e*P		P	04 54 15.4	-0.3	
	comp=Z,30nm,1.9s								
GEC2				LR		LR			
	comp=Z,600nm,21.0s								
GERES	**GERESS Array B**	92.61	330	P		P	04 54 14.9	-0.8	
	comp=Z,3.0nm,0.8s,baz=35,slow=4.9,SNR=20								
GERES				LR		LR	05 41 43.9		
	comp=Z,288nm,18.9s,baz=30,slow=39								
GEA0	**GERESS Array S**	92.62	330	*e*P		P	04 54 14.8	-0.9	
Q33A	**Connelly Farm,**	92.63	44	P		P	04 54 15.4	-0.5	
	baz=308								
K37A	**Belmond**	92.70	39	P		P	04 54 16.2	+0.1	
	baz=311,SNR=10								
S32A	**Newby Ranch, P**	92.73	45	P		P	04 54 16.7	+0.3	
	baz=307								
N35A	**Tabor**	92.78	41	P		P	04 54 16.6	+0.1	
	baz=310								
COWI	**Conover**	92.83	34	PFAKE			04 54 30.0	+13	
COWI				LR		LR			
	comp=Z,400nm,19.0s								
M36A	**Felix, Anita**	92.89	40	P		P	04 54 17.3	+0.2	
	baz=310								
P34A	**Walnut Farm, R**	92.90	43	P		P	04 54 16.7	-0.4	
	baz=309								
ARSA	**Arzberg**	92.93	328	*i* PcP		P	04 54 17.0	0.0	
	comp=Z,13nm,1.1s								
R33A	**Olander Ranch,**	92.96	44	P		P	04 54 17.5	+0.1	
	baz=308								
J38A	**Wedel Dairy, R**	92.98	38	P		P	04 54 17.8	+0.4	
	baz=312								
O35A	**Humboldt**	93.00	42	P		P	04 54 16.9	-0.7	
	baz=309								
T32A	**Huddler Ranch,**	93.05	45	P		P	04 54 18.3	+0.4	
	baz=307								
L37A	**Phoenix Point,**	93.06	39	P		P	04 54 17.9	+0.2	
	baz=311								
GRFO	**Grafenberg**	93.07	332	PFAKE			04 54 30.0	+12	
GRFO				LR		LR			
	comp=Z,199nm,20.0s								
MOA	**Molln**	93.08	329	*i* PcP		P	04 54 17.8	0.0	
	comp=Z,8.7nm,1.1s								
N36A	**Muff Farm, Cla**	93.21	41	P		P	04 54 18.8	+0.3	
	baz=310								
Q34A	**Chapman**	93.22	43	P		P	04 54 18.8	+0.2	
	baz=308								
K38A	**Parkersburg**	93.26	38	P		P	04 54 18.7	0.0	
	baz=312								
KSU1	**Kansas State U**	93.31	43	P		P	04 54 18.7	-0.3	
	baz=309								
KSU1	**Kansas State U**	93.31	43	PFAKE			04 54 30.0	+11	
KSU1				LR		LR			
	comp=Z,700nm,22.0s								
M37A	**Trindle Farm,**	93.35	40	P		P	04 54 19.6	+0.5	
	baz=311								
S33A	**Kaszmaul Farm,**	93.38	45	P		P	04 54 19.5	+0.2	
	baz=308,SNR=8.2								
J39A	**Decorah**	93.39	37	P		P	04 54 19.1	-0.1	
	baz=312,SNR=17								
P35A	**Duane Minner,**	93.40	42	P		P	04 54 19.1	-0.3	
	baz=309								
R34A	**Isabella, Hill**	93.42	44	P		P	04 54 19.7	+0.2	
	baz=308								
U32A	**Winter Ranch,**	93.48	46	P		P	04 54 20.2	+0.4	
	baz=307								
L38A	**Oak Wood Farm,**	93.49	39	P		P	04 54 20.1	+0.3	
	baz=311								
T33A	**Patterson Ranc**	93.54	45	P		P	04 54 20.3	+0.2	
	baz=308								
SOKA	**Soboth**	93.57	328	*i* PcP		P	04 54 19.7	-0.4	
	comp=Z,14nm,1.3s								
O36A	**Bolckow**	93.64	41	P		P	04 54 20.4	-0.1	
	baz=310								
N37A	**Lee Faris, Mou**	93.68	40	P		P	04 54 20.8	+0.2	
	baz=310								
K39A	**Oelwein**	93.71	38	P		P	04 54 20.7	-0.1	
	baz=312								
Q35A	**Mercer Eighty,**	93.81	43	P		P	04 54 21.2	-0.1	
	baz=309,SNR=22								
P36A	**Good Intent, A**	93.83	42	P		P	04 54 20.9	-0.4	
	baz=310								
M38A	**Pleasantville**	93.83	39	P		P	04 54 21.6	+0.2	
	baz=311								
V32A	**Arapaho**	93.85	47	P		P	04 54 22.0	+0.4	
	baz=307,SNR=11								
S34A	**Willow Spring**	93.87	44	P		P	04 54 21.5	-0.1	
	baz=308								
OBKA	**Obir**	93.92	328	*i* PcP		P	04 54 21.3	-0.5	
	comp=Z,3.1nm,0.7s								
U33A	**Lingo Farm, Me**	94.02	46	P		P	04 54 22.5	+0.1	
	baz=308								
L39A	**Vinton**	94.04	38	P		P	04 54 22.4	+0.1	
	baz=312,SNR=17								
R35A	**Emporia Munici**	94.05	43	P		P	04 54 22.6	+0.2	
	baz=309								
W32A	**Sentinel**	94.07	47	P		P	04 54 23.2	+0.6	
	baz=307								
KBA	**Koelnbreinsper**	94.08	329	*i* PcP		P	04 54 21.6	-0.9	
	comp=Z,3.5nm,0.7s								
Q36A	**Arnold C. Orve**	94.09	42	P		P	04 54 22.3	-0.3	
	baz=310								
O37A	**Wolven Farm, M**	94.10	41	P		P	04 54 22.6	-0.1	
	baz=310								
K40A	**Colesburg**	94.12	37	P		P	04 54 22.7	0.0	
	baz=313,SNR=12								
HPIG		94.20	57	PFAKE			04 54 30.0	+6.4	
HPIG				LR		LR			
	comp=Z,1μm,20.0s								
N38A	**Joes South For**	94.22	40	P		P	04 54 23.0	-0.1	
	baz=311								
T34A	**McClaskey Farm**	94.24	45	P		P	04 54 23.3	-0.1	
	baz=308								
MYKA	**Terra Mystica**	94.27	328	*i* PcP		P	04 54 23.5	+0.2	
	comp=Z,7.0nm,0.8s								
V33A	**Lossen Ranch,**	94.28	46	P		P	04 54 23.9	+0.4	
	baz=308								
P37A	**Lathrop**	94.36	41	P		P	04 54 23.6	-0.2	
	baz=310								
TX31	**Lajitas Ar. Si**	94.36	54	*e*P		P	04 54 24.2	0.0	
TX31				*e*PP		PP	04 58 12.7	+1.8	
TXAR	**Lajitas Array**	94.36	54	P		P	04 54 24.6	+0.5	
	comp=Z,5.0nm,1.0s,baz=307,slow=2.1,SNR=33								
TXAR						PKKPbc	**PKKPbc**	05 11 25.1	+1.6
	comp=Z,0.3nm,0.7s,baz=130,slow=3.9,SNR=4.5								
TXAR				LR		LR	05 31 05.0		
	comp=Z,403nm,20.9s,baz=0.0,slow=32								
S35A	**Otter Creek Ra**	94.38	44	P		P	04 54 23.9	-0.1	
	baz=309,SNR=13								
U34A	**Anderson Ranch**	94.39	45	P		P	04 54 23.9	-0.1	
	baz=308,SNR=8.9								
U34A	**Anderson Ranch**	94.39	45	*e*P		P	04 54 23.6	-0.4	
	comp=Z,37nm,0.9s								
U34A				LR		LR			
	comp=Z,800nm,22.0s								
SCHQ	**Schefferville**	94.42	17	LR		LR	05 38 02.2		
	comp=Z,592nm,21.5s,baz=331,slow=36								
JFWS	**Jewell Farm**	94.45	37	*e*P		P	04 54 24.4	+0.2	
JFWS				pmax		pmax			
	comp=Z,24nm,1.1s								
JFWS				MLR		MLR			
	comp=Z,800nm,21.0s								
JFWS	**Jewell Farm**	94.45	37	*e*P		P	04 54 24.4	+0.2

Q37A	**Longview Farm,** baz=310	**94.75**	**42**	P		**P**	**04 54 25.1**	**-0.5**
V34A	**Guthrie** baz=308	**94.77**	**46**	P		**P**	**04 54 26.3**	**+0.6**
V34A	**Guthrie**	**94.77**	**46**	PFAKE			04 54 40.0	+14
V34A	comp=Z,1µm,22.0s			LR		LR		
TIR	**Tirane**	**94.77**	**321**	PFAKE			04 54 40.0	+14
TIR	comp=Z,500nm,20.0s			LR		LR		
S36A	**Lake Cedric, C** baz=309	**94.80**	**43**	P		**P**	**04 54 25.8**	**-0.1**
P38A	**Dawn** baz=311,SNR=13	**94.81**	**41**	P		**P**	**04 54 25.5**	**-0.4**
TRI	**Trieste**	**94.88**	**328**	PFAKE			04 54 40.0	+14
TRI	comp=Z,300nm,20.0s			LR		LR		
R37A	**Teagarden Farm** baz=310	**94.89**	**43**	P		**P**	**04 54 25.8**	**-0.5**
L41A	**Preston** baz=313	**94.89**	**38**	P		**P**	**04 54 26.1**	**-0.1**
MOTA	**Moosalm** comp=Z,4.1nm,0.7s	**94.89**	**330**	*i* pP		**P**	**04 54 27.7**	**+1.4**
X33A	**Lawton** baz=307	**94.91**	**47**	P		**P**	**04 54 26.8**	**+0.3**
U35A	**Pawnee** baz=308,SNR=11	**94.94**	**45**	P		**P**	**04 54 26.5**	**0.0**
RETA	**Reutte** comp=Z,15nm,1.9s	**94.94**	**330**	*i* PcP		**P**	**04 54 25.8**	**-0.6**
W34A	**Bridge Creek,** baz=308	**94.97**	**46**	*e*P		**P**	**04 54 27.0**	**+0.3**
W34A	**Bridge Creek,** comp=Z,20nm,1.0s	**94.97**	**46**	*e*P		**P**	**04 54 25.9**	**-0.8**
W34A	comp=Z,1µm,22.0s			LR		LR		
O39A	**Kirksville** baz=312	**94.97**	**40**	P		**P**	**04 54 26.6**	**+0.1**
T36A	**Boggs Farm, Ca** baz=309,SNR=14	**95.04**	**44**	P		**P**	**04 54 27.0**	**0.0**
Y33A	**Hilltop Ranch,** baz=307	**95.15**	**48**	P		**P**	**04 54 27.8**	**+0.2**
WLF	**Walferdange**	**95.16**	**334**	PFAKE			04 54 40.0	+13
WLF	comp=Z,600nm,21.0s			LR		LR		
Q38A	**Cooks Store, C** baz=311	**95.19**	**41**	P		**P**	**04 54 27.7**	**+0.1**
S37A	**Fort Scott** baz=310	**95.24**	**43**	P		**P**	**04 54 27.6**	**-0.3**
V35A	**Meyer Ranch, C** baz=308	**95.24**	**46**	P		**P**	**04 54 27.8**	**-0.1**
ABTX	**Abilene, Hawle** baz=306	**95.30**	**49**	P		**P**	**04 54 28.7**	**+0.5**
ABTX	**Abilene, Hawle** comp=Z,18nm,1.1s	**95.30**	**49**	*e*P		**P**	**04 54 26.9**	**-1.4**
ABTX	comp=Z,1µm,20.0s			LR		LR		
FETA	**Feichten** comp=Z,6.6nm,0.9s	**95.31**	**330**	*i* pP		**P**	**04 54 29.1**	**+0.9**
X34A	**Smith Ranch, M** baz=308	**95.31**	**47**	P		**P**	**04 54 28.9**	**+0.6**
BFO	**Black Forest**	**95.34**	**332**	*i* P		**P**	**04 54 28.4**	**+0.3**
BFO	**Black Forest** comp=Z,36nm,1.7s	**95.34**	**332**	*e*P		**P**	**04 54 26.5**	**-1.6**
P39B	**Salisbury** baz=311	**95.36**	**41**	P		**P**	**04 54 28.2**	**-0.2**
LAST	**Lasithi** comp=Z,47nm,1.7s	**95.37**	**314**	*e*P		**P**	**04 54 29.0**	**+0.3**
O40A	**La Belle** baz=312	**95.44**	**40**	P		**P**	**04 54 28.9**	**+0.1**
DAVA	**Damuels** comp=Z,8.3nm,0.8s	**95.48**	**331**	*i* PcP		**P**	**04 54 28.2**	**-0.8**
Z33A	**Whitaker Ranch** baz=307	**95.49**	**49**	P		**P**	**04 54 29.2**	**+0.1**
Q39A	**Willow Grove F** baz=311,SNR=12	**95.52**	**41**	P		**P**	**04 54 28.6**	**-0.5**
R38A	**Fenwick Farm,** baz=310	**95.53**	**42**	P		**P**	**04 54 28.1**	**-1.1**
U36A	**Oologah** baz=309	**95.55**	**45**	P		**P**	**04 54 29.1**	**-0.2**
T37A	**Cheneyville 18** baz=310	**95.59**	**44**	P		**P**	**04 54 29.2**	**-0.3**
W35A	**Tecumseh** baz=308	**95.60**	**46**	P		**P**	**04 54 29.5**	**0.0**
P40A	**Paris** baz=312	**95.74**	**40**	P		**P**	**04 54 29.8**	**-0.3**
Y34A	**Reagan Ranch,** baz=308	**95.76**	**47**	P		**P**	**04 54 30.2**	**-0.1**
133A	**Hamilton Ranch** baz=307	**95.80**	**49**	P		**P**	**04 54 30.3**	**-0.3**
V36A	**Jenks** baz=309	**95.80**	**45**	P		**P**	**04 54 30.2**	**-0.3**
TUL1	**Leonard** baz=309	**95.82**	**45**	P		**P**	**04 54 30.4**	**-0.1**
TUL1	**Leonard**	**95.82**	**45**	PFAKE			04 54 40.0	+9.5
TUL1	comp=Z,700nm,20.0s			LR		LR		
FUORN	**Ofenpass-Fuorn** comp=Z,17nm,0.9s	**95.82**	**330**	*e*P		**P**	**04 54 29.2**	**-1.4**
FUORN	comp=Z,500nm,20.0s			LR		LR		
S38A	**Stockton** baz=310	**95.88**	**43**	P		**P**	**04 54 30.0**	**-0.9**
U37A	**Salina** baz=310	**95.93**	**44**	P		**P**	**04 54 30.7**	**-0.3**
R39A	**Chumby, Stover** baz=311	**95.96**	**42**	P		**P**	**04 54 30.2**	**-0.9**
X35A	**Drake** baz=308	**96.00**	**47**	P		**P**	**04 54 31.0**	**-0.4**
O41A	**Passleys Farm,** baz=313	**96.01**	**39**	P		**P**	**04 54 31.1**	**-0.3**
W36A	**Wetumka** baz=309	**96.02**	**46**	P		**P**	**04 54 31.3**	**-0.2**
T38A	**Diamond** baz=310	**96.03**	**43**	P		**P**	**04 54 31.1**	**-0.4**
Q40A	**Laux Farm, Aux** baz=312	**96.08**	**41**	P		**P**	**04 54 31.4**	**-0.3**
233A	**Rising Star** baz=307	**96.16**	**50**	P		**P**	**04 54 32.2**	**0.0**
S39A	**Bolivar** baz=311	**96.20**	**42**	P		**P**	**04 54 31.3**	**-0.9**
P41A	**Barry, Barry** baz=312	**96.21**	**40**	P		**P**	**04 54 32.0**	**-0.2**
V37A	**Hulbert** baz=310	**96.24**	**45**	P		**P**	**04 54 32.2**	**-0.3**
Y35A	**Marietta** baz=308	**96.26**	**47**	P		**P**	**04 54 32.3**	**-0.3**
CASY	**Casey** comp=Z,16nm,1.2s	**96.29**	**193**	*e*P		**P**	**04 54 31.2**	**-0.5**
X36A	**Centrahoma** baz=309	**96.30**	**46**	P		**P**	**04 54 32.7**	**-0.1**
TUE	**Stuetta** comp=Z,29nm,1.7s	**96.34**	**330**	*e*P		**P**	**04 54 31.4**	**-1.5**
TUE	comp=Z,400nm,19.0s			LR		LR		
U38A	**Gravette** baz=310	**96.36**	**44**	P		**P**	**04 54 32.3**	**-0.7**
134A	**White-Moore Ra** baz=307	**96.38**	**49**	P		**P**	**04 54 33.5**	**+0.3**
R40A	**Maddies Statio** baz=312	**96.43**	**41**	P		**P**	**04 54 32.5**	**-0.8**
JCT	**Junction City** baz=306	**96.45**	**51**	P		**P**	**04 54 33.3**	**-0.2**
JCT	**Junction City**	**96.45**	**51**	*e*P		**P**	**04 54 34.0**	**+0.4**
JCT	comp=Z,11nm,1.1s			pmax		pmax		
JCT	**Junction City** comp=Z,11nm,1.1s	**96.45**	**51**	*e*P		**P**	**04 54 34.0**	**+0.4**
Z35A	**Perchaven, San** baz=308	**96.47**	**48**	P		**P**	**04 54 33.3**	**-0.3**
333A	**Richland Sprin** baz=307	**96.52**	**50**	P		**P**	**04 54 33.8**	**0.0**
W37B	**Quinton** baz=309	**96.53**	**45**	P		**P**	**04 54 33.6**	**-0.2**
HDIL	**Hopedale** baz=314	**96.59**	**38**	P		**P**	**04 54 33.9**	**-0.1**
HDIL	**Hopedale**	**96.59**	**38**	PFAKE			04 54 50.0	+16
HDIL	comp=Z,1µm,22.0s			LR		LR		
T39A	**Clever** baz=311	**96.60**	**43**	P		**P**	**04 54 33.6**	**-0.5**
234A	**Clairette** baz=307	**96.69**	**49**	P		**P**	**04 54 34.7**	**+0.1**
V38A	**Canehill** baz=310	**96.71**	**44**	P		**P**	**04 54 34.2**	**-0.5**
HHAR	**Hobbs**	**96.73**	**44**	PFAKE			04 54 50.0	+15
HHAR	comp=Z,900nm,22.0s			LR		LR		
S40A	**Lebanon** baz=311	**96.75**	**42**	P		**P**	**04 54 34.0**	**-0.8**
Y36A	**Durant** baz=309	**96.76**	**47**	P		**P**	**04 54 34.6**	**-0.3**
433A	**Art** baz=307	**96.78**	**51**	P		**P**	**04 54 34.7**	**-0.3**
135A	**Vickery Place,** baz=308	**96.84**	**48**	P		**P**	**04 54 35.6**	**+0.4**
X37A	**Clayton** baz=309	**96.91**	**46**	P		**P**	**04 54 35.6**	**+0.1**
U39A	**Green Forest** baz=311	**96.95**	**43**	P		**P**	**04 54 35.2**	**-0.6**
334A	**Lometa** baz=307	**97.02**	**50**	P	Pdif		04 54 36.2	0.0
Q42A	**Golden Eagle** baz=313	**97.02**	**40**	P	Pdif		04 54 36.3	+0.2
T40A	**Mansfield** baz=311	**97.03**	**42**	P		**P**	**04 54 35.4**	**-0.7**
Z36A	**Blue Ridge** baz=308	**97.05**	**47**	P		**P**	**04 54 36.0**	**-0.1**
Y37A	**Hugo** baz=309	**97.14**	**46**	P	Pdif		04 54 36.6	0.0
W38A	**Poteau** baz=310	**97.15**	**45**	P		**P**	**04 54 34.8**	**-1.8**
WHTX	**Lake Whitney,** baz=308	**97.15**	**49**	P	Pdif		04 54 36.8	+0.1
WHTX	**Lake Whitney,**	**97.15**	**49**	PFAKE			04 54 50.0	+13
WHTX	comp=Z,800nm,22.0s			LR		LR		
V39A	**Pettigrew** baz=310	**97.20**	**44**	P		**P**	**04 54 36.4**	**-0.6**
X38A	**Whitesboro** baz=310	**97.21**	**45**	P		**P**	**04 54 36.9**	**0.0**
434A	**Burnet** baz=307	**97.31**	**50**	P		**P**	**04 54 37.0**	**-0.5**
U40A	**Yellville** baz=311	**97.35**	**43**	P		**P**	**04 54 36.9**	**-0.6**
SLM	**Saint Louis**	**97.38**	**40**	PFAKE			04 54 50.0	+12
SLM	comp=Z,600nm,18.0s			LR		LR		
AQU	**L'Aquila**	**97.51**	**325**	PFAKE			04 54 50.0	+12
AQU	comp=Z,700nm,20.0s			LR		LR		
T41A	**Mountain View** baz=312	**97.56**	**42**	P		**P**	**04 54 37.8**	**-0.6**
832A	**Faith Ranch, C** baz=306	**97.61**	**53**	P		**P**	**04 54 38.5**	**-0.4**
Z37A	**Pogue Cattle C** baz=309	**97.62**	**47**	P		**P**	**04 54 38.6**	**-0.2**
VLC	**Villacollemand**	**97.64**	**328**	PFAKE			04 54 50.0	+11
VLC	comp=Z,200nm,19.0s			LR		LR		
534A	**Blanco** baz=307	**97.64**	**51**	P		**P**	**04 54 38.8**	**-0.1**
X39A	**Fountain Ranch** baz=310	**97.76**	**45**	P		**P**	**04 54 38.8**	**-0.6**
236A	**Katherine and** baz=308	**97.77**	**48**	P		**P**	**04 54 39.3**	**-0.2**
435B	**Jarrell** baz=308	**97.80**	**50**	P		**P**	**04 54 38.9**	**-0.7**
733A	**Divot King Ran** baz=306	**97.84**	**52**	P		**P**	**04 54 39.7**	**-0.2**
Q44A	**Meyer Farm, Va** baz=314	**97.89**	**39**	P		**P**	**04 54 39.1**	**-0.7**
SFIN	**Lafayette** baz=315	**97.91**	**37**	P		**P**	**04 54 39.4**	**-0.5**
SFIN	**Lafayette**	**97.91**	**37**	PFAKE			04 54 50.0	+10
SFIN	comp=Z,900nm,21.0s			LR		LR		
336A	**Riesel** baz=308	**97.94**	**49**	P		**P**	**04 54 39.3**	**-0.9**
CUC	**Castrocucco**	**97.94**	**323**	PFAKE			04 54 50.0	+10
CUC	comp=Z,300nm,19.0s			LR		LR		
W40A	**Ferguson Farm,** baz=311	**97.98**	**44**	P		**P**	**04 54 39.9**	**-0.4**
TIP	**Timpagrande**	**97.99**	**321**	PFAKE			04 54 50.0	+10
TIP	comp=Z,300nm,20.0s			LR		LR		
833A	**Chaparral WMA,** baz=306	**98.00**	**53**	P	Pdif		04 54 40.9	+0.3
MIAR	**Mount Ida** baz=310	**98.08**	**45**	P		**P**	**04 54 39.8**	**-1.0**
MIAR	**Mount Ida**	**98.08**	**45**	*e*P	Pdif		04 54 41.5	+0.7
MIAR	comp=Z,37nm,1.9s			pmax	pmax			
MIAR	comp=Z,900nm,22.0s			MLR	MLR			
MIAR	**Mount Ida** comp=Z,36nm,1.9s	**98.08**	**45**	*e*P	Pdif		04 54 41.5	+0.6
MIAR	comp=Z,900nm,22.0s			LR	LR			
634A	**China Grove, S** baz=307	**98.11**	**51**	P	Pdif		04 54 41.5	+0.4
Y39A	**Lockesburg** baz=310	**98.14**	**46**	P		**P**	**04 54 40.8**	**-0.3**
V41A	**Mountainview** baz=311	**98.15**	**43**	P		**P**	**04 54 40.9**	**-0.3**
S43A	**Fulton Ridge,** baz=313	**98.20**	**41**	P		**P**	**04 54 40.6**	**-0.7**
237A	**Washetta, Mont** baz=309	**98.25**	**48**	P		**P**	**04 54 40.9**	**-0.6**
535A	**Dale** baz=308	**98.27**	**50**	P		**P**	**04 54 41.1**	**-0.6**
AAM	**Ann Arbor**	**98.30**	**34**	PFAKE			04 54 50.0	+8.4
AAM	comp=Z,700nm,21.0s			LR		LR		
R44A	**Waltonville** baz=314	**98.31**	**40**	P		**P**	**04 54 41.3**	**-0.4**
138A	**Matatall Enter** baz=309	**98.31**	**47**	P		**P**	**04 54 40.9**	**-1.0**
X201	**Greenbrier Sit**	**98.35**	**44**	PFAKE			04 54 50.0	+8.0
X201	comp=Z,600nm,19.0s			LR		LR		
X301	**Greenbrier Sit**	**98.36**	**44**	PFAKE			04 54 50.0	+7.9
X301	comp=Z,600nm,18.0s			LR		LR		
WHAR	**Wooly Hollow**	**98.40**	**44**	PFAKE			04 54 50.0	+7.8
WHAR	comp=Z,700nm,22.0s			LR		LR		
635A	**Leesville** baz=307	**98.51**	**51**	Pdiff		**P**	**04 54 42.8**	**-0.1**
OLIL	**Olney**	**98.52**	**39**	PFAKE			04 54 50.0	+7.3
OLIL	comp=Z,700nm,21.0s			LR		LR		
SADO	**Sadowa**	**98.53**	**30**	PFAKE			04 54 50.0	+7.4
SADO	comp=Z,800nm,22.0s			LR		LR		
PBMO	**Poplar Bluff** comp=Z,14nm,1.3s	**98.53**	**41**	*e*P		**P**	**04 54 42.3**	**-0.5**
PBMO	comp=Z,500nm,19.0s			LR		LR		
S44A	**Carbondale** baz=314	**98.59**	**40**	Pdiff		**P**	**04 54 42.9**	**-0.1**
SIUC	**Southern Illin**	**98.60**	**40**	PFAKE			04 54 50.0	+6.9
SIUC	comp=Z,500nm,19.0s			LR		LR		
V42A	**Cord** baz=312	**98.61**	**43**	Pdiff		**P**	**04 54 41.8**	**-1.3**
BNI	**Bardonecchia**	**98.62**	**331**	PFAKE			04 54 50.0	+6.8
BNI	comp=Z,500nm,19.0s			LR		LR		
337A	**Centerville** baz=309	**98.62**	**49**	Pdiff	Pdif		04 54 43.5	+0.2
UALR	**University of**	**98.70**	**44**	PFAKE			04 54 50.0	+6.4
UALR	comp=Z,800nm,21.0s			LR		LR		
ZAIG	**Zacatecas**	**98.83**	**59**	PFAKE			04 55 00.0	+15
ZAIG	comp=Z,2µm,19.0s			LR		LR		
WLAR	**White Oak Lake**	**98.93**	**45**	PFAKE			04 55 00.0	+15
WLAR	comp=Z,1µm,22.0s			LR		LR		
S45A	**Carrier Mills** baz=314	**98.99**	**40**	Pdiff		**P**	**04 54 43.8**	**-1.0**
Z40A	**Long Farm, Mag** baz=310	**99.02**	**46**	Pdiff		**Pdif**	**04 54 44.3**	**-0.7**
BLO	**Bloomington**	**99.08**	**37**	PFAKE			04 55 00.0	+15
BLO	comp=Z,1µm,22.0s			LR		LR		
NATX	**Nacogdoches**	**99.16**	**48**	PFAKE			04 55 00.0	+14
NATX	comp=Z,800nm,21.0s			LR		LR		
PVMO	**Portageville**	**99.21**	**41**	PFAKE			04 55 00.0	+14
PVMO	comp=Z,700nm,22.0s			LR		LR		
438A	**Sam Houston St** baz=309	**99.25**	**49**	Pdiff		**Pdif**	**04 54 45.4**	**-0.7**
USIN	**University of**	**99.31**	**39**	PFAKE			04 55 00.0	+14
USIN	comp=Z,700nm,21.0s			LR		LR		
HKT	**Hockley**	**99.50**	**50**	PFAKE			04 55 00.0	+13
HKT	comp=Z,800nm,19.0s			LR		LR		
CCAR	**Cane Creek**	**99.62**	**44**	PFAKE			04 55 00.0	+12
CCAR	comp=Z,900nm,22.0s			LR		LR		
HALT	**Halls**	**99.76**	**41**	PFAKE			04 55 00.0	+12
HALT	comp=Z,584µm,21.0s			LR		LR		
WCI	**Wyandotte Cave**	**99.88**	**38**	PFAKE			04 55 00.0	+11
WCI	comp=Z,1µm,22.0s			LR		LR		
MET	**Memphis--Engin**	**99.94**	**42**	PFAKE			04 55 00.0	+11
MET	comp=Z,500nm,21.0s			LR		LR		
ACSO	**Alum Creek Sta**	**100.17**	**35**	PFAKE			04 55 00.0	+10
ACSO	comp=Z,600nm,22.0s			LR		LR		
ERPA	**Erie**	**100.21**	**32**	PFAKE			04 55 00.0	+10
ERPA	comp=Z,400nm,20.0s			LR		LR		
ALLY	**Alegheny Colle**	**100.50**	**32**	PFAKE			04 55 00.0	+8.5
ALLY	comp=Z,600nm,21.0s			LR		LR		
WVT	**Waverly**	**100.50**	**40**	PFAKE			04 55 00.0	+8.5
WVT	comp=Z,600nm,20.0s			LR		LR		
LONY	**Lake Ozonia**	**100.58**	**27**	PFAKE			04 55 00.0	+8.2
LONY	comp=Z,700nm,20.0s			LR		LR		
OXF	**Oxford**	**100.67**	**43**	PFAKE			04 55 00.0	+7.6
OXF	comp=Z,300nm,18.0s			LR		LR		
441A	**DeRidder** baz=310	**100.77**	**48**	Pdiff		**Pdif**	**04 54 52.4**	**-0.4**
Z44A	**Pea Ridge, Bel** baz=312	**100.88**	**44**	Pdiff		**Pdif**	**04 54 52.3**	**-1.0**
CLTB	**Caltabellotta**	**101.08**	**322**	PFAKE			04 55 10.0	+16
CLTB	comp=Z,500nm,20.0s			LR		LR		
PLAL	**Pickwick Lake**	**101.15**	**41**	PFAKE			04 55 10.0	+16
PLAL	comp=Z,600nm,20.0s			LR		LR		
VSL	**Villasalto**	**101.67**	**326**	PFAKE			04 55 10.0	+13
VSL	comp=Z,300nm,21.0s			LR		LR		
BINY	**Binghamton**	**101.96**	**29**	PFAKE			04 55 10.0	+12
BINY	comp=Z,700nm,20.0s			LR		LR		
MCWV	**Mont Chateau**	**102.18**	**33**	PFAKE			04 55 10.0	+11
MCWV	comp=Z,400nm,22.0s			LR		LR		
SWET	**Sewanee**	**102.23**	**40**	PFAKE			04 55 10.0	+11
SWET	comp=Z,100nm,20.0s			LR		LR		
HNH	**Hanover**	**102.26**	**26**	PFAKE			04 55 10.0	+11
HNH	comp=Z,1µm,21.0s			LR		LR		
O56A	**Blue Knob Stat** baz=322	**102.32**	**32**	Pdiff		**Pdif**	**04 54 59.0**	**-0.6**
SSPA	**Standing Stone**	**102.35**	**31**	PFAKE			04 55 10.0	+10
SSPA	comp=Z,700nm,22.0s			LR		LR		
TRY	**Troy**	**102.51**	**28**	PFAKE			04 55 10.0	+10
TRY	comp=Z,1µm,20.0s			LR		LR		
Z48A	**Northport** baz=314	**102.57**	**42**	Pdiff		**Pdif**	**04 54 59.4**	**-1.4**
KSPA	**Keystone Colle**	**102.57**	**30**	PFAKE			04 55 10.0	+9.3
KSPA	comp=Z,900nm,20.0s			LR		LR		
TZTN	**Tazewell**	**102.61**	**38**	PFAKE			04 55 10.0	+9.0
TZTN	comp=Z,700nm,21.0s			LR		LR		
147A	**Livingston** baz=314	**102.62**	**43**	Pdiff		**Pdif**	**04 55 00.3**	**-0.8**
FFD	**Franklin Falls**	**102.70**	**26**	PFAKE			04 55 10.0	+8.8
FFD	comp=Z,1µm,21.0s			LR		LR		
CPCT	**Cooper Cave**	**102.87**	**39**	PFAKE			04 55 10.0	+7.9
CPCT	comp=Z,500nm,19.0s			LR		LR		
TKL	**Tuckaleechee C**	**103.13**	**38**	PFAKE			04 55 10.0	+6.7
TKL	comp=Z,600nm,20.0s			LR		LR		
LRAL	**Lakeview Retre**	**103.14**	**42**	PFAKE			04 55 10.0	+6.6
LRAL	comp=Z,600nm,21.0s			LR		LR		
UNM	**Universidad Na**	**103.37**	**60**	PFAKE			04 55 20.0	+15
UNM	comp=Z,1µm,19.0s			LR		LR		
QUA2	**Belchertown**	**103.42**	**27**	PFAKE			04 55 20.0	+16
QUA2	comp=Z,800nm,20.0s			LR		LR		
ODNJ	**Ogdensburg**	**103.47**	**29**	PFAKE			04 55 20.0	+15
ODNJ	comp=Z,600nm,22.0s			LR		LR		
LUPA	**Lehigh Univers**	**103.53**	**30**	PFAKE			04 55 20.0	+15
LUPA	comp=Z,900nm,22.0s			LR		LR		
HRV	**Adam Dziewonsk**	**103.55**	**26**	PFAKE			04 55 20.0	+15
HRV	comp=Z,700nm,20.0s			LR		LR		
MVL	**Millersville**	**103.57**	**31**	PFAKE			04 55 20.0	+15
MVL	comp=Z,600nm,22.0s			LR		LR		
WES	**Weston**	**103.75**	**26**	PFAKE			04 55 20.0	+14
WES	comp=Z,1µm,21.0s			LR		LR		
BLA	**Blacksburg**	**103.77**	**35**	PFAKE			04 55 20.0	+14
BLA	comp=Z,600nm,22.0s			LR		LR		
SDMD	**Soldier's Deli**	**103.81**	**32**	PFAKE			04 55 20.0	+14
SDMD	comp=Z,300nm,21.0s			LR		LR		
BRNJ	**Basking Ridge**	**103.81**	**29**	PFAKE			04 55 20.0	+14
BRNJ	comp=Z,1µm,22.0s			LR		LR		
PAL	**Palisades**	**103.83**	**29**	PFAKE			04 55 20.0	+14
PAL	comp=Z,800nm,20.0s			LR		LR		
BCX	**Boston College**	**103.85**	**26**	PFAKE			04 55 20.0	+14
BCX	comp=Z,2µm,22.0s			LR		LR		
YLE	**Yale**	**103.99**	**28**	PFAKE			04 55 20.0	+13
YLE	comp=Z,800nm,20.0s			LR		LR		
BRYW	**Bryant College**	**104.06**	**27**	PFAKE			04 55 20.0	+13
BRYW	comp=Z,1µm,20.0s			LR		LR		
BRAL	**Brewton**	**104.41**	**44**	PFAKE			04 55 20.0	+11
BRAL	comp=Z,400nm,19.0s			LR		LR		
CBN	**Corbin Frederi**	**104.51**	**33**	PFAKE			04 55 20.0	+11
CBN	comp=Z,500nm,20.0s			LR		LR		
KMSC	**Kings Mountain**	**104.85**	**37**	PFAKE			04 55 20.0	+9.1
KMSC	comp=Z,700nm,20.0s			LR		LR		
GOGA	**Godfrey**	**104.94**	**40**	PFAKE			04 59 40.0	
GOGA	comp=Z,700nm,22.0s			LR		LR		
TIGA	**Tifton**	**106.30**	**41**	PFAKE			04 59 40.0	
TIGA	comp=Z,800nm,20.0s			LR		LR		
PBRG	**Braganca**	**106.58**	**338**	*e*PP		PP	04 59 46.3	+3.7
CNNC	**Cliffs of the**	**106.58**	**35**	PFAKE			04 59 40.0	
CNNC	comp=Z,600nm,21.0s			LR		LR		
PGAV	**Gavieira, Arco**	**106.94**	**339**	*e*PP		PP	04 59 47.9	+2.6
PGAV	**Gavieira, Arco** comp=Z,226nm,18.0s	**106.94**	**339**	*e*LR		LR	05 32 39.1	
NHSC	**New Hope**	**107.01**	**38**	PFAKE			04 59 40.0	
NHSC	comp=Z,900nm,22.0s			LR		LR		
MVO	**Moncorvo**	**107.25**	**338**	*e*PP		PP	04 59 54.6	+7.1
MVO	**Moncorvo** comp=Z,246nm,16.0s	**107.25**	**338**	*e*LR		LR	05 34 52.9	
POLO	**Lamas de Olo**	**107.31**	**338**	*e*PP		PP	04 59 55.3	+7.3
PVRL	**Vila Real**	**107.38**	**338**	*e*PP		PP	05 00 01.1	+13
ESDC	**Sonseca Array** comp=Z,0.3nm,0.4s,baz=16,slow=7.4,SNR=4.2	**107.45**	**335**	PP		PP	04 59 43.1	-5.9

ESLA	**Sonseca Array**	**107.45**	**335**	PFAKE			04 59 40.0	
ESLA				LR	LR			
	comp=Z,400nm,20.0s							
PAB	**San Pablo**	**107.71**	**335**	PFAKE			04 59 40.0	
PAB				LR	LR			
	comp=Z,400nm,22.0s							
MTE	**Manteigas**	**108.10**	**338**	*e*PP	PP		05 00 01.9	+8.1
MTE	**Manteigas**	**108.10**	**338**	*e*LR	LR		05 33 42.4	
	comp=Z,251nm,20.0s							
PCAS	**Casmilo, Conde**	**108.73**	**338**	*e*PP	PP		05 00 02.8	+4.5
PMRV	**Marv??o**	**108.92**	**337**	*e*PP	PP		05 00 06.1	+6.4
PMRV	**Marv??o**	**108.92**	**337**	*e*LR	LR		05 33 35.6	
	comp=Z,170nm,20.0s							
PESTR	**Estremoz**	**109.49**	**337**	*e*PP	PP		05 00 06.2	+2.4
PMTG	**Montargil**	**109.53**	**337**	*e*PP	PP		05 00 11.2	+7.2
PBAR	**Barrancos**	**109.91**	**336**	*e*PP	PP		05 00 14.9	+8.1
EVO	**Evora**	**109.94**	**337**	*e*PP	PP		05 00 15.4	+8.4
PMAFR	**Mafra**	**109.99**	**338**	*e*PP	PP		05 00 12.4	+5.0
DWPF	**Disney Wildern**	**110.01**	**42**	PFAKE			04 59 50.0	
DWPF				LR	LR			
	comp=Z,500nm,20.0s							
PNCL	**Nicolau / Gran**	**110.49**	**337**	*e*PP	PP		05 00 18.2	+7.2
MESJ	**Messejana**	**110.63**	**337**	*e*PP	PP		05 00 15.9	+3.9
PVAQ	**Vaqueiros**	**110.84**	**336**	*e*PP	PP		05 00 19.6	+6.0
PVAQ	**Vaqueiros**	**110.84**	**336**	*e*LR	LR		05 38 28.9	
	comp=Z,267nm,18.0s							
PBDV	**Barranco-do-Ve**	**111.06**	**336**	*e*PP	PP		05 00 22.8	+7.6
MORF	**Marmelete**	**111.25**	**337**	*e*PP	PP		05 00 23.7	+7.1
PFVI	**Vila Bisbo**	**111.47**	**337**	*e*PP	PP		05 00 24.9	+6.8
PFVI	**Vila Bisbo**	**111.47**	**337**	PFAKE			04 59 50.0	
PFVI				LR	LR			
	comp=Z,400nm,20.0s							
BBSR	**BB Station**	**115.03**	**27**	PFAKE			05 00 00.0	+15
BBSR				LR	LR			
	comp=Z,600nm,22.0s							
TGUH	**Tegucigalpa,Un**	**115.63**	**57**	PFAKE			05 00 00.0	+13
TGUH				LR	LR			
	comp=Z,600nm,19.0s							
QSPA	**South Pole Qui**	**116.61**	**180**	*e*PKPdf	**PKPdf**		**04 59 48.1**	**+0.8**
LSZ	**Lusaka**	**119.66**	**267**	*e*PKIKP	**PKPdf**		**04 59 54.7**	**0.0**
LSZ	**Lusaka**	**119.66**	**267**	*e*PKPdf	**PKPdf**		**04 59 54.7**	**0.0**
PUCM	**Santiago**	**122.94**	**40**	PFAKE			05 00 10.0	+9.1
PUCM				LR	LR			
	comp=Z,500nm,19.0s							
SDD	**Santo Domingo**	**124.16**	**40**	PFAKE			05 00 10.0	+6.8
SDD				LR	LR			
	comp=Z,2μm,21.0s							
LBTB	**Lobatse**	**125.17**	**257**	*e*PKIKP	**PKPdf**		**05 00 04.7**	**-0.3**
LBTB	**Lobatse**	**125.17**	**257**	*e*PKPdf	**PKPdf**		**05 00 04.7**	**-0.3**
MPR	**Mayaguez**	**125.91**	**38**	PFAKE			05 00 20.0	+13
MPR				LR	LR			
	comp=Z,300nm,20.0s							
TOA0	**Torodi Ar. Sit**	**126.04**	**313**	*e*PKPdf	**PKPdf**		**05 00 06.5**	**-0.4**
TOA0				*e*PP	**PP**		**05 01 57.8**	**-2.0**
TORD	**Torodi Ar. Bea**	**126.04**	**313**	PKP	**PKPdf**		**05 00 06.7**	**-0.2**
	comp=Z,6.4nm,1.0s,baz=27,slow=2.0,SNR=21							
TORD				PP	**PP**		**05 01 58.5**	**-1.2**
	comp=Z,2.9nm,1.1s,baz=38,slow=5.8,SNR=4.1							
BOSA	**Boshof**	**126.39**	**253**	PKP	**PKPdf**		**05 00 08.9**	**+1.6**
	comp=Z,3.4nm,0.7s,baz=70,slow=6.5,SNR=5.0							
SJG	**San Juan**	**126.52**	**37**	PFAKE			05 00 20.0	+12
SJG				LR	LR			
	comp=Z,400nm,22.0s							
HUMP	**Col San Antoni**	**126.66**	**36**	PFAKE			05 00 20.0	+12
HUMP				LR	LR			
	comp=Z,400nm,20.0s							
ABVI	**Anegada Island**	**126.95**	**34**	PFAKE			05 00 20.0	+11
ABVI				LR	LR			
	comp=Z,400nm,20.0s							
SJCC	**San Jacinto, C**	**127.19**	**52**	*e*P	**PKPdf**		**05 00 08.6**	**-0.6**
MOTC	**Monteria, Cord**	**127.63**	**53**	*e*P	**PKPdf**		**05 00 09.8**	**-0.1**
SMRT	**St. Maarten**	**128.15**	**34**	PFAKE			05 00 20.0	+9.1
SMRT				LR	LR			
	comp=Z,300nm,19.0s							
SABA	**Saba**	**128.43**	**34**	PFAKE			05 00 20.0	+8.6
SABA				LR	LR			
	comp=Z,200nm,18.0s							
SEUS	**St. Eustatius**	**128.67**	**34**	PFAKE			05 00 20.0	+8.2
SEUS				LR	LR			
	comp=Z,500nm,21.0s							
OCAC	**Ocana**	**129.66**	**51**	*e*P	**PKPdf**		**05 00 14.8**	**+0.8**
BRRC	**Barranca, Sant**	**130.17**	**53**	*e*P	**PKPdf**		**05 00 14.8**	**0.0**
GRMC	**Gramalote, San**	**130.38**	**51**	*e*P	**PKPdf**		**05 00 15.2**	**-0.2**
CBRI	**Barrientos, No**	**130.39**	**51**	*e*P	**PKPdf**		**05 00 14.5**	**-1.0**
BARC	**Barichara**	**130.91**	**53**	*e*P	**PKPdf**		**05 00 15.7**	**-0.8**
OTAV	**Otavalo**	**131.00**	**64**	*e*PKPdf	**PKPdf**		**05 00 17.9**	**+1.0**
RUSC	**La Rusia**	**131.46**	**53**	*e*P	**PKPdf**		**05 00 16.8**	**-1.1**
SNAA	**Sanae**	**131.53**	**193**	PKP	**PKPdf**		**05 00 16.3**	**+0.6**
SNAA	**Sanae**	**131.53**	**193**	*e*PKIKP	**PKPdf**		**05 00 16.6**	**+0.9**
SNAA	**Sanae**	**131.53**	**193**	*e*PKPdf	**PKPdf**		**05 00 16.6**	**+0.9**
PRAC	**Prado**	**131.60**	**57**	PFAKE			05 00 30.0	+12
PRAC				LR	LR			
	comp=Z,300nm,20.0s							
CHIC	**Chingaza**	**131.85**	**55**	*e*P	**PKPdf**		**05 00 17.7**	**-0.8**
FDF	**Fort de France**	**131.93**	**34**	PFAKE			05 00 30.0	+12
FDF				LR	LR			
	comp=Z,600nm,22.0s							
DBIC	**Dimbokro**	**135.14**	**313**	PKP	**PKPdf**		**05 00 26.1**	**+2.0**
	comp=Z,4.3nm,0.7s,baz=28,slow=1.9,SNR=8.5							
CHRN	**Cochrane**	**144.75**	**135**	*e*PKPdf	**PKPdf**		**05 00 40.8**	**+0.2**
PTGA	**Pitinga**	**145.21**	**46**	*e*PKPbc	**PKPbc**		**05 00 41.6**	**-0.4**
PLCA	**Paso Flores**	**148.24**	**125**	PKPbc	**PKPbc**		**05 00 50.6**	**+0.4**
	comp=Z,12nm,0.8s,baz=246,slow=4.1,SNR=13							
LPAZ	**La Paz**	**148.30**	**77**	PKPbc	**PKPbc**		**05 00 52.4**	**+0.8**
	comp=Z,31nm,0.9s,baz=352,slow=3.2,SNR=68							
LPAZ	**La Paz**	**148.30**	**77**	*e*PKIKP	**PKPdf**		**05 00 48.4**	**+0.2**
LPAZ				*e*			05 00 52.2	
LPAZ	**La Paz**	**148.30**	**77**	*e*PKPdf	**PKPdf**		**05 00 48.4**	**+0.2**
LPAZ				*e*PKPbc	**PKPbc**		**05 00 52.2**	**+0.6**
SAML	**Samuel**	**148.62**	**61**	*e*PKPdf	**PKPdf**		**05 00 47.6**	**-0.4**
SAML				*e*PKPbc	**PKPbc**		**05 00 51.6**	**-0.1**
PB01	**IPOC Station P**	**148.80**	**87**	*e*PKPdf	**PKPdf**		**05 00 47.9**	**-0.4**
PB01				*e*PKPbc	**PKPbc**		**05 00 51.9**	**-0.2**
LCO	**Las Campanas**	**149.22**	**102**	*e*PKPbc	**PKPbc**		**05 00 53.7**	**+0.4**
LVC	**Limon Verde**	**149.75**	**89**	*e*PKPbc	**PKPbc**		**05 00 55.8**	**+1.0**
AUSP	**Uspallata**	**150.43**	**109**	*e*P	**PKPbc**		**05 00 55.7**	**-0.4**
RTLS	**Leoncito**	**150.51**	**108**	*e*P	**PKPbc**		**05 00 56.1**	**-0.3**
ARCO	**CERRO ARCO**	**150.78**	**110**	*i* P	**PKPbc**		**05 00 57.6**	**+0.9**
AAGR	**Agrelo**	**150.86**	**110**	*e*P	**PKPbc**		**05 00 56.6**	**-0.2**
ASAL	**Salagasta**	**150.88**	**109**	*e*P	**PKPbc**		**05 00 54.7**	**-2.2**
RTCV	**Cerro Valdivia**	**151.15**	**108**	*e*P	**PKPbc**		**05 00 56.3**	**-1.3**
AGUA	**GUANDACOL**	**151.17**	**103**	*e*P	**PKPbc**		**05 00 57.0**	**-0.7**
AMOG	**MOGNA**	**151.21**	**106**	*e*P	**PKPbc**		**05 00 57.6**	**-0.1**
RTLL	**Cerro Villicun**	**151.22**	**107**	*e*P	**PKPbc**		**05 00 57.0**	**-0.7**
VCA	**Vinchina**	**151.38**	**101**	*e*P	**PKPbc**		**05 00 58.8**	**+0.5**
AVFE	**Valle Fertil**	**152.10**	**105**	*e*P	**PKPbc**		**05 00 58.4**	**-1.3**
ACAN	**Cantantal**	**152.28**	**109**	*e*P	**PKPbc**		**05 00 59.0**	**-1.1**
ACHE	**Chepes**	**152.77**	**106**	*e*P	**PKPdf**		**05 00 56.7**	**+2.4**
CYA	**Choya**	**153.47**	**100**	*e*P	**PKPbc**		**05 01 02.4**	**-0.5**
MRA	**San Martin**	**153.52**	**109**	*e*P	**PKPdf**		**05 00 58.4**	**+3.2**
CPUP	**Villa Florida**	**160.80**	**93**	PKP	**PKPdf**		**05 01 05.7**	**+1.3**
	comp=Z,2.5nm,0.9s,baz=320,slow=2.4,SNR=5.5							
BDFB	**Brasilia**	**164.13**	**48**	PKPab	**PKPab**		**05 02 02.1**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=274,slow=6.2,SNR=3.3							

*IDC **15** 04:49:06.0±1.9,23°.87S×179°.89W,h494km±20km, mb3.6/10,mb1 3.8/11,mb1mx3.6/29,mbtmp4.6/11,Error ellipse: s-maj=19.2km s-min=15.8km az=151.0*
*ISCJB **15** 04:49:06.9±0.8,23°.9S±0°.2×179°.9W±0°.1,h518km, mb4.0/11,Error ellipse: s-maj=23.4km s-min=14.9km az=151.6*

ISC 15 04:49:07.6±0.7,23°.8S±0°.2×179°.8W±0°.1,h518km,n17, σ1§28/22,mb4.0/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.43**	**39**	P	**P**	**04 51 48.4**	**-2.4**
	9.2nm,0.3s,baz=60,slow=6.2,SNR=7.4						
AFI				S	S	04 53 55.8	-9.4
	1.7nm,0.3s,baz=300,slow=20,SNR=4.2						
CTA	**Charters Tower**	**31.62**	**270**	P	**P**	**04 54 48.5**	**+0.4**
	19nm,0.5s,baz=95,slow=11,SNR=33						
PMG	**Port Moresby**	**34.59**	**289**	P	**P**	**04 55 13.4**	**+0.2**
	19nm,0.7s,baz=89,slow=4.2,SNR=5.0						
STKA	**Stephens Creek**	**34.90**	**248**	P	**P**	**04 55 14.3**	**-1.3**
	2.0nm,0.4s,baz=85,slow=8.7,SNR=7.4						
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**04 56 14.1**	**-0.9**
	6.7nm,0.7s,baz=98,slow=6.4,SNR=39						
ASAR				ScP	**ScP**	**05 01 00.6**	**+2.1**
	3.5nm,0.8s,baz=112,slow=4.5,SNR=14						
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**04 56 16.7**	**-1.2**
	4.2nm,0.3s,baz=90,slow=6.1,SNR=130						
WRA				ScP	**ScP**	**05 01 02.3**	**+2.3**
	0.6nm,0.3s,baz=87,slow=4.3,SNR=8.8						
VNDA	**Vanda**	**54.51**	**185**	P	**P**	**04 57 46.1**	**+0.3**
	1.0nm,0.8s,baz=345,slow=8.0,SNR=5.3						
VNDA				PcP	**PcP**	**04 58 41.5**	**+0.3**
	1.8nm,1.0s,baz=34,slow=5.8,SNR=4.3						
MJAR	**Matsushiro Arr**	**71.88**	**325**	P	**P**	**04 59 38.6**	**+0.6**
	1.8nm,0.9s,baz=144,slow=4.5,SNR=3.7						
KSRS	**Korea Array**	**78.25**	**320**	P	**P**	**05 00 14.7**	**+1.1**
	1.2nm,0.6s,baz=146,slow=6.4,SNR=7.7						
USRK	**Ussuriysk Ar.**	**80.74**	**327**	P	**P**	**05 00 28.0**	**+1.5**
	2.1nm,0.7s,baz=86,slow=5.9,SNR=5.2						
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**05 01 14.6**	**+1.5**
	1.3nm,0.7s,baz=216,slow=6.1,SNR=13						
PDAR	**Pinedale Array**	**92.50**	**44**	P	**P**	**05 01 25.1**	**+1.6**
	0.6nm,0.7s,baz=159,slow=4.6,SNR=4.1						
ARCES	**ARCESS Array B**	**131.79**	**348**	PKP	**PKPdf**	**05 07 20.8**	**-0.1**
	2.6nm,0.9s,baz=65,slow=2.4,SNR=8.0						
FINES	**FINESS Array B**	**138.38**	**342**	PKhKP	PKPpre	05 07 26.8	
	1.2nm,0.8s,baz=29,slow=3.2,SNR=3.0						
FINES				PKP	**PKiKP**	**05 07 34.5**	**-1.0**
	0.3nm,0.3s,baz=5.7,slow=1.4,SNR=6.1						
AKASG	**Malin Array Be**	**144.94**	**327**	PKPbc	**PKPdf**	**05 07 45.1**	**-0.2**
	0.7nm,0.3s,baz=44,slow=4.0,SNR=8.2						
BRTR	**Keskin Array B**	**147.62**	**307**	PKP	**PKPdf**	**05 07 50.0**	**-0.4**
	0.7nm,0.6s,baz=43,slow=2.9,SNR=5.0						
BRTR				PKPbc	**PKPbc**	**05 07 53.6**	**-0.3**
	0.7nm,0.6s,baz=63,slow=2.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**169.33**	**188**	PKP	**PKPdf**	**05 08 15.1**	**-1.0**
	1.4nm,1.1s,baz=199,slow=4.1,SNR=4.0						
TORD				PKPab	**PKPab**	**05 09 31.3**	**-0.7**
	0.9nm,0.8s,baz=181,slow=4.4,SNR=4.8						

*IDC **15** 04:50:12.7±0.8,26°.91N×144°.17E,h0km,mb3.9/12, mb1 4.1/15,mb1mx4.0/40,mbtmp3.9/15,ML3.3/3,Error ellipse: s-maj=21.8km s-min=19.4km az=69.0*
*NEIC **15** 04:50:14.2±0.6,26°.95N×144°.16E,h10km,mb4.1/2,Error ellipse: s-maj=13.5km s-min=11.4km az=63.0*
*ISCJB **15** 04:50:16.1±0.7,26°.89N±0°.09×144°.09E±0°.06,h33km, mb4.0/16,Error ellipse: s-maj=13.6km s-min=8.0km az=0.6*

ISC 15 04:50:17.9±0.7,26°.97N±0°.10×144°.05E±0°.08,h35km,n24, σ1§55/26,mb4.0/16,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.67**	**275**	*e*Pn	**Pn**	**04 50 45.4**	**+0.8**
CBIJ				*e*S	**Sn**	**04 51 04.2**	**-0.6**
JCJ	**Chichijima**	**1.67**	**275**	Pn	**Pn**	**04 50 45.3**	**+0.7**
	26nm,0.3s,baz=250,slow=23,SNR=3.9						
JCJ				Sn	**Sn**	**04 51 04.3**	**-0.5**
	179nm,0.3s,baz=73,slow=23,SNR=9.8						
MJAR	**Matsushiro Arr**	**10.76**	**334**	Pn	**Pn**	**04 52 47.2**	**-2.3**
	0.9nm,0.3s,baz=142,slow=12,SNR=5.1						
MAJO	**Matsushiro**	**10.76**	**334**	*e*Pn	**Pn**	**04 52 45.4**	**-4.1**
KSRS	**Korea Array**	**17.17**	**312**	P	**P**	**04 54 16.2**	**-0.1**
	0.2nm,0.3s,baz=111,slow=13,SNR=4.0						
KSAR	**Wonju Array Be**	**17.19**	**311**	P	**P**	**04 54 16.2**	**-0.3**
USRK	**Ussuriysk Ar.**	**19.76**	**334**	P	**Pn**	**04 54 46.5**	**+0.1**
	0.1nm,0.3s,baz=161,slow=9.5,SNR=5.9						
KLR	**Kul'dur**	**24.18**	**340**	P	**P**	**04 55 31.7**	**+0.9**
	2.0nm,0.8s,baz=136,slow=10,SNR=4.4						
JAY	**Jayapura**	**29.49**	**187**	P	**P**	**04 56 20.2**	**+1.4**
	0.4nm,0.7s,baz=270,slow=20,SNR=2.1						
SONM	**Songino Array**	**35.96**	**316**	P	**P**	**04 57 17.3**	**+2.0**
	1.4nm,0.7s,baz=101,slow=6.8,SNR=7.1						
CMAR	**Chiang Mai Arr**	**42.28**	**268**	P	**P**	**04 58 08.3**	**-0.1**
	1.3nm,0.3s,baz=71,slow=9.6,SNR=2.4						
WRAB	**Tennant Creek**	**47.56**	**192**	*e*P	**P**	**04 58 46.1**	**-4.1**
	18nm,1.4s						
WRA	**Warramunga Arr**	**47.57**	**192**	P	**P**	**04 58 48.1**	**-2.2**
	2.2nm,0.8s,baz=12,slow=8.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**50.67**	**319**	P	**P**	**04 59 13.8**	**+0.1**
	0.5nm,0.4s,baz=99,slow=8.9,SNR=3.4						
MKAR	**Makanchi Array**	**51.84**	**310**	P	**P**	**04 59 23.4**	**+0.9**
	1.4nm,0.8s,baz=94,slow=8.8,SNR=5.1						
ILAR	**Eielson Array**	**57.03**	**28**	P	**P**	**04 59 59.9**	**-0.1**
	1.2nm,1.1s,baz=262,slow=5.4,SNR=4.3						
KKAR	**Karatay Array**	**60.51**	**306**	*e*P	**P**	**05 00 25.6**	**+1.1**
	0.5nm,0.5s						
ABKAR	**Akbulak array**	**66.37**	**315**	*e*P	**P**	**05 01 03.7**	**+0.5**
	1.0nm,0.6s						
YKA	**Yellowknife Ar**	**71.46**	**29**	P	**P**	**05 01 34.6**	**+0.1**
	0.5nm,0.5s,baz=295,slow=6.5,SNR=6.7						
KBZ	**Khabaz**	**79.31**	**314**	P	**P**	**05 02 20.9**	**+1.0**
	2.7nm,0.8s,baz=46,slow=4.0,SNR=4.7						
PDAR	**Pinedale Array**	**83.13**	**45**	P	**P**	**05 02 40.7**	**+0.1**
	6.8nm,0.3s,baz=3.5,slow=3.0,SNR=3.3						
NOA	**NORSAR Array B**	**84.33**	**339**	P	**P**	**05 02 46.4**	**+0.2**
	0.8nm,0.8s,baz=54,slow=6.8,SNR=2.6						
BRTR	**Keskin Array B**	**87.30**	**314**	P	**P**	**05 03 01.5**	**+0.1**
	0.9nm,1.0s,baz=58,slow=3.5,SNR=3.1						
LPAZ	**La Paz**	**148.34**	**77**	PKPbc	**PKPbc**	**05 10 02.3**	**+0.3**
	2.9nm,0.8s,baz=295,slow=3.5,SNR=8.2						

*CSEM **15** 05:10:00.6,38°.28N×45°.31E,h15km,ML2.5*
TEH 15 05:10:00.6,38°.28N×45°.31E,h15km,ML2.5,1D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISHB	**Shabestar**	**0.24**	**90**	*e*AMB	AMB	05 10 09.9	
	comp=Z,8μm,0.1s						
ISHB				⇓*e*Pg	Pg	05 10 06.2	+0.1
ISHB				*e*Sg	Sg	05 10 09.5	-0.3
IMRD	**Marand**	**0.53**	**36**	*e*Pg	Pg	05 10 10.3	-0.8
IMRD				*e*AMB	AMB	05 10 17.0	
	comp=Z,92μm,0.1s						
IMRD	**Marand**	**0.53**	**36**	*e*Pg	Pg	05 10 10.3	-0.8
ITBZ	**Tabriz**	**0.66**	**94**	*e*Pg	Pg	05 10 12.6	-1.0
ITBZ				*e*AMB	AMB	05 10 13.3	
	comp=Z,1μm,0.1s						
ITBZ	**Tabriz**	**0.66**	**94**	*e*Pg	Pg	05 10 12.6	-1.0
IHRS	**Heris**	**1.36**	**88**	*e*Pg	Pb	05 10 25.7	-0.3
IHRS				*e*AMB	AMB	05 10 26.7	
	comp=Z,1μm,0.1s						
IHRS	**Heris**	**1.36**	**88**	*e*Pg	Pb	05 10 25.7	-0.3
IBST	**Bostanabad**	**1.38**	**115**	*e*Pg	Pn	05 10 25.3	-0.2
IBST				*e*AMB	AMB	05 10 28.2	
	comp=Z,232nm,0.1s						
IBST	**Bostanabad**	**1.38**	**115**	*e*Pg	Pn	05 10 25.3	-0.2

*ISCJB **15** 05:16:25.8±1.4,6°.85N±0°.04×71°.85W±0°.03,h10km±11km, Error ellipse: s-maj=6.6km s-min=4.0km az=156.5*
*FUNV **15** 05:16:25.7,6°.76N×71°.98W,h6km,MW3.1*
*RSNC **15** 05:16:29.3±0.8,6°.88N×72°.01W,h4km±7km,ML3.1*

ISC 15 05:16:27.7±1.5,6°.87N±0°.04×71°.93W±0°.04,h23km±15km, n27,σ1§09/39,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAMC	**Pamplona, Colo**	**0.90**	**301**	*e*P	**Pb**	**05 16 43.5**	**-1.3**
PAMC				*e*S	**Sn**	**05 16 55.7**	**-2.0**
CAPV	**Capacho**	**1.06**	**339**	*e*P	**Pb**	**05 16 46.8**	**-0.7**
CAPV				*e*S	**Sb**	**05 17 03.0**	**+2.0**
CBRI	**Barrientos, No**	**1.20**	**314**	*e*P	**Pb**	**05 16 48.9**	**-1.0**
CBRI				*e*S	**Sb**	**05 17 05.0**	**-0.1**
CBRI				*i*		05 17 11.9	
	comp=Z,369nm,0.5s						
GRMC	**Gramalote, San**	**1.21**	**314**	*e*P	**Pb**	**05 16 51.3**	**+1.3**
GRMC				*e*S	**Sb**	**05 17 08.3**	**+3.0**
GRMC				*i*		05 17 12.3	
	comp=Z,590nm,0.3s						
GIRC	**Giron, Santand**	**1.27**	**279**	*e*P	**Pb**	**05 16 50.6**	**-0.4**
BARC	**Barichara**	**1.27**	**258**	*e*P	**Pn**	**05 16 50.1**	**-0.2**
BARC				*e*S	**Sn**	**05 17 06.4**	**-0.3**
BARC				*i*		05 17 11.1	
	comp=Z,360nm,0.4s						
BTLC	**Betulia, Santa**	**1.33**	**272**	*i* P	**Pb**	**05 16 51.7**	**-0.3**
RUSC	**La Rusia**	**1.50**	**230**	*e*P	**Pn**	**05 16 54.5**	**+0.9**
RUSC				*e*S	**Sb**	**05 17 14.2**	**+0.2**
RUSC				*i*		05 17 18.7	
	comp=Z,80nm,0.4s						
SOCV	**Socops**	**1.76**	**37**	*e*P	**Pn**	**05 16 57.1**	**+0.3**
SOCV				*e*S	**Sb**	**05 17 20.9**	**-0.1**
BRRC	**Barranca, Sant**	**1.79**	**278**	*e*P	**Pb**	**05 16 58.7**	**-1.0**
BRRC				*i*		05 17 00.7	
	comp=Z,199nm,0.2s						
OCAC	**Ocana**	**1.94**	**315**	*e*P	**Pb**	**05 17 01.4**	**-0.9**
OCAC				*e*S	**Sb**	**05 17 25.3**	**-0.9**
OCAC				*i*		05 17 34.7	
	comp=Z,311nm,0.4s						
VIGV	**El Vigia**	**2.04**	**16**	*e*P	**Pn**	**05 17 01.9**	**+1.3**
VIGV				*e*S	**Sb**	**05 17 28.3**	**-0.6**
SDV	**Santo Domingo**	**2.38**	**33**	*e*P	**Pn**	**05 17 06.4**	**+0.9**
ELOV	**Elorza**	**2.43**	**87**	*e*P	**Pn**	**05 17 06.6**	**+0.6**
CHIC	**Chingaza**	**2.86**	**219**	*e*P	**Pn**	**05 17 14.2**	**+2.0**
SANV	**Sanarito**	**3.53**	**42**	*e*P	**Pn**	**05 17 21.6**	**+0.4**
SANV				*e*S	**Sn**	**05 18 03.4**	**+1.2**
QARV	**Quebrada Arrib**	**3.59**	**23**	*e*P	**Pn**	**05 17 22.7**	**+0.7**
VIRV	**Villa del Rosa**	**3.64**	**353**	*e*P	**Pn**	**05 17 22.8**	**+0.1**
VIRV				*e*S	**Sn**	**05 18 04.7**	**-0.1**
CURV	**Curarigua**	**3.68**	**32**	*e*P	**Pn**	**05 17 23.8**	**+0.6**
TEPV	**Terepaima**	**4.10**	**41**	*e*P	**Pn**	**05 17 29.3**	**+0.3**
DABV	**Dabajuro**	**4.22**	**18**	*e*P	**Pn**	**05 17 31.5**	**+0.8**
DABV				*e*S	**Sn**	**05 18 19.3**	**0.0**
SIQV	**Siquisique**	**4.30**	**29**	*e*P	**Pn**	**05 17 31.8**	**+0.1**
PRAC	**Prado**	**4.30**	**223**	*e*P	**Pn**	**05 17 33.2**	**+1.5**
BAUV	**El Baul**	**4.37**	**62**	*e*P	**Pn**	**05 17 31.7**	**-0.9**
TURV	**Turiamo**	**5.38**	**48**	*e*P	**Pn**	**05 17 46.4**	**-0.2**
MONV	**Montecano**	**5.41**	**21**	*e*P	**Pn**	**05 17 46.2**	**-0.8**
CUPV	**Cepira**	**6.85**	**62**	*e*P	**Pn**	**05 18 05.6**	**-1.2**

*NIED **15** 05:21:00,33°.70N×127°.80E,h5km,Mw3.7 Best double couple: M₀4.20000×10¹⁴ NP1:φ₀196.00000°,δ43.00000°, λ159.00000°. NP2:φ₀302.00000°,δ76.00000°,λ48.00000°.*
*JMA **15** 05:21:47.0±0.2,33°.67N×127°.82E,h14km,M4.1*

ISC 15 05:21:47.8±1.4,33°.65N±0°.04×127°.87E±0°.04,h15km±14km, n17,σ0§60/24,5C-7D,South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOHB	**KOHEUNG**	**1.08**	**333**	⇓P	**Pg**	**05 22 08.2**	**-0.4**
	SNR=280						
KOHB				⇓S	**Sn**	**05 22 22.5**	**-0.6**
KSJJU	**Jeju**	**1.13**	**259**	P	**Pg**	**05 22 09.8**	**+0.2**
	SNR=299						
KSSGP	**Seogwipo**	**1.21**	**251**	⇓P	**Pg**	**05 22 11.0**	**-0.1**
	SNR=22						
KSSGP				⇑S	**Sg**	**05 22 27.9**	**+1.0**
KSWAN	**Wando**	**1.22**	**307**	P	**Pg**	**05 22 10.9**	**-0.3**
	SNR=120						
JFU	**Fukue jima 2**	**1.24**	**143**	P	**Pn**	**05 22 10.4**	**-0.1**
JFU				*e*S	**Sb**	**05 22 26.7**	**+0.1**
KSTOY	**TONGYEONG**	**1.28**	**21**	⇓P	**Pb**	**05 22 11.6**	**+0.1**
KSMOK	**Mokpo**	**1.45**	**320**	⇓P	**Pg**	**05 22 14.9**	**-0.8**
KSGOS	**Gosan**	**1.47**	**256**	⇓P	**Pg**	**05 22 15.4**	**-0.6**
	SNR=22						
KSJDO	**Jindo**	**1.52**	**303**	⇑P	**Pb**	**05 22 15.2**	**-0.6**
	SNR=187						
JTU	**Tsushima**	**1.54**	**55**	P	**Pn**	**05 22 15.0**	**+0.4**
JTU				*e*S	**Sb**	**05 22 35.8**	**+0.6**
JII	**Iki**	**1.56**	**84**	P	**Pn**	**05 22 14.8**	**-0.1**
JII				*e*S	**Sb

3.4nm,0.3s,baz=91,slow=25,SNR=5.6
MAT Matsushiro 3.38 262 P **Pn** 05 33 34.0 +2.8
MAT S **Sb** 05 34 16.6 -2.9
JHJ Hachijo jima 2 4.47 209 Pn **Pn** 05 33 46.9 +0.6
12nm,0.3s,baz=104,slow=23,SNR=6.5
JHJ Sn **Sn** 05 34 36.4 -2.4
8.5nm,0.3s,baz=285,slow=20,SNR=3.4
JNU Nakatsue 10.20 251 Pn **Pn** 05 35 08.1 +3.1
0.2nm,0.3s,baz=56,slow=7.3,SNR=4.1
USRK Ussuriysk Ar. 10.61 315 Pn Pn 05 35 16.7 +6.2
0.2nm,0.3s,baz=138,slow=13,SNR=5.5
KSRS Korea Array 11.51 276 Pn **Pn** 05 35 26.8 +4.0
0.3nm,0.3s,baz=86,slow=14,SNR=2.9
H11N2 WAKE ISLAND Hy 27.52 122 T T 06 07 23.9
baz=315
H11N1 WAKE ISLAND Hy 27.53 122 T T 06 07 24.3
baz=315,slow=74
H11N3 WAKE ISLAND Hy 27.54 122 T T 06 07 23.3
baz=315,slow=74
H11S1 WAKE ISLAND Hy 28.25 124 T T 06 08 17.8
baz=317,slow=75,SNR=6.6
H11S3 WAKE ISLAND Hy 28.25 124 T T 06 08 19.4
baz=317,slow=75,SNR=8.3
H11S2 WAKE ISLAND Hy 28.27 124 T T 06 08 20.5
baz=317,slow=75,SNR=4.8
SONM Songino Array 28.39 304 P **P** 05 38 33.6 +0.5
0.7nm,0.6s,baz=94,slow=9.0,SNR=4.2
ZALV Zalesovo Beam 42.45 312 P **P** 05 40 33.4 0.0
0.7nm,0.6s,baz=90,slow=5.9,SNR=2.7
MKAR Makanchi Array 44.74 302 P **P** 05 40 52.1 +0.1
0.5nm,0.7s,baz=86,slow=9.5,SNR=4.9
ILAR Eielson Array 49.05 32 P **P** 05 41 25.4 -0.1
0.3nm,0.8s,baz=266,slow=6.0,SNR=4.6
WRA Warramunga Arr 57.21 189 P **P** 05 42 25.8 -0.2
0.6nm,0.5s,baz=7.2,slow=7.0,SNR=12
ASAR Alice Springs 60.94 189 P **P** 05 42 51.9 +0.1
0.3nm,0.5s,baz=8.8,slow=6.7,SNR=4.0
FINES FINESS Array B 69.13 333 P **P** 05 43 43.8 -0.9
0.9nm,0.7s,baz=52,slow=9.0,SNR=5.1
AKASG Malin Array Be 74.73 323 P **P** 05 44 18.3 -0.1
0.2nm,0.3s,baz=46,slow=6.8,SNR=4.0
TXAR Lajitas Array 89.49 53 P **P** 05 45 37.0 +0.6
0.1nm,0.5s,baz=328,slow=4.4,SNR=3.7

*IDC **15** 05:36:07.8±0.6,26.°74N×144.°13E,h0km,mb4.1/18,*
mb1 4.2/21,mb1mx4.1/54,mbtmp4.1/21,ML3.5/3,MS3.1/1,
Ms1 3.3/1,ms1mx2.5/39,Error ellipse: s-maj=19.5km
s-min=14.6km az=72.0
*NEIC **15** 05:36:09.4±0.3,26.°76N×144.°12E,h10km,mb4.7/4,Error*
ellipse: s-maj=9.2km s-min=7.4km az=57.0
*ISCJB **15** 05:36:11.3±0.4,26.°65N±0.°06×144.°07E±0.°05,h35km,*
mb4.2/34,MS3.1/1,Error ellipse: s-maj=8.7km
s-min=6.6km az=20.6
*MOS **15** 05:36:11.0±0.9,26.°64N×144.°07E,h33km,mb4.6/13,Error*
ellipse: s-maj=15.5km s-min=6.8km az=115.7
ISC 15 05:36:13.2±0.5,26.°77N±0.°08×144.°04E±0.°07,h35km,n64,
σ1$11/69,mb4.2/34,12C-1D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.69**	**282**	Pn	**Pn**	**05 36 39.7**	**-0.5**
CBIJ				Sn	**Sn**	**05 37 00.8**	**+0.2**
JCJ	**Chichijima**	**1.69**	**282**	Pn	**Pn**	**05 36 39.7**	**-0.5**
	51nm,0.3s,baz=270,slow=23,SNR=6.7						
JCJ				Sn	**Sn**	**05 37 00.8**	**+0.2**
	baz=282,slow=20						
MJAR	**Matsushiro Arr**	**10.93**	**334**	Pn	**Pn**	**05 38 44.9**	**-2.2**
	1.1nm,0.3s,baz=150,slow=11,SNR=12						
MAJO	**Matsushiro**	**10.93**	**334**	*e*P	**Pn**	**05 38 45.8**	**-1.4**
MAJO	**Matsushiro**	**10.93**	**334**	*e*Pn	**Pn**	**05 38 45.8**	**-1.4**
MAT	**Matsushiro**	**10.93**	**334**	P	**Pn**	**05 38 45.0**	**-2.2**
MAT				*e*S	Sn	05 40 32.8	-15
ERM	**Erimo**	**15.23**	**358**	*i*P	**P**	**05 39 48.7**	**-1.4**
TJN	**Taejon**	**17.11**	**308**	⇑P	**P**	**05 40 10.9**	**-0.1**
KSRS	**Korea Array**	**17.29**	**312**	P	**P**	**05 40 13.1**	**+0.1**
	0.3nm,0.3s,baz=122,slow=12,SNR=8.3						
KSRS	**Korea Array**	**17.29**	**312**	*e*P	**P**	**05 40 13.3**	**+0.3**
KSAR	**Wonju Array Be**	**17.31**	**312**	P	**P**	**05 40 13.1**	**-0.1**
KSAR	**Wonju Array Be**	**17.31**	**312**	*e*P	**P**	**05 40 13.1**	**-0.1**
MSHR	**Mys Shultsa**	**18.96**	**330**	⇑*i*P	**Pn**	**05 40 31.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**19.93**	**334**	P	**Pn**	**05 40 43.0**	**-0.8**
	0.2nm,0.3s,baz=152,slow=11,SNR=9.3						
YSS	**Yuzh-Sakhalins**	**20.17**	**357**	*e*P	Pn	05 40 48.2	+1.6
KLR	**Kul'dur**	**24.36**	**340**	P	**P**	**05 41 28.9**	**+1.2**
	1.4nm,0.6s,baz=135,slow=11,SNR=6.1						
KLR	**Kul'dur**	**24.36**	**340**	P	**P**	**05 41 29.0**	**+1.2**
ULN	**Ulaanbaatar**	**35.70**	**316**	⇑*e*P	**P**	**05 43 09.9**	**+1.5**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PMG	**Port Moresby**	**36.09**	**175**	⇑*e*P	**P**	**05 43 10.5**	**-1.3**
PMG				pmax	pmax		
	comp=Z,121nm,1.2s						
SONM	**Songino Array**	**36.10**	**316**	P	**P**	**05 43 13.2**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=119,slow=7.2,SNR=11						
ZAK	**Zakamensk**	**38.95**	**318**	*e*P	**P**	**05 43 36.3**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TLY	**Talaya**	**39.24**	**320**	*e*P	**P**	**05 43 40.0**	**+1.8**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.27**	**268**	P	**P**	**05 44 04.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=57,slow=6.0,SNR=5.1						
CMAR				LR	LR	06 01 06.5	
	comp=Z,24nm,18.7s,baz=150,slow=35						
BILL	**Bilibino**	**43.42**	**12**	⇓*e*P	**P**	**05 44 13.2**	**+1.0**
BILL				*e*		05 45 57.2	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s						
TIXI	**Tiksi**	**45.71**	**353**	⇑*e*P	**P**	**05 44 31.0**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRAB	**Tennant Creek**	**47.37**	**192**	⇑*e*P	**P**	**05 44 43.6**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,32nm,1.2s						
WRA	**Warramunga Arr**	**47.38**	**192**	P	**P**	**05 44 43.6**	**-0.4**
	comp=Z,5.9nm,0.7s,baz=12,slow=8.4,SNR=26						
ZALV	**Zalesovo Beam**	**50.82**	**319**	P	**P**	**05 45 10.3**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=114,slow=6.9,SNR=9.2						
ZALV				PcP	**PcP**	**05 46 26.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=123,slow=5.3,SNR=2.7						
ASAR	**Alice Springs**	**51.09**	**192**	P	**P**	**05 45 11.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=13,slow=12,SNR=9.2						
ASAR				PcP	**PcP**	**05 46 27.9**	**0.0**
	comp=Z,0.9nm,0.8s,baz=20,slow=3.0,SNR=5.9						
MKAR	**Makanchi Array**	**51.95**	**310**	P	**P**	**05 45 19.4**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=91,slow=9.1,SNR=24						
MKAR	**Makanchi Array**	**51.95**	**310**	*c*e*P*	**P**	**05 45 19.6**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURK	**Kurchatov**	**54.39**	**315**	*e*P	**P**	**05 45 36.8**	**+0.2**
KURK				pmax	pmax		
	comp=Z,11nm,0.5s						
KURK	**Kurchatov**	**54.39**	**315**	*e*P	**P**	**05 45 36.8**	**+0.2**
	comp=Z,11nm,0.5s						
ILAR	**Eielson Array**	**57.21**	**28**	P	**P**	**05 45 55.2**	**-1.3**
	comp=Z,0.7nm,1.1s,baz=268,slow=6.3,SNR=4.8						
DIV	**Divide**	**57.40**	**33**	P	**P**	**05 45 57.7**	**-0.4**
	comp=Z,4.6nm,0.5s						
AAK	**Ala-Archa**	**57.80**	**305**	⇑*e*P	**P**	**05 46 02.4**	**+1.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
STKA	**Stephens Creek**	**58.37**	**182**	P	**P**	**05 46 04.7**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=12,slow=9.3,SNR=2.8						
BRVK	**Borovoye**	**59.46**	**318**	⇑*e*P	**P**	**05 46 13.2**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KKAR	**Karatay Array**	**60.61**	**306**	*e*P	**P**	**05 46 21.4**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KKAR	**Karatay Array**	**60.61**	**306**	*e*P	**P**	**05 46 21.4**	**+0.9**
	comp=Z,3.8nm,0.6s						
ARU	**Arti**	**65.69**	**323**	P	**P**	**05 46 54.1**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=68,slow=11,SNR=5.3						
ARU	**Arti**	**65.69**	**323**	*c* *i*P	**P**	**05 46 54.5**	**+0.6**
ARU						05 49 15.1	
ARU				S	**S**	**05 55 40.0**	**+2.7**
ARU				SS	**SS**	**05 59 46.8**	**-4.6**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ABKAR	**Akbulak array**	**66.50**	**315**	*e*P	**P**	**05 46 59.4**	**+0.1**
	comp=Z,2.5nm,0.5s						
AKTO	**Aktyubinsk**	**67.41**	**316**	P	**P**	**05 47 05.2**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=82,slow=13,SNR=11						
YKA	**Yellowknife Ar**	**71.64**	**29**	P	**P**	**05 47 30.7**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=296,slow=6.1,SNR=7.3						
KLMR	**Klimovskoe**	**73.69**	**330**	*e*P	**P**	**05 47 44.1**	**+1.0**
KLMR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARCES	**ARCESS Array B**	**74.39**	**341**	P	**P**	**05 47 47.0**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=69,slow=6.6,SNR=5.5						
ARCES	**ARCESS Array B**	**74.39**	**341**	P	**P**	**05 47 47.0**	**-0.1**
OBN	**Obninsk**	**77.73**	**326**	*e*P	**P**	**05 48 07.3**	**+1.0**
OBN				*e*		05 48 17.5	
OBN				*e*		05 51 04.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
FINES	**FINESS Array B**	**78.96**	**334**	P	**P**	**05 48 13.2**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=56,slow=4.8,SNR=5.0						
FINES	**FINESS Array B**	**78.96**	**334**	*e*P	**P**	**05 48 13.4**	**+0.4**
KBZ	**Khabaz**	**79.44**	**314**	P	**P**	**05 48 16.7**	**+0.8**
	comp=Z,5.1nm,0.7s,baz=66,slow=5.2,SNR=12						
KIV	**Kislovodsk**	**79.47**	**314**	*e*P	**P**	**05 48 16.2**	**-0.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PDAR	**Pinedale Array**	**83.27**	**45**	P	**P**	**05 48 36.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=323,slow=1.4,SNR=3.1						
AKASG	**Malin Array Be**	**83.85**	**325**	P	**P**	**05 48 38.5**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=52,slow=5.0,SNR=4.1						
KIEV	**Kiev**	**83.86**	**325**	⇑*e*P	**P**	**05 48 39.5**	**+0.3**
BRTR	**Keskin Array B**	**87.43**	**314**	P	**P**	**05 48 56.8**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=70,slow=4.1,SNR=5.1						
BRTR	**Keskin Array B**	**87.43**	**314**	*c*e*P*	**P**	**05 48 57.0**	**-0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AGMN	**Agassiz Nation**	**88.05**	**35**	*e*P	**P**	**05 48 60.0**	**0.0**
CRVS	**Cervenica-Dubn**	**88.91**	**326**	*e*P	**P**	**05 49 01.8**	**-2.2**
CRVS	**Cervenica-Dubn**	**88.91**	**326**	*e*P	**P**	**05 49 01.8**	**-2.2**
TXAR	**Lajitas Array**	**94.46**	**54**	P	**P**	**05 49 31.4**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=300,slow=4.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**126.03**	**313**	PKP	**PKPdf**	**05 55 12.1**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=40,slow=2.5,SNR=2.7						
LPAZ	**La Paz**	**148.39**	**77**	PKPbc	**PKPbc**	**05 55 58.4**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=340,slow=1.9,SNR=14						

MEX 15 05:40:23.7±0.7,17.°37N×94.°37W,h24km±999km,MD3.9,
Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**2.28**	**263**	*e*P	Pn	05 40 58.2	-1.9
VHO				*e*S	Sn	05 41 24.0	-3.5
HUIG	**Huatulco**	**2.31**	**227**	*e*P	Pn	05 40 56.9	-3.4
HUIG				*e*S	Sn	05 41 25.4	-2.6
TLIG	**Tlapa**	**4.01**	**273**	*e*P	Pn	05 41 19.3	-4.6

*SJA **15** 05:41:08.9±0.4,28.°33S×71.°68W,h5km,ML3.8,MW4.1*
*GUC **15** 05:41:15.0±0.6,28.°44S×71.°27W,h31km±5km,ML3.7*
ISC 15 05:41:12.9±1.5,28.°42S±0.°04×71.°47W±0.°08,h10km,n24,
σ3$30/39,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.65**	**104**	⇓*i*P	**Pb**	**05 41 25.9**	**-0.4**
VACH				*e*S	**Sb**	**05 41 33.2**	**-2.2**
LCO	**Las Campanas**	**0.90**	**131**	*i*P	**Pb**	**05 41 30.2**	**-0.6**
LCO	**Las Campanas**	**0.90**	**131**	*e*P	**Pg**	**05 41 29.9**	**-0.3**
LCO				*e*S	**Sg**	**05 41 40.7**	**-1.2**
LCO				IAML		05 41 42.0	
	comp=E,3μm,0.2s						
CPCH	**Copiapo**	**1.45**	**43**	⇑*i*P	**Pn**	**05 41 38.1**	**-1.1**
CPCH				*i*S	**Sb**	**05 41 56.1**	**-2.4**
CDCH	**Caldera**	**1.47**	**23**	*e*P	**Pn**	**05 41 39.3**	**-0.1**
CDCH				*e*S	**Sb**	**05 41 58.0**	**-1.0**
TLL	**Tololo Astrono**	**1.83**	**162**	⇑*i*P	**Pn**	**05 41 45.1**	**+0.4**
TLL				*e*S	**Sn**	**05 42 08.9**	**+0.7**
TLL				IAML		05 42 14.5	
	comp=E,2μm,0.5s						
AGUA	**GUANDACOL**	**2.82**	**113**	*i*P	**Pb**	**05 42 00.4**	**-3.0**
AGUA				*i*S	**Sb**	**05 42 38.3**	**+0.3**
VCA	**Vinchina**	**2.89**	**97**	*i*P	**Pn**	**05 42 00.9**	**+1.7**
VCA				*i*S	**Sb**	**05 42 39.9**	**-0.2**
AMOG	**MOGNA**	**3.61**	**135**	*i*P	**Pn**	**05 42 11.5**	**+2.5**
AMOG				*i*S	**Sb**	**05 42 57.7**	**-3.0**
RTLS	**Leoncito**	**3.86**	**151**	*i*P	**Pn**	**05 42 15.3**	**+2.7**
RTLS				*i*S	**Sb**	**05 43 04.5**	**-3.7**
RTLL	**Cerro Villicun**	**3.89**	**139**	*i*P	**Pn**	**05 42 15.2**	**+2.3**
RTLL				*i*S	**Sb**	**05 43 04.7**	**-4.3**
AVFE	**Valle Fertil**	**4.15**	**123**	*i*P	**Pn**	**05 42 19.2**	**+2.8**
AVFE				IAML		05 43 16.1	
	comp=Z,105nm,0.4s						
AUSP	**Uspallata**	**4.20**	**155**	*i*P	**Pn**	**05 42 19.9**	**+2.6**
AUSP				*i*S	**Sb**	**05 43 12.2**	**-5.6**
RTCV	**Cerro Valdivia**	**4.27**	**144**	*i*P	**Pn**	**05 42 20.2**	**+2.7**
RTCV				*i*S	**Sb**	**05 43 13.8**	**-5.9**
ASAL	**Salagasta**	**4.74**	**152**	*i*P	**Pn**	**05 42 27.2**	**+2.7**
ASAL				*i*S	**Sn**	**05 43 25.1**	**+5.6**
ARCO	**CERRO ARCO**	**4.92**	**154**	*i*P	**Pn**	**05 42 30.0**	**+2.9**
ARCO				*i*S	**Sn**	**05 43 30.0**	**+5.9**
ARCO				IAML		05 43 42.0	
	comp=Z,63nm,0.4s						
ACHE	**Chepes**	**4.99**	**124**	*i*P	**Pn**	**05 42 31.5**	**+3.4**
ACHE				*i*S	**Sb**	**05 43 32.5**	**-8.2**
CYA	**Choya**	**4.99**	**92**	*i*P	**Pn**	**05 42 31.1**	**+3.1**
CYA				IAML		05 43 34.5	
	comp=Z,41nm,0.3s						
AAGR	**Agrelo**	**5.17**	**155**	*i*P	**Pn**	**05 42 33.3**	**+2.8**
ACAN	**Cantantal**	**5.33**	**137**	*i*P	**Pn**	**05 42 35.8**	**+3.2**
FSA	**Cafayete**	**5.40**	**66**	*i*P	**Pn**	**05 42 36.5**	**+2.8**
AHML	**Horco Molle**	**5.68**	**75**	*i*P	**Pn**	**05 42 40.1**	**+2.6**
MRA	**San Martin**	**6.37**	**130**	*i*P	**Pn**	**05 42 49.7**	**+2.8**
MRA				IAML		05 44 23.7	
TCA	**Tanti**	**6.64**	**118**	*i*P	**Pn**	**05 42 53.6**	**+2.9**
TCA				IAML		05 44 07.0	
	comp=Z,16nm,0.5s						

*ISCJB **15** 05:47:13.5±0.9,32.°96S±0.°05×70.°18W±0.°05,h117km±7km,*
Error ellipse: s-maj=10.0km s-min=5.2km az=149.2
*SJA **15** 05:47:13.0±0.5,32.°96S×70.°18W,h113km±2km,ML2.9,*
MW3.9
*GUC **15** 05:47:14.9±0.6,32.°89S×70.°30W,h105km±5km,ML3.5*
ISC 15 05:47:14.3±2.1,32.°95S±0.°07×70.°19W±0.°05,
h111km±14km,n21,σ0$38/39,4C-2D,Chile-Argentina
border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.38**	**193**	⇑*i*P	**Pn**	**05 47 31.1**	**+0.1**
FCH				*i*S	**Sn**	**05 47 43.6**	**-0.1**
FCH				IAML		05 47 44.8	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**0.46**	**245**	*e*P	**Pn**	**05 47 30.5**	**-0.6**
PEL				*i*S	**Sn**	**05 47 42.9**	**-0.9**
PEL				IAML		05 47 43.6	
	comp=E,2μm,0.4s						
CLCH	**Cerro Calan**	**0.53**	**214**	⇓*i*P	**Pn**	**05 47 31.9**	**+0.2**
CLCH				*i*S	**Sn**	**05 47 44.9**	**+0.2**
CLCH				IAML		05 47 45.4	
	comp=E,2μm,0.6s						
FSR	**Penalolen**	**0.60**	**209**	⇓*i*P	**Pn**	**05 47 32.5**	**+0.4**
FSR				*i*S	**Sn**	**05 47 46.0**	**+0.6**
STL	**Santa Lucia**	**0.61**	**218**	⇑*i*P	**Pn**	**05 47 32.5**	**+0.3**
STL				*i*S	**Sn**	**05 47 45.6**	**0.0**
ROCH	**El Roble**	**0.69**	**268**	⇑*i*P	**Pn**	**05 47 32.9**	**-0.1**
ROCH				*i*S	**Sn**	**05 47 46.6**	**-0.5**
ROCH				IAML		05 47 48.3	
	comp=N,3μm,0.4s						
ROC1	**El Roble**	**0.70**	**268**	*i*P	**Pn**	**05 47 32.7**	**-0.4**
ROC1				*i*S	**Sn**	**05 47 47.4**	**+0.2**
ANTU	**Antumapu**	**0.72**	**211**	⇑*i*P	**Pn**	**05 47 33.4**	**+0.4**
ANTU				*i*S	**Sn**	**05 47 47.4**	**+0.2**
ANTU				IAML		05 47 47.9	
	comp=E,3μm,0.4s						
RCDM	**Rinconada Maip**	**0.75**	**224**	*e*P	**Pn**	**05 47 33.4**	**+0.2**
RCDM				*i*S	**Sn**	**05 47 47.3**	**-0.2**
RCDM				IAML		05 47 48.3	
	comp=E,2μm,0.2s						
AUSP	**Uspallata**	**0.99**	**43**	*i*P	**Pn**	**05 47 35.8**	**0.0**
AUSP				*i*S	**Sn**	**05 47 52.7**	**+0.6**
ARCO	**CERRO ARCO**	**1.06**	**84**	*i*P	**Pn**	**05 47 36.2**	**-0.2**
ARCO				*i*S	**Sn**	**05 47 53.2**	**+0.1**
ARCO				IAML		05 47 55.1	
	comp=Z,293nm,0.3s						
AAGR	**Agrelo**	**1.15**	**97**	*i*P	**Pn**	**05 47 36.5**	**-0.8**
AAGR				*i*S	**Sn**	**05 47 55.2**	**+0.5**
ASAL	**Salagasta**	**1.19**	**73**	*i*P	**Pn**	**05 47 37.6**	**-0.2**
ASAL				*i*S	**Sn**	**05 47 55.4**	**-0.1**
RTLS	**Leoncito**	**1.37**	**33**	*i*P	**Pn**	**05 47 40.2**	**+0.2**
RTLS				*i*S	**Sn**	**05 48 00.3**	**+0.8**
RTCV	**Cerro Valdivia**	**1.77**	**52**	*i*P	**Pn**	**05 47 44.4**	**-0.1**
RTCV				*i*S	**Sn**	**05 48 07.5**	**0.0**
AMOG	**MOGNA**	**2.47**	**36**	*i*P	**Pn**	**05 47 53.5**	**0.0**
AMOG				*i*S	**Sn**	**05 48 23.6**	**+0.1**
ACAN	**Cantantal**	**2.62**	**76**	*i*P	**Pn**	**05 47 55.2**	**-0.2**
ACAN				*i*S	**Sn**	**05 48 26.7**	**-0.2**
AVFE	**Valle Fertil**	**3.26**	**46**	*i*P	**Pn**	**05 48 04.0**	**+0.1**
AVFE				IAML		05 48 44.9	
	comp=Z,16nm,0.3s						
ACHE	**Chepes**	**3.48**	**60**	*i*P	**Pn**	**05 48 06.8**	**-0.1**
ACHE				*i*S	**Sn**	**05 48 47.1**	**-0.5**
AGUA	**GUANDACOL**	**3.75**	**23**	*i*P	**Pn**	**05 48 10.4**	**0.0**
MRA	**San Martin**	**3.81**	**83**	*i*P	**Pn**	**05 48 11.3**	**+0.1**
MRA				IAML		05 48 58.3	
	comp=Z,15nm,0.6s						

*IDC **15** 05:55:57.8±1.0,26.°75N×144.°08E,h0km,mb3.8/9,*
mb1 3.9/11,mb1mx3.7/45,mbtmp3.8/11,ML3.7/2,Error
ellipse: s-maj=26.0km s-min=20.4km az=24.0
*ISCJB **15** 05:56:00.2±1.0,26.°7N±0.°2×144.°15E±0.°09,h33km,*
mb3.9/9,Error ellipse: s-maj=21.9km s-min=11.6km
az=6.8
ISC 15 05:56:02.3±1.0,26.°8N±0.°1×144.°1E±0.°1,h35km,n13,
σ1$58/14,mb3.9/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.71**	**281**	Pn	**Pn**	**05 56 27.0**	**-2.7**
	baz=17,slow=19						
JCJ				Sn	**Sn**	**05 56 51.6**	**+1.3**
	baz=280,slow=19						
MJAR	**Matsushiro Arr**	**10.92**	**334**	Pn	**Pn**	**05 58 34.3**	**-1.9**
	0.5nm,0.3s,baz=155,slow=12,SNR=4.8						
KSRS	**Korea Array**	**17.30**	**312**	P	**P**	**06 00 02.0**	**-0.2**
	0.3nm,0.3s,baz=125,slow=12,SNR=3.5						
SONM	**Songino Array**	**36.10**	**316**	P	**P**	**06 03 03.2**	**+2.3**
	1.1nm,0.7s,baz=105,slow=6.7,SNR=7.0						
WRA	**Warramunga Arr**	**47.41**	**192**	P	**P**	**06 04 33.4**	**-0.1**
	1.0nm,0.7s,baz=16,slow=8.6,SNR=8.3						
ZALV	**Zalesovo Beam**	**50.82**	**319**	P	**P**	**06 05 00.6**	**+1.4**
	0.6nm,0.3s,baz=101,slow=6.0,SNR=3.3						
MKAR	**Makanchi Array**	**51.96**	**310**	P	**P**	**06 05 09.7**	**+1.8**
	1.1nm,0.8s,baz=91,slow=8.4,SNR=6.9						
KURBB	**Kurchatov Arra**	**54.45**	**315**	P	**P**	**06 05 27.1**	**+1.0**
	1.0nm,0.6s,baz=90,slow=8.0,SNR=7.2						
ILAR	**Eielson Array**	**57.17**	**28**	P	**P**	**06 05 45.5**	**0.0**
	0.7nm,1.1s,baz=260,slow=5.2,SNR=4.0						
BVAR	**Borovoye Array**	**59.40**	**318**	P	**P**	**06 06 02.4**	**+1.2**
	0.8nm,0.5s,baz=100,slow=7.5,SNR=6.3						
AKTO	**Aktyubinsk**	**67.42**	**316**	P	**P**	**06 06 54.7**	**+0.5**
	0.5nm,0.5s,baz=70,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**71.60**	**29**	P	**P**	**06 07 19.8**	**0.0**
	0.4nm,0.6s,baz=289,slow=6.5,SNR=5.1						
LPAZ	**La Paz**	**148.36**	**77**	PKPbc	**PKPab**	**06 15 48.1**	**-1.6**
	1.6nm,0.7s,baz=302,slow=3.1,SNR=6.7						

*IDC **15** 06:02:34.2±1.5,26.°67N×144.°14E,h0km,mb3.8/7,*
mb1 4.0/7,mb1mx3.6/47,mbtmp3.8/7,Error ellipse:
s-maj=42.7km s-min=26.2km az=60.0
ISC 15 06:02:39.7±1.3,26.°6N±0.°2×143.°9E±0.°1,h31km,n8,
σ0$72/9,mb3.9/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.63**	**288**	Pn	**Pn**	**06 03 06.2**	**-0.1**
	13nm,0.3s,baz=294,slow=19,SNR=3.2						
JCJ				Sn	**Sb**	**06 03 29.1**	**-0.1**
	50nm,0.3s,baz=310,slow=22,SNR=8.0						
SONM	**Songino Array**	**36.14**	**316**	P	**P**	**06 09 40.1**	**+0.9**
	1.1nm,0.7s,baz=120,slow=8.5,SNR=5.1						
WRA	**Warramunga Arr**	**47.19**	**192**	P	**P**	**06 11 09.8**	**+0.2**
	0.5nm,0.5s,baz=17,slow=8.8,SNR=8.2						
MKAR	**Makanchi Array**	**51.98**	**310**	P	**P**	**06 11 46.7**	**+0.7**
	0.8nm,0.8s,baz=86,slow=6.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**54.49**	**315**	P	**P**	**06 12 04.3**	**0.0**
	0.6nm,0.5s,baz=89,slow=7.9,SNR=9.1						
BVAR	**Borovoye Array**	**59.45**	**318**	P	**P**	**06 12 39.7**	**+0.2**
	1.5nm,1.0s,baz=103,slow=6.2,SNR=3.8						
AKTO	**Aktyubinsk**	**67.46**	**316**	P	**P**	**06 13 31.4**	**-1.0**
	0.4nm,0.3s,baz=106,slow=7.4,SNR=3.3						
KBZ	**

CHOJ			eS		Sn	06 23 18.9	-0.7
BSO3	**Boso 3**	**1.79**	**272**	P	**Pn**	**06 22 58.6**	**+0.1**
BSO3				eS	Sn	06 23 21.2	+1.3
BSO4	**Boso 4**	**1.94**	**277**	P	**Pn**	**06 23 01.1**	**+0.4**
BSO4				eS	Sn	06 23 25.8	+1.9
KTR	**Katsuura**	**1.98**	**282**	S	**Sn**	**06 23 23.3**	**-1.7**
JIM2	**Oshima 3**	**2.68**	**270**	eS	**Sn**	**06 23 41.0**	**-1.3**
JHJ2	**Mitsune**	**2.90**	**236**	P	**Pn**	**06 23 13.3**	**-0.7**
JHJ2				eS	Sn	06 23 46.5	-1.2
JHJ	**Hachijo jima 2**	**2.92**	**237**	Pn	**Pn**	**06 23 13.3**	**-1.0**
	27nm,0.3s,baz=77,slow=21,SNR=12						
JHJ				Sn	**Sn**	**06 23 45.0**	**-3.1**
	45nm,0.3s,baz=74,slow=23,SNR=9.0						
JHJ				LR	LR	06 24 25.7	
	comp=Z,56nm,19.5s,baz=98,slow=42						
JOD2	**Odawara 2**	**2.99**	**280**	P	**Pn**	**06 23 14.5**	**-0.8**
JOD2				eS	Sn	06 23 48.3	-1.7
JAG	**Ashikaga**	**3.11**	**303**	P	**Pn**	**06 23 16.2**	**-0.7**
JAG				eS	Sn	06 23 51.9	-0.9
JRY	**Ryogami san**	**3.33**	**293**	P	**Pn**	**06 23 20.0**	**0.0**
JRY				eS	Sn	06 23 58.6	+0.3
JFT	**Otama**	**3.34**	**326**	P	**Pn**	**06 23 19.0**	**-1.0**
JFT				S	Sn	06 23 56.1	-2.3
JYN	**Shimob**	**3.47**	**283**	P	**Pn**	**06 23 21.2**	**-0.7**
JYN				eS	Sn	06 24 01.5	-0.3
MJAR	**Matsushiro Arr**	**4.05**	**297**	Pn	**Pn**	**06 23 28.6**	**-1.2**
	2.2nm,0.3s,baz=101,slow=10,SNR=11						
MJAR				Sn	**Sn**	**06 24 13.7**	**-2.3**
	1.5nm,0.3s,baz=20,slow=36,SNR=7.6						
MAT	**Matsushiro**	**4.05**	**297**	P	**Pn**	**06 23 29.8**	**-0.1**
MAT				eS	Sn	06 24 15.1	-1.0
MAT	**Matsushiro**	**4.05**	**297**	P	**Pn**	**06 23 30.2**	**+0.3**
MAT				eS	Sn	06 24 15.7	-0.4
JCJ	**Chichijima**	**7.66**	**183**	Pn	**Pn**	**06 24 16.6**	**-2.8**
	baz=328,slow=13						
ASAJ	**Asahikawa**	**9.34**	**360**	Pn	**Pn**	**06 24 39.4**	**-2.9**
	1.8nm,0.3s,baz=262,slow=11,SNR=4.3						
H11N2	**WAKE ISLAND Hy 26.13**	**119**		T	T	06 55 21.6	
	baz=310,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy 26.14**	**119**		T	T	06 55 22.0	
	baz=310,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy 26.15**	**119**		T	T	06 55 22.7	
	baz=310,slow=75,SNR=9.7						
H11S1	**WAKE ISLAND Hy 26.79**	**121**		T	T	06 56 03.1	
	baz=312,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy 26.79**	**121**		T	T	06 56 05.2	
	baz=312,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy 26.80**	**121**		T	T	06 56 06.6	
	baz=312,slow=75,SNR=12						
ILAR	**Eielson Array**	**50.87**	**31**	P	**P**	**06 31 28.1**	**+1.5**
	0.3nm,0.8s,baz=267,slow=6.9,SNR=3.3						
WRA	**Warramunga Arr**	**54.98**	**190**	P	**P**	**06 31 58.3**	**+0.9**
	1.3nm,0.7s,baz=5.2,slow=7.5,SNR=7.6						
ASAR	**Alice Springs**	**58.71**	**189**	P	**P**	**06 32 25.3**	**+1.5**
	0.7nm,0.8s,baz=9.2,slow=8.0,SNR=5.4						
YKA	**Yellowknife Ar**	**65.25**	**30**	P	**P**	**06 33 08.4**	**+1.2**
	0.2nm,0.7s,baz=299,slow=6.3,SNR=2.8						
LPAZ	**La Paz**	**146.85**	**64**	PKPbc	**PKPab**	**06 42 11.1**	**+0.5**
	0.3nm,0.5s,baz=329,slow=5.9,SNR=4.1						

*IDC **15** 06:24:22.1±1.0,8.49N×123.47E,h0km,mb3.8/7,*
mb1 3.9/8,mb1mx3.6/46,mbtmp3.9/8,ML4.5/1,MS2.7/1,
Ms1 2.9/1,ms1mx2.3/42,Error ellipse: s-maj=75.6km
s-min=20.2km az=57.0
*MAN **15** 06:24:24,8.06N×123.28E,h20km,mb4.4,ML3.3,MS3.2*
MAN INTENSITY III - MOLAVE AND AURORA ZAMBOANGA
DEL SUR; INTENSITY I - PAGADIAN CITY.
*ISCJB **15** 06:24:25.2±0.8,8.06N±0.04×123.24E±0.05,h31km±6km,*
mb3.8/7,MS2.6/1,Error ellipse: s-maj=7.8km s-min=6.1km
az=150.5

ISC 15 06:24:25.3±1.5,8.05N±0.04×123.24E±0.05,h25km±11km,
n22,σ1°44/27,mb3.9/7,5C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.54**	**11**	*eP*	**Pb**	**Pb**	**06 24 35.5**	**-0.7**
DCPH				*eS*	**Sb**	**Sb**	**06 24 43.3**	**-0.2**
IPIL	**Ipil**	**0.72**	**249**	*eP*	**Pn**	**Pn**	**06 24 39.4**	**-0.4**
SNPH	**Sibulan**	**1.28**	**360**	*iP*	**Pn**	**Pn**	**06 24 45.7**	**-2.0**
SNPH				*iS*	**Sn**	**Sn**	**06 25 02.6**	**-1.5**
CTBH	**Cotabato--PC H**	**1.29**	**130**	*eP*	**Pn**	**Pn**	**06 24 47.4**	**-0.4**
CTBH				*iS*	**Sn**	**Sn**	**06 25 04.0**	**-0.2**
CGP	**Cagayan de Oro**	**1.49**	**74**	*eP*	**Pn**	**Pn**	**06 24 48.8**	**-1.6**
CGP				*eS*	**Sn**	**Sn**	**06 25 08.0**	**-1.2**
TBP	**Tagbilaran**	**1.74**	**21**	*iP*	**Pn**	**Pn**	**06 24 54.5**	**+0.5**
TBP				*iS*	**Sb**	**Sb**	**06 25 18.8**	**+0.8**
BUKP	**Musuan**	**1.81**	**95**	*eP*	**Pn**	**Pn**	**06 24 56.2**	**+1.3**
LLP	**Lapu-Lapu**	**2.36**	**18**	*eP*	**Pn**	**Pn**	**06 25 03.4**	**+0.9**
LLP				*eS*	**Sn**	**Sn**	**06 25 32.1**	**+1.5**
DAV	**Davao City (W)**	**2.51**	**113**	Pn	**Pn**	**Pn**	**06 25 04.9**	**+0.4**
	88nm,0.3s,baz=265,slow=11,SNR=2.6							
DAV				Sn		**Sb**	**06 25 41.3**	**+1.0**
	99nm,0.3s,baz=314,slow=22,SNR=7.2							
JAP	**San Jose, Anti**	**2.97**	**335**	*eP*	**Pn**	**Pn**	**06 25 09.1**	**-1.8**
RCP	**Roxas**	**3.52**	**352**	*eP*	**Pn**	**Pn**	**06 25 21.5**	**+3.1**
CUYO	**Cuyo Island**	**3.54**	**322**	*eP*	**Pn**	**Pn**	**06 25 20.0**	**+1.3**
OTRP	**Odiongan**	**4.45**	**344**	*eP*	**Pn**	**Pn**	**06 25 33.4**	**+2.2**
ENPP	**El Nido**	**4.90**	**310**	*eP*	**Pn**	**Pn**	**06 25 38.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**25.78**	**296**	LR	LR	LR	06 39 26.4	
	comp=Z,17nm,19.2s,baz=260,slow=35							
WRA	**Warramunga Arr**	**29.89**	**159**	P	P	P	06 30 36.1	+5.0
	0.4nm,0.8s,baz=344,slow=8.7,SNR=2.8							
ASAR	**Alice Springs**	**33.20**	**162**	P	**P**	**P**	**06 31 02.1**	**+1.8**
	0.3nm,0.6s,baz=342,slow=6.7,SNR=3.0							
KURBB	**Kurchatov Arra**	**56.25**	**327**	P	**P**	**P**	**06 34 04.0**	**+0.5**
	0.3nm,0.5s,baz=125,slow=7.7,SNR=7.3							
AKTO	**Aktyubinsk**	**68.14**	**321**	P	**P**	**P**	**06 35 20.9**	**-2.3**
	1.5nm,0.8s,baz=119,slow=5.2,SNR=3.6							
BRTR	**Keskin Array B**	**84.61**	**309**	P	**P**	**P**	**06 36 57.8**	**+0.6**
	1.0nm,0.7s,baz=86,slow=6.3,SNR=4.7							
ARCES	**ARCESS Array B**	**85.22**	**340**	P	**P**	**P**	**06 36 58.9**	**-0.5**
	1.8nm,0.8s,baz=72,slow=7.8,SNR=5.0							
FINES	**FINESS Array B**	**86.41**	**331**	P	**P**	**P**	**06 37 04.6**	**-0.7**
	0.4nm,0.5s,baz=107,slow=4.8,SNR=3.8							

*IDC **15** 06:48:02.0±1.2,26.12N×142.04E,h35km±7km,mb3.3/4,*
mb1 3.4/4,mb1mx3.1/41,mbtmp3.5/4,Error ellipse:
s-maj=39.8km s-min=18.6km az=84.0

ISC 15 06:47:57.2±1.1,26.5N±0.1×143.7E±0.2,h38km,n8,
σ2°52/13,mb3.6/4,1D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.44**	**293**	Pn	**Pn**	**Pn**	**06 48 20.2**	**-0.6**
	5.2nm,0.3s,baz=244,slow=22,SNR=8.2							
JCJ				Sn	**Sn**	**Sn**	**06 48 42.2**	**+3.8**
	20nm,0.3s,baz=282,slow=23,SNR=7.7							
MAT	**Matsushiro**	**11.01**	**336**	*iP*	**Pn**	**Pn**	**06 50 31.0**	**-1.2**
MAT				S	**Pn**	**Pn**	**06 50 32.6**	**+0.4**
SONM	**Songino Array**	**36.04**	**316**	pP	pP	pP	06 55 05.0	-0.7
	0.4nm,0.4s,baz=120,slow=6.4,SNR=3.2							
WRA	**Warramunga Arr**	**47.07**	**192**	P	**P**	**P**	**06 56 25.0**	**-0.4**
	0.2nm,0.4s,baz=18,slow=8.8,SNR=6.3							
WRA				pP	**pP**	**pP**	**06 56 35.8**	**-0.6**
	0.6nm,0.4s,baz=17,slow=8.8,SNR=3.7							
MKAR	**Makanchi Array**	**51.85**	**310**	P	**P**	**P**	**06 57 00.8**	**-0.9**
	0.3nm,0.7s,baz=92,slow=8.2,SNR=3.7							
MKAR				pP	**pP**	**pP**	**06 57 12.1**	**-0.7**
	1.0nm,0.8s,baz=94,slow=9.5,SNR=6.8							
KURBB	**Kurchatov Arra**	**54.38**	**315**	P	**P**	**P**	**06 57 19.0**	**-1.1**
	0.3nm,0.3s,baz=88,slow=7.9,SNR=5.6							
KURBB				pP	**pP**	**pP**	**06 57 29.9**	**-1.5**
	0.6nm,0.5s,baz=90,slow=8.2,SNR=5.5							
BVAR	**Borovoye Array**	**59.35**	**318**	P	**P**	**P**	**06 57 54.3**	**-1.1**
	0.4nm,0.4s,baz=90,slow=8.6,SNR=2.6							
BVAR				pP	**pP**	**pP**	**06 58 04.5**	**-2.3**
	1.0nm,0.6s,baz=79,slow=7.7,SNR=3.3							
LPAZ	**La Paz**	**148.77**	**77**	PKPbc	**PKPab**	**PKPab**	**07 07 51.9**	**+6.0**
	1.0nm,0.9s,baz=270,slow=2.0,SNR=3.9							

*IDC **15** 06:56:36.5±1.0,26.69N×144.00E,h0km,mb4.0/7,*
mb1 4.1/9,mb1mx3.7/50,mbtmp3.9/9,ML3.6/2,MS2.7/1,
Ms1 2.7/1,ms1mx2.1/39,Error ellipse: s-maj=28.5km
s-min=20.7km az=41.0
*ISCJB **15** 06:56:39.0±1.0,26.8N±0.1×144.07E±0.10,h31km,*
mb4.0/7,Error ellipse: s-maj=20.1km s-min=12.4km
az=9.6

ISC 15 06:56:41.2±1.1,26.7N±0.2×144.0E±0.1,h31km,n12,
σ0°88/12,mb4.1/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.64**	**283**	Pn	**Pn**	**Pn**	**06 57 06.8**	**-1.2**
	19nm,0.3s,baz=8.7,slow=14,SNR=4.0							
JCJ				Sn	**Sn**	**Sn**	**06 57 28.6**	**+0.6**
	87nm,0.3s,baz=291,slow=21,SNR=9.2							
MJAR	**Matsushiro Arr**	**10.94**	**335**	Pn	**Pn**	**Pn**	**06 59 14.2**	**-1.4**
	0.8nm,0.3s,baz=159,slow=11,SNR=4.4							
JNU	**Nakatsue**	**13.02**	**302**	LR	LR	LR	07 03 47.7	
	comp=Z,30nm,18.2s,baz=149,slow=33							
KSRS	**Korea Array**	**17.27**	**312**	P	**Pn**	**Pn**	**07 00 39.7**	**-0.3**
	0.1nm,0.3s,baz=118,slow=11,SNR=5.5							
SONM	**Songino Array**	**36.08**	**316**	P	**P**	**P**	**07 03 41.4**	**+1.3**
	1.2nm,0.6s,baz=105,slow=7.1,SNR=8.5							
WRA	**Warramunga Arr**	**47.34**	**192**	P	**P**	**P**	**07 05 11.7**	**-0.6**
	0.7nm,0.4s,baz=15,slow=8.6,SNR=15							
MKAR	**Makanchi Array**	**51.94**	**310**	P	**P**	**P**	**07 05 47.7**	**+0.5**
	1.2nm,0.6s,baz=93,slow=8.6,SNR=16							
KURBB	**Kurchatov Arra**	**54.43**	**315**	P	**P**	**P**	**07 06 05.5**	**+0.1**
	1.2nm,0.5s,baz=90,slow=8.0,SNR=15							
BVAR	**Borovoye Array**	**59.39**	**318**	P	**P**	**P**	**07 06 40.7**	**+0.2**
	1.2nm,0.5s,baz=87,slow=6.4,SNR=6.9							
YKA	**Yellowknife Ar**	**71.69**	**29**	P	**P**	**P**	**07 07 59.5**	**-0.3**
	0.6nm,0.8s,baz=292,slow=6.0,SNR=5.6							
KBZ	**Khabaz**	**79.42**	**314**	P	**P**	**P**	**07 08 45.3**	**+0.9**
	1.4nm,0.6s,baz=106,slow=1.8,SNR=4.1							
LPAZ	**La Paz**	**148.45**	**77**	PKPbc	**PKPbc**	**PKPbc**	**07 16 26.4**	**+0.2**
	1.6nm,0.7s,baz=11,slow=4.9,SNR=6.4							

*ISK **15** 07:03:51.6,39.07N×29.21E,h5km,ML1.9*
*DDA **15** 07:03:52.5,39.10N×29.12E,h7km,Md2.6*
*CSEM **15** 07:03:52.3±0.2,39.07N×29.16E,h5km,ML1.9,Error*
ellipse: s-maj=5.7km s-min=3.8km az=133.0

ISC 15 07:03:52.4±1.0,39.08N±0.04×29.14E±0.03,h8km±10km,
n18,σ0°76/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.21**	**98**	*ePG*	**Pg**	**Pg**	**07 03 55.4**	**-1.4**
GEDZ	**Gediz**	**0.21**	**98**	*ePg*	**Pg**	**Pg**	**07 03 55.4**	**-1.4**
GDZ	**Gediz**	**0.27**	**87**	P	**Pg**	**Pg**	**07 03 58.7**	**+0.9**
GDZ				S	**Sg**	**Sg**	**07 04 03.0**	**+1.6**
GDZ	**Gediz**	**0.27**	**87**	*i* P	**Pg**	**Pg**	**07 03 58.7**	**+0.9**
GDZ				*i* S	**Sg**	**Sg**	**07 04 03.0**	**+1.6**
DEMI	**Demirci**	**0.33**	**264**	P	**Pg**	**Pg**	**07 03 59.1**	**+0.2**
DEMI				S	**Sg**	**Sg**	**07 04 03.3**	**0.0**
DEMI	**Demirci**	**0.33**	**264**	*i* P	**Pg**	**Pg**	**07 03 59.1**	**+0.2**
DEMI				*i* S	**Sg**	**Sg**	**07 04 03.3**	**0.0**
TVSB	**Tavsanli**	**0.45**	**34**	*ePG*	**Pg**	**Pg**	**07 04 00.7**	**-0.5**
TVSB				*eSG*	**Sg**	**Sg**	**07 04 06.6**	**-0.5**
TVSB	**Tavsanli**	**0.45**	**34**	*ePg*	**Pg**	**Pg**	**07 04 00.7**	**-0.5**
TVSB				*eSg*	**Sg**	**Sg**	**07 04 06.6**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**214**	*ePG*	**Pg**	**Pg**	**07 04 05.5**	**+0.1**
KULA				*eSG*	**Sb**	**Sb**	**07 04 15.4**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**214**	*ePg*	**Pg**	**Pg**	**07 04 05.5**	**+0.1**
KULA				*eSg*	**Sb**	**Sb**	**07 04 15.4**	**-0.5**
KHL	**Karahalli**	**0.81**	**158**	*ePG*	**Pg**	**Pg**	**07 04 07.4**	**-0.6**
KHL	**Karahalli**	**0.81**	**158**	*ePg*	**Pg**	**Pg**	**07 04 07.4**	**-0.6**
IZI	**Iznik**	**1.28**	**12**	*ePN*	**Pb**	**Pb**	**07 04 17.1**	**+0.2**
IZI	**Iznik**	**1.28**	**12**	*ePn*	**Pb**	**Pb**	**07 04 17.1**	**+0.2**
BORA	**Eskisehir**	**1.30**	**51**	P	**Pb**	**Pb**	**07 04 16.9**	**-0.2**
BORA				S	**Sn**	**Sn**	**07 04 35.1**	**+0.6**
BORA	**Eskisehir**	**1.30**	**51**	*i* P	**Pb**	**Pb**	**07 04 16.9**	**-0.2**
BORA				*i* S	**Sn**	**Sn**	**07 04 35.1**	**+0.6**
ARMT	**Armutlu**	**1.50**	**352**	*ePN*	**Pb**	**Pb**	**07 04 20.4**	**-0.2**
ARMT	**Armutlu**	**1.50**	**352**	*ePn*	**Pb**	**Pb**	**07 04 20.4**	**-0.2**

*IDC **15** 07:04:34.2±2.6,37.76N×144.05E,h0km,mb3.5/3,*
mb1 3.7/5,mb1mx3.4/37,mbtmp3.7/5,ML3.5/2,Error
ellipse: s-maj=58.7km s-min=30.4km az=76.0
*JMA **15** 07:04:38.9±0.5,37.78N×143.53E,h48km,M2.9*

ISC 15 07:04:39.1±2.0,37.86N±0.10×143.9E±0.2,h35km,n10,
σ1°67/10,mb3.8/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.07**	**288**	P	**Pn**	**Pn**	**07 05 09.4**	**-1.9**
OFUJ	**Ofunato**	**2.11**	**306**	P	**Pn**	**Pn**	**07 05 10.4**	**-1.5**
JMK	**Ichinoseki**	**2.35**	**299**	P	**Pn**	**Pn**	**07 05 13.2**	**-1.9**
JOM	**Ohasama**	**2.58**	**310**	P	**Pn**	**Pn**	**07 05 17.4**	**-1.0**
JYK	**Kaneyama**	**2.95**	**292**	P	**Pn**	**Pn**	**07 05 22.7**	**-0.8**
MJAR	**Matsushiro Arr**	**4.70**	**256**	Pn	**Pn**	**Pn**	**07 05 48.3**	**+0.8**
	1.6nm,0.3s,baz=92,slow=15,SNR=5.5							
JHJ	**Hachijo jima 2**	**5.78**	**216**	Pn	**Pn**	**Pn**	**07 06 00.5**	**-1.9**
	5.7nm,0.3s,baz=66,slow=20,SNR=3.5							
MKAR	**Makanchi Array**	**45.34**	**302**	P	**P**	**P**	**07 12 55.0**	**+1.3**
	0.2nm,0.6s,baz=85,slow=7.7,SNR=2.2							
KURBB	**Kurchatov Arra**	**47.04**	**308**	P	**P**	**P**	**07 13 08.5**	**+1.6**
	0.7nm,0.6s,baz=82,slow=7.8,SNR=5.3							
WRA	**Warramunga Arr**	**58.18**	**191**	P	**P**	**P**	**07 14 29.6**	**0.0**
	0.5nm,0.6s,baz=9.1,slow=7.0,SNR=5.0							

*IDC **15** 07:05:42.8±0.8,61.91S×57.82W,h0km,mb4.0/5,*
mb1 4.1/6,mb1mx3.8/22,mbtmp4.0/6,ML4.3/1,MS3.4/5,
Ms1 3.4/5,ms1mx3.1/22,Error ellipse: s-maj=33.8km
s-min=22.5km az=130.0
*NEIC **15** 07:05:43.5±0.5,62.03S×57.94W,h10km,mb5.0/1,Error*
ellipse: s-maj=20.1km s-min=15.0km az=116.0

ISC 15 07:05:43.9±0.7,62.1S±0.1×58.0W±0.1,h10km,n22,
σ1°15/21,mb4.3/6,MS3.3/4,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**3.83**	**222**	Pn	**Pn**	**Pn**	**07 06 44.7**	**+1.9**
	1.9nm,0.3s,baz=58,slow=13,SNR=8.2							
PMSA				Sn	**Sb**	**Sb**	**07 07 36.4**	**-1.3**
	12nm,0.3s,baz=280,slow=22,SNR=8.5							
PMSA				LR	LR	LR	07 08 09.9	
	comp=Z,218nm,20.3s,baz=44,slow=37							
PMSA	**Palmer Station**	**3.83**	**222**	*ePn*	**Pn**	**Pn**	**07 06 42.9**	**+0.2**
PMSA					Sn	**Sb**	**07 07 36.4**	**-1.3**
PLCA	**Paso Flores**	**22.68**	**335**	LR	LR	LR	07 19 11.0	
	comp=Z,95nm,19.1s,baz=189,slow=36							
SNAA	**Sanae**	**22.77**	**138**	*eP*	**P**	**P**	**07 10 44.8**	**-1.2**
QSPA	**South Pole Qui**	**28.14**	**180**	*eP*	**P**	**P**	**07 11 35.1**	**-0.8**
	29nm,1.0s							
CPUP	**Villa Florida**	**35.75**	**1**	LR	LR	LR	07 28 59.1	
	comp=Z,36nm,18.1s,baz=199,slow=39							
VNDA	**Vanda**	**38.50**	**193**	P	**P**	**P**	**07 13 08.2**	**+2.7**
	1.3nm,1.1s,baz=173,slow=6.3,SNR=7.2							
MAW	**Mawson**	**43.75**	**152**	LR	LR	LR	07 31 18.3	
	comp=Z,110nm,19.1s,baz=241,slow=35							
LPAZ	**La Paz**	**46.30**	**347**	P	**P**	**P**	**07 14 10.1**	**-0.2**
	0.4nm,0.8s,baz=168,slow=9.3,SNR=1.9							
LPAZ				LR	LR	LR	07 34 18.5	
	comp=Z,41nm,19.0s,baz=204,slow=37							
BOSA	**Boshof**	**62.04**	**99**	P	**P**	**P**	**07 16 04.2**	**-0.2**
	5.2nm,1.1s,baz=186,slow=14,SNR=3.9							
LBTB	**Lobatse**	**65.25**	**97**	P	**P**	**P**	**07 16 25.3**	**-0.3**
	3.6nm,0.9s,baz=180,slow=4.0,SNR=4.9							
TORD	**Torodi Ar. Bea**	**88.17**	**57**	P	**P**	**P**	**07 18 35.3**	**+0.5**
	0.9nm,1.0s,baz=216,slow=7.1,SNR=3.9							
BRTR	**Keskin Array B**	**124.90**	**70**	PKP	**PKPdf**	**PKPdf**	**07 24 42.6**	**-0.6**
	0.6nm,0.7s,baz=225,slow=3.9,SNR=3.9							
YKA	**Yellowknife Ar**	**131.39**	**329**	PKP	**PKPdf**	**PKPdf**	**07 24 55.1**	**+0.5**
	0.3nm,0.8s,baz=154,slow=1.9,SNR=5.3							
ILAR	**Eielson Array**	**142.49**	**315**	PKP	**PKPdf**	**PKPdf**	**07 25 12.8**	**-2.3**
	0.6nm,0.9s,baz=217,slow=2.3,SNR=4.4							
ARCES	**ARCESS Array B**	**143.83**	**36**	PKP	PKPab	PKPab	07 25 15.1	+0.6
	5.9nm,1.1s,baz=253,slow=0.9,SNR=6.1							
AKTO	**Aktyubinsk**	**144.13**	**79**	PKP	**PKPab**	**PKPab**	**07 25 16.0**	**-0.2**
	2.3nm,0.8s,baz=238,slow=5.0,SNR=7.8							
AAK	**Ala-Archa**	**146.11**	**103**	PKPbc	**PKPab**	**PKPab**	**07 25 24.0**	**0.0**
	2.5nm,0.4s,baz=269,slow=6.1,SNR=5.9							
ARU	**Arti**	**148.28**	**71**	PKPbc	**PKPbc**	**PKPbc**	**07 25 28.6**	**-0.1**
	4.1nm,0.2s,baz=252,slow=3.2,SNR=5.4							
BVAR	**Borovoye Array**	**151.61**	**85**	PKPbc	**PKPbc**	**PKPbc**	**07 25 37.4**	**+0.4**
	5.4nm,0.8s,baz=226,slow=3.8,SNR=26							
MJAR	**Matsushiro Arr**	**152.50**	**209**	PKPbc	**PKPbc**	**PKPbc**	**07 25 39.5**	**0.0**
	0.8nm,0.3s,baz=185,slow=2.1,SNR=5.5							
MKAR	**Makanchi Array**	**152.86**	**106**	PKPbc	**PKPbc**	**PKPbc**	**07 25 39.9**	**-0.1**
	2.6nm,0.9s,baz=227,slow=2.1,SNR=17							
MKAR				PKPab	**PKPab**	**PKPab**	**07 25 52.0**	**+0.8**
	1.6nm,0.7s,baz=217,slow=4.4,SNR=6.8							

RSPR 15 07:10:51.3,19.78N×68.93W,h117km±5km,MD3.7/6,
5C-1D,North Atlantic Ocean

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

AGPR	**Aguadilla, PR**	**2.16**	**127**	*eP*	**Pn**	07 11 26.4	-0.2
AGPR	**Aguadilla, PR**	**2.16**	**127**	*eS*	Sn	07 11 54.0	+0.3
LSP	**Las Mesas**	**2.37**	**132**	*eP*	**Pn**	07 11 29.1	-0.2
LSP	**Las Mesas**	**2.37**	**132**	*eS*	Sn	07 11 58.7	+0.2
CRPR	**Cabo Rojo, PR**	**2.47**	**135**	*eP*	**Pn**	07 11 30.4	-0.2
CRPR	**Cabo Rojo, PR**	**2.47**	**135**	*eS*	Sn	07 12 00.9	+0.2
AOPR	**Arecibo Observ**	**2.51**	**124**	*eP*	**Pn**	07 11 30.7	-0.4
AOPR	**Arecibo Observ**	**2.51**	**124**	*eS*	Sn	07 12 01.6	0.0
CELP	**Cerrillos**	**2.80**	**127**	*eP*	**Pn**	07 11 35.0	+0.1
CELP				*eS*	Sn	07 12 08.9	+0.5
HUMP	**Col San Antoni**	**3.34**	**119**	*eP*	**Pn**	07 11 42.1	+0.1
HUMP	**Col San Antoni**	**3.34**	**119**	*eS*	Sn	07 12 21.8	+0.6

IDC 15 07:12:21.6±2.7,54.09N×86.48E,h0km,mb1 2.8/2,
mb1mx2.8/45,mbtmp2.8/2,ML2.6/2,Error ellipse:
s-maj=21.4km s-min=13.8km az=56.0,Southwestern
Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**262**	*i*			07 19 10.0	
	baz=83,slow=320,SNR=1.9							
ZALV	**Zalesovo Beam**	**0.99**	**262**	Pg	Pg		07 12 39.4	-1.2
	0.5nm,0.3s,baz=82,slow=16,SNR=8.0							
ZALV				Lg	Lg		07 12 54.1	
	1.4nm,0.3s,baz=79,slow=30,SNR=9.8							
KURBB	**Kurchatov Arra**	**5.98**	**238**	Pn	Pn		07 13 52.9	+1.6
	0.1nm,0.3s,baz=56,slow=13,SNR=4.5							
KURBB				Lg	Lg		07 15 33.7	
	0.0nm,0.3s,baz=63,slow=30,SNR=3.1							
MKAR	**Makanchi Array**	**7.78**	**202**	Pn	Pn		07 14 16.7	+0.7
	0.2nm,0.3s,baz=25,slow=13,SNR=6.0							
MKAR				Lg	Lg		07 16 29.6	
	0.0nm,0.3s,baz=31,slow=34,SNR=3.7							

*IDC **15** 07:18:33.8±1.1,26.69N×144.08E,h0km,mb4.0/6,*
mb1 4.1/8,mb1mx3.7/46,mbtmp3.9/8,ML3.7/2,Error
ellipse: s-maj=32.3km s-min=23.2km az=53.0
*ISCJB **15** 07:18:36.3±1.0,26.7N±0.1×144.1E±0.1,h31km,mb3.9/6,*
Error ellipse: s-maj=20.4km s-min=12.6km az=11.9

ISC 15 07:18:38.5±1.1,26.7N±0.2×144.0E±0.1,h31km,n10,
σ0°70/11,mb4.1/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.66**	**283**	Pn	**Pn**	**Pn**	**07 19 05.0**	**-0.5**
	baz=282,slow=19							
JCJ				Sn	**Sn**	**Sn**	**07 19 25.9**	**0.0**
	baz=270,slow=20							
**MJA

TOO	**Toolangi**	**29.75**	**217**	P		**P**	**07 26 25.6**	**+0.9**
	baz=30,SNR=5.8							
ARPS	**Mount Arapiles**	**31.46**	**222**	P		**P**	**07 26 40.6**	**+0.8**
	baz=31,SNR=8.8							
HTT	**Hallett**	**31.66**	**229**	P		**P**	**07 26 41.8**	**+0.2**
	baz=32,SNR=17							
WRAB	**Tennant Creek**	**31.85**	**256**	*e*P		**P**	**07 26 41.8**	**-1.6**
WRAB				pmax	pmax			
	comp=Z,16nm,1.0s							
WRA	**Warramunga Arr**	**31.86**	**256**	P		**P**	**07 26 41.7**	**-1.8**
	comp=Z,4.7nm,0.6s,baz=86,slow=9.5,SNR=66							
WRA				PcP	**PcP**		**07 29 31.2**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=85,slow=2.6,SNR=7.3							
WRA				PKiKP	**PKiKP**		**07 36 58.1**	**-2.5**
	comp=Z,0.5nm,0.8s,baz=40,slow=0.7,SNR=5.6							
MOO	**Moorlands**	**32.46**	**208**	P		**P**	**07 26 49.5**	**+1.1**
	baz=32,SNR=4.0							
AS01	**Alice Springs**	**32.64**	**249**	*e*P		**P**	**07 26 48.6**	**-1.8**
AS01				*e*pP	**pP**		**07 27 13.8**	**-0.6**
AS31	**Alice Springs**	**32.68**	**249**	*e*P		**P**	**07 26 49.4**	**-1.3**
	comp=Z,5.7nm,0.6s							
ASAR	**Alice Springs**	**32.69**	**249**	P		**P**	**07 26 49.4**	**-1.3**
	comp=Z,13nm,0.6s,baz=80,slow=8.9,SNR=122							
ASAR				PcP	**PcP**		**07 29 33.8**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=84,slow=2.6,SNR=5.7							
ASAR				ScP	**ScP**		**07 33 06.9**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=71,slow=4.0,SNR=5.1							
ASAR				LR	LR		07 39 48.7	
	comp=Z,77nm,18.0s,baz=120,slow=36							
BBOO	**Buckleboo**	**33.53**	**232**	P		**P**	**07 26 58.3**	**+0.5**
	baz=33,SNR=31							
BBOO	**Buckleboo**	**33.53**	**232**	*e*P		**P**	**07 26 58.4**	**+0.5**
	comp=Z,45nm,0.8s							
WRKA	**Warakurna**	**37.95**	**248**	P		**P**	**07 27 34.8**	**-1.0**
	baz=38,SNR=87							
FITZ	**Fitzroy Crossi**	**40.07**	**260**	LR		LR	07 43 51.9	
	comp=Z,72nm,18.8s,baz=76,slow=35							
FITZ	**Fitzroy Crossi**	**40.07**	**260**	P		**P**	**07 27 52.5**	**-1.0**
	baz=40,SNR=5.7							
FITZ	**Fitzroy Crossi**	**40.07**	**260**	*e*P		**P**	**07 27 52.5**	**-1.0**
	comp=Z,10nm,0.8s							
PPT	**Papeete**	**41.37**	**100**	LR		LR	07 42 59.0	
	comp=Z,46nm,18.6s,baz=212,slow=33							
KMBL	**Kambalda**	**44.57**	**240**	P		**P**	**07 28 27.4**	**-2.5**
	baz=44,SNR=5.6							
MBWA	**Marble Bar**	**45.58**	**255**	*e*P		**P**	**07 28 37.4**	**-0.5**
	comp=Z,186nm,1.3s							
KAPI	**Kappang**	**47.82**	**277**	*e*P		**P**	**07 28 56.2**	**+0.7**
	comp=Z,18nm,0.8s							
MORW	**Morawa**	**49.26**	**244**	P		**P**	**07 29 06.0**	**-0.5**
	baz=49,SNR=4.3							
KIP	**Kipapa**	**49.59**	**44**	*e*P		**P**	**07 29 09.2**	**+0.3**
POHA	**Pohakuloa**	**50.20**	**48**	*e*P		**P**	**07 29 13.3**	**-0.6**
MJAR	**Matsushiro Arr**	**58.12**	**332**	P		**P**	**07 30 09.4**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=171,slow=8.1,SNR=6.7							
MJAR				pP	**pP**		**07 30 36.6**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=148,slow=7.2,SNR=2.9							
KSM	**Kuching**	**58.73**	**281**	*e*P		**P**	**07 30 16.2**	**+0.7**
	comp=Z,10nm,0.8s							
JNU	**Nakatsue**	**59.13**	**324**	P		**P**	**07 30 17.4**	**-0.5**
	comp=Z,11nm,0.8s,baz=42,slow=3.8,SNR=9.3							
JNU				LR	LR		07 54 44.3	
	comp=Z,13nm,18.5s,baz=123,slow=35							
YHNB	**Yeheng**	**59.68**	**311**	*e*P		**P**	**07 30 21.4**	**-0.5**
	comp=Z,31nm,1.0s							
CGJI	**Cibinong**	**60.98**	**271**	P		**P**	**07 30 29.9**	**-1.0**
	comp=Z,97nm,1.3s							
VNDA	**Vanda**	**62.67**	**181**	P		**P**	**07 30 41.0**	**-0.2**
	comp=Z,2.8nm,0.5s,baz=353,slow=8.6,SNR=23							
VNDA	**Vanda**	**62.67**	**181**	*e*P		**P**	**07 30 41.2**	**0.0**
VNDA				pmax	pmax			
	comp=Z,20nm,1.4s							
VNDA	**Vanda**	**62.67**	**181**	*e*P		**P**	**07 30 41.2**	**0.0**
	comp=Z,20nm,1.4s							
CASY	**Casey**	**63.38**	**202**	*e*P		**P**	**07 30 45.8**	**-0.2**
	comp=Z,16nm,0.6s							
TJN	**Taejon**	**63.48**	**325**	*e*P		**P**	**07 30 46.9**	**-0.2**
KSRS	**Korea Array**	**63.95**	**326**	P		**P**	**07 30 49.9**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=142,slow=7.1,SNR=9.0							
KSRS				pP	**pP**		**07 31 16.8**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=140,slow=6.6,SNR=2.0							
KSAR	**Wonju Array Be**	**63.96**	**326**	P		**P**	**07 30 49.9**	**-0.3**
KSAR				*PP	**pP**		**07 31 16.8**	**0.0**
KSAR	**Wonju Array Be**	**63.96**	**326**	P		**P**	**07 30 49.9**	**-0.3**
KSAR				pP	**pP**		**07 31 16.8**	**0.0**
YSS	**Yuzh-Sakhalins**	**65.44**	**342**	*e*P		**P**	**07 31 01.6**	**+2.0**
USRK	**Ussuriysk Ar.**	**67.10**	**333**	P		**P**	**07 31 10.6**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=143,slow=6.3,SNR=6.9							
USRK				pP	**pP**		**07 31 36.8**	**-0.3**
	comp=Z,5.8nm,1.1s,baz=104,slow=6.1,SNR=2.9							
WHN	**Wuhan**	**68.14**	**312**	*e*P		**P**	**07 31 16.9**	**-0.2**
PETK	**Petropavlovsk-**	**68.26**	**354**	P		**P**	**07 31 17.9**	**+0.5**
	comp=Z,6.0nm,0.8s,baz=143,slow=9.2,SNR=6.2							
PETK				LR	LR		07 56 01.1	
	comp=Z,39nm,21.6s,baz=153,slow=31							
MDJ	**Mudanjiang**	**68.49**	**332**	P		**P**	**07 31 19.9**	**+0.9**
MDJ				PMZ				
	comp=Z,9.0nm,0.8s							
MNSI	**Mandailing Nat**	**68.78**	**277**	P		**P**	**07 31 21.1**	**-0.4**
	comp=Z,28nm,0.9s,comp=Z,4μm							
KLR	**Kul'dur**	**71.22**	**336**	P		**P**	**07 31 35.9**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=119,slow=5.2,SNR=6.1							
ENH	**Enshi**	**71.56**	**309**	*e*P		**P**	**07 31 38.0**	**-0.2**
	comp=Z,8.1nm,0.6s							
BJI	**Beijing**	**72.47**	**321**	P		**P**	**07 31 45.1**	**+1.8**
BJI				S		**S**	**07 41 02.4**	**+3.6**
BJI				PMZ				
	comp=Z,6.0nm,0.8s							
BJI				LZ				
	comp=Z,34nm,30.0s							
KMI	**Kunming**	**74.48**	**302**	P		**P**	**07 31 57.1**	**+1.4**
KMI				PMZ				
	comp=Z,22nm,1.0s							
KMI				PMZ				
	comp=Z,74nm,5.1s							
CM01	**Chiang Mai Arr**	**75.08**	**294**	*e*P		**P**	**07 31 59.9**	**+0.8**
QSPA	**South Pole Qui**	**75.10**	**180**	*e*P		**P**	**07 31 58.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**75.11**	**294**	P		**P**	**07 32 00.2**	**+1.0**
	comp=Z,4.4nm,0.7s,baz=118,slow=4.3,SNR=13							
CMAR				pP	**pP**		**07 32 26.0**	**-0.6**
	comp=Z,5.5nm,1.0s,baz=124,slow=4.8,SNR=2.6							
CMAR	**Chiang Mai Arr**	**75.11**	**294**	*ce*P		**P**	**07 32 00.5**	**+1.3**
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**75.79**	**320**	*e*P		**P**	**07 32 05.5**	**+2.7**
HHC				S		**S**	**07 41 36.1**	**-0.2**
HHC				PMZ				
	comp=Z,29nm,0.9s							
HHC				PMZ				
	comp=Z,160nm,5.0s							
CD2	**Chengdu**	**76.20**	**308**	*e*P		**P**	**07 32 06.0**	**+0.8**
LZH	**Lanzhou**	**78.52**	**312**	*e*P		**P**	**07 32 18.6**	**+0.4**
LZH				pP	pP		07 32 45.3	-0.4
LZH				sP	sP		07 32 56.5	-0.8
LZH				*e*PP	**PP**		**07 35 20.0**	**+2.6**
LZH				PMZ				
	comp=Z,20nm,1.5s							
LZH				PMZ				
	comp=Z,78nm,8.2s							
LZH				LN				
	comp=Z,320nm,15.3s							
LZH				LE				
	comp=Z,340nm,16.0s							
LZH				LZ				
	comp=Z,370nm,18.9s							
MAW	**Mawson**	**81.74**	**202**	P		**P**	**07 32 35.5**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=145,slow=19,SNR=5.2							
YAK	**Yakutsk**	**82.24**	**343**	*e*P		**P**	**07 32 37.7**	**+0.4**
YAK				pmax	pmax			
	comp=Z,27nm,1.3s							
ULN	**Ulaanbaatar**	**82.34**	**324**	*c i*P		**P**	**07 32 38.4**	**0.0**
ULN				*i* *PP	**pP**		**07 33 06.4**	**+0.2**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ULN	**Ulaanbaatar**	**82.34**	**324**	*e*P		**P**	**07 32 38.5**	**0.0**
	comp=Z,5.9nm,0.7s							
SONM	**Songino Array**	**82.70**	**324**	P		**P**	**07 32 40.4**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=147,slow=6.6,SNR=15							
SONM				pP	**pP**		**07 33 08.1**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=134,slow=4.2,SNR=2.5							
SONA1	**Songino Array**	**82.71**	**324**	*e*P		**P**	**07 32 40.2**	**0.0**
SONA1				*e*pP		**pP**	**07 33 08.0**	**0.0**
BILL	**Bilibino**	**82.74**	**360**	*e*P		**P**	**07 32 39.8**	**0.0**
BILL				*e*			07 33 08.3	
BILL				pmax	pmax			
	comp=Z,13nm,1.7s							
BILL	**Bilibino**	**82.74**	**360**	*e*P		**P**	**07 32 39.5**	**-0.2**
	comp=Z,7.7nm,0.8s							
GTA	**Gaotai**	**82.87**	**314**	*e*P		**P**	**07 32 42.3**	**+1.0**
GTA				pP	pP		07 33 10.1	+1.0
GTA				sP	sP		07 33 22.5	+1.9
GTA				PMZ				
	comp=Z,9.0nm,1.2s							
PMR	**Palmer**	**83.66**	**19**	*e*P		**P**	**07 32 44.7**	**+0.1**
PMR				pmax	pmax			
	comp=Z,24nm,1.6s							
PMR	**Palmer**	**83.66**	**19**	*e*P		**P**	**07 32 44.7**	**+0.1**
	comp=Z,24nm,1.6s							
KMRM	**Mail Ridge**	**84.18**	**46**	*e*P		**P**	**07 32 49.3**	**+1.4**
	comp=Z,135nm,1.8s							
KTH	**Kantishna Hill**	**84.59**	**17**	*e*P		**P**	**07 32 48.0**	**-1.5**
	comp=Z,7.4nm,1.0s							
TRF	**Thorofare Moun**	**84.70**	**18**	*e*P		**P**	**07 32 49.5**	**-0.6**
	comp=Z,6.8nm,0.9s							
BPAW	**Bear Paw Mtn.**	**84.99**	**17**	*e*P		**P**	**07 32 50.9**	**-0.4**
	comp=Z,2.5nm,0.9s							
RND	**Reindeer**	**85.09**	**18**	*e*P		**P**	**07 32 51.9**	**0.0**
RND	**Reindeer**	**85.09**	**18**	*e*P		**P**	**07 32 51.9**	**0.0**
MCK	**McKinley**	**85.31**	**18**	*e*P		**P**	**07 32 54.0**	**+1.0**
MCK				pmax	pmax			
	comp=Z,9.0nm,1.2s							
MCK	**McKinley**	**85.31**	**18**	*e*P		**P**	**07 32 54.0**	**+1.0**
	comp=Z,9.1nm,1.2s							
LSA	**Lhasa**	**85.74**	**302**	*e*P		**P**	**07 32 56.8**	**+0.4**
LSA				pmax	pmax			
	comp=Z,7.0nm,0.4s							
LSA	**Lhasa**	**85.74**	**302**	*e*P		**P**	**07 32 56.8**	**+0.4**
	comp=Z,7.2nm,0.4s							
ZAK	**Zakamensk**	**85.76**	**325**	*e*P		**P**	**07 32 55.0**	**-0.6**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
WRH	**Wood River Hil**	**86.11**	**18**	*e*P		**P**	**07 32 56.6**	**-0.3**
TLY	**Talaya**	**86.20**	**326**	*e*P		**P**	**07 32 58.2**	**+0.6**
TLY				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CCB	**Clear Creek Bu**	**86.32**	**18**	*e*P		**P**	**07 32 57.0**	**-0.8**
	comp=Z,13nm,2.0s							
MDM	**Murphy Dome**	**86.43**	**17**	*e*P		**P**	**07 32 57.3**	**-1.1**
	comp=Z,4.1nm,1.0s							
COLA	**College**	**86.47**	**18**	*e*P		**P**	**07 32 58.4**	**-0.2**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
IL1	**Eielson Array**	**86.69**	**18**	*e*P		**P**	**07 32 57.5**	**-2.2**
ILAR	**Eielson Array**	**86.69**	**18**	P		**P**	**07 32 58.4**	**-1.3**
	comp=Z,3.0nm,0.7s,baz=234,slow=5.6,SNR=30							
ILAR				pP	**pP**		**07 33 27.2**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=238,slow=5.7,SNR=3.4							
ILAR				LR	LR		08 06 52.7	
	comp=Z,27nm,19.5s,baz=236,slow=32							
ILB	**Eielson Array**	**86.69**	**18**	*e*P		**P**	**07 32 58.2**	**-1.5**
DOT	**Dot Lake**	**86.77**	**20**	*e*P		**P**	**07 33 00.3**	**+0.2**
	comp=Z,19nm,1.5s							
COLD	**Coldfoot**	**87.59**	**15**	*e*P		**P**	**07 33 03.4**	**-0.7**
COLD				*e*P		**P**	**07 33 06.0**	**+2.0**
PALK	**Pallekele**	**88.64**	**278**	LR		LR	08 12 35.4	
	comp=Z,172nm,20.5s,baz=295,slow=35							
TIXI	**Tiksi**	**90.18**	**349**	*e*P		**P**	**07 33 15.4**	**-0.6**
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.2s							
TIXI	**Tiksi**	**90.18**	**349**	*e*P		**P**	**07 33 15.5**	**-0.6**
WMQ	**Urumqi**	**92.93**	**315**	P		**P**	**07 33 29.6**	**+0.1**
WMQ				pP	pP		07 33 58.0	+0.3
WMQ				sP	sP		07 34 11.1	+2.0
WMQ				PMZ				
	comp=Z,4.0nm,0.8s							
WMQ				PMZ				
	comp=Z,30nm,4.2s							
SNAA	**Sanae**	**93.36**	**183**	P		**P**	**07 33 29.9**	**-1.1**
SNAA	**Sanae**	**93.36**	**183**	*e*P		**P**	**07 33 30.0**	**-1.1**
SNAA	**Sanae**	**93.36**	**183**	*e*P		**P**	**07 33 29.9**	**-1.1**
VNA1	**Neumayer--Stat**	**94.59**	**181**	P		**P**	**07 33 35.2**	**-1.4**
PDAR	**Pinedale Array**	**95.02**	**47**	LR		LR	08 08 30.2	
	comp=Z,23nm,20.7s,baz=266,slow=30							
TXAR	**Lajitas Array**	**96.29**	**61**	P		**P**	**07 33 45.7**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=173,slow=8.0,SNR=3.2							
TXAR				pP	**pP**		**07 34 14.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=219,slow=4.2,SNR=3.9							
MK01	**Makanchi Array**	**97.39**	**316**	*e*P		**P**	**07 33 49.3**	**-0.5**
MK01				*e*pP	**pP**		**07 34 17.6**	**-0.5**
MK31	**Makanchi Array**	**97.41**	**316**	*e*P		**P**	**07 33 49.8**	**0.0**
MK31				*e**PP	**pP**		**07 34 18.1**	**0.0**
MK31	**Makanchi Array**	**97.41**	**316**	*e*P		**P**	**07 33 49.8**	**0.0**
MK31				*e*pP	**pP**		**07 34 18.1**	**0.0**
MKAR	**Makanchi Array**	**97.41**	**316**	P		Pdif	07 33 50.4	+0.5
	comp=Z,2.9nm,0.7s,baz=89,slow=6.5,SNR=28							
MKAR				pP	pP		07 34 17.2	-0.9
	comp=Z,2.3nm,0.8s,baz=99,slow=5.3,SNR=6.7							
MKAR	**Makanchi Array**	**97.41**	**316**	*ce*P		Pdif	07 33 50.0	+0.1
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**97.41**	**316**	*e*P		**P**	**07 33 49.8**	**0.0**
MKAR				pP	**pP**		**07 34 17.2**	**-0.9**
ZALV	**Zalesovo Beam**	**97.60**	**324**	P		**P**	**07 33 49.5**	**-1.0**
	comp=Z,1.9nm,0.3s,baz=123,slow=5.0,SNR=6.1							
MAKZ	**Makanchi**	**97.62**	**316**	*e*P		Pdif	07 33 51.3	+0.5
MAKZ	**Makanchi**	**97.62**	**316**	*e*P		Pdif	07 33 51.3	+0.5
YKA	**Yellowknife Ar**	**97.68**	**27**	P		**P**	**07 33 49.6**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=257,slow=4.3,SNR=7.4							
YKA				PKiKP	**PKiKP**		**07 38 23.1**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=242,slow=2.0,SNR=3.5							
YKA				PKKPbc	**PKKPbc**		**07 50 24.5**	**-4.4**
	comp=Z,0.3nm,0.6s,baz=69,slow=2.5,SNR=5.3							
NRIK	**Noril'sk**	**100.29**	**339**	P		**Pdif**	**07 34 01.2**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=84,slow=3.3,SNR=3.6							
KSH	**Kashi**	**100.39**	**308**	*e*P		**Pdif**	**07 34 04.8**	**+1.3**
KSH				PP	**PP**		**07 38 14.1**	**+2.7**
KSH				S	**Sdif**		**07 45 27.9**	**-2.8**
KSH				sS	sS		07 46 19.6	-0.3
KSH				SS	**SS**		**07 52 32.9**	**+4.1**
KSH				PMZ				
	comp=Z,2.0nm,0.3s							
KSH				PMZ				
	comp=Z,100nm,3.9s							
KSH				LN				
	comp=Z,66nm,5.3s							
KSH				LE				
	comp=Z,61nm,5.6s							
ARU	**Arti**	**112.70**	**325**	*e*PKiKP	**PKiKP**		**07 38 51.2**	**-0.9**
ARCES	**ARCESS Array B**	**120.46**	**345**	PKP	**PKPdf**		**07 39 05.8**	**-0.8**
	comp=Z,3.4nm,0.5s,baz=83,slow=1.6,SNR=38							
ARCES				pPKP	**pPKPdf**		**07 39 36.5**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=82,slow=1.9,SNR=1.6							
KLMR	**Klimovskoe**	**120.90**	**333**	*e*PKiKP	**PKPdf**		**07 39 02.5**	**-5.2**
KLMR				*e*			07 39 43.8	
KLMR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BOSA	**Boshof**	**123.28**	**220**	PKP	**PKPdf**		**07 39 13.5**	**0.0**
	comp=Z,5.1nm,0.9s,baz=96,slow=4.5,SNR=4.6							
OBN	**Obninsk**	**124.91**	**328**	*e*PKiKP	**PKPdf**		**07 39 13.1**	**-2.4**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
FINES	**FINESS Array B**	**125.94**	**338**	PKP	**PKPdf**		**07 39 16.8**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=70,slow=2.2,SNR=9.6							
FINES	**FINESS Array B**	**125.94**	**338**	*c i*PKiKP	**PKPdf**		**07 39 16.7**	**-0.6**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**130.84**	**345**	PKP	**PKPdf**		**07 39 26.3**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=38,slow=2.1,SNR=3.8							
AKASG	**Malin Array Be**	**130.94**	**326**	PKP	**PKPdf**		**07 39 26.4**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=44,slow=1.8,SNR=3.2							
BRTR	**Keskin Array B**	**132.70**	**311**	PKP	**PKPdf**		**07 39 30.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=54,slow=3.7,SNR=3.7							
BRTR	**Keskin Array B**	**132.70**	**311**	*c i*PKiKP	**PKPdf**		**07 39 33.4**	**+2.3**
CLL	**Collm**	**138.27**	**336**	*e*(PKPdf)	**PKPdf**		**07 39 43.0**	**+2.1**
CLL	**Collm**	**138.27**	**336**	*e*PKiKP	**PKPdf**		**07 39 43.0**	**+2.1**
CONA	**Conrad Observa**	**139.53**	**330**	*e*pPKPdf	pPKPdf		07 40 10.2	-2.6
	comp=Z,6.7nm,0.9s							
GERES	**GERESS Array B**	**139.86**	**333**	PKhKP	PKPpre		07 39 36.7	
	comp=Z,0.5nm,0.2s,baz=78,slow=3.1,SNR=4.8							
GERES				PKP	**PKPdf**		**07 39 45.0**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=62,slow=2.3,SNR=6.4							
SOKA	**Soboth**	**140.81**	**330**	*i* PKPdf	**PKPdf**		**07 39 44.5**	**-1.3**
	comp=Z,2.2nm,0.7s							
WATA	**Walderalm**	**141.93**	**333**	*i* PKPdf	PKPpre		07 39 42.0	
	comp=Z,3.4nm,0.5s							
WTTA	**Wattenberg**	**141.96**	**333**	*i* PKPdf	PKPpre		07 39 44.5	
	comp=Z,2.6nm,0.4s							
MOTA	**Moosalm**	**142.13**	**334**	*i* PKPdf	PKPpre		07 39 43.2	
	comp=Z,4.2nm,0.8s							
FETA	**Feichten**	**142.54**	**333**	*i* PKPdf	PKPpre		07 39 45.0	
	comp=Z,9.5nm,0.8s							
DAVA	**Damuels**	**142.69**	**335**	*i* PKPdf	PKPpre		07 39 45.8	
	comp=Z,8.8nm,0.8s							
TUE	**Stuetta**	**143.56**	**334**	*e*PKPdf	PKPbc		07 39 48.9	+0.4
LOMF	**Lomont**	**143.84**	**337**	PKP	PKPbc		07 39 49.1	0.0
AQU	**L'Aquila**	**144.65**	**326**	*e*PKiKP	PKPbc		07 39 52.0	+0.3
AQU	**L'Aquila**	**144.65**	**326**	*e*PKPdf	PKPbc		07 39 52.0	+0.3
TIP	**Timpagrande**	**144.65**	**319**	*e*PKPdf	PKPbc		07 39 52.1	+0.3
OG01	**Vacheresse**	**144.75**	**337**	PKP	**PKPdf**		**07 39 52.6**	**-0.2**
RSL	**Roselend**	**145.31**	**336**	PKP	**PKPab**		**07 39 54.1**	**+0.1**
SSB	**Saint Sauveur**	**146.44**	**338**	PKP	**PKPbc**		**07 39 57.6**	**+0.5**
SSB	**Saint Sauveur**	**146.44**	**338**	*e*PKP2	**PKPbc**		**07 39 57.1**	**-0.1**
SSB	**Saint Sauveur**	**146.44**	**338**	*e*PKPdf	**PKPbc**		**07 39 57.1**	**-0.1**
MVIF	**Mont Vial**	**146.55**	**334**	PKP	**PKPbc**		**07 39 57.5**	**-0.2**
VSL	**Villasalto**	**148.82**	**326**	*e*PKPdf	**PKPdf**		**07 39 58.5**	**-1.2**
VSL				*e*PKPbc	**PKPbc**		**07 40 02.9**	**-0.8**
KEST	**Kesra**	**151.42**	**320**	PKPbc	**PKPbc**		**07 40 10.3**	**+0.1**
	comp=Z,8.7nm,0.7s,baz=263,slow=1.6,SNR=9.4							
ESDC	**Sonseca Array**	**154.20**	**344**	PKPab	**PKPab**		**07 40 30.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=20,slow=3.4,SNR=6.0							
TORD	**Torodi Ar. Bea**	**165.98**	**265**	PKP	**PKPdf**		**07 40 20.4**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=80,slow=0.7,SNR=7.2							
TORD				PKPab	**PKPab**		**07 41 21.6**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=94,slow=5.6,SNR=7.8							

IDC 15 07:36:00.9±1.9, 26°.67N×143°.87E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/47, mbtmp3.6/4, Error ellipse: s-maj=49.8km s-min=22.0km az=54.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.56**	**286**	Pn		Pg	07 36 31.0	+0.1
	baz=287,slow=19							
JCJ				Sn		Sn	07 36 50.8	-0.1
	baz=270,slow=20							
WRA	**Warramunga Arr**	**47.25**	**192**	P		P	07 44 35.5	-0.4
	0.8nm,0.7s,baz=10,slow=8.5,SNR=5.6							
ASAR	**Alice Springs**	**50.96**	**192**	P		P	07 45 04.5	+0.1
	0.4nm,0.9s,baz=7.0,slow=8.4,SNR=2.8							
MKAR	**Makanchi Array**	**51.90**	**310**	P		P	07 45 11.3	0.0
	0.5nm,0.7s,baz=98,slow=8.5,SNR=5.8							
KURBB	**Kurchatov Arra**	**54.41**	**315**	P		P	07 45 29.2	-0.5
	0.3nm,0.4s,baz=91,slow=8.1,SNR=6.0							

NIED ***15*** *07:38:00,43°.30N×146°.70E,h53km,Mw3.5 Best double couple: M0 2.32000×10^14 NP1:φs65.00000°,δ27.00000°, λ149.00000°. NP2:φs183.00000°,δ76.00000°,λ66.00000°.*
ISCJB ***15*** *07:38:02.4±1.2,43°.34N±0°.07×146°.74E±0°.08, h39km±33km, Error ellipse: s-maj=14.7km s-min=6.8km az=143.6*
JMA ***15*** *07:38:02.3±0.2,43°.29N×146°.73E,h47km±2km,M3.7*
SKHL ***15*** *07:38:02.3±0.3,43°.23N×146°.81E,h55km±4km,mb4.7/2*

ISC 15 07:38:01.8±2.0, 43°.3N±0°.1×146°.73E±0°.09, h20km±12km, n12, σ0s77/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.72**	**272**	P		**Pn**	**07 38 16.2**	**-0.5**
NEM2				*e*S		**Sn**	**07 38 26.8**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**0.94**	**318**	*e*P		**Pb**	**07 38 19.3**	**0.0**
YUK				AMB	AMB		07 38 20.9	
	270nm,0.2s							
YUK				AMB	AMB		07 38 20.9	
	290nm,0.2s							
YUK				AMB	AMB		07 38 20.9	
	145nm,0.2

LPAZ	**La Paz**	**148.54**	**77**	PKPbc	**PKPbc**	**08 00 53.1**	**-0.5**		
	1.5nm,0.8s,baz=276,slow=3.6,SNR=6.4								

JMA 15 07:42:09.0, 36.06N×140.67E, h12km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.39**	**157**	P	Pg	07 42 16.6	-0.1
CHOJ				S	Sg	07 42 22.1	+0.2
JYT	**Yasato**	**0.42**	**294**	P	Pg	07 42 17.4	+0.1
JYT				S	Sg	07 42 23.7	+0.8
JHO	**Hitachi**	**0.56**	**352**	P	Pg	07 42 19.5	-0.4
JHO				S	Sb	07 42 28.0	-0.6
MAT	**Matsushiro**	**2.05**	**284**	P	Pn	07 42 43.0	-0.3
MAT				S	Sn	07 43 10.0	+1.2

*ISCJB **15** 07:43:22.8±0.8, 36.97N±0.07×28.30E±0.09, h12km±12km, Error ellipse: s-maj=15.6km s-min=6.1km az=43.1*
*CSEM **15** 07:43:23.4±0.3, 36.99N×28.27E, h12km, ML2.2, Error ellipse: s-maj=7.1km s-min=5.2km az=12.0*
*ISK **15** 07:43:23.0, 36.98N×28.28E, h10km, ML2.2*
*DDA **15** 07:43:23.0, 36.98N×28.27E, h7km, Md2.6*

ISC 15 07:43:23.0±1.0, 36.96N±0.05×28.27E±0.03, h9km±11km, n13, σ0.58/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.18**	**2**	*e*PG	**Pg**	**07 43 26.6**	**-0.1**
YER				*e*SG	**Sg**	**07 43 29.8**	**+0.4**
YER	**Yerkesik**	**0.18**	**2**	*e*Pg	**Pg**	**07 43 26.6**	**-0.1**
YER				*e*Sg	**Sg**	**07 43 29.8**	**+0.4**
TURN	**Turunc**	**0.28**	**108**	*i* P	**Pg**	**07 43 27.4**	**-1.1**
TURN				*i* S	**Sg**	**07 43 31.0**	**-1.2**
DALY	**Dalyan (Mu¨la**	**0.34**	**115**	*e*PG	**Pg**	**07 43 30.3**	**+0.7**
DALY				*e*SG	**Sb**	**07 43 36.4**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.34**	**115**	*e*Pg	**Pg**	**07 43 30.3**	**+0.7**
DALY				*e*Sg	**Sb**	**07 43 36.4**	**-0.1**
BDRM	**Kayabasi**	**0.67**	**279**	P	**Pg**	**07 43 35.4**	**-0.5**
BDRM				S	**Sb**	**07 43 46.3**	**0.0**
BDRM	**Kayabasi**	**0.67**	**279**	*i* P	**Pg**	**07 43 35.4**	**-0.5**
BDRM				*i* S	**Sb**	**07 43 46.3**	**0.0**
BODT	**Bodrum**	**0.78**	**278**	*e*PG	**Pb**	**07 43 38.9**	**+0.2**
BODT	**Bodrum**	**0.78**	**278**	*e*Pg	**Pb**	**07 43 38.9**	**+0.2**
NIS1	**Nisyros Isl.**	**0.95**	**248**	*e*PG	**Pb**	**07 43 42.1**	**+0.6**
NIS1	**Nisyros Isl.**	**0.95**	**248**	*e*Pg	**Pb**	**07 43 42.1**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**343**	*e*PG	**Pb**	**07 43 43.2**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**343**	*e*Pg	**Pb**	**07 43 43.2**	**+0.1**

*ISCJB **15** 07:49:47.6±1.3, 28.33S±0.03×71.57W±0.08, h18km±9km, mb4.3/2, MS3.2/1, Error ellipse: s-maj=12.2km s-min=5.6km az=175.7*
*NEIC **15** 07:49:49.0, 28.47S×71.25W, h36km, ML4.0(GUC), After GUC.*
NEIC Felt [III] at Freirina and Huasco and [II] at Copiapo and Tierra Amarilla.
*GUC **15** 07:49:49.8±0.7, 28.47S×71.25W, h36km±12km, ML4.0*
*IDC **15** 07:50:03.9±5.2, 27.63S×70.22W, h92km±38km, mb4.0/2, mb1 3.5/5, mb1mx3.3/25, mbtmp3.8/5, MS3.3/4, Ms1 3.3/4, ms1mx3.0/17, Error ellipse: s-maj=54.6km s-min=38.9km az=26.0*

ISC 15 07:49:44.2±1.7, 28.46S±0.03×71.52W±0.07, h1km±10km, n32, σ2.913/40, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.68**	**100**	⇓*i*P	**Pn**	**07 50 01.0**	**0.0**
VACH				*i* S	**Sb**	**07 50 08.7**	**-0.3**
LCO	**Las Campanas**	**0.91**	**127**	⇓*i*P	**Pn**	**07 50 05.3**	**+0.9**
LCO				*i* S	**Sb**	**07 50 16.0**	**+0.3**
LCO				IAML		07 50 16.9	
	comp=N,6μm,0.6s						
LCO	**Las Campanas**	**0.91**	**127**	*e*Pn	**Pn**	**07 50 05.5**	**+1.1**
LCO				*e*Sn	**Sb**	**07 50 15.0**	**-0.6**
CPCH	**Copiapo**	**1.51**	**44**	⇑*i*P	**Pg**	**07 50 14.4**	**+1.3**
CPCH				*e*S	**Sb**	**07 50 32.7**	**0.0**
CDCH	**Caldera**	**1.52**	**24**	*e*P	**Pg**	**07 50 14.8**	**+1.5**
CDCH				*e*S	**Sn**	**07 50 32.7**	**-0.3**
TLL	**Tololo Astrono**	**1.81**	**160**	*e*P	**Pg**	**07 50 20.5**	**+1.5**
TLL				*i* S	**Sg**	**07 50 43.9**	**+1.3**
TLL				IAML		07 50 49.3	
	comp=E,5μm,0.5s						
AGUA	**GUANDACOL**	**2.85**	**112**	*e*P	**Pb**	**07 50 37.2**	**+1.3**
AGUA				*e*S	**Sg**	**07 51 15.2**	**-0.5**
VCA	**Vinchina**	**2.93**	**96**	*e*P	**Pb**	**07 50 38.0**	**+0.7**
VCA				*e*S	**Sg**	**07 51 15.8**	**-2.6**
VCA				IAML		07 51 25.0	
	comp=Z,533nm,0.2s						
AMOG	**MOGNA**	**3.61**	**134**	*e*P	**Pb**	**07 50 47.8**	**-1.1**
AMOG				*e*S	**Sb**	**07 51 33.7**	**+0.4**
RTLS	**Leoncito**	**3.85**	**150**	*e*P	**Pb**	**07 50 51.5**	**-1.6**
RTLS				*e*S	**Sb**	**07 51 40.3**	**0.0**
RTLL	**Cerro Villicun**	**3.90**	**138**	*e*P	**Pb**	**07 50 50.7**	**-3.1**
RTLL				*e*S	**Sb**	**07 51 40.6**	**-0.9**
SJA	**San Juan**	**3.99**	**141**	IAML		07 51 59.6	
	comp=Z,194nm,0.5s						
AVFE	**Valle Fertil**	**4.17**	**123**	*e*P	**Pn**	**07 50 53.6**	**+4.6**
AVFE				*e*S	**Sb**	**07 51 45.5**	**-3.8**
AVFE				IAML		07 51 52.2	
	comp=Z,344nm,0.5s						
ARCO	**CERRO ARCO**	**4.91**	**154**	IAML		07 52 17.3	
	comp=Z,219nm,0.5s						
ACHE	**Chepes**	**5.01**	**124**	*e*P	**Pn**	**07 51 04.7**	**+4.0**
ACHE				*e*S	**Sn**	**07 52 03.0**	**+3.7**
CYA	**Choya**	**5.04**	**91**	*e*P	**Pn**	**07 51 04.4**	**+3.4**
CYA				IAML		07 51 08.1	
	comp=Z,176nm,0.3s						
CYA				*e*S	**Sn**	**07 52 02.4**	**+2.5**
AHML	**Horco Molle**	**5.74**	**75**	*e*P	**Pn**	**07 51 15.1**	**+4.5**
AHML				IAML		07 52 46.2	
	comp=Z,42nm,0.8s						
LVC	**Limon Verde**	**6.28**	**23**	P	**Pn**	**07 51 19.6**	**+1.2**
	comp=Z,25nm,0.3s,baz=154,slow=11,SNR=14						
LVC				S	**Sn**	**07 52 29.4**	**-1.7**
	comp=Z,109nm,0.3s,baz=5.6,slow=19,SNR=3.4						
LVC				LR	LR	07 53 57.0	
	comp=Z,519nm,18.2s,baz=248,slow=45						
LVC	**Limon Verde**	**6.28**	**23**	P	**Pn**	**07 51 19.6**	**+1.2**
LVC				*e*Pn	Pb	07 51 20.4	-14
LVC				S	**Sn**	**07 52 29.4**	**-1.7**
MRA	**San Martin**	**6.38**	**130**	IAML		07 52 45.0	
	comp=Z,176nm,0.6s						
TCA	**Tanti**	**6.66**	**117**	IAML		07 53 03.5	
	comp=Z,61nm,0.7s						
PLCA	**Paso Flores**	**12.27**	**177**	LR	LR	07 58 46.9	
	comp=Z,102nm,21.3s,baz=57,slow=40						
TRQA	**Tornquist**	**12.46**	**143**	Pn	**Pn**	**07 52 42.9**	**+0.2**
LPAZ	**La Paz**	**12.51**	**15**	P	**Pn**	**07 52 44.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=2.9						
LPAZ				LR	LR	07 57 31.3	
	comp=Z,73nm,18.9s,baz=154,slow=39						
CPUP	**Villa Florida**	**12.79**	**84**	P	**Pn**	**07 52 44.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=184,slow=18,SNR=2.0						
BDFB	**Brasilia**	**25.19**	**65**	LR	LR	08 06 07.1	
	comp=Z,73nm,19.2s,baz=250,slow=40						
DBIC	**Dimbokro**	**73.04**	**72**	P	**P**	**08 01 16.9**	**+0.6**
	comp=Z,5.8nm,1.1s,baz=230,slow=5.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**81.92**	**70**	P	**P**	**08 02 07.0**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=254,slow=4.6,SNR=15						
ASAR	**Alice Springs**	**122.68**	**208**	PKP	PKPdf	08 08 52.3	+10
	comp=Z,0.2nm,0.6s,baz=116,slow=2.2,SNR=2.6						
WRA	**Warramunga Arr**	**125.78**	**210**	PKP	PKPdf	08 08 58.1	+10
	comp=Z,0.4nm,0.7s,baz=162,slow=1.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**149.22**	**28**	PKPbc	**PKPab**	**08 09 36.9**	**-1.7**
	comp=Z,1.7nm,0.2s,baz=316,slow=4.0,SNR=5.2						
MKAR	**Makanchi Array**	**152.54**	**41**	PKPbc	**PKPbc**	**08 09 44.6**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=311,slow=1.9,SNR=8.0						

MAN 15 07:54:45, 9.48N×125.89E, h5km, mb4.7, ML3.6, MS3.5, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.37**	**160**	⇓*i*P	Pn	07 55 09.4	-1.3
BIPH				*i* S	Sb	07 55 24.9	-4.0
BUKP	**Musuan**	**1.79**	**207**	*e*P	Pn	07 55 15.7	-0.8
BUKP				*e*S	Sb	07 55 41.4	+0.3
PLP	**Palo**	**1.90**	**332**	⇑*e*P	Pn	07 55 17.9	-0.3
OCLP	**Ormoc**	**2.01**	**321**	*e*P	Pn	07 55 19.9	+0.3
OCLP				*e*S	Sg	07 55 51.7	+2.1
TBP	**Tagbilaran**	**2.01**	**276**	*i* P	Pn	07 55 19.6	0.0
TBP				*i* S	Sn	07 55 45.7	+0.6
LLP	**Lapu-Lapu**	**2.07**	**294**	*e*P	Pn	07 55 21.3	+0.9
LLP				*e*S	Sn	07 55 47.7	+1.1
BESP	**Borongan**	**2.16**	**348**	*e*P	Pn	07 55 23.0	+1.4
BESP				*e*S	Sg	07 55 54.4	+0.1
MATI	**Mati**	**2.54**	**172**	*e*P	Pn	07 55 26.2	-0.8
MATI				*e*S	Sn	07 55 60.0	+1.7
DCPH	**Dipolog City**	**2.66**	**251**	⇑*e*P	Pn	07 55 30.7	+2.2
RCP	**Roxas**	**3.72**	**304**	⇑*e*P	Pn	07 55 45.0	+1.9

WEL 15 07:56:53.5±0.1, 44.30S×168.18E, h5km, ML3.5/13, 3C-2D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.41**	**206**	⇑PG	Pg	07 57 01.6	+0.2
MSZ				SG	Sg	07 57 07.5	+0.7
MSZ				AML	AML	07 57 08.1	
MSZ				AML	AML	07 57 08.7	
MSZ				AML	AML	07 57 09.3	
JCZ	**Jackson Bay**	**0.49**	**63**	⇓PG	Pg	07 57 03.3	+0.3
JCZ				SG	Sg	07 57 10.3	+0.8
JCZ				AML	AML	07 57 12.7	
WKZ	**Wanaka**	**0.80**	**131**	⇑P*	Pg	07 57 08.9	+0.2
WKZ				S*	Sg	07 57 19.5	+0.4
WKZ				AML	AML	07 57 19.9	
WKZ				AML	AML	07 57 19.9	
WKZ				AML	AML	07 57 21.2	
MLZ	**Mavora Lakes**	**1.06**	**182**	⇑P*	Pg	07 57 13.3	-0.6
MLZ				S*	Sb	07 57 28.2	-0.4
MLZ				AML	AML	07 57 32.8	
EAZ	**Earnscleugh**	**1.23**	**139**	P*	Pg	07 57 16.6	-0.5
EAZ				AML	AML	07 57 34.9	
EAZ				AML	AML	07 57 34.9	
EAZ				AML	AML	07 57 36.9	
EAZ				AML	AML	07 57 36.9	
DCZ	**Deep Cove**	**1.37**	**212**	PN	Pn	07 57 18.3	-0.9
DCZ				AML	AML	07 57 37.1	
DCZ				AML	AML	07 57 37.1	
DCZ				AML	AML	07 57 40.6	
DCZ				AML	AML	07 57 42.0	
FOZ	**Fox Glacier**	**1.41**	**58**	PN	Pn	07 57 19.1	-0.7
FOZ				AML	AML	07 57 40.7	
FOZ				AML	AML	07 57 40.7	
FOZ				AML	AML	07 57 40.7	
FOZ				AML	AML	07 57 40.7	
LBZ	**Lake Benmore**	**1.44**	**94**	PN	Pg	07 57 21.0	-0.1
LBZ				AML	AML	07 57 21.4	
LBZ				AML	AML	07 57 44.1	
WHZ	**Wether Hill Ro**	**1.60**	**186**	PN	Pn	07 57 21.9	-0.5
WHZ				AML	AML	07 57 45.8	
WHZ				AML	AML	07 57 46.8	
ODZ	**Otahua Downs**	**1.91**	**114**	⇓PN	Pn	07 57 27.2	+0.6
ODZ				AML	AML	07 57 55.5	
ODZ				AML	AML	07 57 56.2	
ODZ				AML	AML	07 57 56.2	
ODZ				AML	AML	07 57 56.9	
TUZ	**Tuapeka**	**1.95**	**149**	PN	Pn	07 57 27.9	+0.7
TUZ				AML	AML	07 57 55.7	
TUZ				AML	AML	07 57 55.7	
TUZ				AML	AML	07 57 56.2	
TUZ				AML	AML	07 57 56.2	
RPZ	**Rata Peaks**	**2.16**	**75**	PN	Pn	07 57 31.0	+0.9
RPZ				AML	AML	07 58 10.2	
RPZ				AML	AML	07 58 11.5	
WVZ	**Waitaha Valley**	**2.23**	**57**	PN	Pn	07 57 29.8	-1.1
WVZ				AML	AML	07 58 06.7	
WVZ				AML	AML	07 58 07.3	
SYZ	**Scrubby Hill**	**2.33**	**163**	PN	Pn	07 57 33.4	+0.9
APZ	**The Paps**	**2.53**	**183**	PN	Pn	07 57 36.0	+0.7
INZ	**Inchbonnie**	**2.85**	**58**	PN	Pn	07 57 39.0	-0.7
NNZ	**Nelson**	**4.92**	**53**	PN	Pn	07 58 08.3	+0.3

IDC 15 08:12:13.5±1.9, 0.25S×125.18E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/42, mbtmp3.3/3, Error ellipse: s-maj=192.3km s-min=26.9km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.52**	**156**	P	P	08 17 03.8	-0.6
	0.5nm,0.5s,baz=334,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.77**	**161**	P	P	08 17 37.6	+0.4
	0.4nm,0.5s,baz=340,slow=6.9,SNR=8.1						
MKAR	**Makanchi Array**	**59.99**	**327**	P	P	08 22 21.9	-0.1
	0.3nm,0.5s,baz=128,slow=9.5,SNR=4.3						

IDC 15 08:19:38.8±3.4, 53.58N×87.25E, h0km, mb1 3.0/2, mb1mx2.9/41, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=34.2km s-min=17.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**285**	*i*		08 28 40.0	
	baz=103,slow=324,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.49**	**285**	Pg	Pn	08 20 06.0	-0.8
	2.4nm,0.3s,baz=113,slow=13,SNR=12						
ZALV				Lg	Lg	08 20 26.0	
	1.1nm,0.3s,baz=103,slow=25,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.13**	**245**	Pn	Pn	08 21 11.2	+0.6
	0.1nm,0.3s,baz=24,slow=13,SNR=4.5						
MKAR	**Makanchi Array**	**7.50**	**207**	Pn	Pn	08 21 30.6	+1.2

*ISCJB **15** 08:33:43.7±0.8, 9.20N±0.04×73.56W±0.03, h92km±15km, Error ellipse: s-maj=6.8km s-min=5.6km az=11.9*
*FUNV **15** 08:33:46.3, 9.30N×73.57W, h57km, MW2.5*
*RSNC **15** 08:33:46.0±1.0, 9.08N×73.66W, h90km±12km, ML2.1*

ISC 15 08:33:43.3±1.6, 9.21N±0.04×73.57W±0.04, h99km±20km, n17, σ1.853/28, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCAC	**Ocana**	**1.00**	**166**	*e*P	**Pn**	**08 34 04.6**	**+0.8**
OCAC				*e*S	**Sn**	**08 34 18.1**	**-1.2**
OCAC				*i*		08 34 21.8	
	comp=Z,24nm,0.3s						
GRMC	**Gramalote, San**	**1.66**	**153**	*e*P	**Pn**	**08 34 10.8**	**-1.0**
GRMC				*e*S	**Sn**	**08 34 30.8**	**-2.6**
GRMC				*i*		08 34 32.1	
	comp=Z,30nm,0.2s						
CBRI	**Barrientos, No**	**1.67**	**153**	*e*P	**Pn**	**08 34 12.9**	**+1.1**
CBRI				*e*S	**Sn**	**08 34 33.9**	**+0.4**
CBRI				*i*		08 34 39.2	
	comp=Z,23nm,0.5s						
VIRV	**Villa del Rosa**	**1.72**	**42**	*e*P	**Pn**	**08 34 13.3**	**+0.9**
VIRV				*e*S	**Sn**	**08 34 31.6**	**-2.7**
SJCC	**San Jacinto, C**	**1.73**	**293**	*e*P	**Pn**	**08 34 13.8**	**+1.3**
SJCC				*e*S	**Sn**	**08 34 36.5**	**+1.7**
SJCC				*i*		08 34 39.0	
	comp=Z,14nm,0.5s						
CAPV	**Capacho**	**1.82**	**137**	⇓*i*P	**Pn**	**08 34 15.1**	**+1.3**
CAPV				*e*S	**Sn**	**08 34 38.0**	**+0.9**
BRRC	**Barranca, Sant**	**2.10**	**184**	*e*P	**Pn**	**08 34 17.1**	**0.0**
BRRC				*i*		08 34 17.4	
	comp=Z,26nm,0.1s						
BRRC				*e*S	**Sn**	**08 34 42.0**	**-1.0**
MOTC	**Monteria, Cord**	**2.12**	**258**	*e*P	**Pn**	**08 34 17.0**	**-0.4**
MOTC				*i*		08 34 17.4	
	comp=Z,4.5nm,0.1s						
MOTC				*e*S	**Sn**	**08 34 42.5**	**-1.0**
GIRC	**Giron, Santand**	**2.15**	**170**	*e*P	**Pn**	**08 34 18.9**	**+0.9**
VIGV	**El Vigia**	**2.21**	**99**	*e*P	**Pn**	**08 34 20.5**	**+1.9**
VIGV				*e*S	**Sn**	**08 34 45.4**	**-0.1**
BTLC	**Betulia, Santa**	**2.30**	**173**	*e*P	**Pn**	**08 34 20.6**	**+0.6**
BARC	**Barichara**	**2.63**	**172**	*e*P	**Pn**	**08 34 24.2**	**-0.1**
SOCV	**Socops**	**2.83**	**109**	*e*P	**Pn**	**08 34 28.2**	**+1.3**
SOCV				*e*S	**Sn**	**08 34 60.0**	**-0.4**
QARV	**Quebrada Arrib**	**3.16**	**71**	*e*P	**Pn**	**08 34 32.9**	**+1.7**
RUSC	**La Rusia**	**3.33**	**172**	*e*P	**Pn**	**08 34 35.0**	**+1.0**
RUSC				*i*		08 34 48.1	
	comp=Z,4.3nm,0.4s						
CURV	**Curarigua**	**3.64**	**77**	*e*P	**Pn**	**08 34 38.9**	**+1.1**
MONV	**Montecano**	**4.46**	**52**	*e*P	**Pn**	**08 34 49.5**	**+0.7**
MONV				*e*S	**Sn**	**08 35 35.8**	**-3.9**

*SJA **15** 08:44:43.5±0.3, 28.77S×71.70W, h10km, ML4.1, MW4.2*
*IDC **15** 08:44:48.9±1.0, 29.04S×71.41W, h32km±5km, mb3.5/2, mb1 3.7/4, mb1mx3.5/24, mbtmp3.6/4, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/17, Error ellipse: s-maj=46.8km s-min=36.7km az=95.0*
*GUC **15** 08:44:49.3±0.5, 29.01S×71.39W, h58km±13km, ML4.0*
*NEIC **15** 08:44:49.0, 29.01S×71.39W, h58km, MG4.0(GUC), After GUC.*
NEIC Felt [II] at Coquimbo, La Higuera and La Serena.

ISC 15 08:44:48.0±1.0, 29.07S±0.03×71.54W±0.06, h28km±7km, n36, σ2.921/53, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.74**	**86**	*i* S	**Sn**	**08 45 14.4**	**+1.1**
LCO	**Las Campanas**	**0.74**	**86**	⇓*i*P	**Pn**	**08 45 03.3**	**+0.5**
LCO				*i* S	**Sn**	**08 45 13.7**	**+0.5**
LCO				IAML		08 45 15.9	
	comp=E,13μm,0.3s						
LCO	**Las Campanas**	**0.74**	**86**	*e*Pg	**Pb**	**08 45 02.7**	**+0.3**
LCO				*e*Sg	**Sb**	**08 45 12.2**	**0.0**
VACH	**Vallenar**	**0.84**	**55**	⇑*i*P	**Pn**	**08 45 03.8**	**-0.2**
VACH				*i* S	**Sb**	**08 45 14.9**	**0.0**
TLL	**Tololo Astrono**	**1.27**	**150**	⇓*i*P	**Pb**	**08 45 11.8**	**+0.3**
TLL				*i* S	**Sb**	**08 45 28.7**	**+1.2**
TLL				IAML		08 45 34.0	
	comp=E,4μm,0.6s						
CPCH	**Copiapo**	**2.00**	**32**	⇑*i*P	**Pn**	**08 45 19.4**	**-0.5**
CPCH				*i* S	**Sn**	**08 45 42.9**	**-1.1**
AGUA	**GUANDACOL**	**2.70**	**100**	*i* S	**Sb**	**08 46 08.8**	**+0.5**
AMOG	**MOGNA**	**3.24**	**126**	*i* P	**Pb**	**08 45 41.1**	**-3.6**
AMOG				*i* S	**Sb**	**08 46 24.3**	**+0.5**
RTLS	**Leoncito**	**3.34**	**145**	*i* P	**Pb**	**08 45 43.8**	**-2.9**
RTLS				*i* S	**Sb**	**08 46 28.8**	**+1.7**
RTLL	**Cerro Villicun**	**3.48**	**131**	*i* P	**Pb**	**08 45 45.2**	**-3.8**
AUSP	**Uspallata**	**3.65**	**150**	*i* P	**Pb**	**08 45 48.7**	**-3.4**
AUSP				*i* S	**Sb**	**08 46 36.4**	**+0.4**
RTCV	**Cerro Valdivia**	**3.81**	**138**	*i* P	**Pb**	**08 45 49.9**	**-4.6**
AVFE	**Valle Fertil**	**3.89**	**115**	*i* P	**Pn**	**08 45 50.2**	**+4.2**
AVFE				*i* S	**Sb**	**08 46 39.5**	**-3.0**
AVFE				IAML		08 46 54.7	
	comp=Z,233nm,0.4s						
ROCH	**El Roble**	**3.92**	**173**	*e*P	**Pn**	**08 45 47.7**	**+1.1**
ROCH				*i* S	**Sn**	**08 46 33.2**	**+1.4**
ROC1	**El Roble**	**3.92**	**174**	*i* S	**Sb**	**08 46 42.1**	**-1.7**
PEL	**Peldehue**	**4.13**	**170**	*e*P	**Pn**	**08 45 51.2**	**+1.9**
PEL				*i* S	**Sn**	**08 46 38.0**	**+1.3**
ASAL	**Salagasta**	**4.21**	**147**	*i* P	Pn	08 45 55.8	+5.3
ASAL				*i* S	**Sb**	**08 46 49.5**	**-2.5**
ARCO	**CERRO ARCO**	**4.38**	**150**	*i* P	Pn	08 45 58.3	+5.5
ARCO				*i* S	**Sb**	**08 46 53.8**	**-3.0**
ARCO				IAML		08 47 16.5	
	comp=Z,131nm,0.6s						
ANTU	**Antumapu**	**4.56**	**170**	*i* S	**Sn**	**08 46 48.6**	**+1.4**
AAGR	**Agrelo**	**4.63**	**151**	*i* P	Pn	08 46 01.8	+5.5
AAGR				*i* S	**Sb**	**08 47 00.1**	**-3.9**
ACHE	**Chepes**	**4.71**	**118**	*i* P	**Pn**	**08 46 02.0**	**+4.6**
ACHE				*i* S	**Sb**	**08 47 00.7**	**-5.6**
ACAN	**Cantantal**	**4.93**	**132**	*i* P	Pn	08 46 05.3	+5.1
CYA	**Choya**	**5.08**	**84**	*i* P	**Pn**	**08 46 05.0**	**+2.7**
FSA	**Cafayete**	**5.75**	**60**	*i* P	**Pn**	**08 46 12.9**	**+1.3**
AHML	**Horco Molle**	**5.94**	**69**	*i* P	**Pn**	**08 46 15.4**	**+1.2**
AHML				*i* S	**Sn**	**08 47 23.9**	**+2.5**
LVC	**Limon Verde**	**6.85**	**21**	Pn	**Pn**	**08 46 24.7**	**-2.3**
	comp=Z,8.2nm,0.3s,baz=187,slow=8.1,SNR=4.6						
LVC				LR	LR	08 48 49.5	
	comp=Z,372nm,18.4s,baz=250,slow=36						
LVC	**Limon Verde**	**6.85**	**21**	*e*Pn	**Pn**	**08 46 27.9**	**+0.9**
LVC							
TRQA	**Tornquist**	**11.99**	**141**	Pn	**Pn**	**08 47 39.4**	**+2.3**
LPAZ	**La Paz**	**13.10**	**15**	Pn	**P**	**08 47 53.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=178,slow=6.7,SNR=3.4						
TXAR	**Lajitas Array**	**65.68**	**329**	P	**P**	**08 55 30.6**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=153,slow=9.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**82.14**	**70**	P	**P**	**08 57 06.3**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=252,slow=5.3,SNR=7.2						
WRA	**Warramunga Arr**	**125.25**	**210**	PKP	**PKPdf**	**09 03 46.4**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=152,slow=1.7,SNR=13						
KURK	**Kurchatov**	**148.85**	**38**	PKPbc	**PKPbc**	**09 04 32.3**	**-0.3**
KURK				pPKPbc	**pPKPbc**	**09 04 43.1**	**+1.3**
KURBB	**Kurchatov Arra**	**148.85**	**38**	PKPbc	**PKPbc**	**09 04 32.3**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=304,slow=3.3,SNR=7.5						
KURBB				pPKPbc	**pPKPbc**	**09 04 43.1**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=301,slow=3.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**149.76**	**28**	PKPbc	**PKPbc**	**09 04 34.8**	**0.0**
	comp=Z,3.1nm,0.6s,baz=295,slow=3.9,SNR=11						
ZALV				pPKPbc	**pPKPbc**	**09 04 45.1**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=290,slow=4.6,SNR=4.9						
MKAR	**Makanchi Array**	**153.00**	**42**	PKPbc	**PKPbc**	**09 04 43.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=300,slow=1.3,SNR=6.1						
MKAR				pPKPbc	**pPKPbc**	**09 04 52.6**	**+0.9**

CBRI				*i*			09 06 35.2		
	comp=Z,399nm,0.2s								
GRMC	**Gramalote, San**	**0.91**	**13**	*e*P		**Pn**	**09 06 14.8**	**+2.2**
GRMC				*e*S		**Sn**	**09 06 34.6**	**+2.2**
GRMC				*i*			09 06 36.1		
	comp=Z,698nm,0.2s								
RUSC	**La Rusia**	**0.93**	**184**	*e*P		**Pn**	**09 06 12.7**	**-0.5**
RUSC				*i*			09 06 13.7		
	comp=Z,199nm,0.3s								
RUSC				*e*S		**Sn**	**09 06 30.6**	**-2.6**
CAPV	**Capacho**	**1.24**	**34**⇑	*i*P		**Pn**	**09 06 16.8**	**+1.4**
CAPV				*e*S		**Sn**	**09 06 38.0**	**+0.6**
OCAC	**Ocana**	**1.43**	**348**	*e*P		**Pn**	**09 06 17.4**	**+0.2**
OCAC				*e*S		**Sn**	**09 06 40.2**	**-0.3**
OCAC				*i*			09 06 42.9		
	comp=Z,449nm,0.2s								
NORC	**Norcasia**	**2.23**	**236**	*e*P		**Pn**	**09 06 24.6**	**-1.0**
NORC				*e*S		**Sn**	**09 06 52.8**	**-2.7**
NORC				*i*			09 07 00.8		
	comp=Z,44nm,0.2s								
CHIC	**Chingaza**	**2.30**	**198**	*e*P		**Pn**	**09 06 26.5**	**-0.3**
CHIC				*e*S		**Sn**	**09 06 56.4**	**-1.2**
CHIC				*i*			09 07 05.9		
	comp=Z,233nm,0.3s								
ROSC	**El Rosal**	**2.36**	**213**	P		**Pn**	**09 06 28.4**	**+0.9**
	comp=Z,24nm,0.3s,baz=311,slow=7.9,SNR=74								
ROSC				S		**Sn**	**09 06 59.0**	**+0.1**
	comp=Z,27nm,0.3s,baz=131,slow=16,SNR=10.0								
ROSC	**El Rosal**	**2.36**	**213**	*e*P		**Pn**	**09 06 28.3**	**+0.7**
VIGV	**El Vigia**	**2.58**	**39**⇑	*i*P		**Pn**	**09 06 31.2**	**+1.4**
VIGV				*e*S		**Sn**	**09 07 02.0**	**-1.1**
SOCV	**Socops**	**2.58**	**56**	*e*P		**Pn**	**09 06 31.3**	**+1.5**
SOCV				*e*S		**Sn**	**09 07 02.5**	**-0.5**
DBBC	**Dabeiba**	**3.18**	**274**	*e*P		**Pn**	**09 06 36.8**	**-0.4**
TOLC	**Tolima**	**3.20**	**226**	*e*P		**Pn**	**09 06 38.2**	**+0.5**
ELOV	**Elorza**	**3.51**	**87**	*e*P		**Pn**	**09 06 42.8**	**+1.4**
ELOV				*e*S		**Sn**	**09 07 23.1**	**-0.5**
VIRV	**Villa del Rosa**	**3.70**	**9**⇑	*i*P		**Pn**	**09 06 43.6**	**-0.2**
VIRV				*e*S		**Sn**	**09 07 25.5**	**-2.6**
QARV	**Quebrada Arrib**	**4.17**	**36**	*e*P		**Pn**	**09 06 50.7**	**+0.8**
QARV				*e*S		**Sn**	**09 07 36.4**	**-2.5**
SANV	**Sanarito**	**4.35**	**52**	*e*P		**Pn**	**09 06 53.0**	**+0.7**
SANV				*e*S		**Sn**	**09 07 41.1**	**-2.2**
CURV	**Curarigua**	**4.38**	**43**	*e*P		**Pn**	**09 06 53.4**	**+0.8**
DABV	**Dabajuro**	**4.70**	**30**	*e*P		**Pn**	**09 06 57.5**	**+0.8**
DABV				*e*S		**Sn**	**09 07 47.9**	**-3.3**
TEPV	**Terepaima**	**4.90**	**50**	*e*P		**Pn**	**09 07 00.5**	**+1.1**
SIQV	**Siquisique**	**4.95**	**40**	*e*P		**Pn**	**09 06 59.9**	**-0.1**
SIQV				*e*S		**Sn**	**09 07 53.3**	**-3.8**
BAUV	**El Baul**	**5.36**	**67**	*e*P		**Pn**	**09 07 05.2**	**-0.2**
BAUV				*e*S		**Sn**	**09 08 03.2**	**-3.6**
MAPV	**Macapo**	**5.41**	**56**	*e*P		**Pn**	**09 07 06.8**	**+0.7**
MONV	**Montecano**	**5.92**	**30**	*e*P		**Pn**	**09 07 12.5**	**-0.2**
MONV				*e*S		**Sn**	**09 08 14.6**	**-5.4**
TURV	**Turiamo**	**6.26**	**55**	*e*P		**Pn**	**09 07 17.6**	**+0.4**
TURV				*e*S		**Sn**	**09 08 23.4**	**-4.7**
CUPV	**Cœpira**	**7.84**	**65**	*e*P		**Pn**	**09 07 38.0**	**-0.3**
LPAZ	**La Paz**	**23.47**	**168**	P		**P**	**09 10 41.6**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=334,slow=15,SNR=3.6								
TXAR	**Lajitas Array**	**36.53**	**312**	P		**P**	**09 12 38.4**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=124,slow=8.6,SNR=7.3								
SCHQ	**Schefferville**	**48.13**	**5**	P		**P**	**09 14 11.6**	**+1.4**
	comp=Z,1.6nm,0.5s,baz=184,slow=9.6,SNR=4.3								
YKA	**Yellowknife Ar**	**63.29**	**340**	P		**P**	**09 15 58.8**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=132,slow=6.7,SNR=22								
TORD	**Torodi Ar. Bea**	**73.64**	**78**	P		**P**	**09 17 03.1**	**0.0**
	comp=Z,0.4nm,0.8s,baz=284,slow=7.5,SNR=2.4								
ASAR	**Alice Springs**	**149.20**	**234**	PKPbc		**PKPbc**	**09 25 17.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=115,slow=4.1,SNR=4.2								
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc		**PKPbc**	**09 25 20.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=107,slow=2.7,SNR=6.6								

NIED ***15*** *09:07:00, 37˚.30N×142˚.60E, h32km, Mw3.4 Best double couple: M₀1.67000×10¹⁴ NP1:φs163.00000°, δ63.00000°, λ177.00000°. NP2:φs255.00000°, δ87.00000°, λ27.00000°.*

JMA 15 09:07:56.2±0.3, 37˚.26N×142˚.61E, h3km±5km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.39**	**275**	P	Pn	09 08 22.3	-0.2
JFK				*e*S	Sb	09 08 41.0	+0.1
ONAJ	**Iwakimizuishiy**	**1.46**	**264**	P	Pn	09 08 23.2	-0.3
ONAJ				*e*S	Sn	09 08 43.3	+0.2
JIO	**Ouri**	**1.56**	**320**	P	Pn	09 08 24.7	-0.1
JIO				*e*S	Sn	09 08 45.5	+0.1
JMM	**Marumori**	**1.56**	**293**	P	Pn	09 08 25.0	+0.1
JMM				*e*S	Sn	09 08 45.5	-0.2
JFT	**Otama**	**1.83**	**279**	P	Pb	09 08 29.7	-0.6
JFT				*e*S	Sb	09 08 53.4	-0.2
JOU	**Okura**	**1.90**	**306**	P	Pn	09 08 30.1	+0.6
JOU				*e*S	Sb	09 08 55.0	-0.5
JFY	**Yanaizu**	**2.32**	**274**	*e*S	Sb	09 09 06.5	-1.3
JYK	**Kaneyama**	**2.43**	**314**	P	Pn	09 08 38.1	+1.3
JOM	**Ohasama**	**2.44**	**335**	P	Pn	09 08 38.5	+1.6
JRG	**Rokugo**	**2.64**	**325**	P	Pn	09 08 41.1	+1.4
JAG	**Ashikaga**	**2.67**	**253**	P	Pn	09 08 39.8	-0.2

IDC 15 09:15:57.3±3.6, 7˚.01S×148˚.90E, h0km, mb3.0/1, mb1 3.4/2, mb1mx3.2/21, mbtmp3.2/2, ML3.3/1, Error ellipse: s-maj=120.9km s-min=48.3km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.10**	**226**	P	P	09 20 21.0	-0.9
	0.1nm,0.3s,baz=52,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**21.95**	**219**	P	P	09 20 52.9	+0.1
	0.5nm,0.8s,baz=51,slow=8.8,SNR=10						
TORD	**Torodi Ar. Bea**	**147.16**	**283**	PKPbc	PKPbc	09 35 43.3	-0.3
	0.3nm,0.6s,baz=63,slow=3.1,SNR=3.6						

SJA ***15*** *09:26:32.8±0.5, 31˚.77S×69˚.95W, h115km±2km, ML2.5, MW3.8*

ISCJB ***15*** *09:26:33.0±0.8, 31˚.76S±0˚.05×69˚.95W±0˚.06, h122km±8km, Error ellipse: s-maj=11.2km s-min=4.2km az=135.3*

GUC ***15*** *09:26:33.3±0.6, 31˚.70S×70˚.35W, h120km±21km, ML2.7*

ISC 15 09:26:33.8±1.6, 31˚.76S±0˚.06×69˚.96W±0˚.06, h116km±13km, n18, σ0°56/33, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.56**	**94**	*i* P	**Pn**	**09 26 51.9**	**-0.2**
RTLS				*i* S	**Sn**	**09 27 06.1**	**+0.2**
AUSP	**Uspallata**	**0.67**	**134**	*i* P	**Pn**	**09 26 52.8**	**-0.1**
AUSP				*i* S	**Sn**	**09 27 07.5**	**+0.2**
RTCV	**Cerro Valdivia**	**1.21**	**95**	*i* P	**Pn**	**09 26 57.5**	**-0.3**
RTCV				*i* S	**Sn**	**09 27 15.9**	**+0.1**
ASAL	**Salagasta**	**1.26**	**131**	*i* P	**Pn**	**09 26 58.2**	**-0.1**
ASAL				*i* S	**Sn**	**09 27 16.9**	**0.0**
RTLL	**Cerro Villicun**	**1.34**	**72**	*i* P	**Pn**	**09 26 59.2**	**0.0**
RTLL				*i* S	**Sn**	**09 27 18.4**	**0.0**
ARCO	**CERRO ARCO**	**1.38**	**141**	*i* P	**Pn**	**09 26 59.7**	**-0.1**
ARCO				*i* S	**Sn**	**09 27 19.3**	**-0.3**
ARCO				IAML		09 27 24.6	
	comp=Z,55nm,0.2s						
AMOG	**MOGNA**	**1.50**	**57**	*i* P	**Pn**	**09 27 00.9**	**-0.1**
AMOG				*i* S	**Sn**	**09 27 21.6**	**-0.1**
ROCH	**El Roble**	**1.50**	**216**⇑	*i*P	**Pn**	**09 27 01.0**	**-0.2**
ROCH				*i* S	**Sn**	**09 27 21.4**	**-0.7**
ROCH				AML	AML	09 27 23.6	
	comp=N,231nm,0.3s						
ROC1	**El Roble**	**1.51**	**216**	*i* P	**Pn**	**09 27 01.1**	**-0.2**
ROC1				*i* S	**Sn**	**09 27 22.4**	**+0.2**
PEL	**Peldehue**	**1.51**	**204**⇑	*i*P	**Pn**	**09 27 00.9**	**-0.2**
PEL				*i* S	**Sn**	**09 27 22.4**	**+0.4**
PEL				AML	AML	09 27 23.6	
	comp=E,80nm,0.4s						
FCH	**Farellones**	**1.59**	**190**⇑	*i*P	**Pn**	**09 27 02.9**	**+0.5**
FCH				*i* S	**Sn**	**09 27 26.2**	**+2.1**
CLCH	**Cerro Calan**	**1.70**	**197**	*i* S	**Sn**	**09 27 26.8**	**+0.7**
RCDM	**Rinconada Maip**	**1.87**	**202**⇑	*i*P	**Pn**	**09 27 05.3**	**-0.1**
RCDM				*i* S	**Sn**	**09 27 29.6**	**0.0**
ANTU	**Antumapu**	**1.89**	**197**	*e*S	**Sn**	**09 27 28.6**	**-1.6**
AVFE	**Valle Fertil**	**2.41**	**64**	*i* P	**Pn**	**09 27 12.5**	**+0.2**
AVFE				*i* S	**Sn**	**09 27 41.8**	**-0.1**
AVFE				IAML		09 27 44.5	
	comp=Z,14nm,0.3s						
AGUA	**GUANDACOL**	**2.59**	**29**	*i* P	**Pn**	**09 27 15.1**	**+0.3**
AGUA				*i* S	**Sn**	**09 27 46.1**	**-0.2**
ACHE	**Chepes**	**2.88**	**79**	*i* P	**Pn**	**09 27 18.6**	**+0.1**
ACHE				*i* S	**Sn**	**09 27 53.0**	**+0.1**
MRA	**San Martin**	**3.66**	**101**	*i* P	**Pn**	**09 27 28.5**	**-0.3**
MRA				IAML		09 28 40.2	
	comp=Z,6.8nm,0.5s						

IDC 15 09:29:18.6±999.0, 26˚.07N×17˚.40E, h0km, Error ellipse: s-maj=442.5km s-min=125.5km az=130.0, Libya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I48TN	**KESRA INFRASON**	**11.91**	**326**	*i*		10 36 00.0	
	baz=136,slow=323,SNR=2.6						
I26DE	**FREYUNG INFRAS**	**22.92**	**354**	*i*		11 50 50.0	
	baz=175,slow=322,SNR=0.6						
I42PT	**GRACIOSA ISLAN**	**40.00**	**300**	*i*		13 36 10.0	
	baz=95,slow=319,SNR=0.3						

WEL 15 09:37:50.4±0.3, 43˚.69S×172˚.89E, h5km, ML3.1/5, 1D, Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.17**	**264**	⇓PG	Pg	09 37 54.1	+0.3
MQZ				SG	Sg	09 37 56.2	+0.2
MQZ				AML	AML	09 37 56.4	
OXZ	**Oxford**	**0.72**	**300**	P*	Pg	09 38 04.2	+0.1
OXZ				S*	Sg	09 38 13.9	+0.5
LTZ	**Lake Taylor**	**1.01**	**333**	P*	Pg	09 38 09.8	0.0
LTZ				S*	Sb	09 38 23.5	-0.5
LTZ				AML	AML	09 38 24.5	
RPZ	**Rata Peaks**	**1.33**	**268**	P*	Pn	09 38 14.7	-0.9
RPZ				AML	AML	09 40 08.2	
KHZ	**Kahutara**	**1.36**	**21**	PN	Pn	09 38 15.0	-0.9
INZ	**Inchbonnie**	**1.43**	**312**	PN	Pn	09 38 16.8	-0.2
WVZ	**Waitaha Valley**	**1.69**	**291**	PN	Pn	09 38 20.8	+0.4
THZ	**Tophouse**	**1.92**	**0**	PN	Pn	09 38 22.7	-1.1
LBZ	**Lake Benmore**	**2.07**	**249**	PN	Pn	09 38 25.4	-0.4
LBZ				AML	AML	09 39 08.6	
DSZ	**Denniston Nort**	**2.10**	**337**	PN	Pn	09 38 26.3	+0.1
ODZ	**Otahua Downs**	**2.11**	**229**	PN	Pn	09 38 25.3	-0.9
EAZ	**Earnscleugh**	**2.99**	**238**	PN	Pn	09 38 38.0	-0.5

ISCJB ***15*** *09:44:19.0±1.2, 31˚.15N±0˚.10×115˚.87W±0˚.06, h19km±10km, Error ellipse: s-maj=17.2km s-min=5.2km az=22.4*

ECX ***15*** *09:44:19.8±0.5, 31˚.17N×115˚.85W, h5km, MD2.0, ML2.1*

MEX ***15*** *09:44:20.9±0.5, 31˚.11N×115˚.82W, h6km±699km, MD3.7*

ISC 15 09:44:18.5±1.9, 31˚.1N±0˚.1×115˚.87W±0˚.06, h22km±7km, n9, σ0°40/18, 2C, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.35**	**104**	*e*P	**Pb**	**09 44 26.7**	**+0.4**
SPIG				*e*S	**Sb**	**09 44 31.2**	**-0.5**
SPIG	**San Pedro Mart**	**0.35**	**104**	*e*P	**Pb**	**09 44 26.4**	**0.0**
SPIG				*e*S	**Sb**	**09 44 31.5**	**-0.2**
ZAX	**El Zacaton**	**0.51**	**318**	*e*P	**Pb**	**09 44 28.5**	**-0.4**
ZAX				*e*S	**Sb**	**09 44 35.5**	**-0.5**
ZAX				⇑*e*		09 44 39.0	
ZAX				IAML		09 44 39.0	
	comp=E,158nm,0.7s						
ECBX	**El Chinero**	**0.78**	**64**	*e*P	**Pn**	**09 44 33.8**	**-0.3**
ECBX				*e*S	**Sb**	**09 44 43.9**	**+0.5**
ECBX				⇑*e*		09 44 46.7	
ECBX				IAML		09 44 46.7	
	comp=E,45nm,0.3s						
ECNX	**Esteban Cantu**	**0.81**	**310**	*e*P	**Pb**	**09 44 34.0**	**0.0**
ECNX				*e*S	**Sb**	**09 44 45.0**	**+0.4**
PBX	**Punta Banda**	**0.95**	**310**	*e*P	**Pn**	**09 44 36.7**	**+0.2**
PBX				*e*S	**Sb**	**09 44 49.0**	**+0.5**
CBX	**Cerro Bola**	**1.36**	**330**	*e*P	**Pb**	**09 44 33.3**	**0.0**
CBX				*e*S	**Sn**	**09 44 59.3**	**-0.3**
CBX	**Cerro Bola**	**1.36**	**330**	*e*P	**Pb**	**09 44 33.0**	**-0.2**
CBX				*e*S	**Sb**	**09 45 00.8**	**+0.6**
CBX				IAML		09 45 02.5	
	comp=N,50nm,0.3s						
TJIG	**Tijuana**	**1.47**	**332**	*e*P	**Pb**	**09 44 44.8**	**-0.2**
TJIG				*e*S	**Sn**	**09 45 02.6**	**+0.4**

SJA 15 09:46:07.7±0.3, 31˚.62S×69˚.01W, h108km±1km, ML1.4, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.30**	**234**	*i* P	Pn	09 46 24.6	+1.0
RTLS				*i* S	Sn	09 46 37.3	+1.7
RTCV	**Cerro Valdivia**	**0.47**	**121**	*i* P	Pn	09 46 24.9	+0.7
RTCV				*i* S	Sn	09 46 37.5	+0.9
RTLL	**Cerro Villicun**	**0.54**	**58**	*i* P	Pn	09 46 25.5	+0.8
RTLL				*i* S	Sn	09 46 38.5	+1.1
AUSP	**Uspallata**	**0.68**	**208**	*i* P	Pn	09 46 27.2	+1.1
AMOG	**MOGNA**	**0.81**	**33**	*i* P	Pn	09 46 27.6	+0.9
AMOG				*i* S	Sn	09 46 42.4	+0.9
ASAL	**Salagasta**	**0.98**	**171**	*i* P	Pn	09 46 29.6	+0.9
ASAL				*i* S	Sn	09 46 45.5	+1.0
AVFE	**Valle Fertil**	**1.64**	**55**	*i* P	Pn	09 46 37.2	+1.0
AVFE				IAML		09 47 01.4	
	comp=Z,3.3nm,0.2s						
ACHE	**Chepes**	**2.06**	**78**	*i* P	Pn	09 46 42.9	+1.4
ACHE				*i* S	Sn	09 47 08.7	+1.5

NNC 15 09:50:17.9±0.9, 51˚.66N×75˚.28E, h0km, mb3.5, mpv3.2, 10C-5D, Error ellipse: s-maj=16.8km s-min=6.2km az=22.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.30**	**116**	⇑Pg	Pb	09 51 00.3	0.0
	4.4nm,0.4s						
KURBB				⇑Lg	Lg	09 51 33.2	
	69nm,0.7s						
KURK	**Kurchatov**	**2.31**	**113**	⇑Pg	Pb	09 50 59.4	-0.9
	28nm,0.4s						
KURK				⇓Lg	Lg	09 51 30.4	
	70nm,0.6s						
VOSK	**Vostochnaya**	**2.85**	**294**	⇓Pg	Pb	09 51 11.1	+1.4
	4.3nm,0.5s						
VOSK				⇑Lg	Lg	09 51 49.0	
	13nm,0.7s						
BVA0	**Borovoye Array**	**3.29**	**296**	⇑Pg	Pb	09 51 16.9	-0.3
	11nm,1.4s,baz=223,slow=41,SNR=7.7						
BVA0				⇑Lg	Lg	09 52 02.2	
	10nm,0.8s,baz=102,slow=26,SNR=5.8						
OTUK	**Ortayu**	**3.91**	**210**	⇑Pn	Pn	09 51 16.6	-2.7
	3.4nm,1.1s						
OTUK				⇑Pg	Pg	09 51 31.2	-1.7
	2.7nm,0.7s						
OTUK				⇓Lg	Lg	09 52 25.0	
	12nm,0.7s						
ZRNK	**Zerenda**	**4.06**	**291**	⇓Pn	Pn	09 51 22.3	+1.0
ZRNK				⇓Lg	Lg	09 52 26.0	
MAKZ	**Makanchi**	**6.54**	**135**	⇑Lg	Lg	09 53 46.4	
	9.6nm,1.2s						
MK31	**Makanchi Array**	**6.69**	**134**	⇑Lg	Lg	09 53 49.9	
	7.1nm,0.8s,baz=327,slow=27,SNR=5.7						

ISCJB ***15*** *09:50:41.9±0.4, 33˚.63N±0˚.02×35˚.95E±0˚.03, h5km±4km, Error ellipse: s-maj=5.0km s-min=3.2km az=153.6*

CSEM ***15*** *09:50:41.5, 33˚.59N×35˚.96E, h15km, ML3.0*

GRAL ***15*** *09:50:41.5±0.3, 33˚.59N×35˚.96E, h16km±4km, MD3.0*

NSSC ***15*** *09:50:42.5±1.5, 33˚.61N×35˚.98E, h6km±5km, ML2.3*

ISC 15 09:50:41.5±0.9, 33˚.62N±0˚.02×35˚.97E±0˚.03, h12km±8km, n19, σ0°59/35, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCY	**Rachaya**	**0.16**	**222**	*e*P	**Pg**	**09 50 45.2**	**-0.2**
RCY				*e*S	**Sg**	**09 50 47.9**	**-0.1**
BRBR	**Barbar**	**0.21**	**184**	*e*P	**Pg**	**09 50 46.0**	**-0.1**
BRBR				*e*S	**Sg**	**09 50 49.9**	**+0.7**
BRBR				AML	AML	09 50 56.0	
	comp=N,902nm,0.5s						
BRBR				AML	AML	09 50 56.9	
	comp=E,2μm,0.5s						
QASN	**Qassioun**	**0.27**	**108**	*e*P	**Pg**	**09 50 47.3**	**+0.1**
QASN				*e*S	**Sb**	**09 50 52.2**	**-0.9**
QASN				AML	AML	09 51 00.1	
	comp=E,2μm,0.4s						
QASN				AML	AML	09 51 01.5	
	comp=N,2μm,0.5s						
DQRL	**Deir Qamar**	**0.34**	**285**	*e*P	**Pg**	**09 50 48.1**	**-0.4**
DQRL				*e*S	**Sg**	**09 50 53.0**	**-0.1**
DQRL	**Deir Qamar**	**0.34**	**285**	*e*P	**Pg**	**09 50 48.1**	**-0.4**
DQRL				*e*S	**Sg**	**09 50 53.0**	**-0.1**
BHL	**Bhannes**	**0.39**	**318**	*e*P	**Pg**	**09 50 49.0**	**-0.3**
BHL				*e*S	**Sg**	**09 50 54.6**	**+0.1**
BHL	**Bhannes**	**0.39**	**318**	*e*P	**Pg**	**09 50 49.0**	**-0.3**
BHL				*e*S	**Sg**	**09 50 54.6**	**+0.1**
TOTH	**TOTAH**	**0.46**	**123**	*e*P	**Pb**	**09 50 51.5**	**-0.2**
TOTH				*e*S	**Sb**	**09 50 58.5**	**-0.1**
TOTH				AML	AML	09 51 00.1	
	comp=N,265nm,0.3s						
TOTH				AML	AML	09 51 04.0	
	comp=E,193nm,0.5s						
HWQ	**Hawqa**	**0.66**	**359**	*e*P	**Pg**	**09 50 53.7**	**-0.7**
HWQ	**Hawqa**	**0.66**	**359**	*e*P	**Pg**	**09 50 53.7**	**-0.7**
FKH	**Fakeheh**	**0.73**	**30**	*e*P	**Pg**	**09 50 54.9**	**-0.8**
TCHB	**Talchebab**	**0.94**	**180**	*e*P	**Pn**	**09 51 00.8**	**+0.1**
TCHB				*e*S	**Sn**	**09 51 13.0**	**-0.3**
TCHB				AML	AML	09 51 23.2	
	comp=E,166nm,0.5s						
TCHB				AML	AML	09 51 26.2	
	comp=N,94nm,0.3s						
HAWK	**Haweek**	**0.97**	**22**	*e*P	**Pn**	**09 51 01.3**	**+0.1**
HAWK				*e*S	**Sn**	**09 51 14.3**	**-0.7**
HAWK				AML	AML	09 51 20.5	
	comp=N,38nm,0.3s						
HAWK				AML	AML	09 51 23.7	
	comp=E,55nm,0.4s						
SALA	**Sala**	**1.11**	**144**	*e*P	**Pn**	**09 51 03.3**	**+0.2**
SALA				*e*S	**Sg**	**09 51 17.3**	**0.0**
SALA				AML	AML	09 51 22.9	
	comp=N,106nm,0.3s						
SALA				AML	AML	09 51 24.5	
	comp=E,18nm,0.4s						
ZALF	**Zalf**	**1.34**	**121**	*e*P	**Pb**	**09 51 07.0**	**+0.3**
ZALF				*e*S	**Sg**	**09 51 24.5**	**-0.2**
ZALF				AML	AML	09 51 27.9	
	comp=N,120nm,0.4s						
ZALF				AML	AML	09 51 28.1	
	comp=E,41nm,0.3s						
BIDA	**Albida**	**1.42**	**12**	*e*P	**Pb**	**09 51 08.1**	**0.0**
BIDA				*e*S	**Sg**	**09 51 28.4**	**+0.9**
BIDA				AML	AML	09 51 32.0	
	comp=E,132nm,0.4s						
BIDA				AML	AML	09 51 33.7	
	comp=N,149nm,0.4s						
WRDH	**Warideh**	**1.92**	**11**	*e*P	**Pb**	**09 51 16.6**	**0.0**
WRDH				*e*S	**Sb**	**09 51 40.5**	**-0.2**
WRDH				AML	AML	09 51 50.0	
	comp=E,47nm,0.4s						
WRDH				AML	AML	09 51 52.6	
	comp=N,26nm,0.3s						
ARNB	**Al Arnab**	**2.24**	**0**	*e*P	**Pn**	**09 51 20.1**	**+1.5**
ARNB				*e*S	**Sn**	**09 51 47.1**	**+0.9**
ARNB				AML	AML	09 51 55.5	
	comp=E,33nm,0.4s						
ARNB				AML	AML	09 52 09.6	
	comp=N,15nm,0.5s						
BTCH	**Batrach**	**2.45**	**9**	*e*P	**Pb**	**09 51 24.6**	**-1.0**
BTCH				*e*S	**Sn**	**09 51 52.6**	**+1.2**
BTCH				AML	AML	09 52 08.7	
	comp=E,43nm,0.8s						
BTCH				AML	AML	09 52 16.6	
	comp=N,30nm,0.6s						

NIED ***15*** *09:50:00, 37˚.80N×143˚.60E, h8km, Mw4.3 Best double couple: M₀2.84000×10¹⁵ NP1:φs333.00000°, δ30.00000°, λ-161.00000°. NP2:φs227.00000°, δ81.00000°, λ-62.00000°.*

IDC ***15*** *09:50:43.1±0.7, 37˚.65N×143˚.77E, h0km, mb4.1/16, mb1 4.2/21, mb1mx4.0/65, mbtmp4.1/21, ML3.7/4, MS3.4/20, Ms1 3.4/20, ms1mx3.2/45, Error ellipse: s-maj=17.6km s-min=14.9km az=125.0*

NEIC ***15*** *09:50:44.9±0.4, 37˚.69N×143˚.79E, h10km, mb4.5/5, Error ellipse: s-maj=8.0km s-min=5.6km az=140.0*

JMA ***15*** *09:50:45.6±0.2, 37˚.77N×143˚.57E, h37km, M4.1*

ISCJB ***15*** *09:50:46.6±0.4, 37˚.80N±0˚.04×143˚.59E±0˚.05, h33km, mb4.3/31, MS3.5/16, Error ellipse: s-maj=6.3km s-min=4.4km az=135.0*

MOS ***15*** *09:50:46.8±1.6, 37˚.81N×143˚.65E, h33km, mb4.6/14, Error ellipse: s-maj=9.5km s-min=6.7km az=109.1*

ISC 15 09:50:48.3±0.6, 37˚.72N±0˚.06×143˚.70E±0˚.06, h35km, n97, σ2°26/89, mb4.3/31, MS3.5/16, 6C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.99**	**292**	P	**Pn**	**09 51 16.6**	**-2.8**
OFUJ	**Ofunato**	**2.09**	**311**	P	**Pn**	**09 51 18.1**	**-2.8**
JMK	**Ichinoseki**	**2.30**	**303**	P	**Pn**	**09 51 21.1**	**-2.6**
JOM	**Ohasama**	**2.57**	**314**	P	**Pn**	**09 51 25.0**	**-2.4**
JFT	**Otama**	**2.67**	**267**	P	**Pn**	**09 51 27.4**	**-1.5**
JFT				*e*S	**Sn**	**09 51 56.9**	**-3.1**
JYK	**Kaneyama**	**2.88**	**296**	P	**Pn**	**09 51 29.7**	**-2.0**
JYK				S	**Sn**	**09 52 02.4**	**-2.8**
JANG	**Nango**	**3.15**	**328**	P

	comp=Z,0.3nm,0.3s,baz=89,slow=13,SNR=13							
KSRS				LR	LR	09 58 21.0		
	comp=Z,104nm,19.1s,baz=101,slow=36							
KSAR	**Wonju Array Be**	**12.55**	**274**	P	**Pn**	**09 53 44.9**	**+0.6**	
KSAR	**Wonju Array Be**	**12.55**	**274**	Pn	**Pn**	**09 53 44.9**	**+0.6**	
MDJ	**Mudanjiang**	**12.65**	**307**	*e*Pn	**Pn**	**09 53 45.2**	**-0.5**	
KLR	**Kul'dur**	**14.38**	**327**	Pn	**Pn**	**09 54 05.8**	**-3.5**	
	comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=12							
KLR				LR	LR	09 59 47.8		
	comp=Z,178nm,19.3s,baz=142,slow=38							
PETK	**Petropavlovsk-comp=Z,44nm,18.0s,baz=226,slow=44**	**18.21**	**28**	LR	LR	10 04 04.0		
HIA	**Hailar**	**20.77**	**311**	⇓*e*P	**P**	**09 55 27.1**	**+1.1**	
HIA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BJT	**Baijiatuau**	**21.52**	**285**	*e*P	P	09 55 26.2	-8.0	
BJT				pmax	pmax			
	comp=Z,11nm,0.4s							
BJT	**Baijiatuau**	**21.52**	**285**	*e*P	P	09 55 26.2	-8.0	
	comp=Z,11nm,0.4s							
MA2	**Magadan**	**22.34**	**9**	LR	LR	10 05 23.1		
	comp=Z,33nm,19.2s,baz=162,slow=39							
GUMO	**Guam**	**24.05**	**177**	LR	LR	10 03 29.3		
	comp=Z,47nm,21.6s,baz=40,slow=32							
SEY	**Seymchan**	**25.80**	**9**	P	**P**	**09 56 16.7**	**+1.0**	
	comp=Z,4.1nm,0.8s,baz=163,slow=6.3,SNR=6.2							
H11N2	**WAKE ISLAND Hy**	**27.00**	**125**	T	T	10 24 45.2		
	baz=317,slow=74,SNR=29							
H11N1	**WAKE ISLAND Hy**	**27.00**	**125**	T	T	10 24 46.6		
	baz=317,slow=74,SNR=26							
H11N3	**WAKE ISLAND Hy**	**27.01**	**125**	T	T	10 24 49.2		
	baz=317,slow=74,SNR=24							
H11S1	**WAKE ISLAND Hy**	**27.77**	**127**	T	T	10 25 43.2		
	baz=319,slow=76,SNR=8.7							
H11S3	**WAKE ISLAND Hy**	**27.77**	**127**	T	T	10 25 44.9		
	baz=319,slow=76,SNR=8.0							
H11S2	**WAKE ISLAND Hy**	**27.78**	**127**	T	T	10 25 46.0		
	baz=319,slow=76,SNR=8.3							
ULN	**Ulaanbaatar**	**28.50**	**303**	⇑*e*P	**P**	**09 56 42.7**	**+2.4**	
ULN				pmax	pmax			
	comp=Z,8.0nm,1.0s							
ULN	**Ulaanbaatar**	**28.50**	**303**	*e*P	**P**	**09 56 42.5**	**+2.2**	
	comp=Z,5.6nm,0.8s							
SONM	**Songino Array**	**28.93**	**302**	P	**P**	**09 56 44.6**	**+0.5**	
	comp=Z,2.4nm,0.7s,baz=93,slow=9.8,SNR=9.1							
SONM				LR	LR	10 09 00.6		
	comp=Z,63nm,18.4s,baz=96,slow=38							
ENH	**Enshi**	**29.20**	**266**	*e*P	**P**	**09 56 47.9**	**+1.3**	
	comp=Z,14nm,0.8s							
TLY	**Talaya**	**31.28**	**309**	P	**P**	**09 57 05.9**	**+1.2**	
	comp=Z,2.3nm,0.6s,baz=18,slow=2.3,SNR=5.3							
TLY	**Talaya**	**31.28**	**309**	*e*P	**P**	**09 57 07.9**	**+3.2**	
TLY				pmax	pmax			
	comp=Z,5.0nm,0.6s							
TLY				MLR	MLR			
	comp=Z,66nm,15.0s							
ZAK	**Zakamensk**	**31.29**	**307**	*e*P	**P**	**09 57 04.5**	**-0.5**	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BILL	**Bilibino**	**32.87**	**15**	*e*P	**P**	**09 57 19.5**	**+1.0**	
BILL				pmax	pmax			
	comp=Z,4.0nm,1.2s							
ZALV	**Zalesovo Beam**	**42.80**	**312**	P	**P**	**09 58 42.8**	**+0.4**	
	comp=Z,2.8nm,0.6s,baz=105,slow=9.1,SNR=3.0							
ZALV				PcP	**PcP**	**10 00 33.6**	**+0.4**	
	comp=Z,0.8nm,0.3s,baz=90,slow=3.0,SNR=2.4							
ZALV				LR	LR	10 17 25.3		
	comp=Z,59nm,19.2s,baz=72,slow=37							
NRIK	**Noril'sk**	**43.42**	**335**	LR	LR	10 18 00.0		
	comp=Z,120nm,19.8s,baz=120,slow=38							
CMAR	**Chiang Mai Arr**	**43.43**	**256**	LR	LR	10 19 44.0		
	comp=Z,51nm,18.2s,baz=70,slow=40							
MKAR	**Makanchi Array**	**45.30**	**302**	P	**P**	**09 59 03.2**	**+0.7**	
	comp=Z,2.5nm,0.7s,baz=86,slow=8.9,SNR=10.0							
MKAR				LR	LR	10 19 05.3		
	comp=Z,30nm,18.1s,baz=87,slow=38							
KDAK	**Kodiak Island**	**45.37**	**42**	*i* P	**P**	**09 59 06.0**	**+3.1**	
KURK	**Kurchatov**	**46.94**	**308**	P	**P**	**09 59 16.2**	**+0.8**	
KURK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KURK	**Kurchatov**	**46.94**	**308**	P	**P**	**09 59 16.1**	**+0.8**	
	comp=Z,5.0nm,0.6s							
KURBB	**Kurchatov Arra**	**47.02**	**308**	P	**P**	**09 59 16.1**	**+0.2**	
	comp=Z,1.8nm,0.3s,baz=82,slow=8.1,SNR=17							
COLA	**College**	**47.53**	**33**	⇓*e*P	**P**	**09 59 22.8**	**+3.1**	
COLA				pmax	pmax			
	comp=Z,5.0nm,1.4s							
ILAR	**Eielson Array**	**47.94**	**33**	P	**P**	**09 59 23.5**	**+0.5**	
	comp=Z,1.1nm,0.7s,baz=269,slow=6.9,SNR=14							
TKM2	**Tokmak 2**	**50.90**	**299**	*e*P	**P**	**09 59 47.3**	**+1.2**	
TKM2				pmax	pmax			
	comp=Z,4.0nm,0.6s							
TKM2	**Tokmak 2**	**50.90**	**299**	*e*P	**P**	**09 59 47.2**	**+1.2**	
	comp=Z,3.6nm,0.6s							
BRVK	**Borovoye**	**51.51**	**312**	⇑*e*P	**P**	**09 59 51.1**	**+0.8**	
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AAK	**Ala-Archa**	**51.76**	**299**	LR	LR	10 22 25.2		
	comp=Z,39nm,19.3s,baz=350,slow=37							
AAK	**Ala-Archa**	**51.76**	**299**	⇑*e*P	**P**	**09 59 54.8**	**+2.3**	
AAK				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ARU	**Arti**	**57.05**	**319**	LR	LR	10 27 41.5		
	comp=Z,61nm,18.1s,baz=54,slow=39							
ARU	**Arti**	**57.05**	**319**	*d* P	**P**	**10 00 31.2**	**+0.7**	
ARU						10 02 33.9		
ARU				S	**S**	**10 08 25.5**	**+3.0**	
ARU				SS	**SS**	**10 12 10.1**	**-0.7**	
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
WRAB	**Tennant Creek**	**58.02**	**190**	⇑*e*P	**P**	**10 00 37.6**	**0.0**	
WRAB				pmax	pmax			
	comp=Z,35nm,1.7s							
WRA	**Warramunga Arr**	**58.02**	**190**	P	**P**	**10 00 37.3**	**-0.4**	
	comp=Z,4.3nm,0.8s,baz=7.9,slow=7.3,SNR=23							
ABKAR	**Akbulak array**	**58.88**	**310**	*e*P	**P**	**10 00 43.6**	**+0.1**	
	comp=Z,1.4nm,0.7s							
AKTO	**Aktyubinsk**	**59.56**	**312**	LR	LR	10 27 53.0		
	comp=Z,266nm,19.0s,slow=37							
ASAR	**Alice Springs**	**61.75**	**190**	P	**P**	**10 01 03.0**	**-0.2**	
	comp=Z,0.8nm,0.8s,baz=8.3,slow=6.7,SNR=6.2							
YKA	**Yellowknife Ar**	**62.30**	**31**	P	**P**	**10 01 07.0**	**+0.5**	
	comp=Z,0.5nm,0.7s,baz=301,slow=6.7,SNR=6.2							
YKA	**Yellowknife Ar**	**62.30**	**31**	P	**P**	**10 01 07.0**	**+0.5**	
YKA	**Yellowknife Ar**	**62.30**	**31**	P	**P**	**10 01 07.0**	**+0.5**	
ARCES	**ARCESS Array B**	**63.99**	**340**	P	**P**	**10 01 18.3**	**+0.7**	
	comp=Z,2.2nm,0.9s,baz=64,slow=8.2,SNR=3.8							
ARCES				LR	LR	10 33 46.7		
	comp=Z,25nm,18.5s,baz=54,slow=40							
KLMR	**Klimovskoe**	**64.14**	**328**	*e*P	**P**	**10 01 17.3**	**-1.4**	
KLMR				*e*		10 01 51.8		
KLMR				*e*		10 03 37.3		
KLMR				pmax	pmax			
	comp=Z,7.0nm,1.2s							
GEYT	**Alibeck**	**65.08**	**300**	P	**P**	**10 01 25.9**	**+0.5**	
	comp=Z,1.6nm,0.5s,baz=49,slow=6.8,SNR=3.7							
FINES	**FINESS Array B**	**69.04**	**333**	P	**P**	**10 01 50.6**	**+0.6**	
	comp=Z,1.9nm,0.8s,baz=64,slow=11,SNR=4.7							
FINES				LR	LR	10 34 27.5		
	comp=Z,53nm,19.9s,baz=28,slow=38							
FINES	**FINESS Array B**	**69.04**	**333**	*i* P	**P**	**10 01 49.2**	**-0.8**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KIV	**Kislovodsk**	**71.82**	**312**	*e*P	**P**	**10 02 10.2**	**+2.8**	
KIV				pmax	pmax			
	comp=Z,8.0nm,0.9s							
NOA	**NORSAR Array B**	**74.24**	**338**	P	**P**	**10 02 22.0**	**+0.7**	
	comp=Z,2.2nm,1.1s,baz=42,slow=5.4,SNR=2.5							
NOA				LR	LR	10 40 16.6		
	comp=Z,32nm,18.6s,baz=240,slow=40							
AKASG	**Malin Array Be**	**74.85**	**323**	LR	LR	10 38 39.0		
	comp=Z,52nm,18.0s,baz=70,slow=38							
PDAR	**Pinedale Array**	**75.88**	**47**	P	**P**	**10 02 31.4**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=248,slow=2.4,SNR=3.2							
CLL	**Collm**	**81.39**	**331**	*e*P	**P**	**10 03 00.0**	**-1.2**	
CLL	**Collm**	**81.39**	**331**	*e*P	**P**	**10 03 00.0**	**-1.2**	
PPT	**Papeete**	**83.33**	**118**	LR	LR	10 39 32.3		
	comp=Z,39nm,18.7s,baz=50,slow=35							
BFO	**Black Forest**	**85.58**	**332**	*i* P	**P**	**10 03 26.2**	**+3.4**	
TXAR	**Lajitas Array**	**88.26**	**54**	P	**P**	**10 03 36.7**	**+0.4**	
	comp=Z,0.2nm,0.7s,baz=299,slow=3.7,SNR=3.0							

ISCJB ***15*** *09:59:04.3±0.5, 5.°78S×0.°04×130.°24E±0.°07, h100km, mb4.4/8, Error ellipse: s-maj=9.8km s-min=6.0km az=173.9*

NEIC ***15*** *09:59:05.9±1.4, 5.°59S×130.°21E, h118km±13km, mb4.6/6, Error ellipse: s-maj=13.7km s-min=11.6km az=139.0*
IDC ***15*** *09:59:05.4±2.7, 5.°54S×130.°08E, h112km±25km, mb3.8/6, mb1 4.0/10, mb1mx3.7/37, mbtmp4.3/10, Error ellipse: s-maj=34.4km s-min=15.6km az=84.0*
DJA ***15*** *09:59:08.0±0.4, 5.°5±3.°×13.°0E±.°, h124km±7km, M4.8/7, mB5.8/1, mb4.8/4, MLv4.8/7, Mw(mB)5.3/1*

ISC 15 09:59:04.9±0.6, 5.°66S±0.°05×130.°37E±0.°07, h100km, n25, σ2ş95/29, mb4.0/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.23**	**338**	P	**Pn**	**09 59 31.4**	**+3.5**
BNDI				S	**Sn**	**09 59 47.9**	**+2.6**
SAUI	**Saumlaki**	**2.48**	**158**	P	Pn	09 59 51.0	+7.2
SIJI	**Sorong**	**4.85**	**11**	P	**Pn**	**10 00 16.1**	**+0.5**
	11nm,0.3s,baz=271,slow=24,SNR=15						
SIJI				S	**Sn**	**10 01 06.3**	**-4.3**
	43nm,0.3s,baz=90,slow=23,SNR=13						
SANI	**Sanana**	**5.66**	**309**	P	**Pn**	**10 00 26.9**	**+0.3**
	69nm,0.9s,0.3nm						
SOEI	**Soe**	**7.29**	**236**	P	**Pn**	**10 00 52.4**	**+3.5**
	63nm,0.9s,0.3nm						
SOEI	**Soe**	**7.29**	**236**	Pn	**Pn**	**10 00 50.2**	**+1.3**
	43nm,0.6s						
SOEI				Sn	**Sn**	**10 02 16.9**	**+6.7**
JAY	**Jayapura**	**10.77**	**74**	P	**Pn**	**10 01 39.1**	**+2.8**
	0.1nm,0.3s,baz=270,slow=20,SNR=3.2						
FITZ	**Fitzroy Crossi**	**13.20**	**200**	P	**Pn**	**10 02 07.5**	**-1.0**
	2.7nm,0.3s,baz=35,slow=13,SNR=62						
FITZ				S	Sn	10 04 25.0	-8.8
	1.7nm,0.3s,baz=87,slow=19,SNR=5.1						
FITZ	**Fitzroy Crossi**	**13.20**	**200**	*e*Pn	**Pn**	**10 02 07.6**	**-1.0**
	15nm,0.7s						
FITZ				*e*Sn	Sn	10 04 23.5	-10
FITZ				S	Sn	10 04 25.0	-8.8
WRAB	**Tennant Creek**	**14.70**	**165**	*e*Pn	**Pn**	**10 02 27.1**	**-0.9**
	26nm,0.6s						
WRAB				*e*Sn	**Sn**	**10 05 06.5**	**-3.7**
WRA	**Warramunga Arr**	**14.71**	**165**	P	**Pn**	**10 02 26.9**	**-1.2**
	2.0nm,0.3s,baz=351,slow=12,SNR=82						
WRA				S	Sn	10 05 02.7	-7.7
	3.8nm,0.3s,baz=342,slow=23,SNR=8.3						
COEN	**Coen**	**15.06**	**124**	*e*P	**Pn**	**10 02 34.6**	**+2.0**
	18nm,0.9s						
ASAR	**Alice Springs**	**18.22**	**170**	P	**P**	**10 03 12.7**	**+2.3**
	7.6nm,0.3s,baz=345,slow=9.7,SNR=307						
ASAR				S	**S**	**10 06 32.1**	**-1.7**
	1.6nm,0.3s,baz=352,slow=24,SNR=6.6						
MBWA	**Marble Bar**	**18.54**	**213**	*e*P	**P**	**10 03 13.0**	**-0.8**
	56nm,1.0s						
MBWA				*e*S	**S**	**10 06 32.3**	**-7.9**
CTA	**Charters Tower**	**21.07**	**134**	P	**P**	**10 03 44.4**	**+3.1**
	2.3nm,0.5s,baz=311,slow=9.3,SNR=3.2						
BBOO	**Buckleboo**	**27.52**	**170**	*e*P	**P**	**10 04 42.2**	**-0.1**
	6.1nm,0.6s						
STKA	**Stephens Creek**	**28.12**	**159**	P	**P**	**10 04 48.8**	**+1.3**
	6.3nm,0.5s,baz=338,slow=8.7,SNR=60						
MJAR	**Matsushiro Arr**	**42.62**	**9**	P	**P**	**10 06 49.1**	**-2.3**
	1.9nm,0.8s,baz=187,slow=9.5,SNR=5.4						
KHZ	**Kahutara**	**52.89**	**141**	*e*P	P	10 08 16.7	+6.0
	2μm,0.5s						
MKAR	**Makanchi Array**	**67.32**	**326**	P	**P**	**10 09 47.5**	**-1.7**
	0.4nm,0.6s,baz=130,slow=5.8,SNR=2.6						
VNDA	**Vanda**	**73.72**	**173**	P	**P**	**10 10 27.4**	**-0.2**
	2.0nm,0.8s,baz=320,slow=5.9,SNR=7.3						
MAW	**Mawson**	**76.32**	**201**	P	**P**	**10 10 41.7**	**-0.9**
	1.8nm,0.6s,baz=74,slow=7.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**128.90**	**282**	PKP	**PKPdf**	**10 17 59.9**	**-2.1**
	0.3nm,0.6s,baz=107,slow=3.3,SNR=2.4						
CPUP	**Villa Florida**	**147.33**	**167**	PKPbc	**PKPdf**	**10 18 37.0**	**+1.7**
	1.8nm,0.7s,baz=158,slow=3.1,SNR=4.8						
LPAZ	**La Paz**	**151.53**	**140**	PKPbc	**PKPbc**	**10 18 48.8**	**-0.4**
	0.7nm,0.4s,baz=65,slow=2.7,SNR=9.7						

WEL 15 10:01:54.8±0.1, 43.°50S×171.°15E, h12km, ML3.3/12, 2C-2D, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**0.23**	**197**	⇓P*	Pg	10 01 59.1	-0.5
RPZ				AML	AML	10 02 02.8	
RPZ				S*	Sb	10 02 02.8	-0.1
WVZ	**Waitaha Valley**	**0.52**	**325**	⇑P*	Pg	10 02 04.4	-0.4
WVZ				S*	Sg	10 02 11.4	-0.3
WVZ				AML	AML	10 02 11.6	
OXZ	**Oxford**	**0.67**	**76**	P*	Pg	10 02 07.2	-0.6
OXZ				S*	Sg	10 02 16.4	-0.3
INZ	**Inchbonnie**	**0.80**	**16**	P*	Pg	10 02 09.2	-1.1
INZ				S*	Sg	10 02 19.7	-1.1
FOZ	**Fox Glacier**	**0.97**	**267**	⇓P*	Pg	10 02 12.9	-0.6
FOZ				AML	AML	10 02 29.5	
FOZ				AML	AML	10 02 30.0	
FOZ				AML	AML	10 02 30.0	
FOZ				AML	AML	10 02 30.1	
LTZ	**Lake Taylor**	**1.09**	**49**	P*	Pb	10 02 14.8	-0.8
MQZ	**McQueen's Vall**	**1.12**	**101**	P*	Pb	10 02 14.0	-2.0
LBZ	**Lake Benmore**	**1.13**	**218**	P*	Pb	10 02 15.3	-1.0
LBZ				AML	AML	10 02 32.3	
LBZ				AML	AML	10 02 32.3	
LBZ				AML	AML	10 02 32.4	
LBZ				AML	AML	10 02 32.5	
ODZ	**Otahua Downs**	**1.59**	**193**	⇑PN	Pn	10 02 21.4	-1.4
ODZ				AML	AML	10 02 24.1	
ODZ				AML	AML	10 02 24.3	
ODZ				AML	AML	10 02 46.9	
ODZ				AML	AML	10 02 47.7	
DSZ	**Denniston Nort**	**1.82**	**16**	PN	Pn	10 02 25.5	-0.4
DSZ				AML	AML	10 02 28.8	
DSZ				AML	AML	10 02 54.5	
WKZ	**Wanaka**	**2.03**	**228**	PN	Pn	10 02 27.3	-1.5
WKZ				AML	AML	10 03 07.3	
WKZ				AML	AML	10 03 08.9	
THZ	**Tophouse**	**2.17**	**37**	PN	Pn	10 02 30.5	-0.2
THZ				AML	AML	10 02 58.0	
THZ				AML	AML	10 03 13.2	
EAZ	**Earnscleugh**	**2.18**	**217**	PN	Pn	10 02 28.7	-2.2
EAZ				AML	AML	10 03 06.0	
EAZ				AML	AML	10 03 09.6	
MSZ	**Milford Sound**	**2.60**	**242**	PN	Pn	10 02 35.5	-1.2
MSZ				AML	AML	10 03 17.0	
MSZ				AML	AML	10 03 20.5	
TUZ	**Tuapeka**	**2.68**	**203**	PN	Pn	10 02 36.5	-1.3
TUZ				AML	AML	10 02 43.8	
TUZ				AML	AML	10 03 25.0	
NNZ	**Nelson**	**2.82**	**37**	PN	Pn	10 02 39.4	-0.2
QRZ	**Quartz Range**	**2.86**	**22**	PN	Pn	10 02 40.0	-0.2
MLZ	**Mavora Lakes**	**2.86**	**228**	PN	Pn	10 02 38.4	-1.9

NNC 15 10:03:34.8±12.0, 37.°49N×71.°28E, h0km, mb3.5, mpv3.1, 4C-1D, Error ellipse: s-maj=103.3km s-min=48.5km az=160.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.34**	**305**	⇓Pn	Pn	10 04 14.3	-0.3
	1.8nm,0.3s						
DZET				⇑Sn	Sb	10 04 45.8	-1.5
	14nm,0.2s						
MNAS	**Manas**	**5.08**	**10**	⇑Pn	Pn	10 04 51.2	-1.1
	1.7nm,0.6s						
MNAS				⇑Sn	Sn	10 05 52.3	+0.5
	1.4nm,0.3s						
KK31	**Karatay Array**	**5.64**	**354**	Pn	Pn	10 04 59.7	-0.1
	1.9nm,0.5s,baz=180,slow=13						
KK31				⇑Sn	Sn	10 06 06.2	+0.9
	0.7nm,0.3s,baz=190,slow=22						

NEIC ***15*** *10:07:54.4, 43.°59S×172.°76E, h5km, ML4.0(WEL), After WEL.*
NEIC Felt at Christchurch.

WEL 15 10:07:54.4±0.1, 43.°59S×172.°75E, h5km, ML4.0/24, 2C, Error ellipse: s-maj=0.8km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.13**	**210**	⇑PG	Pg	10 07 57.0	-0.1
MQZ				SG	Sg	10 07 59.1	+0.2
MQZ				AML	AML	10 07 59.3	
MQZ	**McQueen's Vall**	**0.13**	**210**	Pg	Pg	10 07 57.0	-0.1
MQZ				Sg	Sg	10 07 59.1	+0.2
OXZ	**Oxford**	**0.58**	**297**	P*	Pg	10 08 05.3	-0.2
LTZ	**Lake Taylor**	**0.88**	**337**	P*	Pg	10 08 11.2	-0.1
LTZ				AML	AML	10 08 24.0	
LTZ				AML	AML	10 08 24.1	
RPZ	**Rata Peaks**	**1.23**	**264**	P*	Pg	10 08 14.8	-3.3
RPZ				AML	AML	10 08 37.3	
RPZ				AML	AML	10 08 39.8	
RPZ	**Rata Peaks**	**1.23**	**264**	P*	Pg	10 08 14.8	-3.3
INZ	**Inchbonnie**	**1.29**	**312**	P*	Pn	10 08 16.1	-2.9
WVZ	**Waitaha Valley**	**1.55**	**289**	PN	Pn	10 08 20.3	-2.4
WVZ				AML	AML	10 08 52.4	
WVZ				AML	AML	10 08 54.8	
WVZ	**Waitaha Valley**	**1.55**	**289**	Pn	Pn	10 08 20.4	-2.4
THZ	**Tophouse**	**1.83**	**4**	PN	Pn	10 08 23.6	-3.0
THZ				AML	AML	10 09 04.9	
THZ				AML	AML	10 09 05.9	
THZ	**Tophouse**	**1.83**	**4**	Pn	Pn	10 08 23.6	-3.0
DSZ	**Denniston Nort**	**1.97**	**339**	PN	Pn	10 08 26.7	-1.8
DSZ				AML	AML	10 08 55.3	
DSZ				AML	AML	10 08 55.4	
DSZ				AML	AML	10 08 55.6	
DSZ				AML	AML	10 08 55.6	
DSZ	**Denniston Nort**	**1.97**	**339**	Pn	Pn	10 08 26.7	-1.8
LBZ	**Lake Benmore**	**2.01**	**246**	PN	Pn	10 08 27.4	-1.7
LBZ				AML	AML	10 09 05.6	
LBZ				AML	AML	10 09 05.6	
LBZ				AML	AML	10 09 05.8	
LBZ				AML	AML	10 09 05.8	
LBZ	**Lake Benmore**	**2.01**	**246**	Pn	Pn	10 08 27.4	-1.7
BSWZ	**Blackbirch Sta**	**2.05**	**24**	PN	Pn	10 08 27.2	-2.3
BSWZ				AML	AML	10 09 10.8	
BSWZ				AML	AML	10 09 20.6	
BSWZ	**Blackbirch Sta**	**2.05**	**24**	Pn	Pn	10 08 27.2	-2.3
ODZ	**Otahua Downs**	**2.09**	**225**	PN	Pn	10 08 28.3	-1.9
ODZ				AML	AML	10 09 06.7	
ODZ				AML	AML	10 09 06.7	
ODZ				AML	AML	10 09 12.6	
ODZ				AML	AML	10 09 12.6	
ODZ	**Otahua Downs**	**2.09**	**225**	Pn	Pn	10 08 28.3	-1.9
FOZ	**Fox Glacier**	**2.13**	**271**	PN	Pn	10 08 30.2	-0.4
FOZ				AML	AML	10 08 57.7	
FOZ				AML	AML	10 08 57.7	
FOZ				AML	AML	10 09 07.6	
FOZ				AML	AML	10 09 09.4	
FOZ	**Fox Glacier**	**2.13**	**271**	Pn	Pn	10 08 30.2	-0.4
TUWZ	**Tuamarina**	**2.33**	**23**	PN	Pn	10 08 30.7	-2.7
TUWZ				AML	AML	10 09 23.1	
TUWZ				AML	AML	10 09 23.7	
TUWZ	**Tuamarina**	**2.33**	**23**	Pn	Pn	10 08 30.8	-2.7
NNZ	**Nelson**	**2.42**	**11**	⇑PN	Pn	10 08 32.6	-2.0
NNZ				AML	AML	10 09 10.6	
NNZ				AML	AML	10 09 14.7	
NNZ				AML	AML	10 09 17.2	
NNZ				AML	AML	10 09 23.8	
NNZ	**Nelson**	**2.42**	**11**	Pn	Pn	10 08 32.6	-2.0
TCW	**Tory Channel**	**2.63**	**26**	PN	Pn	10 08 34.7	-2.9
TCW				AML	AML	10 08 50.3	
TCW				AML	AML	10 09 07.3	
TCW	**Tory Channel**	**2.63**	**26**	Pn	Pn	10 08 34.7	-2.9
PLWZ	**Palliser**	**2.74**	**43**	PN	Pn	10 08 35.8	-3.3
PLWZ	**Palliser**	**2.74**	**43**	Pn	Pn	10 08 35.8	-3.3
QRZ	**Quartz Range**	**2.77**	**357**	PN	Pn	10 08 37.6	-1.9
QRZ				AML	AML	10 09 26.7	
QRZ				AML	AML	10 09 26.7	
QRZ				AML	AML	10 09 29.7	
QRZ				AML	AML	10 09 29.7	
QRZ	**Quartz Range**	**2.77**	**357**	Pn	Pn	10 08 37.6	-1.9
MSWZ	**Moikau Station**	**2.85**	**41**	PN	Pn	10 08 37.1	-3.6
MSWZ				AML	AML	10 09 11.6	
MSWZ				AML	AML	10 09 12.9	
MSWZ	**Moikau Station**	**2.85**	**41**	Pn	Pn	10 08 37.1	-3.6
JCZ	**Jackson Bay**	**2.91**	**259**	PN	Pn	10 08 40.3	-1.1
JCZ				AML	AML	10 09 32.5	
JCZ				AML	AML	10 09 32.8	
JCZ	**Jackson Bay**	**2.91**	**259**	Pn	Pn	10 08 40.4	-1.1
WKZ	**Wanaka**	**2.95**	**244**	PN	Pn	10 08 40.7	-1.2
WKZ				AML	AML	10 09 35.3	
WKZ				AML	AML	10 09 38.7	
WKZ	**Wanaka**	**2.95**	**244**	Pn	Pn	10 08 40.8	-1.2
EAZ	**Earnscleugh**	**2.96**	**235**	PN	Pn	10 08 37.6	-4.5
EAZ				AML	AML	10 09 34.6	
EAZ				AML	AML	10 09 34.6	
EAZ				AML	AML	10 09 38.7	
EAZ				AML	AML	10 09 38.7	
EAZ	**Earnscleugh**	**2.96**	**235**	Pn	Pn	10 08 37.6	-4.5
CAW	**Cannon Point**	**3.02**	**36**	PN	Pn	10 08 39.6	-3.3
CAW				AML	AML	10 09 20.1	
CAW				AML	AML	10 09 57.9	
CAW	**Cannon Point**	**3.02**	**36**	Pn	Pn	10 08 39.6	-3.3
KIW	**Kapiti Island**	**3.17**	**31**	PN	Pn	10 08 42.0	-2.9
KIW	**Kapiti Island**	**3.

ellipse: s-maj=2.1km s-min=0.9km az=90.0
WEL Felt from Canterbury to Otago, maximum reported intensity MM 5.

ISC 15 10:16:39.6±1.4, 43.67S±0.06×172.91E±0.06, h12km±9km, n33, σ0.87/34, 1C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.19**	**257**	PG		**Pg**	**10 16 44.0**	**+0.2**
MQZ				SG		**Sg**	**10 16 46.3**	**-0.5**
MQZ				AML		AML	10 16 46.3	
MQZ	**McQueen's Vall**	**0.19**	**257**	Pg		**Pg**	**10 16 44.0**	**+0.2**
MQZ				Sg		**Sg**	**10 16 46.3**	**-0.5**
OXZ	**Oxford**	**0.72**	**298**	⇓P*		**Pg**	**10 16 53.4**	**-0.2**
OXZ	**Oxford**	**0.72**	**298**	P*		**Pg**	**10 16 53.4**	**-0.2**
LTZ	**Lake Taylor**	**1.00**	**332**	⇓P*		**Pg**	**10 16 58.7**	**-0.2**
LTZ				AML		AML	10 17 12.6	
LTZ				AML		AML	10 17 13.8	
LTZ	**Lake Taylor**	**1.00**	**332**	P*		**Pg**	**10 16 58.7**	**-0.2**
KHZ	**Kahutara**	**1.33**	**20**	P*		**Pn**	**10 17 04.2**	**+0.2**
KHZ	**Kahutara**	**1.33**	**20**	P*		**Pn**	**10 17 04.2**	**+0.2**
RPZ	**Rata Peaks**	**1.35**	**267**	P*		**Pn**	**10 17 04.2**	**0.0**
RPZ				AML		AML	10 17 22.9	
RPZ				AML		AML	10 17 24.0	
RPZ	**Rata Peaks**	**1.35**	**267**	P*		**Pn**	**10 17 04.2**	**0.0**
INZ	**Inchbonnie**	**1.43**	**311**	PN		**Pn**	**10 17 05.7**	**+0.3**
WVZ	**Waitaha Valley**	**1.69**	**290**	⇑PN		**Pn**	**10 17 09.1**	**+0.2**
WVZ				AML		AML	10 17 31.6	
WVZ				AML		AML	10 17 32.5	
WVZ	**Waitaha Valley**	**1.69**	**290**	Pn		**Pn**	**10 17 09.2**	**+0.2**
THZ	**Tophouse**	**1.90**	**360**	PN		**Pn**	**10 17 11.8**	**-0.1**
THZ				AML		AML	10 17 52.3	
THZ				AML		AML	10 17 54.1	
THZ	**Tophouse**	**1.90**	**360**	Pn		**Pn**	**10 17 11.8**	**-0.1**
BSWZ	**Blackbirch Sta**	**2.07**	**20**	PN		**Pn**	**10 17 14.9**	**+0.6**
BSWZ				AML		AML	10 17 44.3	
BSWZ				AML		AML	10 18 08.7	
BSWZ	**Blackbirch Sta**	**2.07**	**20**	Pn		**Pn**	**10 17 14.9**	**+0.6**
DSZ	**Denniston Nort**	**2.08**	**337**	PN		**Pn**	**10 17 15.1**	**+0.7**
DSZ				AML		AML	10 17 49.6	
DSZ				AML		AML	10 17 49.6	
DSZ				AML		AML	10 17 50.7	
DSZ				AML		AML	10 17 51.3	
DSZ	**Denniston Nort**	**2.08**	**337**	Pn		**Pn**	**10 17 15.2**	**+0.7**
LBZ	**Lake Benmore**	**2.10**	**249**	PN		**Pn**	**10 17 14.8**	**+0.3**
LBZ				AML		AML	10 17 53.3	
LBZ				AML		AML	10 17 53.6	
LBZ	**Lake Benmore**	**2.10**	**249**	Pn		**Pn**	**10 17 14.8**	**+0.3**
ODZ	**Otahua Downs**	**2.13**	**229**	PN		**Pn**	**10 17 15.3**	**+0.3**
ODZ				AML		AML	10 17 57.0	
ODZ				AML		AML	10 17 57.1	
ODZ				AML		AML	10 17 57.1	
ODZ				AML		AML	10 18 00.7	
FOZ	**Fox Glacier**	**2.25**	**272**	PN		**Pn**	**10 17 18.3**	**+1.6**
FOZ				AML		AML	10 17 45.7	
FOZ				AML		AML	10 18 01.6	
FOZ	**Fox Glacier**	**2.25**	**272**	Pn		**Pn**	**10 17 18.3**	**+1.6**
NNZ	**Nelson**	**2.47**	**8**	⇓PN		**Pn**	**10 17 20.4**	**+0.8**
NNZ	**Nelson**	**2.47**	**8**	Pn		**Pn**	**10 17 20.4**	**+0.8**
QRZ	**Quartz Range**	**2.85**	**354**	AML		AML	10 17 36.0	
QRZ				AML		AML	10 18 13.5	
QRZ				AML		AML	10 18 15.2	
QRZ				AML		AML	10 18 15.2	
CAW	**Cannon Point**	**3.01**	**33**	Pn		**Pn**	**10 17 27.0**	**-0.1**
HOWZ	**Holdsworth Sta**	**3.37**	**36**	Pn		**Sn**	**10 18 10.5**	**-1.5**
MRZ	**Mangatainoka R**	**3.60**	**34**	Pn		**Pn**	**10 17 35.3**	**+0.1**
MLZ	**Mavora Lakes**	**3.83**	**242**	Pn		**Pn**	**10 17 38.8**	**+0.5**
BFZ	**Birch Farm**	**3.88**	**41**	Pn		**Pn**	**10 17 39.7**	**+0.7**
VRZ	**Vera Road**	**4.74**	**18**	Pn		**Pn**	**10 17 54.1**	**+3.2**

*ISCJB **15** 10:29:55.4±0.8, 30.83S±0.03×71.5W±0.1, h70km±8km, mb3.6/4, Error ellipse: s-maj=15.9km s-min=4.8km az=178.6*
*NEIC **15** 10:29:55.0, 30.85S×71.29W, h43km, mb4.2/2, After GUC.*
NEIC Felt [III] at Coquimbo, Illapel, La Serena, Salamanca and Vicuna and [II] at Canela and Paiguano.
*GUC **15** 10:29:55.9±0.7, 30.85S×71.30W, h43km±4km, ML4.3*
*IDC **15** 10:29:55.4±1.0, 31.04S×71.18W, h53km±5km, mb3.7/3, mb1 4.0/7, mb1mx3.8/23, mbtmp4.1/7, MS3.1/3, Ms1 3.1/3, ms1mx2.8/17, Error ellipse: s-maj=31.5km s-min=26.6km az=160.0*

ISC 15 10:29:55.9±0.7, 30.88S±0.04×71.33W±0.08, h52km±5km, n40, σ2.07/49, mb3.9/4, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.84**	**33**	⇓*i*P		**Pn**	**10 30 11.8**	**0.0**
TLL				*i* S		**Sn**	**10 30 23.8**	**+0.4**
TLL				IAML			10 30 24.8	
	comp=E,17μm,0.3s							
LCO	**Las Campanas**	**1.94**	**17**	⇓*i*P		**Pn**	**10 30 27.1**	**+0.5**
LCO				*i* S		**Sn**	**10 30 50.9**	**+0.9**
LCO				IAML			10 30 52.3	
	comp=E,3μm,0.2s							
LCO	**Las Campanas**	**1.94**	**17**	*e*Pn		**Pn**	**10 30 27.4**	**+0.7**
LCO				*e*Sn		**Sn**	**10 30 51.6**	**+1.6**
RTLS	**Leoncito**	**1.97**	**118**	*i* P		**Pn**	**10 30 29.9**	**+2.8**
ROCH	**El Roble**	**2.10**	**173**	*e*P		**Pn**	**10 30 29.9**	**+1.1**
ROC1	**El Roble**	**2.11**	**173**	*i* P		**Pn**	**10 30 30.3**	**+1.4**
AUSP	**Uspallata**	**2.13**	**129**	*i* P		**Pn**	**10 30 32.1**	**+2.8**
PEL	**Peldehue**	**2.32**	**167**	*e*P		**Pn**	**10 30 32.5**	**+0.8**
PEL				⇑*i*P		**Pn**	**10 30 32.8**	**+1.1**
PEL				IAML			10 31 07.5	
	comp=E,2μm,0.5s							
VACH	**Vallenar**	**2.35**	**12**	*e*P		**Pn**	**10 30 32.8**	**+0.7**
VACH				*i* S		**Sn**	**10 31 00.4**	**+0.7**
RTLL	**Cerro Villicun**	**2.49**	**101**	*i* P		**Pn**	**10 30 36.0**	**+2.0**
RTCV	**Cerro Valdivia**	**2.58**	**113**	*i* P		**Pn**	**10 30 37.9**	**+2.7**
FCH	**Farellones**	**2.60**	**160**	*e*P		**Pn**	**10 30 37.4**	**+1.7**
FCH				IAML			10 31 17.6	
	comp=N,2μm,0.1s							
FSR	**Penalolen**	**2.68**	**165**	*e*P		**Pn**	**10 30 37.8**	**+1.2**
FSR				*e*S		**Sn**	**10 31 09.7**	**+1.8**
ASAL	**Salagasta**	**2.73**	**129**	*i* P		**Pn**	**10 30 40.7**	**+3.4**
ARCO	**CERRO ARCO**	**2.83**	**134**	*i* P		**Pn**	**10 30 42.6**	**+3.9**
ARCO				IAML			10 31 22.6	
	comp=Z,520nm,0.3s							
ARCO				*i* S		Sn	10 31 24.9	+13
AAGR	**Agrelo**	**3.06**	**137**	*i* P		**Pn**	**10 30 45.3**	**+3.4**
AVFE	**Valle Fertil**	**3.34**	**87**	*i* P		**Pn**	**10 30 46.9**	**+1.2**
CPCH	**Copiapo**	**3.61**	**14**	⇑*i*P		**Pn**	**10 30 49.8**	**+0.5**
LVC	**Limon Verde**	**8.52**	**15**	P		**Pn**	**10 31 57.2**	**+0.3**
	comp=Z,19nm,0.3s,baz=183,slow=8.9,SNR=11							
LVC				S		**Sn**	**10 33 37.6**	**+5.8**
	comp=Z,107nm,0.3s,baz=277,slow=4.4,SNR=3.1							
LVC	**Limon Verde**	**8.52**	**15**	*e*Pn		**Pn**	**10 31 57.5**	**+0.6**
	comp=Z,13nm,0.5s							
LVC				*e*Sn		**Sn**	**10 33 29.7**	**-2.1**
TRQA	**Tornquist**	**10.52**	**135**	*e*Pn		**Pn**	**10 32 22.9**	**-1.2**
	comp=Z,19nm,0.8s							
TRQA				*e*Sn		**Sn**	**10 34 17.1**	**-3.3**
TRQA				*e*PcP		**PcP**	**10 38 30.7**	**+5.5**
CPUP	**Villa Florida**	**13.11**	**73**	P		**Pn**	**10 32 57.1**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=248,slow=12,SNR=8.9							
CPUP				LR		LR	10 38 45.1	
	comp=Z,64nm,21.9s,baz=230,slow=41							
LPAZ	**La Paz**	**14.82**	**12**	P		**Pn**	**10 33 25.0**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=178,slow=9.7,SNR=7.8							
SIV	**San Ignacio**	**17.54**	**35**	P		**Pn**	**10 33 56.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=215,slow=10,SNR=11							
NNA	**Nana**	**19.48**	**344**	LR		LR	10 40 02.5	
	comp=Z,320nm,21.6s,baz=166,slow=31							
NNA	**Nana**	**19.48**	**344**	*e*P		**P**	**10 34 16.5**	**-2.2**
	comp=Z,53nm,1.3s							
SAML	**Samuel**	**23.11**	**21**	*e*P		**P**	**10 34 55.7**	**-1.7**
	comp=Z,2.0nm,0.7s							
BDFB	**Brasilia**	**26.17**	**60**	P		**P**	**10 35 24.6**	**-1.1**
	comp=Z,3.4nm,0.5s,baz=231,slow=8.8,SNR=4.7							
VNA1	**Neumayer--Stat**	**52.32**	**158**	P		P	10 39 13.9	+12
SNAA	**Sanae**	**54.26**	**159**	P		**P**	**10 39 15.9**	**-0.3**
TXAR	**Lajitas Array**	**67.33**	**330**	P		**P**	**10 40 46.1**	**+0.5**
	comp=Z,0.1nm,0.8s,baz=148,slow=8.6,SNR=3.4							
TXAR				pP		**pP**	**10 41 01.6**	**+1.6**
	comp=Z,0.5nm,1.0s,baz=152,slow=6.0,SNR=2.9							
PDAR	**Pinedale Array**	**81.27**	**333**	LR		LR	11 15 15.2	
	comp=Z,24nm,18.4s,baz=150,slow=33							
TORD	**Torodi Ar. Bea**	**82.58**	**70**	P		**P**	**10 42 13.5**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=248,slow=1.6,SNR=20							
TORD				pP		**pP**	**10 42 28.2**	**-0.4**

	comp=Z,0.9nm,0.5s,baz=258,slow=4.6,SNR=4.6							
TORD				sP		**sP**	**10 42 34.0**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=251,slow=4.4,SNR=3.7							
WRA	**Warramunga Arr**	**123.77**	**209**	PKP		**PKPdf**	**10 48 47.1**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=159,slow=1.6,SNR=7.4							
WRA				pPKP		**pPKPdf**	**10 49 03.2**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=154,slow=1.8,SNR=1.7							
H11S2	**WAKE ISLAND Hy**	**126.36**	**271**	T		T	13 07 42.0	
	baz=116,slow=75,SNR=90							
H11S1	**WAKE ISLAND Hy**	**126.38**	**271**	T		T	13 07 45.7	
	baz=116,slow=75,SNR=118							
H11S3	**WAKE ISLAND Hy**	**126.38**	**271**	T		T	13 07 45.0	
	baz=116,slow=75,SNR=92							
KURBB	**Kurchatov Arra**	**150.15**	**40**	pPKPbc		pPKPbc	10 49 56.8	+0.7
	comp=Z,0.8nm,0.5s,baz=303,slow=3.1,SNR=4.1							
ZALV	**Zalesovo Beam**	**151.25**	**30**	PKPbc		**PKPbc**	**10 49 42.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=326,slow=3.3,SNR=3.6							
ZALV				pPKPbc		**pPKPbc**	**10 49 58.0**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=293,slow=3.0,SNR=5.9							
MKAR	**Makanchi Array**	**154.19**	**45**	PKPab		**PKPab**	**10 50 02.6**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=298,slow=3.1,SNR=2.5							
MKAR				pPKPab		**pPKPab**	**10 50 18.4**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=316,slow=4.0,SNR=4.8							

*ISCJB **15** 10:36:25.1±1.1, 31.56S±0.04×69.48W±0.06, h123km±10km, Error ellipse: s-maj=8.2km s-min=5.8km az=21.8*
*GUC **15** 10:36:25.3±0.6, 31.58S×69.95W, h155km±13km, ML3.6*
*SJA **15** 10:36:25.0±0.6, 31.54S×69.53W, h112km±5km, ML3.9, MW4.1*

ISC 15 10:36:25.9±2.2, 31.57S±0.04×69.48W±0.07, h118km±19km, n14, σ0.41/26, 1C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTLS	**Leoncito**	**0.28**	**146**	*i* P		**Pn**	**10 36 42.7**	**-0.2**
AUSP	**Uspallata**	**0.66**	**173**	*i* P		**Pn**	**10 36 44.8**	**-0.2**
AUSP				*i* S		**Sn**	**10 36 59.6**	**+0.1**
SJA	**San Juan**	**0.79**	**87**	*i* P		**Pn**	**10 36 45.9**	**+0.1**
SJA				*i* S		**Sn**	**10 37 00.8**	**+0.1**
SJA				IAML			10 37 01.5	
	comp=Z,4μm,0.3s							
RTCV	**Cerro Valdivia**	**0.85**	**110**	*i* P		**Pn**	**10 36 46.2**	**-0.1**
RTCV				*i* S		**Sn**	**10 37 01.5**	**-0.4**
RTLL	**Cerro Villicun**	**0.89**	**75**	*i* P		**Pn**	**10 36 46.4**	**-0.3**
RTLL				*i* S		**Sn**	**10 37 02.2**	**-0.2**
ASAL	**Salagasta**	**1.16**	**152**	*i* P		**Pn**	**10 36 49.5**	**+0.1**
ASAL				*i* S		**Sn**	**10 37 07.8**	**+0.6**
ARCO	**CERRO ARCO**	**1.35**	**160**	*i* P		**Pn**	**10 36 51.6**	**0.0**
ARCO				*i* S		**Sn**	**10 37 11.8**	**+0.7**
ARCO				IAML			10 37 12.1	
	comp=Z,826nm,0.3s							
TLL	**Tololo Astrono**	**1.80**	**321**	⇓*i*P		**Pn**	**10 36 57.6**	**+0.5**
TLL				*e*S		**Sn**	**10 37 21.5**	**+0.7**
PEL	**Peldehue**	**1.87**	**213**	⇓*i*P		**Pn**	**10 36 57.5**	**-0.1**
PEL				*i* S		**Sn**	**10 37 21.9**	**-0.1**
PEL				IAML			10 37 23.0	
	comp=N,311nm,0.9s							
ROCH	**El Roble**	**1.91**	**222**	⇓*i*P		**Pn**	**10 36 57.8**	**-0.4**
ROCH				*i* S		**Sn**	**10 37 22.5**	**-0.5**
ROCH				IAML			10 37 25.6	
	comp=N,684nm,0.4s							
ROC1	**El Roble**	**1.91**	**222**	*i* P		**Pn**	**10 36 57.9**	**-0.5**
ROC1				*i* S		**Sn**	**10 37 23.0**	**-0.1**
CLCH	**Cerro Calan**	**2.03**	**206**	⇑*i*P		**Pn**	**10 36 59.7**	**+0.1**
CLCH				*i* S		**Sn**	**10 37 26.2**	**+0.7**
CLCH				IAML			10 37 31.0	
	comp=E,244nm,0.4s							
RCDM	**Rinconada Maip**	**2.22**	**210**	⇓*i*P		**Pn**	**10 37 01.9**	**-0.1**
RCDM				*i* S		**Sn**	**10 37 29.6**	**-0.1**
RCDM				IAML			10 37 30.4	
	comp=E,631nm,0.2s							
VACH	**Vallenar**	**3.18**	**339**	*i* S		**Sn**	**10 37 51.4**	**-0.7**

IDC 15 10:37:39.5±672.0, 47.57N×46.80E, h0km, Error ellipse: s-maj=225.5km s-min=174.9km az=38.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.92**	**65**	*i*			11 31 40.0	
	baz=251,slow=288,SNR=2.7							
I43RU	**DUBNA INFRASONI**	**10.89**	**331**	*i*			11 40 10.0	
	baz=140,slow=316,SNR=1.3							
I46RU	**ZALESOVO INFRA**	**24.65**	**61**	*i*			13 23 10.0	
	baz=268,slow=279,SNR=1.8							

KRSC 15 10:37:45.1±1.0, 49.14N×156.72E, h6km±18km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.60**	**346**	P		Pn	10 38 13.4	-0.4
SKR				S		Sn	10 38 34.8	+0.1
ASAK	**Asacha**	**3.34**	**13**	P		Pb	10 38 41.3	-3.3
RUS	**Russkaya**	**3.49**	**18**	P		Pn	10 38 42.6	+2.8
RUS				S		Sb	10 39 26.2	-3.6
UGLR	**Uglovaya**	**4.29**	**17**	P		Pn	10 38 54.8	+3.9
AVH	**Avacha**	**4.32**	**16**	P		Pn	10 38 55.7	+4.4
KRER	**Koryakskii**	**4.36**	**16**	P		Pn	10 38 55.9	+3.9
SDLR	**Sedlovina**	**4.36**	**17**	P		Pn	10 38 55.2	+3.3

SJA 15 10:44:11.0±0.5, 33.55S×68.00W, h224km±6km, ML3.1, MW4.0, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARCO	**CERRO ARCO**	**1.05**	**312**	*i* P		Pn	10 44 43.9	+0.1
ARCO				IAML			10 44 44.7	
	comp=Z,49nm,0.3s							
ARCO				*i* S		S	10 45 08.3	-1.0
ASAL	**Salagasta**	**1.18**	**323**	*i* P		Pn	10 44 45.2	+0.6
RTCV	**Cerro Valdivia**	**1.74**	**345**	*i* P		Pn	10 44 49.0	0.0
RTCV				*i* S		S	10 45 17.9	-0.7
AUSP	**Uspallata**	**1.76**	**318**	*i* P		Pn	10 44 50.5	+1.0
AUSP				*i* S		S	10 45 19.2	-0.2
RTLS	**Leoncito**	**2.06**	**328**	*i* P		Pn	10 44 53.0	+0.7
RTLS				*i* S		S	10 45 24.1	-0.3
SJA	**San Juan**	**2.07**	**347**	*i* P		Pn	10 44 52.5	+0.4
SJA				*i* S		S	10 45 23.2	-1.0
SJA				IAML			10 45 33.5	
	comp=Z,153nm,0.2s							
RTLL	**Cerro Villicun**	**2.25**	**350**	*i* P		Pn	10 44 54.1	+0.2
RTLL				*i* S		S	10 45 26.2	-1.1

*ISCJB **15** 11:01:03.0±0.5, 6.83N±0.04×73.05W±0.05, h159km±4km, mb3.4/1, Error ellipse: s-maj=9.8km s-min=4.0km az=39.5*
*FUNV **15** 11:01:03.4, 6.73N×73.21W, h158km, MW3.0*
*RSNC **15** 11:01:05.8±0.9, 6.77N×73.10W, h141km±5km, ML3.2*
*IDC **15** 11:01:07.1±6.6, 6.79N×75.37W, h140km±92km, mb3.1/1, mb1 3.4/2, mb1mx3.0/25, mbtmp3.6/2, Error ellipse: s-maj=264.1km s-min=34.5km az=84.0*

ISC 15 11:01:03.3±0.9, 6.81N±0.04×73.06W±0.05, h157km±6km, n34, σ1.18/53, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.24**	**298**	*i* P		**Pn**	**11 01 25.1**	**+0.2**
BTLC				*e*S		**Sn**	**11 01 40.0**	**-1.2**
BARC	**Barichara**	**0.25**	**211**	*i* P		**Pn**	**11 01 24.7**	**-0.2**
BARC				*e*S		**Sn**	**11 01 39.0**	**-2.4**
GIRC	**Giron, Santand**	**0.30**	**333**	*i* P		**Pn**	**11 01 25.1**	**+0.1**
PAMC	**Pamplona, Colo**	**0.64**	**34**	*e*P		**Pn**	**11 01 27.6**	**+0.8**
PAMC				*e*S		**Sn**	**11 01 44.4**	**-0.4**
BRRC	**Barranca, Sant**	**0.72**	**295**	⇑*i*P		**Pn**	**11 01 26.6**	**-0.1**
BRRC				*e*S		**Sn**	**11 01 43.0**	**-1.5**
BRRC				*i*			11 01 44.8	
	comp=Z,241nm,0.1s							
RUSC	**La Rusia**	**0.91**	**182**	*e*P		**Pn**	**11 01 28.6**	**0.0**
RUSC				*e*S		**Sn**	**11 01 46.9**	**-1.1**
RUSC				*i*			11 01 49.4	
	comp=Z,222nm,0.3s							
GRMC	**Gramalote, San**	**0.94**	**15**	*i* P		**Pn**	**11 01 30.7**	**+2.2**
GRMC				*e*S		**Sn**	**11 01 49.8**	**+2.0**
GRMC				*i*			11 01 52.4	
	comp=Z,275nm,0.3s							
CBRI	**Barrientos, No**	**0.94**	**16**	*e*P		**Pn**	**11 01 29.5**	**+0.9**
CBRI				*e*S		**Sn**	**11 01 48.0**	**+0.1**
CBRI				*i*			11 01 53.2	
	comp=Z,248nm,0.7s							
CAPV	**Capacho**	**1.28**	**35**	⇓*i*P		**Pn**	**11 01 32.9**	**+1.3**
CAPV				*e*S		**Sn**	**11 01 53.6**	**+0.3**
OCAC	**Ocana**	**1.45**	**350**	*e*P		**Pn**	**11 01 33.6**	**+0.5**
OCAC				*i*			11 01 58.6	
	comp=Z,159nm,0.3s							
NORC	**Norcasia**	**2.18**	**236**	*e*P		**Pn**	**11 01 40.7**	**-0.4**
CHIC	**Chingaza**	**2.26**	**197**	*e*P		**Pn**	**11 01 42.9**	**+0.5**
CHIC				*e*S		**Sn**	**11 02 11.8**	**-0.8**
CHIC				*i*			11 02 21.7	
	comp=Z,60nm,0.4s							
ROSC	**El Rosal**	**2.32**	**213**	P		**Pn**	**11 01 44.8**	**+1.7**
	comp=Z,15nm,0.3s,baz=296,slow=17,SNR=24							
ROSC				S		**Sn**	**11 02 13.4**	**-0.3**
	comp=Z,24nm,0.3s,baz=140,slow=17,SNR=4.9							
ROSC	**El Rosal**	**2.32**	**213**	*e*P		**Pn**	**11 01 44.5**	**+1.4**
ROSC				*i*			11 02 21.1	
	comp=Z,182nm,0.4s							
VIGV	**El Vigia**	**2.63**	**40**	⇓*e*P		**Pn**	**11 01 47.4**	**+1.1**
VIGV				*e*S		**Sn**	**11 02 20.2**	**+0.5**
SOCV	**Socops**	**2.63**	**56**	⇓*i*P		**Pn**	**11 01 47.2**	**+0.8**
SOCV				*e*S		**Sn**	**11 02 19.5**	**-0.2**
DBBC	**Dabeiba**	**3.14**	**274**	*e*P		**Pn**	**11 01 53.6**	**+0.9**
TOLC	**Tolima**	**3.15**	**226**	*e*P		**Pn**	**11 01 55.0**	**+1.7**
SDV	**Santo Domingo**	**3.17**	**49**	*e*P		**Pn**	**11 01 54.0**	**+0.8**
SDV				*e*S		**Sn**	**11 02 32.2**	**+0.1**
ELOV	**Elorza**	**3.55**	**87**	*e*P		**Pn**	**11 01 59.4**	**+1.3**
PRAC	**Prado**	**3.57**	**211**	*e*P		**Pn**	**11 01 58.2**	**-0.1**
VIRV	**Villa del Rosa**	**3.73**	**10**	*e*P		**Pn**	**11 01 60.0**	**-0.3**
VIRV				*e*S		**Sn**	**11 02 42.7**	**-2.0**
QARV	**Quebrada Arrib**	**4.21**	**36**	*e*P		**Pn**	**11 02 07.3**	**+0.8**
QARV				*e*S		**Sn**	**11 02 54.6**	**-1.2**
SANV	**Sanarito**	**4.39**	**52**	*e*P		**Pn**	**11 02 10.1**	**+1.0**
SANV				*e*S		**Sn**	**11 02 59.2**	**-1.1**
CURV	**Curarigua**	**4.42**	**44**	*e*P		**Pn**	**11 02 10.0**	**+0.6**
TEPV	**Terepaima**	**4.95**	**50**	*e*P		**Pn**	**11 02 16.9**	**+0.7**
TEPV				*e*S		**Sn**	**11 03 11.0**	**-2.1**
SIQV	**Siquisique**	**4.99**	**40**	*e*P		**Pn**	**11 02 16.5**	**-0.3**
SIQV				*e*S		**Sn**	**11 03 11.6**	**-2.6**
BAUV	**El Baul**	**5.40**	**67**	*e*P		**Pn**	**11 02 22.0**	**-0.2**
BAUV				*e*S		**Sn**	**11 03 21.0**	**-2.9**
MAPV	**Macapo**	**5.45**	**56**	*e*P		**Pn**	**11 02 23.2**	**+0.3**
MONV	**Montecano**	**5.95**	**31**	*e*P		**Pn**	**11 02 29.0**	**-0.5**
TURV	**Turiamo**	**6.30**	**55**	*e*P		**Pn**	**11 02 34.7**	**+0.6**
YKA	**Yellowknife Ar**	**63.30**	**340**	P		**P**	**11 11 15.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=136,slow=6.4,SNR=7.9							
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**	**11 20 34.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=115,slow=3.6,SNR=5.5							
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc		**PKPbc**	**11 20 37.4**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=106,slow=2.8,SNR=6.1							

*NIED **15** 11:07:00, 37.70N×142.90E, h11km, Mw3.8 Best double couple: M0 5.81000×10^14 NP1:φ=173.00000°, δ=43.00000°, λ=-42.00000°. NP2:φ=296.00000°, δ=63.00000°, λ=-125.00000°.*
*IDC **15** 11:07:25.6±0.8, 37.63N×143.12E, h0km, mb3.7/10, mb1 3.8/14, mb1mx3.7/42, mbtmp3.7/14, ML3.4/3, MS2.6/6, Ms1 2.6/6, ms1mx2.4/56, Error ellipse: s-maj=26.2km s-min=16.2km az=107.0*
*ISCJB **15** 11:07:27.4±0.6, 37.68N±0.05×142.98E±0.05, h24km, mb3.7/10, MS2.7/2, Error ellipse: s-maj=7.7km s-min=5.8km az=166.4*
*JMA **15** 11:07:27.7±0.2, 37.69N×142.86E, h17km, MS3.7*

ISC 15 11:07:29.4±0.8, 37.68N±0.06×142.95E±0.07, h24km, n37, σ1.24/31, mb3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**1.48**	**302**	P		**Pn**	**11 07 53.0**	**-1.6**
JIO				*e*S		**Sn**	**11 08 10.7**	**-2.5**
JFK	**Kawauchi**	**1.68**	**260**	P		**Pn**	**11 07 55.6**	**-1.7**
JMM	**Marumori**	**1.72**	**277**	P		**Pn**	**11 07 56.3**	**-1.6**
JMM				S		**Sn**	**11 08 17.5**	**-1.6**
JMK	**Ichinoseki**	**1.87**	**314**	P		**Pn**	**11 07 58.1**	**-1.7**
JOU	**Ok

*DDA **15** 11:32:04.3, 34.˚55N×32.˚79E, h7km, Ml4.2*
*HLW **15** 11:32:05.6, 34.˚66N×32.˚83E, h33km±32km, Md3.5, Ml3.6*
*CSEM **15** 11:32:05.2±0.1, 34.˚42N×32.˚80E, h10km, ML4.0, Error ellipse: s-maj=3.4km s-min=2.0km az=71.0*

ISC 15 11:32:04.2±1.3, **34.˚45N**±0.˚02×**32.˚84E**±0.˚02, **h7**km±9km, **n224**, σ1s**38**/286, **mb3.8**/12, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni**	**0.30**	**6**	P	**Pb**	**11 32 11.6**	**-0.4**
	baz=177						
SZAC				S	**Sb**	**11 32 17.8**	**+0.5**
SZAC	**Souni**	**0.30**	**6**	P	**Pb**	**11 32 11.6**	**-0.4**
SZAC				S	**Sb**	**11 32 17.8**	**+0.5**
PPCY	**Paphos**	**0.60**	**317**	P	**Pb**	**11 32 17.2**	**+0.3**
	baz=137						
PPCY	**Paphos**	**0.60**	**317**	P	**Pb**	**11 32 17.2**	**+0.3**
CSS	**Mathiatis**	**0.65**	**38**	P	**Pb**	**11 32 17.1**	**-0.8**
	baz=210						
CSS				S	**Sb**	**11 32 28.1**	**+0.9**
CSS	**Mathiatis**	**0.65**	**38**	Pg	**Pb**	**11 32 17.1**	**-0.8**
CSS	**Mathiatis**	**0.65**	**38**	P	**Pb**	**11 32 17.1**	**-0.8**
CSS				S	**Sb**	**11 32 28.1**	**+0.9**
CSS	**Mathiatis**	**0.65**	**38**	*e*Pg	**Pg**	**11 32 16.7**	**-0.1**
LEF	**Lefka**	**0.67**	**3**	PG	**Pb**	**11 32 17.9**	**-0.3**
LEF				SG	**Sn**	**11 32 30.7**	**-0.1**
LEF	**Lefka**	**0.67**	**3**	*i* Pg	**Pb**	**11 32 17.9**	**-0.3**
LEF				*i* Sg	**Sn**	**11 32 30.7**	**-0.1**
AKMC	**Akamas**	**0.71**	**324**	P	**Pn**	**11 32 19.6**	**-1.1**
	baz=143						
AKMC	**Akamas**	**0.71**	**324**	P	**Pn**	**11 32 19.6**	**-1.1**
ALFC	**Alefka**	**0.73**	**344**	P	**Pn**	**11 32 19.8**	**-1.2**
	baz=162						
ALFC	**Alefka**	**0.73**	**344**	P	**Pn**	**11 32 19.8**	**-1.2**
LFK	**Lefkose**	**1.00**	**34**	PN	**Pb**	**11 32 24.7**	**+0.1**
LFK				SN	**Sn**	**11 32 42.4**	**+3.3**
LFK	**Lefkose**	**1.00**	**34**	*i* Pn	**Pn**	**11 32 24.7**	**-0.1**
LFK				*i* Sn	**Sn**	**11 32 42.4**	**+3.3**
GAZI	**Gazipasa**	**1.83**	**347**	P	**Pb**	**11 32 36.6**	**-1.4**
GAZI				S	**Sb**	**11 33 01.1**	**-0.1**
GAZI	**Gazipasa**	**1.83**	**347**	*i* P	**Pb**	**11 32 36.6**	**-1.4**
GAZI				*i* S	**Sb**	**11 33 01.1**	**-0.1**
IKL	**Isikli**	**1.91**	**21**	*e*PN	**Pb**	**11 32 38.1**	**-1.3**
IKL				*e*SN	**Sg**	**11 33 05.3**	**-0.4**
IKL	**Isikli**	**1.91**	**21**	*e*Pn	**Pb**	**11 32 38.1**	**-1.3**
IKL				*e*Sn	**Sg**	**11 33 05.3**	**-0.4**
ERMK	**Ermenek**	**2.19**	**1**	P	**Pb**	**11 32 43.4**	**-0.8**
ERMK	**Ermenek**	**2.19**	**1**	*i* P	**Pb**	**11 32 43.4**	**-0.8**
ERMK				*i* S	**Sg**	**11 33 15.4**	**+0.9**
KIZK	**Mersin**	**2.29**	**27**	P	**Pb**	**11 32 44.1**	**-1.7**
KIZK				S	**Sb**	**11 33 14.5**	**+0.3**
KIZK	**Mersin**	**2.29**	**27**	*i* P	**Pb**	**11 32 44.1**	**-1.7**
KIZK				*i* S	**Sb**	**11 33 14.5**	**+0.3**
HNTI	**Hanita**	**2.37**	**124**	Pn	**Pn**	**11 32 44.1**	**+0.6**
HNTI	**Hanita**	**2.37**	**124**	Pn	**Pn**	**11 32 44.1**	**+0.6**
DQRL	**Deir Qamar**	**2.38**	**107**	*e*P	**Pb**	**11 32 45.9**	**-1.6**
DQRL	**Deir Qamar**	**2.38**	**107**	*e*P	**Pb**	**11 32 45.9**	**-1.6**
OFRI	**'Ofer**	**2.56**	**135**	Pn	**Pn**	**11 32 45.5**	**-0.6**
OFRI	**'Ofer**	**2.56**	**135**	Pn	**Pn**	**11 32 45.5**	**-0.6**
MMA0B	**Mount Meron ar**	**2.57**	**123**	Pn	**Pn**	**11 32 45.9**	**-0.4**
MMA0B				Sn	**Sn**	**11 33 18.2**	**+0.4**
MMA0B	**Mount Meron ar**	**2.57**	**123**	Pn	**Pn**	**11 32 45.9**	**-0.4**
MMA0B				Sn	**Sn**	**11 33 18.2**	**+0.4**
MMAI	**Mount Meron Ar**	**2.57**	**123**	Pn	**Pn**	**11 32 45.9**	**-0.4**
	50nm,0.3s,baz=307,slow=12,SNR=113						
MMAI				Sn	**Sn**	**11 33 17.4**	**-0.4**
	182nm,0.3s,baz=316,slow=29,SNR=17						
HWQ	**Hawqa**	**2.57**	**93**	*e*P	**Pn**	**11 32 45.2**	**-1.2**
HWQ	**Hawqa**	**2.57**	**93**	*e*P	**Pn**	**11 32 45.2**	**-1.2**
BLGI	**Bet Lehem HaGe**	**2.60**	**130**	Pn	**Pn**	**11 32 48.0**	**+1.3**
BLGI	**Bet Lehem HaGe**	**2.60**	**130**	Pn	**Pn**	**11 32 48.0**	**+1.3**
KSDI	**Kefar Szold**	**2.66**	**117**	Pn	**Pn**	**11 32 47.2**	**-0.3**
KSDI	**Kefar Szold**	**2.66**	**117**	Pn	**Pn**	**11 32 47.2**	**-0.3**
RCY	**Rachaya**	**2.66**	**110**	*e*P	**Pn**	**11 32 45.5**	**-2.1**
RCY	**Rachaya**	**2.66**	**110**	*e*P	**Pn**	**11 32 45.5**	**-2.1**
MERS	**Mersin**	**2.77**	**29**	*e*PN	**Pn**	**11 32 51.0**	**+1.9**
MERS	**Mersin**	**2.77**	**29**	*e*Pn	**Pn**	**11 32 51.0**	**+1.9**
BRBR	**Barbar**	**2.79**	**111**	*e*P	**Pn**	**11 32 49.9**	**+0.6**
BRBR				*e*S	**Sn**	**11 33 24.2**	**+0.9**
BRBR				AML	AML	11 33 26.6	
	comp=N,346nm,0.3s						
BRBR				AML	AML	11 33 27.1	
	comp=E,515nm,0.4s						
SLTI	**Sal'it**	**2.87**	**140**	Pn	**Pn**	**11 32 51.0**	**+0.6**
SLTI				Sn	**Sn**	**11 33 26.7**	**+1.5**
SLTI	**Sal'it**	**2.87**	**140**	Pn	**Pn**	**11 32 51.0**	**+0.6**
SLTI				Sn	**Sn**	**11 33 26.7**	**+1.5**
KSHT	**Keshet**	**2.88**	**120**	Pn	**Pn**	**11 32 51.2**	**+0.7**
KSHT	**Keshet**	**2.88**	**120**	Pn	**Pn**	**11 32 51.2**	**+0.7**
BIDA	**Albida**	**2.92**	**78**	*e*P	**Pn**	**11 32 50.5**	**-0.6**
BIDA				*e*S	**Sn**	**11 33 26.4**	**-0.1**
BIDA				AML	AML	11 33 33.8	
	comp=E,419nm,0.4s						
BIDA				AML	AML	11 33 34.9	
	comp=N,321nm,0.3s						
ARNB	**Al Arnab**	**2.92**	**60**	*e*P	**Pn**	**11 32 51.1**	**0.0**
ARNB				*e*S	**Sn**	**11 33 25.6**	**-1.1**
ARNB				AML	AML	11 33 30.6	
	comp=N,98nm,0.4s						
ARNB				AML	AML	11 33 31.6	
	comp=E,177nm,0.3s						
HAWK	**Haweek**	**2.94**	**88**	*e*P	**Pn**	**11 32 52.1**	**+0.6**
HAWK				*e*S	**Sn**	**11 33 26.7**	**-0.4**
HAWK				AML	AML	11 33 32.8	
	comp=E,123nm,0.3s						
HAWK				AML	AML	11 33 33.8	
	comp=N,90nm,0.5s						
MMLI	**Mount Malkishu**	**2.95**	**132**	Pn	**Pn**	**11 32 52.1**	**+0.7**
MMLI	**Mount Malkishu**	**2.95**	**132**	Pn	**Pn**	**11 32 52.1**	**+0.7**
DED	**Mersin**	**2.97**	**32**	*i* P	**Pn**	**11 32 53.8**	**+2.0**
DED				*i* S	**Sb**	**11 33 31.9**	**-2.1**
SHMJ	**Saham**	**2.98**	**124**	*e*P	**Pn**	**11 32 52.5**	**+0.5**
SHMJ	**Saham**	**2.98**	**124**	*e*P	**Pn**	**11 32 52.5**	**+0.5**
QASN	**Qassioun**	**3.00**	**107**	*e*P	**Pn**	**11 32 53.9**	**+1.7**
QASN				*e*S	**Sn**	**11 33 30.0**	**+1.6**
QASN				AML	AML	11 33 33.4	
	comp=N,399nm,0.4s						
QASN				AML	AML	11 33 37.2	
	comp=E,598nm,0.6s						
YAYL	**Yayladag**	**3.10**	**58**	P	**Pn**	**11 32 52.4**	**-1.3**
YAYL	**Yayladag**	**3.10**	**58**	*i* P	**Pn**	**11 32 52.4**	**-1.3**
YAYL				*i* S	**Sn**	**11 33 28.2**	**-2.9**
QRNJ	**Al-Qirein**	**3.11**	**132**	*e*P	**Pn**	**11 32 54.1**	**+0.5**
QRNJ	**Al-Qirein**	**3.11**	**132**	*e*P	**Pn**	**11 32 54.2**	**+0.5**
WRDH	**Warideh**	**3.12**	**69**	*e*P	**Pn**	**11 32 54.5**	**+0.8**
WRDH				*e*S	**Sn**	**11 33 30.9**	**-0.4**
WRDH				AML	AML	11 33 37.1	
	comp=N,100nm,0.3s						
WRDH				AML	AML	11 33 40.7	
	comp=E,147nm,0.3s						
HMDT	**Nahal Hemdat**	**3.14**	**134**	Pn	**Pn**	**11 32 55.4**	**+1.4**
HMDT				Sn	**Sn**	**11 33 33.3**	**+1.6**
HMDT	**Nahal Hemdat**	**3.14**	**134**	Pn	**Pn**	**11 32 55.4**	**+1.4**
HMDT				Sn	**Sn**	**11 33 33.3**	**+1.6**
TCHB	**Talchebab**	**3.16**	**123**	*e*P	**Pn**	**11 32 55.2**	**+0.9**
TCHB				*e*S	**Sn**	**11 33 33.3**	**+1.0**
TCHB				AML	AML	11 33 36.2	
	comp=E,633nm,0.5s						
TCHB				AML	AML	11 33 40.5	
	comp=N,260nm,0.3s						
TOTH	**TOTAH**	**3.17**	**109**	*e*S	**Sn**	**11 33 34.3**	**+1.6**
TOTH				AML	AML	11 33 37.8	
	comp=E,170nm,0.2s						
TOTH				AML	AML	11 33 38.0	
	comp=N,210nm,0.4s						
AKAS	**Kas**	**3.19**	**305**	P	**Pn**	**11 32 55.8**	**+1.0**
AKAS				S	**Sn**	**11 33 34.4**	**+1.2**
AKAS	**Kas**	**3.19**	**305**	*i* P	**Pn**	**11 32 55.8**	**+1.0**
AKAS				*i* S	**Sn**	**11 33 34.4**	**+1.2**
AJLJ	**Ajlon**	**3.21**	**130**	*e*P	**Pn**	**11 32 56.0**	**+0.9**
AJLJ	**Ajlon**	**3.21**	**130**	*e*P	**Pn**	**11 32 55.9**	**+0.7**
GULE	**Gulek**	**3.23**	**29**	P	**Pb**	**11 32 58.7**	**-3.3**
GULE				S	**Sb**	**11 33 40.0**	**-1.7**
GULE	**Gulek**	**3.23**	**29**	*i* P	**Pb**	**11 32 58.7**	**-3.3**
GULE				*i* S	**Sb**	**11 33 40.0**	**-1.7**
YURE	**YUREGIR**	**3.28**	**43**	P	**Pn**	**11 32 57.5**	**+1.4**
YURE	**YUREGIR**	**3.28**	**43**	*i* P	**Pn**	**11 32 57.5**	**+1.4**
ELL	**Elmali**	**3.31**	**315**	*e*PN	**Pn**	**11 32 57.0**	**+0.5**
ELL	**Elmali**	**3.31**	**315**	*e*Pn	**Pn**	**11 32 57.0**	**+0.5**
KARA	**Karaisali**	**3.33**	**32**	*e*PN	**Pn**	**11 32 58.9**	**+2.2**
KARA	**Karaisali**	**3.33**	**32**	*e*Pn	**Pn**	**11 32 58.9**	**+2.2**
TAHT	**Tahtakopru-Hat**	**3.34**	**54**	*e*PN	**Pn**	**11 32 58.6**	**+1.8**
TAHT	**Tahtakopru-Hat**	**3.34**	**54**	*e*Pn	**Pn**	**11 32 58.6**	**+1.8**
KFRA	**Kufra**	**3.34**	**76**	*e*P	**Pn**	**11 32 57.6**	**+0.7**
KFRA				*e*S	**Sn**	**11 33 36.2**	**-0.7**
KFRA				AML	AML	11 33 45.5	
	comp=E,133nm,0.4s						
KFRA				AML	AML	11 33 47.2	
	comp=N,357nm,0.3s						
BTCH	**Batrach**	**3.36**	**61**	*e*P	**Pn**	**11 32 58.0**	**+0.8**
BTCH				*e*S	**Sn**	**11 33 35.4**	**-1.8**
BTCH				AML	AML	11 33 41.2	
	comp=N,236nm,0.5s						
BTCH				AML	AML	11 33 42.7	
	comp=E,359nm,0.4s						
SUTC	**Sutluce-Ispart**	**3.37**	**334**	*e*PN	**Pn**	**11 32 58.2**	**+0.9**
SUTC	**Sutluce-Ispart**	**3.37**	**334**	*e*Pn	**Pn**	**11 32 58.2**	**+0.9**
AMAZ	**Amatzia**	**3.39**	**149**	Pn	**Pn**	**11 32 58.6**	**+1.0**
AMAZ	**Amatzia**	**3.39**	**149**	Pn	**Pn**	**11 32 58.6**	**+1.0**
CEYT	**Ceyhan**	**3.48**	**42**	*e*PN	**Pn**	**11 33 00.5**	**+1.8**
CEYT	**Ceyhan**	**3.48**	**42**	*e*Pn	**Pn**	**11 33 00.5**	**+1.8**
KONT	**Konya--Tatoy**	**3.51**	**354**	*e*PN	**Pn**	**11 33 00.3**	**+1.1**
KONT	**Konya--Tatoy**	**3.51**	**354**	*e*Pn	**Pn**	**11 33 00.3**	**+1.1**
RSH		**3.56**	**168**	P	**Pn**	**11 33 00.2**	**+0.4**
	baz=168						
RSH		**3.56**	**168**	P	**Pn**	**11 33 00.2**	**+0.4**
DSI	**Dead Sea**	**3.58**	**143**	Pn	**Pn**	**11 33 00.7**	**+0.6**
DSI				Sn	**Sn**	**11 33 44.3**	**+1.7**
DSI	**Dead Sea**	**3.58**	**143**	Pn	**Pn**	**11 33 00.7**	**+0.6**
DSI				Sn	**Sn**	**11 33 44.3**	**+1.7**
AKO	**Adana**	**3.67**	**34**	*i* P	**Pn**	**11 33 03.6**	**+2.2**
AKO				*i* S	**Sn**	**11 33 47.7**	**+2.8**
SALA	**Sala**	**3.68**	**117**	*e*P	**Pn**	**11 33 03.3**	**+1.6**
SALA				*e*S	**Sn**	**11 33 46.2**	**+0.8**
SALA				AML	AML	11 33 50.4	
	comp=E,17nm,0.4s						
SALA				AML	AML	11 33 51.5	
	comp=N,113nm,0.5s						
FETY	**Fethiye**	**3.76**	**306**	*e*PN	**Pn**	**11 33 02.4**	**-0.2**
FETY	**Fethiye**	**3.76**	**306**	*e*Pn	**Pn**	**11 33 02.4**	**-0.2**
LADK	**Ladik-KONYA**	**3.76**	**354**	*e*PN	**Pn**	**11 33 04.0**	**+1.3**
LADK	**Ladik-KONYA**	**3.76**	**354**	*e*Pn	**Pn**	**11 33 04.0**	**+1.3**
KZIT	**Kziot**	**3.77**	**159**	*e*PN	**Pn**	**11 33 00.8**	**-2.0**
KZIT	**Kziot**	**3.77**	**159**	Pn	**Pn**	**11 33 02.8**	**+0.1**
KZIT	**Kziot**	**3.77**	**159**	Pn	**Pn**	**11 33 02.8**	**+0.1**
MZBI	**Masada**	**3.78**	**145**	Pn	**Pn**	**11 33 04.0**	**+1.2**
MZBI	**Masada**	**3.78**	**145**	Pn	**Pn**	**11 33 04.0**	**+1.2**
MZDA	**Masada**	**3.78**	**145**	Pn	**Pn**	**11 33 03.8**	**+0.9**
MZDA	**Masada**	**3.78**	**145**	Pn	**Pn**	**11 33 03.8**	**+0.9**
DRWC	**Darouich**	**3.80**	**54**	*e*P	**Pn**	**11 33 03.3**	**+0.2**
DRWC				*e*S	**Sn**	**11 33 47.1**	**-1.0**
WALJ	**Wala**	**3.81**	**138**	*e*P	**Pn**	**11 33 04.1**	**+0.9**
WALJ	**Wala**	**3.81**	**138**	*e*P	**Pn**	**11 33 04.1**	**+0.9**
GLHS	**Glhisar (BURDU**	**3.83**	**316**	*e*PN	**Pn**	**11 33 03.7**	**0.0**
GLHS	**Glhisar (BURDU**	**3.83**	**316**	*e*Pn	**Pn**	**11 33 03.7**	**0.0**
GOLH	**Golhisar**	**3.85**	**317**	P	**Pn**	**11 33 06.8**	**+2.9**
GOLH	**Golhisar**	**3.85**	**317**	*i* P	**Pn**	**11 33 06.8**	**+2.9**
ISP	**Isparta**	**3.85**	**332**	*e*Pn	**Pn**	**11 33 06.1**	**+2.1**
ISP				*e*Sg	**Sg**	**11 34 11.9**	**+3.9**
ISP	**Isparta**	**3.85**	**332**	*e*Pn	**Pn**	**11 33 06.1**	**+2.1**
ISP				*e*Sg	**Sg**	**11 34 11.8**	**+3.9**
BAGO	**Egridir - ISPA**	**3.90**	**335**	*i* P	**Pn**	**11 33 08.1**	**+3.4**
BAGO				*i* S	**Sb**	**11 33 57.6**	**-3.3**
NIG	**Nigde**	**3.92**	**21**	*e*PN	**Pn**	**11 33 07.4**	**+2.3**
NIG	**Nigde**	**3.92**	**21**	*e*Pn	**Pn**	**11 33 07.4**	**+2.3**
ZALF	**Zalf**	**4.04**	**111**	*e*P	**Pn**	**11 33 08.2**	**+1.7**
ZALF				*e*S	**Sn**	**11 33 54.5**	**+0.4**
ZALF				AML	AML	11 34 01.5	
	comp=N,48nm,0.4s						
ZALF				AML	AML	11 34 01.8	
	comp=E,50nm,0.6s						
ZALF				AML	AML	11 34 05.9	
	comp=Z,36nm,0.5s						
KARJ		**4.08**	**144**	*e*P	Pn	11 32 58.0	-8.9
KARJ		**4.08**	**144**	*e*P	Pn	11 32 58.1	-8.8
ASF	**Jabal al Asfar**	**4.08**	**123**	Pn	**Pn**	**11 33 07.9**	**+0.8**
	comp=Z,5.0nm,0.3s,baz=243,slow=6.6,SNR=20						
ASF				Sn	**Sn**	**11 33 58.4**	**+3.1**
	comp=Z,7.9nm,0.3s,baz=4.4,slow=20,SNR=6.8						
KDHN	**Kadinhani**	**4.10**	**352**	P	**Pn**	**11 33 10.1**	**+2.7**
KDHN	**Kadinhani**	**4.10**	**352**	*i* P	**Pn**	**11 33 10.1**	**+2.7**
KDHN				*i* S	**Sb**	**11 34 03.9**	**-2.7**
CHBY	**Cihanbeyli**	**4.12**	**1**	*e*PN	**Pn**	**11 33 10.0**	**+2.3**
CHBY	**Cihanbeyli**	**4.12**	**1**	*e*PN	**Pn**	**11 33 10.0**	**+2.3**
KAMA	**Osmaniye**	**4.14**	**48**	*i* P	**Pn**	**11 33 08.6**	**+0.7**
KAMA				*i* S	**Sn**	**11 33 56.2**	**-0.4**
DALY	**Dalyan (Mu˘la**	**4.15**	**306**	*e*PN	**Pn**	**11 33 07.8**	**-0.1**
DALY	**Dalyan (Mu˘la**	**4.15**	**306**	*e*Pn	**Pn**	**11 33 07.8**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**4.17**	**29**	P	**Pn**	**11 33 11.3**	**+3.0**
YAHY				S	**Sn**	**11 34 02.2**	**+4.9**
YAHY	**KAYSERI_Yahyal**	**4.17**	**29**	*i* P	**Pn**	**11 33 11.3**	**+3.0**
YAHY				*i* S	**Sn**	**11 34 02.2**	**+4.9**
RMNI	**Mount Ramon**	**4.17**	**157**	Pn	**Pn**	**11 33 09.0**	**+0.7**
RMNI	**Mount Ramon**	**4.17**	**157**	Pn	**Pn**	**11 33 09.0**	**+0.7**
SWQJ	**Swaqa**	**4.19**	**139**	*e*P	**Pn**	**11 33 07.2**	**-1.4**
SWQJ	**Swaqa**	**4.19**	**139**	*e*P	**Pn**	**11 33 07.1**	**-1.5**
TURN	**Turunc**	**4.21**	**306**	*i* P	**Pn**	**11 33 11.6**	**+2.8**
ZFRI	**Zfri**	**4.36**	**152**	Pn	**Pn**	**11 33 11.6**	**+0.8**
ZFRI				Sn	**Sn**	**11 34 03.2**	**+1.4**
ZFRI	**Zfri**	**4.36**	**152**	Pn	**Pn**	**11 33 11.6**	**+0.8**
ZFRI				Sn	**Sn**	**11 34 03.2**	**+1.4**
JDRJ	**Daraweish**	**4.41**	**147**	*e*P	**Pn**	**11 33 13.3**	**+1.6**
JDRJ	**Daraweish**	**4.41**	**147**	*e*P	**Pn**	**11 33 13.3**	**+1.6**
PRNI	**Paran**	**4.48**	**155**	Pn	**Pn**	**11 33 13.0**	**+0.5**
PRNI				Sn	**Sn**	**11 34 05.4**	**+0.6**
PRNI	**Paran**	**4.48**	**155**	Pn	**Pn**	**11 33 13.0**	**+0.5**
PRNI				Sn	**Sn**	**11 34 05.4**	**+0.6**
KIZT	**Kizilcal**	**4.49**	**350**	*e*PN	**Pn**	**11 33 14.8**	**+2.1**
KIZT	**Kizilcal**	**4.49**	**350**	*e*Pn	**Pn**	**11 33 14.8**	**+2.1**
HHAG	**Hagoal**	**4.53**	**188**	P	**Pn**	**11 33 13.3**	**+0.1**
	baz=188						
HHAG				AMP		11 34 00.0	
	comp=N,110μm,0.4s,logA/T=5.4,baz=188						
HHAG	**Hagoal**	**4.53**	**188**	P	**Pn**	**11 33 13.3**	**+0.1**
YER	**Yerkesik**	**4.57**	**307**	*e*PN	**Pn**	**11 33 14.4**	**+0.6**
YER	**Yerkesik**	**4.57**	**307**	*e*Pn	**Pn**	**11 33 14.4**	**+0.6**
KOT	**Kottamia**	**4.59**	**191**	P	**Pn**	**11 33 14.7**	**+0.7**
	baz=191						
KOT				S	**Sn**	**11 34 06.0**	**-1.6**
	baz=191						
KOT	**Kottamia**	**4.59**	**191**	P	**Pn**	**11 33 14.7**	**+0.7**
KOT				S	**Sn**	**11 34 06.0**	**-1.6**
SUZ	**Suez**	**4.60**	**180**	P	**Pn**	**11 33 14.2**	**+0.1**
	baz=179						
SUZ	**Suez**	**4.60**	**180**	P	**Pn**	**11 33 14.2**	**+0.1**
KRMI	**Paran Flat**	**4.61**	**159**	Pn	**Pn**	**11 33 14.8**	**+0.5**
KRMI	**Paran Flat**	**4.61**	**159**	Pn	**Pn**	**11 33 14.8**	**+0.5**
HNKL	**Nakhl**	**4.61**	**168**	P	**Pn**	**11 33 14.7**	**+0.4**
	baz=168						
HNKL				AMP		11 34 00.0	
	comp=N,120μm,0.9s,logA/T=5.1,baz=168						
HNKL				S	**Sn**	**11 34 06.2**	**-1.9**
	baz=168						
HNKL	**Nakhl**	**4.61**	**168**	P	**Pn**	**11 33 14.7**	**+0.4**
HNKL				S	**Sn**	**11 34 06.2**	**-1.9**
KHL	**Karahalli**	**4.70**	**326**	*e*PN	**Pn**	**11 33 16.0**	**+0.4**
KHL	**Karahalli**	**4.70**	**326**	*e*Pn	**Pn**	**11 33 16.0**	**+0.4**
HRFI	**Mount Harif**	**4.78**	**156**	Pn	**Pn**	**11 33 16.5**	**-0.1**
HRFI	**Mount Harif**	**4.78**	**156**	Pn	**Pn**	**11 33 16.5**	**-0.1**
SARI	**SarD1z-Kayseri**	**4.89**	**35**	*e*PN	**Pn**	**11 33 20.6**	**+2.3**
BYRJ	**Bayer**	**4.90**	**140**	*e*P	**Pn**	**11 33 19.4**	**+1.1**
BYRJ	**Bayer**	**4.90**	**140**	*e*P	**Pn**	**11 33 19.4**	**+1.1**
GLL	**Jalalah**	**4.95**	**192**	P	**Pn**	**11 33 19.4**	**+0.4**
	baz=191						
GLL	**Jalalah**	**4.95**	**192**	P	**Pn**	**11 33 19.4**	**+0.4**
MBRI	**Mt Berech**	**4.96**	**159**	Pn	**Pn**	**11 33 19.7**	**+0.5**
MBRI				Sn	**Sn**	**11 34 18.2**	**+1.3**
MBRI	**Mt Berech**	**4.96**	**159**	Pn	**Pn**	**11 33 19.7**	**+0.5**
MBRI				Sn	**Sn**	**11 34 18.2**	**+1.3**
ZNM	**Zenema**	**5.06**	**180**	P	**Pn**	**11 33 20.6**	**+0.1**
	baz=179						
ZNM	**Zenema**	**5.06**	**180**	P	**Pn**	**11 33 20.6**	**+0.1**
AQBJ	**Aqaba**	**5.07**	**158**	*e*P	**Pn**	**11 33 21.6**	**+1.1**
AQBJ	**Aqaba**	**5.07**	**158**	*e*P	**Pn**	**11 33 21.5**	**+0.9**
EIL	**Elat**	**5.09**	**159**	Pn	**Pn**	**11 33 21.4**	**+0.5**
	comp=N,15nm,0.3s,baz=330,slow=4.6,SNR=76						
EIL				Sn	**Sn**	**11 34 21.1**	**+1.1**
	comp=N,25nm,0.3s,baz=281,slow=20,SNR=10						
EIL				LR	LR	11 35 50.6	
	comp=N,48nm,18.6s,baz=260,slow=44						
EIL	**Elat**	**5.09**	**159**	Pn	**Pn**	**11 33 21.1**	**+0.2**
EIL				Sn	**Sn**	**11 34 21.2**	**+1.2**
BDRM	**Kayabasi**	**5.11**	**302**	P	**Pn**	**11 33 20.8**	**-0.3**
BDRM	**Kayabasi**	**5.11**	**302**	*i* P	**Pn**	**11 33 20.8**	**-0.3**
BRTR	**Keskin Array B**	**5.30**	**7**	Pn	**Pn**	**11 33 26.6**	**+2.7**
	comp=N,2.0nm,0.3s,baz=183,slow=15,SNR=40						
HITJ	**Hittiya**	**5.34**	**151**	*e*P	**Pn**	**11 33 25.6**	**+1.2**
HITJ	**Hittiya**	**5.34**	**151**	*e*P	**Pn**	**11 33 25.6**	**+1.2**
HBST	**Basata**	**5.46**	**162**	P	**Pn**	**11 33 26.6**	**+0.6**
	baz=162						
HBST	**Basata**	**5.46**	**162**	P	**Pn**	**11 33 26.6**	**+0.6**
NUB		**5.62**	**164**	P	**Pn**	**11 33 28.4**	**+0.2**
	baz=164						
HDHB	**Dhahab**	**5.91**	**165**	P	**Pn**	**11 33 32.4**	**+0.2**
	baz=165						
HDHB	**Dhahab**	**5.91**	**165**	P	**Pn**	**11 33 32.3**	**+0.2**
NBNS	**Bani Suef**	**5.96**	**193**	P	**Pn**	**11 33 32.9**	**0.0**
	baz=193						
NBNS	**Bani Suef**	**5.96**	**193**	P	**Pn**	**11 33 32.9**	**0.0**
TR2	**Tor 2**	**6.09**	**173**	P	**Pn**	**11 33 35.5**	**+0.8**
	baz=172						
TR2	**Tor 2**	**6.09**	**173**	P	**Pn**	**11 33 35.5**	**+0.8**
GRB	**Gharib**	**6.16**	**180**	P	**Pn**	**11 33 36.1**	**+0.5**
	baz=181						
GRB	**Gharib**	**6.16**	**180**	P	**Pn**	**11 33 36.2**	**+0.5**
IDI	**Anoyia**	**6.59**	**280**	Pn	**Pn**	**11 33 42.0**	**+0.4**
	comp=N,1.0nm,0.3s,baz=101,slow=16,SNR=9.3						
IDI				Sn	**Sn**	**11 34 55.1**	**-1.9**
	comp=N,6.3nm,0.3s,baz=281,slow=17,SNR=9.7						
AWBH		**6.98**	**210**	P	**Pn**	**11 33 46.4**	**-0.4**
	baz=209						
AWBH		**6.98**	**210**	P	**Pn**	**11 33 46.4**	**-0.4**
SLUM	**Salum**	**7.06**	**247**	P	**Pn**	**11 33 47.1**	**-0.8**
	baz=246						
SLUM	**Salum**	**7.06**	**247**	P	**Pn**	**11 33 47.1**	**-0.8**
SWA2		**8.15**	**232**	P	**Pn**	**11 34 01.5**	**-1.4**
	baz=232						
SWA2		**8.15**	**232**	P	**Pn**	**11 34 01.5**	**-1.4**
HFRF	**Wahat Farafira**	**8.26**	**209**	P	**Pn**	**11 34 04.0**	**-0.3**
	baz=209						
HFRF	**Wahat Farafira**	**8.26**	**209**	P	**Pn**	**11 34 04.0**	**-0.3**
CUC	**Castrocucco**	**14.64**	**297**	*e*Pn	**Pn**	**11 35 31.6**	**-0.2**
	comp=N,3.2nm,0.7s						
CUC	**Castrocucco**	**14.64**	**297**	*e*Pn	**Pn**	**11 35 31.6**	**-0.2**
	comp=N,3.3nm,0.7s						
KIEV	**Kiev**	**16.45**	**352**	*e*Pn	**P**	**11 35 57.0**	**-1.1**
	comp=N,9.1nm,1.0s						
KIEV	**Kiev**	**16.45**	**352**	*e*Pn	**P**	**11 35 57.0**	**-1.1**
	comp=N,9.1nm,1.0s			

JAR	**Ashorobuto**	**2.36**	**268**	*e*S	**Sn**	**11 33 47.1**	**+0.7**
JOB	**Onbets**	**2.38**	**259**	P	**Pn**	**11 33 19.4**	**+0.6**
JOB				*e*S	**Sn**	**11 33 47.1**	**+0.4**
JMP	**Maruseppu**	**2.71**	**284**	P	**Pn**	**11 33 24.8**	**+1.3**
JCH	**Churui**	**2.79**	**255**	P	**Pn**	**11 33 25.4**	**+0.9**
JCH				*e*S	**Sn**	**11 33 58.9**	**+2.0**
HRK	**Horoka**	**2.83**	**273**	*e*P	**Pn**	**11 33 27.0**	**+1.9**
JKK2	**Kamakawa 2**	**3.13**	**280**	P	**Pn**	**11 33 31.3**	**+2.1**
ERM	**Erimo**	**3.16**	**245**	*i* PN	**Pn**	**11 33 29.9**	**+0.3**
ERM	**Erimo**	**3.16**	**245**	*e*P	**Pn**	**11 33 29.9**	**+0.3**
JFR	**Furan**	**3.23**	**267**	P	**Pn**	**11 33 32.5**	**+1.9**
ASAJ	**Asahikawa**	**3.27**	**284**	P	**Pn**	**11 33 33.4**	**+2.2**
	comp=E,4.8nm,0.3s,baz=116,slow=12,SNR=25						
YSS	**Yuzh-Sakhalins**	**4.65**	**321**	*e*PN	**Pn**	**11 33 50.6**	**+0.6**
YSS				*e*S	**Sn**	**11 34 42.8**	**+0.1**
YSS				smax	smax		
	comp=N,20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.65**	**321**	*e*P	**Pn**	**11 33 52.0**	**+2.0**
UGL	**Uglegorsk**	**6.62**	**331**	*e*PN	**Pn**	**11 34 14.6**	**-2.5**
UGL				*e*		11 35 28.8	
HABR	**Khabarovsk**	**9.74**	**305**	*e*PN	**Pn**	**11 34 57.3**	**-2.6**
HABR				pmax	pmax		
	comp=Z,11nm,1.6s						
HABR				pmax	pmax		
	comp=N,6.0nm,0.8s						
HABR				pmax	pmax		
	comp=E,16nm,1.6s						
HABR				MLR	MLR		
	comp=Z,19nm,12.0s						
VLA	**Vladivostok**	**11.04**	**274**	⇑*i*PN	**Pn**	**11 35 21.0**	**+3.5**
VLA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VLA	**Vladivostok**	**11.04**	**274**	*e*P	**Pn**	**11 35 21.0**	**+3.5**
MSHR	**Mys Shultsa**	**11.64**	**271**	*e*PN	**Pn**	**11 35 26.8**	**+1.0**
PETK	**Petropavlovsk-**	**12.03**	**32**	P	**Pn**	**11 35 31.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=4.7						
PETK				LR	LR	11 40 17.8	
	comp=Z,18nm,18.9s,baz=155,slow=38						
PET	**Petropavlovsk**	**12.35**	**35**	*i* PN	**Pn**	**11 35 31.5**	**-3.9**
MA2	**Magadan**	**16.36**	**7**	LR	LR	11 43 29.8	
	comp=Z,21nm,19.1s,baz=161,slow=40						
HIA	**Hailar**	**19.66**	**297**	⇑*e*P	**P**	**11 37 05.9**	**-1.6**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SEY	**Seymchan**	**19.81**	**7**	P	**P**	**11 37 09.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=191,slow=9.3,SNR=6.3						
SEY	**Seymchan**	**19.81**	**7**	P	**P**	**11 37 10.0**	**+0.9**
SEY	**Seymchan**	**19.81**	**7**	*e*P	**P**	**11 37 10.0**	**+0.9**
YAK	**Yakutsk**	**21.27**	**337**	*e*P	**P**	**11 37 24.0**	**-0.9**
YAK				pmax	pmax		
	comp=Z,18nm,0.4s						
YAK	**Yakutsk**	**21.27**	**337**	*e*P	**P**	**11 37 23.9**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**28.91**	**138**	T	T	12 09 19.0	
	baz=330,slow=75,SNR=243						
H11N1	**WAKE ISLAND Hy**	**28.92**	**139**	T	T	12 09 21.9	
	baz=330,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.93**	**138**	T	T	12 09 22.1	
	baz=330,slow=75,SNR=32						
TIK	**Tiksi**	**29.66**	**348**	*e*P	**P**	**11 38 44.8**	**+1.3**
TIXI	**Tiksi**	**29.68**	**349**	⇓*e*P	**P**	**11 38 44.8**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,2.5s						
H11S1	**WAKE ISLAND Hy**	**29.87**	**140**	T	T	12 10 36.8	
	baz=330,slow=76,SNR=562						
H11S3	**WAKE ISLAND Hy**	**29.87**	**140**	T	T	12 10 39.3	
	baz=330,slow=76,SNR=112						
H11S2	**WAKE ISLAND Hy**	**29.89**	**140**	T	T	12 10 36.2	
	baz=330,slow=76,SNR=332						
COLA	**College**	**41.41**	**36**	⇑*e*P	**P**	**11 40 24.4**	**+0.2**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	**College**	**41.41**	**36**	*e*P	**P**	**11 40 24.4**	**+0.2**
ILAR	**Eielson Array**	**41.83**	**36**	P	**P**	**11 40 26.6**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=266,slow=7.0,SNR=12						
ILAR	**Eielson Array**	**41.83**	**36**	*e*P	**P**	**11 40 29.7**	**+2.0**
ILAR	**Eielson Array**	**41.83**	**36**	*e*P	**P**	**11 40 29.6**	**+1.9**
KURK	**Kurchatov**	**45.64**	**304**	*e*P	**P**	**11 40 57.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	**Kurchatov**	**45.64**	**304**	*e*P	**P**	**11 40 57.9**	**-0.5**
INK	**Inuvik**	**46.75**	**30**	P	**P**	**11 41 07.6**	**+0.7**
	comp=Z,2.3nm,0.5s,baz=285,slow=9.9,SNR=11						
RES	**Resolute Bay**	**55.33**	**17**	P	**P**	**11 42 11.0**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=309,slow=4.6,SNR=5.5						
YKA	**Yellowknife Ar**	**56.15**	**34**	P	**P**	**11 42 17.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=303,slow=7.1,SNR=6.9						
FINES	**FINESS Array B**	**65.13**	**333**	P	**P**	**11 43 18.1**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=59,slow=9.2,SNR=8.1						
NB2	**NORSAR Subarra**	**69.89**	**339**	P	**P**	**11 43 47.9**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=32,slow=6.2						
NOA	**NORSAR Array B**	**69.89**	**339**	P	**P**	**11 43 48.2**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=34,slow=6.1,SNR=7.7						
NOA	**NORSAR Array B**	**69.89**	**339**	*e*P	**P**	**11 43 48.0**	**-0.5**
NOA	**NORSAR Array B**	**69.89**	**339**	*e*P	**P**	**11 43 48.0**	**-0.5**
HFS	**Hagfors**	**69.97**	**337**	P	**P**	**11 43 48.3**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=35,slow=5.3,SNR=5.6						
COCO	**West Island**	**71.78**	**232**	*i* P	**P**	**11 43 59.3**	**-1.2**
AKASG	**Malin Array Be**	**71.79**	**324**	P	**P**	**11 43 59.8**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=241,slow=5.4,SNR=5.0						
TXAR	**Lajitas Array**	**82.93**	**56**	P	**P**	**11 45 04.1**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=293,slow=3.5,SNR=6.6						

NIED ***15*** *11:38:00,37.°70N×143.°00E,h11km,Mw4.1 Best double couple: M₀1.73000×10¹⁵ NP1:φ₀185.00000°, δ41.00000°, λ-68.00000°. NP2:φ₀336.00000°, δ53.00000°, λ-108.00000°.*

IDC ***15*** *11:38:06.7±0.6,37.°70N×142.°94E,h0km,mb4.1/22, mb1 4.2/27,mb1mx4.1/63,mbtmp4.0/27,ML3.5/4,MS3.0/9, Ms1 3.0/9,ms1mx2.8/41,Error ellipse: s-maj=17.2km s-min=13.0km az=90.0*

JMA ***15*** *11:38:08.2±0.2,37.°71N×143.°01E,h36km,M4.5*

NEIC ***15*** *11:38:10.5±1.7,37.°73N×142.°94E,h25km±11km,mb4.3/7, Error ellipse: s-maj=7.8km s-min=4.8km az=109.0*

ISC 15 11:38:07.6±3.5,37.°71N±0.°04×142.°88E±0.°06,h7km±21km, n74,σ1°37/77,mb4.2/29,MS3.0/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.42**	**302**	P		**Pn**	**11 38 33.5**	**-0.3**
JIO				S		**Sb**	**11 38 53.1**	**+0.4**
JFK	**Kawauchi**	**1.63**	**259**	P		**Pn**	**11 38 36.8**	**+0.1**
JFK				*e*S		**Sn**	**11 38 57.7**	**-0.3**
JMM	**Marumori**	**1.66**	**276**	P		**Pn**	**11 38 36.8**	**-0.3**
JMM				*e*S		**Sn**	**11 38 58.9**	**+0.2**
OFUJ	**Ofunato**	**1.67**	**326**	P		**Pn**	**11 38 36.8**	**-0.4**
OFUJ				S		**Sn**	**11 38 57.3**	**-1.6**
JMK	**Ichinoseki**	**1.80**	**314**	P		**Pn**	**11 38 39.2**	**+0.1**
JFT	**Otama**	**2.03**	**265**	P		**Pb**	**11 38 43.5**	**-1.3**
JOM	**Ohasama**	**2.16**	**325**	P		**Pn**	**11 38 44.3**	**+0.3**
JOM				*e*S		**Sn**	**11 39 11.5**	**+0.5**
JYK	**Kaneyama**	**2.32**	**302**	P		**Pn**	**11 38 47.4**	**+1.2**
JANG	**Nango**	**2.87**	**339**	P		**Pn**	**11 38 54.8**	**+1.1**
JAW	**Awa shima**	**2.96**	**286**	P		**Pn**	**11 38 56.9**	**+1.9**
JAG	**Ashikaga**	**3.02**	**246**	P		**Pn**	**11 38 56.9**	**+1.0**
JAG				*e*S		**Sn**	**11 39 33.9**	**+1.5**
BSO1	**Boso 1**	**3.41**	**207**	P		**Pn**	**11 39 01.6**	**+0.9**
JRY	**Ryogami san**	**3.61**	**243**	P		**Pn**	**11 39 05.4**	**+1.5**
JSD	**Sado**	**3.67**	**277**	P		**Pn**	**11 39 06.5**	**+1.8**
JOD2	**Odawara 2**	**3.91**	**233**	P		**Pn**	**11 39 09.1**	**+1.0**
MJAR	**Matsushiro Arr**	**3.91**	**254**	Pn		**Pn**	**11 39 10.2**	**+2.2**
	4.6nm,0.3s,baz=79,slow=15,SNR=37							
MAJO	**Matsushiro**	**3.91**	**254**	*e*Pn		**Pn**	**11 39 09.9**	**+1.8**
MAT	**Matsushiro**	**3.91**	**254**	P		**Pn**	**11 39 10.8**	**+2.7**
MAT				S		**Sn**	**11 39 53.2**	**-1.1**
MAT	**Matsushiro**	**3.91**	**254**	P		**Pn**	**11 39 11.2**	**+3.1**
ERM	**Erimo**	**4.31**	**3**	*e*Pn		**Pn**	**11 39 14.5**	**+1.0**
ERM				*e*Sn		**Sn**	**11 39 59.9**	**-4.1**
JHJ2	**Mitsune**	**5.22**	**210**	*e*Pn		**Pn**	**11 39 26.9**	**+0.8**
JHJ2				*e*Sn		**Sn**	**11 40 25.9**	**-0.7**
JHJ	**Hachijo jima 2**	**5.23**	**210**	Pn		**Pn**	**11 39 26.3**	**+0.1**
	23nm,0.3s,baz=340,slow=17,SNR=17							
JHJ				Sn		**Sn**	**11 40 23.8**	**-2.9**
	14nm,0.3s,baz=210,slow=20,SNR=2.6							
JHJ				LR		LR	11 41 44.5	
	comp=Z,114nm,19.7s,baz=84,slow=42							
ASAJ	**Asahikawa**	**6.41**	**358**	*e*Pn		**Pn**	**11 39 42.5**	**+0.2**
	3.9nm,0.6s							
ASAJ				*e*Sn		**Sn**	**11 40 55.3**	**-0.5**
USRK	**Ussuriysk Ar.**	**10.48**	**312**	Pn		**Pn**	**11 40 40.3**	**+2.2**
	0.2nm,0.3s,baz=122,slow=13,SNR=5.9							
JNU	**Nakatsue**	**10.81**	**249**	Pn		**Pn**	**11 40 46.5**	**+3.8**
	0.2nm,0.3s,baz=42,slow=12,SNR=2.3							
JNU				LR		LR	11 45 34.1	
	comp=Z,89nm,18.6s,baz=120,slow=41							
KSRS	**Korea Array**	**11.87**	**273**	Pn		**Pn**	**11 40 59.6**	**+2.3**
	0.1nm,0.3s,baz=90,slow=14,SNR=5.8							
KSRS				LR		LR	11 45 33.3	
	comp=Z,112nm,18.0s,baz=38,slow=37							
KSAR	**Wonju Array Be**	**11.90**	**273**	Pn		**Pn**	**11 40 59.6**	**+1.9**
KLR	**Kul'dur**	**14.05**	**329**	Pn		**Pn**	**11 41 25.9**	**-1.0**
	0.1nm,0.3s,baz=135,slow=13,SNR=3.7							
KLR				LR		LR	11 46 54.9	
	comp=Z,115nm,18.1s,baz=142,slow=38							
PETK	**Petropavlovsk-**	**18.53**	**29**	LR		LR	11 49 42.4	
	comp=Z,8.6nm,20.7s,baz=179,slow=38							
BJT	**Baijiatuan**	**20.90**	**285**	*e*P		**P**	**11 42 47.3**	**-3.2**
	9.6nm,0.8s							
MA2	**Magadan**	**22.47**	**11**	LR		LR	11 51 49.8	
	comp=Z,19nm,20.3s,baz=311,slow=37							
GUMO	**Guam**	**24.09**	**175**	*e*P		**P**	**11 43 19.9**	**-3.8**
SEY	**Seymchan**	**25.92**	**10**	P		**P**	**11 43 41.2**	**+1.2**
	3.1nm,0.5s,baz=201,slow=10,SNR=12							
H11N2	**WAKE ISLAND Hy**	**27.52**	**124**	T		T	12 12 51.0	
	baz=316,slow=75,SNR=88							
H11N1	**WAKE ISLAND Hy**	**27.53**	**124**	T		T	12 12 54.2	
	baz=316,slow=75,SNR=62							
H11N3	**WAKE ISLAND Hy**	**27.54**	**124**	T		T	12 12 55.1	
	baz=316,slow=75,SNR=87							
ULN	**Ulaanbaatar**	**27.96**	**303**	*e*P		**P**	**11 43 59.9**	**+1.2**
	4.8nm,1.3s							
H11S1	**WAKE ISLAND Hy**	**28.28**	**126**	T		T	12 13 47.3	
	baz=318,slow=75,SNR=34							
H11S3	**WAKE ISLAND Hy**	**28.28**	**126**	T		T	12 13 53.0	
	baz=318,slow=75,SNR=31							
H11S2	**WAKE ISLAND Hy**	**28.29**	**126**	T		T	12 13 46.1	
	baz=318,slow=75,SNR=29							
SONM	**Songino Array**	**28.39**	**303**	P		**P**	**11 44 03.5**	**+0.9**
	1.3nm,0.6s,baz=108,slow=10,SNR=8.0							
ENH	**Enshi**	**28.55**	**265**	*e*P		**P**	**11 44 03.8**	**-0.3**
	9.9nm,0.7s							
ZALV	**Zalesovo Beam**	**42.33**	**312**	P		**P**	**11 46 02.2**	**+0.3**
	1.3nm,0.5s,baz=102,slow=8.1,SNR=5.8							
ZALV				PcP		**PcP**	**11 47 55.1**	**-0.2**
	1.3nm,0.6s,baz=64,slow=3.4,SNR=4.0							
CMAR	**Chiang Mai Arr**	**42.80**	**256**	LR		LR	12 03 56.2	
	comp=Z,1.1nm,18.9s,baz=195,slow=36							
MKAR	**Makanchi Array**	**44.75**	**302**	P		**P**	**11 46 22.0**	**+0.4**
	1.6nm,0.6s,baz=83,slow=9.9,SNR=13							
KURK	**Kurchatov**	**46.44**	**308**	*e*P		**P**	**11 46 35.1**	**+0.3**
KURK	**Kurchatov**	**46.44**	**308**	*e*P		**P**	**11 46 35.1**	**+0.3**
	39nm,0.6s							
ILAR	**Eielson Array**	**48.30**	**33**	P		**P**	**11 46 49.5**	**+0.4**
	0.9nm,0.6s,baz=261,slow=6.3,SNR=19							
TKM2	**Tokmak 2**	**50.34**	**298**	*e*P		**P**	**11 47 05.7**	**+0.4**
	2.5nm,0.6s							
BVAR	**Borovoye Array**	**50.98**	**312**	P		**P**	**11 47 10.0**	**+0.2**
	0.9nm,0.5s,baz=68,slow=8.2,SNR=5.0							
BVAR				PcP		**PcP**	**11 48 26.0**	**+0.1**
	0.8nm,0.5s,baz=35,slow=5.3,SNR=2.9							
INK	**Inuvik**	**53.26**	**27**	*e*P		**P**	**11 47 26.1**	**-0.3**
	1.3nm,0.5s							
ARU	**Arti**	**56.63**	**319**	P		**P**	**11 47 51.4**	**+0.4**
	1.9nm,0.3s,baz=103,slow=17,SNR=2.9							
FITZ	**Fitzroy Crossi**	**57.83**	**199**	P		**P**	**11 48 00.3**	**+0.5**
	2.6nm,0.8s,baz=9.5,slow=6.1,SNR=7.6							
WRAB	**Tennant Creek**	**57.89**	**189**	*e*P		**P**	**11 48 00.3**	**+0.1**
	7.8nm,0.8s							
WRA	**Warramunga Arr**	**57.90**	**189**	P		**P**	**11 48 00.1**	**-0.2**
	8.0nm,0.7s,baz=7.6,slow=7.3,SNR=63							
ABKAR	**Akbulak array**	**58.40**	**310**	*e*P		**P**	**11 48 03.8**	**+0.2**
	1.6nm,0.6s							
AKTO	**Aktyubinsk**	**59.09**	**312**	P		**P**	**11 48 08.6**	**+0.2**
	1.1nm,0.6s,baz=70,slow=6.0,SNR=4.2							
ASAR	**Alice Springs**	**61.63**	**189**	P		**P**	**11 48 26.1**	**+0.2**
	2.3nm,0.7s,baz=14,slow=7.1,SNR=27							
YKA	**Yellowknife Ar**	**62.64**	**31**	P		**P**	**11 48 32.3**	**0.0**
	0.5nm,0.6s,baz=304,slow=6.6,SNR=7.2							
ARCES	**ARCESS Array B**	**63.78**	**340**	P		**P**	**11 48 39.7**	**0.0**
	2.3nm,1.1s,baz=43,slow=9.0,SNR=4.0							
FINES	**FINESS Array B**	**68.76**	**333**	P		**P**	**11 49 12.1**	**+0.3**
	2.3nm,0.6s,baz=46,slow=11,SNR=8.5							
STKA	**Stephens Creek**	**69.24**	**181**	P		**P**	**11 49 15.2**	**+0.3**
	1.3nm,0.7s,baz=14,slow=4.2,SNR=4.0							
KBZ	**Khabaz**	**71.35**	**311**	P		**P**	**11 49 28.9**	**+0.9**
	1.7nm,0.7s,baz=56,slow=3.6,SNR=3.9							
HFS	**Hagfors**	**73.95**	**336**	P		**P**	**11 49 43.8**	**+0.6**
	1.7nm,0.7s,baz=15,slow=6.2,SNR=5.7							
NB2	**NORSAR Subarra**	**74.01**	**338**	P		**P**	**11 49 44.0**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**74.01**	**338**	P		**P**	**11 49 44.0**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=40,slow=5.9,SNR=4.7							
NOA				LR		LR	12 25 21.3	
	comp=Z,13nm,20.1s,baz=260,slow=38							
AKASG	**Malin Array Be**	**74.47**	**323**	P		**P**	**11 49 46.2**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=46,slow=6.1,SNR=6.2							
PDAR	**Pinedale Array**	**76.36**	**46**	P		**P**	**11 49 57.8**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=328,slow=3.2,SNR=3.2							
BRTR	**Keskin Array B**	**79.27**	**312**	P		**P**	**11 50 14.5**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=160,slow=3.9,SNR=3.5							
GERES	**GERESS Array B**	**82.75**	**329**	LR		LR	12 30 27.2	
	comp=Z,35nm,18.6s,baz=3.0,slow=38							
TXAR	**Lajitas Array**	**88.78**	**53**	P		**P**	**11 51 02.7**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=314,slow=2.2,SNR=7.9							
TORD	**Torodi Ar. Bea**	**117.67**	**316**	PKP		**PKPdf**	**11 56 54.3**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=14,slow=2.4,SNR=3.0							
QSPA	**South Pole Qui**	**127.45**	**180**	*e*PKPdf		**PKPdf**	**11 57 12.2**	**-0.1**
LPAZ	**La Paz**	**145.35**	**60**	PKPbc		**PKPdf**	**11 57 47.6**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=344,slow=5.8,SNR=4.9							

AZER ***15*** *11:41:03.0±0.1,42.°22N×43.°24E,h5km,Error ellipse: s-maj=14.2km s-min=6.2km az=40.0*

MOS ***15*** *11:41:04.2±0.9,42.°56N×43.°46E,h4km,mb3.9/2,Error ellipse: s-maj=8.0km s-min=4.5km az=81.5*

TIF ***15*** *11:41:04.2,42.°55N×43.°48E,h14km*

CSEM ***15*** *11:41:05.1±0.3,42.°52N×43.°50E,h0km±4km,ML3.2,Error ellipse: s-maj=8.1km s-min=4.9km az=1.0*

DDA ***15*** *11:41:08.6,42.°08N×43.°49E,h7km,Md3.3*

ISC 15 11:41:05.0±0.7,42.°53N±0.°01×43.°48E±0.°02,h10km±5km, n67,σ0°87/120,11C-18D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**343**	P		**Pg**	**11 41 07.0**	**-0.2**
ONI				S		**Sg**	**11 41 09.1**	**+0.2**
ONI	**Oni**	**0.06**	**343**	PG		**Pg**	**11 41 07.1**	**-0.2**
ONI	**Oni**	**0.06**	**343**	P		**Pg**	**11 41 07.1**	**-0.2**
ONI				S		**Sg**	**11 41 09.1**	**+0.2**
DIGR	**Digorskoe uzhe**	**0.38**	**12**	*i* PG		**Pg**	**11 41 11.3**	**-1.2**
DIGR				*i* S		**Sg**	**11 41 16.5**	**-1.1**
DIGR				pmax	pmax			
	comp=Z,241nm,0.1s							
DIGR				smax	smax			
	comp=E,1μm,0.2s							
ZEI	**Tsey**	**0.41**	**50**	⇓*i*PG		**Pg**	**11 41 11.9**	**-1.1**
ZEI				*i* S		**Sg**	**11 41 17.4**	**-1.0**
LACR	**Lac**	**0.67**	**64**	*i* PG		**Pg**	**11 41 16.1**	**-1.9**
LACR				*i* S		**Sg**	**11 41 25.4**	**-1.5**
LACR				pmax	pmax			
	comp=Z,251nm,0.2s							
LACR				smax	smax			
	comp=N,3μm,0.4s							
KORR	**Kora**	**0.70**	**38**	⇓*i*PG		**Pg**	**11 41 17.8**	**-0.8**
KORR				*e*S		**Sg**	**11 41 27.4**	**-0.5**
GUDG	**Gudauri**	**0.74**	**95**	P		**Pg**	**11 41 18.7**	**-0.7**
GUDG				S		**Sg**	**11 41 28.5**	**-0.6**
GUDG	**Gudauri**	**0.74**	**95**	P		**Pg**	**11 41 18.7**	**-0.7**
GUDG				S		**Sg**	**11 41 28.5**	**-0.6**
LSNR	**Lesken**	**0.79**	**19**	⇓*i*PG		**Pg**	**11 41 19.4**	**-0.8**
LSNR				*e*S		**Sg**	**11 41 30.0**	**-0.6**
ARNR	**Ardon**	**0.88**	**42**	⇑*i*PG		**Pg**	**11 41 21.7**	**-0.2**
ARNR				*e*S		**Sg**	**11 41 33.7**	**+0.3**
NEY	**Neytrino**	**0.91**	**323**	*d i*PG		**Pg**	**11 41 21.4**	**-1.1**
NEY				*e*S		**Sg**	**11 41 33.5**	**-0.8**
NEY				smax	smax			
	comp=N,256nm,0.3s							
STDR	**Stavd-Durt**	**0.94**	**27**	⇓*i*PG		**Pg**	**11 41 22.9**	**-0.2**
STDR				*e*S		**Sg**	**11 41 35.5**	**+0.1**
NCK	**Nalchik**	**0.97**	**5**	*d i*PG		**Pg**	**11 41 22.9**	**-0.7**
NCK				*i* S		**Sb**	**11 41 37.2**	**+0.5**
NCK				pmax	pmax			
	comp=Z,450nm,0.3s							
NCK				smax	smax			
	comp=E,6μm,0.5s							
DUS	**Dusheti**	**1.01**	**115**	P		**Pb**	**11 41 24.9**	**+0.3**
DUS				S		**Sn**	**11 41 39.9**	**+0.3**
DUS	**Dusheti**	**1.01**	**115**	P		**Pb**	**11 41 24.9**	**+0.3**
DUS				S		**Sn**	**11 41 39.9**	**+0.3**
VLKR	**Vladikavkaz**	**1.02**	**59**	⇓*i*PG		**Pg**	**11 41 24.7**	**0.0**
VLKR				*e*S		**Sg**	**11 41 38.4**	**+0.4**
AKH	**Akhalkalaki**	**1.12**	**179**	P		**Pg**	**11 41 25.7**	**-0.8**
AKH				S		**Sb**	**11 41 41.8**	**+0.6**
AKH	**Akhalkalaki**	**1.12**	**179**	PG		**Pg**	**11 41 25.7**	**-0.8**
AKH				S		**Sb**	**11 41 41.8**	**+0.6**
AKH	**Akhalkalaki**	**1.12**	**179**	P		**Pg**	**11 41 25.7**	**-0.8**
AKH				S		**Sb**	**11 41 41.8**	**+0.6**
BTKR	**Batakoyurt**	**1.15**	**43**	⇑*i*PG		**Pn**	**11 41 27.5**	**+0.4**
BTKR				*e*S		**Sn**	**11 41 43.1**	**+0.2**
KMGR	**Komgaron**	**1.15**	**62**	*e*PG		**Pb**	**11 41 26.0**	**-1.0**
KMGR				*e*S		**Sb**	**11 41 41.4**	**-0.6**
EPOS	**Posof**	**1.17**	**209**	S		**Sn**	**11 41 43.8**	**+0.2**
EPOS	**Posof**	**1.17**	**209**	*i* P		**Pb**	**11 41 26.8**	**-0.5**
EPOS				*i* S		**Sn**	**11 41 43.8**	**+0.2**
TBLG	**Delisi**	**1.23**	**130**	P		**Pn**	**11 41 28.0**	**-0.3**
TBLG				S		**Sn**	**11 41 45.7**	**+0.7**
TBLG	**Delisi**	**1.23**	**130**	PG		**Pn**	**11 41 28.0**	**-0.3**
TBLG				S		**Sn**	**11 41 45.7**	**+0.7**
TBLG	**Delisi**	**1.23**	**130**	P		**Pn**	**11 41 28.0**	**-0.3**
TBLG				S		**Sb**	**11 41 44.5**	**+0.2**
BGD	**Bogdanovka**	**1.27**	**176**	P		**Pn**	**11 41 28.2**	**-0.7**
BGD				S		**Sn**	**11 41 46.5**	**+0.4**
BGD	**Bogdanovka**	**1.27**	**176**	P		**Pn**	**11 41 28.2**	**-0.7**
BGD				S		**Sn**	**11 41 46.5**	**+0.4**
KBTC	**Kuba-Taba**	**1.29**	**358**	⇓*i*PG		**Pn**	**11 41 28.7**	**-0.3**
KBTC				*i* S		**Sg**	**11 41 47.1**	**+0.7**
KZR	**Kazreti**	**1.34**	**148**	P		**Pn**	**11 41 29.0**	**-0.8**
KZR				S		**Sb**	**11 41 47.5**	**-0.1**
KZR	**Kazreti**	**1.34**	**148**	P		**Pn**	**11 41 29.0**	**-0.8**
KZR				S		**Sb**	**11 41 47.5**	**-0.1**
SHA1	**Shidzhatmaz**	**1.35**	**334**	⇑*i*PG		**Pn**	**11 41 29.6**	**-0.5**
SHA1				*i* S		**Sb**	**11 41 47.3**	**-0.5**
PRTR	**Priterechnaya**	**1.35**	**26**	*e*PG		**Pn**	**11 41 30.3**	**+0.4**
PRTR				*e*S		**Sg**	**11 41 48.5**	**-0.1**
TRKR	**Terskaya**	**1.50**	**37**	⇓*i*PG		**Pb**	**11 41 32.8**	**-0.2**
TRKR				*e*S		**Sb**	**11 41 52.7**	**+0.6**
KIV	**Kislovodsk**	**1.54**	**338**	*e*PG		**Pb**	**11 41 33.2**	**-0.4**
DOMR	**Dombai**	**1.56**	**300**	⇑*i*PG		**Pn**	**11 41 31.4**	**-1.5**
ARTV	**Artvin**	**1.77**	**221**	P		**Pn**	**11 41 36.7**	**+0.8**
ARTV				S		**Sb**	**11 42 00.6**	**+0.5**
ARTV	**Artvin**	**1.77**	**221**	*i* P		**Pn**	**11 41 36.7**	**+0.8**
ARTV				*i* S		**Sb**	**11 42 00.6**	**+0.5**
DGRG	**David-gareji**	**1.78**	**127**	P		**Pb**	**11 41 37.5**	**-0.2**
DGRG				S		**Sg**	**11 42 03.1**	**+1.0**
DGRG	**David-gareji**	**1.78**	**127**	PN		**Pb**	**11 41 37.5**	**-0.2**
DGRG				S		**

MJAR	**Matsushiro Arr**	**10.99**	**335**	Pn	**Pn**	**11**	**53**	**16.6**	**-1.1**
	0.3nm,0.3s,baz=165,slow=13,SNR=3.2								
SONM	**Songino Array**	**36.14**	**316**	P	**P**	**11**	**57**	**42.7**	**+0.7**
	0.9nm,0.8s,baz=114,slow=7.0,SNR=5.9								
WRA	**Warramunga Arr**	**47.30**	**192**	P	**P**	**11**	**59**	**12.4**	**-0.8**
	0.6nm,0.6s,baz=16,slow=8.6,SNR=7.7								
FITZ	**Fitzroy Crossi**	**47.97**	**204**	P	**P**	**11**	**59**	**18.2**	**-0.2**
	1.3nm,0.6s,baz=13,slow=11,SNR=3.6								
MKAR	**Makanchi Array**	**51.99**	**310**	P	**P**	**11**	**59**	**49.5**	**+0.6**
	0.8nm,0.8s,baz=86,slow=7.8,SNR=5.4								
LPAZ	**La Paz**	**148.43**	**77**	PKPbc	**PKPbc**	**12**	**10**	**28.3**	**+0.9**
	1.4nm,0.9s,baz=315,slow=1.4,SNR=3.6								

ISK ***15*** *11:58:05.9,38˚.51N×39˚.81E,h8km,MD2.9*
DDA ***15*** *11:58:06.5,38˚.56N×39˚.82E,h7km,Md2.7*
CSEM ***15*** *11:58:06.8±0.4,38˚.53N×39˚.74E,h10km,MD2.9,Error ellipse: s-maj=9.5km s-min=8.0km az=29.0*
ISCJB ***15*** *11:58:07.5±0.6,38˚.55N±0˚.04×39˚.73E±0˚.06,h19km±12km, Error ellipse: s-maj=9.1km s-min=5.9km az=39.4*

ISC 15 11:58:06.6±1.1,**38˚.53N**±0˚.03×**39˚.74E**±0˚.03,**h7**km±10km, **n18**,σ1s**24**/33,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.37**	**246**	*e*PG	**Pg**	**11 58 14.8**	**+0.9**
SVRC				*e*SG	**Sb**	**11 58 20.6**	**-1.1**
SVRC	**Sivrice-ELAZID**	**0.37**	**246**	*e*Pg	**Pg**	**11 58 14.9**	**+0.9**
SVRC				*e*Sg	**Sb**	**11 58 20.6**	**-1.1**
PTK	**Pertek**	**0.45**	**323**	*e*PG	**Pg**	**11 58 15.2**	**-0.3**
PTK				*e*SG	**Sb**	**11 58 24.3**	**+0.2**
PTK	**Pertek**	**0.45**	**323**	*e*Pg	**Pg**	**11 58 15.2**	**-0.3**
PTK				*e*Sg	**Sb**	**11 58 24.3**	**+0.2**
ELZG	**Elazig**	**0.59**	**267**	P	**Pb**	**11 58 19.0**	**-0.4**
ELZG	**Elazig**	**0.59**	**267**	*i* P	**Pb**	**11 58 19.0**	**-0.4**
ELZG				*i* S	**Sn**	**11 58 30.4**	**-1.2**
TNCL	**Tunceli-Merkez**	**0.60**	**345**	P	**Pg**	**11 58 17.5**	**-0.8**
TNCL				S	**Sg**	**11 58 27.3**	**+1.1**
TNCL	**Tunceli-Merkez**	**0.60**	**345**	*i* P	**Pg**	**11 58 17.5**	**-0.8**
TNCL				*i* S	**Sg**	**11 58 27.3**	**+1.1**
BINT	**Bingol**	**0.68**	**59**	*e*Pg	**Pg**	**11 58 22.6**	**-0.1**
BINT				*e*Sg	**Sn**	**11 58 34.2**	**+0.6**
BNGB	**Bing˜¶‖**	**0.86**	**58**	*e*PG	**Pg**	**11 58 22.6**	**-0.6**
BNGB				*e*SG	**Sg**	**11 58 34.2**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.10**	**34**	*e*PN	**Pg**	**11 58 27.4**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.10**	**34**	*e*Pn	**Pg**	**11 58 27.4**	**-0.3**
BNGL	**BINGOL**	**1.18**	**69**	*i* P	**Pb**	**11 58 28.4**	**-1.0**
BNGL				*i* S	**Sn**	**11 58 51.4**	**+5.3**
MAZI	**Mazidag**	**1.21**	**152**	*e*PN	**Pb**	**11 58 28.9**	**-0.9**
MAZI				*e*SN	**Sb**	**11 58 45.1**	**-0.5**
MAZI	**Mazidag**	**1.21**	**152**	*e*Pn	**Pb**	**11 58 28.9**	**-0.9**
MAZI				*e*Sn	**Sb**	**11 58 45.1**	**-0.5**
BTMN	**Batman**	**1.36**	**117**	P	**Pn**	**11 58 31.6**	**-0.5**
BTMN				S	**Sg**	**11 58 51.1**	**+0.6**
BTMN	**Batman**	**1.36**	**117**	*i* P	**Pn**	**11 58 31.6**	**-0.5**
BTMN				*i* S	**Sg**	**11 58 51.1**	**+0.6**
MARD	**Mardin**	**1.47**	**146**	*i* P	**Pn**	**11 58 33.5**	**0.0**
MARD				*i* S	**Sg**	**11 58 54.4**	**+0.6**

NIED ***15*** *12:03:00,37˚.30N×141˚.60E,h29km,Mw3.5 Best double couple: M01.93000×10^14 NP1:φ=64.00000°,δ37.00000°, λ-97.00000°. NP2:φ=253.00000°,δ53.00000°, λ-85.00000°.*
IDC ***15*** *12:03:09.2±1.8,37˚.32N×141˚.72E,h0km,mb3.6/2, mb1 3.6/5,mb1mx3.4/49,mbtmp3.6/5,ML3.4/3,Error ellipse: s-maj=35.9km s-min=26.2km az=94.0*
ISCJB ***15*** *12:03:10.2±1.0,37˚.29N±0˚.03×141˚.70E±0˚.06,h19km±7km, mb3.6/2,Error ellipse: s-maj=8.7km s-min=5.7km az=12.3*
JMA ***15*** *12:03:12.9±0.1,37˚.34N×141˚.55E,h33km±2km,M3.9*
JMA Felt I J1.

ISC 15 12:03:11.2±1.7,**37˚.32N**±0˚.04×**141˚.62E**±0˚.06,**h16**km±10km, **n15**,σ0s**97**/26,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.60**	**275**	P	**Pb**	**12 03 23.9**	**+0.6**
JFK				S	**Sg**	**12 03 31.2**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.69**	**252**	P	**Pb**	**12 03 25.3**	**+0.4**
JMM	**Marumori**	**0.85**	**310**	P	**Pg**	**12 03 27.7**	**-0.1**
JMM				*e*S	**Sb**	**12 03 38.0**	**-0.9**
JFT	**Otama**	**1.04**	**281**	P	**Pg**	**12 03 31.3**	**-0.1**
JFT				S	**Sb**	**12 03 43.8**	**-0.5**
JHO	**Hitachi**	**1.10**	**230**	P	**Pb**	**12 03 31.2**	**-0.6**
JHO				S	**Sb**	**12 03 44.4**	**-1.5**
JIO	**Ouri**	**1.15**	**349**	P	**Pn**	**12 03 32.2**	**-0.5**
JIO				S	**Sb**	**12 03 46.1**	**-1.4**
JOU	**Okura**	**1.29**	**324**	P	**Pb**	**12 03 35.0**	**-0.1**
JOU				S	**Sb**	**12 03 51.2**	**-0.3**
JYS	**Shirataka**	**1.53**	**307**	P	**Pb**	**12 03 38.7**	**-0.4**
JYS				S	**Sb**	**12 03 58.1**	**-0.1**
JFY	**Yanaizu**	**1.53**	**274**	P	**Pb**	**12 03 38.6**	**-0.6**
JFY				S	**Sn**	**12 03 57.9**	**+0.5**
MJAR	**Matsushiro Arr**	**2.84**	**255**	Pn	**Pn**	**12 03 56.9**	**+1.0**
	2.9nm,0.3s,baz=83,slow=15,SNR=22						
MJAR				Sn	**Sb**	**12 04 33.6**	**-2.5**
	8.0nm,0.3s,baz=44,slow=17,SNR=9.4						
MAT	**Matsushiro**	**2.84**	**255**	P	**Pn**	**12 03 57.5**	**+1.6**
MAT				S	**Sn**	**12 04 29.0**	**-0.8**
JHJ	**Hachijo jima 2**	**4.45**	**200**	Pn	**Pn**	**12 04 18.8**	**+0.7**
	16nm,0.3s,baz=334,slow=17,SNR=28						
JHJ				Sn	**Sn**	**12 05 08.4**	**-1.1**
	17nm,0.3s,baz=48,slow=23,SNR=7.0						
ASAJ	**Asahikawa**	**6.83**	**6**	Pn	**Pn**	**12 04 51.2**	**+0.5**
	0.5nm,0.3s,baz=192,slow=13,SNR=7.6						
MKAR	**Makanchi Array**	**44.11**	**302**	P	**P**	**12 11 19.3**	**+0.7**
	0.5nm,0.6s,baz=89,slow=9.2,SNR=5.2						
WRA	**Warramunga Arr**	**57.37**	**188**	P	**P**	**12 12 59.1**	**+0.4**
	0.4nm,0.6s,baz=5.2,slow=7.2,SNR=4.9						

ISK ***15*** *12:14:05.3,40˚.22N×29˚.11E,h4km,ML2.3*
DDA ***15*** *12:14:06.2,40˚.29N×29˚.06E,h7km,Md2.5*
CSEM ***15*** *12:14:06.1±0.1,40˚.23N×29˚.11E,h8km,ML2.3,Error ellipse: s-maj=3.4km s-min=2.7km az=3.0*

ISC 15 12:14:06.3±1.1,**40˚.23N**±0˚.03×**29˚.13E**±0˚.02,**h4**km±9km, **n43**,σ0s**84**/58,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGD	**Bursa**	**0.07**	**63**	*i* P	**Pg**	**12 14 06.8**	**-1.0**
GEMT	**Gemlik**	**0.21**	**14**	*e*PG	**Pg**	**12 14 10.2**	**-0.1**
GEMT				*e*SG	**Sg**	**12 14 14.0**	**+0.9**
GEMT	**Gemlik**	**0.21**	**14**	*e*Pg	**Pg**	**12 14 10.3**	**-0.1**
GEMT				*e*Sg	**Sg**	**12 14 14.0**	**+0.9**
MDNY	**Mudanya-Bursa**	**0.23**	**306**	*e*PG	**Pg**	**12 14 11.0**	**+0.2**
MDNY				*e*SG	**Sg**	**12 14 14.9**	**+1.2**
MDNY	**Mudanya-Bursa**	**0.23**	**306**	*e*Pg	**Pg**	**12 14 11.0**	**+0.2**
MDNY				*e*Sg	**Sg**	**12 14 14.9**	**+1.2**
IZI	**Iznik**	**0.28**	**69**	*e*PG	**Pg**	**12 14 12.1**	**+0.2**
IZI				*e*SG	**Sg**	**12 14 16.5**	**+0.9**
IZI	**Iznik**	**0.28**	**69**	*e*Pg	**Pg**	**12 14 12.1**	**+0.2**
IZI				*e*Sg	**Sg**	**12 14 16.5**	**+0.9**
ARMT	**Armutlu**	**0.39**	**329**	*e*PG	**Pg**	**12 14 13.7**	**-0.1**
ARMT				*e*SG	**Sg**	**12 14 19.9**	**+1.0**
ARMT	**Armutlu**	**0.39**	**329**	*e*Pg	**Pg**	**12 14 13.7**	**-0.1**
ARMT				*e*Sg	**Sg**	**12 14 19.9**	**+1.0**
ADVT	**Abdulvahap**	**0.51**	**67**	*e*PG	**Pg**	**12 14 15.7**	**-0.4**
ADVT	**Abdulvahap**	**0.51**	**67**	*e*Pg	**Pg**	**12 14 15.7**	**-0.4**
CAVI	**Cavuskoy**	**0.55**	**93**	*e*PG	**Pg**	**12 14 16.8**	**-0.1**
CAVI				*e*SG	**Sg**	**12 14 25.3**	**+1.3**
CAVI	**Cavuskoy**	**0.55**	**93**	*e*Pg	**Pg**	**12 14 16.8**	**-0.1**
CAVI				*e*Sg	**Sg**	**12 14 25.3**	**+1.3**
KCTX	**Karacabey (Bur**	**0.59**	**273**	*e*PG	**Pg**	**12 14 17.4**	**-0.2**
KCTX	**Karacabey (Bur**	**0.59**	**273**	*e*Pg	**Pg**	**12 14 17.4**	**-0.2**
TVSB	**Tavsanli**	**0.82**	**162**	*e*PG	**Pg**	**12 14 21.3**	**-0.9**
TVSB	**Tavsanli**	**0.82**	**162**	*e*Pg	**Pg**	**12 14 21.3**	**-0.9**
ISK	**Istanbul-Kandi**	**0.83**	**357**	*e*PG	**Pg**	**12 14 22.2**	**-0.1**
ISK	**Istanbul-Kandi**	**0.83**	**357**	*e*Pg	**Pg**	**12 14 22.2**	**-0.1**
EDC	**Edincik**	**0.97**	**277**	*e*PG	**Pg**	**12 14 23.6**	**-1.4**
EDC	**Edincik**	**0.97**	**277**	*e*Pg	**Pg**	**12 14 23.6**	**-1.4**
SILT	**Sile**	**1.00**	**23**	*e*PG	**Pg**	**12 14 25.3**	**-0.2**
SILT	**Sile**	**1.00**	**23**	*e*Pg	**Pg**	**12 14 25.3**	**-0.2**
KLYT	**Kilyos**	**1.02**	**356**	*e*PG	**Pb**	**12 14 26.0**	**-0.6**
KLYT	**Kilyos**	**1.02**	**356**	*e*Pg	**Pb**	**12 14 26.0**	**-0.6**
BORA	**Eskisehir**	**1.08**	**109**	P	**Pn**	**12 14 28.3**	**-0.1**
BORA				S	**Sn**	**12 14 44.6**	**+0.7**
BORA	**Eskisehir**	**1.08**	**109**	*i* P	**Pn**	**12 14 28.3**	**-0.1**
BORA				*i* S	**Sn**	**12 14 44.6**	**+0.7**
GULT	**Gulveren**	**1.08**	**79**	*e*PN	**Pn**	**12 14 27.7**	**-0.7**
GULT	**Gulveren**	**1.08**	**79**	*e*Pn	**Pn**	**12 14 27.7**	**-0.7**
CTKS	**Kestanelik-??a**	**1.11**	**335**	*e*PN	**Pb**	**12 14 27.5**	**-0.5**
CTKS	**Kestanelik-??a**	**1.11**	**335**	*e*Pn	**Pb**	**12 14 27.5**	**-0.5**
GONE	**Gonen-Balikesi**	**1.12**	**261**	*e*PN	**Pg**	**12 14 26.7**	**-1.1**
GONE	**Gonen-Balikesi**	**1.12**	**261**	*e*Pn	**Pg**	**12 14 26.7**	**-1.1**
KAND	**Kocaeli-Kandir**	**1.18**	**43**	P	**Pb**	**12 14 28.5**	**-0.9**
KAND				S	**Sn**	**12 14 45.5**	**-0.8**
KAND	**Kocaeli-Kandir**	**1.18**	**43**	*i* P	**Pb**	**12 14 28.5**	**-0.9**
KAND				*i* S	**Sn**	**12 14 45.5**	**-0.8**
MRMT	**Marmara Adasi**	**1.22**	**288**	*e*PN	**Pn**	**12 14 30.1**	**-0.2**
MRMT	**Marmara Adasi**	**1.22**	**288**	*e*Pn	**Pn**	**12 14 30.1**	**-0.2**
DEMI	**Demirci**	**1.23**	**195**	P	**Pn**	**12 14 30.5**	**0.0**
DEMI	**Demirci**	**1.23**	**195**	*i* P	**Pn**	**12 14 30.5**	**0.0**
DEMI				*i* S	**Sn**	**12 14 50.7**	**+3.1**
KRBG	**Karabiga-Canak**	**1.41**	**277**	*e*PN	**Pb**	**12 14 32.5**	**-0.7**
KRBG	**Karabiga-Canak**	**1.41**	**277**	*e*Pn	**Pb**	**12 14 32.5**	**-0.7**
SAHE	**Sakarya_HENDEK**	**1.46**	**64**	P	**Pb**	**12 14 33.5**	**-0.5**
SAHE	**Sakarya_HENDEK**	**1.46**	**64**	*i* P	**Pb**	**12 14 33.5**	**-0.5**

ISCJB ***15*** *12:14:50.0±0.5,23˚.09N±0˚.02×121˚.68E±0˚.03,h18km±7km, Error ellipse: s-maj=4.8km s-min=4.2km az=177.3*
JMA ***15*** *12:14:50.5±0.1,23˚.10N×121˚.59E,h35km±2km,M2.8*
TAP ***15*** *12:14:51.1,23˚.11N×121˚.57E,h18km±1km,ML3.0,D*

ISC 15 12:14:50.7±1.0,**23˚.10N**±0˚.03×**121˚.62E**±0˚.03,**h25**km±8km, **n38**,σ0s**65**/66,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.23**	**270**	P	**Pb**	**12 14 56.8**	**0.0**
	baz=267						
CHKT				S	**Sb**	**12 15 00.8**	**-0.1**
	baz=267						
TWF1	**Yuli**	**0.39**	**311**	P	**Pb**	**12 14 59.2**	**+0.1**
	baz=315						
TWF1				*e*S	**Sb**	**12 15 04.8**	**0.0**
	baz=315						
EHY	**Hungye**	**0.49**	**326**	P	**Pb**	**12 15 00.8**	**+0.1**
	baz=330						
EHY				*e*S	**Sb**	**12 15 07.7**	**+0.1**
	baz=330						
TTN	**Taitung**	**0.55**	**232**	*e*P	**Pb**	**12 15 02.0**	**+0.2**
	baz=227						
TTN				*e*S	**Sb**	**12 15 09.7**	**+0.4**
	baz=227						
ELDTW	**Lidau**	**0.56**	**279**	P	**Pb**	**12 15 01.5**	**-0.5**
	baz=279						
ELDTW				*e*S	**Sb**	**12 15 08.5**	**-1.1**
	baz=279						
TWG	**Pinlang**	**0.57**	**241**	P	**Pb**	**12 15 01.9**	**-0.2**
	baz=237						
TWG				*e*S	**Sb**	**12 15 09.9**	**0.0**
	baz=237						
YUS	**Yu-Shan**	**0.72**	**303**	P	**Pb**	**12 15 05.0**	**0.0**
	baz=304						
YUS				*e*S	**Sb**	**12 15 14.3**	**-0.4**
	baz=304						
ESL	**Shilin**	**0.73**	**347**	*e*P	**Pb**	**12 15 05.0**	**+0.1**
	baz=350						
ESL				*e*S	**Sb**	**12 15 13.7**	**-0.8**
	baz=350						
WDT	**Danda**	**0.79**	**326**	P	**Pb**	**12 15 05.8**	**-0.2**
	baz=328						
STYT	**Tauyuan**	**0.79**	**275**	P	**Pn**	**12 15 05.7**	**-0.6**
	baz=274						
STYT				S	**Sb**	**12 15 15.7**	**-0.6**
	baz=274						
ALS	**Alishan**	**0.85**	**299**	P	**Pn**	**12 15 07.3**	**0.0**
	baz=299						
ALS				*e*S	**Sn**	**12 15 18.0**	**-1.1**
	baz=299						
WTP	**Ta-pu**	**0.93**	**279**	P	**Pb**	**12 15 08.6**	**+0.3**
	baz=278						
WTP				*e*S	**Sn**	**12 15 20.9**	**+0.1**
	baz=278						
SGST	**Jiashian**	**0.95**	**269**	P	**Pb**	**12 15 09.1**	**+0.6**
	baz=268						
SGST				S	**Sn**	**12 15 21.6**	**+0.4**
	baz=268						
SSD	**Sandimen**	**0.97**	**249**	*e*P	**Pn**	**12 15 08.3**	**-0.4**
	baz=247						
CHN4	**Tsaushan**	**0.97**	**285**	P	**Pb**	**12 15 09.6**	**+0.7**
	baz=285						
CHN4				S	**Sn**	**12 15 22.3**	**+0.5**
	baz=285						
CHN5	**Tsauling**	**0.99**	**300**	P	**Pb**	**12 15 10.1**	**+0.8**
	baz=300						
CHN5				*e*S	**Sn**	**12 15 23.3**	**+0.9**
	baz=300						
CHN1	**Nanshi**	**1.00**	**275**	P	**Pb**	**12 15 10.0**	**+0.6**
	baz=274						
CHN1				S	**Sn**	**12 15 23.6**	**+1.1**
	baz=274						
EAST	**Anshuo**	**1.00**	**225**	*e*P	**Pn**	**12 15 08.7**	**-0.5**
	baz=222						
SMLT	**Sun Moon Lake**	**1.02**	**320**	P	**Pb**	**12 15 09.8**	**0.0**
	baz=321						
TWK	**Hsinying**	**1.05**	**279**	*e*P	**Pb**	**12 15 11.2**	**+0.9**
	baz=279						
TWK				*e*S	**Sn**	**12 15 24.5**	**+0.8**
	baz=279						
TYC	**Yuchr**	**1.06**	**319**	*e*P	**Pb**	**12 15 11.0**	**+0.6**
	baz=321						
TYC				*e*S	**Sb**	**12 15 25.1**	**+1.2**
	baz=321						
TWM1	**Shoushan**	**1.13**	**256**	*e*P	**Pb**	**12 15 11.8**	**+0.2**
	baz=254						
SCZT	**Fangliau**	**1.17**	**232**	*e*P	**Pb**	**12 15 12.4**	**+0.2**
	baz=229						
TWT	**Tachien**	**1.22**	**341**	*e*P	**Pb**	**12 15 13.1**	**-0.1**
	baz=341						
TWT				*e*S	**Sn**	**12 15 27.1**	**-0.9**
	baz=341						
TWK1	**Hengchun**	**1.37**	**213**	*e*P	**Pb**	**12 15 15.5**	**-0.2**
	baz=211						
TWK1				*e*S	**Sn**	**12 15 30.2**	**-1.4**
	baz=211						
TWQ1	**Liyutan**	**1.46**	**328**	*e*P	**Pb**	**12 15 16.7**	**-0.6**
	baz=329						
TWQ1				*e*S	**Sb**	**12 15 36.5**	**+1.0**
	baz=329						
ENTT	**Nioudou**	**1.54**	**358**	*e*P	**Pb**	**12 15 17.7**	**-0.8**
NSK	**Sanguang**	**1.59**	**352**	*e*P	**Pb**	**12 15 18.5**	**-0.9**
	baz=353						
NSK				*e*S	**Sn**	**12 15 36.4**	**-0.6**
	baz=353						
TWE	**Neicheng**	**1.62**	**2**	*e*P	**Pb**	**12 15 19.0**	**-0.8**
	baz=3.0						
TWE				*e*S	**Sb**	**12 15 39.5**	**-0.4**
	baz=3.0						
NSTT	**Nanjuang**	**1.63**	**340**	*e*S	**Sb**	**12 15 39.4**	**-0.8**
	baz=341						
JYNG	**Yonagunijimaku**	**1.82**	**42**	P	**Pn**	**12 15 21.1**	**+0.8**
YOJ	**Yonaguni jima**	**1.86**	**43**	P	**Pn**	**12 15 21.6**	**+0.6**
YOJ				*e*S	**Sn**	**12 15 43.6**	**-0.1**
HATJ	**Hateruma jima**	**2.22**	**64**	*e*S	**Sn**	**12 15 51.9**	**-0.7**
IRIF	**Iriomote-Funau**	**2.30**	**57**	P	**Pn**	**12 15 28.3**	**+1.4**
IRIF				*e*S	**Sn**	**12 15 55.0**	**+0.6**
JKRS	**Kuro-shima**	**2.47**	**62**	P	**Pn**	**12 15 30.0**	**+0.7**
JKRS				*e*S	**Sn**	**12 15 59.2**	**+0.5**
JIJ	**Ishigaki jima**	**2.64**	**61**	P	**Pn**	**12 15 32.2**	**+0.6**
JIJ				*e*S	**Sn**	**12 16 02.2**	**-0.6**
JISG	**Ishigakijimahi**	**2.88**	**58**	P	**Pn**	**12 15 35.3**	**+0.3**
JISG				S	**Sn**	**12 16 08.4**	**-0.4**
JTJ	**Tarama**	**3.22**	**61**	P	**Pn**	**12 15 40.1**	**+0.5**
JTJ				*e*S	**Sn**	**12 16 17.4**	**+0.3**

MEX 15 12:19:09.8±0.3,**16˚.72N**×**99˚.76W**,**h8**km±2km,**MD3.8**,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.19**	**321**	*e*P	Pg	12 19 13.6	-0.1
ACP2				*i* S	Sg	12 19 16.3	-0.1
CAIG	**El Cayaco**	**0.58**	**304**	*e*P	Pg	12 19 20.2	-0.9
CAIG				*e*S	Sg	12 19 28.5	-0.1
MEIG	**Mezcala**	**1.20**	**6**	*i* P	Pb	12 19 29.0	-3.9
MEIG				*e*S	Sg	12 19 44.4	-4.2
PNIG	**Pinotepa**	**1.60**	**102**	*e*P	Pn	12 19 35.0	-3.5
PNIG				*e*S	Sn	12 19 54.8	-4.5
ARIG	**Puente Sto Nin**	**1.65**	**340**	*e*P	Pn	12 19 35.5	-3.6
ARIG				*e*S	Sn	12 19 56.2	-4.2
PLIG	**Platanillo**	**1.68**	**8**	*e*P	Pn	12 19 36.5	-3.1
PLIG				*i* S	Sn	12 19 56.4	-5.0

NNC 15 12:20:06.0±9.8,**36˚.88N**×**70˚.88E**,**h0**km,**mb3.5,mpv3.2, 3C-3D,Error ellipse: s-maj=77.3km s-min=47.1km az=176.0,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.52**	**320**	⇓P	Pn	12 20 48.0	-0.3
	2.6nm,0.3s						
DZET				⇑Sn	Sn	12 21 21.4	+1.6
	5.1nm,0.2s						
MNAS	**Manas**	**5.74**	**12**	⇓P	Pn	12 21 32.5	-0.1
	0.8nm,0.4s						
MNAS				⇑Sn	Sn	12 22 39.9	+0.7
	0.4nm,0.3s						
KK31	**Karatay Array**	**6.22**	**358**	⇓P	Pn	12 21 39.0	-0.1
	0.9nm,0.2s,baz=174,slow=12,SNR=54						
KK31				⇑Sn	Sn	12 22 50.8	-0.2
	1.5nm,0.5s,baz=188,slow=24						

MEX ***15*** *12:29:07.8±0.3,31˚.10N×115˚.60W,h26km±4km,MD4.2*
ECX ***15*** *12:29:07.0±0.8,31˚.23N×115˚.68W,h5km,MD4.0,ML4.2, Fault plane solution: NP1:φ=344.90000°,δ75.52000°, λ-26.57000°.*
NEIC ***15*** *12:29:07.1,31˚.24N×115˚.67W,h12km,MD4.2(ECX), ML4.2(PAS),After ECX.*
NEIC Felt at Lazaro Cardenas.

ISC 15 12:29:06.7±1.1,**31˚.27N**±0˚.03×**115˚.66W**±0˚.02,**h3**km±9km, **n111**,σ1s**72**/144,**8C-4D,Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.28**	**143**	*e*P	**Pg**	**12 29 12.1**	**0.0**
SPIG				*e*S	**Sg**	**12 29 15.6**	**-0.2**
SPIG	**San Pedro Mart**	**0.28**	**143**	⇓*e*P	**Pg**	**12 29 11.7**	**-0.4**
SPIG				*e*S	**Sg**	**12 29 15.9**	**+0.1**
SPIG	**San Pedro Mart**	**0.28**	**143**	*e*P	**Pg**	**12 29 12.1**	**0.0**
SPIG				*e*S	**Sg**	**12 29 15.6**	**-0.2**
ECBX	**El Chinero**	**0.56**	**69**	⇑*i*P	**Pg**	**12 29 17.0**	**-0.4**
ECBX				*e*S	**Sg**	**12 29 24.5**	**-0.1**
ZAX	**El Zacaton**	**0.58**	**295**	⇑*e*P	**Pg**	**12 29 17.2**	**-0.6**
ZAX				*e*S	**Sg**	**12 29 25.5**	**+0.1**
ECNX	**Esteban Cantu**	**0.89**	**296**	⇑*e*P	**Pg**	**12 29 23.0**	**-0.8**
ECNX				*e*S	**Sg**	**12 29 35.0**	**-0.3**
PBX	**Punta Banda**	**1.03**	**298**	⇑*e*P	**Pg**	**12 29 25.2**	**-1.2**
PBX				*e*S	**Sg**	**12 29 38.5**	**-1.2**
CPBX	**Cerro Prieto**	**1.18**	**15**	*e*P	**Pg**	**12 29 28.4**	**-1.0**
CPBX	**Cerro Prieto**	**1.18**	**15**	*e*P	**Pg**	**12 29 28.5**	**-0.9**
CPBX				*e*S	**Sg**	**12 29 44.5**	**-0.3**
MBIG	**Mexicali**	**1.20**	**19**	*e*P	**Pg**	**12 29 28.5**	**-0.9**
MBIG				*e*S	**Sg**	**12 29 44.4**	**-0.9**
MBIG	**Mexicali**	**1.20**	**19**	*e*P	**Pg**	**12 29 28.5**	**-1.2**
CBX	**Cerro Bola**	**1.35**	**321**	*e*P	**Pn**	**12 29 30.8**	**-1.8**
CBX				*i* S	**Sb**	**12 29 48.6**	**-1.8**
CBX	**Cerro Bola**	**1.35**	**321**	⇑*e*P	**Pn**	**12 29 30.8**	**-1.8**
CBX				*e*S	**Sb**	**12 29 48.7**	**-1.8**
CBX				⇑*e*		12 29 52.5	
CBX				IAML		12 29 52.5	
	comp=E,5μm,0.4s						
CBX	**Cerro Bola**	**1.35**	**321**	*e*P	**Pn**	**12 29 30.8**	**-1.8**
CBX				*i* S	**Sb**	**12 29 48.6**	**-1.8**
RMX	**La Rumorosa**	**1.38**	**345**	⇓*e*P	**Pn**	**12 29 31.5**	**-1.5**
RMX				IAML		12 29 52.4	
	comp=E,4μm,0.5s						
RMX				⇑*e*		12 29 52.4	
IKP	**In-Ko-Pah, Jac**	**1.43**	**345**	P	**Pn**	**12 29 32.8**	**-0.9**
	baz=167,SNR=1000						
IKP				S	**Sb**	**12 29 51.3**	**-1.4**
	baz=167						
IKP	**In-Ko-Pah, Jac**	**1.43**	**345**	⇓*e*P	**Pn**	**12 29 32.8**	**-0.9**
TJIG	**Tijuana**	**1.45**	**324**	*i* P	**Pn**	**12 29 32.4**	**-1.4**
TJIG				*e*S	**Sn**	**12 29 50.9**	**-2.5**
TJIG	**Tijuana**	**1.45**	**324**	⇑*e*P	**Pn**	**12 29 32.4**	**-1.4**
BAR	**Barrett**	**1.65**	**329**	⇓*e*P	**Pn**	**12 29 36.0**	**-0.7**
BAR	**Barrett**	**1.65**	**329**	*e*Pn	**Pn**	**12 29 36.1**	**-0.5**
BAR				*e*Sn	**Sn**	**12 29 57.1**	**-1.3**
SWSC	**Sam W. Stewart**	**1.68**	**356**	P	**Pn**	**12 29 35.3**	**-1.7**
	baz=178,SNR=437						
SWSC				Sb	**Sg**	**12 30 00.9**	**+0.3**
	baz=178						
MONP2	**Monument Peak**	**1.74**	**338**	P	**Pn**	**12 29 37.6**	**-0.5**
	baz=161,SNR

TUC				*e*Sg		**Sg**	**12 31 23.4**	**-0.8**
LRMC	**Laurel Mtn Rad**	**4.53**	**339**	Pb		**Pb**	**12 30 28.1**	**+1.2**
	baz=159							
LRMC				Sb		**Sb**	**12 31 26.5**	**+4.5**
	baz=159							
SHOC	**Shoshone, Teco**	**4.65**	**354**	P		**Pn**	**12 30 17.7**	**-0.1**
	baz=174							
HSIG		**4.66**	**118**	*e*Pn		**Pn**	**12 30 17.1**	**-0.9**
ARVC	**Arvin**	**4.68**	**326**	P		**Pn**	**12 30 18.9**	**+0.7**
	baz=146							
ARVC				Sb		**Sb**	**12 31 30.1**	**+4.0**
	baz=146							
X16A	**Lo Mia Camp, P**	**4.74**	**47**	*e*Pn		**Pn**	**12 30 19.3**	**0.0**
SRIG	**Santa Rosalia**	**4.94**	**142**	*e*Pn		**Pn**	**12 30 22.2**	**+0.4**
ISA	**Isabella, Lake**	**4.97**	**333**	Pb		**Pb**	**12 30 35.9**	**+1.4**
	baz=152							
ISA				Sb		**Sb**	**12 31 38.9**	**+4.2**
	baz=152							
MPMC	**Manual Prospec**	**5.01**	**343**	Pb		**Pb**	**12 30 36.4**	**+1.2**
	baz=163							
SHPR	**Sheep Range**	**5.24**	**4**	*e*Pn		**Pn**	**12 30 27.2**	**+1.1**
DAC	**Darwin (Calif)**	**5.25**	**343**	*e*Pn		**Pn**	**12 30 26.1**	**-0.1**
DAC				*e*Sg		**Sg**	**12 31 55.0**	**-0.2**
319A	**Douglas**	**5.46**	**87**	*e*Pn		**Pn**	**12 30 28.1**	**-1.0**
CWC	**Cottonwood Cre**	**5.54**	**339**	Pb		**Pb**	**12 30 45.7**	**+1.5**
	baz=159							
WUAZ	**Wupatki**	**5.55**	**39**	P		**Pn**	**12 30 30.9**	**+0.5**
	baz=221							
WUAZ				S		**Sn**	**12 31 33.1**	**-1.6**
	baz=221							
WUAZ	**Wupatki**	**5.55**	**39**	*e*Pn		**Pn**	**12 30 31.5**	**+1.1**
TPNV	**Topopah Spring**	**5.69**	**355**	P		**Pn**	**12 30 34.3**	**+2.1**
	baz=175,SNR=24							
TPNV	**Topopah Spring**	**5.69**	**355**	*e*Pn		**Pn**	**12 30 33.8**	**+1.5**
U15A	**North Rim**	**5.86**	**28**	*e*Pn		**Pn**	**12 30 36.0**	**+1.3**
GRAC	**Grapevine Rang**	**5.88**	**347**	P		**Pn**	**12 30 34.1**	**-0.8**
	baz=166							
ICU	**Indian Springs**	**6.04**	**13**	*e*Pn		**Pn**	**12 30 38.4**	**+1.3**
LCMT	**Little Creek M**	**6.07**	**19**	*e*Pn		**Pn**	**12 30 38.7**	**+1.2**
KNB	**Kanab**	**6.20**	**22**	*e*Pn		**Pn**	**12 30 40.7**	**+1.4**
W18A	**Petrified Fore**	**6.27**	**51**	*e*Pn		**Pn**	**12 30 41.5**	**+1.1**
EKU	**East Kanab**	**6.36**	**23**	*e*Pn		**Pn**	**12 30 43.0**	**+1.5**
CCUT	**Cedar City**	**6.55**	**16**	*e*Pn		**Pn**	**12 30 46.2**	**+2.1**
BHU	**Blowhard Mount**	**6.72**	**19**	*e*Pn		**Pn**	**12 30 49.0**	**+2.3**
PKCU	**Pink Cliffs**	**6.75**	**23**	*e*Pn		**Pn**	**12 30 49.1**	**+2.1**
121A	**Cookes Peak, D**	**6.81**	**77**	P		**Pn**	**12 30 44.1**	**-3.6**
	baz=260							
121A	**Cookes Peak, D**	**6.81**	**77**	*e*Pn		**Pn**	**12 30 47.6**	**-0.1**
	comp=E,8.2nm,0.4s							
R11A	**Troy Canyon, C**	**7.06**	**0**	P		**Pn**	**12 30 52.5**	**+1.3**
	baz=181							
R11A	**Troy Canyon, C**	**7.06**	**0**	Pn		**Pn**	**12 30 50.4**	**-0.8**
R11A				*e*Sg		**Sg**	**12 32 52.8**	**-0.7**
BTU	**Barney Top**	**7.18**	**25**	*e*Pn		**Pn**	**12 30 55.6**	**+2.5**
SAU	**San Andreas Ge**	**7.29**	**320**	*e*Pn		**Pn**	**12 30 55.0**	**+0.9**
MTPU	**Mount Pierson**	**7.34**	**22**	*e*Pn		**Pn**	**12 30 57.5**	**+2.4**
PSUT	**Pine Spring**	**7.40**	**11**	*e*Pn		**Pn**	**12 30 57.5**	**+1.7**
MSU	**Marysvale**	**7.77**	**21**	*e*Pn		**Pn**	**12 31 05.5**	**+4.5**
MMU	**Miners Mountai**	**7.79**	**26**	*e*Pn		**Pn**	**12 31 03.5**	**+2.3**
MVCO	**Mesa Verde**	**8.38**	**43**	P		**Pn**	**12 31 09.3**	**0.0**
	baz=227							
MVCO	**Mesa Verde**	**8.38**	**43**	Pn		**Pn**	**12 31 10.2**	**+0.9**
MNTX	**Cornudas Mount**	**8.79**	**85**	P		**Pn**	**12 31 13.3**	**-1.4**
	baz=269							
MNTX	**Cornudas Mount**	**8.79**	**85**	*e*Pn		**Pn**	**12 31 15.3**	**+0.6**
TMUT	**Trail Mountain**	**8.79**	**23**	*e*Pn		Pn	12 31 22.5	+7.4
SRU	**San Rafael Swe**	**8.88**	**27**	*e*Pn		Pn	12 31 25.4	+9.4
PV10	**Paradox Valley**	**8.93**	**36**	*e*Pn		**Pn**	**12 31 20.7**	**+3.8**
PV09	**Paradox Valley**	**8.98**	**35**	*e*Pn		**Pn**	**12 31 22.1**	**+4.4**
PV09				*e*Lg		Lg	12 34 00.9	
PV01	**Paradox Valley**	**8.99**	**38**	*e*Pn		**Pn**	**12 31 21.9**	**+4.2**
PV04	**Paradox Valley**	**9.02**	**36**	*e*Pn		**Pn**	**12 31 17.2**	**-0.8**
P18A	**Preston Nutter**	**9.43**	**26**	*e*Pn		**Pn**	**12 31 25.8**	**+2.0**
P18A				*e*Lg		Lg	12 34 10.1	
BGU	**Big Grassy Mou**	**9.87**	**12**	*e*Pn		Pn	12 31 35.6	+6.0
TX31	**Lajitas Ar. Si**	**10.54**	**97**	*e*Pn		**Pn**	**12 31 40.6**	**+1.8**
BMO	**Blue Mountains**	**13.62**	**355**	*e*Pn		**Pn**	**12 32 18.9**	**-2.0**
F10A	**Beach Ranch, E**	**14.73**	**356**	*e*Pn		**Pn**	**12 32 33.6**	**-2.5**
USIN	**University of**	**23.93**	**66**	*e*P		**P**	**12 34 21.2**	**-0.8**
	comp=E,66nm,1.1s							

MEX 15 12:31:12.5±0.4, 14°.99N×93°.56W, h30$^{km}_{\pm}$16^{km}, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.79**	**25**	*e*P	Pn	12 31 25.4	-2.2
PCIG				*e*S	Sb	12 31 35.1	-3.0
CCIG	**Comitan**	**1.88**	**47**	*e*P	Pn	12 31 40.6	-2.3
CCIG				*e*S	Sn	12 32 03.2	-2.5

WEL 15 12:32:09.6±0.1, 43°.57S×172°.81E, h8^{km}, ML3.5/9, 2C-2D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.17**	**220**	⇑Pg	Pg	12 32 13.4	+0.3
MQZ				SG	Sg	12 32 15.9	+0.3
MQZ				AML	AML	12 32 17.0	
OXZ	**Oxford**	**0.61**	**294**	⇓P*	Pn	12 32 21.4	0.0
KHZ	**Kahutara**	**1.27**	**25**	⇑P*	Pn	12 32 32.9	-0.8
RPZ	**Rata Peaks**	**1.28**	**263**	⇓P*	Pn	12 32 32.6	-1.2
RPZ				AML	AML	12 32 56.6	
RPZ				AML	AML	12 32 57.2	
INZ	**Inchbonnie**	**1.31**	**310**	P*	Pn	12 32 33.5	-0.7
WVZ	**Waitaha Valley**	**1.59**	**288**	AML	AML	12 33 04.4	
THZ	**Tophouse**	**1.81**	**2**	PN	Pn	12 32 40.4	-0.8
THZ				AML	AML	12 33 07.0	
THZ				AML	AML	12 33 17.0	
DSZ	**Denniston Nort**	**1.97**	**338**	PN	Pn	12 32 43.4	+0.1
DSZ				AML	AML	12 33 10.9	
DSZ				AML	AML	12 33 10.9	
DSZ				AML	AML	12 33 11.6	
DSZ				AML	AML	12 33 11.7	
LBZ	**Lake Benmore**	**2.06**	**246**	PN	Pn	12 32 43.8	-0.8
LBZ				AML	AML	12 33 22.6	
LBZ				AML	AML	12 33 25.1	
ODZ	**Otahua Downs**	**2.14**	**226**	PN	Pn	12 32 44.5	-1.1
ODZ				AML	AML	12 33 25.7	
ODZ				AML	AML	12 33 25.7	
ODZ				AML	AML	12 33 26.3	
ODZ				AML	AML	12 33 27.8	
FOZ	**Fox Glacier**	**2.18**	**270**	PN	Pn	12 32 46.7	+0.6
TUWZ	**Tuamarina**	**2.30**	**22**	PN	Pn	12 32 46.3	-1.5
JCZ	**Jackson Bay**	**2.95**	**259**	PN	Pn	12 32 57.3	+0.4
CAW	**Cannon Point**	**2.98**	**35**	PN	Pn	12 32 55.6	-1.6
EAZ	**Earnscleugh**	**3.01**	**235**	PN	Pn	12 32 56.6	-1.0
EAZ				AML	AML	12 33 49.0	
EAZ				AML	AML	12 33 56.3	
TUZ	**Tuapeka**	**3.29**	**222**	PN	Pn	12 33 00.4	-0.9
TUZ				AML	AML	12 34 04.2	
TUZ				AML	AML	12 34 04.5	
MRZ	**Mangatainoka R**	**3.57**	**36**	PN	Pn	12 33 03.4	-1.8

NIED ***15*** *12:40:00, 37°.30N×142°.30E, h8^{km}, Mw3.7 Best double couple: M$_o$3.36000×10^{14} NP1:ϕ_s279.00000°, δ45.00000°, λ-132.00000°. NP2:ϕ_s151.00000°, δ59.00000°, λ-56.00000°.*

IDC ***15*** *12:40:15.1±1.3, 37°.29N×142°.52E, h0^{km}, mb3.7/6, mb1 3.7/9, mb1mx3.5/49, mbtmp3.7/9, ML3.5/3, Error ellipse: s-maj=33.9km s-min=19.0km az=81.0*

ISCJB ***15*** *12:40:17.0±0.7, 37°.30N±0°.05×142°.34E±0°.06, h24^{km}, mb3.7/6, Error ellipse: s-maj=7.4km s-min=6.8km az=11.6*

JMA ***15*** *12:40:17.7±0.2, 37°.28N×142°.30E, h33^{km}, M3.8*

ISC 15 12:40:19.4±1.1, 37°.33N±0°.06×142°.21E±0°.08, h24^{km}, n25, σ1°$\frac{19}{25}$, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.06**	**272**	P	**Pn**	**12 40 37.8**	**-1.0**
JFK				S	**Sb**	**12 40 52.1**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.15**	**259**	P	**Pn**	**12 40 38.7**	**-1.3**
JMM	**Marumori**	**1.24**	**296**	P	**Pn**	**12 40 40.3**	**-1.0**
JMM				*e*S	**Sn**	**12 40 56.9**	**-0.4**
JIO	**Ouri**	**1.31**	**329**	P	**Pn**	**12 40 41.0**	**-1.2**
JHO	**Hitachi**	**1.50**	**242**	P	**Pn**	**12 40 43.2**	**-1.6**
JFT	**Otama**	**1.50**	**278**	P	**Pn**	**12 40 45.2**	**+0.4**
JFT				*e*S	**Sb**	**12 41 04.6**	**-0.6**
JOU	**Okura**	**1.60**	**311**	P	**Pn**	**12 40 46.3**	**+0.1**
JMK	**Ichinoseki**	**1.79**	**335**	P	**Pn**	**12 40 48.6**	**-0.3**
JFY	**Yanaizu**	**2.00**	**273**	P	**Pn**	**12 40 52.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.30**	**257**	Pn	**Pn**	**12 41 10.7**	**+1.1**
	2.5nm,0.3s,baz=94,slow=15,SNR=20						
MJAR				Sn	**Sb**	**12 41 54.0**	**-3.0**
	2.4nm,0.3s,baz=84,slow=16,SNR=8.5						
MAT	**Matsushiro**	**3.30**	**257**	P	**Pn**	**12 41 10.3**	**+0.7**
MAT				*e*S	**Sn**	**12 41 50.6**	**+2.5**
JHJ	**Hachijo jima 2**	**4.65**	**206**	Pn	**Pn**	**12 41 28.1**	**0.0**
	9.9nm,0.3s,baz=326,slow=23,SNR=12						
JHJ				Sn	**Sn**	**12 42 21.6**	**+0.3**
	18nm,0.3s,baz=240,slow=20,SNR=4.5						
ASAJ	**Asahikawa**	**6.79**	**2**	Pn	**Pn**	**12 41 56.4**	**-1.1**
	0.9nm,0.3s,baz=212,slow=11,SNR=11						
H11N2	**WAKE ISLAND Hy**	**27.76**	**122**	T	T	13 14 55.4	
	baz=315,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hy**	**27.77**	**122**	T	T	13 14 55.3	
	baz=315,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hy**	**27.78**	**122**	T	T	13 14 58.3	
	baz=315,slow=75,SNR=68						
H11S1	**WAKE ISLAND Hy**	**28.50**	**124**	T	T	13 15 57.2	
	baz=316,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**	**28.50**	**124**	T	T	13 15 55.2	
	baz=316,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy**	**28.51**	**124**	T	T	13 15 56.3	
	baz=316,slow=76,SNR=59						
ZALV	**Zalesovo Beam**	**42.18**	**312**	P	**P**	**12 48 11.0**	**+1.0**
	0.7nm,0.5s,baz=90,slow=8.6,SNR=3.3						
MKAR	**Makanchi Array**	**44.50**	**302**	P	**P**	**12 48 30.0**	**+1.2**
	1.1nm,0.7s,baz=84,slow=8.9,SNR=7.4						
KURBB	**Kurchatov Arra**	**46.32**	**308**	P	**P**	**12 48 44.0**	**+0.9**
	1.0nm,0.5s,baz=81,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**57.45**	**189**	P	**P**	**12 50 05.8**	**-0.5**
	0.4nm,0.6s,baz=7.0,slow=7.0,SNR=7.4						
ASAR	**Alice Springs**	**61.17**	**189**	P	**P**	**12 50 31.3**	**-0.8**
	0.3nm,0.7s,baz=8.5,slow=6.9,SNR=3.4						
FINES	**FINESS Array B**	**68.84**	**332**	P	**P**	**12 51 21.9**	**+0.5**
	1.1nm,0.6s,baz=359,slow=14,SNR=4.0						

IDC ***15*** *12:40:37.1±2.4, 54°.13N×86°.42E, h0^{km}, mb1 3.6/2, mb1mx3.2/43, mbtmp3.6/2, ML3.4/2, Error ellipse: s-maj=19.6km s-min=12.6km az=53.0*

NNC ***15*** *12:40:40.1±3.4, 53°.96N×86°.26E, h0^{km}, mb3.9, mpv3.5, Error ellipse: s-maj=42.0km s-min=23.4km az=162.0*

ISC 15 12:40:37.1±5.9, 54°.5N±0°.4×86°.4E±0°.2, h35^{km}, n8, σ1°36/8, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**240**	*i*		12 47 20.0	
	baz=79,slow=318,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.10**	**240**	Pg	**Pn**	**12 40 54.4**	**-1.7**
	4.7nm,0.3s,baz=77,slow=16,SNR=39						
ZALV				Lg	Lg	12 41 09.2	
	5.2nm,0.3s,baz=79,slow=30,SNR=23						
KURK	**Kurchatov**	**6.09**	**235**	⇓Pn	**Pn**	**12 42 05.9**	**+1.4**
	4.8nm,0.3s						
KURK				⇑Lg	Lg	12 43 42.5	
	26nm,0.8s						
KURBB	**Kurchatov Arra**	**6.19**	**234**	Pn	**Pn**	**12 42 07.6**	**+1.6**
	0.5nm,0.3s,baz=54,slow=13,SNR=30						
KURBB				Lg	Lg	12 43 46.3	
	0.0nm,0.3s,baz=59,slow=31,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.19**	**234**	⇑Pn	**Pn**	**12 42 07.3**	**+1.3**
	2.5nm,0.3s						
KURBB				⇑Sn	**Sn**	**12 43 15.2**	**-0.3**
	2.2nm,0.5s						
KURBB				⇑Lg	Lg	12 43 45.8	
	4.6nm,0.8s						
MK31	**Makanchi Array**	**8.15**	**201**	⇓Pn	**Pn**	**12 42 32.6**	**-0.4**
	0.2nm,0.3s,baz=28,slow=13,SNR=28						
MK31				⇓Lg	Lg	12 44 41.6	
	3.7nm,1.1s,baz=27,slow=31,SNR=4.2						
MKAR	**Makanchi Array**	**8.15**	**201**	Pn	**Pn**	**12 42 32.8**	**-0.2**
	1.0nm,0.3s,baz=22,slow=13,SNR=16						
MKAR				Lg	Lg	12 44 43.9	
	0.1nm,0.3s,baz=18,slow=35,SNR=5.3						
WMQ	**Urumqi**	**10.72**	**175**	P	**Pn**	**12 43 08.1**	**0.0**

NIED ***15*** *12:48:00, 38°.90N×141°.90E, h53^{km}, Mw4.0 Best double couple: M$_o$1.15000×10^{15} NP1:ϕ_s200.00000°, δ22.00000°, λ88.00000°. NP2:ϕ_s23.00000°, δ68.00000°, λ91.00000°.*

ISCJB ***15*** *12:48:25.6±0.5, 38°.90N±0°.03×141°.97E±0°.06, h58^{km}±4^{km}, mb4.2/24, MS2.9/7, Error ellipse: s-maj=9.0km s-min=4.4km az=26.3*

MOS ***15*** *12:48:26.0±1.0, 38°.99N×141°.91E, h58^{km}, mb4.7/10, Error ellipse: s-maj=10.8km s-min=7.0km az=84.5*

JMA ***15*** *12:48:26.8±0.1, 38°.91N×141°.94E, h52^{km}±1^{km}, M4.0*

JMA Felt II J1.

IDC ***15*** *12:48:28.4±0.9, 38°.89N×141°.95E, h69^{km}±6^{km}, mb3.7/14, mb1 3.8/20, mb1mx3.7/45, mbtmp4.0/20, MS2.9/12, Ms1 2.9/12, ms1mx2.8/49, Error ellipse: s-maj=18.4km s-min=12.9km az=107.0*

ISC 15 12:48:26.7±0.7, 38°.87N±0°.05×142°.01E±0°.07, h54^{km}±5^{km}, n65, σ1°49/70, mb4.2/24, MS3.0/7, 8C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.34**	**309**	P	**Pn**	**12 48 35.9**	**-0.6**
OFUJ				S	**Sn**	**12 48 42.1**	**-1.5**
JMK	**Ichinoseki**	**0.62**	**278**	P	**Pn**	**12 48 38.9**	**-0.7**
JMK				S	**Sn**	**12 48 47.4**	**-1.6**
JIO	**Ouri**	**0.66**	**231**	P	**Pn**	**12 48 39.8**	**-0.3**
JIO				S	**Sn**	**12 48 48.7**	**-1.1**
JOM	**Ohasama**	**0.82**	**318**	P	**Pn**	**12 48 41.4**	**-0.7**
JOM				S	**Sn**	**12 48 51.7**	**-1.8**
JTH	**Tanohata**	**1.07**	**354**	P	**Pn**	**12 48 45.0**	**-0.5**
JTH				S	**Sn**	**12 48 58.2**	**-1.2**
JOU	**Okura**	**1.17**	**245**	P	**Pn**	**12 48 46.3**	**-0.4**
JOU				S	**Sn**	**12 49 01.0**	**-0.6**
JRG	**Rokugo**	**1.19**	**297**	P	**Pn**	**12 48 46.2**	**-0.8**
JRG				S	**Sn**	**12 49 01.2**	**-1.0**
JYK	**Kaneyama**	**1.29**	**273**	P	**Pn**	**12 48 47.8**	**-0.5**
JMM	**Marumori**	**1.38**	**224**	P	**Pn**	**12 48 49.1**	**-0.5**
ERM	**Erimo**	**3.26**	**15**	⇑*e*P	**Pn**	**12 49 15.1**	**-0.2**
MJA0	**Matsu Arr-Jizo**	**3.78**	**233**	*e*P	**Pn**	**12 49 24.6**	**+2.2**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.80**	**234**	P	**Pn**	**12 49 24.7**	**+1.9**
	comp=Z,3.9nm,0.3s,baz=35,slow=12,SNR=47						
MJAR				LR	LR	12 51 03.8	
	comp=E,86nm,21.6s,baz=85,slow=41						
MAT	**Matsushiro**	**3.80**	**234**	P	**Pn**	**12 49 24.2**	**+1.4**
MAT				*e*S	**Sn**	**12 50 06.4**	**+0.2**
ASAJ	**Asahikawa**	**5.26**	**5**	P	**Pn**	**12 49 42.6**	**0.0**
	comp=Z,2.1nm,0.3s,baz=198,slow=12,SNR=16						
ASAJ				S	**Sn**	**12 50 44.0**	**+2.0**
	comp=Z,2.1nm,0.3s,baz=162,slow=20,SNR=2.2						
ASAJ	**Asahikawa**	**5.26**	**5**	P	**Pn**	**12 49 42.7**	**0.0**
ASAJ				S	**Sn**	**12 50 44.0**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,2.0nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.92**	**28**	*e*P	**Pn**	**12 49 50.4**	**-1.2**
JHJ	**Hachijo jima 2**	**6.01**	**198**	P	**Pn**	**12 49 54.8**	**+1.8**
	comp=N,3.7nm,0.3s,baz=72,slow=20,SNR=9.4						
JHJ				S	**Sn**	**12 50 59.7**	**-0.8**
	comp=N,7.7nm,0.3s,baz=68,slow=19,SNR=3.1						
KUR	**Kuril'sk**	**7.71**	**33**	⇑*i*P	**Pn**	**12 50 16.0**	**-0.2**
KUR				*i* S	**Sn**	**12 51 37.9**	**-4.1**
KUR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KUR				smax	smax		
	comp=N,15nm,0.7s						
KUR				smax	smax		
	comp=E,33nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.10**	**4**	⇑*e*P	**Pn**	**12 50 21.8**	**+0.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VLA	**Vladivostok**	**8.75**	**302**	⇑*e*P	**Pn**	**12 50 29.6**	**-0.8**
MSHR	**Mys Shultsa**	**9.03**	**298**	⇑*e*P	**Pn**	**12 50 33.6**	**-0.7**
USRK	**Ussuriysk Ar.**	**9.21**	**309**	P	**Pn**	**12 50 37.0**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=124,slow=13,SNR=31						
USRK				LR	LR	12 53 49.9	
	comp=Z,104nm,21.0s,baz=93,slow=35						
JNU	**Nakatsue**	**10.68**	**241**	P	**Pn**	**12 50 58.0**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=32,slow=19,SNR=3.7						
JNU				LR	LR	12 55 23.2	
	comp=Z,51nm,21.1s,baz=291,slow=39						
KSRS	**Korea Array**	**11.18**	**267**	P	**Pn**	**12 51 05.2**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=79,slow=14,SNR=9.5						
KSRS				LR	LR	12 54 58.7	
	comp=Z,58nm,18.4s,baz=76,slow=35						
KLR	**Kul'dur**	**12.70**	**328**	LR	LR	12 55 51.8	
	comp=Z,53nm,21.0s,baz=136,slow=35						
SKR	**Severo-Kuril's**	**15.46**	**36**	*e*P	**P**	**12 52 02.7**	**-1.8**
MA2	**Magadan**	**21.46**	**12**	LR	LR	13 01 42.8	
	comp=Z,18nm,19.1s,baz=68,slow=37						
YAK	**Yakutsk**	**24.39**	**346**	*e*P	**P**	**12 53 40.3**	**+0.8**
YAK				pmax	pmax		
	comp=Z,29nm,0.6s						
SEY	**Seymchan**	**24.90**	**11**	P	**P**	**12 53 45.0**	**+0.9**
	comp=Z,3.1nm,1.0s,baz=218,slow=8.4,SNR=5.1						
GUMO	**Guam**	**25.31**	**173**	LR	LR	13 03 14.0	
	comp=Z,9.9nm,21.5s,baz=68,slow=35						
SONM	**Songino Array**	**27.20**	**301**	P	**P**	**12 54 05.9**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=99,slow=8.0,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**28.74**	**124**	T	T	13 24 39.5	
	baz=317,slow=76,SNR=123						
H11N1	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	13 24 46.9	
	baz=317,slow=76,SNR=238						
H11N3	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	13 24 47.6	
	baz=317,slow=76,SNR=175						
H11S1	**WAKE ISLAND Hy**	**29.52**	**126**	T	T	13 25 43.7	
	baz=319,slow=76,SNR=93						
H11S3	**WAKE ISLAND Hy**	**29.52**	**126**	T	T	13 25 49.3	
	baz=319,slow=76,SNR=110						
TLY	**Talaya**	**29.52**	**308**	LR	LR	13 06 45.5	
	comp=Z,28nm,19.5s,baz=86,slow=37						
TLY	**Talaya**	**29.52**	**308**	*e*P	P	12 54 39.1	+13
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**29.53**	**126**	T	T	13 25 46.0	
	baz=319,slow=76,SNR=106						
BILL	**Bilibino**	**32.14**	**17**	*e*P	**P**	**12 54 49.2**	**+0.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZALV	**Zalesovo Beam**	**41.05**	**311**	P	**P**	**12 56 04.4**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=86,slow=8.0,SNR=22						
ZALV				pP	**sP**	**12 56 21.9**	**-3.0**
	comp=Z,2.1nm,0.6s,baz=78,slow=7.2,SNR=4.5						
ZALV				LR	LR	13 14 00.0	
	comp=Z,18nm,19.1s,baz=70,slow=37						
NRIK	**Noril'sk**	**41.81**	**334**	LR	LR	13 14 07.8	
	comp=Z,32nm,19.4s,baz=100,slow=37						
CMAR	**Chiang Mai Arr**	**42.44**	**254**	P	**P**	**12 56 16.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=46,slow=7.7,SNR=2.7						
MKAR	**Makanchi Array**	**43.57**	**301**	P	**P**	**12 56 24.9**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=85,slow=9.9,SNR=47						
MKAR				pP	**pP**	**12 56 41.9**	**+2.5**
	comp=Z,2.2nm,0.8s,baz=89,slow=7.4,SNR=5.0						
MKAR				LR	LR	13 14 45.8	
	comp=Z,18nm,19.5s,baz=134,slow=36						
ILAR	**Eielson Array**	**47.70**	**33**	P	**P**	**12 56 58.2**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=261,slow=6.6,SNR=6.1						
ILAR				pP	**pP**	**12 57 14.3**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=265,slow=6.8,SNR=3.0						
ILAR	**Eielson Array**	**47.70**	**33**	*e*P	**P**	**12 56 58.8**	**+1.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**49.75**	**311**	*ce*P	**P**	**12 57 13.0**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
INK	**Inuvik**	**52.55**	**28**	P	**P**	**12 57 34.8**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=300,slow=4.5,SNR=3.5						
SVE	**Sverdlovsk**	**54.09**	**318**	*e*P	**P**	**12 57 46.1**	**+0.5**
SVE				pmax	pmax		
	comp=Z,13nm,0.8s						
ARU	**Arti**	**55.31**	**318**	*c i*P	**P**	**12 57 54.1**	**-0.3**
ARU						12 59 57.8	
ARU				S	**S**	**13 05 37.9**	**+3.8**
ARU				SS	**SS**	**13 09 18.2**	**-0.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**58.94**	**188**	P	**P**	**12 58 20.5**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=4.9,slow=6.9,SNR=24						
WRA	**Warramunga Arr**	**58.94**	**188**	*e

UPM				*e*Sg	Sn	12 55 21.0	+0.5
UPM	**Unac-Piva**	**0.79**	**340**	*i*/Pg	Pb	12 55 08.3	-0.1
UPM				*e*Sg	Sn	12 55 21.0	+0.5
BBLS	**Lazići**	**1.41**	**4**	*e*Pn	Pn	12 55 13.3	-4.3

JMA 15 13:05:00.0±0.5, 20.96N×122.89E, h35km, M4.1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.20**	**15**	P	Pn	13 05 49.9	+2.1
HATJ				*e*S	Sn	13 06 26.7	+2.1
JKRS	**Kuro-shima**	**3.42**	**17**	P	Pn	13 05 53.3	+2.4
JKRS				S	Sn	13 06 32.4	+2.2
IRIF	**Iriomote-Funau**	**3.45**	**13**	P	Pn	13 05 53.6	+2.4
IRIF				S	Sn	13 06 33.2	+2.4
JYNG	**Yonagunijimaku**	**3.48**	**1**	P	Pn	13 05 54.6	+3.0
JYNG				S	Sn	13 06 34.1	+2.6
YOJ	**Yonaguni jima**	**3.49**	**2**	P	Pn	13 05 54.6	+2.8
JIJ	**Ishigaki jima**	**3.58**	**19**	P	Pn	13 05 54.7	+1.7
JIJ				*e*S	Sn	13 06 35.7	+1.6
JISG	**Ishigakijimahi**	**3.84**	**20**	P	Pn	13 05 58.3	+1.7
JISG				*e*S	Sn	13 06 43.7	+3.2
JTJ	**Tarama**	**4.03**	**24**	P	Pn	13 06 01.0	+1.8
JTJ				*e*S	Sn	13 06 47.1	+2.0
JIRB	**Irabujima**	**4.39**	**28**	P	Pn	13 06 06.1	+2.0
JIRB				*e*S	Sn	13 06 54.6	+0.6
JOGS	**Gusukube**	**4.44**	**31**	P	Pn	13 06 06.8	+2.0
JOGS				*e*S	Sn	13 06 58.0	+2.7
JIKM	**Ikemajima**	**4.50**	**28**	P	Pn	13 06 08.9	+3.2

WEL 15 13:12:43.5±0.2, 43.58S×172.79E, h6km, ML3.5/11, 2C-2D, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.16**	**218**	⇑P	Pg	13 12 46.9	+0.2
MQZ				SG	Sg	13 12 49.5	+0.7
MQZ				AML	AML	13 12 49.9	
OXZ	**Oxford**	**0.60**	**295**	⇓P*	Pg	13 12 54.8	-0.3
LTZ	**Lake Taylor**	**0.89**	**335**	⇓P*	Pg	13 13 00.4	0.0
LTZ				AML	AML	13 13 13.1	
LTZ				AML	AML	13 13 13.2	
RPZ	**Rata Peaks**	**1.27**	**263**	P*	Pn	13 13 06.0	-1.7
RPZ				AML	AML	13 13 27.2	
RPZ				AML	AML	13 13 30.2	
KHZ	**Kahutara**	**1.29**	**26**	⇑P*	Pn	13 13 06.2	-1.8
INZ	**Inchbonnie**	**1.30**	**311**	P*	Pn	13 13 07.6	-0.7
WVZ	**Waitaha Valley**	**1.58**	**288**	PN	Pn	13 13 11.6	-0.4
WVZ				AML	AML	13 13 47.7	
THZ	**Tophouse**	**1.82**	**3**	PN	Pn	13 13 13.5	-1.9
THZ				AML	AML	13 13 53.9	
THZ				AML	AML	13 13 56.5	
DSZ	**Denniston Nort**	**1.97**	**338**	PN	Pn	13 13 16.7	-0.7
DSZ				AML	AML	13 13 43.9	
DSZ				AML	AML	13 13 44.8	
LBZ	**Lake Benmore**	**2.04**	**246**	PN	Pn	13 13 17.1	-1.3
LBZ				AML	AML	13 13 55.8	
LBZ				AML	AML	13 13 57.0	
ODZ	**Otahua Downs**	**2.12**	**226**	PN	Pn	13 13 17.7	-1.8
ODZ				AML	AML	13 13 54.1	
ODZ				AML	AML	13 13 59.2	
ODZ				AML	AML	13 13 59.2	
ODZ				AML	AML	13 14 04.5	
FOZ	**Fox Glacier**	**2.16**	**270**	PN	Pn	13 13 49.0	0.0
NNZ	**Nelson**	**2.40**	**11**	PN	Pn	13 13 22.2	-1.2
JCZ	**Jackson Bay**	**2.94**	**259**	PN	Pn	13 13 30.7	-0.1
WKZ	**Wanaka**	**2.98**	**244**	PN	Pn	13 13 30.0	-1.3
WKZ				AML	AML	13 14 25.1	
EAZ	**Earnscleugh**	**2.99**	**235**	PN	Pn	13 13 29.9	-1.5
EAZ				AML	AML	13 14 19.9	
EAZ				AML	AML	13 14 25.7	
TUZ	**Tuapeka**	**3.27**	**222**	PN	Pn	13 13 34.1	-1.1
TUZ				AML	AML	13 14 35.4	
TUZ				AML	AML	13 14 40.5	
MRZ	**Mangatainoka R**	**3.58**	**36**	PN	Pn	13 13 36.9	-2.7

*NIED **15** 13:23:00, 38.90N×144.40E, h5km, Mw3.4 Best double couple: M0 1.47000×10^14 NP1:φs 14.00000°, δ 41.00000°, λ -66.00000°. NP2:φs 163.00000°, δ 53.00000°, λ -110.00000°.*

JMA 15 13:23:56.8±0.2, 38.88N×144.36E, h31km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.09**	**290**	P	Pn	13 24 31.0	+1.3
MIYJ				*e*S	Sn	13 24 55.9	+1.2
OFUJ	**Ofunato**	**2.11**	**276**	P	Pn	13 24 31.2	+1.3
OFUJ				S	Sn	13 24 56.2	+1.2
JIO	**Ouri**	**2.40**	**261**	P	Pn	13 24 35.1	+1.2
JIO				S	Sn	13 25 03.2	+1.1
JMK	**Ichinoseki**	**2.45**	**273**	P	Pn	13 24 36.6	+2.0
JMK				S	Sn	13 25 05.7	+2.2
JOM	**Ohasama**	**2.46**	**285**	P	Pn	13 24 36.6	+1.9
JOM				S	Sn	13 25 06.2	+2.5
JANG	**Nango**	**2.66**	**305**	P	Pn	13 24 38.1	+0.6
JOU	**Okura**	**2.94**	**261**	P	Pn	13 24 43.4	+2.0
JOU				*e*S	Sn	13 25 18.1	+2.5
JRG	**Rokugo**	**2.94**	**281**	P	Pn	13 24 43.7	+2.3
JYK	**Kaneyama**	**3.12**	**272**	P	Pn	13 24 46.1	+2.2
JAH	**Hinai**	**3.16**	**296**	P	Pn	13 24 46.4	+2.0
JTM	**Tenmabayashi**	**3.17**	**308**	P	Pn	13 24 46.2	+1.7
JFT	**Otama**	**3.45**	**248**	P	Pn	13 24 50.3	+1.9

IDC 15 13:25:48.8±4.0, 4.22S×151.63E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.1/31, mbtmp3.0/2, Error ellipse: s-maj=173.6km s-min=48.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.98**	**226**	P	P	13 30 56.0	+0.8
	0.4nm,0.7s,baz=50,slow=9.8,SNR=4.1						
ASAR	**Alice Springs**	**25.81**	**220**	P	P	13 31 21.4	-0.6
	0.2nm,0.6s,baz=46,slow=11,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.01**	**289**	PKPbc	PKPbc	13 45 39.4	-0.6
	0.2nm,0.3s,baz=95,slow=1.5,SNR=6.6						

*ISCJB **15** 13:32:59.2±0.5, 20.51S±0.09×175.14W±0.10, h10km, mb4.3/15, MS3.3/5, Error ellipse: s-maj=15.1km s-min=9.9km az=41.6*
*IDC **15** 13:32:59.0±0.6, 20.52S×175.12W, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/26, mbtmp4.2/14, ML3.8/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/37, Error ellipse: s-maj=25.9km s-min=17.1km az=146.0*
*NEIC **15** 13:33:01.2±4.4, 20.49S×175.09W, h14km±27km, mb4.7/3, Error ellipse: s-maj=13.2km s-min=9.3km az=135.0*

ISC 15 13:33:00.6±0.5, 20.47S±0.09×175.06W±0.10, h10km, n42, σ0 97/33, mb4.3/15, MS3.4/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.24**	**26**	Pn	**Pn**	**13 34 48.1**	**+1.6**
	5.0nm,0.3s,baz=192,slow=14,SNR=10						
AFI				Sn	**Sn**	**13 36 06.8**	**-2.0**
	4.2nm,0.3s,baz=345,slow=20,SNR=3.0						
RAR	**Rarotonga**	**14.31**	**96**	Pn	**Pn**	**13 36 21.7**	**-1.6**
	1.4nm,0.3s,baz=238,slow=14,SNR=5.9						
RAR				Sn	Sn	13 38 42.4	-20
	0.9nm,0.3s,baz=192,slow=20,SNR=4.4						
URZ	**Urewera**	**18.98**	**199**	*e*P	**P**	**13 37 22.4**	**+0.2**
TBI	**Tubuai**	**23.91**	**102**	*e*T	T	14 02 21.4	
	12nm,0.3s						
PAE	**Paea**	**24.23**	**88**	*e*T	T	14 02 37.7	
	5.1nm,0.3s						
PPT2	**Papeete2**	**24.25**	**88**	*e*LR	LR	13 44 04.9	
PPT2	**Papeete2**	**24.25**	**88**	*e*T	T	14 02 39.6	
	5.5nm,0.3s						
PPT	**Papeete**	**24.25**	**87**	LR	LR	13 44 58.5	
	comp=Z,29nm,20.8s,baz=322,slow=30						
TVO	**Taravao**	**24.52**	**88**	*e*T	T	14 02 59.4	
	2.3nm,0.4s						
MEH	**Mehetia**	**25.61**	**89**	*e*T	T	14 04 21.9	
	34nm,0.3s						
TAOE	**Nuku Hiva Isla**	**35.61**	**76**	*e*T	T	14 16 43.4	
	113nm,0.3s						
CTA	**Charters Tower**	**36.24**	**264**	P	**P**	**13 40 03.5**	**-0.6**
	2.5nm,0.4s,baz=86,slow=8.3,SNR=4.6						
RKT	**Rikitea**	**37.23**	**102**	*e*T	T	14 18 59.4	
	5.5nm,0.3s						
STKA	**Stephens Creek**	**40.29**	**245**	P	**P**	**13 40 37.4**	**-0.8**
	0.8nm,0.4s,baz=83,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**47.21**	**256**	P	**P**	**13 41 33.1**	**-0.9**
	3.5nm,0.9s,baz=87,slow=8.4,SNR=23						
ASAR				PcP	**PcP**	**13 43 05.2**	**-0.2**
	1.7nm,0.8s,baz=102,slow=4.2,SNR=8.4						
WRAB	**Tennant Creek**	**47.33**	**261**	*e*P	**P**	**13 41 34.2**	**-0.7**
WRA	**Warramunga Arr**	**47.33**	**261**	P	**P**	**13 41 33.7**	**-1.2**
	2.0nm,0.8s,baz=95,slow=8.2,SNR=34						
WRA				PcP	**PcP**	**13 43 05.7**	**-0.2**
	1.5nm,0.8s,baz=92,slow=3.8,SNR=5.9						
FITZ	**Fitzroy Crossi**	**55.76**	**262**	P	**P**	**13 42 37.8**	**-0.3**
	1.6nm,0.7s,baz=112,slow=5.4,SNR=5.6						
SBA	**Scott Base**	**58.10**	**184**	*e*P	**P**	**13 42 55.5**	**+1.9**
	6.2nm,0.7s						
VNDA	**Vanda**	**58.20**	**186**	P	**P**	**13 42 55.1**	**+0.7**
	1.2nm,0.6s,baz=356,slow=7.0,SNR=7.8						
QSPA	**South Pole Qui**	**69.60**	**180**	*e*P	**P**	**13 44 10.3**	**+0.5**
MJAR	**Matsushiro Arr**	**71.85**	**322**	P	**P**	**13 44 23.9**	**+0.2**
	1.6nm,0.5s,baz=153,slow=6.0,SNR=9.5						
PETK	**Petropavlovsk-**	**76.98**	**344**	P	**P**	**13 44 54.1**	**+0.9**
	3.7nm,0.7s,baz=116,slow=8.1,SNR=6.1						
PETK				LR	LR	14 12 25.3	
	comp=Z,17nm,21.7s,baz=79,slow=31						
HLID	**Hailey**	**84.53**	**40**	*e*P	**P**	**13 45 35.2**	**+1.1**
	3.2nm,0.8s						
TXAR	**Lajitas Array**	**84.73**	**56**	P	**P**	**13 45 36.4**	**+1.1**
	1.2nm,1.1s,baz=226,slow=4.8,SNR=5.2						
ANMO	**Albuquerque**	**85.25**	**50**	LR	LR	14 19 45.8	
	comp=Z,23nm,19.2s,baz=350,slow=33						
NEW	**Newport**	**85.76**	**35**	LR	LR	14 15 54.0	
	comp=Z,16nm,20.2s,baz=241,slow=30						
TRF	**Thorofare Moun**	**85.87**	**11**	*e*P	**P**	**13 45 40.1**	**-0.2**
	3.4nm,0.7s						
PDAR	**Pinedale Array**	**87.07**	**42**	P	**P**	**13 45 47.1**	**+0.3**
	1.0nm,0.8s,baz=191,slow=3.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**92.71**	**289**	P	**P**	**13 46 14.7**	**+1.2**
	0.6nm,0.5s,baz=137,slow=4.3,SNR=3.0						
YKA	**Yellowknife Ar**	**95.35**	**24**	P	**P**	**13 46 24.9**	**+0.4**
	0.4nm,0.7s,baz=243,slow=4.1,SNR=4.0						
LPAZ	**La Paz**	**99.51**	**111**	LR	LR	14 21 29.0	
	comp=Z,17nm,18.8s,baz=134,slow=29						
MKAR	**Makanchi Array**	**113.19**	**313**	PKiKP	**PKiKP**	**13 51 37.6**	**-0.8**
	0.4nm,0.5s,baz=82,slow=3.2,SNR=3.6						
KURK	**Kurchatov**	**115.84**	**317**	PKP	**PKPdf**	**13 51 42.4**	**-0.9**
KURBB	**Kurchatov Arra**	**115.90**	**317**	PKP	**PKPdf**	**13 51 42.4**	**-1.0**
	0.4nm,0.5s,baz=100,slow=2.2,SNR=4.1						
BVAR	**Borovoye Array**	**120.82**	**320**	PKP	**PKPdf**	**13 51 51.3**	**-1.6**
	0.9nm,0.6s,baz=169,slow=1.5,SNR=5.7						
ARCES	**ARCESS Array B**	**129.36**	**351**	PKP	**PKPdf**	**13 52 08.6**	**-0.1**
	1.3nm,0.8s,baz=345,slow=2.8,SNR=4.6						
AKASG	**Malin Array Be**	**144.27**	**333**	PKP	**PKPab**	**13 52 34.4**	**-0.2**
	1.4nm,0.8s,baz=42,slow=4.2,SNR=5.4						
CLL	**Collm**	**148.58**	**350**	*i* (P)	**PKPbc**	**13 52 47.6**	**0.0**
	comp=Z,4.0nm,0.6s						
BRTR	**Keskin Array B**	**148.83**	**314**	PKPbc	**PKPbc**	**13 52 48.3**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=108,slow=3.2,SNR=4.6						
GERES	**GERESS Array B**	**150.83**	**348**	PKPbc	**PKPbc**	**13 52 53.4**	**0.0**
	1.3nm,0.7s,baz=42,slow=8.3,SNR=8.3						
TORD	**Torodi Ar. Bea**	**172.08**	**156**	PKPab	**PKPab**	**13 54 32.9**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=193,slow=3.5,SNR=4.5						

*GRAL **15** 13:45:32.2±0.3, 33.88N×35.85E, h3km±14km, MD2.8*
*NSSC **15** 13:45:32.8±1.3, 33.83N×35.84E, h0km±4km, MD1.1, ML1.8*
*CSEM **15** 13:45:32.2, 33.88N×35.85E, h2km, ML2.8*

ISC 15 13:45:32.0±1.1, 33.87N±0.03×35.84E±0.04, h5km±13km, n14, σ0 80/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.16**	**283**	*e*P	**Pg**	**13 45 35.1**	**0.0**
BHL				*e*S	**Sg**	**13 45 37.4**	**+0.2**
BHL	**Bhannes**	**0.16**	**283**	*e*P	**Pg**	**13 45 35.1**	**0.0**
BHL				*e*S	**Sg**	**13 45 37.4**	**+0.2**
DQRL	**Deir Qamar**	**0.28**	**234**	*e*P	**Pg**	**13 45 37.4**	**+0.1**
DQRL				*e*S	**Sg**	**13 45 41.2**	**+0.2**
DQRL	**Deir Qamar**	**0.28**	**234**	*e*P	**Pg**	**13 45 37.4**	**+0.1**
DQRL				*e*S	**Sg**	**13 45 41.2**	**+0.2**
RCY	**Rachaya**	**0.37**	**180**	*e*P	**Pg**	**13 45 39.0**	**-0.2**
RCY				*e*S	**Sg**	**13 45 44.1**	**0.0**
HWQ	**Hawqa**	**0.42**	**12**	*e*P	**Pg**	**13 45 39.5**	**-0.6**
HWQ	**Hawqa**	**0.42**	**12**	*e*P	**Pg**	**13 45 39.5**	**-0.6**
BRBR	**Barbar**	**0.47**	**168**	*e*P	**Pg**	**13 45 41.1**	**+0.1**
BRBR				*e*S	**Sg**	**13 45 48.2**	**+1.1**
BRBR				AML	AML	13 45 50.7	
	comp=N,136nm,0.5s						
BRBR				AML	AML	13 45 52.4	
	comp=E,114nm,0.7s						
HAWK	**Haweek**	**0.80**	**36**	*e*P	**Pb**	**13 45 48.2**	**-0.4**
HAWK				*e*S	**Sn**	**13 46 01.1**	**-1.5**
HAWK				AML	AML	13 46 02.0	
	comp=N,28nm,0.3s						
HAWK				AML	AML	13 46 02.8	
	comp=E,23nm,0.6s						
BIDA	**Albida**	**1.21**	**19**	*e*P	**Pg**	**13 45 56.5**	**+1.3**
BIDA				*e*S	**Sn**	**13 46 14.8**	**+2.2**
BIDA				AML	AML	13 46 15.9	
	comp=N,58nm,0.5s						
BIDA				AML	AML	13 46 17.1	
	comp=E,83nm,0.3s						
SALA	**Sala**	**1.38**	**147**	*e*P	**Pg**	**13 45 58.3**	**0.0**
SALA				*e*S	**Sg**	**13 46 16.7**	**+0.5**
SALA				AML	AML	13 46 20.9	
	comp=N,23nm,0.4s						
SALA				AML	AML	13 46 22.4	
	comp=E,3.3nm,0.5s						
ZALF	**Zalf**	**1.57**	**127**	*e*P	**Pb**	**13 46 00.9**	**-0.6**
ZALF				*e*S	**Sg**	**13 46 22.4**	**0.0**
ZALF				AML	AML	13 46 28.0	
	comp=N,9.9nm,1.0s						
ZALF				AML	AML	13 46 34.3	
	comp=E,8.1nm,0.5s						
WRDH	**Warideh**	**1.70**	**16**	*e*P	**Pg**	**13 46 04.1**	**-0.5**
WRDH				*e*S	**Sg**	**13 46 28.0**	**+1.3**
WRDH				AML	AML	13 46 33.6	
	comp=N,16nm,0.5s						
WRDH				AML	AML	13 46 35.5	
	comp=E,32nm,0.4s						
BTCH	**Batrach**	**2.22**	**13**	*e*P	**Pb**	**13 46 12.1**	**-0.7**
BTCH				*e*S	**Sb**	**13 46 40.4**	**-0.3**
BTCH				AMB	AMB	13 46 49.3	
	comp=N,36nm,4.6s						
BTCH				AML	AML	13 46 55.0	
	comp=E,30nm,0.5s						

*ISCJB **15** 13:50:52.8±1.3, 36.82N±0.06×142.36E±0.09, h10km, mb3.5/3, Error ellipse: s-maj=10.9km s-min=8.0km az=16.7*
*JMA **15** 13:50:52.4±0.3, 36.86N×142.30E, h1km±2km, M3.3*
*IDC **15** 13:51:01.9±2.3, 36.61N×141.34E, h0km, mb3.4/3, mb1 3.4/5, mb1mx3.2/58, mbtmp3.4/5, ML2.8/2, Error ellipse: s-maj=52.3km s-min=23.1km az=78.0*

ISC 15 13:50:51.7±1.8, 36.82N±0.05×142.36E±0.10, h10km, n15, σ1 59/18, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.30**	**295**	P	**Pg**	**13 51 16.4**	**-0.3**
JFK				*e*S	**Sn**	**13 51 33.3**	**-0.2**
JHO	**Hitachi**	**1.45**	**262**	P	**Pb**	**13 51 18.7**	**-0.1**
JMM	**Marumori**	**1.62**	**310**	P	**Pb**	**13 51 21.1**	**-0.7**
JFT	**Otama**	**1.75**	**294**	P	**Pb**	**13 51 24.0**	**0.0**
JFT				*e*S	**Sb**	**13 51 45.6**	**-0.5**
JIO	**Ouri**	**1.81**	**334**	P	**Pb**	**13 51 24.5**	**-0.5**
JIO				*e*S	**Sb**	**13 51 47.4**	**-0.4**
JOU	**Okura**	**2.04**	**319**	P	**Pb**	**13 51 28.1**	**-0.9**
JYS	**Shirataka**	**2.29**	**308**	P	**Pb**	**13 51 31.9**	**-1.3**
JMK	**Ichinoseki**	**2.31**	**337**	P	**Pb**	**13 51 31.7**	**-1.7**
JAG	**Ashikaga**	**2.37**	**261**	P	**Pn**	**13 51 32.6**	**+2.0**
JAG				*e*S	**Sb**	**13 52 02.3**	**-1.4**
MJAR	**Matsushiro Arr**	**3.34**	**266**	Pn	**Pn**	**13 51 45.7**	**+1.6**
	0.9nm,0.3s,baz=88,slow=15,SNR=9.1						
MJAR				Lg	Lg	13 52 28.4	
	0.7nm,0.3s,baz=90,slow=32,SNR=3.8						
MAT	**Matsushiro**	**3.35**	**266**	P	**Pb**	**13 51 48.0**	**-3.2**
MAT				*e*S	**Sn**	**13 52 26.7**	**+2.8**
JHJ	**Hachijo jima 2**	**4.25**	**210**	Pn	**Pn**	**13 51 58.4**	**+1.8**
	5.3nm,0.3s,baz=17,slow=20,SNR=11						
JHJ				Sn	**Sn**	**13 52 45.1**	**-1.2**
	7.4nm,0.3s,baz=66,slow=20,SNR=3.6						
ZALV	**Zalesovo Beam**	**42.61**	**313**	P	P	13 58 55.5	+7.6
	0.4nm,0.3s,baz=98,slow=11,SNR=2.3						
KURBB	**Kurchatov Arra**	**46.73**	**308**	P	P	13 59 27.9	+7.2
	0.2nm,0.4s,baz=79,slow=6.8,SNR=3.2						
WRA	**Warramunga Arr**	**56.96**	**189**	P	P	14 00 47.6	+10
	0.4nm,0.9s,baz=2.4,slow=7.9,SNR=5.9						

JMA 15 13:55:30.4±0.1, 39.44N×142.51E, h33km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.55**	**285**	P	Pn	13 55 41.5	-0.3
MIYJ				S	Sb	13 55 48.9	-0.7
JTH	**Tanohata**	**0.70**	**315**	P	Pn	13 55 43.5	-0.5
OFUJ	**Ofunato**	**0.74**	**241**	P	Pn	13 55 44.3	-0.3
JOM	**Ohasama**	**0.94**	**272**	P	Pn	13 55 47.7	+0.4
JOM				S	Sb	13 56 00.1	-0.4
JKZ	**Kuzumaki**	**1.06**	**301**	P	Pn	13 55 49.5	+0.5
JKZ				S	Sb	13 56 03.3	-0.6
JMK	**Ichinoseki**	**1.11**	**244**	P	Pn	13 55 50.0	+0.3
JMK				S	Sn	13 56 04.4	+0.5
JANG	**Nango**	**1.21**	**321**	P	Pn	13 55 51.2	+0.2
JIO	**Ouri**	**1.34**	**223**	P	Pn	13 55 52.7	0.0
JRG	**Rokugo**	**1.45**	**269**	P	Pb	13 55 56.1	-0.8
JAH	**Hinai**	**1.63**	**298**	P	Pn	13 55 58.2	+1.5
JAH				S	Sb	13 56 19.0	-0.9

*IDC **15** 14:01:20.9±2.5, 23.21S×68.27W, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.5/38, mbtmp3.8/2, ML3.7/1, MS4.3/2, Ms1 4.3/2, ms1mx3.0/24, Error ellipse: s-maj=81.1km s-min=50.0km az=89.0*
*ISCJB **15** 14:01:30.6±1.0, 22.60S±0.07×69.2W±0.1, h103km±9km, mb3.5/1, Error ellipse: s-maj=21.9km s-min=8.5km az=20.3*
*GUC **15** 14:01:32.1±0.7, 22.56S×69.21W, h91km±5km, ML4.0*

ISC 15 14:01:31.7±1.2, 22.54S±0.06×69.2W±0.1, h99km±9km, n13, σ1 9 69/18, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.36**	**242**	*i* P	**Pn**	**14 01 46.4**	**-0.4**
PB06				*i* S	**Sn**	**14 01 57.3**	**-0.8**
PB06				IAML		14 01 59.2	
	comp=N,7μm,0.1s						
PB09	**IPOC Station P**	**0.74**	**359**	*i* P	**Pn**	**14 01 50.1**	**+0.4**
PB09				*i* S	**Sn**	**14 02 03.2**	**+0.2**
PB09				IAML		14 02 05.3	
	comp=N,14μm,0.6s						
PB04	**IPOC Station P**	**0.88**	**283**	*i* P	**Pn**	**14 01 51.5**	**+0.5**
PB04				*i* S	**Sn**	**14 02 06.0**	**+0.4**
PB07	**IPOC Station P**	**1.01**	**323**	*i* P	**Pn**	**14 01 53.2**	**+0.8**
PB07				*i* S	**Sn**	**14 02 08.9**	**+0.8**
PB07				IAML		14 02 09.7	
	comp=N,5μm,0.3s						
PB01	**IPOC Station P**	**1.51**	**351**	*i* P	**Pn**	**14 01 58.9**	**+0.8**
PB01				*i* S	**Sn**	**14 02 18.7**	**+0.5**
PB10	**IPOC Station P**	**1.56**	**231**	*i* P	**Pn**	**14 01 58.9**	**+0.1**
PB10				*i* S	**Sn**	**14 02 18.8**	**-0.5**
HMBC	**Humberstone**	**2.33**	**344**	*e*P	**Pn**	**14 02 08.8**	**0.0**
HMBC				*i* S	**Sn**	**14 02 31.8**	**-5.3**
PB08	**IPOC Station P**	**2.38**	**2**	*i* P	**Pn**	**14 02 10.3**	**+0.7**
LPAZ	**La Paz**	**6.30**	**10**	Pn	**Pn**	**14 03 03.8**	**+1.1**
	comp=N,0.8nm,0.3s,baz=177,slow=6.9,SNR=15						
USHA	**Ushuaia**	**32.26**	**179**	LR	LR	14 20 35.4	
	comp=N,1μm,18.7s,baz=130,slow=37						
PMSA	**Palmer Station**	**42.36**	**177**	LR	LR	14 25 03.5	
	comp=N,171nm,19.4s,baz=40,slow=34						
TORD	**Torodi Ar. Bea**	**77.98**	**70**	P	**P**	**14 13 18.3**	**-1.3**
	comp=N,0.5nm,0.5s,baz=245,slow=5.0,SNR=6.7						
WRA	**Warramunga Arr**	**131.92**	**210**	PKP	**PKPdf**	**14 20 36.5**	**+2.2**
	comp=N,0.6nm,0.9s,baz=159,slow=2.0,SNR=4.6						

IDC 15 14:02:58.3±2.2, 6.96S×129.36E, h0km, mb3.8/1, mb1 3.8/3, mb1mx3.4/43, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=144.9km s-min=31.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.78**	**160**	Pn	Pn	14 06 14.6	-0.6
	0.5nm,0.3s,baz=342,slow=13,SNR=26						
WRA				Sn	Sn	14 08 35.7	-13
	1.9nm,0.3s,baz=333,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.18**	**166**	P	Pn	14 07 00.4	+0.5
	0.2nm,0.3s,baz=339,slow=9.2,SNR=14						
ASAR				S	Sn	14 09 57.2	-15
	0.5nm,0.3s,baz=323,slow=18,SNR=6.2						
MKAR	**Makanchi Array**	**67.84**	**327**	P	P	14 13 58.5	0.0
	0.5nm,0.5s,baz=124,slow=8.1,SNR=6.6						

IDC 15 14:05:08.8±435.0, 47.35N×47.07E, h0km, Error ellipse: s-maj=178.7km s-min=142.2km az=3.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.85**	**63**	*i*		14 55 45.0	
	baz=250,slow=307,SNR=11						
I43RU	**DUBNA INFRASON**	**11.16**	**331**	*i*		15 12 30.0	
	baz=142,slow=318,SNR=1.8						
I26DE	**FREYUNG INFRAS**	**22.23**	**286**	*i*		16 21 30.0	
	baz=81,slow=320,SNR=1.4						
I46RU	**ZALESOV

0.4nm,0.3s,baz=310,slow=12,SNR=15
CPUP Villa Florida 17.84 132 *e*P **P 14 20 50.2 -2.5**
PTGA Pitinga 18.53 41 P **P 14 21 00.4 +0.1**
1.2nm,0.3s,baz=223,slow=12,SNR=14
PTGA Pitinga 18.53 41 *e*P **P 14 20 59.8 -0.6**
8.4nm,0.8s
BDFB Brasilia 23.23 95 P **P 14 21 48.7 -1.2**
5.7nm,0.5s,baz=256,slow=12,SNR=7.5
BDFB LR LR 14 31 12.9
comp=Z,46nm,21.0s,baz=154,slow=37
PCRV Puerto La Cruz 26.04 17 P **P 14 22 15.6 +0.4**
4.2nm,0.4s,baz=54,slow=9.2,SNR=2.6
TXAR Lajitas Array 53.56 325 P **P 14 26 02.6 +0.9**
0.7nm,0.7s,baz=156,slow=8.3,SNR=8.3
SDCO Great Sand Dun 61.10 330 *e*P **P 14 26 55.6 +0.8**
3.7nm,0.8s
DCU Deer Creek Res 66.15 328 *e*P **P 14 27 26.6 -1.1**
AGMN Agassiz Nation 66.44 343 *e*P **P 14 27 29.4 +0.3**
5.1nm,0.8s
R11A Troy Canyon, C 66.87 324 *e*P **P 14 27 34.0 +1.7**
1.4nm,0.8s
PDAR Pinedale Array 66.96 331 P **P 14 27 33.8 +0.9**
0.4nm,0.3s,baz=180,slow=3.0,SNR=4.0
ULM Lac du Bonnet 68.21 344 P **P 14 27 39.3 -1.0**
1.6nm,0.5s,baz=173,slow=6.7,SNR=3.4
GCMT Greycliff 69.34 333 *e*P **P 14 27 47.8 +0.2**
SNAA Sanae 69.41 162 P **P 14 27 47.4 -0.2**
SNAA Sanae 69.41 162 *e*P **P 14 27 47.3 -0.3**
18nm,1.9s
DBIC Dimbokro 70.00 77 P **P 14 27 53.9 +1.7**
3.2nm,0.6s,baz=244,slow=7.0,SNR=6.4
MFID Camas Ranch 70.53 328 *e*P **P 14 27 56.8 +1.9**
4.6nm,0.9s
TOA0 Torodi Ar. Sit 78.17 73 *e*P **P 14 28 38.1 -1.5**
TORD Torodi Ar. Bea 78.17 73 P **P 14 28 38.4 -1.2**
2.6nm,0.6s,baz=251,slow=5.3,SNR=10.0
VNDA Vanda 82.73 190 P **P 14 29 03.4 +0.6**
1.1nm,0.9s,baz=144,slow=6.0,SNR=3.9
ESDC Sonseca Array 83.40 46 P **P 14 29 07.6 +0.6**
0.3nm,0.3s,baz=260,slow=4.9,SNR=4.1
YKA Yellowknife Ar 84.05 342 P **P 14 29 10.1 +0.5**
2.5nm,0.8s,baz=135,slow=5.1,SNR=22
YKB5 Yellowknife Ar 84.05 342 *e*P **P 14 29 09.7 0.0**
YKW3 Yellowknife Ar 84.11 342 *e*P **P 14 29 09.8 -0.1**
3.3nm,1.0s
SUMG Summit 90.12 10 *i* P **P 14 29 40.7 +1.4**
10nm,0.8s
SUMG Summit 90.12 10 *e*P **P 14 29 40.1 +0.9**
11nm,0.8s
JMIC Jan Mayen 95.82 17 LR LR 15 13 39.6
comp=Z,8.3nm,18.5s,baz=58,slow=36
DAG Danmarks Havn 96.72 11 *i* P **P 14 30 12.3 +3.3**
1.3nm,0.7s
ILAR Eielson Array 97.07 335 P **P 14 30 10.4 -0.5**
0.2nm,0.7s,baz=113,slow=2.1,SNR=3.2
ASAR Alice Springs 133.97 214 PKP **PKPdf 14 35 56.8 0.0**
0.8nm,0.7s,baz=113,slow=1.7,SNR=13
WRA Warramunga Arr 136.66 218 PKP **PKPdf 14 36 01.9 0.0**
1.2nm,0.5s,baz=143,slow=1.8,SNR=22
ZALV Zalesovo Beam 137.09 20 PKP **PKPdf 14 36 02.3 +0.8**
2.0nm,0.8s,baz=302,slow=2.6,SNR=6.8
USRK Ussuriysk Ar. 144.38 330 PKP **PKPab 14 36 12.7 -0.6**
2.4nm,0.9s,baz=22,slow=4.7,SNR=4.6
MJAR Matsushiro Arr 145.50 314 PKPbc **PKPbc 14 36 17.6 +0.1**
2.9nm,0.9s,baz=85,slow=1.7,SNR=9.4
MAJO Matsushiro 145.50 314 ePKP **PKPbc 14 36 17.5 0.0**
ULN Ulaanbaatar 147.18 1 *e*PKPbc **PKPab 14 36 23.3 -0.9**
SONM Songino Array 147.19 2 PKPbc **PKPbc 14 36 21.5 -0.7**
2.4nm,0.9s,baz=354,slow=1.9,SNR=7.9
KSRS Korea Array 151.41 325 PKPbc **PKPbc 14 36 34.1 +1.3**
1.8nm,0.7s,baz=17,slow=1.6,SNR=12
KSAR Wonju Array Be 151.44 325 PKPbc **PKPbc 14 36 34.1 +1.2**
LZH Lanzhou 158.64 9 *e*PKP **PKPdf 14 36 37.5 +0.6**
LZH pPKP pPKPdf 14 37 03.0 -7.4
LZH sPKP 14 37 12.9
LZH PKP **PKPab 14 37 16.3 +3.8**
LZH LR LR
comp=N,92nm,18.0s
LZH LR LR
comp=E,100nm,18.0s
LZH LR LR
comp=Z,140nm,20.1s

NIED ***15*** *14:38:00,39.70N×143.60E,h17km,Mw3.5 Best double couple: M₀1.96000×10¹⁴ NP1:φ₈164.00000°,δ39.00000°, λ35.00000°. NP2:φ₈45.00000°,δ69.00000°,λ123.00000°.*

JMA 15 14:38:09.4±0.2,39.65N×143.58E,h25km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.35**	**283**	P	Pn	14 38 32.7	0.0
MIYJ	**Miyakonagasawa**	**1.36**	**267**	P	Pn	14 38 33.4	+0.6
OFUJ	**Ofunato**	**1.59**	**250**	P	Pn	14 38 36.4	+0.5
JANG	**Nango**	**1.74**	**295**	P	Pn	14 38 38.3	+0.2
JOM	**Ohasama**	**1.78**	**265**	P	Pn	14 38 39.6	+1.1
JOM				*e*S	Sn	14 39 01.7	+1.4
JMK	**Ichinoseki**	**1.96**	**250**	P	Pn	14 38 42.2	+1.2
JIO	**Ouri**	**2.11**	**236**	P	Pn	14 38 43.4	+0.3
JIO				*e*S	Sn	14 39 07.7	-0.7
JTM	**Tenmabayashi**	**2.23**	**301**	P	Pn	14 38 46.1	+1.3
JRG	**Rokugo**	**2.29**	**265**	P	Pn	14 38 47.7	+2.1
JRG				*e*S	Sb	14 39 17.0	-1.0
JAH	**Hinai**	**2.33**	**284**	P	Pn	14 38 47.8	+1.7
JOT	**Ohata**	**2.59**	**313**	P	Pb	14 38 52.8	-2.3
JYK	**Kaneyama**	**2.60**	**255**	P	Pn	14 38 51.9	+2.0
JOU	**Okura**	**2.61**	**241**	S	Sn	14 39 22.6	+1.7
JNBK	**Urakawa-nobuka**	**2.70**	**347**	P	Pn	14 38 53.4	+2.2
JNBK				*e*S	Sn	14 39 26.2	+3.1
JCH	**Churui**	**2.97**	**357**	P	Pn	14 38 56.0	+1.1

IDC 15 15:00:11.5±4.6,22.77S×178.62W,h0km,mb4.1/2, mb1 4.4/2,mb1mx3.7/26,mbtmp4.1/2,Error ellipse: s-maj=228.1km s-min=72.4km az=158.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.48**	**259**	P	P	15 08 16.4	-0.5
	0.8nm,0.3s,baz=92,slow=7.2,SNR=48						
WRA	**Warramunga Arr**	**43.76**	**265**	P	P	15 08 19.4	+0.3
	1.9nm,0.4s,baz=102,slow=8.0,SNR=45						
AKASG	**Malin Array Be**	**144.68**	**329**	PKP	PKPdf	15 19 49.5	-0.6
	0.4nm,0.4s,baz=44,slow=4.2,SNR=6.0						

IDC ***15*** *15:06:07.1±2.3,7.69S×112.41E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.5/52,mbtmp3.8/5,ML3.2/1,Error ellipse: s-maj=142.8km s-min=23.1km az=51.0*

ISCJB ***15*** *15:06:10.0±0.6,9.06S±0.05×111.19E±0.05,h35km, mb3.7/4,Error ellipse: s-maj=8.1km s-min=5.8km az=33.9*

DJA ***15*** *15:06:10.8±0.9,9°S±5°×11°E±°,h17km±8km,M4.2/16, MLv4.2/16*

ISC 15 15:06:10.5±0.9,8.98S±0.07×111.18E±0.05,h35km,n18, σ1ˢ92/21,mb3.8/4,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.78**	**360**	P	**Pn**	**15 06 25.2**	**+0.2**
PCJI				S	**Sn**	**15 06 35.4**	**-0.1**
PWJI	**Pagerwojo**	**1.13**	**33**	P	**Pn**	**15 06 30.0**	**+0.1**
PWJI				S	**Sn**	**15 06 44.2**	**0.0**
UGM	**Wanagama**	**1.24**	**328**	P	**Pn**	**15 06 32.4**	**+1.0**
UGM				S	**Sn**	**15 06 48.9**	**+1.9**
NGJI	**Ngawi**	**1.62**	**10**	P	**Pn**	**15 06 40.1**	**+3.4**
SMRI	**Semarang**	**2.05**	**339**	P	**Pn**	**15 06 43.7**	**+1.1**
GMJI	**Gumukmas**	**2.35**	**73**	P	**Pn**	**15 06 47.8**	**+1.2**
BLJI	**Banyuglugur**	**2.63**	**63**	P	**Pn**	**15 06 53.2**	**+1.9**
KPJI	**Karang Pucung**	**2.76**	**306**	P	**Pn**	**15 06 54.9**	**+2.6**
CMJI	**Cimerak**	**2.95**	**294**	P	**Pn**	**15 06 57.3**	**+2.4**
JAGI	**Jajag, Banyuwa**	**2.98**	**80**	P	**Pn**	**15 06 57.6**	**+2.3**
ABJI	**Asem Bagus**	**3.24**	**69**	P	**Pn**	**15 07 01.9**	**+3.0**
CISI	**Cisompet, Garu**	**3.62**	**293**	P	**Pn**	**15 07 05.1**	**+1.0**
CNJI	**Cibinong**	**4.34**	**292**	P	**Pn**	**15 07 15.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**16.72**	**124**	Pn	**Pn**	**15 10 00.3**	**-1.8**
	0.1nm,0.3s,baz=300,slow=14,SNR=2.2						
FITZ				Sn	Sn	15 12 52.9	-14
	0.1nm,0.3s,baz=188,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**24.90**	**118**	P	**P**	**15 11 29.8**	**-0.6**
	1.7nm,0.9s,baz=298,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**26.18**	**127**	P	**P**	**15 11 41.6**	**-0.5**
	0.6nm,0.7s,baz=307,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**36.26**	**133**	P	**P**	**15 13 11.7**	**+1.1**
	2.2nm,0.9s,baz=308,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**61.21**	**338**	P	**P**	**15 16 18.8**	**-3.0**
	0.7nm,0.5s,baz=152,slow=7.7,SNR=9.3						

JMA 15 15:16:23.4±0.2,35.69N×140.93E,h17km±1km,M1.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.06**	**282**	P	Pg	15 16 26.5	-0.1
CHOJ				S	Sg	15 16 28.7	0.0
KTR	**Katsuura**	**0.74**	**223**	S	Sn	15 16 48.9	-0.9
JYT	**Yasato**	**0.80**	**312**	P	Pb	15 16 38.7	-0.2
JYT				*e*S	Sb	15 16 48.8	-0.7

NIED ***15*** *15:16:00,38.30N×142.30E,h41km,Mw4.1 Best double couple: M₀1.81000×10¹⁵ NP1:φ₈190.00000°,δ13.00000°, λ-99.00000°. NP2:φ₈20.00000°,δ77.00000°,λ-88.00000°.*

ISCJB ***15*** *15:16:31.7±0.6,38.28N±0.03×142.39E±0.05,h38km±4km, mb4.2/35,MS3.4/11,Error ellipse: s-maj=7.3km s-min=5.0km az=24.9*

MOS ***15*** *15:16:31.5±0.8,38.30N×142.34E,h33km,mb4.4/25,Error ellipse: s-maj=9.3km s-min=6.3km az=109.8*

BJI ***15*** *15:16:33.0,38.28N×142.17E,h48km,mb4.6/38,mB4.8/22, Ms4.1/12,Ms7 4.1/9*

JMA ***15*** *15:16:33.1±0.2,38.32N×142.26E,h39km±2km,M4.2*

JMA Felt II J1.

IDC ***15*** *15:16:34.0±0.8,38.27N×142.29E,h37km±5km,mb3.8/18, mb1 4.0/26,mb1mx3.8/55,mbtmp4.1/26,ML3.6/7,MS3.3/17, Ms1 3.3/17,ms1mx3.1/42,Error ellipse: s-maj=17.4km s-min=12.6km az=100.0*

NEIC ***15*** *15:16:34.7±0.5,38.31N×142.29E,h46km±4km,mb4.7/7, Error ellipse: s-maj=7.2km s-min=4.5km az=112.0*

NEIC Recorded [2 JMA] in Miyagi.

ISC 15 15:16:32.6±0.6,38.35N±0.04×142.30E±0.05,h27km±3km, h27km:pP-P,n107,σ1ˢ66/129,mb4.2/35,MS3.4/11,6C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.75**	**279**	P	**Pn**	**15 16 47.0**	**-0.4**
JIO				S	**Sb**	**15 16 56.6**	**-0.4**
OFUJ	**Ofunato**	**0.88**	**326**	P	**Pn**	**15 16 49.3**	**0.0**
JMK	**Ichinoseki**	**1.04**	**306**	P	**Pb**	**15 16 51.6**	**-0.3**
JMM	**Marumori**	**1.28**	**248**	P	**Pn**	**15 16 53.9**	**-0.8**
JOU	**Okura**	**1.28**	**271**	P	**Pn**	**15 16 55.0**	**+0.2**
JOM	**Ohasama**	**1.37**	**326**	P	**Pb**	**15 16 56.8**	**-0.8**
JOM				*e*S	**Sb**	**15 17 14.3**	**-0.4**
JFK	**Kawauchi**	**1.49**	**229**	P	**Pn**	**15 16 56.4**	**-1.2**
JYK	**Kaneyama**	**1.62**	**291**	P	**Pn**	**15 17 00.0**	**+0.6**
JRG	**Rokugo**	**1.67**	**309**	P	**Pn**	**15 17 00.9**	**+0.8**
JFT	**Otama**	**1.75**	**243**	P	**Pn**	**15 17 01.2**	**-0.1**
JFT				S	**Sn**	**15 17 22.4**	**-0.3**
JYS	**Shirataka**	**1.76**	**267**	P	**Pn**	**15 17 01.5**	**+0.2**
MJAR	**Matsushiro Arr**	**3.72**	**242**	Pn	**Pn**	**15 17 29.6**	**+1.3**
	10nm,0.3s,baz=68,slow=12,SNR=64						
MJAR				LR	LR	15 19 16.1	
	comp=Z,394nm,18.0s,baz=55,slow=44						
MAJO	**Matsushiro**	**3.72**	**242**	*e*P	**Pn**	**15 17 29.0**	**+0.7**
MAJO	**Matsushiro**	**3.72**	**242**	*e*Pn	**Pn**	**15 17 29.0**	**+0.7**
MAT	**Matsushiro**	**3.72**	**242**	P	**Pn**	**15 17 29.6**	**+1.3**
MAT				*e*S	**Sn**	**15 18 13.5**	**+2.3**
MJB9	**Matsu-Tunnel**	**3.72**	**242**	*e*Pn	**Pn**	**15 17 29.3**	**+1.0**
ERM	**Erimo**	**3.72**	**10**	*i*P	**Pn**	**15 17 29.2**	**+0.9**
ERM	**Erimo**	**3.72**	**10**	*e*Pn	**Pn**	**15 17 29.5**	**+1.2**
INU	**Inuyama**	**5.18**	**236**	*e*Pn	**Pn**	**15 17 50.4**	**+2.0**
JHJ	**Hachijo jima 2**	**5.60**	**202**	Pn	**Pn**	**15 17 52.7**	**-1.5**
	25nm,0.3s,baz=314,slow=22,SNR=14						
JHJ				Sn	**Sn**	**15 18 51.7**	**-5.9**
	30nm,0.3s,baz=270,slow=20,SNR=4.1						
ASAJ	**Asahikawa**	**5.77**	**2**	Pn	**Pn**	**15 17 57.5**	**+1.1**
	baz=226,slow=9.1						
ASAJ				Sn	**Sn**	**15 19 00.9**	**-0.8**
	3.2nm,0.3s,baz=226,slow=20,SNR=3.6						
ASAJ	**Asahikawa**	**5.77**	**2**	*e*Pn	**Pn**	**15 17 57.9**	**+1.5**
	5.8nm,0.4s						
ASAJ				Sn	**Sn**	**15 19 00.9**	**-0.8**
KUR	**Kuril'sk**	**8.04**	**29**	*e*P	**Pn**	**15 18 28.2**	**+0.7**
KUR				*i* S	**Sn**	**15 19 53.2**	**-4.3**
KUR				pmax	pmax		
	comp=Z,11nm,0.4s						
KUR				smax	smax		
	comp=N,39nm,0.2s						
KUR				smax	smax		
	comp=E,12nm,0.2s						
YSS	**Yuzh-Sakhalins**	**8.61**	**2**	*e*P	**Pn**	**15 18 37.1**	**+1.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VLA	**Vladivostok**	**9.23**	**304**	*e*P	**Pn**	**15 18 47.6**	**+3.8**
MSHR	**Mys Shultsa**	**9.48**	**300**	*e*P	**Pn**	**15 18 48.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**9.71**	**310**	Pn	**Pn**	**15 18 52.5**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=114,slow=13,SNR=10						
USRK				LR	LR	15 22 25.4	
	comp=Z,139nm,18.7s,baz=119,slow=36						
JNU	**Nakatsue**	**10.64**	**244**	Pn	**Pn**	**15 19 04.8**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=41,slow=20,SNR=3.3						
JNU				LR	LR	15 23 28.1	
	comp=Z,174nm,20.5s,baz=122,slow=39						
CBIJ	**Chichi jima**	**11.22**	**181**	Pn	**Pn**	**15 19 11.1**	**-0.1**
CBIJ				Sn	Sn	15 21 03.1	-13
JCJ	**Chichijima**	**11.22**	**181**	Pn	**Pn**	**15 19 11.1**	**-0.1**
	comp=Z,3.9nm,0.3s,baz=258,slow=20,SNR=3.8						
JCJ				Sn	Sn	15 21 03.1	-13
	comp=Z,3.2nm,0.3s,baz=300,slow=20,SNR=2.0						
KSRS	**Korea Array**	**11.39**	**270**	Pn	**Pn**	**15 19 15.8**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=76,slow=14,SNR=5.9						
KSRS				LR	LR	15 23 15.9	
	comp=Z,98nm,20.6s,baz=90,slow=35						
MDJ	**Mudanjiang**	**11.40**	**307**	P	**Pn**	**15 19 12.3**	**-1.3**
MDJ				S	**Sn**	**15 21 15.9**	**-4.0**
MDJ				ScP	**ScP**	**15 28 35.1**	**-1.4**
MDJ				PcS	**PcS**	**15 28 39.8**	**+0.3**
MDJ				PMZ			
	comp=Z,3.0nm,0.5s						
MDJ				PMZ			
	comp=Z,21nm,3.3s						
MDJ				LN			
	comp=Z,57nm,16.2s						
MDJ				LE			
	comp=Z,88nm,15.4s						
KSAR	**Wonju Array Be**	**11.43**	**270**	P	**Pn**	**15 19 15.8**	**+1.8**
KSAR	**Wonju Array Be**	**11.43**	**270**	Pn	**Pn**	**15 19 15.8**	**+1.8**
KLR	**Kul'dur**	**13.27**	**328**	Pn	**Pn**	**15 19 40.7**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=150,slow=11,SNR=2.5						
KLR				LR	LR	15 24 41.8	
	comp=Z,100nm,19.6s,baz=136,slow=37						
PETK	**Petropavlovsk-**	**18.20**	**31**	LR	LR	15 28 27.5	
	comp=Z,33nm,18.6s,baz=155,slow=39						
BJI	**Beijing**	**20.30**	**283**	P	**P**	**15 21 05.6**	**-0.6**
BJI				S	**S**	**15 24 49.8**	**-2.6**
HHC	**Hu-ho-hao-te**	**23.75**	**286**	*e*P	**P**	**15 21 42.3**	**-0.5**
HHC				pP	sP	15 21 55.1	+1.2
HHC				sP	pP	15 22 01.0	+10
HHC				PP	**PnPn**	**15 22 19.3**	**+8.5**
HHC				S	**S**	**15 25 54.0**	**-2.5**
HHC				sS	sS	15 26 08.6	-1.0
HHC				PMZ			
	comp=Z,17nm,1.2s						
HHC				PMZ			
	comp=Z,84nm,4.4s						
YAK	**Yakutsk**	**24.96**	**346**	*e*P	**P**	**15 21 53.6**	**+0.2**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
SEY	**Seymchan**	**25.37**	**11**	P	**P**	**15 21 58.4**	**+1.2**
	comp=Z,3.1nm,0.9s,baz=228,slow=10,SNR=7.7						
ULN	**Ulaanbaatar**	**27.23**	**302**	*e*P	**P**	**15 22 15.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**27.66**	**302**	P	**P**	**15 22 18.9**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=106,slow=9.5,SNR=8.0						
SONM				LR	LR	15 33 43.0	
	comp=Z,48nm,18.4s,baz=133,slow=37						
ENH	**Enshi**	**28.16**	**263**	*e*P	**P**	**15 22 21.6**	**-1.1**
	comp=Z,22nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.26**	**124**	T	T	15 52 12.6	
	baz=317,slow=75,SNR=718						
H11N1	**WAKE ISLAND Hy**	**28.27**	**124**	T	T	15 52 15.3	
	baz=317,slow=75,SNR=774						
H11N3	**WAKE ISLAND Hy**	**28.28**	**124**	T	T	15 52 33.6	
	baz=317,slow=75,SNR=915						
H11S1	**WAKE ISLAND Hy**	**29.02**	**126**	T	T	15 53 39.9	
	baz=318,slow=76,SNR=213						
H11S3	**WAKE ISLAND Hy**	**29.03**	**126**	T	T	15 53 58.1	
	baz=318,slow=76,SNR=299						
H11S2	**WAKE ISLAND Hy**	**29.04**	**126**	T	T	15 53 48.7	
	baz=318,slow=76,SNR=258						
TLY	**Talaya**	**30.02**	**309**	P	**P**	**15 22 40.0**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=46,slow=13,SNR=3.4						
TLY				LR	LR	15 35 20.8	
	comp=Z,63nm,18.6s,baz=111,slow=38						
TLY	**Talaya**	**30.02**	**309**	P	**P**	**15 22 40.0**	**+1.0**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,63nm,18.6s						
ZAK	**Zakamensk**	**30.03**	**306**	*e*P	**P**	**15 22 38.8**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GYA	**Guiyang**	**32.14**	**259**	*e*P	**P**	**15 22 58.9**	**+0.8**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**32.39**	**269**	*e*P	**P**	**15 22 59.3**	**-0.8**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
BILL	**Bilibino**	**32.57**	**16**	*e*P	**P**	**15 23 02.8**	**+1.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA	**Gaotai**	**32.87**	**285**	*e*P	**P**	**15 23 05.0**	**+0.7**
GTA				pP	sP	15 23 16.9	+1.3
GTA				sP	pP	15 23 22.5	+10
GTA				S	**S**	**15 28 17.9**	**-2.4**
GTA				PMZ			
	comp=Z,4.0nm,1.0s						
GTA				PMZ			
	comp=Z,75nm,4.4s						
GTA				LN			
	comp=Z,78nm,17.6s						
GTA				LE			
	comp=Z,150nm,18.7s						
GTA				LZ			
	comp=Z,120nm,17.1s						
TIXI	**Tiksi**	**34.08**	**352**	*e*P	**P**	**15 23 14.0**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.5s						
KMI	**Kunming**	**35.86**	**260**	P	**P**	**15 23 30.9**	**+0.4**
KMI				PMZ			
	comp=Z,12nm,0.8s						
KMI				PMZ			
	comp=Z,130nm,4.6s						
WMQ	**Urumqi**	**40.89**	**296**	P	**P**	**15 24 13.6**	**+1.2**
WMQ				pP	sP	15 24 25.6	+1.8
WMQ				sP	pP	15 24 29.8	+9.3
WMQ				PMZ			
	comp=Z,11nm,0.6s						
WMQ				PMZ			
	comp=Z,50nm,3.8s						
WMQ				LN			
	comp=Z,12nm,18.6s						
WMQ				LE			
	comp=Z,13nm,20.8s						
ZAA0	**Zalesovo Array**	**41.56**	**311**	*e*P	**P**	**15 24 17.1**	**-0.6**
ZALV	**Zalesovo Beam**	**41.56**	**311**	P	**P**	**15 24 17.4**	**-0.2**
	comp=Z,4.0nm,0.6s,baz=84,slow=7.2,SNR=14						
ZALV				pP	**sP**	**15 24 29.1**	**0.0**
	comp=Z,2.6nm,0.5s,baz=94,slow=6.0,SNR=5.5						
ZALV				PcP	**PcP**	**15 26 14.0**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=104,slow=4.5,SNR=4.2						
NRIK	**Noril'sk**	**42.38**	**335**	P	**P**	**15 24 24.4**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=134,slow=3.3,SNR=5.1						
NRIK				LR	LR	15 42 46.9	
	comp=Z,52nm,20.9s,baz=104,slow=37						
CMAR	**Chiang Mai Arr**	**42.51**	**255**	P	**P**	**15 24 25.9**	**0.0**
	comp=Z,0.8nm,0.6s,baz=43,slow=8.0,SNR=4.4						
CMAR				pP	**sP**	**15 24 35.9**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=214,slow=31,SNR=1.7						
CMAR				LR	LR	15 45 22.1	
	comp=Z,15nm,18.3s,baz=200,slow=41						
MK01	**Makanchi Array**	**44.03**	**301**	*e*P	**P**	**15 24 37.5**	**-0.3**
MKAR	**Makanchi Array**	**44.03**	**301**	P	**P**	**15 24 38.2**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=82,slow=9.9,SNR=25						
MKAR				LR	LR	15 42 43.4	
	comp=Z,20nm,19.8s,baz=130,slow=36						
MKAR	**Makanchi Array**	**44.03**	**301**	*i* P	**P**	**15 24 37.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAKZ	**Makanchi**	**44.24**	**301**	*e*P	**P**	**15 24 39.2**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**44.24**	**301**	*e*P	**P**	**15 24 39.2**	**-0.3**
	comp=Z,3.2nm,0.8s						
KURK	**Kurchatov**	**45.69**	**307**	*e*P	**P**	**15 24 50.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,43nm,0.8s						
KURK	**Kurchatov**	**45.69**	**307**	*e*P	**P**	**15 24 50.3**	**-0.6**
	comp=Z,43nm,0.8s						
RAMN	**Ramite**	**47.62**	**273**	*e*P	**P**	**15 25 06.6**	**-0.1**
	comp=Z,26nm,0.8s						
GUN	**Gumba**	**47.73**	**275**	*e*P	**P**	**15 25 08.0**	**+0.3**
	comp=Z,32nm,0.6s						
ILAR	**Eielson Array**	**48.01**	**33**	P	**P**	**15 25 10.2**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=275,slow=7.3,SNR=4.3						
ILAR				pP	**sP**	**15 25 20.8**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=268,slow=6.5,SNR=6.1						
KKN	**Kakani**	**48.26**	**275**	*e*P	**P**	**15 25 11.9**	**+0.3**
	comp=Z,31nm,0.8s						
GKN	**Gorkha**	**48.66**	**276**	*e*P	**P**	**15 25 14.9**	**+0.3**
	comp=Z,33nm,0.9s						
KOLN	**Koldanda**	**49.58**	**276**	*e*P	**P**	**15 25 22.3**	**+0.6**
	comp=Z,9.6nm,0.3s						
TKM2	**Tokmak 2**	**49.63**	**298**	*e*P	**P**	**15 25 22.3**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TKM2	**Tokmak 2**	**49.63**	**298**	*e*P	**P**	**15 25 22.3**	**+0.4**
	comp=Z,4.6nm,0.4s						
PYUN	**Piuhan**	**49.90**	**277**	*e*P	**P**	**15 25 24.6**	**+0.4**
	comp=Z,51nm,0.9s						
BVAR	**Borovoye Array**	**50.22**	**312**	P	**P**	**15 25 25.9**	**0.0**
	comp=Z,1.7nm,0.5s,baz=73,slow=7.0,SNR=10.0						
BVAR				pP	**sP**	**15 25 36.7**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=70,slow=8.2,SNR=5.1						
BVAR				PcP	**PcP**	**15 26 44.9**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=83,slow=3.3,SNR

ABKAR	**Akbulak array**	**57.63**	**310**	*e*P	**P**	**15 26 19.7**	**-0.5**
WRA	**Warramunga Arr**	**58.46**	**189**	P	**P**	**15 26 25.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=6.7,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**62.19**	**189**	P	**P**	**15 26 51.1**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=1.7,slow=6.7,SNR=9.9						
ARCES	**ARCESS Array B**	**63.02**	**339**	P	**P**	**15 26 57.3**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=57,slow=7.5,SNR=4.8						
KLMR	**Klimovskoe**	**63.02**	**328**	*e*P	**P**	**15 26 54.8**	**-2.0**
KLMR				*e*'PP	**pP**	**15 27 04.0**	**-1.2**
KLMR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GEYT	**Alibeck**	**63.82**	**299**	P	**P**	**15 27 02.6**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=38,slow=2.6,SNR=5.2						
GEYT				LR	LR	15 55 43.3	
	comp=Z,44nm,19.7s,baz=105,slow=37						
OBN	**Obninsk**	**67.47**	**323**	*e*P	**P**	**15 27 24.8**	**-0.9**
OBN				*e*		15 29 59.9	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**67.98**	**332**	P	**P**	**15 27 28.9**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=48,slow=6.2,SNR=14						
FINES				LR	LR	15 58 51.3	
	comp=Z,38nm,18.3s,baz=16,slow=37						
FINES	**FINESS Array B**	**67.98**	**332**	*i* P	**P**	**15 27 29.3**	**+0.5**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV	**Kislovodsk**	**70.58**	**311**	*e*P	**P**	**15 27 46.8**	**+1.4**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
NB2	**NORSAR Subarra**	**73.25**	**337**	P	**P**	**15 28 00.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**73.25**	**337**	P	**P**	**15 28 01.1**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=37,slow=6.0,SNR=5.3						
NOA				pP	**sP**	**15 28 12.6**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=39,slow=5.8,SNR=7.1						
NOA				LR	LR	16 02 48.8	
	comp=Z,22nm,21.7s,baz=175,slow=38						
AKASG	**Malin Array Be**	**73.69**	**322**	P	**P**	**15 28 03.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=45,slow=6.8,SNR=8.2						
AKASG				LR	LR	16 03 11.9	
	comp=Z,35nm,18.0s,baz=130,slow=38						
KIEV	**Kiev**	**73.70**	**322**⇑	*e*P	**P**	**15 28 02.9**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**78.50**	**312**	P	**P**	**15 28 31.8**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=92,slow=4.3,SNR=3.3						
GERES	**GERESS Array B**	**81.96**	**329**	LR	LR	16 07 45.6	
	comp=Z,30nm,18.4s,baz=36,slow=37						
TXAR	**Lajitas Array**	**88.77**	**53**	P	**P**	**15 29 24.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=293,slow=4.7,SNR=2.9						
TXAR				LR	LR	16 09 28.7	
	comp=Z,9.9nm,18.3s,baz=0.0,slow=36						

GUC 15 15:19:27.5±0.7, 34.82S×71.93W, h46km±6km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHPI	**Pichilemu**	**0.43**	**352**	*i* P		Pn	15 19 37.4	-0.3
CHPI				*i* S		Sn	15 19 44.7	-0.2
TALC	**Talca**	**0.63**	**157**	*i* P		Pn	15 19 40.2	+0.1
TALC				*i* S		Sn	15 19 49.1	-0.1
ANTU	**Antumapu**	**1.65**	**41**	*e*P		Pn	15 19 53.9	-0.1
ANTU				*i* S		Sn	15 20 14.3	+0.3
ANTU				IAML			15 20 18.3	
	comp=N,1μm,0.3s							
CLCH	**Cerro Calan**	**1.83**	**40**	*e*P		Pn	15 19 56.7	+0.1
CLCH				*i* S		Sn	15 20 19.6	+1.1
CLCH				IAML			15 20 23.4	
	comp=E,848nm,0.4s							
PEL	**Peldehue**	**1.96**	**32**	*i* P		Pn	15 19 58.4	0.0
PEL				*i* S		Sn	15 20 22.4	+0.6
PEL				IAML			15 20 31.5	
	comp=N,358nm,0.2s							
ROCH	**El Roble**	**1.99**	**23**	*e*P		Pn	15 19 59.5	+0.6
ROCH				*i* S		Sn	15 20 23.6	+0.7
ROCH				IAML			15 20 27.8	
	comp=N,362nm,0.6s							
FCH	**Farellones**	**2.02**	**43**	*i* P		Pn	15 19 59.5	+0.2
FCH				*i* S		Sn	15 20 24.5	+1.0
FCH				IAML			15 20 27.6	
	comp=N,637nm,0.2s							

NIED ***15*** *15:36:00,38.90N×142.10E,h47km,Mw3.9 Best double couple: M₀7.64000×10¹⁴ NP1:φ₉189.00000°,δ23.00000°, λ75.00000°. NP2:φ₉25.00000°,δ68.00000°,λ96.00000°.*
ISCJB ***15*** *15:36:31.5±0.9,38.86N±0.04×142.12E±0.10,h52km±6km, mb4.0/13,MS3.3/3,Error ellipse: s-maj=13.1km s-min=5.8km az=19.0*
JMA ***15*** *15:36:32.7±0.1,38.85N×142.06E,h46km±1km,M3.8*
JMA Felt II J1.
IDC ***15*** *15:36:34.1±2.0,38.87N×142.10E,h60km±17km,mb3.7/13, mb1 3.8/18,mb1mx3.6/43,mbtmp4.0/18,MS2.9/8, Ms1 2.9/8,ms1mx2.7/39,Error ellipse: s-maj=22.9km s-min=12.0km az=95.0*

ISC 15 15:36:32.6±1.4, 38.82N±0.05×142.14E±0.10, h47km±11km, n37,σ1s37/38, mb4.0/13, MS3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OFUJ	**Ofunato**	**0.45**	**306**	P		**Pn**	**15 36 42.4**	**-0.7**
OFUJ				S		**Sn**	**15 36 49.0**	**-1.5**
JIO	**Ouri**	**0.72**	**240**	P		**Pn**	**15 36 45.9**	**-0.6**
JIO				S		**Sn**	**15 36 54.8**	**-1.7**
JMK	**Ichinoseki**	**0.73**	**281**	P		**Pn**	**15 36 45.9**	**-0.7**
JMK				S		**Sn**	**15 36 55.2**	**-1.6**
JOM	**Ohasama**	**0.93**	**315**	P		**Pn**	**15 36 48.6**	**-0.7**
JOM				S		**Sn**	**15 36 59.9**	**-1.7**
JOU	**Okura**	**1.24**	**249**	P		**Pn**	**15 36 53.1**	**-0.5**
JOU				S		**Sn**	**15 37 08.5**	**-0.7**
JRG	**Rokugo**	**1.31**	**297**	P		**Pn**	**15 36 53.7**	**-0.8**
JYK	**Kaneyama**	**1.39**	**275**	P		**Pn**	**15 36 55.1**	**-0.6**
JMM	**Marumori**	**1.42**	**229**	P		**Pn**	**15 36 55.5**	**-0.5**
JANG	**Nango**	**1.63**	**343**	P		**Pn**	**15 36 58.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.86**	**235**	P		**Pn**	**15 37 31.1**	**+1.6**
MJAR	5.2nm,0.3s,baz=33,slow=13,SNR=49			LR		LR	15 39 10.0	
	comp=Z,83nm,20.2s,baz=65,slow=40							
MAT	**Matsushiro**	**3.86**	**235**	P		**Pn**	**15 37 31.0**	**+1.5**
MAT				*e*S		**Sn**	**15 38 15.4**	**+1.8**
ASAJ	**Asahikawa**	**5.30**	**4**	P		**Pn**	**15 37 49.6**	**+0.3**
	baz=210,slow=8.5							
ASAJ				S		**Sn**	**15 38 49.1**	**0.0**
	1.6nm,0.3s,baz=41,slow=20,SNR=3.2							
JHJ	**Hachijo jima 2**	**6.00**	**199**	P		**Pn**	**15 38 00.3**	**+1.5**
	4.2nm,0.3s,baz=184,slow=22,SNR=12							
JHJ				S		**Sn**	**15 39 02.7**	**-3.5**
	14nm,0.3s,baz=104,slow=23,SNR=5.7							
JHJ				LR		LR	15 40 21.2	
	comp=Z,40nm,19.1s,baz=36,slow=38							
USRK	**Ussuriysk Ar.**	**9.32**	**308**	P		**Pn**	**15 38 46.2**	**+2.0**
	0.5nm,0.3s,baz=123,slow=16,SNR=19							
JNU	**Nakatsue**	**10.75**	**242**	LR		LR	15 43 28.9	
	comp=Z,54nm,19.6s,baz=124,slow=39							
KSRS	**Korea Array**	**11.28**	**267**	P		**Pn**	**15 39 13.4**	**+2.3**
	0.2nm,0.3s,baz=84,slow=14,SNR=6.6							
KSRS				LR		LR	15 43 07.6	
	comp=Z,42nm,19.0s,baz=90,slow=35							
KLR	**Kul'dur**	**12.80**	**328**	P		**Pn**	**15 39 35.5**	**+3.7**
	0.1nm,0.3s,baz=188,slow=15,SNR=2.5							
KLR				LR		LR	15 44 22.4	
	comp=Z,44nm,19.7s,baz=168,slow=37							
SEY	**Seymchan**	**24.93**	**11**	P		**P**	**15 41 51.5**	**+0.3**
	2.6nm,0.9s,baz=239,slow=10,SNR=4.8							
SONM	**Songino Array**	**27.31**	**301**	P		**P**	**15 42 12.6**	**-0.4**
	0.4nm,0.5s,baz=95,slow=8.2,SNR=3.9							
H11N2	**WAKE ISLAND Hy**	**28.63**	**125**	T		T	16 12 50.6	
	baz=317,slow=75,SNR=1303							
H11N1	**WAKE ISLAND Hy**	**28.64**	**125**	T		T	16 12 51.3	
	baz=317,slow=75,SNR=1332							
H11N3	**WAKE ISLAND Hy**	**28.64**	**125**	T		T	16 12 50.1	
	baz=317,slow=75,SNR=1361							
H11S1	**WAKE ISLAND Hy**	**29.40**	**127**	T		T	16 13 48.3	
	baz=318,slow=76,SNR=319							
H11S3	**WAKE ISLAND Hy**	**29.40**	**127**	T		T	16 13 48.6	
	baz=318,slow=76,SNR=261							
H11S2	**WAKE ISLAND Hy**	**29.42**	**127**	T		T	16 13 43.3	
	baz=318,slow=76,SNR=199							
ZALV	**Zalesovo Beam**	**41.16**	**311**	P		**P**	**15 44 11.7**	**-0.5**
	1.7nm,0.4s,baz=79,slow=7.7,SNR=8.7							
NRIK	**Noril'sk**	**41.90**	**334**	P		**P**	**15 44 17.6**	**-0.4**
	0.9nm,0.4s,baz=124,slow=3.6,SNR=2.8							
NRIK				LR		LR	16 02 48.0	
	comp=Z,28nm,20.4s,baz=122,slow=38							
MKAR	**Makanchi Array**	**43.68**	**301**	P		**P**	**15 44 32.5**	**-0.3**
	2.0nm,0.5s,baz=84,slow=10,SNR=20							
ILAR	**Eielson Array**	**47.69**	**33**	P		**P**	**15 45 04.8**	**+0.7**
	0.5nm,0.7s,baz=264,slow=6.0,SNR=2.5							
BVAR	**Borovoye Array**	**49.81**	**311**	P		**P**	**15 45 20.2**	**-0.4**
	2.4nm,0.4s,baz=66,slow=7.9,SNR=13							
BVAR				PcP		**PcP**	**15 46 40.9**	**+0.2**
	0.8nm,0.5s,baz=49,slow=4.4,SNR=3.6							
INK	**Inuvik**	**52.54**	**28**	LR		LR	16 10 59.7	
	comp=Z,23nm,19.6s,baz=248,slow=39							
AKTO	**Aktyubinsk**	**57.92**	**311**	P		**P**	**15 46 18.6**	**-1.3**
	1.4nm,0.5s,baz=69,slow=13,SNR=6.3							
WRA	**Warramunga Arr**	**58.91**	**189**	P		**P**	**15 46 26.9**	**-0.1**
	0.9nm,0.5s,baz=6.5,slow=7.0,SNR=23							
ASAR	**Alice Springs**	**62.63**	**189**	P		**P**	**15 46 52.5**	**+0.3**
	0.6nm,0.7s,baz=358,slow=5.0,SNR=10							
FINES	**FINESS Array B**	**67.51**	**332**	P		**P**	**15 47 22.7**	**-0.8**
	1.7nm,0.6s,baz=57,slow=7.0,SNR=6.1							
FINES				LR		LR	16 18 17.7	
	comp=Z,32nm,19.3s,baz=320,slow=37							
AKASG	**Malin Array Be**	**73.24**	**322**	P		**P**	**15 47 58.2**	**-0.5**
	0.7nm,0.4s,baz=45,slow=5.6,SNR=4.1							
BRTR	**Keskin Array B**	**78.10**	**312**	P		**P**	**15 48 26.4**	**-0.5**
	0.5nm,0.4s,baz=95,slow=3.5,SNR=4.7							

NIED ***15*** *15:56:00,36.70N×140.60E,h5km,Mw3.7 Best double couple: M₀4.73000×10¹⁴ NP1:φ₉5.00000°,δ31.00000°, λ-80.00000°. NP2:φ₉173.00000°,δ59.00000°, λ-96.00000°.*
ISCJB ***15*** *15:56:42.0±0.6,36.66N±0.03×140.69E±0.04,h19km±3km, mb3.8/15,MS2.5/1,Error ellipse: s-maj=6.3km s-min=3.8km az=30.6*
JMA ***15*** *15:56:43.4,36.70N×140.58E,h8km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φ₉184.00000°,δ46.00000°,λ-92.00000°. NP2:φ₉8.00000°, δ44.00000°,λ-87.00000°. Principal axes: T Plg1.0000°, Azm276.0000°; N Plg2.0000°, Azm186.0000°; P Plg88.0000°, Azm34.0000°;*
JMA Felt III J1.
IDC ***15*** *15:56:46.7±2.5,36.68N×140.56E,h39km±23km,mb3.5/13, mb1 3.7/17,mb1mx3.5/45,mbtmp3.8/17,ML4.3/2,MS2.6/3, Ms1 2.6/3,ms1mx2.3/29 Error ellipse: s-maj=19.5km s-min=15.4km az=103.0*
NEIC ***15*** *15:56:46.8±0.7,36.74N×140.55E,h39km±7km,mb4.6/2, Error ellipse: s-maj=9.1km s-min=6.4km az=125.0*
NEIC Recorded [3 JMA] in Ibaraki.

ISC 15 15:56:42.7±0.9, 36.70N±0.04×140.62E±0.04, h11km±6km, n40,σ1s06/46, mb3.8/15, 5C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHO	**Hitachi**	**0.10**	**207**	P		**Pg**	**15 56 45.5**	**+0.1**
JHO				S		**Sg**	**15 56 47.4**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.43**	**19**	⇑P		**Pb**	**15 56 51.9**	**-0.5**
ONAJ				S		**Sb**	**15 56 58.0**	**-0.9**
JYT	**Yasato**	**0.58**	**217**	⇑P		**Pg**	**15 56 54.2**	**+0.1**
JYT				S		**Sg**	**15 57 02.0**	**+0.3**
JSB	**Shiboa**	**0.62**	**296**	⇑P		**Pb**	**15 56 55.4**	**-0.3**
JSB				S		**Sb**	**15 57 03.7**	**-0.8**
JFK	**Kawauchi**	**0.70**	**17**	⇑P		**Pb**	**15 56 56.5**	**-0.5**
JFK				S		**Sb**	**15 57 05.8**	**-0.8**
JFT	**Otama**	**0.85**	**345**	P		**Pb**	**15 56 59.4**	**-0.2**
JFT				S		**Sb**	**15 57 10.4**	**-0.6**
JAG	**Ashikaga**	**0.98**	**254**	⇑P		**Pg**	**15 57 00.5**	**-1.1**
JAG				S		**Sg**	**15 57 13.5**	**-0.9**
JFY	**Yanaizu**	**1.02**	**314**	P		**Pb**	**15 57 01.9**	**-0.5**
JFY				S		**Sb**	**15 57 15.3**	**-0.6**
MJAR	**Matsushiro Arr**	**1.95**	**266**	Pn		**Pn**	**15 57 16.0**	**+0.3**
	43nm,0.3s,baz=81,slow=12,SNR=343							
MJAR				Sn		**Sn**	**15 57 40.9**	**+0.6**
	73nm,0.3s,baz=88,slow=27,SNR=13							
MJAR				LR		LR	15 58 18.1	
	comp=Z,105nm,20.4s,baz=80,slow=49							
MAJO	**Matsushiro**	**1.95**	**266**	*e*Pn		**Pn**	**15 57 16.5**	**+0.7**
MAJO				*e*Sn		**Sn**	**15 57 41.4**	**+1.1**
MAT	**Matsushiro**	**1.95**	**266**	P		**Pn**	**15 57 16.6**	**+0.8**
MAT				S		**Sb**	**15 57 42.6**	**0.0**
JHJ	**Hachijo jima 2**	**3.64**	**191**	Pn		**Pn**	**15 57 39.6**	**+0.6**
	14nm,0.3s,baz=322,slow=20,SNR=11							
JHJ				Sn		**Sn**	**15 58 19.5**	**-2.4**
	8.7nm,0.3s,baz=233,slow=20,SNR=3.2							
JHJ2	**Mitsune**	**3.64**	**191**	*e*Pn		**Pn**	**15 57 41.4**	**+2.4**
ERM	**Erimo**	**5.66**	**20**	*e*Pn		**Pn**	**15 58 08.0**	**+1.3**
ASAJ	**Asahikawa**	**7.56**	**11**	Pn		**Pn**	**15 58 33.3**	**+0.5**
	baz=222,slow=10.0							
ASAJ				Sn		**Sn**	**16 00 00.7**	**+2.1**
	0.2nm,0.3s,baz=307,slow=20,SNR=2.7							
JNU	**Nakatsue**	**8.76**	**249**	Pn		**Pn**	**15 58 50.1**	**+0.8**
	6.7nm,0.3s,baz=144,slow=5.4,SNR=90							
JNU				LR		LR	16 02 41.8	
	comp=Z,27nm,20.7s,baz=127,slow=41							
KSRS	**Korea Array**	**10.18**	**278**	Pn		**Pn**	**15 59 11.6**	**+2.9**
	0.1nm,0.3s,baz=99,slow=14,SNR=2.4							
KSRS				LR		LR	16 02 23.4	
	comp=Z,36nm,20.6s,baz=102,slow=33							
KSAR	**Wonju Array Be**	**10.21**	**278**	Pn		**Pn**	**15 59 11.6**	**+2.4**
PETK	**Petropavlovsk-**	**20.30**	**31**	LR		LR	16 09 34.7	
	comp=Z,22nm,20.6s,baz=78,slow=38							
SEY	**Seymchan**	**27.25**	**12**	P		**P**	**16 02 26.7**	**+0.1**
	2.0nm,0.8s,baz=238,slow=10,SNR=3.7							
SONM	**Songino Array**	**27.45**	**305**	P		**P**	**16 02 28.0**	**-0.7**
	0.6nm,0.3s,baz=117,slow=12,SNR=3.9							
H11N2	**WAKE ISLAND Hy**	**28.53**	**119**	T		T	16 32 24.5	
	baz=313,slow=75,SNR=260							
H11N1	**WAKE ISLAND Hy**	**28.54**	**119**	T		T	16 32 25.0	
	baz=313,slow=75,SNR=201							
H11N3	**WAKE ISLAND Hy**	**28.55**	**119**	T		T	16 32 25.8	
	baz=313,slow=75,SNR=186							
H11S1	**WAKE ISLAND Hy**	**29.22**	**121**	T		T	16 33 13.7	
	baz=314,slow=76,SNR=648							
H11S3	**WAKE ISLAND Hy**	**29.22**	**121**	T		T	16 33 13.8	
	baz=314,slow=76,SNR=536							
H11S2	**WAKE ISLAND Hy**	**29.23**	**121**	T		T	16 33 14.9	
	baz=314,slow=76,SNR=254							
ZALV	**Zalesovo Beam**	**41.67**	**313**	P		**P**	**16 04 30.9**	**-0.2**
	1.1nm,0.5s,baz=98,slow=8.0,SNR=5.2							
MKAR	**Makanchi Array**	**43.76**	**302**	P		**P**	**16 04 48.4**	**+0.2**
	2.0nm,0.9s,baz=103,slow=9.5,SNR=2.9							
KURK	**Kurchatov**	**45.64**	**308**	P		**P**	**16 05 02.7**	**-0.4**
	25nm,0.9s							
KURBB	**Kurchatov Arra**	**45.71**	**308**	P		**P**	**16 05 03.2**	**-0.4**
	1.0nm,0.3s,baz=83,slow=7.9,SNR=7.9							
ILAR	**Eielson Array**	**50.12**	**32**	P		**P**	**16 05 37.9**	**+0.4**
	0.6nm,0.7s,baz=263,slow=5.8,SNR=6.8							
BVAR	**Borovoye Array**	**50.33**	**312**	P		**P**	**16 05 38.5**	**-0.9**
	0.4nm,0.3s,baz=99,slow=7.6,SNR=2.9							
INK	**Inuvik**	**54.38**	**27**	P		**P**	**16 06 13.7**	**+0.2**
	0.7nm,0.5s,baz=314,slow=3.3,SNR=4.3							
WRA	**Warramunga Arr**	**56.65**	**187**	P		**P**	**16 06 25.5**	**-0.5**
	0.7nm,0.8s,baz=5.0,slow=7.4,SNR=7.1							
ABKAR	**Akbulak array**	**57.67**	**310**	*e*P		**P**	**16 06 32.3**	**-0.7**
	1.3nm,0.9s							
ASAR	**Alice Springs**	**60.37**	**187**	P		**P**	**16 06 51.6**	**-0.4**
	0.8nm,0.8s,baz=5.5,slow=6.1,SNR=6.4							
AKASG	**Malin Array Be**	**74.17**	**322**	P		**P**	**16 08 18.2**	**-1.0**
	0.2nm,0.3s,baz=48,slow=6.6,SNR=3.6							
PDAR	**Pinedale Array**	**78.35**	**45**	P		**P**	**16 08 44.2**	**+0.8**
	0.4nm,0.5s,baz=264,slow=3.6,SNR=3.1							
TXAR	**Lajitas Array**	**90.83**	**52**	P		**P**	**16 09 47.6**	**+1.1**
	0.2nm,0.7s,baz=299,slow=1.9,SNR=2.8							

IDC ***15*** *16:02:58.6±2.0,36.62N×144.00E,h0km,mb3.6/5, mb1 3.8/7,mb1mx3.5/39,mbtmp3.7/7,ML3.4/2,MS2.8/3, Ms1 2.8/3,ms1mx2.4/32,Error ellipse: s-maj=52.5km s-min=22.0km az=65.0*
ISCJB ***15*** *16:02:59.1±0.8,37.03N±0.04×143.89E±0.06,h33km, mb3.7/5,MS3.3/1,Error ellipse: s-maj=7.1km s-min=6.3km az=6.3*
NIED ***15*** *16:03:00,37.10N×143.80E,h5km,Mw3.7 Best double couple: M₀3.67000×10¹⁴ NP1:φ₉65.00000°,δ19.00000°, λ-80.00000°. NP2:φ₉235.00000°,δ71.00000°, λ-93.00000°.*
JMA ***15*** *16:03:00.9±0.2,37.09N×143.84E,h57km,M3.8*

ISC 15 16:03:01.4±1.3, 37.04N±0.05×143.91E±0.09, h35km, n28, σ2s08/32, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**2.44**	**279**	S		**Sn**	**16 04 06.5**	**-0.9**
JIO	**Ouri**	**2.47**	**306**	P		**Pn**	**16 03 38.9**	**-0.2**
JIO				S		**Sn**	**16 04 06.6**	**-1.5**
ONAJ	**Iwakimizuishiy**	**2.49**	**272**	P		**Pn**	**16 03 39.3**	**-0.1**
ONAJ				S		**Sn**	**16 04 07.2**	**-1.3**
JMM	**Marumori**	**2.61**	**289**	P		**Pn**	**16 03 40.7**	**-0.4**
JMM				S		**Sn**	**16 04 10.8**	**-0.7**
JMK	**Ichinoseki**	**2.86**	**313**	P		**Pn**	**16 03 44.1**	**-0.3**
JFT	**Otama**	**2.89**	**281**	P		**Pn**	**16 03 45.5**	**+0.6**
JFT				S		**Sn**	**16 04 18.4**	**0.0**
JOM	**Ohasama**	**3.19**	**321**	P		**Pn**	**16 03 48.6**	**-0.4**
JOM				S		**Sn**	**16 04 24.1**	**-1.6**
BSO1	**Boso 1**	**3.36**	**226**	P		**Pn**	**16 03 50.0**	**-0.9**
JYK	**Kaneyama**	**3.37**	**305**	P		**Pn**	**16 03 51.9**	**+0.4**
JAG	**Ashikaga**	**3.63**	**262**	P		**Pn**	**16 03 54.1**	**-0.9**
JANG	**Nango**	**3.82**	**331**	P		**Pn**	**16 03 57.0**	**-0.7**
JANG				S		**Sn**	**16 04 39.2**	**-2.2**
JRY	**Ryogami san**	**4.16**	**257**	P		**Pn**	**16 04 02.2**	**-0.1**
JRY				S		**Sn**	**16 04 46.6**	**-3.1**
MJAR	**Matsushiro Arr**	**4.60**	**266**	Pn		**Pn**	**16 04 09.6**	**+1.2**
	2.4nm,0.3s,baz=88,slow=15,SNR=18							
MJAR				Sn		**Sn**	**16 05 00.1**	**-0.5**
	1.2nm,0.3s,baz=287,slow=13,SNR=5.5							
MJAR				LR		LR	16 06 54.5	
	comp=Z,29nm,18.6s,baz=245,slow=51							
MAT	**Matsushiro**	**4.60**	**266**	P		**Pn**	**16 04 09.4**	**+1.0**
MAT				*e*S		**Sn**	**16 04 58.9**	**-1.7**
JOT	**Ohata**	**4.88**	**334**	P		**Pn**	**16 04 11.8**	**-0.3**
JHJ	**Hachijo jima 2**	**5.17**	**222**	Pn		**Pn**	**16 04 14.2**	**-2.0**
	3.9nm,0.3s,baz=326,slow=21,SNR=14							
JHJ				Sn		**Sn**	**16 05 08.8**	**-5.7**
	12nm,0.3s,baz=66,slow=23,SNR=6.6							
JCH	**Churui**	**5.59**	**356**	P		**Pn**	**16 04 20.0**	**-1.9**
ASAJ	**Asahikawa**	**7.14**	**352**	Pn		**Pn**	**16 05 57.1**	**-6.1**
	baz=139,slow=20							
KLR	**Kul'dur**	**15.05**	**328**	Pn		**Pn**	**16 06 32.2**	**+0.9**
	0.1nm,0.3s,baz=121,slow=12,SNR=2.9							
KLR				LR		LR	16 13 12.5	
	comp=Z,32nm,18.4s,baz=146,slow=40							
H11N2	**WAKE ISLAND Hy**	**26.47**	**124**	T		T	16 35 33.1	
	baz=313							
H11N1	**WAKE ISLAND Hy**	**26.48**	**124**	T		T	16 35 33.1	
	baz=313							
H11N3	**WAKE ISLAND Hy**	**26.49**	**124**	T		T	16 35 32.6	
	baz=313							
SONM	**Songino Array**	**29.44**	**303**	P		**P**	**16 09 05.7**	**+4.0**
	0.5nm,0.7s,baz=108,slow=8.8,SNR=3.8							
MKAR	**Makanchi Array**	**45.80**	**303**	P		P	16 11 24.5	+4.9
	0.4nm,0.7s,baz=82,slow=8.8,SNR=4.0							
KURBB	**Kurchatov Arra**	**47.57**	**308**	P		P	16 11 38.7	+5.4
	0.4nm,0.5s,baz=80,slow=8.1,SNR=2.4							
WRA	**Warramunga Arr**	**57.38**	**191**	P		**P**	**16 12 45.9**	**-0.4**
	0.6nm,0.4s,baz=8.5,slow=7.0,SNR=18							
ASAR	**Alice Springs**	**61.11**	**190**	P		**P**	**16 13 11.8**	**-0.2**
	0.9nm,0.8s,baz=6.3,slow=7.4,SNR=19							
GEYT	**Alibeck**	**65.57**	**300**	LR		LR	16 45 40.1	
	comp=Z,20nm,18.7s,baz=175,slow=39							

WEL 15 16:09:02.8±0.6, 37.28S×175.90E, h214km±6km, ML3.6/9, 1C-3D, Error ellipse: s-maj=6.8km s-min=4.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**1.37**	**136**	PN		Pn	16 09 36.7	+0.1
URZ				SN		S	16 10 03.5	+0.6
HAZ	**Te Kaha**	**1.57**	**108**	⇓PN		Pn	16 09 38.4	+0.1
RTZ	**Ruatahuna**	**1.59**	**148**	PN		Pn	16 09 38.8	+0.2
MRHZ	**Matea Rd**	**1.61**	**165**	PN		Pn	16 09 39.0	+0.3
MWZ	**Matawai**	**1.67**	**130**	PN		Pn	16 09 39.2	0.0
RAGZ	**Rawiri**	**1.71**	**136**	PN		Pn	16 09 39.7	+0.1
TWGZ	**Tauwhareparae**	**1.88**	**119**	PN		Pn	16 09 41.8	+0.7
SNGZ	**Shannon Statio**	**1.89**	**143**	PN		Pn	16 09 41.1	-0.1
SNGZ				SN		S	16 10 09.9	-1.1
RAHZ	**Arahi**	**1.89**	**151**	PN		Pn	16 09 41.4	+0.2
TKGZ	**Te Karaka**	**1.93**	**128**	PN		Pn	16 09 41.2	-0.4
MXZ	**Matakaoa Point**	**

couple: M_S1.48000×10^14 NP1:ϕs272.00000°, δ48.00000°, λ-117.00000°. NP2:ϕs130.00000°, δ48.00000°, λ-63.00000°.

IDC ***15*** *16:23:24.3±1.5, 37.54N×142.38E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/33, mbtmp3.5/6, ML3.4/2, MS2.0/1, Ms1 2.0/1, ms1mx1.8/31, Error ellipse: s-maj=34.8km s-min=21.3km az=88.0*

JMA ***15*** *16:23:28.1±0.2, 37.66N×141.95E, h30km±3km, M3.7*

ISC 15 16:23:25.8±2.0, 37.64N±0.04×141.99E±0.07, h6km±11km, n24, σ1ᵗ22/31, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.93**	**253**	P	**Pb**	**16 23 44.6**	**+0.3**
JFK				S	**Sg**	**16 23 55.8**	**+0.1**
JIO	**Ouri**	**0.96**	**328**	P	**Pb**	**16 23 44.9**	**+0.1**
JIO				S	**Sg**	**16 23 56.2**	**-0.4**
JMM	**Marumori**	**0.98**	**284**	P	**Pb**	**16 23 45.3**	**+0.2**
JMM				S	**Sg**	**16 23 57.1**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.09**	**241**	P	**Pb**	**16 23 46.9**	**-0.2**
ONAJ				S	**Sg**	**16 24 00.0**	**-0.9**
JOU	**Okura**	**1.27**	**305**	P	**Pg**	**16 23 50.4**	**+0.2**
JOU				S	**Sb**	**16 24 05.7**	**-1.1**
JFT	**Otama**	**1.32**	**265**	P	**Pg**	**16 23 51.3**	**+0.2**
JFT				S	**Sb**	**16 24 07.2**	**-0.9**
JMK	**Ichinoseki**	**1.45**	**335**	P	**Pn**	**16 23 52.2**	**-0.2**
JMK				S	**Sn**	**16 24 09.3**	**-2.3**
JYS	**Shirataka**	**1.63**	**291**	P	**Pb**	**16 23 56.0**	**-0.2**
JYS				S	**Sn**	**16 24 16.6**	**+0.3**
JYK	**Kaneyama**	**1.81**	**315**	P	**Pn**	**16 23 57.9**	**+0.4**
JFY	**Yanaizu**	**1.83**	**263**	P	**Pb**	**16 23 58.7**	**-1.0**
JFY				*eS*	**Sn**	**16 24 20.6**	**-0.7**
JOM	**Ohasama**	**1.91**	**344**	P	**Pn**	**16 23 59.0**	**+0.2**
MJAR	**Matsushiro Arr**	**3.22**	**251**	Pn	**Pn**	**16 24 18.5**	**+1.7**
	1.6nm,0.3s,baz=74,slow=16,SNR=15						
MJAR				Sn	**Sb**	**16 25 00.8**	**-1.9**
	1.6nm,0.3s,baz=70,slow=19,SNR=4.7						
MJAR				LR	LR	16 25 53.5	
	comp=Z,22nm,18.9s,baz=65,slow=43						
MAT	**Matsushiro**	**3.22**	**251**	P	**Pn**	**16 24 18.6**	**+1.8**
MAT				S	**Sn**	**16 24 56.0**	**+0.5**
JHJ	**Hachijo jima 2**	**4.86**	**202**	Pn	**Pn**	**16 24 40.0**	**+0.7**
	8.7nm,0.3s,baz=336,slow=22,SNR=16						
JHJ				Sn	**Sn**	**16 25 33.4**	**-2.4**
	7.7nm,0.3s,baz=270,slow=20,SNR=3.6						
ASAJ	**Asahikawa**	**6.49**	**4**	Pn	**Pn**	**16 25 01.9**	**+0.2**
	baz=212,slow=11						
ASAJ				Sn	**Sn**	**16 26 17.3**	**+1.3**
	0.2nm,0.3s,baz=311,slow=20,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.07**	**123**	T	T	16 58 49.8	
	baz=315,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**28.08**	**123**	T	T	16 58 49.5	
	baz=315,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.09**	**123**	T	T	16 58 50.3	
	baz=315,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**28.81**	**125**	T	T	16 59 43.0	
	baz=317,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**28.81**	**125**	T	T	16 59 44.0	
	baz=317,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**28.83**	**125**	T	T	16 59 44.0	
	baz=317,slow=76,SNR=35						
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**16 31 38.1**	**+2.7**
	0.3nm,0.8s,baz=79,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**57.73**	**189**	P	**P**	**16 33 17.3**	**-0.1**
	0.5nm,0.6s,baz=6.8,slow=7.3,SNR=8.2						
ASAR	**Alice Springs**	**61.45**	**188**	P	**P**	**16 33 40.9**	**-2.1**
	0.4nm,0.7s,baz=13,slow=9.6,SNR=5.3						

NIED ***15*** *16:27:00, 37.40N×142.30E, h23km, Mw3.5 Best double couple: M_S1.74000×10^14 NP1:ϕs353.00000°, δ33.00000°, λ15.00000°. NP2:ϕs250.00000°, δ82.00000°, λ122.00000°.*

IDC ***15*** *16:27:57.2±1.6, 37.34N×142.58E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/32, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=35.4km s-min=22.2km az=76.0*

ISCJB ***15*** *16:27:58.2±0.9, 37.33N±0.06×142.51E±0.08, h21km, mb3.5/4, Error ellipse: s-maj=10.0km s-min=8.1km az=27.4*

JMA ***15*** *16:27:58.9±0.6, 37.44N×142.32E, h4km±4km, M3.9*

ISC 15 16:27:59.9±1.2, 37.37N±0.06×142.42E±0.09, h21km, n24, σ1ᵗ70/23, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.23**	**270**	P	**Pn**	**16 28 20.9**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.32**	**259**	P	**Pn**	**16 28 22.4**	**-0.8**
JIO	**Ouri**	**1.38**	**322**	P	**Pn**	**16 28 22.7**	**-1.2**
JMM	**Marumori**	**1.39**	**292**	P	**Pn**	**16 28 22.9**	**-1.1**
JFT	**Otama**	**1.67**	**276**	P	**Pn**	**16 28 28.2**	**+0.3**
JFT				*eS*	**Sn**	**16 28 48.7**	**0.0**
JOU	**Okura**	**1.71**	**306**	P	**Pn**	**16 28 28.5**	**0.0**
JMK	**Ichinoseki**	**1.84**	**329**	P	**Pn**	**16 28 30.1**	**-0.2**
JYK	**Kaneyama**	**2.25**	**314**	P	**Pn**	**16 28 35.8**	**-0.1**
JOM	**Ohasama**	**2.28**	**337**	P	**Pn**	**16 28 37.4**	**+1.0**
JAG	**Ashikaga**	**2.56**	**249**	P	**Pn**	**16 28 40.4**	**+0.2**
MJAR	**Matsushiro Arr**	**3.47**	**258**	Pn	**Pn**	**16 28 54.2**	**+1.4**
	1.4nm,0.3s,baz=73,slow=8.7,SNR=9.9						
MJAR				Sn	**Sb**	**16 29 39.3**	**-3.2**
	1.8nm,0.3s,baz=19,slow=9.4,SNR=5.0						
MAT	**Matsushiro**	**3.48**	**258**	P	**Pn**	**16 28 56.2**	**+3.4**
MAT				*eS*	**Sn**	**16 29 34.9**	**+1.6**
JHJ	**Hachijo jima 2**	**4.76**	**208**	Pn	**Pn**	**16 29 09.4**	**-1.0**
	4.1nm,0.3s,baz=297,slow=23,SNR=7.1						
JHJ				Sn	**Sn**	**16 30 01.3**	**-3.6**
	2.9nm,0.3s,baz=56,slow=15,SNR=3.3						
ASAJ	**Asahikawa**	**6.74**	**1**	Pn	**Pn**	**16 29 38.2**	**+0.5**
	baz=90,slow=0.0						
ASAJ				Sn	**Sn**	**16 30 51.1**	**-2.7**
	0.3nm,0.3s,baz=90,slow=20,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**27.64**	**123**	T	T	17 02 39.6	
	baz=315,slow=75,SNR=98						
H11N1	**WAKE ISLAND Hy**	**27.65**	**123**	T	T	17 02 38.1	
	baz=315,slow=75,SNR=59						
H11N3	**WAKE ISLAND Hy**	**27.66**	**123**	T	T	17 02 41.0	
	baz=315,slow=75,SNR=68						
SONM	**Songino Array**	**28.27**	**303**	P	**P**	**16 33 52.9**	**+1.1**
	0.5nm,0.7s,baz=98,slow=8.5,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**28.38**	**125**	T	T	17 03 33.9	
	baz=317,slow=76,SNR=75						
H11S3	**WAKE ISLAND Hy**	**28.38**	**125**	T	T	17 03 36.0	
	baz=317,slow=76,SNR=78						
H11S2	**WAKE ISLAND Hy**	**28.39**	**125**	T	T	17 03 34.2	
	baz=317,slow=76,SNR=72						
MKAR	**Makanchi Array**	**44.62**	**302**	P	**P**	**16 36 12.1**	**+1.4**
	0.2nm,0.4s,baz=88,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**57.51**	**189**	P	**P**	**16 37 48.5**	**+0.8**
	0.6nm,0.6s,baz=7.0,slow=7.1,SNR=9.4						
ASAR	**Alice Springs**	**61.23**	**189**	P	**P**	**16 38 13.9**	**+0.5**
	0.3nm,0.8s,baz=0.9,slow=6.5,SNR=4.5						

IDC 15 16:49:26.4±1.4, 26.48N×140.95E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/42, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=31.0km s-min=18.1km az=117.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.26**	**61**	Pn	Pg	**16 49 50.6**	**0.0**
	12nm,0.3s,baz=277,slow=21,SNR=8.0						
JCJ				Sn	Sn	16 50 11.7	+2.7
	41nm,0.3s,baz=268,slow=21,SNR=12						
JHJ	**Hachijo jima 2**	**6.69**	**352**	Pn	Pn	16 51 05.2	-0.8
	1.0nm,0.3s,baz=90,slow=14,SNR=3.0						
JHJ				Sn	Sn	16 52 25.1	+2.2
	2.7nm,0.3s,baz=60,slow=20,SNR=2.0						
MJAR	**Matsushiro Arr**	**10.30**	**348**	Pn	Pn	16 51 55.4	-0.1
	0.3nm,0.3s,baz=154,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**46.59**	**189**	P	P	16 57 55.6	-0.7
	0.7nm,0.7s,baz=11,slow=8.6,SNR=5.7						
ASAR	**Alice Springs**	**50.32**	**188**	P	P	16 58 25.7	+0.6
	0.2nm,0.8s,baz=4.4,slow=6.6,SNR=3.3						

IDC ***15*** *16:51:58.2±1.8, 37.56N×143.90E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/44, mbtmp3.7/8, ML3.6/3, MS2.9/2, Ms1 2.9/2, ms1mx2.3/43, Error ellipse: s-maj=46.0km s-min=21.2km az=76.0*

ISCJB ***15*** *16:52:00.6±0.8, 37.69N±0.04×143.57E±0.07, h33km, mb3.6/5, MS3.5/1, Error ellipse: s-maj=8.0km s-min=5.7km az=2.7*

JMA ***15*** *16:52:00.7±0.2, 37.77N×143.56E, h45km, M3.3*

ISC 15 16:52:03.8±1.4, 37.73N±0.05×143.5E±0.1, h35km, n25, σ2ᵗ04/31, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.87**	**294**	P	**Pn**	**16 52 31.4**	**-1.9**
JIO				*eS*	**Sn**	**16 52 54.3**	**-1.3**
OFUJ	**Ofunato**	**1.99**	**313**	P	**Pn**	**16 52 32.5**	**-2.5**
JMK	**Ichinoseki**	**2.19**	**305**	P	**Pn**	**16 52 35.8**	**-1.9**
JOM	**Ohasama**	**2.47**	**316**	P	**Pn**	**16 52 39.7**	**-1.9**
JOM				S	**Sn**	**16 53 08.9**	**-1.7**
JFT	**Otama**	**2.54**	**266**	P	**Pn**	**16 52 42.2**	**-0.4**
JYK	**Kaneyama**	**2.76**	**296**	P	**Pn**	**16 52 44.6**	**-1.0**
JYK				S	**Sn**	**16 53 17.5**	**-0.2**
JAG	**Ashikaga**	**3.51**	**250**	P	**Pn**	**16 52 55.1**	**-0.8**
JAG				S	**Sn**	**16 53 36.2**	**+0.1**
BSO1	**Boso 1**	**3.70**	**215**	P	**Pn**	**16 52 56.5**	**-1.4**
BSO1				S	**Sn**	**16 53 38.9**	**-1.1**
JRY	**Ryogami san**	**4.08**	**247**	P	**Pn**	**16 53 03.0**	**-0.8**
JRY				S	**Sn**	**16 53 47.2**	**-3.2**
JOD2	**Odawara 2**	**4.34**	**237**	P	**Pn**	**16 53 06.6**	**-0.7**
JOD2				S	**Sn**	**16 53 54.2**	**-2.5**
MJAR	**Matsushiro Arr**	**4.41**	**256**	Pn	**Pn**	**16 53 08.8**	**+0.5**
	2.1nm,0.3s,baz=84,slow=15,SNR=15						
MJAR				Sn	**Sn**	**16 54 00.8**	**+2.3**
	0.7nm,0.3s,baz=83,slow=29,SNR=4.9						
MAT	**Matsushiro**	**4.41**	**256**	P	**Pn**	**16 53 09.1**	**+0.8**
MAT				*eS*	**Sn**	**16 53 56.7**	**-1.8**
MAT	**Matsushiro**	**4.41**	**256**	P	**Pn**	**16 53 09.1**	**+0.8**
JHJ	**Hachijo jima 2**	**5.52**	**215**	Pn	**Pn**	**16 53 21.4**	**-2.1**
	5.6nm,0.3s,baz=345,slow=22,SNR=6.3						
JHJ				Sn	**Sn**	**16 54 20.7**	**-5.0**
	17nm,0.3s,baz=86,slow=23,SNR=7.6						
ASAJ	**Asahikawa**	**6.42**	**354**	Pn	**Pn**	**16 53 34.7**	**-1.2**
	1.2nm,0.3s,baz=205,slow=8.8,SNR=15						
ASAJ				Sn	**Sn**	**16 54 45.1**	**-2.8**
	baz=18,slow=20						
KSRS	**Korea Array**	**12.39**	**274**	LR	LR	16 59 15.0	
	comp=Z,16nm,18.8s,baz=150,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.11**	**125**	T	T	17 26 01.2	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**27.11**	**125**	T	T	17 26 02.0	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**27.12**	**125**	T	T	17 26 00.8	
	baz=313						
SONM	**Songino Array**	**28.82**	**302**	P	**P**	**16 58 00.8**	**+2.1**
	0.4nm,0.8s,baz=105,slow=9.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**42.70**	**312**	P	**P**	**17 00 00.4**	**+3.3**
	1.2nm,0.6s,baz=69,slow=8.1,SNR=4.9						
MKAR	**Makanchi Array**	**45.18**	**302**	P	**P**	**17 00 19.5**	**+2.4**
	0.4nm,0.6s,baz=79,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**58.01**	**190**	P	**P**	**17 01 51.6**	**-1.4**
	0.9nm,0.6s,baz=8.4,slow=7.1,SNR=7.3						
ASAR	**Alice Springs**	**61.73**	**190**	P	**P**	**17 02 17.9**	**-0.7**
	0.3nm,0.8s,baz=360,slow=6.1,SNR=6.8						
KVAR	**Kislovodsk Arr**	**71.71**	**312**	LR	LR	17 38 48.3	
	comp=Z,22nm,18.0s,slow=39						

MAN 15 16:53:19, 9.48N×125.89E, h5km, mb4.6, ML3.4, MS3.4, Mindanao

WEL 15 17:16:02.8±0.1, 43.63S×172.42E, h13km±1km, ML3.6/14, 1C-3D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.19**	**116**	⇓P*	Pg	17 16 07.0	0.0
MQZ				S*	Sg	17 16 10.1	+0.3
MQZ				AML	AML	17 16 10.4	
OXZ	**Oxford**	**0.41**	**317**	P*	Pg	17 16 10.6	-0.3
LTZ	**Lake Taylor**	**0.85**	**352**	⇑P*	Pg	17 16 19.0	-0.2
LTZ				S*	Sb	17 16 30.6	-0.2
LTZ				AML	AML	17 16 31.3	
RPZ	**Rata Peaks**	**1.00**	**264**	⇓P*	Pb	17 16 21.5	-0.5
RPZ				AML	AML	17 16 36.8	
RPZ				AML	AML	17 16 40.7	
INZ	**Inchbonnie**	**1.15**	**321**	P*	Pb	17 16 23.4	-1.1
WVZ	**Waitaha Valley**	**1.35**	**294**	PN	Pn	17 16 26.7	-0.6
WVZ				AML	AML	17 16 49.9	
WVZ				AML	AML	17 16 50.2	
KHZ	**Kahutara**	**1.46**	**34**	PN	Pn	17 16 27.4	-1.4
LBZ	**Lake Benmore**	**1.79**	**244**	PN	Pn	17 16 32.9	-0.4
LBZ				AML	AML	17 17 06.3	
LBZ				AML	AML	17 17 06.3	
LBZ				AML	AML	17 17 07.8	
LBZ				AML	AML	17 17 07.9	
THZ	**Tophouse**	**1.90**	**11**	PN	Pn	17 16 33.6	-1.3
THZ				AML	AML	17 17 06.7	
THZ				AML	AML	17 17 11.5	
FOZ	**Fox Glacier**	**1.90**	**272**	PN	Pn	17 16 35.4	+0.6
FOZ				AML	AML	17 17 08.7	
FOZ				AML	AML	17 17 12.3	
ODZ	**Otahua Downs**	**1.91**	**221**	⇓PN	Pn	17 16 34.1	-0.9
ODZ				AML	AML	17 17 04.7	
ODZ				AML	AML	17 17 11.0	
ODZ				AML	AML	17 17 11.8	
ODZ				AML	AML	17 17 11.8	
DSZ	**Denniston Nort**	**1.93**	**346**	PN	Pn	17 16 35.1	-0.3
DSZ				AML	AML	17 17 07.2	
DSZ				AML	AML	17 17 08.8	
DSZ				AML	AML	17 17 10.5	
DSZ				AML	AML	17 17 10.6	
BSWZ	**Blackbirch Sta**	**2.19**	**30**	PN	Pn	17 16 38.0	-0.9
TUWZ	**Tuamarina**	**2.47**	**28**	PN	Pn	17 16 41.1	-1.6
NNZ	**Nelson**	**2.51**	**17**	PN	Pn	17 16 42.5	-0.8
JCZ	**Jackson Bay**	**2.67**	**259**	PN	Pn	17 16 45.7	+0.2
JCZ				AML	AML	17 17 33.6	
JCZ				AML	AML	17 17 34.5	
WKZ	**Wanaka**	**2.73**	**243**	PN	Pn	17 16 45.9	-0.4
WKZ				AML	AML	17 17 41.8	
WKZ				AML	AML	17 17 44.5	
EAZ	**Earnscleugh**	**2.75**	**233**	PN	Pn	17 16 45.6	-1.0
EAZ				AML	AML	17 17 33.2	
EAZ				AML	AML	17 17 33.2	
EAZ				AML	AML	17 17 38.1	
EAZ				AML	AML	17 17 38.1	
QRZ	**Quartz Range**	**2.80**	**2**	PN	Pn	17 16 46.4	-0.8
QRZ				AML	AML	17 17 20.1	
QRZ				AML	AML	17 17 20.1	
QRZ				AML	AML	17 17 36.4	
QRZ				AML	AML	17 17 36.4	
TUZ	**Tuapeka**	**3.06**	**220**	PN	Pn	17 16 50.0	-0.8
TUZ				AML	AML	17 17 47.1	
TUZ				AML	AML	17 17 48.7	
CAW	**Cannon Point**	**3.19**	**39**	PN	Pn	17 16 50.5	-2.2
MLZ	**Mavora Lakes**	**3.54**	**239**	PN	Pn	17 16 56.3	-1.2
MRZ	**Mangatainoka R**	**3.78**	**39**	PN	Pn	17 16 58.5	-2.2
BFZ	**Birch Farm**	**4.09**	**45**	PN	Pn	17 17 02.7	-2.3
VRZ	**Vera Road**	**4.83**	**22**	PN	Pn	17 17 14.9	-0.2

NNC 15 17:18:03.9±4.0, 37.87N×71.72E, h223km±65km, mb2.3, mpv3.5, 4C-3D, Error ellipse: s-maj=49.3km s-min=29.7km az=33.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**4.65**	**7**	⇑P	Pn	17 19 14.1	-0.5
	4.9nm,0.4s						
MNAS				⇑S	S	17 20 11.4	+1.0
	26nm,0.7s						
AAK	**Ala-Archa**	**5.21**	**23**	⇑P	Pn	17 19 20.8	-0.8
	1.9nm,0.3s						
AAK				⇓S	S	17 20 24.0	+0.9
	8.1nm,0.6s						
KK31	**Karatay Array**	**5.30**	**350**	P	Pn	17 19 22.9	+0.3
	1.7nm,0.3s,baz=155,slow=9.6,SNR=23						
KK31				⇓S	S	17 20 25.6	+0.5
	2.4nm,0.2s,baz=186,slow=29,SNR=3.5						
AB31	**Akbulak array**	**14.20**	**327**	⇑P	P	17 21 19.0	+2.7
	0.2nm,0.3s,baz=143,slow=12,SNR=12						
AB31				⇓S	S	17 23 50.0	-2.2
	baz=140,slow=24,SNR=4.7						

ISCJB ***15*** *17:21:17.6±0.2, 44.47N±0.01×6.87E±0.02, h10km±3km, Error ellipse: s-maj=2.9km s-min=1.9km az=148.9*

CSEM ***15*** *17:21:17.9±0.1, 44.47N×6.85E, h2km, ML2.8/25, Error ellipse: s-maj=2.6km s-min=1.8km az=48.0*

ROM ***15*** *17:21:17.8±0.3, 44.46N×6.88E, h7km±2km, Md2.5/13, Ml2.3/12, Error ellipse: s-maj=3.5km s-min=1.5km az=57.0*

GEN ***15*** *17:21:18.1, 44.48N×6.87E, h11km, ML2.1*

STR ***15*** *17:21:18.5±0.1, 44.49N×6.92E, h5km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

LDG ***15*** *17:21:18.4±0.1, 44.49N×6.88E, h2km, Md2.8/4, Ml2.7/14, Error ellipse: s-maj=1.2km s-min=0.8km az=50.0*

ISC 15 17:21:18.3±0.8, 44.48N±0.01×6.86E±0.02, h13km±5km, n97, σ1ᵗ05/162, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBBF	**Combe Brimond**	**0.11**	**356**	*ePg*	**Pg**	**17 21 21.0**	**-0.7**
CBBF	**Combe Brimond**	**0.11**	**356**	*ePg*	**Pg**	**17 21 21.0**	**-0.7**
PZZ	**Stroppo**	**0.18**	**82**	Pg	**Pg**	**17 21 22.1**	**-0.5**
PZZ				Sg	**Sg**	**17 21 24.8**	**-0.7**
	755nm,0.1s						
MBDF	**Montbardon**	**0.25**	**345**	*ePg*	**Pg**	**17 21 23.3**	**-0.5**
	SNR=1.0						
MBDF				*eSg*	**Sg**	**17 21 27.4**	**-0.1**
	181nm,0.2s						
MBDF	**Montbardon**	**0.25**	**345**	*ePg*	**Pg**	**17 21 23.3**	**-0.5**
	SNR=1.0						
MBDF				*eSg*	**Sg**	**17 21 27.4**	**-0.1**
	90nm,0.2s						
DOI	**San Damiano**	**0.28**	**85**	Pg	**Pg**	**17 21 23.7**	**-0.4**
DOI				Sg	**Sg**	**17 21 28.3**	**+0.3**
	308nm,0.2s						
DOI	**San Damiano**	**0.28**	**85**	Pg	**Pg**	**17 21 23.7**	**-0.4**
DOI				Sg	**Sg**	**17 21 28.3**	**+0.3**
	308nm,0.2s						
OG22	**Abries**	**0.34**	**10**	Pg	**Pg**	**17 21 25.2**	**-0.2**
OG22				Sg	**Sg**	**17 21 30.3**	**+0.1**
OG22	**Abries**	**0.34**	**10**	Pg	**Pg**	**17 21 25.2**	**-0.2**
STV	**Sant Anna di V**	**0.41**	**125**	Pg	**Pg**	**17 21 26.1**	**-0.4**
STV				Sg	**Sg**	**17 21 31.5**	**-0.5**
	153nm,0.4s						
STV	**Sant Anna di V**	**0.41**	**125**	P	**Pg**	**17 21 26.0**	**-0.4**
STV				Sg	**Sg**	**17 21 31.5**	**-0.5**
	153nm,0.4s						
RRL	**Rocca Remolon**	**0.44**	**353**	Pg	**Pg**	**17 21 27.1**	**0.0**
RRL				Sg	**Sb**	**17 21 34.5**	**-0.2**
	104nm,0.2s						
RRL	**Rocca Remolon**	**0.44**	**353**	P	**Pg**	**17 21 26.9**	**-0.2**
RRL				Sg	**Sb**	**17 21 34.5**	**-0.2**
	104nm,0.2s						
ENR	**Entracque**	**0.47**	**122**	Pg	**Pg**	**17 21 27.1**	**-0.6**
ENR				Sg	**Sg**	**17 21 34.0**	**0.0**
	199nm,0.2s						
ENR	**Entracque**	**0.47**	**122**	Pg	**Pg**	**17 21 27.1**	**-0.6**
ENR				S	**Sg**	**17 21 33.1**	**-0.9**
ENR				Sg	**Sg**	**17 21 34.0**	**0.0**
	199nm,0.2s						
MVIF	**Mont Vial**	**0.62**	**160**	Pg	**Pg**	**17 21 30.1**	**-0.4**
MVIF				Sg	**Sg**	**17 21 38.8**	**+0.1**
MVIF	**Mont Vial**	**0.62**	**160**	Pg	**Pg**	**17 21 30.1**	**-0.4**
MVIF				Sg	**Sg**	**17 21 38.8**	**+0.1**
LUCF	**Luceram**	**0.69**	**149**	Pg	**Pg**	**17 21 31.1**	**-0.5**
LUCF				Sg	**Sg**	**17 21 40.5**	**-0.2**
LUCF	**Luceram**	**0.69**	**149**	Pg	**Pg**	**17 21 31.1**	**-0.5**
LUCF				Sg	**Sg**	**17 21 40.5**	**-0.2**
RSP	**Reno Superiore**	**0.72**	**23**	Pg	**Pg**	**17 21 32.2**	**-0.2**
	78nm,0.3s						
RSP	**Reno Superiore**	**0.72**	**23**	Pg	**Pg**	**17 21 32.2**	**-0.2**
	78nm,0.3s						
RSP				S	**Sg**	**17 21 41.1**	**-0.9**
SBF	**Sospel**	**0.74**	**146**	*ePg*	**Pg**	**17 21 32.4**	**-0.3**
	SNR=1.0						
SBF				*eSg*	**Sg**	**17 21 42.4**	**-0.1**
	155nm,0.3s,SNR=1.0						
SBF	**Sospel**	**0.74**	**146**	*ePg*	**Pg**	**17 21 32.4**	**-0.3**
	SNR=1.0						
SBF				*eSg*	**Sg**	**17 21 42.4**	**-0.1**
	78nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.83**	**302**	*ePg*	**Pg**	**17 21 34.0**	**-0.3**
	SNR=1.0						
ORIF				*eSg*	**Sg**	**17 21 45.0**	**-0.2**
	46nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.83**	**302**	*ePg*	**Pg**	**17 21 34.0**	**-0.3**
	SNR=1.0						
ORIF				*eSg*	**Sg**	**17 21 45.0**	**-0.2**
	23nm,0.2s,SNR=1.0						
REVF	**Revere**	**0.83**	**154**	Pg	**Pg**	**17 21 33.4**	**-0.9**
REVF				Sg	**Sb**	**17 21 45.4**	**-0.2**
REVF	**Revere**	**0.83**	**154**	Pg	**Pg**	**17 21 33.4**	**-0.9**
REVF				Sg	**Sb**	**17 21 45.4**	**-0.2**
NEGI	**Seborga**	**0.88**	**136**	Pg	**Pg**	**17 21 35.0**	**-0.3**
NEGI				Sg	**Sg**	**17 21 46.4**	**-0.3**
	78nm,0.2s						
NEGI	**Seborga**	**0.88**	**136**	Pg	**Pg**	**17 21 35.0**	**-0.3**
NEGI				Sg	**Sg**	**17 21 46.4**	**-0.3**
	78nm,0.2s						
GDM	**Grand'Maison**	**0.90**	**324**	Pg	**Pb**	**17 21 36.0**	**+0.2**
GDM				Sg	**Sb**	**17 21 48.1**	**+0.4**
GDM	**Grand'Maison**	**0.90**	**324**	Pg	**Pb**	**17 21 36.0**	**+0.2**
FRF	**La Foret Royal**	**0.94**	**190**	*ePg*	**Pg**	**17 21 35.8**	**-0.6**
	SNR=1.0						
FRF	**La Foret Royal**	**0.94**	**190**	*ePn*	**Pb**	**17 21 37.1**	**+0.7**
FRF				*eSg*	**Sg**	**17 21 47.6**	**-1.0**
	31nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.94**	**190**	*ePg*	**Pg**	**17 21 35.8**	**-0.6**

GRN	Grenoble	1.10	314	Pg	Pn	17 21 40.5	+1.0
OG26	St.-Nazaire-De	1.12	275	Pg	Pn	17 21 40.8	+1.0
OG26	St.-Nazaire-De	1.12	275	Pg	Pn	17 21 40.8	+1.0
LMR	La Mourre	1.18	193	*e*Pn	Pg	17 21 40.0	-0.9
	SNR=1.0							
LMR				*e*Sg	Sg	17 21 55.4	-0.9
	36nm,0.2s,SNR=1.0							
LMR	La Mourre	1.18	193	*e*Pn	Pg	17 21 40.0	-0.9
	SNR=1.0							
LMR				*e*Sg	Sg	17 21 55.4	-0.9
	18nm,0.2s,SNR=1.0							
PCP	Piancastagn	1.20	87	Pg	Pg	17 21 40.3	-1.2
	27nm,0.4s							
PCP	Piancastagn	1.20	87	Pg	Pg	17 21 40.3	-1.2
	27nm,0.4s							
TRAV	Traversella	1.21	31	Pg	Pg	17 21 40.6	-0.9
TRAV	Traversella	1.21	31	Pg	Pg	17 21 40.6	-0.9
RSL	Roselend	1.22	352	Pn	Pg	17 21 40.9	-0.9
RSL	Roselend	1.22	352	Pn	Pg	17 21 40.9	-0.9
VIVF	Saint-Julien-l	1.61	284	*e*Pn	Pn	17 21 47.6	+1.2
	SNR=1.0							
VIVF				*e*Sg	Sn	17 22 08.5	+1.5
	17nm,0.3s,SNR=1.0							
VIVF	Saint-Julien-l	1.61	284	*e*Pn	Pn	17 21 47.6	+1.2
	SNR=1.0							
VIVF				*e*Sg	Sn	17 22 08.5	+1.5
	8.4nm,0.3s,SNR=1.0							
CABF	La Chapelle	2.20	346	*e*P	Pb	17 21 57.0	-0.9
CABF				*e*Sn	Sn	17 22 19.8	-1.9
CABF				*e*Sg	Sg	17 22 27.8	-1.1
	11nm,0.7s							
CABF	La Chapelle	2.20	346	*e*P	Pb	17 21 57.0	-0.9
CABF				*e*Sg	Sg	17 22 27.8	-1.1
	5.7nm,0.7s							
LASF	Ste Croix	2.20	260	*e*Pn	Pn	17 21 55.5	+1.0
	SNR=1.0							
LASF	Ste Croix	2.20	260	*e*Pg	Pg	17 22 00.0	-0.4
LASF				*e*Sn	Sn	17 22 22.0	+0.4
	4.4nm,0.3s,SNR=1.0							
LASF	Ste Croix	2.20	260	*e*Pn	Pn	17 21 55.5	+1.0
	SNR=1.0							
LASF	Ste Croix	2.20	260	*e*Pg	Pg	17 22 00.0	-0.4
LASF				*e*Sn	Sn	17 22 22.0	+0.4
	2.2nm,0.3s,SNR=1.0							
PGF	Pioggiola	2.48	140	*e*Pn	Pn	17 21 58.7	+0.2
	SNR=1.0							
PGF				*e*Sn	Sn	17 22 28.0	-0.7
	6.7nm,0.2s,SNR=1.0							
PGF	Pioggiola	2.48	140	*e*Pn	Pn	17 21 58.7	+0.2
	SNR=1.0							
PGF				*e*Sn	Sn	17 22 28.0	-0.7
	3.3nm,0.2s,SNR=1.0							
SMF	Signal de Mont	3.03	317	*e*P	Pn	17 22 08.7	+2.7
	SNR=1.0							
SMF				*e*Sg	Sg	17 22 53.7	-1.9
	6.9nm,0.4s,SNR=1.0							
SMF	Signal de Mont	3.03	317	*e*P	Pn	17 22 08.7	+2.7
	SNR=1.0							
SMF				*e*Sg	Sg	17 22 53.7	-1.9
	3.5nm,0.4s,SNR=1.0							
AVF	Avril sur Loir	3.38	314	*e*P	Pn	17 22 13.0	+2.3
AVF	Avril sur Loir	3.38	314	*e*P	Pn	17 22 13.0	+2.3
CAF	Calviac	3.45	279	*e*Pn	Pn	17 22 12.2	+0.4
	SNR=1.0							
CAF	Calviac	3.45	279	*e*Pn	Pn	17 22 12.2	+0.4
	SNR=1.0							
LOR	Lormes	3.49	324	*e*Pn	Pn	17 22 11.7	-0.5
	SNR=1.0							
LOR				*e*Sg	Sg	17 23 08.1	-2.2
	4.8nm,0.4s							
LOR	Lormes	3.49	324	*e*Pn	Pn	17 22 11.7	-0.5
	SNR=1.0							
LOR				*e*Sg	Sg	17 23 08.1	-2.2
	2.4nm,0.4s							
SSF	Saint Saulge	3.49	319	*e*P	Pn	17 22 14.5	+2.3
	SNR=1.0							
SSF				*e*Sg	Sg	17 23 09.8	-0.5
	4.0nm,0.4s,SNR=1.0							
SSF	Saint Saulge	3.49	319	*e*P	Pn	17 22 14.5	+2.3
	SNR=1.0							
SSF				*e*Sg	Sg	17 23 09.8	-0.5
	2.0nm,0.4s,SNR=1.0							
BGF	Bois d'Agland	3.50	308	*e*Pg	Pg	17 22 23.8	-1.6
BGF	Bois d'Agland	3.50	308	*e*Pg	Pg	17 22 23.8	-1.6
MTLF	Montolieu	3.55	253	*e*Pg	Pg	17 22 24.3	-1.9
MTLF				*e*Sn	Sn	17 22 54.5	-0.3
	0.9nm,0.2s							
MTLF	Montolieu	3.55	253	*e*Pg	Pg	17 22 24.3	-1.9
MTLF				*e*Sn	Sn	17 22 54.5	-0.3
	0.4nm,0.2s							
TCF	Toulx Ste Croi	3.74	300	*e*P	Pn	17 22 18.5	+2.7
TCF	Toulx Ste Croi	3.74	300	*e*P	Pn	17 22 18.5	+2.7
CDF	Champ du Feu	3.94	4	*e*P	Pn	17 22 19.9	+1.4
	SNR=1.0							
CDF	Champ du Feu	3.94	4	*e*P	Pn	17 22 19.9	+1.4
	SNR=1.0							
PAGF	Fort de Pagny	4.15	349	*e*P	Pn	17 22 23.8	+2.5
PAGF	Fort de Pagny	4.15	349	*e*P	Pn	17 22 23.8	+2.5
LFF	La Frestale	4.39	278	*e*Pg	Pg	17 22 39.7	-2.6
LFF	La Frestale	4.39	278	*e*Pg	Pg	17 22 39.7	-2.6

*IDC **15** 17:36:38.9±3.0, 7°.45S×128°.42E, h112km±29km, mb4.1/18, mb1 4.2/21, mb1mx4.1/36, mbtmp4.6/21, MS3.2/2, Ms1 3.2/2, ms1mx2.5/41, Error ellipse: s-maj=20.1km s-min=11.0km az=80.0*

*ISCJB **15** 17:36:40.6±0.3, 7°.59S±0°.04×128°.46E±0°.04, h151km, mb4.3/24, Error ellipse: s-maj=5.4km s-min=4.9km az=18.5*

*DJA **15** 17:36:43.5±0.5, 8°.5±4°×12°.8E±°, h161km±30km, M4.7/8, mb4.8/5, mB5.3/3, MLv4.6/8, Mw(mB)4.7/3*

*NEIC **15** 17:36:43.0±1.2, 7°.51S×128°.44E, h153km±12km, mb4.7/12, Error ellipse: s-maj=11.2km s-min=7.1km az=55.0*

ISC 15 17:36:42.0±0.4, **7.73S**±0°.05×**128°.42E**±0°.06, **h151**km, **n62**, σ**2s01**/70, **mb4.3**/24, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	4.38	7	P	Pn	17 37 47.9	+0.6
SOEI	Soe	4.57	244	P	Pn	17 37 52.7	+2.8
SOEI				S	Sn	17 38 45.3	+2.5
SOEI	Soe	4.57	244	*e*Pn	Pn	17 37 52.5	+2.6
NLAI	Namlea	4.65	344	P	Pn	17 37 52.1	+1.3
MMRI	Maumere	6.19	261	P	Pn	17 38 12.1	+0.9
	45nm,0.9s,1µm0.4nm						
MMRI				S	Sn	17 39 21.1	+0.1
	45nm,0.9s,1µm0.4nm						
EDFI	Ende, Flores	6.74	261	P	Pn	17 38 17.8	-0.9
	17nm,0.8s,0.1nm						
EDFI				S	Sn	17 39 36.5	+2.1
	17nm,0.8s,0.1nm						
SWI	Sorong	7.38	23	P	Pn	17 38 26.8	-0.4
	54nm,0.5s,2µm0.4nm						
WSI	Waingapu	8.26	256	P	Pn	17 38 38.9	+0.1
WSI				S	Sn	17 40 05.7	-5.1
FITZ	Fitzroy Crossi	10.66	194	P	Pn	17 39 10.5	-0.2
	4.7nm,0.3s,baz=28,slow=11,SNR=106						
FITZ				S	Sn	17 41 04.0	-4.7
	12nm,0.3s,baz=72,slow=5.7,SNR=10						
FITZ	Fitzroy Crossi	10.66	194	*e*P	Pn	17 39 10.4	-0.3
	26nm,0.6s						
FITZ				S	Sn	17 41 04.0	-4.7
WRAB	Tennant Creek	13.43	155	*e*P	Pn	17 39 45.8	-0.8
	62nm,0.6s						
WRA	Warramunga Arr	13.43	155	P	Pn	17 39 46.4	-0.2
	8.1nm,0.3s,baz=323,slow=14,SNR=154						
WRA				S	Sn	17 42 08.7	-6.7
	11nm,0.3s,baz=331,slow=23,SNR=10						
COEN	Coen	15.75	114	*e*P	P	17 40 17.1	+0.5
	23nm,0.5s						
MBWA	Marble Bar	15.77	211	*e*P	P	17 40 17.1	+0.4
ASAR	Alice Springs	16.70	162	P	Pn	17 40 29.0	+1.8
	7.0nm,0.3s,baz=340,slow=11,SNR=258						
ASAR				S	S	17 43 28.8	-4.1
	1.8nm,0.3s,baz=313,slow=15,SNR=5.5						
KKM	Kota Kinabalu	18.32	318	*e*P	Pn	17 40 46.6	-0.1
	31nm,1.2s						
PMG	Port Moresby	18.61	96	P	Pn	17 40 53.0	+3.0
	0.7nm,0.3s,baz=305,slow=7.2,SNR=4.8						
PMG				LR	LR	17 49 09.7	
	comp=Z,61nm,20.4s,baz=155,slow=40						
KSM	Kuching	20.25	296	*e*P	P	17 41 06.2	+0.5
	29nm,0.8s						
CTA	Charters Tower	21.20	127	P	P	17 41 18.9	+3.1
	7.7nm,0.6s,baz=301,slow=12,SNR=15						
CTAO	Charters Tower	21.20	127	*e*P	P	17 41 19.6	+3.8
STKA	Stephens Creek	26.98	155	P	P	17 42 13.0	+3.4
	4.9nm,0.5s,baz=330,slow=8.9,SNR=24						
NWAO	Narrogin (SRO)	27.14	201	P	P	17 42 13.7	+2.6
	10nm,0.8s,baz=307,slow=9.8,SNR=4.4						
CBIJ	Chichi jima	37.10	21	P	P	17 43 35.7	-2.2
JCJ	Chichijima	37.10	21	P	P	17 43 35.7	-2.2
	35nm,0.8s,baz=270,slow=19,SNR=2.8						
CMAR	Chiang Mai Arr	39.02	312	P	P	17 43 54.9	+0.7
	2.5nm,0.8s,baz=141,slow=6.6,SNR=15						
ENH	Enshi	41.93	335	*e*P	P	17 44 16.6	-1.3
	3.6nm,0.6s						
KSAR	Wonju Array Be	44.94	359	P	P	17 44 41.5	-0.3
KSRS	Korea Array	44.95	359	P	P	17 44 41.5	-0.4
	2.2nm,0.5s,baz=179,slow=9.3,SNR=19						
MJAR	Matsushiro Arr	44.99	11	P	P	17 44 40.0	-2.3
	2.3nm,0.7s,baz=183,slow=9.8,SNR=11						
LSA	Lhasa	51.66	318	*e*P	P	17 45 34.8	+0.8
	7.9nm,0.5s						
USRK	Ussuriysk Ar.	51.79	3	P	P	17 45 33.3	-0.8
	1.3nm,0.5s,baz=188,slow=10,SNR=5.7						
RAMN	Ramite	53.20	312	*e*P	P	17 45 45.2	0.0
GUN	Gumba	54.27	313	*e*P	P	17 45 52.6	-0.5
	31nm,0.5s						
PKIN	Phulchoki	54.44	312	*e*P	P	17 45 53.4	-0.8
	8.5nm,0.5s						
KKN	Kakani	54.64	312	*e*P	P	17 45 55.1	-0.5
	10nm,0.5s						
DMN	Daman	54.67	312	*e*P	P	17 45 55.5	-0.4
	14nm,0.6s						
GKN	Gorkha	55.23	312	*e*P	P	17 45 59.4	-0.4
	24nm,0.5s						
KOLN	Koldanda	55.88	311	*e*P	P	17 46 04.0	-0.5
	23nm,0.7s						
PYUN	Piuthan	56.51	311	*e*P	P	17 46 08.6	-0.3
	43nm,0.8s						
SONM	Songino Array	58.65	343	P	P	17 46 24.1	+0.6
	1.4nm,0.5s,baz=170,slow=6.5,SNR=13						
PETK	Petropavlovsk-	65.51	19	P	P	17 47 08.5	-0.4
	7.5nm,0.6s,baz=175,slow=4.8,SNR=17						
MKAR	Makanchi Array	67.99	328	P	P	17 47 24.5	-0.3
	4.4nm,0.4s,baz=119,slow=8.1,SNR=134						
MKAR				pP	PcP	17 47 48.6	-1.3
	1.9nm,0.5s,baz=129,slow=7.5,SNR=3.9						
YAK	Yakutsk	69.56	1	P	P	17 47 33.0	-1.0
	2.0nm,0.3s,baz=198,slow=19,SNR=3.0						
ZALV	Zalesovo Beam	71.55	335	P	P	17 47 45.4	-1.0
	7.6nm,0.5s,baz=136,slow=5.5,SNR=35						
VNDA	Vanda	71.92	173	P	P	17 47 51.3	+3.0
	0.5nm,0.4s,baz=320,slow=8.0,SNR=7.8						
KURBB	Kurchatov Arra	72.32	329	P	P	17 47 50.6	-0.4
	9.3nm,0.6s,baz=130,slow=5.0						
KURK	Kurchatov	72.33	329	*e*P	P	17 47 50.8	-0.3
	97nm,0.8s						
BVAR	Borovoye Array	77.85	328	P	P	17 48 22.2	-0.4
	baz=125,slow=7.6						
BRVK	Borovoye	77.92	328	*e*P	P	17 48 22.5	-0.6
	15nm,0.8s						
TIXI	Tiksi	79.21	0	P	P	17 48 28.9	-0.9
	5.0nm,0.5s,baz=174,slow=5.7,SNR=39						
TIXI	Tiksi	79.21	0	*e*P	P	17 48 28.4	-1.4
	4.8nm,0.5s						
GEYT	Alibeck	79.49	311	P	P	17 48 32.1	+0.1
	1.1nm,0.5s,baz=181,slow=5.8,SNR=2.9						
NRIK	Noril'sk	81.89	346	LR	LR	18 29 45.6	
	comp=Z,17nm,18.2s,baz=124,slow=39						
ABKAR	Akbulak array	82.11	322	*e*P	P	17 48 45.0	-0.6
	3.2nm,0.7s						
QSPA	South Pole Qui	82.25	180	*e*P	P	17 48 48.1	+1.9
ARU	Arti	85.50	328	*e*P	P	17 49 01.8	-0.9
	2.7nm,0.5s						
ILAR	Eielson Array	94.67	25	P	P	17 49 44.7	-0.9
	0.4nm,0.8s,baz=258,slow=4.5,SNR=2.7						
ARCES	ARCESS Array B	101.71	340	P	Pdif	17 50 15.9	-1.2
	1.0nm,0.5s,baz=91,slow=5.0,SNR=2.5						
GERES	GERESS Array B	111.97	320	PKiKP	PKiKP	17 54 59.6	+0.2
	0.2nm,0.3s,baz=343,slow=3.1,SNR=3.9						
TORD	Torodi Ar. Bea	127.41	281	PKP	PKPdf	17 55 30.2	+0.3
	0.5nm,0.5s,baz=90,slow=2.0,SNR=5.8						
CPUP	Villa Florida	145.69	171	PKPbc	PKPab	17 56 05.9	+1.6
	1.9nm,0.9s,baz=160,slow=3.6,SNR=4.0						
LPAZ	La Paz	151.06	146	PKPbc	PKPbc	17 56 21.4	+2.5
	1.3nm,0.4s,baz=90,slow=2.7,SNR=8.6						

*ISCJB **15** 17:36:57.9±0.6, 39°.26N±0°.04×36°.46E±0°.04, h0km, Error ellipse: s-maj=6.2km s-min=3.8km az=33.9*

*DDA **15** 17:36:57.3, 39°.45N×36°.59E, h8km, Md2.6, Suspected Mining explosion.*

*CSEM **15** 17:36:57.3±0.7, 39°.52N×36°.62E, h1km, MD2.6, Error ellipse: s-maj=18.0km s-min=6.8km az=42.0, Suspected Mining explosion.*

*ISK **15** 17:36:58.4, 39°.24N×36°.35E, h6km, MD2.6*

ISC 15 17:36:57.7±0.9, **39°.27N**±0°.04×**36°.47E**±0°.03, **h0**km, **n17**, σ**0s91**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSAR	Sarkisla-SIVAS	0.23	310	P	Pg	17 37 02.7	+0.7
CUSAR				S	Sg	17 37 07.3	+2.4
CUSAR	Sarkisla-SIVAS	0.23	310	*i* P	Pg	17 37 02.7	+0.7
CUSAR				*i* S	Sg	17 37 07.3	+2.4
CUALT	Altinyayla-SIV	0.23	90	P	Pg	17 37 01.9	-0.1
CUALT				S	Sg	17 37 06.1	+1.1
CUALT	Altinyayla-SIV	0.23	90	*i* P	Pg	17 37 01.9	-0.1
CUALT				*i* S	Sg	17 37 06.1	+1.1
BNN	Bunyan	0.64	229	*e*PG	Pg	17 37 10.2	+0.2
BNN	Bunyan	0.64	229	*e*Pg	Pg	17 37 10.2	+0.2
SARI	SarD1z-Kayseri	0.87	183	*e*PG	Pb	17 37 15.4	-0.3
SARI				*e*SG	Sg	17 37 26.4	+0.9
YOZ	Yozgat	0.96	293	*e*PG	Pg	17 37 15.9	-0.2
YOZ				*e*SG	Sg	17 37 28.2	-0.3
YOZ	Yozgat	0.96	293	*e*Pg	Pg	17 37 15.9	-0.2
YOZ				*e*Sg	Sg	17 37 28.2	-0.3
DARE	Darende-Malaty	1.06	131	*e*PN	Pn	17 37 19.6	-0.3
DARE	Darende-Malaty	1.06	131	*e*Pn	Pn	17 37 19.6	-0.3
COAL	Corum-Alaca	1.50	311	P	Pn	17 37 25.2	-0.8
COAL				S	Sg	17 37 45.9	-0.1
COAL	Corum-Alaca	1.50	311	*i* P	Pn	17 37 25.2	-0.8
COAL				*i* S	Sg	17 37 45.9	-0.1
CDAG	Cicekdag	1.66	283	P	Pb	17 37 28.8	-0.4
CDAG				S	Sg	17 37 52.0	+1.0
CDAG	Cicekdag	1.66	283	*i* P	Pb	17 37 28.8	-0.4
CDAG				*i* S	Sg	17 37 52.0	+1.0
CORM	Corum	1.68	303	*e*PN	Pb	17 37 29.1	-0.5
CORM	Corum	1.68	303	*e*Pn	Pb	17 37 29.1	-0.5

*CSEM **15** 17:43:23.5±0.4, 35°.73N×28°.14E, h10km, ML1.8, Error ellipse: s-maj=12.8km s-min=5.8km az=155.0*

*ATH **15** 17:43:23.9, 35°.81N×28°.09E, h30km±2km, ML1.8/1, Error ellipse: s-maj=4.6km s-min=1.1km az=328.0*

*ISCJB **15** 17:43:24.5±0.7, 36°.12N±0°.05×27°.95E±0°.05, h51km±9km, Error ellipse: s-maj=9.5km s-min=5.8km az=152.5*

ISC 15 17:43:25.7±1.3, **36°.08N**±0°.05×**27°.91E**±0°.04, **h41**km±12km, **n12**, σ**2s66**/24, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.22	52	P	Pn	17 43 33.4	+0.1
ARG				S	Sn	17 43 39.0	+0.4
KARP	Karpathos	0.81	229	P	Pn	17 43 39.8	-0.9
KARP				S	Sn	17 43 51.1	-0.4
KARP	Karpathos	0.81	229	P	Pn	17 43 39.8	-0.9
KARP				S	Sn	17 43 51.1	-0.4
TURN	Turunc	0.97	35	*i* P	Pn	17 43 39.8	-3.1
TURN				*i* S	Sn	17 43 51.3	-4.1
BDRM	Kayabasi	1.05	339	*i* P	Pn	17 43 42.9	-1.1
BDRM				*i* S	Sn	17 43 57.0	-0.6
KSL	Kastellorizon	1.36	86	P	Pn	17 43 47.4	-0.8
KSL				S	Sn	17 44 03.3	-1.6
KSL				AML	AML	17 44 03.9	
	comp=N,39µm,0.4s						
KSL				AML	AML	17 44 04.7	
	comp=E,62µm,0.3s						
AKAS	Kas	1.38	83	P	Pn	17 43 47.7	-0.9
AKAS				S	Sn	17 44 04.7	-1.0
AKAS	Kas	1.38	83	*i* P	Pn	17 43 47.7	-0.9
AKAS				*i* S	Sn	17 44 04.7	-1.0
ZKR	Zakros	1.68	236	P	Pn	17 43 52.5	-0.2
ZKR				S	Sn	17 44 15.0	+2.0
ZKR	Zakros	1.68	236	P	Pn	17 43 52.5	-0.2
ZKR				S	Sn	17 44 15.0	+2.0
GOLH	Golhisar	1.76	48	P	Pn	17 43 54.0	+0.2
GOLH				S	Sn	17 44 22.0	+6.9
GOLH	Golhisar	1.76	48	*i* P	Pn	17 43 54.0	+0.2
GOLH				*i* S	Sn	17 44 22.0	+6.9

*ISCJB **15** 17:45:48.0±0.6, 28°.7N±0°.1×138°.9E±0°.1, h350km, mb3.3/10, Error ellipse: s-maj=22.0km s-min=9.8km az=137.4*

*IDC **15** 17:45:50.1±1.1, 28°.79N×139°.50E, h372km±22km, mb3.0/10, mb1 3.2/12, mb1mx2.9/41, mbtmp3.8/12, Error ellipse: s-maj=52.5km s-min=14.0km az=77.0*

ISC 15 17:45:49.2±0.8, **28.7N**±0.2×**139.1E**±0.2, **h350**km, **n12**, σ**0s78**/13, **mb3.4**/10, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.20	119	P	Pn	17 46 51.3	+0.9
	baz=294,slow=20						
JCJ				S	S	17 47 39.0	-0.7
	49nm,0.3s,baz=268,slow=20,SNR=9.3						
USRK	Ussuriysk Ar.	16.48	342	P	P	17 49 20.6	+1.0
	0.2nm,0.3s,baz=134,slow=8.2,SNR=6.5						
KLR	Kul'dur	21.26	347	P	P	17 50 08.7	+0.2
	0.9nm,0.3s,baz=164,slow=11,SNR=5.3						
MKAR	Makanchi Array	47.32	309	P	P	17 53 49.6	+0.8
	0.3nm,0.5s,baz=98,slow=6.9,SNR=4.2						
WRA	Warramunga Arr	48.56	186	P	P	17 53 58.2	-0.3
	0.4nm,0.8s,baz=6.2,slow=7.8,SNR=4.0						
KURBB	Kurchatov Arra	49.94	314	P	P	17 54 08.7	+0.2
	0.9nm,0.5s,baz=91,slow=8.3,SNR=12						
ASAR	Alice Springs	52.29	186	P	P	17 54 26.5	+0.4
	0.4nm,0.9s,baz=4.1,slow=6.3,SNR=5.2						
BVAR	Borovoye Array	54.99	317	P	P	17 54 45.4	+0.2
	0.6nm,0.5s,baz=106,slow=11,SNR=3.3						
ARCES	ARCESS Array B	71.12	340	P	P	17 56 29.0	-0.9
	0.8nm,0.5s,baz=78,slow=8.7,SNR=7.5						
KBZ	Khabaz	74.89	312	P	P	17 56 52.4	+0.1
	1.5nm,0.6s,baz=197,slow=20,SNR=3.1						
FINES	FINESS Array B	75.28	333	P	P	17 56 52.9	-1.3
	0.7nm,0.4s,baz=72,slow=4.5,SNR=7.6						
BRTR	Keskin Array B	82.88	311	P	P	17 57 35.1	-0.6
	0.4nm,0.7s,baz=46,slow=6.2,SNR=2.7						

*JMA **15** 17:58:31.0±0.1, 23°.99N×121°.81E, h56km±1km, M2.7*

*ISCJB **15** 17:58:32.2±0.3, 24°.02N±0°.02×121°.89E±0°.02, h47km±5km, Error ellipse: s-maj=3.6km s-min=2.1km az=142.5*

*TAP **15** 17:58:32.4, 24°.05N×121°.84E, h45km, ML3.1, D*

ISC 15 17:58:32.8±1.2, **24°.03N**±0°.03×**121°.87E**±0°.02, **h44**km±8km, **n55**, σ**1s00**/106, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.25	259	*e*P	Pn	17 58 41.3	+0.4
	baz=249						
HWA				*e*S	Sn	17 58 46.8	+0.3
	baz=249						
TWD	Chiawan	0.26	282	*i* P	Pn	17 58 40.7	-0.2
	baz=277						
TWD				*e*S	Sn	17 58 47.0	+0.3
	baz=277						
ENA	Nanau	0.42	343	P	Pn	17 58 42.5	-0.2
	baz=348						
ENA				*e*S	Sn	17 58 50.5	+0.9
	baz=348						
ESL	Shilin	0.45	242	P	Pn	17 58 42.4	-0.7
	baz=236						
ESL				S	Sn	17 58 49.9	-0.5
	baz=236						
TWC	Suao	0.58	358	P	Pn	17 58 44.7	-0.1
	baz=2.0						
TWC				S	Sn	17 58 53.9	+0.6
	baz=2.0						
NNS	Nan Shan	0.61	312	*i* P	Pn	17 58 44.6	-0.7
	baz=312						
NNS				*i* S	Sn	17 58 53.8	-0.5
	baz=312						
ENTT	Nioudou	0.67	335	P	Pn	17 58 45.5	-0.5
	baz=337						
ENTT				S	Sn	17 58 55.1	-0.3
	baz=337						
TWT	Tachien	0.68	290	*i* P	Pn	17 58 45.9	-0.3
	baz=287						
TWT				*i* S	Sn	17 58 55.4	-0.4
	baz=287						
TWE	Neicheng	0.72	345	*e*P	Pn	17 58 46.5	0.0
	baz=348						
TWE				*e*S	Sn	17 58 56.5	+0.1
	baz=348						
EHY	Hungye	0.72	224	*e*P	Pn	17 58 45.2	-1.4
	baz=220						
EHY				*e*S	Sn	17 58 55.7	-0.9
	baz=220						
NSK	Sanguang	0.80	324	P	Pn	17 58 47.0	-0.7
	baz=325						
NSK				S	Sn	17 58 57.5	-1.1
	baz=325						
EGS		0.82	4	*e*P	Pn	17 58 48.8	+0.9
	baz=7.0						
EGS				*e*S	Sn	17 59 00.4	+1.5
	baz=7.0						
TWF1	Yuli	0.85	218	*e*P	Pn	17 58 47.0	-1.4
	baz=214						
TWF1				*e*S	Sn	17 58 58.6	-1.2
	baz=214						
SMLT	Sun Moon Lake	0.90	261	P	Pn	17 58 48.6	-0.6
	baz=258						
SMLT				S	Sn	17 59 01.8	+0.7
	baz=258						
TYC	Yuchr	0.94	263	*e*P	Pn	17 58 48.8	-0.7
	baz=260						
TYC				*e*S	Sn	17 59 01.8	+0.1
	baz=260						
TWB1	Santiao Chiao	0.98	6	*i* P	Pn	17 58 49.9	-0.2
	baz=8.0						
TWB1				*e*S	Sn	17 59 02.6	-0.3
	baz=8.0						
TWA	Mucha	0.99	345	*e*S	Sn	17 59 03.1	0.0
	baz=346						
NSTT	Nanjuang	1.00	307	P	Pn	17 58 50.4	0.0
	baz=307						
NSTT				S	Sn	17 59 03.0	-0.3

	baz=246								
CHN5					*e*S		**Sn**	**17 59 08.7**	**+1.0**
	baz=246								
WGK	**Gukeng**	**1.25**	**255**		P		**Pn**	**17 58 54.0**	**+0.3**
	baz=252								
WGK					*e*S		**Sn**	**17 59 09.5**	**+0.2**
	baz=252								
STYT	**Tauyuan**	**1.34**	**230**		P		**Pn**	**17 58 55.1**	**+0.1**
	baz=227								
STYT					*e*S		**Sn**	**17 59 12.2**	**+0.6**
	baz=227								
CHN4	**Tsaushan**	**1.35**	**240**		P		**Pn**	**17 58 55.5**	**+0.4**
	baz=238								
CHN4					S		**Sn**	**17 59 12.6**	**+0.6**
	baz=238								
CHN2	**Minshiung**	**1.37**	**249**		P		**Pn**	**17 58 55.7**	**+0.3**
	baz=247								
CHN2					*e*S		**Sn**	**17 59 12.7**	**+0.3**
	baz=247								
WTP	**Ta-pu**	**1.39**	**236**		P		**Pn**	**17 58 55.8**	**+0.1**
	baz=234								
WTP					*e*S		**Sn**	**17 59 14.7**	**+1.7**
	baz=234								
TWG	**Pinlang**	**1.41**	**212**		*e*P		**Pn**	**17 58 54.3**	**-1.6**
	baz=209								
TWG					*e*S		**Sn**	**17 59 11.3**	**-2.0**
	baz=209								
CHY	**Chiayi**	**1.43**	**249**		*e*P		**Pn**	**17 58 56.5**	**+0.3**
	baz=246								
CHY					*e*S		**Sn**	**17 59 15.6**	**+1.9**
	baz=246								
TWK	**Hsinying**	**1.48**	**240**		*e*P		**Pn**	**17 58 57.7**	**+0.7**
	baz=237								
TWK					*e*S		**Sn**	**17 59 15.6**	**+0.5**
	baz=237								
CHN1	**Nanshi**	**1.49**	**236**		P		**Pn**	**17 58 57.2**	**+0.1**
	baz=234								
CHN1					*e*S		**Sn**	**17 59 16.5**	**+1.1**
	baz=234								
SGST	**Jiashian**	**1.51**	**232**		P		**Pn**	**17 58 58.0**	**+0.6**
	baz=229								
SGST					*e*S		**Sn**	**17 59 17.6**	**+1.8**
	baz=229								
WSF	**Szhu**	**1.56**	**256**		*e*P		**Pn**	**17 58 58.1**	**+0.1**
	baz=254								
WSF					*e*S		**Sn**	**17 59 18.2**	**+1.2**
	baz=254								
ECL	**Taimali**	**1.65**	**211**		*e*P		**Pn**	**17 58 57.3**	**-2.0**
	baz=208								
ECL					*e*S		**Sn**	**17 59 17.2**	**-2.2**
	baz=208								
CHN8	**Yiju**	**1.67**	**246**		*e*P		**Pn**	**17 58 59.3**	**-0.2**
	baz=244								
CHN8					*e*S		**Sn**	**17 59 20.5**	**+0.8**
	baz=244								
SSD	**Sandimen**	**1.71**	**222**		P		**Pn**	**17 59 00.7**	**+0.6**
	baz=220								
SSD					*e*S		**Sn**	**17 59 22.8**	**+2.1**
	baz=220								
IRIF	**Iriomote-Funau**	**1.72**	**79**		P		**Pn**	**17 59 00.1**	**-0.2**
IRIF					S		**Sn**	**17 59 21.2**	**+0.1**
HATJ	**Hateruma jima**	**1.77**	**89**		*e*S		**Sn**	**17 59 22.6**	**+0.5**
EAST	**Anshuo**	**1.89**	**210**		*e*P		**Pn**	**17 59 04.8**	**+2.3**
	baz=208								
EAST					*e*S		**Sn**	**17 59 27.9**	**+2.7**
	baz=208								
JKRS	**Kuro-shima**	**1.96**	**83**		P		**Pn**	**17 59 04.3**	**+0.8**
JKRS					S		**Sn**	**17 59 27.6**	**+0.6**
SCZT	**Fangliau**	**2.01**	**215**		*e*P		**Pn**	**17 59 05.5**	**+1.3**
	baz=213								
SCZT					*e*S		**Sn**	**17 59 31.3**	**+3.2**
	baz=213								
JIJ	**Ishigaki jima**	**2.10**	**80**		P		**Pn**	**17 59 05.1**	**-0.3**
JIJ					S		**Sn**	**17 59 29.0**	**-1.3**
WDGT	**Dungji**	**2.17**	**250**		*e*P		**Pn**	**17 59 05.6**	**-0.7**
	baz=248								
PNG	**Penghu**	**2.17**	**258**		*e*P		**Pn**	**17 59 05.2**	**-1.2**
	baz=256								
PNG					*e*S		**Sn**	**17 59 29.7**	**-2.4**
	baz=256								
JISG	**Ishigakijimahi**	**2.29**	**75**		P		**Pn**	**17 59 07.6**	**-0.5**
JISG					S		**Sn**	**17 59 34.1**	**-1.0**
JTJ	**Tarama**	**2.65**	**76**		P		**Pn**	**17 59 13.2**	**+0.2**
JTJ					*e*S		**Sn**	**17 59 43.8**	**-0.1**

IDC 15 18:17:22.1±1.7,**2°97S**×**128°40E**,**h0**km,**mb3.7**/3,
mb1 3.9/4,**mb1mx3.5**/48,**mbtmp3.7**/4,**ML3.5**/1,**Error ellipse: s-maj=135.3km s-min=23.9km az=68.0,Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.84**	**161**	P	P	18 21 32.5	-0.2
	0.2nm,0.3s,baz=340,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.25**	**166**	P	P	18 22 08.9	-1.2
	8.5nm,0.8s,baz=344,slow=11,SNR=59						
MKAR	**Makanchi Array**	**64.00**	**327**	P	P	18 27 58.6	+1.0
	0.4nm,0.7s,baz=126,slow=7.1,SNR=4.6						
KURBB	**Kurchatov Arra**	**68.26**	**328**	P	P	18 28 24.3	-0.4
	0.2nm,0.6s,baz=131,slow=5.3,SNR=6.4						

*IDC **15** 18:23:08.5±0.6,36°.58N×28°.88E,h0km,mb3.9/19,*
mb1 4.0/26,mb1mx3.9/57,mbtmp4.0/26,ML3.8/6,MS3.0/8,
Ms1 3.0/8,ms1mx2.7/57,Error ellipse: s-maj=13.3km
s-min=11.1km az=178.0
*ATH **15** 18:23:10.5,36°.65N×28°.83E,h18km,ML3.9/17,Error*
ellipse: s-maj=1.1km s-min=0.5km az=179.0
*NSSC **15** 18:23:10.1±1.3,36°.51N×28°.94E,h0km±71km,ML3.2*
*ISK **15** 18:23:10.4,36°.61N×28°.82E,h8km,ML3.8*
*DDA **15** 18:23:10.9,36°.60N×28°.77E,h26km,Ml4.0*
*THE **15** 18:23:11.8,36°.62N×28°.85E,h2km±1km,ML4.0/17,Error*
ellipse: s-maj=1.6km s-min=0.8km az=101.0
*NEIC **15** 18:23:11.8,36°.62N×28°.85E,h2km,ML4.0(THE),After*
THE.
*CSEM **15** 18:23:11.2±0.1,36°.54N×28°.88E,h10km,ML4.0,Error*
ellipse: s-maj=2.4km s-min=1.9km az=12.0
*ISCJB **15** 18:23:11.4±0.3,36°.54N±0°.01×28°.90E±0°.01,h28km±2km,*
mb3.8/19,MS2.8/3,Error ellipse: s-maj=2.4km
s-min=1.6km az=14.9
*NIC **15** 18:23:13.3±0.3,36°.31N×28°.67E,h25km,mb4.3,ML4.0*
*HLW **15** 18:23:15.7,36°.36N×28°.87E,h33km±27km,Md3.7,Ml3.8*
ISC 15 18:23:11.3±0.7,**36°.59N**±0°.02×**28°.87E**±0°.02,**h16**km±4km,
n492,σ1§**68**/636,**mb3.9**/19,**MS2.8**/3,**22C-17D,**
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.18**	**74**	PG	**Pg**	**18 23 15.4**	**-0.4**
FETY				*e*SG	**Sg**	**18 23 18.7**	**+0.1**
FETY	**Fethiye**	**0.18**	**74**	P	**Pg**	**18 23 15.3**	**-0.5**
FETY				S	**Sg**	**18 23 18.8**	**+0.1**
FETY	**Fethiye**	**0.18**	**74**	*i* Pg	**Pg**	**18 23 15.4**	**-0.4**
FETY				S	**Sg**	**18 23 18.8**	**+0.1**
FETY	**Fethiye**	**0.18**	**74**	P	**Pg**	**18 23 15.3**	**-0.5**
FETY				S	**Sg**	**18 23 18.8**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.29**	**323**	PG	**Pg**	**18 23 15.9**	**-1.6**
DALY				*e*SG	**Sg**	**18 23 20.4**	**-1.3**
DALY	**Dalyan (Mu¨la**	**0.29**	**323**	*i* Pg	**Pg**	**18 23 15.9**	**-1.6**
DALY				*e*Sg	**Sg**	**18 23 20.4**	**-1.3**
TURN	**Turunc**	**0.36**	**323**	⇓*i*P	**Pb**	**18 23 20.3**	**+1.0**
TURN				*i* S	**Sb**	**18 23 27.9**	**+3.1**
AKAS	**Kas**	**0.69**	**121**	P	**Pg**	**18 23 24.5**	**-0.4**
AKAS	**Kas**	**0.69**	**121**	⇓*i*P	**Pg**	**18 23 24.6**	**-0.4**
AKAS				*i* S	**Sn**	**18 23 38.6**	**+1.5**
ARG	**Arkhangelos**	**0.70**	**238**	P	**Pg**	**18 23 23.8**	**-1.3**
ARG				S	**Sb**	**18 23 35.6**	**+0.9**
ARG	**Arkhangelos**	**0.70**	**238**	P	**Pg**	**18 23 23.8**	**-1.3**
ARG				S	**Sb**	**18 23 35.0**	**+0.3**
ARG	**Arkhangelos**	**0.70**	**238**	P	**Pg**	**18 23 23.8**	**-1.3**
ARG				S	**Sb**	**18 23 35.6**	**+0.9**
YER	**Yerkesik**	**0.72**	**319**	*e*PG	**Pg**	**18 23 24.0**	**-1.4**
YER				*e*SG	**Sg**	**18 23 34.4**	**-0.6**
YER	**Yerkesik**	**0.72**	**319**	P	**Pg**	**18 23 23.7**	**-1.7**
YER				S	**Sg**	**18 23 34.7**	**-0.3**
YER	**Yerkesik**	**0.72**	**319**	P	**Pg**	**18 23 23.7**	**-1.7**
YER	**Yerkesik**	**0.72**	**319**	*e*Pg	**Pg**	**18 23 24.0**	**-1.4**
YER				*e*Sg	**Sg**	**18 23 34.4**	**-0.6**
YER	**Yerkesik**	**0.72**	**319**	P	**Pg**	**18 23 23.7**	**-1.7**
YER				S	**Sg**	**18 23 34.7**	**-0.3**
KSL	**Kastellorizon**	**0.72**	**127**	P	**Pg**	**18 23 24.6**	**-0.9**
KSL				S	**Sn**	**18 23 39.9**	**+2.2**
KSL	**Kastellorizon**	**0.72**	**127**	P	**Pg**	**18 23 24.6**	**-0.9**
KSL				S	**Sn**	**18 23 39.9**	**+2.2**
KSL	**Kastellorizon**	**0.72**	**127**	P	**Pg**	**18 23 24.2**	**-1.2**
KSL				S	**Sn**	**18 23 39.1**	**+1.4**
KSL				AML	AML	18 23 43.4	
	comp=E,20352μm,0.7s						
KSL				AML	AML	18 23 47.1	
	comp=N,10681μm,0.6s						
GLHS	**Glhisar (BURDU**	**0.76**	**41**	*e*PG	**Pg**	**18 23 25.2**	**-1.0**
GLHS	**Glhisar (BURDU**	**0.76**	**41**	*e*Pg	**Pg**	**18 23 25.2**	**-1.0**
ELL	**Elmali**	**0.85**	**79**	*e*PG	**Pg**	**18 23 27.7**	**-0.2**
ELL	**Elmali**	**0.85**	**79**	*e*Pg	**Pg**	**18 23 27.7**	**-0.2**
GOLH	**Golhisar**	**0.85**	**40**	P	**Pg**	**18 23 27.0**	**-0.9**
GOLH				S	**Sn**	**18 23 42.9**	**+1.8**
GOLH	**Golhisar**	**0.85**	**40**	⇑*i*P	**Pg**	**18 23 27.0**	**-0.9**
GOLH				*i* S	**Sn**	**18 23 42.9**	**+1.8**
DNZL	**Cakiroluk**	**1.11**	**7**	P	**Pg**	**18 23 31.9**	**-0.9**
DNZL				S	**Sn**	**18 23 50.3**	**+2.8**
DNZL	**Cakiroluk**	**1.11**	**7**	⇓*i*P	**Pg**	**18 23 31.9**	**-0.9**
DNZL				*i* S	**Sn**	**18 23 50.3**	**+2.8**
DENT	**Denizli**	**1.17**	**6**	*e*PN	**Pb**	**18 23 32.4**	**-0.9**
DENT	**Denizli**	**1.17**	**6**	*e*Pn	**Pb**	**18 23 32.4**	**-0.9**
BDRM	**Kayabasi**	**1.24**	**293**	P	**Pn**	**18 23 32.9**	**-1.2**
BDRM				S	**Sn**	**18 23 51.1**	**+0.6**
BDRM	**Kayabasi**	**1.24**	**293**	⇓*i*P	**Pn**	**18 23 32.9**	**-1.2**
BDRM				*i* S	**Sn**	**18 23 51.1**	**+0.6**
KORT	**Korkueli**	**1.26**	**70**	P	**Pg**	**18 23 35.6**	**0.0**
KORT	**Korkueli**	**1.26**	**70**	*i* P	**Pg**	**18 23 35.6**	**0.0**
KORT				*i* S	**Sn**	**18 23 56.7**	**+5.6**
BODT	**Bodrum**	**1.34**	**291**	*e*PN	**Pn**	**18 23 34.5**	**-0.9**
BODT	**Bodrum**	**1.34**	**291**	P	**Pn**	**18 23 34.5**	**-0.9**
BODT				S	**Sg**	**18 23 53.9**	**-0.6**
BODT	**Bodrum**	**1.34**	**291**	P	**Pn**	**18 23 34.5**	**-0.9**
BODT				S	**Sg**	**18 23 53.9**	**-0.6**
BODT	**Bodrum**	**1.34**	**291**	P	**Pn**	**18 23 34.5**	**-0.9**
BODT				S	**Sg**	**18 23 53.9**	**-0.6**
NIS1	**Nisyros Isl.**	**1.36**	**271**	*e*PN	**Pb**	**18 23 36.4**	**-0.1**
NIS1	**Nisyros Isl.**	**1.36**	**271**	P	**Pn**	**18 23 35.2**	**-0.5**
NIS1				S	**Sg**	**18 23 55.2**	**-0.1**
NIS1	**Nisyros Isl.**	**1.36**	**271**	P	**Pn**	**18 23 35.6**	**-0.2**
NIS1	**Nisyros Isl.**	**1.36**	**271**	*e*Pn	**Pb**	**18 23 36.4**	**-0.1**
NIS1				S	**Sn**	**18 23 54.3**	**+0.8**
NIS1	**Nisyros Isl.**	**1.36**	**271**	P	**Pn**	**18 23 35.2**	**-0.5**
NIS1				S	**Sg**	**18 23 55.2**	**-0.1**
NIS1	**Nisyros Isl.**	**1.36**	**271**	P	**Pn**	**18 23 35.6**	**-0.2**
NIS1				S	**Sn**	**18 23 54.3**	**+0.8**
NIS1				AML	AML	18 23 59.6	
	comp=E,24964μm,0.4s						
NIS1				AML	AML	18 24 01.6	
	comp=N,38222μm,0.4s						
NISR	**Nisiros**	**1.40**	**272**	P	**Pn**	**18 23 36.4**	**+0.2**
NISR	**Nisiros**	**1.40**	**272**	P	**Pn**	**18 23 36.5**	**+0.2**
NISR	**Nisiros**	**1.40**	**272**	P	**Pn**	**18 23 36.4**	**+0.2**
NISR	**Nisiros**	**1.40**	**272**	P	**Pn**	**18 23 36.5**	**+0.3**
ANTB	**Antalya**	**1.47**	**77**	*e*PN	**Pb**	**18 23 38.8**	**+0.5**
ANTB	**Antalya**	**1.47**	**77**	*e*Pn	**Pb**	**18 23 38.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**330**	*e*PN	**Pn**	**18 23 39.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.56**	**330**	*e*Pn	**Pn**	**18 23 39.1**	**+0.4**
BCK	**Bucak**	**1.63**	**57**	*e*PN	**Pn**	**18 23 40.7**	**+0.1**
BCK	**Bucak**	**1.63**	**57**	*e*Pn	**Pn**	**18 23 40.7**	**+0.1**
GCAM	**G?zelcaml?**	**1.71**	**311**	P	**Pn**	**18 23 40.7**	**+0.1**
GCAM				S	**Sn**	**18 24 02.4**	**+0.2**
GCAM	**G?zelcaml?**	**1.71**	**311**	⇓*i*P	**Pn**	**18 23 40.7**	**+0.1**
GCAM				*i* S	**Sn**	**18 24 02.4**	**+0.2**
KARP	**Karpathos**	**1.73**	**234**	*e*PN	**Pn**	**18 23 41.7**	**+0.9**
KARP	**Karpathos**	**1.73**	**234**	P	**Pn**	**18 23 42.0**	**+1.2**
KARP	**Karpathos**	**1.73**	**234**	*e*Pn	**Pn**	**18 23 41.7**	**+0.9**
KARP	**Karpathos**	**1.73**	**234**	P	**Pn**	**18 23 42.0**	**+1.2**
KARP				S	**Sg**	**18 24 06.4**	**-0.6**
KARP	**Karpathos**	**1.73**	**234**	P	**Pn**	**18 23 42.0**	**+1.2**
KARP	**Karpathos**	**1.73**	**234**	P	**Pn**	**18 23 42.0**	**+1.2**
KARP				S	**Sg**	**18 24 06.5**	**-0.6**
KARP				AML	AML	18 24 11.2	
	comp=N,8996μm,0.5s						
KARP				AML	AML	18 24 14.0	
	comp=E,6772μm,0.5s						
KHL	**Karahalli**	**1.81**	**17**	*e*PN	**Pn**	**18 23 42.5**	**+0.5**
KHL	**Karahalli**	**1.81**	**17**	*e*Pn	**Pn**	**18 23 42.5**	**+0.5**
SUTC	**Sutluce-Ispart**	**1.92**	**62**	*e*PN	**Pn**	**18 23 45.0**	**+1.4**
SUTC	**Sutluce-Ispart**	**1.92**	**62**	*e*Pn	**Pn**	**18 23 45.0**	**+1.4**
KULA	**Kula-Manisa**	**1.93**	**355**	*e*PN	**Pn**	**18 23 44.3**	**+0.6**
KULA	**Kula-Manisa**	**1.93**	**355**	P	**Pn**	**18 23 44.1**	**+0.5**
KULA				S	**Sn**	**18 24 07.8**	**+0.1**
KULA	**Kula-Manisa**	**1.93**	**355**	*e*Pn	**Pn**	**18 23 44.3**	**+0.6**
KULA				S	**Sn**	**18 24 07.8**	**+0.1**
KULA	**Kula-Manisa**	**1.93**	**355**	P	**Pn**	**18 23 44.1**	**+0.5**
SMG	**Samos**	**1.97**	**305**	P	**Pn**	**18 23 44.0**	**-0.1**
SMG				S	**Sn**	**18 24 09.7**	**+1.1**
SMG	**Samos**	**1.97**	**305**	P	**Pn**	**18 23 44.0**	**-0.1**
SMG				S	**Sn**	**18 24 09.7**	**+1.1**
SMG	**Samos**	**1.97**	**305**	P	**Pn**	**18 23 44.0**	**-0.1**
SMG	**Samos**	**1.97**	**305**	P	**Pn**	**18 23 43.8**	**-0.3**
SMG				S	**Sb**	**18 24 10.6**	**-0.6**
SMG				AML	AML	18 24 14.4	
	comp=N,12771μm,0.3s						
SMG				AML	AML	18 24 16.9	
	comp=E,7418μm,0.3s						
BAGO	**Egridir - ISPA**	**2.08**	**47**	⇑*i*P	**Pn**	**18 23 47.3**	**+1.7**
BAGO				*i* S	**Sb**	**18 24 16.2**	**+2.0**
DGB	**¯zmir**	**2.15**	**313**	⇓*i*P	**Pn**	**18 23 46.5**	**-0.1**
DGB				*i* S	**Sn**	**18 24 12.6**	**-0.4**
IZM	**Izmir**	**2.21**	**325**	*e*PN	**Pn**	**18 23 47.8**	**+0.3**
IZM	**Izmir**	**2.21**	**325**	*e*Pn	**Pn**	**18 23 47.8**	**+0.3**
AKS	**Akhisar**	**2.44**	**340**	*e*PN	**Pn**	**18 23 50.7**	**+0.2**
AKS	**Akhisar**	**2.44**	**340**	*e*Pn	**Pn**	**18 23 50.7**	**+0.2**
ZEY	**¯zmir**	**2.50**	**312**	⇓*i*P	**Pn**	**18 23 51.1**	**-0.3**
ZEY				*i* S	**Sn**	**18 24 22.5**	**+0.9**
URLA	**Izmir**	**2.53**	**315**	P	**Pn**	**18 23 51.8**	**0.0**
URLA				S	**Sn**	**18 24 23.2**	**+0.8**
URLA	**Izmir**	**2.53**	**315**	⇓*i*P	**Pn**	**18 23 51.8**	**0.0**
URLA				*i* S	**Sn**	**18 24 23.2**	**+0.8**
GDZ	**Gediz**	**2.54**	**11**	P	**Pn**	**18 23 52.7**	**+0.6**
GDZ				S	**Sn**	**18 24 23.2**	**+0.3**
GDZ	**Gediz**	**2.54**	**11**	⇑*i*P	**Pn**	**18 23 52.7**	**+0.6**
GDZ				*i* S	**Sn**	**18 24 23.2**	**+0.3**
ZKR	**Zakros**	**2.61**	**236**	P	**Pn**	**18 23 54.8**	**+1.9**
ZKR				S	**Sn**	**18 24 27.4**	**+3.2**
ZKR	**Zakros**	**2.61**	**236**	P	**Pn**	**18 23 54.8**	**+1.9**
ZKR				S	**Sn**	**18 24 27.3**	**+3.1**
ZKR	**Zakros**	**2.61**	**236**	P	**Pn**	**18 23 54.8**	**+1.9**
ZKR				S	**Sn**	**18 24 27.4**	**+3.2**
ZKR	**Zakros**	**2.61**	**236**	P	**Pn**	**18 23 55.0**	**+2.4**
ZKR				S	**Sn**	**18 24 27.3**	**+3.1**
ZKR				AML	AML	18 24 40.1	
	comp=N,2258μm,0.7s						
ZKR				AML	AML	18 24 43.9	
	comp=E,2527μm,0.6s						
BOLV	**Bolvadin**	**2.69**	**37**	P	**Pn**	**18 23 56.0**	**+1.9**
BOLV				S	**Sb**	**18 24 30.1**	**-2.0**
BOLV	**Bolvadin**	**2.69**	**37**	⇑*i*P	**Pn**	**18 23 56.0**	**+1.9**
BOLV				*i* S	**Sb**	**18 24 30.1**	**-2.0**
APE	**Apeiranthos**	**2.72**	**281**	*e*PN	**Pn**	**18 23 54.7**	**+0.2**
APE	**Apeiranthos**	**2.72**	**281**	P	**Pn**	**18 23 54.6**	**+0.2**
APE	**Apeiranthos**	**2.72**	**281**	*e*Pn	**Pn**	**18 23 54.7**	**+0.2**
APE				S	**Sn**	**18 24 29.0**	**+1.9**
APE	**Apeiranthos**	**2.72**	**281**	P	**Pn**	**18 23 54.6**	**+0.2**
APE	**Apeiranthos**	**2.72**	**281**	P	**Pn**	**18 23 55.9**	**+0.6**
APE				S	**Sn**	**18 24 29.0**	**+1.9**
APE				AML	AML	18 24 32.3	
	comp=N,1415μm,0.4s						
APE				AML	AML	18 24 32.6	
	comp=E,1015μm,0.3s						
SANT	**Santorini**	**2.76**	**267**	P	**Pn**	**18 23 55.5**	**+0.5**
SANT	**Santorini**	**2.76**	**267**	P	**Pn**	**18 23 55.5**	**+0.5**
SANT	**Santorini**	**2.76**	**267**	*e*Pn	**Pn**	**18 23 55.3**	**+0.3**
SANT	**Santorini**	**2.76**	**267**	P	**Pn**	**18 23 55.4**	**+0.4**
THR3	**Thira Island,**	**2.80**	**267**	P	**Pn**	**18 23 56.1**	**+0.6**
THR3	**Thira Island,**	**2.80**	**267**	P	**Pn**	**18 23 56.1**	**+0.6**
THR3	**Thira Island,**	**2.80**	**267**	P	**Pn**	**18 23 56.1**	**+0.6**
GAZI	**Gazipasa**	**2.80**	**96**	P	**Pn**	**18 23 56.4**	**+0.8**
GAZI				S	**Sn**	**18 24 30.8**	**+1.8**
GAZI	**Gazipasa**	**2.80**	**96**	⇑*i*P	**Pn**	**18 23 56.4**	**+0.8**
GAZI				*i* S	**Sn**	**18 24 30.8**	**+1.8**
THR6	**Thira Island,**	**2.81**	**266**	P	**Pn**	**18 23 56.5**	**+0.9**
THR6	**Thira Island,**	**2.81**	**266**	P	**Pn**	**18 23 56.5**	**+0.9**
THR6	**Thira Island,**	**2.81**	**266**	P	**Pn**	**18 23 56.5**	**+0.9**
THR5	**Thira Island,**	**2.84**	**268**	*e*PN	**Pn**	**18 23 56.9**	**+0.8**
THR5	**Thira Island,**	**2.84**	**268**	P	**Pn**	**18 23 57.2**	**+1.1**
THR5	**Thira Island,**	**2.84**	**268**	*e*Pn	**Pn**	**18 23 56.9**	**+0.8**
THR5	**Thira Island,**	**2.84**	**268**	P	**Pn**	**18 23 57.2**	**+1.1**
CHOS	**Chios island**	**2.87**	**310**	*e*PN	**Pn**	**18 23 57.1**	**+0.6**
CHOS	**Chios island**	**2.87**	**310**	P	**Pn**	**18 23 56.8**	**+0.3**
CHOS				S	**Sn**	**18 24 32.3**	**+1.5**
CHOS	**Chios island**	**2.87**	**310**	P	**Pn**	**18 23 56.8**	**+0.3**
CHOS	**Chios island**	**2.87**	**310**	*e*Pn	**Pn**	**18 23 57.2**	**+0.6**
CHOS				S	**Sn**	**18 24 32.4**	**+1.6**
CHOS	**Chios island**	**2.87**	**310**	P	**Pn**	**18 23 56.8**	**+0.3**
CHOS				S	**Sn**	**18 24 32.3**	**+1.5**
CHOS	**Chios island**	**2.87**	**310**	P	**Pn**	**18 23 56.7**	**+0.1**
CHOS				S	**Sn**	**18 24 32.4**	**+1.6**
CHOS				AML	AML	18 24 34.4	
	comp=E,2846μm,0.7s						
CHOS				AML	AML	18 24 37.5	
	comp=N,1875μm,0.3s						
TVSB	**Tavsanli**	**2.90**	**9**	*e*PN	**Pn**	**18 23 57.8**	**+0.9**
TVSB	**Tavsanli**	**2.90**	**9**	*e*Pn	**Pn**	**18 23 57.8**	**+0.9**
DKL	**Dikili**	**2.93**	**329**	*e*PN	**Pn**	**18 23 57.9**	**+0.7**
DKL	**Dikili**	**2.93**	**329**	*e*Pn	**Pn**	**18 23 57.9**	**+0.7**
NPS	**Neapolis**	**2.96**	**244**	P	**Pn**	**18 23 58.5**	**+0.8**
NPS				S	**Sn**	**18 24 33.0**	**+0.2**
NPS	**Neapolis**	**2.96**	**244**	P	**Pn**	**18 23 58.5**	**+0.8**
NPS				S	**Sn**	**18 24 33.0**	**+0.2**
NPS	**Neapolis**	**2.96**	**244**	P	**Pn**	**18 23 58.5**	**+0.8**
NPS				S	**Sn**	**18 24 33.0**	**+0.2**
NPS	**Neapolis**	**2.96**	**244**	P	**Pn**	**18 23 57.9**	**+0.3**
NPS				S	**Sn**	**18 24 32.2**	**-0.7**
NPS				AML	AML	18 24 40.4	
	comp=N,1898μm,0.7s						
NPS				AML	AML	18 24 41.0	
	comp=E,2232μm,0.6s						
KONT	**Konya--Tatoy**	**3.10**	**63**	*e*PN	**Pn**	**18 24 01.3**	**+1.6**
KONT	**Konya--Tatoy**	**3.10**	**63**	*e*Pn	**Pn**	**18 24 01.3**	**+1.6**
LAST	**Lasithi**	**3.10**	**244**	P	**Pn**	**18 24 00.8**	**+1.1**
LAST				S	**Sn**	**18 24 37.1**	**+0.6**
LAST	**Lasithi**	**3.10**	**244**	P	**Pn**	**18 24 00.8**	**+1.1**
LAST				S	**Sn**	**18 24 37.1**	**+0.6**
LAST	**Lasithi**	**3.10**	**244**	P	**Pn**	**18 24 00.8**	**+1.1**
LAST				S	**Sn**	**18 24 37.1**	**+0.6**
LAST	**Lasithi**	**3.10**	**244**	P	**Pn**	**18 24 00.3**	**+0.6**
BALB	**Balikesir**	**3.15**	**346**	*e*PN	**Pn**	**18 24 01.6**	**+1.4**
BALB	**Balikesir**	**3.15**	**346**	*e*Pn	**Pn**	**18 24 01.6**	**+1.4**
AKMC	**Akamas**	**3.21**	**118**	P	**Pn**	**18 24 01.2**	**0.0**
	baz=294						
AKMC	**Akamas**	**3.21**	**118**	P	**Pn**	**18 24 01.2**	**0.0**
LADK	**Ladik-KONYA**	**3.22**	**59**	*e*PN	**Pn**	**18 24 03.0**	**+1.7**
LADK	**Ladik-KONYA**	**3.22**	**59**	*e*Pn	**Pn**	**18 24 03.0**	**+1.7**
KDHN	**Kadinhani**	**3.22**	**52**	P	**Pn**	**18 24 03.2**	**+1.8**
KDHN	**Kadinhani**	**3.22**	**52**	⇑*i*P	**Pn**	**18 24 03.2**	**+1.8**
ERMK	**Ermenek**	**3.25**	**88**	P	**Pn**	**18 24 05.2**	**+3.3**
ERMK	**Ermenek**	**3.25**	**88**	*i* P	**Pn**	**18 24 05.2**	**+3.3**
ERMK				*i* S	**Sb**	**18 24 46.4**	**-2.0**
BALY	**Balya**	**3.30**	**343**	P	**Pn**	**18 24 03.1**	**+0.7**
BALY				S	**Sn**	**18 24 40.5**	**-0.8**
BALY	**Balya**	**3.30**	**343**	⇓*i*P	**Pn**	**18 24 03.1**	**+0.7**
BALY				*i* S	**Sn**	**18 24 40.5**	**-0.8**
PPCY	**Paphos**	**3.30**	**120**	P	**Pn**	**18 24 02.9**	**+0.6**
	baz=296						
PPCY	**Paphos**	**3.30**	**120**	P	**Pn**	**18 24 02.9**	**+0.6**
KIZT	**Kizilcal**	**3.31**	**45**	*e*PN	**Pn**	**18 24 04.8**	**+2.2**
KIZT	**Kizilcal**	**3.31**	**45**	*e*Pn	**Pn**	**18 24 04.8**	**+2.2**
ESKT	**Eskisehir**	**3.32**	**28**	*e*PN	**Pn**	**18 24 04.5**	**+1.7**
ESKT	**Eskisehir**	**3.32**	**28**	*e*Pn	**Pn**	**18 24 04.5**	**+1.7**
ESKT	**Eskisehir**	**3.32**	**28**	*i* P	**

YESY	Yesilyurt	4.07	72	ePn		Pn	18 24 15.4	+2.3
IMMV	Iera Moni Meta	4.12	256	P		Pn	18 24 15.0	+1.4
IMMV				S		Sn	18 25 02.4	+0.9
IMMV	Iera Moni Meta	4.12	256	P		Pn	18 24 15.0	+1.4
IMMV				S		Sn	18 25 02.4	+0.9
IMMV	Iera Moni Meta	4.12	256	P		Pn	18 24 15.3	+1.7
IMMV				S		Sn	18 25 02.3	+0.9
IMMV				AML	AML		18 25 11.1	
	comp=N,743µm,0.3s							
IMMV				AML	AML		18 25 14.2	
	comp=E,823µm,0.9s							
LPK	Lapseki	4.13	337	ePN		Pn	18 24 14.9	+1.2
LPK	Lapseki	4.13	337	ePn		Pn	18 24 14.9	+1.2
GELI	Tayfur-Gelibol	4.24	334	ePN		Pn	18 24 16.1	+0.8
GELI	Tayfur-Gelibol	4.24	334	ePn		Pn	18 24 16.1	+0.8
VLY	Voula,Athens	4.24	289	P		Pn	18 24 16.4	+1.1
VLY				S		Sn	18 25 05.8	+1.2
VLY	Voula,Athens	4.24	289	P		Pn	18 24 16.4	+1.1
VLY				S		Sn	18 25 05.8	+1.2
VLY	Voula,Athens	4.24	289	P		Pn	18 24 16.4	+1.1
VLY	Voula,Athens	4.24	289	P		Pn	18 24 16.4	+1.1
VLY				S		Sn	18 25 05.5	+0.9
VLY				AML	AML		18 25 06.4	
	comp=N,540µm,0.6s							
VLY				AML	AML		18 25 08.6	
	comp=E,483µm,0.5s							
PTL	Penteli	4.25	292	P		Pn	18 24 16.8	+1.4
PTL				S		Sn	18 25 03.3	-1.4
PTL	Penteli	4.25	292	P		Pn	18 24 16.8	+1.4
PTL				S		Sn	18 25 03.3	-1.4
PTL				AML	AML		18 25 06.4	
	comp=N,535µm,0.5s							
PTL				AML	AML		18 25 06.4	
	comp=E,602µm,0.7s							
KIZK	Mersin	4.25	90	P		Pn	18 24 18.8	+3.4
KIZK	Mersin	4.25	90	*i* P		Pn	18 24 18.8	+3.4
GVD	Gavdhos	4.26	247	P		Pn	18 24 17.6	+2.0
GVD				S		Sn	18 25 07.0	+1.9
GVD	Gavdhos	4.26	247	P		Pn	18 24 17.6	+2.0
GVD				S		Sn	18 25 07.0	+1.9
GVD	Gavdhos	4.26	247	P		Pn	18 24 17.6	+2.0
GVD	Gavdhos	4.26	247	P		Pn	18 24 18.1	+2.5
ATHU	Athens Univers	4.28	290	P		Pn	18 24 17.2	+1.3
ATHU	Athens Univers	4.28	290	P		Pn	18 24 17.2	+1.3
MDUB	Mudurnu	4.29	25	ePN		Pn	18 24 17.2	+1.2
MDUB	Mudurnu	4.29	25	ePn		Pn	18 24 17.2	+1.2
KERG	Konya-Eregli	4.29	77	P		Pn	18 24 18.5	+2.4
KERG	Konya-Eregli	4.29	77	*i* P		Pn	18 24 18.5	+2.4
GADA	Gvkgeada	4.29	328	ePN		Pn	18 24 16.9	+1.0
GADA	Gvkgeada	4.29	328	P		Pn	18 24 16.6	+0.7
GADA				S		Sn	18 25 05.1	-0.5
GADA	Gvkgeada	4.29	328	P		Pn	18 24 16.6	+0.7
GADA	Gvkgeada	4.29	328	ePn		Pn	18 24 16.9	+1.0
GADA				S		Sn	18 25 05.1	-0.5
GADA	Gvkgeada	4.29	328	P		Pn	18 24 16.6	+0.7
ATH	Athens Observa	4.33	290	P		Pn	18 24 18.5	+1.9
AFSR	Af˙ar-Bala (A	4.38	48	ePN		Pn	18 24 19.9	+2.7
AFSR	Af˙ar-Bala (A	4.38	48	ePn		Pn	18 24 20.0	+2.7
LIA	Limnos Island	4.40	320	P		Pn	18 24 18.4	+1.0
LIA	Limnos Island	4.40	320	P		Pn	18 24 18.4	+1.0
LIA	Limnos Island	4.40	320	P		Pn	18 24 18.4	+1.0
SERE	Sereflikochisa	4.40	56	ePN		Pn	18 24 19.8	+2.1
SERE	Sereflikochisa	4.40	56	ePn		Pn	18 24 19.8	+2.1
ISK	Istanbul-Kandi	4.47	2	ePN		Pn	18 24 20.4	+1.9
ISK	Istanbul-Kandi	4.47	2	ePn		Pn	18 24 20.4	+1.9
LOD	Lodumlu	4.50	42	ePN		Pn	18 24 20.8	+1.8
LOD	Lodumlu	4.50	42	ePn		Pn	18 24 20.8	+1.8
MERS	Mersin	4.55	85	ePN		Pn	18 24 22.6	+2.9
MERS	Mersin	4.55	85	ePn		Pn	18 24 22.6	+2.9
ANKY	Antikythira Is	4.56	263	P		Pn	18 24 21.3	+1.6
ANKY	Antikythira Is	4.56	263	P		Pn	18 24 21.3	+1.6
ANKY				S		Sn	18 25 15.2	+2.9
ANKY	Antikythira Is	4.56	263	P		Pn	18 24 21.3	+1.6
ANKY	Antikythira Is	4.56	263	P		Pn	18 24 21.6	+1.9
ANKY				S		Sn	18 25 15.2	+2.9
KESN	Edirne-Kesan	4.56	339	P		Pn	18 24 20.7	+0.6
KESN				S		Sn	18 25 11.1	-1.9
KESN	Edirne-Kesan	4.56	339	*i* P		Pn	18 24 20.7	+0.6
KESN				*i* S		Sn	18 25 11.1	-1.9
DID	Didima	4.60	283	P		Pn	18 24 21.8	+1.5
DID	Didima	4.60	283	P		Pn	18 24 21.1	+0.8
DID	Didima	4.60	283	P		Pn	18 24 21.8	+1.5
DID	Didima	4.60	283	P		Pn	18 24 21.1	+0.8
KAND	Kocaeli-Kandir	4.62	13	P		Pn	18 24 21.6	+1.1
KAND	Kocaeli-Kandir	4.62	13	*i* P		Pn	18 24 21.6	+1.1
SMTH	Samothraki Isl	4.68	327	P		Pn	18 24 22.1	+0.8
SMTH	Samothraki Isl	4.68	327	P		Pn	18 24 22.1	+0.8
SMTH				S		Sn	18 25 12.7	-2.6
SMTH	Samothraki Isl	4.68	327	P		Pn	18 24 22.1	+0.8
SMTH	Samothraki Isl	4.68	327	P		Pn	18 24 21.9	+0.6
SMTH				S		Sn	18 25 12.7	-2.6
SMTH				AML	AML		18 25 18.0	
	comp=E,190µm,0.6s							
SMTH				AML	AML		18 25 19.0	
	comp=N,260µm,0.6s							
VILL	Villia	4.70	291	P		Pn	18 24 22.9	+1.3
VILL				S		Sn	18 25 17.6	+1.8
VILL	Villia	4.70	291	P		Pn	18 24 22.9	+1.3
VILL				S		Sn	18 25 17.6	+1.8
KYTH	Kithira	4.71	268	P		Pn	18 24 23.8	+2.1
KYTH	Kithira	4.71	268	P		Pn	18 24 23.3	+1.6
KYTH	Kithira	4.71	268	P		Pn	18 24 23.8	+2.1
KYTH	Kithira	4.71	268	P		Pn	18 24 23.3	+1.5
VIL2	Platees	4.75	292	P		Pn	18 24 23.1	+0.8
VIL2				S		Sn	18 25 14.2	-2.8
VIL2				AML	AML		18 25 20.2	
	comp=E,446µm,0.5s							
VIL2				AML	AML		18 25 22.8	
	comp=N,757µm,0.7s							
VLI	Veliai	4.77	273	P		Pn	18 24 24.6	+2.0
VLI	Veliai	4.77	273	P		Pn	18 24 24.6	+2.0
VLI	Veliai	4.77	273	P		Pn	18 24 24.6	+2.0
VLI	Veliai	4.77	273	P		Pn	18 24 25.0	+2.4
ALN	Alexandroupoli	4.84	334	P		Pn	18 24 24.2	+0.7
ALN	Alexandroupoli	4.84	334	P		Pn	18 24 24.2	+0.7
ALN				S		Sn	18 25 20.1	+1.0
ALN	Alexandroupoli	4.84	334	P		Pn	18 24 24.2	+0.7
ALN	Alexandroupoli	4.84	334	P		Pn	18 24 23.7	+0.3
ALN				S		Sn	18 25 20.1	+1.0
BRTR	Keskin Array B	4.89	49	Pn		Pn	18 24 26.1	+1.6
	comp=N,3.6nm,0.3s,baz=230,slow=15,SNR=101							
BRTR				Sn		Sn	18 25 22.3	+1.5
	baz=222,slow=24,SNR=6.3							
BCAM	Yenicaga	4.91	30	P		Pn	18 24 26.2	+1.6
BCAM	Yenicaga	4.91	30	*i* P		Pn	18 24 26.2	+1.6
LTK	Loutraki	4.92	289	P		Pn	18 24 26.1	+1.4
LTK				S		Sn	18 25 21.5	+0.2
LTK	Loutraki	4.92	289	P		Pn	18 24 26.1	+1.4
LTK				S		Sn	18 25 22.8	+1.6
LTK	Loutraki	4.92	289	P		Pn	18 24 26.1	+1.4
LTK				S		Sn	18 25 21.5	+0.2
LTK	Loutraki	4.92	289	P		Pn	18 24 26.1	+1.4
LTK				S		Sn	18 25 22.8	+1.6
LTK				AML	AML		18 25 23.3	
	comp=N,351µm,0.5s							
LTK				AML	AML		18 25 26.1	
	comp=E,492µm,0.4s							
SKIA	Skiathos	4.99	303	P		Pn	18 24 27.1	+1.5
SKIA	Skiathos	4.99	303	P		Pn	18 24 27.1	+1.5
SKIA	Skiathos	4.99	303	P		Pn	18 24 27.4	+1.8
SMIA	Simia	5.04	299	P		Pn	18 24 28.1	+1.8
SMIA	Simia	5.04	299	P		Pn	18 24 28.1	+1.8
ATAL	Atalanti	5.09	296	P		Pn	18 24 28.6	+1.5
ATAL	Atalanti	5.09	296	P		Pn	18 24 28.5	+1.5
ATAL	Atalanti	5.09	296	P		Pn	18 24 28.6	+1.5
ATAL	Atalanti	5.09	296	P		Pn	18 24 28.6	+1.5
THAL	Thalero	5.15	288	P		Pn	18 24 29.7	+1.8
THAL	Thalero	5.15	288	P		Pn	18 24 29.7	+1.8
THAL	Thalero	5.15	288	P		Pn	18 24 30.0	+2.2
NEO	Neokhori	5.22	303	P		Pn	18 24 30.2	+1.4
NEO	Neokhori	5.22	303	P		Pn	18 24 30.2	+1.4
NEO	Neokhori	5.22	303	P		Pn	18 24 30.2	+1.4
NEO	Neokhori	5.22	303	P		Pn	18 24 30.7	+1.8
VLX	Vlachokerasia	5.25	280	P		Pn	18 24 32.1	+2.8
VLX	Vlachokerasia	5.25	280	P		Pn	18 24 32.1	+2.8
VLX	Vlachokerasia	5.25	280	P		Pn	18 24 32.1	+2.8
DSF	Desfina	5.36	292	P		Pn	18 24 32.4	+1.6
DSF				S		Sn	18 25 33.4	+1.2
DSF	Desfina	5.36	292	P		Pn	18 24 32.4	+1.6
DSF				S		Sn	18 25 34.0	+1.8
DSF	Desfina	5.36	292	P		Pn	18 24 32.4	+1.6
DSF				S		Sn	18 25 33.4	+1.2
DSF	Desfina	5.36	292	P		Pn	18 24 32.8	+2.0
DSF				S		Sn	18 25 34.0	+1.8
DSF				AML	AML		18 25 34.8	
	comp=N,255µm,0.4s							
DSF				AML	AML		18 25 34.9	
	comp=E,172µm,0.5s							
KLV	Kalavryta, Ach	5.55	287	P		Pn	18 24 35.1	+1.7
KLV				S		Sn	18 25 38.6	+1.7
KLV	Kalavryta, Ach	5.55	287	P		Pn	18 24 35.1	+1.7
KLV				S		Sn	18 25 38.6	+1.7
KLV	Kalavryta, Ach	5.55	287	P		Pn	18 24 35.1	+1.7
KLV	Kalavryta, Ach	5.55	287	P		Pn	18 24 35.1	+1.7
KLV				S		Sn	18 25 35.8	-1.0
KLV				AML	AML		18 25 39.2	
	comp=N,126µm,0.8s							
KLV				AML	AML		18 25 40.0	
	comp=E,95µm,0.5s							
KALE	Kalithea	5.65	291	P		Pn	18 24 36.4	+1.7
KALE				S		Sn	18 25 41.4	+2.2
KALE	Kalithea	5.65	291	P		Pn	18 24 36.4	+1.7
KALE				S		Sn	18 25 41.4	+2.2
KALE	Kalithea	5.65	291	P		Pn	18 24 36.4	+1.7
KALE				S		Sn	18 25 41.4	+2.2
KALE	Kalithea	5.65	291	P		Pn	18 24 36.6	+1.9
SERG	Sergoula	5.71	291	P		Pn	18 24 37.5	+1.9
SERG				S		Sn	18 25 41.7	+0.8
SERG	Sergoula	5.71	291	P		Pn	18 24 37.5	+1.9
SERG				S		Sn	18 25 41.7	+0.8
AGG	Agios Georgios	5.72	297	P		Pn	18 24 37.7	+2.0
AGG	Agios Georgios	5.72	297	P		Pn	18 24 37.7	+2.0
AGG	Agios Georgios	5.72	297	P		Pn	18 24 37.7	+2.0
AGG	Agios Georgios	5.72	297	P		Pn	18 24 37.7	+2.0
LAKA	Lakka	5.73	289	P		Pn	18 24 37.7	+1.9
LAKA	Lakka	5.73	289	P		Pn	18 24 37.7	+1.9
LAKA	Lakka	5.73	289	P		Pn	18 24 37.7	+1.9
LAKA	Lakka	5.73	289	P		Pn	18 24 37.8	+2.1
PYL	PYLOS	5.73	275	P		Pn	18 24 39.7	+3.9
PYL	PYLOS	5.73	275	P		Pn	18 24 39.7	+3.9
ARNB	Al Arnab	5.79	95	eP		Pn	18 24 37.3	+0.6
ARNB				eS		Sn	18 25 40.2	-2.5
ARNB				AML	AML		18 25 50.4	
	comp=E,74nm,0.4s							
ARNB				AML	AML		18 25 51.2	
	comp=N,35nm,1.0s							
AMT	Artemida-Makis	5.80	281	P		Pn	18 24 41.2	+4.4
ANX	Ano Chora	5.87	292	P		Pn	18 24 40.0	+2.2
ANX				S		Sn	18 25 45.7	+0.9
ANX	Ano Chora	5.87	292	P		Pn	18 24 40.0	+2.2
ANX				S		Sn	18 25 45.7	+0.9
DRO	Drossia	5.87	286	P		Pn	18 24 41.3	+3.6
DRO	Drossia	5.87	286	P		Pn	18 24 38.4	+0.7
DRO	Drossia	5.87	286	P		Pn	18 24 38.4	+0.7
YAYL	Yayladag	5.87	93	S		Sn	18 25 43.3	-1.6
YAYL	Yayladag	5.87	93	*i* S		Sn	18 25 43.3	-1.6
SLUM	Salum	5.92	212	P		Pn	18 24 37.5	-1.0
SLUM	baz=214							
				S		Sn	18 25 38.1	-7.8
	baz=214							
SLUM	Salum	5.92	212	P		Pn	18 24 37.4	-1.0
SLUM				S		Sn	18 25 38.1	-7.8
HORT	Hortiatis	6.04	313	P		Pn	18 24 41.7	+1.6
HORT	Hortiatis	6.04	313	P		Pn	18 24 41.7	+1.6
HORT	Hortiatis	6.04	313	P		Pn	18 24 41.7	+1.6
EVR	Evrytania	6.06	295	P		Pn	18 24 43.0	+2.6
EVR	Evrytania	6.06	295	P		Pn	18 24 43.0	+2.6
EVR	Evrytania	6.06	295	P		Pn	18 24 43.0	+2.6
EVR	Evrytania	6.06	295	P		Pn	18 24 44.1	+3.8
LIT	Litokhoron	6.12	307	P		Pn	18 24 43.0	+1.9
LIT	Litokhoron	6.12	307	P		Pn	18 24 43.0	+1.9
LIT	Litokhoron	6.12	307	P		Pn	18 24 43.0	+1.9
NVR	Nevrokopi	6.15	322	P		Pn	18 24 42.7	+1.1
NVR	Nevrokopi	6.15	322	P		Pn	18 24 42.7	+1.1
NVR	Nevrokopi	6.15	322	P		Pn	18 24 42.7	+1.1
BTCH	Batrach	6.15	93	eP		Pn	18 24 42.5	+0.9
BTCH				eS		Sn	18 25 49.3	-2.5
BTCH				AML	AML		18 25 58.1	
	comp=N,114nm,0.5s							
BTCH				AML	AML		18 25 59.6	
	comp=E,112nm,0.5s							
THL	Klokotos Trika	6.17	301	P		Pn	18 24 44.4	+2.6
THL	Klokotos Trika	6.17	301	P		Pn	18 24 44.4	+2.6
WRDH	Warideh	6.21	98	eP		Pn	18 24 42.5	+0.1
WRDH				eS		Sn	18 25 49.1	-4.0
WRDH				AML	AML		18 26 02.8	
	comp=E,36nm,0.7s							
WRDH				AML	AML		18 26 11.3	
	comp=N,20nm,0.5s							
HWQ	Hawqa	6.22	110	eP		Pn	18 24 42.7	+0.1
HWQ	Hawqa	6.22	110	eP		Pn	18 24 42.7	+0.1
BIDA	Albida	6.26	102	eP		Pn	18 24 42.7	-0.4
BIDA				eS		Sn	18 25 50.5	-3.9
BIDA				AML	AML		18 25 54.9	
	comp=E,168nm,0.4s							
BIDA				AML	AML		18 25 58.1	
	comp=N,267nm,0.6s							
DRWC	Darouich	6.27	87	eP		Pn	18 24 43.9	+0.6
DRWC				eS		Sn	18 25 52.3	-2.4
DRWC				AML	AML		18 26 00.0	
	comp=N,47nm,0.5s							
DRWC				AML	AML		18 26 04.6	
	comp=E,31nm,0.5s							
MMB	Musomiste	6.40	323	P		Pn	18 24 45.9	+0.9
PDO	Prodromos	6.42	291	P		Pn	18 24 49.1	+3.8
MMAI	Mount Meron Ar	6.45	122	Pn		Pn	18 24 45.2	-0.6
	comp=E,26nm,0.3s,baz=304,slow=12,SNR=142							
MMAI				Sn		Sn	18 25 56.5	-2.5
	comp=E,15nm,0.3s,baz=314,slow=30,SNR=6.9							
HAWK	Haweek	6.48	106	eP		Pn	18 24 45.6	-0.6
HAWK				eS		Sn	18 25 56.4	-3.4
HAWK				AML	AML		18 26 01.0	
	comp=N,37nm,0.9s							
HAWK				AML	AML		18 26 01.1	
	comp=E,93nm,0.5s							
RCY	Rachaya	6.49	116	eP		Pn	18 24 45.6	-0.8
RCY	Rachaya	6.49	116	eP		Pn	18 24 45.6	-0.8
GRG	Griva	6.67	313	P		Pn	18 24 51.6	+2.8
GRG	Griva	6.67	313	P		Pn	18 24 51.6	+2.8
GRG	Griva	6.67	313	P		Pn	18 24 51.6	+2.8
RSH		6.92	143	P		Pn	18 24 50.7	-1.4
	baz=141							
RSH		6.92	143	P		Pn	18 24 50.7	-1.4
KKB	Krupnik	6.92	321	P		Pn	18 24 54.7	+2.5
TOTH	TOTAH	6.99	115	eP		Pn	18 24 53.5	+0.4
TOTH				eS		Sn	18 26 07.8	-4.6
TOTH				AML	AML		18 26 14.5	
	comp=E,46nm,0.6s							
TOTH				AML	AML		18 26 15.1	
	comp=N,75nm,0.5s							
TCHB	Talchebab	7.04	122	eP		Pn	18 24 54.5	+0.8
TCHB				eS		Sn	18 26 09.7	-3.7
TCHB				AML	AML		18 26 16.8	
	comp=N,30nm,0.4s							
TCHB				AML	AML		18 26 19.1	
	comp=E,76nm,0.6s							
SZH	Strazhica	7.04	342	P		Pn	18 24 54.6	+0.8
KOT	Kottamia	7.09	159	P		Pn	18 24 53.4	-1.2
	baz=158							
KOT				S		Sn	18 26 06.3	-8.5
	baz=158							
KOT	Kottamia	7.09	159	P		Pn	18 24 53.3	-1.2
KOT				S		Sn	18 26 06.3	-8.5
HHAG	Hagoal	7.15	157	P		Pn	18 24 53.8	-1.5
	baz=156							
HHAG	Hagoal	7.15	157	P		Pn	18 24 53.8	-1.5
HSAF	As Saff	7.30	161	P		Pn	18 24 55.6	-1.9
	baz=160							
HSAF	As Saff	7.30	161	P		Pn	18 24 55.6	-1.9
GLL	Jalalah	7.38	160	P		Pn	18 24 57.6	-1.0
	baz=159							
GLL	Jalalah	7.38	160	P		Pn	18 24 57.6	-1.0
SUZ	Suez	7.50	153	P		Pn	18 24 59.2	-1.0
	baz=151							
SUZ	Suez	7.50	153	P		Pn	18 24 59.2	-1.0
MSAB	Monastry St. A	7.54	354	‖ *i* P		Pn	18 25 01.8	+1.2
MSAB	Monastry St. A	7.54	354	‖ *i* P		Pn	18 25 01.8	+1.2
SALA	Sala	7.54	119	eP		Pn	18 25 01.9	+1.0
SALA				eS		Sn	18 26 21.4	-4.8
SALA				AML	AML		18 26 28.5	
	comp=N,19nm,0.5s							
SALA				AML	AML		18 26 34.2	
	comp=E,2.6nm,0.4s							
SWA2		7.87	202	P		Pn	18 25 04.1	-1.0
	baz=203							
SWA2				AMP			18 26 00.0	
	comp=N,70µm,0.4s,logA/T=5.2,baz=203							
SWA2		7.87	202	P		Pn	18 25 04.1	-1.0
ZALF	Zalf	7.87	115	eP		Pn	18 25 06.4	+1.2
ZALF				eS		Sn	18 26 29.5	-4.4
ZALF				AML	AML		18 26 48.2	
	comp=N,12nm,0.5s							
ZALF				AML	AML		18 26 49.0	
	comp=E,8.3nm,0.6s							
TIRR	Tirgusor	7.87	358	‖ *i* P		Pn	18 25 07.3	+2.2
TIRR	Tirgusor	7.87	358	ePn		Pn	18 25 05.8	+0.7
	comp=E,19nm,0.8s							
TIRR	Tirgusor	7.87	358	‖ *i* P		Pn	18 25 07.3	+2.2
TIRR	Tirgusor	7.87	358	ePn		Pn	18 25 05.8	+0.7
	comp=E,19nm,0.8s							
ZAF	Zafarana	7.91	156	P		Pn	18 25 04.3	-1.5
	baz=155							
ZAF	Zafarana	7.91	156	P		Pn	18 25 04.3	-1.5
ASF	Jabal al Asfar	7.96	121	Pn		Pn	18 25 06.9	+0.4
	comp=E,1.5nm,0.3s,baz=272,slow=6.5,SNR=9.0							
ASF				Sn		Sn	18 26 37.0	+0.6
	comp=E,0.6nm,0.3s,baz=6.7,slow=17,SNR=2.1							
NBNS	Bani Suef	8.20	165	P		Pn	18 25 08.2	-1.6
	baz=164							
NBNS	Bani Suef	8.20	165	P		Pn	18 25 08.2	-1.6
EIL	Elat	8.58	142	Pn		Pn	18 25 14.4	-0.4
	comp=E,1.0nm,0.3s,baz=3.2,slow=6.2,SNR=14							
EIL				Sn		Sn	18 26 46.5	-4.8
	comp=E,1.6nm,0.3s,baz=103,slow=19,SNR=3.6							
CFR	Carcaliu	8.60	357	‖ *i* P		Pn	18 25 16.2	+1.1
CFR	Carcaliu	8.60	357	‖ *i* P		Pn	18 25 16.2	+1.1
TR2	Tor 2	9.15	152	P		Pn	18 25 21.1	-1.6
	baz=151							
TR2	Tor 2	9.15	152	P		Pn	18 25 21.1	-1.6
MLR	Muntele Rosu	9.16	347	Pn		Pn	18 25 24.2	+1.2
	comp=E,0.1nm,0.3s,baz=208,slow=3.1,SNR=19							
MLR				Sn		Sn	18 27 04.7	-1.2
	comp=E,0.1nm,0.3s,baz=131,slow=19,SNR=1.7							
MLR	Muntele Rosu	9.16	347	‖ *i* P		Pn	18 25 25.1	+2.1
MLR	Muntele Rosu	9.16	347	‖ *i* P		Pn	18 25 25.1	+2.1
PLOR	Plostina	9.40	350	‖ *i* P		Pn	18 25 29.0	+2.8
PLOR	Plostina	9.40	350	‖ *i* P		Pn	18 25 29.0	+2.8
VRI	Vrincioaia	9.41	351	‖ *i* P		Pn	18 25 28.4	+2.1
VRI	Vrincioaia	9.41	351	‖ *i* P		Pn	18 25 28.4	+2.1
HFRF	Wahat Farafira	9.42	183	P		Pn	18 25 25.0	-1.5
	baz=184							
HFRF	Wahat Farafira	9.42	183	P		Pn	18 25 25.0	-1.5
KUBS	Kucevo	9.54	327	ePn		Pn	18 25 27.4	-0.7
GRUS	Gruza	9.59	322	ePn		Pn	18 25 30.9	+2.2
IVAS	Ivanjica	9.66	319	ePn		Pn	18 25 31.8	+2.1
DOPR	Dopca	9.73	345	‖ *i* P		Pn	18 25 32.0	+1.4
DOPR	Dopca	9.73	345	‖ *i* P		Pn	18 25 32.0	+1.4
MDVR	Moldovita	9.82	329	‖ *i* P		Pn	18 25 32.8	+0.9
MDVR	Moldovita	9.82	329	‖ *i* P		Pn	18 25 32.8	+0.9
TIP	Timpagrande	9.92	289	ePn		Pn	18 25 35.4	+2.1
	comp=E,11nm,0.7s							
TIP	Timpagrande	9.92	289	ePn		Pn	18 25 35.4	+2.1
	comp=E,11nm,0.7s							
TESR	Tescani	10.05	351	‖ *i* P		Pn	18 25 36.4	+1.3
TESR	Tescani	10.05	351	‖ *i* P		Pn	18 25 36.4	+1.3
MILM	Milestii Mici	10.32	360	‖ *i* P		Pn	18 25 40.2	+1.5
MILM	Milestii Mici	10.32	360	‖ *i* P		Pn	18 25 40.2	+1.5
CUC	Castrocucco	10.81	292	ePn		Pn	18 25 47.8	+2.3
	comp=E,22nm,1.0s							
CUC	Castrocucco	10.81	292	ePn		Pn	18 25 47.8	+2.3
	comp=E,22nm,1.0s							
BURAR	Bucovina Array	11.35	347	‖ *i* P		Pn	18 25 55.6	+2.8
BURAR	Bucovina Array	11.35	347	‖ *i* P		Pn	18 25 55.6	+2.8
SORM	Soroca	11.55	358	‖ *i* P		Pn	18 25 57.3	+1.9
SORM	Soroca	11.55	358	‖ *i* P		Pn	18 25 57.3	+1.9
GNI	Garni	12.95	69	LR	LR		18 32 25.5	
	comp=E,66nm,20.8s,baz=262,slow=43							
MYKA	Terra Mystica	15.15	316	*i* P		P	18 26 54.8	+5.0
VRAC	Vranov	15.54	329	LR	LR		18 33 16.1	
	comp=E,42nm,18.5s,baz=156,slow=39							
MOA	Molln	15.58	321	*i* P		P	18 26 55.0	+0.5
	comp=E,3.3nm,1.2s							
MOA	Molln	15.58	321	P		P	18 26 55.0	+0.5

δ49.00000°, λ-146.00000°. NP2:φs324.00000°, δ65.00000°, λ-46.00000°.
BJI ***15*** *18:53:42.5, 27.93N×139.89E, h436km, mb4.8/51, mB4.6/31*
MOS ***15*** *18:53:43.1±0.8, 28.13N×139.76E, h421km, mb4.8/67, Error ellipse: s-maj=8.5km s-min=4.2km az=114.1*
ISCJB ***15*** *18:53:44.9±0.2, 28.19N±0.02×139.78E±0.03, h433km±2km, mb4.6/157, Error ellipse: s-maj=3.9km s-min=3.3km az=139.1*
JMA ***15*** *18:53:45.1±0.2, 28.20N×140.05E, h436km±4km, M5.1*
NEIC ***15*** *18:53:45.5±0.3, 28.14N×139.73E, h433km±3km, mb4.6/66, Error ellipse: s-maj=4.3km s-min=3.3km az=145.0*
IDC ***15*** *18:53:46.1±0.7, 28.15N×139.77E, h438km±6km, mb4.2/44, mb1 4.3/51, mb1mx4.2/63, mbtmp5.0/51, Error ellipse: s-maj=9.6km s-min=6.7km az=83.0*
ISC 15 18:53:45.9±0.4, 28.22N±0.04×139.89E±0.05, h438km±4km, n500, σ1s30/570, mb4.7/173, 34C-34D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.33**	**118**	P		**P**	**18 54 45.7**	**-1.6**
CBIJ				S		**S**	**18 55 33.3**	**-3.7**
CBIJ	**Chichi jima**	**2.33**	**118**	P		**P**	**18 54 46.4**	**-0.8**
CBIJ				S		**S**	**18 55 32.6**	**-4.4**
JCJ	**Chichijima**	**2.33**	**118**	P		**P**	**18 54 46.4**	**-0.9**
	276nm,0.3s,baz=327,slow=1.9,SNR=162							
JCJ				S		**S**	**18 55 32.6**	**-4.4**
JHHJ	**Haha-jima-NKT**	**2.58**	**127**	P		**P**	**18 54 47.6**	**-1.4**
JHHJ				S		**S**	**18 55 37.5**	**-2.6**
JHCJ	**Hachijojimakas**	**4.84**	**359**	P		**P**	**18 55 08.3**	**+0.4**
JHCJ				S		**S**	**18 56 11.1**	**-3.8**
JHJ2	**Mitsune**	**4.88**	**359**	P		**P**	**18 55 08.4**	**+0.2**
JHJ2				S		**S**	**18 56 12.3**	**-3.2**
JHJ2	**Mitsune**	**4.88**	**359**	*e*Pn		**P**	**18 55 07.4**	**-0.8**
JHJ	**Hachijo jima 2**	**4.88**	**359**	P		**P**	**18 55 08.8**	**+0.5**
	128nm,0.3s,baz=159,slow=5.0,SNR=33							
JHJ				S		**S**	**18 56 11.4**	**-4.3**
	88nm,0.3s,baz=248,slow=20,SNR=13							
JWZ	**Kozaga**	**6.39**	**327**	P		**P**	**18 55 25.1**	**+1.4**
JWZ				*e*S		**S**	**18 56 43.6**	**-0.2**
BSO1	**Boso 1**	**6.48**	**8**	P		**P**	**18 55 24.9**	**+0.9**
BSO1				*e*S		**S**	**18 56 43.6**	**-0.9**
JIM2	**Oshima 3**	**6.49**	**357**	P		**P**	**18 55 24.7**	**0.0**
JIM2				S		**S**	**18 56 42.2**	**-3.5**
JIZS	**Izushimoda**	**6.53**	**353**	P		**P**	**18 55 25.1**	**-0.2**
JIE	**Ise**	**6.72**	**337**	P		**P**	**18 55 29.2**	**+1.9**
JIE				*e*S		**S**	**18 56 50.5**	**+0.3**
JKN2	**Miekihoku**	**6.75**	**334**	P		**P**	**18 55 28.9**	**+1.3**
JAA	**Atsumi**	**6.81**	**341**	S		**S**	**18 56 50.9**	**-0.9**
AJI	**Ajiro2**	**6.84**	**355**	P		**P**	**18 55 28.5**	**0.0**
HMMJ	**Hamamatsu 2**	**6.87**	**345**	P		**P**	**18 55 29.6**	**+0.8**
JOD2	**Odawara 2**	**7.05**	**355**	P		**P**	**18 55 30.7**	**-0.1**
JOD2				*e*S		**S**	**18 56 55.3**	**-1.4**
TSUJ	**Tsu 2**	**7.11**	**336**	P		**P**	**18 55 33.5**	**+2.0**
JAI	**Aioi**	**7.25**	**321**	P		**P**	**18 55 35.1**	**+2.1**
JNY	**Yasuok**	**7.32**	**347**	P		**P**	**18 55 34.2**	**+0.4**
JAO	**Obara**	**7.37**	**343**	P		**P**	**18 55 35.2**	**+0.9**
JMN	**Monobe**	**7.53**	**318**	P		**P**	**18 55 38.3**	**+2.3**
JTO	**Tosashimizu**	**7.66**	**309**	P		**P**	**18 55 39.5**	**+2.1**
JGF	**Kuroka**	**7.67**	**344**	P		**P**	**18 55 37.7**	**+0.2**
JRY	**Ryogami san**	**7.82**	**354**	P		**P**	**18 55 39.1**	**0.0**
JRY				S		**S**	**18 57 08.8**	**-3.1**
JGN	**Niukaw**	**8.27**	**345**	P		**P**	**18 55 44.3**	**+0.3**
MJAR	**Matsushiro Arr**	**8.42**	**351**	P		**P**	**18 55 45.8**	**+0.3**
	4.2nm,0.3s,baz=165,slow=8.6,SNR=23							
MJAR				S		**S**	**18 57 20.0**	**-4.0**
	0.6nm,0.3s,baz=173,slow=9.1,SNR=3.4							
MAJO	**Matsushiro**	**8.42**	**351**	*e*P		P	18 55 36.6	-9.0
MAJO				pmax		pmax		
	comp=Z,55nm,0.8s							
MAJO	**Matsushiro**	**8.42**	**351**	*e*Pn		P	18 55 36.5	-9.0
	comp=Z,55nm,0.8s							
MAT	**Matsushiro**	**8.42**	**351**	P		**P**	**18 55 45.1**	**-0.5**
MAT				*e*S		**S**	**18 57 18.7**	**-5.3**
JHS	**Saijyo**	**8.88**	**321**	P		**P**	**18 55 52.8**	**+2.1**
JHS				*e*S		**S**	**18 57 34.8**	**+1.4**
JJN	**Nakama**	**8.97**	**351**	P		**P**	**18 55 52.2**	**+0.6**
JAM	**Amami Oshima**	**9.06**	**274**	P		**P**	**18 55 54.4**	**+1.7**
JJH	**Hakui**	**9.06**	**344**	P		**P**	**18 55 53.5**	**+0.9**
JNU	**Nakatsue**	**9.16**	**304**	P		**P**	**18 55 54.3**	**+0.5**
	comp=Z,4.5nm,0.3s,baz=351,slow=4.1,SNR=32							
JNU				S		**S**	**18 57 40.5**	**+1.3**
	baz=207,slow=13,SNR=3.1							
JNU	**Nakatsue**	**9.16**	**304**	P		**P**	**18 55 56.1**	**+2.3**
JNU	**Nakatsue**	**9.16**	**304**	*e*Pn		**P**	**18 55 52.4**	**-1.4**
	comp=Z,49nm,1.3s							
JNU				S		**S**	**18 57 40.5**	**+1.3**
JAMN	**Amaminishikomi**	**9.45**	**273**	P		**P**	**18 55 58.6**	**+1.7**
JSJ	**Shimokoshiki**	**9.47**	**294**	P		**P**	**18 55 58.5**	**+1.4**
JFA	**Akaike**	**9.53**	**307**	P		**P**	**18 55 59.7**	**+2.0**
JNS	**Sasagawa**	**9.58**	**357**	P		**P**	**18 55 59.8**	**+1.6**
JOW	**Kunigami**	**10.40**	**265**	P		**P**	**18 56 09.0**	**+1.6**
JOW	**Kunigami**	**10.40**	**265**	*e*Pn		**P**	**18 56 08.7**	**+1.3**
	comp=Z,38nm,0.7s							
JMK	**Ichinoseki**	**10.76**	**6**	P		**P**	**18 56 12.6**	**+1.5**
JMK				S		**S**	**18 58 11.1**	**+0.1**
JTU	**Tsushima**	**10.94**	**308**	P		**P**	**18 56 15.3**	**+2.1**
JTU				*e*S		**S**	**18 58 17.1**	**+2.3**
JOM	**Ohasama**	**11.28**	**6**	P		**P**	**18 56 18.1**	**+1.3**
MIYJ	**Miyakonagasawa**	**11.44**	**8**	P		**P**	**18 56 19.9**	**+1.4**
JTH	**Tanohata**	**11.80**	**7**	P		**P**	**18 56 23.9**	**+1.4**
JKE	**Kume jima 2**	**11.81**	**264**	P		**P**	**18 56 23.7**	**+0.9**
JKE				S		**S**	**18 58 34.3**	**+2.0**
JAH	**Hinai**	**11.95**	**3**	P		**P**	**18 56 26.1**	**+2.0**
JOT	**Ohata**	**13.16**	**4**	P		**P**	**18 56 38.8**	**+1.5**
TJN	**Taejon**	**13.34**	**311⇑**	*e*P		**P**	**18 56 39.2**	**-0.1**
KSRS	**Korea Array**	**13.62**	**316**	P		**P**	**18 56 42.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=133,slow=10,SNR=40							
KSAR	**Wonju Array Be**	**13.64**	**315**	P		**P**	**18 56 42.3**	**-0.2**
KSAR	**Wonju Array Be**	**13.64**	**315**	P		**P**	**18 56 42.2**	**-0.2**
JKB	**Kayabe**	**13.67**	**4**	P		**P**	**18 56 44.0**	**+1.3**
JOSM	**Okushiri--Mats**	**13.83**	**359**	P		**P**	**18 56 45.9**	**+1.4**
JYM2	**Yakumo 2**	**13.87**	**1**	P		**P**	**18 56 46.4**	**+1.5**
ERM	**Erimo**	**14.02**	**10**	*d* *i*P		**P**	**18 56 48.5**	**+2.0**
ERM				pmax		pmax		
	comp=Z,304nm,1.0s							
ERM	**Erimo**	**14.02**	**10**	*e*P		**P**	**18 56 48.5**	**+2.0**
	comp=Z,279nm,0.9s							
JNBK	**Urakawa-nobuka**	**14.22**	**9**	P		**P**	**18 56 50.8**	**+2.1**
JNB	**Noboribetsu**	**14.25**	**3**	P		**P**	**18 56 50.1**	**+1.1**
JCH	**Churui**	**14.63**	**10**	P		**P**	**18 56 55.1**	**+2.0**
JBT2	**Biratori 2**	**14.66**	**7**	P		**P**	**18 56 55.3**	**+1.9**
GUMO	**Guam**	**15.28**	**161**	P		**P**	**18 57 00.5**	**+0.1**
	comp=Z,9.2nm,0.3s,baz=307,slow=8.7,SNR=3.9							
GUMO	**Guam**	**15.28**	**161**	P		P	18 57 00.5	+0.1
GUMO				*e*P		P	18 57 02.3	+1.9
JAR	**Ashorobuto**	**15.37**	**11**	P		**P**	**18 57 02.6**	**+1.6**
JHR	**Hokuryu**	**15.56**	**5**	P		**P**	**18 57 05.2**	**+2.2**
NEM2	**Nemuro 2**	**15.83**	**16**	P		**P**	**18 57 07.1**	**+1.2**
MSHR	**Mys Shultsa**	**15.98**	**336**	*c* *e*P		**P**	**18 57 08.4**	**+0.9**
ASAJ	**Asahikawa**	**16.01**	**7**	*e*P		**P**	**18 57 08.3**	**+0.5**
	comp=Z,18nm,0.9s							
VLA	**Vladivostok**	**16.21**	**339**	*c* *i*P		**P**	**18 57 11.1**	**+1.2**
TATO	**Taipei**	**16.77**	**263**	*e*P		**P**	**18 57 14.9**	**-1.2**
NACB	**Ninganchiao**	**16.90**	**260**	*e*P		**P**	**18 57 14.8**	**-2.7**
	comp=Z,74nm,1.0s							
YHNB	**Yeheng**	**16.95**	**262**	*e*P		**P**	**18 57 14.4**	**-3.7**
	comp=Z,42nm,0.8s							
USRK	**Usuriysk Ar.**	**17.16**	**340**	P		**P**	**18 57 20.7**	**+0.7**
	comp=Z,3.5nm,0.3s,baz=155,slow=10,SNR=31							
USRK				S		**S**	**19 00 18.6**	**+1.8**
	baz=156,slow=19,SNR=4.1							
USRK				ScP		**ScP**	**19 04 31.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=211,slow=2.2,SNR=5.2							
YULB	**Yu-li**	**17.41**	**258**	*e*P		**P**	**18 57 21.2**	**-1.8**
	comp=Z,46nm,0.6s							
SSLB	**Suanglung**	**17.58**	**260**	*e*P		**P**	**18 57 23.6**	**-1.2**
	comp=Z,163nm,0.8s							
TPUB	**Ta-pu**	**18.02**	**259**	*e*P		**P**	**18 57 27.6**	**-1.8**
	comp=Z,98nm,1.1s							
KUR	**Kuril'sk**	**18.13**	**18**	*c* *i*P		**P**	**18 57 30.3**	**+0.2**
KUR				pmax		pmax		
	comp=E,8.0nm,1.0s							
KUR				pmax		pmax		
	comp=Z,44nm,1.0s							
KUR				pmax		pmax		
	comp=N,4.0nm,0.5s							
KUR				pmax		pmax		
	comp=Z,373nm,4.2s							
MDJ	**Mudanjiang**	**18.31**	**336**	*e*P		**P**	**18 57 32.5**	**+0.6**
	comp=Z,40nm,1.1s							
YSS	**Yuzh-Sakhalins**	**18.84**	**6**	⇑ *i*P		**P**	**18 57 37.8**	**+0.8**
YSS				*i* S		**S**	**19 00 45.3**	**-0.6**
YSS				pmax		pmax		
	comp=Z,260nm,3.3s							
YSS				pmax		pmax		
	comp=Z,70nm,0.7s							
YSS				smax		smax		
	comp=N,20nm,1.3s							
YSS				smax		smax		
	comp=E,40nm,0.9s							
YSS				smax		smax		
	comp=E,200nm,4.4s							
YSS	**Yuzh-Sakhalins**	**18.84**	**6**	*e*P		**P**	**18 57 37.5**	**+0.6**
	comp=E,88nm,1.0s							
CN2	**Changchun**	**19.40**	**327**	*e*P		**P**	**18 57 42.6**	**+0.3**
CN2				*es*P		sP	18 59 38.3	-0.7
CN2				PMZ				
	comp=E,60nm,1.2s							
CN2				PMZ				
	comp=E,200nm,4.0s							
HABR	**Khabarovsk**	**20.56**	**351**	*e*P		**P**	**18 57 52.6**	**-0.2**
HABR				*e*S		**S**	**19 01 14.2**	**+0.2**
HABR				*e*			19 01 43.1	
HABR				*e*			19 08 20.1	
HABR				pmax		pmax		
	comp=E,14nm,1.4s							
HABR				pmax		pmax		
	comp=N,33nm,1.4s							
HABR				pmax		pmax		
	comp=Z,88nm,1.4s							
HABR				MLR		MLR		
	comp=Z,58nm,16.0s							
KLR	**Kul'dur**	**21.89**	**346**	P		**P**	**18 58 06.4**	**+1.5**
	comp=Z,16nm,0.6s,baz=164,slow=7.2,SNR=71							
KLR				ScP		**ScP**	**19 04 41.9**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=265,slow=3.6,SNR=5.2							
TGY	**Tagaytay City**	**22.53**	**235**	P		**P**	**18 58 10.8**	**-0.3**
	comp=Z,119nm,0.6s,baz=79,slow=2.6,SNR=6.7							
TYV	**Tymovskoe**	**22.71**	**5**	*e*P		**P**	**18 58 13.8**	**+1.6**
TYV				pmax		pmax		
	comp=E,18nm,0.8s							
BJT	**Baijiatuau**	**22.82**	**307**	*e*P		**P**	**18 58 12.7**	**-0.7**
BJT				pmax		pmax		
	comp=Z,6.0nm,0.5s							
BJT	**Baijiatuau**	**22.82**	**307**	*e*P		**P**	**18 58 12.7**	**-0.7**
	comp=Z,6.2nm,0.5s							
BJI	**Beijing**	**22.82**	**307**	P		**P**	**18 58 12.3**	**-1.1**
BJI				PMZ				
	comp=Z,19nm,1.2s							
BJI				PMZ				
	comp=Z,160nm,3.1s							
HIA	**Hailar**	**26.09**	**329**	*e*P		**P**	**18 58 42.7**	**+0.2**
HIA				pmax		pmax		
	comp=Z,19nm,0.8s							
HIA	**Hailar**	**26.09**	**329**	*e*P		**P**	**18 58 42.6**	**+0.2**
	comp=Z,19nm,0.8s							
ENH	**Enshi**	**26.57**	**282**	*e*P		**P**	**18 58 45.9**	**-1.1**
	comp=Z,132nm,1.0s							
XAN	**Xi'an**	**27.07**	**290**	P		**P**	**18 58 50.8**	**-0.6**
XAN				S		**S**	**19 02 54.8**	**-2.5**
XAN				PMZ				
	comp=Z,33nm,0.8s							
XAN				PMZ				
	comp=Z,120nm,3.5s							
BTO	**Baotou**	**27.43**	**305**	*e*P		**P**	**18 58 53.4**	**-1.1**
PETK	**Petropavlovsk-**	**28.14**	**23**	P		**P**	**18 59 02.4**	**+1.9**
	comp=Z,1.5nm,0.4s,baz=18,slow=6.8,SNR=4.5							
PETK				ScP		**ScP**	**19 04 58.5**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=165,slow=6.2,SNR=4.3							
PET	**Petropavlovsk**	**28.41**	**24**	*e*P		**P**	**18 59 04.3**	**+1.5**
PET				*e*S		**S**	**19 03 15.0**	**-2.5**
PET				pmax		pmax		
	comp=Z,33nm,1.5s							
PET	**Petropavlovsk**	**28.41**	**24**	*e*P		**P**	**18 59 03.9**	**+1.1**
	comp=Z,54nm,1.2s							
GYA	**Guiyang**	**29.52**	**274**	⇓ *i*P		**P**	**18 59 12.4**	**-0.7**
GYA				PMZ				
	comp=Z,90nm,1.1s							
CIT	**Chita**	**30.84**	**328**	*e*P		**P**	**18 59 25.1**	**+0.9**
CIT				pmax		pmax		
	comp=Z,74nm,1.4s							
TSM	**Tawau**	**31.70**	**225**	⇓P		**P**	**18 59 31.8**	**-0.1**
ULN	**Ulaanbaatar**	**32.11**	**317**	*d* *i*P		**P**	**18 59 35.4**	**+0.2**
ULN				pmax		pmax		
	comp=Z,68nm,1.0s							
ULN	**Ulaanbaatar**	**32.11**	**317**	P		**P**	**18 59 35.8**	**+0.6**
	SNR=29							
ULN				P		**P**	**18 59 35.8**	**+0.6**
	SNR=29							
ULN	**Ulaanbaatar**	**32.11**	**317**	*e*P		**P**	**18 59 35.5**	**+0.2**
	comp=Z,85nm,1.1s							
MA2	**Magadan**	**32.22**	**10**	P		**P**	**18 59 37.4**	**+1.6**
	comp=Z,55nm,0.9s,baz=210,slow=7.6,SNR=16							
SONM	**Songino Array**	**32.49**	**316**	P		**P**	**18 59 38.8**	**+0.3**
	comp=Z,22nm,0.9s,baz=123,slow=8.2,SNR=104							
SONM				PcP		**PcP**	**19 02 13.6**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=121,slow=1.8,SNR=6.6							
SONM				ScP		**ScP**	**19 05 14.4**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=132,slow=3.5,SNR=8.1							
SONM	**Songino Array**	**32.49**	**316**	P		**P**	**18 59 38.8**	**+0.3**
SONM							19 02 13.6	
SONM				pmax		pmax		
	comp=Z,22nm,0.9s							
SONM				pmax		pmax		
	comp=Z,2.0nm,0.5s							
SONM				pmax		pmax		
	comp=N,2.0nm,0.8s							
MRSI	**Marisa**	**32.50**	**215**	P		**P**	**18 59 39.4**	**+0.6**
	comp=N,63nm,1.1s,comp=N,3μm							
PANO	**Nakornpanom**	**34.24**	**259**	P		**P**	**18 59 54.1**	**+0.5**
	comp=N,67nm,1.4s,comp=N,2μm							
UBPT	**Khong Chiam**	**34.33**	**255**	P		**P**	**18 59 54.6**	**+0.2**
	comp=N,48nm,1.0s							
YAK	**Yakutsk**	**34.48**	**352**	P		**P**	**18 59 55.3**	**+0.4**
	comp=N,1.2nm,0.3s,baz=288,slow=8.8,SNR=3.8							
YAK	**Yakutsk**	**34.48**	**352**	*e*P		**P**	**18 59 55.5**	**+0.5**
YAK				*e*			19 01 31.6	
YAK				*e*			19 02 18.2	
YAK				*e*S		**S**	**19 04 46.1**	**-4.7**
YAK				*es*S		**SS**	**19 07 40.0**	**-4.5**
YAK				pmax		pmax		
	comp=Z,23nm,0.9s							
YAK				pmax		pmax		
	comp=N,9.0nm,1.2s							
YAK				pmax		pmax		
	comp=E,4.0nm,1.1s							
YAK				pmax		pmax		
	comp=Z,93nm,3.7s							
YAK				smax		smax		
	comp=E,131nm,2.6s							
YAK				smax		smax		
	comp=N,98nm,2.8s							
GTA	**Gaotai**	**34.86**	**299**	⇓P		**P**	**18 59 58.1**	**-0.6**
GTA				PcP		**PcP**	**19 02 19.9**	**-0.1**
GTA				S		S	19 05 07.6	+10
GTA				ScP		**ScP**	**19 05 24.0**	**+0.7**
GTA				PMZ				
	comp=N,39nm,1.4s							
GTA				PMZ				
	comp=N,120nm,4.9s							
SKNT	**Sakolnakorn**	**34.86**	**259**	P		**P**	**18 59 58.8**	**-0.1**
	comp=N,63nm,1.0s							
NONG	**Nongkai**	**35.15**	**261**	P		**P**	**19 00 01.3**	**+0.1**
	comp=N,91nm,1.1s							
ZAK	**Zakamensk**	**35.42**	**319**	*e*P		**P**	**19 00 02.6**	**-0.7**
ZAK				pmax		pmax		
	comp=Z,37nm,1.2s							
BTM	**Bintulu**	**35.66**	**231**	⇓P		**P**	**19 00 06.1**	**+0.5**
SEY	**Seymchan**	**35.67**	**10**	P		**P**	**19 00 06.3**	**+1.4**
	comp=Z,24nm,1.0s,baz=200,slow=7.8,SNR=32							
IRK	**Irkutsk**	**35.70**	**322**	*e*P		**P**	**19 00 05.2**	**-0.2**
IRK				*e*			19 05 12.1	
IRK				pmax		pmax		
	comp=Z,63nm,1.4s							
TLY	**Talaya**	**35.78**	**321**	P		**P**	**19 00 07.0**	**+0.8**
	comp=Z,10nm,0.7s,baz=144,slow=8.5,SNR=24							
TLY	**Talaya**	**35.78**	**321**	⇓ *e*P		**P**	**19 00 06.9**	**+0.8**
TLY				pmax		pmax		
	comp=Z,38nm,1.1s							
TLY				MLR		MLR		
	comp=Z,71nm,15.0s							
KHON	**Khomkaen**	**36.14**	**259**	P		**P**	**19 00 09.7**	**+0.1**
	comp=Z,17nm,1.0s							
SBUM	**Sibu**	**36.79**	**231**	⇓P		**P**	**19 00 15.3**	**+0.3**
LOEI	**Loei**	**37.01**	**262**	P		**P**	**19 00 13.3**	**-3.5**
	comp=Z,50nm,0.7s							
CHAI	**Chaiyaphum**	**37.05**	**259**	P		**P**	**19 00 16.6**	**-0.5**
	comp=Z,46nm,1.0s,comp=Z,396nm							
MOY	**Mondy**	**37.27**	**320**	*e*P		**P**	**19 00 18.8**	**+0.2**
MOY				pmax		pmax		
	comp=Z,29nm,2.2s							
PBKT	**Sadao Pong**	**37.65**	**260**	P		**P**	**19 00 21.9**	**-0.1**
	comp=Z,60nm,1.2s							
SUKH	**Sukhothai**	**38.45**	**263**	P		**P**	**19 00 29.3**	**+0.7**
	comp=Z,3.8nm,0.9s							
CHTO	**Chiang Mai**	**38.54**	**265**	P		**P**	**19 00 28.7**	**-0.7**
	comp=Z,206nm,1.0s							
CHTO	**Chiang Mai**	**38.54**	**265**	*e*P		**P**	**19 00 28.3**	**-1.1**
CHTO				pmax		pmax		
	comp=Z,36nm,0.9s							
CHTO	**Chiang Mai**	**38.54**	**265**	P		**P**	**19 00 28.9**	**-0.4**
	SNR=5.7							
CHTO	**Chiang Mai**	**38.54**	**265**	*e*P		**P**	**19 00 28.3**	**-1.1**
	comp=Z,36nm,0.9s							
CMAR	**Chiang Mai Arr**	**38.67**	**265**	P		**P**	**19 00 29.6**	**-0.9**
	comp=Z,10.0nm,0.8s,baz=52,slow=9.0,SNR=46							
CMAR				PcP		**PcP**	**19 02 32.5**	**+0.5**
	comp=Z,6.4nm,0.9s,baz=76,slow=0.9,SNR=15							
CMAR				ScP		**ScP**	**19 05 37.6**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=74,slow=3.6,SNR=4.2							
CMAR	**Chiang Mai Arr**	**38.67**	**265**	*c* *e*P		**P**	**19 00 30.1**	**-0.4**
CMAR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KSM	**Kuching**	**38.81**	**232**	⇓P		**P**	**19 00 31.8**	**+0.2**
KSM	**Kuching**	**38.81**	**232**	*e*P		**P**	**19 00 31.2**	**-0.4**
	comp=Z,8.2nm,0.8s							
SRDT	**SRDT**	**40.22**	**259**	P		**P**	**19 00 45.0**	**+2.0**
	comp=Z,102nm,1.6s							
PHET	**Kaeng Krachan**	**40.44**	**256**	P		**P**	**19 00 45.7**	**+0.9**
	comp=Z,14nm,0.9s							
SURA	**Surathani**	**42.32**	**251**	P		**P**	**19 01 01.2**	**+1.4**
	comp=Z,37nm,1.2s							
LSA	**Lhasa**	**42.42**	**284**	*e*P		**P**	**19 01 01.6**	**+0.6**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.6s							
LSA	**Lhasa**	**42.42**	**284**	*e*P		**P**	**19 01 01.6**	**+0.6**
	comp=Z,5.7nm,0.6s							
SKLT	**Songkhla**	**42.59**	**248**	P		**P**	**19 01 02.6**	**+0.6**
	comp=Z,56nm,1.0s							
SHL	**Shillong**	**42.68**	**278**	*e*P		**P**	**19 01 03.5**	**+0.7**
SHL				*ex*		x	19 02 46.5	
BILL	**Bilibino**	**42.84**	**14**	*c* *i*P		**P**	**19 01 04.3**	**+1.1**
BILL				*e**PP		**pP**	**19 02 26.8**	**+0.4**
BILL				*e*			19 02 55.9	
BILL				pmax		pmax		
	comp=Z,89nm,1.0s							
BILL	**Bilibino**	**42.84**	**14**	*e*P		**P**	**19 01 04.5**	**+1.3**
	comp=Z,93nm,1.0s							
TRTT	**Trang**	**42.98**	**250**	P		**P**	**19 01 06.5**	**+1.4**
	comp=Z,43nm,1.0s							
MYKOM	**Kota Tinggi**	**43.30**	**239**	⇑P		**P**	**19 01 08.5**	**+0.9**
KGM	**Kluang**	**43.55**	**240**	⇑P		**P**	**19 01 10.1**	**+0.5**
TIXI	**Tiksi**	**43.90**	**355**	*c* *e*P		**P**	**19 01 11.8**	**+0.4**
TIXI				pmax		pmax		
	comp=Z,4.0nm,0.8s							
TIXI	**Tiksi**	**43.90**	**355**	*e*P		**P**	**19 01 11.5**	**0.0**
	comp=Z,6.2nm,0.7s							
PKDT	**Phuket**	**44.08**	**251**	P		**P**	**19 01 14.8**	**+1.1**
	comp=Z,124nm,1.0s,comp=Z,3μm							
UNV	**Unalaska Valle**	**46.44**	**41**	*e*P		**P**	**19 01 32.6**	**+1.3**
ZALV	**Zalesovo Beam**	**47.30**	**319**	P		**P**	**19 01 37.3**	**-0.6**
	comp=Z,8.2nm,0.4s,baz=104,slow=6.3,SNR=54							
ZALV				PcP		**PcP**	**19 03 00.4**	**-0.2**
	comp=Z,12nm,0.5s,baz=109,slow=2.9,SNR=13							
ZALV				ScP		**ScP**	**19 06 10.8**	**-1.4**
	comp=Z,5.1nm,0.7s,baz=117,slow=4.1,SNR=12							
ZALV	**Zalesovo Beam**	**47.30**	**319**	P		**P**	**19 01 37.3**	**-0.6**
ZALV							19 03 00.4	
ZALV				pmax		pmax		
	comp=Z,7.0nm,0.4s							
ZALV				pmax		pmax		
	comp=Z,12nm,0.5s							
ZALV				pmax		pmax		
	comp=N,5.0nm,0.7s							
GUN	**Gumba**	**47.31**	**283**	*e*P		**P**	**19 01 39.2**	**+0.3**
	comp=N,204nm,0.9s							
PKIN	**Phulchoki**	**47.81**	**283**	*e*P		**P**	**19 01 42.1**	**-0.4**
	comp=N,66nm,1.2s							
KKN	**Kakani**	**47.86**	**283**	*e*P		**P**	**19 01 42.7**	**-0.1**
	comp=N,113nm,1.1s							
DMN	**Daman**	**48.05**	**283**	*e*P		**P**	**19 01 44.2**	**-0.1**
	comp=N,66nm,0.8s							
WRAB	**Tennant Creek**	**48.17**	**187**	*c* *i*P		**P**	**19 01 44.2**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,25nm,0.8s							
WRAB	**Tennant Creek**	**48.17**	**187**	*e*P		**P**	**19 01 43.7**	**-1.1**
	comp=Z,13nm,0.9s							
WRA	**Warramunga Arr**	**48.18**	**187**	P		**P**	**19 01 44.0**

comp=Z,59nm,1.1s
AAK Ala-Archa 53.94 304 eP P 19 02 26.8 -0.3
comp=Z,22nm,1.0s
OHAK Old Harbor 54.29 38 eP P 19 02 29.5 +0.4
comp=Z,34nm,1.2s
EKS2 Erkin-Say 54.46 304 eP P 19 02 30.4 -0.4
EKS2 pmax pmax
comp=Z,14nm,0.8s
EKS2 Erkin-Say 54.46 304 eP P 19 02 30.4 -0.4
comp=Z,14nm,0.8s
KDAK Kodiak Island 54.70 37 i P P 19 02 32.7 +0.8
KDAK Kodiak Island 54.70 37 eP P 19 02 32.3 +0.4
comp=Z,38nm,1.0s
THN Thein Dam 54.81 291 eP P 19 02 27.6 -5.6
OTUK Ortayu 54.89 311 P P 19 02 33.4 -0.2
OTUK pmax pmax
comp=Z,70nm,0.9s
PPLA Purkeypile 55.24 31 eP P 19 02 36.9 +0.9
comp=Z,41nm,1.5s
MNAS Manas 55.42 304 P P 19 02 36.9 -0.6
MNAS pmax pmax
comp=Z,20nm,1.2s
VOSK Vostochnaya 55.49 316 ceP P 19 02 37.0 -0.7
VOSK pmax pmax
comp=Z,82nm,0.8s
BVA0 Borovoye Array 55.83 317 P P 19 02 40.1 0.0
BVA0 pmax pmax
comp=Z,89nm,0.7s
BVAR Borovoye Array 55.83 317 P P 19 02 40.2 +0.1
comp=Z,73nm,0.6s,baz=96,slow=8.4,SNR=30
BVAR ScP **ScP 19 06 48.2 -1.0**
comp=Z,2.8nm,0.6s,baz=100,slow=4.9,SNR=5.3
BVAR S **S 19 09 51.6 -1.2**
comp=Z,1.3nm,0.8s,baz=94,slow=8.9,SNR=5.7
KTH Kantishna Hill 55.88 30 eP P 19 02 41.3 +1.1
comp=Z,14nm,1.1s
BPAW Bear Paw Mtn. 55.90 30 eP P 19 02 41.4 +1.0
comp=Z,2.2nm,0.9s
BRVK Borovoye 55.90 317 d iP P 19 02 40.5 0.0
BRVK pmax pmax
comp=Z,317nm,1.0s
BRVK Borovoye 55.90 317 eP P 19 02 40.5 0.0
comp=Z,353nm,1.0s
TRF Thorofare Moun 56.15 31 eP P 19 02 42.7 +0.4
comp=Z,11nm,0.9s
RC01 Rabbit Creek A 56.28 33 eP P 19 02 43.4 +0.4
SEW Seward 56.39 35 eP P 19 02 44.1 +0.3
comp=Z,33nm,1.0s
COLD Coldfoot 56.54 26 eP P 19 02 46.8 +2.0
comp=Z,13nm,1.0s
PMR Palmer 56.59 33 eP P 19 02 45.6 +0.5
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 56.59 33 eP P 19 02 45.6 +0.5
comp=Z,8.3nm,0.8s
ZRNK Zerenda 56.67 317 i P P 19 02 45.6 -0.3
ZRNK pmax pmax
comp=Z,91nm,0.9s
MCK McKinley 56.77 30 eP P 19 02 47.0 +0.6
MCK pmax pmax
comp=Z,40nm,0.9s
MCK McKinley 56.77 30 eP P 19 02 47.0 +0.6
comp=Z,40nm,0.9s
KK31 Karatay Array 56.77 305 P P 19 02 47.1 +0.3
KK31 pmax pmax
comp=Z,66nm,0.9s
KKAR Karatay Array 56.77 305 eP P 19 02 46.9 +0.1
KKAR pmax pmax
comp=Z,84nm,0.9s
KKAR Karatay Array 56.77 305 eP P 19 02 46.9 +0.1
comp=Z,84nm,0.9s
SML Sawmill 56.97 33 eP P 19 02 48.4 +0.5
SML pmax pmax
comp=Z,5.0nm,0.7s
SML Sawmill 56.97 33 eP P 19 02 48.4 +0.5
comp=Z,4.9nm,0.7s
COLA College 57.30 29 d iP P 19 02 51.6 +1.6
COLA *PP **pP 19 04 23.5 +4.0**
COLA pmax pmax
comp=Z,15nm,1.0s
COLA College 57.30 29 eP P 19 02 51.6 +1.6
comp=Z,12nm,0.8s
ILAR Eielson Array 57.71 29 P P 19 02 53.0 +0.1
comp=Z,12nm,0.9s,baz=267,slow=5.4,SNR=78
ILAR Eielson Array 57.71 29 P P 19 02 53.0 +0.1
ILAR pmax pmax
comp=Z,11nm,0.9s
DIV Divide 58.20 33 eP P 19 02 57.4 +1.0
comp=Z,12nm,0.8s
BMRM Bremner River 58.78 34 eP P 19 03 01.5 +1.3
comp=Z,72nm,1.1s
DOT Dot Lake 58.94 30 eP P 19 03 01.9 +0.7
comp=Z,110nm,1.0s
STKA Stephens Creek 59.79 178 P P 19 03 06.6 -0.7
comp=Z,6.4nm,0.7s,baz=343,slow=8.5,SNR=11
EGAK Eagle 60.17 29 eP P 19 03 09.9 +0.5
comp=Z,5.7nm,0.6s
DAWY Dawson 60.98 30 eP P 19 03 16.0 +1.1
comp=Z,21nm,1.3s
SVE Sverdlovsk 61.09 322 c iP P 19 03 15.9 +0.2
SVE pmax pmax
comp=Z,92nm,1.0s
ARU Arti 62.28 322 P P 19 03 23.4 -0.1
comp=Z,47nm,0.4s
ARU Arti 62.28 322 d iP P 19 03 23.3 -0.2
ARU 19 03 58.2
ARU *PP **pP 19 04 52.0 -3.0**
ARU 19 05 44.7
ARU S **S 19 11 14.9 +0.5**
ARU SS **SS 19 15 24.2 -2.6**
ARU pmax pmax
comp=Z,110nm,1.0s
AB31 Akbulak array 62.85 314 eP P 19 03 27.2 -0.2
AB31 pmax pmax
comp=Z,20nm,0.5s
ABKAR Akbulak array 62.85 314 eP P 19 03 27.0 -0.4
comp=Z,40nm,0.5s
INK Inuvik 62.86 25 P P 19 03 27.9 +0.9
comp=Z,6.3nm,0.8s,baz=269,slow=6.8,SNR=13
AKTO Aktyubinsk 63.80 315 P P 19 03 33.0 -0.5
comp=Z,28nm,0.6s,baz=86,slow=6.3,SNR=52
AKTO Aktyubinsk 63.80 315 P P 19 03 33.0 -0.5
AKTO pmax pmax
comp=Z,28nm,0.6s
DLBC Dease Lake 66.46 35 eP P 19 03 52.0 +1.7
comp=Z,11nm,1.1s
GEYT Alibeck 67.18 302 P P 19 03 55.0 -0.1
comp=Z,22nm,0.9s,baz=46,slow=4.3,SNR=44
SPA0 Spitsbergen Ar 68.91 349 eP P 19 04 05.8 +0.9
SPITS Spitsbergen Ar 68.91 349 P P 19 04 06.0 +1.0
comp=Z,3.9nm,0.5s,baz=104,slow=7.0,SNR=34
SPITS Spitsbergen Ar 68.91 349 P P 19 04 06.0 +1.0
SPITS pmax pmax
comp=Z,4.0nm,0.5s
LVZ Lovozero 69.66 337 ceP P 19 04 09.9 +0.3
LVZ pmax pmax
comp=Z,20nm,1.7s
KLMR Klimovskoe 70.58 329 eP P 19 04 12.4 -2.8
KLMR e 19 04 30.1
KLMR e 19 06 56.4
KLMR eS **S 19 12 49.5 -3.2**
KLMR pmax pmax
comp=Z,28nm,0.9s
KEV Kevo 71.24 340 eP P 19 04 19.7 +0.7
KEV pmax pmax
comp=Z,28nm,0.9s
KEV Kevo 71.24 340 eP P 19 04 19.7 +0.7
comp=Z,28nm,0.9s
HAMF Hammerfest 71.73 342 eP P 19 04 22.6 +0.7
ARCES ARCESS Array B 71.81 340 P P 19 04 23.1 +0.8
comp=Z,12nm,0.5s,baz=73,slow=8.1,SNR=113
ARE0 ARCESS Array S 71.81 340 eP P 19 04 23.2 +0.8
ARE0 IAmb IAmb 19 04 24.4
comp=Z,30nm,1.0s
YKA Yellowknife Ar 72.12 28 P P 19 04 24.8 +0.6
comp=Z,9.7nm,0.7s,baz=295,slow=5.7,SNR=61
KTK1 Kautokeino 72.77 340 eP P 19 04 28.8 +0.9
KTK1 IAmb IAmb 19 04 29.8
comp=Z,20nm,1.1s
VRH Novokhopyorsk 73.33 319 eP P 19 04 31.7 +0.2
VRH pmax pmax
comp=Z,80nm,0.7s
HATD Hatta, Dubai 73.52 290 i P P 19 04 33.2 0.0
SNR=15
HATD Hatta, Dubai 73.52 290 P P 19 04 33.3 +0.2
SNR=6.2

MOS Moscow 73.62 325 eP P 19 04 32.2 -0.9
MOS e*PP **pP 19 06 08.8 +0.5**
MOS eS **S 19 13 24.7 -2.3**
MOS pmax pmax
comp=Z,200nm,1.4s
MOS pmax pmax
comp=Z,115nm,1.3s
TRO Tromso 73.64 342 eP P 19 04 33.4 +0.5
TRO IAmb IAmb 19 04 34.4
comp=Z,17nm,0.7s
ASHO Ashiyiah 73.64 290 i P P 19 04 33.8 0.0
SNR=7.0
ASHO Ashiyiah 73.64 290 P P 19 04 33.8 0.0
SNR=7.0
FAQ Al Faqa, Dubai 74.00 290 P P 19 04 35.7 -0.1
LPSR Galich'ya Gora 74.31 322 eP P 19 04 37.7 +0.7
LPSR pmax pmax
comp=Z,30nm,0.8s
OBN Obninsk 74.44 325 P P 19 04 37.7 0.0
comp=Z,22nm,0.3s,baz=48,slow=21,SNR=21
OBN Obninsk 74.44 325 deP P 19 04 37.6 -0.1
OBN e 19 04 47.5
OBN e*PP **pP 19 06 09.8 -3.4**
OBN e 19 07 30.9
OBN pmax pmax
comp=Z,94nm,1.2s
B05A Bryant 74.47 43 P P 19 04 39.9 +1.8
baz=295
VSR Storozhevoye 74.78 320 eP P 19 04 39.8 0.0
VSR pmax pmax
comp=Z,50nm,0.7s
G03D McMinnville, O 75.03 47 P P 19 04 43.3 +2.1
baz=295
GUDG Gudauri 75.23 310 P P 19 04 43.7 +0.9
TBLG Delisi 75.36 310 P P 19 04 43.5 +0.2
NCK Nalchik 75.39 312 ⇓eP P 19 04 43.6 +0.2
NCK pmax pmax
comp=Z,24nm,1.0s
ZEI Tsey 75.48 311 eP P 19 04 41.7 -2.5
ZEI pmax pmax
comp=Z,78nm,0.6s
I03D Drain, OR 75.61 48 P P 19 04 46.8 +2.2
baz=295
KBZ Khabaz 75.75 312 P P 19 04 45.8 +0.5
comp=Z,78nm,0.8s,baz=94,slow=3.5,SNR=139
STEI Steigen 75.76 341 eP P 19 04 45.8 +0.8
KVAR Kislovodsk Arr 75.78 312 P P 19 04 46.6 +0.9
comp=Z,43nm,0.8s,baz=260,slow=2.6,SNR=38
KIV Kislovodsk 75.79 312 i P P 19 04 46.1 +0.4
SNR=15
KIV Kislovodsk 75.79 312 eP P 19 04 45.7 0.0
KIV eS **S 19 13 50.3 -1.0**
KIV pmax pmax
comp=Z,70nm,1.0s
KIV Kislovodsk 75.79 312 eP P 19 04 46.3 +0.6
comp=Z,66nm,0.9s
ONI Oni 75.87 311 P P 19 04 47.1 +0.9
ONI Oni 75.87 311 P P 19 04 47.1 +0.9
GNI Garni 76.03 308 P P 19 04 47.9 +0.6
comp=Z,26nm,1.0s,baz=176,slow=4.2,SNR=19
GNI Garni 76.03 308 i P P 19 04 48.1 +0.9
SNR=13
GNI Garni 76.03 308 d iP P 19 04 47.8 +0.6
GNI pmax pmax
comp=Z,229nm,1.7s
FINES FINESS Array B 76.03 333 P P 19 04 46.4 -0.2
comp=Z,28nm,0.5s,baz=69,slow=5.4,SNR=220
NEY Neytrino 76.07 312 ⇓eP P 19 04 48.4 +1.0
NEY pmax pmax
comp=Z,5.0nm,0.7s
LOF Lofoten 76.10 342 eP P 19 04 47.8 +1.0
L02D Cave Junction, 76.10 50 P P 19 04 48.3 +0.9
baz=296
Tendick Farm, 76.19 48 P P 19 04 49.3 +1.5
I04A
baz=296
G05D Wamic, OR 76.26 46 P P 19 04 50.0 +1.8
baz=296
BGD Bogdanovka 76.34 310 P P 19 04 49.7 +0.8
AKH Akhalkalaki 76.35 310 P P 19 04 49.5 +0.5
AKH Akhalkalaki 76.35 310 P P 19 04 49.5 +0.5
I05D Terrebonne, OR 76.64 47 P P 19 04 51.7 +1.3
baz=296
CHVG Ch'k'valeri 76.72 311 P P 19 04 51.6 +0.8
M02C Callahan 76.94 50 P P 19 04 53.7 +1.6
baz=296
K04D Chiloquin, OR 77.13 49 P P 19 04 54.8 +1.6
baz=296
J05D Fort Rock, OR 77.18 48 P P 19 04 55.4 +1.9
baz=297
N02D Trinity Center 77.22 50 P P 19 04 55.3 +1.6
baz=296
NEW Newport 77.44 42 P P 19 04 56.2 +1.5
baz=298
M04C Macdoel 77.45 49 P P 19 04 56.5 +1.5
baz=297
SOC Sochi 77.88 313 eP P 19 04 55.6 -1.5
SOC e 19 06 32.3
SOC ePPP PPP 19 09 47.1
SOC eS **S 19 14 08.3 -5.2**
SOC pmax pmax
comp=Z,69nm,0.9s
O03D Paynes Creek 78.14 51 P P 19 04 59.4 +0.7
baz=297
ANN Anapa 78.76 315 eP P 19 05 01.6 -0.2
ANN e*PP **pP 19 06 39.4 +0.9**
ANN eS **S 19 14 26.5 +3.9**
ANN pmax pmax
comp=Z,155nm,1.0s
NSS Namsos 79.07 340 eP P 19 05 03.0 0.0
NSS IAmb IAmb 19 05 03.9
comp=Z,14nm,0.7s
NACGM Naroch 79.39 327 eP P 19 05 05.0 0.0
NACGM PM 19 05 07.0
comp=Z,0.1nm,0.8s
AKASG Malin Array Be 80.50 323 P P 19 05 10.3 -0.6
comp=Z,12nm,0.5s,baz=48,slow=6.3,SNR=98
KIEV Kiev 80.51 323 d iP P 19 05 10.3 -0.6
KIEV pmax pmax
comp=Z,35nm,1.0s
KIEV Kiev 80.51 323 eP P 19 05 10.3 -0.6
comp=Z,40nm,0.9s
SIM Simferopol' 80.74 316 d iP P 19 05 11.1 -1.2
SIM pmax pmax
comp=Z,44nm,0.6s
SFNV Sufian 80.95 306 eP P 19 05 13.6 -0.1
HLID Hailey 81.40 45 P P 19 05 17.5 +1.5
baz=301
HLID Hailey 81.40 45 eP P 19 05 17.6 +1.5
comp=Z,4.3nm,0.6s
HFS Hagfors 81.58 336 P P 19 05 16.1 -0.3
comp=Z,18nm,0.4s,baz=108,slow=3.3,SNR=166
DLMT Dillon 81.58 43 eP P 19 05 18.0 +1.1
comp=Z,4.8nm,1.1s
SUW Suwalki 81.62 328 eP P 19 05 16.6 -0.1
SUW Suwalki 81.62 328 eP P 19 05 16.6 -0.1
EGMT Eagleton 81.80 39 P P 19 05 19.4 +1.5
baz=303
NB2 NORSAR Subarra 81.80 337 P P 19 05 17.2 -0.3
comp=Z,15nm,0.6s,baz=51,slow=4.6
NB2 NORSAR Subarra 81.80 337 P P 19 05 17.2 -0.3
baz=51,slow=4.6
NOA NORSAR Array B 81.80 337 P P 19 05 17.1 -0.5
comp=Z,17nm,0.6s,baz=46,slow=4.9,SNR=58
NOA PP **PP 19 08 31.4 0.0**
comp=Z,1.5nm,0.9s,baz=41,slow=5.3,SNR=3.4
BOZ Bozeman (W) 82.01 42 P P 19 05 20.1 +1.1
baz=302,SNR=5.9
VES Vestal, Richgr 82.12 54 P P 19 05 20.1 +0.5
baz=299
ELK Elko 82.31 48 eP P 19 05 22.2 +1.3
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 82.31 48 eP P 19 05 22.2 +1.3
comp=Z,5.9nm,1.0s
SORM Soroca 82.40 321 ⇑i P P 19 05 20.0 -0.8
ARVC Arvin 82.65 54 P P 19 05 23.5 +1.2
baz=299
GRAC Grapevine Rang 82.76 52 P P 19 05 24.6 +1.7
baz=300
MILM Milestii Mici 82.82 320 ⇓iP P 19 05 22.2 -0.7
SNCC San Nicolas Is 83.06 56 P P 19 05 25.7 +1.2
baz=299
MPMC Manual Prospec 83.14 53 P P 19 05 26.2 +1.1
baz=300
DRWC Darouich 83.28 308 eP P 19 05 24.8 -0.8
LRMC Laurel Mtn Rad 83.29 53 P P 19 05 26.9 +1.2

baz=300
R11A Troy Canyon, C 83.30 50 P P 19 05 27.1 +1.2
baz=301
R11A Troy Canyon, C 83.30 50 eP P 19 05 27.0 +1.2
comp=Z,6.0nm,0.9s
H17A Grant Village 83.31 43 P P 19 05 28.4 +2.6
baz=303
IMW Indian Meadow 83.37 43 eP P 19 05 28.1 +1.9
comp=Z,7.1nm,0.8s
EDW2 Edwards Air Fo 83.37 54 P P 19 05 27.1 +1.1
baz=300,SNR=6.3
FURC Furnace Creek, 83.38 52 P P 19 05 27.1 +1.2
baz=300
LEOM Leova 83.39 320 ⇑i P P 19 05 26.1 +0.3
FLWY Flagg Ranch 83.41 43 eP P 19 05 28.4 +2.2
comp=Z,3.7nm,0.7s
TPNV Topopah Spring 83.56 52 P P 19 05 28.1 +1.0
baz=301,SNR=11
TPAW Teton Pass 83.58 44 eP P 19 05 29.0 +1.8
comp=Z,6.7nm,0.8s
RLMT Red Lodge 83.69 42 P P 19 05 29.4 +1.8
baz=304,SNR=8.1
RLMT Red Lodge 83.69 42 eP P 19 05 29.2 +1.5
comp=Z,6.3nm,0.7s
LVV L'vov 83.73 324 eP P 19 05 26.1 -1.4
BRTR Keskin Array B 83.74 312 P P 19 05 27.3 -0.6
comp=Z,13nm,0.7s,baz=96,slow=3.6,SNR=82
BFSC Mount Baldy Ra 83.93 54 P P 19 05 29.6 +0.7
baz=300
GSC Goldstone, Bar 84.00 53 P P 19 05 30.4 +1.1
baz=300
PRAR RASCA 84.02 321 ⇓i P P 19 05 30.1 +1.1
SHOC Shoshone, Teco 84.07 52 P P 19 05 30.5 +1.0
baz=301
DUG Dugway, Tooele 84.18 47 P P 19 05 31.3 +1.2
baz=302,SNR=6.0
DUG Dugway, Tooele 84.18 47 eP P 19 05 31.4 +1.3
DUG pmax pmax
comp=Z,16nm,1.3s
DUG Dugway, Tooele 84.18 47 eP P 19 05 31.4 +1.3
comp=Z,16nm,1.3s
CFR Carcaliu 84.19 319 ⇑i P P 19 05 29.9 +0.1
HWUT Hardware Ranch 84.22 46 eP P 19 05 31.8 +1.5
comp=Z,15nm,1.0s
TESR Tescani 84.28 320 ⇓i P P 19 05 30.6 +0.3
BURAR Bucovina Array 84.42 322 ⇓i P P 19 05 31.6 +0.5
TIRR Tirgusor 84.43 318 ⇑i P P 19 05 31.2 +0.2
TIRR Tirgusor 84.43 318 eP P 19 05 30.4 -0.6
TIRR pmax pmax
comp=Z,9.0nm,0.8s
TIRR Tirgusor 84.43 318 eP P 19 05 30.4 -0.6
comp=Z,8.5nm,0.8s
HAWK Haweek 84.52 306 eP P 19 05 31.1 -0.7
KWP Kalwaria Pacla 84.53 324 eP P 19 05 31.2 -0.3
KWP Kalwaria Pacla 84.53 324 ⇓i P P 19 05 31.3 -0.2
KWP Kalwaria Pacla 84.53 324 eP P 19 05 31.2 -0.3
LAO LASA Array 84.54 39 P P 19 05 33.4 +1.7
baz=306
TUQ Turquoise Moun 84.56 53 P P 19 05 33.0 +0.9
baz=301,SNR=5.7
HEC Hector,Ludlow 84.57 53 P P 19 05 33.0 +1.0
baz=301,SNR=8.0
MURC Murrieta 84.58 55 P P 19 05 33.2 +1.1
baz=300
HARR Harsova 84.58 318 ⇓i P P 19 05 32.4 +0.6
VRI Vrincioaia 84.61 320 ⇓i P P 19 05 32.8 +0.9
PLOR Plostina 84.66 320 ⇑i P P 19 05 32.4 +0.2
GRER 84.75 319 ⇓i P P 19 05 33.0 +0.4
BW06 Boulder Array 84.83 44 P P 19 05 34.6 +1.2
baz=304
PDAR Pinedale Array 84.83 44 P P 19 05 34.5 +1.1
comp=Z,1.9nm,0.7s,baz=270,slow=3.0,SNR=13
MSAB Monastry St. A 84.99 318 ⇑i P P 19 05 34.3 +0.5
GMRC Granite Mounta 85.07 53 P P 19 05 35.5 +0.9
baz=301,SNR=6.9
PFO Pinyon Flats O 85.10 54 P P 19 05 35.5 +0.7
baz=301,SNR=6.8
ISR Istrita 85.14 319 ⇑i P P 19 05 35.7 +1.1
KOLS Kolonicke sedl 85.19 324 eP P 19 05 34.6 -0.1
KOLS pmax pmax
comp=Z,9.0nm,1.3s
KOLS Kolonicke sedl 85.19 324 eP P 19 05 34.6 -0.1
BELC Belle Mtn. Jos 85.23 54 P P 19 05 36.2 +0.8
baz=301,SNR=6.4
MLR Muntele Rosu 85.27 320 P P 19 05 34.9 -0.4
comp=Z,1.0nm,0.7s,baz=139,slow=14,SNR=9.3
MLR Muntele Rosu 85.27 320 ⇑i P P 19 05 35.3 0.0
DOPR Dopca 85.30 320 ⇑i P P 19 05 35.8 +0.5
ASF Jabal al Asfar 85.35 304 P P 19 05 35.5 -0.4
comp=Z,9.8nm,1.0s,baz=25,slow=1.6,SNR=14
UZH Uzhgorod 85.36 324 eP P 19 05 34.5 -1.0
BRBR Barbar 85.41 305 eP P 19 05 34.9 -1.5
STHS Stebnicka Huta 85.41 325 eP P 19 05 35.9 +0.1
STHS pmax pmax
comp=Z,8.0nm,1.5s
STHS Stebnicka Huta 85.41 325 eP P 19 05 35.9 +0.1
SECR 85.47 319 ⇑i P P 19 05 36.9 +0.8
MONP2 Monument Peak 85.50 55 P P 19 05 37.6 +0.8
baz=301
OJC Ojcow 85.62 326 eP P 19 05 36.3 -0.5
OJC Ojcow 85.62 326 eP P 19 05 36.3 -0.5
CRVS Cervenica-Dubn 85.62 324 eP P 19 05 37.0 +0.2
CRVS Cervenica-Dubn 85.62 324 eP P 19 05 37.0 +0.2
CRVS e 19 06 03.0
IRM Iron Mountain 85.76 53 P P 19 05 39.1 +1.3
baz=301
BC3 Big Chuckawall 85.80 54 P P 19 05 39.3 +1.2
baz=301
VOIR 85.81 320 ⇓i P P 19 05 37.7 -0.2
NIE Niedzica 85.89 325 eP P 19 05 37.8 -0.4
NIE Niedzica 85.89 325 eP P 19 05 37.8 -0.3
MMAI Mount Meron Ar 86.00 305 P P 19 05 38.7 -0.3
comp=Z,19nm,0.8s,baz=46,slow=6.0,SNR=26
ARR Arges 86.09 320 ⇑i P P 19 05 39.7 +0.5
DRGR 86.28 322 ⇑i P P 19 05 40.1 0.0
DRGR 86.28 322 ⇑P P 19 05 40.1 0.0
KECS Kecovo 86.39 324 eP P 19 05 40.5 0.0
KECS pmax pmax
comp=Z,6.0nm,1.4s
KECS Kecovo 86.39 324 eP P 19 05 40.5 0.0
CSS Mathiatis 86.46 308 eP P 19 05 39.5 -1.6
comp=Z,7.9nm,1.0s
LANS Liptovska Anna 86.48 325 eP P 19 05 41.4 +0.4
LANS Liptovska Anna 86.48 325 eP P 19 05 41.4 +0.4
LOT Lotru 86.52 321 ⇓i P P 19 05 41.3 0.0
OKC Ostrava-Krasne 86.68 327 eP P 19 05 41.6 -0.2
OKC Ostrava-Krasne 86.68 327 ⇓eP P 19 05 41.6 -0.2
K22A Casper 86.73 43 P P 19 05 44.0 +1.5
baz=306
E26A Carlson Angus 86.74 38 P P 19 05 43.9 +1.6
baz=309
A29A Manning Farm, 86.86 35 P P 19 05 44.6 +1.9
baz=311
KSP Ksiaz 86.89 328 eP P 19 05 42.8 0.0
KSP Ksiaz 86.89 328 eP P 19 05 42.8 0.0
F26A Lodgepole 87.01 38 P P 19 05 44.8 +1.2
baz=308
MORC Moravsky Berou 87.01 327 ⇓i P P 19 05 43.1 -0.4
MORC Moravsky Berou 87.01 327 ⇓P P 19 05 43.1 -0.4
PSZ Piszkesteto 87.06 324 ⇓i P P 19 05 43.0 -0.8
PSZ Piszkesteto 87.06 324 ⇓P P 19 05 43.0 -0.8
PSZ Piszkesteto 87.06 324 eP P 19 05 42.7 -1.0
comp=Z,6.9nm,0.9s
B29A Wagenman Farm, 87.09 35 P P 19 05 45.4 +1.5
baz=311
DPC Dobruska-Polom 87.21 328 eP P 19 05 44.1 -0.3
DPC Dobruska-Polom 87.21 328 eP P 19 05 44.1 -0.3
VYHS Vyhne 87.22 325 eP P 19 05 44.6 +0.2
VYHS pmax pmax
comp=Z,11nm,1.2s
VYHS Vyhne 87.22 325 eP P 19 05 44.6 +0.2
H25A Fruitdale 87.25 40 P P 19 05 46.4 +1.7
baz=308
UPC Upice 87.25 328 eP P 19 05 44.0 -0.5
UPC Upice 87.25 328 eP P 19 05 44.0 -0.5
RSSD Black Hills 87.31 40 P P 19 05 46.6 +1.4
baz=308
ULM Lac du Bonnet 87.60 32 P P 19 05 46.1 0.0
comp=Z,1.3nm,0.3s,baz=0.7,slow=10,SNR=3.2
BZS Buzias 87.61 322 ⇑i P P 19 05 45.6 -0.7
BZS Buzias 87.61 322 ⇑P P 19 05 45.6 -0.7
B30A Myrvik Farm, E 87.62 34 P P 19 05 47.8 +1.5
baz=312
VRAC Vranov 87.79 327 P P 19 05 46.2 -0.9
comp=Z,7.1nm,0.6s,baz=43,slow=4.4,SNR=13

VRAC	**Vranov**		**87.79 327**	⇑*i*P		**P**		**19 05 47.1**	**0.0**
VRAC	**Vranov**		**87.79 327**	⇑P		**P**		**19 05 47.1**	**0.0**
PVCC	**Panska Ves**		**87.91 329**	*e*P		**P**		**19 05 47.3**	**-0.3**
PVCC	**Panska Ves**		**87.91 329**	*e*P		**P**		**19 05 47.3**	**-0.3**
BRG	**Berggiesshubel**		**87.95 329**	*i* P		**P**		**19 05 47.4**	**-0.4**
	comp=Z,8.9nm,0.8s								
BRG	**Berggiesshubel**		**87.95 329**	*i* P		**P**		**19 05 47.4**	**-0.4**
BRG					pmax	pmax			
	comp=Z,9.0nm,0.8s								
CLL	**Collm**		**88.07 330**	*i* P		**P**		**19 05 47.6**	**-0.7**
	comp=Z,14nm,1.1s								
CLL	**Collm**		**88.07 330**	*i* P		**P**		**19 05 47.6**	**-0.7**
CLL					pmax	pmax			
	comp=Z,14nm,1.1s								
EIL	**Elat**		**88.07 303**	P		**P**		**19 05 47.5**	**-1.2**
	comp=Z,6.8nm,1.0s,baz=349,slow=12,SNR=4.9								
MDVR	**Moldovita**		**88.08 321**	⇑*i*P		**P**		**19 05 48.2**	**-0.4**
N23A	**Red Feather La**		**88.11 44**	P		**P**		**19 05 50.7**	**+1.6**
	baz=306								
GOPC	**GO Pecny, Ondr**		**88.23 328**	*e*P		**P**		**19 05 49.0**	**-0.2**
GOPC	**GO Pecny, Ondr**		**88.23 328**	*e*P		**P**		**19 05 49.0**	**-0.2**
PRU	**Pruhonice**		**88.29 328**	*e*P		**P**		**19 05 49.3**	**-0.1**
PRU	**Pruhonice**		**88.29 328**	*e*P		**P**		**19 05 49.3**	**-0.1**
TREC	**Trest**		**88.33 327**	*e*P		**P**		**19 05 49.5**	**-0.1**
TREC	**Trest**		**88.33 327**	*e*P		**P**		**19 05 49.5**	**-0.1**
C31A	**Landman Farms,**		**88.35 35**	P		**P**		**19 05 50.7**	**+1.0**
	baz=312								
ISCO	**Idaho Springs**		**88.97 45**	P		**P**		**19 05 54.2**	**+1.0**
	baz=307								
NKC	**Novy Kostel**		**89.08 329**	*e*P		**P**		**19 05 52.8**	**-0.3**
NKC	**Novy Kostel**		**89.08 329**	*e*P		**P**		**19 05 52.8**	**-0.3**
CONA	**Conrad Observa**		**89.08 326**	*i* PcP		**P**		**19 05 53.3**	**+0.1**
	comp=Z,18nm,1.3s,SNR=8.7								
KHC	**Kasperske Hory**		**89.34 328**	*e*P		**P**		**19 05 54.0**	**-0.4**
KHC	**Kasperske Hory**		**89.34 328**	*e*P		**P**		**19 05 54.0**	**-0.4**
KHC	**Kasperske Hory**		**89.34 328**	*e*P		**P**		**19 05 54.0**	**-0.4**
	comp=Z,3.2nm,0.7s								
GERES	**GERESS Array B**		**89.48 328**	P		**P**		**19 05 54.6**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=38,slow=5.0,SNR=33								
ARSA	**Arzberg**		**89.71 326**	*i* P		**P**		**19 05 54.2**	**-1.9**
	comp=Z,8.3nm,1.0s,SNR=7.3								
KOGS	**Kog**		**89.89 325**	*i* P		**P**		**19 05 56.3**	**-0.6**
MOA	**Molln**		**89.91 327**	*i* PcP		**P**		**19 05 57.0**	**-0.1**
	comp=Z,13nm,1.2s,SNR=8.4								
GRFO	**Grafenberg**		**90.02 330**	*e*P		**P**		**19 05 57.4**	**-0.1**
GRFO					pmax	pmax			
	comp=Z,10.0nm,0.9s								
GRFO	**Grafenberg**		**90.02 330**	*e*P		**P**		**19 05 57.4**	**-0.1**
	comp=Z,9.8nm,0.9s								
SDCO	**Great Sand Dun**		**90.26 46**	P		**P**		**19 06 00.6**	**+1.4**
	baz=307								
SOKA	**Soboth**		**90.35 326**	*i* PcP		**P**		**19 05 58.8**	**-0.3**
	comp=Z,25nm,1.5s,SNR=12								
GOLS	**Golise**		**90.51 325**	*e*P		**P**		**19 05 59.3**	**-0.5**
OBKA	**Obir**		**90.71 326**	*i* PcP		**P**		**19 06 00.1**	**-0.8**
	comp=Z,5.4nm,0.8s								
KBA	**Koelnbreinsper**		**90.90 327**	*i* PcP		**P**		**19 06 01.1**	**-0.8**
	comp=Z,6.6nm,1.1s								
H33A	**Prehn Over Nor**		**90.95 37**	P		**P**		**19 06 03.0**	**+1.0**
	baz=313								
EKA	**Eskdalemuir Ar**		**90.97 340**	P		**P**		**19 06 01.6**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=56,slow=3.7,SNR=17								
EKA				PP		**PP**		**19 09 46.1**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=38,slow=9.6,SNR=4.2								
LJU	**Ljubljana**		**91.04 325**	*i* P		**P**		**19 06 01.6**	**-0.7**
MYKA	**Terra Mystica**		**91.07 326**	*i* PcP		**P**		**19 06 01.5**	**-1.0**
	comp=Z,5.8nm,0.7s,SNR=5.0								
ANMO	**Albuquerque**		**91.30 49**	P		**P**		**19 06 05.6**	**+1.7**
	baz=306								
ANMO	**Albuquerque**		**91.30 49**	*ce*P		**P**		**19 06 05.1**	**+1.2**
ANMO					pmax	pmax			
	comp=Z,6.0nm,0.9s								
ANMO	**Albuquerque**		**91.30 49**	*e*P		**P**		**19 06 05.2**	**+1.2**
	comp=Z,4.9nm,0.8s								
T25A	**Trinidad**		**91.32 46**	P		**P**		**19 06 05.4**	**+1.4**
	baz=308								
ABTA	**Abfaltersbach**		**91.54 327**	*i* P		**P**		**19 06 02.8**	**-1.9**
	comp=Z,9.5nm,0.7s,SNR=6.9								
WATA	**Walderalm**		**91.56 328**	*i* PcP		**P**		**19 06 04.2**	**-0.6**
	comp=Z,2.8nm,0.6s								
WTTA	**Wattenberg**		**91.58 328**	*i* PcP		**P**		**19 06 04.4**	**-0.6**
	comp=Z,6.3nm,1.1s								
MOTA	**Moosalm**		**91.78 328**	*i* PcP		**P**		**19 06 05.1**	**-0.8**
	comp=Z,3.6nm,0.5s								
F36A	**Milaca**		**91.78 34**	P		**P**		**19 06 07.2**	**+1.5**
	baz=315								
RETA	**Reutte**		**91.83 328**	*i* PcP		**P**		**19 06 05.7**	**-0.2**
	comp=Z,11nm,1.1s								
IDI	**Anoyia**		**91.98 312**	P		**P**		**19 06 05.7**	**-1.2**
	comp=Z,3.3nm,0.4s,baz=66,slow=3.7,SNR=18								
FETA	**Feichten**		**92.19 328**	*i* PcP		**P**		**19 06 07.2**	**-0.6**
	comp=Z,12nm,1.1s								
WLF	**Walferdange**		**92.22 332**	*e*P		**P**		**19 06 07.5**	**-0.1**
WLF					pmax	pmax			
	comp=Z,11nm,1.1s								
WLF	**Walferdange**		**92.22 332**	*e*P		**P**		**19 06 07.5**	**-0.1**
	comp=Z,11nm,1.1s								
BFO	**Black Forest**		**92.31 330**	*i* P		**P**		**19 06 07.4**	**-0.7**
BFO	**Black Forest**		**92.31 330**	*e*P		**P**		**19 06 06.5**	**-1.6**
	comp=Z,13nm,0.9s								
DAVA	**Damuels**		**92.39 329**	*i* PcP		**P**		**19 06 08.3**	**-0.3**
	comp=Z,17nm,1.1s,SNR=6.7								
DAVOX	**Davos/Dischmat**		**92.76 328**	P		**P**		**19 06 09.8**	**-0.6**
	comp=Z,6.2nm,0.7s,baz=73,slow=1.7,SNR=11								
I38A	**Scanlan Farm,**		**93.67 35**	P		**P**		**19 06 17.3**	**+2.9**
	baz=316								
MNTX	**Cornudas Mount**		**93.94 51**	P		**P**		**19 06 17.1**	**+1.2**
	baz=307								
CEL	**Celeste**		**95.64 319**	*e*P		**P**		**19 06 22.6**	**-0.9**
	comp=Z,28nm,0.8s								
TXAR	**Lajitas Array**		**96.54 52**	P		**P**		**19 06 29.2**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=303,slow=2.5,SNR=18								
Q39A	**Willow Grove F**		**96.88 39**	P		**P**		**19 06 30.3**	**+1.3**
	baz=315								
ESDC	**Sonseca Array**		**104.53 332**	PP		PP		19 11 21.9	-5.3
	comp=Z,0.4nm,0.5s,baz=33,slow=7.4,SNR=5.8								
TORD	**Torodi Ar. Bea**		**122.30 310**	PKP		**PKPdf**		**19 11 50.4**	**-0.4**
	comp=Z,3.0nm,0.6s,baz=46,slow=1.1,SNR=33								
TORD				PP		**PP**		**19 13 28.2**	**-4.5**
	comp=Z,1.3nm,0.8s,baz=39,slow=6.1,SNR=4.5								
TORD				SKP				19 14 43.5	
	comp=Z,1.2nm,0.8s,baz=11,slow=2.1,SNR=3.7								
BOSA	**Boshof**		**123.19 253**	PKP		**PKPdf**		**19 11 52.5**	**+0.2**
	comp=Z,5.1nm,0.7s,baz=48,slow=2.5,SNR=9.4								
DBIC	**Dimbokro**		**131.41 310**	PKP		**PKPdf**		**19 12 07.6**	**-0.6**
	comp=Z,3.6nm,0.6s,baz=9.5,slow=2.8,SNR=5.1								
DBIC				SKPbc		**SKPbc**		**19 14 51.2**	**-0.8**
	comp=Z,8.6nm,1.0s,baz=9.7,slow=5.3,SNR=9.2								
SNAA	**Sanae**		**131.94 195**	P		**PKPdf**		**19 12 06.7**	**-0.9**
VNA1	**Neumayer--Stat**		**132.90 194**	P		**PKPdf**		**19 12 12.9**	**+1.7**
PTGA	**Pitinga**		**146.71 38**	PKPbc		**PKPbc**		**19 12 38.8**	**+0.5**
	comp=Z,4.0nm,0.3s,baz=353,slow=2.3,SNR=13								
LPAZ	**La Paz**		**151.56 71**	PKPbc		**PKPbc**		**19 12 52.0**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=335,slow=1.7,SNR=11								

*CSEM **15** 19:02:59.8,41.81N×15.44E,h8km,MD2.2/5*
ROM 15 19:02:59.8±0.6,41.81N×15.44E,h8km±4km,Md2.2/5,
Ml1.5/2,Error ellipse: s-maj=14.7km s-min=3.7km
az=179.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGRT	**San Giovanni R**	**0.23**	**104**			Pg	Pg	19 03 05.5	+1.0
SGRT						Sg	Sg	19 03 08.9	+1.3
SGRT	**San Giovanni R**	**0.23**	**104**			Pg	Pg	19 03 05.5	+1.0
SGRT						Sg	Sg	19 03 08.9	+1.3
MSAG	**Monte S. Angel**	**0.36**	**106**			Pg	Pb	19 03 07.8	-0.8
MSAG						Sg	Sb	19 03 14.1	-0.4
MSAG	**Monte S. Angel**	**0.36**	**106**			Pg	Pb	19 03 07.8	-0.8
MSAG						Sg	Sb	19 03 14.1	-0.4
CIGN	**Sant'Elia a Pi**	**0.43**	**249**			Pg	Pb	19 03 09.7	0.0
	62nm,1.2s								
CIGN	**Sant'Elia a Pi**	**0.43**	**249**			Pg	Pb	19 03 09.7	0.0
	62nm,1.2s								
SACR	**S. Croce Del S**	**0.69**	**233**			Pg	Pg	19 03 12.4	-0.7
SACR	**S. Croce Del S**	**0.69**	**233**			Pg	Pg	19 03 12.4	-0.7
MRVN	**Minervino Murg**	**0.94**	**143**			Pg	Pg	19 03 17.8	0.0
	19nm,0.4s								
MRVN	**Minervino Murg**	**0.94**	**143**			Pg	Pg	19 03 17.8	0.0
	19nm,0.4s								
MRLC	**Muro Lucano**	**1.05**	**178**			Pg	Pb	19 03 20.4	+0.1
MRLC	**Muro Lucano**	**1.05**	**178**			Pg	Pb	19 03 20.4	+0.1

*ISK **15** 19:30:00.3,36.61N×28.82E,h3km,MD2.7*

*ATH **15** 19:30:00.1,36.69N×28.79E,h15km±3km,ML1.9/2,Error ellipse: s-maj=4.5km s-min=1.4km az=166.0*
*ISCJB **15** 19:30:01.4±0.5,36.60N±0.03×28.81E±0.03,h4km±5km,Error ellipse: s-maj=5.0km s-min=3.9km az=28.5*
*DDA **15** 19:30:01.7,36.66N×28.84E,h7km,Md2.8*
*CSEM **15** 19:30:01.2±0.2,36.60N×28.82E,h5km,MD2.7,Error ellipse: s-maj=4.6km s-min=3.2km az=15.0*
ISC 15 19:30:01.5±1.0,36.61N±0.03×28.82E±0.02,h7km±8km,
n27,σ1s00/48,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.21**	**83**		*e*PG	**Pg**		**19 30 05.3**	**-0.4**
FETY					*e*SG	**Sg**		**19 30 09.2**	**+0.5**
FETY	**Fethiye**	**0.21**	**83**		*e*Pg	**Pg**		**19 30 05.4**	**-0.4**
FETY					*e*Sg	**Sg**		**19 30 09.2**	**+0.5**
DALY	**Dalyan (Mu˙la**	**0.25**	**327**		*e*PG	**Pg**		**19 30 06.2**	**-0.2**
DALY					*e*SG	**Sg**		**19 30 10.2**	**+0.5**
DALY	**Dalyan (Mu˙la**	**0.25**	**327**		*e*Pg	**Pg**		**19 30 06.2**	**-0.2**
DALY					*e*Sg	**Sg**		**19 30 10.2**	**+0.5**
TURN	**Turunc**	**0.32**	**327**		*i* P	**Pn**		**19 30 10.8**	**-1.7**
TURN					*i* S	**Sb**		**19 30 19.5**	**+4.7**
YER	**Yerkesik**	**0.68**	**321**		*e*PG	**Pg**		**19 30 14.2**	**-0.3**
YER					*e*SG	**Sb**		**19 30 24.5**	**-0.8**
YER	**Yerkesik**	**0.68**	**321**		*e*Pg	**Pg**		**19 30 14.3**	**-0.3**
YER					*e*Sg	**Sb**		**19 30 24.5**	**-0.8**
ARG	**Arkhangelos**	**0.68**	**235**		P	**Pg**		**19 30 13.1**	**-1.5**
ARG					S	**Sg**		**19 30 24.3**	**+0.8**
AKAS	**Kas**	**0.74**	**120**		P	**Pg**		**19 30 15.5**	**-0.2**
AKAS					S	**Sb**		**19 30 28.1**	**+1.1**
AKAS	**Kas**	**0.74**	**120**		*i* P	**Pg**		**19 30 15.5**	**-0.2**
AKAS					*i* S	**Sb**		**19 30 28.1**	**+1.1**
KSL	**Kastellorizon**	**0.77**	**126**		P	**Pg**		**19 30 15.6**	**-0.6**
KSL					S	**Sb**		**19 30 28.9**	**+1.1**
KSL					AML	AML		19 30 33.6	
	comp=E,135μm,0.6s								
KSL					AML	AML		19 30 37.5	
	comp=N,84μm,0.6s								
GOLH	**Golhisar**	**0.86**	**43**		P	**Pg**		**19 30 17.2**	**-0.9**
GOLH					S	**Sn**		**19 30 31.9**	**-1.2**
GOLH	**Golhisar**	**0.86**	**43**		*i* P	**Pg**		**19 30 17.2**	**-0.9**
GOLH					*i* S	**Sn**		**19 30 31.9**	**-1.2**
ELL	**Elmali**	**0.89**	**81**		*e*PG	**Pg**		**19 30 18.0**	**-0.5**
ELL	**Elmali**	**0.89**	**81**		*e*Pg	**Pg**		**19 30 18.0**	**-0.5**
BDRM	**Kayabasi**	**1.19**	**293**		P	**Pb**		**19 30 24.0**	**-0.4**
BDRM					S	**Sn**		**19 30 41.1**	**0.0**
BDRM	**Kayabasi**	**1.19**	**293**		*i* P	**Pb**		**19 30 24.0**	**-0.4**
BDRM					*i* S	**Sn**		**19 30 41.1**	**0.0**
BODT	**Bodrum**	**1.29**	**291**		*e*PN	**Pn**		**19 30 25.6**	**-0.4**
BODT					*e*SN	**Sn**		**19 30 44.5**	**+1.0**
BODT	**Bodrum**	**1.29**	**291**		*e*Pn	**Pn**		**19 30 25.6**	**-0.4**
BODT					*e*Sn	**Sn**		**19 30 44.5**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**331**		*e*PN	**Pn**		**19 30 29.3**	**0.0**
AYDB					*e*SN	**Sg**		**19 30 50.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**331**		*e*Pn	**Pn**		**19 30 29.3**	**0.0**
AYDB					*e*Sn	**Sg**		**19 30 50.5**	**-0.1**
KARP	**Karpathos**	**1.71**	**232**		P	**Pb**		**19 30 33.1**	**-0.2**
KARP					S	**Sn**		**19 30 54.3**	**+0.4**
KARP	**Karpathos**	**1.71**	**232**		P	**Pb**		**19 30 33.1**	**-0.2**
KARP					S	**Sn**		**19 30 54.3**	**+0.4**
KARP					AML	AML		19 30 59.0	
	comp=E,54μm,0.3s								
KARP					AML	AML		19 31 01.3	
	comp=N,72μm,0.5s								
KULA	**Kula-Manisa**	**1.91**	**356**		*e*PN	**Pn**		**19 30 35.0**	**+0.6**
KULA	**Kula-Manisa**	**1.91**	**356**		*e*Pn	**Pn**		**19 30 35.1**	**+0.6**
SMG	**Samos**	**1.93**	**305**		P	**Pn**		**19 30 34.1**	**-0.6**
SMG	**Samos**	**1.93**	**305**		P	**Pn**		**19 30 34.1**	**-0.6**

*ISCJB **15** 19:32:51.9±0.3,19.95S±0.03×69.14W±0.06,h111km±3km,mb4.5/16,Error ellipse: s-maj=8.9km s-min=4.2km az=178.4*
*NEIC **15** 19:32:53.8±0.8,19.93S×68.97W,h112km±8km,mb4.3/4,Error ellipse: s-maj=11.2km s-min=7.0km az=88.0*
*GUC **15** 19:32:53.2±0.7,19.96S×69.27W,h95km±3km,ML4.9*
*IDC **15** 19:32:53.2±0.6,19.93S×68.96W,h104km±5km,mb4.2/13,mb1 4.4/15,mb1mx4.1/34,mbtmp4.7/15,MS3.1/3,Ms1 3.1/3,ms1mx2.9/19,Error ellipse: s-maj=13.7km s-min=8.5km az=95.0*
*SCB **15** 19:32:55.4±0.6,19.68S×68.71W,h105km,Ml3.9/2,Error ellipse: s-maj=19.0km s-min=5.4km az=63.0*
ISC 15 19:32:52.5±0.5,19.93S±0.03×69.16W±0.05,h99km±4km,
n51,σ1s70/70,mb4.4/16,7C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.21**	**178**		*i* P	**Pn**		**19 33 07.7**	**+0.6**
PB08					*i* S	**Sn**		**19 33 18.6**	**+0.7**
PB08					IAML			19 33 21.3	
	comp=E,64μm,0.2s								
PB11	**IPOC Station P**	**0.50**	**290**		*i* P	**Pn**		**19 33 08.5**	**+0.2**
PB11					*i* S	**Sn**		**19 33 20.0**	**-0.2**
MNMC	**Minye Minye**	**0.90**	**333**		*i* P	**Pn**		**19 33 13.4**	**+1.4**
MNMC					*i* S	**Sn**		**19 33 28.8**	**+2.1**
PSGC	**Pisagua**	**0.96**	**290**		*i* P	**Pn**		**19 33 12.7**	**+0.2**
PSGC					*i* S	**Sn**		**19 33 27.9**	**+0.3**
PB01	**IPOC Station P**	**1.15**	**195**		*i* P	**Pn**		**19 33 15.1**	**+0.5**
PB01					*i* S	**Sn**		**19 33 31.4**	**+0.1**
PB01					IAML			19 33 33.3	
	comp=E,46μm,0.5s								
PB13	**IPOC Station P**	**1.62**	**348**		*i* P	**Pn**		**19 33 22.9**	**+2.1**
PB13					*i* S	**Sn**		**19 33 45.2**	**+3.1**
PB12	**IPOC Station P**	**1.71**	**320**		*i* P	**Pn**		**19 33 21.9**	**+0.5**
PB12					*i* S	**Sn**		**19 33 43.5**	**+0.1**
PB09	**IPOC Station P**	**1.86**	**182**		*i* P	**Pn**		**19 33 24.1**	**+0.7**
PB09					*i* S	**Sn**		**19 33 47.9**	**+1.0**
PB09					IAML			19 33 55.4	
	comp=E,21μm,0.7s								
PB07	**IPOC Station P**	**1.91**	**201**		*i* P	**Pn**		**19 33 24.0**	**0.0**
PB07					*i* S	**Sn**		**19 33 48.3**	**+0.2**
PB07					IAML			19 33 54.4	
	comp=E,11μm,0.6s								
LVC	**Limon Verde**	**2.68**	**175**		P	**Pn**		**19 33 35.1**	**+0.9**
	comp=E,8μm,0.3s,baz=51,slow=7.0,SNR=338								
LVC					S	**Sn**		**19 34 06.8**	**+0.5**
	comp=E,8μm,0.3s,baz=50,slow=23,SNR=12								
BBOJ	**La Paz, Jacaqu**	**3.08**	**18**		⇑*i*Pn	**Pn**		**19 33 43.1**	**+3.3**
BBOJ					⇑*i*Sn	**Sn**		**19 34 16.2**	**0.0**
	comp=E,120nm,0.5s								
BBOE	**La Paz, Chanca**	**3.30**	**20**		⇑*i*Pn	**Pn**		**19 33 45.8**	**+3.1**
BBOD	**La Paz, Gloria**	**3.32**	**9**		⇑*i*Pn	**Pn**		**19 33 46.5**	**+3.5**
MOCB	**Mochara**	**3.55**	**112**		*e*Pn	**Pn**		**19 33 49.5**	**+3.5**
LPAZ	**La Paz**	**3.75**	**15**		P	**Pn**		**19 33 52.1**	**+3.2**
	comp=E,18nm,0.3s,baz=188,slow=7.6,SNR=608								
LPAZ					LR	LR		19 35 31.4	
	comp=E,208nm,19.3s,baz=202,slow=43								
LPAZ	**La Paz**	**3.75**	**15**		⇑*i*Pn	**Pn**		**19 33 51.9**	**+3.0**
BBOB	**La Paz, Bander**	**3.89**	**15**		⇑*i*Pn	**Pn**		**19 33 53.5**	**+2.8**
BBOB					*e*Sn	**Sn**		**19 34 34.9**	**-0.8**
	comp=E,176nm,0.6s								
SIV	**San Ignacio**	**8.64**	**64**		P	**Pn**		**19 34 52.7**	**-1.9**
	comp=E,38nm,0.3s,baz=264,slow=12,SNR=434								
SIV					S	**Sn**		**19 36 24.7**	**-5.8**
	comp=E,0.9nm,0.3s,baz=223,slow=18,SNR=1.9								
SIV	**San Ignacio**	**8.64**	**64**		⇑*i*P	**Pn**		**19 34 52.8**	**-1.9**
NNA	**Nana**	**10.81**	**316**		LR	LR		19 38 54.7	
	comp=E,53nm,19.5s,baz=187,slow=33								
NNA	**Nana**	**10.81**	**316**		*e*P	**Pn**		**19 35 20.0**	**-4.3**
CPUP	**Villa Florida**	**12.61**	**123**		P	**Pn**		**19 35 46.4**	**-1.8**
	comp=E,1.4nm,0.3s,baz=300,slow=12,SNR=51								
TRQA	**Tornquist**	**19.11**	**162**		*e*P	**P**		**19 37 07.2**	**-0.3**
	comp=E,8.3nm,0.6s								
BDFB	**Brasilia**	**20.58**	**81**		P	**P**		**19 37 22.5**	**-1.2**
	comp=E,8.3nm,0.3s,baz=259,slow=14,SNR=9.7								
BDFB					LR	LR		19 46 27.2	
	comp=E,120nm,19.1s,baz=216,slow=40								
PLCA	**Paso Flores**	**20.77**	**183**		P	**P**		**19 37 25.8**	**+0.3**
	comp=E,18nm,0.7s,baz=33,slow=12,SNR=16								
PTGA	**Pitinga**	**21.10**	**26**		P	**P**		**19 37 26.8**	**-2.4**
	comp=E,2.7nm,0.3s,baz=325,slow=22,SNR=9.2								
RCBR	**Riachuelo**	**35.23**	**71**		P	**P**		**19 39 38.0**	**+0.4**
	comp=E,11nm,0.6s,baz=242,slow=8.2,SNR=6.4								
TEIG	**Tepich**	**44.08**	**334**		P	**P**		**19 40 51.4**	**+0.5**
	comp=E,1.9nm,0.5s,baz=267,slow=23,SNR=4.6								
MIAR	**Mount Ida**	**58.94**	**337**		*e*P	**P**		**19 42 41.4**	**-0.1**
	comp=E,1.9nm,0.5s								
TXAR	**Lajitas Array**	**59.22**	**325**		P	**P**		**19 42 43.5**	**0.0**
	comp=E,0.3nm,0.6s,baz=134,slow=7.2,SNR=5.4								
SNAA	**Sanae**	**63.83**	**161**		*e*P	**P**		**19 43 13.5**	**-0.5**
	comp=E,500nm,1.0s								

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SADO	**Sadowa**	**65.03**	**352**		P	**P**		**19 43 21.5**	**-0.4**
	comp=E,3.3nm,0.5s,baz=164,slow=7.4,SNR=2.9								
SADO					pP	**pP**		**19 43 47.8**	**+1.1**
	comp=E,2.1nm,0.4s,baz=181,slow=12,SNR=2.1								
DBIC	**Dimbokro**	**68.52**	**74**		P	**P**		**19 43 44.1**	**-0.8**
	comp=E,11nm,0.7s,baz=209,slow=6.4,SNR=16								
DBIC					pP	**pP**		**19 44 11.0**	**+1.2**
	comp=E,6.8nm,0.6s,baz=222,slow=7.3,SNR=4.3								
PFO	**Pinyon Flats O**	**69.77**	**319**		P	**P**		**19 43 53.5**	**+1.2**
	comp=E,3.2nm,0.7s,baz=176,slow=2.2,SNR=4.0								
QSPA	**South Pole Qui**	**70.25**	**180**		*e*P	**P**		**19 43 55.6**	**+0.8**
	comp=E,27nm,1.0s								
AGMN	**Agassiz Nation**	**72.00**	**342**		*e*P	**P**		**19 44 04.8**	**-0.5**
	comp=E,2.5nm,0.5s								
ULM	**Lac du Bonnet**	**73.76**	**343**		P	**P**		**19 44 15.2**	**-0.4**
	comp=E,2.0nm,0.4s,baz=170,slow=6.5,SNR=4.6								
TORD	**Torodi Ar. Bea**	**77.06**	**71**		P	**P**		**19 44 33.7**	**-1.6**
	comp=E,6.4nm,0.5s,baz=254,slow=5.5,SNR=32								
TORD					pP	**pP**		**19 45 01.9**	**+1.1**
	comp=E,7.9nm,0.6s,baz=249,slow=5.3,SNR=8.6								
VNDA	**Vanda**	**78.35**	**190**		P	**P**		**19 44 43.1**	**+1.7**
	comp=E,1.4nm,0.8s,baz=125,slow=5.4,SNR=8.0								
MAW	**Mawson**	**85.89**	**163**		P	**P**		**19 45 21.0**	**+0.1**
	comp=E,2.8nm,0.7s,baz=154,slow=8.5,SNR=4.0								
YKA	**Yellowknife Ar**	**89.64**	**341**		P	**P**		**19 45 38.9**	**+0.2**
	comp=E,6.7nm,0.7s,baz=133,slow=4.6,SNR=69								
YKA					pP	**pP**		**19 46 07.4**	**+2.6**
	comp=E,1.8nm,0.6s,baz=133,slow=4.7,SNR=4.8								
STKA	**Stephens Creek**	**120.65**	**210**	PKP		**PKPdf**		**19 51 32.2**	**-1.1**
	comp=E,1.6nm,0.7s,baz=299,slow=7.0,SNR=3.4								
SEY	**Seymchan**	**128.57**	**337**	PKP		**PKPdf**		**19 51 48.4**	**+1.0**
	comp=E,1.4nm,0.8s,baz=356,slow=4.7,SNR=4.7								
ASAR	**Alice Springs**	**131.18**	**209**	PKP		**PKPdf**		**19 51 53.2**	**-0.4**
	comp=E,0.9nm,0.5s,baz=126,slow=1.7,SNR=20								
WRA	**Warramunga Arr**	**134.17**	**212**	PKP		**PKPdf**		**19 51 59.5**	**+0.1**
	comp=E,1.7nm,0.6s,baz=139,slow=1.6,SNR=29								
WRA				pPKP		**pPKPdf**		**19 52 27.3**	**+0.7**
	comp=E,1.2nm,0.7s,baz=154,slow=1.7,SNR=3.8								
MKAR	**Makanchi Array**	**144.49**	**34**	PKP		**PKPab**		**19 52 16.0**	**+0.1**
	comp=E,0.7nm,0.6s,baz=296,slow=3.1,SNR=7.1								
KLR	**Kul'dur**	**146.31**	**335**	PKPbc		**PKPdf**		**19 52 20.9**	**

THR5	**Thira Island,**	**1.79**	**299**	*e*PN	**Pn**	**19 33 34.5**	**0.0**
THR5	**Thira Island,**	**1.79**	**299**	P	**Pn**	**19 33 34.9**	**+0.4**
THR5	**Thira Island,**	**1.79**	**299**	*e*Pn	**Pn**	**19 33 34.5**	**0.0**
THR5	**Thira Island,**	**1.79**	**299**	P	**Pn**	**19 33 34.9**	**+0.4**
FETY	**Fethiye**	**1.80**	**53**	*e*PN	**Pb**	**19 33 35.9**	**-0.9**
FETY	**Fethiye**	**1.80**	**53**	P	**Pb**	**19 33 35.8**	**-1.0**
FETY				S	**Sb**	**19 33 59.2**	**0.0**
FETY	**Fethiye**	**1.80**	**53**	P	**Pb**	**19 33 35.8**	**-1.0**
FETY				S	**Sb**	**19 33 59.2**	**0.0**
IDI	**Anoyia**	**1.98**	**263**	P	**Pn**	**19 33 37.0**	**-0.1**
IDI	**Anoyia**	**1.98**	**263**	P	**Pn**	**19 33 37.0**	**-0.1**
IDI	**Anoyia**	**1.98**	**263**	P	**Pn**	**19 33 36.5**	**-0.6**
AKAS	**Kas**	**1.99**	**70**	P	**Pn**	**19 33 37.4**	**+0.1**
AKAS	**Kas**	**1.99**	**70**	*i* P	**Pn**	**19 33 37.4**	**+0.1**
APE	**Apeiranthos**	**2.07**	**317**	*e*PN	**Pn**	**19 33 39.3**	**+1.0**
APE	**Apeiranthos**	**2.07**	**317**	P	**Pn**	**19 33 38.5**	**+0.2**
APE				S	**Sn**	**19 34 03.8**	**-0.1**
APE	**Apeiranthos**	**2.07**	**317**	P	**Pn**	**19 33 38.5**	**+0.2**
APE	**Apeiranthos**	**2.07**	**317**	*e*Pn	**Pn**	**19 33 39.3**	**+1.0**
APE				S	**Sn**	**19 34 03.8**	**-0.1**
SIVA	**Sivas**	**2.10**	**256**	P	**Pb**	**19 33 40.5**	**-1.4**
SIVA	**Sivas**	**2.10**	**256**	P	**Pb**	**19 33 40.5**	**-1.4**
GCAM	**G?zelcaml?**	**2.13**	**359**	P	**Pn**	**19 33 40.3**	**+1.2**
GCAM	**G?zelcaml?**	**2.13**	**359**	*i* P	**Pn**	**19 33 40.4**	**+1.2**
GLHS	**Glhisar (BURDU**	**2.39**	**48**	*e*PN	**Pn**	**19 33 44.1**	**+1.3**
GLHS	**Glhisar (BURDU**	**2.39**	**48**	*e*Pn	**Pn**	**19 33 44.1**	**+1.3**
ELL	**Elmali**	**2.42**	**60**	*e*PN	**Pn**	**19 33 44.4**	**+1.1**
ELL	**Elmali**	**2.42**	**60**	*e*Pn	**Pn**	**19 33 44.4**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.43**	**11**	*e*PN	**Pn**	**19 33 44.9**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**2.43**	**11**	*e*Pn	**Pn**	**19 33 44.9**	**+1.6**
GOLH	**Golhisar**	**2.48**	**47**	P	**Pn**	**19 33 45.9**	**+1.9**
GOLH	**Golhisar**	**2.48**	**47**	*i* P	**Pn**	**19 33 45.9**	**+1.9**
GOLH				*i* S	**Sn**	**19 34 25.0**	**+1.2**
DGB	**˜zmir**	**2.51**	**353**	*i* P	**Pn**	**19 33 44.2**	**0.0**
VAM	**Vamos**	**2.53**	**267**	P	**Pn**	**19 33 44.8**	**+0.2**
VAM	**Vamos**	**2.53**	**267**	P	**Pn**	**19 33 44.8**	**+0.2**
IMMV	**Iera Moni Meta**	**2.70**	**269**	P	**Pn**	**19 33 47.1**	**+0.1**
IMMV	**Iera Moni Meta**	**2.70**	**269**	P	**Pn**	**19 33 47.1**	**+0.1**
IMMV	**Iera Moni Meta**	**2.70**	**269**	P	**Pn**	**19 33 46.7**	**-0.3**
CHOS	**Chios island**	**2.99**	**341**	*e*PN	**Pn**	**19 33 51.8**	**+0.8**
CHOS	**Chios island**	**2.99**	**341**	*e*Pn	**Pn**	**19 33 51.8**	**+0.8**
KULA	**Kula-Manisa**	**3.14**	**20**	*e*PN	**Pn**	**19 33 54.1**	**+1.0**
KULA	**Kula-Manisa**	**3.14**	**20**	*e*Pn	**Pn**	**19 33 54.1**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.54**	**56**	*e*PN	**Pn**	**19 33 59.8**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.54**	**56**	*e*Pn	**Pn**	**19 33 59.8**	**+1.1**
VLI	**Veliai**	**3.71**	**289**	P	**Pn**	**19 34 02.0**	**+1.2**
VLI	**Veliai**	**3.71**	**289**	P	**Pn**	**19 34 02.0**	**+1.2**
GAZI	**Gazipasa**	**4.13**	**79**	P	**Pn**	**19 34 05.7**	**-1.0**
GAZI				S	**Sn**	**19 34 54.9**	**+0.1**
GAZI	**Gazipasa**	**4.13**	**79**	*i* P	**Pn**	**19 34 05.7**	**-1.0**
GAZI				*i* S	**Sn**	**19 34 54.9**	**+0.1**
TVSB	**Tavsanli**	**4.25**	**23**	*e*PN	**Pn**	**19 34 09.3**	**+1.0**
TVSB	**Tavsanli**	**4.25**	**23**	*e*Pn	**Pn**	**19 34 09.3**	**+1.0**
ERMK	**Ermenek**	**4.68**	**75**	P	**Pn**	**19 34 15.6**	**+1.3**
ERMK	**Ermenek**	**4.68**	**75**	*i* P	**Pn**	**19 34 15.6**	**+1.3**
IKL	**Isikli**	**5.23**	**81**	*e*PN	**Pn**	**19 34 22.0**	**+0.3**
IKL	**Isikli**	**5.23**	**81**	*e*Pn	**Pn**	**19 34 22.0**	**+0.3**

NNC ***15*** *19:36:07.3±0.5, 46°.66N×82°.97E, h0km, mb3.7, mpv3.0, Error ellipse: s-maj=8.9km s-min=2.7km az=15.0*
SOME ***15*** *19:36:09.3, 46°.93N×82°.50E, h15km*
ISC 15 19:36:10.3±1.6, 46°.72N±0°.04×82°.79E±0°.04, h4km±13km, n19,σ1§19/37, 8C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK07	**Makanchi Array**	**0.33**	**275**	P	**Pg**	**19 36 16.3**	**-0.3**
MK07				S	**Sb**	**19 36 23.2**	**-1.1**
MK06	**Makanchi Array**	**0.33**	**279**	P	**Pg**	**19 36 16.4**	**-0.3**
MK06				S	**Sb**	**19 36 23.3**	**-1.1**
MK02	**Makanchi Array**	**0.33**	**278**	P	**Pg**	**19 36 16.5**	**-0.2**
MK02				S	**Sb**	**19 36 23.1**	**-1.3**
MK03	**Makanchi Array**	**0.34**	**277**	P	**Pg**	**19 36 16.6**	**-0.2**
MK03				S	**Sb**	**19 36 23.4**	**-1.2**
MK01	**Makanchi Array**	**0.34**	**278**	P	**Pg**	**19 36 16.5**	**-0.3**
MK01				S	**Sb**	**19 36 23.4**	**-1.3**
MK04	**Makanchi Array**	**0.34**	**278**	P	**Pg**	**19 36 16.5**	**-0.4**
MK04				S	**Sb**	**19 36 23.7**	**-1.0**
MK08	**Makanchi Array**	**0.35**	**275**	P	**Pg**	**19 36 16.9**	**-0.1**
MK08				S	**Sb**	**19 36 23.9**	**-0.9**
MK05	**Makanchi Array**	**0.35**	**282**	P	**Pg**	**19 36 16.8**	**-0.2**
MK05				S	**Sb**	**19 36 23.8**	**-1.1**
MK31	**Makanchi Array**	**0.35**	**282**	⇓P	**Pg**	**19 36 16.8**	**-0.3**
	1.1nm,0.2s						
MK31				⇑S	**Sb**	**19 36 23.8**	**-1.2**
	11nm,0.2s						
MK09	**Makanchi Array**	**0.35**	**278**	P	**Pg**	**19 36 16.8**	**-0.3**
MK09				S	**Sb**	**19 36 24.1**	**-1.1**
MAKZ	**Makanchi**	**0.56**	**279**	⇑P	**Pg**	**19 36 20.7**	**-0.4**
	2.4nm,0.3s						
MAKZ				⇑S	**Sb**	**19 36 30.3**	**-0.8**
	5.5nm,0.2s						
ZSN	**Zaisan**	**1.32**	**56**	*e*P	**Pg**	**19 36 34.6**	**-0.9**
	7.3nm,0.1s						
ZSN				*e*S	**Sn**	**19 36 53.0**	**-0.5**
	17nm,0.1s						
KAPS	**Kapalarasan**	**2.79**	**240**	*e*P	**Pb**	**19 36 59.0**	**-1.7**
	3.3nm,0.2s						
KAPS				*e*S	**Sb**	**19 37 33.9**	**-1.4**
	5.1nm,0.2s						
DJR	**Jarkent**	**3.19**	**222**	*e*P	**Pb**	**19 37 07.6**	**+0.2**
DJR				*e*S	**Sb**	**19 37 48.6**	**+1.9**
SEM	**Semipalatinsk**	**4.05**	**336**	*e*P	**Pg**	**19 37 26.2**	**-1.6**
SEM				*e*S	**Sg**	**19 38 21.3**	**+0.9**
PDGK	**Podgornoye**	**4.12**	**216**	⇓Pn	**Pn**	**19 37 14.0**	**0.0**
	1.8nm,0.4s						
PDGK				⇑Lg	Lg	19 38 16.9	
	3.0nm,0.5s						
ARXS	**Arharly**	**4.30**	**236**	*e*P	**Pb**	**19 37 26.4**	**0.0**
	2.8nm,0.2s						
ARXS				*e*S	**Sb**	**19 38 22.0**	**+3.4**
	8.2nm,0.3s						
KURBB	**Kurchatov Arra**	**4.81**	**326**	⇓Pn	**Pn**	**19 37 23.9**	**+0.5**
	0.6nm,0.3s						
KURBB				⇑Pg	**Pb**	**19 37 35.9**	**+0.8**
	1.9nm,0.4s						
KURBB				⇑Lg	Lg	19 38 42.9	
	44nm,0.7s						
KURK	**Kurchatov**	**4.85**	**327**	⇓Pn	**Pn**	**19 37 25.4**	**+1.4**
	5.5nm,0.7s						
KURK				⇑Pg	**Pb**	**19 37 37.9**	**+2.1**
	9.1nm,0.6s						
KURK				⇑Lg	Lg	19 38 42.2	
	36nm,0.4s						

ISCJB ***15*** *19:50:36.6±0.2, 44°.46N±0°.01×6°.85E±0°.02, h12km±2km, Error ellipse: s-maj=3.1km s-min=2.0km az=148.9*
ROM ***15*** *19:50:36.7±0.4, 44°.47N×6°.87E, h7km±2km, Md2.5/11, Ml2.2/11, Error ellipse: s-maj=4.4km s-min=1.9km az=60.0*
GEN ***15*** *19:50:36.9, 44°.47N×6°.87E, h0km, ML2.0*
LDG ***15*** *19:50:37.5±0.1, 44°.49N×6°.89E, h2km, Md2.7/3, Ml2.5/16, Error ellipse: s-maj=1.5km s-min=1.0km az=44.0*
STR ***15*** *19:50:37.8±0.1, 44°.50N×6°.97E, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
CSEM ***15*** *19:50:37.0±0.1, 44°.47N×6°.85E, h5km, ML2.6/22, Error ellipse: s-maj=2.8km s-min=2.0km az=47.0*
ISC 15 19:50:37.0±0.8, 44°.47N±0°.01×6°.85E±0°.02, h13km±6km, n111,σ1§20/183, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.19**	**80**	Pg	**Pg**	**19 50 41.1**	**-0.3**
PZZ				Sg	**Sg**	**19 50 44.9**	**+0.5**
	489nm,0.2s						
PZZ	**Stroppo**	**0.19**	**80**	P	**Pg**	**19 50 41.0**	**-0.3**
PZZ				S	**Sg**	**19 50 43.5**	**-0.9**
PZZ				Sg	Sg	19 50 44.9	+0.5
	489nm,0.2s						
MBDF	**Montbardon**	**0.26**	**347**	*e*Pn	**Pg**	**19 50 42.3**	**-0.2**
MBDF				*e*Sg	**Sg**	**19 50 45.8**	**-0.5**
	147nm,0.3s						
MBDF	**Montbardon**	**0.26**	**347**	*e*Pn	**Pg**	**19 50 42.3**	**-0.2**
MBDF				*e*Sg	**Sg**	**19 50 45.8**	**-0.5**
	73nm,0.3s						
DOI	**San Damiano**	**0.28**	**84**	Pg	**Pg**	**19 50 42.6**	**-0.3**
DOI				Sg	**Sg**	**19 50 46.8**	**-0.1**
DOI	**San Damiano**	**0.28**	**84**	Pg	**Pg**	**19 50 42.6**	**-0.3**
DOI				Sg	**Sg**	**19 50 46.8**	**-0.1**
OG22	**Abries**	**0.35**	**11**	Pg	**Pg**	**19 50 44.1**	**-0.1**
OG22				Sg	**Sg**	**19 50 49.3**	**+0.2**
OG22	**Abries**	**0.35**	**11**	Pg	**Pg**	**19 50 44.1**	**-0.1**
OG22				Sg	**Sg**	**19 50 49.3**	**+0.2**
STV	**Sant Anna di V**	**0.41**	**124**	Pg	**Pg**	**19 50 45.0**	**-0.1**
STV				Sg	**Sg**	**19 50 50.6**	**0.0**
	86nm,0.2s						
STV	**Sant Anna di V**	**0.41**	**124**	P	**Pg**	**19 50 45.0**	**-0.1**
STV				S	**Sg**	**19 50 50.4**	**-0.2**
RRL	**Rocca Remolon**	**0.45**	**354**	Pg	**Pg**	**19 50 46.1**	**+0.2**
RRL				Sg	**Sb**	**19 50 53.4**	**-0.3**
	55nm,0.2s						
RRL	**Rocca Remolon**	**0.45**	**354**	Pg	**Pg**	**19 50 46.1**	**+0.2**
RRL				S	**Sg**	**19 50 52.4**	**+0.4**
RRL				Sg	**Sb**	**19 50 53.4**	**-0.3**
	55nm,0.2s						
ENR	**Entracque**	**0.48**	**121**	Pg	**Pg**	**19 50 46.2**	**-0.2**
	135nm,0.1s						
ENR	**Entracque**	**0.48**	**121**	Pg	**Pg**	**19 50 46.2**	**-0.2**
	135nm,0.1s						
ENR				S	**Sg**	**19 50 52.7**	**0.0**
MVIF	**Mont Vial**	**0.62**	**159**	Pg	**Pg**	**19 50 49.2**	**+0.2**
MVIF				Sg	**Sg**	**19 50 57.8**	**+0.6**
MVIF	**Mont Vial**	**0.62**	**159**	Pg	**Pg**	**19 50 49.2**	**+0.2**
MVIF				Sg	**Sg**	**19 50 57.8**	**+0.6**
LUCF	**Luceram**	**0.68**	**148**	Pg	**Pg**	**19 50 50.3**	**+0.1**
LUCF				Sg	**Sg**	**19 50 59.6**	**+0.4**
LUCF	**Luceram**	**0.68**	**148**	Pg	**Pg**	**19 50 50.3**	**+0.1**
LUCF				Sg	**Sg**	**19 50 59.6**	**+0.4**
RSP	**Reno Superiore**	**0.74**	**23**	Pg	**Pg**	**19 50 51.3**	**0.0**
	52nm,0.3s						
RSP	**Reno Superiore**	**0.74**	**23**	Pg	**Pg**	**19 50 51.3**	**0.0**
	52nm,0.3s						
SBF	**Sospel**	**0.74**	**145**	*e*Pg	**Pg**	**19 50 51.4**	**+0.1**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**19 51 01.4**	**+0.4**
	97nm,0.3s,SNR=1.0						
SBF	**Sospel**	**0.74**	**145**	*e*Pg	**Pg**	**19 50 51.4**	**+0.1**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**19 51 01.4**	**+0.4**
	48nm,0.3s,SNR=1.0						
REVF	**Revere**	**0.82**	**153**	Pg	**Pb**	**19 50 53.6**	**+0.4**
REVF				Sg	**Sb**	**19 51 05.0**	**+0.8**
REVF	**Revere**	**0.82**	**153**	Pg	**Pb**	**19 50 53.6**	**+0.4**
REVF				Sg	**Sb**	**19 51 05.0**	**+0.8**
ORIF	**Oris-en-Rattie**	**0.82**	**303**	*e*Pg	**Pg**	**19 50 52.9**	**0.0**
ORIF				*e*Sg	**Sg**	**19 51 03.9**	**+0.1**
	30nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.82**	**303**	*e*Pg	**Pg**	**19 50 52.9**	**0.0**
ORIF				*e*Sg	**Sg**	**19 51 03.9**	**+0.1**
	15nm,0.2s						
NEGI	**Seborga**	**0.88**	**135**	Pg	**Pg**	**19 50 54.0**	**+0.1**
NEGI				Sg	**Sb**	**19 51 05.9**	**+0.2**
	46nm,0.1s						
NEGI	**Seborga**	**0.88**	**135**	P	**Pg**	**19 50 53.8**	**-0.1**
NEGI				Sg	**Sb**	**19 51 05.9**	**+0.2**
	46nm,0.1s						
FRF	**La Foret Royal**	**0.93**	**189**	*e*Pg	**Pg**	**19 50 54.8**	**0.0**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**19 51 07.0**	**+0.1**
	18nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.93**	**189**	*e*Pg	**Pg**	**19 50 54.8**	**0.0**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**19 51 07.0**	**+0.1**
	9.2nm,0.2s,SNR=1.0						
IMI	**Imperia**	**0.94**	**127**	Pg	**Pg**	**19 50 54.7**	**-0.3**
IMI				Sg	**Sb**	**19 51 08.2**	**+0.7**
	81nm,0.4s						
IMI	**Imperia**	**0.94**	**127**	P	**Pg**	**19 50 54.7**	**-0.3**
IMI				Sg	**Sb**	**19 51 08.2**	**+0.7**
	81nm,0.4s						
RORO	**Rocca Rossa**	**0.94**	**112**	Pg	**Pg**	**19 50 54.6**	**-0.6**
RORO				Sg	**Sb**	**19 51 07.9**	**+0.3**
	8µm,0.3s						
RORO	**Rocca Rossa**	**0.94**	**112**	Pg	**Pg**	**19 50 54.6**	**-0.6**
RORO				Sg	**Sb**	**19 51 07.9**	**+0.3**
	8µm,0.3s						
LSD	**Lago del Serru**	**1.01**	**11**	Pg	**Pg**	**19 50 56.5**	**+0.1**
LSD				Sg	**Sn**	**19 51 10.9**	**-0.4**
	34nm,0.2s						
LSD	**Lago del Serru**	**1.01**	**11**	P	**Pg**	**19 50 56.2**	**-0.2**
LSD	**Lago del Serru**	**1.01**	**11**	Pg	**Pg**	**19 50 56.5**	**+0.1**
LSD				Sg	**Sn**	**19 51 10.9**	**-0.4**
	34nm,0.2s						
LPG	**La Plagne**	**1.03**	**356**	*e*Pg	**Pb**	**19 50 57.1**	**+0.3**
LPG				*e*Sg	**Sb**	**19 51 10.9**	**+0.5**
	26nm,0.5s						
LPG	**La Plagne**	**1.03**	**356**	*e*Pg	**Pb**	**19 50 57.1**	**+0.3**
LPG				*e*Sg	**Sb**	**19 51 10.9**	**+0.5**
	13nm,0.5s						
SMRF	**Simiane la Rot**	**1.04**	**242**	*e*Pg	**Pn**	**19 50 58.1**	**+0.7**
	SNR=1.0						
SMRF				*e*Sg	**Sn**	**19 51 11.6**	**-0.3**
	24nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.04**	**242**	*e*Pg	**Pn**	**19 50 58.1**	**+0.7**
	SNR=1.0						
SMRF				*e*Sg	**Sn**	**19 51 11.6**	**-0.3**
	12nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**1.05**	**355**	*e*Pg	**Pb**	**19 50 57.0**	**-0.1**
LPL				*e*Sg	**Sb**	**19 51 11.6**	**+0.7**
	16nm,0.4s						
LPL	**La Plagne**	**1.05**	**355**	*e*Pg	**Pb**	**19 50 57.0**	**-0.1**
LPL				*e*Sg	**Sb**	**19 51 11.6**	**+0.7**
	7.9nm,0.4s						
QLNO	**Quiliano**	**1.08**	**97**	Pg	**Pb**	**19 50 57.1**	**-0.5**
QLNO				Sg	**Sb**	**19 51 11.1**	**-0.5**
	25nm,0.4s						
QLNO	**Quiliano**	**1.08**	**97**	Pg	**Pb**	**19 50 57.1**	**-0.5**
QLNO				Sg	**Sb**	**19 51 11.1**	**-0.5**
	25nm,0.4s						
FINB	**Finale Ligure**	**1.10**	**105**	Pg	**Pb**	**19 50 57.5**	**-0.3**
	58nm,0.5s						
FINB	**Finale Ligure**	**1.10**	**105**	Pg	**Pb**	**19 50 57.5**	**-0.3**
	58nm,0.5s						
GRN	**Grenoble**	**1.10**	**315**	Pg	**Pn**	**19 51 00.1**	**+1.9**
GRN				Sg	**Sn**	**19 51 15.1**	**+1.7**
GRN	**Grenoble**	**1.10**	**315**	Pg	**Pn**	**19 51 00.1**	**+1.9**
GRN				Sg	**Sn**	**19 51 15.1**	**+1.7**
OG26	**St.-Nazaire-De**	**1.11**	**276**	Pg	**Pn**	**19 50 59.7**	**+1.3**
OG26				Sg	**Sn**	**19 51 17.2**	**+3.5**
OG26	**St.-Nazaire-De**	**1.11**	**276**	Pg	**Pn**	**19 50 59.7**	**+1.3**
OG26				Sg	**Sn**	**19 51 17.2**	**+3.5**
LMR	**La Mourre**	**1.17**	**192**	*e*Pn	**Pb**	**19 50 58.9**	**-0.1**
LMR	**La Mourre**	**1.17**	**192**	*e*Pg	**Pg**	**19 50 59.9**	**+0.5**
	SNR=1.0						
LMR				*e*Sn	**Sb**	**19 51 14.3**	**+0.3**
	33nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.17**	**192**	*e*Pn	**Pb**	**19 50 58.9**	**-0.1**
LMR	**La Mourre**	**1.17**	**192**	*e*Pg	**Pg**	**19 50 59.9**	**+0.5**
	SNR=1.0						
LMR				*e*Sn	**Sb**	**19 51 14.3**	**+0.3**
	16nm,0.2s,SNR=1.0						
PCP	**Piancastagn**	**1.21**	**86**	P	**Pn**	**19 50 59.2**	**-0.5**
SATI	**Passo dei Sala**	**1.57**	**27**	P	**Pb**	**19 51 06.9**	**+0.7**
VIVF	**Saint-Julien-l**	**1.60**	**285**	*e*Pn	**Pb**	**19 51 06.6**	**+0.1**
VIVF	**Saint-Julien-l**	**1.60**	**285**	*e*Pg	**Pg**	**19 51 08.4**	**+0.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**19 51 25.0**	**-0.7**
	12nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.60**	**285**	*e*Pn	**Pb**	**19 51 06.6**	**+0.1**
VIVF	**Saint-Julien-l**	**1.60**	**285**	*e*Pg	**Pg**	**19 51 08.4**	**+0.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**19 51 25.0**	**-0.7**
	5.8nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.19**	**261**	*e*Pn	**Pn**	**19 51 13.9**	**+0.8**
LASF	**Ste Croix**	**2.19**	**261**	*e*Pg	**Pg**	**19 51 19.3**	**+0.4**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**19 51 39.0**	**-1.1**
	3.3nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.19**	**261**	*e*Pn	**Pn**	**19 51 13.9**	**+0.8**
LASF	**Ste Croix**	**2.19**	**261**	*e*Pg	**Pg**	**19 51 19.3**	**+0.4**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**19 51 39.0**	**-1.1**
	1.6nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**2.21**	**346**	*e*P	**Pb**	**19 51 15.9**	**-0.9**
CABF	**La Chapelle**	**2.21**	**346**	*e*Pg	**Pg**	**19 51 19.1**	**-0.1**
	SNR=1.0						
CABF	**La Chapelle**	**2.21**	**346**	*e*P	**Pb**	**19 51 15.9**	**-0.9**
CABF	**La Chapelle**	**2.21**	**346**	*e*Pg	**Pg**	**19 51 19.1**	**-0.1**
	SNR=1.0						
PGF	**Pioggiola**	**2.48**	**140**	*e*Pn	**Pn**	**19 51 17.7**	**+0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**19 51 45.6**	**-1.8**
	5.2nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.48**	**140**	*e*Pn	**Pn**	**19 51 17.7**	**+0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**19 51 45.6**	**-1.8**
	2.6nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**3.03**	**317**	*e*P	**Pn**	**19 51 27.6**	**+2.9**
	SNR=1.0						
SMF	**Signal de Mont**	**3.03**	**317**	*e*Pg	**Pg**	**19 51 34.5**	**-0.6**
SMF				*e*Sg	**Sg**	**19 52 12.3**	**-2.0**
	5.1nm,0.4s						
SMF	**Signal de Mont**	**3.03**	**317**	*e*P	**Pn**	**19 51 27.6**	**+2.9**
	SNR=1.0						
SMF	**Signal de Mont**	**3.03**	**317**	*e*Pg	**Pg**	**19 51 34.5**	**-0.6**
SMF				*e*Sg	**Sg**	**19 52 12.3**	**-2.0**
	2.5nm,0.4s						
AVF	**Avril sur Loir**	**3.38**	**315**	*e*Pn	**Pn**	**19 51 30.1**	**+0.7**
AVF	**Avril sur Loir**	**3.38**	**315**	*e*P	**Pn**	**19 51 32.3**	**+2.9**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**19 52 23.7**	**-1.7**
	2.6nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**3.38**	**315**	*e*Pn	**Pn**	**19 51 30.1**	**+0.7**
AVF	**Avril sur Loir**	**3.38**	**315**	*e*P	**Pn**	**19 51 32.3**	**+2.9**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**19 52 23.7**	**-1.7**
	1.3nm,0.5s,SNR=1.0						
CAF	**Calvac**	**3.44**	**279**	*e*Pn	**Pn**	**19 51 30.2**	**-0.2**
	SNR=1.0						
CAF	**Calvac**	**3.44**	**279**	*e*P	**Pn**	**19 51 32.5**	**+2.1**
CAF				*e*Sn	**Sn**	**19 52 09.6**	**-1.5**
	1.0nm,0.3s						
CAF	**Calvac**	**3.44**	**279**	*e*Pn	**Pn**	**19 51 30.2**	**-0.2**
	SNR=1.0						
CAF	**Calvac**	**3.44**	**279**	*e*P	**Pn**	**19 51 32.5**	**+2.1**
CAF				*e*Sn	**Sn**	**19 52 09.6**	**-1.5**
	0.5nm,0.3s						
LOR	**Lormes**	**3.49**	**324**	*e*Pn	**Pn**	**19 51 32.3**	**+1.3**
	SNR=1.0						
LOR				*e*S	**Sn**	**19 52 14.2**	**+2.0**
	2.2nm,0.3s,SNR=1.0						
LOR				*e*Sg	**Sg**	**19 52 28.1**	**-0.9**
	2.5nm,0.3s						
LOR	**Lormes**	**3.49**	**324**	*e*Pn	**Pn**	**19 51 32.3**	**+1.3**
	SNR=1.0						
LOR				*e*S	**Sn**	**19 52 14.2**	**+2.0**
	1.1nm,0.3s,SNR=1.0						
LOR				*e*Sg	**Sg**	**19 52 28.1**	**-0.9**
	1.2nm,0.3s						
SSF	**Saint Saulge**	**3.49**	**319**	*e*P	**Pn**	**19 51 33.1**	**+2.1**
	SNR=1.0						
SSF				*e*S	**Sn**	**19 52 14.8**	**+2.6**
	2.6nm,0.4s,SNR=1.0						
SSF				*e*Sg	**Sg**	**19 52 27.2**	**-1.8**
	3.8nm,0.5s						
SSF	**Saint Saulge**	**3.49**	**319**	*e*P	**Pn**	**19 51 33.1**	**+2.1**
	SNR=1.0						
SSF				*e*S	**Sn**	**19 52 14.8**	**+2.6**
	1.3nm,0.4s,SNR=1.0						
SSF				*e*Sg	**Sg**	**19 52 27.2**	**-1.8**
	1.9nm,0.5s						
BGF	**Bois d'Agland**	**3.50**	**308**	*e*P	**Pn**	**19 51 34.0**	**+2.8**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.50**	**308**	*e*Pg	**Pg**	**19 51 42.5**	**-1.6**
BGF				*e*Sn	**Sn**	**19 52 10.0**	**-2.5**
	7.3nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**3.50**	**308**	*e*P	**Pn**	**19 51 34.0**	**+2.8**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.50**	**308**	*e*Pg	**Pg**	**19 51 42.5**	**-1.6**
BGF				*e*Sn	**Sn**	**19 52 10.0**	**-2.5**
	3.7nm,0.5s,SNR=1.0						
MTLF	**Montolieu**	**3.54**	**253**	*e*Pn	**Pn**	**19 51 31.6**	**0.0**
	SNR=1.0						
MTLF	**Montolieu**	**3.54**	**253**	*e*Pg	**Pg**	**19 51 43.3**	**-1.4**
MTLF				*e*Sn	**Sn**	**19 52 12.7**	**-0.6**
	0.9nm,0.2s,SNR=1.0						
MTLF	**Montolieu**	**3.54**	**253**	*e*Pn	**Pn**	**19 51 31.6**	**0.0**
	SNR=1.0						
MTLF	**Montolieu**	**3.54**	**253**

KMBO	**Kilima Mbogo**	**9.08**	**45**	Pn		**Pn**	**20 52 33.1**	**+2.0**
	5.0nm,0.3s,baz=218,slow=16,SNR=46							
KMBO				Sn		**Sn**	**20 54 13.0**	**-0.6**
	4.7nm,0.3s,baz=304,slow=16,SNR=5.7							
KMBO				Lg		Lg	20 55 10.4	
	2.3nm,0.3s,baz=196,slow=21,SNR=3.1							
KMBO				LR		LR	20 56 25.0	
	comp=Z,126nm,18.1s,baz=82,slow=40							
MATP	**Matopo**	**12.96**	**190**	*i* P		Pn	20 53 15.9	-8.3
MATP				*i*			20 53 16.5	
	baz=5.0,slow=18							
MATP				*i* S		Sn	20 55 26.9	-22
BOSA	**Boshof**	**21.57**	**193**	P		**P**	**20 55 10.2**	**+0.5**
	2.3nm,0.5s,baz=6.6,slow=12,SNR=9.4							
TORD	**Torodi Ar. Bea**	**35.50**	**305**	P		**P**	**20 57 16.4**	**-0.6**
	1.0nm,1.0s,baz=115,slow=6.9,SNR=4.7							
BRTR	**Keskin Array B**	**47.14**	**3**	P		**P**	**20 58 53.1**	**+0.7**
	0.5nm,0.7s,baz=187,slow=8.7,SNR=4.3							
GERES	**GERESS Array B**	**58.16**	**347**	P		**P**	**21 00 13.3**	**-0.6**
	0.3nm,0.7s,baz=172,slow=9.9,SNR=5.2							
MKAR	**Makanchi Array**	**70.80**	**35**	P		**P**	**21 01 35.4**	**-1.1**
	0.7nm,0.8s,baz=230,slow=5.1,SNR=6.5							

IDC 15 21:07:10.5±2.1, 0.55S×123.44E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/37, mbtmp3.2/3, Error ellipse: s-maj=426.2km s-min=26.4km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	**Warramunga Arr**	**22.03**	**152**	P	P	21 12 07.1		+0.3
	0.5nm,0.5s,baz=330,slow=12,SNR=6.1							
ASAR	**Alice Springs**	**25.12**	**157**	P	P	21 12 37.1		-0.2
	0.3nm,0.7s,baz=338,slow=9.0,SNR=3.1							
MKAR	**Makanchi Array**	**59.31**	**328**	P	P	21 17 14.2		0.0
	0.1nm,0.3s,baz=128,slow=7.8,SNR=4.7							

*VIE **15** 21:07:26.8±1.0, 45.31N×14.78E, h8km, mb1.8/4, ML2.1/4, Error ellipse: s-maj=6.7km s-min=2.5km az=175.0*
*CSEM **15** 21:07:26.3±0.2, 45.27N×14.76E, h5km, ML2.5/13, Error ellipse: s-maj=2.9km s-min=2.1km az=26.0*
*LJU **15** 21:07:26.0, 45.31N×14.78E, h23km, ML1.6*
ISC 15 21:07:26.8±1.0, 45.30N±0.02×14.81E±0.02, h14km±7km, n46, σ0.69/82, 4C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GBRS	**Gornja Briga**	**0.23**	**0**	*i* P	**Pg**	**21 07 32.2**		**+0.3**
GBRS				*i* Sg	**Sg**	**21 07 35.9**		**+0.6**
	31nm,0.1s							
BOJS	**Bojanci**	**0.37**	**57**	*i* P	**Pb**	**21 07 34.6**		**-0.6**
BOJS				*i* Sg	**Sb**	**21 07 40.2**		**-0.7**
	comp=Z,9.0nm,0.1s							
BOJS	**Bojanci**	**0.37**	**57**	*i* P	**Pb**	**21 07 34.6**		**-0.6**
BOJS				*i* Sg	**Sb**	**21 07 40.2**		**-0.7**
	comp=Z,9.0nm,0.1s							
KNDS	**Knezji Dol**	**0.38**	**307**	*i* Sg	**Sb**	**21 07 39.9**		**-1.2**
	comp=Z,37nm,0.1s							
KNDS	**Knezji Dol**	**0.38**	**307**	*i* Sg	**Sb**	**21 07 39.9**		**-1.2**
	comp=Z,37nm,0.1s							
CEY	**Cerknica**	**0.51**	**329**	*i* Pg	**Pg**	**21 07 36.5**		**-0.5**
CEY				*i* Sg	**Sb**	**21 07 44.5**		**-0.5**
	comp=Z,13nm,0.1s							
CEY	**Cerknica**	**0.51**	**329**	*i* Pg	**Pg**	**21 07 36.5**		**-0.5**
CEY				*i* Sg	**Sb**	**21 07 44.5**		**-0.5**
	comp=Z,13nm,0.1s							
SKDS	**Skadanscina**	**0.61**	**294**	*i* Pg	**Pg**	**21 07 37.7**		**-1.1**
SKDS				*i* Sg	**Sb**	**21 07 46.9**		**-0.8**
	comp=Z,21nm,0.1s							
SKDS	**Skadanscina**	**0.61**	**294**	*i* Pg	**Pg**	**21 07 37.7**		**-1.1**
SKDS				*i* Sg	**Sb**	**21 07 46.9**		**-0.8**
	comp=Z,21nm,0.1s							
GBAS	**Gorenja Brezov**	**0.68**	**338**	*i* Pg	**Pg**	**21 07 39.8**		**-0.4**
GBAS				*i* Sg	**Sb**	**21 07 49.6**		**-0.2**
GBAS	**Gorenja Brezov**	**0.68**	**338**	*i* Pg	**Pg**	**21 07 39.8**		**-0.4**
GBAS				*i* Sg	**Sb**	**21 07 49.6**		**-0.2**
CRES	**Cresnjev**	**0.69**	**41**	*i* Pg	**Pb**	**21 07 40.7**		**0.0**
CRES				*i* Sg	**Sg**	**21 07 49.8**		**+0.3**
	comp=Z,21nm,0.3s							
CRES	**Cresnjev**	**0.69**	**41**	*i* Pg	**Pb**	**21 07 40.7**		**0.0**
CRES				*i* Sg	**Sg**	**21 07 49.8**		**+0.3**
	comp=Z,21nm,0.3s							
LEGS	**Legarje**	**0.74**	**29**	*i* Pg	**Pb**	**21 07 41.5**		**+0.1**
LEGS				eSg	**Sb**	**21 07 51.1**		**-0.3**
LEGS	**Legarje**	**0.74**	**29**	*i* Pg	**Pb**	**21 07 41.5**		**+0.1**
LEGS				eSg	**Sb**	**21 07 51.1**		**-0.3**
NVLJ	**Novalja**	**0.74**	**177**	ePg	**Pg**	**21 07 40.5**		**-0.7**
NVLJ				Sg	**Sb**	**21 07 52.5**		**+1.1**
NVLJ	**Novalja**	**0.74**	**177**	ePg	**Pg**	**21 07 40.4**		**-0.7**
NVLJ				Sg	**Sb**	**21 07 52.5**		**+1.1**
PDKS	**Podkum**	**0.77**	**10**	*i* Pg	**Pb**	**21 07 42.0**		**0.0**
PDKS				eSg	**Sb**	**21 07 52.0**		**-0.4**
	comp=Z,9.0nm,0.1s							
PDKS	**Podkum**	**0.77**	**10**	*i* Pg	**Pb**	**21 07 42.0**		**0.0**
PDKS				eSg	**Sb**	**21 07 52.0**		**-0.4**
	comp=Z,9.0nm,0.1s							
JAVS	**Javornik**	**0.79**	**319**	*i* Pg	**Pg**	**21 07 41.0**		**-1.2**
JAVS				*i* Sg	**Sb**	**21 07 52.8**		**-0.2**
	comp=Z,14nm,0.2s							
JAVS	**Javornik**	**0.79**	**319**	*i* Pg	**Pg**	**21 07 41.0**		**-1.2**
JAVS				*i* Sg	**Sb**	**21 07 52.8**		**-0.2**
	comp=Z,14nm,0.2s							
GCIS	**Gornji Cirnik**	**0.81**	**45**	*i* Pg	**Pb**	**21 07 43.0**		**+0.4**
GCIS				eSg	**Sg**	**21 07 53.1**		**0.0**
	comp=Z,7.0nm,0.2s							
GCIS	**Gornji Cirnik**	**0.81**	**45**	*i* Pg	**Pb**	**21 07 43.0**		**+0.4**
GCIS				eSg	**Sg**	**21 07 53.1**		**0.0**
	comp=Z,7.0nm,0.2s							
CESS	**Cesta pri Krsk**	**0.81**	**34**	*i* Sg	**Sb**	**21 07 53.4**		**-0.2**
CESS	**Cesta pri Krsk**	**0.81**	**34**	*i* Sg	**Sb**	**21 07 53.4**		**-0.2**
CRNS	**Crni Vrh**	**0.87**	**334**	*i* Pg	**Pb**	**21 07 43.9**		**+0.2**
	comp=Z,7.0nm,0.1s							
CRNS	**Crni Vrh**	**0.87**	**334**	*i* Pg	**Pb**	**21 07 43.9**		**+0.2**
	comp=Z,7.0nm,0.1s							
GOLS	**Golise**	**0.91**	**39**	*i* Pg	**Pn**	**21 07 45.3**		**+0.1**
GOLS				eSg	**Sg**	**21 07 56.1**		**-0.3**
	comp=Z,19nm,0.4s							
GOLS	**Golise**	**0.91**	**39**	*i* Pg	**Pn**	**21 07 45.3**		**+0.1**
GOLS				eSg	**Sg**	**21 07 56.1**		**-0.3**
	comp=Z,19nm,0.4s							
MOZS	**Mozjanca**	**1.02**	**346**	*i* Pg	**Pn**	**21 07 46.8**		**0.0**
MOZS	**Mozjanca**	**1.02**	**346**	*i* Pg	**Pn**	**21 07 46.8**		**0.0**
UDBI	**Udbina**	**1.03**	**138**	ePg	**Pg**	**21 07 45.8**		**-0.9**
UDBI				Sg	**Sn**	**21 08 01.6**		**+0.5**
UDBI	**Udbina**	**1.03**	**138**	ePg	**Pg**	**21 07 45.7**		**-0.9**
UDBI				Sg	**Sn**	**21 08 01.5**		**+0.5**
SABO	**M.te Sabotino**	**1.09**	**309**	ePg	**Pn**	**21 07 47.5**		**-0.1**
SABO				eSg	**Sn**	**21 08 02.1**		**-0.4**
SABO	**M.te Sabotino**	**1.09**	**309**	ePg	**Pn**	**21 07 47.5**		**-0.1**
SABO				eSg	**Sn**	**21 08 02.1**		**-0.4**
GORS	**Gorjuse**	**1.16**	**331**	*i* Pg	**Pn**	**21 07 48.8**		**0.0**
GORS	**Gorjuse**	**1.16**	**331**	*i* Pg	**Pn**	**21 07 48.8**		**0.0**
DRE	**Drenchia**	**1.19**	**317**	ePg	**Pn**	**21 07 49.5**		**+0.4**
DRE				eSg	**Sn**	**21 08 06.3**		**+1.1**
DRE	**Drenchia**	**1.19**	**317**	ePg	**Pn**	**21 07 49.5**		**+0.4**
DRE				eSg	**Sn**	**21 08 06.3**		**+1.1**
OBKA	**Obir**	**1.22**	**352**	Pg	**Pn**	**21 07 50.1**		**+0.6**
	comp=Z,4.3nm,0.2s							
OBKA				Sg	**Sn**	**21 08 08.1**		**+2.2**
	comp=Z,4.0nm,0.2s							
VINO	**Villanova**	**1.43**	**312**	ePg	**Pg**	**21 07 53.5**		**-0.8**
VINO				eSg	**Sg**	**21 08 13.5**		**+0.5**
VINO	**Villanova**	**1.43**	**312**	ePg	**Pg**	**21 07 53.5**		**-0.8**
VINO				eSg	**Sg**	**21 08 13.5**		**+0.5**
ACOM	**Acomizza, Ital**	**1.54**	**324**	ePg	**Pg**	**21 07 55.5**		**-0.9**
ACOM				eSg	**Sg**	**21 08 17.8**		**+1.3**
ACOM	**Acomizza, Ital**	**1.54**	**324**	ePg	**Pg**	**21 07 55.5**		**-0.9**
ACOM				eSg	**Sg**	**21 08 17.8**		**+1.3**
MYKA	**Terra Mystica**	**1.56**	**329**	Pg	**Pg**	**21 07 56.1**		**-0.7**
	comp=Z,2.3nm,0.3s							
MYKA				Sg	**Sg**	**21 08 17.7**		**+0.7**
	comp=Z,5.7nm,0.3s							
ABTA	**Abfaltersbach**	**2.16**	**313**	Pg	**Pb**	**21 08 06.3**		**+0.6**
	comp=Z,1.3nm,0.3s							
ABTA				Sg	**Sg**	**21 08 35.6**		**-0.5**
	comp=Z,6.3nm,0.6s							

*ISCJB **15** 21:14:16.9±0.2, 79.28N±0.03×18.9W±0.2, h10km, mb4.3/74, MS3.1/14, Error ellipse: s-maj=5.1km s-min=3.9km az=31.1*

*MOS **15** 21:14:17.0±1.2, 79.20N×18.74W, h10km, mb4.4/39, Error ellipse: s-maj=26.1km s-min=6.0km az=95.4*
*IDC **15** 21:14:17.8±0.6, 79.21N×18.62W, h0km, mb4.0/22, mb1 4.2/26, mb1mx4.1/55, mbtmp4.1/26, ML3.9/4, MS3.1/15, Ms1 3.1/15, ms1mx2.9/47, Error ellipse: s-maj=15.2km s-min=11.8km az=34.0*
*CSEM **15** 21:14:18.9±0.1, 79.32N×18.24W, h10km, mb4.5/36, Error ellipse: s-maj=6.5km s-min=4.9km az=40.0*
*NEIC **15** 21:14:18.9±0.2, 79.21N×18.80W, h10km, mb4.4/31, Error ellipse: s-maj=7.8km s-min=4.6km az=219.0*
*NAO **15** 21:14:25.3±10.0, 78.99N×15.96W, h12km±120km, ML4.8*
ISC 15 21:14:18.4±0.3, 79.23N±0.04×18.61W±0.04, h10km, n330, σ1.9/84/335, mb4.4/75, MS3.1/14, 30C-25D, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DAG	**Danmarks Havn**	**2.48**	**180**	*i* P	**Pn**	**21 15 00.6**		**+1.9**
DAG				*i* S	**Sb**	**21 15 34.2**		**+0.9**
DAG	**Danmarks Havn**	**2.48**	**180**	*i* P	**Pn**	**21 15 00.6**		**+1.9**
DAG				*i* S	**Sb**	**21 15 34.2**		**+0.9**
DAG	**Danmarks Havn**	**2.48**	**180**	*i* P	**Pn**	**21 15 00.6**		**+1.9**
DAG				*i* S	**Sb**	**21 15 34.2**		**+0.9**
DAG	**Danmarks Havn**	**2.48**	**180**	*i* P	**Pn**	**21 15 00.6**		**+1.9**
	SNR=5.0							
DAG				*i* S	**Sb**	**21 15 34.2**		**+0.9**
	SNR=5.0							
KBS	**Kingsbay**	**5.77**	**78**	*e*P	**Pn**	**21 15 42.6**		**-1.1**
KBS				*e*S	**Sn**	**21 16 43.3**		**-6.6**
KBS				IAML		21 16 50.1		
	comp=Z,42nm,0.5s							
KBS	**Kingsbay**	**5.77**	**78**	*e*P	**Pn**	**21 15 42.5**		**-1.3**
KBS				*e*		21 16 43.8		
KBS	**Kingsbay**	**5.77**	**78**	*e*P	**Pn**	**21 15 42.7**		**-1.1**
	SNR=49							
KBS	**Kingsbay**	**5.77**	**78**	*e*Pn	**Pn**	**21 15 42.5**		**-1.3**
KBS				*e*Sn	**Sn**	**21 16 43.8**		**-6.1**
BRBA	**Barentsburg A**	**6.52**	**84**	Pn	**Pn**	**21 15 54.0**		**-0.1**
	SNR=50							
BRBA				Sn	**Sn**	**21 17 04.7**		**-3.6**
	SNR=50							
SPA0	**Spitsbergen Ar**	**6.87**	**81**	Pn	**Pn**	**21 15 58.2**		**-0.7**
	baz=295,slow=11							
SPA0				Sn	**Sn**	**21 17 12.9**		**-4.1**
	baz=291,slow=37							
SPA0	**Spitsbergen Ar**	**6.87**	**81**	Pn	**Pn**	**21 15 58.2**		**-0.7**
	baz=295,slow=11							
SPA0				Sn	**Sn**	**21 17 12.9**		**-4.1**
	baz=291,slow=37							
SPA0	**Spitsbergen Ar**	**6.87**	**81**	Pn	**Pn**	**21 15 58.2**		**-0.7**
	SNR=50							
SPA0				Sn	**Sn**	**21 17 12.9**		**-4.1**
	baz=291,slow=35,SNR=50							
SPA0	**Spitsbergen Ar**	**6.87**	**81**	*e*Pn	**Pn**	**21 15 58.8**		**-0.1**
SPA0				*e*Sn	**Sn**	**21 17 08.9**		**-8.1**
SPITS	**Spitsbergen Ar**	**6.87**	**81**	Pn	**Pn**	**21 15 58.3**		**-0.7**
	baz=268,slow=9.8,SNR=51							
SPITS				Sn	**Sn**	**21 17 13.5**		**-3.5**
	baz=252,slow=16,SNR=14							
HSPB	**Hornsund (broa**	**7.30**	**90**	*e*P	**Pn**	**21 16 07.3**		**+2.5**
HSPB				*e*S	**Sn**	**21 17 22.7**		**-4.8**
SUMG	**Summit**	**8.18**	**226**	*e*P	**Pn**	**21 16 17.0**		**-0.3**
SUMG				*e*S	**Sn**	**21 17 46.0**		**-3.9**
SUMG	**Summit**	**8.18**	**226**	*i* P	**Pn**	**21 16 17.0**		**-0.3**
SUMG				*i* S	**Sn**	**21 17 46.0**		**-3.9**
SUMG	**Summit**	**8.18**	**226**	*i* P	**Pn**	**21 16 17.0**		**-0.3**
SUMG				*i* S	**Sn**	**21 17 46.0**		**-3.9**
SUMG	**Summit**	**8.18**	**226**	*e*Pn	**Pn**	**21 16 15.5**		**-1.8**
SUMG				*e*Sn	**Sn**	**21 17 46.1**		**-3.8**
JMIC	**Jan Mayen**	**8.66**	**158**	Pn	**Pn**	**21 16 25.0**		**+1.4**
JMIC				Sn	**Sn**	**21 17 57.6**		**-3.5**
JMIC	**Jan Mayen**	**8.66**	**158**	Pn	**Pn**	**21 16 23.5**		**-0.1**
	comp=Z,9.0nm,0.3s,baz=158,slow=14,SNR=4.4							
JMIC				Sn	**Sn**	**21 17 58.1**		**-3.0**
	comp=Z,1.6nm,0.3s,baz=131,slow=19,SNR=3.9							
JMIC				LR	LR	21 19 25.3		
	comp=Z,93nm,21.2s,baz=268,slow=36							
JMIC	**Jan Mayen**	**8.66**	**158**	Pn	**Pn**	**21 16 25.0**		**+1.4**
JMIC				Sn	**Sn**	**21 17 57.6**		**-3.5**
JMIC	**Jan Mayen**	**8.66**	**158**	Pn	**Pn**	**21 16 25.0**		**+1.4**
	SNR=50							
SCO	**Scoresbysund**	**8.84**	**187**	*i* P	**Pn**	**21 16 28.5**		**+2.6**
SCO	**Scoresbysund**	**8.84**	**187**	*i* P	**Pn**	**21 16 28.5**		**+2.6**
SCO	**Scoresbysund**	**8.84**	**187**	*i* P	**Pn**	**21 16 28.5**		**+2.6**
SCO	**Scoresbysund**	**8.84**	**187**	*i* P	**Pn**	**21 16 28.5**		**+2.6**
	SNR=4.0							
HOPEN	**Hopen**	**9.37**	**84**	*e*S	**Sn**	**21 18 11.8**		**-6.4**
KULLO	**Kullorsuaq**	**9.71**	**262**	*i* P	**Pn**	**21 16 35.8**		**-2.1**
KULLO				*i* S	Sn	21 18 16.2	-11	
KULLO	**Kullorsuaq**	**9.71**	**262**	*i* P	**Pn**	**21 16 35.8**		**-2.1**
KULLO				*i* S	**Sn**	**21 18 25.2**		**-1.6**
KULLO	**Kullorsuaq**	**9.71**	**262**	*i* P	**Pn**	**21 16 35.8**		**-2.1**
KULLO				*e*S	Sn	21 18 16.2	-11	
KULLO				*i* S	**Sn**	**21 18 25.2**		**-1.6**
ILULI	**Ilulissat**	**13.08**	**238**	*e*P	**Pn**	**21 17 21.1**		**-2.7**
ILULI	**Ilulissat**	**13.08**	**238**	*e*P	**Pn**	**21 17 21.1**		**-2.7**
ILULI	**Ilulissat**	**13.08**	**238**	*i* P	**Pn**	**21 17 21.1**		**-2.7**
BORG	**Borgarnes**	**14.58**	**185**	LR	LR	21 22 39.2		
	comp=Z,61nm,20.8s,baz=215,slow=34							
ARA0	**ARCESS Array S**	**14.78**	**106**	*e*Pn	**Pn**	**21 17 47.4**		**+0.2**
ARA0	**ARCESS Array S**	**14.78**	**106**	*e*Pn	**Pn**	**21 17 47.4**		**+0.2**
ARCES	**ARCESS Array B**	**14.78**	**106**	Pn	**Pn**	**21 17 47.4**		**+0.2**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=3.6							
ARE0	**ARCESS Array S**	**14.78**	**106**	*e*Pn	**P**	**21 17 53.8**		**+0.7**
SFJD	**Kangerlussuaq**	**15.03**	**233**	Pn	**Pn**	**21 17 48.8**		**-1.6**
	comp=Z,2.2nm,0.3s,baz=13,slow=14,SNR=7.9							
SFJD				Sn	Sn	21 20 21.6	-15	
	comp=Z,5.5nm,0.3s,baz=83,slow=23,SNR=5.8							
SFJD				LR	LR	21 24 20.9		
	comp=Z,45nm,18.8s,baz=24,slow=40							
RES	**Resolute Bay**	**16.53**	**295**	Pn	**Pn**	**21 18 04.5**		**-5.3**
	comp=Z,1.9nm,0.3s,baz=34,slow=11,SNR=21							
RES				Sn	Sn	21 20 58.4	-14	
	comp=Z,2.9nm,0.3s,baz=110,slow=22,SNR=9.9							
RES	**Resolute Bay**	**16.53**	**295**	*e*Pn	**Pn**	**21 18 04.5**		**-5.3**
	comp=Z,13nm,0.6s							
RES				*e*Sn	Sn	21 20 58.4	-14	
APA0	**Apatity Array**	**17.83**	**101**	P	**Pn**	**21 18 25.5**		**-0.7**
	slow=14							
APA0	**Apatity Array**	**17.83**	**101**	P	**Pn**	**21 18 25.5**		**-0.7**
	slow=14							
APA0	**Apatity Array**	**17.83**	**101**	P	**Pn**	**21 18 25.5**		**-0.7**
	SNR=47							
LVZ	**Lovozero**	**17.88**	**99**	*e*P	**P**	**21 18 28.3**		**+0.8**
LVZ				pmax	pmax			
	comp=Z,7.0nm,1.0s							
AKN	**Aaknes**	**18.75**	**141**	P	**Pn**	**21 18 38.8**		**+1.4**
AKN	**Aaknes**	**18.75**	**141**	P	**Pn**	**21 18 38.8**		**+1.4**
AKN	**Aaknes**	**18.75**	**141**	P	**Pn**	**21 18 38.8**		**+1.4**
	SNR=47							
NC204	**NORSAR Array S**	**20.09**	**136**	*e*P	Pn	21 18 52.7		-0.8
NC204	**NORSAR Array S**	**20.09**	**136**	*e*P	Pn	21 18 52.7		-0.8
NC303	**NORSAR Array S**	**20.22**	**136**	*e*P	Pn	21 18 55.4		+0.4
NC303	**NORSAR Array S**	**20.22**	**136**	*e*P	Pn	21 18 55.4		+0.4
NBO02	**NORSAR Array S**	**20.33**	**136**	*e*P	**P**	**21 18 52.9**		**-1.3**
NBO02	**NORSAR Array S**	**20.33**	**136**	*e*P	**P**	**21 18 52.9**		**-1.3**
NBO00	**NORSAR Array S**	**20.33**	**137**	*e*P	Pn	21 18 55.8		-0.5
NBO00	**NORSAR Array S**	**20.33**	**137**	*e*P	Pn	21 18 55.8		-0.5
NC405	**NORSAR Array S**	**20.38**	**135**	*e*P	Pn	21 18 58.2		+1.4
NC405	**NORSAR Array S**	**20.38**	**135**	*e*P	Pn	21 18 58.2		+1.4
NB2	**NORSAR Subarra**	**20.38**	**136**	P	Pn	21 18 56.9		0.0
	baz=336,slow=10							
NB2	**NORSAR Subarra**	**20.38**	**136**	P	Pn	21 18 56.1		-0.8
	comp=Z,2.9nm,0.6s,baz=345,slow=11							
NB2	**NORSAR Subarra**	**20.38**	**136**	P	Pn	21 18 56.9		0.0
	baz=336,slow=10							
NB2	**NORSAR Subarra**	**20.38**	**136**	P	Pn	21 18 56.9		0.0
	SNR=7.3							
NB200	**NORSAR Array S**	**20.38**	**136**	*e*P	**P**	**21 18 55.8**		**+1.0**
NB200	**NORSAR Array S**	**20.38**	**136**	*e*P	**P**	**21 18 55.8**		**+1.0**
NOA	**NORSAR Array B**	**20.38**	**136**	P	**P**	**21 18 55.8**		**+1.0**
	comp=Z,2.3nm,0.5s,baz=350,slow=9.0,SNR=13							
NOA				LR	LR	21 26 21.2		
	comp=Z,35nm,20.7s,baz=350,slow=36							
NB201	**NORSAR Array S**	**20.38**	**136**	*e*P	Pn	21 18 60.0		+3.1
NAO01	**NORSAR Array S**	**20.53**	**137**	*e*P	Pn	21 19 00.9		+2.3
NC602	**NORSAR Array S**	**20.72**	**136**	*e*P	**P**	**21 18 59.6**		**+1.2**
NC602	**NORSAR Array S**	**20.72**	**136**	*e*P	**P**	**21 18 59.6**		**+1.2**
FRB	**Frobisher Bay**	**21.01**	**252**	P	**P**	**21 19 01.5**		**0.0**
	comp=Z,6.0nm,0.6s,baz=32,slow=9.0,SNR=9.9							
KONO	**Kongsberg**	**21.53**	**139**	*e*P	**P**	**21 19 07.0**		**-0.2**
KONO				pmax	pmax			
	comp=Z,14nm,0.8s							
KONO	**Kongsberg**	**21.53**	**139**	*e*P	**P**	**21 19 06.9**		**-0.2**
	comp=Z,14nm,0.8s							
KONO	**Kongsberg**	**21.53**	**139**	*e*P	**P**	**21 19 07.0**		**-0.2**
	comp=Z,14nm,0.8s							
HFS	**Hagfors**	**21.59**	**133**	P	**P**	**21 19 08.5**		**+0.7**
	baz=353,slow=7.9							
HFS	**Hagfors**	**21.59**	**133**	P	**P**	**21 19 08.6**		**+0.7**
	comp=Z,12nm,0.7s,baz=343,slow=4.6,SNR=24							
HFS				LR	LR	21 27 45.2		
	comp=Z,70nm,18.2s,baz=350,slow=37							
HFS	**Hagfors**	**21.59**	**133**	P	**P**	**21 19 08.5**		**+0.7**
	baz=353,slow=7.9							
FIA1	**FINESS Array S**	**22.24**	**117**	*e*P	**P**	**21 19 15.6**		**+0.8**
FIA1	**FINESS Array S**	**22.24**	**117**	*e*P	**P**	**21 19 15.6**		**+0.8**
FIA0	**FINESS Array S**	**22.24**	**117**	P	**P**	**21 19 15.3**		**+0.5**
	baz=344,slow=11							
FIA0	**FINESS Array S**	**22.24**	**117**	P	**P**	**21 19 15.3**		**+0.5**
	baz=344,slow=11							
FIA0	**FINESS Array S**	**22.24**	**117**	*e*P	**P**	**21 19 15.5**		**+0.7**
FIA0	**FINESS Array S**	**22.24**	**117**	P	**P**	**21 19 15.3**		**+0.5**
	SNR=47							
FIA0	**FINESS Array S**	**22.24**	**117**	*e*P	**P**	**21 19 15.5**		**+0.7**
FINES	**FINESS Array B**	**22.24**	**117**	P	**P**	**21 19 15.5**		**+0.8**
	comp=Z,11nm,0.5s,baz=348,slow=11,SNR=119							
FINES				LR	LR	21 26 26.6		
	comp=Z,48nm,19.1s,baz=349,slow=33							
EKA	**Eskdalemuir Ar**	**24.55**	**159**	P	**P**	**21 19 38.5**		**+0.7**
	comp=Z,3.6nm,0.9s,baz=358,slow=10.0,SNR=6.7							
KLMR	**Klimovskoe**	**25.17**	**102**	*e*P	**P**	**21 19 41.3**		**-2.0**
KLMR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
VSU	**Vasula**	**25.17**	**118**	*ce*P	**P**	**21 19 45.2**		**+1.9**
VSU				pmax	pmax			
	comp=Z,30nm,0.8s							
NRIK	**Noril'sk**	**25.89**	**51**	LR	LR	21 30 31.3		
	comp=Z,30nm,20.9s,baz=105,slow=38							
INK	**Inuvik**	**28.08**	**314**	P	**P**	**21 20 11.6**		**+2.2**
	comp=Z,1.6nm,0.5s,baz=28,slow=12,SNR=4.4							
INK	**Inuvik**	**28.08**	**314**	*e*P	**P**	**21 20 11.6**		**+2.2**
	comp=Z,5.7nm,1.1s							
INK	**Inuvik**	**28.08**	**314**	*e*P	**P**	**21 20 11.6**		**+2.2**
	comp=Z,5.7nm,1.1s							
TIXI	**Tiksi**	**28.19**	**21**	P	**P**	**21 20 10.3**		**-0.2**
	comp=Z,1.9nm,0.7s,baz=16,slow=8.7,SNR=5.7							
TIXI	**Tiksi**	**28.19**	**21**	*e*P	**P**	**21 20 10.2**		**-0.2**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TIXI	**Tiksi**	**28.19**	**21**	*e*P	**P**	**21 20 10.2**		**-0.2**
	comp=Z,4.3nm,1.1s							
TIXI	**Tiksi**	**28.19**	**21**	*e*P	**P**	**21 20 10.2**		**-0.2**
	comp=Z,4.3nm,1.1s							
OBN	**Obninsk**	**30.05**	**110**	*e*P	**P**	**21 20 25.7**		**-1.3**
OBN				*e*		21 21 26.2		
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
OBN				MLR	MLR			
	comp=Z,36nm,15.0s							
OBN	**Obninsk**	**30.05**	**110**	*e*P	**P**	**21 20 27.3**		**+0.3**
	comp=Z,14nm,0.4s							
OBN	**Obninsk**	**30.05**	**110**	*e*P	**P**	**21 20 27.3**		**+0.3**
	comp=Z,14nm,0.4s

STHS	**Stebnicka Huta**	33.06	130	*e*P		**P**	21 20 56.1	+2.5
STHS				pmax		pmax		
	comp=Z,2.0nm,0.6s							
STHS	**Stebnicka Huta**	33.06	130	*e*P		**P**	21 20 56.1	+2.5
	comp=Z,1.6nm,0.6s							
STHS	**Stebnicka Huta**	33.06	130	*e*P		**P**	21 20 56.1	+2.5
MDM	**Murphy Dome**	33.10	323	*e*P		**P**	21 20 55.2	+1.4
	comp=Z,4.7nm,0.9s							
MDM	**Murphy Dome**	33.10	323	*e*P		**P**	21 20 55.2	+1.4
	comp=Z,4.7nm,0.9s							
JAVC	**Velka Javorina**	33.11	134	*e*P		**P**	21 20 56.6	+2.5
IL1	**Eielson Array**	33.13	322	*e*P		**P**	21 20 55.7	+1.7
IL1	**Eielson Array**	33.13	322	*e*P		**P**	21 20 55.6	+1.7
ILAR	**Eielson Array**	33.13	322	P		**P**	21 20 56.6	+2.6
	comp=Z,1.4nm,0.9s,baz=9.9,slow=7.7,SNR=9.7							
ILB	**Eielson Array**	33.13	322	*e*P		**P**	21 20 56.7	+2.6
ILB	**Eielson Array**	33.13	322	*e*P		**P**	21 20 56.6	+2.6
COLA	**College**	33.14	323	⇓*e*P		**P**	21 20 52.3	-1.8
COLA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
CCB	**Clear Creek Bu**	33.35	323	*e*P		**P**	21 20 56.7	+0.7
	comp=Z,2.4nm,0.8s							
CCB	**Clear Creek Bu**	33.35	323	*e*P		**P**	21 20 56.7	+0.7
	comp=Z,2.4nm,0.8s							
WRH	**Wood River Hil**	33.56	323	*e*P		P	21 20 53.4	-4.3
	comp=Z,5.1nm,1.1s							
VYHS	**Vyhne**	33.63	133	*e*P		**P**	21 21 00.0	+1.5
VYHS				pmax		pmax		
	comp=Z,2.0nm,0.8s							
VYHS	**Vyhne**	33.63	133	*e*P		**P**	21 21 00.0	+1.5
	comp=Z,1.6nm,0.8s							
VYHS	**Vyhne**	33.63	133	*e*P		**P**	21 21 00.0	+1.5
KOLS	**Kolonicke sedl**	33.68	129	*e*P		**P**	21 21 00.9	+1.9
KOLS				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KOLS	**Kolonicke sedl**	33.68	129	*e*P		**P**	21 21 00.9	+1.9
	comp=Z,3.0nm,0.9s							
KOLS	**Kolonicke sedl**	33.68	129	*e*P		**P**	21 21 00.9	+1.9
CONA	**Conrad Observa**	33.78	137	*i* P		**P**	21 21 01.9	+1.9
	comp=Z,3.9nm,0.8s							
CONA	**Conrad Observa**	33.78	137	P		**P**	21 21 01.9	+1.9
	comp=Z,3.9nm,0.8s							
KECS	**Kecovo**	33.87	131	*e*P		**P**	21 21 02.1	+1.5
KECS				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KECS	**Kecovo**	33.87	131	*e*P		**P**	21 21 02.1	+1.5
	comp=Z,2.7nm,0.8s							
KECS	**Kecovo**	33.87	131	*e*P		**P**	21 21 02.1	+1.5
VSR	**Storozhevoye**	34.24	109	*e*P		**P**	21 21 01.9	-1.9
VSR				pmax		pmax		
	comp=Z,7.0nm,0.7s							
KBA	**Koelnbreinsper**	34.31	140	*i* P		**P**	21 21 07.6	+3.0
	comp=Z,2.9nm,0.9s							
KBA	**Koelnbreinsper**	34.31	140	P		**P**	21 21 07.6	+3.0
	comp=Z,2.9nm,0.9s							
VRH	**Novokhopyorsk**	34.71	106	*e*P		**P**	21 21 07.4	-0.5
VRH				pmax		pmax		
	comp=Z,20nm,0.9s							
MYKA	**Terra Mystica**	34.78	140	*i* P		**P**	21 21 11.0	+2.3
	comp=Z,4.4nm,0.7s							
MYKA	**Terra Mystica**	34.78	140	P		**P**	21 21 11.0	+2.3
	comp=Z,4.4nm,0.7s							
SOKA	**Soboth**	34.91	138	*i* P		**P**	21 21 11.2	+1.5
	comp=Z,4.7nm,0.8s							
SOKA	**Soboth**	34.91	138	P		**P**	21 21 11.2	+1.5
	comp=Z,4.7nm,0.8s							
OBKA	**Obir**	35.01	139	*i* P		**P**	21 21 13.1	+2.5
	comp=Z,3.9nm,0.8s							
OBKA	**Obir**	35.01	139	P		**P**	21 21 13.1	+2.5
	comp=Z,3.9nm,0.8s							
BUR08	**Bucovina Ar. S**	35.38	126	*e*P		**P**	21 21 14.3	+0.5
BUR08	**Bucovina Ar. S**	35.38	126	*e*P		**P**	21 21 14.3	+0.5
SORM	**Soroca**	35.39	122	⇑*i*P		**P**	21 21 13.7	0.0
SORM	**Soroca**	35.39	122	⇑*i*P		**P**	21 21 13.7	0.0
SORM	**Soroca**	35.39	122	⇑*i*P		**P**	21 21 13.7	0.0
BURAR	**Bucovina Array**	35.41	126	⇑*i*P		**P**	21 21 15.4	+1.3
BURAR	**Bucovina Array**	35.41	126	⇑P		**P**	21 21 15.4	+1.3
BURAR	**Bucovina Array**	35.41	126	⇑*i*P		**P**	21 21 15.4	+1.3
MILM	**Milestii Mici**	36.65	122	⇑*i*P		**P**	21 21 24.5	0.0
MILM	**Milestii Mici**	36.65	122	⇑*i*P		**P**	21 21 24.5	0.0
BZS	**Buzias**	36.83	131	⇓*i*P		**P**	21 21 27.9	+1.8
BZS	**Buzias**	36.83	131	⇓P		**P**	21 21 27.9	+1.8
BZS	**Buzias**	36.83	131	⇓*i*P		**P**	21 21 27.9	+1.8
DOPR	**Dopca**	37.04	126	⇓*i*P		**P**	21 21 29.7	+1.8
DOPR	**Dopca**	37.04	126	⇓*i*P		**P**	21 21 29.7	+1.8
LOT	**Lotru**	37.31	128	⇑*i*P		**P**	21 21 30.5	+0.2
LOT	**Lotru**	37.31	128	⇑*i*P		**P**	21 21 30.5	+0.2
VRI	**Vrincioaia**	37.35	125	⇑*i*P		**P**	21 21 32.1	+1.6
VRI	**Vrincioaia**	37.35	125	⇑P		**P**	21 21 32.1	+1.6
VRI	**Vrincioaia**	37.35	125	⇑*i*P		**P**	21 21 32.1	+1.6
PLOR	**Plostina**	37.35	125	⇓*i*P		**P**	21 21 32.2	+1.6
PLOR	**Plostina**	37.35	125	⇓P		**P**	21 21 32.2	+1.6
PLOR	**Plostina**	37.35	125	⇓*i*P		**P**	21 21 32.2	+1.6
VOIR		37.51	127	⇑*i*P		**P**	21 21 30.7	-1.3
VOIR		37.51	127	⇑P		**P**	21 21 30.7	-1.3
VOIR		37.51	127	⇑*i*P		**P**	21 21 30.7	-1.3
ARR	**Arges**	37.52	128	⇓*i*P		**P**	21 21 34.2	+2.2
ARR	**Arges**	37.52	128	⇓*i*P		**P**	21 21 34.2	+2.2
MLR	**Muntele Rosu**	37.59	126	⇑*i*P		**P**	21 21 34.8	+2.1
MLR	**Muntele Rosu**	37.59	126	⇑P		**P**	21 21 34.8	+2.1
MLR	**Muntele Rosu**	37.59	126	⇑*i*P		**P**	21 21 34.8	+2.1
SVW2	**Sparrevohn**	37.66	327	*e*P		**P**	21 21 31.9	-1.1
	comp=Z,14nm,1.6s							
SVW2	**Sparrevohn**	37.66	327	*e*P		**P**	21 21 31.9	-1.1
	comp=Z,14nm,1.6s							
MDVR	**Moldovita**	37.66	131	⇓*i*P		**P**	21 21 35.2	+2.0
MDVR	**Moldovita**	37.66	131	⇓*i*P		**P**	21 21 35.2	+2.0
YAK	**Yakutsk**	37.75	24	*e*P		P	21 21 42.3	+8.6
YAK				*e*			21 22 57.4	
YAK							21 23 45.7	
YAK				pmax		pmax		
	comp=Z,6.0nm,0.4s							
ZRNK	**Zerenda**	38.12	78	*e*P		**P**	21 21 38.4	+1.4
ZRNK				pmax		pmax		
	comp=Z,7.0nm,1.7s							
ZRNK	**Zerenda**	38.12	78	*e*P		**P**	21 21 38.3	+1.4
	comp=Z,6.9nm,1.7s							
ZRNK	**Zerenda**	38.12	78	*e*P		**P**	21 21 38.4	+1.4
	comp=Z,6.9nm,1.7s							
CFR	**Carcaliu**	38.24	124	⇓*i*P		**P**	21 21 38.6	+0.6
CFR	**Carcaliu**	38.24	124	⇓P		**P**	21 21 38.6	+0.6
CFR	**Carcaliu**	38.24	124	⇓*i*P		**P**	21 21 38.6	+0.6
BRVK	**Borovoye**	38.25	77	⇑*e*P		**P**	21 21 39.3	+1.2
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.7s							
VOSK	**Vostochnaya**	38.70	77	*e*P		**P**	21 21 42.7	+0.9
VOSK				pmax		pmax		
	comp=Z,16nm,1.3s							
VOSK	**Vostochnaya**	38.70	77	*e*P		**P**	21 21 42.7	+0.9
	comp=Z,16nm,1.3s							
VOSK	**Vostochnaya**	38.70	77	*e*P		**P**	21 21 42.7	+0.9
	comp=Z,16nm,1.3s							
ULM	**Lac du Bonnet**	38.77	270	LR		LR	21 37 07.8	
	comp=Z,56nm,18.7s,baz=300,slow=35							
TIRR	**Tirgusor**	38.98	124	⇓*i*P		**P**	21 21 44.8	+0.6
TIRR	**Tirgusor**	38.98	124	⇓P		**P**	21 21 44.8	+0.6
TIRR	**Tirgusor**	38.98	124	*e*P		**P**	21 21 45.5	+1.3
	comp=Z,3.7nm,0.7s							
TIRR	**Tirgusor**	38.98	124	*e*P		**P**	21 21 45.5	+1.3
	comp=Z,3.7nm,0.7s							
MSAB	**Monastry St. A**	39.25	124	⇓*i*P		**P**	21 21 47.1	+0.6
MSAB	**Monastry St. A**	39.25	124	⇓*i*P		**P**	21 21 47.1	+0.6
ZAA1	**Zalesovo Array**	39.96	64	*e*P		**P**	21 21 54.1	+1.8
ZAA1	**Zalesovo Array**	39.96	64	*e*P		**P**	21 21 54.1	+1.8
ABKAR	**Akbulak array**	39.97	89	*e*P		**P**	21 21 54.0	+1.6
ABKAR	**Akbulak array**	39.97	89	*e*P		**P**	21 21 54.0	+1.6
ZALV	**Zalesovo Beam**	39.97	64	P		**P**	21 21 54.1	+1.8
	comp=Z,0.4nm,0.4s,baz=332,slow=5.8,SNR=2.5							
ZALV				LR		LR	21 40 06.7	
	comp=Z,23nm,20.3s,baz=250,slow=39							
ESDC	**Sonseca Array**	40.10	162	P		**P**	21 21 53.9	+0.2
	comp=Z,0.6nm,0.6s,baz=1.2,slow=7.9,SNR=5.8							
PAB	**San Pablo**	40.20	163	*e*P		**P**	21 21 55.0	+0.4
PAB				pmax		pmax		
	comp=Z,13nm,1.6s							
PAB	**San Pablo**	40.20	163	*e*P		**P**	21 21 55.0	+0.4
	comp=Z,13nm,1.6s							
PAB	**San Pablo**	40.20	163	*e*P		**P**	21 21 55.0	+0.4
	comp=Z,13nm,1.6s							
KDAK	**Kodiak Island**	40.59	324	*e*P		**P**	21 21 58.2	+0.8
KDAK				pmax		pmax		
	comp=Z,20nm,1.4s							
KDAK	**Kodiak Island**	40.59	324	*e*P		**P**	21 21 58.2	+0.8
	comp=Z,20nm,1.4s							
KIV	**Kislovodsk**	41.88	108	*e*P		**P**	21 22 09.7	+1.4
KIV				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KIV	**Kislovodsk**	41.88	108	*e*P		**P**	21 22 08.0	-0.3
	comp=Z,4.0nm,0.7s							
KIV	**Kislovodsk**	41.88	108	*e*P		**P**	21 22 08.0	-0.3
	comp=Z,4.0nm,0.7s							
KURK	**Kurchatov**	42.00	70	P		**P**	21 22 09.5	+0.3
KURK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	42.00	70	*e*P		**P**	21 22 09.4	+0.3
KURK	**Kurchatov**	42.00	70	*e*P		**P**	21 22 09.4	+0.3
KURBB	**Kurchatov Arra**	42.08	71	P		**P**	21 22 09.4	-0.3
	comp=Z,1.3nm,0.6s,baz=344,slow=7.2,SNR=13							
KBZ	**Khabaz**	42.13	108	P		**P**	21 22 12.0	+1.7
	comp=Z,8.6nm,0.7s,baz=192,slow=24,SNR=19							
KBZ	**Khabaz**	42.13	108	P		**P**	21 22 12.0	+1.7
KBZ				pmax		pmax		
	comp=Z,9.0nm,0.7s							
KBZ	**Khabaz**	42.13	108	*e*P		**P**	21 22 12.0	+1.7
NCK	**Nalchik**	42.48	108	⇑*e*P		**P**	21 22 15.2	+2.0
NCK				pmax		pmax		
	comp=Z,4.0nm,0.7s							
NEY	**Neytrino**	42.57	109	⇓*e*P		**P**	21 22 16.6	+2.5
NEY				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ZEI	**Tsey**	43.23	108	*e*P		**P**	21 22 19.7	+0.3
EGMT	**Eagleton**	43.49	283	*e*P		**P**	21 22 20.3	-1.1
	comp=Z,7.5nm,1.1s							
BR231	**Keskin MP Arra**	44.18	120	*e*P		**P**	21 22 29.2	+2.1
BR231	**Keskin MP Arra**	44.18	120	*e*P		**P**	21 22 29.2	+2.1
BR101	**Keskin Array S**	44.44	119	*e*P		**P**	21 22 30.6	+1.5
BR101	**Keskin Array S**	44.44	119	*e*P		**P**	21 22 30.6	+1.5
BR131	**Keskin Array S**	44.44	119	*e*P		**P**	21 22 30.9	+1.8
BR131	**Keskin Array S**	44.44	119	*e*P		**P**	21 22 30.9	+1.8
BRTR	**Keskin Array B**	44.44	119	P		**P**	21 22 30.6	+1.5
	comp=Z,3.5nm,0.8s,baz=347,slow=6.3,SNR=22							
TLY	**Talaya**	45.08	48	LR		LR	21 42 18.6	
	comp=Z,43nm,20.1s,baz=327,slow=37							
MSO	**Missoula**	45.41	286	*e*P		**P**	21 22 40.2	+3.5
MSO	**Missoula**	45.41	286	*e*P		**P**	21 22 40.2	+3.5
LRM	**Limekiln Ridge**	46.11	285	*e*P		**P**	21 22 41.1	-1.4
RSSD	**Black Hills**	46.20	276	*e*P		**P**	21 22 41.2	-1.9
RSSD				pmax		pmax		
	comp=Z,2.0nm,0.9s							
RSSD	**Black Hills**	46.20	276	*e*P		**P**	21 22 41.2	-1.9
	comp=Z,2.3nm,0.9s							
SCIA	**State Center**	46.30	264	*e*P		**P**	21 22 43.2	-0.5
	comp=Z,21nm,1.1s							
SCIA	**State Center**	46.30	264	*e*P		**P**	21 22 43.2	-0.5
	comp=Z,21nm,1.1s							
MAKZ	**Makanchi**	46.36	69	*e*P		**P**	21 22 44.2	0.0
MAKZ				pmax		pmax		
	comp=Z,5.0nm,1.4s							
MAKZ	**Makanchi**	46.36	69	*e*P		**P**	21 22 44.2	0.0
	comp=Z,4.7nm,1.4s							
MAKZ	**Makanchi**	46.36	69	*e*P		**P**	21 22 44.2	0.0
	comp=Z,4.7nm,1.4s							
MK31	**Makanchi Array**	46.43	69	*e*P		**P**	21 22 43.6	-1.1
MK31	**Makanchi Array**	46.43	69	*e*P		**P**	21 22 43.6	-1.1
MK31	**Makanchi Array**	46.43	69	*e*P		**P**	21 22 43.6	-1.1
MK32	**Makanchi Array**	46.43	69	*e*P		**P**	21 22 44.8	+0.1
MK32	**Makanchi Array**	46.43	69	*e*P		**P**	21 22 44.8	+0.1
MKAR	**Makanchi Array**	46.43	69	P		**P**	21 22 44.8	+0.1
	comp=Z,0.6nm,0.7s,baz=359,slow=6.7,SNR=6.7							
MKAR	**Makanchi Array**	46.43	69	*ce*P		**P**	21 22 45.2	+0.5
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	46.43	69	*e*P		**P**	21 22 43.7	-1.0
MKAR	**Makanchi Array**	46.43	69	*e*P		**P**	21 22 43.7	-1.0
MK01	**Makanchi Array**	46.46	69	*e*P		**P**	21 22 44.6	-0.3
MK01	**Makanchi Array**	46.46	69	*e*P		**P**	21 22 44.6	-0.3
B201	**Coldwater, Mou**	47.39	294	*e*P		**P**	21 22 56.7	+4.5
IDI	**Anoyia**	47.43	130	*e*P		**P**	21 22 51.5	-1.2
	comp=Z,11nm,1.2s							
IDI	**Anoyia**	47.43	130	*e*P		**P**	21 22 51.5	-1.2
	comp=Z,11nm,1.2s							
LAST	**Lasithi**	47.64	130	*e*P		**P**	21 22 53.1	-1.3
	comp=Z,19nm,1.5s							
LAST	**Lasithi**	47.64	130	*e*P		**P**	21 22 53.1	-1.3
	comp=Z,19nm,1.5s							
KKAR	**Karatay Array**	47.87	81	*e*P		**P**	21 22 56.6	+0.7
KKAR	**Karatay Array**	47.87	81	*e*P		**P**	21 22 56.6	+0.7
KKAR	**Karatay Array**	47.87	81	*e*P		**P**	21 22 56.6	+0.7
CSS	**Mathiatis**	49.04	121	*e*P		**P**	21 23 05.6	+0.5
	comp=Z,1.0nm,0.8s							
CSS	**Mathiatis**	49.04	121	*e*P		**P**	21 23 05.6	+0.5
	comp=Z,1.0nm,0.8s							
AAK	**Ala-Archa**	49.06	77	⇑*e*P		**P**	21 23 07.7	+2.4
AAK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SONA0	**Songino Array**	49.22	47	*e*P		**P**	21 23 07.6	+1.1
	comp=Z,12nm,1.9s							
SONA0	**Songino Array**	49.22	47	*e*P		**P**	21 23 07.6	+1.1
	comp=Z,12nm,1.9s							
SONM	**Songino Array**	49.22	47	P		**P**	21 23 07.6	+1.1
	comp=Z,1.3nm,1.0s,baz=319,slow=5.2,SNR=7.6							
SONM				LR		LR	21 44 14.6	
	comp=Z,62nm,22.0s,baz=336,slow=36							
ULN	**Ulaanbaatar**	49.28	46	*ce*P		**P**	21 23 06.5	-0.4
ULN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
TCUT	**Toone Canyon**	50.47	282	*e*P		**P**	21 23 13.3	-2.8
	comp=Z,57nm,0.7s							
GEYT	**Alibeck**	50.55	95	P		**P**	21 23 16.9	+0.3
	comp=Z,1.6nm,0.6s,baz=325,slow=7.4,SNR=4.7							
VLA	**Vladivostok**	56.70	26	⇑*e*P		**P**	21 24 01.1	-0.3
VLA				*e**PP		**sP**	21 24 07.9	+2.1
VLA				*e*			21 24 57.7	
VLA				*i* S		**S**	21 31 54.6	+1.2
VLA				pmax		pmax		
	comp=Z,12nm,0.5s							
LTX	**Lajitas**	60.47	271	*e*P		**P**	21 24 29.9	+1.8
LTX	**Lajitas**	60.47	271	*e*P		**P**	21 24 29.9	+1.8
LTX	**Lajitas**	60.47	271	*e*P		**P**	21 24 29.9	+1.8
TXAR	**Lajitas Array**	60.47	271	P		**P**	21 24 29.9	+1.8
	comp=Z,0.8nm,0.6s,baz=42,slow=4.3,SNR=4.7							
KSRS	**Korea Array**	61.97	30	LR		LR	21 51 05.9	
	comp=Z,9.5nm,18.2s,baz=215,slow=36							
TOA1	**Torodi Ar. Sit**	66.80	158	*e*P		**P**	21 25 10.8	+1.0
	comp=Z,8.8nm,1.4s							
TOA1	**Torodi Ar. Sit**	66.80	158	*e*P		**P**	21 25 10.8	+1.0
	comp=Z,8.8nm,1.4s							
TOA0	**Torodi Ar. Sit**	66.81	158	*e*P		**P**	21 25 10.9	+1.0
TOA0	**Torodi Ar. Sit**	66.81	158	*e*P		**P**	21 25 10.9	+1.0
TORD	**Torodi Ar. Bea**	66.81	158	P		**P**	21 25 10.8	+0.9
	comp=Z,1.9nm,0.7s,baz=353,slow=6.6,SNR=10							
CM31	**Chiang Mai Arr**	76.91	60	*e*P		**P**	21 26 13.1	+2.6
CM31	**Chiang Mai Arr**	76.91	60	*e*P		**P**	21 26 13.1	+2.6
CMAR	**Chiang Mai Arr**	76.91	60	P		**P**	21 26 13.1	+2.6
	comp=Z,1.3nm,1.0s,baz=344,slow=5.9,SNR=4.0							
CMAR	**Chiang Mai Arr**	76.91	60	P		**P**	21 26 13.1	+2.6
CMAR				pmax		pmax		
	comp=Z,2.0nm,1.1s							
AS31	**Alice Springs**	123.02	30	*e*PKIKP		**PKPdf**	21 33 13.4	-0.8
AS31	**Alice Springs**	123.02	30	*e*PKPdf		**PKPdf**	21 33 13.4	-0.8
ASAR	**Alice Springs**	123.02	30	PKP		**PKPdf**	21 33 13.4	-0.8
	comp=Z,0.3nm,0.6s,baz=12,slow=2.6,SNR=5.7							

IDC **15** *21:17:28.4*±1.3,**37.10N**×**135.21E**,**h352**km±15km,**mb2.7**/2,
mb1 2.8/5,**mb1mx2.5**/44,**mbtmpg3.2**/5,**Error ellipse:**
s-maj=27.8km s-min=20.9km az=99.0,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MAT	**Matsushiro**	2.47	102	P		Pn	21 18 23.5	+0.1
MJAR	**Matsushiro Arr**	2.47	102	P		Pn	21 18 23.9	+0.4
	0.7nm,0.3s,baz=289,slow=9.1,SNR=9.4							
KSRS	**Korea Array**	5.82	276	P		Pn	21 18 58.7	+1.6
	0.2nm,0.3s,baz=92,slow=12,SNR=6.1							
USRK	**Ussuriysk Ar.**	7.50	342	P		Pn	21 19 14.9	-1.6
	0.2nm,0.3s,baz=156,slow=10,SNR=6.3							
ILAR	**Eielson Array**	52.09	32	P		P	21 26 03.2	+0.2
	0.3nm,0.6s,baz=287,slow=7.4,SNR=3.5							
WRA	**Warramunga Arr**	56.74	181	P		P	21 26 36.2	-0.5
	0.4nm,0.7s,baz=358,slow=7.5,SNR=6.3							

ISK **15** *21:40:38.3,39.14N×29.04E,h6km,MD2.4*
ISCJB **15** *21:40:39.4±0.5,39.13N±0.05×29.09E±0.04,h5km±9km,*
Error ellipse: s-maj=8.2km s-min=4.1km az=160.4

DDA **15** *21:40:39.2,39.13N×29.12E,h7km,Md2.8*
CSEM **15** *21:40:39.4±0.2,39.11N×29.09E,h10km,MD2.8, Error*
ellipse: s-maj=5.2km s-min=3.9km az=167.0

ISC **15** *21:40:39.1*±1.0,**39.13N**±0.04×**29.09E**±0.03,**h11**km±9km,
n18,σ**0.88**/32,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GEDZ	**Gediz**	0.26	108	*e*PG		**Pb**	21 40 45.6	-0.3
GEDZ				*e*SG		**Sg**	21 40 49.6	+1.4
GEDZ	**Gediz**	0.26	108	*e*Pg		**Pb**	21 40 45.6	-0.3
GEDZ				*e*Sg		**Sg**	21 40 49.6	+1.4
DEMI	**Demirci**	0.30	254	P		**Pb**	21 40 45.9	-0.6
DEMI				S		**Sb**	21 40 50.4	-1.1
DEMI	**Demirci**	0.30	254	*i* P		**Pb**	21 40 45.9	-0.6
DEMI				*i* S		**Sb**	21 40 50.4	-1.1
GDZ	**Gediz**	0.31	97	P		**Pg**	21 40 45.2	-0.2
GDZ				S		**Sg**	21 40 49.5	-0.1
GDZ	**Gediz**	0.31	97	*i* P		**Pg**	21 40 45.2	-0.2
GDZ				*i* S		**Sg**	21 40 49.5	-0.1
TVSB	**Tavsanli**	0.43	42	*e*PG		**Pg**	21 40 47.7	0.0
TVSB				*e*SG		**Sg**	21 40 53.4	-0.2
KULA	**Kula-Manisa**	0.69	209	*e*PG		**Pg**	21 40 52.2	-0.4
KULA				*e*SG		**Sb**	21 41 01.8	-1.0
KULA	**Kula-Manisa**	0.69	209	*e*Pg		**Pg**	21 40 52.2	-0.4
KULA				*e*Sg		**Sb**	21 41 01.8	-1.0
IGD	**Bursa**	1.14	4	*i* P		**Pn**	21 41 00.5	-0.5
IGD				*i* S		**Sn**	21 41 16.6	+0.1
KCTX	**Karacabey (Bur**	1.27	334	*e*PN		**Pn**	21 41 02.7	-0.1
KCTX	**Karacabey (Bur**	1.27	334	*e*Pn		**Pn**	21 41 02.7	-0.1
BALY	**Balya**	1.29	299	P		**Pn**	21 41 04.3	+1.2
BALY				S		**Sn**	21 41 22.3	+1.9
BALY	**Balya**	1.29	299	*i* P		**Pn**	21 41 04.3	+1.2
BALY				*i* S		**Sn**	21 41 22.3	+1.9
BORA	**Eskisehir**	1.30	54	P		**Pg**	21 41 03.9	-0.2
BORA				S		**Sn**	21 41 21.2	+0.6
BORA	**Eskisehir**	1.30	54	*i* P		**Pg**	21 41 03.9	-0.2
BORA				*i* S		**Sn**	21 41 21.2	+0.6
ARMT	**Armutlu**	1.45	353	*e*PN		**Pb**	21 41 05.5	-0.6
ARMT	**Armutlu**	1.45	353	*e*Pn		**Pb**	21 41 05.5	-0.6

CSEM **15** *21:45:38.4±0.4,37.04N×36.05E,h5km,MD2.6,Error*
ellipse: s-maj=10.7km s-min=8.5km az=19.0
ISCJB **15** *21:45:39.2±0.6,36.98N±0.04×36.08E±0.03,h3km±6km,*
Error ellipse: s-maj=6.3km s-min=4.2km az=168.5
ISK **15** *21:45:39.0,36.99N×36.09E,h4km,MD2.6*
DDA **15** *21:45:39.0,36.97N×36.07E,h7km,Md2.7*

ISC **15** *21:45:39.5*±1.0,**36.98N**±0.03×**36.06E**±0.02,**h15**km±8km,
n24,σ**1.26**/35,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CEYT	**Ceyhan**	0.25	276	PG		**Pg**	21 45 45.0	+0.1
CEYT	**Ceyhan**	0.25	276	*i* Pg		**Pg**	21 45 45.0	+0.1
YURE	**YUREGIR**	0.38	245	P		**Pg**

CMBO	Columbo, Santo	3.34	299	P		Pn	22 00 14.9	-0.4	
IDI	Anoyia	3.42	278	P		Pn	22 00 17.4	+1.1	
IDI	Anoyia	3.42	278	P		Pn	22 00 17.4	+1.1	
SIVA	Sivas	3.46	273	P		Pn	22 00 17.6	+0.7	
SIVA	Sivas	3.46	273	P		Pn	22 00 17.6	+0.7	
APE	Apeiranthos	3.58	309	*e*PN		Pn	22 00 19.4	+0.9	
APE	Apeiranthos	3.58	309	P		Pn	22 00 19.5	+0.9	
APE	Apeiranthos	3.58	309	P		Pn	22 00 19.5	+0.9	
LFK	Lefkose	3.72	83	*e*PN		Pn	22 00 18.0	-2.5	
LFK	Lefkose	3.72	83	*e*Pn		Pn	22 00 18.0	-2.5	
VAM	Vamos	3.99	279	P		Pn	22 00 26.3	+2.1	
IKL	Isikli	4.03	69	*e*PN		Pn	22 00 23.9	-0.9	
IKL	Isikli	4.03	69	*e*Pn		Pn	22 00 23.9	-0.9	
GVD	Gavdhos	4.06	271	P		Pn	22 00 26.6	+1.4	
GVD	Gavdhos	4.06	271	P		Pn	22 00 26.6	+1.4	
IMMV	Iera Moni Meta	4.17	279	P		Pn	22 00 28.8	+2.1	
IMMV	Iera Moni Meta	4.17	279	P		Pn	22 00 28.8	+2.1	
KDHN	Kadinhani	4.40	33	P		Pn	22 00 30.8	+0.9	
KDHN				S		Sn	22 01 22.4	+0.7	
KDHN	Kadinhani	4.40	33	*i* P		Pn	22 00 30.8	+0.9	
KDHN				*i* S		Sn	22 01 22.4	+0.7	
ANKY	Antikythira Is	4.78	283	P		Pn	22 00 36.1	+1.1	
ANKY	Antikythira Is	4.78	283	P		Pn	22 00 36.1	+1.1	
KERG	Konya-Eregli	4.84	57	P		Pn	22 00 37.0	+1.0	
KERG				S		Sn	22 01 33.6	+1.0	
KERG	Konya-Eregli	4.84	57	*i* P		Pn	22 00 37.0	+1.0	
KERG				*i* S		Sn	22 01 33.6	+1.0	

NIED **15** *22:13:00,31.90N×141.70E,h5km,Mw4.5 Best double couple: M₀6.17000×10¹⁵ NP1:φ₈183.00000°,δ39.00000°, λ110.00000°. NP2:φ₈338.00000°,δ54.00000°,λ75.00000°.*
IDC **15** *22:13:09.1±0.6,31.57N×141.76E,h0km,mb4.4/22, mb1 4.5/27,mb1mx4.4/43,mbtmp4.4/27,ML4.0/4,MS3.7/21, Ms1 3.7/21,ms1mx3.5/44,Error ellipse: s-maj=17.9km s-min=12.0km az=80.0*
BJI **15** *22:13:12.5,31.56N×141.65E,h37km,mb4.7/56,mB4.8/42, Ms4.3/49,Ms7 4.1/49*
ISCJB **15** *22:13:13.7±0.2,31.50N±0.03×141.63E±0.04,h41km, mb4.7/91,MS3.8/22,Error ellipse: s-maj=4.5km s-min=3.5km az=155.9*
MOS **15** *22:13:13.5±1.1,31.57N×141.64E,h36km,mb4.9/51,Error ellipse: s-maj=10.4km s-min=5.1km az=122.9*
NEIC **15** *22:13:14.2±2.1,31.51N×141.67E,h31km±14km,mb4.8/55, Error ellipse: s-maj=6.4km s-min=5.2km az=107.0*
JMA **15** *22:13:15.8±0.6,31.92N×141.69E,h38km,M3.9*
ISC 15 22:13:15.6±0.4,31.62N±0.04×141.76E±0.05,h33km±1km, n290,σ2ϑ03/313,mb4.6/95,MS3.8/22,20C-16D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	2.21	312	P		Pn	22 13 47.6	-2.3
JHJ2	Mitsune	2.22	313	P		Pn	22 13 48.0	-2.1
JHJ2	Mitsune	2.22	313	*e*Pn		Pn	22 13 47.5	-2.6
JHJ2				*e*Sn		Sn	22 14 15.3	-1.1
JHJ	Hachijo jima 2	2.25	312	Pn		Pn	22 13 48.0	-2.4
	56nm,0.3s,baz=350,slow=20,SNR=33							
JHJ				Sn		Sn	22 14 16.3	-0.7
	70nm,0.3s,baz=307,slow=20,SNR=5.0							
BSO1	Boso 1	3.10	348	P		Pn	22 13 59.3	-2.4
BSO3	Boso 3	3.35	342	P		Pn	22 14 03.2	-2.1
CBIJ	Chichi jima	4.52	175	P		Pn	22 14 19.0	-2.7
CBIJ				*e*S		Sn	22 15 08.7	-4.4
CBIJ	Chichi jima	4.52	175	*e*Pn		Pn	22 14 18.1	-3.6
CBIJ				*e*Sn		Sn	22 15 08.0	-5.1
JCJ	Chichijima	4.52	175	Pn		Pn	22 14 18.1	-3.6
	24nm,0.3s,baz=87,slow=23,SNR=6.7							
JCJ				Sn		Sn	22 15 09.6	-3.6
	baz=270,slow=20							
JRY	Ryogami san	4.99	332	P		Pn	22 14 27.1	-1.1
INU	Inuyama	5.44	314	*e*Pn		Pn	22 14 37.5	+3.1
MJAR	Matsushiro Arr	5.73	330	Pn		Pn	22 14 36.5	-1.8
	3.3nm,0.3s,baz=158,slow=12,SNR=34							
MJAR				LR		LR	22 17 00.6	
	comp=Z,581nm,18.3s,baz=135,slow=40							
MAJO	Matsushiro	5.73	330	*e*P		Pn	22 14 38.0	-0.4
MAJO	Matsushiro	5.73	330	*e*Pn		Pn	22 14 38.0	-0.4
MAT	Matsushiro	5.73	330	P		Pn	22 14 37.5	-0.9
MAT				*e*S		Sn	22 15 38.0	-5.0
MJB9	Matsu-Tunnel	5.74	330	*e*Pn		Pn	22 14 38.1	-0.3
JMK	Ichinoseki	7.33	357	*e*S		Sn	22 16 13.9	-8.4
JNU	Nakatsue	9.33	282	Pn		Pn	22 15 30.6	+2.8
	0.6nm,0.3s,baz=82,slow=7.3,SNR=20							
JNU				LR		LR	22 18 58.9	
	comp=Z,331nm,19.1s,baz=119,slow=38							
JOT	Ohata	9.76	357	*e*S		Sn	22 17 12.6	-9.5
ERM	Erimo	10.44	6	*e*P		Pn	22 15 37.6	-5.2
ERM	Erimo	10.44	6	*e*Pn		Pn	22 15 37.6	-5.2
ERM				*e*Sn		Sn	22 17 30.4	-8.2
JOSM	Okushiri--Mats	10.61	351	*e*S		Sn	22 17 34.6	-8.1
ASAJ	Asahikawa	12.50	3	Pn		Pn	22 16 06.5	-4.5
	0.7nm,0.3s,baz=210,slow=12,SNR=5.0							
ASAJ				Sn		Sn	22 18 17.8	-11
	0.6nm,0.3s,baz=86,slow=30,SNR=7.8							
ASAJ	Asahikawa	12.50	3	*e*Pn		Pn	22 16 05.9	-5.1
ASAJ				*e*Sn		Sn	22 18 17.8	-11
KSRS	Korea Array	12.81	301	Pn		Pn	22 16 17.1	+1.8
	0.3nm,0.3s,baz=111,slow=14,SNR=19							
KSRS				LR		LR	22 21 09.7	
	comp=Z,430nm,18.5s,baz=109,slow=37							
KSAR	Wonju Array Be	12.83	301	P		Pn	22 16 17.1	+1.5
KSAR	Wonju Array Be	12.83	301	Pn		Pn	22 16 17.1	+1.5
TJN	Taejon	12.86	296	*e*P		Pn	22 16 16.1	+0.2
MSHR	Mys Shultsa	13.82	326	*e*P		Pn	22 16 28.2	-0.9
VLA	Vladivostok	13.90	328	*e*P		Pn	22 16 28.9	-1.2
VLA				*e*S		Sn	22 19 03.5	+0.3
VLA				pmax	pmax			
	comp=Z,11nm,0.7s							
USRK	Ussuriysk Ar.	14.73	331	Pn		Pn	22 16 38.8	-2.7
	comp=Z,0.1nm,0.3s,baz=142,slow=11,SNR=6.3							
MDJ	Mudanjiang	16.11	327	P		Pn	22 16 57.6	-1.8
MDJ				S		S	22 20 04.0	-5.5
MDJ				PcS		PcS	22 25 29.1	-0.4
MDJ				PMZ				
	comp=Z,6.0nm,0.7s							
MDJ				PMZ				
	comp=Z,58nm,4.2s							
MDJ				LN				
	comp=Z,270nm,13.5s							
MDJ				LE				
	comp=Z,320nm,12.8s							
MDJ				LZ				
	comp=Z,440nm,16.4s							
MDJ	Mudanjiang	16.11	327	*e*Pn		P	22 17 01.0	-1.4
	comp=Z,19nm,0.9s							
CN2	Changchun	17.70	318	*e*P		Pn	22 17 15.5	-3.9
CN2				PMZ				
	comp=Z,10.0nm,0.8s							
CN2				PMZ				
	comp=Z,200nm,3.0s							
CN2				LN				
	comp=Z,500nm,13.0s							
CN2				LE				
	comp=Z,500nm,13.0s							
CN2				LZ				
	comp=Z,400nm,14.0s							
SNY	Shenyang	17.75	310	P		Pn	22 17 18.8	-1.3
SNY				S		Sn	22 20 36.9	0.0
SNY				PMZ				
	comp=Z,42nm,0.8s							
SNY				PMZ				
	comp=Z,180nm,4.3s							
SNY				LN				
	comp=Z,250nm,11.1s							
SNY				LE				
	comp=Z,340nm,13.1s							
SNY				LZ				
	comp=Z,430nm,12.8s							
YOJ	Yonaguni jima	18.01	251	*e*P		Pn	22 17 21.5	-1.8
YOJ				pmax	pmax			
	comp=Z,344nm,1.4s							
YOJ	Yonaguni jima	18.01	251	*e*Pn		Pn	22 17 21.5	-1.8
	comp=Z,344nm,1.4s							
KLR	Kul'dur	19.14	340	P		P	22 17 32.9	-3.0
	comp=Z,0.5nm,0.3s,baz=145,slow=11,SNR=19							
TYV	Tymovskoe	19.24	2	*e*P		P	22 17 34.2	-2.7
TYV				pmax	pmax			
	comp=Z,79nm,1.4s							
YHNB	Yeheng	19.25	254	*e*P		P	22 17 31.4	-5.9
	comp=Z,74nm,1.4s							
YULB	Yu-li	19.89	251	*e*P		P	22 17 42.1	-2.2
	comp=Z,25nm,0.8s							
SSLB	Suanglung	19.99	252	*e*P		P	22 17 44.2	-1.1
	comp=Z,47nm,1.1s							
TPUB	Ta-pu	20.48	251	*e*P		P	22 17 50.0	-0.7
	comp=Z,26nm,0.9s							
BJI	Beijing	22.33	299	P		P	22 18 07.5	-2.9
BJI				S		S	22 22 12.5	-1.4
BJI				PMZ				
	comp=Z,21nm,1.1s							
BJI				PMZ				
	comp=Z,110nm,5.9s							
BJI				LN				
	comp=Z,190nm,14.1s							
BJI				LE				
	comp=Z,340nm,14.1s							
BJI				LZ				
	comp=Z,170nm,17.2s							
BJT	Baijiatuan	22.33	299	*e*P		P	22 18 08.6	-1.8
BJT				pmax	pmax			
	comp=Z,21nm,1.0s							
BJT	Baijiatuan	22.33	299	*e*P		P	22 18 08.6	-1.8
	comp=Z,20nm,1.0s							
WHN	Wuhan	23.48	275	⇑P		P	22 18 20.4	-2.0
WHN				S		S	22 22 29.5	-4.3
WHN				LN				
	comp=Z,900nm,14.0s							
WHN				LE				
	comp=Z,1μm,16.0s							
WHN				LZ				
	comp=Z,1μm,14.3s							
HIA	Hailar	24.18	323	*d* iP		P	22 18 26.5	-2.3
HIA				pmax	pmax			
	comp=Z,48nm,1.0s							
HIA	Hailar	24.18	323	*e*P		P	22 18 27.1	-1.7
	comp=Z,38nm,0.9s							
PETK	Petropavlovsk-	24.39	24	LR		LR	22 28 39.0	
	comp=Z,151nm,20.6s,baz=231,slow=38							
XAN	Xi'an	27.64	284	P		P	22 18 57.4	-2.9
XAN				PP		PnPn	22 19 47.4	+1.1
XAN				PMZ				
	comp=Z,24nm,0.9s							
XAN				PMZ				
	comp=Z,120nm,3.3s							
XAN				LN				
	comp=Z,180nm,10.7s							
XAN				LE				
	comp=Z,93nm,12.4s							
XAN				LZ				
	comp=Z,180nm,12.1s							
ENH	Enshi	27.66	276	*e*P		P	22 18 57.7	-2.8
	comp=Z,17nm,1.5s							
ULN	Ulaanbaatar	30.92	312	*c* iP		P	22 19 28.6	-0.7
ULN				pmax	pmax			
	comp=Z,20nm,1.2s							
ULN	Ulaanbaatar	30.92	312	*e*P		P	22 19 28.9	-0.4
	comp=Z,36nm,1.6s							
GYA	Guiyang	31.03	269	P		P	22 19 28.5	-2.0
GYA				pP		pP	22 19 40.0	-0.1
GYA				PP		PnPn	22 20 31.3	-0.9
GYA				PcP		PcP	22 22 26.4	+0.5
GYA				S		S	22 24 29.8	-3.7
GYA				ScP		ScP	22 26 03.5	-2.7
GYA				SS		SnSn	22 26 14.0	-1.7
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,6.0s							
GYA				LN				
	comp=Z,490nm,16.8s							
GYA				LE				
	comp=Z,420nm,16.5s							
GYA				LZ				
	comp=Z,460nm,17.1s							
SONA1	Songino Array	31.32	311	*e*P		P	22 19 32.4	-0.5
SONA0	Songino Array	31.33	311	*e*P		P	22 19 32.8	-0.1
	comp=Z,21nm,1.3s							
SONM	Songino Array	31.33	311	P		P	22 19 32.8	-0.1
	comp=Z,5.9nm,0.8s,baz=121,slow=8.7,SNR=36							
SONM				LR		LR	22 32 45.6	
	comp=Z,181nm,18.5s,baz=96,slow=38							
QIZ	Qiongzhong	31.34	254	P		P	22 19 26.4	-6.7
QIZ				S		S	22 24 33.3	-4.9
YAK	Yakutsk	31.42	349	*e*P		P	22 19 31.8	-1.5
YAK				pmax	pmax			
	comp=Z,13nm,1.0s							
LZH	Lanzhou	31.67	289	*e*P		P	22 19 34.3	-1.8
LZH				pP		pP	22 19 44.5	-1.3
LZH				sP		sP	22 19 49.0	-0.8
LZH				*e*PP		PnPn	22 20 39.5	-0.9
LZH				PMZ				
	comp=Z,23nm,1.2s							
LZH				PMZ				
	comp=Z,85nm,5.3s							
LZH				LN				
	comp=Z,270nm,11.8s							
LZH				LE				
	comp=Z,280nm,13.0s							
LZH				LZ				
	comp=Z,370nm,16.5s							
SEY	Seymchan	32.06	9	P		P	22 19 38.2	-0.7
	comp=Z,1.5nm,0.6s,baz=162,slow=7.5,SNR=4.3							
SEY	Seymchan	32.06	9	⇑*e*P		P	22 19 40.0	+1.0
CD2	Chengdu	32.39	279	*e*P		P	22 19 39.8	-2.5
CD2				pP		pP	22 19 50.3	-1.7
CD2				sP		sP	22 19 54.9	-1.1
CD2				S		S	22 24 51.1	-3.4
CD2				sS		sS	22 25 09.0	-1.5
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.2s							
TLY	Talaya	34.30	317	*e*P		P	22 19 58.7	0.0
TLY				*e*			22 21 11.8	
TLY				*e*S		S	22 25 22.9	-0.8
TLY				pmax	pmax			
	comp=Z,19nm,1.0s							
TLY				MLR	MLR			
	comp=Z,202nm,16.0s							
TLY	Talaya	34.30	317	*e*P		P	22 19 58.6	-0.1
	comp=Z,15nm,0.9s							
GTA	Gaotai	34.77	295	P		P	22 20 00.3	-2.8
GTA				pP		pP	22 20 11.4	-1.4
GTA				sP		sP	22 20 16.6	-0.2
GTA				S		S	22 25 26.4	-5.0
GTA				sS		sS	22 25 42.0	-5.5
GTA				SS		SnSn	22 27 40.3	-6.0
GTA				PMZ				
	comp=Z,5.0nm,1.2s							
GTA				PMZ				
	comp=Z,75nm,4.8s							
GTA				LN				
	comp=Z,210nm,15.2s							
GTA				LE				
	comp=Z,320nm,15.2s							
GTA				LZ				
	comp=Z,260nm,17.6s							
KMI	Kunming	34.81	269	P		P	22 20 02.1	-1.5
KMI				PMZ				
	comp=Z,6.0nm,1.0s							
KMI				PMZ				
	comp=Z,100nm,5.9s							
KMI				LN				
	comp=Z,160nm,16.3s							
KMI				LE				
	comp=Z,320nm,15.8s							
KMI				LZ				
	comp=Z,300nm,16.1s							
KKM	Kota Kinabalu	34.91	229	*e*P		P	22 19 59.9	-4.5
	comp=Z,50nm,1.4s							
BILL	Bilibino	39.16	14	⇑*e*P		P	22 20 40.9	+1.1
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,127nm,18.0s							
CHTO	Chiang Mai	40.54	262	*e*P		P	22 20 49.9	-2.0
CHTO				pmax	pmax			
	comp=Z,7.0nm,1.0s							
CHTO	Chiang Mai	40.54	262	*e*P		P	22 20 49.9	-2.0
	comp=Z,7.0nm,1.0s							
TIXI	Tiksi	40.69	354	⇓*e*P		P	22 20 50.0	-2.5
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.6s							
CM31	Chiang Mai Arr	40.70	262	*e*P		P	22 20 50.6	-2.6
CMAR	Chiang Mai Arr	40.70	262	P		P	22 20 50.6	-2.6
	comp=Z,1.5nm,0.8s,baz=47,slow=7.6,SNR=12							
CMAR				LR		LR	22 39 12.0	
	comp=Z,59nm,18.5s,baz=45,slow=38							
CM01	Chiang Mai Arr	40.70	262	*e*P		P	22 20 51.7	-1.6
WMQ	Urumqi	43.75	302	P		P	22 21 18.6	+0.7
WMQ				pP		pP	22 21 28.6	+0.8
WMQ				sP		sP	22 21 35.9	+4.1
WMQ				S		S	22 27 45.9	-0.2
WMQ				PMZ				
	comp=Z,11nm,1.0s							
WMQ				PMZ				
	comp=Z,67nm,4.0s							
WMQ				LN				
	comp=Z,130nm,16.8s							
WMQ				LE				
	comp=Z,120nm,14.0s							
WMQ				LZ				
	comp=Z,63nm,16.6s							
MTN	Manton Dam	45.37	195	*e*P		P	22 21 28.7	-2.2
	comp=Z,50nm,1.3s							
ZAA0	Zalesovo Array	45.91	316	*e*P		P	22 21 33.2	-1.6
ZALV	Zalesovo Beam	45.91	316	P		P	22 21 33.7	-1.1
	comp=Z,4.8nm,0.8s,baz=99,slow=7.4,SNR=18							
ZALV				PcP		PcP	22 23 10.2	-1.2
	comp=Z,1.9nm,0.6s,baz=108,slow=5.3,SNR=3.6							
ZALV				LR		LR	22 41 31.3	
	comp=Z,97nm,18.0s,baz=70,slow=37							
ZAA1	Zalesovo Array	45.91	316	*e*P		P	22 21 33.7	-1.1
ZAA1				*e*PcP		PcP	22 23 10.2	-1.2
NVS	Novosibirsk	46.91	318	⇑*i*P		P	22 21 41.3	-1.3
NVS				*i*			22 21 53.4	
NVS				pmax	pmax			
	comp=Z,5.0nm,0.6s							
NVS				pmax	pmax			
	comp=N,1.0nm,0.4s							
NVS				pmax	pmax			
	comp=E,1.0nm,0.5s							
MK01	Makanchi Array	47.40	306	*e*P		P	22 21 45.5	-1.2
MK31	Makanchi Array	47.41	306	*e*P		P	22 21 46.0	-0.7
MK31	Makanchi Array	47.41	306	*e*P		P	22 21 46.0	-0.7
MK32	Makanchi Array	47.41	306	*e*P		P	22 21 45.6	-1.1
MKAR	Makanchi Array	47.41	306	P		P	22 21 45.6	-1.1
	comp=E,6.2nm,0.8s,baz=90,slow=9.2,SNR=46							
MKAR				LR		LR	22 41 00.3	
	comp=E,80nm,19.4s,baz=84,slow=35							
MKAR	Makanchi Array	47.41	306	*c e*P		P	22 21 45.5	-1.2
MKAR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MKAR	Makanchi Array	47.41	306	*e*P		P	22 21 46.0	-0.7
MAKZ	Makanchi	47.62	307	*e*P		P	22 21 47.4	-1.0
MAKZ				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MAKZ	Makanchi	47.62	307	*e*P		P	22 21 47.4	-1.0
	comp=Z,8.0nm,1.0s							
GUN	Gumba	48.21	281	*e*P		P	22 21 51.8	-1.8
	comp=Z,63nm,0.8s							
NRIK	Noril'sk	48.33	337	P		P	22 21 51.7	-1.8
	comp=Z,17nm,1.1s,baz=113,slow=10,SNR=11							
NRIK				LR		LR	22 45 44.5	
	comp=Z,87nm,18.6s,baz=88,slow=40							
PKIN	Phulchoki	48.72	280	*e*P		P	22 21 55.2	-2.2
	comp=Z,16nm,0.9s							
KKN	Kakani	48.75	281	*e*P		P	22 21 55.7	-1.9
	comp=Z,36nm,0.8s							
DMN	Daman	48.96	281	*e*P		P	22 21 57.4	-1.8
GKN	Gorkha	49.22	281	*e*P		P	22 21 59.0	-2.1
	comp=Z,29nm,0.8s							
BKNI	Bangkinang	49.49	239	*e*P		P	22 22 01.5	-1.6
	comp=Z,117nm,0.4s							
KURK	Kurchatov	49.63	312	*e*P		P	22 22 02.4	-1.3
KURK				pmax	pmax			
	comp=Z,111nm,0.9s							
KURK	Kurchatov	49.63	312	*e*P		P	22 22 02.4	-1.3
	comp=Z,111nm,0.9s							
KOLN	Koldanda	50.17	281	*e*P		P	22 22 06.6	-1.8
	comp=Z,16nm,0.8s							
PYUN	Piuthan	50.57	282	*e*P		P	22 22 10.1	-1.3
	comp=Z,42nm,0.5s							
OHAK	Old Harbor	50.64	40	*e*P		P	22 22 12.7	+1.5
	comp=Z,21nm,1.4s							
CISI	Cisompet, Garu	50.69	226	*e*P		P	22 22 09.8	-2.4
	comp=Z,74nm,1.3s							
KDAK	Kodiak Island	51.03	39	*e*P		P	22 22 16.1	+1.9
KDAK				pmax	pmax			
	comp=Z,57nm,2.0s							
KDAK	Kodiak Island	51.03	39	*e*P		P	22 22 16.1	+1.9
	comp=Z,57nm,2.0s							
GSI	Gunungsitoli	51.44	243	*e*P		P	22 22 16.0	-1.8
	comp=Z,29nm,0.9s							
PPLA	Purkeypile	51.51	32	*e*P		P	22 22 17.1	-0.8
	comp=Z,13nm,1.2s							
WRAB	Tennant Creek	51.74	189	*c* iP		P	22 22 17.4	-2.5
WRAB				pmax	pmax			
	comp=Z,53nm,1.1s							
WRAB	Tennant Creek	51.74	189	*e*P		P	22 22 16.0	-3.9
	comp=Z,50nm,1.5s							
WB2	Warramunga Arr	51.75	189	*e*P		P	22 22 18.1	-1.9
WR1	Warramunga Arr	51.76	189	*e*P		P	22 22 17.9	-2.1
WRA	Warramunga Arr	51.76	189	P		P	22 22 17.9	-2.1
	comp=Z,17nm,0.9s,baz=7.8,SNR=69							
WRA	Warramunga Arr	51.76	189	*i* P		P	22 22 15.8	-4.2
WRA				pmax	pmax			
	comp=Z,17nm,0.9s							
FITZ	Fitzroy Crossi	51.80	200	P		P	22 22 19.0	-1.3
	comp=Z,2.2nm,0.7s,baz=30,slow=8.6,SNR=5.5							
FITZ	Fitzroy Crossi	51.80	200	*e*P		P	22 22 19.0	-1.3
	comp=Z,23nm,1.5s							
SUA	Susitna One	52.09	34	*e*P		P	22 22 23.4	+1.2
MLY	Manley	52.34	30	*e*P		P	22 22 22.6	-1.4
	comp=Z,5.5nm,1.1s							
TKM2	Tokmak 2	52.61	302	*i* P		P	22 22 25.0	-1.5
TKM2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
TKM2	Tokmak 2	52.61	302	*e*P		P	22 22 25.5	-1.0
	comp=Z,30nm,1.8s							
KSH	Kashi	53.04	298	P		P	22 22 33.0	+3.4
KSH				pP		sP	22 22 43.3	-0.3
KSH				PcP		PcP	22 23 41.4	+3.5
KSH				PP		PP	22 24 33.3	+3.9
KSH				S		S	22 29 59.1	+1.7
KSH				ScS		ScS	22 32 16.3	-0.6
KSH				SS		SS	22 33 38.8	+2.2
KSH				PMZ				
	comp=Z,15nm,1.0s							
KSH				PMZ				
	comp=Z,55nm,3.1s							
KSH				LN				
	comp=Z,97nm,7.4s							
KSH				LE				
	comp=Z,95nm,6.4s							
KSH				LZ				
	comp=Z,230nm,10.6s							
FRU	Bishkek	53.34	302	*e*P		P	22 22 30.0	-1.6
AAK	Ala-Archa	53.46	302	⇓*e*P		P	22 22 31.5	-1.2
AAK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
AAK	Ala-Archa	53.46	302	*e*P		P	22 22 32.6	-0.1
	comp=Z,4.7nm,0.9s							
COLA	College	53.56	30	⇓*e*P		P	22 22 33.2	+0.4
COLA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
HDA	Harding Lake	53.93	31	*e*P		P	22 22 33.9	-1.6
	comp=Z,4.6nm,0.9s							
IL1	Eielson Array	53.97	30	*e*P		P	22 22 35.2	-0.6
ILAR	Eielson Array	53.97	30	P		P	22 22 34.5	-1.4
	comp=Z,2.1nm,0.9s,baz=257,slow=5.9,SNR=12							
ILAR				LR		LR	22 53 43.0	
	comp=Z,11nm,18.0s,baz=290,slow=45							
ILB	Eielson Array	53

comp=Z,29nm,1.1s
NDI New Delhi 55.16 285 *ex* P 22 22 36.5 -8.6
ZRNK Zerenda 55.37 315 *i* P **P 22 22 44.8 -1.4**
ZRNK pmax pmax
comp=Z,10.0nm,1.0s
ZRNK Zerenda 55.37 315 *eP* **P 22 22 45.1 -1.1**
comp=Z,10nm,1.0s
AS01 Alice Springs 55.47 189 *eP* **P 22 22 45.2 -2.0**
AS31 Alice Springs 55.48 189 *eP* **P 22 22 45.2 -2.0**
comp=Z,3.0nm,0.6s
ASAR Alice Springs 55.48 189 P **P 22 22 45.2 -2.0**
comp=Z,6.8nm,0.8s,baz=16,slow=14,SNR=49
ASAR LR LR 22 44 56.9
comp=Z,86nm,20.2s,baz=18,slow=34
KKAR Karatay Array 56.22 303 *eP* **P 22 22 51.7 -0.8**
KKAR Karatay Array 56.22 303 *eP* **P 22 22 51.7 -0.8**
DAWY Dawson 57.24 31 *eP* **P 22 23 02.0 +2.6**
comp=Z,24nm,1.8s
SVE Sverdlovsk 59.46 321⇑ *iP* **P 22 23 14.4 -0.5**
SVE pmax pmax
comp=Z,15nm,1.1s
KBL Kabul 59.76 294 *eP* **P 22 23 17.3 -0.3**
KBL pmax pmax
comp=Z,38nm,0.5s
KBL Kabul 59.76 294 *eP* **P 22 23 17.3 -0.3**
comp=Z,38nm,0.5s
ARU Arti 60.67 321 *c iP* **P 22 23 21.8 -1.4**
ARU 22 24 06.7
ARU 22 25 34.0
ARU PPP PPP 22 27 03.2
ARU S **S 22 31 38.6 +1.3**
ARU SS **SS 22 35 31.0 -4.6**
ARU pmax pmax
comp=Z,22nm,1.2s
ARU Arti 60.67 321 *eP* **P 22 23 21.9 -1.3**
comp=Z,14nm,0.9s
ABKAR Akbulak array 61.73 313 *eP* **P 22 23 29.4 -1.2**
AFI Afiamalu 63.51 128 LR LR 22 47 01.7
comp=Z,58nm,21.4s,baz=22,slow=32
GEYT Alibeck 66.80 301 P **P 22 24 02.9 -1.1**
comp=Z,9.5nm,1.0s,baz=46,slow=4.3,SNR=14
NWAO Narrogin (SRO) 68.25 202 P **P 22 24 11.1 -1.9**
comp=Z,8.3nm,0.8s,baz=333,slow=18,SNR=3.4
NWAO Narrogin (SRO) 68.25 202 *eP* **P 22 24 11.1 -1.9**
comp=Z,109nm,1.5s
YKA Yellowknife Ar 68.37 29 P **P 22 24 12.9 -0.5**
comp=Z,1.4nm,0.9s,baz=292,slow=6.2,SNR=7.7
YKB5 Yellowknife Ar 68.37 29 *eP* **P 22 24 12.9 -0.5**
KLMR Klimovskoe 68.51 329 *eP* **P 22 24 12.0 -2.3**
KLMR *eS* **S 22 33 12.3 -1.5**
KLMR pmax pmax
comp=Z,4.0nm,0.7s
ARA0 ARCESS Array S 69.17 340 *eP* **P 22 24 17.4 -0.9**
ARCES ARCESS Array B 69.17 340 P **P 22 24 17.4 -0.9**
comp=Z,2.6nm,0.8s,baz=89,slow=9.8,SNR=5.1
ARCES LR LR 22 59 23.4
comp=Z,44nm,18.4s,baz=66,slow=40
NIHS Ingelmoor High 71.06 45 *eP* **P 22 24 29.4 -0.8**
DAG Danmarks Havn 71.18 355 *i* P **P 22 24 29.1 -1.4**
DAG pmax pmax
comp=Z,6.0nm,1.1s
DAG Danmarks Havn 71.18 355 *i* P **P 22 24 29.1 -1.4**
comp=Z,4.6nm,1.1s
OBN Obninsk 72.63 324⇓ *eP* **P 22 24 38.8 -0.7**
OBN *e* 22 24 54.4
OBN *e* 22 27 27.2
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN MLR MLR
comp=Z,115nm,18.0s
LPSR Galich'ya Gora 72.67 321 *eP* **P 22 24 39.5 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 73.23 320 *eP* **P 22 24 42.1 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
FIA1 FINESS Array S 73.75 333 *eP* **P 22 24 44.7 -1.3**
comp=Z,49nm,1.9s
FIA0 FINESS Array S 73.75 333 *eP* **P 22 24 44.6 -1.4**
FIA0 FINESS Array S 73.75 333 *eP* **P 22 24 44.6 -1.4**
FINES FINESS Array B 73.75 333 P **P 22 24 44.6 -1.4**
comp=Z,2.7nm,0.6s,baz=108,slow=6.2,SNR=14
FINES FINESS Array B 73.75 333 *i* P **P 22 24 44.5 -1.5**
FINES pmax pmax
comp=Z,3.0nm,0.6s
UOSS Minazif 73.81 290 *eP* **P 22 24 46.7 -0.4**
comp=Z,1.2nm,1.0s
HATD Hatta, Dubai 73.93 289 *i* P **P 22 24 47.4 -0.3**
SNR=9.8
ASHO Ashiyiah 74.05 289 *i* P **P 22 24 47.5 -1.0**
SNR=6.9
KBZ Khabaz 74.69 312 P **P 22 24 51.8 0.0**
comp=Z,5.0nm,0.8s,baz=116,slow=1.7,SNR=8.8
KBZ LR LR 22 58 19.8
comp=Z,64nm,19.1s,baz=98,slow=36
KIV Kislovodsk 74.72 312 *eP* **P 22 24 51.9 -0.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,71nm,18.0s
NEY Neytrino 75.04 312⇓ *eP* **P 22 24 54.2 +0.1**
NEY pmax pmax
comp=Z,1.0nm,0.7s
GNI Garni 75.22 308⇓ *eP* **P 22 24 55.7 +0.5**
GNI pmax pmax
comp=Z,15nm,1.0s
JTMT Jette 75.75 43 *eP* **P 22 24 54.3 -3.8**
SUMG Summit 76.09 0 *i* P P 22 25 04.0 +4.1
SUMG pmax pmax
comp=Z,3.0nm,0.7s
SUMG Summit 76.09 0 *i* P P 22 25 04.0 +4.1
comp=Z,2.8nm,0.7s
SUMG Summit 76.09 0 *eP* **P 22 24 56.7 -3.2**
comp=Z,36nm,2.0s
RAR Rarotonga 76.78 125 LR LR 22 55 21.5
comp=Z,77nm,20.5s,baz=297,slow=33
URZ Urewera 76.93 152 *eP* P 22 24 59.2 -5.2
comp=Z,72nm,1.5s
LRM Limekiln Ridge 77.84 44 *eP* **P 22 25 09.9 -0.1**
AKASG Malin Array Be 78.78 323 P **P 22 25 13.3 -1.4**
comp=Z,2.1nm,0.5s,baz=47,slow=6.4,SNR=22
AKBB Malin Array Si 78.78 323 *eP* **P 22 25 13.4 -1.4**
AKBB pmax pmax
comp=Z,9.0nm,0.5s
AKBB Malin Array Si 78.78 323 *eP* **P 22 25 13.3 -1.4**
comp=Z,8.7nm,0.5s
KIEV Kiev 78.79 323 *c eP* **P 22 25 12.9 -1.9**
KIEV pmax pmax
comp=Z,9.0nm,1.1s
KIEV Kiev 78.79 323 *eP* **P 22 25 13.4 -1.4**
comp=Z,13nm,1.2s
AK11 Malin Array Si 78.82 323 *eP* **P 22 25 13.8 -1.2**
NC405 NORSAR Array S 79.08 338 *eP* **P 22 25 15.0 -1.3**
NC204 NORSAR Array S 79.26 338 *eP* **P 22 25 16.5 -0.8**
NB201 NORSAR Array S 79.26 338 *eP* **P 22 25 16.6 -0.7**
NB2 NORSAR Subarra 79.29 338 P **P 22 25 15.8 -1.7**
comp=Z,7.9nm,1.1s,baz=40,slow=5.6
NB200 NORSAR Array S 79.29 338 *eP* **P 22 25 15.9 -1.6**
NOA NORSAR Array B 79.29 338 P **P 22 25 15.9 -1.6**
comp=Z,3.4nm,0.9s,baz=41,slow=5.4,SNR=9.7
NOA LR LR 23 05 00.2
comp=Z,57nm,19.3s,baz=50,slow=39
NBO02 NORSAR Array S 79.40 338 *eP* **P 22 25 17.0 -1.1**
RCWM Renegade Canyo 79.77 54 *eP* **P 22 25 20.0 -0.6**
R11A Troy Canyon, C 79.90 51 *eP* P 22 25 25.6 +4.2
comp=Z,6.3nm,1.4s
TPNV Topopah Spring 80.20 53 *eP* **P 22 25 24.4 +1.4**
TPNV *e*PP* **sP 22 25 35.6 -1.8**
TPNV pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 80.20 53 *eP* **P 22 25 24.4 +1.4**
comp=Z,6.9nm,1.1s
TPNV *ep*P **sP 22 25 35.6 -1.8**
DUG Dugway, Tooele 80.70 48 *eP* **P 22 25 26.6 +0.9**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 80.70 48 *eP* **P 22 25 26.6 +0.9**
comp=Z,2.8nm,0.8s
BW06 Boulder Array 81.27 45 *eP* **P 22 25 28.0 -0.7**
PD31 Pinedale Array 81.27 45 *eP* **P 22 25 27.4 -1.4**
PDAR Pinedale Array 81.27 45 P **P 22 25 27.4 -1.4**
comp=Z,0.8nm,0.6s,baz=321,slow=1.9,SNR=6.3
PDAR LR LR 23 04 42.1
comp=Z,27nm,19.1s,baz=308,slow=38
PPT Papeete 81.97 116 LR LR 23 01 12.1
comp=Z,74nm,18.8s,baz=268,slow=35

LCMT Little Creek M 82.18 51 *eP* **P 22 25 35.0 +1.4**
comp=Z,3.4nm,0.9s
TMUT Trail Mountain 82.23 48 *eP* **P 22 25 35.6 +1.7**
comp=Z,23nm,0.6s
MTPU Mount Pierson 82.31 50 *eP* **P 22 25 36.1 +1.6**
comp=Z,5.5nm,1.1s
MTPU *epP* **sP 22 25 51.4 +2.5**
KNB Kanab 82.46 51 *eP* **P 22 25 36.2 +1.2**
KNB pmax pmax
comp=Z,6.0nm,0.9s
KNB Kanab 82.46 51 *eP* **P 22 25 36.2 +1.2**
comp=Z,5.5nm,0.9s
BR101 Keskin Array S 82.68 312 *eP* **P 22 25 35.0 -1.1**
BR131 Keskin Array S 82.68 312 *eP* **P 22 25 35.5 -0.5**
BRTR Keskin Array B 82.68 312 P **P 22 25 35.0 -1.1**
comp=Z,3.6nm,1.0s,baz=109,slow=3.0,SNR=19
BRTR LR LR 23 08 23.8
comp=Z,27nm,18.4s,baz=69,slow=40
TESR Tescani 82.69 321⇑ *iP* **P 22 25 34.8 -1.0**
KWP Kalwaria Pacla 82.71 325 *eP* **P 22 25 35.4 -0.5**
KWP Kalwaria Pacla 82.71 325⇓ *iP* **P 22 25 35.7 -0.2**
KWP Kalwaria Pacla 82.71 325 *eP* **P 22 25 35.4 -0.5**
BUR08 Bucovina Ar. S 82.74 322 *eP* **P 22 25 35.8 -0.5**
BURAR Bucovina Array 82.75 322⇑ *iP* **P 22 25 35.7 -0.6**
SRU San Rafael Swe 82.77 48 *eP* **P 22 25 39.0 +2.4**
SRU *e*PP* **sP 22 25 52.5 +1.4**
SRU San Rafael Swe 82.77 48 *eP* **P 22 25 39.0 +2.4**
SRU *epP* **sP 22 25 52.5 +1.4**
VRI Vrincioaia 83.06 320⇑ *iP* **P 22 25 37.7 0.0**
PLOR Plostina 83.11 320⇓ *iP* **P 22 25 38.7 +0.7**
BR231 Keskin MP Arra 83.16 313 *eP* **P 22 25 35.8 -2.7**
KOLS Kolonicke sedl 83.38 325 *eP* **P 22 25 38.8 -0.6**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 83.38 325 *eP* **P 22 25 38.8 -0.6**
MSAB Monastry St. A 83.55 318⇓ *iP* **P 22 25 40.1 -0.2**
STHS Stebnicka Huta 83.56 326 *eP* **P 22 25 39.8 -0.5**
STHS pmax pmax
comp=Z,5.0nm,1.3s
STHS Stebnicka Huta 83.56 326 *eP* **P 22 25 39.8 -0.5**
UZH Uzhgorod 83.58 324 *eP* **P 22 25 39.7 -0.6**
UZH *e* 22 25 50.5
UZH *e* 22 25 54.7
OJC Ojcow 83.70 327 *eP* **P 22 25 40.2 -0.8**
OJC Ojcow 83.70 327 *eP* **P 22 25 40.6 -0.4**
OJC pmax pmax
comp=Z,14nm,1.1s
OJC Ojcow 83.70 327 *eP* **P 22 25 40.6 -0.4**
comp=Z,14nm,1.1s
DOPR Dopca 83.71 321⇑ *iP* **P 22 25 40.8 -0.3**
CRVS Cervenica-Dubn 83.80 325 *eP* **P 22 25 41.2 -0.3**
CRVS Cervenica-Dubn 83.80 325 *eP* **P 22 25 41.2 -0.3**
ULM Lac du Bonnet 83.87 33 LR LR 23 04 31.1
comp=Z,40nm,19.5s,baz=288,slow=37
NIE Niedzica 84.02 326 *eP* **P 22 25 42.2 -0.4**
NIE Niedzica 84.02 326 *eP* **P 22 25 42.2 -0.4**
PV10 Paradox Valley 84.14 48 *eP* **P 22 25 41.3 -2.5**
VOIR 84.24 321⇓ *iP* **P 22 25 42.8 -1.1**
PV05 Paradox Valley 84.28 49 *eP* **P 22 25 45.3 +0.8**
ARR Arges 84.51 321⇑ *iP* **P 22 25 44.8 -0.4**
KECS Kecovo 84.56 325 *eP* **P 22 25 45.4 0.0**
KECS pmax pmax
comp=Z,2.0nm,1.2s
KECS Kecovo 84.56 325 *eP* **P 22 25 45.4 0.0**
DRGR 84.58 323⇓ *iP* **P 22 25 44.8 -0.8**
LANS Liptovska Anna 84.60 326 *eP* **P 22 25 45.7 +0.1**
LANS Liptovska Anna 84.60 326 *eP* **P 22 25 45.7 +0.1**
OKC Ostrava-Krasne 84.74 327 *eP* **P 22 25 45.5 -0.7**
OKC Ostrava-Krasne 84.74 327 *eP* **P 22 25 45.5 -0.7**
MORC Moravsky Berou 85.06 327⇓ *iP* **P 22 25 47.3 -0.6**
MORC Moravsky Berou 85.06 327 *eP* **P 22 25 47.4 -0.6**
MORC pmax pmax
comp=Z,20nm,1.1s
MORC Moravsky Berou 85.06 327 *eP* **P 22 25 47.4 -0.6**
comp=Z,20nm,1.1s
KRLC Kraliky 85.19 328 *eP* **P 22 25 50.2 +1.6**
KRLC Kraliky 85.19 328 *eP* **P 22 25 50.2 +1.6**
DPC Dobruska-Polom 85.20 328 *eP* **P 22 25 47.6 -1.0**
DPC Dobruska-Polom 85.20 328 *eP* **P 22 25 47.6 -1.0**
VYHS Vyhne 85.35 326 *eP* **P 22 25 48.6 -0.8**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 85.35 326 *eP* **P 22 25 48.6 -0.8**
CSS Mathiatis 85.64 309 *eP* **P 22 25 52.8 +1.7**
comp=Z,2.1nm,0.9s
VRAC Vranov 85.83 328⇑ *iP* **P 22 25 50.5 -1.2**
BZS Buzias 85.94 323⇓ *iP* **P 22 25 53.6 +1.3**
CLL Collm 85.94 331 *i* P **P 22 25 51.1 -1.1**
comp=Z,8.0nm,1.1s
CLL *e*SS SS 22 41 54.0 -6.0
CLL Collm 85.94 331 *i* P **P 22 25 51.1 -1.1**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 85.94 331 *eP* **P 22 25 51.0 -1.2**
comp=Z,7.1nm,1.0s
SMOL Smolenice 86.00 327 *eP* **P 22 25 52.8 +0.2**
SMOL Smolenice 86.00 327 *eP* **P 22 25 52.8 +0.2**
CONA Conrad Observa 87.16 327 PcP **P 22 25 57.7 -0.7**
comp=Z,2.4nm,1.1s
KHC Kasperske Hory 87.31 329 *eP* **P 22 25 57.4 -1.6**
KHC Kasperske Hory 87.31 329 *eP* **P 22 25 57.4 -1.6**
GERES GERESS Array B 87.47 329 P **P 22 25 57.2 -2.7**
comp=Z,0.8nm,0.8s,baz=31,slow=4.6,SNR=4.7
GERES LR LR 23 09 48.6
comp=Z,56nm,18.7s,baz=34,slow=39
SOKA Soboth 88.45 326 *eP* **P 22 26 00.1 -4.5**
comp=Z,3.7nm,1.0s
OBKA Obir 88.80 327 *i* P **P 22 26 02.1 -4.2**
comp=Z,3.6nm,1.1s
ABTA Abfaltersbach 89.57 328 *i* P **P 22 26 07.9 -1.9**
comp=Z,3.0nm,0.9s
RETA Reutte 89.79 329 *i* PcP **P 22 26 10.6 -0.2**
comp=Z,3.4nm,1.1s
FETA Feichten 90.16 329 *i* PcP **P 22 26 11.6 -1.1**
comp=Z,4.2nm,1.0s
DAVA Damuels 90.32 330 *i* PcP **P 22 26 12.3 -1.1**
comp=Z,4.9nm,0.8s
FUORN Ofenpass-Fuorn 90.67 329 *eP* **P 22 26 14.3 -0.9**
comp=Z,12nm,1.1s
LTX Lajitas 93.18 53 *eP* **P 22 26 26.6 -0.3**
LTX Lajitas 93.18 53 *eP* **P 22 26 26.6 -0.3**
TX31 Lajitas Ar. Si 93.18 53 *eP* **P 22 26 26.6 -0.4**
TXAR Lajitas Array 93.18 53 P **P 22 26 26.6 -0.3**
comp=Z,1.7nm,0.9s,baz=248,slow=1.3,SNR=11
VNA1 Neumayer--Stat 137.57 194 PKP **PKPdf 22 32 32.9 -2.1**
SAML Samuel 147.66 51 *e*PKPbc **PKPbc 22 32 57.0 -0.3**
LPAZ La Paz 148.84 68 PKPbc **PKPbc 22 32 59.4 -1.7**
comp=Z,1.6nm,0.8s,baz=192,slow=4.2,SNR=6.0
LPAZ La Paz 148.84 68 *e*PKPbc **PKPbc 22 33 02.0 +0.9**

DDA ***15*** *22:15:29.6,39°.15N×32°.82E,h1km,Md2.6*
CSEM ***15*** *22:15:29.9±0.3,39°.16N×32°.82E,h2km,MD2.6,Error ellipse: s-maj=10.8km s-min=6.6km az=144.0*
ISK ***15*** *22:15:29.6,39°.18N×32°.86E,h14km,MD2.5*
ISC 15 22:15:29.7±1.1,39°.17N±0°.04×32°.80E±0°.04,h4km±11km, n16,σ0s48/23,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KKUL	**Konya-Kulu**	**0.09**	**86**	P		**Pg**	**22 15 31.4**	**-0.3**
KKUL				S		**Sg**	**22 15 33.0**	**0.0**
KKUL	**Konya-Kulu**	**0.09**	**86**	*i* P		**Pg**	**22 15 31.4**	**-0.3**
KKUL				*i* S		**Sg**	**22 15 33.0**	**0.0**
AFSR	**Af˙ar-Bala (A**	**0.35**	**36**	*e*PG		**Pg**	**22 15 36.5**	**0.0**
AFSR	**Af˙ar-Bala (A**	**0.35**	**36**	*e*Pg		**Pg**	**22 15 36.5**	**0.0**
BBAL	**Bala**	**0.45**	**33**	P		**Pg**	**22 15 38.5**	**0.0**
BBAL	**Bala**	**0.45**	**33**	*i* P		**Pg**	**22 15 38.5**	**0.0**
BBAL				*i* S		**Sb**	**22 15 47.0**	**-0.5**
SERE	**Sereflikochisa**	**0.63**	**110**	*e*PG		**Pg**	**22 15 41.5**	**-0.4**
SERE				*e*SG		**Sg**	**22 15 50.4**	**+0.3**
SERE	**Sereflikochisa**	**0.63**	**110**	*e*Pg		**Pg**	**22 15 41.5**	**-0.4**
SERE				*e*Sg		**Sg**	**22 15 50.4**	**+0.3**
KIZT	**Kizilcal**	**0.77**	**249**	*e*PG		**Pb**	**22 15 45.9**	**+0.1**
KIZT	**Kizilcal**	**0.77**	**249**	*e*Pg		**Pb**	**22 15 45.9**	**+0.1**
KDHN	**Kadinhani**	**0.84**	**220**	P		**Pg**	**22 15 46.1**	**+0.3**
KDHN	**Kadinhani**	**0.84**	**220**	*i* P		**Pg**	**22 15 46.1**	**+0.3**
KDHN				*i* S		**Sn**	**22 16 00.5**	**-0.7**
KONT	**Konya--Tatoy**	**1.27**	**196**	*e*PN		**Pg**	**22 15 53.7**	**-0.3**
KONT	**Konya--Tatoy**	**1.27**	**196**	*e*Pn		**Pg**	**22 15 53.7**	**-0.3**
AVNS	**Nevsehir-Avano**	**1.63**	**102**	P		**Pg**	**22 16 01.4**	**+0.3**
AVNS	**Nevsehir-Avano**	**1.63**	**102**	*i* P		**Pg**	**22 16 01.4**	**+0.3**
AVNS				*i* S		**Sg**	**22 16 23.8**	**+1.6**

DDA 15 22:23:28.1,39°.12N×29°.15E,h7km,Md2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.26**	**98**	*i* P		Pg	22 23 33.8	+0.4
GDZ				*i* S		Sg	22 23 37.8	+0.9
DEMI	**Demirci**	**0.34**	**257**	*i* P		Pg	22 23 35.4	+0.5
DEMI				*i* S		Sg	22 23 40.2	+0.8
BORA	**Eskisehir**	**1.26**	**53**	*i* P		Pn	22 23 52.0	-0.2
BORA				*i* S		Sn	22 24 09.3	-0.2

NNC ***15*** *22:23:53.7±2.6,37°.32N×71°.34E,h216km±45km,mb2.5, mpv3.6,Error ellipse: s-maj=28.1km s-min=18.5km az=25.0*
ISC 15 22:23:41.8±1.3,36°.59N±0°.08×71°.2E±0°.1,h150km,n14, σ2s80/20,6C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.56**	**137**	*eP*		**Pn**	**22 25 03.4**	**+0.7**
THN				*eS*		**Sn**	**22 26 01.0**	**-4.8**
MNAS	**Manas**	**5.97**	**9**	⇓P		**Pn**	**22 25 10.6**	**+2.5**
	2.0nm,0.4s							
MNAS				⇑S		**Sn**	**22 26 13.5**	**-2.3**
	30nm,0.6s							
KK31	**Karatay Array**	**6.53**	**355**	⇑P		**Pn**	**22 25 18.4**	**+2.9**
	2.7nm,0.3s,baz=188,slow=15,SNR=55							
KK31				⇓S		**Sn**	**22 26 27.6**	**-1.3**
	8.2nm,0.3s,baz=155,slow=26,SNR=4.2							
AAK	**Ala-Archa**	**6.55**	**22**	⇓P		**Pn**	**22 25 19.2**	**+3.3**
	3.4nm,0.5s							
AAK				⇑S		**Sn**	**22 26 27.3**	**-2.2**
	12nm,0.7s							
TKM2	**Tokmak 2**	**7.17**	**27**	⇑P		**Pn**	**22 25 28.0**	**+3.8**
	2.5nm,0.6s							
TKM2				⇑S		**Sn**	**22 26 42.3**	**-2.1**
	3.1nm,0.7s							
PYUN	**Piuthan**	**13.05**	**127**	*eP*		**Pn**	**22 26 42.9**	**+1.0**
	6.3nm,0.2s							
KOLN	**Koldanda**	**13.67**	**127**	*eP*		**Pn**	**22 26 50.3**	**+0.5**
	4.9nm,0.3s							
GKN	**Gorkha**	**14.20**	**123**	*eP*		**P**	**22 26 58.6**	**-0.7**
	7.6nm,0.3s							
DMN	**Daman**	**14.77**	**123**	*eP*		**P**	**22 27 05.9**	**+0.1**
	12nm,0.4s							
KKN	**Kakani**	**14.78**	**122**	*eP*		**P**	**22 27 05.4**	**-0.3**
	13nm,0.6s							
PKIN	**Phulchoki**	**14.99**	**123**	*eP*		**P**	**22 27 08.8**	**+0.6**
	12nm,0.4s							
AB31	**Akbulak array**	**15.09**	**331**	P		**P**	**22 27 10.9**	**+2.1**
	0.4nm,0.3s,baz=149,slow=10,SNR=25							
AB31				⇑S		**Sn**	**22 29 48.0**	**-6.7**
	1.5nm,0.7s,baz=146,slow=24,SNR=3.3							
GUN	**Gumba**	**15.11**	**121**	*eP*		**P**	**22 27 09.9**	**+0.3**
RAMN	**Ramite**	**16.21**	**122**	*eP*		**P**	**22 27 22.8**	**+1.1**
	4.6nm,0.2s							

JMA ***15*** *22:28:18.2±0.4,23°.31N×129°.28E,h45km,M5.0*
IDC ***15*** *22:28:34.9±6.7,24°.85N×127°.62E,h0km,mb3.5/2, mb1 3.7/6,mb1mx3.5/41,mbtmp3.7/6,ML4.1/2,MS3.4/1, Ms1 3.4/1,ms1mx2.5/30,Error ellipse: s-maj=120.5km s-min=36.7km az=143.0*
ISC 15 22:28:23.2±1.5,23°.50N±0°.10×129°.16E±0°.06,h35km,n32, σ2s78/49,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**2.92**	**334**	P		**Pn**	**22 29 07.2**	**0.0**
JMZ	**Minamidaito 2**	**2.97**	**39**	P		**Pn**	**22 29 04.9**	**-2.9**
JMZ				S		**Sn**	**22 29 35.0**	**-7.2**
JNTH	**Nagotoyohara**	**3.17**	**341**	P		**Pn**	**22 29 10.2**	**-0.4**
JOW	**Kunigami**	**3.41**	**347**	P		**Pn**	**22 29 13.7**	**-0.2**
JOW				*eS*		**Sn**	**22 29 50.4**	**-2.7**
JAGN	**Aguni-jima**	**3.53**	**331**	P		**Pn**	**22 29 15.3**	**-0.2**
JAGN				*eS*		**Sn**	**22 29 54.6**	**-1.4**
JKE	**Kume jima 2**	**3.54**	**323**	P		**Pn**	**22 29 15.0**	**-0.7**
JKE				S		**Sn**	**22 29 53.7**	**-2.6**
JOGS	**Gusukube**	**3.65**	**291**	P		**Pn**	**22 29 16.9**	**-0.3**
JOGS				*eS*		**Sn**	**22 29 57.1**	**-1.9**
JIH	**Iheya**	**3.68**	**343**	P		**Pn**	**22 29 18.0**	**+0.5**
JIH				S		**Sn**	**22 29 57.7**	**-2.0**
JMJ	**Miyako jima 2**	**3.77**	**291**	P		**Pn**	**22 29 18.6**	**-0.1**
JMJ				S		**Sn**	**22 29 59.7**	**-2.1**
JIKM	**Ikemajima**	**3.84**	**292**	P		**Pn**	**22 29 19.2**	**-0.6**
JIKM				S		**Sn**	**22 30 01.5**	**-2.2**
JIRB	**Irabujima**	**3.87**	**291**	P		**Pn**	**22 29 19.5**	**-0.7**
JIRB				S		**Sn**	**22 30 01.1**	**-3.4**
JOKE	**Okinoerabujima**	**3.88**	**352**	P		**Pn**	**22 29 20.6**	**+0.3**
JOKE				*eS*		**Sn**	**22 30 01.1**	**-3.6**
JTJ	**Tarama**	**4.23**	**286**	P		**Pn**	**22 29 24.2**	**-0.9**
JTJ				S		**Sn**	**22 30 09.7**	**-3.6**
JTK	**Tokunoshima**	**4.27**	**358**	P		**Pn**	**22 29 25.4**	**-0.3**
JISG	**Ishigakijimahi**	**4.56**	**285**	P		**Pn**	**22 29 28.6**	**-1.1**
JIJ	**Ishigaki jima**	**4.67**	**282**	P		**Pn**	**22 29 30.0**	**-1.2**
JIJ				S		**Sn**	**22 30 20.3**	**-3.9**
JAMN	**Amaminishikomi**	**4.72**	**0**	P		**Pn**	**22 29 31.9**	**0.0**
JAMN				*eS*		**Sn**	**22 30 23.2**	**-2.2**
JKRS	**Kuro-shima**	**4.77**	**280**	P		**Pn**	**22 29 31.8**	**-0.8**
JKRS				S		**Sn**	**22 30 22.5**	**-4.2**
JZK	**Kikaishima**	**4.85**	**9**	P		**Pn**	**22 29 34.6**	**+1.0**
JZK				S		**Sn**	**22 30 26.8**	**-1.7**
JAM	**Amami Oshima**	**4.90**	**5**	P		**Pn**	**22 29 35.0**	**+0.6**
JAM				*eS*		**Sn**	**22 30 27.0**	**-2.9**
HATJ	**Hateruma jima**	**4.94**	**277**	P		**Pn**	**22 29 33.5**	**-1.8**
HATJ				S		**Sn**	**22 30 25.9**	**-4.8**
IRIF	**Iriomote-Funau**	**5.04**	**281**	P		**Pn**	**22 29 35.1**	**-1.1**
IRIF				S		**Sn**	**22 30 29.7**	**-3.5**
JTAJ	**Takarajima**	**5.63**	**0**	P		**Pn**	**22 29 44.4**	**+0.1**
YOJ	**Yonaguni jima**	**5.71**	**281**	P		**Pn**	**22 29 44.3**	**-1.1**
JYNG	**Yonagunijimaku**	**5.76**	**281**	P		**Pn**	**22 29 44.9**	**-1.3**
JNU	**Nakatsue**	**9.70**	**9**	Pn		**Pn**	**22 30 41.4**	**+1.1**
	5.0nm,0.3s,baz=216,slow=14,SNR=32							
JNU				Sn		**Sn**	**22 32 21.0**	**-7.0**
	0.5nm,0.3s,baz=277,slow=19,SNR=4.7							
JCJ	**Chichijima**	**12.31**	**70**	LR		LR	22 35 40.9	
	comp=Z,157nm,21.4s,baz=18,slow=32							
KSRS	**Korea Array**	**13.95**	**356**	Pn		**Pn**	**22 31 35.8**	**-2.4**
	0.1nm,0.3s,baz=174,slow=13,SNR=3.3							
MJAR	**Matsushiro Arr**	**15.16**	**29**	Pn		**P**	**22 32 05.0**	**+5.6**
	baz=206,slow=8.1,SNR=3.3							
USRK	**Ussuriysk Ar.**	**20.77**	**6**	P		Pn	22 33 05.7	+2.1
	0.0nm,0.3s,baz=186,slow=10,SNR=3.7							
KLR	**Kul'dur**	**25.76**	**4**	P		**P**	**22 33 56.6**	**+6.2**
	0.5nm,0.4s,baz=208,slow=7.4,SNR=4.3							
MKAR	**Makanchi Array**	**44.00**	**314**	P		**P**	**22 36 27.9**	**+0.8**
	0.6nm,1.1s,baz=103,slow=9.5,SNR=2.8							

IDC 15 22:31:34.8±1.1,12°.59N×94°.15E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/50,mbtmp3.4/5,ML4.0/1,MS3.6/1, Ms1 3.6/1,ms1mx2.7/22,Error ellipse: s-maj=36.4km s-min=22.6km az=44.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.44**	**38**	Pn		Pn	22 33 24.9	+0.1
	0.7nm,0.3s,baz=235,slow=15,SNR=12							
CMAR				Sn		Sn	22 34 50.5	+0.6
	0.6nm,0.3s,baz=234,slow=25,SNR=4.5							
H08S3	**Diego Garcia H**	**29.45**	**228**	T		T	23 07 23.7	
	baz=43							
H08S2	**Diego Garcia H**	**29.45**	**228**	T		T	23 07 29.0	
	baz=43							
H08S1	**Diego Garcia H**	**29.47**	**228**	T		T	23 07 27.2	
	baz=43							
WRA	**Warramunga Arr**	**51.09**	**129**	P		P	22 40 38.9	-0.7
	0.3nm,0.7s,baz=312,slow=8.0,SNR=5.4							
ASAR	**Alice Springs**	**53.01**	**133**	P		P	22 40 53.7

*CSEM **15** 22:32:01.3±0.3,37.07N×28.57E,h10km,MD2.5,Error ellipse: s-maj=9.3km s-min=4.0km az=32.0*

ISC 15 22:32:02.0±1.0,37.11N±0.05×28.54E±0.04,h16km±7km, n17,σ1%61/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.20**	**278**	*e*PG	**Pg**	**22 32 05.5**	**-1.3**
YER	**Yerkesik**	**0.20**	**278**	*e*Pg	**Pg**	**22 32 05.6**	**-1.3**
TURN	**Turunc**	**0.24**	**167**	*i* P	**Pg**	**22 32 07.6**	**+0.2**
TURN				*i* S	**Sg**	**22 32 13.8**	**+2.9**
DALY	**Dalyan (Mu˘la**	**0.30**	**162**	*e*PG	**Pg**	**22 32 06.5**	**-1.9**
DALY	**Dalyan (Mu˘la**	**0.30**	**162**	*e*Pg	**Pg**	**22 32 06.5**	**-1.9**
FETY	**Fethiye**	**0.64**	**137**	*e*PG	**Pg**	**22 32 12.8**	**-1.9**
FETY				*e*SG	**Sb**	**22 32 22.2**	**-1.4**
FETY	**Fethiye**	**0.64**	**137**	*e*Pg	**Pg**	**22 32 12.8**	**-1.9**
FETY				*e*Sg	**Sb**	**22 32 22.2**	**-1.4**
BDRM	**Kayabasi**	**0.87**	**268**	P	**Pg**	**22 32 18.1**	**-0.9**
BDRM				S	**Sn**	**22 32 32.6**	**+0.5**
BDRM	**Kayabasi**	**0.87**	**268**	*i* P	**Pg**	**22 32 18.1**	**-0.9**
BDRM				*i* S	**Sn**	**22 32 32.6**	**+0.5**
BODT	**Bodrum**	**0.98**	**268**	*e*PG	**Pb**	**22 32 20.4**	**-0.2**
BODT				*e*SG	**Sn**	**22 32 35.7**	**+1.0**
BODT	**Bodrum**	**0.98**	**268**	*e*Pg	**Pb**	**22 32 20.5**	**-0.2**
BODT				*e*Sg	**Sn**	**22 32 35.7**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**329**	*e*PG	**Pb**	**22 32 21.2**	**+0.5**
AYDB				*e*SG	**Sn**	**22 32 36.3**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**329**	*e*Pg	**Pb**	**22 32 21.3**	**+0.5**
AYDB				*e*Sg	**Sn**	**22 32 36.3**	**+1.3**
ELL	**Elmali**	**1.16**	**108**	*e*PN	**Pn**	**22 32 23.1**	**-0.6**
ELL	**Elmali**	**1.16**	**108**	*e*Pn	**Pn**	**22 32 23.1**	**-0.6**
AKAS	**Kas**	**1.23**	**135**	P	**Pn**	**22 32 24.2**	**-0.4**
AKAS	**Kas**	**1.23**	**135**	*i* P	**Pn**	**22 32 24.2**	**-0.4**
AKAS				*i* S	**Sn**	**22 32 45.4**	**+4.5**

*DDA **15** 22:34:33.9,39.11N×29.04E,h7km,Ml3.0*
*ISK **15** 22:34:33.6,39.07N×29.05E,h6km,MD2.7*
*CSEM **15** 22:34:34.1±0.1,39.07N×29.05E,h5km,ML3.0,Error ellipse: s-maj=2.4km s-min=1.8km az=155.0*

ISC 15 22:34:34.1±1.0,39.08N±0.03×29.05E±0.02,h5km±9km, n41,σ0%48/56,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**263**	P	**Pg**	**22 34 39.2**	**-0.1**
DEMI				S	**Sg**	**22 34 43.0**	**+0.2**
DEMI	**Demirci**	**0.26**	**263**	*i* P	**Pg**	**22 34 39.2**	**-0.1**
DEMI				*i* S	**Sg**	**22 34 43.0**	**+0.2**
GEDZ	**Gediz**	**0.28**	**96**	*e*PG	**Pg**	**22 34 39.7**	**+0.1**
GEDZ	**Gediz**	**0.28**	**96**	*e*Pg	**Pg**	**22 34 39.7**	**+0.1**
GDZ	**Gediz**	**0.33**	**88**	P	**Pg**	**22 34 40.8**	**+0.2**
GDZ				S	**Sg**	**22 34 45.8**	**+0.7**
GDZ	**Gediz**	**0.33**	**88**	*i* P	**Pg**	**22 34 40.8**	**+0.2**
GDZ				*i* S	**Sg**	**22 34 45.8**	**+0.7**
TVSB	**Tavsanli**	**0.49**	**40**	*e*PG	**Pg**	**22 34 42.9**	**-0.7**
TVSB	**Tavsanli**	**0.49**	**40**	*e*Pg	**Pg**	**22 34 42.9**	**-0.7**
KULA	**Kula-Manisa**	**0.64**	**209**	*e*PG	**Pg**	**22 34 46.3**	**-0.1**
KULA				*e*SG	**Sg**	**22 34 55.1**	**+0.4**
KULA	**Kula-Manisa**	**0.64**	**209**	*e*Pg	**Pg**	**22 34 46.3**	**-0.1**
KULA				*e*Sg	**Sg**	**22 34 55.1**	**+0.4**
KHL	**Karahalli**	**0.84**	**154**	*e*PG	**Pb**	**22 34 50.4**	**-0.7**
KHL	**Karahalli**	**0.84**	**154**	*e*Pg	**Pb**	**22 34 50.4**	**-0.7**
AKS	**Akhisar**	**0.99**	**259**	*e*PG	**Pb**	**22 34 53.4**	**-0.2**
AKS				*e*SG	**Sb**	**22 35 06.8**	**-0.1**
AKS	**Akhisar**	**0.99**	**259**	*e*Pg	**Pb**	**22 34 53.4**	**-0.2**
AKS				*e*Sg	**Sb**	**22 35 06.8**	**-0.1**
BALB	**Balikesir**	**1.07**	**302**	*e*PG	**Pb**	**22 34 54.7**	**-0.3**
BALB	**Balikesir**	**1.07**	**302**	*e*Pg	**Pb**	**22 34 54.7**	**-0.3**
IGD	**Bursa**	**1.19**	**5**	*i* P	**Pg**	**22 34 55.7**	**-1.3**
IGD				*i* S	**Sb**	**22 35 12.6**	**-0.2**
CAVI	**Cavuskoy**	**1.28**	**28**	*e*PN	**Pn**	**22 34 58.3**	**-0.3**
CAVI				*e*SN	**Sn**	**22 35 17.1**	**+0.9**
CAVI	**Cavuskoy**	**1.28**	**28**	*e*Pn	**Pn**	**22 34 58.3**	**-0.3**
CAVI				*e*Sn	**Sn**	**22 35 17.1**	**+0.9**
BALY	**Balya**	**1.29**	**301**	P	**Pn**	**22 34 58.5**	**-0.3**
BALY	**Balya**	**1.29**	**301**	*i* P	**Pn**	**22 34 58.5**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.30**	**354**	*e*PN	**Pg**	**22 34 59.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.30**	**354**	*e*Pn	**Pg**	**22 34 59.0**	**0.0**
IZI	**Iznik**	**1.30**	**14**	*e*PN	**Pb**	**22 34 58.8**	**-0.3**
IZI	**Iznik**	**1.30**	**14**	*e*Pn	**Pb**	**22 34 58.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*PN	**Pg**	**22 34 59.3**	**+0.2**
KCTX				*e*SN	**Sn**	**22 35 17.3**	**+0.5**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*Pn	**Pg**	**22 34 59.3**	**+0.2**
KCTX				*e*Sn	**Sn**	**22 35 17.3**	**+0.5**
BORA	**Eskisehir**	**1.35**	**53**	P	**Pn**	**22 34 59.1**	**-0.5**
BORA				S	**Sn**	**22 35 18.2**	**+0.3**
BORA	**Eskisehir**	**1.35**	**53**	*i* P	**Pn**	**22 34 59.1**	**-0.5**
BORA				*i* S	**Sn**	**22 35 18.2**	**+0.3**
GONE	**Gonen-Balikesi**	**1.43**	**313**	*e*PN	**Pb**	**22 35 00.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.43**	**313**	*e*Pn	**Pb**	**22 35 00.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**219**	*e*PN	**Pb**	**22 35 01.0**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**219**	*e*Pn	**Pb**	**22 35 01.0**	**-0.6**
ESKT	**Eskisehir**	**1.46**	**72**	*i* P	**Pg**	**22 35 02.2**	**0.0**
SEYT	**Eskypehyr**	**1.46**	**72**	P	**Pg**	**22 35 02.2**	**0.0**
ARMT	**Armutlu**	**1.50**	**354**	*e*PN	**Pb**	**22 35 01.7**	**-0.6**
ARMT	**Armutlu**	**1.50**	**354**	*e*Pn	**Pb**	**22 35 01.7**	**-0.6**
GULT	**Gulveren**	**1.76**	**39**	*e*PN	**Pn**	**22 35 05.5**	**+0.2**
GULT	**Gulveren**	**1.76**	**39**	*e*Pn	**Pn**	**22 35 05.5**	**+0.2**
CTKS	**Kestanelik-??a**	**2.20**	**349**	*e*PN	**Pn**	**22 35 11.8**	**+0.6**
CTKS	**Kestanelik-??a**	**2.20**	**349**	*e*Pn	**Pn**	**22 35 11.8**	**+0.6**

*ISCJB **15** 22:38:47.4±0.6,53.70N±0.06×143.23E±0.08,h11km, mb3.7/7,MS2.8/4,Error ellipse: s-maj=10.0km s-min=4.6km az=149.1*
*IDC **15** 22:38:49.7±1.7,54.14N×143.09E,h0km,mb3.6/7, mb1 3.8/9,mb1mx3.6/39,mbtmp3.6/9,ML2.9/2,MS2.9/8, Ms1 2.9/8,ms1mx2.7/36,Error ellipse: s-maj=46.9km s-min=19.7km az=164.0*
*MOS **15** 22:38:50.0±3.0,53.80N×143.36E,h29km,mb4.1/4,Error ellipse: s-maj=23.8km s-min=13.2km az=76.5*
MOS Felt (II) at Oha, Nyvrovo.
*SKHL **15** 22:38:51.2±0.7,53.27N×143.28E,h10km±1km,mb4.6/5, Ms3.4/3*
SKHL Felt (II) at Okha, Nyvrovo.

ISC 15 22:38:50.1±0.7,53.89N±0.05×143.25E±0.05,h11km,n26, σ2%36/27,mb3.6/7,MS2.7/4,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.39**	**209**	*e*PN	**Pn**	**22 39 00.5**	**-1.2**
OKH				*i* S	**Sb**	**22 39 08.8**	**+3.7**
OKH				pmax	pmax		
	comp=Z,6μm,0.1s						
OKH				smax	smax		
	comp=N,8μm,0.5s						
OKH	**Okha**	**0.39**	**209**	*e*Pg	**Pn**	**22 39 00.5**	**-1.2**
OKH				*e*Pg	**Pn**	**22 39 00.5**	**-1.2**
OKH				AMB	AMB	22 39 01.6	
	comp=N,999μm,0.3s						
OKH				AMB	AMB	22 39 01.6	
	comp=N,4μm,0.3s						
OKH				pP	**Pb**	**22 39 03.0**	**+3.9**
OKH				*i* Sg	**Sb**	**22 39 07.3**	**+2.2**
OKH				A	A	22 39 10.5	
	comp=N,7μm,0.2s						
NKL	**Nikolayevsk**	**1.71**	**245**	*e*Pb	**Pn**	**22 39 20.0**	**+0.2**
NKL				AMB	AMB	22 39 20.5	
	comp=N,180nm,0.4s						
NKL				pP	**Pg**	**22 39 24.0**	**+1.2**
NKL				*e*Sb	**Sn**	**22 39 38.5**	**-3.0**
NKL				A	A	22 39 42.5	
	comp=N,1μm,0.3s						
NKL				A	A	22 39 42.5	
	comp=N,2μm,1.0s						
NKL				AMS	AMS	22 40 22.0	
	comp=N,800nm,9.0s						
NKL				AMS	AMS	22 40 22.0	
	comp=N,1μm,9.0s						
TYV	**Tymovskoe**	**3.06**	**187**	*e*PN	**Pn**	**22 39 40.0**	**+1.6**
TYV				pmax	pmax		
	comp=Z,18nm,0.4s						
TYV	**Tymovskoe**	**3.06**	**187**	*e*Pg	**Pn**	**22 39 39.9**	**+1.6**
TYV				AMB	AMB	22 39 41.2	
	comp=Z,18nm,0.4s						
TYV				pP	**Pb**	**22 39 44.0**	**-0.5**
TYV				*e*Sg	**Sn**	**22 40 14.0**	**-0.9**
TYV				A	A	22 40 22.4	
	comp=Z,30nm,0.6s						
TYV				AMS	AMS	22 41 27.0	
	comp=Z,930nm,13.0s						
TYV				AMS	AMS	22 41 27.0	
	comp=Z,2μm,13.0s						
GRNR	**Gornyy**	**5.23**	**236**	*e*Pg	**Pg**	**22 40 28.5**	**-1.7**
GRNR				AMB	AMB	22 40 30.2	
	comp=Z,42nm,0.9s						
GRNR				*e*Sg	**Sg**	**22 41 37.0**	**-0.8**
GRNR				A	A	22 41 43.0	
	comp=Z,53nm,0.4s						
YSS	**Yuzh-Sakhalins**	**6.96**	**183**	*e*PN	Pn	22 40 24.9	-7.0
YSS				MLR	MLR		
	comp=Z,200nm,8.0s						
MA2	**Magadan**	**7.04**	**33**	LR	LR	22 42 51.3	
	comp=Z,83nm,20.3s,baz=236,slow=35						
BMKR	**Bomnak**	**8.47**	**281**	*e*S	Sn	22 42 38.5	+10
BMKR				*e*Sg	**Sg**	**22 43 20.8**	**-0.9**
BMKR				A	A	22 43 22.0	
	comp=Z,4.0nm,0.6s						
KLR	**Kul'dur**	**8.55**	**242**	Pn	**Pn**	**22 40 57.2**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=57,slow=13,SNR=2.2						
KLR				Lg	Lg	22 43 17.5	
	comp=Z,0.5nm,0.3s,baz=282,slow=19,SNR=2.8						
KLR				LR	LR	22 44 51.7	
	comp=Z,67nm,18.0s,baz=44,slow=42						
PETK	**Petropavlovsk-**	**8.65**	**89**	Pn	**Pn**	**22 40 56.8**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=289,slow=6.2,SNR=48						
PETK				Sn	**Sn**	**22 42 34.7**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=325,slow=5.2,SNR=5.0						
PETK				LR	LR	22 44 16.6	
	comp=Z,52nm,19.0s,baz=276,slow=37						
ZEA	**Zeya**	**9.47**	**276**	*e*Sg	Sn	22 43 49.7	+57
KROS	**Kirovskiy**	**9.57**	**280**	*e*Sg	Sn	22 43 50.0	+55
KROS				A	A	22 43 51.7	
	comp=Z,8.0nm,0.6s						
TEY	**Ternei**	**9.86**	**209**	*e*Sg		22 44 09.0	
TEY				A	A	22 44 10.5	
	comp=Z,15nm,0.6s						
SHO	**Shikotan**	**10.30**	**165**	*e*S	**Sn**	**22 43 06.0**	**-7.1**
KSRS	**Korea Array**	**19.55**	**219**	LR	LR	22 50 08.4	
	comp=Z,27nm,21.6s,baz=69,slow=34						
JHJ	**Hachijo jima 2**	**20.91**	**188**	LR	LR	22 53 30.1	
	comp=Z,20nm,21.2s,baz=229,slow=42						
JNU	**Nakatsue**	**22.55**	**208**	LR	LR	22 52 08.8	
	comp=Z,31nm,19.4s,baz=125,slow=35						
SONM	**Songino Array**	**23.84**	**270**	P	**P**	**22 44 03.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=51,slow=11,SNR=3.1						
SONM				LR	LR	22 54 04.7	
	comp=Z,96nm,18.6s,baz=75,slow=38						
TLY	**Talaya**	**23.84**	**281**	LR	LR	22 54 47.7	
	comp=Z,23nm,19.5s,baz=126,slow=40						
ILAR	**Eielson Array**	**35.35**	**44**	P	**P**	**22 45 45.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=287,slow=9.3,SNR=4.3						
MKAR	**Makanchi Array**	**38.46**	**285**	P	**P**	**22 46 10.2**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=71,slow=7.1,SNR=6.9						
YKA	**Yellowknife Ar**	**49.00**	**37**	P	**P**	**22 47 36.0**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=312,slow=7.5,SNR=3.0						
FINES	**FINESS Array B**	**54.76**	**328**	P	**P**	**22 48 18.3**	**-0.8**
	comp=Z,6.4nm,1.2s,baz=54,slow=9.7,SNR=5.3						
NOA	**NORSAR Array B**	**59.25**	**335**	P	**P**	**22 48 50.9**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=42,slow=5.3,SNR=3.5						
AKASG	**Malin Array Be**	**62.04**	**319**	P	**P**	**22 49 10.9**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=40,slow=7.0,SNR=3.4						

GUC 15 22:49:58.1±0.6,19.26S×69.50W,h99km±2km,ML3.7, 6C-4D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.15**	**323**	⇓*i* P	Pn	22 50 12.9	+0.4
MNMC				*i* S	Sn	22 50 23.7	+0.5
MNMC				AML	AML	22 50 24.7	
	comp=E,18μm,0.2s						
PB11	**IPOC Station P**	**0.53**	**196**	⇑*i* P	Pn	22 50 14.8	+0.5
PB11				*i* S	Sn	22 50 26.7	+0.4
PB11				AML	AML	22 50 27.6	
	comp=N,20μm,0.2s						
PSGC	**Pisagua**	**0.68**	**240**	⇑*i* P	Pn	22 50 15.7	+0.3
PSGC				*i* S	Sn	22 50 28.8	+0.5
PSGC				AML	AML	22 50 29.7	
	comp=E,399nm,0.4s						
PB13	**IPOC Station P**	**0.91**	**360**	⇑*i* P	Pn	22 50 19.2	+1.0
PB13				*i* S	Sn	22 50 34.9	+1.6
PB08	**IPOC Station P**	**0.94**	**160**	⇓*i* P	Pn	22 50 19.1	+0.9
PB08				*i* S	Sn	22 50 34.4	+1.1
PB08				AML	AML	22 50 35.1	
	comp=E,3μm,0.4s						
PB12	**IPOC Station P**	**1.01**	**309**	⇑*i* P	Pn	22 50 19.0	+0.3
PB12				*i* S	Sn	22 50 34.9	+0.7
HMBC	**Humberstone**	**1.08**	**200**	⇑*i* P	Pn	22 50 19.9	+0.3
HMBC				*i* S	Sn	22 50 36.8	+1.2
HMBC				AML	AML	22 50 40.5	
	comp=N,641nm,0.2s						
PB01	**IPOC Station P**	**1.78**	**180**	⇓*i* P	Pn	22 50 28.6	+0.7
PB01				*i* S	Sn	22 50 51.7	+1.1
PB01				AML	AML	22 50 53.6	
	comp=E,470nm,0.5s						
PB07	**IPOC Station P**	**2.49**	**188**	⇑*i* P	Pn	22 50 38.1	+1.0
PB07				*i* S	Sn	22 51 08.8	+1.7
PB07				AML	AML	22 51 15.3	
	comp=E,259nm,0.4s						
PB09	**IPOC Station P**	**2.54**	**175**	⇓*i* P	Pn	22 50 38.9	+1.0
PB09				*i* S	Sn	22 51 04.6	-3.9
PB09				AML	AML	22 51 17.0	
	comp=E,583nm,0.6s						

*ISK **15** 23:02:15.4,39.02N×31.01E,h7km,MD2.5*
*ISCJB **15** 23:02:16.6±0.7,39.04N±0.04×31.02E±0.06,h6km±7km, Error ellipse: s-maj=8.2km s-min=4.8km az=148.0*
*CSEM **15** 23:02:16.4±0.1,39.03N×31.03E,h10km,MD2.7,Error ellipse: s-maj=4.9km s-min=2.7km az=52.0*
*DDA **15** 23:02:16.5,39.04N×31.01E,h7km,Md2.7*

ISC 15 23:02:16.6±1.0,39.04N±0.03×31.04E±0.04,h14km±8km, n18,σ0%30/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.33**	**192**	P	**Pg**	**23 02 23.6**	**+0.1**
BOLV				S	**Sg**	**23 02 28.1**	**0.0**
BOLV	**Bolvadin**	**0.33**	**192**	*i* P	**Pg**	**23 02 23.6**	**+0.1**
BOLV				*i* S	**Sg**	**23 02 28.1**	**0.0**
ESKT	**Eskisehir**	**0.50**	**343**	*e*PG	**Pg**	**23 02 26.0**	**-0.5**
ESKT				*e*SG	**Sg**	**23 02 33.6**	**+0.4**
ESKT	**Eskisehir**	**0.50**	**343**	*e*Pg	**Pg**	**23 02 26.0**	**-0.5**
ESKT				*e*Sg	**Sg**	**23 02 33.6**	**+0.4**
ESKT	**Eskisehir**	**0.50**	**343**	*i* P	**Pg**	**23 02 26.5**	**0.0**
ESKT				*i* S	**Sg**	**23 02 33.8**	**+0.6**
SEYT	**Eskypehyr**	**0.50**	**343**	P	**Pg**	**23 02 26.5**	**0.0**
SEYT				S	**Sg**	**23 02 33.8**	**+0.6**
KIZT	**Kizilcal**	**0.68**	**104**	*e*PG	**Pg**	**23 02 29.4**	**-0.4**
KIZT	**Kizilcal**	**0.68**	**104**	*e*Pg	**Pg**	**23 02 29.4**	**-0.4**
BORA	**Eskisehir**	**0.95**	**332**	P	**Pb**	**23 02 34.8**	**-0.2**
BORA				S	**Sn**	**23 02 49.3**	**+0.2**
BORA	**Eskisehir**	**0.95**	**332**	*i* P	**Pb**	**23 02 34.8**	**-0.2**
BORA				*i* S	**Sn**	**23 02 49.3**	**+0.2**
KDHN	**Kadinhani**	**0.99**	**121**	P	**Pg**	**23 02 35.6**	**-0.1**
KDHN				S	**Sn**	**23 02 50.3**	**+0.3**
KDHN	**Kadinhani**	**0.99**	**121**	*i* P	**Pg**	**23 02 35.6**	**-0.1**
KDHN				*i* S	**Sn**	**23 02 50.3**	**+0.3**
GDZ	**Gediz**	**1.21**	**273**	P	**Pb**	**23 02 39.3**	**-0.2**
GDZ	**Gediz**	**1.21**	**273**	*i* P	**Pb**	**23 02 39.3**	**-0.2**
TVSB	**Tavsanli**	**1.29**	**289**	*e*PN	**Pn**	**23 02 40.2**	**-0.1**
TVSB				*e*SN	**Sg**	**23 02 58.2**	**-0.1**
TVSB	**Tavsanli**	**1.29**	**289**	*e*Pn	**Pn**	**23 02 40.2**	**-0.1**
TVSB				*e*Sn	**Sg**	**23 02 58.2**	**-0.1**
KONT	**Konya--Tatoy**	**1.51**	**136**	*e*PN	**Pn**	**23 02 43.4**	**+0.1**
KONT	**Konya--Tatoy**	**1.51**	**136**	*e*Pn	**Pn**	**23 02 43.4**	**+0.1**

MEX 15 23:06:53.4±0.3,16.49N×100.08W,h3km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.42**	**26**	*e*P	Pg	23 07 00.7	-0.9
ACP2				*e*S	Sg	23 07 07.3	+0.2
ACX	**Acapulco**	**0.43**	**29**	*e*P	Pb	23 07 04.4	+0.7
ACX				*e*S	Sb	23 07 10.7	0.0
CAIG	**El Cayaco**	**0.58**	**342**	*e*P	Pg	23 07 04.3	-0.3
CAIG				*i* S	Sg	23 07 12.2	+0.1
MEIG	**Mezcala**	**1.49**	**17**	*e*P	Pn	23 07 17.7	-3.6
MEIG				*i* S	Sb	23 07 36.5	-4.7

*ATH **15** 23:11:31.7,38.44N×26.81E,h33km±7km,ML2.8/3,Error ellipse: s-maj=7.1km s-min=1.6km az=233.0*
*DDA **15** 23:11:31.6,38.47N×26.78E,h22km,Ml3.3*
*ISCJB **15** 23:11:32.4±0.3,38.48N±0.02×26.82E±0.02,h5km±3km, Error ellipse: s-maj=3.1km s-min=2.6km az=165.7*
*CSEM **15** 23:11:32.5±0.1,38.46N×26.80E,h5km,ML3.3,Error ellipse: s-maj=2.4km s-min=2.0km az=57.0*
*ISK **15** 23:11:32.1,38.47N×26.82E,h7km,MD3.1*

ISC 15 23:11:32.8±0.8,38.47N±0.02×26.81E±0.02,h12km±7km, n82,σ0%70/115,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.20**	**237**	P	**Pg**	**23 11 36.9**	**-0.2**
URLA				S	**Sg**	**23 11 40.4**	**+0.3**
URLA	**Izmir**	**0.20**	**237**	*i* P	**Pg**	**23 11 36.9**	**-0.2**
URLA				*i* S	**Sg**	**23 11 40.4**	**+0.3**
ZEY	**˘zmir**	**0.33**	**226**	*i* P	**Pg**	**23 11 39.0**	**-0.5**
ZEY				*i* S	**Sg**	**23 11 44.5**	**+0.7**
IZM	**Izmir**	**0.37**	**101**	*e*PG	**Pg**	**23 11 39.7**	**-0.4**
IZM				*e*SG	**Sg**	**23 11 44.8**	**-0.2**
IZM	**Izmir**	**0.37**	**101**	*e*Pg	**Pg**	**23 11 39.7**	**-0.4**
IZM				*e*Sg	**Sg**	**23 11 44.8**	**-0.2**
DGB	**˘zmir**	**0.42**	**172**	*i* P	**Pg**	**23 11 40.4**	**-0.7**
DGB				*i* S	**Sg**	**23 11 45.9**	**-0.8**
CHOS	**Chios island**	**0.59**	**263**	*e*PG	**Pg**	**23 11 44.6**	**+0.3**
CHOS	**Chios island**	**0.59**	**263**	P	**Pg**	**23 11 44.1**	**-0.3**
CHOS	**Chios island**	**0.59**	**263**	*e*Pg	**Pg**	**23 11 44.7**	**+0.3**
CHOS				S	**Sb**	**23 11 53.4**	**-0.1**
CHOS	**Chios island**	**0.59**	**263**	P	**Pg**	**23 11 44.1**	**-0.3**
CHOS				S	**Sb**	**23 11 53.4**	**-0.1**
CHOS				AML	AML	23 11 56.5	
	comp=E,1777μm,0.2s						
CHOS				AML	AML	23 11 56.7	
	comp=N,1503μm,0.3s						
DKL	**Dikili**	**0.61**	**7**	*e*PG	**Pg**	**23 11 44.1**	**-0.5**
DKL				*e*SG	**Sg**	**23 11 53.0**	**+0.3**
DKL	**Dikili**	**0.61**	**7**	*e*Pg	**Pg**	**23 11 44.1**	**-0.5**
DKL				*e*Sg	**Sg**	**23 11 53.0**	**+0.3**
SMG	**Samos**	**0.76**	**178**	P	**Pg**	**23 11 46.2**	**-1.2**
SMG	**Samos**	**0.76**	**178**	P	**Pg**	**23 11 46.2**	**-1.2**
GCAM	**G?zelcaml?**	**0.84**	**156**	P	**Pg**	**23 11 48.2**	**-0.7**
GCAM				S	**Sg**	**23 11 59.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.84**	**156**	*i* P	**Pg**	**23 11 48.2**	**-0.7**
GCAM				*i* S	**Sg**	**23 11 59.8**	**-0.1**
AYVA	**Ayvalik**	**0.84**	**354**	P	**Pg**	**23 11 49.0**	**-0.1**
AYVA				S	**Sn**	**23 12 02.2**	**-0.6**
AYVA	**Ayvalik**	**0.84**	**354**	*i* P	**Pg**	**23 11 49.0**	**-0.1**
AYVA				*i* S	**Sn**	**23 12 02.1**	**-0.6**
PRK	**Paraskevi**	**0.88**	**332**	P	**Pg**	**23 11 49.2**	**-0.6**
PRK				S	**Sg**	**23 12 01.8**	**+0.4**
PRK	**Paraskevi**	**0.88**	**332**	P	**Pg**	**23 11 49.2**	**-0.6**
PRK				S	**Sg**	**23 12 01.8**	**+0.4**
PRK				AML	AML	23 12 03.5	
	comp=N,3396μm,0.5s						
PRK				AML	AML	23 12 04.2	
	comp=E,2084μm,0.5s						
AKHS	**Akhisar**	**0.89**	**62**	P	**Pg**	**23 11 49.2**	**-0.7**
AKHS				S	**Sb**	**23 12 02.3**	**+0.3**
AKHS	**Akhisar**	**0.89**	**62**	*i* P	**Pg**	**23 11 49.2**	**-0.7**
AKHS				*i* S	**Sb**	**23 12 02.3**	**+0.3**
AKS	**Akhisar**	**0.89**	**62**	*e*PG	**Pg**	**23 11 49.4**	**-0.5**
AKS				*e*SG	**Sb**	**23 12 02.1**	**+0.2**
AKS	**Akhisar**	**0.89**	**62**	*e*Pg	**Pg**	**23 11 49.4**	**-0.5**
AKS				*e*Sg	**Sb**	**23 12 02.1**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**121**	*e*PG	**Pb**	**23 11 51.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**121**	*e*Pg	**Pb**	**23 11 51.8**	**-0.3**
SIGR	**SIGRI**	**1.05**	**315**	*e*PG	**Pb**	**23 11 52.5**	**-0.3**
SIGR				*e*SG	**Sn**	**23 12 07.7**	**-0.1**
SIGR	**SIGRI**	**1.05**	**315**	P	**Pb**	**23 11 52.3**	**-0.5**
SIGR	**SIGRI**	**1.05**	**315**	*e*Pg	**Pb**	**23 11 52.5**	**-0.3**
SIGR				S	**Sb**	**23 12 05.8**	**-0.7**
SIGR				*e*Sg	**Sn**	**23 12 07.7**	**-0.1**
SIGR	**SIGRI**	**1.05**	**315**	P	**Pb**	**23 11 52.3**	**-0.5**
SIGR				S	**Sb**	**23 12 05.8**	**-0.7**
SIGR				AML	AML	23 12 08.2	
	comp=E,390μm,0.4s						
SIGR				AML	AML	23 12 09.1	
	comp=N,496μm,0.3s						
EZN	**Ezine**	**1.41**	**345**	*e*PN	**Pn**	**23 11 58.3**	**+0.2**
EZN	**Ezine**	**1.41**	**345**	*e*Pn	**Pn**	**23 11 58.3**	**+

σ1⁹96/73, mb4.1/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.00**	**293**	P	**Pn**	**23 15 44.4**	**-1.4**
JIO				*e*S	**Sn**	**23 16 07.0**	**-2.7**
OFUJ	**Ofunato**	**2.11**	**311**	P	**Pn**	**23 15 45.6**	**-1.7**
OFUJ				*e*S	**Sn**	**23 16 09.1**	**-3.2**
JMK	**Ichinoseki**	**2.31**	**303**	P	**Pn**	**23 15 48.9**	**-1.3**
JOU	**Okura**	**2.49**	**286**	P	**Pn**	**23 15 51.9**	**-0.7**
JOM	**Ohasama**	**2.58**	**314**	P	**Pn**	**23 15 52.8**	**-1.1**
JOM				*e*S	**Sn**	**23 16 21.8**	**-2.3**
JFT	**Otama**	**2.68**	**267**	P	**Pn**	**23 15 54.5**	**-0.7**
JFT				*e*S	**Sn**	**23 16 24.3**	**-2.1**
JYK	**Kaneyama**	**2.90**	**296**	P	**Pn**	**23 15 57.4**	**-0.7**
JYK				*e*S	**Sn**	**23 16 30.3**	**-1.4**
JRG	**Rokugo**	**2.94**	**306**	P	**Pn**	**23 15 58.0**	**-0.8**
JANG	**Nango**	**3.16**	**328**	P	**Pn**	**23 16 01.8**	**0.0**
JAH	**Hinai**	**3.44**	**317**	P	**Pn**	**23 16 05.3**	**-0.4**
JAW	**Awa shima**	**3.59**	**283**	P	**Pn**	**23 16 07.5**	**-0.2**
JAG	**Ashikaga**	**3.63**	**251**	P	**Pn**	**23 16 07.8**	**-0.5**
JAG				*e*S	**Sn**	**23 16 47.9**	**-2.0**
JTM	**Tenmabayashi**	**3.69**	**327**	*e*S	**Sn**	**23 16 48.3**	**-3.1**
BSO1	**Boso 1**	**3.76**	**217**	P	**Pn**	**23 16 08.9**	**-0.6**
BSO1				S	**Sn**	**23 16 51.5**	**-0.8**
JRY	**Ryogami san**	**4.20**	**248**	P	**Pn**	**23 16 15.6**	**-0.6**
JRY				*e*S	**Sn**	**23 17 00.3**	**-3.7**
JOT	**Ohata**	**4.21**	**332**	P	**Pn**	**23 16 16.3**	**+0.2**
ERM	**Erimo**	**4.33**	**355**	*e*Pn	**Pn**	**23 16 17.3**	**-0.5**
ERM				*e*Sn	**Sn**	**23 17 03.5**	**-3.5**
JOD2	**Odawara 2**	**4.45**	**238**	P	**Pn**	**23 16 18.9**	**-0.6**
JOD2				*e*S	**Sn**	**23 17 07.8**	**-2.2**
MJAR	**Matsushiro Arr** 11nm,0.3s,baz=75,slow=10,SNR=46	**4.54**	**257**	Pn	**Pn**	**23 16 21.4**	**+0.7**
MJAR					**Sn**	**23 17 13.9**	**+1.6**
	3.0nm,0.3s,baz=94,slow=29,SNR=5.8						
MJAR				LR	LR	23 18 16.9	
	comp=Z,110nm,20.2s,baz=80,slow=41						
MAJO	**Matsushiro**	**4.54**	**257**	*e*Pn	**Pn**	**23 16 21.7**	**+0.9**
MAT	**Matsushiro**	**4.54**	**257**	P	**Pn**	**23 16 21.4**	**+0.6**
MAT				S	**Sn**	**23 17 12.2**	**-0.2**
MJB9	**Matsu-Tunnel**	**4.54**	**257**	*e*Pn	**Pn**	**23 16 21.7**	**+0.8**
JCH	**Churui**	**4.91**	**357**	P	**Pn**	**23 16 24.9**	**-0.9**
JCH				*e*S	**Sn**	**23 17 18.2**	**-3.2**
JHJ2	**Mitsune**	**5.57**	**216**	*e*Pn	**Pn**	**23 16 32.7**	**-2.2**
JHJ2				*e*Sn	**Sn**	**23 17 33.8**	**-4.0**
JHJ	**Hachijo jima 2** 25nm,0.3s,baz=128,slow=23,SNR=14	**5.58**	**216**	Pn	**Pn**	**23 16 34.1**	**-1.0**
JHJ					**Sn**	**23 17 34.4**	**-3.6**
	40nm,0.3s,baz=222,slow=23,SNR=5.7						
INU	**Inuyama**	**5.87**	**248**	*e*Pn	**Pn**	**23 16 39.9**	**+0.8**
ASAJ	**Asahikawa** 3.8nm,0.3s,baz=188,slow=3.9,SNR=8.5	**6.46**	**353**	Pn	**Pn**	**23 16 47.1**	**0.0**
ASAJ					**Sn**	**23 17 58.8**	**-0.8**
	baz=90,slow=20						
CBIJ	**Chichi jima**	**10.66**	**187**	*e*Pn	**Pn**	**23 17 40.6**	**-4.1**
CBIJ				*e*Sn	Sn	23 19 32.2	-11
JCJ	**Chichijima** baz=81,slow=0.0	**10.66**	**187**	Pn	**Pn**	**23 17 40.6**	**-4.1**
JCJ					Sn	23 19 32.2	-11
	3.6nm,0.3s,baz=17,slow=19,SNR=3.3						
USRK	**Ussuriysk Ar.** 0.5nm,0.3s,baz=126,slow=14,SNR=10.0	**10.97**	**310**	Pn	**Pn**	**23 17 50.4**	**+1.4**
JNU	**Nakatsue** comp=Z,61nm,18.2s,baz=114,slow=39	**11.42**	**250**	LR	LR	23 22 40.6	
KSRS	**Korea Array** 0.2nm,0.3s,baz=84,slow=14,SNR=7.2	**12.52**	**274**	Pn	**Pn**	**23 18 11.4**	**+1.3**
KSRS				LR	LR	23 22 48.1	
	comp=Z,42nm,19.8s,baz=82,slow=36						
KS15	**Wonju Array Si**	**12.55**	**274**	*e*Pn	**Pn**	**23 18 11.4**	**+0.8**
KSAR	**Wonju Array Be**	**12.55**	**274**	Pn	**Pn**	**23 18 11.4**	**+0.8**
KLR	**Kul'dur** comp=Z,37nm,19.7s,baz=115,slow=34	**14.40**	**327**	LR	LR	23 23 28.4	
H11N2	**WAKE ISLAND Hy** baz=317,slow=74,SNR=22	**26.98**	**125**	T	T	23 49 05.4	
H11N1	**WAKE ISLAND Hy** baz=317,slow=74,SNR=17	**26.99**	**125**	T	T	23 49 15.5	
H11N3	**WAKE ISLAND Hy** baz=317,slow=74,SNR=20	**27.00**	**125**	T	T	23 49 09.1	
H11S1	**WAKE ISLAND Hy** baz=318,slow=76,SNR=7.6	**27.75**	**127**	T	T	23 50 11.8	
H11S3	**WAKE ISLAND Hy** baz=318,slow=76,SNR=7.3	**27.75**	**127**	T	T	23 50 09.5	
H11S2	**WAKE ISLAND Hy** baz=318,slow=76,SNR=6.6	**27.77**	**127**	T	T	23 50 14.8	
ULN	**Ulaanbaatar** 3.5nm,0.9s	**28.51**	**303**	*e*P	**P**	**23 21 08.6**	**+1.9**
SONA1	**Songino Array**	**28.94**	**302**	*e*P	**P**	**23 21 09.7**	**-0.8**
SONA0	**Songino Array** 3.7nm,1.4s	**28.94**	**302**	*e*P	**P**	**23 21 13.0**	**+2.4**
SONM	**Songino Array** 1.1nm,0.6s,baz=96,slow=11,SNR=6.8	**28.94**	**302**	P	**P**	**23 21 13.0**	**+2.4**
ZAA0	**Zalesovo Array**	**42.82**	**312**	*e*P	**P**	**23 23 09.0**	**+0.2**
ZAA1	**Zalesovo Array**	**42.82**	**312**	*e*P	**P**	**23 23 11.9**	**+3.2**
ZALV	**Zalesovo Beam** 1.9nm,0.5s,baz=82,slow=8.1,SNR=7.9	**42.82**	**312**	P	**P**	**23 23 11.9**	**+3.2**
CMAR	**Chiang Mai Arr** comp=Z,17nm,20.3s,baz=205,slow=37	**43.43**	**256**	LR	LR	23 42 17.2	
MK01	**Makanchi Array**	**45.31**	**302**	*e*P	**P**	**23 23 29.5**	**+0.6**
MK31	**Makanchi Array**	**45.31**	**302**	*e*P	**P**	**23 23 31.1**	**+2.1**
MK32	**Makanchi Array**	**45.31**	**302**	*e*P	**P**	**23 23 30.9**	**+2.0**
MKAR	**Makanchi Array** 1.2nm,0.8s,baz=88,slow=10,SNR=7.2	**45.31**	**302**	P	**P**	**23 23 30.9**	**+2.0**
MAKZ	**Makanchi** 1.8nm,0.8s	**45.52**	**302**	*e*P	**P**	**23 23 31.9**	**+1.4**
BWN	**Browne** 33nm,1.0s	**46.83**	**34**	*e*P	**P**	**23 23 37.6**	**-2.9**
KURK	**Kurchatov** 4.5nm,0.7s	**46.96**	**308**	*e*P	**P**	**23 23 41.9**	**+0.2**
ILAR	**Eielson Array** 0.7nm,0.7s,baz=264,slow=6.0,SNR=6.7	**47.95**	**33**	P	**P**	**23 23 51.3**	**+2.0**
ILB	**Eielson Array**	**47.95**	**33**	*e*P	**P**	**23 23 51.3**	**+2.0**
PAX	**Paxson** 19nm,0.8s	**48.64**	**35**	*e*P	**P**	**23 23 52.2**	**-2.6**
WB2	**Warramunga Arr** 33nm,1.8s	**58.01**	**190**	*e*P	**P**	**23 25 04.8**	**+1.0**
WR1	**Warramunga Arr** 13nm,1.3s	**58.01**	**190**	*e*P	**P**	**23 25 04.9**	**+1.1**
WRA	**Warramunga Arr** 4.5nm,0.7s,baz=8.4,slow=7.2,SNR=30	**58.01**	**190**	P	**P**	**23 25 04.9**	**+1.0**
AS31	**Alice Springs** 6.1nm,1.8s	**61.73**	**190**	*e*P	**P**	**23 25 30.9**	**+1.4**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=14,slow=6.8,SNR=5.6	**61.74**	**190**	P	**P**	**23 25 30.9**	**+1.4**
FIA0	**FINESS Array S**	**69.06**	**333**	*e*P	**P**	**23 26 18.9**	**+2.5**
FINES	**FINESS Array B** 1.9nm,0.9s,baz=26,slow=6.6,SNR=3.8	**69.06**	**333**	P	**P**	**23 26 18.9**	**+2.5**

GUC ***15*** *23:15:57.6±0.7, 34°.69S×72°.00W, h65km±9km, ML3.7*
ISC 15 23:15:57.2±1.9, 34°.49S±0°.10×72°.5W±0°.2, h49km±18km, n19, σ2⁵06/26, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.42**	**77**	↑*i*P	**Pn**	**23 16 08.1**	**+0.7**
CHPI				*i* S	**Sn**	**23 16 15.3**	**+0.5**
COCH	**Cobquecura**	**1.66**	**188**	↑*i*P	Pn	23 16 16.7	-7.1
COCH				*i* S	**Sn**	**23 16 43.3**	**-0.6**
ANTU	**Antumapu**	**1.80**	**60**	*e*P	**Pn**	**23 16 24.0**	**-1.9**
ANTU				*e*S	**Sn**	**23 16 44.1**	**-3.4**
ANTU				AML	AML	23 16 50.3	
	comp=E,1μm,0.2s						
ROC1	**El Roble**	**1.95**	**40**	*i* P	**Pn**	**23 16 26.6**	**-1.4**
ROCH	**El Roble**	**1.96**	**40**	↓*i*P	**Pn**	**23 16 26.1**	**-2.0**
ROCH				*i* S	**Sn**	**23 16 49.5**	**-2.1**
ROCH				AML	AML	23 16 55.8	
	comp=E,1μm,0.5s						
CLCH	**Cerro Calan**	**1.96**	**57**	↑*i*P	**Pn**	**23 16 27.5**	**-0.6**
CLCH				*i* S	**Sn**	**23 16 49.7**	**-1.9**
CLCH				AML	AML	23 16 55.6	
	comp=E,921nm,0.3s						
PEL	**Peldehue**	**2.02**	**49**	↓*i*P	**Pn**	**23 16 28.1**	**-0.7**
PEL				*i* S	**Sn**	**23 16 50.8**	**-2.1**
PEL				AML	AML	23 16 59.4	
	comp=E,994nm,0.6s						
FCH	**Farellones**	**2.17**	**58**	*e*P	**Pn**	**23 16 30.3**	**-0.9**
FCH				*i* S	**Sn**	**23 16 54.7**	**-2.3**
FCH				AML	AML	23 17 03.6	
	comp=N,945nm,0.4s						
AAGR	**Agrelo**	**3.36**	**66**	*i* P	**Pn**	**23 16 48.2**	**+0.9**
ARCO	**CERRO ARCO**	**3.40**	**62**	*i* P	**Pn**	**23 16 48.6**	**+0.8**
ARCO				IAML		23 17 41.8	
	comp=Z,71nm,0.6s						
AUSP	**Uspallata**	**3.45**	**50**	*i* P	**Pn**	**23 16 49.3**	**+0.7**
AUSP				*i* S	Sn	23 17 36.5	+8.1
ASAL	**Salagasta**	**3.60**	**59**	*i* P	**Pn**	**23 16 51.4**	**+0.8**
ASAL				*i* S	Sn	23 17 40.1	+8.3
RTLS	**Leoncito**	**3.80**	**46**	*i* P	**Pn**	**23 16 53.7**	**+0.2**
RTLS				*i* S	Sn	23 17 44.5	+7.5
RTCV	**Cerro Valdivia**	**4.23**	**53**	*i* P	**Pn**	**23 16 59.4**	**+0.2**
AMOG	**MOGNA**	**4.89**	**45**	*i* P	**Pn**	**23 17 08.1**	**-0.2**
AMOG				*i* S	**Sn**	**23 18 09.7**	**+6.0**
ACAN	**Cantantal**	**4.96**	**65**	*i* P	Pn	23 17 10.8	+1.6
AVFE	**Valle Fertil**	**5.72**	**50**	*i* P	**Pn**	**23 17 20.0**	**+0.4**
AVFE				IAML		23 18 54.9	
	comp=Z,20nm,0.6s						
ACHE	**Chepes**	**5.93**	**58**	*i* P	**Pn**	**23 17 24.1**	**+1.6**
ACHE				*i* S	Sn	23 18 36.2	+7.0
AGUA	**GUANDACOL**	**6.04**	**35**	*i* P	**Pn**	**23 17 23.9**	**-0.1**
AGUA				*i* S	**Sn**	**23 18 35.1**	**+3.2**

CSEM ***15*** *23:33:59.7±0.3, 67°.85N×20°.21E, h2km, ML1.3, Error ellipse: s-maj=6.4km s-min=5.0km az=160.0, Mining explosion.*
HEL ***15*** *23:34:00.4±0.1, 67°.86N×20°.18E, h0km, ML1.8, ML1.3(UPP), Explosion*
UPP 15 23:34:07.1±0.1, 67°.88N×20°.17E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.10**	**41**	P	Pg	23 34 09.2	+0.3
KUA				S	Sg	23 34 10.7	+0.6
KUA	**Kurravaara**	**0.10**	**41**	*i* P	Pg	23 34 02.3	-6.6
KUA				*i* S	Sg	23 34 03.9	-6.2
KUA	**Kurravaara**	**0.10**	**41**	P	Pg	23 34 09.2	+0.3
KUA				S	Sg	23 34 10.7	+0.6
KUA	**Kurravaara**	**0.10**	**41**	P	Pg	23 34 02.3	-6.6
KUA				S	Sg	23 34 03.9	-6.2
NIKU	**Nikkaluokta**	**0.43**	**268**	*i* P	Pg	23 34 08.3	-7.0
NIKU	**Nikkaluokta**	**0.43**	**268**	P	Pg	23 34 08.3	-7.0
LANU	**Lannavaara**	**0.71**	**75**	P	Pg	23 34 20.4	-0.2
LANU	**Lannavaara** baz=251	**0.71**	**75**	*e*P	Pg	23 34 12.9	-7.7
LANU				*e*S	Sg	23 34 22.4	-7.3
LANU	**Lannavaara**	**0.71**	**75**	P	Pg	23 34 13.1	-7.5
LANU				S	Sg	23 34 22.4	-7.3
SALU	**Saltoluokta**	**0.81**	**232**	P	Pg	23 34 22.4	-0.2
SALU	**Saltoluokta**	**0.81**	**232**	P	Pg	23 34 14.8	-7.8
SALU	**Saltoluokta**	**0.81**	**232**	P	Pg	23 34 22.4	-0.2
SALU	**Saltoluokta**	**0.81**	**232**	P	Pg	23 34 14.8	-7.8
MASU	**Masugnsbyn**	**0.82**	**121**	*i* P	Pg	23 34 14.7	-8.0
MASU	**Masugnsbyn**	**0.82**	**121**	P	Pg	23 34 14.7	-8.1
KIF	**Kilpisjarvi** baz=190	**1.15**	**11**	*e*PB	Pg	23 34 22.5	-6.6
KIF				*e*SB	Sg	23 34 38.1	-5.9
KIF	**Kilpisjarvi**	**1.15**	**11**	Pg	Pg	23 34 22.5	-6.6
KIF				Sg	Sg	23 34 38.1	-5.9
HEF	**Hetta** baz=246	**1.41**	**66**	*e*P	Pn	23 34 25.7	-8.3
HEF				MSG		23 34 43.1	
	comp=Z,11nm,0.2s						
HEF				*e*SN	Sg	23 34 47.0	-5.3
HEF	**Hetta**	**1.41**	**66**	Pg	Pn	23 34 25.7	-8.3
HEF				Sn	Sg	23 34 47.0	-5.3
ERTU	**Ertsjaerv**	**1.55**	**149**	*e*P	Pn	23 34 27.3	-8.6
ERTU	**Ertsjaerv**	**1.55**	**149**	P	Pn	23 34 27.3	-8.6
HARU	**Harads**	**1.76**	**169**	P	Pn	23 34 38.9	+0.2
HARU	**Harads**	**1.76**	**169**	*e*P	Pn	23 34 31.0	-7.7
HARU	**Harads**	**1.76**	**169**	P	Pn	23 34 31.0	-7.7
TOF	**Tornio** baz=312	**2.44**	**136**	*e*P	Pn	23 34 41.7	-6.3
TOF				*e*SB	Sn	23 35 13.6	-4.9
TOF	**Tornio**	**2.44**	**136**	Pb	Pn	23 34 41.7	-6.4
TOF				Sg	Sn	23 35 13.6	-4.9
SGF	**Sodankyl**	**2.47**	**97**	*e*PG	Pn	23 34 45.2	-3.3
SGF				*e*SG	Sn	23 35 19.5	+0.2
SGF	**Sodankyl**	**2.47**	**97**	Pg	Pn	23 34 45.2	-3.3
SGF				Sg	Sn	23 35 19.5	+0.2
ARE0	**ARCESS Array S** baz=228	**2.56**	**47**	*e*P	Pn	23 34 43.8	-6.0
ARE0				*e*SB	Sn	23 35 16.6	-4.9
ARE0	**ARCESS Array S**	**2.56**	**47**	Pb	Pn	23 34 43.8	-6.0
ARE0				Sb	Sn	23 35 16.6	-4.9
RNF	**Rovaniemi**	**2.61**	**117**	*e*PB	Pn	23 34 44.8	-5.6
RNF				*e*SB	Sn	23 35 18.3	-4.4
RNF	**Rovaniemi**	**2.61**	**117**	Pb	Pn	23 34 44.8	-5.6
RNF				Sg	Sn	23 35 18.3	-4.4
KEV	**Kevo**	**3.11**	**50**	*e*S	Sn	23 35 29.1	-6.0
KEV				MSG		23 35 32.3	
	comp=Z,2.6nm,0.2s						
KEV	**Kevo**	**3.11**	**50**	Sn	Sn	23 35 29.1	-6.1
MSF	**Maaselka**	**4.02**	**115**	*e*P	Pn	23 35 03.8	-6.0
MSF	**Maaselka**	**4.02**	**115**	Pn	Pn	23 35 03.8	-6.0
KU6	**Riekki** baz=291	**4.25**	**111**	*e*PG	Pn	23 35 16.7	+3.7
KU6	**Riekki**	**4.25**	**111**	Pg	Pn	23 35 16.7	+3.7

IDC ***15*** *23:44:06.9±0.8, 1°.97N×126°.54E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/31, mbtmp4.0/10, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/58, Error ellipse: s-maj=51.6km s-min=14.4km az=80.0*
ISCJB ***15*** *23:44:11.2±0.5, 1°.95N±0°.08×126°.5E±0°.2, h47km, mb4.1/13, Error ellipse: s-maj=34.5km s-min=9.7km az=169.0*
NEIC ***15*** *23:44:11.8±8.1, 1°.93N×126°.48E, h34km±60km, mb4.1/3, Error ellipse: s-maj=29.4km s-min=9.5km az=83.0*
ISC 15 23:44:13.2±0.8, 1°.94N±0°.10×126°.5E±0°.2, h47km, n17, σ0⁵64/17, mb4.0/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang** comp=Z,55nm,20.9s,baz=54,slow=38	**9.66**	**224**	LR	LR	23 50 19.7	
BLJI	**Banyuglugur**	**16.08**	**233**	P	**Sn**	**23 50 53.4**	**-0.2**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=25,slow=17,SNR=4.1	**19.93**	**182**	P	**P**	**23 48 41.2**	**-0.1**
WRAB	**Tennant Creek** 3.6nm,0.5s	**23.06**	**161**	*e*P	**P**	**23 49 13.8**	**-1.0**
WRA	**Warramunga Arr** 2.9nm,0.5s,baz=339,slow=11,SNR=33	**23.07**	**161**	P	**P**	**23 49 14.2**	**-0.7**
ASAR	**Alice Springs** 2.3nm,0.7s,baz=346,slow=7.4,SNR=17	**26.45**	**165**	P	**P**	**23 49 46.4**	**+0.4**
ASAR				PcP	**PcP**	**23 53 11.1**	**+0.6**
	0.4nm,0.4s,baz=352,slow=2.2,SNR=4.5						
KSAR	**Wonju Array Be**	**35.35**	**2**	P	**P**	**23 51 04.4**	**+0.2**
KSRS	**Korea Array** 0.9nm,0.6s,baz=176,slow=10.0,SNR=5.2	**35.36**	**2**	P	**P**	**23 51 04.4**	**+0.1**
MJAR	**Matsushiro Arr** 1.3nm,0.5s,baz=181,slow=9.7,SNR=6.7	**36.09**	**16**	P	**P**	**23 51 10.8**	**+0.2**
USRK	**Ussuriysk Ar.** 2.6nm,0.8s,baz=197,slow=10,SNR=4.8	**42.36**	**6**	P	**P**	**23 52 01.0**	**-1.8**
SONM	**Songino Array** 1.3nm,0.8s,baz=162,slow=11,SNR=5.7	**48.91**	**342**	P	**P**	**23 52 55.0**	**+0.3**
MKAR	**Makanchi Array** 2.1nm,0.5s,baz=121,slow=8.0,SNR=36	**58.90**	**326**	P	**P**	**23 54 07.8**	**+0.3**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=99,slow=7.4,SNR=2.9	**62.08**	**334**	P	**P**	**23 54 29.0**	**0.0**
KURK	**Kurchatov** 38nm,0.8s	**63.12**	**328**	*e*P	**P**	**23 54 35.5**	**-0.5**
ABKAR	**Akbulak array** 0.9nm,0.6s	**73.39**	**321**	*e*P	**P**	**23 55 40.0**	**-0.3**
ARU	**Arti** 2.3nm,0.8s	**76.32**	**328**	*e*P	**P**	**23 55 57.2**	**+0.1**
VNDA	**Vanda** 0.5nm,0.6s,baz=335,slow=5.9,SNR=3.9	**81.69**	**173**	P	**P**	**23 56 26.4**	**+0.2**

DJA 15 23:53:48.2±0.4, 2°.N±4°×9°.9E±°, h10km, M3.4/6, MLv3.4/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBSI	**Sibolga**	**0.32**	**225**	P	Pb	23 53 56.9	+0.8
MNSI	**Mandailing Nat**	**1.08**	**155**	P	Pg	23 54 08.1	-0.9
MNSI	**Mandailing Nat**	**1.08**	**155**	P	Pg	23 54 07.8	-1.2
GSI	**Gunungsitoli**	**1.61**	**253**	P	Pn	23 54 14.6	-2.2
GSI				S	Sb	23 54 38.5	-0.1
GSI	**Gunungsitoli** 323nm,0.7s,9μm	**1.61**	**253**	P	Pn	23 54 16.1	-0.7
KCSI	**Kotacane, Aceh**	**2.19**	**322**	P	Pg	23 54 29.5	-0.8
TPTI		**2.43**	**307**	P	Pn	23 54 27.7	-0.3
MLSI	**Meulaboh, Aceh**	**3.67**	**312**	P	Pg	23 54 56.1	-2.5
MLSI	**Meulaboh, Aceh**	**3.67**	**312**	P	Pg	23 54 57.1	-1.5

IDC ***16*** *00:03:33.5±0.9, 5°.85S×151°.19E, h8km±4km, mb5.3/40, mb1 5.3/42, mb1mx5.3/43, mbtmp5.4/42, ML3.8/2, MS6.2/36, Ms1 6.2/36, ms1mx6.0/47, Error ellipse: s-maj=8.2km s-min=6.0km az=74.0*
ISCJB ***16*** *00:03:33.2±0.7, 5°.90S±0°.02×151°.13E±0°.02, h7km±4km, mb5.9/345, MS6.5/551, Error ellipse: s-maj=3.4km s-min=2.7km az=175.1*
BJI ***16*** *00:03:34.5, 6°.00S×151°.20E, h20km, mb5.8/63, mB6.1/58, Ms6.4/94, Ms7 6.3/89*
GCMT ***16*** *00:03:35.8±0.1, 6°.12S×151°.21E, h22km, MW6.3/147, Moment Tensor Solution. s145,c345; s147,c514; Duration: 3²6 Moment tensor: Scale 10¹⁸Nm; Mrr0.35±.02; Mθθ-2.41±.01; Mϕϕ2.06±.01; Mrθ3.48±.03; Mθϕ0.56±.01; Mϕr-1.25±.03; Best double couple: M₀4.09900×10¹⁸ NP1:ϕ₅122.00000°, δ84.00000°, λ114.00000°. NP2:ϕ₅225.00000°, δ25.00000°, λ15.00000°. Principal axes: T 3.2280, Plg46.0000°, Azm57.0000°; N 1.7400, Plg24.0000°, Azm299.0000°; P -4.9700, Plg35.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***16*** *00:03:35.8±0.1, 5°.93S×151°.04E, h16km, mb6.1/224, ME6.1, MS6.5/300, MW6.4, MW6.3, MW6.2 Error ellipse: s-maj=4.1km s-min=3.8km az=126.0, Moment Tensor Solution. s86 Moment tensor: Scale 10¹⁸Nm; Mrr0.01; Mθθ-0.76; Mϕϕ0.77; Mrθ2.34; Mθϕ-0.16; Mϕr-0.53; Best double couple: M₀2.50000×10¹⁸ NP1:ϕ₅107.00000°, δ87.00000°, λ103.00000°. NP2:ϕ₅209.00000°, δ13.00000°, λ13.00000°. Principal axes: T 2.1700, Plg46.0000°, Azm30.0000°; N 0.6000, Plg13.0000°, Azm286.0000°; P -2.7700, Plg41.0000°, Azm185.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt at Kimbe.
MOS ***16*** *00:03:36.9±1.3, 5°.88S×151°.08E, h35km, mb6.0/55, MS6.4/79 Error ellipse: s-maj=6.5km s-min=4.9km az=96.4*
NEIC ***16*** *00:03:36.0±0.0, 5°.99S×151°.10E, h25km, Moment Tensor Solution. s34 Moment tensor: Scale 10¹⁸Nm; Mrr0.36; Mθθ-1.81; Mϕϕ1.44; Mrθ4.46; Mθϕ0.35; Mϕr0.09; Best double couple: M₀4.80000×10¹⁸ NP1:ϕ₅87.00000°, δ83.00000°, λ84.00000°. NP2:ϕ₅311.00000°, δ9.00000°, λ134.00000°. Principal axes: T 3.9000, Plg51.0000°, Azm349.0000°; N 1.4200, Plg6.0000°, Azm87.0000°; P -5.3200, Plg38.0000°, Azm182.0000°;*
DJA ***16*** *00:03:41.9±0.5, 6°.S±2°×15°.1E±°, h53km±5km, M6.3/54, mb6.1/54, mB6.5/45, Mw(mB)6.3/45, Mwp6.1/8*
NEIC ***16*** *00:04:01.5±0.0, 5°.55S×151°.30E, h26km, Moment Tensor Solution. s63 Moment tensor: Scale 10¹⁸Nm; Mrr-0.08; Mθθ-1.79; Mϕϕ1.87; Mrθ2.92; Mθϕ0.46; Mϕr-2.05; Best double couple: M₀4.00000×10¹⁸ NP1:ϕ₅225.00000°, δ27.00000°, λ2.00000°. NP2:ϕ₅133.00000°, δ89.00000°, λ117.00000°. Principal axes: T 3.5200, Plg40.0000°, Azm68.0000°; N 0.8800, Plg27.0000°, Azm313.0000°; P -4.4000, Plg38.0000°, Azm199.0000°;*
ISC 16 00:03:37.6±0.3, 5°.88S±0°.02×151°.20E±0°.02, h27km±1km, h27km:pP-P,n1955,σ1⁹95/2088, mb6.0/338, MS6.5/559, 69C-65D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.94**	**30**	*e*Pn	**Pb**	**00 04 11.7**	**-0.6**
RABL				*e*Sn	**Sb**	**00 04 36.2**	**+0.2**
PMG	**Port Moresby** 103nm,0.3s,baz=50,slow=8.0,SNR=64	**5.32**	**229**	Pn	**Pn**	**00 04 56.3**	**+1.0**
PMG				Sn	**Sn**	**00 05 55.6**	**-0.2**
	175nm,0.3s,baz=324,slow=1.8,SNR=4.1						
PMG	**Port Moresby**	**5.32**	**229**	*d*P	**Pn**	**00 04 57.0**	**+1.7**
PMG				pmax	pmax		
	comp=Z,7μm,1.0s						
PMG	**Port Moresby**	**5.32**	**229**	*e*Pn	**Pn**	**00 04 56.8**	**+1.5**
PMG				*e*Sn	**Sn**	**00 05 51.5**	**-4.3**
MANU	**Manus Island**	**5.40**	**315**	*e*Pn	Pn	00 05 01.9	+5.4
MANU				*e*Sn	**Sn**	**00 05 56.9**	**-1.0**
HNR	**Honiara** comp=Z,179nm,0.3s,baz=228,slow=3.1,SNR=16	**9.36**	**113**	Pn	**Pn**	**00 05 50.6**	**-0.2**
HNR				Sn	**Sn**	**00 07 34.5**	**-0.7**
	comp=Z,8.4nm,0.3s,baz=162,slow=20,SNR=1.5						
HNR				LR	LR	00 08 53.0	
	comp=Z,136μm,19.9s,baz=278,slow=34						
HNR	**Honiara**	**9.36**	**113**	*e*P	**Pn**	**00 05 49.0**	**-1.8**
HNR				*e*S	**Sn**	**00 07 42.0**	**+6.8**
HNR	**Honiara**	**9.36**	**113**	*e*P	**Pn**	**00 05 51.8**	**+1.0**
HNR				*e*		00 07 34.5	
HNR	**Honiara**	**9.36**	**113**	*e*Pn	**Pn**	**00 05 51.8**	**+1.0**
HNR				*e*Sn	**Sn**	**00 07 34.5**	**-0.7**
JAY	**Jayapura** comp=Z,0.1nm,0.3s,baz=94,slow=23,SNR=2.0	**10.99**	**287**	Pn	**Pn**	**00 06 11.8**	**-1.4**
JAY				Sn	**Sn**	**00 08 17.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=1.6						
JAY	**Jayapura**	**10

WR5 LR LR
comp=Z,74µm,20.0s
WB5 Warramunga Arr 21.48 228 PFAKE 00 08 30.0 +5.7
WB5 LR LR
comp=Z,70µm,19.0s
WR4 Warramunga Arr 21.49 228 PFAKE 00 08 30.0 +5.5
WR4 LR LR
comp=Z,71µm,19.0s
WB4 Warramunga Arr 21.50 228 PFAKE 00 08 30.0 +5.4
WB4 LR LR
comp=Z,70µm,19.0s
WR3 Warramunga Arr 21.51 228 PFAKE 00 08 30.0 +5.4
WR3 LR LR
comp=Z,76µm,20.0s
WC2 Warramunga Arr 21.51 228 PFAKE 00 08 30.0 +5.3
WC2 LR LR
comp=Z,80µm,19.0s
WB3 Warramunga Arr 21.52 228 PFAKE 00 08 30.0 +5.3
WB3 LR LR
comp=Z,74µm,20.0s
WC3 Warramunga Arr 21.52 228 PFAKE 00 08 30.0 +5.2
WC3 LR LR
comp=Z,78µm,20.0s
WR2 Warramunga Arr 21.52 228 PFAKE 00 08 30.0 +5.2
WR2 LR LR
comp=Z,72µm,20.0s
WRAB Tennant Creek 21.52 228 *de*P **P 00 08 24.0 -0.8**
WRAB pmax pmax
comp=Z,4µm,1.7s
WRAB MLR MLR
comp=Z,143µm,15.0s
WRAB Tennant Creek 21.52 228 *e*P **P 00 08 23.6 -1.3**
comp=Z,3µm,1.5s
WRAB *e*S **S 00 12 11.9 -10**
WRAB LR LR
comp=Z,80µm,20.0s
WC1 Warramunga Arr 21.53 228 PFAKE 00 08 30.0 +5.1
WC1 LR LR
comp=Z,57µm,19.0s
WB2 Warramunga Arr 21.53 228 *e*P **P 00 08 23.3 -1.6**
WB2 *e*S S 00 12 09.4 -13
WB2 LR LR
comp=Z,78µm,20.0s
WR1 Warramunga Arr 21.54 228 *e*P **P 00 08 23.4 -1.6**
comp=Z,4µm,1.6s
WR1 *e*S **S 00 12 23.6 +0.9**
WR1 *e*ScP **ScP 00 16 03.8 +1.3**
WR1 LR LR
comp=Z,78µm,20.0s
WRA Warramunga Arr 21.54 228 P **P 00 08 23.4 -1.6**
comp=Z,211nm,0.6s,baz=54,slow=10,SNR=207
WRA S **S 00 12 23.6 +0.9**
comp=Z,106nm,1.1s,baz=55,slow=17,SNR=7.8
WRA ScP **ScP 00 16 03.8 +1.3**
comp=Z,104nm,1.1s,baz=43,slow=2.5,SNR=11
WRA LR LR 00 16 52.1
comp=Z,78µm,20.9s,baz=50,slow=37
WC4 Warramunga Arr 21.55 228 PFAKE 00 08 40.0 +15
WC4 LR LR
comp=Z,78µm,20.0s
DZM Mont Dzumac 21.82 139 *e*P **P 00 08 25.1 -3.0**
comp=Z,1µm,1.2s
DZM *e*S S 00 12 16.9 -11
comp=Z,24µm,22.6s
DZM *e*LQ LQ 00 12 39.6
comp=Z,266µm,26.4s
DZM *e*LR LR 00 13 33.8
comp=Z,195µm,22.6s
DZM Mont Dzumac 21.82 139 P **P 00 08 27.1 -1.0**
comp=Z,169nm,0.6s,baz=16,slow=8.6,SNR=33
DZM S **S 00 12 28.2 0.0**
comp=Z,24nm,1.1s,baz=194,slow=14,SNR=1.8
DZM LR LR 00 15 26.6
comp=Z,137µm,20.7s,baz=322,slow=33
KWAJ Kwajalein Atol 21.92 48 PFAKE 00 08 40.0 +11
KWAJ LR LR
comp=Z,217µm,19.0s
MSAI Masohi 22.34 275 P P 00 08 42.9 +9.2
ANA2 Anatahan 22.74 346 *e*P **P 00 08 38.1 +0.2**
TARA Tarawa 22.85 72 *e*P **P 00 08 39.4 +0.3**
comp=Z,726nm,0.9s
SARN Sarigan 23.07 347 *e*P **P 00 08 40.9 -0.4**
NLAI Namlea 24.17 275 P **P 00 08 54.5 +2.6**
LBMI Labuha 24.22 282 P **P 00 08 55.6 +3.2**
AS01 Alice Springs 24.25 221 *e*P **P 00 08 51.2 -1.5**
AS31 Alice Springs 24.28 222 *e*P **P 00 08 51.5 -1.4**
comp=Z,246nm,0.6s
AS31 *e*S **S 00 13 12.5 +2.1**
AS31 *e*ScP **ScP 00 16 11.3 +1.6**
ASAR Alice Springs 24.28 222 P **P 00 08 51.5 -1.4**
comp=Z,366nm,0.8s,baz=55,slow=8.4,SNR=457
ASAR S **S 00 13 12.5 +2.0**
comp=Z,8.7nm,0.8s,baz=24,slow=14,SNR=2.4
ASAR ScP **ScP 00 16 11.3 +1.6**
comp=Z,41nm,1.0s,baz=44,slow=2.8,SNR=7.5
ASAR LR LR 00 18 24.0
comp=Z,94nm,20.1s,baz=44,slow=37
ARMA Armidale 24.41 179 *e*P **P 00 08 53.8 -0.3**
comp=Z,2µm,1.8s
ARMA LR LR
comp=Z,248µm,19.0s
SANI Sanana 25.43 278 P **P 00 09 05.4 +2.0**
LHI Lord Howe Isla 26.55 165 *e*P **P 00 09 12.9 -0.4**
comp=Z,470nm,1.1s
SOEI Soe 26.95 260 P **P 00 09 21.8 +4.5**
SOEI Soe 26.95 260 *e*P **P 00 09 18.5 +1.2**
comp=Z,1µm,0.9s
SOEI LR LR
comp=Z,35µm,19.0s
STKA Stephens Creek 27.38 198 P **P 00 09 18.8 -2.0**
comp=Z,34nm,0.4s,baz=9.7,slow=11,SNR=38
STKA S **S 00 13 58.7 -0.6**
comp=Z,13nm,0.8s,baz=61,slow=19,SNR=1.7
STKA LR LR 00 20 04.4
comp=Z,95µm,20.8s,baz=18,slow=36
STKA Stephens Creek 27.38 198 *e*P **P 00 09 18.8 -2.0**
STKA *e*S **S 00 13 58.7 -0.6**
STKA pmax pmax
comp=Z,72nm,1.0s
STKA MLR MLR
comp=Z,21µm,18.0s
STKA Stephens Creek 27.38 198 *e*P **P 00 09 18.8 -2.0**
comp=Z,72nm,1.0s
STKA *e*S **S 00 13 58.7 -0.6**
STKA LR LR
comp=Z,21µm,18.0s
FITZ Fitzroy Crossi 27.75 242 P **P 00 09 22.8 -1.5**
comp=Z,306nm,0.7s,baz=64,slow=7.6,SNR=115
FITZ S **S 00 14 03.9 -1.6**
comp=Z,42nm,1.1s,baz=335,slow=17,SNR=1.4
FITZ LR LR 00 21 21.3
comp=Z,85µm,19.7s,baz=62,slow=38
FITZ Fitzroy Crossi 27.75 242 *e*P **P 00 09 22.8 -1.5**
comp=Z,1µm,1.3s
FITZ *e*S **S 00 14 03.9 -1.6**
FUNA Funafuti 27.89 97 *e*P **P 00 09 27.1 +1.5**
comp=Z,370nm,1.2s
KMSI Cibinong 27.92 282 P **P 00 09 31.9 +6.0**
MATI Mati 27.96 297 *e*P **P 00 09 23.8 -2.5**
KDI Kendari 28.54 273 P **P 00 09 33.6 +2.2**
DAV Davao City (W) 28.62 296 P **P 00 09 30.1 -2.0**
comp=Z,121nm,0.3s,baz=51,slow=6.5,SNR=1.7
DAV PP **PnPn 00 10 22.1 -0.6**
comp=Z,147nm,0.4s,baz=65,slow=12,SNR=3.6
DAV S **S 00 14 20.9 +1.6**
comp=Z,230nm,0.4s,baz=342,slow=20,SNR=2.1
DAV LR LR 00 21 05.8
comp=Z,31µm,18.1s,baz=109,slow=37
DAV Davao City (W) 28.62 296⇑ *e*P **P 00 09 34.9 +2.8**
DAV Davao City (W) 28.62 296 *e*P **P 00 09 30.1 -2.0**
comp=Z,2µm,2.0s
DAV *e*S **S 00 14 20.9 +1.6**
DAV LR LR
comp=Z,34µm,22.0s
MSVF Nonsavu 28.75 116 *e*P **P 00 09 33.5 +0.2**
MSVF pmax pmax
comp=Z,290nm,1.1s
MSVF Nonsavu 28.75 116 *e*P **P 00 09 33.5 +0.2**
comp=Z,289nm,1.1s
MSVF LR LR
comp=Z,29µm,18.0s
LUWI Luwuk 28.77 279 P P 00 09 39.3 +5.8
LUWI Luwuk 28.77 279 *e*P **P 00 09 32.2 -1.2**
comp=Z,324nm,0.9s
LUWI LR LR
comp=Z,24µm,19.0s

MMRI Maumere 28.86 263 P **P 00 09 34.7 +0.5**
MMRI Maumere 28.86 263 *e*P **P 00 09 33.1 -1.1**
comp=Z,974nm,1.0s
CAN Canberra 29.36 184 *e*P **P 00 09 38.8 +0.3**
CAN pmax pmax
comp=Z,280nm,1.5s
CAN Canberra 29.36 184 *e*P **P 00 09 38.8 +0.3**
comp=Z,278nm,1.5s
CAN LR LR
comp=Z,87µm,21.0s
EDFI Ende, Flores 29.40 263 P **P 00 09 37.1 -2.1**
BUKP Musuan 29.44 297 *e*P **P 00 09 41.3 +1.9**
MRSI Marisa 29.89 281 P **P 00 09 45.5 +2.1**
comp=Z,83nm,0.8s,comp=Z,3µm
BBOO Buckleboo 30.28 206 *e*P **P 00 09 45.4 -1.2**
comp=Z,524nm,1.5s
BBOO LR LR
comp=Z,125µm,19.0s
BSSI Bau Bau, Buton 30.54 268 P **P 00 09 50.8 +1.6**
BASI Baing, Sumba 30.61 260 P **P 00 09 51.6 +1.8**
WSI Waingapu 30.84 261 P **P 00 09 54.4 +2.6**
comp=Z,2µm,1.2s,comp=Z,36µm
PAGZ Pagadian 30.92 296 *e*P **P 00 09 54.6 +2.2**
PLP Palo 31.11 303⇑ *e*P **P 00 09 55.1 +0.9**
KAPI Kappang 31.32 270 P **P 00 09 55.7 -0.3**
comp=Z,33nm,0.8s,baz=166,slow=7.9,SNR=12
KAPI S **S 00 15 03.2 +1.6**
comp=Z,8.9nm,0.9s,baz=73,slow=19,SNR=3.8
KAPI ScP **ScP 00 16 32.1 +0.7**
comp=Z,27nm,0.9s,baz=122,slow=6.9,SNR=4.2
KAPI Kappang 31.32 270 *e*P **P 00 09 55.6 -0.3**
comp=Z,458nm,1.6s
KAPI *e*S **S 00 15 03.2 +1.6**
KAPI LR LR
comp=Z,15µm,22.0s
SPSI Sidrap Palu 31.37 272 P **P 00 09 59.4 +2.9**
TTSI Tana Toraja 31.41 274 P **P 00 10 00.0 +3.2**
comp=Z,148nm,0.9s,comp=Z,4µm
PCI Palu 31.69 278 P **P 00 10 01.1 +1.8**
PVCP Virac 33.10 306 *e*P **P 00 10 11.5 -0.1**
PVCP *e*S **S 00 15 36.9 +7.5**
RCP Roxas 33.19 301⇑ *e*P **P 00 10 16.1 +3.6**
PLAI Plampang 33.27 263 P **P 00 10 12.2 -0.9**
CBIJ Chichi jima 33.93 346 *e*P **P 00 10 17.1 -1.6**
comp=Z,218nm,1.1s
CBIJ *e*S **S 00 15 39.8 -2.1**
CBIJ LR LR
comp=Z,66µm,22.0s
JCJ Chichijima 33.93 346 P **P 00 10 17.1 -1.6**
comp=Z,38nm,0.5s,baz=284,slow=9.1,SNR=5.3
JCJ S **S 00 15 39.8 -2.0**
comp=Z,36nm,0.9s,baz=288,slow=20,SNR=2.3
MBWA Marble Bar 34.05 240 P **P 00 10 20.0 +0.1**
SNR=13
MBWA P **P 00 10 20.0 +0.1**
SNR=13
MBWA Marble Bar 34.05 240 P **P 00 10 20.0 +0.1**
SNR=13
MBWA Marble Bar 34.05 240 *e*P **P 00 10 18.9 -1.0**
comp=Z,307nm,1.0s
MBWA LR LR
comp=Z,88µm,20.0s
TWSI Taliwang, Sumb 34.15 263 P **P 00 10 20.0 -0.8**
OTRP Odiongan 34.21 302 *e*P **P 00 10 25.3 +4.1**
MYLDM Lahad Datu 34.45 288⇓ P **P 00 10 26.5 +3.1**
MYLDM Lahad Datu 34.45 288 *e*P **P 00 10 23.8 +0.4**
comp=Z,147nm,1.0s
MYLDM LR LR
comp=Z,38µm,19.0s
TSM Tawau 34.78 286⇑ P **P 00 10 27.0 +0.7**
LQP Lukban 35.51 304⇓ *e*P **P 00 10 34.7 +2.0**
OUZ Omahuta 35.75 148 *e*P **P 00 10 32.9 -1.4**
comp=Z,172nm,1.1s
OUZ LR LR
comp=Z,52µm,19.0s
SRBI Singaraja 35.78 264 P **P 00 10 32.7 -2.2**
DNP Denpasar 35.80 263 P **P 00 10 36.9 +1.9**
comp=Z,1µm,0.6s,comp=Z,24µm
TGY Tagaytay City 36.00 304 P **P 00 10 36.0 -0.8**
comp=Z,171nm,0.3s,baz=135,slow=7.1,SNR=14
TGY S **S 00 16 12.4 -1.8**
comp=Z,243nm,0.4s,baz=138,slow=14,SNR=1.9
TGY ScP **ScP 00 16 48.8 +0.9**
comp=Z,181nm,0.3s,baz=166,slow=9.1,SNR=6.4
TGY LR LR 00 22 51.8
comp=Z,34µm,21.7s,baz=114,slow=32
BBKI Banjar Baru 36.31 272 P **P 00 10 43.3 +3.8**
comp=Z,189nm,1.1s,comp=Z,6µm
KDM Kudat 36.58 290⇑ P **P 00 10 44.4 +2.7**
ABJI Asem Bagus 36.74 265 P **P 00 10 46.4 +3.3**
JAGI Jajag, Banyuwa 36.84 264 P **P 00 10 41.7 -2.2**
JAGI Jajag, Banyuwa 36.84 264 *e*P **P 00 10 40.4 -3.6**
comp=Z,1µm,1.0s
JAGI *e*S **S 00 16 20.7 -6.4**
JAGI LR LR
comp=Z,26µm,22.0s
KKM Kota Kinabalu 36.88 288⇑ P **P 00 10 45.3 +0.9**
KKM Kota Kinabalu 36.88 288 *e*P **P 00 10 44.8 +0.4**
comp=Z,94nm,1.1s
KKM LR LR
comp=Z,23µm,22.0s
TAU Tasmania Unive 37.03 185 *e*P **P 00 10 45.8 +0.7**
TAU pmax pmax
comp=Z,372nm,1.0s
TAU MLR MLR
comp=Z,129µm,21.0s
TAU Tasmania Unive 37.03 185 *e*P **P 00 10 45.8 +0.7**
comp=Z,372nm,1.0s
TAU LR LR
comp=Z,129µm,21.0s
KNTN Kanton 37.10 87 PFAKE 00 11 00.0 +14
KNTN LR LR
comp=Z,16µm,18.0s
RAO Raoul Island 37.29 132 P **P 00 10 46.9 -0.6**
comp=Z,109nm,0.3s,baz=354,slow=22,SNR=3.6
RAO S **S 00 16 35.4 +1.9**
comp=Z,53nm,0.3s,baz=90,slow=20,SNR=1.6
RAO LR LR 00 24 04.8
comp=Z,36µm,18.6s,baz=307,slow=33
RAO Raoul Island 37.29 132 *e*P **P 00 10 47.0 -0.6**
RAO *e*S **S 00 16 35.4 +1.9**
RAO MLR MLR
comp=Z,37µm,19.0s
RAO Raoul Island 37.29 132 *e*P **P 00 10 47.0 -0.6**
RAO *e*S **S 00 16 35.4 +1.9**
RAO LR LR
comp=Z,37µm,19.0s
AFI Afiamalu 37.29 105 P **P 00 10 46.5 -1.3**
comp=Z,184nm,1.0s,baz=237,slow=3.6,SNR=12
AFI S **S 00 16 32.4 -1.6**
comp=Z,15nm,0.8s,baz=323,slow=20,SNR=2.0
AFI LR LR 00 23 42.9
comp=Z,20µm,19.5s,baz=268,slow=32
AFI Afiamalu 37.29 105 *e*P **P 00 10 46.5 -1.3**
AFI *e*S **S 00 16 32.4 -1.6**
AFI pmax pmax
comp=Z,330nm,1.2s
AFI MLR MLR
comp=Z,22µm,20.0s
AFI Afiamalu 37.29 105 *e*P **P 00 10 46.5 -1.3**
comp=Z,330nm,1.2s
AFI *e*S **S 00 16 32.4 -1.6**
AFI LR LR
comp=Z,22µm,20.0s
BLJI Banyuglugur 37.38 265 P **P 00 10 48.2 -0.3**
GMJI Gumukmas 37.53 264 P **P 00 10 51.1 +1.3**
GRJI Gresik 38.49 266 P **P 00 11 00.9 +3.0**
comp=Z,319nm,0.9s,comp=Z,2µm
HIZ Hauiti 38.92 150 *e*P **P 00 11 03.1 +1.9**
comp=Z,344nm,1.2s
HIZ LR LR
comp=Z,37µm,19.0s
BTM Bintulu 39.12 282⇓ P **P 00 11 05.3 +2.1**
PWJI Pagerwojo 39.16 265 P **P 00 11 02.1 -1.4**
JOW Kunigami 39.38 327 *e*P **P 00 11 04.7 -0.5**
comp=Z,524nm,1.6s
NGJI Ngawi 39.49 266 P **P 00 11 08.9 +2.6**
PBKI Pangkalan Bun 39.54 273 P P 00 11 12.2 +5.5
comp=Z,348nm,1.1s,comp=Z,6µm
PCJI Pacitan 39.78 264 P **P 00 11 08.0 -0.7**
SBUM Sibu 39.80 281⇓ P **P 00 11 10.6 +1.7**
SBUM Sibu 39.80 281 *e*P **P 00 11 10.2 +1.3**
comp=Z,225nm,1.9s
URZ Urewera 39.90 148 *e*P **P 00 11 08.6 -0.7**
comp=Z,386nm,1.6s
URZ LR LR

comp=Z,41µm,18.0s
MXZ Matakaoa Point 40.05 146 PFAKE 00 11 20.0 +9.4
MXZ LR LR
comp=Z,55µm,19.0s
STKI Sintang 40.09 277 P **P 00 11 10.3 -1.0**
comp=Z,63nm,1.2s,comp=Z,24µm
BKZ Black Stump Fm 40.24 149 *e*P **P 00 11 13.4 +1.1**
comp=Z,260nm,1.6s
BKZ LR LR
comp=Z,46µm,20.0s
JHJ2 Mitsune 40.26 345 PFAKE 00 11 20.0 +7.7
JHJ2 LR LR
comp=Z,38µm,22.0s
JHJ Hachijo jima 2 40.28 345 P **P 00 11 09.3 -3.2**
comp=Z,43nm,0.7s,baz=229,slow=19,SNR=2.5
JHJ LR LR 00 25 05.7
comp=Z,39µm,21.6s,baz=177,slow=32
UGM Wanagama 40.42 265 P **P 00 11 15.9 +1.8**
UGM Wanagama 40.42 265 *e*P **P 00 11 13.3 -0.8**
comp=Z,733nm,0.9s
UGM LR LR
comp=Z,12µm,21.0s
THZ Tophouse 40.62 155 *e*P **P 00 11 14.3 -1.0**
comp=Z,217nm,1.2s
THZ LR LR
comp=Z,49µm,18.0s
YOJ Yonaguni jima 40.79 319 *e*P **P 00 11 18.8 +1.9**
YOJ pmax pmax
comp=Z,720nm,0.9s
YOJ Yonaguni jima 40.79 319 *e*P **P 00 11 18.8 +1.9**
comp=Z,722nm,0.9s
FOZ Fox Glacier 40.92 159 *e*P **P 00 11 18.9 +1.2**
comp=Z,314nm,1.4s
FOZ LR LR
comp=Z,46µm,19.0s
TWG Pinlang 41.01 315 *e*P **P 00 11 18.2 -0.5**
comp=Z,491nm,0.9s
TWG LR LR
comp=Z,145µm,21.0s
SNZO South Karori 41.04 153 PFAKE 00 11 30.0 +11
SNZO LR LR
comp=Z,87µm,20.0s
LTZ Lake Taylor 41.21 156 *e*P **P 00 11 19.9 -0.2**
comp=Z,735nm,1.5s
LTZ LR LR
comp=Z,104µm,20.0s
YULB Yu-li 41.23 316 *e*P **P 00 11 19.8 -0.7**
comp=Z,484nm,1.2s
YULB LR LR
comp=Z,45µm,19.0s
BFZ Birch Farm 41.28 151 *e*P P 00 11 14.9 -5.8
comp=Z,434nm,1.5s
BFZ LR LR
comp=Z,77µm,21.0s
KHZ Kahutara 41.42 155 *e*P **P 00 11 20.2 -1.6**
comp=Z,559nm,1.5s
KHZ LR LR
comp=Z,65µm,19.0s
KSM Kuching 41.48 279⇑ P **P 00 11 23.9 +1.1**
KSM Kuching 41.48 279 *e*P **P 00 11 23.7 +0.9**
comp=Z,179nm,1.5s
KSM LR LR
comp=Z,12µm,22.0s
NWAO Narrogin (SRO) 41.50 225 P **P 00 11 20.2 -2.4**
comp=Z,41nm,0.9s,baz=260,slow=8.5,SNR=11
NWAO PP **PnPn 00 13 05.2 +1.6**
comp=Z,158nm,1.1s,baz=295,slow=9.1,SNR=4.6
NWAO S **S 00 17 34.5 -2.3**
comp=Z,38nm,1.1s,baz=76,slow=4.2,SNR=2.0
NWAO LR LR 00 29 02.2
comp=Z,83µm,19.9s,baz=285,slow=37
NWAO Narrogin (SRO) 41.50 225 *e*P **P 00 11 22.0 -0.7**
NWAO pmax pmax
comp=Z,180nm,1.2s
NWAO Narrogin (SRO) 41.50 225 *e*P **P 00 11 22.0 -0.7**
comp=Z,4µm,1.2s
NWAO *e*PP **PnPn 00 13 05.2 +1.6**
NWAO *e*S **S 00 17 34.5 -2.3**
NWAO LR LR
comp=Z,71µm,20.0s
RPZ Rata Peaks 41.53 158 *e*P **P 00 11 22.1 -0.7**
comp=Z,298nm,1.0s
RPZ LR LR
comp=Z,125µm,19.0s
NACB Ninganchiao 41.54 317 *e*P **P 00 11 24.1 +1.0**
comp=Z,601nm,0.9s
NACB LR LR
comp=Z,37µm,20.0s
OXZ Oxford 41.57 157 *e*P **P 00 11 21.6 -1.5**
comp=Z,218nm,0.8s
OXZ LR LR
comp=Z,102µm,20.0s
TPUB Ta-pu 41.63 315 *e*P **P 00 11 22.0 -1.9**
comp=Z,232nm,0.7s
TPUB LR LR
comp=Z,38µm,20.0s
SSLB Suanglung 41.72 316 *e*P **P 00 11 24.2 -0.4**
comp=Z,251nm,0.8s
SSLB LR LR
comp=Z,56µm,20.0s
WKZ Wanaka 41.80 161 *e*P **P 00 11 26.4 +1.5**
comp=Z,365nm,1.2s
WKZ LR LR
comp=Z,51µm,21.0s
DCZ Deep Cove 41.80 163 *e*P **P 00 11 24.8 -0.1**
comp=Z,309nm,1.3s
DCZ LR LR
comp=Z,30µm,19.0s
LBZ Lake Benmore 41.80 160 *e*P **P 00 11 23.5 -1.4**
comp=Z,453nm,1.5s
LBZ LR LR
comp=Z,54µm,18.0s
MLZ Mavora Lakes 42.00 162 *e*P **P 00 11 26.1 -0.5**
comp=Z,719nm,1.4s
MLZ LR LR
comp=Z,26µm,18.0s
KPJI Karang Pucung 42.00 266 P **P 00 11 27.0 0.0**
comp=Z,1µm,1.0s,comp=Z,12µm
YHNB Yeheng 42.02 317 *e*P **P 00 11 27.4 +0.3**
comp=Z,933nm,1.0s
YHNB LR LR
comp=Z,47µm,22.0s
MQZ McQueen's Vall 42.13 157 *e*P **P 00 11 27.9 +0.2**
comp=Z,1µm,1.6s
MQZ LR LR
comp=Z,76µm,20.0s
TATO Taipei 42.15 318 P **P 00 11 32.1 +4.0**
SNR=8.8
TATO P **P 00 11 32.1 +4.0**
SNR=8.8
TATO Taipei 42.15 318 P **P 00 11 32.1 +4.0**
SNR=8.8
TATO Taipei 42.15 318 *e*P **P 00 11 29.0 +0.9**
comp=Z,656nm,0.9s
TATO LR LR
comp=Z,47µm,20.0s
WHZ Wether Hill Ro 42.42 163 *e*P **P 00 11 28.6 -1.3**
comp=Z,94nm,0.8s
WHZ LR LR
comp=Z,27µm,19.0s
CMJI Cimerak 42.48 265 P **P 00 11 30.0 -0.9**
comp=Z,2µm,1.0s,comp=Z,20µm
ODZ Otahua Downs 42.53 160 *e*P **P 00 11 31.0 +0.1**
comp=Z,473nm,1.6s
ODZ LR LR
comp=Z,49µm,18.0s
JCJI Jatiwangi 42.68 267 P **P 00 11 33.1 +0.6**
comp=Z,1µm,0.9s,comp=Z,23µmcomp=Z,39µm
CISI Cisompet, Garu 43.11 265 P **P 00 11 34.6 -1.5**
comp=Z,2µm,1.1s,comp=Z,20µm
CISI Cisompet, Garu 43.11 265 *e*P **P 00 11 33.8 -2.3**
comp=Z,1µm,0.7s
CISI *e*S **S 00 17 58.6 -2.4**
INU Inuyama 43.13 343 *e*P **P 00 11 36.9 +1.1**
comp=Z,61nm,1.0s
INU LR LR
comp=Z,36µm,21.0s
LEM Lembang 43.32 266 P P 00 11 43.3 +5.4
comp=Z,7µm,0.8s,comp=Z,106µm
JNU Nakatsue 43.33 335 P **P 00 11 35.4 -2.1**
comp=Z,229nm,0.8s,baz=101,slow=3.1,SNR=34
JNU ScP **ScP 00 17 16.3 +0.5**
comp=Z,65nm,1.2s,baz=78,slow=2.7,SNR=6.5
JNU S **S 00 18 01.6 -2.1**
comp=Z,12nm,1.0s,baz=207,slow=14,SNR=1.8
JNU LR LR 00 27 00.2
comp=Z,8µm,21.9s,baz=147,slow=32
JNU Nakatsue 43.33 335 *e*P **P 00 11 35.4 -2.1**

comp=Z,441nm,0.9s
JNU eS S 00 18 01.6 -2.1
CNJI Cibinong 43.79 266 P P 00 11 40.9 -0.6
comp=Z,3µm,1.0s,comp=Z,26µm
MJAR Matsushiro Arr 43.92 345 P P 00 11 39.6 -2.6
comp=Z,22nm,0.9s,baz=169,slow=8.6,SNR=26
MJAR ScP ScP 00 17 18.2 +0.1
comp=Z,33nm,1.2s,baz=174,slow=4.4,SNR=12
MAJO Matsushiro 43.93 345 eP P 00 11 42.9 +0.6
MAJO pmax pmax
comp=Z,80nm,1.0s
MAJO Matsushiro 43.93 345 eP P 00 11 42.9 +0.6
comp=Z,80nm,1.0s
MAJO LR LR
comp=Z,36µm,20.0s
MAT Matsushiro 43.93 345 P P 00 11 42.1 -0.1
MAT S S 00 18 15.6 +3.4
MJB9 Matsu-Tunnel 43.93 345 eP P 00 11 42.9 +0.6
comp=Z,20nm,1.0s
MJB9 LR LR
comp=Z,10µm,19.0s
CBJI Citeko 44.09 267 P P 00 11 45.2 +1.3
comp=Z,3µm,1.0s,comp=Z,35µm
QZH Quanzhou 44.11 315 P P 00 11 36.8 -7.1
QZH S S 00 18 07.4 -7.8
QZH pmax pmax
comp=Z,2µm,0.8s
QZH pmax pmax
comp=Z,7µm,6.9s
QZH LR LR
comp=N,41µm,19.0s
QZH LR LR
comp=E,41µm,19.7s
QZH LR LR
comp=Z,55µm,19.9s
DBJI Dramaga 44.19 267 P P 00 11 45.9 +1.2
comp=Z,487nm,0.8s,comp=Z,16µm
SKJI Sukabumi 44.37 266 P P 00 11 46.0 -0.2
comp=Z,2µm,1.0s,comp=Z,16µm
SBJI Serang 44.81 267 P P 00 11 55.7 +6.0
comp=Z,343nm,1.0s,comp=Z,5µm
JOHN Johnston Islan 44.86 59 eP P 00 11 53.1 +3.1
comp=Z,1µm,1.5s
JOHN LR LR
comp=Z,54µm,21.0s
PPBI Pangkal Pinang 45.09 273 P P 00 11 55.0 +3.0
comp=Z,95nm,0.9s,comp=Z,24µm
CGJI Cibinong 45.23 267 P P 00 11 51.9 -1.2
comp=Z,1µm,0.9s,comp=Z,12µm
XMIS Christmas Isla 45.28 261 eP P 00 11 53.9 +0.4
comp=Z,1µm,1.3s
XMIS LR LR
comp=Z,9µm,20.0s
MIDW Midway 45.48 40 PFAKE 00 12 10.0 +15
MIDW LR LR
comp=Z,24µm,19.0s
BLSI Bandar Lampung 45.73 268 P P 00 11 59.2 +2.2
comp=Z,232nm,1.4s,comp=Z,4µm
MCO Taipa Grande 46.19 308 P P 00 12 05.0 +4.5
KASI Kota Agung 46.46 268 P P 00 12 01.0 -1.8
comp=Z,788nm,1.0s,comp=Z,6µmcomp=Z,14µm
SSE Sheshan 46.64 324 ⇓P P 00 12 04.4 +0.6
SSE pP pP 00 12 11.3 -0.7
SSE S S 00 18 53.3 +1.7
SSE sS sS 00 19 02.4 -2.7
SSE PMZ
comp=Z,45nm,0.7s
SSE PMZ
comp=Z,1µm,6.8s
SSE LN
comp=Z,21µm,23.0s
SSE LE
comp=Z,36µm,23.0s
SSE LZ
comp=Z,25µm,17.8s
GZH Guangzhou 46.88 309 ⇓*i*P P 00 12 07.0 +1.2
GZH sP pP 00 12 13.0 -1.0
GZH S S 00 18 57.0 +1.8
GZH PMZ
comp=Z,2µm,3.9s
LWLI Liwa 46.93 269 P P 00 12 06.6 0.0
comp=Z,683nm,0.9s
TPRI Tanjung Pinang 47.09 277 P P 00 12 11.3 +3.6
comp=Z,150nm,0.7s,comp=Z,26µmcomp=Z,64µm
TJN Taejon 47.61 334*c i*P P 00 12 12.1 +0.8
QIZ Qiongzhong 47.67 302 P P 00 12 15.6 +3.5
QIZ pP pP 00 12 19.1 -1.2
QIZ sP sP 00 12 21.3 -2.3
QIZ sS sS 00 19 23.3 +3.1
QIZ PMZ
comp=Z,41nm,1.6s
QIZ LN
comp=Z,22µm,22.2s
QIZ LE
comp=Z,8µm,24.4s
QIZ LZ
comp=Z,25µm,24.4s
QIZ Qiongzhong 47.67 302 eP P 00 12 12.8 +0.6
comp=Z,125nm,1.3s
QIZ LR LR
comp=Z,22µm,21.0s
MYKOM **Kota Tinggi 47.90 278** ⇓P P 00 12 16.0 +2.1
MYKOM **Kota Tinggi 47.90 278** eP P 00 12 14.2 +0.2
comp=Z,84nm,1.1s
ERM Erimo 48.23 352*de*P P 00 12 15.4 -0.6
ERM pmax pmax
comp=Z,18nm,1.0s
ERM MLR MLR
comp=Z,31µm,20.0s
ERM Erimo 48.23 352 epP pP 00 12 23.7 -0.5
ERM LR LR
comp=Z,32µm,20.0s
KSRS Korea Array 48.27 335 P P 00 12 14.5 -1.9
comp=Z,50nm,1.0s,baz=151,slow=8.1,SNR=25
KSRS ScP ScP 00 17 37.5 +1.3
comp=Z,9.5nm,0.9s,baz=147,slow=5.1,SNR=9.2
KSRS S S 00 19 16.6 +2.0
comp=Z,0.5nm,0.4s,baz=125,slow=12,SNR=2.7
KSRS LR LR 00 33 10.1
comp=Z,8µm,18.1s,baz=145,slow=37
KSRS PKPPKP P'P'df 00 43 14.3 -8.4
comp=Z,0.4nm,0.3s,baz=29,slow=2.9,SNR=5.2
KS15 Wonju Array Si 48.28 335 eP P 00 12 14.5 -2.0
KS15 eScP ScP 00 17 37.5 +1.2
KS15 eS S 00 19 16.6 +1.9
KSAR Wonju Array Be 48.28 335 P P 00 12 14.5 -2.0
KSAR Wonju Array Be 48.28 335 P P 00 12 14.5 -2.0
KSAR Wonju Array Be 48.28 335 S S 00 19 16.6 +1.9
KS01 Wonju Array Si 48.31 335 eP P 00 12 18.6 +1.9
KGM Kluang 48.45 278 ⇑P P 00 12 18.8 +0.5
KSI Kapahiang 48.48 270 P P 00 12 18.9 +0.3
comp=Z,178nm,1.1s
NJ2 Nanjing 48.71 323 eP P 00 12 20.8 +0.9
NJ2 pP pP 00 12 26.5 -1.6
NJ2 PP PP 00 14 14.0 +0.8
NJ2 ScP ScP 00 17 39.8 +1.6
NJ2 S S 00 19 23.6 +2.6
NJ2 PMZ
comp=Z,140nm,0.7s
NJ2 PMZ
comp=Z,5µm,7.6s
NJ2 LN
comp=Z,27µm,15.2s
NJ2 LE
comp=Z,20µm,16.8s
NJ2 LZ
comp=Z,37µm,15.2s
INCN Inchon 48.85 334 P P 00 12 24.1 +3.1
SNR=25
INCN P P 00 12 24.1 +3.1
SNR=25
INCN Inchon 48.85 334 P P 00 12 24.1 +3.1
SNR=25
INCN Inchon 48.85 334 eP P 00 12 24.0 +3.1
comp=Z,332nm,1.1s
INCN LR LR
comp=Z,19µm,20.0s
MCQ Macquarie Isla 48.88 174 PFAKE 00 12 30.0 +9.2
MCQ LR LR
comp=Z,20µm,20.0s
KTGM Kuala Trenggan 49.27 282 ⇑P P 00 12 25.8 +1.3
RAR Rarotonga 49.81 113 LR LR 00 29 44.6
comp=Z,5µm,21.1s,baz=281,slow=32
ASAJ Asahikawa 50.37 352 P P 00 12 31.1 -1.2
comp=Z,37nm,0.7s,baz=189,slow=6.8
ASAJ S S 00 19 46.2 +2.3
comp=Z,2.0nm,0.3s,baz=98,slow=19,SNR=2.4
ASAJ Asahikawa 50.37 352 eP P 00 12 31.1 -1.2
comp=Z,270nm,1.7s
ASAJ eS S 00 19 46.2 +2.3
ASAJ LR LR
comp=Z,25µm,21.0s
BKNI Bangkinang 50.45 275 P P 00 12 35.9 +2.3
comp=Z,208nm,0.8s,comp=Z,3µm
BKNI Bangkinang 50.45 275 PFAKE 00 12 40.0 +6.4
BKNI LR LR
comp=Z,12µm,20.0s
WHN Wuhan 50.56 318 ⇑P P 00 12 35.0 +1.0
WHN S S 00 19 49.6 +2.7
WHN PMZ
comp=Z,2µm,4.3s
WHN LN
comp=Z,87µm,28.5s
WHN LE
comp=Z,44µm,17.1s
WHN LZ
comp=Z,83µm,20.2s
PDSI Padang 50.87 274 P P 00 12 37.1 +0.4
comp=Z,50nm,1.2s
KUR Kuril'sk 50.97 357*c i*P P 00 12 36.7 -0.2
KUR *i* 00 14 38.7
KUR *i* S S 00 19 53.2 +1.1
KUR *i* SSS SSS 00 24 56.0
KUR pmax pmax
comp=Z,106nm,1.0s
KUR pmax pmax
comp=Z,2µm,15.6s
KUR MLR MLR
comp=N,23µm,18.0s
KUR MLR MLR
comp=E,6µm,18.0s
KUR MLR MLR
comp=Z,23µm,18.0s
PPI Padang Panjang 50.99 274 P P 00 12 36.3 -1.3
comp=Z,309nm,1.0s,comp=Z,3µm
IPM Ipoh 51.15 281 eP P 00 12 37.9 -1.0
comp=Z,101nm,1.0s
IPM LR LR
comp=Z,11µm,19.0s
PANO Nakornpanom 51.41 297 P P 00 12 43.1 +2.5
comp=Z,122nm,0.8s
MSHR Mys Shultsa 51.57 341⇑*e*P P 00 12 42.4 +1.0
KULM Kulim 51.68 281 ⇓P P 00 12 43.7 +1.0
KULM Kulim 51.68 281 eP P 00 12 40.5 -2.3
comp=Z,67nm,1.0s
KULM LR LR
comp=Z,12µm,21.0s
VLA Vladivostok 51.83 342*ce*P P 00 12 43.6 +0.3
VLA pmax pmax
comp=Z,75nm,1.5s
XMAS Kiritimati 51.88 83 eP P 00 12 47.5 +3.2
comp=Z,520nm,1.2s
XMAS LR LR
comp=Z,32µm,18.0s
SKNT Sakolnakorn 51.90 297 P P 00 12 45.2 +0.9
comp=Z,99nm,0.9s
MNSI Mandailing Nat 51.96 276 P P 00 12 44.5 -0.4
comp=Z,194nm,1.0s,comp=Z,5µm
SKLT Songkhla 52.11 284 P P 00 12 48.9 +3.0
comp=Z,38nm,1.3s,comp=Z,2µm
DL2 Dalian 52.31 331⇑*i*P P 00 12 49.0 +2.0
DL2 S S 00 20 13.3 +2.5
DL2 PMZ
comp=Z,170nm,0.9s
DL2 PMZ
comp=Z,4µm,11.8s
DL2 LN
comp=Z,9µm,19.6s
DL2 LE
comp=Z,18µm,20.6s
DL2 LZ
comp=Z,20µm,20.2s
TIA Tai'an 52.66 325 ⇓P P 00 12 49.0 -0.7
TIA S S 00 20 14.8 -1.0
TIA PMZ
comp=Z,150nm,1.1s
TIA PMZ
comp=Z,5µm,12.0s
TIA LN
comp=Z,15µm,17.0s
TIA LE
comp=Z,21µm,17.0s
TIA LZ
comp=Z,29µm,20.0s
KHON Khomkaen 52.70 296 P P 00 12 53.7 +3.4
comp=Z,27nm,0.7s,comp=Z,955nm
USRK Ussuriysk Ar. 52.78 343 P P 00 12 48.6 -1.7
comp=Z,24nm,0.9s,baz=166,slow=8.7,SNR=21
USRK ScP ScP 00 17 55.9 +0.5
comp=Z,9.9nm,0.9s,baz=198,slow=4.2,SNR=7.2
USRK S S 00 20 15.9 -1.1
comp=Z,1.3nm,0.7s,baz=60,slow=13,SNR=2.3
USRK LR LR 00 33 57.3
comp=Z,22µm,20.8s,baz=149,slow=35
USRK PKP2ab 00 44 04.4
comp=Z,1.3nm,0.7s,baz=40,slow=6.2,SNR=4.2
PSI Prapat 52.91 278 eP P 00 12 52.9 +0.8
comp=Z,548nm,2.0s
PSI LR LR
comp=Z,8µm,19.0s
NONG Nongkai 53.05 298 P P 00 12 54.5 +1.7
comp=Z,80nm,0.8s
YSS Yuzh-Sakhalins 53.14 353*ce*P P 00 12 53.0 +0.1
YSS *e**SP pP 00 13 02.1 +0.8
YSS *e* 00 14 04.0
YSS *e* 00 14 57.0
YSS *e*S S 00 20 19.0 -2.8
YSS *e*PS PnS 00 20 31.0 -2.4
YSS pmax pmax
comp=Z,30nm,0.6s
YSS pmax pmax
comp=Z,3µm,16.0s
YSS MLR MLR
comp=Z,12µm,20.0s
YSS MLR MLR
comp=N,11µm,17.0s
YSS MLR MLR
comp=E,5µm,19.0s
YSS Yuzh-Sakhalins 53.14 353 PFAKE 00 13 10.0 +17
YSS LR LR
comp=Z,7µm,20.0s
CHAI Chaiyaphum 53.31 295 P P 00 12 55.7 +0.9
comp=Z,15nm,1.1s,comp=Z,198nm
SURA Surathani 53.53 286 P P 00 12 59.4 +2.9
comp=Z,40nm,1.2s,comp=Z,8µm
ENH Enshi 53.75 314 eP P 00 12 57.9 +0.1
comp=Z,528nm,1.4s
ENH LR LR
comp=Z,24µm,22.0s
SNY Shenyang 53.77 335 ⇓P P 00 12 57.8 +0.1
SNY S S 00 20 32.8 +2.3
SNY LN
comp=Z,13µm,22.9s
SNY LE
comp=Z,26µm,20.8s
SNY LZ
comp=Z,43µm,19.4s
GYA Guiyang 53.81 309⇑*i*P P 00 12 59.3 +0.9
GYA pP pP 00 13 07.5 +0.8
GYA PcP PcP 00 14 06.0 +1.9
GYA PP PP 00 15 02.8 +3.0
GYA ScP ScP 00 18 01.3 +0.8
GYA S S 00 20 25.8 -6.1
GYA SS SS 00 24 14.4 +1.1
GYA PMZ
comp=Z,40nm,0.8s
GYA PMZ
comp=Z,2µm,11.6s
GYA LN
comp=Z,12µm,20.5s
GYA LE
comp=Z,15µm,19.5s
GYA LZ
comp=Z,20µm,19.2s
MDJ Mudanjiang 53.90 341 P P 00 12 59.5 +0.9
MDJ pP pP 00 13 05.9 -1.0
MDJ sP sP 00 13 08.6 -1.5
MDJ PcP PcP 00 14 01.3 -2.6
MDJ PP PP 00 15 00.3 +0.2
MDJ PcS PcS 00 18 02.4 -0.6
MDJ S S 00 20 32.3 +0.1
MDJ LN
comp=Z,17µm,21.4s
MDJ LE
comp=Z,12µm,22.1s
MDJ LZ
comp=Z,24µm,24.7s
MDJ Mudanjiang 53.90 341 eP P 00 13 00.3 +1.7
comp=Z,52nm,0.9s
MDJ LR LR
comp=Z,24µm,21.0s
COCO West Island 53.98 259 PFAKE 00 13 10.0 +10
COCO LR LR
comp=Z,12µm,20.0s
GSI Gunungsitoli 54.02 276 P P 00 12 59.6 -0.5
comp=Z,194nm,1.1s,comp=Z,3µm
GSI Gunungsitoli 54.02 276 eP P 00 12 58.7 -1.4
comp=Z,128nm,0.7s
GSI LR LR
comp=Z,14µm,22.0s
KCSI Kotacane, Aceh 54.17 279 P P 00 13 01.8 +0.6
comp=Z,69nm,1.1s,comp=Z,4µm
SURT Suratani 54.28 285 P P 00 13 04.7 +2.8
comp=Z,23nm,1.4s
PBKT Sadao Pong 54.45 295 P P 00 13 06.5 +3.4
comp=Z,83nm,1.5s
LOEI Loei 54.51 296 P P 00 13 02.0 -1.6
comp=Z,47nm,0.9s,comp=Z,2µm
PHET Kaeng Krachan 54.53 290 P P 00 13 13.4 +10
CN2 Changchun 54.65 337 eP P 00 13 04.8 +0.7
CN2 *es*P sP 00 13 15.6 -0.1
CN2 ScP ScP 00 18 04.4 +0.8
CN2 eS S 00 20 42.6 +0.1
CN2 SS SS 00 24 25.1 -0.7
CN2 PMZ
comp=Z,4µm,10.0s
CN2 LN
comp=Z,15µm,19.0s
CN2 LE
comp=Z,7µm,19.0s
CN2 LZ
comp=Z,18µm,21.0s
TPTI 54.71 278 P P 00 13 06.1 +1.0
comp=Z,41nm,1.0s,comp=Z,1µm
UTTA Uttaradit 55.23 296 P P 00 13 09.8 +1.1
comp=Z,13nm,0.9s,comp=Z,158nm
SRDT SRDT 55.43 292 P P 00 13 14.2 +4.0
comp=Z,209nm,2.0s
KEKH Kekaha 55.47 58 eP P 00 13 12.2 +1.7
comp=Z,284nm,1.1s
KEKH LR LR
comp=Z,54µm,20.0s
MLSI Meulaboh, Aceh 55.64 279 P P 00 13 11.0 -0.8
comp=Z,271nm,0.7s,comp=Z,6µm
BJT Baijiatuau 55.92 328 eP P 00 13 15.6 +2.2
BJT pmax pmax
comp=Z,180nm,1.2s
BJT MLR MLR
comp=Z,29µm,21.0s
BJT Baijiatuau 55.92 328 eP P 00 13 15.6 +2.2
comp=Z,180nm,1.2s
BJT LR LR
comp=Z,29µm,21.0s
BJI Beijing 55.93 328 P P 00 13 15.6 +2.2
BJI sP sP 00 13 23.9 -1.1
BJI S S 00 20 53.0 -6.7
BJI sS sS 00 21 14.1 +0.7
BJI SS SS 00 24 44.0 -2.1
BJI PMZ
comp=Z,4µm,12.8s
BJI LN
comp=Z,18µm,20.8s
BJI LE
comp=Z,20µm,21.5s
BJI LZ
comp=Z,22µm,22.9s
HABR Khabarovsk 55.95 347 eP P 00 13 10.9 -2.5
HABR *e**SP pP 00 13 19.6 -2.1
HABR *e* 00 14 08.8
HABR *e* 00 15 15.8
HABR *e*S S 00 20 58.8 -0.8
HABR *e**SS sS 00 21 09.4 -4.0
HABR *e* 00 22 59.1
HABR SS SS 00 24 46.4 +0.3
HABR pmax pmax
comp=N,55nm,1.3s
HABR pmax pmax
comp=Z,104nm,1.3s
HABR pmax pmax
comp=E,10.0nm,0.8s
HABR pmax pmax
comp=Z,399nm,1.6s
HABR MLR MLR
comp=Z,20µm,20.0s
SUKH Sukhothai 55.96 296 P P 00 13 18.2 +4.2
comp=Z,10nm,0.9s,comp=Z,132nm
UMPA Umpang Tak 56.24 294 P P 00 13 21.5 +5.4
comp=Z,18nm,1.0s,comp=Z,621nm
KMI Kunming 56.29 305 P P 00 13 18.8 +2.3
KMI pP pP 00 13 25.1 +0.2
KMI sP sP 00 13 28.0 -0.1
KMI PP PP 00 15 24.3 +2.1
KMI S S 00 21 05.6 +0.1
KMI sS sS 00 21 17.3 -1.9
KMI SS SS 00 24 52.6 -0.1
KMI PMZ
comp=Z,79nm,0.8s
KMI PMZ
comp=Z,2µm,9.1s
KMI LN
comp=Z,12µm,19.0s
KMI LE
comp=Z,10µm,21.0s
KMI LZ
comp=Z,18µm,21.0s
LAMP Lampang 56.32 297 P P 00 13 19.3 +2.7
comp=Z,19nm,0.7s,comp=Z,162nm
XAN Xi'an 56.33 318 P P 00 13 15.4 -1.0
XAN pP pP 00 13 21.5 -3.3
XAN sP sP 00 13 24.3 -3.7
XAN PP PP 00 15 23.4 +1.2
XAN S S 00 21 05.1 -0.2
XAN sS sS 00 21 15.4 -3.7
XAN SS SS 00 24 53.6 +0.9
XAN PMZ
comp=Z,60nm,1.0s
XAN PMZ
comp=Z,970nm,8.4s
XAN LN
comp=Z,16µm,18.1s
XAN LE
comp=Z,12µm,19.7s
XAN LZ
comp=Z,27µm,18.7s
TIY Taiyuan 56.42 323 eP P 00 13 18.3 +1.2
TIY pP sP 00 13 31.4 +2.8
TIY S S 00 21 04.6 -1.9
TIY ScS ScS 00 23 03.3 -1.5
TIY PMZ
comp=Z,91nm,0.9s
TIY PMZ
comp=Z,2µm,12.0s
TIY LN
comp=Z,16µm,17.5s
TIY LE
comp=Z,10µm,17.6s
TIY LZ
comp=Z,31µm,19.0s
SKR Severo-Kuril's 56.50 4*d i*P P 00 13 15.3 -1.9
SKR *e* 00 14 11.6
SKR *e* 00 15 19.9
SKR *i* PPP PPP 00 16 43.7
SKR *i* S S 00 21 15.3 +8.5
SKR *e*SS SS 00 24 45.3 -9.3
SKR pmax pmax
comp=Z,134nm,1.1s
SKR pmax pmax
comp=Z,3µm,17.4s
SKR MLR MLR
comp=Z,20µm,18.0s
KIP Kipapa 56.70 60*de*P P 00 13 19.7 +0.5
KIP pmax pmax
comp=Z,8µm,1.7s
KIP MLR MLR
comp=Z,108µm,16.0s
KIP Kipapa 56.70 60 eP P 00 13 20.3 +1.1
comp=Z,2µm,1.7s
KIP LR LR

	comp=Z,24μm,21.0s									
OPA	**Opana**	**56.80**	**59**	*e*P		**P**	**00 13 21.4**	**+1.4**		
OPA				pmax		pmax				
	comp=Z,840nm,0.9s									
OPA	**Opana**	**56.80**	**59**	*e*P		**P**	**00 13 21.4**	**+1.4**		
	comp=Z,845nm,0.9s									
OPA				LR		LR				
	comp=Z,29μm,21.0s									
CM01	**Chiang Mai Arr**	**56.88**	**296**	*e*P		**P**	**00 13 22.1**	**+1.5**		
CM31	**Chiang Mai Arr**	**56.91**	**296**	*e*P		**P**	**00 13 19.6**	**-1.2**		
CM31				*e*ScP		**ScP**	**00 18 14.6**	**+0.4**		
CM31				*e*S		**S**	**00 21 11.8**	**-1.6**		
CM31				⇑*e*			00 43 26.9			
CM31				*e*P'P'ab		**P'P'ab**	**00 43 41.9**	**-1.2**		
CMAR	**Chiang Mai Arr**	**56.91**	**296**	P		**P**	**00 13 19.6**	**-1.2**		
	comp=Z,11nm,0.8s,baz=112,slow=5.4,SNR=21									
CMAR				ScP		**ScP**	**00 18 14.6**	**+0.4**		
	comp=Z,11nm,1.2s,baz=146,slow=2.8,SNR=5.4									
CMAR				S		**S**	**00 21 11.8**	**-1.6**		
	comp=Z,0.6nm,0.3s,baz=40,slow=31,SNR=2.7									
CMAR				LR		LR	00 38 16.3			
	comp=Z,9μm,18.5s,baz=122,slow=37									
CMAR				PKP2bc			00 43 26.9			
	comp=Z,4.4nm,0.9s,baz=298,slow=3.9,SNR=9.3									
CMAR				PKP2ab			00 43 41.9			
	comp=Z,9.3nm,1.1s,baz=284,slow=3.9,SNR=7.4									
CMAR	**Chiang Mai Arr**	**56.91**	**296**	*i* P		**P**	**00 13 22.3**	**+1.5**		
CMAR				pmax		pmax				
	comp=Z,11nm,0.8s									
TYV	**Tymovskoe**	**57.00**	**354**	*e*P		**P**	**00 13 21.5**	**+0.7**		
TYV				pmax		pmax				
	comp=E,24nm,0.8s									
TYV				pmax		pmax				
	comp=Z,55nm,0.8s									
TYV				pmax		pmax				
	comp=N,4μm,14.0s									
TYV				pmax		pmax				
	comp=Z,4μm,14.0s									
TYV				MLR		MLR				
	comp=E,11μm,16.0s									
TYV				MLR		MLR				
	comp=Z,22μm,20.0s									
CMMT	**Chiang Mai**	**57.03**	**297**	P		P	00 13 31.5	+10		
CHTO	**Chiang Mai**	**57.03**	**297**	P		**P**	**00 13 24.9**	**+3.2**		
	comp=Z,178nm,1.3s,comp=Z,8μm									
CHTO	**Chiang Mai**	**57.03**	**297**	*e*P		**P**	**00 13 23.3**	**+1.6**		
CHTO				pmax		pmax				
	comp=Z,82nm,1.3s									
CHTO	**Chiang Mai**	**57.03**	**297**	P		**P**	**00 13 23.7**	**+2.0**		
	SNR=8.3									
CHTO				P		**P**	**00 13 23.7**	**+2.0**		
	SNR=8.3									
CHTO	**Chiang Mai**	**57.03**	**297**	P		**P**	**00 13 23.7**	**+2.0**		
	SNR=8.3									
CHTO	**Chiang Mai**	**57.03**	**297**	*e*P		**P**	**00 13 23.3**	**+1.6**		
	comp=Z,82nm,1.4s									
CHTO				LR		LR				
	comp=Z,14μm,20.0s									
KLR	**Kul'dur**	**57.45**	**345**	P		P	**00 13 23.0**	**-1.0**		
	comp=Z,11nm,0.8s,baz=153,slow=3.6,SNR=28									
KLR				S		**S**	**00 21 16.4**	**-3.0**		
	comp=Z,0.5nm,0.5s,baz=284,slow=19,SNR=1.6									
KLR				LR		LR	00 35 07.1			
	comp=Z,17μm,20.7s,baz=164,slow=33									
KKH	**Kailua Kona**	**57.79**	**62**	*e*P		**P**	**00 13 30.7**	**+3.7**		
KKH	**Kailua Kona**	**57.79**	**62**	*e*P		**P**	**00 13 30.7**	**+3.7**		
HLK	**Haleakala**	**57.98**	**61**	*e*P		**P**	**00 13 30.5**	**+1.9**		
	comp=Z,458nm,0.9s									
HLK				LR		LR				
	comp=Z,31μm,20.0s									
MLOA	**Mauna Loa Obse**	**58.14**	**63**	*e*P		**P**	**00 13 32.1**	**+2.2**		
HPAH	**Hawaii Prepara**	**58.20**	**62**	*e*P		**P**	**00 13 31.3**	**+1.4**		
	comp=Z,1μm,1.8s									
HPAH				LR		LR				
	comp=Z,32μm,20.0s									
CD2	**Chengdu**	**58.25**	**312**	⇓*i*P		**P**	**00 13 29.5**	**-0.6**		
CD2				pP		pP	00 13 36.3	-2.2		
CD2				sP		sP	00 13 39.1	-2.6		
CD2				PcS		**PcS**	**00 18 21.8**	**-1.1**		
CD2				S		**S**	**00 21 30.6**	**-0.1**		
CD2				sS		sS	00 21 43.3	-1.2		
CD2				SS		**SS**	**00 25 25.3**	**+2.2**		
CD2				PMZ						
	comp=Z,190nm,0.7s									
CD2				PMZ						
	comp=Z,3μm,6.6s									
CD2				LN						
	comp=Z,23μm,19.3s									
CD2				LE						
	comp=Z,27μm,22.3s									
CD2				LZ						
	comp=Z,34μm,21.6s									
POHA	**Pohakuloa**	**58.25**	**63**	*e*P		**P**	**00 13 32.7**	**+2.2**		
	comp=Z,634nm,1.3s									
POHA				LR		LR				
	comp=Z,31μm,18.0s									
UWE	**Uwekahuna**	**58.35**	**63**	PFAKE			00 13 40.0	+8.9		
UWE				LR		LR				
	comp=Z,22μm,18.0s									
PPT	**Papeete**	**58.93**	**107**	P		**P**	**00 13 34.6**	**-0.4**		
	comp=Z,33nm,0.7s,baz=256,slow=8.2,SNR=6.2									
PPT				S		S	00 21 49.9	+10		
	comp=Z,7.3nm,0.3s,baz=75,slow=20,SNR=2.5									
PPT				PKP2bc			00 43 24.3			
	comp=Z,29nm,1.0s,baz=170,slow=6.3,SNR=5.4									
PPT2	**Papeete2**	**58.93**	**107**	*e*P		**P**	**00 13 35.7**	**+0.6**		
	comp=Z,79nm,1.4s									
PPT2				*e*S		**S**	**00 21 36.2**	**-3.8**		
	comp=Z,14μm,25.2s									
PPT2				*e*LQ		LQ	00 28 19.7			
	comp=Z,37μm,28.5s									
PPT2				*e*LR		LR	00 30 56.1			
	comp=Z,10μm,24.8s									
PPT2	**Papeete2**	**58.93**	**107**	*e*P'P'bc		P'P'bc	00 43 25.5	+2.6		
	comp=Z,99nm,1.5s									
PAE	**Paea**	**58.93**	**107**	*e*P		**P**	**00 13 35.3**	**+0.3**		
	comp=Z,20nm,1.2s									
PAE	**Paea**	**58.93**	**107**	*e*P'P'bc		P'P'bc	00 43 25.3	+2.5		
	comp=Z,21nm,1.4s									
HHC	**Hu-ho-hao-te**	**59.02**	**326**	*e*P		**P**	**00 13 36.3**	**+1.0**		
HHC				S		**S**	**00 21 44.3**	**+3.8**		
HHC				sS		sS	00 21 55.5	+1.2		
HHC				PMZ						
	comp=Z,73nm,1.0s									
HHC				PMZ						
	comp=Z,3μm,8.8s									
HHC				LN						
	comp=Z,18μm,18.5s									
HHC				LE						
	comp=Z,16μm,20.0s									
HHC				LZ						
	comp=Z,25μm,19.1s									
PET	**Petropavlovsk**	**59.02**	**5***c*	*i*P		**P**	**00 13 34.0**	**-0.9**		
PET				*e*S		**S**	**00 21 34.8**	**-5.0**		
PET				*e*SS		**SS**	**00 25 40.6**	**+6.4**		
PET				pmax		pmax				
	comp=Z,57nm,0.7s									
PET				pmax		pmax				
	comp=Z,4μm,17.0s									
PET				pmax		pmax				
	comp=Z,3μm,16.0s									
PET	**Petropavlovsk**	**59.02**	**5**	PFAKE			00 13 50.0	+15		
PET				LR		LR				
	comp=Z,18μm,21.0s									
PEA0	**Petropavlovsk-**	**59.03**	**5**	*e*P		**P**	**00 13 32.8**	**-2.2**		
PEA0B	**Petropavlovsk-**	**59.03**	**5**	*e*P		**P**	**00 13 36.0**	**+1.0**		
	comp=Z,210nm,1.4s									
PEA0B				LR		LR				
	comp=Z,25μm,21.0s									
PETK	**Petropavlovsk-**	**59.03**	**5**	P		**P**	**00 13 33.4**	**-1.6**		
	comp=Z,18nm,0.5s,baz=161,slow=6.3,SNR=28									
PETK				S		**S**	**00 21 41.3**	**+1.4**		
	comp=Z,1.7nm,0.3s,baz=43,slow=53,SNR=1.8									
PETK				LR		LR	00 35 28.3			
	comp=Z,22μm,21.4s,baz=189,slow=32									
PEA1	**Petropavlovsk-**	**59.03**	**5**	*e*P		**P**	**00 13 33.4**	**-1.6**		
PEA1				*e*S		**S**	**00 21 41.3**	**+1.3**		
TIAR	**Tiarei**	**59.14**	**107**	*e*P		**P**	**00 13 37.1**	**+0.6**		
	comp=Z,38nm,0.9s									
TIAR	**Tiarei**	**59.14**	**107**	*e*P'P'bc		P'P'bc	00 43 24.6	+2.2		
	comp=Z,15nm,1.0s									
TVO	**Taravao**	**59.25**	**107**	*e*P		**P**	**00 13 38.0**	**+0.7**		
	comp=Z,30nm,1.1s									
TVO	**Taravao**	**59.25**	**107**	*e*P'P'bc		P'P'bc	00 43 24.6	+2.4		
	comp=Z,25nm,1.0s									
NKL	**Nikolayevsk**	**59.48**	**353**	*e*P		**P**	**00 13 38.0**	**-0.1**		
NKL				*e*			00 21 55.0			
NKL				pmax		pmax				
	comp=Z,140nm,1.2s									
NKL				pmax		pmax				
	comp=N,1μm,15.0s									
NKL				pmax		pmax				
	comp=E,500nm,15.0s									
NKL				pmax		pmax				
	comp=Z,4μm,15.0s									
NKL				MLR		MLR				
	comp=N,8μm,18.0s									
NKL				MLR		MLR				
	comp=Z,15μm,18.0s									
TBI	**Tubuai**	**59.58**	**114**	*e*P		**P**	**00 13 39.4**	**0.0**		
	comp=Z,356nm,1.2s									
TBI				*e*S		**S**	**00 21 42.3**	**-5.8**		
	comp=Z,13μm,27.5s									
TBI				*e*LQ		LQ	00 28 33.9			
	comp=Z,53μm,33.0s									
TBI				*e*LR		LR	00 31 09.1			
	comp=Z,20μm,31.0s									
BTO	**Baotou**	**59.73**	**325**	*e*P		**P**	**00 13 40.1**	**-0.2**		
MEH	**Mehetia**	**60.38**	**107**	*e*P		**P**	**00 13 45.3**	**+0.3**		
	comp=Z,30nm,0.9s									
VAH	**Vaihoa**	**60.68**	**104**	*e*P		**P**	**00 13 47.5**	**+0.4**		
	comp=Z,125nm,1.0s									
PBA	**Port Blair**	**60.70**	**287**	*e*P		P	00 13 46.3	-0.9		
LZH	**Lanzhou**	**60.91**	**317**	⇓P		**P**	**00 13 48.3**	**-0.2**		
LZH				pP		pP	00 13 54.8	-2.1		
LZH				sP		sP	00 13 57.5	-2.6		
LZH				PP		**PP**	**00 16 04.0**	**+1.0**		
LZH				sS		sS	00 22 22.6	+3.6		
LZH				SS		**SS**	**00 26 05.3**	**+0.4**		
LZH				PMZ						
	comp=Z,160nm,1.0s									
LZH				PMZ						
	comp=Z,1μm,8.3s									
LZH				LN						
	comp=Z,10μm,16.3s									
LZH				LE						
	comp=Z,13μm,16.0s									
LZH				LZ						
	comp=Z,22μm,19.0s									
HIA	**Hailar**	**61.39**	**337**	*ce*P		**P**	**00 13 50.9**	**-0.3**		
HIA				pmax		pmax				
	comp=Z,84nm,0.9s									
HIA				MLR		MLR				
	comp=Z,13μm,18.0s									
HIA	**Hailar**	**61.39**	**337**	*e*P		**P**	**00 13 51.0**	**-0.3**		
	comp=Z,112nm,0.9s									
HIA				LR		LR				
	comp=Z,15μm,19.0s									
SMY	**Shemya**	**61.55**	**16**	PFAKE			00 14 00.0	+7.8		
SMY				LR		LR				
	comp=Z,39μm,20.0s									
MA2	**Magadan**	**65.25**	**360**	P		**P**	**00 14 15.7**	**-0.9**		
	comp=Z,60nm,1.0s,baz=180,slow=4.9,SNR=14									
MA2				LR		LR	00 39 02.5			
	comp=Z,24μm,21.9s,baz=207,slow=33									
GTA	**Gaotai**	**65.38**	**318**	*e*P		**P**	**00 14 18.0**	**-0.1**		
GTA				pP		pP	00 14 25.5	-1.1		
GTA				sP		sP	00 14 28.8	-0.9		
GTA				PP		**PP**	**00 16 44.5**	**+2.3**		
GTA				S		**S**	**00 23 00.5**	**-0.4**		
GTA				sS		sS	00 23 14.8	-0.1		
GTA				SS		**SS**	**00 27 17.5**	**+2.9**		
GTA				PMZ						
	comp=Z,960nm,7.6s									
GTA				LN						
	comp=Z,7μm,19.5s									
GTA				LE						
	comp=Z,10μm,19.7s									
GTA				LZ						
	comp=Z,12μm,19.7s									
SHL	**Shillong**	**65.50**	**301**	*e*P		**P**	**00 14 19.0**	**-0.1**		
SHL				IAmb		IAmb	00 14 22.5			
	comp=Z,583nm,2.1s									
SHL				*ex*		x	00 22 38.0			
CIT	**Chita**	**66.01**	**336**	*e*P		**P**	**00 14 21.6**	**-0.1**		
CIT				*e*			00 14 31.4			
CIT				*e*			00 14 37.3			
CIT				*e*			00 14 46.9			
CIT				*e*			00 23 11.1			
CIT				pmax		pmax				
	comp=Z,292nm,1.5s									
ULN	**Ulaanbaatar**	**66.09**	**329**	*ce*P		**P**	**00 14 22.6**	**+0.1**		
ULN				pmax		pmax				
	comp=Z,86nm,1.7s									
ULN				MLR		MLR				
	comp=Z,18μm,20.0s									
ULN	**Ulaanbaatar**	**66.09**	**329**	P		**P**	**00 14 25.4**	**+3.0**		
	SNR=30									
ULN				P		**P**	**00 14 25.4**	**+3.0**		
	SNR=30									
ULN	**Ulaanbaatar**	**66.09**	**329**	P		**P**	**00 14 25.4**	**+3.0**		
	SNR=30									
ULN	**Ulaanbaatar**	**66.09**	**329**	*e*P		**P**	**00 14 22.8**	**+0.3**		
	comp=Z,70nm,1.1s									
ULN				LR		LR				
	comp=Z,18μm,20.0s									
CLNS	**Chul'man**	**66.11**	**345**	*e*P		**P**	**00 14 21.9**	**-0.3**		
CLNS				*e*PP		**sP**	**00 14 33.5**	**-0.4**		
CLNS				*e*			00 16 48.2			
CLNS				*e*PPP		PPP	00 18 27.7			
CLNS				*e*S		**S**	**00 23 07.5**	**-1.4**		
CLNS				*e*			00 24 16.3			
CLNS				pmax		pmax				
	comp=N,42nm,1.5s									
CLNS				pmax		pmax				
	comp=E,15nm,0.7s									
CLNS				pmax		pmax				
	comp=Z,42nm,0.7s									
CLNS				pmax		pmax				
	comp=Z,20nm,1.3s									
CLNS				pmax		pmax				
	comp=E,11nm,1.0s									
CLNS				pmax		pmax				
	comp=N,21nm,1.1s									
CLNS				smax		smax				
	comp=E,2μm,14.5s									
CLNS				smax		smax				
	comp=N,2μm,12.9s									
SONA0	**Songino Array**	**66.41**	**329**	*e*P		**P**	**00 14 23.6**	**-0.9**		
	comp=N,72nm,1.0s									
SONA0				*e*S		**S**	**00 23 15.8**	**+2.7**		
SONM	**Songino Array**	**66.41**	**329**	P		**P**	**00 14 23.6**	**-0.9**		
	comp=N,37nm,1.0s,baz=144,slow=6.3,SNR=25									
SONM				S		**S**	**00 23 15.8**	**+2.7**		
	comp=N,0.3nm,0.4s,baz=352,slow=33,SNR=2.4									
SONM				PKP2bc			00 43 01.7			
	comp=N,4.9nm,0.9s,baz=314,slow=2.2,SNR=14									
SONM				LR		LR	00 43 02.1			
	comp=N,28μm,21.1s,baz=132,slow=36									
SONA1	**Songino Array**	**66.41**	**329**	*e*P		**P**	**00 14 23.3**	**-1.2**		
CASY	**Casey**	**66.52**	**197**	*e*P		**P**	**00 14 23.4**	**-1.4**		
	comp=N,187nm,1.1s									
CASY				LR		LR				
	comp=Z,34μm,21.0s									
LSA	**Lhasa**	**67.55**	**305**	P		**P**	**00 14 32.3**	**-0.2**		
LSA				pP		**pP**	**00 14 40.3**	**-0.7**		
LSA				PP		**PP**	**00 16 57.8**	**-3.9**		
LSA				S		**S**	**00 23 24.3**	**-3.9**		
LSA				PMZ						
	comp=Z,630nm,4.9s									
LSA				LN						
	comp=Z,4μm,20.9s									
LSA				LE						
	comp=Z,5μm,25.5s									
LSA				LZ						
	comp=Z,10μm,20.9s									
LSA	**Lhasa**	**67.55**	**305**	*e*P		**P**	**00 14 33.2**	**+0.6**		
LSA				pmax		pmax				
	comp=Z,88nm,1.3s									
LSA				MLR		MLR				
	comp=Z,11μm,20.0s									
LSA	**Lhasa**	**67.55**	**305**	*e*P		**P**	**00 14 33.1**	**+0.6**		
	comp=Z,88nm,1.3s									
LSA				LR		LR				
	comp=Z,11μm,20.0s									
NIKH	**Nikolski High**	**67.66**	**25**	PFAKE			00 14 40.0	+7.9		
NIKH				LR		LR				
	comp=Z,22μm,20.0s									
TAOE	**Nuku Hiva Isla**	**68.07**	**97**	*e*P		**P**	**00 14 35.7**	**0.0**		
	comp=Z,274nm,1.1s									
TAOE				*e*S		**S**	**00 23 31.1**	**-3.1**		
	comp=Z,9μm,27.5s									
TAOE				*e*SS		**SS**	**00 27 57.2**	**+0.1**		
	comp=Z,5μm,29.2s									
TAOE				*e*LR		LR	00 35 10.0			
	comp=Z,4μm,21.3s									
SEY	**Seymchan**	**68.63**	**1**	P		**P**	**00 14 35.9**	**-2.1**		
	comp=Z,27nm,0.9s,baz=188,slow=6.6,SNR=14									
SEY				S		**S**	**00 23 35.6**	**-3.3**		
	comp=Z,0.6nm,0.3s,baz=53,slow=20,SNR=1.9									
SEY				LR		LR	00 41 34.2			
	comp=Z,11μm,22.0s,baz=168,slow=33									
SEY	**Seymchan**	**68.63**	**1**‖	*e*P		**P**	**00 14 38.4**	**+0.4**		
UNV	**Unalaska Valle**	**69.27**	**25**	*e*P		**P**	**00 14 46.7**	**+4.6**		
UNV				LR		LR				
	comp=Z,28μm,21.0s									
BWNR	**Bhubaneshwar**	**69.29**	**294**	*e*P		**P**	**00 14 41.8**	**-1.1**		
BWNR				IAmb		IAmb	00 14 45.4			
	comp=Z,143nm,1.6s									
ZAK	**Zakamensk**	**69.60**	**330**	*e*P		**P**	**00 14 42.5**	**-2.0**		
ZAK				pmax		pmax				
	comp=Z,71nm,1.5s									
YAK	**Yakutsk**	**69.73**	**349**	P		**P**	**00 14 43.1**	**-1.7**		
	comp=Z,2.0nm,0.3s,baz=198,slow=20,SNR=3.3									
YAK				S		**S**	**00 23 51.0**	**-0.8**		
	comp=Z,2.4nm,0.4s,baz=246,slow=20,SNR=2.2									
YAK				LR		LR	00 43 17.9			
	comp=Z,15μm,21.9s,baz=161,slow=34									
YAK	**Yakutsk**	**69.73**	**349**	*e*P		**P**	**00 14 44.6**	**-0.2**		
YAK				*e**PP		**pP**	**00 14 53.9**	**+0.5**		
YAK				*e*			00 15 07.5			
YAK				*e*			00 17 21.4			
YAK				*e*PPP		PPP	00 19 01.3			
YAK				*e*S		**S**	**00 23 50.4**	**-1.4**		
YAK				*e*			00 24 44.8			
YAK				*e*SS		**SS**	**00 28 15.0**	**-5.7**		
YAK				*e*SSS		SSS	00 31 28.8			
YAK				pmax		pmax				
	comp=Z,82nm,1.3s									
YAK				pmax		pmax				
	comp=N,48nm,1.4s									
YAK				pmax		pmax				
	comp=E,20nm,1.6s									
YAK				pmax		pmax				
	comp=Z,258nm,2.4s									
YAK				pmax		pmax				
	comp=N,115nm,1.8s									
YAK				pmax		pmax				
	comp=E,57nm,2.0s									
YAK				smax		smax				
	comp=N,3μm,13.1s									
YAK				smax		smax				
	comp=E,2μm,9.8s									
YAK	**Yakutsk**	**69.73**	**349**	*e*P		**P**	**00 14 43.1**	**-1.7**		
	comp=E,101nm,0.9s									
YAK				*e*S		**S**	**00 23 51.0**	**-0.8**		
YAK				LR		LR				
	comp=Z,19μm,22.0s									
AKUT	**Akutan**	**69.78**	**25**	PFAKE			00 15 00.0	+15		
AKUT				LR		LR				
	comp=Z,21μm,21.0s									
BOK	**Bokaro**	**70.14**	**298**	*e*P		**P**	**00 14 47.5**	**-0.7**		
BOK				IAmb		IAmb	00 14 52.1			
	comp=Z,106nm,1.6s									
TLY	**Talaya**	**70.23**	**331**	P		**P**	**00 14 47.1**	**-1.1**		
	comp=Z,14nm,1.0s,baz=151,slow=4.1,SNR=10									
TLY	**Talaya**	**70.23**	**331***c*	*i*P		**P**	**00 14 49.3**	**+1.1**		
TLY				*e*			00 17 18.7			
TLY				*e*S		**S**	**00 23 59.1**	**+0.9**		
TLY				*e*			00 24 43.5			
TLY				pmax		pmax				
	comp=Z,75nm,2.0s									
TLY				MLR		MLR				
	comp=Z,5μm,16.0s									
TLY	**Talaya**	**70.23**	**331**	*e*P		**P**	**00 14 51.1**	**+2.9**		
TLY				LR		LR				
	comp=Z,18μm,22.0s									
SPIA	**Saint Paul Isl**	**70.23**	**21**	*e*P		**P**	**00 14 49.7**	**+1.7**		
	comp=Z,128nm,0.8s									
SPIA				LR		LR				
	comp=Z,24μm,20.0s									
BOD	**Bodaibo**	**70.24**	**340**	*e*P		**P**	**00 14 43.4**	**-4.7**		
BOD				*e*			00 14 49.4			
BOD				pmax		pmax				
	comp=Z,68nm,1.6s									
IRK	**Irkutsk**	**70.28**	**332**	*e*P		**P**	**00 14 49.6**	**+1.1**		
IRK				pmax		pmax				
	comp=Z,133nm,1.0s									
RAMN	**Ramite**	**70.43**	**301**	*e*P		**P**	**00 14 51.7**	**+1.5**		
	comp=Z,87nm,1.1s									
CHLP	**Challavanipeta**	**70.46**	**292**	*e*P		**P**	**00 14 50.9**	**+0.7**		
CHLP				IAmb		IAmb	00 14 54.8			
	comp=Z,50nm,1.0s									
CHLP				*e*S		**S**	**00 24 00.4**	**-1.6**		
CHLP				IVMs_BB		IVMs_BB	00 50 16.5			
	comp=Z,2μm,19.1s									
VIS	**Vishakhapatnam**	**70.95**	**291**	*e*P		**P**	**00 14 52.0**	**-1.2**		
GUN	**Gumba**	**71.33**	**302**	*e*P		**P**	**00 14 55.6**	**-0.2**		
	comp=Z,133nm,0.7s									
MOY	**Mondy**	**71.53**	**330**	*e*P		**P**	**00 14 56.0**	**-0.2**		
MOY				pmax		pmax				
	comp=Z,137nm,1.8s									
PKIN	**Phulchoki**	**71.64**	**301**	*e*P		**P**	**00 14 57.7**	**+0.1**		
	comp=Z,45nm,1.0s									
KKN	**Kakani**	**71.80**	**302**	*e*P		**P**	**00 14 58.0**	**-0.5**		
	comp=Z,39nm,0.6s									
VNDA	**Vanda**	**71.81**	**178**	P		**P**	**00 14 56.9**	**-0.5**		
	comp=Z,50nm,0.9s,baz=319,slow=6.2,SNR=34									
VNDA				S		**S**	**00 24 19.5**	**+3.7**		
	comp=Z,0.8nm,0.8s,baz=285,slow=5.6,SNR=2.1									
VNDA				PKPPKP		P'P'df	00 42 56.5	+8.3		
	comp=Z,2.0nm,1.1s,baz=94,slow=1.5,SNR=3.6									
VNDA				LR		LR	00 45 33.2			
	comp=Z,17μm,18.4s,baz=356,slow=35									
DMN	**Daman**	**71.89**	**301**	*e*P		**P**	**00 14 58.8**	**-0.3**		
	comp=Z,144nm,0.8s									
MIR	**Mirnyy**	**72.35**	**201**	*e*P		**P**	**00 15 02.0**	**+1.3**		
MIR				*i* S		**S**	**00 24 26.0**	**+3.8**		
MIR				pmax		pmax				
	comp=Z,2μm,12.0s									
MIR				smax		smax				
	comp=N,6μm,7.0s									
SBA	**Scott Base**	**72.39**	**177**	*e*P		**P**	**00 15 01.9**	**+1.1**		
SBA	**Scott Base**	**72.39**	**177**	*e*P		**P**	**00 15 01.9**	**+1.1**		
	comp=N,465nm,1.8s									
SBA				LR		LR				
	comp=Z,10μm,19.0s									
GKN	**Gorkha**	**72.41**	**302**	*e*P		**P**	**00 15 01.5**	**-0.6**		
	comp=Z,196nm,1.1s									
PVM	**Polavaram**	**72.44**	**290**	*e*P		**P**	**00 15 02.0**	**-0.2**		
PVM				IAmb		IAmb	00 15 05.4			
	comp=Z,48nm

BILL e 00 18 01.9
BILL i S **S** **00 24 44.2 -2.4**
BILL pmax pmax
comp=Z,84nm,1.2s
BILL Bilibino 74.52 6 eP **P** **00 15 13.5 +0.1**
comp=Z,59nm,1.0s
BILL LR LR
comp=Z,12µm,21.0s
RCLA Racherla 74.60 288 eP **P** **00 15 16.4 +1.4**
RCLA IAmb IAmb 00 15 17.5
comp=Z,72nm,1.6s
RCLA eS **SKiKP** **00 24 41.2 +1.7**
RCLA IVMs_BB IVMs_BB 00 47 54.2
comp=Z,2µm,18.5s
SRLM Srisailam 74.78 288 eP **P** **00 15 15.7 -0.3**
SRLM IAmb IAmb 00 15 19.2
comp=Z,240nm,1.6s
SRLM eS **SKiKP** **00 24 43.4 +3.5**
SRLM IVMs_BB IVMs_BB 00 48 04.7
comp=Z,3µm,26.3s
GAMB Gambell 74.86 16 PFAKE 00 15 30.0 +15
GAMB LR LR
comp=Z,48µm,20.0s
RPR Rampur 74.94 291 eP **P** **00 15 17.8 +0.9**
RPR IAmb IAmb 00 15 19.2
comp=Z,78nm,1.2s
RPR eS **SKiKP** **00 24 45.6 +5.6**
RPR IVMs_BB IVMs_BB 00 49 46.6
comp=Z,2µm,21.2s
HYB Hyderabad 75.35 290 i P **P** **00 15 20.5 +1.2**
HYB ePcP **PcP** **00 15 33.5 +1.0**
HYB eS **S** **00 24 54.0 -3.9**
HYBB Hyderabad (bro 75.35 290 eP **P** **00 15 17.3 -2.0**
HYBB IAmb IAmb 00 15 21.8
comp=Z,205nm,1.7s
HYBB eS **S** **00 24 52.1 -5.8**
HYBB IVMs_BB IVMs_BB 00 49 47.0
comp=Z,2µm,19.3s
TRD Trivandrum 75.39 280 eP **P** **00 15 18.3 -1.3**
WMQ Urumqi 75.47 318 P **P** **00 15 20.6 +1.1**
WMQ pP pP 00 15 26.8 -1.3
WMQ sP sP 00 15 30.1 -1.2
WMQ PcP **PcP** **00 15 35.0 +2.5**
WMQ S **S** **00 24 58.8 +0.5**
WMQ SS **SS** **00 29 52.0 +2.6**
WMQ PMZ
comp=Z,49nm,1.2s
WMQ PMZ
comp=Z,710nm,6.2s
WMQ LN
comp=Z,5µm,19.4s
WMQ LE
comp=Z,3µm,17.6s
WMQ LZ
comp=Z,4µm,23.4s
SRSP Sriramsagar 75.83 291 eP **P** **00 15 21.2 -0.9**
SRSP IAmb IAmb 00 15 23.8
comp=Z,188nm,1.6s
SRSP eS **S** **00 24 54.7 -8.4**
SRSP IVMs_BB IVMs_BB 00 49 38.9
comp=Z,2µm,24.4s
LGTI Lohaghat 76.51 302 ex **P** **00 15 21.2 -4.4**
OHAK Old Harbor 77.23 27 eP **P** **00 15 28.6 -0.5**
comp=Z,158nm,1.1s
OHAK LR LR
comp=Z,21µm,19.0s
KLRI Killari 77.30 290 eP **P** **00 15 25.9 -4.5**
KLRI IAmb IAmb 00 15 32.3
comp=Z,35nm,1.0s
KLRI eS S 00 25 10.1 -9.2
KLRI IVMs_BB IVMs_BB 00 49 39.7
comp=Z,3µm,27.2s
BHPL Bhopal 77.55 295 eP **P** **00 15 30.4 -1.3**
BHPL IAmb IAmb 00 15 32.9
comp=Z,49nm,0.4s
KDAK Kodiak Island 77.86 27 i P **P** **00 15 33.7 +1.1**
KDAK Kodiak Island 77.86 27 eP **P** **00 15 34.0 +1.4**
comp=Z,143nm,1.2s
KDAK LR LR
comp=Z,17µm,21.0s
H08S2 Diego Garcia H 78.08 263 P **P** **00 15 34.0 -0.5**
baz=41,slow=7.6,SNR=15
H08S3 Diego Garcia H 78.09 263 P **P** **00 15 34.6 0.0**
baz=41,slow=7.6,SNR=16
H08S1 Diego Carcia H 78.10 263 P **P** **00 15 34.3 -0.2**
baz=41,slow=7.6,SNR=16
DGAR Diego Garcia 78.14 264 ceP **P** **00 15 35.5 +0.4**
DGAR Diego Garcia 78.14 264 eP **P** **00 15 37.0 +1.9**
DGAR LR LR
comp=Z,8µm,20.0s
SVW2 Sparrevohn 78.44 23 eP **P** **00 15 34.9 -0.9**
comp=Z,112nm,1.4s
SVW2 LR LR
comp=Z,24µm,19.0s
DDI Dehra Dun 78.57 302 eP **P** **00 15 36.5 -0.8**
TIXI Tiksi 78.76 353 P **P** **00 15 36.5 -0.9**
comp=Z,15nm,0.9s,baz=132,slow=6.2,SNR=17
TIXI S **S** **00 25 33.6 +0.6**
comp=Z,0.7nm,0.2s,baz=321,slow=13,SNR=2.3
TIXI Tiksi 78.76 353 ceP **P** **00 15 36.9 -0.4**
TIXI pmax pmax
comp=Z,31nm,1.2s
TIXI MLR MLR
comp=Z,12µm,18.0s
TIXI Tiksi 78.76 353 eP **P** **00 15 37.0 -0.3**
TIXI eS **S** **00 25 33.6 +0.6**
TIXI LR LR
comp=Z,12µm,19.0s
ZSN Zaisan 78.98 321 i P **P** **00 15 38.1 -1.0**
comp=Z,289nm,1.5s
ZSN i S **S** **00 25 34.3 -1.9**
ZSN LR LR 00 47 08.5
comp=Z,3µm,15.6s
RSO Redoubt South 79.23 25 eP **P** **00 15 40.6 +0.2**
HOM Homer 79.27 26 eP **P** **00 15 41.4 +1.0**
comp=Z,623nm,1.0s
HOM LR LR
comp=Z,19µm,18.0s
TT01 Tatalina 79.34 22 eP **P** **00 15 40.1 -0.6**
TTA Tatalina 79.36 22 eP **P** **00 15 40.2 -0.7**
TTA Tatalina 79.36 22 eP **P** **00 15 40.2 -0.7**
comp=Z,108nm,1.3s
CNPM China Poot 79.38 26 eP **P** **00 15 39.9 -1.1**
comp=Z,417nm,1.0s
CNPM LR LR
comp=Z,29µm,20.0s
GOA Goa 79.48 287 eP **P** **00 15 40.7 -1.7**
SMLA Simla 79.50 303 eP **P** **00 15 40.6 -1.6**
SMLA IAmb IAmb 00 15 44.7
comp=Z,286nm,1.7s
H08N1 Diego Garcia H 79.65 265 P **P** **00 15 45.3 +2.2**
baz=153,slow=3.3,SNR=8.9
BRLK Bradley Lake 79.65 26 eP **P** **00 15 43.0 +0.5**
comp=Z,109nm,1.0s
BRLK LR LR
comp=Z,24µm,20.0s
H08N2 Diego Garcia H 79.66 265 P **P** **00 15 44.8 +1.7**
baz=153,slow=3.3,SNR=6.3
H08N3 Diego Garcia H 79.67 265 P **P** **00 15 45.7 +2.5**
baz=153,slow=3.3,SNR=7.9
SDNR Sundarnagar 79.75 303 eP **P** **00 15 43.3 -0.4**
SPU Mount Spurr 79.91 24 eP P 00 15 48.8 +4.9
POO Poona 79.95 290 eP **P** **00 15 43.5 -1.5**
POO IAmb IAmb 00 15 47.1
comp=Z,156nm,0.9s
MK01 Makanchi Array 80.08 319 eP **P** **00 15 43.4 -1.8**
MK31 Makanchi Array 80.10 319 i P **P** **00 15 44.8 -0.4**
MK31 pmax pmax
comp=Z,84nm,1.3s
MK31 Makanchi Array 80.10 319 eP **P** **00 15 44.9 -0.3**
MK32 Makanchi Array 80.10 319 eP **P** **00 15 44.1 -1.1**
MK32 ePP **PP** **00 18 47.6 0.0**
MK32 ePKiKP **PKiKP** **00 21 15.2 +0.2**
MK32 eS **S** **00 25 47.9 -0.2**
MK32 ePKPdf **PKKPdf** **00 34 22.9 +2.2**
MK32 ePKPbc **PKKPbc** **00 34 33.5 +2.0**
MK32 eP'P'df **P'P'df** **00 42 34.8 +2.0**
MKAR Makanchi Array 80.10 319 P **P** **00 15 44.1 -1.1**
comp=Z,7.3nm,0.7s,baz=96,slow=6.9,SNR=38
MKAR PP **PP** **00 18 47.6 -0.1**
comp=Z,16nm,1.0s,baz=127,slow=9.2,SNR=2.9
MKAR PKiKP **PKiKP** **00 21 15.2 +0.2**
comp=Z,1.7nm,0.6s,baz=216,slow=3.2,SNR=5.8
MKAR S **S** **00 25 47.9 -0.2**
comp=Z,0.7nm,0.8s,baz=30,slow=3.8,SNR=2.7
MKAR PKKP **PKKPdf** **00 34 22.9 +2.2**
comp=Z,1.4nm,0.8s,baz=318,slow=1.6,SNR=3.7
MKAR PKKPbc **PKKPbc** **00 34 33.5 +2.0**
comp=Z,1.6nm,0.8s,baz=281,slow=2.5,SNR=5.5
MKAR PKPPKP **P'P'df** **00 42 34.8 +2.0**
comp=Z,0.9nm,0.9s,baz=304,slow=3.3,SNR=5.4
MKAR LR LR 00 52 00.3
comp=Z,10µm,18.8s,baz=96,slow=36
MKAR Makanchi Array 80.10 319 ceP **P** **00 15 44.4 -0.8**
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR Makanchi Array 80.10 319 eP **P** **00 15 44.9 -0.3**
MAKZ Makanchi 80.31 319 P **P** **00 15 44.9 -1.4**
MAKZ pmax pmax
comp=Z,146nm,1.4s
MAKZ Makanchi 80.31 319 eP **P** **00 15 45.0 -1.3**
comp=Z,180nm,1.4s
MAKZ LR LR
comp=Z,15µm,20.0s
SEW Seward 80.45 26 eP **P** **00 15 47.4 +0.7**
comp=Z,210nm,1.1s
SEW LR LR
comp=Z,24µm,19.0s
SHLS Shalkode 80.58 315 eP **P** **00 15 46.7 -1.4**
comp=Z,440nm,1.4s
SHLS eS **S** **00 25 51.8 -2.0**
SUA Susitna One 80.59 24 eP **P** **00 15 47.4 -0.3**
comp=Z,76nm,1.0s
SUA LR LR
comp=Z,14µm,20.0s
PPLA Purkeypile 80.78 23 eP **P** **00 15 50.0 +1.3**
comp=Z,236nm,1.6s
PPLA LR LR
comp=Z,31µm,21.0s
RC01 Rabbit Creek A 80.82 25 eP **P** **00 15 48.7 -0.1**
comp=Z,178nm,1.1s
RC01 LR LR
comp=Z,26µm,22.0s
PDGK Podgornoye 80.90 315 P **P** **00 15 47.4 -2.1**
PDGK pmax pmax
comp=Z,69nm,0.9s
THN Thein Dam 81.00 304 ex **P** **00 15 45.6 -4.7**
THN ex x 00 21 03.0
ZAA0 Zalesovo Array 81.17 327 eP **P** **00 15 48.5 -2.3**
ZALV Zalesovo Beam 81.17 327 P **P** **00 15 48.6 -2.1**
comp=Z,12nm,0.4s,baz=118,slow=5.6,SNR=26
ZALV PKiKP **PKiKP** **00 21 16.5 +0.1**
comp=Z,1.2nm,0.4s,baz=122,slow=2.6,SNR=3.3
ZALV S **S** **00 26 00.6 +1.6**
comp=Z,4.1nm,1.1s,baz=165,slow=6.2,SNR=4.8
ZALV PKKPbc **PKKPbc** **00 34 31.5 +2.2**
comp=Z,0.9nm,0.6s,baz=310,slow=5.6,SNR=3.5
ZALV PKPPKP **P'P'df** **00 42 32.8 +2.5**
comp=Z,1.0nm,0.6s,baz=298,slow=3.2,SNR=6.6
ZALV LR LR 00 51 22.4
comp=Z,9µm,19.8s,baz=122,slow=35
UZB Uzynbulak 81.17 315 i P **P** **00 15 49.6 -1.7**
comp=Z,512nm,1.3s
UZB eS **S** **00 25 57.4 -2.5**
UZB LR LR 00 48 45.8
comp=Z,3µm,18.7s
ZAA1 Zalesovo Array 81.18 327 eP **P** **00 15 48.6 -2.2**
ZAA1 ePKiKP **PKiKP** **00 21 16.5 +0.1**
ZAA1 eS **S** **00 26 00.6 +1.5**
ZAA1 ePKKPbc **PKKPbc** **00 34 31.5 +2.2**
ZAA1 eP'P'df **P'P'df** **00 42 32.8 +2.5**
PMR Palmer 81.33 25 eP **P** **00 15 51.0 -0.4**
PMR Palmer 81.33 25 eP **P** **00 15 51.0 -0.4**
comp=Z,276nm,1.7s
PMR LR LR
comp=Z,15µm,20.0s
KPKS Kokpek 81.50 315 i P **P** **00 15 50.9 -2.0**
comp=Z,110nm,1.3s
KPKS i S **S** **00 26 00.5 -2.6**
KPKS LR LR 00 50 37.2
comp=Z,3µm,17.1s
MID Middleton Isla 81.51 27 PFAKE 00 16 00.0 +7.6
MID LR LR
comp=Z,16µm,19.0s
SATY Saty 81.58 315 i P **P** **00 15 51.7 -1.7**
comp=Z,405nm,1.6s
SATY i S **S** **00 26 02.0 -2.0**
SATY LR LR 00 49 46.6
comp=Z,2µm,17.2s
ZHN Zhinishke 81.59 315 eP **P** **00 15 51.9 -1.6**
comp=Z,162nm,1.6s
ZHN i S **S** **00 26 01.6 -2.5**
KTH Kantishna Hill 81.62 23 eP **P** **00 15 51.1 -1.9**
comp=Z,171nm,1.4s
KTH LR LR
comp=Z,25µm,20.0s
SML Sawmill 81.76 25 PFAKE 00 16 10.0 +16
SML LR LR
comp=Z,14µm,20.0s
TRF Thorofare Moun 81.81 23 eP **P** **00 15 53.6 -0.5**
comp=Z,40nm,0.8s
TRF eS **S** **00 26 10.1 +4.5**
TRF LR LR
comp=Z,30µm,21.0s
BPAW Bear Paw Mtn. 81.88 22 eP **P** **00 15 52.7 -1.7**
comp=Z,138nm,1.6s
BPAW LR LR
comp=Z,21µm,20.0s
SCM Sheep Creek Mo 82.19 25 eP **P** **00 15 56.9 +0.8**
SCM Sheep Creek Mo 82.19 25 eP **P** **00 15 56.9 +0.8**
comp=Z,219nm,1.4s
SCM LR LR
comp=Z,17µm,20.0s
EYAK Cordova Ski Ar 82.28 26 eP **P** **00 15 59.0 +2.5**
comp=Z,102nm,1.2s
EYAK LR LR
comp=Z,25µm,20.0s
RND Reindeer 82.34 23 eP **P** **00 15 54.8 -2.0**
RND Reindeer 82.34 23 eP **P** **00 15 54.8 -2.0**
comp=Z,99nm,0.9s
RND LR LR
comp=Z,29µm,21.0s
NVS Novosibirsk 82.37 327 i P **P** **00 15 56.9 -0.1**
NVS i S **S** **00 26 10.0 -1.3**
NVS pmax pmax
comp=Z,75nm,1.0s
NVS pmax pmax
comp=N,3.0nm,0.3s
NVS pmax pmax
comp=E,26nm,0.7s
NVS smax smax
comp=N,45nm,3.0s
NVS smax smax
comp=E,199nm,2.6s
KSH Kashi 82.44 311 P **P** **00 15 58.3 +0.4**
KSH pP PcP 00 16 04.8 +1.8
KSH PP **PP** **00 19 10.0 +2.7**
KSH S **S** **00 26 13.8 +0.9**
KSH SS **SS** **00 31 39.9 +5.5**
KSH PMZ
comp=E,53nm,1.1s
KSH PMZ
comp=E,2µm,7.2s
KSH LN
comp=E,7µm,17.2s
KSH LE
comp=E,6µm,17.9s
KSH LZ
comp=E,11µm,20.1s
MLY Manley 82.46 21 eP **P** **00 15 56.0 -1.4**
comp=E,74nm,0.6s
MLY LR LR
comp=Z,20µm,21.0s
MCK McKinley 82.47 23 eP **P** **00 15 55.8 -1.6**
MCK McKinley 82.47 23 eP **P** **00 15 55.8 -1.6**
comp=Z,194nm,1.1s
MCK LR LR
comp=Z,35µm,19.0s
BWN Browne 82.49 22 eP **P** **00 15 57.9 +0.5**
comp=Z,190nm,1.0s
BWN LR LR
comp=Z,21µm,20.0s
DIV Divide 82.53 26 eP **P** **00 15 58.5 +0.7**
comp=Z,144nm,1.2s
DIV LR LR
comp=Z,21µm,19.0s
SEM Semipalatinsk 82.56 322 eP **P** **00 15 56.1 -2.0**
comp=Z,136nm,1.5s
SEM eS **S** **00 26 10.5 -3.0**
SEM LR LR 00 51 20.8
comp=Z,3µm,19.5s
MDOK Medeo 82.57 315 i P **P** **00 15 57.3 -1.2**
comp=Z,280nm,1.4s
MDOK i S **S** **00 26 12.5 -1.7**
MDOK LR LR 00 50 10.4
comp=Z,3µm,19.4s
KLU Klutina 82.63 26 eP **P** **00 15 58.5 +0.2**
comp=Z,175nm,1.0s
KLU LR LR
comp=Z,13µm,22.0s
AAA Alma-Ata 82.67 315 eP **P** **00 15 59.4 +0.4**
AAA i S **S** **00 26 17.7 +2.7**
AAA pmax pmax
comp=Z,3µm,8.3s
AAA smax smax
comp=N,5µm,14.5s
AAA MLR MLR
comp=Z,9µm,18.0s
AAA Alma-Ata 82.67 315 eP **P** **00 16 00.1 +1.2**
comp=Z,413nm,1.4s
AAA eS **S** **00 26 15.4 +0.3**
AAA LR LR 00 49 20.8
comp=Z,2µm,20.7s
RAGM Ragged Mountai 82.69 27 eP **P** **00 15 59.7 +1.1**
comp=Z,161nm,1.1s
RAGM LR LR
comp=Z,22µm,19.0s
DHY Denali Highway 82.77 24 eP **P** **00 16 02.4 +3.3**
comp=Z,33nm,0.8s
BMRM Bremner River 82.97 26 eP **P** **00 16 01.0 +0.9**
comp=Z,208nm,1.3s
BMRM LR LR
comp=Z,23µm,21.0s
WRH Wood River Hil 83.16 22 eP **P** **00 15 58.7 -2.3**
comp=Z,76nm,1.0s
WRH LR LR
comp=Z,24µm,20.0s
KUU Kurty 83.25 315 i P **P** **00 15 59.9 -2.1**
comp=Z,180nm,1.1s
KUU i S **S** **00 26 17.9 -3.0**
KUU LR LR 00 52 55.4
comp=Z,6µm,19.1s
MDM Murphy Dome 83.34 22 eP **P** **00 16 01.0 -0.9**
comp=Z,108nm,1.4s
MDM LR LR
comp=Z,23µm,20.0s
CCB Clear Creek Bu 83.35 22 eP **P** **00 15 59.8 -2.1**
comp=Z,64nm,0.9s
CCB LR LR
comp=Z,22µm,20.0s
COLA College 83.44 22 ceP **P** **00 16 00.9 -1.5**
COLA pmax pmax
comp=Z,59nm,0.7s
COLA MLR MLR
comp=Z,21µm,19.0s
COLA College 83.44 22 eP **P** **00 16 02.1 -0.3**
comp=Z,97nm,0.8s
COLA LR LR
comp=Z,22µm,20.0s
PAX Paxson 83.49 24 eP **P** **00 16 03.7 +0.9**
PAX pmax pmax
comp=Z,147nm,1.8s
PAX MLR MLR
comp=Z,14µm,20.0s
PAX Paxson 83.49 24 eP **P** **00 16 03.7 +0.9**
comp=Z,147nm,1.8s
PAX LR LR
comp=Z,14µm,20.0s
CRQM Cirque 83.53 27 eP **P** **00 16 04.2 +1.0**
comp=Z,143nm,1.0s
TKM2 Tokmak 2 83.54 314 P **P** **00 16 02.2 -1.5**
TKM2 pmax pmax
comp=Z,42nm,1.1s
TKM2 Tokmak 2 83.54 314 eP **P** **00 16 03.1 -0.6**
comp=Z,56nm,1.1s
TKM2 LR LR
comp=Z,13µm,21.0s
HDA Harding Lake 83.56 23 eP **P** **00 16 02.6 -0.5**
comp=Z,40nm,0.6s
HDA LR LR
comp=Z,32µm,20.0s
KURK Kurchatov 83.64 322 eP **P** **00 16 02.0 -1.7**
KURK Kurchatov 83.64 322 eP **P** **00 16 02.0 -1.7**
KURK ePP **PP** **00 19 14.6 -2.1**
KURK eS **S** **00 26 17.9 -6.5**
KURK LR LR
comp=Z,58µm,20.0s
KURBB Kurchatov Arra 83.67 322 P **P** **00 16 01.7 -2.2**
comp=Z,14nm,1.1s,baz=111,slow=4.0,SNR=40
KURBB PP **PP** **00 19 14.6 -2.3**
comp=Z,11nm,1.1s,baz=101,slow=6.2,SNR=3.2
KURBB PKiKP **PKiKP** **00 21 20.3 -0.2**
comp=Z,2.4nm,0.6s,baz=116,slow=1.5,SNR=11
KURBB S **S** **00 26 17.9 -6.8**
comp=Z,0.3nm,0.6s,baz=238,slow=42,SNR=2.9
ILAR Eielson Array 83.76 22 P **P** **00 16 01.0 -3.0**
comp=Z,46nm,0.6s,baz=248,slow=5.0,SNR=64
ILAR S **SKSac** **00 26 17.9 -6.9**
comp=Z,0.5nm,0.8s,baz=265,slow=4.3,SNR=3.0
ILAR PKKPbc **PKKPbc** **00 34 21.2 -2.5**
comp=Z,0.7nm,0.6s,baz=16,slow=1.5,SNR=7.3
ILAR PKPPKP **P'P'df** **00 42 26.9 +1.9**
comp=Z,1.1nm,1.0s,baz=328,slow=1.8,SNR=6.3
ILAR LR LR 00 51 22.1
comp=Z,26µm,19.8s,baz=260,slow=34
ILB Eielson Array 83.76 22 eSKSac **SKSac** **00 26 17.9 -6.9**
ILB ePKKPbc PKKPbc 00 34 21.2 -2.5
ILB eP'P'df **P'P'df** **00 42 26.9 +1.9**
COLD Coldfoot 83.80 20 eP **P** **00 16 04.2 0.0**
comp=Z,83nm,1.3s
COLD LR LR
comp=Z,30µm,21.0s
MAW Mawson 83.96 203 P **P** **00 16 04.1 -0.9**
comp=Z,38nm,0.6s,baz=109,slow=5.6,SNR=50
MAW S **S** **00 26 25.3 -1.8**
comp=Z,2.7nm,1.0s,baz=221,slow=19,SNR=1.4
MAW LR LR 00 51 11.5
comp=Z,31µm,20.7s,baz=92,slow=34
MAW Mawson 83.96 203 eP **P** **00 16 04.1 -0.9**
MAW eS **S** **00 26 25.3 -1.8**
MAW pmax pmax
comp=Z,76nm,1.5s
MAW MLR MLR
comp=Z,7µm,21.0s
MAW Mawson 83.96 203 eP **P** **00 16 04.1 -0.9**
comp=Z,76nm,1.5s
MAW eS **S** **00 26 25.3 -1.8**
MAW LR LR
comp=Z,7µm,21.0s
BALM Baldy 84.00 27 eP **P** **00 16 06.4 +0.9**
BALM pmax pmax
comp=Z,268nm,1.6s
BALM MLR MLR
comp=Z,15µm,20.0s
BALM Baldy 84.00 27 eP **P** **00 16 06.4 +0.9**
comp=Z,268nm,1.6s
BALM LR LR
comp=Z,15µm,20.0s
QSPA South Pole Qui 84.08 180 eP **P** **00 16 04.7 -1.2**
QSPA LR LR
comp=Z,14µm,20.0s
MENT Mentasta 84.19 25 eP **P** **00 16 06.8 +0.5**
comp=Z,65nm,0.7s
MENT LR LR
comp=Z,16µm,20.0s
FRU Bishkek 84.22 314 eP **P** **00 16 06.0 -0.9**
FRU eS **S** **00 26 25.0 -5.6**
FRU pmax pmax
comp=Z,190nm,1.8s
FRU smax smax
comp=E,10µm,19.0s
FRU MLR MLR
comp=E,11µm,19.5s
AAK Ala-Archa 84.26 314 P **P** **00 16 06.2 -1.1**
comp=E,42nm,1.2s,baz=99,slow=5.0,SNR=24
AAK Ala-Archa 84.26 314 ceP **P** **00 16 07.3 0.0**
AAK pmax pmax
comp=Z,125nm,1.4s
AAK MLR MLR
comp=Z,33µm,21.0s
AAK Ala-Archa 84.26 314 P **P** **00 16 07.4 +0.1**
SNR=56
AAK P **P** **00 16 07.4 +0.1**
SNR=56
AAK Ala-Archa 84.26 314 P **P** **00 16 07.4 +0.1**
SNR=56
AAK Ala-Archa 84.26 314 eP **P** **00 16 07.1 -0.2**
AAK LR LR
comp=Z,13µm,20.0s

DOT	**Dot Lake**	**84.36**	**24**	*e*P		**P**	**00 16 05.9**	**-1.2**
	comp=Z,182nm,0.7s							
DOT				LR		LR		
	comp=Z,37µm,18.0s							
BHJ	**Bhuj**	**84.58**	**294**	*e*P		**P**	**00 16 09.1**	**0.0**
YKU2	**Yakutat**	**84.66**	**29**	PFAKE			00 16 20.0	+11
YKU2				LR		LR		
	comp=Z,11µm,18.0s							
EKS2	**Erkin-Say**	**84.78**	**314**	*e*P		**P**	**00 16 09.7**	**-0.2**
EKS2	**Erkin-Say**	**84.78**	**314**	*e*P		**P**	**00 16 09.7**	**-0.2**
	comp=Z,617nm,1.9s							
EKS2				LR		LR		
	comp=Z,14µm,20.0s							
FYU	**Fort Yukon**	**85.19**	**21**	*e*P		**P**	**00 16 11.2**	**0.0**
	comp=Z,92nm,1.0s							
FYU				LR		LR		
	comp=Z,13µm,20.0s							
DHAK	**Deception Hill**	**85.21**	**29**	*e*P		**P**	**00 16 15.5**	**+3.9**
	comp=Z,130nm,1.2s							
DHAK				LR		LR		
	comp=Z,15µm,19.0s							
MNAS	**Manas**	**85.66**	**313**	P		**P**	**00 16 13.4**	**-0.9**
MNAS				pmax		pmax		
	comp=Z,276nm,1.2s							
EGAK	**Eagle**	**85.98**	**23**	*e*P		**P**	**00 16 14.6**	**-0.6**
	comp=Z,70nm,0.8s							
EGAK				LR		LR		
	comp=Z,22µm,22.0s							
DAWY	**Dawson**	**86.42**	**24**	*e*P		**P**	**00 16 17.3**	**-0.2**
DAWY				LR		LR		
	comp=Z,29µm,22.0s							
NRIK	**Noril'sk**	**86.47**	**341**	P		**P**	**00 16 16.4**	**-1.1**
	comp=Z,16nm,0.6s,baz=126,slow=4.0,SNR=24							
NRIK				S		**SKSac**	**00 26 39.3**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=164,slow=7.4,SNR=3.3							
NRIK				LR		LR	00 54 53.6	
	comp=Z,8µm,20.6s,baz=120,slow=36							
H02N1	**VAN INLET T-PH**	**86.53**	**36**	P		**P**	**00 16 17.9**	**-0.3**
	SNR=15							
H02S1	**DAWSON INLET T**	**86.55**	**36**	P		**P**	**00 16 18.2**	**0.0**
	SNR=34							
SKAG	**Skagway**	**86.73**	**29**	*e*P		**P**	**00 16 21.1**	**+2.1**
	comp=Z,150nm,1.1s							
SKAG				LR		LR		
	comp=Z,20µm,20.0s							
CRAG	**Craig**	**86.77**	**34**	*e*P		**P**	**00 16 20.5**	**+1.3**
	comp=Z,283nm,1.5s							
CRAG				LR		LR		
	comp=Z,37µm,20.0s							
KBL	**Kabul**	**86.87**	**305**	PFAKE			00 16 30.0	+9.4
KBL				LR		LR		
	comp=Z,4µm,20.0s							
OTUK	**Ortayu**	**86.98**	**319**	P		**P**	**00 16 20.2**	**-0.3**
OTUK				pmax		pmax		
	comp=Z,19nm,1.0s							
BRZS	**Berezniki**	**87.13**	**321**	*e*P		**P**	**00 16 21.0**	**-0.2**
BRZS				*i* S		**SKSac**	**00 26 44.8**	**-2.0**
KK31	**Karatay Array**	**87.22**	**314**	*i* P		**P**	**00 16 20.5**	**-1.3**
KK31				pmax		pmax		
	comp=Z,77nm,1.2s							
KKAR	**Karatay Array**	**87.22**	**314**	*e*P		**P**	**00 16 20.8**	**-1.0**
KKAR	**Karatay Array**	**87.22**	**314**	*e*P		**P**	**00 16 20.8**	**-1.0**
WRAK	**Wrangell Islan**	**87.43**	**33**	*e*P		**P**	**00 16 23.2**	**+0.7**
	comp=Z,469nm,1.6s							
WRAK				LR		LR		
	comp=Z,34µm,20.0s							
BRLS	**Borolday**	**87.76**	**313**	*e*P		**P**	**00 16 24.8**	**+0.4**
BRLS				*i* S		**SKSac**	**00 26 49.4**	**-1.6**
VOSK	**Vostochnaya**	**88.74**	**323**	P		**P**	**00 16 28.2**	**-0.6**
VOSK				pmax		pmax		
	comp=Z,42nm,1.3s							
VOSK	**Vostochnaya**	**88.74**	**323**	*e*P		**P**	**00 16 28.4**	**-0.4**
	comp=Z,29nm,1.1s							
DLBC	**Dease Lake**	**89.12**	**31**	*e*P		**P**	**00 16 30.7**	**+0.1**
	comp=Z,139nm,1.3s							
DLBC				LR		LR		
	comp=Z,38µm,20.0s							
BVA0	**Borovoye Array**	**89.15**	**323**	P		**P**	**00 16 29.4**	**-1.3**
BVA0				pmax		pmax		
	comp=Z,32nm,1.3s							
BVAR	**Borovoye Array**	**89.15**	**323**	P		**P**	**00 16 28.1**	**-2.7**
	comp=Z,11nm,0.9s,baz=102,slow=6.2,SNR=21							
BVAR				PKiKP		**PKiKP**	**00 21 29.3**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=155,slow=1.0,SNR=8.6							
BVAR				S		**SKSac**	**00 26 57.0**	**-1.8**
	comp=Z,4.0nm,1.1s,baz=114,slow=3.7,SNR=7.4							
BVAR				LR		LR	00 58 45.4	
	comp=Z,9µm,19.1s,baz=92,slow=37							
BRVK	**Borovoye**	**89.22**	**323**	*de*P		**P**	**00 16 28.3**	**-2.7**
BRVK				pmax		pmax		
	comp=Z,93nm,1.3s							
BRVK				MLR		MLR		
	comp=Z,31µm,20.0s							
BRVK	**Borovoye**	**89.22**	**323**	*e*P		**P**	**00 16 28.8**	**-2.3**
	comp=Z,82nm,1.1s							
JCC	**Jacoby Creek,**	**89.86**	**49**	PFAKE			00 16 50.0	+16
JCC				LR		LR		
	comp=Z,26µm,20.0s							
ZRNK	**Zerenda**	**89.96**	**323**	P		**P**	**00 16 33.9**	**-0.6**
ZRNK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
ZRNK	**Zerenda**	**89.96**	**323**	*e*P		**P**	**00 16 34.4**	**-0.1**
	comp=Z,91nm,1.7s							
ZRNK				LR		LR		
	comp=Z,16µm,20.0s							
KMRM	**Mail Ridge**	**90.02**	**50**	*e*P		**P**	**00 16 38.7**	**+3.5**
	comp=Z,365nm,1.9s							
KMRM				LR		LR		
	comp=Z,44µm,21.0s							
INK	**Inuvik**	**90.03**	**21**	P		**P**	**00 16 33.2**	**-1.2**
	comp=Z,18nm,0.7s,baz=312,slow=3.8,SNR=32							
INK				S		**SKSac**	**00 27 04.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=36,slow=30,SNR=5.8							
INK				PKKPbc		**PKKPbc**	**00 34 09.0**	**+0.5**
	comp=Z,5.5nm,1.0s,baz=52,slow=4.8,SNR=5.2							
INK	**Inuvik**	**90.03**	**21**	*e*P		**P**	**00 16 33.2**	**-1.2**
INK				pmax		pmax		
	comp=Z,70nm,1.0s							
INK				MLR		MLR		
	comp=Z,18µm,19.0s							
INK	**Inuvik**	**90.03**	**21**	*e*P		**P**	**00 16 33.2**	**-1.2**
	comp=Z,70nm,1.0s							
INK				LR		LR		
	comp=Z,18µm,19.0s							
KCPM	**Cahto Peak**	**90.04**	**50**	*e*P		**P**	**00 16 36.7**	**+1.3**
	comp=Z,30µm,0.6s							
KCPM				*e*S		**S**	**00 27 33.0**	**+5.8**
KHMM	**Horse Mountain**	**90.09**	**49**	*e*P		**P**	**00 16 38.7**	**+3.1**
	comp=Z,122nm,1.1s							
KHMM				LR		LR		
	comp=Z,27µm,20.0s							
HOPS	**Hopland Field**	**90.35**	**51**	PFAKE			00 16 50.0	+13
HOPS				LR		LR		
	comp=Z,46µm,20.0s							
L02D	**Cave Junction,**	**90.35**	**48**	P		**P**	**00 16 36.3**	**-0.4**
	baz=262							
MCCM	**Marconi Confer**	**90.39**	**52**	PFAKE			00 16 50.0	+13
MCCM				LR		LR		
	comp=Z,45µm,20.0s							
RNO	**Roman Nose**	**90.48**	**46**	*e*P		**P**	**00 16 38.1**	**+0.8**
GDXM	**Geysers**	**90.54**	**51**	PFAKE			00 16 50.0	+12
GDXM				LR		LR		
	comp=Z,69µm,18.0s							
I03D	**Drain, OR**	**90.74**	**46**	P		**P**	**00 16 37.8**	**-0.5**
	baz=263,SNR=20							
M02C	**Callahan**	**90.81**	**49**	P		**P**	**00 16 39.0**	**+0.1**
	baz=263,SNR=25							
NLWA	**Neilton Lookou**	**90.86**	**43**	*e*P		**P**	**00 16 40.2**	**+1.3**
	comp=Z,118nm,1.3s							
NLWA				LR		LR		
	comp=Z,22µm,20.0s							
N02D	**Trinity Center**	**90.87**	**49**	P		**P**	**00 16 39.5**	**+0.4**
	baz=263,SNR=20							
F03A	**Seaside**	**90.88**	**44**	*e*P		**P**	**00 16 41.7**	**+2.7**
	comp=Z,221nm,1.4s							
F03A				LR		LR		
	comp=Z,16µm,19.0s							
COR	**Corvallis**	**90.88**	**45**	*e*P		**P**	**00 16 41.5**	**+2.5**
COR				pmax		pmax		
	comp=Z,116nm,1.0s							
COR				MLR		MLR		
	comp=Z,31µm,20.0s							
COR	**Corvallis**	**90.88**	**45**	*e*P		**P**	**00 16 41.5**	**+2.5**
	comp=Z,116nm,1.0s							
COR				LR		LR		
	comp=Z,31µm,20.0s							
HUMO	**Hull Mountain**	**90.89**	**47**	*e*P		**P**	**00 16 40.0**	**+0.9**
	comp=Z,185nm,1.2s							
HUMO				LR		LR		
	comp=Z,32µm,19.0s							
WDC	**Whiskeytown Da**	**90.95**	**49**	*e*P		**P**	**00 16 40.7**	**+1.3**
WDC	**Whiskeytown Da**	**90.95**	**49**	*e*P		**P**	**00 16 40.7**	**+1.3**
	comp=Z,300nm,1.7s							
WDC				LR		LR		
	comp=Z,41µm,21.0s							
E03A	**Lebam**	**90.95**	**43**	*e*P		**P**	**00 16 40.1**	**+0.9**
	comp=Z,198nm,1.1s							
E03A				LR		LR		
	comp=Z,26µm,20.0s							
YBH	**Yreka Blue Hor**	**90.96**	**48**	*e*P		**P**	**00 16 40.4**	**+0.8**
YBH	**Yreka Blue Hor**	**90.96**	**48**	*e*P		**P**	**00 16 40.4**	**+0.8**
	comp=Z,292nm,1.4s							
YBH				LR		LR		
	comp=Z,42µm,22.0s							
G03D	**McMinnville, O**	**90.99**	**45**	P		**P**	**00 16 40.0**	**+0.5**
	baz=263							
F04D	**Rainier, OR**	**91.28**	**44**	P		**P**	**00 16 41.3**	**+0.5**
	baz=263							
PGC	**Sidney**	**91.30**	**41**	*e*P		**P**	**00 16 43.1**	**+2.3**
	comp=Z,76nm,1.0s							
PGC				LR		LR		
	comp=Z,25µm,22.0s							
SAO	**San Andreas Ge**	**91.36**	**53**	*e*P		**P**	**00 16 45.8**	**+4.4**
SAO	**San Andreas Ge**	**91.36**	**53**	*e*P		**P**	**00 16 45.8**	**+4.4**
SAO				LR		LR		
	comp=Z,43µm,20.0s							
I04A	**Tendick Farm,**	**91.42**	**46**	P		**P**	**00 16 40.7**	**-0.9**
	baz=263,SNR=22							
BROR	**Big Rock Looko**	**91.45**	**46**	*e*P		**P**	**00 16 41.7**	**+0.1**
O03D	**Paynes Creek**	**91.47**	**50**	P		**P**	**00 16 41.6**	**-0.4**
	baz=264,SNR=42							
O03D	**Paynes Creek**	**91.47**	**50**	*e*P		**P**	**00 16 41.4**	**-0.6**
HBO	**Huckleberry Mo**	**91.50**	**46**	P		**P**	**00 16 42.2**	**+0.1**
M04C	**Macdoel**	**91.61**	**48**	P		**P**	**00 16 42.5**	**-0.2**
	baz=264,SNR=24							
ORV	**Oroville**	**91.62**	**51**	*e*P		**P**	**00 16 42.8**	**+0.3**
ORV	**Oroville**	**91.62**	**51**	*e*P		**P**	**00 16 42.8**	**+0.3**
	comp=Z,66nm,1.0s							
ORV				LR		LR		
	comp=Z,35µm,21.0s							
F04A	**Amboy**	**91.67**	**44**	PFAKE			00 16 50.0	+7.4
F04A				LR		LR		
	comp=Z,19µm,22.0s							
K04D	**Chiloquin, OR**	**91.77**	**48**	P		**P**	**00 16 43.3**	**0.0**
	baz=264							
A04D	**Lummi Island**	**91.80**	**41**	P		**P**	**00 16 43.5**	**+0.4**
	baz=263,SNR=6.9							
PMPB	**Monarch Peak**	**91.82**	**54**	*e*P		**P**	**00 16 47.5**	**+3.9**
	comp=Z,271nm,1.7s							
PMPB				LR		LR		
	comp=Z,41µm,20.0s							
TDL	**Tradedollar La**	**91.86**	**44**	*e*P		**P**	**00 16 43.9**	**+0.2**
AFDM	**Forest Hills D**	**91.97**	**51**	*e*P		**P**	**00 16 44.6**	**+0.4**
	comp=Z,126nm,1.2s							
D05A	**Enumclaw**	**92.10**	**43**	*e*P		**P**	**00 16 47.1**	**+2.5**
	comp=Z,180nm,1.2s							
D05A				LR		LR		
	comp=Z,21µm,20.0s							
SYO	**Syowa Base**	**92.12**	**200**	‖ *e*P		**P**	**00 16 41.3**	**-2.9**
SYO	**Syowa Base**	**92.12**	**200**	‖ *i* PcP		**PcP**	**00 16 42.9**	**-2.1**
SYO	**Syowa Base**	**92.12**	**200**	‖ *i* X		**P**	**00 16 46.2**	**+2.0**
B05A	**Bryant**	**92.15**	**42**	P		**P**	**00 16 45.0**	**+0.2**
	baz=264,SNR=10							
LON	**Longmire**	**92.18**	**43**	*e*P		**P**	**00 16 46.7**	**+1.7**
LON				pmax		pmax		
	comp=Z,78nm,1.5s							
LON				MLR		MLR		
	comp=Z,15µm,20.0s							
LON	**Longmire**	**92.18**	**43**	*e*P		**P**	**00 16 46.7**	**+1.7**
	comp=Z,78nm,1.5s							
LON				LR		LR		
	comp=Z,15µm,20.0s							
CRZF	**Crozet Islands**	**92.18**	**223**	PFAKE			00 17 00.0	+15
CRZF				LR		LR		
	comp=Z,19µm,21.0s							
J05D	**Fort Rock, OR**	**92.22**	**47**	P		**P**	**00 16 45.5**	**+0.1**
	baz=264							
PAGB	**Antelope Grade**	**92.22**	**54**	*e*P		**P**	**00 16 46.8**	**+1.3**
	comp=Z,93nm,0.9s							
PAGB				LR		LR		
	comp=Z,29µm,21.0s							
I05D	**Terrebonne, OR**	**92.25**	**46**	P		**P**	**00 16 45.4**	**0.0**
	baz=264,SNR=22							
CMB	**Columbia Colle**	**92.33**	**52**	*e*P		**P**	**00 16 46.5**	**+0.5**
CMB	**Columbia Colle**	**92.33**	**52**	*e*P		**P**	**00 16 46.5**	**+0.5**
	comp=Z,170nm,1.5s							
CMB				LR		LR		
	comp=Z,48µm,20.0s							
G05D	**Wamic, OR**	**92.36**	**45**	P		**P**	**00 16 46.0**	**+0.1**
	baz=264							
SMMC	**Simmler**	**92.39**	**55**	P		**P**	**00 16 46.3**	**+0.1**
	baz=265							
K05A	**Summer Lake**	**92.41**	**47**	*e*P		**P**	**00 16 46.6**	**+0.3**
	comp=Z,295nm,1.3s							
K05A				LR		LR		
	comp=Z,31µm,18.0s							
PKM	**Mcpherson Peak**	**92.49**	**55**	P		**P**	**00 16 47.1**	**+0.2**
	baz=265							
SBC	**Santa Barbara**	**92.53**	**56**	P		**P**	**00 16 47.0**	**+0.2**
	baz=265							
SCZ2	**Santa Cruz Isl**	**92.56**	**56**	P		**P**	**00 16 47.5**	**+0.5**
	baz=265							
CROR	**Criterion Ridg**	**92.57**	**45**	P		**P**	**00 16 46.6**	**-0.3**
SNCC	**San Nicolas Is**	**92.58**	**57**	P		**P**	**00 16 48.0**	**+0.8**
	baz=265							
SNCC	**San Nicolas Is**	**92.58**	**57**	*e*P		**P**	**00 16 51.4**	**+4.3**
SNCC				LR		LR		
	comp=Z,22µm,20.0s							
B06A	**Marblemount**	**92.58**	**42**	PFAKE			00 17 00.0	+13
B06A				LR		LR		
	comp=Z,11µm,18.0s							
MOD	**Modoc Plateau**	**92.77**	**48**	*e*P		**P**	**00 16 47.2**	**-0.8**
	comp=Z,96nm,1.0s							
MOD				LR		LR		
	comp=Z,30µm,21.0s							
G06A	**Carlson Farm,**	**92.84**	**45**	*e*P		**P**	**00 16 50.4**	**+2.3**
	comp=Z,100nm,1.4s							
G06A				LR		LR		
	comp=Z,33µm,22.0s							
C06D	**Leavenworth**	**92.92**	**42**	P		**P**	**00 16 48.8**	**+0.5**
	baz=265							
LTY	**Liberty**	**93.01**	**43**	PFAKE			00 17 00.0	+11
LTY				LR		LR		
	comp=Z,21µm,19.0s							
BLG	**Laguna Peak, P**	**93.04**	**56**	P		**P**	**00 16 49.3**	**+0.1**
	baz=265							
RCTC	**Rector, Farmer**	**93.08**	**54**	P		**P**	**00 16 49.4**	**+0.1**
	baz=265							
WAKR	**Walker**	**93.12**	**52**	*e*P		**P**	**00 16 50.6**	**+0.8**
	comp=Z,295nm,1.9s							
WAKR				LR		LR		
	comp=Z,46µm,21.0s							
VES	**Vestal, Richgr**	**93.17**	**54**	P		**P**	**00 16 50.3**	**+0.5**
	baz=265,SNR=12							
PAHR	**Pah Rah Range**	**93.27**	**51**	*e*P		**P**	**00 16 50.9**	**+0.6**
	comp=Z,262nm,1.9s							
PAHR				LR		LR		
	comp=Z,44µm,21.0s							
YERR	**Yerington**	**93.31**	**51**	*e*P		**P**	**00 16 51.0**	**+0.3**
	comp=Z,117nm,1.3s							
YERR				LR		LR		
	comp=Z,40µm,22.0s							
ARVC	**Arvin**	**93.32**	**55**	P		**P**	**00 16 50.9**	**+0.4**
	baz=265,SNR=8.1							
OSI	**Osito Audit: C**	**93.36**	**56**	P		**P**	**00 16 50.8**	**0.0**
	baz=265							
OSI	**Osito Audit: C**	**93.36**	**56**	PFAKE			00 17 00.0	+9.2
OSI				LR		LR		
	comp=Z,25µm,20.0s							
SCI2	**San Clemente I**	**93.37**	**57**	P		**P**	**00 16 51.0**	**+0.2**
	baz=265							
E07A	**Sunnyside**	**93.50**	**44**	*e*P		**P**	**00 16 54.4**	**+3.3**
	comp=Z,115nm,1.3s							
E07A				LR		LR		
	comp=Z,19µm,22.0s							
MLAC	**Mammoth, Mammo**	**93.52**	**53**	P		**P**	**00 16 51.9**	**+0.2**
	baz=265							
TVH3	**East Aurora ar**	**93.59**	**52**	*e*P		**P**	**00 16 52.6**	**+0.7**
	comp=Z,101nm,1.5s							
TVH3				LR		LR		
	comp=Z,29µm,20.0s							
TVH1	**TV Hill, Hawth**	**93.64**	**52**	*e*P		**P**	**00 16 53.6**	**+1.2**
	comp=Z,183nm,1.3s							
TVH1				LR		LR		
	comp=Z,44µm,20.0s							
TVH2	**Borealis Mine**	**93.64**	**52**	*e*P		**P**	**00 16 52.9**	**+0.7**
	comp=Z,41nm,1.0s							
TVH2				LR		LR		
	comp=Z,30µm,20.0s							
FMP	**Fort Macarthur**	**93.64**	**57**	P		**P**	**00 16 52.4**	**+0.4**
	baz=265							
ISA	**Isabella, Lake**	**93.65**	**55**	P		**P**	**00 16 51.9**	**-0.2**
	baz=266							
ISA	**Isabella, Lake**	**93.65**	**55**	*e*P		**P**	**00 16 53.2**	**+1.1**
ISA				pmax		pmax		
	comp=Z,234nm,2.0s							
ISA				MLR		MLR		
	comp=Z,26µm,21.0s							
ISA	**Isabella, Lake**	**93.65**	**55**	*e*P		**P**	**00 16 53.2**	**+1.1**
	comp=Z,234nm,2.0s							
ISA				LR		LR		
	comp=Z,26µm,21.0s							
DECC	**Green Verdugo**	**93.66**	**56**	P		**P**	**00 16 51.9**	**-0.2**
	baz=265							
HAWA	**Hanford**	**93.71**	**44**	*e*P		**P**	**00 16 54.3**	**+2.3**
	comp=Z,195nm,1.8s							
HAWA				LR		LR		
	comp=Z,18µm,22.0s							
PASC	**Pasadena Art C**	**93.77**	**56**	*e*P		**P**	**00 16 53.4**	**+0.8**
	comp=Z,117nm,1.2s							
PASC				LR		LR		
	comp=Z,22µm,20.0s							
MWC	**Mount Wilson**	**93.88**	**56**	*e*P		**P**	**00 16 54.2**	**+0.8**
MWC	**Mount Wilson**	**93.88**	**56**	*e*P		**P**	**00 16 54.2**	**+0.8**
	comp=Z,217nm,1.4s							
MWC				LR		LR		
	comp=Z,25µm,21.0s							
TIN	**Tinemaha, Big**	**93.96**	**53**	P		**P**	**00 16 53.2**	**-0.4**
	baz=266							
EDW2	**Edwards Air Fo**	**93.98**	**55**	P		**P**	**00 16 54.3**	**+0.6**
	baz=266,SNR=25							
B08A	**Colville Reser**	**94.00**	**42**	*e*P		**P**	**00 16 53.7**	**+0.3**
	comp=Z,80nm,1.3s							
B08A				LR		LR		
	comp=Z,22µm,19.0s							
G08A	**Pilot Rock**	**94.02**	**45**	*e*P		**P**	**00 16 53.8**	**+0.1**
	comp=Z,138nm,1.4s							
G08A				LR		LR		
	comp=Z,29µm,21.0s							
CWC	**Cottonwood Cre**	**94.03**	**54**	P		**P**	**00 16 53.5**	**-0.5**
	baz=266							
WVOR	**Wild Horse Val**	**94.05**	**48**	*e*P		**P**	**00 16 53.6**	**-0.2**
WVOR	**Wild Horse Val**	**94.05**	**48**	*e*P		**P**	**00 16 53.6**	**-0.2**
	comp=Z,191nm,1.4s							
WVOR				LR		LR		
	comp=Z,26µm,18.0s							
D08A	**Wollman Farm,**	**94.18**	**43**	*e*P		**P**	**00 16 56.5**	**+2.3**
	comp=Z,54nm,1.0s							
D08A				LR		LR		
	comp=Z,19µm,19.0s							
BFSC	**Mount Baldy Ra**	**94.21**	**56**	P		**P**	**00 16 55.1**	**+0.3**
	baz=266,SNR=9.9							
LRMC	**Laurel Mtn Rad**	**94.28**	**55**	P		**P**	**00 16 55.4**	**+0.3**
	baz=266,SNR=8.4							
MPMC	**Manual Prospec**	**94.48**	**54**	P		**P**	**00 16 56.2**	**+0.1**
	baz=266,SNR=50							
MURC	**Murrieta**	**94.55**	**57**	P		**P**	**00 16 56.4**	**+0.1**
	baz=266							
109C	**Camp Elliot, M**	**94.58**	**58**	P		**P**	**00 16 56.2**	**-0.1**
	baz=266							
GRAC	**Grapevine Rang**	**94.64**	**53**	P		**P**	**00 16 56.9**	**+0.3**
	baz=266							
WSAR	**Wadi Sarin**	**94.65**	**293**	P		**P**	**00 16 55.9**	**-1.0**
	comp=Z,6.5nm,0.9s,baz=153,slow=2.3,SNR=3.1							
C09A	**Chrisman Ranch**	**94.67**	**43**	*e*P		**P**	**00 16 58.3**	**+1.9**
	comp=Z,124nm,1.6s							
C09A				LR		LR		
	comp=Z,24µm,20.0s							
E09A	**Wood Farm, Sta**	**94.67**	**44**	*e*P		**P**	**00 16 58.6**	**+2.2**
	comp=Z,417nm,1.9s							
E09A				LR		LR		
	comp=Z,18µm,22.0s							
RRX	**Edison Barstow**	**94.80**	**56**	P		**P**	**00 16 57.6**	**+0.3**
	baz=266							
BBRC	**Big Bear Solar**	**94.82**	**56**	P		**P**	**00 16 57.9**	**+0.1**
	baz=266							
BAR	**Barrett**	**94.92**	**58**	*e*P		**P**	**00 16 59.0**	**+1.1**
	comp=Z,24nm,1.0s							
BAR				LR		LR		
	comp=Z,20µm,22.0s							
GSC	**Goldstone, Bar**	**94.98**	**55**	P		**P**	**00 16 58.6**	**+0.3**
	baz=266,SNR=31							
GSC	**Goldstone, Bar**	**94.98**	**55**	*e*P		**P**	**00 16 59.0**	**+0.7**
GSC	**Goldstone, Bar**	**94.98**	**55**	*e*P		**P**	**00 16 59.0**	**+0.7**
	comp=Z,185nm,1.9s							
GSC				LR		LR		
	comp=Z,21µm,21.0s							
FURC	**Furnace Creek,**	**95.01**	**54**	P		**P**	**00 16 58.6**	**+0.4**
	baz=266,SNR=44							
MONP2	**Monument Peak**	**95.15**	**58**	P		**P**	**00 16 59.7**	**+0.5**
	baz=266,SNR=20							
PFO	**Pinyon Flats O**	**95.16**	**57**	P		**P**	**00 16 59.3**	**+0.1**
	baz=266							
PFO	**Pinyon Flats O**	**95.16**	**57**	*e*P		**P**	**00 17 00.0**	**+0.8**
PFO	**Pinyon Flats O**	**95.16**	**57**	*e*P		**P**	**00 16 60.0**	**+0.8**
	comp=Z,52nm,1.3s							
PFO				LR		LR		
	comp=Z,24µm,20.0s							
BMO	**Blue Mountains**	**95.17**	**46**	*e*P		**P**	**00 17 00.9**	**+2.0**
BMO	**Blue Mountains**	**95.17**	**46**	*e*P		**P**	**00 17 00.9**	**+2.0**
	comp=Z,183nm,1.6s							
BMO				LR		LR		
	comp=Z,30µm,21.0s							
TPFO	**Pinon Flats**	**95.17**	**57**	P		**P**	**00 16 59.4**	**+0.2**
	baz=266,SNR=8.8							
SVE	**Sverdlovsk**	**95.19**	**326**	*e*P		**P**	**00 16 57.8**	**-0.8**
SVE				*e*			00 20 49.2	
SVE				*e*S		**SKSac**	**00 27 29.6**	**-2.9**
SVE				*e*			00 28 07.0	
SVE				*e*			00 29 31.4	
SVE				*e*SSS		SSS	00 38 25.8	
SVE				pmax		pmax		
	comp=Z,27nm,1.4s							
SVE				MLR		MLR		
	comp=Z,19µm,19.0s							
SVE				MLR		MLR		
	comp=E,14µm,19.0s							
ABKAR	**Akbulak array**	**95.24**	**319**	*e*P		**P**	**00 16 58.2**	**-0.8**
F10A	**Beach Ranch, E**	**95.28**	**44**	*e*P		**P**	**00 16 59.2**	**-0.2**
	comp=E,52nm,1.0s							
F10A				LR		LR		
	comp=Z,26µm,21.0s							
HEC	**Hector,Ludlow**	**95.34**	**56**	P		**P**	**00 17 00.3**	**+0.4**
	baz=267,SNR=27							
IKP	**In-Ko-Pah, Jac**	**95.40**	**58**	P		**P**	**00 17 00.9**	**+0.7**
	baz=266,SNR=7.9							
SHOC	**Shoshone, Teco**	**95.45**	**55**	P		**P**	**00 17 00.8**

GEYT PKKP **PKKPdf** **00 33 53.3 +0.4**
comp=Z,1.2nm,0.8s,baz=264,slow=8.8,SNR=4.1
GEYT LR LR 01 03 33.1
comp=Z,9μm,19.3s,baz=80,slow=38
R11A **Troy Canyon, C** **96.13 52** P **P** **00 17 03.6 +0.1**
baz=267,SNR=26
R11A **Troy Canyon, C** **96.13 52** *e*P **P** **00 17 04.1 +0.5**
comp=Z,67nm,1.3s
R11A LR LR
comp=Z,38μm,20.0s
MFID **Camas Ranch** **96.16 47** *e*P **P** **00 17 05.0 +1.6**
comp=Z,146nm,1.6s
MFID LR LR
comp=Z,22μm,18.0s
IRM **Iron Mountain** **96.29 56** P **P** **00 17 04.8 +0.7**
baz=267,SNR=48
ARU **Arti** **96.32 326** P **P** **00 17 02.4 -1.3**
comp=Z,1.2nm,0.4s,baz=96,slow=9.2,SNR=4.3
ARU PP **PP** **00 21 00.6 +3.2**
comp=Z,5.1nm,0.8s,baz=106,slow=5.6,SNR=7.5
ARU PKiKP **PKiKP** **00 21 43.3 +1.8**
comp=Z,4.3nm,0.7s,baz=337,slow=0.8,SNR=5.6
ARU S **SKSac** **00 27 37.6 -0.8**
comp=Z,0.8nm,0.4s,baz=267,slow=23,SNR=9.7
ARU LR LR 01 00 11.1
comp=Z,25μm,21.5s,baz=88,slow=35
ARU **Arti** **96.32 326** *c* *i*P **P** **00 17 02.2 -1.5**
ARU *e* 00 20 57.0
ARU PPP PPP 00 23 02.4
ARU S **SKSac** **00 27 36.1 -2.4**
ARU SP **SP** **00 29 37.6 -3.5**
ARU SSS SSS 00 38 36.3
ARU pmax pmax
comp=Z,15nm,1.7s
ARU pmax pmax
comp=Z,469nm,16.9s
ARU MLR MLR
comp=Z,26μm,22.0s
ARU **Arti** **96.32 326** *e*P **P** **00 17 02.4 -1.3**
comp=Z,22nm,1.1s
ARU *e*PKiKP **PKiKP** **00 21 43.3 +1.8**
ARU *e*SKSac **SKSac** **00 27 37.6 -0.8**
ARU LR LR
comp=Z,24μm,21.0s
LDFC **Landfair** **96.36 55** *e*P **P** **00 17 08.0 +3.4**
comp=Z,310nm,1.4s
LDFC LR LR
comp=Z,20μm,22.0s
SHPR **Sheep Range** **96.38 54** *e*P **P** **00 17 05.4 +0.7**
comp=Z,166nm,1.6s
SHPR LR LR
comp=Z,30μm,20.0s
ELK **Elko** **96.50 50** *e*P **P** **00 17 05.5 +0.3**
ELK pmax pmax
comp=Z,61nm,1.5s
ELK **Elko** **96.50 50** *e*P **P** **00 17 05.5 +0.3**
comp=Z,61nm,1.5s
GLA **Glamis** **96.50 57** P **P** **00 17 05.4 +0.3**
baz=267
GLA **Glamis** **96.50 57** PFAKE 00 17 20.0 +15
GLA LR LR
comp=Z,18μm,22.0s
AKTO **Aktyubinsk** **96.53 320** P **P** **00 17 03.4 -1.4**
comp=Z,2.1nm,0.8s,baz=61,slow=7.1,SNR=9.3
AKTO PP **PP** **00 21 05.9 +6.8**
comp=Z,5.7nm,1.2s,baz=74,slow=14,SNR=3.5
AKTO PKiKP **PKiKP** **00 21 41.9 -0.2**
comp=Z,5.3nm,1.0s,baz=82,slow=6.3,SNR=4.4
AKTO S **SKSac** **00 27 36.7 -3.1**
comp=Z,1.0nm,0.9s,baz=254,slow=19,SNR=6.1
AKTO LR LR 01 01 19.1
comp=Z,14μm,19.9s,slow=36
AKTO **Aktyubinsk** **96.53 320** P **P** **00 17 03.5 -1.3**
AKTO pmax pmax
comp=Z,9.0nm,1.2s
NEE2 **Needles Airpor** **96.75 56** P **P** **00 17 06.5 +0.3**
baz=268
Y12C **Blythe** **96.78 57** P **P** **00 17 06.4 +0.1**
baz=268
Y12C **Blythe** **96.78 57** *e*P **P** **00 17 09.3 +2.9**
comp=Z,22nm,0.8s
Y12C LR LR
comp=Z,18μm,22.0s
UOSS **Minazif** **96.97 294** *e*P **P** **00 17 08.5 +1.1**
comp=Z,1.6nm,1.1s
UOSS LR LR
comp=Z,3μm,20.0s
BSMT **Bassoo Peak** **97.02 43** *e*P Pdif 00 17 07.7 +0.2
YKW3 **Yellowknife Ar** **97.11 28** *e*P **P** **00 17 06.6 -0.6**
comp=Z,80nm,1.7s
YKA **Yellowknife Ar** **97.12 28** P **P** **00 17 05.7 -1.4**
comp=Z,7.5nm,0.7s,baz=271,slow=4.6,SNR=50
YKA PKiKP **PKiKP** **00 21 43.2 +0.5**
comp=Z,0.9nm,0.6s,baz=287,slow=1.8,SNR=6.7
YKA S **SKSac** **00 27 41.4 -1.0**
comp=Z,0.2nm,0.5s,baz=251,slow=32,SNR=2.8
YKA PKKP **PKKPbc** **00 33 46.5 -3.2**
comp=Z,1.3nm,0.6s,baz=90,slow=2.7,SNR=8.9
YKA PKPPKP **P'P'df** **00 42 03.8 +3.4**
comp=Z,0.3nm,0.7s,baz=66,slow=1.7,SNR=4.4
YKA LR LR 00 57 28.2
comp=Z,2μm,20.3s,baz=0.0,slow=33
YKB5 **Yellowknife Ar** **97.12 28** *e*P **P** **00 17 05.7 -1.5**
YKB5 *e*PKiKP **PKiKP** **00 21 43.2 +0.5**
YKB5 *e*SKSac **SKSac** **00 27 41.4 -1.0**
YKB5 *e*PKKPbc **PKKPbc** **00 33 46.5 -3.2**
YKB5 *e*P'P'df **P'P'df** **00 42 03.8 +3.4**
PDMCI **Parker Dam,Lak** **97.12 56** P Pdif 00 17 08.6 +0.6
baz=268,SNR=7.2
HLID **Hailey** **97.19 47** P **P** **00 17 07.4 -0.8**
baz=269
HLID **Hailey** **97.19 47** *e*P Pdif 00 17 08.3 0.0
comp=Z,31nm,1.2s
JTMT **Jette** **97.36 43** *e*P Pdif 00 17 11.4 +2.5
W13A **Hualapai Mount** **97.36 55** *e*P Pdif 00 17 09.9 +0.6
comp=Z,39nm,1.2s
W13A LR LR
comp=Z,22μm,22.0s
113A **Mohawk Valley,** **97.38 58** *e*P Pdif 00 17 12.4 +3.3
comp=Z,17nm,1.0s
113A LR LR
comp=Z,16μm,20.0s
PSUT **Pine Spring** **97.49 52** *e*P Pdif 00 17 12.6 +2.7
comp=Z,51nm,1.2s
PSUT LR LR
comp=Z,40μm,21.0s
SWMT **Swartz Lake** **97.55 43** *e*P Pdif 00 17 11.0 +1.3
MSO **Missoula** **97.58 44** P **P** **00 17 09.8 0.0**
baz=270
MSO **Missoula** **97.58 44** *e*P Pdif 00 17 11.1 +1.2
comp=Z,24nm,1.4s
WALA **Waterton Lakes** **97.61 41** *e*P Pdif 00 17 10.4 +0.4
comp=Z,72nm,0.9s
WALA LR LR
comp=Z,26μm,21.0s
CCUT **Cedar City** **97.86 53** *e*P Pdif 00 17 12.6 +1.1
comp=Z,114nm,1.5s
CCUT LR LR
comp=Z,44μm,20.0s
LCMT **Little Creek M** **97.94 54** *e*P Pdif 00 17 13.2 +1.4
comp=Z,92nm,1.6s
LCMT LR LR
comp=Z,26μm,20.0s
EDM **Edmonton** **97.94 37** PFAKE 00 17 20.0 +8.8
EDM LR LR
comp=Z,200nm,20.0s
CHMT **Chamberlain Mo** **98.05 44** *e*P **P** **00 17 12.0 -0.1**
Y14A **Wickenburg** **98.05 57** *e*P Pdif 00 17 13.3 +1.0
comp=Z,197nm,1.6s
Y14A LR LR
comp=Z,73μm,20.0s
SZCU **Shurtz Canyon** **98.08 53** *e*P Pdif 00 17 14.5 +2.0
comp=Z,210nm,2.0s
SZCU LR LR
comp=Z,55μm,20.0s
214A **Organ Pipe Nat** **98.16 59** P Pdif 00 17 13.3 +0.6
baz=268,SNR=8.2
BGU **Big Grassy Mou** **98.18 50** *e*P Pdif 00 17 12.8 0.0
comp=Z,52nm,1.6s
BGU LR LR
comp=Z,20μm,21.0s
KNB **Kanab** **98.28 54** *e*P Pdif 00 17 14.5 +1.2
KNB pmax pmax
comp=Z,211nm,1.8s
KNB MLR MLR
comp=Z,24μm,20.0s
KNB **Kanab** **98.28 54** *e*P Pdif 00 17 14.5 +1.2
comp=Z,211nm,1.8s
KNB LR LR
comp=Z,24μm,20.0s
DUG **Dugway, Tooele** **98.33 50** Pdiff **P** **00 17 13.2 -0.2**
baz=269
DUG **Dugway, Tooele** **98.33 50** *e*P Pdif 00 17 14.2 +0.8
DUG **Dugway, Tooele** **98.33 50** *e*P Pdif 00 17 14.2 +0.8
comp=Z,28nm,1.3s
MCMT **McKenzie Canyo** **98.33 46** *e*P Pdif 00 17 15.7 +2.3
HVU **Hansel Valley** **98.38 49** *e*P Pdif 00 17 17.5 +3.9
HVU pmax pmax
comp=Z,60nm,1.1s
HVU MLR MLR
comp=Z,30μm,20.0s
HVU **Hansel Valley** **98.38 49** *e*P Pdif 00 17 17.5 +3.9
comp=Z,60nm,1.1s
HVU LR LR
comp=Z,30μm,20.0s
DLMT **Dillon** **98.51 45** *e*P Pdif 00 17 16.2 +2.1
comp=Z,32nm,1.1s
DLMT LR LR
comp=Z,21μm,21.0s
TCRU **Three Creeks R** **98.60 52** PFAKE 00 17 30.0 +15
TCRU LR LR
comp=Z,40μm,20.0s
LRM **Limekiln Ridge** **98.61 45** *e*P Pdif 00 17 16.4 +1.7
SPUT **South Promonto** **98.62 49** *e*P Pdif 00 17 15.2 +0.5
comp=Z,24nm,1.1s
SPUT LR LR
comp=Z,19μm,20.0s
PKCU **Pink Cliffs** **98.69 53** PFAKE 00 17 30.0 +15
PKCU LR LR
comp=Z,32μm,20.0s
U15A **North Rim** **98.69 54** *e*P Pdif 00 17 16.5 +1.2
comp=Z,155nm,1.8s
U15A LR LR
comp=Z,26μm,21.0s
MTPU **Mount Pierson** **98.80 53** *e*P Pdif 00 17 17.3 +1.5
comp=Z,216nm,2.0s
MTPU LR LR
comp=Z,39μm,21.0s
MSU **Marysvale** **98.81 52** *e*P Pdif 00 17 17.5 +1.8
MSU **Marysvale** **98.81 52** *e*P Pdif 00 17 17.5 +1.8
NVL **N'lazarevskaya** **98.86 193** *e*P Pdif 00 17 17.3 +2.4
NVL *e* 00 21 18.9
NVL *e*S **SKSac** **00 27 54.1 +3.0**
NVL *e*PS **PS** **00 30 16.8 +5.0**
NLU **North Lily Min** **98.90 51** PFAKE 00 17 30.0 +14
NLU LR LR
comp=Z,12μm,18.0s
CTU **Camp Tracy** **99.15 50** *e*P **Pdif** **00 17 19.2 +2.1**
comp=Z,34nm,0.8s
CTU LR LR
comp=Z,95μm,21.0s
BOZ **Bozeman (W)** **99.19 45** Pdiff **Pdif** **00 17 16.8 -0.4**
baz=271
BOZ **Bozeman (W)** **99.19 45** *e*P **Pdif** **00 17 17.1 0.0**
BOZ pmax pmax
comp=Z,22nm,1.1s
BOZ **Bozeman (W)** **99.19 45** *e*P **Pdif** **00 17 17.1 0.0**
comp=Z,22nm,1.1s
MPU **Maple Canyon** **99.24 51** *e*P **Pdif** **00 17 20.0 +2.5**
comp=Z,32nm,1.5s
MPU LR LR
comp=Z,30μm,20.0s
HWUT **Hardware Ranch** **99.28 49** *e*P **Pdif** **00 17 17.3 -0.4**
comp=Z,23nm,1.0s
HWUT LR LR
comp=Z,24μm,20.0s
X16A **Lo Mia Camp, P** **99.36 56** *e*P **Pdif** **00 17 19.9 +1.8**
comp=Z,7.2nm,1.0s
X16A LR LR
comp=Z,24μm,20.0s
JLU **Jordanelle** **99.38 50** *e*P **Pdif** **00 17 18.9 +0.7**
comp=Z,66nm,1.7s
JLU LR LR
comp=Z,26μm,20.0s
TCUT **Toone Canyon** **99.40 49** PFAKE 00 17 30.0 +12
TCUT LR LR
comp=Z,26μm,21.0s
WUAZ **Wupatki** **99.43 55** Pdiff **Pdif** **00 17 18.2 -0.2**
baz=270
WUAZ **Wupatki** **99.43 55** *e*P **Pdif** **00 17 20.4 +2.0**
comp=Z,22nm,0.9s
WUAZ LR LR
comp=Z,23μm,22.0s
YHB **Horse Butte** **99.51 46** PFAKE 00 17 30.0 +11
YHB LR LR
comp=Z,36μm,20.0s
TMUT **Trail Mountain** **99.57 51** PFAKE 00 17 30.0 +11
TMUT LR LR
comp=Z,32μm,21.0s
AHID **Auburn Hatcher** **99.62 48** PFAKE 00 17 30.0 +11
AHID LR LR
comp=Z,32μm,20.0s
FXWY **Fox Creek** **99.65 47** PFAKE 00 17 30.0 +11
FXWY LR LR
comp=Z,13μm,18.0s
YMR **Madison River** **99.68 46** PFAKE 00 17 30.0 +11
YMR LR LR
comp=Z,31μm,20.0s
HSIG **99.68 62** PFAKE 00 17 30.0 +11
HSIG LR LR
comp=Z,35μm,20.0s
TPAW **Teton Pass** **99.71 47** *e*Pdif **Pdif** **00 17 19.9 +0.3**
comp=Z,21nm,0.9s
TPAW LR LR
comp=Z,20μm,22.0s
IMW **Indian Meadow** **99.71 47** PFAKE 00 17 30.0 +10
IMW LR LR
comp=Z,17μm,20.0s
YHH **Holmes Hill** **99.76 46** PFAKE 00 17 30.0 +10
YHH LR LR
comp=Z,31μm,20.0s
YFT **Old Faithful** **99.78 46** PFAKE 00 17 30.0 +10
YFT LR LR
comp=Z,42μm,20.0s
REDW **Red Top Meadow** **99.79 47** PFAKE 00 17 30.0 +10
REDW LR LR
comp=Z,31μm,22.0s
YPP **Pitchstone Pla** **99.80 46** PFAKE 00 17 30.0 +10
YPP LR LR
comp=Z,41μm,20.0s
MOOW **Moose Ponds** **99.86 47** *e*Pdif **Pdif** **00 17 20.9 +0.6**
MOOW LR LR
comp=Z,16μm,19.0s
SNOW **Snow King Moun** **99.86 47** PFAKE 00 17 30.0 +10
SNOW LR LR
comp=Z,25μm,22.0s
FLWY **Flagg Ranch** **99.88 46** PFAKE 00 17 30.0 +10
FLWY LR LR
comp=Z,19μm,20.0s
TUC **Tucson** **99.88 58** Pdiff **Pdif** **00 17 20.2 -0.2**
baz=269
TUC **Tucson** **99.88 58** *e*P **Pdif** **00 17 22.1 +1.7**
TUC MLR MLR
comp=Z,22μm,19.0s
TUC **Tucson** **99.88 58** *e*Pdif **Pdif** **00 17 22.1 +1.7**
TUC LR LR
comp=Z,22μm,19.0s
P17A **Butcher Ranch,** **99.93 51** PFAKE 00 17 30.0 +9.4
P17A LR LR
comp=Z,34μm,21.0s
H17A **Grant Village** **99.96 46** Pdiff **Pdif** **00 17 21.2 +0.5**
baz=272
H17A **Grant Village** **99.96 46** PFAKE 00 17 30.0 +9.3
H17A LR LR
comp=Z,42μm,19.0s
LOHW **Long Hollow** **99.96 47** PFAKE 00 17 30.0 +9.3
LOHW LR LR
comp=Z,18μm,22.0s
LKWY **Lake** **100.08 46** PFAKE 00 17 30.0 +8.7
LKWY LR LR
comp=Z,43μm,20.0s
SRU **San Rafael Swe** **100.10 51** *e*P **Pdif** **00 17 22.0 +0.6**
SRU MLR MLR
comp=Z,34μm,22.0s
SRU **San Rafael Swe** **100.10 51** *e*Pdif **Pdif** **00 17 21.9 +0.6**
SRU LR LR
comp=Z,34μm,22.0s
P18A **Preston Nutter** **100.31 51** PFAKE 00 17 30.0 +7.5
P18A LR LR
comp=Z,38μm,21.0s
EGMT **Eagleton** **100.40 42** Pdiff **Pdif** **00 17 22.1 -0.2**
baz=273
SLBS **Sierra La Lagu** **100.43 67** PFAKE 00 17 30.0 +7.0
SLBS LR LR
comp=Z,18μm,22.0s
X18A **Snowflake** **100.59 56** PFAKE 00 17 40.0 +16
X18A LR LR
comp=Z,21μm,20.0s
SNAA **Sanae** **100.74 188** P **Pdif** **00 17 24.0 +0.6**
SNAA **Sanae** **100.74 188** *e*P **Pdif** **00 17 23.0 -0.4**
SNAA pmax pmax
comp=Z,638nm,1.2s
SNAA **Sanae** **100.74 188** *e*Pdif **Pdif** **00 17 23.2 -0.2**
SNAA LR LR
comp=Z,41μm,20.0s
BW06 **Boulder Array** **100.75 48** Pdiff **Pdif** **00 17 24.2 -0.1**
baz=272
BW06 **Boulder Array** **100.75 48** PFAKE 00 17 40.0 +16
BW06 LR LR
comp=Z,32μm,20.0s
PD31 **Pinedale Array** **100.75 48** *e*Pdif **Pdif** **00 17 22.8 -1.4**
PD31 *e*PP **PP** **00 21 33.0 +1.1**
PD31 *e*P'P'df **P'P'df** **00 41 59.6 +4.3**
PDAR **Pinedale Array** **100.75 48** P **Pdif** **00 17 22.8 -1.4**
comp=Z,6.3nm,0.7s,baz=256,slow=3.3,SNR=26
PDAR PP **PP** **00 21 33.0 +1.1**
comp=Z,0.9nm,0.7s,baz=258,slow=4.3,SNR=2.9
PDAR PKPPKP **P'P'df** **00 41 59.6 +4.3**
comp=Z,0.6nm,0.7s,baz=99,slow=2.0,SNR=4.3
PDAR **Pinedale Array** **100.75 48** P **Pdif** **00 17 22.8 -1.4**
W18A **Petrified Fore** **100.77 55** Pdiff **Pdif** **00 17 24.4 -0.1**
baz=270
W18A **Petrified Fore** **100.77 55** PFAKE 00 17 40.0 +16
W18A LR LR
comp=Z,21μm,22.0s
RLMT **Red Lodge** **100.87 45** Pdiff **Pdif** **00 17 24.7 0.0**
baz=273
RLMT **Red Lodge** **100.87 45** *e*Pdif **Pdif** **00 17 25.4 +0.7**
319A **Douglas** **101.16 59** PFAKE 00 17 40.0 +14
319A LR LR
comp=Z,27μm,20.0s
ABPO **Ambohimpanom** **101.20 249** PFAKE 00 17 40.0 +13
ABPO LR LR
comp=Z,7μm,19.0s
MVCO **Mesa Verde** **101.73 53** Pdiff **Pdif** **00 17 28.5 -0.2**
baz=272
MVCO **Mesa Verde** **101.73 53** *e*Pdif **Pdif** **00 17 29.6 +0.9**
O20A **White River Ci** **101.84 50** Pdiff **Pdif** **00 17 29.0 -0.1**
baz=272
O20A **White River Ci** **101.84 50** *e*Pdif **Pdif** **00 17 31.2 +2.2**
O20A LR LR
comp=Z,32μm,21.0s
RES **Resolute Bay** **101.85 14** P **Pdif** **00 17 27.1 -0.9**
comp=Z,2.7nm,1.0s,baz=319,slow=6.3,SNR=2.7
VNA1 **Neumayer--Stat** **102.39 187** P **Pdif** **00 17 30.0 -0.6**
121A **Cookes Peak, D** **102.42 58** Pdiff **Pdif** **00 17 31.9 +0.1**
baz=271
SMCO **Snowmass** **102.86 51** *e*Pdif **Pdif** **00 17 34.5 +0.6**
SMCO LR LR
comp=Z,36μm,21.0s
LAO **LASA Array** **102.88 44** Pdiff **Pdif** **00 17 34.2 +0.8**
baz=275
K22A **Casper** **102.99 48** Pdiff **Pdif** **00 17 34.2 +0.1**
baz=274
K22A **Casper** **102.99 48** PFAKE 00 17 50.0 +16
K22A LR LR
comp=Z,25μm,20.0s
S22A **4UR Ranch, Cre** **103.04 53** Pdiff **Pdif** **00 17 34.6 -0.1**
baz=273
S22A **4UR Ranch, Cre** **103.04 53** *e*Pdif **Pdif** **00 17 35.8 +1.2**
S22A LR LR
comp=Z,37μm,20.0s
Y22D **IRIS PASSCAL I** **103.11 57** Pdiff **Pdif** **00 17 35.2 +0.4**
baz=272
Y22D **IRIS PASSCAL I** **103.11 57** PFAKE 00 17 50.0 +15
Y22D LR LR
comp=Z,16μm,18.0s
ANMO **Albuquerque** **103.46 56** Pdiff **Pdif** **00 17 36.8 +0.4**
baz=272
ANMO **Albuquerque** **103.46 56** PFAKE 00 17 50.0 +14
ANMO LR LR
comp=Z,10μm,22.0s
N23A **Red Feather La** **103.54 49** Pdiff **Pdif** **00 17 37.0 +0.3**
baz=274
N23A **Red Feather La** **103.54 49** *e*Pdif **Pdif** **00 17 37.3 +0.5**
N23A LR LR
comp=Z,12μm,20.0s
HOPEN **Hopen** **103.70 349** *e*Pdif **Pdif** **00 17 35.7 -0.6**
HOPEN *e*PP **PKiKP** **00 21 54.1 -0.1**
HOPEN IVMs_BB IVMs_BB 01 01 54.8
comp=Z,5μm,22.7s
ISCO **Idaho Springs** **103.87 51** Pdiff **Pdif** **00 17 38.0 -0.3**
baz=274
PHWY **Pilot Hill** **103.88 49** PFAKE 00 17 50.0 +12
PHWY LR LR
comp=Z,17μm,19.0s
DGMT **Dagmar** **104.06 42** Pdiff **Pdif** **00 17 38.7 +0.1**
baz=277
SDCO **Great Sand Dun** **104.09 53** *e*Pdif **Pdif** **00 17 38.8 -0.4**
baz=274
SDCO **Great Sand Dun** **104.09 53** *e*Pdif **Pdif** **00 17 40.1 +0.8**
SPA0 **Spitsbergen Ar** **104.14 351** *e*Pdif **Pdif** **00 17 37.6 -0.7**
SPA0 *e*PP **PP** **00 21 55.8 -0.3**
SPA0 *e*SKSac **SKSac** **00 28 16.9 +0.8**
SPA0 *e*SS **SS** **00 36 45.4 +2.9**
SPA0 IVMs_BB IVMs_BB 01 01 24.9
comp=Z,3μm,24.0s
KBS **Kingsbay** **104.22 353** *e*Pdif **Pdif** **00 17 38.2 -0.4**
KBS *e*PP **PP** **00 21 58.5 +1.9**
KBS *e*SKSac **SKSac** **00 28 16.7 +0.3**
KBS IVMs_BB IVMs_BB 00 58 35.9
comp=Z,2μm,25.1s
KBS **Kingsbay** **104.22 353** PFAKE 00 17 50.0 +11
KBS LR LR
comp=Z,8μm,19.0s
Q24A **Divide** **104.29 51** Pdiff **Pdif** **00 17 36.7 -3.5**
baz=274
Q24A **Divide** **104.29 51** PFAKE 00 17 50.0 +10
Q24A LR LR
comp=Z,37μm,20.0s
HPIG **104.34 64** PFAKE 00 17 50.0 +9.5
HPIG LR LR
comp=Z,21μm,20.0s
MNTX **Cornudas Mount** **104.48 59** Pdiff **Pdif** **00 17 40.6 -0.2**
baz=272
RSSD **Black Hills** **104.67 46** Pdiff **Pdif** **00 17 41.4 -0.2**
baz=276
RSSD **Black Hills** **104.67 46** *e*P **Pdif** **00 17 42.7 +1.1**
RSSD MLR MLR
comp=Z,14μm,20.0s
RSSD **Black Hills** **104.67 46** *e*Pdif **Pdif** **00 17 42.7 +1.1**
RSSD LR LR
comp=Z,14μm,20.0s
A25A **Svangstu Ranch** **104.71 41** Pdiff **Pdif** **00 17 40.9 -0.5**
baz=278
B25A **Knox Farm, Ray** **104.77 42** Pdiff **Pdif** **00 17 41.4 -0.3**
baz=278
C25A **Freed Ranch, W** **104.78 42** Pdiff **Pdif** **00 17 41.5 -0.3**
baz=278
D25A **Fairfield** **104.81 43** Pdiff **Pdif** **00 17 41.6 -0.3**
baz=278
E25A **Miller Ranch,** **104.84 44** Pdiff **Pdif** **00 17 42.0 -0.1**
baz=277
PMSA **Palmer Station** **104.84 165** PFAKE 00 17 50.0 +8.4
PMSA LR LR
comp=Z,8μm,18.0s
F25A **Bowman** **104.87 44** Pdiff **Pdif** **00 17 41.9 -0.4**
baz=277
H25A **Fruitdale** **104.92 45** Pdiff **Pdif** **00 17 43.3 +0.7**
baz=277
T25A **Trinidad** **105.00 53** Pdiff **Pdif** **00 17 44.6 +1.4**
baz=274
T25A **Trinidad** **105.00 53** PFAKE 00 22 10.0
T25A LR LR
comp=Z,15μm,19.0s
HSPB **Hornsund (broa** **105.09 351** *e*Pdif **Pdif** **00 17 42.3 -0.2**
HSPB *e*PP **PP** **00 22 04.3 +1.3**
HSPB *e*SKSac **SKSac** **00 28 21.9 +1.5**
HSPB IVMs_BB IVMs_BB 01 02 07.2
comp=Z,3μm,22.0s
LVZ **Lovozero** **105.22 339** PFAKE 00 22 10.0
LVZ LR LR
comp=Z,8μm,22.0s
A26A **Wade Farm, Ken** **105.42 41** Pdiff **Pdif** **00 17 44.7 +0.1**
baz=279
D26A **Manning** **105.43 43** Pdiff **Pdif** **00 17 45.4 +0.7**
baz=278
F26A **Lodgepole** **105.43 44** Pdiff **Pdif** **00 17 45.7 +1.0**
baz=278

E26A	**Carlson Angus**	**105.49**	**43**	Pdiff	**Pdif**	**00 17 46.3**	**+1.4**
	baz=278						
APA	**Apatity**	**105.79**	**339**	⇑*i*P	**Pdif**	**00 17 43.4**	**-2.3**
APA				*i*		00 28 16.0	
APA				*i* S	**Sdif**	**00 29 32.0**	**-9.0**
APA				*i* PS	**PS**	**00 31 13.0**	**-12**
APA				*i* SS	**SKKPbc**	**00 37 09.0**	**+2.5**
APA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
APA				MLR	MLR		
	comp=Z,13µm,22.0s						
A27A	**Ledoux Ranch,**	**105.93**	**41**	Pdiff	**Pdif**	**00 17 46.6**	**-0.2**
	baz=280						
LTX	**Lajitas**	**106.05**	**61**	*e*P	**Pdif**	**00 17 46.1**	**-1.8**
LTX				*e*		00 22 10.9	
LTX	**Lajitas**	**106.05**	**61**	*e*Pdif	**Pdif**	**00 17 46.1**	**-1.8**
LTX				*e*PKiKP	**PKiKP**	**00 21 57.7**	**-2.4**
LTX				*e*PP	**PP**	**00 22 10.9**	**-0.9**
LTX				*e*PKKPbc	**PKKPbc**	**00 33 24.7**	**+2.0**
LTX				*e*P'P'df	**P'P'df**	**00 41 51.2**	**+5.1**
TXAR	**Lajitas Array**	**106.05**	**61**	Pdiff	**Pdif**	**00 17 46.1**	**-1.8**
	comp=Z,0.4nm,1.1s,baz=204,slow=12,SNR=3.0						
TXAR				PKiKP	**PKiKP**	**00 21 57.7**	**-2.4**
	comp=Z,1.0nm,0.9s,baz=286,slow=4.6,SNR=3.6						
TXAR				PP	**PP**	**00 22 10.9**	**-0.9**
	comp=Z,8.7nm,1.2s,baz=255,slow=4.9,SNR=12						
TXAR				PKKPbc	**PKKPbc**	**00 33 24.7**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=133,slow=5.3,SNR=5.5						
TXAR				PKPPKP	**P'P'df**	**00 41 51.2**	**+5.1**
	comp=Z,0.6nm,0.9s,baz=42,slow=1.5,SNR=3.8						
BJO	**Bjornoya**	**106.09**	**348**	*e*PP	PP	00 22 09.1	-1.3
BJO				*e*SKSac	**SKSac**	**00 28 23.5**	**-1.4**
BJO				*e*SS	**SS**	**00 37 13.2**	**+4.1**
BJO				IVMs_BB	IVMs_BB	01 03 16.4	
	comp=Z,4µm,23.2s						
KSCO	**Kaye Shedlock'**	**106.24**	**51**	Pdiff	**Pdif**	**00 17 49.2**	**+0.6**
	baz=276						
KSCO	**Kaye Shedlock'**	**106.24**	**51**	PFAKE		00 22 10.0	
KSCO				LR	LR		
	comp=Z,48µm,21.0s						
GUDG	**Gudauri**	**106.28**	**312**	P	PP	00 22 25.7	+12
GNI	**Garni**	**106.35**	**310**	PKiKP	**PKiKP**	**00 22 02.1**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=166,slow=4.2,SNR=3.6						
GNI				PP	PP	00 22 21.9	+8.2
	comp=Z,7.7nm,0.8s,baz=262,slow=11,SNR=3.9						
GNI	**Garni**	**106.35**	**310**	*e*PKiKP	**PKiKP**	**00 22 02.1**	**+1.7**
GNI				*e*PP	PP	00 22 21.9	+8.2
GNI				LR	LR		
	comp=Z,6µm,20.0s						
OGNE	**Ogallala**	**106.49**	**49**	Pdiff	**Pdif**	**00 17 50.4**	**+0.8**
	baz=277						
A28A	**Rude Farm, Bot**	**106.57**	**41**	Pdiff	**Pdif**	**00 17 50.9**	**+1.2**
	baz=280						
B28A	**Dugan Ranch, T**	**106.59**	**41**	Pdiff	**Pdif**	**00 17 51.1**	**+1.3**
	baz=280						
D28A	**Regan**	**106.66**	**43**	Pdiff	**Pdif**	**00 17 51.2**	**+1.1**
	baz=280						
C28A	**Hausauer Farms**	**106.70**	**42**	Pdiff	**Pdif**	**00 17 50.6**	**+0.3**
	baz=280						
VRH	**Novokhopyorsk**	**106.73**	**322**	*e*P	**Pdif**	**00 18 04.3**	**+14**
VRH				*e*		00 28 25.3	
VRH				*e*PS	**PS**	**00 31 36.6**	**+0.7**
VRH				*e*SS	SS	00 37 22.1	+3.0
VRH				pmax	pmax		
	comp=Z,20nm,0.9s						
VRH				MLR	MLR		
	comp=Z,7µm,21.0s						
KEV	**Kevo**	**106.86**	**342**	PFAKE		00 22 10.0	
KEV				LR	LR		
	comp=Z,9µm,21.0s						
GOF	**Gofitskoye**	**106.95**	**315**⇑	*e*P	**Pdif**	**00 17 38.5**	**-13**
GOF				pmax	pmax		
	comp=Z,33nm,1.1s						
ONI	**Oni**	**107.02**	**313**	P	**PP**	**00 22 18.6**	**+0.2**
MDND	**Maddock**	**107.19**	**42**	Pdiff	**Pdif**	**00 17 52.7**	**+0.2**
	baz=281						
MDND	**Maddock**	**107.19**	**42**	PFAKE		00 22 10.0	
MDND				LR	LR		
	comp=Z,16µm,20.0s						
ZAIG	**Zacatecas**	**107.21**	**68**	PFAKE		00 22 10.0	
ZAIG				LR	LR		
	comp=Z,13µm,18.0s						
A29A	**Manning Farm,**	**107.23**	**41**	Pdiff	**Pdif**	**00 17 54.0**	**+1.3**
	baz=281						
B29A	**Wagenman Farm,**	**107.24**	**41**	Pdiff	**Pdif**	**00 17 53.5**	**+0.8**
	baz=281						
KBZ	**Khabaz**	**107.26**	**314**	PKiKP	**PKiKP**	**00 22 04.0**	**+2.3**
	comp=Z,5.7nm,1.0s,baz=12,slow=3.0,SNR=4.3						
H29A	**Onida**	**107.32**	**45**	Pdiff	**Pdif**	**00 17 53.8**	**+0.7**
	baz=279						
D29A	**Pettibone, Tap**	**107.34**	**43**	Pdiff	**Pdif**	**00 17 52.8**	**-0.3**
	baz=280						
HAMF	**Hammerfest**	**107.34**	**344**	*e*Pdif	**Pdif**	**00 17 51.1**	**-1.4**
HAMF				*e*PP	**PP**	**00 22 19.9**	**+0.3**
HAMF				*e*SKSac	**SKSac**	**00 28 31.2**	**+0.7**
HAMF				IVMs_BB	IVMs_BB	01 12 06.4	
	comp=Z,4µm,18.8s						
I29A	**Vivian Onida**	**107.35**	**46**	Pdiff	**Pdif**	**00 17 53.2**	**-0.1**
	baz=279						
KVAR	**Kislovodsk Arr**	**107.37**	**314**	PKiKP	**PKiKP**	**00 22 02.3**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=269,slow=1.1,SNR=4.0						
KIV	**Kislovodsk**	**107.37**	**314**	*i* P	**Pdif**	**00 17 51.0**	**-2.5**
KIV				*e*		00 22 18.8	
KIV				*e*		00 28 29.8	
KIV				*e*PS	**PS**	**00 31 44.6**	**+1.5**
KIV				*e*SS	SS	00 37 28.1	-0.5
KIV				*e*SSS	SSS	00 41 29.6	
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV				MLR	MLR		
	comp=Z,9µm,21.0s						
KIV	**Kislovodsk**	**107.37**	**314**	*e*PKiKP	**PKiKP**	**00 22 02.3**	**+0.2**
KIV				LR	LR		
	comp=Z,9µm,21.0s						
AMTX	**Amarillo**	**107.38**	**55**	Pdiff	**Pdif**	**00 17 55.3**	**+1.6**
	baz=275						
F29A	**Eureka**	**107.39**	**44**	Pdiff	**Pdif**	**00 17 54.1**	**+0.7**
	baz=280						
E29A	**Napoleon**	**107.39**	**43**	Pdiff	**Pdif**	**00 17 53.8**	**+0.3**
	baz=280						
ARA0	**ARCESS Array S**	**107.43**	**343**	*e*Pdif	**Pdif**	**00 17 51.7**	**-1.3**
ARA0				*e*PKiKP	**PKiKP**	**00 22 00.7**	**-0.6**
ARA0				*e*PKKPbc	**PKKPbc**	**00 33 15.1**	**-4.5**
ARCES	**ARCESS Array B**	**107.43**	**343**	Pdiff	**Pdif**	**00 17 51.7**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=105,slow=6.8,SNR=4.0						
ARCES				PKiKP	**PKiKP**	**00 22 00.7**	**-0.6**
	comp=Z,5.1nm,0.5s,baz=98,slow=1.2,SNR=33						
ARCES				PKKPbc	**PKKPbc**	**00 33 15.1**	**-4.5**
	comp=Z,1.0nm,0.5s,baz=277,slow=2.0,SNR=9.1						
ARE0	**ARCESS Array S**	**107.43**	**343**	*e*Pdif	**Pdif**	**00 17 51.9**	**-1.1**
ARE0				*e*		00 22 17.2	
ARE0				*e*SKSac	**SKSac**	**00 28 29.1**	**-2.0**
ARE0				*e*SS	**SS**	**00 37 34.6**	**+7.1**
ARE0				IVMs_BB	IVMs_BB	01 08 07.1	
	comp=Z,3µm,24.0s						
ARE0	**ARCESS Array S**	**107.43**	**343**	PFAKE		00 22 10.0	
ARE0				LR	LR		
	comp=Z,10µm,20.0s						
G29A	**Hoven**	**107.43**	**45**	Pdiff	**Pdif**	**00 17 54.0**	**+0.4**
	baz=280						
FCC	**Fort Churchill**	**107.68**	**30**	PFAKE		00 22 10.0	
FCC				LR	LR		
	comp=Z,35µm,19.0s						
DAMY	**Dhamar**	**107.70**	**283**	PFAKE		00 22 10.0	
DAMY				LR	LR		
	comp=Z,5µm,20.0s						
A30A	**Hoffart Farm,**	**107.83**	**40**	Pdiff	**Pdif**	**00 17 55.8**	**+0.5**
	baz=282						
D30A	**Buchanan**	**107.89**	**42**	Pdiff	**Pdif**	**00 17 56.4**	**+0.8**
	baz=281						
E30A	**Jud**	**107.90**	**43**	Pdiff	**Pdif**	**00 17 55.7**	**+0.1**
	baz=281						
TUTA	**Tutak**	**107.91**	**309**	*i* P	**PKiKP**	**00 21 59.4**	**-4.1**
B30A	**Myrvik Farm, E**	**107.92**	**41**	Pdiff	**Pdif**	**00 17 55.9**	**+0.2**
	baz=282						
F30A	**Leola**	**107.94**	**44**	Pdiff	**Pdif**	**00 17 55.7**	**-0.2**
	baz=280						
C30A	**Mose, Pekin**	**107.97**	**42**	Pdiff	**Pdif**	**00 17 56.9**	**+1.0**
	baz=281						
G30A	**Faulkton**	**107.99**	**44**	Pdiff	**Pdif**	**00 17 56.4**	**+0.3**
	baz=280						
I30A	**Oacoma**	**107.99**	**46**	Pdiff	**Pdif**	**00 17 56.9**	**+0.8**
	baz=280						
J30A	**Dallas**	**108.04**	**46**	Pdiff	**Pdif**	**00 17 57.0**	**+0.6**
	baz=279						
K30A	**Basset**	**108.05**	**47**	Pdiff	**Pdif**	**00 17 57.2**	**+0.7**
	baz=279						
EATA	**Eleskirt**	**108.10**	**310**	*i* P	**PKiKP**	**00 22 02.7**	**-1.1**
LPSR	**Galich'ya Gora**	**108.10**	**324**	*e*P	**Pdif**	**00 18 02.3**	**+6.0**
LPSR				*e*		00 28 34.3	
LPSR				*e*PS	**PS**	**00 31 46.4**	**-3.5**
LPSR				*e*SS	SS	00 37 46.8	+9.2
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LPSR				MLR	MLR		
	comp=Z,4µm,19.0s						
SUSD	**Miller**	**108.24**	**45**	Pdiff	**Pdif**	**00 17 57.9**	**+0.7**
	baz=280						
VSR	**Storozhevoye**	**108.30**	**322**	*e*P	**Pdif**	**00 17 58.3**	**+1.0**
VSR				*e*		00 28 33.5	
VSR				*e*PS	**PS**	**00 31 47.3**	**-4.6**
VSR				*e*SS	SS	00 37 41.8	+1.5
VSR				*e*SSS	SSS	00 41 49.8	
VSR				pmax	pmax		
	comp=Z,20nm,1.1s						
VSR				MLR	MLR		
	comp=Z,5µm,17.0s						
B31A	**Greenbush Farm**	**108.36**	**41**	Pdiff	**Pdif**	**00 17 57.6**	**0.0**
	baz=282						
DAGI	**Agillar**	**108.36**	**311**	*i* P	**PKiKP**	**00 22 03.8**	**-0.3**
C31A	**Landman Farms,**	**108.44**	**42**	Pdiff	**Pdif**	**00 17 58.4**	**+0.4**
	baz=282						
F31A	**Hecla**	**108.47**	**44**	Pdiff	**Pdif**	**00 17 58.8**	**+0.6**
	baz=281						
CBKS	**Cedar Bluff**	**108.50**	**51**	Pdiff	**Pdif**	**00 17 59.1**	**+0.5**
	baz=278						
EKAR	**Karacoban**	**108.50**	**309**	*i* P	**PKiKP**	**00 22 04.8**	**+0.2**
MOIG	**Morelia**	**108.52**	**71**	PFAKE		00 22 20.0	
MOIG				LR	LR		
	comp=Z,20µm,21.0s						
DBAD	**Bademkaya**	**108.54**	**311**	*i* P	**PKiKP**	**00 22 03.4**	**-1.0**
A31A	**Linda, St. Vin**	**108.55**	**40**	Pdiff	**Pdif**	**00 17 59.5**	**+1.0**
	baz=283						
H31A	**Wolsey**	**108.57**	**45**	Pdiff	**Pdif**	**00 17 58.5**	**-0.2**
	baz=280						
E31A	**Nome**	**108.58**	**43**	Pdiff	**Pdif**	**00 17 59.1**	**+0.4**
	baz=282						
J31A	**Geddes**	**108.59**	**46**	Pdiff	**Pdif**	**00 17 59.2**	**+0.4**
	baz=280						
D31A	**Mcclaflin, Tow**	**108.60**	**42**	Pdiff	**Pdif**	**00 17 59.1**	**+0.3**
	baz=282						
I31A	**Royce, Wessing**	**108.61**	**46**	Pdiff	**Pdif**	**00 17 59.1**	**+0.2**
	baz=280						
G31A	**Conde**	**108.62**	**44**	Pdiff	**Pdif**	**00 17 58.8**	**-0.1**
	baz=281						
O31A	**Woolen Ranch,**	**108.64**	**50**	Pdiff	**Pdif**	**00 17 59.7**	**+0.5**
	baz=278						
K31A	**O'Neill**	**108.69**	**47**	Pdiff	**Pdif**	**00 17 59.6**	**+0.3**
	baz=280						
L31A	**Butterfield Fa**	**108.70**	**48**	Pdiff	**Pdif**	**00 18 00.0**	**+0.7**
	baz=279						
M31A	**Lambtecht Ranc**	**108.72**	**48**	Pdiff	**Pdif**	**00 17 59.8**	**+0.3**
	baz=279						
OBN	**Obninsk**	**108.76**	**327**	PKiKP	**PKiKP**	**00 22 04.9**	**+0.8**
	comp=Z,7.4nm,0.6s,baz=42,slow=1.2,SNR=11						
OBN				PP	**PP**	**00 22 26.3**	**-4.2**
	comp=Z,6.3nm,0.5s,baz=26,slow=0.9,SNR=3.4						
OBN	**Obninsk**	**108.76**	**327**	*e*PP	PP	00 22 26.3	-4.2
OBN				LR	LR		
	comp=Z,14µm,22.0s						
DAG	**Danmarks Havn**	**108.94**	**358**	*i* P	**PKKPbc**	**00 33 11.6**	**-3.2**
ERZM	**Erzurum**	**108.95**	**310**	*i* P	**PKiKP**	**00 22 06.9**	**+1.5**
A32A	**Rocking H Ranc**	**109.00**	**40**	Pdiff	**Pdif**	**00 18 00.7**	**+0.2**
	baz=283						
A32A				PKiKP	**PKiKP**	**00 22 05.5**	**+0.7**
	baz=283						
ULM	**Lac du Bonnet**	**109.08**	**39**	Pdiff	**Pdif**	**00 18 01.4**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=298,slow=6.6,SNR=4.9						
ULM				PKiKP	**PKiKP**	**00 22 05.5**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=159,slow=1.3,SNR=3.6						
ULM				PKKPab	**PKKPab**	**00 33 24.8**	**+0.3**
	comp=Z,7.3nm,1.1s,baz=93,slow=5.4,SNR=4.8						
ULM	**Lac du Bonnet**	**109.08**	**39**	P	**Pdif**	**00 18 01.4**	**+0.6**
ULM				MLR	MLR		
	comp=Z,19µm,20.0s						
ULM	**Lac du Bonnet**	**109.08**	**39**	Pdif	**Pdif**	**00 18 01.4**	**+0.6**
ULM				PKiKP	**PKiKP**	**00 22 05.5**	**+0.6**
ULM				LR	LR		
	comp=Z,19µm,20.0s						
B32A	**Ashes, Strandq**	**109.09**	**41**	Pdiff	**Pdif**	**00 18 01.7**	**+0.8**
	baz=283						
B32A				PKiKP	**PKiKP**	**00 22 06.7**	**+1.7**
	baz=283						
G32A	**Webster**	**109.11**	**44**	Pdiff	**Pdif**	**00 18 01.4**	**+0.3**
	baz=281						
J32A	**Parkston**	**109.21**	**46**	Pdiff	**Pdif**	**00 18 01.9**	**+0.4**
	baz=280						
C32A	**Crookston**	**109.23**	**41**	Pdiff	**Pdif**	**00 18 02.5**	**+1.0**
	baz=283						
F32A	**Veblen**	**109.24**	**43**	Pdiff	**Pdif**	**00 18 02.2**	**+0.5**
	baz=282						
TRO	**Tromso**	**109.25**	**344**	*e*Pdif	**Pdif**	**00 17 59.6**	**-1.5**
TRO				*e*PP	**PP**	**00 22 34.5**	**+1.0**
TRO				*e*SKSac	**SKSac**	**00 28 37.1**	**-1.6**
TRO				IVMs_BB	IVMs_BB	01 06 51.4	
	comp=Z,5µm,22.7s						
BNGL	**NGOL**	**109.25**	**309**	*i* P	**PKiKP**	**00 22 07.6**	**+1.7**
P32A	**Huiting Farm,**	**109.27**	**50**	PKiKP	**PKiKP**	**00 22 06.5**	**+0.9**
	baz=279						
ABTX	**Abilene, Hawle**	**109.28**	**58**	PFAKE		00 22 20.0	
ABTX				LR	LR		
	comp=Z,15µm,22.0s						
S32A	**Newby Ranch, P**	**109.28**	**52**	Pdiff	**Pdif**	**00 18 01.9**	**-0.1**
	baz=278						
N32A	**Stulken Farm,**	**109.32**	**49**	Pdiff	**Pdif**	**00 18 02.8**	**+0.7**
	baz=279						
JCT	**Junction City**	**109.33**	**60**	Pdiff	**Pdif**	**00 18 03.2**	**+0.8**
	baz=275						
JCT				PKiKP	**PKiKP**	**00 22 06.3**	**+0.2**
	baz=275						
BGNE	**Belgrade**	**109.33**	**48**	Pdiff	**Pdif**	**00 18 03.0**	**+0.9**
	baz=280						
BGNE	**Belgrade**	**109.33**	**48**	PFAKE		00 22 20.0	
BGNE				LR	LR		
	comp=Z,18µm,20.0s						
832A	**Faith Ranch, C**	**109.33**	**62**	Pdiff	**Pdif**	**00 18 03.4**	**+0.9**
	baz=274						
832A				PKiKP	**PKiKP**	**00 22 06.5**	**+0.4**
	baz=274						
R32A	**Long Quarter,**	**109.35**	**51**	Pdiff	**Pdif**	**00 18 03.9**	**+1.6**
	baz=278						
Q32A	**Meitler Ranch,**	**109.39**	**51**	PKiKP	**PKiKP**	**00 22 05.6**	**-0.4**
	baz=278						
U32A	**Winter Ranch,**	**109.39**	**54**	Pdiff	**Pdif**	**00 18 04.2**	**+1.6**
	baz=277						
O32A	**Brockman Farm,**	**109.42**	**49**	Pdiff	**Pdif**	**00 18 02.8**	**+0.3**
	baz=279						
V32A	**Arapaho**	**109.44**	**54**	Pdiff	**Pdif**	**00 18 03.7**	**+1.0**
	baz=277						
AGMN	**Agassiz Nation**	**109.55**	**41**	Pdiff	**Pdif**	**00 18 03.9**	**+1.0**
	baz=284						
AGMN				PKiKP	**PKiKP**	**00 22 06.2**	**+0.3**
	baz=284						
SOC	**Sochi**	**109.56**	**314**	*i* P	**Pdif**	**00 18 01.1**	**-1.9**
SOC				*e*		00 22 36.9	
SOC				*e*PP	PPP	00 24 53.3	
SOC				*e*		00 28 40.3	
SOC				*e*PS	**PS**	**00 32 02.7**	**-2.4**
SOC				*e*SS	SS	00 37 50.5	-7.3
SOC				*e*SSS	SSS	00 42 00.9	
SOC				MLR	MLR		
	comp=Z,13µm,22.0s						
A33A	**Warroad**	**109.70**	**40**	Pdiff	**Pdif**	**00 18 04.4**	**+0.8**
	baz=284						
A33A				PKiKP	**PKiKP**	**00 22 06.2**	**0.0**
	baz=284						
B33A	**Robert and Kas**	**109.74**	**41**	Pdiff	**Pdif**	**00 18 04.3**	**+0.5**
	baz=284						
B33A				PKiKP	**PKiKP**	**00 22 07.2**	**+0.9**
	baz=284						
C33A	**Trail**	**109.74**	**41**	Pdiff	**Pdif**	**00 18 04.9**	**+1.2**
	baz=284						
C33A				PKiKP	**PKiKP**	**00 22 06.6**	**+0.3**
	baz=284						
H33A	**Prehn Over Nor**	**109.75**	**45**	PKiKP	**PKiKP**	**00 22 06.5**	**+0.1**
	baz=282						
WMOK	**Wichita Mounta**	**109.77**	**55**	PFAKE		00 22 20.0	
WMOK				LR	LR		
	comp=Z,14µm,21.0s						
F33A	**5 Mile Ranch,**	**109.82**	**43**	PKiKP	**PKiKP**	**00 22 06.4**	**-0.1**
	baz=282						
133A	**Hamilton Ranch**	**109.89**	**58**	PKiKP	**PKiKP**	**00 22 08.2**	**+1.2**
	baz=276						
733A	**Divot King Ran**	**109.90**	**62**	PKiKP	**PKiKP**	**00 22 08.2**	**+1.1**
	baz=274						
333A	**Richland Sprin**	**109.95**	**59**	PKiKP	**PKiKP**	**00 22 08.3**	**+1.1**
	baz=275						
Y33A	**Hilltop Ranch,**	**109.98**	**56**	PKiKP	**PKiKP**	**00 22 09.1**	**+1.9**
	baz=277						
933A	**Laredo**	**110.00**	**63**	PKiKP	**PKiKP**	**00 22 08.4**	**+1.1**
	baz=274						
ECSD	**EROS Data Cent**	**110.03**	**46**	PKiKP	**PKiKP**	**00 22 08.5**	**+1.5**
	baz=282						
ECSD	**EROS Data Cent**	**110.03**	**46**	*e*Pdif	**Pdif**	**00 18 05.2**	**0.0**
D34A	**Park Rapids**	**110.28**	**42**	PKiKP	**PKiKP**	**00 22 08.9**	**+1.6**
	baz=284						
B34A	**Aery, Baudette**	**110.29**	**40**	PKiKP	**PKiKP**	**00 22 08.2**	**+0.9**
	baz=285						
UNM	**Universidad Na**	**110.42**	**72**	PFAKE		00 22 20.0	
UNM				LR	LR		
	comp=Z,14µm,18.0s						
H34A	**Spellman Lake,**	**110.42**	**44**	PKiKP	**PKiKP**	**00 22 09.1**	**+1.4**
	baz=282						
TNCL	**Tunceli-Merkez**	**110.47**	**309**	*i* P	**PKiKP**	**00 22 07.1**	**-1.0**
534A	**Blanco**	**110.51**	**60**	PKiKP	**PKiKP**	**00 22 08.9**	**+0.6**
	baz=275						
KELT	**Kelkit**	**110.51**	**311**	*i* P	**PKiKP**	**00 22 07.3**	**-1.0**
W34A	**Bridge Creek,**	**110.53**	**55**	PFAKE		00 22 20.0	
W34A				LR	LR		
	comp=Z,16µm,21.0s						
L34A	**Svendsen Farm,**	**110.54**	**47**	PKiKP	**PKiKP**	**00 22 10.3**	**+2.3**
	baz=281						
U34A	**Anderson Ranch**	**110.56**	**53**	PKiKP	**PKiKP**	**00 22 10.3**	**+2.1**
	baz=278						
U34A	**Anderson Ranch**	**110.56**	**53**	PFAKE		00 22 20.0	
U34A				LR	LR		
	comp=Z,12µm,19.0s						
034A	**Hebbronville**	**110.56**	**63**	PKiKP	**PKiKP**	**00 22 08.9**	**+0.5**
	baz=274						
834A	**Tilden**	**110.60**	**62**	PKiKP	**PKiKP**	**00 22 10.4**	**+1.9**
	baz=274						
434A	**Burnet**	**110.61**	**59**	PKiKP	**PKiKP**	**00 22 09.4**	**+0.9**
	baz=276						
O34A	**Beatrice**	**110.62**	**49**	PKiKP	**PKiKP**	**00 22 10.1**	**+1.9**
	baz=280						
V34A	**Guthrie**	**110.66**	**54**	PKiKP	**PKiKP**	**00 22 09.1**	**+0.7**
	baz=278						
V34A	**Guthrie**	**110.66**	**54**	PFAKE		00 22 20.0	
V34A				LR	LR		
	comp=Z,22µm,19.0s						
Y34A	**Reagan Ranch,**	**110.70**	**56**	PKiKP	**PKiKP**	**00 22 09.5**	**+1.0**
	baz=277						
ANN	**Anapa**	**110.91**	**316**	*i* PKiKP	**PKiKP**	**00 22 06.3**	**-2.3**
ANN				*e*		00 22 42.8	
ANN				*e*		00 28 45.7	
ANN				*e*PS	**PS**	**00 32 20.3**	**+2.4**
ANN				*e*SS	SS	00 38 18.4	+2.5
ANN				pmax	pmax		
	comp=Z,56nm,1.6s						
ANN				MLR	MLR		
	comp=N,2µm,20.0s						
ANN				MLR	MLR		
	comp=Z,7µm,20.0s						
ANN				MLR	MLR		
	comp=E,7µm,20.0s						
B35A	**Bob, Littlefor**	**110.92**	**40**	PKiKP	**PKiKP**	**00 22 09.9**	**+1.4**
	baz=285						
C35A	**Jirik Farms, M**	**110.93**	**41**	PKiKP	**PKiKP**	**00 22 09.2**	**+0.6**
	baz=285						
E35A	**Pequot Lakes**	**110.93**	**42**	PKiKP	**PKiKP**	**00 22 10.2**	**+1.6**
	baz=284						
F35A	**Swanville**	**110.98**	**43**	PKiKP	**PKiKP**	**00 22 08.6**	**-0.1**
	baz=284						
TLIG	**Tlapa**	**111.02**	**74**	PFAKE		00 22 20.0	
TLIG				LR	LR		
	comp=Z,15µm,18.0s						
D35A	**Remer**	**111.03**	**42**	PKiKP	**PKiKP**	**00 22 11.0**	**+2.3**
	baz=285						
H35A	**Sunnyside Ranc**	**111.08**	**44**	PKiKP	**PKiKP**	**00 22 11.1**	**+2.2**
	baz=283						
J35A	**Milford**	**111.10**	**46**	PKiKP	**PKiKP**	**00 22 09.9**	**+0.9**
	baz=282						
I35A	**Creekview Farm**	**111.16**	**45**	PKiKP	**PKiKP**	**00 22 11.3**	**+2.2**
	baz=283						
135A	**Vickery Place,**	**111.16**	**57**	PKiKP	**PKiKP**	**00 22 10.8**	**+1.3**
	baz=277						
WHTX	**Lake Whitney,**	**111.18**	**58**	PKiKP	**PKiKP**	**00 22 10.1**	**+0.6**
	baz=276						
WHTX	**Lake Whitney,**	**111.18**	**58**	PFAKE		00 22 20.0	
WHTX				LR	LR		
	comp=Z,12µm,20.0s						
G35A	**Watkins**	**111.19**	**44**	PKiKP	**PKiKP**	**00 22 11.3**	**+2.2**
	baz=284						
Z35A	**Perchaven, San**	**111.20**	**57**	PKiKP	**PKiKP**	**00 22 11.4**	**+1.9**
	baz=277						
435B	**Jarrell**	**111.20**	**59**	PKiKP	**PKiKP**	**00 22 10.1**	**+0.5**
	baz=276						
P35A	**Duane Minner,**	**111.25**	**50**	PKiKP	**PKiKP**	**00 22 09.5**	**0.0**
	baz=280						
W35A	**Tecumseh**	**111.27**	**55**	PKiKP	**PKiKP**	**00 22 09.9**	**+0.3**
	baz=278						
335A	**Moody**	**111.28**	**59**	PKiKP	**PKiKP**	**00 22 10.6**	**+0.9**
	baz=276						
535A	**Dale**	**111.29**	**60**	PKiKP	**PKiKP**	**00 22 09.5**	**-0.2**
	baz=276						
X35A	**Drake**	**111.29**	**55**	PKiKP	**PKiKP**	**00 22 09.5**	**-0.1**
	baz=278						
SUSE	**Susehri**	**111.29**	**311**	*i* P	**PKiKP**	**00 22 07.0**	**-2.7**
T35A	**Sooner Cattle**	**111.30**	**53**	PKiKP	**PKiKP**	**00 22 09.6**	**0.0**
	baz=279						
Y35A	**Marietta**	**111.30**	**56**	PKiKP	**PKiKP**	**00 22 09.2**	**-0.5**
	baz=278						
S35A	**Otter Creek Ra**	**111.33**	**52**	PKiKP	**PKiKP**	**00 22 11.1**	**+

D37A	**Cotton**	**112.09**	**41**	PKiKP	**PKiKP**	**00 22 12.1**	**+1.3**
	baz=286								
ERBA	**Erbaa**	**112.29**	**312**	*i* P	**PKiKP**	**00 22 11.6**	**+0.2**
J37A	**Redenius Farm,**	**112.29**	**46**	PKiKP	**PKiKP**	**00 22 11.4**	**+0.1**
	baz=284								
SPMN	**Marine on St.**	**112.34**	**43**	PKiKP	**PKiKP**	**00 22 12.1**	**+0.8**
	baz=285								
SPMN	**Marine on St.**	**112.34**	**43**	PFAKE		00 22 20.0			
SPMN				LR	LR				
	comp=Z,17µm,20.0s								
M37A	**Trindle Farm,**	**112.35**	**48**	PKiKP	**PKiKP**	**00 22 11.5**	**0.0**
	baz=282								
K37A	**Belmond**	**112.36**	**46**	PKiKP	**PKiKP**	**00 22 10.8**	**-0.6**
	baz=283								
R37A	**Teagarden Farm**	**112.38**	**51**	PKiKP	**PKiKP**	**00 22 13.6**	**+2.0**
	baz=281								
637A	**Eagle Lake**	**112.42**	**61**	PKiKP	**PKiKP**	**00 22 11.7**	**-0.2**
	baz=276								
W37B	**Quinton**	**112.44**	**54**	PKiKP	**PKiKP**	**00 22 12.5**	**+0.7**
	baz=279								
Y37A	**Hugo**	**112.46**	**56**	PKiKP	**PKiKP**	**00 22 12.1**	**+0.3**
	baz=278								
S37A	**Fort Scott**	**112.48**	**52**	PKiKP	**PKiKP**	**00 22 12.4**	**+0.6**
	baz=280								
VSU	**Vasula**	**112.49**	**332**	⇑*i*PKIKP	**PKiKP**	**00 22 11.2**	**+0.1**
VSU				MLR	MLR				
	comp=Z,43µm,22.0s								
P37A	**Lathrop**	**112.51**	**50**	PKiKP	**PKiKP**	**00 22 13.7**	**+1.9**
	baz=282								
T37A	**Cheneyville 18**	**112.53**	**52**	PKiKP	**PKiKP**	**00 22 13.3**	**+1.4**
	baz=280								
137A	**Heron Place, G**	**112.54**	**57**	PKiKP	**PKiKP**	**00 22 13.9**	**+1.9**
	baz=278								
O37A	**Wolven Farm, M**	**112.55**	**49**	PKiKP	**PKiKP**	**00 22 12.6**	**+0.8**
	baz=282								
V37A	**Hulbert**	**112.56**	**54**	PKiKP	**PKiKP**	**00 22 11.9**	**-0.1**
	baz=280								
Z37A	**Pogue Cattle C**	**112.57**	**57**	PKiKP	**PKiKP**	**00 22 10.9**	**-1.2**
	baz=278								
237A	**Washetta, Mont**	**112.57**	**58**	PKiKP	**PKiKP**	**00 22 13.1**	**+1.0**
	baz=277								
X37A	**Clayton**	**112.57**	**55**	Pdiff	**Pdif**	**00 18 17.8**	**+1.1**
	baz=279								
CUSAR	**Sarkisla-SIVAS**	**112.93**	**310**	*i* P	**PKiKP**	**00 22 11.4**	**-1.4**
I38A	**Scanlan Farm,**	**112.97**	**45**	PKiKP	**PKiKP**	**00 22 14.7**	**+2.2**
	baz=285								
L38A	**Oak Wood Farm,**	**112.99**	**47**	PKiKP	**PKiKP**	**00 22 12.7**	**+0.1**
	baz=284								
X38A	**Whitesboro**	**113.00**	**55**	PKiKP	**PKiKP**	**00 22 13.2**	**+0.3**
	baz=279								
T38A	**Diamond**	**113.03**	**52**	PKiKP	**PKiKP**	**00 22 13.5**	**+0.6**
	baz=280								
J38A	**Wedel Dairy, R**	**113.05**	**45**	PKiKP	**PKiKP**	**00 22 13.5**	**+0.8**
	baz=284								
O38A	**Galt**	**113.06**	**49**	PKiKP	**PKiKP**	**00 22 12.5**	**-0.3**
	baz=282								
U38A	**Gravette**	**113.07**	**53**	PKiKP	**PKiKP**	**00 22 13.3**	**+0.3**
	baz=280								
138A	**Matatall Enter**	**113.09**	**57**	PKiKP	**PKiKP**	**00 22 14.1**	**+1.0**
	baz=278								
FURI	**Furi**	**113.09**	**277**	PFAKE		00 22 30.0			
FURI				LR	LR				
	comp=Z,5µm,19.0s								
N38A	**Joes South For**	**113.09**	**48**	PKiKP	**PKiKP**	**00 22 13.6**	**+0.7**
	baz=283								
SUMG	**Summit**	**113.11**	**3**	*i* P	**PKKPab**	**00 33 06.5**	**-0.2**
SUMG	**Summit**	**113.11**	**3**	PFAKE		00 22 20.0			
SUMG				LR	LR				
	comp=Z,10µm,22.0s								
P38A	**Dawn**	**113.12**	**49**	PKiKP	**PKiKP**	**00 22 13.6**	**+0.7**
	baz=282								
V38A	**Canehill**	**113.15**	**54**	PKiKP	**PKiKP**	**00 22 13.0**	**-0.1**
	baz=280								
238A	**Jacksonville**	**113.15**	**58**	Pdiff	**Pdif**	**00 18 20.3**	**+1.0**
	baz=278								
SIM	**Simferopol'**	**113.16**	**317**	*de*P	**Pdif**	**00 18 33.8**	**+15**
SIM				*i*		00 22 13.4			
SIM				*i*		00 23 08.0			
SIM				*i* PS	**PS**	**00 32 40.0**	**+1.4**
SIM				*i* SS	SS	00 38 42.0	-3.8
SIM				*i* SSS	SSS	00 42 56.0			
SIM				pmax	pmax				
	comp=Z,36nm,0.5s								
SIM				pmax	pmax				
	comp=Z,640nm,11.0s								
W38A	**Poteau**	**113.19**	**54**	Pdiff	**Pdif**	**00 18 22.4**	**+3.0**
	baz=280								
HHAR	**Hobbs**	**113.45**	**53**	PFAKE		00 22 30.0			
HHAR				LR	LR				
	comp=Z,13µm,19.0s								
439A	**Center Grove,**	**113.61**	**59**	Pdiff	**Pdif**	**00 18 21.1**	**-0.2**
	baz=278								
X39A	**Fountain Ranch**	**113.61**	**55**	PKiKP	**PKiKP**	**00 22 14.6**	**+0.5**
	baz=280								
ASF	**Jabal al Asfar**	**113.65**	**302**	PKiKP	**PKiKP**	**00 22 14.0**	**-0.3**
	comp=Z,7.4nm,1.1s,baz=292,slow=0.3,SNR=7.5								
ASF	**Jabal al Asfar**	**113.65**	**302**	*e*PKiKP	**PKiKP**	**00 22 14.0**	**-0.3**
MICGM	**Minsk**	**113.67**	**328**	*e*PKiP	PKiKP	00 21 54.0	-20
MICGM				*e*PP	**PP**	**00 23 07.0**	**+1.3**
MICGM				*e*PPP	PPP	00 25 40.0			
MICGM				*e*SKS	**SKSac**	**00 28 54.0**	**-3.3**
MICGM				*e*SKKKS		00 30 54.0			
MICGM				*e*PS	**PS**	**00 32 40.0**	**-2.8**
MICGM				*e*SS	SS	00 39 30.0	+38
MICGM				*e*SSS	SSS	00 43 50.0			
MICGM				*e*LR	LR	01 08 00.0			
MICGM				LRM	MLR	01 11 48.0			
	comp=Z,21nm,20.0s								
MICGM				LRM	MLR	01 11 54.0			
	comp=E,17nm,20.0s								
MNK	**Minsk**	**113.67**	**328**	*e*PKIKP	PKiKP	00 21 54.0	-20
MNK				*e*		00 23 07.0			
MNK				*e*PPP	PPP	00 25 40.0			
MNK				*e*		00 28 54.0			
MNK				*e*PS	**PS**	**00 32 40.0**	**-2.8**
MNK				MLR	MLR				
	comp=Z,21µm,20.0s								
MNK				MLR	MLR				
	comp=E,17µm,20.0s								
S39A	**Bolivar**	**113.67**	**51**	Pdiff	**Pdif**	**00 18 22.6**	**+1.1**
	baz=281								
YAYL	**Yayladag**	**113.68**	**307**	*i* P	**PKiKP**	**00 22 09.5**	**-4.8**
KMBO	**Kilima Mbogo**	**113.69**	**266**	Pdiff	**Pdif**	**00 18 21.4**	**-1.0**
	comp=E,0.9nm,0.3s,baz=215,slow=6.0,SNR=3.8								
KMBO				PKiKP	**PKiKP**	**00 22 14.8**	**-0.2**
	comp=E,0.7nm,0.3s,baz=117,slow=9.0,SNR=2.9								
KMBO				PKKPab	**PKKPab**	**00 33 03.8**	**-1.5**
	comp=E,0.7nm,0.3s,baz=246,slow=1.4,SNR=3.1								
KMBO	**Kilima Mbogo**	**113.69**	**266**	*e*P	**Pdif**	**00 18 21.4**	**-1.0**
KMBO				*i*		00 22 14.9			
KMBO				MLR	MLR				
	comp=Z,6µm,20.0s								
KMBO	**Kilima Mbogo**	**113.69**	**266**	*e*Pdif	**Pdif**	**00 18 21.4**	**-1.0**
KMBO				*e*PKiKP	**PKiKP**	**00 22 14.8**	**-0.2**
KMBO				*e*PKKPab	**PKKPab**	**00 33 03.8**	**-1.5**
KMBO				LR	LR				
	comp=Z,6µm,20.0s								
239A	**Gary**	**113.69**	**58**	Pdiff	**Pdif**	**00 18 24.1**	**+2.4**
	baz=278								
COAL	**Corum-Alaca**	**113.69**	**311**	*i* P	**PKiKP**	**00 22 13.4**	**-0.8**
JMIC	**Jan Mayen**	**113.70**	**353**	*e*Pdif	**Pdif**	**00 18 19.8**	**-1.1**
JMIC				*e*PP	**PP**	**00 23 01.9**	**-3.5**
339A	**Huntington**	**113.72**	**58**	Pdiff	**Pdif**	**00 18 21.3**	**-0.5**
	baz=278								
Y39A	**Lockesburg**	**113.72**	**56**	Pdiff	**Pdif**	**00 18 22.0**	**+0.3**
	baz=279								
O39A	**Kirksville**	**113.72**	**49**	Pdiff	**Pdif**	**00 18 21.3**	**-0.4**
	baz=283								
P39B	**Salisbury**	**113.73**	**49**	Pdiff	**Pdif**	**00 18 21.4**	**-0.4**
	baz=283								
T39A	**Clever**	**113.75**	**52**	Pdiff	**Pdif**	**00 18 23.5**	**+1.6**
	baz=281								
Z39A	**Irene McRaven,**	**113.75**	**56**	Pdiff	**Pdif**	**00 18 24.2**	**+2.2**
	baz=279								
V39A	**Pettigrew**	**113.76**	**53**	Pdiff	**Pdif**	**00 18 23.5**	**+1.5**
	baz=280								
W39A	**Magazine**	**113.76**	**54**	Pdiff	**Pdif**	**00 18 24.2**	**+2.2**
	baz=280								
R39A	**Chumby, Stover**	**113.77**	**51**	Pdiff	**Pdif**	**00 18 24.9**	**+3.0**
	baz=282								
U39A	**Green Forest**	**113.79**	**53**	Pdiff	**Pdif**	**00 18 23.6**	**+1.4**
	baz=281								
YURE	**YUREGIR**	**113.91**	**308**	*i* P	**PKiKP**	**00 22 14.8**	**+0.2**
MIAR	**Mount Ida**	**114.04**	**55**	Pdiff	**Pdif**	**00 18 25.4**	**+2.2**
	baz=280								
NACGM	**Naroch**	**114.07**	**329**	*e*P	**Pdif**	**00 18 22.0**	**-0.9**
NACGM				*e*PP	**PP**	**00 23 12.0**	**+3.4**
NACGM				*e*PPP	PPP	00 25 40.0			
NACGM				*e*SKS	**SKSac**	**00 28 58.0**	**-0.9**
NACGM				*e*SKKKS		00 30 54.0			
NACGM				*e*SKSP		00 32 46.0			
NACGM				*e*PS	**PKKPab**	**00 33 05.0**	**+2.8**
NACGM				*e*SS	**SS**	**00 38 50.0**	**-7.0**
NACGM				*e*SSS	SSS	00 44 05.0			
NACGM				*e*LQ	LQ	00 54 24.0			
NACGM				*e*LR	LR	01 01 22.0			
NACGM				LRM	MLR	01 10 20.0			
	comp=Z,26nm,22.0s								
AVNS	**Nevsehir-Avano**	**114.12**	**310**	*i* P	PKPdf	00 22 13.4	-1.7
P40A	**Paris**	**114.26**	**49**	Pdiff	**Pdif**	**00 18 26.5**	**+2.5**
	baz=283								
340A	**Bronson**	**114.27**	**58**	Pdiff	**Pdif**	**00 18 27.3**	**+3.0**
	baz=278								
240A	**Hunter Patters**	**114.29**	**58**	Pdiff	**Pdif**	**00 18 25.9**	**+1.6**
	baz=279								
U40A	**Yellville**	**114.30**	**53**	Pdiff	**Pdif**	**00 18 25.2**	**+0.9**
	baz=281								
S40A	**Lebanon**	**114.33**	**51**	Pdiff	**Pdif**	**00 18 26.0**	**+1.5**
	baz=282								
140A	**Cam and Jess,**	**114.35**	**57**	Pdiff	**Pdif**	**00 18 26.0**	**+1.4**
	baz=279								
Q40A	**Laux Farm, Aux**	**114.36**	**50**	Pdiff	**Pdif**	**00 18 26.0**	**+1.5**
	baz=283								
R40A	**Maddies Statio**	**114.36**	**51**	Pdiff	**Pdif**	**00 18 25.3**	**+0.8**
	baz=282								
Y40A	**Okolona**	**114.37**	**55**	Pdiff	**Pdif**	**00 18 26.1**	**+1.4**
	baz=280								
Z40A	**Long Farm, Mag**	**114.40**	**56**	Pdiff	**Pdif**	**00 18 25.4**	**+0.6**
	baz=279								
T40A	**Mansfield**	**114.40**	**52**	Pdiff	**Pdif**	**00 18 27.5**	**+2.7**
	baz=282								
AKASG	**Malin Array Be**	**114.43**	**324**	PKP	PKPdf	00 22 13.1	-2.0
	comp=Z,15nm,0.6s,baz=56,slow=3.1,SNR=26								
AKASG				PP	**PP**	**00 23 14.8**	**+3.5**
	comp=Z,7.1nm,0.9s,baz=58,slow=7.5,SNR=7.0								
AKASG				SKP		00 25 48.6			
	comp=Z,2.7nm,0.8s,baz=52,slow=3.4,SNR=4.6								
AKASG				PKKPbc	**PKKPbc**	**00 32 54.4**	**-1.7**
	comp=Z,3.4nm,0.5s,baz=264,slow=3.7,SNR=13								
AKASG				SKKP		00 36 56.9			
	comp=Z,0.2nm,0.2s,baz=258,slow=6.3,SNR=4.0								
AKBB	**Malin Array Si**	**114.43**	**324**	*e*P	**Pdif**	**00 18 24.2**	**-0.3**
AKBB				pmax	pmax				
	comp=Z,11nm,1.1s								
AKBB	**Malin Array Si**	**114.43**	**324**	*e*PP	**PP**	**00 23 14.8**	**+3.5**
AKBB				*e*SKPdf	**SKPdf**	**00 25 48.6**	**-0.3**
AKBB				*e*PKKPbc	**PKKPbc**	**00 32 54.4**	**-1.7**
AKBB				*e*PKKSdf	PKKSdf	00 36 56.9	+0.6
AKBB				LR	LR				
	comp=Z,13µm,21.0s								
AKBB	**Malin Array Si**	**114.43**	**324**	*e*P	**Pdif**	**00 18 24.2**	**-0.3**
	comp=Z,11nm,1.1s								
KIEV	**Kiev**	**114.44**	**324**	*d i*PKIKP	PKPdf	00 22 13.4	-1.7
KIEV				MLR	MLR				
	comp=Z,12µm,20.0s								
KIEV	**Kiev**	**114.44**	**324**	PFAKE		00 22 30.0	+15
KIEV				LR	LR				
	comp=Z,13µm,22.0s								
ILGA	**Ilgaz**	**114.45**	**313**	*i* P	PKPdf	00 22 15.2	-0.6
GULE	**Gulek**	**114.49**	**308**	*i* P	PKPdf	00 22 15.8	-0.1
WLAR	**White Oak Lake**	**114.57**	**56**	PFAKE		00 22 30.0	+14
WLAR				LR	LR				
	comp=Z,16µm,19.0s								
X40A	**Basin Creek Fa**	**114.66**	**55**	Pdiff	**Pdif**	**00 18 28.0**	**+2.0**
	baz=280								
NSS	**Namsos**	**114.68**	**342**	*e*PP	**PP**	**00 23 11.8**	**-0.7**
NSS				*e*SS	SS	00 39 08.0	+3.7
NSS				IVMs_BB	IVMs_BB	01 09 48.6			
	comp=Z,4µm,23.1s								
MMAI	**Mount Meron Ar**	**114.77**	**304**	PKP	PKPdf	00 22 14.9	-1.5
	comp=Z,3.9nm,0.7s,baz=64,slow=7.5,SNR=8.7								
L41A	**Preston**	**114.78**	**46**	Pdiff	**Pdif**	**00 18 26.8**	**+0.5**
	baz=285								
BR101	**Keskin Array S**	**114.82**	**311**	*e*PKiKP	**PKiKP**	**00 22 14.6**	**-1.9**
BR101				*e*PP	**PP**	**00 23 21.1**	**+6.3**
BR101				*e*SP	SP	00 32 53.4	+3.0
BRTR	**Keskin Array B**	**114.82**	**311**	PKP	PKPdf	00 22 14.6	-1.9
	comp=Z,8.8nm,0.7s,baz=130,slow=2.3,SNR=28								
BRTR				PP	**PP**	**00 23 21.1**	**+6.3**
	comp=Z,7.0nm,1.0s,baz=120,slow=5.0,SNR=3.8								
BRTR				PKKPbc	**PKKPbc**	**00 32 53.4**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=222,slow=2.8,SNR=7.1								
X301	**Greenbrier Sit**	**114.87**	**54**	PFAKE		00 22 30.0	+14
X301				LR	LR				
	comp=Z,15µm,20.0s								
X201	**Greenbrier Sit**	**114.89**	**54**	PFAKE		00 22 30.0	+14
X201				LR	LR				
	comp=Z,16µm,19.0s								
341A	**Kurthwood**	**114.89**	**58**	Pdiff	**Pdif**	**00 18 29.1**	**+2.1**
	baz=279								
Z41A	**Richland Creek**	**114.89**	**56**	Pdiff	**Pdif**	**00 18 27.8**	**+0.7**
	baz=280								
X41A	**Kaden, Bauxite**	**114.92**	**55**	Pdiff	**Pdif**	**00 18 28.5**	**+1.4**
	baz=280								
141A	**Papa Simpson,**	**114.92**	**57**	Pdiff	**Pdif**	**00 18 28.5**	**+1.4**
	baz=279								
Y41A	**Eaglette Beard**	**114.94**	**55**	Pdiff	**Pdif**	**00 18 28.2**	**+0.9**
	baz=280								
WHAR	**Wooly Hollow**	**114.95**	**54**	PFAKE		00 22 30.0	+13
WHAR				LR	LR				
	comp=Z,16µm,20.0s								
441A	**DeRidder**	**114.96**	**59**	PKiKP	**PKiKP**	**00 22 17.2**	**+0.5**
	baz=278								
V41A	**Mountainview**	**114.96**	**53**	PKiKP	PKPdf	00 22 17.2	+0.5
	baz=281								
P41A	**Barry, Barry**	**114.97**	**49**	PKiKP	PKPdf	00 22 16.8	+0.3
	baz=284								
KERG	**Konya-Eregli**	**114.97**	**309**	*i* P	PKPdf	00 22 14.5	-2.3
O41A	**Passleys Farm,**	**115.00**	**48**	PKiKP	PKPdf	00 22 17.9	+1.4
	baz=284								
241A	**Mo Tay, Goldon**	**115.00**	**57**	PKiKP	**PKiKP**	**00 22 17.7**	**+1.0**
	baz=279								
UALR	**University of**	**115.00**	**54**	PFAKE		00 22 30.0	+13
UALR				LR	LR				
	comp=Z,21µm,19.0s								
W41B	**Gary Mavity, V**	**115.00**	**54**	PKiKP	**PKPdf**	**00 22 17.6**	**+0.9**
	baz=281								
KIZK	**Mersin**	**115.15**	**308**	*i* P	**PKPdf**	**00 22 15.8**	**-1.1**
BBAL	**Bala**	**115.25**	**311**	*i* P	**PKPdf**	**00 22 15.0**	**-2.2**
SCO	**Scoresbysund**	**115.33**	**357**	*e*PKiKP	**PKPdf**	**00 22 18.0**	**+1.7**
SCO				MLR	MLR				
	comp=Z,8µm,19.0s								
SCO	**Scoresbysund**	**115.33**	**357**	*i* P	**PKPdf**	**00 22 18.0**	**+1.7**
	comp=Z,8µm,19.0s								
ANTO	**Ankara**	**115.42**	**311**	*e*PKiKP	**PKPdf**	**00 22 16.4**	**-1.1**
ANTO				MLR	MLR				
	comp=Z,6µm,21.0s								
ANTO	**Ankara**	**115.42**	**311**	*e*PKPdf	**PKPdf**	**00 22 16.4**	**-1.1**
ANTO				LR	LR				
	comp=Z,6µm,21.0s								
BR231	**Keskin MP Arra**	**115.44**	**311**	*e*PKPdf	**PKPdf**	**00 22 14.9**	**-2.7**
BR231				*e*PKPdf	**PKiKP**	**00 22 17.6**	**+0.1**
KKUL	**Konya-Kulu**	**115.50**	**311**	*i* P	**PKPdf**	**00 22 16.2**	**-1.4**
V42A	**Cord**	**115.57**	**53**	PKiKP	**PKPdf**	**00 22 17.9**	**+0.2**
	baz=282								
Z42A	**Norrel Spur, H**	**115.60**	**56**	PKiKP	**PKiKP**	**00 22 19.1**	**+1.2**
	baz=280								
CCAR	**Cane Creek**	**115.62**	**55**	PFAKE		00 22 30.0	+12
CCAR				LR	LR				
	comp=Z,14µm,18.0s								
242A	**Grayson**	**115.63**	**57**	PKiKP	**PKiKP**	**00 22 21.2**	**+3.3**
	baz=280								
EIL	**Elat**	**115.66**	**300**	PKP	**PKPdf**	**00 22 16.5**	**-1.6**
	comp=Z,13nm,0.7s,baz=111,slow=0.7,SNR=11								
SLM	**Saint Louis**	**115.84**	**50**	PFAKE		00 22 30.0	+12
SLM				LR	LR				
	comp=Z,29µm,20.0s								
SORM	**Soroca**	**115.92**	**321**	⇑*i*P	**PKPdf**	**00 22 15.7**	**-2.3**
SORM	**Soroca**	**115.92**	**321**	⇑PKIKP	**PKPdf**	**00 22 15.7**	**-2.3**
KIS	**Kishinev**	**116.04**	**320**	*e*PKP	**PKPdf**	**00 22 18.0**	**-0.3**
KIS	**Kishinev**	**116.04**	**320**	*e*PP	PP	00 23 25.0	+2.3
KIS	**Kishinev**	**116.04**	**320**	*e*PKS	**PKSdf**	**00 25 50.0**	**-4.9**
KIS				*e*SKS	**SKSac**	**00 29 08.0**	**+1.3**
KIS				*e*SKKS	**SKKSac**	**00 30 24.0**	**+1.6**
KIS	**Kishinev**	**116.04**	**320**	*e*PS	PS	00 33 12.0	+7.2
KIS				LRM	MLR	01 17 24.0			
	comp=Z,6µm,19.0s								
KIS	**Kishinev**	**116.04**	**320**	*e*PKP	**PKKPbc**	**00 32 46.0**	**-4.3**
KIS	**Kishinev**	**116.04**	**320**	*e*PKIKP	**PKPdf**	**00 22 18.0**	**-0.3**
KIS				*e*		00 23 25.0			
KIS				*e*		00 25 50.0			
KIS				*e*		00 29 08.0			
MILM	**Milestii Mici**	**116.07**	**320**	⇑*i*P	**PKPdf**	**00 22 14.7**	**-3.7**
ERMK	**Ermenek**	**116.08**	**308**	*i* P	**PKPdf**	**00 22 17.1**	**-1.9**
CSS	**Mathiatis**	**116.11**	**306**	P	**PKPdf**	**00 22 18.3**	**-0.6**
CSS	**Mathiatis**	**116.11**	**306**	*e*PKPdf	**PKPdf**	**00 22 17.5**	**-1.3**
PBMO	**Poplar Bluff**	**116.12**	**52**	PFAKE		00 22 30.0	+11
PBMO				LR	LR				
	comp=Z,30µm,20.0s								
143A	**Socs Landing,**	**116.15**	**57**	PKiKP	**PKiKP**	**00 22 20.1**	**+1.1**
	baz=280								
Q43A	**New Douglas**	**116.17**	**49**	PKiKP	**PKPdf**	**00 22 16.7**	**-2.1**
	baz=285								
243A	**Waterproof**	**116.22**	**57**	PKiKP	**PKPdf**	**00 22 18.6**	**-0.5**
	baz=280								
X43A	**Marvell**	**116.23**	**54**	PKiKP	**PKiKP**	**00 22 19.7**	**+0.6**
	baz=282								
KDHN	**Kadinhani**	**116.26**	**310**	*i* P	**PKPdf**	**00 22 16.6**	**-2.6**
Y43A	**Makayla and Ka**	**116.31**	**55**	PKiKP	**PKiKP**	**00 22 20.0**	**+0.7**
	baz=281								
SUW	**Suwalki**	**116.35**	**329**	*e*P	**PKPdf**	**00 22 18.5**	**-0.2**
SUW				*e*PP	**PP**	**00 23 27.9**	**+3.3**
SUW				*e*SKSac	**SKSac**	**00 29 06.2**	**-1.3**
SUW				*e*SKSdf	**SKSdf**	**00 29 20.5**	**-8.5**
SUW				*e*SS	**SS**	**00 39 21.7**	**-5.1**
SUW				LMZ	LR	01 08 38.8			
	comp=Z,14µm,25.3s								
SUW	**Suwalki**	**116.35**	**329**	*e*PKIKP	**PKPdf**	**00 22 18.5**	**-0.2**
SUW				*e*		00 23 27.9			
SUW				*e*		00 29 06.2			
SUW				*e*		00 29 20.5			
SUW				*e*SS	SS	00 39 21.7	-5.1
LEOM	**Leova**	**116.59**	**320**	⇓*i*P	**PKPdf**	**00 22 17.9**	**-1.5**
LEOM	**Leova**	**116.59**	**320**	⇓PKIKP	**PKPdf**	**00 22 17.9**	**-1.5**
Q44A	**Meyer Farm, Va**	**116.69**	**49**	PKiKP	**PKPdf**	**00 22 19.8**	**-0.1**
	baz=285								
PVMO	**Portageville**	**116.77**	**52**	PFAKE		00 22 30.0	+10
PVMO				LR	LR				
	comp=Z,29µm,21.0s								
R44A	**Waltonville**	**116.81**	**50**	PKiKP	**PKiKP**	**00 22 20.6**	**+0.5**
	baz=285								
S44A	**Carbondale**	**116.82**	**51**	PKiKP	**PKiKP**	**00 22 20.8**	**+0.7**
	baz=284								
X44A	**Crenshaw**	**116.83**	**54**	PKiKP	**PKiKP**	**00 22 20.7**	**+0.4**
	baz=282								
SIUC	**Southern Illin**	**116.84**	**51**	PFAKE		00 22 30.0	+10
SIUC				LR	LR				
	comp=Z,49µm,22.0s								
Z44A	**Pea Ridge, Bel**	**116.84**	**56**	PKiKP	**PKPdf**	**00 22 18.7**	**-1.6**
	baz=281								
244A	**Avery, Jackson**	**116.86**	**57**	PKiKP	**PKiKP**	**00 22 21.0**	**+0.7**
	baz=280								
MET	**Memphis--Engin**	**116.87**	**54**	PFAKE		00 22 30.0	+10
MET				LR	LR				
	comp=Z,12µm,20.0s								
Y44A	**Strider, Charl**	**116.89**	**55**	PKiKP	**PKiKP**	**00 22 21.2**	**+0.9**
	baz=282								
344A	**Westbrook Farm**	**116.93**	**58**	PKiKP	**PKiKP**	**00 22 21.1**	**+0.6**
	baz=280								
ESKT	**Eskisehir**	**116.96**	**312**	*i* P	**PKPdf**	**00 22 17.7**	**-2.8**
144A	**Alexander Plac**	**116.97**	**56**	PKiKP	**PKPdf**	**00 22 19.8**	**-0.8**
	baz=281								
CFR	**Carcaliu**	**117.12**	**318**	⇑*i*P	**PKPdf**	**00 22 19.1**	**-1.3**
CFR	**Carcaliu**	**117.12**	**318**	⇑PKIKP	**PKPdf**	**00 22 19.1**	**-1.3**
BORA	**Eskisehir**	**117.16**	**312**	*i* P	**PKPdf**	**00 22 18.6**	**-2.3**
SFJD	**Kangerlussuaq**	**117.17**	**9**	*e*PKIKP	**PKPdf**	**00 22 20.0**	**+0.1**
SFJD				MLR	MLR				
	comp=Z,8µm,21.0s								
SFJD	**Kangerlussuaq**	**117.17**	**9**	*i* P	**PKPdf**	**00 22 20.0**	**+0.1**
	comp=Z,8µm,21.0s								
SFJD	**Kangerlussuaq**	**117.17**	**9**	PFAKE		00 22 30.0	+10
SFJD				LR	LR				
	comp=Z,9µm,21.0s								
TIRR	**Tirgusor**	**117.19**	**317**	⇓*i*P	**PKPdf**	**00 22 19.8**	**-0.8**
TIRR	**Tirgusor**	**117.19**	**317**	⇓PKIKP	**PKPdf**	**00 22 19.8**	**-0.8**
TIRR	**Tirgusor**	**117.19**	**317**	*e*PKPdf	**PKPdf**	**00 22 19.8**	**-0.8**
TIRR				LR	LR				
	comp=Z,6µm,20.0s								
NC303	**NORSAR Array S**	**117.19**	**339**	*e*PKPdf	**PKPdf**	**00 22 19.4**	**-0.7**
CCIG	**Comitan**	**117.20**	**75**	PFAKE		00 22 30.0	+8.4
CCIG				LR	LR				

baz=283
BUR08 Bucovina Ar. S 118.06 322 *e*PKPdf **PKPdf 00 22 22.2 -0.2**
BURAR Bucovina Array 118.06 322 ⇓*i*P **PKPdf 00 22 22.0 -0.4**
BURAR Bucovina Array 118.06 322 ⇓PKIKP **PKPdf 00 22 22.0 -0.4**
Z46A Louisville 118.08 56 PKiKP **PKiKP 00 22 22.9 +0.2**
baz=282
GDZ Gediz 118.10 311 *i* P **PKPdf 00 22 21.4 -1.3**
146A Union 118.10 56 PKiKP **PKiKP 00 22 23.2 +0.5**
baz=282
246A Jackson Lee, B 118.17 57 PKiKP **PKiKP 00 22 23.1 +0.2**
baz=281
ISR Istrita 118.19 319 ⇑*i*P **PKPdf 00 22 24.8 +2.2**
ISR Istrita 118.19 319 ⇑PKIKP **PKPdf 00 22 24.8 +2.2**
446A Poplarville 118.20 58 PKiKP **PKiKP 00 22 23.6 +0.6**
baz=281
PAYG Puerto Ayora 118.27 94 PFAKE 00 22 40.0 +16
PAYG LR LR
comp=Z,8μm,18.0s
PRD Provadia 118.31 316 P **PKPdf 00 22 22.1 -0.7**
WVT Waverly 118.31 52 *e*PKIKP **PKPdf 00 22 24.2 +1.2**
WVT MLR MLR
comp=Z,22μm,21.0s
WVT Waverly 118.31 52 *e*PKPdf **PKPdf 00 22 24.2 +1.2**
WVT LR LR
comp=Z,22μm,21.0s
MLR Muntele Rosu 118.44 319 ⇓*i*P **PKPdf 00 22 22.0 -1.2**
MLR Muntele Rosu 118.44 319 ⇓PKIKP **PKPdf 00 22 22.0 -1.2**
MLR Muntele Rosu 118.44 319 *e*PKPdf **PKPdf 00 22 21.4 -1.8**
MLR LR LR
comp=Z,8μm,21.0s
BLO Bloomington 118.49 48 PFAKE 00 22 40.0 +17
BLO LR LR
comp=Z,25μm,20.0s
SECR 118.54 319 ⇓*i*P **PKPdf 00 22 21.9 -1.3**
SULR 118.55 318 ⇓*i*P **PKPdf 00 22 23.8 +0.6**
247A Quitman 118.59 57 PKiKP **PKiKP 00 22 24.2 +0.4**
baz=282
DOPR Dopca 118.62 320 ⇓*i*P **PKPdf 00 22 23.0 -0.4**
DEMI Demirci 118.68 312 *i* P **PKPdf 00 22 22.5 -1.3**
KWP Kalwaria Pacla 118.69 325 *e*P **PKPdf 00 22 23.4 0.0**
KWP *e*PP **PP 00 23 43.2 +2.2**
KWP *e*SKSac **SKSac 00 29 16.2 -0.2**
KWP *e*SS **SS 00 40 05.4 +7.9**
KWP LMZ LR 01 09 23.1
comp=Z,17μm,27.3s
KWP Kalwaria Pacla 118.69 325 ⇓*i*P **PKPdf 00 22 22.0 -1.4**
KWP Kalwaria Pacla 118.69 325 ⇓PKIKP **PKPdf 00 22 22.0 -1.4**
BEL Belsk 118.69 327 *e*P **PKPdf 00 22 25.3 +2.0**
BEL *e*SKSac **SKSac 00 29 17.1 +0.9**
BEL LMZ LR 01 08 40.8
comp=Z,8μm,27.4s
BEL Belsk 118.69 327 *e*PKIKP **PKPdf 00 22 25.3 +2.0**
BEL *e* 00 29 17.1
147A Livingston 118.74 56 PKiKP **PKiKP 00 22 24.2 +0.2**
baz=282
347A Saraland 118.78 57 PKiKP **PKiKP 00 22 24.4 +0.3**
baz=282
Z47A Carrollton 118.80 55 PKiKP **PKPdf 00 22 24.0 -0.1**
baz=283
447A Lucedale 118.80 58 PKiKP **PKiKP 00 22 24.3 +0.1**
baz=281
KSL Kastellorizon 118.81 308 P **PKPdf 00 22 23.0 -1.0**
KSL Kastellorizon 118.81 308 P **PKPdf 00 22 23.0 -1.0**
DNZL Cakiroluk 118.82 310 *i* P PP 00 23 32.6 -10
ARCR ARCALIA 118.82 321 ⇑*i*P **PKPdf 00 22 23.1 -0.6**
Y47A UCPARC, Winfie 118.82 55 PKiKP **PKPdf 00 22 23.9 -0.2**
baz=283
LBTB Lobatse 118.86 237 *e*PKIKP **PKPdf 00 22 25.6 +1.0**
LBTB Lobatse 118.86 237 *e*PKPdf **PKPdf 00 22 25.6 +1.0**
KONO Kongsberg 118.92 339 *e*PP PP 00 23 43.6 +1.5
KONO IVMs_BB IVMs_BB 01 15 48.0
comp=Z,3μm,19.3s
KONO Kongsberg 118.92 339 *e*PKIKP **PKPdf 00 22 25.3 +1.8**
KONO MLR MLR
comp=Z,9μm,20.0s
KONO Kongsberg 118.92 339 *e*PKPdf **PKPdf 00 22 25.3 +1.8**
KONO LR LR
comp=Z,9μm,20.0s
WCI Wyandotte Cave 118.93 49 PFAKE 00 22 40.0 +16
WCI LR LR
comp=Z,23μm,20.0s
HYA Hoyanger 118.96 341 *e*PP PP 00 23 40.3 -2.0
HYA IVMs_BB IVMs_BB 01 11 13.6
comp=Z,2μm,23.6s
FOO Floro 118.98 342 *e*PKPdf **PKPdf 00 22 23.1 -0.4**
FOO IVMs_BB IVMs_BB 01 09 53.2
comp=Z,4μm,21.2s
VOIR 119.05 319 ⇑*i*P **PKPdf 00 22 23.3 -1.0**
VOIR 119.05 319 ⇑PKIKP **PKPdf 00 22 23.3 -1.0**
BMR Baia Mare 119.09 322 ⇑*i*P **PKPdf 00 22 23.0 -1.2**
BMR Baia Mare 119.09 322 ⇑PKIKP **PKPdf 00 22 23.0 -1.2**
JMB Yambol 119.12 316 P **PKPdf 00 22 26.3 +1.9**
Z48A Northport 119.18 55 PKiKP **PKPdf 00 22 24.7 -0.1**
baz=283
KOLS Kolonicke sedl 119.26 324 *e*PKIKP **PKPdf 00 22 24.5 0.0**
KOLS *e* 00 23 45.8
KOLS *e* 00 29 18.5
KOLS *e* 00 33 25.1
KOLS *e*SS SS 00 40 09.0 +4.0
KOLS MLR MLR
comp=Z,8μm,26.1s
KOLS Kolonicke sedl 119.26 324 *e*PKP **PKPdf 00 22 24.5 0.0**
KOLS *e*PP **PP 00 23 45.8 +0.8**
KOLS *e* 00 25 59.2
SZH Strazhica 119.28 317 P **PKPdf 00 22 24.9 +0.2**
248A Dixon Mills 119.31 56 PKiKP **PKiKP 00 22 25.5 +0.4**
baz=282
348A Jackson 119.31 57 PKiKP **PKiKP 00 22 25.1 0.0**
baz=282
ARR Arges 119.34 319 ⇑*i*P **PKPdf 00 22 25.5 +0.7**
UZH Uzhgorod 119.39 324 *e*PKIKP **PKPdf 00 22 24.5 -0.2**
UZH *i* 00 22 31.7
UZH *e* 00 23 48.5
UZH *e* 00 26 18.1
UZH *e* 00 29 13.1
UZH *e* 00 33 23.9
SUR Sutherland 119.42 228 PFAKE 00 22 40.0 +14
SUR LR LR
comp=Z,17μm,21.0s
448A Bay Minette 119.44 58 PKiKP **PKiKP 00 22 25.5 +0.1**
baz=282
CJR Cluj-Napoca 119.44 321 ⇑*i*P **PKPdf 00 22 24.5 -0.5**
CJR Cluj-Napoca 119.44 321 ⇑PKIKP **PKPdf 00 22 24.5 -0.5**
HUMR Humele 119.45 318 ⇑*i*P **PKPdf 00 22 24.2 -0.8**
TRPA Tarpa 119.47 323 ⇓*e*PP **PKPdf 00 22 23.7 -1.2**
SUE Sulen 119.49 342 *e*PKPdf **PKPdf 00 22 23.8 -0.6**
SUE *e*PP **PP 00 23 45.9 0.0**
SUE *e*SS SS 00 40 09.8 +3.0
STHS Stebnicka Huta 119.63 325 *e*PKIKP **PKPdf 00 22 25.0 -0.2**
STHS Stebnicka Huta 119.63 325 *e*PKP **PKPdf 00 22 25.0 -0.2**
HOPE Hope Point 119.71 175 *e*PKPdf **PKPdf 00 22 25.2 0.0**
HOPE LR LR
comp=Z,31μm,20.0s
LRAL Lakeview Retre 119.71 55 *e*PKPdf **PKPdf 00 22 26.1 +0.3**
PVL Pavlikeni 119.71 317 P **PKPdf 00 22 26.8 +1.3**
CRVS Cervenica-Dubn 119.75 324 *e*PKIKP **PKPdf 00 22 25.0 -0.4**
CRVS *e* 00 29 16.0
CRVS *e* 00 33 31.6
CRVS Cervenica-Dubn 119.75 324 *e*PKP **PKPdf 00 22 25.0 -0.4**
CRVS *e* 00 25 59.3
LSZ Lusaka 119.76 249 *e*PKIKP **PKPdf 00 22 25.6 -1.0**
LSZ MLR MLR
comp=Z,9μm,22.0s
LSZ Lusaka 119.76 249 *e*PKPdf **PKPdf 00 22 25.6 -1.0**
LSZ LR LR
comp=Z,9μm,22.0s
BSD Bornholm Skovb 119.77 333 ⇑*e*PKIKP **PKPdf 00 22 26.5 +1.3**
BSD *i* 00 23 50.2
BSD pmax pmax
comp=Z,42nm,1.2s
BSD MLR MLR
comp=Z,11μm,19.0s
BSD Bornholm Skovb 119.77 333 ⇑*i*P **PKPdf 00 22 26.5 +1.3**
comp=Z,42nm,1.2s
BSD *i* 00 23 50.2
comp=Z,11μm,19.0s
BER Bergen 119.83 341 *e*PKPdf **PKPdf 00 22 24.5 -0.7**
BER IAmb IAmb 00 22 27.4
comp=Z,157nm,1.7s
BER *e*PP **PP 00 23 48.0 -0.3**
PLCA Paso Flores 119.85 144 PKKPab PKKPab 00 32 40.5 +2.3
comp=Z,6.2nm,1.0s,baz=121,slow=2.6,SNR=4.1
LOT Lotru 119.87 320 ⇑*i*P **PKPdf 00 22 24.8 -1.1**
DRGR 119.96 322 ⇓*i*P **PKPdf 00 22 24.9 -1.1**
DRGR 119.96 322 ⇓PKIKP **PKPdf 00 22 24.9 -1.1**
DIM Dimitrovgrad 120.00 316 P **PKPdf 00 22 26.3 +0.2**
SWET Sewanee 120.03 53 *e*PKPdf **PKPdf 00 22 28.3 +1.9**
SWET LR LR
comp=Z,6μm,19.0s
ALN Alexandroupoli 120.04 314 P **PKPdf 00 22 24.1 -2.1**
ALN Alexandroupoli 120.04 314 PKIKP **PKPdf 00 22 24.1 -2.1**
ALN Alexandroupoli 120.04 314 P **PKPdf 00 22 24.1 -2.1**
OJC Ojcow 120.05 326 *e*P **PKPdf 00 22 26.7 +0.7**
OJC *e*PP **PP 00 23 56.6 +6.3**
OJC *e*SKSac **SKSac 00 29 16.4 -4.7**
OJC *e*SKSdf **SKSdf 00 29 32.5 -3.7**
OJC *e*SS **SKKSdf 00 40 21.5 +2.2**
OJC LMZ LR 01 15 14.1
comp=Z,16μm,21.6s
OJC Ojcow 120.05 326 *e*PKIKP **PKPdf 00 22 26.7 +0.7**
OJC *e* 00 23 56.6
OJC *e* 00 29 16.4
OJC *e* 00 29 32.5
OJC *e*SS SS 00 40 21.5 +6.6
OJC MLR MLR
comp=Z,16μm,21.6s
OJC Ojcow 120.05 326 *e*PKPdf **PKPdf 00 22 24.4 -1.5**
NIE Niedzica 120.17 325 *e*P **PKPdf 00 22 25.9 -0.4**
NIE *e*PP **PP 00 23 56.3 +5.1**
NIE *e*SKSac **SKSac 00 29 22.2 +0.6**
NIE *e*SKSdf **SKSdf 00 29 37.6 +1.0**
NIE *e*SS SKKSdf 00 40 31.5 +12
NIE LMZ LR 01 09 35.2
comp=Z,9μm,28.4s
NIE Niedzica 120.17 325 *e*PKIKP **PKPdf 00 22 25.9 -0.4**
NIE *e* 00 23 56.3
NIE *e* 00 29 22.3
NIE *e* 00 29 37.6
NIE *e*SS SS 00 40 31.5 +15
BLS5 Blasjo 120.19 340 *e*PKPdf **PKPdf 00 22 24.9 -1.0**
BLS5 *e* 00 23 35.2
BLS5 IVMs_BB IVMs_BB 01 18 13.8
comp=Z,5μm,19.2s
EZN Ezine 120.20 313 P **PKPdf 00 22 25.8 -0.7**
EZN Ezine 120.20 313 PKIKP **PKPdf 00 22 25.8 -0.7**
EZN Ezine 120.20 313 P **PKPdf 00 22 25.8 -0.7**
MBAR Mbarara 120.22 266 PFAKE 00 22 40.0 +12
MBAR LR LR
comp=Z,400nm,21.0s
KDZ Kurdzhali 120.22 315 P **PKPdf 00 22 26.3 -0.3**
CRAR CRAIOVA 120.30 319 ⇓*i*P **PKPdf 00 22 27.1 +0.5**
CRAR CRAIOVA 120.30 319 ⇓PKIKP **PKPdf 00 22 27.2 +0.6**
HOMB Homborsund 120.31 338 *e*PP PP 00 23 51.8 +0.1
HOMB *e*SS SS 00 40 18.3 +0.8
HOMB IVMs_BB IVMs_BB 01 18 18.9
comp=Z,3μm,17.9s
BODT Bodrum 120.32 310 P **PKPdf 00 22 27.1 +0.2**
BODT Bodrum 120.32 310 P **PKPdf 00 22 27.1 +0.2**
DGB ˙Izmir 120.35 311 *i* P PKPpre 00 22 16.6
PRK Paraskevi 120.43 312 P **PKPdf 00 22 26.4 -0.6**
PRK Paraskevi 120.43 312 PKIKP **PKPdf 00 22 26.4 -0.6**
PRK Paraskevi 120.43 312 P **PKPdf 00 22 26.4 -0.6**
URLA Izmir 120.47 311 *i* P **PKPdf 00 22 24.7 -2.5**
COP Copenhagen 120.51 334 *e*PKIKP **PKPdf 00 22 27.8 +1.2**
COP MLR MLR
comp=Z,4μm,18.0s
COP Copenhagen 120.51 334 *i* P **PKPdf 00 22 27.8 +1.2**
COP *i* 00 23 48.8
comp=Z,4μm,18.0s
SRE Strehaia 120.56 319 ⇑*i*P **PKPdf 00 22 28.4 +1.3**
SRE Strehaia 120.56 319 ⇑PKIKP **PKPdf 00 22 28.4 +1.6**
ZEY ˙Izmir 120.58 311 *i* P **PKPdf 00 22 20.4 -6.9**
NISR Nisiros 120.59 309 P **PKPdf 00 22 25.5 -1.9**
NISR Nisiros 120.59 309 P **PKPdf 00 22 25.5 -1.9**
TEIG Tepich 120.63 70 PFAKE 00 22 40.0 +12
TEIG LR LR
comp=Z,5μm,18.0s
RZN Rozhen 120.70 316 P **PKPdf 00 22 26.8 -0.9**
SNART Snartemo 120.73 339 *e*PKPdf **PKPdf 00 22 26.0 -0.9**
MPEP Malo Peshtene 120.73 318 P **PKPdf 00 22 26.5 -1.0**
ACSO Alum Creek Sta 120.74 46 *e*PKPdf **PKPdf 00 22 29.5 +1.9**
KMY Karmoy 120.75 340 *e*PKPdf **PKPdf 00 22 26.7 -0.2**
PGB Panagyurishte 120.75 317 P **PKPdf 00 22 27.1 -0.5**
LANS Liptovska Anna 120.77 325 *e*PKIKP **PKPdf 00 22 27.3 -0.1**
LANS Liptovska Anna 120.77 325 *e*PKP **PKPdf 00 22 27.3 -0.1**
STAV Stavanger 120.81 340 *e*PP PP 00 23 56.1 +1.0
STAV *e*SS SS 00 40 26.0 +2.1
LLD Lille Linde 120.83 334 *e*PKIKP **PKPdf 00 22 26.9 -0.3**
LLD pmax pmax
comp=Z,130nm,1.3s
LLD Lille Linde 120.83 334 *i* P **PKPdf 00 22 26.9 -0.3**
comp=Z,127nm,1.3s
RGN Rugen 120.84 333 *e*PKPdf **PKPdf 00 22 27.2 -0.1**
RGN LR LR
comp=Z,12μm,20.0s
SIRR Siria 120.84 321 ⇓*i*P **PKPdf 00 22 26.0 -1.6**
CHOS Chios island 120.86 312 P **PKPdf 00 22 29.1 +1.1**
CHOS Chios island 120.86 312 P **PKPdf 00 22 29.1 +1.1**
KARP Karpathos 120.87 308 PFAKE 00 22 40.0 +12
KARP LR LR
comp=Z,1μm,19.0s
RAC Raciborz 121.00 327 *e*PKIKP **PKPdf 00 22 28.0 +0.2**
RAC *e* 00 23 56.3
RAC *e*PS **PS 00 33 49.2 -0.1**
RAC MLR MLR
comp=Z,13μm,20.6s
BORG Borgarnes 121.00 356 PFAKE 00 22 40.0 +13
BORG LR LR
comp=Z,7μm,19.0s
CPCT Cooper Cave 121.08 52 *e*PKPdf **PKPdf 00 22 29.6 +1.2**
CPCT LR LR
comp=Z,14μm,22.0s
PSZ Piszkesteto 121.14 324 ⇓*e*PP **PKPdf 00 22 26.4 -1.9**
PSZ Piszkesteto 121.14 324 *e*PKIKP **PKPdf 00 22 26.3 -1.9**
PSZ MLR MLR
comp=Z,10μm,22.0s
PSZ Piszkesteto 121.14 324 *e*PKPdf **PKPdf 00 22 26.3 -1.9**
PSZ LR LR
comp=Z,10μm,22.0s
OKC Ostrava-Krasne 121.15 326 *e*PKPdf **PKPdf 00 22 27.6 -0.5**
OKC *e*PP **PP 00 24 03.1 +5.2**
OKC *e*SKP 00 26 02.4
OKC AMS AMS 01 16 10.0
comp=Z,10μm,20.2s
OKC Ostrava-Krasne 121.15 326 *e*PKIKP **PKPdf 00 22 27.6 -0.5**
OKC *e* 00 24 03.1
OKC MLR MLR
comp=Z,10μm,20.2s
BZS Buzias 121.16 321 ⇓*i*P **PKPdf 00 22 26.5 -1.7**
BZS Buzias 121.16 321 ⇓PKIKP **PKPdf 00 22 26.5 -1.7**
MUD Monsted U'grnd 121.34 336 *e*PKIKP **PKPdf 00 22 28.5 +0.3**
MUD *i* 00 24 04.1
MUD MLR MLR
comp=Z,11μm,21.0s
MUD Monsted U'grnd 121.34 336 *i* P **PKPdf 00 22 28.5 +0.3**
MUD *i* PP **PP 00 24 04.1 +5.3**
comp=Z,11μm,21.0s
TIM Timisoara 121.36 321 ⇑*i*P **PKPdf 00 22 26.9 -1.7**
TIM Timisoara 121.36 321 ⇑PKIKP **PKPdf 00 22 26.9 -1.7**
NVR Nevrokopi 121.42 315 P **PKPdf 00 22 26.6 -2.3**
NVR Nevrokopi 121.42 315 P **PKPdf 00 22 26.6 -2.3**
MMB Musomiste 121.42 316 P **PKPdf 00 22 26.3 -2.6**
VYHS Vyhne 121.46 325 *e*PKIKP **PKPdf 00 22 27.5 -1.2**
VYHS *e* 00 24 00.9
VYHS *e* 00 29 23.6
VYHS *e* 00 33 55.7
VYHS *e*SS SS 00 40 26.5 -6.7
VYHS Vyhne 121.46 325 *e*PKP **PKPdf 00 22 27.5 -1.2**
VYHS *e*PP **PP 00 24 00.9 +0.8**
VYHS *e* 00 26 00.7
MDVR Moldovita 121.47 320 ⇑*i*P **PKPdf 00 22 27.0 -1.9**
TZTN Tazewell 121.52 50 *e*PKPdf **PKPdf 00 22 31.0 +1.8**
TZTN LR LR
comp=Z,46μm,21.0s
MORC Moravsky Berou 121.52 327 *e*PKIKP **PKPdf 00 22 28.6 -0.3**
MORC MLR MLR
comp=Z,36μm,20.0s
MORC Moravsky Berou 121.52 327 *e*PKPdf **PKPdf 00 22 28.6 -0.3**
MORC LR LR
comp=Z,36μm,20.0s
BANR Banloc 121.57 321 ⇑*i*P **PKPdf 00 22 25.7 -3.3**
SADO Sadowa 121.58 40 *e*PKPdf **PKPdf 00 22 30.2 +1.1**
SADO LR LR
comp=Z,18μm,20.0s
KSP Ksiaz 121.60 328 *e*P **PKPdf 00 22 30.5 +1.6**
KSP *e*PP **PP 00 24 06.2 +5.3**
KSP *e*SKSac **SKSac 00 29 26.4 0.0**
KSP *e*SS **SS 00 40 41.5 +6.7**
KSP LMZ LR 01 14 18.9
comp=Z,17μm,23.2s
KSP Ksiaz 121.60 328 *e*PKIKP **PKPdf 00 22 30.5 +1.6**
KSP *e* 00 24 06.2
KSP *e* 00 29 26.4
KSP *e*SS SS 00 40 41.5 +6.8
KSP MLR MLR
comp=Z,17μm,23.2s
TKL Tuckaleechee C 121.61 52 *e*PKIKP **PKPdf 00 22 28.7 -0.7**
TKL MLR MLR
comp=Z,33μm,22.0s
TKL Tuckaleechee C 121.61 52 *e*PKPdf **PKPdf 00 22 28.7 -0.7**
TKL LR LR
comp=Z,33μm,22.0s
SRS Serrai 121.70 315 P **PKPdf 00 22 26.6 -2.8**
SRS Serrai 121.70 315 PKIKP **PKPdf 00 22 26.6 -2.8**
SRS Serrai 121.70 315 P **PKPdf 00 22 26.6 -2.8**
KKB Krupnik 121.76 316 P **PKPdf 00 22 28.3 -1.2**
BUD Budapest 121.86 324 ⇓*e*PP **PKPdf 00 22 30.9 +1.4**
DPC Dobruska-Polom 121.86 328 *e*PKPdf **PKPdf 00 22 28.3 -1.2**
DPC *ex* x 00 22 46.0
DPC *e*PP **PP 00 24 10.3 +7.6**
DPC *e*SP SP 00 33 53.4 +0.7
DPC *e*SS **SS 00 40 40.0 +1.8**
DPC AMS AMS 01 17 00.0
comp=Z,14μm,20.8s
DPC Dobruska-Polom 121.86 328 *e*PKIKP **PKPdf 00 22 28.3 -1.2**
DPC *e* 00 24 10.3
DPC *e*SP SP 00 33 53.4 +0.7
DPC *e*SS **SS 00 40 40.0 +1.8**
DPC MLR MLR
comp=Z,14μm,20.8s
UPC Upice 121.94 328 *e*PKPdf **PKPdf 00 22 29.2 -0.4**
UPC *e*PP PP 00 24 11.2 +8.0
UPC *e*SP SP 00 33 57.8 +4.5
UPC *e*SS **SS 00 40 37.0 -2.0**
UPC AMS AMS 01 17 20.0
comp=Z,16μm,20.6s
UPC Upice 121.94 328 *e*PKIKP **PKPdf 00 22 29.2 -0.4**
UPC *e* 00 24 11.2
UPC *e*SP SP 00 33 57.8 +4.5
UPC *e*SS **SS 00 40 37.0 -2.0**
UPC MLR MLR
comp=Z,16μm,20.6s
SANT Santorini 121.95 309 *e*PKPdf **PKPdf 00 22 28.8 -1.3**
LRW Lerwick 121.96 344 AMS AMS 01 17 41.9
comp=Z,10μm,22.0s
TGUH Tegucigalpa,Un 121.96 77 PFAKE 00 22 40.0 +9.4
TGUH LR LR
comp=Z,8μm,20.0s
NPS Neapolis 122.16 308 P **PKPdf 00 22 30.4 -0.1**
NPS Neapolis 122.16 308 PKIKP **PKPdf 00 22 30.4 -0.1**
NPS Neapolis 122.16 308 P **PKPdf 00 22 30.4 -0.1**
ALLY Alegheny Colle 122.22 44 PFAKE 00 22 40.0 +10
ALLY LR LR
comp=Z,21μm,20.0s
VRAC Vranov 122.29 327 ⇑*i*P **PKPdf 00 22 29.0 -1.3**
VRAC Vranov 122.29 327 ⇑PKIKP **PKPdf 00 22 29.0 -1.3**
LAST Lasithi 122.30 308 P **PKPdf 00 22 29.6 -1.2**
LAST Lasithi 122.30 308 *e*PKPdf **PKPdf 00 22 29.1 -1.8**
SCHQ Schefferville 122.44 25 PKP **PKPdf 00 22 29.0 -1.4**
comp=Z,6.2nm,0.9s,baz=290,slow=1.5,SNR=9.4
SCHQ PKKPbc **PKKPbc 00 32 26.9 -0.2**
comp=Z,8.1nm,1.0s,baz=148,slow=5.5,SNR=7.6
SCHQ Schefferville 122.44 25 *e*PKPdf **PKPdf 00 22 29.0 -1.4**
SCHQ *e*PKKPbc **PKKPbc 00 32 26.9 -0.2**
SCHQ LR LR
comp=Z,21μm,20.0s
GOGA Godfrey 122.48 54 *e*PKIKP **PKPdf 00 22 32.6 +1.5**
GOGA Godfrey 122.48 54 *e*PKPdf **PKPdf 00 22 32.6 +1.5**
GRG Griva 122.59 316 P **PKPdf 00 22 29.9 -1.3**
GRG Griva 122.59 316 PKIKP **PKPdf 00 22 29.9 -1.3**
GRG Griva 122.59 316 P **PKPdf 00 22 29.9 -1.3**
N54A Moraine State 122.59 44 PKiKP **PKPdf 00 22 30.9 -0.3**
baz=293
M54A Oil Creek Stat 122.60 44 PKiKP **PKiKP 00 22 31.5 +0.1**
baz=294
PTL Penteli 122.61 312 P **PKPdf 00 22 31.9 +0.6**
PTL Penteli 122.61 312 P **PKPdf 00 22 31.9 +0.6**
PVCC Panska Ves 122.68 329 *e*PKPdf **PKPdf 00 22 30.4 -0.6**
PVCC *e*SKP 00 26 05.4
PVCC *e*SP SP 00 34 03.6 +3.7
PVCC *e*SS **SS 00 40 45.9 -2.5**
PVCC AMS AMS 01 15 40.0
comp=Z,15μm,22.5s
PVCC Panska Ves 122.68 329 *e*PKIKP **PKPdf 00 22 30.4 -0.6**
PVCC *e*SP SP 00 34 03.6 +3.7
PVCC *e*SS **SS 00 40 45.9 -2.5**
PVCC MLR MLR
comp=Z,15μm,22.5s
ATHU Athens Univers 122.69 312 P **PKPdf 00 22 29.4 -2.0**
ATHU Athens Univers 122.69 312 P **PKPdf 00 22 29.4 -2.0**
IDI Anoyia 122.72 308 P **PKPdf 00 22 30.6 -1.0**
IDI Anoyia 122.72 308 *e*PKPdf **PKPdf 00 22 31.2 -0.4**
ATH Athens Observa 122.74 312 P **PKPdf 00 22 31.3 -0.2**
ATH Athens Observa 122.74 312 PKIKP **PKPdf 00 22 31.3 -0.2**
ATH Athens Observa 122.74 312 P **PKPdf 00 22 31.3 -0.2**
SMIA Simia 122.79 313 P **PKPdf 00 22 31.9 +0.3**
BRG Berggiesshubel 122.80 329 *i* PDIFF **PKPdf 00 22 30.9 -0.3**
comp=Z,79nm,1.1s
BRG Berggiesshubel 122.80 329 PKP PP 00 23 58.0 -11
BRG SDIFF 00 34 01.0
BRG SS **SS 00 40 53.0 +3.1**
comp=N,11μm,22.4s
comp=E,7μm,21.5s
comp=Z,12μm,26.7s
BRG Berggiesshubel 122.80 329 *i* PKIKP **PKPdf 00 22 30.9 -0.3**
BRG pmax pmax
comp=Z,79nm,1.1s
LIT Litokhoron 122.86 315 P **PKPdf 00 22 29.0 -2.7**
LIT Litokhoron 122.86 315 PKIKP **PKPdf 00 22 29.0 -2.7**
LIT Litokhoron 122.86 315 P **PKPdf 00 22 29.0 -2.7**
SIVA Sivas 122.86 308 P **PKPdf 00 22 31.0 -0.8**
SIVA Sivas 122.86 308 P **PKPdf 00 22 31.0 -0.8**
DIVS Divibare 122.88 320 P **PKPdf 00 22 30.3 -1.4**
TIGA Tifton 122.90 56 PKiKP **PKPdf 00 22 31.8 -0.2**
baz=285
TIGA Tifton 122.90 56 PFAKE 00 22 40.0 +8.0
TIGA LR LR
comp=Z,12μm,20.0s
TREC Trest 122.90 327 *e*PKPdf **PKPdf 00 22 30.0 -1.5**
TREC *ex* x 00 24 23.9
TREC *e*SKP 00 26 05.7
TREC *e*SS SS 00 40 50.6 -0.8
TREC AMS AMS 01 17 20.0
comp=Z,18μm,21.2s
TREC Trest 122.90 327 *e*PKIKP **PKPdf 00 22 30.0 -1.5**
TREC *e*SS SS 00 40 50.6 -0.8
TREC MLR MLR
comp=Z,18μm,21.2s
GOPC GO Pecny, Ondr 122.92 328 *e*PKPdf **PKPdf 00 22 31.0 -0.5**
GOPC *e*SKP 00 26 04.6
GOPC *e*SP SP 00 34 07.4 +5.3
GOPC AMS AMS 01 18 10.0
comp=Z,14μm,20.5s
GOPC GO Pecny, Ondr 122.92 328 *e*PKIKP **PKPdf 00 22 31.0 -0.5**
GOPC *e*SP SP 00 34 07.4 +5.3
GOPC MLR MLR
comp=Z,14μm,20.5s
ATAL Atalanti 123.00 313 P **PKPdf 00 22 29.6 -2.4**
ATAL Atalanti 123.00 313 P **PKPdf 00 22 29.6 -2.4**
CLL Collm 123.01 330 *e*Pdif **Pdif 00 19 05.0 +2.3**
CLL *i* PKPdf **PKPdf 00 22 31.0 -0.6**
comp=Z,124nm,1.7s
CLL *i* 00 22 33.2
CLL *e*PP **PP 00 24 11.0 +0.7**
CLL *e*PPlp 00 24 24.0
comp=Z,2μm,13.5s
CLL *e*SKPdf **SKiKP 00 26 06.0 0.0**
CLL *e*PPP PPP 00 26 48.0
CLL *e*PS **PS 00 34 09.0 +2.0**
CLL *e* 00 35 27.0
CLL *e*SS **SS 00 40 58.0 +5.5**
CLL *e*SSS SSS 00 45 24.0
CLL L L 01 19 00.0
comp=Z,10μm,21.0s
CLL Collm 123.01 330 *e*PKIKP **PKPdf 00 22 29.9 -1.7**
CLL MLR MLR
comp=Z,10μm,20.0s
CLL Collm 123.01 330 *e*PKPdf **PKPdf 00 22 29.9 -1.7**

CLL LR LR
comp=Z,10µm,20.0s
PRU Pruhonice 123.01 328 *e*PKPdf **PKPdf 00 22 30.8 -0.8**
PRU *ex* x 00 22 48.0
PRU *e*SKP 00 26 05.6
PRU *e*SP SP 00 34 06.2 +3.4
PRU *ex* x 00 40 36.6
PRU AMS AMS 01 15 20.0
comp=Z,15µm,21.9s
PRU Pruhonice 123.01 328 *e*PKIKP **PKPdf 00 22 30.8 -0.8**
PRU *e*SP SP 00 34 06.2 +3.4
PRU MLR MLR
comp=Z,15µm,21.9s
LKR Lokris 123.03 313 P **PKPdf 00 22 29.8 -2.2**
LKR Lokris 123.03 313 P **PKPdf 00 22 29.8 -2.2**
SOP Sopron 123.19 325 ||*e*PP **PKPdf 00 22 31.6 -0.5**
VAM Vamos 123.22 309 P **PKPdf 00 22 31.4 -1.1**
VAM Vamos 123.22 309 PKIKP **PKPdf 00 22 31.4 -1.1**
VAM Vamos 123.22 309 P **PKPdf 00 22 31.4 -1.1**
DID Didima 123.26 311 P **PKPdf 00 22 29.5 -3.1**
DID Didima 123.26 311 P **PKPdf 00 22 29.5 -3.1**
MMNY Mt. Morris Dam 123.28 42 *e*PKPdf **PKPdf 00 22 34.0 +1.6**
LTK Loutraki 123.28 312 P **PKPdf 00 22 31.1 -1.5**
LTK Loutraki 123.28 312 P **PKPdf 00 22 31.1 -1.5**
KZN Kozani 123.28 315 P **PKPdf 00 22 30.2 -2.4**
KZN Kozani 123.28 315 PKIKP **PKPdf 00 22 30.2 -2.4**
KZN Kozani 123.28 315 P **PKPdf 00 22 30.2 -2.4**
KRND KRANIDI 123.37 311 P **PKPdf 00 22 31.2 -1.5**
IMMV Iera Moni Meta 123.37 309 P **PKPdf 00 22 32.2 -0.6**
FNA Florina 123.37 316 P **PKPdf 00 22 30.5 -2.2**
FNA Florina 123.37 316 PKIKP **PKPdf 00 22 30.5 -2.2**
FNA Florina 123.37 316 P **PKPdf 00 22 30.5 -2.2**
AGG Agios Georgios 123.38 313 P **PKPdf 00 22 30.4 -2.3**
AGG Agios Georgios 123.38 313 PKIKP **PKPdf 00 22 30.4 -2.3**
AGG *e* 00 22 31.2
AGG MLR MLR
comp=Z,12µm,22.0s
AGG Agios Georgios 123.38 313 P **PKPdf 00 22 30.4 -2.3**
AGG *e*PKPdf **PKiKP 00 22 31.2 -1.8**
AGG LR LR
comp=Z,12µm,22.0s
THL Klokotos Trika 123.40 314 P **PKPdf 00 22 31.4 -1.3**
CONA Conrad Observa 123.45 325 *e*PKPdf **PKPdf 00 22 30.8 -1.9**
comp=Z,9.7nm,0.8s,SNR=43
DSF Desfina 123.46 313 P **PKPdf 00 22 30.0 -3.0**
DSF Desfina 123.46 313 P **PKPdf 00 22 30.0 -3.0**
GVD Gavdhos 123.48 308 P **PKPdf 00 22 31.7 -1.3**
GVD Gavdhos 123.48 308 P **PKPdf 00 22 31.7 -1.3**
IVA Berane 123.49 319 ||*i* PKP **PKPdf 00 22 31.4 -1.5**
THAL Thalero 123.50 312 P **PKPdf 00 22 30.2 -2.7**
PVY Plav 123.57 318 ||*i* PKP **PKPdf 00 22 32.9 -0.2**
PLE Pljevlja 123.61 319 ||*i* PKP **PKPdf 00 22 35.4 +2.2**
KMSC Kings Mountain 123.66 51 PKiKP **PKiKP 00 22 33.5 -0.1**
baz=289
KMSC Kings Mountain 123.66 51 *e*PKPdf **PKPdf 00 22 34.1 +0.7**
KMSC LR LR
comp=Z,37µm,22.0s
BLA Blacksburg 123.67 49 *e*PKIKP **PKPdf 00 22 34.9 +1.5**
BLA Blacksburg 123.67 49 *e*PKPdf **PKPdf 00 22 34.9 +1.5**
BEHE Becsehely 123.70 324 ||*e*PP **PKPdf 00 22 35.1 +2.0**
KPRO Kipourio 123.71 315 P **PKPdf 00 22 31.9 -1.5**
KALE Kalithea 123.75 313 P **PKPdf 00 22 32.8 -0.7**
KALE Kalithea 123.75 313 P **PKPdf 00 22 32.8 -0.7**
VLI Veliai 123.75 311 P **PKPdf 00 22 30.6 -2.9**
VLI Veliai 123.75 311 P **PKPdf 00 22 30.6 -2.9**
ANKY Antikythira Is 123.76 310 P **PKPdf 00 22 30.3 -3.2**
ANKY Antikythira Is 123.76 310 P **PKPdf 00 22 30.3 -3.2**
PENT Pentalofos 123.77 315 P **PKPdf 00 22 31.5 -2.1**
EVR Evrytania 123.80 313 P **PKPdf 00 22 32.5 -1.1**
EVR Evrytania 123.80 313 P **PKPdf 00 22 32.5 -1.1**
SERG Sergoula 123.80 313 P **PKPdf 00 22 31.7 -1.9**
KYTH Kithira 123.83 310 P **PKPdf 00 22 33.2 -0.5**
KYTH Kithira 123.83 310 P **PKPdf 00 22 33.2 -0.5**
ANX Ano Chora 123.84 313 P **PKPdf 00 22 32.6 -1.1**
O56A Blue Knob Stat 123.86 45 PKiKP **PKiKP 00 22 34.2 +0.2**
baz=294
KLV Kalavryta, Ach 123.87 312 P **PKPdf 00 22 31.9 -1.9**
KLV Kalavryta, Ach 123.87 312 P **PKPdf 00 22 31.9 -1.9**
LAKA Lakka 123.92 313 P **PKPdf 00 22 33.8 0.0**
LAKA Lakka 123.92 313 P **PKPdf 00 22 33.8 0.0**
VLX Vlachokerasia 123.94 312 P **PKPdf 00 22 33.4 -0.6**
VLX Vlachokerasia 123.94 312 P **PKPdf 00 22 33.4 -0.6**
NKC Novy Kostel 123.95 329 *e*PKPdf **PKPdf 00 22 32.8 -0.7**
NKC *e*SS SS 00 41 01.0 -3.5
NKC AMS AMS 01 18 00.0
comp=Z,13µm,20.3s
NKC Novy Kostel 123.95 329 *e*PKIKP **PKPdf 00 22 32.8 -0.7**
NKC *e*SS SS 00 41 01.0 -3.5
NKC MLR MLR
comp=Z,13µm,20.3s
UPM Unac-Piva 123.99 319 ||*i* PKP **PKPdf 00 22 33.1 -0.9**
ARSA Arzberg 124.02 325 *i* PKPdf **PKPdf 00 22 32.8 -0.9**
comp=Z,35nm,1.6s,SNR=16
KHC Kasperske Hory 124.02 328 *e*PKPdf **PKPdf 00 22 32.1 -1.6**
KHC *ex* x 00 22 48.7
KHC *e*SKP 00 26 08.1
KHC *e*SP SP 00 34 13.2 +1.4
KHC *e*SKKP 00 36 00.0
KHC *e*SS **SS 00 41 01.4 -4.2**
KHC *ex* x 00 42 10.0
KHC AMS AMS 01 15 50.0
comp=Z,17µm,22.0s
KHC Kasperske Hory 124.02 328 *e*PKIKP **PKPdf 00 22 32.1 -1.6**
KHC *e*SP SP 00 34 13.2 +1.4
KHC *e*SS **SS 00 41 01.4 -4.2**
KHC MLR MLR
comp=Z,17µm,22.0s
KHC Kasperske Hory 124.02 328 *e*PKPdf **PKPdf 00 22 32.2 -1.4**
KHC LR LR
comp=Z,7µm,22.0s
NKY Niksic 124.11 319 ||*i* PKP **PKPdf 00 22 32.9 -1.2**
TTG Podgorica 124.11 318 ||*i* PKP **PKPdf 00 22 33.3 -0.7**
GEC2 GERESS Array S 124.12 327 *e*PKIKP **PKPdf 00 22 32.6 -1.4**
GEC2 MLR MLR
comp=Z,17µm,21.0s
GEC2 GERESS Array S 124.12 327 *e*PKPdf **PKPdf 00 22 32.6 -1.4**
GEC2 LR LR
comp=Z,17µm,21.0s
GERES GERESS Array B 124.12 327 PKP **PKPdf 00 22 32.4 -1.5**
comp=Z,16nm,0.6s,baz=48,slow=2.0,SNR=52
GERES SKP 00 26 08.9
comp=Z,2.9nm,0.7s,baz=34,slow=0.5,SNR=4.2
GERES PKKPbc **PKKPab 00 32 17.9 -0.7**
comp=Z,1.5nm,0.9s,baz=233,slow=4.8,SNR=6.0
GERES SKKPbc SKKPbc 00 36 12.4 +2.6
comp=Z,1.0nm,0.9s,baz=273,slow=2.5,SNR=3.7
GEA0 GERESS Array S 124.13 327 *e*PKPdf **PKPdf 00 22 32.1 -1.9**
TIR Tirane 124.17 317 *e*PKIKP **PKPdf 00 22 33.9 -0.2**
TIR MLR MLR
comp=Z,6µm,20.0s
TIR Tirane 124.17 317 *e*PKPdf **PKPdf 00 22 33.9 -0.2**
TIR LR LR
comp=Z,6µm,20.0s
SSPA Standing Stone 124.19 44 *e*PKPdf **PKPdf 00 22 33.4 -0.8**
SSPA LR LR
comp=Z,18µm,22.0s
JAN Janina 124.19 315 P **PKPdf 00 22 33.5 -0.8**
JAN Janina 124.19 315 PKIKP **PKPdf 00 22 33.5 -0.8**
JAN Janina 124.19 315 P **PKPdf 00 22 33.5 -0.8**
DSL Palaion Diasel 124.22 314 P **PKPdf 00 22 33.3 -1.1**
DSL Palaion Diasel 124.22 314 P **PKPdf 00 22 33.3 -1.1**
DRO Drossia 124.23 312 P **PKPdf 00 22 34.2 -0.2**
ULC Ulcinj 124.32 318 ||*i* PKP **PKPdf 00 22 34.0 -0.5**
ROC1 El Roble 124.34 137 *e*PKPdf **PKPdf 00 22 36.9 +1.8**
ITM Ithomi 124.35 312 P **PKPdf 00 22 32.6 -2.0**
ITM Ithomi 124.35 312 P **PKPdf 00 22 32.6 -2.0**
BRY Bratogost 124.36 319 ||*i* PKP **PKPdf 00 22 33.4 -1.3**
RLS Riolos of Patr 124.37 313 P **PKPdf 00 22 33.4 -1.2**
RLS Riolos of Patr 124.37 313 P **PKPdf 00 22 33.4 -1.2**
PDO Prodromos 124.37 313 P **PKPdf 00 22 33.2 -1.4**
AMT Artemida-Makis 124.38 312 P **PKPdf 00 22 33.4 -1.3**
MOA Molln 124.39 326 *i* PKPdf **PKPdf 00 22 33.4 -1.0**
comp=Z,41nm,1.6s,SNR=13
BUM Brajici-Budva 124.41 318 ||*i* PKP **PKPdf 00 22 34.1 -0.6**
GROS Grobnik 124.45 324 *i* PKPdf **PKPdf 00 22 33.5 -1.1**
SISC Sisak 124.46 323 P **PKPdf 00 22 36.1 +1.6**
LONY Lake Ozonia 124.52 38 *e*PKPdf **PKPdf 00 22 36.0 +1.3**
PYL PYLOS 124.59 311 P **PKPdf 00 22 32.5 -2.6**
PYL PYLOS 124.59 311 P **PKPdf 00 22 32.5 -2.6**
HCY Herceg Novi 124.60 319 ||*i* PKP **PKPdf 00 22 33.3 -1.6**
SOKA Soboth 124.61 325 *i* PKPdf **PKPdf 00 22 34.0 -0.9**
comp=Z,100nm,1.5s,SNR=59

SGD Sagiada 124.64 315 P **PKPdf 00 22 32.9 -2.2**
LKD2 Lefkada island 124.67 314 P **PKPdf 00 22 32.2 -3.0**
LKD2 Lefkada island 124.67 314 P **PKPdf 00 22 32.2 -3.0**
MCD Coleburn Disti 124.70 344 *e*P **PKPdf 00 22 35.6 +1.0**
BINY Binghamton 124.79 42 *e*PKPdf **PKPdf 00 22 36.7 +1.4**
MME1 Meikle Cairn 124.85 343 *e*P **PKPdf 00 22 35.9 +1.0**
GRFO Grafenberg 124.91 329 *e*PKIKP **PKPdf 00 22 35.0 -0.3**
GRFO MLR MLR
comp=Z,8µm,20.0s
GRFO Grafenberg 124.91 329 *e*PKPdf **PKPdf 00 22 35.0 -0.3**
GRFO LR LR
comp=Z,8µm,20.0s
KEK Kerkira 124.91 315 P **PKPdf 00 22 34.4 -1.2**
KEK Kerkira 124.91 315 P **PKPdf 00 22 34.4 -1.2**
VLS Valsamata 124.96 313 P **PKPdf 00 22 33.4 -2.4**
VLS Valsamata 124.96 313 PKIKP **PKPdf 00 22 33.4 -2.4**
VLS Valsamata 124.96 313 P **PKPdf 00 22 33.4 -2.4**
OBKA Obir 124.98 325 *i* PKPdf **PKPdf 00 22 34.5 -1.2**
comp=Z,45nm,1.4s,SNR=22
ZKS Zakynthos 125.00 312 P **PKPdf 00 22 33.0 -2.9**
HDC Heredia 125.11 82 PFAKE 00 22 50.0 +13
HDC LR LR
comp=Z,6µm,19.0s
BOJS Bojanci 125.11 323 *i* PKPdf **PKPdf 00 22 35.2 -0.6**
MDO Dochfour 125.13 344 *e*P **PKPdf 00 22 34.4 -1.1**
VISS Visnje 125.20 324 *i* PKPdf **PKPdf 00 22 35.2 -0.8**
KSPA Keystone Colle 125.22 42 PFAKE 00 22 50.0 +14
KSPA LR LR
comp=Z,22µm,19.0s
LJU Ljubljana 125.25 324 *e*PKPdf **PKPdf 00 22 34.5 -1.6**
LJU *e* 00 26 10.5
UDBI Udbina 125.32 322 P **PKPdf 00 22 35.2 -1.1**
KAC Achnashellach 125.33 345 *e*P **PKPdf 00 22 37.3 +1.5**
KBA Koelnbreinsper 125.34 326 *i* PKPdf **PKPdf 00 22 35.0 -1.5**
comp=Z,66nm,1.4s,SNR=20
JSRW J. Sargeant Re 125.37 47 *e*PKPdf **PKPdf 00 22 38.0 +1.5**
LMQ La Malbaie 125.41 33 *e*PKPdf **PKPdf 00 22 35.8 -0.5**
LMQ LR LR
comp=Z,24µm,20.0s
SDMD Soldier's Deli 125.43 45 *e*PKPdf **PKPdf 00 22 38.6 +2.0**
SDMD LR LR
comp=Z,12µm,20.0s
MYKA Terra Mystica 125.43 325 *i* PKPdf **PKPdf 00 22 35.2 -1.3**
comp=Z,27nm,0.8s,SNR=9.1
WTSB Winterswijk 125.48 334 *e*PKP **PKPdf 00 22 35.8 -0.5**
comp=Z,295nm,1.8s
MVL Millersville 125.52 44 *e*PKPdf **PKPdf 00 22 36.7 0.0**
DWPF Disney Wildern 125.53 60 *e*PKPdf **PKPdf 00 22 36.3 -0.8**
DWPF LR LR
comp=Z,16µm,20.0s
KPL Plockton 125.56 345 *e*P **PKPdf 00 22 36.1 -0.2**
KPL AMS AMS 01 19 01.1
comp=Z,7µm,22.3s
JAVS Javornik 125.60 324 *i* PKPdf **PKPdf 00 22 35.4 -1.5**
KSB Sheil Bridge 125.61 345 *e*P **PKPdf 00 22 37.5 +1.1**
ACCN Adirondack Com 125.71 39 *e*PKPdf **PKPdf 00 22 38.3 +1.2**
ACCN LR LR
comp=Z,21µm,19.0s
AAGR Agrelo 125.74 138 *i* P **PKPdf 00 22 37.5 -0.1**
NVLJ Novalja 125.84 322 P **PKPdf 00 22 35.8 -1.4**
TRI Trieste 125.88 324 *e*PKIKP **PKPdf 00 22 35.9 -1.4**
TRI MLR MLR
comp=Z,10µm,21.0s
TRI Trieste 125.88 324 *e*PKPdf **PKPdf 00 22 35.9 -1.4**
TRI LR LR
comp=Z,10µm,21.0s
AUSP Uspallata 125.89 137 *i* P **PKPdf 00 22 37.8 -0.4**
ESY Stoneypath 125.93 342 *e*P **PKPdf 00 22 36.1 -1.0**
ABTA Abfaltersbach 126.00 326 *i* PKPdf **PKPdf 00 22 35.2 -2.4**
comp=Z,86nm,1.1s,SNR=39
TRY Troy 126.04 40 PFAKE 00 22 50.0 +12
TRY LR LR
comp=Z,36µm,21.0s
ASAL Salagasta 126.04 138 *i* P **PKPdf 00 22 37.5 -0.7**
WATA Walderalm 126.17 327 *i* PKPdf **PKPdf 00 22 37.0 -0.9**
comp=Z,131nm,1.4s,SNR=11
PSUB Penn St. - Bra 126.17 44 *e*PKPdf **PKPdf 00 22 37.4 -0.6**
PSUB LR LR
comp=Z,19µm,22.0s
WTTA Wattenberg 126.18 327 *i* PKiKP **PKPdf 00 22 37.4 -0.6**
comp=Z,127nm,1.2s,SNR=57
ODNJ Ogdensburg 126.22 42 *e*PKPdf **PKPdf 00 22 39.7 +1.6**
ODNJ LR LR
comp=Z,16µm,22.0s
HNH Hanover 126.41 38 *e*PKPdf **PKPdf 00 22 38.7 +0.4**
HNH LR LR
comp=Z,40µm,20.0s
MOTA Moosalm 126.42 327 *i* PKPdf **PKPdf 00 22 37.3 -1.2**
comp=Z,21nm,0.9s,SNR=58
BRNJ Basking Ridge 126.43 43 PFAKE 00 22 50.0 +12
BRNJ LR LR
comp=Z,19µm,19.0s
TRQA Tornquist 126.49 147 *e*PKPdf **PKPdf 00 22 40.2 +1.4**
TRQA LR LR
comp=Z,9µm,21.0s
RETA Reutte 126.51 327 *i* PKPdf **PKPdf 00 22 37.7 -0.8**
comp=Z,51nm,1.3s,SNR=23
STU Stuttgart 126.51 330 *e*PKIKP **PKPdf 00 22 38.6 +0.2**
STU MLR MLR
comp=Z,11µm,21.0s
STU Stuttgart 126.51 330 *e*PKPdf **PKPdf 00 22 38.6 +0.2**
STU LR LR
comp=Z,11µm,21.0s
LCP Cassop 126.55 341 *e*P **PKPdf 00 22 37.7 -0.6**
ESK Eskdalemuir 126.61 342 *e*P **PKPdf 00 22 36.8 -1.6**
ESK AMS AMS 01 18 60.0
comp=Z,7µm,21.0s
ESK Eskdalemuir 126.61 342 *i* PKIKP **PKPdf 00 22 41.1 +2.7**
ESK Eskdalemuir 126.61 342 *e*PKPdf **PKPdf 00 22 39.2 +0.9**
ESK LR LR
comp=Z,9µm,21.0s
HGN Heimansgroeve 126.72 333 *e*PKP **PKPdf 00 22 38.4 -0.3**
comp=Z,130nm,1.4s
HGN *e*PP PP 00 24 52.1 +17
HGN *e*SKP 00 25 59.4
HGN Heimansgroeve 126.72 333 *e*SS SS 00 41 16.6 -22
PAL Palisades 126.72 42 PFAKE 00 22 50.0 +11
PAL LR LR
comp=Z,20µm,21.0s
CPNY Central Park 126.79 42 PFAKE 00 22 50.0 +11
CPNY LR LR
comp=Z,20µm,20.0s
MEM Membach 126.79 333 PKP **PKPdf 00 22 38.7 -0.1**
BEBN Eben Emael 126.81 333 PKP **PKPdf 00 22 40.8 +1.9**
FETA Feichten 126.82 327 *i* PKPdf **PKPdf 00 22 37.6 -1.7**
comp=Z,98nm,1.3s,SNR=45
LCO Las Campanas 126.83 133 *e*PKPdf **PKPdf 00 22 39.8 -0.2**
LCO LR LR
comp=Z,4µm,20.0s
BWH Wardlaw 126.87 342 *e*P **PKPdf 00 22 38.5 -0.4**
FFD Franklin Falls 126.92 38 PFAKE 00 22 50.0 +11
FFD LR LR
comp=Z,45µm,21.0s
LANF Langenberg 127.07 331 PKP **PKPdf 00 22 39.3 -0.2**
DAVA Damuels 127.11 328 *i* PKiKP **PKPdf 00 22 39.2 -0.6**
comp=Z,82nm,1.6s,SNR=22
QUA2 Belchertown 127.11 40 PFAKE 00 22 50.0 +10
QUA2 LR LR
comp=Z,20µm,20.0s
KESW Keswick, Cumbr 127.20 342 *e*P **PKPdf 00 22 39.4 -0.1**
KESW AMS AMS 01 23 24.3
comp=Z,8µm,19.7s
YLE Yale 127.21 41 PFAKE 00 22 50.0 +10
YLE LR LR
comp=Z,25µm,21.0s
BFO Black Forest 127.24 330 *i* PKIKP **PKPdf 00 22 39.0 -0.8**
BFO Black Forest 127.24 330 *e*PKPdf **PKPdf 00 22 38.4 -1.5**
BFO LR LR
comp=Z,12µm,20.0s
HPK Haverah Park 127.24 340 *e*P **PKPdf 00 22 39.9 +0.3**
BCLA Clavier 127.25 333 PKP **PKPdf 00 22 39.4 -0.4**
TIP Timpagrande 127.26 316 P **PKPdf 00 22 39.2 -1.0**
TIP Timpagrande 127.26 316 *e*PKPdf **PKPdf 00 22 37.6 -2.6**
TIP LR LR
comp=Z,7µm,22.0s
AMOG MOGNA 127.27 136 *i* P **PKPdf 00 22 39.6 -0.9**
FUORN Ofenpass-Fuorn 127.31 327 *e*PKPpre PKPpre 00 22 27.3
FUORN LR LR
comp=Z,16µm,22.0s
ACAN Cantantal 127.33 139 *i* P **PKPdf 00 22 40.7 +0.1**
WLF Walferdange 127.39 332 PKP **PKPdf 00 22 39.1 -0.9**
WLF Walferdange 127.39 332 *e*PKIKP **PKPdf 00 22 39.6 -0.4**
WLF MLR MLR
comp=Z,13µm,20.0s

WLF Walferdange 127.39 332 *e*PKPdf **PKPdf 00 22 39.6 -0.4**
WLF LR LR
comp=Z,13µm,20.0s
GAL1 Galloway 127.45 343 *e*P **PKPdf 00 22 37.6 -2.3**
GAL1 AMS AMS 01 22 43.4
comp=Z,4µm,19.2s
HRV Adam Dziewonsk 127.49 39 PFAKE 00 22 50.0 +10
HRV LR LR
comp=Z,20µm,18.0s
WVL Waterville 127.52 36 PFAKE 00 22 50.0 +10
WVL LR LR
comp=Z,33µm,20.0s
CUC Castrocucco 127.53 317 PFAKE 00 22 50.0 +9.3
CUC LR LR
comp=Z,7µm,22.0s
SNF Seneffe 127.63 334 PKP **PKPdf 00 22 40.5 0.0**
LHO Holmfirth 127.66 340 *e*P **PKPdf 00 22 41.4 +0.9**
WLS Welschbruch 127.67 330 PKP **PKPdf 00 22 37.7 -3.0**
WES Weston 127.70 39 PFAKE 00 22 50.0 +9.2
WES LR LR
comp=Z,36µm,19.0s
DOU Dourbes 127.79 333 PKP **PKPdf 00 22 43.0 +2.2**
BRYW Bryant College 127.81 40 *e*PKPdf **PKPdf 00 22 43.4 +2.3**
BRYW LR LR
comp=Z,38µm,21.0s
ECH Echery 127.90 330 PKP **PKPdf 00 22 40.2 -0.9**
TUE Stuetta 127.90 327 *e*PKPpre PKPpre 00 22 32.1
TUE LR LR
comp=Z,13µm,20.0s
AQU L'Aquila 127.92 321 *e*PKIKP **PKPdf 00 22 40.6 -0.8**
AQU L'Aquila 127.92 321 *e*PKPdf **PKPdf 00 22 40.6 -0.8**
TSUM Tsumeb 127.97 240 *e*PKPdf **PKPdf 00 22 41.4 -0.8**
TSUM LR LR
comp=Z,11µm,18.0s
WIM Isle of Man 128.06 342 *e*P **PKPdf 00 22 43.0 +1.8**
CWF Charnwood Fore 128.13 339 *e*P **PKPdf 00 22 40.0 -1.3**
CWF AMS AMS 01 20 59.1
comp=Z,13µm,21.9s
CWF Charnwood Fore 128.13 339 *e*PKPdf **PKPdf 00 22 40.7 -0.6**
CWF LR LR
comp=Z,17µm,22.0s
AGUA GUANDACOL 128.14 135 *i* P **PKPdf 00 22 41.6 -0.7**
AVFE Valle Fertil 128.15 137 *i* P **PKPdf 00 22 41.1 -1.1**
STNC Stoke 128.15 340 *e*P **PKPdf 00 22 40.7 -0.7**
STNC AMS AMS 01 20 53.6
comp=Z,9µm,20.6s
MOF Molkenrain 128.16 330 PKP **PKPdf 00 22 40.1 -1.6**
CEL Celeste 128.28 315 *e*PKPdf **PKPdf 00 22 41.5 -0.7**
CEL LR LR
comp=Z,4µm,20.0s
ACHE Chepes 128.38 138 *i* P **PKPdf 00 22 41.7 -1.0**
WPM1 Penmaenmawr 128.58 341 *e*P **PKPdf 00 22 44.0 +1.8**
LOMF Lomont 128.65 330 PKP **PKPdf 00 22 42.0 -0.6**
FOEL Foel Wylfa 128.66 340 *e*P **PKPdf 00 22 40.8 -1.5**
FOEL AMS AMS 01 15 36.1
comp=Z,6µm,27.1s
EMMW East Machias 128.70 35 PFAKE 00 22 50.0 +7.3
EMMW LR LR
comp=Z,25µm,21.0s
WLF1 Llynfaes 128.71 341 *e*P **PKPdf 00 22 42.9 +0.5**
WLF1 AMS AMS 01 24 28.0
comp=Z,11µm,22.6s
VLC Villacollemand 128.73 324 *e*PKPdf **PKPdf 00 22 44.1 +1.3**
VLC LR LR
comp=Z,4µm,21.0s
ATAH Atahualpa 128.85 104 PKP **PKPdf 00 22 42.8 -1.6**
comp=Z,30nm,0.8s,baz=223,slow=3.0,SNR=27
ATAH SKPbc SKPbc 00 26 07.8
comp=Z,13nm,0.9s,baz=4.0,slow=3.1,SNR=4.1
ATAH Atahualpa 128.85 104 SKPbc SKPbc 00 26 07.8
HLM1 Long Mynd 128.86 340 *e*P **PKPdf 00 22 42.2 -0.6**
SSW Stow on the Wo 128.95 339 *e*P **PKPdf 00 22 42.8 -0.1**
NNA Nana 129.03 110 PKP **PKPdf 00 22 43.5 -0.7**
comp=Z,29nm,1.0s,baz=337,slow=3.9,SNR=10
NNA Nana 129.03 110 *e*PKIKP **PKPdf 00 22 43.5 -0.7**
NNA *e* 00 22 45.2
NNA MLR MLR
comp=Z,15µm,20.0s
NNA Nana 129.03 110 *e*PKPdf **PKPdf 00 22 43.5 -0.7**
NNA *e*PKPdf **PKiKP 00 22 45.2 +0.3**
NNA LR LR
comp=Z,15µm,20.0s
SENIN Lac Senin/Sane 129.06 328 *e*PKPdf **PKPdf 00 22 42.9 -0.7**
SENIN LR LR
comp=Z,12µm,21.0s
STRD Stroud 129.22 339 *e*P **PKPdf 00 22 43.4 -0.1**
STRD AMS AMS 01 20 12.8
comp=Z,10µm,21.4s
WOL Wolverton 129.25 338 *e*P **PKPdf 00 22 43.7 +0.2**
WOL AMS AMS 01 21 53.9
comp=Z,9µm,22.1s
SWN1 Swindon 129.30 338 *e*P **PKPdf 00 22 44.4 +0.8**
SWN1 AMS AMS 01 21 37.8
comp=Z,7µm,23.5s
BCIP Isla Barro Col 129.33 83 *e*P **PKPdf 00 22 40.6 -4.1**
BCIP Isla Barro Col 129.33 83 PFAKE 00 23 00.0 +15
BCIP LR LR
comp=Z,6µm,20.0s
MCH1 Michaelchurch 129.33 340 *e*P **PKPdf 00 22 44.0 +0.3**
MCH1 AMS AMS 01 21 48.4
comp=Z,10µm,20.5s
DSB Dublin 129.35 343 *e*PKPdf **PKPdf 00 22 45.9 +2.2**
DSB LR LR
comp=Z,7µm,20.0s
MONM Monmouth 129.39 339 *e*P **PKPdf 00 22 44.7 +0.9**
MONM AMS AMS 01 21 37.7
comp=Z,13µm,21.1s
LMN Caledonia Moun 129.44 32 *e*PKPdf **PKPdf 00 22 46.1 +2.1**
LMN LR LR
comp=Z,23µm,21.0s
LPW Lampeter 129.60 340 *e*P **PKPdf 00 22 45.2 +1.1**
LPW AMS AMS 01 16 01.6
comp=Z,8µm,24.0s
TCA Tanti 129.62 139 *i* P **PKPdf 00 22 44.6 -0.4**
PB10 IPOC Station P 129.85 127 *e*PKPdf **PKPdf 00 22 45.7 +0.2**
PB10 LR LR
comp=Z,8µm,21.0s
OTAV Otavalo 130.13 95 *e*P **PKPdf 00 22 46.9 0.0**
OTAV Otavalo 130.13 95 *e*PKPdf **PKPdf 00 22 47.5 +0.6**
OTAV LR LR
comp=Z,5µm,19.0s
BNI Bardonecchia 130.25 327 PFAKE 00 23 00.0 +14
BNI LR LR
comp=Z,21µm,21.0s
WDD Wied Dalam 130.35 313 PFAKE 00 23 00.0 +14
WDD LR LR
comp=Z,3µm,22.0s
DRLN Deer Lake 130.44 24 PFAKE 00 23 00.0 +14
DRLN LR LR
comp=Z,27µm,20.0s
GDM Grand'Maison 130.45 328 PKP **PKPdf 00 22 46.3 +0.1**
CLTB Caltabellotta 130.47 316 *e*PKPdf **PKPdf 00 22 46.0 -0.4**
GRN Grenoble 130.62 328 PKP **PKPdf 00 22 45.5 -1.0**
LUCF Luceram 130.63 326 PKP **PKPdf 00 22 46.6 +0.1**
REVF Revere 130.71 326 PKP **PKPdf 00 22 47.2 +0.6**
MVIF Mont Vial 130.73 326 PKP **PKPdf 00 22 47.9 +1.1**
PB04 IPOC Station P 130.76 126 *e*PKPdf **PKPdf 00 22 48.7 +1.2**
PB04 LR LR
comp=Z,9µm,20.0s
MTDJ Mount Denham 130.94 71 PFAKE 00 23 00.0 +12
MTDJ LR LR
comp=Z,4µm,19.0s
DYA Yadsworthy 130.96 339 AMS AMS 01 22 11.5
comp=Z,9µm,21.1s
LPA La Plata 131.01 148 *ce*PKIKP **PKPdf 00 22 47.0 -0.4**
LPA PP **PP 00 25 07.0 +3.8**
LPA PKS PKSdf 00 26 12.0 -12
PLDF La Plantade 131.20 330 PKP **PKPdf 00 22 49.6 +2.1**
SSB Saint Sauveur 131.22 329 *e*PKHKP PKPpre 00 22 36.5
SSB MLR MLR
comp=Z,11µm,22.0s
SSB Saint Sauveur 131.22 329 *e*PKPpre PKPpre 00 22 36.5
SSB LR LR
comp=Z,11µm,22.0s
JSA Saint Aubin 131.32 337 AMS AMS 01 22 11.3
comp=Z,11µm,22.5s
AGO Saint Agoulin 131.38 331 PKP **PKPdf 00 22 48.3 +0.5**
VAL Valentia 131.59 345 *e*PP PP 00 25 12.7 +6.2
VAL *e*SS SS 00 42 39.5 +1.1
LVC Limon Verde 131.61 127 PFAKE 00 23 00.0 +11
LVC LR LR
comp=Z,6µm,20.0s
PYM Petit Puy Mans 131.66 330 PKP **PKPdf 00 22 49.8 +1.4**
LBL Lubilhac 131.91 330 PKP **PKPdf 00 22 49.6 +0.7**

FSA	**Cafayete**	**131.92**	**133**	*i* P		**PKPdf**	**00 22 47.6**	**-2.1**
PB01	**IPOC Station P**	**131.93**	**125**	*e*PKPdf		**PKPdf**	**00 22 49.8**	**+0.1**
PB01				LR	LR			
	comp=Z,9µm,21.0s							
AHML	**Horco Molle**	**131.98**	**134**	*i* P		**PKPdf**	**00 22 49.6**	**+0.1**
VSL	**Villasalto**	**132.04**	**320**	PFAKE			00 23 00.0	+11
VSL				LR	LR			
	comp=Z,6µm,20.0s							
DBBC	**Dabeiba**	**132.89**	**86**	*e*P		**PKPdf**	**00 22 51.9**	**+0.3**
GTBY	**Guantanamo Bay**	**132.92**	**68**	PFAKE			00 23 00.0	+8.6
GTBY				LR	LR			
	comp=Z,5µm,20.0s							
MOTC	**Monteria, Cord**	**133.45**	**84**	*e*P		**PKPdf**	**00 22 49.7**	**-2.9**
GUYC	**Guyana, Colomb**	**133.63**	**88**	*e*P		**PKPdf**	**00 22 52.5**	**-1.0**
AZAP	**Zapla**	**133.69**	**132**	*i* P		**PKPdf**	**00 22 50.9**	**-2.1**
LRDF	**Laroque-de-Fa**	**133.88**	**328**	PKP		**PKPdf**	**00 22 52.3**	**-0.3**
SJCC	**San Jacinto, C**	**133.91**	**82**	*e*P		**PKPdf**	**00 22 52.5**	**-1.0**
PRAC	**Prado**	**134.03**	**91**	*e*P		**PKPdf**	**00 22 52.5**	**-1.2**
PRAC	**Prado**	**134.03**	**91**	*e*PKPdf		**PKPdf**	**00 22 53.3**	**-0.4**
PRAC				LR	LR			
	comp=Z,7µm,22.0s							
KEST	**Kesra**	**134.09**	**316**	PKP		**PKPdf**	**00 22 52.3**	**-1.0**
	comp=Z,35nm,1.0s,baz=287,slow=3.4,SNR=18							
KEST				SKPbc		**SKPbc**	**00 26 20.9**	**-0.1**
	comp=Z,62nm,1.0s,baz=311,slow=2.5,SNR=16							
KEST	**Kesra**	**134.09**	**316**	*e*PKPpre	PKPpre		00 22 44.8	
KEST				*e*PKPdf		**PKPdf**	**00 22 52.3**	**-1.0**
KEST				LR	LR			
	comp=Z,6µm,20.0s							
FILF	**Fillols**	**134.13**	**328**	PKP		**PKPdf**	**00 22 54.6**	**+1.5**
NORC	**Norcasia**	**134.17**	**88**	*e*P		**PKPdf**	**00 22 50.8**	**-3.2**
VALF	**Valcebollere**	**134.53**	**328**	PKP		**PKPdf**	**00 22 54.3**	**+0.3**
ROSC	**El Rosal**	**134.68**	**89**	PKP		**PKPdf**	**00 22 55.5**	**+0.2**
	comp=Z,44nm,0.8s,baz=316,slow=1.0,SNR=18							
ROSC				SKP			00 26 31.4	
	comp=Z,6.2nm,0.6s,baz=262,slow=17,SNR=4.5							
SALF	**Salau**	**134.71**	**329**	PKP		**PKPdf**	**00 22 53.8**	**-0.4**
CMAH	**Djebel Manchou**	**134.92**	**318**	P		**PKPdf**	**00 22 54.5**	**-0.3**
CMAH	**Djebel Manchou**	**134.92**	**318**	P		**SKPbc**	**00 26 22.8**	**-0.8**
CMAH	**Djebel Manchou**	**134.92**	**318**	P		**SKPbc**	**00 26 22.8**	**-0.8**
SJAC	**San Juan de Ar**	**134.93**	**91**	*e*P		**PKPdf**	**00 22 53.1**	**-2.4**
LABF	**Labassere**	**135.06**	**330**	PKP		**PKPdf**	**00 22 56.3**	**+1.4**
ABSA	**Djebel Ababsia**	**135.08**	**317**	P		**PKPdf**	**00 22 54.7**	**-0.4**
ABSA	**Djebel Ababsia**	**135.08**	**317**	P		**SKPbc**	**00 26 24.2**	**0.0**
ABSA	**Djebel Ababsia**	**135.08**	**317**	P		**SKPbc**	**00 26 24.2**	**0.0**
RESF	**Ens**	**135.10**	**329**	PKP		**PKPdf**	**00 22 57.9**	**+2.9**
VIEF	**Viey**	**135.21**	**330**	PKP		**PKPdf**	**00 22 57.5**	**+2.3**
CAEH	**'Ain El Ouahch**	**135.21**	**318**	P		**PKPdf**	**00 22 56.3**	**+1.0**
CAEH	**'Ain El Ouahch**	**135.21**	**318**	P		**SKPbc**	**00 26 25.8**	**+1.3**
CAEH	**'Ain El Ouahch**	**135.21**	**318**	P		**SKPbc**	**00 26 25.8**	**+1.3**
CHIC	**Chingaza**	**135.25**	**89**	*e*P		**PKPdf**	**00 22 54.2**	**-2.3**
REYF	**Montagne du Re**	**135.28**	**330**	PKP		**PKPdf**	**00 22 56.9**	**+1.6**
LPAZ	**La Paz**	**135.28**	**120**	PKhKP	PKPpre		00 22 44.4	
	comp=Z,2.4nm,0.5s,baz=206,slow=0.3,SNR=19							
LPAZ				PKP		**PKPdf**	**00 22 56.8**	**+0.1**
	comp=Z,10nm,0.6s,baz=246,slow=0.6,SNR=22							
LPAZ				SKP			00 26 30.8	
	comp=Z,9.3nm,1.0s,baz=152,slow=22,SNR=3.6							
BRRC	**Barranca, Sant**	**135.37**	**86**	*e*P		**PKPdf**	**00 22 56.9**	**+0.8**
ATE	**Arette**	**135.42**	**331**	PKP		**PKPdf**	**00 22 57.1**	**+1.6**
CKFL	**Kef-Lekhel**	**135.51**	**318**	P		**PKPdf**	**00 22 56.5**	**+0.5**
LARF	**Larrau**	**135.59**	**331**	PKP		**PKPdf**	**00 22 57.3**	**+1.5**
CASM	**Ain Smara**	**135.75**	**318**	P		**PKPdf**	**00 22 57.9**	**+1.6**
OCAC	**Ocana**	**135.77**	**84**	*e*P		**PKPdf**	**00 22 58.2**	**+1.1**
PAPH	**Port-au-Prince**	**135.79**	**70**	*e*PKPdf		**PKPdf**	**00 22 56.5**	**-0.3**
BARC	**Barichara**	**135.88**	**87**	*e*P	PKPpre		00 22 50.8	
CTEI	**Djebel Teioual**	**135.91**	**318**	P		**PKPdf**	**00 22 58.7**	**+1.9**
CTEI	**Djebel Teioual**	**135.91**	**318**	P		**SKPbc**	**00 26 26.5**	**-0.3**
CTEI	**Djebel Teioual**	**135.91**	**318**	P		**SKPbc**	**00 26 26.5**	**-0.3**
RUSC	**La Rusia**	**135.96**	**88**	*e*PKPpre	PKPpre		00 22 48.6	
GRTK	**Grand Turk**	**136.21**	**65**	PFAKE			00 23 10.0	+13
GRTK				LR	LR			
	comp=Z,12µm,21.0s							
GRMC	**Gramalote, San**	**136.28**	**85**	*e*P	PKPpre		00 22 52.5	
CBRI	**Barrientos, No**	**136.29**	**85**	*e*P		**PKPdf**	**00 22 59.3**	**+1.2**
PAMC	**Pamplona, Colo**	**136.38**	**86**	*e*P	PKPpre		00 22 54.2	
SET	**Setif**	**136.50**	**319**	P		**PKPdf**	**00 23 02.0**	**+4.2**
CKHR	**Kef el Ahmar**	**136.53**	**318**	P		**SKPbc**	**00 26 28.3**	**-0.4**
CKHR	**Kef el Ahmar**	**136.53**	**318**	P		**SKPbc**	**00 26 28.3**	**-0.4**
SDDR	**Presa de Saban**	**136.64**	**69**	PFAKE			00 23 10.0	+12
SDDR				LR	LR			
	comp=Z,13µm,20.0s							
PUCM	**Santiago**	**137.11**	**68**	PFAKE			00 23 10.0	+11
PUCM				LR	LR			
	comp=Z,15µm,19.0s							
BBSR	**BB Station**	**137.41**	**47**	PFAKE			00 23 10.0	+11
BBSR				LR	LR			
	comp=Z,23µm,21.0s							
CPUP	**Villa Florida**	**137.68**	**140**	PKhKP	PKPpre		00 22 48.3	
	comp=Z,4.3nm,0.8s,baz=219,slow=5.3,SNR=6.6							
CPUP				PKP		**PKPdf**	**00 23 00.2**	**+0.1**
	comp=Z,11nm,0.9s,baz=251,slow=3.0,SNR=7.3							
SDV	**Santo Domingo**	**138.42**	**83**	PKhKP	PKPpre		00 22 53.7	
	comp=Z,29nm,0.7s,baz=129,slow=1.1,SNR=6.5							
SDV				PKP		**PKPdf**	**00 23 01.6**	**-0.5**
	comp=Z,106nm,0.7s,baz=262,slow=2.2,SNR=18							
SDV				SKP			00 26 38.1	
	comp=Z,12nm,0.5s,baz=199,slow=16,SNR=3.3							
SDV	**Santo Domingo**	**138.42**	**83**	*e*P		**PKPdf**	**00 23 01.0**	**-1.1**
SDV	**Santo Domingo**	**138.42**	**83**	PKPpre	PKPpre		00 22 53.7	
SDV				*e*PKPdf		**PKPdf**	**00 23 02.0**	**-0.1**
SDV				LR	LR			
	comp=Z,8µm,20.0s							
ECHA	**Ech Chlef**	**139.11**	**322**	P		**PKPdf**	**00 23 07.0**	**+4.6**
PBRG	**Braganca**	**139.20**	**335**	*e*PKPdf		**PKPdf**	**00 23 01.3**	**-1.2**
PBRG				*i* P		**SKPbc**	**00 26 35.6**	**-0.5**
EANR	**'Ain N'Sour**	**139.40**	**322**	P		**PKPdf**	**00 23 05.0**	**+1.9**
ES19	**SONSECA Array**	**139.55**	**330**	*e*PKPpre	PKPpre		00 22 57.4	
ESDC	**Sonseca Array**	**139.60**	**330**	PKhKP	PKPpre		00 22 57.5	
	comp=Z,1.3nm,0.6s,baz=27,slow=3.6,SNR=12							
ESDC				PKP		**PKPdf**	**00 23 02.0**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=24,slow=3.3,SNR=13							
ESDC				PP		**PP**	**00 26 00.5**	**+2.9**
	comp=Z,5.4nm,1.1s,baz=31,slow=6.5,SNR=4.9							
ESDC				SKP			00 26 37.3	
	comp=Z,6.8nm,1.0s,baz=25,slow=3.0,SNR=6.4							
ESLA	**Sonseca Array**	**139.60**	**330**	*e*PKPdf		**PKPdf**	**00 23 02.0**	**-1.3**
ESLA				LR	LR			
	comp=Z,5µm,20.0s							
ETRT	**Tiaret**	**139.63**	**321**	P		**PKPdf**	**00 23 03.0**	**-0.6**
PGAV	**Gavieira, Arco**	**139.70**	**336**	*e*PKPdf		**PKPdf**	**00 23 02.6**	**-0.9**
PGAV				*i* P		**SKPbc**	**00 26 38.0**	**+0.5**
PGAV	**Gavieira, Arco**	**139.70**	**336**	*e*SS		SS	00 44 42.8	+27
PGAV	**Gavieira, Arco**	**139.70**	**336**	*e*LR		LR	01 10 30.9	
	comp=Z,4µm,20.0s							
PCAB	**Cabril**	**139.81**	**336**	*e*PKPdf		**PKPdf**	**00 23 02.9**	**-0.7**
PCAB				*i* P		**SKPbc**	**00 26 38.3**	**+0.5**
MVO	**Moncorvo**	**139.84**	**334**	*e*PKPdf		**PKPdf**	**00 23 02.3**	**-1.5**
MVO				*i* P		**SKPbc**	**00 26 37.8**	**-0.1**
MVO	**Moncorvo**	**139.84**	**334**	*e*SS		SS	00 45 01.5	+44
MVO	**Moncorvo**	**139.84**	**334**	*e*LR		LR	01 10 30.9	
	comp=Z,10µm,20.0s							
PAB	**San Pablo**	**139.89**	**330**	*e*PKIKP		**PKPdf**	**00 23 03.8**	**-0.1**
PAB				MLR	MLR			
	comp=Z,8µm,22.0s							
PAB	**San Pablo**	**139.89**	**330**	*e*PKPdf		**PKPdf**	**00 23 03.8**	**-0.1**
PAB				LR	LR			
	comp=Z,8µm,22.0s							
POLO	**Lamas de Olo**	**140.00**	**335**	*e*PKPdf		**PKPdf**	**00 23 03.5**	**-0.6**
POLO				*i* P		**SKPbc**	**00 26 38.5**	**+0.1**
PVRL	**Vila Real**	**140.05**	**335**	*e*PKPdf		**PKPdf**	**00 23 01.2**	**-2.9**
PVRL				*i* P		**SKPbc**	**00 26 39.0**	**+0.6**
PTO	**Porto**	**140.53**	**336**	*e*PKPdf		**PKPdf**	**00 23 07.2**	**+2.3**
PVIS	**Viseu**	**140.59**	**335**	*e*PKPdf		**PKPdf**	**00 23 04.1**	**-1.0**
PVIS				*i* P		**SKPbc**	**00 26 40.4**	**+0.5**
AGP	**Aguadilla**	**140.60**	**68**	PFAKE			00 23 20.0	+14
AGP				LR	LR			
	comp=Z,7µm,20.0s							
MPR	**Mayaguez**	**140.65**	**68**	PFAKE			00 23 20.0	+14
MPR				LR	LR			
	comp=Z,7µm,20.0s							
MTE	**Manteigas**	**140.69**	**334**	*e*PKPdf		**PKPdf**	**00 23 02.8**	**-2.5**
MTE				*i* P		**SKPbc**	**00 26 40.3**	**+0.1**
MTE	**Manteigas**	**140.69**	**334**	*e*LR		LR	01 10 36.8	
	comp=Z,9µm,22.0s							
MTE	**Manteigas**	**140.69**	**334**	PFAKE			00 23 20.0	+15
MTE				LR	LR			
	comp=Z,10µm,22.0s							
PCBR	**Castelo Branco**	**141.12**	**334**	*e*PKPdf		**PKPdf**	**00 23 06.5**	**+0.5**
PCBR				*i* P		**SKPbc**	**00 26 41.2**	**0.0**
CELP	**Cerrillos**	**141.20**	**68**	*e*PKPdf		**PKPdf**	**00 23 05.9**	**-0.8**
SIV	**San Ignacio**	**141.36**	**125**	PKhKP	PKPpre		00 23 00.0	
	comp=Z,15nm,0.9s,baz=230,slow=5.1,SNR=12							
SIV				SKKPbc	SKKPbc		00 35 06.2	+1.0
	comp=Z,2.0nm,0.8s,baz=49,slow=4.1,SNR=3.9							
PCAS	**Casmilo, Conde**	**141.39**	**335**	*e*PKPdf		**PKPdf**	**00 23 06.7**	**+0.2**
PCAS				*i* P		**SKPbc**	**00 26 41.8**	**-0.1**
PMRV	**Marv??o**	**141.42**	**333**	*e*PKPdf		**PKPdf**	**00 23 04.2**	**-2.4**
PMRV				*i* P		**SKPbc**	**00 26 41.9**	**-0.2**
PMRV	**Marv??o**	**141.42**	**333**	*e*SS		SS	00 45 13.4	+37
PMRV	**Marv??o**	**141.42**	**333**	*e*LR		LR	01 10 08.7	
	comp=Z,5µm,20.0s							
SJG	**San Juan**	**141.59**	**68**	PKhKP	PKPpre		00 23 03.3	
SJG				PKP		**PKPdf**	**00 23 07.9**	**+0.5**
	comp=Z,30nm,0.6s,baz=332,slow=2.6							
SJG				SKPbc		**SKiKP**	**00 26 45.7**	**+0.9**
	comp=Z,36nm,1.1s,baz=282,slow=4.4,SNR=5.4							
SJG	**San Juan**	**141.59**	**68**	*e*PKHKP	PKPpre		00 23 03.3	
SJG				*e*			00 23 07.9	
SJG				MLR	MLR			
	comp=Z,6µm,21.0s							
SJG	**San Juan**	**141.59**	**68**	*e*PKPpre	PKPpre		00 23 03.3	
SJG				*e*PKPdf		**PKPdf**	**00 23 07.9**	**+0.5**
SJG				*e*SKPbc		**SKiKP**	**00 26 45.7**	**+0.9**
SJG				LR	LR			
	comp=Z,6µm,21.0s							
PTOM	**Tomar**	**141.72**	**334**	*e*PKPdf		**PKPdf**	**00 23 05.6**	**-1.5**
PTOM				*i* P		**SKPbc**	**00 26 43.1**	**+0.3**
CBYP	**Canovanas**	**141.82**	**68**	*e*PKPdf		**PKPdf**	**00 23 08.1**	**+0.2**
CBYP				LR	LR			
	comp=Z,10µm,20.0s							
HUMP	**Col San Antoni**	**141.86**	**68**	*e*PKPpre	PKPpre		00 23 03.1	
HUMP				LR	LR			
	comp=Z,8µm,19.0s							
PESTR	**Estremoz**	**141.97**	**333**	*e*PKPdf		**PKPdf**	**00 23 07.3**	**-0.3**
PESTR				*i* P		**SKPbc**	**00 26 43.5**	**0.0**
PBAR	**Barrancos**	**142.27**	**331**	*e*PKPdf		**PKPdf**	**00 23 06.0**	**-2.1**
PBAR				*i* P		**SKPbc**	**00 26 44.3**	**+0.1**
EVO	**Evora**	**142.43**	**333**	*e*PKPdf		**PKPdf**	**00 23 06.5**	**-1.9**
EVO				*i* P		**SKPbc**	**00 26 44.5**	**-0.1**
PMAFR	**Mafra**	**142.64**	**335**	*e*PKPdf		**PKPdf**	**00 23 07.1**	**-1.7**
PMAFR				*i* P		**SKPbc**	**00 26 45.2**	**+0.1**
SAML	**Samuel**	**142.69**	**113**	PFAKE			00 23 20.0	+10
SAML				LR	LR			
	comp=Z,4µm,21.0s							
PMST	**Lisbon--Monsan**	**142.78**	**334**	*e*PKPdf		**PKPdf**	**00 23 08.8**	**-0.2**
PMST				*i* P		**SKPbc**	**00 26 45.6**	**+0.2**
LIS	**Lisbon**	**142.78**	**334**	*e*P		**PKPdf**	**00 23 08.2**	**-0.8**
LIS				AMS	AMS		01 29 40.5	
	comp=Z,10µm,24.7s							
TAM	**Tamanrasset**	**142.88**	**300**	*e*PKPpre	PKPpre		00 23 05.6	
TAM				LR	LR			
	comp=Z,4µm,19.0s							
PNCL	**Nicolau / Gran**	**143.01**	**333**	*e*PKPdf		**PKPdf**	**00 23 08.6**	**-0.8**
PNCL				*i* P		**SKPbc**	**00 26 46.1**	**+0.1**
MESJ	**Messejana**	**143.09**	**332**	*e*P		**PKPdf**	**00 23 08.6**	**-1.0**
MESJ				AMS	AMS		01 29 32.5	
	comp=Z,9µm,22.8s							
MESJ	**Messejana**	**143.09**	**332**	*e*PKPdf		**PKPdf**	**00 23 08.9**	**-0.7**
MESJ				*i* P		**SKPbc**	**00 26 46.3**	**+0.1**
PCVE	**Castro Verde**	**143.17**	**332**	*e*PKPdf		**PKPdf**	**00 23 09.2**	**-0.5**
PCVE				*i* P		**SKPbc**	**00 26 46.5**	**+0.1**
PVAQ	**Vaqueiros**	**143.20**	**331**	*e*PKPdf		**PKPdf**	**00 23 09.5**	**-0.3**
PVAQ				*i* P		**SKPbc**	**00 26 46.7**	**+0.2**
PVAQ	**Vaqueiros**	**143.20**	**331**	*e*SS		SS	00 45 36.8	+40
PVAQ	**Vaqueiros**	**143.20**	**331**	*e*LR		LR	01 13 14.3	
	comp=Z,7µm,20.0s							
PBDV	**Barranco-do-Ve**	**143.44**	**332**	*e*PKPdf		**PKPdf**	**00 23 10.2**	**-0.1**
PBDV				*i* P		**SKPbc**	**00 26 48.1**	**+1.0**
PTEO	**Sao Teotonio**	**143.56**	**333**	*e*PKPdf		**PKPdf**	**00 23 09.7**	**-0.7**
PTEO				*i* P		**SKPbc**	**00 26 48.6**	**+1.2**
MORF	**Marmelete**	**143.72**	**332**	*e*P		**PKPdf**	**00 23 09.7**	**-1.0**
MORF				AMS	AMS		01 41 30.8	
	comp=E,6µm,19.6s							
MORF	**Marmelete**	**143.72**	**332**	*e*PKPdf		**PKPdf**	**00 23 11.1**	**+0.3**
PFVI	**Vila Bisbo**	**143.94**	**332**	*e*PKPdf		**PKPdf**	**00 23 12.1**	**+1.0**
PFVI				*i* P		PP	00 26 38.8	+15
PFVI	**Vila Bisbo**	**143.94**	**332**	PFAKE			00 23 20.0	+8.9
PFVI				LR	LR			
	comp=Z,8µm,22.0s							
PCRV	**Puerto La Cruz**	**144.27**	**81**	PKP		**PKPab**	**00 23 08.9**	**-1.3**
	comp=Z,28nm,0.6s,baz=242,slow=4.8,SNR=16							
SABA	**Saba**	**144.39**	**68**	*e*P	PKPab		00 22 55.8	-15
SABA	**Saba**	**144.39**	**68**	PFAKE			00 23 20.0	+7.6
SABA				LR	LR			
	comp=Z,11µm,21.0s							
SMRT	**St. Maarten**	**144.43**	**67**	*e*P		**PKPab**	**00 23 09.7**	**-1.0**
SMRT	**St. Maarten**	**144.43**	**67**	PFAKE			00 23 20.0	+7.5
SMRT				LR	LR			
	comp=Z,10µm,19.0s							
SEUS	**St. Eustatius**	**144.67**	**68**	*e*P		**PKPab**	**00 23 10.0**	**-1.5**
SEUS	**St. Eustatius**	**144.67**	**68**	PFAKE			00 23 20.0	+7.2
SEUS				LR	LR			
	comp=Z,13µm,22.0s							
SKI	**Saint Kitts**	**144.93**	**68**	*e*P		**PKPab**	**00 23 12.5**	**0.0**
SKI	**Saint Kitts**	**144.93**	**68**	*e*PKP2		**PKPab**	**00 23 11.5**	**-1.1**
SKI	**Saint Kitts**	**144.93**	**68**	*e*PKPbc		**PKPab**	**00 23 11.4**	**-1.1**
RTC	**Rabat Centre**	**145.42**	**327**	PFAKE			00 23 30.0	+16
RTC				LR	LR			
	comp=Z,13µm,20.0s							
SPB	**Sao Paulo**	**145.51**	**149**	*e*PKPdf		**PKPdf**	**00 23 13.2**	**-1.0**
SPB				LR	LR			
	comp=Z,9µm,20.0s							
MLYT	**Lee's Yard**	**145.59**	**69**	*e*P		**PKPdf**	**00 23 13.4**	**-1.1**
ANWB	**Willy Bob**	**145.72**	**67**	*e*P		**PKPdf**	**00 23 13.8**	**-0.9**
ANWB	**Willy Bob**	**145.72**	**67**	*e*PKPdf		**PKPab**	**00 23 16.2**	**+0.8**
ANWB				LR	LR			
	comp=Z,10µm,20.0s							
BPA	**Boggy Peak**	**145.82**	**68**	*e*P		**PKPab**	**00 23 16.6**	**+0.8**
GDHS	**Morne Mazeau,**	**146.10**	**70**	*e*PKPdf		**PKPab**	**00 23 17.8**	**+0.9**
H07N1	**FLORES T-PHASE**	**146.28**	**3**	PKPbc		**PKPbc**	**00 23 16.4**	**+0.2**
	SNR=8.6							
H07N1	**FLORES T-PHASE**	**146.28**	**3**	*e*PKPdf		**PKPab**	**00 23 17.5**	**+0.6**
TBG	**Guadaloupe-3**	**146.31**	**70**	*e*P		**PKPbc**	**00 23 16.5**	**-0.4**
BBL	**Barber's Block**	**146.55**	**71**	*e*P		**PKPbc**	**00 23 17.7**	**+0.1**
H07S1	**FLORES T-PHASE**	**146.59**	**3**	PKPbc		**PKPbc**	**00 23 16.9**	**-0.3**
	SNR=52							
H07S1	**FLORES T-PHASE**	**146.59**	**3**	*e*PKPdf		**PKPbc**	**00 23 16.8**	**-0.3**
MGG	**Marie-Galante**	**146.60**	**70**	*e*P		**PKPab**	**00 23 18.6**	**-0.2**
DWS	**Wesley**	**146.69**	**71**	*e*P		**PKPbc**	**00 23 18.4**	**+0.5**
DEG	**La Desirade**	**146.74**	**69**	*e*P		**PKPdf**	**00 23 16.1**	**-0.4**
H05N1	**Guadeloupe/Mar**	**146.75**	**69**	PKPbc		**PKPab**	**00 23 18.9**	**-0.5**
	SNR=12							
DLPL	**La Plaine**	**146.80**	**71**	*e*P		**PKPdf**	**00 23 17.1**	**+0.5**
PCM	**Pelee Case Pet**	**146.94**	**72**	*e*P		**PKPab**	**00 23 22.2**	**+2.0**
PCM	**Pelee Case Pet**	**146.94**	**72**	*e*P		**PKPab**	**00 23 25.2**	**+5.0**
PML	**Morne Lenard**	**146.98**	**72**	*e*P		**PKPab**	**00 23 23.9**	**+3.5**
CXM	**Morne La Croix**	**146.99**	**72**	*e*P		**PKPab**	**00 23 19.9**	**-0.6**
GBMF	**Grand Be**	**146.99**	**72**	*e*P		**PKPab**	**00 23 20.6**	**+0.1**
PGRA	**Graciosa**	**147.00**	**359**	*e*PKPdf		**PKPbc**	**00 23 18.0**	**-0.3**
FDF	**Fort de France**	**147.02**	**72**	*e*P		**PKPab**	**00 23 19.8**	**-0.8**
FDF	**Fort de France**	**147.02**	**72**	*e*PKP2		**PKPbc**	**00 23 19.5**	**+0.5**
FDF				MLR	MLR			
	comp=Z,7µm,20.0s							
FDF	**Fort de France**	**147.02**	**72**	*e*PKPdf		**PKPbc**	**00 23 19.5**	**+0.5**
FDF				LR	LR			
	comp=Z,7µm,20.0s							
BIM	**Bigot**	**147.14**	**72**	*e*P		**PKPab**	**00 23 20.8**	**-0.2**
TRMF	**Trois Ilets**	**147.15**	**72**	*e*P		**PKPab**	**00 23 20.7**	**-0.3**
ZAM	**Aeronautique**	**147.17**	**72**	*e*P		**PKPab**	**00 23 20.6**	**-0.4**
SVB	**Belmont**	**147.20**	**75**	*e*P		**PKPdf**	**00 23 17.0**	**-0.3**
SVB	**Belmont**	**147.20**	**75**	*e*PKPdf		**PKPdf**	**00 23 16.8**	**-0.5**
SVB				LR	LR			
	comp=Z,9µm,21.0s							
FCV	**Fort Charlotte**	**147.22**	**75**	*e*P		**PKPab**	**00 23 21.6**	**+0.2**
SVV	**Soufriere Volc**	**147.22**	**75**	*e*P		**PKPdf**	**00 23 17.6**	**+0.3**
ROSA	**Rosais**	**147.31**	**359**	*e*PKPdf		**PKPdf**	**00 23 17.9**	**+1.1**
ROSA	**Rosais**	**147.31**	**359**	*e*PKPbc		**PKPab**	**00 23 20.1**	**-0.8**
ROSA				LR	LR			
	comp=Z,6µm,20.0s							
ADH	**Angra Heroismo**	**147.35**	**358**	*e*PKPdf		**PKPbc**	**00 23 18.8**	**-0.4**
H05S1	**Guadeloupe/Mar**	**147.38**	**72**	PKPbc		**PKPbc**	**00 23 19.0**	**-0.9**
	SNR=9.0							
TPP	**Pointe-a-Pierr**	**147.39**	**80**	*e*P		**PKPbc**	**00 23 19.8**	**-0.3**
PMAN	**Manadas**	**147.39**	**359**	*e*PKPdf		**PKPbc**	**00 23 18.2**	**-1.2**
PCED	**Cedros**	**147.40**	**360**	*e*PKPdf		**PKPbc**	**00 23 18.3**	**-1.1**
TRN	**Trinidad (W)**	**147.40**	**79**	*e*P		**PKPbc**	**00 23 19.1**	**-1.0**
MCLT	**Moule a Chique**	**147.42**	**74**	*e*P		**PKPbc**	**00 23 19.7**	**-0.4**
PCAN	**Candelaria**	**147.57**	**360**	*e*PKPdf		**PKPbc**	**00 23 20.5**	**+0.6**
BART	**Pico Bartolome**	**148.08**	**355**	*e*PKPdf		**PKPdf**	**00 23 19.4**	**+1.2**
PSET	**Sete Cidades**	**148.09**	**355**	*e*PKPdf		**PKPbc**	**00 23 19.9**	**-1.4**
PCALD	**Caldeiras da R**	**148.09**	**355**	*e*P	PKPab		00 23 33.0	+9.0
CMLA	**Cha da Macela**	**148.13**	**355**	*i* PKP2		**PKPab**	**00 23 24.4**	**+0.2**
CMLA	**Cha da Macela**	**148.13**	**355**	*e*PKPdf		**PKPdf**	**00 23 19.4**	**+1.2**
CMLA	**Cha da Macela**	**148.13**	**355**	PFAKE			00 23 30.0	+5.8
CMLA				LR	LR			
	comp=Z,6µm,21.0s							
PDA	**Ponta Delgada**	**148.16**	**355**	*e*PKPdf		**PKPbc**	**00 23 20.5**	**-0.9**
TOSP	**Speyside**	**148.18**	**78**	*e*P		**PKPbc**	**00 23 20.9**	**-1.3**
PTGA	**Pitinga**	**148.19**	**101**	PKPbc		**PKPdf**	**00 23 18.6**	**-0.4**
	comp=Z,94nm,0.6s,baz=260,slow=3.5,SNR=68							
PTGA	**Pitinga**	**148.19**	**101**	*e*PKPdf		**PKPdf**	**00 23 18.6**	**-0.4**
PTGA				LR	LR			
	comp=Z,6µm,20.0s							
SHEL	**Horse Pasture**	**148.51**	**226**	*i* PKP2		**PKPab**	**00 23 26.7**	**+0.3**
PSMN	**Pico do Norte,**	**148.84**	**354**	*e*PKPdf		**PKPdf**	**00 23 20.6**	**+1.2**
BBGH	**Gun Hill**	**148.84**	**74**	*e*P		**PKPdf**	**00 23 20.6**	**+0.7**
BBGH	**Gun Hill**	**148.84**	**74**	PFAKE			00 23 30.0	+2.2
BBGH				LR	LR			
	comp=Z,15µm,21.0s							
PSMA	**Santa Maria**	**148.85**	**354**	*e*PKPdf		**PKPdf**	**00 23 20.6**	**+1.2**
PMOZ	**Porto Moniz, M**	**151.10**	**339**	*e*SS		SS	00 46 37.6	+12
PMOZ	**Porto Moniz, M**	**151.10**	**339**	*e*LR		LR	01 16 13.7	
	comp=Z,5µm,20.0s							
BDFB	**Brasilia**	**151.37**	**139**	PKP		**PKPdf**	**00 23 23.7**	**-0.4**
	comp=Z,15nm,1.1s,baz=140,slow=1.0,SNR=17							
BDFB				PKPbc		**PKPbc**	**00 23 28.8**	**-1.3**
	comp=Z,40nm,0.6s,baz=279,slow=1.1,SNR=36							
KIC	**Kosan

URLA				*i* S		**Sn**	**00 06 57.0 +0.2**
ZEY	**˜zmir**	**1.21**	**176**	*i* P		**Pb**	**00 06 43.4 +0.2**
ZEY				*i* S		**Sb**	**00 06 58.7 -0.2**
ERIK	**Erikli-Kesan**	**1.22**	**4**	*e*PN		**Pb**	**00 06 43.3 -0.1**
ERIK	**Erikli-Kesan**	**1.22**	**4**	*e*Pn		**Pb**	**00 06 43.3 -0.1**
ALN	**Alexandroupoli**	**1.47**	**349**	*e*PN		**Pb**	**00 06 47.7 +0.1**
ALN	**Alexandroupoli**	**1.47**	**349**	*e*Pn		**Pb**	**00 06 47.7 +0.1**

NIED ***16*** *00:06:00,38˚.10N×143˚.50E,h8km,Mw3.9 Best double couple: M₀7.16000×10¹⁴ NP1:φs46.00000°,δ35.00000°, λ-87.00000°. NP2:φs222.00000°,δ55.00000°, λ-92.00000°.*

IDC ***16*** *00:06:34.2±1.5,37˚.99N×143˚.52E,h0km,mb3.9/10, mb1 3.9/15,mb1mx3.8/64,mbtmp3.9/15,ML3.8/4,MS4.7/1, Ms1 4.7/1,ms1mx3.5/67,Error ellipse: s-maj=31.8km s-min=19.9km az=149.0*

JMA ***16*** *00:06:37.1±0.2,38˚.13N×143˚.46E,h22km,M4.0*

NEIC ***16*** *00:06:38.0±0.6,37˚.84N×143˚.62E,h35km,mb4.8/4, Error ellipse: s-maj=13.1km s-min=8.1km az=116.0*

ISC 16 00:06:34.4±4.3,37˚.97N±0˚.05×143˚.55E±0˚.08,h8km±28km, n45,σ1°80/54,mb4.1/14,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.80**	**286**	P	**Pn**	**00 07 06.1**	**+0.4**
JIO				S	**Sn**	**00 07 26.5**	**-2.3**
OFUJ	**Ofunato**	**1.84**	**308**	P	**Pn**	**00 07 06.1**	**-0.3**
JMK	**Ichinoseki**	**2.07**	**299**	P	**Pn**	**00 07 09.8**	**+0.3**
JMK				*e*S	**Sn**	**00 07 34.0**	**-1.6**
JOU	**Okura**	**2.31**	**281**	P	**Pn**	**00 07 13.9**	**+1.1**
JOM	**Ohasama**	**2.32**	**311**	P	**Pn**	**00 07 13.1**	**+0.2**
JOM				*e*S	**Sn**	**00 07 39.6**	**-2.0**
JFT	**Otama**	**2.58**	**261**	P	**Pn**	**00 07 18.7**	**+2.1**
JFT				S	**Sn**	**00 07 48.6**	**+0.4**
JYK	**Kaneyama**	**2.68**	**292**	P	**Pn**	**00 07 18.9**	**+1.1**
JYK				*e*S	**Sn**	**00 07 49.9**	**-0.6**
JAG	**Ashikaga**	**3.61**	**246**	P	**Pn**	**00 07 31.9**	**+1.2**
ERM	**Erimo**	**4.05**	**356**	*e*Pn	**Pn**	**00 07 37.0**	**+0.3**
ERM				*e*Sn	**Sn**	**00 08 19.0**	**-5.4**
JRY	**Ryogami san**	**4.20**	**244**	P	**Pn**	**00 07 40.3**	**+1.5**
JRY				*e*S	**Sn**	**00 08 26.3**	**-1.8**
JNBK	**Urakawa-nobuka**	**4.35**	**352**	P	**Pn**	**00 07 40.7**	**-0.1**
JNBK				*e*S	**Sn**	**00 08 29.3**	**-2.4**
MJAR	**Matsushiro Arr**	**4.49**	**253**	Pn	**Pn**	**00 07 44.1**	**+1.3**
	2.7nm,0.3s,baz=75,slow=15,SNR=9.7						
MJAR				Sn	**Sn**	**00 08 34.8**	**-0.4**
	1.2nm,0.3s,baz=96,slow=16,SNR=4.0						
MAJO	**Matsushiro**	**4.49**	**253**	*e*Pn	**Pn**	**00 07 45.9**	**+3.1**
MAT	**Matsushiro**	**4.49**	**253**	P	**Pn**	**00 07 45.6**	**+2.8**
MAT				S	**Sn**	**00 08 36.0**	**+0.7**
MJB9	**Matsu-Tunnel**	**4.49**	**253**	*e*Pn	**Pn**	**00 07 46.3**	**+3.5**
JHJ2	**Mitsune**	**5.72**	**213**	*e*Pn	**Pn**	**00 07 58.9**	**-0.8**
JHJ	**Hachijo jima 2**	**5.73**	**213**	Pn	**Pn**	**00 08 00.3**	**+0.5**
	10nm,0.3s,baz=150,slow=24,SNR=6.2						
JHJ				Sn	**Sn**	**00 09 00.2**	**-5.5**
	31nm,0.3s,baz=254,slow=24,SNR=8.6						
ASAJ	**Asahikawa**	**6.18**	**354**	Pn	**Pn**	**00 08 06.2**	**+0.2**
	5.8nm,0.3s,baz=225,slow=14,SNR=9.8						
ASAJ				Sn	**Sn**	**00 09 15.1**	**-1.8**
	1.7nm,0.3s,baz=223,slow=33,SNR=5.6						
USRK	**Ussuriysk Ar.**	**10.71**	**309**	Pn	**Pn**	**00 09 08.2**	**+0.1**
	0.2nm,0.3s,baz=122,slow=15,SNR=3.0						
USRK				LR	LR	00 13 20.3	
	comp=Z,4µm,18.8s,baz=266,slow=38						
CBIJ	**Chichi jima**	**10.90**	**186**	*e*Pn	**Pn**	**00 09 07.7**	**-3.1**
CBIJ				Sn	Sn	00 11 01.9	-11
JCJ	**Chichijima**	**10.90**	**186**	Pn	**Pn**	**00 09 07.7**	**-3.1**
	3.6nm,0.3s,baz=279,slow=23,SNR=5.3						
JCJ				Sn	Sn	00 11 01.9	-11
	4.4nm,0.3s,baz=127,slow=20,SNR=3.3						
KLR	**Kul'dur**	**14.11**	**327**	Pn	**Pn**	**00 09 54.0**	**-0.6**
	0.1nm,0.3s,baz=151,slow=5.3,SNR=3.6						
SEY	**Seymchan**	**25.57**	**9**	P	**P**	**00 12 05.0**	**+1.4**
	2.6nm,0.6s,baz=218,slow=5.8,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**27.23**	**125**	T	T	00 40 46.9	
	baz=318,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**27.24**	**125**	T	T	00 40 47.0	
	baz=318,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**27.25**	**125**	T	T	00 40 46.3	
	baz=318,slow=75,SNR=18						
SONA0	**Songino Array**	**28.70**	**302**	*e*P	**P**	**00 12 33.2**	**+1.1**
	14nm,2.0s						
SONM	**Songino Array**	**28.70**	**302**	P	**P**	**00 12 33.2**	**+1.1**
	0.6nm,0.6s,baz=98,slow=9.3,SNR=2.5						
KKM	**Kota Kinabalu**	**40.33**	**225**	*e*P	**P**	**00 14 11.2**	**-1.5**
	70nm,1.4s						
ZAA1	**Zalesovo Array**	**42.55**	**312**	*e*P	**P**	**00 14 31.0**	**+0.6**
ZALV	**Zalesovo Beam**	**42.55**	**312**	P	**P**	**00 14 31.0**	**+0.6**
	0.9nm,0.3s,baz=92,slow=6.6,SNR=4.1						
MK32	**Makanchi Array**	**45.07**	**302**	*e*P	**P**	**00 14 50.6**	**-0.1**
MKAR	**Makanchi Array**	**45.07**	**302**	P	**P**	**00 14 50.6**	**-0.1**
	0.3nm,0.7s,baz=83,slow=12,SNR=3.2						
KURK	**Kurchatov**	**46.70**	**308**	*e*P	**P**	**00 15 04.3**	**+0.8**
	23nm,0.5s						
KURBB	**Kurchatov Array**	**46.77**	**308**	P	**P**	**00 15 04.8**	**+0.7**
	1.3nm,0.6s,baz=82,slow=8.2,SNR=15						
ILAR	**Eielson Array**	**47.79**	**33**	P	**P**	**00 15 12.7**	**+0.7**
	1.7nm,0.7s,baz=261,slow=6.7,SNR=23						
ILB	**Eielson Array**	**47.79**	**33**	*e*P	**P**	**00 15 12.7**	**+0.7**
BVAR	**Borovoye Array**	**51.20**	**312**	P	**P**	**00 15 39.4**	**+1.3**
	0.5nm,0.6s,baz=71,slow=8.4,SNR=4.4						
ABKAR	**Akbulak array**	**58.63**	**310**	*e*P	**P**	**00 16 32.4**	**+0.5**
	0.7nm,0.3s						
FIA0	**FINESS Array S**	**68.77**	**333**	*e*P	**P**	**00 17 39.5**	**+0.9**
FINES	**FINESS Array B**	**68.77**	**333**	P	**P**	**00 17 39.5**	**+0.9**
	1.6nm,0.6s,baz=38,slow=9.6,SNR=8.6						
NB200	**NORSAR Array S**	**73.97**	**338**	*e*P	**P**	**00 18 10.5**	**+0.5**
NOA	**NORSAR Array B**	**73.97**	**338**	P	**P**	**00 18 10.5**	**+0.5**
	0.7nm,0.7s,baz=39,slow=5.9,SNR=3.6						
LTX	**Lajitas**	**88.20**	**54**	*e*P	**P**	**00 19 27.2**	**+0.8**
TXAR	**Lajitas Array**	**88.20**	**54**	P	**P**	**00 19 27.2**	**+0.8**
	0.4nm,0.6s,baz=318,slow=2.6,SNR=2.3						

ISCJB ***16*** *00:07:18.0±0.6,76˚.98N±0˚.04×18˚.9E±0˚.1,h8km±5km, Error ellipse: s-maj=6.8km s-min=4.1km az=35.4*

CSEM ***16*** *00:07:19.2±0.2,77˚.06N×18˚.90E,h10km,ML3.4,Error ellipse: s-maj=7.1km s-min=3.8km az=49.0*

NAO ***16*** *00:07:20.1±0.9,77˚.00N×18˚.85E,h19km±9km,ML3.4*

BER ***16*** *00:07:22.3±3.9,77˚.07N×18˚.88E,h15km,MD2.5,ML3.0, ML3.4(NAO)*

ISC 16 00:07:20.2±1.2,77˚.07N±0˚.05×18˚.92E±0˚.03,h15km±10km, n36,σ1°47/49,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.76**	**267**	Pg	**Pg**	**00 07 35.0**	**-0.1**
HSP				Lg	Lg	00 07 44.7	
HSPB	**Hornsund (broa**	**0.77**	**266**	*e*P	**Pg**	**00 07 34.9**	**-0.2**
HSPB				*e*S	**Sg**	**00 07 44.5**	**-0.7**
HSPB				IAML		00 07 48.4	
	comp=Z,474nm,0.3s						
HSPB	**Hornsund (broa**	**0.77**	**266**	*e*P	**Pg**	**00 07 34.9**	**-0.2**
	SNR=93						
HSPB	**Hornsund (broa**	**0.77**	**266**	*e*Pn	**Pb**	**00 07 36.2**	**+1.0**
HSPB				*e*S	**Sg**	**00 07 44.5**	**-0.7**
	SNR=93						
HSPB				*e*Sn	**Sb**	**00 07 47.3**	**+1.9**
SPA0	**Spitsbergen Ar**	**1.24**	**335**	Pn	**Pn**	**00 07 42.8**	**-0.2**
	baz=150,slow=16						
SPA0				Pg	**Pn**	**00 07 43.7**	**+0.7**
	baz=151,slow=18						
SPA0				Lg	Lg	00 08 00.9	
	baz=141,slow=37						
SPA0	**Spitsbergen Ar**	**1.24**	**335**	Pn	**Pn**	**00 07 42.8**	**-0.2**
	baz=150,slow=16						
SPA0				Pg	**Pn**	**00 07 43.7**	**+0.7**
	baz=151,slow=18						
SPA0				Lg	Lg	00 08 00.9	
	baz=141,slow=37						
SPA0	**Spitsbergen Ar**	**1.24**	**335**	Pn	**Pn**	**00 07 42.8**	**-0.2**
	SNR=999						
SPA0	**Spitsbergen Ar**	**1.24**	**335**	Pg	**Pn**	**00 07 43.7**	**+0.7**
	SNR=6.7						
SPA0				Lg	Lg	00 08 00.9	
BRBA	**Barentsburg A**	**1.42**	**317**	Pn	**Pn**	**00 07 45.3**	**-0.1**
BRBA	**Barentsburg A**	**1.42**	**317**	Pg	**Pn**	**00 07 46.6**	**+1.2**
BRBA				Lg	Lg	00 08 05.6	
HOPEN	**Hopen**	**1.51**	**109**	Pn	**Pn**	**00 07 46.8**	**+0.1**
HOPEN				Pg	**Pb**	**00 07 48.8**	**+0.9**
HOPEN				Sn	**Sn**	**00 08 05.1**	**-0.9**
HOPEN				Lg	Lg	00 08 07.8	
HOPEN	**Hopen**	**1.51**	**109**	*e*P	**Pn**	**00 07 46.6**	**0.0**
HOPEN				*e*Sg	**Sg**	**00 08 08.7**	**-0.1**
HOPEN				IAML		00 08 11.8	
	comp=Z,766nm,0.2s						
HOPEN	**Hopen**	**1.51**	**109**	*e*P	**Pn**	**00 07 46.6**	**0.0**
	SNR=55						
HOPEN	**Hopen**	**1.51**	**109**	Pg	**Pb**	**00 07 48.8**	**+0.9**
HOPEN				Sn	**Sn**	**00 08 05.1**	**-0.9**
HOPEN				Lg	Lg	00 08 07.8	
HOPEN				*e*Sg	**Sg**	**00 08 08.7**	**-0.1**
	SNR=91						
KBS	**Kingsbay**	**2.36**	**325**	*e*P	**Pn**	**00 07 57.7**	**-0.7**
KBS				*e*Pg	**Pb**	**00 08 03.6**	**+1.2**
KBS				*e*Sg	**Sb**	**00 08 34.1**	**+2.8**
KBS				IAML		00 08 40.1	
	comp=Z,274nm,0.3s						
KBS	**Kingsbay**	**2.36**	**325**	*e*P	**Pn**	**00 07 57.7**	**-0.7**
	SNR=55						
BJO	**Bjornoya**	**2.58**	**178**	*e*Pg	**Pb**	**00 08 07.0**	**+0.9**
BJO				*e*Sg	**Sb**	**00 08 40.6**	**+2.9**
BJO				IAML		00 08 45.0	
	comp=Z,143nm,0.5s						
BJO	**Bjornoya**	**2.58**	**178**	*e*Pg	**Pb**	**00 08 07.0**	**+0.9**
	SNR=91						
BJO				Lg	Lg	00 08 40.1	
BJO1	**Bjornoya**	**2.59**	**180**	Pg	**Pb**	**00 08 07.2**	**+1.1**
BJO1				Lg	Lg	00 08 40.1	
HAMF	**Hammerfest**	**6.60**	**166**	*e*P	**Pn**	**00 08 55.2**	**-1.3**
HAMF				IAML		00 10 13.4	
	comp=Z,12nm,0.5s						
HAMF	**Hammerfest**	**6.60**	**166**	*e*P	**Pn**	**00 08 55.2**	**-1.3**
	SNR=51						
KEV	**Kevo**	**7.70**	**159**	*e*P	**Pn**	**00 09 10.7**	**-0.9**
KEV	**Kevo**	**7.70**	**159**	*e*P	**Pn**	**00 09 10.6**	**-0.9**
	SNR=51						
ARA0	**ARCESS Array S**	**7.80**	**163**	Pn	**Pn**	**00 09 10.7**	**-2.3**
	baz=351,slow=12						
ARA0				Sn	Sn	00 10 31.9	-9.1
	baz=3.5,slow=28						
ARA0	**ARCESS Array S**	**7.80**	**163**	Pn	**Pn**	**00 09 10.7**	**-2.3**
	baz=351,slow=12						
ARA0				Sn	Sn	00 10 31.9	-9.1
	baz=3.5,slow=28						
ARA0	**ARCESS Array S**	**7.80**	**163**	Pn	**Pn**	**00 09 10.7**	**-2.3**
	SNR=8.0						
ARE0	**ARCESS Array S**	**7.80**	**163**	*e*P	**Pn**	**00 09 14.3**	**+1.3**
ARE0	**ARCESS Array S**	**7.80**	**163**	*e*P	**Pn**	**00 09 14.4**	**+1.3**
	SNR=51						
KTK1	**Kautokeino**	**8.20**	**169**	*e*P	**Pn**	**00 09 19.7**	**+1.2**
KTK1	**Kautokeino**	**8.20**	**169**	*e*P	**Pn**	**00 09 19.7**	**+1.2**
	SNR=51						
HEF	**Hetta**	**8.82**	**168**	*e*P	**Pn**	**00 09 27.7**	**+0.8**
HEF	**Hetta**	**8.82**	**168**	*e*P	**Pn**	**00 09 27.7**	**+0.8**
	SNR=51						
APA0	**Apatity Array**	**10.38**	**149**	Pn	**Pn**	**00 09 45.2**	**-3.0**
	baz=340,slow=11						
APA0	**Apatity Array**	**10.38**	**149**	P	**Pn**	**00 09 45.2**	**-3.0**
	baz=340,slow=11						
FIA0	**FINESS Array S**	**15.88**	**167**	P	**Pn**	**00 11 00.0**	**-2.8**
	baz=7.1,slow=12						
FIA0	**FINESS Array S**	**15.88**	**167**	P	**Pn**	**00 11 00.0**	**-2.8**
	baz=7.1,slow=12						

NEIC 16 00:09:16.0,51˚.61N×176˚.59W,h44km,ML2.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.28**	**25**	P	Pn	00 09 24.7	+0.4
ETKA				S	Sn	00 09 31.1	+0.9
ADAG	**Mount Adagdak**	**0.37**	**359**	P	Pn	00 09 26.3	+1.0
KIRH	**Kanaga Island**	**0.43**	**313**	P	Pn	00 09 26.4	+0.5
KIRH				S	Sn	00 09 34.3	+1.3
KINC	**Kanaga Island**	**0.46**	**314**	P	Pn	00 09 26.5	+0.1
GSCK	**Great Sitkin C**	**0.48**	**33**	P	Pn	00 09 27.0	+0.4
GSCK				S	Sn	00 09 35.2	+1.0
KICM	**Kanaga Island**	**0.49**	**310**	P	Pn	00 09 27.2	+0.6
GSTD	**Great Sitkin T**	**0.53**	**32**	P	Pn	00 09 27.4	+0.2
GSTD				S	Sn	00 09 35.9	+0.6
GSMY	**Great Sitkin M**	**0.55**	**37**	P	Pn	00 09 27.7	+0.2
TAPA	**Tanaga Point A**	**0.79**	**286**	P	Pn	00 09 30.8	+0.1
TAFL	**Tanaga Flats**	**0.83**	**281**	P	Pn	00 09 31.3	+0.1
TAFP	**Tanaga Falls P**	**0.91**	**289**	P	Pn	00 09 32.5	+0.1
TAFP				S	Sn	00 09 45.4	+1.0
TASE	**Tanaga Southea**	**0.93**	**285**	P	Pn	00 09 33.0	+0.4
TANO	**Tanaga North**	**1.00**	**288**	P	Pn	00 09 33.6	+0.1
KOWE	**Korovin West**	**1.63**	**62**	P	Pn	00 09 42.6	+0.4
KOKL	**Mount Kliuchef**	**1.64**	**63**	P	Pn	00 09 43.7	+1.4

IDC ***16*** *00:10:09.1±0.8,5˚.81S×151˚.32E,h0km,mb4.7/5, mb1 4.9/6,mb1mx4.2/45,mbtmp4.7/6,ML2.0/1,Error ellipse: s-maj=57.8km s-min=21.5km az=133.0*

NEIC ***16*** *00:10:10.6±4.5,5˚.88S×151˚.26E,h13km±28km,mb5.3/10, Error ellipse: s-maj=11.7km s-min=9.2km az=125.0*

ISCJB ***16*** *00:10:12.6±0.5,5˚.88S±0˚.07×151˚.20E±0˚.07,h43km, mb5.2/22,Error ellipse: s-maj=11.5km s-min=7.3km az=136.1*

ISC 16 00:10:14.2±0.6,5˚.85S±0˚.08×151˚.23E±0˚.09,h43km,n38, σ1°46/34,mb5.3/21,1C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.89**	**29**	*e*Pn	**Pn**	**00 10 43.1**	**-0.9**
PMG	**Port Moresby**	**5.37**	**229**	Pn	**Pn**	**00 11 32.7**	**+0.9**
	2.8nm,0.3s,baz=238,slow=8.2,SNR=1.7						
PMG				Sn	**Sn**	**00 12 30.9**	**-1.5**
	8.7nm,0.3s,baz=59,slow=19,SNR=2.6						
WB2	**Warramunga Arr**	**21.58**	**228**	*e*P	**P**	**00 14 58.6**	**-1.9**
	386nm,1.8s						
WR1	**Warramunga Arr**	**21.59**	**228**	*e*P	**P**	**00 15 00.5**	**0.0**
	162nm,1.3s						
WRA	**Warramunga Arr**	**21.59**	**228**	P	**P**	**00 15 00.5**	**0.0**
	16nm,0.7s,baz=53,slow=11,SNR=3.3						
AS31	**Alice Springs**	**24.33**	**222**	*e*P	**P**	**00 15 27.2**	**-1.0**
	34nm,1.4s						
ASAR	**Alice Springs**	**24.33**	**222**	P	**P**	**00 15 29.4**	**+1.1**
	26nm,0.8s,baz=56,slow=10.0,SNR=5.6						
LHI	**Lord Howe Isla**	**26.57**	**165**	*e*P	**P**	**00 15 46.0**	**-2.4**
	927nm,1.9s						
SOEI	**Soe**	**26.99**	**260**	*e*P	**P**	**00 15 50.1**	**-2.4**
	687nm,1.6s						
STKA	**Stephens Creek**	**27.42**	**198**	*e*P	**P**	**00 15 56.4**	**+0.4**
	38nm,1.5s						
FITZ	**Fitzroy Crossi**	**27.79**	**242**	P	**P**	**00 16 01.4**	**+1.9**
	30nm,0.7s,baz=56,slow=11,SNR=3.6						
FITZ	**Fitzroy Crossi**	**27.79**	**242**	*e*P	**P**	**00 16 01.4**	**+1.9**
	348nm,1.5s						
FUNA	**Funafuti**	**27.87**	**97**	*e*P	**P**	**00 16 00.6**	**+0.4**
	168nm,1.2s						
KAPI	**Kappang**	**31.35**	**270**	*e*P	**P**	**00 16 29.8**	**-1.3**
	54nm,1.1s						
OUZ	**Omahuta**	**35.77**	**148**	*e*P	**P**	**00 17 09.9**	**+0.7**
	70nm,1.6s						
JAGI	**Jajag, Banyuwa**	**36.87**	**264**	*e*P	**P**	**00 17 19.6**	**+0.6**
	257nm,1.5s						
BFZ	**Birch Farm**	**41.29**	**151**	*e*P	**P**	**00 17 53.5**	**-2.0**
	131nm,1.2s						
NACB	**Ninganchiao**	**41.53**	**317**	*e*P	**P**	**00 17 58.2**	**+0.4**
	92nm,1.4s						
WKZ	**Wanaka**	**41.82**	**161**	*e*P	**P**	**00 18 00.9**	**+1.0**
	304nm,1.8s						
LBZ	**Lake Benmore**	**41.83**	**160**	*e*P	**P**	**00 17 59.2**	**-0.7**
	129nm,1.6s						
CISI	**Cisompet, Garu**	**43.14**	**265**	*e*P	**P**	**00 18 07.2**	**-3.9**
	196nm,1.0s						
ERM	**Erimo**	**48.20**	**352**	*e*P	**P**	**00 18 50.9**	**+0.4**
	31nm,1.3s						
ILAR	**Eielson Array**	**83.71**	**22**	P	**P**	**00 22 38.5**	**+0.2**
	1.9nm,0.9s,baz=251,slow=5.2,SNR=6.1						
ILB	**Eielson Array**	**83.71**	**22**	*e*P	**P**	**00 22 38.5**	**+0.2**
MAW	**Mawson**	**84.01**	**203**	P	**P**	**00 22 41.6**	**+1.8**
	2.6nm,0.7s,baz=76,slow=4.8,SNR=3.8						
SYO	**Syowa Base**	**92.17**	**200**	*e*P	**P**	**00 23 20.0**	**+1.1**
SYO	**Syowa Base**	**92.17**	**200**	esP	P	00 23 27.9	+9.0
NLU	**North Lily Min**	**98.85**	**51**	*e*P	Pdif	00 23 50.2	-0.1
	22nm,1.1s						
AKASG	**Malin Array Be**	**114.42**	**324**	PKP	PKPdf	00 28 50.4	+0.9
	0.6nm,0.4s,baz=60,slow=2.5,SNR=4.3						
AKBB	**Malin Array Si**	**114.42**	**324**	*e*PKiKP	**PKiKP**	**00 28 50.4**	**+0.9**
BR101	**Keskin Array S**	**114.82**	**311**	*e*PKiKP	PKPdf	00 28 53.2	+2.4
BRTR	**Keskin Array B**	**114.82**	**311**	PKP	PKPdf	00 28 53.2	+2.4
	0.5nm,0.7s,baz=79,slow=3.1,SNR=3.5						
GERES	**GERESS Array B**	**124.11**	**327**	PKP	**PKPdf**	**00 29 09.9**	**+1.6**
	1.6nm,0.6s,baz=52,slow=1.3,SNR=6.8						
EKA	**Eskdalemuir Ar**	**126.56**	**342**	PKP	**PKPdf**	**00 29 14.6**	**+1.9**
	0.3nm,0.4s,baz=20,slow=3.9,SNR=4.7						
SENIN	**Lac Senin/Sane**	**129.04**	**328**	*e*Pdif	**Pdif**	**00 26 04.1**	**-0.4**
ESDC	**Sonseca Array**	**139.58**	**330**	PKP	**PKPdf**	**00 29 38.2**	**+0.5**
	0.1nm,0.3s,baz=29,slow=2.9,SNR=3.3						
PTGA	**Pitinga**	**148.17**	**101**	PKPbc	**PKPab**	**00 29 58.3**	**-1.4**
	11nm,0.6s,baz=297,slow=2.3,SNR=5.8						
BDFB	**Brasilia**	**151.38**	**138**	PKPbc	**PKPbc**	**00 30 05.1**	**+0.5**
	2.6nm,0.6s,baz=218,slow=2.5,SNR=3.6						

IDC 16 00:13:01.5±1.7,5˚.84S×151˚.36E,h0km,mb4.5/4, mb1 4.8/4,mb1mx3.9/45,mbtmp4.6/4,Error ellipse: s-maj=107.6km s-min=25.3km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.69**	**228**	P	P	00 17 53.9	-0.3
	8.9nm,0.5s,baz=53,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**24.43**	**222**	P	P	00 18 21.9	-0.1
	11nm,0.7s,baz=59,slow=9.3,SNR=9.5						
FITZ	**Fitzroy Crossi**	**27.91**	**242**	P	P	00 18 53.7	+0.2
	16nm,0.6s,baz=72,slow=9.6,SNR=6.5						
ILAR	**Eielson Array**	**83.65**	**22**	P	P	00 25 31.1	-0.7
	0.9nm,0.6s,baz=243,slow=4.9,SNR=5.6						
GERES	**GERESS Array B**	**124.17**	**327**	PKP	PKPdf	00 32 02.6	+0.2
	0.6nm,0.6s,baz=50,slow=2.1,SNR=4.9						
EKA	**Eskdalemuir Ar**	**126.59**	**342**	PKP	PKPdf	00 32 06.8	+0.1
	0.5nm,0.7s,baz=13,slow=1.6,SNR=3.0						

IDC 16 00:15:11.6±1.9,6˚.11S×151˚.63E,h0km,mb4.2/4, mb1 4.4/5,mb1mx3.8/43,mbtmp4.2/5,ML2.0/1,MS4.2/1, Ms1 4.2/1,ms1mx3.9/43,Error ellipse: s-maj=112.4km s-min=24.0km az=132.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**233**	Pn	Pn	00 16 37.0	+1.9
	3.2nm,0.3s,baz=61,slow=13,SNR=1.9						
PMG				Sn	Sn	00 17 35.3	-3.9
	2.6nm,0.3s,baz=150,slow=20,SNR=3.2						
JAY	**Jayapura**	**11.46**	**288**	LR	LR	00 21 45.5	
	comp=Z,1µm,18.5s,baz=343,slow=34						
WRA	**Warramunga Arr**	**21.71**	**229**	P	P	00 20 04.2	-0.3
	3.1nm,0.6s,baz=55,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**24.40**	**223**	P	P	00 20 32.1	0.0
	6.5nm,0.7s,baz=55,slow=9.6,SNR=8.1						
FITZ	**Fitzroy Crossi**	**28.02**	**243**	P	P	00 21 04.0	-0.7
	11nm,1.1s,baz=66,slow=10.0,SNR=2.9						
ILAR	**Eielson Array**	**83.80**	**22**	P	P	00 27 42.3	-0.4
	0.5nm,0.6s,baz=255,slow=5.1,SNR=3.8						
GERES	**GERESS Array B**	**124.54**	**327**	PKP	PKPdf	00 34 13.7	+0.4
	0.7nm,0.6s,baz=38,slow=1.7,SNR=3.3						

GUC 16 00:16:09.6±0.8,40˚.56S×72˚.07W,h8km±7km,ML3.8, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**1.16**	**99**	*i* P	Pg	00 16 30.7	-1.2
PLCA				*i* S	Sb	00 16 47.3	0.0
VLCH	**Valdivia**	**1.18**	**310**	*e*S	Sg	00 16 47.2	-0.3
VLCH				IAML		00 16 50.5	
	comp=E,4µm,0.0s						

IDC 16 00:21:47.1±1.5,5˚.66S×151˚.48E,h0km,mb4.0/5, mb1 4.2/6,mb1mx3.8/41,mbtmp4.0/6,ML1.7/1,Error ellipse: s-maj=78.1km s-min=25.5km az=131.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.67**	**229**	Pn	Pn	00 23 14.3	+1.6
	1.3nm,0.3s,baz=311,slow=20,SNR=2.4						
PMG				Sn	Sn	00 24 13.2	-5.4
	0.8nm,0.3s,baz=0.0,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**21.89**	**228**	P	P	00 26 41.4	-0.6
	2.6nm,0.7s,baz=54,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**24.63**	**222**	P	P	00 27 09.4	-0.1

BDFB **Brasilia** 151.78 139 PKPbc **PKPbc** 00 43 06.8 -1.3
1.4nm,0.4s,baz=286,slow=2.1,SNR=3.2

IDC ***16*** *00:23:39.8±0.6,6.00S×151.30E,h0km,mb4.4/18, mb1 4.5/18,mb1mx4.4/40,mbtmp4.4/18,Error ellipse: s-maj=25.7km s-min=12.1km az=110.0*
NEIC ***16*** *00:23:41.7±0.2,5.91S×151.22E,h10km,mb5.1/25,Error ellipse: s-maj=7.8km s-min=5.6km az=121.0*
ISCJB ***16*** *00:23:44.2±0.3,5.96S±0.05×151.21E±0.06,h41km, mb4.8/43,Error ellipse: s-maj=8.6km s-min=5.5km az=31.2*

ISC 16 00:23:46.0±0.4,5.91S±0.06×151.22E±0.07,h41km,n77, σ1s25/78,mb4.8/42,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.32**	**229**	Pn		**Pn**		**00 25 05.7**	**+2.7**
	10nm,0.3s,baz=42,slow=9.9,SNR=7.0								
PMG				Sn		**Sn**		**00 26 01.2**	**-1.8**
	23nm,0.3s,baz=96,slow=20,SNR=5.9								
MANU	**Manus Island**	**5.43**	**315**	*e*Pn		Pn		00 25 11.3	+6.7
HNR	**Honiara**	**9.33**	**113**	Pn		**Pn**		**00 25 58.9**	**+0.9**
	8.8nm,0.3s,baz=264,slow=6.4,SNR=3.7								
CTA	**Charters Tower**	**14.90**	**198**	Pn		**P**		**00 27 19.8**	**+0.7**
	0.8nm,0.3s,baz=15,slow=13,SNR=8.2								
CTAO	**Charters Tower**	**14.90**	**198**	*e*Pn		**P**		**00 27 19.1**	**0.0**
EIDS	**Eidsvold**	**19.35**	**180**	*e*P		**P**		**00 28 08.1**	**-0.1**
EIDS				*e*Pn		**Pn**		**00 28 09.3**	**-0.3**
MTN	**Manton Dam**	**20.97**	**249**	*e*P		**P**		**00 28 24.2**	**-1.7**
	150nm,1.6s								
WRAB	**Tennant Creek**	**21.52**	**228**	*e*P		**P**		**00 28 31.7**	**-0.1**
	32nm,0.8s								
WB2	**Warramunga Arr**	**21.53**	**228**	*e*P		**P**		**00 28 31.9**	**+0.1**
	34nm,0.8s								
WR1	**Warramunga Arr**	**21.54**	**228**	*e*P		**P**		**00 28 31.6**	**-0.4**
	76nm,1.3s								
WRA	**Warramunga Arr**	**21.54**	**228**	P		**P**		**00 28 31.6**	**-0.4**
	21nm,0.5s,baz=54,slow=10,SNR=12								
WRA				S		**S**		**00 32 26.1**	**-2.6**
	15nm,1.2s,baz=55,slow=19,SNR=6.2								
WRA				ScP		**ScP**		**00 36 10.2**	**+2.6**
	1.4nm,0.9s,baz=56,slow=2.9,SNR=3.8								
KWAJ	**Kwajalein Atol**	**21.92**	**48**	*e*P		**P**		**00 28 34.0**	**-2.1**
	724nm,0.6s								
AS01	**Alice Springs**	**24.25**	**222**	*e*P		**P**		**00 28 58.9**	**-0.5**
AS31	**Alice Springs**	**24.28**	**222**	*e*P		**P**		**00 29 00.3**	**+0.6**
	14nm,0.6s								
ASAR	**Alice Springs**	**24.28**	**222**	P		**P**		**00 29 00.3**	**+0.6**
	38nm,0.7s,baz=54,slow=9.4,SNR=30								
ASAR				S		**S**		**00 33 19.0**	**+3.0**
	1.6nm,0.9s,baz=52,slow=11,SNR=2.5								
ASAR				ScP		**ScP**		**00 36 17.7**	**+3.0**
	1.7nm,0.8s,baz=56,slow=2.5,SNR=5.7								
STKA	**Stephens Creek**	**27.36**	**198**	P		**P**		**00 29 25.8**	**-1.7**
	9.9nm,0.9s,baz=17,slow=17,SNR=2.9								
FITZ	**Fitzroy Crossi**	**27.75**	**242**	P		**P**		**00 29 30.6**	**-0.5**
	16nm,0.6s,baz=68,slow=6.4,SNR=13								
MMRI	**Maumere**	**28.87**	**263**	*e*P		**P**		**00 29 40.1**	**-1.1**
	40nm,0.9s								
MBWA	**Marble Bar**	**34.06**	**241**	*e*P		**P**		**00 30 25.9**	**-0.8**
	90nm,1.7s								
URZ	**Urewera**	**39.86**	**148**	*e*P		**P**		**00 31 15.3**	**-0.5**
	116nm,1.8s								
JHJ2	**Mitsune**	**40.29**	**345**	*e*P		**P**		**00 31 19.9**	**+0.5**
	208nm,1.2s								
UGM	**Wanagama**	**40.44**	**265**	*e*P		**P**		**00 31 20.9**	**-0.1**
	624nm,1.7s								
YULB	**Yu-li**	**41.26**	**316**	*e*P		**P**		**00 31 28.6**	**+1.0**
	14nm,0.7s								
SSLB	**Suanglung**	**41.75**	**316**	*e*P		**P**		**00 31 33.0**	**+1.4**
	62nm,1.6s								
YHNB	**Yeheng**	**42.05**	**317**	*e*P		**P**		**00 31 34.2**	**+0.1**
	144nm,1.7s								
CISI	**Cisompet, Garu**	**43.12**	**265**	*e*P		**P**		**00 31 41.8**	**-1.2**
	90nm,0.8s								
JNU	**Nakatsue**	**43.36**	**335**	P		**P**		**00 31 45.4**	**+0.9**
	7.3nm,0.7s,baz=143,slow=4.7,SNR=4.1								
MJAR	**Matsushiro Arr**	**43.95**	**345**	P		**P**		**00 31 48.6**	**-0.6**
	0.8nm,0.3s,baz=160,slow=7.4,SNR=3.1								
KSRS	**Korea Array**	**48.30**	**335**	P		**P**		**00 32 25.8**	**+2.4**
	3.6nm,0.8s,baz=152,slow=8.3,SNR=12								
KS15	**Wonju Array Si**	**48.31**	**335**	*e*P		**P**		**00 32 25.8**	**+2.3**
KSAR	**Wonju Array Be**	**48.31**	**335**	P		**P**		**00 32 25.8**	**+2.3**
BKNI	**Bangkinang**	**50.47**	**275**	*e*P		**P**		**00 32 40.0**	**-0.5**
	51nm,0.4s								
GSI	**Gunungsitoli**	**54.04**	**276**	*e*P		**P**		**00 33 05.7**	**-1.2**
	29nm,1.1s								
CM31	**Chiang Mai Arr**	**56.94**	**296**	*e*P		**P**		**00 33 27.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**56.94**	**296**	P		**P**		**00 33 27.5**	**-0.2**
	0.6nm,0.5s,baz=126,slow=6.1,SNR=3.2								
KLR	**Kul'dur**	**57.48**	**345**	P		**P**		**00 33 30.8**	**-0.1**
	0.8nm,0.4s,baz=166,slow=4.2,SNR=3.1								
PEA0	**Petropavlovsk-**	**59.05**	**5**	*e*P		**P**		**00 33 41.1**	**-0.7**
PETK	**Petropavlovsk-**	**59.05**	**5**	P		**P**		**00 33 41.2**	**-0.6**
	4.4nm,0.7s,baz=154,slow=7.9,SNR=7.9								
PEA1	**Petropavlovsk-**	**59.05**	**5**	*e*P		**P**		**00 33 41.2**	**-0.6**
SONA0	**Songino Array**	**66.44**	**329**	*e*P		**P**		**00 34 32.5**	**+1.3**
	6.1nm,1.4s								
SONM	**Songino Array**	**66.44**	**329**	P		**P**		**00 34 32.5**	**+1.3**
	0.8nm,0.4s,baz=149,slow=4.4,SNR=5.5								
SONA1	**Songino Array**	**66.44**	**329**	*e*P		**P**		**00 34 32.1**	**+0.8**
CASY	**Casey**	**66.50**	**197**	*e*P		**P**		**00 34 31.5**	**+0.3**
	14nm,1.4s								
UNV	**Unalaska Valle**	**69.28**	**25**	*e*P		**P**		**00 34 45.6**	**-3.2**
	161nm,1.6s								
VNDA	**Vanda**	**71.79**	**178**	P		**P**		**00 35 03.1**	**-0.7**
	1.6nm,0.8s,baz=323,slow=7.4,SNR=7.1								
OHAK	**Old Harbor**	**77.25**	**27**	*e*P		**P**		**00 35 34.1**	**-1.7**
	30nm,1.6s								
SVW2	**Sparrevohn**	**78.46**	**23**	*e*P		**P**		**00 35 41.5**	**-1.0**
	11nm,1.4s								
CNPM	**China Poot**	**79.39**	**26**	*e*P		**P**		**00 35 48.5**	**+0.8**
	17nm,0.8s								
MK32	**Makanchi Array**	**80.13**	**319**	*e*P		**P**		**00 35 52.6**	**+0.7**
MKAR	**Makanchi Array**	**80.13**	**319**	P		**P**		**00 35 52.6**	**+0.7**
	1.1nm,0.8s,baz=102,slow=7.9,SNR=4.3								
ZALV	**Zalesovo Beam**	**81.20**	**327**	P		**P**		**00 35 56.2**	**-1.2**
	1.1nm,0.6s,baz=114,slow=3.6,SNR=2.9								
ZAA1	**Zalesovo Array**	**81.21**	**327**	*e*P		**P**		**00 35 56.2**	**-1.2**
MLY	**Manley**	**82.48**	**21**	*e*P		**P**		**00 36 04.7**	**+0.7**
	4.1nm,0.6s								
CCB	**Clear Creek Bu**	**83.37**	**22**	*e*P		**P**		**00 36 08.8**	**+0.2**
	3.3nm,0.7s								
ILAR	**Eielson Array**	**83.78**	**22**	P		**P**		**00 36 09.8**	**-0.9**
	2.2nm,0.6s,baz=247,slow=5.1,SNR=13								
ILB	**Eielson Array**	**83.78**	**22**	*e*P		**P**		**00 36 09.8**	**-0.9**
MAW	**Mawson**	**83.95**	**203**	P		**P**		**00 36 11.9**	**+0.4**
	1.6nm,0.5s,baz=104,slow=4.2,SNR=3.8								
INK	**Inuvik**	**90.05**	**21**	P		**P**		**00 36 42.5**	**+1.5**
	1.3nm,0.8s,baz=212,slow=1.1,SNR=3.4								
YKA	**Yellowknife Ar**	**97.14**	**28**	P		**P**		**00 37 14.6**	**+0.8**
	0.3nm,0.5s,baz=273,slow=4.8,SNR=5.2								
YKB5	**Yellowknife Ar**	**97.14**	**28**	*e*P		**P**		**00 37 14.6**	**+0.8**
NLU	**North Lily Min**	**98.90**	**51**	*e*P		**Pdif**		**00 37 22.2**	**-0.4**
	21nm,1.1s								
AKASG	**Malin Array Be**	**114.46**	**324**	PKP		PKPdf		00 42 21.4	-0.3
	0.7nm,0.5s,baz=56,slow=2.7,SNR=5.9								
AKBB	**Malin Array Si**	**114.46**	**324**	*e*PKiKP		PKPdf		00 42 21.4	-0.3
BR101	**Keskin Array S**	**114.85**	**311**	*e*PKiKP		PKPdf		00 42 22.6	-0.3
BRTR	**Keskin Array B**	**114.85**	**311**	PKP		PKPdf		00 42 22.6	-0.3
	0.4nm,0.6s,baz=145,slow=3.7,SNR=4.2								
BR231	**Keskin MP Arra**	**115.47**	**311**	*e*P		**PKPdf**		**00 42 23.6**	**-0.4**
NB2	**NORSAR Subarra**	**117.40**	**339**	PKPdf		**PKPdf**		**00 42 26.4**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=44,slow=1.9								
NB200	**NORSAR Array S**	**117.40**	**339**	*e*PKPdf		**PKPdf**		**00 42 26.9**	**-0.2**
NOA	**NORSAR Array B**	**117.40**	**339**	PKP		**PKPdf**		**00 42 26.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=48,slow=1.9,SNR=5.3								
MLR	**Muntele Rosu**	**118.48**	**319**	PKP		**PKPdf**		**00 42 29.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=243,slow=19,SNR=6.5								
GERES	**GERESS Array B**	**124.15**	**327**	PKP		**PKPdf**		**00 42 41.2**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=62,slow=1.4,SNR=15								
GEA0	**GERESS Array S**	**124.16**	**327**	*e*P		**PKPdf**		**00 42 40.4**	**-0.1**
MOTA	**Moosalm**	**126.45**	**327**	*i* PKiKP		**PKPdf**		**00 42 45.1**	**+0.1**
	comp=Z,1.5nm,0.5s								
DAVA	**Damuels**	**127.14**	**328**	*i* PKiKP		**PKPdf**		**00 42 46.5**	**+0.2**
	comp=Z,4.1nm,1.0s								
DAVOX	**Davos/Dischmat**	**127.45**	**327**	PKP		**PKPdf**		**00 42 48.1**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=76,slow=9.6,SNR=5.9								
KEST	**Kesra**	**134.12**	**316**	PKP		**PKPdf**		**00 43 01.6**	**+1.9**
	comp=Z,2.1nm,0.8s,baz=59,slow=3.9,SNR=5.2								
BDFB	**Brasilia**	**151.34**	**139**	PKPbc		**PKPbc**		**00 43 36.9**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=169,slow=4.1,SNR=5.9								

WEL 16 00:26:23.2±0.8,37.57S×175.85E,h203km±9km,ML3.5/3,
1D,Error ellipse: s-maj=14.8km s-min=8.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTZ	**Ruatahuna**	**1.37**	**140**	PN		PN		00 26 56.2	+0.1
RTZ				SN		S		00 27 20.5	-1.0
BKZ	**Black Stump Fm**	**1.67**	**162**	PN		Pn		00 26 58.6	-0.1
BKZ				AML		AML		00 27 27.7	
BKZ				AML		AML		00 27 28.9	
RIGZ	**Rimuhau**	**1.89**	**127**	PN		Pn		00 27 00.7	0.0
KWHZ	**Kaweka Forest**	**1.90**	**166**	↓PN		Pn		00 27 01.9	+0.9
KWHZ				SN		S		00 27 30.2	+0.2
KRHZ	**Kereru**	**2.11**	**169**	PN		Pn		00 27 03.4	+0.4
KRHZ				SN		S		00 27 33.9	+0.2
KAHZ	**Kahuranaki**	**2.36**	**160**	PN		Pn		00 27 05.6	-0.1
MRZ	**Mangatainoka R**	**3.09**	**184**	PN		Pn		00 27 13.3	-0.6
OGWZ	**Otaki Gorge**	**3.28**	**189**	PN		Pn		00 27 16.0	-0.2
HOWZ	**Holdsworth Sta**	**3.33**	**184**	PN		Pn		00 27 15.8	-1.0
KIW	**Kapiti Island**	**3.36**	**192**	PN		Pn		00 27 16.7	-0.5
MTW	**Mount Morrison**	**3.59**	**184**	PN		Pn		00 27 18.7	-1.3

IDC 16 00:27:23.2±1.9,5.61S×151.20E,h0km,mb3.9/4, mb1 4.2/5,mb1mx3.7/41,mbtmp4.0/5,ML2.0/1,MS4.7/1, Ms1 4.7/1,ms1mx3.7/41,Error ellipse: s-maj=113.1km s-min=26.3km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.50**	**226**	Pn		Pn		00 28 48.6	+2.1
	3.0nm,0.3s,baz=120,slow=11,SNR=2.2								
PMG				Sn		Sn		00 29 45.6	-4.8
	3.2nm,0.3s,baz=3.5,slow=19,SNR=2.3								
WRA	**Warramunga Arr**	**21.72**	**227**	P		P		00 32 15.2	-1.0
	1.5nm,0.4s,baz=54,slow=11,SNR=4.9								
ASAR	**Alice Springs**	**24.48**	**221**	P		P		00 32 44.1	-0.3
	1.9nm,0.6s,baz=56,slow=8.6,SNR=3.9								
FITZ	**Fitzroy Crossi**	**27.87**	**241**	P		P		00 33 14.6	-0.4
	3.4nm,0.8s,baz=64,slow=9.8,SNR=2.3								
TGY	**Tagaytay City**	**35.85**	**303**	LR		LR		00 49 51.5	
	comp=Z,1μm,19.2s,baz=108,slow=38								
ILAR	**Eielson Array**	**83.51**	**22**	P		P		00 39 52.3	-0.4
	0.5nm,0.8s,baz=256,slow=5.1,SNR=3.8								
GERES	**GERESS Array B**	**123.89**	**327**	PKP		PKPdf		00 46 24.4	+0.7
	0.3nm,0.5s,baz=59,slow=2.5,SNR=4.2								

IDC 16 00:28:56.4±2.0,5.67S×151.20E,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.7/34,mbtmp3.9/4,Error ellipse: s-maj=120.4km s-min=27.7km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.46**	**227**	Pn		Pn		00 30 23.3	+4.1
	1.6nm,0.3s,baz=40,slow=16,SNR=1.8								
PMG				Sn		Sn		00 31 19.9	-2.9
	2.6nm,0.3s,baz=174,slow=19,SNR=4.8								
WRA	**Warramunga Arr**	**21.68**	**228**	P		P		00 33 48.6	-0.4
	1.3nm,0.4s,baz=53,slow=10,SNR=4.9								
ASAR	**Alice Springs**	**24.45**	**221**	P		P		00 34 17.4	+0.1
	2.7nm,0.8s,baz=57,slow=9.0,SNR=5.3								
FITZ	**Fitzroy Crossi**	**27.85**	**241**	P		P		00 34 47.7	-0.3
	2.9nm,0.7s,baz=54,slow=7.7,SNR=3.5								
ILAR	**Eielson Array**	**83.56**	**22**	P		P		00 41 25.5	-0.7
	0.4nm,0.7s,baz=246,slow=5.7,SNR=5.5								
GERES	**GERESS Array B**	**123.94**	**327**	PKP		PKPdf		00 47 58.0	+1.1
	0.2nm,0.5s,baz=50,slow=1.5,SNR=2.6								

IDC ***16*** *00:29:58.5±1.2,62.22S×57.78W,h0km,mb3.6/1, mb1 3.8/1,mb1mx3.3/23,mbtmp3.6/1,Error ellipse: s-maj=86.4km s-min=41.2km az=71.0*

ISC 16 00:30:00.1±1.5,62.1S±0.4×58.0W±0.6,h10km,n19, σ0s81/13,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**21.04**	**135**	P		**P**		**00 34 44.4**	**+0.9**
SNAA	**Sanae**	**22.75**	**138**	P		**P**		**00 35 02.6**	**+0.6**
LPAZ	**La Paz**	**46.33**	**347**	P		**P**		**00 38 27.5**	**+0.8**
	0.7nm,0.8s,baz=173,slow=9.3,SNR=2.4								
H10S2	**ASCENSION HYDR**	**61.69**	**50**	T		T		01 47 37.5	
	baz=201								
H10S3	**ASCENSION HYDR**	**61.69**	**50**	T		T		01 47 37.5	
	baz=201								
H10S1	**ASCENSION HYDR**	**61.71**	**50**	T		T		01 47 38.7	
	baz=201								
H10N3	**ASCENSION HYDR**	**62.78**	**50**	T		T		01 48 57.7	
	baz=203								
H10N1	**ASCENSION HYDR**	**62.78**	**50**	T		T		01 48 59.3	
	baz=203								
H10N2	**ASCENSION HYDR**	**62.80**	**50**	T		T		01 49 00.3	
	baz=203								
GERES	**GERESS Array B**	**124.42**	**49**	PKP		**PKPdf**		**00 48 58.0**	**-0.1**
	0.5nm,0.6s,baz=197,slow=1.0,SNR=6.0								
BRTR	**Keskin Array B**	**124.91**	**70**	PKP		**PKPdf**		**00 48 59.2**	**-0.2**
	0.8nm,1.0s,baz=228,slow=1.7,SNR=4.3								
AKASG	**Malin Array Be**	**131.82**	**58**	PKP		**PKPdf**		**00 49 10.5**	**-1.5**
	0.1nm,0.2s,baz=247,slow=0.5,SNR=5.3								
ARCES	**ARCESS Array B**	**143.86**	**36**	PKP		**PKPab**		**00 49 31.0**	**+0.2**
	2.3nm,0.8s,baz=242,slow=1.9,SNR=6.0								
AKTO	**Aktyubinsk**	**144.14**	**79**	PKP		**PKPab**		**00 49 31.6**	**-0.8**
	1.9nm,0.7s,baz=231,slow=5.4,SNR=5.1								
SPITS	**Spitsbergen Ar**	**146.88**	**21**	PKPbc		**PKPbc**		**00 49 41.3**	**+0.7**
	5.5nm,0.9s,baz=258,slow=6.8,SNR=3.6								
ARU	**Arti**	**148.29**	**71**	PKPbc		**PKPbc**		**00 49 43.9**	**-1.1**
	0.7nm,0.3s,baz=205,slow=5.3,SNR=4.9								
BVAR	**Bovoye Array**	**151.62**	**85**	PKPbc		**PKPbc**		**00 49 53.4**	**+0.2**
	6.1nm,0.7s,baz=204,slow=3.2,SNR=28								
MJAR	**Matsushiro Arr**	**152.47**	**209**	PKPbc		**PKPbc**		**00 49 55.7**	**0.0**
	0.9nm,0.5s,baz=156,slow=2.2,SNR=8.5								
MKAR	**Makanchi Array**	**152.85**	**106**	PKPbc		**PKPbc**		**00 49 56.3**	**+0.1**
	4.6nm,0.9s,baz=241,slow=2.9,SNR=16								

IDC ***16*** *00:31:25.7±1.6,5.76S×151.40E,h0km,mb3.9/6, mb1 4.2/7,mb1mx3.9/33,mbtmp4.0/7,ML2.2/1,Error ellipse: s-maj=64.5km s-min=23.9km az=120.0*
ISCJB ***16*** *00:31:30.8±1.2,5.8S±0.2×151.2E±0.2,h41km,mb3.8/6, Error ellipse: s-maj=42.3km s-min=12.3km az=39.9*

ISC 16 00:31:32.2±1.2,5.8S±0.2×151.3E±0.2,h41km,n9, σ0s75/10,mb3.8/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.43**	**228**	Pn		**Pn**		**00 32 51.8**	**+1.1**
	5.2nm,0.3s,baz=45,slow=13,SNR=4.3								
PMG				Sn		**Sn**		**00 33 50.9**	**-1.1**
	3.8nm,0.3s,baz=252,slow=20,SNR=4.0								
CTA	**Charters Tower**	**15.03**	**198**	Pn		**P**		**00 35 07.0**	**+0.4**
	0.3nm,0.3s,baz=19,slow=17,SNR=3.3								
WRA	**Warramunga Arr**	**21.65**	**228**	P		**P**		**00 36 18.7**	**-0.6**
	2.3nm,0.5s,baz=52,slow=11,SNR=7.6								
ASAR	**Alice Springs**	**24.40**	**221**	P		**P**		**00 36 47.1**	**+0.1**
	2.4nm,0.7s,baz=59,slow=9.1,SNR=8.1								
STKA	**Stephens Creek**	**27.49**	**198**	P		**P**		**00 37 14.5**	**-0.2**
	3.0nm,0.9s,baz=28,slow=15,SNR=3.5								
FITZ	**Fitzroy Crossi**	**27.85**	**242**	P		**P**		**00 37 17.8**	**-0.3**
	3.4nm,0.6s,baz=52,slow=7.4,SNR=7.1								
MKAR	**Makanchi Array**	**80.07**	**319**	P		**P**		**00 43 38.3**	**+0.5**
	0.2nm,0.5s,baz=113,slow=5.2,SNR=2.3								
ILAR	**Eielson Array**	**83.64**	**22**	P		**P**		**00 43 55.8**	**-0.3**
	0.6nm,0.8s,baz=252,slow=5.4,SNR=3.2								
GERES	**GERESS Array B**	**124.08**	**327**	PKP		**PKPdf**		**00 50 25.7**	**-0.8**
	0.1nm,0.4s,baz=42,slow=4.5,SNR=2.3								

IDC ***16*** *00:33:45.5±0.6,5.76S×151.19E,h0km,mb4.3/13, mb1 4.5/13,mb1mx4.3/32,mbtmp4.3/13,Error ellipse: s-maj=26.6km s-min=16.1km az=103.0*
ISCJB ***16*** *00:33:49.9±0.6,5.79S±0.08×151.1E±0.1,h43km, mb4.2/15,Error ellipse: s-maj=16.2km s-min=8.2km az=30.1*
NEIC ***16*** *00:33:51.0±1.9,5.80S×151.20E,h36km±16km,mb4.7/1, Error ellipse: s-maj=14.1km s-min=11.3km az=89.0*

ISC 16 00:33:51.7±0.6,5.81S±0.09×151.2E±0.1,h43km,n26, σ0s99/26,mb4.4/15,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**228**	Pn		**Pn**		**00 35 11.2**	**+2.3**
	11nm,0.3s,baz=1.2,slow=11,SNR=3.9								
PMG				Sn		**Sn**		**00 36 08.1**	**-1.0**
	19nm,0.3s,baz=154,slow=20,SNR=5.9								
PMG	**Port Moresby**	**5.33**	**228**	*e*Pn		**Pn**		**00 35 10.0**	**+1.2**
PMG				*e*Sn		**Sn**		**00 36 07.7**	**-1.3**
CTA	**Charters Tower**	**14.97**	**198**	Pn		**P**		**00 37 25.7**	**+0.3**
	0.7nm,0.3s,baz=25,slow=14,SNR=8.2								
CTAO	**Charters Tower**	**14.97**	**198**	*e*Pn		**Pn**		**00 37 19.4**	**-1.2**
	30nm,0.5s								
WRAB	**Tennant Creek**	**21.54**	**228**	*e*P		**P**		**00 38 37.2**	**-0.3**
	16nm,0.5s								
WRA	**Warramunga Arr**	**21.55**	**228**	P		**P**		**00 38 37.7**	**+0.1**
	13nm,0.5s,baz=53,slow=11,SNR=32								
DZM	**Mont Dzumac**	**21.91**	**139**	P		**P**		**00 38 40.9**	**-0.6**
	7.8nm,0.8s,baz=275,slow=6.0,SNR=6.7								
ASAR	**Alice Springs**	**24.31**	**221**	P		**P**		**00 39 05.9**	**+0.4**
	21nm,0.7s,baz=54,slow=9.4,SNR=63								
STKA	**Stephens Creek**	**27.43**	**198**	P		**P**		**00 39 32.5**	**-1.1**
	5.2nm,0.5s,baz=28,slow=11,SNR=8.1								
FITZ	**Fitzroy Crossi**	**27.74**	**242**	P		**P**		**00 39 36.8**	**+0.3**
	12nm,0.6s,baz=76,slow=6.1,SNR=27								
KSRS	**Korea Array**	**48.19**	**335**	P		**P**		**00 42 26.8**	**-1.2**
	0.3nm,0.3s,baz=150,slow=8.4,SNR=3.0								
KSAR	**Wonju Array Be**	**48.19**	**335**	P		**P**		**00 42 26.8**	**-1.3**
PETK	**Petropavlovsk-**	**58.96**	**5**	P		**P**		**00 43 46.5**	**-0.1**
	3.7nm,0.9s,baz=165,slow=6.0,SNR=2.7								
VNDA	**Vanda**	**71.89**	**178**	P		**P**		**00 45 10.2**	**+0.3**
	1.1nm,0.7s,baz=324,slow=5.9,SNR=5.5								
MKAR	**Makanchi Array**	**80.01**	**319**	P		**P**		**00 45 57.3**	**+0.5**
	0.2nm,0.5s,baz=115,slow=6.5,SNR=2.9								
ZALV	**Zalesovo Beam**	**81.08**	**327**	P		**P**		**00 46 01.3**	**-1.0**
	0.4nm,0.3s,baz=126,slow=9.7,SNR=2.5								
ILAR	**Eielson Array**	**83.71**	**22**	P		**P**		**00 46 15.0**	**-0.8**
	1.0nm,0.7s,baz=254,slow=5.0,SNR=10								
MAW	**Mawson**	**84.01**	**203**	P		**P**		**00 46 17.8**	**+0.5**
	1.6nm,0.5s,baz=81,slow=11,SNR=4.0								
NRIK	**Noril'sk**	**86.39**	**341**	P		**P**		**00 46 28.9**	**-0.2**
	1.2nm,0.4s,baz=169,slow=5.2,SNR=2.2								
YKA	**Yellowknife Ar**	**97.08**	**28**	P		**P**		**00 47 19.9**	**+0.9**
	0.2nm,0.6s,baz=265,slow=4.5,SNR=3.2								
AKASG	**Malin Array Be**	**114.34**	**324**	PKP		PKPdf		00 52 26.8	0.0
	0.8nm,0.5s,baz=59,slow=3.4,SNR=5.9								
BRTR	**Keskin Array B**	**114.74**	**311**	PKP		PKPdf		00 52 27.8	-0.4
	0.6nm,1.0s,baz=180,slow=2.3,SNR=3.9								
GERES	**GERESS Array B**	**124.03**	**327**	PKP		**PKPdf**		**00 52 46.6**	**+0.9**
	1.2nm,0.8s,baz=42,slow=2.2,SNR=9.8								
EKA	**Eskdalemuir Ar**	**126.50**	**342**	PKP		**PKPdf**		**00 52 51.1**	**+1.0**
	0.2nm,0.4s,baz=11,slow=3.3,SNR=6.4								
DAVOX	**Davos/Dischmat**	**127.33**	**327**	PKP		**PKPdf**		**00 52 53.3**	**+1.1**
	1.7nm,0.6s,baz=131,slow=7.1,SNR=4.1								
BDFB	**Brasilia**	**151.46**	**139**	PKPbc

PEA1	Petropavlovsk-	59.03	5	*e*P		P	00 46 14.5	-1.4
SONA0	Songino Array	66.34	329	*e*P		P	00 47 05.0	+0.1
	12nm,1.8s							
SONM	Songino Array	66.34	329	P		P	00 47 05.0	+0.1
	0.7nm,0.5s,baz=140,slow=4.2,SNR=3.7							
VNDA	Vanda	71.83	178	P		P	00 47 37.6	-0.7
	1.8nm,0.8s,baz=330,slow=7.3,SNR=8.3							
MK32	Makanchi Array	80.02	319	*e*P		P	00 48 26.3	+0.8
MKAR	Makanchi Array	80.02	319	P		P	00 48 26.3	+0.8
	0.4nm,0.5s,baz=98,slow=8.2,SNR=5.9							
ZALV	Zalesovo Beam	81.11	327	P		P	00 48 29.6	-1.5
	0.9nm,0.5s,baz=104,slow=5.2,SNR=3.6							
ZAA1	Zalesovo Array	81.11	327	*e*P		P	00 48 29.6	-1.5
RND	Reindeer	82.37	23	*e*P		P	00 48 36.7	-1.0
	4.7nm,0.9s							
ILAR	Eielson Array	83.79	22	P		P	00 48 42.9	-2.1
	3.7nm,0.5s,baz=246,slow=4.9,SNR=44							
ILB	Eielson Array	83.79	22	*e*P		P	00 48 42.9	-2.1
IL1	Eielson Array	83.79	22	*e*P		P	00 48 42.5	-2.4
MAW	Mawson	83.93	203	P		P	00 48 45.7	+0.1
	4.0nm,0.5s,baz=101,slow=6.0,SNR=12							
MAW	Mawson	83.93	203	*e*P		P	00 48 45.7	+0.1
	9.3nm,1.9s							
QSPA	South Pole Qui	84.09	180	*e*P		P	00 48 46.2	-0.4
DOT	Dot Lake	84.39	24	*e*P		P	00 48 48.1	+0.1
	12nm,0.6s							
FYU	Fort Yukon	85.22	21	*e*PP		PP	00 52 07.4	-2.7
NRIK	Noril'sk	86.43	341	P		P	00 48 57.5	-0.6
	1.2nm,0.3s,baz=84,slow=4.0,SNR=2.5							
ZRNK	Zerenda	89.89	323	*e*P		P	00 49 13.6	-1.3
	14nm,1.4s							
SYO	Syowa Base	92.09	200	*e*P		P	00 49 23.2	-1.6
SYO	Syowa Base	92.09	200	*e*pP		pP	00 49 37.4	0.0
YKA	Yellowknife Ar	97.16	28	P		P	00 49 48.1	+0.1
	0.4nm,0.4s,baz=269,slow=4.8,SNR=8.3							
YKB5	Yellowknife Ar	97.16	28	*e*P		P	00 49 48.1	+0.1
WBC	Weber Canyon	99.11	49	*e*P		Pdif	00 49 58.7	+1.1
PD31	Pinedale Array	100.82	48	*e*Pdif		Pdif	00 50 04.9	-0.4
PDAR	Pinedale Array	100.82	48	P		Pdif	00 50 04.9	-0.4
	0.4nm,0.4s,baz=253,slow=4.6,SNR=3.2							
PHWY	Pilot Hill	103.96	49	*e*Pdif		Pdif	00 50 27.3	+8.0
ARA0	ARCESS Array S	107.39	343	*e*PKiKP		PKiKP	00 54 42.0	+0.1
ARCES	ARCESS Array B	107.39	343	PKiKP		PKiKP	00 54 42.0	+0.1
	1.9nm,0.9s,baz=225,slow=0.8,SNR=7.4							
FIA0	FINESS Array S	111.31	335	*e*PKiKP		PKiKP	00 54 48.9	-0.6
FINES	FINESS Array B	111.31	335	PKiKP		PKiKP	00 54 48.9	-0.6
	0.8nm,0.6s,baz=77,slow=1.9,SNR=3.9							
SPMN	Marine on St.	112.41	43	*e*PP		PP	00 55 41.3	+3.2
AKASG	Malin Array Be	114.36	324	PKP		PKPdf	00 54 54.5	-1.1
	1.3nm,0.5s,baz=61,slow=2.8,SNR=5.3							
AKBB	Malin Array Si	114.36	324	*e*PKiKP		PKPdf	00 54 54.5	-1.1
BR101	Keskin Array S	114.74	311	*e*PKiKP		PKPdf	00 54 55.9	-1.0
BRTR	Keskin Array B	114.74	311	PKP		PKPdf	00 54 55.9	-1.0
	0.8nm,1.0s,baz=94,slow=1.5,SNR=3.8							
BR231	Keskin MP Arra	115.35	311	*e*PKPdf		PKPdf	00 54 56.6	-1.4
HFS	Hagfors	117.03	338	PKP		PKPdf	00 54 59.0	-1.5
	1.2nm,0.8s,baz=208,slow=2.8,SNR=3.6							
NB2	NORSAR Subarra	117.33	339	PKPdf		PKPdf	00 54 59.9	-1.2
	comp=Z,0.7nm,0.7s,baz=44,slow=1.9							
NB200	NORSAR Array S	117.33	339	*e*PKPdf		PKPdf	00 54 59.5	-1.6
NOA	NORSAR Array B	117.33	339	PKP		PKPdf	00 54 59.5	-1.6
	comp=Z,0.5nm,0.6s,baz=48,slow=1.9,SNR=4.2							
IDI	Anoyia	122.63	308	PKP		PKPdf	00 55 11.5	-0.6
	comp=Z,5.1nm,0.7s,baz=188,slow=11,SNR=6.1							
GEC2	GERESS Array S	124.06	327	*e*PKPdf		PKPdf	00 55 14.3	-0.2
GERES	GERESS Array B	124.06	327	PKP		PKPdf	00 55 14.3	-0.2
	comp=Z,1.3nm,0.5s,baz=67,slow=1.8,SNR=23							
GEA0	GERESS Array S	124.06	327	*e*PKPdf		PKPdf	00 55 13.8	-0.7
ROC1	El Roble	124.42	137	*e*PKPdf		PKPdf	00 55 19.8	+3.9
ROC1				*e*PP		PP	00 57 04.1	+2.6
EKA	Eskdalemuir Ar	126.54	342	PKP		PKPdf	00 55 19.2	+0.3
	comp=Z,0.4nm,0.4s,baz=17,slow=3.2,SNR=8.9							
BNI	Bardonecchia	130.18	327	*e*PP		PP	00 57 45.6	+6.7
KEST	Kesra	134.01	316	PKP		PKPdf	00 55 34.5	+0.7
	comp=Z,1.4nm,0.6s,baz=169,slow=5.2,SNR=3.7							
PTGA	Pitinga	148.30	101	*e*PKPbc		PKPbc	00 56 02.7	-0.5
BDFB	Brasilia	151.45	139	PKPbc		PKPbc	00 56 10.0	-1.0
	comp=Z,3.8nm,0.6s,baz=300,slow=2.4,SNR=7.2							

IDC 16 00:39:48.5±2.0, 5°42S×150°92E, h0km, mb4.2/4, mb1 4.5/5, mb1mx3.8/31, mbtmp4.3/5, ML2.2/1, Error ellipse: s-maj=119.1km s-min=26.8km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.43	223	Pn	Pn	00 41 13.0	+2.2
	5.1nm,0.3s,baz=53,slow=5.1,SNR=3.5						
PMG				Sn	Sn	00 42 12.5	-1.6
	1.2nm,0.3s,baz=283,slow=12,SNR=2.1						
CTA	Charters Tower	15.27	197	Pn	P	00 43 28.4	-2.2
	0.3nm,0.3s,baz=14,slow=12,SNR=3.2						
WRA	Warramunga Arr	21.64	227	P	P	00 44 40.1	-0.5
	5.7nm,0.6s,baz=53,slow=11,SNR=7.8						
ASAR	Alice Springs	24.44	220	P	P	00 45 08.8	-0.4
	6.0nm,0.6s,baz=53,slow=9.5,SNR=7.7						
FITZ	Fitzroy Crossi	27.72	241	P	P	00 45 38.9	0.0
	7.2nm,0.6s,baz=74,slow=8.6,SNR=5.6						
ILAR	Eielson Array	83.44	22	P	P	00 52 18.0	+0.3
	0.5nm,1.0s,baz=250,slow=5.4,SNR=3.0						
GERES	GERESS Array B	123.58	327	PKP	PKPdf	00 58 47.8	-0.5
	0.3nm,0.6s,baz=357,slow=2.0,SNR=2.9						

*IDC **16** 00:46:00.9±1.1, 5°61S×151°17E, h0km, mb4.2/6, mb1 4.4/6, mb1mx3.8/42, mbtmp4.2/6, Error ellipse: s-maj=36.8km s-min=24.7km az=135.0*
*ISCJB **16** 00:46:05.4±1.1, 5°7S±0°2×151°1E±0°1, h43km, mb4.0/6, Error ellipse: s-maj=27.5km s-min=12.8km az=142.6*

ISC 16 00:46:07.3±1.1, 5°8S±0°2×151°3E±0°2, h43km, n10, σ1s76/11, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.46	228	Pn	Pn	00 47 29.9	+3.6
	3.7nm,0.3s,baz=68,slow=12,SNR=4.1						
PMG				Sn	Sn	00 48 25.7	-2.2
	10nm,0.3s,baz=114,slow=23,SNR=4.0						
CTA	Charters Tower	15.06	198	Pn	P	00 49 40.6	-1.4
	0.3nm,0.3s,baz=25,slow=14,SNR=3.0						
WRA	Warramunga Arr	21.68	228	P	P	00 50 53.4	-1.3
	3.9nm,0.6s,baz=53,slow=10,SNR=9.5						
DZM	Mont Dzumac	21.87	139	P	P	00 50 57.0	+0.3
	3.4nm,0.6s,baz=266,slow=13,SNR=3.8						
ASAR	Alice Springs	24.43	221	P	P	00 51 22.0	-0.2
	6.0nm,0.7s,baz=57,slow=9.1,SNR=17						
STKA	Stephens Creek	27.52	198	P	P	00 51 50.8	+0.7
	3.2nm,0.9s,baz=34,slow=7.3,SNR=3.3						
FITZ	Fitzroy Crossi	27.88	242	P	P	00 51 51.9	-1.5
	5.2nm,0.6s,baz=56,slow=6.0,SNR=11						
ILAR	Eielson Array	83.61	22	P	P	00 58 30.3	-0.6
	0.6nm,0.7s,baz=237,slow=5.0,SNR=5.2						
GERES	GERESS Array B	124.06	327	PKP	PKPdf	01 05 01.5	+0.1
	0.4nm,0.5s,baz=64,slow=3.4,SNR=4.3						
BDFB	Brasilia	151.42	138	PKPbc	PKPbc	01 05 58.2	+0.4
	2.7nm,0.9s,baz=63,slow=4.4,SNR=3.2						

IDC 16 00:47:35.6±1.5, 5°72S×151°04E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.7/42, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=67.7km s-min=26.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.31	226	Sn	Sn	00 49 56.1	-2.0
	4.2nm,0.3s,baz=85,slow=19,SNR=2.2						
CTA	Charters Tower	15.02	198	Pn	Pn	00 51 10.3	+1.0
	0.3nm,0.3s,baz=346,slow=8.3,SNR=2.8						
WRA	Warramunga Arr	21.53	227	P	P	00 52 26.5	0.0
	3.4nm,0.5s,baz=53,slow=11,SNR=7.5						
ASAR	Alice Springs	24.30	221	P	P	00 52 55.1	+0.1
	5.5nm,0.7s,baz=55,slow=9.6,SNR=10						
STKA	Stephens Creek	27.48	198	P	P	00 53 23.2	-0.4
	2.3nm,0.8s,baz=38,slow=12,SNR=3.0						
FITZ	Fitzroy Crossi	27.68	241	P	P	00 53 26.0	+0.4
	2.1nm,0.7s,baz=68,slow=9.8,SNR=2.4						
ILAR	Eielson Array	83.67	22	P	P	01 00 05.9	0.0
	0.3nm,0.5s,baz=247,slow=4.7,SNR=4.0						
GERES	GERESS Array B	123.89	327	PKP	PKPdf	01 06 35.4	-0.6
	0.2nm,0.5s,baz=70,slow=3.2,SNR=2.4						

IDC 16 00:57:30.9±2.1, 5°36S×150°92E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/43, mbtmp3.7/4, Error ellipse: s-maj=113.2km s-min=29.5km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.49	223	Pn	Pn	00 58 58.5	+4.6
	1.2nm,0.3s,baz=76,slow=19,SNR=2.5						
PMG				Sn	Sn	00 59 52.4	-5.4
	2.3nm,0.3s,baz=294,slow=20,SNR=3.0						
WRA	Warramunga Arr	21.69	227	P	P	01 02 23.2	-0.4
	1.1nm,0.5s,baz=53,slow=11,SNR=8.3						
ASAR	Alice Springs	24.50	220	P	P	01 02 52.3	+0.2
	1.1nm,0.5s,baz=56,slow=9.6,SNR=7.7						
FITZ	Fitzroy Crossi	27.75	241	P	P	01 03 21.7	+0.1
	3.7nm,1.1s,baz=60,slow=8.1,SNR=2.5						
ILAR	Eielson Array	83.38	22	P	P	01 09 59.6	-0.1
	0.3nm,0.6s,baz=258,slow=5.9,SNR=4.6						

*NEIC **16** 00:59:46.8±0.4, 5°96S×151°14E, h10km, mb4.9/13, Error ellipse: s-maj=12.2km s-min=6.9km az=114.0*
*ISCJB **16** 00:59:49.7±0.5, 6°02S±0°05×151°08E±0°07, h43km, mb4.5/20, Error ellipse: s-maj=11.4km s-min=5.7km az=31.3*
*IDC **16** 00:59:53.7±3.7, 6°03S×151°15E, h66km±33km, mb3.9/9, mb1 4.1/11, mb1mx3.8/43, mbtmp4.1/11, ML2.7/2, MS3.3/1, Ms1 3.3/1, ms1mx3.2/32, Error ellipse: s-maj=27.9km s-min=20.7km az=89.0*

ISC 16 00:59:51.0±0.6, 6°05S±0°07×151°16E±0°09, h43km, n38, σ1s20/38, mb4.6/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	2.10	28	*e*Pn	Pn	01 00 24.3	+0.6
RABL				*e*Sn	Sn	01 00 51.1	+2.6
PMG	Port Moresby	5.18	230	P	Pn	01 01 10.2	+4.1
	8.6nm,0.3s,baz=44,slow=15,SNR=5.1						
PMG				S	Sn	01 02 05.4	+0.6
	10nm,0.3s,baz=287,slow=19,SNR=4.6						
PMG	Port Moresby	5.18	230	*e*Pn	Pn	01 01 05.0	-1.1
PMG				*e*Sn	Sn	01 02 05.1	+0.4
MANU	Manus Island	5.49	316	*e*Pn	Pn	01 01 15.6	+5.3
JAY	Jayapura	11.00	288	P	Pn	01 02 27.8	+1.8
	0.2nm,0.3s,baz=89,slow=23,SNR=5.0						
JAY				LR	LR	01 07 36.4	
	comp=Z,157nm,18.0s,baz=357,slow=42						
COEN	Coen	11.12	224	*e*Pn	Pn	01 02 28.9	+1.4
MTN	Manton Dam	20.87	250	*e*P	P	01 04 29.5	-0.1
	109nm,1.6s						
WRAB	Tennant Creek	21.39	228	*e*P	P	01 04 35.9	+0.7
	15nm,0.5s						
WB2	Warramunga Arr	21.39	228	*e*P	P	01 04 35.8	+0.5
WR1	Warramunga Arr	21.40	228	*e*P	P	01 04 35.9	+0.5
	18nm,0.5s						
WRA	Warramunga Arr	21.40	228	P	P	01 04 35.9	+0.5
	12nm,0.4s,baz=54,slow=10,SNR=64						
DZM	Mont Dzumac	21.73	139	P	P	01 04 39.2	+0.3
	5.6nm,0.7s,baz=292,slow=19,SNR=4.6						
ANA2	Anatahan	22.89	346	*e*P	P	01 04 50.1	-1.1
AS01	Alice Springs	24.11	222	*e*P	P	01 05 03.6	+0.7
AS31	Alice Springs	24.14	222	*e*P	P	01 05 04.3	+1.1
	5.4nm,0.5s						
ASAR	Alice Springs	24.14	222	P	P	01 05 04.3	+1.1
	12nm,0.5s,baz=57,slow=9.0,SNR=76						
FITZ	Fitzroy Crossi	27.64	242	P	P	01 05 34.8	-0.1
	6.0nm,0.6s,baz=33,slow=8.5,SNR=19						
FITZ	Fitzroy Crossi	27.64	242	*e*P	P	01 05 34.8	-0.1
	8.7nm,0.9s						
MBWA	Marble Bar	33.94	241	*e*P	P	01 06 30.3	-0.2
	57nm,1.5s						
UGM	Wanagama	40.37	265	*e*P	P	01 07 23.3	-1.9
	370nm,1.5s						
TWG	Pinlang	41.10	315	*e*P	P	01 07 29.4	-1.6
	263nm,2.0s						
KHZ	Kahutara	41.30	155	*e*P	P	01 07 31.4	-1.0
	115nm,1.5s						
NACB	Ninganchiao	41.63	317	*e*P	P	01 07 35.3	0.0
	23nm,0.9s						
YHNB	Yeheng	42.11	318	*e*P	P	01 07 37.0	-2.4
	30nm,1.1s						
MJAR	Matsushiro Arr	44.07	345	P	P	01 07 54.9	0.0
	0.6nm,0.3s,baz=129,slow=3.9,SNR=3.1						
KSRS	Korea Array	48.40	335	P	P	01 08 28.7	-0.3
	1.6nm,0.7s,baz=156,slow=7.9,SNR=3.3						
KSAR	Wonju Array Be	48.41	335	P	P	01 08 28.7	-0.3
KKH	Kailua Kona	57.90	62	*e*P	P	01 09 34.8	-4.3
CASY	Casey	66.36	197	*e*P	P	01 10 34.9	-0.2
	6.3nm,1.0s						
SONA0	Songino Array	66.52	329	*e*P	P	01 10 36.6	0.0
	7.6nm,1.8s						
SONM	Songino Array	66.52	329	P	P	01 10 36.6	0.0
	0.5nm,0.6s,baz=153,slow=7.1,SNR=3.4						
MK32	Makanchi Array	80.20	319	*e*P	P	01 11 56.9	-0.2
MKAR	Makanchi Array	80.20	319	P	P	01 11 56.8	-0.2
	0.4nm,0.6s,baz=101,slow=3.2,SNR=3.2						
YKA	Yellowknife Ar	97.28	28	P	P	01 13 19.8	+0.6
	0.3nm,0.6s,baz=275,slow=6.7,SNR=4.1						
YKB5	Yellowknife Ar	97.28	28	*e*P	P	01 13 19.8	+0.6
BRTR	Keskin Array B	114.90	311	PKP	PKPdf	01 18 27.2	-0.5
	0.1nm,0.4s,baz=29,slow=3.3,SNR=2.8						
NOA	NORSAR Array B	117.51	339	PKP	PKPdf	01 18 31.2	-0.8
	0.2nm,0.4s,baz=86,slow=1.1,SNR=2.9						
GERES	GERESS Array B	124.24	327	PKP	PKPdf	01 18 45.5	+0.2
	0.9nm,0.6s,baz=58,slow=1.5,SNR=12						

IDC 16 01:08:59.7±1.9, 6°40S×152°05E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/35, mbtmp3.9/5, Error ellipse: s-maj=79.4km s-min=24.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.69	238	Sn	Sn	01 11 24.7	-7.0
	1.6nm,0.3s,baz=132,slow=12,SNR=2.9						
WRA	Warramunga Arr	21.84	230	P	P	01 13 54.0	-0.1
	1.0nm,0.5s,baz=53,slow=11,SNR=6.0						
ASAR	Alice Springs	24.48	224	P	P	01 14 20.9	+0.1
	1.4nm,0.7s,baz=52,slow=9.6,SNR=10.0						
FITZ	Fitzroy Crossi	28.26	243	P	P	01 14 54.0	-0.9
	3.0nm,0.8s,baz=49,slow=6.6,SNR=3.1						
MKAR	Makanchi Array	81.04	319	P	P	01 21 18.7	+2.0
	0.8nm,0.6s,baz=96,slow=6.3,SNR=6.9						
ILAR	Eielson Array	83.91	22	P	P	01 21 29.6	-1.7
	0.3nm,0.5s,baz=249,slow=4.8,SNR=7.5						
GERES	GERESS Array B	125.01	328	PKP	PKPdf	01 28 02.4	+0.2
	0.3nm,0.6s,baz=59,slow=1.1,SNR=3.8						

*ISCJB **16** 01:10:41.3±0.2, 59°69N±0°02×153°34W±0°05, h124km±3km, mb4.1/6, Error ellipse: s-maj=4.7km s-min=3.1km az=137.1*
*IDC **16** 01:10:43.5±3.4, 59°97N×153°34W, h115km±30km, mb3.8/6, mb1 3.8/10, mb1mx3.4/57, mbtmp4.2/10, Error ellipse: s-maj=30.7km s-min=18.4km az=176.0*
*NEIC **16** 01:10:43.5, 59°67N×153°36W, h113km, MG3.8(AEIC), After AEIC.*

ISC 16 01:10:42.2±0.7, 59°74N±0°04×153°29W±0°04, h119km±6km, n120, σ1s48/139, mb4.0/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.09	159	P	Pn	01 10 58.6	+0.1
IVE	Iliamna Volcan	0.31	26	P	Pn	01 10 59.5	+0.3
AUL	Augustine Lava	0.36	192	P	Pn	01 10 59.2	-0.1
AUL				S	Sn	01 11 11.5	-0.6
AUE	Augustine Isla	0.38	186	P	Pn	01 10 59.2	-0.1
AUSE	Augustine SEas	0.40	188	P	Pn	01 10 59.2	-0.2
AUI	Augustine Isla	0.41	190	P	Pn	01 10 59.3	-0.2
AUI				S	Sn	01 11 11.5	-1.0
MCNL	McNeil River	0.77	224	P	Pn	01 11 01.3	-0.7
RDWB	Redoubt West	0.79	17	P	Pn	01 11 02.9	+0.6
REF	Redoubt East F	0.81	21	P	Pn	01 11 03.3	+0.8
CDD	Cape Douglas	0.83	193	P	Pn	01 11 02.0	-0.6
HOM	Homer	0.84	95	P	Pn	01 11 03.4	+0.9
HOM				S	Sn	01 11 19.7	+1.7
NCT	North Crescent	0.85	12	P	Pn	01 11 03.6	+0.8
RDJH	Redoubt Jeurge	0.89	16	P	Pn	01 11 04.0	+0.8
FOSS	Fourpeaked Sta	0.96	193	P	Pn	01 11 03.2	-0.6
FOPK	Fourpeaked Vol	0.99	186	P	Pn	01 11 03.1	-0.9
CNPM	China Poot	1.07	101	P	Pn	01 11 05.0	+0.2
CNPM				S	Sn	01 11 22.4	+0.5
BRLK	Bradley Lake	1.22	88	P	Pn	01 11 06.7	+0.3
KAPH	Katmai Pasha	1.27	206	P	Pn	01 11 06.4	-0.6
KAHC	Katmai Hardscr	1.40	220	P	Pn	01 11 07.7	-0.8
CKL	Chakachamna La	1.54	17	P	Pn	01 11 11.5	+1.4
SPCR	Spurr Chakacha	1.56	20	P	Pn	01 11 11.6	+1.2
KAWH	Katmai	1.56	210	P	Pn	01 11 09.4	-0.9
SPWE	Spurr West	1.58	13	P	Pn	01 11 12.5	+1.9
KVTA	Katmai Vly 10	1.71	218	P	Pn	01 11 11.4	-0.7
KAKN	Katmai Knife C	1.71	213	P	Pn	01 11 11.3	-0.8
KAKN				S	Sn	01 11 32.6	-2.3
KCG	Knife Ck. Glac	1.71	214	P	Pn	01 11 11.4	-0.8
SLKM	Skilak Lake	1.72	62	P	Pn	01 11 12.9	+0.8
SVW2	Sparrevohn	1.77	321	P	Pn	01 11 12.9	+0.1
KABU	Katmai Buttres	1.80	216	P	Pn	01 11 12.7	-0.5
KELA	Mount Kelaz	1.81	225	P	Pn	01 11 12.5	-0.9
KABR	Katmai Barrier	1.83	209	P	Pn	01 11 12.7	-0.8
STLK	Strandline Lak	1.91	22	P	Pn	01 11 16.0	+1.6
SEW	Seward	1.97	78	*e*Pn	Pn	01 11 15.7	+0.6
SEW				*e*S	Sn	01 11 39.9	-0.4
CNTC	Contact Creek	2.00	223	P	Pn	01 11 14.9	-0.7
KDAK	Kodiak Island	2.00	169	*e*Pn	Pn	01 11 14.2	-1.2
KDAK				*e*S	Sn	01 11 38.9	-2.0
FIB	Fire Island	2.11	46	P	Pn	01 11 19.2	+2.4
SUA	Susitna One	2.14	35	P	Pn	01 11 18.9	+1.5
RC01	Rabbit Creek A	2.23	51	*e*Pn	Pn	01 11 19.5	+1.1
RC01				*e*S	Sn	01 11 46.1	0.0
OHAK	Old Harbor	2.52	180	P	Pn	01 11 20.3	-1.9
PLK3	Peulik 3	2.58	218	P	Pn	01 11 22.9	0.0
PLK1	Peulik 1	2.60	223	P	Pn	01 11 22.9	-0.2
PMR	Palmer	2.77	46	*e*Pn	Pn	01 11 26.1	+0.8
PMR				*e*S	Sn	01 11 52.4	-6.1
KNK	Knik Glacier	2.92	53	P	Pn	01 11 27.6	+0.3
GHO	Glory Hole Cre	2.96	45	P	Pn	01 11 28.5	+0.5
SML	Sawmill	3.20	47	*e*Pn	Pn	01 11 31.4	+0.4
SML				*e*S	Sn	01 12 04.3	-4.5
PPLA	Purkeypile	3.22	9	P	Pn	01 11 32.9	+1.6
TT01	Tatalina	3.44	339	P	Pn	01 11 34.7	+0.5
TTA	Tatalina	3.46	339	P	Pn	01 11 35.3	+0.7
HIN	Hinchinbrook I	3.47	76	P	Pn	01 11 34.8	+0.2
MID	Middleton Isla	3.55	92	P	Pn	01 11 36.2	+0.6
SCM	Sheep Creek Mo	3.60	52	P	Pn	01 11 37.0	+0.6
VMT	TAPS Tl Valdez	3.69	66	P	Pn	01 11 38.0	+0.6
HUR	Hurricane	3.70	27	P	Pn	01 11 39.1	+1.5
VLZ	Valdez	3.72	65	P	Pn	01 11 38.2	+0.3
EYAK	Cordova Ski Ar	3.86	75	P	Pn	01 11 39.9	+0.1
DIV	Divide	3.98	66	*e*Pn	Pn	01 11 42.1	+0.7
DIV				*e*S	Sn	01 12 25.1	-2.2
KTH	Kantishna Hill	3.99	15	*e*Pn	Pn	01 11 42.8	+1.2
KTH				*e*S	Sn	01 12 27.6	-0.1
TRF	Thorofare Moun	3.99	20	P	Pn	01 11 42.6	+0.9
KLU	Klutina	4.04	61	P	Pn	01 11 42.5	+0.3
CHUM	Lake Minchumin	4.19	6	P	Pn	01 11 45.8	+1.7
RND	Reindeer	4.25	28	P	Pn	01 11 45.8	+0.7
RAGM	Ragged Mountai	4.37	78	P	Pn	01 11 47.0	+0.5
CHGN	Chignik	4.39	221	*e*Pn	Pn	01 11 45.8	-1.0
CHGN				*e*S	Sn	01 12 22.3	-15
BMRM	Bremner River	4.49	70	P	Pn	01 11 48.2	0.0
MCK	McKinley	4.51	25	P	Pn	01 11 49.5	+1.0
BPAW	Bear Paw Mtn.	4.51	13	P	Pn	01 11 48.9	+0.4
NICHA	Nichawak Mount	4.71	80	P	Pn	01 11 51.6	+0.5
BWN	Browne	4.80	20	P	Pn	01 11 53.8	+1.5
SUCK	Suckling Hills	4.80	82	P	Pn	01 11 53.4	+1.0
BERG	Berg Lake	4.85	78	P	Pn	01 11 54.0	+1.0
PAX	Paxson	4.97	46	*e*Pn	Pn	01 11 55.7	+1.0
PAX				*e*S	Sn	01 12 51.5	+0.5
GRIN	Grindle Hills	5.04	79	P	Pn	01 11 56.7	+1.2
KHIT	Khitrov Hills	5.08	78	P	Pn	01 11 57.0	+0.9
VRDI	Verde Repeater	5.09	69	P	Pn	01 11 56.8	+0.2
CRQM	Cirque	5.16	74	P	Pn	01 11 58.4	+1.1
TGL	Tana Glacier	5.31	74	P	Pn	01 12 00.5	+1.2
MCARA	McCarthy VSAT	5.33	68	P	Pn	01 12 00.3	+0.8
KULT	Kultieth River	5.33	80	P	Pn	01 12 00.6	+1.0
WRH	Wood River Hil	5.34	25	P	Pn	01 11 59.9	+0.3

1.3nm,0.7s,baz=53,slow=11,SNR=3.5
ASAR Alice Springs 24.51 221 P P 01 16 49.2 -0.4
2.0nm,0.8s,baz=52,slow=9.3,SNR=7.1
FITZ Fitzroy Crossi 27.82 241 P P 01 17 20.1 +0.6
2.6nm,0.8s,baz=49,slow=11,SNR=2.9
ILAR Eielson Array 83.41 22 P P 01 23 57.1 -0.1
0.3nm,0.8s,baz=260,slow=4.5,SNR=2.7

IDC 16 01:15:46.8±2.1, 5.60S×151.08E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/28, mbtmp3.7/4, Error ellipse: s-maj=106.8km s-min=30.0km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.42**	**226**	Sn	Sn	01 18 08.5	-3.7
	4.6nm,0.3s,baz=332,slow=17,SNR=3.2						
WRA	**Warramunga Arr**	**21.64**	**227**	P	P	01 20 38.8	-0.1
	1.1nm,0.5s,baz=53,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.42**	**221**	P	P	01 21 07.5	+0.2
	0.5nm,0.5s,baz=59,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**27.77**	**241**	P	P	01 21 37.5	-0.1
	2.5nm,0.6s,baz=74,slow=8.2,SNR=7.6						
ILAR	**Eielson Array**	**83.54**	**22**	P	P	01 28 16.4	0.0
	0.2nm,0.6s,baz=242,slow=6.0,SNR=3.7						

*JMA **16** 01:21:41.8±0.2, 23.83N×121.95E, h0km, M3.0*
*ISCJB **16** 01:21:43.2±0.5, 23.82N±0.02×121.91E±0.02, h4km±3km, Error ellipse: s-maj=3.1km s-min=2.0km az=139.4*
*TAP **16** 01:21:44.0, 23.85N×121.81E, h7km, ML3.6, D*
ISC 16 01:21:43.2±1.2, 23.83N±0.02×121.88E±0.02, h7km±9km, n57, σ0972/95, 2C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.29**	**300**	P	**Pb**	**01 21 49.9**	**-0.9**
	baz=305						
HWA				*e*S	**Sb**	**01 21 54.1**	**-1.6**
	baz=305						
TWD	**Chiawan**	**0.36**	**313**	⇑*i*P	**Pb**	**01 21 51.0**	**-0.9**
	baz=321						
TWD				*i*S	**Sb**	**01 21 56.0**	**-1.8**
	baz=321						
ESL	**Shilin**	**0.41**	**267**	P	**Pg**	**01 21 51.5**	**+0.3**
	baz=263						
ESL				S	**Sg**	**01 21 57.6**	**+1.0**
	baz=263						
ENA	**Nanau**	**0.61**	**348**	⇓*i*P	**Pb**	**01 21 56.1**	**0.0**
	baz=354						
ENA				S	**Sb**	**01 22 05.2**	**+0.3**
	baz=354						
EHY	**Hungye**	**0.61**	**238**	*e*P	**Pb**	**01 21 55.5**	**-0.7**
	baz=231						
EHY				*e*S	**Sb**	**01 22 05.2**	**+0.2**
	baz=231						
WHF	**Hehuan Shan**	**0.64**	**299**	⇑*i*P	**Pg**	**01 21 55.7**	**+0.1**
	baz=300						
WHF				S	**Sg**	**01 22 04.8**	**+0.7**
	baz=300						
TWF1	**Yuli**	**0.72**	**228**	*e*P	**Pb**	**01 21 57.4**	**-0.6**
	baz=222						
NNS	**Nan Shan**	**0.76**	**323**	P	**Pb**	**01 21 58.3**	**-0.6**
	baz=326						
NNS				*e*S	**Sb**	**01 22 09.0**	**-0.6**
	baz=326						
TWT	**Tachien**	**0.77**	**303**	P	**Pb**	**01 21 58.5**	**-0.5**
	baz=303						
TWT				*e*S	**Sb**	**01 22 09.0**	**-0.8**
	baz=303						
TWC	**Suao**	**0.77**	**358**	P	**Pb**	**01 21 59.5**	**+0.5**
	baz=3.0						
TWC				S	**Sb**	**01 22 11.0**	**+1.3**
	baz=3.0						
ENTT	**Nioudou**	**0.85**	**340**	P	**Pb**	**01 22 00.3**	**0.0**
	baz=344						
ENTT				S	**Sb**	**01 22 12.0**	**0.0**
	baz=344						
CHKT	**Chengkung**	**0.87**	**213**	*e*S	**Sn**	**01 22 15.2**	**+0.4**
	baz=207						
SMLT	**Sun Moon Lake**	**0.90**	**273**	P	**Pg**	**01 22 00.2**	**-0.3**
	baz=272						
SMLT				*e*S	**Sb**	**01 22 12.6**	**-0.8**
	baz=272						
TWE	**Neicheng**	**0.91**	**348**	*e*P	**Pb**	**01 22 01.7**	**+0.5**
	baz=352						
TWE				S	**Sb**	**01 22 14.0**	**+0.5**
	baz=352						
YUS	**Yu-Shan**	**0.92**	**248**	P	**Pb**	**01 22 01.4**	**-0.3**
	baz=244						
YUS				*e*S	**Sg**	**01 22 13.2**	**+0.4**
	baz=244						
TYC	**Yuchr**	**0.94**	**275**	*e*P	**Pg**	**01 22 00.5**	**-0.7**
	baz=273						
TYC				S	**Sg**	**01 22 13.6**	**+0.1**
	baz=273						
NSK	**Sanguang**	**0.96**	**330**	P	**Pb**	**01 22 01.8**	**-0.6**
	baz=333						
NSK				*e*S	**Sg**	**01 22 13.9**	**-0.3**
	baz=333						
EGS		**1.01**	**3**	*e*P	**Pn**	**01 22 03.7**	**-0.1**
	baz=7.0						
EGS				*e*S	**Sn**	**01 22 19.2**	**+0.9**
	baz=7.0						
ALS	**Alishan**	**1.04**	**252**	*e*P	**Pb**	**01 22 03.3**	**-0.4**
	baz=249						
ALS				*e*S	**Sg**	**01 22 16.7**	**+0.1**
	baz=249						
WNT	**Mingjian**	**1.10**	**273**	P	**Pb**	**01 22 04.7**	**+0.2**
	baz=271						
WNT				*e*S	**Sb**	**01 22 19.8**	**+0.8**
	baz=271						
CHN5	**Tsauling**	**1.13**	**258**	P	**Pb**	**01 22 04.9**	**-0.1**
	baz=256						
CHN5				S	**Sb**	**01 22 20.0**	**0.0**
	baz=256						
NSTT	**Nanjuang**	**1.13**	**315**	*e*P	**Pb**	**01 22 05.0**	**-0.1**
	baz=316						
NSTT				*e*S	**Sb**	**01 22 20.4**	**+0.5**
	baz=316						
TWQ1	**Liyutan**	**1.14**	**297**	*e*P	**Pn**	**01 22 05.7**	**+0.1**
	baz=297						
TWQ1				*e*S	**Sn**	**01 22 21.9**	**+0.5**
	baz=297						
TCU	**Taichung**	**1.15**	**286**	*e*P	**Pn**	**01 22 05.6**	**-0.1**
	baz=285						
TCU				*e*S	**Sn**	**01 22 22.0**	**+0.4**
	baz=285						
JYNG	**Yonagunijimaku**	**1.15**	**57**	S	**Sb**	**01 22 20.8**	**+0.2**
TWA	**Mucha**	**1.17**	**347**	*e*P	**Pn**	**01 22 06.7**	**+0.6**
	baz=350						
TWB1	**Santiao Chiao**	**1.17**	**5**	*e*P	**Pn**	**01 22 07.5**	**+1.4**
	baz=8.0						
TWB1				*e*S	**Sn**	**01 22 22.5**	**+0.1**
	baz=8.0						
NSY	**Sanyi**	**1.18**	**300**	*e*P	**Pn**	**01 22 06.4**	**+0.3**
	baz=300						
NSY				*e*S	**Sb**	**01 22 21.3**	**0.0**
	baz=300						
YOJ	**Yonaguni jima**	**1.21**	**59**	S	**Sb**	**01 22 22.3**	**+0.1**
WGK	**Gukeng**	**1.22**	**263**	*e*S	**Sb**	**01 22 22.9**	**+0.4**
	baz=261						
STYT	**Tauyuan**	**1.23**	**237**	*e*P	**Pg**	**01 22 06.0**	**-0.7**
	baz=234						
STYT				*e*S	**Sg**	**01 22 22.7**	**0.0**
	baz=234						
NWF	**Wu-fen Shan**	**1.24**	**356**	*e*P	**Pn**	**01 22 08.0**	**+1.0**
	baz=358						
NWF				*e*S	**Sn**	**01 22 25.6**	**+1.6**
	baz=358						
TWG	**Pinlang**	**1.25**	**217**	*e*P	**Pn**	**01 22 08.0**	**+0.9**
	baz=212						
HSN	**Hsinchu**	**1.27**	**319**	*e*S	**Sn**	**01 22 26.2**	**+1.4**
	baz=323						
CHN4	**Tsaushan**	**1.27**	**248**	*e*P	**Pg**	**01 22 07.3**	**-0.4**
	baz=245						
CHN4				*e*S	**Sb**	**01 22 24.5**	**+0.4**
	baz=245						
NCU	**National Centr**	**1.30**	**331**	*e*P	**Pg**	**01 22 06.5**	**-1.6**
	baz=333						
NCU				*e*S	**Sn**	**01 22 26.3**	**+0.9**
	baz=333						
WTP	**Ta-pu**	**1.30**	**244**	*e*P	**Pg**	**01 22 07.5**	**-0.7**
	baz=240						
WTP				S	**Sn**	**01 22 26.1**	**+0.5**
	baz=240						
CHN2	**Minshiung**	**1.32**	**257**	*e*S	**Sn**	**01 22 26.1**	**+0.1**
	baz=255						
TWS1	**Kuangyinshan**	**1.33**	**342**	*e*S	**Sn**	**01 22 27.4**	**+1.2**
	baz=344						
CHY	**Chiayi**	**1.38**	**256**	*e*S	**Sn**	**01 22 27.5**	**+0.2**
	baz=254						
TWK	**Hsinying**	**1.40**	**246**	*e*P	**Pg**	**01 22 09.9**	**0.0**
	baz=243						
TWK				S	**Sg**	**01 22 27.4**	**-0.7**
	baz=243						
CHN1	**Nanshi**	**1.40**	**243**	*e*P	**Pg**	**01 22 09.8**	**-0.2**
	baz=240						
CHN1				S	**Sn**	**01 22 28.7**	**+0.7**
	baz=240						
SGST	**Jiashian**	**1.41**	**238**	*e*P	**Pg**	**01 22 10.2**	**+0.1**
	baz=235						
SGST				*e*S	**Sn**	**01 22 28.3**	**+0.2**
	baz=235						
TWY	**Chenhua**	**1.46**	**350**	*e*P	**Pn**	**01 22 08.9**	**-1.1**
	baz=352						
WTCT	**Ta-ch'eng**	**1.47**	**272**	*e*S	**Sg**	**01 22 30.2**	**-0.1**
	baz=270						
SSD	**Sandimen**	**1.58**	**227**	*e*P	**Pg**	**01 22 13.2**	**-0.3**
	baz=224						
SSD				*e*S	**Sg**	**01 22 33.8**	**-0.1**
	baz=224						
CHN3	**Shinhua**	**1.58**	**242**	*e*S	**Sg**	**01 22 35.6**	**+1.6**
	baz=239						
TWM1	**Shoushan**	**1.68**	**233**	*e*S	**Sg**	**01 22 37.2**	**+0.2**
	baz=230						
EAST	**Anshuo**	**1.73**	**214**	*e*P	**Pg**	**01 22 16.1**	**-0.2**
	baz=210						
EAST				*e*S	**Sg**	**01 22 40.3**	**+1.6**
	baz=210						
IRIF	**Iriomote-Funau**	**1.76**	**73**	S	**Sn**	**01 22 36.9**	**0.0**
HATJ	**Hateruma jima**	**1.77**	**82**	S	**Sn**	**01 22 36.9**	**-0.3**
SCZT	**Fangliau**	**1.86**	**219**	*e*P	**Pb**	**01 22 17.2**	**-0.3**
	baz=216						
SCZT				*e*S	**Sb**	**01 22 41.0**	**0.0**
	baz=216						
JKRS	**Kuro-shima**	**1.99**	**78**	*e*S	**Sn**	**01 22 42.8**	**+0.4**
JIJ	**Ishigaki jima**	**2.13**	**75**	P	**Pn**	**01 22 19.3**	**0.0**
JIJ				S	**Sn**	**01 22 44.7**	**-1.3**
PNG	**Penghu**	**2.15**	**263**	*e*P	**Pn**	**01 22 19.1**	**-0.4**
	baz=262						
PNG				*e*S	**Sn**	**01 22 44.9**	**-1.5**
	baz=262						
JISG	**Ishigakijimahi**	**2.34**	**71**	P	**Pn**	**01 22 22.1**	**0.0**
JISG				*e*S	**Sn**	**01 22 50.1**	**-1.1**
JTJ	**Tarama**	**2.70**	**72**	*e*S	**Sn**	**01 22 59.4**	**-0.6**

*IDC **16** 01:21:51.0±1.1, 5.78S×151.50E, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.1/32, mbtmp4.2/8, ML2.4/1, Error ellipse: s-maj=43.1km s-min=20.6km az=118.0*
*NEIC **16** 01:21:52.7±0.6, 5.76S×151.46E, h10km, mb4.6/3, Error ellipse: s-maj=20.4km s-min=11.6km az=122.0*
*ISCJB **16** 01:21:55.9±0.8, 5.85S±0.1×151.2E±0.1, h41km, mb4.3/11, Error ellipse: s-maj=24.4km s-min=12.5km az=41.9*
ISC 16 01:21:57.6±0.9, 5.85S±0.1×151.3E±0.2, h41km, n17, σ1908/18, mb4.3/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.43**	**228**	Pn	**Pn**	**01 23 17.5**	**+1.4**
	7.7nm,0.3s,baz=42,slow=12,SNR=8.2						
PMG				Sn	**Sn**	**01 24 16.1**	**-1.3**
	5.4nm,0.3s,baz=148,slow=20,SNR=8.7						
PMG	**Port Moresby**	**5.43**	**228**	*e*Pn	**Pn**	**01 23 17.8**	**+1.7**
	23nm,0.4s						
PMG				*e*S	**Sn**	**01 24 14.9**	**-2.5**
CTA	**Charters Tower**	**15.03**	**198**	Pn	**P**	**01 25 32.6**	**+0.6**
	0.6nm,0.3s,baz=19,slow=12,SNR=6.3						
WRAB	**Tennant Creek**	**21.64**	**228**	*e*P	**P**	**01 26 44.3**	**-0.3**
	7.4nm,0.5s						
WRA	**Warramunga Arr**	**21.65**	**228**	P	**P**	**01 26 44.5**	**-0.3**
	5.9nm,0.5s,baz=52,slow=11,SNR=70						
ASAR	**Alice Springs**	**24.40**	**221**	P	**P**	**01 27 12.6**	**+0.2**
	9.9nm,0.7s,baz=58,slow=8.9,SNR=69						
STKA	**Stephens Creek**	**27.49**	**198**	P	**P**	**01 27 39.9**	**-0.3**
	4.0nm,0.7s,baz=2.3,slow=12,SNR=5.5						
FITZ	**Fitzroy Crossi**	**27.85**	**242**	P	**P**	**01 27 43.8**	**+0.2**
	8.2nm,0.6s,baz=65,slow=7.7,SNR=27						
FITZ	**Fitzroy Crossi**	**27.85**	**242**	*e*P	**P**	**01 27 43.5**	**0.0**
	7.0nm,0.6s						
MBWA	**Marble Bar**	**34.16**	**240**	*e*P	**P**	**01 28 39.6**	**+0.5**
	12nm,0.5s						
TAU	**Tasmania Unive**	**37.13**	**185**	*e*P	**P**	**01 29 04.1**	**-0.2**
	8.0nm,0.8s						
SONM	**Songino Array**	**66.36**	**329**	P	**P**	**01 32 43.0**	**+0.6**
	0.4nm,0.6s,baz=139,slow=6.8,SNR=3.4						
VNDA	**Vanda**	**71.91**	**178**	P	**P**	**01 33 16.0**	**-0.1**
	1.0nm,0.9s,baz=13,slow=3.7,SNR=4.0						
ILAR	**Eielson Array**	**83.64**	**22**	P	**P**	**01 34 19.9**	**-1.7**
	0.7nm,0.8s,baz=245,slow=5.4,SNR=7.1						
QSPA	**South Pole Qui**	**84.18**	**180**	*e*P	**P**	**01 34 24.8**	**+0.3**
	13nm,0.7s						
BRTR	**Keskin Array B**	**114.81**	**311**	PKP	PKPdf	01 40 35.4	+1.0
	0.2nm,0.6s,baz=108,slow=4.7,SNR=3.1						
GERES	**GERESS Array B**	**124.08**	**327**	PKP	**PKPdf**	**01 40 52.0**	**+0.1**
	0.6nm,0.6s,baz=90,slow=2.0,SNR=4.8						

IDC 16 01:24:02.2±2.0, 5.62S×151.32E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.7/31, mbtmp4.0/4, Error ellipse: s-maj=109.6km s-min=27.5km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.80**	**228**	P	P	01 28 55.4	-0.7
	3.2nm,0.7s,baz=54,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**24.56**	**221**	P	P	01 29 24.6	+0.5
	3.9nm,0.7s,baz=57,slow=9.6,SNR=8.9						
FITZ	**Fitzroy Crossi**	**27.97**	**241**	P	P	01 29 54.9	0.0
	3.7nm,0.6s,baz=80,slow=6.7,SNR=6.5						
ILAR	**Eielson Array**	**83.47**	**22**	P	P	01 36 31.4	-0.1
	0.3nm,0.7s,baz=248,slow=4.8,SNR=3.0						

*IDC **16** 01:25:06.2±0.6, 5.84S×151.25E, h0km, mb4.4/15, mb1 4.6/16, mb1mx4.4/32, mbtmp4.4/16, ML1.6/1, MS4.5/1, Ms1 4.5/1, ms1mx3.3/35, Error ellipse: s-maj=25.7km s-min=11.8km az=111.0*
*NEIC **16** 01:25:08.2±0.2, 5.80S×151.16E, h10km, mb4.9/23, Error ellipse: s-maj=7.9km s-min=5.4km az=114.0*
*MOS **16** 01:25:10.8±1.3, 5.73S×151.17E, h33km, mb4.9/11, Error ellipse: s-maj=12.2km s-min=8.2km az=79.2*
*ISCJB **16** 01:25:11.1±0.3, 5.92S±0.04×151.16E±0.06, h43km, mb4.6/41, MS4.7/2, Error ellipse: s-maj=8.4km s-min=4.7km az=24.3*
*BJI **16** 01:25:11.1, 6.08S×151.11E, h37km, mb4.8/28, mB5.3/9, Ms5.0/8, Ms7 4.9/8*
ISC 16 01:25:13.2±0.4, 5.99S±0.05×151.17E±0.06, h43km, n141, σ1951/150, mb4.6/41, 7C-11D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.04**	**29**	*e*Pn	**Pn**	**01 25 46.5**	**+1.4**
RABL				*e*Sn	**Sn**	**01 26 13.4**	**+4.0**
PMG	**Port Moresby**	**5.23**	**229**	Pn	**Pn**	**01 26 30.0**	**+1.2**
	1.4nm,0.3s,baz=172,slow=22,SNR=3.6						
PMG				Sn	**Sn**	**01 27 28.5**	**+0.6**
	5.9nm,0.3s,baz=88,slow=16,SNR=4.4						
PMG	**Port Moresby**	**5.23**	**229**	⇑*e*P	**Pn**	**01 26 31.1**	**+2.3**
PMG	**Port Moresby**	**5.23**	**229**	*e*Pn	**Pn**	**01 26 31.8**	**+3.0**
PMG				*e*S	**Sn**	**01 27 27.5**	**-0.4**
MANU	**Manus Island**	**5.46**	**316**	*e*Pn	Pn	01 26 37.0	+5.0
HNR	**Honiara**	**9.35**	**112**	*e*P	**Pn**	**01 27 26.5**	**+1.1**
HNR	**Honiara**	**9.35**	**112**	*e*Pn	**Pn**	**01 27 26.5**	**+1.1**
HNR	**Honiara**	**9.35**	**112**	S	**Pn**	**01 27 25.0**	**-0.4**
COEN	**Coen**	**11.16**	**224**	*e*Pn	**Pn**	**01 27 51.0**	**+0.7**
MTSU	**Mount Surprise**	**13.80**	**208**	P	**Pn**	**01 28 26.8**	**+0.5**
	baz=14,SNR=5.1						
CTA	**Charters Tower**	**14.80**	**198**	Pn	**P**	**01 28 45.4**	**+0.4**
	0.7nm,0.3s,baz=14,slow=13,SNR=7.1						
CTAO	**Charters Tower**	**14.80**	**198**	*e*P	**P**	**01 28 45.3**	**+0.3**
CTAO	**Charters Tower**	**14.80**	**198**	*e*Pn	**P**	**01 28 45.3**	**+0.3**
QIS	**Mount Isa**	**18.32**	**217**	P	**Pn**	**01 29 24.5**	**+0.3**
	baz=18,SNR=4.9						
EIDS	**Eidsvold**	**19.27**	**180**	P	**P**	**01 29 35.0**	**+0.7**
	baz=19,SNR=4.8						
EIDS	**Eidsvold**	**19.27**	**180**	*e*P	**P**	**01 29 35.0**	**+0.7**
	20nm,0.8s						
SAUI	**Saumlaki**	**19.82**	**263**	*e*P	**Pn**	**01 29 41.9**	**-0.4**
	743nm,1.1s						
GUMO	**Guam**	**20.43**	**342**	P	Pn	01 29 48.4	-1.1
	28nm,0.3s,baz=182,slow=18,SNR=4.6						
GUMO	**Guam**	**20.43**	**342**	*e*P	**P**	**01 29 47.9**	**+0.9**
GUMO				pmax	pmax		
	comp=Z,117nm,0.9s						
GUMO	**Guam**	**20.43**	**342**	*e*P	**P**	**01 29 47.9**	**+0.9**
	comp=Z,116nm,0.9s						
MTN	**Manton Dam**	**20.90**	**250**	P	**P**	**01 29 51.6**	**-0.5**
	baz=21,SNR=4.1						
MTN	**Manton Dam**	**20.90**	**250**	*e*P	**P**	**01 29 51.2**	**-0.8**
	comp=Z,28nm,0.8s						
WC3	**Warramunga Arr**	**21.43**	**228**	P	**P**	**01 29 57.3**	**-0.5**
	baz=22						
WRAB	**Tennant Creek**	**21.43**	**228**	*c*eP	**P**	**01 29 57.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,33nm,0.8s						
WRAB	**Tennant Creek**	**21.43**	**228**	*e*P	**P**	**01 29 57.3**	**-0.5**
	comp=Z,26nm,0.9s						
WB2	**Warramunga Arr**	**21.44**	**228**	P	**P**	**01 29 57.8**	**-0.1**
	baz=22						
WB2	**Warramunga Arr**	**21.44**	**228**	*e*P	**P**	**01 29 57.5**	**-0.3**
	comp=Z,25nm,0.8s						
WRA	**Warramunga Arr**	**21.45**	**228**	P	**P**	**01 29 57.7**	**-0.3**
	comp=Z,16nm,0.6s,baz=54,slow=11,SNR=22						
WRA				S	**S**	**01 33 49.5**	**-4.2**
	comp=Z,4.3nm,1.1s,baz=56,slow=17,SNR=5.5						
WRA				ScP	**ScP**	**01 37 37.0**	**+2.9**
	comp=Z,1.2nm,0.8s,baz=53,slow=2.8,SNR=5.3						
QLP	**Quilpie**	**21.52**	**197**	P	**P**	**01 29 59.3**	**+0.6**
	baz=22,SNR=8.2						
DZM	**Mont Dzumac**	**21.76**	**139**	LR	LR	01 36 23.7	
	comp=Z,1μm,19.8s,baz=277,slow=31						
AS01	**Alice Springs**	**24.15**	**222**	*e*P	**P**	**01 30 26.2**	**+0.7**
AS31	**Alice Springs**	**24.18**	**222**	*e*P	**P**	**01 30 26.6**	**+0.9**
	comp=Z,6.2nm,0.7s						
ASAR	**Alice Springs**	**24.18**	**222**	P	**P**	**01 30 26.5**	**+0.7**
	comp=Z,20nm,0.8s,baz=54,slow=9.4,SNR=37						
ASAR				S	**S**	**01 34 46.8**	**+5.4**
	comp=Z,4.2nm,1.0s,baz=35,slow=20,SNR=8.8						
ASAR				ScP	**ScP**	**01 37 43.7**	**+2.6**
	comp=Z,1.1nm,0.7s,baz=54,slow=3.4,SNR=6.2						
ARMA	**Armidale**	**24.30**	**179**	*e*P	**P**	**01 30 28.1**	**+1.2**
	comp=Z,86nm,1.6s						
STKA	**Stephens Creek**	**27.27**	**198**	P	**P**	**01 30 55.2**	**+1.7**
	comp=Z,4.9nm,0.7s,baz=3.1,slow=10,SNR=3.8						
FITZ	**Fitzroy Crossi**	**27.67**	**242**	P	**P**	**01 30 56.9**	**-0.3**
	comp=Z,12nm,0.7s,baz=74,slow=7.4,SNR=14						
FITZ	**Fitzroy Crossi**	**27.67**	**242**	P	**P**	**01 30 57.0**	**-0.3**
	baz=28,SNR=8.2						
FITZ	**Fitzroy Crossi**	**27.67**	**242**	*e*P	**P**	**01 30 56.4**	**-0.9**
WRKA	**Warakurna**	**28.96**	**227**	P	**P**	**01 31 08.6**	**-0.3**
	baz=29,SNR=5.9						
MBWA	**Marble Bar**	**33.97**	**241**	*e*P	**P**	**01 31 53.2**	**+0.3**
YULB	**Yu-li**	**41.28**	**316**	*e*P	**P**	**01 32 54.0**	**-0.7**
	comp=Z,18nm,0.7s						
NACB	**Ninganchiao**	**41.60**	**317**	*e*P	**P**	**01 32 55.0**	**-2.2**
	comp=Z,7.6nm,0.6s						
YHNB	**Yeheng**	**42.08**	**318**	*e*P	**P**	**01 33 01.3**	**+0.1**
	comp=Z,38nm,0.8s						
CISI	**Cisompet, Garu**	**43.07**	**265**	*e*P	**P**	**01 33 07.7**	**-1.7**
	comp=Z,78nm,0.7s						
JNU	**Nakatsue**	**43.41**	**335**	P	**P**	**01 33 09.6**	**-2.2**
	comp=Z,25nm,0.8s,baz=232,slow=1.5,SNR=12						
KSRS	**Korea Array**	**48.36**	**335**	P	**P**	**01 33 49.6**	**-1.1**
	comp=Z,4.6nm,0.9s,baz=157,slow=8.5,SNR=9.1						
KSAR	**Wonju Array Be**	**48.37**	**335**	P	**P**	**01 33 49.7**	**-1.1**
KSAR	**Wonju Array Be**	**48.37**	**335**	P	**P**	**01 33 49.6**	**-1.1**
KS01	**Wonju Array Si**	**48.39**	**335**	*e*P	**P**	**01 33 48.3**	**-2.7**
USRK	**Ussuriysk Ar.**	**52.87**	**343**	P	**P**	**01 34 23.8**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=161,slow=6.1,SNR=4.2						
GYA	**Guiyang**	**53.85**	**309**	*e*P	**P**	**01 34 34.0**	**+1.6**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
CN2	**Changchun**	**54.74**	**337**	*e*P	**P**	**01 34 41.4**	**+3.0**
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
KMI	**Kunming**	**56.33**	**305**	P	**P**	**01 34 52.4**	**+2.0**
KMI				PMZ			
	comp=Z,11nm,0.7s						
KMI				PMZ			
	comp=Z,380nm,9.9s						
KLR	**Kul'dur**	**57.55**	**345**	*e*P	**P**	**01 34 57.1**	**-1.2**
CD2	**Chengdu**	**58.30**	**312**	*e*P	**P**	**01 35 03.5**	**-0.5**
CD2				sP	sP	01 35 18.8	-2.5
CD2				PcS	**PcS**	**01 39 55.8**	**-0.7**
CD2				S	**S**	**01 43 03.9**	**+0.4**
CD2				sS	sS	01 43 22.3	-1.8
CD2				SS	**SS**	**01 46 57.6**	**+1.3**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
PETK	**Petropavlovsk-**	**59.13**	**5**	P	**P**	**01 35 07.2**	**-2.1**
	comp=Z,5.6nm,0.8s,baz=236,slow=1.6,SNR=3.9						
LZH	**Lanzhou**	**60.97**	**317**	*e*P	**P**	**01 35 24.1**	**+1.6**
LZH				pP	pP	01 35 36.0	+1.1
LZH				sP	sP	01 35 40.1	+0.3
LZH				*e*PP	**PP**	**01 37 40.5**	**+3.3**
LZH				PMZ			
	comp=Z,21nm,1.0s						
LZH				PMZ			
	comp=Z,75nm,8.0s						
LZH				LN			
	comp=Z,290nm,16.2s						
LZH				LE			
	comp=Z,310nm,15.9s						
LZH				LZ			
	comp=Z,380nm,18.6s						
ULN	**Ulaanbaatar**	**66.16**	**329**	⇑*e*P	**P**	**01 35 56.2**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CASY	**Casey**	**66.41**	**197**	*e*P	**P**	**01 35 57.5**	**-0.1**
	comp=Z,0.3nm,0.7s						
SONM	**Songino Array**	**66.48**	**329**	P	**P**	**01 35 58.1**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=160,slow=5.5,SNR=7.5						
SONA1	**Songino Array**	**66.48**	**329**	*e*P	**P**	**01 35 58.2**	**-0.3**
ZAK	**Zakamensk**	**69.68**	**330**	*e*P	**P**	**01 36 14.9**	**-3.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
VNDA	**Vanda**	**71.71**	**178**	P	**P**	**01 36 30.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=331,slow=6.9,SNR=8.9						
BILL	**Bilibino**	**74.63**	**6**	⇓*e*P	**P**	**01 36 45.9**	**-1.7**
BILL				*e*		01 37 03.7

comp=Z,2.0nm,0.4s
KSH PMZ
comp=Z,340nm,7.9s
KSH LN
comp=Z,260nm,14.2s
KSH LE
comp=Z,180nm,10.9s
KSH LZ
comp=Z,460nm,15.9s
MLY Manley 82.57 21 *e*P **P 01 37 30.5 -0.9**
comp=Z,4.1nm,0.8s
MCK McKinley 82.58 23 *e*P **P 01 37 30.2 -1.3**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 82.58 23 *e*P **P 01 37 30.2 -1.3**
comp=Z,6.0nm,0.8s
COLA College 83.56 22⇑ *e*P **P 01 37 36.1 -0.3**
COLA pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 83.71 322 *e*P **P 01 37 36.0 -1.5**
KURK pmax pmax
comp=Z,23nm,1.0s
KURK Kurchatov 83.71 322 *e*P **P 01 37 36.0 -1.5**
comp=Z,23nm,1.0s
MAW Mawson 83.85 203 P **P 01 37 38.6 +0.6**
comp=Z,2.8nm,0.8s,baz=90,slow=5.1,SNR=3.1
IL1 Eielson Array 83.87 22 *e*P **P 01 37 35.5 -2.6**
ILAR Eielson Array 83.87 22 P **P 01 37 35.3 -2.8**
comp=Z,3.3nm,0.7s,baz=246,slow=4.9,SNR=31
ILB Eielson Array 83.87 22 *e*P **P 01 37 35.8 -2.3**
QSPA South Pole Qui 83.98 180 *e*P **P 01 37 37.9 -0.9**
comp=Z,45nm,1.1s
AAK Ala-Archa 84.31 314⇓ *e*P **P 01 37 40.3 -0.7**
AAK pmax pmax
comp=Z,5.0nm,1.2s
DOT Dot Lake 84.47 24 *e*P **P 01 37 40.1 -1.1**
comp=Z,16nm,0.8s
EKS2 Erkin-Say 84.83 314 *e*P **P 01 37 42.9 -0.7**
EKS2 pmax pmax
comp=Z,10.0nm,1.3s
EKS2 Erkin-Say 84.83 314 *e*P **P 01 37 42.9 -0.7**
comp=Z,10nm,1.3s
EGAK Eagle 86.09 23 *e*P **P 01 37 48.7 -0.5**
comp=Z,4.6nm,0.8s
KKAR Karatay Array 87.27 314 *e*P **P 01 37 54.5 -1.0**
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 87.27 314 *e*P **P 01 37 54.5 -1.0**
comp=Z,0.5nm,0.4s
YKA Yellowknife Ar 97.23 28 P **P 01 38 40.2 -0.9**
comp=Z,0.7nm,0.7s,baz=271,slow=4.5,SNR=8.4
PDAR Pinedale Array 100.85 48 P **Pdif 01 38 57.4 -0.7**
comp=Z,0.9nm,0.7s,baz=318,slow=2.0,SNR=4.5
SDCO Great Sand Dun 104.18 53 *e*Pdif **Pdif 01 39 15.5 +2.4**
KLMR Klimovskoe 105.67 332 P **Pdif 01 39 16.4 -2.4**
KLMR *e* 01 43 37.3
KLMR pmax pmax
comp=Z,4.0nm,1.4s
AKASG Malin Array Be 114.50 324 PKP PKPdf 01 43 47.9 -0.7
comp=Z,1.8nm,0.7s,baz=58,slow=2.9,SNR=7.0
BRTR Keskin Array B 114.87 311 PKP PKPdf 01 43 49.0 -0.8
comp=Z,0.5nm,0.7s,baz=129,slow=2.6,SNR=4.7
BR231 Keskin MP Arra 115.49 311 *e*PKPdf **PKPdf 01 43 49.5 -1.5**
SORM Soroca 115.98 321⇓ *i*P **PKPdf 01 43 49.6 -1.9**
SORM Soroca 115.98 321⇓ PKIKP **PKPdf 01 43 49.6 -1.9**
NB2 NORSAR Subarra 117.46 339 PKPdf **PKPdf 01 43 53.6 -0.5**
comp=Z,2.0nm,1.0s,baz=44,slow=1.9
NOA NORSAR Array B 117.46 339 PKP **PKPdf 01 43 52.9 -1.2**
comp=Z,0.8nm,0.7s,baz=49,slow=2.0,SNR=6.5
BUR08 Bucovina Ar. S 118.13 322 *e*PKPdf **PKPdf 01 43 56.9 +1.1**
BURAR Bucovina Array 118.13 322⇓ *i*P **PKPdf 01 43 56.0 +0.2**
BURAR Bucovina Array 118.13 322⇓ PKIKP **PKPdf 01 43 56.0 +0.2**
KWP Kalwaria Pacla 118.75 324⇓ *i*P **PKPdf 01 43 56.7 -0.1**
KWP Kalwaria Pacla 118.75 324⇓ PKIKP **PKPdf 01 43 56.7 -0.1**
KOLS Kolonicke sedl 119.33 324 *e*PKIKP **PKPdf 01 43 57.7 -0.3**
KOLS Kolonicke sedl 119.33 324 *e*PKP **PKPdf 01 43 57.7 -0.3**
ARR Arges 119.40 319⇑ *i*P **PKPdf 01 43 58.7 +0.4**
LOT Lotru 119.93 320⇑ *i*P **PKPdf 01 44 00.9 +1.5**
SIRR Siria 120.91 321⇑ *i*P **PKPdf 01 44 01.0 -0.1**
BZS Buzias 121.22 321⇓ *i*P **PKPdf 01 44 00.9 -0.8**
BZS Buzias 121.22 321⇓ PKIKP **PKPdf 01 44 00.9 -0.8**
MDVR Moldovita 121.53 320⇓ *i*P **PKPdf 01 44 02.2 -0.2**
BRG Berggiesshubel 122.88 329 *e*PKP **PKPdf 01 44 04.5 -0.2**
comp=Z,4.1nm,0.9s
BRG Berggiesshubel 122.88 329 *e*PKIKP **PKPdf 01 44 04.5 -0.2**
BRG pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 123.09 330 *e*PKPdf **PKPdf 01 44 01.0 -4.1**
comp=Z,4.0nm,0.7s
CONA Conrad Observa 123.52 325 *i* PKiKP **PKPdf 01 44 06.1 -0.1**
comp=Z,2.4nm,0.7s
KHC Kasperske Hory 124.09 328 *e*PKPdf **PKPdf 01 44 07.0 -0.2**
KHC Kasperske Hory 124.09 328 *e*PKIKP **PKPdf 01 44 07.0 -0.2**
KHC Kasperske Hory 124.09 328 *e*PKPdf **PKPdf 01 44 07.1 -0.2**
GEC2 GERESS Array S 124.20 327 *e*PKIKP **PKPdf 01 44 07.5 +0.1**
GEC2 GERESS Array S 124.20 327 *e*PKPdf **PKPdf 01 44 07.5 +0.1**
GERES GERESS Array B 124.20 327 PKP **PKPdf 01 44 07.3 -0.2**
comp=Z,2.6nm,0.6s,baz=63,slow=1.7,SNR=20
GEA0 GERESS Array S 124.20 327 *e*PKPdf **PKPdf 01 44 07.0 -0.4**
MOA Molln 124.46 326 *i* PKiKP **PKPdf 01 44 08.0 -0.9**
comp=Z,0.5nm,0.4s
SOKA Soboth 124.68 325 *i* PKiKP **PKPdf 01 44 08.0 -0.4**
comp=Z,0.7nm,0.3s
ABTA Abfaltersbach 126.07 326 *i* PKiKP **PKPdf 01 44 10.6 -0.5**
comp=Z,2.2nm,0.5s
MOTA Moosalm 126.49 327 *i* PKiKP **PKPdf 01 44 11.8 -0.2**
comp=Z,2.1nm,0.4s
FETA Feichten 126.89 327 *i* PKiKP **PKPdf 01 44 12.9 +0.2**
comp=Z,3.1nm,0.8s
DAVA Damuels 127.18 328 *i* PKiKP **PKPdf 01 44 13.3 +0.1**
comp=Z,1.2nm,0.4s
TUE Stuetta 127.97 327 *e*PKPdf **PKPdf 01 44 15.6 +0.7**
KEST Kesra 134.14 316 PKP **PKPdf 01 44 28.0 +1.3**
comp=Z,2.2nm,0.7s,baz=122,slow=1.6,SNR=5.7
PTGA Pitinga 148.21 101 *e*PKPbc **PKPbc 01 44 56.3 +0.6**
BDFB Brasilia 151.31 139 PKPbc **PKPbc 01 45 02.5 -0.9**
comp=Z,4.1nm,0.7s,baz=205,slow=4.9,SNR=5.4

IDC 16 01:28:39.0±2.2,5.°69S×151.°17E,h0km,mb3.9/4, mb1 4.2/4,mb1mx3.7/29,mbtmp3.9/4,Error ellipse: s-maj=120.0km s-min=30.7km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.65**	**228**	P		01 33 30.8	-0.5
	1.7nm,0.5s,baz=53,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**24.41**	**221**	P		01 33 59.8	+0.3
	2.6nm,0.7s,baz=57,slow=9.2,SNR=4.4						
FITZ	**Fitzroy Crossi**	**27.81**	**241**	P		01 34 30.5	+0.2
	4.2nm,0.9s,baz=67,slow=11,SNR=3.6						
ILAR	**Eielson Array**	**83.59**	**22**	P		01 41 08.9	-0.1
	0.3nm,0.7s,baz=243,slow=4.0,SNR=3.7						

ARO 16 01:30:15.1,13.°N±8.°×4.°2E±.°,h4km±9km,ML3.9,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAOD	**Malaho**	**1.44**	**155**	*e*P	Pn	01 30 39.7	-2.2
MAOD				*e*S	Sb	01 30 58.9	-2.3
MAOD	**Malaho**	**1.44**	**155**	*e*P	Pn	01 30 39.7	-2.2
MAOD				*e*S	Sb	01 30 58.9	-2.3
LDLD	**Lac de Lave**	**2.01**	**154**	*e*P	Pn	01 30 49.1	-0.8
LDLD	**Lac de Lave**	**2.01**	**154**	*e*P	Pn	01 30 49.1	-0.8
TDD	**Tadjoura Ara**	**2.03**	**142**	*e*P	Pn	01 30 48.7	-1.5
TDD	**Tadjoura Ara**	**2.03**	**142**	*e*P	Pn	01 30 48.7	-1.5
OBO	**Obock**	**2.16**	**131**	*e*P	Pn	01 30 50.9	-1.0
OBO	**Obock**	**2.16**	**131**	*e*P	Pn	01 30 50.9	-1.0
ATD	**Arta Tunnel**	**2.22**	**147**	*e*P	Pn	01 30 52.5	-0.3
ATD	**Arta Tunnel**	**2.22**	**147**	*e*P	Pn	01 30 52.5	-0.3
MCAD	**Moucha**	**2.28**	**137**	*e*P	Pn	01 30 52.5	-1.1
MCAD	**Moucha**	**2.28**	**137**	*e*P	Pn	01 30 52.5	-1.1
GBR	**Grand-Bara**	**2.39**	**160**	*e*P	Pn	01 30 54.5	-0.7
GBR	**Grand-Bara**	**2.39**	**160**	*e*P	Pn	01 30 54.5	-0.7
ATA	**Atar**	**2.49**	**141**	*e*P	Pn	01 30 56.1	-0.3
ATA	**Atar**	**2.49**	**141**	*e*P	Pn	01 30 56.1	-0.3

*NEIC **16** 01:30:55.6,43.°59S×172.°79E,h9km,ML3.8(WEL),After WEL.*
NEIC Felt at Christchurch.
WEL 16 01:30:55.7±0.1,43.°59S×172.°79E,h8km,ML3.8/12,**2C-3D,**

Error ellipse: s-maj=1.3km s-min=0.5km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.15**	**219**	⇑P	Pg	01 30 59.3	+0.3
MQZ				SG	Sg	01 31 01.7	+0.5
MQZ				AML	AML	01 31 01.9	
MQZ	**McQueen's Vall**	**0.15**	**219**	Pg	Pg	01 30 59.3	+0.3
MQZ				Sg	Sg	01 31 01.7	+0.5
OXZ	**Oxford**	**0.61**	**295**	⇓P*	Pg	01 31 07.3	-0.1
OXZ	**Oxford**	**0.61**	**295**	P*	Pg	01 31 07.3	-0.1
LTZ	**Lake Taylor**	**0.89**	**335**	⇑P*	Pg	01 31 12.7	-0.1
LTZ				S*	Sg	01 31 24.8	+0.5
LTZ				AML	AML	01 31 25.8	
LTZ	**Lake Taylor**	**0.89**	**335**	P*	Pg	01 31 12.8	0.0
RPZ	**Rata Peaks**	**1.27**	**264**	⇓P*	Pn	01 31 18.3	-1.3
RPZ				AML	AML	01 31 38.2	
RPZ				AML	AML	01 31 39.6	
RPZ	**Rata Peaks**	**1.27**	**264**	*e*Pn	Pn	01 31 19.6	-0.1
RPZ				*e*S	Sb	01 31 35.6	-0.6
KHZ	**Kahutara**	**1.29**	**25**	⇓P*	Pn	01 31 18.5	-1.5
KHZ	**Kahutara**	**1.29**	**25**	*e*Pn	Pn	01 31 18.5	-1.5
KHZ				*e*S	Sb	01 31 36.5	-0.4
INZ	**Inchbonnie**	**1.31**	**311**	PN	Pn	01 31 19.0	-1.3
THZ	**Tophouse**	**1.83**	**3**	PN	Pn	01 31 26.0	-1.4
THZ				AML	AML	01 31 56.8	
THZ				AML	AML	01 32 01.5	
THZ	**Tophouse**	**1.83**	**3**	Pn	Pn	01 31 26.0	-1.4
DSZ	**Denniston Nort**	**1.98**	**338**	PN	Pn	01 31 28.8	-0.7
DSZ				AML	AML	01 31 56.4	
DSZ				AML	AML	01 31 56.4	
DSZ				AML	AML	01 31 56.4	
DSZ				AML	AML	01 31 56.5	
DSZ	**Denniston Nort**	**1.98**	**338**	Pn	Pn	01 31 28.8	-0.7
BSWZ	**Blackbirch Sta**	**2.04**	**24**	PN	Pn	01 31 29.1	-1.1
BSWZ	**Blackbirch Sta**	**2.04**	**24**	Pn	Pn	01 31 29.1	-1.1
LBZ	**Lake Benmore**	**2.04**	**246**	AML	AML	01 32 08.2	
LBZ				AML	AML	01 32 08.3	
ODZ	**Otahua Downs**	**2.12**	**226**	*e*PN	Pn	01 31 29.9	-1.5
ODZ				AML	AML	01 32 05.0	
ODZ				AML	AML	01 32 05.0	
ODZ				AML	AML	01 32 10.2	
ODZ	**Otahua Downs**	**2.12**	**226**	*e*Pn	Pn	01 31 30.8	-0.6
ODZ				*e*Pg	Pg	01 31 35.9	-0.4
ODZ				*e*S	Sg	01 32 03.6	-0.1
TUWZ	**Tuamarina**	**2.32**	**22**	Pn	Pn	01 31 32.3	-1.8
SNZO	**South Karori**	**2.68**	**33**	*e*Pn	Pn	01 31 37.1	-1.9
SNZO				*e*Sn	Sn	01 32 09.0	-2.7
QRZ	**Quartz Range**	**2.77**	**356**	AML	AML	01 32 29.9	
QRZ				AML	AML	01 32 30.3	
DUWZ	**D'Urville Isla**	**2.91**	**17**	PN	Pn	01 31 41.2	-1.1
DUWZ	**D'Urville Isla**	**2.91**	**17**	Pn	Pn	01 31 41.2	-1.1
JCZ	**Jackson Bay**	**2.94**	**259**	AML	AML	01 32 34.4	
JCZ				AML	AML	01 32 36.3	
WKZ	**Wanaka**	**2.98**	**244**	PN	Pn	01 31 42.5	-0.8
WKZ				AML	AML	01 32 35.4	
WKZ				AML	AML	01 32 36.3	
WKZ	**Wanaka**	**2.98**	**244**	Pn	Pn	01 31 42.5	-0.8
EAZ	**Earnscleugh**	**2.99**	**235**	AML	AML	01 32 33.5	
EAZ				AML	AML	01 32 35.6	
TUZ	**Tuapeka**	**3.26**	**222**	AML	AML	01 32 47.2	
TUZ				AML	AML	01 32 49.3	
MLZ	**Mavora Lakes**	**3.79**	**240**	PN	Pn	01 31 53.7	-0.6
MLZ	**Mavora Lakes**	**3.79**	**240**	Pn	Pn	01 31 53.8	-0.6
WHZ	**Wether Hill Ro**	**4.15**	**235**	*e*Pn	Pn	01 31 58.2	-1.1
WHZ				*e*Pg	Pg	01 32 13.4	-1.7
WHZ				*e*S	Sb	01 33 02.8	+3.6
KHEZ	**Kahui Hut**	**4.39**	**13**	*e*Pn	Pn	01 32 02.8	+0.2
PKE	**Pukeiti**	**4.48**	**12**	PN	Pn	01 32 04.5	+0.6
PKE	**Pukeiti**	**4.48**	**12**	Pn	Pn	01 32 04.5	+0.6
HIZ	**Hauiti**	**5.30**	**18**	PN	Pn	01 32 14.2	-1.0
HIZ	**Hauiti**	**5.30**	**18**	Pn	Pn	01 32 14.2	-1.0

IDC 16 01:33:03.3±2.2,5.°83S×150.°66E,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.6/27,mbtmp3.7/4,Error ellipse: s-maj=114.2km s-min=30.1km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.18**	**227**	P	P	01 37 51.1	+0.5
	1.1nm,0.5s,baz=53,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**23.97**	**221**	P	P	01 38 19.6	-0.2
	1.9nm,0.7s,baz=58,slow=9.0,SNR=13						
FITZ	**Fitzroy Crossi**	**27.30**	**241**	P	P	01 38 49.4	-0.5
	1.7nm,0.6s,baz=69,slow=8.6,SNR=3.4						
ILAR	**Eielson Array**	**83.91**	**22**	P	P	01 45 35.1	+0.2
	0.2nm,0.5s,baz=253,slow=5.6,SNR=3.2						

IDC 16 01:33:33.3±1.9,5.°47S×151.°12E,h0km,mb4.2/4, mb1 4.5/5,mb1mx3.9/28,mbtmp4.3/5,ML2.5/1,Error ellipse: s-maj=101.9km s-min=25.2km az=129.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.55**	**225**	Pn	Pn	01 34 58.4	+1.2
	8.5nm,0.3s,baz=30,slow=14,SNR=8.0						
PMG				Sn	Sn	01 35 55.7	-6.0
	2.0nm,0.3s,baz=330,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**21.76**	**227**	P	P	01 38 26.1	-0.7
	5.2nm,0.5s,baz=52,slow=11,SNR=20						
ASAR	**Alice Springs**	**24.55**	**221**	P	P	01 38 54.8	-0.2
	6.2nm,0.7s,baz=57,slow=8.8,SNR=26						
FITZ	**Fitzroy Crossi**	**27.88**	**241**	P	P	01 39 25.2	+0.2
	6.0nm,0.6s,baz=70,slow=6.3,SNR=16						
ILAR	**Eielson Array**	**83.40**	**22**	P	P	01 46 02.3	+0.1
	0.5nm,0.8s,baz=247,slow=5.6,SNR=8.0						

IDC 16 01:41:55.9±4.2,6.°07S×151.°23E,h0km,mb3.3/2, mb1 3.7/2,mb1mx3.3/35,mbtmp3.4/2,Error ellipse: s-maj=179.0km s-min=52.8km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.44**	**228**	P	P	01 46 45.8	-0.1
	0.8nm,0.6s,baz=55,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**24.17**	**222**	P	P	01 47 14.5	+0.3
	0.8nm,0.6s,baz=55,slow=9.3,SNR=8.7						
TORD	**Torodi Ar. Bea**	**149.18**	**285**	PKPbc	PKPbc	02 01 46.7	-0.8
	0.3nm,0.7s,baz=72,slow=2.8,SNR=2.5						

IDC 16 01:43:46.0±4.1,5.°57S×151.°30E,h0km,mb3.3/2, mb1 3.6/2,mb1mx3.3/35,mbtmp3.4/2,Error ellipse: s-maj=158.0km s-min=55.0km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.82**	**228**	P	P	01 48 39.5	-0.7
	0.6nm,0.5s,baz=53,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**24.58**	**221**	P	P	01 49 08.4	+0.4
	0.7nm,0.6s,baz=62,slow=9.0,SNR=6.5						
TORD	**Torodi Ar. Bea**	**149.10**	**286**	PKPbc	PKPbc	02 03 36.9	-0.5
	0.4nm,0.6s,baz=90,slow=2.9,SNR=3.1						

*IDC **16** 01:46:05.9±0.5,5.°92S×151.°35E,h0km,mb4.5/16, mb1 4.6/18,mb1mx4.5/33,mbtmp4.4/18,ML2.7/2,MS3.7/2, Ms1 3.7/2,ms1mx3.5/33,Error ellipse: s-maj=20.6km s-min=13.8km az=91.0*
*NEIC **16** 01:46:07.4±0.3,5.°92S×151.°39E,h10km,mb4.8/12,Error ellipse: s-maj=8.5km s-min=5.3km az=104.0*
*ISCJB **16** 01:46:10.7±0.4,6.°01S±0.°04×151.°22E±0.°07,h41km, mb4.5/27,MS4.3/1,Error ellipse: s-maj=9.8km s-min=5.1km az=15.8*
*BJI **16** 01:46:11.7,6.°21S×151.°13E,h45km,mb4.7/19,mB5.2/6, Ms4.9/5,Ms7 4.7/5*
ISC 16 01:46:12.5±0.4,6.°11S±0.°05×151.°30E±0.°07,h41km,n90, σ1s74/99,mb4.6/27,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.09**	**24**	*e*Pn	**Pn**	**01 46 45.5**	**+0.4**
RABL				*e*Sn	**Sn**	**01 47 13.3**	**+3.3**
PMG	**Port Moresby**	**5.25**	**231**	Pn	**Pn**	**01 47 29.2**	**+0.7**
	6.3nm,0.3s,baz=65,slow=19,SNR=11						
PMG				Sn	**Sn**	**01 48 28.2**	**+0.4**
	19nm,0.3s,baz=104,slow=19,SNR=4.2						
PMG	**Port Moresby**	**5.25**	**231**	*e*Pn	**Pn**	**01 47 31.4**	**+2.9**
PMG				*e*S	**Sn**	**01 48 28.0**	**+0.2**
MANU	**Manus Island**	**5.63**	**316**	*e*Pn	Pn	01 47 37.6	+3.8
JAY	**Jayapura**	**11.15**	**288**	Pn	**Pn**	**01 48 48.6**	**-0.9**
	0.2nm,0.3s,baz=272,slow=22,SNR=4.0						
JAY				LR	LR	01 52 51.9	
	comp=Z,76nm,18.9s,baz=12,slow=36						
COEN	**Coen**	**11.17**	**225**	P	**Pn**	**01 48 48.5**	**-1.2**
	baz=11,SNR=4.6						
COEN	**Coen**	**11.17**	**225**	*e*Pn	**Pn**	**01 48 50.5**	**+0.8**
COEN				*e*S	**Sn**	**01 50 51.9**	**-1.5**
MTSU	**Mount Surprise**	**13.76**	**209**	P	**Pn**	**01 49 26.7**	**+1.6**
	baz=14,SNR=6.5						
CTA	**Charters Tower**	**14.73**	**199**	Pn	**P**	**01 49 45.0**	**+1.3**
	0.9nm,0.3s,baz=20,slow=14,SNR=13						
CTAO	**Charters Tower**	**14.73**	**199**	*e*Pn	**Pn**	**01 49 40.3**	**+2.0**
	33nm,0.5s						
QIS	**Mount Isa**	**18.30**	**217**	P	**P**	**01 50 24.1**	**+0.9**
	baz=18,SNR=17						
EIDS	**Eidsvold**	**19.15**	**181**	P	**P**	**01 50 34.8**	**+2.3**
	baz=19,SNR=9.6						
EIDS	**Eidsvold**	**19.15**	**181**	*e*P	**P**	**01 50 34.0**	**+1.4**
	39nm,1.1s						
RMQ	**Roma**	**20.41**	**187**	P	**P**	**01 50 49.0**	**+2.8**
	baz=20,SNR=38						
MTN	**Manton Dam**	**20.98**	**250**	P	**P**	**01 50 53.4**	**+1.0**
	baz=21,SNR=7.1						
MTN	**Manton Dam**	**20.98**	**250**	*e*P	**P**	**01 50 51.4**	**-1.0**
	79nm,1.4s						
QLP	**Quilpie**	**21.45**	**198**	P	**P**	**01 50 58.9**	**+1.6**
	baz=22,SNR=13						
WC3	**Warramunga Arr**	**21.45**	**229**	*e*P	**P**	**01 50 56.9**	**-0.6**
	29nm,0.8s						
WC3				*e*S	**S**	**01 54 50.6**	**-2.8**
WRAB	**Tennant Creek**	**21.45**	**229**	*e*P	**P**	**01 50 57.4**	**-0.1**
	64nm,1.3s						
WRAB				*e*S	**S**	**01 54 54.0**	**+0.6**
WB2	**Warramunga Arr**	**21.45**	**229**	*e*P	**P**	**01 50 57.7**	**+0.2**
	28nm,0.6s						
WRA	**Warramunga Arr**	**21.46**	**229**	P	**P**	**01 50 57.7**	**0.0**
	21nm,0.5s,baz=54,slow=10,SNR=114						
WRA				ScP	**ScP**	**01 58 35.8**	**+1.9**
	2.9nm,1.1s,baz=40,slow=2.4,SNR=4.5						
DZM	**Mont Dzumac**	**21.59**	**139**	P	**P**	**01 50 58.4**	**-0.6**
	10nm,0.6s,baz=324,slow=18,SNR=12						
DZM				LR	LR	01 58 30.2	
	comp=Z,1µm,18.0s,baz=344,slow=34						
AS01	**Alice Springs**	**24.15**	**222**	*e*P	**P**	**01 51 25.6**	**+0.6**
AS31	**Alice Springs**	**24.18**	**222**	*e*P	**P**	**01 51 25.9**	**+0.6**
	15nm,0.7s						
ASAR	**Alice Springs**	**24.18**	**222**	P	**P**	**01 51 25.9**	**+0.6**
	40nm,0.7s,baz=59,slow=9.1,SNR=211						
ASAR				ScP	**ScP**	**01 58 44.1**	**+3.2**
	1.6nm,0.8s,baz=68,slow=2.7,SNR=5.8						
CMSA	**Cobar Meteorol**	**25.84**	**191**	P	**P**	**01 51 41.7**	**+1.5**
	baz=26,SNR=5.9						
STKA	**Stephens Creek**	**27.19**	**198**	P	**P**	**01 51 50.4**	**-2.0**
	3.0nm,0.7s,baz=348,slow=9.3,SNR=3.8						
STKA	**Stephens Creek**	**27.19**	**198**	P	**P**	**01 51 55.0**	**+2.6**
	baz=27,SNR=5.9						
STKA	**Stephens Creek**	**27.19**	**198**	*e*P	**P**	**01 51 51.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**27.73**	**242**	P	**P**	**01 51 56.9**	**-0.4**
	15nm,0.6s,baz=82,slow=7.5,SNR=38						
FITZ	**Fitzroy Crossi**	**27.73**	**242**	P	**P**	**01 51 56.8**	**-0.6**
	baz=28,SNR=21						
FITZ	**Fitzroy Crossi**	**27.73**	**242**	*e*P	**P**	**01 51 56.5**	**-0.9**
	14nm,0.6s						
WRKA	**Warakurna**	**28.98**	**227**	P	**P**	**01 52 08.2**	**-0.3**
	baz=29,SNR=21						
HTT	**Hallett**	**29.52**	**201**	P	**P**	**01 52 13.9**	**+0.7**
	baz=30,SNR=6.6						
MBWA	**Marble Bar**	**34.03**	**241**	*e*P	**P**	**01 52 52.7**	**-0.2**
	33nm,0.8s						
YHNB	**Yeheng**	**42.25**	**318**	P	**P**	**01 54 01.4**	**-0.8**
	13nm,0.7s						
JNU	**Nakatsue**	**43.57**	**335**	P	**P**	**01 54 11.7**	**-1.0**
	21nm,0.7s,baz=215,slow=1.2,SNR=12						
KSRS	**Korea Array**	**48.52**	**335**	P	**P**	**01 54 50.6**	**-0.9**
	3.6nm,0.7s,baz=154,slow=8.7,SNR=15						
KSAR	**Wonju Array Be**	**48.52**	**335**	P	**P**	**01 54 50.6**	**-1.0**
KS01	**Wonju Array Si**	**48.55**	**335**	*e*P	**P**	**01 54 51.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**53.02**	**343**	P	**P**	**01 55 22.7**	**-2.6**
	1.7nm,0.6s,baz=176,slow=9.0,SNR=3.0						
GYA	**Guiyang**	**54.02**	**309**	*e*P	**P**	**01 55 34.0**	**+0.8**
GYA				PMZ			
	10.0nm,1.0s						
KMI	**Kunming**	**56.50**	**305**	P	**P**	**01 55 51.9**	**+0.7**
KMI				PMZ			
	23nm,0.5s						
KMI				PMZ			
	250nm,12.8s						
XAN	**Xi'an**	**56.56**	**318**	P	**P**	**01 55 52.9**	**+1.7**
XAN				PMZ			
	7.0nm,0.7s						
KLR	**Kul'dur**	**57.69**	**345**	P	**P**	**01 55 56.1**	**-2.7**
	1.6nm,0.7s,baz=138,slow=11,SNR=2.6						
CD2	**Chengdu**	**58.47**	**312**	*e*P	**P**	**01 56 04.0**	**-0.8**
PETK	**Petropavlovsk-**	**59.24**	**4**	P	**P**	**01 56 06.8**	**-2.8**
	12nm,0.7s,baz=150,slow=6.4,SNR=4.9						
LZH	**Lanzhou**	**61.14**	**317**	*e*P	**P**	**01 56 25.0**	**+1.8**
LZH				*e*PP	**PP**	**01 58 42.3**	**+4.0**
LZH				PMZ			
	20nm,1.0s						
LZH				PMZ			
	72nm,8.2s						
LZH				LN			
	300nm,16.2s						
LZH				LE			
	320nm,16.0s						
LZH				LZ			
	380nm,19.0s						
CASY	**Casey**	**66.33**	**197**	*e*P	**P**	**01 56 56.9**	**+0.2**
	0.4nm,0.6s						
SONM	**Songino Array**	**66.65**	**329**	P	**P**	**01 56 57.7**	**-1.5**
	2.0nm,0.6s,baz=152,slow=6.8,SNR=13						
SONA1	**Songino Array**	**66.65**	**329**	*e*P	**P**	**01 56 57.9**	**-1.2**
VNDA	**Vanda**	**71.59**	**178**	P	**P**	**01 57 30.1**	**+0.9**
	2.8nm,1.0s,baz=320,slow=6.4,SNR=11						
WMQ	**Urumqi**	**75.70**	**318**	P	**P**	**01 57 54.8**	**+0.9**
WMQ				pP	PcP	01 58 07.8	+1.3
WMQ				sP	sP	01 58 12.8	+1.9
WMQ				PMZ	

2.0nm,0.9s,baz=119,slow=1.7,SNR=3.7
AKASG **Malin Array Be 114.67 324** PKP PKPdf 02 04 47.4 -1.0
0.8nm,0.5s,baz=58,slow=2.6,SNR=4.2
BRTR **Keskin Array B 115.04 311** PKP PKPdf 02 04 48.7 -1.0
0.3nm,0.6s,baz=119,slow=1.8,SNR=2.7
NB2 **NORSAR Subarra117.62 339** PKPdf **PKPdf 02 04 52.8 -1.2**
comp=Z,0.5nm,0.6s,baz=44,slow=1.9
NOA **NORSAR Array B 117.62 339** PKP **PKPdf 02 04 52.7 -1.2**
comp=Z,0.5nm,0.6s,baz=50,slow=1.9,SNR=4.6
KOLS **Kolonicke sedl 119.50 324** *e*PKP **PKPdf 02 04 57.8 -0.1**
STHS **Stebnicka Huta 119.87 325** *e*PKP **PKPdf 02 04 58.7 +0.1**
LANS **Liptovska Anna 121.01 325** *e*PKP **PKPdf 02 05 01.6 +0.8**
VYHS **Vyhne 121.70 325** *e*PKP **PKPdf 02 05 02.4 +0.3**
CONA **Conrad Observa 123.69 325** *i* PKiKP **PKPdf 02 05 05.7 -0.4**
comp=Z,1.3nm,0.6s
KHC **Kasperske Hory 124.26 328** *e*PKPdf **PKPdf 02 05 05.5 -1.6**
GERES **GERESS Array B 124.36 327** PKP **PKPdf 02 05 06.9 -0.5**
comp=Z,1.8nm,0.6s,baz=54,slow=2.3,SNR=9.6
SOKA **Soboth 124.85 325** *i* PKiKP **PKPdf 02 05 07.6 -0.7**
comp=Z,1.8nm,0.9s
ABTA **Abfaltersbach 126.24 326** *i* PKiKP **PKPdf 02 05 10.7 -0.3**
comp=Z,2.7nm,1.0s
FETA **Feichten 127.06 327** *i* PKPdf **PKPdf 02 05 11.0 -1.7**
comp=Z,2.5nm,0.9s
DAVOX **Davos/Dischmat 127.66 327** PKP **PKPdf 02 05 13.8 -0.1**
comp=Z,1.9nm,0.6s,baz=153,slow=6.3,SNR=3.6
LPAZ **La Paz 135.09 120** PKP **PKPdf 02 05 29.4 +0.2**
comp=Z,0.7nm,0.7s,baz=349,slow=5.1,SNR=4.0
MDT **Midelt 145.23 323** PKPbc **PKPdf 02 05 46.4 -0.2**
comp=Z,1.0nm,0.7s,baz=45,slow=2.9,SNR=3.5
PTGA **Pitinga 148.06 101** PKPbc **PKPbc 02 05 55.3 +0.4**
comp=Z,16nm,0.7s,baz=250,slow=3.1,SNR=29
TORD **Torodi Ar. Bea 149.25 285** PKPbc **PKPbc 02 05 57.0 -0.8**
comp=Z,5.7nm,0.6s,baz=66,slow=2.7,SNR=69
BDFB **Brasilia 151.14 139** PKPbc **PKPbc 02 06 02.7 +0.2**
comp=Z,4.6nm,0.7s,baz=248,slow=1.4,SNR=6.0

IDC **16** *01:50:11.1±0.8, 6.°02S×151.°25E, h0km, mb4.1/8, mb1 4.4/9, mb1mx4.1/32, mbtmp4.1/9, ML1.9/1, Error ellipse: s-maj=33.1km s-min=18.2km az=128.0*
ISCJB **16** *01:50:15.9±0.8, 6.°0S±0.°1×151.°1E±0.°2, h43km, mb4.0/9, Error ellipse: s-maj=28.9km s-min=10.1km az=39.0*
ISC 16 01:50:17.5±0.7, 6.°0S±0.°1×151.°2E±0.°2, h43km, n16, σ1§18/17, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.22**	**230**	Pn		**Pn**	**01 51 32.9**	**-0.1**
	2.6nm,0.3s,baz=31,slow=19,SNR=2.4							
PMG				Sn		**Sn**	**01 52 32.2**	**+0.2**
	2.6nm,0.3s,baz=20,slow=15,SNR=2.4							
CTA	**Charters Tower**	**14.78**	**198**	Pn		**P**	**01 53 48.3**	**-0.8**
	0.2nm,0.3s,baz=18,slow=14,SNR=1.9							
WRA	**Warramunga Arr**	**21.44**	**228**	P		**P**	**01 55 00.3**	**-1.9**
	8.3nm,0.6s,baz=53,slow=11,SNR=12							
ASAR	**Alice Springs**	**24.17**	**222**	P		**P**	**01 55 28.9**	**-1.1**
	11nm,0.7s,baz=56,slow=9.5,SNR=20							
STKA	**Stephens Creek**	**27.25**	**198**	P		**P**	**01 56 00.5**	**+2.8**
	3.5nm,0.8s,baz=351,slow=22,SNR=3.2							
FITZ	**Fitzroy Crossi**	**27.67**	**242**	P		**P**	**01 56 02.6**	**+1.0**
	8.2nm,0.6s,baz=62,slow=6.4,SNR=2.9							
SONM	**Songino Array**	**66.50**	**329**	P		**P**	**02 01 03.1**	**+0.1**
	0.4nm,0.6s,baz=141,slow=4.8,SNR=2.7							
VNDA	**Vanda**	**71.69**	**178**	P		**P**	**02 01 33.9**	**-0.6**
	0.7nm,0.8s,baz=0.7,slow=6.4,SNR=5.1							
MKAR	**Makanchi Array**	**80.19**	**319**	P		**P**	**02 02 23.9**	**+0.4**
	0.2nm,0.4s,baz=99,slow=8.9,SNR=5.6							
ILAR	**Eielson Array**	**83.89**	**22**	P		**P**	**02 02 40.8**	**-1.8**
	1.4nm,0.7s,baz=247,slow=5.5,SNR=11							
YKA	**Yellowknife Ar**	**97.25**	**28**	P		**P**	**02 03 46.3**	**+0.7**
	0.2nm,0.5s,baz=270,slow=4.8,SNR=3.0							
PDAR	**Pinedale Array**	**100.86**	**48**	P		**Pdif**	**02 04 01.9**	**-0.6**
	0.3nm,0.4s,baz=27,slow=2.4,SNR=3.1							
GERES	**GERESS Array B 124.22 327**			PKP		**PKPdf**	**02 09 12.5**	**+0.6**
	0.6nm,0.4s,baz=90,slow=2.7,SNR=6.3							
PTGA	**Pitinga**	**148.19**	**101**	PKPbc		**PKPbc**	**02 10 00.6**	**+0.6**
	7.8nm,0.6s,baz=232,slow=2.2,SNR=13							
TORD	**Torodi Ar. Bea**	**149.11**	**286**	PKPbc		**PKPbc**	**02 10 02.3**	**0.0**
	5.0nm,0.7s,baz=63,slow=2.7,SNR=28							
BDFB	**Brasilia**	**151.29**	**139**	PKPbc		**PKPbc**	**02 10 08.1**	**+0.4**
	2.0nm,0.5s,baz=161,slow=11,SNR=3.3							

IDC 16 01:55:34.7±2.3, 5.°78S×151.°25E, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.8/32, mbtmp4.2/4, ML1.6/1, Error ellipse: s-maj=105.8km s-min=32.7km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.42**	**228**	Pn		Pn	01 56 58.7	+1.8
	1.4nm,0.3s,baz=139,slow=19,SNR=2.2							
PMG				Sn		Sn	01 57 54.3	-5.8
	1.8nm,0.3s,baz=29,slow=19,SNR=3.0							
WRA	**Warramunga Arr**	**21.65**	**228**	P		P	02 00 26.5	-0.4
	4.7nm,0.5s,baz=54,slow=10,SNR=33							
ASAR	**Alice Springs**	**24.39**	**221**	P		P	02 00 54.9	-0.1
	4.7nm,0.8s,baz=57,slow=8.7,SNR=26							
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P		P	02 01 25.7	-0.4
	2.9nm,0.7s,baz=54,slow=9.7,SNR=6.5							
GERES	**GERESS Array B 124.06 327**			PKP		PKPdf	02 14 35.1	-0.4
	0.1nm,0.4s,baz=48,slow=1.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**149.12**	**286**	PKPbc		PKPbc	02 15 25.9	-0.2
	2.3nm,0.7s,baz=62,slow=3.3,SNR=21							

IDC 16 02:03:10.6±1.1, 5.°68S×151.°24E, h0km, mb4.3/6, mb1 4.4/8, mb1mx4.0/31, mbtmp4.3/8, ML3.0/2, Error ellipse: s-maj=48.4km s-min=21.4km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.48**	**227**	Pn		Pn	02 04 35.6	+2.0
	4.9nm,0.3s,baz=62,slow=8.7,SNR=5.8							
PMG				Sn		Sn	02 05 34.1	-3.3
	7.7nm,0.3s,baz=166,slow=13,SNR=4.6							
CTA	**Charters Tower**	**15.12**	**198**	Pn		Pn	02 06 46.3	+0.6
	0.3nm,0.3s,baz=11,slow=18,SNR=2.3							
WRA	**Warramunga Arr**	**21.70**	**228**	P		P	02 08 02.7	-0.8
	7.3nm,0.6s,baz=53,slow=10,SNR=64							
ASAR	**Alice Springs**	**24.46**	**221**	P		P	02 08 31.1	-0.5
	16nm,0.8s,baz=56,slow=9.4,SNR=98							
STKA	**Stephens Creek**	**27.58**	**198**	P		P	02 09 00.7	+1.1
	4.3nm,0.8s,baz=12,slow=14,SNR=4.2							
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P		P	02 09 01.8	-0.6
	5.6nm,0.6s,baz=73,slow=7.3,SNR=11							
VNDA	**Vanda**	**72.02**	**178**	P		P	02 14 35.2	-0.7
	0.8nm,0.8s,baz=338,slow=4.5,SNR=4.6							
ILAR	**Eielson Array**	**83.56**	**22**	P		P	02 15 40.0	-0.3
	0.7nm,0.6s,baz=249,slow=5.2,SNR=11							
GERES	**GERESS Array B 123.97 327**			PKP		PKPdf	02 22 11.7	+0.5
	0.4nm,0.6s,baz=46,slow=3.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**149.08**	**286**	PKPbc		PKPbc	02 23 01.8	-0.1
	2.6nm,0.6s,baz=66,slow=3.3,SNR=31							

IDC **16** *02:09:11.1±0.7, 5.°78S×151.°38E, h0km, mb4.2/11, mb1 4.5/12, mb1mx4.2/37, mbtmp4.3/12, ML3.1/1, Error ellipse: s-maj=25.7km s-min=17.8km az=109.0*
NEIC **16** *02:09:12.7±0.4, 5.°75S×151.°36E, h10km, mb4.1/2, Error ellipse: s-maj=12.4km s-min=8.8km az=110.0*
ISCJB **16** *02:09:15.4±0.7, 5.°84S±0.°09×151.°31E±0.°10, h41km, mb4.2/12, Error ellipse: s-maj=16.0km s-min=10.1km az=38.7*
ISC 16 02:09:17.4±0.6, 5.°8S±0.°1×151.°3E±0.°1, h41km, n24, σ1§25/28, mb4.3/12, New Britain region

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

PMG	**Port Moresby**	**5.45**	**229**	Pn		**Pn**	**02 10 36.4**	**+0.3**
	38nm,0.3s,baz=38,slow=13,SNR=25							
PMG				Sn		**Sn**	**02 11 35.9**	**-1.7**
	16nm,0.3s,baz=41,slow=19,SNR=4.8							
PMG	**Port Moresby**	**5.45**	**229**	*e*Pn		**Pn**	**02 10 36.6**	**+0.4**
PMG				*e*S		**Sn**	**02 11 38.9**	**+1.2**
CTA	**Charters Tower**	**15.01**	**199**	Pn		**P**	**02 12 52.0**	**+0.3**
	0.9nm,0.3s,baz=26,slow=13,SNR=8.9							
EIDS	**Eidsvold**	**19.43**	**181**	*e*P		**P**	**02 13 40.8**	**+0.3**
	2.3nm,0.5s							
WRAB	**Tennant Creek**	**21.65**	**228**	*e*P		**P**	**02 14 03.9**	**-0.7**
	7.3nm,0.4s							
WRA	**Warramunga Arr**	**21.67**	**228**	P		**P**	**02 14 04.4**	**-0.4**
	17nm,0.5s,baz=53,slow=11,SNR=134							
WRA				PcP		**PcP**	**02 18 05.4**	**+0.2**
	6.8nm,1.1s,baz=50,slow=2.2,SNR=4.7							
WRA				ScP		**ScP**	**02 21 42.6**	**+3.3**
	1.0nm,0.9s,baz=65,slow=2.5,SNR=4.1							
DZM	**Mont Dzumac**	**21.79**	**139**	P		**P**	**02 14 06.2**	**+0.1**
	7.1nm,0.6s,baz=270,slow=18,SNR=6.2							
ASAR	**Alice Springs**	**24.41**	**222**	P		**P**	**02 14 32.1**	**-0.2**
	9.3nm,0.6s,baz=56,slow=8.8,SNR=50							
ASAR				ScP		**ScP**	**02 21 50.4**	**+3.9**
	0.3nm,0.7s,baz=64,slow=4.2,SNR=3.0							
STKA	**Stephens Creek**	**27.47**	**198**	P		**P**	**02 14 60.0**	**+0.1**
	5.5nm,0.8s,baz=25,slow=13,SNR=3.0							
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P		**P**	**02 15 03.5**	**-0.2**
	7.4nm,0.5s,baz=74,slow=7.3,SNR=23							
SONM	**Songino Array**	**66.42**	**329**	P		**P**	**02 20 02.9**	**+0.3**
	0.5nm,0.7s,baz=123,slow=5.3,SNR=3.0							
VNDA	**Vanda**	**71.87**	**178**	P		**P**	**02 20 34.9**	**-0.8**
	1.0nm,0.8s,baz=322,slow=6.9,SNR=5.5							
MKAR	**Makanchi Array**	**80.13**	**319**	P		**P**	**02 21 23.6**	**+0.2**
	0.4nm,0.8s,baz=94,slow=7.4,SNR=3.1							
ZALV	**Zalesovo Beam**	**81.19**	**327**	P		**P**	**02 21 27.7**	**-1.0**
	0.4nm,0.3s,baz=108,slow=4.7,SNR=2.7							
ILAR	**Eielson Array**	**83.66**	**22**	P		**P**	**02 21 40.5**	**-1.0**
	1.3nm,0.6s,baz=246,slow=5.2,SNR=23							
MAW	**Mawson**	**84.06**	**203**	P		**P**	**02 21 42.0**	**-1.5**
	1.3nm,0.5s,baz=83,slow=8.1,SNR=3.6							
BRTR	**Keskin Array B**	**114.88**	**311**	PKP		PKPdf	02 27 54.3	-0.1
	0.3nm,0.7s,baz=96,slow=3.6,SNR=2.9							
NOA	**NORSAR Array B**	**117.36**	**339**	PKP		**PKPdf**	**02 27 57.8**	**-0.6**
	0.4nm,0.7s,baz=44,slow=1.9,SNR=3.2							
KHC	**Kasperske Hory**	**124.03**	**328**	*e*PKPdf		**PKPdf**	**02 28 11.5**	**-0.1**
GERES	**GERESS Array B 124.14 327**			PKP		**PKPdf**	**02 28 12.3**	**+0.5**
	1.3nm,0.6s,baz=48,slow=2.0,SNR=16							
EKA	**Eskdalemuir Ar**	**126.57**	**342**	PKP		**PKPdf**	**02 28 17.0**	**+0.8**
	0.7nm,0.6s,baz=14,slow=3.7,SNR=3.6							
LPAZ	**La Paz**	**135.21**	**120**	PKP		**PKPdf**	**02 28 34.9**	**+0.5**
	1.4nm,0.9s,baz=232,slow=19,SNR=5.4							
TORD	**Torodi Ar. Bea**	**149.20**	**286**	PKPbc		**PKPbc**	**02 29 02.6**	**0.0**
	3.4nm,0.8s,baz=80,slow=2.6,SNR=21							
BDFB	**Brasilia**	**151.34**	**138**	PKPbc		**PKPbc**	**02 29 08.0**	**+0.1**
	4.0nm,0.7s,baz=236,slow=11,SNR=5.6							

JMA 16 02:11:47.9±0.3, 36.°60N×143.°50E, h48km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**2.22**	**284**	P		Pn	02 12 23.4	+1.1
ONAJ				S		Sn	02 12 48.6	0.0
JFK	**Kawauchi**	**2.24**	**291**	P		Pn	02 12 23.5	+1.0
JHO	**Hitachi**	**2.36**	**271**	P		Pn	02 12 25.0	+0.9
JFT	**Otama**	**2.69**	**291**	P		Pn	02 12 30.5	+1.8
JFT				*e*S		Sn	02 13 01.1	+1.0
BSO1	**Boso 1**	**2.83**	**227**	P		Pn	02 12 30.8	+0.7
JMK	**Ichinoseki**	**2.96**	**323**	P		Pn	02 12 33.3	+0.9
JMK				*e*S		Sn	02 13 07.3	+0.6
BSO3	**Boso 3**	**3.02**	**234**	P		Pn	02 12 35.0	+2.0
JAG	**Ashikaga**	**3.27**	**268**	P		Pn	02 12 38.6	+2.0
JAG				S		Sn	02 13 15.3	+1.1
JOM	**Ohasama**	**3.36**	**329**	P		Pn	02 12 38.5	+0.7
JOM				S		Sn	02 13 16.5	+0.1
JYK	**Kaneyama**	**3.40**	**314**	P		Pn	02 12 39.4	+1.0
JRY	**Ryogami san**	**3.76**	**262**	P		Pn	02 12 44.4	+1.0
JRY				*e*S		Sn	02 13 26.8	+0.4
MAT	**Matsushiro**	**4.26**	**271**	P		Pn	02 12 53.5	+3.2
MAT				S		Sn	02 13 40.8	+2.1

IDC 16 02:16:57.6±4.2, 5.°68S×150.°95E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/34, mbtmp3.3/2, Error ellipse: s-maj=163.3km s-min=55.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.49**	**227**	P		P	02 21 48.2	0.0
	0.4nm,0.4s,baz=53,slow=11,SNR=4.7							
ASAR	**Alice Springs**	**24.27**	**221**	P		P	02 22 16.9	+0.1
	0.4nm,0.6s,baz=57,slow=9.1,SNR=4.5							
TORD	**Torodi Ar. Bea**	**148.80**	**286**	PKPbc		PKPbc	02 36 47.6	-0.7
	0.3nm,0.7s,baz=89,slow=2.9,SNR=3.0							

ISCJB **16** *02:18:58.6±1.2, 36.°45N±0.°04×141.°04E±0.°04, h8km±7km, mb3.9/19, Error ellipse: s-maj=6.8km s-min=5.8km az=159.1*
JMA **16** *02:19:00.4, 36.°49N×140.°95E, h12km±2km, M4.5*
JMA Felt I J1.
NIED **16** *02:19:00, 36.°50N×141.°00E, h5km, Mw4.1 Best double couple: M0 1.35000×10^15 NP1:φ=191.00000°, δ=45.00000°, λ=-57.00000°. NP2:φ=329.00000°, δ=54.00000°, λ=-118.00000°.*
NEIC **16** *02:19:03.5±3.0, 36.°42N×140.°88E, h29km±21km, mb4.0/3, Error ellipse: s-maj=11.9km s-min=9.0km az=133.0*
NEIC Recorded [1 JMA] in Fukushima and Ibaraki.
IDC **16** *02:19:04.5±3.1, 36.°40N×140.°87E, h37km±27km, mb3.6/15, mb1 3.8/19, mb1mx3.7/53, mbtmp3.9/19, ML3.7/3, Error ellipse: s-maj=21.8km s-min=16.2km az=75.0*
ISC 16 02:19:00.3±1.5, 36.°50N±0.°05×140.°96E±0.°06, h8km±9km, n40, σ1§12/41, mb3.9/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHO	**Hitachi**	**0.33**	**289**	P		**Pg**	**02 19 06.8**	**-0.1**
JHO				*e*S		**Sg**	**02 19 11.8**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.61**	**348**	P		**Pb**	**02 19 12.4**	**-1.0**
ONAJ				S		**Sb**	**02 19 21.4**	**-0.8**
JYT	**Yasato**	**0.67**	**246**	P		**Pg**	**02 19 13.2**	**-0.1**
JYT				S		**Sg**	**02 19 22.5**	**+0.4**
JFK	**Kawauchi**	**0.87**	**356**	P		**Pb**	**02 19 16.2**	**-1.5**
JSB	**Shiboa**	**0.95**	**300**	P		**Pn**	**02 19 18.8**	**-1.3**
JSB				S		**Sn**	**02 19 32.2**	**-1.7**
MJAR	**Matsushiro Arr**	**2.21**	**272**	Pn		**Pn**	**02 19 37.2**	**-0.1**
	12nm,0.3s,baz=99,slow=8.1,SNR=47							
MJAR				Sn		**Sb**	**02 20 08.0**	**-0.1**
	32nm,0.3s,baz=100,slow=16,SNR=12							
MAJO	**Matsushiro**	**2.21**	**272**	*e*Pn		**Pn**	**02 19 37.5**	**+0.1**
MAJO				*e*S		**Sn**	**02 20 04.5**	**-0.5**
MAT	**Matsushiro**	**2.21**	**272**	P		**Pn**	**02 19 37.4**	**0.0**
MAT				S		**Sb**	**02 20 06.1**	**-2.1**
JHJ	**Hachijo jima 2**	**3.51**	**196**	Pn		**Pn**	**02 19 56.0**	**+0.8**
	0.8nm,0.3s,baz=56,slow=18,SNR=3.8							
ERM	**Erimo**	**5.76**	**17**	*e*Pn		**Pn**	**02 20 28.1**	**+2.0**
	51nm,1.3s							
ERM				*e*S		**Sn**	**02 21 30.7**	**-1.7**
JCJ	**Chichijima**	**9.44**	**173**	Pn		**Pn**	**02 21 14.7**	**-1.9**
	2.2nm,0.3s,baz=287,slow=19,SNR=3.4							
USRK	**Ussuriysk Ar.**	**10.29**	**321**	Pn		**Pn**	**02 21 30.3**	**+2.2**
	0.1nm,0.3s,baz=132,slow=12,SNR=2.9							
KSRS	**Korea Array**	**10.47**	**279**	Pn		Pn	02 21 34.9	+4.2
	0.1nm,0.3s,baz=103,slow=14,SNR=4.1							
SEY	**Seymchan**	**27.38**	**11**	P		**P**	**02 24 48.1**	**+2.3**
	0.9nm,0.2s,baz=210,slow=5.2,SNR=3.9							
SONM	**Songino Array**	**27.78**	**305**	P		**P**	**02 24 49.5**	**-0.3**
	0.3nm,0.4s,baz=99,slow=8.9,SNR=3.4							
H11N2	**WAKE ISLAND Hy**	**28.20**	**119**	T		T	02 54 19.9	
	baz=312,slow=75,SNR=628							
H11N1	**WAKE ISLAND Hy**	**28.21**	**119**	T		T	02 54 21.1	
	baz=312,slow=75,SNR=836							
H11N3	**WAKE ISLAND Hy**	**28.22**	**119**	T		T	02 54 21.7	
	baz=312,slow=75,SNR=799							
H11S1	**WAKE ISLAND Hy**	**28.89**	**121**	T		T	02 55 09.7	
	baz=314,slow=76,SNR=8031							
H11S3	**WAKE ISLAND Hy**	**28.89**	**121**	T		T	02 55 09.8	
	baz=314,slow=76,SNR=3864							
H11S2	**WAKE ISLAND Hy**	**28.90**	**121**	T		T	02 55 10.9	
	baz=314,slow=76,SNR=3409							
ZALV	**Zalesovo Beam**	**42.00**	**313**	P		**P**	**02 26 51.4**	**-0.5**

	1.8nm,0.6s,baz=91,slow=5.9,SNR=7.3							
MKAR	**Makanchi Array**	**44.09**	**302**	P		**P**	**02 27 09.1**	**+0.2**
	0.7nm,0.7s,baz=98,slow=6.0,SNR=4.7							
KURK	**Kurchatov**	**45.97**	**308**	*e*P		**P**	**02 27 22.6**	**-1.1**
	31nm,0.8s							
TKM2	**Tokmak 2**	**49.56**	**299**	*e*P		**P**	**02 27 53.7**	**+1.7**
	0.5nm,0.4s							
ILAR	**Eielson Array**	**50.14**	**32**	P		**P**	**02 27 56.6**	**+0.8**
	0.8nm,0.7s,baz=261,slow=5.7,SNR=10							
WRAB	**Tennant Creek**	**56.47**	**187**	*e*P		**P**	**02 28 42.8**	**0.0**
	9.1nm,1.6s							
WRA	**Warramunga Arr**	**56.48**	**187**	P		**P**	**02 28 41.4**	**-1.5**
	1.1nm,0.8s,baz=2.9,slow=7.3,SNR=6.2							
ABKAR	**Akbulak array**	**58.00**	**310**	*e*P		**P**	**02 28 53.9**	**+0.5**
	0.7nm,0.6s							
ASAR	**Alice Springs**	**60.21**	**187**	P		**P**	**02 29 08.9**	**0.0**
	0.6nm,0.7s,baz=5.5,slow=11,SNR=4.7							
YKA	**Yellowknife Ar**	**64.45**	**30**	P		**P**	**02 29 37.0**	**+0.1**
	0.6nm,0.8s,baz=302,slow=6.6,SNR=3.2							
FINES	**FINESS Array B**	**69.11**	**332**	P		**P**	**02 30 07.0**	**+0.4**
	1.8nm,0.8s,baz=38,slow=7.0,SNR=2.9							
AKASG	**Malin Array Be**	**74.49**	**322**	P		**P**	**02 30 38.7**	**-0.4**
	0.6nm,0.5s,baz=46,slow=5.9,SNR=3.4							
NOA	**NORSAR Array B**	**74.53**	**337**	P		**P**	**02 30 38.5**	**-0.8**
	0.2nm,0.5s,baz=32,slow=4.9,SNR=2.3							
PDAR	**Pinedale Array**	**78.30**	**45**	P		**P**	**02 31 02.3**	**+1.1**
	0.4nm,0.5s,baz=232,slow=4.4,SNR=3.0							
BRTR	**Keskin Array B**	**78.93**	**311**	P		**P**	**02 31 05.5**	**+0.9**
	1.0nm,1.0s,baz=111,slow=6.8,SNR=4.3							
KHC	**Kasperske Hory**	**82.80**	**328**	*e*P		**P**	**02 31 25.0**	**0.0**
GERES	**GERESS Array B**	**82.97**	**328**	P		**P**	**02 31 25.5**	**-0.5**
	0.5nm,0.7s,baz=323,slow=3.3,SNR=4.5							
TXAR	**Lajitas Array**	**90.74**	**52**	P		**P**	**02 32 03.7**	**-0.5**
	0.7nm,0.8s,baz=318,slow=3.4,SNR=7.9							
LPAZ	**La Paz**	**147.28**	**60**	PKPbc		**PKPbc**	**02 38 44.9**	**-0.7**
	1.2nm,0.8s,baz=342,slow=6.5,SNR=5.6							

BEO **16** *02:20:33.8±1.5, 39.°12N×24.°22E, h0km, M3.5/2*
ISK **16** *02:20:44.5, 39.°86N×23.°72E, h5km, ML3.4*
ISCJB **16** *02:20:45.5±0.5, 39.°93N±0.°01×23.°81E±0.°02, h5km±3km, mb3.3/5, Error ellipse: s-maj=2.2km s-min=2.0km az=29.5*
IDC **16** *02:20:45.1±1.1, 39.°87N×23.°72E, h0km, mb3.3/5, mb1 3.4/8, mb1mx3.3/42, mbtmp3.4/8, ML3.3/3, Error ellipse: s-maj=22.5km s-min=15.5km az=113.0*
ATH **16** *02:20:45.7, 39.°94N×23.°82E, h26km±1km, ML3.3/12, Error ellipse: s-maj=1.2km s-min=0.7km az=320.0*
CSEM **16** *02:20:46.3±0.2, 39.°93N×23.°77E, h6km±1km, ML3.3, Error ellipse: s-maj=2.3km s-min=1.9km az=121.0*
SOF **16** *02:20:46.9, 40.°02N×23.°90E, h8km, MD3.5*
THE **16** *02:20:46.5, 39.°93N×23.°82E, h7km, ML3.3/24, Error ellipse: s-maj=0.6km s-min=0.3km az=283.0*
ISC 16 02:20:45.6±1.1, 39.°93N±0.°01×23.°81E±0.°01, h4km±8km, n286, σ0§89/356, mb3.3/5, 14C-11D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OUR	**Ouranopolis**	**0.43**	**18**	PG		**Pb**	**02 20 55.5**	**-0.4**
OUR	**Ouranopolis**	**0.43**	**18**	P		**Pb**	**02 20 55.4**	**-0.4**
OUR				S		**Sg**	**02 21 00.8**	**+1.3**
OUR	**Ouranopolis**	**0.43**	**18**	P		**Pb**	**02 20 55.4**	**-0.4**
OUR				S		**Sg**	**02 21 00.8**	**+1.3**
OUR	**Ouranopolis**	**0.43**	**18**	P		**Pb**	**02 20 56.0**	**+0.3**
OUR				S		**Sg**	**02 21 00.2**	**+0.7**
OUR				AML		AML	02 21 03.2	
	comp=E,18678μm,0.3s							
OUR				AML		AML	02 21 03.5	
	comp=N,23374μm,0.3s							
PLG	**Polygyros**	**0.53**	**328**	P		**Pg**	**02 20 55.8**	**0.0**
PLG				S		**Sg**	**02 21 04.1**	**+1.5**
PLG	**Polygyros**	**0.53**	**328**	P		**Pg**	**02 20 55.8**	**0.0**
PLG				S		**Sg**	**02 21 04.1**	**+1.5**
PLG	**Polygyros**	**0.53**	**328**	P		**Pg**	**02 20 55.2**	**-0.6**
PLG				S		**Sg**	**02 21 03.0**	**+0.4**
PLG				AML		AML	02 21 04.4	
	comp=E,6143μm,0.4s							
PLG				AML		AML	02 21 05.4	
	comp=N,6640μm,0.4s							
NEO	**Neokhori**	**0.77**	**216**	P		**Pb**	**02 21 01.4**	**-0.1**
NEO				S		**Sb**	**02 21 12.2**	**-0.1**
NEO	**Neokhori**	**0.77**	**216**	P		**Pb**	**02 21 01.4**	**-0.1**
NEO				S		**Sb**	**02 21 11.9**	**-0.3**
NEO	**Neokhori**	**0.77**	**216**	P		**Pb**	**02 21 02.3**	**+0.8**
NEO				S		**Sb**	**02 21 11.9**	**-0.3**
NEO				AML		AML

SMIA				AML	AML	02 21 32.4		
	comp=N,6881μm,0.5s							
KAVA	**Kavala**	**1.20**	**26**	P	**Pg**	**02 21 08.3**	**-0.3**	
KAVA				S	**Sn**	**02 21 25.8**	**0.0**	
KAVA	**Kavala**	**1.20**	**26**	P	**Pg**	**02 21 08.3**	**-0.3**	
KAVA				S	**Sn**	**02 21 25.8**	**0.0**	
KAVA	**Kavala**	**1.20**	**26**	P	**Pg**	**02 21 08.3**	**-0.3**	
SRS	**Serrai**	**1.20**	**352**	P	**Pg**	**02 21 08.5**	**-0.2**	
SRS				S	**Sn**	**02 21 25.9**	**-0.1**	
SRS	**Serrai**	**1.20**	**352**	P	**Pg**	**02 21 08.7**	**0.0**	
SRS				S	**Sn**	**02 21 25.9**	**-0.1**	
SRS	**Serrai**	**1.20**	**352**	P	**Pg**	**02 21 08.7**	**0.0**	
SRS				S	**Sg**	**02 21 23.0**	**-1.3**	
ATAL	**Atalanti**	**1.37**	**207**	P	**Pn**	**02 21 11.0**	**-0.6**	
ATAL	**Atalanti**	**1.37**	**207**	P	**Pn**	**02 21 11.0**	**-0.6**	
ATAL	**Atalanti**	**1.37**	**207**	P	**Pn**	**02 21 10.5**	**-1.1**	
LKR	**Lokris**	**1.42**	**206**	P	**Pn**	**02 21 11.5**	**-0.7**	
LKR	**Lokris**	**1.42**	**206**	P	**Pn**	**02 21 11.5**	**-0.7**	
LKR	**Lokris**	**1.42**	**206**	P	**Pn**	**02 21 11.0**	**-1.2**	
NVR	**Nevrokopi**	**1.42**	**2**	P	**Pn**	**02 21 11.7**	**-0.6**	
NVR				S	**Sn**	**02 21 31.3**	**-0.2**	
NVR	**Nevrokopi**	**1.42**	**2**	P	**Pn**	**02 21 11.7**	**-0.6**	
NVR				S	**Sn**	**02 21 31.3**	**-0.2**	
SMTH	**Samothraki Isl**	**1.43**	**67**	P	**Pn**	**02 21 11.3**	**-1.0**	
SMTH				S	**Sg**	**02 21 31.4**	**-0.1**	
SMTH	**Samothraki Isl**	**1.43**	**67**	P	**Pn**	**02 21 11.3**	**-1.0**	
SMTH				S	**Sg**	**02 21 31.4**	**-0.1**	
SMTH	**Samothraki Isl**	**1.43**	**67**	P	**Pn**	**02 21 10.6**	**-1.8**	
SMTH				AML	AML	02 21 34.5		
	comp=E,1147μm,0.6s							
SMTH				AML	AML	02 21 35.3		
	comp=N,877μm,0.4s							
AGG	**Agios Georgios**	**1.46**	**232**	*e*PN	**Pn**	**02 21 11.6**	**-1.1**	
AGG	**Agios Georgios**	**1.46**	**232**	P	**Pn**	**02 21 12.1**	**-0.6**	
AGG				S	**Sg**	**02 21 33.1**	**+0.7**	
AGG	**Agios Georgios**	**1.46**	**232**	*e*Pn	**Pn**	**02 21 11.6**	**-1.1**	
AGG	**Agios Georgios**	**1.46**	**232**	P	**Pn**	**02 21 12.1**	**-0.6**	
AGG				S	**Sg**	**02 21 33.1**	**+0.7**	
AGG	**Agios Georgios**	**1.46**	**232**	P	**Pn**	**02 21 11.7**	**-1.0**	
GRG	**Griva**	**1.49**	**314**	P	**Pn**	**02 21 13.3**	**+0.1**	
GRG				S	**Sb**	**02 21 33.3**	**+0.1**	
GRG	**Griva**	**1.49**	**314**	P	**Pb**	**02 21 13.9**	**0.0**	
GRG				S	**Sb**	**02 21 33.2**	**+0.1**	
GRG	**Griva**	**1.49**	**314**	P	**Pb**	**02 21 13.9**	**0.0**	
GRG				S	**Sb**	**02 21 33.2**	**+0.1**	
GRG				AML	AML	02 21 39.0		
	comp=N,1701μm,0.5s							
GRG				AML	AML	02 21 41.0		
	comp=E,1691μm,0.5s							
KZN	**Kozani**	**1.61**	**284**	P	**Pn**	**02 21 14.9**	**0.0**	
KZN				S	**Sn**	**02 21 36.1**	**0.0**	
KZN	**Kozani**	**1.61**	**284**	P	**Pn**	**02 21 14.9**	**0.0**	
KZN				S	**Sn**	**02 21 36.1**	**0.0**	
GADA	**Gvkgeada**	**1.63**	**80**	*e*PN	**Pg**	**02 21 16.5**	**-0.3**	
GADA				*e*SN	**Sg**	**02 21 39.8**	**+1.9**	
GADA	**Gvkgeada**	**1.63**	**80**	P	**Pn**	**02 21 14.6**	**-0.4**	
GADA				S	**Sb**	**02 21 36.9**	**-0.1**	
GADA	**Gvkgeada**	**1.63**	**80**	P	**Pn**	**02 21 14.9**	**-0.4**	
GADA	**Gvkgeada**	**1.63**	**80**	*e*Pn	**Pg**	**02 21 16.5**	**-0.3**	
GADA				S	**Sb**	**02 21 36.9**	**-0.1**	
GADA				*e*Sn	**Sg**	**02 21 39.8**	**+1.9**	
MMB	**Musomiste**	**1.66**	**358**	*i* P	**Pn**	**02 21 14.9**	**-0.7**	
MMB				Pg	**Pg**	**02 21 17.4**	**-0.1**	
BOZC	**Bozcaada**	**1.73**	**92**	*i* P	**Pn**	**02 21 16.1**	**-0.4**	
SIGR	**SIGRI**	**1.74**	**114**	*e*PN	**Pb**	**02 21 17.2**	**-0.8**	
SIGR				*e*SN	**Sg**	**02 21 41.8**	**+0.4**	
SIGR	**SIGRI**	**1.74**	**114**	P	**Pn**	**02 21 16.3**	**-0.2**	
SIGR				S	**Sb**	**02 21 39.8**	**-0.4**	
SIGR	**SIGRI**	**1.74**	**114**	P	**Pn**	**02 21 16.7**	**+0.2**	
SIGR	**SIGRI**	**1.74**	**114**	*e*Pn	**Pb**	**02 21 17.2**	**-0.8**	
SIGR				S	**Sb**	**02 21 39.8**	**-0.4**	
SIGR				*e*Sn	**Sg**	**02 21 41.8**	**+0.4**	
SIGR	**SIGRI**	**1.74**	**114**	P	**Pn**	**02 21 16.7**	**+0.2**	
VIL2	**Platees**	**1.76**	**194**	P	**Pn**	**02 21 16.8**	**-0.1**	
VILL	**Villia**	**1.80**	**193**	P	**Pn**	**02 21 17.2**	**-0.3**	
VILL	**Villia**	**1.80**	**193**	P	**Pn**	**02 21 17.2**	**-0.3**	
PROD	**Prodromos**	**1.81**	**203**	P	**Pn**	**02 21 16.3**	**-1.2**	
PROD	**Prodromos**	**1.81**	**203**	P	**Pn**	**02 21 16.3**	**-1.2**	
DSF	**Desfina**	**1.81**	**214**	P	**Pn**	**02 21 16.9**	**-0.7**	
DSF	**Desfina**	**1.81**	**214**	P	**Pn**	**02 21 16.9**	**-0.7**	
DSF	**Desfina**	**1.81**	**214**	P	**Pn**	**02 21 16.1**	**-1.5**	
EVR	**Evrytania**	**1.85**	**238**	P	**Pn**	**02 21 18.1**	**-0.1**	
EVR				S	**Sn**	**02 21 42.4**	**+0.4**	
EVR	**Evrytania**	**1.85**	**238**	P	**Pn**	**02 21 18.1**	**-0.1**	
EVR				S	**Sn**	**02 21 42.4**	**+0.4**	
EVR	**Evrytania**	**1.85**	**238**	P	**Pn**	**02 21 18.1**	**-0.1**	
PTL	**Penteli**	**1.88**	**179**	P	**Pn**	**02 21 18.2**	**-0.3**	
PTL	**Penteli**	**1.88**	**179**	P	**Pn**	**02 21 18.2**	**-0.3**	
PTL	**Penteli**	**1.88**	**179**	P	**Pn**	**02 21 18.1**	**-0.4**	
KPRO	**Kipourio**	**1.88**	**272**	P	**Pn**	**02 21 18.3**	**-0.3**	
KPRO				S	**Sn**	**02 21 43.2**	**+0.4**	
KPRO	**Kipourio**	**1.88**	**272**	P	**Pn**	**02 21 18.3**	**-0.3**	
KPRO				S	**Sn**	**02 21 43.2**	**+0.4**	
KPRO	**Kipourio**	**1.88**	**272**	P	**Pn**	**02 21 18.1**	**-0.5**	
RZN	**Rozhen**	**1.89**	**21**	*i* P	**Pn**	**02 21 18.9**	**+0.1**	
EZN	**Ezine**	**1.94**	**92**	*e*PN	**Pb**	**02 21 21.3**	**-0.2**	
EZN	**Ezine**	**1.94**	**92**	*e*Pn	**Pb**	**02 21 21.3**	**-0.2**	
ATH	**Athens Observa**	**1.95**	**182**	P	**Pn**	**02 21 19.1**	**-0.4**	
ATHU	**Athens Univers**	**1.96**	**181**	P	**Pn**	**02 21 18.9**	**-0.7**	
ATHU	**Athens Univers**	**1.96**	**181**	P	**Pn**	**02 21 18.9**	**-0.7**	
ALN	**Alexandroupoli**	**1.96**	**60**	*e*PN	**Pb**	**02 21 21.5**	**-0.4**	
ALN	**Alexandroupoli**	**1.96**	**60**	P	**Pn**	**02 21 19.0**	**-0.7**	
ALN				S	**Sn**	**02 21 44.9**	**+0.2**	
ALN	**Alexandroupoli**	**1.96**	**60**	P	**Pn**	**02 21 19.0**	**-0.7**	
ALN	**Alexandroupoli**	**1.96**	**60**	*e*Pn	**Pb**	**02 21 21.5**	**-0.4**	
ALN				S	**Sn**	**02 21 44.9**	**+0.2**	
ALN	**Alexandroupoli**	**1.96**	**60**	P	**Pn**	**02 21 18.6**	**-1.0**	
ENEZ	**Enez**	**1.97**	**65**	*e*PN	**Pb**	**02 21 21.3**	**-0.7**	
ENEZ	**Enez**	**1.97**	**65**	*e*Pn	**Pb**	**02 21 21.3**	**-0.7**	
ANX	**Ano Chora**	**1.98**	**228**	P	**Pn**	**02 21 20.1**	**+0.1**	
ANX	**Ano Chora**	**1.98**	**228**	P	**Pn**	**02 21 20.1**	**+0.1**	
KALE	**Kalithea**	**2.01**	**221**	P	**Pn**	**02 21 20.1**	**-0.2**	
KALE	**Kalithea**	**2.01**	**221**	P	**Pn**	**02 21 20.1**	**-0.2**	
KALE	**Kalithea**	**2.01**	**221**	P	**Pn**	**02 21 19.7**	**-0.7**	
LTK	**Loutraki**	**2.01**	**199**	P	**Pn**	**02 21 20.2**	**-0.1**	
LTK	**Loutraki**	**2.01**	**199**	P	**Pn**	**02 21 20.2**	**-0.1**	
LTK	**Loutraki**	**2.01**	**199**	P	**Pn**	**02 21 19.6**	**-0.7**	
KKB	**Krupnik**	**2.02**	**344**	*i* P	**Pn**	**02 21 20.3**	**-0.1**	
PRK	**Paraskevi**	**2.02**	**109**	P	**Pn**	**02 21 20.6**	**+0.2**	
PRK				S	**Sn**	**02 21 46.8**	**+0.7**	
PRK	**Paraskevi**	**2.02**	**109**	P	**Pn**	**02 21 20.6**	**+0.2**	
PRK				S	**Sn**	**02 21 46.8**	**+0.7**	
PRK	**Paraskevi**	**2.02**	**109**	P	**Pn**	**02 21 21.4**	**+0.9**	
SERG	**Sergoula**	**2.03**	**223**	P	**Pn**	**02 21 20.5**	**-0.2**	
SERG	**Sergoula**	**2.03**	**223**	P	**Pn**	**02 21 20.5**	**-0.2**	
FNA	**Florina**	**2.05**	**296**	P	**Pn**	**02 21 21.2**	**+0.3**	
FNA				S	**Sn**	**02 21 47.3**	**+0.4**	
FNA	**Florina**	**2.05**	**296**	P	**Pn**	**02 21 21.2**	**+0.3**	
FNA				S	**Sn**	**02 21 47.3**	**+0.4**	
FNA	**Florina**	**2.05**	**296**	P	**Pn**	**02 21 22.4**	**+0.9**	
TRIZ	**Trizonia**	**2.06**	**221**	P	**Pn**	**02 21 20.5**	**-0.5**	
PENT	**Pentalofos**	**2.07**	**278**	P	**Pn**	**02 21 21.4**	**+0.2**	
PENT	**Pentalofos**	**2.07**	**278**	P	**Pn**	**02 21 21.4**	**+0.2**	
PENT	**Pentalofos**	**2.07**	**278**	P	**Pn**	**02 21 22.1**	**+0.9**	
VLY	**Voula,Athens**	**2.07**	**180**	P	**Pn**	**02 21 21.1**	**0.0**	
VLY	**Voula,Athens**	**2.07**	**180**	P	**Pn**	**02 21 21.1**	**0.0**	
VLY	**Voula,Athens**	**2.07**	**180**	P	**Pn**	**02 21 20.8**	**-0.3**	
THAL	**Thalero**	**2.09**	**206**	P	**Pn**	**02 21 21.3**	**0.0**	
THAL	**Thalero**	**2.09**	**206**	P	**Pn**	**02 21 21.3**	**0.0**	
THAL	**Thalero**	**2.09**	**206**	P	**Pn**	**02 21 20.9**	**-0.5**	
GELI	**Tayfur-Gelibol**	**2.10**	**76**	*e*PN	**Pb**	**02 21 23.3**	**-0.9**	
GELI	**Tayfur-Gelibol**	**2.10**	**76**	*e*Pn	**Pb**	**02 21 23.3**	**-0.9**	
EFP	**Efpalio**	**2.10**	**225**	P	**Pn**	**02 21 21.8**	**+0.2**	
EFP	**Efpalio**	**2.10**	**225**	P	**Pn**	**02 21 21.8**	**+0.2**	
KDZ	**Kurdzhali**	**2.11**	**35**	*i* P	**Pn**	**02 21 20.7**	**-1.0**	
ERIK	**Erikli-Kesan**	**2.20**	**69**	*e*PN	**Pb**	**02 21 24.8**	**-1.1**	
ERIK	**Erikli-Kesan**	**2.20**	**69**	*e*Pn	**Pb**	**02 21 24.8**	**-1.1**	
PVO	**Paravola**	**2.20**	**234**	P	**Pn**	**02 21 23.2**	**+0.3**	
PVO	**Paravola**	**2.20**	**234**	P	**Pn**	**02 21 23.2**	**+0.3**	
PVO	**Paravola**	**2.20**	**234**	P	**Pn**	**02 21 23.3**	**+0.3**	
LAKA	**Lakka**	**2.21**	**221**	P	**Pn**	**02 21 22.8**	**-0.2**	
LAKA	**Lakka**	**2.21**	**221**	P	**Pn**	**02 21 22.8**	**-0.2**	
LAKA	**Lakka**	**2.21**	**221**	P	**Pn**	**02 21 22.7**	**-0.2**	
DSL	**Palaion Diasel**	**2.24**	**250**	P	**Pn**	**02 21 23.9**	**+0.4**	
DSL	**Palaion Diasel**	**2.24**	**250**	P	**Pn**	**02 21 23.9**	**+0.4**	
DSL	**Palaion Diasel**	**2.24**	**250**	P	**Pn**	**02 21 24.2**	**+0.6**	
PLD	**Plovdiv**	**2.28**	**17**	P	**Pn**	**02 21 24.8**	**+0.8**	
KLV	**Kalavryta, Ach**	**2.28**	**215**	P	**Pn**	**02 21 23.7**	**-0.4**	
KLV	**Kalavryta, Ach**	**2.28**	**215**	P	**Pn**	**02 21 23.7**	**-0.4**	
KLV	**Kalavryta, Ach**	**2.28**	**215**	P	**Pn**	**02 21 23.5**	**-0.6**	
JAN	**Janina**	**2.29**	**264**	P	**Pn**	**02 21 24.9**	**+0.6**	
JAN				S	**Sn**	**02 21 53.7**	**+0.8**	
JAN	**Janina**	**2.29**	**264**	P	**Pn**	**02 21 24.9**	**+0.6**	
JAN				S	**Sn**	**02 21 53.7**	**+0.8**	
AYVA	**Ayvalik**	**2.31**	**105**	P	**Pn**	**02 21 24.8**	**+0.4**	
AYVA	**Ayvalik**	**2.31**	**105**	*i* P	**Pn**	**02 21 24.8**	**+0.4**	
CHOS	**Chios island**	**2.33**	**131**	*e*PN	**Pn**	**02 21 25.8**	**+1.1**	
CHOS	**Chios island**	**2.33**	**131**	P	**Pn**	**02 21 24.4**	**-0.3**	
CHOS	**Chios island**	**2.33**	**131**	P	**Pn**	**02 21 25.5**	**+0.8**	
CHOS	**Chios island**	**2.33**	**131**	*e*Pn	**Pn**	**02 21 25.8**	**+1.1**	
CHOS	**Chios island**	**2.33**	**131**	P	**Pn**	**02 21 25.5**	**+0.8**	
KESN	**Edirne-Kesan**	**2.37**	**67**	P	**Pn**	**02 21 25.2**	**-0.4**	
KESN	**Edirne-Kesan**	**2.37**	**67**	*i* P	**Pn**	**02 21 25.2**	**-0.4**	
PDO	**Prodromos**	**2.43**	**238**	P	**Pn**	**02 21 27.0**	**+0.9**	
PDO	**Prodromos**	**2.43**	**238**	P	**Pn**	**02 21 27.0**	**+0.9**	
PDO	**Prodromos**	**2.43**	**238**	P	**Pb**	**02 21 28.2**	**-1.7**	
DID	**Didima**	**2.46**	**191**	P	**Pn**	**02 21 26.4**	**-0.1**	
DID	**Didima**	**2.46**	**191**	P	**Pn**	**02 21 26.4**	**-0.1**	
DID	**Didima**	**2.46**	**191**	P	**Pn**	**02 21 25.9**	**-0.5**	
DIM	**Dimitrovgrad**	**2.49**	**31**	P	**Pn**	**02 21 27.2**	**+0.3**	
DKL	**Dikili**	**2.54**	**109**	*e*PN	**Pn**	**02 21 29.1**	**+1.5**	
DKL	**Dikili**	**2.54**	**109**	*e*Pn	**Pn**	**02 21 29.1**	**+1.5**	
DRO	**Drossia**	**2.56**	**220**	P	**Pn**	**02 21 28.1**	**+0.1**	
DRO	**Drossia**	**2.56**	**220**	P	**Pn**	**02 21 28.0**	**+0.1**	
DRO	**Drossia**	**2.56**	**220**	P	**Pn**	**02 21 28.0**	**+0.1**	
KRND	**KRANIDI**	**2.59**	**192**	P	**Pn**	**02 21 28.2**	**-0.1**	
KRND	**KRANIDI**	**2.59**	**192**	P	**Pn**	**02 21 28.2**	**-0.1**	
KRND	**KRANIDI**	**2.59**	**192**	P	**Pn**	**02 21 27.6**	**-0.7**	
RLS	**Riolos of Patr**	**2.61**	**225**	P	**Pn**	**02 21 30.4**	**+1.9**	
PGB	**Panagyurishte**	**2.64**	**6**	P	**Pg**	**02 21 34.9**	**-1.3**	
URLA	**Izmir**	**2.67**	**125**	P	**Pn**	**02 21 30.2**	**+0.8**	
URLA	**Izmir**	**2.67**	**125**	*i* P	**Pn**	**02 21 30.2**	**+0.8**	
TRIP	**Tripoli**	**2.68**	**207**	P	**Pn**	**02 21 30.4**	**+0.8**	
TRIP	**Tripoli**	**2.68**	**207**	P	**Pn**	**02 21 30.4**	**+0.8**	
ZEY	**¨zmir**	**2.69**	**128**	*i* P	**Pn**	**02 21 30.1**	**+0.4**	
LKD2	**Lefkada island**	**2.69**	**246**	P	**Pn**	**02 21 31.9**	**+2.2**	
LKD2	**Lefkada island**	**2.69**	**246**	P	**Pn**	**02 21 31.9**	**+2.2**	
KRBG	**Karabiga-Canak**	**2.71**	**79**	*e*PN	**Pb**	**02 21 32.4**	**-2.3**	
KRBG	**Karabiga-Canak**	**2.71**	**79**	*e*Pn	**Pb**	**02 21 32.4**	**-2.3**	
SGD	**Sagiada**	**2.77**	**265**	P	**Pb**	**02 21 33.6**	**-2.1**	
VLX	**Vlachokerasia**	**2.79**	**204**	P	**Pn**	**02 21 31.6**	**+0.5**	
VLX	**Vlachokerasia**	**2.79**	**204**	P	**Pn**	**02 21 31.6**	**+0.5**	
VLX	**Vlachokerasia**	**2.79**	**204**	P	**Pn**	**02 21 31.6**	**+0.5**	
AMT	**Artemida-Makis**	**2.90**	**215**	P	**Pn**	**02 21 33.3**	**+0.7**	
AMT	**Artemida-Makis**	**2.90**	**215**	P	**Pn**	**02 21 33.3**	**+0.7**	
AMT	**Artemida-Makis**	**2.90**	**215**	P	**Pn**	**02 21 33.9**	**+1.3**	
EDRB	**Edirne**	**2.94**	**48**	*e*PN	**Pn**	**02 21 35.5**	**+2.4**	
EDRB	**Edirne**	**2.94**	**48**	P	**Pn**	**02 21 32.7**	**-0.4**	
EDRB	**Edirne**	**2.94**	**48**	P	**Pn**	**02 21 32.7**	**-0.4**	
EDRB	**Edirne**	**2.94**	**48**	*e*Pn	**Pn**	**02 21 35.5**	**+2.4**	
MRMT	**Marmara Adasi**	**2.98**	**76**	*e*PN	**Pn**	**02 21 36.1**	**+2.5**	
MRMT	**Marmara Adasi**	**2.98**	**76**	*e*Pn	**Pn**	**02 21 36.1**	**+2.5**	
DGB	**¨zmir**	**3.04**	**127**	*i* P	**Pn**	**02 21 35.2**	**+0.8**	
VLS	**Valsamata**	**3.05**	**236**	P	**Pn**	**02 21 36.7**	**+2.0**	
KEK	**Kerkira**	**3.10**	**267**	P	**Pn**	**02 21 35.0**	**-0.2**	
ITM	**Ithomi**	**3.11**	**209**	P	**Pn**	**02 21 37.5**	**+2.0**	
ITM	**Ithomi**	**3.11**	**209**	P	**Pn**	**02 21 37.5**	**+2.0**	
APE	**Apeiranthos**	**3.16**	**154**	*e*PN	**Pn**	**02 21 36.8**	**+0.7**	
APE	**Apeiranthos**	**3.16**	**154**	P	**Pn**	**02 21 36.0**	**-0.1**	
APE	**Apeiranthos**	**3.16**	**154**	*e*Pn	**Pn**	**02 21 36.8**	**+0.7**	
APE	**Apeiranthos**	**3.16**	**154**	P	**Pn**	**02 21 36.0**	**-0.1**	
SMG	**Samos**	**3.24**	**132**	P	**Pn**	**02 21 37.7**	**+0.5**	
SMG	**Samos**	**3.24**	**132**	P	**Pn**	**02 21 37.7**	**+0.5**	
ZKS	**Zakynthos**	**3.25**	**228**	P	**Pn**	**02 21 39.2**	**+1.9**	
ZKS	**Zakynthos**	**3.25**	**228**	P	**Pn**	**02 21 39.1**	**+1.9**	
VLI	**Veliai**	**3.27**	**192**	P	**Pn**	**02 21 38.0**	**+0.3**	
VLI	**Veliai**	**3.27**	**192**	P	**Pn**	**02 21 37.4**	**-0.3**	
VLI	**Veliai**	**3.27**	**192**	P	**Pn**	**02 21 37.4**	**-0.3**	
MPEP	**Malo Peshtene**	**3.43**	**359**	P	**Pn**	**02 21 40.6**	**+0.8**	
PYL	**PYLOS**	**3.43**	**209**	P	**Pn**	**02 21 41.8**	**+1.9**	
PYL	**PYLOS**	**3.43**	**209**	P	**Pn**	**02 21 41.8**	**+1.9**	
ZAPS	**Zavoj**	**3.46**	**346**	*e*Pn	**Pn**	**02 21 41.3**	**+1.0**	
ZAPS				*e*Sn	**Sb**	**02 22 30.3**	**+0.5**	
PVL	**Pavlikeni**	**3.48**	**19**	P	**Pn**	**02 21 39.2**	**-1.3**	
SZH	**Strazhica**	**3.70**	**25**	*i* P	**Pn**	**02 21 43.9**	**+0.4**	
KYTH	**Kithira**	**3.70**	**190**	P	**Pn**	**02 21 43.4**	**-0.2**	
KYTH	**Kithira**	**3.70**	**190**	P	**Pn**	**02 21 43.4**	**-0.2**	
THR5	**Thira Island,**	**3.71**	**160**	P	**Pn**	**02 21 43.8**	**+0.2**	
THR5	**Thira Island,**	**3.71**	**160**	P	**Pn**	**02 21 43.8**	**+0.2**	
AYDB	**Zeytinkoy-Aydi**	**3.75**	**121**	*e*PN	**Pn**	**02 21 45.5**	**+1.2**	
AYDB	**Zeytinkoy-Aydi**	**3.75**	**121**	*e*Pn	**Pn**	**02 21 45.5**	**+1.2**	
SELS	**Selova**	**3.86**	**329**	*e*Pn	**Pn**	**02 21 45.6**	**-0.2**	
DEMI	**Demirci**	**3.90**	**102**	P	**Pn**	**02 21 48.1**	**+1.7**	
DEMI	**Demirci**	**3.90**	**102**	*i* P	**Pn**	**02 21 48.1**	**+1.7**	
BODT	**Bodrum**	**3.96**	**135**	*e*PN	**Pn**	**02 21 47.9**	**+0.7**	
BODT	**Bodrum**	**3.96**	**135**	*e*Pn	**Pn**	**02 21 47.9**	**+0.7**	
KULA	**Kula-Manisa**	**4.02**	**109**	*e*PN	**Pn**	**02 21 49.8**	**+1.7**	
KULA	**Kula-Manisa**	**4.02**	**109**	*e*Pn	**Pn**	**02 21 49.8**	**+1.7**	
BOVS	**Bovan**	**4.03**	**338**	*e*Pn	**Pn**	**02 21 47.9**	**-0.1**	
BOVS				*e*Sn	**Sb**	**02 22 44.0**	**-2.1**	
BOVS	**Bovan**	**4.03**	**338**	*e*Pn	**Pn**	**02 21 47.9**	**-0.1**	
BOLS	**Boljevac**	**4.14**	**341**	*e*PN	**Pn**	**02 21 48.1**	**-1.5**	
BOLS	**Boljevac**	**4.14**	**341**	*e*Pn	**Pn**	**02 21 48.1**	**-1.5**	
GDZ	**Gediz**	**4.47**	**99**	P	**Pn**	**02 21 55.8**	**+1.6**	
GDZ	**Gediz**	**4.47**	**99**	*i* P	**Pn**	**02 21 55.8**	**+1.6**	
IVAS	**Ivanjica**	**4.56**	**324**	*e*PN	**Pn**	**02 21 55.8**	**+0.4**	
IVAS	**Ivanjica**	**4.56**	**324**	*e*Pn	**Pn**	**02 21 55.8**	**+0.4**	
GRUS	**Gruza**	**4.58**	**331**	*e*Pn	**Pn**	**02 21 55.8**	**+0.1**	
GRUS	**Gruza**	**4.58**	**331**	*e*Pn	**Pn**	**02 21 55.8**	**+0.1**	
HUMR	**Humele**	**4.68**	**10**	*i* P	**Pg**	**02 22 16.3**	**+1.0**	
IDI	**Anoyia**	**4.71**	**169**	Pn	**Pn**	**02 21 57.2**	**-0.2**	
	comp=E,2.2nm,0.3s,baz=354,slow=9.8,SNR=22							
SRE	**Strehaia**	**4.75**	**355**	*i* P	**Pg**	**02 22 14.9**	**-1.8**	
PSN	**Preselentsi**	**4.98**	**40**	P	**Pn**	**02 22 00.6**	**-0.5**	
TRUS	**Trudelj**	**4.99**	**331**	*e*PN	**Pn**	**02 22 00.7**	**-0.5**	
TRUS	**Trudelj**	**4.99**	**331**	*e*Pn	**Pn**	**02 22 00.7**	**-0.5**	
MDVR	**Moldovita**	**5.09**	**343**	*i* P	**Pn**	**02 22 02.4**	**-0.4**	
MDVR	**Moldovita**	**5.09**	**343**	*i* P	**Pn**	**02 22 02.4**	**-0.4**	
BBLS	**Lazići**	**5.13**	**322**	*e*PN	**Pn**	**02 22 01.3**	**-1.9**	
BBLS	**Lazići**	**5.13**	**322**	*e*Pn	**Pn**	**02 22 01.3**	**-1.9**	
ARR	**Arges**	**5.47**	**6**	*i* P	**Pn**	**02 22 08.4**	**+0.4**	
ARR	**Arges**	**5.47**	**6**	*i* P	**Pn**	**02 22 08.4**	**+0.4**	
VOIR		**5.58**	**9**	*i* P	**Pn**	**02 22 10.3**	**+0.8**	
VOIR		**5.58**	**9**	*i* P	**Pn**	**02 22 10.3**	**+0.8**	
TEKS	**Tekeris**	**5.61**	**327**	*e*Pn	**Pn**	**02 22 09.7**	**0.0**	
TEKS	**Tekeris**	**5.61**	**327**	*e*Pn	**Pn**	**02 22 09.7**	**0.0**	
TIRR	**Tirgusor**	**5.67**	**36**	*i* P	**Pn**	**02 22 08.6**	**-2.0**	
MLR	**Muntele Rosu**	**5.78**	**15**	Pn	**Pn**	**02 22 13.7**	**+1.5**	
	comp=E,0.5nm,0.3s,baz=185,slow=4.5,SNR=17							
MLR				Lg	Lg	02 23 53.5		
	comp=E,0.2nm,0.3s,baz=282,slow=19,SNR=2.2							
MLR	**Muntele Rosu**	**5.78**	**15**	*i* P	**Pn**	**02 22 13.2**	**+1.0**	
MLR	**Muntele Rosu**	**5.78**	**15**	*i* P	**Pn**	**02 22 13.2**	**+1.0**	
CFR	**Carcaliu**	**6.14**	**30**	*i* P	**Pn**	**02 22 17.4**	**+0.3**	
CFR	**Carcaliu**	**6.14**	**30**	*i* P	**Pn**	**02 22 17.4**	**+0.3**	
DOPR	**Dopca**	**6.15**	**10**	*i* P	**Pn**	**02 22 17.7**	**+0.5**	
DOPR	**Dopca**	**6.15**	**10**	*i* P	**Pn**	**02 22 17.7**	**+0.5**	
PLOR	**Plostina**	**6.28**	**18**	*i* P	**Pn**	**02 22 21.0**	**+2.0**	
PLOR	**Plostina**	**6.28**	**18**	*i* P	**Pn**	**02 22 21.0**	**+2.0**	
VRI	**Vrincioaia**	**6.31**	**19**	*i* P	**Pn**	**02 22 21.9**	**+2.5**	
VRI	**Vrincioaia**	**6.31**	**19**	*i* P	**Pn**	**02 22 21.9**	**+2.5**	
TESR	**Tescani**	**6.90**	**17**	*i* P	**Pn**	**02 22 29.9**	**+2.4**	
TESR	**Tescani**	**6.90**	**17**	*i* P	**Pn**	**02 22 29.9**	**+2.4**	
BRTR	**Keskin Array B**	**7.57**	**88**	Pn	**Pn**	**02 22 38.1**	**+1.3**	
	comp=E,0.4nm,0.3s,baz=263,slow=9.7,SNR=13							
BURAR	**Bucovina Array**	**7.75**	**7**	*i* P	**Pn**	**02 22 40.2**	**+0.9**	
BURAR	**Bucovina Array**	**7.75**	**7**	*i* P	**Pn**	**02 22 40.2**	**+0.9**	
SORM	**Soroca**	**8.83**	**20**	*i* P	**Pn**	**02 22 53.4**	**-0.6**	
SORM	**Soroca**	**8.83**	**20**	*i* P	**Pn**	**02 22 53.4**	**-0.6**	
KOLS	**Kolonicke sedl**	**9.07**	**354**	*e*SG	Sn	02 25 37.1	+57	
ESDC	**Sonseca Array**	**21.31**	**278**	P	**P**	**02 25 32.2**	**-1.2**	
	comp=E,0.5nm,0.6s,baz=74,slow=12,SNR=2.9							
NOA	**NORSAR Array B**	**22.53**	**344**	P	**P**	**02 25 46.3**	**+0.1**	
	comp=E,0.3nm,0.5s,baz=148,slow=9.4,SNR=2.6							
TORD	**Torodi Ar. Bea**	**33.02**	**222**	P	**P**	**02 27 21.6**	**-0.4**	
	comp=E,0.3nm,0.5s,baz=29,slow=10,SNR=7.7							
MKAR	**Makanchi Array**	**42.21**	**61**	P	**P**	**02 28 40.8**	**+1.2**	
	comp=E,0.3nm,0.5s,baz=270,slow=8.1,SNR=5.1							
ZALV	**Zalesovo Beam**	**42.62**	**50**	P	**P**	**02 28 43.5**	**+0.8**	
	comp=E,0.9nm,0.5s,baz=248,slow=7.6,SNR=3.0							

IDC 16 02:26:00.9±1.7, 8.88S×123.70E, h0km, mb3.7/1, mb1 4.1/4, mb1mx3.7/37, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=120.5km s-min=26.0km az=63.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Cross

DIGO				*i* S		**Sn**	02 52 55.9	0.0
KARS	**Kars**	**0.60**	**13**	*e*PG		**Pg**	02 52 43.5	-0.7
KARS	**Kars**	**0.60**	**13**	*e*Pg		**Pg**	02 52 43.5	-0.7
TUTA	**Tutak**	**0.64**	**186**	P		**Pg**	02 52 44.8	-0.1
TUTA				S		**Sg**	02 52 53.7	+0.4
TUTA	**Tutak**	**0.64**	**186**	*i* P		**Pg**	02 52 44.8	-0.1
TUTA				*i* S		**Sg**	02 52 53.7	+0.4
SENK	**Senkaya-Erzuru**	**0.67**	**321**	*e*PG		**Pg**	02 52 45.7	+0.2
SENK				*e*SG		**Sb**	02 52 56.7	+0.4
SENK	**Senkaya-Erzuru**	**0.67**	**321**	*e*Pg		**Pg**	02 52 45.7	+0.2
SENK				*e*Sg		**Sb**	02 52 56.7	+0.4
HOMI	**Horasan**	**0.77**	**271**	*i* P		**Pg**	02 52 46.0	-1.3
HOMI				*i* S		**Sg**	02 52 57.9	+0.6
EKAR	**Karacoban**	**1.01**	**220**	P		**Pn**	02 52 53.3	-0.1
EKAR	**Karacoban**	**1.01**	**220**	*i* P		**Pn**	02 52 53.3	-0.1
EKAR				*i* S		**Sn**	02 53 09.4	+1.4
CLDR	**Caldiran**	**1.19**	**138**	*e*PN		**Pg**	02 52 54.5	-0.8
CLDR	**Caldiran**	**1.19**	**138**	*e*Pn		**Pg**	02 52 54.5	-0.8
EZM	**Erzurum**	**1.19**	**264**	*e*PN		**Pn**	02 52 56.3	+0.4
DDEM	**Demirkent**	**1.23**	**315**	P		**Pb**	02 52 55.3	-0.8
DDEM	**Demirkent**	**1.23**	**315**	*i* P		**Pb**	02 52 55.3	-0.8
DAGI	**Agillar**	**1.28**	**324**	*i* P		**Pn**	02 52 56.8	-0.1
DBAD	**Bademkaya**	**1.34**	**317**	P		**Pn**	02 52 57.6	-0.2
DBAD	**Bademkaya**	**1.34**	**317**	*i* P		**Pn**	02 52 57.6	-0.2
ARTV	**Artvin**	**1.36**	**327**	P		**Pn**	02 52 58.2	0.0
ARTV	**Artvin**	**1.36**	**327**	*i* P		**Pn**	02 52 58.2	0.0

IDC 16 02:56:29.2±4.0, 5°56′S×150°91′E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/30, mbtmp3.2/2, Error ellipse: s-maj=164.0km s-min=51.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.54**	**227**	P	P	03 01 20.2	-0.1
	0.2nm,0.5s,baz=53,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**24.34**	**221**	P	P	03 01 49.0	0.0
	0.7nm,0.7s,baz=57,slow=8.4,SNR=5.7						
TORD	**Torodi Ar. Bea**	**148.73**	**286**	PKPbc	PKPbc	03 16 19.1	-0.6
	0.3nm,0.7s,baz=99,slow=2.8,SNR=6.3						

IDC 16 03:06:16.9±3.6, 5°71′S×151°14′E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/40, mbtmp3.6/3, Error ellipse: s-maj=114.4km s-min=50.4km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.61**	**228**	P	P	03 11 08.4	-0.3
	0.8nm,0.6s,baz=53,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**24.37**	**221**	P	P	03 11 37.3	+0.3
	1.0nm,0.7s,baz=60,slow=9.0,SNR=13						
FITZ	**Fitzroy Crossi**	**27.77**	**241**	P	P	03 12 07.7	0.0
	1.1nm,0.7s,baz=63,slow=16,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc	PKPbc	03 26 07.3	-0.7
	0.3nm,0.8s,baz=78,slow=2.0,SNR=4.2						

*NEIC **16** 03:07:11.7±0.5, 6°18′S×151°28′E, h10km, mb4.8/15, Error ellipse: s-maj=14.8km s-min=8.8km az=115.0*
*IDC **16** 03:07:13.3±3.5, 6°20′S×151°34′E, h25km±21km, mb4.3/12, mb1 4.4/13, mb1mx4.2/38, mbtmp4.4/13, ML2.3/2, MS4.4/3, Ms1 4.4/3, ms1mx3.6/43, Error ellipse: s-maj=28.8km s-min=14.4km az=102.0*
*ISCJB **16** 03:07:14.2±0.4, 6°22′S±0°05′×151°16′E±0°07′, h35km, mb4.6/26, MS4.7/1, Error ellipse: s-maj=10.4km s-min=4.9km az=30.2*
*BJI **16** 03:07:16.1, 6°41′S×150°88′E, h39km, mb4.6/20, mB5.0/13, Ms4.8/9, Ms7 4.6/8*

ISC 16 03:07:15.3±0.5, 6°26′S±0°06′×151°32′E±0°08, h35km, n59, σ1°91′/70, mb4.7/26, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.22**	**22**	*e*Pn	**Pn**	**03 07 48.9**	**-0.8**
RABL				*e*Sn	**Sn**	**03 08 16.1**	**+0.1**
PMG	**Port Moresby**	**5.17**	**233**	Pn	**Pn**	**03 08 30.4**	**0.0**
	2.6nm,0.3s,baz=84,slow=10,SNR=4.4						
PMG				Sn	**Sn**	**03 09 27.6**	**-1.3**
	11nm,0.3s,baz=112,slow=7.7,SNR=5.2						
PMG				LR	LR	03 10 00.2	
	comp=Z,3μm,21.4s,baz=206,slow=32						
PMG	**Port Moresby**	**5.17**	**233**	*e*Pn	**Pn**	**03 08 30.9**	**+0.5**
PMG				*e*S	**Sn**	**03 09 28.2**	**-0.7**
MANU	**Manus Island**	**5.76**	**317**	*e*Pn	**Pn**	**03 08 39.9**	**+1.5**
HNR	**Honiara**	**9.11**	**111**	LR	LR	03 12 29.8	
	comp=Z,1μm,21.8s,baz=309,slow=35						
COEN	**Coen**	**11.08**	**226**	*e*Pn	**Pn**	**03 09 51.2**	**-0.2**
COEN				*e*S	**Sn**	**03 11 49.5**	**-4.6**
JAY	**Jayapura**	**11.22**	**289**	Pn	**Pn**	**03 09 52.4**	**-1.0**
	0.1nm,0.3s,baz=276,slow=23,SNR=4.7						
CTA	**Charters Tower**	**14.60**	**199**	Pn	**P**	**03 10 46.0**	**+0.6**
	0.6nm,0.3s,baz=17,slow=13,SNR=8.2						
CTAO	**Charters Tower**	**14.60**	**199**	*e*Pn	**Pn**	**03 10 42.1**	**+2.6**
EIDS	**Eidsvold**	**19.00**	**181**	*e*P	**Pn**	**03 11 36.3**	**+1.2**
	32nm,1.0s						
MTN	**Manton Dam**	**20.95**	**250**	*e*P	**P**	**03 11 54.5**	**-1.0**
	28nm,0.8s						
WRAB	**Tennant Creek**	**21.37**	**229**	*e*P	**P**	**03 11 59.4**	**-0.5**
	36nm,1.0s						
WRAB				*e*S	**S**	**03 15 54.5**	**-1.0**
WB2	**Warramunga Arr**	**21.37**	**229**	*e*P	**P**	**03 11 59.2**	**-0.8**
	112nm,1.6s						
WB2				*e*S	**S**	**03 15 57.4**	**+1.8**
WRA	**Warramunga Arr**	**21.38**	**229**	P	**P**	**03 11 59.7**	**-0.4**
	16nm,0.5s,baz=53,slow=11,SNR=71						
WRA				S	**S**	**03 15 54.4**	**-1.3**
	14nm,1.2s,baz=54,slow=19,SNR=10						
WRA				PcP	**PcP**	**03 16 03.0**	**-0.4**
	1.9nm,1.0s,baz=45,slow=1.4,SNR=5.7						
WRA				ScP	**ScP**	**03 19 38.4**	**+0.5**
	2.0nm,0.9s,baz=54,slow=3.0,SNR=5.6						
TARA	**Tarawa**	**22.85**	**71**	*e*P	**P**	**03 12 18.3**	**+2.5**
	404nm,1.5s						
AS01	**Alice Springs**	**24.05**	**222**	*e*P	**P**	**03 12 27.3**	**-0.2**
AS31	**Alice Springs**	**24.09**	**222**	*e*P	**P**	**03 12 27.9**	**+0.1**
	11nm,0.6s						
ASAR	**Alice Springs**	**24.09**	**222**	P	**P**	**03 12 27.9**	**+0.1**
	32nm,0.8s,baz=55,slow=9.5,SNR=147						
ASAR				S	**S**	**03 16 49.1**	**+5.8**
	5.0nm,1.0s,baz=33,slow=20,SNR=9.5						
ASAR				ScP	**ScP**	**03 19 45.8**	**+1.0**
	1.1nm,0.8s,baz=53,slow=3.5,SNR=5.8						
STKA	**Stephens Creek**	**27.06**	**198**	P	**P**	**03 12 55.0**	**+0.4**
	6.8nm,0.8s,baz=29,slow=13,SNR=6.8						
FITZ	**Fitzroy Crossi**	**27.68**	**243**	P	**P**	**03 12 59.1**	**-1.2**
	6.8nm,0.6s,baz=65,slow=8.8,SNR=27						
FITZ	**Fitzroy Crossi**	**27.68**	**243**	*e*P	**P**	**03 12 59.0**	**-1.3**
	13nm,0.8s						
MBWA	**Marble Bar**	**33.98**	**241**	*e*P	**P**	**03 13 55.1**	**-0.8**
	13nm,0.5s						
RPZ	**Rata Peaks**	**41.14**	**158**	LR	LR	03 31 28.0	
	comp=Z,898nm,18.1s,baz=20,slow=35						
NACB	**Ninganchiao**	**41.90**	**317**	*e*P	**P**	**03 14 59.8**	**-2.8**
	10nm,0.6s						
YHNB	**Yeheng**	**42.38**	**318**	P	P	03 15 01.6	-5.0
JNU	**Nakatsue**	**43.72**	**335**	P	**P**	**03 15 17.4**	**+0.1**
	8.9nm,0.7s,baz=214,slow=3.6,SNR=5.7						
MJAR	**Matsushiro Arr**	**44.32**	**345**	ScP	**ScP**	**03 20 54.6**	**-0.8**
	0.5nm,0.6s,baz=174,slow=2.3,SNR=4.0						
KSRS	**Korea Array**	**48.67**	**335**	P	**P**	**03 15 55.8**	**-0.3**
	2.5nm,0.7s,baz=155,slow=7.9,SNR=12						
KSAR	**Wonju Array Be**	**48.67**	**335**	P	**P**	**03 15 55.8**	**-0.3**
GYA	**Guiyang**	**54.13**	**309**	*e*P	**P**	**03 16 39.8**	**+2.3**
GYA				PMZ			
	10.0nm,1.0s						
KMI	**Kunming**	**56.61**	**305**	P	**P**	**03 16 57.6**	**+2.2**
KMI				PMZ			
	15nm,0.5s						
KMI				PMZ			
	140nm,6.6s						
KLR	**Kul'dur**	**57.84**	**345**	P	**P**	**03 17 04.0**	**+0.6**
	1.4nm,0.8s,baz=152,slow=12,SNR=3.6						
CD2	**Chengdu**	**58.59**	**312**	*e*P	**P**	**03 17 09.0**	**-0.1**
PETK	**Petropavlovsk-**	**59.39**	**4**	P	**P**	**03 17 12.9**	**-1.1**
	6.7nm,0.6s,baz=154,slow=7.3,SNR=9.3						
LZH	**Lanzhou**	**61.27**	**317**	*e*P	**P**	**03 17 30.0**	**+2.5**
LZH				pP	pP	03 17 40.3	+2.1
LZH				sP	sP	03 17 44.3	+2.0
LZH				*e*PP	**PP**	**03 19 47.5**	**+4.7**
LZH				PMZ			
	21nm,1.1s						
LZH				PMZ			
	70nm,8.5s						
LZH				LN			
	300nm,15.8s						
LZH				LE			
	310nm,16.0s						
LZH				LZ			
	370nm,19.1s						
SONM	**Songino Array**	**66.79**	**329**	P	**P**	**03 18 03.5**	**0.0**
	1.6nm,0.7s,baz=146,slow=6.6,SNR=9.0						
SONA1	**Songino Array**	**66.79**	**329**	*e*P	**P**	**03 18 03.6**	**+0.1**
VNDA	**Vanda**	**71.44**	**178**	P	**P**	**03 18 32.8**	**+1.1**
	1.1nm,0.8s,baz=324,slow=9.5,SNR=7.0						
WMQ	**Urumqi**	**75.83**	**318**	P	**P**	**03 18 58.8**	**+0.7**
WMQ				pP	pP	03 19 08.8	-0.3
WMQ				sP	sP	03 19 12.8	-0.3
WMQ				PMZ			
	5.0nm,0.6s						
WMQ				PMZ			
	31nm,4.6s						
CNPM	**China Poot**	**79.66**	**26**	*e*P	**P**	**03 19 21.9**	**+2.8**
	16nm,0.8s						
MK01	**Makanchi Array**	**80.45**	**319**	*e*P	**P**	**03 19 23.7**	**0.0**
MKAR	**Makanchi Array**	**80.46**	**319**	P	**P**	**03 19 21.4**	**-2.3**
	0.6nm,0.7s,baz=93,slow=7.2,SNR=4.3						
MAKZ	**Makanchi**	**80.67**	**319**	*e*P	**P**	**03 19 26.0**	**+1.1**
	10nm,1.6s						
ZALV	**Zalesovo Beam**	**81.55**	**327**	P	**P**	**03 19 25.9**	**-3.4**
	0.8nm,0.3s,baz=106,slow=9.2,SNR=2.2						
RND	**Reindeer**	**82.64**	**23**	*e*P	**P**	**03 19 37.4**	**+2.5**
	8.7nm,1.2s						
MLY	**Manley**	**82.77**	**21**	*e*P	**P**	**03 19 34.1**	**-1.5**
	12nm,1.7s						
KSH	**Kashi**	**82.77**	**311**	P	**P**	**03 19 38.9**	**+2.7**
KSH				pP	pP	03 19 49.3	+2.0
KSH				PP	**PP**	**03 22 50.9**	**+4.2**
KSH				S	**S**	**03 29 53.8**	**+1.6**
KSH				PMZ			
	2.0nm,0.5s						
KSH				PMZ			
	120nm,4.7s						
KSH				LN			
	120nm,5.4s						
KSH				LE			
	88nm,6.3s						
QSPA	**South Pole Qui**	**83.71**	**180**	*e*P	**P**	**03 19 40.6**	**+0.1**
	31nm,0.8s						
KURK	**Kurchatov**	**84.02**	**322**	*e*P	**P**	**03 19 42.0**	**-0.2**
	36nm,1.2s						
ILAR	**Eielson Array**	**84.06**	**22**	P	**P**	**03 19 38.0**	**-4.1**
	0.9nm,0.6s,baz=253,slow=4.5,SNR=21						
SYO	**Syowa Base**	**91.81**	**200**	*e*SP	P	03 20 26.4	+7.1
YKA	**Yellowknife Ar**	**97.40**	**28**	P	**P**	**03 20 42.5**	**-2.5**
	0.1nm,0.4s,baz=269,slow=4.3,SNR=3.8						
BRTR	**Keskin Array B**	**115.16**	**311**	PKP	**PKPdf**	**03 25 51.2**	**-2.4**
	0.3nm,0.7s,baz=142,slow=3.3,SNR=2.8						
GERES	**GERESS Array B**	**124.50**	**327**	PKP	**PKPdf**	**03 26 09.6**	**-1.6**
	0.8nm,0.6s,baz=104,slow=0.6,SNR=9.6						
EKA	**Eskdalemuir Ar**	**126.98**	**342**	PKP	**PKPdf**	**03 26 13.8**	**-1.8**
	1.2nm,0.8s,baz=21,slow=3.6,SNR=4.7						
DAVOX	**Davos/Dischmat**	**127.80**	**327**	PKP	**PKPdf**	**03 26 16.7**	**-1.0**
	1.3nm,0.4s,baz=233,slow=4.0,SNR=3.7						
KEST	**Kesra**	**134.44**	**315**	PKP	**PKPdf**	**03 26 29.7**	**-0.8**
	2.1nm,0.8s,baz=326,slow=3.6,SNR=2.9						
KEST				SKPbc	**SKPbc**	**03 29 56.1**	**-1.6**
	4.8nm,0.9s,baz=3.0,slow=4.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**149.31**	**285**	PKPbc	**PKPdf**	**03 26 59.4**	**+2.1**
	5.7nm,0.6s,baz=84,slow=2.2,SNR=61						
BDFB	**Brasilia**	**151.01**	**139**	PKPbc	**PKPbc**	**03 27 05.1**	**-0.7**
	3.3nm,0.6s,baz=135,slow=2.8,SNR=4.2						

IDC 16 03:11:30.4±2.0, 5°54′S×151°19′E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/39, mbtmp3.7/4, Error ellipse: s-maj=116.5km s-min=26.5km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.76**	**227**	P	P	03 16 23.6	-0.3
	1.0nm,0.5s,baz=53,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**24.54**	**221**	P	P	03 16 52.2	+0.2
	2.1nm,0.9s,baz=58,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**27.90**	**241**	P	P	03 17 22.8	+0.4
	1.5nm,0.6s,baz=73,slow=9.1,SNR=4.0						
ILAR	**Eielson Array**	**83.44**	**22**	P	P	03 23 59.9	+0.4
	0.1nm,0.5s,baz=260,slow=3.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**149.00**	**286**	PKPbc	PKPbc	03 31 20.1	-1.4
	0.4nm,0.7s,baz=89,slow=2.3,SNR=4.5						

*IDC **16** 03:14:09.0±1.6, 26°70′N×143°92′E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/55, mbtmp3.8/6, Error ellipse: s-maj=42.3km s-min=19.1km az=61.0*
*ISCJB **16** 03:14:11.0±1.2, 26°7′N±0°1′×144°1′E±0°1, h31km, mb3.9/6, Error ellipse: s-maj=24.6km s-min=12.3km az=35.4*

ISC 16 03:14:14.1±1.3, 26°7′N±0°2′×143°8′E±0°2, h31km, n7, σ0°62/8, mb4.0/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.51**	**286**	Pn	**Pn**	**03 14 38.1**	**-0.9**
	11nm,0.3s,baz=90,slow=23,SNR=16						
JCJ				Sn	**Sb**	**03 15 00.7**	**+0.5**
	30nm,0.3s,baz=288,slow=23,SNR=14						
SONM	**Songino Array**	**36.02**	**316**	P	**P**	**03 21 13.0**	**+0.5**
	0.5nm,0.5s,baz=124,slow=8.6,SNR=3.7						
WRA	**Warramunga Arr**	**47.24**	**192**	P	**P**	**03 22 43.8**	**-0.7**
	1.0nm,0.6s,baz=16,slow=8.6,SNR=7.5						
FITZ	**Fitzroy Crossi**	**47.88**	**204**	P	**P**	**03 22 49.7**	**+0.4**
	2.5nm,0.6s,baz=27,slow=7.3,SNR=8.6						
ASAR	**Alice Springs**	**50.95**	**192**	P	**P**	**03 23 12.8**	**0.0**
	0.3nm,0.7s,baz=13,slow=8.9,SNR=3.0						
MKAR	**Makanchi Array**	**51.85**	**310**	P	**P**	**03 23 19.6**	**+0.1**
	0.8nm,0.5s,baz=92,slow=8.6,SNR=5.3						
BVAR	**Borovoye Array**	**59.33**	**318**	P	**P**	**03 24 12.7**	**-0.3**
	0.9nm,0.5s,baz=80,slow=8.0,SNR=3.7						

IDC 16 03:14:24.6±4.0, 5°45′S×150°62′E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/31, mbtmp3.2/2, Error ellipse: s-maj=165.2km s-min=51.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.41**	**226**	P	P	03 19 14.8	+0.5
	0.3nm,0.5s,baz=52,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**24.23**	**220**	P	P	03 19 43.2	-0.3
	0.8nm,0.9s,baz=54,slow=9.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.43**	**286**	PKPbc	PKPbc	03 34 13.7	-0.7
	0.5nm,0.7s,baz=72,slow=2.1,SNR=5.8						

IDC 16 03:20:55.1±3.4, 5°62′S×150°99′E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/37, mbtmp3.9/3, Error ellipse: s-maj=111.2km s-min=48.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**227**	P	P	03 25 46.3	-0.2
	1.1nm,0.6s,baz=52,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.35**	**221**	P	P	03 26 14.9	-0.1
	1.2nm,0.6s,baz=57,slow=9.0,SNR=15						
FITZ	**Fitzroy Crossi**	**27.69**	**241**	P	P	03 26 45.5	+0.3
	2.8nm,0.7s,baz=83,slow=8.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**148.82**	**286**	PKPbc	PKPbc	03 40 45.2	-0.7
	0.5nm,0.7s,baz=51,slow=2.0,SNR=5.5						

*IDC **16** 03:26:21.2±0.8, 5°97′S×151°32′E, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.0/38, mbtmp4.0/9, Error ellipse: s-maj=30.2km s-min=19.8km az=108.0*
*NEIC **16** 03:26:22.9±0.5, 5°96′S×151°35′E, h10km, mb4.5/4, Error ellipse: s-maj=14.9km s-min=10.6km az=112.0*
*ISCJB **16** 03:26:26.4±0.6, 6°16′S±0°07′×151°28′E±0°09, h41km, mb4.1/14, Error ellipse: s-maj=14.4km s-min=8.9km az=30.3*

ISC 16 03:26:28.1±0.7, 6°12′S±0°09′×151°4′E±0°1, h41km, n24, σ1°64/28, mb4.1/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.30**	**232**	Pn	**Pn**	**03 27 45.2**	**+0.5**
	1.6nm,0.3s,baz=53,slow=15,SNR=3.3						
PMG				Sn	**Sn**	**03 28 43.2**	**-1.4**
	5.8nm,0.3s,baz=86,slow=18,SNR=2.8						
PMG	**Port Moresby**	**5.30**	**232**	*e*Pn	**Pn**	**03 27 44.9**	**+0.1**
	66nm,0.8s						
PMG				*e*S	**Sn**	**03 28 42.1**	**-2.4**
JAY	**Jayapura**	**11.22**	**288**	Pn	**Pn**	**03 29 09.0**	**+3.0**
	0.2nm,0.3s,baz=90,slow=23,SNR=5.7						
CTA	**Charters Tower**	**14.75**	**199**	Pn	**P**	**03 30 01.5**	**+2.1**
	0.5nm,0.3s,baz=22,slow=14,SNR=5.9						
WRAB	**Tennant Creek**	**21.49**	**229**	*e*P	**P**	**03 31 12.3**	**-1.2**
	7.7nm,0.6s						
WRA	**Warramunga Arr**	**21.51**	**229**	P	**P**	**03 31 12.8**	**-1.0**
	3.4nm,0.4s,baz=53,slow=10,SNR=41						
WRA				PcP	**PcP**	**03 35 16.1**	**+0.6**
	0.5nm,0.7s,baz=44,slow=2.0,SNR=3.6						
WRA				ScP	**ScP**	**03 38 51.8**	**+2.2**
	0.4nm,0.8s,baz=56,slow=2.9,SNR=3.0						
DZM	**Mont Dzumac**	**21.54**	**139**	P	**P**	**03 31 15.0**	**+1.0**
	9.9nm,1.0s,baz=328,slow=13,SNR=5.9						
ASAR	**Alice Springs**	**24.22**	**222**	P	**P**	**03 31 41.1**	**-0.2**
	4.6nm,0.5s,baz=57,slow=8.9,SNR=54						
ASAR				ScP	**ScP**	**03 38 59.4**	**+2.8**
	0.4nm,0.7s,baz=56,slow=1.7,SNR=2.7						
STKA	**Stephens Creek**	**27.21**	**198**	P	**P**	**03 32 07.2**	**-0.9**
	2.7nm,0.7s,baz=14,slow=11,SNR=4.3						
FITZ	**Fitzroy Crossi**	**27.78**	**242**	P	**P**	**03 32 11.7**	**-1.8**
	3.2nm,0.6s,baz=47,slow=6.8,SNR=9.2						
FITZ	**Fitzroy Crossi**	**27.78**	**242**	*e*P	**P**	**03 32 11.9**	**-1.6**
	1.6nm,0.5s						
MBWA	**Marble Bar**	**34.08**	**241**	*e*P	**P**	**03 33 08.6**	**-0.4**
	32nm,1.0s						
YHNB	**Yeheng**	**42.30**	**317**	*e*P	**P**	**03 34 16.7**	**-1.5**
	16nm,0.9s						
KSRS	**Korea Array**	**48.55**	**335**	P	**P**	**03 35 09.3**	**+2.0**
	1.5nm,0.8s,baz=156,slow=8.1,SNR=7.5						
KSAR	**Wonju Array Be**	**48.56**	**335**	P	**P**	**03 35 09.3**	**+1.9**
SONM	**Songino Array**	**66.69**	**329**	P	**P**	**03 37 14.5**	**-0.5**
	0.5nm,0.6s,baz=129,slow=3.9,SNR=2.8						
MKAR	**Makanchi Array**	**80.38**	**319**	P	**P**	**03 38 33.2**	**-2.2**
	0.3nm,0.7s,baz=100,slow=7.5,SNR=3.9						
QSPA	**South Pole Qui**	**83.85**	**180**	P	**P**	**03 38 53.7**	**+0.4**
	3.0nm,0.7s						
ILAR	**Eielson Array**	**83.91**	**22**	P	**P**	**03 38 51.0**	**-2.4**
	0.9nm,0.6s,baz=248,slow=4.9,SNR=16						
KURK	**Kurchatov**	**83.93**	**322**	P	**P**	**03 38 53.8**	**0.0**
KURBB	**Kurchatov Arra**	**83.96**	**322**	P	**P**	**03 38 53.8**	**-0.2**
	0.4nm,0.8s,baz=116,slow=4.2,SNR=3.3						
AKASG	**Malin Array Be**	**114.72**	**324**	PKP	PKPdf	03 45 03.0	-1.2
	0.4nm,0.4s,baz=62,slow=2.7,SNR=4.6						
GERES	**GERESS Array B**	**124.41**	**327**	PKP	**PKPdf**	**03 45 22.3**	**-0.8**
	0.7nm,0.6s,baz=48,slow=2.0,SNR=9.4						
TORD	**Torodi Ar. Bea**	**149.32**	**285**	PKPbc	**PKPbc**	**03 46 12.2**	**-1.4**
	4.1nm,0.6s,baz=64,slow=3.2,SNR=80						

IDC 16 03:31:15.1±2.1, 5°89′S×151°32′E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/34, mbtmp3.5/3, Error ellipse: s-maj=146.1km s-min=29.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.62**	**228**	P	P	03 36 06.6	-0.4
	1.1nm,0.6s,baz=54,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**24.36**	**222**	P	P	03 36 35.4	+0.3
	1.4nm,0.8s,baz=54,slow=9.6,SNR=7.3						
ILAR	**Eielson Array**	**83.72**	**22**	P	P	03 43 45.5	-0.2
	0.6nm,1.1s,baz=258,slow=3.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.21**	**286**	PKPbc	PKPbc	03 51 06.4	-0.4
	0.7nm,0.7s,baz=64,slow=2.6,SNR=7.6						

*JMA **16** 03:31:19.8±0.1, 23°.83N×121°.87E, h0km, M2.8*
*ISCJB **16** 03:31:21.1±0.6, 23°.82N±0°.02×121°.89E±0°.02, h11km±3km, Error ellipse: s-maj=3.8km s-min=2.4km az=43.4*
*TAP **16** 03:31:21.2, 23°.84N×121°.85E, h15km, ML3.5, C*

ISC 16 03:31:20.7±1.2, 23°.83N±0°.02×121°.86E±0°.03, h9km±10km, n53, σ0°67/81, 7C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.28**	**302**	P	**Pb**	**03 31 27.2**	**-0.7**
	baz=294						
TEGC	**Jichi Village**	**0.32**	**248**	*e*P	**Pb**	**03 31 29.4**	**+0.8**
	baz=245						
TEGC				*e*S	**Sb**	**03 31 35.2**	**+1.3**
	baz=245						
ESF	**Shoufeng Towns**	**0.33**	**277**	*e*P	**Pb**	**03 31 28.5**	**-0.3**
	baz=285						
TWD	**Chiawan**	**0.35**	**316**	*i* P	**Pb**	**03 31 28.3**	**-0.8**
	baz=306						
ESL	**Shilin**	**0.40**	**268**	*i* P	**Pg**	**03 31 28.8**	**+0.3**
	baz=274						
ESL				S	**Sb**	**03 31 34.8**	**-1.3**
	baz=274						
EHY	**Hungye**	**0.59**	**237**	*e*P	**Pg**	**03 31 32.5**	**+0.3**
	baz=246						
EHY				*e*S	**Sb**	**03 31 41.9**	**+0.2**
	baz=246						
ENA	**Nanau**	**0.61**	**349**	P	**Pb**	**03 31 33.4**	**-0.1**
	baz=350						
ENA				*e*S	**Sb**	**03 31 42.6**	**+0.4**

TWQ1	**Liyutan**	**1.12**	**298**	*e*P		**Pn**	**03 31 42.6**	**0.0**
	baz=298							
TCU	**Taichung**	**1.13**	**286**	*e*P		**Pn**	**03 31 43.0**	**+0.2**
	baz=283							
TCU				*e*S		**Sn**	**03 31 59.7**	**+1.3**
	baz=283							
JYNG	**Yonagunijimaku**	**1.17**	**58**	P		**Pb**	**03 31 43.0**	**0.0**
JYNG				*e*S		**Sb**	**03 31 58.6**	**+0.4**
NSY	**Sanyi**	**1.17**	**300**	*e*P		**Pn**	**03 31 43.6**	**+0.4**
	baz=300							
NSY				*e*S		**Sn**	**03 31 59.2**	**-0.1**
	baz=300							
TWA	**Mucha**	**1.17**	**347**	*e*P		**Pg**	**03 31 41.3**	**-2.0**
	baz=336							
TWB1	**Santiao Chiao**	**1.18**	**5**	*e*P		**Pn**	**03 31 44.1**	**+0.7**
	baz=3.0							
WGK	**Gukeng**	**1.20**	**263**	*e*P		**Pn**	**03 31 44.0**	**+0.3**
	baz=265							
STYT	**Tauyuan**	**1.21**	**237**	*e*P		**Pg**	**03 31 43.3**	**-0.8**
	baz=230							
STYT				*e*S		**Sn**	**03 32 00.2**	**-0.3**
	baz=230							
YOJ	**Yonaguni jima**	**1.22**	**59**	*e*P		**Pb**	**03 31 43.6**	**-0.4**
	baz=59							
NWF	**Wu-fen Shan**	**1.24**	**356**	*e*P		**Pg**	**03 31 44.9**	**+0.4**
	baz=343							
NWF				*e*S		**Sn**	**03 32 02.4**	**+1.3**
	baz=343							
TWG	**Pinlang**	**1.24**	**216**	*e*P		**Pn**	**03 31 42.4**	**-1.9**
	baz=218							
CHN4	**Tsaushan**	**1.26**	**248**	*e*P		**Pn**	**03 31 44.4**	**-0.1**
	baz=248							
CHN4				S		**Sn**	**03 32 02.8**	**+1.2**
	baz=248							
WTP	**Ta-pu**	**1.29**	**243**	P		**Pg**	**03 31 45.1**	**-0.3**
	baz=243							
WTP				*e*S		**Sn**	**03 32 02.7**	**+0.4**
	baz=243							
NCU	**National Centr**	**1.29**	**332**	*e*P		**Pg**	**03 31 45.8**	**+0.3**
	baz=328							
CHY	**Chiayi**	**1.36**	**256**	*e*P		**Pg**	**03 31 47.0**	**+0.2**
	baz=257							
CHY				*e*S		**Sg**	**03 32 04.3**	**-0.2**
	baz=257							
TWK	**Hsinying**	**1.38**	**246**	*e*P		**Pg**	**03 31 47.7**	**+0.5**
	baz=248							
CHN1	**Nanshi**	**1.38**	**243**	*e*P		**Pb**	**03 31 46.6**	**-0.2**
	baz=243							
CHN1				*e*S		**Sg**	**03 32 05.5**	**+0.2**
	baz=243							
SGST	**Jiashian**	**1.39**	**238**	*e*P		**Pg**	**03 31 47.4**	**0.0**
	baz=238							
SGST				*e*S		**Sg**	**03 32 07.1**	**+1.6**
	baz=238							
TWY	**Chenhua**	**1.46**	**351**	*e*P		**Pg**	**03 31 49.5**	**+0.7**
	baz=328							
EAST	**Anshuo**	**1.72**	**213**	*e*P		**Pn**	**03 31 50.5**	**-0.3**
	baz=215							
IRIF	**Iriomote-Funau**	**1.78**	**73**	S		**Sn**	**03 32 14.4**	**+0.1**
HATJ	**Hateruma jima**	**1.79**	**82**	*e*S		**Sn**	**03 32 14.4**	**-0.2**
SCZT	**Fangliau**	**1.85**	**219**	*e*P		**Pn**	**03 31 53.2**	**+0.6**
	baz=212							
WDGT	**Dungji**	**2.10**	**255**	*e*P		**Pn**	**03 31 55.5**	**-0.5**
	baz=255							
TWK1	**Hengchun**	**2.12**	**208**	*e*P		**Pn**	**03 31 56.8**	**+0.5**
	baz=199							
PNG	**Penghu**	**2.13**	**263**	*e*P		**Pn**	**03 31 55.8**	**-0.7**
	baz=264							
JIJ	**Ishigaki jima**	**2.15**	**75**	*e*S		**Sn**	**03 32 21.9**	**-1.6**
KNM	**Kinmen**	**3.19**	**281**	*e*P		**Pn**	**03 32 11.3**	**+0.3**
	baz=282							

IDC 16 03:36:13.9±3.7, 5.71S×150.59E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/31, mbtmp3.5/2, Error ellipse: s-maj=144.2km s-min=48.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.21**	**227**	P	P	03 41 02.1	+0.6
	0.8nm,0.6s,baz=52,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**24.02**	**220**	P	P	03 41 30.1	-0.6
	0.7nm,0.5s,baz=56,slow=8.9,SNR=12						
TORD	**Torodi Ar. Bea**	**148.46**	**286**	PKPbc	PKPbc	03 56 03.2	-0.5
	0.9nm,1.1s,baz=50,slow=2.4,SNR=4.7						

WEL 16 03:38:28.1±0.1, 43.53S×172.74E, h7km, ML3.5/14, 3D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.19**	**200**	PG	Pg	03 38 32.1	+0.2
MQZ				SG	Sg	03 38 35.0	+0.5
MQZ				AML	AML	03 38 35.7	
OXZ	**Oxford**	**0.55**	**291**	||P*	Pg	03 38 38.6	-0.1
OXZ				SG	Sg	03 38 46.6	+0.8
LTZ	**Lake Taylor**	**0.82**	**335**	||P*	Pg	03 38 44.1	+0.3
LTZ				S*	Sb	03 38 55.5	-0.3
LTZ				AML	AML	03 38 56.7	
RPZ	**Rata Peaks**	**1.24**	**261**	||P*	Pb	03 38 50.3	-1.4
RPZ				AML	AML	03 39 13.2	
RPZ				AML	AML	03 39 15.4	
KHZ	**Kahutara**	**1.25**	**28**	P*	Pn	03 38 50.5	-1.4
WVZ	**Waitaha Valley**	**1.53**	**286**	PN	Pn	03 38 54.9	-0.9
WVZ				AML	AML	03 39 24.7	
THZ	**Tophouse**	**1.77**	**4**	PN	Pn	03 38 57.7	-1.4
THZ				AML	AML	03 39 22.6	
THZ				AML	AML	03 39 22.7	
DSZ	**Denniston Nort**	**1.91**	**338**	PN	Pn	03 38 59.8	-1.2
DSZ				AML	AML	03 39 26.2	
DSZ				AML	AML	03 39 26.3	
DSZ				AML	AML	03 39 27.3	
DSZ				AML	AML	03 39 28.5	
BSWZ	**Blackbirch Sta**	**2.00**	**25**	PN	Pn	03 39 01.0	-1.1
LBZ	**Lake Benmore**	**2.04**	**244**	PN	Pn	03 39 02.1	-0.6
LBZ				AML	AML	03 39 39.4	
LBZ				AML	AML	03 39 39.9	
FOZ	**Fox Glacier**	**2.13**	**269**	PN	Pn	03 39 04.3	+0.4
FOZ				AML	AML	03 39 47.8	
ODZ	**Otahua Downs**	**2.14**	**224**	PN	Pn	03 39 02.7	-1.4
ODZ				AML	AML	03 39 36.2	
ODZ				AML	AML	03 39 37.3	
ODZ				AML	AML	03 39 37.3	
ODZ				AML	AML	03 39 37.3	
TUWZ	**Tuamarina**	**2.28**	**23**	PN	Pn	03 39 04.4	-1.5
NNZ	**Nelson**	**2.36**	**12**	PN	Pn	03 39 06.4	-0.7
TCW	**Tory Channel**	**2.58**	**27**	PN	Pn	03 39 08.5	-1.6
QRZ	**Quartz Range**	**2.70**	**357**	PN	Pn	03 39 10.6	-1.2
QRZ				AML	AML	03 39 45.9	
QRZ				AML	AML	03 39 45.9	
QRZ				AML	AML	03 40 08.8	
QRZ				AML	AML	03 40 08.8	
JCZ	**Jackson Bay**	**2.92**	**258**	AML	AML	03 40 05.0	
CAW	**Cannon Point**	**2.97**	**36**	PN	Pn	03 39 13.5	-2.1
CAW				AML	AML	03 39 51.9	
WKZ	**Wanaka**	**2.98**	**243**	PN	Pn	03 39 14.9	-0.8
EAZ	**Earnscleugh**	**2.99**	**234**	AML	AML	03 40 03.4	
KIW	**Kapiti Island**	**3.11**	**32**	PN	Pn	03 39 15.8	-1.7
MTW	**Mount Morrison**	**3.13**	**42**	PN	Pn	03 39 15.1	-2.6
OGWZ	**Otaki Gorge**	**3.25**	**34**	PN	Pn	03 39 16.5	-3.0
TUZ	**Tuapeka**	**3.29**	**221**	AML	AML	03 40 18.7	
TUZ				AML	AML	03 40 25.9	
MLZ	**Mavora Lakes**	**3.79**	**239**	PN	Pn	03 39 26.0	-0.8
BFZ	**Birch Farm**	**3.86**	**44**	PN	Pn	03 39 25.1	-2.6
KHEZ	**Kahui Hut**	**4.34**	**13**	PN	Pn	03 39 35.1	+0.7

IDC 16 03:40:51.1±4.3, 5.43S×150.10E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.3/30, mbtmp3.5/2, Error ellipse: s-maj=186.5km s-min=48.6km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.05**	**225**	P	P	03 45 38.0	+1.1
	0.8nm,0.5s,baz=53,slow=10,SNR=11						
ASAR	**Alice Springs**	**23.92**	**219**	P	P	03 46 06.7	-0.3
	1.2nm,0.7s,baz=52,slow=9.5,SNR=13						
TORD	**Torodi Ar. Bea**	**147.91**	**286**	PKPbc	PKPbc	04 00 38.2	-1.2
	0.3nm,0.6s,baz=51,slow=2.6,SNR=5.0						

IDC 16 03:41:44.2±2.2, 4.55S×129.11E, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.4/35, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=110.2km s-min=28.1km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.89**	**194**	Pn	Pn	03 45 04.0	+1.4
	0.1nm,0.3s,baz=18,slow=13,SNR=3.7						
FITZ				Sn	Sn	03 47 28.5	-9.2
	0.2nm,0.3s,baz=163,slow=3.5,SNR=2.3						
WRA	**Warramunga Arr**	**16.13**	**162**	Pn	Pn	03 45 33.2	+0.7
	0.2nm,0.3s,baz=343,slow=12,SNR=9.9						
WRA				Sn	Sn	03 48 26.1	-6.2
	0.1nm,0.3s,baz=331,slow=22,SNR=4.1						
ASAR	**Alice Springs**	**19.57**	**167**	P	P	03 46 13.0	-0.9
	0.2nm,0.3s,baz=336,slow=10,SNR=7.2						
MKAR	**Makanchi Array**	**65.70**	**327**	P	P	03 52 30.7	0.0
	0.4nm,0.4s,baz=140,slow=5.6,SNR=5.0						

*DHMR **16** 03:47:02.0±0.8, 13.26N×42.01E, h6km±8km, ML4.2*
*ARO **16** 03:47:02.3, 13.N±5.4 2E±, h4km±8km, ML4.4*
*ISCJB **16** 03:47:04.8±1.3, 13.29N±0.06×41.91E±0.09, h10km, Error ellipse: s-maj=14.0km s-min=6.1km az=25.0*

ISC 16 03:47:03.8±1.8, 13.24N±0.06×41.8E±0.1, h10km, n12, σ1ᵖ13/17, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAOD	**Malaho**	**1.20**	**161**	*e*P	Pg	**03 47 26.9**	**+0.1**
LDLD	**Lac de Lave**	**1.77**	**158**	*e*P	Pb	**03 47 36.4**	**+0.1**
TDD	**Tadjoura Ara**	**1.77**	**144**	*e*P	Pb	**03 47 36.4**	**0.0**
OBO	**Obock**	**1.89**	**131**	*e*P	Pb	**03 47 37.6**	**-0.8**
ATD	**Arta Tunnel**	**1.97**	**150**	*e*P	Pb	**03 47 39.0**	**-0.7**
ATD				*e*S	Sg	**03 48 09.2**	**+2.2**
MCAD	**Moucha**	**2.02**	**138**	*e*P	Pb	**03 47 40.1**	**-0.5**
GBR	**Grand-Bara**	**2.16**	**163**	*e*P	Pb	**03 47 42.4**	**-0.7**
ATA	**Atar**	**2.22**	**143**	*e*P	Pb	**03 47 42.6**	**-1.5**
DHBB	**Dhamar BB**	**2.81**	**62**	*i* P	Pn	**03 47 48.0**	**-1.1**
DHBB				*i* S	Sn	**03 48 24.0**	**+0.7**
HAJJ	**Hajjah**	**2.98**	**35**	*i* P	Pn	**03 47 51.0**	**-0.4**
HAJJ				*i* S	Sn	**03 48 29.4**	**+2.1**
ADEN	**Aden**	**3.10**	**98**	*i* P	Pn	**03 47 52.2**	**-0.7**
ADEN				*i* S	Sn	**03 48 30.2**	**+0.2**
BDHA	**Al Bayda'**	**3.70**	**78**	*i* P	Pn	**03 47 60.2**	**-1.3**
BDHA				*i* S	Sn	**03 48 45.9**	**+0.7**
BDHA				AML	AML	03 49 12.6	
	comp=N,1μm,0.7s						

*ISCJB **16** 03:47:04.2±0.5, 6.81N±0.04×73.05W±0.04, h162km±5km, Error ellipse: s-maj=8.1km s-min=3.5km az=38.7*
*FUNV **16** 03:47:04.1, 6.72N×73.24W, h164km, MW3.0*
*RSNC **16** 03:47:06.7±0.8, 6.78N×73.11W, h147km±4km, ML2.7*

ISC 16 03:47:04.0±1.3, 6.81N±0.04×73.07W±0.05, h165km±7km, n26, σ1ᵖ28/49, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.22**	**299**	*i* P	Pn	**03 47 27.3**	**+0.9**
BTLC				*e*S	Sn	**03 47 42.0**	**-1.5**
BARC	**Barichara**	**0.24**	**207**	*i* P	Pn	**03 47 26.4**	**-0.1**
BARC				*i*		03 47 27.0	
	comp=Z,98nm,0.4s						
BARC				*e*S	Sn	**03 47 41.7**	**-2.0**
PAMC	**Pamplona, Colo**	**0.64**	**35**	*e*P	Pn	**03 47 29.2**	**+0.8**
PAMC				*e*S	Sn	**03 47 46.6**	**-0.4**
BRRC	**Barranca, Sant**	**0.70**	**295**	||*i*P	Pn	**03 47 28.3**	**+0.2**
BRRC				*i*		03 47 28.6	
	comp=Z,98nm,0.2s						
BRRC				*e*S	Sn	**03 47 45.7**	**-0.9**
RUSC	**La Rusia**	**0.91**	**181**	*i* P	Pn	**03 47 30.2**	**+0.1**
RUSC				*e*S	Sn	**03 47 49.0**	**-1.1**
RUSC				*i*		03 47 51.8	
	comp=Z,59nm,0.6s						
GRMC	**Gramalote, San**	**0.94**	**16**	*i* P	Pn	**03 47 32.2**	**+2.3**
GRMC				*e*S	Sn	**03 47 51.6**	**+1.7**
GRMC				*i*		03 47 52.9	
	comp=Z,88nm,0.3s						
CBRI	**Barrientos, No**	**0.94**	**17**	*i* P	Pn	**03 47 31.0**	**+1.0**
CBRI				*e*S	Sn	**03 47 49.0**	**-0.9**
CBRI				*i*		03 47 52.8	
	comp=Z,59nm,0.3s						
CAPV	**Capacho**	**1.29**	**36**	||*i*P	Pn	**03 47 34.3**	**+1.4**
CAPV				*e*S	Sn	**03 47 55.7**	**+0.5**
OCAC	**Ocana**	**1.44**	**350**	*e*P	Pn	**03 47 35.2**	**+0.9**
OCAC				*e*S	Sn	**03 47 57.0**	**-0.7**
OCAC				*i*		03 48 01.7	
	comp=Z,72nm,0.2s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	Pn	**03 47 42.3**	**+0.2**
NORC				*e*S	Sn	**03 48 10.1**	**-1.5**
CHIC	**Chingaza**	**2.26**	**197**	*e*P	Pn	**03 47 44.3**	**+0.8**
CHIC				*i*		03 47 46.5	
	comp=Z,25nm,0.1s						
CHIC				*e*S	Sn	**03 48 13.8**	**-0.2**
VIGV	**El Vigia**	**2.63**	**40**	*e*P	Pn	**03 47 48.7**	**+1.2**
VIGV				*e*S	Sn	**03 48 22.2**	**+0.9**
SOCV	**Socops**	**2.64**	**56**	*e*P	Pn	**03 47 48.8**	**+1.2**
SOCV				*e*S	Sn	**03 48 22.4**	**+0.1**
VILC	**Villavicencio,**	**2.75**	**193**	*e*P	Pn	**03 47 49.8**	**+0.7**
VILC				*e*S	Sn	**03 48 23.8**	**-0.2**
VILC				*i*		03 48 26.5	
	comp=Z,14nm,0.4s						
GUYC	**Guyana, Colomb**	**2.79**	**236**	*e*P	Pn	**03 47 51.3**	**+1.4**
GUYC				*e*S	Sn	**03 48 24.9**	**-0.5**
GUYC				*i*		03 48 32.1	
	comp=Z,49nm,0.4s						
DBBC	**Dabeiba**	**3.12**	**274**	*e*P	Pn	**03 47 54.8**	**+1.2**
TOLC	**Tolima**	**3.15**	**226**	*e*P	Pn	**03 47 55.8**	**+1.6**
ELOV	**Elorza**	**3.57**	**87**	*e*P	Pn	**03 48 00.4**	**+1.3**
ELOV				*e*S	Sn	**03 48 41.7**	**-0.3**
PRAC	**Prado**	**3.57**	**211**	*e*P	Pn	**03 48 00.1**	**+0.9**
PRAC				*e*S	Sn	**03 48 41.8**	**-0.4**
VIRV	**Villa del Rosa**	**3.73**	**10**	*e*P	Pn	**03 48 01.3**	**+0.1**
VIRV				*e*S	Sn	**03 48 44.1**	**-1.7**
QARV	**Quebrada Arrib**	**4.21**	**37**	*e*P	Pn	**03 48 08.6**	**+1.1**
QARV				*e*S	Sn	**03 48 56.4**	**-0.7**
SANV	**Sanarito**	**4.40**	**52**	*e*P	Pn	**03 48 11.2**	**+1.2**
CURV	**Curarigua**	**4.43**	**44**	*e*P	Pn	**03 48 11.5**	**+1.2**
CURV				*e*S	Sn	**03 49 01.1**	**-0.9**
BAUV	**El Baul**	**5.41**	**67**	*e*P	Pn	**03 48 23.2**	**0.0**
BAUV				*e*S	Sn	**03 49 22.8**	**-2.4**
MAPV	**Macapo**	**5.46**	**56**	*e*P	Pn	**03 48 24.7**	**+0.9**
MAPV				*e*S	Sn	**03 49 24.5**	**-1.9**
MONV	**Montecano**	**5.96**	**31**	*e*P	Pn	**03 48 30.3**	**0.0**
MONV				*e*S	Sn	**03 49 34.0**	**-4.1**

IDC 16 03:49:49.5±3.6, 5.77S×151.13E, h0km, mb3.6/2, mb1 4.0/2, mb1mx3.5/36, mbtmp3.7/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/31, Error ellipse: s-maj=140.2km s-min=48.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.57**	**228**	P	P	03 54 40.7	-0.1
	1.2nm,0.4s,baz=54,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.32**	**221**	P	P	03 55 09.2	+0.1
	0.9nm,0.5s,baz=56,slow=8.8,SNR=11						
RPZ	**Rata Peaks**	**41.67**	**158**	LR	LR	04 15 14.2	
	comp=Z,121nm,18.3s,baz=310,slow=37						
TORD	**Torodi Ar. Bea**	**149.00**	**286**	PKPbc	PKPbc	04 09 40.0	-0.6
	0.8nm,0.8s,baz=77,slow=1.9,SNR=6.8						

IDC 16 03:56:59.1±4.0, 5.54S×150.65E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/37, mbtmp3.2/2, MS3.5/2, Ms1 3.6/2, ms1mx2.9/21, Error ellipse: s-maj=170.5km s-min=49.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.37**	**226**	P	P	04 01 49.2	+0.9
	1.1nm,1.0s,baz=52,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**24.18**	**220**	P	P	04 02 16.8	-0.7
	0.5nm,0.8s,baz=54,slow=8.7,SNR=3.6						
AFI	**Afiamalu**	**37.91**	**105**	LR	LR	04 19 37.0	
	comp=Z,90nm,18.3s,baz=275,slow=36						
CMAR	**Chiang Mai Arr**	**56.27**	**296**	LR	LR	04 32 20.0	
	comp=Z,32nm,18.1s,baz=195,slow=38						
TORD	**Torodi Ar. Bea**	**148.48**	**286**	PKPbc	PKPbc	04 16 48.4	-0.6
	0.3nm,0.8s,baz=80,slow=2.4,SNR=2.8						

*IDC **16** 03:58:16.9±0.6, 5.85S×151.40E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/39, mbtmp4.3/13, ML2.7/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/31, Error ellipse: s-maj=23.7km s-min=16.0km az=101.0*
*NEIC **16** 03:58:18.9±0.4, 5.86S×151.25E, h10km, mb5.1/11, Error ellipse: s-maj=11.2km s-min=7.8km az=127.0*
*BJI **16** 03:58:19.2, 6.00S×151.40E, h29km, mb4.9/15, mB4.9/14, Ms4.8/6, Ms7 4.5/5*
*ISCJB **16** 03:58:21.6±0.4, 5.90S±0.04×151.26E±0.06, h43km, mb4.6/23, MS3.8/5, Error ellipse: s-maj=8.7km s-min=5.5km az=26.3*

ISC 16 03:58:23.8±0.4, 5.92S±0.05×151.24E±0.06, h43km, n69, σ1ᵖ64/79, mb4.7/22, MS3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.95**	**28**	*e*Pn	Pn	**03 58 54.3**	**-0.2**
RABL				*e*Sn	Sn	**03 59 22.6**	**+4.8**
PMG	**Port Moresby**	**5.32**	**229**	Pn	Pn	**03 59 41.8**	**+1.0**
	16nm,0.3s,baz=35,slow=11,SNR=16						
PMG				Sn	Sn	**04 00 42.1**	**+1.2**
	9.8nm,0.3s,baz=102,slow=18,SNR=8.7						
PMG				LR	LR	04 01 06.7	
	comp=Z,66nm,18.9s,baz=68,slow=31						
PMG	**Port Moresby**	**5.32**	**229**	*e*P	Pn	**03 59 42.4**	**+1.6**
PMG				*e*S	Sn	**04 00 41.5**	**+0.6**
HNR	**Honiara**	**9.31**	**113**	Pn	Pn	**04 00 35.3**	**-0.2**
	19nm,0.3s,baz=248,slow=5.3,SNR=4.8						
HNR				LR	LR	04 03 53.0	
	comp=Z,353nm,19.6s,baz=270,slow=37						
HNR	**Honiara**	**9.31**	**113**	*e*Pn	Pn	**04 00 36.2**	**+0.7**
	200nm,0.8s						
COEN	**Coen**	**11.26**	**224**	P	Pn	**04 01 02.6**	**+0.4**
	baz=11,SNR=5.9						
COEN	**Coen**	**11.26**	**224**	*e*Pn	Pn	**04 01 02.1**	**-0.1**
MTSU	**Mount Surprise**	**13.89**	**209**	P	Pn	**04 01 38.7**	**+0.5**
	baz=14,SNR=3.8						
PATS	**Pohnpei**	**14.51**	**29**	*e*Pn	P	04 02 01.2	+8.8
CTA	**Charters Tower**	**14.89**	**199**	Pn	P	**04 01 58.1**	**+1.5**
	1.1nm,0.3s,baz=23,slow=13,SNR=14						
CTAO	**Charters Tower**	**14.89**	**199**	*e*Pn	P	**04 01 56.6**	**0.0**
QIS	**Mount Isa**	**18.42**	**217**	P	Pn	**04 02 36.3**	**+0.3**
	baz=18,SNR=18						
EIDS	**Eidsvold**	**19.34**	**180**	*e*P	P	**04 02 42.8**	**-2.8**
	15nm,0.9s						
KDU	**Kakadu**	**19.69**	**249**	P	P	**04 02 50.2**	**+0.6**
	baz=20,SNR=3.6						
RMQ	**Roma**	**20.59**	**186**	P	Pn	04 03 00.7	-1.1
	baz=21,SNR=7.1						
MTN	**Manton Dam**	**20.98**	**249**	P	P	**04 03 04.0**	**+0.3**
	baz=21,SNR=5.5						
MTN	**Manton Dam**	**20.98**	**249**	*e*P	P	**04 03 02.2**	**-1.5**
	28nm,0.8s						
WB0	**Warramunga Arr**	**21.39**	**228**	P	P	**04 03 08.2**	**+0.1**
	baz=21						
WC3	**Warramunga Arr**	**21.53**	**228**	*e*P	P	**04 03 09.4**	**-0.1**
	27nm,0.6s						
WRAB	**Tennant Creek**	**21.53**	**228**	*e*P	P	**04 03 09.4**	**-0.1**
	38nm,0.6s						
WB2	**Warramunga Arr**	**21.53**	**228**	*e*P	P	**04 03 09.5**	**0.0**
	38nm,0.6s						
WRA	**Warramunga Arr**	**21.54**	**228**	P	P	**04 03 09.4**	**-0.2**
	36nm,0.7s,baz=53,slow=11,SNR=111						
WRA				S	S	**04 07 06.0**	**-0.3**
	9.2nm,1.2s,baz=54,slow=19,SNR=5.3						
WRA				PcP	PcP	**04 07 12.5**	**+1.4**
	1.8nm,0.8s,baz=46,slow=2.3,SNR=5.3						
WRA				ScP	ScP	**04 10 47.6**	**+2.7**
	1.0nm,0.9s,baz=50,slow=2.3,SNR=5.1						
WB1	**Warramunga Ar.**	**21.55**	**228**	P	P	**04 03 09.8**	**+0.1**
	baz=22						
QLP	**Quilpie**	**21.60**	**197**	P	P	**04 03 09.4**	**-0.8**
	baz=22,SNR=7.3						
DZM	**Mont Dzumac**	**21.77**	**139**	P	P	**04 03 10.5**	**-1.6**
	9.2nm,0.6s,baz=355,slow=4.7,SNR=9.2						
DZM				LR	LR	04 10 28.6	
	comp=Z,464nm,19.8s,baz=247,slow=34						
KNRA	**Kununurra**	**24.09**	**244**	P	P	**04 03 36.4**	**+0.9**
	baz=24						
AS01	**Alice Springs**	**24.25**	**222**	*e*P	P	**04 03 36.3**	**-0.7**
AS31	**Alice Springs**	**24.28**	**222**	*e*P	P	**04 03 37.9**	**+0.5**
	12nm,0.6s						
ASAR	**Alice Springs**	**24.28**	**222**	P	P	**04 03 37.6**	**+0.3**
	39nm,0.8s,baz=58,slow=8.9,SNR=209						
ASAR				S	S	**04 08 01.8**	**+8.2**
	1.9nm,1.1s,baz=53,slow=19,SNR=4.3						
ASAR				ScP	ScP	**04 10 55.3**	**+3.2**
	0.9nm,0.9s,baz=40,slow=3.0,SNR=3.5						
CMSA	**Cobar Meteorol**	**26.01**	**191**	P	P	**04 03 54.3**	**+1.5**
	baz=26,SNR=6.7						
STKA	**Stephens Creek**	**27.35**	**198**	P	P	**04 04 04.2**	**-0.8**
	6.2nm,0.8s,baz=32,slow=9.7,SNR=7.4						
STKA	**Stephens Creek**	**27.35**	**198**	P	P	**04 04 05.4**	**+0.5**
	baz=27,SNR=5.7						
FITZ	**Fitzroy Crossi**	**27.76**	**242**	P	P	**04 04 08.9**	**0.0**
	33nm,0.6s,baz=67,slow=7.4,SNR=102						
FITZ				LR	LR	04 15 47.1	
	comp=Z,228nm,18.4s,baz=66,slow=38						
FITZ	**Fitzroy Crossi**	**27.76**	**242**	P	P	**04 04 08.7**	**-0.1**
	baz=28,SNR=30						
FITZ	**Fitzroy Crossi**	**27.76**	**242**	*e*P	P	**04 04 08.8**	**0.0**
	29nm,0.6s						
WRKA	**Warakurna**	**29.06**	**227**	P	P	**04 04 20.0**	**-0.4**
	baz=29,SNR=19						
HTT	**Hallett**	**29.67**	**201**	P	P	**04 04 25.8**	**+0.1**
	baz=30,SNR=4.3						
MBWA	**Marble Bar**	**34.07**	**241**	*e*P	P	**04 05 04.3**	**-0.1**
	46nm,0.8s						
JAGI	**Jajag, Banyuwa**	**36.87**	**264**	*e*P	P	**04 05 27.4**	**-1.2**
	43nm,0.6s						
URZ	**Urewera**	**39.84**	**148**	LR	LR	04 20 32.1	
	comp=Z,150nm,18.7s,baz=300,slow=34						
MORW

	5.0nm,0.6s							
WMQ				PMZ				
	75nm,4.2s							
MKAR	**Makanchi Array**	**80.15**	**319**	P	**P**	**04 10 29.8**	**+0.2**	
	0.3nm,0.4s,baz=114,slow=6.1,SNR=2.3							
MKAR				LR	LR	04 46 32.4		
	comp=Z,41nm,18.0s,baz=23,slow=36							
ZALV	**Zalesovo Beam**	**81.23**	**327**	P	**P**	**04 10 34.6**	**-0.6**	
	0.8nm,0.5s,baz=85,slow=6.2,SNR=4.0							
ZALV				LR	LR	04 45 49.1		
	comp=Z,39nm,21.4s,baz=78,slow=35							
KSH	**Kashi**	**82.49**	**311**	*e*P	**P**	**04 10 41.8**	**-0.5**	
KSH				pP	pP	04 10 52.4	-2.8	
KSH				PP	**PP**	**04 13 53.9**	**+1.9**	
KSH				S	**S**	**04 20 53.0**	**-3.1**	
KSH				PMZ				
	4.0nm,0.2s							
KSH				PMZ				
	82nm,4.0s							
KSH				LN				
	270nm,10.6s							
KSH				LE				
	160nm,7.2s							
KURK	**Kurchatov**	**83.70**	**322**	P	**P**	**04 10 47.5**	**-0.6**	
KURBB	**Kurchatov Arra**	**83.73**	**322**	P	**P**	**04 10 47.5**	**-0.7**	
	1.4nm,0.9s,baz=110,slow=4.0,SNR=2.9							
IL1	**Eielson Array**	**83.78**	**22**	*e*P	**P**	**04 10 46.0**	**-2.3**	
ILAR	**Eielson Array**	**83.78**	**22**	P	**P**	**04 10 46.0**	**-2.2**	
	1.3nm,0.7s,baz=252,slow=5.3,SNR=12							
QSPA	**South Pole Qui**	**84.04**	**180**	*e*P	**P**	**04 10 48.8**	**-1.0**	
	29nm,1.0s							
YKA	**Yellowknife Ar**	**97.14**	**28**	P	**P**	**04 11 50.1**	**-1.3**	
	0.3nm,0.6s,baz=246,slow=5.7,SNR=4.0							
BRTR	**Keskin Array B**	**114.88**	**311**	PKP	PKPdf	04 17 00.1	-0.5	
	0.5nm,0.6s,baz=355,slow=1.6,SNR=3.5							
KHC	**Kasperske Hory**	**124.08**	**328**	*e*PKPdf	**PKPdf**	**04 17 17.5**	**-0.3**	
GERES	**GERESS Array B**	**124.18**	**327**	PKP	**PKPdf**	**04 17 18.0**	**0.0**	
	1.2nm,0.7s,baz=66,slow=1.6,SNR=10							
LPAZ	**La Paz**	**135.23**	**120**	PKP	**PKPdf**	**04 17 41.5**	**+1.0**	
	0.9nm,0.8s,baz=304,slow=3.6,SNR=3.9							
TORD	**Torodi Ar. Bea**	**149.15**	**286**	PKPbc	**PKPbc**	**04 18 07.7**	**-0.9**	
	6.0nm,0.7s,baz=101,slow=2.5,SNR=48							
BDFB	**Brasilia**	**151.32**	**139**	PKPbc	**PKPbc**	**04 18 13.7**	**-0.3**	
	3.6nm,0.7s,baz=244,slow=3.0,SNR=7.1							
DBIC	**Dimbokro**	**156.23**	**273**	PKPab	**PKPab**	**04 18 43.0**	**+0.1**	
	1.4nm,0.5s,baz=126,slow=5.3,SNR=4.5							

*ISCJB **16** 04:03:15.8±0.5, 44.°53N±0.°02×74.°33W±0.°02, h13km±2km, Error ellipse: s-maj=3.1km s-min=2.8km az=26.3*
*OTT **16** 04:03:16.4±0.2, 44.°49N×74.°31W, h18km, MN2.6/25, 67km south from Huntingdon, Qc Western Quebec Seismic Zone.*
*NEIC **16** 04:03:17.0, 44.°52N×74.°28W, h8km, ML2.6(LDO), After LDO.*
NEIC Felt at Lake Clear, Paul Smiths, Saranac Lake and Vermontville.

ISC 16 04:03:16.4±0.9, 44.°49N±0.°02×74.°33W±0.°02, h15km±6km, n40, σ1°11/79, 2D, New York

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LONY	**Lake Ozonia**	**0.22**	**305**	⇓PG		**Pg**	**04 03 21.6**	**+0.2**
LONY				SG		**Sg**	**04 03 24.9**	**+0.3**
LONY				Trac			04 03 25.1	
	comp=Z,89nm,0.1s							
LONY	**Lake Ozonia**	**0.22**	**305**	*e*Pg		**Pg**	**04 03 21.4**	**0.0**
LONY				*e*S		**Sg**	**04 03 24.8**	**+0.1**
POTS	**Potsdam Coll**	**0.49**	**291**	P		**Pg**	**04 03 26.1**	**0.0**
POTS				S		**Sg**	**04 03 33.2**	**+0.5**
WBO	**Williamsburg**	**0.84**	**307**	⇓PG		**Pg**	**04 03 32.2**	**-0.6**
WBO				SG		**Sg**	**04 03 43.8**	**0.0**
WBO				Trac			04 03 45.0	
	comp=Z,26nm,0.1s							
MDV	**Middlebury**	**0.96**	**120**	P		**Pb**	**04 03 33.1**	**-1.7**
MDV				S		**Sb**	**04 03 45.7**	**-1.6**
WCNY	**West Carthage**	**1.08**	**242**	P		**Pb**	**04 03 36.2**	**-0.7**
WCNY				S		**Sb**	**04 03 51.3**	**+0.5**
MNTQ	**Montreal, Queb**	**1.12**	**26**	PG		**Pb**	**04 03 36.8**	**-0.8**
MNTQ				SG		**Sb**	**04 03 51.5**	**-0.5**
MNTQ				Trac			04 03 52.5	
	comp=Z,11nm,0.1s							
ALFO	**Alfred**	**1.20**	**341**	PG		**Pn**	**04 03 38.1**	**-0.6**
ALFO				SG		**Sb**	**04 03 54.3**	**+0.1**
ALFO				Trac			04 03 59.3	
	comp=Z,3.9nm,0.0s							
ACCN	**Adirondack Com**	**1.21**	**156**	P		**Pn**	**04 03 37.6**	**-1.2**
ACCN				S		**Sb**	**04 03 53.9**	**-0.5**
ORIO	**Orleans, Innes**	**1.27**	**319**	PG		**Pn**	**04 03 39.7**	**0.0**
ORIO				SG		**Sn**	**04 03 56.9**	**+0.4**
ORIO				Trac			04 03 57.8	
	comp=Z,28nm,0.1s							
OTT	**Ottawa**	**1.33**	**313**	PG		**Pn**	**04 03 40.9**	**+0.3**
OTT				PG		**Pb**	**04 03 41.3**	**+0.2**
OTT				SG		**Sn**	**04 03 58.4**	**+0.4**
OTT				SG		**Sb**	**04 03 58.6**	**+0.5**
OTT				Trac			04 03 58.8	
	comp=Z,22nm,0.1s							
OTT				Trac			04 03 58.8	
	comp=Z,27nm,0.1s							
GAC	**Glen Almond**	**1.46**	**327**	PG		**Pb**	**04 03 43.0**	**-0.3**
GAC				PG		**Pb**	**04 03 43.0**	**-0.3**
GAC				SG		**Sb**	**04 04 02.1**	**+0.5**
GAC				SG		**Sn**	**04 04 02.3**	**+1.3**
GAC				Trac			04 04 02.5	
	comp=Z,16nm,0.2s							
GAC				Trac			04 04 02.6	
	comp=Z,11nm,0.1s							
KGNO	**Kingston**	**1.57**	**261**	PN		**Pn**	**04 03 44.0**	**+0.2**
KGNO				SN		**Sn**	**04 04 04.4**	**+0.5**
KGNO				Trac			04 04 08.7	
	comp=Z,15nm,0.1s							
VABQ	**Val Des Bois**	**1.68**	**328**	PN		**Pn**	**04 03 46.0**	**+0.8**
VABQ				SN		**Sn**	**04 04 06.7**	**+0.2**
VABQ				LG		Lg	04 04 10.9	
VABQ				Trac			04 04 19.7	
	comp=Z,2.3nm,0.0s							
MOQ	**Mont Orford**	**1.69**	**60**	PN		**Pn**	**04 03 45.7**	**+0.2**
MOQ				SN		**Sn**	**04 04 06.5**	**-0.3**
MOQ				Trac			04 04 13.7	
	comp=Z,4.2nm,0.0s							
TRQ	**Mont Tremblant**	**1.74**	**355**	PN		**Pn**	**04 03 46.3**	**+0.1**
TRQ				SN		**Sb**	**04 04 09.1**	**-0.6**
TRQ				Trac			04 04 14.6	
	comp=Z,6.2nm,0.1s							
HCNY	**Howe Caverns**	**1.80**	**182**	P		**Pn**	**04 03 47.8**	**+0.9**
HCNY				S		**Sn**	**04 04 10.6**	**+1.1**
TRY	**Troy**	**1.83**	**164**	P		**Pn**	**04 03 48.3**	**+1.0**
TRY				S		**Sn**	**04 04 10.6**	**+0.4**
PECO	**Prince Edward**	**2.00**	**255**	PN		**Pn**	**04 03 50.5**	**+0.9**
PECO				SN		**Sn**	**04 04 14.3**	**0.0**
PECO				LG		Lg	04 04 19.2	
PECO				Trac			04 04 22.8	
	comp=Z,9.6nm,0.1s							
PLVO	**Plevna**	**2.03**	**287**	PN		**Pb**	**04 03 51.9**	**-1.2**
PLVO				SN		**Sn**	**04 04 15.5**	**+0.2**
PLVO				LG		Lg	04 04 20.2	
PLVO				Trac			04 04 22.0	
	comp=Z,14nm,0.1s							
DELO	**Deloro Mine**	**2.35**	**272**	PN		**Pn**	**04 03 55.4**	**+0.8**
DELO				SN		**Sn**	**04 04 20.9**	**-2.2**
DELO				LG		Lg	04 04 30.0	
DELO				Trac			04 04 31.4	
	comp=Z,11nm,0.1s							
GRQ	**Grand Remous**	**2.37**	**334**	PN		**Pn**	**04 03 55.5**	**+0.7**
GRQ				SN		**Sn**	**04 04 23.0**	**-0.7**
GRQ				Trac			04 04 34.4	
	comp=Z,3.7nm,0.1s							
PEMO	**Pembroke**	**2.38**	**301**	PN		**Pn**	**04 03 55.0**	**+0.1**
PEMO				SN		**Sn**	**04 04 23.9**	**+0.1**
PEMO				LG		Lg	04 04 31.4	
PEMO				Trac			04 04 35.3	
	comp=Z,1.8nm,0.0s							
DPQ	**Saint Jean**	**2.44**	**26**	PN		**Pn**	**04 03 56.5**	**+0.7**
DPQ				SN		**Sn**	**04 04 24.3**	**-1.2**
DPQ				Trac			04 04 33.0	
	comp=Z,2.2nm,0.1s							
BINY	**Binghamton**	**2.59**	**208**	PN		**Pn**	**04 03 59.9**	**+2.0**
BINY				SN		**Sn**	**04 04 29.0**	**-0.1**
BINY				Trac			04 04 37.1	
	comp=Z,5.0nm,0.2s							
BINY				LG		Lg	04 04 37.9	
BINY	**Binghamton**	**2.59**	**208**	*e*Pn		**Pn**	**04 03 59.4**	**+1.5**
BINY				*e*S		**Sb**	**04 04 34.0**	**-0.3**
BANO	**Bancroft**	**2.62**	**283**	SN		**Sn**	**04 04 29.4**	**-0.3**
BANO				LG		Lg	04 04 39.9	
CRLO	**Chalk River**	**2.65**	**307**	PN		**Pn**	**04 03 58.9**	**+0.2**
CRLO				SN		**Sn**	**04 04 29.8**	**-0.7**
CRLO				Trac			04 04 41.7	
	comp=Z,4.9nm,0.1s							
HRV	**Adam Dziewonsk**	**2.83**	**134**	*e*Pn		**Pn**	**04 04 02.2**	**+1.1**
HRV				*e*S		**Sb**	**04 04 41.6**	**+0.5**
WLVO	**Wesleyville**	**2.98**	**260**	SN		**Sn**	**04 04 40.6**	**+2.0**
WLVO				Trac			04 06 02.6	
	comp=Z,3.1nm,0.0s							
ALGO	**Algonquin Park**	**3.01**	**300**	SN		**Sn**	**04 04 39.2**	**-0.1**
ALGO				LG		Lg	04 04 53.0	
MEDO	**Medina**	**3.27**	**247**	PN		**Pb**	**04 04 10.9**	**-3.1**
MEDO				SN		**Sn**	**04 04 44.5**	**-1.2**
MEDO				LG		Lg	04 04 59.2	
MEDO				Trac			04 05 03.6	
	comp=Z,4.8nm,0.1s							
SADO	**Sadowa**	**3.44**	**276**	PN		**Pn**	**04 04 09.9**	**+0.4**
SADO				SN		**Sn**	**04 04 48.4**	**-1.7**
SADO				LG		Lg	04 05 03.6	
SADO				Trac			04 05 07.1	
	comp=Z,2.8nm,0.1s							
PKME	**Peaks-Kenny Pk**	**3.66**	**76**	PN		**Pn**	**04 04 14.8**	**+2.2**
PKME				SN		**Sn**	**04 04 55.2**	**-0.3**
PKME				LG		Lg	04 05 10.6	
PKME				Trac			04 05 15.8	
	comp=Z,5.9nm,0.2s							
PKME	**Peaks-Kenny Pk**	**3.66**	**76**	*e*Pn		**Pn**	**04 04 14.7**	**+2.2**
PKME				*e*S		**Sb**	**04 05 05.8**	**+0.7**
TORO	**Toronto--Lesli**	**3.72**	**258**	SN		**Sn**	**04 04 54.9**	**-2.0**
TORO				LG		Lg	04 05 14.4	
EEO	**Eldee**	**3.96**	**304**	PN		**Pn**	**04 04 17.9**	**+1.2**
EEO				SN		**Sn**	**04 05 03.5**	**+0.6**
EEO				Trac			04 05 19.4	
	comp=Z,3.1nm,0.2s							
DAQ	**Lac Daran**	**4.08**	**31**	SN		**Sn**	**04 05 04.9**	**-1.0**
DAQ				Trac			04 05 23.8	
	comp=Z,0.9nm,0.1s							
LMQ	**La Malbaie**	**4.14**	**41**	*e*Pn		**Pn**	**04 04 19.8**	**+0.8**
LMQ				*e*S		**Sn**	**04 05 09.6**	**+2.3**
SSPA	**Standing Stone**	**4.66**	**215**	*e*Pn		**Pn**	**04 04 30.1**	**+3.8**
SSPA				*e*S		**Sn**	**04 05 20.6**	**+0.4**

*JMA **16** 04:03:39.0±0.1, 24.°17N×121.°53E, h46km±1km, M3.1*
*TAP **16** 04:03:40.0, 24.°24N×121.°55E, h44km, ML3.7, B*
*ISCJB **16** 04:03:40.7±0.2, 24.°25N±0.°02×121.°63E±0.°02, h41km±5km, Error ellipse: s-maj=3.2km s-min=2.1km az=140.6*

ISC 16 04:03:41.0±1.0, 24.°24N±0.°02×121.°60E±0.°02, h33km±3km, n66, σ0°81/108, 4C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWD	**Chiawan**	**0.16**	**181**	⇓*i*P		**Pb**	**04 03 47.5**	**+0.2**
TWD				*i* S		**Sb**	**04 03 52.7**	**+1.2**
	baz=155							
ENA	**Nanau**	**0.23**	**35**	*e*P		**Pb**	**04 03 48.4**	**+0.4**
	baz=51							
HWA	**Hwalien**	**0.26**	**179**	⇓*i*P		**Pn**	**04 03 48.4**	**+0.1**
	baz=166							
HWA				*e*S		**Sb**	**04 03 54.6**	**+1.4**
	baz=166							
NNS	**Nan Shan**	**0.29**	**314**	⇑*i*P		**Pn**	**04 03 48.8**	**-0.1**
	baz=322							
NNS				*i* S		**Sb**	**04 03 54.8**	**+0.8**
	baz=322							
WHF	**Hehuan Shan**	**0.32**	**253**	⇓*i*P		**Pn**	**04 03 49.4**	**-0.3**
	baz=248							
WHF				*i* S		**Sb**	**04 03 55.9**	**+0.6**
	baz=248							
ESF	**Shoufeng Towns**	**0.38**	**193**	*e*P		**Pb**	**04 03 49.6**	**-0.2**
	baz=178							
TWT	**Tachien**	**0.39**	**272**	*e*P		**Pb**	**04 03 50.1**	**0.0**
	baz=267							
TWT				*e*S		**Sn**	**04 03 56.8**	**+0.2**
	baz=267							
ENTT	**Nioudou**	**0.40**	**356**	⇓*i*P		**Pb**	**04 03 50.2**	**0.0**
	baz=5.0							
ENTT				S		**Sn**	**04 03 57.3**	**+0.5**
	baz=5.0							
TWC	**Suao**	**0.43**	**32**	*e*P		**Pb**	**04 03 50.5**	**-0.1**
	baz=32							
TWC				*e*S		**Sn**	**04 03 57.9**	**+0.2**
	baz=32							
ESL	**Shilin**	**0.45**	**200**	*e*P		**Pb**	**04 03 49.4**	**-1.5**
	baz=186							
TWE	**Neicheng**	**0.48**	**7**	⇓*i*P		**Pb**	**04 03 51.2**	**-0.2**
	baz=20							
TWE				S		**Sn**	**04 03 59.1**	**+0.2**
	baz=20							
NSK	**Sanguang**	**0.49**	**333**	*i* P		**Pb**	**04 03 50.9**	**-0.6**
	baz=345							
NSK				S		**Sb**	**04 04 58.1**	**-0.6**
	baz=345							
TEGC	**Jichi Village**	**0.53**	**186**	*e*P		**Pn**	**04 03 50.5**	**-1.8**
	baz=184							
WDT	**Danda**	**0.65**	**222**	*e*S		**Sn**	**04 04 02.7**	**-0.7**
	baz=216							
NSTT	**Nanjuang**	**0.67**	**306**	⇑*i*P		**Pn**	**04 03 53.8**	**-0.4**
	baz=308							
NSTT				*i* S		**Sn**	**04 04 03.7**	**+0.2**
	baz=308							
EGS		**0.67**	**27**	*e*P		**Pn**	**04 03 54.0**	**-0.2**
	baz=28							
SMLT	**Sun Moon Lake**	**0.73**	**241**	⇓*i*P		**Pn**	**04 03 54.5**	**-0.6**
	baz=238							
SMLT				*e*S		**Sb**	**04 04 06.7**	**+1.3**
	baz=238							
TWA	**Mucha**	**0.74**	**359**	*e*P		**Pn**	**04 03 54.8**	**-0.3**
	baz=355							
TWA				S		**Sn**	**04 04 05.5**	**+0.2**
	baz=355							
TYC	**Yuchr**	**0.76**	**244**	P		**Pn**	**04 03 54.9**	**-0.5**
	baz=241							
TYC				*e*S		**Sb**	**04 04 06.5**	**+0.6**
	baz=241							
TWQ1	**Liyutan**	**0.76**	**278**	⇑*i*P		**Pn**	**04 03 54.9**	**-0.6**
	baz=278							
TWQ1				*e*S		**Sn**	**04 04 05.4**	**-0.5**
	baz=278							
EHY	**Hungye**	**0.78**	**199**	*e*P		**Pn**	**04 03 53.1**	**-2.6**
	baz=184							
NSY	**Sanyi**	**0.79**	**283**	⇑*i*P		**Pn**	**04 03 55.5**	**-0.3**
	baz=284							
NSY				*e*S		**Sn**	**04 04 06.6**	**+0.2**
	baz=284							
TAP1	**Taipei**	**0.80**	**355**	*e*P		**Pn**	**04 03 55.5**	**-0.5**
	baz=359							
TAP1				*e*S		**Sn**	**04 04 07.0**	**+0.4**
	baz=359							
HSN	**Hsinchu**	**0.80**	**314**	*e*P		**Pn**	**04 03 55.8**	**-0.2**
	baz=321							
NCU	**National Centr**	**0.82**	**333**	P		**Pn**	**04 03 56.0**	**-0.2**
	baz=337							
NCU				*e*S		**Sn**	**04 04 07.2**	**+0.1**
	baz=337							
TWB1	**Santiao Chiao**	**0.84**	**25**	P		**Pn**	**04 03 56.2**	**-0.3**
	baz=17							
TWB1				S		**Sn**	**04 04 07.7**	**-0.1**
	baz=17							
NWF	**Wu-fen Shan**	**0.84**	**11**	⇓*i*P		**Pn**	**04 03 56.2**	**-0.4**
	baz=3.0							
NWF				*i* S		**Sn**	**04 04 07.7**	**-0.2**
	baz=3.0							
TCU	**Taichung**	**0.85**	**264**	*e*P		**Pn**	**04 03 56.3**	**-0.4**
	baz=263							
TCU				*e*S		**Sn**	**04 04 07.9**	**0.0**
	baz=263							
TWS1	**Kuangyinshan**	**0.87**	**349**	*e*P		**Pn**	**04 03 56.5**	**-0.5**
	baz=5.0							
TWS1				*e*S		**Sn**	**04 04 08.7**	**+0.2**
	baz=5.0							
WNT	**Mingjian**	**0.91**	**247**	*e*P		**Pn**	**04 03 57.5**	**-0.1**
	baz=244							
WNT				*e*S		**Sb**	**04 04 10.6**	**+0.4**
	baz=244							
TWF1	**Yuli**	**0.93**	**197**	⇓*e*P		**Pn**	**04 03 55.1**	**-2.6**
	baz=186							
YUS	**Yu-Shan**	**0.95**	**219**	*e*P		**Pn**	**04 03 58.4**	**-0.2**
	baz=206							
ALS	**Alishan**	**1.03**	**225**	*e*P		**Pn**	**04 03 59.5**	**0.0**
	baz=211							
ALS				*e*S		**Sn**	**04 04 13.8**	**+1.0**
	baz=211							
TWY	**Chenhua**	**1.03**	**360**	*e*P		**Pn**	**04 03 58.4**	**-0.8**
	baz=4.0							
CHN5	**Tsauling**	**1.06**	**233**	⇓*i*P		**Pn**	**04 03 59.9**	**+0.2**
	baz=230							
CHN5				S		**Sn**	**04 04 14.4**	**+1.1**
	baz=230							
WGK	**Gukeng**	**1.10**	**240**	*e*P		**Pn**	**04 04 00.5**	**+0.4**
	baz=237							
WGK				*e*S		**Sb**	**04 04 15.7**	**+0.1**
	baz=237							
CHKT	**Chengkung**	**1.16**	**191**	*e*P		**Pn**	**04 03 59.4**	**-1.5**
	baz=186							
CHKT				*e*S		**Sn**	**04 04 14.3**	**-1.2**
	baz=186							
ELDTW	**Lidau**	**1.18**	**207**	*e*P		**Pn**	**04 03 59.9**	**-1.3**
	baz=193							
JYNG	**Yonagunijimaku**	**1.25**	**80**	P		**Pn**	**04 04 02.1**	**0.0**
JYNG				*e*S		**Sn**	**04 04 18.4**	**+0.7**
CHN2	**Minshiung**	**1.25**	**236**	*e*P		**Pn**	**04 04 02.9**	**+0.8**
	baz=233							
CHN2				*e*S		**Sb**	**04 04 20.4**	**+0.5**
	baz=233							
WTCT	**Ta-ch'eng**	**1.26**	**253**	*e*P		**Pn**	**04 04 02.7**	**+0.3**
	baz=251							
WTCT				*e*S		**Sn**	**04 04 17.5**	**-0.6**
	baz=251							
CHN4	**Tsaushan**	**1.28**	**226**	P		**Pn**	**04 04 03.1**	**+0.5**
	baz=222							
CHN4				S		**Sb**	**04 04 21.0**	**+0.3**
	baz=222							
YOJ	**Yonaguni jima**	**1.30**	**80**	P		**Pn**	**04 04 02.7**	**-0.2**
YOJ				*e*S		**Sn**	**04 04 20.1**	**+0.9**
YOJ	**Yonaguni jima**	**1.30**	**80**	P		**Pn**	**04 04 02.8**	**-0.2**
	baz=81							
YOJ				S		**Sn**	**04 04 19.6**	**+0.4**
	baz=81							
CHY	**Chiayi**	**1.31**	**236**	*e*P		**Pn**	**04 04 03.0**	**+0.1**
	baz=232							
CHY				*e*S		**Sn**	**04 04 20.7**	**+1.4**
	baz=232							
STYT	**Tauyuan**	**1.32**	**216**	*e*P		**Pn**	**04 04 03.1**	**-0.1**
	baz=200							
STYT				*e*S		**Sn**	**04 04 21.4**	**+1.6**
	baz=200							
WTP	**Ta-pu**	**1.34**	**223**	P		**Pn**	**04 04 03.8**	**+0.3**
	baz=208							
WTP				S		**Sn**	**04 04 22.0**	**+1.8**
	baz=208							
TWK	**Hsinying**	**1.41**	**227**	*e*P		**Pn**	**04 04 05.1**	**+0.7**
	baz=222							
CHN1	**Nanshi**	**1.44**	**223**	*e*P		**Pn**	**04 04 05.1**	**+0.3**
	baz=219							
CHN1				*e*S		**Sb**	**04 04 24.7**	**-0.6**
	baz=219							
PCYT	**Pengchaiyu**	**1.45**	**17**	*e*P		**Pn**	**04 04 03.0**	**-1.9**
	baz=21							
SGST	**Jiashian**	**1.48**	**219**	*e*P		**Pn**	**04 04 06.0**	**+0.6**
	baz=214							
SGST				*e*S		**Sb**	**04 04 26.0**	**-0.6**
	baz=214							
TWG	**Pinlang**	**1.50**	**199**	*e*P		Pn	04 04 02.2	-3.3
	baz=182							
CHN8	**Yiju**	**1.55**	**235**	*e*P		**Pn**	**04 04 05.1**	**-1.3**
	baz=245							
SSD	**Sandimen**	**1.73**	**211**	*e*P		**Pn**	**04 04 10.2**	**+1.4**
	baz=206							
IRIF	**Iriomote-Funau**	**1.95**	**87**	P		**Pn**	**04 04 11.4**	**-0.3**
IRIF				S		**Sn**	**04 04 34.9**	**-0.1**
EAST	**Anshuo**	**1.97**	**201**	*e*P		**Pn**	**04 04 13.3**	**+1.1**
	baz=185							
PNG	**Penghu**	**1.99**	**251**	*e*P		**Pn**	**04 04 11.2**	**-1.1**
	baz=249							
HATJ	**Hateruma jima**	**2.02**	**95**	P		**Pn**	**04 04 12.9**	**+0.1**
HATJ				S		**Sn**	**04 04 38.2**	**+1.3**
WDGT	**Dungji**	**2.03**	**242**	*e*P		**Pn**	**04 04 11.2**	**-1.7**
	baz=238							
SCZT	**Fangliau**	**2.07**	**206**	*e*P		**Pn**	**04 04 13.1**	**-0.3**
	baz=200							
JKRS	**Kuro-shima**	**2.20**	**90**	P		**Pn**	**04 04 15.4**	**+0.2**
JKRS				S		**Sn**	**04 04 41.9**	**+0.6**
JIJ	**Ishigaki jima**	**2.32**	**86**	P		**Pn**	**04 04 16.7**	**-0.2**
JIJ				*e*S		**Sn**	**04 04 43.5**	**-0.9**
TWK1	**Hengchun**	**2.40**	**198**	*e*P		**Pn**	**04 04 17.8**	**-0.3**
	baz=182							
JISG	**Ishigakijimahi**	**2.50**	**82**	P		**Pn**	**04 04 18.5**	**-0.8**
JISG				*e*S		**Sn**	**04 04 48.1**	**-0.5**
JTJ	**Tarama**	**2.85**	**81**	P		**Pn**	**04 04 24.3**	**0.0**
JTJ				S		**Sn**	**04 04 57.5**	**0.0**
JIRB	**Irabujima**	**3.31**	**79**	S		**Sn**	**04 05 08.7**	**+0.1**

IDC 16 04:06:51.9±4.0, 5.°77S×151.°12E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/36, mbtmp3.3/2, Error ellipse: s-maj=160.4km s-min=52.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.55**	**228**	P		P	04 11 42.7	-0.4
	0.4nm,0.6s,baz=54,slow=10,SNR=5.2							
ASAR	**Alice Springs**	**24.31**	**221**	P		P	04 12 11.9	+0.4
	0.6nm,0.6s,baz=58,slow=9.2,SNR=5.2							
TORD	**Torodi Ar. Bea**	**148.98**	**286**	PKPbc		PKPbc	04 26 42.3	-0.7
	0.2nm,0.6s,baz=105,slow=2.3,SNR=4.6							

IDC 16 04:07:28.0±1.9, 5.°62S×151.°36E, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.8/37, mbtmp4.1/5, ML2.3/1, Error ellipse: s-maj=103.5km s-min=24.3km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.61**	**228**	Pn		Pn	04 08 55.0	+2.3
	6.0nm,0.3s,baz=40,slow=7.9,SNR=5.6							
PMG				Sn		Sn	04 09 53.8	-4.2
	4.4nm,0.3s,baz=28,slow=15,SNR=2.4							
WRA	**Warramunga Arr**	**21.83**	**228**	P		P	04 12 21.4	-0.8
	3.7nm,0.5s,baz=53,slow=11,SNR=24							
ASAR	**Alice Springs**	**24.58**	**221**	P		P	04 12 49.5	-0.5
	3.1nm,0.8s,baz=54,slow=9.2,SNR=15							
FITZ	**Fitzroy Crossi**	**28.01**	**242**	P		P	04 13 20.9	-0.1
	2.4nm,0.6s,baz=85,slow=8.5,SNR=7.4							
ILAR	**Eielson Array**	**83.46**	**22**	P		P	04 19 57.0	-0.2
	0.4nm,0.6s

ISC 16 04:12:39.0±0.5, 18°1S±0.1×178°4W±0.1, h579km, n56, σ1°12/58, mb4.2/14, 7C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.58**	**58**	P	**P**		**04 14 35.4**	**+1.7**
	14nm,0.3s,baz=207,slow=5.3,SNR=13							
AFI				S	**S**		04 16 09.4	+1.7
	1.1nm,0.3s,baz=315,slow=18,SNR=1.6							
DZM	**Mont Dzumac**	**14.79**	**252**	P	**P**		**04 15 47.1**	**+1.2**
	1.1nm,0.3s,baz=74,slow=21,SNR=7.7							
URZ	**Urewera**	**20.52**	**190**	P	**P**		**04 16 35.8**	**-2.4**
	5.4nm,0.3s,baz=286,slow=3.3,SNR=8.3							
URZ				S	S		04 19 42.9	-8.6
	8.4nm,0.7s,baz=22,slow=16,SNR=3.1							
RPZ	**Rata Peaks**	**27.09**	**197**	P	**P**		**04 17 35.5**	**-1.0**
	3.1nm,0.4s,baz=11,slow=5.2,SNR=3.3							
CTA	**Charters Tower**	**33.43**	**261**	P	**P**		**04 18 32.2**	**+1.0**
	8.6nm,0.6s,baz=93,slow=11,SNR=19							
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**		**04 19 14.7**	**+1.3**
	13nm,0.7s,baz=94,slow=9.7,SNR=15							
JAY	**Jayapura**	**42.95**	**286**	P	**P**		**04 19 49.7**	**+1.3**
	0.8nm,0.7s,baz=73,slow=20,SNR=5.6							
WRA	**Warramunga Arr**	**44.62**	**260**	P	**P**		**04 20 01.2**	**+0.1**
	7.6nm,0.5s,baz=96,slow=7.4,SNR=171							
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**		**04 20 02.6**	**+0.4**
	38nm,0.6s,baz=87,slow=8.7,SNR=366							
ASAR				PcP	**PcP**		04 21 31.5	-0.3
	0.9nm,0.5s,baz=103,slow=4.1,SNR=3.4							
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P	**P**		**04 21 03.6**	**+0.5**
	2.7nm,0.7s,baz=187,slow=2.1,SNR=2.3							
VNDA	**Vanda**	**60.31**	**185**	P	**P**		**04 21 53.5**	**+1.4**
	0.8nm,0.7s,baz=351,slow=6.0,SNR=5.3							
MJAR	**Matsushiro Arr**	**68.02**	**323**	P	**P**		**04 22 41.5**	**0.0**
	0.4nm,0.3s,baz=165,slow=6.1,SNR=4.4							
PETK	**Petropavlovsk-**	**73.81**	**345**	P	**P**		**04 23 15.2**	**+0.2**
	4.6nm,0.6s,baz=127,slow=6.9,SNR=5.1							
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**		**04 24 17.3**	**-1.1**
	1.8nm,0.4s,baz=219,slow=4.9,SNR=40							
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**		**04 24 21.2**	**+1.6**
	5.4nm,0.8s,baz=218,slow=6.0,SNR=66							
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**		**04 24 26.1**	**+0.2**
	2.8nm,0.6s,baz=219,slow=3.8,SNR=16							
YKA	**Yellowknife Ar**	**94.45**	**25**	P	**P**		**04 24 57.0**	**-0.4**
	0.6nm,0.5s,baz=242,slow=4.5,SNR=12							
MKAR	**Makanchi Array**	**109.24**	**314**	PKiKP	**PKiKP**		**04 30 02.1**	**-1.7**
	0.4nm,0.5s,baz=63,slow=2.3,SNR=4.4							
ARCES	**ARCESS Array B**	**126.45**	**350**	PKP	**PKPdf**		**04 30 35.2**	**-0.9**
	1.9nm,0.8s,baz=47,slow=1.4,SNR=10							
FINES	**FINESS Array B**	**133.32**	**344**	PKP	**PKPdf**		**04 30 47.4**	**-2.0**
	1.7nm,0.8s,baz=105,slow=2.2,SNR=5.1							
NB2	**NORSAR Subarra**	**136.51**	**353**	PKP	**PKPdf**		**04 30 56.3**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=12,slow=4.0							
NOA	**NORSAR Array B**	**136.51**	**353**	PKP	**PKPdf**		**04 30 54.6**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=13,slow=4.1,SNR=4.2							
AKASG	**Malin Array Be**	**140.69**	**332**	PKhKP	PKPpre		04 30 56.9	
	comp=Z,0.2nm,0.4s,baz=39,slow=3.8,SNR=6.4							
AKASG				PKP	**PKiKP**		**04 31 04.7**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=47,slow=3.3,SNR=4.1							
SORM	**Soroca**	**142.91**	**330**	*i*P	**PKPdf**		**04 31 04.5**	**-2.8**
KWP	**Kalwaria Pacla**	**144.20**	**336**	*e*P	**PKPdf**		**04 31 09.3**	**-0.2**
KWP	**Kalwaria Pacla**	**144.20**	**336**	*i*P	**PKPdf**		**04 31 09.4**	**-0.2**
BURAR	**Bucovina Array**	**144.74**	**332**	*i*P	**PKPab**		**04 31 11.5**	**-0.4**
OJC	**Ojcow**	**144.74**	**340**	*e*P	**PKPab**		**04 31 10.9**	**-0.8**
BRTR	**Keskin Array B**	**144.88**	**315**	PKP	PKPbc		04 31 11.4	-0.5
	comp=Z,1.0nm,0.5s,baz=127,slow=2.5,SNR=8.6							
STHS	**Stebnicka Huta**	**144.92**	**338**	*e*PKP	**PKPab**		**04 31 11.8**	**-0.6**
KOLS	**Kolonicke sedl**	**144.93**	**336**	*e*PKP	**PKPab**		**04 31 11.9**	**-0.6**
KSP	**Ksiaz**	**145.24**	**344**	*e*P	**PKPab**		**04 31 12.9**	**-0.7**
NIE	**Niedzica**	**145.25**	**338**	*e*P	**PKPab**		**04 31 12.9**	**-0.9**
CRVS	**Cervenica-Dubn**	**145.27**	**337**	*e*PKP	**PKPab**		**04 31 12.5**	**-1.3**
CLL	**Collm**	**145.60**	**347**	*i*P	**PKPbc**		**04 31 13.2**	**-0.2**
	comp=Z,14nm,0.7s							
LANS	**Liptovska Anna**	**145.77**	**339**	*e*PKP	**PKPab**		**04 31 14.8**	**-1.0**
BRG	**Berggiesshubel**	**145.80**	**346**	*i*PKP	**PKPab**		**04 31 14.1**	**-1.7**
	comp=Z,6.1nm,0.7s							
DOPR	**Dopca**	**145.88**	**330**	*i*P	**PKPab**		**04 31 14.8**	**-1.5**
MLR	**Muntele Rosu**	**145.95**	**329**	*i*P	**PKPbc**		**04 31 14.8**	**0.0**
KECS	**Kecovo**	**145.97**	**337**	*e*PKP	**PKPab**		**04 31 15.1**	**-1.5**
DRGR		**146.47**	**333**	*i*P	**PKPbc**		**04 31 16.0**	**-0.1**
VYHS	**Vyhne**	**146.55**	**339**	*e*PKP	**PKPbc**		**04 31 16.1**	**-0.1**
ARR	**Arges**	**146.68**	**330**	*i*P	**PKPab**		**04 31 17.7**	**-1.9**
GERES	**GERESS Array B**	**147.75**	**345**	PKPbc	**PKPbc**		**04 31 19.1**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=29,slow=3.0,SNR=30							
CONA	**Conrad Observa**	**148.00**	**342**	*i*PKPbc	**PKPbc**		**04 31 20.3**	**+0.3**
	comp=Z,5.3nm,1.0s							
MOA	**Molln**	**148.52**	**344**	*i*PKPbc	**PKPbc**		**04 31 20.9**	**-0.4**
	comp=Z,3.8nm,1.1s							
SOKA	**Soboth**	**149.37**	**342**	*i*PKPbc	**PKPbc**		**04 31 22.7**	**-0.7**
	comp=Z,3.3nm,0.8s							
KBA	**Koelnbreinsper**	**149.47**	**344**	*i*PKPbc	**PKPbc**		**04 31 22.9**	**-0.9**
	comp=Z,2.3nm,0.6s							
WATA	**Walderalm**	**149.66**	**347**	*i*PKPbc	**PKPbc**		**04 31 22.3**	**-1.9**
	comp=Z,3.9nm,0.6s							
RETA	**Reutte**	**149.69**	**348**	*i*PKPbc	**PKPbc**		**04 31 23.8**	**-0.3**
	comp=Z,2.9nm,0.6s							
WTTA	**Wattenberg**	**149.71**	**346**	*i*PKPbc	**PKPbc**		**04 31 24.1**	**-0.2**
	comp=Z,4.7nm,0.5s							
MOTA	**Moosalm**	**149.75**	**347**	*i*PKPbc	**PKPbc**		**04 31 23.9**	**-0.5**
	comp=Z,8.3nm,1.1s							
ABTA	**Abfaltersbach**	**149.99**	**345**	*i*PKPbc	**PKPbc**		**04 31 24.1**	**-0.8**
	comp=Z,6.8nm,0.6s							
DAVA	**Damuels**	**150.05**	**349**	*i*PKPbc	**PKPbc**		**04 31 25.0**	**-0.1**
	comp=Z,3.8nm,0.7s							
FETA	**Feichten**	**150.14**	**347**	*i*PKPbc	**PKPbc**		**04 31 25.3**	**0.0**
	comp=Z,6.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**175.13**	**181**	PKP	**PKPdf**		**04 31 42.2**	**-1.8**
	comp=Z,0.8nm,1.0s,baz=103,slow=1.1,SNR=3.0							
TORD				PKPab	**PKPab**		**04 33 23.6**	**0.0**
	comp=Z,0.4nm,0.9s,baz=204,slow=5.1,SNR=3.7							

*ISCJB **16** 04:22:05.4±0.4, 7°.51S±0°.04×128°.27E±0°.07, h142km, mb4.2/12, Error ellipse: s-maj=9.4km s-min=5.6km az=6.7*

*IDC **16** 04:22:07.0±2.7, 7°.52S×128°.08E, h136km±25km, mb3.9/8, mb1 4.1/11, mb1mx3.8/30, mbtmp4.5/11, Error ellipse: s-maj=36.7km s-min=12.9km az=82.0*

*NEIC **16** 04:22:08.1±1.7, 7°.57S×128°.30E, h150km±17km, mb4.5/5, Error ellipse: s-maj=18.4km s-min=11.3km az=50.0*

ISC 16 04:22:07.1±0.5, 7°.67S±0°.05×128°.32E±0°.08, h142km, n28, σ2°33/34, mb4.1/12, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.51**	**242**	*e*Pn	**Pn**		**04 23 17.9**	**+3.9**
SOEI				*e*S	**Sn**		**04 24 06.6**	**+0.5**
SIJI	**Sorong**	**7.36**	**24**	P	**Pn**		**04 23 52.5**	**+0.5**
	19nm,0.3s,baz=162,slow=3.2,SNR=2.1							
SIJI				S	**Sn**		**04 25 10.4**	**-3.9**
	23nm,0.3s,baz=174,slow=16,SNR=2.3							
FITZ	**Fitzroy Crossi**	**10.70**	**194**	P	**Pn**		**04 24 36.7**	**+0.3**
	6.1nm,0.3s,baz=22,slow=9.6,SNR=126							
FITZ				S	**Sn**		**04 26 30.4**	**-4.3**
	1.3nm,0.3s,baz=83,slow=21,SNR=2.3							
FITZ	**Fitzroy Crossi**	**10.70**	**194**	*e*Pn	**Pn**		**04 24 36.6**	**+0.1**
	5.4nm,0.2s							
FITZ				S	**Sn**		**04 26 30.4**	**-4.3**
WRAB	**Tennant Creek**	**13.52**	**155**	*e*Pn	**Pn**		**04 25 13.7**	**+0.4**
	20nm,0.6s							
WRAB				*e*S	Sn		04 27 36.1	-6.8
WRA	**Warramunga Arr**	**13.52**	**155**	P	**Pn**		**04 25 12.9**	**-0.4**
	7.5nm,0.3s,baz=331,slow=14,SNR=73							
WRA				S	Sn		04 27 36.2	-6.8
	5.6nm,0.3s,baz=326,slow=24,SNR=9.3							
MBWA	**Marble Bar**	**15.77**	**211**	*e*Pn	**P**		**04 25 43.0**	**+0.6**
MBWA				*e*S	**Sn**		**04 28 29.4**	**-7.7**
COEN	**Coen**	**15.87**	**114**	*e*Pn	**P**		**04 25 46.0**	**+2.5**
COEN				*e*S	Sn		04 28 25.7	-14
ASAR	**Alice Springs**	**16.79**	**162**	P	**P**		**04 25 55.7**	**+2.0**
	1.9nm,0.3s,baz=339,slow=10,SNR=103							
ASAR				S	**S**		**04 28 58.7**	**-2.5**
	1.5nm,0.3s,baz=315,slow=17,SNR=6.0							
STKA	**Stephens Creek**	**27.08**	**155**	P	**P**		**04 27 39.1**	**+2.6**
	2.7nm,0.6s,baz=335,slow=9.7,SNR=4.9							
KSAR	**Wonju Array Be**	**44.88**	**360**	P	**P**		**04 30 06.8**	**-0.5**
KSRS	**Korea Array**	**44.89**	**360**	P	**P**		**04 30 06.8**	**-0.6**
	1.2nm,0.5s,baz=176,slow=9.5,SNR=5.0							
USRK	**Ussuriysk Ar.**	**51.73**	**3**	P	**P**		**04 30 58.9**	**-0.8**
	1.6nm,0.5s,baz=185,slow=5.8,SNR=5.7							
SONM	**Songino Array**	**58.56**	**343**	P	**P**		**04 31 48.8**	**-0.1**
	1.3nm,0.8s,baz=166,slow=6.0,SNR=7.6							
PETK	**Petropavlovsk-**	**65.48**	**19**	P	**P**		**04 32 33.9**	**-0.9**
	7.8nm,1.0s,baz=180,slow=5.9,SNR=4.8							
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**		**04 32 49.5**	**-0.7**
	2.4nm,0.4s,baz=120,slow=8.1,SNR=33							
TKM2	**Tokmak 2**	**69.45**	**321**	*e*P	**P**		**04 32 59.1**	**-1.2**
	1.2nm,0.3s							
ZALV	**Zalesovo Beam**	**71.46**	**335**	P	**P**		**04 33 10.4**	**-1.4**
	4.2nm,0.4s,baz=142,slow=5.6,SNR=15							
VNDA	**Vanda**	**71.99**	**173**	P	**P**		**04 33 16.8**	**+2.0**
	0.8nm,0.6s,baz=313,slow=8.8,SNR=6.1							
KURK	**Kurchatov**	**72.23**	**329**	*e*P	**P**		**04 33 15.8**	**-0.8**
	58nm,0.8s							
BRVK	**Borovoye**	**77.82**	**328**	*e*P	**P**		**04 33 47.6**	**-1.0**
	8.9nm,0.9s							
ABKAR	**Akbulak array**	**82.00**	**322**	*e*P	**P**		**04 34 10.2**	**-1.0**
	0.5nm,0.4s							
SYO	**Syowa Base**	**82.44**	**201**	*e*P	**P**		**04 34 12.6**	**-0.5**
SYO	**Syowa Base**	**82.44**	**201**	*e*PcP	**PcP**		**04 34 18.6**	**+0.7**
YKA	**Yellowknife Ar**	**109.08**	**26**	PKiKP	**PKiKP**		**04 40 18.8**	**-0.7**
	0.2nm,0.6s,baz=286,slow=1.9,SNR=4.5							
TORD	**Torodi Ar. Bea**	**127.30**	**281**	PKP	**PKPdf**		**04 40 55.6**	**-0.3**
	0.5nm,0.6s,baz=21,slow=2.0,SNR=13							
CPUP	**Vila Florida**	**145.76**	**171**	PKPbc	**PKPab**		**04 41 31.4**	**+0.7**
	1.4nm,0.5s,baz=229,slow=4.6,SNR=4.8							
LPAZ	**La Paz**	**151.16**	**146**	PKPbc	**PKPbc**		**04 41 46.8**	**+1.5**
	1.6nm,0.4s,baz=272,slow=3.7,SNR=24							

*NIED **16** 04:25:00, 38°.40N×142°.20E, h38km, Mw3.6 Best double couple: M₀2.55000×10¹⁴ NP1:φ=279.00000°, δ29.00000°, λ164.00000°. NP2:φ=23.00000°, δ82.00000°, λ62.00000°.*

JMA 16 04:25:04.4±0.1, 38°.40N×142°.16E, h35km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.64**	**275**	P	P	Pn	04 25 16.9	-0.1
JIO				S	S	Sn	04 25 25.3	-0.6
OFUJ	**Ofunato**	**0.78**	**331**	P	P	Pn	04 25 18.9	0.0
OFUJ				S	S	Sn	04 25 29.1	-0.3
JMK	**Ichinoseki**	**0.92**	**307**	P	P	Pn	04 25 21.2	+0.4
JMK				S	S	Sn	04 25 32.8	0.0
JOU	**Okura**	**1.18**	**269**	P	P	Pn	04 25 25.0	+0.6
JOU				S	S	Sn	04 25 40.0	+0.8
JMM	**Marumori**	**1.20**	**244**	P	P	Pn	04 25 24.5	-0.2
JMM				S	S	Sn	04 25 39.3	-0.5
JOM	**Ohasama**	**1.27**	**328**	P	P	Pn	04 25 26.5	+0.9
JOM				S	S	Sn	04 25 42.7	+1.3
JFK	**Kawauchi**	**1.45**	**225**	P	P	Pn	04 25 27.5	-0.6
JFK				S	S	Sn	04 25 44.2	-1.7
MAT	**Matsushiro**	**3.65**	**241**	P	P	Pn	04 26 03.7	+5.3
MAT				S	S	Sn	04 26 22.0	-18

IDC 16 04:37:26.2±3.6, 5°.73S×151°.19E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/26, mbtmp3.5/2, Error ellipse: s-maj=143.5km s-min=48.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.63**	**228**	P	P		**04 42 18.0**	**-0.3**
	0.8nm,0.5s,baz=53,slow=10,SNR=11							
ASAR	**Alice Springs**	**24.39**	**221**	P	P		04 42 46.7	+0.2
	1.0nm,0.6s,baz=58,slow=9.0,SNR=11							
TORD	**Torodi Ar. Bea**	**149.04**	**286**	PKPbc	PKPbc		04 57 16.9	-0.6
	0.1nm,0.4s,baz=73,slow=3.3,SNR=3.7							

IDC 16 04:43:31.3±3.7, 5°.70S×151°.13E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.7/3, MS3.5/3, Ms1 3.5/3, ms1mx2.8/41, Error ellipse: s-maj=114.9km s-min=53.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.61**	**228**	P	P		04 48 23.0	-0.1
	0.9nm,0.5s,baz=53,slow=11,SNR=9.2							
ASAR	**Alice Springs**	**24.37**	**221**	P	P		04 48 51.7	+0.3
	1.0nm,0.7s,baz=59,slow=9.2,SNR=10							
FITZ	**Fitzroy Crossi**	**27.77**	**241**	P	P		04 49 21.9	-0.2
	3.5nm,1.1s,baz=60,slow=9.4,SNR=2.6							
JNU	**Nakatsue**	**43.13**	**335**	LR	LR		05 07 32.1	
	comp=Z,66nm,19.1s,baz=274,slow=33							
KSRS	**Korea Array**	**48.08**	**335**	LR	LR		05 09 38.1	
	comp=Z,70nm,19.4s,baz=156,slow=33							
MKAR	**Makanchi Array**	**79.91**	**319**	LR	LR		05 30 30.9	
	comp=Z,15nm,20.3s,baz=318,slow=35							
TORD	**Torodi Ar. Bea**	**148.98**	**286**	PKPbc	PKPbc		05 03 21.7	-0.7
	0.9nm,1.2s,baz=66,slow=1.2,SNR=2.3							

IDC 16 04:47:06.6±3.8, 5°.68S×151°.01E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.3/28, mbtmp3.2/2, Error ellipse: s-maj=160.5km s-min=49.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.53**	**227**	P	P		04 51 57.6	0.0
	0.4nm,0.4s,baz=53,slow=10,SNR=7.5							
ASAR	**Alice Springs**	**24.31**	**221**	P	P		04 52 26.2	+0.1
	0.3nm,0.5s,baz=57,slow=9.1,SNR=4.8							
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc	PKPbc		05 06 56.7	-0.6
	0.4nm,1.0s,baz=65,slow=2.1,SNR=2.3							

IDC 16 04:49:18.6±2.0, 5°.64S×151°.22E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=127.5km s-min=28.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.72**	**228**	P	P		04 54 11.3	-0.2
	1.5nm,0.7s,baz=52,slow=10,SNR=11							
ASAR	**Alice Springs**	**24.48**	**221**	P	P		04 54 39.2	-0.4
	1.9nm,0.7s,baz=59,slow=9.1,SNR=14							
KAPI	**Kappang**	**31.33**	**270**	LR	LR		05 10 30.8	
	comp=Z,36nm,19.0s,baz=90,slow=41							
ILAR	**Eielson Array**	**83.53**	**22**	P	P		05 01 47.5	-0.6
	0.1nm,0.2s,baz=258,slow=4.5,SNR=3.3							
TORD	**Torodi Ar. Bea**	**149.04**	**286**	PKPbc	PKPbc		05 09 10.4	+0.6
	0.4nm,0.8s,baz=89,slow=2.1,SNR=2.7							

IDC 16 04:53:16.1±1.8, 5°.52S×151°.06E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/36, mbtmp4.1/5, ML1.7/1, Error ellipse: s-maj=99.0km s-min=24.4km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.47**	**225**	Pn	Pn		04 54 41.1	+2.1
	1.7nm,0.3s,baz=38,slow=18,SNR=3.2							
PMG				Sn	Sn		04 55 41.1	-1.5
	1.6nm,0.3s,baz=58,slow=7.2,SNR=1.7							
WRA	**Warramunga Arr**	**21.68**	**227**	P	P		04 58 08.2	-0.5
	3.5nm,0.6s,baz=53,slow=11,SNR=29							
ASAR	**Alice Springs**	**24.47**	**221**	P	P		04 58 36.5	-0.6
	4.8nm,0.7s,baz=52,slow=9.4,SNR=37							
FITZ	**Fitzroy Crossi**	**27.80**	**241**	P	P		04 59 07.5	+0.3
	5.5nm,0.6s,baz=80,slow=9.1,SNR=16							
ILAR	**Eielson Array**	**83.48**	**22**	P	P		05 05 45.3	-0.2
	0.4nm,0.8s,baz=235,slow=4.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**148.87**	**286**	PKPbc	PKPbc		05 13 06.6	-0.3
	1.4nm,0.8s,baz=62,slow=2.5,SNR=6.7							

IDC 16 04:59:17.2±2.0, 5°.79S×151°.32E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/44, mbtmp3.9/4, Error ellipse: s-maj=107.2km s-min=27.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.47**	**229**	Pn	Pn		05 00 43.3	+3.3
	1.5nm,0.3s,baz=73,slow=12,SNR=1.9							
PMG				Sn	Sn		05 01 41.4	-2.3
	3.1nm,0.3s,baz=349,slow=20,SNR=2.3							
WRA	**Warramunga Arr**	**21.69**	**228**	P	P		05 04 09.8	-0.1
	1.6nm,0.5s,baz=54,slow=10,SNR=22							
ASAR	**Alice Springs**	**24.43**	**222**	P	P		05 04 37.9	0.0
	2.6nm,0.7s,baz=58,slow=9.1,SNR=26							
FITZ	**Fitzroy Crossi**	**27.89**	**242**	P	P		05 05 09.1	-0.1
	2.2nm,0.6s,baz=55,slow=8.1,SNR=6.6							
ILAR	**Eielson Array**	**83.63**	**22**	P	P		05 11 47.1	-0.2
	0.1nm,0.9s,baz=250,slow=5.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**149.18**	**286**	PKPbc	PKPbc		05 19 08.6	-0.3
	0.7nm,0.8s,baz=100,slow=3.0,SNR=6.0							

*MDD **16** 05:01:49.4±1.6, 36°.72N×9°.76W, h44km±37km, mb3.7/2, Error ellipse: s-maj=15.0km s-min=14.0km az=172.0, PRXIMO*

*INMG **16** 05:01:50.0±1.2, 36°.74N×9°.67W, h21km±4km, ML1.6, Error ellipse: s-maj=6.0km s-min=5.6km az=33.0*

*CSEM **16** 05:01:50.1±0.4, 36°.81N×9°.64W, h30km, ML1.6, Error ellipse: s-maj=6.9km s-min=5.2km az=22.0*

*IGIL **16** 05:01:50.0, 36°.75N×9°.68W, h19km, ML1.5*

ISC 16 05:01:46.7±2.6, 36°.75N±0°.10×9°.72W±0°.09, h10km, n48, σ1°63/91, 2C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.81**	**61**	*e*P	**Pg**		**05 02 04.4**	**+2.1**
PFVI				*e*S	**Sg**		**05 02 15.0**	**+2.1**
PFVI				A	A		05 02 15.8	
	8.7nm,0.2s							
PFVI	**Vila Bisbo**	**0.81**	**61**	P	**Pg**		**05 02 04.4**	**+2.1**
	2.3nm,0.0s,SNR=18							
PFVI				S	**Sg**		**05 02 14.7**	**+1.8**
	15nm,0.1s,SNR=6.4							
PFVI	**Vila Bisbo**	**0.81**	**61**	P	**Pg**		**05 02 04.4**	**+2.1**
	2.3nm,0.0s,SNR=18							
PFVI				*e*S	**Sg**		**05 02 15.0**	**+2.1**
	8.7nm,0.2s							
MORF	**Marmelete**	**1.02**	**57**	*e*P	**Pg**		**05 02 07.5**	**+1.2**
MORF				*e*S	**Sg**		**05 02 20.0**	**+0.4**
MORF				AML	AML		05 02 20.9	
	comp=N,17nm,0.2s							
MORF	**Marmelete**	**1.02**	**57**	*e*P	**Pg**		**05 02 07.5**	**+1.2**
MORF				*e*S	**Sg**		**05 02 20.6**	**+1.0**
MORF				A	A		05 02 21.1	
	comp=N,8.7nm,0.3s							
MORF	**Marmelete**	**1.02**	**57**	P	**Pg**		**05 02 07.5**	**+1.2**
MORF				S	**Sg**		**05 02 20.6**	**+1.0**
	comp=N,8.7nm,0.3s							
MORF	**Marmelete**	**1.02**	**57**	*e*P	**Pg**		**05 02 07.5**	**+1.2**
MORF				S	**Sg**		**05 02 20.6**	**+1.0**
	comp=N,8.7nm,0.3s							
PTEO	**Sao Teotonio**	**1.12**	**45**	*e*S	**Sg**		**05 02 23.1**	**+0.2**
PTEO				A	A		05 02 24.5	
	comp=N,5.4nm,0.5s							
PTEO	**Sao Teotonio**	**1.12**	**45**	S	**Sg**		**05 02 23.1**	**+0.2**
	comp=N,2.7nm,0.5s							
PTEO	**Sao Teotonio**	**1.12**	**45**	S	**Sg**		**05 02 23.1**	**+0.2**
	comp=N,2.7nm,0.5s							
PBDV	**Barranco-do-Ve**	**1.51**	**70**	*e*P	**Pn**		**05 02 14.3**	**+0.4**
PBDV				*e*S	**Sn**		**05 02 32.0**	**-1.7**
PBDV				A	A		05 02 33.5	
	comp=N,3.8nm,0.7s							
PBDV	**Barranco-do-Ve**	**1.51**	**70**	P	**Pn**		**05 02 14.3**	**+0.4**
PBDV				S	**Sn**		**05 02 32.0**	**-1.7**
	comp=N,3.8nm,0.7s							
PBDV	**Barranco-do-Ve**	**1.51**	**70**	*e*P	**Pn**		**05 02 14.3**	**+0.4**
PBDV				S	**Sn**		**05 02 32.0**	**-1.7**
	comp=N,3.8nm,0.7s							
PCVE	**Castro Verde**	**1.60**	**56**	*e*P	**Pn**		**05 02 15.7**	**+0.6**
PCVE				*e*S	**Sn**		**05 02 35.1**	**-0.8**
PCVE				A	A		05 02 36.3	
	comp=N,4.3nm,0.4s							
PCVE	**Castro Verde**	**1.60**	**56**	P	**Pn**		**05 02 15.7**	**+0.6**
PCVE				S	**Sn**		**05 02 35.1**	**-0.8**
	comp=N,4.3nm,0.4s							
PCVE	**Castro Verde**	**1.60**	**56**	*e*P	**Pn**		**05 02 15.7**	**+0.6**
PCVE				S	**Sn**		**05 02 35.1**	**-0.8**
	comp=N,4.3nm,0.4s							
MESJ	**Messejana**	**1.61**	**47**	*e*P	**Pn**		**05 02 15.6**	**+0.3**
MESJ				*e*S	**Sn**		**05 02 34.5**

PMRV				Sn		Sn	05 03 13.9	-2.5
	comp=N,1.3nm,0.6s							
ECAB	**El Cabril**	**3.67**	**68**	P		**Pn**	**05 02 43.6**	**0.0**
	comp=N,0.1nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**05 03 23.8**	**-3.1**
	comp=N,0.1nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**3.67**	**68**	P		**Pn**	**05 02 43.6**	**0.0**
	comp=N,0.1nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**05 03 23.8**	**-3.1**
	comp=N,0.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**4.33**	**69**	S		**Sn**	**05 03 38.5**	**-4.7**
	comp=N,0.3nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**4.33**	**69**	S		**Sn**	**05 03 38.5**	**-4.7**
	comp=N,0.3nm,0.1s,SNR=7.9							

*IDC **16** 05:03:11.5±1.1,28°.95N×131°.25E,h0km,mb3.9/15, mb1 4.0/18,mb1mx3.8/67,mbtmp3.8/18,ML3.3/3,MS3.3/4, Ms1 3.4/4,ms1mx2.8/60,Error ellipse: s-maj=28.2km s-min=24.0km az=86.0*

*NEIC **16** 05:03:12.5±0.6,28°.93N×131°.22E,h10km,mb4.3/9,Error ellipse: s-maj=11.9km s-min=8.2km az=125.0*

*ISCJB **16** 05:03:13.7±1.3,28°.97N±0°.03×131°.22E±0°.04, h29km±10km,mb4.1/20,MS3.3/4,Error ellipse: s-maj=6.8km s-min=3.7km az=28.0*

*JMA **16** 05:03:14.9,28°.98N×131°.16E,h66km±3km,M3.5*

ISC 16 05:03:13.1±3.3,28°.97N±0°.05×131°.18E±0°.07,h13km±21km, n54,σ1°10/68,mb4.1/20,MS3.2/4,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**1.25**	**239**	P	**Pb**	**05 03 36.5**	**0.0**
JZK				*e*S	**Sb**	**05 03 52.3**	**-0.2**
JYAK	**Yakushimahirau**	**1.40**	**335**	P	**Pn**	**05 03 38.4**	**+0.1**
JYAK				*e*S	**Sn**	**05 03 55.9**	**-0.7**
JNN	**Nakanoshima**	**1.44**	**308**	P	**Pn**	**05 03 38.8**	**-0.1**
JNN				*e*S	**Sn**	**05 03 56.8**	**-0.8**
JAM	**Amami Oshima**	**1.49**	**249**	P	**Pn**	**05 03 39.7**	**+0.1**
JAM				*e*S	**Sn**	**05 03 58.2**	**-0.8**
JTN	**Tanegashima 3**	**1.69**	**354**	P	**Pn**	**05 03 42.5**	**+0.1**
JTN				*e*S	**Sn**	**05 04 03.1**	**-0.8**
JKC	**Kuchinoerabu**	**1.72**	**330**	P	**Pn**	**05 03 43.0**	**+0.3**
JKC				*e*S	**Sn**	**05 04 03.7**	**-0.9**
JTAJ	**Takarajima**	**1.74**	**277**	P	**Pn**	**05 03 43.2**	**+0.1**
JTAJ				*e*S	**Sn**	**05 04 04.5**	**-0.7**
JAMN	**Amaminishikomi**	**1.91**	**248**	P	**Pn**	**05 03 45.5**	**+0.2**
JAMN				*e*S	**Sn**	**05 04 08.6**	**-0.6**
JTSR	**Tashiro 2**	**2.20**	**354**	P	**Pn**	**05 03 49.9**	**+0.5**
JTSR				*e*S	**Sn**	**05 04 15.8**	**-0.8**
JTK	**Tokunoshima**	**2.29**	**240**	P	**Pn**	**05 03 51.1**	**+0.5**
JTK				*e*S	**Sn**	**05 04 17.9**	**-0.9**
JNAR	**Kushima--Naru**	**2.55**	**2**	P	**Pn**	**05 03 55.0**	**+0.8**
JNAR				*e*S	**Sn**	**05 04 23.8**	**-1.3**
JSU	**Suzuyama**	**2.61**	**346**	P	**Pn**	**05 03 55.5**	**+0.5**
JOKE	**Okinoerabujima**	**2.81**	**236**	P	**Pn**	**05 03 57.9**	**+0.2**
JTZ	**Takazaki**	**2.92**	**358**	P	**Pn**	**05 03 59.6**	**+0.3**
JTZ				*e*S	**Sn**	**05 04 33.6**	**-0.8**
JSJ	**Shimokoshiki**	**2.98**	**335**	P	**Pn**	**05 03 59.8**	**-0.4**
JSJ				*e*S	**Sn**	**05 04 34.2**	**-1.6**
JOW	**Kunigami**	**3.34**	**231**	P	**Pn**	**05 04 04.8**	**-0.2**
JOW	**Kunigami**	**3.34**	**231**	*e*Pn	**Pn**	**05 04 04.1**	**-1.0**
JOW				*e*Sn	**Sn**	**05 04 42.4**	**-2.2**
JIU2	**Izumi 2**	**3.58**	**355**	P	**Pn**	**05 04 09.3**	**+1.0**
JIU2				*e*S	**Sn**	**05 04 48.4**	**-2.1**
JNU	**Nakatsue**	**4.15**	**356**	Pn	**Pn**	**05 04 17.7**	**+1.5**
	1.5nm,0.3s,baz=234,slow=8.7,SNR=5.2						
JNU				Sn	**Sn**	**05 05 01.8**	**-2.8**
	1.7nm,0.3s,baz=174,slow=12,SNR=3.9						
JNU	**Nakatsue**	**4.15**	**356**	*e*Pn	**Pn**	**05 04 15.8**	**-0.4**
JNU				Sn	**Sn**	**05 05 01.8**	**-2.8**
JNU				*e*Sn	**Sn**	**05 05 03.7**	**-0.9**
KSAR	**Wonju Array Be**	**8.89**	**343**	Pn	**Pn**	**05 05 22.9**	**+1.7**
KSRS	**Korea Array**	**8.89**	**343**	Pn	**Pn**	**05 05 22.9**	**+1.6**
	0.2nm,0.3s,baz=164,slow=16,SNR=4.8						
MAJO	**Matsushiro**	**9.59**	**36**	*e*Pn	**Pn**	**05 05 30.5**	**-0.4**
MJAR	**Matsushiro Arr**	**9.59**	**36**	Pn	**Pn**	**05 05 32.6**	**+1.7**
	1.0nm,0.3s,baz=206,slow=12,SNR=6.1						
USRK	**Ussuriysk Ar.**	**15.22**	**2**	Pn	**P**	**05 06 53.4**	**+0.8**
	0.1nm,0.3s,baz=172,slow=11,SNR=3.3						
BJT	**Baijiatuan**	**16.55**	**316**	Pn	**P**	**05 07 06.6**	**-0.9**
	5.1nm,0.3s						
ASAJ	**Asahikawa**	**17.65**	**28**	*e*P	**Pn**	**05 07 18.7**	**0.0**
	18nm,1.8s						
ENH	**Enshi**	**18.91**	**279**	*e*P	**P**	**05 07 31.8**	**-1.8**
	11nm,0.7s						
YSS	**Yuzh-Sakhalins**	**20.10**	**24**	*e*P	**P**	**05 07 44.5**	**-1.9**
	31nm,1.3s						
KLR	**Kul'dur**	**20.24**	**1**	P	**P**	**05 07 48.4**	**+0.5**
	0.9nm,0.5s,baz=198,slow=12,SNR=5.0						
ULN	**Ulaanbaatar**	**26.53**	**322**	*e*P	**P**	**05 08 50.2**	**-0.4**
	6.9nm,1.8s						
SONM	**Songino Array**	**26.87**	**321**	P	**P**	**05 08 52.9**	**-0.7**
	1.0nm,0.9s,baz=125,slow=8.9,SNR=4.6						
SONM				LR	LR	05 21 10.5	
	comp=Z,66nm,18.1s,baz=149,slow=40						
TLY	**Talaya**	**30.59**	**326**	LR	LR	05 22 44.7	
	comp=Z,50nm,20.4s,baz=80,slow=38						
CMAR	**Chiang Mai Arr**	**31.23**	**258**	LR	LR	05 24 32.0	
	comp=Z,35nm,18.4s,baz=230,slow=41						
PET	**Petropavlovsk**	**31.39**	**32**	*e*P	P	05 09 25.5	-8.1
	20nm,0.8s						
YAK	**Yakutsk**	**33.08**	**359**	*e*P	**P**	**05 09 46.5**	**-1.8**
	29nm,0.3s						
ZALV	**Zalesovo Beam**	**41.75**	**320**	P	**P**	**05 11 02.6**	**+0.7**
	0.7nm,0.5s,baz=112,slow=6.9,SNR=3.4						
MKAR	**Makanchi Array**	**41.76**	**309**	P	**P**	**05 11 02.3**	**+0.2**
	0.6nm,0.5s,baz=93,slow=11,SNR=8.4						
KURK	**Kurchatov**	**44.72**	**314**	*e*P	**P**	**05 11 26.7**	**+0.8**
	22nm,0.5s						
KURBB	**Kurchatov Arra**	**44.76**	**314**	P	**P**	**05 11 27.3**	**+1.0**
	2.8nm,0.5s,baz=100,slow=9.2						
WRAB	**Tennant Creek**	**48.71**	**176**	*e*P	**P**	**05 11 56.5**	**-0.9**
	16nm,1.6s						
WRA	**Warramunga Arr**	**48.72**	**176**	P	**P**	**05 11 57.9**	**+0.4**
	0.4nm,0.7s,baz=352,slow=8.5,SNR=3.7						
ABKAR	**Akbulak array**	**56.73**	**312**	*e*P	**P**	**05 12 57.0**	**+0.5**
	1.0nm,0.5s						
ARU	**Arti**	**56.91**	**321**	LR	LR	05 38 52.4	
	comp=Z,47nm,19.1s,baz=188,slow=38						
ILAR	**Eielson Array**	**60.79**	**29**	P	**P**	**05 13 23.4**	**-1.1**
	0.2nm,0.7s,baz=272,slow=5.1,SNR=2.8						
KBZ	**Khabaz**	**69.46**	**309**	P	**P**	**05 14 22.4**	**+1.3**
	3.1nm,0.7s,baz=56,slow=6.5,SNR=5.9						
FINES	**FINESS Array B**	**71.77**	**331**	P	**P**	**05 14 35.8**	**+0.9**
	1.7nm,0.6s,baz=57,slow=7.0,SNR=7.4						
YKA	**Yellowknife Ar**	**74.94**	**26**	P	**P**	**05 14 53.8**	**+0.3**
	0.4nm,0.9s,baz=58,slow=7.3,SNR=3.8						
AKASG	**Malin Array Be**	**75.14**	**320**	P	**P**	**05 14 56.1**	**+1.1**
	2.0nm,0.6s,baz=52,slow=6.9,SNR=7.5						
BRTR	**Keskin Array B**	**77.41**	**308**	P	**P**	**05 15 09.4**	**+1.2**
	2.4nm,0.8s,baz=97,slow=5.1,SNR=14						
HFS	**Hagfors**	**77.60**	**333**	P	**P**	**05 15 09.2**	**+0.5**
	0.8nm,0.5s,baz=129,slow=4.2,SNR=5.9						
NB2	**NORSAR Subarra**	**78.00**	**334**	P	**P**	**05 15 11.9**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**78.00**	**334**	P	**P**	**05 15 11.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=50,slow=5.7,SNR=5.1						
GERES	**GERESS Array B**	**84.57**	**324**	P	**P**	**05 15 47.9**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=33,slow=3.8,SNR=5.9						

*ISCJB **16** 05:07:39.9±0.4,46°.81N±0°.05×144°.8E±0°.1,h450km, mb3.2/7,Error ellipse: s-maj=12.1km s-min=5.5km az=16.4*

*JMA **16** 05:07:41.9±0.4,46°.75N×144°.80E,h442km,M3.4*

*IDC **16** 05:07:42.1±1.3,47°.27N×144°.57E,h420km±19km,mb2.9/7, mb1 3.1/14,mb1mx2.8/71,mbtmp3.8/14,Error ellipse: s-maj=31.2km s-min=17.3km az=156.0*

ISC 16 05:07:41.3±0.7,46°.76N±0°.08×144°.8E±0°.1,h450km,n25, σ1°83/29,mb3.2/7,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**2.37**	**221**	P	**P**	**05 08 43.9**	**-0.1**
JWK2	**Keihoku**	**2.47**	**235**	P	**P**	**05 08 44.9**	**+0.3**
JTKR	**Abashiri--Toko**	**2.85**	**193**	P	**P**	**05 08 48.3**	**+1.0**
ASAJ	**Asahikawa**	**3.06**	**211**	P	**P**	**05 08 49.9**	**+1.1**
	baz=90,slow=20						
NEM2	**Nemuro 2**	**3.46**	**168**	P	**P**	**05 08 51.2**	**-0.7**
NEM2				*e*S	**S**	**05 09 47.0**	**-2.2**
JAR	**Ashorobuto**	**3.53**	**192**	P	**P**	**05 08 53.6**	**+1.1**
JAK	**Akkeshi**	**3.76**	**181**	P	**P**	**05 08 54.5**	**+0.1**
JAK				*e*S	**S**	**05 09 52.3**	**-1.5**
JCH	**Churui**	**4.26**	**194**	P	**P**	**05 08 59.1**	**+0.3**
JCH				*e*S	**S**	**05 09 59.8**	**-2.1**
JNBK	**Urakawa-nobuka**	**4.71**	**199**	*e*S	**S**	**05 10 08.3**	**-1.0**
JKB	**Kayabe**	**5.56**	**210**	P	**P**	**05 09 11.6**	**+0.4**
JKB				*e*S	**S**	**05 10 21.4**	**-3.1**
JOT	**Ohata**	**6.01**	**208**	*e*S	**S**	**05 10 29.4**	**-3.4**
JOSM	**Okushiri--Mats**	**6.02**	**221**	P	**P**	**05 09 16.8**	**+1.0**
KLR	**Kul'dur**	**9.09**	**291**	P	**P**	**05 09 47.1**	**-1.2**
	0.3nm,0.3s,baz=82,slow=16,SNR=5.1						
KLR				S	S	05 11 15.8	-17
	0.2nm,0.3s,baz=138,slow=16,SNR=2.3						
USRK	**Ussuriysk Ar.**	**9.35**	**259**	P	**P**	**05 09 51.7**	**+0.5**
	0.3nm,0.3s,baz=64,slow=13,SNR=5.9						
PETK	**Petropavlovsk-**	**10.47**	**48**	P	**P**	**05 10 01.4**	**-1.9**
	0.7nm,0.3s,baz=260,slow=8.6,SNR=5.0						
MA2	**Magadan**	**13.32**	**13**	P	**P**	**05 10 31.5**	**-2.6**
	1.4nm,0.3s,baz=162,slow=20,SNR=3.7						
KSRS	**Korea Array**	**15.56**	**239**	P	**P**	**05 11 02.5**	**+4.2**
	0.3nm,0.3s,baz=43,slow=11,SNR=12						
SEY	**Seymchan**	**16.77**	**12**	P	**P**	**05 11 08.7**	**-2.0**
	0.7nm,0.3s,baz=191,slow=9.3,SNR=12						
ILAR	**Eielson Array**	**40.10**	**38**	P	**P**	**05 14 35.9**	**0.0**
	1.0nm,0.8s,baz=282,slow=8.1,SNR=13						
INK	**Inuvik**	**44.68**	**32**	P	**P**	**05 15 11.8**	**-0.2**
	1.3nm,0.5s,baz=305,slow=8.0,SNR=6.9						
YKA	**Yellowknife Ar**	**54.24**	**34**	P	**P**	**05 16 23.7**	**+0.7**
	0.2nm,0.5s,baz=305,slow=7.2,SNR=3.9						
FINES	**FINESS Array B**	**61.44**	**331**	P	**P**	**05 17 11.9**	**-0.2**
	0.4nm,0.5s,baz=38,slow=9.3,SNR=3.4						
NOA	**NORSAR Array B**	**66.19**	**337**	P	**P**	**05 17 42.6**	**-0.1**
	0.4nm,0.6s,baz=38,slow=6.2,SNR=2.6						
HFS	**Hagfors**	**66.27**	**336**	P	**P**	**05 17 42.7**	**-0.4**
	1.0nm,0.5s,baz=20,slow=4.6,SNR=5.6						
TXAR	**Lajitas Array**	**82.33**	**55**	P	**P**	**05 19 18.6**	**+3.7**
	0.2nm,0.5s,baz=298,slow=4.9,SNR=6.8						

IDC 16 05:12:51.7±3.7,5°.63S×150°.95E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.5/40,mbtmp3.8/3,MS3.6/1,Ms1 3.6/1, ms1mx2.6/37,Error ellipse: s-maj=114.6km s-min=52.5km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.52**	**227**	P	P	05 17 42.5	-0.1
	1.0nm,0.6s,baz=53,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.31**	**221**	P	P	05 18 11.4	+0.2
	1.2nm,0.7s,baz=56,slow=8.7,SNR=9.5						
FITZ	**Fitzroy Crossi**	**27.65**	**241**	P	P	05 18 41.2	-0.2
	2.2nm,0.7s,baz=56,slow=11,SNR=4.2						
RPZ	**Rata Peaks**	**41.85**	**158**	LR	LR	05 35 41.3	
	comp=Z,76nm,21.0s,baz=293,slow=33						
TORD	**Torodi Ar. Bea**	**148.79**	**286**	PKPbc	PKPbc	05 32 41.8	-0.5
	0.4nm,0.9s,baz=60,slow=3.0,SNR=2.3						

*NNC **16** 05:15:52.2±3.8,54°.36N×86°.10E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=31.9km s-min=25.3km az=164.0*

IDC 16 05:15:49.2±2.8,54°.54N×86°.19E,h0km,mb1 3.2/2, mb1mx3.0/58,mbtmp3.2/2,ML2.9/2,5C-2D,Error ellipse: s-maj=21.3km s-min=13.3km az=49.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**234**	*i*		05 23 10.0	
	baz=52,slow=316,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.00**	**234**	Pg	Pg	05 16 07.0	-1.4
	2.2nm,0.3s,baz=51,slow=16,SNR=27						
ZALV				Lg	Lg	05 16 22.6	
	7.3nm,0.3s,baz=54,slow=27,SNR=19						
ZALV				Rg	Rg	05 16 26.6	
	16nm,0.5s,baz=54,slow=34,SNR=25						
KURK	**Kurchatov**	**6.00**	**233**	⇑Pn	Pn	05 17 20.0	+0.9
	9.0nm,0.7s						
KURK				⇑Sn	Sn	05 18 30.3	+1.9
	5.4nm,0.7s						
KURK				⇑Lg	Lg	05 19 00.4	
	81nm,1.0s						
KURBB	**Kurchatov Arra**	**6.10**	**233**	Pn	Pn	05 17 21.3	+0.8
	0.2nm,0.3s,baz=49,slow=14,SNR=20						
KURBB				Lg	Lg	05 19 05.1	
	0.1nm,0.3s,baz=44,slow=33,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.10**	**233**	⇓Pn	Pn	05 17 21.4	+0.9
	1.6nm,0.3s						
KURBB				⇓Sn	Sn	05 18 29.2	-1.8
	3.0nm,0.6s						
KURBB				⇑Lg	Lg	05 19 03.3	
	10nm,0.8s						
MK31	**Makanchi Array**	**8.14**	**199**	Pn	Pn	05 17 49.7	+1.1
	0.3nm,0.5s,baz=26,slow=13,SNR=12						
MK31				Sn	Sn	05 19 20.6	-0.7
	0.8nm,0.6s,baz=22,slow=27,SNR=5.0						
MK31				⇑Lg	Lg	05 20 05.5	
	7.8nm,1.1s,baz=25,slow=26,SNR=4.9						
MKAR	**Makanchi Array**	**8.14**	**199**	Pn	Pn	05 17 49.5	+0.8
	0.2nm,0.3s,baz=22,slow=13,SNR=8.1						
MKAR				Sn	Sn	05 19 20.6	-0.7
	0.4nm,0.3s,baz=23,slow=27,SNR=9.6						
MKAR				Lg	Lg	05 20 04.9	
	0.1nm,0.3s,baz=20,slow=26,SNR=2.8						

WEL 16 05:16:32.0±0.4,37°.33S×176°.34E,h189km±4km,ML3.7/11, 2C-2D,Error ellipse: s-maj=2.7km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.11**	**147**	PN	Pn	05 17 01.6	+0.2
MUGZ	**Murupara**	**1.20**	**164**	PN	Pn	05 17 02.0	-0.1
HAZ	**Te Kaha**	**1.22**	**111**	PN	Pn	05 17 02.5	+0.2
MWZ	**Matawai**	**1.38**	**137**	PN	Pn	05 17 03.8	+0.1
RTZ	**Ruatahuna**	**1.38**	**159**	PN	Pn	05 17 04.1	+0.3
MRHZ	**Matea Rd**	**1.51**	**178**	PN	Pn	05 17 05.1	+0.2
MXZ	**Matakaoa Point**	**1.58**	**99**	PN	Pn	05 17 05.7	+0.2
TKGZ	**Te Karaka**	**1.63**	**133**	PN	Pn	05 17 06.0	0.0
SNGZ	**Shannon Statio**	**1.65**	**152**	PN	Pn	05 17 06.3	+0.1
SNGZ				SN	Sn	05 17 32.2	-0.7
PUZ	**Puketiti**	**1.69**	**117**	⇓PN	Pn	05 17 06.5	-0.1
PUZ				SN	Sn	05 17 32.5	-1.0
WMGZ	**Waiomatatini S**	**1.72**	**107**	PN	Pn	05 17 07.0	+0.2
RIGZ	**Rimuhau**	**1.78**	**141**	PN	Pn	05 17 07.6	+0.1
RIGZ				SN	Sn	05 17 34.6	-0.5
NMHZ	**Naumai**	**1.81**	**168**	PN	Pn	05 17 08.3	+0.6
BKZ	**Black Stump Fm**	**1.84**	**176**	PN	Pn	05 17 07.6	-0.5
BKZ				AML	AML	05 17 35.9	
CNGZ	**Carnagh Statio**	**1.88**	**129**	PN	Pn	05 17 08.7	+0.3
KNZ	**Kokohu**	**1.99**	**149**	⇑PN	Pn	05 17 09.1	-0.4
KNZ				AML	AML	05 19 11.4	
KNZ				AML	AML	05 20 09.9	
ARHZ	**Aropaoanui**	**2.00**	**165**	PN	Pn	05 17 09.6	-0.1
TUVZ	**Tukino**	**2.01**	**195**	PN	Pn	05 17 10.0	-0.1
WNVZ	**Wahianoa**	**2.08**	**196**	PN	Pn	05 17 10.5	-0.3
KWHZ	**Kaweka Forest**	**2.10**	**178**	PN	Pn	05 17 10.3	-0.5
MCHZ	**McNeill Hill**	**2.13**	**173**	PN	Pn	05 17 10.9	-0.2
KRHZ	**Kereru**	**2.31**	**179**	PN	Pn	05 17 12.1	-1.0
KAHZ	**Kahuranaki**	**2.50**	**171**	⇓PN	Pn	05 17 14.3	-1.0
PNHZ	**Pukenui**	**2.59**	**182**	PN	Pn	05 17 14.7	-1.5
PXZ	**Pawanui**	**2.73**	**172**	PN	Pn	05 17 16.2	-1.7
TSZ	**Takapari Road**	**2.75**	**186**	PN	Pn	05 17 16.2	-1.9
DVHZ	**Dannevirke**	**2.97**	**183**	PN	Pn	05 17 18.4	-2.3
POWZ	**Post Office Ro**	**3.10**	**188**	PN	Pn	05 17 19.9	-2.2
ANWZ	**Angora Road**	**3.13**	**178**	PN	Pn	05 17 20.6	-2.0
BFZ	**Birch Farm**	**3.35**	**181**	PN	Pn	05 17 22.6	-2.8
MRZ	**Mangatainoka R**	**3.38**	**190**	PN	Pn	05 17 22.6	-3.1
OGWZ	**Otaki Gorge**	**3.60**	**194**	PN	Pn	05 17 25.3	-3.1
HOWZ	**Holdsworth Sta**	**3.62**	**190**	PN	Pn	05 17 24.9	-3.8
KIW	**Kapiti Island**	**3.70**	**197**	PN	Pn	05 17 26.3	-3.4
MTW	**Mount Morrison**	**3.88**	**189**	PN	Pn	05 17 27.9	-3.9
CAW	**Cannon Point**	**3.91**	**194**	PN	Pn	05 17 28.5	-3.7
DUWZ	**D'Urville Isla**	**3.95**	**208**	PN	Pn	05 17 29.6	-3.1
TCW	**Tory Channel**	**4.20**	**202**	PN	Pn	05 17 32.3	-3.5
TUWZ	**Tuamarina**	**4.50**	**204**	PN	Pn	05 17 35.8	-3.8
QRZ	**Quartz Range**	**4.58**	**219**	PN	Pn	05 17 37.4	-3.4
THZ	**Tophouse**	**5.17**	**210**	PN	Pn	05 17 44.6	-3.7
KHZ	**Kahutara**	**5.52**	**202**	⇑PN	Pn	05 17 48.6	-4.2
LTZ	**Lake Taylor**	**6.28**	**209**	PN	Pn	05 17 57.5	-5.2
INZ	**Inchbonnie**	**6.57**	**213**	PN	Pn	05 18 01.7	-4.8
MQZ	**McQueen's Vall**	**6.96**	**203**	PN	Pn	05 18 05.6	-6.0

*DDA **16** 05:19:17.9,37°.59N×36°.17E,h7km,Md3.0*

*ISK **16** 05:19:18.5,37°.63N×36°.14E,h7km,MD2.7*

*CSEM **16** 05:19:19.2±0.2,37°.63N×36°.10E,h10km,MD2.7,Error ellipse: s-maj=5.0km s-min=4.2km az=1.0*

ISC 16 05:19:18.5±1.1,37°.63N±0°.03×36°.15E±0°.02,h4km±10km, n33,σ0°70/47,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.30**	**241**	*e*PG	**Pg**	**05 19 24.1**	**-0.2**
KOZT				*e*SG	**Sg**	**05 19 29.5**	**+1.4**
KOZT	**Kozan**	**0.30**	**241**	*e*Pg	**Pg**	**05 19 24.1**	**-0.2**
KOZT				*e*Sg	**Sg**	**05 19 29.5**	**+1.4**
AKO	**Adana**	**0.58**	**254**	*i* P	**Pg**	**05 19 29.1**	**-0.6**
AKO				*i* S	**Sb**	**05 19 38.4**	**-1.5**
KAMA	**Osmaniye**	**0.60**	**137**	*i* P	**Pg**	**05 19 29.5**	**-0.5**
KAMA				*i* S	**Sg**	**05 19 36.6**	**-1.3**
HCB	**Kahramanmara¯**	**0.66**	**115**	*i* P	**Pg**	**05 19 30.0**	**-1.2**
HCB				*i* S	**Sg**	**05 19 38.9**	**-0.9**
CEYT	**Ceyhan**	**0.69**	**208**	*e*PG	**Pg**	**05 19 32.3**	**+0.5**
CEYT	**Ceyhan**	**0.69**	**208**	*e*Pg	**Pg**	**05 19 32.3**	**+0.5**
YAHY	**KAYSERI_Yahyal**	**0.78**	**307**	P	**Pg**	**05 19 33.3**	**-0.2**
YAHY	**KAYSERI_Yahyal**	**0.78**	**307**	*i* P	**Pg**	**05 19 33.3**	**-0.2**
SARI	**SarD1z-Kayseri**	**0.81**	**15**	*e*PG	**Pg**	**05 19 34.1**	**+0.1**
GAZ	**Gaziantep**	**0.96**	**118**	*e*PG	**Pb**	**05 19 37.5**	**-0.2**
GAZ				*e*SG	**Sb**	**05 19 51.4**	**+0.7**
GAZ	**Gaziantep**	**0.96**	**118**	*e*Pg	**Pb**	**05 19 37.5**	**-0.2**
GAZ				*e*Sg	**Sb**	**05 19 51.4**	**+0.7**
KUZU	**Kuzuini**	**1.12**	**139**	P	**Pg**	**05 19 40.2**	**+0.2**
KUZU	**Kuzuini**	**1.12**	**139**	*i* P	**Pg**	**05 19 40.2**	**+0.2**
GULE	**Gulek**	**1.15**	**253**	P	**Pn**	**05 19 41.1**	**-0.4**
GULE	**Gulek**	**1.15**	**253**	*i* P	**Pn**	**05 19 41.1**	**-0.4**
GZT	**Gaziantep**	**1.16**	**103**	*i* P	**Pg**	**05 19 39.9**	**-0.7**
GZT				*i* S	**Sn**	**05 19 57.8**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.25**	**179**	*e*PN	**Pg**	**05 19 42.9**	**+0.5**
TAHT				*e*SN	**Sn**	**05 20 00.8**	**+0.9**
TAHT	**Tahtakopru-Hat**	**1.25**	**179**	*e*Pn	**Pg**	**05 19 42.9**	**+0.5**
TAHT				*e*Sn	**Sn**	**05 20 00.8**	**+0.9**
BNN	**Bunyan**	**1.25**	**349**	*e*PN	**Pn**	**05 19 43.4**	**+0.5**
BNN	**Bunyan**	**1.25**	**349**	*e*Pn	**Pn**	**05 19 43.4**	**+0.5**
NIG	**Nigde**	**1.31**	**292**	*e*PN	**Pg**	**05 19 43.6**	**-0.1**
NIG	**Nigde**	**1.31**	**292**	*e*Pn	**Pg**	**05 19 43.6**	**-0.1**
DARE	**Darende-Malaty**	**1.41**	**48**	*e*PN	**Pb**	**05 19 45.2**	**-0.3**
DARE	**Darende-Malaty**	**1.41**	**48**	*e*Pn	**Pb**	**05 19 45.2**	**-0.3**
AKCD	**Akcadag**	**1.55**	**64**	P	**Pn**	**05 19 47.1**	**+0.1**
AKCD				S	**Sg**	**05 20 08.6**	**+0.2**
AKCD	**Akcadag**	**1.55**	**64**	*i* P	**Pn**	**05 19 47.1**	**+0.1**
AKCD				*i* S	**Sg**	**05 20 08.6**	**+0.2**
YAYL	**Yayladag**	**1.59**	**181**	P	**Pn**	**05 19 47.4**	**-0.1**
YAYL				S	**Sn**	**05 20 08.3**	**-0.2**
YAYL	**Yayladag**	**1.59**	**181**	*i* P	**Pn**	**05 19 47.4**	**-0.1**
YAYL				*i* S	**Sn**	**05 20 08.3**	**-0.2**
KERG	**Konya-Eregli**	**1.63**	**263**	P	**Pn**	**05 19 46.9**	**-1.1**
KERG	**Konya-Eregli**	**1.63**	**263**	*i* P	**Pn**	**05 19 46.9**	**-1.1**
ELZG	**Elazig**	**2.40**	**68**	P	**Pn**	**05 19 59.8**	**+1.1**
ELZG	**Elazig**	**2.40**	**68**	*i* P	**Pn**	**05 19 59.8**	**+1.1**

**IDC 16 05:21:19.7±1.9,35°.16S×179°.13E,h0km,mb4.3/2, mb1 4.4/3

12nm,0.8s
KURBB **Kurchatov Arra 6.41 237** Pn Pn 05 30 26.8 +0.9
0.1nm,0.3s,baz=55,slow=14,SNR=9.0
KURBB Lg Lg 05 32 14.9
0.0nm,0.3s,baz=53,slow=32,SNR=3.7
KURBB **Kurchatov Arra 6.41 237** ⇑Pn Pn 05 30 26.0 +0.1
2.1nm,0.7s,baz=58,slow=14
KURBB ⇓Sn Sn 05 31 40.8 +1.1
1.8nm,0.5s,baz=56,slow=20
KURBB ⇑Lg Lg 05 32 19.9
3.8nm,0.8s,baz=54,slow=30
MK31 Makanchi Array 8.20 203 ⇑Pn Pn 05 30 47.5 -2.9
0.3nm,0.5s,baz=147,slow=14,SNR=5.6
MK31 ⇑Sn Sn 05 32 18.4 -5.3
1.4nm,0.7s,baz=150,slow=28,SNR=3.8
MKAR Makanchi Array 8.20 203 Pn Pn 05 30 51.6 +1.2
0.2nm,0.3s,baz=27,slow=14,SNR=4.7
MKAR Lg Lg 05 33 13.1
baz=22,slow=34,SNR=2.6

IDC 16 05:32:09.7±4.1,5°44S×150°62E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/42, mbtmp3.3/2, Error ellipse: s-maj=148.9km s-min=54.9km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.41**	**226**	P	P	05 36 60.0	+0.5
0.5nm,0.5s,baz=53,slow=11,SNR=6.8							
ASAR	**Alice Springs**	**24.24**	**220**	P	P	05 37 28.5	-0.1
0.9nm,0.9s,baz=39,slow=11,SNR=4.5							
TORD	**Torodi Ar. Bea**	**148.42**	**286**	PKPbc	PKPbc	05 51 58.5	-1.0
0.4nm,1.0s,baz=95,slow=4.1,SNR=2.6							

*IDC **16** 05:33:32.6±0.5, 9°25S×158°94E, h0km, mb4.3/15, mb1 4.3/16, mb1mx4.2/42, mbtmp4.2/16, ML3.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/31, Error ellipse: s-maj=17.0km s-min=14.1km az=4.0*
*ISCJB **16** 05:33:35.1±0.4, 9°28S±0°08×158°84E±0°04, h27km, mb4.3/19, Error ellipse: s-maj=11.7km s-min=5.8km az=6.1*
*NEIC **16** 05:33:37.8±0.3, 9°32S×158°92E, h35km, mb4.2/4, Error ellipse: s-maj=9.9km s-min=7.8km az=143.0*
ISC 16 05:33:36.9±0.5, 9°3S±0°1×158°93E±0°06, h27km, n42, σ0°93/39, mb4.3/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.02**	**99**	Pn	**Pn**	**05 33 54.6**	**-0.8**
335nm,0.3s,baz=203,slow=8.9,SNR=62							
HNR				Sn	**Sn**	**05 34 08.8**	**0.0**
2µm,0.3s,baz=253,slow=19,SNR=23							
HNR	**Honiara**	**1.02**	**99**	*e*P	**Pn**	**05 33 53.0**	**-2.4**
HNR	**Honiara**	**1.02**	**99**	Pn	**Pn**	**05 33 54.6**	**-0.8**
HNR				Sn	**Sn**	**05 34 08.8**	**0.0**
HNR				*e*Sg	**Sb**	**05 34 10.2**	**+1.4**
PMG	**Port Moresby**	**11.62**	**268**	LR	LR	05 40 29.3	
comp=Z,334nm,18.5s,baz=56,slow=36							
DZM	**Mont Dzumac**	**14.63**	**151**	LR	LR	05 41 02.0	
comp=Z,69nm,19.0s,baz=272,slow=31							
CTA	**Charters Tower**	**16.29**	**227**	Pn	**P**	**05 37 28.5**	**+1.8**
0.3nm,0.3s,baz=59,slow=16,SNR=5.4							
CTAO	**Charters Tower**	**16.29**	**227**	*e*Pn	**Pn**	**05 37 22.2**	**-1.7**
4.6nm,0.3s							
JAY	**Jayapura**	**19.32**	**289**	P	**P**	**05 38 00.2**	**-0.1**
0.1nm,0.3s,baz=90,slow=20,SNR=4.1							
WRAB	**Tennant Creek**	**26.00**	**243**	*e*P	**P**	**05 39 07.3**	**-0.5**
4.2nm,0.6s							
WRA	**Warramunga Arr**	**26.01**	**243**	P	**P**	**05 39 07.5**	**-0.5**
7.7nm,0.7s,baz=70,slow=9.5,SNR=32							
WRA				PcP	**PcP**	**05 42 37.6**	**+1.7**
0.7nm,0.9s,baz=70,slow=3.5,SNR=3.7							
STKA	**Stephens Creek**	**27.65**	**213**	P	**P**	**05 39 22.4**	**0.0**
6.1nm,0.6s,baz=48,slow=14,SNR=12							
ASAR	**Alice Springs**	**27.87**	**236**	P	**P**	**05 39 23.6**	**-1.1**
2.8nm,0.8s,baz=64,slow=9.4,SNR=18							
ASAR				PcP	**PcP**	**05 42 40.7**	**+0.5**
0.4nm,0.7s,baz=64,slow=2.2,SNR=2.6							
H11S3	**WAKE ISLAND Hy**	**28.63**	**16**	T	T	06 08 29.5	
baz=194,slow=76,SNR=46							
H11S2	**WAKE ISLAND Hy**	**28.64**	**16**	T	T	06 08 20.9	
baz=194,slow=76,SNR=70							
H11S1	**WAKE ISLAND Hy**	**28.65**	**16**	T	T	06 08 35.2	
baz=194,slow=76,SNR=36							
H11N1	**WAKE ISLAND Hy**	**29.85**	**15**	T	T	06 09 59.2	
baz=195,slow=75,SNR=31							
H11N3	**WAKE ISLAND Hy**	**29.86**	**15**	T	T	06 09 59.3	
baz=195,slow=75,SNR=27							
H11N2	**WAKE ISLAND Hy**	**29.87**	**15**	T	T	06 10 04.2	
baz=195,slow=75,SNR=20							
FITZ	**Fitzroy Crossi**	**33.46**	**251**	P	**P**	**05 40 13.4**	**-0.6**
2.6nm,0.7s,baz=94,slow=21,SNR=6.4							
KSRS	**Korea Array**	**54.80**	**330**	P	**P**	**05 43 05.2**	**+0.6**
1.3nm,0.6s,baz=148,slow=8.6,SNR=7.8							
KSAR	**Wonju Array Be**	**54.81**	**330**	P	**P**	**05 43 05.2**	**+0.5**
KLR	**Kul'dur**	**62.95**	**340**	P	**P**	**05 44 01.8**	**+0.8**
0.9nm,0.6s,baz=77,slow=7.1,SNR=4.1							
CMAR	**Chiang Mai Arr**	**65.27**	**295**	P	**P**	**05 44 17.1**	**+0.3**
1.5nm,0.7s,baz=124,slow=5.7,SNR=6.4							
VNDA	**Vanda**	**68.24**	**179**	P	**P**	**05 44 35.7**	**+1.0**
4.1nm,0.8s,baz=335,slow=7.3,SNR=20							
ULN	**Ulaanbaatar**	**73.02**	**326**	*e*P	**P**	**05 45 05.2**	**+0.7**
2.1nm,0.6s							
SONM	**Songino Array**	**73.37**	**326**	P	**P**	**05 45 07.5**	**+1.0**
4.5nm,0.9s,baz=139,slow=5.6,SNR=19							
QSPA	**South Pole Qui**	**80.72**	**180**	*e*P	**P**	**05 45 48.2**	**+0.6**
65nm,1.2s							
ILAR	**Eielson Array**	**84.09**	**20**	P	**P**	**05 46 04.3**	**-0.6**
0.5nm,0.5s,baz=253,slow=5.4,SNR=10							
DOT	**Dot Lake**	**84.46**	**22**	*e*P	**P**	**05 46 07.1**	**+0.3**
6.6nm,0.9s							
MKAR	**Makanchi Array**	**87.68**	**318**	P	**P**	**05 46 23.0**	**-0.2**
2.1nm,0.6s,baz=95,slow=6.5,SNR=21							
ZALV	**Zalesovo Beam**	**88.25**	**325**	P	**P**	**05 46 24.4**	**-1.2**
0.6nm,0.5s,baz=90,slow=7.2,SNR=2.8							
KURK	**Kurchatov**	**91.03**	**321**	P	**P**	**05 46 37.9**	**-0.8**
KURBB	**Kurchatov Arra**	**91.06**	**321**	P	**P**	**05 46 37.9**	**-1.0**
0.4nm,0.6s,baz=102,slow=3.2,SNR=5.5							
BVAR	**Borovoye Array**	**96.45**	**323**	P	**P**	**05 47 02.4**	**-1.3**
0.5nm,0.4s,baz=90,slow=5.9,SNR=4.2							
YKA	**Yellowknife Ar**	**96.52**	**28**	P	**P**	**05 47 02.7**	**-1.0**
0.3nm,0.8s,baz=271,slow=4.9,SNR=4.2							
ARCES	**ARCESS Array B**	**112.86**	**344**	PKiKP	**PKiKP**	**05 52 10.8**	**0.0**
0.5nm,0.6s,baz=328,slow=4.3,SNR=3.6							
FINES	**FINESS Array B**	**117.58**	**337**	PKP	**PKPdf**	**05 52 19.6**	**-0.5**
0.9nm,0.7s,baz=92,slow=4.2,SNR=3.0							
AKASG	**Malin Array Be**	**121.64**	**325**	PKP	**PKPdf**	**05 52 27.4**	**-0.7**
0.3nm,0.3s,baz=54,slow=3.1,SNR=3.1							
NB2	**NORSAR Subarra**	**123.09**	**342**	PKPdf	**PKPdf**	**05 52 30.4**	**-0.3**
comp=Z,0.6nm,0.6s,baz=36,slow=1.8							
NOA	**NORSAR Array B**	**123.09**	**342**	PKP	**PKPdf**	**05 52 30.6**	**-0.1**
comp=Z,0.7nm,0.6s,baz=45,slow=2.0,SNR=5.1							
GERES	**GERESS Array B**	**130.98**	**330**	PKP	**PKPdf**	**05 52 46.6**	**+0.4**
comp=Z,0.5nm,0.5s,baz=62,slow=2.8,SNR=5.4							
TORD	**Torodi Ar. Bea**	**157.34**	**282**	PKP	**PKPdf**	**05 53 31.7**	**+0.3**
comp=Z,0.2nm,0.6s,baz=339,slow=2.0,SNR=3.6							

*IDC **16** 05:37:05.5±7.2, 23°76S×179°84W, h492km±85km, mb3.6/7, mb1 3.8/8, mb1mx3.4/32, mbtmp4.5/8, Error ellipse: s-maj=53.9km s-min=23.9km az=16.0*
*ISCJB **16** 05:37:06.7±1.2, 23°8S±0°1×179°9W±0°2, h518km, mb4.2/7, Error ellipse: s-maj=23.5km s-min=14.3km az=169.1*
ISC 16 05:37:07.7±1.3, 24°0S±0°1×179°8W±0°2, h518km, n9, σ0°71/10, mb4.1/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.48**	**190**	P	**P**	**05 40 12.8**	**+0.8**
1.8nm,0.3s,baz=7.3,slow=19,SNR=8.4							
URZ				S	**S**	**05 42 42.9**	**-1.1**
1.0nm,0.3s,baz=76,slow=22,SNR=9.3							
RPZ	**Rata Peaks**	**21.07**	**199**	P	**P**	**05 41 15.5**	**+0.7**
7.4nm,0.8s,baz=21,slow=14,SNR=3.2							
CTA	**Charters Tower**	**31.63**	**270**	P	**P**	**05 42 48.4**	**+0.3**
11nm,0.3s,baz=101,slow=10,SNR=24							
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**05 43 15.3**	**+0.2**
2.6nm,0.6s,baz=72,slow=6.4,SNR=5.2							
ASAR	**Alice Springs**	**42.17**	**261**	P	**P**	**05 44 14.5**	**-0.3**
5.3nm,0.8s,baz=96,slow=7.1,SNR=36							
WRA	**Warramunga Arr**	**42.55**	**266**	P	**P**	**05 44 16.9**	**-0.9**
7.5nm,0.4s,baz=96,slow=8.5,SNR=395							
FITZ	**Fitzroy Crossi**	**50.97**	**266**	P	**P**	**05 45 21.2**	**-0.3**
3.2nm,0.5s,baz=105,slow=7.0,SNR=11							
TXAR	**Lajitas Array**	**90.34**	**58**	P	**P**	**05 49 13.4**	**-0.3**
0.6nm,0.7s,baz=216,slow=7.2,SNR=8.9							
BRTR	**Keskin Array B**	**147.74**	**307**	PKPbc	**PKPbc**	**05 55 54.4**	**+0.1**
0.5nm,0.5s,baz=141,slow=3.6,SNR=2.7							

*IDC **16** 05:40:31.8±1.4, 26°72N×144°06E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/61, mbtmp3.7/6, Error ellipse: s-maj=41.6km s-min=23.7km az=65.0*
*ISCJB **16** 05:40:34.4±1.1, 26°7N±0°1×144°0E±0°1, h31km, mb3.8/6, Error ellipse: s-maj=23.6km s-min=13.3km az=30.2*
ISC 16 05:40:36.6±1.2, 26°7N±0°2×144°0E±0°1, h31km, n8, σ0°67/9, mb3.8/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.63**	**285**	Pn	**Pn**	**05 41 02.4**	**-0.8**
9.8nm,0.3s,baz=83,slow=23,SNR=14							
JCJ				Sn	**Sn**	**05 41 23.3**	**+0.2**
14nm,0.3s,baz=289,slow=24,SNR=5.3							
SONM	**Songino Array**	**36.10**	**316**	P	**P**	**05 47 35.4**	**-0.3**
0.7nm,0.8s,baz=121,slow=6.9,SNR=3.2							
WRA	**Warramunga Arr**	**47.29**	**192**	P	**P**	**05 49 07.0**	**-0.3**
0.6nm,0.6s,baz=16,slow=8.6,SNR=3.1							
FITZ	**Fitzroy Crossi**	**47.95**	**204**	P	**P**	**05 49 13.1**	**+0.7**
1.7nm,0.7s,baz=11,slow=10,SNR=5.1							
MKAR	**Makanchi Array**	**51.95**	**310**	P	**P**	**05 49 43.4**	**+0.8**
0.9nm,0.9s,baz=93,slow=8.5,SNR=5.1							
KURBB	**Kurchatov Arra**	**54.45**	**315**	P	**P**	**05 50 01.2**	**+0.4**
0.4nm,0.4s,baz=89,slow=8.2,SNR=5.7							
BVAR	**Borovoye Array**	**59.40**	**318**	P	**P**	**05 50 36.3**	**+0.4**
0.3nm,0.3s,baz=69,slow=7.9,SNR=2.6							
LPAZ	**La Paz**	**148.48**	**77**	PKPbc	**PKPbc**	**06 00 20.9**	**-0.8**
0.9nm,0.9s,baz=358,slow=3.6,SNR=3.2							

IDC 16 05:43:46.9±4.9, 5°26S×150°29E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/32, mbtmp3.2/2, Error ellipse: s-maj=211.4km s-min=55.2km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.31**	**225**	P	P	05 48 36.0	+0.5
0.4nm,0.5s,baz=52,slow=10,SNR=4.8							
ASAR	**Alice Springs**	**24.18**	**219**	P	P	05 49 05.0	-0.2
1.6nm,0.7s,baz=42,slow=8.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**148.06**	**286**	PKPbc	PKPbc	06 03 34.8	-0.8
0.2nm,0.6s,baz=64,slow=3.2,SNR=2.3							

IDC 16 06:01:56.1±8.1, 6°03S×150°79E, h110km±55km, mb3.8/3, mb1 3.9/4, mb1mx3.4/43, mbtmp4.1/4, Error ellipse: s-maj=95.8km s-min=55.0km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.92**	**227**	P	Pn	06 03 07.5	-0.3
3.3nm,0.3s,baz=32,slow=13,SNR=2.7							
PMG				S	Sn	06 04 04.9	+1.3
4.8nm,0.3s,baz=128,slow=19,SNR=2.8							
WRA	**Warramunga Arr**	**21.14**	**228**	P	P	06 06 31.5	-0.8
4.5nm,0.5s,baz=54,slow=10,SNR=49							
ASAR	**Alice Springs**	**23.90**	**221**	P	P	06 07 00.1	+0.2
4.5nm,0.7s,baz=54,slow=9.1,SNR=50							
FITZ	**Fitzroy Crossi**	**27.31**	**242**	P	P	06 07 30.6	-0.1
1.3nm,0.4s,baz=67,slow=8.7,SNR=5.1							
TORD	**Torodi Ar. Bea**	**148.74**	**285**	PKPbc	PKPbc	06 21 31.3	-0.3
1.9nm,0.6s,baz=70,slow=2.5,SNR=21							

*NEIC **16** 06:08:37.0±0.4, 5°83S×151°16E, h10km, mb4.7/4, Error ellipse: s-maj=14.1km s-min=7.9km az=106.0*
*GCMT **16** 06:08:37.0±0.3, 6°30S×150°96E, h24km, MW5.0/74, Moment Tensor Solution. s48,c60; s74,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.64±.20; $M_{\theta\theta}$-3.35±.12; $M_{\phi\phi}$-0.29±.12; $M_{r\theta}$1.65±.14; $M_{r\phi}$-0.70±.09; $M_{\theta\phi}$-0.61±.18; Best double couple: $M_0$3.97300×10^{16} NP1:ϕ_s90.00000°, δ58.00000°, λ104.00000°. NP2: ϕ_s246.00000°, δ35.00000°, λ70.00000°. Principal axes: T 4.1380, Plg74.0000°, Azm37.0000°; N -0.3300, Plg11.0000°, Azm263.0000°; P -3.8090, Plg12.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **16** 06:08:40.1±0.5, 5°93S±0°07×151°0E±0°1, h43km, mb4.3/17, MS4.0/26 Error ellipse: s-maj=15.7km s-min=7.2km az=26.2*
*IDC **16** 06:08:42.6±3.4, 5°92S×151°02E, h49km±31km, mb4.0/13, mb1 4.2/15, mb1mx4.0/43, mbtmp4.3/15, ML1.5/1, MS4.0/28, Ms1 4.0/28, ms1mx3.9/41, Error ellipse: s-maj=23.5km s-min=18.4km az=84.0*
ISC 16 06:08:42.1±0.6, 5°86S±0°09×151°0E±0°1, h43km, n49, σ1°31/30, mb4.3/16, MS4.0/26, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.18**	**227**	P	**Pn**	**06 09 58.7**	**+1.5**
1.2nm,0.3s,baz=48,slow=17,SNR=3.3							
PMG				S	**Sn**	**06 10 55.0**	**-0.8**
12nm,0.3s,baz=13,slow=11,SNR=4.4							
PMG				LR	LR	06 11 43.9	
comp=Z,1µm,21.1s,baz=26,slow=35							
JAY	**Jayapura**	**10.79**	**288**	LR	LR	06 15 36.1	
comp=Z,26nm,18.5s,baz=354,slow=38							
CTA	**Charters Tower**	**14.87**	**198**	P	**Pn**	**06 12 09.7**	**0.0**
0.4nm,0.3s,baz=11,slow=12,SNR=5.4							
CTA				LR	LR	06 17 07.2	
comp=Z,807nm,20.0s,baz=12,slow=34							
EIDS	**Eidsvold**	**19.40**	**180**	*e*P	**P**	**06 13 02.8**	**-1.9**
16nm,1.0s							
GUMO	**Guam**	**20.26**	**343**	LR	LR	06 19 35.6	
comp=Z,337nm,20.2s,baz=141,slow=32							
WRAB	**Tennant Creek**	**21.39**	**228**	*e*P	**P**	**06 13 25.7**	**-0.6**
39nm,1.1s							
WRA	**Warramunga Arr**	**21.40**	**228**	P	**P**	**06 13 25.3**	**-1.1**
11nm,0.5s,baz=53,slow=11,SNR=50							
WRA				PcP	**PcP**	**06 17 29.1**	**0.0**
1.6nm,1.0s,baz=44,slow=2.3,SNR=3.4							
WRA				LR	LR	06 21 56.6	
comp=Z,486nm,18.8s,baz=45,slow=37							
DZM	**Mont Dzumac**	**21.97**	**139**	*e*P	**P**	**06 13 37.3**	**+4.7**
124nm,1.6s							
DZM	**Mont Dzumac**	**21.97**	**139**	P	**P**	**06 13 31.2**	**-1.4**
7.1nm,0.8s,baz=341,slow=18,SNR=5.8							
DZM				LR	LR	06 21 21.4	
comp=Z,915nm,18.2s,baz=313,slow=35							
ASAR	**Alice Springs**	**24.17**	**221**	P	**P**	**06 13 53.9**	**-0.7**
9.0nm,0.7s,baz=56,slow=9.4,SNR=57							
ASAR				LR	LR	06 23 28.7	
comp=Z,596nm,18.0s,baz=55,slow=37							
STKA	**Stephens Creek**	**27.34**	**198**	P	**P**	**06 14 23.9**	**+0.8**
8.3nm,0.8s,baz=43,slow=9.3,SNR=4.9							
STKA				LR	LR	06 24 49.3	
comp=Z,553nm,21.3s,baz=15,slow=35							
FITZ	**Fitzroy Crossi**	**27.58**	**242**	P	**P**	**06 14 26.2**	**+0.7**
2.5nm,0.4s,baz=41,slow=7.5,SNR=12							
FITZ				LR	LR	06 26 05.3	
comp=Z,357nm,19.0s,baz=67,slow=38							
DAV	**Davao City (W)**	**28.43**	**297**	LR	LR	06 23 09.8	
comp=Z,160nm,21.4s,baz=154,slow=30							
KAPI	**Kappang**	**31.11**	**270**	LR	LR	06 30 51.9	
comp=Z,154nm,18.1s,baz=100,slow=43							
JCJ	**Chichijima**	**33.85**	**346**	LR	LR	06 27 49.6	
comp=Z,277nm,21.6s,baz=142,slow=34							
AFI	**Afiamalu**	**37.49**	**105**	LR	LR	06 28 29.3	
comp=Z,354nm,20.4s,baz=274,slow=32							
URZ	**Urewera**	**40.02**	**147**	LR	LR	06 30 02.0	
comp=Z,377nm,21.1s,baz=7.0,slow=32							
NWAO	**Narrogin (SRO)**	**41.37**	**225**	LR	LR	06 33 56.7	
comp=Z,533nm,18.4s,baz=294,slow=37							
RPZ	**Rata Peaks**	**41.63**	**158**	LR	LR	06 33 12.2	
comp=Z,549nm,18.3s,baz=315,slow=35							
JNU	**Nakatsue**	**43.22**	**335**	P	**P**	**06 16 41.0**	**+1.8**
12nm,0.7s,baz=68,slow=1.9,SNR=4.1							
MJAR	**Matsushiro Arr**	**43.85**	**345**	LR	LR	06 34 41.0	
comp=Z,119nm,19.0s,baz=165,slow=36							
KSRS	**Korea Array**	**48.17**	**335**	P	**P**	**06 17 19.4**	**+1.2**
1.0nm,0.5s,baz=152,slow=8.5,SNR=5.8							
KSRS				LR	LR	06 35 59.4	
comp=Z,132nm,20.6s,baz=156,slow=34							
KSAR	**Wonju Array Be**	**48.17**	**335**	P	**P**	**06 17 19.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**56.72**	**296**	LR	LR	06 41 14.5	

comp=Z,42nm,21.1s,baz=105,slow=34							
PETK	**Petropavlovsk-**	**59.02**	**5**	LR	LR	06 40 30.8	
comp=Z,107nm,20.6s,baz=198,slow=32							
PPT2	**Papeete2**	**59.13**	**107**	*e*LR	LR	06 35 54.8	
98nm,26.8s							
TBI	**Tubuai**	**59.77**	**114**	*e*LR	LR	06 36 23.2	
207nm,36.5s							
SONM	**Songino Array**	**66.28**	**329**	P	**P**	**06 19 26.4**	**+0.2**
0.5nm,0.5s,baz=145,slow=5.4,SNR=5.8							
SONM				LR	LR	06 47 50.1	
comp=Z,177nm,21.6s,baz=128,slow=35							
VNDA	**Vanda**	**71.85**	**178**	LR	LR	06 47 00.7	
comp=Z,62nm,19.9s,baz=336,slow=32							
MKAR	**Makanchi Array**	**79.95**	**319**	P	**P**	**06 20 46.2**	**-0.6**
1.4nm,0.9s,baz=96,slow=7.4,SNR=7.9							
MKAR				LR	LR	06 56 57.4	
comp=Z,81nm,18.9s,baz=87,slow=36							
ZALV	**Zalesovo Beam**	**81.04**	**327**	P	**P**	**06 20 51.2**	**-1.3**
0.7nm,0.3s,baz=126,slow=4.4,SNR=4.0							
ZALV				LR	LR	06 57 06.9	
comp=Z,92nm,20.5s,baz=79,slow=36							
MCK	**McKinley**	**82.53**	**23**	*e*P	**P**	**06 20 59.5**	**-0.6**
5.7nm,0.9s							
KURK	**Kurchatov**	**83.50**	**322**	P	**P**	**06 21 04.6**	**-0.8**
1.2nm,0.9s							
KURBB	**Kurchatov Arra**	**83.53**	**322**	P	**P**	**06 21 04.6**	**-0.9**
1.4nm,0.9s,baz=100,slow=4.3,SNR=8.5							
ILAR	**Eielson Array**	**83.81**	**22**	P	**P**	**06 21 06.0**	**-0.7**
1.9nm,0.8s,baz=247,slow=5.4,SNR=7.9							
ILAR				LR	LR	06 57 05.2	
comp=Z,161nm,19.1s,baz=267,slow=35							
MAW	**Mawson**	**83.91**	**203**	LR	LR	06 55 58.6	
comp=Z,169nm,20.5s,baz=58,slow=34							
DOT	**Dot Lake**	**84.42**	**24**	*e*P	**P**	**06 21 09.0**	**-0.8**
7.3nm,0.8s							
NRIK	**Noril'sk**	**86.39**	**341**	LR	LR	07 01 00.3	
comp=Z,54nm,18.1s,baz=130,slow=36							
GEYT	**Alibeck**	**95.83**	**307**	LR	LR	07 05 54.0	
comp=Z,70nm,21.4s,baz=125,slow=36							
YKA	**Yellowknife Ar**	**97.20**	**28**	P	Pdif	06 22 10.2	+0.3
0.1nm,0.4s,baz=274,slow=4.9,SNR=6.9							
YKA				LR	LR	07 02 52.6	
comp=Z,8.3nm,19.3s,baz=0.0,slow=33							
PDAR	**Pinedale Array**	**100.89**	**48**	P	**Pdif**	**06 22 27.2**	**0.0**
0.3nm,0.4s,baz=267,slow=1.5,SNR=3.6							
ARCES	**ARCESS Array B**	**107.34**	**343**	PKiKP	**PKiKP**	**06 27 02.7**	**-0.8**
1.2nm,0.9s,baz=8.5,slow=2.5,SNR=4.9							
AKASG	**Malin Array Be**	**114.29**	**324**	PKP	PKPdf	06 27 16.7	-0.4
0.5nm,0.5s,baz=57,slow=2.9,SNR=4.6							
BRTR	**Keskin Array B**	**114.66**	**311**	PKP	PKPdf	06 27 17.9	-0.5
0.3nm,0.4s,baz=64,slow=5.0,SNR=3.2							
NOA	**NORSAR Array B**	**117.28**	**339**	PKP	**PKPdf**	**06 27 22.6**	**-0.1**
1.0nm,0.9s,baz=50,slow=2.0,SNR=2.8							
BRG	**Eerggiesshubel**	**122.67**	**329**	*e*(P)	**PKPdf**	**06 27 33.6**	**+0.4**
5.8nm,1.2s							
GERES	**GERESS Array B**	**123.99**	**327**	PKP	**PKPdf**	**06 27 35.9**	**-0.1**
1.3nm,0.6s,baz=45,slow=2.1,SNR=10.0							
TORD	**Torodi Ar. Bea**	**148.90**	**286**	PKPbc	**PKPbc**	**06 28 25.8**	**-0.5**
5.0nm,0.6s,baz=90,slow=2.5,SNR=42							
BDFB	**Brasilia**	**151.52**	**139**	PKPbc	**PKPbc**	**06 28 32.1**	**-0.7**
1.6nm,0.5s,baz=217,slow=1.0,SNR=5.6							

*ISN **16** 06:10:23.4±0.3, 35°21N×46°56E, h0km, ML2.9*
*CSEM **16** 06:10:29.4, 35°15N×45°85E, h7km, ML2.8*
TEH 16 06:10:29.4, 35°15N×45°85E, h7km, ML2.8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.63**	**135**	*e*Pg	Pg	06 10 39.9	-1.6
IDHR				*e*AMB	AMB	06 10 49.6	
comp=Z,13µm,0.1s							
IDHR	**Dehrash**	**0.63**	**135**	*e*Pg	Pg	06 10 39.9	-1.6
ILIN	**Lien**	**0.94**	**104**	*e*Pg	Pg	06 10 46.7	-0.8
ILIN				*e*Sg	Sg	06 10 58.7	-1.0
ILIN				*e*AMB	AMB	06 11 00.8	
comp=Z,4µm,0.1s							
ILIN	**Lien**	**0.94**	**104**	*e*Pg	Pg	06 10 46.7	-0.8
ILIN				*e*Sg	Sg	06 10 58.7	-1.0
IGHG	**Ghaleghazi**	**1.01**	**144**	*e*Pg	Pg	06 10 47.5	-1.3
IGHG				*e*AMB	AMB	06 10 49.6	
comp=Z,3µm,0.1s							
IGHG				*e*Sg	Sg	06 11 01.5	-0.4
IGHG	**Ghaleghazi**	**1.01**	**144**	*e*Pg	Pg	06 10 47.5	-1.3
IGHG				*e*Sg	Sg	06 11 01.5	-0.4
IVIS	**Veis**	**1.03**	**127**	*e*Pg	Pg	06 10 47.7	-1.5
IVIS				*e*Sg	Sg	06 11 01.6	-0.9
IVIS				*e*AMB	AMB	06 11 03.3	
comp=Z,3µm,0.2s							
IVIS	**Veis**	**1.03**	**127**	*e*Pg	Pg	06 10 47.7	-1.5
IVIS				*e*Sg	Sg	06 11 01.6	-0.9
IKOM	**Komasi**	**1.68**	**125**

SEW				*e*Sn	**Sn**	**06 14 57.6**	**+2.5**
DAWY	**Dawson**	**3.73**	**79**	*e*Pn	**Pn**	**06 14 14.2**	**0.0**
DAWY				*e*Sn	**Sn**	**06 14 56.8**	**-2.0**
COLD	**Coldfoot**	**3.80**	**345**	*e*Pn	**Pn**	**06 14 16.7**	**+1.5**
COLD				*e*Sn	**Sn**	**06 15 00.2**	**-0.3**
INK	**Inuvik**	**7.49**	**44**	Pn	**Pn**	**06 15 05.9**	**+0.2**
	0.6nm,0.3s,baz=241,slow=16,SNR=19						
INK				Sn	**Sn**	**06 16 29.2**	**-1.8**
	0.3nm,0.3s,baz=262,slow=14,SNR=2.4						
INK				Lg	Lg	06 17 14.5	
	0.3nm,0.3s,baz=345,slow=30,SNR=3.1						
DLBC	**Dease Lake**	**10.00**	**113**	Lg	Lg	06 18 37.6	
	0.2nm,0.3s,baz=197,slow=23,SNR=5.2						
YKA	**Yellowknife Ar**	**14.97**	**79**	Pn	**Pn**	**06 16 46.6**	**-1.4**
	0.1nm,0.3s,baz=288,slow=13,SNR=8.1						
TXAR	**Lajitas Array**	**44.23**	**119**	P	**P**	**06 21 28.2**	**+2.0**
	0.2nm,0.5s,baz=334,slow=8.0,SNR=3.0						
ARCES	**ARCESS Array B**	**47.08**	**3**	P	**P**	**06 21 47.6**	**-0.5**
	1.3nm,0.8s,baz=11,slow=6.8,SNR=4.6						
SONM	**Songino Array**	**54.66**	**307**	P	**P**	**06 22 45.7**	**0.0**
	0.2nm,0.5s,baz=15,slow=6.0,SNR=2.8						
NOA	**NORSAR Array B**	**54.68**	**12**	P	**P**	**06 22 45.5**	**-0.1**
	0.4nm,0.6s,baz=341,slow=8.2,SNR=2.4						
FINES	**FINESS Array B**	**55.20**	**4**	P	**P**	**06 22 48.8**	**-0.5**
	0.4nm,0.3s,baz=17,slow=8.4,SNR=4.8						
MKAR	**Makanchi Array**	**63.10**	**324**	P	**P**	**06 23 42.6**	**-1.6**
	0.2nm,0.4s,baz=36,slow=7.8,SNR=6.4						
AKASG	**Malin Array Be**	**66.03**	**2**	P	**P**	**06 24 02.6**	**-0.7**
	1.1nm,0.5s,baz=358,slow=6.0,SNR=6.5						
ESDC	**Sonseca Array**	**73.13**	**28**	P	**P**	**06 24 47.7**	**+0.3**
	0.3nm,0.4s,baz=339,slow=7.0,SNR=3.1						

NEIC ***16*** *06:14:26.7,32°.10N×115°.16W,h8km,ML3.1(ECX), ML2.7(PAS),After ECX.*
ECX ***16*** *06:14:26.5±0.9,32°.08N×115°.14W,h8km,MD2.9,ML3.1*
MEX ***16*** *06:14:27.4±1.0,32°.18N×115°.09W,h11km±270km,MD4.0*

ISC 16 06:14:23.6±1.3,32°.15N±0°.02×115°.12W±0°.03, h11km±10km,n38,σ0s59/59,5C-1D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBIG	**Mexicali**	**0.27**	**346**	*e*P		**Pn**	**06 14 32.4**	**-1.1**
MBIG				*e*S		**Sb**	**06 14 35.0**	**-0.2**
MBIG	**Mexicali**	**0.27**	**346**	*e*P		**Pn**	**06 14 32.3**	**-1.1**
CPBX	**Cerro Prieto**	**0.31**	**330**	*e*P		**Pn**	**06 14 33.1**	**-1.0**
CPBX	**Cerro Prieto**	**0.31**	**330**	*e*P		**Pn**	**06 14 32.9**	**-1.3**
CPBX				*i* S		**Sb**	**06 14 35.9**	**-0.5**
EMSC	**East Mesa**	**0.60**	**11**	⇑*i*P		**Pn**	**06 14 38.2**	**+0.1**
YMD	**Yuma Desert**	**0.64**	**50**	⇑*i*P		**Pn**	**06 14 38.3**	**-0.2**
ECBX	**El Chinero**	**0.67**	**175**	⇑*e*P		**Pb**	**06 14 37.7**	**+0.3**
ECBX				*e*S		**Sb**	**06 14 46.5**	**-0.2**
COA	**Coachella**	**0.72**	**360**	⇑*i*P		**Pn**	**06 14 39.6**	**0.0**
WESC	**Westside Schoo**	**0.80**	**320**	*e*P		**Pn**	**06 14 41.2**	**+0.4**
RMX	**La Rumorosa**	**0.93**	**300**	*e*P		**Pn**	**06 14 42.6**	**-0.2**
RMX				*e*S		**Sn**	**06 14 55.5**	**-0.7**
GLA	**Glamis**	**0.94**	**15**	P		**Pn**	**06 14 42.7**	**-0.1**
	baz=194,SNR=50							
GLA				S		**Sb**	**06 14 55.3**	**+0.9**
	baz=194							
IKP	**In-Ko-Pah, Jac**	**0.98**	**301**	P		**Pn**	**06 14 43.6**	**+0.2**
	baz=123,SNR=26							
IKP				S		**Sn**	**06 14 57.3**	**+0.1**
	baz=123							
IKP	**In-Ko-Pah, Jac**	**0.98**	**301**	*e*P		**Pn**	**06 14 43.6**	**+0.2**
SWSC	**Sam W. Stewart**	**0.98**	**324**	P		**Pn**	**06 14 43.6**	**+0.2**
	baz=145,SNR=8.3							
SPIG	**San Pedro Mart**	**1.14**	**195**	*e*P		**Pn**	**06 14 45.8**	**+0.1**
SPIG				*e*S		**Sb**	**06 15 00.6**	**+0.3**
SPIG	**San Pedro Mart**	**1.14**	**195**	*e*P		**Pn**	**06 14 45.9**	**+0.1**
SPIG				*e*S		**Sg**	**06 14 59.8**	**-0.5**
SPIG	**San Pedro Mart**	**1.14**	**195**	*e*P		**Pn**	**06 14 45.8**	**+0.1**
SPIG				*e*S		**Sb**	**06 15 00.6**	**+0.3**
ZAX	**El Zacaton**	**1.17**	**238**	*e*P		**Pg**	**06 14 45.9**	**-0.2**
ZAX				*e*S		**Sb**	**06 15 00.8**	**-0.2**
ZAX				⇑*e*			06 15 03.1	
ZAX				IAML			06 15 03.1	
	comp=N,432nm,0.6s							
CBX	**Cerro Bola**	**1.32**	**278**	*e*P		**Pg**	**06 14 49.0**	**0.0**
CBX				*i* S		**Sb**	**06 15 04.8**	**-0.6**
CBX	**Cerro Bola**	**1.32**	**278**	*e*P		**Pg**	**06 14 49.6**	**+0.6**
CBX				*e*S		**Sg**	**06 15 06.7**	**+0.5**
CBX				⇓*e*			06 15 09.9	
CBX				IAML			06 15 09.9	
	comp=E,414nm,0.4s							
CBX	**Cerro Bola**	**1.32**	**278**	*e*P		**Pg**	**06 14 49.0**	**0.0**
CBX				*i* S		**Sb**	**06 15 04.8**	**-0.6**
MONP2	**Monument Peak**	**1.33**	**304**	P		**Pg**	**06 14 48.9**	**-0.3**
	baz=125,SNR=24							
MONP2				Sb		**Sg**	**06 15 07.5**	**+1.0**
	baz=125							
ECNX	**Esteban Cantu**	**1.35**	**249**	*e*P		**Pb**	**06 14 49.1**	**+0.1**
ECNX				*e*S		**Sg**	**06 15 06.7**	**-0.3**
TJIG	**Tijuana**	**1.35**	**283**	*e*P		**Pg**	**06 14 49.2**	**-0.3**
TJIG				*e*S		**Sb**	**06 15 05.8**	**-0.4**
TJIG	**Tijuana**	**1.35**	**283**	*e*P		**Pg**	**06 14 49.1**	**-0.3**
BAR	**Barrett**	**1.42**	**293**	*e*P		**Pb**	**06 14 50.4**	**-0.5**
PBX	**Punta Banda**	**1.42**	**254**	*e*P		**Pb**	**06 14 50.2**	**0.0**
PBX				*e*S		**Sb**	**06 15 08.4**	**+0.1**
BC3	**Big Chuckawall**	**1.53**	**350**	P		**Pn**	**06 14 50.9**	**-0.1**
	baz=169,SNR=15							
BC3				S		**Sn**	**06 15 10.4**	**-0.6**
	baz=169							
Y12C	**Blythe**	**1.68**	**17**	P		**Pn**	**06 14 53.7**	**+0.8**
	baz=197,SNR=15							
Y12C				S		**Sn**	**06 15 14.2**	**-0.2**
	baz=197							
109C	**Camp Elliot, M**	**1.83**	**294**	P		**Pn**	**06 14 56.1**	**+1.0**
	baz=115,SNR=5.3							
109C				Sb		**Sg**	**06 15 22.5**	**-0.2**
	baz=115							
TPFO	**Pinon Flats**	**1.84**	**323**	P		**Pn**	**06 14 55.4**	**+0.1**
	baz=143							
PFO	**Pinyon Flats O**	**1.85**	**323**	P		**Pn**	**06 14 55.4**	**0.0**
	baz=143							
PFO	**Pinyon Flats O**	**1.85**	**323**	*e*Pn		**Pg**	**06 14 58.5**	**-0.6**
214A	**Organ Pipe Nat**	**1.97**	**95**	P		**Pn**	**06 14 56.8**	**-0.1**
	baz=275							
214A				S		**Sn**	**06 15 21.2**	**-0.5**
	baz=275							
MURC	**Murrieta**	**2.27**	**310**	Sb		**Sg**	**06 15 36.9**	**+0.2**
	baz=130							
NEE2	**Needles Airpor**	**2.65**	**9**	P		**Pn**	**06 15 06.3**	**0.0**
	baz=189							
GMRC	**Granite Mounta**	**2.67**	**350**	S		**Sn**	**06 15 39.8**	**+0.7**
	baz=170							
DECC	**Green Verdugo**	**3.42**	**309**	Sb		**Sb**	**06 16 07.9**	**+2.1**
	baz=128							

IDC 16 06:16:06.1±2.1,5°.80S×151°.03E,h0km,mb3.4/3, mb1 3.8/3,mb1mx3.5/36,mbtmp3.5/3,Error ellipse: s-maj=131.8km s-min=30.7km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.47**	**228**	P		P	06 20 56.1	-0.3
	0.6nm,0.4s,baz=53,slow=11,SNR=7.6							
ASAR	**Alice Springs**	**24.24**	**221**	P		P	06 21 25.1	+0.1
	0.9nm,0.7s,baz=56,slow=9.0,SNR=7.2							
ILAR	**Eielson Array**	**83.74**	**22**	P		P	06 28 36.5	-0.3
	0.4nm,0.8s,baz=238,slow=4.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**148.91**	**286**	PKPbc		PKPbc	06 35 56.9	-0.1
	0.7nm,0.6s,baz=97,slow=2.6,SNR=4.9							

ISCJB ***16*** *06:19:56.1±0.7,30°.27S±0°.07×138°.4E±0°.1,h0km,Error ellipse: s-maj=14.6km s-min=6.0km az=146.0*
IDC ***16*** *06:19:58.9±3.5,30°.23S×138°.45E,h0km,mb1 3.1/3, mb1mx3.1/36,mbtmp2.9/3,ML2.6/3,Error ellipse: s-maj=81.4km s-min=16.8km az=44.0*
AUST ***16*** *06:19:58.3±0.1,30°.37S×138°.36E,h0km,Error ellipse: s-maj=0.7km s-min=0.2km az=347.0,Mining explosion.*

ISC 16 06:19:58.0±1.1,30°.37S±0°.08×138°.38E±0°.08,h0km,n6, σ0s40/9,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HTT	**Hallett**	**3.09**	**172**	P		**Pn**	**06 20 48.3**	**+0.1**
	baz=3.1							
BBOO	**Buckleboo**	**3.14**	**218**	P		**Pn**	**06 20 48.9**	**+0.1**
	baz=3.1							
STKA	**Stephens Creek**	**3.14**	**119**	Pn		**Pn**	**06 20 49.1**	**+0.3**
	0.3nm,0.3s,baz=306,slow=9.7,SNR=8.5							
STKA				Sn		**Sn**	**06 21 26.7**	**-0.4**
	2.4nm,0.3s,baz=297,slow=15,SNR=6.6							
STKA				Lg		Lg	06 21 40.0	
	5.3nm,0.3s,baz=307,slow=19,SNR=8.5							
STKA	**Stephens Creek**	**3.14**	**119**	P		**Pn**	**06 20 49.2**	**+0.3**
	baz=3.1							
ASAR	**Alice Springs**	**7.77**	**328**	Pn		**Pn**	**06 21 52.5**	**0.0**
	0.1nm,0.3s,baz=150,slow=12,SNR=4.3							
ASAR				Sn		**Sn**	**06 23 21.8**	**+0.5**
	0.1nm,0.3s,baz=149,slow=22,SNR=4.2							
WRA	**Warramunga Arr**	**11.00**	**340**	Pn		**Pn**	**06 22 36.2**	**-0.6**
	0.1nm,0.3s,baz=159,slow=13,SNR=5.5							
WRA				Sn		**Sn**	**06 24 40.6**	**0.0**
	0.1nm,0.3s,baz=162,slow=20,SNR=3.7							

NEIC ***16*** *06:26:53.5±1.0,5°.80S×151°.35E,h10km,mb4.3/2,Error ellipse: s-maj=36.4km s-min=14.2km az=116.0*
ISCJB ***16*** *06:26:56.9±0.8,5°.8S±0°.1×151°.0E±0°.2,h43km,mb4.0/11, MS3.3/2,Error ellipse: s-maj=26.5km s-min=9.3km az=31.0*
IDC ***16*** *06:27:00.3±5.6,5°.83S×151°.11E,h58km±47km,mb3.8/9, mb1 4.0/10,mb1mx3.8/35,mbtmp4.0/10,ML1.5/1,MS3.3/3, Ms1 3.3/3,ms1mx2.8/34,Error ellipse: s-maj=47.0km s-min=22.4km az=106.0*

ISC 16 06:26:58.6±0.9,5°.8S±0°.1×151°.2E±0°.2,h43km,n17, σ1s24/16,mb4.0/11,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.35**	**228**	P		**Pn**	**06 28 18.8**	**+2.8**
	1.1nm,0.3s,baz=56,slow=18,SNR=2.0							
PMG				S		**Sn**	**06 29 14.4**	**-2.0**
	10nm,0.3s,baz=257,slow=17,SNR=5.4							
HNR	**Honiara**	**9.40**	**113**	LR		LR	06 32 33.9	
	comp=Z,117nm,18.0s,baz=266,slow=35							
WRAB	**Tennant Creek**	**21.56**	**228**	*e*P		**P**	**06 31 43.5**	**-1.1**
	7.9nm,0.5s							
WRA	**Warramunga Arr**	**21.57**	**228**	P		**P**	**06 31 43.5**	**-1.2**
	6.8nm,0.5s,baz=54,slow=10,SNR=99							
WRA				PcP		**PcP**	**06 35 46.4**	**+0.4**
	1.0nm,0.8s,baz=51,slow=1.9,SNR=4.7							
DZM	**Mont Dzumac**	**21.89**	**139**	LR		LR	06 39 11.4	
	comp=Z,122nm,20.1s,baz=321,slow=33							
ASAR	**Alice Springs**	**24.32**	**221**	P		**P**	**06 32 12.0**	**-0.5**
	5.8nm,0.5s,baz=57,slow=8.7,SNR=97							
STKA	**Stephens Creek**	**27.44**	**198**	P		**P**	**06 32 40.9**	**+0.3**
	2.1nm,0.7s,baz=318,slow=6.3,SNR=2.8							
FITZ	**Fitzroy Crossi**	**27.76**	**242**	P		**P**	**06 32 42.5**	**-1.1**
	4.7nm,0.7s,baz=57,slow=8.1,SNR=12							
JCJ	**Chichijima**	**33.85**	**346**	LR		LR	06 45 41.5	
	comp=Z,58nm,21.2s,baz=170,slow=33							
KSRS	**Korea Array**	**48.20**	**335**	P		**P**	**06 35 34.5**	**-0.4**
	1.0nm,0.6s,baz=160,slow=8.2,SNR=5.7							
KSAR	**Wonju Array Be**	**48.21**	**335**	P		**P**	**06 35 34.5**	**-0.5**
SONM	**Songino Array**	**66.33**	**329**	P		**P**	**06 37 44.2**	**+1.2**
	0.3nm,0.4s,baz=126,slow=3.7,SNR=3.0							
CASY	**Casey**	**66.58**	**197**	P		**P**	**06 37 43.6**	**-0.5**
	1.8nm,1.2s							
MKAR	**Makanchi Array**	**80.03**	**319**	P		**P**	**06 39 03.6**	**-0.2**
	0.6nm,0.9s,baz=131,slow=5.2,SNR=3.8							
ILAR	**Eielson Array**	**83.70**	**22**	P		**P**	**06 39 21.6**	**-1.0**
	0.8nm,0.7s,baz=254,slow=4.8,SNR=9.1							
YKA	**Yellowknife Ar**	**97.07**	**28**	P		**P**	**06 40 26.2**	**+0.4**
	0.1nm,0.5s,baz=266,slow=4.6,SNR=3.8							
TORD	**Torodi Ar. Bea**	**149.06**	**286**	PKPbc		**PKPbc**	**06 46 43.0**	**-0.2**
	5.5nm,0.7s,baz=68,slow=2.9,SNR=31							

ISK ***16*** *06:35:40.8,37°.65N×35°.86E,h18km,MD2.4*
CSEM ***16*** *06:35:41.3±1.1,37°.62N×35°.91E,h10km,MD2.7,Error ellipse: s-maj=28.8km s-min=12.3km az=85.0*
ISCJB ***16*** *06:35:43.9±0.7,37°.55N±0°.03×35°.69E±0°.04,h8km±6km, Error ellipse: s-maj=6.3km s-min=4.9km az=36.5*
DDA ***16*** *06:35:44.5,37°.38N×35°.63E,h9km,Md2.7*

ISC 16 06:35:41.5±1.3,37°.67N±0°.06×35°.76E±0°.05,h11km±10km, n14,σ1s00/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KOZT	**Kozan**	**0.20**	**165**	*e*PG		**Pg**	**06 35 46.0**	**+0.3**
KOZT				*e*SG		**Sg**	**06 35 48.6**	**0.0**
KOZT	**Kozan**	**0.20**	**165**	*e*Pg		**Pg**	**06 35 46.0**	**+0.3**
KOZT				*e*Sg		**Sg**	**06 35 48.6**	**0.0**
AKO	**Adana**	**0.33**	**230**	*i* P		**Pg**	**06 35 48.4**	**+0.3**
AKO				*i* S		**Sg**	**06 35 51.5**	**-1.0**
YAHY	**KAYSERI_Yahyal**	**0.53**	**323**	P		**Pn**	**06 35 56.0**	**+0.8**
YAHY				S		**Sn**	**06 36 05.0**	**+0.8**
YAHY	**KAYSERI_Yahyal**	**0.53**	**323**	*i* P		**Pn**	**06 35 56.0**	**+0.8**
YAHY				*i* S		**Sn**	**06 36 05.0**	**+0.8**
CEYT	**Ceyhan**	**0.66**	**181**	*e*PG		**Pg**	**06 35 54.1**	**-0.2**
CEYT				*e*SG		**Sg**	**06 36 03.5**	**+0.5**
CEYT	**Ceyhan**	**0.66**	**181**	*e*Pg		**Pg**	**06 35 54.1**	**-0.2**
CEYT				*e*Sg		**Sg**	**06 36 03.5**	**+0.5**
YURE	**YUREGIR**	**0.85**	**187**	P		**Pg**	**06 35 55.7**	**-2.3**
YURE				S		**Sg**	**06 36 08.7**	**-0.4**
YURE	**YUREGIR**	**0.85**	**187**	*i* P		**Pg**	**06 35 55.6**	**-2.3**
YURE				*i* S		**Sg**	**06 36 08.7**	**-0.4**
KAMA	**Osmaniye**	**0.87**	**124**	*i* P		**Pn**	**06 36 00.7**	**+0.9**
KAMA				*i* S		**Sn**	**06 36 13.2**	**+0.6**
GULE	**Gulek**	**0.88**	**244**	P		**Pg**	**06 35 57.5**	**-0.9**
GULE				S		**Sg**	**06 36 10.7**	**+0.8**
GULE	**Gulek**	**0.88**	**244**	*i* P		**Pg**	**06 35 57.5**	**-0.9**
GULE				*i* S		**Sg**	**06 36 10.7**	**+0.8**
BNN	**Bunyan**	**1.18**	**3**	*e*PN		**Pn**	**06 36 03.0**	**-1.1**
BNN	**Bunyan**	**1.18**	**3**	*e*Pn		**Pn**	**06 36 03.0**	**-1.1**

ISK ***16*** *06:36:59.8,37°.53N×36°.00E,h4km,MD2.4*
ISCJB ***16*** *06:37:00.5±0.7,37°.57N±0°.04×35°.73E±0°.04,h10km±4km, Error ellipse: s-maj=7.1km s-min=5.1km az=29.1*
DDA ***16*** *06:37:00.6,37°.55N×35°.70E,h7km,Md2.9*
CSEM ***16*** *06:37:00.4±0.5,37°.56N×35°.71E,h5km,MD2.9,Error ellipse: s-maj=10.9km s-min=7.1km az=54.0*

ISC 16 06:37:00.2±1.2,37°.56N±0°.03×35°.74E±0°.03,h18km±6km, n16,σ1s19/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KOZT	**Kozan**	**0.10**	**137**	*e*PG		**Pg**	**06 37 03.5**	**-0.3**
KOZT				*e*SG		**Sg**	**06 37 06.1**	**-0.2**
KOZT	**Kozan**	**0.10**	**137**	*e*Pg		**Pg**	**06 37 03.5**	**-0.3**
KOZT				*e*Sg		**Sg**	**06 37 06.1**	**-0.2**
AKO	**Adana**	**0.25**	**248**	*i* P		**Pg**	**06 37 05.8**	**-0.1**
AKO				*i* S		**Sg**	**06 37 09.2**	**-0.6**
CEYT	**Ceyhan**	**0.54**	**179**	*e*PG		**Pg**	**06 37 11.3**	**+0.2**
CEYT				*e*SG		**Sb**	**06 37 19.6**	**+0.9**
CEYT	**Ceyhan**	**0.54**	**179**	*e*Pg		**Pg**	**06 37 11.3**	**+0.2**
CEYT				*e*Sg		**Sb**	**06 37 19.6**	**+0.9**
YAHY	**KAYSERI_Yahyal**	**0.61**	**331**	P		**Pg**	**06 37 12.4**	**-0.1**
YAHY				S		**Sb**	**06 37 21.9**	**+1.0**
YAHY	**KAYSERI_Yahyal**	**0.61**	**331**	*i* P		**Pg**	**06 37 12.4**	**-0.1**
YAHY				*i* S		**Sb**	**06 37 21.9**	**+1.0**
YURE	**YUREGIR**	**0.73**	**187**	P		**Pg**	**06 37 14.4**	**-0.1**
YURE				S		**Sb**	**06 37 25.8**	**+1.6**
YURE	**YUREGIR**	**0.73**	**187**	*i* P		**Pg**	**06 37 14.4**	**-0.1**
YURE				*i* S		**Sb**	**06 37 25.8**	**+1.6**
GULE	**Gulek**	**0.81**	**251**	P		**Pg**	**06 37 14.7**	**-1.4**
GULE				S		**Sb**	**06 37 28.0**	**+1.4**
GULE	**Gulek**	**0.81**	**251**	*i* P		**Pg**	**06 37 14.7**	**-1.4**
GULE				*i* S		**Sb**	**06 37 28.0**	**+1.4**
KAMA	**Osmaniye**	**0.83**	**116**	*i* P		**Pg**	**06 37 14.2**	**-2.2**
KAMA				*i* S		**Sb**	**06 37 29.4**	**+2.4**
TAHT	**Tahtakopru-Hat**	**1.23**	**163**	*e*PN		**Pg**	**06 37 22.5**	**-1.4**
TAHT	**Tahtakopru-Hat**	**1.23**	**163**	*e*Pn		**Pg**	**06 37 22.5**	**-1.4**
KERG	**Konya-Eregli**	**1.29**	**264**	S		**Sg**	**06 37 41.1**	**-1.0**
KERG	**Konya-Eregli**	**1.29**	**264**	*i* P		Pg	06 37 16.3	-8.9
KERG				*i* S		**Sg**	**06 37 41.1**	**-1.0**

SJA 16 06:38:10.7±0.5,31°.65S×68°.80W,h19km±1km,ML1.7, MW3.5,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTCV	**Cerro Valdivia**	**0.31**	**134**	*i* P		Pb	06 38 18.0	+0.3
RTCV				*i* S		Sb	06 38 23.2	+0.8
RTLL	**Cerro Villicun**	**0.42**	**42**	*i* P		Pb	06 38 19.7	+0.1
RTLL				*i* S		Sb	06 38 26.4	+0.8
RTLS	**Leoncito**	**0.45**	**250**	*i* P		Pb	06 38 20.8	+0.6
RTLS				*i* S		Sb	06 38 28.3	+1.7
AMOG	**MOGNA**	**0.75**	**21**	*i* P		Pg	06 38 25.6	+0.1
AUSP	**Uspallata**	**0.76**	**221**	*i* P		Pn	06 38 26.4	-0.3
ASAL	**Salagasta**	**0.94**	**182**	*i* P		Pn	06 38 29.1	0.0
AVFE	**Valle Fertil**	**1.52**	**50**	*i* P		Pg	06 38 39.2	-0.7
AVFE				*i* S		Sg	06 38 59.5	-0.2
AVFE				IAML			06 39 00.3	
	comp=Z,3.5nm,0.2s							
ACHE	**Chepes**	**1.89**	**76**	*i* P		Pb	06 38 44.6	0.0
ACHE				*i* S		Sg	06 39 09.9	-1.8
MRA	**San Martin**	**2.73**	**107**	*i* P		Pn	06 38 56.0	+2.4
MRA				IAML			06 39 38.1	
	comp=Z,6.5nm,0.6s							

NIED ***16*** *06:48:00,38°.70N×141°.70E,h65km,Mw3.6 Best double couple: M0 2.52000×10^14 NP1:φs330.00000°,δ79.00000°, λ178.00000°. NP2:φs61.00000°,δ88.00000°,λ11.00000°.*

JMA 16 06:48:29.8,38.73N×141.70E,h52km±1km,M3.5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OFUJ	**Ofunato**	**0.35**	**356**	P		Pn	06 48 39.6	0.0
OFUJ				*e*S		Sn	06 48 46.4	-0.2
JIO	**Ouri**	**0.39**	**225**	P		Pn	06 48 40.0	+0.1
JIO				S		Sn	06 48 46.9	-0.3
JMK	**Ichinoseki**	**0.44**	**301**	P		Pn	06 48 40.6	+0.2
JMK				S		Sn	06 48 48.2	+0.1
JOM	**Ohasama**	**0.81**	**337**	P		Pn	06 48 45.2	+0.2
JOM				*e*S		Sn	06 48 56.0	-0.1
JOU	**Okura**	**0.89**	**246**	P		Pn	06 48 46.2	+0.1
JOU				*e*S		Sn	06 48 58.3	+0.2
JRG	**Rokugo**	**1.06**	**309**	P		Pn	06 48 48.6	+0.2
JRG				*e*S		Sn	06 49 02.3	+0.1
JYK	**Kaneyama**	**1.06**	**281**	P		Pn	06 48 48.6	+0.2
JYK				*e*S		Sn	06 49 02.8	+0.6
JMM	**Marumori**	**1.12**	**220**	P		Pn	06 48 48.7	-0.5
JYS	**Shirataka**	**1.38**	**249**	P		Pn	06 48 53.4	+0.7
JYS				*e*S		Sn	06 49 10.8	+0.9
MAT	**Matsushiro**	**3.53**	**233**	P		Pn	06 49 24.4	+2.3

TRN 16 06:52:26.6,17°.53N×61°.41W,h19km,MD3.7,1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANWB	**Willy Bob**	**0.38**	**291**	⇓*i*P		Pn	06 52 37.0	-0.1
ANWB				*e*S		Sn	06 52 43.7	-0.2
BPA	**Boggy Peak**	**0.64**	**222**	*e*P		Pn	06 52 42.2	+1.5
BPA				*e*S		Sn	06 52 51.9	+1.5
MLYT	**Lee's Yard**	**1.10**	**223**	*e*P		Pg	06 52 48.7	+0.7
MLYT				*e*S		Sg	06 53 05.2	+2.8
SEG	**Port Louis**	**1.12**	**185**	*e*P		Pg	06 52 48.4	-0.1
DEG	**La Desirade**	**1.26**	**164**	*e*P		Pg	06 52 50.6	-0.4
DEG				*e*S		Sg	06 53 09.4	+1.9
SKI	**Saint Kitts**	**1.28**	**261**	*e*P		Pg	06 52 52.0	+0.5
SKI				*e*S		Sg	06 53 09.4	+1.1
SKI				*e*S		Sb	06 53 10.0	+3.7
SSG	**Sans Toucher**	**1.46**	**190**	*e*P		Pb	06 52 53.5	+0.3
MLG	**Mont-d'or**	**1.49**	**191**	*e*P		Pb	06 52 54.2	+0.5
SEUS	**St. Eustatius**	**1.50**	**269**	*e*P		Pn	06 52 50.3	-2.2
SEUS				*e*S		Sg	06 53 15.2	+0.1
PHG	**Guadaloupe-2**	**1.52**	**188**	*e*P		Pb	06 52 54.5	+0.1
MGG	**Marie-Galante**	**1.61**	**177**	*e*P		Pb	06 52 55.3	-0.4
MGG				*e*S		Sg	06 53 17.7	-0.9
SMRT	**St. Maarten**	**1.67**	**288**	*e*P		Pb	06 52 57.2	+0.5
SMRT				*e*S		Sb	06 53 18.4	+1.1
TBG	**Guadaloupe-3**	**1.68**	**188**	*e*P		Pb	06 52 57.0	0.0
DWS	**Wesley**	**1.95**	**177**	*e*P		Pb	06 53 01.1	-0.5
DWS				*e*S		Sb	06 53 25.6	+0.1
BBL	**Barber's Block**	**1.99**	**182**	*e*P		Pb	06 53 01.7	-0.6
BBL				*e*S		Sg	06 53 30.5	-0.5

NIED ***16*** *06:53:00,36°.70N×140°.70E,h5km,Mw4.1 Best double couple: M0 1.40000×10^15 NP1:φs330.00000°,δ32.00000°, λ-82.00000°. NP2:φs140.00000°,δ58.00000°, λ-95.00000°.*
JMA ***16*** *06:53

comp=Z,2.8nm,0.9s,baz=20,slow=22,SNR=4.4
SONM Songino Array 27.34 305 P **P** **06 58 47.6 -0.3**
comp=Z,2.8nm,0.8s,baz=105,slow=9.3,SNR=17
H11N2 WAKE ISLAND Hy 28.64 119 T T 07 28 41.4
baz=313,slow=75,SNR=56
H11N1 WAKE ISLAND Hy 28.64 119 T T 07 28 41.8
baz=313,slow=75,SNR=50
H11N3 WAKE ISLAND Hy 28.66 119 T T 07 28 43.7
baz=313,slow=75,SNR=39
H11S1 WAKE ISLAND Hy 29.33 121 T T 07 29 31.5
baz=314,slow=76,SNR=154
H11S3 WAKE ISLAND Hy 29.33 121 T T 07 29 34.9
baz=314,slow=76,SNR=118
H11S2 WAKE ISLAND Hy 29.34 121 T T 07 29 34.3
baz=314,slow=76,SNR=100
BILL Bilibino 34.49 17⇑ *i*P **P** **06 59 49.6 -0.8**
BILL *e* 07 01 05.1
BILL pmax pmax
comp=Z,6.0nm,1.4s
BILL MLR MLR
comp=Z,124nm,22.0s
TIXI Tiksi 35.47 354 *e*P **P** **07 00 00.6 +1.7**
TIXI pmax pmax
comp=Z,4.0nm,1.7s
ZALV Zalesovo Beam 41.56 313 P **P** **07 00 50.6 +0.3**
comp=Z,3.9nm,0.5s,baz=100,slow=6.9,SNR=13
MKAR Makanchi Array 43.65 302 P **P** **07 01 07.7 +0.3**
comp=Z,1.1nm,0.8s,baz=92,slow=9.3,SNR=7.4
MKAR Makanchi Array 43.65 302 *ce*P **P** **07 01 07.6 +0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 45.53 308 *e*P **P** **07 01 21.8 -0.5**
KURK Kurchatov 45.53 308 *e*P **P** **07 01 21.8 -0.5**
comp=Z,54nm,0.8s
TKM2 Tokmak 2 49.12 298 *e*P **P** **07 01 51.5 +0.8**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 49.12 298 *e*P **P** **07 01 51.5 +0.8**
comp=Z,2.3nm,0.6s
AAK Ala-Archa 49.98 298⇑ *i*P **P** **07 01 56.8 -0.4**
AAK pmax pmax
comp=Z,17nm,2.0s
ILAR Eielson Array 50.10 32 P **P** **07 01 56.8 -0.8**
comp=Z,0.7nm,0.9s,baz=278,slow=7.3,SNR=8.4
ARU Arti 56.08 318 *c i*P **P** **07 02 41.4 -0.4**
ARU S **S** **07 10 30.2 -0.5**
ARU SS **SS** **07 14 15.5 -0.8**
ARU pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 63.60 328 P **P** **07 03 31.0 -2.3**
KLMR *e* 07 05 52.5
KLMR pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 63.99 339 P **P** **07 03 34.9 -0.9**
comp=Z,1.2nm,0.9s,baz=46,slow=6.9,SNR=3.8
YKA Yellowknife Ar 64.40 30 P **P** **07 03 38.1 -0.4**
comp=Z,0.5nm,0.7s,baz=305,slow=6.2,SNR=5.9
OBN Obninsk 67.88 323 *e*P **P** **07 04 01.5 +0.5**
OBN pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 68.71 332 P **P** **07 04 05.8 -0.4**
comp=Z,3.7nm,0.9s,baz=81,slow=12,SNR=7.1
KBZ Khabaz 70.53 310 P **P** **07 04 17.5 -0.2**
comp=Z,2.2nm,0.6s,baz=168,slow=4.6,SNR=4.5
KIV Kislovodsk 70.54 311 *e*P **P** **07 04 17.7 -0.2**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,33nm,18.0s
AKASG Malin Array Be 74.07 322 P **P** **07 04 37.9 -0.8**
comp=Z,1.1nm,0.5s,baz=46,slow=6.0,SNR=8.9
KIEV Kiev 74.08 322 *i* P **P** **07 04 37.7 -1.1**
KIEV pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 74.15 337 P **P** **07 04 38.8 -0.3**
comp=Z,1.6nm,0.8s,baz=40,slow=5.9,SNR=6.5
BRTR Keskin Array B 78.49 311 P **P** **07 05 04.9 +0.6**
comp=Z,0.6nm,0.7s,baz=64,slow=8.4,SNR=3.8
GERES GERESS Array B 82.56 329 P **P** **07 05 25.6 -0.3**
comp=Z,0.7nm,0.4s,baz=56,slow=7.1,SNR=4.8
ANMO Albuquerque 85.31 49⇑ *i*P **P** **07 05 41.3 +1.0**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 90.85 52 P **P** **07 06 06.8 0.0**
comp=Z,0.6nm,0.8s,baz=284,slow=3.6,SNR=5.5

*NEIC **16** 06:55:50.1±0.3,5.°84S×151.°33E,h10km,mb4.9/10,Error ellipse: s-maj=9.3km s-min=5.6km az=111.0*
*BJI **16** 06:55:51.9,5.°91S×151.°31E,h30km,mb4.8/31,mB4.9/22,Ms4.9/10,Ms7 4.6/10*
*ISCJB **16** 06:55:53.0±0.3,5.°93S±0.°03×151.°27E±0.°05,h41km,mb4.7/31,MS3.9/16,Error ellipse: s-maj=8.0km s-min=4.3km az=19.6*
*IDC **16** 06:55:53.0±6.8,5.°81S×151.°29E,h30km±47km,mb4.3/18,mb1 4.5/19,mb1mx4.4/37,mbtmp4.5/19,ML2.5/1,MS3.9/19,Ms1 3.9/19,ms1mx3.7/38,Error ellipse: s-maj=19.9km s-min=13.2km az=81.0*

ISC 16 06:55:54.6±0.4,5.°99S±0.°05×151.°43E±0.°06,h41km,n118, σ1°49/124,mb4.7/31,MS4.0/16,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.93**	**22**	*e*Pn	**Pn**	**06 56 25.6**	**+0.6**
PMG	**Port Moresby**	**5.42**	**231**	Pn	**Pn**	**06 57 14.1**	**+1.0**
	11nm,0.3s,baz=43,slow=9.9,SNR=13						
PMG				Sn	**Sn**	**06 58 13.3**	**-0.9**
	13nm,0.3s,baz=123,slow=18,SNR=8.9						
PMG				LR	LR	06 58 48.9	
	comp=Z,817nm,19.8s,baz=62,slow=32						
PMG	**Port Moresby**	**5.42**	**231**	*e*Pn	**Pn**	**06 57 15.4**	**+2.3**
PMG				*e*Sn	**Sn**	**06 58 11.3**	**-2.9**
PMG				Sn	Sn	06 58 13.3	-0.9
MANU	**Manus Island**	**5.64**	**314**	*e*Pn	**Pn**	**06 57 20.0**	**+4.0**
HNR	**Honiara**	**9.11**	**113**	LR	LR	07 01 30.0	
	comp=Z,547nm,18.5s,baz=292,slow=36						
COEN	**Coen**	**11.34**	**225**	P	**Pn**	**06 58 34.1**	**-0.2**
	baz=11,SNR=5.6						
COEN	**Coen**	**11.34**	**225**	*e*Pn	**Pn**	**06 58 33.9**	**-0.4**
COEN				Sn	**Sn**	**07 00 37.4**	**-2.4**
MTSU	**Mount Surprise**	**13.93**	**209**	P	**Pn**	**06 59 09.8**	**+0.3**
	baz=14,SNR=4.0						
CTA	**Charters Tower**	**14.89**	**199**	Pn	**P**	**06 59 29.2**	**+1.7**
	1.4nm,0.3s,baz=23,slow=13,SNR=21						
CTA				LR	LR	07 04 05.0	
	comp=Z,220nm,20.6s,baz=52,slow=33						
CTAO	**Charters Tower**	**14.89**	**199**	*e*Pn	**Pn**	**06 59 22.4**	**-0.1**
QIS	**Mount Isa**	**18.48**	**217**	P	**P**	**07 00 07.4**	**+0.1**
	baz=18,SNR=18						
EIDS	**Eidsvold**	**19.27**	**181**	P	**Pn**	**07 00 17.5**	**+0.3**
	baz=19,SNR=5.2						
EIDS	**Eidsvold**	**19.27**	**181**	*e*P	**Pn**	**07 00 17.7**	**+0.4**
	80nm,1.8s						
KDU	**Kakadu**	**19.84**	**249**	P	**P**	**07 00 21.1**	**-1.2**
	baz=20,SNR=4.4						
GUMO	**Guam**	**20.51**	**342**	LR	LR	07 08 46.8	
	comp=Z,146nm,18.4s,baz=153,slow=38						
RMQ	**Roma**	**20.54**	**187**	P	Pn	07 00 31.8	-0.5
	baz=20,SNR=15						
MTN	**Manton Dam**	**21.14**	**250**	P	**P**	**07 00 35.1**	**-1.1**
	baz=21,SNR=5.5						
MTN	**Manton Dam**	**21.14**	**250**	*e*P	**P**	**07 00 35.3**	**-1.0**
	143nm,1.4s						
PALU	**Palau**	**21.48**	**308**	P	**P**	**07 00 39.5**	**-0.5**
	baz=22,SNR=6.2						
WR6	**Warramunga Arr**	**21.56**	**228**	P	**P**	**07 00 40.1**	**-0.7**
	baz=21						
WR4	**Warramunga Arr**	**21.59**	**228**	P	**P**	**07 00 40.4**	**-0.8**
	baz=21						
DZM	**Mont Dzumac**	**21.59**	**139**	P	**P**	**07 00 43.8**	**+2.6**
	7.8nm,0.5s,baz=280,slow=7.3,SNR=9.7						
DZM				LR	LR	07 07 45.7	
	comp=Z,583nm,20.7s,baz=315,slow=33						
QLP	**Quilpie**	**21.60**	**198**	P	**P**	**07 00 42.2**	**+1.1**
	baz=22,SNR=13						
WRAB	**Tennant Creek**	**21.62**	**229**	*e*P	**P**	**07 00 40.5**	**-0.9**
	50nm,0.8s						
WRAB				*e*S	**S**	**07 04 36.4**	**-2.6**
WB2	**Warramunga Arr**	**21.63**	**229**	*e*P	**P**	**07 00 40.9**	**-0.7**
	187nm,1.7s						
WRA	**Warramunga Arr**	**21.64**	**229**	P	**P**	**07 00 40.8**	**-0.9**
	32nm,0.7s,baz=53,slow=11,SNR=162						
WRA				PcP	**PcP**	**07 04 42.9**	**+0.5**
	4.7nm,0.8s,baz=40,slow=2.4,SNR=6.6						
WRA				LR	LR	07 09 04.0	
	comp=Z,298nm,20.3s,baz=65,slow=36						
KNRA	**Kununurra**	**24.23**	**245**	P	**P**	**07 01 06.9**	**-0.9**
	baz=24						
AS01	**Alice Springs**	**24.32**	**222**	*e*P	**P**	**07 01 08.2**	**-0.5**
AS31	**Alice Springs**	**24.36**	**222**	*e*P	**P**	**07 01 09.1**	**0.0**
	16nm,0.6s						
ASAR	**Alice Springs**	**24.36**	**222**	P	**P**	**07 01 08.8**	**-0.2**
	38nm,0.7s,baz=58,slow=9.0,SNR=246						
ASAR				LR	LR	07 10 35.2	
	comp=Z,422nm,19.2s,baz=44,slow=36						
CMSA	**Cobar Meteorol**	**25.98**	**191**	P	**P**	**07 01 23.7**	**+0.1**
	baz=26,SNR=10						
STKA	**Stephens Creek**	**27.35**	**198**	P	**P**	**07 01 36.1**	**+0.1**
	16nm,0.8s,baz=6.6,slow=9.3,SNR=16						
STKA				LR	LR	07 12 57.0	
	comp=Z,263nm,19.2s,baz=23,slow=37						
STKA	**Stephens Creek**	**27.35**	**198**	P	**P**	**07 01 35.9**	**-0.1**
	baz=27,SNR=13						
STKA	**Stephens Creek**	**27.35**	**198**	*e*P	**P**	**07 01 36.1**	**+0.1**
	3.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.90**	**242**	P	**P**	**07 01 40.0**	**-1.0**
	32nm,0.6s,baz=70,slow=8.0,SNR=109						
FITZ				LR	LR	07 13 33.9	
	comp=Z,450nm,18.6s,baz=42,slow=38						
FITZ	**Fitzroy Crossi**	**27.90**	**242**	P	**P**	**07 01 40.0**	**-1.0**
	baz=28,SNR=32						
FITZ	**Fitzroy Crossi**	**27.90**	**242**	*e*P	**P**	**07 01 39.9**	**-1.0**
	34nm,0.7s						
WRKA	**Warakurna**	**29.15**	**227**	P	**P**	**07 01 51.1**	**-1.0**
	baz=29,SNR=28						
HTT	**Hallett**	**29.68**	**201**	P	**P**	**07 01 56.9**	**+0.2**
	baz=30,SNR=7.1						
JCJ	**Chichijima**	**34.08**	**345**	LR	LR	07 17 45.6	
	comp=Z,58nm,18.1s,baz=128,slow=39						
MBWA	**Marble Bar**	**34.20**	**241**	*e*P	**P**	**07 02 35.1**	**-1.4**
	46nm,0.8s						
GIRL	**Giralia**	**39.50**	**241**	P	**P**	**07 03 21.9**	**+0.3**
	baz=39,SNR=5.1						
URZ	**Urewera**	**39.69**	**148**	LR	LR	07 19 19.3	
	comp=Z,215nm,18.1s,baz=314,slow=35						
KLBR	**Kellerberrin**	**40.50**	**227**	P	**P**	**07 03 28.7**	**-1.1**
	baz=40,SNR=4.4						
MORW	**Morawa**	**40.54**	**231**	P	**P**	**07 03 29.6**	**-0.6**
	baz=40,SNR=6.0						
RPZ	**Rata Peaks**	**41.35**	**158**	P	**P**	**07 03 37.2**	**+0.6**
	10nm,0.8s,baz=268,slow=3.8,SNR=6.3						
RPZ				LR	LR	07 18 45.2	
	comp=Z,362nm,19.9s,baz=310,slow=33						
YULB	**Yu-li**	**41.46**	**316**	*e*P	**P**	**07 03 37.0**	**-0.8**
	25nm,0.8s						
MUN	**Mundaring**	**41.83**	**227**	P	**P**	**07 03 40.3**	**-0.4**
	baz=42						
TPUB	**Ta-pu**	**41.87**	**315**	*e*P	**P**	**07 03 40.0**	**-1.1**
	21nm,0.7s						
SSLB	**Suanglung**	**41.95**	**316**	*e*P	**P**	**07 03 41.2**	**-0.6**
	22nm,1.0s						
YHNB	**Yeheng**	**42.25**	**317**	*e*P	**P**	**07 03 43.6**	**-0.7**
	62nm,1.1s						
JNU	**Nakatsue**	**43.52**	**335**	*e*P	**P**	**07 03 54.8**	**+0.5**
	30nm,0.9s						
QIZ	**Qiongzhong**	**47.92**	**302**	P	**P**	**07 04 28.6**	**-0.7**
QIZ				S	**S**	**07 11 23.4**	**-0.9**
QIZ				PMZ			
	16nm,2.6s						
QIZ				LZ			
	220nm,20.2s						
KSRS	**Korea Array**	**48.47**	**335**	P	**P**	**07 04 32.2**	**-0.9**
	3.9nm,0.7s,baz=153,slow=9.5,SNR=7.6						
KSAR	**Wonju Array Be**	**48.47**	**335**	P	**P**	**07 04 32.2**	**-1.0**
USRK	**Ussuriysk Ar.**	**52.94**	**343**	P	**P**	**07 05 05.2**	**-1.6**
	1.6nm,0.7s,baz=163,slow=5.9,SNR=3.9						
USRK				LR	LR	07 26 21.6	
	comp=Z,55nm,20.1s,baz=149,slow=35						
ENH	**Enshi**	**53.98**	**314**	*e*P	**P**	**07 05 13.4**	**-1.4**
	28nm,1.5s						
GYA	**Guiyang**	**54.05**	**309**	*e*P	**P**	**07 05 16.4**	**+0.9**
GYA				PMZ			
	10.0nm,1.0s						
KMI	**Kunming**	**56.53**	**305**	P	**P**	**07 05 34.3**	**+0.8**
KMI				PMZ			
	19nm,0.5s						
KMI				PMZ			
	100nm,6.5s						
XAN	**Xi'an**	**56.56**	**318**	P	**P**	**07 05 32.1**	**-1.2**
XAN				PMZ			
	6.0nm,0.7s						
XAN				PMZ			
	50nm,6.7s						
CMAR	**Chiang Mai Arr**	**57.16**	**296**	P	**P**	**07 05 37.1**	**-0.7**
	2.1nm,0.3s,baz=140,slow=7.1,SNR=3.8						
KLR	**Kul'dur**	**57.61**	**345**	P	**P**	**07 05 38.1**	**-2.3**
	2.5nm,0.8s,baz=166,slow=3.5,SNR=9.4						
CD2	**Chengdu**	**58.49**	**312**	*e*P	**P**	**07 05 45.8**	**-1.2**
CD2				pP	pP	07 05 56.3	-2.6
CD2				PcS	**PcS**	**07 10 37.8**	**-1.2**
CD2				S	**S**	**07 13 47.3**	**-0.5**
CD2				sS	sS	07 14 05.1	-2.6
CD2				SS	**SS**	**07 17 41.3**	**+0.3**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
PETK	**Petropavlovsk-**	**59.11**	**4**	P	**P**	**07 05 49.2**	**-1.6**
	3.2nm,0.5s,baz=178,slow=12,SNR=3.1						
HHC	**Hu-ho-hao-te**	**59.23**	**326**	*e*P	**P**	**07 05 53.3**	**+1.3**
HHC				S	**S**	**07 13 56.9**	**-0.3**
HHC				PMZ			
	18nm,1.1s						
HHC				PMZ			
	120nm,6.4s						
HHC				LN			
	120nm,12.3s						
HHC				LE			
	170nm,17.3s						
HHC				LZ			
	130nm,14.8s						
LZH	**Lanzhou**	**61.14**	**317**	*e*P	**P**	**07 06 05.4**	**+0.1**
LZH				pP	pP	07 06 16.0	-1.3
LZH				sP	sP	07 06 20.5	-1.5
LZH				*e*PP	**PP**	**07 08 22.6**	**+2.2**
LZH				PMZ			
	22nm,1.3s						
LZH				PMZ			
	78nm,8.5s						
LZH				LN			
	310nm,16.2s						
LZH				LE			
	320nm,16.0s						
LZH				LZ			
	390nm,19.3s						
CASY	**Casey**	**66.49**	**197**	*e*P	**P**	**07 06 40.3**	**+0.6**
	18nm,1.5s						
SONM	**Songino Array**	**66.61**	**329**	P	**P**	**07 06 39.7**	**-1.3**
	2.0nm,0.6s,baz=135,slow=5.6,SNR=13						
SONA1	**Songino Array**	**66.61**	**329**	*e*P	**P**	**07 06 39.9**	**-1.1**
YAK	**Yakutsk**	**69.87**	**349**	LR	LR	07 36 24.6	
	comp=Z,218nm,21.8s,baz=94,slow=35						
VNDA	**Vanda**	**71.70**	**178**	P	**P**	**07 07 12.7**	**+0.8**
	3.4nm,0.8s,baz=319,slow=5.9,SNR=17						
VNDA				LR	LR	07 37 34.6	
	comp=Z,85nm,18.2s,baz=264,slow=35						
CHGN	**Chignik**	**74.39**	**26**	*e*P	**P**	**07 07 24.0**	**-4.0**
WMQ	**Urumqi**	**75.69**	**318**	P	**P**	**07 07 35.6**	**-0.4**
WMQ				pP	pP	07 07 45.6	-2.7
WMQ				sP	PcP	07 07 49.6	+1.0
WMQ				PMZ			
	4.0nm,0.6s						
WMQ				PMZ			
	36nm,4.8s						
CNPM	**China Poot**	**79.37**	**26**	*e*P	**P**	**07 07 56.1**	**0.0**
	17nm,0.9s						
MK01	**Makanchi Array**	**80.31**	**319**	*e*P	**P**	**07 07 59.7**	**-1.8**
MK31	**Makanchi Array**	**80.33**	**319**	*e*P	**P**	**07 08 00.7**	**-0.9**
MKAR	**Makanchi Array**	**80.33**	**319**	P	**P**	**07 07 59.8**	**-1.8**
	0.7nm,0.8s,baz=109,slow=11,SNR=4.5						
MAKZ	**Makanchi**	**80.53**	**319**	*e*P	**P**	**07 08 01.4**	**-1.3**
ZALV	**Zalesovo Beam**	**81.39**	**327**	P	**P**	**07 08 04.5**	**-2.5**
	1.3nm,0.5s,baz=112,slow=7.0,SNR=6.5						
RND	**Reindeer**	**82.35**	**23**	*e*P	**P**	**07 08 10.6**	**-1.4**
MLY	**Manley**	**82.48**	**21**	*e*P	**P**	**07 08 11.9**	**-0.7**
KSH	**Kashi**	**82.67**	**311**	*e*P	**P**	**07 08 17.5**	**+3.2**
KSH				pP	pP	07 08 28.8	+2.1
KSH				PP	**PP**	**07 11 29.8**	**+5.2**
KSH				S	**S**	**07 18 31.8**	**+2.6**
KSH				SS	**SS**	**07 23 58.5**	**+6.4**
KSH				PMZ			
	3.0nm,0.4s						
KSH				PMZ			
	75nm,4.5s						
KSH				LN			
	270nm,13.0s						
KSH				LE			
	110nm,8.3s						
CCB	**Clear Creek Bu**	**83.36**	**22**	*e*P	**P**	**07 08 15.4**	**-1.7**
COLA	**College**	**83.46**	**22**	*e*P	**P**	**07 08 16.8**	**-0.8**
ILAR	**Eielson Array**	**83.77**	**22**	P	**P**	**07 08 17.2**	**-2.0**
	2.7nm,0.8s,baz=246,slow=5.2,SNR=40						
ILAR				LR	LR	07 43 05.3	
	comp=Z,91nm,19.3s,baz=277,slow=34						
ILB	**Eielson Array**	**83.77**	**22**	*e*P	**P**	**07 08 17.3**	**-2.0**
KURK	**Kurchatov**	**83.86**	**322**	*e*P	**P**	**07 08 17.8**	**-2.2**
MAW	**Mawson**	**83.95**	**203**	P	**P**	**07 08 20.5**	**+0.4**
	3.6nm,0.6s,baz=109,slow=6.9,SNR=4.2						
MAW				LR	LR	07 44 39.8	
	comp=Z,162nm,18.0s,baz=60,slow=35						
MAW	**Mawson**	**83.95**	**203**	P	**P**	**07 08 20.5**	**+0.4**
QSPA	**South Pole Qui**	**83.98**	**180**	*e*P	**P**	**07 08 21.4**	**+0.9**
DOT	**Dot Lake**	**84.36**	**24**	*e*P	**P**	**07 08 21.8**	**-0.5**
EKS2	**Erkin-Say**	**85.01**	**314**	*e*P	**P**	**07 08 25.6**	**-0.6**
EGAK	**Eagle**	**85.98**	**23**	*e*P	**P**	**07 08 30.2**	**-0.1**
DAWY	**Dawson**	**86.42**	**24**	*e*P	**P**	**07 08 34.3**	**+1.7**
SHPR	**Sheep Range**	**96.26**	**54**	*e*P	**P**	**07 09 21.8**	**+2.5**
AKTO	**Aktyubinsk**	**96.75**	**320**	LR	LR	07 55 13.0	
	comp=Z,37nm,18.5s,baz=91,slow=37						
YKA	**Yellowknife Ar**	**97.11**	**28**	P	**P**	**07 09 22.1**	**-0.2**
	0.2nm,0.5s,baz=270,slow=5.0,SNR=4.9						
YKA				LR	LR	07 49 42.8	
	comp=Z,7.0nm,19.6s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**100.65**	**48**	P	**Pdif**	**07 09 38.6**	**-0.3**
	0.3nm,0.4s,baz=225,slow=3.6,SNR=3.7						
ARCES	**ARCESS Array B**	**107.59**	**343**	PKiKP	**PKiKP**	**07 14 15.5**	**-1.3**
	1.4nm,0.9s,baz=116,slow=2.8,SNR=4.4						
FINES	**FINESS Array B**	**111.56**	**335**	PKiKP	**PKiKP**	**07 14 23.6**	**-0.7**
	1.4nm,0.8s,baz=0.0,slow=1.9,SNR=3.5						
AKASG	**Malin Array Be**	**114.65**	**324**	PKP	PKPdf	07 14 29.2	-1.4
	1.7nm,0.6s,baz=63,slow=2.3,SNR=7.5						
BRTR	**Keskin Array B**	**115.06**	**311**	PKP	**PKPdf**	**07 14 30.8**	**-1.1**
	1.1nm,0.7s,baz=64,slow=2.9,SNR=4.9						
NB2	**NORSAR Subarra1**	**117.55**	**339**	PKPdf	**PKPdf**	**07 14 34.7**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.55**	**339**	PKP	**PKPdf**	**07 14 35.0**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=52,slow=1.7,SNR=5.7						
KOLS	**Kolonicke sedl**	**119.48**	**324**	*e*PKP	**PKPdf**	**07 14 40.0**	**0.0**
LANS	**Liptovska Anna**	**120.98**	**325**	*e*PKP	**PKPdf**	**07 14 43.3**	**+0.4**
IDI	**Anoyia**	**122.96**	**308**	*e*PKPdf	**PKPdf**	**07 14 46.2**	**-1.0**
BRG	**Berggiesshuber**	**123.00**	**329**	*e*PKP	**PKPdf**	**07 14 46.2**	**-0.4**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**123.21**	**330**	*i* PKPdf	**PKPdf**	**07 14 46.9**	**-0.1**
	comp=Z,8.0nm,0.8s						
KHC	**Kasperske Hory**	**124.23**	**328**	*e*PKPdf	**PKPdf**	**07 14 48.3**	**-0.8**
GERES	**GERESS Array B**	**124.33**	**327**	PKP	**PKPdf**	**07 14 48.9**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=72,slow=1.7,SNR=31						
KEST	**Kesra**	**134.32**	**316**	PKP	**PKPdf**	**07 15 08.7**	**0.0**
	comp=Z,5.0nm,0.9s,baz=279,slow=7.2,SNR=5.8						
ROSC	**El Rosal**	**134.45**	**89**	PKP	**PKPdf**	**07 15 10.9**	**+0.9**
	comp=Z,3.7nm,0.6s,baz=97,slow=15,SNR=4.3						
LPAZ	**La Paz**	**135.03**	**120**	PKP	**PKPdf**	**07 15 12.3**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=352,slow=4.2,SNR=7.5						
PTGA	**Pitinga**	**147.95**	**101**	PKPbc	**PKPbc**	**07 15 37.4**	**+0.6**
	comp=Z,18nm,0.8s,baz=258,slow=3.0,SNR=28						
TORD	**Torodi Ar. Bea**	**149.34**	**286**	PKPbc	**PKPbc**	**07 15 39.2**	**-1.0**
	comp=Z,19nm,0.8s,baz=71,slow=2.5,SNR=91						
BDFB	**Brasilia**	**151.14**	**138**	PKPbc	**PKPbc**	**07 15 45.2**	**+0.6**
	comp=Z,12nm,0.9s,baz=207,slow=3.4,SNR=13						
DBIC	**Dimbokro**	**156.42**	**273**	PKPab	**PKPab**	**07 16 13.9**	**-0.9**
	comp=Z,6.4nm,0.8s,baz=117,slow=12,SNR=4.3						

JMA 16 06:59:07.3,38.°45N×141.°85E,h56km±1km,M3.6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.39**	**271**	P	Pn	06 59 17.9	+0.1
JIO				S	Sn	06 59 25.3	-0.1
OFUJ	**Ofunato**	**0.65**	**347**	P	Pn	06 59 20.7	0.0
OFUJ				S	Sn	06 59 30.4	0.0
JMK	**Ichinoseki**	**0.70**	**316**	P	Pn	06 59 21.7	+0.4
JMK				S	Sn	06 59 31.8	+0.2
JOU	**Okura**	**0.94**	**265**	P	Pn	06 59 24.4	0.0
JOU				S	Sn	06 59 36.9	0.0
JMM	**Marumori**	**1.02**	**235**	P	Pn	06 59 25.1	-0.3
JMM				S	Sn	06 59 38.1	-0.7
JOM	**Ohasama**	**1.11**	**337**	P	Pn	06 59 26.9	+0.2
JOM				S	Sn	06 59 41.6	+0.6
JYK	**Kaneyama**	**1.26**	**292**	P	Pn	06 59 29.0	+0.4
JYK				S	Sn	06 59 45.1	+0.6
JFK	**Kawauchi**	**1.33**	**216**	P	Pn	06 59 29.4	-0.2
JFK				S	Sn	06 59 45.8	-0.5
JRG	**Rokugo**	**1.34**	**315**	P	Pn	06 59 30.1	+0.4
JYS	**Shirataka**	**1.42**	**261**	P	Pn	06 59 31.4	+0.6
JYS				S	Sn	06 59 49.2	+0.7
JFT	**Otama**	**1.52**	**233**	P	Pn	06 59 32.6	+0.5
JFT				S	Sn	06 59 50.9	+0.1

*CSEM **16** 06:59:22.8±0.1,39.°15N×29.°07E,h15km,MD2.7,Error ellipse: s-maj=3.9km s-min=2.5km az=124.0*
*ISK **16** 06:59:22.0,39.°19N×29.°00E,h8km,MD2.6*
*ISCJB **16** 06:59:23.1±0.6,39.°16N±0.°06×29.°08E±0.°06,h17km±13km,Error ellipse: s-maj=11.1km s-min=5.5km az=148.5*
*DDA **16** 06:59:23.5,39.°11N×29.°09E,h7km,Md2.7*

ISC 16 06:59:22.7±1.1,39.°16N±0.°04×29.°03E±0.°06,h12km±14km, n18,σ0°37/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**246**	P	**Pb**	**06 59 29.9**	**+0.3**
DEMI				S	**Sb**	**06 59 34.2**	**+0.1**
DEMI	**Demirci**	**0.27**	**246**	*i* P	**Pb**	**06 59 29.9**	**+0.3**
DEMI				*i* S	**Sb**	**06 59 34.2**	**+0.1**
GDZ	**Gediz**	**0.35**	**101**	P	**Pg**	**06 59 29.9**	**0.0**
GDZ				S	**Sg**	**06 59 34.6**	**-0.1**
GDZ	**Gediz**	**0.35**	**101**	*i* P	**Pg**	**06 59 29.9**	**0.0**
GDZ				*i* S	**Sg**	**06 59 34.6**	**-0.1**
TVSB	**Tavsanli**	**0.44**	**48**	*e*PG	**Pg**	**06 59 31.9**	**+0.4**
TVSB				*e*SG	**Sg**	**06 59 37.5**	**0.0**
TVSB	**Tavsanli**	**0.44**	**48**	*e*Pg	**Pg**	**06 59 31.9**	**+0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**49.27**	**15**	T	T	08 05 09.1	
	baz=188,slow=74,SNR=4.6						
H10S3	**ASCENSION HYDR**	**49.27**	**15**	T	T	08 05 03.7	
	baz=188,slow=74,SNR=5.4						
H10S1	**ASCENSION HYDR**	**49.29**	**15**	T	T	08 05 10.1	
	baz=188,slow=74,SNR=6.3						
H10N1	**ASCENSION HYDR**	**50.39**	**15**	T	T	08 06 31.2	
	baz=195						
H10N3	**ASCENSION HYDR**	**50.39**	**15**	T	T	08 06 30.8	
	baz=195,slow=74,SNR=3.9						
H10N2	**ASCENSION HYDR**	**50.40**	**15**	T	T	08 06 34.6	
	baz=195,slow=74,SNR=3.6						
LPAZ	**La Paz**	**51.86**	**305**	P	P	07 11 44.9	-0.1
	1.2nm,0.5s,baz=131,slow=5.4,SNR=12						
TORD	**Torodi Ar. Bea**	**74.04**	**28**	P	P	07 14 11.8	0.0
	0.5nm,0.5s,baz=198,slow=6.0,SNR=5.3						
YKA	**Yellowknife Ar**	**137.79**	**316**	PKP	PKPdf	07 21 58.4	-0.6
	0.2nm,0.4s,baz=131,slow=2.1,SNR=9.8						
ILAR	**Eielson Array**	**151.67**	**309**	PKPbc	PKPbc	07 22 28.9	-0.2
	0.9nm,0.7s,baz=108,slow=1.0,SNR=13						

TEH ***16*** *07:03:16.5,36.56N×54.78E,h6km,ML3.4*
ISCJB ***16*** *07:03:18.7±0.5,36.78N±0.05×54.65E±0.04,h15km, Error ellipse: s-maj=7.7km s-min=4.2km az=170.2*
CSEM ***16*** *07:03:19.0±0.2,36.84N×54.67E,h10km,ML3.4, Error ellipse: s-maj=9.2km s-min=4.7km az=173.0*
AZER ***16*** *07:03:19.0±1.3,38.13N×55.31E,h25km, Error ellipse: s-maj=69.0km s-min=10.9km az=7.0*

ISC 16 07:03:18.9±0.9,36.74N±0.06×54.73E±0.04,h15km,n40, σ2.906/47,1C-8D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.76**	**252**	*e*Pg	**Pg**	**07 03 32.4**	**-1.4**
IGLO				*e*AMB	AMB	07 03 54.1	
	comp=Z,35μm,0.3s						
SHRO	**Shahrood**	**1.27**	**125**	*e*Pg	**Pn**	**07 03 39.8**	**-2.5**
IANJ	**Anjilo**	**1.43**	**208**	*e*Pn	**Pn**	**07 03 42.4**	**-2.1**
IANJ				*e*AMB	AMB	07 04 05.8	
	comp=Z,6μm,0.2s						
ISHM	**Shahmirzad**	**1.49**	**232**	*e*Pn	**Pn**	**07 03 44.6**	**-0.8**
ISHM				*e*AMB	AMB	07 04 13.4	
	comp=Z,10μm,0.1s						
IALA	**Alasht**	**1.68**	**248**	*e*Pn	**Pn**	**07 03 49.1**	**+1.1**
IALA				*e*AMB	AMB	07 04 18.3	
	comp=E,19μm,0.1s						
IALA	**Alasht**	**1.68**	**248**	*e*Pn	**Pn**	**07 03 49.1**	**+1.1**
IFIR	**Firoozkooh**	**1.94**	**236**	*e*Pn	**Pn**	**07 03 52.4**	**+0.9**
IFIR				*e*AMB	AMB	07 03 53.7	
	comp=Z,7μm,0.1s						
IFIR				*e*Sg	**Sb**	**07 04 20.6**	**+2.5**
IFIR	**Firoozkooh**	**1.94**	**236**	*e*Pn	**Pn**	**07 03 52.4**	**+0.9**
IFIR				*e*Sg	**Sb**	**07 04 20.6**	**+2.5**
ILAS	**Lasjerd**	**1.97**	**227**	*e*Pn	**Pn**	**07 03 52.8**	**+0.8**
ILAS				*e*AMB	AMB	07 03 57.9	
	comp=E,7μm,0.1s						
ILAS	**Lasjerd**	**1.97**	**227**	*e*Pn	**Pn**	**07 03 52.8**	**+0.8**
IPRN	**Peran**	**1.99**	**256**	*e*Pn	**Pn**	**07 03 53.4**	**+1.3**
IPRN				*e*Sg	**Sb**	**07 04 23.1**	**+3.6**
IPRN				*e*AMB	AMB	07 04 26.4	
	comp=Z,14μm,0.1s						
BJRD	**Bojnurd**	**2.34**	**65**	*e*Pn	**Pb**	**07 03 58.5**	**-2.5**
IDMV	**Damavand**	**2.47**	**243**	*e*Pn	**Pn**	**07 04 00.6**	**+1.7**
IDMV				*e*AMB	AMB	07 04 02.4	
	comp=Z,3μm,0.1s						
IDMV	**Damavand**	**2.47**	**243**	*e*Pn	**Pn**	**07 04 00.6**	**+1.7**
IAFJ	**Afjeh**	**2.59**	**251**	*e*Pn	**Pn**	**07 04 02.7**	**+2.1**
IAFJ				*e*AMB	AMB	07 04 49.8	
	comp=Z,3μm,0.2s						
IAFJ	**Afjeh**	**2.59**	**251**	*e*Pn	**Pn**	**07 04 02.7**	**+2.1**
ISFR	**Sfrayin**	**2.64**	**82**	*e*Pn	**Pn**	**07 04 02.5**	**+1.2**
ISFR				*e*AMB	AMB	07 04 54.6	
	comp=Z,2μm,0.3s						
ISFR	**Sfrayin**	**2.64**	**82**	*e*Pn	**Pn**	**07 04 02.5**	**+1.2**
IVRN	**Varamin**	**2.99**	**235**	*e*AMB	AMB	07 04 57.6	
	comp=Z,1μm,0.1s						
IVRN				*e*Pn	**Pn**	**07 04 06.7**	**+0.8**
CHTH	**Charan**	**3.02**	**255**	*e*Pn	**Pn**	**07 04 10.4**	**+3.9**
IKRD	**Kardeh**	**3.04**	**88**	*e*Pn	**Pg**	**07 04 18.7**	**+1.5**
IKRD				*e*AMB	AMB	07 04 33.5	
	comp=Z,268nm,0.2s						
IEMG	**Emamgholi**	**3.21**	**77**	*e*Pn	**Pn**	**07 04 10.6**	**+1.5**
IEMG				*e*AMB	AMB	07 04 21.3	
	comp=Z,520nm,0.1s						
IEMG	**Emamgholi**	**3.21**	**77**	*e*Pn	**Pn**	**07 04 10.6**	**+1.5**
THKV	**Tehran--Karaj**	**3.21**	**256**	*e*Pn	**Pn**	**07 04 13.6**	**+4.5**
IAKL	**Akhelmad**	**3.24**	**91**	*e*Pn	**Pn**	**07 04 10.7**	**+1.2**
IAKL				*e*AMB	AMB	07 05 11.4	
	comp=Z,436nm,0.2s						
IMOG	**Moghan**	**3.77**	**98**	*e*Pn	**Pn**	**07 04 17.9**	**+1.1**
IMOG				*e*AMB	AMB	07 04 34.4	
	comp=Z,271nm,0.1s						
IMOG	**Moghan**	**3.77**	**98**	*e*Pn	**Pn**	**07 04 17.9**	**+1.1**
IRAZ	**Razeghan**	**4.11**	**253**	*e*AMB	AMB	07 04 37.0	
	comp=Z,448nm,0.2s						
ASTR	**Astara**	**5.05**	**293**	⇓P	**Pn**	**07 04 33.9**	**-0.2**
	SNR=4.8						
ASTR				⇓S	**Sn**	**07 05 33.7**	**+1.5**
ASTR	**Astara**	**5.05**	**293**	P	**Pn**	**07 04 33.9**	**-0.2**
	SNR=4.8						
ASTR				S	**Sn**	**07 05 33.7**	**+1.5**
LKRN	**Lenkeran, Azer**	**5.11**	**294**	P	**Pn**	**07 04 34.5**	**-0.4**
	SNR=4.9						
LKRN	**Lenkeran, Azer**	**5.11**	**294**	P	**Pn**	**07 04 34.5**	**-0.4**
	SNR=4.9						
IBAF	**Bafgh**	**5.18**	**172**	*e*Pn	**Pn**	**07 04 34.8**	**-1.2**
IBAF				*e*AMB	AMB	07 05 35.6	
	comp=Z,163nm,0.1s						
LRK	**Lerik**	**5.41**	**293**	⇓P	**Pn**	**07 04 38.4**	**-0.8**
	SNR=4.0						
LRK				⇑S	**Sn**	**07 05 42.6**	**+1.3**
LRK	**Lerik**	**5.41**	**293**	P	**Pn**	**07 04 38.4**	**-0.8**
	SNR=4.0						
LRK				S	**Sn**	**07 05 42.6**	**+1.3**
GLBA	**Clilabad**	**5.59**	**298**	⇓P	**Pn**	**07 04 39.8**	**-1.8**
GLBA				⇓S	**Sn**	**07 05 41.7**	**-3.9**
GLBA	**Clilabad**	**5.59**	**298**	P	**Pn**	**07 04 39.8**	**-1.8**
XNQ	**Khinaliq**	**6.78**	**313**	⇓P	Pn	07 04 51.5	-6.6
GDB	**GEDABAY**	**8.06**	**302**	⇓P	**Pn**	**07 05 13.8**	**-1.8**
GDB				⇓S	**Sn**	**07 06 41.0**	**-5.6**
GDB	**GEDABAY**	**8.06**	**302**	P	**Pn**	**07 05 13.8**	**-1.8**

MOS ***16*** *07:03:49.8±2.1,56.18N×113.19E,h10km,mb4.2/1, Error ellipse: s-maj=18.2km s-min=16.4km az=74.4*

BYKL 16 07:03:49.3±0.4,56.36N×113.20E,h18km±5km,5C-4D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.32**	**140**	⇑*i*Pg	Pg	07 03 55.0	-1.1
SVKR				*e*Sg	Sg	07 03 59.1	-1.7
SVKR				Pmax			
	2μm,0.4s						
SVKR				Smax			
	10μm,0.6s						
SVKR	**Severomuysk**	**0.32**	**140**	*e*PG	Pg	07 03 55.0	-1.1
SVKR				*e*		07 03 59.0	
SVKR				pmax	pmax		
	comp=Z,1μm,0.3s						
SVKR				smax	smax		
	comp=N,4μm,0.2s						
YOA	**Uoyan**	**0.85**	**255**	*e*Pg	Pb	07 04 05.5	-0.1
YOA				*e*Sg	Sg	07 04 17.2	-0.1
YOA				*e*		07 04 23.6	
YOA				Pmax			
	comp=N,309nm,0.2s						
YOA				max			
	comp=N,1μm,0.3s						
UKT	**Uakit**	**0.91**	**164**	⇑*i*Pg	Pb	07 04 05.7	-0.8
UKT				*e*Sg	Sb	07 04 17.9	-0.4
UKT				Pmax			
	comp=N,88nm,0.9s						
UKT				Smax			
	comp=N,314nm,0.3s						
UKT	**Uakit**	**0.91**	**164**	⇑*i*PG	Pb	07 04 05.7	-0.8
UKT				*e*		07 04 16.3	
UKT				pmax	pmax		
	comp=Z,55nm,0.2s						
UKT				smax	smax		
	comp=E,318nm,0.3s						
KMO	**Kumora**	**1.22**	**248**	⇓*i*Pg	Pb	07 04 11.9	+0.1
KMO				⇑*i*Pb	Pg	07 04 13.3	+0.5
KMO				*e*		07 04 16.9	
KMO				*e*Sg	Sg	07 04 28.2	-0.5
KMO				*e*		07 04 34.8	
KMO				max			
	comp=E,119nm,0.3s						
KMO				max			
	comp=E,682nm,1.0s						
KMO	**Kumora**	**1.22**	**248**	*e*PG	Pb	07 04 11.9	+0.1
KMO				*e*		07 04 28.0	
KMO				pmax	pmax		
	comp=Z,117nm,0.3s						
KMO				smax	smax		
	comp=N,687nm,1.0s						
NLYR	**Nelyaty**	**1.40**	**84**	⇑*i*Pg	Pb	07 04 14.7	-0.1
NLYR				*e*		07 04 16.8	
NLYR				*e*Sg	Sg	07 04 33.7	-0.7
NLYR				max			
	comp=N,77nm,0.6s						
NLYR				Smax			
	comp=N,523nm,1.1s						
NLYR	**Nelyaty**	**1.40**	**84**	*i* PG	Pb	07 04 14.8	0.0
NLYR				*e*		07 04 33.6	
NLYR				pmax	pmax		
	comp=Z,53nm,0.2s						
NLYR				smax	smax		
	comp=E,569nm,1.1s						
YLYR	**Ulyunkhan**	**1.88**	**219**	⇓*i*Pg	Pb	07 04 22.4	-0.7
YLYR				*e*		07 04 27.7	
YLYR				*e*Sg	Sg	07 04 48.2	-1.7
YLYR				Pmax			
	comp=E,88nm,0.4s						
YLYR				Smax			
	comp=E,350nm,0.3s						
YLYR	**Ulyunkhan**	**1.88**	**219**	*e*PN	Pb	07 04 22.2	-0.9
YLYR				*e*		07 04 23.2	
YLYR				*e*		07 04 48.5	
YLYR				pmax	pmax		
	comp=Z,89nm,0.3s						
YLYR				smax	smax		
	comp=E,355nm,0.3s						
NIZ	**Nizh Angarsk**	**2.13**	**256**	*e*Pg	Pb	07 04 26.5	-0.9
NIZ				*e*Sg	Sb	07 04 55.3	+1.8
NIZ				Pmax			
	comp=E,25nm,0.4s						
NIZ				Smax			
	comp=E,248nm,0.6s						
CRS	**Chara**	**2.85**	**77**	*e*Pn	Pn	07 04 34.2	+0.3
CRS				*e*Pg	Pb	07 04 40.9	+1.2
CRS				*e*Sg	Sg	07 05 17.9	-3.0
CRS				Pmax			
	comp=E,49nm,1.1s						
CRS				Smax			
	comp=E,147nm,1.3s						
CRS	**Chara**	**2.85**	**77**	*e*PN	Pb	07 04 41.2	+1.5
CRS				*e*		07 05 17.7	
CRS				pmax	pmax		
	comp=Z,64nm,1.0s						
CRS				smax	smax		
	comp=E,139nm,1.0s						
SYVR	**Suvo**	**3.27**	**216**	⇓*i*Pn	Pn	07 04 40.8	+1.1
SYVR				*e*		07 04 45.3	
SYVR				*e*Pg	Pb	07 04 47.5	+0.7
SYVR				*e*Sg	Sg	07 05 30.8	-3.6
SYVR				Pmax			
	comp=E,13nm,0.7s						
SYVR				Smax			
	comp=E,65nm,0.7s						
MXMB	**Maximikha**	**4.03**	**222**	*e*	Pg	07 05 13.1	+6.6
MXMB				*e*		07 05 37.4	
MXMB				*e*Sg	Sg	07 05 53.7	-5.0
OGRR	**Ongureny**	**4.22**	**232**	⇓*i*Pn	Pn	07 04 54.2	+1.5
OGRR				*e*		07 04 59.2	
OGRR				*e*Pg	Pb	07 05 04.6	+1.6
OGRR				*e*		07 05 32.9	
OGRR				*e*Sg	Sg	07 06 00.3	-4.4
OGRR				Pmax			
	comp=E,10.0nm,0.7s						
OGRR				Smax			
	comp=E,26nm,0.5s						
TUP	**Tupik**	**4.31**	**114**	*e*Pn	Pn	07 04 54.6	+0.7
TUP				*e*		07 04 58.4	
TUP				*e*Pg	Pb	07 05 05.5	+1.0
TUP				*e*Sn	Sn	07 05 44.0	+0.3
TUP				*e*Sg	Sg	07 06 02.8	-4.8
TUP				Pmax			
	comp=E,8.0nm,0.5s						
TUP				Smax			
	comp=E,69nm,0.8s						
TUP	**Tupik**	**4.31**	**114**	*e*PN	Pn	07 04 54.7	+0.8
TUP				*e*S	Sg	07 06 03.0	-4.6
TUP				smax	smax		
	comp=N,71nm,1.2s						
CIT	**Chita**	**4.35**	**177**	*e*Sg	Sg	07 06 03.3	-5.6
CIT				Smax			
	comp=N,130nm,0.2s						
ZRHB	**Zarechye**	**5.19**	**225**	*e*Sg	Sg	07 06 31.9	-4.0
ZRHB				Smax			
	comp=N,114nm,0.9s						
TRG	**Tyrgan**	**5.38**	**231**	Pg	Pb	07 05 25.0	+2.4
TRG				*e*		07 06 11.7	
TRG				*e*Sg	Sg	07 06 36.8	-4.9
TRG				Pmax			
	comp=N,3.0nm,0.4s						
TRG				Smax			
	comp=N,20nm,0.3s						
UUDB	**Ulan-Yde**	**5.55**	**218**	*e*Sg	Sg	07 06 42.4	-5.0
UUDB				Smax			
	comp=N,52nm,1.9s						
KAB	**Kabansk**	**5.78**	**224**	Sg	Sg	07 06 47.6	-7.0
BGT	**Bolshoye Golou**	**6.29**	**230**	*e*Sg	Sg	07 07 03.2	-7.8
BGT				*e*		07 07 05.8	
BGT				*e*		07 07 14.4	
BGT				max			
	comp=N,25nm,0.3s						
IRK	**Irkutsk**	**6.66**	**235**	Sg	Sg	07 07 14.0	-8.7
LSTR	**Listvyanka**	**6.67**	**231**	Sg	Sg	07 07 16.4	-6.6
KPC	**Khapcheranga**	**6.69**	**185**	*e*	Pb	07 05 46.5	+1.5
KPC				*e*		07 05 58.3	
KPC				*e*		07 06 29.6	
KPC				*e*Sg	Sg	07 07 18.0	-5.7
KPC				max			
	comp=N,1.0nm,0.3s						
KPC				Smax			
	comp=N,56nm,1.2s						
IVK	**Ivanovka**	**6.89**	**232**	*e*Sg	Sg	07 07 23.4	-6.9
IVK				Smax			
	comp=N,19nm,1.6s						
TLY	**Talaya**	**7.32**	**234**	*e*Sg	Sg	07 07 35.0	-9.0
TLY				Smax			
	comp=N,10.0nm,0.9s						
ARS	**Arshan**	**7.73**	**239**	*e*		07 07 22.0	
ARS				*e*Sg	Sb	07 07 47.3	+13
ARS				Smax			
	comp=N,55nm,0.6s						
ZAK	**Zakamensk**	**8.42**	**229**	Sg	Sb	07 08 09.6	+15
ZAK				Smax			
	comp=N,12nm,1.7s						
MOY	**Mondy**	**8.59**	**242**	*e*	Pn	07 05 48.8	-3.9
MOY				*e*		07 05 58.7	
MOY				*e*		07 08 07.4	
MOY				*e*Sg	Sn	07 08 12.9	+44
MOY				Smax			
	comp=N,25nm,1.8s						
ORL	**Orlik**	**8.69**	**249**	*e*	Pn	07 06 17.6	+24
ORL				*e*		07 06 34.8	
ORL				*e*		07 07 52.3	
ORL				*e*Sg	Sn	07 08 19.6	+48
ORL				*e*		07 08 27.5	
ORL				max			
	comp=N,25nm,1.4s						
ORL	**Orlik**	**8.69**	**249**	*e*PN	Pn	07 05 55.4	+1.3
ORL				*e*		07 06 25.6	
ORL				*e*		07 08 20.2	
ORL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ORL				smax	smax		
	comp=N,25nm,1.4s						

NEIC ***16*** *07:05:20.1±0.4,5.77S×151.10E,h10km,mb4.6/11, Error ellipse: s-maj=11.9km s-min=8.3km az=124.0*

ISCJB ***16*** *07:05:23.0±0.4,5.82S±0.05×151.14E±0.06,h43km, mb4.5/27,MS3.7/5, Error ellipse: s-maj=10.2km s-min=6.3km az=35.0*
IDC ***16*** *07:05:24.2±3.8,5.80S×151.21E,h41km±32km,mb4.2/13, mb1 4.4/15,mb1mx4.1/39,mbtmp4.4/15,ML3.2/2,MS3.7/6, Ms1 3.7/6,ms1mx3.3/38, Error ellipse: s-maj=21.3km s-min=16.4km az=71.0*

ISC 16 07:05:25.1±0.4,5.84S±0.05×151.15E±0.07,h43km,n63, σ2.934/60,mb4.6/27,MS3.7/5,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.93**	**32**	*e*Pn	**Pn**	**07 05 55.1**	**-0.4**
RABL				*e*Sn	**Sn**	**07 06 23.7**	**+5.2**
PMG	**Port Moresby**	**5.30**	**228**	P	**Pn**	**07 06 43.4**	**+1.6**
	12nm,0.3s,baz=24,slow=11,SNR=13						
PMG				S	**Sn**	**07 07 42.5**	**+0.7**
	9.5nm,0.3s,baz=115,slow=18,SNR=12						
PMG				LR	LR	07 08 17.5	
	comp=Z,394nm,21.6s,baz=25,slow=32						
PMG	**Port Moresby**	**5.30**	**228**	*e*Pn	**Pn**	**07 06 38.3**	**-3.5**
PMG				*e*Sn	**Sn**	**07 07 42.0**	**+0.3**
HNR	**Honiara**	**9.42**	**113**	LR	LR	07 11 01.2	
	comp=Z,384nm,18.5s,baz=280,slow=36						
HNR	**Honiara**	**9.42**	**113**	*e*Pn	**Pn**	**07 07 39.9**	**+1.6**
CTA	**Charters Tower**	**14.94**	**198**	P	**Pn**	**07 08 53.5**	**0.0**
	0.3nm,0.3s,baz=28,slow=11,SNR=2.7						
CTAO	**Charters Tower**	**14.94**	**198**	*e*Pn	**Pn**	**07 08 52.4**	**-1.1**
CTAO				*e*Sn	**Sn**	**07 11 44.6**	**+6.7**
GUMO	**Guam**	**20.29**	**342**	LR	LR	07 18 08.1	
	comp=Z,148nm,18.4s,baz=124,slow=38						
MTN	**Manton Dam**	**20.93**	**249**	*e*P	**P**	**07 10 04.8**	**+0.5**
	21nm,0.7s						
WRAB	**Tennant Creek**	**21.51**	**228**	*e*P	**P**	**07 10 10.8**	**+0.2**
	26nm,0.9s						
WB2	**Warramunga Arr**	**21.52**	**228**	*e*P	**P**	**07 10 10.9**	**+0.2**
	20nm,0.8s						
WR1	**Warramunga Arr**	**21.52**	**228**	*e*P	**P**	**07 10 10.8**	**0.0**
	26nm,0.9s						
WR1				*e*S	**S**	**07 14 12.8**	**+5.5**
WRA	**Warramunga Arr**	**21.53**	**228**	P	**P**	**07 10 10.8**	**0.0**
	17nm,0.7s,baz=53,slow=11,SNR=142						
WRA				PcP	**PcP**	**07 14 12.8**	**+0.4**
	2.9nm,0.8s,baz=42,slow=2.4,SNR=5.9						
DZM	**Mont Dzumac**	**21.89**	**139**	P	**P**	**07 10 14.1**	**-0.6**
	8.5nm,0.7s,baz=343,slow=5.4,SNR=7.5						
DZM				LR	LR	07 17 38.4	
	comp=Z,430nm,20.7s,baz=303,slow=34						
DZM	**Mont Dzumac**	**21.89**	**139**	*e*P	**P**	**07 10 14.1**	**-0.6**
	48nm,1.3s						
AS01	**Alice Springs**	**24.25**	**221**	*e*P	**P**	**07 10 37.1**	**-1.2**
AS31	**Alice Springs**	**24.28**	**221**	*e*P	**P**	**07 10 38.9**	**+0.3**
	8.9nm,0.6s						
ASAR	**Alice Springs**	**24.28**	**221**	P	**P**	**07 10 38.8**	**+0.2**
	27nm,0.8s,baz=58,slow=8.9,SNR=134						
ASAR				PcP	**PcP**	**07 14 16.9**	**-1.1**
	1.8nm,1.1s,baz=45,slow=2.8,SNR=3.3						
ASAR				LR	LR	07 20 14.6	
	comp=Z,211nm,19.5s,baz=45,slow=37						
STKA	**Stephens Creek**	**27.40**	**198**	P	**P**	**07 11 05.6**	**-1.1**
	12nm,0.9s,baz=0.4,slow=10.0,SNR=10						
STKA				LR	LR	07 21 23.4	
	comp=Z,215nm,18.8s,baz=22,slow=35						
STKA	**Stephens Creek**	**27.40**	**198**	*e*P	**P**	**07 11 05.6**	**-1.1**
	3.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.72**	**242**	P	**P**	**07 11 09.5**	**-0.1**
	18nm,0.6s,baz=76,slow=6.5,SNR=55						
FITZ	**Fitzroy Crossi**	**27.72**	**242**	*e*P	**P**	**07 11 09.8**	**+0.2**
	16nm,0.6s						
RPZ	**Rata Peaks**	**41.59**	**158**	P	**P**	**07 13 08.1**	**-0.7**
	7.0nm,0.7s,baz=358,slow=2.0,SNR=5.6						
KSRS	**Korea Array**	**48.22**	**335**	P	**P**	**07 14 00.2**	**-1.3**
	0.8nm,0.6s,baz=144,slow=7.1,SNR=3.2						
WHN	**Wuhan**	**50.49**	**318**	⇓P	P	07 14 28.3	+9.2
WHN				pP	sP	07 14 50.9	+15
GYA	**Guiyang**	**53.74**	**309**	*e*P	P	07 14 48.3	+4.9
GYA				pP	sP	07 15 17.4	+17
GYA				sP	PcP	07 15 30.0	-19
GYA				PP	**PP**	**07 16 51.6**	**+6.8**
GYA				S	**S**	**07 22 09.0**	**-6.1**
GYA				sS	sS	07 22 59.8	+24
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2	**Changchun**	**54.60**	**337**	*e*P	P	07 14 58.5	+9.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMI	**Kunming**	**56.22**	**305**	P	P	07 15 06.0	+4.4
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,93nm,4.6s						
HHC	**Hu-ho-hao-te**	**58.95**	**326**	*e*P	P	07 15 27.1	+6.8
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,680nm,7.4s						
LZH	**Lanzhou**	**60.84**	**317**	*e*P	**P**	**07 15 37.5**	**+4.0**
LZH				pP	PcP	07 16 06.4	-11
LZH				sP	sP	07 16 19.8	+29
LZH				*e*PP	**PP**	**07 17 54.6**	**+6.6**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,68nm,8.0s						
LZH				LR	LR		
	comp=N,93nm,16.3s						
LZH				LR	LR		
	comp=E,85nm,16.0s						
LZH				LR	LR		
	comp=Z,110nm,19.5s						
SONA0	**Songino Array**	**66.34**	**329**	*e*P	**P**	**07 16 09.8**	**+0.3**
	comp=Z,4.2nm,1.2s						
SONM	**Songino Array**	**66.34**	**329**	P	**P**	**07 16 09.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=142,slow=5.9,SNR=7.8						
SONA1	**Songino Array**	**66.34**	**329**	*e*P	**P**	**07 16 10.1**	**+0.5**
VNDA	**Vanda**	**71.86**	**178**	P	**P**	**07 16 42.0**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=330,slow=6.4,SNR=12						
WMQ	**Urumqi**	**75.40**	**318**	P	P	07 17 09.4	+4.9
WMQ				pP	sP	07 17 39.4	+17
WMQ				sP	PcP	07 17 52.1	+35
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,50nm,4.2s						
MK32	**Makanchi Array**	**80.03**	**319**	*e*P	**P**	**07 17 29.5**	**-0.7**
MKAR	**Makanchi Array**	**80.03**	**319**	P	**P**	**07 17 29.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=81,slow=7.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**81.11**	**327**	P	**P**	**07 17 34.1**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=93,slow=5.9,SNR=3.6						
ZAA1	**Zalesovo Array**	**81.11**	**327**	*e*P	**P**	**07 17 34.1**	**-1.7**
KSH	**Kashi**	**82.37**	**311**	*e*P	P	07 17 51.3	+8.4
KSH				pP	sP	07 18 21.3	+21
KSH				PP	PP	07 21 04.0	+12
KSH	**Kashi**	**82.37**	**311**	S	**S**	**07 27 52.4**	**-3.7**
KSH	**Kashi**	**82.37**	**311**	SS	SS	07 33 20.6	+3.0
KSH				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,87nm,4.3s						
KSH				LR	LR		
	comp=N,74nm,4.1s						
KSH				LR	LR		
	comp=E,87nm,6.4s						
ILAR	**Eielson Array**	**83.74**	**22**	P	**P**	**07 17 46.9**	**-2.4**
	comp=E,1.6nm,0.6s,baz=247,slow=5.0,SNR=27						
MAW	**Mawson**	**83.98**	**203**	P	**P**	**07 17 49.8**	**-0.7**
	comp=E,4.2nm,0.7s,baz=76,slow=8.7,SNR=4.5

NB200	NORSAR Array S	117.32	339	*e*PKPdf	PKPdf	07 24 04.5	-1.1
NOA	NORSAR Array B	117.32	339	PKP	PKPdf	07 24 04.5	-1.1
	comp=E,0.5nm,0.7s,baz=49,slow=2.0,SNR=3.5						
GERES	GERESS Array B	124.06	327	PKP	PKPdf	07 24 18.7	-0.4
	comp=E,2.1nm,0.7s,baz=81,slow=1.8,SNR=17						
LPAZ	La Paz	135.35	120	PKP	PKPdf	07 24 41.4	-0.7
	comp=E,1.3nm,0.8s,baz=71,slow=2.6,SNR=7.1						
PTGA	Pitinga	148.26	101	PKPbc	PKPbc	07 25 06.8	-0.9
	comp=E,12nm,0.8s,baz=243,slow=2.8,SNR=20						
TORD	Torodi Ar. Bea	149.03	286	PKPbc	PKPbc	07 25 09.0	-0.6
	comp=E,11nm,0.8s,baz=71,slow=2.7,SNR=52						
TOA1	Torodi Ar. Sit	149.03	286	*e*PKPbc	PKPbc	07 25 09.0	-0.6
BDFB	Brasilia	151.44	139	PKPbc	PKPbc	07 25 14.9	-0.6
	comp=E,7.0nm,0.8s,baz=116,slow=3.7,SNR=9.5						

*ISCJB **16** 07:10:11.1±0.6, 17.8°S±0.1°×178.6°W±0.1°, h579km, mb4.0/13, Error ellipse: s-maj=19.0km s-min=11.3km az=151.8*

*IDC **16** 07:10:12.9±1.7, 17.79°S×178.58°W, h590km±20km, mb3.3/13, mb1 3.5/15, mb1mx3.3/42, mbtmp4.3/15, Error ellipse: s-maj=17.8km s-min=13.0km az=153.0*

ISC 16 07:10:11.9±0.6, 17.8°S±0.1°×178.5°W±0.1°, h579km, n20, σ0s90/22, mb3.8/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.55	60	P		P		07 12 06.3	-0.1
	3.1nm,0.3s,baz=57,slow=11,SNR=4.3								
DZM	Mont Dzumac	14.76	251	P		P		07 13 19.2	+0.6
	0.8nm,0.3s,baz=86,slow=17,SNR=9.1								
URZ	Urewera	20.76	190	P		P		07 14 14.4	+1.1
	3.4nm,0.5s,baz=0.0,slow=20,SNR=3.1								
CTA	Charters Tower	33.35	260	P		P		07 16 03.1	-0.4
	5.4nm,0.6s,baz=102,slow=9.8,SNR=9.0								
PMG	Port Moresby	34.33	279	P		P		07 16 12.6	+1.0
	26nm,0.8s,baz=122,slow=6.3,SNR=4.6								
STKA	Stephens Creek	38.59	241	P		P		07 16 46.8	+0.4
	12nm,0.5s,baz=89,slow=10.0,SNR=26								
JAY	Jayapura	42.76	286	P		P		07 17 20.7	+0.9
	0.6nm,0.3s,baz=277,slow=23,SNR=4.0								
WRA	Warramunga Arr	44.54	259	P		P		07 17 32.4	-1.1
	5.7nm,0.4s,baz=95,slow=7.4,SNR=86								
WRA				PcP		PcP		07 19 03.5	-0.4
	0.8nm,0.4s,baz=92,slow=3.5,SNR=4.0								
ASAR	Alice Springs	44.72	254	P		P		07 17 34.5	-0.3
	49nm,0.6s,baz=88,slow=8.4,SNR=579								
ASAR				PcP		PcP		07 19 03.4	-1.1
	1.3nm,0.4s,baz=104,slow=3.7,SNR=5.7								
FITZ	Fitzroy Crossi	52.94	260	P		P		07 18 35.0	-0.4
	1.7nm,0.3s,baz=68,slow=6.8,SNR=12								
VNDA	Vanda	60.56	185	P		P		07 19 26.5	-0.1
	0.6nm,0.8s,baz=300,slow=4.8,SNR=4.3								
MAW	Mawson	83.94	200	P		P		07 21 40.6	-0.7
	1.2nm,0.5s,baz=297,slow=2.3,SNR=3.1								
ILAR	Eielson Array	85.79	13	P		P		07 21 49.9	-0.4
	0.4nm,0.4s,baz=223,slow=5.3,SNR=14								
TXAR	Lajitas Array	86.02	58	P		P		07 21 54.0	+1.7
	0.9nm,0.8s,baz=217,slow=6.0,SNR=12								
PDAR	Pinedale Array	87.34	43	P		P		07 21 58.7	+0.3
	0.7nm,0.6s,baz=198,slow=4.4,SNR=3.8								
YKA	Yellowknife Ar	94.27	25	P		P		07 22 29.5	0.0
	0.2nm,0.7s,baz=248,slow=4.5,SNR=2.8								
MKAR	Makanchi Array	108.97	314	PKiKP		PKiKP		07 27 34.8	-1.4
	0.3nm,0.5s,baz=83,slow=1.0,SNR=5.7								
GEYT	Alibeck	126.88	304	PKP		PKPdf		07 28 09.2	-1.7
	1.7nm,0.4s,baz=207,slow=1.6,SNR=2.8								
BRTR	Keskin Array B	144.61	315	PKP		PKPdf		07 28 43.6	0.0
	1.2nm,0.8s,baz=143,slow=4.3,SNR=5.5								
GERES	GERESS Array B	147.46	345	PKPbc		PKPbc		07 28 51.3	-0.2
	0.6nm,0.4s,baz=18,slow=5.6,SNR=6.3								

*IDC **16** 07:16:06.6±1.1, 36.24°N×142.75°E, h0km, mb3.4/6, mb1 3.7/9, mb1mx3.6/38, mbtmp3.6/9, ML3.8/3, Error ellipse: s-maj=27.9km s-min=22.1km az=118.0*

*JMA **16** 07:16:09.1±0.2, 36.47°N×142.51°E, h31km, M3.5*

ISC 16 07:16:06.3±3.3, 36.36°N±0.04°×142.59°E±0.06, h4km±21km, n25, σ2s54/42, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.55	245	P		Pn		07 16 35.4	+0.8
CHOJ					*e*S	Sn		07 16 54.4	-0.8
ONAJ	Iwakimizuishiy	1.62	298	P		Pn		07 16 35.2	-0.5
ONAJ					*e*S	Sn		07 16 53.2	-3.8
JHO	Hitachi	1.65	279	P		Pn		07 16 36.0	0.0
JHO					S	Sn		07 16 55.0	-2.6
JFK	Kawauchi	1.71	307	P		Pn		07 16 34.7	-2.1
JFK					S	Sn		07 16 55.6	-3.5
JMM	Marumori	2.08	317	P		Pn		07 16 40.6	-1.3
JMM					*e*S	Sn		07 17 05.0	-3.3
JFT	Otama	2.15	303	P		Pn		07 16 43.3	+0.5
JFT					S	Sn		07 17 08.4	-1.5
BSO1	Boso 1	2.15	218	P		Pb		07 16 44.3	-1.2
BSO1					*e*S	Sb		07 17 11.7	-0.6
BSO3	Boso 3	2.30	228	P		Pb		07 16 47.0	-1.2
BSO3					S	Sb		07 17 15.0	-1.9
JIO	Ouri	2.31	335	*e*S		Sn		07 17 09.1	-4.9
JAG	Ashikaga	2.53	272	P		Pn		07 16 48.8	+0.6
JAG					*e*S	Sn		07 17 17.1	-2.4
JMK	Ichinoseki	2.81	338	P		Pn		07 16 49.1	-2.8
JMK					*e*S	Sn		07 17 21.9	-4.3
JRY	Ryogami san	3.00	265	P		Pn		07 16 55.2	+0.5
JRY					S	Sn		07 17 29.4	-1.7
JOD2	Odawara 2	3.05	250	P		Pn		07 16 56.4	+1.1
JOD2					*e*S	Sn		07 17 31.8	-0.5
JYK	Kaneyama	3.11	326	P		Pn		07 16 56.2	+0.1
JYK					*e*S	Sn		07 17 30.3	-3.3
JOM	Ohasama	3.27	342	P		Pn		07 16 59.2	+0.9
JOM					*e*S	Sn		07 17 34.6	-3.1
MJAR	Matsushiro Arr	3.54	274	Pn		Pn		07 17 03.0	+1.0
	3.3nm,0.3s,baz=221,slow=15,SNR=15								
MAT	Matsushiro	3.54	274	P		Pn		07 17 03.5	+1.5
MAT					S	Sn		07 17 44.1	-0.2
JHJ	Hachijo jima 2	3.98	216	Pn		Pn		07 17 08.7	+0.7
	22nm,0.3s,baz=117,slow=2.3,SNR=4.6								
JHJ					Sn	Sn		07 17 52.9	-2.1
	32nm,0.3s,baz=131,slow=24,SNR=6.1								
JCJ	Chichijima	9.24	182	Pn		Pn		07 18 18.8	-1.6
	2.4nm,0.3s,baz=71,slow=22,SNR=7.7								
JCJ					Sn	Sn		07 19 56.4	-8.5
	baz=285,slow=20								
SONM	Songino Array	28.95	305	P		P		07 22 08.3	+1.6
	0.5nm,0.5s,baz=117,slow=8.3,SNR=3.6								
MKAR	Makanchi Array	45.28	303	P		P		07 24 28.8	+3.9
	0.3nm,0.6s,baz=91,slow=6.5,SNR=2.7								
ILAR	Eielson Array	49.56	32	P		P		07 24 58.7	+0.7
	0.3nm,0.8s,baz=273,slow=6.0,SNR=3.1								
WRA	Warramunga Arr	56.54	189	P		P		07 25 50.1	+0.3
	0.7nm,0.8s,baz=8.1,slow=7.2,SNR=4.7								
YKA	Yellowknife Ar	63.91	30	P		P		07 26 40.9	+1.0
	0.1nm,0.7s,baz=235,slow=2.9,SNR=2.5								
TXAR	Lajitas Array	89.77	53	P		P		07 29 07.4	+1.1
	0.3nm,0.8s,baz=316,slow=5.2,SNR=4.3								

GUC 16 07:16:09.6±0.6, 23.43°S×68.25°W, h179km±9km, ML3.9, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB06	IPOC Station P	1.41	300	⇑*i*P		P	Pn	07 16 41.5	+0.7
PB06					*i* S		Sn	07 17 05.9	+1.0
PB06				IAML				07 17 07.5	
	comp=E,1μm,0.3s								
PB09	IPOC Station P	1.86	330	⇑*i*P		P	Pn	07 16 46.8	+1.4
PB09					*i* S		Sn	07 17 14.5	+1.6
PB09				IAML				07 17 16.0	
	comp=E,928nm,0.6s								
PB04	IPOC Station P	2.06	302	⇑*i*P		P	Pn	07 16 48.7	+1.3
PB04					*i* S		Sn	07 17 18.6	+1.9
PB04				IAML				07 17 20.4	
	comp=N,462nm,0.2s								
PB10	IPOC Station P	2.11	267	⇑*i*P		P	Pn	07 16 48.8	+1.0
PB10					*i* S		Sn	07 17 18.6	+1.1
PB07	IPOC Station P	2.27	318	⇑*i*P		P	Pn	07 16 51.3	+1.5
PB07					*i* S		Sn	07 17 22.3	+1.4
PB07				IAML				07 17 23.8	
	comp=N,666nm,0.2s								
PB01	IPOC Station P	2.63	334	⇑*i*P		P	Pn	07 16 54.9	+1.0
PB01					*i* S		Sn	07 17 29.8	+1.4
PB01				IAML				07 17 30.1	
	comp=E,185nm,0.3s								
PB08	IPOC Station P	3.37	345	⇓*i*P		P	Pn	07 17 05.0	+1.8
HMBC	Humberstone	3.48	334	*e*P			Pn	07 17 05.3	+1.0
HMBC					*i* S		Sn	07 17 48.1	+1.1

*NEIC **16** 07:20:40.2, 48.27°N×69.65°W, h23km, MN3.8(OTT), After OTT.*

NEIC Felt in the Chicoutimi-Longue-Rive-Saint-Urbain area. Also felt at Cacouna, LaSalle, Mascouche, Montreal, Notre-Dame-du-Portage, Riviere-du-Loup, Saint-Alexandre-de-Kamouraska, Saint-Arsene, Saint-Clements, Saint-Eloi and Trois-Pistoles. Felt at Jackman, Maine.

OTT 16 07:20:40.2±0.1, 48.27°N×69.65°W, h23km, MN3.8/49, 2C-8D, Gaspe Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
A64	Saint Simeon	0.47	200	⇓Pg		P	b	07 20 49.5	-0.3
A64					SG	S	b	07 20 56.2	-0.1
A64				Trac				07 20 56.5	
	comp=Z,1μm,0.1s								
A64	Saint Simeon	0.47	200	⇓Pg		P	b	07 20 48.5	-1.3
A64					Sg	S	b	07 20 56.2	-0.1
A21	Saint Andre	0.56	183	⇓PG		P	b	07 20 51.1	-0.2
A21					SG	S	b	07 20 58.8	-0.1
A21				Trac				07 20 59.2	
	comp=Z,4μm,0.2s								
A21	Saint Andre	0.56	183	⇓Pg		P	b	07 20 51.1	-0.2
A21					Sg	S	b	07 20 58.8	-0.1
A61	Sainte Mathild	0.65	207	⇓PG		P	b	07 20 52.5	-0.3
A61					SG	S	b	07 21 01.5	+0.1
A61				Trac				07 21 01.9	
	comp=Z,411nm,0.1s								
A61	Sainte Mathild	0.65	207	⇓Pg		P	b	07 20 52.5	-0.3
A61					Sg	S	b	07 21 01.5	+0.1
A16	Riviere Ouelle	0.83	197	⇓PG		P	b	07 20 55.3	-0.6
A16					SG	S	b	07 21 06.7	+0.1
A16				Trac				07 21 07.0	
	comp=Z,572nm,0.1s								
A16	Riviere Ouelle	0.83	197	⇓Pg		P	b	07 20 55.3	-0.6
A16					Sg	S	b	07 21 06.7	+0.1
LMQ	La Malbaie	0.85	213	PG		P	b	07 20 55.7	-0.5
LMQ					SG	S	b	07 21 07.6	+0.3
LMQ				Trac				07 21 09.3	
	comp=Z,349nm,0.1s								
LMQ	La Malbaie	0.85	213	*e*P		P	b	07 20 55.8	-0.5
LMQ					*e*S	S	b	07 21 07.3	+0.1
A54	Misere	0.96	213	⇑PG		P	b	07 20 57.5	-0.6
A54					SG	S	b	07 21 10.6	+0.2
A54				Trac				07 21 17.7	
	comp=Z,236nm,0.0s								
A54	Misere	0.96	213	⇑Pg		P	b	07 20 57.5	-0.6
A54					Sg	S	b	07 21 10.6	+0.2
BSPQ	Baie-St-Paul	1.01	215	PG		Pn		07 20 58.6	-0.3
BSPQ					SG	Sn		07 21 12.7	+0.4
BSPQ				Trac				07 21 17.8	
	comp=Z,1μm,0.1s								
A11	Saint Roch-des	1.09	200	PG		Pn		07 20 59.5	-0.5
A11					SG	Sn		07 21 14.6	+0.3
A11				Trac				07 21 19.1	
	comp=Z,170nm,0.1s								
A11	Saint Roch-des	1.09	200	Pg		Pn		07 20 59.5	-0.5
A11					Sg	Sn		07 21 14.6	+0.3
CNQ	Baie Comeau	1.47	45	PG		Pb		07 21 06.8	0.0
CNQ					SG	Sb		07 21 25.6	+0.6
CNQ				Trac				07 21 28.0	
	comp=Z,401nm,0.1s								
CNQ	Baie Comeau	1.47	45	Pg		Pb		07 21 06.8	0.0
CNQ					Sg	Sb		07 21 25.6	+0.6
BCLQ	Boischatel	1.69	218	PN		Pn		07 21 08.9	+0.6
BCLQ					SN	Sn		07 21 30.7	-0.7
BCLQ					SG	Sn		07 21 33.0	+3.8
BCLQ				Trac				07 21 33.7	
	comp=Z,798nm,0.2s								
BCLQ	Boischatel	1.69	218	Pn		Pn		07 21 08.9	+0.6
BCLQ					Sn	Sn		07 21 30.7	-0.7
BCLQ					Sg	Sn		07 21 33.0	+3.8
DMCQ	Dolbeau-Mistas	1.75	294	PN		Pn		07 21 09.7	+0.6
DMCQ					SN	Sn		07 21 31.4	+0.8
DMCQ				Trac				07 21 35.7	
	comp=Z,379nm,0.2s								
GSQ	Grosses Roches	1.81	68	PN		Pn		07 21 10.1	+0.3
GSQ					LG	Lg		07 21 34.2	
GSQ				Trac				07 21 37.0	
	comp=Z,90nm,0.1s								
GSQ	Grosses Roches	1.81	68	Pn		Pn		07 21 10.1	+0.3
GSQ					Lg	Lg		07 21 34.2	
QCQ	Quebec	1.85	217	PN		Pn		07 21 11.2	+0.7
QCQ				Trac				07 21 38.4	
	comp=Z,254nm,0.2s								
QCQ	Quebec	1.85	217	Pn		Pn		07 21 11.2	+0.7
PQI	Presque Isle	1.94	145	PN		Pb		07 21 13.8	-1.0
PQI					LG	Lg		07 21 39.0	
PQI	Presque Isle	1.94	145	*e*Pn		Pn		07 21 13.3	+1.6
ICQ	Pointe Anglais	2.01	50	PN		Pn		07 21 12.0	-0.7
ICQ					SN	Sn		07 21 36.7	-0.4
ICQ				Trac				07 21 41.3	
	comp=Z,123nm,0.1s								
ICQ					LG	Lg		07 21 41.5	
ICQ	Pointe Anglais	2.01	50	Pn		Pn		07 21 12.0	-0.7
ICQ					Sn	Sn		07 21 36.7	-0.4
LATQ	La Tuque	2.29	248	PN		Pn		07 21 16.8	+0.3
LATQ					SN	Sn		07 21 44.7	+0.8
LATQ				Trac				07 21 51.9	
	comp=Z,257nm,0.1s								
LATQ					LG	Lg		07 21 53.5	
LATQ	La Tuque	2.29	248	Pn		Pn		07 21 16.8	+0.3
LATQ					Sn	Sn		07 21 44.7	+0.8
LATQ					Lg	Lg		07 21 53.5	
MNQ	Manicouagan	2.34	14	PN		Pn		07 21 17.2	-0.1
MNQ					SN	Sn		07 21 45.1	-0.2
MNQ					LG	Lg		07 21 53.5	
MNQ				Trac				07 21 55.3	
	comp=Z,152nm,0.2s								
MNQ	Manicouagan	2.34	14	Pn		Pn		07 21 17.2	-0.1
MNQ					Sn	Sn		07 21 45.1	-0.2
MNQ					Lg	Lg		07 21 53.5	
BATG	Bathurst New B	2.62	111	PN		Pn		07 21 19.9	-1.1
BATG					SN	Sn		07 21 50.0	-2.0
BATG				Trac				07 21 59.7	
	comp=Z,31nm,0.0s								
BATG	Bathurst New B	2.62	111	Pn		Pn		07 21 19.9	-1.1
BATG					Sn	Sn		07 21 50.0	-2.0
DPQ	Saint Jean	2.65	234	PN		Pn		07 21 21.6	+0.2
DPQ					SN	Sn		07 21 52.6	-0.2
DPQ				Trac				07 22 07.4	
	comp=Z,103nm,0.1s								
DPQ	Saint Jean	2.65	234	Pn		Pn		07 21 21.6	+0.2
DPQ					Sn	Sn		07 21 52.6	-0.2
SMQ	Clarke City	2.75	43	PN		Pn		07 21 22.2	-0.6
SMQ					SN	Sn		07 21 55.1	-0.2
SMQ				Trac				07 22 07.4	
	comp=Z,85nm,0.1s								
SMQ	Clarke City	2.75	43	Pn		Pn		07 21 22.2	-0.6
SMQ					Sn	Sn		07 21 55.1	-0.2
PKME	Peaks-Kenny Pk	3.01	175	PN		Pn		07 21 26.6	+0.2
PKME				Trac				07 22 20.5	
	comp=Z,108nm,0.2s								
PKME	Peaks-Kenny Pk	3.01	175	*e*Pn		Pn		07 21 27.1	+0.7
MOQ	Mont Orford	3.45	212	PN		Pn		07 21 32.9	+0.3
MOQ					SN	Sn		07 22 11.9	-0.9
MOQ					LG	Lg		07 22 27.8	
MOQ				Trac				07 22 31.9	
	comp=Z,39nm,0.2s								
MOQ	Mont Orford	3.45	212	Pn		Pn		07 21 32.9	+0.3
MOQ					Sn	Sn		07 22 11.9	-0.9
MOQ					Lg	Lg		07 22 27.8	
CHGQ	Chibougamau	3.51	300	PN		Pn		07 21 33.0	-0.3
CHGQ					SN	Sn		07 22 12.2	-1.9
CHGQ				Trac				07 22 31.3	
	comp=Z,77nm,0.2s								
CHGQ					LG	Lg		07 22 31.9	
CHGQ	Chibougamau	3.51	300	Pn		Pn		07 21 33.0	-0.3
CHGQ					Sn	Sn		07 22 12.2	-1.9
CHGQ					Lg	Lg		07 22 31.9	
GGN	Saint George	3.69	147	PN		Pn		07 21 35.0	-0.7
GGN					SN	Sn		07 22 15.1	-3.5
GGN				Trac				07 22 17.3	
	comp=Z,47nm,0.2s								
GGN	Saint George	3.69	147	Pn		Pn		07 21 35.0	-0.7
GGN					Sn	Sn		07 22 15.1	-3.5
WVL	Waterville	3.70	180	*e*Pn		Pn		07 21 35.4	-0.5
EMMW	East Machias	3.87	156	*e*Pn		Pn		07 21 37.0	-1.2
EMMW					*e*Sn	Sn		07 22 20.3	-2.5
MNTQ	Montreal, Queb	3.88	226	SN		Sn		07 22 23.6	+0.3
MNTQ					LG	Lg		07 22 38.6	
MNTQ				Trac				07 22 44.0	
	comp=Z,40nm,0.1s								
TRQ	Mont Tremblant	3.92	240	PN		Pn		07 21 38.5	-0.5
TRQ					SN	Sn		07 22 22.4	-1.8
TRQ				Trac				07 22 41.4	
	comp=Z,90nm,0.2s								
TRQ	Mont Tremblant	3.92	240	*e*Pn		Pn		07 21 38.2	-0.8
TRQ					*e*Sn	Sn		07 22 23.3	-0.9
LMN	Caledonia Moun	4.10	124	PN		Pn		07 21 39.8	-1.6
LMN					SN	Sn		07 22 25.4	-3.2
LMN				Trac				07 22 26.8	
	comp=Z,8.8nm,0.1s								
LMN	Caledonia Moun	4.10	124	*e*Pn		Pn		07 21 39.1	-2.3
FRNY	Flat Rock	4.38	220	PN		Pn		07 21 45.1	-0.1
FRNY					SN	Sn		07 22 35.1	-0.3
FRNY					LG	Lg		07 22 55.5	
FRNY				Trac				07 23 02.9	
	comp=Z,46nm,0.3s								
FRNY	Flat Rock	4.38	220	*e*Pn		Pn		07 21 45.0	-0.2
FRNY					*e*Sn	Sn		07 22 35.0	-0.5
ALFO	Alfred	4.45	236	PN		Pn		07 21 46.0	-0.2
ALFO					SN	Sn		07 22 37.2	0.0
ALFO					LG	Lg		07 22 57.8	
ALFO				Trac				07 23 02.0	
	comp=Z,98nm,0.4s								
ALFO	Alfred	4.45	236	Pn		Pn		07 21 46.0	-0.2
ALFO					Sn	Sn		07 22 37.2	0.0
ALFO					Lg	Lg		07 22 57.8	
GRQ	Grand Remous	4.53	251	PN		Pn		07 21 46.2	-1.1
GRQ					SN	Sn		07 22 38.0	-1.2
GRQ				Trac				07 23 08.3	
	comp=Z,55nm,0.2s								
GRQ	Grand Remous	4.53	251	Pn		Pn		07 21 46.2	-1.1
GRQ					Sn	Sn		07 22 38.0	-1.2
VABQ	Val Des Bois	4.71	242	PN		Pn		07 21 49.1	-0.6
VABQ					SN	Sn		07 22 40.6	-2.9
VABQ				Trac				07 23 08.3	
	comp=Z,56nm,0.2s								
VABQ					LG	Lg		07 23 08.7	
GAC	Glen Almond	4.74	239	PN		Pn		07 21 49.8	-0.4
GAC					PN	Pn		07 21 49.9	-0.3
GAC					SN	Sn		07 22 41.9	-2.5
GAC					SN	Sn		07 22 42.2	-2.1
GAC					LG	Lg		07 23 07.1	
GAC				Trac				07 23 07.8	
	comp=Z,88nm,0.3s								
GAC				Trac				07 23 12.1	
	comp=Z,57nm,0.2s								
GAC	Glen Almond	4.74	239	Pn		Pn		07 21 49.8	-0.4
GAC					Sn	Sn		07 22 41.9	-2.5
GAC					Lg	Lg		07 23 07.1	
ORIO	Orleans, Innes	4.91	237	PN		Pn		07 21 52.0	-0.5
ORIO					SN	Sn		07 22 45.9	-2.6
ORIO					LG	Lg		07 23 11.5	
ORIO				Trac				07 23 17.4	
	comp=Z,71nm,0.2s								
ORIO	Orleans, Innes	4.91	237	Pn		Pn		07 21 52.0	-0.5
ORIO					Sn	Sn		07 22 45.9	-2.6
ORIO					Lg	Lg		07 23 11.5	
NATG	Natashquan Que	4.91	63	PN		Pn		07 21 52.1	-0.4
NATG					SN	Sn		07 22 46.2	-2.4
NATG				Trac				07 23 17.1	
	comp=Z,60nm,0.4s								
NATG	Natashquan Que	4.91	63	Pn		Pn		07 21 52.1	-0.4
NATG					Sn	Sn		07 22 46.2	-2.4
HNH	Hanover	4.92	203	*e*Pn		Pn		07 21 53.3	+0.7
HNH					*e*Sn	Sn		07 22 48.7	-0.1
ORHO	Orleans, Herit	4.92	237	SN		Sn		07 22 49.4	+0.6
ORHO				Trac				07 23 28.9	
	comp=Z,717nm,0.3s								
ORHO	Orleans, Herit	4.92	237	Sn		Sn		07 22 49.4	+0.6
MDV	Middlebury	4.92	211	*e*Pn		Pn		07 21 54.0	+1.3
LONY	Lake Ozonia	4.99	225	PN		Pn		07 21 53.1	-0.5
LONY				Trac				07 23 19.8	
	comp=Z,33nm,0.2s								
LONY	Lake Ozonia	4.99	225	*e*Pn		Pn		07 21 53.5	-0.2
FFD	Franklin Falls	5.00	197	*e*Pn		Pn		07 21 52.9	-0.8
OTT	Ottawa	5.06	238	PN		Pn		07 21 51.5	-3.1
OTT					PN	Pn		07 21 55.9	+1.4
OTT					SN	Sn		07 22 49.7	-2.5
OTT				Trac				07 23 14.8	
	comp=Z,110nm,0.3s								
OTT				Trac				07 23 17.2	
	comp=Z,77nm,0.2s								
OTT					LG	Lg		07 23 20.6	
OTT	Ottawa	5.06	238	Pn		Pn		07 21 51.5	-3.1
OTT					Sn	Sn		07 22 49.7	-2.5
OTT					Lg	Lg		07 23 20.6	
WBO	Williamsburg	5.07	232	PN		Pn		07 21 54.2	-0.4
WBO					SN	Sn		07 22 52.1	-0.3
WBO					LG	Lg		07 23 15.1	
WBO				Trac				07 23 21.4	
	comp=Z,37nm,0.2s								
WBO	Williamsburg	5.07

SCHQ				*e*Sn	Sn	07 23 30.6	-4.6
SADO	**Sadowa**	**7.42**	**245**	PN	Pn	07 22 25.1	-1.9
SADO				SN	Sn	07 23 45.1	-5.3
SADO				LG	Lg	07 24 30.1	
SADO				Trac		07 24 43.0	
	comp=Z,51nm,0.4s						
SADO	**Sadowa**	**7.42**	**245**	*e*Pn	Pn	07 22 24.9	-2.1
SADO				*e*Sn	Sn	07 23 45.2	-5.3
SADO				Lg	Lg	07 24 30.1	
WLVO	**Wesleyville**	**7.47**	**238**	PN	Pn	07 22 28.6	+0.9
WLVO				SN	Sn	07 23 46.7	-4.9
WLVO				LG	Lg	07 24 32.0	
WLVO				Trac		07 24 36.7	
	comp=Z,30nm,0.2s						
WLVO	**Wesleyville**	**7.47**	**238**	Pn	Pn	07 22 28.6	+0.9
WLVO				Sn	Sn	07 23 46.7	-4.9
WLVO				Lg	Lg	07 24 32.0	
KLBO	**Killbear Provi**	**7.81**	**252**	PN	Pn	07 22 29.8	-2.5
KLBO				SN	Sn	07 23 53.8	-6.1
KLBO				LG	Lg	07 24 44.2	
KLBO				Trac		07 24 56.2	
	comp=Z,22nm,0.3s						
KLBO	**Killbear Provi**	**7.81**	**252**	Pn	Pn	07 22 29.8	-2.5
KLBO				Sn	Sn	07 23 53.8	-6.1
KLBO				Lg	Lg	07 24 44.2	
ODNJ	**Ogdensburg**	**8.00**	**208**	*e*Sn	Sn	07 24 04.8	+0.2
MMNY	**Mt. Morris Dam**	**8.01**	**229**	*e*Sn	Sn	07 24 03.3	-1.6
DRLN	**Deer Lake**	**8.09**	**78**	PN	Pn	07 22 34.7	-1.5
DRLN				SN	Sn	07 24 00.8	-6.0
DRLN				Trac		07 24 39.4	
	comp=Z,2µm,3.8s						
DRLN	**Deer Lake**	**8.09**	**78**	Pn	Pn	07 22 34.7	-1.5
DRLN				Sn	Sn	07 24 00.8	-6.0
KAPO	**Kapuskasing**	**8.56**	**283**	PN	Pn	07 22 40.4	-2.2
KAPO				SN	Sn	07 24 11.5	-6.9
KAPO				Trac		07 25 08.3	
	comp=Z,21nm,0.3s						
KAPO	**Kapuskasing**	**8.56**	**283**	Pn	Pn	07 22 40.4	-2.2
KAPO				Sn	Sn	07 24 11.5	-7.0

IDC 16 07:28:53.0±3.7, 5°64'S×151°08'E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/30, mbtmp3.3/2, Error ellipse: s-maj=153.7km s-min=48.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.61**	**227**	P	P	07 33 45.0	+0.2
	0.4nm,0.5s,baz=53,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**24.39**	**221**	P	P	07 34 13.1	-0.1
	0.6nm,0.6s,baz=55,slow=9.0,SNR=9.1						
TORD	**Torodi Ar. Bea**	**148.92**	**286**	PKPbc	PKPbc	07 48 43.3	-0.6
	0.4nm,0.7s,baz=69,slow=3.5,SNR=3.5						

MAN 16 07:30:20, 10°71'N×122°33'E, h1km, mb4.7, ML3.6, MS3.5, 2C-1D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAP	**San Jose, Anti**	**0.38**	**275**⇓	*e*P	Pb	07 30 31.0	+1.4
JAP				*e*S	Sb	07 30 55.6	+20
RCP	**Roxas**	**0.93**	**26**⇑	*e*P	Pb	07 30 38.5	-0.5
RCP				*e*S	Sb	07 30 52.9	+1.0
SNPH	**Sibulan**	**1.63**	**147**⇑	*i*P	Pn	07 30 50.2	+0.3
SNPH				*i* S	Sb	07 31 12.0	+0.1
LLP	**Lapu-Lapu**	**1.65**	**104**	*e*P	Pb	07 30 51.3	0.0
LLP				*e*S	Sb	07 31 12.7	+0.1
OTRP	**Odiongan**	**1.67**	**349**	*e*P	Pn	07 30 50.4	0.0
OTRP				*e*S	Sg	07 31 15.8	+2.2

IDC 16 07:31:21.7±3.5, 6°00'S×151°52'E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/27, mbtmp3.3/2, Error ellipse: s-maj=140.7km s-min=49.8km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.70**	**229**	P	P	07 36 14.0	-0.5
	0.4nm,0.4s,baz=55,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**24.41**	**222**	P	P	07 36 43.0	+0.8
	0.5nm,0.7s,baz=57,slow=9.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**149.43**	**286**	PKPbc	PKPbc	07 51 13.2	-0.8
	0.3nm,0.5s,baz=60,slow=3.0,SNR=4.2						

*IDC **16** 07:37:35.3±1.8, 59°45'S×25°65'W, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.8/22, mbtmp4.0/2, Error ellipse: s-maj=74.6km s-min=42.1km az=0.0*
*ISCJB **16** 07:37:37.0±1.1, 59°85'S×0°2-25°7'W×0°6, h32km, mb3.9/2, Error ellipse: s-maj=50.3km s-min=15.6km az=152.6*
ISC 16 07:37:39.3±0.9, 59°7'S×0°2-25°7'W×0°3, h32km, n13, σ1°24/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.10**	**154**	P	**Pn**	**07 40 42.8**	**0.0**
SNAA	**Sanae**	**15.07**	**152**	P	**Pn**	**07 41 08.9**	**-0.7**
H10S2	**ASCENSION HYDR**	**51.34**	**14**	T	T	08 41 55.7	
	baz=186,slow=75,SNR=11						
H10S3	**ASCENSION HYDR**	**51.34**	**14**	T	T	08 41 56.4	
	baz=186,slow=75,SNR=13						
H10S1	**ASCENSION HYDR**	**51.35**	**14**	T	T	08 41 57.0	
	baz=186,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**52.45**	**14**	T	T	08 43 20.4	
	baz=185						
H10N3	**ASCENSION HYDR**	**52.46**	**14**	T	T	08 43 19.8	
	baz=185,slow=74						
H10N2	**ASCENSION HYDR**	**52.47**	**14**	T	T	08 43 23.6	
	baz=185,slow=74						
LPAZ	**La Paz**	**53.18**	**306**	P	**P**	**07 46 54.3**	**-0.6**
	0.5nm,0.4s,baz=125,slow=4.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**75.91**	**27**	P	**P**	**07 49 22.2**	**-0.3**
	1.0nm,0.4s,baz=199,slow=6.3,SNR=25						
YKA	**Yellowknife Ar**	**139.40**	**314**	PKP	**PKPdf**	**07 57 02.7**	**+1.1**
	0.2nm,0.5s,baz=134,slow=2.4,SNR=6.2						
SONM	**Songino Array**	**149.97**	**92**	PKPbc	**PKPbc**	**07 57 25.3**	**-0.2**
	0.6nm,0.5s,baz=236,slow=0.5,SNR=3.7						
ILAR	**Eielson Array**	**153.06**	**306**	PKPbc	**PKPbc**	**07 57 33.9**	**+2.0**
	3.1nm,1.0s,baz=90,slow=2.7,SNR=22						
ILAR				PKPab	**PKPab**	**07 57 42.5**	**-1.1**
	1.5nm,0.8s,baz=98,slow=3.8,SNR=7.5						

IDC 16 07:42:12.4±3.5, 5°60'S×151°07'E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/39, mbtmp3.7/3, Error ellipse: s-maj=110.9km s-min=50.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.63**	**227**	P	P	07 47 04.3	-0.2
	0.7nm,0.5s,baz=52,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**24.41**	**221**	P	P	07 47 32.9	+0.1
	0.6nm,0.6s,baz=59,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**27.76**	**241**	P	P	07 48 03.2	+0.1
	2.0nm,0.7s,baz=66,slow=8.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**148.89**	**286**	PKPbc	PKPbc	08 02 02.7	-0.6
	0.3nm,0.7s,baz=78,slow=2.5,SNR=4.7						

IDC 16 07:47:24.2±2.7, 53°81'N×86°99'E, h0km, mb1 2.9/2, mb1mx2.8/48, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=24.6km s-min=15.5km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**277**	*i*		07 55 39.1	
	baz=99,slow=322,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.29**	**277**	Pg	Pg	07 47 47.4	-1.5
	1.2nm,0.3s,baz=97,slow=14,SNR=13						
ZALV				Lg	Lg	07 48 05.6	
	1.9nm,0.3s,baz=97,slow=26,SNR=16						
KURBB	**Kurchatov Arra**	**5.10**	**242**	Pn	Pn	07 48 56.5	+1.0
	0.1nm,0.3s,baz=58,slow=14,SNR=4.5						
KURBB				Lg	Lg	07 50 39.5	
	0.0nm,0.3s,baz=60,slow=34,SNR=4.5						
MKAR	**Makanchi Array**	**7.64**	**205**	Pn	Pn	07 49 17.9	+1.2
	0.1nm,0.3s,baz=25,slow=12,SNR=7.0						
MKAR				Lg	Lg	07 51 30.0	
	0.1nm,0.3s,baz=34,slow=32,SNR=4.3						

IDC 16 07:48:23.6±3.4, 5°02'S×151°40'E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/36, mbtmp3.7/3, Error ellipse: s-maj=116.5km s-min=46.8km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.26**	**227**	P	P	07 53 21.6	-0.9
	0.7nm,0.5s,baz=52,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.06**	**221**	P	P	07 53 50.5	+0.6
	0.6nm,0.6s,baz=59,slow=9.0,SNR=8.3						
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P	P	07 54 19.6	+0.2
	3.3nm,0.9s,baz=74,slow=15,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.04**	**287**	PKPbc	PKPbc	08 08 14.1	-0.7
	0.2nm,0.4s,baz=64,slow=2.3,SNR=3.4						

IDC 16 07:49:32.2±1.9, 5°73'S×151°14'E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/36, mbtmp3.9/4, Error ellipse: s-maj=102.8km s-min=26.0km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.60**	**228**	P	P	07 54 23.4	-0.5
	2.5nm,0.5s,baz=54,slow=11,SNR=17						
ASAR	**Alice Springs**	**24.36**	**221**	P	P	07 54 52.4	+0.1
	3.8nm,0.7s,baz=56,slow=9.2,SNR=20						
FITZ	**Fitzroy Crossi**	**27.77**	**242**	P	P	07 55 23.4	+0.4
	3.1nm,1.0s,baz=65,slow=14,SNR=4.2						
ILAR	**Eielson Array**	**83.64**	**22**	P	P	08 02 02.4	0.0
	0.2nm,0.7s,baz=251,slow=5.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**149.00**	**286**	PKPbc	PKPbc	08 09 22.5	-0.9
	0.4nm,0.7s,baz=68,slow=3.6,SNR=4.9						

IDC 16 08:09:43.0±2.0, 5°41'S×150°86'E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/31, mbtmp3.5/3, Error ellipse: s-maj=139.2km s-min=28.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.61**	**227**	P	P	08 14 35.1	+0.3
	1.2nm,0.5s,baz=52,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.42**	**220**	P	P	08 15 03.2	-0.2
	0.8nm,0.6s,baz=56,slow=8.9,SNR=10						
ILAR	**Eielson Array**	**83.45**	**22**	P	P	08 22 12.2	0.0
	0.2nm,0.6s,baz=249,slow=4.9,SNR=4.1						

*ISK **16** 08:09:52.9, 39°15'N×29°07'E, h6km, MD2.7*
*ISCJB **16** 08:09:53.7±0.5, 39°14'N±0°03×29°06'E±0°03, h3km±7km, Error ellipse: s-maj=5.2km s-min=3.8km az=161.8*
*DDA **16** 08:09:53.9, 39°16'N×29°08'E, h7km, Md2.8*
*CSEM **16** 08:09:53.8±0.1, 39°15'N×29°07'E, h8km, MD2.8, Error ellipse: s-maj=2.5km s-min=2.0km az=155.0*
ISC 16 08:09:54.0±0.9, 39°15'N±0°03×29°07'E±0°02, h12km±8km, n25, σ0°45/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.30**	**249**	P	**Pg**	**08 10 00.3**	**+0.2**
DEMI				S	**Sg**	**08 10 04.3**	**+0.1**
DEMI	**Demirci**	**0.30**	**249**	*i* P	**Pg**	**08 10 00.3**	**+0.2**
DEMI				*i* S	**Sg**	**08 10 04.3**	**+0.1**
GDZ	**Gediz**	**0.32**	**101**	P	**Pg**	**08 10 00.8**	**+0.1**
GDZ				S	**Sg**	**08 10 05.4**	**+0.3**
GDZ	**Gediz**	**0.32**	**101**	*i* P	**Pg**	**08 10 00.8**	**+0.1**
GDZ				*i* S	**Sg**	**08 10 05.4**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**45**	*e*PG	**Pg**	**08 10 02.0**	**-0.5**
TVSB				*e*SG	**Sg**	**08 10 07.9**	**-0.3**
TVSB	**Tavsanli**	**0.43**	**45**	*e*Pg	**Pg**	**08 10 02.0**	**-0.5**
TVSB				*e*Sg	**Sg**	**08 10 07.9**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**207**	*e*PG	**Pg**	**08 10 07.3**	**-0.5**
KULA				*e*SG	**Sg**	**08 10 17.1**	**0.0**
KULA	**Kula-Manisa**	**0.71**	**207**	*e*Pg	**Pg**	**08 10 07.3**	**-0.5**
KULA				*e*Sg	**Sg**	**08 10 17.1**	**0.0**
KHL	**Karahalli**	**0.90**	**157**	*e*PG	**Pg**	**08 10 10.7**	**-0.7**
KHL				*e*SG	**Sb**	**08 10 23.5**	**-0.1**
KHL	**Karahalli**	**0.90**	**157**	*e*Pg	**Pg**	**08 10 10.7**	**-0.7**
KHL				*e*Sg	**Sb**	**08 10 23.5**	**-0.1**
AKS	**Akhisar**	**1.02**	**255**	*e*PG	**Pg**	**08 10 13.0**	**-0.6**
AKS				*e*SG	**Sb**	**08 10 27.6**	**+0.7**
AKS	**Akhisar**	**1.02**	**255**	*e*Pg	**Pg**	**08 10 13.0**	**-0.6**
AKS				*e*Sg	**Sb**	**08 10 27.6**	**+0.7**
BALB	**Balikesir**	**1.04**	**298**	*e*PG	**Pg**	**08 10 13.4**	**-0.8**
BALB				*e*SG	**Sb**	**08 10 28.4**	**+0.7**
BALB	**Balikesir**	**1.04**	**298**	*e*Pg	**Pg**	**08 10 13.4**	**-0.8**
BALB				*e*Sg	**Sb**	**08 10 28.4**	**+0.7**
IGD	**Bursa**	**1.12**	**5**	*i* P	**Pb**	**08 10 14.9**	**-0.4**
IGD				*i* S	**Sn**	**08 10 31.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.24**	**334**	*e*PN	**Pn**	**08 10 17.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.24**	**334**	*e*Pn	**Pn**	**08 10 17.2**	**-0.1**
BORA	**Eskisehir**	**1.29**	**55**	P	**Pg**	**08 10 18.8**	**-0.1**
BORA				S	**Sg**	**08 10 36.3**	**+0.5**
BORA	**Eskisehir**	**1.29**	**55**	*i* P	**Pg**	**08 10 18.8**	**-0.1**
BORA				*i* S	**Sg**	**08 10 36.3**	**+0.5**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*PN	**Pn**	**08 10 19.7**	**+0.3**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*Pn	**Pn**	**08 10 19.7**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**218**	*e*PN	**Pn**	**08 10 21.3**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**218**	*e*Pn	**Pn**	**08 10 21.3**	**+0.2**
IZM	**Izmir**	**1.60**	**243**	*e*PN	**Pn**	**08 10 22.6**	**+0.4**
IZM	**Izmir**	**1.60**	**243**	*e*Pn	**Pn**	**08 10 22.6**	**+0.4**

*ISCJB **16** 08:09:58.0±0.3, 24°37'N±0°02×121°99'E±0°02, h17km±4km, Error ellipse: s-maj=3.4km s-min=2.3km az=143.2*
*TAP **16** 08:09:57.8, 24°39'N×121°92'E, h23km, ML3.8, B*
*JMA **16** 08:09:57.2±0.2, 24°32'N×121°87'E, h42km±3km, M2.9*
ISC 16 08:09:57.6±0.9, 24°37'N±0°02×121°96'E±0°02, h16km±7km, n61, σ0°59/101, 9C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.21**	**286**⇓	*i*P	**Pb**	**08 10 03.0**	**-0.1**
	baz=284						
ENA				*i* S	**Sg**	**08 10 06.2**	**+0.6**
	baz=284						
EHP	**Heping Village**	**0.21**	**253**	*e*P	**Pb**	**08 10 03.8**	**+0.8**
	baz=243						
TWC	**Suao**	**0.26**	**337**⇑	*i*P	**Pb**	**08 10 03.8**	**-0.1**
	baz=346						
TWC				*i* S	**Sg**	**08 10 07.7**	**+0.6**
	baz=346						
ILA	**Ilan**	**0.44**	**334**⇑	*i*P	**Pb**	**08 10 07.0**	**+0.1**
	baz=335						
ILA				S	**Sb**	**08 10 13.2**	**-0.1**
	baz=335						
TWE	**Neicheng**	**0.44**	**323**⇑	*i*P	**Pb**	**08 10 06.8**	**-0.2**
	baz=327						
TWE				*i* S	**Sb**	**08 10 12.6**	**-0.7**
	baz=327						
TWD	**Chiawan**	**0.44**	**229**⇑	*i*P	**Pb**	**08 10 07.0**	**+0.1**
	baz=227						
TWD				*i* S	**Sb**	**08 10 14.4**	**+1.1**
	baz=227						
ENTT	**Nioudou**	**0.45**	**307**⇓	*i*P	**Pb**	**08 10 06.8**	**-0.4**
	baz=309						
ENTT				*i* S	**Sb**	**08 10 13.3**	**-0.3**
	baz=309						
EGS		**0.47**	**357**⇑	*i*P	**Pb**	**08 10 07.7**	**+0.1**
	baz=2.0						
EGS				*i* S	**Sb**	**08 10 14.4**	**0.0**
	baz=2.0						
HWA	**Hwalien**	**0.51**	**220**	*e*P	**Pb**	**08 10 08.6**	**+0.5**
	baz=214						
NNS	**Nan Shan**	**0.54**	**278**	P	**Pb**	**08 10 08.4**	**-0.4**
	baz=282						
NNS				S	**Sb**	**08 10 15.8**	**-0.6**
	baz=282						
NSK	**Sanguang**	**0.62**	**299**⇓	*i*P	**Pg**	**08 10 09.7**	**-0.3**
	baz=300						
NSK				*i* S	**Sg**	**08 10 17.8**	**-0.5**
	baz=300						
TWB1	**Santiao Chiao**	**0.64**	**2**⇑	*i*P	**Pb**	**08 10 10.2**	**-0.1**
	baz=360						
TWB1				S	**Sg**	**08 10 18.5**	**-0.1**
	baz=360						
WHF	**Hehuan Shan**	**0.67**	**251**⇑	*i*P	**Pb**	**08 10 10.9**	**-0.2**
	baz=255						
WHF				*e*S	**Sb**	**08 10 21.2**	**+0.8**
	baz=255						
TWA	**Mucha**	**0.70**	**331**	*e*P	**Pb**	**08 10 11.8**	**+0.4**
	baz=325						
TWA				*e*S	**Sb**	**08 10 20.5**	**-0.3**
	baz=325						
NWF	**Wu-fen Shan**	**0.72**	**347**⇑	*i*P	**Pb**	**08 10 11.8**	**+0.1**
	baz=343						
NWF				S	**Sb**	**08 10 21.7**	**+0.3**
	baz=343						
TWT	**Tachien**	**0.72**	**261**	P	**Pb**	**08 10 12.4**	**+0.4**
	baz=259						
TWT				*e*S	**Sb**	**08 10 22.1**	**+0.4**
	baz=259						
ESL	**Shilin**	**0.73**	**221**	*e*P	**Pg**	**08 10 11.8**	**-0.1**
	baz=217						
TAP1	**Taipei**	**0.77**	**329**	*e*P	**Pb**	**08 10 13.0**	**+0.3**
	baz=325						
TAP1				*e*S	**Sb**	**08 10 23.5**	**+0.5**
	baz=325						
TAP	**Taipei**	**0.78**	**328**	*e*P	**Pb**	**08 10 13.2**	**+0.4**
	baz=325						
TAP				*e*S	**Sb**	**08 10 23.4**	**+0.1**
	baz=325						
TWS1	**Kuangyinshan**	**0.88**	**326**	*e*P	**Pb**	**08 10 14.9**	**+0.5**
	baz=340						
TWS1				S	**Sb**	**08 10 26.9**	**+1.0**
	baz=340						
JYNG	**Yonaguni jima**	**0.90**	**85**	P	**Pg**	**08 10 15.0**	**-0.1**
JYNG				S	**Sb**	**08 10 27.9**	**+1.2**
NSTT	**Nanjuang**	**0.91**	**287**	*e*P	**Pb**	**08 10 15.4**	**+0.4**
	baz=282						
NSTT				*e*S	**Sg**	**08 10 26.7**	**-0.6**
	baz=282						
NCU	**National Centr**	**0.92**	**311**	*e*P	**Pb**	**08 10 15.4**	**+0.2**
	baz=298						
NCU				*e*S	**Sn**	**08 10 28.6**	**-0.3**
	baz=298						
TWY	**Chenhua**	**0.96**	**340**	*e*P	**Pn**	**08 10 16.5**	**+0.1**
	baz=343						
TWY				*e*S	**Sb**	**08 10 29.0**	**+0.7**
	baz=343						
YOJ	**Yonaguni jima**	**0.96**	**84**	P	**Pb**	**08 10 15.9**	**0.0**
YOJ				S	**Sb**	**08 10 29.4**	**+1.0**
YOJ	**Yonaguni jima**	**0.96**	**84**	*e*P	**Pb**	**08 10 16.0**	**0.0**
	baz=77						
YOJ				*e*S	**Sb**	**08 10 29.1**	**+0.7**
	baz=77						
WDT	**Danda**	**0.97**	**231**⇑	P	**Pg**	**08 10 15.5**	**-1.0**
	baz=229						
WDT				*e*S	**Sn**	**08 10 30.2**	**-0.2**
	baz=229						
HSN	**Hsinchu**	**1.00**	**296**	*e*P	**Pb**	**08 10 16.2**	**-0.3**
	baz=299						
HSN				*e*S	**Sn**	**08 10 30.6**	**-0.1**
	baz=299						
EHY	**Hungye**	**1.04**	**214**	*e*P	**Pb**	**08 10 16.3**	**-0.9**
	baz=211						
TWQ1	**Liyutan**	**1.08**	**269**	*e*P	**Pn**	**08 10 18.5**	**+0.4**
	baz=269						
TWQ1				*e*S	**Sn**	**08 10 32.9**	**+0.1**
	baz=269						
SMLT	**Sun Moon Lake**	**1.08**	**244**	*e*P	**Pb**	**08 10 17.9**	**-0.2**
	baz=235						
SMLT				*e*S	**Sg**	**08 10 32.5**	**-0.2**
	baz=235						
NSY	**Sanyi**	**1.09**	**273**	*e*P	**Pn**	**08 10 18.5**	**+0.2**
	baz=272						
NSY				*e*S	**Sn**	**08 10 34.4**	**+1.3**
	baz=272						
TYC	**Yuchr**	**1.11**	**245**	P	**Pb**	**08 10 18.2**	**-0.2**
	baz=237						
TYC				*e*S	**Sg**	**08 10 33.0**	**-0.5**
	baz=237						
TWF1	**Yuli**	**1.18**	**211**	*e*P	**Pn**	**08 10 17.7**	**-1.8**
	baz=221						
PCYT	**Pengchaiyu**	**1.26**	**5**	*e*P	**Pn**	**08 10 19.9**	**-0.6**
	baz=8.0						
WNT	**Mingjian**	**1.26**	**247**	*e*P	**Pg**	**08 10 21.6**	**-0.3**
	baz=246						
WNT				*e*S	**Sg**	**08 10 38.5**	**+0.1**
	baz=246						
YUS	**Yu-Shan**	**1.27**	**227**	P	**Pn**	**08 10 20.9**	**-0.2**
	baz=224						
ALS	**Alishan**	**1.36**	**231**	*e*P	**Pn**	**08 10 22.2**	**0.0**
	baz=217						
ALS				*e*S	**Sn**	**08 10 40.6**	**+0.5**
	baz=217						
CHN5	**Tsauling**	**1.40**	**237**	*e*P	**Pb**	**08 10 23.5**	**0.0**
	baz=236						
CHN5				*e*S	**Sg**	**08 10 42.0**	**-0.9**
	baz=236						
ELDTW	**Lidau**	**1.46**	**216**	*e*P	**Pn**	**08 10 22.5**	**-0.9**
	baz=203						
CHN2	**Minshiung**	**1.59**	**239**	*e*P	**Pb**	**08 10 27.4**	**+0.7**
	baz=224						
CHN4	**Tsaushan**	**1.61**	**231**	*e*P	**Pn**	**08 10 26.2**	**+0.8**
	baz=230						
CHN4				*e*S	**Sb**	**08 10 48.0**	**+0.9**
	baz=230						
IRIF	**Iriomote-Funau**	**1.62**	**91**	P	**Pn**	**08 10 25.3**	**-0.2**
IRIF				S	**Sn**	**08 10 45.7**	**-0.3**
STYT	**Tauyuan**	**1.63**	**223**	*e*P	**Pn**	**08 10 26.1**	**+0.4**
	baz=221						
CHY	**Chiayi**	**1.65**	**239**	*e*P	**Pb**	**08 10 27.4**	**-0.2**
	baz=237						
CHY				*e*S	**Sb**	**08 10 48.7**	**+0.5**
	baz=237						
WTP	**Ta-pu**	**1.66**	**228**	*e*P	**Pn**	**08 10 26.9**	**+0.7**
	baz=227						
WTP				*e*S	**Sb**	**08 10 48.4**	**-0.3**
	baz=227						
HATJ	**Hateruma jima**	**1.71**	**100**	P	**Pn**	**08 10 27.2**	**+0.4**
TWK	**Hsinying**	**1.74**	**231**	*e*P	**Pb**	**08 10 29.4**	**+0.2**
	baz=229						
TWG	**Pinlang**	**1.74**	**208**	*e*P	**Pn**	**08 10 25.6**	**-1.6**
	baz=194						
CHN1	**Nanshi**	**1.76**	**228**	*e*P	**Pn**	**08 10 28.7**	**+1.2**
	baz=227						
CHN1				*e*S	**Sn**	**08 10 50.9**	**+1.2**
	baz=227						
SGST	**Jiashian**	**1.80**	**225**	*e*P	**Pb**	**08 10 30.4**	**+0.3**
	baz=210						
SGST				*e*S	**Sb**	**08 10 53.0**	**+0.6**
	baz=210						
JKRS	**Kuro-shima**	**1.88**	**94**	P	**Pn**	**08 10 29.5**	**+0.5**
JKRS				S	**Sn**	**08 10 52.5**	**+0.1**
JIJ	**Ishigaki jima**	**1.99**	**90**	P	**Pn**	**08 10 30.4**	**-0.2**
JIJ				S	**Sn**	**08 10 54.2**	**-1.1**
SCLT	**Jiali**	**2.01**	**234**	*e*P	**Pb**	**08 10 33.7**	**0.0**
	baz=232						
JISG	**Ishigakijimahi**	**2.15**	**84**	S	**Sn**	**08 10 58.9**	**-0.4**
EAST	**Anshuo**	**2.23**	**207**	*e*P	**Pn**	**08 10 34.6**	**+0.7**
	baz=196						
PNG	**Penghu**	**2.34**	**250**	*e*P	**Pn**	**08 10 35.

mb1 3.3/3, mb1mx3.0/43, mbtmp3.5/3, Error ellipse: s-maj=119.1km s-min=59.8km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**224**	P	Pn	08 21 30.1	-0.5
	1.4nm,0.3s,baz=33,slow=17,SNR=2.5						
PMG				S	Sn	08 22 25.9	+0.8
	1.1nm,0.3s,baz=221,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**21.01**	**227**	P	P	08 24 55.9	-0.1
	0.7nm,0.5s,baz=53,slow=11,SNR=14						
ASAR	**Alice Springs**	**23.80**	**221**	P	P	08 25 24.5	+0.4
	0.7nm,0.5s,baz=55,slow=9.2,SNR=15						
TORD	**Torodi Ar. Bea**	**148.47**	**285**	PKPbc	PKPbc	08 39 55.5	-0.8
	0.2nm,0.7s,baz=108,slow=4.7,SNR=2.7						

IDC ***16*** *08:21:44.2±1.4, 15°.55N×119°.76E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/55, mbtmp3.6/5, MS3.1/4, Ms1 3.1/4, ms1mx2.6/49, Error ellipse: s-maj=74.8km s-min=19.5km az=57.0*
MAN ***16*** *08:21:46, 15°.82N×119°.03E, h71km, mb5.0, ML3.9, MS4.0*
ISCJB ***16*** *08:21:48.3±0.9, 15°.28N±0°.10×119°.10E±0°.07, h35km, mb3.5/4, MS3.1/3, Error ellipse: s-maj=14.7km s-min=8.6km az=164.1*
ISC 16 08:21:50.8±1.0, 15°.5N±0°.1×119°.17E±0°.08, h35km, n11, σ2s33/11, mb3.7/4, MS3.3/3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.78**	**66**	*e*P	**Pn**	**08 22 03.9**	**-1.5**
SCZP				*e*S	**Sn**	**08 22 18.0**	**+2.1**
BALP	**Baler**	**2.33**	**83**	*e*P	**Pn**	**08 22 25.4**	**-1.4**
BALP				*e*S	**Sn**	**08 22 54.3**	**+0.1**
POLP	**Polilio Island**	**2.77**	**105**	*e*P	**Pn**	**08 22 34.3**	**+1.5**
POLP				*e*S	**Sn**	**08 23 08.2**	**+3.2**
CMAR	**Chiang Mai Arr**	**19.58**	**282**	P	**Pn**	**08 26 20.1**	**+2.6**
	0.6nm,0.3s,baz=102,slow=8.4,SNR=4.4						
CMAR				LR	LR	08 33 41.7	
	comp=Z,22nm,18.0s,baz=220,slow=36						
JNU	**Nakatsue**	**20.54**	**29**	LR	LR	08 34 19.6	
	comp=Z,20nm,18.3s,baz=304,slow=37						
PMG	**Port Moresby**	**37.14**	**130**	LR	LR	08 45 50.0	
	comp=Z,51nm,19.5s,baz=244,slow=39						
WRA	**Warramunga Arr**	**38.21**	**157**	P	**P**	**08 29 04.6**	**-2.9**
	1.8nm,0.7s,baz=334,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**41.47**	**159**	P	**P**	**08 29 32.2**	**-2.4**
	0.7nm,0.4s,baz=337,slow=6.9,SNR=15						
MKAR	**Makanchi Array**	**43.75**	**323**	P	**P**	**08 29 54.2**	**+1.3**
	0.1nm,0.4s,baz=127,slow=9.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**47.91**	**326**	P	**P**	**08 30 25.1**	**-0.5**
	0.5nm,0.8s,baz=117,slow=9.5,SNR=3.7						
ILAR	**Eielson Array**	**77.83**	**26**	LR	LR	09 10 24.8	
	comp=Z,20nm,18.2s,baz=102,slow=38						

DHMR ***16*** *08:30:27.2±1.3, 13°.08N×41°.94E, h6km±34km, ML4.3*
ISCJB ***16*** *08:30:30.6±1.4, 13°.34N±0°.07×41°.86E±0°.10, h10km, Error ellipse: s-maj=15.0km s-min=7.7km az=26.9*
ARO ***16*** *08:30:30.3, 13°.N±7°×4°.2E±°, h0km±8km, ML4.5*
ISC 16 08:30:27.8±2.2, 13°.43N±0°.06×41°.7E±0°.1, h10km, n12, σ1s38/17, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAOD	**Malaho**	**1.42**	**160**	*e*P	**Pn**	**08 30 53.6**	**-0.2**
LDLD	**Lac de Lave**	**1.99**	**157**	*e*P	**Pb**	**08 31 03.1**	**-1.0**
TDJ	**Tadjoura Ara**	**1.99**	**144**	*e*P	**Pn**	**08 31 02.6**	**+1.0**
OBO	**Obock**	**2.10**	**133**	*e*P	**Pn**	**08 31 04.0**	**+0.9**
ATD	**Arta Tunnel**	**2.19**	**150**	*e*P	**Pn**	**08 31 05.5**	**+1.2**
ATD				*e*S	**Sb**	**08 31 34.3**	**-0.5**
MCAD	**Moucha**	**2.23**	**139**	*e*P	**Pn**	**08 31 06.2**	**+1.3**
GBR	**Grand-Bara**	**2.38**	**162**	*e*P	**Pn**	**08 31 08.8**	**+1.7**
ATA	**Atar**	**2.44**	**143**	*e*P	**Pn**	**08 31 09.2**	**+1.4**
DHBB	**Dhamar BB**	**2.83**	**66**	*i* P	**Pn**	**08 31 15.3**	**+1.9**
DHBB				*i* S	**Sb**	**08 31 53.6**	**+0.1**
HAJJ	**Hajjah**	**2.90**	**39**	*i* P	**Pb**	**08 31 18.4**	**-1.3**
HAJJ				*i* S	**Sg**	**08 31 59.9**	**-1.1**
ADEN	**Aden**	**3.25**	**101**	*i* P	**Pn**	**08 31 18.2**	**-0.7**
ADEN				*i* S	**Sn**	**08 31 56.7**	**-0.9**
BDHA	**Al Bayda'**	**3.78**	**81**	*i* P	**Pn**	**08 31 27.7**	**+1.2**
BDHA				*i* S	**Sn**	**08 32 13.7**	**+2.5**
BDHA				AML	AML	08 32 39.0	
	comp=N,1μm,0.7s						

ISCJB ***16*** *08:31:11.5±2.0, 15°.32N±0°.10×95°.66W±0°.04, h7km±9km, mb4.1/16, MS3.1/7, Error ellipse: s-maj=16.5km s-min=6.7km az=4.2*
NEIC ***16*** *08:31:15.8, 15°.37N×95°.74W, h20km, mb4.0/18, MD4.3(MEX), After MEX.*
MEX ***16*** *08:31:15.8±0.7, 15°.37N×95°.74W, h20km±6km, MD4.3*
IDC ***16*** *08:31:23.0±5.3, 15°.85N×95°.42W, h48km±44km, mb3.6/6, mb1 3.9/8, mb1mx3.5/36, mbtmp3.9/8, ML4.1/2, MS3.1/8, Ms1 3.1/8, ms1mx2.9/38, Error ellipse: s-maj=48.7km s-min=21.2km az=34.0*
ISC 16 08:31:14.5±1.5, 15°.44N±0°.09×95°.71W±0°.05, h11km±9km, n168, σ1s34/172, mb4.0/16, MS3.0/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.50**	**311**	*i* P	**Pg**	**08 31 24.4**	**0.0**
HUIG				*i* S	**Sg**	**08 31 31.0**	**0.0**
HUIG	**Huatulco**	**0.50**	**311**	*i* P	**Pg**	**08 31 24.4**	**0.0**
HUIG				*i* S	**Sg**	**08 31 31.0**	**0.0**
PANG	**Puerto Angel**	**0.77**	**287**	*i* P	**Pg**	**08 31 27.6**	**-1.8**
PANG				*e*S	**Sg**	**08 31 37.6**	**-1.8**
VHO	**Vista Hermosa**	**1.90**	**329**	*e*P	**Pn**	**08 31 46.6**	**-0.4**
VHO				*i* S	**Sn**	**08 32 08.2**	**-2.8**
VHO	**Vista Hermosa**	**1.90**	**329**	*e*P	**Pn**	**08 31 46.6**	**-0.4**
VHO				*i* S	**Sn**	**08 32 08.2**	**-2.8**
PCIG		**2.42**	**83**	*i* P	**Pn**	**08 31 52.2**	**-1.7**
PCIG				*i* S	**Sn**	**08 32 20.6**	**-3.0**
PCIG		**2.42**	**83**	*i* P	**Pn**	**08 31 52.2**	**-1.7**
PCIG				*i* S	**Sn**	**08 32 20.6**	**-3.0**
PNIG	**Pinotepa**	**2.51**	**293**	*i* P	**Pn**	**08 31 53.4**	**-1.9**
PNIG				*i* S	**Sn**	**08 32 22.3**	**-3.7**
PNIG	**Pinotepa**	**2.51**	**293**	*i* P	**Pn**	**08 31 53.4**	**-1.9**
PNIG				*i* S	**Sn**	**08 32 22.3**	**-3.7**
TLIG	**Tlapa**	**3.46**	**308**	*e*P	**Pn**	**08 32 09.4**	**+1.0**
TLIG				*i* S	**Sn**	**08 32 46.5**	**-2.9**
TEIG	**Tepich**	**8.53**	**55**	P	**Pn**	**08 33 16.6**	**-1.4**
	5.2nm,0.3s,baz=240,slow=12,SNR=61						
TEIG				S	**Sn**	**08 34 49.1**	**-5.3**
	0.8nm,0.3s,baz=90,slow=20,SNR=2.0						
TEIG	**Tepich**	**8.53**	**55**	*e*Pn	**Pn**	**08 33 16.5**	**-1.6**
	15nm,0.4s						
TEIG				S	**Sn**	**08 34 49.0**	**-5.3**
JCT	**Junction City**	**15.44**	**347**	P	**Pn**	**08 34 54.2**	**+1.9**
	baz=165						
JCT	**Junction City**	**15.44**	**347**	*e*Pn	**Pn**	**08 34 54.2**	**+1.9**
434A	**Burnet**	**15.48**	**352**	P	**Pn**	**08 34 53.7**	**+0.8**
	baz=171						
TXAR	**Lajitas Array**	**15.65**	**333**	P	**Pn**	**08 34 56.5**	**+1.3**
	0.1nm,0.3s,baz=143,slow=12,SNR=23						
TXAR				LR	LR	08 40 58.2	
	comp=Z,86nm,20.3s,baz=0.0,slow=37						
338A	**Crockett**	**15.85**	**1**	P	**P**	**08 35 00.1**	**-1.3**
	baz=182						
339A	**Huntington**	**15.86**	**4**	P	**P**	**08 35 00.6**	**-0.9**
	baz=184						
333A	**Richland Sprin**	**16.10**	**350**	P	**P**	**08 35 04.6**	**+0.4**
	baz=169						
WHTX	**Lake Whitney,**	**16.56**	**355**	P	**P**	**08 35 08.9**	**-0.4**
	baz=174						
234A	**Clairette**	**16.64**	**353**	P	**P**	**08 35 10.5**	**+0.4**
	baz=172						
233A	**Rising Star**	**16.76**	**351**	P	**Pn**	**08 35 10.0**	**+0.7**
	baz=170,SNR=9.7						
136A	**Ennis**	**16.98**	**358**	P	**P**	**08 35 14.1**	**+0.3**
	baz=177						
137A	**Heron Place, G**	**17.08**	**360**	P	**P**	**08 35 15.6**	**+0.5**
	baz=180						
138A	**Matatall Enter**	**17.16**	**2**	P	**P**	**08 35 16.4**	**+0.5**
	baz=182						
134A	**White-Moore Ra**	**17.20**	**353**	P	**P**	**08 35 16.7**	**+0.4**
	baz=172						
140A	**Cam and Jess,**	**17.24**	**6**	P	**P**	**08 35 17.0**	**+0.3**
	baz=187						
133A	**Hamilton Ranch**	**17.34**	**351**	P	**P**	**08 35 18.5**	**+0.6**
	baz=170						
ABTX	**Abilene, Hawle**	**17.48**	**349**	*e*Pn	**Pn**	**08 35 18.6**	**+0.3**
Z38A	**Mt. Pleasant**	**17.75**	**2**	P	**P**	**08 35 22.7**	**+0.3**
	baz=182						
Z36A	**Blue Ridge**	**17.77**	**358**	P	**P**	**08 35 23.3**	**+0.7**
	baz=178						
Z41A	**Richland Creek**	**17.94**	**8**	P	**P**	**08 35 25.1**	**+0.6**
	baz=189						
Z33A	**Whitaker Ranch**	**17.98**	**352**	P	**P**	**08 35 25.6**	**+0.6**
	baz=171						
Y36A	**Durant**	**18.39**	**358**	P	**Pn**	**08 35 30.2**	**+0.7**
	baz=178						
Y38A	**Idabel**	**18.43**	**3**	P	**Pn**	**08 35 30.7**	**+0.7**
	baz=183						
MNTX	**Cornudas Mount**	**18.44**	**333**	*e*P	**Pn**	**08 35 31.9**	**+1.8**
	2.0nm,0.9s						
Y33A	**Hilltop Ranch,**	**18.68**	**352**	P	**Pn**	**08 35 33.1**	**+0.1**
	baz=171						
X35A	**Drake**	**18.91**	**357**	P	**Pn**	**08 35 36.4**	**+0.5**
	baz=176						
X39A	**Fountain Ranch**	**19.05**	**4**	P	**Pn**	**08 35 37.5**	**0.0**
	baz=185						
X36A	**Centrahoma**	**19.06**	**358**	P	**Pn**	**08 35 38.5**	**+0.9**
	baz=178						
X37A	**Clayton**	**19.07**	**1**	P	**Pn**	**08 35 38.5**	**+0.7**
	baz=181,SNR=6.6						
MIAR	**Mount Ida**	**19.12**	**5**	P	**P**	**08 35 37.3**	**-0.2**
	baz=186,SNR=5.2						
MIAR	**Mount Ida**	**19.12**	**5**	*e*P	**P**	**08 35 38.0**	**+0.4**
	5.0nm,0.8s						
X38A	**Whitesboro**	**19.17**	**2**	P	**Pn**	**08 35 38.7**	**-0.2**
	baz=183,SNR=9.7						
X32A	**Elmer**	**19.18**	**351**	P	**Pn**	**08 35 39.3**	**+0.3**
	baz=170,SNR=6.1						
X33A	**Lawton**	**19.19**	**353**	P	**Pn**	**08 35 39.2**	**+0.1**
	baz=172						
X41A	**Kaden, Bauxite**	**19.19**	**8**	P	**P**	**08 35 38.8**	**+0.5**
	baz=189						
LRAL	**Lakeview Retre**	**19.22**	**23**	*e*P	**Pn**	**08 35 40.6**	**+1.0**
	1.3nm,0.4s						
TIGA	**Tifton**	**19.40**	**33**	*e*P	**P**	**08 35 40.6**	**0.0**
	19nm,0.9s						
WMOK	**Wichita Mounta**	**19.42**	**352**	*e*P	**P**	**08 35 39.3**	**-1.5**
	1.3nm,0.6s						
W38A	**Poteau**	**19.58**	**3**	P	**P**	**08 35 43.2**	**+0.7**
	baz=184						
W36A	**Wetumka**	**19.62**	**359**	P	**P**	**08 35 43.9**	**+0.9**
	baz=179						
W35A	**Tecumseh**	**19.66**	**357**	P	**Pn**	**08 35 44.9**	**+0.1**
	baz=177,SNR=7.6						
W39A	**Magazine**	**19.75**	**5**	P	**P**	**08 35 44.9**	**+0.5**
	baz=186,SNR=6.8						
W33A	**Caddo, Fort Co**	**19.79**	**353**	P	**Pn**	**08 35 45.9**	**-0.4**
	baz=172						
W34A	**Bridge Creek,**	**19.80**	**355**	P	**P**	**08 35 45.2**	**+0.2**
	baz=174						
W32A	**Sentinel**	**19.86**	**351**	P	**Pn**	**08 35 48.0**	**+0.7**
	baz=170						
W41B	**Gary Mavity, V**	**19.90**	**8**	P	**P**	**08 35 46.7**	**+0.7**
	baz=190						
AMTX	**Amarillo**	**20.09**	**346**	P	Pn	08 35 49.7	-0.4
	baz=163						
AMTX	**Amarillo**	**20.09**	**346**	*e*P	**P**	**08 35 47.8**	**-0.5**
	4.5nm,0.7s						
121A	**Cookes Peak, D**	**20.25**	**329**	P	Pn	08 35 55.6	+3.6
	baz=145						
121A	**Cookes Peak, D**	**20.25**	**329**	*e*P	**P**	**08 35 50.9**	**+0.8**
	9.0nm,0.9s						
V35A	**Meyer Ranch, C**	**20.27**	**357**	P	**P**	**08 35 50.6**	**+0.6**
	baz=177						
V36A	**Jenks**	**20.27**	**359**	P	**P**	**08 35 50.2**	**+0.1**
	baz=179						
V37A	**Hulbert**	**20.37**	**1**	P	**P**	**08 35 51.1**	**-0.1**
	baz=182						
V38A	**Canehill**	**20.37**	**3**	P	**P**	**08 35 51.5**	**+0.3**
	baz=184,SNR=13						
V34A	**Guthrie**	**20.38**	**356**	P	**P**	**08 35 52.1**	**+0.8**
	baz=175						
TUL1	**Leonard**	**20.39**	**360**	P	**P**	**08 35 51.2**	**-0.1**
	baz=180						
TUL1	**Leonard**	**20.39**	**360**	*e*P	**P**	**08 35 51.7**	**+0.4**
	4.4nm,0.7s						
V39A	**Pettigrew**	**20.40**	**5**	P	**P**	**08 35 51.8**	**+0.3**
	baz=186,SNR=8.6						
V33A	**Lossen Ranch,**	**20.43**	**354**	P	**P**	**08 35 53.0**	**+1.2**
	baz=173,SNR=6.7						
V41A	**Mountainview**	**20.51**	**8**	P	**P**	**08 35 52.7**	**0.0**
	baz=190,SNR=19						
V42A	**Cord**	**20.65**	**10**	P	**P**	**08 35 53.5**	**-0.6**
	baz=192,SNR=15						
U35A	**Pawnee**	**20.87**	**358**	P	**P**	**08 35 56.7**	**+0.2**
	baz=177						
U37A	**Salina**	**20.89**	**1**	P	**P**	**08 35 56.9**	**+0.1**
	baz=182						
U38A	**Gravette**	**20.95**	**3**	P	**P**	**08 35 57.7**	**+0.2**
	baz=184,SNR=13						
U39A	**Green Forest**	**20.95**	**5**	P	**P**	**08 35 57.2**	**-0.3**
	baz=186						
U40A	**Yellville**	**20.99**	**6**	P	**P**	**08 35 58.1**	**+0.2**
	baz=188,SNR=11						
U32A	**Winter Ranch,**	**21.06**	**353**	P	**P**	**08 35 59.0**	**+0.3**
	baz=171						
T35A	**Sooner Cattle**	**21.40**	**358**	P	**P**	**08 36 03.5**	**+1.1**
	baz=178,SNR=6.9						
T36A	**Boggs Farm, Ca**	**21.54**	**360**	P	**P**	**08 36 03.5**	**-0.2**
	baz=180						
T34A	**McClaskey Farm**	**21.54**	**357**	P	**P**	**08 36 05.2**	**+1.4**
	baz=176						
T38A	**Diamond**	**21.55**	**3**	P	**P**	**08 36 04.1**	**+0.2**
	baz=184,SNR=19						
T39A	**Clever**	**21.60**	**5**	P	**P**	**08 36 07.2**	**+2.7**
	baz=186,SNR=12						
T37A	**Cheneyville 18**	**21.61**	**2**	P	**P**	**08 36 04.7**	**+0.2**
	baz=182						
TUC	**Tucson**	**21.68**	**323**	*e*P	**P**	**08 36 06.0**	**+0.5**
	7.1nm,1.1s						
ANMO	**Albuquerque**	**21.69**	**336**	P	**P**	**08 36 08.4**	**+2.8**
	1.7nm,0.9s,baz=141,slow=13,SNR=7.4						
ANMO				LR	LR	08 44 36.0	
	comp=Z,53nm,19.0s,baz=162,slow=37						
ANMO	**Albuquerque**	**21.69**	**336**	P	**P**	**08 36 09.3**	**+3.6**
	baz=151						
ANMO	**Albuquerque**	**21.69**	**336**	*e*P	**P**	**08 36 07.0**	**+1.3**
	2.9nm,0.9s						
T41A	**Mountain View**	**21.80**	**9**	P	**P**	**08 36 06.5**	**-0.1**
	baz=190						
T40A	**Mansfield**	**21.81**	**7**	P	**P**	**08 36 07.0**	**+0.3**
	baz=188						
T32A	**Huddle Ranch,**	**21.84**	**353**	P	**P**	**08 36 07.7**	**+0.7**
	baz=172						
S38A	**Stockton**	**22.16**	**4**	P	**P**	**08 36 11.2**	**+0.7**
	baz=185,SNR=6.9						
S35A	**Otter Creek Ra**	**22.16**	**359**	P	**P**	**08 36 10.9**	**+0.4**
	baz=178						
S36A	**Lake Cedric, C**	**22.20**	**0**	P	**P**	**08 36 12.7**	**+1.9**
	baz=180,SNR=6.6						
S34A	**Willow Spring**	**22.21**	**357**	P	**P**	**08 36 12.3**	**+1.3**
	baz=176						
S37A	**Fort Scott**	**22.25**	**2**	P	**P**	**08 36 12.6**	**+1.2**
	baz=182						
S40A	**Lebanon**	**22.26**	**7**	P	**P**	**08 36 12.8**	**+1.3**
	baz=188,SNR=10.0						
S39A	**Bolivar**	**22.27**	**5**	P	**P**	**08 36 12.8**	**+1.2**
	baz=186,SNR=6.3						
S32A	**Newby Ranch, P**	**22.36**	**353**	P	**P**	**08 36 13.0**	**+0.4**
	baz=172						
R38A	**Fenwick Farm,**	**22.72**	**4**	P	**P**	**08 36 17.2**	**+0.8**
	baz=185,SNR=10						
TKL	**Tuckaleechee C**	**22.80**	**26**	LR	LR	08 46 06.9	
	comp=Z,18nm,21.1s,baz=144,slow=40						
R36A	**Gordon, Harris**	**22.80**	**0**	P	**P**	**08 36 17.5**	**+0.2**
	baz=181						
R34A	**Isabella, Hill**	**22.82**	**357**	P	**P**	**08 36 17.8**	**+0.4**
	baz=176						
R39A	**Chumby, Stover**	**22.91**	**5**	P	**P**	**08 36 19.2**	**+0.8**
	baz=187,SNR=14						
T25A	**Trinidad**	**22.95**	**342**	P	**P**	**08 36 21.4**	**+2.3**
	baz=158						
R40A	**Maddies Statio**	**22.97**	**7**	P	**P**	**08 36 19.8**	**+0.8**
	baz=189,SNR=12						
R32A	**Long Quarter,**	**23.05**	**354**	P	**P**	**08 36 20.3**	**+0.4**
	baz=173						
Q35A	**Mercer Eighty,**	**23.33**	**359**	P	**P**	**08 36 23.4**	**+0.6**
	baz=179						
Q37A	**Longview Farm,**	**23.38**	**2**	P	**P**	**08 36 23.1**	**-0.1**
	baz=183						
ROSC	**El Rosal**	**23.52**	**114**	P	**P**	**08 36 29.0**	**+3.8**
	4.9nm,0.6s,baz=304,slow=12,SNR=6.1						
Q32A	**Meitler Ranch,**	**23.60**	**354**	P	**P**	**08 36 25.9**	**+0.5**
	baz=173						
Q40A	**Laux Farm, Aux**	**23.68**	**7**	P	**P**	**08 36 25.4**	**-0.8**
	baz=189						
Q42A	**Golden Eagle**	**23.82**	**10**	P	**P**	**08 36 26.9**	**-0.6**
	baz=192						
SDCO	**Great Sand Dun**	**23.85**	**341**	P	**P**	**08 36 29.5**	**+1.3**
	baz=156						
SDCO	**Great Sand Dun**	**23.85**	**341**	*e*P	**P**	**08 36 29.8**	**+1.7**
	1.9nm,0.8s						
P35A	**Duane Minner,**	**24.00**	**359**	P	**P**	**08 36 29.2**	**-0.1**
	baz=179						
P37A	**Lathrop**	**24.09**	**3**	P	**P**	**08 36 29.6**	**-0.5**
	baz=183						
P39B	**Salisbury**	**24.10**	**6**	P	**P**	**08 36 29.4**	**-0.7**
	baz=187						
P38A	**Dawn**	**24.17**	**4**	P	**P**	**08 36 30.7**	**-0.1**
	baz=185,SNR=5.8						
P40A	**Paris**	**24.22**	**7**	P	**P**	**08 36 30.7**	**-0.5**
	baz=189						
S22A	**4UR Ranch, Cre**	**24.30**	**338**	P	**P**	**08 36 33.4**	**+1.0**
	baz=153						
WUAZ	**Wupatki**	**24.43**	**328**	P	**P**	**08 36 36.8**	**+3.4**
	baz=141						
MVCO	**Mesa Verde**	**24.48**	**335**	P	**P**	**08 36 36.5**	**+2.6**
	baz=149						
MVCO	**Mesa Verde**	**24.48**	**335**	*e*P	**P**	**08 36 36.3**	**+2.4**
	16nm,1.4s						
P41A	**Barry, Barry**	**24.49**	**9**	P	**P**	**08 36 33.2**	**-0.5**
	baz=191						
O36A	**Bolckow**	**24.61**	**1**	P	**P**	**08 36 35.1**	**+0.2**
	baz=182						
O34A	**Beatrice**	**24.67**	**358**	P	**P**	**08 36 36.2**	**+0.8**
	baz=178,SNR=5.9						
O38A	**Galt**	**24.67**	**4**	P	**P**	**08 36 35.5**	**+0.1**
	baz=185						
O37A	**Wolven Farm, M**	**24.68**	**3**	P	**P**	**08 36 35.1**	**-0.3**
	baz=184						
O35A	**Humboldt**	**24.74**	**360**	P	**P**	**08 36 35.9**	**0.0**
	baz=180						
O40A	**La Belle**	**24.82**	**7**	P	**P**	**08 36 36.8**	**+0.1**
	baz=189						
O41A	**Passleys Farm,**	**24.95**	**9**	P	**P**	**08 36 38.6**	**+0.8**
	baz=191						
N36A	**Muff Farm, Cla**	**25.30**	**1**	P	**P**	**08 36 41.4**	**+0.4**
	baz=182						
PV01	**Paradox Valley**	**25.30**	**336**	*e*P	**P**	**08 36 43.8**	**+2.4**
	956nm,1.3s						
N35A	**Tabor**	**25.33**	**0**	P	**P**	**08 36 42.1**	**+0.8**
	baz=180						
N32A	**Stulken Farm,**	**25.34**	**355**	P	**P**	**08 36 42.1**	**+0.7**
	baz=174						
N38A	**Joes South For**	**25.36**	**4**	P	**P**	**08 36 42.0**	**+0.4**
	baz=186,SNR=13						
N39A	**Derby Farms, D**	**25.50**	**6**	P	**P**	**08 36 42.7**	**-0.2**
	baz=187						
HDIL	**Hopedale**	**25.64**	**11**	P	**P**	**08 36 44.1**	**-0.1**
	baz=194						
ISCO	**Idaho Springs**	**25.77**	**342**	*e*P	**P**	**08 36 45.4**	**-0.3**
	1.9nm,0.8s						
M37A	**Trindle Farm,**	**25.91**	**3**	P	**P**	**08 36 47.5**	**+0.9**
	baz=184						
M36A	**Felix, Anita**	**25.94**	**2**	P	**P**	**08 36 47.7**	**+0.9**
	baz=182						
M35A	**Neola**	**25.94**	**0**	P	**P**	**08 36 47.8**	**+1.0**
	baz=180						
M38A	**Pleasantville**	**25.98**	**4**	P	**P**	**08 36 47.2**	**0.0**
	baz=186,SNR=5.7						
L36A	**Harm Buss Farm**	**26.59**	**2**	P	**P**	**08 36 53.6**	**+0.9**
	baz=182						
L37A	**Phoenix Point,**	**26.65**	**3**	P	**P**	**08 36 53.8**	**+0.6**
	baz=184						
L38A	**Oak Wood Farm,**	**26.72**	**5**	P	**P**	**08 36 53.9**	**+0.1**
	baz=186						
L41A	**Preston**	**26.92**	**9**	P	**P**	**08 36 55.1**	**-0.6**
	baz=191						
K38A	**Parkersburg**	**27.23**	**5**	P	**P**	**08 36 58.5**	**-0.1**
	baz=186						
K37A	**Belmond**	**27.29**	**3**	P	**P**	**08 36 59.1**	**+0.1**
	baz=184						
K40A	**Colesburg**	**27.45**	**7**	P	**P**	**08 36 59.8**	**-0.6**
	baz=190						
JFWS	**Jewell Farm**	**27.78**	**9**	*e*P	**P**	**08 37 03.5**	**+0.1**
	18nm,0.7s						
SJG	**San Juan**	**28.41**	**80**	LR	LR	08 48 25.5	
	comp=Z,40nm,19.9s,baz=283,slow=36						
PDAR	**Pinedale Array**	**29.72**	**339**	P	**P**	**08 37 22.9**	**+2.0**
	0.2nm,0.3s,baz=128,slow=8.2,SNR=2.3						
SPMN	**Marine on St.**	**29.79**	**4**	P	**P**	**08 37 21.1**	**-0.2**
	baz=186						
SPMN	**Marine on St.**	**29.79**	**4**	*e*P	**P**	**08 37 21.3**	**0.0**
	5.2nm,0.8s						
REDW	**Red Top Meadow**	**30.69**	**338**	*e*P	**P**	**08 37 29.4**	**-0.1**
	1.8nm,0.8s						
SNOW	**Snow King Moun**	**30.75**	**338**	*e*P	**P**	**08 37 29.6**	**-0.5**
	4.6nm,0.9s						
E35A	**Pequot Lakes**	**31.05**	**2**	P	**P**	**08 37 32.5**	**+0.2**
	baz=182						
AGMN	**Agassiz Nation**	**32.77**	**360**	*e*P	**P**	**08 37 47.5**	**+0.1**
	3.0nm,0.6s						
ULM	**Lac du Bonnet**	**34.72**	**360**	LR	LR	08 53 14.4	
	comp=Z,17nm,18.2s,baz=214,slow=38						
YKA	**Yellowknife Ar**	**48.86**	**348**	P	**P**	**08 40 00.5**	**+0.7**
	0.8nm,0.8s,baz=152,slow=7.0,SNR=6.9						
DLBC	**Dease Lake**	**49.91**	**337**	LR	LR	09 02 52.1	
	comp=Z,42nm,18.6s,baz=352,slow=38						
ILAR	**Eielson Array**	**60.12**	**337**	P	**P**	**08 41 22.9**	**+1.2**
	1.5nm,0.9s,baz=130,slow=4.4,SNR=11						
ESDC	**Sonseca Array**	**81.63**	**51**	P	**P**	**08 43 33.8**	**+0.8**
	0.4nm,0.3s,baz=278,slow=5.5,SNR=6.8						
NOA	**NORSAR Array B**	**84.58**	**28**	LR	LR	09 21 39.2	
	comp=Z,12nm,18.4s,baz=175,slow=36						
HFS	**Hagfors**	**86.06**	**28**	LR	LR	09 22 00.7	
	comp=Z,17nm

GONE	**Gonen-Balikesi**	**1.38**	**311**	*e*PN	**Pg**	**08 39 16.7**	**-0.4**
GONE	**Gonen-Balikesi**	**1.38**	**311**	*e*Pn	**Pg**	**08 39 16.7**	**-0.4**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*PN	**Pb**	**08 39 17.0**	**-0.1**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*Pn	**Pb**	**08 39 17.0**	**-0.1**
ARMT	**Armutlu**	**1.43**	**354**	*e*PN	**Pg**	**08 39 17.6**	**-0.3**
ARMT	**Armutlu**	**1.43**	**354**	*e*Pn	**Pg**	**08 39 17.6**	**-0.3**
DNZL	**Cakiroluk**	**1.45**	**180**	P	**Pb**	**08 39 17.3**	**-0.8**
DNZL	**Cakiroluk**	**1.45**	**180**	*i* P	**Pb**	**08 39 17.3**	**-0.8**
DNZL				*i* S	**Sg**	**08 39 40.5**	**+3.5**
ESKT	**Eskisehir**	**1.45**	**74**	*i* P	**Pg**	**08 39 18.8**	**+0.4**
ESKT				*i* S	**Sg**	**08 39 37.0**	**-0.2**
SEYT	**Eskypehyr**	**1.45**	**74**	P	**Pg**	**08 39 18.8**	**+0.4**
SEYT				S	**Sg**	**08 39 37.0**	**-0.2**
GPA	**Golpazari**	**1.51**	**40**	*e*PN	**Pg**	**08 39 19.3**	**-0.1**
GPA	**Golpazari**	**1.51**	**40**	*e*Pn	**Pg**	**08 39 19.3**	**-0.1**
EDC	**Edincik**	**1.51**	**323**	*e*PN	**Pb**	**08 39 18.3**	**-0.7**
EDC	**Edincik**	**1.51**	**323**	*e*Pn	**Pb**	**08 39 18.3**	**-0.7**
GULT	**Gulveren**	**1.72**	**41**	*e*PN	**Pb**	**08 39 21.6**	**-0.9**
GULT	**Gulveren**	**1.72**	**41**	*e*Pn	**Pb**	**08 39 21.7**	**-0.9**
HRT	**Hereke**	**1.75**	**16**	*e*PN	**Pb**	**08 39 22.1**	**-1.0**
HRT	**Hereke**	**1.75**	**16**	*e*Pn	**Pb**	**08 39 22.1**	**-1.0**
ISK	**Istanbul-Kandi**	**1.92**	**0**	*e*PN	**Pn**	**08 39 24.4**	**+0.5**
ISK	**Istanbul-Kandi**	**1.92**	**0**	*e*Pn	**Pn**	**08 39 24.4**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*PN	**Pb**	**08 39 25.2**	**-1.4**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*Pn	**Pb**	**08 39 25.2**	**-1.4**
SART	**Tekirdag**	**2.11**	**318**	*i* P	**Pg**	**08 39 31.9**	**+1.0**
SART				*i* S	**Sg**	**08 39 57.9**	**-0.3**
MDUB	**Mudurnu**	**2.13**	**51**	*e*PN	**Pn**	**08 39 27.3**	**+0.5**
MDUB	**Mudurnu**	**2.13**	**51**	*e*Pn	**Pn**	**08 39 27.3**	**+0.5**

*IDC **16** 08:41:24.3±2.8, 53.°62N×87.°84E, h0km, mb1 3.4/2, mb1mx3.1/46, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=23.6km s-min=14.7km az=56.0*
*NNC **16** 08:41:29.6±2.4, 53.°51N×87.°34E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=18.6km s-min=15.1km az=14.0*
ISC 16 08:41:29.6±3.8, 53.°7N±0.°1×87.°8E±0.°2, h35km, n8, σ1§07/12, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**281**	*i*		08 53 03.5	
	baz=99,slow=323,SNR=26						
ZALV	**Zalesovo Beam**	**1.77**	**281**	Pg	**Pn**	**08 41 56.7**	**-1.0**
	4.7nm,0.3s,baz=103,slow=21,SNR=18						
ZALV				Lg	Lg	08 42 23.0	
	7.8nm,0.3s,baz=105,slow=24,SNR=18						
KURK	**Kurchatov**	**6.35**	**246**	⇑Pn	**Pn**	**08 43 01.3**	**+0.7**
	9.0nm,0.6s						
KURK				⇓Sn	**Sn**	**08 44 11.0**	**-0.8**
	13nm,0.6s						
KURK				⇑Lg	Lg	08 44 45.1	
	29nm,0.7s						
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn	**Pn**	**08 43 01.4**	**-0.6**
	0.3nm,0.3s,baz=62,slow=14,SNR=24						
KURBB				Sn	**Sn**	**08 44 14.4**	**+0.3**
	0.1nm,0.3s,baz=53,slow=20,SNR=4.6						
KURBB				Lg	Lg	08 44 47.4	
	0.1nm,0.3s,baz=59,slow=36,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.45**	**246**	⇑Pn	**Pn**	**08 43 01.2**	**-0.7**
	2.6nm,0.4s						
KURBB				⇓Sn	**Sn**	**08 44 13.4**	**-0.8**
	6.3nm,0.7s						
KURBB				⇑Lg	Lg	08 44 45.7	
	20nm,0.9s						
MK31	**Makanchi Array**	**7.72**	**209**	⇓Pn	**Pn**	**08 43 19.5**	**0.0**
	0.3nm,0.5s,baz=29,slow=14,SNR=13						
MK31				⇑Sn	**Sn**	**08 44 46.1**	**+0.5**
	1.3nm,0.7s,baz=36,slow=25,SNR=6.2						
MK31				⇑Lg	Lg	08 45 28.9	
	2.2nm,0.7s,baz=29,slow=32,SNR=4.3						
MKAR	**Makanchi Array**	**7.72**	**209**	Pn	**Pn**	**08 43 18.7**	**-0.8**
	0.3nm,0.3s,baz=28,slow=13,SNR=14						
MKAR				Sn	**Sn**	**08 44 46.4**	**+0.9**
	0.2nm,0.3s,baz=31,slow=23,SNR=11						
MKAR				Lg	Lg	08 45 26.2	
	0.1nm,0.3s,baz=22,slow=32,SNR=4.0						
BVAR	**Borovoye Array**	**10.41**	**273**	Pn	**Pn**	**08 43 58.5**	**+2.2**
	0.3nm,0.3s,baz=68,slow=12,SNR=3.7						

IDC 16 08:47:07.5±3.5, 6.°24S×151.°49E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/40, mbtmp3.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=139.8km s-min=48.4km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.67**	**200**	LR	LR	08 55 09.4	
	comp=Z,88nm,20.7s,baz=78,slow=33						
WRA	**Warramunga Arr**	**21.52**	**229**	P	P	08 51 57.8	-0.6
	0.8nm,0.9s,baz=55,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**24.21**	**222**	P	P	08 52 26.5	+0.4
	0.5nm,0.7s,baz=58,slow=8.7,SNR=7.9						
TORD	**Torodi Ar. Bea**	**149.47**	**285**	PKPbc	PKPbc	09 06 59.4	-0.5
	0.3nm,0.6s,baz=60,slow=1.6,SNR=2.4						

*GUC **16** 08:50:53.9±0.4, 34.°26S×72.°40W, h36km±2km, ML3.1*
ISC 16 08:50:54.1±1.8, 34.°25S±0.°04×72.°3W±0.°1, h10km, n17, σ2§63/28, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.27**	**122**	⇓*i* P	**Pn**	**08 51 02.7**	**-1.4**
CHPI				*i* S	**Sb**	**08 51 09.6**	**+3.8**
TALC	**Talca**	**1.27**	**155**	⇑*i* P	**Pg**	**08 51 17.1**	**-1.3**
TALC				*i* S	**Sg**	**08 51 35.2**	**+0.3**
ANTU	**Antumapu**	**1.53**	**64**	*i* S	**Sg**	**08 51 44.0**	**+0.7**
ANTU				IAML		08 51 54.6	
	comp=E,468nm,0.8s						
ROC1	**El Roble**	**1.65**	**40**	*i* P	**Pg**	**08 51 25.9**	**+0.1**
CLCH	**Cerro Calan**	**1.68**	**60**	*e*P	**Pb**	**08 51 24.6**	**-0.6**
CLCH				*i* S	**Sg**	**08 51 48.0**	**-0.2**
CLCH				IAML		08 51 59.6	
	comp=N,466nm,0.8s						
PEL	**Peldehue**	**1.73**	**51**	*e*P	**Pg**	**08 51 25.5**	**-1.8**
PEL				*i* S	**Sg**	**08 51 48.8**	**-0.8**
PEL				IAML		08 51 58.5	
	comp=E,201nm,1.0s						
AAGR	**Agrelo**	**3.11**	**69**	*i* P	**Pb**	**08 51 48.4**	**-1.1**
ARCO	**CERRO ARCO**	**3.13**	**64**	*i* P	**Pb**	**08 51 48.4**	**-1.5**
ARCO				*i* S	**Sg**	**08 52 36.9**	**+2.2**
ARCO				IAML		08 52 46.5	
	comp=Z,23nm,0.7s						
AUSP	**Uspallata**	**3.16**	**51**	*i* P	**Pb**	**08 51 48.2**	**-2.2**
AUSP				*i* S	**Sg**	**08 52 35.7**	**+0.2**
ASAL	**Salagasta**	**3.32**	**61**	*i* P	**Pb**	**08 51 51.2**	**-1.9**
ASAL				*i* S	**Sg**	**08 52 41.3**	**+0.4**
RTLS	**Leoncito**	**3.50**	**47**	*i* P	**Pb**	**08 51 52.7**	**-3.6**
RTLS				*i* S	**Sg**	**08 52 43.6**	**-2.9**
RTLL	**Cerro Villicun**	**4.33**	**49**	*i* P	Pb	08 52 03.8	-6.5
RTLL				*i* S	**Sb**	**08 53 03.6**	**+0.9**
AMOG	**MOGNA**	**4.59**	**45**	*i* P	**Pn**	**08 52 06.6**	**+2.9**
AMOG				*i* S	**Sb**	**08 53 08.8**	**-1.5**
AVFE	**Valle Fertil**	**5.43**	**50**	*i* P	Pn	08 52 18.8	+3.7
AVFE				*i* S	**Sb**	**08 53 29.5**	**-4.7**
AVFE				IAML		08 53 40.9	
	comp=Z,8.0nm,0.6s						
ACHE	**Chepes**	**5.65**	**59**	*i* P	Pn	08 52 23.0	+4.7
ACHE				*i* S	**Sb**	**08 53 36.9**	**-3.8**
AGUA	**GUANDACOL**	**5.74**	**35**	*i* P	**Pn**	**08 52 20.9**	**+1.4**
AGUA				*i* S	**Sn**	**08 53 33.0**	**+7.7**
VCA	**Vinchina**	**6.50**	**33**	*i* P	**Pn**	**08 52 31.0**	**+1.0**
VCA				*i* P	**Pn**	**08 52 31.4**	**+1.4**
VCA				IAML		08 54 34.5	
	comp=Z,6.3nm,0.6s						

IDC 16 08:51:23.1±3.8, 5.°70S×151.°04E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/39, mbtmp3.3/2, Error ellipse: s-maj=157.4km s-min=48.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.54**	**227**	P	P	08 56 13.9	-0.2
	0.5nm,0.4s,baz=53,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**24.31**	**221**	P	P	08 56 42.8	+0.1
	0.5nm,0.6s,baz=58,slow=8.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**148.89**	**286**	PKPbc	PKPbc	09 11 13.4	-0.5
	0.2nm,0.6s,baz=65,slow=3.0,SNR=2.8						

*IDC **16** 09:00:01.6±9.6, 59.°36N×153.°20W, h65km±75km, mb3.0/1, mb1 3.6/5, mb1mx3.1/75, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=99.4km s-min=42.6km az=33.0*
*ISCJB **16** 09:00:03.1±0.3, 59.°45N±0.°03×152.°65W±0.°05, h95km±3km, mb3.3/1, Error ellipse: s-maj=5.0km s-min=3.6km az=145.5*
*NEIC **16** 09:00:05.4, 59.°45N×152.°71W, h81km, MG3.2(AEIC), After AEIC.*
ISC 16 09:00:03.4±0.9, 59.°43N±0.°05×152.°64W±0.°04, h91km±7km, n106, σ1§28/117, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.38**	**307**	P	**Pn**	**09 00 17.6**	**+0.2**
AUE	**Augustine Isla**	**0.38**	**260**	P	**Pn**	**09 00 17.7**	**+0.4**
AUSE	**Augustine SEas**	**0.40**	**258**	P	**Pn**	**09 00 17.7**	**+0.2**
AUL	**Augustine Lava**	**0.41**	**264**	P	**Pn**	**09 00 18.0**	**+0.4**
AUL				S	**Sn**	**09 00 27.8**	**-0.4**
AUI	**Augustine Isla**	**0.41**	**258**	P	**Pn**	**09 00 17.9**	**+0.3**
AUI				S	**Sn**	**09 00 27.5**	**-0.7**
HOM	**Homer**	**0.56**	**65**	P	**Pn**	**09 00 19.8**	**+1.1**
HOM				S	**Sn**	**09 00 31.6**	**+1.6**
ILS	**Iliamna Low So**	**0.58**	**338**	P	**Pn**	**09 00 19.0**	**0.0**
CDD	**Cape Douglas**	**0.72**	**226**	P	**Pn**	**09 00 20.6**	**+0.4**
CNPM	**China Poot**	**0.72**	**81**	P	**Pn**	**09 00 21.2**	**+1.0**
CNPM				S	**Sn**	**09 00 33.7**	**+0.9**
FOPK	**Fourpeaked Vol**	**0.80**	**213**	P	**Pn**	**09 00 21.4**	**+0.4**
FOSS	**Fourpeaked Sta**	**0.83**	**221**	P	**Pn**	**09 00 21.5**	**+0.2**
MCNL	**McNeil River**	**0.90**	**255**	P	**Pn**	**09 00 22.1**	**+0.1**
BRLK	**Bradley Lake**	**0.95**	**68**	P	**Pn**	**09 00 23.3**	**+0.7**
BRLK				S	**Sn**	**09 00 37.6**	**+0.5**
RDWB	**Redoubt West**	**1.07**	**355**	P	**Pn**	**09 00 24.3**	**+0.2**
NCT	**North Crescent**	**1.15**	**353**	P	**Pn**	**09 00 25.2**	**+0.3**
RDJH	**Redoubt Jeurge**	**1.17**	**355**	P	**Pn**	**09 00 25.6**	**+0.3**
KAPH	**Katmai Pasha**	**1.21**	**227**	P	**Pn**	**09 00 26.6**	**+0.9**
KAHC	**Katmai Hardscr**	**1.45**	**239**	P	**Pn**	**09 00 29.2**	**+0.5**
KAWH	**Katmai**	**1.53**	**228**	P	**Pn**	**09 00 30.4**	**+0.8**
SLKM	**Skilak Lake**	**1.63**	**47**	P	**Pn**	**09 00 31.6**	**+0.8**
KDAK	**Kodiak Island**	**1.65**	**179**	P	**Pn**	**09 00 31.8**	**+0.7**
KAKN	**Katmai Knife C**	**1.69**	**229**	P	**Pn**	**09 00 32.5**	**+0.8**
KVTA	**Katmai Vly 10**	**1.73**	**234**	P	**Pn**	**09 00 32.9**	**+0.8**
SEW	**Seward**	**1.75**	**66**	P	**Pn**	**09 00 33.0**	**+0.7**
KABR	**Katmai Barrier**	**1.78**	**224**	P	**Pn**	**09 00 33.7**	**+0.9**
CKL	**Chakachamna La**	**1.78**	**5**	P	**Pn**	**09 00 33.6**	**+0.7**
SPCR	**Spurr Chakacha**	**1.79**	**7**	P	**Pn**	**09 00 33.7**	**+0.7**
SPWE	**Spurr West**	**1.85**	**1**	P	**Pn**	**09 00 34.7**	**+0.9**
KELA	**Mount Kelaz**	**1.89**	**240**	P	**Pn**	**09 00 34.9**	**+0.6**
STLK	**Strandline Lak**	**2.12**	**11**	P	**Pn**	**09 00 38.3**	**+1.1**
RC01	**Rabbit Creek A**	**2.21**	**40**	P	**Pn**	**09 00 38.9**	**+0.6**
SVW2	**Sparrevohn**	**2.23**	**320**	P	**Pn**	**09 00 38.7**	**+0.1**
OHAK	**Old Harbor**	**2.24**	**189**	P	**Pn**	**09 00 39.1**	**+0.4**
SUA	**Susitna One**	**2.25**	**24**	P	**Pn**	**09 00 40.4**	**+1.4**
PLK3	**Peulik 3**	**2.58**	**229**	P	**Pn**	**09 00 44.7**	**+1.4**
PLK1	**Peulik 1**	**2.64**	**234**	P	**Pn**	**09 00 45.4**	**+1.4**
PLK4	**Peulik 4**	**2.65**	**229**	P	**Pn**	**09 00 45.9**	**+1.6**
PMR	**Palmer**	**2.78**	**37**	P	**Pn**	**09 00 46.2**	**+0.3**
KNK	**Knik Glacier**	**2.88**	**44**	P	**Pn**	**09 00 47.7**	**+0.5**
SML	**Sawmill**	**3.20**	**40**	P	**Pn**	**09 00 52.0**	**+0.5**
MID	**Middleton Isla**	**3.22**	**87**	P	**Pn**	**09 00 53.2**	**+1.4**
HIN	**Hinchinbrook I**	**3.24**	**70**	P	**Pn**	**09 00 52.6**	**+0.5**
PPLA	**Purkeypile**	**3.49**	**3**	P	**Pn**	**09 00 57.0**	**+1.4**
SCM	**Sheep Creek Mo**	**3.56**	**45**	P	**Pn**	**09 00 57.1**	**+0.6**
VLZ	**Valdez**	**3.58**	**59**	P	**Pn**	**09 00 57.1**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.64**	**69**	P	**Pn**	**09 00 57.6**	**+0.1**
DIV	**Divide**	**3.82**	**61**	P	**Pn**	**09 01 00.7**	**+0.7**
HUR	**Hurricane**	**3.85**	**21**	P	**Pn**	**09 01 02.3**	**+2.0**
TT01	**Tatalina**	**3.86**	**336**	P	**Pn**	**09 01 00.8**	**+0.4**
TTA	**Tatalina**	**3.88**	**337**	P	**Pn**	**09 01 01.4**	**+0.6**
KLU	**Klutina**	**3.92**	**55**	P	**Pn**	**09 01 02.0**	**+0.6**
RAGM	**Ragged Mountai**	**4.12**	**73**	P	**Pn**	**09 01 04.6**	**+0.5**
TRF	**Thorofare Moun**	**4.19**	**15**	P	**Pn**	**09 01 05.8**	**+0.7**
KTH	**Kantishna Hill**	**4.22**	**10**	P	**Pn**	**09 01 07.0**	**+1.5**
BMRM	**Bremner River**	**4.30**	**65**	P	**Pn**	**09 01 06.9**	**+0.4**
RND	**Reindeer**	**4.39**	**23**	P	**Pn**	**09 01 08.5**	**+0.8**
PS11	**TAPS Pump St11**	**4.41**	**50**	P	**Pn**	**09 01 08.9**	**+1.0**
NICHA	**Nichawak Mount**	**4.45**	**76**	P	**Pn**	**09 01 09.3**	**+0.8**
BERG	**Berg Lake**	**4.60**	**74**	P	**Pn**	**09 01 11.4**	**+0.8**
MCK	**McKinley**	**4.67**	**21**	P	**Pn**	**09 01 12.7**	**+1.2**
BPAW	**Bear Paw Mtn.**	**4.76**	**9**	P	**Pn**	**09 01 13.2**	**+0.6**
GRIN	**Grindle Hills**	**4.78**	**76**	P	**Pn**	**09 01 14.1**	**+1.1**
KHIT	**Khitrov Hills**	**4.83**	**74**	P	**Pn**	**09 01 14.3**	**+0.5**
VRDI	**Verde Repeater**	**4.91**	**64**	P	**Pn**	**09 01 15.3**	**+0.5**
CRQM	**Cirque**	**4.94**	**70**	P	**Pn**	**09 01 15.9**	**+0.6**
PAX	**Paxson**	**4.96**	**41**	P	**Pn**	**09 01 16.5**	**+1.0**
BWN	**Browne**	**4.99**	**16**	P	**Pn**	**09 01 17.1**	**+1.3**
KULT	**Kultieth River**	**5.07**	**76**	P	**Pn**	**09 01 18.0**	**+1.1**
TGL	**Tana Glacier**	**5.09**	**71**	P	**Pn**	**09 01 17.7**	**+0.5**
MCARA	**Mccarthy YSAT**	**5.16**	**64**	P	**Pn**	**09 01 19.5**	**+1.5**
BARK	**Barkley Ridge**	**5.20**	**75**	P	**Pn**	**09 01 19.8**	**+1.1**
ISLE	**Juniper Island**	**5.30**	**73**	P	**Pn**	**09 01 20.5**	**+0.4**
KIAG	**Kiagna River**	**5.35**	**69**	P	**Pn**	**09 01 21.8**	**+0.9**
PTPK	**Patty Peak**	**5.36**	**66**	P	**Pn**	**09 01 22.3**	**+1.4**
BALM	**Baldy**	**5.38**	**68**	P	**Pn**	**09 01 22.0**	**+0.8**
BAGL	**Bagley Icefiel**	**5.41**	**74**	P	**Pn**	**09 01 23.2**	**+1.8**
MESA	**MESA**	**5.45**	**77**	P	**Pn**	**09 01 23.9**	**+1.7**
WRH	**Wood River Hil**	**5.50**	**21**	P	**Pn**	**09 01 22.8**	**+0.1**
GRNC	**Granite Creek**	**5.61**	**72**	P	**Pn**	**09 01 25.5**	**+1.2**
HDA	**Harding Lake**	**5.67**	**26**	P	**Pn**	**09 01 25.9**	**+0.8**
MLY	**Manley**	**5.70**	**8**	P	**Pn**	**09 01 26.7**	**+1.3**
BARN	**Barnard Glacie**	**5.71**	**69**	P	**Pn**	**09 01 27.5**	**+1.8**
CCB	**Clear Creek Bu**	**5.71**	**21**	P	**Pn**	**09 01 26.0**	**+0.5**
RKAV	**Rock Avalanche**	**5.76**	**76**	P	**Pn**	**09 01 28.5**	**+2.1**
CTGM	**Chitina Glacie**	**5.85**	**70**	P	**Pn**	**09 01 29.4**	**+1.9**
TABL	**Table Mountain**	**5.87**	**75**	P	**Pn**	**09 01 29.1**	**+1.1**
DOT	**Dot Lake**	**5.89**	**40**	P	**Pn**	**09 01 29.4**	**+1.3**
COLA	**College**	**5.91**	**20**	P	**Pn**	**09 01 28.7**	**+0.5**
MDM	**Murphy Dome**	**5.92**	**18**	P	**Pn**	**09 01 28.8**	**+0.3**
LOGN	**Logan Glacier**	**5.98**	**71**	P	**Pn**	**09 01 31.1**	**+1.6**
ILAR	**Eielson Array**	**6.00**	**24**	P	**Pn**	**09 01 29.9**	**+0.3**
	1.4nm,0.3s,baz=209,slow=14,SNR=71						
ILAR				S	**Sn**	**09 02 35.1**	**-1.7**
	2.4nm,0.3s,baz=220,slow=27,SNR=7.7						
ILB	**Eielson Array**	**6.00**	**24**	P	**Pn**	**09 01 29.8**	**+0.2**
BCA3	**Beaver Creek A**	**6.38**	**50**	P	**Pn**	**09 01 35.7**	**+0.9**
IM3	**Indian Mountai**	**6.60**	**356**	P	**Pn**	**09 01 38.5**	**+0.9**
DHAK	**Deception Hill**	**7.40**	**86**	P	**Pn**	**09 01 50.0**	**+1.4**
EGAK	**Eagle**	**7.59**	**40**	P	**Pn**	**09 01 52.4**	**+1.3**
DAWY	**Dawson**	**7.81**	**48**	P	**Pn**	**09 01 55.3**	**+1.1**
BM3	**Burnt Mountain**	**8.78**	**21**	P	**Pn**	**09 02 06.9**	**+1.5**
SKAG	**Skagway**	**8.82**	**82**	*e*Pn	**Pn**	**09 02 10.9**	**+3.0**
	5.7nm,0.5s						
DLBC	**Dease Lake**	**11.71**	**85**	P	**Pn**	**09 02 50.6**	**+3.4**
	1.2nm,0.3s,baz=284,slow=8.3,SNR=18						
DLBC				S	**Sn**	**09 04 52.3**	**-3.5**
	0.2nm,0.3s,baz=184,slow=19,SNR=2.4						
DLBC	**Dease Lake**	**11.71**	**85**	*e*Pn	**Pn**	**09 02 49.7**	**+2.5**
	3.0nm,0.4s						
DLBC				P	**Pn**	**09 02 50.6**	**+3.4**
DLBC				S	**Sn**	**09 04 52.3**	**-3.5**
INK	**Inuvik**	**12.20**	**35**	P	**Pn**	**09 02 55.4**	**+1.9**
	0.1nm,0.3s,baz=238,slow=9.4,SNR=2.9						
H02N1	**VAN INLET T-PH**	**12.72**	**110**	P	**Pn**	**09 03 01.1**	**+0.4**
H02N1				S	**Sn**	**09 05 17.3**	**-3.0**
H02S1	**DAWSON INLET T**	**12.78**	**110**	P	**Pn**	**09 03 01.8**	**+0.4**
H02S1				S	**Sn**	**09 05 18.0**	**-3.6**
YKA	**Yellowknife Ar**	**18.53**	**64**	P	**Pn**	**09 04 14.9**	**+1.3**
	0.1nm,0.3s,baz=277,slow=9.8,SNR=5.8						
MKAR	**Makanchi Array**	**65.00**	**322**	P	**P**	**09 10 33.5**	**+0.3**
	0.2nm,0.4s,baz=28,slow=6.6,SNR=2.7						

IDC 16 09:01:45.8±8.8, 19.°73S×177.°84W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/40, mbtmp4.1/4, Error ellipse: s-maj=236.5km s-min=45.2km az=122.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.26**	**243**	P	P	09 09 07.8	-0.1
	6.3nm,1.1s,baz=100,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**44.85**	**256**	P	P	09 10 01.8	-0.4
	1.0nm,0.5s,baz=96,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**44.86**	**261**	P	P	09 10 02.3	+0.1
	0.4nm,0.3s,baz=97,slow=7.4,SNR=46						
USRK	**Ussuriysk Ar.**	**78.42**	**326**	P	P	09 13 48.4	+0.1
	1.7nm,0.9s,baz=140,slow=7.0,SNR=4.9						

*ISK **16** 09:04:45.2, 39.°03N×29.°11E, h7km, MD2.4*
*ISCJB **16** 09:04:46.3±0.6, 39.°05N±0.°04×29.°05E±0.°04, h9km, Error ellipse: s-maj=7.1km s-min=3.9km az=148.0*
*DDA **16** 09:04:46.6, 39.°09N×29.°04E, h7km, Md2.5*
*CSEM **16** 09:04:46.0±0.2, 39.°04N×29.°08E, h8km, MD2.4, Error ellipse: s-maj=6.4km s-min=3.1km az=132.0*
ISC 16 09:04:46.1±0.9, 39.°03N±0.°04×29.°10E±0.°04, h9km, n20, σ0§37/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.30**	**79**	S	**Sb**	**09 04 58.6**	**-0.2**
GDZ	**Gediz**	**0.30**	**79**	*i* P	**Pb**	**09 04 53.9**	**+0.2**
GDZ				*i* S	**Sb**	**09 04 58.6**	**-0.2**
DEMI	**Demirci**	**0.30**	**272**	S	**Sg**	**09 04 55.8**	**-0.4**
DEMI	**Demirci**	**0.30**	**272**	*i* P	**Pg**	**09 04 52.2**	**+0.1**
DEMI				*i* S	**Sg**	**09 04 55.8**	**-0.4**
TVSB	**Tavsanli**	**0.50**	**34**	*e*PG	**Pg**	**09 04 55.4**	**-0.4**
TVSB				*e*SG	**Sg**	**09 05 02.8**	**+0.4**
TVSB	**Tavsanli**	**0.50**	**34**	*e*Pg	**Pg**	**09 04 55.4**	**-0.4**
TVSB				*e*Sg	**Sg**	**09 05 02.8**	**+0.4**
KULA	**Kula-Manisa**	**0.62**	**214**	*e*PG	**Pg**	**09 04 57.5**	**-0.6**
KULA				*e*SG	**Sg**	**09 05 07.0**	**+0.7**
KULA	**Kula-Manisa**	**0.62**	**214**	*e*Pg	**Pg**	**09 04 57.5**	**-0.6**
KULA				*e*Sg	**Sg**	**09 05 07.0**	**+0.7**
AKS	**Akhisar**	**1.02**	**262**	*e*PG	**Pg**	**09 05 05.4**	**-0.2**
AKS	**Akhisar**	**1.02**	**262**	*e*Pg	**Pg**	**09 05 05.4**	**-0.2**
CAVI	**Cavuskoy**	**1.30**	**26**	*e*PN	**Pn**	**09 05 10.5**	**+0.1**
CAVI	**Cavuskoy**	**1.30**	**26**	*e*Pn	**Pn**	**09 05 10.5**	**+0.1**
IZI	**Iznik**	**1.33**	**12**	*e*PN	**Pn**	**09 05 11.0**	**0.0**
IZI	**Iznik**	**1.33**	**12**	*e*Pn	**Pn**	**09 05 11.0**	**0.0**
KCTX	**Karacabey (Bur**	**1.36**	**335**	*e*PN	**Pn**	**09 05 11.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.36**	**335**	*e*Pn	**Pn**	**09 05 11.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.49**	**313**	*e*PN	**Pn**	**09 05 13.3**	**+0.2**
GONE	**Gonen-Balikesi**	**1.49**	**313**	*e*Pn	**Pn**	**09 05 13.3**	**+0.2**
ARMT	**Armutlu**	**1.54**	**353**	*e*PN	**Pn**	**09 05 13.9**	**+0.1**
ARMT	**Armutlu**	**1.54**	**353**	*e*Pn	**Pn**	**09 05 13.9**	**+0.1**

IDC 16 09:09:34.5±2.0, 5.°81S×151.°18E, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.7/43, mbtmp4.1/4, MS2.9/2, Ms1 2.9/2, ms1mx2.4/34, Error ellipse: s-maj=103.5km s-min=27.5km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.35**	**228**	Pn	Pn	09 10 58.7	+3.1
	0.8nm,0.3s,baz=221,slow=19,SNR=2.4						
PMG				Sn	Sn	09 11 57.7	-0.2
	2.2nm,0.3s,baz=140,slow=7.1,SNR=3.6						
HNR	**Honiara**	**9.41**	**113**	LR	LR	09 15 51.8	
	comp=Z,60nm,18.9s,baz=204,slow=40						
WRA	**Warramunga Arr**	**21.57**	**228**	P	P	09 14 25.8	0.0
	5.0nm,0.9s,baz=54,slow=11,SNR=29						
ASAR	**Alice Springs**	**24.32**	**221**	P	P	09 14 54.1	0.0
	6.3nm,0.8s,baz=55,slow=9

CFR				*i* S	Sb	09 10 22.7	0.0		
AMRR	**Amara**	**1.10**	**167**⇑	*i*P	Pb	09 10 13.2	0.0		
AMRR	**Amara**	**1.10**	**167**⇑	*i*P	Pb	09 10 13.2	0.0		
AMRR				*i* S	Sn	09 10 27.5	+0.4		
AMRR	**Amara**	**1.10**	**167**⇑	*i*P	Pb	09 10 13.2	0.0		
AMRR				*i* S	Sn	09 10 27.5	+0.4		
DOPR	**Dopca**	**1.16**	**285**⇓	*i*P	Pn	09 10 13.3	-0.4		
DOPR	**Dopca**	**1.16**	**285**⇓	*i*P	Pn	09 10 13.3	-0.4		
DOPR				*i* S	Sb	09 10 29.5	+0.5		
DOPR	**Dopca**	**1.16**	**285**⇓	*i*P	Pn	09 10 13.3	-0.4		
DOPR				*i* S	Sb	09 10 29.5	+0.5		
LEOM	**Leova**	**1.17**	**47**⇑	*i*P	Pb	09 10 14.8	+0.3		
LEOM	**Leova**	**1.17**	**47**⇑	*i*P	Pb	09 10 14.8	+0.3		
LEOM				*i* S	Sb	09 10 29.2	0.0		
LEOM	**Leova**	**1.17**	**47**⇑	*i*P	Pb	09 10 14.8	+0.3		
LEOM				*i* S	Sb	09 10 29.2	0.0		
TLCR		**1.37**	**111**	S	Sb	09 10 34.9	0.0		
TLCR		**1.37**	**111**	*i* S	Sb	09 10 34.9	0.0		
TLCR		**1.37**	**111**	*i* S	Sb	09 10 34.9	0.0		
VOIR		**1.39**	**260**⇓	*i*P	Pb	09 10 18.6	+0.3		
VOIR		**1.39**	**260**⇓	*i*P	Pb	09 10 18.6	+0.3		
VOIR				*i* S	Sb	09 10 36.3	+0.7		
VOIR		**1.39**	**260**⇓	*i*P	Pb	09 10 18.6	+0.3		
VOIR				*i* S	Sb	09 10 36.3	+0.7		
TIRR	**Tirgusor**	**1.58**	**140**⇓	*i*P	Pn	09 10 19.6	+0.2		
TIRR	**Tirgusor**	**1.58**	**140**⇓	*i*P	Pn	09 10 19.6	+0.2		
TIRR				*i* S	Sn	09 10 39.6	+0.5		
TIRR	**Tirgusor**	**1.58**	**140**⇓	*i*P	Pn	09 10 19.6	+0.2		
TIRR				*i* S	Sn	09 10 39.6	+0.5		
ARR	**Arges**	**1.69**	**260**⇑	*i*P	Pn	09 10 22.1	+1.1		
ARR	**Arges**	**1.69**	**260**⇑	*i*P	Pn	09 10 22.1	+1.1		
ARR				*i* S	Sn	09 10 43.1	+1.2		
ARR	**Arges**	**1.69**	**260**⇑	*i*P	Pn	09 10 22.1	+1.1		
ARR				*i* S	Sn	09 10 43.1	+1.2		
MSAB	**Monastry St. A**	**1.70**	**159**⇓	*i*P	Pn	09 10 21.2	+0.2		
MSAB	**Monastry St. A**	**1.70**	**159**⇓	*i*P	Pn	09 10 21.2	+0.2		
MSAB				*i* S	Sn	09 10 43.0	+1.1		
MSAB	**Monastry St. A**	**1.70**	**159**⇓	*i*P	Pn	09 10 21.2	+0.2		
MSAB				*i* S	Sn	09 10 43.0	+1.1		
MILM	**Milestii Mici**	**1.76**	**45**⇑	*i*P	Pn	09 10 22.7	+0.8		
MILM	**Milestii Mici**	**1.76**	**45**⇑	*i*P	Pn	09 10 22.7	+0.8		
MILM				*i* S	Sn	09 10 44.2	+0.7		
MILM	**Milestii Mici**	**1.76**	**45**⇑	*i*P	Pn	09 10 22.7	+0.8		
MILM				*i* S	Sn	09 10 44.2	+0.7		
BURAR	**Bucovina Array**	**2.29**	**328**⇓	*i*P	Pn	09 10 30.8	+1.6		
BURAR	**Bucovina Array**	**2.29**	**328**⇓	*i*P	Pn	09 10 30.8	+1.6		
BURAR	**Bucovina Array**	**2.29**	**328**⇓	*i*P	Pn	09 10 30.8	+1.6		
SORM	**Soroca**	**2.62**	**20**⇑	*i*P	Pn	09 10 34.9	+1.2		
SORM	**Soroca**	**2.62**	**20**⇑	*i*P	Pn	09 10 34.9	+1.2		
SORM				*i* S	Sn	09 11 05.1	+0.4		
SORM	**Soroca**	**2.62**	**20**⇑	*i*P	Pn	09 10 34.9	+1.2		
SORM				*i* S	Sn	09 11 05.1	+0.4		

NIED ***16*** *09:14:00.36′.80N×143°.50E.h5km.Mw3.7 Best double couple: M₀3.51000×10¹⁴ NP1:φs15.00000°,δ28.00000°, λ-112.00000°. NP2:φs220.00000°,δ64.00000°, λ-79.00000°.*

ISCJB ***16*** *09:14:11.9±0.7,36′.73N±0′.04×143′.56E±0′.05,h33km, mb3.5/5,Error ellipse: s-maj=6.3km s-min=5.5km az=178.6*

JMA ***16*** *09:14:13.0±0.3,36′.75N×143′.53E,h63km,M3.8*

IDC ***16*** *09:14:14.1±5.6,36′.59N×143′.55E,h38km±51km,mb3.2/5, mb1 3.6/7,mb1mx3.3/61,mbtmp3.6/7,ML3.7/2,MS2.4/2, Ms1 2.4/2,ms1mx2.1/24,Error ellipse: s-maj=41.5km s-min=24.1km az=100.0*

ISC 16 09:14:13.4±1.0,36′.71N±0′.05×143°.59E±0′.08,h35km,n22, σ1°23′32,mb3.5/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.27**	**288**	P	**Pn**	**09 14 48.0**	**-0.4**
JFK				S	**Sn**	**09 15 14.0**	**-1.1**
ONAJ	**Iwakimizuishiy**	**2.27**	**281**	P	**Pn**	**09 14 48.5**	**+0.1**
ONAJ				S	**Sn**	**09 15 14.3**	**-0.9**
JHO	**Hitachi**	**2.43**	**269**	P	**Pn**	**09 14 50.6**	**+0.1**
JIO	**Ouri**	**2.49**	**315**	P	**Pn**	**09 14 50.9**	**-0.5**
JIO				S	**Sn**	**09 15 19.2**	**-1.3**
JFT	**Otama**	**2.72**	**288**	P	**Pn**	**09 14 55.3**	**+0.7**
JFT				S	**Sn**	**09 15 25.5**	**-0.7**
JMK	**Ichinoseki**	**2.92**	**321**	P	**Pn**	**09 14 56.8**	**-0.5**
JMK				S	**Sn**	**09 15 30.0**	**-1.1**
BSO1	**Boso 1**	**2.95**	**227**	P	**Pn**	**09 14 57.0**	**-0.2**
BSO1				S	**Sn**	**09 15 33.4**	**+2.3**
JOM	**Ohasama**	**3.30**	**327**	P	**Pn**	**09 15 02.2**	**-0.3**
JOM				S	**Sn**	**09 15 38.7**	**-1.8**
JAG	**Ashikaga**	**3.34**	**266**	P	**Pn**	**09 15 03.5**	**+0.4**
JYK	**Kaneyama**	**3.38**	**312**	P	**Pn**	**09 15 04.0**	**+0.4**
JYK				S	**Sn**	**09 15 40.8**	**-1.6**
JRY	**Ryogami san**	**3.84**	**261**	P	**Pn**	**09 15 10.1**	**+0.1**
JOD2	**Odawara 2**	**3.92**	**250**	S	**Sn**	**09 15 54.9**	**-1.0**
MJAR	**Matsushiro Arr**	**4.33**	**269**	Pn	**Pn**	**09 15 17.4**	**+0.7**
	2.7nm,0.3s,baz=81,slow=8.5,SNR=19						
MJAR				Sn	**Sn**	**09 16 07.3**	**+1.4**
	1.7nm,0.3s,baz=78,slow=19,SNR=6.3						
MJAR				LR	LR	09 17 10.0	
	comp=Z,40nm,20.7s,baz=140,slow=41						
MAT	**Matsushiro**	**4.33**	**269**	P	**Pn**	**09 15 18.2**	**+1.5**
MAT				*e*S	**Sn**	**09 16 05.5**	**-0.5**
JHJ	**Hachijo jima 2**	**4.75**	**222**	Pn	**Pn**	**09 15 21.0**	**-1.5**
	13nm,0.3s,baz=117,slow=22,SNR=9.5						
JHJ				Sn	**Sn**	**09 16 12.4**	**-3.9**
	32nm,0.3s,baz=131,slow=23,SNR=4.7						
JOT	**Ohata**	**5.07**	**338**	P	**Pn**	**09 15 26.9**	**+0.1**
KSRS	**Korea Array**	**12.53**	**278**	LR	LR	09 21 27.4	
	comp=Z,21nm,20.5s,baz=60,slow=34						
KURBB	**Kurchatov Array**	**47.57**	**309**	P	**P**	**09 22 45.5**	**+0.2**
	0.2nm,0.5s,baz=81,slow=7.8,SNR=2.6						
ILAR	**Eielson Array**	**48.84**	**32**	P	**P**	**09 22 55.8**	**+0.8**
	0.4nm,0.8s,baz=263,slow=7.0,SNR=4.5						
WRA	**Warramunga Arr**	**57.02**	**190**	P	**P**	**09 23 55.0**	**-0.7**
	0.5nm,0.6s,baz=8.4,slow=7.2,SNR=5.7						
ASAR	**Alice Springs**	**60.74**	**190**	P	**P**	**09 24 21.3**	**-0.3**
	0.5nm,0.8s,baz=13,slow=8.8,SNR=3.3						
TXAR	**Lajitas Array**	**88.93**	**54**	P	**P**	**09 27 05.8**	**+1.2**
	0.1nm,0.6s,baz=316,slow=5.0,SNR=3.3						

IDC 16 09:18:29.9±3.5,6°.15S×151°.03E,h0km,mb3.1/2, mb1 3.5/2,mb1mx3.2/41,mbtmp3.2/2,Error ellipse: s-maj=150.3km s-min=46.4km az=120.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.24**	**228**	P	P	09 23 17.5	-0.2
	0.3nm,0.4s,baz=54,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**23.98**	**222**	P	P	09 23 46.1	-0.1
	0.7nm,0.7s,baz=57,slow=8.8,SNR=7.5						
TORD	**Torodi Ar. Bea**	**149.01**	**285**	PKPbc	PKPbc	09 38 20.7	-0.4
	0.4nm,0.8s,baz=96,slow=2.9,SNR=3.2						

ISCJB ***16*** *09:26:26.0±0.6,59′.31N±0′.03×27′.12E±0′.08,h0km,Error ellipse: s-maj=5.6km s-min=3.7km az=10.8*

HEL ***16*** *09:26:26.1±0.4,59′.33N×27′.30E,h0km,ML2.0,Explosion*

CSEM ***16*** *09:26:26.1±0.6,59′.36N×27′.16E,h2km,ML2.0,Error ellipse: s-maj=13.8km s-min=7.0km az=98.0,Mining explosion.*

NAO ***16*** *09:26:27.9±1.0,59′.30N×26′.97E,ML2.3*

BER ***16*** *09:26:28.5±2.2,59′.32N×27′.02E,h0km,ML2.3(NAO), Suspected explosion*

IDC ***16*** *09:26:29.8±1.3,59′.41N×27′.11E,h0km,mb1 3.1/4, mb1mx3.0/53,mbtmp3.2/4,ML2.4/3,Error ellipse: s-maj=16.9km s-min=9.2km az=85.0*

ISC 16 09:26:26.0±0.8,59′.34N±0′.02×27′.06E±0′.04,h0km,n36, σ1°83/53,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.90**	**191**	Pg	**Pb**	**09 26 44.3**	**-0.1**
VSU				Lg	Lg	09 26 55.0	
VSU				Rg	Rg	09 27 01.0	
VSU	**Vasula**	**0.90**	**191**	Pg	**Pb**	**09 26 44.3**	**-0.1**
VSU				Lg	Lg	09 26 55.0	
VSU				Rg	Rg	09 27 01.0	
VSU	**Vasula**	**0.90**	**191**	*e*P	**Pb**	**09 26 43.8**	**-0.6**
VSU				*e*S	**Sg**	**09 26 54.9**	**0.0**
VSU	**Vasula**	**0.90**	**191**	Pg	**Pb**	**09 26 44.3**	**-0.1**
	SNR=90						
VSU				*e*S	**Sg**	**09 26 54.4**	**-0.4**
	96nm,0.6s,SNR=90						
VSU				Sg	**Sg**	**09 26 54.8**	**0.0**
VSU				Lg	Lg	09 26 55.0	
VJF	**Virojoki**	**1.23**	**11**	*e*P	**Pn**	**09 26 50.6**	**+0.2**
VJF				*e*S	**Sb**	**09 27 06.9**	**+0.5**
VJF	**Virojoki**	**1.23**	**11**	Pn	**Pn**	**09 26 50.6**	**+0.2**
VJF				Sn	**Sb**	**09 27 06.9**	**+0.5**
PVF	**Pernaja**	**1.35**	**334**	*e*P	**Pb**	**09 26 52.9**	**+0.7**
PVF				MSG		09 27 08.9	
	comp=Z,18nm,0.2s						
PVF				*e*S	**Sb**	**09 27 10.9**	**+0.9**
PVF	**Pernaja**	**1.35**	**334**	Pn	**Pb**	**09 26 52.9**	**+0.7**
MEF	**Metsahovi**	**1.61**	**304**	*e*P	**Pg**	**09 26 57.7**	**+0.8**
MEF				*e*SG	**Sg**	**09 27 19.2**	**+1.5**
MEF				MSG		09 27 20.9	
	comp=Z,6.2nm,0.1s						
MEF	**Metsahovi**	**1.61**	**304**	Pg	**Pg**	**09 26 57.6**	**+0.8**
MEF	**Metsahovi**	**1.61**	**304**	*e*P	**Pg**	**09 26 58.3**	**+1.4**
	SNR=50						
MEF				*e*S	**Sg**	**09 27 19.5**	**+1.8**
	SNR=50						
MTSE	**Matsula**	**1.79**	**251**	*e*PN	**Pb**	**09 27 00.4**	**+0.6**
MTSE				*e*SN	**Sg**	**09 27 24.3**	**+0.7**
MTSE	**Matsula**	**1.79**	**251**	Pg	**Pb**	**09 27 00.3**	**+0.6**
MTSE				*e*S	**Sg**	**09 27 24.2**	**+0.7**
	SNR=50						
FIA0	**FINESS Array S**	**2.17**	**347**	Pn	**Pb**	**09 27 05.8**	**-0.3**
	baz=164,slow=18						
FIA0				Lg	Lg	09 27 37.0	
	baz=170,slow=28						
FIA0				Rg	Rg	09 27 48.1	
	baz=164,slow=37						
FIA0	**FINESS Array S**	**2.17**	**347**	Pn	**Pb**	**09 27 05.8**	**-0.3**
	baz=164,slow=18						
FIA0				Lg	Lg	09 27 37.0	
	baz=170,slow=28						
FIA0				Rg	Rg	09 27 48.1	
	baz=164,slow=37						
FIA0	**FINESS Array S**	**2.17**	**347**	*e*P	**Pb**	**09 27 05.8**	**-0.3**
FIA0				*e*PB	**Pg**	**09 27 07.1**	**-0.4**
FIA0				*e*SG	**Sg**	**09 27 36.3**	**+0.7**
FIA0				MSG		09 27 37.5	
	comp=Z,3.5nm,0.1s						
FIA0	**FINESS Array S**	**2.17**	**347**	Pg	**Pb**	**09 27 05.8**	**-0.3**
FIA0				Sg	**Sb**	**09 27 35.0**	**+1.6**
FIA0				Lg	Lg	09 27 37.0	
FINES	**FINESS Array B**	**2.17**	**347**	Pn	**Pb**	**09 27 05.7**	**-0.3**
	comp=Z,2.6nm,0.3s,baz=163,slow=15,SNR=67						
FINES				Lg	Lg	09 27 36.8	
	comp=Z,3.1nm,0.3s,baz=165,slow=28,SNR=18						
KEF	**Keuruu**	**3.03**	**340**	*e*PB	**Pb**	**09 27 20.7**	**-0.1**
KEF				MSG		09 27 56.8	
	comp=Z,2.5nm,0.2s						
SLIT	**Siltere, Latvi**	**3.04**	**238**	*e*S	**Sn**	**09 27 54.7**	**+2.5**
	comp=Z,123nm,0.4s,SNR=50						
RAF	**Rauma**	**3.14**	**305**	*e*P	**Pb**	**09 27 20.5**	**-2.1**
RAF	**Rauma**	**3.14**	**305**	Pb	**Pb**	**09 27 20.6**	**-2.1**
RAF	**Rauma**	**3.14**	**305**	*e*P	**Pb**	**09 27 20.9**	**-1.7**
	SNR=50						
RAF				*e*S	**Sb**	**09 27 59.2**	**-2.2**
	comp=Z,5.0nm,0.9s,SNR=50						
SUF	**Sumiainen**	**3.42**	**353**	*e*P	**Pn**	**09 27 23.4**	**+2.8**
SUF	**Sumiainen**	**3.42**	**353**	Pb	**Pn**	**09 27 23.5**	**+3.0**
SUF				Sb	**Sn**	**09 28 05.8**	**+4.1**
AAL	**Aland**	**3.67**	**286**	*e*S	**Sn**	**09 28 10.3**	**+2.4**
JOF	**Joensuu**	**4.14**	**28**	*e*P	**Pn**	**09 27 32.7**	**+2.3**
HFS	**Hagfors**	**6.80**	**282**	Sn	**Sn**	**09 29 22.6**	**-2.5**
	baz=95,slow=28						
HFS				Lg	Lg	09 29 56.5	
	baz=90,slow=37						
HFS	**Hagfors**	**6.80**	**282**	Pn	**Pn**	**09 28 08.7**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=104,slow=12,SNR=3.3						
HFS				Sn	**Sn**	**09 29 22.9**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=94,slow=26,SNR=4.1						
HFS				Lg	Lg	09 29 58.2	
	comp=Z,0.5nm,0.3s,baz=92,slow=29,SNR=4.1						
HFS	**Hagfors**	**6.80**	**282**	Sn	**Sn**	**09 29 22.6**	**-2.5**
	baz=95,slow=28						
HFS				Lg	Lg	09 29 56.5	
	baz=90,slow=37						
HFS	**Hagfors**	**6.80**	**282**	Lg	Lg	09 29 56.5	
AKASG	**Malin Array Be**	**8.75**	**171**	Pn	**Pn**	**09 28 34.1**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=355,slow=13,SNR=3.2						
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	**09 28 54.4**	**+0.1**
	baz=173,slow=14						
ARA0				Sn	**Sn**	**09 30 44.2**	**-5.7**
	baz=173,slow=28						
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	**09 28 54.4**	**+0.1**
	baz=173,slow=14						
ARA0				Sn	**Sn**	**09 30 44.2**	**-5.7**
	baz=173,slow=28						
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	**09 28 54.4**	**+0.1**
	SNR=50						
ARCES	**ARCESS Array B**	**10.26**	**357**	Pn	**Pn**	**09 28 54.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=171,slow=12,SNR=5.4						
ARCES				Lg	Lg	09 31 45.6	
	comp=Z,0.3nm,0.3s,baz=172,slow=28,SNR=6.9						

WEL 16 09:29:48.8±0.2,43°.66S×172°.82E,h8km,ML3.7/15,2C-2D, Error ellipse: s-maj=2.1km s-min=1.1km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.13**	**247**	⇑P	Pg	09 29 52.0	+0.3
MQZ				SG	Sg	09 29 54.1	+0.6
MQZ				AML	AML	09 29 54.3	
OXZ	**Oxford**	**0.66**	**300**	⇓P*	Pg	09 30 01.5	0.0
OXZ				S*	Sb	09 30 11.1	-0.7
LTZ	**Lake Taylor**	**0.96**	**335**	P*	Pg	09 30 07.0	-0.3
LTZ				AML	AML	09 30 21.0	
LTZ				AML	AML	09 30 23.1	
RPZ	**Rata Peaks**	**1.28**	**267**	⇓P*	Pn	09 30 11.6	-1.4
RPZ				AML	AML	09 30 32.0	
RPZ				AML	AML	09 30 37.7	
KHZ	**Kahutara**	**1.35**	**23**	PN	Pn	09 30 12.2	-1.7
INZ	**Inchbonnie**	**1.37**	**312**	PN	Pn	09 30 12.9	-1.3
WVZ	**Waitaha Valley**	**1.62**	**290**	PN	Pn	09 30 17.1	-0.6
WVZ				AML	AML	09 30 48.4	
WVZ				AML	AML	09 30 49.8	
THZ	**Tophouse**	**1.89**	**2**	PN	Pn	09 30 19.9	-1.6
THZ				AML	AML	09 30 51.3	
THZ				AML	AML	09 30 58.6	
LBZ	**Lake Benmore**	**2.04**	**248**	PN	Pn	09 30 22.5	-0.9
LBZ				AML	AML	09 31 01.7	
LBZ				AML	AML	09 31 05.9	
DSZ	**Denniston Nort**	**2.05**	**338**	PN	Pn	09 30 23.3	-0.4
DSZ				AML	AML	09 31 00.4	
DSZ				AML	AML	09 31 00.4	
DSZ				AML	AML	09 31 01.2	
DSZ				AML	AML	09 31 01.2	
ODZ	**Otahua Downs**	**2.09**	**228**	⇑PN	Pn	09 30 23.0	-1.1
ODZ				AML	AML	09 31 05.3	
ODZ				AML	AML	09 31 07.7	
ODZ				AML	AML	09 31 07.7	
ODZ				AML	AML	09 31 10.3	
BSWZ	**Blackbirch Sta**	**2.09**	**22**	PN	Pn	09 30 22.9	-1.3
FOZ	**Fox Glacier**	**2.19**	**272**	PN	Pn	09 30 25.8	+0.4
FOZ				AML	AML	09 31 05.3	
FOZ				AML	AML	09 31 09.6	
NNZ	**Nelson**	**2.47**	**10**	PN	Pn	09 30 28.5	-0.9
WEL	**Wellington**	**2.77**	**32**	PN	Pn	09 30 31.8	-1.8
QRZ	**Quartz Range**	**2.84**	**356**	AML	AML	09 31 21.6	
QRZ				AML	AML	09 31 21.6	
QRZ				AML	AML	09 31 27.4	
QRZ				AML	AML	09 31 27.4	
JCZ	**Jackson Bay**	**2.95**	**260**	AML	AML	09 31 35.2	
EAZ	**Earnscleugh**	**2.97**	**237**	PN	Pn	09 30 35.1	-1.1
EAZ				AML	AML	09 31 36.0	
EAZ				AML	AML	09 31 36.0	
EAZ				AML	AML	09 31 37.2	
WKZ	**Wanaka**	**2.97**	**245**	AML	AML	09 31 36.3	
WKZ				AML	AML	09 31 41.6	
CAW	**Cannon Point**	**3.04**	**34**	PN	Pn	09 30 34.9	-2.3
CAW				AML	AML	09 33 20.2	
CAW				AML	AML	09 33 29.6	
TUZ	**Tuapeka**	**3.23**	**224**	AML	AML	09 31 38.4	
TUZ				AML	AML	09 31 47.2	
HOWZ	**Holdsworth Sta**	**3.41**	**37**	PN	Pn	09 30 39.6	-2.7
MLZ	**Mavora Lakes**	**3.77**	**241**	PN	Pn	09 30 46.6	-0.7
SYZ	**Scrubby Hill**	**3.88**	**221**	PN	Pn	09 30 48.4	-0.3
PRWZ	**Pori Road**	**3.89**	**38**	PN	Pn	09 30 47.4	-1.5
BFZ	**Birch Farm**	**3.92**	**42**	PN	Pn	09 30 46.3	-2.9
POWZ	**Post Office Ro**	**3.93**	**35**	PN	Pn	09 30 47.9	-1.6
ANWZ	**Angora Road**	**4.20**	**42**	PN	Pn	09 30 50.7	-2.4
TSZ	**Takapari Road**	**4.29**	**34**	PN	Pn	09 30 52.4	-2.1
KHEZ	**Kahui Hut**	**4.45**	**12**	PN	Pn	09 30 57.3	+0.7
NEZ	**North Egmont**	**4.49**	**13**	PN	Pn	09 30 57.7	+0.6
PNHZ	**Pukenui**	**4.51**	**35**	PN	Pn	09 30 56.1	-1.4
PKE	**Pukeiti**	**4.54**	**12**	PN	Pn	09 30 58.3	+0.4
VRZ	**Vera Road**	**4.76**	**19**	PN	Pn	09 31 00.4	-0.5
WNVZ	**Wahianoa**	**4.80**	**27**	PN	Pn	09 31 01.2	-0.4
KRHZ	**Kereru**	**4.81**	**35**	PN	Pn	09 30 59.6	-2.0

IDC 16 09:34:36.2±2.8,21°.07S×176°.17W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.6/22,mbtmp3.9/2,Error ellipse: s-maj=179.1km s-min=50.3km az=156.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.05**	**257**	P	P	09 43 02.9	+0.7
	1.6nm,0.6s,baz=96,slow=7.9,SNR=26						
ASAR				PcP	PcP	09 44 37.1	-1.7
	0.4nm,0.6s,baz=90,slow=4.6,SNR=4.3						
WRA	**Warramunga Arr**	**46.22**	**262**	P	P	09 43 03.2	-0.3
	0.4nm,0.3s,baz=96,slow=7.6,SNR=36						
WRA				PcP	PcP	09 44 37.7	-1.6
	0.7nm,1.1s,baz=99,slow=3.2,SNR=2.7						
AKASG	**Malin Array Be**	**144.33**	**332**	PKP	PKPdf	09 54 14.4	+0.3
	1.6nm,0.5s,baz=44,slow=4.4,SNR=10						
BRTR	**Keskin Array B**	**148.48**	**313**	PKPbc	PKPbc	09 54 25.8	+0.5
	0.4nm,0.7s,baz=151,slow=3.3,SNR=3.0						

IDC 16 09:35:39.0±3.7,5°.85S×150°.84E,h0km,mb3.2/2, mb1 3.6/2,mb1mx3.3/29,mbtmp3.3/2,Error ellipse: s-maj=145.9km s-min=49.2km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.30**	**227**	P	P	09 40 28.0	+0.5
	0.8nm,0.9s,baz=53,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**24.07**	**221**	P	P	09 40 56.4	0.0
	0.6nm,0.7s,baz=56,slow=9.5,SNR=10						
TORD	**Torodi Ar. Bea**	**148.74**	**286**	PKPbc	PKPbc	09 55 28.6	-0.9
	0.2nm,0.4s,baz=94,slow=3.2,SNR=4.1						

ISCJB ***16*** *09:46:29.9±0.5,39′.10N±0′.04×29′.04E±0′.03,h4km±7km, Error ellipse: s-maj=7.3km s-min=3.9km az=172.4*

DDA ***16*** *09:46:29.8,39′.09N×29′.04E,h6km,Md2.7*

ISK ***16*** *09:46:29.7,39′.12N×29′.04E,h6km,MD2.7*

CSEM ***16*** *09:46:30.1±0.1,39′.10N×29′.05E,h6km±1km,MD2.7,Error ellipse: s-maj=2.7km s-min=1.7km az=170.0*

ISC 16 09:46:30.2±1.0,39°.11N±0°.03×29°.03E±0°.02,h6km±10km, n42,σ0°38/55,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**255**	P	**Pg**	**09 46 35.3**	**+0.1**
DEMI				S	**Sg**	**09 46 38.8**	**+0.2**
DEMI	**Demirci**	**0.26**	**255**	*i* P	**Pg**	**09 46 35.3**	**+0.1**
DEMI				*i* S	**Sg**	**09 46 38.8**	**+0.2**
GDZ	**Gediz**	**0.35**	**94**	P	**Pg**	**09 46 36.9**	**-0.1**
GDZ				S	**Sg**	**09 46 41.6**	**0.0**
GDZ	**Gediz**	**0.35**	**94**	*i* P	**Pg**	**09 46 36.9**	**-0.1**
GDZ				*i* S	**Sg**	**09 46 41.6**	**0.0**
TVSB	**Tavsanli**	**0.47**	**44**	*e*PG	**Pg**	**09 46 39.3**	**0.0**
TVSB				*e*SG	**Sg**	**09 46 45.7**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**44**	*e*Pg	**Pg**	**09 46 39.3**	**0.0**
TVSB				*e*Sg	**Sg**	**09 46 45.7**	**+0.1**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**09 46 42.6**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**09 46 42.6**	**-0.3**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pg**	**09 46 47.0**	**0.0**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pg**	**09 46 47.0**	**0.0**
AKS	**Akhisar**	**0.98**	**257**	*e*PG	**Pb**	**09 46 49.3**	**-0.3**
AKS				*e*SG	**Sb**	**09 47 03.4**	**+0.6**
AKS	**Akhisar**	**0.98**	**257**	*e*Pg	**Pb**	**09 46 49.3**	**-0.3**
AKS				*e*Sg	**Sb**	**09 47 03.4**	**+0.6**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pg**	**09 46 50.3**	**+0.2**
BALB				*e*SG	**Sb**	**09 47 05.1**	**+0.6**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pg**	**09 46 50.3**	**+0.2**
BALB				*e*Sg	**Sb**	**09 47 05.1**	**+0.6**
IGD	**Bursa**	**1.16**	**6**	*i* P	**Pg**	**09 46 51.8**	**-0.6**
IGD				*i* S	**Sb**	**09 47 08.3**	**+0.4**
CAVI	**C

HUIG Huatulco 0.64 230 *e*P Pg 09 59 08.0 -0.8
HUIG *e*S Sg 09 59 17.2 0.0
PANG Puerto Angel 0.98 239 *e*P Pg 09 59 12.4 -3.1
PANG *e*S Sg 09 59 26.0 -2.2
VHO Vista Hermosa 1.40 309 *i* P Pn 09 59 18.7 -4.2
VHO *e*S Sb 09 59 36.8 -4.8

IDC 16 10:02:19.9±2.8, 6.86S×151.15E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.6/44, mbtmp3.9/3, ML1.1/1, Error ellipse: s-maj=100.1km s-min=38.5km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.69**	**237**	Pn	Pn	10 03 33.9	+1.9
	0.6nm,0.3s,baz=161,slow=22,SNR=1.7						
PMG				Sn	Sn	10 04 29.2	+2.0
	1.4nm,0.3s,baz=175,slow=13,SNR=2.4						
WRA	**Warramunga Arr**	**20.86**	**230**	P	P	10 07 02.9	-0.8
	1.8nm,0.5s,baz=54,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.53**	**223**	P	P	10 07 31.2	-0.8
	2.9nm,0.5s,baz=56,slow=9.1,SNR=17						
TORD	**Torodi Ar. Bea**	**149.29**	**284**	PKPbc	PKPbc	10 22 12.0	+0.2
	0.9nm,0.8s,baz=72,slow=3.1,SNR=4.6						

NIED ***16*** *10:09:00, 39.70N×143.70E, h14km, Mw4.8 Best double couple: M0 1.78000×10^16 NP1:φs171.00000°, δ16.00000°, λ49.00000°. NP2:φs33.00000°, δ78.00000°, λ101.00000°.*
IDC ***16*** *10:09:05.0±0.5, 39.66N×143.50E, h0km, mb4.6/30, mb1 4.7/36, mb1mx4.6/51, mbtmp4.7/36, ML3.8/6, MS4.3/32, Ms1 4.3/32, ms1mx4.0/59, Error ellipse: s-maj=14.9km s-min=11.3km az=90.0*
BJI ***16*** *10:09:05.4, 39.73N×143.36E, h13km, mb5.0/73, mB5.0/52, Ms4.7/77, Ms7 4.6/71*
JMA ***16*** *10:09:05.6±0.2, 39.81N×143.60E, h17km±4km, M4.9*
JMA Felt I J1.
ISCJB ***16*** *10:09:07.8±0.7, 39.79N±0.02×143.32E±0.03, h20km±4km, mb4.8/132, MS4.4/41, Error ellipse: s-maj=4.3km s-min=2.9km az=151.3*
NEIC ***16*** *10:09:09.7±0.8, 39.80N×143.20E, h19km±4km, mb5.0/57, Error ellipse: s-maj=5.9km s-min=3.4km az=145.0*
NEIC Recorded [1 JMA] in Aomori, Iwate and Miyagi.
GCMT ***16*** *10:09:09.7±0.5, 39.77N×143.56E, h15km, MW5.0/67, Moment Tensor Solution. s27,c31; s67,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.85±.07; Mθθ-0.07±.06; Mφφ-0.77±.05; Mrθ1.71±.19; Mφθ-0.17±.04; Mφr3.24±.19; Best double couple: Mo3.75700×10^16 NP1:φs27.00000°, δ84.00000°, λ93.00000°. NP2: φs182.00000°, δ7.00000°, λ65.00000°. Principal axes: T 3.7960, Plg51.0000°, Azm301.0000°; N -0.0800, Plg3.0000°, Azm207.0000°; P -3.7170, Plg39.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***16*** *10:09:09.4±0.9, 39.94N×143.20E, h26km, mb5.1/62, MS4.5/21 Error ellipse: s-maj=6.7km s-min=4.3km az=112.9*

ISC 16 10:09:08.1±0.5, 39.75N±0.04×143.39E±0.03, h15km±2km, h15km:pP-P, n521, σ1§52/514, mb5.0/133, MS4.5/42, 38C-12D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.19**	**280**	P	**Pn**	**10 09 29.6**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.22**	**262**	P	**Pn**	**10 09 30.6**	**0.0**
JANG	**Nango**	**1.57**	**294**	P	**Pn**	**10 09 34.7**	**-0.7**
JOM	**Ohasama**	**1.64**	**261**	P	**Pn**	**10 09 37.1**	**+0.7**
JOM				*e*S	**Sb**	**10 10 00.0**	**+1.5**
JMK	**Ichinoseki**	**1.86**	**245**	P	**Pn**	**10 09 39.6**	**+0.2**
JTM	**Tenmabayashi**	**2.06**	**301**	P	**Pn**	**10 09 42.3**	**+0.2**
JTM				*e*S	**Sb**	**10 10 09.9**	**-0.5**
ERM	**Erimo**	**2.27**	**356**	*e*P	**Pn**	**10 09 43.6**	**-1.5**
ERM	**Erimo**	**2.27**	**356**	*e*Pn	**Pn**	**10 09 44.5**	**-0.6**
JOT	**Ohata**	**2.42**	**313**	P	**Pn**	**10 09 46.8**	**-0.2**
JOT				*e*S	**Sn**	**10 10 17.0**	**+0.7**
JYK	**Kaneyama**	**2.49**	**251**	P	**Pn**	**10 09 48.9**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.57**	**349**	P	**Pn**	**10 09 48.8**	**-0.4**
JNBK				*e*S	**Sn**	**10 10 20.9**	**+0.6**
JKB	**Kayabe**	**2.79**	**321**	P	**Pn**	**10 09 51.8**	**-0.3**
JCH	**Churui**	**2.86**	**360**	P	**Pn**	**10 09 52.1**	**-1.1**
JCH				*e*S	**Sn**	**10 10 25.1**	**-2.3**
JAK	**Akkeshi**	**3.39**	**16**	P	**Pn**	**10 09 58.9**	**-1.5**
JAK				*e*S	**Sn**	**10 10 38.8**	**-1.6**
ASAJ	**Asahikawa**	**4.40**	**353**	Pn	**Pn**	**10 10 14.9**	**+0.6**
	7.4nm,0.3s,baz=205,slow=16,SNR=39						
ASAJ	**Asahikawa**	**4.40**	**353**	P	**Pn**	**10 10 15.0**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ	**Asahikawa**	**4.40**	**353**	*e*Pn	**Pn**	**10 10 14.8**	**+0.4**
ASAJ				*e*Sn	**Sn**	**10 11 05.4**	**0.0**
MJAR	**Matsushiro Arr**	**5.19**	**234**	Pn	**Pn**	**10 10 26.6**	**+1.4**
	comp=Z,6.5nm,0.3s,baz=41,slow=12,SNR=243						
MJAR				LR	LR	10 12 40.3	
	comp=Z,2μm,18.9s,baz=40,slow=42						
MAJO	**Matsushiro**	**5.19**	**234**	*c i*P	**Pn**	**10 10 26.6**	**+1.4**
MAJO	**Matsushiro**	**5.19**	**234**	*e*Pn	**Pn**	**10 10 26.8**	**+1.6**
MAT	**Matsushiro**	**5.19**	**234**	P	**Pn**	**10 10 26.6**	**+1.4**
MAT				*e*S	**Sn**	**10 11 31.5**	**+6.7**
MJB9	**Matsu-Tunnel**	**5.19**	**234**	*e*Pn	**Pn**	**10 10 26.9**	**+1.7**
KUR	**Kuril'sk**	**6.40**	**30**	*i* P	**Pn**	**10 10 40.9**	**-0.9**
KUR				*i* S	**Sn**	**10 11 50.0**	**-4.6**
KUR				pmax	pmax		
	comp=Z,90nm,0.5s						
KUR				pmax	pmax		
	comp=N,33nm,0.4s						
KUR				pmax	pmax		
	comp=E,24nm,0.4s						
KUR				smax	smax		
	comp=N,393nm,0.6s						
KUR				smax	smax		
	comp=E,280nm,0.6s						
KUR				MLR	MLR		
	comp=N,585nm,15.0s						
KUR				MLR	MLR		
	comp=Z,654nm,15.0s						
KUR				MLR	MLR		
	comp=E,961nm,14.0s						
INU	**Inuyama**	**6.70**	**231**	*e*Pn	**Pn**	**10 10 47.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.22**	**357**	*e*P	**Pn**	**10 10 53.7**	**+0.7**
YSS				*e*S	**Sn**	**10 12 12.1**	**-2.5**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS				MLR	MLR		
	comp=N,2μm,11.0s						
YSS	**Yuzh-Sakhalins**	**7.22**	**357**	*e*Pn	**Pn**	**10 10 53.8**	**+0.8**
JHJ	**Hachijo jima 2**	**7.22**	**205**	Pn	**Pn**	**10 10 52.2**	**-0.9**
	comp=N,17nm,0.3s,baz=57,slow=22,SNR=1.7						
JHJ				Sn	**Sn**	**10 12 08.0**	**-6.9**
	comp=N,43nm,0.3s,baz=57,slow=23,SNR=6.7						
JHJ				LR	LR	10 13 49.3	
	comp=N,790nm,19.2s,baz=94,slow=40						
VLA	**Vladivostok**	**9.27**	**295**	*e*P	**Pn**	**10 11 21.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.58**	**301**	Pn	**Pn**	**10 11 27.3**	**+1.9**
	comp=N,1.8nm,0.3s,baz=103,slow=14,SNR=65						
USRK				LR	LR	10 15 10.0	
	comp=N,2μm,18.6s,baz=89,slow=38						
MSHR	**Mys Shultsa**	**9.65**	**291**	*i* P	**Pn**	**10 11 26.2**	**-0.1**
HABR	**Khabarovsk**	**10.57**	**328**	*de*P	**Pn**	**10 11 35.0**	**-4.0**
HABR				pmax	pmax		
	comp=Z,18nm,0.9s						
MDJ	**Mudanjiang**	**11.33**	**300**	P	**Pn**	**10 11 51.5**	**+2.2**
MDJ				S	**Sn**	**10 13 56.3**	**+0.7**
MDJ				PMZ			
	comp=Z,37nm,1.0s						
MDJ				PMZ			
	comp=Z,290nm,8.7s						
MDJ				LN			
	comp=Z,1μm,13.7s						
MDJ				LE			
	comp=Z,1μm,19.2s						
MDJ				LZ			
	comp=Z,2μm,16.5s						
MDJ	**Mudanjiang**	**11.33**	**300**	*e*Pn	**Pn**	**10 11 48.3**	**-1.1**
	comp=Z,51nm,1.0s						
JNU	**Nakatsue**	**12.04**	**241**	Pn	**Pn**	**10 11 59.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=46,slow=10,SNR=5.6						
JNU				LR	LR	10 16 57.7	
	comp=Z,2μm,18.6s,baz=72,slow=39						
KSRS	**Korea Array**	**12.31**	**264**	Pn	**Pn**	**10 12 05.5**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=84,slow=13,SNR=46						
KSRS				LR	LR	10 16 31.7	
	comp=Z,2μm,18.3s,baz=76,slow=36						
KS15	**Wonju Array Si**	**12.35**	**264**	*e*Pn	**Pn**	**10 12 06.6**	**+3.3**
KSAR	**Wonju Array Be**	**12.35**	**264**	P	**Pn**	**10 12 05.5**	**+2.2**
KSAR	**Wonju Array Be**	**12.35**	**264**	Pn	**Pn**	**10 12 05.5**	**+2.2**
KLR	**Kul'dur**	**12.59**	**323**	Pn	**Pn**	**10 12 07.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=130,slow=10,SNR=18						
KLR				LR	LR	10 17 10.2	
	comp=Z,1μm,20.4s,baz=136,slow=38						
CBIJ	**Chichi jima**	**12.66**	**185**	Pn	**Pn**	**10 12 04.3**	**-3.3**
CBIJ				Sn	Sn	10 14 14.0	-14
JCJ	**Chichijima**	**12.66**	**185**	Pn	**Pn**	**10 12 04.3**	**-3.3**
	comp=Z,2.7nm,0.3s,baz=282,slow=22,SNR=7.2						
JCJ				Sn	Sn	10 14 14.0	-14
	comp=Z,5.6nm,0.3s,baz=35,slow=23,SNR=6.7						
TJN	**Taejon**	**13.07**	**260**	*i*P	**Pn**	**10 12 15.0**	**+1.9**
NKL	**Nikolayevsk**	**13.53**	**353**	*e*P	**Pn**	**10 12 19.0**	**-0.4**
NKL				*e*		10 14 49.0	
NKL				pmax	pmax		
	comp=N,33nm,1.1s						
NKL				pmax	pmax		
	comp=Z,50nm,1.1s						
NKL				MLR	MLR		
	comp=N,600nm,15.0s						
NKL				MLR	MLR		
	comp=E,500nm,15.0s						
NKL				MLR	MLR		
	comp=Z,2μm,15.0s						
CN2	**Changchun**	**13.98**	**293**	*e*P	**Pn**	**10 12 26.3**	**+0.7**
CN2				*es*P	P	10 12 33.3	-0.3
CN2				*e*S	**Sn**	**10 15 00.6**	**+0.1**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
CN2				PMZ			
	comp=Z,300nm,8.0s						
CN2				LN			
	comp=Z,1μm,15.0s						
CN2				LE			
	comp=Z,1μm,15.0s						
CN2				LZ			
	comp=Z,2μm,16.0s						
PEA0	**Petropavlovsk-**	**16.57**	**32**	*e*Pn	**P**	**10 13 01.4**	**-0.8**
PETK	**Petropavlovsk-**	**16.57**	**32**	Pn	**P**	**10 13 02.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=187,slow=10,SNR=4.4						
PETK				LR	LR	10 20 34.1	
	comp=Z,384nm,18.2s,baz=217,slow=42						
DL2	**Dalian**	**16.86**	**274**	P	**P**	**10 13 05.3**	**-0.2**
DL2				S	**Sn**	**10 16 13.3**	**+2.9**
DL2				PMZ			
	comp=Z,56nm,1.4s						
DL2				PMZ			
	comp=Z,340nm,7.7s						
DL2				LN			
	comp=Z,910nm,12.6s						
DL2				LE			
	comp=Z,670nm,16.5s						
DL2				LZ			
	comp=Z,1μm,18.2s						
PET	**Petropavlovsk**	**16.90**	**33**	*e*P	**P**	**10 13 07.6**	**+1.8**
PET				*e*S	**Sn**	**10 16 14.1**	**+2.9**
PET				pmax	pmax		
	comp=Z,64nm,1.1s						
PET				MLR	MLR		
	comp=Z,498nm,17.0s						
PET				MLR	MLR		
	comp=Z,503nm,17.0s						
PET	**Petropavlovsk**	**16.90**	**33**	*e*Pn	**P**	**10 13 05.1**	**-0.7**
	comp=Z,54nm,1.0s						
HIA	**Hailar**	**19.29**	**307**	*e*P	**P**	**10 13 30.7**	**-1.6**
HIA				pmax	pmax		
	comp=Z,36nm,0.8s						
HIA	**Hailar**	**19.29**	**307**	*e*P	**P**	**10 13 30.7**	**-1.6**
	comp=Z,36nm,0.8s						
MA2	**Magadan**	**20.39**	**11**	P	**P**	**10 13 43.3**	**-0.8**
	comp=Z,43nm,0.7s,baz=212,slow=9.0,SNR=16						
MA2				LR	LR	10 22 25.1	
	comp=Z,376nm,18.9s,baz=216,slow=39						
MA2	**Magadan**	**20.39**	**11**	P	**P**	**10 13 43.3**	**-0.8**
MA2				pmax	pmax		
	comp=Z,38nm,0.7s						
MA2				MLR	MLR		
	comp=Z,376nm,18.9s						
BJI	**Beijing**	**20.86**	**280**	P	**P**	**10 13 47.4**	**-1.9**
BJI				PMZ			
	comp=Z,28nm,1.0s						
BJI				PMZ			
	comp=Z,170nm,4.3s						
BJI				LN			
	comp=Z,1μm,13.9s						
BJI				LE			
	comp=Z,440nm,16.4s						
BJT	**Baijiatuau**	**20.86**	**280**	*e*P	**P**	**10 13 47.6**	**-1.8**
BJT				pmax	pmax		
	comp=Z,31nm,0.8s						
BJT	**Baijiatuau**	**20.86**	**280**	*e*P	**P**	**10 13 47.6**	**-1.8**
	comp=Z,31nm,0.8s						
CLNS	**Chul'man**	**20.95**	**331**	*e*P	**P**	**10 13 48.8**	**-1.4**
CLNS				pmax	pmax		
	comp=E,15nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,35nm,1.0s						
CLNS				pmax	pmax		
	comp=N,34nm,1.5s						
TIA	**Tai'an**	**20.97**	**269**	*i*P	**P**	**10 13 48.8**	**-1.9**
TIA				pP	**sP**	**10 13 59.3**	**+2.4**
TIA				PMZ			
	comp=N,80nm,0.9s						
TIA				PMZ			
	comp=N,260nm,3.7s						
TIA				LN			
	comp=N,940nm,12.5s						
TIA				LE			
	comp=N,2μm,16.7s						
TIA				LZ			
	comp=N,3μm,14.9s						
NJ2	**Nanjing**	**21.26**	**256**	*e*P	**P**	**10 13 54.0**	**+0.2**
NJ2				S	**S**	**10 17 49.3**	**-0.3**
NJ2				PMZ			
	comp=N,36nm,0.5s						
NJ2				LN			
	comp=N,1μm,15.7s						
NJ2				LE			
	comp=N,940nm,13.6s						
NJ2				LZ			
	comp=N,1μm,16.3s						
TATO	**Taipei**	**23.56**	**238**	*e*P	**P**	**10 14 17.8**	**-0.2**
	comp=N,95nm,1.1s						
YAK	**Yakutsk**	**23.82**	**344**	LR	LR	10 24 23.1	
	comp=N,201nm,20.9s,baz=150,slow=38						
YAK	**Yakutsk**	**23.82**	**344**	*e*P	**P**	**10 14 17.8**	**-2.4**
YAK				*e*		10 18 06.5	
YAK				*e*S	**S**	**10 18 31.5**	**-3.7**
YAK				*e*SS	**SnSn**	**10 19 13.6**	**-0.5**
YAK				*e*		10 25 31.5	
YAK				pmax	pmax		
	comp=Z,56nm,1.0s						
YAK				pmax	pmax		
	comp=N,46nm,1.2s						
YAK				pmax	pmax		
	comp=E,16nm,1.2s						
YAK				pmax	pmax		
	comp=Z,33nm,0.8s						
YAK				pmax	pmax		
	comp=N,20nm,1.1s						
YAK				pmax	pmax		
	comp=E,26nm,1.3s						
YAK				smax	smax		
	comp=N,176nm,3.2s						
YAK				smax	smax		
	comp=E,29nm,2.0s						
YAK				MLR	MLR		
	comp=Z,386nm,15.0s						
YAK				MLR	MLR		
	comp=E,191nm,14.0s						
YAK				MLR	MLR		
	comp=N,383nm,16.0s						
YAK	**Yakutsk**	**23.82**	**344**	*e*P	**P**	**10 14 18.6**	**-1.7**
	comp=N,72nm,0.9s						
SEY	**Seymchan**	**23.84**	**10**	P	**P**	**10 14 19.6**	**-0.7**
	comp=N,54nm,1.1s,baz=196,slow=7.7,SNR=34						
YHNB	**Yeheng**	**23.84**	**238**	*e*P	**P**	**10 14 18.6**	**-2.2**
	comp=N,107nm,1.8s						
CIT	**Chita**	**23.94**	**311**	*e*P	**P**	**10 14 17.3**	**-4.2**
CIT				*e*		10 14 27.2	
CIT				*e*		10 14 46.6	
CIT				pmax	pmax		
	comp=Z,133nm,1.3s						
HHC	**Hu-ho-hao-te**	**24.23**	**283**	*e*P	**P**	**10 14 24.1**	**-0.3**
HHC				sP	sP	10 14 36.6	+5.8
HHC				PP	**PnPn**	**10 14 58.1**	**+4.1**
HHC				S	**S**	**10 18 39.9**	**-2.5**
HHC				sS	sS	10 18 45.4	-4.5
HHC				PMZ			
	comp=Z,27nm,1.1s						
HHC				PMZ			
	comp=Z,140nm,7.2s						
HHC				LN			
	comp=Z,550nm,14.3s						
HHC				LE			
	comp=Z,1μm,16.3s						
HHC				LZ			
	comp=Z,2μm,15.9s						
SSLB	**Suanglung**	**24.74**	**237**	*e*P	**P**	**10 14 27.5**	**-1.5**
	comp=Z,28nm,0.8s						
YULB	**Yu-li**	**24.80**	**235**	*e*P	**P**	**10 14 27.5**	**-2.0**
	comp=Z,21nm,0.9s						
TPUB	**Ta-pu**	**25.29**	**236**	*e*P	**P**	**10 14 33.4**	**-0.6**
	comp=Z,77nm,1.3s						
TWG	**Pinlang**	**25.36**	**235**	*e*P	**P**	**10 14 34.6**	**0.0**
	comp=Z,373nm,1.4s						
WHN	**Wuhan**	**25.37**	**258**	*i*P	**P**	**10 14 34.8**	**+0.2**
WHN				pP	**sP**	**10 14 44.1**	**+3.1**
WHN				PMZ			
	comp=Z,210nm,0.8s						
WHN				LN			
	comp=Z,2μm,15.2s						
WHN				LE			
	comp=Z,2μm,20.4s						
WHN				LZ			
	comp=Z,2μm,15.5s						
QZH	**Quanzhou**	**25.52**	**242**	*i*P	P	10 14 27.4	-8.6
QZH				S	**S**	**10 18 54.9**	**-8.0**
QZH				LR	LR		
	comp=N,1μm,11.6s						
QZH				LR	LR		
	comp=E,370nm,9.7s						
QZH				LR	LR		
	comp=Z,1μm,16.7s						
BOD	**Bodaibo**	**26.17**	**323**	*e*P	**P**	**10 14 41.3**	**-0.3**
BOD				pmax	pmax		
	comp=Z,43nm,1.0s						
ULN	**Ulaanbaatar**	**27.24**	**299**	*d i*P	**P**	**10 14 51.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,57nm,1.2s						
ULN	**Ulaanbaatar**	**27.24**	**299**	*e*P	**P**	**10 14 52.0**	**+0.4**
	comp=Z,47nm,1.1s						
SONA1	**Songino Array**	**27.68**	**299**	*e*P	**P**	**10 14 55.7**	**+0.1**
SONM	**Songino Array**	**27.68**	**299**	P	**P**	**10 14 55.8**	**+0.2**
	comp=Z,18nm,1.0s,baz=97,slow=8.1,SNR=84						
SONM				LR	LR	10 26 36.2	
	comp=Z,1μm,19.1s,baz=92,slow=38						
XAN	**Xi'an**	**28.03**	**269**	P	**P**	**10 14 57.4**	**-1.3**
XAN				pP	pP	10 15 02.3	-1.0
XAN				sP	sP	10 15 04.6	-0.6
XAN				PMZ			
	comp=Z,14nm,0.7s						
XAN				PMZ			
	comp=Z,67nm,4.3s						
XAN				LN			
	comp=Z,440nm,13.4s						
XAN				LE			
	comp=Z,1μm,14.8s						
XAN				LZ			
	comp=Z,970nm,15.7s						
H11N2	**WAKE ISLAND Hy**	**28.39**	**128**	T	T	10 46 01.2	
	baz=318,slow=75,SNR=402						
H11N1	**WAKE ISLAND Hy**	**28.40**	**128**	T	T	10 46 02.0	
	baz=318,slow=75,SNR=331						
H11N3	**WAKE ISLAND Hy**	**28.41**	**128**	T	T	10 45 52.3	
	baz=318,slow=75,SNR=270						
ENH	**Enshi**	**29.19**	**262**	*e*P	**P**	**10 15 08.7**	**-0.3**
	comp=Z,75nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**29.21**	**130**	T	T	10 47 12.0	
	baz=320,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**29.22**	**130**	T	T	10 47 06.2	
	baz=320,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**29.23**	**130**	T	T	10 47 03.3	
	baz=320,slow=76,SNR=50						
TLY	**Talaya**	**29.83**	**307**	LR	LR	10 27 54.9	
	comp=Z,341nm,19.0s,baz=91,slow=38						
TLY	**Talaya**	**29.83**	**307**	*e*P	**P**	**10 15 15.2**	**+0.7**
TLY				*e*		10 16 20.7	
TLY				*e*SS	SS	10 21 56.0	-21
TLY				pmax	pmax		
	comp=Z,17nm,0.9s						
TLY				MLR	MLR		
	comp=Z,635nm,15.0s						
ZAK	**Zakamensk**	**29.91**	**304**	*e*P	**P**	**10 15 12.9**	**-2.4**
ZAK				pmax	pmax		
	comp=Z,20nm,1.3s						
BILL	**Bilibino**	**30.99**	**17**	*e*P	**P**	**10 15 23.9**	**-0.6**
BILL				*e*PPP	PPP	10 16 29.8	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,372nm,16.0s						
BILL	**Bilibino**	**30.99**	**17**	*e*P	**P**	**10 15 24.4**	**-0.1**
	comp=Z,7.7nm,0.8s						
LZH	**Lanzhou**	**31.23**	**276**	*e*P	**P**	**10 15 27.5**	**+0.3**
LZH				pP	pP	10 15 32.3	+0.5
LZH				sP	sP	10 15 35.0	+1.3
LZH				PP	**PnPn**	**10 16 30.1**	**+1.0**
LZH				*e*S	**S**	**10 20 30.0**	**-3.2**
LZH				sS	sS	10 20 38.8	-1.9
LZH				*e*SS	**SnSn**	**10 22 15.0**	**-0.6**
LZH				PMZ			
	comp=Z,60nm,1.2s						
LZH				PMZ			
	comp=Z,160nm,4.5s						
LZH				LN			
	comp=Z,620nm,12.5s						
LZH				LE			
	comp=Z,1μm,13.0s						
LZH				LZ			
	comp=Z,2μm,14.5s						
MOY	**Mondy**	**31.47**	**306**	*e*P	**P**	**10 15 29.0**	**-0.1**
MOY				pmax	pmax		
	comp=Z,29nm,1.6s						
GYA	**Guiyang**	**33.26**	**258**	*i*P	**P**	**10 15 44.3**	**-0.7**
GYA				PP	**PnPn**	**10 16 57.5**	**+2.2**
GYA				PcP	**PcP**	**10 18 30.0**	**+2.8**
GYA				S	**S**	**10 21 04.8**	**0.0**
GYA				ScP	**ScP**	**10 22 11.6**	**+0.7**
GYA				SS	**SnSn**	**10 23 04.0**	**-1.0**
GYA				PMZ			
	comp=Z,40nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,5.0s						
GYA				LN			
	comp=Z,520nm,16.3s						
GYA				LE			
	comp=Z,480nm,16.8s						
GYA				LZ			
	comp=Z,460nm,16.4s						
CD2	**Chengdu**	**33.29**	**267**	P	**P**	**10 15 44.6**	**-0.6**
CD2				pP	pP	10 15 49.6	-0.2
CD2				sP	sP	10 15 51.8	+0.2
CD2				S	**S**	**10 21 03.6**	**-1.5**
CD2				sS	sS	10 21 12.1	-0.6
CD2				PMZ			
	comp=Z,50nm,0.6s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
CD2				LN			
	comp=Z,1μm,12.9s						
CD2				LE			
	comp=Z,880nm,13.7s						
CD2				LZ			
	comp=Z,1μm,14.7s						
GTA	**Gaotai**	**33.34**	**284**	*e*P	**P**	**10 15 46.4**	**+0.8**
GTA				pP	sP	10 15 55.8	+3.7
GTA				sP	pP	10 15 59.9	+10
GTA				S	**S**	**10 21 02.9**	**-2.9**
GTA				sS	sS	10 21 11.3	-2.1
GTA				SS	**SnSn**	**10 23 01.8**	**-4.8**
GTA				PMZ			
	comp=Z,26nm,1.0s						
GTA				PMZ			

comp=Z,150nm,6.2s
GTA LN
comp=Z,430nm,19.5s
GTA LE
comp=Z,2µm,16.6s
GTA LZ
comp=Z,2µm,16.6s
QIZ Qiongzhong 35.48 244 P **P** **10 16 05.4 +1.2**
QIZ pP **pP** **10 16 09.3 +0.5**
QIZ PP **PP** **10 17 25.8 +1.0**
QIZ S **S** **10 21 40.4 +1.4**
QIZ LN
comp=Z,510nm,14.5s
QIZ LE
comp=Z,470nm,15.4s
QIZ LZ
comp=Z,550nm,17.6s
DAV Davao City (W) 36.26 211 LR LR 10 28 49.8
comp=Z,145nm,21.6s,baz=48,slow=33
KMI Kunming 36.95 259 P **P** **10 16 17.5 +0.6**
KMI pP pP 10 16 23.1 +1.5
KMI sP sP 10 16 25.1 +1.7
KMI PP **PnPn** **10 17 42.3 +1.1**
KMI S **S** **10 22 00.3 -1.5**
KMI sS sS 10 22 08.9 -0.5
KMI SS **SnSn** **10 24 27.1 -7.4**
KMI PMZ
comp=Z,26nm,0.7s
KMI PMZ
comp=Z,190nm,4.2s
KMI LN
comp=Z,540nm,12.5s
KMI LE
comp=Z,670nm,15.7s
KMI LZ
comp=Z,870nm,16.1s
NONG Nongkai 40.88 250 P **P** **10 16 50.6 +1.0**
comp=Z,69nm,1.0s,comp=Z,4µm
WMQ Urumqi 41.06 294 P **P** **10 16 52.3 +1.3**
WMQ pP pP 10 16 55.4 -0.3
WMQ sP sP 10 16 59.3 +1.7
WMQ PP **PnPn** **10 18 33.6 +3.6**
WMQ S **S** **10 23 03.3 +0.2**
WMQ ScS **ScS** **10 26 57.4 +2.3**
WMQ PMZ
comp=Z,30nm,0.6s
WMQ PMZ
comp=Z,89nm,3.6s
WMQ LN
comp=Z,280nm,15.6s
WMQ LE
comp=Z,200nm,15.2s
WMQ LZ
comp=Z,100nm,18.4s
ZAA0 Zalesovo Array 41.29 310 *e*P **P** **10 16 52.4 -0.2**
ZAA0 *e*P **pP** **10 16 53.1 -4.3**
ZALV Zalesovo Beam 41.29 310 P **P** **10 16 52.5 -0.1**
comp=Z,16nm,0.5s,baz=93,slow=7.8,SNR=43
ZALV PcP **PcP** **10 18 50.6 -0.4**
comp=Z,4.2nm,0.6s,baz=84,slow=3.6,SNR=4.6
ZALV LR LR 10 34 48.9
comp=Z,326nm,20.6s,baz=68,slow=37
NRIK Noril'sk 41.49 334 P **P** **10 16 53.9 -0.2**
comp=Z,6.2nm,0.7s,baz=116,slow=8.3,SNR=9.3
NRIK LR LR 10 35 10.4
comp=Z,442nm,18.6s,baz=114,slow=38
NVS Novosibirsk 42.14 312 *e*P **P** **10 16 59.8 +0.2**
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=E,24nm,1.6s
NVS pmax pmax
comp=Z,22nm,1.6s
SVW2 Sparrevohn 42.43 39 *e*P **P** **10 17 02.9 +1.0**
comp=Z,20nm,1.7s
LOEI Loei 42.60 251 P **P** **10 17 01.7 -2.0**
comp=Z,14nm,0.8s
UTTA Uttaradit 42.97 252 P **P** **10 17 07.6 +0.9**
comp=Z,4.9nm,0.9s,comp=Z,56nm
LAMP Lampang 43.16 254 P **P** **10 17 10.1 +1.8**
comp=Z,6.8nm,0.7s
PBKT Sadao Pong 43.42 250 P **P** **10 17 11.8 +1.4**
comp=Z,14nm,0.8s,comp=Z,2µm
CMMT Chiang Mai 43.48 255 P **P** **10 17 11.6 +0.7**
comp=Z,18nm,1.2s
CHTO Chiang Mai 43.49 255 P **P** **10 17 11.6 +0.7**
comp=Z,78nm,1.2s
CHTO Chiang Mai 43.49 255 *e*P **P** **10 17 11.2 +0.3**
CHTO pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 43.49 255 *e*P **P** **10 17 11.2 +0.3**
comp=Z,13nm,0.8s
LSA Lhasa 43.55 273 P **P** **10 17 12.4 +0.5**
LSA PMZ
comp=Z,12nm,0.8s
LSA Lhasa 43.55 273 *e*P **P** **10 17 12.6 +0.7**
LSA pmax pmax
comp=Z,19nm,0.8s
LSA Lhasa 43.55 273 *e*P **P** **10 17 12.6 +0.7**
comp=Z,20nm,0.8s
CMAR Chiang Mai Arr 43.71 254 P **P** **10 17 12.2 -0.6**
comp=Z,2.7nm,0.6s,baz=47,slow=7.2,SNR=8.9
CMAR LR LR 10 37 28.8
comp=Z,293nm,18.2s,baz=50,slow=39
CMAR Chiang Mai Arr 43.71 254 *i* P **P** **10 17 13.3 +0.6**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
SUKH Sukhothai 43.81 252 P **P** **10 17 14.8 +1.3**
comp=Z,7.4nm,0.8s,comp=Z,66nm
RSO Redoubt South 43.82 40 *e*P **P** **10 17 13.6 +0.2**
MK01 Makanchi Array 44.05 300 *e*P **P** **10 17 15.1 0.0**
MK31 Makanchi Array 44.05 300 *i* P **P** **10 17 14.9 -0.3**
MK31 pmax pmax
comp=Z,18nm,0.8s
MK31 Makanchi Array 44.05 300 *e*P **P** **10 17 15.3 +0.1**
MKAR Makanchi Array 44.05 300 P **P** **10 17 15.2 +0.1**
comp=Z,14nm,0.8s,baz=83,slow=9.2,SNR=82
MKAR LR LR 10 36 32.9
comp=Z,554nm,19.2s,baz=70,slow=37
SPU Mount Spurr 44.14 39 *e*P **P** **10 17 15.5 -0.2**
MAKZ Makanchi 44.25 300 *e*P **P** **10 17 16.9 +0.1**
MAKZ pmax pmax
comp=Z,37nm,1.1s
MAKZ Makanchi 44.25 300 *e*P **P** **10 17 16.9 +0.1**
comp=Z,37nm,1.1s
BPAW Bear Paw Mtn. 44.61 35 *e*P **P** **10 17 21.8 +2.3**
comp=Z,11nm,1.4s
KTH Kantishna Hill 44.64 36 *e*P **P** **10 17 21.4 +1.7**
comp=Z,23nm,1.2s
MLY Manley 44.73 33 *e*P **P** **10 17 21.8 +1.3**
comp=Z,7.4nm,0.9s
TRF Thorofare Moun 44.92 36 *e*P **P** **10 17 25.9 +3.8**
comp=Z,6.9nm,1.0s
SHL Shillong 45.02 268 *e*P **P** **10 17 24.0 +0.6**
COLD Coldfoot 45.03 30 *e*P **P** **10 17 23.7 +1.0**
comp=Z,16nm,1.4s
KURK Kurchatov 45.53 306 *e*P **P** **10 17 26.1 -0.8**
KURK pmax pmax
comp=Z,176nm,1.0s
KURK Kurchatov 45.53 306 *e*P **P** **10 17 26.1 -0.8**
comp=Z,176nm,1.0s
PMR Palmer 45.53 38 *e*P **P** **10 17 26.6 -0.1**
PMR pmax pmax
comp=Z,7.0nm,1.0s
PMR Palmer 45.53 38 *e*P **P** **10 17 26.6 -0.1**
comp=Z,7.1nm,1.0s
RND Reindeer 45.57 36 *e*P **P** **10 17 28.6 +1.5**
RND pmax pmax
comp=Z,13nm,1.2s
RND Reindeer 45.57 36 *e*P **P** **10 17 28.6 +1.5**
comp=Z,13nm,1.2s
KURBB Kurchatov Arra 45.60 306 P **P** **10 17 27.5 0.0**
comp=Z,27nm,0.8s,baz=80,slow=8.2,SNR=122
MDM Murphy Dome 45.80 34 *e*P **P** **10 17 29.4 +0.5**
WRH Wood River Hil 45.87 34 *e*P **P** **10 17 29.3 -0.1**
comp=Z,10nm,1.1s
SML Sawmill 45.90 38 *e*P **P** **10 17 31.3 +1.6**
SML pmax pmax
comp=Z,25nm,1.2s
SML Sawmill 45.90 38 *e*P **P** **10 17 31.3 +1.6**
comp=Z,25nm,1.2s
COLA College 45.96 34 *e*P **P** **10 17 30.7 +0.6**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 45.96 34 *e*P **P** **10 17 32.6 +2.5**
comp=Z,12nm,1.0s

CCB Clear Creek Bu 45.99 34 *e*P **P** **10 17 32.2 +1.9**
comp=Z,9.7nm,1.2s
SCM Sheep Creek Mo 46.37 38 *e*pP pP 10 17 40.6 +2.4
IL1 Eielson Array 46.38 34 *e*P **P** **10 17 33.5 +0.1**
ILAR Eielson Array 46.38 34 P **P** **10 17 33.4 0.0**
comp=Z,2.8nm,0.7s,baz=267,slow=6.7,SNR=28
ILB Eielson Array 46.38 34 *e*P **P** **10 17 33.6 +0.2**
PDGK Podgornoye 46.92 296 P **P** **10 17 37.2 -0.7**
PDGK pmax pmax
comp=Z,30nm,1.1s
FYU Fort Yukon 46.99 31 *e*P **P** **10 17 39.8 +1.7**
comp=Z,15nm,1.1s
KLU Klutina 47.07 38 *e*P **P** **10 17 40.8 +1.9**
comp=Z,8.9nm,1.0s
DOT Dot Lake 47.69 35 *e*P **P** **10 17 44.7 +1.0**
comp=Z,12nm,1.0s
BMRM Bremner River 47.77 39 *e*P **P** **10 17 46.0 +1.6**
comp=Z,14nm,1.1s
MENT Mentasta 47.93 36 *e*P P 10 17 50.7 +5.2
comp=Z,11nm,1.0s
RAMN Ramite 48.39 273 *e*P **P** **10 17 50.0 +0.1**
comp=Z,126nm,0.7s
GUN Gumba 48.47 274 *e*P **P** **10 17 51.0 +0.5**
comp=Z,88nm,0.7s
CRQM Cirque 48.51 39 *e*P **P** **10 17 50.7 +0.4**
comp=Z,29nm,1.2s
KSM Kuching 48.54 227 *e*P **P** **10 17 52.0 +1.2**
comp=Z,28nm,1.2s
EGAK Eagle 48.82 33 *e*P **P** **10 17 54.7 +2.3**
comp=Z,7.3nm,0.8s
KKN Kakani 48.98 275 *e*P **P** **10 17 54.9 +0.5**
comp=Z,162nm,0.8s
DMN Daman 49.21 274 *e*P **P** **10 17 56.6 +0.4**
comp=Z,68nm,1.0s
GKN Gorkha 49.37 275 *e*P **P** **10 17 57.3 0.0**
comp=Z,56nm,0.9s
TKM2 Tokmak 2 49.74 297 P **P** **10 18 00.4 +0.4**
TKM2 pmax pmax
comp=Z,73nm,1.4s
TKM2 Tokmak 2 49.74 297 *e*P **P** **10 18 00.7 +0.7**
comp=Z,54nm,0.8s
BVA0 Borovoye Array 49.93 311 *i* P **P** **10 18 00.2 -0.8**
BVA0 pmax pmax
comp=Z,13nm,0.7s
BVAR Borovoye Array 49.93 311 P **P** **10 18 01.3 +0.3**
comp=Z,9.4nm,0.6s,baz=74,slow=8.0,SNR=42
BRVK Borovoye 49.98 311 P **P** **10 18 00.4 -1.0**
BRVK pmax pmax
comp=Z,77nm,1.0s
BRVK Borovoye 49.98 311 *e*P **P** **10 18 01.9 +0.5**
comp=Z,68nm,1.1s
OTUK Ortayu 50.13 305 P **P** **10 18 01.5 -1.1**
OTUK pmax pmax
comp=Z,12nm,0.8s
KOLN Koldanda 50.29 275 *e*P **P** **10 18 04.6 +0.3**
comp=Z,73nm,1.2s
FRU Bishkek 50.45 297 *e*P **P** **10 18 04.5 -0.6**
FRU pmax pmax
comp=Z,50nm,2.0s
PYUN Piuthan 50.59 276 *e*P **P** **10 18 06.9 +0.3**
comp=Z,172nm,1.1s
AAK Ala-Archa 50.60 297 P **P** **10 18 06.4 -0.1**
comp=Z,7.8nm,0.7s,baz=77,slow=6.2,SNR=13
AAK Ala-Archa 50.60 297 P **P** **10 18 06.0 -0.5**
AAK pmax pmax
comp=Z,15nm,0.9s
AAK Ala-Archa 50.60 297 *e*P **P** **10 18 06.7 +0.2**
comp=Z,16nm,0.9s
KSH Kashi 50.75 293 P **P** **10 18 11.8 +4.2**
KSH pP sP 10 18 16.9 +2.7
KSH PcP **PcP** **10 19 28.5 +4.0**
KSH PP **PP** **10 20 07.8 +4.3**
KSH S **S** **10 25 24.8 +2.2**
KSH ScS **ScS** **10 27 57.3 -0.7**
KSH SS **SS** **10 28 57.0 +0.2**
KSH PMZ
comp=Z,29nm,1.4s
KSH PMZ
comp=Z,99nm,4.9s
KSH LN
comp=Z,180nm,8.8s
KSH LE
comp=Z,160nm,8.1s
KSH LZ
comp=Z,820nm,15.4s
ZRNK Zerenda 50.75 311 P **P** **10 18 06.8 -0.4**
ZRNK pmax pmax
comp=Z,28nm,1.1s
ZRNK Zerenda 50.75 311 *e*P **P** **10 18 07.7 +0.5**
comp=Z,36nm,1.1s
EKS2 Erkin-Say 51.09 297 *e*P **P** **10 18 10.3 +0.3**
EKS2 pmax pmax
comp=Z,18nm,0.7s
EKS2 Erkin-Say 51.09 297 *e*P **P** **10 18 10.3 +0.3**
comp=Z,18nm,0.7s
MNAS Manas 52.02 298 P **P** **10 18 17.2 +0.1**
KK31 Karatay Array 53.14 299 P **P** **10 18 24.2 -1.0**
KK31 pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 53.14 299 *e*P **P** **10 18 25.0 -0.2**
KKAR Karatay Array 53.14 299 *e*P **P** **10 18 25.0 -0.2**
SVE Sverdlovsk 54.16 318‖ *e*P **P** **10 18 32.9 +0.5**
SVE pmax pmax
comp=Z,35nm,1.1s
SVE MLR MLR
comp=Z,2µm,15.0s
ARU Arti 55.38 318 P **P** **10 18 41.2 0.0**
comp=Z,9.8nm,0.2s,baz=76,slow=3.7,SNR=27
ARU Arti 55.38 318 *c i*P **P** **10 18 41.4 +0.2**
ARU 10 19 41.0
ARU 10 20 46.5
ARU S **S** **10 26 26.7 +1.9**
ARU SS **SS** **10 30 02.2 -6.6**
ARU pmax pmax
comp=Z,57nm,1.7s
ARU MLR MLR
comp=Z,1µm,16.0s
ARU Arti 55.38 318 *e*P **P** **10 18 41.5 +0.3**
comp=Z,65nm,1.4s
DLBC Dease Lake 55.54 40 P **P** **10 18 45.4 +2.9**
comp=Z,12nm,1.5s
KBL Kabul 57.91 290 *e*P **P** **10 18 59.8 -0.1**
KBL pmax pmax
comp=Z,28nm,0.8s
KBL Kabul 57.91 290 *e*P **P** **10 18 59.8 -0.1**
comp=Z,28nm,0.8s
AKTO Aktyubinsk 58.03 311 P **P** **10 18 59.9 -0.3**
comp=Z,6.4nm,0.7s,baz=66,slow=14,SNR=3.2
AKTO LR LR 10 45 13.8
comp=Z,199nm,21.4s,slow=37
RES Resolute Bay 59.58 15 *e*P **P** **10 19 10.8 +0.2**
RES Resolute Bay 59.58 15 *e*P **P** **10 19 10.8 +0.2**
FITZ Fitzroy Crossi 59.89 200 P **P** **10 19 12.2 -1.1**
comp=Z,6.1nm,0.9s,baz=342,slow=4.9,SNR=5.7
WRAB Tennant Creek 59.97 190 *e*P **P** **10 19 14.3 +0.4**
WRAB pmax pmax
comp=Z,13nm,0.9s
WRAB Tennant Creek 59.97 190 *e*P **P** **10 19 14.3 +0.4**
comp=Z,13nm,0.9s
WB2 Warramunga Arr 59.98 190 *e*P **P** **10 19 14.4 +0.5**
comp=Z,17nm,0.9s
WRA Warramunga Arr 59.98 190 P **P** **10 19 12.4 -1.5**
comp=Z,3.7nm,0.8s,baz=7.3,slow=6.9,SNR=24
YKA Yellowknife Ar 60.69 31 P **P** **10 19 18.5 +0.2**
comp=Z,0.3nm,0.6s,baz=76,slow=16,SNR=6.1
YKA LR LR 10 48 43.6
comp=Z,5.6nm,18.3s,baz=0.0,slow=39
ARA0 ARCESS Array S 62.01 339 *e*P **P** **10 19 27.2 0.0**
ARCES ARCESS Array B 62.01 339 P **P** **10 19 27.1 -0.1**
comp=Z,4.3nm,0.9s,baz=64,slow=8.2,SNR=8.3
ARCES LR LR 10 49 03.8
comp=Z,270nm,21.7s,baz=52,slow=39
KLMR Klimovskoe 62.30 328 *e*P **P** **10 19 26.6 -2.6**
KLMR *e* 10 21 42.6
KLMR pmax pmax
comp=Z,18nm,1.4s
DAG Danmarks Havn 63.20 355 *i* P **P** **10 19 34.3 -0.7**
DAG pmax pmax
comp=Z,10.0nm,1.0s
DAG Danmarks Havn 63.20 355 *i* P **P** **10 19 34.3 -0.7**
comp=Z,10nm,1.0s
AS01 Alice Springs 63.70 190 *e*P **P** **10 19 38.5 -0.4**
ASAR Alice Springs 63.70 190 P **P** **10 19 38.5 -0.5**
comp=Z,1.8nm,0.7s,baz=6.3,slow=5.5,SNR=18
GEYT Alibeck 63.89 299 P **P** **10 19 40.4 +0.1**
comp=Z,8.2nm,0.8s,baz=60,slow=3.6,SNR=11

GEYT LR LR 10 49 33.4
comp=Z,241nm,18.9s,baz=65,slow=38
B05A Bryant 64.33 48 P **P** **10 19 42.9 +0.1**
baz=302
DZM Mont Dzumac 65.16 156 *e*LR LR 10 39 25.3
comp=Z,212nm,22.1s
I03D Drain, OR 66.01 52 P **P** **10 19 55.3 +1.4**
baz=303
VRH Novokhopyorsk 66.61 318 *e*P **P** **10 19 57.6 0.0**
VRH pmax pmax
comp=Z,20nm,1.0s
VRH MLR MLR
comp=Z,1µm,21.0s
OBN Obninsk 66.85 323 P **P** **10 19 59.3 +0.2**
comp=Z,22nm,0.4s,baz=144,slow=24,SNR=3.1
OBN Obninsk 66.85 323 *e*P **P** **10 19 58.0 -1.0**
OBN *e* 10 20 30.5
OBN *e* 10 22 23.9
OBN pmax pmax
comp=Z,14nm,1.0s
OBN MLR MLR
comp=Z,600nm,16.0s
NEW Newport 67.11 46 P **P** **10 20 00.2 -0.8**
baz=305
FIA1 FINESS Array S 67.13 332 *e*P **P** **10 20 00.5 -0.2**
FINES FINESS Array B 67.13 332 P **P** **10 20 00.6 -0.1**
comp=Z,11nm,0.7s,baz=46,slow=8.2,SNR=39
FINES LR LR 10 52 14.1
comp=Z,675nm,18.5s,baz=21,slow=38
LPSR Galich'ya Gora 67.21 320 *e*P **P** **10 20 01.8 +0.4**
LPSR pmax pmax
comp=Z,20nm,1.4s
LPSR MLR MLR
comp=Z,330nm,17.0s
J05D Fort Rock, OR 67.52 52 P **P** **10 20 03.8 0.0**
baz=304
VSR Storozhevoye 67.91 319 *e*P **P** **10 20 05.6 -0.3**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR MLR MLR
comp=Z,480nm,19.0s
SUMG Summit 67.97 1 *i* P **P** **10 20 07.0 +0.6**
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 67.97 1 *i* P **P** **10 20 07.0 +0.6**
comp=Z,15nm,0.9s
SUMG Summit 67.97 1 *e*P **P** **10 20 06.4 +0.1**
comp=Z,15nm,0.9s
M04C Macdoel 67.99 54 P **P** **10 20 07.3 +0.6**
baz=304
K05A Summer Lake 68.04 52 *e*P P 10 20 13.1 +6.0
comp=Z,23nm,1.0s
VSU Vasula 68.90 330 *e*P **P** **10 20 11.5 -0.4**
VSU pmax pmax
comp=Z,63nm,1.0s
SWMT Swartz Lake 69.27 45 *e*P **P** **10 20 16.1 +1.5**
GOF Gofitskoye 69.44 312‖ *e*P **P** **10 20 16.2 +0.7**
GOF pmax pmax
comp=Z,57nm,0.6s
WVOR Wild Horse Val 69.58 51 *e*P P 10 20 22.0 +5.4
WVOR pmax pmax
comp=Z,15nm,1.4s
WVOR Wild Horse Val 69.58 51 *e*P P 10 20 22.0 +5.4
comp=Z,15nm,1.4s
MSO Missoula 69.70 46 P **P** **10 20 18.6 +1.3**
baz=307
MSO Missoula 69.70 46 *e*P P 10 20 22.2 +4.9
comp=Z,19nm,1.6s
NCK Nalchik 70.04 310 *e*P **P** **10 20 20.0 +0.7**
NCK pmax pmax
comp=Z,20nm,1.1s
ZEI Tsey 70.27 310 *e*P **P** **10 20 19.0 -2.0**
ZEI pmax pmax
comp=Z,40nm,0.8s
KVAR Kislovodsk Arr 70.29 311 LR LR 10 56 25.1
comp=Z,511nm,18.6s,baz=32,slow=40
KIV Kislovodsk 70.30 311 *e*P **P** **10 20 22.0 +1.1**
KIV *e*S **S** **10 29 33.4 +0.9**
KIV pmax pmax
comp=Z,64nm,0.9s
KIV pmax pmax
comp=Z,31nm,4.4s
KIV MLR MLR
comp=Z,470nm,18.0s
KIV Kislovodsk 70.30 311 *e*P **P** **10 20 22.2 +1.3**
KBZ Khabaz 70.31 311 P **P** **10 20 21.7 +0.9**
comp=Z,19nm,0.9s,baz=192,slow=24,SNR=28
MFID Camas Ranch 70.67 49 *e*P P 10 20 28.6 +5.4
comp=Z,29nm,1.8s
NEY Neytrino 70.70 310 *e*P **P** **10 20 24.4 +0.9**
NEY pmax pmax
comp=Z,2.0nm,0.9s
CMB Columbia Colle 71.05 56 *e*P P 10 20 31.6 +6.0
comp=Z,18nm,1.3s
LRM Limekiln Ridge 71.13 46 *e*P **P** **10 20 27.0 +0.8**
STKA Stephens Creek 71.28 182 P **P** **10 20 24.2 -2.5**
comp=Z,2.6nm,0.8s,baz=342,slow=9.3,SNR=2.6
DLMT Dillon 71.33 46 *e*P **P** **10 20 28.6 +1.3**
HLID Hailey 71.40 49 P **P** **10 20 28.2 +0.4**
baz=308
HLID Hailey 71.40 49 *e*P **P** **10 20 29.8 +2.0**
BOZ Bozeman (W) 71.69 46 P **P** **10 20 29.8 +0.3**
baz=309
BOZ Bozeman (W) 71.69 46 *e*P **P** **10 20 30.6 +1.1**
BOZ Bozeman (W) 71.69 46 *e*P **P** **10 20 30.6 +1.1**
HFS Hagfors 72.25 336 LR LR 10 54 29.6
comp=Z,15nm,20.6s,baz=30,slow=38
NB2 NORSAR Subarra 72.28 338 P **P** **10 20 32.1 -0.4**
comp=Z,16nm,0.8s,baz=38,slow=6.2
NB2 NORSAR Subarra 72.28 338 P **P** **10 20 32.1 -0.4**
baz=38,slow=6.2
NOA NORSAR Array B 72.28 338 P **P** **10 20 32.5 -0.1**
comp=Z,11nm,0.8s,baz=38,slow=6.0,SNR=42
NOA LR LR 10 58 03.0
comp=Z,216nm,18.3s,baz=30,slow=41
UOSS Minazif 72.45 288 *e*P **P** **10 20 33.1 -1.1**
UOSS *e*PcP **pP** **10 20 38.4 -0.6**
H17A Grant Village 73.06 46 *e*P **P** **10 20 40.4 +2.6**
comp=Z,20nm,1.3s
AKASG Malin Array Be 73.09 323 P **P** **10 20 37.2 -0.3**
comp=Z,4.9nm,0.6s,baz=42,slow=6.4,SNR=24
AKASG LR LR 10 57 42.9
comp=Z,200nm,18.2s,baz=60,slow=40
KIEV Kiev 73.10 323 *c i*P **P** **10 20 37.3 -0.2**
KIEV pmax pmax
comp=Z,12nm,1.2s
KIEV Kiev 73.10 323 *e*P **P** **10 20 37.3 -0.2**
AK11 Malin Array Si 73.13 323 *e*P **P** **10 20 37.3 -0.4**
IMW Indian Meadow 73.17 47 *e*P **P** **10 20 40.6 +2.1**
RLMT Red Lodge 73.32 45 *e*P P 10 20 45.5 +6.3
MOOW Moose Ponds 73.38 47 *e*P P 10 20 46.0 +6.4
TPAW Teton Pass 73.42 47 *e*P P 10 20 45.3 +5.3
SNOW Snow King Moun 73.55 47 P **P** **10 20 44.2 +3.5**
comp=Z,7.4nm,1.1s
REDW Red Top Meadow 73.56 47 *e*P P 10 20 47.2 +6.5
GRAC Grapevine Rang 73.59 55 P **P** **10 20 42.0 +1.2**
baz=308
R11A Troy Canyon, C 73.89 53 P **P** **10 20 43.3 +0.7**
baz=308
R11A Troy Canyon, C 73.89 53 *e*P **P** **10 20 43.9 +1.3**
MPMC Manual Prospec 74.09 56 P **P** **10 20 44.7 +0.8**
baz=308
FURC Furnace Creek, 74.24 56 P **P** **10 20 45.5 +1.0**
baz=308
HWUT Hardware Ranch 74.26 49 *e*P P 10 20 50.4 +5.6
TPNV Topopah Spring 74.33 55 P **P** **10 20 46.1 +0.9**
baz=308
TPNV Topopah Spring 74.33 55 *e*P **P** **10 20 46.9 +1.7**
TPNV Topopah Spring 74.33 55 *e*P **P** **10 20 46.9 +1.7**
DUG Dugway, Tooele 74.42 51 P **P** **10 20 49.7 +4.0**
baz=309
DUG Dugway, Tooele 74.42 51 *e*P P 10 20 50.7 +5.0
DUG Dugway, Tooele 74.42 51 *e*P P 10 20 50.7 +5.0
SIM Simferopol' 74.47 316 *e*P **P** **10 20 45.4 -0.3**
SIM pmax pmax
comp=Z,12nm,1.0s
EDW2 Edwards Air Fo 74.48 58 P **P** **10 20 46.0 -0.1**
baz=308
BW06 Boulder Array 74.67 47 P **P** **10 20 47.1 -0.1**
baz=310
BW06 Boulder Array 74.67 47 *e*P **P** **10 20 47.2 0.0**
BW06 *e*P **pP** **10 20 50.0 -2.2**
PDAR Pinedale Array 74.67 47 P **P** **10 20 46.4 -0.9**
comp=Z,0.9nm,0.6s,baz=280,slow=4.4,SNR=7.1
SHOC Shoshone, Teco 74.96 56 P **P** **10 20 49.0 +0.2**
baz=308

GSC	Goldstone, Bar	74.99	57	eP		P	10 20 54.0	+5.0
GSC	Goldstone, Bar	74.99	57	eP		P	10 20 54.0	+5.0
BFSC	Mount Baldy Ra	75.09	58	P		P	10 20 50.9	+1.2
	baz=308							
SORM	Soroca	75.27	321	⇑iP		P	10 20 50.1	-0.1
SORM	Soroca	75.27	321	⇑P		P	10 20 50.1	-0.1
SHPR	Sheep Range	75.29	55	eP		P	10 20 52.9	+2.1
E25A	Miller Ranch,	75.49	41	P		P	10 20 52.7	+1.1
	baz=313							
CCUT	Cedar City	75.75	53	eP		P	10 20 59.1	+5.5
BSD	Bornholm Skovb	75.78	332	iP		P	10 20 52.5	-0.5
BSD				pmax		pmax		
	comp=Z,28nm,1.1s							
BSD	Bornholm Skovb	75.78	332	iP		P	10 20 52.5	-0.5
	comp=Z,28nm,1.1s							
A29A	Manning Farm,	75.83	37	P		P	10 20 53.3	-0.1
	baz=315							
MSU	Marysvale	75.87	52	eP		P	10 21 00.1	+5.9
GMRC	Granite Mounta	76.05	56	P		P	10 20 56.6	+1.5
	baz=309							
LVV	L'vov	76.09	324	eP		P	10 20 54.9	0.0
MTPU	Mount Pierson	76.16	52	eP		P	10 20 59.7	+3.7
LCMT	Little Creek M	76.17	53	eP		P	10 20 57.5	+1.7
PFO	Pinyon Flats O	76.26	58	eP		P	10 21 02.6	+6.2
PFO	Pinyon Flats O	76.26	58	eP		P	10 21 02.6	+6.3
ULM	Lac du Bonnet	76.39	35	P		P	10 20 55.7	-0.9
	comp=Z,1.9nm,0.7s,baz=256,slow=1.9,SNR=3.0							
MDND	Maddock	76.42	38	P		P	10 20 57.1	+0.3
	baz=315							
KNB	Kanab	76.43	53	eP		P	10 20 59.3	+2.0
KNB	Kanab	76.43	53	eP		P	10 20 59.3	+2.0
SRU	San Rafael Swe	76.47	50	eP		P	10 20 58.8	+1.2
SRU	San Rafael Swe	76.47	50	eP		P	10 20 58.8	+1.2
B30A	Myrvik Farm, E	76.58	37	P		P	10 20 57.6	-0.1
	baz=316							
RSSD	Black Hills	76.78	43	eP		P	10 21 01.0	+1.8
RSSD	Black Hills	76.78	43	eP		P	10 21 01.0	+1.8
KWP	Kalwaria Pacla	76.81	325	eP		P	10 20 60.0	+0.9
KWP	Kalwaria Pacla	76.81	325	⇓iP		P	10 21 00.2	+1.1
KWP	Kalwaria Pacla	76.81	325	⇓P		P	10 21 00.2	+1.1
BUR08	Bucovina Ar. S	77.12	322	eP		P	10 20 59.8	-1.2
BURAR	Bucovina Array	77.13	322	⇑iP		P	10 21 01.6	+0.6
BURAR	Bucovina Array	77.13	322	⇑P		P	10 21 01.6	+0.6
TESR	Tescani	77.23	321	⇓iP		P	10 21 01.5	+0.1
Y12C	Blythe	77.43	57	P		P	10 21 03.1	+0.3
	baz=310							
Y12C	Blythe	77.43	57	eP		P	10 21 09.3	+6.6
CFR	Carcaliu	77.43	319	⇑iP		P	10 21 02.9	+0.4
CFR	Carcaliu	77.43	319	⇑P		P	10 21 02.9	+0.4
B32A	Ashes, Strandq	77.45	36	P		P	10 21 02.4	-0.3
	baz=317							
KOLS	Kolonicke sedl	77.52	325	eP		P	10 21 03.7	+0.7
KOLS				e			10 21 09.6	
KOLS				pmax		pmax		
	comp=Z,7.0nm,1.0s							
KOLS	Kolonicke sedl	77.52	325	eP		P	10 21 03.7	+0.7
KOLS				e			10 21 09.6	
A33A	Warroad	77.57	35	P		P	10 21 02.8	-0.4
	baz=318							
STHS	Stebnicka Huta	77.62	326	eP		P	10 21 05.2	+1.6
STHS				pmax		pmax		
	comp=Z,6.0nm,0.9s							
STHS	Stebnicka Huta	77.62	326	eP		P	10 21 05.2	+1.6
OJC	Ojcow	77.64	327	eP		P	10 21 04.2	+0.6
OJC	Ojcow	77.64	327	eP		P	10 21 04.6	+1.0
OJC	Ojcow	77.64	327	eP		P	10 21 04.6	+1.0
VRI	Vrincioaia	77.65	320	⇑iP		P	10 21 05.4	+1.6
VRI	Vrincioaia	77.65	320	⇑P		P	10 21 05.5	+1.6
PV09	Paradox Valley	77.69	50	eP		P	10 21 09.4	+4.8
E30A	Jud	77.70	39	P		P	10 21 02.8	-1.4
	baz=316							
AGMN	Agassiz Nation	77.83	36	P		P	10 21 04.3	-0.4
	baz=318							
PV10	Paradox Valley	77.83	50	eP		P	10 21 07.0	+1.7
PV04	Paradox Valley	77.90	50	eP		P	10 21 07.7	+2.1
CRVS	Cervenica-Dubn	77.91	325	eP		P	10 21 06.0	+0.8
CRVS	Cervenica-Dubn	77.91	325	eP		P	10 21 06.0	+0.8
N23A	Red Feather La	77.93	46	P		P	10 21 05.4	-0.4
	baz=313							
N23A	Red Feather La	77.93	46	eP		P	10 21 12.2	+6.3
PV05	Paradox Valley	77.99	50	eP		P	10 21 11.6	+5.4
NIE	Niedzica	78.03	326	eP		P	10 21 06.8	+0.9
NIE	Niedzica	78.03	326	eP		P	10 21 06.8	+0.9
BRTR	Keskin Array B	78.20	312	P		P	10 21 07.3	+0.2
	comp=Z,2.6nm,0.9s,baz=100,slow=2.8,SNR=18							
BRTR				PP		PP	10 24 04.5	+1.2
	comp=Z,1.1nm,0.8s,baz=61,slow=7.7,SNR=3.6							
BRTR				LR		LR	11 01 17.8	
	comp=Z,123nm,18.7s,baz=33,slow=40							
PV01	Paradox Valley	78.27	50	eP		P	10 21 09.1	+1.4
ISR	Istrita	78.27	320	⇓iP		P	10 21 08.4	+1.1
ISR	Istrita	78.27	320	⇓P		P	10 21 08.4	+1.1
WUAZ	Wupatki	78.29	53	P		P	10 21 08.7	+0.9
	baz=311							
WUAZ	Wupatki	78.29	53	eP		P	10 21 09.8	+2.1
MLR	Muntele Rosu	78.30	320	⇑iP		P	10 21 07.9	+0.3
MLR	Muntele Rosu	78.30	320	⇑P		P	10 21 07.9	+0.3
MLR	Muntele Rosu	78.30	320	eP		P	10 21 08.9	+1.3
SMCO	Snowmass	78.50	48	eP		P	10 21 14.2	+5.0
G30A	Faulkton	78.57	40	P		P	10 21 09.4	+0.4
	baz=316							
LANS	Liptovska Anna	78.59	326	eP		P	10 21 10.4	+1.4
LANS				e			10 21 20.1	
LANS	Liptovska Anna	78.59	326	eP		P	10 21 10.4	+1.4
LANS				e			10 21 20.1	
KSP	Ksiaz	78.60	329	eP		P	10 21 09.7	+0.8
KSP	Ksiaz	78.60	329	eP		P	10 21 09.7	+0.8
OKC	Ostrava-Krasne	78.62	327	⇑eP		P	10 21 10.0	+0.9
OKC				AMS		AMS	10 58 40.0	
	comp=Z,400nm,22.3s							
OKC	Ostrava-Krasne	78.62	327	eP		P	10 21 10.0	+0.9
OKC				MLR		MLR		
	comp=Z,400nm,22.3s							
B35A	Bob, Littlefor	78.73	35	P		P	10 21 09.3	-0.5
	baz=319							
VOIR		78.78	321	⇑iP		P	10 21 10.5	+0.3
VOIR		78.78	321	⇑P		P	10 21 10.5	+0.3
ISCO	Idaho Springs	78.86	47	eP		P	10 21 16.6	+5.6
ISCO	Idaho Springs	78.86	47	eP		P	10 21 16.6	+5.5
MORC	Moravsky Berou	78.92	328	⇑iP		P	10 21 11.5	+0.7
MORC	Moravsky Berou	78.92	328	⇑P		P	10 21 11.5	+0.7
MORC	Moravsky Berou	78.92	328	eP		P	10 21 11.6	+0.8
MVCO	Mesa Verde	78.92	51	P		P	10 21 11.5	+0.2
	baz=312							
MVCO	Mesa Verde	78.92	51	eP		P	10 21 14.6	+3.3
X16A	Lo Mia Camp, P	78.96	54	eP		P	10 21 15.6	+4.1
DPC	Dobruska-Polom	78.97	329	⇑iP		P	10 21 12.0	+0.9
DPC				epP		sP	10 21 17.9	+0.1
DPC				AMS		AMS	11 01 20.0	
	comp=Z,300nm,13.4s							
DPC	Dobruska-Polom	78.97	329	⇑iP		P	10 21 12.0	+0.9
DPC				e			10 21 17.9	
DPC				MLR		MLR		
	comp=Z,300nm,13.4s							
UPC	Upice	78.97	329	⇑eP		P	10 21 12.0	+1.0
UPC				AMS		AMS	11 00 10.0	
	comp=Z,300nm,13.4s							
UPC	Upice	78.97	329	eP		P	10 21 12.0	+1.0
UPC				MLR		MLR		
	comp=Z,300nm,13.4s							
D34A	Park Rapids	79.03	36	P		P	10 21 10.8	-0.6
	baz=318							
ARR	Arges	79.03	321	⇑iP		P	10 21 12.6	+1.1
C35A	Jirik Farms, M	79.12	35	P		P	10 21 10.5	-1.4
	baz=319							
PSZ	Piszkesteto	79.33	325	⇑iP		P	10 21 14.1	+0.9
PSZ	Piszkesteto	79.33	325	⇑P		P	10 21 14.1	+0.9
PSZ	Piszkesteto	79.33	325	eP		P	10 21 14.1	+0.9
VYHS	Vyhne	79.36	326	eP		P	10 21 13.8	+0.6
VYHS				pmax		pmax		
	comp=Z,5.0nm,1.1s							
VYHS	Vyhne	79.36	326	eP		P	10 21 13.8	+0.6
BRG	Berggiesshubel	79.49	330	eP		P	10 21 13.9	+0.1
	comp=Z,12nm,1.2s							
BRG	Berggiesshubel	79.49	330	eP		P	10 21 13.9	+0.1
BRG				pmax		pmax		
	comp=Z,12nm,1.2s							
CLL	Collm	79.50	331	iP		P	10 21 13.9	0.0
	comp=Z,14nm,0.9s							
CLL				i			10 21 20.3	
CLL				eS		S	10 31 22.0	+7.5
CLL				LmH			10 55 00.0	
	comp=N,200nm,19.5s							
CLL				LmH			10 55 00.0	
	comp=E,400nm,21.4s							
CLL				LmV			10 59 00.0	
	comp=Z,300nm,19.9s							
CLL	Collm	79.50	331	eP		P	10 21 14.1	+0.2
CLL	Collm	79.50	331	eP		P	10 21 14.1	+0.2
PVCC	Panska Ves	79.52	330	⇑AMS		AMS	10 59 30.0	
	comp=Z,400nm,18.1s							
S22A	4UR Ranch, Cre	79.55	49	P		P	10 21 15.8	+0.9
	baz=313							
S22A	4UR Ranch, Cre	79.55	49	eP		P	10 21 20.4	+5.5
VRAC	Vranov	79.67	328	⇑iP		P	10 21 15.8	+0.9
VRAC	Vranov	79.67	328	⇑P		P	10 21 15.8	+0.9
G33A	Ortonville	79.84	38	P		P	10 21 15.7	-0.1
	baz=318							
GOPC	GO Pecny, Ondr	79.92	329	⇑eP		P	10 21 17.2	+1.0
GOPC				epP		sP	10 21 23.2	+0.2
GOPC				AMS		AMS	11 00 50.0	
	comp=Z,400nm,11.9s							
GOPC	GO Pecny, Ondr	79.92	329	eP		P	10 21 17.2	+1.0
GOPC				e			10 21 23.2	
GOPC				MLR		MLR		
	comp=Z,400nm,11.9s							
PRU	Pruhonice	79.96	329	⇑eP		P	10 21 17.0	+0.6
PRU				epP		sP	10 21 23.3	+0.1
PRU				AMS		AMS	11 00 50.0	
	comp=Z,400nm,14.5s							
PRU	Pruhonice	79.96	329	eP		P	10 21 17.0	+0.6
PRU				e			10 21 23.3	
PRU				MLR		MLR		
	comp=Z,400nm,14.5s							
H33A	Prehn Over Nor	80.07	39	P		P	10 21 17.0	-0.2
	baz=318							
TREC	Trest	80.13	328	⇑AMS		AMS	11 01 10.0	
	comp=Z,400nm,19.0s							
G34A	Benson	80.19	38	P		P	10 21 17.9	+0.1
	baz=318							
BZS	Buzias	80.28	323	⇑iP		P	10 21 18.4	+0.2
BZS	Buzias	80.28	323	⇑P		P	10 21 18.4	+0.2
SDCO	Great Sand Dun	80.32	49	P		P	10 21 18.8	-0.2
	baz=313							
SDCO	Great Sand Dun	80.32	49	eP		P	10 21 24.9	+5.9
ECSD	EROS Data Cent	80.83	39	P		P	10 21 20.7	-0.6
	baz=318							
ECSD	EROS Data Cent	80.83	39	eP		P	10 21 21.3	0.0
L31A	Butterfield Fa	80.85	42	P		P	10 21 21.3	-0.1
	baz=316							
MDVR	Moldovita	80.86	322	⇑iP		P	10 21 21.4	0.0
H35A	Sunnyside Ranc	80.98	38	P		P	10 21 21.7	-0.3
	baz=319							
KHC	Kasperske Hory	81.02	329	⇑eP		P	10 21 22.6	+0.4
KHC				epP		PcP	10 21 28.9	+0.3
KHC				AMS		AMS	11 01 30.0	
	comp=Z,500nm,16.3s							
KHC	Kasperske Hory	81.02	329	eP		P	10 21 22.6	+0.4
KHC				e			10 21 28.9	
KHC				MLR		MLR		
	comp=Z,500nm,16.3s							
KHC	Kasperske Hory	81.02	329	eP		P	10 21 22.7	+0.5
CONA	Conrad Observa	81.05	327	iP		P	10 21 23.8	+1.3
	comp=Z,12nm,1.2s,SNR=8.2							
ESK	Eskdalemuir	81.10	341	iP		P	10 21 24.2	+1.8
GERES	GERESS Array B	81.20	329	P		P	10 21 23.3	+0.1
	comp=Z,1.8nm,0.6s,baz=35,slow=4.9,SNR=16							
GERES				LR		LR	11 00 40.4	
	comp=Z,211nm,19.3s,baz=7.0,slow=38							
T25A	Trinidad	81.37	48	P		P	10 21 24.0	-0.5
	baz=314							
T25A	Trinidad	81.37	48	eP		P	10 21 25.4	+0.9
GRFO	Grafenberg	81.48	331	eP		P	10 21 25.3	+0.7
GRFO				pmax		pmax		
	comp=Z,22nm,1.4s							
GRFO	Grafenberg	81.48	331	eP		P	10 21 25.3	+0.7
	comp=Z,22nm,1.4s							
LAZ	Ladron	81.62	52	eP		P	10 21 32.4	+6.5
MMAI	Mount Meron Ar	81.64	306	LR		LR	11 02 00.5	
	comp=Z,167nm,18.6s,baz=350,slow=39							
ANMO	Albuquerque	81.67	51	P		P	10 21 27.0	+1.0
	baz=313							
ANMO	Albuquerque	81.67	51	eP		P	10 21 26.1	0.0
ANMO				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ANMO	Albuquerque	81.67	51	eP		P	10 21 29.8	+3.8
ARSA	Arzberg	81.73	327	iP		P	10 21 26.8	+0.9
	comp=Z,8.8nm,1.3s							
MOA	Molln	81.77	328	iP		P	10 21 27.0	+0.8
	comp=Z,5.6nm,1.1s							
BNM	Barren Site	82.11	52	eP		P	10 21 34.6	+6.2
I37A	Lemond, Waseca	82.17	38	P		P	10 21 28.0	-0.3
	baz=320							
SCHQ	Schefferville	82.30	17	LR		LR	11 02 26.0	
	comp=Z,47nm,19.1s,baz=14,slow=39							
GROS	Grobnik	82.36	327	iP		P	10 21 29.3	-0.1
GROS	Grobnik	82.36	327	iP		P	10 21 29.3	-0.1
SOKA	Soboth	82.39	327	iP		P	10 21 29.7	+0.2
	comp=Z,16nm,0.9s,SNR=16							
121A	Cookes Peak, D	82.49	54	P		P	10 21 31.3	+0.9
	baz=313							
121A	Cookes Peak, D	82.49	54	eP		P	10 21 35.2	+4.8
	comp=Z,16nm,1.3s							
OBKA	Obir	82.72	327	iP		P	10 21 31.7	+0.5
	comp=Z,4.9nm,0.6s							
KBA	Koelnbreinsper	82.77	328	iP		P	10 21 32.2	+0.6
	comp=Z,12nm,1.1s,SNR=8.1							
L36A	Harm Buss Farm	83.00	40	P		P	10 21 32.1	-0.6
	baz=319							
VISS	Visnje	83.16	327	iP		P	10 21 33.0	-0.4
VISS	Visnje	83.16	327	iP		P	10 21 33.0	-0.4
BOJS	Bojanci	83.22	326	iP		P	10 21 33.8	+0.1
BOJS	Bojanci	83.22	326	iP		P	10 21 33.8	+0.1
WATA	Walderalm	83.26	329	iPcP		P	10 21 35.6	+1.5
	comp=Z,5.0nm,0.7s							
WTTA	Wattenberg	83.30	329	iP		P	10 21 32.9	-1.4
	comp=Z,9.3nm,1.2s							
ABTA	Abfaltersbach	83.37	328	iP		P	10 21 33.5	-1.1
	comp=Z,7.8nm,1.0s							
JAVS	Javornik	83.42	327	iP		P	10 21 34.0	-0.8
JAVS	Javornik	83.42	327	iP		P	10 21 34.0	-0.9
M36A	Felix, Anita	83.42	40	P		P	10 21 35.0	+0.1
	baz=319							
MOTA	Moosalm	83.44	330	iP		P	10 21 35.6	+0.5
	comp=Z,21nm,1.1s,SNR=5.1							
N35A	Tabor	83.44	41	P		P	10 21 35.3	+0.3
	baz=318							
RETA	Reutte	83.46	330	iP		P	10 21 35.9	+0.9
	comp=Z,19nm,1.1s,SNR=6.3							
J39A	Decorah	83.48	37	P		P	10 21 34.5	-0.6
	baz=321							
BFO	Black Forest	83.67	332	iP		P	10 21 38.5	+2.4
Q33A	Connelly Farm,	83.69	43	P		P	10 21 35.6	-0.7
	baz=317							
FETA	Feichten	83.85	330	iP		P	10 21 36.8	-0.3
	comp=Z,11nm,1.3s							
K39A	Oelwein	83.88	38	P		P	10 21 36.4	-0.7
	baz=321							
DAVA	Damuels	83.96	330	iP		P	10 21 38.2	+0.5
	comp=Z,15nm,1.1s,SNR=5.2							
EIL	Elat	84.18	304	LR		LR	11 03 58.5	
	comp=Z,102nm,19.0s,baz=31,slow=39							
L39A	Vinton	84.27	38	P		P	10 21 39.3	+0.1
	baz=321							
PPT	Papeete	84.50	118	LR		LR	11 00 02.9	
	comp=Z,122nm,18.1s,baz=332,slow=36							
PPT2	Papeete2	84.51	118	eLR		LR	10 48 25.3	
	comp=Z,238nm,22.0s							
MNTX	Cornudas Mount	84.55	53	P		P	10 21 41.7	+0.9
	baz=314							
MNTX	Cornudas Mount	84.55	53	eP		P	10 21 46.4	+5.6
TUE	Stuetta	84.84	330	eP		P	10 21 42.5	+0.2
P37A	Lathrop	85.05	41	P		P	10 21 43.3	+0.1
	baz=319							
TAOE	Nuku Hiva Isla	85.36	105	eLR		LR	10 48 46.4	
	comp=Z,271nm,21.9s							
R36A	Gordon, Harris	85.41	42	P		P	10 21 45.4	+0.4
	baz=319							
V32A	Arapaho	85.42	46	P		P	10 21 46.0	+0.9
	baz=317							
P38A	Dawn	85.44	40	P		P	10 21 45.4	+0.3
	baz=320							
S35A	Otter Creek Ra	85.46	43	P		P	10 21 45.3	0.0
	baz=318							
T34A	McClaskey Farm	85.49	44	P		P	10 21 45.7	+0.3
	baz=318							
U34A	Anderson Ranch	85.73	45	P		P	10 21 46.5	-0.1
	baz=318							
U34A	Anderson Ranch	85.73	45	eP		P	10 21 52.3	+5.7
W32A	Sentinel	85.74	47	P		P	10 21 46.8	+0.1
	baz=317							
R37A	Teagarden Farm	85.77	42	P		P	10 21 45.8	-1.0
	baz=319							
S36A	Lake Cedric, C	85.81	43	P		P	10 21 46.5	-0.5
	baz=319							
O40A	La Belle	85.88	39	P		P	10 21 47.0	-0.3
	baz=321							
Q38A	Cooks Store, C	85.90	41	P		P	10 21 47.0	-0.4
	baz=320							
P39B	Salisbury	85.93	40	P		P	10 21 47.5	0.0
	baz=320							
Q39A	Willow Grove F	86.16	41	P		P	10 21 48.4	-0.3
	baz=320							
T36A	Boggs Farm, Ca	86.16	44	P		P	10 21 48.9	+0.2
	baz=319							
S37A	Fort Scott	86.19	42	P		P	10 21 48.6	-0.3
	baz=319							
X32A	Elmer	86.23	47	P		P	10 21 49.0	-0.2
	baz=317							
P40A	Paris	86.25	40	P		P	10 21 49.1	0.0
	baz=321							
WMOK	Wichita Mounta	86.28	47	eP		P	10 21 54.8	+5.4
WMOK	Wichita Mounta	86.28	47	eP		P	10 21 54.8	+5.3
P41A	Barry, Barry	86.62	39	P		P	10 21 50.3	-0.6
	baz=321							
Q40A	Laux Farm, Aux	86.65	40	P		P	10 21 51.1	0.0
	baz=321							
R39A	Chumby, Stover	86.69	41	P		P	10 21 50.9	-0.4
	baz=320							
RPZ	Rata Peaks	86.76	160	LR		LR	11 02 47.8	
	comp=Z,71nm,18.5s,baz=353,slow=37							
T38A	Diamond	87.01	43	P		P	10 21 52.2	-0.7
	baz=320							
S39A	Bolivar	87.02	42	P		P	10 21 52.4	-0.6
	baz=320							
R40A	Maddies Statio	87.09	41	P		P	10 21 51.2	-2.1
	baz=321							
TX31	Lajitas Ar. Si	87.25	54	eP		P	10 21 56.3	+2.0
TX31				eP		P	10 21 56.7	+2.4
TXAR	Lajitas Array	87.25	54	P		P	10 21 54.6	+0.3
	comp=Z,1.4nm,0.9s,baz=284,slow=5.0,SNR=7.8							
S40A	Lebanon	87.51	41	P		P	10 21 54.4	-0.9
	baz=321							
V38A	Canehill	87.84	43	P		P	10 21 56.0	-1.0
	baz=320							
T40A	Mansfield	87.84	41	P		P	10 21 55.6	-1.3
	baz=321							
U39A	Green Forest	87.93	43	P		P	10 21 57.4	0.0
	baz=320							
V39A	Pettigrew	88.26	43	P		P	10 21 57.1	-1.9
	baz=320							
U40A	Yellville	88.28	42	P		P	10 21 58.2	-0.9
	baz=320							
T41A	Mountain View	88.31	41	P		P	10 21 59.1	0.0
	baz=321							
234A	Clairette	88.65	48	P		P	10 22 00.9	+0.1
	baz=318							
334A	Lometa	89.08	49	P		P	10 22 03.1	+0.2
	baz=318							
MIAR	Mount Ida	89.28	44	P		P	10 22 04.2	+0.4
	baz=320							
MIAR	Mount Ida	89.28	44	eP		P	10 22 09.3	+5.6
MIAR	Mount Ida	89.28	44	eP		P	10 22 09.2	+5.5
WHAR	Wooly Hollow	89.39	43	eP		P	10 22 09.4	+5.2
H06S1	SOCORRO T	89.65	66	T		T	12 02 20.9	
	SNR=12							
633A	Saathoff Ranch	89.90	51	P		P	10 22 06.6	-0.1
	baz=317							
KEST	Kesra	93.77	324	LR		LR	11 09 41.9	
	comp=Z,232nm,18.2s,baz=286,slow=39							
ESDC	Sonseca Array	95.51	335	LR		LR	11 11 26.7	
	comp=Z,169nm,18.3s,baz=50,slow=39							
SYO	Syowa Base	131.33	208	⇓epPdiff		pPdif	10 25 21.0	+5.1
SNAA	Sanae	143.80	197	PKP		PKPab	10 28 37.8	-0.7
LPAZ	La Paz	143.97	59	PKP		PKPbc	10 28 42.5	+0.6
	comp=Z,1.1nm,0.8s,baz=21,slow=8.6,SNR=2.5							
VNA1	Neumayer--Stat	145.75	196	PKP		PKPab	10 28 55.5	+10

NNC ***16*** *10:09:50.0±2.9,54.19N×86.90E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=24.1km s-min=19.3km az=172.0*

IDC 16 10:09:47.7±2.9,54.37N×86.95E,h0km,mb1 3.4/2, mb1mx3.1/50,mbtmp3.4/2,ML3.1/2,3C-6D,Error ellipse: s-maj=25.5km s-min=17.8km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.32	252	i		10 18 40.0	
	baz=71,slow=299,SNR=2.7						
ZALV	Zalesovo Beam	1.32	252	Pg	Pg	10 10 11.1	-1.9
	2.7nm,0.3s,baz=72,slow=16,SNR=16						
ZALV				Lg	Lg	10 10 30.7	
	2.5nm,0.3s,baz=76,slow=30,SNR=12						
KURK	Kurchatov	6.26	238	⇑Pn	Pn	10 11 21.5	+0.3
	12nm,0.8s						
KURK				⇓Sn	Sn	10 12 34.1	+0.7
	6.1nm,0.6s						
KURK				⇓Lg	Lg	10 13 08.6	
	22nm,0.8s						
KURBB	Kurchatov Arra	6.37	237	Pn	Pn	10 11 22.9	+0.3
	0.3nm,0.3s,baz=54,slow=14,SNR=11						
KURBB				Lg	Lg	10 13 10.2	
	0.1nm,0.3s,baz=54,slow=33,SNR=5.7						
KURBB	Kurchatov Arra	6.37	237	⇓Pn	Pn	10 11 23.2	+0.5
	4.6nm,0.6s						
KURBB				⇑Sn	Sn	10 12 36.0	+0.1
	2.8nm,0.4s						
KURBB				⇑Lg	Lg	10 13 10.5	
	3.4nm,0.6s						
MK31	Makanchi Array	8.14	203	⇓Pn	Pn	10 11 48.5	+1.4
	0.3nm,0.5s,baz=26,slow=13,SNR=7.5						
MK31				⇓Sn	Sn	10 13 17.9	-1.9
	0.4nm,0.6s,

KLR	**Kul'dur**	**12.62**	**323**	P	**Pn**	**10 18 04.7**	**+4.0**
	0.1nm,0.3s,baz=142,slow=14,SNR=2.2						
SEY	**Seymchan**	**23.83**	**10**	P	**P**	**10 20 14.1**	**-0.2**
	2.2nm,0.5s,baz=208,slow=14,SNR=6.6						
SONM	**Songino Array**	**27.73**	**299**	P	**P**	**10 20 50.0**	**0.0**
	1.3nm,0.6s,baz=109,slow=8.4,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**28.35**	**128**	T	T	10 51 52.4	
	baz=318,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**28.36**	**128**	T	T	10 51 56.1	
	baz=318,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.37**	**128**	T	T	10 51 56.7	
	baz=318,slow=75,SNR=19						
ZALV	**Zalesovo Beam**	**41.33**	**310**	P	**P**	**10 22 46.8**	**-0.2**
	2.4nm,0.4s,baz=93,slow=7.1,SNR=4.0						
MKAR	**Makanchi Array**	**44.09**	**300**	P	**P**	**10 23 09.0**	**-0.6**
	1.3nm,0.7s,baz=85,slow=8.7,SNR=6.7						
ILAR	**Eielson Array**	**46.35**	**34**	P	**P**	**10 23 28.1**	**+0.9**
	0.3nm,0.7s,baz=273,slow=6.2,SNR=4.4						
WRA	**Warramunga Arr**	**59.98**	**190**	P	**P**	**10 25 06.8**	**-1.3**
	1.1nm,0.8s,baz=7.4,slow=7.0,SNR=4.5						
ASAR	**Alice Springs**	**63.71**	**190**	P	**P**	**10 25 32.4**	**-0.7**
	0.4nm,0.7s,baz=353,slow=4.0,SNR=3.1						
FINES	**FINESS Array B**	**67.16**	**332**	P	**P**	**10 25 53.6**	**-1.4**
	0.8nm,0.5s,baz=28,slow=8.6,SNR=5.0						
NB2	**NORSAR Subarra**	**72.30**	**338**	P	**P**	**10 26 26.4**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.30**	**338**	P	**P**	**10 26 26.5**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=38,slow=5.9,SNR=3.5						
TXAR	**Lajitas Array**	**87.21**	**54**	P	**P**	**10 27 49.4**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=316,slow=5.0,SNR=2.7						

MOS ***16*** *10:15:20.1±2.6,53.06N×168.59E,h6km,mb4.1/1,Error ellipse: s-maj=80.0km s-min=15.3km az=10.8*

KRSC 16 10:15:20.2±2.9,53.07N×168.59E,h6km±39km,ML4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**2.64**	**325**	*e*S	Sn	10 16 36.4	+0.9
MKZ	**Mys Kozlova**	**4.33**	**293**	PN	Pn	10 16 29.9	+3.5
MKZ				S	Sn	10 17 20.6	+3.4
MKZ	**Mys Kozlova**	**4.33**	**293**	*e*P	Pn	10 16 29.9	+3.5
MKZ				*e*S	Sn	10 17 20.6	+3.4
ZLN	**Zelenaya**	**5.41**	**306**	*e*S	Sn	10 17 49.9	+5.9
KMNR	**Kamenistaya**	**5.58**	**302**	*e*S	Sn	10 17 53.7	+5.7
SDLR	**Sedlovina**	**5.84**	**276**	PN	Pn	10 16 51.8	+4.5
SDLR	**Sedlovina**	**5.84**	**276**	*e*P	Pn	10 16 51.8	+4.5
UGLR	**Uglovaya**	**5.88**	**275**	PN	Pn	10 16 52.2	+4.3
UGLR	**Uglovaya**	**5.88**	**275**	*e*P	Pn	10 16 52.2	+4.3
SMAR	**Somma**	**5.89**	**276**	PN	Pn	10 16 53.3	+5.2
SMAR	**Somma**	**5.89**	**276**	*e*P	Pn	10 16 53.3	+5.2
KRER	**Koryakskii**	**5.92**	**276**	PN	Pn	10 16 53.2	+4.7
KRER	**Koryakskii**	**5.92**	**276**	*e*P	Pn	10 16 53.2	+4.7
AVH	**Avacha**	**5.93**	**276**	PN	Pn	10 16 53.1	+4.6
AVH	**Avacha**	**5.93**	**276**	*e*P	Pn	10 16 53.1	+4.6
RUS	**Russkaya**	**6.16**	**268**	PN	Pn	10 16 55.9	+4.4
RUS	**Russkaya**	**6.16**	**268**	*e*P	Pn	10 16 55.9	+4.4
GNL	**Ganaly**	**6.41**	**280**	PN	Pn	10 17 01.1	+6.1
GNL	**Ganaly**	**6.41**	**280**	*e*P	Pn	10 17 01.1	+6.1
ASAK	**Asacha**	**6.53**	**268**	PN	Pn	10 17 01.0	+4.2
ASAK	**Asacha**	**6.53**	**268**	*e*P	Pn	10 17 01.0	+4.2

IDC 16 10:16:23.7±9.3,5.99S×151.27E,h66km±65km,mb3.7/3, mb1 4.0/4,mb1mx3.4/34,mbtmp4.0/4,ML1.6/1,Error ellipse: s-maj=94.2km s-min=59.0km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.31**	**230**	P	Pn	10 17 41.4	+0.9
	1.4nm,0.3s,baz=274,slow=7.5,SNR=3.0						
PMG				S	Sn	10 18 40.8	+0.5
	0.3nm,0.3s,baz=38,slow=15,SNR=1.9						
WRA	**Warramunga Arr**	**21.52**	**228**	P	P	10 21 06.9	-0.7
	2.3nm,0.5s,baz=54,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**24.26**	**222**	P	P	10 21 35.7	+0.9
	2.3nm,0.6s,baz=58,slow=9.1,SNR=21						
FITZ	**Fitzroy Crossi**	**27.76**	**242**	P	P	10 22 05.9	-0.7
	2.7nm,0.7s,baz=77,slow=8.3,SNR=7.6						
TORD	**Torodi Ar. Bea**	**149.19**	**286**	PKPbc	PKPbc	10 36 05.4	-0.5
	0.5nm,0.5s,baz=74,slow=2.1,SNR=4.3						

LJU ***16*** *10:22:31.4,46.39N×15.07E,h0km,ML0.4 Rockburst*

CSEM 16 10:22:31.4,46.39N×15.07E,h0km,Suspected Mining induced.,Northwestern Balkan Peninsula

IDC 16 10:36:07.2±3.9,6.63S×150.44E,h0km,mb3.4/2, mb1 3.8/2,mb1mx3.4/25,mbtmp3.5/2,Error ellipse: s-maj=136.7km s-min=50.5km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.48**	**228**	P	P	10 40 46.9	+0.1
	1.0nm,0.6s,baz=53,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**23.23**	**221**	P	P	10 41 15.5	-0.7
	0.8nm,0.4s,baz=56,slow=9.2,SNR=22						
TORD	**Torodi Ar. Bea**	**148.55**	**284**	PKPbc	PKPbc	10 55 57.2	0.0
	0.3nm,0.6s,baz=96,slow=2.9,SNR=2.5						

IDC 16 10:38:09.9±1.8,37.40S×73.25W,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.6/25,mbtmp3.5/4,ML3.7/1,MS3.0/2, Ms1 3.0/2,ms1mx2.8/12,Error ellipse: s-maj=52.5km s-min=19.8km az=68.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.94**	**149**	Pn	Pn	10 39 13.0	+1.3
	1.3nm,0.3s,baz=328,slow=12,SNR=17						
PLCA				Lg	Lg	10 40 14.1	
	1.6nm,0.3s,baz=92,slow=22,SNR=3.7						
PLCA				LR	LR	10 40 19.4	
	comp=Z,65nm,19.8s,baz=246,slow=33						
LPAZ	**La Paz**	**21.51**	**14**	P	P	10 43 02.9	+1.7
	1.2nm,0.7s,baz=200,slow=8.3,SNR=6.2						
SIV	**San Ignacio**	**23.89**	**30**	P	P	10 43 24.3	-1.1
	1.1nm,0.6s,baz=218,slow=8.9,SNR=3.1						
VNDA	**Vanda**	**60.58**	**192**	LR	LR	11 10 59.7	
	comp=Z,41nm,18.7s,baz=272,slow=32						
TXAR	**Lajitas Array**	**72.25**	**332**	P	P	10 49 36.8	-0.2
	0.3nm,0.9s,baz=160,slow=2.9,SNR=2.9						

ISK ***16*** *10:46:53.8,38.14N×30.14E,h5km,MD2.4*
ISCJB ***16*** *10:46:55.3±0.8,38.06N±0.05×30.06E±0.06,h13km,Error ellipse: s-maj=8.6km s-min=5.4km az=42.9*
CSEM ***16*** *10:46:55.1±0.3,38.09N×30.06E,h2km,MD2.4,Error ellipse: s-maj=8.5km s-min=5.7km az=45.0*
DDA ***16*** *10:46:56.6,38.03N×30.20E,h7km,Md2.9*

ISC 16 10:46:55.5±1.0,38.10N±0.05×30.12E±0.04,h13km,n13, σ0.55/20,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISP	**Isparta**	**0.43**	**131**	*e*PG	**Pg**	**10 47 03.3**	**-0.7**
ISP				*e*SG	**Sb**	**10 47 10.8**	**-0.5**
ISP	**Isparta**	**0.43**	**131**	*e*Pg	**Pg**	**10 47 03.3**	**-0.7**
ISP				*e*Sg	**Sb**	**10 47 10.8**	**-0.5**
KHL	**Karahalli**	**0.52**	**295**	*e*PG	**Pg**	**10 47 04.8**	**-0.8**
KHL	**Karahalli**	**0.52**	**295**	*e*Pg	**Pg**	**10 47 04.8**	**-0.8**
BAGO	**Egridir - ISPA**	**0.54**	**102**	*i* P	**Pg**	**10 47 05.1**	**-1.0**
BAGO				*i* S	**Sg**	**10 47 13.8**	**+0.4**
BOLV	**Bolvadin**	**0.90**	**47**	P	**Pb**	**10 47 13.3**	**+0.3**
BOLV				S	**Sn**	**10 47 27.4**	**+0.5**
BOLV	**Bolvadin**	**0.90**	**47**	*i* P	**Pb**	**10 47 13.3**	**+0.3**
BOLV				*i* S	**Sn**	**10 47 27.4**	**+0.5**
SUTC	**Sutluce-Ispart**	**0.94**	**132**	*e*PG	**Pg**	**10 47 13.4**	**-0.2**
SUTC				*e*SG	**Sn**	**10 47 27.6**	**-0.2**
SUTC	**Sutluce-Ispart**	**0.94**	**132**	*e*Pg	**Pg**	**10 47 13.4**	**-0.2**
SUTC				*e*Sg	**Sn**	**10 47 27.6**	**-0.2**
ELL	**Elmali**	**1.36**	**187**	*e*PN	**Pg**	**10 47 21.7**	**0.0**
ELL	**Elmali**	**1.36**	**187**	*e*Pn	**Pg**	**10 47 21.7**	**0.0**
TVSB	**Tavsanli**	**1.44**	**339**	*e*PN	**Pn**	**10 47 21.7**	**+0.4**
TVSB	**Tavsanli**	**1.44**	**339**	*e*Pn	**Pn**	**10 47 21.7**	**+0.4**

ARO ***16*** *10:47:58.1,13.4N×4.2E±,h8km±3km,ML4.0*

ISC 16 10:47:56.6±2.8,13.52N±0.09×41.6E±0.2,h10km,n9, σ0.86/12,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAOD	**Malaho**	**1.55**	**156**	*e*P	**Pn**	**10 48 23.2**	**-1.0**
TDD	**Tadjoura Ara**	**2.14**	**142**	*e*P	**Pn**	**10 48 32.3**	**-0.1**
OBO	**Obock**	**2.26**	**132**	*e*P	**Pn**	**10 48 33.8**	**-0.2**
ATD	**Arta Tunnel**	**2.33**	**148**	*e*P	**Pn**	**10 48 34.8**	**-0.3**
ATD				*e*S	**Sn**	**10 49 04.8**	**+1.1**
MCAD	**Moucha**	**2.39**	**138**	*e*P	**Pn**	**10 48 35.5**	**-0.2**
GBR	**Grand-Bara**	**2.50**	**160**	*e*P	**Pn**	**10 48 37.9**	**+0.5**
ATA	**Atar**	**2.59**	**142**	*e*P	**Pn**	**10 48 38.9**	**+0.3**
HAJJ	**Hajjah**	**2.92**	**42**	*i* P	**Pg**	**10 48 53.0**	**+0.4**
HAJJ				*i* S	**Sb**	**10 49 23.6**	**-1.3**
HAJJ				AML	AML	10 49 42.5	
	comp=Z,591nm,0.4s						
BDHA	**Al Bayda'**	**3.90**	**83**	*i* P	**Pn**	**10 48 58.1**	**+1.2**
BDHA				*e*		10 48 58.3	
	baz=262,slow=18						
BDHA				*i* S	**Sn**	**10 49 42.0**	**-0.9**
BDHA				AML	AML	10 50 01.0	
	comp=N,309nm,0.5s						

ISCJB ***16*** *10:57:21.5±0.3,43.17N±0.03×66.76E±0.03,h10km, mb3.9/19,MS3.5/4,Error ellipse: s-maj=4.2km s-min=3.1km az=33.3*
NNC ***16*** *10:57:22.0±0.9,43.11N×66.79E,h0km,mb4.7,mpv4.4, Error ellipse: s-maj=9.0km s-min=6.2km az=66.0*
IDC ***16*** *10:57:23.6±0.7,43.03N×66.98E,h0km,mb3.9/14, mb1 4.2/20,mb1mx4.0/50,mbtmp4.1/20,ML4.2/6,MS3.1/5, Ms1 3.1/5,ms1mx2.7/54,Error ellipse: s-maj=11.6km s-min=8.2km az=11.0*
BJI ***16*** *10:57:23.3,43.25N×67.05E,h6km,mb4.4/20,mB4.6/15, ML4.0/1,Ms3.8/8,Ms7 3.7/6*
SOME ***16*** *10:57:24.2,43.22N×67.03E,h0km,MS3.9*
NEIC ***16*** *10:57:25.1±0.4,43.16N×67.00E,h10km,mb4.7/3,Error ellipse: s-maj=8.0km s-min=5.8km az=182.0*
MOS ***16*** *10:57:25.4±1.5,43.21N×66.98E,h27km,mb4.2/16,Error ellipse: s-maj=7.2km s-min=6.0km az=66.6*

ISC 16 10:57:24.0±0.4,43.16N±0.04×66.96E±0.03,h10km,n115, σ2.17/135,mb4.0/20,MS3.1/4,18C-13D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**2.04**	**100**	*e*P	**Pg**	**10 58 01.8**	**-1.2**
	7.6nm,0.2s						
BRLS				*e*S	**Sg**	**10 58 28.6**	**-0.8**
	505nm,0.4s						
CHM	**Chimkent**	**2.12**	**112**	*e*P	**Pg**	**10 58 03.3**	**-1.3**
	1μm,0.3s						
CHM				*e*S	**Sg**	**10 58 30.6**	**-1.6**
	8μm,0.4s						
KK31	**Karatay Array**	**2.60**	**90**	⇑Pn	**Pn**	**10 58 07.7**	**+1.6**
	56nm,0.3s,baz=270,slow=17						
KK31				Lg	Lg	10 58 46.0	
	219nm,0.3s,baz=263,slow=28,SNR=20						
KK31	**Karatay Array**	**2.60**	**90**	PN	**Pn**	**10 58 07.7**	**+1.6**
KK31						10 58 46.1	
KK31				pmax	pmax		
	comp=Z,15nm,0.3s						
KK31				pmax	pmax		
	comp=N,860nm,0.6s						
KKAR	**Karatay Array**	**2.60**	**90**	*e*PN	**Pb**	**10 58 08.0**	**-2.8**
KKAR				*e*		10 58 37.2	
KKAR	**Karatay Array**	**2.60**	**90**	*e*Pn	**Pb**	**10 58 08.0**	**-2.8**
KKAR				*e*Sn	**Sn**	**10 58 37.2**	**-0.7**
DZA	**Taraz**	**3.22**	**93**	*e*P	**Pb**	**10 58 20.9**	**-0.4**
	comp=N,277nm,0.2s						
DZA				*e*S	**Sb**	**10 58 59.4**	**-1.1**
	comp=N,1μm,0.2s						
MNAS	**Manas**	**4.14**	**97**	⇑Pn	**Pn**	**10 58 28.3**	**+0.9**
	comp=N,32nm,0.4s						
MNAS				⇓Lg	Lg	10 59 36.3	
	comp=N,226nm,0.4s						
MNAS	**Manas**	**4.14**	**97**	PN	**Pn**	**10 58 28.2**	**+0.9**
MNAS				pmax	pmax		
	comp=Z,11nm,0.4s						
MNAS				pmax	pmax		
	comp=N,211nm,0.4s						
DZET	**Dzherino**	**4.57**	**161**	⇑Pn	**Pn**	**10 58 33.4**	**+0.1**
	comp=N,38nm,0.4s						
DZET				⇑Sn	**Sn**	**10 59 25.6**	**-0.9**
	comp=N,220nm,0.6s						
DZET				⇓Lg	Lg	10 59 46.8	
	comp=N,286nm,0.5s						
DZET	**Dzherino**	**4.57**	**161**	PN	**Pn**	**10 58 34.1**	**+0.8**
DZET						10 59 43.2	
DZET				pmax	pmax		
	comp=Z,18nm,0.3s						
DZET				pmax	pmax		
	comp=N,350nm,0.4s						
MRKS	**Merke**	**4.62**	**93**	*e*P	**Pg**	**10 58 49.9**	**-2.6**
	comp=N,54nm,0.5s						
MRKS				*e*S	**Sg**	**10 59 50.4**	**-1.9**
	comp=N,482nm,0.4s						
EKS2	**Erkin-Say**	**5.04**	**93**	*e*PN	**Pn**	**10 58 41.8**	**+2.1**
EKS2	**Erkin-Say**	**5.04**	**93**	*e*Pn	**Pn**	**10 58 41.8**	**+2.1**
AAK	**Ala-Archa**	**5.56**	**93**	Pn	**Pn**	**10 58 49.1**	**+2.1**
	comp=N,31nm,0.3s,baz=252,slow=3.3,SNR=101						
AAK				Lg	Lg	11 00 18.5	
	comp=N,25nm,0.3s,baz=63,slow=15,SNR=8.1						
AAK	**Ala-Archa**	**5.56**	**93**	⇑Pn	**Pn**	**10 58 49.4**	**+2.4**
	comp=N,44nm,0.4s						
AAK				⇑Lg	Lg	11 00 22.9	
	comp=N,301nm,0.8s						
AAK	**Ala-Archa**	**5.56**	**93**	PN	**Pn**	**10 58 48.9**	**+1.9**
AAK				pmax	pmax		
	comp=Z,44nm,0.4s						
AAK				pmax	pmax		
	comp=N,276nm,0.7s						
FRU	**Bishkek**	**5.63**	**91**	*e*PN	**Pn**	**10 58 49.0**	**+1.3**
FRU				*e*		10 59 08.5	
FRU				*e*S	**Sb**	**11 00 13.0**	**+3.2**
FRU				pmax	pmax		
	comp=Z,90nm,1.4s						
FRU				smax	smax		
	comp=E,960nm,1.6s						
OTUK	**Ortayu**	**6.33**	**35**	⇑Pn	**Pn**	**10 58 59.9**	**+2.5**
	comp=E,31nm,0.5s						
OTUK				⇓Sn	**Sn**	**11 00 11.2**	**+1.5**
	comp=E,55nm,0.6s						
OTUK				⇓Lg	Lg	11 00 47.1	
	comp=E,149nm,0.7s						
OTUK	**Ortayu**	**6.33**	**35**	PN	**Pn**	**10 58 59.7**	**+2.3**
OTUK				pmax	pmax		
	comp=Z,31nm,0.5s						
OTUK				pmax	pmax		
	comp=N,149nm,0.7s						
TKM2	**Tokmak 2**	**6.34**	**89**	⇑Pn	**Pn**	**10 58 59.2**	**+1.5**
	comp=N,13nm,0.4s						
TKM2				⇑Lg	Lg	11 00 46.9	
	comp=N,318nm,0.7s						
TKM2	**Tokmak 2**	**6.34**	**89**	PN	**Pn**	**10 58 58.2**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,16nm,0.4s						
TKM2				pmax	pmax		
	comp=N,348nm,0.8s						
TKM2	**Tokmak 2**	**6.34**	**89**	*e*Pn	**Pn**	**10 58 59.4**	**+1.7**
DGS	**Degeres**	**6.45**	**86**	*e*P	Pg	10 59 22.2	-5.1
	comp=N,27nm,0.4s						
DGS				*e*S	**Sg**	**11 00 46.2**	**-4.6**
	comp=N,305nm,0.6s						
KNDC	**Almaty**	**7.32**	**86**	⇑Lg	Lg	11 01 17.0	
	comp=N,495nm,0.8s						
KSH	**Kashi**	**7.70**	**115**	Pn	**Pn**	**10 59 16.4**	**+0.2**
KSH				Sn	**Sn**	**11 00 39.8**	**-3.7**
KSH				SMN			
	comp=N,47nm,0.4s						
KSH				SME			
	comp=N,57nm,0.6s						
AB31	**Akbulak array**	**7.80**	**324**	⇑Pn	**Pn**	**10 59 18.4**	**+0.9**
	comp=N,3.0nm,0.3s,baz=138,slow=13,SNR=196						
AB31				Sn	**Sn**	**11 00 44.0**	**-1.7**
	comp=N,11nm,0.4s,baz=150,slow=22,SNR=6.5						
AB31	**Akbulak array**	**7.80**	**324**	*e*P	**Pn**	**10 59 18.3**	**+0.9**
AB31						11 00 44.0	
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AB31				smax	smax		
	comp=N,11nm,0.4s						
ABKAR	**Akbulak array**	**7.80**	**324**	*e*Pn	**Pn**	**10 59 18.5**	**+1.1**
ABKAR				*e*Sn	**Sn**	**11 00 43.1**	**-2.7**

GEYT	**Alibeck**	**8.51**	**235**	Pn	**Pn**	**10 59 24.8**	**-2.6**
	comp=N,3.4nm,0.3s,baz=46,slow=8.5,SNR=14						
GEYT				Sn	Sn	11 00 54.7	-8.8
	comp=N,8.3nm,0.3s,baz=51,slow=12,SNR=4.1						
KBL	**Kabul**	**8.76**	**169**	*e*P	**Pn**	**10 59 31.7**	**+0.9**
KBL	**Kabul**	**8.76**	**169**	*e*Pn	**Pn**	**10 59 31.7**	**+0.9**
PDGK	**Podgornoye**	**9.15**	**85**	⇓Pn	**Pn**	**10 59 37.8**	**+1.9**
	comp=N,4.8nm,0.5s						
PDGK				⇑Lg	Lg	11 02 14.9	
	comp=N,139nm,0.9s						
PDGK	**Podgornoye**	**9.15**	**85**	P	**Pn**	**10 59 37.8**	**+1.9**
PDGK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PDGK				pmax	pmax		
	comp=N,139nm,0.9s						
AKTO	**Aktyubinsk**	**9.51**	**323**	Pn	**Pn**	**10 59 42.0**	**+1.0**
	comp=N,1.3nm,0.3s,baz=133,slow=12,SNR=13						
AKTO				Sn	**Sn**	**11 01 27.5**	**-0.4**
	comp=N,2.0nm,0.3s,baz=335,slow=23,SNR=5.8						
AKTO				Lg	Lg	11 02 34.3	
	comp=N,1.3nm,0.3s,baz=237,slow=21,SNR=4.0						
AKTO	**Aktyubinsk**	**9.51**	**323**	⇑Pn	**Pn**	**10 59 41.8**	**+0.9**
	comp=N,2.0nm,0.4s						
AKTO				⇓Sn	**Sn**	**11 01 26.3**	**-1.6**
	comp=N,11nm,0.5s						
AKTO	**Aktyubinsk**	**9.51**	**323**	P	**Pn**	**10 59 41.8**	**+0.9**
AKTO						11 01 26.3	
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKTO				smax	smax		
	comp=N,11nm,0.5s						
ZRNK	**Zerenda**	**9.90**	**7**	*e*P	**Pn**	**10 59 47.5**	**+1.3**
ZRNK	**Zerenda**	**9.90**	**7**	*e*Pn	**Pn**	**10 59 47.5**	**+1.3**
ZRNK				*e*ScS	ScS	11 13 02.0	-2.7
CEP	**Cherat**	**10.09**	**156**	P	**Pn**	**10 59 49.3**	**+0.2**
CEP				S	**Sn**	**11 01 40.0**	**-2.4**
BVA0	**Borovoye Array**	**10.14**	**12**	⇓Pn	**Pn**	**10 59 50.2**	**+0.7**
	comp=N,12nm,0.7s,baz=183,slow=11,SNR=58						
BVA0				⇓Lg	Lg	11 02 46.5	
	comp=N,124nm,0.9s						
BVA0	**Borovoye Array**	**10.14**	**12**	*i* P	**Pn**	**10 59 50.2**	**+0.7**
BVA0				pmax	pmax		
	comp=Z,12nm,0.7s						
BVA0				pmax	pmax		
	comp=N,124nm,1.0s						
BVAR	**Borovoye Array**	**10.14**	**12**	Pn	**Pn**	**10 59 50.7**	**+1.2**
	comp=N,4.1nm,0.3s,baz=181,slow=13,SNR=51						
BVAR				Sn	**Sn**	**11 01 40.7**	**-2.5**
	comp=N,3.3nm,0.3s,baz=195,slow=21,SNR=3.6						
BVAR				Lg	Lg	11 02 44.2	
	comp=N,3.3nm,0.3s,baz=199,slow=24,SNR=2.4						
BRVK	**Borovoye**	**10.15**	**11c**	*i* P	**Pn**	**10 59 50.7**	**+1.0**
BRVK	**Borovoye**	**10.15**	**11**	*e*Pn	**Pn**	**10 59 51.1**	**+1.4**
BRVK				*e*Sn	**Sn**	**11 01 41.0**	**-2.6**
CHKZ	**Chkalovo**	**10.80**	**12**	⇑Pn	**Pn**	**10 59 58.8**	**+0.2**
	comp=N,2.8nm,0.4s						
CHKZ				⇓Sn	**Sn**	**11 01 58.0**	**-1.5**
	comp=N,10nm,0.4s						
CHKZ				⇓Lg	Lg	11 03 01.5	
	comp=N,29nm,0.7s						
KURBB	**Kurchatov Arra**	**10.88**	**43**	Pn	**Pn**	**10 59 59.9**	**+0.3**
	comp=N,0.5nm,0.3s,baz=240,slow=14,SNR=20						
KURBB				Sn	**Sn**	**11 01 53.4**	**-7.9**
	comp=N,0.2nm,0.3s,baz=241,slow=17,SNR=4.2						
KURBB				Lg	Lg	11 03 09.8	
	comp=N,1.1nm,0.3s,baz=230,slow=30,SNR=9.7						
KURBB	**Kurchatov Arra**	**10.88**	**43**	Pn	**Pn**	**10 59 59.3**	**-0.3**
KURBB				Lg	Lg	11 03 16.8	
KURK	**Kurchatov**	**10.98**	**42**	*e*P	**Pn**	**11 00 01.3**	**+0.3**
KURK	**Kurchatov**	**10.98**	**42**	*e*Pn	**Pn**	**11 00 01.3**	**+0.3**
KURK				Sn	Sn	11 01 53.4	-10
KURK				Lg	Lg	11 03 09.8	
MAKZ	**Makanchi**	**11.25**	**66**	⇑Pn	**Pn**	**11 00 04.3**	**-0.4**
	comp=N,5.4nm,0.3s						
MAKZ				Lg	Lg	11 03 22.1	
MAKZ	**Makanchi**	**11.25**	**66**	P	**Pn**	**11 00 04.3**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MAKZ	**Makanchi**	**11.25**	**66**	*e*Pn	**Pn**	**11 00 04.9**	**+0.1**
MK31	**Makanchi Array**	**11.45**	**66**	⇓Pn	**Pn**	**11 00 07.8**	**+0.2**
	comp=Z,10nm,0.5s,baz=250,slow=13,SNR=128						
MK31				⇓Sn	Sn	11 02 25.4	+10
	comp=Z,2.6nm,0.4s,baz=258,slow=22,SNR=4.6						
MK31				⇑Lg	Lg	11 03 27.7	
	comp=Z,40nm,0.7s,baz=264,slow=27,SNR=3.9						
MK31	**Makanchi Array**	**11.45**	**66**	*e*P	**Pn**	**11 00 07.5**	**-0.1**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MK31				pmax	pmax		
	comp=N,38nm,0.7s						
MK31	**Makanchi Array**	**11.45**	**66**	*e*Pn	**Pn**	**11 00 07.8**	**+0.2**
MKAR	**Makanchi Array**	**11.45**	**66**	Pn	**Pn**	**11 00 07.7**	**+0.1**
	comp=N,5.6nm,0.3s,baz=251,slow=17,SNR=85						
MKAR				Sn	**Sn**	**11 02 18.7**	**+3.2**
	comp=N,1.2nm,0.3s,baz=260,slow=17,SNR=3.0						
MKAR				Lg	Lg	11 03 25.6	
	comp=N,1.4nm,0.3s,baz=251,slow=15,SNR=5.1						
MKAR				LR	LR	11 04 14.2	
	comp=N,54nm,18.4s,baz=232,slow=36						
MKAR	**Makanchi Array**	**11.45**	**66**	*i* P	**Pn**	**11 00 07.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,11nm,0.3s						
MK01	**Makanchi Array**	**11.46**	**66**	*e*Pn	**Pn**	**11 00 07.8**	**+0.2**
THN	**Thein Dam**	**12.74**	**144**	*e*P	Pn	11 00 18.6	-6.6
THN				*e*S	Sn	11 02 32.6	-14
ARU	**Arti**	**14.33**	**341**	*d i*P	**Pn**	**11 00 45.4**	**-1.4**
ARU				S	**Sn

WSAR LR LR 11 12 35.4
comp=Z,59nm,18.9s,baz=216,slow=44
PKIN Phulchoki 21.55 130 *e*P **P 11 02 15.4 +1.6**
comp=Z,12nm,0.6s
OBN Obninsk 23.00 312 *e*P **P 11 02 24.5 -4.2**
OBN pmax pmax
comp=Z,3.0nm,0.6s
GTA Gaotai 24.88 87 *e*P **P 11 02 47.4 +0.4**
GTA pP sP 11 02 51.6 +0.3
GTA sP pP 11 02 54.8 +4.8
GTA PMZ
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 25.11 274 *e*P **P 11 02 48.5 -0.6**
BRTR Keskin Array B 25.11 274 P **P 11 02 50.7 +1.6**
comp=Z,6.9nm,0.8s,baz=87,slow=8.8,SNR=34
BRTR Keskin Array B 25.11 274 *i*P **P 11 02 54.0 +4.9**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BR231 Keskin MP Arra 25.71 274 *e*P **P 11 02 51.5 -2.9**
ZAK Zakamensk 25.71 61 *e*P **P 11 02 55.1 +0.8**
ZAK pmax pmax
comp=Z,3.0nm,2.2s
TLY Talaya 26.01 58 LR LR 11 13 54.4
comp=Z,50nm,20.1s,baz=285,slow=38
AKASG Malin Array Be 26.62 300 P **P 11 03 05.0 +2.6**
comp=Z,0.4nm,0.3s,baz=77,slow=8.6,SNR=5.5
AKASG Malin Array Be 26.62 300 P **P 11 03 05.0 +2.6**
KIEV Kiev 26.63 300 *i*P **P 11 02 57.8 -4.7**
KIEV pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 27.82 66 P **P 11 03 14.5 +1.1**
comp=Z,0.7nm,0.5s,baz=277,slow=10,SNR=5.2
ULN Ulaanbaatar 28.26 66*c i*P **P 11 03 19.0 +1.6**
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 28.26 66 *e*P **P 11 03 17.4 +0.1**
comp=Z,9.3nm,0.6s
NRIK Noril'sk 28.32 15 LR LR 11 16 43.2
comp=Z,51nm,18.4s,baz=211,slow=41
LZH Lanzhou 29.10 91 *e*P **P 11 03 27.3 +2.3**
LZH pP sP 11 03 31.5 +2.2
LZH sP pP 11 03 34.3 +6.3
LZH e**P**P **PnPn 11 04 21.5 +4.4**
LZH PMZ
comp=Z,23nm,1.0s
LZH PMZ
comp=Z,72nm,4.7s
LZH LN
comp=Z,310nm,11.5s
LZH LE
comp=Z,270nm,11.2s
LZH LZ
comp=Z,350nm,13.5s
FINES FINESS Array B 30.28 321 P **P 11 03 38.3 +3.4**
comp=Z,1.0nm,0.7s,baz=135,slow=20,SNR=2.6
HHC Hu-ho-hao-te 32.94 78 *e*P **P 11 03 59.8 +1.1**
HHC pP sP 11 04 05.1 +2.1
HHC PP **PP 11 05 11.8 -1.2**
HHC S **S 11 09 18.0 +1.4**
HHC PMZ
comp=Z,11nm,1.1s
HHC PMZ
comp=Z,140nm,5.4s
KMI Kunming 34.32 110 P **P 11 04 13.4 +2.4**
KMI PMZ
comp=Z,7.0nm,0.7s
KMI PMZ
comp=Z,53nm,4.9s
GYA Guiyang 36.23 104 *e*P **P 11 04 29.0 +1.7**
GYA PMZ
comp=Z,10.0nm,0.8s
HIA Hailar 36.40 62 *e*P **P 11 04 27.7 -0.7**
HIA pmax pmax
comp=Z,3.0nm,0.8s
GEC2 GERESS Array S 36.79 298 *e*P P 11 04 37.2 +5.4
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 36.79 298 *e*P P 11 04 37.2 +5.4
comp=Z,3.6nm,0.8s
GERES GERESS Array B 36.79 298 P **P 11 04 35.1 +3.4**
comp=Z,2.6nm,0.8s,baz=70,slow=7.7,SNR=16
GEA0 GERESS Array S 36.79 298 *e*P **P 11 04 36.4 +4.6**
NOA NORSAR Array B 37.26 318 P **P 11 04 37.5 +1.8**
comp=Z,0.5nm,0.6s,baz=94,slow=8.5,SNR=2.7
YAK Yakutsk 40.61 40 *e*P **P 11 05 05.2 +1.7**
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.3s
USRK Ussuriysk Ar. 45.92 65 P **P 11 05 47.8 +1.1**
comp=N,1.8nm,0.5s,baz=301,slow=6.6,SNR=7.7
KSAR Wonju Array Be 45.92 76 P **P 11 05 47.5 +0.7**
KSAR Wonju Array Be 45.92 76 P **P 11 05 47.5 +0.7**
KSRS Korea Array 45.95 76 P **P 11 05 47.5 +0.6**
comp=N,0.5nm,0.4s,baz=136,slow=25,SNR=4.5
MJAR Matsushiro Ar 53.60 71 P **P 11 06 46.0 +0.7**
comp=N,3.0nm,1.0s,baz=302,slow=9.5,SNR=5.7
BILL Bilibino 54.06 27 *e*P **P 11 06 46.5 -1.7**
BILL pmax pmax
comp=Z,2.0nm,1.1s
JHJ Hachijo jima 2 56.50 74 LR LR 11 31 35.4
comp=Z,1µm,19.5s,baz=104,slow=36
TORD Torodi Ar. Bea 63.10 263 P **P 11 07 52.4 +0.5**
comp=Z,1.0nm,0.8s,baz=52,slow=6.7,SNR=5.5
ILAR Eielson Array 69.19 15 P **P 11 08 32.7 +2.4**
comp=Z,0.5nm,0.9s,baz=320,slow=3.2,SNR=4.3
YKA Yellowknife Ar 74.69 1 P **P 11 09 04.7 +1.4**
comp=Z,0.6nm,0.7s,baz=355,slow=6.4,SNR=5.7
WRA Warramunga Arr 88.07 120 P **P 11 10 14.3 -0.5**
comp=Z,1.1nm,0.5s,baz=330,slow=4.7,SNR=21

ARO 16 11:03:25.8,14°N±7°×4°2E±°, h2km±7km, ML3.5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MAOD	**Malaho**	**1.53**	**160**	*e*P		Pn	11 03 52.2	-2.0
TDD	**Tadjoura Ara**	**2.10**	**145**	*e*P		Pn	11 04 01.0	-1.0
OBO	**Obock**	**2.20**	**134**	*e*P		Pn	11 04 02.5	-1.0
ATD	**Arta Tunnel**	**2.30**	**150**	*e*P		Pn	11 04 03.9	-0.9
ATD				*e*S		Sn	11 04 35.0	+1.3
GBR	**Grand-Bara**	**2.49**	**162**	*e*P		Pn	11 04 06.6	-0.8

*JMA **16** 11:04:20.8±0.1, 24.°39N×121.°86E, h36km±4km, M2.4*
*ISCJB **16** 11:04:21.5±0.3, 24.°46N±0.°02×121.°98E±0.°02, h16km±5km,*
Error ellipse: s-maj=3.9km s-min=2.9km az=137.6
*TAP **16** 11:04:21.2, 24.°45N×121.°90E, h21km, ML3.2, B*
ISC 16 11:04:21.3±0.9, 24.°46N±0.°02×121.°96E±0.°02, h17km±6km, n42, σ0°87/64, 7C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TWC	**Suao**	**0.18**	**324**	⇑*i*P		**Pg**	**11 04 26.2**	**+0.3**
	baz=345							
TWC				*i* S		**Sg**	**11 04 29.1**	**+0.1**
	baz=345							
ENA	**Nanau**	**0.21**	**260**	⇑*i*P		**Pg**	**11 04 25.9**	**-0.5**
	baz=260							
EHP	**Heping Village**	**0.25**	**233**	*e*P		**Pg**	**11 04 26.9**	**-0.2**
	baz=219							
ILA	**Ilan**	**0.36**	**327**	P		**Pb**	**11 04 29.1**	**-0.1**
	baz=333							
ILA				*i* S		**Sb**	**11 04 34.7**	**+0.1**
	baz=333							
TWE	**Neicheng**	**0.37**	**314**	⇑*i*P		**Pb**	**11 04 29.0**	**-0.4**
	baz=323							
TWE				*i* S		**Sg**	**11 04 34.0**	**-0.3**
	baz=323							
EGS		**0.38**	**356**	⇓*i*P		**Pb**	**11 04 30.0**	**+0.3**
	baz=4.0							
EGS				*i* S		**Sb**	**11 04 35.0**	**-0.2**
	baz=4.0							
ENTT	**Nioudou**	**0.40**	**296**	⇑*i*P		**Pg**	**11 04 29.3**	**-0.4**
	baz=302							
ENTT				*i* S		**Sg**	**11 04 34.6**	**-0.7**
	baz=302							
TWD	**Chiawan**	**0.51**	**221**	P		**Pg**	**11 04 30.5**	**-1.1**
	baz=221							
TWD				*e*S		**Sg**	**11 04 39.4**	**+1.0**
	baz=221							
NNS	**Nan Shan**	**0.54**	**268**	P		**Pg**	**11 04 31.1**	**-1.0**
	baz=268							
TWB1	**Santiao Chiao**	**0.54**	**2**	P		**Pb**	**11 04 32.5**	**+0.1**
	baz=3.0							
TWB1				*i* S		**Sb**	**11 04 39.9**	**0.0**
	baz=3.0							
HWA	**Hwalien**	**0.58**	**214**	*e*P		**Pg**	**11 04 33.4**	**+0.4**
	baz=215							
NSK	**Sanguang**	**0.59**	**291**	⇑*i*P		**Pg**	**11 04 32.3**	**-0.8**
	baz=296							
NSK				*i* S		**Sg**	**11 04 39.5**	**-1.6**
	baz=296							
TWA	**Mucha**	**0.62**	**326**	*e*P		**Pb**	**11 04 34.4**	**+0.7**
	baz=322							
NWF	**Wu-fen Shan**	**0.63**	**345**	P		**Pb**	**11 04 34.3**	**+0.4**
	baz=342							
NWF				S		**Sb**	**11 04 42.8**	**+0.3**
	baz=342							
WHF	**Hehuan Shan**	**0.71**	**244**	⇑*i*P		**Pg**	**11 04 34.1**	**-1.4**
	baz=249							
TWT	**Tachien**	**0.75**	**254**	*e*P		**Pg**	**11 04 35.3**	**-0.8**
	baz=253							
TWS1	**Kuangyinshan**	**0.81**	**322**	*e*P		**Pn**	**11 04 37.7**	**-0.1**
	baz=320							
TWS1				*e*S		**Sb**	**11 04 48.6**	**+1.1**
	baz=320							
ESL	**Shilin**	**0.81**	**217**	*e*P		**Pg**	**11 04 35.9**	**-1.3**
	baz=221							
TWY	**Chenhua**	**0.87**	**338**	P		**Pb**	**11 04 38.6**	**+0.5**
	baz=341							
TWY				*e*S		**Sn**	**11 04 50.8**	**-0.3**
	baz=341							
NSTT	**Nanjuang**	**0.89**	**281**	*e*P		**Pb**	**11 04 38.8**	**+0.4**
	baz=282							
JYNG	**Yonaguni jima**	**0.89**	**91**	P		**Pb**	**11 04 38.6**	**+0.2**
JYNG				S		**Sb**	**11 04 51.3**	**+1.3**
YOJ	**Yonaguni jima**	**0.95**	**90**	P		**Pb**	**11 04 39.4**	**0.0**
YOJ				*e*S		**Sb**	**11 04 52.6**	**+0.9**
YOJ	**Yonaguni jima**	**0.95**	**90**	*e*P		**Pb**	**11 04 39.5**	**+0.1**
	baz=89							
WDT	**Danda**	**1.04**	**227**	*e*P		**Pg**	**11 04 40.3**	**-1.2**
	baz=227							
WDT				*e*S		**Sg**	**11 04 54.6**	**-0.5**
	baz=227							
TWQ1	**Liyutan**	**1.09**	**264**	*e*P		**Pg**	**11 04 42.6**	**0.0**
	baz=271							
NSY	**Sanyi**	**1.10**	**268**	*e*P		**Pn**	**11 04 43.1**	**+1.2**
	baz=268							
EHY	**Hungye**	**1.12**	**212**	*e*P		**Pb**	**11 04 42.1**	**-0.1**
	baz=209							
SMLT	**Sun Moon Lake**	**1.13**	**239**	*e*P		**Pb**	**11 04 41.4**	**-1.1**
	baz=229							
TYC	**Yuchr**	**1.15**	**241**	P		**Pb**	**11 04 42.4**	**-0.4**
	baz=250							
TYC				*e*S		**Sb**	**11 04 58.1**	**+0.7**
	baz=250							
TWF1	**Yuli**	**1.26**	**209**	*e*P		**Pn**	**11 04 43.3**	**-0.9**
	baz=219							
YUS	**Yu-Shan**	**1.34**	**224**	*e*P		**Pn**	**11 04 44.1**	**-1.6**
	baz=224							
YUS				*e*S		**Sb**	**11 05 03.6**	**+0.2**
	baz=224							
ALS	**Alishan**	**1.42**	**228**	*e*P		**Pn**	**11 04 46.7**	**+0.1**
	baz=215							
CHN5	**Tsauling**	**1.46**	**234**	P		**Pn**	**11 04 47.9**	**+1.0**
	baz=234							
IRIF	**Iriomote-Funau**	**1.61**	**94**	P		**Pn**	**11 04 48.2**	**-0.8**
IRIF				*e*S		**Sn**	**11 05 09.4**	**0.0**
CHN4	**Tsaushan**	**1.67**	**229**	⇑P		**Pn**	**11 04 51.4**	**+1.6**
	baz=230							
CHN4				*e*S		**Sb**	**11 05 14.7**	**+2.2**
	baz=230							
STYT	**Tauyuan**	**1.70**	**221**	*e*P		**Pn**	**11 04 51.1**	**+0.8**
	baz=220							
WTP	**Ta-pu**	**1.73**	**226**	*e*P		**Pn**	**11 04 52.0**	**+1.3**
	baz=225							
TWK	**Hsinying**	**1.80**	**229**	*e*P		**Pn**	**11 04 53.6**	**+2.0**
	baz=228							
CHN1	**Nanshi**	**1.83**	**226**	*e*P		**Pn**	**11 04 53.0**	**+1.0**
	baz=227							
CHN1				*e*S		**Sb**	**11 05 18.6**	**+1.6**
	baz=227							
JKRS	**Kuro-shima**	**1.88**	**96**	P		**Pn**	**11 04 53.1**	**+0.5**
JKRS				*e*S		**Sn**	**11 05 15.9**	**0.0**
JIJ	**Ishigaki jima**	**1.99**	**92**	P		**Pn**	**11 04 54.3**	**+0.2**
JIJ				*e*S		**Sn**	**11 05 17.6**	**-1.0**
JISG	**Ishigakijimahi**	**2.14**	**86**	P		**Pn**	**11 04 56.0**	**-0.2**
JISG				*e*S		**Sn**	**11 05 22.4**	**0.0**

*DDA **16** 11:26:38.5, 39.°53N×39.°92E, h7km, Md2.6*
*ISK **16** 11:26:38.6, 39.°53N×39.°88E, h16km, MD2.6*
*ISCJB **16** 11:26:39.4±0.6, 39.°52N±0.°03×39.°91E±0.°04, h7km±6km,*
Error ellipse: s-maj=6.2km s-min=4.6km az=41.6
*CSEM **16** 11:26:39.4±0.2, 39.°53N×39.°89E, h2km, MD2.6, Error*
ellipse: s-maj=4.8km s-min=3.8km az=49.0
ISC 16 11:26:39.0±1.0, 39.°53N±0.°03×39.°90E±0.°04, h14km±8km, n15, σ0°44/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ERZN	**Erzincan**	**0.15**	**294**	*e*PG		**Pg**	**11 26 42.6**	**-0.2**
ERZN				*e*SG		**Sg**	**11 26 45.8**	**+0.2**
EUZM	**Uzumlu**	**0.24**	**319**	P		**Pg**	**11 26 44.0**	**-0.3**
EUZM				S		**Sg**	**11 26 48.3**	**+0.4**
EUZM	**Uzumlu**	**0.24**	**319**	*i* P		**Pg**	**11 26 44.0**	**-0.3**
EUZM				*i* S		**Sg**	**11 26 48.3**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.50**	**214**	P		**Pg**	**11 26 48.5**	**-0.3**
TNCL				S		**Sb**	**11 26 56.3**	**-0.5**
TNCL	**Tunceli-Merkez**	**0.50**	**214**	*i* P		**Pg**	**11 26 48.5**	**-0.3**
TNCL				*i* S		**Sb**	**11 26 56.3**	**-0.5**
YEDI	**Yedisu-Bingol**	**0.51**	**100**	*e*PG		**Pb**	**11 26 49.4**	**-0.4**
YEDI				*e*SG		**Sb**	**11 26 57.3**	**+0.2**
YEDI	**Yedisu-Bingol**	**0.51**	**100**	*e*Pg		**Pb**	**11 26 49.4**	**-0.4**
YEDI				*e*Sg		**Sb**	**11 26 57.3**	**+0.2**
PTK	**Pertek**	**0.75**	**212**	*e*PG		**Pb**	**11 26 53.6**	**-0.3**
PTK				*e*SG		**Sb**	**11 27 04.2**	**+0.2**
PTK	**Pertek**	**0.75**	**212**	*e*Pg		**Pb**	**11 26 53.6**	**-0.3**
PTK				*e*Sg		**Sb**	**11 27 04.2**	**+0.2**
BINT	**Bingol**	**0.79**	**145**	*e*Pg		**Pb**	**11 26 55.0**	**+0.3**
KELT	**Kelkit**	**0.80**	**322**	P		**Pg**	**11 26 53.9**	**-0.6**
KELT				S		**Sb**	**11 27 05.3**	**-0.2**
KELT	**Kelkit**	**0.80**	**322**	*i* P		**Pg**	**11 26 53.9**	**-0.6**
KELT				*i* S		**Sb**	**11 27 05.3**	**-0.2**
BNGB	**Bingˆ¶l**	**0.81**	**131**	*e*PG		**Pb**	**11 26 55.0**	**+0.1**
SUSE	**Susehri**	**1.48**	**298**	P		**Pg**	**11 27 07.5**	**+0.2**
SUSE				S		**Sg**	**11 27 27.5**	**+0.9**
SUSE	**Susehri**	**1.48**	**298**	*i* P		**Pg**	**11 27 07.5**	**+0.2**
SUSE				*i* S		**Sg**	**11 27 27.4**	**+0.9**

IDC 16 11:29:04.5±3.6, 5.°90S×150.°54E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/32, mbtmp3.3/2, Error ellipse: s-maj=148.5km s-min=46.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PMG	**Port Moresby**	**4.83**	**224**	P		Pn	11 30 22.9	+4.3
	0.4nm,0.3s,baz=162,slow=19,SNR=1.8							
PMG						Sn	11 31 18.9	+3.6
	0.8nm,0.3s,baz=246,slow=14,SNR=2.0							
WRA	**Warramunga Arr**	**21.05**	**227**	P		P	11 33 50.4	+0.1
	0.5nm,0.6s,baz=53,slow=11,SNR=7.2							
ASAR	**Alice Springs**	**23.84**	**220**	P		P	11 34 19.7	0.0
	0.5nm,0.5s,baz=54,slow=9.5,SNR=8.0							
TORD	**Torodi Ar. Bea**	**148.47**	**286**	PKPbc		PKPbc	11 48 53.5	-0.8
	0.3nm,0.6s,baz=90,slow=2.9,SNR=2.9							

*ISCJB **16** 11:33:23.9±0.4, 40.°59N±0.°02×21.°68E±0.°02, h9km±3km,*
Error ellipse: s-maj=3.2km s-min=2.4km az=27.0
*BEO **16** 11:33:23.8±1.7, 40.°63N×21.°64E, h0km, M2.3/2*
*ATH **16** 11:33:23.6, 40.°57N×21.°71E, h22km±1km, ML2.8/14, Error*
ellipse: s-maj=1.5km s-min=0.9km az=331.0
*CSEM **16** 11:33:24.1±0.1, 40.°58N×21.°69E, h10km, ML3.0, Error*
ellipse: s-maj=2.6km s-min=2.0km az=101.0
*SKO **16** 11:33:24.8, 40.°51N×21.°62E, h2km, M2.1, ML2.8*
*THE **16** 11:33:24.5, 40.°55N×21.°68E, h2km, ML3.0/16, Error*
ellipse: s-maj=0.7km s-min=0.3km az=353.0
ISC 16 11:33:24.3±0.9, 40.°57N±0.°01×21.°70E±0.°01, h9km±8km, n92, σ0°93/159, 4C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KZN	**Kozani**	**0.27**	**168**	P		**Pg**	**11 33 29.9**	**+0.2**
KZN				S		**Sg**	**11 33 33.7**	**+0.3**
KZN	**Kozani**	**0.27**	**168**	P		**Pg**	**11 33 29.9**	**+0.2**
KZN				S		**Sg**	**11 33 33.9**	**+0.5**
FNA	**Florina**	**0.32**	**311**	P		**Pg**	**11 33 30.8**	**0.0**
FNA				S		**Sg**	**11 33 35.5**	**+0.4**
FNA	**Florina**	**0.32**	**311**	P		**Pg**	**11 33 30.8**	**0.0**
FNA				S		**Sg**	**11 33 35.5**	**+0.4**
FNA	**Florina**	**0.32**	**311**	P		**Pg**	**11 33 30.9**	**+0.1**
FNA				S		**Sg**	**11 33 34.5**	**-0.7**
FNA				AML		AML	11 33 36.7	
	comp=N,9797µm,0.3s							
FNA				AML		AML	11 33 36.9	
	comp=E,9993µm,0.3s							
PENT	**Pentalofos**	**0.57**	**229**	P		**Pg**	**11 33 34.4**	**-0.9**
PENT				S		**Sg**	**11 33 43.0**	**+0.2**
PENT	**Pentalofos**	**0.57**	**229**	P		**Pg**	**11 33 34.4**	**-0.9**
PENT				S		**Sg**	**11 33 43.0**	**+0.2**
PENT	**Pentalofos**	**0.57**	**229**	P		**Pg**	**11 33 33.9**	**-1.4**
PENT				S		**Sb**	**11 33 44.0**	**-0.8**
PENT				AML		AML	11 33 47.4	
	comp=E,1717µm,0.3s							
PENT				AML		AML	11 33 47.6	
	comp=N,2410µm,0.3s							
GRG	**Griva**	**0.66**	**54**	P		**Pg**	**11 33 37.3**	**+0.2**
GRG				S		**Sb**	**11 33 47.3**	**-0.1**
GRG	**Griva**	**0.66**	**54**	P		**Pg**	**11 33 37.3**	**+0.2**
GRG				S		**Sg**	**11 33 44.8**	**-0.9**
GRG	**Griva**	**0.66**	**54**	P		**Pb**	**11 33 38.3**	**+0.2**
GRG				S		**Sg**	**11 33 44.8**	**-0.9**
GRG				AML		AML	11 33 51.4	
	comp=N,612µm,0.4s							
GRG				AML		AML	11 33 53.8	
	comp=E,753µm,0.5s							
KPRO	**Kipourio**	**0.67**	**203**	P		**Pg**	**11 33 36.3**	**-0.9**
KPRO				S		**Sg**	**11 33 46.2**	**+0.3**
KPRO	**Kipourio**	**0.67**	**203**	P		**Pg**	**11 33 36.3**	**-0.9**
KPRO				S		**Sg**	**11 33 46.2**	**+0.3**
KPRO	**Kipourio**	**0.67**	**203**	P		**Pg**	**11 33 35.9**	**-1.3**
KPRO				S		**Sb**	**11 33 47.0**	**-0.6**
KPRO				AML		AML	11 33 50.4	
	comp=E,6558µm,0.4s							
KPRO				AML		AML	11 33 50.9	
	comp=N,3381µm,0.3s							
LIT	**Litokhoron**	**0.77**	**128**	P		**Pg**	**11 33 38.6**	**-0.5**
LIT				S		**Sg**	**11 33 50.1**	**+1.0**
LIT	**Litokhoron**	**0.77**	**128**	P		**Pg**	**11 33 39.1**	**0.0**
LIT				S		**Sg**	**11 33 50.1**	**+1.0**
LIT	**Litokhoron**	**0.77**	**128**	P		**Pg**	**11 33 39.1**	**0.0**
LIT				S		**Sb**	**11 33 52.8**	**+2.4**
LIT				AML		AML	11 33 53.3	
	comp=N,3436µm,0.3s							
LIT				AML		AML	11 33 53.9	
	comp=E,3256µm,0.2s							
OHR	**Ohrid**	**0.87**	**309**	⇑*i*Pg		**Pg**	**11 33 40.5**	**-0.6**
OHR				*i* Sg		**Sg**	**11 33 52.3**	**-0.1**
OHR				*e*Lg		Lg	11 33 53.7	
	comp=N,191nm,0.7s							
OHR				*e*Lg		Lg	11 33 53.7	
	comp=E,330nm,0.4s							
OHR	**Ohrid**	**0.87**	**309**	⇑*i*Pg		**Pg**	**11 33 40.4**	**-0.6**
OHR				*i* Sg		**Sg**	**11 33 52.3**	**-0.1**
OHR				*e*Lg		Lg	11 33 53.7	
	comp=E,330nm,0.4s							
THE	**Thessaloniki**	**0.97**	**86**	P		**Pg**	**11 33 42.1**	**-0.8**
THE	**Thessaloniki**	**0.97**	**86**	P		**Pg**	**11 33 42.1**	**-0.8**
VAY	**Valandovo**	**1.00**	**41**	P		**Pg**	**11 33 43.2**	**-0.3**
VAY				S		**Sb**	**11 33 58.5**	**+1.4**
VAY	**Valandovo**	**1.00**	**41**	⇓*i*Pg		**Pb**	**11 33 44.2**	**+0.3**
VAY				*i* Sg		**Sn**	**11 33 59.3**	**+0.4**
VAY				*e*Lg		Lg	11 34 00.7	
	comp=E,176nm,0.6s							
VAY				*e*Lg		Lg	11 34 01.0	
	comp=N,172nm,0.6s							
VAY	**Valandovo**	**1.00**	**41**	P		**Pg**	**11 33 43.2**	**-0.3**
VAY	**Valandovo**	**1.00**	**41**	⇓*i*Pg		**Pb**	**11 33 44.1**	**+0.3**
VAY				S		**Sb**	**11 33 58.5**	**+1.4**
VAY				*i* Sg		**Sn**	**11 33 59.2**	**+0.4**
VAY				*e*Lg		Lg	11 34 00.7	
	comp=N,176nm,0.6s							
THL	**Klokotos Trika**	**1.03**	**166**	P		**Pg**	**11 33 42.7**	**-1.5**
THL				S		**Sb**	**11 33 58.3**	**+0.2**
THL	**Klokotos Trika**	**1.03**	**166**	P		**Pg**	**11 33 42.7**	**-1.5**
THL				S		**Sb**	**11 33 58.3**	**+0.2**
HORT	**Hortiatis**	**1.07**	**88**	P		**Pg**	**11 33 44.8**	**0.0**
HORT				S		**Sb**	**11 34 00.3**	**+1.1**
HORT	**Hortiatis**	**1.07**	**88**	P		**Pg**	**11 33 44.8**	**0.0**
HORT				S		**Sg**	**11 33 59.2**	**+0.5**
HORT	**Hortiatis**	**1.07**	**88**	P		**Pb**	**11 33 45.8**	**+0.8**
HORT				S		**Sg**	**11 33 59.2**	**+0.5**
HORT				AML		AML	11 34 06.1	
	comp=E,243µm,0.5s							
HORT				AML		AML	11 34 08.5	
	comp=N,503µm,0.6s							
JAN	**Janina**	**1.12**	**216**	P		**Pg**	**11 33 45.4**	**-0.4**
JAN				S		**Sb**	**11 34 00.9**	**+0.3**
JAN	**Janina**	**1.12**	**216**	P		**Pg**	**11 33 45.4**	**-0.4**
JAN				S		**Sb**	**11 34 00.9**	**+0.3**
SOH	**Sokhos**	**1.28**	**78**	P		**Pg**	**11 33 48.5**	**-0.5**
SOH				S		**Sn**	**11 34 07.9**	**+2.0**
SOH	**Sokhos**	**1.28**	**78**	P		**Pg**	**11 33 48.5**	**-0.5**
SOH				S		**Sg**	**11 34 02.2**	**-3.4**
SOH	**Sokhos**	**1.28**	**78**	P		**Pg**	**11 33 49.0**	**0.0**
SOH				S		**Sg**	**11 34 02.2**	**-3.4**
SOH				AML		AML	11 34 09.8	
	comp=N,259µm,0.4s							
SOH				AML		AML	11 34 11.4	
	comp=E,488µm,0.4s							
PLG	**Polygyros**	**1.35**	**98**	P		**Pn**	**11 33 49.5**	**+0.1**
PLG				S		**Sn**	**11 34 09.1**	**+1.6**
PLG	**Polygyros**	**1.35**	**98**	P		**Pn**	**11 33 49.5**	**+0.1**
PLG				S		**Sb**	**11 34 08.0**	**+0.8**
PLG	**Polygyros**	**1.35**	**98**	P		**Pn**	**11 33 48.5**	**-0.9**
PLG				S		**Sb**	**11 34 08.0**	**+0.8**
SKO	**Skopje**	**1.41**	**352**	⇑*i*Pg		**Pg**	**11 33 51.3**	**-0.2**
SKO				*i* Sg		**Sn**	**11 34 11.4**	**+2.3**
SKO				*e*Lg		Lg	11 34 11.8	
	comp=E,10nm,0.6s							
SKO				*e*Lg		Lg	11 34 11.9	
	comp=N,15nm,0.9s							
SKO	**Skopje**	**1.41**	**352**	⇑*i*Pg		**Pg**	**11 33 51.3**	**-0.2**
SKO				*i* Sg		**Sn**	**11 34 11.4**	**+2.3**
SKO				*e*Lg		Lg	11 34 11.8	
	comp=N,15nm,0.9s							
SGD	**Sagiada**	**1.48**	**230**	P		**Pn**	**11 33 51.3**	**+0.2**
SGD				S		**Sn**	**11 34 11.3**	**+0.8**
SGD	**Sagiada**	**1.48**	**230**	P		**Pn**	**11 33 51.3**	**+0.2**
SGD				S		**Sn**	**11 34 11.3**	**+0.8**
SGD	**Sagiada**	**1.48**	**230**	P		**Pb**	**11 33 52.1**	**+0.1**
FYTO	**Fytoko, Volos**	**1.50**	**140**	P		**Pn**	**11 33 51.9**	**+0.4**
FYTO				S		**Sg**	**11 34 12.8**	**+0.2**
FYTO	**Fytoko, Volos**	**1.50**	**140**	P		**Pn**	**11 33 51.9**	**+0.4**
FYTO				S		**Sg**	**11 34 12.8**	**+0.2**
FYTO	**Fytoko, Volos**	**1.50**	**140**	P		**Pn**	**11 33 50.4**	**-1.1**
FYTO				S		**Sg**	**11 34 14.3**	**+1.7**
FYTO				AML		AML	11 34 19.0	
	comp=N,462µm,0.6s							
FYTO				AML		AML	11 34 20.2	
	comp=E,343µm,0.4s							
DSL	**Palaion Diasel**	**1.51**	**198**	P		**Pn**	**11 33 51.5**	**-0.1**
DSL				S		**Sg**	**11 34 12.5**	**-0.3**
DSL	**Palaion

comp=E,1280μm,0.4s
AGG AML AML 11 34 27.4
comp=N,986μm,0.4s
EVR Evrytania 1.65 177 P **Pn** **11 33 53.3 -0.4**
EVR S **Sn** **11 34 16.3 +1.2**
EVR Evrytania 1.65 177 P **Pn** **11 33 54.2 +0.5**
EVR S **Sn** **11 34 16.3 +1.2**
EVR Evrytania 1.65 177 P **Pn** **11 33 54.2 +0.5**
EVR S **Sg** **11 34 18.0 +0.5**
EVR AML AML 11 34 21.0
comp=N,621μm,0.4s
KEK Kerkira 1.69 240 P **Pn** **11 33 54.1 0.0**
KEK S **Sb** **11 34 17.0 0.0**
KEK Kerkira 1.69 240 P **Pn** **11 33 54.1 0.0**
KEK S **Sb** **11 34 17.0 0.0**
NEO Neokhori 1.72 137 P **Pn** **11 33 54.6 0.0**
NEO S **Sn** **11 34 18.1 +1.4**
NEO Neokhori 1.72 137 P **Pn** **11 33 54.6 0.0**
NEO S **Sn** **11 34 18.1 +1.4**
NVR Nevrokopi 1.81 64 P **Pn** **11 33 54.0 -1.8**
NVR S **Sn** **11 34 19.1 +0.1**
SKIA Skiathos 1.95 135 P **Pn** **11 33 55.8 -1.9**
SKIA S **Sn** **11 34 22.2 -0.2**
SKIA Skiathos 1.95 135 P **Pn** **11 33 55.8 -1.9**
SKIA S **Sn** **11 34 22.2 -0.2**
SKIA AML AML 11 34 32.4
comp=N,314μm,0.5s
SKIA AML AML 11 34 33.7
comp=E,228μm,0.5s
PVO Paravola 1.96 184 P **Pn** **11 33 57.4 -0.3**
PVO Paravola 1.96 184 P **Pn** **11 33 57.4 -0.3**
PVO Paravola 1.96 184 P **Pb** **11 33 59.7 -0.4**
ANX Ano Chora 1.98 175 P **Pn** **11 33 58.5 +0.3**
ANX S **Sn** **11 34 24.0 +0.8**
ANX Ano Chora 1.98 175 P **Pn** **11 33 58.5 +0.3**
ANX S **Sn** **11 34 24.0 +0.8**
PDO Prodromos 2.01 192 P **Pn** **11 33 58.8 +0.3**
PDO Prodromos 2.01 192 P **Pn** **11 33 58.8 +0.3**
PDO S **Sn** **11 34 23.1 -0.6**
PDO Prodromos 2.01 192 P **Pn** **11 33 59.5 +1.0**
PDO S **Sn** **11 34 23.1 -0.6**
KALE Kalithea 2.20 171 P **Pn** **11 34 00.2 -1.0**
KALE S **Sn** **11 34 28.4 -0.2**
KALE Kalithea 2.20 171 P **Pn** **11 34 00.2 -1.0**
KALE S **Sn** **11 34 28.4 -0.2**
KALE AML AML 11 34 40.4
comp=E,177μm,0.4s
KALE AML AML 11 34 44.8
comp=N,187μm,0.6s
BARS Barje 2.25 2 *e*Pn **Pn** **11 34 02.0 +0.3**
BARS Barje 2.25 2 *e*Pn **Pn** **11 34 02.0 +0.3**
DSF Desfina 2.25 163 P **Pn** **11 34 01.7 -0.1**
DSF Desfina 2.25 163 P **Pn** **11 34 01.7 -0.1**
KLV Kalavryta, Ach 2.25 172 P **Pn** **11 34 04.6 -1.3**
KLV Kalavryta, Ach 2.25 172 P **Pn** **11 34 04.6 -1.3**
SELS Selova 2.68 351 *e*Pn **Pn** **11 34 07.4 -0.3**
ZAPS Zavoj 2.79 14 *e*Pn **Pn** **11 34 08.3 -0.9**
ZAPS *e*Sn **Sn** **11 34 43.7 +0.6**
IVAS Ivanjica 3.22 340 *e*Pn **Pn** **11 34 14.3 -0.8**
IVAS Ivanjica 3.22 340 *e*Pn **Pn** **11 34 14.3 -0.8**
GRUS Gruza 3.40 348 *e*Pn **Pn** **11 34 16.0 -1.5**
GRUS Gruza 3.40 348 *e*Pn **Pn** **11 34 16.0 -1.5**
BBLS Lazići 3.71 333 *e*Pn **Pn** **11 34 21.7 -0.2**
BBLS Lazići 3.71 333 *e*Pn **Pn** **11 34 21.7 -0.2**
TRUS Trudelj 3.77 346 *e*Pn **Pn** **11 34 21.7 -1.0**
TRUS Trudelj 3.77 346 *e*Pn **Pn** **11 34 21.7 -1.0**
TEKS Tekeris 4.29 339 *e*Pn **Pn** **11 34 29.3 -0.5**
TEKS Tekeris 4.29 339 *e*Pn **Pn** **11 34 29.3 -0.5**

JMA 16 11:36:24.9±0.1,**37°.35N**×**141°.37E**,**h31**km±1km,**M3.0,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.40**	**273**	P	Pb	11 36 33.7	-0.1
JFK				S	Sb	11 36 39.5	-0.4
ONAJ	**Iwakimizuishiy**	**0.52**	**242**	P	Pb	11 36 35.4	-0.3
ONAJ				S	Sb	11 36 42.4	-0.7
JMM	**Marumori**	**0.69**	**319**	P	Pb	11 36 37.8	-0.7
JFT	**Otama**	**0.84**	**282**	P	Pb	11 36 41.0	0.0
JFT				S	Sb	11 36 52.0	0.0
JHO	**Hitachi**	**0.98**	**221**	P	Pn	11 36 41.8	-0.7
JHO				S	Sn	11 36 53.9	-1.4
JIO	**Ouri**	**1.10**	**359**	P	Pn	11 36 43.8	-0.4
JIO				S	Sn	11 36 57.3	-1.1
JOU	**Okura**	**1.16**	**331**	P	Pn	11 36 45.6	+0.6
JOU				S	Sb	11 37 01.0	0.0
MAT	**Matsushiro**	**2.66**	**253**	P	Pn	11 37 08.3	+2.7
MAT				S	Sb	11 37 40.5	-3.5

*IDC **16** 11:38:52.6±1.1, 15°.81N×119°.97E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/49, mbtmp3.7/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/49, Error ellipse: s-maj=55.7km s-min=19.3km az=63.0*
*ISCJB **16** 11:38:55.8±0.8, 15°.51N±0°.08×119°.07E±0°.06, h31km, mb3.6/5, MS3.0/2, Error ellipse: s-maj=12.0km s-min=7.9km az=163.9*
ISC 16 11:38:58.3±1.0,**15°.55N**±0°.08×**119°.30E**±0°.07,**h31**km,**n13,**
σ2s**11**/14,**mb3.6**/5,**Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.63**	**69**	*e*P	Pb	11 39 01.5	-9.4
SCZP				*e*S	**Sn**	**11 39 22.7**	**+2.5**
BOLP	**Bolinao**	**1.02**	**36**	*e*P	**Pn**	**11 39 14.2**	**-2.3**
BOLP				*e*S	**Sb**	**11 39 30.8**	**+0.4**
BALP	**Baler**	**2.21**	**85**	*e*P	**Pn**	**11 39 34.7**	**+1.9**
BALP				*e*S	**Sb**	**11 40 03.9**	**-0.5**
CAUP	**Cauayan**	**2.79**	**60**	*e*P	**Pb**	**11 39 45.3**	**-2.2**
CAUP				*e*S	Sb	11 40 30.9	+10
APYP	**Conner**	**2.96**	**39**	*e*P	**Pn**	**11 39 45.0**	**+1.8**
APYP				*e*S	**Sb**	**11 40 28.4**	**+2.2**
CMAR	**Chiang Mai Arr**	**19.68**	**281**	P	**Pn**	**11 43 30.4**	**+3.9**
	2.0nm,0.8s,baz=93,slow=7.5,SNR=13						
JNU	**Nakatsue**	**20.40**	**29**	LR	LR	11 51 15.1	
	comp=Z,25nm,20.4s,baz=118,slow=37						
SONM	**Songino Array**	**33.91**	**344**	P	**P**	**11 45 37.9**	**-0.6**
	0.3nm,0.4s,baz=168,slow=8.8,SNR=3.1						
WRA	**Warramunga Arr**	**38.25**	**157**	P	**P**	**11 46 14.5**	**-1.3**
	0.9nm,0.6s,baz=330,slow=10.0,SNR=6.4						
ASAR	**Alice Springs**	**41.51**	**160**	P	**P**	**11 46 42.0**	**-0.9**
	1.5nm,1.2s,baz=336,slow=6.7,SNR=5.7						
MKAR	**Makanchi Array**	**43.74**	**323**	P	**P**	**11 47 00.3**	**-0.5**
	0.7nm,0.8s,baz=127,slow=7.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**46.80**	**333**	P	**P**	**11 47 23.6**	**-1.2**
	0.5nm,0.3s,baz=131,slow=6.5,SNR=3.9						
JMIC	**Jan Mayen**	**86.67**	**345**	LR	LR	12 36 59.9	
	comp=Z,13nm,18.8s,baz=69,slow=40						

*IDC **16** 11:40:44.5±1.1, 36°.15N×141°.12E, h0km, mb3.5/4, mb1 3.7/8, mb1mx3.5/50, mbtmp3.6/8, ML3.8/3, MS2.0/1, Ms1 2.0/1, ms1mx1.8/36, Error ellipse: s-maj=27.6km s-min=21.4km az=100.0*
*JMA **16** 11:40:51.8±0.1, 36°.36N×140°.85E, h55km±1km, M3.3*
ISC 16 11:40:48.8±1.5,**36°.27N**±0°.04×**141°.10E**±0°.06,**h31**km±11km,
n23,σ2s**04**/26,**mb3.6**/4,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.55**	**309**	P	**Pn**	**11 41 01.7**	**+1.3**
JHO				S	**Sn**	**11 41 08.6**	**+0.1**
JYT	**Yasato**	**0.73**	**267**	P	**Pb**	**11 41 04.0**	**+1.0**
JYT				*e*S	**Sb**	**11 41 11.2**	**-1.5**
ONAJ	**Iwakimizuishiy**	**0.87**	**344**	P	**Pb**	**11 41 05.9**	**+0.5**
ONAJ				S	**Sn**	**11 41 16.0**	**-0.5**
JFK	**Kawauchi**	**1.11**	**351**	P	**Pb**	**11 41 09.1**	**-0.4**
JFK				S	**Sn**	**11 41 21.8**	**-0.7**
JAG	**Ashikaga**	**1.33**	**277**	P	**Pb**	**11 41 11.8**	**-1.4**
JAG				S	**Sn**	**11 41 26.4**	**-1.5**
JFT	**Otama**	**1.39**	**334**	P	**Pb**	**11 41 13.5**	**-0.7**
JFT				S	**Sn**	**11 41 29.4**	**+0.1**
MJAR	**Matsushiro Arr**	**2.34**	**278**	Pn	**Pn**	**11 41 26.2**	**+1.1**
	21nm,0.3s,baz=91,slow=16,SNR=189						
MJAR				LR	LR	11 42 18.6	
	comp=Z,32nm,19.1s,baz=140,slow=40						
MAT	**Matsushiro**	**2.35**	**278**	P	**Pn**	**11 41 26.5**	**+1.3**
MAT				S	**Sn**	**11 41 49.6**	**-3.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.32**	**199**	Pn	**Pn**	**11 41 41.8**	**+3.3**
	7.3nm,0.3s,baz=122,slow=2.4,SNR=1.6						
JHJ				Sn	**Sn**	**11 42 19.9**	**+2.9**
	10nm,0.3s,baz=256,slow=24,SNR=1.6						
ASAJ	**Asahikawa**	**7.93**	**8**	Pn	**Pn**	**11 42 41.5**	**-0.3**
	1.1nm,0.3s,baz=200,slow=11,SNR=3.7						
JCJ	**Chichijima**	**9.19**	**174**	Pn	**Pn**	**11 42 58.5**	**-0.7**
	1.5nm,0.3s,baz=93,slow=22,SNR=1.3						
JCJ				Sn	**Sn**	**11 44 36.6**	**-4.9**
	2.1nm,0.3s,baz=320,slow=22,SNR=1.1						
USRK	**Ussuriysk Ar.**	**10.54**	**322**	Pn	**Pn**	**11 43 18.4**	**+0.8**
	0.2nm,0.3s,baz=296,slow=18,SNR=4.6						
KSRS	**Korea Array**	**10.62**	**280**	Pn	**Pn**	**11 43 22.7**	**+4.0**
	0.2nm,0.3s,baz=96,slow=15,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**27.99**	**119**	T	T	12 16 04.3	
	baz=312,slow=75,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**27.99**	**119**	T	T	12 16 05.0	
	baz=312,slow=75,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**28.00**	**119**	T	T	12 16 06.8	
	baz=312,slow=75,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**28.67**	**121**	T	T	12 17 00.2	
	baz=314,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hy**	**28.67**	**121**	T	T	12 16 54.0	
	baz=314,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.68**	**121**	T	T	12 16 57.5	
	baz=314,slow=75,SNR=12						
MKAR	**Makanchi Array**	**44.31**	**303**	P	**P**	**11 48 55.4**	**-0.3**
	0.3nm,0.7s,baz=87,slow=10,SNR=2.6						
ILAR	**Eielson Array**	**50.28**	**32**	P	**P**	**11 49 43.1**	**+1.3**
	0.8nm,0.8s,baz=275,slow=6.5,SNR=11						
INK	**Inuvik**	**55.19**	**27**	P	**P**	**11 50 19.7**	**+1.7**
	0.5nm,0.5s,baz=283,slow=8.2,SNR=2.8						
WRA	**Warramunga Arr**	**56.27**	**188**	P	**P**	**11 50 25.2**	**-1.1**
	0.3nm,0.9s,baz=5.2,slow=7.5,SNR=2.8						

*IDC **16** 11:43:46.9±1.1, 15°.71N×119°.98E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/46, mbtmp3.7/6, MS3.6/4, Ms1 3.6/4, ms1mx2.8/51, Error ellipse: s-maj=56.0km s-min=18.7km az=63.0*
*ISCJB **16** 11:43:48.6±0.9, 15°.57N±0°.05×119°.07E±0°.06, h10km, mb3.6/5, MS4.0/3, Error ellipse: s-maj=8.9km s-min=7.2km az=6.0*
*MAN **16** 11:43:49, 15°.60N×119°.23E, h12km, mb4.9, ML3.9, MS4.0*
ISC 16 11:43:50.0±0.9,**15°.48N**±0°.06×**119°.26E**±0°.07,**h10**km,**n15,**
σ2s**10**/15,**mb3.7**/5,**MS4.1**/3,**Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.69**	**65**	*e*P	**Pn**	**11 44 10.0**	**+4.1**
SCZP				*e*S	Sn	11 44 28.0	+11
BOLP	**Bolinao**	**1.09**	**35**	*e*P	Pg	11 44 06.5	-4.5
BOLP				*e*S	**Sg**	**11 44 25.5**	**+0.1**
LUBP	**Lubang**	**1.98**	**151**	*e*P	**Pn**	**11 44 25.0**	**+1.4**
LUBP				*e*S	**Sb**	**11 44 51.8**	**+0.8**
BALP	**Baler**	**2.25**	**83**	*e*P	**Pn**	**11 44 29.2**	**+1.9**
BALP				*e*S	**Sb**	**11 44 58.7**	**0.0**
CAUP	**Cauayan**	**2.86**	**59**	*e*P	**Pb**	**11 44 40.2**	**-1.0**
CAUP				*e*S	Sg	11 45 31.0	+8.9
APYP	**Conner**	**3.04**	**39**	*e*P	**Pn**	**11 44 38.5**	**+0.3**
APYP				*e*S	**Sn**	**11 45 14.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**19.65**	**282**	P	**Pn**	**11 48 24.7**	**+4.1**
	1.9nm,0.8s,baz=97,slow=7.2,SNR=11						
CMAR				LR	LR	11 56 13.1	
	comp=Z,26nm,18.1s,baz=110,slow=37						
SONM	**Songino Array**	**33.97**	**344**	P	**P**	**11 50 32.3**	**-1.5**
	0.3nm,0.3s,baz=168,slow=8.7,SNR=3.3						
WRA	**Warramunga Arr**	**38.20**	**157**	P	**P**	**11 51 08.1**	**-2.1**
	1.1nm,0.7s,baz=336,slow=9.4,SNR=6.3						
ASAR	**Alice Springs**	**41.46**	**160**	P	**P**	**11 51 35.1**	**-2.2**
	0.7nm,0.7s,baz=337,slow=6.8,SNR=8.8						
MKAR	**Makanchi Array**	**43.78**	**323**	P	**P**	**11 51 55.8**	**-0.1**
	0.8nm,0.8s,baz=136,slow=9.7,SNR=6.4						
ZALV	**Zalesovo Beam**	**46.84**	**333**	P	**P**	**11 52 19.2**	**-0.9**
	0.6nm,0.4s,baz=138,slow=9.4,SNR=2.6						
AFI	**Afiamalu**	**74.18**	**110**	LR	LR	12 20 18.2	
	comp=Z,184nm,21.9s,baz=150,slow=30						
URZ	**Urewera**	**76.10**	**137**	LR	LR	12 33 20.2	
	comp=Z,85nm,18.1s,baz=360,slow=39						
MMAI	**Mount Meron Ar**	**76.67**	**301**	LR	LR	12 33 50.1	
	comp=Z,18nm,18.3s,baz=290,slow=39						

*ISCJB **16** 11:49:35.8±1.8, 20°.9S±0°.4×178°.5W±0°.3, h579km, mb3.8/8, Error ellipse: s-maj=68.8km s-min=17.0km az=147.9*
*IDC **16** 11:49:36.4±6.1, 20°.89S×178°.50W, h574km±61km, mb3.2/8, mb1 3.4/9, mb1mx3.2/33, mbtmp4.2/9, Error ellipse: s-maj=69.5km s-min=28.0km az=138.0*
ISC 16 11:49:37.0±1.8,**20°.9S**±0°.4×**178°.6W**±0°.3,**h579**km,**n13,**
σ0s**51**/12,**mb3.8**/8,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.99**	**262**	P	**P**	**11 52 35.7**	**-0.5**
	0.6nm,0.3s,baz=119,slow=23,SNR=6.0						
CTA	**Charters Tower**	**32.91**	**265**	P	**P**	**11 55 25.4**	**+0.6**
	3.8nm,0.5s,baz=76,slow=11,SNR=7.7						
STKA	**Stephens Creek**	**37.13**	**244**	P	**P**	**11 55 59.4**	**-0.3**
	3.1nm,0.8s,baz=96,slow=8.7,SNR=3.4						
ASAR	**Alice Springs**	**43.90**	**257**	P	**P**	**11 56 53.9**	**+0.3**
	1.6nm,0.5s,baz=90,slow=8.3,SNR=42						
WRA	**Warramunga Arr**	**44.00**	**263**	P	**P**	**11 56 54.4**	**-0.1**
	0.6nm,0.3s,baz=96,slow=7.6,SNR=75						
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	**P**	**11 57 57.8**	**+0.8**
	2.3nm,0.9s,baz=109,slow=5.3,SNR=6.8						
PETK	**Petropavlovsk-**	**76.48**	**346**	P	**P**	**12 00 27.8**	**0.0**
	2.8nm,0.6s,baz=123,slow=5.3,SNR=4.0						
ILAR	**Eielson Array**	**88.79**	**13**	P	**P**	**12 01 29.0**	**-0.3**
	0.6nm,0.6s,baz=222,slow=5.4,SNR=10.0						
PDAR	**Pinedale Array**	**89.60**	**43**	P	**P**	**12 01 34.1**	**+0.1**
	0.7nm,0.6s,baz=177,slow=3.0,SNR=4.2						
ARCES	**ARCESS Array B**	**129.18**	**349**	PKP	**PKPdf**	**12 07 39.6**	**+0.3**
	0.8nm,0.6s,baz=70,slow=1.4,SNR=4.6						
AKASG	**Malin Array Be**	**143.06**	**330**	PKP	PKPab	12 08 03.0	-0.2
	1.0nm,0.4s,baz=43,slow=4.1,SNR=15						
BRTR	**Keskin Array B**	**146.67**	**312**	PKPbc	**PKPbc**	**12 08 14.2**	**-0.7**
	0.6nm,0.5s,baz=159,slow=6.1,SNR=4.4						
GERES	**GERESS Array B**	**150.39**	**343**	PKPbc	**PKPbc**	**12 08 24.2**	**+0.5**
	0.4nm,0.2s,baz=318,slow=1.8,SNR=4.6						

*ISK **16** 11:49:48.9, 39°.39N×28°.01E, h4km, ML3.4*
*THE **16** 11:49:49.8, 39°.33N×28°.02E, h5km±1km, ML3.2/7, Error ellipse: s-maj=1.9km s-min=0.6km az=102.0*
*DDA **16** 11:49:49.3, 39°.39N×27°.94E, h7km, Ml3.5*
*CSEM **16** 11:49:49.6±0.1, 39°.38N×27°.99E, h5km, ML3.4, Error ellipse: s-maj=2.3km s-min=2.2km az=136.0*
*ISCJB **16** 11:49:49.1±0.5, 39°.38N±0°.02×27°.98E±0°.02, h4km±3km, Error ellipse: s-maj=2.8km s-min=2.6km az=31.4*
*ATH **16** 11:49:50.6, 39°.37N×27°.86E, h28km±8km, ML3.1/4, Error ellipse: s-maj=8.6km s-min=2.5km az=93.0*
ISC 16 11:49:49.5±1.0,**39°.38N**±0°.01×**27°.99E**±0°.02,**h7**km±8km,
n135,σ0s**76**/183,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.28**	**343**	PG	**Pg**	**11 49 55.0**	**0.0**
BALB				SG	**Sg**	**11 49 59.6**	**+0.9**
BALB	**Balikesir**	**0.28**	**343**	*i* Pg	**Pg**	**11 49 55.0**	**0.0**
BALB				*i* Sg	**Sg**	**11 49 59.6**	**+0.9**
BALY	**Balya**	**0.46**	**322**	P	**Pg**	**11 49 58.3**	**-0.2**
BALY				S	**Sg**	**11 50 04.0**	**-0.6**
BALY	**Balya**	**0.46**	**322**	*i* P	**Pg**	**11 49 58.3**	**-0.2**
BALY				*i* S	**Sg**	**11 50 04.0**	**-0.6**
AKS	**Akhisar**	**0.51**	**195**	PG	**Pg**	**11 49 59.3**	**-0.2**
AKS	**Akhisar**	**0.51**	**195**	*i* Pg	**Pg**	**11 49 59.3**	**-0.2**
DST	**Dursunbey**	**0.54**	**65**	PG	**Pg**	**11 49 59.4**	**-0.6**
DST	**Dursunbey**	**0.54**	**65**	*i* Pg	**Pg**	**11 49 59.4**	**-0.6**
GONE	**Gonen-Balikesi**	**0.71**	**341**	PG	**Pg**	**11 50 02.9**	**-0.3**
GONE	**Gonen-Balikesi**	**0.71**	**341**	*i* Pg	**Pg**	**11 50 02.9**	**-0.3**
DKL	**Dikili**	**0.89**	**250**	PG	**Pb**	**11 50 07.4**	**0.0**
DKL	**Dikili**	**0.89**	**250**	*i* Pg	**Pb**	**11 50 07.4**	**0.0**
KCTX	**Karacabey (Bur**	**0.93**	**18**	PG	**Pg**	**11 50 07.0**	**-0.5**
KCTX	**Karacabey (Bur**	**0.93**	**18**	*i* Pg	**Pg**	**11 50 07.0**	**-0.5**
KNL	**Bal¯kesir**	**0.96**	**339**	*i* P	**Pg**	**11 50 07.2**	**-0.8**
KNL				*i* S	**Sg**	**11 50 21.2**	**+0.7**
EDC	**Edincik**	**0.97**	**355**	PG	**Pg**	**11 50 07.9**	**-0.4**
EDC	**Edincik**	**0.97**	**355**	*i* Pg	**Pg**	**11 50 07.9**	**-0.4**
AYVA	**Ayvalik**	**1.01**	**267**	P	**Pg**	**11 50 09.0**	**+0.1**
AYVA				S	**Sg**	**11 50 22.3**	**+0.4**
AYVA	**Ayvalik**	**1.01**	**267**	*i* P	**Pg**	**11 50 09.0**	**+0.1**
AYVA				*i* S	**Sg**	**11 50 22.3**	**+0.4**
KULA	**Kula-Manisa**	**1.01**	**148**	PG	**Pg**	**11 50 08.9**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**1.01**	**148**	P	**Pg**	**11 50 08.8**	**-0.1**
KULA				S	**Sg**	**11 50 21.4**	**-0.6**
KULA	**Kula-Manisa**	**1.01**	**148**	*i* Pg	**Pg**	**11 50 08.9**	**-0.1**
KULA				*i* S	**Sg**	**11 50 21.4**	**-0.6**
KRBG	**Karabiga-Canak**	**1.15**	**333**	PN	**Pg**	**11 50 11.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.15**	**333**	*i* Pn	**Pg**	**11 50 11.7**	**+0.2**
TVSB	**Tavsanli**	**1.15**	**86**	PN	**Pg**	**11 50 11.2**	**-0.3**
TVSB	**Tavsanli**	**1.15**	**86**	*i* Pn	**Pg**	**11 50 11.3**	**-0.3**
GDZ	**Gediz**	**1.20**	**103**	P	**Pg**	**11 50 12.6**	**+0.1**
GDZ				S	**Sb**	**11 50 28.9**	**+0.5**
GDZ	**Gediz**	**1.20**	**103**	*i* P	**Pg**	**11 50 12.7**	**+0.1**
GDZ				*i* S	**Sb**	**11 50 28.9**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.21**	**35**	PN	**Pg**	**11 50 12.4**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.21**	**35**	*i* Pn	**Pg**	**11 50 12.4**	**-0.4**
MRMT	**Marmara Adasi**	**1.26**	**346**	PN	**Pg**	**11 50 13.3**	**-0.4**
MRMT	**Marmara Adasi**	**1.26**	**346**	*i* Pn	**Pg**	**11 50 13.3**	**-0.4**
IGD	**Bursa**	**1.29**	**46**	*i* P	**Pn**	**11 50 12.8**	**-1.2**
IGD				*i* S	**Sg**	**11 50 30.9**	**-0.1**
PRK	**Paraskevi**	**1.33**	**265**	P	**Pn**	**11 50 14.3**	**-0.3**
PRK				S	**Sn**	**11 50 33.3**	**+0.7**
PRK	**Paraskevi**	**1.33**	**265**	P	**Pn**	**11 50 14.4**	**-0.3**
PRK				S	**Sb**	**11 50 31.3**	**-0.9**
PRK	**Paraskevi**	**1.33**	**265**	P	**Pn**	**11 50 14.4**	**-0.3**
PRK				S	**Sb**	**11 50 31.3**	**-0.9**
PRK				AML	AML	11 50 33.8	
	comp=N,1974μm,0.4s						
PRK				AML	AML	11 50 35.2	
	comp=E,2476μm,0.4s						
ARMT	**Armutlu**	**1.37**	**29**	PN	**Pn**	**11 50 14.1**	**-1.0**
ARMT	**Armutlu**	**1.37**	**29**	*i* Pn	**Pn**	**11 50 14.1**	**-1.0**
LPK	**Lapseki**	**1.37**	**317**	*e*PN	**Pg**	**11 50 16.0**	**+0.2**
LPK	**Lapseki**	**1.37**	**317**	*e*Pn	**Pg**	**11 50 16.0**	**+0.2**
GEMT	**Gemlik**	**1.41**	**41**	*e*PN	**Pn**	**11 50 15.2**	**-0.4**
GEMT	**Gemlik**	**1.41**	**41**	*e*Pn	**Pn**	**11 50 15.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.43**	**183**	*e*PN	**Pb**	**11 50 16.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.43**	**183**	*e*Pn	**Pb**	**11 50 16.7**	**+0.1**
SART	**Tekirdag**	**1.45**	**335**	P	**Pn**	**11 50 15.7**	**-0.6**
SART				S	**Sb**	**11 50 35.2**	**-0.4**
SART	**Tekirdag**	**1.45**	**335**	*i* P	**Pn**	**11 50 15.7**	**-0.6**
SART				*i* S	**Sb**	**11 50 35.2**	**-0.4**
URLA	**Izmir**	**1.48**	**227**	P	**Pn**	**11 50 16.0**	**-0.7**
URLA				S	**Sg**	**11 50 38.2**	**+0.9**
URLA	**Izmir**	**1.48**	**227**	*i* P	**Pn**	**11 50 16.0**	**-0.7**
URLA				*i* S	**Sg**	**11 50 38.2**	**+0.9**
IZI	**Iznik**	**1.49**	**50**	*e*PN	**Pn**	**11 50 16.7**	**-0.2**
IZI	**Iznik**	**1.49**	**50**	*e*Pn	**Pn**	**11 50 16.7**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.55**	**312**	*e*PN	**Pn**	**11 50 17.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.55**	**312**	*e*Pn	**Pn**	**11 50 17.6**	**+0.1**
BOZC	**Bozcaada**	**1.56**	**288**	*i* P	**Pn**	**11 50 17.4**	**-0.3**
BOZC				*i* S	**Sn**	**11 50 37.6**	**-0.7**
DGB	**¯zmir**	**1.58**	**213**	*i* P	**Pn**	**11 50 18.4**	**+0.5**
DGB				*i* S	**Sb**	**11 50 39.4**	**+0.2**
KHL	**Karahalli**	**1.60**	**131**	*e*PN	**Pb**	**11 50 19.3**	**-0.1**
KHL	**Karahalli**	**1.60**	**131**	*e*Pn	**Pb**	**11 50 19.3**	**-0.1**
ZEY	**¯zmir**	**1.62**	**226**	*i* P	**Pn**	**11 50 17.4**	**-1.1**
ZEY				*i* S	**Sg**	**11 50 42.2**	**+0.5**
TKR	**Tekirdag**	**1.65**	**348**	*e*PN	**Pn**	**11 50 19.3**	**+0.4**
TKR	**Tekirdag**	**1.65**	**348**	*e*Pn	**Pn**	**11 50 19.3**	**+0.4**
CAVI	**Cavuskoy**	**1.65**	**59**	*e*PN	**Pb**	**11 50 20.1**	**-0.2**
CAVI	**Cavuskoy**	**1.65**	**59**	*e*Pn	**Pb**	**11 50 20.1**	**-0.2**
SIGR	**SIGRI**	**1.66**	**265**	*e*PN	**Pb**	**11 50 20.2**	**-0.3**
SIGR	**SIGRI**	**1.66**	**265**	P	**Pn**	**11 50 18.3**	**-0.8**
SIGR				S	**Sb**	**11 50 41.5**	**-0.1**
SIGR	**SIGRI**	**1.66**	**265**	P	**Pn**	**11 50 18.4**	**-0.8**
SIGR	**SIGRI**	**1.66**	**265**	*e*Pn	**Pb**	**11 50 20.2**	**-0.3**
SIGR				S	**Sb**	**11 50 41.5**	**-0.1**
SIGR	**SIGRI**	**1.66**	**265**	P	**Pn**	**11 50 18.2**	**-0.9**
SIGR				S	**Sn**	**11 50 37.5**	**-3.2**
SIGR				AML	AML	11 50 44.2	
	comp=E,1133μm,0.3s						
SIGR				AML	AML	11 50 46.3	
	comp=N,1306μm,0.4s						
BUY	**Buyukada**	**1.71**	**30**	P	**Pn**	**11 50 19.3**	**-0.5**
BUY				S	**Sg**	**11 50 44.3**	**-0.2**
BUY	**Buyukada**	**1.71**	**30**	*i* P	**Pn**	**11 50 19.3**	**

BODT	**Bodrum**	**2.37**	**193**	P	**Pn**	**11 50 27.6**	**-1.3**
BODT	**Bodrum**	**2.37**	**193**	*e*Pn	**Pn**	**11 50 29.8**	**+0.9**
BODT				S	**Sn**	**11 50 57.0**	**-1.2**
EDRB	**Edirne**	**2.64**	**339**	*e*PN	**Pn**	**11 50 34.0**	**+1.4**
EDRB	**Edirne**	**2.64**	**339**	P	**Pn**	**11 50 32.7**	**+0.1**
EDRB				S	**Sn**	**11 51 06.1**	**+1.2**
EDRB	**Edirne**	**2.64**	**339**	P	**Pn**	**11 50 32.7**	**+0.1**
EDRB	**Edirne**	**2.64**	**339**	*e*Pn	**Pn**	**11 50 34.0**	**+1.4**
EDRB				S	**Sn**	**11 51 06.1**	**+1.2**
MDUB	**Mudurnu**	**2.70**	**65**	*e*PN	**Pn**	**11 50 34.3**	**+0.8**
MDUB	**Mudurnu**	**2.70**	**65**	*e*Pn	**Pn**	**11 50 34.3**	**+0.8**
BARS	**Barje**	**5.79**	**308**	*e*Pn	**Pn**	**11 51 16.6**	**+0.7**

*CSEM **16** 11:51:25.5, 38°.77N×20°.55E, h10km, ML1.4/3*
ATH 16 11:51:25.6, 38°.77N×20°.55E, h10km±2km, ML1.4/2, Error ellipse: s-maj=3.7km s-min=1.3km az=103.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.09**	**74**	P	Pg	11 51 28.4	+0.3
LKD2				S	Sg	11 51 29.3	-0.6
LKD2	**Lefkada island**	**0.09**	**74**	P	Pg	11 51 28.4	+0.3
LKD2				S	Sg	11 51 29.3	-0.5
LKD2				AML	AML	11 51 29.9	
	comp=E,2406μm,0.1s						
LKD2				AML	AML	11 51 30.0	
	comp=N,1975μm,0.2s						
PDO	**Prodromos**	**0.52**	**108**	P	Pg	11 51 35.5	-0.2
PDO				S	Sg	11 51 42.9	+0.4
PDO	**Prodromos**	**0.52**	**108**	P	Pg	11 51 35.5	-0.1
PDO				S	Sg	11 51 42.9	+0.4
PDO				AML	AML	11 51 44.4	
	comp=E,60μm,0.2s						
PDO				AML	AML	11 51 45.3	
	comp=N,112μm,0.4s						
DSL	**Palaion Diasel**	**0.56**	**49**	P	Pg	11 51 36.8	+0.3
DSL	**Palaion Diasel**	**0.56**	**49**	P	Pg	11 51 36.8	+0.3
VLS	**Valsamata**	**0.59**	**177**	P	Pg	11 51 35.9	-1.1
VLS				S	Sg	11 51 45.4	+0.7
KFL	**Anninata**	**0.68**	**164**	P	Pg	11 51 38.8	+0.1
KFL				S	Sb	11 51 48.9	0.0
KFL	**Anninata**	**0.68**	**164**	P	Pg	11 51 38.8	+0.1
KFL				S	Sb	11 51 48.9	0.0
PVO	**Paravola**	**0.78**	**101**	P	Pg	11 51 39.7	-0.8
PVO	**Paravola**	**0.78**	**101**	P	Pg	11 51 39.7	-0.8

IDC 16 11:56:57.7±3.9, 5°.94S×150°.92E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/32, mbtmp3.2/2, Error ellipse: s-maj=155.1km s-min=51.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.30**	**228**	P	P	12 01 45.7	-0.5
	0.9nm,0.9s,baz=53,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**24.06**	**221**	P	P	12 02 15.6	+0.7
	0.5nm,0.7s,baz=60,slow=9.9,SNR=8.2						
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc	PKPbc	12 16 47.5	-1.0
	0.4nm,0.6s,baz=100,slow=1.8,SNR=1.9						

WEL 16 11:58:49.2±0.3, 38°.20S×175°.81E, h184km±3km, ML3.5/11, 2C-3D, Error ellipse: s-maj=3.4km s-min=3.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	**Matea Rd**	**0.79**	**143**	PN	Pn	11 59 16.2	+0.2
MRHZ				SN	Sn	11 59 36.3	-0.5
MUGZ	**Murupara**	**0.80**	**110**	PN	Pn	11 59 16.2	+0.2
RTZ	**Ruatahuna**	**1.01**	**115**	PN	Pn	11 59 17.5	+0.1
RTZ				SN	Sn	11 59 39.7	+0.4
URZ	**Urewera**	**1.03**	**94**	⇓PN	Pn	11 59 17.3	-0.2
URZ				SN	Sn	11 59 38.6	-0.7
FWVZ	**Far West T-bar**	**1.07**	**191**	⇑PN	Pn	11 59 18.2	+0.1
TUVZ	**Tukino**	**1.07**	**186**	PN	Pn	11 59 18.2	+0.2
BKZ	**Black Stump Fm**	**1.10**	**151**	PN	Pn	11 59 18.1	0.0
BKZ				SN	Sn	11 59 39.5	-1.2
WNVZ	**Wahianoa**	**1.14**	**188**	PN	Pn	11 59 18.6	+0.1
MOVZ	**Moawhango**	**1.21**	**182**	PN	Pn	11 59 18.6	-0.3
RAHZ	**Arahi**	**1.23**	**126**	PN	Pn	11 59 19.7	+0.6
RAHZ				SN	Sn	11 59 42.3	0.0
RAGZ	**Rawiri**	**1.30**	**104**	PN	Pn	11 59 19.9	+0.2
KWHZ	**Kaweka Forest**	**1.31**	**159**	PN	Pn	11 59 19.9	+0.1
SNGZ	**Shannon Statio**	**1.33**	**116**	PN	Pn	11 59 20.3	+0.3
MWZ	**Matawai**	**1.36**	**96**	⇓PN	Pn	11 59 20.1	-0.1
ARHZ	**Aropaoanui**	**1.41**	**139**	PN	Pn	11 59 21.0	+0.4
ARHZ				SN	Sn	11 59 44.9	-0.2
MCHZ	**McNeill Hill**	**1.42**	**151**	PN	Pn	11 59 21.4	+0.6
KRHZ	**Kereru**	**1.51**	**163**	PN	Pn	11 59 21.3	-0.2
RIGZ	**Rimuhau**	**1.61**	**109**	PN	Pn	11 59 22.7	+0.1
HAZ	**Te Kaha**	**1.62**	**75**	PN	Pn	11 59 21.9	-0.7
TKGZ	**Te Karaka**	**1.62**	**99**	PN	Pn	11 59 23.0	+0.4
WAZ	**Wanganui**	**1.68**	**202**	PN	Pn	11 59 22.8	-0.4
TWGZ	**Tauwhareparae**	**1.71**	**90**	PN	Pn	11 59 23.7	+0.2
PNHZ	**Pukenui**	**1.74**	**170**	PN	Pn	11 59 23.1	-0.7
KAHZ	**Kahuranaki**	**1.80**	**153**	PN	Pn	11 59 24.3	-0.1
TSZ	**Takapari Road**	**1.86**	**176**	⇑PN	Pn	11 59 24.2	-0.8
WPHZ	**Waipukurau**	**1.93**	**165**	PN	Pn	11 59 24.9	-0.8
OHWZ	**Ohakea**	**2.04**	**191**	PN	Pn	11 59 26.3	-0.5
MXZ	**Matakaoa Point**	**2.08**	**73**	PN	Pn	11 59 27.2	-0.1
WMGZ	**Waiomatatini S**	**2.09**	**80**	PN	Pn	11 59 27.1	-0.4
POWZ	**Post Office Ro**	**2.19**	**181**	PN	Pn	11 59 27.0	-1.5
ANWZ	**Angora Road**	**2.31**	**167**	PN	Pn	11 59 28.7	-1.2
PRWZ	**Pori Road**	**2.35**	**177**	PN	Pn	11 59 29.1	-1.3
MRZ	**Mangatainoka R**	**2.46**	**184**	PN	Pn	11 59 29.6	-2.0
BFZ	**Birch Farm**	**2.50**	**172**	PN	Pn	11 59 30.3	-1.8
TIWZ	**Tintock**	**2.57**	**179**	AML	AML	12 00 05.8	
OGWZ	**Otaki Gorge**	**2.66**	**191**	PN	Pn	11 59 32.0	-1.9
HOWZ	**Holdsworth Sta**	**2.70**	**185**	PN	Pn	11 59 32.0	-2.4
KIW	**Kapiti Island**	**2.75**	**194**	PN	Pn	11 59 32.5	-2.4
CAW	**Cannon Point**	**2.96**	**191**	PN	Pn	11 59 35.0	-2.5
MTW	**Mount Morrison**	**2.96**	**185**	PN	Pn	11 59 33.8	-3.8
DUWZ	**D'Urville Isla**	**2.98**	**209**	PN	Pn	11 59 35.1	-2.6
WEL	**Wellington**	**3.18**	**194**	PN	Pn	11 59 37.4	-2.8
TCW	**Tory Channel**	**3.23**	**201**	⇓PN	Pn	11 59 38.1	-2.6
PLWZ	**Palliser**	**3.39**	**187**	PN	Pn	11 59 39.4	-3.4
TUWZ	**Tuamarina**	**3.53**	**203**	PN	Pn	11 59 41.3	-3.1
NNZ	**Nelson**	**3.55**	**211**	PN	Pn	11 59 41.3	-3.4
QRZ	**Quartz Range**	**3.65**	**223**	PN	Pn	11 59 42.3	-3.6
THZ	**Tophouse**	**4.20**	**211**	PN	Pn	11 59 49.5	-3.4

*IDC **16** 12:01:49.1±2.1, 26°.62N×143°.92E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/43, mbtmp3.8/5, ML3.1/1, MS2.6/1, Ms1 2.6/1, ms1mx2.0/43, Error ellipse: s-maj=50.6km s-min=21.5km az=58.0*
*ISCJB **16** 12:01:51.1±1.3, 26°.6N±0°.2×144°.1E±0°.2, h31km, mb4.0/4, Error ellipse: s-maj=26.7km s-min=13.1km az=38.0*
ISC 16 12:01:53.9±1.5, 26°.6N±0°.2×143°.8E±0°.2, h31km, n7, σ0s31/7, mb3.9/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.54**	**289**	Pn	**Pn**	**12 02 19.0**	**-0.2**
	13nm,0.3s,baz=93,slow=22,SNR=10						
JCJ				Sn	**Sb**	**12 02 40.9**	**+0.1**
	42nm,0.3s,baz=337,slow=23,SNR=14						
JNU	**Nakatsue**	**12.96**	**303**	LR	LR	12 08 59.3	
	comp=Z,29nm,20.0s,baz=300,slow=33						
KSRS	**Korea Array**	**17.25**	**313**	P	**P**	**12 05 53.6**	**-0.1**
	0.1nm,0.3s,baz=123,slow=10,SNR=5.8						
SONM	**Songino Array**	**36.07**	**316**	P	**P**	**12 08 53.1**	**+0.3**
	0.6nm,0.6s,baz=107,slow=8.3,SNR=4.1						
WRA	**Warramunga Arr**	**47.18**	**192**	P	**P**	**12 10 23.6**	**-0.3**
	1.3nm,0.7s,baz=14,slow=8.5,SNR=7.7						
FITZ	**Fitzroy Crossi**	**47.83**	**204**	P	**P**	**12 10 29.2**	**+0.4**
	2.6nm,0.7s,baz=11,slow=7.5,SNR=6.0						
MKAR	**Makanchi Array**	**51.90**	**310**	P	**P**	**12 10 59.5**	**-0.1**
	0.6nm,0.6s,baz=90,slow=9.5,SNR=6.7						

IDC 16 12:07:42.6±5.0, 5°.44S×150°.90E, h48km±47km, mb3.9/3, mb1 4.2/5, mb1mx3.6/32, mbtmp4.2/5, ML3.1/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/31, Error ellipse: s-maj=90.3km s-min=33.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.41**	**223**	P	Pn	12 09 01.8	+1.0
	5.1nm,0.3s,baz=54,slow=9.6,SNR=14						
PMG				S	Sn	12 09 57.1	-4.7
	1.7nm,0.3s,baz=101,slow=23,SNR=2.5						
PMG				LR	LR	12 10 55.0	
	comp=Z,148nm,20.2s,baz=38,slow=36						
HNR	**Honiara**	**9.80**	**114**	LR	LR	12 12 44.6	
	comp=Z,103nm,20.7s,baz=287,slow=31						
CTA	**Charters Tower**	**15.24**	**197**	P	Pn	12 11 16.7	+1.8
	0.4nm,0.3s,baz=20,slow=13,SNR=7.6						
WRA	**Warramunga Arr**	**21.62**	**227**	P	P	12 12 27.7	-1.1
	6.6nm,0.6s,baz=52,slow=11,SNR=54						
ASAR	**Alice Springs**	**24.42**	**220**	P	P	12 12 56.5	-0.4
	3.6nm,0.5s,baz=58,slow=9.1,SNR=74						
RPZ	**Rata Peaks**	**42.05**	**158**	LR	LR	12 31 57.9	
	comp=Z,106nm,18.8s,baz=234,slow=35						
MJAR	**Matsushiro Arr**	**43.42**	**345**	LR	LR	12 32 56.4	
	comp=Z,26nm,19.1s,baz=150,slow=35						
ILAR	**Eielson Array**	**83.47**	**22**	P	P	12 20 04.6	-0.2
	0.9nm,0.6s,baz=246,slow=5.3,SNR=22						
ILAR				LR	LR	12 54 56.6	
	comp=Z,16nm,20.6s,baz=240,slow=34						
TORD	**Torodi Ar. Bea**	**148.69**	**286**	PKPbc	PKPbc	12 27 25.8	+0.1
	2.6nm,0.6s,baz=75,slow=3.2,SNR=16						

*IDC **16** 12:17:43.7±1.1, 15°.67N×119°.83E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.6/67, mbtmp3.8/7, MS2.7/1, Ms1 2.7/1, ms1mx2.3/38, Error ellipse: s-maj=60.1km s-min=17.8km az=62.0*
*ISCJB **16** 12:17:44.6±2.0, 15°.43N±0°.07×119°.08E±0°.07, h15km±14km, mb3.7/6, MS2.6/1, Error ellipse: s-maj=14.5km s-min=8.8km az=44.8*
ISC 16 12:17:46.1±2.0, 15°.41N±0°.06×119°.19E±0°.07, h9km±12km, n15, σ2s19/21, mb3.9/6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.79**	**62**	*e*P	**Pg**	**12 18 00.7**	**-0.5**
SCZP				*e*S	**Sn**	**12 18 19.0**	**+3.8**
BOLP	**Bolinao**	**1.19**	**36**	*e*P	**Pb**	**12 18 06.0**	**-2.9**
BOLP				*e*S	**Sb**	**12 18 22.1**	**-2.3**
TGY	**Tagaytay City**	**2.13**	**127**	Pn	**Pn**	**12 18 22.6**	**+0.7**
	16nm,0.3s,baz=299,slow=13,SNR=1.4						
TGY				Sn	**Sn**	**12 18 48.5**	**-0.1**
	45nm,0.3s,baz=122,slow=9.6,SNR=1.7						
TGY				LR	LR	12 19 12.9	
	comp=Z,79nm,18.9s,baz=296,slow=47						
BALP	**Baler**	**2.32**	**81**	*e*P	**Pn**	**12 18 25.0**	**+0.5**
BALP				*e*S	**Sn**	**12 18 53.7**	**+0.5**
ABRA	**Dolores**	**2.67**	**33**	*e*P	**Pn**	**12 18 28.1**	**-1.1**
ABRA				*e*S	**Sg**	**12 19 15.8**	**+4.1**
POLP	**Polilio Island**	**2.74**	**104**	*e*P	**Pn**	**12 18 33.0**	**+2.8**
POLP				*e*S	**Sg**	**12 19 13.8**	**-0.3**
CAUP	**Cauayan**	**2.96**	**58**	*e*P	**Pn**	**12 18 34.8**	**+1.6**
CAUP				*e*S	**Sg**	**12 19 22.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**19.61**	**282**	P	**Pn**	**12 22 20.4**	**+4.1**
	2.9nm,0.8s,baz=96,slow=7.8,SNR=6.3						
JNU	**Nakatsue**	**20.57**	**29**	LR	LR	12 30 22.5	
	comp=Z,22nm,18.4s,baz=319,slow=38						
SONM	**Songino Array**	**34.02**	**345**	P	**P**	**12 24 30.4**	**-0.2**
	0.3nm,0.5s,baz=147,slow=8.6,SNR=2.7						
WRA	**Warramunga Arr**	**38.15**	**157**	P	**P**	**12 25 04.7**	**-1.3**
	5.1nm,0.9s,baz=337,slow=9.3,SNR=19						
ASAR	**Alice Springs**	**41.41**	**159**	P	**P**	**12 25 32.5**	**-0.6**
	1.7nm,0.7s,baz=337,slow=7.0,SNR=15						
MKAR	**Makanchi Array**	**43.80**	**323**	P	**P**	**12 25 52.1**	**-0.3**
	0.2nm,0.4s,baz=98,slow=11,SNR=2.9						
ZALV	**Zelesovo Beam**	**46.88**	**333**	P	**P**	**12 26 14.9**	**-1.7**
	0.4nm,0.3s,baz=145,slow=8.1,SNR=2.1						
KURBB	**Kurchatov Arra**	**47.97**	**326**	P	**P**	**12 26 24.4**	**-0.7**
	1.1nm,0.9s,baz=120,slow=8.4,SNR=5.3						

*IDC **16** 12:24:35.3±1.1, 1°.37S×134°.43E, h0km, mb3.9/5, mb1 4.2/8, mb1mx3.8/45, mbtmp4.0/8, ML4.3/3, Error ellipse: s-maj=40.2km s-min=19.2km az=81.0*
*ISCJB **16** 12:24:37.5±0.8, 1°.43S±0°.09×134°.36E±0°.08, h29km, mb3.9/5, Error ellipse: s-maj=14.4km s-min=8.8km az=36.1*
*NEIC **16** 12:24:40.3±0.6, 1°.42S×134°.52E, h35km, mb3.9/1, Error ellipse: s-maj=17.4km s-min=10.2km az=80.0*
NEIC Felt [III] at Ransiki.
ISC 16 12:24:39.2±0.9, 1°.4S±0°.1×134°.37E±0°.10, h29km, n11, σ0s93/12, mb4.0/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.15**	**280**	Pn	**Pn**	**12 25 26.9**	**-0.1**
	40nm,0.3s,baz=271,slow=24,SNR=3.4						
SIJI				Sn	**Sn**	**12 26 02.3**	**-1.4**
	28nm,0.3s,baz=270,slow=24,SNR=2.4						
PMG	**Port Moresby**	**14.99**	**122**	Pn	**Pn**	**12 28 07.5**	**-1.7**
WRAB	**Tennant Creek**	**18.39**	**180**	*e*P	**Pn**	**12 28 52.7**	**+0.5**
	7.6nm,0.9s						
WRA	**Warramunga Arr**	**18.39**	**180**	P	**Pn**	**12 28 52.9**	**+0.6**
	1.2nm,0.3s,baz=360,slow=12,SNR=23						
FITZ	**Fitzroy Crossi**	**18.65**	**207**	P	**Pn**	**12 28 55.3**	**0.0**
	0.5nm,0.3s,baz=31,slow=10,SNR=2.3						
FITZ	**Fitzroy Crossi**	**18.65**	**207**	*e*P	**Pn**	**12 28 55.1**	**-0.2**
ASAR	**Alice Springs**	**22.10**	**181**	P	**P**	**12 29 33.7**	**+1.3**
	3.6nm,0.7s,baz=6.1,slow=12,SNR=18						
STKA	**Stephens Creek**	**31.04**	**168**	P	**P**	**12 30 54.9**	**+0.2**
	2.4nm,0.9s,baz=334,slow=9.0,SNR=1.7						
SONM	**Songino Array**	**54.80**	**337**	P	**P**	**12 34 07.0**	**+0.3**
	0.4nm,0.5s,baz=162,slow=6.1,SNR=2.3						
MKAR	**Makanchi Array**	**66.17**	**324**	P	**P**	**12 35 24.7**	**+0.5**
	0.9nm,0.5s,baz=110,slow=8.2,SNR=13						
ILAR	**Eielson Array**	**86.50**	**25**	P	**P**	**12 37 19.5**	**+0.4**
	0.6nm,0.7s,baz=264,slow=4.4,SNR=6.3						

IDC 16 12:25:43.0±3.2, 5°.50S×150°.95E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/36, mbtmp3.8/3, ML1.4/1, Error ellipse: s-maj=132.8km s-min=39.4km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**224**	Pn	Pn	12 27 07.1	+2.2
	0.8nm,0.3s,baz=208,slow=19,SNR=1.5						
PMG				Sn	Sn	12 28 08.8	+1.1
	1.7nm,0.3s,baz=272,slow=17,SNR=3.0						
WRA	**Warramunga Arr**	**21.61**	**227**	P	P	12 30 34.2	-0.7
	1.4nm,0.5s,baz=52,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**24.41**	**221**	P	P	12 31 03.0	-0.4
	1.8nm,0.6s,baz=57,slow=9.2,SNR=6.7						
TORD	**Torodi Ar. Bea**	**148.75**	**286**	PKPbc	PKPbc	12 45 33.1	-0.4
	0.8nm,0.7s,baz=75,slow=3.9,SNR=4.5						

SJA 16 12:42:36.8±0.5, 31°.21S×68°.35W, h94km±2km, ML2.2, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.16**	**222**	*i* P	Pn	12 42 51.4	+1.1
AMOG	**MOGNA**	**0.29**	**335**	*i* P	Pn	12 42 51.3	+0.5
AMOG				*i* S	Sn	12 43 02.0	+0.8
RTCV	**Cerro Valdivia**	**0.68**	**194**	*i* P	Pn	12 42 54.2	+0.7
RTCV				*i* S	Sn	12 43 07.0	+1.0
AVFE	**Valle Fertil**	**0.94**	**55**	*i* P	Pn	12 42 57.4	+1.1
AVFE				*i* S	Sn	12 43 12.2	+1.4
AVFE				IAML		12 43 13.6	
	comp=Z,28nm,0.5s						
RTLS	**Leoncito**	**1.00**	**234**	*i* P	Pn	12 42 58.4	+1.2
RTLS				*i* S	Sn	12 43 14.6	+2.2
AUSP	**Uspallata**	**1.35**	**221**	*i* P	Pn	12 43 02.6	+1.4
AUSP				*i* S	Sn	12 43 21.8	+2.2
ASAL	**Salagasta**	**1.44**	**197**	*i* P	Pn	12 43 03.2	+1.1
ACHE	**Chepes**	**1.44**	**89**	*i* P	Pn	12 43 03.5	+1.3
ACHE				*i* S	Sn	12 43 22.9	+1.5
ACAN	**Cantantal**	**1.45**	**137**	*i* P	Pn	12 43 03.3	+1.1
ACAN				*i* S	Sn	12 43 23.0	+1.6
AGUA	**GUANDACOL**	**1.72**	**356**	*i* P	Pn	12 43 06.7	+1.0
MRA	**San Martin**	**2.54**	**119**	*i* P	Pn	12 43 17.6	+1.2
MRA				IAML		12 43 49.8	
	comp=Z,13nm,0.7s						

*BJI **16** 12:43:50.2, 5°.43N×127°.05E, h135km, mb5.0/67, mB4.9/39*
*KLM **16** 12:43:51.7, 5°.99N×127°.47E, h135km, mb4.9, MS6.5*
*ISCJB **16** 12:43:53.1±0.4, 5°.82N±0°.03×127°.00E±0°.04, h135km±3km, mb4.8/94, Error ellipse: s-maj=5.8km s-min=4.2km az=170.7*
*MOS **16** 12:43:54.1±0.9, 5°.82N×126°.93E, h144km, mb5.0/41, Error ellipse: s-maj=11.2km s-min=5.3km az=114.4*
*MAN **16** 12:43:54, 8°.93N×127°.03E, h118km, mb4.9, ML3.8, MS3.8*
*IDC **16** 12:43:54.1±0.9, 5°.79N×127°.04E, h130km±7km, mb4.3/25, mb1 4.5/27, mb1mx4.4/31, mbtmp4.7/27, MS3.1/4, Ms1 3.2/4, ms1mx2.8/33, Error ellipse: s-maj=13.7km s-min=7.6km az=69.0*
*NEIC **16** 12:43:55.2±0.6, 5°.80N×126°.96E, h140km±6km, mb4.9/36, Error ellipse: s-maj=5.8km s-min=3.5km az=89.0*
ISC 16 12:43:54.4±0.4, 5°.85N±0°.04×127°.06E±0°.05, h133km±3km, h133km:pP-P,n260, σ1s61/308, mb4.8/94, 18C-21D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.35**	**324**	*e*P	**Pn**	**12 44 19.4**	**-1.6**
MATI				*e*S	**Sn**	**12 44 39.2**	**-2.1**
DAV	**Davao City (W)**	**1.91**	**309**	P	**Pn**	**12 44 25.5**	**-1.9**
	65nm,0.3s,baz=127,slow=2.3,SNR=9.8						
DAV				S	**Sn**	**12 44 53.4**	**+0.7**
	228nm,0.3s,baz=248,slow=22,SNR=19						
DAV	**Davao City (W)**	**1.91**	**309**	*e*Pn	**Pn**	**12 44 27.8**	**+0.4**
DAV				*e*Sn	**Sn**	**12 44 52.7**	**+0.1**
DMPH	**Davao City--Mi**	**1.97**	**308**	⇓*e*P	**Pn**	**12 44 28.5**	**+0.3**
DMPH				*e*S	**Sn**	**12 44 59.8**	**+5.8**
KCP	**Kidapawan**	**2.27**	**300**	⇓*i*P	**Pn**	**12 44 31.0**	**-1.0**
KCP				*i* S	**Sn**	**12 44 59.7**	**-1.0**
BIPH	**Bislig**	**2.42**	**343**	⇓*i*P	**Pn**	**12 44 32.4**	**-1.3**
BIPH				*i* S	**Sn**	**12 45 00.4**	**-3.5**
BUKP	**Musuan**	**2.83**	**315**	*e*P	**Pn**	**12 44 38.4**	**-0.6**
BUKP				*e*S	**Sn**	**12 45 12.5**	**-0.8**
CTBH	**Cotabato--PC H**	**3.11**	**296**	⇓*e*P	**Pn**	**12 44 41.4**	**-1.2**
CTBH				*i* S	**Sn**	**12 45 16.3**	**-3.5**
CGP	**Cagayan de Oro**	**3.49**	**318**	⇓*e*P	**Pn**	**12 44 47.0**	**-0.6**
CGP				*e*S	**Sn**	**12 45 27.2**	**-1.5**
IPIL	**Ipil**	**4.86**	**294**	*e*P	**Pn**	**12 45 04.7**	**-1.0**
IPIL				*e*S	**Sn**	**12 46 01.1**	**0.0**
BESP	**Borongan**	**5.93**	**344**	*e*P	**Pn**	**12 45 21.3**	**+1.3**
BESP				*e*S	**Sn**	**12 46 18.5**	**-8.4**
RCP	**Roxas**	**7.09**	**323**	⇑*e*P	**Pn**	**12 45 37.2**	**+1.5**
SIJI	**Sorong**	**7.89**	**148**	P	**Pn**	**12 45 46.6**	**+0.2**
	32nm,0.3s,baz=182,slow=1.0,SNR=1.7						
SIJI				S	**Sn**	**12 47 09.8**	**-4.4**
	41nm,0.3s,baz=98,slow=24,SNR=2.9						
LUWI	**Luwuk**	**8.08**	**212**	*e*Pn	**Pn**	**12 45 48.3**	**-0.7**
MYLDM	**Lahad Datu**	**8.55**	**266**	*e*Pn	**Pn**	**12 45 55.4**	**+0.1**
SDKM	**Sandakan**	**9.82**	**269**	⇑P	**Pn**	**12 46 15.4**	**+2.9**
KAPI	**Kappang**	**13.03**	**214**	P	**Pn**	**12 46 52.1**	**-2.6**
	2.3nm,0.3s,baz=33,slow=8.8,SNR=37						
BTM	**Bintulu**	**14.18**	**260**	⇓P	**P**	**12 47 12.9**	**0.0**
MMRI	**Maumere**	**15.18**	**199**	*e*Pn	**Pn**	**12 47 21.2**	**-0.7**
	113nm,0.9s						
SBUM	**Sibu**	**15.18**	**258**	⇓P	**P**	**12 47 25.3**	**+1.3**
SBUM	**Sibu**	**15.18**	**258**	*e*Pn	**Pn**	**12 47 22.3**	**+0.2**
	63nm,0.7s						
SOEI	**Soe**	**15.76**	**190**	*e*Pn	**Pn**	**12 47 29.4**	**+0.1**
	187nm,0.9s						
KSM	**Kuching**	**17.27**	**256**	⇓P	**Pn**	**12 47 48.4**	**+0.7**
KSM	**Kuching**	**17.27**	**256**	*e*P	**P**	**12 47 46.4**	**-0.7**
	30nm,0.9s						
YULB	**Yu-li**	**18.30**	**343**	*e*P	**P**	**12 47 58.3**	**0.0**
	14nm,1.2s						
TPUB	**Ta-pu**	**18.42**	**341**	*e*P	**P**	**12 47 59.2**	**-0.4**
	28nm,1.0s						
SSLB	**Suanglung**	**18.77**	**342**	*e*P	**Pn**	**12 48 04.8**	**-0.7**
	16nm,0.7s						
SSLB				*e*S	**Sn**	**12 51 36.2**	**-0.4**
MTN	**Manton Dam**	**19.01**	**168**	*e*P	**P**	**12 48 06.6**	**+0.5**
	49nm,0.6s						
JAGI	**Jajag, Banyuwa**	**19.19**	**222**	*e*P	**Pn**	**12 48 09.8**	**-0.6**
	55nm,0.7s						
YHNB	**Yeheng**	**19.49**	**344**	*e*P	**P**	**12 48 12.1**	**+0.8**
	22nm,0.8s						
QZH	**Quanzhou**	**20.65**	**338**	⇓*i*P	**P**	**12 48 19.3**	**-4.3**
QZH				sP	**sP**	**12 48 59.3**	**-5.0**
QZH				S	S	12 51 54.1	-13
QZH				pmax	pmax		
	comp=Z,70nm,0.6s						
QIZ	**Qiongzhong**	**21.28**	**310**	P	**P**	**12 48 30.8**	**+0.2**
QIZ				sP	**sP**	**12 49 11.5**	**+0.2**
QIZ				S	**S**	**12 52 18.6**	**-0.8**
QIZ				sS	**sS**	**12 53 04.4**	**+4.2**
QIZ				PMZ			
	comp=Z,26nm,1.2s						
MYKOM	**Kota Tinggi**	**23.50**	**261**	⇓P	**P

CMAR ScP **ScP** **12 56 21.1 +0.4**
comp=Z,0.7nm,0.5s,baz=184,slow=1.7,SNR=7.0
CMAR LR LR 13 03 15.8
comp=Z,38nm,19.7s,baz=205,slow=38
KMI Kunming 30.17 312 P **P** **12 49 53.3 +0.8**
KMI PMZ
comp=Z,43nm,1.3s
KMI PMZ
comp=Z,140nm,5.7s
CMMT Chiang Mai 30.27 298 P **P** **12 49 53.2 0.0**
comp=Z,11nm,1.2s
CHTO Chiang Mai 30.27 298 P **P** **12 49 53.3 +0.1**
comp=Z,46nm,1.3s
CHTO Chiang Mai 30.27 298 *e*P **P** **12 49 52.7 -0.5**
CHTO pmax pmax
comp=Z,18nm,1.4s
CHTO Chiang Mai 30.27 298 *e*P **P** **12 49 52.7 -0.5**
comp=Z,18nm,1.4s
INU Inuyama 30.75 16 *e*P **P** **12 49 57.7 +0.5**
comp=Z,24nm,0.5s
KS15 Wonju Array Si 31.45 1 *e*P **P** **12 50 04.8 +1.5**
KSAR Wonju Array Be 31.45 1 P **P** **12 50 04.2 +0.9**
KSAR 12 52 54.6
KSAR Wonju Array Be 31.45 1 P **P** **12 50 04.2 +0.9**
KSAR PcP **PcP** **12 52 54.5 +1.1**
KSRS Korea Array 31.46 1 P **P** **12 50 04.2 +0.8**
comp=Z,4.1nm,0.5s,baz=178,slow=9.5,SNR=34
KSRS PcP **PcP** **12 52 54.5 +1.0**
comp=Z,0.9nm,0.5s,baz=189,slow=3.0,SNR=4.1
KS01 Wonju Array Si 31.48 1 *e*P **P** **12 50 05.8 +2.2**
TIA Tai'an 31.56 345 ⇓P **P** **12 50 05.1 +0.8**
TIA PMZ
comp=Z,30nm,0.7s
MAJO Matsushiro 32.21 17 *e*P **P** **12 50 09.6 -0.4**
MAJO pmax pmax
comp=Z,28nm,0.8s
MAJO Matsushiro 32.21 17 *e*P **P** **12 50 09.9 -0.1**
MJAR Matsushiro Arr 32.21 17 P **P** **12 50 09.8 -0.2**
comp=Z,3.4nm,0.6s,baz=183,slow=8.8,SNR=12
MJAR LR LR 13 01 58.6
comp=Z,19nm,20.8s,baz=200,slow=34
MJB9 Matsu-Tunnel 32.21 17 *e*P **P** **12 50 09.9 -0.1**
XAN Xi'an 32.70 331 P **P** **12 50 14.3 -0.1**
XAN PMZ
comp=Z,28nm,0.9s
XAN PMZ
comp=Z,45nm,4.6s
CD2 Chengdu 33.16 322 *e*P **P** **12 50 19.0 +0.5**
CD2 pP pP 12 50 48.3 +1.1
CD2 sP sP 12 51 04.1 +1.6
CD2 PcP **PcP** **12 52 58.3 -0.2**
CD2 S **S** **12 55 29.5 +1.1**
CD2 sS sS 12 56 21.4 +2.7
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
DL2 Dalian 33.27 352 P **P** **12 50 20.4 +1.2**
DL2 PMZ
comp=Z,45nm,0.8s
BJT Baijiatuau 35.40 345 *e*P **P** **12 50 38.2 +0.7**
BJT pmax pmax
comp=Z,43nm,0.6s
BJT Baijiatuau 35.40 345 *e*P **P** **12 50 38.2 +0.7**
comp=Z,43nm,0.6s
BJI Beijing 35.42 346 P **P** **12 50 38.8 +1.1**
BJI PP **PnPn** **12 52 01.8 +0.7**
BJI S **S** **12 56 07.4 +4.7**
BJI PcS **PcS** **12 56 51.6 -0.2**
BJI PMZ
comp=Z,62nm,0.8s
BJI LZ
comp=Z,40nm,30.0s
MSHR Mys Shultsa 36.75 5*c i*P **P** **12 50 49.9 +0.9**
LZH Lanzhou 36.87 328 ⇓P **P** **12 50 51.6 +1.3**
LZH pP pP 12 51 21.0 +1.5
LZH sP sP 12 51 36.0 +1.3
LZH PP **PnPn** **12 52 22.1 +3.2**
LZH *e*S **S** **12 56 25.0 -0.3**
LZH sS sS 12 57 19.0 +2.8
LZH SS **SS** **12 59 03.1 -9.2**
LZH PMZ
comp=Z,71nm,1.3s
LZH PMZ
comp=Z,230nm,5.2s
VLA Vladivostok 37.36 6 *e*P **P** **12 50 55.2 +1.1**
VLA pmax pmax
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 37.51 341 *e*P **P** **12 50 57.1 +1.5**
HHC sP sP 12 51 47.0 +7.1
HHC S **S** **12 56 37.4 +2.7**
HHC PMZ
comp=Z,29nm,1.1s
HHC PMZ
comp=Z,110nm,7.7s
CN2 Changchun 37.82 358 *e*P **P** **12 50 58.8 +0.8**
CN2 PMZ
comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar. 38.44 6 P **P** **12 51 04.5 +1.4**
comp=Z,7.7nm,0.4s,baz=188,slow=6.6,SNR=28
MDJ Mudanjiang 38.67 3 P **P** **12 51 06.5 +1.4**
MDJ pP pP 12 51 35.3 +0.8
MDJ sP sP 12 51 50.8 +1.2
MDJ PP **PnPn** **12 52 40.3 +0.3**
MDJ PcP **PcP** **12 53 15.3 +0.8**
MDJ S **S** **12 56 55.9 +4.0**
MDJ sS sS 12 57 45.1 +2.1
MDJ SS **SS** **12 59 48.0 +0.1**
MDJ PMZ
comp=Z,32nm,0.8s
MDJ PMZ
comp=Z,37nm,3.7s
MDJ Mudanjiang 38.67 3 *e*P **P** **12 51 06.7 +1.5**
comp=Z,26nm,0.8s
SHL Shillong 38.93 304 *ex* **P** **12 51 09.0 +1.2**
STKA Stephens Creek 40.00 161 P **P** **12 51 16.8 +0.5**
comp=Z,5.2nm,0.5s,baz=349,slow=9.0,SNR=6.9
STKA Stephens Creek 40.00 161 *e*P **P** **12 51 17.1 +0.8**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 40.00 161 *e*P **P** **12 51 17.1 +0.8**
comp=Z,1.9nm,0.6s
ASAJ Asahikawa 40.48 17 *e*P **P** **12 51 20.9 +0.8**
comp=Z,6.7nm,0.7s
GTA Gaotai 41.47 328 *e*P **P** **12 51 28.8 +0.3**
GTA PMZ
comp=Z,22nm,1.2s
HABR Khabarovsk 43.01 8 *e*P **P** **12 51 39.2 -1.4**
HABR *e**PP **pP** **12 52 08.5 -1.9**
HABR *e**SP **sP** **12 52 23.4 -2.0**
HABR *e* 12 53 22.1
HABR *e* 12 53 26.5
HABR *e*S **S** **12 57 55.9 -0.1**
HABR *e* 13 01 25.0
HABR pmax pmax
comp=N,14nm,1.6s
HABR pmax pmax
comp=E,12nm,0.8s
HABR pmax pmax
comp=Z,29nm,1.6s
HABR MLR MLR
comp=Z,42nm,18.0s
YSS Yuzh-Sakhalins 43.12 16⇓*e*P **P** **12 51 42.9 +1.4**
YSS pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzh-Sakhalins 43.12 16 *e*P **P** **12 51 43.2 +1.7**
comp=Z,17nm,0.8s
KLR Kul'dur 43.41 4 *i*P **P** **12 51 44.4 +0.6**
RAMN Ramite 43.84 303 *e*P **P** **12 51 47.3 -0.6**
comp=Z,132nm,1.1s
GUN Gumba 44.78 304 *e*P **P** **12 51 54.8 -0.8**
comp=Z,104nm,0.8s
ULN Ulaanbaatar 45.22 341 *e*P **P** **12 51 59.3 +0.8**
ULN pmax pmax
comp=Z,30nm,0.7s
ULN Ulaanbaatar 45.22 341 *e*P **P** **12 51 59.3 +0.8**
comp=Z,30nm,0.7s
KKN Kakani 45.23 304 *e*P **P** **12 51 57.8 -1.2**
comp=Z,78nm,1.0s
DMN Daman 45.31 303 *e*P **P** **12 51 58.6 -1.1**
comp=Z,73nm,0.9s
SONM Songino Array 45.41 340 P **P** **12 52 00.7 +0.8**
comp=Z,13nm,0.8s,baz=157,slow=8.5,SNR=53
SONM PcP **PcP** **12 53 37.8 +0.9**
comp=Z,1.5nm,0.6s,baz=162,slow=4.5,SNR=3.6
SONM LR LR 13 13 11.0
comp=Z,26nm,18.0s,baz=164,slow=39
SONA1 Songino Array 45.42 341 *e*P **P** **12 52 00.5 +0.5**
GKN Gorkha 45.84 304 *e*P **P** **12 52 02.3 -1.4**
comp=Z,21nm,0.6s
KOLN Koldanda 46.62 303 *e*P **P** **12 52 08.9 -1.0**
comp=Z,47nm,0.4s
PYUN Piuthan 47.24 303 *e*P **P** **12 52 14.0 -0.7**
comp=Z,194nm,1.1s
ZAK Zakamensk 48.65 340 *e*P **P** **12 52 23.9 -1.1**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
HYB Hyderabad 48.75 288 *i*P **P** **12 52 25.0 -1.2**
TLY Talaya 49.63 341 *e*P **P** **12 52 33.6 +1.2**
TLY pmax pmax
comp=Z,17nm,0.8s
MOY Mondy 50.52 339 *e*P **P** **12 52 40.5 +1.4**
MOY pmax pmax
comp=Z,26nm,1.5s
WMQ Urumqi 51.20 324 P **P** **12 52 45.5 +1.2**
WMQ pP pP 12 53 18.0 +2.9
WMQ sP sP 12 53 34.5 +4.6
WMQ PMZ
comp=Z,9.0nm,1.0s
WMQ PMZ
comp=Z,63nm,5.4s
WMQ LN
comp=Z,85nm,16.0s
WMQ LE
comp=Z,37nm,16.0s
WMQ LZ
comp=Z,18nm,18.4s
PEA0 Petropavlovsk- 53.35 23 *e*P **P** **12 53 01.7 +1.7**
PETK Petropavlovsk- 53.35 23 P **P** **12 53 02.1 +2.1**
comp=Z,19nm,0.8s,baz=183,slow=4.7,SNR=20
THN Thein Dam 54.58 306 *e*P P 12 53 03.7 -5.5
MK01 Makanchi Array 56.00 324 *e*P **P** **12 53 19.4 +0.1**
PDGK Podgornoye 56.01 319 P **P** **12 53 19.1 -0.2**
PDGK pmax pmax
comp=Z,34nm,0.7s
MK31 Makanchi Array 56.02 324 *e*P **P** **12 53 19.1 -0.3**
MK31 pmax pmax
comp=Z,32nm,0.8s
MK31 Makanchi Array 56.02 324 *e*P **P** **12 53 19.8 +0.4**
MKAR Makanchi Array 56.02 324 P **P** **12 53 19.6 +0.3**
comp=Z,21nm,0.5s,baz=120,slow=8.3,SNR=303
MKAR ScP **ScP** **12 58 02.6 -0.5**
comp=Z,1.1nm,0.8s,baz=114,slow=6.0,SNR=4.0
MKAR Makanchi Array 56.02 324 *e*P **P** **12 53 19.8 +0.4**
YAK Yakutsk 56.09 1 *e*P **P** **12 53 20.2 +0.7**
YAK pmax pmax
comp=Z,53nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
MAKZ Makanchi 56.21 324 P **P** **12 53 20.1 -0.6**
MAKZ pmax pmax
comp=Z,30nm,0.8s
MAKZ Makanchi 56.21 324 *e*P **P** **12 53 21.0 +0.3**
comp=Z,29nm,0.8s
KSH Kashi 56.80 314 *e*P **P** **12 53 26.0 +0.8**
KSH pP pP 12 53 58.6 +2.1
KSH PcP **PcP** **12 54 20.3 +0.8**
KSH PP **PP** **12 55 36.8 +3.9**
KSH S **S** **13 01 03.9 -4.4**
KSH ScS **ScS** **13 02 57.3 -4.5**
KSH SS **SS** **13 04 59.8 +1.4**
KSH PMZ
comp=Z,36nm,1.3s
KSH PMZ
comp=Z,140nm,4.9s
KSH LN
comp=Z,200nm,6.2s
KSH LE
comp=Z,160nm,9.3s
TKM2 Tokmak 2 58.40 318 P **P** **12 53 35.7 -0.7**
TKM2 pmax pmax
comp=Z,18nm,0.7s
TKM2 Tokmak 2 58.40 318 *e*P **P** **12 53 36.6 +0.2**
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 58.86 332 P **P** **12 53 38.6 -0.5**
comp=Z,5.5nm,0.5s,baz=120,slow=7.0,SNR=23
FRU Bishkek 59.02 317 *e*P **P** **12 53 38.0 -2.5**
AAK Ala-Archa 59.03 317 P **P** **12 53 40.3 -0.4**
AAK pmax pmax
comp=Z,13nm,0.9s
AAK Ala-Archa 59.03 317 *e*P **P** **12 53 41.0 +0.3**
comp=Z,9.6nm,0.7s
EKS2 Erkin-Say 59.53 317 *e*P **P** **12 53 44.6 +0.5**
EKS2 pmax pmax
comp=Z,29nm,0.7s
EKS2 Erkin-Say 59.53 317 *e*P **P** **12 53 44.6 +0.5**
comp=Z,30nm,0.7s
SEY Seymchan 59.90 13 *e*P **P** **12 53 47.2 +1.1**
NVS Novosibirsk 60.15 332 *e*P **P** **12 53 47.6 -0.3**
NVS *e* 12 54 31.4
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,20nm,1.5s
NVS pmax pmax
comp=Z,30nm,1.5s
KURK Kurchatov 60.15 327 P **P** **12 53 47.7 -0.3**
KURK Kurchatov 60.15 327 *e*P **P** **12 53 48.1 +0.2**
comp=Z,175nm,0.6s
MNAS Manas 60.34 316 P **P** **12 53 49.0 -0.6**
MNAS pmax pmax
comp=Z,44nm,1.3s
KBL Kabul 60.52 306 *e*P **P** **12 53 50.1 -1.0**
KBL pmax pmax
comp=Z,20nm,0.8s
KBL Kabul 60.52 306 *e*P **P** **12 53 50.1 -1.0**
comp=Z,20nm,0.8s
DZET Dzherino 61.81 311 P **P** **12 53 58.5 -1.1**
DZET pmax pmax
comp=Z,27nm,0.6s
KK31 Karatay Array 61.93 316 *i*P **P** **12 53 59.5 -0.7**
KK31 pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 61.93 316 *e*P **P** **12 53 59.9 -0.3**
KKAR Karatay Array 61.93 316 *e*P **P** **12 53 59.9 -0.3**
OTUK Ortayu 62.65 322 P **P** **12 54 04.3 -0.6**
OTUK pmax pmax
comp=Z,36nm,1.3s
TIXI Tiksi 65.73 1*d i*P **P** **12 54 24.3 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 65.73 1 *e*P **P** **12 54 24.2 -0.2**
comp=Z,10nm,0.7s
BVA0 Borovoye Array 65.74 326 *i*P **P** **12 54 24.4 -0.5**
BVA0 pmax pmax
comp=Z,29nm,0.8s
BRVK Borovoye 65.81 326*c i*P **P** **12 54 25.4 0.0**
BRVK pmax pmax
comp=Z,101nm,0.9s
BRVK Borovoye 65.81 326 *e*P **P** **12 54 25.1 -0.2**
comp=Z,106nm,0.8s
CHKZ Chkalovo 65.89 327 P **P** **12 54 24.5 -1.3**
CHKZ pmax pmax
comp=Z,42nm,1.4s
ZRNK Zerenda 66.47 326 P **P** **12 54 29.0 -0.6**
ZRNK pmax pmax
comp=Z,47nm,0.7s
ZRNK Zerenda 66.47 326 *e*P **P** **12 54 29.6 0.0**
BILL Bilibino 67.43 15 *e*P **P** **12 54 35.7 +0.3**
BILL *e* 12 55 01.3
BILL *e**PP **pP** **12 55 12.6 +4.9**
BILL pmax pmax
comp=Z,3.0nm,0.9s
NRIK Noril'sk 68.46 346 P **P** **12 54 41.5 -0.3**
comp=Z,10.0nm,0.8s,baz=132,slow=5.9,SNR=9.6
GEYT Alibeck 69.84 308 P **P** **12 54 51.4 +0.3**
comp=Z,19nm,0.9s,baz=134,slow=4.3,SNR=26
AB31 Akbulak array 70.73 320 *i*P **P** **12 54 55.4 -0.7**
AB31 pmax pmax
comp=Z,14nm,0.6s
ABKAR Akbulak array 70.73 320 *e*P **P** **12 54 56.0 -0.1**
AKTO Aktyubinsk 72.22 321 P **P** **12 55 04.0 -1.0**
AKTO pmax pmax
comp=Z,26nm,0.7s
SVE Sverdlovsk 72.34 328⇓*i*P **P** **12 55 05.6 0.0**
SVE pmax pmax
comp=Z,14nm,0.8s
CASY Casey 72.95 187 *e*P **P** **12 55 09.6 +0.7**
ARU Arti 73.33 327 *e*P **P** **12 55 11.0 -0.5**
ARU Arti 73.33 327 *e*P **P** **12 55 11.0 -0.5**
KDAK Kodiak Island 79.93 32 *i*P **P** **12 55 49.5 +1.0**
GNI Garni 80.39 310 *e*P **P** **12 55 52.0 +0.4**
GNI pmax pmax
comp=Z,119nm,0.9s
GNI Garni 80.39 310 *e*P **P** **12 55 52.0 +0.4**
comp=Z,119nm,0.9s
TBLG Delisi 80.41 311 P **P** **12 55 52.1 +0.5**
TBLG Delisi 80.41 311 P **P** **12 55 52.0 +0.5**
GUDG Gudauri 80.61 312 P **P** **12 55 54.5 +1.7**
GUDG Gudauri 80.61 312 P **P** **12 55 54.5 +1.7**
ZEI Tsey 81.04 312 *e*P **P** **12 55 53.8 -1.3**
ZEI pmax pmax
comp=Z,38nm,0.4s
BPAW Bear Paw Mtn. 81.25 26 *e*P **P** **12 55 56.4 +0.9**
NCK Nalchik 81.27 313 *e*P **P** **12 55 55.7 -0.3**
NCK pmax pmax
comp=Z,15nm,0.9s
AKH Akhalkalaki 81.34 311 P **P** **12 55 52.7 -4.0**
AKH Akhalkalaki 81.34 311 P **P** **12 55 52.7 -4.0**
AKH Akhalkalaki 81.34 311 P **P** **12 55 52.7 -4.0**
ONI Oni 81.37 312 P **P** **12 55 57.6 +1.0**
ONI Oni 81.37 312 P **P** **12 55 57.6 +1.0**
ONI Oni 81.37 312 P **P** **12 55 57.6 +1.0**
MLY Manley 81.43 25 *e*P **P** **12 55 57.5 +1.1**
TRF Thorofare Moun 81.51 27 *e*P **P** **12 55 57.9 +0.8**
KBZ Khabaz 81.77 313 P **P** **12 55 58.9 +0.3**
comp=Z,12nm,1.0s,baz=42,slow=1.8,SNR=18
COLD Coldfoot 81.82 23 *e*P **P** **12 56 00.6 +2.2**
NEY Neytrino 81.90 313 *e*P **P** **12 55 58.7 -0.9**
NEY pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 81.92 313 *e*P **P** **12 56 00.0 +0.4**
KIV pmax pmax
comp=Z,19nm,0.9s
KIV Kislovodsk 81.92 313 *e*P **P** **12 55 59.8 +0.2**
PMR Palmer 81.93 29 *e*P **P** **12 55 58.9 -0.2**
PMR Palmer 81.93 29 *e*P **P** **12 55 58.9 -0.2**
MCK McKinley 82.13 27 *e*P **P** **12 56 00.5 +0.4**
MCK McKinley 82.13 27 *e*P **P** **12 56 00.5 +0.4**
RND Reindeer 82.15 27 *e*P **P** **12 56 00.9 +0.6**
RND Reindeer 82.15 27 *e*P **P** **12 56 00.9 +0.6**
SML Sawmill 82.32 28 *e*P **P** **12 56 00.4 -0.8**
SML pmax pmax
comp=Z,4.0nm,0.8s
SML Sawmill 82.32 28 *e*P **P** **12 56 00.4 -0.8**
comp=Z,4.0nm,0.8s
ABPO Ambohimpanom 82.34 250 *e*P **P** **12 56 01.8 -0.5**
ABPO Ambohimpanom 82.34 250 *e*P **P** **12 56 01.8 -0.5**
VRH Novokhopyorsk 82.55 321 *e*P **P** **12 56 01.8 -0.7**
VRH pmax pmax
comp=Z,40nm,1.5s
COLA College 82.65 25 *e*P **P** **12 56 02.7 0.0**
COLA pmax pmax
comp=Z,4.0nm,0.9s
COLA College 82.65 25 *e*P **P** **12 56 03.3 +0.6**
CCB Clear Creek Bu 82.66 26 *e*P **P** **12 56 03.0 +0.2**
ILAR Eielson Array 83.06 26 P **P** **12 56 04.6 -0.3**
comp=Z,2.4nm,0.7s,baz=239,slow=5.0,SNR=24
ILB Eielson Array 83.06 26 *e*P **P** **12 56 05.0 +0.1**
DIV Divide 83.54 29 *e*P **P** **12 56 06.6 -0.9**
comp=Z,5.7nm,0.7s
KLMR Klimovskoe 83.73 331 *e*P **P** **12 56 06.6 -1.8**
KLMR *e* 12 59 22.7
KLMR pmax pmax
comp=Z,45nm,1.1s
FYU Fort Yukon 83.75 24 *e*P **P** **12 56 10.2 +1.8**
BMRM Bremner River 84.11 29 *e*P **P** **12 56 11.9 +1.5**
VSR Storozhevoye 84.16 321 *e*P **P** **12 56 09.8 -1.0**
VSR pmax pmax
comp=Z,20nm,1.2s
LPSR Galich'ya Gora 84.26 322 *e*P **P** **12 56 10.6 -0.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
VNDA Vanda 85.48 173 P **P** **12 56 16.5 -0.3**
comp=Z,1.6nm,0.5s,baz=317,slow=5.8,SNR=10
VNDA Vanda 85.48 173 *e*P **P** **12 56 16.8 0.0**
VNDA Vanda 85.48 173 *e*P **P** **12 56 16.8 0.0**
OBN Obninsk 85.53 325 *e*P **P** **12 56 17.3 -0.2**
OBN *e* 12 59 36.5
OBN pmax pmax
comp=Z,18nm,0.9s
LVZ Lovozero 85.53 338 *e*P **P** **12 56 17.2 -0.1**
LVZ pmax pmax
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 88.58 340 P **P** **12 56 31.8 -0.2**
comp=Z,3.6nm,0.5s,baz=90,slow=5.8,SNR=37
BRTR Keskin Array B 88.93 310 P **P** **12 56 33.2 -1.2**
comp=Z,6.1nm,0.9s,baz=124,slow=4.3,SNR=26
BR231 Keskin MP Arra 89.58 310 *e*P **P** **12 56 33.8 -3.6**
CSS Mathiatis 89.73 305 *e*P **P** **12 56 37.1 -1.1**
KMBO Kilima Mbogo 89.92 269 P **P** **12 56 39.4 -0.4**
comp=Z,1.6nm,0.3s,baz=76,slow=9.8,SNR=5.6
KMBO Kilima Mbogo 89.92 269 *i*P **P** **12 56 39.9 +0.2**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
KMBO Kilima Mbogo 89.92 269 *e*P **P** **12 56 39.7 0.0**
FINES FINESS Array B 90.13 332 P **P** **12 56 39.2 -0.2**
comp=Z,2.2nm,0.4s,baz=56,slow=4.8,SNR=27
AKASG Malin Array Be 90.46 321 P **P** **12 56 39.9 -1.2**
comp=Z,0.9nm,0.3s,baz=67,slow=4.8,SNR=6.6
AKASG Malin Array Be 90.46 321 *i*P **P** **12 56 41.2 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
KIEV Kiev 90.47 321 *e*P **P** **12 56 40.2 -1.0**
KIEV pmax pmax
comp=Z,3.0nm,1.2s
TLCR 91.68 316⇑*i*P **P** **12 56 46.7 -0.2**
TLCR 91.68 316⇑P **P** **12 56 46.7 -0.2**
TIRR Tirgusor 92.09 315⇑*i*P **P** **12 56 48.0 -0.8**
TIRR Tirgusor 92.09 315⇑P **P** **12 56 48.0 -0.8**
CFR Carcaliu 92.15 316⇑*i*P **P** **12 56 48.2 -0.9**
CFR Carcaliu 92.15 316⇑P **P** **12 56 48.2 -0.9**
TESR Tescani 92.92 317⇑*i*P **P** **12 56 52.4 -0.2**
VRI Vrincioaia 92.99 317⇑*i*P **P** **12 56 53.5 +0.5**
VRI Vrincioaia 92.99 317⇑P **P** **12 56 53.5 +0.5**
PLOR Plostina 93.05 316⇓*i*P P 12 56 58.1 +4.8
PLOR Plostina 93.05 316⇓P P 12 56 58.1 +4.8
MLR Muntele Rosu 93.61 316⇑*i*P **P** **12 56 55.2 -0.8**
MLR Muntele Rosu 93.61 316⇑P **P** **12 56 55.2 -0.8**
MLR Muntele Rosu 93.61 316 *e*P **P** **12 56 55.7 -0.3**
BURAR Bucovina Array 93.64 318⇓*i*P **P** **12 56 55.2 -0.9**
BURAR Bucovina Array 93.64 318⇓P **P** **12 56 55.2 -0.9**
DAG Danmarks Havn 95.20 353 *i*P **P** **12 57 01.5 -1.0**
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 95.20 353 *i*P **P** **12 57 01.5 -1.0**
comp=Z,4.8nm,0.7s
MDVR Moldovita 96.69 316⇑*i*P **P** **12 57 09.8 -0.1**
NB2 NORSAR Subarra 97.04 334 P **P** **12 57 10.5 -0.7**
comp=Z,1.3nm,0.8s,baz=65,slow=4.8
NOA NORSAR Array B 97.04 334 P **P** **12 57 10.1 -1.1**
comp=Z,1.1nm,0.7s,baz=66,slow=4.6,SNR=4.0
NOA LR LR 13 44 45.1
comp=Z,13nm,18.7s,baz=60,slow=38
YKA Yellowknife Ar 97.44 24 P **P** **12 57 12.7 -0.2**
comp=Z,0.3nm,0.7s,baz=304,slow=5.0,SNR=5.3
TXAR Lajitas Array 120.03 51 PKP **PKPdf** **13 02 31.1 +0.9**
comp=Z,0.1nm,0.5s,baz=278,slow=0.6,SNR=3.4
TORD Torodi Ar. Bea 122.55 290 PKP **PKPdf** **13 02 34.7 -0.6**
comp=Z,3.4nm,0.7s,baz=44,slow=2.1,SNR=21
TRQA Tornquist 146.91 167 *e*PKPbc **PKPbc** **13 03 21.3 -0.5**

*ISCJB **16** 12:50:44.6±0.5,39.°11N±0.°04×28.°99E±0.°03,h9km, Error ellipse: s-maj=5.4km s-min=3.6km az=174.4*
*DDA **16** 12:50:44.6,39.°11N×29.°00E,h7km,Md2.6*
*CSEM **16** 12:50:44.7±0.1,39.°09N×28.°98E,h10km,MD2.6, Error ellipse: s-maj=2.0km s-min=1.6km az=2.0*
*ISK **16** 12:50:44.3,39.°10N×28.°98E,h11km, MD2.6*

ISC 16 12:50:44.5±0.8,39.°10N±0.°03×29.°00E±0.°02,h9km,n35, σ0s46/43,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**255**	P		**Pg**	**12 50 49.8**	**+0.6**
DEMI				S		**Sg**	**12 50 53.1**	**+0.8**
DEMI	**Demirci**	**0.23**	**255**	*i*P		**Pg**	**12 50 49.8**	**+0.6**
DEMI				*i*S		**Sg**	**12 50 53.1**	**+0.8**
GEDZ	**Gediz**	**0.33**	**100**	*e*PG		**Pg**	**12 50 51.6**	**+0.6**
GEDZ				*e*SG		**Sb**	**12 50 57.0**	**-0.9**
GEDZ	**Gediz**	**0.33**	**100**	*e*Pg		**Pg**	**12 50 51.6**	**+0.6**

GEDZ					*e*Sg	**Sb**	**12 50 57.0**	**-0.9**
GDZ	**Gediz**	**0.38**	**92**		P	**Pg**	**12 50 52.4**	**+0.5**
GDZ					S	**Sg**	**12 50 57.5**	**+0.6**
GDZ	**Gediz**	**0.38**	**92**	*i*	P	**Pg**	**12 50 52.4**	**+0.5**
GDZ				*i*	S	**Sg**	**12 50 57.5**	**+0.6**
TVSB	**Tavsanli**	**0.50**	**46**	*e*	PG	**Pg**	**12 50 54.6**	**+0.4**
TVSB				*e*	SG	**Sg**	**12 51 00.6**	**-0.2**
TVSB	**Tavsanli**	**0.50**	**46**	*e*	Pg	**Pg**	**12 50 54.6**	**+0.4**
TVSB				*e*	Sg	**Sg**	**12 51 00.6**	**-0.2**
DST	**Dursunbey**	**0.58**	**330**	*e*	PG	**Pg**	**12 50 56.2**	**+0.4**
DST	**Dursunbey**	**0.58**	**330**	*e*	Pg	**Pg**	**12 50 56.2**	**+0.4**
KULA	**Kula-Manisa**	**0.64**	**204**	*e*	PG	**Pg**	**12 50 56.9**	**0.0**
KULA	**Kula-Manisa**	**0.64**	**204**	*e*	Pg	**Pg**	**12 50 56.9**	**0.0**
KHL	**Karahalli**	**0.88**	**152**	*e*	PG	**Pb**	**12 51 01.8**	**-0.2**
KHL	**Karahalli**	**0.88**	**152**	*e*	Pg	**Pb**	**12 51 01.8**	**-0.2**
AKS	**Akhisar**	**0.95**	**257**	*e*	PG	**Pb**	**12 51 02.8**	**-0.4**
AKS	**Akhisar**	**0.95**	**257**	*e*	Pg	**Pb**	**12 51 02.8**	**-0.4**
BALB	**Balikesir**	**1.02**	**302**	*e*	PG	**Pn**	**12 51 04.6**	**-0.4**
BALB	**Balikesir**	**1.02**	**302**	*e*	Pg	**Pn**	**12 51 04.6**	**-0.4**
IGD	**Bursa**	**1.17**	**8**	*i*	P	**Pb**	**12 51 06.4**	**-0.5**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*	PN	**Pn**	**12 51 08.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*	Pn	**Pn**	**12 51 08.2**	**-0.1**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*	PN	**Pn**	**12 51 08.7**	**+0.2**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*	Pn	**Pn**	**12 51 08.7**	**+0.2**
IZI	**Iznik**	**1.29**	**16**	*e*	PN	**Pb**	**12 51 09.1**	**+0.2**
IZI	**Iznik**	**1.29**	**16**	*e*	Pn	**Pb**	**12 51 09.1**	**+0.2**
BORA	**Eskisehir**	**1.37**	**55**		P	**Pg**	**12 51 10.8**	**0.0**
BORA	**Eskisehir**	**1.37**	**55**	*i*	P	**Pg**	**12 51 10.8**	**0.0**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*	PN	**Pn**	**12 51 09.7**	**-0.3**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*	Pn	**Pn**	**12 51 09.7**	**-0.3**
ARMT	**Armutlu**	**1.47**	**356**	*e*	PN	**Pb**	**12 51 11.6**	**-0.3**
ARMT	**Armutlu**	**1.47**	**356**	*e*	Pn	**Pb**	**12 51 11.6**	**-0.3**
EDC	**Edincik**	**1.52**	**325**	*e*	PN	**Pn**	**12 51 12.1**	**+0.2**
EDC	**Edincik**	**1.52**	**325**	*e*	Pn	**Pn**	**12 51 12.1**	**+0.2**
GULT	**Gulveren**	**1.77**	**41**	*e*	PN	**Pn**	**12 51 15.8**	**+0.4**
GULT	**Gulveren**	**1.77**	**41**	*e*	Pn	**Pn**	**12 51 15.8**	**+0.4**

CSEM ***16*** *12:54:47.5, 41.42°N×44.37°E, h0km, ML1.6*

TIF 16 12:54:47.5, 41.42°N×44.37°E, h0km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.05**	**141**		P	Pg	12 54 48.8	+0.4
KZR					S	Sg	12 54 49.7	+0.6
KZR	**Kazreti**	**0.05**	**141**		P	Pg	12 54 48.8	+0.4
KZR					S	Sg	12 54 49.7	+0.6
TBLG	**Delisi**	**0.41**	**42**		P	Pg	12 54 56.3	+0.9
TBLG					S	Sb	12 55 04.2	-0.3
BGD	**Bogdanovka**	**0.60**	**255**		P	Pg	12 54 59.9	+0.8
BGD					S	Sb	12 55 08.7	-1.5
BGD	**Bogdanovka**	**0.60**	**255**	*i*	P	Pg	12 54 59.9	+0.9
BGD				*i*	S	Sb	12 55 08.7	-1.5

SJA 16 13:10:15.3±0.4, 31.75S×69.23W, h102km±1km, ML2.2, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.07**	**230**	*i*	P	Pn	13 10 30.8	+0.9
RTLS				*i*	S	Sn	13 10 42.4	+1.7
AUSP	**Uspallata**	**0.49**	**196**	*i*	P	Pn	13 10 32.7	+1.2
AUSP				*i*	S	Sn	13 10 45.2	+1.5
RTCV	**Cerro Valdivia**	**0.60**	**101**	*i*	P	Pn	13 10 32.7	+0.6
RTCV				*i*	S	Sn	13 10 45.8	+1.2
RTLL	**Cerro Villicun**	**0.77**	**57**	*i*	P	Pn	13 10 34.3	+0.7
RTLL				*i*	S	Sn	13 10 48.4	+1.1
ASAL	**Salagasta**	**0.90**	**158**	*i*	P	Pn	13 10 35.9	+0.9
ASAL				*i*	S	Sn	13 10 51.0	+1.3
AMOG	**MOGNA**	**1.03**	**38**	*i*	P	Pn	13 10 37.0	+0.8
AMOG				*i*	S	Sn	13 10 53.2	+1.2
AAGR	**Agrelo**	**1.37**	**166**	*i*	P	Pn	13 10 41.4	+1.1
ACAN	**Cantantal**	**1.81**	**107**	*i*	P	Pn	13 10 46.4	+0.9
ACAN				*i*	S	Sn	13 11 09.8	+1.2
AVFE	**Valle Fertil**	**1.87**	**55**	*i*	P	Pn	13 10 47.8	+1.4
AVFE					IAML		13 11 17.3	
	comp=Z,10nm,0.2s							
ACHE	**Chepes**	**2.27**	**76**	*i*	P	Pn	13 10 52.9	+1.3
AGUA	**GUANDACOL**	**2.34**	**16**	*i*	P	Pn	13 10 53.7	+1.1
MRA	**San Martin**	**3.06**	**104**	*i*	P	Pn	13 11 03.5	+1.6
MRA					IAML		13 11 41.0	
	comp=Z,12nm,0.3s							

NIED ***16*** *13:14:00, 37.80N×143.60E, h8km, Mw3.9 Best double couple: M0 8.65000×10^14 NP1: φs 344.00000°, δ 35.00000°, λ -155.00000°. NP2: φs 233.00000°, δ 76.00000°, λ -57.00000°.*

IDC ***16*** *13:14:43.2±1.1, 37.56N×143.76E, h0km, mb3.9/6, mb1 4.1/11, mb1mx3.8/47, mbtmp4.0/11, ML3.4/4, MS2.9/6, Ms1 2.9/6, ms1mx2.7/44, Error ellipse: s-maj=27.0km s-min=18.8km az=78.0*

ISCJB ***16*** *13:14:45.4±0.6, 37.73N±0.03×143.59E±0.06, h33km, mb3.9/6, MS3.6/2, Error ellipse: s-maj=6.5km s-min=4.8km az=16.1*

JMA ***16*** *13:14:45.4±0.2, 37.77N×143.58E, h43km, M3.8*

ISC 16 13:14:46.2±0.8, 37.69N±0.05×143.75E±0.07, h35km, n39, σ 2.5 s 57/42, mb3.9/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.04**	**293**		P	**Pn**	**13 15 16.4**	**-1.6**
JIO					*e*S	**Sn**	**13 15 38.7**	**-3.6**
OFUJ	**Ofunato**	**2.15**	**311**		P	**Pn**	**13 15 17.4**	**-2.1**
JMK	**Ichinoseki**	**2.36**	**303**		P	**Pn**	**13 15 20.8**	**-1.5**
JMK					*e*S	**Sn**	**13 15 46.6**	**-3.4**
JOM	**Ohasama**	**2.62**	**314**		P	**Pn**	**13 15 24.6**	**-1.4**
JOM					*e*S	**Sn**	**13 15 53.4**	**-3.2**
JFT	**Otama**	**2.72**	**267**		P	**Pn**	**13 15 26.9**	**-0.4**
JFT					*e*S	**Sn**	**13 15 56.6**	**-2.4**
JYK	**Kaneyama**	**2.94**	**296**		P	**Pn**	**13 15 29.4**	**-0.9**
JYK					S	**Sn**	**13 16 02.4**	**-2.0**
JANG	**Nango**	**3.20**	**328**		P	**Pn**	**13 15 32.9**	**-1.0**
JNS	**Sasagawa**	**3.52**	**273**		P	**Pn**	**13 15 38.0**	**-0.3**
JAW	**Awa shima**	**3.63**	**284**		P	**Pn**	**13 15 39.7**	**-0.2**
JAG	**Ashikaga**	**3.66**	**251**		P	**Pn**	**13 15 40.0**	**-0.3**
JAG					S	**Sn**	**13 16 20.4**	**-1.9**
BSO1	**Boso 1**	**3.77**	**217**		P	**Pn**	**13 15 41.3**	**0.0**
BSO1					*e*S	**Sn**	**13 16 24.6**	**+0.5**
JRY	**Ryogami san**	**4.23**	**248**		P	**Pn**	**13 15 47.8**	**-0.4**
JRY					*e*S	**Sn**	**13 16 33.5**	**-2.9**
JOT	**Ohata**	**4.24**	**331**		P	**Pn**	**13 15 48.2**	**0.0**
JOD2	**Odawara 2**	**4.47**	**239**		P	**Pn**	**13 15 51.2**	**-0.2**
MJAR	**Matsushiro Arr**	**4.58**	**257**		Pn	**Pn**	**13 15 53.7**	**+0.8**
MJAR	7.1nm,0.3s,baz=89,slow=15,SNR=47				LR	LR	13 17 38.4	
	comp=Z,56nm,19.3s,baz=95,slow=39							
MAT	**Matsushiro**	**4.58**	**257**		P	**Pn**	**13 15 53.8**	**+0.9**
MAT					S	**Sn**	**13 16 44.2**	**-0.6**
JKB	**Kayabe**	**4.69**	**334**		P	**Pn**	**13 15 53.9**	**-0.4**
JCH	**Churui**	**4.93**	**357**		P	**Pn**	**13 15 56.1**	**-1.6**
JCH					*e*S	**Sn**	**13 16 48.4**	**-5.0**
JHJ	**Hachijo jima 2**	**5.59**	**217**		Pn	**Pn**	**13 16 06.1**	**-0.7**
JHJ	22nm,0.3s,baz=131,slow=23,SNR=12				Sn	**Sn**	**13 17 05.0**	**-4.8**
	13nm,0.3s,baz=122,slow=21,SNR=3.9							
ASAJ	**Asahikawa**	**6.48**	**353**		Pn	**Pn**	**13 16 18.8**	**-0.2**
	4.4nm,0.3s,baz=193,slow=16,SNR=12							
JCJ	**Chichijima**	**10.65**	**188**		Pn	**Pn**	**13 17 13.6**	**-2.6**
	5.8nm,0.3s,baz=264,slow=23,SNR=11							
JCJ					Sn	**Sn**	**13 19 05.2**	**-9.0**
	3.0nm,0.3s,baz=273,slow=22,SNR=3.5							
USRK	**Ussuriysk Ar.**	**11.01**	**310**		Pn	**Pn**	**13 17 22.6**	**+1.5**
	0.3nm,0.3s,baz=106,slow=12,SNR=7.2							
USRK					LR	LR	13 21 22.5	
	comp=Z,45nm,18.4s,baz=193,slow=36							
JNU	**Nakatsue**	**11.45**	**250**		LR	LR	13 22 11.3	
	comp=Z,23nm,18.7s,baz=124,slow=39							
KSRS	**Korea Array**	**12.56**	**274**		Pn	**Pn**	**13 17 44.8**	**+2.4**
	0.1nm,0.3s,baz=86,slow=14,SNR=7.4							
KSRS					LR	LR	13 21 30.9	
	comp=Z,31nm,19.7s,baz=42,slow=32							
KLR	**Kul'dur**	**14.44**	**327**		Pn	**Pn**	**13 18 06.5**	**-1.3**
	0.2nm,0.3s,baz=134,slow=12,SNR=4.1							
H11N2	**WAKE ISLAND Hy 26.94**	**125**			T	T	13 48 42.3	
	baz=317,slow=74,SNR=12							
H11N1	**WAKE ISLAND Hy 26.95**	**125**			T	T	13 48 47.6	
	baz=317,slow=74,SNR=9.7							
H11N3	**WAKE ISLAND Hy 26.96**	**125**			T	T	13 48 45.7	
	baz=317,slow=74,SNR=9.3							
H11S1	**WAKE ISLAND Hy 27.71**	**127**			T	T	13 49 47.1	
	baz=318,slow=76,SNR=4.9							
H11S3	**WAKE ISLAND Hy 27.71**	**127**			T	T	13 49 43.6	
	baz=318,slow=76,SNR=3.6							
H11S2	**WAKE ISLAND Hy 27.73**	**127**			T	T	13 49 47.8	
	baz=318,slow=76,SNR=3.6							
SONM	**Songino Array**	**28.90**	**302**		P	**P**	**13 20 45.1**	**+2.6**
	0.8nm,0.5s,baz=100,slow=10,SNR=6.4							
ZALV	**Zalesovo Beam**	**42.86**	**312**		P	**P**	**13 22 44.2**	**+3.5**
	2.0nm,0.6s,baz=89,slow=8.2,SNR=6.9							
NRIK	**Noril'sk**	**43.46**	**335**		LR	LR	13 42 00.7	
	comp=Z,50nm,18.1s,baz=108,slow=38							
MKAR	**Makanchi Array**	**45.35**	**302**		P	**P**	**13 23 02.3**	**+1.5**
	1.2nm,0.6s,baz=85,slow=11,SNR=6.4							
ILAR	**Eielson Array**	**47.94**	**33**		P	**P**	**13 23 23.8**	**+2.9**
	0.3nm,0.7s,baz=262,slow=6.1,SNR=6.0							
WRA	**Warramunga Arr**	**58.00**	**190**		P	**P**	**13 24 36.9**	**+1.5**
	3.5nm,0.8s,baz=10,slow=7.4,SNR=22							
ASAR	**Alice Springs**	**61.73**	**190**		P	**P**	**13 25 03.0**	**+2.0**
	0.4nm,0.4s,baz=5.0,slow=6.9,SNR=5.2							
EIL	**Elat**	**85.56**	**304**		LR	LR	14 09 52.5	
	comp=Z,35nm,18.3s,baz=248,slow=39							

IDC ***16*** *13:22:20.7±1.7, 23.79S×179.79W, h483km±18km, mb3.7/14, mb1 3.9/16, mb1mx3.6/38, mbtmp4.6/16, Error ellipse: s-maj=19.6km s-min=13.3km az=143.0*

ISCJB ***16*** *13:22:22.9±0.7, 23.89S±0.08×179.9W±0.1, h518km, mb4.1/14, Error ellipse: s-maj=16.7km s-min=10.3km az=5.9*

ISC 16 13:22:23.5±0.7, 24.0S±0.1×179.8W±0.1, h518km, n22, σ 1.8 s 22/24, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.59**	**39**		P	P	13 25 02.9	-5.5
	4.2nm,0.3s,baz=158,slow=1.9,SNR=8.0							
AFI					S	S	13 27 14.5	-10
	5.5nm,0.3s,baz=58,slow=17,SNR=6.0							
URZ	**Urewera**	**14.45**	**190**		P	**P**	**13 25 28.2**	**+0.7**
	2.3nm,0.3s,baz=274,slow=4.5,SNR=12							
URZ					S	**S**	**13 27 57.5**	**-1.8**
	2.0nm,0.3s,baz=198,slow=24,SNR=12							
RPZ	**Rata Peaks**	**21.05**	**199**		P	**P**	**13 26 31.5**	**+1.1**
	8.0nm,0.4s,baz=123,slow=1.2,SNR=7.6							
CTA	**Charters Tower**	**31.65**	**270**		P	**P**	**13 28 04.3**	**+0.2**
	18nm,0.5s,baz=96,slow=11,SNR=60							
PMG	**Port Moresby**	**34.69**	**289**		P	**P**	**13 28 29.2**	**-0.7**
	29nm,0.8s,baz=133,slow=6.4,SNR=5.3							
STKA	**Stephens Creek**	**34.85**	**248**		P	**P**	**13 28 31.5**	**+0.5**
	2.6nm,0.4s,baz=83,slow=8.8,SNR=9.3							
ASAR	**Alice Springs**	**42.19**	**261**		P	**P**	**13 29 30.4**	**-0.4**
	7.3nm,0.6s,baz=96,slow=7.5,SNR=114							
ASAR					ScP	**ScP**	**13 34 16.8**	**+2.4**
	3.1nm,0.7s,baz=110,slow=4.5,SNR=20							
WRA	**Warramunga Arr**	**42.57**	**266**		P	**P**	**13 29 32.9**	**-1.0**
	11nm,0.6s,baz=97,slow=8.5,SNR=344							
WRA					ScP	**ScP**	**13 34 18.8**	**+2.9**
	2.2nm,1.0s,baz=99,slow=4.2,SNR=6.8							
FITZ	**Fitzroy Crossi**	**50.99**	**266**		P	**P**	**13 30 37.4**	**-0.1**
	4.9nm,0.5s,baz=104,slow=7.3,SNR=20							
MJAR	**Matsushiro Arr**	**72.08**	**326**		P	**P**	**13 32 53.6**	**-1.4**
	2.0nm,0.8s,baz=166,slow=4.8,SNR=5.7							
KSRS	**Korea Array**	**78.44**	**320**		P	**P**	**13 33 29.9**	**-0.5**
	1.4nm,0.8s,baz=135,slow=6.0,SNR=9.5							
USRK	**Ussuriysk Ar.**	**80.94**	**327**		P	**P**	**13 33 43.6**	**+0.1**
	2.3nm,0.8s,baz=115,slow=2.9,SNR=5.4							
CMAR	**Chiang Mai Arr**	**89.72**	**290**		P	**P**	**13 34 28.1**	**+1.3**
	0.9nm,0.3s,baz=122,slow=3.2,SNR=5.1							
TXAR	**Lajitas Array**	**90.34**	**58**		P	**P**	**13 34 30.1**	**+0.7**
	2.8nm,0.3s,baz=214,slow=6.5,SNR=43							
ILAR	**Eielson Array**	**92.09**	**13**		P	**P**	**13 34 36.0**	**-0.6**
	0.1nm,0.5s,baz=218,slow=5.8,SNR=4.0							
PDAR	**Pinedale Array**	**92.64**	**44**		P	**P**	**13 34 39.8**	**-0.2**
	1.1nm,0.6s,baz=241,slow=3.1,SNR=6.4							
MKAR	**Makanchi Array**	**112.35**	**313**		PKiKP	**PKiKP**	**13 39 58.9**	**-1.4**
	0.1nm,0.4s,baz=81,slow=0.6,SNR=3.3							
ARCES	**ARCESS Array B**	**132.02**	**348**		PKP	**PKPdf**	**13 40 36.2**	**-1.0**
	1.5nm,0.8s,baz=22,slow=1.3,SNR=6.1							
FINES	**FINESS Array B**	**138.60**	**342**		PKP	**PKPdf**	**13 40 49.8**	**+0.2**
	0.6nm,0.5s,baz=101,slow=3.9,SNR=4.1							
AKASG	**Malin Array Be**	**145.15**	**327**		PKP	**PKPdf**	**13 41 00.7**	**-0.8**
	0.5nm,0.3s,baz=44,slow=4.3,SNR=5.5							
BRTR	**Keskin Array B**	**147.78**	**307**		PKPbc	**PKPbc**	**13 41 11.7**	**+1.5**
	1.4nm,0.7s,baz=68,slow=4.6,SNR=4.4							
BRG	**Berggiesshubel**	**151.14**	**342**	*i*	P	**PKPbc**	**13 41 17.3**	**-0.4**
	3.9nm,0.4s							

IDC 16 13:29:42.2±2.0, 5.82S×151.18E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/39, mbtmp3.9/4, ML1.2/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/29, Error ellipse: s-maj=125.5km s-min=26.3km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.35**	**228**		Pn	Pn	13 31 05.2	+1.8
	0.6nm,0.3s,baz=267,slow=18,SNR=2.0							
PMG					Sn	Sn	13 32 02.1	-3.6
	2.1nm,0.3s,baz=306,slow=22,SNR=2.5							
PMG					LR	LR	13 32 52.6	
	comp=Z,112nm,18.5s,baz=22,slow=36							
GUMO	**Guam**	**20.27**	**342**		LR	LR	13 40 33.4	
	comp=Z,31nm,19.8s,baz=73,slow=32							
WRA	**Warramunga Arr**	**21.57**	**228**		P	P	13 34 33.0	-0.6
	2.8nm,0.8s,baz=54,slow=11,SNR=9.0							
DZM	**Mont Dzumac**	**21.89**	**139**		LR	LR	13 41 32.3	
	comp=Z,70nm,19.8s,baz=320,slow=32							
ASAR	**Alice Springs**	**24.32**	**221**		P	P	13 35 01.6	-0.3
	3.2nm,0.7s,baz=54,slow=8.8,SNR=15							
STKA	**Stephens Creek**	**27.44**	**198**		LR	LR	13 45 47.2	
	comp=Z,68nm,18.5s,baz=209,slow=35							
ILAR	**Eielson Array**	**83.70**	**22**		P	P	13 42 12.7	0.0
	0.6nm,0.6s,baz=252,slow=4.9,SNR=6.1							
TORD	**Torodi Ar. Bea**	**149.06**	**286**		PKPbc	PKPbc	13 49 33.3	-0.3
	1.0nm,0.6s,baz=63,slow=3.2,SNR=6.3							

SJA ***16*** *13:38:40.5±0.6, 24.02S×67.73W, h244km±13km, ML3.4, MW3.9*

ISCJB ***16*** *13:38:45.8±0.6, 24.35S±0.04×67.78W±0.08, h175km, mb3.5/3, Error ellipse: s-maj=10.2km s-min=5.6km az=170.7*

IDC ***16*** *13:38:52.8±2.1, 23.83S×66.59W, h212km±19km, mb3.3/3, mb1 3.6/7, mb1mx3.4/23, mbtmp4.0/7, Error ellipse: s-maj=23.2km s-min=17.2km az=56.0*

ISC 16 13:38:46.3±0.8, 24.29S±0.06×67.67W±0.09, h175km, n20, σ 2.6 s 60/25, mb3.7/3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**2.02**	**103**	*i*	P	**Pn**	**13 39 22.8**	**-0.6**
SLA				*i*	S	**Sn**	**13 39 54.2**	**+2.1**
FSA	**Cafayete**	**2.37**	**140**	*i*	P	**Pn**	**13 39 27.9**	**+0.6**
FSA				*i*	S	**Sn**	**13 40 03.0**	**+3.7**
FSA					IAML		13 40 06.4	
	comp=Z,52nm,0.7s							
AZAP	**Zapla**	**2.38**	**89**	*i*	P	**Pn**	**13 39 26.6**	**-1.0**
AHML	**Horco Molle**	**3.26**	**140**	*i*	P	**Pn**	**13 39 37.8**	**-0.1**
AHML				*i*	P	**Pn**	**13 39 37.8**	**-0.1**
AHML				*i*	S	**Sn**	**13 40 20.6**	**+2.4**
VCA	**Vinchina**	**4.45**	**186**	*i*	P	**Pn**	**13 39 52.8**	**-0.4**
CYA	**Choya**	**4.46**	**158**	*i*	P	**Pn**	**13 39 53.3**	**+0.1**
CYA				*i*	S	**Sn**	**13 40 46.6**	**+1.0**
CYA					IAML		13 40 56.3	
	comp=Z,5.4nm,0.5s							
AMOG	**MOGNA**	**6.66**	**186**	*i*	P	**Pn**	**13 40 20.9**	**-1.0**
AMOG				*i*	S	**Sn**	**13 41 35.3**	**-2.1**
TCA	**Tanti**	**7.53**	**159**	*i*	P	**Pn**	**13 40 32.0**	**-1.4**
LPAZ	**La Paz**	**7.98**	**357**	*i*	P	**Pn**	**13 40 42.4**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=167,slow=5.4,SNR=17							
LPAZ					S	**Sn**	**13 42 08.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=64,slow=20,SNR=2.8							
MRA	**San Martin**	**8.28**	**168**	*i*	P	**Pn**	**13 40 41.6**	**-1.7**
MRA					IAML		13 42 36.6	
	comp=Z,7.2nm,0.6s							
CPUP	**Villa Florida**	**9.57**	**104**		P	Pn	13 40 54.5	-5.8
	comp=Z,0.4nm,0.3s,baz=296,slow=11,SNR=13							
PLCA	**Paso Flores**	**16.57**	**188**		P	Pn	13 42 39.5	+11
	comp=Z,0.1nm,0.3s,baz=15,slow=4.1,SNR=2.8							
BDFB	**Brasilia**	**20.36**	**69**		P	**P**	**13 43 03.0**	**-6.6**
	comp=Z,0.9nm,0.3s,baz=241,slow=1.1,SNR=5.0							
TXAR	**Lajitas Array**	**63.56**	**325**		P	**P**	**13 49 02.4**	**+4.0**
	comp=Z,0.2nm,0.7s,baz=154,slow=9.7,SNR=3.8							
TORD	**Torodi Ar. Bea**	**77.25**	**69**		P	**P**	**13 50 17.3**	**-4.3**
	comp=Z,0.8nm,0.5s,baz=258,slow=5.7,SNR=9.9							
YKA	**Yellowknife Ar**	**94.19**	**340**		P	**P**	**13 51 46.4**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=137,slow=5.0,SNR=5.3							
ASAR	**Alice Springs**	**127.93**	**205**		PKP	**PKPdf**	**13 57 34.9**	**+3.0**
	comp=Z,0.7nm,0.8s,baz=141,slow=1.8,SNR=7.2							
WRA	**Warramunga Arr**	**131.08**	**208**		PKP	**PKPdf**	**13 57 41.4**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=153,slow=2.0,SNR=11							
ZALV	**Zalesovo Beam**	**143.94**	**28**		PKP	**PKPdf**	**13 57 59.2**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=316,slow=4.0,SNR=4.2							
MKAR	**Makanchi Array**	**147.14**	**39**		PKPbc	**PKPbc**	**13 58 07.5**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=308,slow=3.1,SNR=15							

IDC 16 13:46:03.3±2.3, 6.56S×130.06E, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.4/43, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=89.0km s-min=29.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.26**	**200**		Pn	Pn	13 49 00.1	+0.8
	0.4nm,0.3s,baz=27,slow=10,SNR=28							
FITZ					Sn	Sn	13 51 03.3	-13
	1.1nm,0.3s,baz=191,slow=14,SNR=7.6							
WRA	**Warramunga Arr**	**13.94**	**163**		Pn	Pn	13 49 21.3	-1.0
	0.6nm,0.3s,baz=345,slow=13,SNR=37							
WRA					Sn	Sn	13 51 42.2	-16
	1.1nm,0.3s,baz=332,slow=22,SNR=6.9							
ASAR	**Alice Springs**	**17.41**	**168**		P	Pn	13 50 07.9	+0.1
	0.2nm,0.3s,baz=335,slow=9.7,SNR=20							
ASAR					S	Sn	13 53 10.7	-12
	0.3nm,0.3s,baz=356,slow=29,SNR=6.0							
MKAR	**Makanchi Array**	**67.89**	**327**		P	P	13 57 03.8	0.0
	0.3nm,0.4s,baz=141,slow=7.4,SNR=4.3							

CSEM ***16*** *13:52:22.3, 33.87N×35.84E, h0km, ML3.0*

GRAL ***16*** *13:52:22.3±0.3, 33.87N×35.84E, h0km±37km, MD3.0*

NSSC ***16*** *13:52:22.6±1.8, 33.85N×35.86E, h0km±7km, ML1.9*

ISC 16 13:52:22.3±1.2, 33.87N±0.03×35.83E±0.04, h1km±12km, n14, σ 0.9 s 44/25, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.15**	**282**	*e*	P	**Pg**	**13 52 25.2**	**-0.1**
BHL				*e*	S	**Sg**	**13 52 27.3**	**0.0**
BHL	**Bhannes**	**0.15**	**282**	*e*	P	**Pg**	**13 52 25.2**	**-0.1**
BHL				*e*	S	**Sg**	**13 52 27.3**	**0.0**
DQRL	**Deir Qamar**	**0.28**	**233**	*e*	P	**Pg**	**13 52 27.4**	**-0.2**
DQRL				*e*	S	**Sg**	**13 52 31.1**	**0.0**
DQRL	**Deir Qamar**	**0.28**	**233**	*e*	P	**Pg**	**13 52 27.4**	**-0.2**
DQRL				*e*	S	**Sg**	**13 52 31.1**	**0.0**
BEYL	**Beirut**	**0.28**	**270**	*e*	P	**Pg**	**13 52 27.5**	**-0.3**
RCY	**Rachaya**	**0.38**	**180**	*e*	P	**Pg**	**13 52 29.0**	**-0.5**
RCY				*e*	S	**Sg**	**13 52 34.0**	**-0.3**
HWQ	**Hawqa**	**0.42**	**13**	*e*	P	**Pg**	**13 52 29.8**	**-0.5**
HWQ	**Hawqa**	**0.42**	**13**	*e*	P	**Pg**	**13 52 29.8**	**-0.5**
BRBR	**Barbar**	**0.47**	**168**	*e*	P	**Pg**	**13 52 31.0**	**-0.3**
BRBR				*e*	S	**Sg**	**13 52 38.8**	**+1.4**
BRBR					AML	AML	13 52 40.8	
	comp=N,125nm,0.5s							
BRBR					AML	AML	13 52 42.6	
	comp=E,121n

NC602					*e*Sg	Sb	13 54 44.8	-0.5
NC602					IAML		13 54 47.9	
	comp=Z,1.9nm,0.6s							
NC602	**NORSAR Array S**	**3.08**	**61**	*e*P		Pn	13 54 00.9	-0.5
	SNR=50							
NC602					*e*Sg	Sb	13 54 44.8	-0.4
	SNR=90							

ISCJB ***16*** *13:54:04.5±0.4, 51°.55N±0°.02×16°.12E±0°.03, h0km, Error ellipse: s-maj=3.2km s-min=2.2km az=10.0*
BGR ***16*** *13:54:07.5±0.8, 51°.57N×16°.14E, h1km, ML3.1/12, Error ellipse: s-maj=10.0km s-min=4.4km az=12.0*
CSEM ***16*** *13:54:07.6±0.3, 51°.48N×16°.07E, h2km, ML3.6/7, Error ellipse: s-maj=4.7km s-min=2.7km az=8.0*
PRU ***16*** *13:54:08.5, 51°.49N×16°.02E, h0km*
WAR ***16*** *13:54:08.2, 51°.49N×16°.09E, h1km, Mw2.9*
IDC ***16*** *13:54:08.1±0.8, 51°.51N×16°.04E, h0km, mb1 3.4/6, mb1mx3.2/55, mbtmp3.3/6, ML3.1/6, Error ellipse: s-maj=14.2km s-min=7.1km az=111.0*

ISC 16 13:54:06.4±0.7, 51°.55N±0°.03×16°.09E±0°.02, h0km, n79, σ1§11/131, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**170**	*i* Pg	**Pg**	**13 54 20.6**	**+0.5**
KSP				*e*Sg	**Sg**	**13 54 29.2**	**-0.1**
KSP	**Ksiaz**	**0.72**	**170**	*e*Pg	**Pg**	**13 54 20.7**	**+0.5**
KSP	**Ksiaz**	**0.72**	**170**	*i* Pg	**Pg**	**13 54 20.6**	**+0.5**
KSP				*e*Sg	**Sg**	**13 54 29.2**	**-0.1**
KSP	**Ksiaz**	**0.72**	**170**	*i* Pgd	**Pg**	**13 54 20.6**	**+0.5**
KSP				*e*Sg	**Sg**	**13 54 29.2**	**-0.1**
UPC	**Upice**	**1.04**	**183**	*e*PG	**Pg**	**13 54 26.6**	**+0.3**
UPC				*e*SG	**Sg**	**13 54 39.5**	**-0.3**
UPC	**Upice**	**1.04**	**183**	Pg	**Pg**	**13 54 26.6**	**+0.3**
UPC				Sg	**Sg**	**13 54 39.5**	**-0.3**
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*PG	**Pg**	**13 54 29.4**	**0.0**
DPC				*e*SG	**Sg**	**13 54 44.3**	**-0.8**
	62nm,0.3s						
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*Pg	**Pg**	**13 54 29.5**	**0.0**
DPC				*e*Sg	**Sb**	**13 54 46.7**	**+0.4**
DPC	**Dobruska-Polom**	**1.21**	**173**	Pg	**Pg**	**13 54 29.5**	**0.0**
DPC				Sg	**Sg**	**13 54 44.3**	**-0.8**
	62nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**224**	*e*PG	**Pb**	**13 54 33.4**	**0.0**
PVCC				*e*SG	**Sb**	**13 54 52.0**	**+0.2**
	182nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**224**	Pg	**Pb**	**13 54 33.4**	**0.0**
PVCC				Sg	**Sb**	**13 54 52.0**	**+0.2**
	182nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**244**	PN	**Pn**	**13 54 34.7**	**0.0**
BRG				PG	**Pg**	**13 54 36.5**	**+1.1**
BRG				SG	**Sn**	**13 54 56.1**	**+1.0**
	129nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**244**	*e*Pg	**Pg**	**13 54 36.2**	**+0.9**
BRG				*e*Sg	**Sn**	**13 54 56.1**	**+1.0**
BRG	**Berggiesshubel**	**1.51**	**244**	Pg	**Pg**	**13 54 36.2**	**+0.9**
BRG				Sg	**Sn**	**13 54 56.1**	**+1.0**
FBE	**Freiberg**	**1.83**	**251**	*e*Sg	**Sg**	**13 55 05.7**	**+0.5**
FBE	**Freiberg**	**1.83**	**251**	Sg	**Sg**	**13 55 05.7**	**+0.5**
GOPC	**GO Pecny, Ondr**	**1.83**	**207**	*e*PG	**Pb**	**13 54 40.9**	**+0.1**
GOPC				*e*SG	**Sb**	**13 55 04.1**	**-0.2**
	51nm,0.7s						
GOPC	**GO Pecny, Ondr**	**1.83**	**207**	Pg	**Pb**	**13 54 40.9**	**+0.1**
GOPC				Sg	**Sb**	**13 55 04.1**	**-0.2**
	51nm,0.7s						
PRU	**Pruhonice**	**1.84**	**213**	*e*PG	**Pb**	**13 54 41.0**	**0.0**
PRU				*e*SG	**Sb**	**13 55 04.2**	**-0.4**
	50nm,0.4s						
PRU	**Pruhonice**	**1.84**	**213**	Pg	**Pb**	**13 54 41.0**	**0.0**
PRU				Sg	**Sb**	**13 55 04.2**	**-0.4**
	50nm,0.4s						
CLL	**Collm**	**1.95**	**264**	*i* Pn	**Pn**	**13 54 40.8**	**+0.1**
	comp=Z,8.0nm,0.4s						
CLL				*i* Pg	**Pg**	**13 54 44.1**	**+0.4**
CLL				*i*		13 54 48.2	
CLL				*i* Sg	**Sg**	**13 55 10.1**	**+1.1**
	comp=Z,35nm,0.4s						
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**13 54 40.8**	**+0.1**
CLL	**Collm**	**1.95**	**264**	Pn	**Pn**	**13 54 40.8**	**+0.1**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**13 54 41.3**	**-0.2**
MORC	**Moravsky Berou**	**2.00**	**152**	*e*Pn	**Pn**	**13 54 41.1**	**-0.3**
MORC				*e*Sg	**Sb**	**13 55 08.6**	**-0.4**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG	**Pg**	**13 54 47.6**	**0.0**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*Pg	**Pg**	**13 54 47.7**	**+0.1**
OKC	**Ostrava-Krasne**	**2.15**	**142**	Pg	**Pg**	**13 54 47.7**	**+0.1**
VRAC	**Vranov**	**2.26**	**172**	Pn	**Pn**	**13 54 46.2**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=330,slow=16,SNR=9.4						
VRAC				Lg	Lg	13 55 17.7	
	comp=Z,6.5nm,0.3s,baz=260,slow=20,SNR=12						
VRAC	**Vranov**	**2.26**	**172**	*e*Pn	**Pn**	**13 54 45.9**	**+0.8**
VRAC				*e*Sg	**Sb**	**13 55 17.2**	**+0.5**
WERD	**Werda**	**2.63**	**247**	*e*Sg	**Sg**	**13 55 32.4**	**+1.5**
WERD	**Werda**	**2.63**	**247**	Sg	**Sg**	**13 55 32.4**	**+1.5**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**13 54 51.0**	**+0.5**
NKC				*e*PG	**Pg**	**13 54 56.9**	**-0.4**
NKC				*e*SG	**Sg**	**13 55 31.8**	**+0.1**
	comp=Z,60nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**242**	Pn	**Pn**	**13 54 51.0**	**+0.5**
NKC	**Novy Kostel**	**2.66**	**242**	Pg	**Pg**	**13 54 56.9**	**-0.4**
NKC				Sg	**Sg**	**13 55 31.8**	**+0.1**
	comp=Z,60nm,0.3s						
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**13 54 58.0**	**0.0**
OJC				*e*Sg	**Sg**	**13 55 33.5**	**+0.5**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**13 54 58.0**	**0.0**
OJC				*e*Sg	**Sg**	**13 55 33.5**	**+0.5**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**13 54 58.0**	**0.0**
OJC				*e*Sg	**Sg**	**13 55 33.5**	**+0.5**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**13 54 54.2**	**+0.3**
KHC				*e*PG	**Pb**	**13 55 00.1**	**+1.0**
KHC				*e*SN	**Sn**	**13 55 28.0**	**-1.6**
KHC				*e*SG	**Sg**	**13 55 37.9**	**-1.8**
	comp=Z,26nm,0.6s						
KHC	**Kasperske Hory**	**2.91**	**215**	Pn	**Pn**	**13 54 54.2**	**+0.3**
KHC	**Kasperske Hory**	**2.91**	**215**	Pg	**Pb**	**13 55 00.1**	**+1.0**
KHC				Sn	**Sn**	**13 55 28.0**	**-1.6**
KHC				Sg	**Sg**	**13 55 37.9**	**-1.8**
	comp=Z,26nm,0.6s						
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn	**Pn**	**13 54 56.9**	**+1.0**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	Pn	**Pn**	**13 54 56.9**	**+1.0**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**13 54 58.0**	**+1.2**
GEC2	**GERESS Array S**	**3.11**	**211**	Pn	**Pn**	**13 54 58.0**	**+1.2**
GERES	**GERESS Array B**	**3.11**	**211**	Pn	**Pn**	**13 54 57.6**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=31,slow=12,SNR=23						
GERES				Pg	**Pb**	**13 55 04.1**	**+1.5**
	comp=Z,3.6nm,0.3s,baz=28,slow=15,SNR=27						
GERES				Lg	Lg	13 55 44.1	
	comp=Z,9.1nm,0.3s,baz=29,slow=28,SNR=12						
SMOL	**Smolenice**	**3.16**	**164**	*e*Pg	**Pg**	**13 55 08.0**	**+1.2**
SMOL				*e*Sg	**Sg**	**13 55 50.7**	**+3.0**
SMOL	**Smolenice**	**3.16**	**164**	*e*PG	**Pg**	**13 55 08.0**	**+1.2**
SMOL				*e*SG	**Sg**	**13 55 50.7**	**+3.0**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**13 54 58.1**	**+0.6**
WET	**Wettzell**	**3.17**	**222**	Pn	**Pn**	**13 54 58.1**	**+0.6**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*Pg	**Pg**	**13 55 08.5**	**+0.3**
LANS				*e*Sg	**Sg**	**13 55 49.1**	**-1.0**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*	**Pn**	**13 54 58.5**	**+0.1**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG	**Pg**	**13 55 08.5**	**+0.3**
LANS				*e*SG	**Sg**	**13 55 49.1**	**-1.0**
NIE	**Niedzica**	**3.43**	**127**	*e*P	**Pg**	**13 55 11.7**	**-0.4**
NIE				*e*S	**Sg**	**13 55 57.6**	**+1.1**
NIE	**Niedzica**	**3.43**	**127**	*e*P	**Pg**	**13 55 11.7**	**-0.4**
NIE				*e*S	**Sg**	**13 55 57.6**	**+1.1**
VYHS	**Vyhne**	**3.53**	**149**	*e*Pg	**Pg**	**13 55 14.6**	**+0.6**
VYHS				*e*Sg	**Sg**	**13 55 56.9**	**-2.9**
VYHS	**Vyhne**	**3.53**	**149**	*e*	**Pn**	**13 55 02.1**	**-0.4**
VYHS	**Vyhne**	**3.53**	**149**	*e*PG	**Pg**	**13 55 14.6**	**+0.6**
VYHS				*e*SG	**Sg**	**13 55 56.9**	**-2.9**
VYHS				eLG	Lg	13 56 12.3	
GRFO	**Grafenberg**	**3.62**	**241**	*e*Sg	**Sg**	**13 56 03.8**	**+1.3**
GRFO	**Grafenberg**	**3.62**	**241**	Sg	**Sg**	**13 56 03.8**	**+1.3**
CONA	**Conrad Observa**	**3.62**	**182**	*e*Pn	**Pn**	**13 55 04.6**	**+0.7**
	comp=Z,3.4nm,0.3s						
CONA				*i* Sg	**Sg**	**13 56 00.3**	**-2.5**
	comp=Z,36nm,0.5s						
CONA	**Conrad Observa**	**3.62**	**182**	Pn	**Pn**	**13 55 04.6**	**+0.7**
	comp=Z,3.4nm,0.3s						
CONA				Sg	**Sg**	**13 56 00.3**	**-2.5**
	comp=Z,36nm,0.5s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**13 55 05.0**	**+1.0**
BSD				*i* S	**Sn**	**13 55 46.2**	**-1.4**
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**13 55 05.0**	**+1.0**
BSD				*i* S	**Sn**	**13 55 46.2**	**-1.4**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pg	**Pg**	**13 55 21.9**	**+0.4**
STHS				*e*Sg	**Sg**	**13 56 14.6**	**+2.3**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*	**Pn**	**13 55 08.9**	**+1.1**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PG	**Pg**	**13 55 21.9**	**+0.4**
STHS				*e*SG	**Sg**	**13 56 14.6**	**+2.3**
STHS				eLG	Lg	13 56 28.6	
KECS	**Kecovo**	**4.17**	**136**	*e*Pg	**Pg**	**13 55 27.3**	**+0.9**
KECS				*e*Sg	**Sg**	**13 56 22.7**	**+2.3**
KECS	**Kecovo**	**4.17**	**136**	*e*PG	**Pg**	**13 55 27.3**	**+0.9**
KECS				*e*SG	**Sg**	**13 56 22.7**	**+2.3**
KECS				eLG	Lg	13 56 33.7	
CRVS	**Cervenica-Dubn**	**4.34**	**125**	*e*Pg	**Pg**	**13 55 31.9**	**+2.3**
CRVS				*e*Sg	**Sg**	**13 56 26.9**	**+1.0**
CRVS	**Cervenica-Dubn**	**4.34**	**125**	*e*PG	**Pg**	**13 55 31.9**	**+2.3**
CRVS				*e*SG	**Sg**	**13 56 26.9**	**+1.0**
KBA	**Koelnbreinsper**	**4.82**	**203**	*i* Pn	**Pn**	**13 55 21.4**	**+1.1**
	comp=Z,2.0nm,0.3s						
KBA	**Koelnbreinsper**	**4.82**	**203**	Pn	**Pn**	**13 55 21.4**	**+1.1**
	comp=Z,2.0nm,0.3s						
SOKA	**Soboth**	**4.92**	**189**	Pg	**Pg**	**13 55 41.1**	**+0.4**
	comp=Z,1.6nm,0.3s						
SOKA	**Soboth**	**4.92**	**189**	Pg	**Pg**	**13 55 41.1**	**+0.4**
	comp=Z,1.6nm,0.3s						
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**13 56 06.7**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=280,slow=12,SNR=5.7						
HFS	**Hagfors**	**8.71**	**352**	Pn	**Pn**	**13 56 12.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=189,slow=18,SNR=4.0						
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**13 56 48.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=202,slow=12,SNR=6.6						
FINES				Sn	Sn	13 58 47.2	-9.4
	comp=Z,0.1nm,0.3s,baz=206,slow=18,SNR=2.9						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**13 58 22.0**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=6.6						

JMA 16 14:01:26.6, 36°.84N×140°.60E, h10km±1km, M1.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.23**	**186**	P	Pg	14 01 31.6	+0.3
JHO				S	Sg	14 01 34.8	+0.3
ONAJ	**Iwakimizuishiy**	**0.31**	**31**	S	Sg	14 01 37.4	+0.5
JYT	**Yasato**	**0.69**	**208**	S	Sg	14 01 48.8	-0.3
JFT	**Otama**	**0.71**	**343**	P	Pg	14 01 40.3	0.0
JFT				S	Sg	14 01 49.5	-0.1

ISCJB ***16*** *14:01:43.9±1.3, 37°.01N±0°.06×142°.8E±0°.1, h35km, mb3.5/5, Error ellipse: s-maj=16.4km s-min=8.8km az=178.5*
JMA ***16*** *14:01:43.5±0.3, 37°.02N×142°.75E, h31km, M3.2*
IDC ***16*** *14:01:54.0±1.9, 36°.91N×140°.31E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/48, mbtmp3.6/6, ML3.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.3/41, Error ellipse: s-maj=48.6km s-min=19.4km az=66.0*

ISC 16 14:01:45.8±1.7, 36°.98N±0°.05×142°.7E±0°.1, h35km, n20, σ1§31/19, mb3.6/5,1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.52**	**285**	⇑P	**Pn**	**14 02 09.7**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.54**	**275**	P	**Pn**	**14 02 10.5**	**-0.3**
JMM	**Marumori**	**1.77**	**301**	P	**Pn**	**14 02 13.0**	**-0.9**
JIO	**Ouri**	**1.83**	**324**	P	**Pn**	**14 02 13.7**	**-1.0**
JIO				S	**Sn**	**14 02 35.1**	**-1.5**
JFT	**Otama**	**1.97**	**286**	P	**Pn**	**14 02 16.7**	**0.0**
JOU	**Okura**	**2.14**	**311**	P	**Pn**	**14 02 18.8**	**-0.2**
JOU				S	**Sn**	**14 02 45.9**	**+1.6**
JMK	**Ichinoseki**	**2.29**	**329**	P	**Pn**	**14 02 20.5**	**-0.6**
JAG	**Ashikaga**	**2.68**	**259**	P	**Pn**	**14 02 26.8**	**+0.4**
JYK	**Kaneyama**	**2.69**	**317**	P	**Pn**	**14 02 26.4**	**-0.1**
JOM	**Ohasama**	**2.73**	**336**	P	**Pn**	**14 02 26.5**	**-0.6**
JRY	**Ryogami san**	**3.22**	**254**	P	**Pn**	**14 02 34.2**	**+0.3**
JANG	**Nango**	**3.52**	**345**	P	**Pn**	**14 02 37.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.65**	**264**	Pn	Pn	14 02 24.9	-15
	0.3nm,0.3s,baz=90,slow=11,SNR=2.9						
JHJ	**Hachijo jima 2**	**4.54**	**213**	Pn	**Pn**	**14 02 53.3**	**+1.2**
	3.5nm,0.3s,baz=50,slow=18,SNR=3.8						
JHJ				Sn	**Sn**	**14 03 39.9**	**-3.8**
	6.5nm,0.3s,baz=25,slow=14,SNR=3.8						
JCJ	**Chichijima**	**9.87**	**183**	LR	LR	14 08 09.3	
	comp=Z,257nm,21.2s,baz=143,slow=38						
SONM	**Songino Array**	**28.68**	**304**	P	**P**	**14 07 40.8**	**+1.3**
	0.3nm,0.4s,baz=99,slow=8.9,SNR=2.8						
MKAR	**Makanchi Array**	**45.03**	**302**	P	**P**	**14 09 57.2**	**-0.7**
	0.1nm,0.4s,baz=79,slow=10,SNR=2.6						
KURBB	**Kurchatov Arra**	**46.85**	**308**	P	**P**	**14 10 13.1**	**+0.9**
	0.8nm,0.6s,baz=82,slow=7.9,SNR=7.4						
WRA	**Warramunga Arr**	**57.17**	**189**	P	P	14 11 40.1	+11
	0.7nm,0.7s,baz=7.9,slow=7.2,SNR=7.5						
ASAR	**Alice Springs**	**60.89**	**189**	P	P	14 12 06.8	+12
	0.4nm,0.7s,baz=15,slow=8.1,SNR=6.1						

JMA ***16*** *14:11:10.7±0.2, 45°.32N×145°.61E, h22km±5km, M2.9*
SKHL ***16*** *14:11:11.8±0.6, 45°.41N×145°.66E, h53km±2km, mb4.5/4*

ISC 16 14:11:07.6±2.8, 45°.40N±0°.05×145°.70E±0°.04, h7km±18km, n12, σ1§32/21, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.36**	**175**	*i* P	**Pn**	**14 11 33.5**	**+0.5**
YUK				AMB	AMB	14 11 35.5	
	160nm,0.2s						
YUK				*i* S	**Sg**	**14 11 50.1**	**-1.3**
YUK				A	A	14 11 55.0	
	830nm,0.3s						
YUK				A	A	14 11 55.0	
	660nm,0.3s						
KUR	**Kuril'sk**	**1.54**	**95**	*e*P	**Pn**	**14 11 36.0**	**+0.6**
KUR				AMB	AMB	14 11 37.1	
	130nm,0.3s						
KUR				*i* S	**Sn**	**14 11 54.8**	**-0.8**
KUR				A	A	14 11 56.0	
	130nm,0.3s						
KUR				A	A	14 11 56.0	
	168nm,0.3s						
SHO	**Shikotan**	**1.73**	**152**	*e*P	**Pn**	**14 11 39.3**	**+1.4**
SHO				AMB	AMB	14 11 39.7	
	73nm,0.3s						
SHO				*i* S	**Sn**	**14 11 59.7**	**-0.5**
SHO				A	A	14 12 02.1	
	1μm,0.4s						
SHO				A	A	14 12 02.1	
	680nm,0.4s						
JTKR	**Abashiri--Toko**	**1.91**	**222**	P	**Pn**	**14 11 41.4**	**+0.9**
JTKR				*e*S	**Sn**	**14 12 04.2**	**-0.5**
JNK	**Nakash**	**1.94**	**201**	P	**Pn**	**14 11 41.8**	**+0.9**
NEM2	**Nemuro 2**	**2.03**	**179**	P	**Pn**	**14 11 43.2**	**+1.1**
NEM2				*e*S	**Sn**	**14 12 06.6**	**-1.1**
JMP	**Maruseppu**	**2.17**	**231**	P	**Pn**	**14 11 45.0**	**+0.9**
JMP				*e*S	**Sn**	**14 12 10.4**	**-0.8**
JSE	**Soyaes**	**2.24**	**260**	P	**Pn**	**14 11 46.2**	**+1.2**
JSE				*e*S	**Sn**	**14 12 11.9**	**-1.0**
JAK	**Akkeshi**	**2.50**	**197**	P	**Pn**	**14 11 50.2**	**+1.6**
JAK				*e*S	**Sn**	**14 12 19.0**	**-0.4**
JAR	**Ashorobuto**	**2.51**	**214**	P	**Pn**	**14 11 50.5**	**+1.7**
YSS	**Yuzh-Sakhalins**	**2.57**	**308**	*e*P	**Pn**	**14 11 50.2**	**+0.7**
YSS				AMB	AMB	14 11 50.7	
	40nm,0.2s						
YSS				*e*S	**Sn**	**14 12 18.5**	**-2.5**
YSS				A	A	14 12 20.8	
	50nm,0.3s						
UGL	**Uglegorsk**	**4.44**	**327**	*e*P	**Pn**	**14 12 17.2**	**+2.0**

IDC 16 14:23:24.6±3.0, 5°.85S×150°.95E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/43, mbtmp3.4/3, Error ellipse: s-maj=135.5km s-min=36.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.16**	**226**	Pn	Pn	14 24 43.9	+0.8
	baz=71,slow=18,SNR=2.1						
PMG				Sn	Sn	14 25 42.6	-0.9
	0.6nm,0.3s,baz=330,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**21.38**	**228**	P	P	14 28 14.2	+0.2
	0.3nm,0.4s,baz=54,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**24.15**	**221**	P	P	14 28 42.8	+0.2
	0.4nm,0.6s,baz=57,slow=9.2,SNR=6.3						
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc	PKPbc	14 43 14.5	-0.9
	0.4nm,0.7s,baz=60,slow=3.7,SNR=2.9						

NIED ***16*** *14:32:00, 35°.10N×132°.70E, h8km, Mw3.8 Best double couple: M0 4.97000×10^14 NP1:φs=251.00000°, δ78.00000°, λ-179.00000°. NP2:φs=161.00000°, δ89.00000°, λ-12.00000°.*
ISCJB ***16*** *14:32:20.9±0.5, 35°.09N±0°.03×132°.65E±0°.04, h12km±3km, mb3.3/4, MS3.0/1, Error ellipse: s-maj=5.4km s-min=4.8km az=37.8*
IDC ***16*** *14:32:20.9±1.0, 35°.04N×132°.69E, h0km, mb3.4/4, mb1 3.6/9, mb1mx3.4/51, mbtmp3.4/9, ML3.3/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/23, Error ellipse: s-maj=21.5km s-min=13.3km az=126.0*
JMA ***16*** *14:32:21.1, 35°.10N×132°.67E, h9km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs74.00000°, δ76.00000°, λ-161.00000°. NP2: φs339.00000°, δ72.00000°, λ-15.00000°. Principal axes: T Plg3.0000°, Azm206.0000°; N Plg67.0000°, Azm109.0000°; P Plg23.0000°, Azm297.0000°;*
JMA Felt III J1.

ISC 16 14:32:21.9±1.0, 35°.07N±0°.03×132°.65E±0°.03, h6km±8km, n17, σ1§16/23, mb3.4/4, 4C-2D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGT2	**ShimaneMisato**	**0.12**	**267**	⇑P	**Pg**	**14 32 24.2**	**-0.2**
JGT2				S	**Sg**	**14 32 26.4**	**+0.2**
JHS	**Saijyo**	**0.39**	**101**	⇓P	**Pg**	**14 32 28.6**	**-0.8**
JHS				S	**Sg**	**14 32 33.8**	**-0.7**
JHT	**Toyohira**	**0.45**	**205**	⇑P	**Pg**	**14 32 30.4**	**-0.2**
JHT				S	**Sg**	**14 32 36.9**	**+0.4**
JNM	**Ikuma**	**0.52**	**36**	⇑P	**Pg**	**14 32 31.0**	**-1.0**
JNM				S	**Sg**	**14 32 38.2**	**-0.7**
JJG	**Jouge**	**0.59**	**136**	⇓P	**Pg**	**14 32 32.8**	**-0.5**
JJG				S	**Sg**	**14 32 41.0**	**-0.1**
JHM	**Kurahashi**	**0.93**	**186**	⇑P	**Pg**	**14 32 38.9**	**-0.9**
JHM				S	**Sg**	**14 32 51.5**	**-0.4**
JNU	**Nakatsue**	**2.44**	**218**	Pn	**Pn**	**14 33 02.7**	**+0.4**
	37nm,0.3s,baz=41,slow=4.5,SNR=57						
JNU				Lg	Lg	14 33 38.7	
	38nm,0.3s,baz=175,slow=15,SNR=8.4						
KSRS	**Korea Array**	**4.50**	**303**	Pn	**Pn**	**14 33 29.1**	**-1.5**
	0.9nm,0.3s,baz=118,slow=15,SNR=9.3						
KSRS				Sn	**Sn**	**14 34 21.1**	**-2.1**
	2.3nm,0.3s,baz=118,slow=25,SNR=7.2						
KSRS				LR	LR	14 35 12.7	
	comp=Z,58nm,19.0s,baz=148,slow=38						
MAT	**Matsushiro**	**4.75**	**70**	P	**Pn**	**14 33 35.8**	**+1.8**
MJAR	**Matsushiro Arr**	**4.75**	**70**	Pn	**Pn**	**14 33 35.0**	**+1.0**
	0.7nm,0.3s,baz=253,slow=12,SNR=10						
MJAR				Lg	Lg	14 34 51.9	
	5.1nm,0.3s,baz=232,slow=32,SNR=22						
USRK	**Ussuriysk Ar.**	**9.13**	**357**	Pn	**Pn**	**14 34 34.8**	**+0.6**
	0.1nm,0.3s,baz=191,slow=15,SNR=3.0						
KLR	**Kul'dur**	**14.17**	**358**	Pn	**Pn**	**14 35 45.4**	**+2.4**
	0.1nm,0.3s,baz=175,slow=13,SNR=3.0						
SONM	**Songino Array**	**23.32**	**311**	P	**P**	**14 37 31.8**	**+1.0**
	0.9nm,0.8s,baz=123,slow=10,SNR=3.5						
DAV	**Davao City (W)**	**28.62**	**195**	LR	LR	14 49 56.6	
	comp=Z,33nm,18.4s,baz=134,slow=37						
WRA	**Warramunga Arr**	**54.73**	**178**	P	**P**	**14 41 50.6**	**-1.6**
	0.4nm,0.8s,baz=354,slow=7.6,SNR=3.3						
ILAR	**Eielson Array**	**54.90**	**31**	P	**P**	**14 41 52.4**	**-0.6**
	0.3nm,0.8s,baz=288,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**58.43**	**179**	P	**P**	**14 42 18.8**	**+0.3**
	0.2nm,0.8s,baz=359,slow=4.6,SNR=3.4						

NIED ***16*** *14:38:00, 37°.00N×141°.80E, h29km, Mw4.0 Best double couple: M0 1.31000×10^15 NP1:φs=177.00000°, δ41.00000°, λ-69.00000°. NP2:φs=329.00000°, δ52.00000°, λ-108.00000°.*
IDC ***16*** *14:38:38.2±0.6, 36°.92N×141°.85E, h0km, mb4. 1/16, mb1 4.2/20, mb1mx4.0/53, mbtmp4.2/20, ML4.0/4, MS3.1/11, Ms1 3.1/11, ms1mx2.9/43, Error ellipse: s-maj=17.7km s-min=13.5km az=108.0*
ISCJB ***16*** *14:38:39.4±0.9, 36°.95N±0°.03×141°.91E±0°.04, h23km±6km, mb4. 1/30, MS3.1/5, Error ellipse: s-maj=5.6km s-min=4.7km az=23.4*
MOS ***16*** *14:38:41.5±1.2, 37°.05N×141°.81E, h33km, mb4.4/27, Error ellipse: s-maj=10.2km s-

	comp=Z,17nm,1.1s								
USRK	**Ussuriysk Ar.**	**10.43**	**317**	Pn		**Pn**	**14 41 13.3**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=131,slow=12,SNR=6.8								
USRK				LR		LR	14 44 38.0		
	comp=Z,59nm,19.6s,baz=121,slow=34								
KSRS	**Korea Array**	**11.14**	**277**	Pn		**Pn**	**14 41 23.8**	**+4.4**
	comp=Z,0.2nm,0.3s,baz=93,slow=14,SNR=17								
KSRS				LR		LR	14 45 24.9		
	comp=Z,94nm,19.4s,baz=82,slow=36								
KSAR	**Wonju Array Be**	**11.18**	**277**	P		**Pn**	**14 41 23.8**	**+4.0**
KSAR	**Wonju Array Be**	**11.18**	**277**	Pn		**Pn**	**14 41 23.8**	**+4.0**
TYV	**Tymovskoe**	**13.91**	**2**	*eP*		**P**	**14 42 05.8**	**+0.9**
KLR	**Kul'dur**	**14.30**	**332**	LR		LR	14 47 25.2		
	comp=Z,37nm,21.9s,baz=140,slow=37								
PETK	**Petropavlovsk-**	**19.56**	**29**	LR		LR	14 50 40.6		
	comp=Z,33nm,19.8s,baz=229,slow=37								
YAK	**Yakutsk**	**26.22**	**347**	LR		LR	14 54 51.9		
	comp=Z,45nm,18.8s,baz=178,slow=37								
YAK	**Yakutsk**	**26.22**	**347**	*eP*		**P**	**14 44 13.5**	**-0.7**
YAK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
SEY	**Seymchan**	**26.79**	**11**	P		**P**	**14 44 20.5**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=21,slow=20,SNR=6.7								
ENH	**Enshi**	**27.70**	**266**	*eP*		**P**	**14 44 26.2**	**-1.7**
	comp=Z,8.8nm,0.7s								
ULN	**Ulaanbaatar**	**27.70**	**304**	*i* P		**P**	**14 44 27.0**	**-0.9**
ULN				pmax		pmax			
	comp=Z,3.0nm,1.2s								
ULN	**Ulaanbaatar**	**27.70**	**304**	P		**P**	**14 44 27.8**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**27.79**	**121**	T		T	15 13 54.1		
	baz=314,slow=75,SNR=179								
H11N1	**WAKE ISLAND Hy**	**27.80**	**121**	T		T	15 13 51.6		
	baz=314,slow=75,SNR=212								
H11N3	**WAKE ISLAND Hy**	**27.81**	**121**	T		T	15 13 54.3		
	baz=314,slow=75,SNR=158								
SONM	**Songino Array**	**28.13**	**304**	P		**P**	**14 44 31.7**	**0.0**
	comp=Z,3.3nm,0.8s,baz=93,slow=8.9,SNR=15								
SONM				LR		LR	14 55 51.9		
	comp=Z,40nm,21.0s,baz=40,slow=37								
H11S1	**WAKE ISLAND Hy**	**28.51**	**123**	T		T	15 14 51.5		
	baz=316,slow=75,SNR=94								
H11S3	**WAKE ISLAND Hy**	**28.51**	**123**	T		T	15 14 59.7		
	baz=316,slow=75,SNR=70								
H11S2	**WAKE ISLAND Hy**	**28.52**	**123**	T		T	15 14 46.3		
	baz=316,slow=75,SNR=58								
ZAK	**Zakamensk**	**30.61**	**308**	*eP*		**P**	**14 44 51.9**	**-1.7**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
BILL	**Bilibino**	**33.99**	**16**	*eP*		**P**	**14 45 24.2**	**+1.3**
BILL				*e*			14 46 40.0		
BILL				pmax		pmax			
	comp=Z,1.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**41.84**	**256**	P		**P**	**14 46 30.1**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=44,slow=5.8,SNR=6.6								
CMAR				LR		LR	15 06 05.8		
	comp=Z,24nm,19.8s,baz=100,slow=39								
ZALV	**Zalesovo Beam**	**42.24**	**312**	P		**P**	**14 46 33.2**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=95,slow=5.9,SNR=8.7								
MKAR	**Makanchi Array**	**44.47**	**302**	P		**P**	**14 46 50.9**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=89,slow=9.6,SNR=27								
MKAR				PcP		**PcP**	**14 48 33.3**	**-0.5**	
	comp=Z,0.6nm,0.8s,baz=58,slow=3.6,SNR=2.9								
COLA	**College**	**48.94**	**32**	*eP*		**P**	**14 47 26.3**	**+1.0**
COLA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ILAR	**Eielson Array**	**49.35**	**32**	P		**P**	**14 47 29.8**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=267,slow=6.6,SNR=26								
TKM2	**Tokmak 2**	**49.99**	**299**	*eP*		**P**	**14 47 33.0**	**-0.9**
TKM2				pmax		pmax			
	comp=Z,2.0nm,0.5s								
TKM2	**Tokmak 2**	**49.99**	**299**	*eP*		**P**	**14 47 33.0**	**-0.9**
	comp=Z,2.4nm,0.5s								
BRVK	**Borovoye**	**50.95**	**312**	*eP*		**P**	**14 47 39.6**	**-1.2**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KKAR	**Karatay Array**	**53.48**	**300**	*eP*		**P**	**14 48 00.1**	**+0.4**
KKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KKAR	**Karatay Array**	**53.48**	**300**	*eP*		**P**	**14 48 00.1**	**+0.4**
	comp=Z,1.0nm,0.5s								
INK	**Inuvik**	**54.28**	**27**	P		**P**	**14 48 07.1**	**+2.0**
	comp=Z,1.6nm,0.6s,baz=285,slow=9.1,SNR=6.1								
ARU	**Arti**	**56.66**	**319**	*d iP*		**P**	**14 48 21.7**	**-0.7**
ARU							14 49 15.8		
ARU				S		**S**	**14 56 10.7**	**-2.1**
ARU				SS		**SS**	**14 59 56.5**	**-3.6**
ARU				pmax		pmax			
	comp=Z,8.0nm,2.5s								
WRAB	**Tennant Creek**	**57.03**	**188**	*eP*		**P**	**14 48 25.0**	**-0.4**
WRAB	**Tennant Creek**	**57.03**	**188**	*eP*		**P**	**14 48 24.9**	**-0.4**
WRA	**Warramunga Arr**	**57.04**	**188**	P		**P**	**14 48 25.5**	**0.0**
	comp=Z,2.7nm,0.6s,baz=6.1,slow=7.4,SNR=40								
ABKAR	**Akbulak array**	**58.27**	**310**	*eP*		**P**	**14 48 31.3**	**-2.6**
	comp=Z,1.0nm,0.4s								
AKTO	**Aktyubinsk**	**59.00**	**312**	P		**P**	**14 48 38.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=86,slow=13,SNR=4.5								
ASAR	**Alice Springs**	**60.77**	**188**	P		**P**	**14 48 51.7**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=14,slow=6.8,SNR=25								
RES	**Resolute Bay**	**62.58**	**15**	LR		LR	15 18 01.8		
	comp=Z,22nm,20.2s,baz=55,slow=38								
YKA	**Yellowknife Ar**	**63.68**	**30**	P		**P**	**14 49 11.7**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=307,slow=6.4,SNR=6.3								
OBN	**Obninsk**	**68.38**	**323**	*eP*		**P**	**14 49 40.2**	**-0.5**
OBN				pmax		pmax			
	comp=Z,5.0nm,0.7s								
FINES	**FINESS Array B**	**69.05**	**332**	P		**P**	**14 49 45.3**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=61,slow=9.0,SNR=11								
FINES	**FINESS Array B**	**69.05**	**332**	*i* P		**P**	**14 49 45.2**	**+0.4**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KIV	**Kislovodsk**	**71.23**	**311**	*eP*		**P**	**14 49 59.1**	**+0.5**
KIV				pmax		pmax			
	comp=Z,5.0nm,1.1s								
HFS	**Hagfors**	**74.31**	**336**	P		**P**	**14 50 16.9**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=63,slow=6.8,SNR=7.8								
NB2	**NORSAR Subarra**	**74.40**	**337**	P		**P**	**14 50 17.4**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**74.40**	**337**	P		**P**	**14 50 17.8**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=38,slow=5.9,SNR=10								
NOA				LR		LR	15 26 40.3		
	comp=Z,16nm,18.8s,baz=55,slow=39								
AKASG	**Malin Array Be**	**74.58**	**323**	P		**P**	**14 50 18.7**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=47,slow=6.0,SNR=10								
KIEV	**Kiev**	**74.59**	**323**	*eP*		**P**	**14 50 17.7**	**-0.5**
KIEV				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ANMO	**Albuquerque**	**84.35**	**50**	*i* P		**P**	**14 51 14.0**	**+2.1**
ANMO				pmax		pmax			
	comp=Z,5.0nm,2.5s								
TXAR	**Lajitas Array**	**89.87**	**53**	P		**P**	**14 51 40.1**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=305,slow=4.4,SNR=6.3								
LPAZ	**La Paz**	**146.41**	**60**	PKPbc		**PKPdf**	**14 58 19.8**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=28,slow=9.0,SNR=4.5								

JMA 16 14:38:52.0±0.2, 38.16N×142.05E, h39km±1km, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.62**	**298**	P	Pn	14 39 04.2	-0.2
JIO				*e*S	Sn	14 39 13.1	-0.1
OFUJ	**Ofunato**	**0.97**	**342**	P	Pn	14 39 09.4	+0.3
JMK	**Ichinoseki**	**1.02**	**321**	P	Pn	14 39 10.5	+0.7

*NIED **16** 14:48:00, 38.20N×142.60E, h14km, Mw3.8 Best double couple: M0 5.60000×10^14 NP1:φs=260.00000°, δ=16.00000°, λ=-176.00000°. NP2:φs=166.00000°, δ=89.00000°, λ=-74.00000°.*

*ISCJB **16** 14:48:05.3±0.7, 38.14N±0.04×142.63E±0.06, h14km, mb3.7/11, Error ellipse: s-maj=7.4km s-min=6.2km az=173.5*

*IDC **16** 14:48:05.4±1.0, 38.20N×142.54E, h0km, mb3.7/10, mb1 3.7/14, mb1mx3.6/47, mbtmp3.7/14, ML3.4/3, MS3.1/4, Ms1 3.1/4, ms1mx2.6/45, Error ellipse: s-maj=24.4km s-min=16.9km az=96.0*

*JMA **16** 14:48:07.2±0.2, 38.17N×142.59E, h32km±3km, M4.0*

ISC 16 14:48:07.2±0.9, 38.11N±0.04×142.42E±0.06, h14km, n28, σ1.9 70/30, mb3.8/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.91**	**293**	P	**Pn**	**14 48 25.4**	**-0.1**
OFUJ	**Ofunato**	**1.13**	**329**	P	**Pb**	**14 48 27.6**	**-1.0**
OFUJ				S	**Sb**	**14 48 42.1**	**-1.0**
JMK	**Ichinoseki**	**1.26**	**312**	P	**Pn**	**14 48 30.2**	**-0.2**
JMK				*e*S	**Sb**	**14 48 46.7**	**-0.1**
JMM	**Marumori**	**1.31**	**260**	P	**Pg**	**14 48 31.6**	**-0.7**
JOU	**Okura**	**1.40**	**281**	P	**Pg**	**14 48 33.7**	**-0.5**
JOU				S	**Sg**	**14 48 52.8**	**+0.3**
JFK	**Kawauchi**	**1.43**	**239**	P	**Pn**	**14 48 32.6**	**-0.2**
JFK				*e*S	**Sg**	**14 48 52.5**	**-0.8**
JFT	**Otama**	**1.75**	**251**	P	**Pb**	**14 48 38.4**	**-0.7**
JYK	**Kaneyama**	**1.81**	**297**	P	**Pb**	**14 48 39.2**	**-0.8**
JRG	**Rokugo**	**1.90**	**313**	P	**Pb**	**14 48 40.7**	**-0.9**
MJAR	**Matsushiro Arr**	**3.70**	**246**	Pn	**Pn**	**14 49 07.2**	**+3.2**
	2.5nm,0.3s,baz=64,slow=11,SNR=43						
MJAR				LR	LR	14 50 48.4	
	comp=Z,240nm,18.1s,baz=65,slow=43						
MAT	**Matsushiro**	**3.70**	**246**	P	**Pn**	**14 49 07.5**	**+3.5**
MAT				S	**Sb**	**14 49 56.5**	**-0.7**
JHJ	**Hachijo jima 2**	**5.42**	**204**	Pn	**Pn**	**14 49 27.6**	**0.0**
	8.0nm,0.3s,baz=72,slow=20,SNR=4.8						
JHJ				Sn	**Sn**	**14 50 24.9**	**-4.9**
	2.8nm,0.3s,baz=52,slow=19,SNR=2.0						
ASAJ	**Asahikawa**	**6.00**	**1**	Pn	**Pn**	**14 49 33.5**	**-2.0**
	baz=215,slow=16						
USRK	**Ussuriysk Ar.**	**9.94**	**311**	Pn	Pn	14 50 34.5	+5.0
	0.1nm,0.3s,baz=124,slow=13,SNR=4.6						
JNU	**Nakatsue**	**10.63**	**246**	LR	LR	14 55 09.6	
	comp=Z,96nm,18.6s,baz=123,slow=40						
KSRS	**Korea Array**	**11.49**	**271**	Pn	**Pn**	**14 50 54.1**	**+3.3**
	0.1nm,0.3s,baz=72,slow=14,SNR=3.1						
KSRS				LR	LR	14 55 08.6	
	comp=Z,72nm,18.3s,baz=80,slow=36						
KLR	**Kul'dur**	**13.52**	**329**	LR	LR	14 56 25.5	
	comp=Z,62nm,18.9s,baz=146,slow=37						
SEY	**Seymchan**	**25.59**	**11**	P	**P**	**14 53 36.3**	**+0.8**
	2.4nm,1.0s,baz=170,slow=17,SNR=2.7						
SONM	**Songino Array**	**27.87**	**302**	P	**P**	**14 53 57.9**	**+1.4**
	0.5nm,0.5s,baz=124,slow=8.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**41.79**	**312**	P	**P**	**14 55 55.1**	**-0.9**
	0.9nm,0.5s,baz=95,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**44.23**	**301**	P	**P**	**14 56 16.7**	**+0.7**
	0.7nm,0.6s,baz=88,slow=8.8,SNR=6.4						
KURBB	**Kurchatov Arra**	**45.98**	**307**	P	**P**	**14 56 29.9**	**+0.3**
	2.2nm,0.5s,baz=81,slow=7.9,SNR=20						
ILAR	**Eielson Array**	**48.16**	**33**	P	**P**	**14 56 45.8**	**-0.8**
	0.5nm,0.8s,baz=263,slow=6.7,SNR=7.5						
BVAR	**Borovoye Array**	**50.45**	**312**	P	**P**	**14 57 04.6**	**+0.4**
	0.6nm,0.5s,baz=47,slow=7.7,SNR=3.8						
WRA	**Warramunga Arr**	**58.24**	**189**	P	**P**	**14 58 00.8**	**-0.3**
	0.4nm,0.8s,baz=7.6,slow=7.0,SNR=5.6						
AKTO	**Aktyubinsk**	**58.55**	**312**	P	**P**	**14 58 02.6**	**-0.5**
	0.3nm,0.3s,baz=129,slow=14,SNR=1.9						
ASAR	**Alice Springs**	**61.97**	**189**	P	**P**	**14 58 29.1**	**+2.4**
	0.2nm,0.8s,baz=3.1,slow=7.0,SNR=3.5						
NB2	**NORSAR Subarra**	**73.50**	**338**	P	P	14 59 47.5	+8.4
	comp=Z,0.7nm,0.6s,baz=36,slow=6.2						

IDC 16 14:59:37.4±29.0, 41.41S×80.30E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/28, mbtmp3.6/3, MS3.8/3, Ms1 3.8/3, ms1mx3.1/31, Error ellipse: s-maj=704.9km s-min=53.3km az=46.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**27.27**	**87**	T	T	15 33 15.6	
	baz=246,slow=74,SNR=6.9						
H01W3	**Cape Leeuwin H**	**27.28**	**87**	T	T	15 33 21.5	
	baz=246,slow=74,SNR=7.3						
H01W1	**Cape Leeuwin H**	**27.29**	**87**	T	T	15 33 16.5	
	baz=246,slow=74,SNR=5.9						
ASAR	**Alice Springs**	**47.76**	**85**	P	P	15 08 16.4	0.0
	0.4nm,1.0s,baz=233,slow=6.9,SNR=3.5						
VNDA	**Vanda**	**48.15**	**163**	LR	LR	15 27 05.2	
	comp=Z,102nm,18.3s,baz=266,slow=34						
STKA	**Stephens Creek**	**49.18**	**100**	LR	LR	15 26 54.2	
	comp=Z,63nm,18.2s,baz=207,slow=33						
WRA	**Warramunga Arr**	**50.29**	**82**	P	P	15 08 35.5	-0.2
	0.7nm,0.8s,baz=232,slow=7.6,SNR=2.9						
CMAR	**Chiang Mai Arr**	**62.02**	**20**	P	P	15 09 59.5	0.0
	1.1nm,0.3s,baz=209,slow=6.4,SNR=4.9						
PMG	**Port Moresby**	**66.51**	**82**	LR	LR	15 37 50.2	
	comp=Z,98nm,21.6s,baz=202,slow=34						

IDC 16 15:19:24.0±6.5, 28.47S×177.95W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/33, mbtmp3.6/3, Error ellipse: s-maj=125.8km s-min=18.9km az=62.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.78**	**178**	Pn	Pn	15 19 42.5	+0.2
	325nm,0.3s,baz=294,slow=6.4,SNR=30						
RAO				Sn	Sn	15 19 55.1	+0.4
	807nm,0.3s,baz=52,slow=19,SNR=19						
STKA	**Stephens Creek**	**35.00**	**254**	P	P	15 26 18.8	+0.5
	1.4nm,0.6s,baz=90,slow=7.1,SNR=2.7						
ASAR	**Alice Springs**	**43.29**	**265**	P	P	15 27 27.2	-0.6
	0.3nm,0.7s,baz=101,slow=7.4,SNR=9.1						
WRA	**Warramunga Arr**	**44.10**	**270**	P	P	15 27 34.0	-0.3
	0.3nm,0.5s,baz=109,slow=8.0,SNR=6.3						

*ISCJB **16** 15:23:36.7±0.5, 38.12N±0.03×27.23E±0.04, h7km±5km, Error ellipse: s-maj=5.8km s-min=3.9km az=140.0*

*DDA **16** 15:23:36.5, 38.12N×27.20E, h7km, Md2.7*

*ISK **16** 15:23:36.7, 38.13N×27.24E, h12km, MD2.7*

*CSEM **16** 15:23:37.1±0.1, 38.12N×27.25E, h10km, MD2.7, Error ellipse: s-maj=2.7km s-min=2.0km az=70.0*

ISC 16 15:23:36.9±1.0, 38.12N±0.02×27.22E±0.03, h11km±8km, n24, σ0.9 28/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGB	**˜zmir**	**0.28**	**257**	*i* P	**Pg**	**15 23 42.4**	**-0.2**
DGB				*i* S	**Sg**	**15 23 46.0**	**-0.3**
IZM	**Izmir**	**0.28**	**6**	PG	**Pg**	**15 23 42.6**	**-0.1**
IZM	**Izmir**	**0.28**	**6**	*i* Pg	**Pg**	**15 23 42.6**	**-0.1**
GCAM	**G?zelcaml?**	**0.41**	**179**	P	**Pg**	**15 23 45.1**	**0.0**
GCAM				S	**Sg**	**15 23 51.1**	**+0.5**
GCAM	**G?zelcaml?**	**0.41**	**179**	*i* P	**Pg**	**15 23 45.1**	**0.0**
GCAM				*i* S	**Sg**	**15 23 51.1**	**+0.5**
URLA	**Izmir**	**0.55**	**297**	S	**Sg**	**15 23 54.8**	**-0.1**
URLA	**Izmir**	**0.55**	**297**	*i* P	**Pg**	**15 23 47.3**	**-0.3**
URLA				*i* S	**Sg**	**15 23 54.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.55**	**107**	*e*PG	**Pg**	**15 23 47.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.55**	**107**	*e*Pg	**Pg**	**15 23 47.8**	**0.0**
ZEY	**˜zmir**	**0.58**	**283**	*i* P	**Pg**	**15 23 47.8**	**-0.4**
ZEY				*i* S	**Sg**	**15 23 56.1**	**+0.3**
AKS	**Akhisar**	**0.89**	**31**	*e*PG	**Pb**	**15 23 54.5**	**0.0**
AKS	**Akhisar**	**0.89**	**31**	*e*Pg	**Pb**	**15 23 54.5**	**0.0**
CHOS	**Chios island**	**0.96**	**287**	*e*PG	**Pb**	**15 23 55.9**	**+0.3**
CHOS				*e*SG	**Sn**	**15 24 09.8**	**-0.3**
CHOS	**Chios island**	**0.96**	**287**	*e*Pg	**Pb**	**15 23 55.9**	**+0.3**
CHOS				*e*Sg	**Sn**	**15 24 09.8**	**-0.3**
BODT	**Bodrum**	**1.05**	**176**	*e*PG	**Pn**	**15 23 57.8**	**+0.2**
BODT				*e*SG	**Sn**	**15 24 12.5**	**+0.2**
BODT	**Bodrum**	**1.05**	**176**	*e*Pg	**Pn**	**15 23 57.8**	**+0.2**
BODT				*e*Sg	**Sn**	**15 24 12.5**	**+0.2**
BDRM	**Kayabasi**	**1.06**	**170**	P	**Pg**	**15 23 56.8**	**-0.6**
BDRM				S	**Sb**	**15 24 11.1**	**-0.1**
BDRM	**Kayabasi**	**1.06**	**170**	*i* P	**Pg**	**15 23 56.8**	**-0.6**
BDRM				*i* S	**Sb**	**15 24 11.2**	**-0.1**
KULA	**Kula-Manisa**	**1.20**	**70**	*e*PN	**Pn**	**15 23 59.6**	**-0.1**
KULA				*e*SN	**Sn**	**15 24 16.0**	**-0.1**
KULA	**Kula-Manisa**	**1.20**	**70**	*e*Pn	**Pn**	**15 23 59.6**	**-0.1**
KULA				*e*Sn	**Sn**	**15 24 16.0**	**-0.1**
YER	**Yerkesik**	**1.29**	**139**	*e*PN	**Pb**	**15 24 01.0**	**-0.2**
YER	**Yerkesik**	**1.29**	**139**	*e*Pn	**Pb**	**15 24 01.0**	**-0.2**
SIGR	**SIGRI**	**1.53**	**316**	*e*PN	**Pn**	**15 24 04.4**	**+0.2**
SIGR				*e*SN	**Sb**	**15 24 25.0**	**+0.3**
SIGR	**SIGRI**	**1.53**	**316**	*e*Pn	**Pn**	**15 24 04.4**	**+0.2**
SIGR				*e*Sn	**Sb**	**15 24 25.0**	**+0.3**

*NIED **16** 15:32:00, 24.80N×121.70E, h8km, Mw3.7 Best double couple: M0 3.95000×10^14 NP1:φs=199.00000°, δ=46.00000°, λ=-124.00000°. NP2:φs=63.00000°, δ=54.00000°, λ=-60.00000°.*

*ISCJB **16** 15:32:54.7±0.3, 24.81N±0.02×121.90E±0.02, h1km±3km, mb3.3/3, Error ellipse: s-maj=3.3km s-min=2.4km az=152.6*

*JMA **16** 15:32:54.7±0.1, 24.81N×121.71E, h34km±3km, M3.6*

*TAP **16** 15:32:55.1, 24.80N×121.81E, h12km, ML4.1, B*

*IDC **16** 15:33:01.8±1.5, 23.86N×122.63E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/51, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=74.5km s-min=25.0km az=67.0*

ISC 16 15:32:54.9±0.8, 24.82N±0.02×121.84E±0.02, h16km±4km, n78, σ1.9 21/114, mb3.3/3, 9C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGS		**0.09**	**77**	*i P*	**Pg**	**15 32 58.8**	**+0.5**
	baz=71						
EGS				*i* S	**Sg**	**15 33 01.2**	**+0.8**
	baz=71						
ILA	**Ilan**	**0.10**	**234**	*i P*	**Pg**	**15 32 58.0**	**-0.3**
	baz=233						
ILA				*i* S	**Sg**	**15 33 00.1**	**-0.4**
	baz=233						
TWE	**Neicheng**	**0.18**	**236**	*i P*	**Pg**	**15 32 59.0**	**-0.4**
	baz=235						
TWE				*i* S	**Sg**	**15 33 01.7**	**-0.8**
	baz=235						
TWC	**Suao**	**0.21**	**177**	*i P*	**Pb**	**15 32 59.9**	**-0.6**
	baz=167						
TWC				S	**Sg**	**15 33 02.4**	**-0.9**
	baz=167						
TWB1	**Santiao Chiao**	**0.23**	**37**	*i P*	**Pb**	**15 33 00.7**	**0.0**
	baz=39						
TWB1				*i* S	**Sb**	**15 33 04.1**	**-0.4**
	baz=39						
NWF	**Wu-fen Shan**	**0.25**	**349**	*i P*	**Pb**	**15 33 01.4**	**+0.3**
	baz=345						
NWF				*i* S	**Sb**	**15 33 05.1**	**-0.1**
	baz=345						
TWA	**Mucha**	**0.28**	**304**	*i P*	**Pb**	**15 33 01.3**	**-0.2**
	baz=311						
ENTT	**Nioudou**	**0.31**	**233**	*i P*	**Pg**	**15 33 01.0**	**-0.4**
	baz=233						
TAP1	**Taipei**	**0.35**	**307**	*i P*	**Pb**	**15 33 03.2**	**+0.4**
	baz=301						
TAP1				*e*S	**Sb**	**15 33 08.3**	**+0.1**
	baz=301						
TAP	**Taipei**	**0.37**	**306**	P	**Pb**	**15 33 03.1**	**+0.1**
	baz=301						
TAP				*e*S	**Sb**	**15 33 08.1**	**-0.4**
	baz=301						
ENA	**Nanau**	**0.40**	**192**	P	**Pg**	**15 33 03.0**	**-0.2**
	baz=189						
NSK	**Sanguang**	**0.46**	**251**	*i P*	**Pg**	**15 33 03.7**	**-0.4**
	baz=263						
NSK				S	**Sg**	**15 33 09.0**	**-1.4**
	baz=263						
TWS1	**Kuangyinshan**	**0.47**	**306**	*i P*	**Pb**	**15 33 05.7**	**+0.9**
	baz=319						
TWY	**Chenhua**	**0.50**	**335**	*i P*	**Pb**	**15 33 06.0**	**+0.7**
	baz=330						
TWY				*e*S	**Sb**	**15 33 12.4**	**+0.1**
	baz=330						
EHP	**Heping Village**	**0.52**	**190**	*e*P	**Pg**	**15 33 04.6**	**-0.6**
	baz=187						
NNS	**Nan Shan**	**0.57**	**228**	P	**Pg**	**15 33 05.5**	**-0.7**
	baz=228						
NCU	**National Centr**	**0.61**	**284**	P	Pn	**15 33 08.1**	**-0.7**
	baz=287						
NCU				*e*S	Sn	**15 33 17.0**	**-1.3**
	baz=287						
TWD	**Chiawan**	**0.77**	**196**	P	**Pg**	**15 33 09.6**	**-0.4**
	baz=195						
TWD				*e*S	**Sg**	**15 33 18.8**	**-1.4**
	baz=195						
NSTT	**Nanjuang**	**0.78**	**256**	*e*P	**Pb**	**15 33 10.3**	**+0.2**
	baz=251						
NSTT				*e*S	**Sb**	**15 33 21.4**	**+0.9**
	baz=251						
HSN	**Hsinchu**	**0.79**	**269**	*e*P	Pn	**15 33 10.9**	**-0.4**
	baz=291						
HSN				*e*S	Sn	**15 33 22.6**	**-0.2**
	baz=291						
TWT	**Tachien**	**0.83**	**227**	*e*P	**Pg**	**15 33 10.3**	**-0.7**
	baz=235						
TWT				*e*S	**Sg**	**15 33 22.0**	**0.0**
	baz=235						
PCYT	**Pengchaiyu**	**0.83**	**15**	*e*P	Pn	**15 33 11.4**	**-0.4**
	baz=15						
WHF	**Hehuan Shan**	**0.85**	**218**	*i P*	**Pg**	**15 33 10.8**	**-0.8**
	baz=218						
HWA	**Hwalien**	**0.87**	**194**	*e*P	**Pb**	**15 33 11.7**	**+0.1**
	baz=199						
ESF	**Shoufeng Towns**	**1.00**	**198**	*e*P	Pn	**15 33 15.5**	**+1.4**
	baz=197						
NSY	**Sanyi**	**1.06**	**248**	*e*P	**Pg**	**15 33 16.5**	**+1.1**
	baz=249						
NSY				*e*S	Sn	**15 33 31.5**	**+2.0**
	baz=249						
ESL	**Shilin**	**1.07**	**200**	P	**Pb**	**15 33

baz=220
CHN1 Nanshi 2.02 217 *e*P Pb 15 33 31.5 +0.2
baz=218
CHN1 *e*S Sg 15 33 59.3 -0.8
baz=218
JKRS Kuro-shima 2.06 106 P Pn 15 33 29.4 +0.5
JKRS S Sn 15 33 54.2 0.0
SGST Jiashian 2.08 214⇓*e*P Pb 15 33 32.5 +0.3
baz=227
SGST *e*S Sg 15 34 02.0 +0.2
baz=227
CHN8 Yiju 2.09 226 *e*P Pb 15 33 31.3 -1.1
baz=242
TWG Pinlang 2.11 199 *e*P Pn 15 33 30.5 +0.9
baz=187
JIJ Ishigaki jima 2.15 102 P Pn 15 33 30.0 0.0
JIJ S Sn 15 33 55.8 -0.6
CHN3 Shinhua 2.20 218 *e*P Pb 15 33 33.9 -0.4
baz=220
JISG Ishigakijimahi 2.26 95 P Pn 15 33 31.4 -0.2
SSD Sandimen 2.34 208 *e*P Pb 15 33 36.1 -0.7
baz=191
SSD *e*S Sb 15 34 06.5 +1.0
baz=191
ECL Taimali 2.36 200 *e*P Pn 15 33 34.1 +1.2
baz=186
TWM1 Shoushan 2.38 213 *e*P Pb 15 33 36.5 -0.8
baz=213
SGLT Jiouru 2.43 211 *e*P Pb 15 33 39.0 +0.8
baz=194
PNG Penghu 2.43 239 *e*P Pn 15 33 34.6 +0.7
baz=240
PNG *e*S Sn 15 34 03.7 +0.4
baz=240
WDGT Dungji 2.53 232 *e*P Pn 15 33 37.5 +2.2
baz=249
EAST Anshuo 2.59 201 *e*P Pn 15 33 37.7 +1.5
baz=189
TAW Tawu 2.60 200 *e*P Pb 15 33 40.2 -1.0
baz=188
JTJ Tarama 2.61 93 P Pn 15 33 38.2 +1.8
SCZT Fangliau 2.68 205 *e*P Pb 15 33 40.5 -2.0
baz=206
SCZT *e*S Sb 15 34 13.9 -1.4
baz=206
LAY Lan-yu 2.79 185 *e*P Pn 15 33 38.9 0.0
baz=184
QZH Quanzhou 2.95 273 Pn Pn 15 33 33.8 -7.2
QZH Sn Sn 15 34 07.4 -8.7
QZH smax smax
comp=N,300nm,0.8s
QZH smax smax
comp=E,220nm,0.6s
QZH LR LR
comp=N,670nm,10.6s
QZH LR LR
comp=E,520nm,9.7s
QZH LR LR
comp=Z,730nm,9.4s
TWK1 Hengchun 3.02 198 *e*P Pn 15 33 44.9 +2.9
baz=188
KNM Kinmen 3.12 263 *e*P Pn 15 33 44.8 +1.4
baz=265
KSRS Korea Array 13.62 21 Pn P 15 36 24.8 +8.6
comp=Z,0.1nm,0.3s,baz=200,slow=11,SNR=4.5
MKAR Makanchi Array 38.30 315 P P 15 40 34.0 +19
comp=Z,0.1nm,0.4s,baz=99,slow=8.9,SNR=2.2
WRA Warramunga Arr 46.13 164 P P 15 41 18.6 -0.1
comp=Z,0.6nm,0.7s,baz=346,slow=8.6,SNR=5.3
ASAR Alice Springs 49.60 165 P P 15 41 46.8 +1.2
comp=Z,0.2nm,0.6s,baz=344,slow=6.6,SNR=3.7

IDC 16 15:41:17.9±3.6, 5.71S×151.01E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/31, mbtmp3.4/2, Error ellipse: s-maj=147.9km s-min=47.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.52**	**227**	P	P	15 46 08.6	-0.2
	0.5nm,0.4s,baz=53,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**24.29**	**221**	P	P	15 46 37.5	+0.2
	1.0nm,0.7s,baz=56,slow=9.0,SNR=15						
TORD	**Torodi Ar. Bea**	**148.87**	**286**	PKPbc	PKPbc	16 01 08.1	-0.6
	0.4nm,0.7s,baz=92,slow=3.4,SNR=3.0						

WEL 16 15:41:26.9±0.1, 43.59S×172.73E, h8km, ML3.5/10, 3C-3D, Error ellipse: s-maj=0.7km s-min=0.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.13**	**206**	⇑PG	Pg	15 41 29.8	+0.1
MQZ				SG	Sg	15 41 32.0	+0.3
MQZ				AML	AML	15 41 32.2	
OXZ	**Oxford**	**0.57**	**297**	⇓P*	Pg	15 41 37.8	-0.2
LTZ	**Lake Taylor**	**0.88**	**337**	P*	Pg	15 41 43.7	-0.1
LTZ				S*	Sg	15 41 55.5	+0.4
LTZ				AML	AML	15 41 56.3	
RPZ	**Rata Peaks**	**1.23**	**264**	⇓P*	Pb	15 41 48.7	-1.7
RPZ				AML	AML	15 42 10.0	
RPZ				AML	AML	15 42 12.0	
INZ	**Inchbonnie**	**1.28**	**312**	P*	Pn	15 41 49.6	-1.5
KHZ	**Kahutara**	**1.31**	**27**	⇑PN	Pn	15 41 49.5	-2.0
WVZ	**Waitaha Valley**	**1.54**	**289**	PN	Pn	15 41 53.8	-0.9
THZ	**Tophouse**	**1.83**	**4**	⇑PN	Pn	15 41 56.8	-1.9
THZ				AML	AML	15 42 26.3	
THZ				AML	AML	15 42 37.4	
DSZ	**Denniston Nort**	**1.97**	**339**	PN	Pn	15 42 01.2	+0.6
DSZ				AML	AML	15 42 27.5	
DSZ				AML	AML	15 42 27.6	
DSZ				AML	AML	15 42 27.8	
DSZ				AML	AML	15 42 27.9	
LBZ	**Lake Benmore**	**2.00**	**246**	PN	Pg	15 42 04.8	-0.5
LBZ				AML	AML	15 42 38.3	
LBZ				AML	AML	15 42 40.5	
ODZ	**Otahua Downs**	**2.09**	**225**	PN	Pg	15 42 06.5	-0.5
ODZ				AML	AML	15 42 33.4	
ODZ				AML	AML	15 42 33.4	
ODZ				AML	AML	15 42 33.4	
FOZ	**Fox Glacier**	**2.12**	**271**	PN	Pn	15 42 02.7	+0.1
TUWZ	**Tuamarina**	**2.34**	**23**	PN	Pn	15 42 03.4	-2.2
NNZ	**Nelson**	**2.42**	**12**	⇓PN	Pn	15 42 05.5	-1.3
JCZ	**Jackson Bay**	**2.90**	**259**	AML	AML	15 43 05.5	
WKZ	**Wanaka**	**2.94**	**244**	PN	Pn	15 42 13.3	-0.7
EAZ	**Earnscleugh**	**2.95**	**235**	AML	AML	15 43 05.3	
EAZ				AML	AML	15 43 15.0	
TUZ	**Tuapeka**	**3.23**	**222**	AML	AML	15 43 21.3	
TUZ				AML	AML	15 43 22.6	

*MOS **16** 15:42:43.7±2.1, 52.11N×153.07E, h538km±32km, ML4.2, Northwest of Kuril Islands*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.39**	**126**	P	P	15 43 56.1	+2.0
SKR	**Severo-Kuril's**	**2.39**	**126**	P	P	15 43 56.1	+2.0
ASAK	**Asacha**	**2.98**	**83**	P	P	15 44 00.6	+3.0
ASAK	**Asacha**	**2.98**	**83**	*e*P	P	15 44 00.6	+3.0
ASAK	**Asacha**	**2.98**	**83**	*i* P	P	15 44 01.0	+3.4
GNL	**Ganaly**	**3.35**	**60**	P	P	15 44 01.6	+1.6
GNL	**Ganaly**	**3.35**	**60**	*e*P	P	15 44 01.7	+1.7
GNL	**Ganaly**	**3.35**	**60**	*i* P	P	15 44 01.6	+1.6
RUS	**Russkaya**	**3.36**	**82**	P	P	15 44 01.5	+1.6
RUS				S	S	15 45 01.7	-0.6
RUS	**Russkaya**	**3.36**	**82**	*i* P	S	15 44 01.5	+1.6
RUS				*e*S	S	15 45 01.5	-0.8
RUS	**Russkaya**	**3.36**	**82**	*i* P	P	15 44 01.5	+1.6
RUS				*e*S	S	15 45 01.7	-0.6
DALK	**Dalny**	**3.59**	**73**	P	P	15 44 03.1	+1.6
DALK				S	S	15 45 04.3	-0.9
DALK	**Dalny**	**3.59**	**73**	*e*P	P	15 44 03.1	+1.6
DALK				*e*S	S	15 45 04.3	-0.9
DALK	**Dalny**	**3.59**	**73**	*e*P	P	15 44 03.2	+1.7
DALK				*e*S	S	15 45 04.0	-1.2
AVH	**Avacha**	**3.64**	**69**	P	P	15 44 05.4	+3.4
AVH	**Avacha**	**3.64**	**69**	*e*P	P	15 44 05.4	+3.4
AVH	**Avacha**	**3.64**	**69**	*i* P	P	15 44 05.6	+3.6
KRER	**Koryakskii**	**3.66**	**69**	P	P	15 44 04.2	+2.0
KRER	**Koryakskii**	**3.66**	**69**	P	P	15 44 04.3	+2.1
UGLR	**Uglovaya**	**3.67**	**70**	P	P	15 44 05.3	+3.0
UGLR	**Uglovaya**	**3.67**	**70**	*e*P	P	15 44 05.3	+3.0
UGLR	**Uglovaya**	**3.67**	**70**	*i* P	P	15 44 05.6	+3.3
SMAR	**Somma**	**3.67**	**69**	P	P	15 44 04.9	+2.5
SMAR	**Somma**	**3.67**	**69**	*e*P	P	15 44 04.9	+2.5
SMAR	**Somma**	**3.67**	**69**	*e*P	P	15 44 04.9	+2.5
SDLR	**Sedlovina**	**3.73**	**69**	P	P	15 44 04.4	+1.7
SDLR	**Sedlovina**	**3.73**	**69**	*e*P	P	15 44 04.4	+1.7
SDLR	**Sedlovina**	**3.73**	**69**	*e*P	P	15 44 04.4	+1.7
NLC	**Nalytchevo**	**3.97**	**72**	*e*S	S	15 45 10.4	+0.2
NLC	**Nalytchevo**	**3.97**	**72**	S	S	15 45 09.9	-0.3
MKZ	**Mys Kozlova**	**5.74**	**61**	P	P	15 44 20.3	+1.2
MKZ				S	S	15 45 32.0	-5.3
MKZ	**Mys Kozlova**	**5.74**	**61**	*e*P	P	15 44 20.3	+1.2
MKZ				*e*S	S	15 45 32.0	-5.3
MKZ	**Mys Kozlova**	**5.74**	**61**	*i* P	P	15 44 20.4	+1.3
MKZ				*e*S	S	15 45 32.0	-5.3
BKI	**Bering**	**8.27**	**63**	*e*S	S	15 46 22.6	+0.7
BKI	**Bering**	**8.27**	**63**	*e*S	S	15 46 22.6	+0.7

IDC 16 15:45:58.8±8.0, 5.85S×150.79E, h88km±56km, mb3.4/3, mb1 3.6/4, mb1mx3.2/34, mbtmp3.8/4, ML1.2/1, Error ellipse: s-maj=96.8km s-min=54.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.05**	**225**	P	Pn	15 47 11.9	-0.1
	0.7nm,0.3s,baz=330,slow=8.1,SNR=3.0						
PMG				S	Sn	15 48 09.8	+0.7
	0.9nm,0.3s,baz=225,slow=21,SNR=3.1						
WRA	**Warramunga Arr**	**21.26**	**227**	P	P	15 50 37.6	-0.5
	0.8nm,0.4s,baz=53,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.04**	**221**	P	P	15 51 06.3	+0.4
	0.8nm,0.5s,baz=55,slow=8.9,SNR=28						
FITZ	**Fitzroy Crossi**	**27.41**	**241**	P	P	15 51 36.4	+0.1
	4.9nm,1.2s,baz=56,slow=11,SNR=2.3						
TORD	**Torodi Ar. Bea**	**148.70**	**286**	PKPbc	PKPbc	16 05 36.3	-0.7
	0.4nm,0.6s,baz=91,slow=3.3,SNR=2.8						

IDC 16 16:12:19.6±6.3, 5.93S×151.33E, h54km±52km, mb3.6/4, mb1 3.9/5, mb1mx3.4/33, mbtmp3.9/5, ML1.5/1, Error ellipse: s-maj=102.3km s-min=35.7km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.38**	**230**	P	Pn	16 13 38.0	+0.6
	0.9nm,0.3s,baz=8.7,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**21.60**	**228**	P	P	16 17 04.8	-0.4
	1.4nm,0.5s,baz=54,slow=10,SNR=18						
ASAR	**Alice Springs**	**24.33**	**222**	P	P	16 17 32.7	+0.2
	2.9nm,0.8s,baz=59,slow=9.1,SNR=34						
FITZ	**Fitzroy Crossi**	**27.84**	**242**	P	P	16 18 03.8	-0.4
	2.9nm,0.9s,baz=79,slow=12,SNR=6.8						
ILAR	**Eielson Array**	**83.75**	**22**	P	P	16 24 42.4	-0.3
	0.3nm,0.6s,baz=251,slow=5.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.23**	**286**	PKPbc	PKPbc	16 32 03.4	+0.1
	0.9nm,0.7s,baz=73,slow=3.4,SNR=5.0						

MEX 16 16:37:20.8±0.4, 14.24N×92.08W, h5km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.82**	**323**	*i* P	Pn	16 37 49.8	-3.0

*IDC **16** 16:38:10.3±3.2, 8.86N×126.60E, h75km±30km, mb3.7/13, mb1 3.8/14, mb1mx3.6/39, mbtmp4.0/14, MS3.1/5, Ms1 3.1/5, ms1mx2.8/47, Error ellipse: s-maj=31.1km s-min=13.3km az=71.0*

ISC 16 16:38:00.5±1.7, 8.89N±0.03×126.93E±0.06, h0km±10km, n38, σ1°58/49, mb4.1/13, 5C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.90**	**219**	⇓*i* P	Pn	16 38 19.8	-0.6
BIPH				*i* S	Sb	16 38 30.8	-0.7
MATI	**Mati**	**2.04**	**199**	*e*P	Pb	16 38 38.2	-0.3
MATI				*e*S	Sg	16 39 05.2	-1.0
BUKP	**Musuan**	**2.10**	**242**	*e*P	Pb	16 38 39.5	0.0
BUKP				*e*S	Sg	16 39 07.8	-0.3
DAV	**Davao City (W)**	**2.25**	**217**	P	Pg	16 38 43.8	+0.2
	86nm,0.3s,baz=79,slow=1.9,SNR=9.9						
DAV				LR	LR	16 39 51.6	
	comp=Z,855nm,19.2s,baz=352,slow=50						
CGP	**Cagayan de Oro**	**2.25**	**259**	⇑*e*P	Pb	16 38 40.7	-1.4
CGP				*e*S	Sn	16 39 05.6	-1.9
DMPH	**Davao City--Mi**	**2.28**	**218**	⇑*i*P	Pg	16 38 44.3	0.0
DMPH				*i* S	Sg	16 39 14.0	+0.2
KCP	**Kidapawan**	**2.61**	**224**	⇑*i*P	Pb	16 38 47.0	-1.2
KCP				*i* S	Sb	16 39 19.4	-1.5
PLP	**Palo**	**2.97**	**320**	⇓*e*P	Pn	16 38 49.7	+0.8
PLP				*i* S	Sb	16 39 32.1	+0.9
BESP	**Borongan**	**3.07**	**332**	*e*P	Pn	16 38 52.2	+1.9
BESP				*e*S	Sb	16 39 36.7	+2.6
CTBH	**Cotabato--PC H**	**3.13**	**238**	*e*P	Pn	16 38 53.6	+2.4
CTBH				*i* S	Sn	16 39 28.9	-0.3
TBP	**Tagbilaran**	**3.13**	**285**	*e*P	Pn	16 38 53.3	+2.1
OCLP	**Ormoc**	**3.14**	**313**	*e*P	Pn	16 38 52.9	+1.6
OCLP				*e*S	Sb	16 39 36.3	+0.2
LLP	**Lapu-Lapu**	**3.25**	**296**	⇓*i*P	Pn	16 38 54.9	+2.1
LLP				*e*S	Sn	16 39 32.3	+0.1
DCPH	**Dipolog City**	**3.55**	**265**	⇑*e*P	Pn	16 38 58.8	+1.9
PAGZ	**Pagadian**	**3.66**	**254**	*e*P	Pn	16 39 01.1	+2.7
PAGZ				*e*S	Sn	16 39 44.2	+1.9
SNPH	**Sibulan**	**3.68**	**277**	*i* P	Pn	16 38 58.7	0.0
IPIL	**Ipil**	**4.45**	**256**	*e*P	Pn	16 39 11.9	+2.6
IPIL				*e*S	Pg	16 39 27.4	+1.5
GUIM	**Jordan**	**4.62**	**292**	*e*P	Pn	16 39 12.8	+1.3
GUIM				*e*S	Sn	16 40 06.7	+0.8
RCP	**Roxas**	**4.90**	**303**	⇑*e*P	Pn	16 39 17.7	+2.2
PVCP	**Virac**	**5.42**	**330**	*e*P	Pb	16 39 32.7	-3.3
PVCP				*e*S	Sb	16 40 39.6	-2.0
TGY	**Tagaytay City**	**7.83**	**312**	LR	LR	16 43 16.8	
	comp=Z,281nm,18.4s,baz=127,slow=40						
KAPI	**Kappang**	**15.55**	**200**	LR	LR	16 48 16.4	
	comp=Z,53nm,19.5s,baz=137,slow=99						
GUMO	**Guam**	**18.20**	**73**	LR	LR	16 49 47.1	
	comp=Z,34nm,18.1s,baz=148,slow=38						
FITZ	**Fitzroy Crossi**	**26.85**	**183**	P	P	16 43 44.2	+1.3
	2.4nm,0.5s,baz=9.4,slow=14,SNR=8.3						
KSRS	**Korea Array**	**28.45**	**2**	LR	LR	16 57 39.3	
	comp=Z,22nm,18.9s,baz=164,slow=41						
CMAR	**Chiang Mai Arr**	**28.77**	**292**	P	P	16 43 57.4	-2.8
	1.1nm,0.9s,baz=104,slow=7.3,SNR=5.1						
WRA	**Warramunga Arr**	**29.56**	**166**	P	P	16 44 07.3	+0.2
	0.4nm,0.5s,baz=346,slow=9.0,SNR=7.6						
ASAR	**Alice Springs**	**33.06**	**168**	P	P	16 44 38.4	+0.4
	0.3nm,0.3s,baz=354,slow=7.1,SNR=29						
USRK	**Ussuriysk Ar.**	**35.45**	**6**	P	P	16 45 00.1	+1.6
	2.4nm,0.8s,baz=190,slow=7.8,SNR=5.4						
KLR	**Kul'dur**	**40.41**	**5**	P	P	16 45 40.9	+0.5
	0.9nm,0.5s,baz=140,slow=9.7,SNR=5.9						
STKA	**Stephens Creek**	**42.89**	**162**	P	P	16 46 02.2	+1.4
	2.4nm,0.5s,baz=344,slow=8.1,SNR=7.9						
MKAR	**Makanchi Array**	**53.52**	**323**	P	P	16 47 21.7	-1.2
	4.3nm,0.7s,baz=122,slow=8.1,SNR=46						
ZALV	**Zalesovo Beam**	**56.15**	**331**	P	P	16 47 40.0	-1.8
	1.3nm,0.5s,baz=109,slow=7.2,SNR=5.6						
GEYT	**Alibeck**	**67.89**	**307**	P	P	16 49 00.8	-0.4
	2.9nm,0.7s,baz=144,slow=2.8,SNR=8.3						
ILAR	**Eielson Array**	**80.39**	**26**	P	P	16 50 14.7	+1.1
	0.4nm,0.7s,baz=258,slow=5.6,SNR=4.1						
ARCES	**ARCESS Array B**	**85.71**	**340**	P	P	16 50 40.8	-0.3
	1.5nm,0.9s,baz=87,slow=4.6,SNR=4.7						
FINES	**FINESS Array B**	**87.41**	**332**	P	P	16 50 47.7	-1.8
	0.5nm,0.4s,baz=64,slow=3.2,SNR=6.0						
TXAR	**Lajitas Array**	**118.22**	**50**	PKP	PKPdf	16 56 51.9	+1.3
	0.2nm,0.6s,baz=232,slow=1.0,SNR=2.9						

*IDC **16** 16:44:44.1±3.7, 5.89S×151.34E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/31, mbtmp3.8/4, ML1.2/1, Error ellipse: s-maj=155.4km s-min=43.8km az=125.0*
*ISCJB **16** 16:44:49.5±0.9, 5.56S±0.10×150.7E±0.1, h35km, mb3.9/6, Error ellipse: s-maj=21.1km s-min=9.2km az=34.9*

*NEIC **16** 16:44:51.0±1.3, 5.56S×150.73E, h39km±15km, mb4.5/5, Error ellipse: s-maj=23.6km s-min=12.2km az=127.0*

ISC 16 16:44:51.8±1.0, 5.57S±0.09×150.7E±0.1, h35km, n16, σ1°76/19, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.03**	**48**	*e*Pn	Pn	16 45 21.4	-2.1
RABL				*e*Sn	Sn	16 45 52.4	+4.7
MANU	**Manus Island**	**4.80**	**317**	*e*Pn	Pn	16 46 01.9	+0.2
PMG	**Port Moresby**	**5.16**	**222**	Pn	Pn	16 46 07.3	+0.7
	0.5nm,0.3s,baz=55,slow=12,SNR=2.5						
PMG				Sn	Sn	16 47 05.1	+0.2
	3.0nm,0.3s,baz=236,slow=15,SNR=3.3						
PMG	**Port Moresby**	**5.16**	**222**	*e*Pn	Pn	16 46 07.9	+1.3
PMG				*e*Sn	Sn	16 47 06.1	+1.2
MTN	**Manton Dam**	**20.58**	**248**	*e*P	P	16 49 25.5	-2.4
	89nm,1.9s						
WRAB	**Tennant Creek**	**21.34**	**227**	*e*P	P	16 49 32.9	-3.3
	32nm,1.6s						
WB2	**Warramunga Arr**	**21.35**	**227**	*e*P	P	16 49 34.8	-1.4
WR1	**Warramunga Arr**	**21.36**	**227**	*e*P	P	16 49 36.0	-0.3
	24nm,1.6s						
WRA	**Warramunga Arr**	**21.36**	**227**	P	P	16 49 36.0	-0.3
	1.5nm,0.5s,baz=61,slow=12,SNR=20						
AS01	**Alice Springs**	**24.14**	**220**	*e*P	P	16 50 04.9	+0.1
AS31	**Alice Springs**	**24.17**	**220**	*e*P	P	16 50 04.8	-0.3
	3.7nm,1.6s						
ASAR	**Alice Springs**	**24.17**	**220**	P	P	16 50 04.7	-0.4
	1.3nm,0.7s,baz=53,slow=10,SNR=20						
FITZ	**Fitzroy Crossi**	**27.43**	**241**	P	P	16 50 35.0	+0.4
	1.3nm,0.5s,baz=55,slow=12,SNR=3.9						
FITZ	**Fitzroy Crossi**	**27.43**	**241**	*e*P	P	16 50 34.7	+0.1
	22nm,1.5s						
TORD	**Torodi Ar. Bea**	**148.50**	**286**	PKPbc	PKPbc	17 04 35.4	-0.6
	1.3nm,0.6s,baz=65,slow=3.5,SNR=6.4						
TOA1	**Torodi Ar. Sit**	**148.50**	**286**	*e*PKPbc	PKPbc	17 04 35.4	-0.6

*JMA **16** 16:44:53.0±0.3, 25.65N×128.72E, h52km, M3.8*
*IDC **16** 16:44:56.2±5.2, 24.71N×126.73E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.3/3, Error ellipse: s-maj=283.8km s-min=27.8km az=61.0*

ISC 16 16:44:51.3±1.6, 25.62N±0.04×128.71E±0.04, h15km±10km, n25, σ1°61/43, mb3.3/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.01**	**301**	P	Pg	16 45 11.1	+0.3
JJT2				S	Sg	16 45 24.4	+0.3
JNTH	**Nagotoyohara**	**1.09**	**326**	P	Pg	16 45 11.7	-0.6
JNTH				S	Sg	16 45 25.6	-0.9
JOW	**Kunigami**	**1.27**	**342**	P	Pn	16 45 14.7	+0.2
JOW				S	Sb	16 45 29.1	-1.9
JIH	**Iheya**	**1.56**	**335**	P	Pn	16 45 19.2	+0.8
JIH				S	Sn	16 45 37.4	-0.9
JAGN	**Aguni-jima**	**1.63**	**306**	P	Pn	16 45 20.0	+0.5
JAGN				S	Sn	16 45 39.6	-0.6
JOKE	**Okinoerabujima**	**1.74**	**356**	P	Pn	16 45 21.4	+0.5
JOKE				S	Sn	16 45 41.2	-1.6
JKE	**Kume jima 2**	**1.87**	**293**	P	Pn	16 45 22.8	+0.1
JKE				S	Sn	16 45 43.9	-2.1
JTK	**Tokunoshima**	**2.17**	**6**	P	Pn	16 45 27.2	+0.4
JTK				S	Sn	16 45 51.5	-1.9
JMZ	**Minamidaito 2**	**2.27**	**84**	P	Pn	16 45 27.5	-0.8
JMZ				S	Sn	16 45 52.4	-3.7
JAMN	**Amaminishikomi**	**2.65**	**9**	P	Pn	16 45 34.0	+0.6
JAMN				S	Sn	16 46 03.8	-1.4
JAM	**Amami Oshima**	**2.89**	**16**	P	Pn	16 45 36.8	0.0
JAM				*e*S	Sn	16 46 09.3	-2.0
JZK	**Kikaishima**	**2.91**	**23**	P	Pn	16 45 38.8	+1.7
JZK				*e*S	Sn	16 46 10.9	-0.9
JOGS	**Gusukube**	**3.11**	**255**	P	Pn	16 45 40.4	+0.6
JOGS				S	Sn	16 46 15.0	-1.7
JMJ	**Miyako jima 2**	**3.19**	**256**	P	Pn	16 45 41.6	+0.6
JIKM	**Ikemajima**	**3.21**	**258**	P	Pn	16 45 41.6	+0.5
JIKM				*e*S	Sn	16 46 17.2	-1.9
JIRB	**Irabujima**	**3.30**	**257**	P	Pn	16 45 42.6	+0.2
JIRB				*e*S	Sn	16 46 19.0	-2.3
JTAJ	**Takarajima**	**3.55**	**7**	P	Pn	16 45 46.0	+0.2
JTAJ				S	Sn	16 46 24.9	-2.5
JTJ	**Tarama**	**3.76**	**256**	P	Pn	16 45 48.7	0.0
JTJ				S	Sn	16 46 29.4	-3.3
JISG	**Ishigakijimahi**	**4.12**	**256**	P	Pn	16 45 53.0	-0.6
JISG				S	Sn	16 46 37.9	-3.6
JIJ	**Ishigaki jima**	**4.33**	**254**	P	Pn	16 45 56.0	-0.5
JKRS	**Kuro-shima**	**4.48**	**253**	P	Pn	16 45 59.0	+0.3
IRIF	**Iriomote-Funau**	**4.70**	**255**	P	Pn	16 46 02.3	+0.7
MKAR	**Makanchi Array**	**42.26**	**312**	P	P	16 52 45.5	+1.5
	0.2nm,0.6s,baz=98,slow=8.8,SNR=3.0						
WRA	**Warramunga Arr**	**45.62**	**173**	P	P	16 53 12.6	+1.4
	0.7nm,0.7s,baz=350,slow=8.3,SNR=4.9						
ASAR	**Alice Springs**	**49.25**	**174**	P	P	16 53 42.5	+3.0
	0.2nm,0.6s,baz=2.2,slow=15,SNR=5.5						

*IDC **16** 16:47:02.5±2.1, 36.15N×142.73E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/43, mbtmp3.6/6, ML3.2/2, Error ellipse: s-maj=46.7km s-min=25.4km az=80.0*
*JMA **16** 16:47:05.2±0.2, 36.17N×142.53E, h75km, M3.0*

ISC 16 16:47:02.2±2.2, 36.20N±0.05×142.52E±0.08, h1km±13km, n19, σ1°38/28, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.44**	**250**	P	Pg	16 47 29.8	0.0
CHOJ				*e*S	Sn	16 47 48.5	-0.4
JHO	**Hitachi**	**1.63**	**285**	P	Pb	16 47 32.4	-0.6
JHO				*e*S	Sn	16 47 52.8	-0.8
ONAJ	**Iwakimizuishiy**	**1.65**	**303**	P	Pb	16 47 32.9	-0.6
ONAJ				*e*S	Sn	16 47 53.9	-0.4
JFK	**Kawauchi**	**1.76**	**312**	P	Pb	16 47 34.3	-1.0
JFK				*e*S	Sn	16 47 56.0	-1.0
JFT	**Otama**	**2.19**	**308**	P	Pb	16 47 41.5	-1.1
JFT				S	Sb	16 48 08.9	-1.4
JAG	**Ashikaga**	**2.49**	**276**	P	Pn	16 47 44.7	+0.8
JAG				S	Sn	16 48 14.0	-0.9
JMK	**Ichinoseki**	**2.94**	**340**	P	Pn	16 47 50.8	+0.8
JMK				*e*S	Sn	16 48 25.0	-0.9
JRY	**Ryogami san**	**2.94**	**267**	P	Pn	16 47 50.7	+0.6
JOD2	**Odawara 2**	**2.95**	**252**	P	Pn	16 47 51.3	+1.1
JYK	**Kaneyama**	**3.21**	**328**	P	Pn	16 47 54.6	+0.8
JYN	**Shimob**	**3.

5.9nm,0.3s,baz=74,slow=17,SNR=4.0
PMG Port Moresby 5.37 229 *e*Pn **Pn 16 58 27.0 +1.8**
PMG *e*Sn **Sn 16 59 22.3 -3.5**
MANU Manus Island 5.46 314 *e*Pn Pn 16 58 32.8 +6.2
HNR Honiara 9.29 113 LR LR 17 02 22.2
comp=Z,112nm,19.2s,baz=210,slow=35
COEN Coen 11.30 224 *e*Pn **Pn 16 59 46.9 +0.3**
CTA Charters Tower 14.93 199 Pn **P 17 00 39.2 -1.8**
0.2nm,0.3s,baz=11,slow=13,SNR=4.3
EIDS Eidsvold 19.37 181 *e*P **Pn 17 01 31.6 +0.3**
22nm,1.6s
SAUI Saumlaki 19.93 263 *e*P **Pn 17 01 36.1 -2.1**
479nm,1.0s
GUMO Guam 20.37 342 *e*P **P 17 01 38.0 -3.0**
266nm,1.4s
WRAB Tennant Creek 21.57 228 *e*P **P 17 01 54.0 +0.1**
6.0nm,0.6s
WB2 Warramunga Arr 21.58 228 *e*P **P 17 01 53.0 -1.0**
WR1 Warramunga Arr 21.58 228 *e*P **P 17 01 54.3 +0.3**
9.9nm,0.8s
WRA Warramunga Arr 21.59 228 P **P 17 01 54.3 +0.3**
1.9nm,0.4s,baz=54,slow=11,SNR=35
DZM Mont Dzumac 21.77 139 LR LR 17 08 30.4
comp=Z,95nm,20.0s,baz=294,slow=32
DZM Mont Dzumac 21.77 139 *e*P **P 17 01 56.6 +0.6**
131nm,1.9s
ANA2 Anatahan 22.77 346 *e*P **P 17 02 08.2 +1.5**
SARN Sarigan 23.10 346 *e*P **P 17 02 10.2 +0.1**
AS01 Alice Springs 24.29 222 *e*P **P 17 02 22.5 +1.1**
AS31 Alice Springs 24.32 222 *e*P **P 17 02 22.9 +1.2**
1.6nm,0.8s
ASAR Alice Springs 24.32 222 P **P 17 02 22.9 +1.3**
4.0nm,0.7s,baz=57,slow=9.9,SNR=73
ARMA Armidale 24.40 179 *e*P **P 17 02 23.4 +1.0**
73nm,1.8s
STKA Stephens Creek 27.39 198 P **P 17 02 51.0 +1.7**
3.0nm,0.7s,baz=26,slow=13,SNR=3.6
STKA Stephens Creek 27.39 198 *e*P **P 17 02 51.0 +1.7**
10nm,1.8s
FITZ Fitzroy Crossi 27.80 242 P **P 17 02 53.7 +0.5**
3.7nm,0.6s,baz=80,slow=9.0,SNR=6.4
FITZ Fitzroy Crossi 27.80 242 *e*P **P 17 02 53.6 +0.5**
6.1nm,0.8s
DAV Davao City (W) 28.69 296 *e*P **P 17 03 00.6 -0.5**
290nm,0.3s
MMRI Maumere 28.93 263 *e*P **P 17 03 05.0 +1.8**
48nm,1.1s
CAN Canberra 29.36 184 *e*P **P 17 03 05.9 -0.9**
39nm,1.5s
MBWA Marble Bar 34.11 241 *e*P **P 17 03 49.0 +0.2**
39nm,1.6s
JAGI Jajag, Banyuwa 36.91 264 *e*P **P 17 04 11.4 -1.4**
109nm,1.5s
URZ Urewera 39.85 148 *e*P **P 17 04 36.8 -0.5**
83nm,1.7s
UGM Wanagama 40.49 265 *e*P **P 17 04 44.0 +1.1**
484nm,1.7s
YOJ Yonaguni jima 40.85 319 *e*P **P 17 04 48.1 +2.5**
153nm,1.2s
SNZO South Karori 41.00 153 *e*P **P 17 04 47.4 +0.7**
147nm,1.3s
YULB Yu-li 41.28 316 *e*P **P 17 04 48.8 -0.5**
33nm,1.6s
KHZ Kahutara 41.39 155 *e*P **P 17 04 48.4 -1.4**
84nm,1.5s
TPUB Ta-pu 41.69 315 *e*P **P 17 04 53.5 +0.9**
11nm,0.7s
SSLB Suanglung 41.78 316 *e*P **P 17 04 55.4 +2.0**
5.8nm,0.7s
YHNB Yeheng 42.08 317 *e*P **P 17 04 57.7 +1.8**
12nm,0.8s
CISI Cisompet, Garu 43.18 265 *e*P **P 17 05 04.7 -0.3**
34nm,0.7s
KULM Kulim 51.75 281 *e*P **P 17 06 10.5 -1.1**
17nm,1.4s
GSI Gunungsitoli 54.09 276 *e*P **P 17 06 27.9 -0.9**
22nm,1.3s
SONA0 Songino Array 66.45 329 *e*P **P 17 07 54.1 +1.1**
12nm,2.0s
SONM Songino Array 66.45 329 P **P 17 07 54.1 +1.1**
0.2nm,0.4s,baz=139,slow=6.8,SNR=2.3
CASY Casey 66.53 197 *e*P **P 17 07 53.7 +0.7**
25nm,2.0s
NIKH Nikolski High 67.64 25 *e*P **P 17 07 59.6 -0.6**
183nm,1.3s
MK32 Makanchi Array 80.15 319 *e*P **P 17 09 15.2 +1.6**
MKAR Makanchi Array 80.15 319 P **P 17 09 15.2 +1.6**
0.7nm,0.9s,baz=94,slow=5.1,SNR=3.9
ZALV Zalesovo Beam 81.22 327 P **P 17 09 18.6 -0.5**
0.3nm,0.3s,baz=99,slow=4.2,SNR=3.6
ZAA1 Zalesovo Array 81.22 327 *e*P **P 17 09 18.6 -0.5**
ILAR Eielson Array 83.74 22 P **P 17 09 31.8 -0.3**
1.0nm,0.7s,baz=244,slow=5.0,SNR=10
CVR Calaveras Rese 91.11 53 *e*P **P 17 10 07.1 -1.2**
MGL Magalia 91.56 50 *e*P **P 17 10 07.9 -2.6**
SYO Syowa Base 92.14 200‖ *e*P **P 17 10 14.0 +1.6**
GERES GERESS Array B 124.17 327 PKP **PKPdf 17 16 03.3 +1.2**
0.7nm,0.7s,baz=90,slow=2.0,SNR=3.8
EKA Eskdalemuir Ar 126.62 342 PKP **PKPdf 17 16 07.7 +1.3**
0.2nm,0.4s,baz=354,slow=2.1,SNR=4.4
TORD Torodi Ar. Bea 149.17 286 PKPbc **PKPab 17 16 53.4 -3.8**
5.6nm,0.7s,baz=69,slow=3.3,SNR=34

*ISCJB **16** 16:58:49.1±0.8,32.°14N±0.°04×115.°20W±0.°06,h21km±7km, Error ellipse: s-maj=8.0km s-min=5.8km az=166.8*
*ECX **16** 16:58:49.7±0.9,32.°11N×115.°17W,h20km±8km, MD2.5, ML2.8*
*MEX **16** 16:58:52.7±0.6,32.°25N×115.°27W,h6km±511km,MD3.9*
ISC 16 16:58:47.4±1.5,32.°06N±0.°05×115.°19W±0.°06, h11km±11km,n12,σ0°60/22,1C,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.35**	**358**	*e*P	**Pb**	**16 58 55.9**	**+0.2**
MBIG				*e*S	**Sg**	**16 58 58.2**	**-0.9**
CPBX	**Cerro Prieto**	**0.37**	**344**	*e*P	**Pb**	**16 58 56.3**	**+0.3**
CPBX				*e*S	**Sg**	**16 59 00.6**	**+0.7**
CPBX				IAML		16 59 02.9	
	comp=E,4μm,0.2s						
CPBX				⇑*e*		16 59 02.9	
CPBX				IAML		16 59 03.2	
	comp=N,2μm,0.1s						
CPBX				*e*		16 59 03.2	
ECBX	**El Chinero**	**0.60**	**169**	*e*P	**Pn**	**16 59 01.9**	**+0.1**
ECBX				*e*S	**Sn**	**16 59 11.0**	**-0.5**
RMX	**La Rumorosa**	**0.93**	**306**	*e*P	**Pg**	**16 59 05.5**	**+0.1**
RMX				*e*S	**Sg**	**16 59 17.0**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.98**	**307**	*e*P	**Pg**	**16 59 06.5**	**+0.1**
ZAX	**El Zacaton**	**1.07**	**240**	*e*P	**Pn**	**16 59 09.2**	**+0.7**
ZAX				*e*S	**Sn**	**16 59 23.5**	**+0.1**
ECNX	**Esteban Cantu**	**1.27**	**252**	*e*P	**Pg**	**16 59 11.7**	**-0.1**
ECNX				*e*S	**Sn**	**16 59 28.7**	**+0.5**
CBX	**Cerro Bola**	**1.28**	**282**	*e*P	**Pn**	**16 59 11.4**	**+0.1**
CBX				*e*S	**Sb**	**16 59 27.0**	**-1.1**
CBX	**Cerro Bola**	**1.28**	**282**	*e*P	**Pn**	**16 59 11.5**	**+0.1**
CBX				*e*S	**Sb**	**16 59 28.3**	**+0.2**
CBX				IAML		16 59 30.1	
	comp=E,168nm,0.3s						
TJIG	**Tijuana**	**1.32**	**287**	*e*P	**Pg**	**16 59 13.2**	**+0.4**
TJIG				*e*S	**Sb**	**16 59 27.7**	**-1.4**
PBX	**Punta Banda**	**1.35**	**257**	*e*P	**Pb**	**16 59 12.6**	**-0.1**
PBX				*e*S	**Sb**	**16 59 30.5**	**+0.5**
BAR	**Barrett**	**1.40**	**297**	*e*P	**Pn**	**16 59 12.9**	**-0.1**

IDC 16 16:59:41.4±2.1,6.°41S×129.°51E,h0km,mb3.1/1, mb1 3.6/4,mb1mx3.3/39,mbtmp3.4/4,ML2.9/3,Error ellipse: s-maj=87.0km s-min=27.8km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.22**	**198**	Pn	Pn	17 02 38.4	+1.5
	0.1nm,0.3s,baz=21,slow=14,SNR=6.6						
FITZ				Sn	Sn	17 04 41.4	-13
	0.2nm,0.3s,baz=246,slow=20,SNR=4.5						
WRA	**Warramunga Arr**	**14.25**	**161**	Pn	Pn	17 03 04.8	+0.1
	0.1nm,0.3s,baz=339,slow=12,SNR=3.5						
WRA				Sn	Sn	17 05 28.1	-15
	0.4nm,0.3s,baz=339,slow=23,SNR=6.8						
ASAR	**Alice Springs**	**17.67**	**167**	P	Pn	17 03 47.7	-1.5
	0.1nm,0.3s,baz=345,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	17 10 39.2	0.0
	0.1nm,0.4s,baz=116,slow=7.4,SNR=2.8						

*IDC **16** 17:03:45.3±0.8,5.°17S×147.°85E,h0km,mb4.0/10, mb1 4.2/14,mb1mx4.0/29,mbtmp4.0/14,ML2.6/3,MS3.3/11, Ms1 3.3/11,ms1mx3.1/24,Error ellipse: s-maj=24.9km s-min=15.5km az=86.0*
*BJI **16** 17:03:48.2,5.°77S×147.°16E,h11km,mb4.5/16,mB5.0/15, Ms4.8/5,Ms7 4.6/5*
*ISCJB **16** 17:03:50.6±0.6,5.°35S±0.°05×147.°56E±0.°10,h35km, mb4.2/14,MS3.3/9,Error ellipse: s-maj=13.9km s-min=6.7km az=178.1*
*NEIC **16** 17:03:54.0±0.9,5.°30S×147.°60E,h58km±8km,mb4.6/10, Error ellipse: s-maj=14.2km s-min=6.4km az=88.0*
ISC 16 17:03:52.5±0.6,5.°31S±0.°06×147.7E±0.°1,h35km,n46, σ2°16/51,mb4.1/14,MS3.3/9,1C-1D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.26**	**354**	*e*Pn	**Pn**	**17 04 43.0**	**+1.8**
PMG	**Port Moresby**	**4.11**	**187**	Pn	**Pn**	**17 04 53.6**	**+0.8**
	9.5nm,0.3s,baz=27,slow=5.5,SNR=26						
PMG				Sn	**Sn**	**17 05 44.2**	**+4.6**
	31nm,0.3s,baz=35,slow=22,SNR=5.7						
PMG				LR	LR	17 06 53.5	
	comp=Z,335nm,19.6s,baz=0.5,slow=44						
JAY	**Jayapura**	**7.51**	**291**	Pn	**Pn**	**17 05 39.0**	**-0.7**
	0.0nm,0.3s,baz=90,slow=20,SNR=2.9						
COEN	**Coen**	**9.68**	**207**	*e*Pn	**Pn**	**17 06 10.1**	**+0.7**
COEN				*e*Sn	Sn	17 07 45.4	-12
CTA	**Charters Tower**	**14.76**	**185**	Pn	**Pn**	**17 07 19.5**	**+0.7**
	0.1nm,0.3s,baz=0.0,slow=7.1,SNR=3.3						
CTAO	**Charters Tower**	**14.76**	**185**	*e*P	**Pn**	**17 07 21.4**	**+2.6**
MTN	**Mason Dam**	**17.98**	**244**	*e*Pn	**Pn**	**17 07 56.4**	**-3.5**
	16nm,0.8s						
WRAB	**Tennant Creek**	**19.50**	**221**	*e*P	**P**	**17 08 16.5**	**-0.2**
	21nm,0.9s						
WB2	**Warramunga Arr**	**19.50**	**221**	*e*P	**P**	**17 08 15.3**	**-1.5**
	15nm,0.7s						
WRA	**Warramunga Arr**	**19.51**	**221**	P	**P**	**17 08 15.5**	**-1.5**
	1.0nm,0.3s,baz=40,slow=12,SNR=39						
WRA				LR	LR	17 17 07.4	
	comp=Z,182nm,21.7s,baz=40,slow=41						
EIDS	**Eidsvold**	**20.21**	**171**	*e*P	**P**	**17 08 24.2**	**-0.2**
	18nm,0.8s						
AS01	**Alice Springs**	**22.55**	**215**	*e*P	**P**	**17 08 48.4**	**-1.4**
AS31	**Alice Springs**	**22.58**	**215**	*e*P	**P**	**17 08 49.5**	**-0.6**
	2.9nm,0.6s						
ASAR	**Alice Springs**	**22.58**	**215**	P	**P**	**17 08 49.1**	**-1.0**
	4.9nm,0.7s,baz=55,slow=8.6,SNR=62						
ASAR				LR	LR	17 18 03.7	
	comp=Z,132nm,21.4s,baz=49,slow=38						
SOEI	**Soe**	**23.64**	**258**	*e*P	**P**	**17 08 56.6**	**-4.4**
	39nm,1.0s						
DZM	**Mont Dzumac**	**24.63**	**134**	P	**P**	**17 09 07.7**	**-2.3**
	17nm,0.9s,baz=324,slow=19,SNR=5.9						
DZM	**Mont Dzumac**	**24.63**	**134**	*e*P	**P**	**17 09 06.2**	**-3.8**
	61nm,1.4s						
FITZ	**Fitzroy Crossi**	**25.02**	**238**	P	**P**	**17 09 12.3**	**-1.2**
	9.7nm,0.7s,baz=50,slow=8.7,SNR=29						
FITZ	**Fitzroy Crossi**	**25.02**	**238**	*e*P	**P**	**17 09 12.6**	**-0.9**
	18nm,0.9s						
ARMA	**Armidale**	**25.25**	**172**	*e*P	**P**	**17 09 20.6**	**+5.1**
	84nm,1.8s						
STKA	**Stephens Creek**	**27.04**	**191**	P	**P**	**17 09 30.9**	**-0.7**
	2.9nm,0.6s,baz=43,slow=9.7,SNR=4.3						
STKA				LR	LR	17 19 31.8	
	comp=Z,93nm,21.2s,baz=15,slow=35						
BBOO	**Buckleboo**	**29.44**	**200**	*e*P	**P**	**17 09 55.3**	**+2.3**
	80nm,1.5s						
MBWA	**Marble Bar**	**31.36**	**237**	*e*P	**P**	**17 10 07.5**	**-2.7**
TGY	**Tagaytay City**	**32.82**	**306**	LR	LR	17 23 08.0	
	comp=Z,266nm,20.5s,baz=120,slow=35						
MJAR	**Matsushiro Arr**	**42.57**	**349**	LR	LR	17 27 48.5	
	comp=Z,200nm,20.4s,baz=215,slow=34						
KSRS	**Korea Array**	**46.37**	**338**	LR	LR	17 29 12.0	
	comp=Z,320nm,18.6s,baz=152,slow=33						
GYA	**Guiyang**	**50.76**	**311**	*e*P	**P**	**17 12 51.0**	**+1.4**
GYA				PMZ			
	10.0nm,1.0s						
KMI	**Kunming**	**53.14**	**307**	P	**P**	**17 13 09.1**	**+1.6**
KMI				PMZ			
	12nm,0.9s						
KMI				PMZ			
	65nm,3.8s						
CM01	**Chiang Mai Arr**	**53.52**	**297**	*e*P	**P**	**17 13 09.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**53.55**	**297**	P	**P**	**17 13 09.3**	**-1.0**
	2.1nm,1.1s,baz=134,slow=6.0,SNR=6.6						
CMAR				LR	LR	17 36 39.8	
	comp=Z,15nm,18.2s,baz=130,slow=37						
CD2	**Chengdu**	**55.30**	**313**	*e*P	**P**	**17 13 22.5**	**-0.4**
CD2				PcS	**PcS**	**17 18 24.0**	**+0.4**
CD2				S	**S**	**17 21 05.3**	**+0.5**
CD2				SS	**SS**	**17 24 50.4**	**+0.6**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
HHC	**Hu-ho-hao-te**	**56.62**	**328**	*e*P	**P**	**17 13 34.3**	**+2.0**
HHC				S	**S**	**17 21 28.3**	**+6.1**
HHC				PMZ			
	30nm,1.1s						
HHC				PMZ			
	70nm,5.7s						
LZH	**Lanzhou**	**58.15**	**319**	*e*P	**P**	**17 13 42.6**	**-0.6**
LZH				pP	pP	17 13 46.3	-7.6
LZH				*e*PP	**PP**	**17 15 52.5**	**+0.1**
LZH				PMZ			
	20nm,1.2s						
LZH				PMZ			
	71nm,7.8s						
LZH				LN			
	320nm,15.3s						
LZH				LE			
	330nm,15.0s						
LZH				LZ			
	400nm,18.2s						
SONM	**Songino Array**	**64.15**	**330**	P	**P**	**17 14 22.2**	**-1.4**
	0.2nm,0.5s,baz=132,slow=6.0,SNR=2.1						
SONM				LR	LR	17 43 46.3	
	comp=Z,35nm,18.1s,baz=253,slow=38						
SONA1	**Songino Array**	**64.15**	**330**	*e*P	**P**	**17 14 23.1**	**-0.6**
VNDA	**Vanda**	**72.56**	**177**	P	**P**	**17 15 14.8**	**-0.7**
	1.0nm,1.0s,baz=319,slow=5.2,SNR=4.4						
WMQ	**Urumqi**	**72.73**	**319**	P	**P**	**17 15 17.9**	**+0.6**
WMQ				pP	pP	17 15 22.9	-5.3
WMQ				sP	sP	17 15 24.9	-7.3
WMQ				PMZ			
	3.0nm,0.7s						
WMQ				PMZ			
	57nm,6.4s						
MKAR	**Makanchi Array**	**77.42**	**320**	P	**P**	**17 15 42.4**	**-1.8**
	0.6nm,0.9s,baz=100,slow=6.3,SNR=3.6						
ZAA0	**Zalesovo Array**	**78.81**	**328**	*e*P	**P**	**17 15 51.1**	**-0.6**
ZALV	**Zalesovo Beam**	**78.81**	**328**	P	**P**	**17 15 48.2**	**-3.5**
	0.9nm,0.7s,baz=117,slow=6.0,SNR=3.6						
ZALV				LR	LR	17 49 26.6	
	comp=Z,33nm,21.4s,baz=72,slow=35						
KSH	**Kashi**	**79.44**	**312**	*e*P	**P**	**17 15 57.9**	**+2.2**
KSH				pP	PcP	17 16 01.3	-2.4
KSH				PcP	**pP**	**17 16 06.3**	**-0.4**
KSH				PP	**PP**	**17 18 58.3**	**+2.0**
KSH				S	**S**	**17 25 55.6**	**+0.9**
KSH				ScS	**ScS**	**17 26 17.8**	**+1.0**
KSH				SS	**SS**	**17 31 04.3**	**+1.5**
KSH				PMZ			
	2.0nm,0.3s						
KSH				PMZ			
	120nm,4.5s						
KSH				LN			
	60nm,4.0s						
KSH				LE			
	50nm,4.1s						
KSH				LZ			
	170nm,5.5s						
ILAR	**Eielson Array**	**84.58**	**23**	P	**P**	**17 16 18.9**	**-3.1**
	0.3nm,0.7s,baz=231,slow=6.9,SNR=3.8						
SYO	**Syowa Base**	**91.48 200**‖		*e*pP	pP	17 17 08.0	+1.9
SYO	**Syowa Base**	**91.48 200**‖		*e*sP	sP	17 17 14.6	+4.5
AKTO	**Aktyubinsk**	**93.85**	**320**	LR	LR	18 01 04.0	
	comp=Z,16nm,18.5s,baz=124,slow=37						
TORD	**Torodi Ar. Bea**	**145.59**	**285**	PKPbc	**PKPdf**	**17 23 27.8**	**-0.5**
	0.5nm,0.7s,baz=75,slow=3.9,SNR=3.5						

*ISCJB **16** 17:18:31.4±0.4,67.°04N±0.°02×20.°88E±0.°07,h0km,Error ellipse: s-maj=3.8km s-min=2.8km az=177.4*
*CSEM **16** 17:18:32.5±0.2,67.°06N×20.°91E,h2km,ML1.9,Error ellipse: s-maj=4.3km s-min=3.3km az=78.0,Mining explosion.*
*UPP **16** 17:18:32.2±0.1,67.°04N×20.°94E,h0km,ML1.9,Explosion*
*HEL **16** 17:18:33.0±0.1,67.°05N×20.°92E,h0km,ML2.2, ML1.9(UPP),Explosion*
*IDC **16** 17:18:33.5±0.9,67.°05N×21.°07E,h0km,mb1 2.8/4, mb1mx2.7/54,mbtmp2.8/4,ML2.4/4,Error ellipse: s-maj=18.2km s-min=8.1km az=114.0*
ISC 16 17:18:31.9±0.7,67.°07N±0.°02×20.°94E±0.°02,h0km,n61, σ1°21/88,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.57**	**46**	P	**Pg**	**17 18 43.4**	**+0.6**
MASU				S	**Sb**	**17 18 53.0**	**-0.4**
MASU	**Masugnsbyn**	**0.57**	**46**	*i* P	**Pg**	**17 18 43.4**	**+0.6**
MASU				*i* S	**Sb**	**17 18 53.0**	**-0.4**
MASU	**Masugnsbyn**	**0.57**	**46**	P	**Pg**	**17 18 43.4**	**+0.6**
MASU				S	**Sb**	**17 18 53.0**	**-0.4**
ERTU	**Ertsjaerv**	**0.71**	**135**	P	**Pg**	**17 18 45.2**	**-0.3**
ERTU				S	**Sg**	**17 18 55.3**	**+0.6**
ERTU	**Ertsjaerv**	**0.71**	**135**	*i* P	**Pg**	**17 18 45.2**	**-0.3**
ERTU				*i* S	**Sg**	**17 18 55.3**	**+0.6**
ERTU	**Ertsjaerv**	**0.71**	**135**	P	**Pg**	**17 18 45.2**	**-0.3**
ERTU				S	**Sg**	**17 18 55.3**	**+0.6**
PAJU	**Pajala**	**0.85**	**92**	P	**Pg**	**17 18 47.9**	**-0.3**
PAJU				S	**Sb**	**17 19 00.9**	**-0.6**
PAJU	**Pajala**	**0.85**	**92**	*i* P	**Pg**	**17 18 47.9**	**-0.3**
PAJU				*i* S	**Sb**	**17 19 00.9**	**-0.6**
PAJU	**Pajala**	**0.85**	**92**	P	**Pg**	**17 18 47.9**	**-0.3**
PAJU				S	**Sb**	**17 19 00.9**	**-0.6**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**17 18 49.1**	**-0.1**
HARU	**Harads**	**0.91**	**179**	*i* P	**Pg**	**17 18 49.1**	**-0.1**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**17 18 49.1**	**-0.1**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**17 18 49.6**	**+0.1**
KUA				S	**Sb**	**17 19 03.3**	**-0.2**
KUA	**Kurravaara**	**0.92**	**346**	*e*P	**Pg**	**17 18 49.6**	**+0.1**
KUA				*e*S	**Sb**	**17 19 03.3**	**-0.2**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**17 18 49.6**	**+0.1**
KUA				S	**Sb**	**17 19 03.3**	**-0.2**
SALU	**Saltoluokta**	**1.00**	**290**	P	**Pg**	**17 18 51.2**	**+0.2**
SALU	**Saltoluokta**	**1.00**	**290**	*e*P	**Pg**	**17 18 51.2**	**+0.2**
SALU	**Saltoluokta**	**1.00**	**290**	P	**Pg**	**17 18 51.2**	**+0.2**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 18 52.1**	**-0.2**
LANU	**Lannavaara**	**1.07**	**22**	*e*P	**Pg**	**17 18 52.0**	**-0.2**
LANU				*e*S	**Sg**	**17 19 06.4**	**+0.3**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 18 52.1**	**-0.2**
LANU				S	**Sg**	**17 19 06.4**	**+0.3**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**17 18 52.7**	**-0.1**
NIKU	**Nikkaluokta**	**1.09**	**319**	*e*P	**Pg**	**17 18 52.7**	**-0.1**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**17 18 52.7**	**-0.1**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**17 19 01.1**	**-0.1**
SJUU	**Sjulsmark**	**1.59**	**170**	*e*P	**Pn**	**17 19 01.1**	**-0.1**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**17 19 01.1**	**-0.1**
TOF	**Tornio**	**1.68**	**125**	*e*P	**Pn**	**17 19 02.2**	**-0.2**
TOF				*e*S	**Sn**	**17 19 24.7**	**+0.1**
TOF	**Tornio**	**1.68**	**125**	P	**Pn**	**17 19 02.2**	**-0.2**
TOF				S	**Sn**	**17 19 24.6**	**+0.1**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**17 19 03.1**	**+0.3**
HEF				*e*S	**Sn**	**17 19 25.2**	**0.0**
HEF	**Hetta**	**1.70**	**36**	P	**Pn**	**17 19 03.0**	**+0.3**
HEF				S	**Sn**	**17 19 25.2**	**0.0**
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**17 19 05.3**	**+0.6**
LILU	**Lilltraesk**	**1.84**	**194**	*e*P	**Pn**	**17 19 05.3**	**+0.6**
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**17 19 05.3**	**+0.6**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*P	**Pb**	**17 19 08.2**	**0.0**
KIF				*e*SG	**Sg**	**17 19 35.9**	**+1.4**
KIF				MSG		17 19 39.3	
	comp=Z,28nm,0.2s						
KIF	**Kilpisjarvi**	**1.95**	**359**	P	**Pb**	**17 19 08.2**	**0.0**
KIF				Sg	**Sg**	**17 19 35.8**	**+1.4**
RNF	**Rovaniemi**	**2.06**	**101**	*e*P	**Pn**	**17 19 08.4**	**+0.8**
RNF	**Rovaniemi**	**2.06**	**101**	P	**Pn**	**17 19 08.4**	**+0.8**
SGF	**Sodankyl**	**2.20**	**78**	*e*SG	**Sg**	**17 19 43.4**	**+0.8**
SGF	**Sodankyl**	**2.20**	**78**	Sg	**Sg**	**17 19 43.4**	**+0.8**
OUL	**Oulu**	**2.83**	**132**	*e*P	**Pn**	**17 19 19.8**	**+1.4**
OUL	**Oulu**	**2.83**	**132**	P	**Pn**	**17 19 19.7**	**+1.4**
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**17 19 21.8**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=211,slow=14,SNR=19						
ARCES				Sn	**Sb**	**17 20 00.6**	**-2.8**
	comp=Z,1.1nm,0.3s,baz=212,slow=22,SNR=9.9						
ARE0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pn**	**17 19 21.8**	**+1.0**
ARE0	**ARCESS Array S**	**3.00**	**32**	P	**Pn**	**17 19 21.7**	**+1.0**
UMAU	**Umeaa**	**3.20**	**182**	*e*P	**Pn**	**17 19 24.2**	**+0.9**
UMAU	**Umeaa**	**3.20**	**182**	P	**Pn**	**17 19 24.2**	**+0.9**
VRF	**Varrio**	**3.42**	**74**	*e*SB	**Sb**	**17 20 15.7**	**+0.5**
VRF				MSG		17 20 18.6	
	comp=Z,4.9nm,0.2s						
VRF	**Varrio**	**3.42**	**74**	Sb	**Sb**	**17 20 15.7**	**+0.5**
MSF	**Maaselka**	**3.45**	**106**	*e*P	**Pn**	**17 19 29.0**	**+2.2**
MSF	**Maaselka**	**3.45**	**106**	P	**Pn**	**17 19 29.0**	**+2.2**
KEV	**Kevo**	**3.51**	**37**	*e*SB	**Sb**	**17 20 18.8**	**+0.9**
KEV				*e*SG	**Sg**	**17 20 22.1**	**-2.4**
KEV	**Kevo**	**3.51**	**37**	Sb	**Sb**	**17 20 18.7**	**+0.9**
KEV				Sg	**Sg**	**17 20 22.1**	**-2.4**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**17 19 32.0**	**+1.4**
KU6	**Riekki**	**3.73**	**102**	P	**Pn**	**17 19 32.0**	**+1.4**
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**17 19 37.2**	**+1.4**
VAF				*e*SG	**Sg**	**17 20 40.0**	**-3.6**
VAF				MSG		17 20 44.3	
	comp=Z,2.7nm,0.2s						
VAF	**Ylistaro**	**4.11**	**169**	P	**Pn**	**17 19 37.1**	**+1.4**
VAF				Sg	**Sg**	**17 20 40.0**	**-3.6**
HEMU	**Hemsoen**	**4.58**	**197**	*e*SG	**Sb**	**17 20 53.3**	**+4.7**
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 20 04.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=7.2						
FINES				Sn	**Sn**	**17 21 13.6**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=347,slow=23,SNR=8.2						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 20 20.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=86,slow=14,SNR=2.6						
HFS	**Hagfors**	**7.67**	**209**	Pn	**Pn**	**17 20 25.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=27,slow=9.9,SNR=

RTLS			*i* S	Sn	17 41 47.7	+2.0
AUSP	**Uspallata**	**2.80 194**	*i* P	Pn	17 41 24.1	+1.8
AUSP			*i* S	Sn	17 41 57.1	+1.3
ASAL	**Salagasta**	**3.09 184**	*i* P	Pn	17 41 27.2	+1.2
ASAL			*i* S	Sn	17 42 03.4	+1.1
MRA	**San Martin**	**3.81 140**	*i* P	Pn	17 41 36.9	+1.2
MRA			IAML		17 42 38.9	
	comp=Z,13nm,0.5s					

IDC 16 17:40:44.5±1.5, 5°69S×142°55E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=36.3km s-min=22.4km az=68.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.65**	**330**	Pn	Pn	17 41 44.4	+2.0
	0.1nm,0.3s,baz=90,slow=20,SNR=3.7						
JAY				Sn	Sn	17 42 28.6	+2.3
	0.2nm,0.3s,baz=270,slow=20,SNR=3.3						
PMG	**Port Moresby**	**5.87**	**129**	Pn	Pn	17 42 14.7	+1.8
	0.4nm,0.3s,baz=307,slow=10,SNR=2.4						
PMG				Sn	Sn	17 43 23.4	+2.4
	0.6nm,0.3s,baz=300,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**16.26**	**209**	Pn	Pn	17 44 32.6	-1.8
	0.1nm,0.3s,baz=32,slow=13,SNR=7.6						
ASAR	**Alice Springs**	**19.71**	**204**	P	P	17 45 16.2	+0.4
	0.1nm,0.3s,baz=34,slow=10,SNR=21						
ILAR	**Eielson Array**	**86.97**	**24**	P	P	17 53 30.3	-1.1
	0.3nm,0.7s,baz=264,slow=4.5,SNR=3.0						

*ISCJB **16** 18:37:24.3±0.6, 43°67S×172°94E±0°03, h15km±5km, mb4.0/2, MS3.3/2, Error ellipse: s-maj=5.8km s-min=2.9km az=147.7*

*IDC **16** 18:37:25.6±1.4, 43°39S×172°72E, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/33, mbtmp4.1/3, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx3.0/26, Error ellipse: s-maj=46.0km s-min=15.0km az=158.0*

*WEL **16** 18:37:27.3±0.1, 43°60S×172°74E, h10km, ML4.5/52, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0*

WEL Felt in the Canterbury region, maximum reported intensity MM 6.

*NEIC **16** 18:37:27.3, 43°59S×172°79E, h5km, ML4.4(WEL), After WEL.*

NEIC Felt in the Christchurch area.

ISC 16 18:37:25.8±1.2, 43°60S±0°04×172°83E±0°04, h13km±7km, n171, σ1°05/176, 4C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.17**	**229**	⇑*e*PG	**Pb**	**18 37 30.5**	**-0.3**
MQZ				SG	**Sg**	**18 37 32.8**	**+0.2**
MQZ				AML	AML	18 37 32.9	
MQZ	**McQueen's Vall**	**0.17**	**229**	*e*Pg	**Pb**	**18 37 30.5**	**-0.3**
MQZ				Sg	**Sg**	**18 37 32.8**	**+0.2**
OXZ	**Oxford**	**0.64**	**295**	⇓P*	**Pb**	**18 37 38.3**	**-0.5**
OXZ				S*	**Sb**	**18 37 46.1**	**-1.4**
OXZ				S*	**Sg**	**18 37 46.3**	**-0.3**
OXZ	**Oxford**	**0.64**	**295**	P*	**Pb**	**18 37 38.3**	**-0.5**
LTZ	**Lake Taylor**	**0.91**	**333**	⇑P*	**Pn**	**18 37 43.8**	**-0.5**
LTZ				S*	**Sn**	**18 37 56.0**	**-1.3**
LTZ				AML	AML	18 37 56.7	
LTZ	**Lake Taylor**	**0.91**	**333**	P*	**Pn**	**18 37 43.8**	**-0.5**
KHZ	**Kahutara**	**1.29**	**24**	PN	**Pn**	**18 37 49.4**	**0.0**
KHZ				S*	**Sg**	**18 38 08.4**	**+1.0**
KHZ	**Kahutara**	**1.29**	**24**	P*	**Pn**	**18 37 49.5**	**0.0**
RPZ	**Rata Peaks**	**1.29**	**264**	Pg	**Pn**	**18 37 49.1**	**-0.4**
	541nm,0.3s,baz=113,slow=4.3,SNR=908						
RPZ				Lg	Lg	18 38 05.8	
	1μm,0.3s,baz=227,slow=12,SNR=22						
RPZ	**Rata Peaks**	**1.29**	**264**	⇓P*	**Pn**	**18 37 49.1**	**-0.4**
RPZ				S*	**Sg**	**18 38 06.7**	**-0.9**
RPZ				AML	AML	18 38 13.2	
INZ	**Inchbonnie**	**1.33**	**310**	P*	**Pn**	**18 37 49.6**	**-0.5**
INZ				S*	**Sn**	**18 38 06.7**	**-1.0**
WVZ	**Waitaha Valley**	**1.61**	**288**	PN	**Pn**	**18 37 54.1**	**+0.2**
WVZ				SN	**Sg**	**18 38 17.6**	**-0.2**
WVZ				AML	AML	18 38 19.1	
WVZ	**Waitaha Valley**	**1.61**	**288**	Pn	**Pn**	**18 37 54.1**	**+0.2**
THZ	**Tophouse**	**1.83**	**2**	⇑PN	**Pn**	**18 37 57.2**	**+0.2**
THZ				SN	**Sg**	**18 38 25.2**	**+0.4**
THZ				AML	AML	18 38 30.3	
THZ	**Tophouse**	**1.83**	**2**	Pn	**Pn**	**18 37 56.9**	**-0.1**
DSZ	**Denniston Nort**	**2.00**	**337**	PN	**Pn**	**18 37 57.6**	**-1.7**
DSZ				SN	**Sb**	**18 38 25.6**	**-1.1**
DSZ				AML	AML	18 38 27.5	
DSZ				AML	AML	18 38 28.1	
DSZ				AML	AML	18 38 34.9	
DSZ	**Denniston Nort**	**2.00**	**337**	Pn	**Pn**	**18 37 59.9**	**+0.6**
BSWZ	**Blackbirch Sta**	**2.03**	**23**	PN	**Pn**	**18 38 00.4**	**+0.7**
BSWZ				AML	AML	18 38 52.1	
BSWZ				AML	AML	18 38 52.4	
BSWZ	**Blackbirch Sta**	**2.03**	**23**	Pn	**Pn**	**18 38 00.4**	**+0.7**
LBZ	**Lake Benmore**	**2.06**	**247**	PN	**Pn**	**18 38 00.1**	**0.0**
LBZ				AML	AML	18 38 38.6	
LBZ				AML	AML	18 38 38.6	
LBZ				AML	AML	18 38 38.8	
LBZ				AML	AML	18 38 38.8	
LBZ	**Lake Benmore**	**2.06**	**247**	Pn	**Pn**	**18 38 00.2**	**+0.1**
CMWZ	**Cape Campbell**	**2.11**	**29**	PN	**Pn**	**18 38 01.6**	**+0.9**
CMWZ				AML	AML	18 38 48.2	
CMWZ				AML	AML	18 39 07.8	
CMWZ	**Cape Campbell**	**2.11**	**29**	Pn	**Pn**	**18 38 01.8**	**+1.0**
ODZ	**Otahua Downs**	**2.13**	**226**	⇑PN	**Pn**	**18 38 00.8**	**-0.3**
ODZ				AML	AML	18 38 36.6	
ODZ				AML	AML	18 38 36.6	
ODZ				AML	AML	18 38 40.0	
ODZ				AML	AML	18 38 40.0	
ODZ	**Otahua Downs**	**2.13**	**226**	Pn	**Pn**	**18 38 00.8**	**-0.3**
FOZ	**Fox Glacier**	**2.19**	**271**	PN	**Pn**	**18 38 02.9**	**+1.0**
FOZ				AML	AML	18 38 43.7	
FOZ				AML	AML	18 38 43.7	
FOZ				AML	AML	18 38 46.8	
FOZ				AML	AML	18 38 46.9	
FOZ	**Fox Glacier**	**2.19**	**271**	Pn	**Pn**	**18 38 02.9**	**+1.0**
TUWZ	**Tuamarina**	**2.32**	**21**	PN	**Pn**	**18 38 03.8**	**+0.2**
TUWZ				AML	AML	18 38 40.6	
TUWZ				AML	AML	18 39 02.9	
TUWZ	**Tuamarina**	**2.32**	**21**	Pn	**Pn**	**18 38 03.8**	**+0.2**
NNZ	**Nelson**	**2.41**	**10**	PN	**Pn**	**18 38 05.6**	**+0.7**
NNZ				AML	AML	18 38 52.1	
NNZ				AML	AML	18 38 52.1	
NNZ				AML	AML	18 38 54.9	
NNZ				AML	AML	18 38 55.0	
NNZ	**Nelson**	**2.41**	**10**	Pn	**Pn**	**18 38 05.6**	**+0.7**
TCW	**Tory Channel**	**2.61**	**25**	PN	**Pn**	**18 38 07.4**	**-0.3**
TCW				AML	AML	18 38 50.8	
TCW				AML	AML	18 38 55.5	
TCW	**Tory Channel**	**2.61**	**25**	Pn	**Pn**	**18 38 07.8**	**+0.1**
PLWZ	**Palliser**	**2.70**	**42**	PN	**Pn**	**18 38 08.8**	**-0.2**
PLWZ	**Palliser**	**2.70**	**42**	Pn	**Pn**	**18 38 08.8**	**-0.2**
WEL	**Wellington**	**2.72**	**33**	PN	**Pn**	**18 38 09.3**	**+0.2**
WEL				AML	AML	18 38 46.8	
WEL				AML	AML	18 38 46.8	
WEL	**Wellington**	**2.72**	**33**	Pn	**Pn**	**18 38 09.3**	**+0.2**
QRZ	**Quartz Range**	**2.78**	**355**	PN	**Pn**	**18 38 10.1**	**+0.2**
QRZ				AML	AML	18 38 21.4	
QRZ				AML	AML	18 38 21.4	
QRZ				AML	AML	18 38 59.2	
QRZ				AML	AML	18 39 01.4	
QRZ	**Quartz Range**	**2.78**	**355**	Pn	**Pn**	**18 38 10.1**	**+0.2**
HHSZ	**Highcliff Hill**	**2.79**	**214**	PN	**Pn**	**18 38 10.6**	**+0.5**
HHSZ	**Highcliff Hill**	**2.79**	**214**	Pn	**Pn**	**18 38 10.6**	**+0.5**
MSWZ	**Moikau Station**	**2.82**	**40**	PN	**Pn**	**18 38 10.4**	**-0.2**
MSWZ				AML	AML	18 38 43.2	
MSWZ				AML	AML	18 38 50.7	
MSWZ	**Moikau Station**	**2.82**	**40**	Pn	**Pn**	**18 38 10.4**	**-0.2**
DUWZ	**D'Urville Isla**	**2.91**	**17**	PN	**Pn**	**18 38 12.0**	**+0.2**
DUWZ	**D'Urville Isla**	**2.91**	**17**	Pn	**Pn**	**18 38 12.0**	**+0.2**
PAWZ	**Paruwai Farm**	**2.93**	**42**	AML	AML	18 38 54.7	
PAWZ				AML	AML	18 39 04.2	
PAWZ	**Paruwai Farm**	**2.93**	**42**	Pn	**Pn**	**18 38 11.7**	**-0.4**
JCZ	**Jackson Bay**	**2.96**	**259**	PN	**Pn**	**18 38 12.8**	**+0.2**
JCZ				AML	AML	18 39 12.2	
JCZ				AML	AML	18 39 14.7	
JCZ	**Jackson Bay**	**2.96**	**259**	Pn	**Pn**	**18 38 12.8**	**+0.2**
WKZ	**Wanaka**	**3.00**	**244**	PN	**Pn**	**18 38 12.7**	**-0.4**
WKZ				AML	AML	18 39 08.3	
WKZ				AML	AML	18 39 08.4	
WKZ				AML	AML	18 39 11.1	
WKZ				AML	AML	18 39 11.2	
WKZ	**Wanaka**	**3.00**	**244**	Pn	**Pn**	**18 38 13.1**	**0.0**
EAZ	**Earnscleugh**	**3.01**	**236**	PN	**Pn**	**18 38 13.0**	**-0.1**
EAZ				AML	AML	18 39 05.8	
EAZ				AML	AML	18 39 05.8	
EAZ				AML	AML	18 39 11.6	
EAZ				AML	AML	18 39 11.7	
EAZ	**Earnscleugh**	**3.01**	**236**	Pn	**Pn**	**18 38 13.0**	**-0.1**
TRWZ	**Traveller**	**3.05**	**45**	AML	AML	18 38 53.6	
TRWZ				AML	AML	18 38 56.7	
TRWZ	**Traveller**	**3.05**	**45**	Pn	**Pn**	**18 38 13.1**	**-0.6**
KIW	**Kapiti Island**	**3.14**	**30**	PN	**Pn**	**18 38 14.9**	**-0.1**
KIW				AML	AML	18 38 54.8	
KIW				AML	AML	18 39 08.6	
KIW	**Kapiti Island**	**3.14**	**30**	Pn	**Pn**	**18 38 15.1**	**+0.1**
MTW	**Mount Morrison**	**3.14**	**40**	PN	**Pn**	**18 38 14.5**	**-0.4**
MTW				AML	AML	18 38 52.6	
MTW				AML	AML	18 38 53.5	
MTW	**Mount Morrison**	**3.14**	**40**	Pn	**Pn**	**18 38 14.5**	**-0.4**
OGWZ	**Otaki Gorge**	**3.28**	**33**	PN	**Pn**	**18 38 16.5**	**-0.3**
OGWZ	**Otaki Gorge**	**3.28**	**33**	Pn	**Pn**	**18 38 16.6**	**-0.3**
TUZ	**Tuapeka**	**3.28**	**223**	PN	**Pn**	**18 38 16.5**	**-0.4**
TUZ				AML	AML	18 39 19.0	
TUZ				AML	AML	18 39 19.1	
TUZ				AML	AML	18 39 23.2	
TUZ				AML	AML	18 39 23.2	
TUZ	**Tuapeka**	**3.28**	**223**	Pn	**Pn**	**18 38 16.7**	**-0.2**
HOWZ	**Holdsworth Sta**	**3.35**	**37**	Pn	**Pn**	**18 38 17.5**	**-0.4**
TMWZ	**Te Maipa**	**3.37**	**43**	Pn	**Pn**	**18 38 17.6**	**-0.4**
MRZ	**Mangatainoka R**	**3.58**	**36**	PN	**Pn**	**18 38 20.2**	**-0.7**
MRZ	**Mangatainoka R**	**3.58**	**36**	Pn	**Pn**	**18 38 20.3**	**-0.6**
TIWZ	**Tintock**	**3.62**	**40**	*e*PN	**Pn**	**18 38 20.7**	**-0.9**
TIWZ				AML	AML	18 39 04.2	
TIWZ				AML	AML	18 39 06.0	
TIWZ	**Tintock**	**3.62**	**40**	Pn	**Pn**	**18 38 20.9**	**-0.6**
MSZ	**Milford Sound**	**3.69**	**251**	AML	AML	18 39 28.0	
MSZ				AML	AML	18 39 28.0	
MSZ				AML	AML	18 39 31.0	
MSZ				AML	AML	18 39 31.0	
MSZ	**Milford Sound**	**3.69**	**251**	Pn	**Pn**	**18 38 22.4**	**-0.1**
MLZ	**Mavora Lakes**	**3.81**	**241**	PN	**Pn**	**18 38 23.5**	**-0.6**
MLZ				AML	AML	18 39 29.8	
MLZ				AML	AML	18 39 39.1	
MLZ	**Mavora Lakes**	**3.81**	**241**	Pn	**Pn**	**18 38 23.7**	**-0.4**
PRWZ	**Pori Road**	**3.83**	**39**	*e*PN	**Pn**	**18 38 23.7**	**-0.8**
PRWZ	**Pori Road**	**3.83**	**39**	Pn	**Pn**	**18 38 23.9**	**-0.6**
BFZ	**Birch Farm**	**3.86**	**42**	PN	**Pn**	**18 38 24.0**	**-0.9**
BFZ				AML	AML	18 39 11.6	
BFZ				AML	AML	18 39 11.6	
BFZ				AML	AML	18 39 12.1	
BFZ				AML	AML	18 39 12.1	
BFZ	**Birch Farm**	**3.86**	**42**	Pn	**Pn**	**18 38 24.0**	**-0.9**
POWZ	**Post Office Ro**	**3.88**	**35**	Pn	**Pn**	**18 38 25.2**	**+0.1**
SYZ	**Scrubby Hill**	**3.94**	**220**	PN	**Pn**	**18 38 26.3**	**+0.4**
SYZ				AML	AML	18 39 39.4	
SYZ				AML	AML	18 39 39.4	
SYZ				AML	AML	18 39 46.4	
SYZ				AML	AML	18 39 46.4	
SYZ	**Scrubby Hill**	**3.94**	**220**	Pn	**Pn**	**18 38 26.3**	**+0.4**
WAZ	**Wanganui**	**4.16**	**24**	PN	**Pn**	**18 38 30.9**	**+1.8**
WAZ				AML	AML	18 39 29.5	
WAZ				AML	AML	18 39 51.8	
WAZ	**Wanganui**	**4.16**	**24**	Pn	**Pn**	**18 38 30.9**	**+1.8**
WHZ	**Wether Hill Ro**	**4.17**	**235**	PN	**Pn**	**18 38 28.1**	**-0.9**
WHZ				AML	AML	18 39 50.6	
WHZ				AML	AML	18 39 50.8	
WHZ	**Wether Hill Ro**	**4.17**	**235**	Pn	**Pn**	**18 38 28.1**	**-0.9**
TSZ	**Takapari Road**	**4.24**	**35**	PN	**Pn**	**18 38 29.1**	**-1.0**
TSZ				AML	AML	18 39 19.6	
TSZ				AML	AML	18 39 31.4	
TSZ	**Takapari Road**	**4.24**	**35**	Pn	**Pn**	**18 38 29.1**	**-1.0**
NMEZ	**Namu Road**	**4.25**	**11**	Pn	**Pn**	**18 38 33.0**	**+2.7**
LREZ	**Lake Rotokare**	**4.30**	**16**	PN	**Pn**	**18 38 33.0**	**+2.2**
PREZ	**Palmer Road**	**4.37**	**14**	*e*PN	**Pn**	**18 38 33.7**	**+1.9**
PREZ	**Palmer Road**	**4.37**	**14**	Pn	**Pn**	**18 38 34.0**	**+2.2**
NWEZ	**Newall Road**	**4.39**	**11**	Pn	**Pn**	**18 38 34.2**	**+2.2**
KHEZ	**Kahui Hut**	**4.39**	**12**	*e*PN	**Pn**	**18 38 33.3**	**+1.1**
KHEZ	**Kahui Hut**	**4.39**	**12**	Pn	**Pn**	**18 38 34.2**	**+2.0**
NEZ	**North Egmont**	**4.42**	**13**	PN	**Pn**	**18 38 34.0**	**+1.3**
NEZ	**North Egmont**	**4.42**	**13**	Pn	**Pn**	**18 38 34.3**	**+1.6**
PNHZ	**Pukenui**	**4.46**	**36**	PN	**Pn**	**18 38 31.9**	**-1.2**
PNHZ	**Pukenui**	**4.46**	**36**	Pn	**Pn**	**18 38 31.9**	**-1.2**
DCZ	**Deep Cove**	**4.47**	**243**	*e*PN	**Pn**	**18 38 32.9**	**-0.3**
DCZ				AML	AML	18 39 55.6	
DCZ				AML	AML	18 40 02.9	
DCZ	**Deep Cove**	**4.47**	**243**	Pn	**Pn**	**18 38 32.9**	**-0.3**
PKE	**Pukeiti**	**4.48**	**12**	PN	**Pn**	**18 38 35.0**	**+1.5**
PKE				AML	AML	18 39 28.5	
PKE				AML	AML	18 39 31.9	
PKE	**Pukeiti**	**4.48**	**12**	Pn	**Pn**	**18 38 35.1**	**+1.6**
DREZ	**Durham Road**	**4.52**	**14**	PN	**Pn**	**18 38 35.8**	**+1.8**
DREZ	**Durham Road**	**4.52**	**14**	Pn	**Pn**	**18 38 35.8**	**+1.8**
MTVZ	**Mangateitei**	**4.65**	**26**	PN	**Pn**	**18 38 36.8**	**+1.1**
MTVZ				AML	AML	18 39 43.2	
MTVZ				AML	AML	18 39 45.7	
MTVZ	**Mangateitei**	**4.65**	**26**	Pn	**Pn**	**18 38 36.8**	**+1.1**
MHEZ	**Mangahewa**	**4.65**	**14**	PN	**Pn**	**18 38 37.8**	**+2.0**
MHEZ	**Mangahewa**	**4.65**	**14**	Pn	**Pn**	**18 38 37.8**	**+2.0**
PXZ	**Pawanui**	**4.67**	**42**	AML	AML	18 39 36.6	
PXZ				AML	AML	18 39 41.4	
PXZ	**Pawanui**	**4.67**	**42**	Pn	**Pn**	**18 38 36.9**	**+0.7**
VRZ	**Vera Road**	**4.70**	**19**	PN	**Pn**	**18 38 37.2**	**+0.9**
VRZ				AML	AML	18 39 37.7	
VRZ				AML	AML	18 40 23.4	
VRZ	**Vera Road**	**4.70**	**19**	Pn	**Pn**	**18 38 37.7**	**+1.3**
PKVZ	**Pokaka**	**4.70**	**25**	*e*PN	**Pn**	**18 38 37.1**	**+0.6**
PKVZ				AML	AML	18 39 55.1	
PKVZ				AML	AML	18 40 20.7	
PKVZ	**Pokaka**	**4.70**	**25**	Pn	**Pn**	**18 38 37.2**	**+0.7**
APZ	**The Paps**	**4.71**	**225**	PN	**Pn**	**18 38 36.8**	**+0.3**
APZ				AML	AML	18 40 06.1	
APZ				AML	AML	18 40 12.9	
APZ	**The Paps**	**4.71**	**225**	Pn	**Pn**	**18 38 36.8**	**+0.3**
MOVZ	**Moawhango**	**4.72**	**29**	*e*PN	**Pn**	**18 38 36.5**	**-0.3**
MOVZ				AML	AML	18 39 36.8	
MOVZ				AML	AML	18 39 37.6	
MOVZ	**Moawhango**	**4.72**	**29**	Pn	**Pn**	**18 38 36.6**	**-0.2**
WNVZ	**Wahianoa**	**4.75**	**27**	PN	**Pn**	**18 38 37.4**	**+0.3**
WNVZ	**Wahianoa**	**4.75**	**27**	Pn	**Pn**	**18 38 37.7**	**+0.5**
TRVZ	**Turoa**	**4.75**	**26**	PN	**Pn**	**18 38 38.1**	**+0.8**
TRVZ				AML	AML	18 39 38.2	
TRVZ				AML	AML	18 39 56.1	
TRVZ	**Turoa**	**4.75**	**26**	Pn	**Pn**	**18 38 38.3**	**+0.9**
KRHZ	**Kereru**	**4.76**	**35**	PN	**Pn**	**18 38 35.8**	**-1.4**
WHVZ	**Whangaehu Hut**	**4.78**	**27**	*e*PN	**Pn**	**18 38 38.2**	**+0.5**
WHVZ	**Whangaehu Hut**	**4.78**	**27**	Pn	**Pn**	**18 38 38.1**	**+0.3**
FWVZ	**Far West T-bar**	**4.79**	**26**	PN	**Pn**	**18 38 39.1**	**+1.2**
FWVZ				AML	AML	18 39 46.1	
FWVZ				AML	AML	18 40 28.1	
FWVZ	**Far West T-bar**	**4.79**	**26**	Pn	**Pn**	**18 38 39.1**	**+1.2**
TUVZ	**Tukino**	**4.82**	**27**	PN	**Pn**	**18 38 38.5**	**+0.4**
TUVZ				AML	AML	18 39 39.7	
TUVZ				AML	AML	18 39 50.1	
TUVZ	**Tukino**	**4.82**	**27**	Pn	**Pn**	**18 38 38.8**	**+0.7**
KAHZ	**Kahuranaki**	**4.86**	**40**	*e*PN	**Pn**	**18 38 37.1**	**-1.5**
KAHZ	**Kahuranaki**	**4.86**	**40**	Pn	**Pn**	**18 38 38.5**	**-0.1**
NGZ	**Ngauruhoe**	**4.88**	**26**	*e*PN	**Pn**	**18 38 39.8**	**+0.8**
NGZ				AML	AML	18 39 41.7	
NGZ				AML	AML	18 40 06.6	
NGZ	**Ngauruhoe**	**4.88**	**26**	Pn	**Pn**	**18 38 39.9**	**+0.9**
OTVZ	**Oturere**	**4.92**	**27**	*e*PN	**Pn**	**18 38 39.9**	**+0.4**
OTVZ				AML	AML	18 39 55.5	
OTVZ				AML	AML	18 40 31.9	
OTVZ	**Oturere**	**4.92**	**27**	Pn	**Pn**	**18 38 40.0**	**+0.5**
TWVZ	**Taurewa**	**4.93**	**24**	*e*PN	**Pn**	**18 38 40.3**	**+0.7**
TWVZ	**Taurewa**	**4.93**	**24**	Pn	**Pn**	**18 38 40.4**	**+0.8**
WTVZ	**West Tongariro**	**4.93**	**26**	*e*PN	**Pn**	**18 38 39.7**	**0.0**
WTVZ				AML	AML	18 39 41.5	
WTVZ				AML	AML	18 40 01.1	
WTVZ	**West Tongariro**	**4.93**	**26**	Pn	**Pn**	**18 38 39.7**	**0.0**
KWHZ	**Kaweka Forest**	**4.96**	**34**	*e*PN	**Pn**	**18 38 39.5**	**-0.6**
KRVZ	**Karewarewa**	**4.97**	**26**	PN	**Pn**	**18 38 41.1**	**+0.9**
KRVZ				AML	AML	18 39 44.6	
KRVZ				AML	AML	18 39 52.9	
KRVZ	**Karewarewa**	**4.97**	**26**	Pn	**Pn**	**18 38 41.1**	**+0.9**
MCHZ	**McNeill Hill**	**5.06**	**36**	*e*PN	**Pn**	**18 38 41.4**	**0.0**
MCHZ	**McNeill Hill**	**5.06**	**36**	Pn	**Pn**	**18 38 41.5**	**+0.1**
KATZ	**Kakaramea**	**5.10**	**26**	AML	AML	18 39 17.2	
BKZ	**Black Stump Fm**	**5.21**	**33**	AML	AML	18 39 42.3	
BKZ				AML	AML	18 39 43.9	
BKZ	**Black Stump Fm**	**5.21**	**33**	Pn	**Pn**	**18 38 42.9**	**-0.6**
HIZ	**Hauiti**	**5.30**	**17**	PN	**Pn**	**18 38 45.3**	**+0.6**
HIZ				AML	AML	18 39 53.7	
HIZ				AML	AML	18 40 39.7	
HIZ	**Hauiti**	**5.30**	**17**	Pn	**Pn**	**18 38 45.4**	**+0.7**
MRHZ	**Matea Rd**	**5.47**	**31**	PN	**Pn**	**18 38 45.3**	**-1.7**
TLZ	**Tolley Road**	**5.65**	**22**	*e*PN	**Pn**	**18 38 49.6**	**+0.2**
TLZ	**Tolley Road**	**5.65**	**22**	Pn	**Pn**	**18 38 49.7**	**+0.2**
RTZ	**Ruatahuna**	**5.88**	**34**	*e*PN	**Pn**	**18 38 51.6**	**-1.0**
SNGZ	**Shannon Statio**	**5.89**	**37**	*e*Pn	**Pn**	**18 38 51.8**	**-1.0**
TOZ	**Tahuroa Road**	**6.20**	**20**	Pn	**Pn**	**18 38 56.9**	**0.0**
URZ	**Urewera**	**6.24**	**33**	Pn	**Pn**	**18 38 55.7**	**-1.8**
	2.1nm,0.3s,baz=240,slow=4.3,SNR=29						
URZ				Sn	**Sn**	**18 40 04.3**	**-4.3**
	8.2nm,0.3s,baz=360,slow=23,SNR=6.8						
URZ				LR	LR	18 41 18.1	
	comp=Z,108nm,19.6s,baz=273,slow=38						
URZ	**Urewera**	**6.24**	**33**	PN	**Pn**	**18 38 55.3**	**-2.2**
MWZ	**Matawai**	**6.34**	**36**	PN	**Pn**	**18 38 55.9**	**-3.1**
MWZ				AML	AML	18 40 15.5	
MWZ				AML	AML	18 40 30.6	
MWZ	**Matawai**	**6.34**	**36**	Pn	**Pn**	**18 38 55.9**	**-3.1**
AWAZ	**Awhitu Peninsu**	**6.67**	**13**	PN	**Pn**	**18 39 03.4**	**0.0**
TWGZ	**Tauwhareparae**	**6.67**	**38**	*e*PN	**Pn**	**18 39 01.5**	**-2.0**
TWGZ	**Tauwhareparae**	**6.67**	**38**	Pn	**Pn**	**18 39 02.2**	**-1.3**
MKAZ	**Moumakai**	**6.72**	**16**	PN	**Pn**	**18 39 04.3**	**+0.1**
MKAZ	**Moumakai**	**6.72**	**16**	Pn	**Pn**	**18 39 04.3**	**+0.1**
HAZ	**Te Kaha**	**6.94**	**35**	*e*PN	**Pn**	**18 39 04.7**	**-2.5**
WIAZ	**Waiheke Island**	**7.02**	**15**	*e*PN	**Pn**	**18 39 08.8**	**+0.5**
DZM	**Mont Dzumac**	**22.11**	**344**	LR	LR	18 51 09.6	
	comp=Z,80nm,18.1s,baz=194,slow=38						
ASAR	**Alice Springs**	**37.58**	**289**	P	**P**	**18 44 41.2**	**+1.2**
	3.5nm,1.1s,baz=130,slow=7.2,SNR=9.0						
ASAR				LR	LR	19 01 19.3	
	comp=Z,58nm,18.0s,baz=174,slow=38						
WRA	**Warramunga Arr**	**39.83**	**294**	P	**P**	**18 44 59.5**	**+0.6**
	2.2nm,0.9s,baz=133,slow=7.9,SNR=18						
TORD	**Torodi Ar. Bea**	**148.71**	**197**	PKPbc	**PKPbc**	**18 57 15.3**	**+2.2**
	0.2nm,0.4s,baz=168,slow=3.0,SNR=3.2						
ARCES	**ARCESS Array B**	**149.13**	**338**	PKPbc	**PKPbc**	**18 57 13.3**	**+0.8**
	0.7nm,0.7s,baz=64,slow=2.1,SNR=3.3						
BRTR	**Keskin Array B**	**149.49**	**277**	PKPbc	**PKPbc**	**18 57 15.6**	**+1.1**
	0.6nm,0.6s,baz=142,slow=5.3,SNR=3.5						

IDC 16 18:38:19.3±9.3, 5°74S×151°03E, h53km±67km, mb3.1/2, mb1 3.5/3, mb1mx3.1/35, mbtmp3.5/3, ML1.0/1, Error ellipse: s-maj=110.7km s-min=55.5km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.29**	**226**	P	Pn	18 39 37.2	+1.4
	0.4nm,0.3s,baz=45,slow=11,SNR=3.0						
PMG				S	Sn	18 40 36.3	+0.8
	1.1nm,0.3s,baz=270,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**21.51**	**227**	P	P	18 43 03.2	-0.9
	0.6nm,0.4s,baz=53,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**24.28**	**221**	P	P	18 43 31.9	0.0
	0.7nm,0.7s,baz=57,slow=9.3,SNR=18						
TORD	**Torodi Ar. Bea**	**148.90**	**286**	PKPbc	PKPbc	18 58 02.0	-0.3
	1.0nm,0.8s,baz=72,slow=2.7,SNR=3.7						

*CSEM **16** 18:40:41.8±0.3, 50°28N×18°75E, h2km, Error ellipse: s-maj=6.8km s-min=3.4km az=2.0*

PRU 16 18:40:42.3, 50°27N×18°75E, h0km, Poland

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

KTR S **Sn** **19 00 39.9 +1.3**
BSO3 Boso 3 0.75 226 ⇓P **Pn** **19 00 29.5 +1.1**
BSO4 Boso 4 0.76 244 ⇓P **Pn** **19 00 29.7 +1.0**
JCN Nagara 0.80 277 ⇓P **Pn** **19 00 30.4 +1.1**
JYT Yasato 1.20 319 ⇓P **Pn** **19 00 34.1 -0.8**
JYT S **Sn** **19 00 50.0 -0.5**
JHJ2 Mitsune 2.47 207 *e*Pn **Pn** **19 00 53.8 +1.5**
JHJ Hachijo jima 2 2.48 208 Pn **Pn** **19 00 53.5 +1.1**
163nm,0.3s,baz=308,slow=17,SNR=36
JHJ Sn **Sb** **19 01 26.4 -1.0**
389nm,0.3s,baz=201,slow=20,SNR=7.2
JHJ LR LR 19 02 05.0
comp=Z,5μm,18.6s,baz=80,slow=46
MJAR Matsushiro Arr 2.69 298 Pn **Pn** **19 00 55.9 +0.5**
57nm,0.3s,baz=103,slow=7.1,SNR=448
MJAR LR LR 19 02 08.8
comp=Z,2μm,18.9s,baz=115,slow=45
MAJO Matsushiro 2.69 298 *d iP* **Pn** **19 00 57.7 +2.2**
MAJO Matsushiro 2.69 298 *e*Pn **Pn** **19 00 57.9 +2.4**
MAT Matsushiro 2.69 298 P **Pn** **19 00 57.5 +2.0**
MAT *e*S **Sn** **19 01 28.6 +1.2**
MJB9 Matsu-Tunnel 2.70 298 *e*Pn **Pn** **19 00 57.8 +2.2**
INU Inuyama 3.39 272 *e*Pn **Pn** **19 01 07.0 +1.9**
ERM Erimo 6.86 12 *i* P **Pn** **19 01 49.3 -3.4**
ERM pmax pmax
comp=Z,104nm,0.8s
ERM Erimo 6.86 12 *e*Pn **Pn** **19 01 49.9 -2.8**
CBIJ Chichi jima 8.25 174 *e*Pn **Pn** **19 02 09.8 -2.0**
CBIJ Sn **Sn** **19 03 39.0 -5.2**
JCJ Chichijima 8.25 174 Pn **Pn** **19 02 10.3 -1.4**
comp=Z,69nm,0.3s,baz=334,slow=10.0,SNR=22
JCJ Sn **Sn** **19 03 39.0 -5.2**
comp=Z,33nm,0.3s,baz=311,slow=20,SNR=3.2
JCJ LR LR 19 05 11.6
comp=Z,376nm,21.3s,baz=43,slow=36
JNU Nakatsue 8.80 258 Pn **Pn** **19 02 21.3 +2.0**
comp=Z,1.7nm,0.3s,baz=62,slow=8.5,SNR=15
JNU Nakatsue 8.80 258 *e*Pn **Pn** **19 02 18.2 -1.1**
ASAJ Asahikawa 8.85 7 Pn **Pn** **19 02 16.0 -4.0**
baz=249,slow=8.3
ASAJ Sn **Sn** **19 03 53.6 -5.3**
comp=Z,2.6nm,0.3s,baz=336,slow=20,SNR=2.5
ASAJ Asahikawa 8.85 7 *e*Pn **Pn** **19 02 16.8 -3.1**
ASAJ Sn **Sn** **19 03 53.6 -5.3**
VLA Vladivostok 10.60 320 *e*Pn **Pn** **19 02 45.7 +1.8**
MSHR Mys Shultsa 10.64 316 *d iP* **Pn** **19 02 44.5 +0.1**
KSRS Korea Array 10.89 285 Pn **Pn** **19 02 50.1 +2.3**
comp=Z,0.6nm,0.3s,baz=102,slow=14,SNR=26
KSRS LR LR 19 07 14.9
comp=Z,2μm,19.5s,baz=94,slow=39
KS01 Wonju Array Si 10.91 285 *e*Pn **Pn** **19 02 48.5 +0.3**
KS15 Wonju Array Si 10.92 285 *e*Pn **Pn** **19 02 50.3 +2.0**
KSAR Wonju Array Be 10.92 285 P **Pn** **19 02 50.2 +1.9**
KSAR Wonju Array Be 10.92 285 Pn **Pn** **19 02 50.1 +1.9**
KUR Kuril'sk 11.14 25 *c iP* **Pn** **19 02 47.5 -3.8**
KUR pmax pmax
comp=Z,24nm,0.7s
KUR pmax pmax
comp=E,20nm,0.6s
KUR pmax pmax
comp=N,14nm,0.7s
KUR MLR MLR
comp=N,738nm,15.0s
KUR MLR MLR
comp=E,263nm,15.0s
KUR MLR MLR
comp=Z,673nm,15.0s
TJN Taejon 11.26 279 *i* P **Pn** **19 02 57.0 +4.1**
USRK Ussuriysk Ar. 11.33 324 Pn **Pn** **19 02 55.0 +1.2**
comp=Z,0.9nm,0.3s,baz=137,slow=12,SNR=31
USRK LR LR 19 07 09.9
comp=Z,367nm,20.7s,baz=128,slow=37
YSS Yuzh-Sakhalins 11.68 5⇑ *e*P **Pn** **19 02 54.9 -3.8**
YSS pmax pmax
comp=Z,130nm,0.9s
YSS pmax pmax
comp=N,100nm,0.7s
YSS MLR MLR
comp=Z,1μm,13.0s
YSS MLR MLR
comp=N,1μm,14.0s
YSS Yuzh-Sakhalins 11.68 5 *e*Pn **Pn** **19 02 55.2 -3.5**
MDJ Mudanjiang 12.83 320 P **Pn** **19 03 17.3 +2.9**
MDJ S **Sn** **19 05 40.4 +3.9**
MDJ PMZ
comp=N,5.0nm,0.9s
MDJ PMZ
comp=N,57nm,5.6s
MDJ LN
comp=N,720nm,20.5s
MDJ LE
comp=N,620nm,19.6s
MDJ LZ
comp=N,570nm,18.6s
MDJ Mudanjiang 12.83 320 *e*Pn **Pn** **19 03 13.6 -0.8**
HABR Khabarovsk 13.90 343 *e*P **Pn** **19 03 26.1 -2.9**
HABR *e*S **Sn** **19 05 59.3 -3.2**
HABR pmax pmax
comp=E,26nm,1.6s
HABR pmax pmax
comp=N,16nm,1.6s
HABR pmax pmax
comp=Z,27nm,1.6s
HABR MLR MLR
comp=Z,596nm,13.0s
CN2 Changchun 14.77 310 *e*P Pn 19 03 34.3 -6.6
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=N,900nm,17.0s
CN2 LR LR
comp=E,600nm,17.0s
CN2 LR LR
comp=Z,400nm,15.0s
SNY Shenyang 15.20 301 ⇓P **P** **19 03 49.5 -2.0**
SNY PMZ
comp=Z,14nm,0.7s
SNY PMZ
comp=Z,140nm,3.3s
SNY LN
comp=Z,450nm,14.9s
SNY LE
comp=Z,310nm,18.7s
SNY LZ
comp=Z,540nm,14.3s
KLR Kul'dur 15.53 336 Pn **Pn** **19 03 47.5 -3.4**
comp=Z,0.6nm,0.3s,baz=148,slow=11,SNR=11
KLR LR LR 19 09 59.4
comp=Z,630nm,18.1s,baz=148,slow=38
TYV Tymovskoe 15.57 4 *e*P **Pn** **19 03 45.2 -6.2**
TYV pmax pmax
comp=E,31nm,0.8s
TYV pmax pmax
comp=Z,128nm,1.0s
TYV MLR MLR
comp=N,4μm,16.0s
TYV MLR MLR
comp=Z,2μm,16.0s
SSE Sheshan 17.24 262 *e*P **Pn** **19 04 11.1 -1.7**
SSE S **Sn** **19 07 23.0 -0.9**
SSE PMZ
comp=Z,20nm,0.7s
SSE PMZ
comp=Z,62nm,4.4s
SSE LN
comp=Z,280nm,17.2s
SSE LE
comp=Z,660nm,17.2s
SSE LZ
comp=Z,890nm,18.1s
NKL Nikolayevsk 17.83 359 *e*P **Pn** **19 04 17.0 -2.9**
NKL pmax pmax
comp=Z,34nm,0.9s
NKL MLR MLR
comp=N,2μm,18.0s
NKL MLR MLR
comp=Z,3μm,18.0s
SKR Severo-Kuril's 18.79 31 *e*P **P** **19 04 24.6 -6.5**
SKR MLR MLR
comp=Z,1μm,18.0s
NJ2 Nanjing 18.85 266 *e*P **Pn** **19 04 32.6 +0.1**
NJ2 S **Sn** **19 08 03.8 +1.0**
NJ2 PMZ
comp=Z,170nm,3.9s
NJ2 LN
comp=Z,1μm,14.1s
NJ2 LE
comp=Z,790nm,11.4s
NJ2 LZ
comp=Z,990nm,10.8s
YOJ Yonaguni jima 19.07 240 *e*P **P** **19 04 33.2 -1.2**
YOJ Yonaguni jima 19.07 240 *e*P **P** **19 04 33.2 -1.2**
ANA2 Anatahan 19.33 167 *e*P **P** **19 04 36.1 -1.2**
TIA Tai'an 19.52 280 ⇑P **P** **19 04 37.8 -1.5**
TIA pP **pP** **19 04 45.5 -0.1**
TIA PMZ
comp=Z,10.0nm,1.1s
TIA PMZ
comp=Z,190nm,3.5s
TIA LN
comp=Z,660nm,11.9s
TIA LE
comp=Z,1μm,13.1s
TIA LZ
comp=Z,1μm,13.7s
YHNB Yeheng 20.13 244 *e*P **P** **19 04 44.2 -1.8**
comp=Z,21nm,1.1s
BJI Beijing 20.31 291 P **P** **19 04 45.8 -2.0**
BJI S **S** **19 08 26.6 -7.8**
BJI PMZ
comp=Z,23nm,1.0s
BJI PMZ
comp=Z,180nm,4.1s
BJI LN
comp=Z,320nm,15.6s
BJI LE
comp=Z,480nm,14.7s
BJT Baijiatuau 20.31 291 *e*P **P** **19 04 45.0 -2.8**
BJT pmax pmax
comp=Z,27nm,0.7s
BJT Baijiatuau 20.31 291 *e*P **P** **19 04 45.0 -2.8**
comp=Z,27nm,0.7s
YULB Yu-li 20.96 241 *e*P **P** **19 04 53.6 -1.4**
comp=Z,13nm,0.8s
SSLB Suanglung 20.96 242 *e*P **P** **19 04 53.1 -1.9**
comp=Z,25nm,1.1s
PEA0 Petropavlovsk- 21.28 28 *e*P **P** **19 04 58.6 +0.5**
PEA0B Petropavlovsk- 21.28 28 *e*P **P** **19 04 59.5 +1.4**
comp=Z,48nm,0.9s
PETK Petropavlovsk- 21.28 28 P **P** **19 04 59.0 +0.8**
comp=Z,13nm,0.7s,baz=214,slow=7.2,SNR=18
PETK Petropavlovsk- 21.28 28 P **P** **19 04 59.0 +0.8**
PETK pmax pmax
comp=Z,13nm,0.7s
PET Petropavlovsk 21.59 30 *e*P **P** **19 05 01.9 +0.5**
PET *e*S **S** **19 08 54.7 -4.7**
PET pmax pmax
comp=Z,420nm,9.2s
PET pmax pmax
comp=Z,251nm,12.0s
PET pmax pmax
comp=Z,58nm,0.9s
PET MLR MLR
comp=Z,953nm,21.0s
PET MLR MLR
comp=Z,868nm,19.0s
PET Petropavlovsk 21.59 30 *e*P **P** **19 05 02.2 +0.8**
comp=Z,43nm,0.9s
GUMO Guam 21.89 170 P **P** **19 05 08.5 +3.5**
comp=Z,236nm,0.9s,baz=15,slow=3.4,SNR=8.5
GUMO Guam 21.89 170 *e*P **P** **19 05 04.7 -0.3**
GUMO pmax pmax
comp=Z,344nm,1.0s
GUMO Guam 21.89 170 *e*P **P** **19 05 04.7 -0.3**
comp=Z,344nm,1.0s
QZH Quanzhou 22.05 248 P **P** **19 05 05.6 -1.0**
QZH S **S** **19 09 03.0 -5.8**
QZH LN
comp=Z,2μm,18.7s
QZH LE
comp=Z,1μm,17.6s
QZH LZ
comp=Z,1μm,18.8s
WHN Wuhan 22.98 266 ⇑P **P** **19 05 14.8 -1.7**
WHN S **S** **19 09 23.4 -2.2**
WHN PMZ
comp=Z,50nm,1.3s
WHN LN
comp=Z,2μm,16.0s
WHN LE
comp=Z,3μm,16.6s
WHN LZ
comp=Z,3μm,16.8s
HHC Hu-ho-hao-te 23.88 292 *e*P **P** **19 05 25.8 +0.3**
HHC sP sP 19 05 36.0 +1.0
HHC PP **PnPn** **19 05 55.8 +2.0**
HHC S **S** **19 09 39.1 -1.3**
HHC sS sS 19 09 50.8 -0.7
HHC PMZ
comp=Z,16nm,1.0s
HHC PMZ
comp=Z,86nm,5.4s
HHC LN
comp=Z,460nm,15.1s
HHC LE
comp=Z,340nm,11.4s
HHC LZ
comp=Z,350nm,13.9s
CLNS Chul'man 24.18 338 *e*P **P** **19 05 28.5 +0.5**
CLNS *e**PP **sP** **19 05 37.4 -0.1**
CLNS *e* 19 05 57.6
CLNS *e* 19 09 08.9
CLNS *e*S **S** **19 09 45.3 +0.6**
CLNS pmax pmax
comp=Z,35nm,0.9s
CLNS pmax pmax
comp=N,22nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,15nm,0.9s
CLNS pmax pmax
comp=E,20nm,0.8s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS smax smax
comp=N,128nm,17.0s
CLNS smax smax
comp=E,133nm,11.3s
CLNS MLR MLR
comp=E,135nm,13.0s
CLNS MLR MLR
comp=N,343nm,15.0s
CLNS MLR MLR
comp=Z,469nm,17.0s
MA2 Magadan 25.07 12 P **P** **19 05 36.1 +0.1**
comp=Z,67nm,0.8s,baz=214,slow=8.7,SNR=45
MA2 LR LR 19 15 42.1
comp=Z,444nm,21.4s,baz=227,slow=37
MA2 Magadan 25.07 12 *e*P **P** **19 05 36.0 +0.1**
comp=Z,252nm,0.8s
CIT Chita 25.80 319 *e*P **P** **19 05 41.9 -0.9**
CIT *e* 19 06 21.3
XAN Xi'an 26.49 277 P **P** **19 05 47.9 -1.3**
XAN pP pP 19 05 53.9 -2.0
XAN sP sP 19 05 57.0 -1.7
XAN PP **PnPn** **19 06 30.5 +1.0**
XAN S **S** **19 10 15.0 -7.0**
XAN PMZ
comp=Z,17nm,1.0s
XAN PMZ
comp=Z,75nm,5.9s
XAN LN
comp=Z,720nm,16.5s
XAN LE
comp=Z,710nm,17.8s
XAN LZ
comp=Z,790nm,16.5s
ENH Enshi 27.04 268 *e*P **P** **19 05 52.7 -1.4**
comp=Z,40nm,0.8s
H11N2 WAKE ISLAND Hy 27.49 118 T T 19 35 01.5
baz=310,slow=75,SNR=444
H11N1 WAKE ISLAND Hy 27.49 118 T T 19 35 03.8
baz=310,slow=75,SNR=310
H11N3 WAKE ISLAND Hy 27.50 118 T T 19 35 02.0
baz=310,slow=75,SNR=256
YAK Yakutsk 27.70 348 P **P** **19 05 59.1 -0.5**
comp=Z,4.3nm,0.5s,baz=342,slow=24,SNR=12
YAK Yakutsk 27.70 348 *c iP* **P** **19 05 58.9 -0.8**
YAK *e* 19 06 44.1
YAK *e* 19 09 17.5
YAK *e*S **S** **19 10 41.9 +1.6**
YAK *e*SS **SnSn** **19 11 59.5 +6.6**
YAK *e* 19 16 48.3
YAK pmax pmax
comp=Z,49nm,0.9s
YAK pmax pmax
comp=N,37nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,30nm,1.2s
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,19nm,0.9s
YAK smax smax
comp=N,96nm,2.4s
YAK smax smax
comp=E,70nm,2.3s
YAK MLR MLR
comp=Z,920nm,20.0s
YAK MLR MLR
comp=N,697nm,18.0s
YAK MLR MLR
comp=E,159nm,21.0s
YAK Yakutsk 27.70 348 *e*P **P** **19 05 58.8 -0.8**
comp=E,67nm,0.7s
TGY Tagaytay City 27.89 226 LR LR 19 15 42.1
comp=E,170nm,20.3s,baz=84,slow=33
H11S3 WAKE ISLAND Hy 28.14 120 T T 19 35 30.9
baz=312,slow=76,SNR=1327
H11S1 WAKE ISLAND Hy 28.14 120 T T 19 35 30.9
baz=312,slow=76,SNR=1407
H11S2 WAKE ISLAND Hy 28.15 120 T T 19 35 33.9
baz=312,slow=76,SNR=1339
ULN Ulaanbaatar 28.19 307 *e*P **P** **19 06 04.2 -0.2**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 28.19 307 *e*P **P** **19 06 04.2 -0.2**
comp=Z,12nm,1.0s
SEY Seymchan 28.51 11 P **P** **19 06 07.8 +0.9**
comp=Z,16nm,0.9s,baz=197,slow=6.9,SNR=20
SEY Seymchan 28.51 11 *c iP* **P** **19 06 05.1 -1.7**
SONA1 Songino Array 28.61 307 *e*P **P** **19 06 07.8 -0.3**
SONM Songino Array 28.61 307 P **P** **19 06 07.9 -0.3**
comp=Z,4.8nm,0.6s,baz=109,slow=8.4,SNR=18
BOD Bodaibo 28.89 330 *e*P **P** **19 06 09.8 -0.5**
BOD pmax pmax
comp=Z,24nm,1.0s
LZH Lanzhou 30.20 282 *e*P **P** **19 06 21.4 -1.0**
LZH pP pP 19 06 28.3 -0.9
LZH sP sP 19 06 31.3 -0.7
LZH PP **PnPn** **19 07 19.1 -1.0**
LZH *e*S **S** **19 11 16.3 -4.3**
LZH sS sS 19 11 28.0 -3.8
LZH *e*SS **SnSn** **19 12 54.5 -0.1**
LZH PMZ
comp=Z,39nm,1.0s
LZH PMZ
comp=Z,140nm,4.6s
LZH LN
comp=Z,790nm,13.0s
LZH LE
comp=Z,560nm,13.2s
LZH LZ
comp=Z,990nm,15.0s
GYA Guiyang 30.78 263⇑ *i*P **P** **19 06 25.8 -1.7**
GYA pP pP 19 06 35.3 +1.0
GYA PP **PnPn** **19 07 29.0 +1.2**
GYA PcP **PcP** **19 09 24.6 -0.1**
GYA S **S** **19 11 28.4 -1.3**
GYA sS sS 19 11 39.8 -1.1
GYA ScP **ScP** **19 13 06.5 +0.6**
GYA ScS **ScS** **19 17 01.3 -1.5**
GYA PMZ
comp=Z,20nm,0.7s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,560nm,16.9s
GYA LE
comp=Z,510nm,17.2s
GYA LZ
comp=Z,520nm,17.4s
ZAK Zakamensk 31.20 311 *e*P **P** **19 06 30.4 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.5s
TLY Talaya 31.33 313 P **P** **19 06 32.1 +0.1**
comp=Z,3.6nm,0.7s,baz=159,slow=1.5,SNR=6.1
TLY Talaya 31.33 313 *e*P **P** **19 06 32.3 +0.3**
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY MLR MLR
comp=Z,218nm,15.0s
TLY Talaya 31.33 313 *e*P **P** **19 06 31.9 -0.1**
comp=Z,5.8nm,1.0s
CD2 Chengdu 31.52 273 P **P** **19 06 32.8 -1.1**
CD2 pP pP 19 06 39.5 -1.2
CD2 sP sP 19 06 42.5 -1.0
CD2 PcP **PcP** **19 09 26.0 -0.5**
CD2 S **S** **19 11 39.4 -1.7**
CD2 sS sS 19 11 51.1 -1.2
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,180nm,5.2s
CD2 LN
comp=Z,810nm,21.8s
CD2 LE
comp=Z,2μm,16.4s
CD2 LZ
comp=Z,2μm,18.4s
QIZ Qiongzhong 32.07 248 P **P** **19 06 38.6 -0.2**
QIZ sP **sP** **19 06 48.6 +0.2**
QIZ S **S** **19 11 47.0 -2.8**
QIZ sS **sS** **19 11 59.4 -1.6**
QIZ LN
comp=Z,310nm,16.4s
QIZ LE
comp=Z,270nm,18.8s
QIZ LZ
comp=Z,340nm,22.8s
GTA Gaotai 32.91 290 *e*P **P** **19 06 47.3 +1.1**
GTA pP sP 19 06 54.6 -1.2
GTA sP pP 19 06 57.9 +4.9
GTA S **S** **19 12 01.1 -1.8**
GTA sS sS 19 12 11.8 -2.3
GTA SS **SnSn** **19 13 57.5 -3.0**
GTA PMZ
comp=Z,6.0nm,1.0s
GTA PMZ
comp=Z,39nm,5.2s
GTA LN
comp=Z,280nm,17.3s
GTA LE
comp=Z,400nm,17.3s
GTA LZ
comp=Z,410nm,19.2s
MOY Mondy 32.92 312 *e*P **P** **19 06 46.0 -0.1**
KMI Kunming 34.54 264 P **P** **19 07 00.4 -0.2**
KMI pP pP 19 07 07.9 +0.5
KMI sP sP 19 07 10.5 +0.3
KMI PP **PnPn** **19 08 17.3 +1.3**
KMI S **S** **19 12 24.6 -3.9**
KMI sS sS 19 12 38.1 -1.6
KMI SS **SnSn** **19 14 36.6 -3.8**
KMI PMZ
comp=Z,15nm,0.6s
KMI PMZ
comp=Z,140nm,4.8s
KMI LN
comp=Z,500nm,13.6s
KMI LE
comp=Z,740nm,15.4s
KMI LZ
comp=Z,760nm,15.1s
BILL Bilibino 35.72 16 *c iP* **P** **19 07 09.5 -0.5**
BILL pmax pmax
comp=Z,16nm,1.7s
BILL MLR MLR
comp=Z,527nm,21.0s
BILL Bilibino 35.72 16 *e*P **P** **19 07 11.1 +1.1**
MYLDM Lahad Datu 36.57 220 *e*P **P** **19 07 17.4 -0.3**
comp=Z,52nm,1.4s
TIXI Tiksi 36.96 354 P **P** **19 07 20.4 -0.1**
comp=Z,16nm,0.6s,baz=143,slow=6.7,SNR=72
TIXI Tiksi 36.96 354 *c iP* **P** **19 07 20.1 -0.4**

TIXI pmax pmax
comp=Z,17nm,1.0s
TIXI Tiksi 36.96 354 *e*P **P 19 07 20.5 -0.1**
comp=Z,17nm,0.7s
JAY Jayapura 37.64 181 P **P 19 07 28.5 +1.6**
comp=Z,1,9nm,0.7s,baz=283,slow=22,SNR=8.8
UBPT Khong Chiam 37.66 247 P **P 19 07 28.1 +1.0**
comp=Z,16nm,1.0s
NONG Nongkai 37.79 253 P **P 19 07 27.5 -0.7**
comp=Z,28nm,0.8s
LOEI Loei 39.58 254 P **P 19 07 39.4 -3.8**
comp=Z,23nm,0.7s
CHAI Chaiyaphum 39.95 251 P **P 19 07 45.9 -0.3**
comp=Z,7.6nm,0.8s,comp=Z,71nm
PBKT Sadao Pong 40.35 253 P **P 19 07 49.0 -0.5**
comp=Z,15nm,0.9s
CHTO Chiang Mai 40.70 257 *e*P **P 19 07 52.1 -0.4**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 40.70 257 *e*P **P 19 07 52.1 -0.4**
comp=Z,5.6nm,0.8s
CM31 Chiang Mai Arr 40.90 257 *e*P **P 19 07 53.9 -0.2**
CMAR Chiang Mai Arr 40.90 257 P **P 19 07 53.2 -0.9**
comp=Z,4.1nm,0.6s,baz=47,slow=7.0,SNR=18
CMAR LR LR 19 26 50.6
comp=Z,452nm,18.5s,baz=66,slow=39
CM01 Chiang Mai Arr 40.90 257 *e*P **P 19 07 54.0 -0.2**
WMQ Urumqi 41.46 299 P **P 19 07 59.9 +1.3**
WMQ pP sP 19 08 07.4 -0.8
WMQ sP pP 19 08 10.9 +5.4
WMQ PcP **PcP 19 09 58.4 +2.3**
WMQ S **S 19 14 13.1 +0.5**
WMQ PMZ
comp=Z,10.0nm,0.8s
WMQ PMZ
comp=Z,97nm,4.6s
WMQ LN
comp=Z,260nm,15.2s
WMQ LE
comp=Z,150nm,16.4s
WMQ LZ
comp=Z,73nm,16.0s
LSA Lhasa 42.19 277 *e*P **P 19 08 07.4 +2.2**
LSA Lhasa 42.19 277 *e*P **P 19 08 07.4 +2.2**
SBUM Sibu 42.32 226 *e*P **P 19 08 04.7 -1.1**
comp=Z,12nm,1.0s
ZAA0 Zalesovo Array 42.94 314 *e*P **P 19 08 10.3 -0.1**
ZALV Zalesovo Beam 42.94 314 P **P 19 08 10.0 -0.4**
comp=Z,13nm,0.6s,baz=96,slow=7.0,SNR=60
ZALV PcP **PcP 19 10 00.2 -0.5**
comp=Z,3.4nm,0.5s,baz=101,slow=2.9,SNR=5.2
SHL Shillong 43.21 271 *e*P **P 19 08 15.0 +1.8**
NVS Novosibirsk 43.89 315⇑*i*P **P 19 08 18.5 +0.5**
NVS *e* 19 10 11.6
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,19nm,0.9s
NVS pmax pmax
comp=Z,22nm,0.9s
NRIK Noril'sk 44.74 336 P **P 19 08 25.4 +0.8**
comp=Z,6.2nm,0.6s,baz=107,slow=8.1,SNR=6.8
MK01 Makanchi Array 44.87 303 *e*P **P 19 08 26.4 +0.4**
MK31 Makanchi Array 44.88 304 *e*P **P 19 08 27.0 +0.9**
MK31 Makanchi Array 44.88 304 *e*P **P 19 08 27.0 +0.9**
MKAR Makanchi Array 44.88 304 P **P 19 08 26.4 +0.3**
comp=Z,20nm,0.8s,baz=89,slow=9.8,SNR=150
MKAR Makanchi Array 44.88 304 *e*P **P 19 08 27.0 +0.9**
KAPI Kappang 44.89 211 *e*P **P 19 08 26.9 +0.5**
comp=Z,36nm,1.0s
MAKZ Makanchi 45.09 304 *e*P **P 19 08 28.1 +0.3**
MAKZ pmax pmax
comp=Z,15nm,0.7s
MAKZ Makanchi 45.09 304 *e*P **P 19 08 28.1 +0.3**
comp=Z,15nm,0.7s
KURK Kurchatov 46.85 309 *e*P **P 19 08 41.5 0.0**
KURK pmax pmax
comp=Z,128nm,0.9s
KURK Kurchatov 46.85 309 *e*P **P 19 08 41.5 0.0**
comp=Z,128nm,0.9s
KRAB Krabi 46.88 245 P **P 19 08 44.0 +1.8**
comp=Z,31nm,0.9s
KURBB Kurchatov Arra 46.91 309 P **P 19 08 42.0 -0.1**
comp=Z,8.8nm,0.4s,baz=84,slow=8.6,SNR=109
RAMN Ramite 46.95 276 *e*P **P 19 08 43.1 +0.1**
comp=Z,66nm,0.6s
SOEI Soe 47.59 203 *e*P **P 19 08 47.9 0.0**
comp=Z,169nm,0.9s
PKIN Phulchoki 47.67 277 *e*P **P 19 08 48.8 +0.2**
comp=Z,6.6nm,0.5s
KKN Kakani 47.68 277 *e*P **P 19 08 49.0 +0.4**
comp=Z,22nm,0.8s
IPM Ipoh 48.10 240 *e*P **P 19 08 50.4 -1.3**
comp=Z,14nm,1.0s
GKN Gorkha 48.12 278 *e*P **P 19 08 52.3 +0.4**
comp=Z,65nm,0.8s
COEN Coen 49.05 177 *e*P **P 19 09 00.2 +1.4**
comp=Z,29nm,1.1s
KOLN Koldanda 49.05 278 *e*P **P 19 08 59.6 +0.4**
comp=Z,26nm,0.9s
PYUN Piuthan 49.41 279 *e*P **P 19 09 02.9 +1.0**
comp=Z,238nm,0.9s
TKM2 Tokmak 2 50.28 300 *e*P **P 19 09 09.5 +1.1**
TKM2 pmax pmax
comp=Z,26nm,1.0s
TKM2 Tokmak 2 50.28 300 *e*P **P 19 09 09.5 +1.1**
comp=Z,26nm,1.0s
PSI Prapat 50.76 240 *e*P **P 19 09 11.3 -0.8**
PSI pmax pmax
comp=Z,12nm,1.1s
PSI Prapat 50.76 240 *e*P **P 19 09 11.3 -0.8**
comp=Z,12nm,1.1s
KSH Kashi 50.94 295 P **P 19 09 17.6 +4.3**
KSH pP sP 19 09 24.4 +1.3
KSH PcP **PcP 19 10 32.9 +3.5**
KSH PP **PP 19 11 13.1 +3.5**
KSH S **S 19 16 32.3 +3.5**
KSH ScS **ScS 19 19 02.8 0.0**
KSH SS **SS 19 20 03.0 -0.5**
KSH PMZ
comp=Z,10.0nm,0.9s
KSH PMZ
comp=Z,120nm,3.1s
KSH LN
comp=Z,150nm,5.5s
KSH LE
comp=Z,160nm,6.7s
KSH LZ
comp=Z,190nm,11.5s
FRU Bishkek 51.00 300 *e*P **P 19 09 14.0 +0.4**
ILAR Eielson Array 51.05 32 LR LR 19 33 10.9
comp=Z,121nm,19.9s,baz=284,slow=39
AAK Ala-Archa 51.14 300 P **P 19 09 15.7 +0.9**
comp=Z,6.5nm,0.6s,baz=98,slow=5.6,SNR=12
AAK Ala-Archa 51.14 300 *e*P **P 19 09 15.4 +0.6**
AAK pmax pmax
comp=Z,19nm,0.9s
AAK Ala-Archa 51.14 300 *e*P **P 19 09 15.4 +0.6**
comp=Z,10nm,0.9s
BRVK Borovoye 51.65 313*c i*P **P 19 09 18.5 +0.3**
BRVK pmax pmax
comp=Z,30nm,0.9s
EKS2 Erkin-Say 51.65 300 *e*P **P 19 09 18.9 +0.4**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 51.65 300 *e*P **P 19 09 18.9 +0.4**
comp=Z,7.4nm,0.8s
ZRNK Zerenda 52.42 313 *e*P **P 19 09 24.5 +0.5**
ZRNK pmax pmax
comp=Z,25nm,0.9s
ZRNK Zerenda 52.42 313 *e*P **P 19 09 24.5 +0.5**
comp=Z,24nm,0.9s
GSI Gunungsitoli 52.76 240 *e*P **P 19 09 26.3 -0.6**
comp=Z,99nm,1.2s
NDI New Delhi 53.82 282 *e*P P 19 09 28.0 -6.6
KKAR Karatay Array 53.82 301 *e*P **P 19 09 34.8 +0.3**
KKAR pmax pmax
comp=Z,28nm,1.0s
KKAR Karatay Array 53.82 301 *e*P **P 19 09 34.8 +0.3**
comp=Z,28nm,1.0s
FITZ Fitzroy Crossi 55.14 198 P **P 19 09 45.1 +1.0**
comp=Z,17nm,0.6s,baz=16,slow=7.4,SNR=62
FITZ Fitzroy Crossi 55.14 198 *e*P **P 19 09 44.6 +0.5**
comp=Z,17nm,0.7s
CTA Charters Tower 55.32 174 P **P 19 09 46.5 +1.2**
comp=Z,2.5nm,0.5s,baz=282,slow=13,SNR=7.2
CTAO Charters Tower 55.32 174 *e*P **P 19 09 46.3 +0.9**
CTAO pmax pmax
comp=Z,9.0nm,0.8s
CTAO Charters Tower 55.32 174 *e*P **P 19 09 46.3 +0.9**
comp=Z,9.4nm,0.8s
WRAB Tennant Creek 55.33 188 *e*P **P 19 09 45.6 +0.1**
WRAB pmax pmax
comp=Z,178nm,1.0s
WRAB Tennant Creek 55.33 188 *e*P **P 19 09 46.0 +0.5**
comp=Z,71nm,0.8s
WB2 Warramunga Arr 55.34 188 *e*P **P 19 09 46.0 +0.4**
comp=Z,77nm,0.8s
WRA Warramunga Arr 55.34 188 P **P 19 09 45.8 +0.2**
comp=Z,69nm,0.7s,baz=6.4,slow=7.7,SNR=260
SVE Sverdlovsk 56.31 319⇓*i*P **P 19 09 53.0 +0.9**
SVE pmax pmax
comp=Z,28nm,0.9s
ARU Arti 57.52 319*c i*P **P 19 10 01.1 +0.4**
ARU 19 12 08.2
ARU PPP PPP 19 13 27.5
ARU S **S 19 17 59.5 +2.7**
ARU SS **SS 19 21 43.8 -2.4**
ARU pmax pmax
comp=Z,33nm,1.0s
ARU Arti 57.52 319 *e*P **P 19 10 01.1 +0.4**
comp=Z,25nm,0.7s
KBL Kabul 57.85 292 *e*P **P 19 10 03.4 -0.4**
KBL pmax pmax
comp=Z,12nm,0.6s
KBL Kabul 57.85 292 *e*P **P 19 10 03.4 -0.4**
comp=Z,12nm,0.6s
HYB Hyderabad 57.97 269 *i* P **P 19 10 05.0 +0.5**
ABKAR Akbulak array 58.90 311 *e*P **P 19 10 10.0 -0.5**
AS01 Alice Springs 59.06 188 *e*P **P 19 10 12.2 +0.4**
AS31 Alice Springs 59.07 188 *e*P **P 19 10 12.1 +0.2**
comp=Z,5.5nm,0.6s
ASAR Alice Springs 59.07 188 P **P 19 10 12.2 +0.3**
comp=Z,9.6nm,0.7s,baz=1.9,slow=6.6,SNR=90
ASAR Alice Springs 59.07 188 P **P 19 10 12.2 +0.3**
ASAR pmax pmax
comp=Z,9.0nm,0.7s
MBWA Marble Bar 59.74 203 *e*P **P 19 10 17.2 +0.7**
comp=Z,81nm,0.7s
SPITS Spitsbergen Ar 62.16 349 P **P 19 10 32.0 -0.4**
comp=Z,5.8nm,0.8s,baz=120,slow=15,SNR=7.2
SPITS Spitsbergen Ar 62.16 349 P **P 19 10 32.0 -0.4**
SPITS pmax pmax
comp=Z,6.0nm,0.8s
KBS Kingsbay 62.31 350 *e*P **P 19 10 34.0 +0.7**
KBS pmax pmax
comp=Z,17nm,0.8s
KBS Kingsbay 62.31 350 *e*P **P 19 10 34.0 +0.7**
comp=Z,17nm,0.8s
HSPB Hornsund (broa 63.08 348 *e*P **P 19 10 39.2 +0.8**
RES Resolute Bay 64.31 14 P **P 19 10 46.9 +0.3**
comp=Z,15nm,0.8s,baz=305,slow=6.9,SNR=40
RES Resolute Bay 64.31 14 *e*P **P 19 10 46.9 +0.3**
comp=Z,41nm,0.9s
GEYT Alibeck 64.50 300 P **P 19 10 49.4 +0.9**
comp=Z,13nm,0.9s,baz=49,slow=2.7,SNR=32
KLMR Klimovskoe 65.10 328 *e*P **P 19 10 50.8 -1.1**
KLMR *e*PP **pP 19 10 59.5 +0.3**
KLMR *e* 19 13 13.0
KLMR pmax pmax
comp=Z,7.0nm,0.6s
YKA Yellowknife Ar 65.39 30 LR LR 19 39 43.9
comp=Z,9.8nm,21.2s,baz=0.0,slow=36
ARA0 ARCESS Array S 65.53 340 *e*P **P 19 10 55.3 +0.7**
ARCES ARCESS Array B 65.53 340 P **P 19 10 55.2 +0.6**
comp=Z,6.1nm,0.7s,baz=60,slow=7.4,SNR=23
ARCES LR LR 19 45 07.5
comp=Z,177nm,18.3s,baz=46,slow=41
ARE0 ARCESS Array S 65.53 340 *e*P **P 19 10 55.4 +0.7**
comp=Z,55nm,1.8s
STKA Stephens Creek 66.85 180 P **P 19 11 03.6 +0.2**
comp=Z,3.6nm,0.7s,baz=356,slow=6.2,SNR=7.4
VRH Novokhopyorsk 68.72 318 *e*P **P 19 11 14.8 -0.3**
VRH pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 69.35 324 *e*P **P 19 11 18.1 -0.9**
OBN *e* 19 11 29.1
OBN *e* 19 11 42.0
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,145nm,17.0s
G03D McMinnville, O 69.45 49 P **P 19 11 18.9 -0.9**
baz=300
LPSR Galich'ya Gora 69.49 320 *e*P **P 19 11 20.1 +0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 70.09 319 *e*P **P 19 11 23.0 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.6s
FIA1 FINESS Array S 70.23 332 *e*P **P 19 11 24.5 +0.1**
FINES FINESS Array B 70.24 332 P **P 19 11 24.9 +0.6**
comp=Z,13nm,0.8s,baz=59,slow=5.7,SNR=76
FINES FINESS Array B 70.24 332 P **P 19 11 25.0 +0.6**
FINES pmax pmax
comp=Z,13nm,0.8s
GOF Gofitskoye 71.09 312⇑*e*P **P 19 11 30.2 +0.3**
GOF pmax pmax
comp=Z,25nm,0.8s
NWAO Narrogin (SRO) 71.51 201 *e*P **P 19 11 32.6 +0.3**
NWAO Narrogin (SRO) 71.51 201 *e*P **P 19 11 32.6 +0.3**
GUDG Gudauri 71.54 309 P **P 19 11 34.6 +1.7**
NCK Nalchik 71.56 310 *e*P **P 19 11 33.0 +0.2**
NCK pmax pmax
comp=Z,8.0nm,0.8s
ZEI Tsey 71.73 310 *e*P **P 19 11 33.0 -1.1**
ZEI pmax pmax
comp=Z,26nm,0.6s
TBLG Delisi 71.75 308 P **P 19 11 30.3 -3.7**
TBLG Delisi 71.75 308 P **P 19 11 30.3 -3.7**
JMIC Jan Mayen 71.79 350 LR LR 19 43 35.2
comp=Z,52nm,20.1s,baz=58,slow=36
VSU Vasula 71.83 330 *e*P **P 19 11 32.9 -1.1**
VSU pmax pmax
comp=Z,42nm,0.9s
KBZ Khabaz 71.87 311 P **P 19 11 35.6 +1.0**
comp=Z,11nm,0.8s,baz=30,slow=2.6,SNR=20
KIV Kislovodsk 71.88 311 *e*P **P 19 11 35.1 +0.3**
KIV *e*S **S 19 20 54.8 +0.4**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV Kislovodsk 71.88 311 *e*P **P 19 11 35.7 +1.0**
comp=Z,23nm,0.8s
ONI Oni 72.12 310 P **P 19 11 38.0 +1.8**
ONI Oni 72.12 310 P **P 19 11 38.0 +1.8**
NEY Neytrino 72.23 311 *e*P **P 19 11 38.1 +1.1**
NEY pmax pmax
comp=Z,1.0nm,0.8s
SUMG Summit 72.39 360 *e*P **P 19 11 39.0 +1.3**
SUMG pmax pmax
comp=Z,44nm,0.7s
SUMG Summit 72.39 360 *e*P **P 19 11 39.0 +1.3**
comp=Z,44nm,0.7s
GNI Garni 72.57 307 *e*P **P 19 11 40.7 +1.6**
GNI pmax pmax
comp=Z,21nm,0.8s
GNI Garni 72.57 307 *e*P **P 19 11 40.7 +1.6**
comp=Z,21nm,0.8s
BGD Bogdanovka 72.72 309 P **P 19 11 42.2 +2.2**
O03D Paynes Creek 72.89 53 P **P 19 11 40.9 +0.1**
baz=302
ANN Anapa 74.58 314 *e*P **P 19 11 48.3 -2.2**
ANN *e*S **S 19 21 20.6 -4.0**
ANN pmax pmax
comp=Z,34nm,1.1s
PAHR Pah Rah Range 74.77 52 *e*P **P 19 11 53.5 +1.6**
comp=Z,17nm,1.1s
CMB Columbia Colle 75.03 54 *e*P **P 19 11 54.6 +1.2**
CMB pmax pmax
comp=Z,16nm,1.3s
CMB Columbia Colle 75.03 54 *e*P **P 19 11 54.6 +1.2**
comp=Z,16nm,1.3s
HRY Holter Researc 75.34 43 *e*P **P 19 11 56.9 +1.8**
NC405 NORSAR Array S 75.47 337 *e*P **P 19 11 56.2 +0.8**
NC303 NORSAR Array S 75.50 337 *e*P **P 19 11 56.2 +0.7**
AKASG Malin Array Be 75.53 322 P **P 19 11 56.1 +0.2**
comp=Z,10.0nm,0.5s,baz=47,slow=6.1,SNR=83
AKBB Malin Array Si 75.53 322 *e*P **P 19 11 56.3 +0.4**
AKBB pmax pmax
comp=Z,19nm,0.6s
AKBB Malin Array Si 75.53 322 *e*P **P 19 11 56.2 +0.4**
comp=Z,19nm,0.6s
KIEV Kiev 75.54 322*c i*P **P 19 11 56.1 +0.1**
KIEV pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 75.54 322 *e*P **P 19 11 55.4 -0.5**
comp=Z,17nm,0.6s
HFS Hagfors 75.56 336 LR LR 19 48 14.4
comp=Z,204nm,19.4s,baz=22,slow=38
AK11 Malin Array Si 75.57 322 *e*P **P 19 11 56.2 +0.1**
NC204 NORSAR Array S 75.65 338 *e*P **P 19 11 57.4 +0.9**
NB201 NORSAR Array S 75.65 337 *e*P **P 19 11 57.6 +1.1**
NB2 NORSAR Subarra 75.69 337 P **P 19 11 57.0 +0.3**
comp=Z,7.3nm,0.7s,baz=41,slow=5.9
NOA NORSAR Array B 75.69 337 P **P 19 11 57.0 +0.3**
comp=Z,6.5nm,0.7s,baz=39,slow=5.8,SNR=38
NOA LR LR 19 48 32.9
comp=Z,145nm,20.9s,baz=25,slow=38
NBO02 NORSAR Array S 75.79 337 *e*P **P 19 11 57.7 +0.4**
NBO00 NORSAR Array S 75.83 338 *e*P **P 19 11 58.6 +1.1**
NAO01 NORSAR Array S 75.94 337 *e*P **P 19 11 59.0 +0.8**
SUW Suwalki 76.22 328 *e*P **P 19 11 59.9 +0.1**
SUW Suwalki 76.22 328 *e*P **P 19 11 59.9 +0.1**
SIM Simferopol' 76.41 316*c i*P **P 19 12 00.0 -1.1**
SIM pmax pmax
comp=Z,28nm,0.5s
TIN Tinemaha, Big 77.00 54 P **P 19 12 03.8 -0.9**
baz=305
VES Vestal, Richgr 77.11 55 P **P 19 12 05.3 +0.1**
baz=304
PKM Mcpherson Peak 77.15 56 P **P 19 12 04.5 -1.2**
baz=304,SNR=7.1
CWC Cottonwood Cre 77.44 54 P **P 19 12 06.8 -0.5**
baz=305
FLWY Flagg Ranch 77.55 45 *e*P **P 19 12 07.1 -0.7**
comp=Z,37nm,0.9s
SORM Soroca 77.59 321⇑*i*P **P 19 12 07.7 +0.1**
GRAC Grapevine Rang 77.60 53 P **P 19 12 07.1 -0.8**
baz=305
HVU Hansel Valley 77.71 47 *e*P **P 19 12 10.9 +2.2**
comp=Z,24nm,0.9s
LOHW Long Hollow 77.89 45 *e*P **P 19 12 10.2 +0.6**
comp=Z,42nm,1.3s
SNOW Snow King Moun 77.89 45 *e*P **P 19 12 11.3 +1.6**
comp=Z,39nm,0.9s
R11A Troy Canyon, C 77.98 51 P **P 19 12 10.3 +0.1**
baz=306
R11A Troy Canyon, C 77.98 51 *e*P **P 19 12 11.6 +1.4**
comp=Z,15nm,0.9s
OSI Osito Audit: C 78.05 56 P **P 19 12 10.5 -0.1**
baz=305
MPMC Manual Prospec 78.05 54 P **P 19 12 11.3 +0.5**
baz=305
LRMC Laurel Mtn Rad 78.26 55 P **P 19 12 09.9 -1.9**
baz=305
TPNV Topopah Spring 78.36 53 P **P 19 12 10.8 -1.6**
baz=306
TPNV Topopah Spring 78.36 53 *e*P **P 19 12 13.9 +1.5**
TPNV pmax pmax
comp=Z,28nm,1.0s
TPNV Topopah Spring 78.36 53 *e*P **P 19 12 13.9 +1.5**
comp=Z,28nm,1.0s
EDW2 Edwards Air Fo 78.39 56 P **P 19 12 11.8 -0.6**
baz=305
HWUT Hardware Ranch 78.54 47 *e*P **P 19 12 14.8 +1.5**
comp=Z,15nm,0.9s
DUG Dugway, Tooele 78.63 49 P **P 19 12 14.2 +0.5**
baz=307,SNR=8.0
DUG Dugway, Tooele 78.63 49 *e*P **P 19 12 15.4 +1.6**
comp=Z,9.2nm,0.8s
GSC Goldstone, Bar 78.94 55 P **P 19 12 15.5 0.0**
baz=306,SNR=5.7
SHPR Sheep Range 79.33 53 *e*P **P 19 12 19.5 +1.8**
comp=Z,12nm,1.0s
KWP Kalwaria Pacla 79.40 324 *e*P **P 19 12 19.1 +1.4**
KWP Kalwaria Pacla 79.40 324⇓*i*P **P 19 12 19.0 +1.4**
KWP Kalwaria Pacla 79.40 324 *e*P **P 19 12 19.0 +1.4**
TUQ Turquoise Moun 79.45 54 P **P 19 12 18.6 +0.2**
baz=306
BUR08 Bucovina Ar. S 79.52 322 *e*P **P 19 12 19.4 +1.0**
TESR Tescani 79.52 320⇑*i*P **P 19 12 19.0 +0.7**
BURAR Bucovina Array 79.53 322⇑*i*P **P 19 12 19.3 +0.8**
HEC Hector,Ludlow 79.53 55 P **P 19 12 18.0 -0.7**
baz=306
CFR Carcaliu 79.59 319⇑*i*P **P 19 12 19.2 +0.5**
D25A Fairfield 79.61 39 P **P 19 12 18.0 -0.9**
baz=312
MURC Murrieta 79.67 56 P **P 19 12 19.5 0.0**
baz=306
BR131 Keskin Array S 79.84 312 *e*P **P 19 12 21.1 +0.7**
BRTR Keskin Array B 79.84 312 P **P 19 12 21.0 +0.7**
comp=Z,9.0nm,0.7s,baz=107,slow=4.3,SNR=30
VRI Vrincioaia 79.90 320⇑*i*P **P 19 12 22.1 +1.7**
TIRR Tirgusor 79.91 318⇑*i*P **P 19 12 21.7 +1.3**
PLOR Plostina 79.95 320⇓*i*P **P 19 12 23.0 +2.3**
GMRC Granite Mounta 80.01 54 P **P 19 12 21.4 0.0**
baz=306
MSU Marysvale 80.03 50 *e*P **P 19 12 23.7 +2.1**
MSU Marysvale 80.03 50 *e*P **P 19 12 23.7 +2.1**
KOLS Kolonicke sedl 80.09 324 *e*P **P 19 12 21.0 +0.6**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 80.09 324 *e*P **P 19 12 22.0 +0.6**
KOLS *e*PP **PP 19 15 23.2 +0.3**
109C Camp Elliot, M 80.14 57 P **P 19 12 21.0 -0.9**
baz=306
PFO Pinyon Flats O 80.16 56 P **P 19 12 23.7 +1.5**
comp=Z,14nm,0.9s,baz=288,slow=4.7,SNR=19
PFO Pinyon Flats O 80.16 56 *e*P **P 19 12 23.2 +1.0**
comp=Z,18nm,0.9s
TPFO Pinon Flats 80.17 56 P **P 19 12 22.5 +0.3**
baz=306
STHS Stebnicka Huta 80.24 325 *e*P **P 19 12 24.3 +2.1**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 80.24 325 *e*P **P 19 12 24.3 +2.1**
STHS *e*PP **PP 19 15 24.9 +0.7**
ANTO Ankara 80.26 312 *e*P **P 19 12 23.8 +1.2**
ANTO pmax pmax
comp=Z,16nm,0.6s
ANTO Ankara 80.26 312 *e*P **P 19 12 23.8 +1.2**
comp=Z,16nm,0.6s
UZH Uzhgorod 80.29 324 *e*P **P 19 12 22.9 +0.5**
UZH *e* 19 12 32.5
UZH *e* 19 12 39.5
BR231 Keskin MP Arra 80.29 312 *e*P **P 19 12 21.8 -1.0**
MTPU Mount Pierson 80.31 50 *e*P **P 19 12 26.1 +2.8**
comp=Z,71nm,1.9s
P17A Butcher Ranch, 80.33 48 *e*P **P 19 12 24.9 +1.8**
comp=Z,12nm,0.9s
OJC Ojcow 80.35 326 *e*P **P 19 12 23.8 +1.0**
OJC Ojcow 80.35 326 *e*P **P 19 12 23.8 +1.0**
OJC Ojcow 80.35 326 *e*P **P 19 12 23.8 +1.0**
comp=Z,11nm,0.8s
MSAB Monastry St. A 80.47 318⇑*i*P **P 19 12 24.5 +1.0**
ISR Istrita 80.49 319⇑*i*P **P 19 12 25.1 +1.4**
CRVS Cervenica-Dubn 80.50 324 *e*P **P 19 12 24.1 +0.5**
CRVS Cervenica-Dubn 80.50 324 *e*P **P 19 12 24.1 +0.5**
TRPA Tarpa 80.51 323⇑*e*P **P 19 12 24.9 +1.3**
KNB Kanab 80.53 51 *e*P **P 19 12 26.5 +2.3**
KNB pmax pmax
comp=Z,23nm,0.8s
KNB Kanab 80.53 51 *e*P **P 19 12 26.5 +2.3**
comp=Z,23nm,0.8s
DOPR Dopca 80.54 320⇓*i*P **P 19 12 26.0 +2.1**
BAR Barrett 80.56 57 *e*P **P 19 12 25.6 +1.4**
comp=Z,17nm,0.9s
MLR Muntele Rosu 80.56 320⇑*i*P **P 19 12 25.0 +0.8**
MLR Muntele Rosu 80.56 320 *e*P **P 19 12 24.4 +0.2**
MLR pmax pmax
comp=Z,33nm,1.9s
MLR Muntele Rosu 80.56 320 *e*P **P 19 12 24.4 +0.2**
comp=Z,33nm,1.9s
MONP2 Monument Peak 80.60 56 P **P 19 12 23.5 -1.2**
baz=306
NIE Niedzica 80.68 325 *e*P **P 19 12 25.9 +1.3**
NIE Niedzica 80.68 325 *e*P **P 19 12 25.9 +1.3**
SRU San Rafael Swe 80.69 48 *e*P **P 19 12 26.6 +1.6**
SRU pmax pmax
comp=Z,43nm,0.9s
SRU San Rafael Swe 80.69 48 *e*P **P 19 12 26.6 +1.6**
comp=Z,43nm,0.9s
C28A Hausauer Farms 80.71 37 P **P 19 12 25.4 +0.7**
baz=313
IRM Iron Mountain 80.72 55 P **P 19 12 23.9 -1.2**
baz=307
SECR 80.80 319⇓*i*P **P 19 12 26.6 +1.3**

BC3	Big Chuckawall	80.81	55	P	P	19 12 25.9	+0.2	
	baz=306							
IKP	In-Ko-Pah, Jac	80.96	56	P	P	19 12 26.8	+0.3	
	baz=306							
W13A	Hualapai Mount	80.99	53	eP	P	19 12 28.2	+1.4	
	comp=Z,11nm,0.9s							
SWSC	Sam W. Stewart	81.00	56	P	P	19 12 27.3	+0.8	
	baz=306							
ULM	Lac du Bonnet	81.04	33	LR	LR	19 47 53.8		
	comp=Z,83nm,21.5s,baz=314,slow=35							
VOIR		81.07	320	⇓iP	P	19 12 29.0	+2.2	
U15A	North Rim	81.22	51	eP	P	19 12 30.1	+2.0	
	comp=Z,22nm,0.9s							
RSSD	Black Hills	81.24	41	P	P	19 12 28.4	+0.4	
	baz=312							
LANS	Liptovska Anna	81.26	326	eP	P	19 12 29.4	+1.7	
LANS	Liptovska Anna	81.26	326	eP	P	19 12 29.3	+1.6	
PDMCI	Parker Dam,Lak	81.30	54	P	P	19 12 28.5	+0.4	
	baz=307							
ARR	Arges	81.33	320	⇑iP	P	19 12 29.4	+1.2	
DRGR		81.35	322	⇑iP	P	19 12 29.4	+1.2	
OKC	Ostrava-Krasne	81.37	327	⇑eP	P	19 12 28.4	+0.2	
OKC	Ostrava-Krasne	81.37	327	⇓eP	P	19 12 28.4	+0.2	
Y12C	Blythe	81.38	55	P	P	19 12 28.9	+0.4	
	baz=307							
Y12C	Blythe	81.38	55	eP	P	19 12 30.3	+1.8	
	comp=Z,22nm,0.8s							
O20A	White River Ci	81.43	47	P	P	19 12 28.9	0.0	
	baz=309							
O20A	White River Ci	81.43	47	eP	P	19 12 30.2	+1.3	
	comp=Z,27nm,0.8s							
KSP	Ksiaz	81.45	328	eP	P	19 12 29.7	+1.1	
KSP	Ksiaz	81.45	328	eP	P	19 12 29.7	+1.1	
GLA	Glamis	81.59	55	P	P	19 12 30.8	+1.1	
	baz=307							
GLA	Glamis	81.59	55	eP	P	19 12 31.7	+1.9	
GLA				pmax	pmax			
	comp=Z,25nm,0.8s							
GLA	Glamis	81.59	55	eP	P	19 12 31.7	+1.9	
	comp=Z,25nm,0.8s							
MORC	Moravsky Berou	81.68	327	⇓iP	P	19 12 31.1	+1.2	
MORC	Moravsky Berou	81.68	327	eP	P	19 12 31.3	+1.4	
MORC				pmax	pmax			
	comp=Z,21nm,0.9s							
MORC	Moravsky Berou	81.68	327	eP	P	19 12 31.2	+1.4	
	comp=Z,21nm,0.9s							
DPC	Dobruska-Polom	81.80	328	eP	P	19 12 32.0	+1.5	
DPC				ePCP	PcP	19 12 35.2	-1.0	
DPC	Dobruska-Polom	81.80	328	eP	P	19 12 32.0	+1.5	
UPC	Upice	81.82	328	⇑eP	P	19 12 32.0	+1.4	
UPC	Upice	81.82	328	eP	P	19 12 32.0	+1.4	
PSZ	Piszkesteto	81.93	325	⇑iP	P	19 12 32.8	+1.5	
PSZ	Piszkesteto	81.93	325	⇑eP	P	19 12 32.8	+1.2	
PSZ	Piszkesteto	81.93	325	eP	P	19 12 32.6	+1.2	
PSZ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PSZ	Piszkesteto	81.93	325	eP	P	19 12 32.6	+1.2	
	comp=Z,10nm,0.9s							
VYHS	Vyhne	82.02	325	eP	P	19 12 33.0	+1.3	
VYHS				pmax	pmax			
	comp=Z,4.0nm,0.7s							
VYHS	Vyhne	82.02	325	eP	P	19 12 33.0	+1.3	
PV05	Paradox Valley	82.21	49	eP	P	19 12 35.0	+1.9	
SIRR	Siria	82.23	322	⇓iP	P	19 12 34.2	+1.4	
Y14A	Wickenburg	82.27	54	eP	P	19 12 35.0	+1.6	
	comp=Z,64nm,1.1s							
N23A	Red Feather La	82.28	45	P	P	19 12 33.8	+0.2	
	baz=311							
N23A	Red Feather La	82.28	45	eP	P	19 12 35.3	+1.7	
	comp=Z,22nm,1.1s							
WUAZ	Wupatki	82.37	52	P	P	19 12 34.2	+0.3	
	baz=308							
PVCC	Panska Ves	82.42	329	⇑eP	P	19 12 34.8	+1.1	
PVCC				ePCP	PcP	19 12 38.7	-0.2	
PVCC	Panska Ves	82.42	329	eP	P	19 12 34.8	+1.1	
BRG	Berggiesshubel	82.42	329	eP	P	19 12 34.4	+0.7	
	comp=Z,6.6nm,0.8s							
BRG	Berggiesshubel	82.42	329	eP	P	19 12 34.4	+0.7	
BRG				pmax	pmax			
	comp=Z,7.0nm,0.8s							
VRAC	Vranov	82.45	327	⇑iP	P	19 12 35.1	+1.2	
AGMN	Agassiz Nation	82.45	34	P	P	19 12 34.1	+0.1	
	baz=316							
CLL	Collm	82.48	330	iP	P	19 12 34.5	+0.5	
	comp=Z,15nm,0.8s							
CLL				L	L	19 54 00.0		
	comp=Z,200nm,19.8s							
CLL	Collm	82.48	330	eP	P	19 12 34.8	+0.8	
CLL				pmax	pmax			
	comp=Z,14nm,0.8s							
CLL	Collm	82.48	330	eP	P	19 12 34.8	+0.8	
	comp=Z,14nm,0.8s							
SMOL	Smolenice	82.65	326	eP	P	19 12 36.4	+1.4	
SMOL	Smolenice	82.65	326	eP	P	19 12 36.4	+1.4	
BZS	Buzias	82.71	322	⇓iP	P	19 12 36.2	+0.9	
E31A	Nome	82.74	37	P	P	19 12 35.6	+0.1	
	baz=315,SNR=5.0							
D32A	Dogwood Acres,	82.75	36	P	P	19 12 35.3	-0.2	
	baz=316							
GOPC	GO Pecny, Ondr	82.79	328	eP	P	19 12 36.8	+1.1	
GOPC	GO Pecny, Ondr	82.79	328	eP	P	19 12 36.8	+1.1	
PRU	Pruhonice	82.84	329	⇑eP	P	19 12 36.9	+1.0	
PRU	Pruhonice	82.84	329	eP	P	19 12 36.9	+1.0	
B34A	Aery, Baudette	82.87	34	P	P	19 12 36.2	+0.1	
	baz=317							
C33A	Trail	82.89	35	P	P	19 12 36.3	+0.1	
	baz=316							
X16A	Lo Mia Camp, P	83.00	53	eP	P	19 12 39.4	+2.1	
	comp=Z,11nm,0.9s							
F31A	Hecla	83.05	37	P	P	19 12 36.5	-0.6	
	baz=315							
E32A	Braaten, Kindr	83.11	36	P	P	19 12 36.3	-1.1	
	baz=316							
MVCO	Mesa Verde	83.12	49	P	P	19 12 37.7	-0.3	
	baz=310							
ISCO	Idaho Springs	83.19	45	P	P	19 12 37.7	-0.6	
	baz=311							
ISCO	Idaho Springs	83.19	45	eP	P	19 12 40.1	+1.8	
ISCO				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ISCO	Idaho Springs	83.19	45	eP	P	19 12 40.1	+1.8	
	comp=Z,7.4nm,0.9s							
MDVR	Moldovita	83.24	321	⇓iP	P	19 12 39.1	+0.9	
B35A	Bob, Littlefor	83.38	33	P	P	19 12 38.6	-0.2	
	baz=318							
G31A	Conde	83.52	38	P	P	19 12 39.6	+0.1	
	baz=315							
214A	Organ Pipe Nat	83.61	55	P	P	19 12 41.3	+1.0	
	baz=308							
214A	Organ Pipe Nat	83.61	55	eP	P	19 12 41.6	+1.3	
	comp=Z,36nm,1.0s							
D34A	Park Rapids	83.64	35	P	P	19 12 39.4	-0.7	
	baz=317							
W18A	Petrified Fore	83.67	51	P	P	19 12 41.7	+1.0	
	baz=309							
E33A	Westby DABS, E	83.68	36	P	P	19 12 40.2	-0.1	
	baz=316							
C35A	Jirik Farms, M	83.76	34	P	P	19 12 40.4	-0.3	
	baz=318							
CONA	Conrad Observa	83.79	326	iPcP	P	19 12 42.2	+1.3	
	comp=Z,9.1nm,1.2s,SNR=8.6							
S22A	4UR Ranch, Cre	83.80	48	P	P	19 12 43.1	+1.6	
	baz=310							
S22A	4UR Ranch, Cre	83.80	48	eP	P	19 12 43.5	+2.0	
	comp=Z,14nm,0.9s							
KHC	Kasperske Hory	83.89	328	⇑eP	P	19 12 42.1	+0.7	
KHC				ePCP	PcP	19 12 45.5	+0.1	
KHC	Kasperske Hory	83.89	328	eP	P	19 12 42.1	+0.7	
KHC	Kasperske Hory	83.89	328	eP	P	19 12 42.1	+0.7	
	comp=Z,3.2nm,0.6s							
F33A	5 Mile Ranch,	84.03	36	P	P	19 12 42.0	-0.1	
	baz=316							
GEC2	GERESS Array S	84.06	328	eP	P	19 12 43.2	+0.8	
GEC2				pmax	pmax			
	comp=Z,6.0nm,0.8s							
GEC2	GERESS Array S	84.06	328	eP	P	19 12 43.2	+0.8	
	comp=Z,5.6nm,0.8s							
GERES	GERESS Array B	84.06	328	P	P	19 12 43.0	+0.7	
	comp=Z,4.4nm,0.7s,baz=32,slow=5.5,SNR=38							
GEA0	GERESS Array S	84.06	328	eP	P	19 12 42.8	+0.4	
PPT2	Papeete2	84.06	116	eLR	LR	19 39 06.9		
	comp=Z,216nm,23.0s							
J30A	Dallas	84.20	40	P	P	19 12 42.7	-0.3	
	baz=314							
C36A	Pine Crest Far	84.23	33	P	P	19 12 42.9	-0.2	
	baz=318							
G33A	Ortonville	84.42	37	P	P	19 12 44.2	+0.1	
	baz=316							
ARSA	Arzberg	84.45	326	iP	P	19 12 44.9	+0.6	
	comp=Z,3.9nm,0.6s							
GRFO	Grafenberg	84.45	330	eP	P	19 12 45.8	+1.6	
GRFO				pmax	pmax			
	comp=Z,17nm,1.0s							
GRFO	Grafenberg	84.45	330	eP	P	19 12 45.8	+1.6	
	comp=Z,17nm,1.0s							
D36A	Goodland	84.52	34	P	P	19 12 44.4	-0.2	
	baz=318							
C37A	Embarrass	84.54	33	P	P	19 12 44.9	+0.2	
	baz=319							
F34A	Alexandria	84.56	36	P	P	19 12 44.8	0.0	
	baz=317							
MOA	Molln	84.57	327	iPcP	P	19 12 46.7	+1.8	
	comp=Z,4.9nm,0.8s							
K30A	Basset	84.59	40	P	P	19 12 45.3	+0.2	
	baz=314							
SDCO	Great Sand Dun	84.60	47	P	P	19 12 45.9	+0.4	
	baz=311							
SDCO	Great Sand Dun	84.60	47	eP	P	19 12 47.2	+1.7	
	comp=Z,24nm,1.2s							
J31A	Geddes	84.61	39	P	P	19 12 45.0	-0.1	
	baz=315							
H33A	Prehn Over Nor	84.64	37	P	P	19 12 44.9	-0.4	
	baz=316							
EYMN	Ely	84.68	32	P	P	19 12 45.0	-0.4	
	baz=319							
EYMN	Ely	84.68	32	eP	P	19 12 45.7	+0.3	
	comp=Z,48nm,0.9s							
TUC	Tucson	84.74	54	eP	P	19 12 47.2	+1.1	
TUC				pmax	pmax			
	comp=Z,10.0nm,1.0s							
TUC	Tucson	84.74	54	eP	P	19 12 47.2	+1.1	
	comp=Z,10nm,1.0s							
I32A	Karley and Nic	84.74	38	P	P	19 12 45.1	-0.7	
	baz=316							
G34A	Benson	84.78	36	P	P	19 12 46.1	+0.2	
	baz=317							
C38A	Sawbill Land.	84.95	33	P	P	19 12 45.8	-1.0	
	baz=320							
E36A	McGregor	84.97	34	P	P	19 12 46.5	-0.4	
	baz=318							
SOKA	Soboth	85.10	326	iPcP	P	19 12 48.5	+0.8	
	comp=Z,12nm,0.5s,SNR=17							
H34A	Spellman Lake,	85.12	37	P	P	19 12 46.2	-1.5	
	baz=317							
EIL	Elat	85.14	303	LR	LR	19 55 32.2		
	comp=Z,71nm,18.1s,baz=70,slow=39							
L31A	Butterfield Fa	85.34	40	P	P	19 12 49.3	+0.4	
	baz=315							
G35A	Watkins	85.35	36	P	P	19 12 48.8	0.0	
	baz=318							
ECSD	EROS Data Cent	85.38	38	P	P	19 12 49.2	+0.2	
	baz=316							
ECSD	EROS Data Cent	85.38	38	eP	P	19 12 49.5	+0.5	
	comp=Z,14nm,0.8s							
KSCO	Kaye Shedlock'	85.44	45	P	P	19 12 48.9	-0.6	
	baz=313							
OBKA	Obir	85.45	326	iP	P	19 12 49.6	+0.3	
	comp=Z,5.2nm,0.6s,SNR=5.1							
KBA	Koelnbreinsper	85.56	327	iPcP	P	19 12 51.0	+0.9	
	comp=Z,7.1nm,0.7s,SNR=7.8							
H35A	Sunnyside Ranc	85.56	36	P	P	19 12 49.7	-0.2	
	baz=317							
T25A	Trinidad	85.65	47	P	P	19 12 51.2	+0.5	
	baz=312							
T25A	Trinidad	85.65	47	eP	P	19 12 52.3	+1.6	
	comp=Z,14nm,1.0s							
G36A	St. Michael	85.69	35	P	P	19 12 49.9	-0.5	
	baz=318							
MYKA	Terra Mystica	85.77	327	iP	P	19 12 50.9	0.0	
	comp=Z,15nm,0.5s,SNR=10.0							
ANMO	Albuquerque	85.84	50	P	P	19 12 52.8	+1.1	
	comp=Z,5.6nm,0.9s,baz=260,slow=3.0,SNR=13							
ANMO	Albuquerque	85.84	50	P	P	19 12 52.8	+1.1	
	baz=311							
ANMO	Albuquerque	85.84	50	eP	P	19 12 50.1	-1.6	
ANMO				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ANMO	Albuquerque	85.84	50	eP	P	19 12 53.4	+1.7	
	comp=Z,9.7nm,1.0s							
TAOE	Nuku Hiva Isla	85.95	104	eLR	LR	19 40 00.4		
	comp=Z,194nm,24.8s							
STU	Stuttgart	86.00	330	eP	P	19 12 53.4	+1.5	
STU				pmax	pmax			
	comp=Z,20nm,0.7s							
STU	Stuttgart	86.00	330	eP	P	19 12 53.4	+1.5	
	comp=Z,20nm,0.7s							
WATA	Walderalm	86.13	328	iPcP	P	19 12 54.5	+1.7	
	comp=Z,2.1nm,0.5s							
SPMN	Mine on St.	86.14	35	P	P	19 12 52.5	-0.2	
	baz=319							
WTTA	Wattenberg	86.16	328	iPcP	P	19 12 54.0	+1.0	
	comp=Z,3.6nm,0.7s							
ABTA	Abfaltersbach	86.18	327	iPcP	P	19 12 53.2	+0.3	
	comp=Z,5.4nm,0.8s							
MOTA	Moosalm	86.33	329	iPcP	P	19 12 54.7	+0.9	
	comp=Z,2.2nm,0.5s							
RETA	Reutte	86.36	329	iPcP	P	19 12 54.9	+1.0	
	comp=Z,3.9nm,0.6s							
O31A	Woolen Ranch,	86.50	42	P	P	19 12 54.3	-0.3	
	baz=315							
121A	Cookes Peak, D	86.56	52	P	P	19 12 54.3	-1.0	
	baz=310							
H37A	Dierke Farm, C	86.57	35	P	P	19 12 54.5	-0.4	
	baz=319							
BFO	Black Forest	86.70	331	eP	P	19 12 56.1	+0.7	
BFO				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BFO	Black Forest	86.70	331	eP	P	19 12 56.1	+0.7	
	comp=Z,10nm,0.8s							
FETA	Feichten	86.74	329	iPcP	P	19 12 60.0	+4.1	
	comp=Z,7.3nm,1.1s							
I37A	Lemond, Waseca	86.76	36	P	P	19 12 55.4	-0.4	
	baz=318							
J36A	Seneca 1, Swea	86.81	37	P	P	19 12 55.7	-0.4	
	baz=318							
DAVA	Damuels	86.89	329	iPcP	P	19 12 56.9	+0.3	
	comp=Z,4.7nm,0.8s							
SCHQ	Schefferville	87.03	16	P	P	19 12 57.5	+0.6	
	comp=Z,9.1nm,0.7s,baz=347,slow=6.6,SNR=9.3							
SCHQ				LR	LR	19 54 17.4		
	comp=Z,168nm,20.2s,baz=298,slow=37							
SCHQ	Schefferville	87.03	16	eP	P	19 12 57.8	+0.9	
	comp=Z,17nm,0.8s							
J37A	Redenius Farm,	87.21	37	P	P	19 12 57.0	-1.0	
	baz=318							
FUORN	Ofenpass-Fuorn	87.25	329	eP	P	19 12 59.5	+1.0	
	comp=Z,9.7nm,0.8s							
I38A	Scanlan Farm,	87.25	35	P	P	19 12 58.2	0.0	
	baz=319							
P32A	Huiting Farm,	87.27	42	P	P	19 12 58.4	0.0	
	baz=315							
DAVOX	Davos/Dischmat	87.29	329	LR	LR	19 55 27.8		
	comp=Z,99nm,18.3s,baz=38,slow=38							
M35A	Neola	87.49	39	P	P	19 12 59.2	-0.2	
	baz=317							
O33A	Heberon	87.50	41	P	P	19 12 58.4	-1.1	
	baz=316							
N34A	Lincoln	87.53	40	P	P	19 12 59.6	0.0	
	baz=316							
L36A	Harm Buss Farm	87.55	38	P	P	19 12 59.3	-0.4	
	baz=318							
K37A	Belmond	87.57	37	P	P	19 12 60.0	+0.2	
	baz=318							
J38A	Wedel Dairy, R	87.73	36	P	P	19 13 00.7	+0.2	
	baz=319							
Q32A	Meitler Ranch,	87.74	42	P	P	19 12 59.7	-0.9	
	baz=315							
TBI	Tubuai	87.82	121	eLR	LR	19 40 52.6		
	comp=Z,294nm,27.2s							
P33A	Williams Farm,	87.90	42	P	P	19 13 00.7	-0.7	
	baz=316							
O34A	Beatrice	87.90	40	P	P	19 13 00.1	-1.3	
	baz=316							
M36A	Felix, Anita	87.96	39	P	P	19 13 00.5	-1.1	
	baz=318							
N35A	Tabor	87.96	39	P	P	19 13 01.1	-0.5	
	baz=317							
L37A	Phoenix Point,	87.99	38	P	P	19 13 00.8	-0.9	
	baz=318							
IDI	Anoyia	88.00	313	LR	LR	19 56 15.9		
	comp=Z,48nm,18.1s,baz=348,slow=38							
R32A	Long Quarter,	88.06	43	P	P	19 13 00.3	-1.9	
	baz=315							
J39A	Decorah	88.08	36	P	P	19 13 02.2	0.0	
	baz=320							
K38A	Parkersburg	88.09	37	P	P	19 13 02.4	+0.2	
	baz=319							
Q33A	Connelly Farm,	88.13	42	P	P	19 13 02.2	-0.3	
	baz=316							
O35A	Humboldt	88.25	40	P	P	19 13 02.7	-0.4	
	baz=317							
P34A	Walnut Farm, R	88.29	41	P	P	19 13 03.3	0.0	
	baz=316							
L38A	Oak Wood Farm,	88.37	37	P	P	19 13 02.2	-1.3	
	baz=319							
M37A	Trindle Farm,	88.38	38	P	P	19 13 03.0	-0.6	
	baz=318							
K39A	Oelwein	88.47	36	P	P	19 13 03.6	-0.4	
	baz=319							
R33A	Olander Ranch,	88.54	43	P	P	19 13 03.4	-1.1	
	baz=316							
MNTX	Cornudas Mount	88.65	51	P	P	19 13 04.5	-0.6	
	baz=312							
KSU1	Kansas State U	88.72	41	P	P	19 13 04.9	-0.3	
	baz=316							
P35A	Duane Minner,	88.73	41	P	P	19 13 04.0	-1.3	
	baz=317							
N37A	Lee Faris, Mou	88.77	39	P	P	19 13 05.5	0.0	
	baz=318							
M38A	Pleasantville	88.80	38	P	P	19 13 05.2	-0.4	
	baz=318							
AMTX	Amarillo	88.80	47	P	P	19 13 06.0	+0.2	
	baz=314							
T32A	Huddler Ranch,	88.81	44	P	P	19 13 06.0	+0.2	
	baz=315							
K40A	Colesburg	88.83	36	P	P	19 13 04.9	-0.8	
	baz=320							
O36A	Bolckow	88.85	40	P	P	19 13 06.2	+0.4	
	baz=317							
L39A	Vinton	88.86	37	P	P	19 13 06.0	+0.2	
	baz=319							
R34A	Isabella, Hill	88.95	42	P	P	19 13 06.8	+0.4	
	baz=316							
S33A	Kaszmaul Farm,	89.04	43	P	P	19 13 06.7	-0.2	
	baz=316							
P36A	Good Intent, A	89.09	40	P	P	19 13 06.5	-0.5	
	baz=317							
AQU	L'Aquila	89.13	324	eP	P	19 13 08.4	+1.2	
AQU	L'Aquila	89.13	324	eP	P	19 13 08.4	+1.2	
	comp=Z,16nm,0.7s							
Q35A	Mercer Eighty,	89.21	41	P	P	19 13 07.6	0.0	
	baz=317							
N38A	Joes South For	89.24	38	P	P	19 13 08.5	+0.8	
	baz=318							
O37A	Wolven Farm, M	89.24	39	P	P	19 13 07.9	+0.2	
	baz=318							
T33A	Patterson Ranc	89.27	44	P	P	19 13 08.5	+0.6	
	baz=315							
S34A	Willow Spring	89.46	42	P	P	19 13 07.5	-1.3	
	baz=316							
R35A	Emporia Munici	89.51	41	P	P	19 13 08.6	-0.4	
	baz=317							
N39A	Derby Farms, D	89.55	38	P	P	19 13 09.1	0.0	
	baz=319							
P37A	Lathrop	89.57	40	P	P	19 13 09.4	+0.2	
	baz=318							
L41A	Preston	89.62	36	P	P	19 13 09.6	+0.2	
	baz=320							
O38A	Galt	89.62	39	P	P	19 13 09.9	+0.4	
	baz=318							
R36A	Gordon, Harris	89.88	41	P	P	19 13 10.9	+0.2	
	baz=317							
T34A	McClaskey Farm	89.90	43	P	P	19 13 10.9	0.0	
	baz=316							
S35A	Otter Creek Ra	89.91	42	P	P	19 13 10.9	0.0	
	baz=317							
P38A	Dawn	89.96	39	P	P	19 13 10.9	-0.2	
	baz=318							
O39A	Kirksville	90.00	38	P	P	19 13 11.6	+0.4	
	baz=319							
U34A	Anderson Ranch	90.12	44	P	P	19 13 11.8	-0.1	
	baz=316							
R37A	Teagarden Farm	90.25	41	P	P	19 13 12.1	-0.4	
	baz=318							
S36A	Lake Cedric, C	90.27	42	P	P	19 13 11.6	-0.9	
	baz=317							
T35A	Sooner Cattle	90.35	43	P	P	19 13 11.5	-1.5	
	baz=316							
Q38A	Cooks Store, C	90.41	40	P	P	19 13 12.8	-0.4	
	baz=318							
O40A	La Belle	90.43	38	P	P	19 13 12.5	-0.8	
	baz=319							
P39B	Salisbury	90.46	39	P	P	19 13 12.8	-0.6	
	baz=319							
W33A	Caddo, Fort Co	90.50	45	P	P	19 13 13.4	-0.3	
	baz=315							
V34A	Guthrie	90.56	44	P	P	19 13 13.8	-0.1	
	baz=316							
T36A	Boggs Farm, Ca	90.60	42	P	P	19 13 13.9	-0.2	
	baz=317							
U35A	Pawnee	90.62	43	P	P	19 13 13.5	-0.7	
	baz=316							
S37A	Fort Scott	90.66	41	P	P	19 13 14.6	+0.2	
	baz=318							
Q39A	Willow Grove F	90.68	39	P	P	19 13 14.6	+0.2	
	baz=319							
SSB	Saint Sauveur	90.69	331	eP	P	19 13 15.3	+0.9	
SSB	Saint Sauveur	90.69	331	eP	P	19 13 15.3	+0.9	
	comp=Z,3.7nm,0.7s							
P40A	Paris	90.79	38	P	P	19 13 14.3	-0.6	
	baz=319							
R38A	Fenwick Farm,	90.83	40	P	P	19 13 14.6	-0.6	
	baz=318							
W34A	Bridge Creek,	90.85	45	P	P	19 13 15.3	0.0	
	baz=316							
O41A	Passleys Farm,	90.93	37	P	P	19 13 16.1	+0.5	
	baz=320							
V35A	Meyer Ranch, C	91.00	44	P	P	19 13 16.0	0.0	
	baz=316							
T37A	Cheneyville 18	91.08	42	P	P	19 13 15.9	-0.4	
	baz=317							
U36A	Oologah	91.16	43	P	P	19 13 17.5	+0.8	
	baz=317							
P41A	Barry, Barry	91.18	38	P	P	19 13 16.3	-0.4	
	baz=320							
Q40A	Laux Farm, Aux	91.18	39	P	P	19 13 16.7	0.0	
	baz=319							
R39A	Chumby, Stover	91.19	40	P	P	19 13 17.2	+0.4	
	baz=319							
Y33A	Hilltop Ranch,	91.22	46	P	P	19 13 16.7	-0.3	
	baz=315							
X34A	Smith Ranch, M	91.26	45	P	P	19 13 17.1	-0.1	
	baz=316							
TX31	Lajitas Ar. Si	91.32	52	eP	P	19 13 18.6	+0.9	
TXAR	Lajitas Array	91.32	52	P	P	19 13 18.1	+0.4	
	comp=Z,4.4nm,0.8s,baz=290,slow=3.5,SNR=23							
TXAR				LR	LR	19 49 59.1		
	comp=Z,172nm,20.2s,baz=0.0,slow=33							
W35A	Tecumseh	91.42	44	P	P	19 13 17.8	-0.2	
	baz=316							
T38A	Diamond	91.48	41	P	P	19 13 18.8	+0.6	
	baz=318							
TUL1	Leonard	91.48	43	P	P	19 13 18.6	+0.4	
	baz=317							
U37A	Salina	91.49	42	P	P	19 13 19.2	+1.0	
	baz=317	

X36A	Centrahoma baz=316	92.14	44	P	P	19 13 21.3	0.0
V38A	Canehill baz=318	92.28	42	P	P	19 13 22.1	+0.2
T40A	Mansfield baz=319	92.34	40	P	P	19 13 21.9	-0.2
U39A	Green Forest baz=318	92.40	41	P	P	19 13 22.1	-0.4
Q43A	New Douglas baz=321	92.42	37	P	P	19 13 22.0	-0.4
233A	Rising Star baz=315	92.46	47	P	P	19 13 23.5	+0.6
Z35A	Perchaven, San baz=316	92.51	46	P	P	19 13 22.9	-0.1
SFIN	Lafayette baz=322	92.55	35	P	P	19 13 23.3	+0.3
134A	White-Moore Ra baz=316	92.56	47	P	P	19 13 22.7	-0.5
Y36A	Durant baz=317	92.66	45	P	P	19 13 23.5	-0.2
V39A	Pettigrew baz=318	92.71	42	P	P	19 13 24.3	+0.3
U40A	Yellville baz=319	92.76	41	P	P	19 13 24.1	0.0
Q44A	Meyer Farm, Va baz=321	92.78	37	P	P	19 13 24.5	+0.3
T41A	Mountain View baz=319	92.82	40	P	P	19 13 24.5	+0.1
333A	Richland Sprin baz=315	92.89	48	P	P	19 13 24.7	-0.1
X38A	Whitesboro baz=317	92.92	43	P	P	19 13 24.9	0.0
234A	Clairette baz=315	92.93	47	P	P	19 13 25.4	+0.4
135A	Vickery Place, baz=316	92.97	46	P	P	19 13 25.2	0.0
Y37A	Hugo baz=317	92.98	44	P	P	19 13 25.2	0.0
433A	Art baz=315	93.23	48	P	P	19 13 26.3	-0.1
R44A	Waltonville baz=321	93.26	37	P	P	19 13 26.5	+0.1
334A	Lometa baz=315	93.34	48	P	P	19 13 26.4	-0.5
WHTX	Lake Whitney, baz=316	93.34	47	P	P	19 13 24.6	-2.2
X39A	Fountain Ranch baz=318	93.44	43	P	P	19 13 27.1	-0.2
V41A	Mountainview baz=319	93.56	41	P	P	19 13 27.0	-0.8
S44A	Carbondale baz=321	93.60	38	P	P	19 13 27.7	-0.3
434A	Burnet baz=315	93.69	48	P	P	19 13 28.0	-0.6
MIAR	Mount Ida baz=318	93.71	42	P	P	19 13 28.7	+0.2
MIAR	Mount Ida comp=Z,14nm,1.1s	93.71	42	*e*P	P	19 13 30.0	+1.5
MIAR	Mount Ida comp=Z,14nm,0.9s	93.71	42	*e*P	P	19 13 30.0	+1.5
533A	Kerrville baz=315	93.74	49	P	P	19 13 28.6	-0.2
WHAR	Wooly Hollow comp=Z,14nm,1.1s	93.86	41	*e*P	P	19 13 30.2	+1.0
236A	Katherine and baz=316	93.88	46	P	P	19 13 29.8	+0.4
W41B	Gary Mavity, V baz=319	93.97	41	P	P	19 13 29.8	+0.2
534A	Blanco baz=315	94.12	49	P	P	19 13 30.2	-0.4
X40A	Basin Creek Fa baz=319	94.16	42	P	P	19 13 30.0	-0.6
ACSO	Alum Creek Sta comp=Z,22nm,0.7s	94.53	32	*e*P	P	19 13 36.2	+4.1
933A	Laredo baz=315	95.31	51	P	P	19 13 35.1	-0.9
KEST	Kesra comp=Z,146nm,18.1s,baz=290,slow=39	96.26	322	LR	LR	20 02 31.8	
SWET	Sewanee comp=Z,5.7nm,0.7s	97.20	37	*e*P	Pdif	19 13 46.7	+2.1
TOA0	Torodi Ar. Sit	118.39	314	*e*PKPdf	PKPdf	19 18 59.6	-0.1
TORD	Torodi Ar. Bea comp=Z,0.9nm,0.6s,baz=31,slow=2.3,SNR=11	118.39	314	PKP	PKPdf	19 18 59.8	+0.1
TORD				PKKPbc	PKKPab	19 29 29.7	+7.8
SYO	Syowa Base comp=Z,0.9nm,0.8s,baz=202,slow=2.4,SNR=3.8	126.59	206	*e*PKPdf	PKPdf	19 19 13.6	-0.1
DBIC	Dimbokro comp=Z,1.9nm,0.5s,baz=288,slow=2.2,SNR=4.1	127.39	316	PKP	PKPdf	19 19 17.2	+0.2
LPAZ	La Paz comp=Z,9.9nm,0.7s,baz=358,slow=2.3,SNR=40	147.71	62	PKPbc	PKPbc	19 19 56.5	-1.0
LPAZ	La Paz	147.71	62	*e*P	PKPbc	19 19 57.0	-0.5
LPAZ	La Paz	147.71	62	*e*PKPdf	PKPbc	19 19 57.0	-0.5
PB11	IPOC Station P	148.74	68	*e*PKPdf	PKPdf	19 19 57.2	+1.4
PB01	IPOC Station P	149.61	70	*e*PKPbc	PKPbc	19 20 03.6	+1.9
LVC	Limon Verde	150.92	72	*e*PKPbc	PKPbc	19 20 07.0	+1.9

DDA ***16*** *19:01:41.6,39˚.14N×29˚.02E, h7km, Md2.6*
ISK ***16*** *19:01:41.5,39˚.13N×29˚.03E, h4km, MD2.4*
ISCJB ***16*** *19:01:42.1±0.7,39˚.13N±0˚.06×29˚.02E±0˚.04, h2km±9km, Error ellipse: s-maj=10.6km s-min=5.0km az=163.3*
CSEM ***16*** *19:01:42.1±0.1,39˚.12N×29˚.02E, h5km, MD2.6, Error ellipse: s-maj=2.9km s-min=2.2km az=144.0*

ISC 16 19:01:42.3±1.0,39˚13N±0˚.03×29˚02E±0˚.03, h9km±9km, n19, σ0°47/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DEMI	Demirci	0.25	249	P		Pg	19 01 47.5	0.0
DEMI				S		Sg	19 01 51.0	+0.1
DEMI	Demirci	0.25	249	*i* P		Pg	19 01 47.5	0.0
DEMI				*i* S		Sg	19 01 51.0	+0.1
GEDZ	Gediz	0.32	106	*e*PG		Pg	19 01 48.5	-0.2
GEDZ	Gediz	0.32	106	*e*Pg		Pg	19 01 48.5	-0.2
GDZ	Gediz	0.36	97	P		Pg	19 01 49.3	-0.2
GDZ				S		Sg	19 01 54.5	+0.2
GDZ	Gediz	0.36	97	*i* P		Pg	19 01 49.4	-0.2
GDZ				*i* S		Sg	19 01 54.5	+0.2
TVSB	Tavsanli	0.47	47	*e*PG		Pg	19 01 51.4	-0.1
TVSB				*e*SG		Sg	19 01 57.4	-0.2
TVSB	Tavsanli	0.47	47	*e*Pg		Pg	19 01 51.4	-0.1
TVSB				*e*Sg		Sg	19 01 57.4	-0.2
KULA	Kula-Manisa	0.68	204	*e*PG		Pg	19 01 55.0	-0.4
KULA	Kula-Manisa	0.68	204	*e*Pg		Pg	19 01 55.1	-0.4
IGD	Bursa	1.14	7	*i* P		Pg	19 02 03.2	-1.0
IGD				*i* S		Sn	19 02 19.7	-0.5
KCTX	Karacabey (Bur	1.24	336	*e*PN		Pn	19 02 05.7	-0.2
KCTX	Karacabey (Bur	1.24	336	*e*Pn		Pn	19 02 05.7	-0.2
CAVI	Cavuskoy	1.24	31	*e*PN		Pn	19 02 06.2	+0.2
CAVI				*e*SN		Sn	19 02 23.5	+0.6
CAVI	Cavuskoy	1.24	31	*e*Pn		Pn	19 02 06.2	+0.2
CAVI				*e*Sn		Sn	19 02 23.5	+0.6
BORA	Eskisehir	1.34	56	P		Pn	19 02 07.1	-0.2
BORA				S		Sn	19 02 25.5	+0.2
BORA	Eskisehir	1.34	56	*i* P		Pn	19 02 07.1	-0.2
BORA				*i* S		Sn	19 02 25.5	+0.2
ARMT	Armutlu	1.44	355	*e*PN		Pg	19 02 09.3	-0.6
ARMT				*e*SN		Sg	19 02 29.6	+1.1
ARMT	Armutlu	1.44	355	*e*Pn		Pg	19 02 09.3	-0.6
ARMT				*e*Sn		Sg	19 02 29.6	+1.1

IDC ***16*** *19:03:10.2±1.6,53˚.38N×164˚.99W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.5/53, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=40.9km s-min=21.1km az=178.0*
ISCJB ***16*** *19:03:13.6±0.7,53˚.50N±0˚.06×164˚.71W±0˚.06, h27km, mb3.7/5, Error ellipse: s-maj=8.0km s-min=5.5km az=8.3*
NEIC ***16*** *19:03:15.2,53˚.56N×164˚.79W, h30km, ML3.6(AEIC), After AEIC.*

ISC 16 19:03:14.6±1.0,53˚51N±0˚07×164˚88W±0˚06, h27km, n29, σ0°65/27, mb3.6/5, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.80	323	P		Pb	19 03 29.7	-0.1
AKUT	Akutan	0.82	320	P		Pb	19 03 30.3	+0.1
AKUT				S		Sn	19 03 41.8	+0.1
AKRB	Akutan Reef Bi	0.94	312	P		Pb	19 03 32.3	+0.1
AKRB				S		Sn	19 03 45.8	+1.2
AKGG	Akutan Green G	0.96	317	P		Pb	19 03 32.4	-0.1
AKGG				S		Sn	19 03 45.3	+0.3
WESP	Westdahl Peak	0.99	5	P		Pn	19 03 32.2	-0.7
WESP				S		Sb	19 03 45.2	-0.8
UNV	Unalaska Valle	1.02	290	P		Pn	19 03 33.3	+0.2
WECS	Westdahl Cape	1.03	3	P		Pn	19 03 33.1	-0.1
WESN	West Dahl Nort	1.08	9	P		Pn	19 03 33.5	-0.5
WEBT	Westdahl Beart	1.09	4	P		Pn	19 03 33.7	-0.4
MTBL	Makushin Table	1.17	294	P		Pb	19 03 35.7	-0.4
MSW	Makushin Switc	1.20	291	P		Pb	19 03 36.4	-0.3
SSLW	Shishaldin Wes	1.35	19	P		Pn	19 03 36.8	-0.8
SSLN	Shishaldin Nor	1.41	21	P		Pn	19 03 37.7	-0.8
OKTU	Okmok Mt. Tuli	1.89	268	P		Pb	19 03 47.7	-0.7
OKAK	Okmok	2.08	273	P		Pb	19 03 51.0	-0.5
SDPT	Sand Point	3.17	53	P		Pn	19 04 02.6	0.0
ILAR	Eielson Array 0.1nm,0.3s,baz=217,slow=14,SNR=4.1	14.51	32	Pn		Pn	19 06 38.9	+1.0
DLBC	Dease Lake 2.2nm,0.5s,baz=271,slow=14,SNR=6.5	19.96	62	P		P	19 07 43.7	-0.7
PETK	Petropavlovsk- 1.3nm,0.5s,baz=84,slow=15,SNR=4.8	22.20	284	P		P	19 08 07.6	-0.9
YKA	Yellowknife Ar 0.4nm,0.6s,baz=277,slow=7.4,SNR=3.2	27.43	51	P		P	19 08 57.9	+0.3
H11N2	WAKE ISLAND Hy baz=26,slow=76,SNR=19	40.10	224	T		T	19 53 45.9	
H11N3	WAKE ISLAND Hy baz=26,slow=76,SNR=18	40.10	224	T		T	19 53 41.5	
H11N1	WAKE ISLAND Hy baz=26,slow=76,SNR=18	40.12	224	T		T	19 53 49.5	
H11S1	WAKE ISLAND Hy baz=25,slow=76,SNR=31	41.27	223	T		T	19 55 09.8	
H11S2	WAKE ISLAND Hy baz=25,slow=76,SNR=43	41.29	223	T		T	19 55 13.4	
H11S3	WAKE ISLAND Hy baz=25,slow=76,SNR=26	41.29	223	T		T	19 55 13.6	
TXAR	Lajitas Array 2.0nm,0.8s,baz=302,slow=5.4,SNR=24	50.05	93	P		P	19 12 07.6	+0.7
MKAR	Makanchi Array 0.4nm,0.9s,baz=81,slow=4.5,SNR=3.0	64.94	316	P		P	19 13 52.4	+1.0
AKASG	Malin Array Be 2.3nm,0.9s,baz=9.2,slow=6.2,SNR=3.3	75.49	351	P		P	19 14 54.9	-0.9

BJI ***16*** *19:06:02.7,60˚.73N×151˚.73W, h64km, mb5.2/65, mB5.0/43, Ms4.9/29, Ms7 4.5/27*
ISCJB ***16*** *19:06:03.6±0.1,60˚.85N±0˚.01×151˚.20W±0˚.02, h70km±1km, mb4.9/179, Error ellipse: s-maj=2.5km s-min=2.0km az=13.4*
MOS ***16*** *19:06:03.3±0.9,60˚.89N×151˚.27W, h69km, mb5.2/73, MS4.3/7, Error ellipse: s-maj=9.9km s-min=5.2km az=93.5*
IDC ***16*** *19:06:05.7±0.5,60˚.88N×151˚.25W, h77km±3km, mb4.4/36, mb1 4.5/38, mb1mx4.5/49, mbtmp4.7/38, MS3.9/20, Ms1 3.9/20, ms1mx3.7/52, Error ellipse: s-maj=11.5km s-min=8.2km az=172.0*
NEIC ***16*** *19:06:05.2, 60˚.77N×151˚.08W, h59km, mb5.1/101, MW5.0, ML5.2(AEIC), Moment Tensor Solution. s58 Moment tensor: Scale 10¹⁶Nm; Mrr0.17; Mθθ-3.62; Mφφ3.45; Mrθ0.40; Mθφ-0.15; Mφr1.31; Best double couple: Mo3.80000×10¹⁶ NP1:φ312.00000°, δ71.00000°, λ171.00000°. NP2:φ45.00000°, δ81.00000°, λ19.00000°. Principal axes: T 3.9100, Plg19.0000°, Azm270.0000°; N -0.2300, Plg69.0000°, Azm69.0000°; P -3.6800, Plg7.0000°, Azm177.0000°; After AEIC.*
NEIC Felt [IV] at Anchorage, Cooper Landing, Ninilchik, Soldotna and Sterling. Felt widely in the Kenai Peninsula-Cook Inlet area.
GCMT ***16*** *19:06:05.2±0.2, 60˚.79N×151˚.23W, h74km±2km, MW5.1/88, Moment Tensor Solution. s58,c77; s88,c134; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.66±.14; Mθθ-5.01±.15; Mφφ4.35±.13; Mrθ-0.12±.12; Mθφ-0.65±.12; Mφr2.08±.09; Best double couple: Mo5.19000×10¹⁶ NP1:φ44.00000°, δ73.00000°, λ18.00000°. NP2: φ308.00000°, δ73.00000°, λ163.00000°. Principal axes: T 5.3250, Plg24.0000°, Azm266.00000°; N -0.2730, Plg66.0000°, Azm85.0000°; P -5.0550, Plg0.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 19:06:05.0±0.3, 60.77N±0.03×151.15W±0.03, h70km±2km, h69km:pP-P, n768, σ1°35/786, mb5.0/178, 35C-24D, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NKA	Nikishka	0.05	240	P		Pn	19 06 15.1	0.0
VOGL	Vogel Lake	0.42	57	P		Pn	19 06 16.6	-0.4
SLKM	Skilak Lake	0.53	119	P		Pn	19 06 16.6	-1.5
SLKM	Skilak Lake	0.53	119	P		Pn	19 06 16.6	-1.5
SPU	Mount Spurr	0.61	314	*e*Pn		Pn	19 06 17.9	-1.1
FIB	Fire Island	0.62	50	P		Pn	19 06 18.4	-0.6
FIB				S		Sn	19 06 30.3	+1.0
FIB	Fire Island	0.62	50	P		Pn	19 06 18.4	-0.6
FIB				S		Sn	19 06 30.3	+1.0
SPCR	Spurr Chakacha	0.67	311	P		Pn	19 06 18.7	-1.0
SPCR				S		Sn	19 06 29.9	-0.6
CKL	Chakachamna La	0.72	307	P		Pn	19 06 19.4	-0.8
SUA	Susitna One	0.72	16	P		Pn	19 06 19.2	-1.1
SUA				S		Sn	19 06 30.4	-1.1
SUA				*e*ScS		ScS	19 21 25.1	+3.1
RC01	Rabbit Creek A	0.76	64	P		Pn	19 06 19.4	-1.2
RC01				S		Sn	19 06 31.0	-1.1
STLK	Strandline Lak	0.81	336	P		Pn	19 06 20.6	-0.5
RDJH	Redoubt Jeurge	0.83	258	P		Pn	19 06 20.8	-0.7
RDJH				S		Sn	19 06 33.3	-0.5
RSO	Redoubt South	0.85	249	*e*Pn		Pn	19 06 21.1	-0.7
SPWE	Spurr West	0.85	307	P		Pn	19 06 21.3	-0.4
RDWB	Redoubt West	0.88	252	P		Pn	19 06 21.4	-0.7
NCT	North Crescent	0.90	257	P		Pn	19 06 21.7	-0.6
BRLK	Bradley Lake	1.02	172	P		Pn	19 06 22.9	-0.8
BRLK				S		Sn	19 06 37.4	-0.2
SEW	Seward	1.07	128	P		Pn	19 06 22.7	-1.6
HOM	Homer	1.14	193	P		Pn	19 06 25.3	+0.1
ILW	Iliamna West	1.22	235	P		Pn	19 06 25.9	-0.4
CNPM	China Poot	1.25	182	P		Pn	19 06 26.0	-0.6
CNPM				S		Sn	19 06 42.7	-0.1
PMR	Palmer	1.28	49	P		Pn	19 06 26.0	-1.0
PMR	Palmer	1.28	49	P		Pn	19 06 25.9	-1.0
KNK	Knik Glacier	1.46	63	P		Pn	19 06 28.5	-0.9
OPT	Oil Point	1.53	224	P		Pn	19 06 30.6	+0.3
SML	Sawmill	1.71	51	P		Pn	19 06 31.8	-1.0
SML	Sawmill	1.71	51	P		Pn	19 06 31.8	-1.0
AUE	Augustine Isla	1.80	219	P		Pn	19 06 34.0	+0.2
AUL	Augustine Lava	1.80	220	P		Pn	19 06 34.3	+0.3
AUSE	Augustine SEas	1.82	219	P		Pn	19 06 34.4	+0.2
AUI	Augustine Isla	1.84	219	P		Pn	19 06 34.7	+0.3
SCM	Sheep Creek Mo	2.13	58	P		Pn	19 06 37.5	-0.9
SCM	Sheep Creek Mo	2.13	58	P		Pn	19 06 37.5	-0.9
SVW2	Sparrevohn	2.19	281	P		Pn	19 06 38.2	-1.0
PPLA	Purkeypile	2.19	347	P		Pn	19 06 39.2	-0.1
HIN	Hinchinbrook I	2.32	97	P		Pn	19 06 38.6	-2.4
HUR	Hurricane	2.33	17	P		Pn	19 06 41.1	+0.1
VMT	TAPS TI Valdez	2.36	80	P		Pn	19 06 39.9	-1.4
FOSS	Fourpeaked Sta	2.36	214	P		Pn	19 06 41.9	+0.5
VLZ	Valdez	2.38	79	P		Pn	19 06 40.0	-1.6
KLU	Klutina	2.64	72	P		Pn	19 06 43.8	-1.5
DIV	Divide	2.65	80	P		Pn	19 06 43.6	-1.8
EYAK	Cordova Ski Ar	2.67	92	P		Pn	19 06 43.3	-2.3
KAPH	Katmai Pasha	2.72	218	P		Pn	19 06 46.7	+0.4
KTH	Kantishna Hill	2.80	2	P		Pn	19 06 47.2	-0.2
RND	Reindeer	2.86	21	P		Pn	19 06 47.8	-0.5
RND	Reindeer	2.86	21	P		Pn	19 06 47.8	-0.5
KAHC	Katmai Hardscr	2.89	224	P		Pn	19 06 48.5	-0.2
DHY	Denali Highway	2.92	36	P		Pn	19 06 49.3	+0.1
KAWH	Katmai	3.03	219	P		Pn	19 06 51.0	+0.5
PS11	TAPS Pump St11	3.03	62	P		Pn	19 06 50.1	-0.3
MCK	McKinley	3.15	18	P		Pn	19 06 52.5	+0.3
MCK	McKinley	3.15	18	P		Pn	19 06 52.5	+0.3
TT01	Tatalina	3.15	315	P		Pn	19 06 52.1	-0.1
TTA	Tatalina	3.17	315	P		Pn	19 06 52.8	+0.4
TTA	Tatalina	3.17	315	P		Pn	19 06 52.8	+0.4
KAKN	Katmai Knife C	3.18	220	P		Pn	19 06 53.0	+0.4
KVTA	Katmai Vly 10	3.19	223	P		Pn	19 06 53.0	+0.3
RAGM	Ragged Mountai	3.22	94	P		Pn	19 06 50.3	-2.8
KABU	Katmai Buttres	3.27	222	P		Pn	19 06 54.4	+0.5
KABR	Katmai Barrier	3.29	218	P		Pn	19 06 54.3	+0.2
KELA	Mount Kelaz	3.30	227	P		Pn	19 06 54.5	+0.2
BPAW	Bear Paw Mtn.	3.35	1	P		Pn	19 06 53.9	-0.9
PAX	Paxson	3.48	48	P		Pn	19 06 56.9	+0.1
PAX	Paxson	3.48	48	P		Pn	19 06 56.9	+0.1
BWN	Browne	3.50	12	P		Pn	19 06 57.2	+0.3
NICHA	Nichawak Mount	3.59	95	P		Pn	19 06 55.1	-3.1
BERG	Berg Lake	3.69	93	P		Pn	19 06 56.5	-3.1
SUCK	Suckling Hills	3.72	98	P		Pn	19 06 56.8	-3.1
VRDI	Verde Repeater	3.78	80	P		Pn	19 06 58.8	-2.0
GRIN	Grindle Hills	3.90	94	P		Pn	19 06 59.5	-3.0
KHIT	Khitrov Hills	3.91	91	P		Pn	19 06 59.5	-3.1
CRQM	Cirque	3.93	87	P		Pn	19 07 00.6	-2.3
WRH	Wood River Hil	3.98	19	P		Pn	19 07 02.6	-0.8
MCARA	McCarthy VSAT	4.00	78	P		Pn	19 07 02.0	-1.7
PLK3	Peulik 3	4.06	223	P		Pn	19 07 05.6	+1.1
TGL	Tana Glacier	4.08	87	P		Pn	19 07 02.4	-2.5
PLK1	Peulik 1	4.08	226	P		Pn	19 07 05.9	+1.0
PLK4	Peulik 4	4.13	223	P		Pn	19 07 06.6	+1.0
HDA	Harding Lake	4.14	26	P		Pn	19 07 06.0	+0.4
MENT	Mentasta	4.14	55	P		Pn	19 07 04.8	-0.8
CCB	Clear Creek Bu	4.19	20	P		Pn	19 07 05.5	-0.7
KULT	Kultieth River	4.20	93	P		Pn	19 07 03.4	-3.2
PTPK	Patty Peak	4.25	81	P		Pn	19 07 06.2	-1.1
PS08	TAPS Pump Stn8	4.28	26	P		Pn	19 07 07.5	-0.1
MLY	Manley	4.28	2	P		Pn	19 07 06.9	-0.8
BARK	Barkley Ridge	4.29	91	P		Pn	19 07 04.9	-2.8
KIAG	Kiagna River	4.30	84	P		Pn	19 07 05.8	-2.2
BALM	Baldy	4.31	83	P		Pn	19 07 05.9	-2.1
BALM	Baldy	4.31	83	P		Pn	19 07 05.9	-2.1
ISLE	Juniper Island	4.33	88	P		Pn	19 07 05.7	-2.8
I53US	FAIRBANKS INFR baz=200,slow=24,SNR=1.0	4.39	19	P		Pn	19 07 11.1	+2.1
I53US				S		Sn	19 08 02.8	+4.0
COLA	College	4.39	19	*d* iP		Pn	19 07 08.2	-0.8
COLA	College	4.39	19	P		Pn	19 07 08.7	-0.3
MDM	Murphy Dome	4.41	16	P		Pn	19 07 08.6	-0.8
ILAR	Eielson Array 264nm,0.3s,baz=210,slow=12,SNR=2766	4.47	24	P		Pn	19 07 08.8	-1.3
ILAR				S		Sn	19 08 00.8	0.0
ILB	Eielson Array	4.47	24	P		Pn	19 07 09.6	-0.5
IL1	Eielson Array	4.47	24	*e*Pn		Pn	19 07 08.1	-2.0
BAGL	Bagley Icefiel	4.47	90	P		Pn	19 07 07.7	-2.4
MESA	MESA	4.59	93	P		Pn	19 07 09.5	-2.5
GRNC	Granite Creek	4.61	86	P		Pn	19 07 09.9	-2.3
BARN	Barnard Glacie	4.64	82	P		Pn	19 07 10.8	-1.8
CTGM	Chitina Glacie	4.80	83	P		Pn	19 07 12.7	-2.1
RKAV	Rock Avalanche	4.87	91	P		Pn	19 07 13.5	-2.2
TABL	Table Mountain	4.94	89	P		Pn	19 07 14.2	-2.6
LOGN	Logan Glacier	4.97	85	P		Pn	19 07 15.0	-2.1
BCA3	Beaver Creek A	4.99	58	P		Pn	19 07 16.4	-0.9
PS06	TAPS Pump Stn6	5.15	7	P		Pn	19 07 19.2	-0.1
IM3	Indian Mountai	5.36	349	P		Pn	19 07 21.4	-0.9
YKU2	Yakutat	5.87	97	*e*Pn		Pn	19 07 29.0	-0.3
CHGN	Chignik	5.88	224	*e*Pn		Pn	19 07 29.8	+0.5
EGAK	Eagle	6.10	44	P		Pn	19 07 31.9	-0.4
DAWY	Dawson	6.38	54	P		Pn	19 07 35.6	-0.7
COLD	Coldfoot	6.50	3	P		Pn	19 07 37.5	-0.3
HYT	Haines Junctio	6.68	84	P		Pn	19 07 38.9	-1.5
DHAK	Deception Hill	6.72	99	P		Pn	19 07 37.9	-3.0
BM3	Burnt Mountain	7.26	20	P		Pn	19 07 47.8	-0.5
SDPT	Sand Point	7.34	226	*e*Pn		Pn	19 07 48.6	-0.7
PLBC	Pleasant Camp	7.50	94	P		Pn	19 07 50.0	-1.6
SKAG	Skagway	8.01	92	*e*Pn		Pn	19 07 56.5	-2.0
TNA	Tin City	8.96	310	*e*Pn		Pn	19 08 13.2	+1.7
GAMB	Gambell	10.03	296	*e*Pn		Pn	19 08 26.8	+0.9
SPIA	Saint Paul Isl	10.48	258	*e*Pn		Pn	19 08 29.6	-2.5
INK	Inuvik 7.7nm,0.3s,baz=233,slow=17,SNR=68	10.67	37	P		Pn	19 08 33.1	-1.5
INK				S		Sn	19 10 38.0	+5.8
INK	10nm,0.3s,baz=321,slow=10.0,SNR=8.1			LR		LR	19 13 00.2	
INK	comp=Z,422nm,18.0s,baz=228,slow=39			ScP		ScP	19 17 57.5	+0.7
WRAK	Wrangell Islan	10.72	106	*e*Pn		Pn	19 08 33.4	-2.1
UNV	Unalaska Valle	10.80	237	*e*Pn		Pn	19 08 36.4	-0.1
CRAG	Craig	10.89	111	*e*Pn		Pn	19 08 34.8	-3.0
DLBC	Dease Lake 2.3nm,0.3s,baz=282,slow=13,SNR=45	10.94	93	P		Pn	19 08 37.4	-1.2
DLBC	comp=Z,1μm,19.3s,baz=294,slow=40			LR		LR	19 13 30.7	
DLBC				*e*Pn		Pn	19 08 36.5	-2.0
NIKH	Nikolski High	12.41	239	*e*Pn		Pn	19 08 59.7	+1.3
BBB	Bella Bella 1.0nm,0.3s,baz=310,slow=11,SNR=10	15.28	114	P		Pn	19 09 35.4	-0.9
YKA	Yellowknife Ar 3.4nm,0.3s,baz=278,slow=9.9,SNR=99	17.30	68	P		Pn	19 09 59.9	-1.6
YKA	comp=Z,60nm,19.6s,baz=0.0,slow=38			LR		LR	19 16 57.5	
YKA	0.2nm,0.3s,baz=280,slow=2.1,SNR=6.9			ScP		ScP	19 18 07.7	-0.5
BILL	Bilibino	19.40	310	*c* iP		P	19 10 24.5	-0.4
BILL	comp=Z,34nm,1.2s			pmax		pmax		
BILL	comp=Z,439nm,25.0s			MLR		MLR		
BILL	Bilibino comp=Z,33nm,1.0s	19.40	310	*e*P		P	19 10 24.6	-0.4
A04D	Lummi Island baz=317	20.18	114	P		P	19 10 34.2	+0.8
CMW	Cultus Mountai	20.66	114	P		Pn	19 10 41.4	-0.4
NLWA	Neilton Lookou comp=Z,86nm,1.4s	20.66	118	*e*P		Pn	19 10 42.2	+0.5
B05A	Bryant baz=318	20.79	114	P		P	19 10 40.8	+0.8
B05A	Bryant	20.79	114	P		Pn	19 10 45.6	+2.5
B06A	Marblemount comp=Z,38nm,0.8s	20.88	113	*e*P		P	19 10 42.1	+1.1
GPW	Glacier Peak

SEY ScP **ScP** **19 18 28.6 -1.4**
comp=Z,2.0nm,0.6s,baz=110,slow=3.7,SNR=7.4
M04C Macdoel 26.04 124 P **P** **19 11 33.0 +1.5**
baz=327,SNR=5.3
N02D Trinity Center 26.38 126 P **P** **19 11 36.5 +2.0**
baz=328,SNR=7.2
MOD Modoc Plateau 26.58 121 *e*P **P** **19 11 39.1 +2.7**
comp=Z,18nm,0.9s
EGMT Eagleton 26.75 100 P **P** **19 11 39.3 +1.5**
baz=314
EGMT Eagleton 26.75 100 *e*P **P** **19 11 39.0 +1.1**
comp=Z,46nm,0.7s
WDC Whiskeytown Da 26.78 126 *e*P **P** **19 11 39.2 +1.2**
comp=Z,24nm,1.0s
LRM Limekiln Ridge 27.04 106 *e*P **P** **19 11 42.2 +1.6**
DLMT Dillon 27.31 107 *e*P **P** **19 11 46.0 +3.0**
comp=Z,31nm,0.9s
BOZ Bozeman (W) 27.56 105 P **P** **19 11 46.7 +1.6**
baz=318
BOZ Bozeman (W) 27.56 105 *e*P **P** **19 11 47.6 +2.4**
BOZ pmax pmax
comp=Z,15nm,0.8s
BOZ Bozeman (W) 27.56 105 *e*P **P** **19 11 47.6 +2.4**
comp=Z,15nm,0.8s
HLID Hailey 27.84 111 *e*P **P** **19 11 49.1 +1.4**
comp=Z,11nm,1.0s
MA2 Magadan 28.11 294 P **P** **19 11 49.9 +0.2**
comp=Z,42nm,0.8s,baz=90,slow=9.7,SNR=23
QLMT Earthquake Lak 28.26 106 *e*pP pP 19 12 08.4 +0.3
PEA0 Petropavlovsk- 28.27 278 *e*P **P** **19 11 52.1 +0.9**
PETK Petropavlovsk- 28.27 278 P **P** **19 11 51.2 0.0**
comp=Z,17nm,0.8s,baz=74,slow=12,SNR=18
PETK ScP **ScP** **19 18 36.6 -0.4**
comp=Z,6.1nm,0.9s,baz=90,slow=4.4,SNR=3.7
GCMT Greycliff 28.39 103 *e*pP pP 19 12 13.3 +4.2
YHH Holmes Hill 28.57 106 *e*P **P** **19 11 56.8 +2.5**
comp=Z,33nm,0.9s
YPP Pitchstone Pla 28.98 106 *e*pP pP 19 12 08.5 -6.1
FXWY Fox Creek 29.35 107 *e*P **P** **19 12 04.0 +2.8**
comp=Z,23nm,0.9s
MOOW Moose Ponds 29.40 107 *e*pP pP 19 12 13.5 -4.7
LAO LASA Array 29.40 98 *e*P **P** **19 12 03.4 +2.0**
comp=Z,33nm,0.9s
TPAW Teton Pass 29.50 107 *e*P **P** **19 12 05.6 +3.0**
comp=Z,42nm,0.9s
SNOW Snow King Moun 29.61 107 *e*P **P** **19 12 04.0 +0.5**
SNOW *e*pP **pP** **19 12 20.8 +0.6**
REDW Red Top Meadow 29.64 108 *e*P **P** **19 12 06.6 +2.8**
comp=Z,40nm,1.0s
ELK Elko 29.71 116 *e*P **P** **19 12 05.6 +1.2**
comp=Z,15nm,0.8s
WAKR Walker 29.80 124 *e*P **P** **19 12 08.3 +3.2**
comp=Z,15nm,1.1s
BW06 Boulder Array 30.71 107 P **P** **19 12 14.1 +0.9**
baz=320
BW06 Boulder Array 30.71 107 *e*P **P** **19 12 14.8 +1.6**
PD31 Pinedale Array 30.71 107 *e*P **P** **19 12 15.3 +2.1**
PDAR Pinedale Array 30.71 107 P **P** **19 12 13.2 0.0**
comp=Z,2.6nm,0.6s,baz=320,slow=6.7,SNR=17
E25A Miller Ranch, 30.91 96 P **P** **19 12 15.3 +0.6**
baz=315
TCUT Toone Canyon 31.14 111 *e*P **P** **19 12 17.7 +0.7**
comp=Z,59nm,1.0s
TIXI Tiksi 31.41 323 P **P** **19 12 17.6 -1.2**
comp=Z,4.7nm,0.5s,baz=78,slow=12,SNR=16
TIXI PcP **PcP** **19 15 09.2 -1.0**
comp=Z,3.4nm,0.6s,baz=329,slow=5.5,SNR=3.7
TIXI Tiksi 31.41 323 *ce*P **P** **19 12 18.7 -0.1**
TIXI pmax pmax
comp=Z,14nm,1.2s
TIXI Tiksi 31.41 323 *e*P **P** **19 12 18.1 -0.7**
comp=Z,16nm,1.2s
TIXI PcP **PcP** **19 15 09.2 -1.0**
TIXI *e*ScP **ScP** **19 18 45.2 -1.6**
JLU Jordanelle 31.53 112 *e*P **P** **19 12 19.4 -1.1**
comp=Z,17nm,1.1s
R11A Troy Canyon, C 31.54 119 P **P** **19 12 20.9 +0.4**
baz=327
B30A Myrvik Farm, E 32.05 88 P **P** **19 12 24.0 -0.6**
baz=313
ULM Lac du Bonnet 32.06 84 P **P** **19 12 25.6 +0.9**
comp=Z,3.6nm,0.4s,baz=315,slow=7.0,SNR=7.5
ULM Lac du Bonnet 32.06 84 *e*P **P** **19 12 25.8 +1.1**
comp=Z,42nm,1.1s
CWC Cottonwood Cre 32.12 124 P **P** **19 12 26.6 +1.1**
baz=330
H25A Fruitdale 32.17 98 P **P** **19 12 27.0 +1.1**
baz=317
RSSD Black Hills 32.33 99 *e*P **P** **19 12 27.2 -0.2**
comp=Z,19nm,0.8s
D29A Pettibone, Tap 32.38 91 P **P** **19 12 27.6 0.0**
baz=314
B31A Greenbush Farm 32.40 88 P **P** **19 12 28.6 +0.9**
baz=313
C30A Mose, Pekin 32.49 89 P **P** **19 12 27.9 -0.6**
baz=314
FURC Furnace Creek, 32.59 123 P **P** **19 12 30.6 +1.1**
baz=329
ISA Isabella, Lake 32.63 125 P **P** **19 12 30.8 +0.8**
baz=331
A32A Rocking H Ranc 32.64 86 P **P** **19 12 29.9 +0.1**
baz=312
MPMC Manual Prospec 32.69 124 P **P** **19 12 32.0 +1.4**
baz=330
TMUT Trail Mountain 32.69 113 *e*pP pP 19 12 50.5 +3.0
D30A Buchanan 32.76 90 P **P** **19 12 31.4 +0.5**
baz=314
PKM Mcpherson Peak 32.78 128 P **P** **19 12 32.1 +0.8**
baz=332
C31A Landman Farms, 32.79 89 P **P** **19 12 31.7 +0.6**
baz=313
P18A Preston Nutter 32.86 111 *e*pP **pP** **19 12 47.0 -2.0**
P18A *e*S **S** **19 17 45.8 +1.1**
B32A Ashes, Strandq 32.97 87 P **P** **19 12 31.1 -1.6**
baz=313
E30A Jud 33.11 91 P **P** **19 12 32.4 -1.6**
baz=315
F29A Eureka 33.13 93 P **P** **19 12 32.2 -1.9**
baz=316
A33A Warroad 33.16 85 P **P** **19 12 32.1 -2.3**
baz=312
CCUT Cedar City 33.17 117 *e*P **P** **19 12 37.1 +2.3**
comp=Z,37nm,1.3s
MTPU Mount Pierson 33.28 115 *e*pP pP 19 12 55.0 +2.3
SHOC Shoshone, Teco 33.33 122 P **P** **19 12 36.0 +0.1**
baz=329
AGMN Agassiz Nation 33.36 86 *e*P **P** **19 12 37.2 +1.1**
comp=Z,38nm,1.1s
GSC Goldstone, Bar 33.62 124 *e*P **P** **19 12 41.2 +2.6**
GSC *e**PP **pP** **19 12 57.3 +1.9**
GSC Goldstone, Bar 33.62 124 *e*P **P** **19 12 41.2 +2.6**
GSC *e*pP **pP** **19 12 57.3 +1.9**
LCMT Little Creek M 33.67 118 *e*P **P** **19 12 42.5 +3.5**
comp=Z,18nm,1.0s
LCMT *e*ScS ScS 19 22 56.6 -0.4
PHWY Pilot Hill 33.78 104 *e*P **P** **19 12 39.0 -1.1**
comp=Z,12nm,0.8s
KNB Kanab 33.85 117 *e*pP pP 19 12 59.9 +2.5
KULLO Kullorsuaq 33.85 29↓ *i*P **P** **19 12 40.6 +0.6**
KULLO pmax pmax
comp=Z,19nm,0.8s
KULLO Kullorsuaq 33.85 29↓ *i*P **P** **19 12 40.6 +0.6**
comp=Z,19nm,0.8s
GMRC Granite Mounta 34.54 123 P **P** **19 12 48.2 +1.7**
baz=330
SCI2 San Clemente I 34.96 128 P **P** **19 12 51.2 +1.2**
baz=333
W13A Hualapai Mount 35.01 120 *e*P **P** **19 12 53.2 +2.5**
comp=Z,11nm,0.9s
PFO Pinyon Flats O 35.23 125 P **P** **19 12 53.8 +1.3**
comp=Z,7.9nm,0.8s,baz=310,slow=6.3,SNR=5.0
IRM Iron Mountain 35.29 122 P **P** **19 12 54.9 +2.0**
baz=330
PDMCI Parker Dam,Lak 35.59 121 P **P** **19 12 56.3 +0.9**
baz=330
BC3 Big Chuckawall 35.60 123 P **P** **19 12 57.0 +1.3**
baz=331
MVCO Mesa Verde 35.62 112 *e*pP pP 19 13 12.7 -0.2
YAK Yakutsk 35.73 308 P **P** **19 12 55.5 -0.7**
comp=Z,5.3nm,0.6s,baz=232,slow=21,SNR=12
YAK LR LR 19 28 16.0
comp=Z,194nm,21.6s,baz=80,slow=37
YAK Yakutsk 35.73 308 *e*P **P** **19 12 55.2 -1.1**
YAK *e* 19 15 20.6
YAK *e*S **S** **19 18 23.9 -3.7**
YAK pmax pmax
comp=Z,59nm,0.8s
YAK pmax pmax
comp=E,19nm,1.0s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=Z,20nm,1.0s
YAK smax smax
comp=N,66nm,2.7s
YAK smax smax
comp=E,40nm,3.2s
YAK MLR MLR
comp=Z,278nm,23.0s
YAK Yakutsk 35.73 308 P **P** **19 12 55.5 -0.7**
YAK *e*ScS ScS 19 23 10.9 +4.1
YAK Yakutsk 35.73 308 *e*ScP **P** **19 12 55.8 -0.4**
EYMN Ely 35.74 83 P **P** **19 12 58.4 +1.7**
baz=314
EYMN Ely 35.74 83 *e*P **P** **19 12 55.6 -1.0**
comp=Z,48nm,0.9s
WUAZ Wupatki 35.74 117 P **P** **19 12 59.4 +2.5**
baz=328
WUAZ Wupatki 35.74 117 *e*P **P** **19 12 59.5 +2.6**
comp=Z,41nm,0.8s
Q24A Divide 35.76 106 *e*pP pP 19 13 15.3 +1.2
MONP2 Monument Peak 35.87 125 P **P** **19 13 00.3 +2.2**
baz=332
Y12C Blythe 35.90 122 P **P** **19 12 60.0 +1.8**
baz=330
G35A Watkins 36.20 89 P **P** **19 13 01.4 +0.9**
baz=316
IKP In-Ko-Pah, Jac 36.21 125 P **P** **19 13 02.7 +1.8**
baz=332
NKL Nikolayevsk 36.35 289 *e*P **P** **19 13 00.5 -1.2**
NKL pmax pmax
comp=Z,52nm,1.3s
C39A Grand Marais 36.49 82 P **P** **19 13 03.2 +0.2**
baz=314
SDCO Great Sand Dun 36.57 108 *e*P **P** **19 13 06.4 +2.3**
comp=Z,24nm,1.2s
W18A Petrified Fore 36.80 115 P **P** **19 13 07.5 +1.5**
baz=327
W18A Petrified Fore 36.80 115 *e*pP pP 19 13 25.0 +2.0
TYV Tymovskoe 36.92 285 *e*P **P** **19 13 05.5 -1.1**
TYV pmax pmax
comp=E,6.0nm,0.6s
TYV pmax pmax
comp=Z,10.0nm,0.6s
KSCO Kaye Shedlock' 36.92 104 *e*pP pP 19 13 25.3 +1.5
SPMN Marine on St. 37.02 88 *e*pP pP 19 13 25.9 +1.4
BGNE Belgrade 37.22 97 P **P** **19 13 10.4 +1.1**
baz=320
J37A Redenius Farm, 38.05 90 P **P** **19 13 17.1 +0.9**
baz=318
N33A J Bar K, Exete 38.08 97 P **P** **19 13 17.3 +0.8**
baz=320
214A Organ Pipe Nat 38.17 121 P **P** **19 13 19.0 +1.6**
baz=331
COWI Conover 38.18 84 *e*pP pP 19 13 35.2 +0.8
P32A Hilltop Farm, 38.38 99 P **P** **19 13 19.7 +0.6**
baz=321
L36A Harm Buss Farm 38.40 93 P **P** **19 13 19.7 +0.5**
baz=319
K37A Belmond 38.41 91 P **P** **19 13 19.8 +0.5**
baz=318
O33A Hebron 38.52 98 P **P** **19 13 20.4 +0.2**
baz=321
LAZ Ladron 38.56 113 *e*pP pP 19 13 39.3 +1.3
N35A Tabor 38.86 95 P **P** **19 13 24.0 +0.9**
baz=320
LPM Los Pinos Moun 38.87 112 *e*pP pP 19 13 41.6 +1.2
O34A Beatrice 38.87 97 P **P** **19 13 23.5 +0.4**
baz=321
BNM Barren Site 39.01 113 *e*pP pP 19 13 43.0 +1.2
L38A Oak Wood Farm, 39.21 91 P **P** **19 13 27.0 +1.1**
baz=319
M37A Trindle Farm, 39.23 93 P **P** **19 13 26.5 +0.3**
baz=319
Q33A Connelly Farm, 39.24 99 P **P** **19 13 27.2 +1.0**
baz=322
R32A Long Quarter, 39.26 100 P **P** **19 13 26.1 -0.3**
baz=322
P34A Walnut Farm, R 39.30 97 P **P** **19 13 27.9 +1.2**
baz=321
SUMG Summit 39.31 26 *i* P **P** **19 13 27.5 +0.6**
SUMG pmax pmax
comp=Z,38nm,0.6s
SUMG Summit 39.31 26 *i* P **P** **19 13 27.5 +0.6**
comp=Z,38nm,0.6s
SUMG Summit 39.31 26 *e*P **P** **19 13 27.4 +0.5**
comp=Z,44nm,0.7s
K39A Oelwein 39.31 90 P **P** **19 13 27.5 +0.7**
baz=318
DAG Danmarks Havn 39.51 15↓ *i*P **P** **19 13 27.6 -0.5**
DAG pmax pmax
comp=Z,44nm,0.7s
DAG Danmarks Havn 39.51 15↓ *i*P **P** **19 13 27.6 -0.5**
comp=Z,64nm,0.7s
YSS Yuzh-Sakhalins 39.56 280↑ *e*P **P** **19 13 29.0 +0.2**
YSS *e**SP **sP** **19 13 51.4 -2.5**
YSS *e*S **S** **19 19 24.2 -1.8**
YSS pmax pmax
comp=Z,30nm,0.5s
YSS MLR MLR
comp=Z,400nm,18.0s
YSS Yuzh-Sakhalins 39.56 280 *e*P **P** **19 13 29.4 +0.6**
comp=Z,34nm,0.8s
M38A Pleasantville 39.64 92 P **P** **19 13 30.2 +0.7**
baz=319
N37A Lee Faris, Mou 39.64 94 P **P** **19 13 30.9 +1.3**
baz=320
K40A Colesburg 39.69 89 P **P** **19 13 30.8 +0.9**
baz=318
L39A Vinton 39.69 90 P **P** **19 13 31.0 +1.1**
baz=319
P35A Duane Minner, 39.71 97 P **P** **19 13 30.5 +0.4**
baz=321
KSU1 Kansas State U 39.75 98 P **P** **19 13 31.1 +0.6**
baz=321
O36A Bolckow 39.76 95 P **P** **19 13 30.9 +0.4**
baz=320
JFWS Jewell Farm 39.96 88 *e*P **P** **19 13 32.9 +0.7**
JFWS pmax pmax
comp=Z,34nm,0.6s
JFWS Jewell Farm 39.96 88 *e*P **P** **19 13 32.9 +0.7**
comp=Z,34nm,0.6s
R34A Isabella, Hill 40.07 99 P **P** **19 13 33.0 -0.2**
baz=322
O37A Wolven Farm, M 40.13 94 P **P** **19 13 34.7 +1.1**
baz=320
319A Douglas 40.18 118 *e*pP pP 19 13 53.4 +2.0
KBS Kingsbay 40.18 5 *e*pP pP 19 13 53.9 +3.2
Q35A Mercer Eighty, 40.22 97 P **P** **19 13 34.2 -0.2**
baz=322
N39A Derby Farms, D 40.39 92 P **P** **19 13 35.7 0.0**
baz=320
Q36A Arnold C. Orve 40.42 97 P **P** **19 13 36.0 0.0**
baz=321
L41A Preston 40.47 89 P **P** **19 13 36.7 +0.3**
baz=319
P37A Lathrop 40.48 95 P **P** **19 13 37.0 +0.6**
baz=321
O38A Galt 40.49 94 P **P** **19 13 36.6 0.0**
baz=320
P38A Dawn 40.85 94 P **P** **19 13 39.9 +0.4**
baz=321
R36A Gordon, Harris 40.90 97 P **P** **19 13 40.9 +1.0**
baz=322
MSTX Muleshoe 40.93 109 *e*P **P** **19 13 42.5 +2.1**
comp=Z,43nm,0.9s
S35A Otter Creek Ra 41.01 99 P **P** **19 13 40.7 -0.1**
baz=322
SPA0 Spitsbergen Ar 41.09 4 *e*P **P** **19 13 40.5 -0.6**
SPITS Spitsbergen Ar 41.09 4 P **P** **19 13 40.1 -1.0**
comp=Z,1.7nm,0.4s,baz=17,slow=3.5,SNR=22
R37A Teagarden Farm 41.23 97 P **P** **19 13 42.7 0.0**
baz=322
O40A La Belle 41.28 92 P **P** **19 13 43.6 +0.5**
baz=320
Q38A Cooks Store, C 41.32 95 P **P** **19 13 43.6 +0.2**
baz=321
S36A Lake Cedric, C 41.33 98 P **P** **19 13 43.7 +0.2**
baz=322
P39B Salisbury 41.33 94 P **P** **19 13 43.9 +0.4**
baz=321
U34A Anderson Ranch 41.41 101 P **P** **19 13 44.5 +0.3**
baz=323
U34A Anderson Ranch 41.41 101 *e*pP pP 19 14 01.3 -0.1
T35A Sooner Cattle 41.52 100 P **P** **19 13 45.2 +0.1**
baz=323
Q39A Willow Grove F 41.57 94 P **P** **19 13 45.8 +0.4**
baz=321
MNTX Cornudas Mount 41.63 113 P **P** **19 13 47.0 +0.9**
baz=328
MNTX Cornudas Mount 41.63 113 *e*P **P** **19 13 48.9 +2.8**
MNTX *e*pP **pP** **19 14 04.5 +1.2**
P40A Paris 41.65 93 P **P** **19 13 46.6 +0.6**
baz=321
S37A Fort Scott 41.67 97 P **P** **19 13 46.5 +0.2**
baz=322
ASAJ Asahikawa 41.69 278 P **P** **19 13 45.5 -0.9**
comp=Z,10nm,0.7s,baz=272,slow=4.6,SNR=16
ASAJ Asahikawa 41.69 278 *e*P **P** **19 13 45.9 -0.5**
comp=Z,100nm,2.0s
O41A Passleys Farm, 41.77 91 P **P** **19 13 47.6 +0.5**
baz=320
R38A Fenwick Farm, 41.78 96 P **P** **19 13 47.4 +0.2**
baz=322
V34A Guthrie 41.90 102 P **P** **19 13 48.3 +0.1**
baz=324
P41A Barry, Barry 42.02 92 P **P** **19 13 49.6 +0.5**
baz=321
Q40A Laux Farm, Aux 42.05 94 P **P** **19 13 49.5 +0.2**
baz=321
R39A Chumby, Stover 42.11 95 P **P** **19 13 50.4 +0.6**
baz=322
T37A Cheneyville 18 42.13 98 P **P** **19 13 49.9 -0.1**
baz=323
HABR Khabarovsk 42.15 288 *ce*P **P** **19 13 47.9 -2.1**
HABR *e**PP **pP** **19 14 05.3 -1.9**
HABR *e*SP **sP** **19 14 13.4 -1.9**
HABR *e* 19 15 26.6
HABR *e* 19 15 40.9
HABR *e*PPP PPP 19 15 59.1
HABR *e*S **S** **19 20 03.2 -1.1**
HABR *e**SS **sS** **19 20 33.0 -0.7**
HABR *e* 19 23 42.8
HABR pmax pmax
comp=E,14nm,0.7s
HABR pmax pmax
comp=N,11nm,1.5s
HABR pmax pmax
comp=Z,35nm,1.5s
HABR MLR MLR
comp=Z,124nm,20.0s
WMOK Wichita Mounta 42.18 104 P **P** **19 13 51.1 +0.5**
baz=325
WMOK Wichita Mounta 42.18 104 *e*pP pP 19 14 08.2 +0.5
HDIL Hopedale 42.21 90 P **P** **19 13 51.3 +0.7**
baz=320
HDIL Hopedale 42.21 90 *e*pP pP 19 14 08.8 +0.9
S38A Stockton 42.22 96 P **P** **19 13 51.0 +0.2**
baz=322
V35A Meyer Ranch, C 42.28 101 P **P** **19 13 51.1 -0.3**
baz=324
SCHQ Schefferville 42.38 59 P **P** **19 13 51.9 0.0**
comp=Z,14nm,0.7s,baz=320,slow=9.2,SNR=9.6
SCHQ LR LR 19 30 46.8
comp=Z,121nm,18.6s,baz=320,slow=35
SCHQ Schefferville 42.38 59 *e*P **P** **19 13 51.9 0.0**
comp=Z,17nm,0.8s
SCHQ *e*pP **pP** **19 14 05.1 -4.0**
S39A Bolivar 42.46 96 P **P** **19 13 52.2 -0.5**
baz=322
T38A Diamond 42.50 97 P **P** **19 13 52.9 -0.1**
baz=323
R40A Maddies Statio 42.50 94 P **P** **19 13 53.1 0.0**
baz=322
U37A Salina 42.60 99 P **P** **19 13 54.5 +0.7**
baz=323
TUL1 Leonard 42.67 100 P **P** **19 13 54.9 +0.5**
baz=324
V36A Jenks 42.70 100 P **P** **19 13 55.0 +0.3**
baz=324
W35A Tecumseh 42.76 102 P **P** **19 13 55.7 +0.5**
baz=324
Y33A Hilltop Ranch, 42.85 104 P **P** **19 13 56.3 +0.4**
baz=325
Q42A Golden Eagle 42.87 92 P **P** **19 13 56.6 +0.6**
baz=321
U38A Gravette 42.93 98 P **P** **19 13 56.8 +0.3**
baz=323
S40A Lebanon 42.93 95 P **P** **19 13 56.6 0.0**
baz=322
T39A Clever 42.96 97 P **P** **19 13 56.8 0.0**
baz=323
ERM Erimo 42.98 275 *c i*P **P** **19 13 57.0 +0.1**
ERM pmax pmax
comp=Z,34nm,1.0s
ERM Erimo 42.98 275 *e*P **P** **19 13 57.5 +0.7**
comp=Z,33nm,0.8s
V37A Hulbert 43.01 99 P **P** **19 13 56.7 -0.5**
baz=324
W36A Wetumka 43.08 101 P **P** **19 13 56.8 -1.0**
baz=324
KLR Kul'dur 43.13 291 P **P** **19 13 57.1 -0.9**
comp=Z,20nm,0.8s,baz=56,slow=5.8,SNR=60
Q43A New Douglas 43.26 91 P **P** **19 13 59.7 +0.6**
baz=321
T40A Mansfield 43.27 96 P **P** **19 13 59.2 -0.2**
baz=322
Y34A Reagan Ranch, 43.31 103 P **P** **19 14 00.2 +0.6**
baz=325
X35A Drake 43.32 102 P **P** **19 14 00.5 +0.7**
baz=325
Z33A Whitaker Ranch 43.38 105 P **P** **19 14 00.8 +0.6**
baz=326
V38A Canehill 43.38 99 P **P** **19 14 00.3 +0.1**
baz=323
SFIN Lafayette 43.42 88 *e*P **P** **19 14 05.1 +4.6**
comp=Z,23nm,0.6s
W37B Quinton 43.47 100 P **P** **19 14 01.6 +0.7**
baz=324
ABTX Abilene, Hawle 43.51 106 P **P** **19 14 01.9 +0.6**
baz=326
NRIK Noril'sk 43.61 334 P **P** **19 14 00.6 -1.1**
comp=Z,16nm,0.6s,baz=49,slow=7.0,SNR=15
Q44A Meyer Farm, Va 43.62 91 P **P** **19 14 03.2 +1.1**
baz=321
T41A Mountain View 43.73 95 P **P** **19 14 03.0 0.0**
baz=322
U40A Yellville 43.74 97 P **P** **19 14 03.5 +0.4**
baz=323
V39A Pettigrew 43.77 98 P **P** **19 14 03.8 +0.4**
baz=323
133A Hamilton Ranch 43.86 106 P **P** **19 14 03.4 -0.7**
baz=326
X37A Clayton 43.94 101 P **P** **19 14 04.4 -0.2**
baz=324
W38A Poteau 43.96 99 P **P** **19 14 05.0 +0.1**
baz=324
SADO Sadowa 43.99 77 *e*pP pP 19 14 23.1 +0.8
Y36A Durant 44.06 102 P **P** **19 14 05.6 0.0**
baz=325
R44A Waltonville 44.10 92 P **P** **19 14 04.9 -1.0**
baz=322
X38A Whitesboro 44.13 100 P **P** **19 14 06.4 +0.1**
baz=324
S43A Fulton Ridge, 44.14 93 P **P** **19 14 05.9 -0.4**
baz=322
OLIL Olney 44.20 90 *e*P P 19 14 11.8 +5.1
OLIL *e*pP pP 19 14 22.2 -1.9
W39A Magazine 44.22 99 P **P** **19 14 07.2 +0.3**
baz=324
134A White-Moore Ra 44.29 105 P **P** **19 14 07.2 -0.3**
baz=326
233A Rising Star 44.36 106 P **P** **19 14 08.7 +0.6**
baz=326
TX31 Lajitas Ar. Si 44.41 113 *e*pP pP 19 14 25.9 -0.1
TXAR Lajitas Array 44.41 113 P **P** **19 14 09.7 +1.0**
comp=Z,1.8nm,0.8s,baz=329,slow=4.7,SNR=5.1
TXAR ScP **ScP** **19 19 36.9 +0.2**
comp=Z,0.4nm,0.8s,baz=285,slow=1.8,SNR=3.5
S44A Carbondale 44.45 92 P **P** **19 14 08.9 +0.2**
baz=322
BOD Bodaibo 44.46 310 *e*P **P** **19 14 07.5 -1.0**
BOD pmax pmax
comp=Z,22nm,1.3s
Z36A Blue Ridge 44.50 103 P **P** **19 14 08.8 -0.4**
baz=325
V41A Mountainview 44.54 96 P **P** **19 14 09.3 -0.1**
baz=323
PBMO Poplar Bluff 44.59 94 *e*P **P** **19 14 09.9 +0.1**
comp=Z,39nm,0.6s
135A Vickery Place, 44.62 104 P **P** **19 14 10.2 0.0**

baz=326
234A Clairette 44.73 105 P **P** 19 14 11.9 +0.8
baz=326
S45A Carrier Mills 44.79 92 P **P** 19 14 11.8 +0.4
baz=322
MIAR Mount Ida 44.84 99 P **P** 19 14 11.4 -0.4
baz=324
MIAR Mount Ida 44.84 99 *e*P **P** 19 14 12.8 +0.9
MIAR pmax pmax
comp=Z,14nm,0.9s
MIAR Mount Ida 44.84 99 *e*P **P** 19 14 12.8 +0.9
comp=Z,14nm,0.9s
V42A Cord 44.89 96 P **P** 19 14 11.6 -0.7
baz=323
333A Richland Sprin 44.90 107 P **P** 19 14 12.8 +0.5
baz=327
W41B Gary Mavity, V 44.98 97 P **P** 19 14 13.6 +0.7
baz=324
USIN University of 45.01 91 *e*pP pP 19 14 31.5 +1.0
WHTX Lake Whitney, 45.06 105 P **P** 19 14 14.1 +0.5
baz=326
TRQ Mont Tremblant 45.09 72 *e*P **P** 19 14 14.1 +0.3
JCT Junction City 45.22 108 P **P** 19 14 15.8 +0.9
baz=328
JCT Junction City 45.22 108 *e*P **P** 19 14 16.3 +1.3
JCT pmax pmax
comp=Z,76nm,1.3s
JCT Junction City 45.22 108 *e*P **P** 19 14 16.3 +1.3
comp=Z,76nm,1.3s
334A Lometa 45.24 106 P **P** 19 14 15.9 +0.8
baz=327
236A Katherine and 45.50 104 P **P** 19 14 17.3 +0.3
baz=326
434A Burnet 45.66 106 P **P** 19 14 19.4 +1.1
baz=327
336A Riesel 45.86 105 P **P** 19 14 20.8 +0.9
baz=326
533A Kerrville 45.92 108 P **P** 19 14 21.4 +0.9
baz=328
LMQ La Malbaie 46.06 68 *e*P **P** 19 14 21.8 +0.4
M54A Oil Creek Stat 46.19 81 P **P** 19 14 23.2 +0.8
baz=320
534A Blanco 46.22 107 P **P** 19 14 23.9 +1.1
baz=327
Z41A Richland Creek 46.26 99 P **P** 19 14 24.0 +1.0
baz=325
LONY Lake Ozonia 46.27 74 *e*P **P** 19 14 26.0 +3.0
comp=Z,9.1nm,0.8s
FRNY Flat Rock 46.57 73 *e*P **P** 19 14 25.1 -0.3
comp=Z,18nm,1.0s
USRK Ussuriysk Ar. 46.72 286 P **P** 19 14 25.4 -1.1
comp=Z,11nm,0.8s,baz=43,slow=9.4,SNR=16
USRK LR LR 19 35 41.6
comp=Z,186nm,19.4s,baz=32,slow=38
OXF Oxford 46.90 95 *e*P **P** 19 14 28.8 +0.8
OXF pmax pmax
comp=Z,78nm,0.9s
OXF Oxford 46.90 95 *e*P **P** 19 14 28.8 +0.8
comp=Z,78nm,0.9s
PLAL Pickwick Lake 47.17 93 *e*P **P** 19 14 31.1 +0.9
comp=Z,28nm,0.8s
BINY Binghamton 47.43 77 *e*P **P** 19 14 33.0 +0.8
comp=Z,24nm,0.8s
MDJ Mudanjiang 47.53 288 P **P** 19 14 32.3 -0.5
MDJ S **S** 19 21 24.4 +2.1
MDJ PMZ
comp=Z,17nm,1.0s
MDJ PMZ
comp=Z,74nm,4.4s
MDJ LN
comp=Z,57nm,28.8s
MDJ LE
comp=Z,140nm,26.5s
MDJ Mudanjiang 47.53 288 *e*P **P** 19 14 31.7 -1.1
comp=Z,24nm,1.1s
VLA Vladivostok 47.59 285 *e*P **P** 19 14 32.8 -0.5
VLA pmax pmax
comp=Z,32nm,1.0s
Y46A Houston 47.67 95 P **P** 19 14 35.2 +1.1
baz=324
SSPA Standing Stone 47.72 80 *e*P **P** 19 14 31.1 -3.3
comp=Z,39nm,1.3s
Y47A UCPARC, Winfie 48.15 94 P **P** 19 14 38.6 +0.9
baz=324
Z46A Louisville 48.19 96 P **P** 19 14 39.6 +1.5
baz=324
244A Avery, Jackson 48.28 98 P **P** 19 14 40.3 +1.6
baz=325
MSHR Mys Shultsa 48.35 285*d i*P **P** 19 14 38.9 -0.2
HIA Hailar 48.45 299*c i*P **P** 19 14 39.4 -0.5
HIA pmax pmax
comp=Z,37nm,0.9s
HIA Hailar 48.45 299 *e*P **P** 19 14 39.6 -0.3
comp=Z,27nm,0.8s
N59A State Game Lan 48.52 78 P **P** 19 14 41.1 +0.6
baz=321
146A Union 48.59 96 P **P** 19 14 42.2 +1.1
baz=325
Z47A Carrollton 48.61 95 P **P** 19 14 41.5 +0.2
baz=324
Z48A Northport 48.72 94 P **P** 19 14 42.7 +0.5
baz=324
CIT Chita 48.93 305 *e*P **P** 19 14 44.0 +0.4
CIT *e* 19 15 06.2
CIT *e* 19 16 06.2
CIT pmax pmax
comp=Z,56nm,1.5s
ODNJ Ogdensburg 48.95 77 *e*P **P** 19 14 44.3 +0.5
comp=Z,22nm,0.8s
LUPA Lehigh Univers 48.96 78 *e*P **P** 19 14 44.8 +1.0
comp=Z,37nm,0.9s
936A North Padre Is 48.96 108 P **P** 19 14 45.1 +1.1
baz=328
LRAL Lakeview Retre 49.27 94 *e*P **P** 19 14 46.1 -0.3
comp=Z,5.0nm,0.7s
MJB9 Matsu-Tunnel 49.64 274 *e*P **P** 19 14 48.6 -0.6
comp=Z,8.3nm,0.8s
MAJO Matsushiro 49.65 274 *e*P **P** 19 14 48.5 -0.7
MAJO pmax pmax
comp=Z,32nm,0.8s
MAJO Matsushiro 49.65 274 *e*P **P** 19 14 48.5 -0.7
comp=Z,32nm,0.8s
MAT Matsushiro 49.65 274 P **P** 19 14 47.3 -1.9
MJAR Matsushiro Arr 49.65 274 P **P** 19 14 48.1 -1.1
comp=Z,11nm,0.8s,baz=14,slow=7.0,SNR=33
MJAR ScP **ScP** 19 19 58.0 -0.4
comp=Z,2.5nm,0.9s,baz=30,slow=3.0,SNR=4.5
MJAR LR LR 19 37 43.0
comp=Z,68nm,19.0s,baz=120,slow=38
KEV Kevo 49.76 1 *e*P **P** 19 14 47.4 -2.2
KEV pmax pmax
comp=Z,9.0nm,0.9s
KEV Kevo 49.76 1 *e*P **P** 19 14 47.4 -2.2
comp=Z,9.2nm,0.9s
BRYW Bryant College 49.76 74 *e*pP pP 19 15 09.3 +1.7
LMN Caledonia Moun 49.83 66 *e*P **P** 19 14 50.8 +0.3
comp=Z,25nm,0.8s
ARA0 ARCESS Array S 49.97 2 *e*P **P** 19 14 49.5 -1.6
ARCES ARCESS Array B 49.97 2 P **P** 19 14 49.8 -1.3
comp=Z,5.1nm,0.6s,baz=2.5,slow=6.8,SNR=30
ARCES pP **pP** 19 15 10.2 +1.4
comp=Z,24nm,0.9s,baz=8.9,slow=8.6,SNR=10
ARCES PcP **PcP** 19 16 10.2 0.0
comp=Z,5.6nm,0.7s,baz=12,slow=5.0,SNR=2.5
ARCES pPcP 19 16 30.6
comp=Z,8.7nm,0.7s,baz=348,slow=3.0,SNR=5.3
ARE0 ARCESS Array S 49.97 2 *e*P **P** 19 14 50.0 -1.1
comp=Z,19nm,0.8s
CN2 Changchun 50.08 290 *e*P **P** 19 14 51.8 -0.5
CN2 *ep*P pP 19 15 06.3 -3.7
CN2 *es*P sP 19 15 14.1 -3.8
CN2 *e*S **S** 19 21 56.6 -1.4
CN2 PMZ
comp=Z,110nm,0.8s
CN2 PMZ
comp=Z,200nm,3.0s
JSC Jenkinsville 51.08 88 *ep*P pP 19 15 18.4 +0.7
LVZ Lovozero 51.56 357*d i*P **P** 19 15 02.4 -0.8
LVZ pmax pmax
comp=Z,14nm,0.9s
LVZ Lovozero 51.56 357 *e*P **P** 19 15 02.6 -0.6
comp=Z,48nm,0.9s
JHJ Hachijo jima 2 51.61 270 LR LR 19 35 43.4
comp=Z,205nm,20.9s,baz=274,slow=34
APA Apatity 51.92 358 *i* P **P** 19 15 04.0 -1.8
APA pmax pmax
comp=Z,36nm,0.8s
APA MLR MLR
comp=Z,300nm,16.0s
IRK Irkutsk 52.33 311 *e*P **P** 19 15 08.1 -1.0
IRK *e* 19 15 30.7
IRK pmax pmax
comp=Z,33nm,1.8s
TLY Talaya 53.01 311 LR LR 19 40 27.4
comp=Z,115nm,18.7s,baz=42,slow=39
TLY Talaya 53.01 311 *e*P **P** 19 15 14.3 +0.1
TLY pmax pmax
comp=Z,34nm,1.7s
TLY Talaya 53.01 311 *e*P **P** 19 15 14.5 +0.3
comp=Z,48nm,1.6s
KS01 Wonju Array Si 53.90 283 *e*P **P** 19 15 20.0 -0.8
KSRS Korea Array 53.90 283 P **P** 19 15 20.4 -0.3
comp=Z,53nm,0.8s,baz=32,slow=6.8,SNR=230
KSRS ScP **ScP** 19 20 16.8 0.0
comp=Z,1.7nm,0.9s,baz=37,slow=4.4,SNR=4.6
KSRS LR LR 19 40 08.5
comp=Z,93nm,19.2s,baz=24,slow=38
KS15 Wonju Array Si 53.93 283 *e*P **P** 19 15 21.3 +0.3
KSAR Wonju Array Be 53.93 283 P **P** 19 15 20.5 -0.5
KSAR Wonju Array Be 53.93 283 P **P** 19 15 20.4 -0.5
KSAR ScP **ScP** 19 20 16.8 -0.1
MOY Mondy 53.99 313 *e*P **P** 19 15 22.4 +1.0
MOY pmax pmax
comp=Z,40nm,1.8s
ZAK Zakamensk 54.20 311 *e*P **P** 19 15 22.7 -0.3
ZAK pmax pmax
comp=Z,6.0nm,1.4s
INCN Inchon 54.49 284 *e*P **P** 19 15 25.3 +0.1
comp=Z,50nm,0.9s
ULN Ulaanbaatar 54.79 306*c i*P **P** 19 15 27.4 +0.1
ULN pmax pmax
comp=Z,24nm,1.1s
ULN Ulaanbaatar 54.79 306 *e*P **P** 19 15 27.6 +0.3
comp=Z,30nm,1.1s
TJN Taejon 55.03 283 *e*P **P** 19 15 28.3 -0.7
SONA1 Songino Array 55.06 307 *e*P **P** 19 15 29.4 +0.2
SONM Songino Array 55.08 307 P **P** 19 15 29.3 -0.1
comp=Z,29nm,0.9s,baz=41,slow=7.7,SNR=117
SONM LR LR 19 40 46.7
comp=Z,202nm,19.7s,baz=38,slow=38
CBIJ Chichi jima 55.39 264 *e*P **P** 19 15 30.4 -1.2
comp=Z,162nm,0.7s
JCJ Chichijima 55.39 264 P **P** 19 15 30.8 -0.8
comp=Z,168nm,0.7s,baz=332,slow=3.2,SNR=12
JCJ LR LR 19 38 30.3
comp=Z,94nm,20.4s,baz=14,slow=35
JNU Nakatsue 55.97 278 *e*P **P** 19 15 35.7 -0.1
comp=Z,129nm,2.0s
NVS Novosibirsk 56.95 326 *e*P **P** 19 15 41.2 -1.2
NVS *e* 19 16 00.2
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.8s
NVS pmax pmax
comp=Z,12nm,0.8s
BJI Beijing 57.27 294 P **P** 19 15 44.8 -0.1
BJI PMZ
comp=Z,49nm,0.9s
BJT Baijiatuau 57.29 294 *e*P **P** 19 15 44.7 -0.4
BJT pmax pmax
comp=Z,45nm,0.9s
BJT Baijiatuau 57.29 294 *e*P **P** 19 15 44.7 -0.4
comp=Z,45nm,0.9s
ZAA0 Zalesovo Array 57.29 324 *e*P **P** 19 15 43.5 -1.3
ZALV Zalesovo Beam 57.29 324 P **P** 19 15 43.8 -1.0
comp=Z,13nm,0.6s,baz=27,slow=6.6,SNR=46
ZALV pP **pP** 19 16 03.5 +0.7
comp=Z,10nm,0.6s,baz=27,slow=7.0,SNR=7.7
NC303 NORSAR Array S 57.59 10 *e*P **P** 19 15 46.4 -0.5
NBO02 NORSAR Array S 57.72 10 *ep*P pP 19 16 06.3 +0.5
NC405 NORSAR Array S 57.73 10 *e*P **P** 19 15 47.0 -0.9
NB201 NORSAR Array S 57.76 10 *e*P **P** 19 15 47.6 -0.5
NB2 NORSAR Subarra 57.76 10 P **P** 19 15 46.8 -1.3
comp=Z,29nm,0.8s,baz=349,slow=7.4
NB2 NORSAR Subarra 57.76 10 P **P** 19 15 46.8 -1.3
baz=349,slow=7.4
NOA NORSAR Array B 57.76 10 P **P** 19 15 46.9 -1.3
comp=Z,2.7nm,0.7s,baz=350,slow=7.1,SNR=14
NOA pP **pP** 19 16 07.4 +1.2
comp=Z,25nm,0.7s,baz=350,slow=7.0,SNR=22
NC602 NORSAR Array S 58.09 10 *ep*P pP 19 16 09.7 +1.3
FIA1 FINESS Array S 58.09 2 *e*P **P** 19 15 49.0 -1.4
FIA1 *e*ScP **ScP** 19 20 33.8 -1.0
FINES FINESS Array B 58.10 2 P **P** 19 15 48.7 -1.7
comp=Z,4.4nm,0.6s,baz=7.4,slow=8.5,SNR=16
FINES pP **pP** 19 16 09.1 +0.7
comp=Z,24nm,0.7s,baz=2.7,slow=8.0,SNR=15
FINES ScP **ScP** 19 20 33.8 -1.1
comp=Z,2.9nm,0.8s,baz=10,slow=4.3,SNR=4.8
FINES FINESS Array B 58.10 2 *i* P **P** 19 15 49.4 -1.0
FINES pmax pmax
comp=Z,5.0nm,0.6s
KLMR Klimovskoe 58.43 354 *e*P **P** 19 15 48.4 -4.3
KLMR *e**PP **pP** 19 16 07.9 -2.8
KLMR *e*S **S** 19 23 46.3 -3.6
KLMR pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 58.64 298 *e*P **P** 19 15 54.8 +0.2
HHC sP sP 19 16 18.4 -2.1
HHC S **S** 19 23 54.5 +1.1
HHC sS sS 19 24 21.4 -2.7
HHC PMZ
comp=Z,42nm,1.0s
HHC PMZ
comp=Z,80nm,6.6s
HHC LN
comp=Z,270nm,12.1s
HHC LE
comp=Z,380nm,14.8s
HHC LZ
comp=Z,170nm,13.9s
KONO Kongsberg 58.99 11 *ep*P pP 19 16 16.6 +1.9
SVE Sverdlovsk 60.10 340 *e*P **P** 19 16 04.1 -0.2
SVE pmax pmax
comp=Z,50nm,0.9s
ARU Arti 60.82 342*d i*P **P** 19 16 08.2 -1.0
ARU *PP **pP** 19 16 28.0 +0.6
ARU 19 16 50.4
ARU 19 18 21.1
ARU S **S** 19 24 21.6 +0.9
ARU 19 25 47.8
ARU SS **SS** 19 28 17.7 -1.9
ARU pmax pmax
comp=Z,12nm,0.7s
ARU Arti 60.82 342 *e*P **P** 19 16 08.3 -0.8
comp=Z,46nm,0.7s
VSU Vasula 61.09 1 *e*P **P** 19 16 08.7 -2.3
VSU pmax pmax
comp=Z,35nm,0.9s
ESK Eskdalemuir 61.51 20 *e*P pP 19 16 33.7 +1.6
ESK Eskdalemuir 61.51 20 *ep*P pP 19 16 33.7 +1.6
BRVK Borovoye 61.80 333 *e*P **P** 19 16 14.5 -1.4
BRVK pmax pmax
comp=Z,24nm,1.1s
BVAR Borovoye Array 61.81 333 LR LR 19 45 45.1
comp=Z,161nm,19.5s,baz=54,slow=39
KURK Kurchatov 61.90 327 *e*P **P** 19 16 15.2 -1.4
KURK pmax pmax
comp=Z,68nm,0.9s
KURK Kurchatov 61.90 327 *e*P **P** 19 16 15.2 -1.4
comp=Z,68nm,0.9s
KURBB Kurchatov Arra 62.01 327 P **P** 19 16 16.0 -1.3
comp=Z,3.9nm,0.4s,baz=29,slow=6.5,SNR=35
ZRNK Zerenda 62.18 334 *e*P **P** 19 16 17.4 -1.0
ZRNK pmax pmax
comp=Z,32nm,1.0s
ZRNK Zerenda 62.18 334 *e*P **P** 19 16 17.4 -1.0
comp=Z,32nm,1.0s
NJ2 Nanjing 62.60 287 *e*P **P** 19 16 21.0 -0.5
NJ2 S **S** 19 24 49.1 +5.2
NJ2 PMZ
comp=Z,81nm,0.8s
NJ2 PMZ
comp=Z,200nm,4.9s
NJ2 LZ
comp=Z,230nm,26.0s
MOS Moscow 63.63 354 *e*P **P** 19 16 27.3 -0.6
MOS *e* 19 16 48.2
MOS *e* 19 17 05.5
MOS *e*S **S** 19 24 56.7 +0.6
MOS *e* 19 25 14.7
MOS pmax pmax
comp=Z,34nm,0.8s
CWF Charnwood Fore 64.30 20 *ep*P pP 19 16 51.3 +0.6
OBN Obninsk 64.30 355 *e*P **P** 19 16 31.9 -0.4
OBN *e* 19 16 52.0
OBN *e* 19 17 05.7
OBN *e* 19 18 53.2
OBN pmax pmax
comp=Z,19nm,1.0s
OBN MLR MLR
comp=Z,253nm,17.0s
OBN Obninsk 64.30 355 *e*P **P** 19 16 32.2 -0.2
comp=Z,34nm,0.8s
MK31 Makanchi Array 64.39 322 *e*P **P** 19 16 32.3 -0.9
MK31 Makanchi Array 64.39 322 *e*P **P** 19 16 32.3 -0.9
MKAR Makanchi Array 64.39 322 P **P** 19 16 31.6 -1.6
comp=Z,2.6nm,0.6s,baz=36,slow=6.7,SNR=23
MKAR pP **pP** 19 16 51.7 +0.2
comp=Z,10nm,0.9s,baz=46,slow=7.5,SNR=8.4
MKAR LR LR 19 49 56.3
comp=Z,79nm,19.0s,baz=29,slow=41
MKAR Makanchi Array 64.39 322 *e*P **P** 19 16 32.3 -0.9
MKAR pP **pP** 19 16 51.7 +0.2
MK01 Makanchi Array 64.41 322 *e*P **P** 19 16 31.4 -2.0
MAKZ Makanchi 64.48 322 *e*P **P** 19 16 32.3 -1.4
MAKZ pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 64.48 322 *e*P **P** 19 16 32.3 -1.4
comp=Z,11nm,1.0s
GTA Gaotai 64.73 306 *e*P **P** 19 16 35.4 -0.2
GTA PMZ
comp=Z,16nm,1.3s
MICGM Minsk 65.07 1 *e* **P** 19 16 42.0 +4.6
MNK Minsk 65.07 1 *e*P **P** 19 16 42.0 +4.6
WMQ Urumqi 65.33 317 P **P** 19 16 42.3 +2.9
WMQ pP pP 19 16 55.3 -2.5
WMQ sP sP 19 17 00.3 -5.2
WMQ PMZ
comp=Z,6.0nm,1.0s
WMQ PMZ
comp=Z,55nm,5.2s
WMQ LN
comp=Z,71nm,16.6s
WMQ LE
comp=Z,89nm,23.8s
XAN Xi'an 65.47 296 P **P** 19 16 39.8 -0.6
XAN PMZ
comp=Z,17nm,1.1s
SUW Suwalki 65.48 4 *e*P P 19 16 45.1 +5.1
SUW Suwalki 65.48 4 *e*P P 19 16 45.1 +5.1
LZH Lanzhou 65.92 301 *e*P **P** 19 16 43.6 +0.2
LZH pP pP 19 17 03.0 +1.2
LZH sP PcP 19 17 12.0 -1.7
LZH PP **PP** 19 19 11.5 +2.8
LZH *e*S **S** 19 25 23.0 -2.2
LZH sS sS 19 25 56.5 +0.1
LZH *e*SS **SS** 19 29 40.0 -0.4
LZH PMZ
comp=Z,57nm,1.5s
LZH PMZ
comp=Z,160nm,7.0s
LZH LN
comp=Z,260nm,13.0s
LZH LE
comp=Z,330nm,15.0s
LZH LZ
comp=Z,500nm,17.3s
WHN Wuhan 65.96 290⇑ *i*P **P** 19 16 43.1 -0.4
WHN PMZ
comp=Z,96nm,0.7s
LPSR Galich'ya Gora 66.69 353 *e*P **P** 19 16 48.0 +0.2
LPSR *e**PP **sP** 19 17 12.0 -2.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
BEBN Eben Emael 67.23 16 AP pP 19 17 11.1 +1.3
SNF Seneffe 67.33 17 AP pP 19 17 11.7 +1.3
MEM Membach 67.46 16 P **P** 19 16 52.5 -0.3
comp=Z,24nm,1.8s
MEM AP **pP** 19 17 12.6 +1.4
ABKAR Akbulak array 67.49 339 *e*P **P** 19 16 52.2 -0.7
BCLA Clavier 67.55 16 AP pP 19 17 12.9 +1.1
YHNB Yeheng 67.58 281 *e*P **P** 19 16 52.9 -1.1
comp=Z,15nm,0.9s
DOU Dourbes 67.77 17 P **P** 19 16 54.5 -0.2
comp=Z,12nm,1.2s
DOU AP **pP** 19 17 13.2 +0.1
NACB Ninganchiao 67.90 280 *e*P **P** 19 16 55.0 -0.9
comp=Z,32nm,0.8s
VRH Novokhopyorsk 67.90 351 *e*P **P** 19 16 54.5 -1.0
VRH *e*PP **pP** 19 17 15.0 +1.0
VRH pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 68.06 353 *e*P **P** 19 16 55.2 -1.3
VSR *e**PP **pP** 19 17 16.6 +1.6
VSR pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 68.07 10 *e*PKP **P** 19 16 56.4 -0.1
comp=Z,7.3nm,1.1s
BRG *i* 19 17 16.8
comp=Z,27nm,1.0s
comp=N,277μm,20.1s
comp=E,221nm,17.6s
comp=Z,422nm,18.4s
BRG Berggiesshubel 68.07 10 *e*P **P** 19 16 56.4 -0.1
BRG *i* 19 17 16.8
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG MLR MLR
comp=N,277μm,20.1s
BRG MLR MLR
comp=E,221nm,17.6s
BRG MLR MLR
comp=Z,422nm,18.4s
KSP Ksiaz 68.28 9 *e*P **P** 19 16 58.2 +0.4
KSP Ksiaz 68.28 9 *e*P **P** 19 16 58.3 +0.4
WLF Walferdange 68.41 16 AP pP 19 17 19.0 +1.8
WLF Walferdange 68.41 16 *ep*P pP 19 17 19.5 +2.3
ENH Enshi 68.41 293 *e*P **P** 19 16 58.2 -0.9
comp=Z,18nm,0.8s
PVCC Panska Ves 68.46 10 *e*P **P** 19 16 59.1 +0.1
PVCC *ep*P **pP** 19 17 18.3 +0.8
PVCC AMS AMS 19 54 50.0
comp=Z,200nm,16.0s
PVCC Panska Ves 68.46 10 *e*P **P** 19 16 59.1 +0.1
PVCC *e* 19 17 18.3
PVCC MLR MLR
comp=Z,200nm,16.0s
SSLB Suanglung 68.53 280 *e*P **P** 19 16 59.0 -0.9
comp=Z,26nm,0.8s
NKC Novy Kostel 68.56 11 *e*P **P** 19 16 59.7 0.0
NKC *ep*P **pP** 19 17 18.9 +0.7
NKC Novy Kostel 68.56 11 *e*P **P** 19 16 59.7 0.0
NKC *e* 19 17 18.9
UPC Upice 68.60 9 *e*P **P** 19 16 59.9 0.0
UPC AMS AMS 19 52 40.0
comp=Z,300nm,23.0s
UPC Upice 68.60 9 *e*P **P** 19 16 59.9 0.0
UPC MLR MLR
comp=Z,300nm,23.0s
DPC Dobruska-Polom 68.78 9 *e*P **P** 19 17 01.2 +0.2
DPC *ep*P **pP** 19 17 19.2 -0.4
DPC Dobruska-Polom 68.78 9 *e*P **P** 19 17 01.2 +0.2
DPC *e* 19 17 19.2
AKASG Malin Array Be 68.88 360 P **P** 19 17 00.6 -1.0
comp=Z,4.6nm,0.4s,baz=2.6,slow=6.4,SNR=32
AKASG pP **pP** 19 17 19.9 -0.3
comp=Z,24nm,0.7s,baz=1.0,slow=6.1,SNR=11
AKASG S **S** 19 26 00.3 +0.5
comp=Z,0.2nm,0.3s,baz=5.7,slow=13,SNR=5.3
AKBB Malin Array Si 68.88 360 *ep*P pP 19 17 20.1 0.0
KIEV Kiev 68.89 360*d i*P **P** 19 17 00.6 -1.1
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 68.89 360 *e*P **P** 19 17 00.5 -1.2
comp=Z,32nm,0.9s
AK11 Malin Array Si 68.91 360 *e*P **P** 19 17 00.8 -1.0
PRU Pruhonice 69.00 10 *e*P **P** 19 17 02.2 -0.1
PRU *ep*P **pP** 19 17 20.5 -0.4
PRU AMS AMS 19 54 50.0
comp=Z,300nm,17.9s
PRU Pruhonice 69.00 10 *e*P **P** 19 17 02.2 -0.1
PRU *e* 19 17 20.5
PRU MLR MLR
comp=Z,300nm,17.9s
GOPC GO Pecny, Ondr 69.09 10 *e*P **P** 19 17 03.0 0.0

GOPC **GO Pecny, Ondr** 69.09 10 *e*P P 19 17 03.0 0.0
OJC **Ojcow** 69.12 6 *e*P P 19 17 03.1 -0.1
OJC **Ojcow** 69.12 6 *e*P P 19 17 03.1 -0.1
OJC **Ojcow** 69.12 6 *ep*P pP 19 17 23.4 +1.7
LANF **Langenberg** 69.29 15⇑ *e*P pP 19 17 24.3 +1.5
MORC **Moravsky Berou** 69.43 8⇑ *i*P pP 19 17 24.7 +1.0
MORC **Moravsky Berou** 69.43 8 *e*P P 19 17 05.1 0.0
MORC pmax pmax
comp=Z,60nm,0.8s
MORC **Moravsky Berou** 69.43 8 *e*P P 19 17 05.1 0.0
comp=Z,60nm,0.8s
LVV **L'vov** 69.70 3 *e*P P 19 17 10.3 +3.6
LVV *e* 19 17 26.5
TREC **Trest** 69.76 9 AMS AMS 19 55 10.0
comp=Z,300nm,17.2s
KHC **Kasperske Hory** 69.76 11 *e*P P 19 17 07.3 +0.1
KHC *ep*P pP 19 17 26.6 +0.9
KHC *es*P sP 19 17 34.0 +0.6
KHC AMS AMS 19 57 10.0
comp=Z,300nm,16.9s
KHC **Kasperske Hory** 69.76 11 *e*P P 19 17 07.3 +0.1
KHC *e* 19 17 34.0
KHC MLR MLR
comp=Z,300nm,16.9s
KHC **Kasperske Hory** 69.76 11 *e*P P 19 17 07.2 +0.1
comp=Z,7.3nm,0.9s
KWP **Kalwaria Pacla** 69.84 4 *e*P P 19 17 07.7 +0.1
KWP **Kalwaria Pacla** 69.84 4⇑ *i*P P 19 17 07.7 +0.1
KWP **Kalwaria Pacla** 69.84 4 ⇑P P 19 17 07.7 +0.1
TKM2 **Tokmak 2** 69.87 325 *e*P P 19 17 07.8 -0.4
TKM2 pmax pmax
comp=Z,19nm,1.0s
TKM2 **Tokmak 2** 69.87 325 *e*P P 19 17 07.8 -0.4
comp=Z,19nm,1.0s
NIE **Niedzica** 69.95 6 *e*P P 19 17 08.8 +0.5
NIE **Niedzica** 69.95 6 *e*P P 19 17 08.8 +0.5
ECH **Echery** 69.96 15⇑ *e*P pP 19 17 28.5 +1.6
BFO **Black Forest** 70.00 14 *ep*P pP 19 17 28.6 +1.4
STHS **Stebnicka Huta** 70.00 5 *e*P P 19 17 09.3 +0.7
STHS *e* 19 17 26.9
STHS pmax pmax
comp=Z,95nm,2.3s
STHS **Stebnicka Huta** 70.00 5 *e*P P 19 17 09.3 +0.7
STHS *e* 19 17 15.1
STHS *e* 19 17 26.9
GEC2 **GERESS Array S** 70.06 11 *ep*P pP 19 17 23.2 -4.4
GERES **GERESS Array B** 70.06 11 P P 19 17 09.0 -0.1
comp=Z,1.4nm,0.7s,baz=343,slow=4.2,SNR=9.2
GERES pP pP 19 17 28.3 +0.7
comp=Z,3.8nm,0.7s,baz=358,slow=4.5,SNR=8.2
GEA0 **GERESS Array S** 70.06 11 *e*P P 19 17 08.6 -0.4
LANS **Liptovska Anna** 70.17 7 *e*P P 19 17 10.3 +0.6
LANS *e* 19 17 29.5
LANS **Liptovska Anna** 70.17 7 *e*P P 19 17 10.3 +0.6
LANS *e* 19 17 16.3
LANS *e* 19 17 29.5
FRU **Bishkek** 70.23 326 *e*P P 19 17 09.0 -1.1
FRU *e* 19 17 31.0
MOF **Molkenrain** 70.31 15⇑ *e*P pP 19 17 30.6 +1.4
CD2 **Chengdu** 70.40 298 *e*P P 19 17 12.5 +1.2
CD2 pP pP 19 17 26.4 -3.5
CD2 sP PcP 19 17 32.3 -0.1
CD2 S S 19 26 21.1 +2.8
CD2 sS sS 19 26 45.1 -4.8
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
CD2 LN
comp=Z,240nm,16.4s
CD2 LE
comp=Z,300nm,13.9s
CD2 LZ
comp=Z,210nm,12.4s
AAK **Ala-Archa** 70.44 326 LR LR 19 49 39.7
comp=Z,174nm,20.6s,baz=12,slow=37
AAK **Ala-Archa** 70.44 326 *e*P P 19 17 10.7 -0.9
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK **Ala-Archa** 70.44 326 *e*P P 19 17 11.8 +0.1
CRVS **Cervenica-Dubn** 70.52 5 *e*P P 19 17 11.1 -0.7
CRVS **Cervenica-Dubn** 70.52 5 *e*P P 19 17 11.1 -0.7
KOLS **Kolonicke sedl** 70.52 5 *e*P P 19 17 12.0 +0.2
KOLS *e* 19 17 29.8
KOLS pmax pmax
comp=Z,18nm,1.1s
KOLS **Kolonicke sedl** 70.52 5 *e*P P 19 17 12.0 +0.2
KOLS *e* 19 17 29.8
EKS2 **Erkin-Say** 70.61 326 *e*P P 19 17 12.4 -0.2
EKS2 pmax pmax
comp=Z,26nm,0.8s
EKS2 **Erkin-Say** 70.61 326 *e*P P 19 17 12.4 -0.2
comp=Z,26nm,0.8s
LOMF **Lomont** 70.77 16⇑ *e*P pP 19 17 33.5 +1.5
VYHS **Vyhne** 70.79 7 *e*P P 19 17 13.5 +0.1
VYHS *e* 19 17 30.9
VYHS pmax pmax
comp=Z,14nm,1.0s
VYHS **Vyhne** 70.79 7 *e*P P 19 17 13.5 +0.1
VYHS *e* 19 17 19.4
VYHS *e* 19 17 30.9
UZH **Uzhgorod** 70.83 5 *e*P P 19 17 11.5 -2.1
UZH *e* 19 17 30.9
KECS **Kecovo** 70.89 6 *e*P P 19 17 14.4 +0.4
KECS *e* 19 17 32.4
KECS pmax pmax
comp=Z,8.0nm,0.8s
KECS **Kecovo** 70.89 6 *e*P P 19 17 14.3 +0.3
KECS *e* 19 17 32.4
KKAR **Karatay Array** 71.06 329 *e*P P 19 17 14.0 -1.1
KKAR pmax pmax
comp=Z,14nm,0.8s
KKAR **Karatay Array** 71.06 329 *e*P P 19 17 14.0 -1.1
comp=Z,14nm,0.8s
CONA **Conrad Observa** 71.15 9 *i*P P 19 17 16.1 +0.4
comp=Z,11nm,1.8s
CONA *i* PcP PcP 19 17 36.7 +1.3
comp=Z,19nm,1.0s
MOTA **Moosalm** 71.28 13 *i*P P 19 17 16.8 +0.2
comp=Z,6.0nm,1.0s
WATA **Walderalm** 71.34 12 *i*P P 19 17 17.0 +0.1
comp=Z,3.8nm,0.7s
WTTA **Wattenberg** 71.42 12 *i*P P 19 17 17.9 +0.5
comp=Z,7.5nm,0.8s
PSZ **Piszkesteto** 71.43 6 *e*P P 19 17 17.9 +0.6
PSZ *e**PP pP 19 17 35.0 -1.0
PSZ **Piszkesteto** 71.43 6 *e*P P 19 17 17.9 +0.6
PSZ *ep*P pP 19 17 35.0 -1.0
SORM **Soroca** 71.45 0⇑ *i*P P 19 17 16.6 -0.7
SORM **Soroca** 71.45 0 ⇑P P 19 17 16.6 -0.7
AGO **Saint Agoulin** 71.50 19 *e*P pP 19 17 37.9 +1.5
FETA **Feichten** 71.56 13 *i*P P 19 17 17.6 -0.7
comp=Z,3.6nm,0.9s
FETA *i* sP PcP 19 17 39.4 +2.1
comp=Z,20nm,1.0s
PLDF **La Plantade** 71.66 18⇑ *e*P pP 19 17 38.8 +1.4
KBA **Koelnbreinsper** 71.78 11 *i*P P 19 17 19.9 +0.4
comp=Z,7.8nm,0.7s
PYM **Petit Puy Mans** 71.78 19 *e*P pP 19 17 39.5 +1.4
ARSA **Arzberg** 71.80 10 *i*P P 19 17 19.1 -0.4
comp=Z,1.8nm,0.6s
ARSA *i* PcP pP 19 17 39.5 +1.4
comp=Z,16nm,1.1s
SENIN **Lac Senin/Sane** 71.80 16 *ep*P pP 19 17 40.0 +1.6
BUR08 **Bucovina Ar. S** 71.90 3 *e*P P 19 17 20.2 0.0
BURAR **Bucovina Array** 71.93 3⇓ *i*P P 19 17 20.2 -0.2
BURAR **Bucovina Array** 71.93 3 ⇓P P 19 17 20.2 -0.2
TUE **Stuetta** 71.95 14 *e*P P 19 17 21.3 +0.6
TUE *ep*P pP 19 17 41.2 +1.9
ABTA **Abfaltersbach** 72.02 12 *i*P P 19 17 22.1 +1.2
comp=Z,8.6nm,1.0s
LBL **Lubilhac** 72.32 19⇑ *e*P pP 19 17 42.7 +1.3
SOKA **Soboth** 72.32 10 *i*P P 19 17 23.5 +0.8
comp=Z,14nm,1.1s
OBKA **Obir** 72.45 10 *i*P P 19 17 23.7 +0.2
comp=Z,11nm,0.7s
OBKA *i* sP pP 19 17 44.0 +1.8
comp=Z,48nm,0.7s
SSB **Saint Sauveur** 72.47 18 *ep*P pP 19 17 42.4 +0.2
DRGR 72.68 4⇓ *i*P P 19 17 23.4 -1.4
DRGR 72.68 4 ⇓P P 19 17 23.4 -1.4
CJR **Cluj-Napoca** 72.79 4⇑ *i*P pP 19 17 44.9 +0.8
KSH **Kashi** 72.91 324 P P 19 17 29.0 +2.6
KSH pP pP 19 17 45.6 +0.5
KSH PP PP 19 20 14.5 +5.7
KSH S S 19 26 48.6 +1.4
KSH ScS ScS 19 27 28.6 +0.7
KSH PMZ
comp=Z,5.0nm,0.7s
KSH PMZ
comp=Z,110nm,6.4s
KSH LN
comp=Z,110nm,4.7s
KSH LE
comp=Z,130nm,5.6s
KSH LZ
comp=Z,200nm,12.7s
GYA **Guiyang** 72.95 294⇓ *i*P P 19 17 26.6 -0.2
GYA pP pP 19 17 45.4 -0.1
GYA PP PP 19 20 13.0 +3.5
GYA S S 19 26 48.8 +0.9
GYA sS sS 19 27 16.3 -3.4
GYA SKS SKSac 19 27 24.8 -1.3
GYA SS SS 19 31 32.0 +3.2
GYA PMZ
comp=Z,30nm,0.7s
GYA PMZ
comp=Z,140nm,6.2s
GYA LN
comp=Z,540nm,18.9s
GYA LE
comp=Z,510nm,19.2s
GYA LZ
comp=Z,500nm,18.4s
JAVS **Javornik** 73.02 11 *i*P P 19 17 25.5 -1.4
TESR **Tescani** 73.06 2⇑ *i*P P 19 17 28.9 +1.9
SIRR **Siria** 73.16 5⇓ *i*P P 19 17 27.3 -0.3
PGAV **Gavieira, Arco** 73.23 28 *e*P P 19 17 28.8 +0.6
comp=Z,37nm,2.4s
PGAV *ep*P pP 19 17 48.6 +1.7
BOJS **Bojanci** 73.51 10 *i*P P 19 17 29.4 -0.2
DOPR **Dopca** 73.58 3⇓ *i*P P 19 17 36.0 +5.9
VRI **Vrincioaia** 73.71 2⇑ *i*P P 19 17 30.9 +0.1
VRI **Vrincioaia** 73.71 2 ⇑P P 19 17 30.9 +0.1
PBRG **Braganca** 73.73 27 *ep*P pP 19 17 51.5 +1.7
BZS **Buzias** 73.81 5⇑ *i*P P 19 17 31.2 -0.2
BZS **Buzias** 73.81 5 ⇑P P 19 17 31.2 -0.2
GOF **Gofitskoye** 73.90 350⇓ *i*P P 19 17 31.6 -0.3
GOF *e*S S 19 26 57.1 -0.8
GOF pmax pmax
comp=Z,57nm,1.0s
POLO **Lamas de Olo** 73.90 28 *e*P P 19 17 32.6 +0.5
comp=Z,18nm,1.5s
POLO *ep*P pP 19 17 51.6 +0.7
PTO **Porto** 73.94 29 *ep*P pP 19 17 52.8 +1.9
PVRL **Vila Real** 74.01 28 *ep*P pP 19 17 53.2 +1.7
MLR **Muntele Rosu** 74.07 2⇓ *i*P P 19 17 33.6 +0.5
MLR **Muntele Rosu** 74.07 2 ⇓P P 19 17 33.6 +0.5
MLR **Muntele Rosu** 74.07 2 *e*P P 19 17 33.4 +0.3
comp=Z,8.9nm,0.9s
VOIR 74.11 3⇑ *i*P P 19 17 34.0 +0.8
VOIR 74.11 3 ⇑P P 19 17 34.0 +0.8
MVO **Moncorvo** 74.28 27 *ep*P pP 19 17 53.7 +0.7
TLCR 74.40 0⇑ *i*P P 19 17 35.4 +0.6
TLCR 74.40 0 ⇑P P 19 17 35.4 +0.6
CFR **Carcaliu** 74.41 1⇑ *i*P P 19 17 34.7 -0.2
CFR **Carcaliu** 74.41 1 ⇑P P 19 17 34.7 -0.2
PVIS **Viseu** 74.50 28 *e*P P 19 17 36.8 +1.2
comp=Z,20nm,1.0s
PVIS *ep*P pP 19 17 54.4 +0.1
SIM **Simferopol'** 74.55 356 *e*P P 19 17 40.6 +4.9
SIM *e* 19 17 55.0
SIM *e**PP sP 19 18 11.0 +8.8
SIM pmax pmax
comp=Z,40nm,0.6s
SIM MLR MLR
comp=Z,130nm,16.7s
ANN **Anapa** 74.56 354 *e*P P 19 17 34.6 -1.1
ANN *e**PP pP 19 17 53.8 -0.7
ANN *e*S S 19 27 02.2 -3.0
ANN pmax pmax
comp=Z,19nm,0.9s
MDVR **Moldovita** 74.65 5⇑ *i*P P 19 17 36.1 -0.3
MTE **Manteigas** 74.89 28 *e*P P 19 17 38.3 +0.5
comp=Z,46nm,1.5s
MTE *ep*P pP 19 17 56.9 +0.3
HARR **Harsova** 74.90 1⇓ *i*P P 19 17 32.0 -5.7
HARR **Harsova** 74.90 1 ⇓P P 19 17 32.0 -5.7
AMRR **Amara** 74.97 1⇑ *i*P P 19 17 33.5 -4.6
AMRR **Amara** 74.97 1 ⇑P P 19 17 33.5 -4.6
PCAS **Casmilo, Conde** 74.99 29 *ep*P pP 19 17 58.8 +1.7
KIV **Kislovodsk** 75.02 350 *e*P P 19 17 36.0 -2.6
KIV pmax pmax
comp=Z,22nm,0.9s
KIV **Kislovodsk** 75.02 350 *e*P P 19 17 38.9 +0.3
comp=Z,28nm,0.8s
TIRR **Tirgusor** 75.13 0⇓ *i*P P 19 17 39.3 +0.3
TIRR **Tirgusor** 75.13 0 ⇓P P 19 17 39.3 +0.3
TIRR **Tirgusor** 75.13 0 *e*P P 19 17 38.9 -0.2
comp=Z,15nm,0.9s
KBZ **Khabaz** 75.23 350 P P 19 17 39.0 -0.6
comp=Z,6.3nm,0.8s,baz=291,slow=2.3,SNR=14
KBZ pP pP 19 17 59.4 +1.0
comp=Z,15nm,0.9s,baz=338,slow=6.1,SNR=8.1
MOTC **Monteria, Cord** 75.30 98 *e*P P 19 17 39.0 -1.4
NCK **Nalchik** 75.40 349 *e*P P 19 17 40.0 -0.7
NCK pmax pmax
comp=Z,20nm,0.8s
MSAB **Monastry St. A** 75.49 1⇓ *i*P P 19 17 41.8 +0.7
NEY **Neytrino** 75.72 350 *e*P P 19 17 42.5 -0.2
PMAFR **Mafra** 75.85 30 *ep*P pP 19 18 02.6 +0.5
KMI **Kunming** 75.85 296 P P 19 17 45.8 +2.0
KMI PMZ
comp=Z,14nm,0.6s
KMI PMZ
comp=Z,110nm,6.3s
ZEI **Tsey** 76.07 349 *e*P P 19 17 43.1 -1.6
ZEI pmax pmax
comp=Z,18nm,0.6s
PESTR **Estremoz** 76.33 29 *ep*P pP 19 18 05.3 +0.4
ES19 **SONSECA Array** 76.36 25 *e*P P 19 17 46.5 +0.3
ESDC **Sonseca Array** 76.37 25 P P 19 17 46.8 +0.5
comp=Z,1.6nm,0.7s,baz=338,slow=5.0,SNR=9.4
ESDC pP pP 19 18 06.5 +1.4
comp=Z,9.6nm,0.8s,baz=342,slow=5.4,SNR=19
EVO **Evora** 76.56 29 *ep*P pP 19 18 06.9 +0.8
LSA **Lhasa** 76.65 308 *e*P P 19 17 48.3 -0.2
LSA pmax pmax
comp=Z,14nm,0.6s
LSA **Lhasa** 76.65 308 *e*P P 19 17 48.3 -0.2
comp=Z,14nm,0.6s
PNCL **Nicolau / Gran** 76.83 29 *e*P P 19 17 49.2 +0.4
comp=Z,48nm,2.1s
PNCL *ep*P pP 19 18 09.0 +1.3
OCAC **Ocana** 76.91 97 *e*P pP 19 18 10.9 +2.3
PBAR **Barrancos** 77.12 28 *e*P P 19 17 50.9 +0.4
comp=Z,89nm,1.7s
PBAR *ep*P pP 19 18 09.8 +0.5
MESJ **Messejana** 77.16 29 *ep*P pP 19 18 10.7 +1.2
MORF **Marmelete** 77.57 30 *ep*P pP 19 18 13.3 +1.4
GRMC **Gramalote, San** 77.61 96 *e*P P 19 18 02.4 +8.7
PVAQ **Vaqueiros** 77.70 29 *ep*P pP 19 18 13.8 +1.2
PBDV **Barranco-do-Ve** 77.80 29 *ep*P pP 19 18 15.0 +1.8
QIZ **Qiongzhong** 77.90 287 P P 19 17 54.9 -0.2
PPT **Papeete** 78.07 178 LR LR 19 44 40.4
comp=Z,183nm,19.2s,baz=340,slow=30
MANU **Manus Island** 78.27 244 *e*P P 19 17 56.9 -0.2
comp=Z,42nm,0.8s
NORC **Norcasia** 78.48 99 *e*P P 19 17 58.3 0.0
GNI **Garni** 78.60 348 *e*P P 19 17 59.1 +0.2
GNI pmax pmax
comp=Z,30nm,1.2s
GEYT **Alibeck** 78.77 337 P P 19 17 59.6 -0.1
comp=Z,13nm,0.8s,baz=339,slow=3.8,SNR=24
CUC **Castrocucco** 79.03 10 *e*P P 19 18 02.5 +1.4
comp=Z,6.1nm,1.3s
RUSC **La Rusia** 79.06 98 *e*P P 19 18 01.4 -0.7
ANTO **Ankara** 79.66 357 *e*P P 19 18 06.7 +2.2
ANTO **Ankara** 79.66 357 *e*P P 19 18 06.7 +2.2
ANTO *ep*P pP 19 18 25.9 +2.4
BR231 **Keskin MP Arra** 79.69 357 *e*P P 19 18 05.3 +0.5
BR131 **Keskin Array S** 79.78 356 *e*P P 19 18 05.5 +0.1
BRTR **Keskin Array B** 79.78 356 P P 19 18 05.3 0.0
comp=Z,4.2nm,0.8s,baz=6.8,slow=2.7,SNR=14
BRTR pP pP 19 18 25.1 +0.9
comp=Z,9.4nm,1.0s,baz=5.9,slow=1.3,SNR=9.4
SHL **Shillong** 80.04 305 *e*P P 19 18 10.0 +3.0
AGG **Agios Georgios** 80.42 5 *e*P P 19 18 08.7 +0.1
AGG pmax pmax
comp=Z,40nm,1.1s
AGG **Agios Georgios** 80.42 5 *e*P P 19 18 08.7 +0.1
comp=Z,40nm,1.1s
DAV **Davao City (W)** 80.58 268 LR LR 19 51 06.0
comp=Z,41nm,21.6s,baz=303,slow=34
KKN **Kakani** 80.58 312 *e*P P 19 18 09.0 -0.9
comp=Z,7.5nm,0.6s
GKN **Gorkha** 80.63 312 *e*P P 19 18 09.5 -0.5
comp=Z,57nm,1.0s
PKIN **Phulchoki** 80.73 311 *e*P P 19 18 10.5 -0.3
comp=Z,60nm,2.0s
RAMN **Ramite** 80.85 310 *e*P P 19 18 10.6 -0.8
comp=Z,44nm,0.8s
PYUN **Piuthan** 81.13 314 *e*P P 19 18 12.1 -0.7
comp=Z,89nm,1.0s
KOLN **Koldanda** 81.21 313 *e*P P 19 18 12.4 -0.8
comp=Z,20nm,0.7s
VAE **Valguarnera** 81.39 12 LR LR 19 54 58.9
comp=Z,72nm,18.7s,baz=292,slow=36
KEST **Kesra** 82.52 16 P P 19 18 19.0 -0.8
comp=Z,5.0nm,0.7s,baz=117,slow=2.9,SNR=7.8
KEST pP pP 19 18 40.2 +1.4
comp=Z,14nm,0.9s,baz=232,slow=2.5,SNR=8.2
KEST **Kesra** 82.52 16 *e*P P 19 18 20.1 +0.3
comp=Z,20nm,1.0s
KEST pP pP 19 18 40.2 +1.4
CMAR **Chiang Mai Arr** 83.37 296 P P 19 18 23.4 -1.0
comp=Z,4.1nm,0.8s,baz=11,slow=5.9,SNR=18
CMAR pP pP 19 18 44.8 +1.4
comp=Z,9.0nm,1.0s,baz=7.9,slow=5.7,SNR=5.6
CMAR LR LR 19 58 03.2
comp=Z,69nm,20.3s,baz=20,slow=37
CM01 **Chiang Mai Arr** 83.39 296 *e*P P 19 18 22.9 -1.5
LAST **Lasithi** 84.38 3 *e*P P 19 18 28.6 -0.7
comp=Z,34nm,0.9s
PTGA **Pitinga** 91.21 89 *e*P P 19 19 02.6 +0.3
comp=Z,9.7nm,0.8s
CTA **Charters Tower** 94.88 237 P P 19 19 18.2 -0.7
comp=Z,9.3nm,1.0s,baz=16,slow=2.1,SNR=6.7
CTAO **Charters Tower** 94.88 237 *e*P P 19 19 18.8 -0.2
CTAO pmax pmax
comp=Z,12nm,1.0s
CTAO **Charters Tower** 94.88 237 *e*P P 19 19 18.8 -0.2
comp=Z,12nm,1.0s
WRA **Warramunga Arr** 99.91 247 P Pdif 19 19 40.1 -1.5
comp=Z,1.8nm,0.9s,baz=35,slow=5.4,SNR=8.5
TORD **Torodi Ar. Bea** 103.21 27 PKKPbc PKKPbc 19 35 53.5 +5.1
comp=Z,0.6nm,0.8s,baz=178,slow=2.9,SNR=3.9
KMBO **Kilima Mbogo** 120.17 350 PKP PKPdf 19 24 47.7 -0.3
comp=Z,0.5nm,0.3s,baz=20,slow=7.7,SNR=4.2
KMBO pPKP pPKPdf 19 25 09.7 +1.6
comp=Z,2.2nm,0.5s,baz=36,slow=6.5,SNR=3.4
VNDA **Vanda** 141.04 195 PKP PKPdf 19 25 27.1 +2.0
comp=Z,0.3nm,0.6s,baz=331,slow=3.2,SNR=3.6
CASY **Casey** 145.64 225 *e*PKPdf PKPdf 19 25 32.9 -0.5
BOSA **Boshof** 147.76 6 PKPbc PKPbc 19 25 40.9 -0.4
comp=Z,8.3nm,0.6s,baz=354,slow=3.0,SNR=18
QSPA **South Pole Qui** 150.57 180 *e*PKPbc PKPbc 19 25 45.5 -1.6
MIR **Mirnyy** 152.13 230 *e*PKIKP PKPbc 19 25 50.0 -0.5
MIR pmax pmax
comp=Z,3.0nm,1.5s
SYO **Syowa Base** 170.57 204⇑ *e*PKPdf PKPdf 19 26 04.0 +1.1

IDC 16 19:09:58.9±363.0, 57.°38N×29.°42E, h0km, Error ellipse: s-maj=153.0km s-min=104.0km az=106.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	4.31	96	*i*		19 36 51.6	
	baz=282,slow=313,SNR=1.1						
I26DE	**FREYUNG INFRAS**	12.70	234	*i*		20 30 23.8	
	baz=41,slow=329,SNR=1.4						
I48TN	**KESRA INFRASON**	25.43	221	*i*		21 45 30.0	
	baz=26,slow=325,SNR=0.4						

IDC 16 19:16:29.0±50.0, 18.°24S×178.°76W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/37, mbtmp4.0/3, Error ellipse: s-maj=913.2km s-min=161.1km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	38.18	241	P	P	19 23 51.0	+0.5
	2.7nm,0.9s,baz=67,slow=8.7,SNR=4.0						
WRA	**Warramunga Arr**	44.25	260	P	P	19 24 40.0	-0.5
	0.4nm,0.5s,baz=97,slow=7.4,SNR=6.8						
ASAR	**Alice Springs**	44.38	255	P	P	19 24 41.5	-0.2
	2.0nm,0.4s,baz=90,slow=8.5,SNR=35						

IDC 16 19:25:34.7±7.4, 18.°79S×177.°58W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/35, mbtmp3.6/2, Error ellipse: s-maj=294.7km s-min=117.6km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	45.26	260	P	P	19 33 54.1	-0.2
	0.3nm,0.3s,baz=96,slow=7.9,SNR=13						
ASAR	**Alice Springs**	45.32	255	P	P	19 33 54.9	0.0
	0.7nm,0.6s,baz=97,slow=7.9,SNR=15						
AKASG	**Malin Array Be**	141.71	332	PKP	PKPdf	19 45 07.0	-1.1
	0.4nm,0.4s,baz=42,slow=4.0,SNR=7.2						

*IDC **16** 19:30:24.2±1.9, 37.°55N×144.°43E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/59, mbtmp3.6/6, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/45, Error ellipse: s-maj=55.0km s-min=24.0km az=72.0*

*ISCJB **16** 19:30:27.8±0.8, 37.°64N±0.°05×144.°13E±0.°06, h33km, mb3.6/4, MS3.6/1, Error ellipse: s-maj=6.7km s-min=6.4km az=150.4*

*JMA **16** 19:30:29.2±0.4, 37.°71N×143.°98E, h27km, M3.9*

ISC 16 19:30:28.8±1.3, 37.°58N±0.°05×144.°21E±0.°08, h35km, n22, σ1°83/32, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	2.42	292	P	Pn	19 31 04.4	-1.6
JIO				*e*S	Sn	19 31 32.2	-2.2
OFUJ	**Ofunato**	2.50	308	P	Pn	19 31 06.5	-0.5
OFUJ				*e*S	Sn	19 31 33.9	-2.3
JMK	**Ichinoseki**	2.72	301	P	Pn	19 31 09.8	-0.3
JMK				*e*S	Sn	19 31 39.7	-2.1
JOU	**Okura**	2.91	287	*e*S	Sn	19 31 44.9	-1.6
JOM	**Ohasama**	2.97	310	P	Pn	19 31 13.7	+0.2
JOM				*e*S	Sn	19 31 46.0	-1.8
JFT	**Otama**	3.08	270	P	Pn	19 31 16.0	+1.0
JFT				S	Sn	19 31 49.5	-1.2
JYK	**Kaneyama**	3.31	295	P	Pn	19 31 16.9	-1.3
JYK				*e*S	Sn	19 31 55.3	-1.1
JRG	**Rokugo**	3.34	304	P	Pn	19 31 19.4	+0.8
JRG				*e*S	Sn	19 31 56.3	-0.7
JANG	**Nango**	3.49	324	P	Pn	19 31 21.2	+0.5
JANG				*e*S	Sn	19 31 57.5	-3.2
JRY	**Ryogami san**	4.54	251	P	Pn	19 31 34.8	-0.3
JRY				*e*S	Sn	19 32 23.8	-2.9
MJAR	**Matsushiro Arr**	4.91	260	Pn	Pn	19 31 40.8	+0.6
	1.6nm,0.3s,baz=90,slow=15,SNR=14						
MJAR				Sn	Sn	19 32 36.2	+0.3
	0.6nm,0.3s,baz=93,slow=27,SNR=4.0						
MAT	**Matsushiro**	4.91	260	P	Pn	19 31 42.2	+2.0
MAT				S	Sn	19 32 35.8	-0.1
JKB	**Kayabe**	4.95	331	P	Pn	19 31 41.4	+0.7
JCH	**Churui**	5.07	353	P	Pn	19 31 41.8	-0.5
JHJ	**Hachijo jima 2**	5.74	220	Sn	Sn	19 32 50.3	-5.9
	22nm,0.3s,baz=92,slow=24,SNR=4.7						
JTKR	**Abashiri--Toko**	6.38	358	P	Pn	19 31 59.6	-0.8
ASAJ	**Asahikawa**	6.64	350	Pn	Pn	19 32 03.3	-0.6
	1.0nm,0.3s,baz=201,slow=17,SNR=22						
MKAR	**Makanchi Array**	45.72	302	P	P	19 38 48.1	+1.7
	0.3nm,0.8s,baz=82,slow=9.9,SNR=3.7						
KURBB	**Kurchatov Arra**	47.42	308	P	P	19 39 01.9	+2.1
	0.4nm,0.5s,baz=80,slow=7.9,SNR=4.8						
WRA	**Warramunga Arr**	57.97	191	P	P	19 40 17.7	-0.2
	0.7nm,0.7s,baz=14,slow=7.4,SNR=5.3						
FITZ	**Fitzroy Crossi**	58.08	201	LR	LR	20 04 52.1	
	comp=Z,52nm,20.1s,baz=46,slow=36						
ASAR	**Alice Springs**	61.69	191	P	P	19 40 44.7	+1.2
	0.5nm,0.7s,baz=14,slow=7.8,SNR=3.7						

IDC 16 19:37:29.5±3.7, 5.78S×150.92E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/34, mbtmp3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/18, Error ellipse: s-maj=154.6km s-min=47.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.40**	**227**	P	P	19 42 18.8	-0.2
	0.4nm,0.4s,baz=54,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**24.18**	**221**	P	P	19 42 48.0	+0.2
	0.6nm,0.7s,baz=56,slow=9.1,SNR=8.6						
RAO	**Raoul Island**	**37.56**	**132**	LR	LR	19 56 00.4	
	comp=Z,73nm,20.1s,baz=12,slow=30						
TORD	**Torodi Ar. Bea**	**148.80**	**286**	PKPbc	PKPbc	19 57 19.5	-0.7
	0.8nm,0.8s,baz=97,slow=2.7,SNR=3.4						

IDC 16 19:49:46.2±1.9, 5.69S×151.26E, h0km, mb4.2/4, mb1 4.4/5, mb1mx3.8/35, mbtmp4.2/5, ML2.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=98.3km s-min=24.0km az=130.0
NEIC 16 19:49:47.2±1.8, 5.80S×151.43E, h10km, mb4.2/1, Error ellipse: s-maj=120.0km s-min=17.3km az=130.0

ISC 16 19:49:51.3±2.1, 6.0S±0.7×151.6E±0.7, h41km, n8, σ0.89/8, mb4.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.55**	**232**	Pn	**Pn**	**19 51 11.5**	**+0.2**
	5.3nm,0.3s,baz=45,slow=8.7,SNR=16						
PMG				Sn	**Sn**	19 52 14.6	+0.7
	4.3nm,0.3s,baz=2.9,slow=19,SNR=3.7						
WRAB	**Tennant Creek**	**21.74**	**229**	*e*P	**P**	19 54 38.1	-1.2
	5.7nm,0.6s						
WRA	**Warramunga Arr**	**21.75**	**229**	P	**P**	19 54 39.0	-0.6
	5.4nm,0.5s,baz=53,slow=11,SNR=66						
ASAR	**Alice Springs**	**24.45**	**222**	P	**P**	19 55 06.8	+0.3
	8.0nm,0.8s,baz=58,slow=9.1,SNR=95						
FITZ	**Fitzroy Crossi**	**28.04**	**242**	P	**P**	19 55 38.0	-1.0
	4.3nm,0.6s,baz=51,slow=7.9,SNR=18						
JCJ	**Chichijima**	**34.17**	**345**	LR	LR	20 07 33.8	
	comp=Z,69nm,22.0s,baz=154,slow=32						
ILAR	**Eielson Array**	**83.73**	**22**	P	**P**	20 02 16.2	+0.6
	0.2nm,0.5s,baz=247,slow=4.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.53**	**286**	PKPbc	**PKPbc**	20 09 36.8	-0.5
	0.4nm,0.5s,baz=61,slow=2.7,SNR=5.5						

ISCJB 16 20:05:40.9±0.6, 39.13N±0.05×28.97E±0.04, h3km±9km, Error ellipse: s-maj=9.1km s-min=4.6km az=168.1
ISK 16 20:05:40.7, 39.12N×28.98E, h8km, MD2.5
DDA 16 20:05:40.5, 39.16N×28.96E, h7km, Md2.7
CSEM 16 20:05:41.0±0.1, 39.12N×28.96E, h5km, MD2.7, Error ellipse: s-maj=1.5km s-min=1.3km az=32.0

ISC 16 20:05:41.2±1.0, 39.13N±0.03×28.97E±0.02, h7km±10km, n35, σ0.54/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**247**	P	**Pg**	**20 05 45.8**	**+0.2**
DEMI				S	**Sg**	20 05 49.0	+0.5
DEMI	**Demirci**	**0.22**	**247**	*i* P	**Pg**	**20 05 45.8**	**+0.2**
DEMI				*i* S	**Sg**	20 05 49.0	+0.5
GEDZ	**Gediz**	**0.35**	**104**	*e*PG	**Pg**	20 05 47.9	-0.2
GEDZ	**Gediz**	**0.35**	**104**	*e*Pg	**Pg**	20 05 47.9	-0.2
GDZ	**Gediz**	**0.40**	**96**	P	**Pg**	20 05 49.0	+0.1
GDZ				S	**Sg**	20 05 54.7	+0.5
GDZ	**Gediz**	**0.40**	**96**	*i* P	**Pg**	20 05 49.0	+0.1
GDZ				*i* S	**Sg**	20 05 54.7	+0.5
TVSB	**Tavsanli**	**0.50**	**50**	*e*PG	**Pg**	20 05 50.8	0.0
TVSB	**Tavsanli**	**0.50**	**50**	*e*Pg	**Pg**	20 05 50.8	0.0
KULA	**Kula-Manisa**	**0.66**	**202**	*e*PG	**Pb**	20 05 53.9	-1.2
KULA	**Kula-Manisa**	**0.66**	**202**	*e*Pg	**Pb**	20 05 53.9	-1.2
KHL	**Karahalli**	**0.91**	**152**	*e*PG	**Pb**	20 05 58.8	-0.6
KHL	**Karahalli**	**0.91**	**152**	*e*Pg	**Pb**	20 05 58.8	-0.6
IGD	**Bursa**	**1.15**	**9**	*i* P	**Pg**	20 06 01.8	-1.4
IGD				*i* S	**Sg**	20 06 17.1	-1.0
BALY	**Balya**	**1.21**	**301**	P	**Pb**	20 06 04.0	-0.4
BALY	**Balya**	**1.21**	**301**	*i* P	**Pb**	20 06 04.0	-0.4
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*PN	**Pn**	20 06 05.0	+0.2
KCTX				*e*SN	**Sn**	20 06 22.5	+0.8
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*Pn	**Pn**	20 06 05.0	+0.2
KCTX				*e*Sn	**Sn**	20 06 22.5	+0.8
MDNY	**Mudanya-Bursa**	**1.24**	**357**	*e*PN	**Pg**	20 06 04.9	-0.1
MDNY				*e*SN	**Sn**	20 06 22.7	+0.9
MDNY	**Mudanya-Bursa**	**1.24**	**357**	*e*Pn	**Pg**	20 06 04.9	-0.1
MDNY				*e*Sn	**Sn**	20 06 22.7	+0.9
IZI	**Iznik**	**1.27**	**18**	*e*PN	**Pg**	20 06 05.5	0.0
IZI	**Iznik**	**1.27**	**18**	*e*Pn	**Pg**	20 06 05.5	0.0
GONE	**Gonen-Balikesi**	**1.35**	**313**	*e*PN	**Pb**	20 06 06.3	-0.5
GONE	**Gonen-Balikesi**	**1.35**	**313**	*e*Pn	**Pb**	20 06 06.3	-0.5
BORA	**Eskisehir**	**1.37**	**56**	P	**Pb**	20 06 06.8	-0.4
BORA				S	**Sg**	20 06 25.5	+0.3
BORA	**Eskisehir**	**1.37**	**56**	*i* P	**Pb**	20 06 06.8	-0.4
BORA				*i* S	**Sg**	20 06 25.4	+0.3
ARMT	**Armutlu**	**1.44**	**357**	*e*PN	**Pg**	20 06 08.2	-0.6
ARMT				*e*SN	**Sg**	20 06 27.7	+0.3
ARMT	**Armutlu**	**1.44**	**357**	*e*Pn	**Pg**	20 06 08.2	-0.6
ARMT				*e*Sn	**Sg**	20 06 27.7	+0.3
AYDB	**Zeytinkoy-Aydi**	**1.45**	**216**	*e*PN	**Pb**	20 06 07.9	-0.7
AYDB	**Zeytinkoy-Aydi**	**1.45**	**216**	*e*Pn	**Pb**	20 06 07.9	-0.7
EDC	**Edincik**	**1.49**	**325**	*e*PN	**Pn**	20 06 08.2	-0.1
EDC				*e*SN	**Sg**	20 06 29.1	+0.1
EDC	**Edincik**	**1.49**	**325**	*e*Pn	**Pn**	20 06 08.2	-0.1
EDC				*e*Sn	**Sg**	20 06 29.1	+0.1
ESKT	**Eskisehir**	**1.51**	**74**	*e*PN	**Pn**	20 06 08.7	0.0
ESKT	**Eskisehir**	**1.51**	**74**	*e*Pn	**Pn**	20 06 08.7	0.0
MRMT	**Marmara Adasi**	**1.81**	**325**	*e*PN	**Pn**	20 06 13.0	+0.1
MRMT	**Marmara Adasi**	**1.81**	**325**	*e*Pn	**Pn**	20 06 13.0	+0.1

IDC 16 20:06:53.9±1.8, 3.99S×130.84E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.6/33, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=110.3km s-min=25.3km az=72.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.92**	**200**	Pn	Pn	20 10 26.1	-0.1
	0.3nm,0.3s,baz=22,slow=7.7,SNR=19						
WRA	**Warramunga Arr**	**16.22**	**168**	Pn	Pn	20 10 40.3	-3.0
	0.2nm,0.3s,baz=353,slow=14,SNR=12						
WRA				Sn	Sn	20 13 31.2	-13
	0.2nm,0.3s,baz=353,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**19.78**	**172**	P	P	20 11 26.4	+0.5
	0.3nm,0.3s,baz=353,slow=10,SNR=40						
STKA	**Stephens Creek**	**29.52**	**161**	P	P	20 13 00.5	+0.4
	1.4nm,0.7s,baz=310,slow=8.0,SNR=2.8						
MKAR	**Makanchi Array**	**66.20**	**326**	P	P	20 17 43.7	+0.1
	0.4nm,0.8s,baz=121,slow=6.9,SNR=2.8						
VNDA	**Vanda**	**75.32**	**173**	P	P	20 18 37.9	-0.6
	0.7nm,0.8s,baz=316,slow=5.1,SNR=3.8						

PGC 16 20:20:08.9±1.1, 48.65N×128.87W, h10km, ML2.9/25, Mw3.5, 222km west of Tofino, Bc Vancouver Island, Canada Region
IDC 16 20:20:11.6±2.2, 48.91N×128.38W, h0km, mb3.7/2, mb1 3.7/7, mb1mx3.4/42, mbtmp3.5/7, ML3.5/5, MS3.2/10, Ms1 3.2/10, ms1mx3.0/49, Error ellipse: s-maj=37.2km s-min=16.2km az=58.0

ISC 16 20:20:11.0±2.9, 48.89N±0.05×128.53W±0.06, h2km±18km, n61, σ1.27/74, MS3.3/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.35**	**43**	Pn	**Pn**	**20 20 35.5**	**-1.2**
EDB				Sn	**Sn**	20 20 54.4	-0.8
BPBC	**Brooks Peninsu**	**1.36**	**21**	Pn	**Pn**	20 20 35.1	-1.8
BPBC				Sn	**Sn**	20 20 55.3	-0.3
ETB	**Estevan Point**	**1.39**	**69**	Pn	**Pn**	20 20 36.7	-0.7
FHRB	**Fair Harbour**	**1.48**	**38**	Pn	**Pn**	20 20 37.8	-0.8
FHRB				Sn	**Sg**	20 20 58.4	-0.2
TOFB	**Tofino**	**1.74**	**80**	Sn	**Sn**	20 21 04.0	-1.0
MAYB	**Maynard**	**1.75**	**30**	Pn	**Pn**	20 20 41.4	-1.0
MAYB				Sn	**Sb**	20 21 05.2	-1.1
HOLB	**Holberg**	**1.77**	**8**	Pn	**Pn**	20 20 40.3	-2.3
HOLB				Sn	**Sb**	20 21 06.7	0.0
WOSB	**Woss**	**1.80**	**44**	Pn	**Pn**	20 20 42.8	-0.3
WOSB				Sn	**Sb**	20 21 07.1	-0.6
GDR	**Gold River**	**1.86**	**60**	Pn	**Pn**	20 20 43.2	-0.5
GDR				Sn	**Sb**	20 21 08.2	-1.0
PHC	**Port Hardy**	**1.95**	**21**	Pn	**Pn**	20 20 43.1	-1.9
PHC				Sn	**Sn**	20 21 09.5	-0.5
B012	**Ucluelet**	**1.97**	**88**	Pn	**Pn**	20 20 43.4	-1.9
B012				Sn	**Sn**	20 21 08.6	-1.9
OZB	**Mount Ozzard**	**2.00**	**87**	Pn	**Pn**	20 20 43.9	-1.9
OZB				Sn	**Sn**	20 21 09.9	-1.5
BTB	**Buttle Lake**	**2.06**	**73**	Pn	**Pn**	20 20 45.9	-0.7
BTB				Sn	**Sb**	20 21 13.4	-1.7
NCRB	**Newcastle Ridg**	**2.21**	**46**	Pn	**Pn**	20 20 49.0	+0.3
NCRB				Sn	**Sb**	20 21 18.8	-0.6
B928	**Bamfield**	**2.24**	**90**	Pn	**Pn**	20 20 46.8	-2.2
B928				Sn	**Sn**	20 21 15.0	-2.1
BMSB	**Bamfield Mari**	**2.24**	**90**	Pn	**Pn**	20 20 47.0	-2.0
BMSB				Sn	**Sn**	20 21 15.6	-1.6
CBB	**Campbell River**	**2.36**	**60**	Pn	**Pn**	20 20 51.0	+0.4
CBB				Sn	**Sb**	20 21 21.9	-1.7
MGB	**Mount Grey**	**2.53**	**86**	Pn	**Pn**	20 20 51.3	-1.8
MGB				Sn	**Sn**	20 21 23.2	-1.4
OCP	**Olym-Cheeka Pk**	**2.66**	**101**	Pn	**Pn**	20 20 52.9	-1.9
PFB	**Port Renfrew**	**2.73**	**95**	Pn	**Pn**	20 20 54.2	-1.5
PFB				Sn	**Sn**	20 21 27.3	-1.9
TXB	**Texada**	**2.80**	**72**	Pn	**Pn**	20 20 57.1	+0.4
TXB				Sn	**Sn**	20 21 31.7	+0.7
YOUB	**Youbou, Lake C**	**2.81**	**88**	Pn	**Pn**	20 20 56.0	-1.0
YOUB				Sn	**Sn**	20 21 30.4	-1.1
GHNB	**Nanoose**	**2.85**	**80**	Pn	**Pn**	20 20 57.1	-0.3
GHNB				Sn	**Sn**	20 21 32.8	+0.6
B926	**Mesachie Lake**	**2.90**	**90**	Sn	**Sn**	20 21 32.9	-0.7
NLLB	**Nanaimo Lost L**	**3.00**	**82**	Pn	**Pn**	20 20 59.6	+0.1
NLLB				Sn	**Sn**	20 21 37.0	+0.9
LZB	**Mount Lazard**	**3.12**	**93**	Pn	**Pn**	20 20 59.8	-1.5
SHB	**Sechelt**	**3.13**	**75**	Pn	**Pn**	20 21 00.8	-0.5
SHB				Sn	**Sn**	20 21 40.3	+1.0
BBB	**Bella Bella**	**3.31**	**4**	Pn	**Pn**	20 21 03.1	-0.5
	21nm,0.3s,baz=203,slow=12,SNR=135						
BBB				Sn	**Sn**	20 21 42.4	-1.1
	7.2nm,0.3s,baz=93,slow=23,SNR=3.5						
BBB				LR	LR	20 22 19.6	
	comp=Z,157nm,21.4s,baz=242,slow=39						
BBB	**Bella Bella**	**3.31**	**4**	Pn	**Pn**	20 21 02.9	-0.7
BBB				Sn	**Sn**	20 21 41.7	-1.8
GOBB	**Galiano Island**	**3.31**	**87**	Pn	**Pn**	20 21 02.5	-1.2
MCW	**Mount Constitu**	**3.77**	**91**	Pn	**Pn**	20 21 09.4	-0.7
WSLR	**Whistler**	**3.86**	**69**	Pn	**Pn**	20 21 13.0	+1.7
HDW	**Hoodsport**	**3.86**	**107**	Pn	**Pn**	20 21 10.8	-0.6
CMW	**Cultus Mountai**	**4.27**	**94**	Pn	**Pn**	20 21 16.9	-0.2
MBW	**Mount Baker**	**4.38**	**89**	Pn	**Pn**	20 21 18.4	-0.2
JCW	**Jim Creek**	**4.44**	**97**	Pn	**Pn**	20 21 19.6	+0.3
LLLB	**Lillooet**	**4.64**	**66**	Pn	**Pn**	20 21 22.9	+0.9
RPW	**Rockport**	**4.67**	**93**	Pn	**Pn**	20 21 22.1	-0.3
BNAB	**Bonilla**	**4.79**	**345**	Pn	**Pn**	20 21 22.1	-1.9
LON	**Longmire**	**5.01**	**113**	Pn	**Pn**	20 21 27.5	+0.4
FMW	**Mount Fremont**	**5.01**	**110**	Pn	**Pn**	20 21 27.7	+0.5
LTY	**Liberty**	**5.51**	**104**	Pn	**Pn**	20 21 34.6	+0.5
DOWB	**Downie Slide**	**6.94**	**64**	Pn	**Pn**	20 21 54.1	+0.4
MNB	**Mounoet Dainar**	**7.26**	**59**	Pn	**Pn**	20 22 00.7	+2.5
NEW	**Newport**	**7.59**	**90**	LR	LR	20 25 07.6	
	comp=Z,178nm,20.1s,baz=281,slow=40						
DLBC	**Dease Lake**	**9.61**	**355**	Pn	**Pn**	20 22 31.0	+0.8
	0.1nm,0.3s,baz=234,slow=13,SNR=5.5						
DLBC				LR	LR	20 26 02.6	
	comp=Z,122nm,19.0s,baz=152,slow=37						
PDAR	**Pinedale Array**	**14.56**	**108**	Pn	**Pn**	20 23 40.1	+2.0
	0.1nm,0.3s,baz=308,slow=10,SNR=3.6						
PDAR				LR	LR	20 29 36.3	
	comp=Z,98nm,20.7s,baz=310,slow=39						
YKA	**Yellowknife Ar**	**15.67**	**24**	Pn	**Pn**	20 23 50.8	-1.8
	0.1nm,0.3s,baz=214,slow=12,SNR=2.7						
YKA				LR	LR	20 30 35.7	
	comp=Z,6.2nm,19.3s,baz=180,slow=40						
ILAR	**Eielson Array**	**18.69**	**335**	P	**Pn**	20 24 31.1	+0.6
	0.1nm,0.3s,baz=145,slow=9.5,SNR=7.1						
ILAR				LR	LR	20 31 51.7	
	comp=Z,34nm,18.4s,baz=117,slow=37						
INK	**Inuvik**	**19.63**	**354**	LR	LR	20 31 44.0	
	comp=Z,50nm,21.2s,baz=17,slow=35						
ULM	**Lac du Bonnet**	**21.13**	**74**	P	**P**	20 24 57.2	+0.4
	2.3nm,0.5s,baz=287,slow=7.3,SNR=2.9						
ULM				LR	LR	20 33 34.2	
	comp=Z,83nm,18.4s,baz=206,slow=38						
SCHQ	**Schefferville**	**37.45**	**57**	LR	LR	20 43 29.6	
	comp=Z,65nm,20.5s,baz=288,slow=37						
PETK	**Petropavlovsk-**	**44.72**	**305**	LR	LR	20 46 49.0	
	comp=Z,23nm,19.5s,baz=115,slow=36						
H11N2	**WAKE ISLAND Hy**	**58.73**	**264**	T	T	21 33 27.7	
	baz=44,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**58.73**	**264**	T	T	21 33 27.8	
	baz=44,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**58.75**	**264**	T	T	21 33 28.9	
	baz=44,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**59.74**	**264**	T	T	21 34 40.4	
	baz=44,slow=74,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**59.75**	**264**	T	T	21 34 49.0	
	baz=44,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hy**	**59.76**	**264**	T	T	21 34 46.4	
	baz=44,slow=74,SNR=7.6						
RAR	**Rarotonga**	**75.15**	**210**	LR	LR	20 56 59.6	
	comp=Z,108nm,19.4s,baz=352,slow=29						
MKAR	**Makanchi Array**	**81.00**	**339**	P	**P**	20 32 28.5	+1.6
	0.4nm,0.6s,baz=53,slow=2.9,SNR=4.0						

ISCJB 16 20:21:08.4±0.6, 39.10N±0.04×29.00E±0.03, h0km±7km, Error ellipse: s-maj=6.2km s-min=3.9km az=175.8
DDA 16 20:21:08.0, 39.10N×29.02E, h7km, Ml2.8
CSEM 16 20:21:08.8±0.1, 39.09N×29.00E, h2km, ML2.8, Error ellipse: s-maj=2.2km s-min=2.0km az=169.0
ISK 16 20:21:08.4, 39.08N×28.98E, h6km, MD2.9

ISC 16 20:21:08.5±1.1, 39.09N±0.02×29.02E±0.02, h1km±10km, n53, σ0.56/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**259**	P	**Pg**	**20 21 13.2**	**0.0**
DEMI				S	**Sg**	20 21 16.5	+0.2
DEMI	**Demirci**	**0.24**	**259**	*i* P	**Pg**	20 21 13.2	0.0
DEMI				*i* S	**Sg**	20 21 16.6	+0.2
GEDZ	**Gediz**	**0.31**	**99**	*e*PG	**Pb**	20 21 15.9	-1.0
GEDZ	**Gediz**	**0.31**	**99**	*e*Pg	**Pb**	20 21 15.9	-1.0
GDZ	**Gediz**	**0.36**	**90**	P	**Pg**	20 21 15.8	+0.3
GDZ				S	**Sg**	20 21 21.0	+0.9
GDZ	**Gediz**	**0.36**	**90**	*i* P	**Pg**	20 21 15.8	+0.3
GDZ				*i* S	**Sg**	20 21 21.1	+0.9
TVSB	**Tavsanli**	**0.50**	**44**	*e*PG	**Pg**	20 21 18.6	+0.5
TVSB	**Tavsanli**	**0.50**	**44**	*e*Pg	**Pg**	20 21 18.6	+0.5
KULA	**Kula-Manisa**	**0.64**	**206**	*e*PG	**Pg**	20 21 20.6	-0.2
KULA				*e*SG	**Sg**	20 21 29.2	+0.1
KULA	**Kula-Manisa**	**0.64**	**206**	*e*Pg	**Pg**	20 21 20.6	-0.2
KULA				*e*Sg	**Sg**	20 21 29.2	+0.1
KHL	**Karahalli**	**0.86**	**153**	*e*PG	**Pb**	20 21 26.4	+0.1
KHL	**Karahalli**	**0.86**	**153**	*e*Pg	**Pb**	20 21 26.4	+0.1
AKS	**Akhisar**	**0.96**	**258**	*e*PG	**Pg**	20 21 26.9	-0.1
AKS	**Akhisar**	**0.96**	**258**	*e*Pg	**Pg**	20 21 26.9	-0.1
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pg**	20 21 28.7	+0.2
BALB				*e*SG	**Sb**	20 21 43.1	-0.3
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pg**	20 21 28.7	+0.2
BALB				*e*Sg	**Sb**	20 21 43.1	-0.3
IGD	**Bursa**	**1.18**	**7**	*i* P	**Pg**	20 21 29.7	-1.5
IGD				*i* S	**Sg**	20 21 44.3	-2.2
BALY	**Balya**	**1.26**	**301**	P	**Pg**	20 21 32.8	0.0
BALY	**Balya**	**1.26**	**301**	*i* P	**Pg**	20 21 32.8	0.0
CAVI	**Cavuskoy**	**1.28**	**30**	*e*PN	**Pg**	20 21 33.2	+0.1
CAVI				*e*SN	**Sn**	20 21 51.7	+0.3
CAVI	**Cavuskoy**	**1.28**	**30**	*e*Pn	**Pg**	20 21 33.2	+0.1
CAVI				*e*Sn	**Sn**	20 21 51.7	+0.3
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*PN	**Pn**	20 21 33.5	-0.1
KCTX				*e*SN	**Sn**	20 21 51.8	+0.4
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*Pn	**Pn**	20 21 33.5	-0.1
KCTX				*e*Sn	**Sn**	20 21 51.8	+0.4
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*PN	**Pn**	20 21 33.6	+0.1
MDNY				*e*SN	**Sn**	20 21 51.8	+0.5
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pn**	20 21 33.6	+0.1
MDNY				*e*Sn	**Sn**	20 21 51.8	+0.5
IZI	**Iznik**	**1.29**	**16**	*e*PN	**Pn**	20 21 34.5	+0.7
IZI	**Iznik**	**1.29**	**16**	*e*Pn	**Pn**	20 21 34.5	+0.7
BORA	**Eskisehir**	**1.36**	**54**	P	**Pn**	20 21 33.8	-0.9
BORA				S	**Sg**	20 21 52.2	-0.1
BORA	**Eskisehir**	**1.36**	**54**	*i* P	**Pn**	20 21 33.8	-0.9
BORA				*i* S	**Sg**	20 21 52.2	-0.1
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*PN	**Pg**	20 21 36.0	+0.5
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*Pn	**Pg**	20 21 36.0	+0.5
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*PN	**Pn**	20 21 35.8	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*Pn	**Pn**	20 21 35.8	-0.1
ADVT	**Abdulvahap**	**1.45**	**22**	*e*PN	**Pb**	20 21 36.0	-0.3
ADVT	**Abdulvahap**	**1.45**	**22**	*e*Pn	**Pb**	20 21 36.1	-0.3
ARMT	**Armutlu**	**1.48**	**355**	*e*PN	**Pn**	20 21 36.0	-0.2
ARMT				*e*SN	**Sg**	20 21 57.0	+1.0
ARMT	**Armutlu**	**1.48**	**355**	*e*Pn	**Pn**	20 21 36.1	-0.2
ARMT				*e*Sn	**Sg**	20 21 57.1	+1.0
ESKT	**Eskisehir**	**1.48**	**73**	*e*PN	**Pb**	20 21 37.0	0.0
ESKT	**Eskisehir**	**1.48**	**73**	*e*Pn	**Pb**	20 21 37.0	0.0
EDC	**Edincik**	**1.54**	**325**	*e*PN	**Pn**	20 21 36.7	-0.4
EDC	**Edincik**	**1.54**	**325**	*e*Pn	**Pn**	20 21 36.7	-0.4
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pb**	20 21 41.3	-0.5
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pb**	20 21 41.3	-0.5
MRMT	**Marmara Adasi**	**1.87**	**324**	*e*PN	**Pn**	20 21 41.3	-0.4
MRMT	**Marmara Adasi**	**1.87**	**324**	*e*Pn	**Pn**	20 21 41.3	-0.4
SILT	**Sile**	**2.12**	**13**	*e*PN	**Pn**	20 21 45.2	+0.2
SILT	**Sile**	**2.12**	**13**	*e*Pn	**Pn**	20 21 45.2	+0.2
CTKS	**Kestanelik-??a**	**2.18**	**350**	*e*PN	**Pn**	20 21 46.1	+0.3
CTKS	**Kestanelik-??a**	**2.18**	**350**	*e*Pn	**Pn**	20 21 46.2	+0.3
GELI	**Tayfur-Gelibol**	**2.36**	**304**	*e*PN	**Pn**	20 21 48.6	+0.3
GELI	**Tayfur-Gelibol**	**2.36**	**304**	*e*Pn	**Pn**	20 21 48.6	+0.3
ERIK	**Erikli-Kesan**	**2.49**	**310**	*e*PN	**Pn**	20 21 50.7	+0.6
ERIK	**Erikli-Kesan**	**2.49**	**310**	*e*Pn	**Pn**	20 21 50.7	+0.6

IDC 16 20:38:29.6±3.0, 16.17S×175.30W, h172km±57km, mb3.5/3, mb1 3.7/4, mb1mx3.2/32, mbtmp4.0/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/26, Error ellipse: s-maj=157.3km s-min=33.4km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.07**	**57**	P	Pn	20 39 33.2	+1.6
	5.2nm,0.3s,baz=347,slow=4.2,SNR=5.9						
AFI				S	Sn	20 40 19.7	-0.2
	36nm,0.3s,baz=50,slow=22,SNR=17						
RPZ	**Rata Peaks**	**29.81**	**200**	LR	LR	20 57 03.1	
	comp=Z,134nm,18.2s,baz=314,slow=37						
STKA	**Stephens Creek**	**42.07**	**240**	P	P	20 46 04.1	-0.5
	2.6nm,0.7s,baz=66,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**47.90**	**258**	P	P	20 46 51.0	+0.2
	0.3nm,0.5s,baz=92,slow=7.6,SNR=7.4						
ASAR	**Alice Springs**	**48.14**	**253**	P	P	20 46 52.5	-0.2
	3.6nm,0.7s,baz=87,slow=8.5,SNR=22						
BRTR	**Keskin Array B**	**145.56**	**319**	PKPbc	PKPdf	20 57 47.5	-0.3
	0.5nm,0.8s,baz=113,slow=3.2,SNR=3.6						

NEIC 16 20:39:13.1±1.2, 5.39S×150.94E, h10km, mb4.3/2, Error ellipse: s-maj=43.2km s-min=16.6km az=114.0
ISCJB 16 20:39:18.9±1.0, 5.5S±0.1×150.8E±0.2, h65km, mb3.8/7, Error ellipse: s-maj=34.1km s-min=11.6km az=33.0
IDC 16 20:39:19.6±5.4, 5.57S×150.88E, h58km±46km, mb3.8/6, mb1 4.0/8, mb1mx3.6/32, mbtmp4.1/8, ML2.6/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/34, Error ellipse: s-maj=51.1km s-min=28.7km az=118.0

**ISC 16 20:39:20.0±1.2, 5.6S±0.2×150.9E±0.2

OKC				Sg	Sg	20 45 10.0	-0.9	
	13nm,0.6s							
MORC	**Moravsky Berou**	**0.77**	**236**	*e*Pg	Pg	20 45 11.4	0.0	
MORC				*e*Sg	Sg	20 45 22.2	+0.9	
OJC	**Ojcow**	**0.81**	**89**	*e*Pg	Pg	20 45 11.3	-0.9	
OJC				*e*Sg	Sg	20 45 21.7	-1.1	
OJC	**Ojcow**	**0.81**	**89**	*e*Pg	Pg	20 45 11.3	-0.9	
OJC				*e*Sg	Sg	20 45 21.7	-1.1	
LANS	**Liptovska Anna**	**1.22**	**150**	*e*Pg	Pg	20 45 19.5	-0.5	
LANS				*e*Sg	Sb	20 45 36.6	-0.3	
LANS	**Liptovska Anna**	**1.22**	**150**	*e*PG	Pg	20 45 19.5	-0.5	
LANS				*e*SG	Sb	20 45 36.6	-0.3	
NIE	**Niedzica**	**1.39**	**124**	*e*Pg	Pg	20 45 22.1	-1.2	
NIE				*e*Sg	Sg	20 45 40.9	-0.4	
NIE	**Niedzica**	**1.39**	**124**	*e*Pg	Pg	20 45 22.1	-1.2	
NIE				*e*Sg	Sg	20 45 40.9	-0.4	
DPC	**Dobruska-Polom**	**1.42**	**277**	*e*PG	Pn	20 45 23.4	-0.4	
DPC				*e*SG	Sn	20 45 43.8	+0.6	
	3.8nm,0.3s							
DPC	**Dobruska-Polom**	**1.42**	**277**	Pg	Pn	20 45 23.4	-0.4	
DPC				Sg	Sn	20 45 43.8	+0.6	
	3.8nm,0.3s							
VRAC	**Vranov**	**1.55**	**235**	*e*Pn	Pn	20 45 25.0	-0.4	
VRAC				*e*Sg	Sn	20 45 45.5	-0.7	
VYHS	**Vyhne**	**1.73**	**173**	*e*Pn	Pn	20 45 27.5	-0.4	
VYHS				*e*Sn	Sn	20 45 50.4	-0.3	
VYHS	**Vyhne**	**1.73**	**173**	*e*PN	Pn	20 45 27.5	-0.4	
VYHS				*e*SN	Sn	20 45 50.4	-0.3	
VYHS				*e*LG	Lg	20 45 54.0		
STHS	**Stebnicka Huta**	**1.93**	**113**	*e*PN	Pb	20 45 32.0	-0.6	
STHS				*e*LG	Lg	20 46 01.1		
PRU	**Pruhonice**	**2.58**	**267**	*e*SG	Sg	20 46 18.8	-0.6	
PRU	**Pruhonice**	**2.58**	**267**	Sg	Sg	20 46 18.8	-0.6	
KHC	**Kasperske Hory**	**3.39**	**253**	*e*SG	Sg	20 46 44.9	-0.6	
KHC	**Kasperske Hory**	**3.39**	**253**	Sg	Sg	20 46 44.9	-0.6	

IDC 16 20:45:51.9±8.3, 6°14.8′S × 151°14.6′E, h118 km ± 55 km, mb3.4/3, mb1 3.5/4, mb1mx3.2/24, mbtmp3.8/4, Error ellipse: s-maj=95.2km s-min=59.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.10**	**230**	P	Pn	20 47 06.6	+0.4
	1.3nm,0.3s,baz=206,slow=20,SNR=2.1						
PMG				S	Sn	20 48 05.1	+1.0
	2.0nm,0.3s,baz=48,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**21.32**	**228**	P	P	20 50 28.0	-1.5
	0.6nm,0.5s,baz=54,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**24.05**	**222**	P	P	20 50 56.7	+0.4
	1.2nm,0.8s,baz=58,slow=8.9,SNR=12						
FITZ	**Fitzroy Crossi**	**27.57**	**242**	P	P	20 51 28.1	0.0
	7.2nm,1.3s,baz=65,slow=14,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.10**	**285**	PKPbc	PKPbc	21 05 27.1	-0.2
	0.2nm,0.5s,baz=15,slow=6.0,SNR=1.8						

*IDC **16** 20:51:57.6±1.4, 5°7.3′S × 151°7.2′E, h0 km, mb4.2/5, mb1 4.3/7, mb1mx3.9/31, mbtmp4.2/7, ML3.0/2, Error ellipse: s-maj=56.5km s-min=22.8km az=124.0*
*ISCJB **16** 20:52:00.7±1.2, 5°8.8′S × 151°7.3′E × 0°.2, h35 km, mb4.1/6, Error ellipse: s-maj=36.3km s-min=13.4km az=43.5*
*NEIC **16** 20:52:02.0±8.5, 5°80.5′S × 151°35.2′E, h31 km ± 57 km, mb4.2/2, Error ellipse: s-maj=36.0km s-min=28.8km az=129.0*

ISC 16 20:52:02.6±1.3, 5°8.8′S ± 0°.2 × 151°14.2′E ± 0°.3, h35 km, n10, σ 0s 8.3/11, mb4.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.48**	**229**	Pn	**Pn**	**20 53 22.4**	**+0.6**
	6.5nm,0.3s,baz=180,slow=6.5,SNR=12						
PMG				Sn	**Sn**	**20 54 23.0**	**-0.6**
	3.3nm,0.3s,baz=193,slow=20,SNR=3.0						
CTA	**Charters Tower**	**15.03**	**199**	Pn	**Pn**	**20 55 32.6**	**+0.1**
	0.2nm,0.3s,baz=18,slow=6.4,SNR=1.9						
WRAB	**Tennant Creek**	**21.68**	**228**	*e*P	**P**	**20 56 49.6**	**-0.9**
	5.7nm,0.6s						
WRA	**Warramunga Arr**	**21.70**	**228**	P	**P**	**20 56 50.1**	**-0.6**
	4.3nm,0.6s,baz=52,slow=11,SNR=31						
ASAR	**Alice Springs**	**24.44**	**222**	P	**P**	**20 57 18.1**	**-0.2**
	7.2nm,0.7s,baz=56,slow=9.5,SNR=83						
STKA	**Stephens Creek**	**27.49**	**198**	P	**P**	**20 57 45.8**	**0.0**
	2.0nm,0.8s,baz=10,slow=11,SNR=2.7						
FITZ	**Fitzroy Crossi**	**27.91**	**242**	*e*P	**P**	**20 57 49.5**	**-0.2**
	5.1nm,0.6s,baz=61,slow=7.7,SNR=19						
FITZ	**Fitzroy Crossi**	**27.91**	**242**	*e*P	**P**	**20 57 49.3**	**-0.4**
	5.1nm,0.6s						
ILAR	**Eielson Array**	**83.64**	**22**	P	**P**	**21 04 26.4**	**-0.8**
	0.4nm,0.5s,baz=248,slow=5.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**149.22**	**286**	PKPbc	**PKPbc**	**21 11 50.2**	**+1.7**
	0.8nm,0.8s,baz=97,slow=2.7,SNR=5.8						

SJA 16 21:11:00.5±0.8, 27°50.5′S × 65°51.9′W, h204 km ± 46 km, ML3.4, MW3.8, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**3.29**	**232**	*e*P	Pn	21 11 54.7	+0.9
AGUA				*e*S	S	21 12 34.2	-0.8
TCA	**Tanti**	**3.91**	**168**	*e*P	Pn	21 12 01.6	+0.3
	baz=345,slow=7.4						
TCA				*e*S	S	21 12 47.6	-1.0
TCA				IAML		21 12 52.9	
	comp=Z,31nm,0.4s						
MRA	**San Martin**	**4.91**	**182**	*e*P	Pn	21 12 14.7	+0.8
MRA				*e*S	S	21 13 01.4	-10
MRA				IAML		21 13 27.4	
	comp=Z,32nm,0.2s						

*NEIC **16** 21:12:34.6±0.6, 5°.40S × 150°.67E, h10 km, mb4.7/4, Error ellipse: s-maj=14.3km s-min=10.3km az=141.0*
*ISCJB **16** 21:12:39.9±0.7, 5°.7S × 0°.1 × 150°.82E ± 0°.09, h65 km, mb4.3/8, Error ellipse: s-maj=17.1km s-min=10.3km az=143.7*
*IDC **16** 21:12:43.7±5.1, 5°.89S × 151°.07E, h91 km ± 42 km, mb3.9/4, mb1 4.0/6, mb1mx3.4/45, mbtmp4.2/6, Error ellipse: s-maj=70.0km s-min=31.8km az=132.0*

ISC 16 21:12:41.2±0.8, 5°.6S ± 0°.1 × 150°.8E ± 0°.1, h65 km, n14, σ 1s 0.8/58/16, mb4.2/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**223**	P	**Pn**	**21 13 58.6**	**+1.3**
	3.8nm,0.3s,baz=37,slow=13,SNR=6.7						
PMG				S	**Sn**	**21 15 00.3**	**+3.6**
	2.4nm,0.3s,baz=231,slow=10,SNR=2.3						
PMG	**Port Moresby**	**5.26**	**223**	*e*Pn	**Pn**	**21 13 54.2**	**-3.1**
PMG				*e*Sn	**Sn**	**21 14 56.5**	**-0.1**
HNR	**Honiara**	**9.83**	**113**	*e*Pn	**Pn**	**21 14 59.8**	**0.0**
	53nm,1.0s						
CTA	**Charters Tower**	**15.10**	**197**	P	**Pn**	**21 16 09.6**	**-1.3**
	0.3nm,0.3s,baz=24,slow=18,SNR=1.5						
WRAB	**Tennant Creek**	**21.45**	**227**	*e*P	**P**	**21 17 23.8**	**-0.6**
	4.6nm,0.6s						
WRA	**Warramunga Arr**	**21.47**	**227**	P	**P**	**21 17 23.5**	**-1.0**
	4.3nm,0.5s,baz=54,slow=10,SNR=50						
ASAR	**Alice Springs**	**24.27**	**220**	P	**P**	**21 17 51.8**	**-0.7**
	6.7nm,0.8s,baz=56,slow=9.2,SNR=65						
FITZ	**Fitzroy Crossi**	**27.56**	**241**	P	**P**	**21 18 22.7**	**+0.4**
	5.1nm,0.6s,baz=54,slow=8.1,SNR=19						
RAO	**Raoul Island**	**37.78**	**132**	P	**P**	**21 19 52.3**	**+1.0**
	24nm,0.2s						
KURK	**Kurchatov**	**83.17**	**322**	*e*P	**P**	**21 25 00.7**	**+0.5**
	3.0nm,0.5s						
COLA	**College**	**83.30**	**22**	*e*P	**P**	**21 25 00.8**	**+0.2**
	2.4nm,0.5s						
ILAR	**Eielson Array**	**83.62**	**22**	P	**P**	**21 25 03.0**	**+0.7**
	0.4nm,0.6s,baz=255,slow=5.1,SNR=5.2						
KHC	**Kasperske Hory**	**123.56**	**328**	*e*PKPdf	**PKPdf**	**21 31 30.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**148.65**	**286**	PKPbc	**PKPbc**	**21 32 22.3**	**+0.2**
	0.9nm,0.9s,baz=117,slow=2.5,SNR=6.3						

IDC 16 21:15:26.0±339.0, 56°.58N × 30°.49E, h0 km, Error ellipse: s-maj=140.1km s-min=82.2km az=91.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.72**	**85**	*i*		21 37 35.7	
	baz=268,slow=315,SNR=0.7						
I26DE	**FREYUNG INFRAS**	**12.76**	**240**	*i*		22 35 30.0	
	baz=41,slow=329,SNR=0.6						
I48TN	**KESRA INFRASON**	**25.23**	**224**	*i*		23 51 00.0	
	baz=25,slow=321,SNR=0.5						

*NIED **16** 21:16:00, 36°.60N × 143°.80E, h5 km, Mw3.8 Best double couple: M0 6.64000 × 10^14 NP1:φs 33.00000°, δ 21.00000°, λ -90.00000°. NP2:φs 212.00000°, δ 69.00000°, λ -90.00000°.*
*IDC **16** 21:16:54.1±0.9, 36°.41N × 144°.13E, h0 km, mb3.7/10, mb1 3.9/16, mb1mx3.7/58, mbtmp3.8/16, ML3.8/5, MS2.9/7, Ms1 2.9/7, ms1mx2.6/49, Error ellipse: s-maj=20.5km s-min=16.8km az=90.0*
*NEIC **16** 21:16:56.1±4.6, 36°.28N × 144°.14E, h12 km ± 29 km, mb4.1/2, Error ellipse: s-maj=14.9km s-min=10.0km az=94.0*
*ISCJB **16** 21:16:57.9±0.5, 36°.44N ± 0°.04 × 143°.78E ± 0°.05, h33 km, mb3.8/13, MS3.4/3, Error ellipse: s-maj=6.2km s-min=4.7km az=141.7*
*JMA **16** 21:16:58.1±0.3, 36°.59N × 143°.81E, h53 km, M4.1*

ISC 16 21:16:58.9±0.7, 36°.40N ± 0°.05 × 143°.98E ± 0°.07, h35 km, n48, σ 2s 2.85/53, mb3.8/13, MS3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.65**	**286**	P	**Pn**	**21 17 37.3**	**-1.8**
ONAJ				S	**Sn**	**21 18 06.4**	**-3.7**
JFK	**Kawauchi**	**2.67**	**292**	P	**Pn**	**21 17 37.1**	**-2.3**
JFK				S	**Sn**	**21 18 05.8**	**-4.8**
BSO1	**Boso 1**	**3.00**	**235**	P	**Pn**	**21 17 43.7**	**+0.2**
BSO1				S	**Sn**	**21 18 14.3**	**-3.7**
JFT	**Otama**	**3.12**	**292**	P	**Pn**	**21 17 44.4**	**-1.2**
JFT				*e*S	**Sn**	**21 18 18.0**	**-3.7**
JMK	**Ichinoseki**	**3.36**	**320**	P	**Pn**	**21 17 46.0**	**-2.8**
JMK				*e*S	**Sn**	**21 18 21.7**	**-5.8**
JAG	**Ashikaga**	**3.65**	**272**	P	**Pn**	**21 17 52.0**	**-0.9**
JAG				S	**Sn**	**21 18 32.2**	**-2.5**
JOM	**Ohasama**	**3.73**	**326**	P	**Pn**	**21 17 51.4**	**-2.6**
JOM				S	**Sn**	**21 18 30.2**	**-6.5**
JRY	**Ryogami san**	**4.12**	**266**	P	**Pn**	**21 17 58.4**	**-1.0**
JRY				*e*S	**Sn**	**21 18 42.2**	**-4.2**
JOD2	**Odawara 2**	**4.13**	**256**	*e*S	**Sn**	**21 18 43.9**	**-2.7**
MJAR	**Matsushiro Arr**	**4.65**	**273**	Pn	**Pn**	**21 18 06.5**	**-0.2**
	3.5nm,0.3s,baz=87,slow=16,SNR=22						
MJAR				Sn	**Sn**	**21 19 01.1**	**+1.7**
	1.5nm,0.3s,baz=134,slow=19,SNR=5.0						
MJAR				LR	LR	21 20 39.3	
	comp=Z,51nm,19.2s,baz=95,slow=48						
MAJO	**Matsushiro**	**4.65**	**273**	*e*Pn	**Pn**	**21 18 06.9**	**+0.2**
MAT	**Matsushiro**	**4.65**	**273**	P	**Pn**	**21 18 06.5**	**-0.2**
MAT				S	**Sn**	**21 18 56.3**	**-3.2**
JHJ2	**Mitsune**	**4.74**	**227**	*e*Pn	**Pn**	**21 18 08.8**	**+0.9**
JHJ2				*e*Sn	**Sn**	**21 19 01.6**	**-0.1**
JHJ	**Hachijo jima 2**	**4.76**	**228**	Pn	**Pn**	**21 18 08.0**	**-0.1**
	18nm,0.3s,baz=262,slow=24,SNR=6.9						
JHJ				Sn	**Sn**	**21 18 60.0**	**-2.0**
	31nm,0.3s,baz=234,slow=22,SNR=6.7						
JOT	**Ohata**	**5.47**	**336**	P	**Pn**	**21 18 15.2**	**-2.7**
ERM	**Erimo**	**5.64**	**354**	*e*Pn	**Pn**	**21 18 21.9**	**+1.7**
JKB	**Kayabe**	**5.94**	**338**	P	**Pn**	**21 18 22.1**	**-2.2**
JCH	**Churui**	**6.22**	**356**	P	**Pn**	**21 18 23.7**	**-4.5**
ASAJ	**Asahikawa**	**7.78**	**353**	Pn	**Pn**	**21 18 46.7**	**-2.9**
	1.3nm,0.3s,baz=196,slow=17,SNR=11						
CBIJ	**Chichi jima**	**9.40**	**190**	Pn	**Pn**	**21 19 09.1**	**-2.8**
CBIJ				Sn	**Sn**	**21 20 49.5**	**-6.8**
JCJ	**Chichijima**	**9.40**	**190**	Pn	**Pn**	**21 19 09.1**	**-2.8**
	4.8nm,0.3s,baz=94,slow=22,SNR=4.3						
JCJ				Sn	**Sn**	**21 20 49.5**	**-6.8**
	4.7nm,0.3s,baz=296,slow=24,SNR=5.3						
JNU	**Nakatsue**	**11.26**	**257**	LR	LR	21 24 26.2	
	comp=Z,30nm,19.2s,baz=124,slow=40						
USRK	**Ussuriysk Ar.**	**12.01**	**314**	Pn	**Pn**	**21 19 47.4**	**-0.1**
	0.4nm,0.3s,baz=119,slow=13,SNR=5.8						
KSRS	**Korea Array**	**12.89**	**279**	Pn	**Pn**	**21 20 01.4**	**+1.8**
	0.2nm,0.3s,baz=89,slow=14,SNR=4.2						
KSRS				LR	LR	21 24 46.1	
	comp=Z,15nm,18.4s,baz=70,slow=36						
KSAR	**Wonju Array Be**	**12.92**	**279**	Pn	**Pn**	**21 20 01.4**	**+1.4**
KLR	**Kul'dur**	**15.62**	**329**	Pn	**P**	**21 20 40.1**	**0.0**
	0.2nm,0.3s,baz=144,slow=8.7,SNR=3.1						
KLR				LR	LR	21 26 04.8	
	comp=Z,36nm,20.8s,baz=146,slow=35						
H11N2	**WAKE ISLAND Hy**	**26.07**	**123**	T	T	21 49 42.2	
	baz=316,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**26.07**	**123**	T	T	21 49 48.1	
	baz=316,slow=75,SNR=55						
H11N3	**WAKE ISLAND Hy**	**26.08**	**123**	T	T	21 49 44.6	
	baz=316,slow=75,SNR=54						
H11S1	**WAKE ISLAND Hy**	**26.80**	**126**	T	T	21 50 44.9	
	baz=318,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**26.80**	**126**	T	T	21 50 45.0	
	baz=318,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**26.82**	**126**	T	T	21 50 46.5	
	baz=318,slow=76,SNR=29						
SONM	**Songino Array**	**29.85**	**304**	P	**P**	**21 23 06.9**	**+4.0**
	0.5nm,0.5s,baz=108,slow=9.3,SNR=2.8						
CMAR	**Chiang Mai Arr**	**43.36**	**258**	P	**P**	**21 25 01.0**	**+3.1**
	0.7nm,0.8s,baz=41,slow=8.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**43.86**	**313**	P	**P**	**21 25 02.8**	**+1.2**
	0.3nm,0.3s,baz=76,slow=6.1,SNR=2.6						
MKAR	**Makanchi Array**	**46.20**	**303**	P	**P**	**21 25 21.4**	**+1.1**
	0.2nm,0.6s,baz=82,slow=8.1,SNR=2.9						
KURK	**Kurchatov**	**47.94**	**309**	P	**P**	**21 25 35.0**	**+1.3**
KURBB	**Kurchatov Arra**	**48.01**	**309**	P	**P**	**21 25 35.0**	**+0.8**
	1.2nm,0.8s,baz=83,slow=8.3,SNR=12						
COLA	**College**	**48.52**	**32**	P	**P**	**21 25 38.4**	**+0.4**
	2.2nm,0.6s						
ILAR	**Eielson Array**	**48.93**	**32**	P	**P**	**21 25 41.3**	**+0.1**
	0.4nm,0.8s,baz=259,slow=6.0,SNR=3.6						
EKS2	**Erkin-Say**	**53.09**	**300**	*e*P	**P**	**21 26 13.8**	**+0.9**
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**56.77**	**191**	P	**P**	**21 26 40.1**	**+0.6**
	1.0nm,0.5s,baz=10,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**60.49**	**191**	P	**P**	**21 27 05.8**	**+0.4**
	0.6nm,0.7s,baz=8.7,slow=8.3,SNR=5.4						
AKTO	**Aktyubinsk**	**60.62**	**313**	P	**P**	**21 27 07.0**	**+1.0**
	1.0nm,0.8s,baz=73,slow=9.0,SNR=4.4						
GNI	**Garni**	**73.73**	**308**	LR	LR	22 03 31.4	
	comp=Z,31nm,19.5s,baz=145,slow=38						
NOA	**NORSAR Array B**	**75.55**	**338**	P	**P**	**21 28 39.9**	**+0.3**
	0.6nm,0.7s,baz=40,slow=5.7,SNR=3.4						
NOA				LR	LR	22 05 52.7	
	comp=Z,8.7nm,19.5s,baz=205,slow=39						
BRTR	**Keskin Array B**	**80.80**	**313**	LR	LR	22 12 27.9	
	comp=Z,21nm,18.5s,baz=174,slow=41						
TXAR	**Lajitas Array**	**88.85**	**54**	P	**P**	**21 29 50.6**	**+0.8**
	0.4nm,0.5s,baz=314,slow=3.6,SNR=7.4						

*ISCJB **16** 21:23:59.9±0.5, 50°.10N ± 0°.03 × 19°.03E ± 0°.03, h0 km, Error ellipse: s-maj=4.1km s-min=2.9km az=11.5*
*PRU **16** 21:24:00.6, 50°.15N × 19°.06E, h0 km*
*CSEM **16** 21:24:01.0±0.3, 50°.10N × 19°.06E, h2 km, ML2.6/4, Error ellipse: s-maj=6.4km s-min=4.4km az=3.0*

ISC 16 21:23:59.7±0.8, 50°.08N ± 0°.03 × 19°.10E ± 0°.02, h0 km, n31, σ 0s 0.94/45, 7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.22**	**343**	*e*Pg	**Pg**	**21 24 05.2**	**+1.2**
CHZP				*e*Sg	**Sg**	**21 24 06.6**	**-0.3**
OJC	**Ojcow**	**0.47**	**73**	*e*Pg	**Pg**	**21 24 08.9**	**+0.1**
OJC				*e*Sg	**Sg**	**21 24 15.5**	**+0.5**
OJC	**Ojcow**	**0.47**	**73**	*e*Pg	**Pg**	**21 24 08.9**	**+0.1**
OJC				*e*Sg	**Sg**	**21 24 15.5**	**+0.5**
OKC	**Ostrava-Krasne**	**0.66**	**249**	*e*PG	**Pb**	**21 24 13.6**	**-0.5**
OKC				*e*SG	**Sg**	**21 24 21.8**	**+0.9**
	18nm,0.4s						
OKC	**Ostrava-Krasne**	**0.66**	**249**	Pg	**Pb**	**21 24 13.6**	**-0.5**
OKC				Sg	**Sg**	**21 24 21.8**	**+0.9**
	18nm,0.4s						
LANS	**Liptovska Anna**	**0.96**	**165**	*e*Pg	**Pb**	**21 24 19.7**	**+0.4**
LANS				*e*Sg	**Sb**	**21 24 33.4**	**+0.8**
LANS	**Liptovska Anna**	**0.96**	**165**	*e*PG	**Pb**	**21 24 19.7**	**+0.4**
LANS				*e*SG	**Sb**	**21 24 33.4**	**+0.8**
NIE	**Niedzica**	**1.02**	**130**	*e*Pg	**Pb**	**21 24 20.2**	**-0.2**
NIE				*e*Sg	**Sb**	**21 24 35.6**	**+1.2**
NIE	**Niedzica**	**1.02**	**130**	*e*Pg	**Pb**	**21 24 20.2**	**-0.2**
NIE				*e*Sg	**Sb**	**21 24 35.6**	**+1.2**
MORC	**Moravsky Berou**	**1.05**	**254**	ǁ *i*P	**Pb**	**21 24 20.6**	**-0.2**
MORC	**Moravsky Berou**	**1.05**	**254**	ǁ *i*P	**Pb**	**21 24 20.6**	**-0.2**
MORC				*e*Sg	**Sn**	**21 24 36.0**	**-1.1**
STHS	**Stebnicka Huta**	**1.54**	**115**	*e*Pn	**Pg**	**21 24 30.3**	**+1.0**
STHS	**Stebnicka Huta**	**1.54**	**115**	*e*PN	**Pg**	**21 24 30.3**	**+1.0**
STHS				*e*LG	Lg	21 25 00.0	
VYHS	**Vyhne**	**1.60**	**186**	*e*Pn	**Pn**	**21 24 29.5**	**+0.3**
VYHS				*e*Sn	**Sn**	**21 24 50.7**	**+0.1**
VYHS	**Vyhne**	**1.60**	**186**	*e*PN	**Pn**	**21 24 29.5**	**+0.3**
VYHS				*e*SN	**Sn**	**21 24 50.7**	**+0.1**
VYHS				*e*LG	Lg	21 24 53.5	
VRAC	**Vranov**	**1.80**	**246**	ǁ *i*P	**Pb**	**21 24 33.7**	**+0.1**
VRAC	**Vranov**	**1.80**	**246**	*e*Pn	**Pb**	**21 24 33.6**	**0.0**
VRAC				*e*Sg	**Sg**	**21 24 58.5**	**+1.0**
DPC	**Dobruska-Polom**	**1.80**	**280**	*e*PG	**Pn**	**21 24 32.1**	**0.0**
DPC				*e*SG	**Sb**	**21 24 56.8**	**0.0**
	13nm,0.4s						
KECS	**Kecovo**	**1.84**	**150**	*e*Sn	**Sn**	**21 24 56.1**	**-0.4**
KECS	**Kecovo**	**1.84**	**150**	*e*SN	**Sn**	**21 24 56.1**	**-0.4**
KECS				*e*LG	Lg	21 25 07.6	
CRVS	**Cervenica-Dubn**	**1.94**	**126**	*e*Pn	**Pg**	**21 24 37.1**	**+0.2**
CRVS	**Cervenica-Dubn**	**1.94**	**126**	*e*PN	**Pg**	**21 24 37.1**	**+0.2**
KWP	**Kalwaria Pacla**	**2.38**	**99**	ǁ *i*P	**Pb**	**21 24 43.6**	**+0.1**
KWP	**Kalwaria Pacla**	**2.38**	**99**	ǁ *i*P	**Pb**	**21 24 43.6**	**+0.1**
PRU	**Pruhonice**	**2.94**	**270**	*e*SG	**Sg**	**21 25 33.3**	**-0.8**
	4.2nm,0.5s						
PRU	**Pruhonice**	**2.94**	**270**	Sg	**Sg**	**21 25 33.3**	**-0.8**
	4.2nm,0.5s						
BRG	**Berggiesshubel**	**3.39**	**286**	SG	**Sg**	**21 25 49.9**	**+1.4**
	4.2nm,0.6s						
KHC	**Kasperske Hory**	**3.71**	**257**	*e*SG	**Sg**	**21 25 58.6**	**-0.3**
	4.0nm,0.4s						
KHC	**Kasperske Hory**	**3.71**	**257**	Sg	**Sg**	**21 25 58.6**	**-0.3**
	4.0nm,0.4s						
BZS	**Buzias**	**4.78**	**158**	ǁ *i*P	**Pn**	**21 25 09.8**	**-3.1**
BZS	**Buzias**	**4.78**	**158**	ǁ *i*P	**Pn**	**21 25 09.8**	**-3.1**

*NEIC **16** 21:33:53.0±0.6, 5°.64S × 151°.22E, h10 km, mb4.4/7, Error ellipse: s-maj=15.4km s-min=10.5km az=120.0*
*ISCJB **16** 21:33:54.7±0.6, 5°.75S ± 0°.08 × 151°.28E ± 0°.08, h35 km, mb4.4/12, MS3.1/1, Error ellipse: s-maj=14.5km s-min=8.4km az=42.4*
*IDC **16** 21:33:57.2±5.8, 5°.76S × 151°.28E, h41 km ± 48 km, mb4.0/5, mb1 4.2/7, mb1mx3.7/31, mbtmp4.2/7, ML3.0/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/32, Error ellipse: s-maj=53.8km s-min=31.4km az=126.0*

ISC 16 21:33:56.8±0.7, 5°.72S ± 0°.10 × 151°.3E ± 0°.1, h35 km, n20, σ 0s 0.90/20, mb4.2/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**228**	P	**Pn**	**21 35 17.7**	**+1.5**
	6.3nm,0.3s,baz=25,slow=11,SNR=10						
PMG				S	**Sn**	**21 36 17.4**	**-0.7**
	5.8nm,0.3s,baz=353,slow=20,SNR=2.3						
PMG				LR	LR	21 37 19.3	
	comp=Z,137nm,20.6s,baz=123,slow=37						
PMG	**Port Moresby**	**5.49**	**228**	*e*Pn	**Pn**	**21 35 17.4**	**+1.2**
	24nm,0.6s						
PMG				*e*Sn	**Sn**	**21 36 18.8**	**+0.6**
HNR	**Honiara**	**9.35**	**114**	*e*Pn	**Pn**	**21 36 10.1**	**+1.0**
CTA	**Charters Tower**	**15.10**	**198**	P	**Pn**	**21 37 27.6**	**-0.1**
	0.2nm,0.3s,baz=17,slow=11,SNR=2.4						
CTAO	**Charters Tower**	**15.10**	**198**	*e*Pn	**Pn**	**21 37 27.6**	**-0.1**
	3.7nm,0.6s						
WRAB	**Tennant Creek**	**21.70**	**228**	*e*P	**P**	**21 38 43.9**	**-1.0**
	5.8nm,0.5s						
WRA	**Warramunga Arr**	**21.71**	**228**	P	**P**	**21 38 44.0**	**-1.0**
	5.4nm,0.5s,baz=52,slow=11,SNR=35						
ASAR	**Alice Springs**	**24.46**	**221**	P	**P**	**21 39 12.7**	**0.0**
	4.4nm,0.8s,baz=58,slow=9.0,SNR=29						
STKA	**Stephens Creek**	**27.56**	**198**	P	**P**	**21 39 39.6**	**-0.9**
	2.0nm,0.8s,baz=20,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**27.90**	**242**	P	**P**	**21 39 42.9**	**-0.9**
	5.0nm,0.6s,baz=61,slow=5.6,SNR=17						
NACB	**Ninganchiao**	**41.48**	**317**	*e*P	**P**	**21 41 41.3**	**+0.7**
	11nm,0.8s						
MAJO	**Matsushiro**	**43.79**	**345**	P	**P**	**21 41 59.5**	**+0.3**
	3.1nm,0.8s						
COCO	**West Island**	**54.09

SNR=22
FAQ Al Faqa, Dubai 3.63 211 Pn Pn 22 00 08.0 +2.3
SNR=6.9
FAQ Al Faqa, Dubai 3.63 211 P Pn 22 00 08.0 +2.3
SNR=6.9
FAQ Al Faqa, Dubai 3.63 211 P Pn 22 00 08.0 +2.3
SNR=6.9
IBAF Bafgh 4.09 335 *e*Pn **Pn 22 00 14.7 +2.5**
IBAF *e*Sg **Sb 22 01 18.7 +6.6**
IBAF *e*AMB AMB 22 01 30.5
comp=Z,760nm,0.5s
IBAF Bafgh 4.09 335 *e*Pn **Pn 22 00 14.7 +2.5**
IBAF *e*Sg **Sb 22 01 18.7 +6.6**
GHIR Ghir-Karzin 4.12 276 *e*Pn **Pn 22 00 13.6 +1.1**
GHIR Ghir-Karzin 4.12 276 *e*Pn **Pn 22 00 13.6 +1.1**
IMEH Mehriz 4.36 324 *e*Pn **Pn 22 00 18.4 +2.5**
IMEH *e*AMB AMB 22 01 40.3
comp=Z,484nm,0.3s
IMEH Mehriz 4.36 324 *e*Pn **Pn 22 00 18.4 +2.5**
IKOO Kooshah 4.67 14 *e*Pn **Pn 22 00 21.0 +0.9**
IKOO *e*AMB AMB 22 01 58.2
comp=Z,875nm,0.4s
IKOO Kooshah 4.67 14 *e*Pn **Pn 22 00 21.0 +0.9**
WSAR Wadi Sarin 4.72 169 P **Pn 22 00 20.0 -0.8**
comp=Z,3.0nm,0.3s,baz=352,slow=7.2,SNR=79
WSAR S **Sn 22 01 11.0 -3.5**
comp=Z,9.1nm,0.3s,baz=240,slow=21,SNR=12
ISAD Sadrabad 5.27 320 *e*Pn **Pn 22 00 30.3 +1.9**
ISAD *e*AMB AMB 22 02 10.2
comp=Z,275nm,0.3s
ISAD Sadrabad 5.27 320 *e*Pn **Pn 22 00 30.3 +1.9**
IRAM Ramesheh 6.00 312 *e*Pn **Pn 22 00 38.6 +0.2**
IRAM *e*AMB AMB 22 01 52.7
comp=Z,267nm,0.1s
IRAM Ramesheh 6.00 312 *e*Pn **Pn 22 00 38.6 +0.2**
IGAR Gharneh 6.60 314 *e*Pn **Pn 22 00 47.5 +0.8**
IGAR *e*AMB AMB 22 02 05.5
comp=N,392nm,0.1s
IPIR Pirpir 7.53 311 *e*Pn **Pn 22 01 00.8 +1.3**
IPIR *e*AMB AMB 22 02 26.6
comp=Z,151nm,0.2s
IPIR Pirpir 7.53 311 *e*Pn **Pn 22 01 00.8 +1.3**
GEYT Alibeck 10.01 2 P Pn 22 01 37.2 +3.9
comp=Z,0.3nm,0.3s,baz=172,slow=14,SNR=3.6
ASF Jabal al Asfar 18.45 288 P **Pn 22 03 25.2 +0.2**
comp=Z,0.2nm,0.3s,baz=338,slow=3.5,SNR=3.4
MMAI Mount Meron Ar 19.82 290 P **Pn 22 03 41.0 -0.5**
comp=Z,0.9nm,0.6s,baz=107,slow=14,SNR=3.6
EIL Elat 19.95 280 P **Pn 22 03 41.9 -1.1**
comp=Z,4.9nm,0.8s,baz=106,slow=8.3,SNR=4.2
KVAR Kislovodsk Arr 20.02 327 P Pn 22 03 43.0 -0.8
comp=Z,1.6nm,0.5s,baz=136,slow=4.8,SNR=3.5
AKTO Aktyubinsk 22.51 1 P **P 22 04 09.2 +0.6**
comp=Z,0.6nm,0.5s,baz=197,slow=11,SNR=2.4
BRTR Keskin Array B 23.09 307 P **P 22 04 13.7 -1.2**
comp=Z,2.0nm,1.0s,baz=119,slow=10.0,SNR=9.5
BVAR Borovoye Array 26.83 17 P **P 22 04 47.6 -1.5**
comp=Z,0.4nm,0.5s,baz=205,slow=13,SNR=4.2
MKAR Makanchi Array 27.02 39 P **P 22 04 49.6 -1.3**
comp=Z,0.3nm,0.7s,baz=215,slow=7.4,SNR=3.7
ZALV Zalesovo Beam 32.78 30 P **P 22 05 39.1 -2.6**
comp=Z,0.6nm,0.3s,baz=237,slow=9.9,SNR=3.9
ARCES ARCESS Array B 45.63 345 P **P 22 07 29.2 +0.4**
comp=Z,1.5nm,1.0s,baz=133,slow=10.0,SNR=2.8
TORD Torodi Ar. Bea 53.98 266 P **P 22 08 31.5 -1.5**
comp=Z,2.6nm,0.5s,baz=64,slow=7.5,SNR=77

MEX 16 21:59:24.2±0.8, 15.77N×92.60W, h79km±12km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.60**	**264**	*e*P	Pn	21 59 37.7	-1.1
PCIG				*e*S	Sn	21 59 47.7	-1.9
CCIG	**Comitan**	**0.68**	**41**	*e*P	Pn	21 59 37.0	-2.7
CCIG				*e*S	Sn	21 59 50.3	-1.0

IDC 16 22:04:45.9±9.1, 17.93S×174.37W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/36, mbtmp3.9/3, Error ellipse: s-maj=398.6km s-min=38.8km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.41**	**259**	P	P	22 13 29.4	-0.8
	0.3nm,0.2s,baz=96,slow=6.2,SNR=15						
ASAR	**Alice Springs**	**48.48**	**254**	P	P	22 13 31.2	+0.4
	1.4nm,0.3s,baz=90,slow=7.4,SNR=23						
ILAR	**Eielson Array**	**85.09**	**11**	P	P	22 17 23.4	+0.1
	0.4nm,0.6s,baz=216,slow=5.6,SNR=4.5						

*ATH **16** 22:12:36.1, 37.93N×21.06E, h8km±1km, ML2.5/19, Error ellipse: s-maj=1.6km s-min=0.7km az=68.0*
*CSEM **16** 22:12:36.9±0.3, 37.97N×21.09E, h10km, ML2.5, Error ellipse: s-maj=5.3km s-min=4.7km az=49.0*
*THE **16** 22:12:36.3, 37.97N×21.11E, h17km, ML2.9/11, Error ellipse: s-maj=0.6km s-min=0.3km az=279.0*
ISC 16 22:12:36.6±0.8, 37.96N±0.02×21.09E±0.02, h14km±5km, n104, σ0.69/153, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.09**	**118**	P	**Pg**	**22 12 39.3**	**-0.3**
VTN				S	**Sg**	**22 12 41.8**	**+0.2**
VTN	**Vitineika**	**0.09**	**118**	P	**Pg**	**22 12 39.3**	**-0.3**
VTN				S	**Sg**	**22 12 41.8**	**+0.2**
KFL	**Anninata**	**0.28**	**303**	P	**Pg**	**22 12 42.6**	**+0.1**
KFL	**Anninata**	**0.28**	**303**	P	**Pg**	**22 12 42.6**	**+0.1**
KFL	**Anninata**	**0.28**	**303**	P	**Pb**	**22 12 43.4**	**0.0**
RLS	**Riolos of Patr**	**0.31**	**71**	P	**Pg**	**22 12 42.4**	**-0.7**
RLS				S	**Sg**	**22 12 47.6**	**+0.1**
RLS	**Riolos of Patr**	**0.31**	**71**	P	**Pg**	**22 12 42.0**	**-1.1**
RLS				S	**Sg**	**22 12 47.6**	**+0.1**
RLS	**Riolos of Patr**	**0.31**	**71**	S	**Sb**	**22 12 48.6**	**-0.3**
RLS				AML	AML	22 12 49.5	
	comp=N,4232μm,0.4s						
RLS				AML	AML	22 12 50.4	
	comp=E,4852μm,0.2s						
AXS	**Araxos**	**0.33**	**44**	P	**Pg**	**22 12 42.7**	**-0.6**
AXS				S	**Sg**	**22 12 47.9**	**0.0**
AXS	**Araxos**	**0.33**	**44**	P	**Sg**	**22 12 42.3**	**-1.0**
AXS				S	**Sg**	**22 12 47.9**	**0.0**
AXS	**Araxos**	**0.33**	**44**	P	**Pg**	**22 12 42.3**	**-1.0**
AXS				S	**Sg**	**22 12 48.0**	**0.0**
ZKS	**Zakynthos**	**0.35**	**223**	P	**Pg**	**22 12 43.8**	**0.0**
ZKS				S	**Sb**	**22 12 50.1**	**0.0**
ZKS	**Zakynthos**	**0.35**	**223**	P	**Pg**	**22 12 43.8**	**0.0**
ZKS				S	**Sb**	**22 12 50.1**	**0.0**
VLS	**Valsamata**	**0.45**	**299**	P	**Pg**	**22 12 45.0**	**-0.6**
VLS				S	**Sb**	**22 12 52.5**	**-0.4**
VLS	**Valsamata**	**0.45**	**299**	P	**Pg**	**22 12 45.3**	**-0.3**
VLS				S	**Sg**	**22 12 50.6**	**-1.0**
DRO	**Drossia**	**0.49**	**90**	P	**Pg**	**22 12 45.3**	**-1.0**
DRO				S	**Sg**	**22 12 52.8**	**-0.1**
DRO	**Drossia**	**0.49**	**90**	P	**Pg**	**22 12 45.3**	**-1.0**
DRO				S	**Sg**	**22 12 52.8**	**-0.1**
DRO	**Drossia**	**0.49**	**90**	P	**Pg**	**22 12 46.5**	**+0.2**
DRO				S	**Sb**	**22 12 53.7**	**-0.4**
DRO				AML	AML	22 12 55.2	
	comp=E,9161μm,0.3s						
DRO				AML	AML	22 12 56.8	
	comp=N,7628μm,0.3s						
UPR	**University Cam**	**0.64**	**59**	P	**Pb**	**22 12 49.6**	**+0.1**
UPR	**University Cam**	**0.64**	**59**	P	**Pb**	**22 12 49.6**	**+0.1**
UPR	**University Cam**	**0.64**	**59**	P	**Pn**	**22 12 50.4**	**-0.8**
PDO	**Prodromos**	**0.64**	**7**	P	**Pg**	**22 12 48.6**	**-0.6**
PDO				S	**Sg**	**22 12 57.6**	**-0.1**
PDO	**Prodromos**	**0.64**	**7**	P	**Pg**	**22 12 48.6**	**-0.6**
PDO				S	**Sg**	**22 12 57.6**	**-0.1**
AMT	**Artemida-Makis**	**0.65**	**131**	P	**Pg**	**22 12 48.6**	**-0.7**
AMT				S	**Sg**	**22 12 58.1**	**+0.2**
AMT	**Artemida-Makis**	**0.65**	**131**	P	**Pg**	**22 12 48.6**	**-0.7**
AMT				S	**Sg**	**22 12 57.9**	**0.0**
AMT	**Artemida-Makis**	**0.65**	**131**	P	**Pg**	**22 12 49.1**	**-0.2**
AMT				S	**Sg**	**22 12 57.9**	**0.0**
AMT				AML	AML	22 13 02.1	
	comp=N,1135μm,0.3s						
AMT				AML	AML	22 13 02.9	
	comp=E,1957μm,0.4s						
PVO	**Paravola**	**0.74**	**27**	P	**Pg**	**22 12 50.8**	**-0.2**
PVO				S	**Sg**	**22 12 59.9**	**-0.9**
PVO	**Paravola**	**0.74**	**27**	P	**Pg**	**22 12 50.8**	**-0.2**
PVO				S	**Sg**	**22 12 59.9**	**-0.9**
PVO	**Paravola**	**0.74**	**27**	P	**Pb**	**22 12 51.6**	**+0.3**
LAKA	**Lakka**	**0.76**	**68**	P	**Pg**	**22 12 50.2**	**-1.1**
LAKA				S	**Sg**	**22 13 00.8**	**-0.4**
LAKA	**Lakka**	**0.76**	**68**	P	**Pg**	**22 12 50.2**	**-1.1**
LAKA				S	**Sg**	**22 13 00.8**	**-0.4**
LAKA	**Lakka**	**0.76**	**68**	P	**Pg**	**22 12 51.1**	**-0.2**
LAKA				S	**Sb**	**22 13 03.0**	**+1.3**
LAKA				AML	AML	22 13 05.9	
	comp=E,390μm,0.4s						
LAKA				AML	AML	22 13 05.9	
	comp=N,836μm,0.6s						
EFP	**Efpalio**	**0.80**	**54**	P	**Pg**	**22 12 51.3**	**-0.7**
EFP				S	**Sg**	**22 13 02.1**	**-0.4**
EFP	**Efpalio**	**0.80**	**54**	P	**Pg**	**22 12 51.3**	**-0.7**
EFP				S	**Sg**	**22 13 02.1**	**-0.4**
KLV	**Kalavryta, Ach**	**0.84**	**84**	P	**Pg**	**22 12 51.5**	**-1.4**
KLV	**Kalavryta, Ach**	**0.84**	**84**	P	**Pg**	**22 12 52.4**	**-0.5**
KLV				S	**Sb**	**22 13 05.4**	**+1.2**
KLV	**Kalavryta, Ach**	**0.84**	**84**	P	**Pg**	**22 12 52.4**	**-0.5**
KLV				S	**Sb**	**22 13 05.4**	**+1.2**
KLV				AML	AML	22 13 09.8	
	comp=E,931μm,0.3s						
KLV				AML	AML	22 13 10.4	
	comp=N,960μm,0.3s						
TRIZ	**Trizonia**	**0.88**	**62**	P	**Pg**	**22 12 52.8**	**-0.7**
SERG	**Sergoula**	**0.89**	**59**	P	**Pg**	**22 12 52.4**	**-1.4**
SERG	**Sergoula**	**0.89**	**59**	P	**Pg**	**22 12 52.4**	**-1.4**
LKD2	**Lefkada island**	**0.90**	**338**	P	**Pg**	**22 12 53.4**	**-0.5**
LKD2	**Lefkada island**	**0.90**	**338**	P	**Pg**	**22 12 53.6**	**-0.3**
LKD2				S	**Sb**	**22 13 06.0**	**+0.2**
LKD2	**Lefkada island**	**0.90**	**338**	P	**Pg**	**22 12 53.6**	**-0.3**
LKD2				S	**Sb**	**22 13 06.0**	**+0.2**
LKD2				AML	AML	22 13 14.9	
	comp=N,881μm,0.5s						
LKD2				AML	AML	22 13 15.7	
	comp=E,1441μm,0.4s						
ANX	**Ano Chora**	**0.91**	**46**	P	**Pg**	**22 12 53.3**	**-0.9**
ANX	**Ano Chora**	**0.91**	**46**	P	**Pg**	**22 12 53.3**	**-0.9**
KALE	**Kalithea**	**0.93**	**62**	P	**Pg**	**22 12 53.4**	**-1.3**
KALE				S	**Sg**	**22 13 06.4**	**-0.5**
KALE	**Kalithea**	**0.93**	**62**	P	**Pg**	**22 12 53.4**	**-1.3**
KALE				S	**Sg**	**22 13 06.4**	**-0.5**
KALE	**Kalithea**	**0.93**	**62**	P	**Pg**	**22 12 53.4**	**-1.3**
KALE				S	**Sn**	**22 13 09.1**	**+0.5**
KALE				AML	AML	22 13 13.2	
	comp=E,993μm,0.4s						
KALE				AML	AML	22 13 13.3	
	comp=N,1447μm,0.5s						
ITM	**Ithomi**	**1.02**	**139**	P	**Pg**	**22 12 55.1**	**-1.2**
ITM	**Ithomi**	**1.02**	**139**	P	**Pg**	**22 12 55.2**	**-1.1**
ITM				S	**Sg**	**22 13 09.1**	**-0.6**
ITM	**Ithomi**	**1.02**	**139**	P	**Pg**	**22 12 55.2**	**-1.1**
ITM				S	**Sg**	**22 13 09.2**	**-0.6**
ITM				AML	AML	22 13 16.4	
	comp=E,319μm,0.4s						
ITM				AML	AML	22 13 18.7	
	comp=N,414μm,0.4s						
EVR	**Evrytania**	**1.11**	**30**	P	**Pg**	**22 12 57.3**	**-0.7**
EVR	**Evrytania**	**1.11**	**30**	P	**Pg**	**22 12 57.3**	**-0.7**
EVR				S	**Sn**	**22 13 14.0**	**+1.0**
EVR	**Evrytania**	**1.11**	**30**	P	**Pg**	**22 12 57.1**	**-0.9**
EVR				S	**Sn**	**22 13 14.0**	**+1.0**
EVR				AML	AML	22 13 22.1	
	comp=N,286μm,0.7s						
DSL	**Palaion Diasel**	**1.17**	**0**	P	**Pb**	**22 12 58.0**	**-0.7**
DSL	**Palaion Diasel**	**1.17**	**0**	P	**Pb**	**22 12 58.0**	**-0.7**
DSL	**Palaion Diasel**	**1.17**	**0**	P	**Pb**	**22 12 57.6**	**-1.0**
VLX	**Vlachokerasia**	**1.18**	**119**	P	**Pb**	**22 12 58.4**	**-0.4**
VLX	**Vlachokerasia**	**1.18**	**119**	P	**Pg**	**22 12 59.2**	**-0.1**
VLX	**Vlachokerasia**	**1.18**	**119**	P	**Pg**	**22 12 59.2**	**-0.1**
PYL	**PYLOS**	**1.18**	**154**	P	**Pb**	**22 12 57.4**	**-1.3**
PYL	**PYLOS**	**1.18**	**154**	P	**Pb**	**22 12 57.4**	**-1.3**
PYL				S	**Sb**	**22 13 13.5**	**-0.4**
PYL	**PYLOS**	**1.18**	**154**	P	**Pb**	**22 12 57.2**	**-1.5**
PYL				S	**Sb**	**22 13 13.5**	**-0.4**
PYL				AML	AML	22 13 19.5	
	comp=E,307μm,0.6s						
PYL				AML	AML	22 13 20.1	
	comp=N,182μm,0.4s						
DSF	**Desfina**	**1.22**	**68**	P	**Pn**	**22 12 58.5**	**-0.8**
DSF	**Desfina**	**1.22**	**68**	P	**Pn**	**22 12 58.7**	**-0.5**
DSF	**Desfina**	**1.22**	**68**	P	**Pn**	**22 12 58.7**	**-0.5**
DSF				AML	AML	22 13 22.3	
	comp=N,298μm,0.4s						
DSF				AML	AML	22 13 24.1	
	comp=E,322μm,0.5s						
THAL	**Thalero**	**1.25**	**86**	P	**Pn**	**22 12 59.3**	**-0.2**
THAL	**Thalero**	**1.25**	**86**	P	**Pn**	**22 12 59.3**	**-0.2**
THAL				S	**Sn**	**22 13 17.0**	**+0.9**
THAL	**Thalero**	**1.25**	**86**	P	**Pg**	**22 13 01.5**	**+0.9**
THAL				S	**Sn**	**22 13 17.0**	**+0.9**
THAL				AML	AML	22 13 27.2	
	comp=E,2275μm,0.5s						
THAL				AML	AML	22 13 28.2	
	comp=N,1290μm,0.3s						
AGG	**Agios Georgios**	**1.44**	**42**	P	**Pb**	**22 13 03.0**	**-0.2**
AGG				S	**Sg**	**22 13 22.6**	**-0.4**
AGG	**Agios Georgios**	**1.44**	**42**	P	**Pb**	**22 13 03.0**	**-0.2**
AGG				S	**Sg**	**22 13 22.6**	**-0.4**
AGG	**Agios Georgios**	**1.44**	**42**	P	**Pn**	**22 13 02.6**	**+0.3**
PROD	**Prodromos**	**1.46**	**78**	P	**Pg**	**22 13 04.4**	**-0.2**
PROD	**Prodromos**	**1.46**	**78**	P	**Pg**	**22 13 04.4**	**-0.2**
LTK	**Loutraki**	**1.48**	**87**	P	**Pb**	**22 13 03.8**	**-0.1**
LTK				S	**Sg**	**22 13 24.5**	**+0.1**
LTK	**Loutraki**	**1.48**	**87**	P	**Pb**	**22 13 03.8**	**-0.1**
LTK				S	**Sg**	**22 13 24.5**	**+0.1**
LTK	**Loutraki**	**1.48**	**87**	P	**Pn**	**22 13 03.3**	**+0.4**
LKR	**Lokris**	**1.65**	**65**	P	**Pg**	**22 13 07.6**	**-0.8**
LKR	**Lokris**	**1.65**	**65**	P	**Pg**	**22 13 07.6**	**-0.8**
LKR				S	**Sg**	**22 13 30.6**	**+0.7**
LKR				AML	AML	22 13 36.1	
	comp=E,147μm,0.3s						
LKR				AML	AML	22 13 37.0	
	comp=N,179μm,0.3s						
ATAL	**Atalanti**	**1.69**	**64**	P	**Pb**	**22 13 07.7**	**+0.3**
ATAL				S	**Sg**	**22 13 31.2**	**+0.3**
ATAL	**Atalanti**	**1.69**	**64**	P	**Pb**	**22 13 07.7**	**+0.3**
ATAL				S	**Sg**	**22 13 31.2**	**+0.3**
ATAL				AML	AML	22 13 39.1	
	comp=N,149μm,0.8s						
ATAL				AML	AML	22 13 39.6	
	comp=E,101μm,0.4s						
KRND	**KRANIDI**	**1.73**	**109**	P	**Pg**	**22 13 09.2**	**-0.6**
KRND	**KRANIDI**	**1.73**	**109**	P	**Pg**	**22 13 09.2**	**-0.6**
KRND	**KRANIDI**	**1.73**	**109**	P	**Pg**	**22 13 09.5**	**-0.3**
KRND				AML	AML	22 13 38.2	
	comp=N,291μm,0.5s						
KRND				AML	AML	22 13 38.4	
	comp=E,313μm,0.6s						
VIL2	**Platees**	**1.74**	**81**	P	**Pg**	**22 13 10.6**	**+0.6**
VIL2				AML	AML	22 13 41.1	
	comp=E,270μm,0.5s						
VIL2				AML	AML	22 13 41.1	
	comp=N,341μm,0.9s						
DID	**Didima**	**1.76**	**104**	P	**Pb**	**22 13 08.9**	**+0.2**
DID	**Didima**	**1.76**	**104**	P	**Pb**	**22 13 08.9**	**+0.2**
VILL	**Villia**	**1.77**	**83**	P	**Pb**	**22 13 09.1**	**+0.3**
VILL	**Villia**	**1.77**	**83**	P	**Pb**	**22 13 09.1**	**+0.3**
VLI	**Veliai**	**1.92**	**129**	P	**Pn**	**22 13 10.3**	**+1.4**
VLI	**Veliai**	**1.92**	**129**	P	**Pn**	**22 13 10.3**	**+1.4**
KEK	**Kerkira**	**2.02**	**330**	P	**Pb**	**22 13 13.5**	**+0.4**
ATHU	**Athens Univers**	**2.13**	**89**	P	**Pb**	**22 13 15.0**	**+0.1**
ATHU	**Athens Univers**	**2.13**	**89**	P	**Pb**	**22 13 15.0**	**+0.1**
ATHU				AML	AML	22 13 48.8	
	comp=E,47μm,0.7s						
ATHU				AML	AML	22 13 52.4	
	comp=N,101μm,0.6s						
VLY	**Voula,Athens**	**2.14**	**92**	P	**Pb**	**22 13 15.2**	**+0.1**
VLY	**Voula,Athens**	**2.14**	**92**	P	**Pb**	**22 13 15.2**	**+0.1**
NEO	**Neokhori**	**2.15**	**50**	P	**Pb**	**22 13 15.9**	**+0.7**
NEO				AML	AML	22 13 58.0	
	comp=N,123μm,0.5s						
NEO				AML	AML	22 13 59.5	
	comp=E,86μm,0.5s						
PTL	**Penteli**	**2.19**	**87**	P	**Pb**	**22 13 15.9**	**-0.1**
PTL	**Penteli**	**2.19**	**87**	P	**Pb**	**22 13 15.9**	**-0.1**
SKIA	**Skiathos**	**2.22**	**56**	P	**Pb**	**22 13 16.2**	**-0.3**
SKIA	**Skiathos**	**2.22**	**56**	P	**Pb**	**22 13 16.2**	**-0.3**
EREA	**Eretria**	**2.29**	**77**	P	**Pb**	**22 13 16.2**	**-1.4**
EREA	**Eretria**	**2.29**	**77**	P	**Pb**	**22 13 16.2**	**-1.4**
EREA				S	**Sb**	**22 13 46.1**	**+0.3**
EREA				AML	AML	22 13 55.9	
	comp=N,79μm,0.5s						
EREA				AML	AML	22 13 56.7	
	comp=E,104μm,0.5s						
LIT	**Litokhoron**	**2.40**	**27**	P	**Pb**	**22 13 19.6**	**0.0**

*BJI **16** 22:17:25.9, 7.20N×35.90W, h10km, mb5.0/1, mB5.6/4, Ms5.1/4, Ms7 4.8/4*
*ISCJB **16** 22:17:26.3±0.2, 7.24N±0.05×35.90W±0.04, h10km, mb4.6/104, MS4.0/34, Error ellipse: s-maj=7.2km s-min=4.1km az=151.1*
*IDC **16** 22:17:26.8±0.5, 7.44N×36.02W, h0km, mb4.2/29, mb1 4.4/30, mb1mx4.3/47, mbtmp4.2/30, ML5.0/1, MS4.0/35, Ms1 4.0/35, ms1mx4.0/37, Error ellipse: s-maj=16.4km s-min=10.8km az=135.0*
*NEIC **16** 22:17:28.1±0.2, 7.25N×35.91W, h10km, mb4.9/58, Error ellipse: s-maj=5.8km s-min=4.1km az=151.0*
ISC 16 22:17:28.1±0.3, 7.15N±0.06×35.89W±0.07, h10km, n195, σ1.34/179, mb4.7/104, MS4.0/34, 14C-9D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**12.89**	**180**	Pn	**Pn**	**22 20 33.9**	**+2.4**
	7.9nm,0.3s,baz=347,slow=12,SNR=41						
RCBR				Sn	**Sn**	**22 22 51.1**	**-4.0**
	3.9nm,0.3s,baz=250,slow=15,SNR=7.3						
RCBR				LR	LR	22 24 23.1	
	comp=Z,617nm,19.4s,baz=0.5,slow=32						
RCBR	**Riachuelo**	**12.89**	**180**	*e*Pn	**Pn**	**22 20 32.1**	**+0.6**
RCBR				Sn	**Sn**	**22 22 51.1**	**-4.0**
BBTS	**Babate**	**20.41**	**67**	P	**P**	**22 22 06.5**	**+1.0**
	44nm,0.9s,baz=246,slow=2.2,SNR=5.8						
BBTS				LR	LR	22 27 53.2	
	comp=Z,545nm,21.7s,baz=257,slow=31						
PTGA	**Pitinga**	**25.26**	**253**	P	**P**	**22 22 54.6**	**-0.2**
	2.9nm,0.6s,baz=76,slow=11,SNR=9.5						
PTGA				LR	LR	22 32 27.7	
	comp=Z,214nm,21.8s,baz=72,slow=36						
PTGA	**Pitinga**	**25.26**	**253**	*e*P	**P**	**22 22 54.8**	**0.0**
	16nm,1.3s						
BDFB	**Brasilia**	**25.63**	**208**	P	**P**	**22 23 00.9**	**+2.7**
	4.1nm,0.6s,baz=34,slow=8.7,SNR=6.3						
BDFB				LR	LR	22 32 38.5	
	comp=Z,686nm,18.1s,baz=20,slow=35						
FDF	**Fort de France**	**25.90**	**289**	*e*P	**P**	**22 22 60.0**	**-0.6**
	59nm,1.1s						
H10N3	**ASCENSION HYDR**	**26.01**	**125**	T	T	22 50 16.2	
	baz=304,slow=75,SNR=24						
H10N2	**ASCENSION HYDR**	**26.01**	**124**	T	T	22 50 16.5	
	baz=304,slow=75,SNR=34						
H10N1	**ASCENSION HYDR**	**26.03**	**125**	T	T	22 50 17.7	
	baz=304,slow=75,SNR=55						
ASCN	**Ascension**	**26.18**	**125**	*e*P	**P**	**22 23 01.7**	**-1.4**
	269nm,1.4s						
H10S3	**ASCENSION HYDR**	**26.52**	**127**	T	T	22 50 54.5	
	baz=306,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**26.52**	**127**	T	T	22 50 55.7	
	baz=306,slow=75,SNR=15						
H10S2	**ASCENSION HYDR**	**26.54**	**127**	T	T	22 50 55.9	
	baz=306,slow=75,SNR=14						
ANWB	**Willy Bob**	**27.33**	**295**	*e*P	**P**	**22 23 13.1**	**-0.3**
	51nm,0.9s						
SKI	**Saint Kitts**	**28.09**	**294**	*e*P	**P**	**22 23 19.8**	**-0.4**
	60nm,0.9s						
SEUS	**St. Eustatius**	**28.36**	**294**	*e*P	**P**	**22 23 22.6**	**+0.1**
	94nm,0.8s						
SABA	**Saba**	**28.63**	**294**	*e*P	**P**	**22 23 24.1**	**-0.9**
	83nm,1.1s						
CDVI	**St. Croix**	**30.06**	**293**	*e*P	**P**	**22 23 36.7**	**-1.0**
	47nm,0.6s						
DBIC	**Dimbokro**	**30.81**	**89**	LR	LR	22 34 51.6	
	comp=Z,116nm,18.6s,baz=242,slow=34						
PMOZ	**Porto Moniz, M**	**30.89**	**32**	*e*LR	LR	22 31 28.0	
	315nm,20.0s						
SJG	**San Juan**	**31.42**	**293**	LR	LR	22 33 38.4	
	comp=Z,318nm,21.6s,baz=102,slow=31						
SAML	**Samuel**	**31.55**	**240**	*e*P	**P**	**22 23 51.3**	**+0.4**
	21nm,1.6s						
ROSA	**Rosais**	**32.18**	**11**	*e*P	**P**	**22 23 56.2**	**0.0**
	250nm,1.8s						
SIV	**San Ignacio**	**33.91**	**227**	P	**P**	**22 24 13.8**	**+2.2**
	2.9nm,0.8s,baz=83,slow=10,SNR=5.8						
TOA0	**Torodi Ar. Sit**	**37.44**	**78**	*e*P	**P**	**22 24 41.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**37.44**	**78**	P	**P**	**22 24 41.3**	**-0.7**
	4.8nm,0.8s,baz=268,slow=8.4,SNR=23						
TORD				LR	LR	22 38 45.5	
	comp=Z,202nm,18.6s,baz=230,slow=34						
PRAC	**Prado**	**38.96**	**267**	*e*P	**P**	**22 24 54.7**	**-0.2**
	51nm,2.0s						
CPUP	**Villa Florida**	**39.25**	**211**	P	**P**	**22 24 59.1**	**+2.1**
	0.9nm,0.3s,baz=38,slow=8.8,SNR=3.9						
CPUP				LR	LR	22 41 12.8	
	comp=Z,525nm,18.8s,baz=36,slow=36						
HELC	**Santa Helena**	**39.38**	**271**	*e*P	**P**	**22 24 59.1**	**+0.4**
	26nm,1.4s						
LPAZ	**La Paz**	**39.50**	**234**	P	**P**	**22 25 01.2**	**+1.3**
	5.0nm,0.4s,baz=59,slow=5.5,SNR=33						
LPAZ				LR	LR	22 41 08.4	
	comp=Z,275nm,18.3s,baz=82,slow=36						
LPAZ	**La Paz**	**39.50**	**234**	*e*P	**P**	**22 25 01.2**	**+1.3**
	17nm,1.1s						
PVAQ	**Vaqueiros**	**39.52**	**36**	*e*LR	LR	22 35 33.0	
	249nm,20.0s						
PNCL	**Nicolau / Gran**	**39.54**	**35**	*e*P	**P**	**22 25 00.5**	**+1.2**
	45nm,2.0s						
PBAR	**Barrancos**	**40.44**	**36**	*e*P	**P**	**22 25 07.5**	**+0.7**
	50nm,1.6s						
PTOM	**Tomar**	**40.67**	**33**	*e*P	**P**	**22 25 09.6**	**+1.0**
	32nm,2.1s						
PCAS	**Casmilo, Conde**	**40.93**	**33**	*e*P	**

KEST				LR	LR	22 46 26.3			
	comp=Z,547nm,21.2s,baz=201,slow=35								
KEST	**Kesra**	**50.18**	**49**	*eP*	**P**	**22 26 23.9**	**-0.4**		
	42nm,2.0s								
BLA	**Blacksburg**	**50.27**	**313**	*eP*	**P**	**22 26 24.8**	**0.0**		
	19nm,1.3s								
TRQA	**Tornquist**	**51.12**	**206**	*eP*	**P**	**22 26 31.2**	**0.0**		
	10nm,1.4s								
TRQ	**Mont Tremblant**	**51.18**	**326**	*eP*	**P**	**22 26 31.0**	**-0.6**		
MMNY	**Mt. Morris Dam**	**51.19**	**321**	*eP*	**P**	**22 26 30.6**	**-1.0**		
SADO	**Sadowa**	**53.02**	**322**	P	**P**	**22 26 43.2**	**-2.0**		
	1.2nm,0.3s,baz=135,slow=10.0,SNR=2.1								
SCHQ	**Schefferville**	**53.62**	**338**	P	**P**	**22 26 48.1**	**-1.4**		
	1.7nm,0.4s,baz=148,slow=6.7,SNR=7.8								
SCHQ				LR	LR	22 47 22.9			
	comp=Z,66nm,18.1s,baz=100,slow=34								
DOU	**Dourbes**	**54.51**	**31**	P	**P**	**22 26 55.4**	**-0.6**		
VAE	**Valguarnera**	**54.61**	**49**	LR	LR	22 52 09.0			
	comp=Z,293nm,18.2s,baz=300,slow=38								
BCLA	**Clavier**	**55.06**	**31**	P	**P**	**22 27 00.3**	**+0.3**		
DAVOX	**Davos/Dischmat**	**55.56**	**37**	LR	LR	22 47 04.9			
	comp=Z,344nm,21.6s,baz=239,slow=32								
DAVA	**Damuels**	**55.82**	**36**	*i* P	**P**	**22 27 05.3**	**-0.6**		
	6.1nm,0.8s								
FETA	**Feichten**	**56.19**	**37**	*i* P	**P**	**22 27 07.0**	**-1.4**		
	2.5nm,1.1s								
SFIN	**Lafayette**	**56.31**	**314**	*eP*	**P**	**22 27 09.1**	**-0.2**		
	18nm,1.4s								
RETA	**Reutte**	**56.44**	**36**	*i* P	**P**	**22 27 09.1**	**-1.0**		
	6.4nm,1.2s								
CUC	**Castrocucco**	**56.53**	**46**	*eP*	**P**	**22 27 10.2**	**-0.7**		
	5.6nm,1.2s								
MOTA	**Moosalm**	**56.57**	**37**	*i* P	**P**	**22 27 10.0**	**-1.2**		
	2.0nm,0.6s								
TIP	**Timpagrande**	**56.93**	**48**	*eP*	**P**	**22 27 12.8**	**-0.9**		
	15nm,0.4s								
ABTA	**Abfaltersbach**	**57.13**	**38**	*i* P	**P**	**22 27 14.4**	**-0.6**		
	6.9nm,1.2s								
PLCA	**Paso Flores**	**57.32**	**211**	P	**P**	**22 27 18.0**	**+1.6**		
	1.9nm,0.7s,baz=60,slow=14,SNR=2.6								
PLCA				LR	LR	22 52 46.3			
	comp=Z,707nm,18.0s,baz=74,slow=37								
PLCA	**Paso Flores**	**57.32**	**211**	*eP*	**P**	**22 27 17.0**	**+0.6**		
	28nm,1.5s								
TRI	**Trieste**	**57.43**	**39**	*eP*	**P**	**22 27 17.2**	**+0.1**		
	12nm,1.0s								
MYKA	**Terra Mystica**	**57.76**	**38**	*i* P	**P**	**22 27 19.2**	**-0.3**		
	6.9nm,1.1s								
KBA	**Koelnbreinsper**	**57.79**	**38**	*i* P	**P**	**22 27 18.8**	**-1.0**		
	5.0nm,1.0s								
GRFO	**Grafenberg**	**57.82**	**34**	*eP*	**P**	**22 27 19.4**	**-0.4**		
	23nm,1.3s								
HDIL	**Hopedale**	**57.94**	**314**	*eP*	**P**	**22 27 21.2**	**+0.4**		
	15nm,0.6s								
OBKA	**Obir**	**58.27**	**39**	*i* P	**P**	**22 27 22.6**	**-0.5**		
	12nm,1.1s								
UALR	**University of**	**58.56**	**306**	*eP*	**P**	**22 27 25.6**	**+0.3**		
	6.9nm,0.6s								
SOKA	**Soboth**	**58.65**	**39**	*i* P	**P**	**22 27 24.6**	**-1.1**		
	10nm,1.1s								
MOA	**Molln**	**58.70**	**37**	*i* P	**P**	**22 27 24.9**	**-1.0**		
	7.3nm,1.4s								
GEA0	**GERESS Array S**	**58.82**	**36**	*eP*	**P**	**22 27 25.6**	**-1.2**		
GERES	**GERESS Array B**	**58.82**	**36**	P	**P**	**22 27 25.6**	**-1.3**		
	1.5nm,0.9s,baz=260,slow=7.6,SNR=6.4								
GERES				LR	LR	22 49 22.6			
	comp=Z,198nm,21.7s,baz=264,slow=33								
KHC	**Kasperske Hory**	**58.88**	**36**	*eP*	**P**	**22 27 26.4**	**-0.9**		
KHC				*ep*P	**pP**	**22 27 31.0**	**+0.5**		
KHC	**Kasperske Hory**	**58.88**	**36**	*eP*	**P**	**22 27 26.6**	**-0.6**		
	2.1nm,1.2s								
WLAR	**White Oak Lake**	**58.92**	**305**	*eP*	**P**	**22 27 27.1**	**-0.6**		
	11nm,0.7s								
JFWS	**Jewell Farm**	**59.43**	**316**	*eP*	**P**	**22 27 29.4**	**-1.7**		
	5.0nm,0.7s								
CLL	**Collm**	**59.62**	**33**	*eP*	**P**	**22 27 31.9**	**-0.3**		
	16nm,1.8s								
CONA	**Conrad Observa**	**59.69**	**38**	*i* P	**P**	**22 27 32.3**	**-0.7**		
	10nm,1.6s								
PRU	**Pruhonice**	**59.84**	**35**	*eP*	**P**	**22 27 33.0**	**-0.8**		
PRU				AMS	AMS	22 53 50.0			
	200nm,17.1s								
BRG	**Berggiesshubel**	**59.92**	**34**	*eP*	**P**	**22 27 33.8**	**-0.6**		
	20nm,1.9s								
GOPC	**GO Pecny, Ondr**	**59.95**	**35**	*eP*	**P**	**22 27 34.1**	**-0.5**		
PVCC	**Panska Ves**	**60.11**	**35**	*eP*	**P**	**22 27 35.5**	**-0.1**		
VRAC	**Vranov**	**60.73**	**37**	LR	LR	22 50 20.5			
	comp=Z,225nm,21.8s,baz=252,slow=33								
VRAC	**Vranov**	**60.73**	**37**	⇑*i*P	**P**	**22 27 38.2**	**-1.7**		
DPC	**Dobruska-Polom**	**61.02**	**35**	*eP*	**P**	**22 27 40.3**	**-1.7**		
DPC				*ep*P	**pP**	**22 27 46.0**	**+0.8**		
FRB	**Frobisher Bay**	**61.17**	**344**	P	**P**	**22 27 40.2**	**-2.4**		
	3.9nm,1.0s,baz=162,slow=6.4,SNR=2.4								
KSP	**Ksiaz**	**61.23**	**35**	*eP*	**P**	**22 27 43.1**	**-0.1**		
VYHS	**Vyhne**	**61.74**	**38**	*eP*	**P**	**22 27 46.0**	**-0.8**		
IDI	**Anoyia**	**62.14**	**54**	LR	LR	22 54 21.8			
	comp=Z,122nm,21.4s,baz=274,slow=36								
PSZ	**Piszkesteto**	**62.17**	**39**	⇓*i*P	**P**	**22 27 50.1**	**+0.3**		
PSZ	**Piszkesteto**	**62.17**	**39**	*eP*	**P**	**22 27 49.3**	**-0.5**		
	12nm,1.2s								
MDVR	**Moldovita**	**62.26**	**43**	⇓*i*P	**P**	**22 27 51.1**	**+0.7**		
BZS	**Buzias**	**62.47**	**42**	⇑*i*P	**P**	**22 27 52.2**	**+0.5**		
SIRR	**Siria**	**62.72**	**41**	⇓*i*P	**P**	**22 27 51.5**	**-1.9**		
NIE	**Niedzica**	**62.99**	**38**	*eP*	**P**	**22 27 55.9**	**+0.8**		
OJC	**Ojcow**	**63.00**	**37**	*eP*	**P**	**22 27 55.1**	**0.0**		
CRVS	**Cervenica-Dubn**	**63.51**	**38**	*eP*	**P**	**22 27 58.0**	**-0.6**		
DRGR		**63.58**	**41**	⇑*i*P	**P**	**22 27 59.3**	**+0.2**		
LOT	**Lotru**	**63.85**	**43**	⇓*i*P	**P**	**22 28 05.7**	**+4.6**		
KOLS	**Kolonicke sedl**	**64.02**	**39**	*eP*	**P**	**22 28 01.6**	**-0.3**		
NOA	**NORSAR Array B**	**64.11**	**23**	P	**P**	**22 28 01.7**	**-0.6**		
	1.4nm,0.9s,baz=235,slow=6.5,SNR=3.2								
NOA				LR	LR	22 51 53.2			
	comp=Z,156nm,20.5s,baz=230,slow=32								
ARR	**Arges**	**64.41**	**43**	⇓*i*P	**P**	**22 28 05.1**	**+0.4**		
HUMR	**Humele**	**64.41**	**44**	⇑*i*P	**P**	**22 28 05.0**	**+0.4**		
KWP	**Kalwaria Pacla**	**64.53**	**38**	*eP*	**P**	**22 28 05.7**	**+0.5**		
KWP	**Kalwaria Pacla**	**64.53**	**38**	⇓*i*P	**P**	**22 28 05.8**	**+0.5**		
HFS	**Hagfors**	**64.60**	**25**	LR	LR	22 51 48.3			
	comp=Z,165nm,21.2s,slow=32								
VOIR		**64.71**	**43**	⇓*i*P	**P**	**22 28 10.0**	**+3.3**		
DOPR	**Dopca**	**65.09**	**42**	⇑*i*P	P	22 28 01.4	-7.6		
MLR	**Muntele Rosu**	**65.33**	**43**	LR	LR	22 56 18.2			
	comp=Z,46nm,19.1s,baz=268,slow=36								
MLR	**Muntele Rosu**	**65.33**	**43**	⇓*i*P	**P**	**22 28 11.1**	**+0.3**		
MLR	**Muntele Rosu**	**65.33**	**43**	*eP*	**P**	**22 28 10.7**	**-0.1**		
	66nm,1.5s								
SUMG	**Summit**	**65.39**	**359**	*i* P	**P**	**22 28 12.2**	**+1.3**		
	7.9nm,0.9s								
SUMG	**Summit**	**65.39**	**359**	*eP*	**P**	**22 28 11.2**	**+0.3**		
	9.9nm,1.0s								
BUR08	**Bucovina Ar. S**	**65.45**	**41**	*eP*	**P**	**22 28 11.1**	**-0.4**		
BURAR	**Bucovina Array**	**65.45**	**41**	⇑*i*P	**P**	**22 28 11.2**	**-0.3**		
ULM	**Lac du Bonnet**	**65.58**	**322**	P	**P**	**22 28 08.6**	**-3.5**		
	2.8nm,0.7s,baz=117,slow=5.5,SNR=4.0								
ULM				LR	LR	22 51 38.3			
	comp=Z,93nm,21.9s,baz=117,slow=31								
ISR	**Istrita**	**65.64**	**44**	⇑*i*P	**P**	**22 28 13.1**	**+0.4**		
PLOR	**Plostina**	**65.91**	**43**	⇑*i*P	**P**	**22 28 14.9**	**+0.6**		
VRI	**Vrincioaia**	**65.96**	**43**	⇑*i*P	**P**	**22 28 14.6**	**-0.1**		
TESR	**Tescani**	**66.08**	**42**	⇑*i*P	**P**	**22 28 14.8**	**-0.6**		
MSAB	**Monastry St. A**	**66.28**	**45**	⇓*i*P	**P**	**22 28 18.4**	**+1.7**		
SUW	**Suwalki**	**66.37**	**34**	*eP*	**P**	**22 28 16.6**	**-0.5**		
HARR	**Harsova**	**66.49**	**44**	⇑*i*P	**P**	**22 28 18.1**	**+0.1**		
CFR	**Carcaliu**	**66.75**	**44**	⇑*i*P	**P**	**22 28 21.1**	**+1.4**		
TIRR	**Tirgusor**	**66.77**	**45**	⇑*i*P	**P**	**22 28 19.3**	**-0.5**		
TIRR	**Tirgusor**	**66.77**	**45**	*eP*	**P**	**22 28 18.4**	**-1.4**		
	8.3nm,1.3s								
TXAR	**Lajitas Array**	**67.17**	**299**	P	**P**	**22 28 22.2**	**-0.7**		
	0.4nm,0.6s,baz=81,slow=5.6,SNR=4.5								
TXAR				LR	LR	22 57 06.1			
	comp=Z,65nm,19.8s,baz=0.0,slow=36								
SORM	**Soroca**	**67.63**	**41**	⇑*i*P	**P**	**22 28 23.7**	**-1.5**		
BOSA	**Boshof**	**68.77**	**124**	P	**P**	**22 28 34.2**	**+1.4**		
	4.9nm,0.8s,baz=254,slow=8.8,SNR=4.0								
BOSA				LR	LR	22 52 53.0			
	comp=Z,245nm,18.5s,baz=326,slow=31								
AK11	**Malin Array Si**	**68.80**	**38**	*eP*	**P**	**22 28 31.6**	**-0.9**		
KIEV	**Kiev**	**68.83**	**38**	*eP*	**P**	**22 28 32.2**	**-0.5**		
	4.4nm,0.8s								
MNTX	**Cornudas Mount**	**68.84**	**301**	*eP*	**P**	**22 28 32.5**	**-0.7**		
	0.8nm,0.5s								
AKASG	**Malin Array Be**	**68.84**	**38**	P	**P**	**22 28 31.7**	**-1.1**		
	2.8nm,0.8s,baz=256,slow=5.6,SNR=15								
AKASG				LR	LR	22 58 11.0			
	comp=Z,44nm,19.4s,baz=255,slow=36								
BR231	**Keskin MP Arra**	**69.09**	**50**	*eP*	**P**	**22 28 36.6**	**+1.9**		
BRTR	**Keskin Array B**	**69.74**	**50**	P	**P**	**22 28 38.8**	**0.0**		
	2.2nm,1.0s,baz=255,slow=4.9,SNR=9.9								
BRTR				LR	LR	22 58 59.3			
	comp=Z,111nm,21.9s,baz=239,slow=36								
ANMO	**Albuquerque**	**70.02**	**304**	P	**P**	**22 28 38.9**	**-1.8**		
	0.6nm,0.6s,baz=84,slow=10,SNR=2.6								
DAG	**Danmarks Havn**	**70.21**	**4**	*i* P	**P**	**22 28 40.9**	**+0.1**		
	1.3nm,0.9s								
FINES	**FINESS Array B**	**70.58**	**27**	P	**P**	**22 28 42.8**	**-0.5**		
	4.2nm,0.9s,baz=222,slow=5.1,SNR=9.3								
FINES				LR	LR	22 56 50.7			
	comp=Z,249nm,19.7s,baz=234,slow=34								
FIA1	**FINESS Array S**	**70.58**	**27**	*eP*	**P**	**22 28 42.5**	**-0.8**		
LAO	**LASA Array**	**71.36**	**317**	*eP*	**P**	**22 28 48.5**	**+0.1**		
	14nm,1.2s								
O20A	**White River Ci**	**71.94**	**310**	*eP*	P	22 28 47.4	-4.8		
	16nm,0.8s								
PDAR	**Pinedale Array**	**73.20**	**312**	P	**P**	**22 28 58.2**	**-1.5**		
	0.7nm,0.6s,baz=116,slow=6.9,SNR=4.7								
PDAR				LR	LR	22 57 47.2			
	comp=Z,93nm,19.8s,baz=110,slow=33								
BW06	**Boulder Array**	**73.20**	**312**	*eP*	**P**	**22 28 58.4**	**-1.3**		
ARCES	**ARCESS Array B**	**73.57**	**19**	P	**P**	**22 29 00.2**	**-0.9**		
	2.2nm,0.8s,baz=257,slow=4.7,SNR=5.7								
ARCES				LR	LR	22 57 37.7			
	comp=Z,83nm,19.2s,baz=238,slow=33								
FLWY	**Flagg Ranch**	**74.15**	**314**	*eP*	**P**	**22 29 05.1**	**-0.2**		
	13nm,1.0s								
REDW	**Red Top Meadow**	**74.20**	**313**	*eP*	**P**	**22 29 05.2**	**-0.4**		
	6.6nm,1.0s								
TPAW	**Teton Pass**	**74.28**	**313**	*eP*	**P**	**22 29 06.1**	**0.0**		
	8.7nm,1.1s								
IMW	**Indian Meadow**	**74.31**	**313**	*eP*	**P**	**22 29 05.8**	**-0.5**		
	8.1nm,1.0s								
FXWY	**Fox Creek**	**74.35**	**313**	*eP*	**P**	**22 29 05.7**	**-0.7**		
	4.7nm,1.1s								
HWUT	**Hardware Ranch**	**74.58**	**311**	*eP*	**P**	**22 29 07.1**	**-0.7**		
	5.5nm,0.8s								
RES	**Resolute Bay**	**75.23**	**346**	P	**P**	**22 29 13.9**	**+3.3**		
	1.2nm,0.9s,baz=101,slow=5.2,SNR=3.1								
MCMT	**McKenzie Canyo**	**75.75**	**314**	*eP*	**P**	**22 29 14.8**	**+0.3**		
HLID	**Hailey**	**76.80**	**313**	*eP*	**P**	**22 29 20.2**	**-0.2**		
	14nm,1.4s								
KBZ	**Khabaz**	**77.00**	**47**	P	**P**	**22 29 21.9**	**+0.6**		
	2.5nm,0.9s,baz=68,slow=2.5,SNR=2.9								
KBZ				LR	LR	23 06 44.4			
	comp=Z,50nm,18.2s,baz=278,slow=38								
ATD	**Arta Tunnel**	**77.61**	**80**	LR	LR	23 01 40.5			
	comp=Z,52nm,21.2s,baz=297,slow=34								
YKA	**Yellowknife Ar**	**78.49**	**332**	P	**P**	**22 29 26.7**	**-2.4**		
	1.8nm,0.9s,baz=91,slow=5.4,SNR=8.1								
YKA				LR	LR	23 01 05.8			
	comp=Z,13nm,19.6s,baz=180,slow=34								
E03A	**Lebam**	**83.27**	**316**	*eP*	**P**	**22 29 56.2**	**+1.1**		
	18nm,0.8s								
DLBC	**Dease Lake**	**86.13**	**328**	*eP*	**P**	**22 30 10.1**	**+0.7**		
DLBC				*eP*cP	**sP**	**22 30 18.6**	**+4.6**		
INK	**Inuvik**	**86.23**	**338**	P	**P**	**22 30 09.0**	**-0.5**		
	1.4nm,0.9s,baz=136,slow=14,SNR=2.5								
ARU	**Arti**	**86.56**	**34**	*eP*	**P**	**22 30 12.2**	**+0.7**		
	13nm,1.1s								
ABKAR	**Akbulak array**	**88.44**	**41**	*eP*	**P**	**22 30 21.9**	**+1.2**		
GEYT	**Alibeck**	**88.81**	**52**	LR	LR	23 14 25.9			
	comp=Z,37nm,18.1s,baz=190,slow=38								
ILAR	**Eielson Array**	**92.33**	**336**	P	**P**	**22 30 38.5**	**0.0**		
	0.4nm,0.7s,baz=59,slow=4.3,SNR=3.6								
ILAR				LR	LR	23 10 11.9			
	comp=Z,126nm,19.1s,baz=88,slow=34								
NRIK	**Noril'sk**	**94.51**	**17**	LR	LR	23 14 00.3			
	comp=Z,32nm,18.0s,baz=271,slow=36								
KSH	**Kashi**	**101.98**	**47**	*eP*	**Pdif**	**22 31 21.6**	**-1.3**		
KSH				pP	pP	22 31 25.5	-1.0		
KSH				PP	**PP**	**22 35 35.5**	**+1.6**		
KSH				S	**Sdif**	**22 42 59.1**	**-6.6**		
KSH				PMZ					
	1.0nm,0.4s								
KSH				PMZ					
	80nm,4.1s								
KSH				LN					
	82nm,7.0s								
KSH				LE					
	81nm,5.2s								
KSH				LZ					
	200nm,5.4s								
LZH	**Lanzhou**	**122.74**	**38**	*e*PKP	**PKPdf**	**22 36 22.3**	**-2.8**		
LZH				sPKP		22 36 27.0			
LZH				LN					
	160nm,18.0s								
LZH				LE					
	160nm,18.1s								
LZH				LZ					
	190nm,20.2s								
HHC	**Hu-ho-hao-te**	**123.64**	**29**	*e*PKP	**PKPdf**	**22 36 26.3**	**-0.3**		
HHC				PP	**PP**	**22 38 10.0**	**+2.3**		
HHC				SS	SS	22 54 58.9	+3.6		
HHC				PPMZ					
	48nm,8.5s								
HHC				LN					
	140nm,18.6s								
HHC				LE					
	120nm,18.4s								
HHC				LZ					
	130nm,19.8s								
CD2	**Chengdu**	**125.93**	**43**	PKP	**PKPdf**	**22 36 29.0**	**-2.2**		
KMI	**Kunming**	**128.53**	**50**	PKP	**PKPdf**	**22 36 35.1**	**-1.4**		
CMAR	**Chiang Mai Arr**	**128.70**	**60**	PKP	**PKPdf**	**22 36 37.2**	**+0.6**		
	0.5nm,0.6s,baz=293,slow=7.6,SNR=4.1								
GYA	**Guiyang**	**130.65**	**46**	*e*Pdif	**Pdif**	**22 33 28.4**	**-2.2**		
GYA				PPMZ					
	120nm,8.0s								

IDC **16** *22:18:14.9±1.4, 15˚.59S×171˚.91W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/41, mbtmp4.1/4, ML3.4/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/25, Error ellipse: s-maj=34.7km s-min=26.6km az=102.0*

ISCJB **16** *22:18:15.8±0.7, 15˚.62S±0˚.06×171˚.8W±0˚.1, h23km, mb4.0/6, MS3.5/2, Error ellipse: s-maj=16.7km s-min=8.9km az=0.1*

NEIC **16** *22:18:19.1±0.7, 15˚.54S×171˚.76W, h35km, mb4.3/3, Error ellipse: s-maj=16.1km s-min=13.7km az=54.0*

ISC 16 22:18:17.5±0.8**, 15˚.51S**±0˚.08×**171˚.8W**±0˚.1**, h23km, n17,** σ0**86/9, mb4.1/6, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.59**	**360**	Pn	**Pb**	**22 18 45.8**	**-0.5**
	302nm,0.3s,baz=180,slow=1.6,SNR=242						
AFI				Sn	**Sn**	**22 19 05.2**	**+0.9**
	865nm,0.3s,baz=21,slow=23,SNR=17						
AFI				LR	LR	22 19 26.2	
	comp=Z,327nm,19.5s,baz=92,slow=42						
RAR	**Rarotonga**	**12.71**	**118**	Pn	**Pn**	**22 21 16.5**	**-0.4**
	1.9nm,0.3s,baz=335,slow=22,SNR=2.0						
RAR				Sn	Sn	22 23 28.1	-10
	1.2nm,0.3s,baz=338,slow=22,SNR=1.4						
RAO	**Raoul Island**	**14.80**	**202**	LR	LR	22 26 53.1	
	comp=Z,98nm,21.5s,baz=84,slow=35						
PPT	**Papeete**	**21.37**	**99**	LR	LR	22 29 28.8	
	comp=Z,79nm,18.1s,baz=162,slow=31						
RPZ	**Rata Peaks**	**31.70**	**204**	LR	LR	22 38 22.8	
	comp=Z,211nm,18.2s,baz=208,slow=38						
H11S2	**WAKE ISLAND Hy**	**39.89**	**327**	T	T	23 08 22.9	
	baz=145,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**39.90**	**327**	T	T	23 08 24.3	
	baz=145,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**39.91**	**327**	T	T	23 08 24.2	
	baz=145,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**40.81**	**328**	T	T	23 09 23.1	
	baz=145,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**40.82**	**328**	T	T	23 09 24.1	
	baz=145,slow=76,SNR=10						
H11N2	**WAKE ISLAND Hy**	**40.83**	**328**	T	T	23 09 24.4	
	baz=145,slow=76,SNR=10						
WRAB	**Tennant Creek**	**51.34**	**257**	*eP*	**P**	**22 27 20.4**	**-0.2**
	6.3nm,1.5s						
WRA	**Warramunga Arr**	**51.35**	**257**	P	**P**	**22 27 20.1**	**-0.6**
	0.3nm,0.3s,baz=97,slow=6.1,SNR=11						
ASAR	**Alice Springs**	**51.58**	**252**	P	**P**	**22 27 21.7**	**-0.6**
	3.3nm,0.6s,baz=87,slow=7.8,SNR=45						
VNDA	**Vanda**	**63.43**	**186**	P	**P**	**22 28 46.3**	**+1.4**
	1.1nm,1.0s,baz=19,slow=5.8,SNR=4.3						
CASY	**Casey**	**70.97**	**205**	*eP*	**P**	**22 29 32.2**	**-0.6**
	0.2nm,0.7s						
QSPA	**South Pole Qui**	**74.53**	**180**	*eP*	**P**	**22 29 54.6**	**+0.4**
	8.5nm,0.8s						

NEIC **16** *22:22:58.3±0.7, 5˚.73S×150˚.85E, h10km, mb4.4/5, Error ellipse: s-maj=18.3km s-min=11.4km az=110.0*

ISCJB **16** *22:23:01.4±0.8, 5˚.80S±0˚.09×150˚.8E±0˚.1, h43km, mb4.5/10, Error ellipse: s-maj=18.8km s-min=10.0km az=31.7*

IDC **16** *22:23:05.5±7.8, 6˚.06S×151˚.01E, h74km±57km, mb3.9/3, mb1 4.1/4, mb1mx3.4/35, mbtmp4.2/4, ML1.6/1, Error ellipse: s-maj=93.2km s-min=49.0km az=128.0*

ISC 16 22:23:02.9±0.8**, 5˚.8S**±0˚.1×**150˚.9E**±0˚.1**, h43**km**, n15,** σ1**9/21, mb4.2/10, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.16**	**225**	P	**Pn**	**22 24 20.4**	**+2.7**
	1.5nm,0.3s,baz=262,slow=6.9,SNR=2.9						
PMG				S	**Sn**	**22 25 16.4**	**+0.4**
	2.7nm,0.3s,baz=123,slow=22,SNR=2.7						
PMG	**Port Moresby**	**5.16**	**225**	Pn	**Pn**	**22 24 15.8**	**-1.9**
PMG				S	**Sn**	**22 25 16.4**	**+0.4**
CTAO	**Charters Tower**	**14.92**	**197**	Pn	**Pn**	**22 26 31.9**	**+0.7**
WRAB	**Tennant Creek**	**21.36**	**227**	*eP*	**P**	**22 27 45.7**	**-1.1**
	3.4nm,0.5s						
WRA	**Warramunga Arr**	**21.38**	**227**	P	**P**	**22 27 45.6**	**-1.3**
	4.0nm,0.6s,baz=54,slow=10,SNR=43						
ASAR	**Alice Springs**	**24.16**	**221**	P	**P**	**22 28 14.6**	**-0.7**
	4.3nm,0.7s,baz=57,slow=9.1,SNR=28						
FITZ	**Fitzroy Crossi**	**27.52**	**241**	P	**P**	**22 28 45.1**	**-0.6**
	3.6nm,0.8s,baz=85,slow=5.6,SNR=6.6						
RAO	**Raoul Island**	**37.60**	**132**	*eP*	**P**	**22 30 13.5**	**-0.1**
	116nm,0.4s						
YHNB	**Yeheng**	**41.72**	**318**	*eP*	**P**	**22 30 48.6**	**+0.5**
	5.7nm,0.6s						
COCO	**West Island**	**53.69**	**259**	*eP*	**P**	**22 32 20.3**	**-0.6**
	208nm,0.6s						
LSA	**Lhasa**	**67.22**	**305**	*eP*	**P**	**22 33 53.5**	**-0.2**
	1.6nm,0.6s						
TLY	**Talaya**	**69.98**	**331**	*eP*	**P**	**22 34 10.9**	**+1.0**
	1.4nm,0.5s						
COLA	**College**	**83.46**	**22**	*eP*	**P**	**22 35 26.3**	**+0.7**
	2.3nm,0.4s						
GERES	**GERESS Array B**	**123.86**	**327**	PKP	**PKPdf**	**22 41 55.6**	**-0.9**
	0.4nm,0.7s,baz=138,slow=4.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.76**	**286**	PKPbc	**PKPbc**	**22 42 45.3**	**-1.5**
	1.5nm,0.6s,baz=66,slow=2.8,SNR=18						

IDC **16** *22:36:00.2±3.7, 24˚.20S×179˚.79E, h484km±35km, mb3.3/5, mb1 3.6/5, mb1mx3.2/24, mbtmp4.2/5, Error ellipse: s-maj=92.2km s-min=26.4km az=159.0*

ISCJB **16** *22:36:01.8±1.8, 24˚.3S±1˚.0×179˚.7E±0˚.4, h517km, mb3.8/5, Error ellipse: s-maj=136.4km s-min=24.4km az=161.5*

ISC 16 22:36:02.9±1.9**, 24˚.3S**±0˚.7×**179˚.8E**±0˚.3**, h517**km**, n9,** σ1**9/07, mb3.9/5, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.37**	**249**	P	**P**	**22 42 06.0**	**-0.5**
	1.6nm,0.5s,baz=94,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**41.76**	**261**	P	**P**	**22 43 06.5**	**-0.4**
	2.2nm,0.9s,baz=95,slow=6.8,SNR=13						
WRA	**Warramunga Arr**	**42.17**	**267**	P	**P**	**22 43 09.3**	**-0.8**
	4.1nm,0.5s,baz=103,slow=8.2,SNR=54						
WRA				ScP	**ScP**	**22 47 56.5**	**+2.5**
	1.

ARTV	**Artvin**	**1.45**	**206**	P	**Pn**	**22 44 04.7**	**+0.4**
ARTV				S	**Sb**	**22 44 23.9**	**+0.4**
ARTV	**Artvin**	**1.45**	**206**	*i* P	**Pn**	**22 44 04.7**	**+0.4**
ARTV				*i* S	**Sb**	**22 44 23.9**	**+0.4**
ARTV				*i* S	**Sg**	**22 44 25.3**	**-0.6**
KIV	**Kislovodsk**	**1.46**	**358**	*e*P	**Pb**	**22 44 06.2**	**+0.7**
KIV	**Kislovodsk**	**1.46**	**358**	*e*PG	**Pb**	**22 44 05.7**	**+0.3**
KIV				*e*		22 44 25.1	
KIV	**Kislovodsk**	**1.46**	**358**	*e*P	**Pb**	**22 44 06.2**	**+0.7**
KVAR	**Kislovodsk Arr**	**1.46**	**358**	P	**Pb**	**22 44 05.7**	**+0.2**
	baz=165,slow=5.1,SNR=221						
KVAR				S	**Sg**	**22 44 25.9**	**-0.3**
	baz=115,slow=22,SNR=17						
DUS	**Dusheti**	**1.49**	**105**	P	**Pb**	**22 44 05.7**	**-0.1**
DUS				S	**Sg**	**22 44 26.0**	**-1.0**
DUS	**Dusheti**	**1.49**	**105**	PG	**Pb**	**22 44 05.7**	**-0.1**
DUS	**Dusheti**	**1.49**	**105**	P	**Pb**	**22 44 05.7**	**-0.1**
DUS				S	**Sg**	**22 44 26.0**	**-1.0**
VLKR	**Vladikavkaz**	**1.51**	**68**	*e*PN	**Pg**	**22 44 07.5**	**-0.4**
VLKR				*e*S	**Sg**	**22 44 27.3**	**-0.3**
DAGI	**Agillar**	**1.56**	**205**	*i* P	**Pn**	**22 44 06.2**	**+0.6**
DAGI				*i* S	**Sb**	**22 44 26.9**	**+0.6**
BTKR	**Batakoyurt**	**1.57**	**55**	⇓*i* PN	**Pg**	**22 44 08.1**	**-1.0**
BTKR				*e*S	**Sg**	**22 44 29.2**	**-0.3**
KMGR	**Komgaron**	**1.64**	**69**	*e*PN	**Pg**	**22 44 09.6**	**-0.8**
TBLG	**Delisi**	**1.65**	**117**	P	**Pb**	**22 44 07.5**	**-1.1**
TBLG				S	**Sb**	**22 44 29.4**	**+0.4**
TBLG	**Delisi**	**1.65**	**117**	PN	**Pb**	**22 44 07.5**	**-1.1**
TBLG	**Delisi**	**1.65**	**117**	P	**Pb**	**22 44 07.6**	**-1.0**
TBLG				S	**Sb**	**22 44 29.4**	**+0.4**
KZR	**Kazreti**	**1.66**	**132**	P	**Pn**	**22 44 06.3**	**-0.5**
KZR				S	**Sn**	**22 44 27.9**	**+0.3**
KZR	**Kazreti**	**1.66**	**132**	P	**Pn**	**22 44 06.3**	**-0.5**
KZR				S	**Sn**	**22 44 27.9**	**+0.3**
PRTR	**Priterechnaya**	**1.67**	**41**	*e*PN	**Pg**	**22 44 11.5**	**+0.4**
PRTR				*e*S	**Sg**	**22 44 34.1**	**+1.3**
DBAD	**Bademkaya**	**1.68**	**209**	P	**Pn**	**22 44 07.5**	**+0.2**
DBAD				S	**Sn**	**22 44 26.9**	**-1.4**
DBAD	**Bademkaya**	**1.68**	**209**	*i* P	**Pn**	**22 44 07.5**	**+0.2**
DBAD				*i* S	**Sn**	**22 44 26.9**	**-1.4**
DDEM	**Demirkent**	**1.77**	**206**	P	**Pn**	**22 44 09.6**	**+1.0**
DDEM				S	**Sb**	**22 44 32.9**	**+0.2**
DDEM	**Demirkent**	**1.77**	**206**	*i* P	**Pn**	**22 44 09.6**	**+1.0**
DDEM				*i* S	**Sb**	**22 44 32.9**	**+0.2**
KARS	**Kars**	**1.88**	**173**	*e*P	**Pb**	**22 44 12.7**	**+0.1**
KARS	**Kars**	**1.88**	**173**	*e*P	**Pb**	**22 44 12.7**	**+0.1**
TRKR	**Terskaya**	**1.89**	**49**	*e*PN	**Pg**	**22 44 15.6**	**+0.4**
TRKR				*e*S	**Sg**	**22 44 40.8**	**+1.1**
EAK	**Akyaka**	**1.91**	**161**	P	**Pb**	**22 44 11.9**	**-1.3**
EAK				S	**Sb**	**22 44 35.9**	**-0.8**
EAK	**Akyaka**	**1.91**	**161**	*i* P	**Pb**	**22 44 11.9**	**-1.3**
EAK				*i* S	**Sb**	**22 44 35.9**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.96**	**189**	*e*P	**Pb**	**22 44 14.3**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.96**	**189**	*e*P	**Pb**	**22 44 14.3**	**+0.3**
DIGO	**Kars**	**2.13**	**168**	P	**Pb**	**22 44 15.2**	**-1.7**
DIGO	**Kars**	**2.13**	**168**	*i* P	**Pb**	**22 44 15.2**	**-1.7**
DIGO				*i* S	**Sg**	**22 44 46.4**	**-1.0**
GROC	**Groznyy**	**2.33**	**71**	*e*PN	**Pg**	**22 44 21.7**	**-1.9**
GROC				*e*		22 44 54.5	
GROC				pmax	pmax		
	comp=Z,23nm,0.5s						
GROC				smax	smax		
	comp=N,56nm,0.4s						
GROC				smax	smax		
	comp=E,89nm,0.7s						
GROC				smax	smax		
	comp=E,95nm,0.7s						
QZX	**Qazax, Azerbai**	**2.42**	**126**	⇑Pn	**Pb**	**22 44 19.7**	**-2.0**
	SNR=9.9						
QZX				⇑Sn	**Sb**	**22 44 51.4**	**+0.4**
QZX	**Qazax, Azerbai**	**2.42**	**126**	Pn	**Pb**	**22 44 19.7**	**-2.0**
	SNR=9.9						
QZX				Sn	**Sb**	**22 44 51.4**	**+0.4**
SOC	**Sochi**	**2.49**	**297**	*i* PN	**Pn**	**22 44 17.8**	**-0.5**
SOC				*e*		22 44 48.7	
SOC				pmax	pmax		
	comp=Z,27nm,0.8s						
SOC				smax	smax		
	comp=N,135nm,0.6s						
SOC				smax	smax		
	comp=E,107nm,0.6s						
HOMI	**Horasan**	**2.53**	**195**	*i* P	**Pb**	**22 44 21.9**	**-1.9**
GOF	**Gofitskoye**	**2.57**	**4**⇑	*e*PN	**Pg**	**22 44 27.0**	**-1.1**
GOF				*e*S	**Sg**	**22 45 01.3**	**-0.2**
GOF				pmax	pmax		
	comp=Z,125nm,0.9s						
GOF				smax	smax		
	comp=E,86nm,0.6s						
EATA	**Eleskirt**	**2.64**	**185**	P	**Pn**	**22 44 22.9**	**+2.3**
EATA	**Eleskirt**	**2.64**	**185**	*i* P	**Pn**	**22 44 22.9**	**+2.3**
KTUT	**Trabzon**	**2.71**	**237**	*e*P	**Pn**	**22 44 21.3**	**0.0**
KTUT	**Trabzon**	**2.71**	**237**	*e*P	**Pn**	**22 44 21.3**	**0.0**
MACK	**Trabzon**	**2.73**	**236**	P	**Pn**	**22 44 22.4**	**+0.8**
MACK				S	**Sn**	**22 44 52.4**	**-1.7**
MACK	**Trabzon**	**2.73**	**236**	*i* P	**Pn**	**22 44 22.4**	**+0.8**
MACK				*i* S	**Sn**	**22 44 52.4**	**-1.7**
GNI	**Garni**	**2.77**	**147**	P	**Pb**	**22 44 28.4**	**+0.5**
	comp=E,6.0nm,0.3s,baz=285,slow=6.0,SNR=18						
GNI				S	**Sg**	**22 45 06.2**	**-1.8**
	comp=E,12nm,0.3s,baz=197,slow=21,SNR=4.3						
GNI	**Garni**	**2.77**	**147**	*e*PN	**Pb**	**22 44 28.0**	**+0.2**
ERZM	**Erzurum**	**2.80**	**203**	P	**Pn**	**22 44 25.4**	**+2.6**
ERZM	**Erzurum**	**2.80**	**203**	*i* P	**Pn**	**22 44 25.4**	**+2.6**
EZM	**Erzurum**	**2.80**	**203**	*e*P	**Pb**	**22 44 25.6**	**-2.7**
GDB	**GEDABAY**	**2.85**	**127**	Pn	**Pb**	**22 44 26.9**	**-2.3**
	SNR=13						
GDB				⇑Sn	**Sb**	**22 45 02.8**	**-1.0**
GDB	**GEDABAY**	**2.85**	**127**	Pn	**Pb**	**22 44 26.9**	**-2.3**
	SNR=13						
GDB				Sn	**Sb**	**22 45 02.8**	**-1.0**
AGRB	**Hanur-Agry**	**2.92**	**177**	*e*P	**Pb**	**22 44 29.3**	**-1.1**
AGRB	**Hanur-Agry**	**2.92**	**177**	*e*P	**Pb**	**22 44 29.3**	**-1.1**
ZKTA	**Zakatala**	**2.99**	**105**	⇑Pn	**Pn**	**22 44 27.6**	**+2.4**
	SNR=13						
KOPT	**Kop Dagi**	**3.01**	**215**	P	**Pn**	**22 44 28.1**	**+2.4**
KOPT	**Kop Dagi**	**3.01**	**215**	*i* P	**Pn**	**22 44 28.1**	**+2.4**
TUTA	**Tutak**	**3.09**	**179**	P	**Pn**	**22 44 29.1**	**+2.3**
TUTA	**Tutak**	**3.09**	**179**	*i* P	**Pn**	**22 44 29.1**	**+2.3**
GANJ	**Ganja**	**3.24**	**124**	⇑Pn	**Pn**	**22 44 31.2**	**+2.6**
	SNR=4.9						
GANJ	**Ganja**	**3.24**	**124**	Pn	**Pn**	**22 44 31.2**	**+2.6**
	SNR=4.9						
EKAR	**Karacoban**	**3.28**	**190**	P	**Pn**	**22 44 32.7**	**+3.3**
EKAR	**Karacoban**	**3.28**	**190**	*i* P	**Pn**	**22 44 32.7**	**+3.3**
ESPY	**Espiye-Giresun**	**3.42**	**244**	*e*P	**Pn**	**22 44 30.7**	**-0.3**
ESPY	**Espiye-Giresun**	**3.42**	**244**	*e*P	**Pn**	**22 44 30.7**	**-0.3**
CLDR	**Caldiran**	**3.46**	**165**	*e*P	**Pb**	**22 44 38.7**	**-0.9**
VRTB	**Varto-Mus**	**3.48**	**197**	*e*P	**Pb**	**22 44 36.5**	**-3.3**
VRTB	**Varto-Mus**	**3.48**	**197**	*e*P	**Pb**	**22 44 36.5**	**-3.3**
YEDI	**Yedisu-Bingol**	**3.49**	**210**	*e*P	**Pn**	**22 44 34.1**	**+1.9**
YEDI	**Yedisu-Bingol**	**3.49**	**210**	*e*P	**Pn**	**22 44 34.1**	**+1.9**
KELT	**Kelkit**	**3.54**	**230**	P	**Pn**	**22 44 33.3**	**+0.4**
KELT				S	**Sn**	**22 45 14.9**	**+0.6**
KELT	**Kelkit**	**3.54**	**230**	*i* P	**Pn**	**22 44 33.3**	**+0.4**
KELT				*i* S	**Sn**	**22 44 14.9**	**+0.6**
SEKA	**Sheki**	**3.55**	**110**	⇓Pn	**Pn**	**22 44 34.6**	**+1.7**
	SNR=12						
SEKA	**Sheki**	**3.55**	**110**	Pn	**Pn**	**22 44 34.6**	**+1.7**
	SNR=12						
ORDU	**Ordu-Boztepe**	**3.97**	**249**	P	**Pn**	**22 44 37.4**	**-1.3**
ORDU				S	**Sn**	**22 45 23.9**	**-0.9**
ORDU	**Ordu-Boztepe**	**3.97**	**249**	*i* P	**Pn**	**22 44 37.4**	**-1.3**
ORDU				*i* S	**Sn**	**22 45 23.9**	**-0.9**
BRDA	**Brd**	**4.00**	**122**	⇓Pn	**Pn**	**22 44 40.6**	**+1.6**
BRDA				⇓Sn	**Sn**	**22 45 28.3**	**+3.1**
BRDA	**Brd**	**4.00**	**122**	Pn	**Pn**	**22 44 40.6**	**+1.6**
BRDA				Sn	**Sn**	**22 45 28.3**	**+3.1**
QBL	**Gabala**	**4.09**	**111**	⇑Pn	**Pn**	**22 44 41.6**	**+1.3**
QBL				⇓Sn	**Sn**	**22 45 32.8**	**+5.1**
QBL	**Gabala**	**4.09**	**111**	Pn	**Pn**	**22 44 41.6**	**+1.3**
QBL				Sn	**Sn**	**22 45 32.8**	**+5.1**
SUSE	**Susehri**	**4.13**	**238**	P	**Pn**	**22 44 41.9**	**+0.9**
SUSE	**Susehri**	**4.13**	**238**	*i* P	**Pn**	**22 44 41.9**	**+0.9**
SUSE				*i* S	**Sn**	**22 45 20.9**	**-7.9**
QSAR	**Qusar**	**4.21**	**102**	⇓Pn	**Pn**	**22 44 43.7**	**+1.8**
QSAR				⇑Sn	**Sn**	**22 45 31.9**	**+1.4**
XNQ	**Khinaliq**	**4.22**	**106**	⇓Pn	**Pn**	**22 44 44.2**	**+1.9**
	SNR=6.0						
XNQ	**Khinaliq**	**4.22**	**106**	Pn	**Pn**	**22 44 44.2**	**+1.9**
	SNR=6.0						
IML	**Ismayilli**	**4.39**	**111**	⇓Pn	**Pn**	**22 44 46.2**	**+1.7**
IML				⇓Sn	**Sn**	**22 45 36.4**	**+1.2**
IML	**Ismayilli**	**4.39**	**111**	Pn	**Pn**	**22 44 46.2**	**+1.7**
IML				Sn	**Sn**	**22 45 36.4**	**+1.2**
QUBA	**Quba, Azerbaij**	**4.42**	**103**	⇓Pn	**Pn**	**22 44 45.9**	**+1.1**
QUBA				⇑Sn	**Sn**	**22 45 37.6**	**+1.9**
QUBA	**Quba, Azerbaij**	**4.42**	**103**	Pn	**Pn**	**22 44 45.9**	**+1.1**
QUBA				Sn	**Sn**	**22 45 37.6**	**+1.9**
PTK	**Pertek**	**4.42**	**217**	*e*P	**Pn**	**22 44 47.0**	**+2.0**
PTK	**Pertek**	**4.42**	**217**	*e*P	**Pn**	**22 44 47.0**	**+2.0**
PQL	**Pirkuli**	**4.68**	**109**	⇑Pn	**Pn**	**22 44 50.2**	**+1.7**
	SNR=5.4						
PQL	**Pirkuli**	**4.68**	**109**	Pn	**Pn**	**22 44 50.2**	**+1.7**
	SNR=5.4						
ATGJ	**Altiaghaj**	**4.90**	**107**	⇓Pn	**Pn**	**22 44 53.2**	**+1.8**
	SNR=4.5						
ATGJ	**Altiaghaj**	**4.90**	**107**	Pn	**Pn**	**22 44 53.2**	**+1.8**
	SNR=4.5						
LRK	**Lerik**	**5.72**	**130**	⇓Pn	**Pn**	**22 45 05.5**	**+2.6**
LRK				⇑Sn	**Sn**	**22 46 08.5**	**+0.4**
LRK	**Lerik**	**5.72**	**130**	Pn	**Pn**	**22 45 05.5**	**+2.6**
SUDU	**Sudak**	**6.12**	**296**	*e*P	**Pn**	**22 45 10.3**	**+2.1**
SUDU				*e*S	**Sn**	**22 46 19.5**	**+1.9**
ALU	**Alushta**	**6.46**	**293**	*e*P	**Pn**	**22 45 12.2**	**-0.6**
ALU				*e*S	**Sn**	**22 46 23.3**	**-2.6**
YAL	**Yalta**	**6.58**	**291**	*e*P	**Pn**	**22 45 14.2**	**-0.2**
YAL				*e*S	**Sn**	**22 46 27.2**	**-1.6**
SEV	**Sevastopol'**	**6.93**	**290**	*e*P	**Pn**	**22 45 17.7**	**-1.5**
SEV				*e*S	**Sn**	**22 46 34.2**	**-3.2**
BRTR	**Keskin Array B**	**7.43**	**251**	P	**Pn**	**22 45 27.9**	**+1.6**
	comp=E,0.1nm,0.3s,baz=40,slow=12,SNR=4.1						
BRTR				S	**Sn**	**22 46 52.3**	**+2.2**
	comp=E,0.1nm,0.3s,baz=70,slow=21,SNR=2.4						
TLCR		**10.44**	**290**	⇓*i* P	**Pn**	**22 46 10.5**	**+3.2**
TLCR		**10.44**	**290**	⇓P	**Pn**	**22 46 10.5**	**+3.2**
TIRR	**Tirgusor**	**10.62**	**286**	⇓*i* P	**Pn**	**22 46 07.1**	**-2.7**
TIRR	**Tirgusor**	**10.62**	**286**	⇓P	**Pn**	**22 46 07.1**	**-2.7**
CFR	**Carcaliu**	**10.91**	**289**	⇑*i* P	**Pn**	**22 46 12.4**	**-1.4**
CFR	**Carcaliu**	**10.91**	**289**	⇑P	**Pn**	**22 46 12.4**	**-1.4**
VRI	**Vrincioaia**	**12.00**	**292**	⇓*i* P	**P**	**22 46 39.6**	**-2.1**
VRI	**Vrincioaia**	**12.00**	**292**	⇓P	**P**	**22 46 39.6**	**-2.1**
KIEV	**Kiev**	**12.41**	**316**	*e*P	**Pn**	**22 46 36.6**	**-2.4**
MLR	**Muntele Rosu**	**12.48**	**290**	P	**Pn**	**22 46 36.1**	**+0.6**
	comp=E,0.0nm,0.3s,baz=121,slow=8.5,SNR=3.3						
MLR				S	**Sn**	**22 48 51.0**	**-2.9**
AKTO	**Aktyubinsk**	**13.15**	**48**	P	**Pn**	**22 46 43.0**	**-1.4**
	comp=E,0.2nm,0.3s,baz=239,slow=8.2,SNR=4.4						
AKTO				S	**Sn**	**22 49 03.5**	**-6.5**
	comp=E,0.1nm,0.3s,baz=51,slow=22,SNR=3.1						
BURAR	**Bucovina Array**	**13.42**	**298**	⇑*i* P	**Pn**	**22 46 48.7**	**+0.5**
BURAR	**Bucovina Array**	**13.42**	**298**	⇑P	**Pn**	**22 46 48.7**	**+0.5**
EIL	**Elat**	**14.27**	**209**	P	**P**	**22 47 04.0**	**-2.9**
	comp=E,0.1nm,0.3s,baz=22,slow=11,SNR=2.3						
ARU	**Arti**	**17.25**	**31**	P	**Pn**	**22 47 37.3**	**-1.1**
	comp=E,0.0nm,0.3s,baz=128,slow=6.6,SNR=2.1						
ARU	**Arti**	**17.25**	**31**	P	**P**	**22 47 45.8**	**+6.0**
KLMR	**Klimovskoe**	**18.49**	**355**	*e*P	**P**	**22 47 53.2**	**-0.2**
KLMR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	**Borovoye**	**21.16**	**51**	*e*P	**P**	**22 48 23.1**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**21.20**	**297**	P	**P**	**22 48 25.0**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=94,slow=8.6,SNR=4.3						
GERES	**GERESS Array B**	**21.20**	**297**	P	**P**	**22 48 25.0**	**+1.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**21.21**	**51**	P	**P**	**22 48 23.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=249,slow=6.2,SNR=4.9						
FINES	**FINESS Array B**	**21.46**	**338**	P	**P**	**22 48 25.1**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=133,slow=12,SNR=7.7						
VAE	**Valguarnera**	**22.25**	**267**	P	**P**	**22 48 37.6**	**+3.2**
	comp=Z,2.3nm,0.6s,baz=355,slow=16,SNR=3.3						
HFS	**Hagfors**	**25.02**	**325**	P	**P**	**22 49 01.3**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=141,slow=9.6,SNR=8.7						
KURK	**Kurchatov**	**25.75**	**59**	*e*P	**P**	**22 49 08.4**	**+0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MKAR	**Makanchi Array**	**28.23**	**68**	P	**P**	**22 49 30.9**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=269,slow=9.2,SNR=3.8						

NIED **16** *23:17:00,38˚.30N×144˚.60E,h62km,Mw3.9 Best double couple: M₀8.08000×10¹⁴ NP1:φs305.00000°,δ37.00000°, λ112.00000°. NP2:φs98.00000°,δ56.00000°,λ74.00000°.*

JMA 16 23:17:15.9±0.1,38˚.31N×144˚.59E,h32km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
OFUJ	**Ofunato**	**2.41**	**290**	P		Pn		23 17 54.6	+1.5
OFUJ				S		Sn		23 18 23.7	+2.2
MIYJ	**Miyakonagasawa**	**2.50**	**301**	P		Pn		23 17 55.8	+1.4
MIYJ				S		Sn		23 18 24.9	+1.1
JIO	**Ouri**	**2.55**	**274**	P		Pn		23 17 56.4	+1.4
JIO				S		Sn		23 18 26.1	+1.1
JMK	**Ichinoseki**	**2.72**	**285**	P		Pn		23 17 59.4	+2.1
JMK				S		Sn		23 18 31.6	+2.6
JOM	**Ohasama**	**2.82**	**295**	P		Pn		23 18 00.8	+2.0
JOM				S		Sn		23 18 34.6	+2.9
JOU	**Okura**	**3.09**	**272**	P		Pn		23 18 04.5	+2.1
JOU				S		Sn		23 18 40.8	+2.5
JANG	**Nango**	**3.15**	**312**	P		Pn		23 18 04.9	+1.6
JANG				*e*S		Sn		23 18 41.5	+1.7
JYK	**Kaneyama**	**3.37**	**282**	P		Pn		23 18 08.8	+2.5
JYK				S		Sn		23 18 47.8	+2.6
JFT	**Otama**	**3.46**	**258**	P		Pn		23 18 09.7	+2.2
JFT				S		Sn		23 18 48.9	+1.6
JAH	**Hinai**	**3.60**	**303**	P		Pn		23 18 12.2	+2.8
JAH				S		Sn		23 18 53.5	+2.7
JTM	**Tenmabayashi**	**3.68**	**313**	P		Pn		23 18 12.3	+1.8
JTM				*e*S		Sn		23 18 54.4	+1.6
JCH	**Churui**	**4.40**	**348**	P		Pn		23 18 21.8	+1.4
JRY	**Ryogami san**	**5.09**	**245**	P		Pn		23 18 31.1	+1.2
JRY				*e*S		Sn		23 19 26.4	-1.2

IDC **16** *23:18:11.2±4.7,6˚.25S×150˚.79E,h131km±36km, mb3.5/8, mb1 3.7/9,mb1mx3.5/27,mbtmp4.0/9,MS3.6/3,Ms1 3.6/3, ms1mx2.9/28,Error ellipse: s-maj=43.0km s-min=21.3km az=94.0*

ISC 16 23:18:08.5±1.3,6˚.1S±0˚.2×150˚.9E±0˚.2,h100km,n16, σ1⁹75/12,mb3.8/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PMG	**Port Moresby**	**4.91**	**228**	P			**Pn**	**23 19 22.2**	**+2.1**
	3.0nm,0.3s,baz=57,slow=15,SNR=3.4								
PMG				S			**Sn**	**23 20 15.6**	**0.0**
	2.6nm,0.3s,baz=280,slow=22,SNR=3.2								
CTA	**Charters Tower**	**14.58**	**197**	LR		LR		23 26 41.6	
	comp=Z,250nm,20.6s,baz=254,slow=35								
WRA	**Warramunga Arr**	**21.13**	**228**	P			**P**	**23 22 44.3**	**-1.2**
	3.3nm,0.5s,baz=53,slow=10,SNR=38								
ASAR	**Alice Springs**	**23.88**	**221**	P			**P**	**23 23 12.8**	**-0.2**
	4.8nm,0.7s,baz=52,slow=9.5,SNR=41								
STKA	**Stephens Creek**	**27.04**	**198**	P			**P**	**23 23 39.5**	**-2.0**
	4.4nm,1.0s,baz=55,slow=2.4,SNR=2.9								
FITZ	**Fitzroy Crossi**	**27.34**	**242**	P			**P**	**23 23 42.7**	**-1.7**
	2.7nm,0.6s,baz=258,slow=22,SNR=7.2								
RPZ	**Rata Peaks**	**41.43**	**158**	LR		LR		23 42 24.0	
	comp=Z,72nm,20.2s,baz=193,slow=35								
KSRS	**Korea Array**	**48.36**	**335**	P			**P**	**23 26 40.7**	**+0.5**
	0.9nm,0.7s,baz=156,slow=8.0,SNR=5.6								
RAR	**Rarotonga**	**50.02**	**112**	LR		LR		23 46 21.9	
	comp=Z,54nm,20.2s,baz=254,slow=34								
SONM	**Songino Array**	**66.44**	**329**	P			**P**	**23 28 45.8**	**-1.6**
	0.2nm,0.4s,baz=168,slow=5.6,SNR=1.8								
MKAR	**Makanchi Array**	**80.07**	**320**	P		P		23 30 05.3	-2.1
	0.2nm,0.7s,baz=97,slow=13,SNR=4.1								
ZALV	**Zalesovo Beam**	**81.20**	**327**	P			**P**	**23 30 13.9**	**+0.8**
	0.7nm,0.5s,baz=116,slow=6.6,SNR=2.4								
ILAR	**Eielson Array**	**84.11**	**22**	P		P		23 30 22.9	-5.2
	0.4nm,0.5s,baz=250,slow=5.0,SNR=6.7								
GERES	**GERESS Array B**	**124.15**	**327**	PKP			**PKPdf**	**23 36 54.0**	**-1.7**
	0.4nm,0.6s,baz=11,slow=1.4,SNR=4.6								
PTGA	**Pitinga**	**148.47**	**101**	PKPbc			**PKPdf**	**23 37 42.9**	**+1.8**
	1.2nm,0.3s,baz=13,slow=23,SNR=6.1								
TORD	**Torodi Ar. Bea**	**148.84**	**285**	PKPbc			**PKPdf**	**23 37 43.9**	**+2.3**
	1.9nm,0.5s,baz=42,slow=2.9,SNR=29								

TIF **16** *23:21:34.5,42˚.54N×43˚.47E,h10km±1km*
DDA **16** *23:21:35.8,42˚.84N×42˚.30E,h7km,Md2.9*

ISC 16 23:21:32.3±4.8,42˚.51N±0˚.09×43.7E±0˚.2,h8km,n4,
σ0⁹61/8,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ONI	**Oni**	**0.21**	**293**	P			**Pb**	**23 21 37.0**	**+0.4**
ONI				S			**Sg**	**23 21 38.5**	**-0.9**
ARTV	**Artvin**	**1.88**	**226**	*i* P			**Pb**	**23 22 06.8**	**-0.2**
ARTV				*i* S			**Sb**	**23 22 31.0**	**+0.3**
DAGI	**Agillar**	**1.96**	**224**	*i* P			**Pg**	**23 22 09.8**	**-0.1**
DAGI				*i* S			**Sb**	**23 22 33.6**	**+0.7**
DBAD	**Bademkaya**	**2.12**	**226**	*i* P			**Pb**	**23 22 10.9**	**-0.1**
DBAD				*i* S			**Sb**	**23 22 38.0**	**+0.5**

ISCJB **16** *23:26:17.3±0.6,20˚.70S±0˚.03×69˚.03W±0˚.09,h115km±7km, mb3.8/2,Error ellipse: s-maj=14.3km s-min=4.2km az=178.1*
GUC **16** *23:26:17.7±0.6,20˚.70S×68˚.98W,h98km±3km,ML3.9*
IDC **16** *23:26:18.8±1.0,20˚.73S×68˚.49W,h110km±14km,mb3.7/2, mb1 3.5/5,mb1mx3.3/27,mbtmp3.9/5,Error ellipse: s-maj=36.3km s-min=9.7km az=99.0*

ISC 16 23:26:16.9±0.8,20˚.70S±0˚.03×68˚.92W±0˚.08,h102km±9km, n19,σ1⁹45/33,10C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PB08	**IPOC Station P**	**0.59**	**338**	⇑*i* P			**Pn**	**23 26 35.0**	**+0.8**
PB08				*i* S			**Sn**	**23 26 47.6**	**+0.7**
PB08				IAML				23 26 48.6	
	comp=E,5μm,0.3s								
PB01	**IPOC Station P**	**0.64**	**237**	⇑*i* P			**Pn**	**23 26 34.5**	**+0.4**
PB01				*i* S			**Sn**	**23 26 47.0**	**+0.1**
PB01				IAML				23 26 49.1	
	comp=E,7μm,0.2s								
HMBC	**Humberstone**	**1.00**	**294**	⇑*i* P			**Pn**	**23 26 38.1**	**+0.5**
HMBC				*i* S			**Sn**	**23 26 53.4**	**+0.2**
PB09	**IPOC Station P**	**1.14**	**195**	⇑*i* P			**Pn**	**23 26 40.1**	**+0.9**
PB09				*i* S			**Sn**	**23 26 56.8**	**+0.8**
PB09				IAML				23 27 00.3	
	comp=N,5μm,0.6s								
PB11	**IPOC Station P**	**1.16**	**323**	⇑*i* P			**Pn**	**23 26 40.1**	**+0.6**
PB11				*i* S			**Sn**	**23 26 56.8**	**+0.4**
PB07	**IPOC Station P**	**1.37**	**221**	⇑*i* P			**Pn**	**23 26 42.6**	**+0.7**
PB07				*i* S			**Sn**	**23 27 01.2**	**+0.5**
PB07				IAML				23 27 03.4	
	comp=E,2μm,0.3s								
PSGC	**Pisagua**	**1.57**	**314**	⇑*i* P			**Pn**	**23 26 44.7**	**+0.4**
PSGC				*i* S			**Sn**	**23 27 05.8**	**+0.7**
MNMC	**Minye Minye**	**1.68**	**338**	⇑*i* P			**Pn**	**23 26 47.0**	**+1.2**
MNMC				*i* S			**Sn**	**23 27 08.8**	**+1.0**
MNMC				IAML				23 27 16.2	
	comp=E,3μm,0.2s								
LVC	**Limon Verde**	**1.91**	**180**	P			**Pn**	**23 26 50.3**	**+1.5**
	comp=E,973nm,0.3s,baz=28,slow=11,SNR=181								
LVC				S			**Sn**	**23 27 15.9**

MAT				S		**Sn**	**23 55 25.6**	**+0.8**
JHJ	**Hachijo jima 2**	**5.59**	**225**	Pn		**Pn**	**23 54 34.0**	**-0.6**
	6.1nm,0.3s,baz=83,slow=22,SNR=2.5							
JHJ				Sn		**Sn**	**23 55 34.1**	**-3.8**
	38nm,0.3s,baz=53,slow=22,SNR=5.9							
H11N2	**WAKE ISLAND Hy**	**26.20**	**125**	T		T	00 25 56.1	
	baz=303							
H11N1	**WAKE ISLAND Hy**	**26.21**	**126**	T		T	00 25 51.9	
	baz=303							
SEY	**Seymchan**	**26.21**	**8**	P		**P**	**23 58 47.0**	**+1.6**
	0.8nm,0.4s,baz=164,slow=8.1,SNR=3.6							
H11N3	**WAKE ISLAND Hy**	**26.22**	**125**	T		T	00 25 56.5	
	baz=303							
H11S1	**WAKE ISLAND Hy**	**26.97**	**128**	T		T	00 26 47.4	
	baz=327							
H11S3	**WAKE ISLAND Hy**	**26.97**	**128**	T		T	00 26 58.2	
	baz=327							
H11S2	**WAKE ISLAND Hy**	**26.98**	**128**	T		T	00 26 49.1	
	baz=327							
MKAR	**Makanchi Array**	**46.09**	**302**	P		**P**	**00 01 36.3**	**+1.6**
	0.4nm,0.7s,baz=88,slow=7.5,SNR=3.3							
ILAR	**Eielson Array**	**48.05**	**32**	P		**P**	**00 01 50.1**	**+0.4**
	0.4nm,0.8s,baz=260,slow=5.4,SNR=3.2							
WRA	**Warramunga Arr**	**57.63**	**191**	P		**P**	**00 03 00.1**	**-0.8**
	0.8nm,0.5s,baz=9.6,slow=7.2,SNR=11							
ASAR	**Alice Springs**	**61.35**	**191**	P		**P**	**00 03 26.0**	**-0.6**
	0.4nm,0.7s,baz=16,slow=14,SNR=4.0							

NIED ***16*** *23:56:00,35.40N×141.20E,h29km,Mw4.0 Best double couple: M₀1.20000×10¹⁵ NP1:φ=s1.00000°,δ=66.00000°, λ=174.00000°. NP2:φ=94.00000°,δ=85.00000°,λ=24.00000°.*

ISCJB ***16*** *23:56:41.7±0.4,35.42N±0.04×141.31E±0.06,h33km, mb4.1/23,MS3.0/2,Error ellipse: s-maj=6.6km s-min=5.1km az=171.1*

JMA ***16*** *23:56:41.8±0.2,35.40N×141.23E,h26km±2km,M3.6*

NEIC ***16*** *23:56:43.9±0.5,35.42N×141.28E,h35km,mb4.5/4,Error ellipse: s-maj=10.3km s-min=8.1km az=89.0*

IDC ***16*** *23:56:44.7±2.7,35.38N×141.16E,h38km±23km,mb3.8/19, mb1 4.0/24,mb1mx3.9/38,mbtmp4.0/24,ML3.4/3,MS2.9/4, Ms1 3.0/4,ms1mx2.7/44,Error ellipse: s-maj=21.2km s-min=13.7km az=82.0*

ISC 16 23:56:43.4±0.6,35°38N±0'.04×141°21E±0'.07,h33km,n49, σ1s21/48,mb4.1/23,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CHOJ	**Chosi**	**0.43**	**319**	P	**Pb**	**23**	**56 50.8**	**-2.2**
CHOJ				S	**Sb**	**23**	**56 57.3**	**-2.2**
BSO1	**Boso 1**	**0.75**	**195**	P	**Pn**	**23**	**56 56.1**	**-1.1**
BSO3	**Boso 3**	**0.81**	**225**	P	**Pn**	**23**	**56 57.4**	**-0.9**
BSO4	**Boso 4**	**0.81**	**242**	P	**Pn**	**23**	**56 57.6**	**-0.9**
JCN	**Nagara**	**0.82**	**273**	P	**Pn**	**23**	**56 58.4**	**-0.3**
JYT	**Yasato**	**1.18**	**316**	P	**Pn**	**23**	**57 03.1**	**-0.5**
JYT				S	**Sn**	**23**	**57 17.3**	**-1.3**
JHO	**Hitachi**	**1.33**	**337**	P	**Pn**	**23**	**57 04.7**	**-1.1**
JHJ	**Hachijo jima 2**	**2.54**	**208**	Pn	**Pn**	**23**	**57 24.1**	**+1.7**
	25nm,0.3s,baz=124,slow=24,SNR=8.0							
JHJ				Sn	**Sb**	**23**	**57 57.0**	**-2.3**
	56nm,0.3s,baz=62,slow=22,SNR=7.3							
MJAR	**Matsushiro Arr**	**2.70**	**296**	Pn	**Pn**	**23**	**57 25.4**	**+0.9**
	5.7nm,0.3s,baz=107,slow=9.1,SNR=28							
MJAR				LR	LR	23	58 47.6	
	comp=Z,112nm,18.8s,baz=100,slow=47							
MAJO	**Matsushiro**	**2.70**	**296**	*e*Pn	**Pn**	**23**	**57 25.6**	**+1.1**
MAT	**Matsushiro**	**2.70**	**296**	P	**Pn**	**23**	**57 25.9**	**+1.4**
MAT				*e*S	**Sn**	**23**	**57 55.9**	**-0.2**
ERM	**Erimo**	**6.80**	**12**	*e*Pn	**Pn**	**23**	**58 19.1**	**-1.7**
ERM				*e*Sn	**Sn**	**23**	**59 36.9**	**-0.1**
CBIJ	**Chichi jima**	**8.30**	**174**	Pn	**Pn**	**23**	**58 40.4**	**-1.1**
CBIJ				Sn	**Sn**	**00**	**00 11.7**	**-2.4**
JCJ	**Chichijima**	**8.30**	**174**	Pn	**Pn**	**23**	**58 40.4**	**-1.1**
	5.0nm,0.3s,baz=263,slow=22,SNR=5.4							
JCJ				Sn	**Sn**	**00**	**00 11.7**	**-2.4**
	4.8nm,0.3s,baz=290,slow=24,SNR=3.7							
ASAJ	**Asahikawa**	**8.79**	**7**	Pn	**Pn**	**23**	**58 45.2**	**-2.9**
	1.1nm,0.3s,baz=207,slow=24,SNR=2.7							
KSRS	**Korea Array**	**10.90**	**285**	LR	LR	00 03 22.2		
	comp=Z,62nm,18.4s,baz=79,slow=36							
USRK	**Ussuriysk Ar.**	**11.30**	**324**	Pn	**Pn**	**23**	**59 23.4**	**+0.9**
	0.1nm,0.3s,baz=128,slow=14,SNR=5.9							
KLR	**Kul'dur**	**15.49**	**336**	Pn	**Pn**	**00**	**00 18.9**	**-0.4**
	0.1nm,0.3s,baz=143,slow=18,SNR=3.4							
PETK	**Petropavlovsk-**	**21.21**	**28**	LR	LR	00 11 31.1		
	comp=Z,28nm,18.7s,baz=224,slow=42							
H11N2	**WAKE ISLAND Hy**	**27.48**	**118**	T	T	00 31 13.2		
	baz=311,slow=75,SNR=110							
H11N1	**WAKE ISLAND Hy**	**27.49**	**118**	T	T	00 31 18.2		
	baz=311,slow=75,SNR=90							
H11N3	**WAKE ISLAND Hy**	**27.50**	**118**	T	T	00 31 12.5		
	baz=311,slow=75,SNR=107							
H11S3	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	00 32 02.0		
	baz=312,slow=76,SNR=632							
H11S1	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	00 32 08.0		
	baz=312,slow=76,SNR=632							
H11S2	**WAKE ISLAND Hy**	**28.15**	**120**	T	T	00 32 00.6		
	baz=312,slow=76,SNR=628							
SONM	**Songino Array**	**28.60**	**307**	P	**P**	**00**	**02 36.8**	**+0.1**
	0.4nm,0.5s,baz=98,slow=8.6,SNR=6.0							
TIXI	**Tiksi**	**36.91**	**354**	P	**P**	**00**	**03 48.6**	**0.0**
	1.0nm,0.3s,baz=323,slow=3.3,SNR=4.0							
CMAR	**Chiang Mai Arr**	**40.94**	**257**	P	**P**	**00**	**04 23.5**	**+0.5**
	1.4nm,0.3s,baz=64,slow=8.1,SNR=3.3							
ZALV	**Zalesovo Beam**	**42.92**	**314**	P	**P**	**00**	**04 38.9**	**+0.1**
	2.1nm,0.5s,baz=99,slow=7.1,SNR=8.6							
NRIK	**Noril'sk**	**44.70**	**336**	P	**P**	**00**	**04 53.4**	**+0.5**
	3.1nm,1.0s,baz=132,slow=11,SNR=4.5							
MKAR	**Makanchi Array**	**44.87**	**303**	P	**P**	**00**	**04 54.9**	**+0.3**
	2.4nm,0.7s,baz=90,slow=9.8,SNR=24							
KURK	**Kurchatov**	**46.84**	**309**	*e*P	**P**	**00**	**05 09.7**	**-0.3**
	20nm,0.7s							
COLA	**College**	**50.57**	**31**	*e*P	**P**	**00**	**05 38.1**	**-0.3**
	3.8nm,0.4s							
ILAR	**Eielson Array**	**50.98**	**32**	P	**P**	**00**	**05 42.5**	**+1.0**
	0.4nm,0.7s,baz=264,slow=6.2,SNR=4.6							
AAK	**Ala-Archa**	**51.14**	**299**	*e*P	**P**	**00**	**05 44.6**	**+1.3**
	2.2nm,0.7s							
EKS2	**Erkin-Say**	**51.65**	**300**	*e*P	**P**	**00**	**05 47.5**	**+0.5**
	1.0nm,0.9s							
WRA	**Warramunga Arr**	**55.40**	**188**	P	**P**	**00**	**06 14.5**	**0.0**
	2.5nm,0.5s,baz=3.7,slow=7.6,SNR=30							
INK	**Inuvik**	**55.94**	**27**	P	**P**	**00**	**06 18.3**	**+0.5**
	0.7nm,0.7s,baz=44,slow=19,SNR=2.5							
ASAR	**Alice Springs**	**59.13**	**188**	P	**P**	**00**	**06 41.8**	**+1.0**
	0.4nm,0.5s,baz=5.7,slow=3.0,SNR=3.5							
GEYT	**Alibeck**	**64.50**	**300**	P	**P**	**00**	**07 17.4**	**+0.5**
	0.4nm,0.3s,baz=46,slow=4.3,SNR=4.6							
ARCES	**ARCESS Array B**	**65.49**	**340**	P	**P**	**00**	**07 23.4**	**+0.6**
	1.4nm,0.8s,baz=66,slow=3.0,SNR=3.9							
FINES	**FINESS Array B**	**70.20**	**332**	P	**P**	**00**	**07 52.9**	**+0.3**
	3.3nm,0.7s,baz=90,slow=7.6,SNR=16							
KBZ	**Khabaz**	**71.86**	**311**	P	**P**	**00**	**08 04.3**	**+1.4**
	3.0nm,0.8s,baz=360,slow=1.2,SNR=5.6							
AKASG	**Malin Array Be**	**75.50**	**322**	P	**P**	**00**	**08 24.1**	**-0.1**
	1.9nm,0.5s,baz=48,slow=6.2,SNR=13							
NB2	**NORSAR Subarra**	**75.65**	**337**	P	**P**	**00**	**08 25.1**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**75.65**	**337**	P	**P**	**00**	**08 25.3**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=43,slow=5.5,SNR=4.9							
NOA				LR	LR	00 45 18.8		
	comp=Z,14nm,18.2s,baz=0.0,slow=38							
BRTR	**Keskin Array B**	**79.82**	**312**	P	**P**	**00**	**08 49.2**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=90,slow=3.8,SNR=8.3							
GERES	**GERESS Array B**	**84.03**	**328**	P	**P**	**00**	**09 10.8**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=32,slow=5.3,SNR=8.1							
TXAR	**Lajitas Array**	**91.26**	**52**	P	**P**	**00**	**09 47.9**	**+2.0**
	comp=Z,0.1nm,0.6s,baz=286,slow=4.6,SNR=2.4							

ISCJB ***17*** *00:12:24.9±0.6,40.99N±0.02×43.41E±0.04,h4km±5km, Error ellipse: s-maj=5.0km s-min=3.5km az=37.7*

CSEM ***17*** *00:12:24.8±0.2,40.98N×43.41E,h2km, MD2.9,Error ellipse: s-maj=4.7km s-min=3.5km az=117.0*

TIF ***17*** *00:12:24.1,40.98N×43.44E,h19km*

DDA ***17*** *00:12:24.6,40.98N×43.39E,h7km,Md2.9*

ISK ***17*** *00:12:25.1,40.87N×43.45E,h5km, MD2.9*

ISC 17 00:12:24.9±1.0,40°99N±0'.02×43°42E±0'.03,h8km±9km, n31,σ0s74/57,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
EAK	**Akyaka**	**0.33**	**155**	P	**Pg**	**00**	**12 31.3**	**-0.2**
EAK	**Akyaka**	**0.33**	**155**	*i* P	**Pg**	**00**	**12 31.3**	**-0.2**
AKH	**Akhalkalaki**	**0.42**	**7**	P	**Pg**	**00**	**12 33.0**	**-0.2**
AKH				S	**Sg**	**00**	**12 39.2**	**+0.4**
AKH	**Akhalkalaki**	**0.42**	**7**	P	**Pg**	**00**	**12 33.0**	**-0.2**
AKH				S	**Sg**	**00**	**12 39.2**	**+0.4**
KARS	**Kars**	**0.45**	**216**	*e*PG	**Pg**	**00**	**12 33.7**	**+0.1**
KARS				*e*SG	**Sg**	**00**	**12 40.2**	**+0.8**
KARS	**Kars**	**0.45**	**216**	*e*Pg	**Pg**	**00**	**12 33.7**	**+0.1**
KARS				*e*Sg	**Sg**	**00**	**12 40.2**	**+0.8**
DIGO	**Kars**	**0.57**	**184**	P	**Pg**	**00**	**12 35.8**	**-0.2**
DIGO				S	**Sb**	**00**	**12 45.2**	**-0.6**
DIGO	**Kars**	**0.57**	**184**	*i* P	**Pg**	**00**	**12 35.8**	**-0.2**
DIGO				*i* S	**Sb**	**00**	**12 45.2**	**-0.6**
EPOS	**Posof**	**0.73**	**315**	P	**Pg**	**00**	**12 38.7**	**-0.3**
EPOS				S	**Sg**	**00**	**12 49.4**	**+0.8**
EPOS	**Posof**	**0.73**	**315**	*i* P	**Pg**	**00**	**12 38.7**	**-0.3**
EPOS				*i* S	**Sg**	**00**	**12 49.4**	**+0.8**
SENK	**Senkaya-Erzuru**	**0.92**	**243**	*e*PG	**Pb**	**00**	**12 43.2**	**0.0**
SENK				*e*SG	**Sb**	**00**	**12 56.8**	**+1.2**
SENK	**Senkaya-Erzuru**	**0.92**	**243**	*e*Pg	**Pb**	**00**	**12 43.2**	**0.0**
SENK				*e*Sg	**Sb**	**00**	**12 56.8**	**+1.2**
DAGI	**Agillar**	**1.14**	**275**	*i* P	**Pg**	**00**	**12 46.0**	**-0.9**
DAGI				*i* S	**Sg**	**00**	**13 01.8**	**+0.1**
ARTV	**Artvin**	**1.15**	**280**	P	**Pg**	**00**	**12 45.9**	**-1.0**
ARTV				S	**Sg**	**00**	**13 01.7**	**-0.1**
ARTV	**Artvin**	**1.15**	**280**	*i* P	**Pg**	**00**	**12 45.9**	**-1.0**
ARTV				*i* S	**Sg**	**00**	**13 01.7**	**-0.1**
TBLG	**Delisi**	**1.24**	**53**	P	**Pb**	**00**	**12 48.1**	**-0.4**
TBLG				S	**Sn**	**00**	**13 05.0**	**-0.4**
TBLG	**Delisi**	**1.24**	**53**	P	**Pb**	**00**	**12 48.1**	**-0.4**
TBLG				S	**Sn**	**00**	**13 05.0**	**-0.4**
DDEM	**Demirkent**	**1.27**	**266**	P	**Pn**	**00**	**12 48.0**	**-1.0**
DDEM				S	**Sb**	**00**	**13 04.7**	**-1.0**
DDEM	**Demirkent**	**1.27**	**266**	*i* P	**Pn**	**00**	**12 48.0**	**-1.0**
DDEM				*i* S	**Sb**	**00**	**13 04.7**	**-1.0**
DBAD	**Bademkaya**	**1.31**	**272**	P	**Pn**	**00**	**12 48.9**	**-0.7**
DBAD				S	**Sb**	**00**	**13 06.4**	**-0.4**
DBAD	**Bademkaya**	**1.31**	**272**	*i* P	**Pn**	**00**	**12 48.9**	**-0.7**
DBAD				*i* S	**Sb**	**00**	**13 06.4**	**-0.4**
EATA	**Eleskirt**	**1.33**	**213**	P	**Pn**	**00**	**12 49.5**	**-0.5**
EATA	**Eleskirt**	**1.33**	**213**	*i* P	**Pn**	**00**	**12 49.5**	**-0.5**
EATA				*i* S	**Sn**	**00**	**13 11.2**	**+3.1**
AGRB	**Hanur-Agry**	**1.45**	**193**	*e*PN	**Pb**	**00**	**12 51.8**	**-0.4**
AGRB	**Hanur-Agry**	**1.45**	**193**	*e*Pn	**Pb**	**00**	**12 51.8**	**-0.4**
ONI	**Oni**	**1.60**	**1**	P	**Pn**	**00**	**12 54.2**	**+0.7**
ONI				S	**Sb**	**00**	**13 15.7**	**+0.6**
ONI	**Oni**	**1.60**	**1**	P	**Pn**	**00**	**12 54.2**	**+0.7**
ONI				S	**Sb**	**00**	**13 15.7**	**+0.6**
GUDG	**Gudauri**	**1.67**	**28**	P	**Pb**	**00**	**12 55.6**	**-0.5**
GUDG				S	**Sb**	**00**	**13 17.5**	**+0.1**
GUDG	**Gudauri**	**1.67**	**28**	P	**Pb**	**00**	**12 55.6**	**-0.5**
GUDG				S	**Sb**	**00**	**13 17.5**	**+0.1**
CHVG	**Ch'k'valeri**	**2.00**	**330**	*e*PN	**Pb**	**00**	**13 02.1**	**+0.6**
CHVG				*e*SN	**Sg**	**00**	**13 28.8**	**-0.2**
CHVG	**Ch'k'valeri**	**2.00**	**330**	*e*Pn	**Pb**	**00**	**13 02.1**	**+0.6**
CHVG				*e*Sn	**Sg**	**00**	**13 28.8**	**-0.2**

IDC ***17*** *00:13:59.9±0.8,38.95N×142.51E,h0km,mb3.9/12, mb1 4.0/14,mb1mx3.8/58,mbtmp3.8/14,ML2.9/1,MS2.7/1, Ms1 2.7/1,ms1mx2.2/41,Error ellipse: s-maj=25.6km s-min=17.3km az=87.0*

NIED ***17*** *00:14:00,39.00N×142.40E,h29km,Mw3.7 Best double couple: M₀3.76000×10¹⁴ NP1:φ=s199.00000°,δ37.00000°, λ=-91.00000°. NP2:φ=20.00000°,δ=53.00000°,λ=-89.00000°.*

JMA ***17*** *00:14:03.8±0.1,39.07N×142.41E,h32km±1km,M4.0*

JMA Felt I J1.

NEIC ***17*** *00:14:06.8±0.8,39.05N×142.51E,h48km±6km,mb4.4/3, Error ellipse: s-maj=10.5km s-min=5.7km az=120.0*

NEIC Recorded [1 JMA] in Iwate and Miyagi.

ISC 17 00:14:01.2±1.9,39°06N±0'.04×142°45E±0'.06,h4km±11km, n41,σ1s74/46,mb4.1/15,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
OFUJ	**Ofunato**	**0.60**	**272**	P	**Pn**	**00**	**14 15.4**	**-1.2**
OFUJ				S	**Sb**	**00**	**14 23.3**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.71**	**317**	P	**Pn**	**00**	**14 16.8**	**-1.2**
MIYJ				S	**Sb**	**00**	**14 26.3**	**+0.1**
JMK	**Ichinoseki**	**0.96**	**264**	P	**Pn**	**00**	**14 20.7**	**-0.8**
JMK				S	**Sb**	**00**	**14 32.8**	**-0.7**
JOM	**Ohasama**	**0.98**	**295**	P	**Pn**	**00**	**14 21.4**	**-0.4**
JOM				S	**Sb**	**00**	**14 34.1**	**-0.1**
JTH	**Tanohata**	**0.99**	**333**	P	**Pn**	**00**	**14 21.1**	**-0.7**
JTH				S	**Sn**	**00**	**14 34.3**	**-2.0**
JIO	**Ouri**	**1.05**	**235**	P	**Pn**	**00**	**14 21.5**	**-1.2**
JIO				S	**Sg**	**00**	**14 34.0**	**-0.9**
JKZ	**Kuzumaki**	**1.26**	**317**	P	**Pg**	**00**	**14 25.7**	**+0.3**
JKZ				S	**Sn**	**00**	**14 42.0**	**-1.2**
JRG	**Rokugo**	**1.45**	**284**	*e*S	**Sg**	**00**	**14 48.1**	**+0.4**
JANG	**Nango**	**1.50**	**332**	P	**Pb**	**00**	**14 28.6**	**-0.9**
JANG				S	**Sn**	**00**	**14 47.3**	**-1.5**
JOU	**Okura**	**1.56**	**244**	P	**Pb**	**00**	**14 29.6**	**-1.0**
JOU				S	**Sn**	**00**	**14 49.3**	**-1.1**
ERM	**Erimo**	**3.00**	**10**	*e*Pn	**Pb**	**00**	**14 52.0**	**-3.2**
ERM				*e*Sn	**Sn**	**00**	**15 27.5**	**+1.5**
MAJO	**Matsushiro**	**4.19**	**234**	*e*Pn	**Pn**	**00**	**15 09.3**	**+3.4**
MAT	**Matsushiro**	**4.19**	**234**	P	**Pn**	**00**	**15 08.5**	**+2.5**
MAT				S	**Sn**	**00**	**15 58.5**	**+3.1**
MJAR	**Matsushiro Arr**	**4.19**	**234**	Pn	**Pn**	**00**	**15 08.8**	**+2.9**
	2.6nm,0.3s,baz=36,slow=12,SNR=19							
ASAJ	**Asahikawa**	**5.05**	**1**	Pn	**Pn**	**00**	**15 19.8**	**+2.1**
	baz=180,slow=6.6							
ASAJ				Sn	**Sn**	**00**	**16 20.5**	**+3.9**
	baz=90,slow=20							
USRK	**Ussuriysk Ar.**	**9.36**	**307**	Pn	**Pn**	**00**	**16 20.3**	**+3.4**
	0.3nm,0.3s,baz=120,slow=15,SNR=3.3							
JNU	**Nakatsue**	**11.07**	**241**	LR	LR	00 21 19.8		
	comp=Z,37nm,19.0s,baz=305,slow=40							
KSRS	**Korea Array**	**11.53**	**267**	Pn	**Pn**	**00**	**16 49.8**	**+3.2**
	0.3nm,0.3s,baz=77,slow=12,SNR=2.9							
KSAR	**Wonju Array Be**	**11.56**	**267**	Pn	**Pn**	**00**	**16 49.8**	**+2.8**
KLR	**Kul'dur**	**12.73**	**326**	Pn	**Pn**	**00**	**17 04.8**	**+2.0**
	0.1nm,0.3s,baz=192,slow=20,SNR=2.0							
H11N2	**WAKE ISLAND Hy**	**28.57**	**125**	T	T	00 50 23.5		
	baz=318,slow=75,SNR=128							
H11N1	**WAKE ISLAND Hy**	**28.58**	**125**	T	T	00 50 32.7		
	baz=318,slow=75,SNR=112							
H11N3	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	00 50 20.1		
	baz=318,slow=75,SNR=132							
H11S1	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	00 51 45.7		
	baz=328,slow=75							
H11S3	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	00 51 47.4		
	baz=328,slow=75							
H11S2	**WAKE ISLAND Hy**	**29.37**	**127**	T	T	00 51 45.5		
	baz=328,slow=75							
ZALV	**Zalesovo Beam**	**41.18**	**311**	P	**P**	**00**	**21 46.9**	**+0.3**
	1.2nm,0.4s,baz=102,slow=7.7,SNR=5.8							
MKAR	**Makanchi Array**	**43.76**	**301**	P	**P**	**00**	**22 08.4**	**+0.6**
	0.6nm,0.6s,baz=85,slow=9.0,SNR=5.6							
KURK	**Kurchatov**	**45.35**	**307**	*e*P	**P**	**00**	**22 19.7**	**-0.6**
	9.6nm,0.6s							
COLA	**College**	**46.94**	**33**	*e*P	**P**	**00**	**22 31.9**	**-0.7**
	2.4nm,0.6s							
ILAR	**Eielson Array**	**47.35**	**33**	P	**P**	**00**	**22 35.9**	**0.0**
	1.0nm,0.6s,baz=264,slow=6.3,SNR=12							
INK	**Inuvik**	**52.22**	**28**	P	**P**	**00**	**23 12.8**	**0.0**
	3.0nm,1.1s,baz=288,slow=6.4,SNR=3.1							
ABKAR	**Akbulak array**	**57.27**	**309**	*e*P	**P**	**00**	**23 49.5**	**-0.2**
	1.2nm,0.5s							
AKTO	**Aktyubinsk**	**57.94**	**311**	P	**P**	**00**	**23 55.2**	**+0.7**
	0.4nm,0.4s,baz=50,slow=16,SNR=2.9							
WRA	**Warramunga Arr**	**59.18**	**189**	P	**P**	**00**	**24 01.8**	**-1.6**
	2.6nm,0.5s,baz=6.6,slow=7.0,SNR=16							
ASAR	**Alice Springs**	**62.91**	**189**	P	**P**	**00**	**24 27.7**	**-0.9**
	0.9nm,0.6s,baz=6.0,slow=6.2,SNR=5.4							
FINES	**FINESS Array B**	**67.40**	**332**	P	**P**	**00**	**24 56.9**	**-0.4**
	1.2nm,0.8s,baz=44,slow=8.5,SNR=3.5							
HFS	**Hagfors**	**72.58**	**336**	P	**P**	**00**	**25 28.7**	**-0.5**
	1.9nm,1.0s,baz=32,slow=8.5,SNR=3.5							
NOA	**NORSAR Array B**	**72.63**	**337**	P	**P**	**00**	**25 29.1**	**-0.5**
	0.4nm,0.8s,baz=130,slow=16,SNR=2.7							
AKASG	**Malin Array Be**	**73.19**	**322**	P	**P**	**00**	**25 32.3**	**-0.7**
	0.8nm,0.4s,baz=44,slow=6.1,SNR=6.6							
TXAR	**Lajitas Array**	**88.25**	**53**	P	**P**	**00**	**26 53.5**	**-0.6**
	0.1nm,0.4s,baz=262,slow=2.7,SNR=2.4							

NEIC ***17*** *00:15:07.7±0.7,5.55S×151.39E,h10km,mb4.2/5,Error ellipse: s-maj=25.7km s-min=10.9km az=113.0*

ISCJB ***17*** *00:15:12.1±0.6,5.69S±0.09×151.3E±0.1,h57km, mb4.2/16,MS3.4/6,Error ellipse: s-maj=20.9km s-min=7.9km az=33.2*

IDC ***17*** *00:15:14.8±5.2,5.74S×151.35E,h70km±45km,mb3.8/10, mb1 4.0/12,mb1mx3.8/31,mbtmp4.1/12,ML2.9/2,MS3.4/8, Ms1 3.4/8,ms1mx3.2/33,Error ellipse: s-maj=40.1km s-min=22.9km az=99.0*

ISC 17 00:15:13.4±0.7,5.7S±0'.1×151°4E±0'.1,h57km,n26, σ0s85/24,mb4.0/16,MS3.4/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PMG	**Port Moresby**	**5.55**	**229**	P	**Pn**	**00**	**16 34.5**	**+1.0**
	4.8nm,0.3s,baz=51,slow=12,SNR=11							
PMG				S	**Sn**	**00**	**17 35.8**	**-0.3**
	5.4nm,0.3s,baz=119,slow=19,SNR=3.3							
PMG				LR	LR	00 18 28.8		
	comp=Z,218nm,19.9s,baz=24,slow=35							
PMG	**Port Moresby**	**5.55**	**229**	*e*Pn	**Pn**	**00**	**16 35.5**	**+1.9**
PMG				S	**Sn**	**00**	**17 35.8**	**-0.3**
HNR	**Honiara**	**9.25**	**114**	LR	LR	00 20 19.0		
	comp=Z,222nm,21.2s,baz=253,slow=33							
CTA	**Charters Tower**	**15.11**	**199**	P	**P**	**00**	**18 46.0**	**-1.6**
	0.2nm,0.3s,baz=23,slow=15,SNR=3.6							
CTAO	**Charters Tower**	**15.11**	**199**	*e*Pn	**Pn**	**00**	**18 44.8**	**+1.2**
	12nm,0.7s							
GUMO	**Guam**	**20.26**	**341**	LR	LR	00 26 04.8		
	comp=Z,106nm,20.8s,baz=118,slow=32							
WRAB	**Tennant Creek**	**21.76**	**228**	*e*P	**P**	**00**	**20 00.5**	**0.0**
	7.4nm,0.8s							
WRA	**Warramunga Arr**	**21.77**	**228**	P	**P**	**00**	**20 00.0**	**-0.6**
	7.0nm,1.0s,baz=54,slow=11,SNR=18							
WRA				LR	LR	00 30 06.3		
	comp=Z,157nm,18.3s,baz=225,slow=41							
DZM	**Mont Dzumac**	**21.81**	**140**	LR	LR	00 27 58.8		
	comp=Z,205nm,18.2s,baz=256,slow=35							
ASAR	**Alice Springs**	**24.52**	**222**	P	**P**	**00**	**20 28.1**	**+0.4**
	7.5nm,1.0s,baz=57,slow=9.0,SNR=32							
ASAR				LR	LR	00 31 43.1		
	comp=Z,157nm,18.6s,baz=51,slow=40							
STKA	**Stephens Creek**	**27.57**	**198**	P	**P**	**00**	**20 54.8**	**-0.5**
	3.0nm,0.7s,baz=32,slow=13,SNR=2.4							
FITZ	**Fitzroy Crossi**	**27.98**	**242**	P	**P**	**00**	**20 58.4**	**-0.6**
	2.1nm,0.3s,baz=63,slow=8.5,SNR=3.2							
KSM	**Kuching**	**41.64**	**279**	*e*P	**P**	**00**	**22 56.7**	**+0.1**
	5.4nm,0.5s							
MJAR	**Matsushiro Arr**	**43.83**	**345**	LR	LR	00 40 19.5		
	comp=Z,37nm,20.1s,baz=210,slow=34							
COCO	**West Island**	**54.19**	**259**	*e*P	**P**	**00**	**24 32.3**	**-1.3**
	241nm,0.5s							
PETK	**Petropavlovsk-**	**58.86**	**4**	LR	LR	00 45 02.2		
	comp=Z,25nm,21.7s,baz=201,slow=30							
MA2	**Magadan**	**65.11**	**360**	*e*P	**P**	**00**	**25 48.3**	**+0.4**
	15nm,0.4s							
SONM	**Songino Array**	**66.37**	**329**	P	**P**	**00**	**25 56.8**	**+0.3**
	0.5nm,0.4s,baz=126,slow=5.0,SNR=6.1

LAST				S	Sg	00 22 10.1	+1.2		
LAST	**Lasithi**	**0.61**	**303**	P	Pg	00 22 00.5	-0.5		
LAST				S	Sg	00 22 10.1	+1.2		
LAST	**Lasithi**	**0.61**	**303**	P	Pg	00 22 00.5	-0.5		
LAST				S	Sg	00 22 10.1	+1.2		
LAST	**Lasithi**	**0.61**	**303**	P	Pg	00 22 00.1	-0.8		
IACM	**Heraklion**	**0.97**	**299**	P	Pb	00 22 09.2	+0.3		
IACM				S	Sb	00 22 21.7	-0.6		
IACM	**Heraklion**	**0.97**	**299**	P	Pb	00 22 09.2	+0.3		
IACM				S	Sb	00 22 21.7	-0.6		
SIVA	**Sivas**	**1.08**	**280**	P	Pg	00 22 09.2	-0.8		
SIVA				S	Sn	00 22 27.8	+0.6		
SIVA	**Sivas**	**1.08**	**280**	P	Pg	00 22 09.2	-0.8		
SIVA	**Sivas**	**1.08**	**280**	P	Pg	00 22 09.2	-0.8		
SIVA	**Sivas**	**1.08**	**280**	P	Pg	00 22 08.7	-1.3		
IDI	**Anoyia**	**1.09**	**295**	Pg	Pg	00 22 09.2	-1.1		
	comp=N,14nm,0.3s,baz=128,slow=14,SNR=112								
IDI				Lg	Lg	00 22 26.0			
	comp=N,188nm,0.3s,baz=16,slow=20,SNR=20								
IDI	**Anoyia**	**1.09**	**295**	P	Pg	00 22 09.2	-1.1		
IDI				S	Sn	00 22 26.8	-0.9		
IDI	**Anoyia**	**1.09**	**295**	*e*Pn	Pg	00 22 09.8	-0.5		
IDI				S	Sn	00 22 26.8	-0.9		
IDI	**Anoyia**	**1.09**	**295**	P	Pg	00 22 09.2	-1.1		
IDI				*e*Pn	Pg	00 22 09.8	-0.5		
IDI				Lg	Lg	00 22 25.9			
IDI				S	Sn	00 22 26.8	-0.9		
IDI	**Anoyia**	**1.09**	**295**	P	Pg	00 22 08.5	-1.7		
IDI				AML	AML	00 22 38.3			
	comp=N,5785µm,0.5s								
IDI				AML	AML	00 22 40.1			
	comp=E,6184µm,0.7s								
KARP	**Karpathos**	**1.12**	**50**	PG	Pb	00 22 11.6	0.0		
KARP				*e*SG	Sb	00 22 27.1	+0.3		
KARP	**Karpathos**	**1.12**	**50**	P	Pg	00 22 09.9	-0.9		
KARP				S	Sn	00 22 28.4	0.0		
KARP	**Karpathos**	**1.12**	**50**	P	Pg	00 22 10.0	-0.9		
KARP	**Karpathos**	**1.12**	**50**	*i* Pg	Pb	00 22 11.6	0.0		
KARP				S	Sb	00 22 27.0	+0.3		
KARP	**Karpathos**	**1.12**	**50**	P	Pg	00 22 09.9	-0.9		
KARP				S	Sb	00 22 27.0	+0.3		
KARP	**Karpathos**	**1.12**	**50**	P	Pg	00 22 10.0	-0.9		
KARP				S	Sb	00 22 26.7	-0.1		
KARP				AML	AML	00 22 32.7			
	comp=N,13866µm,0.5s								
KARP				AML	AML	00 22 33.3			
	comp=E,9435µm,0.8s								
SANT	**Santorini**	**1.62**	**341**	P	Pn	00 22 17.6	-1.6		
SANT				S	Sn	00 22 40.2	-0.6		
SANT	**Santorini**	**1.62**	**341**	P	Pn	00 22 17.6	-1.6		
SANT				S	Sn	00 22 40.2	-0.6		
SANT	**Santorini**	**1.62**	**341**	P	Pn	00 22 17.6	-1.6		
SANT				S	Sn	00 22 40.2	-0.6		
SANT	**Santorini**	**1.62**	**341**	P	Pn	00 22 16.9	-2.3		
SANT				AML	AML	00 22 43.3			
	comp=E,9649µm,1.0s								
SANT				AML	AML	00 22 44.9			
	comp=N,5123µm,1.1s								
THR6	**Thira Island,**	**1.63**	**340**	P	Pn	00 22 17.8	-1.3		
THR6	**Thira Island,**	**1.63**	**340**	P	Pn	00 22 17.8	-1.3		
THR6	**Thira Island,**	**1.63**	**340**	P	Pn	00 22 17.8	-1.3		
THT1	**Athinios (Pele**	**1.65**	**341**	P	Pn	00 22 18.0	-1.4		
THT1				S	Sn	00 22 40.7	-0.5		
THT1	**Athinios (Pele**	**1.65**	**341**	P	Pn	00 22 18.0	-1.4		
THT1				S	Sn	00 22 40.7	-0.5		
THR8	**Santorini-Mono**	**1.65**	**342**	P	Pn	00 22 18.1	-1.4		
THR8	**Santorini-Mono**	**1.65**	**342**	P	Pn	00 22 18.1	-1.4		
GVD	**Gavdhos**	**1.66**	**271**	P	Pg	00 22 21.1	0.0		
GVD				S	Sg	00 22 43.3	+0.7		
GVD	**Gavdhos**	**1.66**	**271**	P	Pg	00 22 21.1	0.0		
GVD				S	Sb	00 22 41.8	-0.3		
GVD	**Gavdhos**	**1.66**	**271**	P	Pg	00 22 21.1	0.0		
GVD				S	Sg	00 22 43.3	+0.7		
GVD	**Gavdhos**	**1.66**	**271**	P	Pg	00 22 21.9	+0.8		
GVD				S	Sb	00 22 41.8	-0.3		
GVD				AML	AML	00 23 04.6			
	comp=E,5961µm,1.3s								
GVD				AML	AML	00 23 04.9			
	comp=N,3555µm,0.7s								
VAM	**Vamos**	**1.66**	**291**	P	Pn	00 22 19.8	+0.2		
VAM	**Vamos**	**1.66**	**291**	P	Pn	00 22 19.8	+0.2		
VAM				S	Sb	00 22 41.9	-0.3		
VAM	**Vamos**	**1.66**	**291**	P	Pn	00 22 19.8	+0.2		
THR3	**Thira Island,**	**1.67**	**340**	P	Pn	00 22 18.6	-1.2		
THR3	**Thira Island,**	**1.67**	**340**	P	Pn	00 22 18.6	-1.2		
THR3	**Thira Island,**	**1.67**	**340**	P	Pn	00 22 18.6	-1.2		
THR7	**Fira-Santorini**	**1.68**	**341**	P	Pn	00 22 18.9	-1.0		
THR7	**Fira-Santorini**	**1.68**	**341**	P	Pn	00 22 18.9	-1.0		
THR5	**Thira Island,**	**1.70**	**339**	PN	Pn	00 22 19.5	-0.6		
THR5	**Thira Island,**	**1.70**	**339**	P	Pn	00 22 18.9	-1.2		
THR5	**Thira Island,**	**1.70**	**339**	P	Pn	00 22 18.9	-1.2		
THR5	**Thira Island,**	**1.70**	**339**	*i* Pn	Pn	00 22 19.5	-0.6		
THR2	**Thira island,**	**1.70**	**342**	P	Pn	00 22 19.2	-1.0		
THR2	**Thira island,**	**1.70**	**342**	P	Pn	00 22 19.2	-1.0		
THR2	**Thira island,**	**1.70**	**342**	P	Pn	00 22 19.2	-1.0		
CMBO	**Columbo, Santo**	**1.73**	**341**	P	Pn	00 22 19.9	-0.7		
CMBO				S	Sn	00 22 43.0	-0.4		
CMBO	**Columbo, Santo**	**1.73**	**341**	P	Pn	00 22 19.9	-0.7		
CMBO				S	Sn	00 22 43.0	-0.4		
CMBO	**Columbo, Santo**	**1.73**	**341**	P	Pn	00 22 19.6	-1.0		
CMBO				S	Sn	00 22 41.1	-2.2		
CMBO				AML	AML	00 22 49.9			
	comp=N,11109µm,0.6s								
CMBO				AML	AML	00 22 54.2			
	comp=E,11319µm,0.6s								
IMMV	**Iera Moni Meta**	**1.85**	**290**	P	Pb	00 22 23.8	-0.1		
IMMV				S	Sn	00 22 46.7	+0.4		
IMMV	**Iera Moni Meta**	**1.85**	**290**	P	Pb	00 22 23.8	-0.1		
IMMV				S	Sn	00 22 46.7	+0.4		
IMMV	**Iera Moni Meta**	**1.85**	**290**	P	Pb	00 22 24.3	+0.4		
IMMV				S	Sn	00 22 44.6	-1.6		
IMMV				AML	AML	00 22 59.5			
	comp=E,6078µm,1.0s								
IMMV				AML	AML	00 23 16.5			
	comp=N,5101µm,1.1s								
NISR	**Nisiros**	**1.96**	**25**	P	Pn	00 22 24.0	+0.2		
NISR	**Nisiros**	**1.96**	**25**	P	Pn	00 22 24.0	+0.2		
NIS1	**Nisyros Isl.**	**1.97**	**26**	PN	Pn	00 22 24.6	+0.7		
NIS1	**Nisyros Isl.**	**1.97**	**26**	P	Pn	00 22 24.6	+0.7		
NIS1	**Nisyros Isl.**	**1.97**	**26**	P	Pn	00 22 24.6	+0.7		
NIS1	**Nisyros Isl.**	**1.97**	**26**	P	Pb	00 22 25.9	-0.1		
NIS1	**Nisyros Isl.**	**1.97**	**26**	P	Pb	00 22 25.5	-0.6		
ARG	**Arkhangelos**	**2.15**	**49**	P	Pb	00 22 27.9	-1.2		
ARG				S	Sn	00 22 53.6	-0.1		
ARG	**Arkhangelos**	**2.15**	**49**	P	Pb	00 22 27.9	-1.2		
ARG				S	Sn	00 22 53.6	-0.1		
ARG	**Arkhangelos**	**2.15**	**49**	P	Pb	00 22 27.9	-1.2		
ARG				S	Sn	00 22 53.6	-0.1		
APE	**Apeiranthos**	**2.28**	**348**	PN	Pn	00 22 27.8	-0.4		
APE				*e*SN	Sn	00 22 55.2	-1.8		
APE	**Apeiranthos**	**2.28**	**348**	P	Pn	00 22 27.0	-1.2		
APE	**Apeiranthos**	**2.28**	**348**	P	Pn	00 22 27.0	-1.2		
APE	**Apeiranthos**	**2.28**	**348**	*i* Pn	Pn	00 22 27.8	-0.4		
APE				*e*Sn	Sn	00 22 55.2	-1.8		
APE	**Apeiranthos**	**2.28**	**348**	P	Pn	00 22 27.0	-1.2		
APE	**Apeiranthos**	**2.28**	**348**	P	Pn	00 22 26.3	-1.9		
APE				S	Sn	00 22 55.9	-1.1		
APE				AML	AML	00 23 10.9			
	comp=N,1034µm,0.8s								
APE				AML	AML	00 23 12.8			
	comp=E,1020µm,1.0s								
MHLO	**Agia Marina, M**	**2.31**	**324**	P	Pn	00 22 29.0	+0.4		
MHLO				S	Sn	00 22 56.9	-0.8		
MHLO	**Agia Marina, M**	**2.31**	**324**	P	Pn	00 22 29.0	+0.4		
MHLO				S	Sn	00 22 56.9	-0.8		
MHLO	**Agia Marina, M**	**2.31**	**324**	P	Pn	00 22 29.0	+0.4		
BODT	**Bodrum**	**2.43**	**23**	PN	Pn	00 22 30.6	+0.3		
BODT	**Bodrum**	**2.43**	**23**	P	Pn	00 22 31.6	+1.4		
BODT	**Bodrum**	**2.43**	**23**	*i* Pn	Pn	00 22 30.6	+0.3		
BODT	**Bodrum**	**2.43**	**23**	P	Pn	00 22 31.6	+1.4		
BODT	**Bodrum**	**2.43**	**23**	P	Pn	00 22 31.6	+1.4		
BDRM	**Kayabasi**	**2.48**	**26**	P	Pn	00 22 32.5	+1.6		
BDRM				S	Sn	00 23 01.1	-0.8		
BDRM	**Kayabasi**	**2.48**	**26**	*i* P	Pn	00 22 32.5	+1.6		
BDRM				*i* S	Sn	00 23 01.1	-0.8		
ANKY	**Antikythira Is**	**2.51**	**295**	P	Pn	00 22 32.7	+1.4		
ANKY	**Antikythira Is**	**2.51**	**295**	P	Pn	00 22 32.7	+1.4		
ANKY				S	Sb	00 23 05.7	-1.0		
ANKY	**Antikythira Is**	**2.51**	**295**	P	Pn	00 22 32.7	+1.4		
ANKY	**Antikythira Is**	**2.51**	**295**	P	Pb	00 22 33.6	-1.6		
ANKY				S	Sb	00 23 05.7	-1.0		
ANKY				AML	AML	00 23 23.8			
	comp=N,1524µm,0.8s								
ANKY				AML	AML	00 23 32.5			
	comp=E,1858µm,1.0s								
SERI	**Serifos**	**2.67**	**331**	P	Pn	00 22 32.6	-0.9		
SERI	**Serifos**	**2.67**	**331**	P	Pn	00 22 32.6	-0.9		
DALY	**Dalyan (Mu˘la**	**2.87**	**46**	PN	Pn	00 22 38.3	+2.1		
DALY	**Dalyan (Mu˘la**	**2.87**	**46**	*i* Pn	Pn	00 22 38.3	+2.1		
KYTH	**Kithira**	**2.87**	**301**	P	Pn	00 22 36.9	+0.6		
KYTH	**Kithira**	**2.87**	**301**	P	Pn	00 22 36.9	+0.6		
KYTH	**Kithira**	**2.87**	**301**	P	Pn	00 22 36.9	+0.6		
KYTH	**Kithira**	**2.87**	**301**	P	Pn	00 22 38.4	+2.0		
TURN	**Turunc**	**2.88**	**44**	*i* P	Pn	00 22 33.9	-2.4		
TURN				*i* S	Sn	00 23 08.9	-2.7		
YER	**Yerkesik**	**2.90**	**37**	PN	Pn	00 22 38.0	+1.3		
YER				*e*SN	Sn	00 23 11.7	-0.6		
YER	**Yerkesik**	**2.90**	**37**	P	Pn	00 22 37.8	+1.1		
YER	**Yerkesik**	**2.90**	**37**	P	Pn	00 22 37.8	+1.1		
YER				*e*Sn	Sn	00 23 11.7	-0.6		
YER	**Yerkesik**	**2.90**	**37**	P	Pn	00 22 37.8	+1.1		
SMG	**Samos**	**2.93**	**11**	P	Pn	00 22 37.0	-0.1		
SMG	**Samos**	**2.93**	**11**	P	Pn	00 22 37.0	-0.1		
SMG	**Samos**	**2.93**	**11**	P	Pn	00 22 37.0	-0.1		
SMG	**Samos**	**2.93**	**11**	P	Pn	00 22 36.7	-0.4		
GCAM	**G?zelcaml?**	**3.00**	**17**	P	Pb	00 22 41.6	-2.0		
GCAM				S	Sn	00 23 12.8	-2.0		
GCAM	**G?zelcaml?**	**3.00**	**17**	*i* P	Pb	00 22 41.6	-2.0		
GCAM				*i* S	Sn	00 23 12.8	-2.0		
FETY	**Fethiye**	**3.02**	**53**	PN	Pn	00 22 39.9	+1.6		
FETY	**Fethiye**	**3.02**	**53**	P	Pn	00 22 39.4	+1.1		
FETY	**Fethiye**	**3.02**	**53**	P	Pn	00 22 39.4	+1.1		
FETY	**Fethiye**	**3.02**	**53**	*i* Pn	Pn	00 22 39.9	+1.6		
FETY	**Fethiye**	**3.02**	**53**	P	Pn	00 22 39.4	+1.1		
KSL	**Kastellorizon**	**3.13**	**64**	P	Pn	00 22 40.5	+0.7		
KSL	**Kastellorizon**	**3.13**	**64**	P	Pn	00 22 40.5	+0.7		
KSL	**Kastellorizon**	**3.13**	**64**	P	Pn	00 22 40.5	+0.7		
KSL	**Kastellorizon**	**3.13**	**64**	P	Pn	00 22 40.6	+0.8		
KSL				AML	AML	00 23 26.2			
	comp=N,392µm,1.4s								
KSL				AML	AML	00 23 37.0			
	comp=E,448µm,1.1s								
AKAS	**Kas**	**3.18**	**63**	P	Pn	00 22 41.9	+1.3		
AKAS	**Kas**	**3.18**	**63**	*i* P	Pn	00 22 41.9	+1.3		
VLI	**Veliai**	**3.19**	**307**	P	Pn	00 22 40.7	+0.1		
VLI	**Veliai**	**3.19**	**307**	P	Pn	00 22 40.7	+0.1		
VLI	**Veliai**	**3.19**	**307**	P	Pn	00 22 40.7	+0.1		
VLI	**Veliai**	**3.19**	**307**	P	Pn	00 22 40.5	-0.1		
DGB	**˜zmir**	**3.27**	**11**	*i* P	Pn	00 22 42.0	+0.3		
SLUM	**Salum** baz=194	**3.41**	**193**	P	Pn	00 22 43.3	-0.4		
SLUM	baz=194			S	Sn	00 23 21.9	-3.0		
SLUM	**Salum**	**3.41**	**193**	P	Pn	00 22 43.3	-0.4		
SLUM				S	Sn	00 23 21.9	-3.0		
ZEY	**˜zmir**	**3.42**	**5**	*i* P	Pn	00 22 44.1	+0.3		
AYDB	**Zeytinkoy-Aydi**	**3.43**	**24**	PN	Pn	00 22 45.3	+1.3		
AYDB	**Zeytinkoy-Aydi**	**3.43**	**24**	*i* Pn	Pn	00 22 45.3	+1.3		
KRND	**KRANIDI**	**3.49**	**318**	P	Pn	00 22 45.7	+0.9		
KRND	**KRANIDI**	**3.49**	**318**	P	Pn	00 22 45.7	+0.9		
KRND	**KRANIDI**	**3.49**	**318**	P	Pn	00 22 46.0	+1.2		
DID	**Didima**	**3.54**	**320**	P	Pn	00 22 45.7	+0.3		
DID	**Didima**	**3.54**	**320**	P	Pn	00 22 45.8	+0.3		
DID	**Didima**	**3.54**	**320**	P	Pn	00 22 45.7	+0.3		
DID	**Didima**	**3.54**	**320**	P	Pn	00 22 45.8	+0.3		
URLA	**Izmir**	**3.54**	**6**	P	Pn	00 22 45.8	+0.2		
URLA	**Izmir**	**3.54**	**6**	*i* P	Pn	00 22 45.8	+0.2		
VLY	**Voula,Athens**	**3.54**	**329**	P	Pn	00 22 46.9	+1.4		
VLY	**Voula,Athens**	**3.54**	**329**	P	Pn	00 22 46.9	+1.4		
VLY	**Voula,Athens**	**3.54**	**329**	P	Pn	00 22 46.9	+1.4		
VLY	**Voula,Athens**	**3.54**	**329**	P	Pn	00 22 48.1	+2.6		
CHOS	**Chios island**	**3.55**	**359**	*e*PN	Pn	00 22 46.3	+0.6		
CHOS	**Chios island**	**3.55**	**359**	P	Pn	00 22 45.2	-0.5		
CHOS	**Chios island**	**3.55**	**359**	P	Pn	00 22 45.2	-0.5		
CHOS	**Chios island**	**3.55**	**359**	*e*Pn	Pn	00 22 46.3	+0.6		
CHOS	**Chios island**	**3.55**	**359**	P	Pn	00 22 45.2	-0.5		
CHOS	**Chios island**	**3.55**	**359**	P	Pn	00 22 45.0	-0.7		
GLHS	**Glhisar (BURDU**	**3.60**	**49**	*e*PN	Pn	00 22 48.5	+2.1		
GLHS	**Glhisar (BURDU**	**3.60**	**49**	*e*Pn	Pn	00 22 48.5	+2.1		
ELL	**Elmali**	**3.64**	**57**	*e*PN	Pn	00 22 49.3	+2.4		
ELL	**Elmali**	**3.64**	**57**	*e*Pn	Pn	00 22 49.3	+2.4		
ATHU	**Athens Univers**	**3.64**	**330**	P	Pn	00 22 47.2	+0.3		
ATHU	**Athens Univers**	**3.64**	**330**	P	Pn	00 22 47.2	+0.3		
ATHU	**Athens Univers**	**3.64**	**330**	P	Pn	00 22 47.2	+0.3		
PTL	**Penteli**	**3.68**	**331**	P	Pn	00 22 47.9	+0.4		
PTL	**Penteli**	**3.68**	**331**	P	Pn	00 22 47.9	+0.4		
PTL	**Penteli**	**3.68**	**331**	P	Pn	00 22 47.9	+0.4		
PTL	**Penteli**	**3.68**	**331**	P	Pn	00 22 47.0	-0.5		
GOLH	**Golhisar**	**3.69**	**48**	P	Pn	00 22 49.4	+1.8		
GOLH	**Golhisar**	**3.69**	**48**	*i* P	Pn	00 22 49.4	+1.8		
DNZL	**Cakiroluk**	**3.71**	**39**	P	Pn	00 22 50.8	+2.8		
DNZL	**Cakiroluk**	**3.71**	**39**	*i* P	Pn	00 22 50.8	+2.8		
VLX	**Vlachokerasia**	**3.94**	**311**	P	Pn	00 22 51.8	+0.8		
VLX	**Vlachokerasia**	**3.94**	**311**	P	Pn	00 22 51.8	+0.8		
VLX	**Vlachokerasia**	**3.94**	**311**	P	Pn	00 22 51.8	+0.8		
VLX	**Vlachokerasia**	**3.94**	**311**	P	Pn	00 22 52.7	+1.7		
VILL	**Villia**	**4.01**	**327**	P	Pn	00 22 52.8	+0.8		
VILL	**Villia**	**4.01**	**327**	P	Pn	00 22 52.8	+0.8		
LTK	**Loutraki**	**4.07**	**322**	P	Pn	00 22 53.5	+0.8		
LTK	**Loutraki**	**4.07**	**322**	P	Pn	00 22 53.5	+0.8		
LTK	**Loutraki**	**4.07**	**322**	P	Pn	00 22 53.5	+0.8		
LTK	**Loutraki**	**4.07**	**322**	P	Pn	00 22 54.5	+1.8		
KORT	**Korkueli**	**4.07**	**57**	P	Pn	00 22 55.5	+2.6		
KORT	**Korkueli**	**4.07**	**57**	*i* P	Pn	00 22 55.5	+2.6		
KORT				*i* S	Sb	00 23 50.4	-1.3		
VIL2	**Platees**	**4.07**	**327**	P	Pn	00 22 54.5	+1.7		
PYL	**PYLOS**	**4.10**	**301**	P	Pn	00 22 53.3	+0.2		
PYL	**PYLOS**	**4.10**	**301**	P	Pn	00 22 53.3	+0.2		
PYL	**PYLOS**	**4.10**	**301**	P	Pn	00 22 53.3	+0.2		
PYL	**PYLOS**	**4.10**	**301**	P	Pn	00 22 53.2	-0.7		
ITM	**Ithomi**	**4.12**	**306**	P	Pn	00 22 54.4	+1.0		
ITM	**Ithomi**	**4.12**	**306**	P	Pn	00 22 54.4	+1.0		
ITM	**Ithomi**	**4.12**	**306**	P	Pn	00 22 54.4	+1.0		
ITM	**Ithomi**	**4.12**	**306**	P	Pn	00 22 57.1	+3.6		
KULA	**Kula-Manisa**	**4.21**	**28**	*e*PN	Pn	00 22 55.6	+0.9		
KULA	**Kula-Manisa**	**4.21**	**28**	P	Pn	00 22 56.1	+1.3		
KULA	**Kula-Manisa**	**4.21**	**28**	*e*Pn	Pn	00 22 55.7	+0.9		
KULA	**Kula-Manisa**	**4.21**	**28**	P	Pn	00 22 56.1	+1.3		
KULA	**Kula-Manisa**	**4.21**	**28**	P	Pn	00 22 56.1	+1.3		
ANTB	**Antalya**	**4.23**	**60**	*e*PN	Pn	00 22 58.1	+3.1		
ANTB	**Antalya**	**4.23**	**60**	*e*Pn	Pn	00 22 58.1	+3.1		
THAL	**Thalero**	**4.23**	**320**	P	Pn	00 22 57.6	+2.6		
THAL				S	Sn	00 23 45.7	+0.6		
THAL	**Thalero**	**4.23**	**320**	P	Pn	00 22 57.6	+2.6		
THAL				S	Sn	00 23 45.7	+0.6		
AKS	**Akhisar**	**4.27**	**18**	*e*PN	Pn	00 22 56.3	+0.8		
AKS	**Akhisar**	**4.27**	**18**	*e*Pn	Pn	00 22 56.3	+0.8		
DKL	**Dikili**	**4.28**	**8**	*e*PN	Pn	00 22 56.0	+0.4		
DKL	**Dikili**	**4.28**	**8**	*e*Pn	Pn	00 22 56.0	+0.4		
PROD	**Prodromos**	**4.28**	**324**	P	Pn	00 22 57.8	+2.1		
PROD	**Prodromos**	**4.28**	**324**	P	Pn	00 22 57.9	+2.1		
PROD				S	Sn	00 23 45.0	-1.3		
SIGR	**SIGRI**	**4.38**	**357**	*e*PN	Pn	00 22 57.2	+0.3		
SIGR	**SIGRI**	**4.38**	**357**	P	Pn	00 22 55.2	-1.7		
SIGR	**SIGRI**	**4.38**	**357**	*e*Pn	Pn	00 22 57.2	+0.3		
SIGR	**SIGRI**	**4.38**	**357**	P	Pn	00 22 55.2	-1.7		
PRK	**Paraskevi**	**4.41**	**2**	P	Pn	00 22 57.4	0.0		
PRK	**Paraskevi**	**4.41**	**2**	P	Pn	00 22 57.4	0.0		
PRK	**Paraskevi**	**4.41**	**2**	P	Pn	00 22 57.4	0.0		
PRK	**Paraskevi**	**4.41**	**2**	P	Pn	00 22 56.9	-0.5		
AMT	**Artemida-Makis**	**4.46**	**308**	P	Pn	00 23 01.2	+3.1		
AMT	**Artemida-Makis**	**4.46**	**308**	P	Pn	00 23 01.2	+3.1		
KLV	**Kalavryta, Ach**	**4.52**	**316**	P	Pn	00 22 59.9	+0.9		
KLV	**Kalavryta, Ach**	**4.52**	**316**	P	Pn	00 22 59.9	+0.9		
KLV				S	Sn	00 23 51.9	-0.3		
KLV	**Kalavryta, Ach**	**4.52**	**316**	P	Pn	00 22 59.9	+0.9		
KLV	**Kalavryta, Ach**	**4.52**	**316**	P	Pn	00 22 59.8	+0.8		
KLV				S	Sn	00 23 51.9	-0.3		
LKR	**Lokris**	**4.55**	**328**	P	Pn	00 22 59.7	+0.3		
LKR	**Lokris**	**4.55**	**328**	P	Pn	00 22 59.7	+0.3		
LKR	**Lokris**	**4.55**	**328**	P	Pn	00 22 59.7	+0.3		
LKR	**Lokris**	**4.55**	**328**	P	Pn	00 23 02.3	+3.0		
ATAL	**Atalanti**	**4.58**	**328**	P	Pn	00 23 00.7	+1.0		
ATAL	**Atalanti**	**4.58**	**328**	P	Pn	00 23 00.7	+1.0		
ATAL	**Atalanti**	**4.58**	**328**	P	Pn	00 23 00.7	+1.0		
DSF	**Desfina**	**4.59**	**322**	P	Pn	00 23 01.0	+1.1		
DSF	**Desfina**	**4.59**	**322**	P	Pn	00 23 01.0	+1.1		
DSF	**Desfina**	**4.59**	**322**	P	Pn	00 23 01.0	+1.1		
DSF	**Desfina**	**4.59**	**322**	P	Pn	00 23 01.4	+1.5		
SMIA	**Simia**	**4.66**	**331**	P	Pn	00 23 02.0	+1.1		
SMIA	**Simia**	**4.66**	**331**	P	Pn	00 23 01.9	+1.1		
DEMI	**Demirci**	**4.70**	**26**	P	Pn	00 23 03.4	+2.0		
DEMI	**Demirci**	**4.70**	**26**	*i* P	Pn	00 23 03.4	+2.0		
DRO	**Drossia**	**4.72**	**313**	P	Pn	00 23 05.1	+3.4		
LAKA	**Lakka**	**4.75**	**317**	P	Pn	00 23 03.3	+1.1		
LAKA	**Lakka**	**4.75**	**317**	P	Pn	00 23 03.3	+1.1		
LAKA	**Lakka**	**4.75**	**317**	P	Pn	00 23 03.3	+1.1		
SUTC	**Sutluce-Ispart**	**4.76**	**55**	*e*PN	Pn	00 23 05.2	+2.8		
SUTC	**Sutluce-Ispart**	**4.76**	**55**	*e*Pn	Pn	00 23 05.2	+2.8		
KALE	**Kalithea**	**4.77**	**319**	P	Pn	00 23 03.9	+1.5		
KALE	**Kalithea**	**4.77**	**319**	P	Pn	00 23 03.9	+1.5		
TRIZ	**Trizonia**	**4.79**	**319**	P	Pn	00 23 04.9	+2.3		
SKIA	**Skiathos**	**4.81**	**335**	P	Pn	00 23 03.9	+0.9		
SKIA	**Skiathos**	**4.81**	**335**	P	Pn	00 23 03.9	+0.9		
SERG	**Sergoula**	**4.83**	**319**	P	Pn	00 23 04.7	+1.4		
SERG	**Sergoula**	**4.83**	**319**	P	Pn	00 23 04.7	+1.4		
EFP	**Efpalio**	**4.92**	**318**	P	Pn	00 23 07.7	+3.2		
EFP	**Efpalio**	**4.92**	**318**	P	Pn	00 23 07.7	+3.2		
RLS	**Riolos of Patr**	**4.93**	**312**	P	Pn	00 23 08.5	+3.9		
GEDZ	**Gediz**	**4.97**	**31**	*e*PN	Pn	00 23 07.0	+1.8		
GEDZ	**Gediz**	**4.97**	**31**	*e*Pn	Pn	00 23 07.0	+1.8		
NEO	**Neokhori**	**5.02**	**334**	P	Pn	00 23 06.8	+0.9		
NEO	**Neokhori**	**5.02**	**334**	P	Pn	00 23 06.8	+0.9		
NEO	**Neokhori**	**5.02**	**334**	P	Pn	00 23 06.8	+0.9		
NEO	**Neokhori**	**5.02**	**334**	P	Pn	00 23 07.1	+1.2		
GDZ	**Gediz**	**5.04**	**31**	P	Pn	00 23 08.1	+1.9		
GDZ	**Gediz**	**5.04**	**31**	*i* P	Pn	00 23 08.1	+1.9		
ANX	**Ano Chora**	**5.04**	**319**	P	Pn

KHC	**Kasperske Hory**	**17.02 331**	*eP*	**P**		**00 25 51.8**	**+1.3**
KHC			*ex*	x		00 26 02.5	
KHC	**Kasperske Hory**	**17.02 331**	P	**P**		**00 25 51.8**	**+1.3**
DPC	**Dobruska-Polom**	**17.07 338**	*eP*	**Pn**		**00 25 49.0**	**-0.3**
PRU	**Pruhonice**	**17.35 334**	*eP*	**Pn**		**00 25 50.7**	**-2.0**
TAM	**Tamanrasset**	**21.61 242**	*eP*	**P**		**00 26 41.5**	**+0.5**
	comp=N,6.2nm,1.1s						
TAM	**Tamanrasset**	**21.61 242**	*eP*	**P**		**00 26 41.5**	**+0.5**
	comp=N,6.2nm,1.1s						
ESDC	**Sonseca Array**	**24.35 290**	P	**P**		**00 27 08.7**	**-0.2**
	comp=N,1.1nm,0.5s,baz=81,slow=9.5,SNR=19						
MDT	**Midelt**	**25.55 274**	P	**P**		**00 27 20.6**	**+0.7**
	comp=N,2.4nm,1.0s,baz=85,slow=15,SNR=2.9						
GEYT	**Alibeck**	**25.89 74**	P	**P**		**00 27 24.3**	**+1.5**
	comp=N,4.3nm,0.9s,baz=292,slow=7.8,SNR=10						
HFS	**Hagfors**	**26.57 346**	P	**P**		**00 27 28.0**	**-0.7**
	comp=N,1.4nm,0.8s,baz=133,slow=16,SNR=2.7						
FINES	**FINESS Array B**	**26.63 360**	P	**P**		**00 27 31.1**	**+1.9**
	comp=N,0.8nm,0.7s,baz=170,slow=12,SNR=3.4						
FINES			LR	LR		00 37 46.9	
	comp=N,53nm,19.9s,baz=166,slow=36						
AKTO	**Aktyubinsk**	**27.91 46**	P	**P**		**00 27 41.4**	**+0.6**
	comp=N,0.9nm,0.4s,baz=297,slow=6.8,SNR=5.5						
EKA	**Eskdalemuir Ar**	**28.75 325**	P	**P**		**00 27 47.6**	**-0.7**
	comp=N,1.8nm,0.7s,baz=132,slow=11,SNR=5.3						
ARCES	**ARCESS Array B**	**34.76 360**	P	**P**		**00 28 39.6**	**-1.3**
	comp=N,0.6nm,0.5s,baz=179,slow=9.0,SNR=5.7						
ARCES			LR	LR		00 43 24.8	
	comp=N,32nm,18.6s,baz=168,slow=37						
DBIC	**Dimbokro**	**39.98 233**	P	**P**		**00 29 25.1**	**-0.5**
	comp=N,3.7nm,0.8s,baz=33,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**43.31 56**	P	**P**		**00 29 52.7**	**-0.1**
	comp=N,1.8nm,0.7s,baz=276,slow=6.8,SNR=17						
ZALV	**Zalesovo Beam**	**44.67 46**	P	**P**		**00 30 04.0**	**+0.5**
	comp=N,1.8nm,0.6s,baz=263,slow=10,SNR=5.4						
SONM	**Songino Array**	**59.09 51**	P	**P**		**00 31 52.1**	**+0.7**
	comp=N,0.7nm,0.8s,baz=302,slow=8.3,SNR=3.2						
BOSA	**Boshof**	**63.11 181**	P	**P**		**00 32 20.1**	**+1.4**
	comp=N,3.7nm,1.0s,baz=3.6,slow=19,SNR=3.6						
SCHQ	**Schefferville**	**63.94 320**	P	**P**		**00 32 24.6**	**+0.7**
	comp=N,3.0nm,0.6s,baz=76,slow=6.2,SNR=7.6						
KLR	**Kul'dur**	**73.50 41**	LR	LR		01 13 12.1	
	comp=N,27nm,19.4s,baz=250,slow=42						
ILAR	**Eielson Array**	**80.57 357**	P	**P**		**00 34 04.2**	**+1.1**
	comp=N,0.4nm,0.9s,baz=359,slow=3.6,SNR=3.1						

ISCJB ***17*** *00:29:58.9±0.7,56°.87S±0°.08×148°.0E±0°.3,h10km, mb4.4/6,MS4.0/14, Error ellipse: s-maj=25.8km s-min=11.5km az=176.3*

IDC ***17*** *00:30:00.3±1.5,56°.78S×148°.01E,h0km,mb4.2/4, mb1 4.5/4,mb1mx4.2/19,mbtmp4.3/4,MS4.1/15, Ms1 4.1/15,ms1mx4.0/23,Error ellipse: s-maj=126.6km s-min=22.8km az=80.0*

NEIC ***17*** *00:30:01.1±0.6,56°.84S×148°.13E,h10km,mb4.5/3,Error ellipse: s-maj=24.2km s-min=12.4km az=87.0*

GCMT ***17*** *00:30:01.1±0.3,56°.99S×147°.58E,h12km,MW5.0/78, Moment Tensor Solution. s23,c29; s78,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.02±.10; $M_{\theta\theta}$1.41±.08; $M_{\phi\phi}$-1.43±.10; $M_{r\theta}$-0.16±.26; $M_{r\phi}$-2.75±.07; $M_{\theta\phi}$-1.76±.26; Best double couple: M=3.53900×10^{16} NP1:ϕ_s346.00000°,δ85.00000°,λ-28.00000°. NP2: ϕ_s78.00000°,δ62.00000°,λ-174.00000°. Principal axes: T 3.2970, Plg15.0000°, Azm35.0000°; N 0.4870, Plg62.0000°, Azm156.0000°; P -3.7810, Plg23.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 00:30:01.0±0.7,56°.9S±0°.1×148°.2E±0°.2,h10km,n39, σ1§29/18,mb4.5/6,MS4.1/14,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**19.52**	**57**	LR	LR	00 40 46.0	
	comp=Z,1μm,21.1s,baz=218,slow=33						
CASY	**Casey**	**19.94**	**226**	*eP*	**P**	**00 34 31.0**	**-1.7**
	5.7nm,1.4s						
VNDA	**Vanda**	**21.29**	**172**	P	**P**	**00 34 48.5**	**+1.3**
	7.5nm,1.2s,baz=344,slow=12,SNR=9.7						
VNDA				LR	LR	00 42 55.0	
	comp=Z,214nm,19.2s,baz=337,slow=36						
SBA	**Scott Base**	**22.03**	**170**	*eP*	**P**	**00 34 55.6**	**+0.5**
	94nm,2.5s						
STKA	**Stephens Creek**	**25.40**	**347**	P	**P**	**00 35 30.1**	**+1.7**
	2.5nm,0.2s,baz=139,slow=11,SNR=5.1						
STKA				LR	LR	00 44 22.5	
	comp=Z,94nm,18.9s,baz=181,slow=34						
URZ	**Urewera**	**26.63**	**58**	LR	LR	00 46 29.1	
	comp=Z,533nm,18.3s,baz=211,slow=37						
H01W1	**Cape Leeuwin H**	**31.80**	**299**	T	T	01 09 40.3	
	baz=144,slow=76,SNR=44						
H01W2	**Cape Leeuwin H**	**31.81**	**299**	T	T	01 09 42.1	
	baz=144,slow=76,SNR=44						
H01W3	**Cape Leeuwin H**	**31.82**	**299**	T	T	01 09 46.4	
	baz=144,slow=76,SNR=49						
NWAO	**Narrogin (SRO)**	**32.00**	**305**	LR	LR	00 46 15.0	
	comp=Z,574nm,20.6s,baz=50,slow=31						
ASAR	**Alice Springs**	**34.76**	**337**	P	**P**	**00 36 50.5**	**-0.9**
	2.0nm,0.8s,baz=168,slow=10,SNR=11						
ASAR				PcP	**PcP**	**00 39 26.1**	**+1.2**
	0.9nm,0.7s,baz=145,slow=3.4,SNR=5.5						
ASAR				LR	LR	00 49 55.9	
	comp=Z,168nm,18.2s,baz=166,slow=34						
RAO	**Raoul Island**	**36.40**	**55**	*eP*	**P**	**00 37 03.6**	**-1.8**
CTA	**Charters Tower**	**36.75**	**357**	LR	LR	00 51 18.3	
	comp=Z,725nm,18.5s,slow=35						
DZM	**Mont Dzumac**	**37.23**	**29**	*e*LR	LR	00 47 46.1	
	1μm,25.6s						
MAW	**Mawson**	**37.92**	**218**	LR	LR	00 51 28.7	
	comp=Z,577nm,20.7s,baz=72,slow=34						
WRA	**Warramunga Arr**	**38.28**	**339**	P	**P**	**00 37 20.3**	**-1.2**
	5.4nm,0.6s,baz=166,slow=7.5,SNR=36						
WRA				PcP	**PcP**	**00 39 34.8**	**-0.6**
	0.9nm,0.8s,baz=188,slow=2.6,SNR=4.3						
WRA				LR	LR	00 52 53.4	
	comp=Z,221nm,20.5s,baz=185,slow=36						
WRAB	**Tennant Creek**	**38.29**	**339**	*eP*	**P**	**00 37 21.6**	**+0.1**
	10nm,0.8s						
FITZ	**Fitzroy Crossi**	**42.23**	**327**	LR	LR	00 53 55.3	
	comp=Z,231nm,20.2s,baz=170,slow=34						
SNAA	**Sanae**	**50.16**	**191**	*eP*	**P**	**00 38 55.3**	**-0.8**
TBI	**Tubuai**	**55.67**	**80**	*e*LR	LR	00 55 45.6	
	223nm,24.5s						
PPT2	**Papeete2**	**60.31**	**76**	*e*LR	LR	00 57 48.5	
	125nm,25.8s						
RKT	**Rikitea**	**63.79**	**92**	*e*LQ	LQ	00 56 34.2	
	248nm,30.2s						
RKT				*e*LR	LR	00 59 10.8	
	192nm,31.2s						
RKT	**Rikitea**	**63.79**	**92**	*e*T	T	01 49 46.4	
	16nm,0.2s						
TAOE	**Nuku Hiva Isla**	**72.61**	**79**	*e*LR	LR	01 03 27.6	
	193nm,33.8s						
H08S2	**Diego Garcia H**	**75.84**	**278**	T	T	02 04 33.3	
	baz=147,slow=76,SNR=17						
H08S1	**Diego Carcia H**	**75.85**	**278**	T	T	02 04 28.9	
	baz=147,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**75.86**	**278**	T	T	02 04 38.4	
	baz=147,slow=76,SNR=14						
PLCA	**Paso Flores**	**77.42**	**151**	LR	LR	01 09 37.5	
	comp=Z,167nm,19.7s,baz=206,slow=31						
BOSA	**Boshof**	**82.22**	**228**	LR	LR	01 15 52.5	
	comp=Z,180nm,18.7s,baz=173,slow=34						
CMAR	**Chiang Mai Arr**	**85.58**	**314**	LR	LR	01 18 28.1	
	comp=Z,150nm,21.0s,baz=164,slow=34						
MJAR	**Matsushiro Arr**	**93.43**	**352**	LR	LR	01 22 38.1	
	comp=Z,25nm,21.8s,baz=180,slow=34						
KSRS	**Korea Array**	**95.51**	**344**	LR	LR	01 26 02.4	
	comp=Z,33nm,19.7s,baz=196,slow=35						
WMOK	**Wichita Mounta**	**130.59**	**87**	*e*PKPdf	**PKPdf**	**00 49 13.8**	**+2.3**
NRIK	**Noril'sk**	**133.29**	**335**	PKP	**PKPdf**	**00 49 15.9**	**+0.6**
	1.9nm,0.4s,baz=98,slow=4.2,SNR=4.4						
COWI	**Conover**	**143.74**	**82**	*e*PKPdf	**PKPdf**	**00 49 35.1**	**-0.1**
KEST	**Kesra**	**145.34**	**250**	PKPbc	**PKPab**	**00 49 38.6**	**+0.1**
	7.9nm,0.9s,baz=153,slow=6.8,SNR=9.3						
FINES	**FINESS Array B**	**150.84**	**303**	PKPbc	**PKPbc**	**00 49 53.6**	**+1.5**
	3.8nm,0.8s,baz=96,slow=3.8,SNR=10						
GERES	**GERESS Array B**	**151.86**	**273**	PKPbc	**PKPbc**	**00 49 55.7**	**+0.6**
	0.7nm,0.8s,baz=353,slow=4.2,SNR=5.7						
ARCES	**ARCESS Array B**	**152.46**	**320**	PKPbc	**PKPbc**	**00 49 54.6**	**-1.1**
	1.8nm,0.8s,baz=134,slow=2.6,SNR=4.6						

ISCJB ***17*** *00:32:05.4±0.6,32°.27N±0°.03×115°.34W±0°.04,h18km±9km, Error ellipse: s-maj=6.7km s-min=5.1km az=151.9*

ECX ***17*** *00:32:06.4±0.6,32°.25N×115°.34W,h6km,MD2.3,ML2.6*
MEX ***17*** *00:32:06.4±0.7,32°.38N×115°.16W,h25km±8km,MD3.7*

ISC 17 00:32:04.9±1.0,32°.29N±0°.04×115°.32W±0°.04,h23km±8km, n20,σ0§35/30,2C,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.13**	**4**	*eP*	**Pb**	**00 32 09.5**	**-0.2**
CPBX				*eS*	**Sb**	**00 32 12.4**	**-0.4**
CPBX				IAML		00 32 13.2	
	comp=E,5μm,0.2s						
CPBX				*e*		00 32 15.0	
MBIG	**Mexicali**	**0.16**	**39**	*eP*	**Pb**	**00 32 09.9**	**0.0**
MBIG				*eS*	**Sb**	**00 32 12.7**	**-0.5**
MBIG	**Mexicali**	**0.16**	**39**	*eP*	**Pb**	**00 32 10.4**	**+0.6**
EMSC	**East Mesa**	**0.53**	**32**	*eP*	**Pn**	**00 32 17.2**	**+0.1**
ERPC	**Ernies Place**	**0.54**	**327**	*eP*	**Pn**	**00 32 16.9**	**-0.3**
COA	**Coachella**	**0.60**	**16**	*eP*	**Pn**	**00 32 18.1**	**+0.1**
YUH	**Yuha Desert**	**0.63**	**305**	⇑*iP*	**Pb**	**00 32 17.1**	**-0.2**
RMX	**La Rumorosa**	**0.72**	**296**	*eP*	**Pb**	**00 32 18.2**	**-0.7**
RMX				*eS*	**Sb**	**00 32 28.1**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.76**	**299**	*eP*	**Pb**	**00 32 19.5**	**-0.1**
ECBX	**El Chinero**	**0.84**	**164**	*eP*	**Pb**	**00 32 20.6**	**-0.3**
ECBX				*eS*	**Sb**	**00 32 31.8**	**0.0**
ECBX				⇑*e*		00 32 33.0	
ECBX				IAML		00 32 33.0	
	comp=N,166nm,0.3s						
ZAX	**El Zacaton**	**1.12**	**227**	*eP*	**Pn**	**00 32 25.2**	**0.0**
ZAX				*eS*	**Sn**	**00 32 39.6**	**-0.4**
CBX	**Cerro Bola**	**1.14**	**272**	*eP*	**Pb**	**00 32 25.9**	**-0.2**
CBX				*i* S	**Sn**	**00 32 41.1**	**+0.5**
CBX	**Cerro Bola**	**1.14**	**272**	*eP*	**Pb**	**00 32 26.0**	**0.0**
CBX				*eS*	**Sn**	**00 32 40.8**	**+0.2**
TJIG	**Tijuana**	**1.16**	**278**	*eP*	**Pb**	**00 32 26.2**	**-0.1**
TJIG				*eS*	**Sb**	**00 32 41.4**	**+0.5**
TJIG	**Tijuana**	**1.16**	**278**	*eP*	**Pn**	**00 32 25.9**	**+0.1**
BAR	**Barrett**	**1.21**	**289**	*eP*	**Pn**	**00 32 27.2**	**0.0**
SPIG	**San Pedro Mart**	**1.24**	**186**	*eP*	**Pb**	**00 32 27.4**	**-0.5**
SPIG				*i* S	**Sb**	**00 32 43.7**	**+0.1**
SPIG	**San Pedro Mart**	**1.24**	**186**	*eP*	**Pb**	**00 32 27.5**	**-0.5**
SPIG				*eS*	**Sb**	**00 32 44.0**	**+0.4**
ECNX	**Esteban Cantu**	**1.26**	**240**	*eP*	**Pn**	**00 32 27.5**	**+0.4**
PBX	**Punta Banda**	**1.31**	**246**	*eP*	**Pn**	**00 32 28.3**	**+0.4**

ATH ***17*** *00:40:44.6,39°.10N×28°.12E,h13km±2km,ML3.1/6, Error ellipse: s-maj=3.9km s-min=2.1km az=267.0*
DDA ***17*** *00:40:47.6,39°.13N×27°.90E,h25km,Ml3.6*
ISK ***17*** *00:40:47.2,39°.14N×27°.89E,h5km,ML3.2*
CSEM ***17*** *00:40:48.3±0.1,39°.11N×27°.89E,h5km,ML3.2, Error ellipse: s-maj=2.6km s-min=2.4km az=45.0*
THE ***17*** *00:40:50.1,39°.11N×27°.98E,h19km±6km,ML3.1/6, Error ellipse: s-maj=6.8km s-min=1.2km az=87.0*

ISC 17 00:40:47.9±1.0,39°.12N±0°.01×27°.90E±0°.01,h13km±9km, n164,σ1§05/221,8C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.24**	**195**	PG	**Pb**	**00 40 53.6**	**-0.6**
AKS	**Akhisar**	**0.24**	**195**	*i* Pg	**Pb**	**00 40 53.6**	**-0.6**
BALB	**Balikesir**	**0.52**	**359**	PG	**Pb**	**00 40 58.4**	**-0.6**
BALB	**Balikesir**	**0.52**	**359**	*i* Pg	**Pb**	**00 40 58.4**	**-0.6**
DEMI	**Demirci**	**0.64**	**96**	P	**Pb**	**00 41 00.9**	**-0.2**
DEMI				S	**Sb**	**00 41 09.7**	**-0.3**
DEMI	**Demirci**	**0.64**	**96**	*i* P	**Pb**	**00 41 00.9**	**-0.2**
DEMI				*i* S	**Sb**	**00 41 09.7**	**-0.3**
BALY	**Balya**	**0.66**	**341**	P	**Pb**	**00 41 00.9**	**-0.4**
BALY	**Balya**	**0.66**	**341**	*i* P	**Pb**	**00 41 00.9**	**-0.4**
DKL	**Dikili**	**0.77**	**267**	PG	**Pb**	**00 41 03.1**	**-0.1**
DKL				*e*SG	**Sn**	**00 41 14.6**	**-1.4**
DKL	**Dikili**	**0.77**	**267**	*i* Pg	**Pb**	**00 41 03.1**	**-0.1**
DKL				*e*Sg	**Sn**	**00 41 14.6**	**-1.4**
KULA	**Kula-Manisa**	**0.85**	**135**	PG	**Pb**	**00 41 04.4**	**-0.1**
KULA	**Kula-Manisa**	**0.85**	**135**	P	**Pb**	**00 41 04.4**	**-0.1**
KULA				S	**Sb**	**00 41 15.5**	**-0.4**
KULA	**Kula-Manisa**	**0.85**	**135**	P	**Pb**	**00 41 04.4**	**-0.1**
KULA				S	**Sb**	**00 41 15.5**	**-0.4**
IZM	**Izmir**	**0.87**	**215**	PG	**Pn**	**00 41 05.2**	**-0.7**
IZM	**Izmir**	**0.87**	**215**	*i* Pg	**Pn**	**00 41 05.2**	**-0.7**
GONE	**Gonen-Balikesi**	**0.94**	**350**	PG	**Pg**	**00 41 06.2**	**+0.1**
GONE	**Gonen-Balikesi**	**0.94**	**350**	*i* Pg	**Pg**	**00 41 06.3**	**+0.1**
AYVA	**Ayvalik**	**0.96**	**282**	P	**Pn**	**00 41 07.0**	**-0.1**
AYVA				S	**Sn**	**00 41 19.8**	**-0.7**
AYVA	**Ayvalik**	**0.96**	**282**	*i* P	**Pn**	**00 41 07.0**	**-0.1**
AYVA				*i* S	**Sn**	**00 41 19.8**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**180**	PN	**Pg**	**00 41 11.0**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**180**	*i* Pn	**Pg**	**00 41 11.0**	**+0.6**
GEDZ	**Gediz**	**1.18**	**93**	PN	**Pg**	**00 41 11.4**	**+0.7**
GEDZ				*e*SN	**Sn**	**00 41 28.5**	**+2.3**
GEDZ	**Gediz**	**1.18**	**93**	*i* Pn	**Pg**	**00 41 11.4**	**+0.7**
GEDZ				*e*Sn	**Sn**	**00 41 28.5**	**+2.3**
KNL	**Bal¯kesir**	**1.19**	**346**	*i* P	**Pn**	**00 41 09.7**	**-0.6**
KNL				*i* S	**Sn**	**00 41 26.6**	**+0.3**
KCTX	**Karacabey (Bur**	**1.20**	**17**	PN	**Pg**	**00 41 10.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.20**	**17**	*i* Pn	**Pg**	**00 41 10.8**	**-0.3**
EDC	**Edincik**	**1.23**	**359**	PN	**Pg**	**00 41 11.4**	**-0.2**
EDC	**Edincik**	**1.23**	**359**	*i* Pn	**Pg**	**00 41 11.4**	**-0.2**
GDZ	**Gediz**	**1.23**	**91**	P	**Pg**	**00 41 11.6**	**-0.1**
GDZ				S	**Sg**	**00 41 27.7**	**-0.1**
GDZ	**Gediz**	**1.23**	**91**	*i* P	**Pg**	**00 41 11.6**	**-0.1**
GDZ				*i* S	**Sg**	**00 41 27.7**	**-0.1**
URLA	**Izmir**	**1.27**	**234**	P	**Pg**	**00 41 11.9**	**-0.4**
URLA				S	**Sg**	**00 41 28.8**	**+0.1**
URLA	**Izmir**	**1.27**	**234**	*i* P	**Pg**	**00 41 11.9**	**-0.4**
URLA				*i* S	**Sg**	**00 41 28.8**	**+0.1**
PRK	**Paraskevi**	**1.27**	**276**	P	**Pg**	**00 41 12.1**	**-0.2**
PRK				S	**Sg**	**00 41 29.4**	**+0.6**
PRK	**Paraskevi**	**1.27**	**276**	P	**Pg**	**00 41 12.6**	**+0.3**
PRK				S	**Sg**	**00 41 29.4**	**+0.6**
PRK	**Paraskevi**	**1.27**	**276**	P	**Pg**	**00 41 12.6**	**+0.3**
PRK				S	**Sg**	**00 41 30.6**	**+1.8**
PRK				AML	AML	00 41 32.3	
	comp=E,4371μm,0.6s						
PRK				AML	AML	00 41 36.0	
	comp=N,1770μm,0.5s						
DGB	**¯zmir**	**1.33**	**217**	*i* P	**Pn**	**00 41 11.9**	**-0.2**
DGB				*i* S	**Sg**	**00 41 32.2**	**+1.6**
KRBG	**Karabiga-Canak**	**1.36**	**340**	PN	**Pg**	**00 41 13.5**	**-0.5**
KRBG	**Karabiga-Canak**	**1.36**	**340**	*i* Pn	**Pg**	**00 41 13.5**	**-0.5**
ZEY	**¯zmir**	**1.40**	**232**	*i* P	**Pn**	**00 41 13.0**	**-0.1**
ZEY				*i* S	**Sg**	**00 41 33.4**	**+0.4**
EZN	**Ezine**	**1.41**	**301**	PN	**Pg**	**00 41 15.2**	**+0.2**
EZN	**Ezine**	**1.41**	**301**	P	**Pb**	**00 41 14.1**	**+0.1**
EZN				S	**Sg**	**00 41 32.4**	**-0.9**
EZN	**Ezine**	**1.41**	**301**	P	**Pb**	**00 41 14.1**	**+0.1**
EZN	**Ezine**	**1.41**	**301**	*i* Pn	**Pg**	**00 41 15.2**	**+0.2**
EZN				S	**Sg**	**00 41 32.4**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.47**	**31**	PN	**Pb**	**00 41 14.7**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.47**	**31**	*i* Pn	**Pb**	**00 41 14.7**	**-0.4**
KHL	**Karahalli**	**1.50**	**121**	PN	**Pg**	**00 41 17.3**	**+0.6**
KHL	**Karahalli**	**1.50**	**121**	*i* Pn	**Pg**	**00 41 17.3**	**+0.6**
MRMT	**Marmara Adasi**	**1.50**	**351**	PN	**Pb**	**00 41 15.5**	**-0.2**
MRMT				*e*SN	**Sg**	**00 41 37.4**	**+1.0**
MRMT	**Marmara Adasi**	**1.50**	**351**	*i* Pn	**Pb**	**00 41 15.5**	**-0.2**
MRMT				*e*Sn	**Sg**	**00 41 37.4**	**+1.0**
GCAM	**G?zelcaml?**	**1.51**	**200**	P	**Pn**	**00 41 14.1**	**-0.5**
GCAM				S	**Sg**	**00 41 36.7**	**+0.3**
GCAM	**G?zelcaml?**	**1.51**	**200**	*i* P	**Pn**	**00 41 14.2**	**-0.5**
GCAM				*i* S	**Sg**	**00 41 36.7**	**+0.3**
IGD	**Bursa**	**1.53**	**41**	*i* P	**Pn**	**00 41 14.3**	**-0.6**
IGD				*i* S	**Sn**	**00 41 34.5**	**-0.2**
LPK	**Lapseki**	**1.53**	**325**	PN	**Pb**	**00 41 16.3**	**+0.2**
LPK	**Lapseki**	**1.53**	**325**	*i* Pn	**Pb**	**00 41 16.3**	**+0.2**
SIGR	**SIGRI**	**1.59**	**274**	P	**Pb**	**00 41 16.3**	**-0.8**
SIGR				S	**Sg**	**00 41 38.3**	**-0.8**
SIGR	**SIGRI**	**1.59**	**274**	P	**Pb**	**00 41 16.3**	**-0.8**
SIGR				S	**Sg**	**00 41 38.3**	**-0.8**
SIGR	**SIGRI**	**1.59**	**274**	P	**Pn**	**00 41 15.9**	**+0.1**
SIGR				S	**Sg**	**00 41 42.7**	**+3.6**
SIGR				AML	AML	00 41 42.8	
	comp=E,1367μm,0.5s						
SIGR				AML	AML	00 41 42.9	
	comp=N,970μm,0.4s						
BOZC	**Bozcaada**	**1.60**	**298**	*i* P	**Pb**	**00 41 16.4**	**-0.9**
CHOS	**Chios island**	**1.61**	**244**	P	**Pb**	**00 41 16.9**	**-0.7**
CHOS				S	**Sg**	**00 41 38.9**	**-0.9**
CHOS	**Chios island**	**1.61**	**244**	P	**Pb**	**00 41 16.9**	**-0.7**
CHOS				S	**Sg**	**00 41 38.9**	**-0.9**
CHOS	**Chios island**	**1.61**	**244**	P	**Pn**	**00 41 16.4**	**+0.2**
CHOS				S	**Sg**	**00 41 40.6**	**+0.8**
CHOS				AML	AML	00 41 44.2	
	comp=N,1144μm,0.4s						
CHOS				AML	AML	00 41 47.8	
	comp=E,1663μm,0.7s						
SMG	**Samos**	**1.63**	**211**	P	**Pg**	**00 41 18.7**	**-0.6**
SMG				S	**Sb**	**00 41 38.1**	**-0.3**
SMG	**Samos**	**1.63**	**211**	P	**Pn**	**00 41 16.5**	**+0.1**
SMG				S	**Sb**	**00 41 38.1**	**-0.3**
SMG	**Samos**	**1.63**	**211**	P	**Pn**	**00 41 16.4**	**+0.1**
SMG				S	**Sg**	**00 41 41.0**	**+0.6**
SMG				AML	AML	00 41 46.3	
	comp=N,600μm,0.4s						
SMG				AML	AML	00 41 47.3	
	comp=E,585μm,0.8s						
GEMT	**Gemlik**	**1.65**	**37**	*e*PN	**Pb**	**00 41 18.3**	**+0.1**
GEMT	**Gemlik**	**1.65**	**37**	*e*Pn	**Pb**	**00 41 18.3**	**+0.1**
SART	**Tekirdag**	**1.67**	**341**	P	**Pb**	**00 41 18.7**	**+0.2**
SART				S	**Sb**	**00 41 39.0**	**-0.4**
SART	**Tekirdag**	**1.67**	**341**	*i* P	**Pb**	**00 41 18.7**	**+0.2**
SART				*i* S	**Sb**	**00 41 39.0**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.69**	**320**	PN	**Pb**	**00 41 18.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.69**	**320**	*i* Pn	**Pb**	**00 41 18.9**	**+0.1**
IZI	**Iznik**	**1.72**	**44**	*e*PN	**Pb**	**00 41 19.9**	**+0.4**
IZI	**Iznik**	**1.72**	**44**	*e*Pn	**Pb**	**00 41 19.9**	**+0.4**
CAVI	**Cavuskoy**	**1.85**	**54**	*e*PN	**Pb**	**00 41 21.0**	**-0.7**
CAVI	**Cavuskoy**	**1.85**	**54**	*e*Pn	**Pb**	**00 41 21.0**	**-0.7**
GADA	**Gvkgeada**	**1.88**	**306**	*e*PN	**Pb**	**00 41 21.6**	**-0.5**
GADA	**Gvkgeada**	**1.88**	**306**	P	**Pb**	**00 41 20.8**	**-1.3**
GADA				S	**Sb**	**00 41 44.9**	**-0.6**
GADA	**Gvkgeada**	**1.88**	**306**	P	**Pb**	**00 41 20.8**	**-1.3**
GADA	**Gvkgeada**	**1.88**	**306**	*e*Pn	**Pb**	**00 41 21.6**	**-0.5**
GADA				S	**Sb**	**00 41 44.9**	**-0.6**
ERIK	**Erikli-Kesan**	**1.88**	**326**	*e*PN	**Pb**	**00 41 22.3**	**+0.1**
ERIK	**Erikli-Kesan**	**1.88**	**326**	*e*Pn	**Pb**	**00 41 22.3**	**+0.1**
TKR	**Tekirdag**	**1.89**	**352**	*e*PN	**Pb**	**00 41 21.5**	**-0.8**
TKR	**Tekirdag**	**1.89**	**352**	*e*Pn	**Pb**	**00 41 21.5**	**-0.8**
ADVT	**Abdulvahap**	**1.94**	**47**	*e*PN	**Pb**	**00 41 22.3**	**-0.8**
ADVT	**Abdulvahap**	**1.94**	**47**	*e*Pn	**Pb**	**00 41 22.3**	**-0.8**
KESN	**Edirne-Kesan**	**1.95**	**332**	P	**Pn**	**00 41 20.9**	**-0.1**
KESN				S	**Sb**	**00 41 48.0**	**+0.2**
KESN	**Edirne-Kesan**	**1.95**	**332**	*i* P	**Pn**	**00 41 20.9**	**-0.1**
KESN				*i* S	**Sb**	**00 41 48.0**	**+0.2**
BUY	**Buyukada**	**1.97**	**28**	P	**Pn**	**00 41 20.9**	**-0.1**
BUY				S	**Sg**	**00 41 51.4**	**0.0**
BUY	**Buyukada**	**1.97**	**28**	*i* P	**Pn**	**00 41 20.9**	**-0.1**
BUY				*i* S	**Sg**	**00 41 51.4**	**0.0**
YER	**Yerkesik**	**2.00**	**171**	*e*PN	**Pb**	**00 41 24.1**	**-0.1**
YER	**Yerkesik**	**2.00**	**171**	P	**Pn**	**00 41 22.1**	**+0.6**
YER	**Yerkesik**	**2.00**	**171**	P	**Pn**	**00 41 22.1**	**+0.6**
YER	**Yerkesik**	**2.00**	**171**	*e*Pn	**Pb**	**00 41 24.1**	**-0.1**
BODT	**Bodrum**	**2.10**	**193**	*e*PN	**Pb**	**00 41 25.6**	**-0.3**
BODT	**Bodrum**	**2.10**	**193**	P	**Pn**

WRA				Sn	Sn	00 48 57.0	-10
	0.5nm,0.3s,baz=323,slow=24,SNR=7.3						
ASAR	**Alice Springs**	**18.44**	**152**	P	Pn	00 46 48.5	-0.3
	0.3nm,0.3s,baz=325,slow=12,SNR=33						
ASAR				S	Sn	00 50 03.6	-12
	0.2nm,0.3s,baz=208,slow=24,SNR=4.1						
JHJ	**Hachijo jima 2**	**42.97**	**19**	LR	LR	01 07 47.0	
	comp=Z,100nm,20.8s,baz=89,slow=35						
MKAR	**Makanchi Array**	**65.77**	**330**	P	P	00 53 18.5	0.0
	0.7nm,0.5s,baz=138,slow=7.3,SNR=9.2						
ZALV	**Zalesovo Beam**	**69.73**	**336**	P	P	00 53 43.2	0.0
	0.9nm,0.6s,baz=131,slow=6.5,SNR=2.8						
KVAR	**Kislovodsk Arr**	**89.27**	**314**	LR	LR	01 42 41.7	
	comp=Z,29nm,19.5s,slow=40						

DDA ***17*** *01:06:52.3, 42˚.45N×41˚.51E, h7km, Md2.6*
ISC 17 01:06:49.8±4.9, 42˚.8N±0˚.2×41˚.7E±0˚.3, h35km, n5, σ0s71/9, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CHVG	**Ch'k'valeri**	**0.27**	**109**	P		**Pn**	**01 06 57.3**	**-0.2**
CHVG				S		**Sn**	**01 07 02.8**	**+0.1**
DBOC	**Borcka**	**1.46**	**182**	*i* S		**Sn**	**01 07 31.2**	**-0.5**
ARTV	**Artvin**	**1.63**	**175**	*i* P		**Pn**	**01 07 16.7**	**+0.4**
ARTV				*i* S		**Sn**	**01 07 35.8**	**-0.3**
DAGI	**Agillar**	**1.73**	**175**	*i* P		**Pn**	**01 07 19.0**	**+1.4**
DAGI				*i* S		**Sn**	**01 07 38.4**	**-0.2**
DBAD	**Bademkaya**	**1.79**	**181**	*i* P		**Pn**	**01 07 17.7**	**-0.7**
DBAD				*i* S		**Sn**	**01 07 39.5**	**-0.4**

IDC ***17*** *01:08:06.8±1.4, 37˚.50N×144˚.76E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/42, mbtmp3.8/5, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/51, Error ellipse: s-maj=37.7km s-min=26.7km az=117.0*
ISCJB ***17*** *01:08:10.2±0.8, 37˚.70N±0˚.04×144˚.51E±0˚.06, h33km, mb3.8/3, MS3.6/1, Error ellipse: s-maj=6.6km s-min=6.0km az=171.9*
JMA ***17*** *01:08:11.7±0.2, 37˚.72N×144˚.39E, h37km, M4.0*
ISC 17 01:08:11.9±1.2, 37˚.70N±0˚.06×144˚.51E±0˚.09, h35km, n29, σ2s01/40, mb3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JIO	**Ouri**	**2.60**	**288**	P		**Pn**	**01 08 51.6**	**+0.1**
JIO				S		**Sn**	**01 09 21.2**	**-0.6**
OFUJ	**Ofunato**	**2.62**	**303**	P		**Pn**	**01 08 51.8**	**+0.1**
OFUJ				S		**Sn**	**01 09 21.7**	**-0.6**
JMK	**Ichinoseki**	**2.87**	**297**	P		**Pn**	**01 08 55.9**	**+0.8**
JMK				eS		**Sn**	**01 09 28.9**	**+0.4**
JOM	**Ohasama**	**3.08**	**306**	P		**Pn**	**01 08 58.5**	**+0.5**
JOM				S		**Sn**	**01 09 34.0**	**+0.4**
JOU	**Okura**	**3.11**	**284**	P		**Pn**	**01 08 59.1**	**+0.7**
JOU				eS		**Sn**	**01 09 34.6**	**+0.3**
JFT	**Otama**	**3.32**	**268**	P		**Pn**	**01 09 02.2**	**+0.9**
JFT				eS		**Sn**	**01 09 39.1**	**-0.4**
JRG	**Rokugo**	**3.48**	**300**	P		**Pn**	**01 09 05.3**	**+1.8**
JRG				S		**Sn**	**01 09 44.2**	**+0.8**
JYK	**Kaneyama**	**3.48**	**292**	P		**Pn**	**01 09 04.5**	**+0.9**
JYK				eS		**Sn**	**01 09 44.4**	**+0.9**
JAH	**Hinai**	**3.91**	**311**	P		**Pn**	**01 09 11.1**	**+1.7**
JAH				S		**Sn**	**01 09 53.9**	**-0.2**
JTM	**Tenmabayashi**	**4.08**	**320**	P		**Pn**	**01 09 12.6**	**+0.9**
JTM				S		**Sn**	**01 09 56.5**	**-1.7**
JOT	**Ohata**	**4.55**	**325**	P		**Pn**	**01 09 19.5**	**+1.3**
JOT				eS		**Sn**	**01 10 09.5**	**-0.2**
JRY	**Ryogami san**	**4.80**	**251**	P		**Pn**	**01 09 21.1**	**-0.6**
JRY				eS		**Sn**	**01 10 17.1**	**-3.0**
JKB	**Kayabe**	**4.96**	**328**	P		**Pn**	**01 09 24.9**	**+1.0**
JKB				eS		**Sn**	**01 10 17.2**	**-2.9**
JCH	**Churui**	**4.99**	**350**	P		**Pn**	**01 09 23.5**	**-0.7**
JCH				S		**Sn**	**01 10 17.2**	**-3.4**
JOD2	**Odawara 2**	**5.00**	**243**	P		**Pn**	**01 09 24.2**	**-0.2**
JOD2				eS		**Sn**	**01 10 18.2**	**-2.7**
MJAR	**Matsushiro Arr**	**5.16**	**259**	Pn		**Pn**	**01 09 28.2**	**+1.5**
	1.3nm,0.3s,baz=94,slow=15,SNR=6.4							
MJAR				Sn		**Sn**	**01 10 25.1**	**+0.1**
	0.7nm,0.3s,baz=146,slow=17,SNR=3.7							
NEM2	**Nemuro 2**	**5.74**	**9**	P		**Pn**	**01 09 31.8**	**-2.7**
NEM2				S		**Sn**	**01 10 32.8**	**-6.3**
JHJ	**Hachijo jima 2**	**5.98**	**222**	Pn		**Pn**	**01 09 36.5**	**-1.3**
	3.9nm,0.3s,baz=61,slow=19,SNR=3.4							
JHJ				Sn		**Sn**	**01 10 39.0**	**-6.2**
	19nm,0.3s,baz=73,slow=19,SNR=4.8							
JHR	**Hokuryu**	**6.40**	**342**	S		**Sn**	**01 10 55.3**	**0.0**
H11N2	**WAKE ISLAND Hy**	**26.46**	**126**	T		T	01 41 14.8	
	baz=320,slow=75							
H11N1	**WAKE ISLAND Hy**	**26.47**	**126**	T		T	01 41 17.6	
	baz=320							
H11N3	**WAKE ISLAND Hy**	**26.48**	**126**	T		T	01 41 17.3	
	baz=320,slow=75							
H11S1	**WAKE ISLAND Hy**	**27.24**	**128**	T		T	01 42 08.7	
	baz=320							
H11S3	**WAKE ISLAND Hy**	**27.25**	**129**	T		T	01 41 42.3	
	baz=320							
H11S2	**WAKE ISLAND Hy**	**27.26**	**128**	T		T	01 42 02.0	
	baz=320							
KURBB	**Kurchatov Arra**	**47.54**	**308**	P		**P**	**01 16 45.2**	**+1.7**
	0.5nm,0.5s,baz=82,slow=8.0,SNR=6.2							
ILAR	**Eielson Array**	**47.61**	**33**	P		**P**	**01 16 44.9**	**+1.0**
	0.4nm,0.7s,baz=264,slow=6.4,SNR=4.3							
ARU	**Arti**	**57.49**	**319**	LR		LR	01 45 56.4	
	comp=Z,45nm,18.6s,baz=132,slow=39							
WRA	**Warramunga Arr**	**58.13**	**191**	P		**P**	**01 18 00.9**	**-1.1**
	1.1nm,0.5s,baz=9.9,slow=7.0,SNR=12							

CSEM ***17*** *01:13:24.4, 38˚.38N×22˚.02E, h10km±2km, ML1.2/9,* **Error ellipse: s-maj=2.2km s-min=0.8km az=110.0, Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TRIZ	**Trizonia**	**0.04**	**103**	P		Pg	01 13 26.5	+0.1
TRIZ				S		Sg	01 13 27.5	-0.3
KALE	**Kalithea**	**0.10**	**80**	P		Pg	01 13 27.5	+0.5
KALE				S		Sg	01 13 29.3	+0.4
KALE	**Kalithea**	**0.10**	**80**	P		Pg	01 13 27.5	+0.5
KALE				S		Sg	01 13 29.3	+0.3
KALE				AML		AML	01 13 30.1	
	comp=E,302μm,0.3s							
KALE				AML		AML	01 13 30.2	
	comp=N,430μm,0.2s							
EFP	**Efpalio**	**0.10**	**300**	P		Pg	01 13 26.4	-0.7
EFP				S		Sg	01 13 28.1	-0.9
EFP	**Efpalio**	**0.10**	**300**	P		Pg	01 13 26.4	-0.7
EFP				S		Sg	01 13 28.1	-0.9
EFP				AML		AML	01 13 28.8	
	comp=N,999μm,0.3s							
EFP				AML		AML	01 13 29.5	
	comp=E,864μm,0.1s							
LAKA	**Lakka**	**0.14**	**194**	P		Pg	01 13 27.6	0.0
LAKA				S		Sg	01 13 30.6	+0.9
LAKA	**Lakka**	**0.14**	**194**	P		Pg	01 13 27.6	0.0
LAKA				AML		AML	01 13 30.7	
	comp=N,102μm,0.1s							
LAKA				S		Sg	01 13 30.8	+0.9
LAKA				AML		AML	01 13 30.9	
	comp=E,113μm,0.1s							
UPR	**University Cam**	**0.20**	**244**	P		Pg	01 13 26.8	-1.9
UPR				S		Sg	01 13 32.5	+0.9
UPR	**University Cam**	**0.20**	**244**	P		Pg	01 13 26.8	-1.9
UPR				S		Sg	01 13 32.5	+0.8
ANX	**Ano Chora**	**0.23**	**340**	P		Pg	01 13 29.0	-0.3
ANX				S		Sg	01 13 33.6	+1.1
ANX	**Ano Chora**	**0.23**	**340**	S		Sg	01 13 33.6	+1.0
ANX				AML		AML	01 13 33.7	
	comp=N,292μm,0.2s							
ANX				AML		AML	01 13 33.9	
	comp=E,374μm,0.2s							
KLV	**Kalavryta, Ach**	**0.35**	**163**	P		Pg	01 13 31.1	-0.2
KLV				S		Sb	01 13 37.5	-0.7
KLV	**Kalavryta, Ach**	**0.35**	**163**	P		Pg	01 13 31.1	-0.2
KLV				S		Sb	01 13 37.5	-0.7
KLV				AML		AML	01 13 37.9	
	comp=N,30μm,0.2s							
KLV				AML		AML	01 13 38.1	
	comp=E,33μm,0.1s							
DSF	**Desfina**	**0.40**	**85**	P		Pg	01 13 31.8	-0.5
DSF				S		Sb	01 13 39.5	-0.3
DSF	**Desfina**	**0.40**	**85**	P		Pg	01 13 31.8	-0.5
DSF				S		Sb	01 13 39.5	-0.2
DSF				AML		AML	01 13 40.9	
	comp=E,94μm,0.1s							
DSF				AML		AML	01 13 41.2	
	comp=N,119μm,0.1s							
PVO	**Paravola**	**0.46**	**302**	P		Pb	01 13 34.1	-0.4
PVO	**Paravola**	**0.46**	**302**	P		Pb	01 13 34.1	-0.5
DRO	**Drossia**	**0.49**	**210**	P		Pg	01 13 33.0	-0.9
DRO				S		Sb	01 13 41.8	-0.4
DRO	**Drossia**	**0.49**	**210**	P		Pg	01 13 33.0	-0.9
DRO				S		Sb	01 13 41.8	-0.4
DRO				AML		AML	01 13 42.7	
	comp=N,65μm,0.1s							
DRO				AML		AML	01 13 43.2	
	comp=E,95μm,0.2s							
AXS	**Araxos**	**0.54**	**251**	P		Pg	01 13 35.0	+0.1
AXS				S		Sg	01 13 42.3	+0.4
AXS	**Araxos**	**0.54**	**251**	P		Pg	01 13 35.0	+0.2
AXS				S		Sg	01 13 42.3	+0.4
RLS	**Riolos of Patr**	**0.54**	**234**	P		Pg	01 13 34.6	-0.3
RLS				S		Sb	01 13 43.8	+0.1
EVR	**Evrytania**	**0.57**	**343**	P		Pg	01 13 35.1	-0.3
EVR				S		Sg	01 13 43.6	+0.7
EVR	**Evrytania**	**0.57**	**343**	P		Pg	01 13 35.1	-0.4
EVR				AML		AML	01 13 45.9	
	comp=N,53μm,0.2s							
AGG	**Agios Georgios**	**0.69**	**20**	P		Pg	01 13 36.6	-1.2
AGG				S		Sb	01 13 49.1	+0.9
AGG	**Agios Georgios**	**0.69**	**20**	P		Pg	01 13 36.6	-1.2
AGG				S		Sb	01 13 49.1	+0.9
AGG				AML		AML	01 13 49.2	
	comp=E,67μm,0.2s							
AGG				AML		AML	01 13 49.8	
	comp=N,53μm,0.2s							
PDO	**Prodromos**	**0.69**	**289**	P		Pb	01 13 38.4	-0.2
PDO				S		Sb	01 13 48.7	+0.5
PDO	**Prodromos**	**0.69**	**289**	P		Pb	01 13 38.4	-0.2
PDO				S		Sb	01 13 48.7	+0.5

IDC ***17*** *01:15:32.1±0.4, 6˚.41S×105˚.00E, h0km, mb4.7/34, mb1 4.7/34, mb1mx4.7/46, mbtmp4.7/34, MS3.7/14, Ms1 3.7/14, ms1mx3.4/46, Error ellipse: s-maj=16.3km s-min=10.7km az=49.0*
BJI ***17*** *01:15:33.4, 7˚.00S×104˚.60E, h31km, mb4.7/36, mB4.9/23, Ms4.5/22, Ms7 4.1/20*
ISCJB ***17*** *01:15:33.1±1.2, 6˚.74S±0˚.04×104˚.82E±0˚.04, h23km±8km, mb4.8/97, MS3.7/17, Error ellipse: s-maj=7.7km s-min=4.0km az=42.6*
NEIC ***17*** *01:15:34.8±0.8, 6˚.96S×104˚.68E, h36km±6km, mb5.0/37, Error ellipse: s-maj=9.5km s-min=5.5km az=220.0*
NEIC Felt [II] at Bandar Lampung, Sumatra.
MOS ***17*** *01:15:35.6±1.2, 6˚.31S×105˚.20E, h33km, mb5.0/60, Error ellipse: s-maj=10.9km s-min=5.6km az=117.2*
KLM ***17*** *01:15:35.4, 7˚.00S×104˚.64E, h29km, mb4.9, ML4.8, MS5.9*
ISC 17 01:15:36.2±0.7, 6˚.90S±0˚.04×104˚.73E±0˚.05, h42km±5km, n278, σ1s98/293, mb4.8/97, MS3.7/17, 23C-22D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MNAI	**Manna**	**3.08**	**325**	*e*P	n	**Pn**	**01 16 22.1**	**-0.3**
CISI	**Cisompet, Garu**	**3.13**	**102**	*e*P	n	**Pn**	**01 16 21.7**	**-1.5**
CISI				*e*S	n	**Sn**	**01 16 56.0**	**-3.4**
XMIS	**Christmas Isla**	**3.67**	**166**	*e*P	n	**Pn**	**01 16 29.1**	**-1.5**
XMIS				*e*S	n	**Sn**	**01 17 11.0**	**-1.6**
UGM	**Wanagama**	**5.84**	**100**	*e*P	n	**Pn**	**01 17 00.3**	**+0.1**
BKNI	**Bangkinang**	**8.07**	**333**	*e*P	n	**Pn**	**01 17 30.2**	**-0.7**
MYKOM	**Kota Tinggi**	**8.68**	**354**	⇓P		**Pn**	**01 17 41.4**	**+2.0**
MYKOM	**Kota Tinggi**	**8.68**	**354**	*e*Pn		**Pn**	**01 17 40.0**	**+0.7**
KGM	**Kluang**	**8.97**	**351**	⇑P		**Pn**	**01 17 45.4**	**+2.1**
COCO	**West Island**	**9.39**	**235**	*e*Pn	n	Pn	01 17 44.0	-5.0
JAGI	**Jajag, Banyuwa**	**9.47**	**100**	*e*Pn	n	**Pn**	**01 17 50.3**	**+0.1**
JAGI				*e*Sn	n	**Sn**	**01 19 33.2**	**-2.2**
KSM	**Kuching**	**10.01**	**34**	*e*Pn	n	**Pn**	**01 17 57.2**	**-0.5**
FRIM	**Kepong**	**10.54**	**343**	⇑P		**Pn**	**01 18 05.9**	**+1.1**
GSI	**Gunungsitoli**	**10.84**	**319**	*e*Pn	n	**Pn**	**01 18 06.7**	**-2.2**
PSI	**Prapat**	**11.25**	**329**	*e*P	n	**Pn**	**01 18 12.8**	**-1.8**
PSI	**Prapat**	**11.25**	**329**	*e*Pn	n	**Pn**	**01 18 12.8**	**-1.8**
IPM	**Ipoh**	**11.90**	**342**	⇑P		**Pn**	**01 18 24.2**	**+0.9**
IPM	**Ipoh**	**11.90**	**342**	*e*Pn	n	**Pn**	**01 18 23.1**	**-0.3**
SBUM	**Šibu**	**11.93**	**39**	⇓P		**Pn**	**01 18 26.5**	**+2.7**
SBUM	**Sibu**	**11.93**	**39**	*e*Pn	n	**Pn**	**01 18 25.4**	**+1.5**
KTGM	**Kuala Trenggan**	**12.25**	**353**	⇑P		**Pn**	**01 18 32.3**	**+4.1**
LHMI	**Lhok Sumawe**	**14.34**	**327**	*e*Pn	n	**Pn**	**01 18 56.1**	**-0.6**
KAPI	**Kappang**	**15.06**	**84**	Pn		**Pn**	**01 19 07.6**	**+1.3**
	2.0nm,0.3s,baz=91,slow=14,SNR=3.0							
KAPI				LR		LR	01 25 17.3	
	comp=Z,179nm,18.6s,baz=274,slow=40							
KAPI	**Kappang**	**15.06**	**84**	*e*Pn		**Pn**	**01 19 07.2**	**+0.9**
	27nm,1.2s							
KKM	**Kota Kinabalu**	**17.23**	**42**	*e*Pn		**Pn**	**01 19 34.4**	**+0.4**
	55nm,1.4s							
MMRI	**Maumere**	**17.44**	**97**	*e*Pn	n	**Pn**	**01 19 36.3**	**-0.2**
	86nm,0.6s							
GIRL	**Giralia**	**18.13**	**151**	P		**Pn**	**01 19 47.1**	**+2.2**
	baz=18,SNR=6.6							
MYLDM	**Lahad Datu**	**18.25**	**49**	⇓P		**Pn**	**01 19 49.4**	**+3.0**
MYLDM	**Lahad Datu**	**18.25**	**49**	*e*P		**Pn**	**01 19 46.8**	**+0.3**
	37nm,0.9s							
KDM	**Kudat**	**18.29**	**42**	⇓P		**Pn**	**01 19 49.8**	**+2.9**
LUWI	**Luwuk**	**18.91**	**73**	*e*P		**P**	**01 19 52.6**	**-1.0**
	137nm,1.0s							
SOEI	**Soe**	**19.54**	**100**	*e*P		**P**	**01 20 00.2**	**-0.4**
	242nm,1.0s							
SOEI				*e*S		**S**	**01 23 37.4**	**-1.9**
MBWA	**Marble Bar**	**20.29**	**136**	*e*P		**P**	**01 20 06.2**	**-2.3**
	57nm,0.6s							
FITZ	**Fitzroy Crossi**	**23.22**	**121**	P		**P**	**01 20 41.3**	**+1.4**
	7.3nm,0.8s,baz=312,slow=5.4,SNR=11							
FITZ				LR		LR	01 29 46.0	
	comp=Z,88nm,21.3s,baz=305,slow=37							
FITZ	**Fitzroy Crossi**	**23.22**	**121**	P		**P**	**01 20 41.8**	**+2.0**
	baz=23,SNR=5.2							
LOEI	**Loei**	**24.50**	**352**	P		**P**	**01 20 51.8**	**+0.1**
	8.2nm,0.9s							
NONG	**Nongkai**	**24.86**	**356**	P		**P**	**01 20 55.7**	**+0.7**
	28nm,1.2s							
CM01	**Chiang Mai Arr**	**25.80**	**347**	*e*P		**P**	**01 21 01.3**	**-2.3**
CM31	**Chiang Mai Arr**	**25.84**	**347**	*e*P		**P**	**01 21 01.1**	**-2.9**
CMAR	**Chiang Mai Arr**	**25.84**	**347**	P		**P**	**01 21 01.4**	**-2.6**
	7.3nm,0.8s,baz=176,slow=10,SNR=13							
CMAR	**Chiang Mai Arr**	**25.84**	**347**	*ce*P		**P**	**01 21 01.6**	**-2.3**
CMAR				pmax		pmax		
	comp=Z,7.0nm,0.7s							
CMMT	**Chiang Mai**	**26.18**	**348**	P		**P**	**01 21 07.2**	**+0.2**
	comp=Z,15nm,0.9s							
CHTO	**Chiang Mai**	**26.18**	**348**	P		**P**	**01 21 07.3**	**+0.3**
	comp=Z,94nm,1.7s							
CHTO	**Chiang Mai**	**26.18**	**348**	*e*P		**P**	**01 21 04.5**	**-2.5**
CHTO				pmax		pmax		
	comp=Z,13nm,0.9s							
CHTO	**Chiang Mai**	**26.18**	**348**	*e*P		**P**	**01 21 04.5**	**-2.5**
	comp=Z,13nm,0.9s							
QIZ	**Qiongzhong**	**26.26**	**11**	P		**P**	**01 21 08.5**	**+0.8**
QIZ				pP		**pP**	**01 21 19.9**	**+0.9**
QIZ				S		**S**	**01 25 37.4**	**-0.1**
QIZ				sS		**sS**	**01 25 57.4**	**+1.0**
QIZ				PMZ				
	comp=Z,15nm,1.3s							
QIZ				LE				
	comp=Z,600nm,20.2s							
QIZ				LZ				
	comp=Z,250nm,19.0s							
TGY	**Tagaytay City**	**26.35**	**38**	LR		LR	01 32 00.8	
	comp=Z,175nm,21.5s,baz=23,slow=38							
MTN	**Manton Dam**	**26.66**	**105**	P		**P**	**01 21 11.7**	**+0.2**
	baz=27,SNR=54							
MTN	**Manton Dam**	**26.66**	**105**	*e*P		**P**	**01 21 09.7**	**-1.8**
MTN				*e*pP		**P**	**01 21 12.1**	**+0.7**
PALK	**Pallekele**	**27.80**	**300**	LR		LR	01 32 36.6	
	comp=Z,138nm,18.5s,baz=116,slow=37							
PALK	**Pallekele**	**27.80**	**300**	*e*P		**P**	**01 21 16.6**	**-5.1**
PALK	**Pallekele**	**27.80**	**300**	*e*P		**P**	**01 21 16.6**	**-5.1**
NWAO	**Narrogin (SRO)**	**28.38**	**157**	LR		LR	01 32 23.0	
	comp=Z,223nm,19.0s,baz=148,slow=35							
WRKA	**Warakurna**	**28.87**	**131**	P		**P**	**01 21 33.2**	**+2.1**
	baz=29,SNR=9.2							
KMBL	**Kambalda**	**29.15**	**149**	P		**P**	**01 21 36.2**	**+2.6**
	baz=29,SNR=6.3							
H01W3	**Cape Leeuwin H**	**29.16**	**164**	T		T	01 52 01.8	
	baz=344,slow=76,SNR=46							
H01W1	**Cape Leeuwin H**	**29.18**	**164**	T		T	01 52 02.7	
	baz=344,slow=76,SNR=38							
H01W2	**Cape Leeuwin H**	**29.18**	**164**	T		T	01 52 04.2	
	baz=344,slow=76,SNR=40							
WRA	**Warramunga Arr**	**31.51**	**117**	P		**P**	**01 21 55.5**	**+0.9**
	comp=Z,8.0nm,0.7s,baz=289,slow=10.0,SNR=52							
WRA				PcP		**PcP**	**01 24 48.8**	**+1.8**
	comp=Z,1.9nm,0.6s,baz=300,slow=2.0,SNR=6.9							
WRA	**Warramunga Arr**	**31.51**	**117**	P		**P**	**01 21 55.5**	**+0.9**
WRA							01 24 48.8	
WRA				pmax		pmax		
	comp=Z,9.0nm,0.7s							
WRA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
WRAB	**Tennant Creek**	**31.52**	**117**	*i* P		**P**	**01 21 53.8**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,57nm,1.2s							
WRAB	**Tennant Creek**	**31.52**	**117**	*e*P		**P**	**01 21 52.5**	**-2.1**
	comp=Z,9.7nm,0.5s							
WB2	**Warramunga Arr**	**31.52**	**117**	*e*P		**P**	**01 21 55.9**	**+1.2**
	comp=Z,12nm,0.6s							
KMI	**Kunming**	**31.89**	**357**	P		**P**	**01 21 59.4**	**+1.4**
KMI				PMZ				
	comp=Z,19nm,0.8s							
KMI				LN				
	comp=Z,200nm,20.6s							
KMI				LE				
	comp=Z,580nm,20.3s							
KMI				LZ				
	comp=Z,180nm,22.9s							
H08S2	**Diego Garcia H**	**31.98**	**267**	T		T	01 56 06.4	
	baz=90,slow=76,SNR=146							
H08S3	**Diego Garcia H**	**31.99**	**267**	T		T	01 56 01.6	
	baz=90,slow=76,SNR=124							
H08S1	**Diego Garcia H**	**32.00**	**267**	T		T	01 56 02.1	
	baz=90,slow=76,SNR=141							
ASAR	**Alice Springs**	**32.60**	**124**	P		**P**	**01 22 05.9**	**+1.8**
	comp=Z,8.2nm,0.9s,baz=301,slow=7.9,SNR=34							
ASAR				PcP		**PcP**	**01 24 52.3**	**+2.4**
	comp=Z,1.9nm,0.7s,baz=289,slow=2.0,SNR=8.3							
ASAR				LR		LR	01 38 10.3	
	comp=Z,124nm,18.6s,baz=303,slow=42							
AS31	**Alice Springs**	**32.60**	**124**	*e*P		**P**	**01 22 01.8**	**-2.3**
	comp=Z,6.4nm,1.4s							
AS01	**Alice Springs**	**32.63**	**124**	*e*P		**P**	**01 22 01.4**	**-3.0**
AS01				*e*pP		**P**	**01 22 05.9**	**+1.5**
AS01				*e*PcP		**PcP**	**01 24 52.0**	**+2.0**
GYA	**Guiyang**	**33.22**	**3**	*e*P		**P**	**01 22 11.8**	**+2.3**
GYA				pP		pP	01 22 21.3	+0.4
GYA				PP		**PP**	**01 23 25.0**	**-0.2**
GYA				S		**S**	**01 27 30.8**	**+4.0**
GYA				sS		sS	01 27 48.4	+2.6
GYA				SS		**SnSn**	**01 29 35.0**	**+5.6**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,5.3s							
GYA				LN				
	comp=Z,520nm,17.0s							
GYA				LE				
	comp=Z,510nm,17.2s							
GYA				LZ				
	comp=Z,500nm,17.4s							
TWG	**Pinlang**	**33.59**	**28**	*e*P		**P**	**01 22 12.1**	**-0.6**
	comp=Z,71nm,0.4s							
SSLB	**Suanglung**	**34.38**	**27**	*e*P		**P**	**01 22 18.6**	**-0.9**
	comp=Z,38nm,1.7s							
YHNB	**Yeheng**	**35.33**	**27**	*e*P		**P**	**01 22 26.6**	**-1.1**
	comp=Z,49nm,1.7s							
QIS	**Mount Isa**	**36.40**	**115**	P		**P**	**01 22 38.1**	**+1.2**
	baz=37,SNR=4.6							
CD2	**Chengdu**	**37.61**	**359**	*e*P		**P**	**01 22 47.5**	**+0.4**
CD2				pP		pP	01 22 57.5	-1.1
CD2				sP		sP	01 23 02.0	-1.6
CD2				S		**S**	**01 28 37.8**	**+3.8**
CD2				sS		sS	01 28 55.0	+1.8
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,220nm,5.2s							
CD2				LN				
	comp=Z,390nm,16.9s							
CD2				LE				
	comp=Z,420nm,17.4s							
CD2				LZ				
	comp=Z,330nm,16.4s							
RAMN	**Ramite**	**37.96**	**333**	*e*P		**P**	**01 22 50.3**	**-0.1**
	comp=Z,15nm,0.4s							
COEN	**Coen**	**38.42**	**104**	P		**P**	**01 22 54.4**	**+0.3**
	baz=39,SNR=7.9							
COEN	**Coen**	**38.42**	**104**	*e*P		**P**	**01 22 53.4**	**-0.7**
	comp=Z,70nm,1.8s							
BBOO	**Buckleboo**	**38.87**	**136**	*e*P		**P**	**01 22 54.8**	**-2.9**
	comp=Z,160nm,1.9s							
GUN	**Gumba**	**39.11**	**333**	*e*P		**P**	**01 22 59.2**	**-0.9**
	comp=Z,74nm,0.5s							
DMN	**Daman**	**39.21**	**332**	*e*P		**P**	**01 23 00.7**	**-0.1**
	comp=Z,44nm,0.7s							
KKN	**Kakani**	**39.28**	**332**	*e*P		**P**	**01 23 00.6**	**-0.8**
	comp=Z,61nm,0.9s							
GKN	**Gorkha**	**39.76**	**332**	*e*P		**P**	**01 23 04.8**	**-0.5**
	comp=Z,30nm,0

KSAR	**Wonju Array Be**	**49.13**	**24**	P	**P**	**01 24 18.6**	**-1.2**
KSAR						01 25 43.1	
KSAR	**Wonju Array Be**	**49.13**	**24**	P	**P**	**01 24 18.6**	**-1.2**
KSAR				PcP	**PcP**	**01 25 43.0**	**+0.2**
KSRS	**Korea Array**	**49.16**	**24**	P	**P**	**01 24 18.6**	**-1.4**
	comp=Z,2.2nm,0.7s,baz=199,slow=8.2,SNR=8.8						
KSRS				PcP	**PcP**	**01 25 43.0**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=222,slow=3.5,SNR=5.0						
KS01	**Wonju Array Si**	**49.17**	**24**	*e*P	**P**	**01 24 18.6**	**-1.5**
CAN	**Canberra**	**49.45**	**131**	*e*P	**P**	**01 24 20.4**	**-2.1**
CAN				pmax	pmax		
	comp=Z,12nm,0.8s						
CAN	**Canberra**	**49.45**	**131**	*e*P	**P**	**01 24 20.4**	**-2.1**
	comp=Z,12nm,0.8s						
CBIJ	**Chichi jima**	**49.57**	**45**	*e*P	**P**	**01 24 22.5**	**-0.9**
	comp=Z,34nm,0.9s						
WMQ	**Urumqi**	**52.79**	**345**	P	**P**	**01 24 47.9**	**+0.6**
WMQ				pP	pP	01 24 57.9	-1.4
WMQ				sP	sP	01 25 03.0	-1.2
WMQ				PMZ			
	comp=Z,6.0nm,0.6s						
WMQ				PMZ			
	comp=Z,51nm,5.4s						
WMQ				LN			
	comp=Z,43nm,24.4s						
WMQ				LE			
	comp=Z,47nm,24.8s						
WMQ				LZ			
	comp=Z,29nm,24.8s						
KBL	**Kabul**	**53.25**	**323**	*e*P	**P**	**01 24 48.7**	**-2.4**
KBL	**Kabul**	**53.25**	**323**	*e*P	**P**	**01 24 48.6**	**-2.4**
KBL				epP	**P**	**01 24 51.1**	**0.0**
KSH	**Kashi**	**53.30**	**332**	P	**P**	**01 24 50.4**	**-0.8**
KSH				pP	pP	01 25 00.8	-2.4
KSH				PcP	**PcP**	**01 25 57.1**	**-1.4**
KSH				PP	**PP**	**01 26 52.0**	**+0.1**
KSH				S	**S**	**01 32 17.6**	**-2.5**
KSH				ScS	**ScS**	**01 34 33.3**	**-4.3**
KSH				SS	**SS**	**01 35 57.3**	**-3.3**
KSH				PMZ			
	comp=Z,18nm,0.7s						
KSH				LN			
	comp=Z,260nm,14.4s						
KSH				LE			
	comp=Z,130nm,10.0s						
MAJO	**Matsushiro**	**53.41**	**34**	*e*P	**P**	**01 24 51.3**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,46nm,1.9s						
MAJO	**Matsushiro**	**53.41**	**34**	*e*P	**P**	**01 24 51.3**	**-0.7**
	comp=Z,46nm,1.9s						
MJAR	**Matsushiro Arr**	**53.41**	**34**	P	**P**	**01 24 48.2**	**-3.8**
	comp=Z,2.8nm,0.5s,baz=208,slow=7.9,SNR=7.5						
MJAR				PcP	**PcP**	**01 25 59.6**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=199,slow=4.6,SNR=4.0						
MJB9	**Matsu-Tunnel**	**53.41**	**34**	*e*P	**P**	**01 24 50.7**	**-1.3**
	comp=Z,11nm,1.9s						
CN2	**Changchun**	**53.84**	**18**	*e*P	**P**	**01 24 57.4**	**+2.5**
CN2				PMZ			
	comp=Z,10.0nm,0.6s						
SONM	**Songino Array**	**54.52**	**1**	P	**P**	**01 24 58.5**	**-1.5**
	comp=Z,1.9nm,0.6s,baz=184,slow=8.5,SNR=9.4						
SONM				PcP	**PcP**	**01 26 03.5**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=183,slow=4.3,SNR=8.7						
SONM				ScP	**ScP**	**01 30 03.1**	**+4.9**
	comp=Z,0.6nm,0.8s,baz=187,slow=5.6,SNR=3.6						
SONM				LR	LR	01 51 15.5	
	comp=Z,89nm,18.1s,baz=176,slow=40						
SONA1	**Songino Array**	**54.53**	**1**	*e*P	**P**	**01 24 58.5**	**-1.6**
ULN	**Ulaanbaatar**	**54.57**	**2**	*i* P	**P**	**01 24 57.7**	**-2.7**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.7s						
ULN	**Ulaanbaatar**	**54.57**	**2**	*e*P	**P**	**01 24 59.6**	**-0.8**
	comp=Z,2.4nm,0.6s						
PDGK	**Podgornoye**	**54.99**	**338**	P	**P**	**01 25 02.6**	**-0.7**
PDGK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VLA	**Vladivostok**	**55.56**	**24**	⇓*i* P	P	01 24 58.9	-8.5
VLA				*i* *PP	pP	01 25 09.1	-10
VLA				*e**SP	sP	01 25 13.2	-11
VLA				*e*S	S	01 32 39.4	-11
VLA				pmax	pmax		
	comp=Z,13nm,0.6s						
MDJ	**Mudanjiang**	**55.96**	**21**	P	**P**	**01 25 11.6**	**+1.3**
MDJ				PMZ			
	comp=Z,6.0nm,0.6s						
MDJ				PMZ			
	comp=Z,51nm,6.2s						
TKM2	**Tokmak 2**	**56.22**	**335**	P	**P**	**01 25 11.5**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,11nm,0.8s						
TKM2	**Tokmak 2**	**56.22**	**335**	*e*P	**P**	**01 25 12.3**	**-0.1**
	comp=Z,11nm,0.6s						
AAK	**Ala-Archa**	**56.47**	**334**	LR	LR	01 53 26.2	
	comp=Z,55nm,20.1s,baz=138,slow=40						
AAK	**Ala-Archa**	**56.47**	**334**	*e*P	**P**	**01 25 13.9**	**-0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**56.51**	**23**	P	**P**	**01 25 12.0**	**-2.1**
	comp=Z,8.9nm,0.7s,baz=206,slow=6.4,SNR=26						
EKS2	**Erkin-Say**	**56.81**	**333**	*e*P	**P**	**01 25 16.9**	**+0.4**
EKS2				pmax	pmax		
	comp=Z,13nm,0.8s						
EKS2	**Erkin-Say**	**56.81**	**333**	*e*P	**P**	**01 25 16.9**	**+0.4**
	comp=Z,13nm,0.8s						
MK01	**Makanchi Array**	**57.04**	**342**	*e*P	**P**	**01 25 16.9**	**-1.1**
MK31	**Makanchi Array**	**57.06**	**342**	P	**P**	**01 25 16.4**	**-1.7**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	**Makanchi Array**	**57.06**	**342**	*e*P	**P**	**01 25 17.4**	**-0.7**
MKAR	**Makanchi Array**	**57.06**	**342**	P	**P**	**01 25 16.8**	**-1.3**
	comp=Z,3.6nm,0.5s,baz=150,slow=8.3,SNR=40						
MKAR				LR	LR	01 52 23.3	
	comp=Z,68nm,20.8s,baz=143,slow=39						
MKAR	**Makanchi Array**	**57.06**	**342**	*i* P	**P**	**01 25 17.2**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	**Makanchi Array**	**57.06**	**342**	*e*P	**P**	**01 25 17.4**	**-0.7**
MNAS	**Manas**	**57.25**	**332**	P	**P**	**01 25 19.1**	**-0.6**
MNAS				pmax	pmax		
	comp=Z,21nm,0.8s						
TLY	**Talaya**	**58.36**	**359**	*e*P	**P**	**01 25 27.5**	**+0.4**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,104nm,18.0s						
KKAR	**Karatay Array**	**58.67**	**331**	*e*P	**P**	**01 25 27.6**	**-1.9**
KKAR	**Karatay Array**	**58.67**	**331**	*e*P	**P**	**01 25 27.6**	**-1.9**
ERM	**Erimo**	**60.00**	**32**	*ce*P	**P**	**01 25 35.3**	**-3.3**
ERM				pmax	pmax		
	comp=Z,19nm,1.7s						
KLR	**Kul'dur**	**60.69**	**20**	LR	LR	01 53 05.7	
	comp=Z,42nm,18.6s,slow=38						
KLR	**Kul'dur**	**60.69**	**20**	*e*P	**P**	**01 25 40.6**	**-2.6**
DZM	**Mont Dzumac**	**61.25**	**111**	P	**P**	**01 25 49.4**	**+1.7**
	comp=Z,6.6nm,0.9s,baz=236,slow=11,SNR=2.6						
KURK	**Kurchatov**	**61.67**	**341**	P	**P**	**01 25 48.0**	**-1.8**
KURK				pmax	pmax		
	comp=Z,47nm,1.0s						
KURK	**Kurchatov**	**61.67**	**341**	*e*P	**P**	**01 25 48.5**	**-1.3**
	comp=Z,26nm,1.1s						
OTUK	**Ortayu**	**61.86**	**336**	P	**P**	**01 25 50.2**	**-1.0**
OTUK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
GEYT	**Alibeck**	**62.21**	**319**	P	**P**	**01 25 54.8**	**+1.1**
	comp=Z,13nm,0.8s,baz=145,slow=5.3,SNR=26						
GEYT				LR	LR	01 57 17.0	
	comp=Z,52nm,18.1s,baz=225,slow=40						
ZALV	**Zalesovo Beam**	**62.90**	**347**	P	**P**	**01 25 56.8**	**-1.2**
	comp=Z,4.2nm,0.4s,baz=160,slow=5.3,SNR=18						
ZALV				PcP	**PcP**	**01 26 34.6**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=170,slow=4.0,SNR=2.3						
VOSK	**Vostochnaya**	**65.96**	**338**	P	**P**	**01 26 17.2**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BVA0	**Borovoye Array**	**66.42**	**338**	*i* P	**P**	**01 26 19.5**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**66.48**	**338**	*c i* P	**P**	**01 26 20.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRVK	**Borovoye**	**66.48**	**338**	*e*P	**P**	**01 26 20.8**	**-0.6**
	comp=Z,17nm,0.9s						
MAW	**Mawson**	**66.82**	**196**	P	P	01 26 28.6	+5.3
	comp=Z,3.0nm,0.6s,baz=40,slow=8.4,SNR=6.3						
MAW	**Mawson**	**66.82**	**196**	P	P	01 26 28.6	+5.3
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHKZ	**Chkalovo**	**66.85**	**339**	P	**P**	**01 26 22.7**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZRNK	**Zerenda**	**66.88**	**337**	P	**P**	**01 26 23.1**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZRNK	**Zerenda**	**66.88**	**337**	*e*P	**P**	**01 26 23.4**	**-0.5**
	comp=Z,4.5nm,0.7s						
KMBO	**Kilima Mbogo**	**67.50**	**272**	*i* P	**P**	**01 26 33.7**	**+4.7**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.2s						
AB31	**Akbulak array**	**68.19**	**330**	*i* P	**P**	**01 26 32.4**	**+0.2**
AB31				pmax	pmax		
	comp=Z,11nm,0.6s						
ABKAR	**Akbulak array**	**68.19**	**330**	*e*P	**P**	**01 26 32.7**	**+0.5**
	comp=Z,17nm,0.7s						
AKTO	**Aktyubinsk**	**69.91**	**330**	P	**P**	**01 26 42.5**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,18nm,1.5s						
YAK	**Yakutsk**	**71.39**	**12**	LR	LR	02 00 25.1	
	comp=Z,54nm,18.9s,baz=214,slow=38						
YAK	**Yakutsk**	**71.39**	**12**	*i* P	**P**	**01 26 49.3**	**-2.3**
YAK				pmax	pmax		
	comp=Z,28nm,1.3s						
GNI	**Garni**	**72.30**	**316**	*i* P	**P**	**01 26 59.2**	**+1.4**
GNI				pmax	pmax		
	comp=Z,42nm,1.7s						
GNI	**Garni**	**72.30**	**316**	*e*P	**P**	**01 26 56.2**	**-1.6**
	comp=Z,6.6nm,0.9s						
SVE	**Sverdlovsk**	**73.00**	**336**	*e*P	**P**	**01 27 02.1**	**+0.7**
SVE				pmax	pmax		
	comp=Z,18nm,1.1s						
ARU	**Arti**	**73.58**	**335**	*c i* P	**P**	**01 27 05.1**	**+0.3**
ARU						01 29 43.7	
ARU				S	**SKiKP**	**01 36 33.7**	**+1.9**
ARU				SS	**SS**	**01 41 14.4**	**-1.2**
ARU				pmax	pmax		
	comp=Z,25nm,1.7s						
ARU	**Arti**	**73.58**	**335**	*e*P	**P**	**01 27 04.5**	**-0.3**
	comp=Z,19nm,1.2s						
ZEI	**Tsey**	**74.01**	**318**	*e*P	**P**	**01 27 09.0**	**+1.1**
ZEI				pmax	pmax		
	comp=Z,14nm,0.6s						
NCK	**Nalchik**	**74.52**	**319**	*e*P	**P**	**01 27 12.0**	**+1.4**
NCK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PETK	**Petropavlovsk-**	**74.62**	**30**	P	**P**	**01 27 09.8**	**-1.1**
	comp=Z,8.1nm,0.7s,baz=202,slow=4.3,SNR=10						
SYO	**Syowa Base**	**74.82**	**200**	‖*eP*	**P**	**01 27 11.4**	**-0.5**
NEY	**Neytrino**	**74.99**	**318**	*e*P	**P**	**01 27 14.4**	**+0.8**
NEY				pmax	pmax		
	comp=Z,1.0nm,1.1s						
PET	**Petropavlovsk**	**75.05**	**30**	*e*P	**P**	**01 27 10.3**	**-3.1**
PET				pmax	pmax		
	comp=Z,37nm,1.0s						
KBZ	**Khabaz**	**75.08**	**319**	P	**P**	**01 27 15.6**	**+1.8**
	comp=Z,7.2nm,0.9s,baz=170,slow=2.8,SNR=9.9						
ASF	**Jabal al Asfar**	**75.26**	**306**	P	**P**	**01 27 17.4**	**+2.1**
	comp=Z,3.9nm,0.9s,baz=23,slow=0.6,SNR=4.3						
KVAR	**Kislovodsk Arr**	**75.30**	**319**	P	**P**	**01 27 16.5**	**+1.2**
	comp=Z,7.3nm,0.9s,baz=219,slow=6.5						
KIV	**Kislovodsk**	**75.31**	**319**	*ce*P	**P**	**01 27 17.1**	**+1.8**
KIV				*e*		01 27 28.3	
KIV				*e*		01 30 03.2	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,50nm,19.0s						
EIL	**Elat**	**76.12**	**303**	P	**P**	**01 27 21.9**	**+1.8**
	comp=Z,4.6nm,0.8s,baz=91,slow=4.8,SNR=4.0						
VNDA	**Vanda**	**76.48**	**169**	P	**P**	**01 27 25.4**	**+4.2**
	comp=Z,1.1nm,0.7s,baz=310,slow=5.7,SNR=11						
MMAI	**Mount Meron Ar**	**76.72**	**306**	P	**P**	**01 27 25.4**	**+1.9**
	comp=Z,4.2nm,0.9s,baz=100,slow=6.9,SNR=7.5						
NRIK	**Noril'sk**	**77.00**	**354**	P	**P**	**01 27 23.9**	**-0.3**
	comp=Z,2.6nm,0.3s,baz=185,slow=4.1,SNR=6.3						
BOSA	**Boshof**	**77.50**	**242**	P	**P**	**01 27 32.7**	**+4.5**
	comp=Z,4.3nm,0.8s,baz=101,slow=3.6,SNR=6.5						
CSS	**Mathiatis**	**78.93**	**308**	*e*P	**P**	**01 27 33.1**	**-2.7**
	comp=Z,3.8nm,0.9s						
VRH	**Novokhopyorsk**	**79.01**	**325**	*e*P	**P**	**01 27 35.3**	**-0.4**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIXI	**Tiksi**	**80.00**	**8**	*i* P	**P**	**01 27 38.6**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIXI	**Tiksi**	**80.00**	**8**	*e*P	**P**	**01 27 38.9**	**-1.8**
	comp=Z,14nm,1.0s						
BRTR	**Keskin Array B**	**80.09**	**312**	P	**P**	**01 27 43.1**	**+1.0**
	comp=Z,7.3nm,0.7s,baz=135,slow=7.1,SNR=72						
BRTR	**Keskin Array B**	**80.09**	**312**	*i* P	**P**	**01 27 43.4**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
VSR	**Storozhevoye**	**80.47**	**325**	*e*P	**P**	**01 27 43.9**	**+0.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BR231	**Keskin MP Arra**	**80.75**	**312**	*e*P	**P**	**01 27 43.9**	**-1.7**
LPSR	**Galich'ya Gora**	**81.16**	**326**	*e*P	**P**	**01 27 48.4**	**+1.1**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SIM	**Simferopol'**	**81.37**	**317**	*e*P	**P**	**01 27 49.4**	**+0.7**
SIM				pmax	pmax		
	comp=Z,17nm,0.7s						
AFI	**Afiamalu**	**82.08**	**103**	P	**P**	**01 27 55.2**	**+2.0**
	comp=Z,16nm,0.6s,baz=98,slow=15,SNR=2.9						
MOS	**Moscow**	**83.11**	**328**	*e*P	**P**	**01 27 58.7**	**+1.3**
OBN	**Obninsk**	**83.43**	**328**	P	**P**	**01 28 00.1**	**+1.0**
	comp=Z,15nm,0.7s,baz=108,slow=6.4,SNR=5.6						
OBN	**Obninsk**	**83.43**	**328**	*de*P	**P**	**01 28 00.0**	**+1.0**
OBN				*e*		01 31 09.2	
OBN				pmax	pmax		
	comp=Z,21nm,0.9s						
OBN				MLR	MLR		
	comp=Z,45nm,18.0s						
KLMR	**Klimovskoe**	**84.28**	**333**	*e*P	**P**	**01 28 00.1**	**-3.2**
KLMR				*e*		01 31 12.0	
KLMR				pmax	pmax		
	comp=Z,35nm,1.4s						
TSUM	**Tsumeb**	**85.08**	**251**	*e*P	**P**	**01 28 04.9**	**-3.6**
	comp=Z,2.1nm,0.7s						
TIRR	**Tirgusor**	**85.13**	**316**	⇓*i* P	**P**	**01 28 10.3**	**+2.3**
TIRR	**Tirgusor**	**85.13**	**316**	⇓P	**P**	**01 28 10.3**	**+2.3**
CFR	**Carcaliu**	**85.50**	**316**	⇑*i* P	**P**	**01 28 12.2**	**+2.4**
CFR	**Carcaliu**	**85.50**	**316**	⇑P	**P**	**01 28 12.2**	**+2.4**
IDI	**Anoyia**	**85.72**	**306**	P	**P**	**01 28 13.2**	**+1.9**
	comp=Z,7.7nm,0.8s,baz=178,slow=4.9,SNR=3.5						
SORM	**Soroca**	**86.10**	**319**	⇓*i* P	**P**	**01 28 14.4**	**+1.7**
SORM	**Soroca**	**86.10**	**319**	⇓P	**P**	**01 28 14.4**	**+1.7**
BILL	**Bilibino**	**86.14**	**19**	*c i* P	**P**	**01 28 10.8**	**-1.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,46nm,18.0s						
BILL	**Bilibino**	**86.14**	**19**	*e*P	**P**	**01 28 10.5**	**-2.0**
	comp=Z,3.8nm,0.6s						
AKASG	**Malin Array Be**	**86.22**	**322**	P	**P**	**01 28 13.8**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=84,slow=5.0,SNR=17						
AKASG	**Malin Array Be**	**86.22**	**322**	*i* P	**P**	**01 28 14.6**	**+1.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIEV	**Kiev**	**86.23**	**322**	*e*P	**P**	**01 28 13.6**	**+0.3**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIEV	**Kiev**	**86.23**	**322**	*e*P	**P**	**01 28 11.0**	**-2.3**
	comp=Z,5.9nm,0.6s						
VRI	**Vrincioaia**	**86.63**	**317**	⇑*i* P	**P**	**01 28 18.7**	**+3.3**
VRI	**Vrincioaia**	**86.63**	**317**	⇑P	**P**	**01 28 18.7**	**+3.3**
TESR	**Tescani**	**86.83**	**317**	⇓*i* P	**P**	**01 28 18.9**	**+2.5**
MLR	**Muntele Rosu**	**87.08**	**316**	P	**P**	**01 28 19.7**	**+2.0**
	comp=Z,4.4nm,1.0s,baz=126,slow=5.2						
MLR	**Muntele Rosu**	**87.08**	**316**	⇑*i* P	**P**	**01 28 20.5**	**+2.7**
MLR	**Muntele Rosu**	**87.08**	**316**	⇑P	**P**	**01 28 20.5**	**+2.7**
PRAR	**RASCA**	**87.31**	**318**	⇑*i* P	**P**	**01 28 21.2**	**+2.5**
HUMR	**Humele**	**87.54**	**315**	⇑*i* P	**P**	**01 28 22.1**	**+2.2**
VOIR		**87.68**	**316**	⇓*i* P	**P**	**01 28 22.6**	**+2.0**
VOIR		**87.68**	**316**	⇓P	**P**	**01 28 22.7**	**+2.1**
ARR	**Arges**	**87.95**	**316**	⇓*i* P	**P**	**01 28 24.1**	**+2.2**
BURAR	**Bucovina Array**	**88.03**	**318**	⇓*i* P	**P**	**01 28 25.3**	**+3.0**
BURAR	**Bucovina Array**	**88.03**	**318**	⇓P	**P**	**01 28 25.3**	**+3.0**
LOT	**Lotru**	**88.56**	**316**	⇑*i* P	**P**	**01 28 26.9**	**+2.0**
CJR	**Cluj-Napoca**	**88.93**	**317**	⇓*i* P	**P**	**01 28 29.6**	**+3.1**
CJR	**Cluj-Napoca**	**88.93**	**317**	⇓P	**P**	**01 28 29.7**	**+3.2**
DRGR		**89.54**	**317**	⇑*i* P	**P**	**01 28 31.6**	**+2.2**
DRGR		**89.54**	**317**	⇑P	**P**	**01 28 31.6**	**+2.2**
VSU	**Vasula**	**89.60**	**329**	*i* P	**P**	**01 28 29.5**	**+0.3**
VSU				pmax	pmax		
	comp=Z,19nm,0.7s						
KWP	**Kalwaria Pacla**	**90.06**	**320**	⇓*i* P	**P**	**01 28 33.6**	**+1.9**
KWP	**Kalwaria Pacla**	**90.06**	**320**	⇓P	**P**	**01 28 33.6**	**+1.9**
BZS	**Buzias**	**90.08**	**316**	⇓*i* P	**P**	**01 28 34.3**	**+2.5**
BZS	**Buzias**	**90.08**	**316**	⇓P	**P**	**01 28 34.3**	**+2.5**
SIRR	**Siria**	**90.16**	**316**	⇑*i* P	**P**	**01 28 35.0**	**+2.8**
KOLS	**Kolonicke sedl**	**90.22**	**319**	*e*P	**P**	**01 28 35.0**	**+2.6**
KOLS				pmax	pmax		
	comp=Z,11nm,1.1s						
KOLS	**Kolonicke sedl**	**90.22**	**319**	*e*P	**P**	**01 28 35.0**	**+2.6**
FINES	**FINESS Array B**	**90.62**	**332**	P	**P**	**01 28 35.1**	**+1.2**
	comp=Z,5.1nm,0.8s,baz=108,slow=6.2,SNR=18						
FINES	**FINESS Array B**	**90.62**	**332**	*i* P	**P**	**01 28 35.9**	**+2.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STHS	**Stebnicka Huta**	**90.97**	**320**	*e*P	**P**	**01 28 38.5**	**+2.6**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STHS	**Stebnicka Huta**	**90.97**	**320**	*e*P	**P**	**01 28 38.5**	**+2.6**
KECS	**Kecovo**	**91.31**	**319**	*e*P	**P**	**01 28 36.0**	**-1.5**
KECS	**Kecovo**	**91.31**	**319**	*e*P	**P**	**01 28 36.0**	**-1.5**
VYHS	**Vyhne**	**92.40**	**318**	*e*P	**P**	**01 28 44.9**	**+2.4**
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.4s						
VYHS	**Vyhne**	**92.40**	**318**	*e*P	**P**	**01 28 44.9**	**+2.4**
ARCES	**ARCESS Array B**	**92.66**	**340**	P	**P**	**01 28 44.0**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=101,slow=5.1,SNR=14						
TIP	**Timpagrande**	**92.74**	**309**	*e*P	**P**	**01 28 41.7**	**-2.7**
	comp=Z,1.9nm,0.5s						
GERES	**GERESS Array B**	**95.82**	**318**	P	**P**	**01 28 59.8**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=94,slow=5.9,SNR=4.6						
HFS	**Hagfors**	**96.45**	**330**	P	**P**	**01 29 02.5**	**+1.7**
	comp=Z,1.5nm,0.9s,baz=99,slow=8.9,SNR=3.7						
YKA	**Yellowknife Ar**	**117.54**	**19**	PKP	**PKPdf**	**01 34 18.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=318,slow=3.3,SNR=4.5						
ELK	**Elko**	**130.98**	**40**	*e*PKIKP	**PKPdf**	**01 34 42.1**	**-1.9**
ELK	**Elko**	**130.98**	**40**	*e*PKPdf	**PKPdf**	**01 34 42.1**	**-1.9**
ULM	**Lac du Bonnet**	**133.49**	**18**	PKP	**PKPdf**	**01 34 48.8**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=315,slow=4.3,SNR=3.3						
RSSD	**Black Hills**	**135.21**	**29**	*e*PKIKP	**PKPdf**	**01 34 50.2**	**-1.7**
RSSD	**Black Hills**	**135.21**	**29**	*e*PKPdf	**PKPdf**	**01 34 50.2**	**-1.7**
ANMO	**Albuquerque**	**139.98**	**41**	*e*PKIKP	**PKPdf**	**01 34 58.3**	**-2.6**
ANMO	**Albuquerque**	**139.98**	**41**	*e*PKPdf	**PKPdf**	**01 34 58.3**	**-2.6**
U34A	**Anderson Ranch**	**144.25**	**32**	*e*PKPdf	PKPbc	01 35 06.5	+0.1
BDFB	**Brasilia**	**144.92**	**230**	PKPbc	PKPbc	01 35 12.5	+3.2
	comp=Z,2.5nm,0.4s,baz=117,slow=4.2,SNR=8.0						
SFIN	**Lafayette**	**145.03**	**16**	*e*PKPbc	**PKPbc**	**01 35 08.2**	**-0.6**
TXAR	**Lajitas Array**	**145.17**	**47**	PKP	**PKPdf**	**01 35 10.9**	**+0.8**
	comp=Z,6.8nm,0.7s,baz=281,slow=1.4,SNR=100						
TUL1	**Leonard**	**145.55**	**30**	*e*PKPbc	**PKPbc**	**01 35 10.7**	**+0.2**
ABTX	**Abilene, Hawle**	**145.82**	**38**	*e*PKPbc	**PKPbc**	**01 35 12.6**	**+1.1**
ACSO	**Alum Creek Sta**	**146.10**	**11**	*e*PKPbc	**PKPbc**	**01 35 12.5**	**+0.4**
SSPA	**Standing Stone**	**146.33**	**4**	*e*PKPbc	**PKPbc**	**01 35 13.3**	**+0.5**
WCI	**Wyandotte Cave**	**147.26**	**16**	*e*PKP2	**PKPbc**	**01 35 15.0**	**-0.6**
WCI	**Wyandotte Cave**	**147.26**	**16**	*e*PKPbc	**PKPbc**	**01 35 15.0**	**-0.6**
WHTX	**Lake Whitney,**	**147.58**	**37**	*e*PKPbc	**PKPbc**	**01 35 17.1**	**+0.5**
MIAR	**Mount Ida**	**147.72**	**29**	*e*PKP2	**PKPbc**	**01 35 16.9**	**0.0**
MIAR	**Mount Ida**	**147.72**	**29**	*e*PKPbc	**PKPbc**	**01 35 16.9**	**0.0**
TZTN	**Tazewell**	**149.54**	**13**	*e*PKPbc	**PKPbc**	**01 35 21.9**	**+0.3**
TZTN				*e*PKPab	**PKPab**	**01 35 25.4**	**-1.1**
LVC	**Limon Verde**	**150.01**	**192**	*e*PKPbc	**PKPbc**	**01 35 20.0**	**-3.6**
LVC				*e*PKPab	**PKiKP**	**01 35 25.4**	**+0.9**
KMSC	**Kings Mountain**	**151.35**	**10**	*e*PKPbc	**PKPbc**	**01 35 26.4**	**+0.5**

JMA 17 01:23:12.6±0.2, 38°33N×144°60E, h39km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.41**	**289**	P	Pn	01 23 51.1	+1.6
OFUJ				*e*S	Sn	01 24 19.7	+1.9
MIYJ	**Miyakonagasawa**	**2.50**	**301**	P	Pn	01 23 52.3	+1.6
MIYJ				*e*S	Sn	01 24

RLS					AML	AML	01 26 59.1	
	comp=E,434μm,0.4s							
PVO	**Paravola**	**0.71**	**61**	P	**Pb**	**01 26 41.6**	**-0.4**	
PVO				S	**Sb**	**01 26 51.7**	**0.0**	
PVO	**Paravola**	**0.71**	**61**	P	**Pb**	**01 26 41.6**	**-0.4**	
PVO				S	**Sb**	**01 26 51.7**	**0.0**	
PVO	**Paravola**	**0.71**	**61**	P	**Pb**	**01 26 42.1**	**+0.1**	
PVO				S	**Sn**	**01 26 53.8**	**-0.7**	
DRO	**Drossia**	**0.84**	**113**	P	**Pg**	**01 26 43.0**	**-0.7**	
DRO				S	**Sb**	**01 26 56.0**	**+0.6**	
DRO	**Drossia**	**0.84**	**113**	P	**Pg**	**01 26 43.0**	**-0.7**	
DRO				S	**Sb**	**01 26 55.8**	**+0.4**	
DRO	**Drossia**	**0.84**	**113**	P	**Pg**	**01 26 42.3**	**-1.4**	
DRO				S	**Sb**	**01 26 55.8**	**+0.4**	
DRO				AML	AML	01 27 03.7		
	comp=E,710μm,0.5s							
DRO				AML	AML	01 27 04.7		
	comp=N,797μm,0.3s							
DSL	**Palaion Diasel**	**0.90**	**18**	P	**Pb**	**01 26 44.4**	**-0.9**	
DSL				S	**Sn**	**01 26 57.7**	**-1.6**	
DSL	**Palaion Diasel**	**0.90**	**18**	P	**Pb**	**01 26 44.4**	**-0.9**	
DSL				S	**Sn**	**01 26 57.7**	**-1.6**	
DSL	**Palaion Diasel**	**0.90**	**18**	P	**Pb**	**01 26 44.2**	**-1.1**	
DSL				S	**Sn**	**01 26 58.6**	**-0.7**	
DSL				AML	AML	01 27 03.2		
	comp=N,1643μm,0.6s							
DSL				AML	AML	01 27 03.4		
	comp=E,756μm,0.5s							
EFP	**Efpalio**	**0.93**	**80**	P	**Pb**	**01 26 44.6**	**-1.2**	
EFP				S	**Sb**	**01 26 57.8**	**-0.4**	
EFP	**Efpalio**	**0.93**	**80**	P	**Pb**	**01 26 44.6**	**-1.2**	
EFP				S	**Sb**	**01 26 57.8**	**-0.4**	
EFP				AML	AML	01 27 05.5		
	comp=E,791μm,0.5s							
EFP				AML	AML	01 27 06.7		
	comp=N,976μm,0.4s							
LAKA	**Lakka**	**0.98**	**92**	P	**Pb**	**01 26 45.6**	**-1.0**	
LAKA	**Lakka**	**0.98**	**92**	P	**Pb**	**01 26 45.6**	**-1.0**	
LAKA				S	**Sb**	**01 26 58.8**	**-0.8**	
LAKA	**Lakka**	**0.98**	**92**	P	**Pb**	**01 26 45.1**	**-1.5**	
LAKA				S	**Sb**	**01 26 58.8**	**-0.8**	
LAKA				AML	AML	01 27 01.8		
	comp=E,751μm,0.3s							
LAKA				AML	AML	01 27 02.0		
	comp=N,1044μm,0.3s							
ANX	**Ano Chora**	**0.98**	**71**	P	**Pb**	**01 26 46.1**	**-0.6**	
ANX	**Ano Chora**	**0.98**	**71**	P	**Pb**	**01 26 46.1**	**-0.6**	
SERG	**Sergoula**	**1.05**	**82**	P	**Pb**	**01 26 46.6**	**-1.2**	
SERG				S	**Sn**	**01 27 02.7**	**-0.3**	
SERG	**Sergoula**	**1.05**	**82**	P	**Pb**	**01 26 46.6**	**-1.2**	
SERG				S	**Sn**	**01 27 02.7**	**-0.3**	
EVR	**Evrytania**	**1.06**	**53**	P	**Pb**	**01 26 47.4**	**-0.6**	
EVR				S	**Sn**	**01 27 03.2**	**-0.1**	
EVR	**Evrytania**	**1.06**	**53**	P	**Pb**	**01 26 47.4**	**-0.6**	
EVR				S	**Sb**	**01 27 01.2**	**-0.7**	
EVR	**Evrytania**	**1.06**	**53**	P	**Pb**	**01 26 46.6**	**-1.3**	
EVR				S	**Sb**	**01 27 01.2**	**-0.7**	
EVR				AML	AML	01 27 12.0		
	comp=N,274μm,0.5s							
TRIZ	**Trizonia**	**1.06**	**85**	P	**Pb**	**01 26 46.0**	**-1.9**	
TRIZ	**Trizonia**	**1.06**	**85**	S	**Sn**	**01 27 04.5**	**+1.4**	
AMT	**Artemida-Makis**	**1.07**	**134**	P	**Pg**	**01 26 49.5**	**+1.3**	
AMT				S	**Sn**	**01 27 02.9**	**-0.6**	
AMT	**Artemida-Makis**	**1.07**	**134**	P	**Pg**	**01 26 49.5**	**+1.3**	
AMT				S	**Sn**	**01 27 02.9**	**-0.6**	
AMT				AML	AML	01 27 12.6		
	comp=E,378μm,0.6s							
AMT				AML	AML	01 27 15.7		
	comp=N,388μm,0.3s							
KALE	**Kalithea**	**1.11**	**84**	P	**Pb**	**01 26 47.7**	**-1.2**	
KALE	**Kalithea**	**1.11**	**84**	P	**Pb**	**01 26 47.7**	**-1.2**	
KALE				S	**Sb**	**01 27 03.1**	**-0.3**	
KALE	**Kalithea**	**1.11**	**84**	P	**Pb**	**01 26 46.7**	**-2.2**	
KALE				S	**Sb**	**01 27 03.1**	**-0.3**	
KALE				AML	AML	01 27 11.7		
	comp=N,414μm,0.5s							
KALE				AML	AML	01 27 14.7		
	comp=E,312μm,0.6s							
KLV	**Kalavryta, Ach**	**1.14**	**101**	P	**Pb**	**01 26 48.4**	**-1.0**	
KLV				S	**Sn**	**01 27 06.4**	**+1.1**	
KLV	**Kalavryta, Ach**	**1.14**	**101**	P	**Pb**	**01 26 48.4**	**-1.0**	
KLV				S	**Sn**	**01 27 06.4**	**+1.1**	
KLV	**Kalavryta, Ach**	**1.14**	**101**	P	**Pb**	**01 26 46.9**	**-2.5**	
KLV				AML	AML	01 27 07.1		
	comp=E,459μm,0.3s							
KLV				S	**Sn**	**01 27 07.3**	**+2.0**	
KLV				AML	AML	01 27 09.1		
	comp=N,271μm,0.3s							
SGD	**Sagiada**	**1.39**	**344**	P	**Pg**	**01 26 54.6**	**+0.4**	
SGD				S	**Sg**	**01 27 14.0**	**+1.7**	
SGD	**Sagiada**	**1.39**	**344**	P	**Pg**	**01 26 54.6**	**+0.4**	
SGD				S	**Sg**	**01 27 14.0**	**+1.7**	
DSF	**Desfina**	**1.42**	**84**	P	**Pn**	**01 26 53.2**	**-0.2**	
DSF	**Desfina**	**1.42**	**84**	P	**Pn**	**01 26 53.2**	**-0.2**	
DSF				S	**Sg**	**01 27 14.1**	**+0.9**	
DSF	**Desfina**	**1.42**	**84**	P	**Pg**	**01 26 55.8**	**+1.0**	
DSF				S	**Sg**	**01 27 14.1**	**+0.9**	
DSF				AML	AML	01 27 19.1		
	comp=N,160μm,0.4s							
DSF				AML	AML	01 27 20.2		
	comp=E,149μm,0.3s							
ITM	**Ithomi**	**1.45**	**139**	S	**Sg**	**01 27 13.6**	**-0.6**	
ITM	**Ithomi**	**1.45**	**139**	P	**Pg**	**01 26 57.6**	**+2.3**	
ITM				S	**Sg**	**01 27 13.6**	**-0.6**	
ITM				AML	AML	01 27 20.3		
	comp=N,233μm,0.3s							
ITM				AML	AML	01 27 25.4		
	comp=E,136μm,0.4s							
AGG	**Agios Georgios**	**1.46**	**59**	P	**Pb**	**01 26 54.7**	**0.0**	
AGG	**Agios Georgios**	**1.46**	**59**	P	**Pb**	**01 26 54.7**	**0.0**	
AGG				S	**Sb**	**01 27 13.2**	**-0.1**	
AGG	**Agios Georgios**	**1.46**	**59**	P	**Pg**	**01 26 55.6**	**+0.1**	
AGG				S	**Sb**	**01 27 13.2**	**-0.1**	
AGG				AML	AML	01 27 22.2		
	comp=N,725μm,0.6s							
AGG				AML	AML	01 27 23.3		
	comp=E,443μm,0.4s							
VLX	**Vlachokerasia**	**1.59**	**124**	P	**Pg**	**01 26 59.3**	**+1.2**	
VLX				S	**Sg**	**01 27 19.0**	**+0.4**	
VLX	**Vlachokerasia**	**1.59**	**124**	P	**Pg**	**01 26 59.3**	**+1.2**	
VLX				S	**Sg**	**01 27 19.0**	**+0.4**	
VLX				AML	AML	01 27 26.4		
	comp=N,190μm,0.5s							
VLX				AML	AML	01 27 28.0		
	comp=E,230μm,0.4s							
PYL	**PYLOS**	**1.60**	**150**	P	**Pg**	**01 26 59.2**	**+1.0**	
PYL	**PYLOS**	**1.60**	**150**	P	**Pg**	**01 26 59.2**	**+1.0**	
PYL				AML	AML	01 27 20.9		
	comp=E,7μm,26.7s							
PYL				S	**Sg**	**01 27 22.8**	**+3.9**	
PYL				AML	AML	01 27 31.5		
	comp=N,47μm,0.5s							
KEK	**Kerkira**	**1.61**	**333**	P	**Pg**	**01 26 59.3**	**+0.9**	
KEK				S	**Sg**	**01 27 20.3**	**+1.0**	
THL	**Klokotos Trika**	**1.63**	**37**	P	**Pg**	**01 26 58.5**	**-0.3**	
THL				S	**Sg**	**01 27 19.8**	**-0.1**	
PROD	**Prodromos**	**1.71**	**90**	P	**Pb**	**01 26 58.3**	**-0.7**	
PROD	**Prodromos**	**1.71**	**90**	P	**Pb**	**01 26 58.3**	**-0.7**	
PROD				S	**Sg**	**01 27 25.1**	**+2.7**	
PROD				AML	AML	01 27 28.2		
	comp=N,153μm,0.4s							
PROD				AML	AML	01 27 28.3		
	comp=E,168μm,0.4s							
VIL2	**Platees**	**2.00**	**91**	P	**Pb**	**01 27 02.7**	**-1.2**	
VIL2				S	**Sg**	**01 27 31.6**	**-0.2**	
VIL2				AML	AML	01 27 44.0		
	comp=E,84μm,0.6s							
VIL2				AML	AML	01 27 46.6		
	comp=N,132μm,0.5s							
VILL	**Villia**	**2.04**	**92**	P	**Pn**	**01 27 02.7**	**+0.8**	
VLY	**Voula,Athens**	**2.45**	**99**	P	**Pn**	**01 27 08.0**	**+0.4**	
VLY				S	**Sb**	**01 27 40.0**	**-1.9**	
VLY	**Voula,Athens**	**2.45**	**99**	P	**Pn**	**01 27 08.0**	**+0.4**	
VLY				S	**Sb**	**01 27 40.0**	**-1.9**	

*ISCJB **17** 01:28:47.0±0.4,39°.99N±0°.01×20°.72E±0°.02,h4km±3km, mb3.8/9,MS3.6/1,Error ellipse: s-maj=2.4km s-min=1.8km az=138.7*
*SKO **17** 01:28:46.6,39°.87N×20°.70E,h1km*
*THE **17** 01:28:47.8,40°.00N×20°.74E,h0km±2km,ML3.8/12,Error ellipse: s-maj=2.0km s-min=0.6km az=300.0*

*ATH **17** 01:28:47.0,39°.99N×20°.74E,h19km±1km,ML3.6/17,Error ellipse: s-maj=1.3km s-min=0.8km az=296.0*
*IDC **17** 01:28:48.8±3.8,40°.02N×20°.67E,h14km±28km,mb3.8/10, mb1 3.8/22,mb1mx3.7/48,mbtmp3.7/22,ML3.6/10,MS3.6/1, Ms1 3.6/1,ms1mx2.3/51,Error ellipse: s-maj=11.9km s-min=10.4km az=24.0*
*CSEM **17** 01:28:48.0±0.1,39°.97N×20°.73E,h2km,ML3.6,Error ellipse: s-maj=2.8km s-min=1.9km az=52.0*
*PDG **17** 01:28:48.2±0.6,40°.02N×20°.79E,h8km±1km,ML3.5/10, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*

ISC 17 01:28:47.4±1.0,39°.98N±0°.02×20.72E±0°.02,h5km±7km, n315,σ1§46/404,mb3.9/9,36C-23D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.34**	**162**	P	**Pg**	**ISC**	**01 28 53.5**	**-0.4**
JAN				S	**Sg**		**01 28 59.2**	**+0.8**
JAN	**Janina**	**0.34**	**162**	P	**Pg**		**01 28 53.5**	**-0.4**
JAN				S	**Sg**		**01 28 59.2**	**+0.8**
JAN	**Janina**	**0.34**	**162**	AML	AML		01 29 00.8	
PENT	**Pentalofos**	**0.39**	**56**	P	**Pg**		**01 28 54.6**	**-0.4**
PENT				S	**Sg**		**01 29 00.5**	**+0.3**
PENT	**Pentalofos**	**0.39**	**56**	P	**Pg**		**01 28 55.4**	**+0.4**
PENT				S	**Sg**		**01 29 00.5**	**+0.3**
PENT	**Pentalofos**	**0.39**	**56**	P	**Pg**		**01 28 55.4**	**+0.4**
PENT				S	**Sg**		**01 29 01.3**	**+1.1**
PENT				AML	AML		01 29 04.0	
	comp=E,20119μm,0.3s							
PENT				AML	AML		01 29 05.9	
	comp=N,14394μm,0.6s							
KPRO	**Kipourio**	**0.50**	**92**	P	**Pg**		**01 28 56.4**	**-0.6**
KPRO				S	**Sg**		**01 29 03.9**	**+0.4**
KPRO	**Kipourio**	**0.50**	**92**	P	**Pg**		**01 28 56.4**	**-0.6**
KPRO				S	**Sg**		**01 29 03.9**	**+0.4**
KPRO	**Kipourio**	**0.50**	**92**	P	**Pg**		**01 28 56.6**	**-0.6**
KPRO				S	**Sg**		**01 29 04.5**	**+1.0**
KPRO				AML	AML		01 29 08.3	
	comp=E,29639μm,0.5s							
KPRO				AML	AML		01 29 09.7	
	comp=N,21979μm,0.5s							
SGD	**Sagiada**	**0.52**	**226**	P	**Pg**		**01 28 57.6**	**+0.2**
SGD				S	**Sb**		**01 29 06.7**	**-0.1**
SGD	**Sagiada**	**0.52**	**226**	P	**Pg**		**01 28 57.6**	**+0.2**
SGD				S	**Sb**		**01 29 06.7**	**-0.1**
SGD	**Sagiada**	**0.52**	**226**	P	**Pg**		**01 28 56.6**	**-0.8**
SGD				S	**Sb**		**01 29 07.4**	**+0.5**
SGD				AML	AML		01 29 08.3	
	comp=E,32832μm,0.8s							
SGD				AML	AML		01 29 11.2	
	comp=N,19987μm,0.2s							
KEK	**Kerkira**	**0.75**	**250**	P	**Pg**		**01 29 01.7**	**-0.2**
KEK				S	**Sb**		**01 29 13.7**	**+0.1**
KEK	**Kerkira**	**0.75**	**250**	P	**Pg**		**01 29 01.9**	**0.0**
KEK				S	**Sg**		**01 29 12.4**	**+0.7**
KZN	**Kozani**	**0.87**	**67**	P	**Pg**		**01 29 02.9**	**-1.3**
KZN				S	**Sb**		**01 29 16.7**	**-0.4**
KZN	**Kozani**	**0.87**	**67**	P	**Pg**		**01 29 03.3**	**-0.9**
KZN				S	**Sb**		**01 29 16.7**	**-0.4**
DSL	**Palaion Diasel**	**0.89**	**161**	P	**Pb**		**01 29 05.0**	**-0.4**
DSL				S	**Sn**		**01 29 19.0**	**-0.9**
DSL	**Palaion Diasel**	**0.89**	**161**	P	**Pb**		**01 29 05.0**	**-0.4**
DSL				S	**Sg**		**01 29 14.6**	**-1.5**
DSL	**Palaion Diasel**	**0.89**	**161**	P	**Pg**		**01 29 03.3**	**-1.2**
DSL				S	**Sg**		**01 29 14.6**	**-1.5**
DSL				AML	AML		01 29 22.1	
	comp=E,14949μm,0.8s							
DSL				AML	AML		01 29 25.9	
	comp=N,8774μm,0.3s							
FNA	**Florina**	**0.95**	**32**	*e*P	**Pg**		**01 29 05.9**	**+0.2**
FNA	**Florina**	**0.95**	**32**	P	**Pg**		**01 29 04.7**	**-1.0**
FNA				S	**Sg**		**01 29 18.9**	**+0.9**
FNA	**Florina**	**0.95**	**32**	P	**Pg**		**01 29 04.7**	**-1.0**
FNA				S	**Sg**		**01 29 17.7**	**-0.3**
FNA	**Florina**	**0.95**	**32**	P	**Pg**		**01 29 04.5**	**-1.2**
FNA				S	**Sg**		**01 29 17.7**	**-0.3**
FNA				AML	AML		01 29 24.2	
	comp=E,7645μm,0.7s							
FNA				AML	AML		01 29 25.3	
	comp=N,3394μm,0.4s							
THL	**Klokotos Trika**	**1.08**	**112**	P	**Pg**		**01 29 07.4**	**-0.8**
THL				S	**Sg**		**01 29 21.1**	**-1.1**
OHR	**Ohrid**	**1.14**	**3**	*i* Pg	**Pg**		**01 29 08.7**	**-0.5**
OHR				*e*Sg	**Sn**		**01 29 26.3**	**+0.3**
OHR	**Ohrid**	**1.14**	**3**	*i* Pg	**Pg**		**01 29 08.7**	**-0.5**
OHR				*e*Sg	**Sn**		**01 29 26.3**	**+0.3**
LKD2	**Lefkada island**	**1.19**	**182**	P	**Pn**		**01 29 10.4**	**-0.3**
LKD2				S	**Sn**		**01 29 29.4**	**+2.2**
LKD2	**Lefkada island**	**1.19**	**182**	P	**Pn**		**01 29 11.4**	**+0.7**
LKD2				S	**Sb**		**01 29 26.0**	**-0.1**
LKD2	**Lefkada island**	**1.19**	**182**	P	**Pn**		**01 29 10.4**	**+0.7**
LKD2				S	**Sb**		**01 29 26.0**	**-0.1**
LKD2				AML	AML		01 29 35.2	
	comp=N,5675μm,0.4s							
LKD2				AML	AML		01 29 39.9	
	comp=E,4434μm,0.7s							
EVR	**Evrytania**	**1.35**	**141**	P	**Pn**		**01 29 12.3**	**-0.8**
EVR				S	**Sn**		**01 29 32.6**	**+1.1**
EVR	**Evrytania**	**1.35**	**141**	P	**Pn**		**01 29 12.3**	**-0.8**
EVR				S	**Sn**		**01 29 32.0**	**+0.5**
EVR	**Evrytania**	**1.35**	**141**	P	**Pn**		**01 29 12.2**	**-0.8**
EVR				S	**Sn**		**01 29 32.0**	**+0.5**
EVR				AML	AML		01 29 39.0	
	comp=N,5588μm,0.6s							
LIT	**Litokhoron**	**1.37**	**84**	P	**Pn**		**01 29 12.4**	**-0.8**
LIT	**Litokhoron**	**1.37**	**84**	P	**Pn**		**01 29 12.4**	**-0.8**
LIT				S	**Sb**		**01 29 30.5**	**-0.8**
LIT	**Litokhoron**	**1.37**	**84**	P	**Pn**		**01 29 11.9**	**-1.3**
LIT				S	**Sb**		**01 29 30.5**	**-0.8**
LIT				AML	AML		01 29 37.2	
	comp=E,4890μm,0.5s							
LIT				AML	AML		01 29 39.0	
	comp=N,5064μm,0.5s							
PDO	**Prodromos**	**1.42**	**165**	P	**Pn**		**01 29 13.7**	**-0.2**
PDO				S	**Sn**		**01 29 35.4**	**+2.4**
PDO	**Prodromos**	**1.42**	**165**	P	**Pg**		**01 29 14.8**	**+0.1**
PDO				S	**Sn**		**01 29 34.2**	**+1.2**
PDO	**Prodromos**	**1.42**	**165**	P	**Pg**		**01 29 14.8**	**+0.1**
PDO				S	**Sn**		**01 29 34.2**	**+1.2**
PDO				AML	AML		01 29 43.6	
	comp=E,6131μm,0.4s							
PDO				AML	AML		01 29 47.5	
	comp=N,5520μm,0.4s							
PVO	**Paravola**	**1.50**	**155**	P	**Pn**		**01 29 15.0**	**+0.1**
PVO				S	**Sg**		**01 29 36.7**	**+1.2**
PVO	**Paravola**	**1.50**	**155**	P	**Pg**		**01 29 15.9**	**-0.2**
PVO				S	**Sg**		**01 29 36.7**	**+1.2**
PVO	**Paravola**	**1.50**	**155**	P	**Pg**		**01 29 15.8**	**-0.2**
PVO				S	**Sn**		**01 29 34.2**	**-0.6**
AGG	**Agios Georgios**	**1.57**	**127**	*e*P	**Pb**		**01 29 16.6**	**-0.4**
AGG	**Agios Georgios**	**1.57**	**127**	P	**Pn**		**01 29 15.9**	**-0.1**
AGG	**Agios Georgios**	**1.57**	**127**	P	**Pn**		**01 29 16.1**	**+0.1**
AGG				S	**Sn**		**01 29 36.5**	**-0.2**
AGG	**Agios Georgios**	**1.57**	**127**	P	**Pn**		**01 29 16.1**	**+0.1**
AGG				S	**Sn**		**01 29 36.5**	**-0.2**
AGG				AML	AML		01 29 45.3	
	comp=E,9532μm,0.4s							
AGG				AML	AML		01 29 50.5	
	comp=N,8434μm,0.5s							
GRG	**Griva**	**1.62**	**52**	*e*P	**Pn**		**01 29 16.6**	**0.0**
GRG	**Griva**	**1.62**	**52**	P	**Pn**		**01 29 16.2**	**-0.4**
GRG				S	**Sb**		**01 29 39.1**	**+0.6**
GRG	**Griva**	**1.62**	**52**	P	**Pn**		**01 29 16.2**	**-0.4**
GRG				S	**Sb**		**01 29 39.1**	**+0.6**
GRG	**Griva**	**1.62**	**52**	P	**Pn**		**01 29 16.2**	**-0.4**
GRG				AML	AML		01 29 46.9	
	comp=E,2256μm,0.9s							
GRG				AML	AML		01 29 47.9	
	comp=N,2669μm,0.6s							
ANX	**Ano Chora**	**1.67**	**146**	P	**Pn**		**01 29 17.5**	**+0.1**
ANX	**Ano Chora**	**1.67**	**146**	P	**Pb**		**01 29 18.5**	**-0.2**
ANX				S	**Sg**		**01 29 41.0**	**0.0**
ANX	**Ano Chora**	**1.67**	**146**	S	**Sg**		**01 29 41.0**	**0.0**
ANX				AML	AML		01 29 52.3	
	comp=N,6024μm,0.7s							
ANX				AML	AML		01 29 52.4	
	comp=E,5473μm,0.8s							
FYTO	**Fytoko, Volos**	**1.81**	**108**	P	**Pn**		**01 29 18.9**	**-0.3**
FYTO	**Fytoko, Volos**	**1.81**	**108**	P	**Pn**		**01 29 18.9**	**-0.3**
FYTO				S	**Sn**		**01 29 42.2**	**-0.3**
FYTO	**Fytoko, Volos**	**1.81**	**108**	P	**Pn**		**01 29 18.5**	**-0.7**
FYTO				S	**Sn**		**01 29 42.2**	**-0.3**
FYTO				AML	AML		01 29 54.2	
	comp=N,1506μm,0.7s							
FYTO				AML	AML		01 29 54.6	
	comp=E,1179μm,0.5s							
THE	**Thessaloniki**	**1.84**	**68**	P	**Pn**		**01 29 19.2**	**-0.4**
THE	**Thessaloniki**	**1.84**	**68**	P	**Pn**		**01 29 19.2**	**-0.4**
THE				S	**Sn**		**01 29 43.2**	**-0.1**
THE	**Thessaloniki**	**1.84**	**68**	P	**Pn**		**01 29 19.2**	**-0.4**
THE				S	**Sn**		**01 29 43.2**	**-0.1**
THE				AML	AML		01 29 50.0	
	comp=E,618μm,0.6s							
THE				AML	AML		01 29 50.4	
	comp=N,548μm,0.9s							
AXS	**Araxos**	**1.85**	**164**	P	**Pb**		**01 29 21.5**	**-0.2**
AXS	**Araxos**	**1.85**	**164**	P	**Pb**		**01 29 21.5**	**-0.2**
SERG	**Sergoula**	**1.88**	**146**	P	**Pb**		**01 29 21.2**	**-1.0**
SERG	**Sergoula**	**1.88**	**146**	P	**Pb**		**01 29 21.2**	**-1.0**
HORT	**Hortiatis**	**1.93**	**70**	*e*P	**Pn**		**01 29 20.4**	**-0.4**
HORT	**Hortiatis**	**1.93**	**70**	P	**Pn**		**01 29 20.5**	**-0.4**
HORT	**Hortiatis**	**1.93**	**70**	P	**Pn**		**01 29 21.0**	**+0.1**
HORT				S	**Sn**		**01 29 46.2**	**+0.7**
HORT	**Hortiatis**	**1.93**	**70**	P	**Pn**		**01 29 21.0**	**+0.1**
HORT				S	**Sn**		**01 29 46.2**	**+0.7**
HORT				AML	AML		01 29 54.8	
	comp=N,781μm,0.5s							
HORT				AML	AML		01 29 56.2	
	comp=E,542μm,0.4s							
KALE	**Kalithea**	**1.93**	**145**	P	**Pb**		**01 29 22.0**	**-1.1**
KALE	**Kalithea**	**1.93**	**145**	P	**Pb**		**01 29 22.0**	**-1.1**
VAY	**Valandovo**	**1.95**	**46**	P	**Pn**		**01 29 21.9**	**+0.8**
VAY				S	**Sn**		**01 29 46.7**	**+0.7**
VAY	**Valandovo**	**1.95**	**46**	*e*Pn	**Pn**		**01 29 21.7**	**+0.6**
VAY	**Valandovo**	**1.95**	**46**	P	**Pn**		**01 29 21.9**	**+0.8**
VAY				S	**Sn**		**01 29 46.7**	**+0.7**
NEO	**Neokhori**	**2.05**	**108**	P	**Pn**		**01 29 22.3**	**-0.2**
NEO	**Neokhori**	**2.05**	**108**	P	**Pn**		**01 29 22.3**	**-0.2**
SKO	**Skopje**	**2.07**	**15**	P	**Pn**		**01 29 24.0**	**+1.1**
SKO	**Skopje**	**2.07**	**15**	*e*Pn	**Pn**		**01 29 23.9**	**+1.1**
SKO	**Skopje**	**2.07**	**15**	*e*Pn	**Pn**		**01 29 23.9**	**+1.1**
DSF	**Desfina**	**2.10**	**137**	P	**Pb**		**01 29 24.5**	**-1.6**
DSF	**Desfina**	**2.10**	**137**	P	**Pb**		**01 29 24.5**	**-1.6**
PLG	**Polygyros**	**2.13**	**78**	P	**Pn**		**01 29 23.1**	**-0.6**
PLG	**Polygyros**	**2.13**	**78**	P	**Pn**		**01 29 23.1**	**-0.6**
PLG	**Polygyros**	**2.13**	**78**	P	**Pn**		**01 29 22.6**	**-1.0**
PLG				S	**Sn**		**01 29 48.9**	**-1.6**
PLG				AML	AML		01 29 57.5	
	comp=E,865μm,0.5s							
PLG				AML	AML		01 29 59.3	
	comp=N,1220μm,0.5s							
DRO	**Drossia**	**2.17**	**159**	P	**Pb**		**01 29 25.9**	**-1.2**
DRO	**Drossia**	**2.17**	**159**	P	**Pb**		**01 29 25.9**	**-1.2**
SOH	**Sokhos**	**2.18**	**66**	P	**Pn**		**01 29 25.0**	**+0.6**
SOH	**Sokhos**	**2.18**	**66**	P	**Pn**		**01 29 25.0**	**+0.6**
ATAL	**Atalanti**	**2.20**	**125**	P	**Pn**		**01 29 25.4**	**+0.8**
ATAL	**Atalanti**	**2.20**	**125**	P	**Pn**		**01 29 25.4**	**+0.8**
LKR	**Lokris**	**2.21**	**126**	P	**Pn**		**01 29 25.5**	**+0.8**
LKR	**Lokris**	**2.21**	**126**	P	**Pn**		**01 29 25.5**	**+0.8**
SMIA	**Simia**	**2.22**	**119**	P	**Pn**		**01 29 25.0**	**+0.1**
SMIA	**Simia**	**2.22**	**119**	P	**Pn**		**01 29 25.0**	**+0.1**
SKIA	**Skiathos**	**2.27**	**110**	P	**Pn**		**01 29 25.6**	**0.0**
SKIA	**Skiathos**	**2.27**	**110**	P	**Pn**		**01 29 25.6**	**0.0**
ULC	**Ulcinj**	**2.28**	**331**	⇑*i*Pn	**Pn**		**01 29 26.9**	**+1.2**
ULC				*e*Sn	**Sb**		**01 29 57.6**	**+0.1**
ULC	**Ulcinj**	**2.28**	**331**	⇑*i*Pn	**Pn**		**01 29 26.9**	**+1.2**
ULC				*e*Sn	**Sb**		**01 29 57.6**	**+0.1**
SRS	**Serrai**	**2.47**	**62**	P	**Pn**		**01 29 28.1**	**-0.2**
SRS	**Serrai**	**2.47**	**62**	P	**Pn**		**01 29 28.1**	**-0.2**
DRME	**Dracevica, Mon**	**2.49**	**333**	⇓*i*Pn	**Pn**		**01 29 30.0**	**+1.4**
DRME				*e*Sn	**Sb**		**01 30 02.7**	**-1.0**
DRME	**Dracevica, Mon**	**2.49**	**333**	⇓*i*Pn	**Pn**		**01 29 30.0**	**+1.4**
DRME				*e*Sn	**Sb**		**01 30 02.7**	**-1.0**
OUR	**Ouranopolis**	**2.53**	**81**	*e*P	**Pn**		**01 29 29.6**	**+0.5**
OUR	**Ouranopolis**	**2.53**	**81**	P	**Pn**		**01 29 29.2**	**+0.1**
OUR	**Ouranopolis**	**2.53**	**81**	P	**Pn**		**01 29 29.2**	**+0.1**
LTK	**Loutraki**	**2.62**	**137**	P	**Pn**		**01 29 31.9**	**+1.5**
LTK	**Loutraki**	**2.62**	**137**	P	**Pn**		**01 29 31.9**	**+1.5**
PVY	**Plav**	**2.68**	**348**	*e*Pn	**Pn**		**01 29 33.2**	**+1.9**
PVY				*e*Sn	**Sn**		**01 30 06.4**	**+2.2**
PVY	**Plav**	**2.68**	**348**	*e*Pn	**Pn**		**01 29 33.2**	**+1.9**
PVY				*e*Sn	**Sn**		**01 30 06.4**	**+2.2**
TAR1	**Taranto**	**2.68**	**283**	*e*Pn	**Pn**		**01 29 31.1**	**-0.1**
PDG	**Podgorica**	**2.69**	**336**	P	**Pn**		**01 29 32.6**	**+1.3**

GADA	Gvkgeada	3.98	85	*e*P	Pn	01 29 49.2	+0.1
GADA	Gvkgeada	3.98	85	*e*P	Pn	01 29 49.2	+0.1
BBLS	Lazići	4.01	346	⇓*i*Pn	Pn	01 29 50.5	+1.0
MS1	Monte Sant'Ang	4.01	297	*e*Pn	Pn	01 29 49.6	0.0
SIGR	SIGRI	4.04	99	*e*P	Pn	01 29 50.6	+0.7
SIGR	SIGRI	4.04	99	*e*P	Pn	01 29 50.6	+0.7
DIVS	Divibare	4.15	353	P	Pn	01 29 52.7	+1.2
DIVS	Divibare	4.15	353	⇓*i*Pn	Pn	01 29 52.4	+0.9
DIVS	Divibare	4.15	353	P	Pn	01 29 52.7	+1.2
ALN	Alexandroupoli	4.17	76	*e*P	Pn	01 29 52.5	+0.8
ALN	Alexandroupoli	4.17	76	*e*P	Pn	01 29 52.5	+0.8
TRUS	Trudelj	4.25	357	*e*Pn	Pn	01 29 55.0	+2.2
EZN	Ezine	4.32	90	*e*P	Pn	01 29 54.7	+1.0
EZN	Ezine	4.32	90	*e*P	Pn	01 29 54.7	+1.0
GELI	Tayfur-Gelibol	4.43	83	*e*P	Pn	01 29 56.1	+0.8
GELI	Tayfur-Gelibol	4.43	83	*e*P	Pn	01 29 56.1	+0.8
CHOS	Chios island	4.44	109	*e*P	Pn	01 29 56.8	+1.3
CHOS	Chios island	4.44	109	P	Pn	01 29 56.5	+1.0
CHOS	Chios island	4.44	109	P	Pn	01 29 56.5	+1.0
ERIK	Erikli-Kesan	4.49	79	*e*P	Pn	01 29 57.2	+1.2
ERIK	Erikli-Kesan	4.49	79	*e*P	Pn	01 29 57.2	+1.2
KUBS	Kucevo	4.49	9	*e*Pn	Pn	01 29 55.2	-0.9
LPK	Lapseki	4.65	83	*e*P	Pn	01 29 58.7	+0.5
LPK	Lapseki	4.65	83	*e*P	Pn	01 29 58.7	+0.5
TEKS	Tekeris	4.65	349	*e*Pn	Pn	01 29 59.1	+0.7
APE	Apeiranthos	4.76	126	*e*P	Pn	01 30 01.7	+1.8
APE	Apeiranthos	4.76	126	*e*P	Pn	01 30 01.7	+1.8
ZEY	˙zmir	4.82	109	*i* P	Pn	01 30 02.2	+1.6
MDVR	Moldovita	4.86	8	⇓*i*P	Pn	01 30 03.3	+2.1
MDVR	Moldovita	4.86	8	⇓*i*P	Pn	01 30 03.3	+2.1
DKL	Dikili	4.87	99	*e*P	Pn	01 30 03.1	+1.8
DKL	Dikili	4.87	99	*e*P	Pn	01 30 03.1	+1.8
KRBG	Karabiga-Canak	5.06	83	*e*P	Pn	01 30 05.2	+1.3
KRBG	Karabiga-Canak	5.06	83	*e*P	Pn	01 30 05.2	+1.3
FGSL	Fruska Gora	5.22	353	*e*Pn	Pn	01 30 06.9	+0.8
MRMT	Marmara Adasi	5.30	81	*e*P	Pn	01 30 08.6	+1.3
MRMT	Marmara Adasi	5.30	81	*e*P	Pn	01 30 08.6	+1.3
BALY	Balya	5.32	90	P	Pn	01 30 09.0	+1.5
BALY	Balya	5.32	90	*i* P	Pn	01 30 09.0	+1.5
BLY	Banja Luka	5.44	332	⇓*i*Pn	Pn	01 30 09.2	+0.1
VAE	Valguarnera	5.52	245	Pn	Pn	01 30 11.8	+1.4
	comp=N,0.2nm,0.3s,baz=112,slow=19,SNR=5.2						
VAE				Sn	Sn	01 31 07.8	-6.5
	comp=N,0.4nm,0.3s,baz=196,slow=15,SNR=2.4						
HUMR	Humele	5.54	33	⇑*i*P	Pn	01 30 10.8	+0.3
HUMR	Humele	5.54	33	⇑*i*P	Pn	01 30 10.8	+0.3
BZS	Buzias	5.68	6	⇑*i*P	Pn	01 30 14.3	+1.9
BZS	Buzias	5.68	6	⇑*i*P	Pn	01 30 14.3	+1.9
IDI	Anoyia	5.73	143	Pn	Pn	01 30 13.7	+0.5
	comp=N,1.3nm,0.3s,baz=324,slow=11,SNR=9.9						
IDI				Sn	Sn	01 31 16.9	-2.6
	comp=N,2.0nm,0.3s,baz=103,slow=19,SNR=2.8						
TIM	Timisoara	5.77	4	⇓*i*P	Pn	01 30 20.4	+6.8
UDBI	Udbina	5.85	323	*i* Pn	Pn	01 30 15.9	+1.1
UDBI				Sn	Sn	01 31 21.7	-0.5
UDBI	Udbina	5.85	323	*i* Pn	Pn	01 30 15.8	+1.1
UDBI				Sn	Sn	01 31 21.6	-0.5
AYDB	Zeytinkoy-Aydi	5.95	108	*e*P	Pn	01 30 17.8	+1.6
AYDB	Zeytinkoy-Aydi	5.95	108	*e*P	Pn	01 30 17.8	+1.6
AQU	L'Aquila	6.01	296	*e*Pn	Pn	01 30 18.7	+1.7
CTKS	Kestanelik-??a	6.06	76	*e*P	Pn	01 30 19.0	+1.4
CTKS	Kestanelik-??a	6.06	76	*e*P	Pn	01 30 19.0	+1.4
ARR	Arges	6.11	27	⇓*i*P	Pn	01 30 20.8	+2.4
ARR	Arges	6.11	27	⇓*i*P	Pn	01 30 20.8	+2.4
SULR		6.24	39	⇓*i*P	Pn	01 30 22.5	+2.4
SULR		6.24	39	⇓*i*P	Pn	01 30 22.5	+2.4
NVLJ	Novalja	6.31	319	*e*Pn	Pn	01 30 21.2	+0.1
NVLJ				Sn	Sn	01 31 31.8	-1.6
NVLJ	Novalja	6.31	319	*e*Pn	Pn	01 30 21.1	+0.1
VOIR		6.32	29	⇓*i*P	Pn	01 30 24.6	+3.3
VOIR		6.32	29	⇓*i*P	Pn	01 30 24.6	+3.3
KULA	Kula-Manisa	6.34	101	*e*P	Pn	01 30 23.7	+2.2
KULA	Kula-Manisa	6.34	101	*e*P	Pn	01 30 23.7	+2.2
ISR	Istrita	6.70	38	⇑*i*P	Pn	01 30 25.6	-0.9
ISR	Istrita	6.70	38	⇑*i*P	Pn	01 30 25.6	-0.9
MLR	Muntele Rosu	6.72	33	Pn	Pn	01 30 28.8	+2.0
	comp=N,0.3nm,0.3s,baz=41,slow=4.7,SNR=20						
MLR				Sn	Sn	01 31 43.0	-0.8
	baz=169,slow=16,SNR=1.8						
MLR	Muntele Rosu	6.72	33	⇓*i*P	Pn	01 30 29.6	+2.8
MLR	Muntele Rosu	6.72	33	⇓*i*P	Pn	01 30 29.6	+2.8
TVSB	Tavsanli	6.76	92	*e*P	Pn	01 30 29.2	+1.8
TVSB	Tavsanli	6.76	92	*e*P	Pn	01 30 29.2	+1.8
BOJS	Bojanci	6.83	326	*i* P	Pn	01 30 28.0	-0.2
BOJS	Bojanci	6.83	326	P	Pn	01 30 28.0	-0.2
GDZ	Gediz	6.83	95	P	Pn	01 30 29.4	+1.0
GDZ	Gediz	6.83	95	*i* P	Pn	01 30 29.4	+1.0
SILT	Sile	6.90	77	*e*P	Pn	01 30 30.6	+1.5
SILT	Sile	6.90	77	*e*P	Pn	01 30 30.6	+1.5
DRGR		6.96	11	⇓*i*P	Pn	01 30 33.5	+3.4
DRGR		6.96	11	⇓*i*P	Pn	01 30 33.5	+3.4
CRES	Cresnjev	7.00	328	⇑*i*Pn	Pn	01 30 30.2	-0.4
HARR	Harsova	7.12	46	⇑*i*P	Pn	01 30 33.1	+0.9
HARR	Harsova	7.12	46	⇑*i*P	Pn	01 30 33.1	+0.9
VISS	Visnje	7.25	325	*i* P	Pn	01 30 34.5	+0.6
VISS	Visnje	7.25	325	*i* P	Pn	01 30 34.5	+0.6
TIRR	Tirgusor	7.26	49	⇑*i*P	Pn	01 30 33.7	-0.3
TIRR	Tirgusor	7.26	49	⇑*i*P	Pn	01 30 33.7	-0.3
PLOR	Plostina	7.31	35	⇑*i*P	Pn	01 30 37.6	+2.8
PLOR	Plostina	7.31	35	⇑*i*P	Pn	01 30 37.6	+2.8
VRI	Vrincioaia	7.35	35	⇑*i*P	Pn	01 30 37.9	+2.5
VRI	Vrincioaia	7.35	35	⇑*i*P	Pn	01 30 37.9	+2.5
FETY	Fethiye	7.38	114	*e*P	Pn	01 30 38.7	+3.0
FETY	Fethiye	7.38	114	*e*P	Pn	01 30 38.7	+3.0
CEY	Cerknica	7.38	323	⇑*i*Pn	Pn	01 30 35.7	-0.1
GROS	Grobnik	7.51	331	*i* P	Pn	01 30 38.1	+0.4
GROS	Grobnik	7.51	331	*i* P	Pn	01 30 38.1	+0.4
CFR	Carcaliu	7.55	44	⇑*i*P	Pn	01 30 40.0	+2.0
CFR	Carcaliu	7.55	44	⇑*i*P	Pn	01 30 40.0	+2.0
LJU	Ljubljana	7.57	325	*e*Pn	Pn	01 30 37.3	-1.1
JAVS	Javornik	7.67	323	*i* P	Pn	01 30 39.5	-0.3
JAVS	Javornik	7.67	323	*i* P	Pn	01 30 39.5	-0.3
TESR	Tescani	7.83	32	⇑*i*P	Pn	01 30 44.2	+2.2
TESR	Tescani	7.83	32	⇑*i*P	Pn	01 30 44.2	+2.2
SOKA	Soboth	7.87	330	*i* Pn	Pn	01 30 42.5	-0.1
	comp=N,6.0nm,0.9s						
SOKA	Soboth	7.87	330	Pn	Pn	01 30 42.5	-0.1
	comp=N,6.0nm,0.9s						
OBKA	Obir	7.93	327	*e*Pn	Pn	01 30 44.1	+0.7
	comp=N,6.5nm,0.6s						
OBKA				*e*Sn	Sn	01 32 12.6	-0.9
	comp=N,6.3nm,0.6s						
OBKA	Obir	7.93	327	Pn	Pn	01 30 44.1	+0.7
	comp=N,6.5nm,0.6s						
PSZ	Piszkesteto	7.96	356	⇑*i*P	Pn	01 30 45.7	+1.9
PSZ	Piszkesteto	7.96	356	⇑*i*P	Pn	01 30 45.7	+1.9
ARSA	Arzberg	8.19	334	*i* Pn	Pn	01 30 47.4	+0.5
	comp=N,1.7nm,0.4s						
ARSA	Arzberg	8.19	334	Pn	Pn	01 30 47.4	+0.5
	comp=N,1.7nm,0.4s						
BURAR	Bucovina Array	8.30	22	⇑*i*P	Pn	01 30 51.9	+3.4
BURAR	Bucovina Array	8.30	22	⇑*i*P	Pn	01 30 51.9	+3.4
KECS	Kecovo	8.51	359	*e*Pn	Pn	01 30 54.5	+3.3
KECS	Kecovo	8.51	359	*e*PN	Pn	01 30 54.5	+3.3
VYHS	Vyhne	8.62	352	*e*Pn	Pn	01 30 54.4	+1.6
VYHS	Vyhne	8.62	352	*e*PN	Pn	01 30 54.4	+1.6
VYHS				*e*SN	Sn	01 32 28.7	-1.7
CRVS	Cervenica-Dubn	8.94	3	*e*PN	Pn	01 31 01.8	+4.6
ABTA	Abfaltersbach	9.02	321	*e*Pn	Pn	01 31 00.9	+2.5
	comp=N,2.4nm,0.4s						
ABTA				*i* Sn	Sn	01 32 40.1	-0.3
	comp=N,9.2nm,0.7s						
ABTA	Abfaltersbach	9.02	321	Pn	Pn	01 31 00.9	+2.5
	comp=N,2.4nm,0.4s						
ABTA				Sn	Sn	01 32 40.1	-0.3
	comp=N,9.2nm,0.7s						
KOLS	Kolonicke sedl	9.02	7	*e*Pn	Pn	01 31 01.1	+2.8
KOLS	Kolonicke sedl	9.02	7	*e*PN	Pn	01 31 01.1	+2.8
MOA	Molln	9.14	332	*e*Pn	Pn	01 31 02.9	+3.0
	comp=N,0.5nm,0.2s						
MOA	Molln	9.14	332	Pn	Pn	01 31 02.9	+3.0
	comp=N,0.5nm,0.2s						
VRAC	Vranov	9.78	344	Pn	Pn	01 31 09.4	+0.8
	comp=N,0.2nm,0.3s,baz=161,slow=19,SNR=3.0						
WATA	Walderalm	9.89	321	*i* Pn	Pn	01 31 12.0	+1.7
	comp=N,2.0nm,0.3s						
WATA	Walderalm	9.89	321	Pn	Pn	01 31 12.0	+1.7
	comp=N,2.0nm,0.3s						
KEST	Kesra	9.94	248	Pn	Pn	01 31 10.9	0.0
	comp=N,0.0nm,0.3s,baz=351,slow=19,SNR=2.9						
BRTR	Keskin Array B	9.94	87	Pn	Pn	01 31 12.6	+1.5
	comp=N,0.3nm,0.3s,baz=267,slow=12,SNR=18						
BRTR				Sn	Sn	01 33 05.7	+2.6
	comp=N,0.0nm,0.3s,baz=29,slow=12,SNR=2.2						
MOTA	Moosalm	10.13	320	*i* Pn	Pn	01 31 16.7	+3.1
	comp=N,2.8nm,0.4s						
MOTA	Moosalm	10.13	320	Pn	Pn	01 31 16.7	+3.1
	comp=N,2.8nm,0.4s						
GERES	GERESS Array B	10.18	333	Pn	Pn	01 31 14.7	+0.5
	comp=N,0.1nm,0.3s,baz=153,slow=15,SNR=5.4						
GERES				Sn	Sn	01 33 05.7	-3.1
	comp=N,0.2nm,0.3s,baz=153,slow=18,SNR=2.4						
DAVOX	Davos/Dischmat	10.41	314	Pn	Pn	01 31 19.6	+2.1
	comp=N,0.1nm,0.3s,baz=125,slow=17,SNR=2.1						
DAVOX				Sn	Sn	01 33 10.2	-4.3
	comp=N,0.2nm,0.3s,baz=336,slow=20,SNR=2.0						
KHC	Kasperske Hory	10.47	333	*e*P	Pn	01 31 18.8	+0.7
KHC				*ex*	x	01 31 24.0	
KHC				*ex*	x	01 31 37.6	
MMAI	Mount Meron Ar	13.70	116	Pn	Pn	01 32 01.9	-0.5
	comp=N,0.7nm,0.3s,baz=296,slow=12,SNR=6.3						
EIL	Elat	15.55	127	Pn	Pn	01 32 27.7	+0.4
	comp=N,0.3nm,0.3s,baz=335,slow=19,SNR=3.7						
KVAR	Kislovodsk Arr	16.81	69	Pn	P	01 32 46.2	+0.4
	baz=236,slow=7.3,SNR=2.3						
KBZ	Khabaz	16.93	70	Pn	P	01 32 47.7	+0.7
	comp=N,0.2nm,0.3s,baz=268,slow=5.6,SNR=2.9						
ESDC	Sonseca Array	18.95	277	P	Pn	01 33 10.0	0.0
	comp=N,0.1nm,0.3s,baz=74,slow=11,SNR=6.3						
HFS	Hagfors	20.65	350	P	P	01 33 27.0	-0.7
	comp=N,4.2nm,0.5s,baz=161,slow=11,SNR=22						
FINES	FINESS Array B	21.75	7	P	P	01 33 38.1	-1.3
	comp=N,3.1nm,0.4s,baz=174,slow=13,SNR=16						
NB2	NORSAR Subarra	21.89	348	P	P	01 33 40.2	-0.9
	comp=Z,5.1nm,0.6s,baz=164,slow=11						
NB2	NORSAR Subarra	21.89	348	P	P	01 33 40.2	-0.9
	comp=Z,5.1nm,0.6s,SNR=0.2						
NOA	NORSAR Array B	21.89	348	P	P	01 33 40.6	-0.5
	comp=Z,6.0nm,0.9s,baz=163,slow=11,SNR=24						
EKA	Eskdalemuir Ar	22.08	322	P	P	01 33 41.9	-1.2
	comp=Z,2.0nm,0.9s,baz=118,slow=8.9,SNR=5.0						
AKTO	Aktyubinsk	28.01	56	P	P	01 34 39.4	+0.3
	comp=Z,0.5nm,0.4s,baz=246,slow=11,SNR=2.9						
ARCES	ARCESS Array B	29.73	3	P	P	01 34 52.3	-1.9
	comp=Z,1.6nm,0.8s,baz=195,slow=8.8,SNR=6.5						
TORD	Torodi Ar. Bea	31.54	217	P	P	01 35 10.8	+0.2
	comp=Z,3.1nm,0.6s,baz=39,slow=8.6,SNR=31						
MKAR	Makanchi Array	44.25	60	P	P	01 36 57.1	-0.5
	comp=Z,0.9nm,0.5s,baz=276,slow=7.5,SNR=7.7						
ZALV	Zalesovo Beam	44.39	49	P	P	01 36 58.6	-0.1
	comp=Z,0.8nm,0.5s,baz=291,slow=9.1,SNR=3.1						
ZALV				LR	LR	01 57 42.2	
	comp=Z,69nm,18.9s,baz=241,slow=39						
SONM	Songino Array	59.21	51	P	P	01 38 50.0	+0.5
	comp=Z,0.3nm,0.6s,baz=302,slow=12,SNR=2.9						

MEX 17 01:40:02.7±0.7, 13°.67N×91°.62W, h10km, MD4.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**2.54**	**323**	*e*P		Pn	01 40 42.8	-1.3
PCIG				*e*S		Sn	01 41 15.1	0.0

*IDC **17** 01:44:00.7±37.0, 36°.03N×71°.22E, h166km±216km, mb3.2/3, mb1 3.2/5, mb1mx2.8/50, mbtmp3.6/5, ML3.3/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/21, Error ellipse: s-maj=363.2km s-min=34.2km az=116.0*
*NNC **17** 01:44:12.2±2.0, 36°.94N×70°.79E, h195km±20km, mb2.5, mpv3.5, Error ellipse: s-maj=24.6km s-min=12.0km az=136.0*

ISC 17 01:44:06.9±1.9, 36°.6N±0°.1×70°.9E±0°.1, h188km, n13, σ1s68/15, mb3.3/3, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZET	**Dzherino**	**2.76**	**324**	⇑P		Pn	01 44 54.8	+1.7
	28nm,0.3s							
DZET				⇑S		Sn	01 45 28.9	-0.4
	156nm,0.4s							
MNAS	**Manas**	**6.04**	**11**	⇑P		Pn	01 45 36.9	+2.4
	1.0nm,0.4s							
MNAS				⇓S		Sn	01 46 41.6	-2.1
	6.7nm,0.4s							
KK31	**Karatay Array**	**6.53**	**358**	P		Pn	01 45 41.6	+0.9
	1.8nm,0.5s,baz=178,slow=12,SNR=13							
KK31				S		Sn	01 46 51.7	-3.3
	2.1nm,0.3s,baz=193,slow=25,SNR=8.9							
AAK	**Ala-Archa**	**6.66**	**24**	S		Sn	01 46 57.9	-0.6
	8.3nm,1.0s							
TKM2	**Tokmak 2**	**7.30**	**28**	⇓P		Pn	01 45 51.2	+0.1
	2.2nm,0.6s							
GEYT	**Alibeck**	**10.27**	**281**	P		Pn	01 46 29.1	-0.6
	0.1nm,0.3s,baz=99,slow=10,SNR=4.3							
AB31	**Akbulak array**	**14.97**	**331**	⇑P		P	01 47 31.3	+1.3
	0.3nm,0.6s,baz=141,slow=12,SNR=11							
AKTO	**Aktyubinsk**	**16.67**	**330**	P		Pn	01 47 50.3	+0.7
	0.2nm,0.3s,baz=144,slow=6.5,SNR=4.9							
AKTO	**Aktyubinsk**	**16.67**	**330**	⇑P		P	01 47 48.2	-0.6
	2.3nm,0.9s							
FINES	**FINESS Array B**	**37.37**	**326**	P		P	01 51 01.7	+0.7
	1.2nm,0.9s,baz=125,slow=7.0,SNR=4.0							
ARCES	**ARCESS Array B**	**41.04**	**338**	P		P	01 51 32.2	+0.9
	0.4nm,0.5s,baz=108,slow=7.8,SNR=7.4							
GERES	**GERESS Array B**	**42.81**	**305**	LR		LR	02 14 40.3	
	comp=Z,45nm,19.1s,baz=68,slow=42							
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P		P	01 54 28.9	-2.1
	0.2nm,0.3s,baz=55,slow=5.8,SNR=10							

*IDC **17** 01:45:30.9±1.1, 34°.80N×137°.97E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/49, mbtmp3.6/5, ML3.2/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/41, Error ellipse: s-maj=34.4km s-min=17.2km az=72.0*
*ISCJB **17** 01:45:32.1±0.9, 34°.73N±0°.07×137°.9E±0°.2, h20km, mb3.5/4, MS2.9/2, Error ellipse: s-maj=25.5km s-min=10.5km az=1.4*

ISC 17 01:45:32.9±0.9, 34°.75N±0°.07×138°.1E±0°.2, h20km, n9, σ2s79/10, mb3.6/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MJAR	**Matsushiro Arr**	**1.79**	**4**	Pn		Pn	01 46 01.8	-0.9
	21nm,0.3s,baz=120,slow=14,SNR=44							
MJAR				Sn		Sb	01 46 25.8	-1.4
	7.5nm,0.3s,baz=41,slow=27,SNR=5.8							
JHJ	**Hachijo jima 2**	**2.17**	**138**	Pn		Pn	01 46 10.9	+3.1
	15nm,0.3s,baz=65,slow=17,SNR=1.5							
JHJ				Sn		Sb	01 46 39.6	+1.8
	46nm,0.3s,baz=275,slow=23,SNR=6.5							
JCJ	**Chichijima**	**8.41**	**154**	Pn		Pn	01 47 32.0	-1.6
	2.9nm,0.3s,baz=252,slow=18,SNR=2.6							
JCJ				Sn		Sn	01 49 02.2	-5.8
	1.0nm,0.3s,baz=227,slow=19,SNR=1.7							
GUMO	**Guam**	**21.95**	**162**	LR		LR	01 57 18.1	
	comp=Z,53nm,19.6s,baz=109,slow=32							
PETK	**Petropavlovsk-**	**23.04**	**31**	LR		LR	02 01 29.0	
	comp=Z,41nm,18.9s,baz=228,slow=42							
MKAR	**Makanchi Array**	**43.07**	**304**	P		P	01 53 32.6	+1.2
	0.3nm,0.6s,baz=102,slow=6.1,SNR=2.5							
KURBB	**Kurchatov Arra**	**45.30**	**309**	P		P	01 53 49.5	+0.3
	0.4nm,0.5s,baz=84,slow=7.8,SNR=5.2							
WRA	**Warramunga Arr**	**54.50**	**184**	P		P	01 55 00.1	+0.8
	0.5nm,0.4s,baz=1.8,slow=7.5,SNR=12							
NOA	**NORSAR Array B**	**75.21**	**336**	P		P	01 57 14.6	+0.9
	0.4nm,0.6s,baz=50,slow=5.7,SNR=2.2							

JMA 17 01:45:33.7±0.1, 35°.11N×138°.08E, h31km±1km, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHZ3	**Shizuoka 3**	**0.12**	**112**	P		Pb	01 45 39.1	-0.3
JNY	**Yasuok**	**0.31**	**324**	P		Pb	01 45 41.1	-0.3
JNY				*e*S		Sb	01 45 46.6	-0.1
MAT	**Matsushiro**	**1.43**	**4**	P		Pb	01 46 02.0	+2.2
MAT				S		Sb	01 46 24.9	+7.2

*IDC **17** 01:52:12.2±1.2, 30°.84S×71°.49W, h0km, mb4.1/4, mb1 4.0/9, mb1mx3.9/28, mbtmp3.9/9, ML3.6/4, Error ellipse: s-maj=31.1km s-min=24.1km az=122.0*
*GUC **17** 01:52:15.7±0.7, 30°.62S×71°.50W, h37km±6km, ML4.0*
*NEIC **17** 01:52:15.0, 30°.62S×71°.50W, h37km, mb4.0/3,*
ML4.0(GUC), After GUC.
NEIC Felt [II] at Coquimbo, La Higuera, Ovalle and Vicuna.

ISC 17 01:52:12.5±1.9, 30°.78S±0°.05×71°.52W±0°.07, h1km±13km, n32, σ1s27/43, mb4.2/8, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TLL	**Tololo Astrono**	**0.87**	**46**	⇑*i*P		Pn	01 52 31.4	-0.7
TLL				*i* S		Sn	01 52 43.1	-2.4
TLL				IAML			01 52 44.2	
	comp=N,11μm,0.5s							
LCO	**Las Campanas**	**1.90**	**22**	*e*P		Pn	01 52 46.2	-0.1
LCO				*e*S		Sn	01 53 10.9	-0.1
LCO	**Las Campanas**	**1.90**	**22**	⇓*i*P		Pn	01 52 46.1	-0.1
LCO				*i* S		Sn	01 53 09.9	-1.1
LCO				IAML			01 53 15.5	
	comp=N,2μm,0.3s							
LCO	**Las Campanas**	**1.90**	**22**	*e*Pn		Pn	01 52 46.2	-0.1
LCO				*e*Sn		Sn	01 53 10.2	-0.7
RTLS	**Leoncito**	**2.16**	**119**	*e*P		Pg	01 52 56.2	+2.2
ROCH	**El Roble**	**2.23**	**169**	*e*P		Pg	01 52 55.5	+0.2
ROCH				*e*S		Sg	01 53 25.8	+1.6
ROCH				IAML			01 53 35.5	
	comp=E,957nm,0.7s							
ROC1	**El Roble**	**2.23**	**169**	*e*P		Pg	01 52 55.5	+0.1
ROC1				*e*S		Sg	01 53 26.5	+2.2
VACH	**Vallenar**	**2.29**	**17**	⇑*i*P		Pn	01 52 51.8	+0.3
VACH				*i* S		Sn	01 53 19.1	-1.2
AUSP	**Uspallata**	**2.32**	**129**	*e*P		Pg	01 52 58.6	+1.5
PEL	**Peldehue**	**2.46**	**163**	⇓*i*P		Pb	01 52 58.1	+0.4
PEL				*e*S		Sg	01 53 30.4	-1.4
PEL				IAML			01 53 37.5	
	comp=E,680nm,0.4s							
CLCH	**Cerro Calan**	**2.74**	**163**	⇑*i*P		Pb	01 53 02.5	+0.1
CLCH				*i* S		Sg	01 53 40.8	+0.2
CLCH				IAML			01 53 49.5	
	comp=N,978nm,0.7s							
RCDM	**Rinconada Maip**	**2.77**	**168**	*e*P		Pb	01 53 02.6	-0.3
RCDM				*e*S		Sb	01 53 38.2	+0.9
RCDM				IAML			01 53 50.5	
	comp=N,462nm,0.4s							
ARCO	**CERRO ARCO**	**3.02**	**134**	*e*P		Pg	01 53 08.3	-2.1
ARCO				IAML			01 53 59.4	
	comp=Z,266nm,0.5s							
AAGR	**Agrelo**	**3.25**	**136**	*e*P		Pg	01 53 11.9	-2.8
AVFE	**Valle Fertil**	**3.50**	**89**	IAML			01 53 43.9	
	comp=Z,232nm,0.4s							
LVC	**Limon Verde**	**8.46**	**17**	Pn		Pn	01 54 17.1	+0.5
	comp=Z,19nm,0.3s,baz=255,slow=16,SNR=4.4							
LVC				Sn		Sn	01 55 53.6	+0.6
	comp=Z,38nm,0.3s,baz=290,slow=9.4,SNR=3.3							
LVC				Lg		Lg	01 56 36.8	
	comp=Z,116nm,0.3s,baz=92,slow=22,SNR=9.9							
LVC	**Limon Verde**	**8.46**	**17**	*e*Pn		Pn	01 54 16.4	-0.2
	comp=Z,3.7nm,0.4s							
LVC				*e*Sn		Sn	01 55 52.4	-0.6
LVC				Lg		Lg	01 56 36.8	
PLCA	**Paso Flores**	**9.96**	**176**	Pn		Pn	01 54 35.7	-1.2
	comp=Z,0.2nm,0.3s,baz=357,slow=17,SNR=2.0							
TRQA	**Tornquist**	**10.71**	**135**	*e*Pn		Pn	01 54 50.5	+3.4
	comp=Z,4.5nm,0.6s							
CPUP	**

baz=255
NSTT *i* S **Sn** **01 56 15.4 -0.9**
baz=255
HSN **Hsinchu** **0.86 270** *e*S **Sn** **01 56 15.1 -1.4**
baz=269
TWT **Tachien** **0.88 231** ⫝̸ *i*P **Pn** **01 56 03.6 +0.2**
baz=228
TWT *i* S **Sn** **01 56 17.3 +0.2**
baz=228
WHF **Hehuan Shan** **0.89 222** S **Sn** **01 56 17.6 -0.2**
baz=219
JYNG **Yonaguni jima** **1.00 111** P **Pn** **01 56 04.2 -0.4**
JYNG S **Sn** **01 56 18.8 -0.3**
YOJ **Yonaguni jima** **1.05 109** P **Pn** **01 56 04.7 -0.5**
YOJ S **Sn** **01 56 20.0 -0.2**
NSY **Sanyi** **1.13 250** *e*P **Pn** **01 56 06.6 +0.5**
baz=247
NSY *e*S **Sn** **01 56 21.4 -0.5**
baz=247
TWQ1 **Liyutan** **1.14 246** *e*S **Sn** **01 56 21.4 -0.9**
baz=244
WDT **Danda** **1.27 215** P **Pn** **01 56 08.0 -0.3**
baz=212
WDT S **Sn** **01 56 25.3 -0.3**
baz=212
SMLT **Sun Moon Lake** **1.31 225** P **Pn** **01 56 08.2 -0.3**
baz=223
SMLT S **Sn** **01 56 26.2 +0.2**
baz=223
TYC **Yuchr** **1.33 227** P **Pn** **01 56 08.7 +0.2**
baz=225
TYC S **Sn** **01 56 26.2 +0.1**
baz=225
EHY **Hungye** **1.41 203** *e*P **Pn** **01 56 09.7 +0.1**
baz=201
EHY *e*S **Sn** **01 56 27.8 -0.3**
baz=201
TWF1 **Yuli** **1.56 202** *e*P **Pn** **01 56 11.0 -0.6**
baz=199
TWF1 *e*S **Sn** **01 56 32.3 +0.8**
baz=199
YUS **Yu-Shan** **1.59 214** *e*P **Pn** **01 56 12.1 -0.2**
baz=212
YUS *e*S **Sn** **01 56 33.4 +0.5**
baz=212
ALS **Alishan** **1.65 218** *e*P **Pn** **01 56 13.7 +0.7**
baz=216
ALS *e*S **Sn** **01 56 34.3 +0.4**
baz=216
CHN5 **Tsauling** **1.66 223** P **Pn** **01 56 12.9 0.0**
baz=221
CHN5 S **Sn** **01 56 33.2 -0.7**
baz=221
IRIF **Iriomote-Funau** **1.71 106** P **Pn** **01 56 12.6 -0.9**
IRIF S **Sn** **01 56 35.0 0.0**
CHKT **Chengkung** **1.78 197** *e*S **Sn** **01 56 34.3 -2.2**
baz=195
HATJ **Hateruma jima** **1.87 113** P **Pn** **01 56 15.6 0.0**
CHN4 **Tsaushan** **1.89 220** *e*P **Pn** **01 56 16.2 +0.4**
baz=218
CHN4 *e*S **Sn** **01 56 40.9 +1.7**
baz=218
STYT **Tauyuan** **1.96 213** *e*P **Pn** **01 56 16.6 -0.2**
baz=211
STYT *e*S **Sn** **01 56 41.7 +1.0**
baz=211
WTP **Ta-pu** **1.96 218** *e*P **Pn** **01 56 17.0 +0.2**
baz=216
WTP *e*S **Sn** **01 56 42.1 +1.2**
baz=216
JKRS **Kuro-shima** **1.99 106** P **Pn** **01 56 17.0 0.0**
CHN1 **Nanshi** **2.06 218** *e*P **Pn** **01 56 18.8 +0.7**
baz=217
CHN1 *e*S **Sn** **01 56 43.2 0.0**
baz=217
JIJ **Ishigaki jima** **2.07 102** P **Pn** **01 56 17.7 -0.5**
JIJ S **Sn** **01 56 42.7 -0.7**
JISG **Ishigakijimahi** **2.19 95** P **Pn** **01 56 19.2 -0.4**
JISG S **Sn** **01 56 46.6 +0.6**
JTJ **Tarama** **2.53 93** P **Pn** **01 56 24.8 +0.5**
JTJ S **Sn** **01 56 55.4 +1.0**

IDC 17 02:06:32.5±6.6, 16°74S×173°74W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/27, mbtmp3.9/4, ML3.6/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/37, Error ellipse: s-maj=289.9km s-min=26.4km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.39**	**34**	Pn	Pn	02 07 25.6	-1.2
	5.9nm,0.3s,baz=257,slow=2.7,SNR=6.7						
AFI				Sn	Sn	02 07 56.9	-11
	11nm,0.3s,baz=250,slow=22,SNR=4.3						
AFI				LR	LR	02 08 39.9	
	comp=Z,263nm,19.9s,baz=199,slow=38						
DZM	**Mont Dzumac**	**19.42**	**251**	LR	LR	02 17 23.9	
	comp=Z,141nm,21.3s,baz=70,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	02 57 05.0	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**39.96**	**330**	T	T	02 57 12.8	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	02 56 55.5	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**40.92**	**332**	T	T	02 58 00.5	
	baz=155						
H11N1	**WAKE ISLAND Hy**	**40.92**	**332**	T	T	02 58 08.7	
	baz=155						
H11N2	**WAKE ISLAND Hy**	**40.94**	**332**	T	T	02 58 01.6	
	baz=155						
WRA	**Warramunga Arr**	**49.23**	**258**	P	P	02 15 22.5	-0.7
	0.9nm,0.6s,baz=97,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**49.40**	**253**	P	P	02 15 24.3	-0.1
	4.0nm,0.6s,baz=87,slow=8.8,SNR=48						
DAV	**Davao City (W)**	**64.49**	**286**	LR	LR	02 41 05.9	
	comp=Z,218nm,21.6s,baz=158,slow=32						
ILAR	**Eielson Array**	**83.82**	**11**	P	P	02 19 03.2	-0.1
	0.2nm,0.6s,baz=224,slow=5.7,SNR=4.4						
BRTR	**Keskin Array B**	**146.97**	**319**	PKPbc	PKPab	02 26 18.5	-0.5
	0.3nm,0.7s,baz=29,slow=3.3,SNR=2.6						

MEX 17 02:07:26.8±0.7, 14°80N×93°49W, h16km±134km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.94**	**16**	*e*P	Pb	02 07 41.4	-3.3
PCIG				*e*S	Sb	02 07 52.6	-4.4
CCIG	**Comitan**	**1.97**	**41**	*e*P	Pn	02 07 58.2	-1.5
CCIG				*e*S	Sn	02 08 20.9	-3.3

MEX 17 02:14:21.3±0.3, 14°89N×93°12W, h4km±18km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.81**	**353**	*e*P	Pg	02 14 35.5	-1.4
PCIG				*e*S	Sg	02 14 46.5	-1.1
CCIG	**Comitan**	**1.67**	**34**	*e*P	Pn	02 14 47.6	-4.0
CCIG				*e*S	Sn	02 15 09.0	-4.5

MEX 17 02:16:13.6±0.4, 14°23N×91°72W, h80km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.06**	**316**	*e*P	Pn	02 16 45.6	-0.6
PCIG				*e*S	Sn	02 17 09.5	-1.7

*PGC **17** 02:22:19.6±1.6, 51°74N×131°62W, h20km, ML4.6/27, Mw4.9, 168km south of Sandspit, Bc Haida Gwaii Region*
*GCMT **17** 02:22:19.6±0.3, 51°69N×131°75W, h19km±1km, MW5.0/103, Moment Tensor Solution. s38,c46; s103,c165; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.28±.12; Mθθ-3.07±.12; Mϕϕ2.79±.12; Mrθ-0.31±.23; Mθϕ2.92±.09; Mϕr-1.10±.24; Best double couple: Mo4.29900×10^16^ NP1:ϕs156.00000°, δ80.00000°, λ168.00000°. NP2:ϕs249.00000°, δ78.00000°, λ10.00000°. Principal axes: T 4.3170, Plg16.0000°, Azm112.0000°; N -0.0320, Plg74.0000°, Azm299.0000°; P -4.2810, Plg2.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **17** 02:22:20.9±0.6, 51°83N×131°58W, h0km, mb4.2/24, mb1 4.4/30, mb1mx4.3/51, mbtmp4.2/30, ML4.2/7, MS4.1/29, Ms1 4.1/29, ms1mx3.9/55 Error ellipse: s-maj=12.7km s-min=6.9km az=12.0*
*ISCJB **17** 02:22:20.4±0.6, 51°96N±0°01×131°28W±0°03, h2km±3km, mb4.7/121, MS4.2/27, Error ellipse: s-maj=3.5km s-min=1.5km az=141.5*
*BJI **17** 02:22:21.7, 52°00N×131°30W, h10km, mb4.8/33, mB5.0/24, Ms4.9/16, Ms7 4.4/17*
*MOS **17** 02:22:21.5±1.0, 51°90N×131°42W, h10km, mb5.0/33, MS4.3/5, Error ellipse: s-maj=10.2km s-min=4.0km az=114.6*
*NEIC **17** 02:22:23.6±0.2, 51°96N×131°34W, h10km, mb4.9/151, MW4.9(OTT), Error ellipse: s-maj=5.2km s-min=1.6km az=46.0*

ISC 17 02:22:23.3±0.8, 51°93N±0°04×131°32W±0°04, h16km±4km, n1102, σ1s43/1075, mb4.8/121, MS4.2/28, 20C-19D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.70**	**338**	P	Pg	02 22 35.7	-1.4
BNB				S	Sg	02 22 45.0	-1.3
BNB	**Barry Inlet**	**0.70**	**338**	P	Pg	02 22 35.4	-1.6
BNB				S	Sg	02 22 46.0	-0.3
MOBC	**Moresby Island**	**1.28**	**342**	P	Pn	02 22 44.8	-1.9
MOBC				S	Sb	02 23 00.3	-3.1
MOBC	**Moresby Island**	**1.28**	**342**	P	Pn	02 22 44.4	-2.2
MOBC				S	Sb	02 23 01.0	-2.4
DIB	**Dawson Inlet,**	**1.46**	**332**	P	Pn	02 22 46.3	-2.7
H02S1	**DAWSON INLET T**	**1.46**	**332**	Pn	Pn	02 22 45.7	-3.3
H02N1	**VAN INLET T-PH**	**1.52**	**331**	Pn	Pn	02 22 46.9	-3.0
VIB	**Van Inlet**	**1.52**	**331**	P	Pn	02 22 46.5	-3.5
VIB				S	Sn	02 23 04.6	-4.9
VIB	**Van Inlet**	**1.52**	**331**	P	Pn	02 22 46.5	-3.5
VIB				S	Sn	02 23 04.7	-4.8
BNAB	**Bonilla**	**1.62**	**15**	P	Pn	02 22 51.8	+0.5
BNAB	**Bonilla**	**1.62**	**15**	P	Pn	02 22 51.8	+0.5
BBB	**Bella Bella**	**2.00**	**81**	Pn	Pn	02 22 55.7	-0.7
	28nm,0.3s,baz=265,slow=15,SNR=162						
BBB				Pg	Pg	02 23 00.9	-0.7
	116nm,0.3s,baz=262,slow=16,SNR=151						
BBB				Sn	Sn	02 23 18.2	-2.9
	213nm,0.3s,baz=344,slow=20,SNR=8.6						
BBB				Lg	Lg	02 23 30.2	
	304nm,0.3s,baz=0.0,slow=20,SNR=12						
BBB				LR	LR	02 23 32.2	
	comp=Z,650nm,19.0s,baz=260,slow=33						
BBB	**Bella Bella**	**2.00**	**81**	Pn	Pn	02 22 55.6	-0.8
BBB	**Bella Bella**	**2.00**	**81**	P	Pb	02 22 58.5	-0.8
NDB	**Naden**	**2.26**	**335**	P	Pn	02 22 57.8	-2.3
NDB	**Naden**	**2.26**	**335**	P	Pn	02 22 57.4	-2.6
HOLB	**Holberg**	**2.38**	**121**	Pn	Pn	02 22 58.4	-3.3
HOLB				Sn	Sn	02 23 26.9	-3.7
HOLB	**Holberg**	**2.38**	**121**	Pn	Pn	02 22 58.4	-3.3
HOLB				Sn	Sn	02 23 26.9	-3.7
PHC	**Port Hardy**	**2.73**	**115**	Pn	Pn	02 23 02.4	-4.0
PHC				Sn	Sn	02 23 05.5	-5.6
PHC	**Port Hardy**	**2.73**	**115**	Pn	Pn	02 23 02.4	-4.0
PHC				Sn	Sn	02 23 33.5	-5.6
BCBC	**Bella Coola**	**2.85**	**79**	Pn	Pn	02 23 09.4	+1.3
BPBC	**Brooks Peninsu**	**2.86**	**127**	Pn	Pn	02 23 04.6	-3.7
MAYB	**Maynard**	**3.03**	**119**	Pn	Pn	02 23 06.8	-3.9
MAYB	**Maynard**	**3.03**	**119**	Pn	Pn	02 23 06.8	-3.9
TLCB	**Telegraph Cove**	**3.14**	**114**	Pn	Pn	02 23 08.5	-3.6
TLCB				Sn	Sn	02 23 44.8	-4.5
FHRB	**Fair Harbour**	**3.25**	**124**	Pn	Pn	02 23 10.4	-3.2
EDB	**Eliza Dome**	**3.36**	**126**	Pn	Pn	02 23 12.2	-3.0
WOSB	**Woss**	**3.48**	**119**	Pn	Pn	02 23 14.2	-2.7
NCRB	**Newcastle Ridg**	**3.65**	**113**	Pn	Pn	02 23 16.2	-3.0
CRAG	**Craig**	**3.71**	**344**	P	Pn	02 23 18.1	-1.7
ETB	**Estevan Point**	**3.97**	**128**	Pn	Pn	02 23 20.4	-3.2
ETB	**Estevan Point**	**3.97**	**128**	Pn	Pn	02 23 20.4	-3.2
GDR	**Gold River**	**3.98**	**121**	Pn	Pn	02 23 21.7	-1.9
GDR	**Gold River**	**3.98**	**121**	Pn	Pn	02 23 21.7	-1.9
CBB	**Campbell River**	**4.21**	**114**	Pn	Pn	02 23 25.0	-1.9
CBB	**Campbell River**	**4.21**	**114**	Pn	Pn	02 23 25.0	-1.9
TOFB	**Tofino**	**4.43**	**127**	Pn	Pn	02 23 27.0	-2.8
BTB	**Buttle Lake**	**4.43**	**121**	Pn	Pn	02 23 28.0	-2.1
UBRB	**Upper Baezaeko**	**4.54**	**75**	Pn	Pn	02 23 32.9	+1.4
UBRB	**Upper Baezaeko**	**4.54**	**75**	Pn	Pn	02 23 32.9	+1.4
WRAK	**Wrangell Islan**	**4.54**	**353**	P	Pn	02 23 31.2	-0.2
B012	**Ucluelet**	**4.76**	**127**	Pn	Pn	02 23 32.3	-2.0
OZB	**Mount Ozzard**	**4.76**	**126**	Pn	Pn	02 23 32.1	-2.4
TXB	**Texada**	**4.90**	**114**	Pn	Pn	02 23 35.1	-1.3
B927	**Port Alberni**	**4.96**	**121**	Pn	Pn	02 23 35.5	-1.5
BMSB	**Bamfield Mari**	**5.02**	**126**	Pn	Pn	02 23 36.2	-1.7
B928	**Bamfield**	**5.03**	**126**	Pn	Pn	02 23 36.2	-1.8
MGB	**Mount Grey**	**5.15**	**122**	Pn	Pn	02 23 37.8	-2.0
MGB	**Mount Grey**	**5.15**	**122**	Pn	Pn	02 23 37.8	-2.0
GHNB	**Nanoose**	**5.22**	**117**	Pn	Pn	02 23 40.3	-0.4
SHB	**Sechelt**	**5.27**	**113**	Pn	Pn	02 23 40.8	-0.7
SHB	**Sechelt**	**5.27**	**113**	Pn	Pn	02 23 40.8	-0.7
NLLB	**Nanaimo Lost L**	**5.40**	**117**	Pn	Pn	02 23 41.8	-1.3
NLLB	**Nanaimo Lost L**	**5.40**	**117**	Pn	Pn	02 23 41.8	-1.3
YOUB	**Youbou, Lake C**	**5.44**	**121**	Pn	Pn	02 23 42.5	-1.3
PFB	**Port Renfrew**	**5.55**	**125**	Pn	Pn	02 23 44.4	-0.8
PFB	**Port Renfrew**	**5.55**	**125**	Pn	Pn	02 23 44.4	-0.8
B926	**Mesachie Lake**	**5.55**	**121**	Pn	Pn	02 23 45.2	0.0
WSLR	**Whistler**	**5.60**	**105**	Pn	Pn	02 23 46.6	+0.6
WSLR	**Whistler**	**5.60**	**105**	Pn	Pn	02 23 46.6	+0.6
OCP	**Olym-Cheeka Pk**	**5.63**	**128**	Pn	Pn	02 23 46.0	-0.4
OCP	**Olym-Cheeka Pk**	**5.63**	**128**	Pn	Pn	02 23 46.0	-0.4
BPCB	**Bare Point**	**5.72**	**119**	Pn	Pn	02 23 46.8	-0.7
BPCB	**Bare Point**	**5.72**	**119**	Pn	Pn	02 23 46.8	-0.7
GOBB	**Galiano Island**	**5.81**	**118**	Pn	Pn	02 23 49.3	+0.5
LZB	**Mount Lazard**	**5.84**	**122**	Pn	Pn	02 23 49.0	-0.3
LZB	**Mount Lazard**	**5.84**	**122**	Pn	Pn	02 23 49.0	-0.3
OFR	**Olym-F Res Ctr**	**6.00**	**129**	Pn	Pn	02 23 51.3	0.0
OFR	**Olym-F Res Ctr**	**6.00**	**129**	Pn	Pn	02 23 51.3	0.0
B010	**North Saanich**	**6.02**	**120**	Pn	Pn	02 23 51.2	-0.4
B009	**North Saanich**	**6.02**	**120**	Pn	Pn	02 23 51.2	-0.4
PGC	**Sidney**	**6.02**	**120**	Pn	Pn	02 23 51.4	-0.2
PGC	**Sidney**	**6.02**	**120**	*e*Pn	Pn	02 23 50.5	-1.1
PGC				*e*Sg	Sg	02 25 31.4	-4.8
B011	**North Saanich**	**6.02**	**120**	Pn	Pn	02 23 50.9	-0.7
LLLB	**Lillooet**	**6.07**	**99**	Pn	Pn	02 23 53.5	+1.1
OBC	**Olympics--Boni**	**6.08**	**127**	Pn	Pn	02 23 50.8	-1.8
OOW	**Octopus West**	**6.24**	**129**	P	Pn	02 23 55.5	+0.8
MCW	**Mount Constitu**	**6.34**	**118**	Pn	Pn	02 23 56.2	+0.1
MCW	**Mount Constitu**	**6.34**	**118**	P	Pn	02 23 56.2	+0.1
MCW	**Mount Constitu**	**6.34**	**118**	Pn	Pn	02 23 56.2	+0.1
A04D	**Lummi Island**	**6.38**	**117**	P	Pn	02 23 55.9	-0.7
	baz=304,SNR=7.9						
OSD	**Olympics--Snow**	**6.41**	**127**	Pn	Pn	02 23 57.0	-0.3
DLBC	**Dease Lake**	**6.57**	**6**	Pn	Pn	02 24 01.5	+2.3
	4.8nm,0.3s,baz=201,slow=12,SNR=42						
DLBC				Lg	Lg	02 25 47.1	
	3.8nm,0.3s,baz=350,slow=11,SNR=5.6						
DLBC				LR	LR	02 26 35.0	
	comp=Z,3μm,18.8s,baz=191,slow=38						
DLBC	**Dease Lake**	**6.57**	**6**	Pn	Pn	02 24 00.8	+1.6
DLBC	**Dease Lake**	**6.57**	**6**	P	Pn	02 23 58.8	-0.4
NLWA	**Neilton Lookou**	**6.63**	**130**	*e*Pn	Pn	02 24 00.4	+0.3
BLN	**Blyn Mountain**	**6.66**	**123**	Pn	Pn	02 24 00.3	-0.3
HOPB	**Hope**	**6.79**	**108**	Pn	Pn	02 24 02.6	+0.3
MBW	**Mount Baker**	**6.80**	**114**	Pn	Pn	02 24 02.5	0.0
HDW	**Hoodsport**	**6.85**	**125**	Pn	Pn	02 24 03.4	+0.2
CMW	**Cultus Mountai**	**6.87**	**117**	Pn	Pn	02 24 03.9	+0.4
SMW	**South Mountain**	**6.94**	**129**	Pn	Pn	02 24 04.7	+0.3
SMW	**South Mountain**	**6.94**	**129**	Pn	Pn	02 24 04.7	+0.3
B05A	**Bryant**	**6.97**	**118**	P	Pn	02 24 04.5	-0.3
	baz=305,SNR=13						
GNW	**Green Mountain**	**7.03**	**125**	Pn	Pn	02 24 06.1	+0.7
JCW	**Jim Creek**	**7.11**	**118**	Pn	Pn	02 24 06.7	+0.1
JCW	**Jim Creek**	**7.11**	**118**	P	Pn	02 24 06.8	+0.1
B06A	**Marblemount**	**7.17**	**115**	Pn	Pn	02 24 09.1	+1.6
B06A	**Marblemount**	**7.17**	**115**	*e*Pn	Pn	02 24 08.5	+1.0
RPW	**Rockport**	**7.20**	**115**	Pn	Pn	02 24 07.7	-0.1
RPW	**Rockport**	**7.20**	**115**	P	Pn	02 24 08.2	+0.3
E03A	**Lebam**	**7.40**	**134**	Pn	Pn	02 24 09.7	-0.9
E03A	**Lebam**	**7.40**	**134**	*e*Pn	Pn	02 24 10.7	+0.1
BLBC	**Blue River**	**7.46**	**84**	Pn	Pn	02 24 12.5	+0.8
ELW	**Echo Lake**	**7.56**	**122**	Pn	Pn	02 24 13.1	+0.2
ELW	**Echo Lake**	**7.56**	**122**	Pn	Pn	02 24 13.1	+0.2
GPW	**Glacier Peak**	**7.59**	**116**	Pn	Pn	02 24 14.6	+1.2
D05A	**Enumclaw**	**7.70**	**124**	Pn	Pn	02 24 15.7	+1.0
D05A	**Enumclaw**	**7.70**	**124**	*e*Pn	Pn	02 24 16.7	+1.9
C06D	**Leavenworth**	**7.83**	**117**	P	Pn	02 24 17.6	+1.0
	baz=305						
SKAG	**Skagway**	**7.88**	**345**	*e*Pn	Pn	02 24 17.4	+0.3
PNT	**Penticton**	**7.89**	**105**	Pn	Pn	02 24 19.1	+1.7
WAPA	**Wapiti River**	**7.89**	**61**	Pn	Pn	02 24 19.4	+2.0
WAPA	**Wapiti River**	**7.89**	**61**	Pn	Pn	02 24 19.4	+2.0
DOWB	**Downie Slide**	**7.97**	**88**	Pn	Pn	02 24 19.3	+0.9
OBSR	**Observation Ro**	**7.98**	**125**	*e*Pn	Pn	02 24 20.1	+1.3
MNB	**Mounoet Dainar**	**7.98**	**83**	Pn	Pn	02 24 20.2	+1.4
F04D	**Rainier, OR**	**8.00**	**134**	P	Pn	02 24 18.8	0.0
	baz=320						
FMW	**Mount Fremont**	**8.03**	**125**	Pn	Pn	02 24 19.7	+0.2
PLBC	**Pleasant Camp**	**8.06**	**341**	Pn	Pn	02 24 18.9	-0.8
LON	**Longmire**	**8.09**	**126**	Pn	Pn	02 24 20.6	+0.5
LON	**Longmire**	**8.09**	**126**	*e*P	Pn	02 24 21.5	+1.4
LON	**Longmire**	**8.09**	**126**	*e*Pn	Pn	02 24 21.5	+1.4
KMOR	**Kings Mountain**	**8.14**	**138**	P	Pn	02 24 21.4	+0.5
TDL	**Tradedollar La**	**8.17**	**130**	P	Pn	02 24 22.4	+1.1
DHAK	**Deception Hill**	**8.17**	**334**	*e*Pn	Pn	02 24 22.6	+1.4
SHW	**Mount Saint He**	**8.28**	**130**	P	Pn	02 24 24.2	+1.5
SHW	**Mount Saint He**	**8.28**	**130**	P	Pn	02 24 24.2	+1.5
LTY	**Liberty**	**8.35**	**120**	Pn	Pn	02 24 23.1	-0.6
LTY	**Liberty**	**8.35**	**120**	*e*Pn	Pn	02 24 24.4	+0.7
F04A	**Amboy**	**8.38**	**132**	*e*Pn	Pn	02 24 25.7	+1.6
FNBB	**Fort Nelson**	**8.43**	**31**	Pn	Pn	02 24 25.6	+0.9
FNBB	**Fort Nelson**	**8.43**	**31**	Pn	Pn	02 24 25.6	+0.9
B08A	**Colville Reser**	**8.49**	**110**	Pn	Pn	02 24 26.0	+0.4
B08A	**Colville Reser**	**8.49**	**110**	*e*Pn	Pn	02 24 26.8	+1.2
G03D	**McMinnville, O**	**8.58**	**138**	P	Pn	02 24 27.1	+0.3
	baz=325,SNR=16						
COR	**Corvallis**	**9.08**	**141**	*e*P	Pn	02 24 35.8	+2.2
COR	**Corvallis**	**9.08**	**141**	*e*Pn	Pn	02 24 35.8	+2.2
C09A	**Chrisman Ranch**	**9.38**	**111**	Pn	Pn	02 24 39.3	+1.5
C09A	**Chrisman Ranch**	**9.38**	**111**	*e*Pn	Pn	02 24 39.3	+1.5
DPW	**Davenport**	**9.39**	**110**	*e*Sn	Sn	02 26 18.7	-4.5
G05D	**Wamic, OR**	**9.41**	**131**	P	Pn	02 24 39.4	+1.1
	baz=319						
D08A	**Wollman Farm,**	**9.42**	**116**	*e*Pn	Pn	02 24 39.2	+0.9
HAWA	**Hanford**	**9.50**	**121**	*e*Pn	Pn	02 24 42.1	+2.7
HYT	**Haines Junctio**	**9.55**	**341**	Pn	Pn	02 24 39.5	-0.7
HYT	**Haines Junctio**	**9.55**	**341**	P	Pn	02 24 37.0	-3.2
G06A	**Carlson Farm,**	**9.74**	**129**	*e*Pn	Pn	02 24 44.0	+1.2
I03D	**Drain, OR**	**9.82**	**144**	P	Pn	02 24 45.4	+1.6
	baz=330,SNR=8.9						
NEW	**Newport**	**9.83**	**106**	Pn	Pn	02 24 45.8	+1.8
	0.4nm,0.3s,baz=283,slow=11,SNR=15						
NEW				Lg	Lg	02 27 35.8	
	0.2nm,0.3s,baz=40,slow=12,SNR=3.2						
NEW				LR	LR	02 28 24.8	
	comp=Z,2μm,20.8s,baz=303,slow=36						
NEW	**Newport**	**9.83**	**106**	P	Pn	02 24 45.8	+1.8
	baz=297,SNR=12						
NEW	**Newport**	**9.83**	**106**	*e*P	Pn	02 24 46.1	+2.1
NEW	**Newport**	**9.83**	**106**	*e*Pn	Pn	02 24 46.1	+2.1
NEW				*e*Lg	Lg	02 27 35.7	
I04A	**Tendick Farm,**	**10.10**	**140**	P	Pn	02 24 49.1	+1.5
	baz=327,SNR=44						
I05D	**Terrebonne, OR**	**10.10**	**135**	P	Pn	02 24 48.2	+0.5
	baz=322						
E09A	**Wood Farm, Sta**	**10.18**	**117**	*e*Pn	Pn	02 24 49.5	+0.8
HILA	**High Level**	**10.51**	**45**	Pn	Pn	02 24 53.6	+0.5
G08A	**Pilot Rock**	**10.53**	**124**	*e*Pn	Pn	02 24 55.7	+2.1
CTGM	**Chitina Glacie**	**10.61**	**333**	Pn	Pn	02 24 56.7	+2.1
PRDA	**Priddis**	**10.70**	**89**	Pn	Pn	02 24 58.9	+3.0
HUMO	**Hull Mountain**	**10.91**	**145**	*e*Pn	Pn	02 25 01.9	+3.2
BALM	**Baldy**	**10.96**	**331**	Pn	Pn	02 25 00.6	+1.2
BALM	**Baldy**	**10.96**	**331**	*e*P	Pn	02 25 01.2	+1.8
BALM	**Baldy**	**10.96**	**331**	*e*Pn	Pn	02 25 01.2	+1.8
CRQM	**Cirque**	**10.99**	**328**	*e*Pn	Pn	02 25 00.4	+0.5
J05D	**Fort Rock, OR**	**10.99**	**138**	P	Pn	02 25 02.6	+2.6
	baz=326,SNR=122						
F10A	**Beach Ranch, E**	**11.01**	**117**	*e*Pn	Pn	02 25 00.2	0.0
YUK3	**Moose Creek**	**11.05**	**337**	Pn	Pn	02 25 02.0	+1.2
L02D	**Cave Junction,**	**11.09**	**149**	P	Pn	02 25 04.2	+3.0
	baz=334,SNR=7.8						
YUK2	**White River**	**11.16**	**336**	Pn	Pn	02 25 04.6	+2.4
RAGM	**Ragged Mountai**	**11.26**	**324**	*e*Pn	Pn	02 25 03.8	+0.3
K04D	**Chiloquin, OR**	**11.34**	**141**	P	Pn	02 25 06.3	+1.5
	baz=329,SNR=7.5						
BSMT	**Bassoo Peak**	**11.42**	**104**	Pn	Pn	02 25 09.1	+3.3
BSMT	**Bassoo Peak**	**11.42**	**104**	*e*Pn	Pn	02 25 09.6	+3.8
WALA	**Waterton Lakes**	**11.46**	**98**	Pn	Pn	02 25 08.5	+2.2
WALA	**Waterton Lakes**	**11.46**	**98**	*e*Pn	Pn	02 25 08.7	+2.4
WALA				*e*Lg	Lg	02 28 30.7	
K05A	**Summer Lake**	**11.60**	**138**	*e*Pn	Pn	02 25 11.1	+2.7
BLMT	**Blacktail Moun**	**11.60**	**103**	*e*Pn	Pn	02 25 11.1	+2.8
BLMT				*e*Lg	Lg	02 28 40.1	
BMRM	**Bremner River**	**11.64**	**326**	*e*Pn	Pn	02 25 09.8	+1.1
BMO	**Blue Mountains**	**11.69**	**122**	*e*Pn	Pn	02 25 11.0	+1.6
BMO				*e*Lg	Lg	02 28 57.7	
EYAK	**Cordova Ski Ar**	**11.77**	**323**	*e*Pn	Pn	02 25 11.7	+1.4
JTMT	**Jette**	**11.77**	**104**	Pn	Pn	02 25 12.3	+1.8
JTMT	**Jette**	**11.77**	**104**	*e*Pn	Pn	02 25 12.0	+1.5
YBH	**Yreka Blue Hor**	**11.77**	**147**	*e*P	Pn	02 25 14.3	+3.7
YBH	**Yreka Blue Hor**	**11.77**	**147**	*e*Pn	Pn	02 25 14.3	+3.7
**F

YKB6 Yellowknife Ar 13.90 34 P Pn 02 25 38.5 -0.8
YKR9 Yellowknife Ar 13.90 34 P Pn 02 25 38.6 -0.8
YKB7 Yellowknife Ar 13.91 34 P Pn 02 25 38.4 -1.1
YKW3 Yellowknife Ar 13.92 34 P Pn 02 25 38.5 -1.2
YKB8 Yellowknife Ar 13.93 34 P Pn 02 25 38.7 -1.1
YKB0 Yellowknife Ar 13.96 33 P Pn 02 25 39.4 -0.8
DLMT Dillon 13.99 111 ePn Pn 02 25 41.5 +0.5
DLMT eLg Lg 02 30 01.5
HLID Hailey 14.10 120 P Pn 02 25 42.8 +0.4
baz=312,SNR=103
HLID Hailey 14.10 120 ePn Pn 02 25 43.4 +1.0
HLID eLg Lg 02 30 14.6
ORV Oroville 14.13 147 eP Pn 02 25 44.9 +2.2
ORV Oroville 14.13 147 ePn Pn 02 25 44.9 +2.2
MCMT McKenzie Canyo 14.16 113 ePn Pn 02 25 43.8 +0.5
SUA Susitna One 14.26 320 ePn Pn 02 25 44.2 -0.3
BOZ Bozeman (W) 14.40 108 P Pn 02 25 47.5 +1.0
baz=303,SNR=59
BOZ Bozeman (W) 14.40 108 eP Pn 02 25 48.2 +1.7
BOZ Bozeman (W) 14.40 108 ePn Pn 02 25 48.2 +1.7
BOZ eLg Lg 02 30 10.7
EGMT Eagleton 14.40 97 P Pn 02 25 46.4 -0.1
baz=294,SNR=31
EGMT Eagleton 14.40 97 ePn Pn 02 25 46.6 +0.1
118nm,1.1s
MOMT Monida 14.56 113 ePn Pn 02 25 41.0 -7.9
MOMT eSn Sn 02 28 21.2 -8.7
MOMT eS S 02 28 51.9 +2.6
RSO Redoubt South 14.61 314 ePn Pn 02 25 49.5 +0.1
SPU Mount Spurr 14.65 317 ePn Pn 02 25 50.0 +0.2
PAHR Pah Rah Range 14.76 141 ePn Pn 02 25 53.5 +2.0
RND Reindeer 14.77 328 eP Pn 02 25 52.8 +1.4
RND Reindeer 14.77 328 ePn Pn 02 25 52.8 +1.4
TPMT Tepee Creek 14.90 111 P Pn 02 25 55.5 +2.1
HDA Harding Lake 14.92 333 ePn Pn 02 25 53.2 -0.2
QLMT Earthquake Lak 14.98 110 ePn Pn 02 25 56.2 +1.8
MCK McKinley 15.03 329 eP Pn 02 25 56.5 +1.7
MCK pmax pmax
comp=Z,53nm,0.9s
MCK McKinley 15.03 329 ePn Pn 02 25 56.5 +1.7
comp=Z,53nm,0.9s
IL1 Eielson Array 15.18 334 ePn P 02 26 02.7 +0.9
ILAR Eielson Array 15.18 334 Pn Pn 02 25 58.9 +2.1
comp=Z,0.4nm,0.3s,baz=151,slow=10,SNR=46
ILAR Lg Lg 02 30 23.7
comp=Z,0.0nm,0.3s,baz=110,slow=18,SNR=3.3
ILAR LR LR 02 31 31.6
comp=Z,1µm,19.3s,baz=148,slow=36
ILB Eielson Array 15.18 334 ePn P 02 26 01.4 -0.5
YMC Maple Creek 15.26 110 ePn Pn 02 26 00.0 +1.8
TRF Thorofare Moun 15.29 326 ePn Pn 02 25 58.7 +0.3
comp=Z,69nm,1.2s
WRH Wood River Hil 15.30 332 ePn Pn 02 25 59.3 +1.0
comp=Z,93nm,1.0s
YHH Holmes Hill 15.34 110 ePn Pn 02 26 01.0 +1.7
comp=Z,74nm,1.1s
YMR Madison River 15.34 110 ePn Pn 02 26 01.8 +2.5
comp=Z,213nm,1.4s
CCB Clear Creek Bu 15.34 333 ePn P 02 26 02.2 -1.4
comp=Z,60nm,1.0s
CLVN Colville Lake 15.38 8 P Pn 02 25 59.2 -0.2
GCMT Greycliff 15.49 105 ePn Pn 02 26 02.7 +1.5
MCID Moose Creek 15.50 112 ePn Pn 02 26 03.1 +1.8
BWN Browne 15.50 329 ePn Pn 02 26 03.0 +2.0
comp=Z,200nm,1.4s
COLA College 15.53 333c iP Pn 02 26 01.0 -0.3
COLA College 15.53 333 ePn Pn 02 26 01.6 +0.3
comp=Z,54nm,1.0s
YFT Old Faithful 15.54 111 ePn P 02 26 05.6 -0.6
comp=Z,60nm,1.1s
KTH Kantishna Hill 15.57 326 ePn Pn 02 26 02.3 +0.3
comp=Z,62nm,1.0s
PPLA Purkeypile 15.63 323 ePn P 02 26 05.2 -1.7
comp=Z,56nm,1.2s
YPP Pitchstone Pla 15.67 111 ePn P 02 26 06.0 -1.6
comp=Z,54nm,1.3s
YPP ePcP PcP 02 31 02.7 -1.2
MDM Murphy Dome 15.70 333 ePn P 02 26 06.7 -0.9
comp=Z,47nm,1.1s
ELK Elko 15.72 129 eP Pn 02 26 05.0 +0.7
ELK pmax pmax
comp=Z,87nm,1.3s
ELK Elko 15.72 129 ePn Pn 02 26 05.0 +0.7
comp=Z,87nm,1.3s
H17A Grant Village 15.72 110 P Pn 02 26 06.1 +1.8
baz=306,SNR=36
H17A Grant Village 15.72 110 ePn P 02 26 07.0 -1.3
comp=Z,398nm,1.6s
LKWY Lake 15.73 110 eP Pn 02 26 06.0 +1.6
LKWY pmax pmax
comp=Z,111nm,1.1s
LKWY Lake 15.73 110 ePn Pn 02 26 06.0 +1.6
comp=Z,111nm,1.1s
WAKR Walker 15.79 144 ePn Pn 02 26 07.0 +1.9
comp=Z,167nm,1.7s
IMW Indian Meadow 15.81 112 ePn Pn 02 26 07.0 +1.5
comp=Z,137nm,1.3s
FLWY Flagg Ranch 15.84 112 ePn P 02 26 08.3 -1.1
comp=Z,144nm,1.3s
CMB Columbia Colle 15.87 147 eP Pn 02 26 07.4 +1.4
CMB pmax pmax
comp=Z,62nm,1.4s
CMB Columbia Colle 15.87 147 ePn Pn 02 26 07.4 +1.4
comp=Z,62nm,1.4s
FXWY Fox Creek 15.92 113 ePn Pn 02 26 08.7 +1.9
comp=Z,112nm,1.2s
BPAW Bear Paw Mtn. 15.95 327 ePn Pn 02 26 06.7 0.0
comp=Z,55nm,1.0s
MOOW Moose Ponds 16.02 113 ePn Pn 02 26 09.9 +1.9
comp=Z,88nm,1.1s
TPAW Teton Pass 16.06 114 ePn P 02 26 11.1 -0.9
comp=Z,207nm,1.2s
TPAW eLg Lg 02 31 15.0
RLMT Red Lodge 16.08 106 P Pn 02 26 09.4 +0.5
baz=303,SNR=25
RLMT Red Lodge 16.08 106 ePn Pn 02 26 10.2 +1.3
comp=Z,55nm,1.1s
RLMT eLg Lg 02 31 04.3
SVW2 Sparrevohn 16.14 314 ePn Pn 02 26 07.4 -1.8
comp=Z,70nm,1.0s
LOHW Long Hollow 16.18 113 ePn P 02 26 12.5 -0.7
comp=Z,102nm,1.3s
SNOW Snow King Moun 16.19 113 ePn P 02 26 13.1 -0.3
comp=Z,126nm,1.2s
REDW Red Top Meadow 16.20 114 ePn P 02 26 12.6 -0.8
comp=Z,187nm,1.3s
HVU Hansel Valley 16.20 121 eP Pn 02 26 11.9 +1.6
HVU pmax pmax
comp=Z,86nm,1.4s
HVU Hansel Valley 16.20 121 ePn Pn 02 26 11.9 +1.6
comp=Z,86nm,1.4s
FYU Fort Yukon 16.25 340 ePn P 02 26 12.1 -1.4
comp=Z,98nm,1.3s
AHID Auburn Hatcher 16.44 116 ePn P 02 26 15.9 -0.3
comp=Z,98nm,1.1s
INK Inuvik 16.47 357 Pn Pn 02 26 13.2 -0.2
comp=Z,0.2nm,0.3s,baz=171,slow=12,SNR=25
INK Lg Lg 02 31 05.8
comp=Z,0.0nm,0.3s,baz=292,slow=19,SNR=3.9
INK LR LR 02 31 53.4
comp=Z,441nm,21.6s,baz=176,slow=35
INK Inuvik 16.47 357 P Pn 02 26 11.5 -1.9
INK Inuvik 16.47 357 eP Pn 02 26 14.7 +1.3
INK Inuvik 16.47 357 ePn Pn 02 26 14.7 +1.3
INK Lg Lg 02 31 05.8
COKN Cook Lake 16.48 38 P Pn 02 26 12.5 -1.1
MLY Manley 16.49 330 ePn P 02 26 16.7 +0.3
comp=Z,77nm,1.1s
BGU Big Grassy Mou 16.68 124 ePn P 02 26 17.9 -0.9
comp=Z,81nm,1.5s
SNLN Sandy Lake, NW 16.70 40 P Pn 02 26 14.9 -1.4
SPUT South Promonto 16.71 122 ePn P 02 26 18.8 -0.3
comp=Z,58nm,1.4s
HDU Hyde Park 16.72 120 ePn P 02 26 18.9 -0.4
WHFN White Fish Lak 16.77 41 P Pn 02 26 16.1 -1.2
MLAC Mammoth, Mammo 16.78 144 P P 02 26 19.2 -0.8
baz=332
HWUT Hardware Ranch 16.97 120 ePn P 02 26 21.8 -0.2
MCU Monte Cristo P 17.10 120 ePn P 02 26 23.4 -0.1
TT01 Tatalina 17.13 319 ePn P 02 26 25.0 +1.6
TTA Tatalina 17.14 320 eP P 02 26 24.4 +0.9
TTA pmax pmax
comp=Z,94nm,1.3s
TTA Tatalina 17.14 320 ePn P 02 26 24.4 +0.9
comp=Z,94nm,1.3s

LAO LASA Array 17.14 98 P Pn 02 26 23.1 +0.9
baz=297,SNR=12
LAO LASA Array 17.14 98 ePn Pn 02 26 22.6 +0.4
comp=Z,42nm,1.0s
BW06 Boulder Array 17.31 113 P P 02 26 25.5 -0.2
baz=310,SNR=50
BW06 Boulder Array 17.31 113 ePn P 02 26 26.6 +0.8
comp=Z,93nm,1.0s
PD31 Pinedale Array 17.31 113 ePn P 02 26 26.6 +0.8
PDAR Pinedale Array 17.31 113 P P 02 26 26.6 +0.8
comp=Z,0.9nm,0.3s,baz=310,slow=9.5,SNR=86
PDAR LR LR 02 33 02.9
comp=Z,658nm,21.2s,baz=325,slow=37
DUG Dugway, Tooele 17.34 125 P Pn 02 26 25.0 +0.4
baz=319,SNR=25
DUG Dugway, Tooele 17.34 125 eP P 02 26 25.7 -0.3
DUG pmax pmax
comp=Z,116nm,1.6s
DUG Dugway, Tooele 17.34 125 ePn P 02 26 25.7 -0.3
comp=Z,116nm,1.6s
TCUT Toone Canyon 17.39 121 ePn P 02 26 27.5 +0.7
comp=Z,52nm,1.0s
R11A Troy Canyon, C 17.48 135 P P 02 26 27.5 -0.1
baz=326,SNR=56
R11A Troy Canyon, C 17.48 135 ePn P 02 26 27.4 -0.3
comp=Z,90nm,1.4s
TIN Tinemaha, Big 17.52 143 P P 02 26 28.5 +0.5
baz=332
CTU Camp Tracy 17.52 122 ePn P 02 26 28.3 +0.2
comp=Z,165nm,1.6s
DGMT Dagmar 17.67 91 P Pn 02 26 28.9 +0.3
baz=292
DGMT Dagmar 17.67 91 ePn Pn 02 26 28.9 +0.3
comp=Z,109nm,1.1s
JLU Jordanelle 17.74 122 ePn P 02 26 31.1 +0.5
comp=Z,24nm,1.1s
KUKN Kuguktuk,NWT 17.80 20 P Pn 02 26 28.9 -1.2
RCTC Reator, Farmer 17.82 146 P P 02 26 31.5 +0.3
baz=335,SNR=9.4
GRAC Grapevine Rang 17.90 141 P P 02 26 33.5 +1.4
baz=331,SNR=23
WMUT West Mountain 17.93 124 ePn Pn 02 26 31.0 -1.0
COLD Coldfoot 17.94 336 P P 02 26 32.7 +0.3
COLD Coldfoot 17.94 336 ePn P 02 26 33.3 +1.0
COLD eLg Lg 02 32 15.8
CWC Cottonwood Cre 18.12 144 P P 02 26 35.9 +1.2
baz=333
PSUT Pine Spring 18.12 131 ePn P 02 26 36.6 +1.9
comp=Z,57nm,1.1s
A25A Svangstu Ranch 18.17 88 P P 02 26 35.4 +0.4
baz=290,SNR=17
VES Vestal, Richgr 18.30 147 P P 02 26 37.0 +0.6
baz=335,SNR=9.4
TPNV Topopah Spring 18.38 139 P Pn 02 26 39.3 +1.7
baz=329,SNR=86
TPNV Topopah Spring 18.38 139 eP Pn 02 26 38.7 +1.1
TPNV pmax pmax
comp=Z,259nm,1.4s
TPNV Topopah Spring 18.38 139 eP Pn 02 26 38.7 +1.1
comp=Z,259nm,1.4s
SMMC Simmler 18.48 150 P Pn 02 26 39.9 +1.2
baz=338
C25A Freed Ranch, W 18.54 92 P Pn 02 26 40.0 +0.7
baz=294,SNR=5.8
FURC Furnace Creek, 18.55 141 P Pn 02 26 41.8 +2.3
baz=331,SNR=11
ISA Isabella, Lake 18.67 146 P Pn 02 26 43.3 +2.3
baz=335,SNR=8.3
ISA Isabella, Lake 18.67 146 eP Pn 02 26 43.8 +2.8
ISA pmax pmax
comp=Z,82nm,1.3s
ISA Isabella, Lake 18.67 146 eP Pn 02 26 43.8 +2.8
comp=Z,82nm,1.3s
MPMC Manual Prospec 18.67 143 P Pn 02 26 42.7 +1.5
baz=333,SNR=83
D25A Fairfield 18.73 94 P Pn 02 26 42.7 +1.1
baz=295,SNR=11
TMUT Trail Mountain 18.83 124 eP Pn 02 26 44.7 +1.6
comp=Z,48nm,1.2s
A26A Wade Farm, Ken 18.85 88 P Pn 02 26 43.5 +0.4
baz=290,SNR=9.5
B26A Jensen Ranch, 18.91 89 P Pn 02 26 44.5 +0.6
baz=292
PKM Mcpherson Peak 18.93 150 P Pn 02 26 45.2 +0.9
baz=338
P17A Butcher Ranch, 18.94 123 eP Pn 02 26 45.9 +1.5
comp=Z,57nm,1.2s
P17A ePcP PcP 02 31 07.1 -2.0
MSU Marysvale 18.94 128 eP Pn 02 26 45.8 +1.3
MSU Marysvale 18.94 128 eP Pn 02 26 45.8 +1.3
E25A Miller Ranch, 18.97 96 P Pn 02 26 45.5 +0.9
baz=297,SNR=18
ARVC Arvin 19.03 147 P Pn 02 26 45.3 0.0
baz=336
P18A Preston Nutter 19.08 122 eP Pn 02 26 48.1 +1.9
comp=Z,60nm,1.1s
LRMC Laurel Mtn Rad 19.12 144 P Pn 02 26 47.7 +1.2
baz=334
K22A Casper 19.13 109 P Pn 02 26 46.4 -0.2
baz=308,SNR=45
K22A Casper 19.13 109 eP Pn 02 26 46.6 0.0
comp=Z,130nm,1.2s
CCUT Cedar City 19.14 132 eP Pn 02 26 47.7 +0.8
comp=Z,39nm,1.0s
F25A Bowman 19.20 97 P Pn 02 26 47.9 +0.6
baz=298,SNR=19
SHPR Sheep Range 19.21 137 eP Pn 02 26 48.1 +0.4
comp=Z,150nm,1.6s
SHOC Shoshone, Teco 19.28 140 P Pn 02 26 49.3 +1.0
baz=331,SNR=5.6
MTPU Mount Pierson 19.31 128 eP Pn 02 26 50.1 +1.1
comp=Z,130nm,1.8s
SRU San Rafael Swe 19.32 123 eP Pn 02 26 50.5 +1.6
SRU pmax pmax
comp=Z,76nm,1.1s
SRU San Rafael Swe 19.32 123 ePn Pn 02 26 50.5 +1.6
comp=Z,76nm,1.1s
A27A Ledoux Ranch, 19.32 87 P P 02 26 48.4 +0.8
baz=290
D26A Manning 19.33 93 P Pn 02 26 48.8 -0.1
baz=296,SNR=9.2
SBC Santa Barbara 19.38 150 P Pn 02 26 50.0 +0.6
baz=338
OSI Osito Audit: C 19.54 147 P Pn 02 26 51.6 +0.2
baz=336
EDW2 Edwards Air Fo 19.54 145 P Pn 02 26 52.5 +1.0
baz=335,SNR=32
E26A Carlson Angus 19.56 95 P Pn 02 26 51.5 -0.1
baz=297,SNR=30
GSC Goldstone, Bar 19.60 142 P Pn 02 26 52.7 +0.5
baz=333,SNR=18
GSC Goldstone, Bar 19.60 142 eP Pn 02 26 54.0 +1.8
GSC pmax pmax
comp=Z,116nm,1.3s
GSC Goldstone, Bar 19.60 142 eP Pn 02 26 54.0 +1.8
comp=Z,116nm,1.3s
LCMT Little Creek M 19.64 132 eP Pn 02 26 53.2 +0.5
comp=Z,139nm,1.3s
F26A Lodgepole 19.72 97 P P 02 26 52.9 +0.9
baz=298,SNR=20
PKCU Pink Cliffs 19.72 130 eP Pn 02 26 55.1 +1.2
comp=Z,150nm,1.6s
H25A Fruitdale 19.76 101 P P 02 26 53.5 +0.9
baz=302,SNR=15
RSSD Black Hills 19.76 102 P P 02 26 53.3 +0.5
baz=303
RSSD Black Hills 19.76 102 eP P 02 26 53.2 +0.5
RSSD pmax pmax
comp=Z,41nm,1.0s
RSSD Black Hills 19.76 102 eP P 02 26 53.2 +0.5
comp=Z,41nm,1.0s
RSSD eLg Lg 02 32 53.2
O20A White River Ci 19.80 117 P P 02 26 53.5 +0.4
baz=314,SNR=41
O20A White River Ci 19.80 117 eP Pn 02 26 56.0 +1.3
comp=Z,110nm,1.0s
SCZ2 Santa Cruz Isl 19.81 150 P Pn 02 26 55.4 +0.7
baz=338
TUQ Turquoise Moun 19.82 140 P Pn 02 26 54.5 -0.4
baz=331
KNB Kanab 19.83 132 eP Pn 02 26 55.1 +0.1
KNB pmax pmax
comp=Z,272nm,2.0s
KNB Kanab 19.83 132 eP Pn 02 26 55.1 +0.1
comp=Z,272nm,2.0s
BLG Laguna Peak, P 19.89 149 P Pn 02 26 54.9 -0.6
baz=337

RRX Edison Barstow 19.91 143 P Pn 02 26 55.8 0.0
baz=333
A28A Rude Farm, Bot 19.94 86 P P 02 26 54.5 +0.1
baz=291,SNR=43
DECC Green Verdugo 20.00 147 P P 02 26 56.0 +0.9
baz=336
B28A Dugan Ranch, T 20.05 88 P P 02 26 56.5 +1.0
baz=292,SNR=18
MWC Mount Wilson 20.11 146 eP Pn 02 26 58.3 -0.1
MWC pmax pmax
comp=Z,94nm,1.3s
MWC Mount Wilson 20.11 146 ePn Pn 02 26 58.3 -0.1
comp=Z,94nm,1.3s
PASC Pasadena Art C 20.12 147 eP Pn 02 26 57.9 -0.4
comp=Z,83nm,1.5s
HEC Hector,Ludlow 20.20 142 P Pn 02 26 58.4 -0.8
baz=332
BFSC Mount Baldy Ra 20.24 146 P Pn 02 26 59.6 -0.2
baz=335,SNR=13
C28A Hausauer Farms 20.31 90 P Pn 02 27 00.6 +0.1
baz=294,SNR=37
D28A Regan 20.41 91 P Pn 02 27 01.3 -0.4
baz=295,SNR=11
LDFC Landfair 20.46 139 eP Pn 02 27 03.7 +1.3
comp=Z,148nm,1.1s
BBRC Big Bear Solar 20.48 144 P P 02 27 01.6 +1.0
baz=334
GMRC Granite Mounta 20.50 141 P Pn 02 27 02.1 -0.8
baz=332,SNR=43
PV09 Paradox Valley 20.50 122 eP Pn 02 27 03.5 +0.4
FMP Fort Macarthur 20.50 148 P Pn 02 27 02.2 -0.5
baz=337
U15A North Rim 20.55 131 eP Pn 02 27 03.2 -0.4
comp=Z,161nm,1.1s
A29A Manning Farm, 20.57 86 P P 02 27 02.4 +1.1
baz=291,SNR=52
N23A Red Feather La 20.58 112 P P 02 27 02.5 +0.9
baz=311
PHWY Pilot Hill 20.59 111 eP P 02 27 02.5 +0.7
comp=Z,80nm,1.0s
PV10 Paradox Valley 20.64 122 eP P 02 27 02.5 +0.1
B29A Wagenman Farm, 20.66 87 P Pn 02 27 04.0 -0.6
baz=292,SNR=54
PV04 Paradox Valley 20.70 122 eP P 02 27 04.2 +1.4
MDND Maddock 20.75 89 P Pn 02 27 04.9 -0.7
baz=293,SNR=19
MDND Maddock 20.75 89 eP Pn 02 27 05.1 -0.5
comp=Z,265nm,0.9s
PV05 Paradox Valley 20.83 123 eP P 02 27 05.6 +1.2
NEE2 Needles Airpor 20.93 139 P P 02 27 06.1 +0.9
baz=330
W13A Hualapai Mount 20.95 137 eP P 02 27 07.0 +1.3
comp=Z,86nm,1.0s
MURC Murrieta 20.98 145 P P 02 27 07.1 +1.4
baz=335
BELC Belle Mtn. Jos 21.06 142 P P 02 27 07.3 +0.6
baz=333,SNR=7.1
PV01 Paradox Valley 21.07 122 eP P 02 27 08.3 +1.4
D29A Pettibone, Tap 21.07 91 P P 02 27 08.0 +1.4
baz=295,SNR=25
SCI2 San Clemente I 21.09 149 P P 02 27 07.7 +0.7
baz=338,SNR=7.4
A30A Hoffart Farm, 21.14 85 P P 02 27 08.1 +0.7
baz=291,SNR=17
SMCO Snowmass 21.17 117 eP P 02 27 09.2 +1.1
comp=Z,105nm,1.1s
PFO Pinyon Flats O 21.23 144 P P 02 27 08.4 -0.2
comp=Z,20nm,1.0s,baz=332,slow=6.3,SNR=11
PFO LR LR 02 35 47.8
comp=Z,549nm,18.7s,baz=323,slow=38
PFO Pinyon Flats O 21.23 144 P P 02 27 09.9 +1.2
baz=334
PFO Pinyon Flats O 21.23 144 eP P 02 27 09.4 +0.8
PFO pmax pmax
comp=Z,25nm,1.0s
PFO Pinyon Flats O 21.23 144 eP P 02 27 09.4 +0.8
comp=Z,25nm,1.0s
TPFO Pinon Flats 21.24 144 P P 02 27 10.2 +1.5
baz=334,SNR=6.1
IRM Iron Mountain 21.25 140 P P 02 27 10.1 +1.4
baz=332,SNR=12
E29A Napoleon 21.26 92 P P 02 27 09.2 +0.5
baz=296
B30A Myrvik Farm, E 21.30 86 P P 02 27 09.7 +0.6
baz=292,SNR=62
F29A Eureka 21.48 94 P P 02 27 12.2 +1.1
baz=298,SNR=16
ISCO Idaho Springs 21.50 114 P P 02 27 12.7 +1.1
baz=313,SNR=41
ISCO Idaho Springs 21.50 114 eP P 02 27 12.5 +0.9
ISCO pmax pmax
comp=Z,41nm,1.0s
ISCO Idaho Springs 21.50 114 eP P 02 27 12.5 +0.9
comp=Z,41nm,1.0s
C30A Mose, Pekin 21.50 88 P P 02 27 11.9 +0.6
baz=294,SNR=23
PDMCI Parker Dam,Lak 21.53 138 P P 02 27 12.9 +1.3
baz=330,SNR=23
D30A Buchanan 21.57 90 P P 02 27 13.0 +1.0
baz=295,SNR=88
BC3 Big Chuckawall 21.57 142 P P 02 27 13.1 +0.9
baz=333
109C Camp Elliot, M 21.66 146 P P 02 27 14.2 +1.2
baz=336
WUAZ Wupatki 21.72 131 P P 02 27 15.0 +1.1
baz=325,SNR=52
WUAZ Wupatki 21.72 131 eP P 02 27 14.5 +0.6
comp=Z,143nm,1.1s
G29A Hoven 21.73 96 P P 02 27 14.5 +0.8
baz=300,SNR=8.2
B31A Greenbush Farm 21.73 86 P P 02 27 14.2 +0.5
baz=292
E30A Jud 21.74 92 P P 02 27 14.8 +1.0
baz=296,SNR=23
MVCO Mesa Verde 21.80 123 P P 02 27 15.5 +0.7
baz=320,SNR=64
MVCO Mesa Verde 21.80 123 eP P 02 27 15.7 +0.9
comp=Z,154nm,1.3s
H29A Onida 21.83 97 P P 02 27 16.3 +1.4
baz=301,SNR=7.5
A31A Linda, St. Vin 21.83 84 P P 02 27 15.0 +0.2
baz=291
Y12C Blythe 21.85 140 P P 02 27 16.3 +1.2
baz=331,SNR=18
Y12C Blythe 21.85 140 eP P 02 27 16.7 +1.6
MONP2 Monument Peak 21.89 145 P P 02 27 16.5 +0.7
baz=335,SNR=28
C31A Landman Farms, 21.93 88 P P 02 27 16.3 +0.5
baz=294,SNR=31
F30A Leola 21.97 93 P P 02 27 17.1 +0.7
baz=298,SNR=15
BAR Barrett 22.00 145 eP P 02 27 17.9 +1.2
comp=Z,36nm,1.0s
YBKN Baker Lake, Hu 22.04 42 P P 02 27 18.1 +1.2
SWSC Sam W. Stewart 22.07 143 P P 02 27 18.1 +0.6
baz=334,SNR=7.7
I29A Vivian Onida 22.09 99 P P 02 27 18.0 +0.4
baz=302
ULM Lac du Bonnet 22.20 80 P P 02 27 18.7 0.0
comp=Z,15nm,0.8s,baz=292,slow=10,SNR=15
ULM Lg Lg 02 33 58.4
comp=Z,1.8nm,0.4s,baz=8.6,slow=19,SNR=3.8
ULM LR LR 02 36 08.4
comp=Z,579nm,19.9s,baz=288,slow=37
ULM Lac du Bonnet 22.20 80 P P 02 27 17.3 -1.4
ULM Lac du Bonnet 22.20 80 eP P 02 27 19.0 +0.3
ULM pmax pmax
comp=Z,25nm,1.0s
ULM Lac du Bonnet 22.20 80 eP P 02 27 19.0 +0.3
comp=Z,25nm,1.0s
ARVN Arviat, NU 22.22 51 P P 02 27 18.2 -0.6
IKP In-Ko-Pah, Jac 22.23 144 P P 02 27 20.0 +0.8
baz=335,SNR=28
G30A Faulkton 22.24 95 P P 02 27 19.9 +0.7
baz=300,SNR=42
D31A Mcclaflin, Tow 22.24 89 P P 02 27 19.5 +0.3
baz=295,SNR=17
A32A Rocking H Ranc 22.27 84 P P 02 27 19.6 +0.2
baz=291
S22A 4UR Ranch, Cre 22.28 120 P P 02 27 21.4 +1.4
baz=318,SNR=82
S22A 4UR Ranch, Cre 22.28 120 eP P 02 27 21.4 +1.4
comp=Z,103nm,1.1s
Y14A Wickenburg 22.32 137 eP P 02 27 21.5 +1.3
comp=Z,270nm,1.0s
Q24A Divide 22.33 115 P P 02 27 21.8 +1.2
baz=314,SNR=28
Q24A Divide 22.33 115 eP P 02 27 22.2 +1.6

comp=Z,74nm,1.1s
E31A Nome 22.35 91 P P 02 27 20.6 +0.2
baz=296
GLA Glamis 22.35 141 P P 02 27 21.0 +0.5
baz=333
B32A Ashes, Strandq 22.43 85 P P 02 27 21.6 +0.4
baz=292
F31A Hecla 22.44 93 P P 02 27 21.2 -0.2
baz=298
X16A Lo Mia Camp, P 22.60 133 eP P 02 27 24.6 +1.2
comp=Z,38nm,1.1s
D32A Dogwood Acres, 22.64 89 P P 02 27 23.1 -0.3
baz=295
C32A Crookston 22.66 87 P P 02 27 23.8 +0.2
baz=294
I30A Oacoma 22.68 98 P P 02 27 24.0 0.0
baz=302
SUSD Miller 22.70 96 P P 02 27 24.2 +0.1
baz=301
G31A Conde 22.77 94 P P 02 27 24.9 +0.1
baz=299
OGNE Ogallala 22.82 107 P P 02 27 25.5 -0.1
baz=309
OGNE Ogallala 22.82 107 eP P 02 27 26.9 +1.4
W18A Petrified Fore 22.82 129 P P 02 27 26.1 +0.4
baz=324
W18A Petrified Fore 22.82 129 eP P 02 27 27.2 +1.6
comp=Z,53nm,1.1s
E32A Braaten, Kindr 22.84 90 P P 02 27 25.5 -0.1
baz=296
AGMN Agassiz Nation 22.89 85 P P 02 27 25.8 -0.2
baz=293,SNR=8.3
AGMN Agassiz Nation 22.89 85 eP P 02 27 26.1 +0.1
comp=Z,38nm,1.2s
A33A Warroad 22.94 83 P P 02 27 26.7 +0.2
baz=291,SNR=6.4
J30A Dallas 22.96 99 P P 02 27 27.3 +0.4
baz=303,SNR=13
H31A Wolsey 22.97 96 P P 02 27 27.7 +0.8
baz=301,SNR=15
SDCO Great Sand Dun 23.00 118 P P 02 27 28.5 +0.9
baz=316,SNR=47
SDCO Great Sand Dun 23.00 118 eP P 02 27 28.4 +0.8
comp=Z,34nm,1.0s
113A Mohawk Valley, 23.02 139 eP P 02 27 28.1 +0.6
comp=Z,41nm,1.4s
B33A Robert and Kas 23.06 85 P P 02 27 27.6 -0.3
baz=293
F32A Veblen 23.13 92 P P 02 27 28.5 -0.1
baz=298
C33A Trail 23.15 86 P P 02 27 28.4 -0.4
baz=294
I31A Royce, Wessing 23.17 97 P P 02 27 29.8 +0.8
baz=302,SNR=8.5
G32A Webster 23.19 93 P P 02 27 29.5 +0.3
baz=299
K30A Basset 23.25 101 P P 02 27 30.1 +0.2
baz=305
D33A AnnSam, Waubun 23.36 88 P P 02 27 30.7 -0.2
baz=295
MCMN McManaman Lake 23.39 46 P P 02 27 32.2 +1.2
J31A Geddes 23.44 99 P P 02 27 31.8 +0.1
baz=303,SNR=5.8
E33A Westby DABS, E 23.54 89 P P 02 27 32.3 -0.3
baz=296
B34A Aery, Baudette 23.56 84 P P 02 27 32.9 0.0
baz=292,SNR=16
H32A Carlson Farm, 23.60 95 P P 02 27 33.7 +0.4
baz=301,SNR=11
F33A 5 Mile Ranch, 23.66 91 P P 02 27 33.9 +0.1
baz=298
EPLO Experimental L 23.70 80 P P 02 27 33.3 -0.9
C34A RKJ Ranch, Bem 23.73 86 P P 02 27 34.2 -0.3
baz=294
KSCO Kaye Shedlock' 23.73 112 P P 02 27 35.4 +0.6
baz=313,SNR=9.1
KSCO Kaye Shedlock' 23.73 112 eP P 02 27 36.5 +1.8
comp=Z,96nm,1.0s
D34A Park Rapids 23.79 87 P P 02 27 35.2 +0.1
baz=295,SNR=18
K31A O'Neill 23.80 100 P P 02 27 35.7 +0.4
baz=304
I32A Karley and Nic 23.83 96 P P 02 27 36.3 +0.8
baz=302
BULN Bullion Camp, 23.84 38 P P 02 27 37.4 +2.0
SEDN First Sedna Si 23.86 46 P P 02 27 36.9 +1.3
G33A Ortonville 23.88 92 P P 02 27 36.2 +0.2
baz=299,SNR=12
H33A Prehn Over Nor 23.94 94 P P 02 27 37.1 +0.6
baz=300,SNR=13
J32A Parkston 23.94 98 P P 02 27 36.5 -0.1
baz=303
L31A Butterfield Fa 24.00 101 P P 02 27 37.7 +0.5
baz=305
T25A Trinidad 24.04 117 P P 02 27 38.5 +0.8
baz=317,SNR=49
T25A Trinidad 24.04 117 eP P 02 27 39.1 +1.4
comp=Z,72nm,0.9s
E34A Wadena 24.05 89 P P 02 27 37.7 +0.1
baz=296
214A Organ Pipe Nat 24.12 139 P P 02 27 38.9 +0.6
baz=331,SNR=8.0
214A Organ Pipe Nat 24.12 139 eP P 02 27 38.5 +0.2
comp=Z,238nm,1.7s
B35A Bob, Littlefor 24.18 83 P P 02 27 38.9 +0.2
baz=293,SNR=15
I33A Coleman 24.23 95 P P 02 27 39.7 +0.4
baz=301,SNR=6.6
K32A Verdigre 24.26 99 P P 02 27 39.8 +0.3
baz=304
C35A Jirik Farms, M 24.28 85 P P 02 27 39.7 0.0
baz=294,SNR=10
F34A Alexandria 24.32 90 P P 02 27 40.2 +0.1
baz=298
G34A Benson 24.35 92 P P 02 27 41.1 +0.8
baz=299,SNR=5.2
M31A Lambtecht Ranc 24.41 103 P P 02 27 41.2 +0.2
baz=307
D35A Remer 24.50 87 P P 02 27 42.2 +0.6
baz=295,SNR=30
E35A Pequot Lakes 24.51 88 P P 02 27 41.8 +0.1
baz=296
ECSD EROS Data Cent 24.51 96 P P 02 27 42.3 +0.5
baz=302,SNR=68
ECSD EROS Data Cent 24.51 96 eP P 02 27 42.6 +0.8
comp=Z,261nm,1.7s
J33A Davis 24.51 97 P P 02 27 42.5 +0.7
baz=303,SNR=17
H34A Spellman Lake, 24.55 93 P P 02 27 42.9 +0.8
baz=300,SNR=9.3
SOLO Sioux Lookout 24.58 79 P P 02 27 42.8 +0.5
ANMO Albuquerque 24.59 124 P P 02 27 43.8 +1.0
comp=Z,39nm,0.9s,baz=326,slow=11,SNR=86
ANMO LR LR 02 37 51.4
comp=Z,349nm,20.2s,baz=322,slow=38
ANMO Albuquerque 24.59 124 P P 02 27 43.0 +0.2
baz=321
ANMO Albuquerque 24.59 124 c iP P 02 27 43.5 +0.6
ANMO pmax pmax
comp=Z,72nm,1.2s
ANMO Albuquerque 24.59 124 eP P 02 27 43.4 +0.6
comp=Z,55nm,1.0s
L32A Elgin 24.61 101 P P 02 27 42.9 +0.2
baz=305
TUC Tucson 24.67 135 P P 02 27 44.4 +1.0
baz=329
TUC Tucson 24.67 135 eP P 02 27 44.8 +1.4
TUC pmax pmax
comp=Z,30nm,1.2s
TUC Tucson 24.67 135 eP P 02 27 44.8 +1.4
comp=Z,30nm,1.2s
LAZ Ladron 24.68 126 eP P 02 27 44.5 +0.9
F35A Swanville 24.72 90 P P 02 27 43.8 +0.1
baz=298
N31A Bailey Ranch, 24.73 104 P P 02 27 44.5 +0.6
baz=308
I34A Hadley 24.81 94 P P 02 27 45.3 +0.8
baz=301
BGNE Belgrade 24.87 102 P P 02 27 45.7 +0.6
baz=306
BGNE Belgrade 24.87 102 eP P 02 27 46.5 +1.4
comp=Z,227nm,1.2s
K33A Hardington 24.88 98 P P 02 27 45.9 +0.7
baz=304
O31A Woolen Ranch, 24.93 106 P P 02 27 46.3 +0.7
baz=309,SNR=8.2
C36A Pine Crest Far 24.96 84 P P 02 27 46.8 +1.0
baz=294,SNR=9.8

L33A Hoskins 24.96 99 P P 02 27 46.4 +0.5
baz=305
LPM Los Pinos Moun 25.00 125 eP P 02 27 47.5 +1.0
D36A Goodland 25.00 86 P P 02 27 47.0 +0.7
baz=295,SNR=16
SMLN Simpson Lake, 25.03 33 P P 02 27 47.2 +1.0
G35A Watkins 25.07 91 P P 02 27 47.7 +0.8
baz=299
H35A Sunnyside Ranc 25.11 92 P P 02 27 48.2 +0.9
baz=300,SNR=19
BNM Barren Site 25.13 125 eP P 02 27 48.7 +1.0
J34A George 25.15 96 P P 02 27 47.9 +0.3
baz=303
N32A Stulken Farm, 25.17 103 P P 02 27 48.3 +0.5
baz=308
E36A McGregor 25.23 87 P P 02 27 49.3 +1.0
baz=297,SNR=17
ATKO Atikokan Iron 25.30 81 P P 02 27 49.7 +0.8
M33A Taylor Creek F 25.35 101 P P 02 27 49.7 +0.3
baz=306
F36A Milaca 25.37 89 P P 02 27 50.4 +0.9
baz=298,SNR=24
C37A Embarrass 25.38 84 P P 02 27 50.3 +0.7
baz=294,SNR=16
K34A Le Mars 25.39 97 P P 02 27 50.6 +0.9
baz=304,SNR=10
I35A Creekview Farm 25.45 94 P P 02 27 51.1 +0.8
baz=302
D37A Cotton 25.47 85 P P 02 27 51.3 +0.9
baz=295,SNR=9.5
O32A Brockman Farm, 25.49 104 P P 02 27 51.6 +0.9
baz=308
KUGN Kugaaruk Camp, 25.51 35 P P 02 27 52.0 +1.4
G36A St. Michael 25.52 90 P P 02 27 51.8 +0.9
baz=299,SNR=5.7
CBKS Cedar Bluff 25.54 108 P P 02 27 52.2 +1.0
baz=311
J35A Milford 25.57 95 P P 02 27 52.2 +0.8
baz=302
L34A Svendsen Farm, 25.62 99 P P 02 27 53.1 +1.2
baz=305,SNR=5.5
N33A J Bar K, Exete 25.69 102 P P 02 27 53.2 +0.7
baz=307
P32A Huiting Farm, 25.69 106 P P 02 27 53.3 +0.7
baz=310
EYMN Ely 25.71 83 P P 02 27 53.2 +0.6
baz=294,SNR=36
EYMN Ely 25.71 83 eP P 02 27 53.6 +1.0
comp=Z,56nm,1.1s
H36A Jessenland, He 25.73 92 P P 02 27 53.7 +0.8
baz=300,SNR=9.2
E37A Wrenshall 25.74 86 P P 02 27 53.5 +0.6
baz=296,SNR=6.7
M34A Aspy Farms, Fr 25.77 100 P P 02 27 53.4 +0.3
baz=306
121A Cookes Peak, D 25.87 129 P P 02 27 55.4 +1.1
baz=326,SNR=40
121A Cookes Peak, D 25.87 129 eP P 02 27 55.6 +1.2
comp=Z,117nm,1.2s
K35A Storm Lake 25.90 96 P P 02 27 55.4 +0.9
baz=304,SNR=12
C38A Sawbill Land. 25.94 83 P P 02 27 55.3 +0.6
baz=294,SNR=13
O33A Hebron 26.02 104 P P 02 27 55.7 +0.2
baz=309
L35A Bielow Farm, R 26.05 98 P P 02 27 56.6 +0.8
baz=305
SPMN Marine on St. 26.11 89 P P 02 27 57.2 +0.9
baz=299,SNR=5.5
SPMN Marine on St. 26.11 89 eP P 02 27 57.9 +1.6
comp=Z,19nm,0.9s
Q32A Meitler Ranch, 26.12 107 P P 02 27 57.2 +0.7
baz=311
J36A Seneca 1, Swea 26.12 94 P P 02 27 57.0 +0.6
baz=302,SNR=5.5
319A Douglas 26.14 133 eP P 02 28 01.0 +4.2
comp=Z,91nm,1.3s
N34A Lincoln 26.21 101 P P 02 27 57.7 +0.5
baz=307,SNR=9.8
M35A Neola 26.33 99 P P 02 27 59.1 +0.9
baz=306
I37A Lemond, Waseca 26.35 92 P P 02 27 59.2 +0.8
baz=301,SNR=8.7
P33A Williams Farm, 26.35 105 P P 02 27 59.5 +0.9
baz=310,SNR=8.6
H37A Dierke Farm, C 26.36 91 P P 02 28 00.0 +1.5
baz=300
R32A Long Quarter, 26.41 108 P P 02 28 00.1 +1.1
baz=312
K36A Gilmore City 26.43 96 P P 02 28 00.0 +0.8
baz=304
O34A Beatrice 26.49 103 P P 02 28 00.3 +0.5
baz=308,SNR=14
Q33A Connelly Farm, 26.55 106 P P 02 28 01.3 +0.9
baz=310,SNR=14
L36A Harm Buss Farm 26.60 97 P P 02 28 01.3 +0.6
baz=304,SNR=6.7
C39A Grand Marais 26.61 82 P P 02 28 01.5 +0.8
baz=294
J37A Redenius Farm, 26.62 94 P P 02 28 01.8 +0.9
baz=302,SNR=11
TBO Thunder Bay 26.71 80 P P 02 28 04.6 +2.9
N35A Tabor 26.72 100 P P 02 28 03.0 +1.2
baz=307
S32A Newby Ranch, P 26.76 109 P P 02 28 02.9 +0.7
baz=313
P34A Walnut Farm, R 26.80 104 P P 02 28 03.6 +1.0
baz=309,SNR=5.2
K37A Belmond 26.86 95 P P 02 28 04.0 +0.9
baz=303
M36A Felix, Anita 26.88 98 P P 02 28 04.1 +0.8
baz=306
R33A Olander Ranch, 26.91 107 P P 02 28 04.6 +1.1
baz=311,SNR=5.3
I38A Scanlan Farm, 27.00 91 P P 02 28 05.1 +0.9
baz=301
T32A Huddler Ranch, 27.12 110 P P 02 28 06.3 +0.9
baz=314
Q34A Chapman 27.13 105 P P 02 28 06.7 +1.2
baz=310,SNR=7.4
L37A Phoenix Point, 27.14 96 P P 02 28 06.8 +1.2
baz=304
N36A Muff Farm, Cla 27.16 100 P P 02 28 06.6 +0.9
baz=307
AMTX Amarillo 27.19 117 P P 02 28 06.9 +0.7
baz=318
AMTX Amarillo 27.19 117 eP P 02 28 07.4 +1.2
comp=Z,287nm,2.0s
RES Resolute Bay 27.20 20 P P 02 28 06.8 +0.9
comp=Z,6.1nm,0.8s,baz=238,slow=8.1,SNR=11
RES Lg Lg 02 36 45.2
comp=Z,3.4nm,1.1s,baz=300,slow=1.3,SNR=3.2
RES LR LR 02 39 48.5
comp=Z,484nm,21.3s,baz=233,slow=38
RES Resolute Bay 27.20 20 P P 02 28 06.5 +0.6
RES Resolute Bay 27.20 20 eP P 02 28 07.5 +1.7
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 27.20 20 eP P 02 28 07.5 +1.7
comp=Z,8.0nm,0.8s
RES Lg Lg 02 36 45.2
KSU1 Kansas State U 27.22 104 P P 02 28 07.3 +1.1
baz=310
KSU1 Kansas State U 27.22 104 eP P 02 28 08.0 +1.7
comp=Z,48nm,1.0s
J38A Wedel Dairy, R 27.28 93 P P 02 28 07.7 +0.9
baz=302,SNR=16
MSTX Muleshoe 27.28 120 P P 02 28 08.0 +1.0
baz=320,SNR=6.9
MSTX Muleshoe 27.28 120 eP P 02 28 08.2 +1.2
comp=Z,30nm,1.3s
P35A Duane Minner, 27.30 103 P P 02 28 07.7 +0.6
baz=309
R34A Isabella, Hill 27.35 106 P P 02 28 08.6 +1.1
baz=311,SNR=21
M37A Trindle Farm, 27.37 98 P P 02 28 08.8 +1.2
baz=306,SNR=5.3
S33A Kaszmaul Farm, 27.38 108 P P 02 28 09.1 +1.3
baz=312
K38A Parkersburg 27.46 94 P P 02 28 10.2 +1.8
baz=303
O36A Bolckow 27.57 101 P P 02 28 10.3 +0.9
baz=308
T33A Patterson Ranc 27.58 109 P P 02 28 10.7 +1.1
baz=313
L38A Oak Wood Farm, 27.62 95 P P 02 28 11.3 +1.4
baz=304
U32A Winter Ranch, 27.62 111 P P 02 28 10.9 +0.9
baz=315,SNR=6.8
N37A Lee Faris, Mou 27.65 99 P P 02 28 10.4 +0.2
baz=307
Q35A Mercer Eighty, 27.71 104 P P 02 28 11.3 +0.5
baz=310,SNR=6.3
MNTX Cornudas Mount 27.72 127 P P 02 28 11.7 +0.8
baz=325,SNR=23
MNTX Cornudas Mount 27.72 127 eP P 02 28 11.7 +0.8
comp=Z,22nm,1.2s
P36A Good Intent, A 27.74 102 P P 02 28 11.3 +0.4
baz=308
J39A Decorah 27.75 92 P P 02 28 11.7 +0.6
baz=302,SNR=18
S34A Willow Spring 27.83 107 P P 02 28 12.8 +1.0
baz=312,SNR=5.8
AP3N Apex site 3 Nu 27.86 33 P P 02 28 13.1 +1.4
M38A Pleasantville 27.89 97 P P 02 28 13.2 +0.9
baz=305,SNR=17
R35A Emporia Munici 27.96 105 P P 02 28 13.3 +0.3
baz=311
COWI Conover 27.97 85 eP P 02 28 13.5 +0.5
comp=Z,13nm,0.9s
K39A Oelwein 27.98 93 P P 02 28 13.1 0.0
baz=303,SNR=7.4
Q36A Arnold C. Orve 28.00 103 P P 02 28 13.7 +0.4
baz=310
O37A Wolven Farm, M 28.05 100 P P 02 28 14.1 +0.4
baz=307
V32A Arapaho 28.07 113 P P 02 28 14.9 +0.9
baz=316
LAIN Lailor River, 28.09 34 P P 02 28 14.5 +0.7
U33A Lingo Farm, Me 28.10 110 P P 02 28 14.6 +0.4
baz=314,SNR=8.4
L39A Vinton 28.23 95 P P 02 28 15.8 +0.5
baz=304,SNR=8.7
N38A Joes South For 28.23 98 P P 02 28 16.3 +1.0
baz=306
T34A McClaskey Farm 28.24 108 P P 02 28 16.3 +0.9
baz=313,SNR=11
P37A Lathrop 28.28 101 P P 02 28 16.6 +0.9
baz=308,SNR=5.5
S35A Otter Creek Ra 28.31 106 P P 02 28 17.0 +1.0
baz=312,SNR=12
W32A Sentinel 28.38 114 P P 02 28 17.5 +0.8
baz=316
R36A Gordon, Harris 28.38 104 P P 02 28 17.6 +0.9
baz=310
V33A Lossen Ranch, 28.43 111 P P 02 28 18.1 +0.9
baz=315,SNR=7.5
U34A Anderson Ranch 28.44 110 P P 02 28 18.1 +0.9
baz=314,SNR=6.6
U34A Anderson Ranch 28.44 110 eP P 02 28 18.5 +1.3
comp=Z,49nm,1.3s
K40A Colesburg 28.44 93 P P 02 28 17.8 +0.6
baz=303,SNR=5.9
O38A Galt 28.48 99 P P 02 28 18.1 +0.5
baz=307
N39A Derby Farms, D 28.63 97 P P 02 28 19.3 +0.5
baz=306
Q37A Longview Farm, 28.66 102 P P 02 28 19.6 +0.4
baz=309
T35A Sooner Cattle 28.71 108 P P 02 28 20.7 +1.1
baz=313,SNR=13
S36A Lake Harbic, C 28.72 105 P P 02 28 20.4 +0.7
baz=311,SNR=7.0
ILON Igloolik, Nuna 28.75 34 P P 02 28 20.4 +0.8
P38A Dawn 28.75 100 P P 02 28 20.7 +0.7
baz=308,SNR=8.9
R37A Teagarden Farm 28.79 104 P P 02 28 21.1 +0.8
baz=310
W33A Caddo, Fort Co 28.80 113 P P 02 28 21.6 +1.2
baz=316,SNR=5.2
V34A Guthrie 28.86 111 P P 02 28 21.6 +0.5
baz=315,SNR=7.0
V34A Guthrie 28.86 111 eP P 02 28 22.5 +1.4
comp=Z,62nm,1.2s
X32A Elmer 28.86 115 P P 02 28 21.8 +0.7
baz=317
JFWS Jewell Farm 28.88 92 eP P 02 28 22.0 +0.9
JFWS pmax pmax
comp=Z,11nm,0.9s
JFWS Jewell Farm 28.88 92 eP P 02 28 22.0 +0.9
comp=Z,11nm,0.9s
WMOK Wichita Mounta 28.92 114 P P 02 28 22.4 +0.8
baz=317,SNR=9.9
WMOK Wichita Mounta 28.92 114 eP P 02 28 23.1 +1.6
WMOK pmax pmax
comp=Z,72nm,1.4s
WMOK Wichita Mounta 28.92 114 eP P 02 28 23.1 +1.6
comp=Z,72nm,1.4s
GIFN Gifford Fjord, 28.94 33 P P 02 28 21.3 0.0
U35A Pawnee 28.95 109 P P 02 28 22.5 +0.8
baz=314,SNR=10
O39A Kirksville 28.97 98 P P 02 28 22.4 +0.5
baz=307
T36A Boggs Farm, Ca 28.99 107 P P 02 28 22.8 +0.7
baz=312,SNR=12
Q38A Cooks Store, C 29.11 101 P P 02 28 23.4 +0.3
baz=309,SNR=13
W34A Bridge Creek, 29.14 112 P P 02 28 24.1 +0.7
baz=316
W34A Bridge Creek, 29.14 112 eP P 02 28 25.1 +1.6
comp=Z,54nm,1.1s
S37A Fort Scott 29.15 105 P P 02 28 23.8 +0.3
baz=311,SNR=6.7
L41A Preston 29.18 93 P P 02 28 24.0 +0.3
baz=304
X33A Lawton 29.22 114 P P 02 28 24.9 +0.7
baz=317
V35A Meyer Ranch, C 29.31 110 P P 02 28 25.5 +0.5
baz=314,SNR=7.8
P39B Salisbury 29.31 100 P P 02 28 25.3 +0.4
baz=308,SNR=16
R38A Fenwick Farm, 29.43 103 P P 02 28 25.9 -0.1
baz=310,SNR=6.1
Q39A Willow Grove F 29.45 101 P P 02 28 26.3 +0.1
baz=309,SNR=13
O40A La Belle 29.46 98 P P 02 28 26.7 +0.5
baz=307,SNR=8.5
T37A Cheneyville 18 29.52 106 P P 02 28 27.5 +0.7
baz=312,SNR=11
U36A Oologah 29.52 108 P P 02 28 27.7 +0.9
baz=313
Y33A Hilltop Ranch, 29.54 114 P P 02 28 27.5 +0.5
baz=318
X34A Smith Ranch, M 29.56 113 P P 02 28 28.3 +1.1
baz=316
P40A Paris 29.71 99 P P 02 28 29.0 +0.5
baz=308,SNR=5.4
W35A Tecumseh 29.72 111 P P 02 28 28.9 +0.3
baz=315,SNR=5.8
S38A Stockton 29.79 104 P P 02 28 29.6 +0.4
baz=311
V36A Jenks 29.82 109 P P 02 28 30.0 +0.5
baz=314
TUL1 Leonard 29.82 108 P P 02 28 30.0 +0.5
baz=314
TUL1 Leonard 29.82 108 eP P 02 28 30.9 +1.5
comp=Z,15nm,0.9s
R39A Chumby, Stover 29.87 102 P P 02 28 30.1 +0.1
baz=310
U37A Salina 29.88 107 P P 02 28 30.6 +0.6
baz=313,SNR=6.1
T38A Diamond 29.95 105 P P 02 28 31.2 +0.6
baz=312,SNR=17
Z33A Whitaker Ranch 29.99 116 P P 02 28 31.4 +0.4
baz=318
ABTX Abilene, Hawle 30.00 118 P P 02 28 31.6 +0.4
baz=320
ABTX Abilene, Hawle 30.00 118 eP P 02 28 31.8 +0.6
comp=Z,5.5nm,0.7s
Q40A Laux Farm, Aux 30.03 100 P P 02 28 31.0 -0.3
baz=309,SNR=5.9
Y34A Reagan Ranch, 30.07 113 P P 02 28 32.4 +0.7
baz=317,SNR=9.1
O41A Passleys Farm, 30.08 97 P P 02 28 32.3 +0.6
baz=307
S39A Bolivar 30.10 103 P P 02 28 32.1 +0.1
baz=311
W36A Wetumka 30.10 110 P P 02 28 32.4 +0.4
baz=315
X35A Drake 30.20 112 P P 02 28 33.0 +0.2
baz=316,SNR=5.1
V37A Hulbert 30.22 108 P P 02 28 33.4 +0.4
baz=314,SNR=5.7
P41A Barry, Barry 30.23 98 P P 02 28 33.6 +0.6
baz=308
U38A Gravette 30.29 106 P P 02 28 33.5 -0.2

baz=313,SNR=6.6
R40A Maddies Statio 30.35 101 P P 02 28 33.8 -0.4
baz=310,SNR=5.6
Z34A Collier Ranch, 30.41 114 P P 02 28 34.9 +0.2
baz=318
133A Hamilton Ranch 30.42 117 P P 02 28 35.1 +0.3
baz=319
X36A Centrahoma 30.43 111 P P 02 28 35.2 +0.3
baz=316,SNR=7.3
TX31 Lajitas Ar. Si 30.50 127 *e*P P 02 28 37.0 +1.3
TXAR Lajitas Array 30.50 127 P P 02 28 37.0 +1.4
comp=Z,7.7nm,0.9s,baz=326,slow=7.3,SNR=65
TXAR LR LR 02 41 28.4
comp=Z,268nm,18.5s,baz=0.0,slow=38
T39A Clever 30.50 104 P P 02 28 35.6 0.0
baz=312,SNR=11
Y35A Marietta 30.51 113 P P 02 28 36.2 +0.6
baz=317
W37B Quinton 30.57 109 P P 02 28 36.7 +0.6
baz=315
S40A Lebanon 30.66 102 P P 02 28 36.5 -0.4
baz=311
HHAR Hobbs 30.66 106 *e*P P 02 28 37.6 +0.7
comp=Z,34nm,1.6s
V38A Canehill 30.67 107 P P 02 28 37.7 +0.7
baz=313
HDIL Hopedale 30.79 95 P P 02 28 38.2 +0.1
baz=306
Z35A Perchaven, San 30.81 114 P P 02 28 38.7 +0.5
baz=318,SNR=5.4
U39A Green Forest 30.87 105 P P 02 28 38.9 +0.2
baz=312,SNR=9.5
233A Rising Star 30.87 117 P P 02 28 39.0 +0.1
baz=320,SNR=5.6
134A White-Moore Ra 30.91 116 P P 02 28 39.5 +0.4
baz=319
T40A Mansfield 30.94 103 P P 02 28 39.2 -0.1
baz=311,SNR=7.5
Y36A Durant 30.95 112 P P 02 28 39.8 +0.3
baz=316
X37A Clayton 30.99 110 P P 02 28 40.3 +0.5
baz=315,SNR=12
Q42A Golden Eagle 31.02 99 P P 02 28 40.6 +0.6
baz=308
V39A Pettigrew 31.14 106 P P 02 28 41.6 +0.4
baz=313
W38A Poteau 31.15 108 P P 02 28 42.3 +1.1
baz=314
X38A Whitesboro 31.25 109 P P 02 28 42.6 +0.5
baz=315,SNR=12
U40A Yellville 31.26 105 P P 02 28 42.2 0.0
baz=312,SNR=30
Y37A Hugo 31.28 111 P P 02 28 43.6 +1.3
baz=316
135A Vickery Place, 31.29 115 P P 02 28 43.0 +0.5
baz=318
234A Clairette 31.30 116 P P 02 28 42.6 0.0
baz=320
Z36A Blue Ridge 31.32 113 P P 02 28 43.2 +0.5
baz=317,SNR=6.9
333A Richland Sprin 31.36 118 P P 02 28 42.9 -0.2
baz=321
T41A Mountain View 31.46 102 P P 02 28 43.8 -0.1
baz=311
W39A Magazine 31.50 107 P P 02 28 44.9 +0.6
baz=314,SNR=9.8
Q43A New Douglas 31.52 98 P P 02 28 44.6 +0.2
baz=308,SNR=5.7
JCT Junction City 31.57 120 P P 02 28 45.2 +0.2
baz=322
WHTX Lake Whitney, 31.69 116 P P 02 28 46.7 +0.6
baz=319
WHTX Lake Whitney, 31.69 116 *e*P P 02 28 46.2 +0.2
comp=Z,12nm,0.9s
433A Art 31.74 119 P P 02 28 46.6 +0.2
baz=321
334A Lometa 31.76 117 P P 02 28 46.7 0.0
baz=320
X39A Fountain Ranch 31.78 109 P P 02 28 47.5 +0.7
baz=315,SNR=8.5
Y38A Idabel 31.83 110 P P 02 28 47.7 +0.5
baz=316
Z37A Pogue Cattle C 31.84 112 P P 02 28 48.1 +0.8
baz=317
EUNU Eureka 31.84 13 P P 02 28 49.3 +2.4
136A Ennis 31.85 114 P P 02 28 47.9 +0.5
baz=318
W40A Ferguson Farm, 31.92 106 P P 02 28 48.7 +0.7
baz=314
V41A Mountainview 32.06 105 P P 02 28 49.0 -0.2
baz=313,SNR=38
MIAR Mount Ida 32.07 108 P P 02 28 49.7 +0.3
baz=315,SNR=16
MIAR Mount Ida 32.07 108 *e*P P 02 28 50.5 +1.2
MIAR pmax pmax
comp=Z,35nm,1.1s
MIAR Mount Ida 32.07 108 *e*P P 02 28 50.5 +1.2
comp=Z,35nm,1.1s
434A Burnet 32.14 118 P P 02 28 50.0 0.0
baz=321
Z38A Mt. Pleasant 32.17 111 P P 02 28 51.0 +0.9
baz=317
Y39A Lockesburg 32.19 109 P P 02 28 51.2 +0.8
baz=316
137A Heron Place, G 32.20 113 P P 02 28 51.2 +0.7
baz=318
236A Katherine and 32.20 115 P P 02 28 51.3 +0.8
baz=319
335A Moody 32.24 116 P P 02 28 51.4 +0.5
baz=320
SFIN Lafayette 32.26 93 P P 02 28 50.6 -0.3
baz=306,SNR=8.3
SFIN Lafayette 32.26 93 *e*P P 02 28 52.2 +1.3
comp=Z,19nm,0.9s
X201 Greenbrier Sit 32.27 106 *e*P P 02 28 51.7 +0.6
comp=Z,77nm,1.9s
X301 Greenbrier Sit 32.29 106 *e*P P 02 28 51.9 +0.7
comp=Z,75nm,1.7s
533A Kerrville 32.30 120 P P 02 28 51.6 +0.2
baz=322
WHAR Wooly Hollow 32.32 105 *e*P P 02 28 52.0 +0.5
comp=Z,58nm,1.8s
R44A Waltonville 32.33 98 P P 02 28 51.3 -0.2
baz=309
W41B Gary Mavity, V 32.42 106 P P 02 28 52.7 +0.3
baz=314,SNR=7.1
V42A Cord 32.51 104 P P 02 28 52.7 -0.5
baz=312
138A Matatall Enter 32.54 112 P P 02 28 53.5 +0.1
baz=317
435B Jarrell 32.54 117 P P 02 28 53.9 +0.4
baz=320
X40A Basin Creek Fa 32.55 107 P P 02 28 53.8 +0.3
baz=314,SNR=5.8
S44A Carbondale 32.57 99 P P 02 28 53.2 -0.4
baz=310
237A Washetta, Mont 32.61 114 P P 02 28 54.7 +0.6
baz=318
Y40A Okolona 32.62 108 P P 02 28 54.7 +0.6
baz=315
534A Blanco 32.63 119 P P 02 28 54.4 0.0
baz=322
UALR University of 32.64 106 *e*P P 02 28 55.1 +0.8
comp=Z,51nm,1.6s
633A Saathoff Ranch 32.71 121 P P 02 28 55.5 +0.6
baz=323
X41A Kaden, Bauxite 32.73 107 P P 02 28 55.9 +0.8
baz=314
WLAR White Oak Lake 32.95 108 *e*P P 02 28 58.8 +1.8
comp=Z,47nm,1.3s
S45A Carrier Mills 32.99 99 P P 02 28 57.0 -0.4
baz=310
238A Jacksonville 33.00 113 P P 02 28 58.7 +1.2
baz=318
337A Centerville 33.08 115 P P 02 28 59.1 +1.0
baz=319
Z40A Long Farm, Mag 33.08 109 P P 02 28 59.4 +1.2
baz=316
Y41A Eaglette Beard 33.10 108 P P 02 28 59.3 +0.9
baz=315
535A Dale 33.13 118 P P 02 28 58.9 +0.3
baz=321
634A China Grove, S 33.21 120 P P 02 28 59.8 +0.5
baz=322
832A Faith Ranch, C 33.23 123 P P 02 28 59.7 +0.2
baz=324,SNR=5.8
733A Divot King Ran 33.23 122 P P 02 28 59.9 +0.4
baz=323

BLO Bloomington 33.33 95 *e*P P 02 29 01.6 +1.3
BLO pmax pmax
comp=Z,26nm,0.8s
BLO Bloomington 33.33 95 *e*P P 02 29 01.6 +1.3
comp=Z,26nm,0.8s
BILL Bilibino 33.34 323 *e*P P 02 29 00.0 -0.1
BILL *e*SS SS 02 36 29.3 -14
BILL pmax pmax
comp=Z,29nm,2.5s
BILL MLR MLR
comp=Z,374nm,22.0s
BILL Bilibino 33.34 323 *e*P P 02 29 01.5 +1.4
comp=Z,11nm,1.0s
239A Gary 33.36 112 P P 02 29 01.5 +0.9
baz=318
536A Bastrop 33.37 117 P P 02 29 01.9 +1.2
baz=321
338A Crockett 33.37 114 P P 02 29 01.9 +1.2
baz=319
140A Cam and Jess, 33.42 110 P P 02 29 02.8 +1.6
baz=317
Z41A Richland Creek 33.43 109 P P 02 29 02.1 +0.8
baz=316
NMSQ Nemaska Statio 33.48 68 P P 02 29 02.5 +1.0
833A Chaparral WMA, 33.49 122 P P 02 29 02.0 +0.2
baz=324,SNR=5.4
CCAR Cane Creek 33.58 107 *e*P P 02 29 04.6 +2.1
comp=Z,34nm,0.8s
Y42A Garnett, Star 33.62 107 P P 02 29 04.2 +1.3
baz=315
KLBO Killbear Provi 33.81 81 P P 02 29 04.3 -0.1
636A Smothers Creek 33.83 118 P P 02 29 06.7 +1.9
baz=321
141A Papa Simpson, 33.84 110 P P 02 29 06.0 +1.2
baz=316
Z42A Norrel Spur, H 33.92 108 P P 02 29 06.4 +0.9
baz=315
WCI Wyandotte Cave 34.05 96 *e*P P 02 29 07.4 +0.8
WCI pmax pmax
comp=Z,9.0nm,0.8s
WCI Wyandotte Cave 34.05 96 *e*P P 02 29 07.4 +0.8
comp=Z,8.6nm,0.8s
834A Tilden 34.10 121 P P 02 29 08.7 +1.6
baz=324
538A Harpers Horsep 34.13 115 P P 02 29 09.3 +2.0
baz=320
933A Laredo 34.13 123 P P 02 29 09.2 +1.9
baz=324
VLDQ Val d'Or 34.16 75 P P 02 29 06.5 -0.9
CLWO Collingwood 34.21 82 P P 02 29 08.8 +0.8
835A Beeville 34.35 120 P P 02 29 11.4 +2.1
baz=323
142A Monroe 34.44 109 P P 02 29 11.2 +1.2
baz=316
WVT Waverly 34.45 100 *e*P P 02 29 10.3 +0.2
WVT pmax pmax
comp=Z,31nm,1.6s
WVT Waverly 34.45 100 *e*P P 02 29 10.3 +0.2
comp=Z,30nm,1.6s
Y44A Strider, Charl 34.47 105 P P 02 29 10.8 +0.5
baz=314
934A Benavides 34.53 122 P P 02 29 13.2 +2.4
baz=324
143A Socs Landing, 34.65 108 P P 02 29 13.0 +1.2
baz=316
242A Grayson 34.67 109 P P 02 29 13.1 +1.1
baz=317
Z44A Pea Ridge, Bel 34.82 106 P P 02 29 14.4 +1.1
baz=315
034A Hebbronville 34.88 123 P P 02 29 15.9 +2.0
baz=324
Y45A Yeager Farm, C 34.94 105 P P 02 29 15.0 +0.7
baz=314
540A Vidor 34.99 114 P P 02 29 16.2 +1.4
baz=319
441A DeRidder 35.03 112 P P 02 29 16.8 +1.6
baz=318
PLAL Pickwick Lake 35.06 102 *e*P P 02 29 15.5 +0.1
comp=Z,14nm,0.8s
342A Flagon Creek P 35.07 110 P P 02 29 16.9 +1.5
baz=318
Z45A Winona 35.20 105 P P 02 29 17.2 +0.7
baz=315
144A Alexander Plac 35.28 107 P P 02 29 18.3 +1.0
baz=316
Y46A Houston 35.34 104 P P 02 29 17.6 -0.2
baz=314,SNR=8.4
BANO Bancroft 35.37 80 P P 02 29 18.9 +1.0
244A Avery, Jackson 35.55 108 P P 02 29 20.7 +1.2
baz=316
035Z Hargill 35.69 123 P P 02 29 22.4 +1.7
baz=325
PLVO Plevna 35.88 79 P P 02 29 22.5 +0.2
Y47A UCPARC, Winfie 35.93 103 P P 02 29 22.3 -0.6
baz=314,SNR=5.3
344A Westbrook Farm 35.95 109 P P 02 29 24.4 +1.4
baz=317
245A Little AP, Sta 36.02 107 P P 02 29 24.1 +0.5
baz=316
146A Union 36.09 106 P P 02 29 24.2 0.0
baz=315
M54A Oil Creek Stat 36.20 86 P P 02 29 25.2 0.0
baz=305
Z47A Carrollton 36.29 104 P P 02 29 25.7 -0.2
baz=314
N54A Moraine State 36.32 87 P P 02 29 25.9 -0.2
baz=305
345A Thompson Farm, 36.46 108 P P 02 29 28.4 +1.0
baz=317
Z48A Northport 36.47 103 P P 02 29 26.8 -0.7
baz=314
444A Pine Grove 36.47 110 P P 02 29 29.1 +1.6
baz=318
GAC Glen Almond 36.51 77 P P 02 29 28.6 +1.0
147A Livingston 36.53 105 P P 02 29 27.6 -0.4
baz=315
ZAIG Zacatecas 36.56 132 *e*P P 02 29 30.5 +1.9
comp=Z,30nm,1.4s
346A Big Creek Wild 36.74 107 P P 02 29 30.6 +0.9
baz=316
247A Quitman 36.77 106 P P 02 29 30.7 +0.7
baz=316
TRQ Mont Tremblant 36.80 76 *e*P P 02 29 31.6 +1.4
TZTN Tazewell 36.81 96 *e*P P 02 29 31.3 +0.9
comp=Z,26nm,1.0s
ALFO Alfred 36.90 77 P P 02 29 31.6 +0.6
CPCT Cooper Cave 36.92 98 *e*P P 02 29 31.6 +0.3
comp=Z,4.8nm,0.9s
LRAL Lakeview Retre 37.05 103 *e*P P 02 29 32.5 +0.1
comp=Z,12nm,1.1s
446A Poplarville 37.23 108 P P 02 29 35.4 +1.5
baz=317
TKL Tuckaleechee C 37.24 97 *e*P P 02 29 34.4 +0.4
TKL pmax pmax
comp=Z,34nm,1.4s
TKL Tuckaleechee C 37.24 97 *e*P P 02 29 34.4 +0.4
comp=Z,34nm,1.4s
248A Dixon Mills 37.26 105 P P 02 29 34.6 +0.5
baz=315
347A Saraland 37.27 106 P P 02 29 34.7 +0.4
baz=316,SNR=6.7
SCHQ Schefferville 37.37 59 P P 02 29 39.1 +4.2
comp=Z,2.2nm,0.8s,baz=286,slow=15,SNR=2.7
O56A Blue Knob Stat 37.60 87 P P 02 29 36.6 -0.5
baz=306
348A Jackson 37.65 106 P P 02 29 38.1 +0.6
baz=316
BLA Blacksburg 38.32 92 *e*P P 02 29 43.4 +0.2
BLA pmax pmax
comp=Z,40nm,1.1s
BLA Blacksburg 38.32 92 *e*P P 02 29 43.4 +0.2
comp=Z,40nm,1.1s
GOGA Godfrey 38.93 99 *e*P P 02 29 48.5 +0.2
GOGA pmax pmax
comp=Z,16nm,0.9s
GOGA Godfrey 38.93 99 *e*P P 02 29 48.5 +0.2
comp=Z,16nm,0.9s
N59A State Game Lan 38.95 84 P P 02 29 47.7 -0.7
baz=306
KMSC Kings Mountain 39.09 95 P P 02 29 49.4 -0.1
baz=311,SNR=5.1
KMSC Kings Mountain 39.09 95 *e*P P 02 29 49.9 +0.4
comp=Z,18nm,1.0s
JSC Jenkinsville 39.70 96 *e*P P 02 29 55.3 +0.6
JSC Jenkinsville 39.70 96 *e*P P 02 29 55.3 +0.6
TIGA Tifton 40.22 102 P P 02 29 58.4 -0.6
baz=315

PET Petropavlovsk 41.10 300 *e*P P 02 30 13.1 +7.1
PET *e* 02 31 48.7
PET *e*S S 02 36 21.2 +3.2
NHSC New Hope 41.16 97 *e*P P 02 30 07.7 +1.0
comp=Z,60nm,0.9s
PEA0 Petropavlovsk- 41.57 301 *e*P P 02 30 12.4 +2.5
PETK Petropavlovsk- 41.57 301 P P 02 30 08.3 -1.6
comp=Z,11nm,0.9s,baz=88,slow=12,SNR=4.4
SUMG Summit 42.32 27 *i*P P 02 30 17.3 +1.0
SUMG pmax pmax
comp=Z,15nm,1.2s
SUMG Summit 42.32 27 *i*P P 02 30 17.3 +1.0
comp=Z,15nm,1.2s
SUMG Summit 42.32 27 *e*P P 02 30 16.6 +0.3
comp=Z,15nm,1.2s
TIXI Tiksi 44.66 334 P P 02 30 34.4 -0.2
comp=Z,0.7nm,0.4s,baz=92,slow=9.4,SNR=3.2
TIXI Tiksi 44.66 334 *i*P P 02 30 33.4 -1.2
TIXI pmax pmax
comp=Z,2.0nm,1.1s
DAG Danmarks Havn 44.84 18 *i*P P 02 30 36.9 +0.9
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 44.84 18 *i*P P 02 30 36.9 +0.9
comp=Z,4.2nm,0.9s
YAK Yakutsk 49.70 322 *e*P P 02 31 20.0 +6.0
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,16nm,1.3s
NKL Nikolayevsk 50.22 308 *e*P P 02 31 15.0 -3.1
NRIK Noril'sk 55.74 344 P P 02 31 59.2 +0.6
comp=E,3.6nm,0.8s,baz=65,slow=9.4,SNR=2.9
SDDR Presa de Saban 56.87 102 *e*P P 02 32 07.8 +0.4
comp=E,20nm,0.9s
KLR Kul'dur 57.04 309 P P 02 32 07.2 -0.9
comp=E,1.0nm,1.0s,baz=49,slow=9.3,SNR=2.7
H11N2 WAKE ISLAND Hy 57.36 260 T T 03 34 36.9
baz=40,slow=76,SNR=393
H11N3 WAKE ISLAND Hy 57.36 260 T T 03 34 30.0
baz=40,slow=76,SNR=119
H11N1 WAKE ISLAND Hy 57.38 260 T T 03 34 38.3
baz=40,slow=76,SNR=127
ARCES ARCESS Array B 57.67 9 LR LR 02 58 09.0
comp=E,220nm,19.4s,baz=345,slow=37
H11S1 WAKE ISLAND Hy 58.41 260 T T 03 36 32.9
baz=40,slow=76,SNR=36
H11S2 WAKE ISLAND Hy 58.42 260 T T 03 36 02.9
baz=40,slow=76,SNR=30
H11S3 WAKE ISLAND Hy 58.43 260 T T 03 36 02.0
baz=40,slow=76,SNR=19
BCIP Isla Barro Col 59.67 116 *e*P P 02 32 26.1 -0.7
comp=E,45nm,1.2s
USRK Ussuriysk Ar. 60.42 305 P P 02 32 31.8 +0.1
comp=E,2.6nm,0.8s,baz=53,slow=8.9,SNR=4.7
USRK LR LR 02 59 07.5
comp=E,146nm,19.0s,baz=54,slow=37
TAOE Nuku Hiva Isla 61.01 190 *e*LR LR 02 50 45.6
comp=E,360nm,27.2s
TAOE Nuku Hiva Isla 61.01 190 *e*T T 03 38 44.9
comp=E,133nm,0.3s
MOTC Monteria, Cord 62.33 113 *e*P P 02 32 43.7 -1.3
MJAR Matsushiro Arr 62.52 295 P P 02 32 44.7 -1.4
comp=E,0.9nm,0.3s,baz=49,slow=5.8,SNR=3.0
MJAR LR LR 02 55 45.3
comp=E,57nm,21.2s,baz=250,slow=32
MAJO Matsushiro 62.52 295 *e*P P 02 32 44.1 -2.0
MAJO pmax pmax
comp=Z,26nm,0.9s
NB2 NORSAR Subarra 63.47 19 P P 02 32 52.9 +1.0
comp=Z,1.1nm,0.7s,baz=336,slow=6.9
NOA NORSAR Array B 63.47 19 P P 02 32 53.0 +1.0
comp=Z,2.9nm,0.9s,baz=337,slow=6.4,SNR=7.7
NOA LR LR 03 01 41.2
comp=Z,205nm,19.3s,baz=340,slow=37
NOA NORSAR Array B 63.47 19 P P 02 32 53.0 +1.0
CN2 Changchun 63.96 308 *e*P P 02 32 57.3 +1.8
CN2 PMZ
comp=Z,10.0nm,0.7s
HELC Santa Helena 64.52 114 *e*P P 02 33 00.4 +0.5
comp=Z,23nm,1.0s
ESK Eskdalemuir 64.80 30 *e*P P 02 33 01.2 +0.5
ESK pmax pmax
comp=Z,48nm,1.5s
ESK Eskdalemuir 64.80 30 *e*P P 02 33 01.2 +0.5
comp=Z,48nm,1.5s
BRRC Barranca, Sant 64.81 112 *e*P P 02 33 00.1 -1.2
CBRI Barrientos, No 64.84 111 *e*P P 02 33 01.0 -0.8
NORC Norcasia 65.40 114 *e*P P 02 33 02.8 -2.5
BARC Barichara 65.53 112 *e*P P 02 33 05.4 -0.9
FIA1 FINESS Array S 65.55 12 *e*P P 02 33 06.4 +0.9
FINES FINESS Array B 65.55 12 P P 02 33 06.8 +1.4
comp=Z,3.0nm,1.0s,baz=330,slow=7.3,SNR=5.6
FINES LR LR 03 02 21.6
comp=Z,234nm,18.1s,baz=350,slow=37
RUSC La Rusia 66.15 112 *e*P P 02 33 01.4 -9.2
ROSC El Rosal 66.31 114 *e*P P 02 33 09.4 -2.1
TLY Talaya 66.85 326 P P 02 33 15.6 +1.4
comp=Z,1.3nm,0.4s,baz=302,slow=19,SNR=3.7
TLY Talaya 66.85 326 *e*P P 02 33 15.5 +1.4
TLY *e*S S 02 42 09.0 +3.2
TLY pmax pmax
comp=Z,12nm,1.0s
TLY MLR MLR
comp=Z,191nm,18.0s
TLY Talaya 66.85 326 *e*P P 02 33 15.2 +1.1
comp=Z,9.3nm,0.9s
PRAC Prado 66.91 115 *e*P P 02 33 14.1 -0.8
comp=Z,27nm,1.3s
KLMR Klimovskoe 67.33 5 *e*P P 02 33 14.4 -2.5
KLMR *e* 02 33 42.9
KLMR pmax pmax
comp=Z,10.0nm,1.1s
KSRS Korea Array 67.45 302 P P 02 33 18.3 +0.3
comp=Z,0.6nm,0.3s,baz=54,slow=6.2,SNR=3.1
KSRS LR LR 03 01 56.1
comp=Z,66nm,20.2s,baz=28,slow=35
KSAR Wonju Array Be 67.48 302 P P 02 33 18.3 +0.1
KSAR Wonju Array Be 67.48 302 P P 02 33 18.3 +0.1
OTAV Otavalo 67.85 121 *e*P P 02 33 23.1 +1.7
comp=Z,26nm,1.3s
ZAK Zakamensk 68.06 326 *e*P P 02 33 22.2 +0.3
ZAK pmax pmax
comp=Z,3.0nm,1.2s
ULN Ulaanbaatar 68.78 322 *e*P P 02 33 26.1 -0.4
ULN pmax pmax
comp=Z,3.0nm,1.1s
SONA1 Songino Array 69.05 322 *e*P P 02 33 28.8 +0.7
SONM Songino Array 69.06 322 P P 02 33 28.6 +0.4
comp=Z,2.0nm,1.1s,baz=15,slow=7.7,SNR=8.1
SONM LR LR 03 04 19.4
comp=Z,306nm,20.7s,baz=37,slow=36
NVS Novosibirsk 69.79 340 *e*P P 02 33 34.8 +2.5
NVS pmax pmax
comp=Z,25nm,1.8s
ZALV Zalesovo Beam 70.26 338 P P 02 33 35.9 +0.7
comp=Z,1.3nm,0.7s,baz=9.2,slow=4.5,SNR=4.3
ZALV LR LR 03 07 46.5
comp=Z,145nm,18.0s,baz=70,slow=39
TIAR Tiarei 70.95 198 *e*T T 03 51 10.6
comp=Z,5.4nm,0.2s
PPT Papeete 71.01 198 LR LR 02 57 56.9
comp=Z,187nm,19.1s,baz=342,slow=30
MEH Mehetia 71.02 197 *e*T T 03 51 15.8
comp=Z,49nm,0.4s
PPT2 Papeete2 71.03 198 *e*S S 02 42 58.7 +2.9
comp=Z,352nm,25.5s
PPT2 Papeete2 71.03 198 *e*LR LR 02 55 00.5
comp=Z,390nm,31.5s
PPT2 Papeete2 71.03 198 *e*T T 03 51 16.1
comp=Z,6.5nm,0.4s
SVE Sverdlovsk 71.16 353 *e*P P 02 33 47.8 +7.1
SVE pmax pmax
comp=Z,14nm,1.0s
BJI Beijing 71.26 312 P P 02 33 39.9 -1.7
BJI S S 02 42 56.8 -1.4
BJI PMZ
comp=Z,6.0nm,0.8s
BJI LN
comp=Z,160nm,14.9s
BJI LE
comp=Z,190nm,18.6s
BJI LZ
comp=Z,160nm,22.9s

ARU	**Arti**	**71.70**	**354**	*c*	*i*P		**P**	**02 33 41.8**	**-2.2**
ARU					S		**S**	**02 43 00.1**	**-2.7**
ARU					pmax		pmax		
	comp=Z,4.0nm,1.1s								
ARU	**Arti**	**71.70**	**354**		*e*P		**P**	**02 33 44.1**	**+0.1**
	comp=Z,8.2nm,0.8s								
HHC	**Hu-ho-hao-te**	**72.69**	**315**		*e*P		**P**	**02 33 50.5**	**+0.2**
HHC					sP		sP	02 33 57.3	0.0
HHC					S		**S**	**02 43 14.1**	**-0.8**
HHC					PMZ				
	comp=Z,19nm,1.1s								
HHC					PMZ				
	comp=Z,92nm,7.2s								
HHC					LN				
	comp=Z,210nm,17.5s								
HHC					LE				
	comp=Z,250nm,17.9s								
HHC					LZ				
	comp=Z,210nm,17.5s								
CLL	**Collm**	**72.81**	**23**		*e*SS		SS	02 47 54.0	-0.3
CLL					L		L	03 08 00.0	
	comp=Z,200nm,18.2s								
OBN	**Obninsk**	**72.85**		7	*de*P		**P**	**02 33 47.7**	**-3.1**
OBN					*e*			02 34 06.8	
OBN					*e*PPP		PPP	02 38 18.6	
OBN					pmax		pmax		
	comp=Z,6.0nm,0.7s								
OBN					MLR		MLR		
	comp=Z,160nm,16.0s								
BRG	**Berggiesshubel**	**73.44**	**22**		*e*P		**P**	**02 33 50.3**	**-4.1**
	comp=Z,3.2nm,1.2s								
BRG	**Berggiesshubel**	**73.44**	**22**		*e*P		**P**	**02 33 50.3**	**-4.1**
BRG					pmax		pmax		
	comp=Z,3.0nm,1.2s								
BRVK	**Borovoye**	**73.83**	**347**		*i* P		**P**	**02 33 56.0**	**-0.7**
BRVK					pmax		pmax		
	comp=Z,19nm,0.8s								
BRVK	**Borovoye**	**73.83**	**347**		*e*P		**P**	**02 33 58.0**	**+1.4**
	comp=Z,25nm,1.0s								
ZRNK	**Zerenda**	**74.11**	**347**		*e*P		**P**	**02 34 00.6**	**+2.3**
ZRNK	**Zerenda**	**74.11**	**347**		*e*P		**P**	**02 34 00.6**	**+2.3**
UPC	**Upice**	**74.25**	**21**		AMS		AMS	03 06 10.0	
	comp=Z,200nm,16.9s								
PRU	**Pruhonice**	**74.40**	**22**		AMS		AMS	03 07 50.0	
	comp=Z,200nm,18.6s								
DPC	**Dobruska-Polom**	**74.47**	**21**		*e*P		**P**	**02 34 01.9**	**+1.4**
DPC					AMS		AMS	03 06 30.0	
	comp=Z,300nm,19.5s								
DPC	**Dobruska-Polom**	**74.47**	**21**		*e*P		**P**	**02 34 01.9**	**+1.4**
DPC					MLR		MLR		
	comp=Z,300nm,19.5s								
KURK	**Kurchatov**	**74.63**	**341**		*e*P		**P**	**02 34 02.0**	**+0.6**
KURK					pmax		pmax		
	comp=Z,50nm,0.9s								
KURK	**Kurchatov**	**74.63**	**341**		*e*P		**P**	**02 34 02.0**	**+0.6**
	comp=Z,50nm,0.9s								
RKT	**Rikitea**	**74.79**	**183**		*e*LR		LR	02 57 08.5	
	comp=Z,276nm,27.8s								
RKT	**Rikitea**	**74.79**	**183**		*e*T		T	03 55 56.8	
	comp=Z,3.1nm,0.3s								
KHC	**Kasperske Hory**	**74.97**	**23**		*e*P		**P**	**02 34 05.5**	**+2.0**
KHC					*e*pP		**sP**	**02 34 11.5**	**+1.1**
KHC	**Kasperske Hory**	**74.97**	**23**		*e*P		**P**	**02 34 05.5**	**+2.0**
KHC					*e*			02 34 11.5	
KHC	**Kasperske Hory**	**74.97**	**23**		*e*P		**P**	**02 34 05.4**	**+2.0**
	comp=Z,2.4nm,1.4s								
GERES	**GERESS Array B**	**75.27**	**23**		P		**P**	**02 34 06.6**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=341,slow=2.8,SNR=6.5								
GERES					LR		LR	03 08 25.5	
	comp=Z,110nm,18.5s,baz=320,slow=37								
TREC	**Trest**	**75.27**	**22**		AMS		AMS	03 08 30.0	
	comp=Z,300nm,20.4s								
GEA0	**GERESS Array S**	**75.28**	**23**		*e*P		**P**	**02 34 07.0**	**+1.7**
OKC	**Ostrava-Krasne**	**75.34**	**20**		*e*P		**P**	**02 34 07.5**	**+2.0**
OKC	**Ostrava-Krasne**	**75.34**	**20**		*e*P		**P**	**02 34 07.5**	**+2.0**
OKC					smax		smax		
	comp=N,11nm,0.4s								
VRAC	**Vranov**	**75.51**	**21**	⇑	*i*P		**P**	**02 34 07.5**	**+1.0**
VRAC	**Vranov**	**75.51**	**21**	⇑	P		**P**	**02 34 07.5**	**+1.0**
LANS	**Liptovska Anna**	**76.27**	**19**		*e*P		**P**	**02 34 13.3**	**+2.4**
LANS	**Liptovska Anna**	**76.27**	**19**		*e*P		**P**	**02 34 13.3**	**+2.4**
STHS	**Stebnicka Huta**	**76.37**	**18**		*e*P		**P**	**02 34 13.3**	**+1.9**
STHS					pmax		pmax		
	comp=Z,3.0nm,0.8s								
STHS	**Stebnicka Huta**	**76.37**	**18**		*e*P		**P**	**02 34 13.3**	**+1.9**
AKASG	**Malin Array Be**	**76.43**	**13**		P		**P**	**02 34 11.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=352,slow=5.8,SNR=5.3								
AKASG					LR		LR	03 07 40.9	
	comp=Z,133nm,22.0s,baz=10.0,slow=36								
KIEV	**Kiev**	**76.43**	**13**		*e*P		**P**	**02 34 11.6**	**-0.1**
KIEV					pmax		pmax		
	comp=Z,2.0nm,1.0s								
KIEV	**Kiev**	**76.43**	**13**		*e*P		**P**	**02 34 12.6**	**+0.9**
TBI	**Tubuai**	**76.62**	**197**		*e*LR		LR	02 57 45.5	
	comp=Z,288nm,31.0s								
TBI	**Tubuai**	**76.62**	**197**		*e*T		T	03 58 15.4	
	comp=Z,7.6nm,0.3s								
VYHS	**Vyhne**	**76.76**	**20**		*e*P		P	02 34 21.0	+7.3
VYHS					pmax		pmax		
	comp=Z,2.0nm,0.9s								
VYHS	**Vyhne**	**76.76**	**20**		*e*P		P	02 34 21.0	+7.3
CRVS	**Cervenica-Dubn**	**76.90**	**18**		*e*P		P	02 34 19.8	+5.4
CRVS	**Cervenica-Dubn**	**76.90**	**18**		*e*P		P	02 34 19.8	+5.4
KOLS	**Kolonicke sedl**	**77.03**	**18**		*e*P		P	02 34 22.4	+7.3
KOLS					pmax		pmax		
	comp=Z,3.0nm,1.1s								
KOLS	**Kolonicke sedl**	**77.03**	**18**		*e*P		P	02 34 22.4	+7.3
UZH	**Uzhgorod**	**77.32**	**18**		*e*P		**P**	**02 34 14.6**	**-2.1**
UZH					*e*			02 34 18.6	
UZH					*e*			02 34 20.0	
UZH					*e*			02 34 32.6	
MK31	**Makanchi Array**	**77.51**	**337**		*e*P		**P**	**02 34 18.4**	**+0.5**
MK31	**Makanchi Array**	**77.51**	**337**		*e*P		**P**	**02 34 18.4**	**+0.5**
MKAR	**Makanchi Array**	**77.51**	**337**		P		**P**	**02 34 17.9**	**0.0**
	comp=Z,2.3nm,0.7s,baz=39,slow=5.5,SNR=11								
MKAR					LR		LR	03 13 55.3	
	comp=Z,163nm,18.1s,baz=12,slow=40								
MKAR	**Makanchi Array**	**77.51**	**337**		*i* P		**P**	**02 34 20.3**	**+2.4**
MKAR					pmax		pmax		
	comp=Z,5.0nm,0.8s								
MKAR	**Makanchi Array**	**77.51**	**337**		*e*P		**P**	**02 34 18.4**	**+0.5**
PSZ	**Piszkesteto**	**77.53**	**19**	⇑	*i*P		**P**	**02 34 21.1**	**+3.0**
PSZ	**Piszkesteto**	**77.53**	**19**	⇑	P		**P**	**02 34 21.1**	**+3.0**
PSZ	**Piszkesteto**	**77.53**	**19**		*e*P		**P**	**02 34 19.6**	**+1.6**
	comp=Z,6.4nm,1.0s								
MK01	**Makanchi Array**	**77.53**	**337**		*e*P		**P**	**02 34 17.8**	**-0.2**
MAKZ	**Makanchi**	**77.58**	**337**		*e*P		**P**	**02 34 18.5**	**+0.2**
MAKZ					pmax		pmax		
	comp=Z,12nm,0.9s								
MAKZ	**Makanchi**	**77.58**	**337**		*e*P		**P**	**02 34 18.5**	**+0.2**
	comp=Z,12nm,0.9s								
ESDC	**Sonseca Array**	**77.92**	**39**		P		**P**	**02 34 20.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=347,slow=5.3,SNR=4.8								
ES19	**SONSECA Array**	**77.92**	**39**		*e*P		**P**	**02 34 23.6**	**+3.2**
ABKAR	**Akbulak array**	**78.74**	**352**		*e*P		**P**	**02 34 25.3**	**+0.7**
	comp=Z,8.9nm,1.1s								
SORM	**Soroca**	**78.81**	**14**	⇓	*i*P		**P**	**02 34 25.7**	**+0.7**
SORM	**Soroca**	**78.81**	**14**	⇓	P		**P**	**02 34 25.7**	**+0.7**
BURAR	**Bucovina Array**	**78.82**	**16**	⇓	*i*P		**P**	**02 34 28.1**	**+2.8**
BURAR	**Bucovina Array**	**78.82**	**16**	⇓	P		**P**	**02 34 28.1**	**+2.8**
WMQ	**Urumqi**	**78.84**	**332**		P		**P**	**02 34 28.1**	**+2.7**
WMQ					pP		sP	02 34 32.8	+0.4
WMQ					sP		PcP	02 34 36.3	+2.2
WMQ					PMZ				
	comp=Z,4.0nm,0.6s								
WMQ					PMZ				
	comp=Z,29nm,4.0s								
WMQ					LN				
	comp=Z,40nm,25.6s								
WMQ					LE				
	comp=Z,90nm,27.2s								
WMQ					LZ				
	comp=Z,24nm,23.8s								
PTGA	**Pitinga**	**79.16**	**105**		*e*P		**P**	**02 34 27.7**	**+0.2**
DRGR		**79.17**	**18**	⇓	*i*P		P	02 34 34.3	+7.2
DRGR		**79.17**	**18**	⇓	P		P	02 34 34.3	+7.2
ARCR	**ARCALIA**	**79.18**	**17**	⇓	*i*P		**P**	**02 34 30.0**	**+2.9**
SIRR	**Siria**	**79.47**	**19**	⇓	*i*P		P	02 34 36.6	+7.9
XAN	**Xi'an**	**79.50**	**313**		P		**P**	**02 34 30.3**	**+1.2**
XAN					PMZ				
	comp=Z,4.0nm,0.9s								
XAN					PMZ				
	comp=Z,54nm,3.8s								
LZH	**Lanzhou**	**79.98**	**318**		*e*P		**P**	**02 34 32.0**	**+0.1**
LZH					pP		sP	02 34 38.5	-0.3
LZH					sP		PcP	02 34 41.3	+2.0
LZH					*e*PP		**PP**	**02 37 35.6**	**+2.6**
LZH					PMZ				
	comp=Z,23nm,1.0s								
LZH					PMZ				
	comp=Z,79nm,8.5s								
LZH					LN				
	comp=Z,290nm,15.6s								
LZH					LE				
	comp=Z,300nm,16.0s								
LZH					LZ				
	comp=Z,380nm,19.2s								
BZS	**Buzias**	**80.08**	**19**	⇓	*i*P		**P**	**02 34 34.1**	**+2.1**
BZS	**Buzias**	**80.08**	**19**	⇓	P		**P**	**02 34 34.1**	**+2.1**
TESR	**Tescani**	**80.13**	**15**	⇑	*i*P		**P**	**02 34 37.0**	**+4.7**
DOPR	**Dopca**	**80.45**	**16**	⇑	*i*P		P	02 34 42.0	+8.0
VRI	**Vrincioaia**	**80.77**	**15**	⇑	*i*P		**P**	**02 34 37.8**	**+2.1**
VRI	**Vrincioaia**	**80.77**	**15**	⇑	P		**P**	**02 34 37.8**	**+2.1**
PLOR	**Plostina**	**80.77**	**15**	⇓	*i*P		**P**	**02 34 37.5**	**+1.7**
PLOR	**Plostina**	**80.77**	**15**	⇓	P		**P**	**02 34 37.5**	**+1.7**
ARR	**Arges**	**80.89**	**17**	⇑	*i*P		**P**	**02 34 38.3**	**+1.8**
MDVR	**Moldovita**	**80.90**	**19**	⇑	*i*P		P	02 34 43.3	+6.8
VOIR		**80.90**	**17**	⇑	*i*P		**P**	**02 34 38.1**	**+1.6**
VOIR		**80.90**	**17**	⇑	P		**P**	**02 34 38.1**	**+1.6**
MLR	**Muntele Rosu**	**81.00**	**16**	⇑	*i*P		P	02 34 42.7	+5.6
MLR	**Muntele Rosu**	**81.00**	**16**	⇑	P		P	02 34 42.7	+5.6
AQU	**L'Aquila**	**81.24**	**26**		*e*P		**P**	**02 34 38.6**	**+0.3**
AQU					pmax		pmax		
	comp=Z,4.0nm,0.8s								
AQU	**L'Aquila**	**81.24**	**26**		*e*P		**P**	**02 34 38.6**	**+0.3**
	comp=Z,3.9nm,0.8s								
CFR	**Carcaliu**	**81.67**	**15**	⇑	*i*P		**P**	**02 34 41.9**	**+1.5**
CFR	**Carcaliu**	**81.67**	**15**	⇑	P		**P**	**02 34 41.9**	**+1.5**
HUMR	**Humele**	**81.77**	**17**	⇓	*i*P		P	02 34 48.2	+7.2
HARR	**Harsova**	**82.11**	**15**	⇓	*i*P		P	02 34 49.3	+6.5
HARR	**Harsova**	**82.11**	**15**	⇓	P		P	02 34 49.3	+6.5
TIRR	**Tirgusor**	**82.41**	**14**	⇓	*i*P		**P**	**02 34 44.4**	**0.0**
TIRR	**Tirgusor**	**82.41**	**14**	⇓	P		**P**	**02 34 44.4**	**0.0**
TKM2	**Tokmak 2**	**82.69**	**340**		*e*P		**P**	**02 34 46.7**	**+0.5**
TKM2					pmax		pmax		
	comp=Z,7.0nm,0.8s								
TKM2	**Tokmak 2**	**82.69**	**340**		*e*P		**P**	**02 34 46.7**	**+0.5**
	comp=Z,6.9nm,0.8s								
ANN	**Anapa**	**83.17**	**8**		*e*P		**P**	**02 34 47.7**	**-0.6**
ANN					*e*			02 38 00.5	
ANN					*e*PPP		PPP	02 39 48.8	
ANN					*e*S		**S**	**02 45 05.9**	**-1.5**
ANN					*e*SS		**SS**	**02 50 31.3**	**+1.3**
ANN					pmax		pmax		
	comp=Z,14nm,1.0s								
AAK	**Ala-Archa**	**83.19**	**341**		*e*P		**P**	**02 34 47.1**	**-1.6**
AAK					pmax		pmax		
	comp=Z,5.0nm,1.0s								
AAK	**Ala-Archa**	**83.19**	**341**		*e*P		**P**	**02 34 48.5**	**-0.3**
EKS2	**Erkin-Say**	**83.31**	**342**		*e*P		**P**	**02 34 54.0**	**+4.7**
EKS2					pmax		pmax		
	comp=Z,9.0nm,1.2s								
EKS2	**Erkin-Say**	**83.31**	**342**		*e*P		**P**	**02 34 54.0**	**+4.7**
	comp=Z,8.9nm,1.2s								
SAML	**Samuel**	**83.89**	**113**		*e*P		**P**	**02 34 50.5**	**-1.9**
	comp=Z,2.8nm,1.0s								
KIV	**Kislovodsk**	**84.36**		4	⇓*e*P		**P**	**02 34 54.0**	**-0.6**
KIV					*e*S		**S**	**02 45 14.5**	**-5.2**
KIV					*e*SS		**SS**	**02 50 51.4**	**+3.5**
KIV					pmax		pmax		
	comp=Z,7.0nm,1.4s								
KIV					MLR		MLR		
	comp=Z,115nm,18.0s								
CD2	**Chengdu**	**84.45**	**315**		*e*P		**P**	**02 34 55.0**	**-0.2**
CD2					pP		sP	02 35 01.8	-0.4
CD2					sP		pP	02 35 04.3	+3.9
CD2					SKS		**S**	**02 45 16.3**	**-4.6**
CD2					S		**SKSac**	**02 45 19.4**	**+0.9**
CD2					sS		sS	02 45 30.8	+1.3
CD2					SS		**SS**	**02 50 49.5**	**-0.6**
CD2					PMZ				
	comp=Z,10.0nm,0.5s								
CD2					PMZ				
	comp=Z,120nm,5.4s								
KBZ	**Khabaz**	**84.59**		4	P		**P**	**02 34 57.3**	**+1.7**
	comp=Z,2.9nm,0.8s,baz=6.3,slow=3.8,SNR=3.8								
KBZ					LR		LR	03 15 29.2	
	comp=Z,80nm,21.6s,baz=358,slow=38								
KSH	**Kashi**	**85.87**	**339**		*e*P		**P**	**02 35 02.0**	**-0.3**
KSH					pP		pP	02 35 08.4	+0.9
KSH					PP		**PP**	**02 38 21.8**	**+0.8**
KSH					S		**S**	**02 45 30.6**	**-4.3**
KSH					PMZ				
	comp=Z,3.0nm,0.3s								
KSH					PMZ				
	comp=Z,62nm,4.3s								
KSH					LN				
	comp=Z,140nm,7.1s								
KSH					LE				
	comp=Z,120nm,6.0s								
KSH					LZ				
	comp=Z,190nm,11.4s								
KEST	**Kesra**	**86.17**	**31**		P		**P**	**02 35 05.1**	**+1.3**
	comp=Z,1.9nm,0.9s,baz=295,slow=14,SNR=2.1								
KEST					LR		LR	03 14 07.0	
	comp=Z,64nm,18.4s,baz=321,slow=36								
GYA	**Guiyang**	**86.92**	**310**		*e*P		**P**	**02 35 08.0**	**+0.4**
GYA					PMZ				
	comp=Z,10.0nm,1.0s								
LPAZ	**La Paz**	**87.17**	**121**		P		**P**	**02 35 07.6**	**-1.7**
	comp=Z,3.5nm,1.0s,baz=317,slow=5.4,SNR=8.5								
LPAZ	**La Paz**	**87.17**	**121**		*e*P		**P**	**02 35 08.2**	**-1.2**
LPAZ	**La Paz**	**87.17**	**121**		*e*P		**P**	**02 35 08.2**	**-1.2**
BR231	**Keskin MP Arra**	**87.56**	**12**		*e*P		**P**	**02 35 12.5**	**+2.0**
BR131	**Keskin Array S**	**87.79**	**12**		*e*P		**P**	**02 35 13.5**	**+1.9**
BRTR	**Keskin Array B**	**87.79**	**12**		P		**P**	**02 35 12.7**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=35,slow=4.5,SNR=6.2								
BRTR					LR		LR	03 17 57.5	
	comp=Z,73nm,19.2s,baz=341,slow=38								
KMI	**Kunming**	**89.88**	**313**		P		**P**	**02 35 23.5**	**+1.7**
KMI					PMZ				
	comp=Z,12nm,0.7s								
KMI					LZ				
	comp=Z,110nm,24.2s								
GEYT	**Alibeck**	**90.14**	**353**		LR		LR	03 18 44.3	
	comp=Z,81nm,21.3s,baz=245,slow=38								
LVC	**Limon Verde**	**92.02**	**125**		*e*P		**P**	**02 35 32.9**	**+1.2**
	comp=Z,4.8nm,1.0s								
CMAR	**Chiang Mai Arr**	**97.39**	**313**		LR		LR	03 22 28.8	
	comp=Z,68nm,18.7s,baz=110,slow=37								

BJI 17 02:22:41.2, 30.92N×116.92E, h6km, mb4.3/3, mB4.4/2, ML4.2/18, Ms3.8/5, Ms7 3.5/4, 1C-1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NJ2	**Nanjing**	**2.00**	**55**		*e*Pn	Pn	Pn	02 23 16.1	+0.6
NJ2					Pg	Pg	Pg	02 23 20.6	+1.0
NJ2					Sn	Sn	Sn	02 23 41.3	+0.4
NJ2					Sg	Sg	Sg	02 23 45.9	+0.4
NJ2					SMN				
	3μm,0.3s								
NJ2					SME				
	870nm,0.2s								
WHN	**Wuhan**	**2.24**	**261**	⇑	Pn	Pn	Pn	02 23 19.6	+0.7
WHN					Pg	Pg	Pb	02 23 22.9	+0.8
WHN					Sg	Sg	Sg	02 23 52.1	-1.2
TIA	**Tai'an**	**5.28**	**2**		Pn	Pb	Pb	02 24 10.3	-3.6
TIA					Pg	Pg	Pg	02 24 17.3	-5.1
TIA					Sg	Sg	Sg	02 25 24.8	-6.0
TIA					smax	smax	smax		
	comp=N,150nm,0.8s								
TIA					smax	smax	smax		
	comp=E,190nm,0.7s								
QZH	**Quanzhou**	**6.13**	**166**	⇓	*i*Pn	Pn	Pn	02 24 07.8	-4.6
QZH					Sn	Sn	Sb	02 25 32.8	-9.4
QZH					SMN				
	comp=E,310nm,0.9s								
QZH					SME				
	comp=E,350nm,0.6s								
XAN	**Xi'an**	**7.44**	**297**		Pn	Pn	Pn	02 24 30.9	+0.6
XAN					Pg	Pg	Pg	02 24 57.5	-6.2
XAN					Sn	Sn	Sn	02 26 06.8	+12
XAN					Sg	Sg	Sg	02 26 40.0	0.0
XAN					SMN				
	comp=E,130nm,0.8s								
XAN					SME				
	comp=E,110nm,0.9s								
XAN					LN				
	comp=E,540nm,8.0s								
XAN					LE				
	comp=E,220nm,9.0s								
XAN					LZ				
	comp=E,190nm,8.0s								
HHC	**Hu-ho-hao-te**	**10.81**	**338**		*e*P		Pn	02 25 20.3	+3.6
HHC					PMZ				
	comp=E,19nm,1.0s								
HHC					PMZ				
	comp=E,73nm,6.9s								
CD2	**Chengdu**	**11.30**	**273**		*e*P		Pn	02 25 24.5	+1.1
LZH	**Lanzhou**	**12.07**	**299**		*e*P		Pn	02 25 33.0	-0.9
LZH					pP			02 25 36.3	
LZH					sP			02 25 39.5	
LZH					*e*PP		PnPn	02 25 43.1	+1.5
LZH					*e*S		Sn	02 27 48.3	-0.5
LZH					sS			02 27 55.4	
LZH					*e*SS		SnSn	02 28 03.5	+2.7
LZH					LN				
	comp=E,340nm,12.0s								
LZH					LE				
	comp=E,200nm,11.0s								
LZH					LZ				
	comp=E,380nm,13.2s								
WMQ	**Urumqi**	**26.41**	**307**		P		P	02 28 21.5	+2.9
WMQ					pP		sP	02 28 26.5	+5.3
WMQ					sP		pP	02 28 28.5	+8.1
WMQ					PMZ				
	comp=E,4.0nm,0.6s								
WMQ					PMZ				
	comp=E,31nm,3.6s								
WMQ					LN				
	comp=E,84nm,13.6s								
WMQ					LE				
	comp=E,46nm,8.2s								
WMQ					LZ				
	comp=E,9.0nm,10.6s								

IDC 17 02:30:32.7±2.0, 5.79S×151.15E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/40, mbtmp3.7/3, Error ellipse: s-maj=100.4km s-min=34.6km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**228**			P	P	02 35 24.2	+0.1
	0.8nm,0.6s,baz=53,slow=10,SNR=8.5								
ASAR	**Alice Springs**	**24.32**	**221**			P	P	02 35 52.4	0.0
	0.9nm,0.6s,baz=58,slow=9.1,SNR=12								
FITZ	**Fitzroy Crossi**	**27.75**	**242**			P	P	02 36 23.6	+0.2
	3.0nm,1.0s,baz=63,slow=11								
PDAR	**Pinedale Array**	**100.72**	**48**			P	Pdif	02 44 23.8	+0.1
	0.5nm,0.6s,baz=306,slow=5.2,SNR=3.6								
TORD	**Torodi Ar. Bea**	**149.03**	**286**			PKPbc	PKPbc	02 50 23.0	-1.0
	0.3nm,0.4s,baz=70,slow=2.0,SNR=5.5								

NIED ***17*** *02:32:00, 37.70N×143.70E, h8km, Mw4.1 Best double couple: M₀1.60000×10¹⁵ NP1:ϕs335.00000°, δ35.00000°, λ-161.00000°. NP2:ϕs229.00000°, δ79.00000°, λ-57.00000°.*

IDC ***17*** *02:32:22.9±0.8, 37.73N×143.62E, h0km, mb4.0/16, mb1 4.1/21, mb1mx4.0/50, mbtmp4.1/21, ML4.0/5, MS3.2/6, Ms1 3.2/6, ms1mx2.9/56, Error ellipse: s-maj=22.0km s-min=15.8km az=91.0*

ISCJB ***17*** *02:32:23.8±0.4, 37.73N±0.03×143.61E±0.04, h19km, mb4.2/29, MS3.8/3, Error ellipse: s-maj=5.7km s-min=4.0km az=135.0*

NEIC ***17*** *02:32:23.8±3.3, 37.76N×143.69E, h7km±20km, mb4.5/12, Error ellipse: s-maj=10.9km s-min=6.9km az=124.0*

JMA ***17*** *02:32:24.5±0.4, 37.75N×143.66E, h37km, M4.0*

ISC 17 02:32:25.3±0.6, 37.77N±0.05×143.66E±0.07, h19km, n71, σ1s94/75, mb4.3/29, MS4.0/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.94**	**291**			P	**Pn**	**02 32 56.5**	**-0.8**
OFUJ	**Ofunato**	**2.04**	**311**			P	**Pn**	**02 32 57.6**	**-1.0**
JMK	**Ichinoseki**	**2.25**	**302**			P	**Pn**	**02 33 00.9**	**-0.6**
JMK						*e*S	**Sn**	**02 33 26.7**	**-2.1**
JOM	**Ohasama**	**2.52**	**313**			P	**Pn**	**02 33 04.7**	**-0.5**
JOM						*e*S	**Sn**	**02 33 33.8**	**-1.5**
JFT	**Otama**	**2.65**	**266**			P	**Pn**	**02 33 07.1**	**+0.1**
JFT						S	**Sn**	**02 33 36.9**	**-1.7**
JYK	**Kaneyama**	**2.84**	**295**			P	**Pn**	**02 33 09.5**	**-0.1**
JANG	**Nango**	**3.09**	**328**			P	**Pn**	**02 33 13.0**	**-0.1**
JNS	**Sasagawa**	**3.44**	**272**			P	**Pn**	**02 33 18.2**	**+0.3**
JAW	**Awa shima**	**3.54**	**283**			P	**Pn**	**02 33 19.6**	**+0.3**
JAG	**Ashikaga**	**3.62**	**250**			P	**Pn**	**02 33 20.1**	**-0.3**
JAG						S	**Sn**	**02 34 00.1**	**-2.5**
BSO1	**Boso 1**	**3.79**	**216**			P	**Pn**	**02 33 21.1**	**-1.1**
BSO1						S	**Sn**	**02 34 05.1**	**-0.9**
JOT	**Ohata**	**4.13**	**332**			P	**Pn**	**02 33 28.0**	**+0.6**
JRY	**Ryogami san**	**4.19**	**247**			P	**Pn**	**02 33 28.1**	**-0.2**
JRY						*e*S	**Sn**	**02 34 13.7**	**-3.1**
ERM	**Erimo**	**4.26**	**355**			*e*Pn	**Pn**	**02 33 28.6**	**-0.5**
ERM						*e*Sn	**Sn**	**02 34 14.6**	**-3.7**
JOD2	**Odawara 2**	**4.45**	**237**			P	**Pn**	**02 33 31.1**	**-0.7**
MJAR	**Matsushiro Arr**	**4.52**	**256**			Pn

MKAR	Makanchi Array	45.25	302	P		P	02 40 40.5	-0.9
	1.5nm,0.7s,baz=84,slow=11,SNR=10							
SEW	Seward	46.87	39	*e*P		P	02 40 55.5	+1.6
	12nm,0.9s							
KURK	Kurchatov	46.89	308	*e*P		P	02 40 54.5	+0.3
	58nm,0.6s							
ILAR	Eielson Array	47.91	33	P		P	02 41 03.1	+1.1
	1.0nm,0.9s,baz=261,slow=6.3,SNR=8.5							
DIV	Divide	48.61	38	*e*P		P	02 41 07.9	+0.4
	7.1nm,0.8s							
DOT	Dot Lake	49.20	34	*e*P		P	02 41 12.8	+0.8
	3.3nm,0.7s							
TKM2	Tokmak 2	50.85	299	*e*P		P	02 41 25.9	+0.9
	2.5nm,0.7s							
BVAR	Borovoye Array	51.40	312	P		P	02 41 30.0	+1.3
	1.4nm,0.8s,baz=68,slow=12,SNR=7.6							
BRVK	Borovoye	51.45	312	*e*P		P	02 41 30.3	+1.2
	6.0nm,0.8s							
KKAR	Karatay Array	54.30	300	*e*P		P	02 41 50.7	+0.4
	1.3nm,0.6s							
DLBC	Dease Lake	56.94	39	*e*P		P	02 42 08.9	-0.2
	2.2nm,0.9s							
ARU	Arti	56.99	319	*e*P		P	02 42 10.4	+1.0
	2.7nm,0.4s							
WRAB	Tennant Creek	58.06	190	*e*P		P	02 42 16.5	-0.7
	11nm,1.1s							
WRA	Warramunga Arr	58.07	190	P		P	02 42 17.1	-0.2
	5.9nm,0.8s,baz=10,slow=7.4,SNR=32							
ABKAR	Akbulak array	58.83	310	*e*P		P	02 42 23.0	+0.6
	1.5nm,0.4s							
ASAR	Alice Springs	61.79	190	P		P	02 42 43.0	+0.2
	0.8nm,0.7s,baz=7.0,slow=6.4,SNR=7.1							
ARCES	ARCESS Array B	63.93	340	P		P	02 42 57.6	+1.0
	0.6nm,0.6s,baz=46,slow=9.3,SNR=3.9							
GEYT	Alibeck	65.03	300	P		P	02 43 05.7	+1.3
	3.7nm,0.7s,baz=93,slow=2.9,SNR=4.6							
FINES	FINESS Array B	68.99	333	P		P	02 43 30.0	+1.0
	2.0nm,0.7s,baz=57,slow=7.7,SNR=8.3							
JMIC	Jan Mayen	69.72	351	LR		LR	03 15 13.0	
	comp=Z,28nm,18.6s,baz=238,slow=37							
SUMG	Summit	69.94	1	*e*P		P	02 43 33.6	-1.7
	3.0nm,0.7s							
KVAR	Kislovodsk Arr	71.76	312	LR		LR	03 19 06.5	
	comp=Z,76nm,18.6s,baz=308,slow=39							
KBZ	Khabaz	71.77	311	P		P	02 43 47.6	+1.3
	2.5nm,0.7s,baz=87,slow=4.7,SNR=5.4							
NOA	NORSAR Array B	74.19	338	P		P	02 44 01.5	+1.1
	0.2nm,0.4s,baz=27,slow=3.9,SNR=3.2							
AKASG	Malin Array Be	74.80	323	P		P	02 44 04.6	+0.6
	0.7nm,0.5s,baz=45,slow=6.4,SNR=3.3							
PFO	Pinyon Flats O	77.14	57	LR		LR	03 11 08.9	
	comp=Z,68nm,19.9s,baz=74,slow=30							
BRTR	Keskin Array B	79.69	313	P		P	02 44 32.5	+0.5
	0.4nm,0.8s,baz=90,slow=0.6,SNR=3.6							
TXAR	Lajitas Array	88.25	54	P		P	02 45 17.6	+1.8
	0.4nm,0.9s,baz=306,slow=3.1,SNR=3.0							
ROSC	El Rosal	124.84	48	PKP		PKPdf	02 51 25.1	0.0
	2.8nm,0.4s,baz=137,slow=19,SNR=2.6							
LBTB	Lobatse	126.49	265	PKP		PKPdf	02 51 27.3	-0.2
	2.5nm,0.8s,baz=108,slow=3.2,SNR=2.4							

IDC ***17*** *02:37:09.3±0.8, 2°.79N×126°.65E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/45, mbtmp3.9/9, Error ellipse: s-maj=58.4km s-min=15.9km az=77.0*

ISCJB ***17*** *02:37:15.4±0.7, 2°.8N±0°.1×126°.7E±0°.3, h63km, mb3.8/8, Error ellipse: s-maj=49.3km s-min=12.0km az=168.1*

ISC 17 02:37:17.3±0.8, 2°.8N±0°.1×126°.7E±0°.4, h63km, n11, σ0s76/11, mb3.9/8, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.76	183	P		P		02 41 52.8	-0.4
	5.8nm,1.2s,baz=12,slow=14,SNR=2.3								
WRA	Warramunga Arr	23.77	162	P		P		02 42 24.1	-0.2
	3.6nm,0.6s,baz=341,slow=10,SNR=15								
ASAR	Alice Springs	27.19	165	P		P		02 42 55.9	+0.7
	0.8nm,0.8s,baz=346,slow=11,SNR=4.6								
KSRS	Korea Array	34.54	2	P		P		02 44 00.5	+0.7
	0.5nm,0.4s,baz=177,slow=11,SNR=5.2								
STKA	Stephens Creek	37.24	159	P		P		02 44 22.4	-0.5
	2.8nm,0.6s,baz=348,slow=9.8,SNR=4.6								
KLR	Kul'dur	46.49	5	P		P		02 45 37.8	-0.4
	1.1nm,0.8s,baz=247,slow=7.7,SNR=3.9								
SONM	Songino Array	48.20	342	P		P		02 45 50.9	-0.8
	0.2nm,0.3s,baz=164,slow=7.3,SNR=2.5								
MKAR	Makanchi Array	58.34	326	P		P		02 47 05.4	-0.6
	0.7nm,0.7s,baz=127,slow=7.7,SNR=5.9								
BRTR	Keskin Array B	90.62	310	P		P		02 50 13.9	+0.5
	0.8nm,0.9s,baz=106,slow=9.1,SNR=5.5								
TXAR	Lajitas Array	122.19	53	PKP		PKPdf		02 56 06.1	+0.2
	0.2nm,0.7s,baz=302,slow=2.0,SNR=2.7								
TORD	Torodi Ar. Bea	123.20	288	PKP		PKPdf		02 56 09.4	+1.4
	0.5nm,0.9s,baz=90,slow=1.4,SNR=2.8								

ISCJB ***17*** *02:39:09.7±0.5, 43°.60S±0°.03×172°.83E±0°.04, h15km±3km, mb4.3/3, MS4.0/3, Error ellipse: s-maj=5.4km s-min=3.1km az=42.3*

NEIC ***17*** *02:39:11.5, 43°.53S×172°.76E, h6km, MW4.2, ML4.4(WEL), Moment Tensor Solution. s24 Moment tensor: Scale 10^15Nm; Mrr-0.35; Mθθ-0.08; Mφφ0.43; Mrθ0.67; Mθφ-2.47; Mφr0.25; Best double couple: Mo2.60000×10^15 NP1: φs274.00000°, δ82.00000°, λ-164.00000°. NP2: φs182.00000°, δ74.00000°, λ-9.00000°. Principal axes: T 2.6900, Plg5.0000°, Azm47.0000°; N -0.1700, Plg72.0000°, Azm301.0000°; P -2.5200, Plg17.0000°, Azm139.0000°; After WEL.*

NEIC Felt in the Christchurch area.

WEL ***17*** *02:39:11.7±0.1, 43°.53S×172°.75E, h5km, ML4.4/45 Error ellipse: s-maj=0.8km s-min=0.3km az=90.0*

WEL Felt in the Canterbury region, maximum reported intensity MM 6.

IDC ***17*** *02:39:11.4±1.4, 43°.23S×172°.60E, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/27, mbtmp4.0/3, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx3.2/27, Error ellipse: s-maj=43.2km s-min=13.7km az=149.0*

ISC 17 02:39:11.3±0.8, 43°.57S±0°.03×172°.77E±0°.04, h15km±5km, n95, σ1s45/102, mb4.0/3, MS4.3/3, 4C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRLZ	Canterbury Las	0.11	269	⇑PG		Pg		02 39 13.8	-0.7
CRLZ				AML		AML		02 39 15.8	
CRLZ				AML		AML		02 39 15.8	
CRLZ				SG		Sg		02 39 15.9	-0.8
CRLZ				AML		AML		02 39 16.2	
MQZ	McQueen's Vall	0.16	212	⇑Pg		Pg		02 39 15.3	+0.1
MQZ				SG		Sg		02 39 18.1	+0.2
MQZ				SG		Sb		02 39 18.4	-0.7
MQZ				AML		AML		02 40 03.7	
MQZ	McQueen's Vall	0.16	212	*e*Pg		Pg		02 39 15.4	+0.1
MQZ				*e*Sg		Sg		02 39 18.2	+0.3
OXZ	Oxford	0.59	295	⇓PG		Pg		02 39 22.3	-0.5
OXZ				SG		Sg		02 39 30.5	-0.1
OXZ	Oxford	0.59	295	*e*Pg		Pg		02 39 22.3	-0.5
LTZ	Lake Taylor	0.87	335	⇓P*		Pg		02 39 27.8	-0.4
LTZ				S*		Sb		02 39 39.6	-0.1
LTZ				AML		AML		02 39 41.1	
LTZ	Lake Taylor	0.87	335	*e*Pg		Pg		02 39 27.8	-0.4
LTZ				*e*Sg		Sb		02 39 39.8	+0.2
RPZ	Rata Peaks	1.25	263	Pg		Pn		02 39 33.9	-0.4
	306nm,0.3s,baz=171,slow=3.0,SNR=306								
RPZ				Lg		Lg		02 39 51.8	
	840nm,0.3s,baz=14,slow=19,SNR=24								
RPZ	Rata Peaks	1.25	263	⇑P*		Pn		02 39 33.9	-0.4
RPZ				S*		Sb		02 39 45.9	-4.8
RPZ				AML		AML		02 40 00.7	
KHZ	Kahutara	1.29	26	P*		Pn		02 39 33.9	-0.8
KHZ				S*		Sb		02 39 51.1	-0.4
KHZ	Kahutara	1.29	26	*e*Pn		Pn		02 39 34.1	-0.6
INZ	Inchbonnie	1.29	311	P*		Pn		02 39 33.9	-0.9
INZ				S*		Sb		02 39 47.7	-3.9
WVZ	Waitaha Valley	1.56	288	PN		Pn		02 39 38.9	+0.4
WVZ				AML		AML		02 40 06.4	
WVZ				AML		AML		02 40 10.4	
THZ	Tophouse	1.81	3	PN		Pn		02 39 41.4	-0.7
THZ				SN		Sn		02 40 04.0	-0.9
THZ				AML		AML		02 40 32.0	
THZ	Tophouse	1.81	3	*e*Pn		Pn		02 39 41.8	-0.3
DSZ	Denniston Nort	1.96	338	PN		Pn		02 39 44.3	+0.2
DSZ				SN		Sn		02 40 08.0	-0.4
DSZ				AML		AML		02 40 19.3	
DSZ				AML		AML		02 40 19.3	
DSZ				AML		AML		02 40 27.7	
BSWZ	Blackbirch Sta	2.03	24	PN		Pn		02 39 44.6	-0.4
BSWZ				AML		AML		02 40 32.7	
BSWZ				AML		AML		02 40 44.6	
LBZ	Lake Benmore	2.04	246	PN		Pn		02 39 45.2	+0.1
LBZ				SN		Sn		02 40 10.3	0.0
LBZ				AML		AML		02 40 20.5	
LBZ				AML		AML		02 40 21.9	
LBZ				AML		AML		02 40 21.9	
LBZ	Lake Benmore	2.04	246	*e*Pn		Pn		02 39 45.5	+0.4
CMWZ	Cape Campbell	2.11	31	PN		Pn		02 39 47.0	+0.8
CMWZ				AML		AML		02 40 45.6	
CMWZ				AML		AML		02 40 46.9	
ODZ	Otahua Downs	2.12	225	⇑PN		Pn		02 39 46.0	-0.2
ODZ				AML		AML		02 40 28.4	
ODZ				AML		AML		02 40 28.4	
ODZ				AML		AML		02 40 28.8	
ODZ				AML		AML		02 40 28.8	
ODZ	Otahua Downs	2.12	225	*e*Pn		Pn		02 39 46.1	-0.2
FOZ	Fox Glacier	2.15	270	PN		Pn		02 39 47.3	+0.8
FOZ				AML		AML		02 40 30.1	
FOZ				AML		AML		02 40 30.2	
FOZ				AML		AML		02 40 33.4	
FOZ				AML		AML		02 40 33.4	
FOZ	Fox Glacier	2.15	270	*e*Pn		Pn		02 39 47.5	+0.9
TUWZ	Tuamarina	2.31	22	PN		Pn		02 39 48.3	-0.5
TUWZ				AML		AML		02 40 41.1	
TUWZ				AML		AML		02 40 41.2	
NNZ	Nelson	2.40	11	PN		Pn		02 39 50.1	0.0
NNZ				AML		AML		02 40 43.2	
NNZ				AML		AML		02 40 43.2	
NNZ				AML		AML		02 40 47.8	
NNZ				AML		AML		02 40 47.8	
TCW	Tory Channel	2.61	26	PN		Pn		02 39 52.4	-0.6
TCW				AML		AML		02 40 52.2	
TCW				AML		AML		02 40 55.0	
BHW	Baring Head	2.66	36	PN		Pn		02 39 53.2	-0.5
BHW				AML		AML		02 40 58.2	
BHW				AML		AML		02 41 22.0	
SNZO	South Karori	2.68	33	*e*Pn		Pn		02 39 53.1	-0.7
PLWZ	Palliser	2.72	43	PN		Pn		02 39 53.2	-1.3
WEL	Wellington	2.72	34	AML		AML		02 40 27.5	
WEL				AML		AML		02 41 03.7	
QRZ	Quartz Range	2.75	356	PN		Pn		02 39 54.6	-0.3
QRZ				AML		AML		02 40 09.7	
QRZ				AML		AML		02 40 09.7	
QRZ				AML		AML		02 40 46.6	
QRZ				AML		AML		02 40 46.6	
HHSZ	Highcliff Hill	2.78	213	PN		Pn		02 39 55.3	0.0
MSWZ	Moikau Station	2.83	41	PN		Pn		02 39 55.1	-0.9
MSWZ				AML		AML		02 40 29.2	
MSWZ				AML		AML		02 41 17.6	
DUWZ	D'Urville Isla	2.90	18	PN		Pn		02 39 56.8	-0.1
JCZ	Jackson Bay	2.93	259	PN		Pn		02 39 57.3	-0.1
PAWZ	Paruwai Farm	2.94	43	PN		Pn		02 39 56.3	-1.2
PAWZ				AML		AML		02 40 30.7	
PAWZ				AML		AML		02 41 23.1	
WKZ	Wanaka	2.98	244	AML		AML		02 40 53.4	
WKZ				AML		AML		02 40 53.4	
WKZ				AML		AML		02 40 58.5	
WKZ				AML		AML		02 40 58.5	
WKZ	Wanaka	2.98	244	*e*Pn		Pn		02 39 58.3	+0.3
EAZ	Earnscleugh	2.98	235	PN		Pn		02 39 58.1	0.0
EAZ				AML		AML		02 41 02.7	
EAZ				AML		AML		02 41 02.7	
EAZ				AML		AML		02 41 02.8	
EAZ				AML		AML		02 41 02.8	
CAW	Cannon Point	3.00	35	PN		Pn		02 39 57.2	-1.1
CAW				AML		AML		02 40 34.2	
CAW				AML		AML		02 40 36.2	
TRWZ	Traveller	3.06	46	PN		Pn		02 39 57.9	-1.3
TRWZ				AML		AML		02 40 38.5	
TRWZ				AML		AML		02 41 22.1	
KIW	Kapiti Island	3.14	31	PN		Pn		02 39 59.6	-0.7
KIW				AML		AML		02 40 45.8	
KIW				AML		AML		02 41 09.5	
MTW	Mount Morrison	3.15	41	PN		Pn		02 39 58.9	-1.5
MTW				AML		AML		02 40 37.2	
MTW				AML		AML		02 40 46.7	
TUZ	Tuapeka	3.27	222	PN		Pn		02 40 01.9	-0.1
TUZ				AML		AML		02 41 00.7	
TUZ				AML		AML		02 41 00.7	
TUZ				AML		AML		02 41 06.4	
TUZ				AML		AML		02 41 06.4	
OGWZ	Otaki Gorge	3.28	34	PN		Pn		02 40 00.7	-1.5
HOWZ	Holdsworth Sta	3.36	38	PN		Pn		02 40 02.4	-1.0
MRZ	Mangatainoka R	3.58	37	PN		Pn		02 40 04.8	-1.6
MSZ	Milford Sound	3.66	251	AML		AML		02 41 16.0	
MSZ				AML		AML		02 41 19.3	
MLZ	Mavora Lakes	3.78	240	PN		Pn		02 40 08.7	-0.4
MLZ				AML		AML		02 41 20.4	
MLZ				AML		AML		02 41 27.6	
MLZ	Mavora Lakes	3.78	240	*e*Pn		Pn		02 40 09.3	+0.2
BFZ	Birch Farm	3.88	43	PN		Pn		02 40 08.6	-1.8
BFZ				AML		AML		02 40 54.6	
BFZ				AML		AML		02 40 55.3	
BFZ				AML		AML		02 41 02.8	
BFZ				AML		AML		02 42 20.0	
BFZ	Birch Farm	3.88	43	*e*Pn		Pn		02 40 08.8	-1.6
POWZ	Post Office Ro	3.89	36	PN		Pn		02 40 09.9	-0.6
SYZ	Scrubby Hill	3.92	220	PN		Pn		02 40 10.9	-0.1
SYZ				AML		AML		02 41 22.7	
SYZ				AML		AML		02 41 22.7	
SYZ				AML		AML		02 41 26.5	
SYZ				AML		AML		02 41 26.5	
WHZ	Wether Hill Ro	4.14	234	PN		Pn		02 40 12.9	-1.1
WHZ				AML		AML		02 41 34.3	
WHZ				AML		AML		02 41 39.1	
WHZ	Wether Hill Ro	4.14	234	*e*Pn		Pn		02 40 13.0	-1.1
WHZ				*e*Pg		Pg		02 40 29.4	-1.3
WAZ	Wanganui	4.16	24	*e*PN		Pn		02 40 15.7	+1.4
WAZ				AML		AML		02 41 49.7	
WAZ				AML		AML		02 41 56.4	
DCZ	Deep Cove	4.44	243	PN		Pn		02 40 17.6	-0.5
DCZ				AML		AML		02 41 39.4	
DCZ				AML		AML		02 41 43.3	
DCZ	Deep Cove	4.44	243	*e*Pn		Pn		02 40 17.7	-0.4
DCZ				*e*Pg		Pg		02 40 34.0	-2.3
DREZ	Durham Road	4.51	14	PN		Pn		02 40 20.8	+1.6
PXZ	Pawanui	4.68	42	AML		AML		02 41 17.7	
PXZ				AML		AML		02 41 21.3	
VRZ	Vera Road	4.69	19	PN		Pn		02 40 22.4	+0.8
VRZ				AML		AML		02 42 06.3	
VRZ				AML		AML		02 42 11.1	
APZ	The Paps	4.69	224	PN		Pn		02 40 21.1	-0.5
APZ				AML		AML		02 41 48.7	
APZ				AML		AML		02 41 52.1	
MOVZ	Moawhango	4.73	29	AML		AML		02 41 19.7	
MOVZ				AML		AML		02 41 45.8	
WNVZ	Wahianoa	4.75	28	PN		Pn		02 40 22.6	+0.2
TRVZ	Turoa	4.75	27	AML		AML		02 41 20.0	
TRVZ				AML		AML		02 42 08.2	
WHVZ	Whangaehu Hut	4.78	27	*e*PN		Pn		02 40 23.3	+0.3
FWVZ	Far West T-bar	4.79	27	*e*PN		Pn		02 40 23.6	+0.4
FWVZ				AML		AML		02 41 21.1	
FWVZ				AML		AML		02 41 21.2	
TUVZ	Tukino	4.82	28	PN		Pn		02 40 24.5	+1.1
TUVZ				AML		AML		02 41 27.7	
KAHZ	Kahuranaki	4.87	41	*e*PN		Pn		02 40 23.1	-1.0
NGZ	Ngauruhoe	4.88	27	AML		AML		02 42 18.4	
NGZ				AML		AML		02 42 21.7	
OTVZ	Oturere	4.92	27	AML		AML		02 42 08.7	
OTVZ				AML		AML		02 42 22.5	
PYZ	Puysegur Point	5.04	237	*e*Pn		Pn		02 40 25.7	-0.7
BKZ	Black Stump Fm	5.22	34	*e*Pn		Pn		02 40 24.7	-4.2
HIZ	Hauiti	5.29	18	PN		Pn		02 40 29.9	0.0
HIZ				AML		AML		02 42 17.6	
HIZ				AML		AML		02 42 20.3	
HIZ	Hauiti	5.29	18	*e*Pn		Pn		02 40 30.1	+0.2
MRHZ	Matea Rd	5.48	31	PN		Pn		02 40 31.3	-1.1
TOZ	Tahuroa Road	6.19	21	PN		Pn		02 40 41.1	-1.1
URZ	Urewera	6.24	33	Pn		Pn		02 40 40.7	-2.2
	2.4nm,0.3s,baz=212,slow=11,SNR=8.1								
URZ				Pg		Pb		02 41 01.4	+1.7
	2.7nm,0.3s,baz=236,slow=13,SNR=5.7								
URZ				Sn		Sn		02 41 50.0	-3.9
	5.2nm,0.3s,baz=47,slow=20,SNR=6.8								
MWZ	Matawai	6.35	36	PN		Pn		02 40 42.0	-2.4
MWZ				AML		AML		02 41 55.0	
MWZ				AML		AML		02 43 12.7	
MKAZ	Moumakai	6.71	17	PN		Pn		02 40 48.8	-0.5
HAZ	Te Kaha	6.95	35	PN		Pn		02 40 50.2	-2.4
RAO	Raoul Island	16.12	31	LR		LR		02 48 32.3	
	comp=Z,140nm,21.2s,baz=132,slow=35								
DZM	Mont Dzumac	22.08	344	LR		LR		02 51 44.1	
	comp=Z,139nm,20.6s,baz=232,slow=35								
AS01	Alice Springs	37.50	289	*e*P		P		02 46 24.8	+0.2
ASAR	Alice Springs	37.53	289	P		P		02 46 25.9	+1.0
	1.1nm,0.6s,baz=130,slow=7.8,SNR=18								
WRA	Warramunga Arr	39.78	294	P		P		02 46 43.3	-0.5
	2.2nm,0.6s,baz=131,slow=7.6,SNR=18								
BJI	Beijing	97.64	320	P		Pdif		02 52 49.3	+4.3
BJI				pmax		pmax			
	comp=Z,5.0nm,0.8s								
BJI				pmax		pmax			
	comp=Z,120nm,4.3s								
BJI				LR		LR			
	comp=Z,90nm,18.4s								
HHC	Hu-ho-hao-te	100.48	317	*e*P		Pdif		02 53 02.4	+4.6
HHC				pmax		pmax			
	comp=Z,23nm,1.0s								
HHC				pmax		pmax			
	comp=Z,83nm,5.0s								
LZH	Lanzhou	101.02	310	*e*P		Pdif		02 53 02.3	+2.0
LZH				pP		pP		02 53 05.3	0.0
LZH				sP				02 53 06.5	
LZH				*e*PP		PP		02 57 14.5	+5.2
LZH				pmax		pmax			
	comp=Z,15nm,1.4s								
LZH				pmax		pmax			
	comp=Z,42nm,6.3s								
LZH				LR		LR			
	comp=N,75nm,17.3s								
LZH				LR		LR			
	comp=E,63nm,17.6s								
LZH				LR		LR			
	comp=Z,100nm,19.7s								
TORD	Torodi Ar. Bea	148.72	197	PKPbc		PKPab		02 59 00.9	-1.1
	comp=Z,0.3nm,0.5s,baz=166,slow=3.4,SNR=8.0								
ARCES	ARCESS Array B	149.09	338	PKPbc		PKPbc		02 58 58.6	+1.0
	comp=Z,2.2nm,1.1s,baz=66,slow=2.3,SNR=4.1								
BRTR	Keskin Array B	149.44	277	PKPbc		PKPab		02 59 02.7	-1.9
	comp=Z,0.4nm,0.7s,baz=116,slow=4.5,SNR=4.6								
FINES	FINESS Array B	153.41	324	PKPbc		PKPbc		02 59 09.6	+1.7
	comp=Z,1.0nm,0.9s,baz=116,slow=3.2,SNR=2.7								

ISK ***17*** *02:39:54.5, 39°.07N×29°.12E, h5km, MD2.7*

DDA ***17*** *02:39:55.4, 39°.13N×29°.07E, h7km, Md2.8*

CSEM ***17*** *02:39:55.7±0.1, 39°.09N×29°.10E, h2km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.5km az=141.0*

ISC 17 02:39:55.9±1.0, 39°.10N±0°.03×29°.08E±0°.02, h6km±12km, n32, σ0s56/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GEDZ	Gediz	0.26	103	*e*PG		Pg		02 40 00.2	-0.9
GEDZ	Gediz	0.26	103	*e*Pg		Pg		02 40 00.2	-0.9
DEMI	Demirci	0.29	258	P		Pg		02 40 01.8	+0.2
DEMI				S		Sg		02 40 05.8	+0.3
DEMI	Demirci	0.29	258	*i* P		Pg		02 40 01.8	+0.2
DEMI				*i* S		Sg		02 40 05.8	+0.3
GDZ	Gediz	0.31	92	P		Pg		02 40 02.3	+0.2
GDZ				S		Sg		02 40 07.1	+0.9
GDZ	Gediz	0.31	92	*i* P		Pg		02 40 02.3	+0.2
GDZ				*i* S		Sg		02 40 07.1	+0.9
TVSB	Tavsanli	0.46	40	*e*PG		Pg		02 40 04.5	-0.3
TVSB	Tavsanli	0.46	40	*e*Pg		Pg		02 40 04.5	-0.3
KULA	Kula-Manisa	0.67	209	*e*PG		Pg		02 40 08.4	-0.5
KULA				*e*SG		Sg		02 40 17.9	+0.3
KULA	Kula-Manisa	0.67	209	*e*Pg		Pg		02 40 08.4	-0.5
KULA				*e*Sg		Sg		02 40 17.9	+0.3
BALB	Balikesir	1.07	300	*e*PN		Pn		02 40 17.4	-0.1
BALB	Balikesir	1.07	300	*e*Pn		Pn		02 40 17.4	-0.1
IGD	Bursa	1.16	5	*i* P		Pg		02 40 16.4	-1.9
IGD				*i* S		Sg		02 40 33.1	-0.3
IZI	Iznik	1.27	14	*e*PN		Pg		02 40 20.9	+0.6
IZI	Iznik	1.27	14	*e*Pn		Pg		02 40 20.9	+0.6
MDNY	Mudanya-Bursa	1.27	353	*e*PN		Pg		02 40 20.4	0.0
MDNY	Mudanya-Bursa	1.27	353	*e*Pn		Pg		02 40 20.4	0.0
KCTX	Karacabey (Bur	1.29	335	*e*PN		Pg		02 40 21.2	+0.5
KCTX	Karacabey (Bur	1.29	335	*e*Pn		Pg		02 40 21.2	+0.5
GONE	Gonen-Balikesi	1.43	312	*e*PN		Pg		02 40 23.3	-0.1
GONE	Gonen-Balikesi	1.43	312	*e*Pn		Pg		02 40 23.3	-0.1
ARMT	Armutlu	1.47	353	*e*PN		Pb		02 40 23.3	-0.4
ARMT	Armutlu	1.47	353	*e*Pn		Pb		02 40 23.3	-0.4
AYDB	Zeytinkoy-Aydi	1.48	219	*e*PN		Pn		02 40 23.3	0.0
AYDB				*e*SN		Sg		02 40 44.1	+0.4
AYDB	Zeytinkoy-Aydi	1.48	219	*e*Pn		Pn		02 40 23.3	0.0
AYDB				*e*Sn		Sg		02 40 44.1	+0.4
KNL	Bal¯kesir	1.67	315	*i* S		Sb

WRAB	**Tennant Creek**	**21.52 228**	*e*P		**P**		**02 53 53.0**	**-0.6**
	5.6nm,0.7s							
WRA	**Warramunga Arr**	**21.54 228**	P		**P**		**02 53 53.4**	**-0.4**
	3.9nm,0.6s,baz=53,slow=11,SNR=30							
ASAR	**Alice Springs**	**24.29 221**	P		**P**		**02 54 21.8**	**+0.2**
	5.9nm,0.7s,baz=53,slow=9.3,SNR=55							
FITZ	**Fitzroy Crossi**	**27.74 242**	P		**P**		**02 54 52.8**	**0.0**
	3.2nm,0.6s,baz=69,slow=7.7,SNR=7.7							
KURK	**Kurchatov**	**83.62 322**	*e*P		**P**		**03 01 31.8**	**-0.1**
	5.9nm,0.7s							
ILAR	**Eielson Array**	**83.75 22**	P		**P**		**03 01 32.5**	**+0.2**
	0.3nm,0.7s,baz=245,slow=5.8,SNR=4.6							
TORD	**Torodi Ar. Bea**	**149.08 286**	PKPbc		**PKPbc**		**03 08 52.8**	**+0.1**
	0.7nm,0.6s,baz=67,slow=2.8,SNR=11							

IDC 17 02:52:42.2±4.0, 7.31S×149.32E, h0km, mb3.3/1, mb1 3.7/2, mb1mx3.4/28, mbtmp3.4/2, ML3.4/1, Error ellipse: s-maj=141.7km s-min=51.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.20**	**228**	P		Pn	02 57 09.4	+0.6
	0.1nm,0.3s,baz=54,slow=11,SNR=5.6							
ASAR	**Alice Springs**	**21.99**	**221**	P		P	02 57 37.2	-0.9
	0.9nm,0.7s,baz=52,slow=9.5,SNR=7.2							
TORD	**Torodi Ar. Bea**	**147.64**	**283**	PKPbc		PKPbc	03 12 28.9	-0.9
	0.4nm,1.0s,baz=88,slow=2.8,SNR=1.6							

IDC 17 03:03:16.2±2.9, 25.34N×142.73E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/56, mbtmp3.9/5, Error ellipse: s-maj=135.8km s-min=31.1km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.75**	**191**	P		P	03 11 39.5	0.0
	0.4nm,0.5s,baz=11,slow=8.7,SNR=4.7							
KURBB	**Kurchatov Arra**	**54.62**	**315**	P		P	03 12 46.5	-0.1
	1.1nm,0.5s,baz=92,slow=8.1,SNR=13							
BVAR	**Borovoye Array**	**59.67**	**318**	P		P	03 13 22.7	+0.4
	1.1nm,0.5s,baz=93,slow=7.2,SNR=5.9							
FINES	**FINESS Array B**	**79.73**	**334**	P		P	03 15 25.8	0.0
	0.7nm,0.5s,baz=64,slow=4.6,SNR=7.3							
AKASG	**Malin Array Be**	**84.32**	**324**	P		P	03 15 49.5	-0.6
	0.3nm,0.3s,baz=56,slow=3.5,SNR=4.6							

IDC ***17*** *03:12:10.1±0.4, 5.88S×151.32E, h0km, mb4.7/24, mb1 4.8/27, mb1mx4.7/37, mbtmp4.7/27, ML3.3/2, MS4.4/27, Ms1 4.4/27, ms1mx4.4/34, Error ellipse: s-maj=14.4km s-min=10.5km az=78.0*

BJI ***17*** *03:12:11.3, 6.25S×151.56E, h36km, mb4.9/59, mB5.2/55, Ms4.9/57, Ms7 4.7/53*

GCMT ***17*** *03:12:12.3±0.1, 6.14S×151.20E, h12km, MW5.3/127, Moment Tensor Solution. s104,c156; s127,c224; Duration: 1ş0 Moment tensor: Scale 10^17 Nm; Mrr-0.96±.01; Mθθ 0.77±.01; Mφφ 0.19±.01; Mrθ-0.08±.03; Mθφ-0.40±.01; Mφr 0.21±.04; Best double couple: M0 0.99300×10^17 NP1:φs126.00000°, δ51.00000°, λ-79.00000°. NP2:φs288.00000°, δ41.00000°, λ-104.00000°. Principal axes: T 0.9870, Plg5.0000°, Azm208.0000°; N 0.0110, Plg9.0000°, Azm299.0000°; P -0.9990, Plg80.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *03:12:12.3±0.1, 5.93S×151.18E, h10km, mb5.2/93, MS4.9/140 Error ellipse: s-maj=4.5km s-min=3.7km az=117.0*

ISCJB ***17*** *03:12:15.5±0.1, 5.99S±0.02×151.11E±0.03, h43km, mb5.0/117, MS4.8/173, Error ellipse: s-maj=3.9km s-min=3.3km az=27.9*

MOS ***17*** *03:12:15.2±1.1, 5.79S×151.05E, h33km, mb5.3/33, MS4.8/23, Error ellipse: s-maj=9.1km s-min=6.5km az=87.3*

ISC 17 03:12:17.1±0.2, 6.00S±0.04×151.21E±0.04, h43km, n593, σ1ş38/522, mb5.1/115, MS4.9/172, 29C-28D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.03**	**28**	*e*Pn		**Pn**	**03 12 48.4**	**-0.5**
PMG	**Port Moresby**	**5.25**	**230**	Pn		**Pn**	**03 13 33.8**	**+0.7**
	13nm,0.3s,baz=56,slow=8.5,SNR=18							
PMG				Sn		**Sn**	**03 14 31.1**	**-1.2**
	11nm,0.3s,baz=120,slow=20,SNR=3.2							
PMG				LR		LR	03 14 59.9	
	comp=Z,3μm,19.1s,baz=82,slow=31							
PMG	**Port Moresby**	**5.25**	**230**	*c i*P		**Pn**	**03 13 34.5**	**+1.5**
PMG				pmax		pmax		
	comp=Z,3μm,2.5s							
MANU	**Manus Island**	**5.49**	**316**	*e*Pn		Pn	03 13 41.3	+4.9
HNR	**Honiara**	**9.31**	**112**	Pn		**Pn**	**03 14 27.1**	**-1.7**
	comp=Z,8.8nm,0.3s,baz=87,slow=6.6,SNR=2.2							
HNR				Sn		**Sn**	**03 16 15.9**	**+3.7**
	comp=Z,11nm,0.3s,baz=225,slow=17,SNR=1.9							
HNR				LR		LR	03 17 26.2	
	comp=Z,2μm,20.2s,baz=288,slow=34							
HNR	**Honiara**	**9.31**	**112**	*e*P		**Pn**	**03 14 29.0**	**+0.3**
HNR				*e*S		**Sn**	**03 16 18.0**	**+5.8**
JAY	**Jayapura**	**11.03**	**288**	Pn		**Pn**	**03 14 51.9**	**-0.5**
	baz=90,slow=20,SNR=2.3							
COEN	**Coen**	**11.18**	**224**	P		**Pn**	**03 14 54.1**	**-0.3**
	baz=11,SNR=8.2							
COEN	**Coen**	**11.18**	**224**	*e*Pn		**Pn**	**03 14 54.7**	**+0.3**
MTSU	**Mount Surprise**	**13.81**	**209**	P		**Pn**	**03 15 30.8**	**+0.4**
	baz=14,SNR=14							
CTA	**Charters Tower**	**14.81**	**199**	Pn		**Pn**	**03 15 44.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=28,slow=15,SNR=5.9							
CTA				LR		LR	03 21 00.9	
	comp=Z,4μm,18.6s,baz=26,slow=36							
CTAO	**Charters Tower**	**14.81**	**199**	*e*P		**Pn**	**03 15 44.7**	**+1.0**
CTAO	**Charters Tower**	**14.81**	**199**	*e*Pn		**Pn**	**03 15 44.7**	**+1.0**
QIS	**Mount Isa**	**18.34**	**217**	P		**P**	**03 16 27.8**	**-0.2**
	baz=18,SNR=32							
EIDS	**Eidsvold**	**19.26**	**180**	P		**P**	**03 16 38.3**	**+0.3**
	baz=19,SNR=14							
EIDS	**Eidsvold**	**19.26**	**180**	*e*P		**P**	**03 16 38.4**	**+0.3**
	comp=Z,115nm,0.9s							
KDU	**Kakadu**	**19.63**	**249**	P		**Pn**	**03 16 43.4**	**-0.6**
	baz=20,SNR=8.7							
GUMO	**Guam**	**20.45**	**342**	P		**P**	**03 16 52.2**	**+1.1**
	comp=Z,33nm,0.4s,baz=154,slow=16,SNR=2.6							
GUMO				LR		LR	03 23 12.2	
	comp=Z,1μm,21.9s,baz=149,slow=32							
GUMO	**Guam**	**20.45**	**342**	*e*P		**P**	**03 16 51.8**	**+0.7**
GUMO				pmax		pmax		
	comp=Z,389nm,1.1s							
GUMO				MLR		MLR		
	comp=Z,2μm,21.0s							
GUMO	**Guam**	**20.45**	**342**	*e*P		**P**	**03 16 51.8**	**+0.7**
	comp=Z,389nm,1.1s							
GUMO				LR		LR		
	comp=Z,2μm,21.0s							
RMQ	**Roma**	**20.50**	**186**	P		Pn	03 16 52.9	-1.2
	baz=21,SNR=42							
MTN	**Manton Dam**	**20.93**	**250**	P		**P**	**03 16 56.2**	**0.0**
	baz=21,SNR=14							
MTN	**Manton Dam**	**20.93**	**250**	*e*P		**P**	**03 16 56.3**	**0.0**
	comp=Z,243nm,1.3s							
PALU	**Palau**	**21.32**	**308**	P		**P**	**03 17 02.0**	**+1.5**
	baz=22,SNR=7.7							
WRAB	**Tennant Creek**	**21.45**	**228**	*d i*P		**P**	**03 17 01.3**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,332nm,0.7s							
WRAB	**Tennant Creek**	**21.45**	**228**	*e*P		**P**	**03 17 01.7**	**-0.2**
	comp=Z,176nm,1.0s							
WRAB				*e*S		**S**	**03 20 56.0**	**-1.8**
WRAB				LR		LR		
	comp=Z,3μm,19.0s							
WB2	**Warramunga Arr**	**21.46**	**228**	*e*P		**P**	**03 17 01.4**	**-0.6**
	comp=Z,180nm,1.0s							
WRA	**Warramunga Arr**	**21.47**	**228**	P		**P**	**03 17 01.9**	**-0.2**
	comp=Z,124nm,0.9s,baz=54,slow=10,SNR=90							
WRA				S		**S**	**03 20 57.6**	**-0.5**
	comp=Z,33nm,1.2s,baz=54,slow=18,SNR=8.2							
WRA				PcP		**PcP**	**03 21 04.2**	**0.0**
	comp=Z,16nm,0.9s,baz=52,slow=2.8,SNR=8.1							
WRA				ScP		**ScP**	**03 24 41.7**	**+3.7**
	comp=Z,5.5nm,1.0s,baz=46,slow=2.6,SNR=9.1							
WRA				LR		LR	03 25 08.3	
	comp=Z,2μm,21.7s,baz=45,slow=36							
QLP	**Quilpie**	**21.52**	**197**	P		**P**	**03 17 03.2**	**+0.6**
	baz=22,SNR=17							
DZM	**Mont Dzumac**	**21.73**	**139**	*e*P		**P**	**03 17 02.5**	**-2.4**
	comp=Z,160nm,1.3s							
DZM				*e*LQ		LQ	03 21 26.1	
	comp=Z,4μm,24.4s							
DZM				*e*LR		LR	03 22 21.9	
	comp=Z,3μm,24.8s							
DZM	**Mont Dzumac**	**21.73**	**139**	P		**P**	**03 17 04.5**	**-0.5**
	comp=Z,39nm,1.0s,baz=340,slow=10,SNR=14							
DZM	**Mont Dzumac**	**21.73**	**139**	*e*P		**P**	**03 17 02.9**	**-2.0**
	comp=Z,71nm,1.1s							
AS01	**Alice Springs**	**24.17**	**222**	*e*P		**P**	**03 17 29.2**	**-0.3**
AS01				*e*Sn		S	03 22 03.3	+18
AS01				*e*ScP		**ScP**	**03 24 51.2**	**+6.2**
AS31	**Alice Springs**	**24.20**	**222**	*e*P		**P**	**03 17 29.8**	**-0.1**
	comp=Z,49nm,0.8s							
ASAR	**Alice Springs**	**24.20**	**222**	P		**P**	**03 17 30.2**	**+0.4**
	comp=Z,131nm,0.8s,baz=54,slow=9.4,SNR=546							
ASAR				S		**S**	**03 21 55.1**	**+10**
	comp=Z,11nm,1.1s,baz=38,slow=21,SNR=8.8							
ASAR				ScP		**ScP**	**03 24 51.5**	**+6.4**
	comp=Z,3.4nm,0.8s,baz=52,slow=3.2,SNR=10							
ASAR				LR		LR	03 26 29.3	
	comp=Z,2μm,21.4s,baz=32,slow=35							
ARMA	**Armidale**	**24.29**	**179**	P		**P**	**03 17 30.7**	**0.0**
	baz=24,SNR=7.3							
ARMA	**Armidale**	**24.29**	**179**	*e*P		**P**	**03 17 30.0**	**-0.6**
	comp=Z,87nm,1.3s							
CMSA	**Cobar Meteorol**	**25.93**	**191**	P		**P**	**03 17 44.9**	**-0.4**
	baz=26,SNR=31							
SOEI	**Soe**	**26.94**	**260**	*e*P		**P**	**03 17 55.1**	**+0.2**
	comp=Z,140nm,0.9s							
STKA	**Stephens Creek**	**27.27**	**198**	P		**P**	**03 17 56.9**	**-0.7**
	comp=Z,27nm,0.9s,baz=358,slow=9.9,SNR=12							
STKA				LR		LR	03 28 54.5	
	comp=Z,2μm,18.7s,baz=8.2,slow=37							
STKA	**Stephens Creek**	**27.27**	**198**	P		**P**	**03 17 56.8**	**-0.7**
	baz=27,SNR=17							
STKA	**Stephens Creek**	**27.27**	**198**	*e*P		**P**	**03 17 56.8**	**-0.7**
STKA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
STKA	**Stephens Creek**	**27.27**	**198**	*e*P		**P**	**03 17 56.8**	**-0.7**
	comp=Z,10.0nm,1.0s							
FITZ	**Fitzroy Crossi**	**27.70**	**242**	P		**P**	**03 18 01.4**	**-0.1**
	comp=Z,49nm,0.7s,baz=71,slow=8.6,SNR=52							
FITZ				S		S	03 22 54.5	+14
	comp=Z,6.9nm,1.0s,baz=119,slow=19,SNR=2.7							
FITZ				LR		LR	03 30 16.4	
	comp=Z,1μm,19.7s,baz=69,slow=39							
FITZ	**Fitzroy Crossi**	**27.70**	**242**	P		**P**	**03 18 01.4**	**-0.1**
	baz=28,SNR=46							
FITZ	**Fitzroy Crossi**	**27.70**	**242**	*e*P		**P**	**03 18 01.0**	**-0.5**
	comp=Z,58nm,0.8s							
FITZ				S		S	03 22 54.5	+14
YNG	**Young**	**28.28**	**185**	P		**P**	**03 18 06.2**	**-0.3**
	baz=28,SNR=5.7							
DAV	**Davao City (W)**	**28.68**	**297**	PFAKE			03 18 20.0	+10
DAV				LR		LR		
	comp=Z,782nm,22.0s							
MSVF	**Nonsavu**	**28.69**	**116**	*e*P		**P**	**03 18 10.3**	**-0.1**
MSVF				pmax		pmax		
	comp=Z,57nm,1.4s							
MSVF	**Nonsavu**	**28.69**	**116**	*e*P		**P**	**03 18 10.3**	**-0.1**
	comp=Z,57nm,1.4s							
LUWI	**Luwuk**	**28.80**	**279**	*e*P		**P**	**03 18 08.5**	**-2.8**
MMRI	**Maumere**	**28.85**	**263**	*e*P		**P**	**03 18 10.8**	**-0.9**
	comp=Z,156nm,0.9s							
WRKA	**Warakurna**	**28.98**	**227**	P		**P**	**03 18 12.2**	**-0.7**
	baz=29,SNR=39							
CAN	**Canberra**	**29.25**	**184**	PFAKE			03 18 30.0	+15
CAN				LR		LR		
	comp=Z,1μm,21.0s							
HTT	**Hallett**	**29.59**	**201**	P		**P**	**03 18 18.0**	**-0.2**
	baz=30,SNR=7.2							
KAPI	**Kappang**	**31.32**	**270**	*e*P		**P**	**03 18 32.3**	**-1.4**
	comp=Z,8.7nm,0.8s							
KAPI				LR		LR		
	comp=Z,903nm,20.0s							
TOO	**Toolangi**	**31.85**	**189**	P		**P**	**03 18 38.4**	**+0.3**
	baz=32,SNR=5.7							
MBWA	**Marble Bar**	**34.00**	**241**	*e*P		**P**	**03 18 56.6**	**-0.5**
	comp=Z,196nm,1.0s							
MBWA				LR		LR		
	comp=Z,2μm,20.0s							
MYLDM	**Lahad Datu**	**34.49**	**288**	⇓P		**P**	**03 19 02.6**	**+1.3**
TSM	**Tawau**	**34.82**	**286**	⇓P		**P**	**03 19 04.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**36.83**	**264**	*e*P		**P**	**03 19 19.2**	**-2.2**
	comp=Z,231nm,1.0s							
TAU	**Tasmania Unive**	**36.92**	**185**	PFAKE			03 19 30.0	+8.2
TAU				LR		LR		
	comp=Z,3μm,22.0s							
AFI	**Afiamalu**	**37.25**	**105**	P		**P**	**03 19 21.7**	**-3.4**
	comp=Z,28nm,0.9s,baz=338,slow=13,SNR=2.6							
AFI				LR		LR	03 34 24.6	
	comp=Z,343nm,18.0s,baz=274,slow=36							
KMBL	**Kambalda**	**37.29**	**224**	P		**P**	**03 19 25.0**	**-0.2**
	baz=37,SNR=6.2							
BTM	**Bintulu**	**39.15**	**283**	⇑P		**P**	**03 19 42.1**	**+1.0**
GIRL	**Giralia**	**39.30**	**241**	P		**P**	**03 19 43.0**	**+0.9**
	baz=39,SNR=4.7							
URZ	**Urewera**	**39.79**	**147**	P		**P**	**03 19 44.6**	**-1.4**
	comp=Z,11nm,0.7s,baz=44,slow=5.8,SNR=4.1							
URZ				LR		LR	03 33 31.7	
	comp=Z,434nm,19.9s,baz=356,slow=32							
URZ	**Urewera**	**39.79**	**147**	*e*P		**P**	**03 19 46.0**	**0.0**
	comp=Z,39nm,1.2s							
SBUM	**Sibu**	**39.83**	**281**	⇓P		**P**	**03 19 46.9**	**+0.2**
KLBR	**Kellerberrin**	**40.33**	**227**	P		**P**	**03 19 50.6**	**-0.1**
	baz=40,SNR=4.1							
MORW	**Morawa**	**40.36**	**231**	P		**P**	**03 19 50.9**	**0.0**
	baz=40,SNR=10							
UGM	**Wanagama**	**40.42**	**265**	*e*P		**P**	**03 19 51.3**	**-0.3**
	comp=Z,574nm,1.6s							
SNZO	**South Karori**	**40.94**	**153**	PFAKE			03 20 10.0	+15
SNZO				LR		LR		
	comp=Z,2μm,19.0s							
LTZ	**Lake Taylor**	**41.10**	**156**	*e*P		**P**	**03 19 56.7**	**-0.1**
	comp=Z,224nm,1.6s							
YULB	**Yu-li**	**41.31**	**316**	*e*P		**P**	**03 19 58.9**	**+0.1**
	comp=Z,45nm,0.8s							
KHZ	**Kahutara**	**41.32**	**155**	*e*P		**P**	**03 19 57.7**	**-0.8**
	comp=Z,90nm,1.3s							
NWAO	**Narrogin (SRO)**	**41.42**	**225**	PFAKE			03 20 10.0	+10
NWAO				LR		LR		
	comp=Z,2μm,19.0s							
RPZ	**Rata Peaks**	**41.42**	**158**	P		**P**	**03 19 58.6**	**-0.8**
	comp=Z,25nm,0.9s,baz=303,slow=3.5,SNR=5.3							
RPZ	**Rata Peaks**	**41.42**	**158**	*e*P		**P**	**03 19 59.7**	**+0.3**
	comp=Z,81nm,1.2s							
OXZ	**Oxford**	**41.46**	**157**	*e*P		**P**	**03 19 59.3**	**-0.5**
	comp=Z,47nm,0.9s							
KSM	**Kuching**	**41.51**	**279**	⇓P		**P**	**03 20 00.1**	**-0.4**
KSM	**Kuching**	**41.51**	**279**	PFAKE			03 20 10.0	+9.5
KSM				LR		LR		
	comp=Z,489nm,21.0s							
NACB	**Ninganchiao**	**41.63**	**317**	*e*P		**P**	**03 20 02.0**	**+0.6**
	comp=Z,91nm,1.0s							
DCZ	**Deep Cove**	**41.69**	**163**	*e*P		**P**	**03 20 01.7**	**+0.1**
	comp=Z,48nm,1.0s							
TPUB	**Ta-pu**	**41.72**	**315**	*e*P		**P**	**03 20 01.1**	**-1.0**
	comp=Z,52nm,0.9s							
SSLB	**Suanglung**	**41.81**	**316**	*e*P		**P**	**03 20 03.0**	**+0.1**
	comp=Z,48nm,1.1s							
MLZ	**Mavora Lakes**	**41.89**	**162**	*e*P		**P**	**03 20 03.3**	**+0.1**
	comp=Z,98nm,1.1s							
YHNB	**Yeheng**	**42.11**	**318**	*e*P		**P**	**03 20 05.5**	**+0.1**
	comp=Z,122nm,1.0s							
YHNB				LR		LR		
	comp=Z,870nm,19.0s							
TATO	**Taipei**	**42.24**	**318**	*e*P		**P**	**03 20 06.2**	**-0.1**
	comp=Z,106nm,1.0s							
TATO				LR		LR		
	comp=Z,984nm,19.0s							
CISI	**Cisompet, Garu**	**43.10**	**265**	*e*P		**P**	**03 20 12.8**	**-0.9**
	comp=Z,294nm,0.9s							
MJAR	**Matsushiro Arr**	**44.04**	**345**	P		**P**	**03 20 17.6**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=163,slow=6.4,SNR=2.9							
MJAR				PcP		**PP**	**03 22 04.7**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=157,slow=4.4,SNR=4.0							
MJAR				LR		LR	03 38 42.8	
	comp=Z,390nm,18.0s,baz=180,slow=36							
MAJO	**Matsushiro**	**44.04**	**345**	PFAKE			03 20 30.0	+9.3
MAJO				LR		LR		
	comp=Z,816nm,20.0s							
QZH	**Quanzhou**	**44.20**	**315**	⇑*i*P		P	03 20 15.9	-6.2
QZH				S		**S**	**03 26 47.9**	**-4.8**
QZH				pmax		pmax		
	comp=Z,280nm,0.9s							
QZH				pmax		pmax		
	comp=Z,810nm,3.7s							
QZH				LR		LR		
	comp=N,1μm,17.2s							
QZH				LR		LR		
	comp=E,870nm,14.2s							
QZH				LR		LR		
	comp=Z,2μm,16.7s							
SSE	**Sheshan**	**46.74**	**324**	P		**P**	**03 20 42.8**	**+0.7**
SSE				S		**S**	**03 27 28.4**	**-0.7**
SSE				PMZ				
	comp=Z,30nm,0.8s							
SSE				PMZ				
	comp=Z,170nm,4.9s							
SSE				LN				
	comp=Z,440nm,16.2s							
SSE				LE				
	comp=Z,410nm,16.6s							
SSE				LZ				
	comp=Z,570nm,21.2s							
TJN	**Taejon**	**47.71**	**334**	*e*P		**P**	**03 20 47.0**	**-2.6**
QIZ	**Qiongzhong**	**47.74**	**302**	P		**P**	**03 20 49.8**	**-0.4**
QIZ				S		**S**	**03 27 43.3**	**-0.5**
QIZ				PMZ				
	comp=Z,15nm,1.9s							
QIZ				LN				
	comp=Z,310nm,18.2s							
QIZ				LE				
	comp=Z,410nm,20.7s							
QIZ				LZ				
	comp=Z,570nm,19.7s							
QIZ	**Qiongzhong**	**47.74**	**302**	PFAKE			03 21 00.0	+10
QIZ				LR		LR		
	comp=Z,570nm,19.0s							
ERM	**Erimo**	**48.35**	**352**	PFAKE			03 21 10.0	+16
ERM				LR		LR		
	comp=Z,593nm,20.0s							
KSRS	**Korea Array**	**48.38**	**335**	P		**P**	**03 20 54.4**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=151,slow=8.9,SNR=16							
KSRS				LR		LR	03 39 00.5	
	comp=Z,361nm,21.4s,baz=128,slow=33							
KSAR	**Wonju Array Be**	**48.39**	**335**	P		**P**	**03 20 54.4**	**-0.5**
KSAR	**Wonju Array Be**	**48.39**	**335**	P		**P**	**03 20 54.4**	**-0.5**
KS01	**Wonju Array Si**	**48.41**	**335**	*e*P		**P**	**03 20 54.5**	**-0.6**
NJ2	**Nanjing**	**48.80**	**323**	*e*P		**P**	**03 20 56.3**	**-1.9**
NJ2				PMZ				
	comp=Z,42nm,0.5s							
NJ2				LN				
	comp=Z,840nm,15.2s							
NJ2				LE				
	comp=Z,640nm,16.3s							
NJ2				LZ				
	comp=Z,1μm,19.5s							
INCN	**Inchon**	**48.96**	**334**	PFAKE			03 21 10.0	+11
INCN				LR		LR		
	comp=Z,470nm,20.0s							
ASAJ	**Asahikawa**	**50.49**	**352**	P		**P**	**03 21 10.1**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=90,slow=20							
WHN	**Wuhan**	**50.65**	**318**	⇑P		**P**	**03 21 13.4**	**+1.2**
WHN				S		**S**	**03 28 27.4**	**+3.1**
WHN				PMZ				
	comp=Z,62nm,0.9s							
WHN				LN				
	comp=Z,490nm,9.8s							
WHN				LE				
	comp=Z,950nm,16.4s							
WHN				LZ				
	comp=Z,1μm,15.7s							
KULM	**Kulim**	**51.71**	**282**	*e*P		**P**	**03 21 18.8**	**-1.7**
	comp=Z,11nm,0.8s							
KULM				LR		LR		
	comp=Z,423nm,22.0s							
USRK	**Ussuriysk Ar.**	**52.89**	**343**	P		**P**	**03 21 27.9**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=188,slow=12,SNR=6.5							
USRK				LR		LR	03 42 51.2	
	comp=Z,329nm,20.7s,baz=146,slow=35							
YSS	**Yuzh-Sakhalins**	**53.25**	**353**	PFAKE			03 21 40.0	+8.7
YSS				LR		LR		
	comp=Z,249nm,20.0s							
ENH	**Enshi**	**53.83**	**315**	*e*P		**P**	**03 21 35.3**	**-0.7**
	comp=Z,52nm,1.4s							
ENH				LR		LR		
	comp=Z,582nm,19.0s							
SNY	**Shenyang**	**53.87**	**335**	⇑P		P	03 21 29.8	-6.1
SNY				S		**S**	**03 29 04.8**	**-3.3**
SNY				pmax		pmax		
	comp=Z,8.0nm,0.4s							
SNY				pmax		pmax		
	comp=Z,4μm,11.3s							
SNY				LR		LR		
	comp=N,350nm,14.6s							
SNY				LR		LR		
	comp=E,210nm,3.6s							
SNY				LR		LR		
	comp=Z,620nm,18.4s							
GYA	**Guiyang**	**53.88**	**309**	*e*P		**P**	**03 21 38.0**	**+1.5**
GYA				pP		pP	03 21 48.4	-0.3
GYA				PP		**PP**	**03 23 41.3**	**+3.2**
GYA				S		**S**	**03 29 10.8**	**+1.8**
GYA				sS		sS	03 29 27.6	-1.8
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,6.2s							
GYA				LN				
	comp=Z,530nm,19.8s							
GYA				LE				
	comp=Z,510nm,20.2s							
GYA				LZ				
	comp=Z,550nm,20.8s							
MDJ	**Mudanjiang**	**54.01**	**341**	P		**P**	**03 21 38.8**	**+1.9**
MDJ				pP		pP	03 21 47.4	-1.7
MDJ				sP		sP	03 21 51.0	-3.1
MDJ				PcP		**PcP**	**03 22 42.9**	**+1.3**
MDJ				PP		**PP**	**03 23 41.1**	**+2.3**
MDJ				ScP		**ScP**	**03 26 38.0**	**+1.6**
MDJ				PcS		**PcS**	**03 26 41.5**	**+0.7**
MDJ				S		**S**	**03 29 14.6**	**+4.8**
MDJ				PMZ				
	comp=Z,7.0nm,0.8s							
MDJ				PMZ				
	comp=Z,66nm,8.0s							
MDJ				LN				
	comp=Z,350nm,18.9s							
MDJ				LE				
	comp=Z,610nm,17.5s							
MDJ				LZ				
	comp=Z,450nm,16.0s							
MDJ	**Mudanjiang**	**54

HABR pmax pmax
comp=E,13nm,0.6s
HABR MLR MLR
comp=Z,293nm,20.0s
KMI Kunming 56.36 305 P **P** **03 21 57.0 +2.5**
KMI pP pP 03 22 05.9 -0.9
KMI sP sP 03 22 10.6 -1.2
KMI S **S** **03 29 41.3 -1.2**
KMI sS sS 03 30 02.9 -0.1
KMI PMZ
comp=Z,24nm,0.6s
KMI PMZ
comp=Z,100nm,3.6s
KMI LN
comp=Z,260nm,21.0s
KMI LE
comp=Z,430nm,21.6s
KMI LZ
comp=Z,410nm,21.6s
XAN Xi'an 56.42 318 P **P** **03 21 53.8 -0.8**
XAN pP pP 03 22 03.9 -3.0
XAN sP sP 03 22 07.8 -4.0
XAN PP **PP** **03 24 00.9 +0.3**
XAN S **S** **03 29 40.6 -2.0**
XAN sS sS 03 29 57.3 -5.8
XAN SS **SS** **03 33 28.1 -2.3**
XAN PMZ
comp=Z,14nm,1.0s
XAN PMZ
comp=Z,100nm,5.2s
XAN LN
comp=Z,280nm,19.3s
XAN LE
comp=Z,290nm,17.2s
XAN LZ
comp=Z,560nm,20.1s
KIP Kipapa 56.75 60 *e*P **P** **03 21 56.4 -0.7**
KIP Kipapa 56.75 60 *e*P **P** **03 21 59.1 +2.1**
comp=Z,175nm,1.2s
CMAR Chiang Mai Arr 56.97 296 P **P** **03 21 58.5 -0.2**
comp=Z,1.5nm,0.3s,baz=116,slow=6.0,SNR=10
CMAR PKP2bc 03 52 04.8
comp=Z,2.3nm,0.9s,baz=286,slow=3.7,SNR=9.0
CHTO Chiang Mai 57.09 297 *e*P **P** **03 21 59.2 -0.4**
CHTO MLR MLR
comp=Z,277nm,19.0s
CHTO Chiang Mai 57.09 297 *e*P **P** **03 21 59.2 -0.4**
CHTO LR LR
comp=Z,277nm,19.0s
KLR Kul'dur 57.56 345 *e*P **P** **03 22 00.2 -2.1**
CD2 Chengdu 58.33 312 *e*P **P** **03 22 08.6 +0.5**
CD2 pP pP 03 22 18.6 -1.9
CD2 sP sP 03 22 22.8 -2.6
CD2 PcS **PcS** **03 27 00.6 +0.1**
CD2 S **S** **03 30 09.9 +2.0**
CD2 sS sS 03 30 27.0 -1.4
CD2 SS **SS** **03 34 03.9 +3.2**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
CD2 LN
comp=Z,640nm,19.9s
CD2 LE
comp=Z,710nm,21.9s
CD2 LZ
comp=Z,800nm,20.9s
PPT Papeete 58.89 107 LR LR 03 44 23.2
comp=Z,177nm,18.8s,baz=290,slow=33
PPT2 Papeete2 58.89 107 *e*S **S** **03 30 15.9 +0.3**
comp=Z,120nm,24.0s
PPT2 *e*LR LR 03 39 42.7
comp=Z,351nm,25.0s
HHC Hu-ho-hao-te 59.11 326 *e*P P 03 22 19.8 +6.4
HHC S **S** **03 30 25.6 +7.8**
HHC ScS **ScS** **03 32 00.8 +0.6**
HHC Hu-ho-hao-te 59.11 326 SS SS 03 34 30.1 +17
HHC pmax pmax
comp=Z,23nm,1.0s
HHC pmax pmax
comp=Z,190nm,6.4s
HHC LR LR
comp=N,350nm,18.8s
HHC LR LR
comp=E,410nm,16.8s
HHC LR LR
comp=Z,640nm,17.9s
PET Petropavlovsk 59.14 5 *e*P **P** **03 22 15.0 +1.8**
PET *e*S **S** **03 30 18.9 +1.6**
PET *e*SS **SS** **03 34 12.7 +0.3**
PET Petropavlovsk 59.14 5 PFAKE 03 22 20.0 +6.8
PET LR LR
comp=Z,530nm,20.0s
PETK Petropavlovsk- 59.14 5 P **P** **03 22 11.4 -1.8**
comp=Z,4.2nm,0.7s,baz=161,slow=6.3,SNR=3.8
PETK LR LR 03 42 55.6
comp=Z,522nm,21.9s,baz=186,slow=31
TBI Tubuai 59.52 113 *e*LR LR 03 39 47.8
comp=Z,481nm,41.8s
LZH Lanzhou 61.00 317 ⇑P **P** **03 22 27.1 +0.6**
LZH pP pP 03 22 37.4 -1.6
LZH sP sP 03 22 41.3 -2.6
LZH PP **PP** **03 24 45.0 +3.6**
LZH *e*S **S** **03 30 43.1 +0.8**
LZH sS sS 03 31 00.3 -2.7
LZH SS **SS** **03 34 45.1 +2.5**
LZH PMZ
comp=Z,37nm,1.1s
LZH PMZ
comp=Z,130nm,5.3s
LZH LN
comp=Z,370nm,15.2s
LZH LE
comp=Z,560nm,16.0s
LZH LZ
comp=Z,700nm,18.0s
HIA Hailar 61.49 337 *e*P **P** **03 22 28.6 -0.8**
HIA pmax pmax
comp=Z,11nm,1.0s
HIA Hailar 61.49 337 PFAKE 03 22 40.0 +11
HIA LR LR
comp=Z,537nm,22.0s
MA2 Magadan 65.37 360 PFAKE 03 23 10.0 +15
MA2 LR LR
comp=Z,564nm,19.0s
GTA Gaotai 65.47 318 *e*P **P** **03 22 56.6 +0.5**
GTA pP pP 03 23 07.1 -1.5
GTA sP sP 03 23 11.3 -2.2
GTA S **S** **03 31 39.0 +1.0**
GTA sS sS 03 31 56.9 -2.0
GTA SS **SS** **03 35 56.3 +4.0**
GTA PMZ
comp=Z,11nm,1.3s
GTA PMZ
comp=Z,120nm,5.0s
GTA LN
comp=Z,210nm,15.0s
GTA LE
comp=Z,310nm,18.3s
GTA LZ
comp=Z,430nm,19.5s
ULN Ulaanbaatar 66.19 329 *i* P **P** **03 22 59.6 -0.9**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 66.19 329 *e*P **P** **03 23 00.7 +0.2**
comp=Z,11nm,1.3s
ULN LR LR
comp=Z,413nm,19.0s
CASY Casey 66.41 197 *e*P **P** **03 23 01.0 -0.4**
comp=Z,64nm,1.5s
CASY LR LR
comp=Z,162nm,20.0s
SONM Songino Array 66.51 329 P **P** **03 23 02.2 -0.3**
comp=Z,6.6nm,1.1s,baz=136,slow=5.6,SNR=18
SONM PKP2bc 03 51 38.1
comp=Z,1.2nm,0.9s,baz=304,slow=2.9,SNR=6.7
SONM LR LR 03 51 56.9
comp=Z,502nm,20.7s,baz=132,slow=36
SONA1 Songino Array 66.51 329 *e*P **P** **03 23 02.2 -0.4**
LSA Lhasa 67.62 305 PFAKE 03 23 20.0 +10
LSA LR LR
comp=Z,320nm,20.0s
ZAK Zakamensk 69.70 330 *e*P **P** **03 23 20.6 -1.9**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
ZAK pmax pmax
comp=Z,2μm,1.5s
YAK Yakutsk 69.84 349 P **P** **03 23 21.2 -1.7**
comp=Z,2.1nm,0.4s,baz=229,slow=20,SNR=2.8
YAK Yakutsk 69.84 349 *e*P **P** **03 23 22.0 -0.9**
YAK *e**PP **pP** **03 23 30.8 -4.8**
YAK *e* 03 23 43.9
YAK *e* 03 25 54.8
YAK *e*PPP PPP 03 27 38.7
YAK *e*S **S** **03 32 29.0 -0.1**
YAK *e**SS **sS** **03 32 51.7 +1.5**
YAK *e* 03 33 21.7
YAK pmax pmax
comp=Z,21nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=Z,96nm,4.2s
YAK pmax pmax
comp=N,65nm,3.5s
YAK pmax pmax
comp=E,25nm,2.0s
smax smax
comp=N,64nm,9.6s
smax smax
comp=E,43nm,10.1s
YAK Yakutsk 69.84 349 *e*P **P** **03 23 22.9 -0.1**
YAK LR LR
comp=Z,379nm,21.0s
TLY Talaya 70.33 331 LR LR 03 53 49.8
comp=Z,354nm,20.1s,baz=124,slow=36
TLY Talaya 70.33 331 *e*P **P** **03 23 26.0 -0.2**
TLY pmax pmax
comp=Z,3.0nm,0.5s
TLY MLR MLR
comp=Z,129nm,15.0s
TLY Talaya 70.33 331 PFAKE 03 23 40.0 +14
TLY LR LR
comp=Z,378nm,20.0s
MOY Mondy 71.63 330 *e*P **P** **03 23 34.6 +0.4**
VNDA Vanda 71.70 178 P **P** **03 23 34.4 +0.3**
comp=Z,10nm,1.0s,baz=328,slow=6.7,SNR=42
VNDA Vanda 71.70 178 *e*P **P** **03 23 34.4 +0.3**
VNDA pmax pmax
comp=Z,15nm,1.0s
VNDA Vanda 71.70 178 *e*P **P** **03 23 34.4 +0.3**
comp=Z,15nm,1.0s
MIR Mirnyy 72.24 201 *i* P **P** **03 23 38.0 +0.5**
MIR pmax pmax
comp=Z,10.0nm,1.5s
SBA Scott Base 72.28 177 *e*P **P** **03 23 39.4 +1.9**
SBA pmax pmax
comp=Z,39nm,1.6s
SBA MLR MLR
comp=Z,458nm,20.0s
SBA Scott Base 72.28 177 *e*P **P** **03 23 39.4 +1.9**
comp=Z,39nm,1.6s
SBA LR LR
comp=Z,458nm,20.0s
RKT Rikitea 72.80 112 *e*LR LR 03 46 02.3
comp=Z,333nm,29.5s
BILL Bilibino 74.63 6 *de*P **P** **03 23 49.3 -2.2**
BILL *e* 03 26 38.4
BILL *i* S **SKiKP** **03 33 15.9 +2.2**
BILL pmax pmax
comp=Z,12nm,1.2s
BILL Bilibino 74.63 6 *e*P **P** **03 23 50.5 -1.0**
comp=Z,24nm,1.6s
BILL LR LR
comp=Z,423nm,22.0s
WMQ Urumqi 75.56 318 P **P** **03 23 57.3 -0.1**
WMQ pP pP 03 24 09.8 -0.4
WMQ sP sP 03 24 13.3 -1.7
WMQ S **S** **03 33 35.5 +0.3**
WMQ SS **SS** **03 38 28.9 +1.8**
WMQ PMZ
comp=Z,7.0nm,1.2s
WMQ PMZ
comp=Z,100nm,4.8s
WMQ LN
comp=Z,150nm,19.2s
WMQ LE
comp=Z,130nm,24.6s
WMQ LZ
comp=Z,110nm,21.4s
KDAK Kodiak Island 77.96 27 PFAKE 03 24 20.0 +10
KDAK LR LR
comp=Z,455nm,22.0s
SVW2 Sparrevohn 78.55 23 *e*P **P** **03 24 14.4 +0.7**
comp=Z,12nm,0.9s
TIXI Tiksi 78.88 353 P **P** **03 24 14.2 -1.2**
comp=Z,0.8nm,0.3s,baz=137,slow=5.2,SNR=3.5
TIXI LR LR 03 56 23.2
comp=Z,147nm,21.7s,baz=172,slow=34
TIXI Tiksi 78.88 353 *i* P **P** **03 24 13.7 -1.6**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
TIXI Tiksi 78.88 353 P **P** **03 24 14.2 -1.2**
TIXI LR LR
comp=Z,260nm,19.0s
RSO Redoubt South 79.33 25 *e*P **P** **03 24 17.7 -0.6**
TT01 Tatalina 79.44 22 *e*P **P** **03 24 18.2 -0.4**
TTA Tatalina 79.46 22 *e*P **P** **03 24 19.0 +0.2**
TTA pmax pmax
comp=Z,13nm,1.2s
TTA Tatalina 79.46 22 *e*P **P** **03 24 19.0 +0.2**
comp=Z,13nm,1.2s
CNPM China Poot 79.48 26 *e*P **P** **03 24 18.7 -0.2**
comp=Z,33nm,0.9s
BRLK Bradley Lake 79.75 26 *e*P **P** **03 24 20.4 0.0**
comp=Z,16nm,1.0s
MK01 Makanchi Array 80.18 319 *e*P **P** **03 24 21.9 -1.1**
MK31 Makanchi Array 80.19 319 *e*P **P** **03 24 22.6 -0.5**
MK31 Makanchi Array 80.19 319 *e*P **P** **03 24 22.6 -0.5**
MKAR Makanchi Array 80.19 319 P **P** **03 24 22.4 -0.7**
comp=Z,3.5nm,1.0s,baz=108,slow=6.9,SNR=18
MKAR PP **PP** **03 27 23.1 -2.9**
comp=Z,2.3nm,0.9s,baz=94,slow=7.3,SNR=4.5
MKAR LR LR 04 02 31.7
comp=Z,206nm,18.1s,baz=102,slow=38
MKAR Makanchi Array 80.19 319 *i* P **P** **03 24 22.3 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,1.0s
MAKZ Makanchi 80.40 319 *e*P **P** **03 24 23.5 -0.7**
MAKZ pmax pmax
comp=Z,19nm,1.4s
MAKZ Makanchi 80.40 319 *e*P **P** **03 24 23.5 -0.7**
comp=Z,19nm,1.4s
SUA Susitna One 80.70 24 *e*P **P** **03 24 24.6 -1.0**
comp=Z,7.2nm,0.8s
ZAA0 Zalesovo Array 81.27 327 *e*P **P** **03 24 26.9 -1.7**
ZALV Zalesovo Beam 81.27 327 P **P** **03 24 26.7 -1.9**
comp=Z,3.8nm,0.8s,baz=112,slow=4.9,SNR=9.9
ZALV LR LR 04 01 01.8
comp=Z,262nm,20.7s,baz=73,slow=36
PMR Palmer 81.43 25 *e*P **P** **03 24 28.3 -1.0**
PMR pmax pmax
comp=Z,22nm,1.5s
PMR Palmer 81.43 25 *e*P **P** **03 24 28.2 -1.0**
comp=Z,22nm,1.5s
KTH Kantishna Hill 81.72 23 *e*P **P** **03 24 29.2 -1.7**
comp=Z,30nm,1.6s
SML Sawmill 81.87 25 *e*P **P** **03 24 30.8 -0.9**
SML pmax pmax
comp=Z,17nm,0.8s
SML Sawmill 81.87 25 *e*P **P** **03 24 30.8 -0.9**
comp=Z,17nm,0.8s
TRF Thorofare Moun 81.91 23 *e*P **P** **03 24 29.9 -2.2**
comp=Z,10nm,1.0s
BPAW Bear Paw Mtn. 81.99 22 *e*P **P** **03 24 31.3 -1.0**
comp=Z,14nm,1.4s
EYAK Cordova Ski Ar 82.39 26 *e*P **P** **03 24 35.5 +1.2**
comp=Z,13nm,1.2s
RND Reindeer 82.44 23 *e*P **P** **03 24 33.3 -1.4**
RND pmax pmax
comp=Z,14nm,0.8s
RND Reindeer 82.44 23 *e*P **P** **03 24 33.3 -1.4**
comp=Z,14nm,0.8s
KSH Kashi 82.52 311 *e*P **P** **03 24 36.3 +0.6**
KSH pP pP 03 24 47.3 -1.3
KSH PP **PP** **03 27 47.8 +2.3**
KSH S **S** **03 34 46.0 -3.6**
KSH SS **SS** **03 40 14.3 +2.5**
KSH PMZ
comp=Z,8.0nm,1.0s
KSH PMZ
comp=Z,150nm,5.5s
KSH LN
comp=Z,310nm,13.6s
KSH LE
comp=Z,240nm,12.8s
KSH LZ
comp=Z,240nm,13.4s
MLY Manley 82.57 21 *e*P **P** **03 24 34.6 -0.7**
comp=Z,11nm,0.6s
MCK McKinley 82.58 23 *e*P **P** **03 24 34.1 -1.2**
MCK pmax pmax
comp=Z,26nm,0.9s
MCK McKinley 82.58 23 *e*P **P** **03 24 34.1 -1.2**
comp=Z,26nm,0.9s
DIV Divide 82.64 26 *e*P **P** **03 24 35.0 -0.8**
comp=Z,34nm,1.6s
KLU Klutina 82.73 25 *e*P **P** **03 24 37.1 +0.9**
comp=Z,12nm,0.9s
RAGM Ragged Mountai 82.79 27 *e*P **P** **03 24 37.4 +0.9**
comp=Z,18nm,1.2s
BMRM Bremner River 83.07 26 *e*P **P** **03 24 38.2 +0.3**
comp=Z,17nm,1.1s
WRH Wood River Hil 83.26 22 *e*P **P** **03 24 37.0 -1.8**
comp=Z,8.6nm,0.9s
MDM Murphy Dome 83.45 22 *e*P **P** **03 24 39.2 -0.6**
comp=Z,10nm,1.2s
CCB Clear Creek Bu 83.46 22 *e*P **P** **03 24 38.0 -1.8**
comp=Z,7.2nm,0.7s
COLA College 83.55 22 *d i*P **P** **03 24 38.6 -1.6**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 83.55 22 *e*P **P** **03 24 38.6 -1.6**
comp=Z,15nm,0.8s
COLA LR LR
comp=Z,531nm,20.0s
TKM2 Tokmak 2 83.62 314 *e*P **P** **03 24 40.9 -0.5**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s
TKM2 MLR MLR
comp=Z,235nm,22.0s
TKM2 Tokmak 2 83.62 314 *e*P **P** **03 24 40.9 -0.5**
comp=Z,3.6nm,0.8s
TKM2 LR LR
comp=Z,235nm,22.0s
CRQM Cirque 83.64 27 *e*P **P** **03 24 40.9 -0.2**
comp=Z,14nm,0.8s
KURK Kurchatov 83.74 322 *e*P **P** **03 24 40.3 -1.2**
KURK pmax pmax
comp=Z,95nm,1.0s
KURK MLR MLR
comp=Z,656nm,19.0s
KURK Kurchatov 83.74 322 *e*P **P** **03 24 40.3 -1.2**
comp=Z,95nm,1.0s
KURK P'P' 03 51 03.8
KURK LR LR
comp=Z,656nm,19.0s
KURBB Kurchatov Arra 83.77 322 P **P** **03 24 40.0 -1.7**
comp=Z,4.1nm,0.8s,baz=114,slow=4.0,SNR=26
KURBB PKPPKP **P'P'df** **03 51 03.8 +0.6**
comp=Z,0.2nm,0.2s,baz=279,slow=3.3,SNR=4.6
MAW Mawson 83.86 203 P **P** **03 24 42.1 +0.2**
comp=Z,15nm,0.9s,baz=74,slow=6.1,SNR=15
MAW Mawson 83.86 203 P **P** **03 24 42.4 +0.6**
baz=84,SNR=9.3
MAW Mawson 83.86 203 *e*P **P** **03 24 42.4 +0.6**
MAW pmax pmax
comp=Z,6.0nm,1.1s
MAW Mawson 83.86 203 *e*P **P** **03 24 42.4 +0.6**
comp=Z,6.3nm,1.1s
ILAR Eielson Array 83.86 22 P **P** **03 24 40.2 -1.7**
comp=Z,6.9nm,0.7s,baz=248,slow=4.7,SNR=92
ILAR LR LR 03 59 53.2
comp=Z,454nm,19.0s,baz=260,slow=34
ILB Eielson Array 83.86 22 *e*P **P** **03 24 40.2 -1.7**
COLD Coldfoot 83.91 20 *e*P **P** **03 24 42.1 0.0**
comp=Z,17nm,1.5s
QSPA South Pole Qui 83.97 180 *e*P **P** **03 24 42.4 -0.3**
BALM Baldy 84.10 27 *e*P **P** **03 24 43.7 +0.4**
BALM pmax pmax
comp=Z,6.0nm,0.8s
BALM Baldy 84.10 27 *e*P **P** **03 24 43.7 +0.4**
comp=Z,6.0nm,0.8s
MENT Mentasta 84.30 25 *e*P **P** **03 24 45.0 +0.8**
comp=Z,6.8nm,0.7s
FRU Bishkek 84.30 314 *e*P **P** **03 24 43.5 -1.2**
FRU pmax pmax
comp=Z,50nm,2.1s
AAK Ala-Archa 84.34 314 P **P** **03 24 43.9 -1.1**
comp=Z,1.7nm,0.4s,baz=102,slow=7.3,SNR=10.0
AAK LR LR 04 04 04.4
comp=Z,172nm,18.1s,baz=86,slow=37
AAK Ala-Archa 84.34 314 *d i*P **P** **03 24 43.9 -1.1**
AAK pmax pmax
comp=Z,17nm,1.2s
AAK Ala-Archa 84.34 314 *e*P **P** **03 24 44.2 -0.9**
comp=Z,15nm,1.3s
AAK LR LR
comp=Z,293nm,21.0s
DOT Dot Lake 84.46 24 *e*P **P** **03 24 44.4 -0.6**
comp=Z,27nm,0.8s
EKS2 Erkin-Say 84.86 314 *e*P **P** **03 24 47.1 -0.6**
EKS2 pmax pmax
comp=Z,42nm,1.5s
EKS2 MLR MLR
comp=Z,270nm,20.0s
EKS2 Erkin-Say 84.86 314 *e*P **P** **03 24 47.0 -0.6**
comp=Z,42nm,1.5s
EKS2 LR LR
comp=Z,270nm,20.0s
FYU Fort Yukon 85.30 21 *e*P **P** **03 24 50.2 +1.1**
EGAK Eagle 86.08 23 *e*P **P** **03 24 52.9 -0.1**
comp=Z,18nm,1.1s
EGAK LR LR
comp=Z,483nm,21.0s
DAWY Dawson 86.53 24 *e*P **P** **03 24 55.6 +0.3**
comp=Z,46nm,1.8s
NRIK Noril'sk 86.58 341 LR LR 04 04 21.6
comp=Z,177nm,19.8s,baz=118,slow=36
KKAR Karatay Array 87.30 314 *e*P **P** **03 24 58.3 -1.2**
KKAR pmax pmax
comp=Z,21nm,1.3s
KKAR Karatay Array 87.30 314 *e*P **P** **03 24 58.3 -1.2**
comp=Z,20nm,1.3s
WRAK Wrangell Islan 87.52 33 *e*P **P** **03 25 00.1 0.0**
comp=Z,23nm,1.3s
WRAK LR LR
comp=Z,808nm,21.0s
DLBC Dease Lake 89.22 31 *e*P **P** **03 25 09.4 +1.1**
comp=Z,16nm,1.3s
BVAR Borovoye Array 89.25 323 LR LR 04 04 48.2
comp=Z,190nm,21.9s,baz=75,slow=35
BRVK Borovoye 89.32 323 *e*P **P** **03 25 06.5 -2.3**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 89.32 323 *e*P **P** **03 25 08.2 -0.6**
BRVK LR LR
comp=Z,178nm,22.0s
INK Inuvik 90.14 21 P **P** **03 25 11.2 -1.0**
comp=Z,3.8nm,0.8s,baz=233,slow=7.5,SNR=5.8
INK Inuvik 90.14 21 *e*P **P** **03 25 12.0 -0.3**
INK Inuvik 90.14 21 *e*P **P** **03 25 12.0 -0.3**
I03D Drain, OR 90.81 46 P **P** **03 25 16.7 +0.7**
baz=263
NLWA Neilton Lookou 90.94 43 PFAKE 03 25 30.0 +13
NLWA LR LR
comp=Z,526nm,20.0s
HUMO Hull Mountain 90.96 47 *e*P **P** **03 25 17.9 +1.2**
comp=Z,17nm,1.0s
I04A Tendick Farm, 91.50 46 P **P** **03 25 18.6 -0.6**
baz=263
O03D Paynes Creek 91.55 50 P **P** **03 25 19.6 0.0**
baz=264
M04C Macdoel 91.69 48 P **P** **03 25 21.1 +0.8**
baz=264
SYO Syowa Base 92.01 200 ⇑*e*P **P** **03 25 19.2 -1.8**
SYO Syowa Base 92.01 200 ⇑*e*pP **P** **03 25 25.6 +4.6**
J05D Fort Rock, OR 92.29 47 P **P** **03 25 24.1 +1.0**
baz=264
I05D Terrebonne, OR 92.33 46 P **P** **03 25 23.8 +0.7**
baz=264
CMB Columbia Colle 92.40 52 *e*P **P** **03 25 24.6 +1.0**
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB Columbia Colle 92.40 52 *e*P **P** **03 25 24.6 +1.0**
comp=Z,9.9nm,1.1s
K05A Summer Lake 92.48 47 *e*P **P** **03 25 25.2 +1.1**
comp=Z,34nm,1.2s

PKM **Mcpherson Peak** 92.55 55 P P 03 25 25.5 +1.0
baz=265
MOD **Modoc Plateau** 92.84 48 eP P 03 25 26.4 +0.8
comp=Z,19nm,1.3s
VES **Vestal, Richgr** 93.23 54 P P 03 25 27.9 +0.5
baz=265
PAHR **Pah Rah Range** 93.33 51 eP P 03 25 28.8 +0.9
comp=Z,7.4nm,1.0s
HAWA **Hanford** 93.79 44 PFAKE 03 25 40.0 +10
HAWA LR LR
comp=Z,804nm,20.0s
MWC **Mount Wilson** 93.94 56 eP P 03 25 32.3 +1.4
MWC pmax pmax
comp=Z,24nm,1.1s
MWC **Mount Wilson** 93.94 56 eP P 03 25 32.3 +1.4
comp=Z,24nm,1.1s
EDW2 **Edwards Air Fo** 94.04 55 P P 03 25 32.3 +1.1
baz=266
CWC **Cottonwood Cre** 94.09 54 P P 03 25 32.3 +0.7
baz=266
WVOR **Wild Horse Val** 94.12 48 eP P 03 25 32.3 +0.8
WVOR pmax pmax
comp=Z,22nm,1.5s
WVOR MLR MLR
comp=Z,501nm,20.0s
WVOR **Wild Horse Val** 94.12 48 eP P 03 25 32.3 +0.8
comp=Z,22nm,1.5s
WVOR LR LR
comp=Z,501nm,20.0s
MPMC **Manual Prospec** 94.54 54 P P 03 25 33.8 +0.2
baz=266
MONP2 **Monument Peak** 95.21 58 P P 03 25 38.1 +1.3
baz=266
PFO **Pinyon Flats O** 95.22 57 P P 03 25 36.0 -0.8
comp=Z,1.3nm,0.4s,baz=328,slow=4.4,SNR=3.5
PFO **Pinyon Flats O** 95.22 57 P P 03 25 36.0 -0.8
PFO MLR MLR
comp=Z,641nm,20.0s
PFO **Pinyon Flats O** 95.22 57 P P 03 25 36.0 -0.8
PFO LR LR
comp=Z,641nm,20.0s
TPFO **Pinon Flats** 95.22 57 P P 03 25 37.8 +1.0
baz=266
BMO **Blue Mountains** 95.24 46 eP P 03 25 37.0 +0.4
BMO pmax pmax
comp=Z,26nm,1.6s
BMO MLR MLR
comp=Z,584nm,21.0s
BMO **Blue Mountains** 95.24 46 eP P 03 25 37.0 +0.4
comp=Z,26nm,1.6s
BMO LR LR
comp=Z,584nm,21.0s
ABKAR **Akbulak array** 95.33 319 eP P 03 25 36.0 -0.7
SHOC **Shoshone, Teco** 95.51 55 P P 03 25 39.1 +1.2
baz=267
NEW **Newport** 95.55 42 PFAKE 03 25 50.0 +12
NEW LR LR
comp=Z,779nm,19.0s
TPNV **Topopah Spring** 95.60 54 P P 03 25 39.5 +1.0
baz=267
TPNV **Topopah Spring** 95.60 54 eP P 03 25 39.7 +1.2
TPNV pmax pmax
comp=Z,12nm,1.0s
TPNV **Topopah Spring** 95.60 54 eP P 03 25 39.6 +1.2
comp=Z,12nm,1.0s
GMRC **Granite Mounta** 95.95 56 P P 03 25 41.0 +0.9
baz=267
BC3 **Big Chuckawall** 96.06 57 P P 03 25 41.7 +1.1
baz=267
GEYT **Alibeck** 96.08 307 LR LR 04 11 10.3
comp=Z,204nm,20.0s,baz=75,slow=37
R11A **Troy Canyon, C** 96.19 52 P P 03 25 42.2 +1.0
baz=267
R11A **Troy Canyon, C** 96.19 52 eP P 03 25 42.1 +1.0
MFID **Camas Ranch** 96.23 47 eP P 03 25 42.3 +1.2
comp=Z,3.8nm,0.9s
ARU **Arti** 96.42 326 PFAKE 03 25 50.0 +8.5
ARU LR LR
comp=Z,426nm,20.0s
SHPR **Sheep Range** 96.45 54 eP P 03 25 43.9 +1.6
comp=Z,19nm,1.6s
AKTO **Aktyubinsk** 96.62 320 LR LR 04 10 13.6
comp=Z,113nm,19.6s,slow=36
YKA **Yellowknife Ar** 97.22 28 P P 03 25 44.5 -0.4
comp=Z,2.0nm,0.9s,baz=271,slow=4.7,SNR=8.4
YKA PKKPbc PKKPbc 03 42 22.8 -3.8
comp=Z,0.8nm,0.8s,baz=90,slow=3.4,SNR=4.8
YKA LR LR 04 08 56.2
comp=Z,28nm,18.1s,baz=0.0,slow=35
HLID **Hailey** 97.27 47 P Pdif 03 25 46.0 0.0
baz=269
HLID **Hailey** 97.27 47 eP Pdif 03 25 46.5 +0.5
HLID comp=Z,3.5nm,1.1s LR LR
comp=Z,646nm,22.0s
LCMT **Little Creek M** 98.00 54 eP Pdif 03 25 50.9 +1.6
comp=Z,4.4nm,1.0s
KNB **Kanab** 98.34 54 eP Pdif 03 25 51.9 +1.0
KNB pmax pmax
comp=Z,9.0nm,0.9s
KNB **Kanab** 98.34 54 eP Pdif 03 25 51.9 +1.0
comp=Z,8.7nm,0.9s
DUG **Dugway, Tooele** 98.40 50 PFAKE 03 26 00.0 +8.9
DUG LR LR
comp=Z,627nm,20.0s
HVU **Hansel Valley** 98.45 49 eP Pdif 03 25 51.7 +0.5
HVU **Hansel Valley** 98.45 49 eP Pdif 03 25 51.7 +0.4
MTPU **Mount Pierson** 98.86 53 eP Pdif 03 25 55.5 +2.1
BOZ **Bozeman (W)** 99.27 45 P Pdif 03 25 54.5 -0.3
baz=271
BOZ **Bozeman (W)** 99.27 45 eP Pdif 03 25 54.8 0.0
BOZ MLR MLR
comp=Z,499nm,21.0s
BOZ **Bozeman (W)** 99.27 45 eP Pdif 03 25 54.8 0.0
BOZ LR LR
comp=Z,499nm,21.0s
HWUT **Hardware Ranch** 99.35 49 PFAKE 03 26 10.0 +15
HWUT LR LR
comp=Z,679nm,20.0s
WUAZ **Wupatki** 99.49 55 PFAKE 03 26 10.0 +14
WUAZ LR LR
comp=Z,510nm,21.0s
AHID **Auburn Hatcher** 99.69 48 PFAKE 03 26 10.0 +13
AHID LR LR
comp=Z,742nm,21.0s
TUC **Tucson** 99.94 58 PFAKE 03 26 10.0 +12
TUC LR LR
comp=Z,508nm,20.0s
LKWY **Lake** 100.16 46 PFAKE 03 26 10.0 +11
LKWY LR LR
comp=Z,730nm,20.0s
EGMT **Eagleton** 100.48 42 PFAKE 03 26 10.0 +10
EGMT LR LR
comp=Z,2µm,21.0s
BW06 **Boulder Array** 100.82 48 P Pdif 03 26 01.2 -0.6
baz=272
BW06 **Boulder Array** 100.82 48 PFAKE 03 26 10.0 +8.1
BW06 LR LR
comp=Z,745nm,20.0s
PDAR **Pinedale Array** 100.82 48 P Pdif 03 26 00.6 -1.3
comp=Z,1.3nm,0.7s,baz=230,slow=3.7,SNR=8.3
RLMT **Red Lodge** 100.94 45 PFAKE 03 26 10.0 +7.7
RLMT LR LR
comp=Z,564nm,20.0s
MVCO **Mesa Verde** 101.80 53 PFAKE 03 26 20.0 +14
MVCO LR LR
comp=Z,637nm,20.0s
RES **Resolute Bay** 101.96 14 eP Pdif 03 26 05.7 -0.2
RES pmax pmax
comp=Z,2.0nm,1.0s
RES **Resolute Bay** 101.96 14 eP Pdif 03 26 05.7 -0.2
comp=Z,2.4nm,1.0s
LAO **LASA Array** 102.96 44 PFAKE 03 26 20.0 +8.9
LAO LR LR
comp=Z,422nm,20.0s
K22A **Casper** 103.06 48 P Pdif 03 26 11.5 -0.2
baz=274
ANMO **Albuquerque** 103.52 56 PFAKE 03 26 30.0 +16
ANMO LR LR
comp=Z,463nm,21.0s
ISCO **Idaho Springs** 103.94 51 PFAKE 03 26 30.0 +14
ISCO LR LR
comp=Z,473nm,21.0s
DGMT **Dagmar** 104.14 42 PFAKE 03 26 30.0 +14
DGMT LR LR
comp=Z,511nm,20.0s
SDCO **Great Sand Dun** 104.16 53 PFAKE 03 26 30.0 +13
SDCO LR LR
comp=Z,674nm,20.0s
KBS **Kingsbay** 104.33 353 PFAKE 03 26 30.0 +14
KBS LR LR
comp=Z,226nm,19.0s
MNTX **Cornudas Mount** 104.53 59 PFAKE 03 26 30.0 +12
MNTX LR LR
comp=Z,409nm,19.0s
PMSA **Palmer Station** 104.73 165 PFAKE 03 26 30.0 +12
PMSA LR LR
comp=Z,487nm,19.0s
LVZ **Lovozero** 105.33 339 PFAKE 03 30 50.0
LVZ LR LR
comp=Z,265nm,22.0s
TXAR **Lajitas Array** 106.09 61 PKKPbc PKKPbc 03 41 59.5 -0.4
comp=Z,0.3nm,0.7s,baz=52,slow=2.1,SNR=3.7
TXAR PKKPab PKKPab 03 42 15.5 0.0
comp=Z,1.0nm,1.0s,baz=101,slow=5.3,SNR=4.6
GNI **Garni** 106.43 310 PFAKE 03 30 50.0
GNI LR LR
comp=Z,190nm,21.0s
OGNE **Ogallala** 106.56 49 PFAKE 03 30 50.0
OGNE LR LR
comp=Z,567nm,19.0s
KEV **Kevo** 106.97 342 PFAKE 03 30 50.0
KEV LR LR
comp=Z,198nm,19.0s
KIV **Kislovodsk** 107.46 314 PFAKE 03 30 50.0
KIV LR LR
comp=Z,241nm,20.0s
ARCES **ARCESS Array B** 107.54 343 PKiKP PKiKP 03 30 38.4 -0.4
comp=Z,1.9nm,0.8s,baz=38,slow=1.6,SNR=12
CBKS **Cedar Bluff** 108.57 51 PFAKE 03 30 50.0
CBKS LR LR
comp=Z,900nm,21.0s
OBN **Obninsk** 108.86 327 PFAKE 03 30 50.0
OBN LR LR
comp=Z,364nm,20.0s
JCT **Junction City** 109.38 60 PFAKE 03 31 00.0
JCT LR LR
comp=Z,818nm,21.0s
AGMN **Agassiz Nation** 109.64 41 PFAKE 03 31 00.0
AGMN LR LR
comp=Z,606nm,21.0s
WMOK **Wichita Mounta** 109.83 55 PFAKE 03 31 00.0
WMOK LR LR
comp=Z,258nm,20.0s
ECSD **EROS Data Cent** 110.10 46 PFAKE 03 31 00.0
ECSD LR LR
comp=Z,422nm,20.0s
KSU1 **Kansas State U** 110.94 50 PFAKE 03 31 00.0
KSU1 LR LR
comp=Z,700nm,20.0s
FINES **FINESS Array B** 111.47 335 PKiKP PKiKP 03 30 46.0 -0.3
comp=Z,2.4nm,0.8s,baz=98,slow=5.9,SNR=8.9
EYMN **Ely** 112.55 40 PFAKE 03 31 00.0
EYMN LR LR
comp=Z,531nm,20.0s
SCIA **State Center** 112.93 47 PFAKE 03 31 00.0
SCIA LR LR
comp=Z,551nm,22.0s
NATX **Nacogdoches** 113.63 58 PFAKE 03 31 00.0
NATX LR LR
comp=Z,475nm,19.0s
KMBO **Kilima Mbogo** 113.69 266 PFAKE 03 31 00.0
KMBO LR LR
comp=Z,239nm,20.0s
MIAR **Mount Ida** 114.10 55 PFAKE 03 31 00.0 +7.8
MIAR LR LR
comp=Z,364nm,20.0s
AKASG **Malin Array Be** 114.53 324 PKP PKPdf 03 30 51.6 -0.9
comp=Z,3.0nm,0.6s,baz=61,slow=2.4,SNR=14
AKASG PKKPbc PKKPbc 03 41 31.1 -1.9
comp=Z,0.8nm,0.6s,baz=246,slow=6.6,SNR=5.1
KIEV **Kiev** 114.54 324 *i* PKIKP PKPdf 03 30 51.8 -0.7
KIEV **Kiev** 114.54 324 *e*PKP PKPdf 03 30 51.5 -1.0
KIEV LR LR
comp=Z,261nm,20.0s
COWI **Conover** 114.64 42 PFAKE 03 31 00.0 +7.1
COWI LR LR
comp=Z,622nm,20.0s
JFWS **Jewell Farm** 114.81 45 PFAKE 03 31 10.0 +17
JFWS LR LR
comp=Z,446nm,21.0s
BRTR **Keskin Array B** 114.90 311 PKP PKPdf 03 30 53.1 -0.7
comp=Z,2.8nm,0.9s,baz=140,slow=2.7,SNR=16
BRTR PKKPbc PKKPbc 03 41 31.2 -0.3
comp=Z,0.5nm,0.7s,baz=222,slow=1.7,SNR=4.7
SORM **Soroca** 116.01 321 ⇓*i*P PKPdf 03 30 55.2 -0.2
SORM **Soroca** 116.01 321 ⇓PKIKP PKPdf 03 30 55.2 -0.2
HDIL **Hopedale** 116.13 48 PFAKE 03 31 10.0 +14
HDIL LR LR
comp=Z,546nm,20.0s
CSS **Mathiatis** 116.18 306 PFAKE 03 31 10.0 +14
CSS LR LR
comp=Z,39nm,20.0s
SUW **Suwalki** 116.45 329 *e*PKP PKPdf 03 30 56.0 0.0
SUW **Suwalki** 116.45 329 *e*PKIKP PKPdf 03 30 56.1 0.0
TLCR 116.76 318 ⇑*i*P PKPdf 03 30 56.9 -0.1
TLCR 116.76 318 ⇑PKIKP PKPdf 03 30 56.9 -0.1
CFR **Carcaliu** 117.21 318 ⇓*i*P PKPdf 03 30 57.2 -0.6
CFR **Carcaliu** 117.21 318 ⇓PKIKP PKPdf 03 30 57.2 -0.6
TIRR **Tirgusor** 117.27 317 ⇓*i*P PKPdf 03 30 58.0 0.0
TIRR **Tirgusor** 117.27 317 ⇓PKIKP PKPdf 03 30 58.0 0.0
SFJD **Kangerlussuaq** 117.28 9 PFAKE 03 31 10.0 +13
SFJD LR LR
comp=Z,292nm,20.0s
NB2 **NORSAR Subarra** 117.48 339 PKPdf PKPdf 03 30 56.9 -1.1
comp=Z,1.4nm,0.8s,baz=44,slow=1.9
NOA **NORSAR Array B** 117.48 339 PKP PKPdf 03 30 57.5 -0.5
comp=Z,5.2nm,1.0s,baz=48,slow=1.9,SNR=8.6
HARR **Harsova** 117.52 318 ⇑*i*P PKPdf 03 30 58.9 +0.5
HARR **Harsova** 117.52 318 ⇑PKIKP PKPdf 03 30 58.9 +0.5
TESR **Tescani** 117.69 320 ⇑*i*P PKPdf 03 30 58.5 -0.3
ISP **Isparta** 117.73 310 PFAKE 03 31 10.0 +11
ISP LR LR
comp=Z,204nm,22.0s
VRI **Vrincioaia** 117.89 319 ⇓*i*P PKPdf 03 30 59.2 0.0
VRI **Vrincioaia** 117.89 319 ⇓PKIKP PKPdf 03 30 59.2 0.0
PLOR **Plostina** 117.94 319 ⇑*i*P PKPdf 03 30 58.8 -0.5
PLOR **Plostina** 117.94 319 ⇑PKIKP PKPdf 03 30 58.8 -0.5
BURAR **Bucovina Array** 118.16 322 ⇓*i*P PKPdf 03 31 00.7 +0.9
BURAR **Bucovina Array** 118.16 322 ⇓PKIKP PKPdf 03 31 00.7 +0.9
ISR **Istrita** 118.28 319 ⇓*i*P PKPdf 03 31 01.9 +1.9
ISR **Istrita** 118.28 319 ⇓PKIKP PKPdf 03 31 01.9 +1.9
MLR **Muntele Rosu** 118.54 319 ⇑*i*P PKPdf 03 31 00.1 -0.5
MLR **Muntele Rosu** 118.54 319 ⇑PKIKP PKPdf 03 31 00.1 -0.5
SECR 118.63 319 ⇑*i*P PKPdf 03 31 00.7 +0.1
DOPR **Dopca** 118.71 320 ⇓*i*P PKPdf 03 31 01.1 +0.3
KONO **Kongsberg** 119.03 339 PFAKE 03 31 10.0 +9.1
KONO LR LR
comp=Z,505nm,19.0s
VOIR 119.14 319 ⇑*i*P PKPdf 03 31 01.3 -0.4
VOIR 119.14 319 ⇑PKIKP PKPdf 03 31 01.3 -0.4
KOLS **Kolonicke sedl** 119.36 324 *e*PKIKP PKPdf 03 31 02.5 +0.6
KOLS **Kolonicke sedl** 119.36 324 *e*PKP PKPdf 03 31 02.5 +0.6
SZH **Strazhica** 119.37 317 *e*P PKPdf 03 31 01.4 -0.7
ARR **Arges** 119.44 319 ⇑*i*P PKPdf 03 31 02.8 +0.6
HUMR **Humele** 119.54 318 ⇓*i*P PKPdf 03 31 02.6 +0.2
AAM **Ann Arbor** 119.62 44 PFAKE 03 31 10.0 +7.4
AAM LR LR
comp=Z,501nm,20.0s
STHS **Stebnicka Huta** 119.72 325 *e*PKIKP PKPdf 03 31 03.0 +0.4
STHS **Stebnicka Huta** 119.72 325 *e*PKP PKPdf 03 31 03.0 +0.4
LSZ **Lusaka** 119.73 249 PFAKE 03 31 20.0 +16
LSZ LR LR
comp=Z,336nm,21.0s
PVL **Pavlikeni** 119.80 317 *e*P PKPdf 03 31 02.9 0.0
CRVS **Cervenica-Dubn** 119.84 324 *e*PKIKP PKPdf 03 31 03.2 +0.3
CRVS **Cervenica-Dubn** 119.84 324 *e*PKP PKPdf 03 31 03.1 +0.2
LOT **Lotru** 119.96 320 ⇓*i*P PKPdf 03 31 03.2 -0.1
DRGR 120.06 322 ⇑*i*P PKPdf 03 31 03.4 0.0
DRGR 120.06 322 ⇑PKIKP PKPdf 03 31 03.4 0.0
BRAL **Brewton** 120.13 57 PFAKE 03 31 20.0 +16
BRAL LR LR
comp=Z,384nm,19.0s
OJC **Ojcow** 120.14 326 *e*PKP PKPdf 03 31 03.3 -0.1
OJC **Ojcow** 120.14 326 *e*PKIKP PKPdf 03 31 03.3 -0.1
MBAR **Mbarara** 120.21 266 PFAKE 03 31 20.0 +15
MBAR LR LR
comp=Z,959nm,20.0s
NIE **Niedzica** 120.26 325 *e*PKP PKPdf 03 31 04.0 +0.3
NIE **Niedzica** 120.26 325 *e*PKIKP PKPdf 03 31 04.0 +0.3
TEIG **Tepich** 120.66 70 PFAKE 03 31 20.0 +15
TEIG LR LR
comp=Z,113nm,20.0s
RZN **Rozhen** 120.78 316 *e*P PKPdf 03 31 04.2 -0.9
ACSO **Alum Creek Sta** 120.82 46 PFAKE 03 31 20.0 +15
ACSO LR LR
comp=Z,319nm,20.0s
MPEP **Malo Peshtene** 120.82 318 *e*P PKPdf 03 31 04.8 -0.1
PGB **Panagyurishte** 120.84 317 *e*P PKPdf 03 31 04.2 -0.8
LANS **Liptovska Anna** 120.87 325 *e*PKIKP PKPdf 03 31 06.0 +1.1
LANS **Liptovska Anna** 120.87 325 *e*PKP PKPdf 03 31 05.9 +1.1
SIRR **Siria** 120.94 321 ⇓*i*P PKPdf 03 31 04.9 -0.1
PSZ **Piszkesteto** 121.23 324 ⇓*i*P PKPdf 03 31 05.7 +0.1
PSZ **Piszkesteto** 121.23 324 ⇓*e*PKPdf PKPdf 03 31 05.8 +0.1
PSZ **Piszkesteto** 121.23 324 ⇓PKIKP PKPdf 03 31 05.7 +0.1
PSZ **Piszkesteto** 121.23 324 *e*PKPdf PKPdf 03 31 05.3 -0.4
PSZ LR LR
comp=Z,251nm,20.0s
OKC **Ostrava-Krasne** 121.25 326 *e*PKPdf PKPdf 03 31 05.8 +0.3
OKC **Ostrava-Krasne** 121.25 326 *e*PKIKP PKPdf 03 31 05.8 +0.3
BZS **Buzias** 121.25 321 ⇓*i*P PKPdf 03 31 05.3 -0.3
BZS **Buzias** 121.25 321 ⇓PKIKP PKPdf 03 31 05.3 -0.3
MMB **Musomiste** 121.51 316 *e*P PKPdf 03 31 05.1 -1.2
MDVR **Moldovita** 121.56 320 ⇑*i*P PKPdf 03 31 06.3 0.0
VYHS **Vyhne** 121.56 325 *e*PKIKP PKPdf 03 31 06.0 -0.2
VYHS **Vyhne** 121.56 325 *e*PKP PKPdf 03 31 06.0 -0.2
MORC **Moravsky Berou** 121.62 327 ⇑*i*P PKPdf 03 31 06.9 +0.6
MORC **Moravsky Berou** 121.62 327 ⇑PKIKP PKPdf 03 31 06.9 +0.6
KSP **Ksiaz** 121.70 328 *e*PKP PKPdf 03 31 06.6 +0.2
KSP **Ksiaz** 121.70 328 *e*PKIKP PKPdf 03 31 06.6 +0.2
KKB **Krupnik** 121.85 316 *e*P PKPdf 03 31 05.6 -1.3
DPC **Dobruska-Polom** 121.96 328 *e*PKPdf PKPdf 03 31 07.2 +0.3
DPC *ex* x 03 31 15.3
DPC AMS AMS 04 25 50.0
comp=Z,400nm,21.6s
DPC **Dobruska-Polom** 121.96 328 *e*PKIKP PKPdf 03 31 07.2 +0.3
DPC *e* 03 31 15.3
DPC MLR MLR
comp=Z,400nm,21.6s
SANT **Santorini** 122.03 309 PFAKE 03 31 20.0 +13
SANT LR LR
comp=Z,161nm,21.0s
UPC **Upice** 122.04 328 *e*PKPdf PKPdf 03 31 07.4 +0.4
UPC AMS AMS 04 26 20.0
comp=Z,400nm,21.8s
UPC **Upice** 122.04 328 *e*PKIKP PKPdf 03 31 07.4 +0.4
UPC MLR MLR
comp=Z,400nm,21.8s
VRAC **Vranov** 122.39 327 ⇑*i*P PKPdf 03 31 06.5 -1.2
VRAC **Vranov** 122.39 327 ⇑PKIKP PKPdf 03 31 06.5 -1.2
GOGA **Godfrey** 122.54 54 PFAKE 03 31 20.0 +12
GOGA LR LR
comp=Z,394nm,21.0s
PVCC **Panska Ves** 122.78 329 *e*PKPdf PKPdf 03 31 08.9 +0.5
PVCC AMS AMS 04 25 40.0
comp=Z,300nm,21.4s
PVCC **Panska Ves** 122.78 329 *e*PKIKP PKPdf 03 31 08.9 +0.5
PVCC MLR MLR
comp=Z,300nm,21.4s
IDI **Anoyia** 122.79 308 *e*PKPdf PKPdf 03 31 08.9 -0.1
BRG **Berggiesshubel** 122.90 329 *e*PKP PKPdf 03 31 09.0 +0.3
comp=Z,19nm,0.9s
BRG **Berggiesshubel** 122.90 329 *e*PKIKP PKPdf 03 31 09.0 +0.3
BRG pmax pmax
comp=Z,19nm,1.0s
SKO **Skopje** 122.93 317 P PKPdf 03 31 08.9 -0.1
SKO **Skopje** 122.93 317 *i* PKP PKPdf 03 31 08.7 -0.3
SKO **Skopje** 122.93 317 PKIKP PKPdf 03 31 08.9 -0.1
SKO **Skopje** 122.93 317 P PKPdf 03 31 08.9 -0.1
DIVS **Divibare** 122.97 320 P PKPdf 03 31 08.6 -0.5
TREC **Trest** 123.00 327 *e*PKPdf PKPdf 03 31 09.2 +0.3
TREC AMS AMS 04 26 10.0
comp=Z,300nm,19.6s
TREC **Trest** 123.00 327 *e*PKIKP PKPdf 03 31 09.2 +0.3
TREC MLR MLR
comp=Z,300nm,19.6s
GOPC **GO Pecny, Ondr** 123.03 328 *e*PKPdf PKPdf 03 31 09.1 +0.2
GOPC AMS AMS 04 27 10.0
comp=Z,300nm,20.7s
GOPC **GO Pecny, Ondr** 123.03 328 *e*PKIKP PKPdf 03 31 09.1 +0.2
GOPC MLR MLR
comp=Z,300nm,20.7s
CLL **Collm** 123.11 330 *i* PKPdf PKPdf 03 31 08.5 -0.5
comp=Z,16nm,0.9s
CLL LmV 04 27 00.0
comp=Z,300nm,19.9s
PRU **Pruhonice** 123.11 328 *e*PKPdf PKPdf 03 31 08.7 -0.4
PRU AMS AMS 04 24 20.0
comp=Z,300nm,21.1s
PRU **Pruhonice** 123.11 328 *e*PKIKP PKPdf 03 31 08.7 -0.4
PRU MLR MLR
comp=Z,300nm,21.1s
FNA **Florina** 123.46 316 P PKPdf 03 31 08.8 -1.3
FNA **Florina** 123.46 316 PKIKP PKPdf 03 31 08.8 -1.3
FNA **Florina** 123.46 316 P PKPdf 03 31 08.8 -1.3
THL **Klokotos Trika** 123.48 314 P PKPdf 03 31 08.9 -1.2
CONA **Conrad Observa** 123.55 325 *i* PKiKP PKPdf 03 31 10.1 0.0
comp=Z,10nm,0.9s,SNR=8.4
OHR **Ohrid** 123.72 316 *i* PKP PKPdf 03 31 10.1 -0.5
BLA **Blacksburg** 123.74 49 PFAKE 03 31 20.0 +9.3
BLA LR LR
comp=Z,825nm,20.0s
ANKY **Antikythira Is** 123.84 310 P PKPdf 03 31 10.3 -0.6
ANKY **Antikythira Is** 123.84 310 P PKPdf 03 31 10.3 -0.6
ANX **Ano Chora** 123.92 313 P PKPdf 03 31 10.9 -0.2
KLV **Kalavryta, Ach** 123.95 312 P PKPdf 03 31 09.8 -1.3
KLV **Kalavryta, Ach** 123.95 312 P PKPdf 03 31 09.8 -1.3
NKC **Novy Kostel** 124.05 329 *e*PKPdf PKPdf 03 31 11.1 +0.2
NKC AMS AMS 04 29 50.0
comp=Z,300nm,18.0s
NKC **Novy Kostel** 124.05 329 *e*PKIKP PKPdf 03 31 11.1 +0.2
NKC MLR MLR
comp=Z,300nm,18.0s
ARSA **Arzberg** 124.11 325 *e*PKiKP PKPdf 03 31 10.7 -0.4
comp=Z,6.4nm,1.0s
KHC **Kasperske Hory** 124.12 328 *e*PKPdf PKPdf 03 31 11.0 -0.1
KHC *ex* x 03 31 18.6
KHC AMS AMS 04 25 00.0
comp=Z,400nm,18.3s
KHC **Kasperske Hory** 124.12 328 *e*PKIKP PKPdf 03 31 11.0 -0.1
KHC *e* 03 31 18.6
KHC MLR MLR
comp=Z,400nm,18.3s
KHC **Kasperske Hory** 124.12 328 *e*PKPdf PKPdf 03 31 11.1 -0.1
GERES **GERESS Array B** 124.22 327 PKP PKPdf 03 31 11.3 -0.1
comp=Z,8.3nm,0.8s,baz=76,slow=1.7,SNR=56
TIR **Tirane** 124.26 317 *e*PKIKP PKPdf 03 31 11.1 -0.4
TIR MLR MLR
comp=Z,228nm,21.0s
TIR **Tirane** 124.26 317 *e*PKPdf PKPdf 03 31 11.1 -0.4
TIR LR LR
comp=Z,228nm,21.0s
JAN **Janina** 124.28 315 P PKPdf 03 31 11.9 +0.2
JAN **Janina** 124.28 315 PKIKP PKPdf 03 31 11.9 +0.2
JAN **Janina** 124.28 315 P PKPdf 03 31 11.9 +0.2
DSL **Palaion Diasel** 124.31 314 P PKPdf 03 31 11.7 -0.1
DSL **Palaion Diasel** 124.31 314 P PKPdf 03 31 11.7 -0.1
PDO **Prodromos** 124.45 313 P PKPdf 03 31 11.8 -0.2
MOA **Molln** 124.49 326 *e*PKPdf PKPdf 03 31 11.4 -0.5
comp=Z,7.6nm,1.2s
GROS **Grobnik** 124.55 324 *i* PKPdf PKPdf 03 31 11.1 -1.0
LONY **Lake Ozonia** 124.61 38 PFAKE 03 31 20.0 +7.9
LONY LR LR
comp=Z,562nm,20.0s
SOKA **Soboth** 124.71 325 *i* PKiKP PKPdf 03 31 12.1 -0.2
comp=Z,14nm,1.0s,SNR=12
LKD2 **Lefkada island** 124.76 314 P PKPdf 03 31 12.4 -0.2
LKD2 **Lefkada island** 124.76 314 P PKPdf 03 31 12.4 -0.2
BINY **Binghamton** 124.87 42 PFAKE 03 31 20.0 +7.3
BINY LR LR
comp=Z,677nm,19.0s
OBKA **Obir** 125.08 325 *i* PKiKP PKPdf 03 31 12.9 -0.2
comp=Z,8.3nm,1.0s
BOJS **Bojanci** 125.21 323 *i* PKPdf PKPdf 03 31 13.0 -0.2
NHSC **New Hope** 125.27 53 PFAKE 03 31 30.0 +16
NHSC LR LR
comp=Z,268nm,20.0s
VISS **Visnje** 125.30 324 *i* PKPdf PKPdf 03 31 13.5 +0.1
LJU **Ljubljana** 125.35 324 *e*PKPdf PKPdf 03 31 13.5 0.0
MYKA **Terra Mystica** 125.53 325 *i* PKiKP PKPdf 03 31 13.5 -0.4
comp=Z,5.1nm,0.7s
CBN **Corbin Frederi** 125.61 47 PFAKE 03 31 30.0 +16
CBN LR LR
comp=Z,431nm,19.0s

JAVS	**Javornik**	**125.70**	**324**	*i* PKPdf	**PKPdf**	**03**	**31**	**14.0**	**-0.3**
ABTA	**Abfaltersbach**	**126.10**	**326**	*i* PKPdf	**PKPdf**	**03**	**31**	**14.4**	**-0.6**
	comp=Z,20nm,0.9s,SNR=9.9								
WTTA	**Wattenberg**	**126.28**	**327**	*e*PKiKP	**PKPdf**	**03**	**31**	**15.5**	**+0.1**
	comp=Z,22nm,0.9s,SNR=8.8								
CNNC	**Cliffs of the**	**126.35**	**50**	PFAKE		03	31	30.0	+14
CNNC				LR	LR				
	comp=Z,531nm,21.0s								
TRQA	**Tornquist**	**126.39**	**148**	*e*PKPdf	**PKPdf**	**03**	**31**	**15.5**	**-0.3**
MOTA	**Moosalm**	**126.52**	**327**	*i* PKiKP	**PKPdf**	**03**	**31**	**15.7**	**-0.2**
	comp=Z,20nm,0.8s,SNR=15								
RETA	**Reutte**	**126.61**	**327**	*i* PKiKP	**PKPdf**	**03**	**31**	**15.9**	**-0.1**
	comp=Z,9.2nm,1.0s								
STU	**Stuttgart**	**126.62**	**330**	*e*PKiKP	**PKPdf**	**03**	**31**	**16.2**	**+0.4**
STU	**Stuttgart**	**126.62**	**330**	*e*PKPdf	**PKPdf**	**03**	**31**	**16.2**	**+0.4**
ESK	**Eskdalemuir**	**126.73**	**342**	*e*PKiKP	**PKPdf**	**03**	**31**	**15.7**	**-0.1**
ESK	**Eskdalemuir**	**126.73**	**342**	*e*PKPdf	**PKPdf**	**03**	**31**	**15.7**	**-0.1**
MEM	**Membach**	**126.90**	**333**	PKP	**PKPdf**	**03**	**31**	**16.6**	**+0.3**
FETA	**Feichten**	**126.92**	**327**	*i* PKiKP	**PKiKP**	**03**	**31**	**16.9**	**-0.3**
	comp=Z,21nm,0.9s,SNR=14								
DAVA	**Damuels**	**127.21**	**328**	*i* PKiKP	**PKPdf**	**03**	**31**	**17.2**	**0.0**
	comp=Z,16nm,0.9s,SNR=5.1								
BFO	**Black Forest**	**127.34**	**330**	*i* PKiKP	**PKPdf**	**03**	**31**	**17.1**	**-0.2**
BFO	**Black Forest**	**127.34**	**330**	PFAKE		03	31	30.0	+13
BFO				LR	LR				
	comp=Z,361nm,19.0s								
TIP	**Timpagrande**	**127.35**	**316**	P	**PKPdf**	**03**	**31**	**17.1**	**-0.5**
TIP	**Timpagrande**	**127.35**	**316**	*e*PKPdf	**PKPdf**	**03**	**31**	**17.7**	**0.0**
TIP				LR	LR				
	comp=Z,183nm,22.0s								
BCLA	**Clavier**	**127.35**	**333**	PKP	**PKPdf**	**03**	**31**	**17.5**	**+0.3**
PKME	**Peaks-Kenny Pk**	**127.42**	**35**	PFAKE		03	31	30.0	+13
PKME				LR	LR				
	comp=Z,542nm,21.0s								
WLF	**Walferdange**	**127.49**	**332**	PKP	**PKPdf**	**03**	**31**	**18.2**	**+0.8**
WLF	**Walferdange**	**127.49**	**332**	*e*PKiKP	**PKPdf**	**03**	**31**	**17.5**	**0.0**
WLF				MLR	MLR				
	comp=Z,323nm,20.0s								
WLF	**Walferdange**	**127.49**	**332**	*e*PKPdf	**PKPdf**	**03**	**31**	**17.5**	**0.0**
WLF				LR	LR				
	comp=Z,323nm,20.0s								
CUC	**Castrocucco**	**127.62**	**317**	PFAKE		03	31	30.0	+12
CUC				LR	LR				
	comp=Z,108nm,19.0s								
SNF	**Seneffe**	**127.74**	**334**	PKP	**PKPdf**	**03**	**31**	**18.5**	**+0.7**
DOU	**Dourbes**	**127.90**	**333**	PKP	**PKPdf**	**03**	**31**	**18.6**	**+0.4**
TSUM	**Tsumeb**	**127.92**	**240**	*e*PKPdf	**PKPdf**	**03**	**31**	**19.0**	**-0.3**
TUE	**Stuetta**	**128.00**	**327**	*e*PKPdf	**PKPdf**	**03**	**31**	**18.4**	**-0.4**
TUE				LR	LR				
	comp=Z,309nm,20.0s								
AQU	**L'Aquila**	**128.02**	**321**	*e*PKiKP	**PKPdf**	**03**	**31**	**18.4**	**-0.4**
AQU				MLR	MLR				
	comp=Z,276nm,22.0s								
AQU	**L'Aquila**	**128.02**	**321**	*e*PKPdf	**PKPdf**	**03**	**31**	**18.4**	**-0.4**
AQU				LR	LR				
	comp=Z,276nm,22.0s								
CEL	**Celeste**	**128.37**	**315**	PFAKE		03	31	30.0	+10
CEL				LR	LR				
	comp=Z,225nm,21.0s								
VLC	**Villacollemand**	**128.83**	**324**	PFAKE		03	31	30.0	+10
VLC				LR	LR				
	comp=Z,147nm,21.0s								
NNA	**Nana**	**128.99**	**111**	PKP	**PKPdf**	**03**	**31**	**21.6**	**+0.2**
	comp=Z,16nm,1.1s,baz=306,slow=6.3,SNR=3.3								
NNA	**Nana**	**128.99**	**111**	*e*PKiKP	**PKPdf**	**03**	**31**	**21.3**	**-0.1**
NNA	**Nana**	**128.99**	**111**	*e*PKPdf	**PKPdf**	**03**	**31**	**21.2**	**-0.1**
BCIP	**Isla Barro Col**	**129.34**	**83**	PFAKE		03	31	30.0	+8.0
BCIP				LR	LR				
	comp=Z,231nm,19.0s								
OTAV	**Otavalo**	**130.11**	**95**	*e*PKPdf	**PKPdf**	**03**	**31**	**24.6**	**+0.5**
OTAV				LR	LR				
	comp=Z,228nm,21.0s								
BNI	**Bardonecchia**	**130.35**	**327**	PFAKE		03	31	30.0	+6.8
BNI				LR	LR				
	comp=Z,462nm,19.0s								
WDD	**Wied Dalam**	**130.42**	**313**	PFAKE		03	31	40.0	+17
WDD				LR	LR				
	comp=Z,219nm,21.0s								
CLTB	**Caltabellotta**	**130.56**	**316**	*e*PKPdf	**PKPdf**	**03**	**31**	**23.6**	**-0.2**
CLTB				LR	LR				
	comp=Z,125nm,20.0s								
MTDJ	**Mount Denham**	**130.97**	**71**	PFAKE		03	31	40.0	+15
MTDJ				LR	LR				
	comp=Z,129nm,20.0s								
SSB	**Saint Sauveur**	**131.32**	**329**	PFAKE		03	31	40.0	+15
SSB				LR	LR				
	comp=Z,231nm,20.0s								
LVC	**Limon Verde**	**131.54**	**127**	*e*PKPdf	**PKPdf**	**03**	**31**	**25.7**	**-0.8**
VSL	**Villasalto**	**132.13**	**320**	*e*PKPdf	**PKPdf**	**03**	**31**	**26.4**	**-0.2**
VSL				LR	LR				
	comp=Z,156nm,20.0s								
POPC	**Popayan, Colom**	**132.14**	**92**	*e*P	**PKPdf**	**03**	**31**	**27.6**	**-0.1**
GTBY	**Guantanamo Bay**	**132.96**	**68**	PFAKE		03	31	40.0	+11
GTBY				LR	LR				
	comp=Z,200nm,22.0s								
MOTC	**Monteria, Cord**	**133.46**	**84**	*e*P	**PKPdf**	**03**	**31**	**27.6**	**-2.2**
KEST	**Kesra**	**134.17**	**316**	PKP	**PKPdf**	**03**	**31**	**30.3**	**-0.4**
	comp=Z,13nm,0.9s,baz=290,slow=3.1,SNR=16								
KEST				SKPbc	**SKPbc**	**03**	**34**	**59.0**	**+2.2**
	comp=Z,10.0nm,1.1s,baz=31,slow=5.9,SNR=7.5								
ROSC	**El Rosal**	**134.67**	**89**	PKP	**PKPdf**	**03**	**31**	**32.5**	**0.0**
	comp=Z,7.0nm,0.7s,baz=109,slow=11,SNR=5.9								
LPAZ	**La Paz**	**135.22**	**120**	PKhKP	PKPpre	03	31	22.6	
	comp=Z,1.1nm,0.7s,baz=274,slow=3.6,SNR=4.4								
LPAZ				PKP	**PKPdf**	**03**	**31**	**34.0**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=20,slow=1.3,SNR=9.5								
CHIC	**Chingaza**	**135.24**	**89**	*e*P	**PKPdf**	**03**	**31**	**32.8**	**-0.9**
BARC	**Barichara**	**135.88**	**87**	*e*P	PKPpre	03	31	29.9	
RUSC	**La Rusia**	**135.96**	**88**	*e*P	PKPpre	03	31	28.6	
GRTK	**Grand Turk**	**136.25**	**65**	PFAKE		03	31	50.0	+15
GRTK				LR	LR				
	comp=Z,261nm,19.0s								
GRMC	**Gramalote, San**	**136.28**	**85**	*e*P	**PKPdf**	**03**	**31**	**34.0**	**-1.3**
CBRI	**Barrientos, No**	**136.29**	**85**	*e*P	**PKPdf**	**03**	**31**	**35.9**	**+0.5**
SDDR	**Presa de Saban**	**136.68**	**69**	PFAKE		03	31	50.0	+14
SDDR				LR	LR				
	comp=Z,282nm,19.0s								
BBSR	**BB Station**	**137.48**	**47**	PFAKE		03	31	50.0	+13
BBSR				LR	LR				
	comp=Z,587nm,21.0s								
CPUP	**Villa Florida**	**137.59**	**141**	PKhKP	PKPpre	03	31	26.4	
	comp=Z,1.8nm,0.9s,baz=136,slow=4.4,SNR=3.6								
CPUP				PKP	**PKPdf**	**03**	**31**	**37.0**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=344,slow=1.1,SNR=6.5								
SDV	**Santo Domingo**	**138.43**	**83**	*e*PKPdf	**PKPdf**	**03**	**31**	**39.7**	**+0.4**
SDV				LR	LR				
	comp=Z,211nm,20.0s								
ESDC	**Sonseca Array**	**139.70**	**330**	PKhKP	PKPpre	03	31	37.5	
	comp=Z,0.9nm,0.7s,baz=3.6,slow=3.4,SNR=6.5								
ESDC				PKP	**PKPdf**	**03**	**31**	**40.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=47,slow=2.9,SNR=6.4								
MVO	**Moncorvo**	**139.95**	**334**	*e*PKPdf	**PKPdf**	**03**	**31**	**42.0**	**+0.8**
PAB	**San Pablo**	**139.99**	**330**	PFAKE		03	31	50.0	+8.7
PAB				LR	LR				
	comp=Z,158nm,20.0s								
POLO	**Lamas de Olo**	**140.10**	**335**	*e*PKPdf	**PKPdf**	**03**	**31**	**41.8**	**+0.3**
PVRL	**Vila Real**	**140.15**	**335**	*e*PKPdf	**PKPdf**	**03**	**31**	**42.0**	**+0.5**
PVIS	**Viseu**	**140.69**	**335**	*e*PKPdf	**PKPdf**	**03**	**31**	**43.4**	**+0.9**
PCBR	**Castelo Branco**	**141.23**	**333**	*e*PKPdf	**PKPdf**	**03**	**31**	**44.4**	**+1.0**
PCAS	**Casmilo, Conde**	**141.50**	**335**	*e*PKPdf	**PKPdf**	**03**	**31**	**44.3**	**+0.4**
PMRV	**Marv??o**	**141.53**	**333**	*e*PKPdf	**PKPdf**	**03**	**31**	**44.7**	**+0.7**
SJG	**San Juan**	**141.62**	**68**	PFAKE		03	32	00.0	+15
SJG				LR	LR				
	comp=Z,171nm,19.0s								
PTOM	**Tomar**	**141.82**	**334**	*e*PKPdf	**PKPdf**	**03**	**31**	**45.5**	**+1.0**
PESTR	**Estremoz**	**142.07**	**333**	*e*PKPdf	**PKPdf**	**03**	**31**	**45.6**	**+0.6**
PBAR	**Barrancos**	**142.37**	**331**	*e*PKPdf	**PKPdf**	**03**	**31**	**46.2**	**+0.7**
EVO	**Evora**	**142.54**	**333**	*e*PKPdf	**PKPdf**	**03**	**31**	**46.3**	**+0.5**
SAML	**Samuel**	**142.64**	**113**	*e*PKPpre	PKPpre	03	31	42.0	
SAML				*e*PKPdf	**PKPdf**	**03**	**31**	**46.7**	**0.0**
SAML				LR	LR				
	comp=Z,218nm,21.0s								
TAM	**Tamanrasset**	**142.95**	**300**	*e*PKiKP	**PKPdf**	**03**	**31**	**45.6**	**-1.6**
TAM				MLR	MLR				
	comp=Z,189nm,22.0s								
TAM	**Tamanrasset**	**142.95**	**300**	*e*PKPdf	**PKPdf**	**03**	**31**	**45.6**	**-1.6**
TAM				LR	LR				
	comp=Z,189nm,22.0s								
PNCL	**Nicolau / Gran**	**143.11**	**333**	*e*PKPdf	PKPbc	03	31	44.5	+0.8
MESJ	**Messejana**	**143.19**	**332**	*e*PKPdf	**PKPdf**	**03**	**31**	**47.8**	**+0.8**
PCVE	**Castro Verde**	**143.28**	**332**	*e*PKPdf	**PKPdf**	**03**	**31**	**47.0**	**-0.1**
PBDV	**Barranco-do-Ve**	**143.54**	**331**	*e*PKPdf	**PKPdf**	**03**	**31**	**51.8**	**+4.1**
SPB	**Sao Paulo**	**145.41**	**149**	PFAKE		03	32	00.0	+8.6
SPB				LR	LR				
	comp=Z,369nm,19.0s								
RTC	**Rabat Centre**	**145.52**	**327**	PFAKE		03	32	00.0	+8.5
RTC				LR	LR				
	comp=Z,735nm,19.0s								
ANWB	**Willy Bob**	**145.76**	**67**	PFAKE		03	32	00.0	+7.2
ANWB				LR	LR				
	comp=Z,340nm,21.0s								
FDF	**Fort de France**	**147.05**	**72**	PFAKE		03	32	10.0	+12
FDF				LR	LR				
	comp=Z,325nm,22.0s								
TORD	**Torodi Ar. Bea**	**149.13**	**286**	PKP	**PKPdf**	**03**	**31**	**57.5**	**-0.2**
	comp=Z,36nm,0.8s,baz=71,slow=2.3,SNR=133								
TORD				PKPbc	**PKPbc**	**03**	**32**	**01.5**	**-0.4**
	comp=Z,36nm,0.8s,baz=72,slow=2.5,SNR=134								
PMAR	**Madeira**	**151.20**	**339**	*e*PKPab	**PKPbc**	**03**	**32**	**07.4**	**+0.8**
PMOZ	**Porto Moniz, M**	**151.21**	**339**	*e*PKPab	**PKPbc**	**03**	**32**	**08.2**	**+1.7**
BDFB	**Brasilia**	**151.28**	**139**	PKPbc	**PKPbc**	**03**	**32**	**06.8**	**-0.4**
	comp=Z,27nm,0.9s,baz=245,slow=1.2,SNR=30								
BDFB				PKPab	**PKPab**	**03**	**32**	**15.1**	**0.0**
	comp=Z,27nm,0.9s,baz=190,slow=3.7,SNR=12								
DBIC	**Dimbokro**	**156.20**	**273**	PKPab	**PKPab**	**03**	**32**	**35.9**	**-0.1**
	comp=Z,16nm,0.9s,baz=76,slow=3.7,SNR=7.0								
ASCN	**Ascension**	**160.03**	**226**	PFAKE		03	32	20.0	+7.2
ASCN				LR	LR				
	comp=Z,666nm,19.0s								
RCBR	**Riachuelo**	**166.27**	**149**	PFAKE		03	32	30.0	+11
RCBR				LR	LR				
	comp=Z,279nm,19.0s								

IDC 17 03:17:12.8±1.9, 5°.54S×150°.97E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/29, mbtmp4.0/4, Error ellipse: s-maj=110.5km s-min=26.8km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**21.60**	**227**	P		P	03 22 04.0	-0.5
	2.9nm,0.5s,baz=53,slow=10,SNR=5.6							
ASAR	**Alice Springs**	**24.39**	**221**	P		P	03 22 32.5	-0.5
	3.4nm,0.7s,baz=49,slow=9.4,SNR=6.7							
FITZ	**Fitzroy Crossi**	**27.71**	**241**	P		P	03 23 03.6	+0.6
	6.0nm,0.9s,baz=52,slow=6.3,SNR=3.0							
ILAR	**Eielson Array**	**83.53**	**22**	P		P	03 29 41.8	-0.5
	0.2nm,0.5s,baz=258,slow=5.3,SNR=5.4							
TORD	**Torodi Ar. Bea**	**148.78**	**286**	PKPbc		PKPbc	03 37 03.6	+0.3
	0.9nm,0.7s,baz=59,slow=2.1,SNR=4.6							

*ISCJB **17** 03:17:31.0±1.6, 36°.9S±0°.2×94°.3W±0°.2, h10km, mb4.3/11, MS4.5/8, Error ellipse: s-maj=36.8km s-min=15.3km az=33.0*

*IDC **17** 03:17:31.0±1.7, 36°.95S×94°.25W, h0km, mb4.4/5, mb1 4.6/6, mb1mx4.2/26, mbtmp4.4/6, ML4.0/1, MS4.5/9, Ms1 4.4/9, ms1mx4.2/24, Error ellipse: s-maj=46.1km s-min=28.6km az=4.0*

*NEIC **17** 03:17:33.0±0.6, 36°.83S×94°.24W, h10km, mb4.4/7, Error ellipse: s-maj=17.3km s-min=11.1km az=203.0*

*GCMT **17** 03:17:33.0±0.2, 37°.34S×94°.53W, h17km±1km, MW5.1/97, Moment Tensor Solution. s46,c56; s97,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.44±.17; $M_{\theta\theta}$0.09±.16; $M_{\phi\phi}$0.35±.16; $M_{r\theta}$0.13±.37; $M_{r\phi}$-5.71±.15; $M_{\theta\phi}$-0.69±.38; Best double couple: M≤5.75300×10^{16} NP1:ϕs181.00000°, δ89.00000°, λ7.00000°. NP2: ϕs91.00000°, δ83.00000°, λ179.00000°. Principal axes: T 5.9860, Plg5.0000°, Azm46.0000°; N -0.4660, Plg83.0000°, Azm185.0000°; P -5.5200, Plg4.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 03:17:33.2±1.2, 36°.8S±0°.2×94°.2W±0°.2, h10km, n29, σ0s60/20, mb4.4/11, MS4.5/8, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PLCA	**Paso Flores**	**18.83**	**109**	P		**P**	**03 21 52.5**	**-0.8**
	0.1nm,0.3s,baz=259,slow=16,SNR=3.2							
PLCA				LR		LR	03 27 20.3	
	comp=Z,517nm,22.0s,baz=300,slow=31							
LCO	**Las Campanas**	**21.18**	**75**	*e*P		**P**	**03 22 19.3**	**+0.2**
	37nm,1.1s							
USHA	**Ushuaia**	**25.20**	**144**	LR		LR	03 30 48.0	
	comp=Z,4μm,18.1s,baz=134,slow=32							
TRQA	**Tornquist**	**25.55**	**103**	*e*P		**P**	**03 23 03.2**	**+1.1**
	5.2nm,0.9s							
LVC	**Limon Verde**	**26.04**	**64**	P		**P**	**03 23 06.8**	**-0.3**
	17nm,0.8s,baz=241,slow=7.4,SNR=6.7							
LVC				LR		LR	03 30 55.1	
	comp=Z,3μm,18.6s,baz=234,slow=31							
LVC	**Limon Verde**	**26.04**	**64**	*e*P		**P**	**03 23 06.6**	**-0.5**
	22nm,1.3s							
NNA	**Nana**	**29.25**	**37**	LR		LR	03 32 20.6	
	comp=Z,1μm,20.3s,baz=223,slow=30							
LPAZ	**La Paz**	**30.85**	**55**	P		**P**	**03 23 50.4**	**+0.1**
	12nm,1.0s,baz=204,slow=7.9,SNR=18							
LPAZ				LR		LR	03 33 40.3	
	comp=Z,239nm,19.1s,baz=252,slow=31							
ATAH	**Atahualpa**	**32.89**	**30**	P		**P**	**03 24 09.1**	**+1.1**
	3.4nm,0.6s,baz=204,slow=10.0,SNR=4.1							
CPUP	**Villa Florida**	**32.93**	**82**	LR		LR	03 35 18.6	
	comp=Z,384nm,20.4s,baz=249,slow=32							
RKT	**Rikitea**	**37.58**	**280**	*e*LQ		LQ	03 33 23.5	
	2μm,28.8s							
RKT				*e*LR		LR	03 34 50.7	
	455nm,29.0s							
SAML	**Samuel**	**39.50**	**53**	*e*P		**P**	**03 25 03.1**	**-1.1**
	7.5nm,1.3s							
OTAV	**Otavalo**	**39.67**	**25**	*e*P		**P**	**03 25 06.4**	**+0.3**
	5.8nm,1.1s							
ROSC	**El Rosal**	**45.42**	**28**	LR		LR	03 43 09.9	
	comp=Z,378nm,18.2s,baz=211,slow=34							
BDFB	**Brasilia**	**45.97**	**75**	LR		LR	03 44 10.0	
	comp=Z,508nm,20.8s,baz=233,slow=35							
TBI	**Tubuai**	**49.05**	**270**	*e*LR		LR	03 40 05.0	
	481nm,41.8s							
TAOE	**Nuku Hiva Isla**	**50.01**	**292**	*e*LR		LR	03 40 39.3	
	331nm,31.5s							
PPT2	**Papeete2**	**52.11**	**276**	*e*LR		LR	03 41 32.7	
	351nm,25.0s							
TXAR	**Lajitas Array**	**66.41**	**351**	P		**P**	**03 28 22.6**	**0.0**
	1.0nm,0.8s,baz=175,slow=7.6,SNR=9.2							
URZ	**Urewera**	**67.51**	**238**	LR		LR	03 50 39.8	
	comp=Z,352nm,18.4s,baz=182,slow=30							
MNTX	**Cornudas Mount**	**68.97**	**350**	*e*P		**P**	**03 28 37.9**	**-0.6**
	4.8nm,1.4s							
PDAR	**Pinedale Array**	**80.45**	**349**	P		**P**	**03 29 45.0**	**-0.1**
	0.7nm,0.3s,baz=155,slow=7.4,SNR=5.1							
TPAW	**Teton Pass**	**81.38**	**348**	*e*P		**P**	**03 29 49.8**	**-0.4**
	3.9nm,0.9s							
TIP	**Timpagrande**	**126.77**	**65**	*e*PKPdf		**PKPdf**	**03 36 37.5**	**+0.5**
CSS	**Mathiatis**	**137.90**	**76**	*e*PKPdf		**PKPdf**	**03 36 58.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**144.50**	**297**	PKP		**PKPdf**	**03 37 09.1**	**-0.4**
	1.1nm,0.6s,baz=116,slow=3.4,SNR=3.6							
KSRS	**Korea Array**	**146.61**	**284**	PKPbc		**PKPdf**	**03 37 13.6**	**+0.3**
	0.6nm,0.4s,baz=115,slow=4.3,SNR=3.9							
KSAR	**Wonju Array Be**	**146.64**	**284**	PKPbc		**PKPdf**	**03 37 13.6**	**+0.2**
ABKAR	**Akbulak array**	**157.51**	**48**	*e*PKPdf		**PKPdf**	**03 37 29.0**	**-0.1**
ABKAR				*e*PKPab		**PKPab**	**03 38 00.6**	**-0.4**

*NEIC **17** 03:33:26.1, 38°.21S×175°.81E, h174km, MG4.0(WEL), After WEL.*

WEL 17 03:33:27.3±0.5, 38°.25S×175°.84E, h163km±4km, ML3.9/16, 26C-7D, Error ellipse: s-maj=2.9km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MRHZ	**Matea Rd**	**0.74**	**143**	PN		Pn	03 33 51.4	-0.1
MRHZ				SN		Sn	03 34 09.2	-1.0
MUGZ	**Murupara**	**0.76**	**108**	PN		Pn	03 33 51.9	+0.3
OTVZ	**Oturere**	**0.92**	**189**	PN		Pn	03 33 53.3	+0.4
NGZ	**Ngauruhoe**	**0.94**	**192**	⇑PN		Pn	03 33 53.2	+0.2
NGZ	**Ngauruhoe**	**0.94**	**192**	Pn		Pn	03 33 53.2	+0.2
RTZ	**Ruatahuna**	**0.96**	**113**	⇑PN		Pn	03 33 53.1	0.0
RTZ				SN		Sn	03 34 12.3	-0.7
URZ	**Urewera**	**1.00**	**91**	⇓PN		Pn	03 33 52.8	-0.5
URZ				AML		AML	03 34 12.8	
URZ				AML		AML	03 34 13.7	
URZ	**Urewera**	**1.00**	**91**	*e*Pn		Pn	03 33 52.8	-0.4
URZ				*e*Sn		Sn	03 34 11.5	-1.7
FWVZ	**Far West T-bar**	**1.03**	**193**	PN		Pn	03 33 53.7	-0.1
FWVZ	**Far West T-bar**	**1.03**	**193**	Pn		Pn	03 33 53.7	-0.1
BKZ	**Black Stump Fm**	**1.04**	**151**	⇑PN		Pn	03 33 53.6	-0.1
BKZ						AML	03 34 21.4	
BKZ						AML	03 34 21.5	
BKZ	**Black Stump Fm**	**1.04**	**151**	Pn		Pn	03 33 53.6	-0.1
WHVZ	**Whangaehu Hut**	**1.05**	**191**	PN		Pn	03 33 54.0	0.0
WHVZ	**Whangaehu Hut**	**1.05**	**191**	Pn		Pn	03 33 54.0	0.0
TRVZ	**Turoa**	**1.07**	**192**	PN		Pn	03 33 54.3	+0.1
TRVZ	**Turoa**	**1.07**	**192**	Pn		Pn	03 33 54.3	+0.1
WNVZ	**Wahianoa**	**1.09**	**190**	⇑PN		Pn	03 33 54.2	-0.1
WNVZ	**Wahianoa**	**1.09**	**190**	Pn		Pn	03 33 54.2	-0.1
PKVZ	**Pokaka**	**1.11**	**200**	⇑PN		Pn	03 33 54.4	+0.1
PKVZ	**Pokaka**	**1.11**	**200**	Pn		Pn	03 33 54.4	+0.1
NMHZ	**Naumai**	**1.13**	**139**	⇓PN		Pn	03 33 55.3	+0.8
NMHZ	**Naumai**	**1.13**	**139**	Pn		Pn	03 33 55.3	+0.8
MOVZ	**Moawhango**	**1.16**	**183**	⇑PN		Pn	03 33 54.3	-0.4
MOVZ	**Moawhango**	**1.16**	**183**	Pn		Pn	03 33 54.3	-0.4
MTVZ	**Mangateitei**	**1.17**	**194**	PN		Pn	03 33 54.9	0.0
MTVZ	**Mangateitei**	**1.17**	**194**	Pn		Pn	03 33 54.9	0.0
RAHZ	**Arahi**	**1.18**	**125**	Pn		Pn	03 33 55.4	+0.5
VRZ	**Vera Road**	**1.22**	**224**	⇑PN		Pn	03 33 55.6	+0.4
VRZ	**Vera Road**	**1.22**	**224**	Pn		Pn	03 33 55.6	+0.4
KWHZ	**Kaweka Forest**	**1.26**	**159**	⇑PN		Pn	03 33 55.5	-0.1
RAGZ	**Rawiri**	**1.26**	**102**	PN		Pn	03 33 55.8	+0.1
RAGZ	**Rawiri**	**1.26**	**102**	Pn		Pn	03 33 55.8	+0.1
SNGZ	**Shannon Statio**	**1.29**	**115**	⇑PN		Pn	03 33 56.2	+0.4
SNGZ	**Shannon Statio**	**1.29**	**115**	Pn		Pn	03 33 56.2	+0.4
MWZ	**Matawai**	**1.33**	**94**	⇓PN		Pn	03 33 55.9	-0.3
MWZ						AML	03 34 18.3	
MWZ						AML	03 34 20.1	
MWZ						AML	03 34 20.2	
MWZ	**Matawai**	**1.33**	**94**	Pn		Pn	03 33 55.9	-0.3
ARHZ	**Aropaoanui**	**1.35**	**139**	PN		Pn	03 33 56.8	+0.4
ARHZ	**Aropaoanui**	**1.35**	**139**	Pn		Pn	03 33 56.8	+0.4
MCHZ	**McNeill Hill**	**1.37**	**151**	⇑PN		Pn	03 33 57.1	+0.5
MCHZ	**McNeill Hill**	**1.37**	**151**	Pn		Pn	03 33 57.1	+0.5
WHHZ	**Waihua**	**1.37**	**128**	PN		Pn	03 33 56.8	+0.2
WHHZ						SN	03 34 18.6	-0.5
KRHZ	**Kereru**	**1.45**	**164**	⇑PN		Pn	03 33 57.2	-0.2
RIGZ	**Rimuhau**	**1.57**	**107**	PN		Pn	03 33 58.8	+0.1
TKGZ	**Te Karaka**	**1.59**	**97**	⇑PN		Pn	03 33 59.0	+0.3
TKGZ	**Te Karaka**	**1.59**	**97**	Pn		Pn	03 33 59.0	+0.3
KNZ	**Kokohu**	**1.63**	**119**	PN		Pn	03 33 59.0	-0.2
KNZ						AML	03 34 23.6	
KNZ						AML	03 34 26.3	
KNZ	**Kokohu**	**1.63**	**119**	Pn		Pn	03 33 59.0	-0.2
WAZ	**Wanganui**	**1.64**	**204**	PN		Pn	03 33 59.2	-0.2
WAZ	**Wanganui**	**1.64**	**204**	Pn		Pn	03 33 59.2	-0.2
PNHZ	**Pukenui**	**1.68**	**171**	PN		Pn	03 33 59.1	-0.7
PNHZ	**Pukenui**	**1.68**	**171**	Pn		Pn	03 33 59.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.06**	**27**	*e*Pn	**Pn**	**03 34 59.7**	**+0.5**
PMG	**Port Moresby**	**5.24**	**230**	Pn	**Pn**	**03 35 45.0**	**+2.2**
	3.6nm,0.3s,baz=33,slow=8.6,SNR=9.2						
PMG				Sn	**Sn**	**03 36 38.3**	**-3.6**
	3.8nm,0.3s,baz=64,slow=14,SNR=3.0						
PMG	**Port Moresby**	**5.24**	**230**	*e*Pn	**Pn**	**03 35 44.8**	**+2.0**
PMG				Sn	**Sn**	**03 36 38.3**	**-3.6**
PMG				*e*Sn	Sn	03 36 45.0	+3.0
COEN	**Coen**	**11.17**	**225**	*e*Pn	**Pn**	**03 37 04.2**	**0.0**
CTA	**Charters Tower**	**14.77**	**199**	Pn	**Pn**	**03 37 54.5**	**+1.3**
	0.1nm,0.3s,baz=37,slow=20,SNR=2.3						
EIDS	**Eidsvold**	**19.22**	**180**	*e*P	**P**	**03 38 48.8**	**0.0**
	32nm,0.9s						
MTN	**Manton Dam**	**20.93**	**250**	*e*P	**P**	**03 39 06.4**	**+0.1**
	156nm,1.5s						
WRAB	**Tennant Creek**	**21.44**	**228**	*e*P	**P**	**03 39 12.1**	**+0.3**
	40nm,0.8s						
WB2	**Warramunga Arr**	**21.45**	**228**	*e*P	**P**	**03 39 12.1**	**+0.3**
	35nm,0.7s						
WRA	**Warramunga Arr**	**21.45**	**228**	P	**P**	**03 39 12.1**	**+0.2**
	32nm,0.6s,baz=54,slow=10,SNR=166						
WRA				S	**S**	**03 43 08.8**	**+1.0**
	8.8nm,1.2s,baz=54,slow=19,SNR=5.8						
WRA				PcP	**PcP**	**03 43 15.2**	**+1.1**
	4.6nm,1.0s,baz=42,slow=2.2,SNR=6.0						
WRA				ScP	**ScP**	**03 46 52.0**	**+4.1**
	1.4nm,1.0s,baz=45,slow=2.5,SNR=5.3						
AS01	**Alice Springs**	**24.15**	**222**	*e*P	**P**	**03 39 39.6**	**+0.3**
AS31	**Alice Springs**	**24.18**	**222**	*e*P	**P**	**03 39 40.2**	**+0.7**
	18nm,0.7s						
ASAR	**Alice Springs**	**24.18**	**222**	P	**P**	**03 39 40.5**	**+0.9**
	49nm,0.7s,baz=54,slow=9.5,SNR=311						
ASAR				PcP	**PcP**	**03 43 20.9**	**+1.2**
	0.7nm,0.8s,baz=20,slow=1.4,SNR=4.2						
ASAR				ScP	**ScP**	**03 46 59.4**	**+4.4**
	1.2nm,0.8s,baz=40,slow=3.7,SNR=7.3						
ARMA	**Armidale**	**24.25**	**179**	*e*P	**P**	**03 39 39.1**	**-1.1**
	8.2nm,0.7s						
STKA	**Stephens Creek**	**27.23**	**198**	P	**P**	**03 40 07.4**	**+0.3**
	5.7nm,0.7s,baz=22,slow=11,SNR=8.3						
STKA	**Stephens Creek**	**27.23**	**198**	*e*P	**P**	**03 40 11.3**	**+4.3**
	3.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.70**	**242**	P	**P**	**03 40 11.4**	**0.0**
	20nm,0.7s,baz=73,slow=7.5,SNR=48						
FITZ	**Fitzroy Crossi**	**27.70**	**242**	*e*P	**P**	**03 40 10.9**	**-0.5**
	22nm,0.7s						
MSVF	**Nonsavu**	**28.65**	**116**	*e*P	**P**	**03 40 17.7**	**-2.3**
	7.8nm,1.1s						
EDFI	**Ende, Flores**	**29.41**	**263**	P	**P**	**03 40 25.4**	**-1.4**
MBWA	**Marble Bar**	**34.00**	**241**	*e*P	**P**	**03 41 06.6**	**-0.3**
PWJI	**Pagerwojo**	**39.17**	**265**	P	**P**	**03 41 53.4**	**+2.3**
PCJI	**Pacitan**	**39.79**	**264**	P	**P**	**03 41 56.7**	**+0.4**
YULB	**Yu-li**	**41.36**	**316**	*e*P	**P**	**03 42 09.4**	**+0.3**
	11nm,0.7s						
NACB	**Ninganchiao**	**41.67**	**317**	*e*P	**P**	**03 42 10.3**	**-1.3**
	26nm,0.8s						
SSLB	**Suanglung**	**41.86**	**316**	*e*P	**P**	**03 42 13.2**	**0.0**
	17nm,1.0s						
KPJI	**Karang Pucung**	**42.02**	**266**	P	**P**	**03 42 14.5**	**-0.1**
YHNB	**Yeheng**	**42.16**	**318**	*e*P	**P**	**03 42 16.6**	**+1.0**
	35nm,0.8s						
CMJI	**Cimerak**	**42.49**	**265**	P	**P**	**03 42 16.8**	**-1.7**
CISI	**Cisompet, Garu**	**43.12**	**265**	P	**P**	**03 42 23.0**	**-0.7**
CISI	**Cisompet, Garu**	**43.12**	**265**	*e*P	**P**	**03 42 23.1**	**-0.7**
TPI	**Tanjungpandan**	**43.56**	**272**	P	**P**	**03 42 24.3**	**-2.8**
CNJI	**Cibinong**	**43.81**	**266**	P	**P**	**03 42 30.1**	**+1.0**
CGJI	**Cibinong**	**45.25**	**267**	P	**P**	**03 42 41.2**	**+0.5**
KSRS	**Korea Array**	**48.43**	**335**	P	**P**	**03 43 04.9**	**-0.2**
	1.0nm,0.7s,baz=154,slow=9.3,SNR=6.1						
KSAR	**Wonju Array Be**	**48.44**	**335**	P	**P**	**03 43 04.9**	**-0.2**
PPI	**Padang Panjang**	**51.03**	**274**	P	**P**	**03 43 25.7**	**+0.4**
HHC	**Hu-ho-hao-te**	**59.16**	**326**	*e*P	**P**	**03 44 26.3**	**+2.6**
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,250nm,7.1s						
CASY	**Casey**	**66.38**	**197**	*e*P	**P**	**03 45 11.3**	**+0.2**
	comp=Z,0.8nm,0.7s						
SONM	**Songino Array**	**66.55**	**329**	P	**P**	**03 45 13.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=134,slow=4.3,SNR=3.7						
VNDA	**Vanda**	**71.66**	**178**	P	**P**	**03 45 44.1**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=314,slow=5.0,SNR=10.0						
VNDA	**Vanda**	**71.66**	**178**	*e*P	**P**	**03 45 44.9**	**+1.1**
	comp=Z,5.5nm,1.1s						
TRD	**Trivandrum**	**75.44**	**280↑**	*e*P	P	03 45 58.2	-9.0
CNPM	**China Poot**	**79.51**	**26**	*e*P	**P**	**03 46 29.0**	**0.0**
	comp=Z,12nm,0.8s						
MK01	**Makanchi Array**	**80.22**	**319**	*e*P	**P**	**03 46 32.8**	**-0.4**
MKAR	**Makanchi Array**	**80.24**	**319**	P	**P**	**03 46 31.7**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=110,slow=11,SNR=4.7						
ZALV	**Zalesovo Beam**	**81.32**	**327**	P	**P**	**03 46 37.3**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=106,slow=6.5,SNR=4.5						
SML	**Sawmill**	**81.90**	**25**	*e*P	**P**	**03 46 41.7**	**-0.1**
	comp=Z,1.3nm,0.8s						
TRF	**Thorofare Moun**	**81.94**	**23**	*e*P	**P**	**03 46 40.7**	**-1.4**
	comp=Z,2.3nm,0.7s						
BPAW	**Bear Paw Mtn.**	**82.02**	**22**	*e*P	**P**	**03 46 42.1**	**-0.2**
	comp=Z,0.3nm,0.7s						
RND	**Reindeer**	**82.47**	**23**	*e*P	**P**	**03 46 44.0**	**-0.8**
	comp=Z,4.0nm,0.8s						
KSH	**Kashi**	**82.56**	**311**	*e*P	**P**	**03 46 50.3**	**+4.5**
KSH				pP	sP	03 47 18.8	+15
KSH				PP	**PP**	**03 50 02.3**	**+6.5**
KSH	**Kashi**	**82.56**	**311**	S	**S**	**03 56 53.9**	**-6.1**
KSH	**Kashi**	**82.56**	**311**	SS	SS	04 02 19.9	-2.5
KSH				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,94nm,4.8s						
KSH				LR	LR		
	comp=N,92nm,4.6s						
KSH				LR	LR		
	comp=E,130nm,5.0s						
KSH				LR	LR		
	comp=Z,150nm,6.8s						
MLY	**Manley**	**82.60**	**21**	*e*P	**P**	**03 46 44.9**	**-0.5**
	comp=Z,3.4nm,0.6s						
MCK	**McKinley**	**82.61**	**23**	*e*P	**P**	**03 46 45.9**	**+0.5**
	comp=Z,5.4nm,0.9s						
WRH	**Wood River Hil**	**83.30**	**22**	*e*P	**P**	**03 46 49.0**	**+0.1**
	comp=Z,3.8nm,1.0s						
CCB	**Clear Creek Bu**	**83.49**	**22**	*e*P	**P**	**03 46 48.7**	**-1.2**
	comp=Z,9.3nm,1.6s						
COLA	**College**	**83.58**	**22**	*e*P	**P**	**03 46 49.7**	**-0.7**
	comp=Z,3.7nm,0.6s						
KURK	**Kurchatov**	**83.79**	**322**	*e*P	**P**	**03 46 50.6**	**-1.1**
	comp=Z,38nm,1.2s						
MAW	**Mawson**	**83.83**	**203**	P	**P**	**03 46 52.0**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=62,slow=5.8,SNR=6.6						
IL1	**Eielson Array**	**83.89**	**22**	*e*P	**P**	**03 46 50.1**	**-1.9**
ILAR	**Eielson Array**	**83.89**	**22**	P	**P**	**03 46 50.2**	**-1.8**
	comp=Z,2.3nm,0.6s,baz=248,slow=5.1,SNR=32						
ILB	**Eielson Array**	**83.89**	**22**	*e*P	**P**	**03 46 50.5**	**-1.4**
COLD	**Coldfoot**	**83.94**	**20**	*e*P	**P**	**03 46 52.6**	**+0.5**
	comp=Z,1.6nm,0.8s						
AAK	**Ala-Archa**	**84.39**	**314**	*e*P	**P**	**03 46 56.1**	**+0.9**
DOT	**Dot Lake**	**84.49**	**24**	*e*P	**P**	**03 46 55.9**	**+0.8**
	comp=Z,9.2nm,0.8s						
EGAK	**Eagle**	**86.11**	**23**	*e*P	**P**	**03 47 04.6**	**+1.5**
	comp=Z,4.3nm,0.9s						
INK	**Inuvik**	**90.17**	**21**	*e*P	**P**	**03 47 23.1**	**+0.8**
	comp=Z,4.5nm,1.2s						
HUMO	**Hull Mountain**	**90.97**	**47**	*e*P	**P**	**03 47 25.8**	**-0.9**
	comp=Z,30nm,1.1s						
SYO	**Syowa Base**	**91.98**	**200↑**	*e*pP	P	03 47 37.3	+6.5
MOD	**Modoc Plateau**	**92.85**	**48**	*e*P	**P**	**03 47 34.9**	**-0.8**
	comp=Z,5.1nm,1.0s						
YKA	**Yellowknife Ar**	**97.25**	**28**	P	Pdif	03 47 55.8	+0.7
	comp=Z,0.6nm,0.8s,baz=273,slow=4.3,SNR=3.2						
HLID	**Hailey**	**97.28**	**47**	*e*P	**P**	**03 47 55.0**	**-0.9**
	comp=Z,0.5nm,0.5s						
YBMT	**Yellow Bay**	**97.64**	**43**	*e*P	**P**	**03 47 55.6**	**-1.7**
ARCES	**ARCESS Array B**	**107.58**	**343**	PKiKP	**PKiKP**	**03 52 48.9**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=93,slow=1.8,SNR=5.3						
FINES	**FINESS Array B**	**111.52**	**335**	PKiKP	**PKiKP**	**03 52 56.2**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=343,slow=1.5,SNR=3.6						
AKASG	**Malin Array Be**	**114.58**	**324**	PKP	PKPdf	03 53 01.3	-1.2
	comp=Z,1.2nm,0.6s,baz=57,slow=2.6,SNR=6.1						
BRTR	**Keskin Array B**	**114.95**	**311**	PKP	PKPdf	03 53 03.0	-0.9
	comp=Z,0.8nm,0.9s,baz=101,slow=1.5,SNR=5.4						
NB2	**NORSAR Subarra**	**117.53**	**339**	PKPdf	**PKPdf**	**03 53 07.2**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.53**	**339**	PKP	**PKPdf**	**03 53 06.0**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=50,slow=1.9,SNR=3.7						
IDI	**Anoyia**	**122.84**	**308**	*e*PKPdf	**PKPdf**	**03 53 18.9**	**-0.2**
BRG	**Berggiesshubel**	**122.95**	**329**	*e*PKP	**PKPdf**	**03 53 19.2**	**+0.6**
	comp=Z,6.6nm,1.1s						
CLL	**Collm**	**123.16**	**330**	*e*P	**PKPdf**	**03 53 19.0**	**0.0**
	comp=Z,4.0nm,0.7s						
KHC	**Kasperske Hory**	**124.17**	**328**	*e*PKPdf	**PKPdf**	**03 53 21.0**	**-0.1**
KHC				*e*pPKP	**pPKPdf**	**03 53 28.5**	**-6.1**
KHC	**Kasperske Hory**	**124.17**	**328**	*e*PKPdf	**PKPdf**	**03 53 21.0**	**-0.1**
GERES	**GERESS Array B**	**124.27**	**327**	PKP	**PKPdf**	**03 53 21.7**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=48,slow=2.0,SNR=20						
TIR	**Tirane**	**124.31**	**317**	*e*PKPdf	**PKPdf**	**03 53 21.9**	**+0.3**
TIP	**Timpagrande**	**127.40**	**316**	*e*PKPdf	**PKPdf**	**03 53 27.6**	**0.0**
TUE	**Stuetta**	**128.05**	**327**	*e*PKPdf	**PKPdf**	**03 53 29.1**	**+0.2**
CLTB	**Caltabellotta**	**130.60**	**316**	*e*PKPdf	**PKPdf**	**03 53 34.8**	**+1.0**
LVC	**Limon Verde**	**131.50**	**127**	*e*PKPdf	**PKPdf**	**03 53 35.5**	**-0.8**
VSL	**Villasalto**	**132.18**	**320**	*e*PKPdf	**PKPdf**	**03 53 36.5**	**-0.1**
KEST	**Kesra**	**134.22**	**316**	PKP	**PKPdf**	**03 53 41.5**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=346,slow=4.2,SNR=4.7						
ROSC	**El Rosal**	**134.65**	**89**	PKP	**PKPdf**	**03 53 43.0**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=108,slow=20,SNR=3.6						
LPAZ	**La Paz**	**135.18**	**120**	PKP	**PKPdf**	**03 53 42.5**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=141,slow=1.8,SNR=4.5						
CPUP	**Villa Florida**	**137.54**	**141**	PKP	**PKPdf**	**03 53 47.2**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=22,slow=5.4,SNR=3.9						
SAML	**Samuel**	**142.60**	**113**	*e*PKPdf	**PKPdf**	**03 53 56.2**	**-0.3**
TAM	**Tamanrasset**	**142.99**	**300**	*e*PKPdf	**PKPdf**	**03 53 57.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**149.17**	**285**	PKPbc	**PKPbc**	**03 54 11.7**	**-0.1**
	comp=Z,13nm,0.8s,baz=70,slow=3.0,SNR=68						
BDFB	**Brasilia**	**151.24**	**139**	PKPbc	**PKPbc**	**03 54 17.5**	**+0.6**
	comp=Z,6.9nm,0.7s,baz=203,slow=1.1,SNR=10						
DBIC	**Dimbokro**	**156.22**	**273**	PKPab	**PKPab**	**03 54 44.6**	**-1.4**
	comp=Z,10nm,1.0s,baz=119,slow=10,SNR=3.5						

IDC ***17*** *03:43:44.4±0.5,5°.81S×151°.31E, h0km, mb4.3/17, mb1 4.5/17, mb1mx4.3/42, mbtmp4.3/17, MS3.7/6, Ms1 3.7/6, ms1mx3.3/36, Error ellipse: s-maj=22.5km s-min=13.7km az=88.0*

NEIC ***17*** *03:43:45.8±0.2,5°.72S×151°.34E, h10km, mb4.7/27, Error ellipse: s-maj=8.4km s-min=5.9km az=107.0*

ISCJB ***17*** *03:43:49.1±0.3,5°.82S±0°.05×151°.25E±0°.06, h43km, mb4.5/40, MS3.6/4, Error ellipse: s-maj=9.5km s-min=6.7km az=17.0*

ISC 17 03:43:50.7±0.4,5°.84S±0°.07×151°.23E±0°.08, h43km, n66, σ1§27/65, mb4.5/38, MS3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.37**	**228**	Pn	**Pn**	**03 45 10.2**	**+1.9**
	40nm,0.3s,baz=53,slow=8.8,SNR=33						
PMG				Sn	**Sn**	**03 46 05.8**	**-3.1**
	7.4nm,0.3s,baz=359,slow=8.1,SNR=3.4						
PMG				LR	LR	03 47 28.6	
	comp=Z,1µm,18.6s,baz=16,slow=41						
HNR	**Honiara**	**9.35**	**113**	LR	LR	03 49 30.6	
	comp=Z,442nm,18.7s,baz=289,slow=37						
COEN	**Coen**	**11.31**	**224**	*e*Pn	**Pn**	**03 46 29.5**	**-0.4**
CTA	**Charters Tower**	**14.96**	**198**	Pn	**Pn**	**03 47 21.1**	**+1.6**
	0.5nm,0.3s,baz=28,slow=17,SNR=3.2						
CTAO	**Charters Tower**	**14.96**	**198**	*e*Pn	**Pn**	**03 47 20.8**	**+1.3**
	24nm,0.6s						
EIDS	**Eidsvold**	**19.42**	**180**	*e*P	**Pn**	**03 48 14.6**	**-0.3**
	4.8nm,0.6s						
GUMO	**Guam**	**20.31**	**342**	LR	LR	03 55 10.7	
	comp=Z,121nm,18.7s,baz=114,slow=34						
WRAB	**Tennant Creek**	**21.57**	**228**	*e*P	**P**	**03 48 36.6**	**-0.2**
	29nm,0.8s						
WRA	**Warramunga Arr**	**21.59**	**228**	P	**P**	**03 48 37.2**	**+0.2**
	9.0nm,0.4s,baz=53,slow=11,SNR=139						
WRA				S	**S**	**03 52 31.4**	**-2.7**
	7.7nm,1.2s,baz=52,slow=19,SNR=7.7						
WRA				PcP	**PcP**	**03 52 38.6**	**+0.5**
	2.1nm,0.7s,baz=52,slow=2.6,SNR=5.4						
WRA				ScP	**ScP**	**03 56 14.8**	**+2.9**
	2.3nm,1.0s,baz=44,slow=2.8,SNR=5.0						
DZM	**Mont Dzumac**	**21.84**	**139**	P	**P**	**03 48 39.0**	**-0.7**
	4.9nm,0.6s,baz=16,slow=18,SNR=7.2						
DZM	**Mont Dzumac**	**21.84**	**139**	*e*P	**P**	**03 48 39.5**	**-0.2**
	7.0nm,0.5s						
ASAR	**Alice Springs**	**24.33**	**221**	P	**P**	**03 49 05.8**	**+1.1**
	16nm,0.7s,baz=55,slow=9.3,SNR=120						
ASAR				PcP	**PcP**	**03 52 43.8**	**+0.1**
	0.6nm,0.5s,baz=25,slow=2.9,SNR=3.6						
ASAR				ScP	**ScP**	**03 56 23.6**	**+4.4**
	0.7nm,0.7s,baz=56,slow=3.0,SNR=4.4						
STKA	**Stephens Creek**	**27.43**	**198**	P	**P**	**03 49 32.3**	**-0.2**
	7.1nm,0.8s,baz=28,slow=11,SNR=7.6						
FITZ	**Fitzroy Crossi**	**27.79**	**242**	P	**P**	**03 49 36.0**	**+0.1**
	14nm,0.6s,baz=65,slow=6.5,SNR=34						
FITZ	**Fitzroy Crossi**	**27.79**	**242**	*e*P	**P**	**03 49 36.0**	**+0.1**
	12nm,0.6s						
MSVF	**Nonsavu**	**28.74**	**117**	*e*P	**P**	**03 49 43.9**	**-0.6**
	18nm,1.4s						
MBWA	**Marble Bar**	**34.10**	**240**	*e*P	**P**	**03 50 31.9**	**+0.4**
	40nm,0.6s						
KKM	**Kota Kinabalu**	**36.89**	**288**	*e*P	**P**	**03 50 55.8**	**+0.1**
	23nm,1.0s						
YULB	**Yu-li**	**41.21**	**316**	*e*P	**P**	**03 51 31.1**	**-0.5**
	9.2nm,0.8s						
RPZ	**Rata Peaks**	**41.56**	**158**	P	**P**	**03 51 35.0**	**+0.8**
	5.3nm,0.6s,baz=341,slow=1.1,SNR=5.2						
SSLB	**Suanglung**	**41.71**	**316**	*e*P	**P**	**03 51 35.0**	**-0.7**
	6.1nm,0.5s						
CISI	**Cisompet, Garu**	**43.14**	**265**	*e*P	**P**	**03 51 47.3**	**-0.2**
	54nm,0.7s						
JNU	**Nakatsue**	**43.30**	**335**	P	**P**	**03 51 49.7**	**+1.2**
	6.9nm,0.7s,baz=115,slow=2.3,SNR=5.5						
JNU				LR	LR	04 06 30.5	
	comp=Z,74nm,19.1s,baz=124,slow=32						
MJAR	**Matsushiro Arr**	**43.89**	**345**	LR	LR	04 09 04.3	
	comp=Z,91nm,19.2s,baz=150,slow=35						
KSRS	**Korea Array**	**48.25**	**335**	P	**P**	**03 52 28.1**	**+0.8**
	0.8nm,0.8s,baz=149,slow=7.4,SNR=4.7						
KSAR	**Wonju Array Be**	**48.25**	**335**	P	**P**	**03 52 28.1**	**+0.7**
KULM	**Kulim**	**51.69**	**281**	*e*P	**P**	**03 52 54.9**	**+0.9**
	5.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**52.74**	**343**	LR	LR	04 14 08.3	
	comp=Z,107nm,19.0s,baz=159,slow=35						
KLR	**Kul'dur**	**57.42**	**345**	P	**P**	**03 53 35.1**	**+0.2**
	0.4nm,0.3s,baz=162,slow=9.6,SNR=4.0						
SONM	**Songino Array**	**66.38**	**329**	P	**P**	**03 54 36.6**	**+1.3**
	0.7nm,0.5s,baz=144,slow=5.5,SNR=5.2						
CASY	**Casey**	**66.57**	**197**	*e*P	**P**	**03 54 36.1**	**0.0**
	1.7nm,1.3s						
VNDA	**Vanda**	**71.86**	**178**	P	**P**	**03 55 09.1**	**+0.5**
	1.6nm,0.8s,baz=320,slow=3.7,SNR=8.9						
MKAR	**Makanchi Array**	**80.08**	**319**	P	**P**	**03 55 55.9**	**-0.2**
	0.3nm,0.4s,baz=115,slow=5.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**81.15**	**327**	P	**P**	**03 56 01.1**	**-0.5**
	0.8nm,0.3s,baz=121,slow=8.8,SNR=4.2						
PMR	**Palmer**	**81.28**	**25**	*e*P	**P**	**03 55 58.4**	**-3.7**
	1.9nm,0.5s						
KTH	**Kantishna Hill**	**81.57**	**23**	*e*P	**P**	**03 56 02.3**	**-1.4**
	3.0nm,0.9s						
MCK	**McKinley**	**82.42**	**23**	*e*P	**P**	**03 56 08.1**	**-0.1**
	5.0nm,0.7s						
TKM2	**Tokmak 2**	**83.53**	**314**	*e*P	**P**	**03 56 14.2**	**-0.4**
	1.3nm,0.5s						
KURK	**Kurchatov**	**83.63**	**322**	*e*P	**P**	**03 56 14.0**	**-0.6**
	13nm,0.7s						
KURBB	**Kurchatov Arra**	**83.65**	**322**	P	**P**	**03 56 14.2**	**-0.5**
	0.9nm,0.8s,baz=112,slow=4.2,SNR=5.5						
ILAR	**Eielson Array**	**83.71**	**22**	P	**P**	**03 56 13.7**	**-1.1**
	1.4nm,0.6s,baz=255,slow=5.0,SNR=3.1						
MAW	**Mawson**	**84.01**	**203**	P	**P**	**03 56 16.0**	**-0.3**
	2.6nm,0.6s,baz=133,slow=9.8,SNR=6.7						
QSPA	**South Pole Qui**	**84.13**	**180**	*e*P	**P**	**03 56 17.7**	**+0.6**
	30nm,1.0s						
DOT	**Dot Lake**	**84.31**	**24**	*e*P	**P**	**03 56 18.1**	**+0.2**
	7.8nm,0.5s						
EKS2	**Erkin-Say**	**84.77**	**314**	*e*P	**P**	**03 56 20.5**	**-0.3**
	3.5nm,0.8s						
EGAK	**Eagle**	**85.93**	**23**	*e*P	**P**	**03 56 22.8**	**-3.1**
	1.7nm,0.4s						
KKAR	**Karatay Array**	**87.21**	**314**	*e*P	**P**	**03 56 33.0**	**+0.3**
	1.7nm,0.4s						
MOD	**Modoc Plateau**	**92.72**	**48**	*e*P	**P**	**03 56 58.6**	**-0.1**
	2.8nm,1.0s						
WVOR	**Wild Horse Val**	**94.00**	**48**	*e*P	**P**	**03 57 04.6**	**0.0**
	1.3nm,0.6s						
BMO	**Blue Mountains**	**95.11**	**46**	*e*P	**P**	**03 57 09.0**	**-0.6**
	2.9nm,0.9s						
YKA	**Yellowknife Ar**	**97.07**	**28**	P	Pdif	03 57 18.5	+0.5
	0.3nm,0.4s,baz=271,slow=4.9,SNR=5.9						
HLID	**Hailey**	**97.14**	**47**	*e*P	Pdif	03 57 19.4	+0.4
	0.6nm,0.3s						
PDAR	**Pinedale Array**	**100.70**	**48**	P	**Pdif**	**03 57 35.5**	**+0.5**
	0.5nm,0.5s,baz=220,slow=2.4,SNR=3.4						
BRTR	**Keskin Array B**	**114.81**	**311**	PKP	PKPdf	04 02 27.1	-0.1
	0.5nm,0.5s,baz=90,slow=1.7,SNR=5.3						
HFS	**Hagfors**	**117.05**	**338**	PKP	**PKPdf**	**04 02 30.3**	**-0.5**
	1.1nm,0.6s,baz=68,slow=3.9,SNR=4.5						
NOA	**NORSAR Array B**	**117.34**	**339**	PKP	**PKPdf**	**04 02 30.7**	**-0.7**
	0.3nm,0.4s,baz=132,slow=0.6,SNR=3.4						
GERES	**GERESS Array B**	**124.10**	**327**	PKP	**PKPdf**	**04 02 44.0**	**-0.8**
	1.0nm,0.6s,baz=117,slow=1.5,SNR=7.6						
TRQA	**Tornquist**	**126.52**	**147**	*e*PKPdf	**PKPdf**	**04 02 47.6**	**-2.1**
EKA	**Eskdalemuir Ar**	**126.55**	**342**	PKP	**PKPdf**	**04 02 48.1**	**-1.0**
	0.7nm,0.4s,baz=12,slow=3.0,SNR=12						
TUE	**Stuetta**	**127.88**	**327**	*e*PKPdf	**PKPdf**	**04 02 52.1**	**-0.1**
NNA	**Nana**	**129.02**	**110**	*e*PKPdf	**PKPdf**	**04 02 55.7**	**+0.6**
VSL	**Villasalto**	**132.02**	**320**	*e*PKPdf	**PKPdf**	**04 03 00.2**	**+0.2**
SAML	**Samuel**	**142.68**	**113**	*e*PKPdf	**PKPdf**	**04 03 19.2**	**-1.2**
TORD	**Torodi Ar. Bea**	**149.11**	**286**	PKPbc	**PKPbc**	**04 03 35.5**	**+0.1**
	8.1nm,0.6s,baz=85,slow=2.5,SNR=158						
BDFB	**Brasilia**	**151.39**	**138**	PKPbc	**PKPbc**	**04 03 41.2**	**+0.2**
	2.7nm,0.5s,baz=144,slow=1.7,SNR=7.0						
DBIC	**Dimbokro**	**156.21**	**273**	PKPab	**PKPab**	**04 04 09.6**	**-0.1**
	3.7nm,0.9s,baz=86,slow=4.0,SNR=4.6						

ISCJB ***17*** *03:46:36.0±0.6,39°.11N±0°.05×29°.10E±0°.05, h5km±8km, Error ellipse: s-maj=9.4km s-min=4.7km az=150.7*

ISK ***17*** *03:46:35.1,39°.09N×29°.14E, h7km, MD2.5*

CSEM ***17*** *03:46:36.0±0.1,39°.12N×29°.10E, h5km, MD2.5, Error ellipse: s-maj=4.0km s-min=2.6km az=134.0*

DDA ***17*** *03:46:36.0,39°.12N×29°.09E, h7km, Md2.5*

ISC 17 03:46:36.2±1.0,39°.12N±0°.03×29°.09E±0°.03, h10km±10km, n19, σ0§40/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.30**	**256**	P	**Pg**	**03 46 42.3**	**0.0**
DEMI				S	**Sg**	**03 46 46.6**	**+0.2**
DEMI	**Demirci**	**0.30**	**256**	*i* P	**Pg**	**03 46 42.3**	**0.0**
DEMI				*i* S	**Sg**	**03 46 46.6**	**+0.2**
GDZ	**Gediz**	**0.30**	**95**	P	**Pg**	**03 46 42.6**	**+0.2**
GDZ				S	**Sg**	**03 46 47.0**	**+0.5**
GDZ	**Gediz**	**0.30**	**95**	*i* P	**Pg**	**03 46 42.6**	**+0.2**
GDZ				*i* S	**Sg**	**03 46 47.0**	**+0.5**
TVSB	**Tavsanli**	**0.44**	**41**	*e*PG	**Pg**	**03 46 44.2**	**-0.6**
TVSB				*e*SG	**Sg**	**03 46 50.2**	**-0.5**
TVSB	**Tavsanli**	**0.44**	**41**	*e*Pg	**Pg**	**03 46 44.3**	**-0.6**
TVSB				*e*Sg	**Sg**	**03 46 50.2**	**-0.5**
KULA	**Kula-Manisa**

BRTR	**Keskin Array B**	**147.20**	**312**	PKPbc	**PKPbc**	**04 36 50.0**	**-0.9**
	1.6nm,0.6s,baz=135,slow=4.5,SNR=11							
CLL	**Collm**	**148.47**	**347**	*i* P	**PKPab**	**04 36 55.2**	**-3.1**
	comp=Z,8.0nm,0.8s							
CLL				*i*		04 37 00.1		
	comp=Z,5.0nm,0.7s							
GERES	**GERESS Array B**	**150.61**	**344**	PKPbc	**PKPbc**	**04 36 58.7**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=60,slow=3.5,SNR=7.8							
GERES				PKPab	**PKPab**	**04 37 09.1**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=0.0,slow=5.3,SNR=4.5							

*IDC **17** 04:21:55.4±1.3, 43.42S×172.83E, h0km, mb4.1/2, mb1 4.4/3, mb1mx3.8/33, mbtmp4.1/3, ML3.9/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/26, Error ellipse: s-maj=45.3km s-min=25.5km az=160.0*

*WEL **17** 04:21:57.6±0.1, 43.61S×172.77E, h9km, ML4.6/48, Error ellipse: s-maj=0.7km s-min=0.3km az=90.0*

WEL Felt in the Canterbury region, maximum reported intensity MM 6.

*NEIC **17** 04:21:57.6, 43.60S×172.77E, h8km, ML4.5(WEL), After WEL.*

NEIC Felt in Canterbury.

ISC 17 04:21:56.1±1.0, 43.62S±0.04×172.88E±0.04, h13km≤6km, n124, σ1§11/120, 3C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.19**	**241**	⇑P	G	**Pg**		**04 22 00.8**	**+0.5**
MQZ					S	**Sg**		**04 22 02.6**	**-0.6**
MQZ					AML	AML		04 22 03.1	
MQZ	**McQueen's Vall**	**0.19**	**241**	Pg		**Pg**		**04 22 00.8**	**+0.5**
MQZ				Sg		**Sg**		**04 22 02.9**	**-0.3**
CRLZ	**Canterbury Las**	**0.19**	**282**	⇓P	G	**Pg**		**04 22 00.7**	**-0.2**
CRLZ					AML	AML		04 22 02.1	
CRLZ					AML	AML		04 22 02.4	
CRLZ					AML	AML		04 22 02.5	
OXZ	**Oxford**	**0.68**	**295**	⇓P*		**Pg**		**04 22 09.0**	**-0.2**
OXZ				S*		**Sg**		**04 22 17.6**	**-0.6**
OXZ	**Oxford**	**0.68**	**295**	P*		**Pg**		**04 22 09.1**	**-0.2**
OXZ				S*		**Sg**		**04 22 17.6**	**-0.6**
LTZ	**Lake Taylor**	**0.94**	**332**	⇑P*		**Pb**		**04 22 14.6**	**+0.2**
LTZ				S*		**Sb**		**04 22 26.8**	**0.0**
LTZ					AML	AML		04 22 30.3	
LTZ	**Lake Taylor**	**0.94**	**332**	P*		**Pb**		**04 22 14.6**	**+0.2**
LTZ				S*		**Sb**		**04 22 26.8**	**0.0**
KHZ	**Kahutara**	**1.29**	**22**	*e*PN		**Pn**		**04 22 19.9**	**0.0**
KHZ	**Kahutara**	**1.29**	**22**	*e*Pn		**Pn**		**04 22 19.9**	**0.0**
RPZ	**Rata Peaks**	**1.33**	**265**	Pn		**Pn**		**04 22 19.9**	**-0.5**
	760nm,0.3s,baz=114,slow=4.5,SNR=818								
RPZ				Sn		**Sb**		**04 22 36.3**	**-1.6**
	1µm,0.3s,baz=114,slow=0.3,SNR=22								
RPZ	**Rata Peaks**	**1.33**	**265**	P*		**Pn**		**04 22 19.8**	**-0.7**
RPZ					AML	AML		04 22 41.7	
RPZ					AML	AML		04 22 45.2	
INZ	**Inchbonnie**	**1.38**	**310**	PN		**Pn**		**04 22 20.5**	**-0.5**
WVZ	**Waitaha Valley**	**1.65**	**288**	PN		**Pn**		**04 22 24.9**	**+0.1**
WVZ					AML	AML		04 22 55.2	
WVZ					AML	AML		04 22 57.3	
WVZ	**Waitaha Valley**	**1.65**	**288**	Pn		**Pn**		**04 22 24.9**	**+0.1**
THZ	**Tophouse**	**1.85**	**1**	PN		**Pn**		**04 22 27.9**	**+0.2**
THZ					AML	AML		04 23 08.7	
THZ					AML	AML		04 23 10.4	
DSZ	**Denniston Nort**	**2.03**	**337**	*e*PN		**Pn**		**04 22 30.1**	**0.0**
DSZ					AML	AML		04 22 58.6	
DSZ					AML	AML		04 22 58.7	
DSZ					AML	AML		04 22 59.0	
DSZ					AML	AML		04 22 59.0	
DSZ	**Denniston Nort**	**2.03**	**337**	Pn		**Pn**		**04 22 30.7**	**+0.6**
BSWZ	**Blackbirch Sta**	**2.04**	**22**	⇑PN		**Pn**		**04 22 30.9**	**+0.8**
BSWZ					AML	AML		04 22 41.2	
BSWZ					AML	AML		04 23 22.6	
BSWZ	**Blackbirch Sta**	**2.04**	**22**	Pn		**Pn**		**04 22 30.9**	**+0.8**
LBZ	**Lake Benmore**	**2.09**	**247**	PN		**Pn**		**04 22 30.8**	**-0.1**
LBZ					AML	AML		04 23 09.2	
LBZ					AML	AML		04 23 09.2	
LBZ					AML	AML		04 23 09.5	
LBZ					AML	AML		04 23 09.6	
LBZ	**Lake Benmore**	**2.09**	**247**	Pn		**Pn**		**04 22 30.8**	**-0.1**
CMWZ	**Cape Campbell**	**2.11**	**28**	AML		AML		04 23 27.3	
CMWZ					AML	AML		04 23 31.1	
CMWZ	**Cape Campbell**	**2.11**	**28**	Pn		**Pn**		**04 22 32.3**	**+1.1**
ODZ	**Otahua Downs**	**2.15**	**228**	PN		**Pn**		**04 22 31.3**	**-0.3**
ODZ					AML	AML		04 23 07.1	
ODZ					AML	AML		04 23 07.1	
ODZ					AML	AML		04 23 10.2	
ODZ					AML	AML		04 23 10.2	
ODZ	**Otahua Downs**	**2.15**	**228**	Pn		**Pn**		**04 22 31.4**	**-0.3**
FOZ	**Fox Glacier**	**2.23**	**271**	PN		**Pn**		**04 22 33.3**	**+0.6**
FOZ					AML	AML		04 23 01.4	
FOZ					AML	AML		04 23 01.4	
FOZ					AML	AML		04 23 15.0	
FOZ					AML	AML		04 23 15.0	
FOZ	**Fox Glacier**	**2.23**	**271**	Pn		**Pn**		**04 22 33.8**	**+1.0**
TUWZ	**Tuamarina**	**2.32**	**20**	PN		**Pn**		**04 22 34.4**	**+0.4**
TUWZ					AML	AML		04 23 20.0	
TUWZ					AML	AML		04 23 39.6	
TUWZ	**Tuamarina**	**2.32**	**20**	Pn		**Pn**		**04 22 34.4**	**+0.4**
NNZ	**Nelson**	**2.42**	**9**	PN		**Pn**		**04 22 36.2**	**+0.7**
NNZ					AML	AML		04 23 27.6	
NNZ					AML	AML		04 23 36.7	
NNZ	**Nelson**	**2.42**	**9**	Pn		**Pn**		**04 22 36.2**	**+0.7**
TCW	**Tory Channel**	**2.62**	**24**	PN		**Pn**		**04 22 38.2**	**0.0**
TCW					AML	AML		04 22 53.5	
TCW					AML	AML		04 23 14.7	
TCW	**Tory Channel**	**2.62**	**24**	Pn		**Pn**		**04 22 38.2**	**0.0**
SNZO	**South Karori**	**2.67**	**31**	*e*Pn		**Pn**		**04 22 38.8**	**0.0**
PLWZ	**Palliser**	**2.69**	**41**	PN		**Pn**		**04 22 39.4**	**+0.1**
PLWZ	**Palliser**	**2.69**	**41**	Pn		**Pn**		**04 22 39.4**	**+0.1**
WEL	**Wellington**	**2.72**	**32**	AML		AML		04 23 12.3	
WEL					AML	AML		04 23 16.4	
HHSZ	**Highcliff Hill**	**2.79**	**215**	PN		**Pn**		**04 22 40.4**	**-0.1**
HHSZ	**Highcliff Hill**	**2.79**	**215**	Pn		**Pn**		**04 22 40.4**	**-0.1**
QRZ	**Quartz Range**	**2.80**	**355**	PN		**Pn**		**04 22 40.7**	**0.0**
QRZ					AML	AML		04 22 54.5	
QRZ					AML	AML		04 22 54.5	
QRZ					AML	AML		04 23 29.6	
QRZ					AML	AML		04 23 29.6	
MSWZ	**Moikau Station**	**2.81**	**39**	AML		AML		04 23 16.7	
MSWZ					AML	AML		04 23 17.8	
DUWZ	**D'Urville Isla**	**2.92**	**16**	PN		**Pn**		**04 22 42.3**	**+0.1**
PAWZ	**Paruwai Farm**	**2.92**	**41**	AML		AML		04 23 19.6	
PAWZ					AML	AML		04 23 59.2	
CAW	**Cannon Point**	**2.99**	**34**	PN		**Pn**		**04 22 43.2**	**0.0**
CAW					AML	AML		04 23 22.3	
CAW					AML	AML		04 23 23.3	
JCZ	**Jackson Bay**	**3.00**	**260**	PN		**Pn**		**04 22 43.3**	**-0.1**
JCZ					AML	AML		04 23 36.7	
JCZ					AML	AML		04 23 44.7	
EAZ	**Earnscleugh**	**3.02**	**236**	PN		**Pn**		**04 22 43.4**	**-0.3**
EAZ					AML	AML		04 23 37.7	
EAZ					AML	AML		04 23 37.7	
EAZ					AML	AML		04 23 43.5	
EAZ					AML	AML		04 23 43.5	
WKZ	**Wanaka**	**3.03**	**245**	PN		**Pn**		**04 22 43.7**	**-0.1**
WKZ					AML	AML		04 23 39.1	
WKZ					AML	AML		04 23 39.2	
WKZ					AML	AML		04 23 42.1	
WKZ					AML	AML		04 23 42.1	
TRWZ	**Traveller**	**3.04**	**44**	PN		**Pn**		**04 22 44.4**	**+0.5**
TRWZ					AML	AML		04 23 24.0	
TRWZ					AML	AML		04 23 25.3	
MTW	**Mount Morrison**	**3.13**	**39**	Pn		**Pn**		**04 22 44.8**	**-0.4**
MTW					AML	AML		04 23 24.0	
MTW					AML	AML		04 24 10.5	
KIW	**Kapiti Island**	**3.14**	**29**	PN		**Pn**		**04 22 45.4**	**+0.1**
KIW					AML	AML		04 23 35.9	
KIW					AML	AML		04 23 51.2	
OGWZ	**Otaki Gorge**	**3.27**	**32**	PN		**Pn**		**04 22 47.0**	**-0.1**
TUZ	**Tuapeka**	**3.29**	**224**	PN		**Pn**		**04 22 47.1**	**-0.2**
TUZ					AML	AML		04 23 50.4	
TUZ					AML	AML		04 23 50.4	
TUZ					AML	AML		04 23 54.9	
TUZ					AML	AML		04 23 54.9	
MRZ	**Mangatainoka R**	**3.57**	**35**	PN		**Pn**		**04 22 50.8**	**-0.5**
TIWZ	**Tintock**	**3.61**	**39**	AML		AML		04 23 36.4	
TIWZ					AML	AML		04 23 37.8	
MSZ	**Milford Sound**	**3.72**	**252**	AML		AML		04 23 58.2	
MSZ					AML	AML		04 23 58.4	
PRWZ	**Pori Road**	**3.83**	**38**	*e*PN		**Pn**		**04 22 53.8**	**-1.0**
PRWZ	**Pori Road**	**3.83**	**38**	Pn		**Pn**		**04 22 54.3**	**-0.5**
MLZ	**Mavora Lakes**	**3.83**	**241**	PN		**Pn**		**04 22 54.1**	**-0.7**
MLZ					AML	AML		04 24 04.9	
MLZ					AML	AML		04 24 05.1	
BFZ	**Birch Farm**	**3.86**	**42**	PN		**Pn**		**04 22 54.4**	**-0.7**
BFZ					AML	AML		04 23 42.3	
BFZ					AML	AML		04 23 42.3	
BFZ					AML	AML		04 23 53.6	
BFZ					AML	AML		04 23 53.6	
BFZ	**Birch Farm**	**3.86**	**42**	Pn		**Pn**		**04 22 54.4**	**-0.7**
POWZ	**Post Office Ro**	**3.88**	**35**	PN		**Pn**		**04 22 55.7**	**+0.3**
POWZ	**Post Office Ro**	**3.88**	**35**	Pn		**Pn**		**04 22 55.7**	**+0.3**
SYZ	**Scrubby Hill**	**3.94**	**221**	PN		**Pn**		**04 22 56.8**	**+0.5**
SYZ					AML	AML		04 24 07.1	
SYZ					AML	AML		04 24 07.1	
SYZ					AML	AML		04 24 23.5	
SYZ					AML	AML		04 24 23.6	
SYZ	**Scrubby Hill**	**3.94**	**221**	Pn		**Pn**		**04 22 56.8**	**+0.5**
DVHZ	**Dannevirke**	**4.12**	**38**	Pn		**Pn**		**04 22 57.9**	**-0.9**
ANWZ	**Angora Road**	**4.14**	**42**	PN		**Pn**		**04 22 58.7**	**-0.3**
WAZ	**Wanganui**	**4.17**	**23**	AML		AML		04 23 53.2	
WAZ					AML	AML		04 24 53.6	
WAZ	**Wanganui**	**4.17**	**23**	Pn		**Pn**		**04 23 01.6**	**+2.1**
WHZ	**Wether Hill Ro**	**4.18**	**235**	PN		**Pn**		**04 22 58.9**	**-0.8**
WHZ					AML	AML		04 24 21.6	
WHZ					AML	AML		04 24 26.3	
WHZ	**Wether Hill Ro**	**4.18**	**235**	Pn		**Pn**		**04 22 58.9**	**-0.8**
TSZ	**Takapari Road**	**4.24**	**34**	AML		AML		04 23 54.8	
TSZ					AML	AML		04 24 48.9	
TSZ	**Takapari Road**	**4.24**	**34**	Pn		**Pn**		**04 22 59.6**	**-0.8**
NMEZ	**Namu Road**	**4.26**	**10**	PN		**Pn**		**04 23 03.1**	**+2.3**
NMEZ	**Namu Road**	**4.26**	**10**	Pn		**Pn**		**04 23 03.1**	**+2.3**
PREZ	**Palmer Road**	**4.38**	**13**	PN		**Pn**		**04 23 04.8**	**+2.5**
PREZ	**Palmer Road**	**4.38**	**13**	Pn		**Pn**		**04 23 04.8**	**+2.5**
KHEZ	**Kahui Hut**	**4.40**	**12**	PN		**Pn**		**04 23 04.9**	**+2.2**
KHEZ	**Kahui Hut**	**4.40**	**12**	Pn		**Pn**		**04 23 04.9**	**+2.2**
NEZ	**North Egmont**	**4.44**	**12**	PN		**Pn**		**04 23 04.9**	**+1.7**
NEZ	**North Egmont**	**4.44**	**12**	Pn		**Pn**		**04 23 04.9**	**+1.7**
DCZ	**Deep Cove**	**4.49**	**244**	PN		**Pn**		**04 23 03.4**	**-0.4**
DCZ					AML	AML		04 24 25.7	
DCZ					AML	AML		04 24 32.6	
DCZ	**Deep Cove**	**4.49**	**244**	Pn		**Pn**		**04 23 03.4**	**-0.4**
DREZ	**Durham Road**	**4.53**	**13**	PN		**Pn**		**04 23 06.3**	**+1.9**
DREZ	**Durham Road**	**4.53**	**13**	Pn		**Pn**		**04 23 06.3**	**+1.9**
MTVZ	**Mangateitei**	**4.65**	**26**	PN		**Pn**		**04 23 07.6**	**+1.4**
MTVZ					AML	AML		04 24 19.7	
MTVZ					AML	AML		04 24 44.2	
MTVZ	**Mangateitei**	**4.65**	**26**	Pn		**Pn**		**04 23 07.6**	**+1.4**
PXZ	**Pawanui**	**4.66**	**41**	PN		**Pn**		**04 23 06.3**	**+0.2**
PXZ					AML	AML		04 24 08.1	
PXZ					AML	AML		04 24 08.7	
PXZ	**Pawanui**	**4.66**	**41**	Pn		**Pn**		**04 23 06.3**	**+0.2**
VRZ	**Vera Road**	**4.71**	**18**	AML		AML		04 24 12.8	
VRZ					AML	AML		04 24 16.4	
VRZ	**Vera Road**	**4.71**	**18**	Pn		**Pn**		**04 23 08.1**	**+1.3**
APZ	**The Paps**	**4.72**	**225**	PN		**Pn**		**04 23 07.5**	**+0.5**
APZ					AML	AML		04 24 36.7	
APZ					AML	AML		04 24 44.9	
APZ	**The Paps**	**4.72**	**225**	Pn		**Pn**		**04 23 07.5**	**+0.5**
MOVZ	**Moawhango**	**4.73**	**28**	AML		AML		04 24 03.3	
MOVZ					AML	AML		04 24 10.6	
MOVZ	**Moawhango**	**4.73**	**28**	Pn		**Pn**		**04 23 07.7**	**+0.5**
WNVZ	**Wahianoa**	**4.75**	**26**	PN		**Pn**		**04 23 08.5**	**+0.9**
WNVZ	**Wahianoa**	**4.75**	**26**	Pn		**Pn**		**04 23 08.5**	**+0.9**
TRVZ	**Turoa**	**4.76**	**26**	AML		AML		04 24 10.0	
TRVZ					AML	AML		04 24 39.1	
TRVZ	**Turoa**	**4.76**	**26**	Pn		**Pn**		**04 23 08.2**	**+0.5**
WHVZ	**Whangaehu Hut**	**4.78**	**26**	PN		**Pn**		**04 23 08.7**	**+0.5**
WHVZ	**Whangaehu Hut**	**4.78**	**26**	Pn		**Pn**		**04 23 08.7**	**+0.5**
FWVZ	**Far West T-bar**	**4.80**	**26**	PN		**Pn**		**04 23 09.5**	**+1.2**
FWVZ					AML	AML		04 24 08.0	
FWVZ					AML	AML		04 24 23.7	
FWVZ	**Far West T-bar**	**4.80**	**26**	Pn		**Pn**		**04 23 09.5**	**+1.2**
KAHZ	**Kahuranaki**	**4.85**	**39**	Pn		**Pn**		**04 23 07.9**	**-1.0**
OTVZ	**Oturere**	**4.92**	**26**	PN		**Pn**		**04 23 10.9**	**+1.0**
OTVZ					AML	AML		04 24 14.9	
OTVZ					AML	AML		04 25 19.1	
OTVZ	**Oturere**	**4.92**	**26**	Pn		**Pn**		**04 23 10.9**	**+1.0**
MCHZ	**McNeill Hill**	**5.06**	**36**	Pn		**Pn**		**04 23 11.6**	**-0.1**
BKZ	**Black Stump Fm**	**5.21**	**33**	PN		**Pn**		**04 23 13.5**	**-0.4**
BKZ					AML	AML		04 24 29.0	
BKZ					AML	AML		04 24 41.7	
BKZ	**Black Stump Fm**	**5.21**	**33**	Pn		**Pn**		**04 23 13.5**	**-0.4**
HIZ	**Hauiti**	**5.31**	**17**	PN		**Pn**		**04 23 15.9**	**+0.8**
HIZ					AML	AML		04 24 41.5	
HIZ					AML	AML		04 24 44.9	
HIZ	**Hauiti**	**5.31**	**17**	Pn		**Pn**		**04 23 15.9**	**+0.8**
TLZ	**Tolley Road**	**5.65**	**22**	Pn		**Pn**		**04 23 20.2**	**+0.3**
TOZ	**Tahuroa Road**	**6.21**	**20**	Pn		**Pn**		**04 23 27.7**	**+0.2**
URZ	**Urewera**	**6.24**	**32**	Pn		**Pn**		**04 23 25.2**	**-2.6**
	3.0nm,0.3s,baz=256,slow=3.9,SNR=19								
URZ					Sn	**Sn**		**04 24 33.9**	**-5.1**
	4.2nm,0.3s,baz=58,slow=19,SNR=3.4								
URZ					LR	LR		04 25 57.5	
	comp=Z,330nm,18.8s,baz=255,slow=40								
URZ	**Urewera**	**6.24**	**32**	PN		**Pn**		**04 23 25.8**	**-2.1**
URZ					AML	AML		04 24 48.5	
URZ					AML	AML		04 24 52.3	
MWZ	**Matawai**	**6.34**	**35**	PN		**Pn**		**04 23 26.9**	**-2.4**
MWZ					AML	AML		04 24 50.1	
MWZ					AML	AML		04 25 01.9	
MWZ	**Matawai**	**6.34**	**35**	Pn		**Pn**		**04 23 26.9**	**-2.4**
MXZ	**Matakaoa Point**	**7.32**	**36**	Pn		**Pn**		**04 23 41.7**	**-1.1**
VNDA	**Vanda**	**34.31**	**184**	LR		LR		04 40 10.5	
	comp=Z,128nm,18.9s,baz=262,slow=32								
ASAR	**Alice Springs**	**37.62**	**289**	P		**P**		**04 29 11.3**	**+0.6**
	2.4nm,0.9s,baz=130,slow=7.1,SNR=8.7								
ASAR					LR	LR		04 45 43.0	
	comp=Z,123nm,18.1s,baz=146,slow=38								
WRA	**Warramunga Arr**	**39.87**	**294**	P		**P**		**04 29 30.4**	**+0.8**
	2.3nm,0.6s,baz=133,slow=8.0,SNR=26								
TORD	**Torodi Ar. Bea**	**148.71**	**197**	PKPbc		**PKPbc**		**04 41 45.1**	**+1.6**
	1.4nm,0.9s,baz=160,slow=2.0,SNR=10								
ARCES	**ARCESS Array B**	**149.16**	**338**	PKPbc		**PKPbc**		**04 41 44.5**	**+1.5**
	1.1nm,0.6s,baz=70,slow=1.4,SNR=7.0								
BRTR	**Keskin Array B**	**149.52**	**277**	PKPbc		**PKPbc**		**04 41 46.5**	**+1.5**
	1.0nm,0.5s,baz=133,slow=4.2,SNR=6.7								
FINES	**FINESS Array B**	**153.49**	**324**	PKPbc		**PKPbc**		**04 41 52.5**	**-0.8**
	0.4nm,0.5s,baz=98,slow=2.8,SNR=2.6								

*IDC **17** 04:31:09.0±1.2, 6.34S×147.86E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/45, mbtmp3.8/6, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/38, Error ellipse: s-maj=45.7km s-min=22.4km az=112.0*

*ISCJB **17** 04:31:14.3±1.3, 6.4S±0.1×147.8E±0.2, h51km, mb3.8/4, MS3.4/1, Error ellipse: s-maj=33.4km s-min=13.1km az=11.6*

ISC 17 04:31:15.9±1.3, 6.4S±0.1×147.8E±0.3, h51km, n9, σ1§13/9, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.02**	**192**	Pn		**Pn**		**04 31 59.7**	**-1.5**
	7.3nm,0.3s,baz=2.2,slow=9.3,SNR=9.5								
PMG				Sn		**Sn**		**04 32 37.2**	**+0.9**
	9.4nm,0.3s,baz=49,slow=12,SNR=12								
WRA	**Warramunga Arr**	**18.75**	**223**	P		**P**		**04 35 30.3**	**-0.4**
	0.2nm,0.3s,baz=51,slow=11,SNR=3.8								
ASAR	**Alice Springs**	**21.73**	**217**	P		**P**		**04 36 02.7**	**-0.4**
	1.2nm,0.5s,baz=51,slow=9.6,SNR=16								
DZM	**Mont Dzumac**	**23.78**	**133**	LR		LR		04 44 45.0	
	comp=Z,111nm,18.2s,baz=119,slow=34								
FITZ	**Fitzroy Crossi**	**24.54**	**240**	P		**P**		**04 36 31.9**	**+1.0**
	5.4nm,0.5s,baz=54,slow=8.1,SNR=31								
VNDA	**Vanda**	**71.44**	**177**	P		**P**		**04 42 31.7**	**+1.3**
	0.8nm,0.8s,baz=335,slow=8.5,SNR=5.4								
ILAR	**Eielson Array**	**85.56**	**23**	P		**P**		**04 43 47.9**	**-0.4**
	0.3nm,0.7s,baz=243,slow=6.0,SNR=3.2								
TORD	**Torodi Ar. Bea**	**145.97**	**284**	PKPbc		**PKPab**		**04 50 52.2**	**+0.7**
	0.3nm,0.5s,baz=65,slow=3.6,SNR=7.3								
DBIC	**Dimbokro**	**152.84**	**272**	PKPab		**PKPab**		**04 51 18.7**	**-0.9**
	2.2nm,0.7s,baz=155,slow=7.8,SNR=2.7								

*NEIC **17** 04:39:14.9, 43.60S×172.78E, h8km, ML3.9(WEL), After WEL.*

NEIC Felt at Christchurch.

WEL 17 04:39:15.0±0.1, 43.60S×172.77E, h8km, ML3.8/18, 2C-3D, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.11**	**284**	PG		**Pg**		**04 39 17.1**	**-0.4**
CRLZ					AML	AML		04 39 19.4	
CRLZ					AML	AML		04 39 19.4	
CRLZ					AML	AML		04 39 19.6	
CRLZ					AML	AML		04 39 19.8	
MQZ	**McQueen's Vall**	**0.13**	**218**	⇑PG		**Pg**		**04 39 18.2**	**+0.3**
MQZ					SG	**Sg**		**04 39 20.5**	**+0.6**
MQZ					AML	AML		04 39 20.6	
MQZ	**McQueen's Vall**	**0.13**	**218**	Pg		**Pg**		**04 39 18.2**	**+0.3**
MQZ				Sg		**Sg**		**04 39 20.5**	**+0.6**
OXZ	**Oxford**	**0.60**	**297**	⇓P*		**Pg**		**04 39 26.5**	**0.0**
OXZ				S*		**Sg**		**04 39 35.0**	**+0.6**
OXZ	**Oxford**	**0.60**	**297**	P*		**Pg**		**04 39 26.5**	**0.0**
OXZ				S*		**Sg**		**04 39 35.0**	**+0.6**
LTZ	**Lake Taylor**	**0.90**	**336**	⇓P*		**Pg**		**04 39 32.1**	**-0.2**
LTZ				S*		**Sg**		**04 39 44.1**	**+0.2**
LTZ					AML	AML		04 39 45.1	
LTZ	**Lake Taylor**	**0.90**	**336**	P*		**Pg**		**04 39 32.1**	**-0.2**
LTZ				S*		**Sg**		**04 39 44.1**	**+0.2**
RPZ	**Rata Peaks**	**1.25**	**264**	P*		**Pn**		**04 39 37.5**	**-1.3**
RPZ					AML	AML		04 39 57.3	
RPZ					AML	AML		04 39 58.5	
RPZ	**Rata Peaks**	**1.25**	**264**	P*		**Pn**		**04 39 37.5**	**-1.3**
INZ	**Inchbonnie**	**1.31**	**312**	P*		**Pn**		**04 39 38.1**	**-1.4**
WVZ	**Waitaha Valley**	**1.57**	**289**	PN		**Pn**		**04 39 42.7**	**-0.5**
WVZ					AML	AML		04 40 15.1	
WVZ					AML	AML		04 40 16.0	
WVZ	**Waitaha Valley**	**1.57**	**289**	Pn		**Pn**		**04 39 42.7**	**-0.5**
THZ	**Tophouse**	**1.84**	**3**	⇑PN		**Pn**		**04 39 45.3**	**-1.6**
THZ					AML	AML		04 40 26.0	
THZ					AML	AML		04 40 27.6	
THZ	**Tophouse**	**1.84**	**3**	Pn		**Pn**		**04 39 45.3**	**-1.6**
DSZ	**Denniston Nort**	**1.99**	**339**	PN		**Pn**		**04 39 48.0**	**-0.9**
DSZ					AML	AML		04 40 16.1	
DSZ					AML	AML		04 40 16.2	
DSZ					AML	AML		04 40 17.4	
DSZ					AML	AML		04 40 17.5	
DSZ	**Denniston Nort**	**1.99**	**339**	Pn		**Pn**		**04 39 48.0**	**-0.9**
LBZ	**Lake Benmore**	**2.02**	**246**	PN		**Pn**		**04 39 48.5**	**-1.0**
LBZ					AML	AML		04 40 26.8	
LBZ					AML	AML		04 40 26.9	
LBZ					AML	AML		04 40 28.4	
LBZ					AML	AML		04 40 28.5	
LBZ	**Lake Benmore**	**2.02**	**246**	Pn		**Pn**		**04 39 48.5**	**-1.0**
BSWZ	**Blackbirch Sta**	**2.06**	**24**	PN		**Pn**		**04 39 48.4**	**-1.4**
BSWZ					AML	AML		04 39 58.6	
BSWZ					AML	AML		04 40 00.3	
BSWZ	**Blackbirch Sta**	**2.06**	**24**	Pn		**Pn**		**04 39 48.4**	**-1.4**
ODZ	**Otahua Downs**	**2.10**	**226**	PN		**Pn**		**04 39 49.0**	**-1.4**
ODZ					AML	AML		04 40 23.8	
ODZ					AML	AML		04 40 25.7	
ODZ					AML	AML		04 40 27.7	
ODZ					AML	AML		04 40 27.7	
ODZ	**Otahua Downs**	**2.10**	**226**	Pn		**Pn**		**04 39 49.0**	**-1.4**
FOZ	**Fox Glacier**	**2.15**	**271**	PN		**Pn**		**04 39 51.2**	**+0.1**
FOZ					AML	AML		04 40 19.0	
FOZ					AML	AML		04 40 19.0	
FOZ					AML	AML		04 40 30.6	
FOZ					AML	AML		04 40 30.6	
FOZ	**Fox Glacier**	**2.15**	**271**	Pn		**Pn**		**04 39 51.2**	**+0.1**
TUWZ	**Tuamarina**	**2.34**	**22**	PN		**Pn**		**04 39 51.9**	**-1.8**
TUWZ	**Tuamarina**	**2.34**	**22**	Pn		**Pn**		**

GROC smax smax
comp=N,753nm,0.6s
GROC smax smax
comp=E,555nm,0.6s
GROC smax smax
comp=E,741nm,0.4s
DBC Dubki 1.12 36 ⇓ *i*PG Pn 04 41 08.2 +6.7
DBC *i* S **Sn 04 41 23.3 +6.0**
DBC pmax pmax
comp=Z,53nm,0.2s
BUJR Buynaksk 1.12 51 *e*PG **Pg 04 41 00.0 -0.7**
BUJR *i* S **Sg 04 41 15.0 -0.2**
BUJR pmax pmax
comp=Z,678nm,0.2s
GUDG Gudauri 1.13 288 P **Pg 04 40 59.9 -0.9**
GUDG S **Sg 04 41 14.6 -0.9**
GUDG Gudauri 1.13 288 P **Pg 04 40 59.8 -1.0**
GUDG S **Sg 04 41 14.6 -0.9**
QZX Qazax, Azerbai 1.14 202 ⇓ P **Pg 04 41 00.8 -0.1**
SNR=45
QZX ⇓ S **Sn 04 41 17.6 +0.1**
QZX Qazax, Azerbai 1.14 202 ⇑ P **Pg 04 41 00.8 -0.1**
SNR=45
KMGR Komgaron 1.23 320 ⇑ *i*PG **Pg 04 41 02.6 0.0**
KMGR *i* S **Sn 04 41 20.0 +0.2**
URKR Urkarakh 1.27 87 *i* PG **Pg 04 41 02.5 -0.9**
URKR *e*S **Sn 04 41 22.5 +1.5**
URKR pmax pmax
comp=Z,679nm,0.2s
VLKR Vladikavkaz 1.31 316 *e*PG **Pn 04 41 03.7 -0.4**
VLKR *i* S **Sn 04 41 21.8 -0.1**
SEKA Sheki 1.31 133 ⇑ P **Pn 04 41 03.2 -0.9**
SNR=67
SEKA ⇓ S **Sn 04 41 23.0 +1.0**
SEKA Sheki 1.31 133 ⇑ P **Pn 04 41 03.2 -0.9**
SNR=67
KZR Kazreti 1.35 238 P **Pn 04 41 03.3 -1.3**
KZR S **Sb 04 41 22.1 -0.3**
KZR Kazreti 1.35 238 P **Pn 04 41 03.3 -1.3**
KZR S **Sb 04 41 22.1 -0.3**
GDB GEDABAY 1.40 185 ⇑ P **Pn 04 41 04.8 -0.6**
SNR=62
GDB ⇓ S **Sn 04 41 24.6 +0.4**
GDB GEDABAY 1.40 185 P **Pn 04 41 04.8 -0.6**
SNR=62
GDB S **Sn 04 41 24.6 +0.4**
LACR Lac 1.40 301 *e*PG **Pn 04 41 03.7 -1.7**
AKT Akhty 1.49 115 *e*PG **Pn 04 41 05.6 -0.9**
AKT *e*S **Sn 04 41 25.0 -1.4**
GANJ Ganja 1.50 168 ⇓ P **Pn 04 41 06.1 -0.5**
SNR=26
GANJ ⇑ S **Sg 04 41 27.1 -0.1**
GANJ Ganja 1.50 168 P **Pn 04 41 06.1 -0.5**
SNR=26
GANJ S **Sg 04 41 27.1 -0.1**
MNGR Mingechevir, A 1.60 147 ⇑ P **Pb 04 41 09.1 0.0**
SNR=8.1
MNGR ⇑ S **Sg 04 41 32.1 +1.6**
MNGR Mingechevir, A 1.60 147 P **Pb 04 41 09.1 0.0**
SNR=8.1
ARNR Ardon 1.61 312 *e*PN **Pb 04 41 09.7 +0.4**
ARNR pmax pmax
comp=Z,182nm,0.7s
BTKR Batakoyurt 1.62 321 *e*PN **Pb 04 41 09.3 -0.1**
BTKR *e*S **Sg 04 41 31.9 +0.8**
ZEI Tsey 1.64 295 *e*PN **Pb 04 41 09.5 -0.5**
KORR Kora 1.68 306 *e*PN **Pb 04 41 10.7 +0.2**
KORR pmax pmax
comp=Z,164nm,0.4s
KSMR Kasumkent 1.72 107 *i* PN **Pb 04 41 10.8 -0.4**
KSMR *i* S **Sg 04 41 39.0 +4.6**
KSMR pmax pmax
comp=Z,251nm,0.2s
TRKR Terskaya 1.83 332 *e*PN **Pb 04 41 12.6 -0.4**
TRKR pmax pmax
comp=Z,354nm,0.7s
QSAR Qusar 1.84 108 ⇑ P **Pb 04 41 12.4 -0.9**
SNR=27
QBL Gabala 1.85 129 P **Pb 04 41 12.6 -0.8**
SNR=23
QBL ⇓ S **Sg 04 41 39.6 +1.1**
QBL Gabala 1.85 129 P **Pb 04 41 12.6 -0.8**
SNR=23
STDR Stavd-Durt 1.86 313 *e*PN **Pb 04 41 13.1 -0.4**
ONI Oni 1.90 285 P **Pn 04 41 13.1 +1.0**
ONI S **Sb 04 41 39.2 +1.1**
ONI Oni 1.90 285 PN **Pn 04 41 13.1 +1.0**
ONI Oni 1.90 285 P **Pn 04 41 13.1 +1.0**
ONI S **Sn 04 41 36.4 0.0**
DIGR Digorskoe uzhe 1.91 295 *e*PN **Pb 04 41 13.6 -0.8**
DIGR pmax pmax
comp=Z,75nm,0.7s
XNQ Khinaliq 1.91 119 ⇓ P **Pb 04 41 14.1 -0.3**
SNR=166
XNQ ⇓ S **Sg 04 41 40.5 +0.1**
LSNR Lesken 1.94 308 *e*PN **Pb 04 41 14.5 -0.4**
BGD Bogdanovka 1.94 245 P **Pn 04 41 13.5 +0.6**
BGD S **Sb 04 41 38.9 -0.7**
BGD Bogdanovka 1.94 245 P **Pn 04 41 13.5 +0.6**
BGD S **Sb 04 41 38.9 -0.7**
AKH Akhalkalaki 1.96 250 P **Pn 04 41 13.2 +0.2**
AKH S **Sb 04 41 39.4 -0.6**
AKH Akhalkalaki 1.96 250 PN **Pn 04 41 13.2 +0.2**
AKH Akhalkalaki 1.96 250 P **Pn 04 41 13.2 +0.2**
AKH S **Sb 04 41 39.4 -0.6**
PRTR Priterechnaya 2.03 324 *e*PN **Pb 04 41 15.3 -1.2**
PRTR pmax pmax
comp=Z,164nm,0.5s
QUBA Quba, Azerbaij 2.06 111 ⇓ Pg **Pb 04 41 17.5 +0.5**
SNR=26
QUBA ⇑ Sg **Sg 04 41 48.9 +3.5**
QUBA Quba, Azerbaij 2.06 111 Pg **Pb 04 41 17.5 +0.5**
SNR=26
BRDA Brd 2.08 153 ⇑ Pg **Pb 04 41 17.2 0.0**
SNR=15
BRDA ⇑ Sg **Sg 04 41 47.5 +1.7**
BRDA Brd 2.08 153 Pg **Pb 04 41 17.2 0.0**
SNR=15
IML Ismayilli 2.15 127 ⇓ Pg **Pg 04 41 19.7 -0.6**
SNR=9.9
IML ⇓ Sg **Sg 04 41 48.3 +0.2**
IML Ismayilli 2.15 127 Pg **Pg 04 41 19.7 -0.6**
SNR=9.9
IML Sg **Sg 04 41 48.3 +0.2**
GNI Garni 2.16 205 Pn **Pb 04 41 18.2 -0.5**
comp=Z,15nm,0.3s,baz=359,slow=5.3,SNR=20
GNI Lg Lg 04 41 47.1
comp=Z,36nm,0.3s,baz=95,slow=22,SNR=21
GNI Garni 2.16 205 *e*PN **Pb 04 41 17.7 -1.0**
NCK Nalchik 2.20 310 *e*PN **Pb 04 41 18.5 -0.9**
EAK Akyaka 2.26 231 P **Pn 04 41 17.5 +0.4**
EAK S **Sb 04 41 49.2 +0.6**
EAK Akyaka 2.26 231 *i* P **Pn 04 41 17.5 +0.4**
EAK *i* S **Sb 04 41 49.2 +0.6**
ZRD Zardab 2.26 144 ⇓ Pg **Pb 04 41 21.2 +0.8**
ZRD ⇑ Sg **Sg 04 41 54.1 +2.3**
ZRD Zardab 2.26 144 Pg **Pb 04 41 21.2 +0.8**
PQL Pirkuli 2.40 123 ⇓ Pg **Pb 04 41 23.8 +0.9**
SNR=8.4
PQL ⇓ Sg **Sg 04 41 56.0 -0.2**
PQL Pirkuli 2.40 123 Pg **Pb 04 41 23.8 +0.9**
SNR=8.4
PQL Sg **Sg 04 41 56.0 -0.2**
KDMR Kurdemir 2.43 135 Pg **Pb 04 41 24.1 +0.9**
SNR=4.6
KDMR ⇑ Sg **Sg 04 41 58.4 +1.2**
KDMR Kurdemir 2.43 135 Pg **Pb 04 41 24.1 +0.9**
SNR=4.6
SIZA Siyzn 2.46 114 Pg **Pg 04 41 24.9 -1.3**
SNR=12
SIZA ⇓ Sg **Sg 04 42 01.6 +3.5**
SIZA Siyzn 2.46 114 Pg **Pg 04 41 24.9 -1.3**
SNR=12
EPOS Posof 2.47 257 P **Pn 04 41 22.1 +2.0**
EPOS S **Sb 04 41 54.8 0.0**
EPOS Posof 2.47 257 *i* P **Pn 04 41 22.1 +2.0**
EPOS *i* S **Sb 04 41 54.8 0.0**
DIGO Kars 2.57 229 P **Pb 04 41 24.3 -1.4**
DIGO S **Sb 04 41 57.1 -0.6**
DIGO Kars 2.57 229 *i* P **Pb 04 41 24.3 -1.4**
DIGO *i* S **Sb 04 41 57.1 -0.6**
ATGJ Altiaghaj 2.58 118 Pg **Pb 04 41 27.1 +1.1**
SNR=16
ATGJ ⇑ Sg **Sg 04 42 04.4 +2.2**
ATGJ Altiaghaj 2.58 118 Pg **Pb 04 41 27.1 +1.1**
SNR=16
KARS Kars 2.61 236 *e*PN **Pb 04 41 27.5 +1.1**
NEY Neytrino 2.62 297 *i* PN **Pb 04 41 24.7 -1.9**
KBZ Khabaz 2.75 307 Pn **Pn 04 41 25.2 +1.4**
comp=Z,2.8nm,0.3s,baz=109,slow=4.3,SNR=22
KBZ Lg Lg 04 42 01.9
comp=Z,11nm,0.3s,baz=253,slow=17,SNR=8.2
GBS Qobustan 2.76 124 Pg **Pg 04 41 30.5 -1.6**
SNR=6.5
GBS ⇑ Sg **Sg 04 42 12.2 +4.3**
GBS Qobustan 2.76 124 Pg **Pg 04 41 30.5 -1.6**
SNR=6.5
CHVG Ch'k'valeri 2.91 283 *e*PN **Pn 04 41 26.1 +0.1**
CHVG Ch'k'valeri 2.91 283 *e*Pn **Pn 04 41 26.1 +0.1**
KVAR Kislovodsk Arr 3.00 309 Pn **Pn 04 41 28.9 +1.5**
baz=278,slow=7.1,SNR=5.3
KVAR Sn **Sn 04 42 04.7 +1.0**
baz=225,slow=5.7,SNR=3.7
KVAR Lg Lg 04 42 13.2
baz=349,slow=5.2,SNR=5.4
KIV Kislovodsk 3.00 309 *e*PN **Pb 04 41 31.7 -1.4**
KIV Kislovodsk 3.00 309 ⇑ *e*PN **Pn 04 41 29.6 +2.2**
KIV *e* 04 41 38.2
KIV *e*S **Sb 04 42 10.4 +0.3**
KIV pmax pmax
comp=Z,16nm,1.2s
KIV MLR MLR
comp=Z,82nm,16.0s
KIV Kislovodsk 3.00 309 *e*Pn **Pb 04 41 31.7 -1.4**
ARTV Artvin 3.14 254 P **Pb 04 41 32.9 -2.6**
ARTV Artvin 3.14 254 *i* P **Pb 04 41 32.9 -2.6**
ARTV *i* S **Sb 04 42 16.3 +2.2**
DAGI Agillar 3.19 252 *i* P **Pn 04 41 32.2 +2.4**
DAGI *i* S **Sb 04 42 16.3 +1.0**
DBOC Borcka 3.28 258 *i* P **Pb 04 41 36.6 -1.2**
DBAD Bademkaya 3.36 252 P **Pn 04 41 35.3 +3.0**
DBAD Bademkaya 3.36 252 *i* P **Pn 04 41 35.3 +3.0**
AGRB Hanur-Agry 3.38 222 *e*PN **Pb 04 41 37.8 -1.7**
GLBA Ciilabad 3.43 146 ⇑ Pg **Pb 04 41 41.5 +1.2**
SNR=3.1
GLBA ⇑ Sg **Sg 04 42 29.0 -0.2**
GLBA Ciilabad 3.43 146 Pg **Pb 04 41 41.5 +1.2**
SNR=3.1
GLBA Sg **Sg 04 42 29.0 -0.2**
EATA Eleskirt 3.44 230 P **Pb 04 41 37.2 -3.5**
EATA Eleskirt 3.44 230 *i* P **Pb 04 41 37.2 -3.5**
GOF Gofitskoye 3.61 325 ⇑ *e*PN **Pn 04 41 38.9 +3.3**
GOF *e*S **Sg 04 42 35.6 +0.5**
GOF pmax pmax
comp=Z,37nm,0.5s
GOF pmax pmax
comp=E,150nm,0.6s
LKRN Lenkeran, Azer 4.04 146 ⇑ Pg **Pb 04 41 53.0 +2.4**
LKRN ⇑ Sg **Sg 04 42 46.4 -2.4**
LKRN Lenkeran, Azer 4.04 146 Pg **Pb 04 41 53.0 +2.4**
LKRN Sg **Sg 04 42 46.4 -2.4**
ASTR Astara 4.17 147 ⇓ Pg **Pb 04 41 54.2 +1.3**
ASTR ⇑ Sg **Sg 04 42 54.7 +1.7**
KOPT Kop Dagi 4.61 245 *i* P **Pb 04 42 03.7 +3.1**
KELT Kelkit 5.41 251 *i* P **Pb 04 42 16.2 +2.1**
BTMN Batman 5.53 222 *i* P Pn 04 41 54.0 -8.1
DIYA Diyarbakir 6.12 229 *i* P Pn 04 42 16.8 +6.7
AKTO Aktyubinsk 11.78 41 Pn **Pn 04 43 27.7 0.0**
comp=E,0.3nm,0.3s,baz=224,slow=13,SNR=4.2
AKTO Aktyubinsk 11.78 41 ⇑ Pn **Pn 04 43 27.6 0.0**
comp=E,1.8nm,0.6s
AKTO ⇑ Sn Sn 04 45 30.0 -9.5
comp=E,4.3nm,0.7s
AKTO Aktyubinsk 11.78 41 Pn **Pn 04 43 27.6 -0.1**
comp=E,1.8nm,0.6s
AB31 Akbulak array 12.11 49 ⇓ Pn **Pn 04 43 32.5 +0.3**
comp=E,1.0nm,0.5s,baz=242,slow=11,SNR=27
AB31 Sn **Sn 04 45 39.5 -8.0**
comp=E,1.8nm,0.5s,baz=236,slow=24,SNR=7.0
AB31 Akbulak array 12.11 49 Pn **Pn 04 43 32.5 +0.3**
comp=E,1.0nm,0.5s,SNR=27
OBN Obninsk 14.39 338 ⇓ *e*P **Pn 04 44 04.0 +0.9**
OBN *e*S **Sn 04 46 47.7 +4.8**
OBN pmax pmax
comp=Z,30nm,0.4s
OBN MLR MLR
comp=Z,57nm,15.0s
KLMR Klimovskoe 19.17 350 *e*P **P 04 45 00.1 -3.0**
KLMR pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 19.64 48 *e*P **P 04 45 06.5 -1.8**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BVA0 Borovoye Array 19.68 48 P **Pn 04 45 14.6 +4.4**
comp=Z,2.6nm,0.8s,baz=238,slow=3.1,SNR=5.4
BVAR Borovoye Array 19.68 48 P **P 04 45 07.2 -1.6**
comp=Z,0.4nm,0.3s,baz=231,slow=9.1,SNR=4.5
VSU Vasula 20.32 330 *e*P Pn 04 45 17.1 -0.6
VSU pmax pmax
comp=Z,25nm,1.3s
AAK Ala-Archa 21.07 79 *e*P **P 04 45 22.1 -2.1**
AAK pmax pmax
comp=Z,6.0nm,1.2s
FINES FINESS Array B 22.75 335 P **P 04 45 39.6 -2.1**
comp=Z,0.9nm,0.7s,baz=138,slow=13,SNR=5.0
FINES FINESS Array B 22.75 335 *i* P **P 04 45 45.5 +3.8**
FINES pmax pmax
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 23.89 58 P **P 04 45 53.4 0.0**
comp=Z,0.6nm,0.7s,baz=271,slow=9.9,SNR=9.6
KURK Kurchatov 23.96 58 P **P 04 45 53.4 -0.6**
KURK pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 24.20 304 *i* P **P 04 45 59.4 +3.1**
MKAR Makanchi Array 26.21 67 P **P 04 46 14.6 0.0**
comp=Z,0.3nm,0.4s,baz=269,slow=8.4,SNR=3.6
ARCES ARCESS Array B 29.46 346 P **P 04 46 42.1 -1.3**
comp=Z,0.9nm,0.7s,baz=157,slow=9.8,SNR=7.6
SPITS Spitsbergen Ar 38.07 351 P **P 04 47 57.8 -0.2**
comp=Z,2.5nm,0.7s,baz=128,slow=9.5,SNR=9.7
SPITS Spitsbergen Ar 38.07 351 P **P 04 47 57.8 -0.2**
SPITS pmax pmax
comp=Z,2.0nm,0.7s

MEX 17 04:54:11.0±0.4, **14°88N**×**93°28W**, **h28**km±10km, **MD3.6,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PCIG		**0.82**	**4**	*e*P		Pn	04 54 24.2	-2.5
PCIG				*e*S		Sb	04 54 34.3	-3.1
CCIG	**Comitan**	**1.78**	**38**	*e*P		Pn	04 54 37.5	-2.5
CCIG				*i* S		Sn	04 54 59.2	-2.6

MEX 17 05:15:47.7±0.5, **16°03N**×**98°88W**, **h17**km±18km, **MD3.8,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.81**	**63**	*e*P		Pb	05 16 00.4	-2.9
PNIG				*i* S		Sb	05 16 10.2	-3.6
ACX	**Acapulco**	**1.26**	**312**	*i* P		Pg	05 16 13.9	+1.9
ACX				*e*S		Sg	05 16 29.2	+0.7
VHO	**Vista Hermosa**	**2.30**	**63**	*e*P		Pn	05 16 22.7	-2.4
VHO				*e*S		Sn	05 16 49.8	-3.3

NIED **17** *05:19:00,39.°00N×142.°70E, h5km, Mw4.1 Best double couple: Mo1.83000×10^15 NP1:*φs*133.00000°, δ40.00000°, λ-64.00000°. NP2:*φs*280.00000°, δ55.00000°, λ-110.00000°.*
JMA **17** *05:19:33.3±0.1, 39.°02N×142.°75E, h18km±1km, M4.2*
NEIC **17** *05:19:38.4±0.9, 38.°99N×142.°78E, h41km±8km, mb4.4/5, Error ellipse: s-maj=11.6km s-min=6.7km az=117.0*
IDC **17** *05:19:38.6±2.4, 38.°98N×142.°68E, h40km±21km, mb3.8/17, mb1 3.9/23,mb1mx3.8/58,mbtmp4.0/23, ML3.4/5, MS3.0/6, Ms1 3.1/6,ms1mx2.8/44, Error ellipse: s-maj=18.9km s-min=13.6km az=95.0*
ISC 17 05:19:32.9±2.0, **38°98N**±0.°04×**142°73E**±0.°07, **h1**km±11km, **n56**,σ1°**19**/53, **mb4.2**/22, **MS3.6**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.83**	**277**	P		**Pg**	**05 19 49.2**	**+0.4**
OFUJ				S		**Sb**	**05 20 00.6**	**-1.3**
MIYJ	**Miyakonagasawa**	**0.92**	**310**	P		**Pg**	**05 19 50.0**	**-0.6**
MIYJ				*e*S		**Sg**	**05 20 02.3**	**-0.3**
JTH	**Tanohata**	**1.17**	**325**	P		**Pg**	**05 19 54.6**	**-0.7**
JTH				S		**Sg**	**05 20 09.7**	**-0.7**
JMK	**Ichinoseki**	**1.18**	**269**	P		**Pg**	**05 19 55.0**	**-0.4**
JMK				S		**Sg**	**05 20 10.7**	**0.0**
JIO	**Ouri**	**1.20**	**245**	P		**Pg**	**05 19 55.1**	**-0.8**
JIO				S		**Sg**	**05 20 10.6**	**-0.8**
JOM	**Ohasama**	**1.22**	**294**	P		**Pg**	**05 19 55.3**	**-1.0**
JOM				*e*S		**Sg**	**05 20 11.2**	**-0.9**
JANG	**Nango**	**1.68**	**326**	P		**Pn**	**05 20 02.2**	**-1.2**
JANG				S		**Sn**	**05 20 23.5**	**-2.1**
JRG	**Rokugo**	**1.68**	**285**	P		**Pn**	**05 20 03.6**	**+0.2**
JOU	**Okura**	**1.73**	**250**	P		**Pn**	**05 20 03.6**	**-0.5**
JOU				*e*S		**Sn**	**05 20 26.0**	**-0.9**
ERM	**Erimo**	**3.05**	**6**	*e*Pn		**Pn**	**05 20 21.6**	**-0.6**
MJAR	**Matsushiro Arr**	**4.33**	**237**	Pn		**Pn**	**05 20 41.4**	**+1.5**
	1.8nm,0.3s,baz=42,slow=12,SNR=33							
MJAR				LR		LR	05 22 25.4	
	comp=Z,295nm,20.6s,baz=65,slow=39							
MAJO	**Matsushiro**	**4.33**	**237**	*e*Pn		**Pn**	**05 20 41.6**	**+1.7**
MAT	**Matsushiro**	**4.33**	**237**	P		**Pn**	**05 20 41.1**	**+1.2**
MAT				*e*S		**Sn**	**05 21 32.6**	**+1.5**
ASAJ	**Asahikawa**	**5.13**	**359**	Pn		**Pn**	**05 20 52.0**	**+1.1**
	0.9nm,0.3s,baz=230,slow=16,SNR=2.8							
ASAJ	**Asahikawa**	**5.13**	**359**	*e*Pn		**Pn**	**05 20 53.4**	**+2.5**
	15nm,0.9s							
JHJ	**Hachijo jima 2**	**6.32**	**203**	Pn		**Pn**	**05 21 07.6**	**+0.5**
	6.6nm,0.3s,baz=65,slow=18,SNR=2.4							
JHJ				Sn		**Sn**	**05 22 16.6**	**-3.4**
	14nm,0.3s,baz=72,slow=19,SNR=3.5							
USRK	**Ussuriysk Ar.**	**9.59**	**306**	Pn		**Pn**	**05 21 53.6**	**+1.6**
	0.2nm,0.3s,baz=98,slow=13,SNR=6.5							
JNU	**Nakatsue**	**11.23**	**242**	Pn		**Pn**	**05 22 17.1**	**+2.5**
	0.2nm,0.3s,baz=50,slow=17,SNR=2.3							
JNU				LR		LR	05 26 56.8	
	comp=Z,150nm,19.7s,baz=329,slow=39							
KSRS	**Korea Array**	**11.75**	**267**	Pn		Pn	05 22 27.1	+5.4
	0.1nm,0.3s,baz=84,slow=14,SNR=8.7							
KSAR	**Wonju Array Be**	**11.78**	**267**	Pn		Pn	05 22 27.1	+5.0
JCJ	**Chichijima**	**11.86**	**182**	LR		LR	05 28 09.5	
	comp=Z,44nm,20.2s,slow=43							
KLR	**Kul'dur**	**12.92**	**326**	Pn		**Pn**	**05 22 40.6**	**+3.0**
	0.1nm,0.3s,baz=143,slow=14,SNR=4.2							
PETK	**Petropavlovsk-**	**17.48**	**31**	LR		LR	05 30 26.8	
	comp=Z,17nm,18.3s,baz=210,slow=37							
MA2	**Magadan**	**21.24**	**11**	P		**P**	**05 24 19.8**	**-0.3**
	14nm,0.8s,baz=238,slow=8.6,SNR=4.8							
MA2				LR		LR	05 34 07.3	
	comp=Z,28nm,18.6s,baz=118,slow=41							
SEY	**Seymchan**	**24.69**	**11**	P		**P**	**05 24 56.1**	**+1.0**
	2.3nm,0.7s,baz=192,slow=11,SNR=7.1							
SONM	**Songino Array**	**27.63**	**301**	P		**P**	**05 25 23.5**	**+1.5**
	0.6nm,0.5s,baz=105,slow=8.5,SNR=3.8							
H11N2	**WAKE ISLAND Hy**	**28.34**	**126**	T		T	05 55 09.3	
	baz=318,slow=75,SNR=861							
H11N1	**WAKE ISLAND Hy**	**28.35**	**126**	T		T	05 55 09.9	
	baz=318,slow=75,SNR=685							
H11N3	**WAKE ISLAND Hy**	**28.36**	**126**	T		T	05 55 10.6	
	baz=318,slow=75,SNR=697							
H11S1	**WAKE ISLAND Hy**	**29.13**	**128**	T		T	05 56 08.2	
	baz=320,slow=76,SNR=26							
H11S3	**WAKE ISLAND Hy**	**29.13**	**128**	T		T	05 56 08.6	
	baz=320,slow=76,SNR=30							
H11S2	**WAKE ISLAND Hy**	**29.15**	**128**	T		T	05 56 09.4	
	baz=320,slow=76,SNR=27							
ZALV	**Zalesovo Beam**	**41.40**	**311**	P		**P**	**05 27 19.9**	**-0.7**
	1.7nm,0.7s,baz=83,slow=8.0,SNR=6.8							
CMAR	**Chiang Mai Arr**	**43.01**	**254**	LR		LR	05 47 42.4	
	comp=Z,64nm,18.0s,baz=276,slow=39							
MKAR	**Makanchi Array**	**43.99**	**301**	P		**P**	**05 27 41.4**	**-0.4**
	1.7nm,0.8s,baz=86,slow=7.5,SNR=12							
KURK	**Kurchatov**	**45.58**	**307**	*e*P		**P**	**05 27 53.7**	**-0.6**
	65nm,0.8s							
KURBB	**Kurchatov Arra**	**45.65**	**307**	P		**P**	**05 27 54.4**	**-0.4**
	3.3nm,0.7s,baz=82,slow=8.3,SNR=20							
ILAR	**Eielson Array**	**47.30**	**33**	P		**P**	**05 28 08.0**	**+0.4**
	2.0nm,0.8s,baz=266,slow=6.6,SNR=25							
DOT	**Dot Lake**	**48.61**	**35**	*e*P		**P**	**05 28 17.9**	**0.0**
	3.3nm,0.7s							
TKM2	**Tokmak 2**	**49.64**	**297**	*e*P		**P**	**05 28 26.2**	**0.0**
	8.5nm,1.1s							
BVAR	**Borovoye Array**	**50.05**	**311**	P		**P**	**05 28 28.6**	**-0.4**
	1.1nm,0.6s,baz=63,slow=8.1,SNR=5.5							
KKAR	**Karatay Array**	**53.07**	**299**	*e*P		**P**	**05 28 51.1**	**-0.5**
	0.8nm,0.4s							
ARU	**Arti**	**55.60**	**318**	P		**P**	**05 29 09.6**	**-0.3**
	3.9nm,0.5s,baz=63,slow=4.5,SNR=3.7							
ABKAR	**Akbulak array**	**57.49**	**310**	*e*P		**P**	**05 29 22.8**	**-0.7**
	1.2nm,0.4s							
WRAB	**Tennant Creek**	**59.13**	**189**	*e*P		**P**	**05 29 34.5**	**-0.6**
WRA	**Warrainnga Arr**	**59.14**	**189**	P		**P**	**05 29 34.7**	**-0.5**
	3.1nm,0.5s,baz=6.6,slow=6.9,SNR=51							
ASAR	**Alice Springs**	**62.86**	**189**	P		**P**	**05 30 00.6**	**+0.1**
	1.4nm,0.7s,baz=13,slow=6.7,SNR=10							
FINES	**FINESS Array B**	**67.58**	**332**	P		**P**	**05 30 29.9**	**-0.7**
	0.7nm,0.7s,baz=39,slow=9.0,SNR=3.3							
HFS	**Hagfors**	**72.74**	**336**	P		**P**	**05 31 02.6**	**+0.2**
	3.4nm,1.1s,baz=18,slow=6.5,SNR=2.7							
NOA	**NORSAR Array B**	**72.79**	**338**	P		**P**	**05 31 02.2**	**-0.5**
	0.8nm,0.8s,baz=36,slow=5.9,SNR=2.6							
AKASG	**Malin Array Be**	**73.39**	**323**	P		**P**	**05 31 05.8**	**-0.6**
	0.8nm,0.5s,baz=45,slow=5.7,SNR=3.3							
PDAR	**Pinedale Array**	**75.57**	**46**	P		**P**	**05 31 20.1**	**+0.6**
	0.4nm,0.6s,baz=264,slow=3.4,SNR=3.2							
RAO	**Raoul Island**	**77.17**	**145**	LR		LR	06 02 44.2	
	comp=Z,142nm,18.5s,baz=72,slow=34							
TXAR	**Lajitas Array**	**88.12**	**53**	P		**P**	**05 32 25.4**	**-0.3**
	0.4nm,0.8s,baz=316,slow=3.8,SNR=4.4							
QSPA	**South Pole Qui**	**128.72**	**180**	*e*PKPdf		**PKPdf**	**05 38 40.2**	**-0.8**
LPAZ	**La Paz**	**144.80**	**59**	PKP		PKPbc	05 39 12.0	+0.2
	0.6nm,0.7s,baz=315,slow=1.4,SNR=3.5							

ISCJB **17** *05:28:37.4±0.4, 37.°79N×0.°03×72.°71E×0.°06, h10km, mb4.1/19, MS3.5/4, Error ellipse: s-maj=7.0km s-min=3.7km az=154.9*
IDC **17** *05:28:38.2±1.0, 37.°85N×72.°83E, h0km, mb4.0/11, mb1 4.1/17, mb1mx3.8/56, mbtmp4.0/17, ML3.5/6, MS3.3/7, Ms1 3.3/7, ms1mx2.9/47, Error ellipse: s-maj=19.8km s-min=18.0km az=154.0*
BJI **17** *05:28:41.8, 37.°84N×73.°07E, h8km, mb4.2/6, mB4.2/2, ML3.9/3, Ms3.8/2, Ms7 3.9/1*
NNC **17** *05:28:44.4±1.0, 38.°17N×72.°69E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=9.3km s-min=5.2km az=146.0*
NEIC **17** *05:28:46.8±2.7, 38.°13N×72.°71E, h56km±20km, mb4.3/5, Error ellipse: s-maj=27.1km s-min=13.7km az=194.0*
MOS **17** *05:28:48.9±1.9, 38.°33N×72.°72E, h75km, mb4.3/8, Error ellipse: s-maj=12.6km s-min=5.4km az=86.6*
ISC 17 05:28:39.5±0.5, **37°86N**±0.°04×**72°78E**±0.°04, **h10**km, **n89,**
σ**2°37**/91, **mb4.2**/19, **MS3.4**/4, **18C-13D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSH	**Kashi**	**3.00**	**55**	Pn		**Pn**	**05 29 22.8**	**-4.4**
KSH				Sn		Sn	05 29 53.8	-9.4
KSH				SMN				
	1μm,0.9s							
KSH				SME				
	630nm,0.7s							
DZET	**Dzherino**	**3.25**	**288**	⇑ Pn		**Pb**	**05 29 35.2**	**-2.1**
	72nm,0.5s							
DZET				⇓ Pg		**Pg**	**05 29 40.2**	**-1.6**
	199nm,0.6s							
DZET				⇓ Lg		Lg	05 30 22.4	
	1μm,0.7s							
CEP	**Cherat**	**4.09**	**190**	P		**Pb**	**05 29 50.9**	**-0.7**
CEP				S		**Sg**	**05 30 53.0**	**+2.3**
CHCP	**Chirah Chowk**	**4.21**	**174**	P		**Pb**	**05 29 53.1**	**-0.5**
MNAS	**Manas**	**4.63**	**357**	⇑ Pn		**Pn**	**05 29 51.9**	**+2.3**
	38nm,0.5s							
MNAS				⇑ Pg		**Pg**	**05 30 04.5**	**-3.7**
	51nm,0.6s							
MNAS				⇑ Sn		**Sn**	**05 30 44.7**	**+1.2**
	42nm,0.8s							
MNAS				⇑ Lg		Lg	05 31 01.8	
	135nm,1.2s							
MNAS	**Manas**	**4.63**	**357**	PN		**Pn**	**05 29 51.9**	**+2.3**
MNAS				pmax	pmax			
	comp=Z,38nm,0.5s							
EKS2	**Erkin-Say**	**4.86**	**9**	*e*PN		**Pn**	**05 29 56.0**	**+3.2**
EKS2	**Erkin-Say**	**4.86**	**9**	*e*P		**Pn**	**05 29 56.0**	**+3.2**
AAK	**Ala-Archa**	**4.95**	**15**	Pn		**Pn**	**05 29 57.0**	**+3.0**
	com

AAK Sn **Sn** **05 30 55.1 +3.7**
comp=Z,2.7nm,0.3s,baz=209,slow=4.4,SNR=4.0
AAK Lg Lg 05 31 19.7
comp=Z,1.3nm,0.3s,baz=300,slow=20,SNR=2.8
AAK LR LR 05 31 59.2
comp=Z,120nm,19.3s,baz=188,slow=41
AAK Ala-Archa 4.95 15 ⇓Pn **Pn** **05 29 56.8 +2.8**
comp=Z,27nm,0.6s
AAK ⇓Pg Pg 05 30 09.2 -5.1
comp=Z,27nm,0.6s
AAK ⇑Lg Lg 05 31 10.3
comp=Z,135nm,1.4s
AAK Ala-Archa 4.95 15 PN **Pn** **05 29 56.8 +2.8**
AAK pmax pmax
comp=Z,22nm,0.7s
AAK Ala-Archa 4.95 15 *e*Pn **Pn** **05 29 56.6 +2.5**
AAK Sn **Sn** **05 30 55.1 +3.7**
AAK Lg Lg 05 31 19.7
THW Thamme Wali 5.12 190 P **Pb** **05 30 05.3 -3.9**
FRU Bishkek 5.17 15 *e*PN Pb 05 30 02.5 -7.4
FRU *e*S **Sn** **05 30 59.0 +2.5**
FRU pmax pmax
comp=Z,57nm,1.6s
FRU pmax pmax
comp=E,570nm,2.0s
TKM2 Tokmak 2 5.50 22 ⇑Pn **Pn** **05 30 04.7 +3.2**
comp=E,5.7nm,0.7s
TKM2 ⇑Pg **Pg** **05 30 20.2 -4.5**
TKM2 ⇓Lg Lg 05 31 31.5
comp=E,68nm,1.0s
TKM2 Tokmak 2 5.50 22 PN Pb 05 30 08.2 -7.4
TKM2 pmax pmax
comp=Z,24nm,0.9s
TKM2 Tokmak 2 5.50 22 *e*Pn **Pn** **05 30 03.8 +2.2**
comp=Z,17nm,0.6s
KK31 Karatay Array 5.52 342 ⇑Pn **Pn** **05 30 03.9 +2.1**
comp=Z,15nm,0.3s,baz=147,slow=11,SNR=398
KK31 ⇓Pg **Pb** **05 30 18.8 +2.9**
comp=Z,15nm,0.5s
KK31 ⇓Sn **Sn** **05 31 04.7 -0.5**
comp=Z,19nm,0.6s
KK31 ⇓Lg Lg 05 31 31.8
comp=Z,31nm,0.6s
KK31 Karatay Array 5.52 342 PN **Pn** **05 30 03.8 +2.1**
KK31 S **Sn** **05 31 07.6 +2.4**
KK31 pmax pmax
comp=Z,15nm,0.4s
KK31 smax smax
comp=N,19nm,0.6s
KKAR Karatay Array 5.52 342 *e*PN **Pn** **05 30 04.2 +2.5**
KKAR pmax pmax
comp=Z,36nm,0.3s
KKAR Karatay Array 5.52 342 *e*Pn **Pn** **05 30 04.2 +2.5**
comp=Z,36nm,0.3s
THN Thein Dam 5.92 155 *e*P **Pn** **05 30 09.0 +1.8**
THN *e*S **Sn** **05 31 14.0 -1.1**
PDGK Podgornoye 7.47 41 ⇓Pn **Pn** **05 30 30.4 +2.0**
comp=Z,18nm,0.9s
PDGK ⇑Lg Lg 05 32 32.6
comp=Z,38nm,1.0s
PDGK Podgornoye 7.47 41 PN **Pn** **05 30 30.7 +2.2**
PDGK pmax pmax
comp=Z,18nm,0.9s
OTUK Ortayu 10.39 358 ⇓Pn **Pn** **05 31 08.5 +0.1**
comp=Z,4.9nm,1.3s
OTUK ⇓Lg Lg 05 34 05.1
comp=Z,30nm,1.3s
OTUK Ortayu 10.39 358 P **Pn** **05 31 08.0 -0.5**
OTUK pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 11.36 35 *e*P **Pn** **05 31 24.2 +2.4**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 11.36 35 Pn **Pn** **05 31 24.4 +2.6**
comp=Z,0.1nm,0.3s,baz=213,slow=13,SNR=8.9
MKAR Lg Lg 05 34 24.2
baz=232,slow=25,SNR=2.2
MKAR LR LR 05 36 04.0
comp=Z,64nm,20.2s,baz=197,slow=39
MKAR Makanchi Array 11.36 35 *i* P Pn 05 31 25.7 +3.9
MKAR pmax pmax
comp=Z,2.0nm,0.8s
GEYT Alibeck 11.59 275 LR LR 05 35 58.8
comp=Z,65nm,19.9s,baz=165,slow=38
WMQ Urumqi 12.76 57 P **Pn** **05 31 41.8 +0.8**
WMQ LN
comp=Z,120nm,7.8s
WMQ LE
comp=Z,82nm,10.8s
PYUN Piuthan 12.96 136 *e*P **Pn** **05 31 43.5 -0.3**
comp=Z,26nm,0.6s
PYUN *e*S **Sn** **05 34 00.6 -7.6**
KURBB Kurchatov Arra 13.41 16 Pn **Pn** **05 31 48.8 -0.8**
comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=6.9
KURBB Lg Lg 05 35 37.2
comp=Z,0.0nm,0.3s,baz=216,slow=30,SNR=4.4
KURK Kurchatov 13.51 16 *e*P **Pn** **05 31 50.7 -0.4**
KURK pmax pmax
comp=Z,24nm,1.0s
KURK Kurchatov 13.51 16 *e*Pn **Pn** **05 31 50.7 -0.4**
comp=Z,24nm,1.0s
KURK Lg Lg 05 35 37.2
KOLN Koldanda 13.55 135 *e*P **Pn** **05 31 51.1 -0.9**
comp=Z,11nm,0.4s
GKN Gorkha 13.98 131 *e*P **Pn** **05 31 57.2 -0.5**
comp=Z,12nm,0.4s
AB31 Akbulak array 14.69 325 Pn **P** **05 32 09.9 -3.5**
comp=Z,3.1nm,0.6s,baz=133,slow=13,SNR=55
AB31 Sn **Sn** **05 34 49.6 -0.3**
comp=Z,4.5nm,0.8s,baz=139,slow=23,SNR=4.0
AB31 Akbulak array 14.69 325 *i* P **Pn** **05 32 05.1 -2.1**
AB31 S Sn 05 34 39.6 -10
AB31 pmax pmax
comp=Z,3.0nm,0.6s
AB31 smax smax
comp=N,5.0nm,0.8s
ABKAR Akbulak array 14.69 325 *e*Pn **Pn** **05 32 05.7 -1.4**
comp=N,3.8nm,0.5s
ABKAR *e*Sn **Sn** **05 34 45.2 -4.7**
PKIN Phulchoki 14.74 130 *e*P **Pn** **05 32 07.1 -1.2**
comp=N,9.8nm,0.4s
BVAR Borovoye Array 15.26 355 Pn **Pn** **05 32 12.7 -2.2**
comp=N,0.3nm,0.3s,baz=163,slow=11,SNR=11
BVAR Lg Lg 05 36 40.8
comp=N,0.2nm,0.3s,baz=242,slow=37,SNR=2.6
BRVK Borovoye 15.30 354 ⇑*i* P **Pn** **05 32 14.1 -1.3**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 15.30 354 *e*P **Pn** **05 32 13.7 -1.7**
comp=Z,22nm,1.0s
RAMN Ramite 15.93 129 *e*P **Pn** **05 32 21.7 -2.3**
comp=Z,24nm,0.6s
AKTO Aktyubinsk 16.40 325 Pn **Pn** **05 32 28.6 -1.0**
comp=Z,0.8nm,0.3s,baz=117,slow=9.5,SNR=32
AKTO Aktyubinsk 16.40 325 ⇑Pn **P** **05 32 30.3 -2.2**
comp=Z,16nm,0.8s
AKTO ⇑Sn **Sn** **05 35 31.2 -0.5**
comp=Z,5.1nm,0.8s
AKTO Aktyubinsk 16.40 325 P **P** **05 32 31.0 -1.5**
AKTO pmax pmax
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 18.10 23 P **Pn** **05 32 49.3 -1.6**
comp=Z,0.7nm,0.3s,baz=219,slow=9.3,SNR=14
ZALV Zalesovo Beam 18.10 23 *e*P **Pn** **05 32 48.9 -1.9**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ARU Arti 20.87 337 P **P** **05 33 20.6 -0.8**
comp=Z,2.9nm,0.3s,baz=157,slow=3.2,SNR=6.6
ARU Arti 20.87 337 *d i*P **P** **05 33 20.4 -1.0**
ARU 05 33 52.2
ARU S S 05 36 56.8 -17
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 20.87 337 *e*P Pn 05 33 22.2 -1.7
comp=Z,5.8nm,0.8s
GTA Gaotai 21.15 77 *e*P P 05 33 31.4 +6.6
GTA pP sP 05 33 36.3 +7.4
GTA sP pP 05 33 39.0 +11
GTA PMZ
comp=Z,6.0nm,1.1s
GNI Garni 21.88 285 *e*P P 05 33 43.7 +11
GNI pmax pmax
comp=Z,29nm,0.8s
NCK Nalchik 22.77 294 *e*P P 05 33 51.9 +10
NCK pmax pmax
comp=Z,27nm,0.5s
LZH Lanzhou 24.83 85 *e*P **P** **05 34 01.3 -0.8**
LZH pP sP 05 34 05.8 -0.5
LZH sP pP 05 34 08.6 +3.5
LZH *e*PP **PnPn** **05 34 37.5 +3.3**
LZH PMZ
comp=Z,18nm,1.3s
LZH PMZ
comp=Z,53nm,4.6s
LZH LN
comp=Z,200nm,12.5s
LZH LE
comp=Z,210nm,12.2s
LZH LZ
comp=Z,270nm,14.8s
ZAK Zakamensk 25.03 50 *e*P **P** **05 34 06.4 +2.7**
ZAK pmax pmax
comp=Z,2.0nm,1.3s
SONM Songino Array 26.40 57 P **P** **05 34 17.0 +0.8**
comp=Z,1.7nm,0.8s,baz=265,slow=11,SNR=9.7
SONM LR LR 05 45 33.5
comp=Z,63nm,20.3s,baz=261,slow=38
CD2 Chengdu 26.41 96 *e*P **P** **05 34 16.5 +0.2**
ULN Ulaanbaatar 26.84 57⇑*e*P **P** **05 34 23.2 +3.0**
ULN pmax pmax
comp=Z,2.0nm,0.8s
ANN Anapa 27.28 296 *e*P **P** **05 34 29.5 +5.6**
ANN *e**PP PP 05 34 56.5 -29
ANN *e*S **S** **05 38 58.1 -5.0**
ANN pmax pmax
comp=Z,15nm,0.8s
OBN Obninsk 29.88 317⇑*e*P P 05 34 51.6 +4.7
OBN *e**PP sP 05 35 18.9 +28
OBN *e* 05 35 46.4
OBN pmax pmax
comp=Z,9.0nm,0.5s
HHC Hu-ho-hao-te 29.97 72 *e*P P 05 34 52.8 +4.7
HHC PMZ
comp=Z,16nm,0.9s
AKASG Malin Array Be 33.24 307*c*e*P P 05 35 23.2 +6.7
KIEV Kiev 33.25 307⇑*e*P P 05 35 23.1 +6.5
KIEV pmax pmax
comp=Z,5.0nm,1.5s
FINES FINESS Array B 37.18 325 P **P** **05 35 50.7 +0.4**
comp=Z,1.9nm,0.5s,baz=122,slow=8.6,SNR=9.2
FINES FINESS Array B 37.18 325 *e*P **P** **05 35 51.2 +0.9**
FINES pmax pmax
comp=Z,2.0nm,0.5s
ATD Arta Tunnel 37.47 234 LR LR 05 52 55.9
comp=Z,81nm,19.7s,baz=332,slow=39
ARCES ARCESS Array B 40.45 337 P **P** **05 36 17.9 +0.2**
comp=Z,1.0nm,0.6s,baz=118,slow=8.7,SNR=9.5
HFS Hagfors 42.90 321 P **P** **05 36 38.6 +0.7**
comp=Z,4.4nm,0.7s,baz=108,slow=9.5,SNR=8.9
TJN Taejon 43.02 75⇓*e*P P 05 36 45.0 +5.8
KSRS Korea Array 43.11 73 LR LR 05 57 11.9
comp=Z,35nm,18.2s,baz=332,slow=40
TIXI Tiksi 43.98 22⇑*e*P **P** **05 36 45.8 -0.6**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 44.17 322 P **P** **05 36 48.3 +0.2**
comp=Z,1.7nm,0.6s,baz=90,slow=7.9
NOA NORSAR Array B 44.17 322 P **P** **05 36 48.6 +0.5**
comp=Z,2.5nm,0.7s,baz=91,slow=7.8,SNR=10
TORD Torodi Ar. Bea 67.17 269 P **P** **05 39 34.6 +0.7**
comp=Z,0.9nm,0.5s,baz=46,slow=5.5,SNR=12
INK Inuvik 72.33 10 P **P** **05 40 04.8 0.0**
comp=Z,1.2nm,0.5s,baz=283,slow=4.6,SNR=4.5
INK Inuvik 72.33 10 *e*P **P** **05 40 05.2 +0.4**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 72.33 10 *e*P **P** **05 40 05.2 +0.4**
comp=Z,1.3nm,0.6s
COLA College 72.77 17 *e*P **P** **05 40 07.7 +0.2**
COLA pmax pmax
comp=Z,3.0nm,0.8s
COLA College 72.77 17 *e*P **P** **05 40 07.7 +0.2**
comp=Z,3.4nm,0.8s
ILAR Eielson Array 73.08 17 P **P** **05 40 08.6 -0.8**
comp=Z,0.8nm,0.7s,baz=328,slow=4.9,SNR=9.2
ILAR Eielson Array 73.08 17 *e*P **P** **05 40 11.8 +2.4**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
BOSA Boshof 79.70 221 LR LR 06 19 44.4
comp=Z,64nm,18.4s,baz=138,slow=38
YKA Yellowknife Ar 79.82 3 P **P** **05 40 47.7 +0.1**
comp=Z,0.4nm,0.4s,baz=348,slow=5.6,SNR=4.3
WRA Warramunga Arr 81.52 123 P **P** **05 40 57.9 +0.6**
comp=Z,0.4nm,0.6s,baz=329,slow=5.1,SNR=3.4
WRAB Tennant Creek 81.52 123 *e*P **P** **05 40 59.5 +2.2**
WRAB pmax pmax
comp=Z,15nm,1.6s
WRAB Tennant Creek 81.52 123 *e*P **P** **05 40 59.5 +2.2**
comp=Z,15nm,1.6s

MOS ***17*** *05:31:04.3±1.0, 43˚.78N×16˚.42E, h12km, mb4.3/7, Error ellipse: s-maj=5.5km s-min=4.1km az=92.5*
PDG ***17*** *05:31:04.9±0.6, 43˚.76N×16˚.55E, h5km±1km, MD4.2/7, ML4.1/9, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
LDG ***17*** *05:31:04.9±0.1, 43˚.78N×16˚.51E, h2km, Ml4.0/14, Error ellipse: s-maj=2.0km s-min=1.7km az=54.0*
CSEM ***17*** *05:31:05.4±0.1, 43˚.79N×16˚.51E, h2km, ML4.2/4, Error ellipse: s-maj=2.6km s-min=1.8km az=36.0*
NEIC ***17*** *05:31:06.4±0.4, 43˚.80N×16˚.45E, h10km, mb4.6/5, ML4.2(PDG), Error ellipse: s-maj=5.7km s-min=5.1km az=63.0*
NEIC Felt at Split.
PRU ***17*** *05:31:06.2, 43˚.83N×16˚.76E, h0km, M4.6*
BEO ***17*** *05:31:06.3±0.3, 43˚.86N×16˚.53E, h0km, M3.9/2*
IDC ***17*** *05:31:09.6±1.2, 43˚.86N×16˚.60E, h40km±12km, mb3.6/9, mb1 3.8/23, mb1mx3.7/52, mbtmp3.8/23, ML3.7/12, MS3.0/3, Ms1 3.1/3, ms1mx2.5/43, Error ellipse: s-maj=12.5km s-min=9.7km az=49.0*

ISC 17 05:31:06.4±1.1, 43˚.82N±0˚.02×16˚.43E±0˚.02, h15km±7km, n401, σ2s08/534, mb4.2/17, 56C-22D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
UDBI	**Udbina**	**0.86**	**326**	*e*Pg		**Pg**	**05 31 22.1**	**-1.0**
UDBI				Sg		**Sb**	**05 31 35.5**	**+1.1**
UDBI	**Udbina**	**0.86**	**326**	*e*Pg		**Pg**	**05 31 22.0**	**-1.0**
UDBI				Sg		**Sb**	**05 31 35.5**	**+1.1**
BLY	**Banja Luka**	**1.08**	**30**⇓*i*Pg			**Pb**	**05 31 24.2**	**-2.6**
BLY	**Banja Luka**	**1.08**	**30**⇑*i*Pg			**Pb**	**05 31 24.8**	**-2.0**
BLY				*e*Sg		**Sb**	**05 31 40.5**	**-0.2**
NVLJ	**Novalja**	**1.35**	**304**	*i* Pn		**Pn**	**05 31 31.1**	**+0.3**
NVLJ				Sg		**Sg**	**05 31 50.4**	**+0.5**
NVLJ	**Novalja**	**1.35**	**304**	*i* Pn		**Pn**	**05 31 31.0**	**+0.3**
NVLJ				Sg		**Sg**	**05 31 50.4**	**+0.5**
SISC	**Sisak**	**1.66**	**359**	*i* Pn		**Pb**	**05 31 36.9**	**+0.2**
SISC				Sn		**Sg**	**05 31 59.8**	**+0.1**
SISC	**Sisak**	**1.66**	**359**	*i* Pn		**Pb**	**05 31 36.8**	**+0.2**
SISC				Sn		**Sg**	**05 31 59.8**	**+0.1**
BRY	**Bratogost**	**1.79**	**120**⇑*i*Pn			**Pn**	**05 31 35.5**	**-1.4**
BRY				*e*Sn		**Sb**	**05 32 01.0**	**-0.3**
BRY	**Bratogost**	**1.79**	**120**	*e*Pn		**Pn**	**05 31 35.8**	**-1.1**
BRY				*e*Sn		**Sn**	**05 31 58.7**	**-0.8**
BOJS	**Bojanci**	**1.89**	**334**	*i* Pn		**Pb**	**05 31 39.9**	**-0.7**
BOJS				*i* Sn		**Sg**	**05 32 07.0**	**-0.1**
comp=Z,923nm,0.7s								
BOJS	**Bojanci**	**1.89**	**334**⇑*i*Pg			**Pb**	**05 31 39.8**	**-0.7**
BOJS				*e*Sg		**Sg**	**05 32 07.0**	**-0.1**
BOJS	**Bojanci**	**1.89**	**334**	*i* Pn		**Pb**	**05 31 39.9**	**-0.7**
BOJS				*i* Sn		**Sg**	**05 32 07.0**	**-0.1**
comp=Z,923nm,0.7s								
UPM	**Unac-Piva**	**1.90**	**108**⇓*i*Pn			**Pn**	**05 31 38.4**	**-0.1**
UPM				*e*Sn		**Sb**	**05 32 03.6**	**-1.0**
UPM	**Unac-Piva**	**1.90**	**108**	*e*Pn		**Pn**	**05 31 38.4**	**-0.1**
UPM				*e*Sn		**Sn**	**05 32 02.0**	**-0.3**
ZAG	**Zagreb**	**2.04**	**351**	*e*Pn		**Pn**	**05 31 41.4**	**+1.2**
ZAG				*e*Sn		**Sb**	**05 32 07.9**	**-0.3**
HCY	**Herceg Novi**	**2.04**	**131**⇑*i*Pn			**Pn**	**05 31 40.2**	**0.0**
HCY				*e*Sn		**Sb**	**05 32 07.1**	**-1.2**
HCY	**Herceg Novi**	**2.04**	**131**⇑*i*Pn			**Pn**	**05 31 40.2**	**0.0**
HCY				*e*Sn		**Sn**	**05 32 04.9**	**-0.5**
RIY	**Rijeka**	**2.05**	**318**	*e*Pn		**Pb**	**05 31 42.6**	**-0.8**
RIY				*e*Sg		**Sg**	**05 32 14.2**	**+1.8**
GBRS	**Gornja Briga**	**2.07**	**327**	*i* Pn		**Pb**	**05 31 43.3**	**-0.4**
comp=Z,234nm,0.3s								
NKME	**Niksic**	**2.12**	**119**⇑*i*Pn			**Pn**	**05 31 41.4**	**0.0**
NKME				*e*Sn		**Sn**	**05 32 08.7**	**+1.2**
NKME	**Niksic**	**2.12**	**119**⇑*i*Pn			**Pn**	**05 31 41.4**	**0.0**
NKME				*e*Sn		**Sn**	**05 32 08.7**	**+1.2**
NKY	**Niksic**	**2.12**	**117**⇓*i*Pn			**Pn**	**05 31 41.5**	**0.0**
NKY				*e*Sn		**Sb**	**05 32 09.2**	**-1.6**
NKY	**Niksic**	**2.12**	**117**⇓*i*Pn			**Pn**	**05 31 41.5**	**0.0**
NKY				*e*Sn		**Sb**	**05 32 09.2**	**-1.6**
CRES	**Cresnjev**	**2.13**	**341**	*i* Pn		**Pn**	**05 31 42.5**	**+1.0**
comp=Z,309nm,0.4s								
CRES	**Cresnjev**	**2.13**	**341**⇑*i*Pn			**Pn**	**05 31 42.4**	**+1.0**
CRES				*e*Sn		**Sb**	**05 32 10.1**	**-0.8**
MS1	**Monte Sant'Ang**	**2.14**	**190**	*e*Pn		**Pn**	**05 31 40.6**	**-1.1**
BBLS	**Lazići**	**2.15**	**88**	*e*Pn		**Pn**	**05 31 41.7**	**-0.2**
BBLS				*e*Sn		**Sb**	**05 32 11.4**	**-0.3**
BBLS	**Lazići**	**2.15**	**88**	*e*Pn		**Pn**	**05 31 41.7**	**-0.2**
BBLS				*e*Sn		**Sn**	**05 32 08.6**	**+0.2**
PLE	**Pljevlja**	**2.20**	**102**⇑*i*Pn			**Pn**	**05 31 42.5**	**-0.1**
PLE				*e*Sn		**Sn**	**05 32 10.8**	**+1.1**
PLE	**Pljevlja**	**2.20**	**102**⇑*i*Pn			**Pn**	**05 31 42.5**	**-0.1**
PLE				*e*Sn		**Sn**	**05 32 10.8**	**+1.1**
CEME	**Cevo**	**2.22**	**124**⇓*i*Pn			**Pn**	**05 31 42.5**	**-0.2**
CEME				*e*Sn		**Sn**	**05 32 11.4**	**+1.5**
CEME	**Cevo**	**2.22**	**124**⇓*i*Pn			**Pn**	**05 31 42.5**	**-0.2**
CEME				*e*Sn		**Sn**	**05 32 11.4**	**+1.5**
TEKS	**Tekeris**	**2.35**	**71**	*i* Pn		**Pn**	**05 31 43.6**	**-0.9**
TEKS				*e*Sn		**Sn**	**05 32 13.7**	**+0.6**
TEKS	**Tekeris**	**2.35**	**71**	*i* Pn		**Pn**	**05 31 43.6**	**-0.9**
TEKS				*e*Sn		**Sn**	**05 32 13.7**	**+0.6**
BUM	**Brajici-Budva**	**2.36**	**129**⇓*i*Pn			**Pn**	**05 31 44.5**	**-0.2**
BUM				*e*Sn		**Sn**	**05 32 14.7**	**+1.3**
BUM	**Brajici-Budva**	**2.36**	**129**⇓*i*Pn			**Pn**	**05 31 44.5**	**-0.2**
BUM				*e*Sn		**Sn**	**05 32 14.7**	**+1.3**
CEY	**Cerknica**	**2.39**	**324**⇑*i*Pn			**Pb**	**05 31 47.5**	**-1.7**
CEY				*e*Sg		**Sb**	**05 32 21.1**	**+2.5**
CEY	**Cerknica**	**2.39**	**324**⇑*i*Pn			**Pn**	**05 31 47.3**	**+2.1**
CEY				*e*Sn		**Sb**	**05 32 17.9**	**-0.7**
SKDS	**Skadanscina**	**2.44**	**316**	*i* Pn		**Pn**	**05 31 47.2**	**+1.4**
comp=Z,174nm,0.2s								
SKDS	**Skadanscina**	**2.44**	**316**⇑*i*Pn			**Pn**	**05 31 47.0**	**+1.2**
SKDS				*e*Sn		**Sb**	**05 32 19.8**	**-0.2**
SKDS	**Skadanscina**	**2.44**	**316**⇑*i*Pn			**Pn**	**05 31 47.0**	**+1.2**
SKDS				*e*Sn		**Sb**	**05 32 19.8**	**-0.2**
PDG	**Podgorica**	**2.49**	**123**	*e*Pn		**Pn**	**05 31 47.3**	**+0.9**
PDG				*e*Sn		**Sb**	**05 32 18.8**	**-2.5**
PDG	**Podgorica**	**2.49**	**123**⇓*i*Pn			**Pn**	**05 31 46.3**	**-0.1**
PDG				*e*Sn		**Sn**	**05 32 16.5**	**-0.2**
TTG	**Podgorica**	**2.49**	**123**⇓*i*Pn			**Pn**	**05 31 46.3**	**-0.1**
TTG				*e*Sn		**Sn**	**05 32 17.7**	**+1.2**
DIVS	**Divibare**	**2.59**	**83**	*e*Pn		**Pn**	**05 31 47.1**	**-0.7**
DIVS				*e*Sn		**Sn**	**05 32 21.3**	**+2.2**
DIVS	**Divibare**	**2.59**	**83**	*e*Pn		**Pn**	**05 31 47.1**	**-0.7**
DIVS				*e*Sn		**Sn**	**05 32 18.7**	**-0.4**
DRME	**Dracevica, Mon**	**2.59**	**128**⇑*i*Pn			**Pn**	**05 31 47.8**	**-0.1**
DRME				*e*Sn		**Sn**	**05 32 20.0**	**+0.8**
DRME	**Dracevica, Mon**	**2.59**	**128**	*e*Pn		**Pn**	**05 31 47.8**	**-0.1**
DRME				*e*Sn		**Sn**	**05 32 19.0**	**-0.1**
LJU	**Ljubljana**	**2.60**	**329**⇑*e*Pn			**Pn**	**05 31 49.6**	**+1.6**
LJU				*e*			05 32 32.5	
LJU	**Ljubljana**	**2.60**	**329**⇑*i*Pn			**Pn**	**05 31 50.1**	**+2.1**
LJU	**Ljubljana**	**2.60**	**329**⇑*i*Pn			**Pn**	**05 31 49.8**	**+1.8**
LJU				*e*Sn		**Sn**	**05 32 22.2**	**+2.8**
KOGS	**Kog**	**2.63**	**357**	*i* Pn		**Pn**	**05 31 49.6**	**+1.2**
comp=Z,74nm,0.3s								
KOGS	**Kog**	**2.63**	**357**	*i* Pn		**Pn**	**05 31 49.6**	**+1.2**
comp=Z,74nm,0.3s								
AQU	**L'Aquila**	**2.66**	**238**	*e*P		**Pn**	**05 31 50.5**	**+1.7**
AQU				*e*			05 32 25.7	
AQU	**L'Aquila**	**2.66**	**238**	*e*Pn		**Pn**	**05 31 50.1**	**+1.3**
AQU				*e*Sn		**Sn**	**05 32 23.0**	**+2.2**
AQU	**L'Aquila**	**2.66**	**238**	*e*Pn		**Pn**	**05 31 50.5**	**+1.7**
AQU				*e*Sn		**Sb**	**05 32 25.7**	**-0.5**
BEHE	**Becsehely**	**2.67**	**5**⇑*e*Pn			**Pn**	**05 31 50.3**	**+1.5**
BEHE	**Becsehely**	**2.67**	**5**	*e*Pn		**Pn**	**05 31 50.1**	**+1.3**
BEHE				*e*Sn		**Sn**	**05 32 23.2**	**+2.3**
TRI	**Trieste**	**2.68**	**316**	*e*P		**Pn**	**05 31 50.7**	**+1.7**
TRI	**Trieste**	**2.68**	**316**	*e*Pn		**Pn**	**05 31 50.7**	**+1.7**
TRI				*e*Sg		**Sg**	**05 32 34.5**	**+2.0**
TRI	**Trieste**	**2.68**	**316**	*e*Pn		**Pn**	**05 31 50.7**	**+1.7**
TRI				*e*Sg		**Sg**	**05 32 34.5**	**+2.0**
BEY	**Berane**	**2.70**	**109**⇓*i*Pn			**Pn**	**05 31 49.5**	**+0.1**
BEY				*e*Sn		**Sn**	**05 32 22.5**	**+0.7**
IVA	**Berane**	**2.70**	**109**⇓*i*Pn			**Pn**	**05 31 49.5**	**+0.1**
IVA				*e*Sn		**Sn**	**05 32 22.5**	**+0.7**
IVAS	**Ivanjica**	**2.71**	**94**	*i* Pn		**Pn**	**05 31 50.3**	**+0.8**
IVAS				*e*Sn		**Sn**	**05 32 22.1**	**0.0**
IVAS	**Ivanjica**	**2.71**	**94**	*i* Pn		**Pn**	**05 31 50.3**	**+0.8**
IVAS				*e*Sn		**Sn**	**05 32 22.1**	**0.0**
BAI	**Bari**	**2.73**	**173**	*e*Pn		**Pn**	**05 31 48.9**	**-0.8**
CDT	**Castel del Mon**	**2.73**	**182**	*e*Pn		**Pn**	**05 31 48.7**	**-1.1**
FGSL	**Fruska Gora**	**2.77**	**60**	*e*Pn		**Pn**	**05 31 49.6**	**-0.6**
FRGS	**Fruska Gora**	**2.77**	**60**	*e*Pn		**Pn**	**05 31 49.6**	**-0.6**
ULC	**Ulcinj**	**2.77**	**131**⇓*i*Pn			**Pn**	**05 31 50.4**	**0.0**
ULC				*e*Sn		**Sn**	**05 32 24.4**	**+0.7**
ULC	**Ulcinj**	**2.77**	**131**⇓*i*Pn			**Pn**	**05 31 50.4**	**0.0**
ULC				*e*Sn		**Sn**	**05 32 24.4**	**+0.7**
PVY	**Plav**	**2.85**	**114**	*e*Pn		**Pn**	**05 31 51.5**	**-0.1**
PVY				*e*Sn		**Sn**	**05 32 26.6**	**+0.9**
PVY	**Plav**	**2.85**	**114**	*e*Pn		**Pn**	**05 31 51.5**	**-0.1**
PVY				*e*Sn		**Sn**	**05 32 26.6**	**+0.9**
TRUS	**Trudelj**	**2.90**	**81**	*e*Pn		**Pn**	**05 31 50.9**	**-1.1**
TRUS				*e*Sn		**Sn**	**05 32 27.1**	**+0.5**
TRUS	**Trudelj**	**2.90**	**81**	*e*Pn		**Pn**	**05 31 50.9**	**-1.1**
TRUS				*e*Sn		**Sn**	**05 32 27.1**	**+0.5**
SG1	**Sgolgore (BA)**	**2.98**	**176**	*e*Pn		**Pn**	**05 31 52.0**	**-1.2**
SG1				Sn		**Sn**	**05 32 28.4**	**-0.3**
OBKA	**Obir**	**3.00**	**334**	*e*Pn		**Pn**	**05 31 55.2**	**+1.6**
comp=Z,21nm,0.3s,SNR=18								
OBKA				*i* Sn		**Sb**	**05 32 34.2**	**-2.0**
comp=Z,183nm,0.6s								
OBKA	**Obir**	**3.00**	**334**	Pn		**Pn**	**05 31 55.2**	**+1.6**
comp=Z,21nm,0.3s,SNR=18								
OBKA				Sn		**Sb**	**05 32 34.2**	**-2.0**
comp=Z,183nm,0.6s								
SOKA	**Soboth**	**3.03**	**341**	*i* Pn		**Pn**	**05 31 55.0**	**+1.1**
comp=Z,15nm,0.5s,SNR=31								
SOKA				*i* Sn		**Sb**	**05 32 36.3**	**-0.6**
comp=Z,89nm,0.6s								
SOKA	**Soboth**	**3.03**	**341**	Pn		**Pn**	**05 31 55.0**	**+1.1**
comp=Z,15nm,0.5s,SNR=31								
SOKA				Sn		**Sb**	**05 32 36.3**	**-0.6**
comp=Z,89nm,0.6s								
GRUS	**Gruza**	**3.10**	**87**	*e*Pn		**Pn**	**05 31 54.2**	**-0.6**
GRUS	**Gruza**	**3.10**	**87**	*e*Pn		**Pn**	**05 31 54.2**	**-0.6**
TAR1	**Taranto**	**3.35**	**169**	*e*Pn		**Pn**	**05 31 57.3**	**-0.9**
MYKA	**Terra Mystica**	**3.44**	**326**	*e*Pn		**Pn**	**05 32 01.6**	**+2.1**
comp=Z,18nm,0.6s,SNR=12								
MYKA				*i* Sn		**Sb**	**05 32 47.8**	**-0.8**
comp=Z,34nm,0.4s								
MYKA	**Terra Mystica**	**3.44**	**326**	Pn		**Pn**	**05 32 01.6**	**+2.1**
comp=Z,18nm,0.6s,SNR=12								
SELS	**Selova**	**3.46**	**98**⇓*i*Pn			**Pn**	**05 32 00.5**	**+0.7**
SELS				*e*Sn		**Sn**	**05 32 42.0**	**+1.4**
SELS	**Selova**	**3.46**	**98**⇓*i*Pn			**Pn**	**05 32 00.5**	**+0.7**
SELS				*e*Sn		**Sn**	**05 32 42.0**	**+1.4**
ARSA	**Arzberg**	**3.49**	**350**	*i* Pn		**Pn**	**05 32 01.1**	**+0.9**
comp=Z,19nm,0.3s,SNR=50								
ARSA	**Arzberg**	**3.49**	**350**	Pn		**Pn**	**05 32 01.

comp=Z,27nm,0.4s
BOLS Boljevac 4.00 88 *e*Pn **Pn 05 32 05.6 -1.5**
BOLS Boljevac 4.00 88 *e*Pn **Pn 05 32 05.6 -1.5**
ABTA Abfaltersbach 4.03 318 Pn **Pn 05 32 11.1 +3.4**
comp=Z,7.7nm,0.2s,SNR=11
ABTA Abfaltersbach 4.03 318 Pn **Pn 05 32 11.1 +3.4**
comp=Z,7.7nm,0.2s,SNR=11
BARS Barje 4.05 102 ⇑*i*Pn **Pn 05 32 08.4 +0.5**
BARS *e*Sn **Sn 05 32 56.7 +1.5**
BARS Barje 4.05 102 ⇑*i*Pn **Pn 05 32 08.4 +0.5**
BARS *e*Sn **Sn 05 32 56.7 +1.5**
BUD Budapest 4.09 25 *e*P **Pn 05 32 09.0 +0.6**
BUD Budapest 4.09 25 *e*Pn **Pn 05 32 09.0 +0.6**
POPM Popiglio 4.11 275 P Pn 05 32 13.5 +4.9
BZS Buzias 4.11 62 ⇑*i*P **Pn 05 32 09.8 +1.1**
BZS Buzias 4.11 62 ⇑*i*Pn **Pn 05 32 08.6 -0.1**
BZS *e*Sn **Sn 05 32 56.2 -0.3**
BZS Buzias 4.11 62 ⇑*i*Pn **Pn 05 32 08.6 -0.1**
BZS Buzias 4.11 62 ⇑*i*P **Pn 05 32 09.8 +1.1**
BZS S **Sn 05 32 53.1 -3.4**
BZS *e*Sn **Sn 05 32 56.2 -0.3**
SKO Skopje 4.12 115 *e*Pn **Pn 05 32 09.9 +1.0**
SKO Skopje 4.12 115 *e*Pn **Pn 05 32 09.8 +1.0**
CONA Conrad Observa 4.13 355 *i*Pn **Pn 05 32 10.0 +0.9**
SNR=24
CONA Conrad Observa 4.13 355 Pn **Pn 05 32 10.0 +0.9**
SNR=24
OHR Ohrid 4.21 128 *e*Pn **Pn 05 32 10.9 +0.7**
OHR Ohrid 4.21 128 *e*Pn **Pn 05 32 10.8 +0.7**
MOA Molln 4.31 340 *i*Pn **Pn 05 32 13.8 +2.3**
comp=Z,20nm,0.3s,SNR=18
MOA *i*Sn **Sn 05 33 07.0 +5.6**
comp=Z,53nm,0.6s
MOA Molln 4.31 340 ⇑*i*Pn **Pn 05 32 13.2 +1.8**
MOA Molln 4.31 340 ⇑*i*Pn **Pn 05 32 13.2 +1.8**
MOA Sn **Sn 05 33 07.0 +5.6**
comp=Z,53nm,0.6s
SARO Sassorosso 4.37 277 P **Pn 05 32 14.5 +2.2**
VLC Villacollemand 4.38 277 *e*Pn **Pn 05 32 15.1 +2.8**
VLC Villacollemand 4.38 277 *e*Pn **Pn 05 32 15.2 +2.8**
SIRR Siria 4.44 55 ⇑*i*P **Pn 05 32 13.4 +0.1**
SIRR Siria 4.44 55 ⇑*i*P **Pn 05 32 13.4 +0.1**
SIRR S **Sn 05 33 01.9 -2.8**
ZAPS Zavoj 4.54 95 ⇑*i*Pn **Pn 05 32 16.0 +1.3**
ZAPS *e*Sn **Sn 05 33 07.4 +0.2**
TIP Timpagrande 4.64 177 *e*Pn **Pn 05 32 16.2 +0.1**
TIP *e*Sn **Sn 05 33 12.4 +2.7**
TIP Timpagrande 4.64 177 *e*Pn **Pn 05 32 16.2 +0.1**
TIP *e*Sn **Sn 05 33 12.4 +2.7**
SMOL Smolenice 4.75 8 *e*P **Pn 05 32 18.4 +0.9**
SMOL *e* 05 33 09.6
SMOL Smolenice 4.75 8 *e*Pn **Pn 05 32 18.4 +0.9**
SMOL *e*Sn **Sn 05 33 09.6 -2.7**
SMOL Smolenice 4.75 8 *e*PN **Pn 05 32 18.4 +0.9**
SMOL *e*SN **Sn 05 33 09.6 -2.7**
PSZ Piszkesteto 4.76 29 ⇑*i*P **Pn 05 32 17.2 -0.5**
PSZ Piszkesteto 4.76 29 ⇓*e*PcP **Pn 05 32 16.9 -0.8**
PSZ *e*Sb **Sg 05 33 35.7 -3.5**
PSZ Piszkesteto 4.76 29 *e*P **Pn 05 32 16.6 -1.1**
PSZ Piszkesteto 4.76 29 *e*Pn **Pn 05 32 16.6 -1.1**
PSZ Piszkesteto 4.76 29 ⇑*i*P **Pn 05 32 17.2 -0.5**
PSZ Piszkesteto 4.76 29 *e*Pn **Pn 05 32 16.6 -1.1**
WTTA Wattenberg 4.82 317 *i*Pn **Pn 05 32 21.6 +3.0**
comp=Z,7.5nm,0.2s,SNR=17
WTTA *e*Sn **Sn 05 33 19.3 +5.0**
comp=Z,46nm,0.5s
WTTA Wattenberg 4.82 317 Pn **Pn 05 32 21.6 +3.0**
comp=Z,7.5nm,0.2s,SNR=17
WTTA Sn **Sn 05 33 19.3 +5.0**
comp=Z,46nm,0.5s
WATA Walderalm 4.90 318 *e*Pn **Pn 05 32 22.6 +2.9**
comp=Z,41nm,0.3s,SNR=27
WATA Walderalm 4.90 318 Pn **Pn 05 32 22.6 +2.9**
comp=Z,41nm,0.3s,SNR=27
VYHS Vyhne 4.97 19 *e*P **Pn 05 32 20.6 +0.1**
VYHS *e* 05 33 16.2
VYHS Vyhne 4.97 19 *e*Pn **Pn 05 32 20.6 +0.1**
VYHS *e*Sn **Sn 05 33 16.2 -1.5**
VYHS Vyhne 4.97 19 *e*PN **Pn 05 32 20.6 +0.1**
VYHS *e*SN **Sn 05 33 16.2 -1.5**
SC2M Scurtabo 5.00 279 P **Pn 05 32 23.8 +2.8**
FETA Feichten 5.14 311 *i*Pn **Pn 05 32 25.2 +2.3**
comp=Z,5.0nm,0.4s,SNR=14
FETA Feichten 5.14 311 Pn **Pn 05 32 25.2 +2.3**
comp=Z,5.0nm,0.4s,SNR=14
MOTA Moosalm 5.14 315 *e*Pn **Pn 05 32 25.6 +2.6**
comp=Z,35nm,0.7s,SNR=27
MOTA Moosalm 5.14 315 Pn **Pn 05 32 25.6 +2.6**
comp=Z,35nm,0.7s,SNR=27
VAY Valandovo 5.17 117 *e*Pn **Pn 05 32 21.7 -1.7**
VAY Valandovo 5.17 117 *e*Pn **Pn 05 32 21.6 -1.7**
FUORN Ofenpass-Fuorn 5.18 305 *e*Pn **Pn 05 32 26.1 +2.5**
FUORN Ofenpass-Fuorn 5.18 305 *e*Pn **Pn 05 32 26.1 +2.5**
KKB Krupnik 5.26 109 *i*P Pn 05 32 16.7 -7.9
MPEP Malo Peshtene 5.33 92 *i*P **Pn 05 32 26.3 +0.8**
DRGR 5.34 54 ⇑*i*P **Pn 05 32 26.4 +0.8**
DRGR 5.34 54 ⇑*i*P **Pn 05 32 26.4 +0.8**
DRGR S **Sn 05 33 22.9 -3.9**
GEA0 GERESS Array S 5.37 340 *e*Pn **Pn 05 32 26.8 +0.8**
GEA0 GERESS Array S 5.37 340 *e*Pn **Pn 05 32 26.8 +0.8**
GEC2 GERESS Array S 5.37 340 *e*P **Pn 05 32 27.5 +1.3**
GEC2 *e* 05 33 31.1
GEC2 GERESS Array S 5.37 340 *e*Pn **Pn 05 32 27.5 +1.3**
GEC2 *e*Sn **Sn 05 33 31.1 +3.3**
GEC2 GERESS Array S 5.37 340 *e*Pn **Pn 05 32 27.5 +1.3**
GEC2 *e*Sn **Sn 05 33 31.1 +3.3**
GERES GERESS Array B 5.37 340 Pn **Pn 05 32 27.4 +1.3**
comp=Z,2.9nm,0.3s,baz=157,slow=14,SNR=39
GERES Sn **Sn 05 33 29.7 +1.9**
comp=Z,6.8nm,0.3s,baz=145,slow=24,SNR=11
GERES Lg Lg 05 34 00.2
comp=Z,2.4nm,0.3s,baz=158,slow=26,SNR=2.7
GERES LR LR 05 35 00.2
comp=Z,148nm,18.5s,baz=154,slow=43
RETA Reutte 5.41 315 *e*Pn **Pn 05 32 28.9 +2.3**
comp=Z,11nm,0.3s
RETA *e*Sn **Sn 05 33 34.6 +5.9**
comp=Z,20nm,0.4s
RETA Reutte 5.41 315 Pn **Pn 05 32 28.9 +2.3**
comp=Z,11nm,0.3s
KECS Kecovo 5.45 30 *e*P **Pn 05 32 27.4 +0.3**
KECS *e* 05 33 26.3
KECS Kecovo 5.45 30 *e*Pn **Pn 05 32 27.4 +0.3**
KECS Kecovo 5.45 30 *e*PN **Pn 05 32 27.4 +0.3**
KECS *e*SN **Sn 05 33 26.3 -3.3**
LOT Lotru 5.49 70 ⇑*i*P **Pn 05 32 29.4 +1.7**
LOT Lotru 5.49 70 ⇑*i*P **Pn 05 32 29.4 +1.7**
DAVOX Davos/Dischmat 5.49 305 Pn **Pn 05 32 30.2 +2.3**
comp=Z,5.3nm,0.3s,baz=118,slow=9.0,SNR=29
DAVOX Sn **Sn 05 33 33.2 +2.4**
comp=Z,3.0nm,0.3s,baz=166,slow=22,SNR=2.5
DAVOX Lg Lg 05 34 04.3
comp=Z,3.6nm,0.3s,baz=33,slow=16,SNR=5.0
VRAC Vranov 5.50 1 Pn **Pn 05 32 28.4 +0.6**
comp=Z,1.2nm,0.3s,baz=193,slow=13,SNR=6.1
VRAC Sn **Sn 05 33 29.0 -1.7**
comp=Z,0.7nm,0.3s,baz=98,slow=22,SNR=3.1
VRAC Vranov 5.50 1 ⇑*i*P **Pn 05 32 28.5 +0.8**
VRAC Vranov 5.50 1 S **Sn 05 33 28.8 -1.9**
VRAC Vranov 5.50 1 ⇑*i*P **Pn 05 32 28.5 +0.8**
TREC Trest 5.52 354 AMS AMS 05 34 30.0
comp=Z,800nm,8.1s
CEL Celeste 5.57 184 *e*Pn **Pn 05 32 29.5 +0.7**
CEL Celeste 5.57 184 *e*Pn **Pn 05 32 29.5 +0.7**
PGF Pioggiola 5.58 259 *e*P **Pn 05 32 31.2 +2.2**
SNR=1.0
PGF Pioggiola 5.58 259 *e*P **Pn 05 32 31.2 +2.2**
PGF Pioggiola 5.58 259 *e*P **Pn 05 32 31.2 +2.2**
SNR=1.0
PGF Pioggiola 5.58 259 *e*P **Pn 05 32 31.2 +2.2**
KHC Kasperske Hory 5.67 341 *e*PN **Pn 05 32 31.5 +1.4**
KHC *ex* x 05 32 41.5
KHC *e*SN **Sn 05 33 36.5 +1.5**
KHC *ex* x 05 34 02.5
KHC AMS AMS 05 34 40.0
comp=Z,800nm,7.5s
KHC Kasperske Hory 5.67 341 *e*P **Pn 05 32 31.5 +1.4**
KHC *e* 05 33 36.5
KHC MLR MLR
comp=Z,800nm,7.5s
KHC Kasperske Hory 5.67 341 Pn **Pn 05 32 31.5 +1.4**
KHC Sn **Sn 05 33 36.5 +1.5**
KHC Kasperske Hory 5.67 341 *e*Pn **Pn 05 32 31.6 +1.4**
KHC *e*Sn **Sn 05 33 36.5 +1.5**
TUE Stuetta 5.67 300 *e*Pn **Pn 05 32 32.1 +1.8**
TUE Stuetta 5.67 300 *e*Pn **Pn 05 32 32.1 +1.8**
LANS Liptovska Anna 5.73 20 *e*P **Pn 05 32 32.1 +1.1**
LANS Liptovska Anna 5.73 20 *e*Pn **Pn 05 32 32.1 +1.1**
LANS Liptovska Anna 5.73 20 *e*PN **Pn 05 32 32.1 +1.1**
DAVA Damuels 5.76 309 *e*Pn **Pn 05 32 34.1 +2.6**
comp=Z,17nm,0.6s
DAVA *e*Sn **Sn 05 33 42.5 +5.0**
comp=Z,17nm,0.4s
DAVA Damuels 5.76 309 Pn **Pn 05 32 34.1 +2.6**
comp=Z,17nm,0.6s
DAVA Sn **Sn 05 33 42.5 +5.0**
comp=Z,17nm,0.4s
MMB Musomiste 5.82 110 *i*P **Pn 05 32 33.2 +1.0**
NOV Novara 5.87 190 *e*P **Pn 05 32 33.8 +0.9**
NOV Novara 5.87 190 *e*P **Pn 05 32 33.8 +0.9**
MORC Moravsky Berou 6.01 7 ⇑*i*P **Pn 05 32 36.2 +1.4**
MORC Moravsky Berou 6.01 7 S **Sn 05 33 41.4 -2.0**
MORC Moravsky Berou 6.01 7 *e*P **Pn 05 32 36.0 +1.2**
MORC Moravsky Berou 6.01 7 *e*Pn **Pn 05 32 36.0 +1.2**
MORC Moravsky Berou 6.01 7 *e*Pn **Pn 05 32 36.0 +1.2**
ARR Arges 6.06 72 ⇑*i*P **Pn 05 32 36.9 +1.4**
ARR Arges 6.06 72 ⇑*i*P **Pn 05 32 36.9 +1.4**
TRPA Tarpa 6.06 42 *es*Pb **Pg 05 33 03.7 +1.3**
OKC Ostrava-Krasne 6.14 10 *e*PN **Pn 05 32 37.4 +0.9**
OKC *e*SN **Sn 05 33 45.0 -1.4**
OKC AMS AMS 05 35 20.0
comp=Z,600nm,7.9s
OKC Ostrava-Krasne 6.14 10 *e*P **Pn 05 32 37.4 +0.9**
OKC *e* 05 33 45.0
OKC MLR MLR
comp=Z,600nm,7.9s
OKC Ostrava-Krasne 6.14 10 Pn **Pn 05 32 37.4 +0.9**
CRVS Cervenica-Dubn 6.16 33 *e*P **Pn 05 32 38.6 +1.7**
CRVS Cervenica-Dubn 6.16 33 *e*Pn **Pn 05 32 38.6 +1.7**
CRVS Cervenica-Dubn 6.16 33 *e*PN **Pn 05 32 38.6 +1.7**
GOPC GO Pecny, Ondr 6.20 350 *e*PN **Pn 05 32 38.8 +1.3**
GOPC AMS AMS 05 35 00.0
comp=Z,800nm,7.6s
GOPC GO Pecny, Ondr 6.20 350 *e*P **Pn 05 32 38.8 +1.3**
GOPC MLR MLR
comp=Z,800nm,7.6s
GOPC GO Pecny, Ondr 6.20 350 Pn **Pn 05 32 38.8 +1.3**
UZH Uzhgorod 6.30 38 *e*P **Pn 05 32 40.6 +1.8**
PRU Pruhonice 6.31 349 *e*PN **Pn 05 32 39.7 +0.8**
PRU AMS AMS 05 35 00.0
comp=Z,800nm,7.5s
PRU Pruhonice 6.31 349 *e*P **Pn 05 32 39.7 +0.8**
PRU MLR MLR
comp=Z,800nm,7.5s
PRU Pruhonice 6.31 349 Pn **Pn 05 32 39.7 +0.8**
VOIR 6.36 72 ⇑*i*P **Pn 05 32 40.2 +0.5**
VOIR 6.36 72 ⇑*i*P **Pn 05 32 40.2 +0.5**
RZN Rozhen 6.46 106 *i*P **Pn 05 32 42.5 +1.4**
SBF Sospel 6.51 274 *e*Pn **Pn 05 32 41.1 -0.6**
SNR=1.0
SBF *e*Sn **Sn 05 33 50.0 -5.7**
comp=Z,40nm,0.5s
SBF Sospel 6.51 274 *e*P **Pn 05 32 41.1 -0.6**
SBF *e* 05 33 50.0
SBF Sospel 6.51 274 *e*Pn **Pn 05 32 41.1 -0.6**
SNR=1.0
SBF Sospel 6.51 274 *e*Pn **Pn 05 32 41.1 -0.6**
SBF *e*Sn **Sn 05 33 50.0 -5.7**
VAE Valguarnera 6.51 194 Pn **Pn 05 32 44.1 +2.3**
comp=Z,2.5nm,0.3s,baz=329,slow=4.9,SNR=2.2
AGG Agios Georgios 6.53 135 *e*P **Pn 05 32 41.4 -0.5**
AGG Agios Georgios 6.53 135 *e*Pn **Pn 05 32 41.4 -0.5**
AGG Agios Georgios 6.53 135 *e*Pn **Pn 05 32 41.4 -0.5**
DPC Dobruska-Polom 6.54 359 *e*PN **Pn 05 32 42.3 +0.2**
DPC AMS AMS 05 36 30.0
comp=Z,300nm,5.8s
DPC Dobruska-Polom 6.54 359 *e*P **Pn 05 32 42.3 +0.2**
DPC MLR MLR
comp=Z,300nm,5.8s
DPC Dobruska-Polom 6.54 359 Pn **Pn 05 32 42.3 +0.2**
CLTB Caltabellotta 6.69 202 *e*Pn **Pn 05 32 47.2 +2.9**
comp=Z,7.0nm,0.5s
CLTB Caltabellotta 6.69 202 *e*Pn **Pn 05 32 47.2 +2.9**
comp=Z,7.0nm,0.5s
UPC Upice 6.70 358 AMS AMS 05 35 20.0
comp=Z,400nm,8.8s
VSL Villasalto 6.82 233 *e*Pn **Pn 05 32 47.3 +1.4**
VSL *e*Sn **Sn 05 34 05.7 +2.4**
VSL Villasalto 6.82 233 *e*Pn **Pn 05 32 47.4 +1.4**
VSL *e*Sn **Sn 05 34 05.7 +2.4**
PVCC Panska Ves 6.83 350 AMS AMS 05 35 20.0
comp=Z,700nm,8.0s
SENIN Lac Senin/Sane 6.95 295 *e*Pn **Pn 05 32 50.4 +2.6**
SENIN Lac Senin/Sane 6.95 295 *e*Pn **Pn 05 32 50.4 +2.6**
NKC Novy Kostel 6.97 338 AMS AMS 05 35 20.0
comp=Z,700nm,7.2s
MLR Muntele Rosu 6.99 73 Pn **Pn 05 32 48.5 +0.2**
comp=Z,0.1nm,0.3s,baz=286,slow=3.0,SNR=3.1
MLR Sn **Sn 05 34 09.1 +1.5**
comp=Z,0.1nm,0.3s,baz=282,slow=22,SNR=2.0
MLR Lg Lg 05 34 45.7
baz=125,slow=15,SNR=2.1
MLR Muntele Rosu 6.99 73 ⇑*i*P **Pn 05 32 49.3 +0.9**
MLR Muntele Rosu 6.99 73 *e*Pn **Pn 05 32 49.0 +0.6**
MLR Muntele Rosu 6.99 73 ⇑*i*P **Pn 05 32 49.3 +0.9**
MLR Muntele Rosu 6.99 73 *e*Pn **Pn 05 32 49.0 +0.6**
MBDF Montbardon 6.99 281 *e*Pn **Pn 05 32 47.4 -1.1**
MBDF *e*Sn **Sn 05 34 02.8 -5.0**
comp=Z,29nm,0.5s
MBDF Montbardon 6.99 281 *e*P **Pn 05 32 47.4 -1.1**
MBDF *e* 05 34 02.8
MBDF Montbardon 6.99 281 *e*Pn **Pn 05 32 47.4 -1.1**
MBDF *e*Sn **Sn 05 34 02.8 -5.0**
STU Stuttgart 7.05 317 *e*P **Pn 05 32 49.9 +0.9**
STU Stuttgart 7.05 317 *e*Pn **Pn 05 32 49.9 +0.9**
STU Stuttgart 7.05 317 *e*Pn **Pn 05 32 49.9 +0.9**
FRF La Foret Royal 7.10 271 *e*Pn **Pn 05 32 49.1 -0.6**
SNR=1.0
FRF *e*Sn **Sn 05 34 04.7 -5.4**
comp=Z,15nm,0.4s
FRF La Foret Royal 7.10 271 *e*P **Pn 05 32 49.1 -0.6**
FRF *e* 05 34 04.7
FRF La Foret Royal 7.10 271 *e*Pn **Pn 05 32 49.1 -0.6**
SNR=1.0
FRF La Foret Royal 7.10 271 *e*Pn **Pn 05 32 49.1 -0.6**
FRF *e*Sn **Sn 05 34 04.7 -5.4**
LPG La Plagne 7.11 287 *e*P **Pn 05 32 53.6 +3.5**
LPG *e*Sn **Sn 05 34 06.3 -4.4**
comp=Z,65nm,0.6s,SNR=1.0
LPG La Plagne 7.11 287 *e*P **Pn 05 32 53.6 +3.5**
LPG *e* 05 34 06.3
LPG La Plagne 7.11 287 *e*P **Pn 05 32 53.6 +3.5**
LPG La Plagne 7.11 287 *e*P **Pn 05 32 53.6 +3.5**
LPG *e*Sn **Sn 05 34 06.3 -4.4**
LPL La Plagne 7.12 287 *e*Pn **Pn 05 32 49.5 -0.8**
LPL La Plagne 7.12 287 *e*P **Pn 05 32 54.3 +4.0**
SNR=1.0
LPL *e*Sn **Sn 05 34 06.0 -5.0**
comp=Z,30nm,0.4s,SNR=1.0
LPL La Plagne 7.12 287 *e*P **Pn 05 32 49.5 -0.8**
LPL *e* 05 34 06.0
LPL La Plagne 7.12 287 *e*Pn **Pn 05 32 49.5 -0.8**
LPL La Plagne 7.12 287 *e*P **Pn 05 32 54.3 +4.0**
SNR=1.0
LPL La Plagne 7.12 287 *e*Pn **Pn 05 32 49.5 -0.8**
LPL *e*Sn **Sn 05 34 06.0 -5.0**
BFO Black Forest 7.22 312 *i*P **Pn 05 32 52.9 +1.5**
BFO Black Forest 7.22 312 *e*Pn **Pn 05 32 51.6 +0.2**
BFO Black Forest 7.22 312 *e*Pn **Pn 05 32 51.6 +0.2**
LMR La Mourre 7.22 270 *e*Pn **Pn 05 32 50.4 -1.0**
SNR=1.0
LMR *e*Sn **Sn 05 34 07.5 -5.7**
comp=Z,10.0nm,0.5s
LMR La Mourre 7.22 270 *e*P **Pn 05 32 50.4 -1.0**
LMR *e* 05 34 07.5
LMR La Mourre 7.22 270 *e*Pn **Pn 05 32 50.4 -1.0**
LMR *e*Sn **Sn 05 34 07.5 -5.7**
BURAR Bucovina Array 7.23 55 ⇑*i*P **Pn 05 32 50.6 -1.0**
BURAR Bucovina Array 7.23 55 ⇑*i*P **Pn 05 32 50.6 -1.0**
BUR08 Bucovina Ar. S 7.23 55 *e*Pn **Pn 05 32 55.9 +4.2**
BRG Berggiesshubel 7.26 347 PG Pn 05 32 47.1 -4.8
BRG SG Sb 05 34 27.3 -11
comp=Z,31nm,1.2s
comp=N,784nm,6.7s
comp=E,311nm,9.1s
comp=Z,862nm,7.4s
BRG Berggiesshubel 7.26 347 P Pn 05 32 47.1 -4.8
BRG MLR MLR
comp=N,784nm,6.7s
BRG MLR MLR
comp=E,311nm,9.1s
BRG MLR MLR
comp=Z,862nm,7.4s
VRI Vrincioaia 7.60 71 ⇑*i*P **Pn 05 32 57.2 +0.6**
VRI Vrincioaia 7.60 71 ⇑*i*P **Pn 05 32 57.2 +0.6**
ORIF Oris-en-Rattie 7.64 282 *e*Pn **Pn 05 32 56.6 -0.7**
SNR=1.0
ORIF *e*Sn **Sn 05 34 18.3 -5.3**
comp=Z,42nm,0.7s,SNR=1.0
ORIF Oris-en-Rattie 7.64 282 *e*P **Pn 05 32 56.6 -0.7**
ORIF *e* 05 34 18.3
ORIF Oris-en-Rattie 7.64 282 *e*Pn **Pn 05 32 56.6 -0.7**
SNR=1.0
ORIF Oris-en-Rattie 7.64 282 *e*Pn **Pn 05 32 56.6 -0.7**
ORIF *e*Sn **Sn 05 34 18.3 -5.3**
HINF Hinteralfeld 7.79 304 *e*Pn **Pn 05 32 59.1 -0.2**
SNR=1.0
HINF *e*Sn **Sn 05 34 21.3 -6.0**
comp=Z,38nm,0.8s
HINF Hinteralfeld 7.79 304 *e*P **Pn 05 32 59.1 -0.2**
HINF *e* 05 34 21.3
HINF Hinteralfeld 7.79 304 *e*Pn **Pn 05 32 59.1 -0.2**
SNR=1.0
HINF Hinteralfeld 7.79 304 *e*Pn **Pn 05 32 59.1 -0.2**
HINF *e*Sn **Sn 05 34 21.3 -6.0**
CABF La Chapelle 7.82 295 *e*Pn **Pn 05 33 00.1 +0.4**
CABF La Chapelle 7.82 295 *e*P **Pn 05 33 00.1 +0.4**
CABF La Chapelle 7.82 295 *e*Pn **Pn 05 33 00.1 +0.4**
CABF La Chapelle 7.82 295 *e*Pn **Pn 05 33 00.1 +0.4**
CLL Collm 7.84 344 *e*Sn **Sn 05 34 22.0 -5.4**
CLL *e*Sg **Sg 05 35 23.0 +5.1**
comp=Z,43nm,1.0s
CLL *e* 05 35 38.0
comp=Z,269nm,1.0s
CDF Champ du Feu 7.85 309 *e*Pn **Pn 05 33 00.1 0.0**
SNR=1.0
CDF *e*Sn **Sn 05 34 22.8 -5.8**
comp=Z,14nm,0.6s
CDF Champ du Feu 7.85 309 *e*P **Pn 05 33 00.1 0.0**
CDF *e* 05 34 22.8
CDF Champ du Feu 7.85 309 *e*Pn **Pn 05 33 00.1 0.0**
SNR=1.0
CDF Champ du Feu 7.85 309 *e*Pn **Pn 05 33 00.1 0.0**
CDF *e*Sn **Sn 05 34 22.8 -5.8**
HAU Haudompre 8.18 304 *e*Pn **Pn 05 33 04.8 +0.2**
HAU *e*Sn **Sn 05 34 31.5 -5.3**
comp=Z,33nm,0.7s
HAU Haudompre 8.18 304 *e*P **Pn 05 33 04.8 +0.2**
HAU *e* 05 34 31.5
HAU Haudompre 8.18 304 *e*Pn **Pn 05 33 04.8 +0.2**
HAU Haudompre 8.18 304 *e*Pn **Pn 05 33 04.8 +0.2**
HAU *e*Sn **Sn 05 34 31.5 -5.3**
VIVF Saint-Julien-l 8.49 281 *e*Pn **Pn 05 33 08.0 -0.9**
VIVF *e*Sn **Sn 05 34 38.3 -6.2**
comp=Z,7.3nm,0.4s
VIVF Saint-Julien-l 8.49 281 *e*P **Pn 05 33 08.0 -0.9**
VIVF *e* 05 34 38.3
VIVF Saint-Julien-l 8.49 281 *e*Pn **Pn 05 33 08.0 -0.9**
VIVF Saint-Julien-l 8.49 281 *e*Pn **Pn 05 33 08.0 -0.9**
VIVF *e*Sn **Sn 05 34 38.3 -6.2**
SSB Saint Sauveur 8.62 284 *e*P **Pn 05 33 12.9 +2.3**
SSB Saint Sauveur 8.62 284 *e*Pn **Pn 05 33 12.9 +2.3**
SSB Saint Sauveur 8.62 284 *e*Pn **Pn 05 33 12.9 +2.3**
SMF Signal de Mont 9.32 292 *e*Pn **Pn 05 33 18.3 -1.9**
SMF *e*Sn **Sn 05 34 58.0 -6.8**
comp=Z,17nm,0.4s
SMF Signal de Mont 9.32 292 *e*P **Pn 05 33 18.3 -1.9**
SMF *e* 05 34 58.0
SMF Signal de Mont 9.32 292 *e*Pn **Pn 05 33 18.3 -1.9**
SMF *e*Sn **Sn 05 34 58.0 -6.8**
LOR Lormes 9.47 296 *e*Pn **Pn 05 33 23.4 +1.1**
baz=114,SNR=1.0
LOR *e*Sn **Sn 05 35 03.2 -5.3**
comp=Z,12nm,0.4s
LOR Lormes 9.47 296 *e*P **Pn 05 33 23.4 +1.1**
LOR *e* 05 35 03.2
LOR Lormes 9.47 296 *e*Pn **Pn 05 33 23.4 +1.1**
SNR=1.0
LOR Lormes 9.47 296 *e*Pn **Pn 05 33 23.4 +1.1**
LOR *e*Sn **Sn 05 35 03.2 -5.3**
KEST Kesra 9.74 216 Pn **Pn 05 33 29.6 +3.6**
comp=Z,0.3nm,0.3s,baz=326,slow=10.0,SNR=11
KEST Kesra 9.74 216 *e*Pn **Pn 05 33 27.2 +1.2**
KEST Kesra 9.74 216 *e*Pn **Pn 05 33 27.2 +1.2**
BGF Bois d'Agland 9.98 291 *e*Pn **Pn 05 33 27.0 -2.2**
BGF *e*Sn **Sn 05 35 14.1 -6.7**
comp=Z,24nm,0.6s
BGF Bois d'Agland 9.98 291 *e*P **Pn 05 33 27.0 -2.2**
BGF *e* 05 35 14.1
BGF Bois d'Agland 9.98 291 *e*Pn **Pn 05 33 27.0 -2.2**
BGF *e*Sn **Sn 05 35 14.1 -6.7**
IDI Anoyia 10.73 140 Pn **Pn 05 33 35.9 -3.7**
comp=Z,1.1nm,0.3s,baz=315,slow=17,SNR=5.4
IDI Sn Sn 05 35 28.9 -11
comp=Z,1.7nm,0.3s,baz=68,slow=17,SNR=6.3
IDI Anoyia 10.73 140 *e*Pn **Pn 05 33 37.8 -1.7**
IDI Anoyia 10.73 140 *e*Pn **Pn 05 33 37.8 -1.7**
KIEV Kiev 11.07 47 ⇑*e*P **Pn 05 33 47.2 +3.1**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
KLNR Kaliningrad 11.07 12 *e*P **Pn 05 33 47.0 +2.9**
KLNR pmax pmax
comp=Z,117nm,1.2s
AKASG Malin Array Be 11.08 47 Pn **Pn 05 33 44.9 +0.7**
comp=Z,0.5nm,0.3s,baz=231,slow=13,SNR=7.2
AKASG Malin Array Be 11.08 47 *e*P **Pn 05 33 47.0 +2.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
LAST Lasithi 11.11 138 *e*Pn **Pn 05 33 42.3 -2.5**
BRTR Keskin Array B 13.48 102 Pn **Pn 05 34 18.0 +0.8**
comp=Z,0.0nm,0.3s,baz=286,slow=10,SNR=4.1
BRTR Keskin Array B 13.48 102 *i*P **Pn 05 34 20.2 +3.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
ANN Anapa 15.07 79 *e*P **Pn 05 34 35.6 -3.1**
ANN *e*S **Sn 05 37 25.1 -0.1**
ANN pmax pmax
comp=Z,4.0nm,0.4s
ESDC Sonseca Array 15.77 262 Pn **P 05 34 52.3 +0.5**
comp=Z,0.2nm,0.3s,baz=69,slow=12,SNR=4.1
VSU Vasula 16.00 20*c* *i*P **P 05 34 54.8 +0.7**
VSU pmax pmax
comp=Z,112nm,0.7s
HFS Hagfors 16.43 355 Pn **Pn 05 34 56.5 +0.3**
comp=Z,0.2nm,0.3s,baz=141,slow=17,SNR=4.2
SOC Sochi 16.84 83 *i*P **Pn 05 34 55.5 -6.0**
SOC *e* 05 38 02.0
SOC pmax pmax
comp=Z,11nm,0.4s
SOC smax smax
comp=N,7.0nm,0.4s
SOC smax smax
comp=E,10.0nm,0.4s
VSR Storozhevoye 17.00 56 *e*P **Pn 05 35 03.6 +0.1**
VSR pmax pmax
comp=Z,9.0nm,0.9s
EKA Eskdalemuir Ar 17.08 319 P **P 05 35 06.5 +0.3**
baz=134,slow=13,SNR=2.6
NC602 NORSAR Array S 17.20 352 *e*Pn **Pn 05 35 05.3 -0.7**
NC602 NORSAR Array S 17.20 352 *e*Pn **Pn 05 35 05.3 -0.7**
OBN Obninsk 17.22 42 ⇓*e*P **P 05 35 07.3 -0.4**
OBN *e*S **Sn 05 38 13.5 -3.9**
OBN pmax pmax
comp=Z,13nm,0.5s
OBN MLR MLR
comp=Z,47nm,14.0s
OBN Obninsk 17.22 42 *e*Pn **P 05 35 07.4 -0.3**
comp=Z,22nm,0.5s
OBN Obninsk 17.22 42 *e*Pn **P 05 35 07.5 -0.3**
comp=Z,22nm,0.5s
LPSR Galich'ya Gora 17.32 52 *e*P **Pn 05 35 07.9 +0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
NAO01 NORSAR Array S 17.38 351 *e*Pn **Pn 05 35 08.8 +0.6**
NAO01 NORSAR Array S 17.38 351 *e*Pn **Pn 05 35 08.8 +0.6**
NB2 NORSAR Subarra 17.53 352 P **P 05 35 11.0 -0.2**
comp=Z,5.4nm,1.0s,baz=167,slow=11
NB2 NORSAR Subarra 17.53 352 P **P 05 35 11.0 -0.2**
comp=Z,5.4nm,1.0s,SNR=6.8
NOA NORSAR Array B 17.53 352 P **P 05 35 10.9 -0.3**

comp=Z,0.2nm,0.3s,baz=163,slow=13,SNR=7.4
NOA LR LR 05 43 06.3
comp=Z,24nm,18.1s,baz=165,slow=41
NOA NORSAR Array B 17.53 352 *e*P **P 05 35 11.6 +0.4**
NC405 NORSAR Array S 17.55 352 *e*Pn **P 05 35 11.5 +0.1**
NC405 NORSAR Array S 17.55 352 *e*Pn **P 05 35 11.5 +0.1**
NBO00 NORSAR Array S 17.57 351 *e*Pn **P 05 35 11.9 +0.3**
NBO00 NORSAR Array S 17.57 351 *e*Pn **P 05 35 11.8 +0.3**
NBO02 NORSAR Array S 17.58 351 *e*Pn **P 05 35 12.4 +0.7**
NBO02 NORSAR Array S 17.58 351 *e*Pn **P 05 35 12.4 +0.7**
NC204 NORSAR Array S 17.81 351 *e*Pn **P 05 35 14.4 +0.1**
NC204 NORSAR Array S 17.81 351 *e*Pn **P 05 35 14.4 +0.1**
MMAI Mount Meron Ar 18.32 120 P **P 05 35 20.1 0.0**
comp=Z,1.0nm,0.3s,baz=126,slow=27,SNR=3.5
FINES FINESS Array B 18.56 15 P **P 05 35 21.4 -1.1**
comp=Z,0.4nm,0.3s,baz=188,slow=9.6,SNR=18
FIA1 FINESS Array S 18.57 15 *e*P **P 05 35 22.3 -0.2**
comp=Z,15nm,1.3s
FIA1 FINESS Array S 18.57 15 *e*P **P 05 35 22.3 -0.2**
comp=Z,15nm,1.3s
KIV Kislovodsk 18.90 80⇓ *e*P **Pn 05 35 27.2 +0.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,39nm,18.0s
GNI Garni 21.32 90⇑ *e*P **P 05 35 52.9 +0.1**
GNI pmax pmax
comp=Z,21nm,0.8s
KLMR Klimovskoe 21.94 31 *e*P **P 05 35 56.1 -3.0**
KLMR pmax pmax
comp=Z,17nm,1.0s
ARA0 ARCESS Array S 26.20 7 *e*P **P 05 36 41.3 +1.1**
ARA0 ARCESS Array S 26.20 7 *e*P **P 05 36 41.3 +1.1**
ARCES ARCESS Array B 26.20 7 P **P 05 36 39.4 -0.8**
comp=Z,1.8nm,0.8s,baz=193,slow=10,SNR=4.7
ARCES ARCESS Array B 26.20 7 *e*P **P 05 36 42.2 +2.0**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARE0 ARCESS Array S 26.20 7 *e*P **P 05 36 41.3 +1.1**
comp=Z,18nm,1.4s
ARE0 ARCESS Array S 26.20 7 *e*P **P 05 36 41.3 +1.1**
comp=Z,18nm,1.4s
KEV Kevo 26.56 8 *e*P **P 05 36 45.8 +2.5**
KEV pmax pmax
comp=Z,20nm,1.5s
KEV Kevo 26.56 8 *e*P **P 05 36 45.8 +2.5**
comp=Z,20nm,1.5s
KEV Kevo 26.56 8 *e*P **P 05 36 45.8 +2.5**
comp=Z,20nm,1.5s
ARU Arti 29.32 50 P **P 05 37 06.6 -1.6**
comp=Z,2.1nm,0.3s,baz=276,slow=4.9,SNR=3.7
ARU Arti 29.32 50 *c i*P **P 05 37 09.3 +1.1**
ARU 05 37 59.8
ARU S **S 05 42 04.8 +4.1**
ARU SS **SnSn 05 43 28.9 +2.4**
ARU pmax pmax
comp=Z,6.0nm,1.0s
TOA0 Torodi Ar. Sit 33.08 207 *e*P **P 05 37 42.5 +0.9**
comp=Z,43nm,2.0s
TOA0 Torodi Ar. Sit 33.08 207 *e*P **P 05 37 42.5 +0.9**
comp=Z,43nm,2.0s
TORD Torodi Ar. Bea 33.08 207 P **P 05 37 42.2 +0.5**
comp=Z,1.6nm,0.7s,baz=11,slow=9.7,SNR=10
TORD LR LR 05 52 52.9
comp=Z,54nm,18.2s,baz=200,slow=39
BRVK Borovoye 36.12 56⇓ *e*P **P 05 38 08.5 +0.9**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
KURBB Kurchatov Arra 41.62 58 P **P 05 38 52.0 -1.6**
comp=Z,0.4nm,0.7s,baz=286,slow=9.0,SNR=2.6
KURK Kurchatov 41.65 58 P **P 05 38 52.0 -1.9**
ZALV Zalesovo Beam 44.43 52 P **P 05 39 15.7 -0.7**
comp=Z,0.6nm,0.4s,baz=282,slow=9.9,SNR=3.7
MKAR Makanchi Array 45.20 62 P **P 05 39 21.5 -1.2**
comp=Z,0.4nm,0.5s,baz=266,slow=9.6,SNR=4.6
MKAR Makanchi Array 45.20 62 *i* P **P 05 39 20.7 -1.9**
MK01 Makanchi Array 45.21 62 *e*P **P 05 39 22.2 -0.5**
MK01 Makanchi Array 45.21 62 *e*P **P 05 39 22.2 -0.5**
SONM Songino Array 59.33 52 P **P 05 41 07.3 -0.4**
comp=Z,0.2nm,0.3s,baz=302,slow=8.5,SNR=4.3
SONM Songino Array 59.33 52 *e*P **P 05 41 09.1 +1.4**
BILL Bilibino 66.18 12⇑ *e*P **P 05 41 52.3 -0.6**
BILL *e* 05 44 23.3
BILL *e*SS SS 05 54 56.0 +0.5
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,80nm,22.0s
HHC Hu-ho-hao-te 66.40 56 *e*P **P 05 41 55.1 +0.2**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,77nm,6.5s
PALK Pallekele 66.52 103 *i* P P 05 41 49.9 -6.0
YKA Yellowknife Ar 67.02 338 P **P 05 41 58.2 -0.1**
comp=Z,0.6nm,0.6s,baz=37,slow=5.2,SNR=5.0
CD2 Chengdu 67.56 68 *e*P **P 05 42 01.0 -1.4**
KMI Kunming 70.52 74 P **P 05 42 21.0 0.0**
KMI pmax pmax
comp=Z,23nm,0.5s
ILAR Eielson Array 70.96 353 P **P 05 42 21.4 -1.5**
comp=Z,0.7nm,0.8s,baz=4.7,slow=5.3,SNR=6.9
ILAR Eielson Array 70.96 353 *e*P **P 05 42 23.6 +0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.7s

*ISN **17** 05:39:50.0±1.7, 25.°97N×55.°13E, h0km, ML3.8*
*TEH **17** 05:40:14.2, 26.°85N×54.°10E, h10km, ML3.8*
*THR **17** 05:40:16.3±0.4, 26.°87N×54.°25E, h46km±4km, ML3.9*
*DSN **17** 05:40:16.1±6.9, 27.°59N×54.°24E, h15km, ML4.0, Error ellipse: s-maj=6.0km s-min=3.8km az=359.0*
*ISCJB **17** 05:40:19.7±0.3, 27.°16N±0.°03×54.°26E±0.°04, h18km, mb3.8/15, MS3.0/1, Error ellipse: s-maj=5.2km s-min=4.5km az=30.3*
*CSEM **17** 05:40:22.0±0.4, 27.°17N×54.°32E, h20km, ML3.8, Error ellipse: s-maj=13.8km s-min=7.4km az=63.0*
*IDC **17** 05:40:23.6±2.5, 27.°05N×54.°30E, h52km±28km, mb3.6/15, mb1 3.8/19, mb1mx3.6/43, mbtmp3.9/19, ML3.7/4, MS3.0/4, Ms1 3.0/4, ms1mx2.6/41, Error ellipse: s-maj=19.4km s-min=13.4km az=20.0*

ISC 17 05:40:20.1±0.5, 27.°05N±0.°03×54.°30E±0.°03, h18km, n61, σ1s64/69, mb3.8/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**1.70**	**317**	*e*Pg		**Pn**	**05 40 49.2**	**+0.2**
GHIR				*e*Sg		**Sb**	**05 41 13.1**	**+1.1**
GHIR				AML		AML	05 41 17.9	
	comp=N,1μm,0.8s							
GHIR				AML		AML	05 41 26.4	
	comp=E,1μm,0.3s							
GHIR	**Ghir-Karzin**	**1.70**	**317**	*e*Pg		**Pn**	**05 40 49.2**	**+0.2**
GHIR				*e*Sg		**Sb**	**05 41 13.1**	**+1.1**
BNDS	**Bandar-Abbas**	**1.70**	**78**	*e*Pg		**Pn**	**05 40 49.0**	**-0.1**
BNDS				AML		AML	05 41 20.0	
	comp=N,1μm,1.3s							
BNDS				AML		AML	05 41 21.9	
	comp=E,584nm,0.6s							
BNDS	**Bandar-Abbas**	**1.70**	**78**	*e*Pg		**Pn**	**05 40 49.0**	**-0.1**
GENO	**Geno**	**1.70**	**78**	*e*Pn		**Pn**	**05 40 49.6**	**+0.5**
GENO	**Geno**	**1.70**	**78**	*e*Pn		**Pn**	**05 40 49.6**	**+0.5**
IBND	**Bandar-abas**	**2.03**	**78**	*e*Pn		**Pb**	**05 40 55.6**	**-0.9**
IBND				*e*Sg		**Sg**	**05 41 29.0**	**+3.4**
IBND				*e*AMB		AMB	05 41 35.9	
	comp=Z,13μm,0.3s							
IBND	**Bandar-abas**	**2.03**	**78**	*e*Pn		**Pb**	**05 40 55.6**	**-0.9**
BANOM	**Banah**	**2.11**	**122**	P		**Pn**	**05 40 56.1**	**+1.5**
BANOM				S		**Sg**	**05 41 26.9**	**-1.3**
BANOM	**Banah**	**2.11**	**122**	P		**Pn**	**05 40 56.1**	**+1.5**
BANOM				S		**Sg**	**05 41 26.9**	**-1.3**
NIAN	**Nian**	**2.31**	**77**	*e*Pn		**Pn**	**05 40 58.1**	**+0.8**
NIAN	**Nian**	**2.31**	**77**	*e*Pn		**Pn**	**05 40 58.1**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.39**	**149**	*e*P		**Pb**	**05 41 02.4**	**-0.2**
	SNR=5.8							
NAZ	**Nazwa, Dubai**	**2.39**	**149**	P		**Pb**	**05 41 02.4**	**-0.2**
	SNR=5.8							
ISRV	**Sarvestan**	**2.55**	**336**	*e*Pn		**Pn**	**05 41 00.4**	**-0.5**
ISRV				*e*Sg		**Sg**	**05 41 43.7**	**+1.5**
ISRV				*e*AMB		AMB	05 41 57.1	
	comp=Z,7μm,0.5s							
ISRV	**Sarvestan**	**2.55**	**336**	*e*Pn		**Pn**	**05 41 00.4**	**-0.5**
FAQ	**Al Faqa, Dubai**	**2.57**	**153**	P		**Pb**	**05 41 04.4**	**-1.3**
FAQ	**Al Faqa, Dubai**	**2.57**	**153**	P		**Pb**	**05 41 04.4**	**-1.3**
UOSS	**Minazif**	**2.71**	**140**	P		**Pn**	**05 41 05.2**	**+2.5**
HATD	**Hatta, Dubai**	**2.76**	**143**	P		**Pb**	**05 41 06.4**	**-2.5**
HATD	**Hatta, Dubai**	**2.76**	**143**	P		**Pb**	**05 41 06.4**	**-2.5**
ASHO	**Ashiyiah**	**2.84**	**146**	*i* P		**Pb**	**05 41 07.7**	**-2.6**
	SNR=6.2							
ASHO	**Ashiyiah**	**2.84**	**146**	P		**Pb**	**05 41 07.7**	**-2.6**
	SNR=6.2							
IPAR	**Pars**	**3.00**	**339**	*e*Sg		**Sg**	**05 41 57.2**	**+0.7**
IPAR				*e*Pn		**Pn**	**05 41 06.9**	**-0.1**
IPAR				*e*AMB		AMB	05 42 04.1	
	comp=Z,2μm,0.4s							
NGRK	**Negar Kerman**	**3.36**	**39**	*e*Pn		**Pb**	**05 41 17.9**	**-1.5**
KRBR	**Kerman**	**3.64**	**36**	*e*Pn		**Pn**	**05 41 13.6**	**-2.3**
KRBR				*e*Sg		**Sb**	**05 42 12.4**	**+4.4**
KRBR				AML		AML	05 42 17.4	
	comp=N,124nm,0.5s							
KRBR	**Kerman**	**3.64**	**36**	*e*Pn		**Pn**	**05 41 13.6**	**-2.3**
KRBR				*e*Sg		**Sb**	**05 42 12.4**	**+4.4**
KHGB	**Koh Gabri**	**3.83**	**29**	*e*Pn		**Pn**	**05 41 19.8**	**+1.4**
KHGB	**Koh Gabri**	**3.83**	**29**	*e*Pn		**Pn**	**05 41 19.8**	**+1.4**
SLWS		**3.98**	**237**	P		Pg	05 41 42.6	+6.2
CHMN	**Cheshme madani**	**4.00**	**45**	*e*Pn		**Pn**	**05 41 23.3**	**+2.5**
CHMN	**Cheshme madani**	**4.00**	**45**	*e*Pn		**Pn**	**05 41 23.3**	**+2.5**
BTHS		**4.32**	**227**	S		**Sn**	**05 42 18.2**	**+3.4**
BTHS				P		**Pn**	**05 41 26.5**	**+1.6**
IMEH	**Mehriz**	**4.34**	**4**	*e*Pn		**Pn**	**05 41 26.2**	**+0.8**
IMEH				*e*AMB		AMB	05 42 18.7	
	comp=Z,547nm,0.4s							
IMEH	**Mehriz**	**4.34**	**4**	*e*Pn		**Pn**	**05 41 26.2**	**+0.8**
BOQSS		**4.57**	**256**	S		**Sn**	**05 42 23.3**	**+2.4**
BOQSS				P		**Pn**	**05 41 30.3**	**+1.9**
IBAF	**Bafgh**	**4.66**	**13**	*e*AMB		AMB	05 42 52.0	
	comp=Z,409nm,0.3s							
ISAD	**Sadrabad**	**4.88**	**354**	*e*Pn		**Pn**	**05 41 33.7**	**+0.8**
ISAD				*e*AMB		AMB	05 42 42.1	
	comp=Z,490nm,0.3s							
ISAD	**Sadrabad**	**4.88**	**354**	*e*Pn		**Pn**	**05 41 33.7**	**+0.8**
ICHK	**Chekchek**	**5.18**	**1**	*e*Pn		Pn	05 41 30.3	-6.7
ICHK				*e*AMB		AMB	05 43 14.2	
	comp=Z,579nm,0.4s							
WSAR	**Wadi Sarin**	**5.46**	**133**	P		**Pn**	**05 41 42.8**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=321,slow=6.3,SNR=9.9							
WSAR				S		**Sn**	**05 42 44.1**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=243,slow=9.0,SNR=4.2							
WSAR				LR		LR	05 44 10.8	
	comp=Z,112nm,18.7s,baz=263,slow=42							
GNI	**Garni**	**15.29**	**331**	LR		LR	05 50 59.6	
	comp=Z,78nm,21.4s,baz=130,slow=42							
ASF	**Jabal al Asfar**	**15.97**	**293**	P		**Pn**	**05 44 05.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=45,slow=1.2,SNR=2.7							
EIL	**Elat**	**17.23**	**283**	P		**Pn**	**05 44 19.5**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=96,slow=19,SNR=2.8							
KBZ	**Khabaz**	**19.03**	**334**	P		**Pn**	**05 44 44.0**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=162,slow=5.0,SNR=4.1							
KVAR	**Kislovodsk Arr**	**19.30**	**334**	P		**Pn**	**05 44 45.3**	**0.0**
	baz=273,slow=6.7,SNR=4.4							
KVAR				LR		LR	05 53 34.7	
	comp=Z,36nm,19.4s,baz=58,slow=41							
BRTR	**Keskin Array B**	**21.33**	**312**	P		**P**	**05 45 06.8**	**+0.5**
	comp=Z,5.1nm,0.8s,baz=130,slow=12,SNR=13							
AKTO	**Aktyubinsk**	**23.53**	**6**	P		**P**	**05 45 29.3**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=193,slow=11,SNR=9.0							
AKTO				LR		LR	05 55 31.8	
	comp=Z,52nm,18.4s,baz=194,slow=39							
IDI	**Anoyia**	**26.40**	**295**	P		**P**	**05 45 55.7**	**0.0**
	comp=Z,3.2nm,0.6s,baz=96,slow=11,SNR=3.0							
BVAR	**Borovoye Array**	**28.59**	**20**	P		**P**	**05 46 14.5**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=250,slow=4.3,SNR=6.2							
MKAR	**Makanchi Array**	**29.57**	**41**	P		**P**	**05 46 23.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=251,slow=9.0,SNR=3.0							
KURBB	**Kurchatov Arra**	**29.92**	**32**	P		**P**	**05 46 26.8**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=233,slow=8.7,SNR=7.2							
ZALV	**Zalesovo Beam**	**35.02**	**32**	P		**P**	**05 47 10.5**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=241,slow=9.2,SNR=9.0							
FINES	**FINESS Array B**	**39.26**	**339**	P		**P**	**05 47 46.0**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=125,slow=10.0,SNR=4.2							
SONM	**Songino Array**	**45.30**	**48**	P		**P**	**05 48 36.5**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=248,slow=7.8,SNR=3.9							
ARCES	**ARCESS Array B**	**45.71**	**346**	P		**P**	**05 48 38.9**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=159,slow=8.7,SNR=4.2							
ESDC	**Sonseca Array**	**49.48**	**300**	P		**P**	**05 49 08.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=92,slow=7.5,SNR=4.8							
TORD	**Torodi Ar. Bea**	**50.96**	**265**	P		**P**	**05 49 20.1**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=63,slow=7.6,SNR=7.5							
ILAR	**Eielson Array**	**87.00**	**9**	P		**P**	**05 53 02.6**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=339,slow=6.8,SNR=3.6							
YKA	**Yellowknife Ar**	**90.33**	**355**	P		**P**	**05 53 18.6**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=8.0,slow=5.2,SNR=5.0							
ASAR	**Alice Springs**	**91.89**	**116**	P		**P**	**05 53 27.2**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=319,slow=3.7,SNR=3.3							

LJU 17 05:40:24.3, 46.°39N×15.°07E, h0km, ML3.5 Rockburst, Northwestern Balkan Peninsula

LJU 17 05:43:38.8, 46.°39N×15.°07E, h0km, ML3.5 Rockburst, Northwestern Balkan Peninsula

IDC 17 05:57:40.5±44.0, 14.°85S×171.°87W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/29, mbtmp4.3/3, Error ellipse: s-maj=852.5km s-min=188.2km az=78.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**45.58**	**240**	P		P	06 06 01.9	-0.7
	2.0nm,0.7s,baz=105,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**51.40**	**256**	P		P	06 06 47.9	+0.3
	0.9nm,0.5s,baz=90,slow=6.9,SNR=27							
ASAR	**Alice Springs**	**51.68**	**251**	P		P	06 06 49.5	-0.2
	8.8nm,0.6s,baz=88,slow=8.2,SNR=118							

KRSC 17 06:07:55.9±1.6, 50.°52N×157.°51E, h40km±22km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.90**	**281**	*i* P		Pn	06 08 12.6	+0.5
SKR				*i* S		Sn	06 08 24.1	+0.2
PAU	**Pauzhetka**	**1.05**	**335**	*i* P		Pn	06 08 16.3	+2.2
PAU				*i* S		Sn	06 08 30.0	+2.5
ASAK	**Asacha**	**1.89**	**7**	P		Pn	06 08 27.5	+1.8
RUS	**Russkaya**	**2.02**	**18**	P		Pn	06 08 28.1	+0.7
RUS				*e*S		Sn	06 08 52.5	+1.1
UGLR	**Uglovaya**	**2.82**	**16**	P		Pn	06 08 41.9	+3.4
AVH	**Avacha**	**2.86**	**15**	P		Pn	06 08 42.5	+3.5
SMAR	**Somma**	**2.87**	**16**	P		Pn	06 08 42.9	+3.6
SDLR	**Sedlovina**	**2.89**	**17**	P		Pn	06 08 42.6	+3.0
KRER	**Koryakskii**	**2.90**	**15**	P		Pn	06 08 43.7	+4.0
GNL	**Ganaly**	**3.19**	**5**	P		Pn	06 08 48.9	+5.2

IDC 17 06:14:06.2±1.1, 48.°75N×27.°93W, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/45, mbtmp3.6/5, MS3.2/10, Ms1 3.2/10, ms1mx2.9/52, Error ellipse: s-maj=39.8km s-min=27.1km az=16.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NOA	**NORSAR Array B**	**25.22**	**46**	LR		LR	06 28 55.2	
	comp=Z,21nm,18.5s,baz=205,slow=35							
DAVOX	**Davos/Dischmat**	**25.32**	**80**	LR		LR	06 28 32.1	
	comp=Z,61nm,20.3s,baz=266,slow=34							
HFS	**Hagfors**	**26.28**	**49**	LR		LR	06 28 30.8	
	comp=Z,35nm,19.6s,baz=204,slow=33							
GERES	**GERESS Array B**	**27.18**	**74**	LR		LR	06 30 49.6	
	comp=Z,36nm,18.0s,baz=276,slow=37							
VRAC	**Vranov**	**28.88**	**72**	LR		LR	06 31 07.5	
	comp=Z,41nm,18.9s,baz=283,slow=35							
FINES	**FINESS Array B**	**32.40**	**47**	LR		LR	06 32 57.7	
	comp=Z,42nm,18.8s,baz=317,slow=35							
AKASG	**Malin Array Be**	**36.21**	**65**	P		P	06 21 10.1	-0.3
	0.8nm,0.5s,baz=290,slow=8.9,SNR=5.3							
ULM	**Lac du Bonnet**	**42.75**	**299**	LR		LR	06 38 08.2	
	comp=Z,46nm,18.3s,baz=188,slow=34							
TORD	**Torodi Ar. Bea**	**43.12**	**135**	P		P	06 22 08.3	0.0
	0.7nm,0.6s,baz=342,slow=9.0,SNR=4.8							
BRTR	**Keskin Array B**	**43.93**	**78**	LR		LR	06 43 04.5	
	comp=Z,22nm,18.4s,baz=234,slow=40							
ARU	**Arti**	**49.77**	**47**	LR		LR	06 43 02.4	
	comp=Z,36nm,19.2s,baz=297,slow=35							
ILAR	**Eielson Array**	**57.32**	**334**	P		P	06 23 55.4	+0.1
	0.3nm,0.6s,baz=48,slow=5.0,SNR=4.5							
H10S1	**ASCENSION HYDR**	**58.62**	**165**	T		T	07 27 12.3	
	baz=350,slow=75,SNR=4.3							
H10S3	**ASCENSION HYDR**	**58.63**	**165**	T		T	07 27 15.7	
	baz=350,slow=75,SNR=4.3							
H10S2	**ASCENSION HYDR**	**58.64**	**165**	T		T	07 27 12.0	
	baz=350,slow=75,SNR=4.9							
TXAR	**Lajitas Array**	**59.49**	**281**	P		P	06 24 11.0	-0.2
	0.3nm,0.7s,baz=69,slow=7.0,SNR=5.3							
TXAR				LR		LR	06 49 41.0	
	comp=Z,22nm,18.1s,baz=0.0,slow=36							
MKAR	**Makanchi Array**	**67.20**	**44**	P		P	06 25 02.0	+0.1
	0.6nm,0.7s,baz=336,slow=6.8,SNR=6.0							
WRA	**Warramunga Arr**	**147.91**	**33**	PKPbc		PKPbc	06 33 53.2	-0.2
	0.7nm,0.9s,baz=346,slow=3.9,SNR=4.9							
ASAR	**Alice Springs**	**151.14**	**36**	PKPbc		PKPbc	06 34 00.7	-0.6
	0.9nm,0.7s,baz=349,slow=1.8,SNR=12							

*PDG **17** 06:16:15.6±0.1, 43.°90N×16.°14E, h16km±2km, ML2.8/12, Error ellipse: s-maj=2.0km s-min=3.8km az=0.0*
*ROM **17** 06:16:17.0±0.4, 43.°78N×16.°76E, h10km, M2.7/7, Error ellipse: s-maj=7.2km s-min=4.1km az=27.0*
*BEO **17** 06:16:18.2±0.4, 43.°76N×16.°53E, h0km, M2.5/1*
*CSEM **17** 06:16:18.5±0.1, 43.°84N×16.°53E, h2km, ML2.7, Error ellipse: s-maj=4.4km s-min=2.5km az=24.0*

ISC 17 06:16:17.9±1.2, 43.°85N±0.°03×16.°53E±0.°02, h4km±10km, n78, σ1s15/133, 17C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UDBI	**Udbina**	**0.87**	**321**	*e*Pg		**Pg**	**06 16 34.3**	**-0.4**
UDBI				Sg		**Sb**	**06 16 47.6**	**-0.1**
UDBI	**Udbina**	**0.87**	**321**	*e*Pg		**Pg**	**06 16 34.2**	**-0.4**
UDBI				Sg		**Sb**	**06 16 47.6**	**-0.1**
BLY	**Banja Luka**	**1.01**	**27**	*e*Pg		**Pg**	**06 16 37.4**	**+0.1**
BLY				*e*Sg		**Sn**	**06 16 53.4**	**-0.3**
BLY	**Banja Luka**	**1.01**	**27**⇑	*i*Pn		**Pg**	**06 16 37.4**	**+0.1**
BLY				*e*Sg		**Sn**	**06 16 52.1**	**-1.6**
NVLJ	**Novalja**	**1.39**	**301**	*e*Pn		**Pn**	**06 16 42.8**	**-1.4**
NVLJ				Sn		**Sg**	**06 17 04.6**	**+2.0**
NVLJ	**Novalja**	**1.39**	**301**	*e*Pn		**Pn**	**06 16 42.7**	**-1.4**
NVLJ				Sn		**Sg**	**06 17 04.5**	**+2.0**
BRY	**Bratogost**	**1.75**	**122**⇑	*i*Pn		**Pb**	**06 16 49.9**	**-0.7**
BRY				*e*Sn		**Sg**	**06 17 16.7**	**+2.7**
BRY	**Bratogost**	**1.75**	**122**⇑	*i*Pn		**Pb**	**06 16 49.9**	**-0.7**
BRY				*e*Sn		**Sb**	**06 17 12.2**	**-0.8**
UPM	**Unac-Piva**	**1.85**	**110**⇑	*i*Pn		**Pb**	**06 16 52.2**	**-0.1**
UPM				*e*Sn		**Sg**	**06 17 19.5**	**+2.3**
UPM	**Unac-Piva**	**1.85**	**110**	*e*Pn		**Pb**	**06 16 51.9**	**-0.5**
UPM				*e*Sn		**Sb**	**06 17 14.8**	**-1.1**
BOJS	**Bojanci**	**1.89**	**332**	*i* Pn		**Pb**	**06 16 52.7**	**-0.3**
BOJS				*i* Sn		**Sg**	**06 17 19.3**	**+0.8**
	comp=Z,10.0nm,0.2s							
BOJS	**Bojanci**	**1.89**	**332**	*e*Pn		**Pb**	**06 16 52.5**	**-0.4**
BOJS				*e*Sg		**Sg**	**06 17 20.3**	**+1.8**
BOJS	**Bojanci**	**1.89**	**332**	*e*Pn		**Pb**	**06 16 52.5**	**-0.4**
BOJS				*i* Sn		**Sg**	**06 17 19.3**	**+0.8**
	comp=Z,10.0nm,0.2s							
BOJS				*e*Sg		**Sg**	**06 17 20.3**	**+1.8**
HCY	**Herceg Novi**	**2.01**	**134**⇓	*i*Pn		**Pn**	**06 16 53.3**	**+0.7**
HCY				*e*Sn		**Sg**	**06 17 22.5**	**+0.1**
HCY	**Herceg Novi**	**2.01**	**134**⇓	*i*Pn		**Pn**	**06 16 53.3**	**+0.7**
HCY				*e*Sn		**Sn**	**06 17 18.0**	**-0.2**
NKME	**Niksic**	**2.08**	**121**⇑	*i*Pn		**Pb**	**06 16 54.7**	**-1.5**
NKME				*e*Sn		**Sg**	**06 17 24.8**	**+0.3**
NKME	**Niksic**	**2.08**	**121**⇑	*i*Pn		**Pb**	**06 16 54.7**	**-1.5**
NKME				*e*Sn		**Sg**	**06 17 24.8**	**+0.3**
RIY	**Rijeka**	**2.08**	**316**	*e*Pg		**Pg**	**06 16 57.3**	**-0.2**
RIY				*e*Sg		**Sg**	**06 17 25.9**	**+1.3**
NKY	**Niksic**	**2.08**	**119**⇑	*i*Pn		**Pb**	**06 16 54.7**	**-1.5**
NKY				*e*Sn		**Sg**	**06 17 24.8**	**+0.2**
NKY	**Niksic**	**2.08**	**119**⇑	*i*Pn		**Pb**	**06 16 54.7**	**-1.5**
NKY				*e*Sn		**Sg**	**06 17 24.8**	**+0.2**
GBRS	**Gornja Briga**	**2.08**	**324**	*i* Pn		**Pb**	**06 16 55.9**	**-0.3**
	comp=Z,4.0nm,0.1s							
BBLS	**Lazići**	**2.08**	**89**	*e*Pg		**Pb**	**06 16 55.7**	**-0.6**
BBLS				*e*Sg		**Sg**	**06 17 24.7**	**0.0**
BBLS				*e*Sg		**Sg**	**06 17 25.0**	**+0.3**
BBLS	**Lazići**	**2.08**	**89**	*e*Pn		**Pn**	**06 16 54.5**	**+0.8**
BBLS	**Lazići**	**2.08**	**89**	*e*Pg		**Pb**	**06 16 55.7**	**-0.6**
BBLS				*e*Sn		**Sn**	**06 17 20.0**	**-0.1**
BBLS				*e*Sg		**Sg**	**06 17 25.0**	**+0.3**
CRES	**Cresnjev**	**2.12**	**339**	*e*Pn		**Pb**	**06 16 55.2**	**-1.7**
CRES				*e*Sn		**Sb**	**06 17 22.8**	**-0.7**
PLE	**Pljevlja**	**2.14**	**103**⇑	*i*Pn		**Pb**	**06 16 55.7**	**-1.7**
PLE				*e*Sn		**Sg**	**06 17 26.8**	**+0.1**
PLE	**Pljevlja**	**2.14**	**103**⇑	*i*Pn		**Pb**	**06 16 55.7**	**-1.7**
PLE				*e*Sn		**Sg**	**06 17 26.8**	**+0.1**

ATCC	**AVT- Casa Cast**	**2.91**	**258**	Pn		**Pn**	**06 17 05.9**	**+0.9**
ATCC				Sn		**Sn**	**06 17 41.6**	**+1.2**
	comp=Z,51nm,1.0s							
ATCC	**AVT- Casa Cast**	**2.91**	**258**	Pn		**Pn**	**06 17 05.9**	**+0.9**
ATCC				Sn		**Sn**	**06 17 41.6**	**+1.2**
	comp=Z,51nm,1.0s							
VVLD	**Villa Vallelon**	**2.91**	**228**	Pn		**Pn**	**06 17 05.5**	**+0.4**
VVLD	**Villa Vallelon**	**2.91**	**228**	Pn		**Pn**	**06 17 05.5**	**+0.4**
PIEI	**Pieia**	**2.91**	**265**	Pn		**Pn**	**06 17 06.2**	**+1.1**
PIEI				Sn		**Sn**	**06 17 42.0**	**+1.4**
	comp=Z,16nm,0.5s							
PIEI	**Pieia**	**2.91**	**265**	Pn		**Pn**	**06 17 06.2**	**+1.1**
PIEI				Sn		**Sn**	**06 17 42.0**	**+1.4**
	comp=Z,16nm,0.5s							
ATPC	**Poggio Castell**	**2.98**	**264**	Pn		**Pn**	**06 17 07.2**	**+1.2**
	comp=Z,32nm,0.9s							
ATPC	**Poggio Castell**	**2.98**	**264**	Pn		**Pn**	**06 17 07.2**	**+1.2**
	comp=Z,32nm,0.9s							
PARC	**Parchiule**	**3.12**	**268**	Pn		**Pn**	**06 17 09.2**	**+1.3**
PARC	**Parchiule**	**3.12**	**268**	Pn		**Pn**	**06 17 09.2**	**+1.3**
SELS	**Selova**	**3.40**	**99**	*e*Pn		**Pn**	**06 17 11.9**	**+0.1**
SELS	**Selova**	**3.40**	**99**	*e*Pn		**Pn**	**06 17 11.9**	**+0.1**

IDC 17 07:25:31.9±3.9, 5°66'S×151°08'E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/24, mbtmp3.3/2, Error ellipse: s-maj=156.2km s-min=51.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.60**	**227**	P	P	07 30 23.3	-0.4
	0.4nm,0.4s,baz=53,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**24.38**	**221**	P	P	07 30 52.1	+0.1
	0.5nm,0.6s,baz=60,slow=8.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.92**	**286**	PKPbc	PKPbc	07 45 22.4	-0.4
	0.9nm,0.7s,baz=50,slow=2.8,SNR=4.6						

KRSC 17 07:25:53.9±1.6, 50°18N×157°20E, h25km±10km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.86**	**307**	*e*P	Pb	07 26 10.1	0.0
SKR				*e*S	Sb	07 26 21.3	+0.1
PAU	**Pauzhetka**	**1.31**	**349**	*e*P	Pb	07 26 17.6	-0.3
PAU				*e*S	Sb	07 26 35.0	+0.7
ASAK	**Asacha**	**2.25**	**11**	P	Pb	07 26 32.8	-1.1
RUS	**Russkaya**	**2.40**	**20**	P	Pn	07 26 33.8	+2.2
UGLR	**Uglovaya**	**3.20**	**18**	P	Pn	07 26 46.2	+3.6
AVH	**Avacha**	**3.24**	**17**	P	Pn	07 26 46.8	+3.7
SMAR	**Somma**	**3.25**	**17**	P	Pn	07 26 46.0	+2.6
KRER	**Koryakskii**	**3.28**	**16**	P	Pb	07 26 47.7	-3.7
SDLR	**Sedlovina**	**3.28**	**18**	P	Pn	07 26 45.6	+1.9
GNL	**Ganaly**	**3.55**	**7**	P	Pn	07 26 51.1	+3.6

NIED 17 07:27:00, 37°10N×144°30E, h8km, Mw3.5 Best double couple: M₀2.16000×10¹⁴ NP1:φs358.00000°, δ24.00000°, λ-109.00000°. NP2:φs198.00000°, δ67.00000°, λ-82.00000°.

JMA 17 07:27:24.8±0.2, 37°12N×144°31E, h64km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.70**	**300**	P	Pn	07 28 07.0	+1.2
JIO				S	Sn	07 28 38.6	+1.3
ONAJ	**Iwakimizuishiy**	**2.81**	**271**	P	Pn	07 28 08.3	+1.0
JMM	**Marumori**	**2.90**	**286**	P	Pn	07 28 09.7	+1.2
JMM				S	Sn	07 28 43.6	+1.5
JMK	**Ichinoseki**	**3.05**	**308**	P	Pn	07 28 12.1	+1.5
JMK				*e*S	Sn	07 28 47.2	+1.3
JFT	**Otama**	**3.19**	**278**	P	Pn	07 28 14.0	+1.4
JFT				*e*S	Sn	07 28 51.3	+1.9
JOM	**Ohasama**	**3.34**	**316**	P	Pn	07 28 15.7	+1.1
JOM				S	Sn	07 28 54.2	+1.2
JYT	**Yasato**	**3.43**	**256**	P	Pn	07 28 16.8	+1.1
JYT				*e*S	Sn	07 28 56.5	+1.4
JYK	**Kaneyama**	**3.60**	**301**	P	Pn	07 28 19.7	+1.6
JYK				*e*S	Sn	07 29 00.6	+1.2
JAG	**Ashikaga**	**3.96**	**261**	P	Pn	07 28 24.4	+1.4
JAG				*e*S	Sn	07 29 10.0	+1.8
JRY	**Ryogami san**	**4.49**	**257**	P	Pn	07 28 31.2	+0.9
JRY				*e*S	Sn	07 29 20.6	-0.7
JOD2	**Odawara 2**	**4.61**	**248**	*e*S	Sn	07 29 24.3	+0.1
JOT	**Ohata**	**4.95**	**330**	P	Pn	07 28 37.8	+1.2
JOT				*e*S	Sn	07 29 31.4	-1.1
JKB	**Kayabe**	**5.39**	**333**	P	Pn	07 28 43.4	+0.8
JCH	**Churui**	**5.54**	**353**	P	Pn	07 28 43.1	-1.5
JCH				*e*S	Sn	07 29 42.2	-4.6
NEM2	**Nemuro 2**	**6.33**	**10**	*e*S	Sn	07 29 58.4	-7.9
JTKR	**Abashiri--Toko**	**6.85**	**358**	*e*S	Sn	07 30 13.6	-5.4

ISK 17 07:34:24.8, 36°94N×29°36E, h9km, ML2.3
ISCJB 17 07:34:25.5±0.6, 36°96N±0°03×29°34E±0°04, h15km±16km, Error ellipse: s-maj=5.5km s-min=4.3km az=38.7
CSEM 17 07:34:25.6±0.3, 36°96N×29°37E, h10km, ML2.3, Error ellipse: s-maj=6.1km s-min=5.5km az=143.0
DDA 17 07:34:26.8, 37°00N×29°38E, h7km, Md2.8
ISC 17 07:34:25.5±1.0, 36°94N±0°03×29°37E±0°02, h8km±9km, n18, σ0°58/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.24**	**25**	*e*PG	**Pg**	**07 34 30.1**	**-0.2**
GLHS				*e*SG	**Sg**	**07 34 34.2**	**+0.7**
GLHS	**Glhisar (BURDU**	**0.24**	**25**	*e*Pg	**Pg**	**07 34 30.1**	**-0.2**
GLHS				*e*Sg	**Sg**	**07 34 34.2**	**+0.7**
GOLH	**Golhisar**	**0.33**	**27**	P	**Pg**	**07 34 31.7**	**-0.4**
GOLH				S	**Sb**	**07 34 38.5**	**-0.8**
GOLH	**Golhisar**	**0.33**	**27**	*i* P	**Pg**	**07 34 31.7**	**-0.4**
GOLH				*i* S	**Sb**	**07 34 38.5**	**-0.8**
FETY	**Fethiye**	**0.38**	**217**	*e*PG	**Pg**	**07 34 32.6**	**-0.5**
FETY				*e*SG	**Sg**	**07 34 38.3**	**+0.2**
FETY	**Fethiye**	**0.38**	**217**	*e*Pg	**Pg**	**07 34 32.6**	**-0.5**
FETY				*e*Sg	**Sg**	**07 34 38.3**	**+0.2**
ELL	**Elmali**	**0.47**	**114**	*e*PG	**Pg**	**07 34 34.0**	**-0.7**
ELL				*e*SG	**Sg**	**07 34 42.1**	**+1.2**
ELL	**Elmali**	**0.47**	**114**	*e*Pg	**Pg**	**07 34 34.0**	**-0.7**
ELL				*e*Sg	**Sg**	**07 34 42.1**	**+1.2**
DALY	**Dalyan (Mu˘la**	**0.59**	**258**	*e*PG	**Pg**	**07 34 37.1**	**+0.2**
DALY				*e*SG	**Sg**	**07 34 44.8**	**+0.2**
DALY	**Dalyan (Mu˘la**	**0.59**	**258**	*e*Pg	**Pg**	**07 34 37.1**	**+0.2**
DALY				*e*Sg	**Sg**	**07 34 44.8**	**+0.2**
AKAS	**Kas**	**0.73**	**165**	P	**Pn**	**07 34 42.6**	**+0.3**
AKAS	**Kas**	**0.73**	**165**	*i* P	**Pn**	**07 34 42.6**	**+0.3**
AKAS				*i* S	**Sn**	**07 34 53.7**	**-0.1**
KORT	**Korkueli**	**0.79**	**85**	P	**Pg**	**07 34 40.4**	**-0.3**
KORT	**Korkueli**	**0.79**	**85**	*i* P	**Pg**	**07 34 40.4**	**-0.3**
KORT				*i* S	**Sn**	**07 34 56.3**	**+1.2**
DNZL	**Cakiroluk**	**0.79**	**341**	P	**Pb**	**07 34 41.3**	**-0.4**
DNZL				S	**Sg**	**07 34 51.4**	**+0.3**
DNZL	**Cakiroluk**	**0.79**	**341**	*i* P	**Pb**	**07 34 41.3**	**-0.4**
DNZL				*i* S	**Sg**	**07 34 51.4**	**+0.3**
YER	**Yerkesik**	**0.89**	**283**	*e*PG	**Pg**	**07 34 42.7**	**0.0**
YER	**Yerkesik**	**0.89**	**283**	*e*Pg	**Pg**	**07 34 42.7**	**0.0**

ISCJB 17 07:38:25.7±0.4, 31°92S±0°03×178°9W±0°1, h35km, mb4.6/15, MS3.5/9, Error ellipse: s-maj=13.0km s-min=3.8km az=15.2
NEIC 17 07:38:26.8±1.2, 32°00S×178°56W, h44km±11km, mb4.8/8, Error ellipse: s-maj=18.4km s-min=9.7km az=110.0
IDC 17 07:38:33.6±1.5, 31°56S×178°85W, h95km±12km, mb4.1/10, mb1 4.3/10, mb1mx4.0/36, mbtmp4.4/10, MS3.5/13, Ms1 3.5/13, ms1mx3.4/26, Error ellipse: s-maj=15.8km s-min=13.6km az=154.0
ISC 17 07:38:26.9±0.5, 31°85S±0°05×178°88W±0°09, h35km, n125, σ2s40/116, mb4.5/14, MS3.5/9, 2C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.72**	**18**	P	**Pn**	**07 39 10.2**	**+2.2**
	773nm,0.3s,baz=104,slow=9.5,SNR=14						
RAO				S	**Sn**	**07 39 41.5**	**+1.9**
	606nm,0.3s,baz=76,slow=19,SNR=3.8						
RAO				LR	LR	07 39 57.3	
	comp=Z,664nm,18.5s,baz=98,slow=34						
RAO	**Raoul Island**	**2.72**	**18**	*e*Pn	**Pn**	**07 39 09.9**	**+1.8**
RAO				*e*Sn	**Sn**	**07 39 42.5**	**+2.8**
MXZ	**Matakaoa Point**	**6.16**	**201**	PN	**Pn**	**07 39 57.1**	**+1.8**
MXZ				SN	**Sn**	**07 41 02.8**	**-1.6**
WMGZ	**Waiomatatini S**	**6.36**	**200**	PN	**Pn**	**07 40 00.5**	**+2.4**
WMGZ				SN	**Sn**	**07 41 13.3**	**+3.8**
HAZ	**Te Kaha**	**6.50**	**204**	PN	**Pn**	**07 40 03.3**	**+3.3**
HAZ				SN	**Sn**	**07 41 16.7**	**+3.8**
PUZ	**Puketiti**	**6.64**	**200**	PN	**Pn**	**07 40 03.4**	**+1.4**
PUZ				SN	**Sn**	**07 41 16.6**	**+0.1**
TWGZ	**Tauwhareparae**	**6.82**	**201**	PN	**Pn**	**07 40 06.7**	**+2.2**
TWGZ				SN	**Sn**	**07 41 23.9**	**+3.0**
CNGZ	**Carnagh Statio**	**7.04**	**199**	PN	**Pn**	**07 40 08.9**	**+1.5**
TKGZ	**Te Karaka**	**7.10**	**201**	PN	**Pn**	**07 40 08.8**	**+0.5**
TKGZ				SN	**Sn**	**07 41 29.9**	**+2.1**
MWZ	**Matawai**	**7.11**	**203**	PN	**Pn**	**07 40 09.5**	**+1.0**
OUZ	**Omahuta**	**7.12**	**240**	*e*Pn	Pn	07 40 18.0	+9.4
	86nm,0.4s						
OUZ	**Omahuta**	**7.12**	**240**	PN	Pn	07 40 17.5	+8.9
URZ	**Urewera**	**7.19**	**206**	P	**Pn**	**07 40 10.7**	**+1.1**
	18nm,0.3s,baz=264,slow=3.7,SNR=45						
URZ				S	**Sn**	**07 41 33.0**	**+3.1**
	38nm,0.3s,baz=165,slow=16,SNR=11						
URZ	**Urewera**	**7.19**	**206**	*e*Pn	**Pn**	**07 40 11.7**	**+2.1**
	115nm,0.4s						
URZ				*e*Sn	**Sn**	**07 41 34.1**	**+4.2**
URZ	**Urewera**	**7.19**	**206**	PN	**Pn**	**07 40 11.0**	**+1.5**
RAGZ	**Rawiri**	**7.29**	**204**	PN	Pn	07 40 16.6	+5.6
RIGZ	**Rimuhau**	**7.37**	**201**	PN	**Pn**	**07 40 13.3**	**+1.2**
MUGZ	**Murupara**	**7.51**	**207**	PN	**Pn**	**07 40 15.4**	**+1.5**
PRGZ	**Paritu Road**	**7.54**	**200**	PN	**Pn**	**07 40 19.0**	**+4.7**
RTZ	**Ruatahuna**	**7.55**	**205**	PN	**Pn**	**07 40 15.4**	**+0.9**
SNGZ	**Shannon Statio**	**7.58**	**203**	PN	**Pn**	**07 40 18.3**	**+3.4**
SNGZ				SN	Sn	07 41 29.6	-10
PRRZ	**Plateau Road**	**7.68**	**209**	PN	Pn	07 40 21.6	+5.3
KNZ	**Kokohu**	**7.69**	**200**	PN	**Pn**	**07 40 17.9**	**+1.5**
MHGZ	**Mahia Peninsul**	**7.75**	**199**	PN	**Pn**	**07 40 17.4**	**+0.3**
WHNZ	**Waihua**	**7.88**	**203**	PN	**Pn**	**07 40 23.1**	**+4.1**
MRZ	**Matea Rd**	**7.96**	**208**	PN	**Pn**	**07 40 23.8**	**+3.7**
NMHZ	**Naumai**	**8.04**	**205**	PN	**Pn**	**07 40 22.0**	**+0.7**
ARHZ	**Aropaoanui**	**8.13**	**203**	PN	**Pn**	**07 40 23.6**	**+1.3**
BKZ	**Black Stump Fm**	**8.22**	**206**	PN	**Pn**	**07 40 24.4**	**+0.8**
MCHZ	**McNeill Hill**	**8.39**	**204**	PN	**Pn**	**07 40 26.3**	**+0.3**
HIZ	**Hauiti**	**8.39**	**216**	*e*Pn	Pn	07 40 32.5	+6.4
HIZ	**Hauiti**	**8.39**	**216**	PN	Pn	07 40 31.5	+5.4
KWHZ	**Kaweka Forest**	**8.47**	**205**	PN	**Pn**	**07 40 26.9**	**-0.3**
OTVZ	**Oturere**	**8.55**	**210**	PN	**Pn**	**07 40 31.6**	**+3.3**
KAHZ	**Kahuranaki**	**8.64**	**202**	PN	**Pn**	**07 40 29.4**	**-0.2**
KRHZ	**Kereru**	**8.68**	**205**	PN	**Pn**	**07 40 29.5**	**-0.6**
MTVZ	**Mangateitei**	**8.81**	**210**	PN	**Pn**	**07 40 36.3**	**+4.5**
PXZ	**Pawanui**	**8.87**	**202**	PN	**Pn**	**07 40 31.5**	**-1.0**
PNHZ	**Pukenui**	**8.98**	**205**	PN	**Pn**	**07 40 33.2**	**-1.0**
PRHZ	**Porangahau**	**9.15**	**202**	PN	**Pn**	**07 40 37.4**	**+1.0**
WAZ	**Wanganui**	**9.33**	**211**	PN	**Pn**	**07 40 41.5**	**+2.7**
DVHZ	**Dannevirke**	**9.34**	**204**	PN	**Pn**	**07 40 40.2**	**+1.2**
ANWZ	**Angora Road**	**9.38**	**202**	PN	**Pn**	**07 40 40.5**	**+1.0**
POWZ	**Post Office Ro**	**9.56**	**205**	PN	**Pn**	**07 40 42.9**	**+0.8**
PRWZ	**Pori Road**	**9.63**	**204**	PN	**Pn**	**07 40 44.9**	**+1.9**
BFZ	**Birch Farm**	**9.65**	**203**	PN	**Pn**	**07 40 41.3**	**-2.0**
TIWZ	**Tintock**	**9.86**	**204**	PN	**Pn**	**07 40 45.7**	**-0.4**
MRZ	**Mangatainoka R**	**9.87**	**205**	PN	**Pn**	**07 40 44.2**	**-2.0**
HOWZ	**Holdsworth Sta**	**10.10**	**205**	PN	**Pn**	**07 40 48.5**	**-0.9**
OGWZ	**Otaki Gorge**	**10.15**	**206**	PN	**Pn**	**07 40 49.4**	**-0.7**
TMWZ	**Te Maipa**	**10.15**	**203**	PN	**Pn**	**07 40 49.9**	**-0.3**
KIW	**Kapiti Island**	**10.29**	**207**	PN	**Pn**	**07 40 49.5**	**-2.6**
CAW	**Cannon Point**	**10.44**	**206**	PN	**Pn**	**07 40 53.2**	**-0.9**
DUWZ	**D'Urville Isla**	**10.65**	**211**	PN	**Pn**	**07 40 56.0**	**-1.0**
SNZO	**South Karori**	**10.76**	**207**	*e*Pn	**Pn**	**07 40 57.1**	**-1.2**
PLWZ	**Palliser**	**10.78**	**204**	PN	**Pn**	**07 40 57.3**	**-1.5**
TCW	**Tory Channel**	**10.84**	**209**	PN	**Pn**	**07 40 58.0**	**-1.5**
TUWZ	**Tuamarina**	**11.16**	**209**	PN	**Pn**	**07 41 01.5**	**-2.4**
NNZ	**Nelson**	**11.23**	**211**	PN	**Pn**	**07 41 03.9**	**-0.9**
QRZ	**Quartz Range**	**11.32**	**215**	PN	**Pn**	**07 41 05.2**	**-0.8**
BSWZ	**Blackbirch Sta**	**11.48**	**208**	PN	**Pn**	**07 41 06.5**	**-1.1**
THZ	**Tophouse**	**11.88**	**211**	PN	**Pn**	**07 41 10.9**	**-2.9**
KHZ	**Kahutara**	**12.15**	**208**	*e*Pn	**Pn**	**07 41 14.8**	**-2.7**
	112nm,0.4s						
KHZ	**Kahutara**	**12.15**	**208**	PN	**Pn**	**07 41 15.0**	**-2.5**
INZ	**Inchbonnie**	**13.30**	**213**	PN	**Pn**	**07 41 30.7**	**-2.4**
OXZ	**Oxford**	**13.52**	**210**	*e*Pn	Pn	07 41 31.9	-4.3
RPZ	**Rata Peaks**	**14.26**	**211**	P	**Pn**	**07 41 42.4**	**-3.9**
	1.5nm,0.3s,baz=262,slow=3.5,SNR=11						
RPZ				S	Sn	07 44 13.1	-10
	3.6nm,0.3s,baz=131,slow=23,SNR=8.4						
RPZ				LR	LR	07 46 50.8	
	comp=Z,248nm,18.4s,baz=14,slow=34						
MSVF	**Nonsavu**	**14.32**	**348**	*e*Pn	**Pn**	**07 41 50.4**	**+3.1**
	28nm,0.9s						
ODZ	**Otahua Downs**	**15.50**	**209**	*e*P	**Pn**	**07 41 58.5**	**-4.3**
	86nm,1.8s						
ODZ	**Otahua Downs**	**15.50**	**209**	PN	**Pn**	**07 41 58.5**	**-4.3**
WKZ	**Wanaka**	**16.04**	**213**	*e*P	**Pn**	**07 42 07.0**	**-2.7**
DZM	**Mont Dzumac**	**16.29**	**303**	*e*LR	LR	07 46 06.5	
	523nm,27.1s						
DZM	**Mont Dzumac**	**16.29**	**303**	LR	LR	07 46 39.3	
	comp=Z,195nm,22.0s,baz=170,slow=30						
AFI	**Afiamalu**	**19.00**	**22**	P	**P**	**07 42 40.3**	**-5.5**
	1.0nm,0.3s,baz=329,slow=19,SNR=4.0						
AFI				LR	LR	07 49 34.2	
	comp=Z,49nm,18.4s,baz=178,slow=35						
AFI	**Afiamalu**	**19.00**	**22**	*e*P	**P**	**07 42 44.2**	**-1.6**
	92nm,1.3s						
RAR	**Rarotonga**	**20.08**	**63**	LR	LR	07 47 50.1	
	comp=Z,165nm,21.8s,baz=253,slow=28						
EIDS	**Eidsvold**	**27.09**	**276**	*e*P	**P**	**07 44 09.3**	**+2.9**
	12nm,1.2s						
TBI	**Tubuai**	**27.35**	**79**	*e*LR	LR	07 50 50.9	
	237nm,32.2s						
TBI	**Tubuai**	**27.35**	**79**	*e*T	T	08 11 57.3	
	64nm,0.4s						
HNR	**Honiara**	**29.71**	**314**	LR	LR	07 54 03.5	
	comp=Z,74nm,20.0s,baz=134,slow=32						
PAE	**Paea**	**30.01**	**69**	*e*T	T	08 15 00.4	
	14nm,0.3s						
PPT2	**Papeete2**	**30.05**	**69**	*e*LR	LR	07 52 00.3	
	218nm,31.2s						
PPT2	**Papeete2**	**30.05**	**69**	*e*T	T	08 15 04.6	
	12nm,0.3s						
PPT	**Papeete**	**30.06**	**69**	LR	LR	07 56 20.1	
	comp=Z,67nm,18.3s,baz=273,slow=36						
TVO	**Taravao**	**30.20**	**69**	*e*T	T	08 15 16.1	
	4.0nm,0.4s						
TIAR	**Tiarei**	**30.25**	**69**	*e*T	T	08 15 18.2	
	3.0nm,0.3s						
MEH	**Mehetia**	**31.10**	**71**	*e*T	T	08 16 25.4	
	21nm,0.3s						
VAH	**Vaihoa**	**32.92**	**67**	*e*T	T	08 18 35.7	
	140nm,0.2s						
CTA	**Charters Tower**	**33.32**	**282**	P	**P**	**07 45 03.5**	**+1.9**
	6.7nm,0.3s,baz=108,slow=11,SNR=14						
CTAO	**Charters Tower**	**33.32**	**282**	*e*P	**P**	**07 45 04.8**	**+3.2**
	44nm,0.5s						
STKA	**Stephens Creek**	**33.44**	**259**	P	**P**	**07 45 06.0**	**+3.4**
	1.9nm,0.4s,baz=99,slow=12,SNR=9.3						
STKA				LR	LR	07 56 42.5	
	comp=Z,102nm,19.2s,baz=90,slow=32						
RKT	**Rikitea**	**39.69**	**89**	*e*LR	LR	07 56 51.4	
	190nm,32.0s						
RKT	**Rikitea**	**39.69**	**89**	*e*T	T	08 27 36.9	
	1.9nm,0.3s						
ASAR	**Alice Springs**	**42.30**	**269**	P	**P**	**07 46 18.1**	**+0.7**
	4.6nm,0.5s,baz=106,slow=7.6,SNR=32						
ASAR				ScP	**ScP**	**07 51 51.6**	**-7.1**
	0.8nm,0.7s,baz=112,slow=4.1,SNR=5.4						
ASAR				S	**S**	**07 52 32.3**	**-3.8**
	0.4nm,0.8s,baz=108,slow=15,SNR=3.2						
ASAR				LR	LR	08 02 14.9	
	comp=Z,45nm,20.4s,baz=189,slow=34						
WRAB	**Tennant Creek**	**43.41**	**274**	*e*P	**P**	**07 46 26.9**	**+0.5**
	7.3nm,0.6s						
WRA	**Warramunga Arr**	**43.42**	**274**	P	**P**	**07 46 27.1**	**+0.6**
	7.0nm,0.4s,baz=114,slow=7.7,SNR=42						
WRA				ScP	**ScP**	**07 51 57.4**	**-5.8**
	1.6nm,0.8s,baz=106,slow=3.9,SNR=8.3						
WRA				S	**S**	**07 52 47.8**	**-4.8**
	0.8nm,0.9s,baz=111,slow=15,SNR=3.4						
VNDA	**Vanda**	**46.59**	**186**	P	**P**	**07 46 53.9**	**+3.0**
	0.9nm,0.6s,baz=6.3,slow=6.5,SNR=12						
VNDA				ScP	**ScP**	**07 52 10.6**	**-4.7**
	1.1nm,0.9s,baz=358,slow=7.3,SNR=4.6						
VNDA				LR	LR	08 03 34.3	
	comp=Z,66nm,19.1s,baz=264,slow=32						
FITZ	**Fitzroy Crossi**	**51.62**	**271**	P	**P**	**07 47 30.6**	**+0.4**
	3.2nm,0.5s,baz=82,slow=2.2,SNR=9.7						
FITZ				LR	LR	08 08 04.0	
	comp=Z,78nm,19.0s,baz=124,slow=34						
FITZ	**Fitzroy Crossi**	**51.62**	**271**	*e*P	**P**	**07 47 31.3**	**+1.1**
	14nm,0.9s						
CASY	**Casey**	**53.51**	**208**	*e*P	**P**	**07 47 43.1**	**-0.4**
QSPA	**South Pole Qui**	**58.27**	**180**	*e*P	**P**	**07 48 19.9**	**+2.1**
	38nm,1.0s						
MAW	**Mawson**	**70.69**	**201**	P	**P**	**07 49 38.7**	**0.0**
	1.9nm,0.6s,baz=136,slow=7.1,SNR=4.2						
SYO	**Syowa Base**	**75.54**	**193**	⇑*e*P	**P**	**07 50 05.2**	**-2.1**
SYO	**Syowa Base**	**75.54**	**193**	⇑*es*P	sP	07 50 24.2	+1.9
SNAA	**Sanae**	**76.73**	**179**	*e*P	**P**	**07 50 14.3**	**+0.1**
	332nm,1.1s						
KSRS	**Korea Array**	**84.96**	**320**	P	**P**	**07 50 57.9**	**-0.4**
	0.6nm,0.5s,baz=140,slow=5.7,SNR=4.5						
KSRS				LR	LR	08 25 12.7	
	comp=Z,22nm,19.8s,baz=173,slow=33						
KSAR	**Wonju Array Be**	**84.97**	**320**	P	**P**	**07 50 57.9**	**-0.5**
TRQA	**Tornquist**	**88.95**	**135**	*e*P	**P**	**07 51 18.8**	**+0.8**
	6.6nm,1.3s						
TXAR	**Lajitas Array**	**93.80**	**58**	P	**P**	**07 51 40.4**	**-0.3**
	0.9nm,1.0s,baz=213,slow=6.0,SNR=6.4						
ILAR	**Eielson Array**	**99.50**	**13**	P	**Pdif**	**07 52 04.3**	**-1.2**
	0.4nm,1.0s,baz=222,slow=4.8,SNR=3.3						
CPUP	**Villa Florida**	**99.67**	**129**	LR	LR	08 31 22.8	
	comp=Z,65nm,18.0s,baz=210,slow=32						
MKAR	**Makanchi Array**	**118.11**	**310**	PKP	**PKPdf**	**07 57 07.5**	**-2.4**
	0.4nm,0.6s,baz=93,slow=2.7,SNR=5.5						
KURK	**Kurchatov**	**121.49**	**313**	PKP	**PKPdf**	**07 57 14.1**	**-2.1**
KURBB	**Kurchatov Arra**	**121.53**	**313**	PKP	**PKPdf**	**07 57 14.1**	**-2.2**
	0.7nm,0.4s,baz=114,slow=2.0,SNR=12						
KKAR	**Karatay Array**	**125.23**	**303**	*e*PKPdf	**PKPdf**	**07 57 25.0**	**+1.4**
BVAR	**Borovoye Array**	**126.90**	**315**	PKP	**PKPdf**	**07 57 24.3**	**-2.2**
	1.2nm,0.4s,baz=125,slow=2.0,SNR=8.2						
ARCES	**ARCESS Array B**	**139.83**	**347**	PKhKP	PKPpre	07 57 41.0	
	0.7nm,0.5s,baz=46,slow=3.5,SNR=6.2						
ARCES				PKP	**PKPdf**	**07 57 48.9**	**-1.3**
	1.7nm,0.6s,baz=29,slow=2.8,SNR=10						
KBZ	**Khabaz**	**145.26**	**302**	PKPbc	**PKPbc**	**07 57 59.8**	**-0.6**
	2.6nm,0.8s,baz=224,slow=5.0,SNR=4.3						
FINES	**FINESS Array B**	**146.22**	**339**	PKPbc	**PKPdf**	**07 58 01.0**	**-0.8**
	5.0nm,0.4s,baz=46,slow=4.4,SNR=46						
NB2	**NORSAR Subarra**	**150.05**	**350**	PKP	**PKPbc**	**07 58 11.6**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**150.05**	**350**	PKPbc	**PKPbc**	**07 58 11.7**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=14,slow=4.1,SNR=12						
AKASG	**Malin Array Be**	**151.96**	**320**	PKPbc	**PKPbc**	**07 58 16.1**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=48,slow=3.3,SNR=6.2						
BRTR	**Keskin Array B**	**152.58**	**296**	PKPbc	**PKPbc**	**07 58 18.4**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=131,slow=2.5,SNR=6.6						
DBIC	**Dimbokro**	**154.34**	**166**	PKPbc	**PKPbc**	**07 58 23.9**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=159,slow=2.1,SNR=7.5						
TORD	**Torodi Ar. Bea**	**161.38**	**182**	PKP	**PKPdf**	**07 58 23.7**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=244,slow=2.8,SNR=6.2						
TORD				PKPab	**PKPab**	**07 59 08.2**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=185,slow=3.9,SNR=8.0						

KMA 17 07:38:32.6±0.2, 37°88N×124°79E, h13km±4km, Error ellipse: s-maj=9.9km s-min=3.0km az=86.0
*IDC 17 07:38:33.5±1.2, 37°76N×124°78E, h0km, mb3.7/4

comp=Z,95nm,6.6s
KSH LR LR
comp=N,230nm,10.8s
KSH LR LR
comp=E,120nm,10.7s
BVAR Borovoye Array 40.02 310 P **P** **07 46 11.1 +2.5**
comp=E,1.2nm,0.8s,baz=81,slow=9.1,SNR=5.3
FINES FINESS Array B 61.34 327 P P 07 48 53.1 +3.8
comp=E,1.0nm,0.7s,baz=62,slow=3.3,SNR=2.6
AKASG Malin Array Be 64.93 316 P **P** **07 49 14.5 +1.3**
comp=E,0.4nm,0.5s,baz=54,slow=6.1,SNR=3.6

IDC 17 07:40:54.8±2.9, 7.35S×124.76E, h536km±34km, mb3.1/5, mb1 3.4/8, mb1mx3.0/50, mbtmp4.2/8, Error ellipse: s-maj=66.8km s-min=17.8km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.72**	**176**	P		P		07 43 20.4	+0.3
	1.4nm,0.3s,baz=265,slow=4.7,SNR=116								
WRA	**Warramunga Arr**	**15.59**	**144**	P		P		07 44 08.9	-1.8
	2.7nm,0.3s,baz=323,slow=11,SNR=133								
ASAR	**Alice Springs**	**18.44**	**153**	P		P		07 44 37.7	+0.2
	2.3nm,0.3s,baz=327,slow=8.7,SNR=104								
STKA	**Stephens Creek**	**29.01**	**149**	P		P		07 46 11.7	+0.2
	2.6nm,0.3s,baz=319,slow=19,SNR=9.0								
RPZ	**Rata Peaks**	**54.23**	**140**	P		P		07 49 30.3	0.0
	4.9nm,0.4s,baz=323,slow=2.3,SNR=6.2								
MKAR	**Makanchi Array**	**65.78**	**329**	P		P		07 50 46.8	-0.1
	0.3nm,0.4s,baz=113,slow=7.4,SNR=5.0								
KURBB	**Kurchatov Arra**	**70.18**	**331**	P		P		07 51 13.6	0.0
	0.1nm,0.3s,baz=144,slow=5.3,SNR=4.9								
VNDA	**Vanda**	**72.77**	**172**	P		P		07 51 27.9	-0.4
	0.3nm,0.3s,baz=312,slow=7.8,SNR=4.3								
CPUP	**Villa Florida**	**146.46**	**177**	PKPbc		PKPbc		07 59 36.4	-0.3
	0.9nm,0.7s,baz=190,slow=6.1,SNR=3.1								

IDC 17 08:00:19.9±4.8, 52.39N×35.52E, h0km, mb1 3.4/3, mb1mx3.0/40, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=63.9km s-min=16.2km az=122.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.80**	**12**	Lg		Lg		08 01 46.7	
	4.3nm,0.3s,baz=32,slow=22,SNR=7.6								
AKASG	**Malin Array Be**	**4.28**	**249**	Pn		Pn		08 01 24.5	-1.6
	1.1nm,0.3s,baz=57,slow=13,SNR=4.4								
AKASG				Sn		Sn		08 02 14.4	-2.3
	2.5nm,0.3s,baz=58,slow=21,SNR=3.7								
AKASG				Lg		Lg		08 02 30.4	
	3.7nm,0.3s,baz=67,slow=30,SNR=5.9								
FINES	**FINESS Array B**	**10.43**	**334**	Pn		Pn		08 02 46.2	-4.3
	0.3nm,0.3s,baz=151,slow=12,SNR=7.4								
FINES				Lg		Lg		08 05 43.2	
	baz=152,slow=24,SNR=2.6								
I26DE	**FREYUNG INFRAS14.27**	**264**	*i*					09 22 05.0	
	baz=68,slow=321,SNR=3.6								
ARCES	**ARCESS Array B**	**17.83**	**348**	P		Pn		08 04 27.5	-1.5
	0.4nm,0.3s,baz=164,slow=10,SNR=12								

IDC 17 08:06:16.9±14.0, 5.67S×129.24E, h260km±158km, mb3.0/2, mb1 3.3/5, mb1mx3.1/32, mbtmp3.9/5, Error ellipse: s-maj=115.5km s-min=45.7km az=45.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.85**	**196**	P		Pn		08 09 10.2	-0.6
	0.2nm,0.3s,baz=23,slow=12,SNR=8.8								
FITZ				S		S		08 11 25.0	-8.6
	0.1nm,0.3s,baz=198,slow=20,SNR=2.4								
WRA	**Warramunga Arr**	**15.03**	**161**	P		Pn		08 09 37.0	-0.3
	0.7nm,0.3s,baz=340,slow=12,SNR=41								
WRA				S		S		08 12 27.2	+4.5
	0.1nm,0.3s,baz=28,slow=27,SNR=3.2								
ASAR	**Alice Springs**	**18.45**	**166**	P		P		08 10 13.9	0.0
	1.1nm,0.3s,baz=346,slow=12,SNR=56								
MKAR	**Makanchi Array**	**66.70**	**327**	P		P		08 16 40.4	+0.2
	0.3nm,0.6s,baz=128,slow=7.9,SNR=3.5								
KURBB	**Kurchatov Arra**	**70.98**	**329**	P		P		08 17 06.2	-0.1
	0.5nm,0.6s,baz=130,slow=5.2,SNR=5.9								

*ISCJB **17** 08:07:32.2±1.0, 37.06N±0.07×37.51E±0.06, h0km, Error ellipse: s-maj=10.8km s-min=5.9km az=157.4*
*CSEM **17** 08:07:32.5±0.7, 37.14N×37.46E, h1km, MD2.5, Error ellipse: s-maj=24.9km s-min=15.6km az=139.0, Suspected Mining explosion.*
*ISK **17** 08:07:33.0, 37.16N×37.48E, h7km, MD2.5*
*DDA **17** 08:07:35.2, 37.22N×37.30E, h7km, Md2.8, Suspected Mining explosion.*
ISC 17 08:07:33.7±1.1, 37.16N±0.05×37.43E±0.03, h0km, n17, σ099/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.18**	**276**	*e*PG		**Pg**		**08 07 37.9**	**+0.8**
GZT	**Gaziantep**	**0.23**	**28**	*i* P		**Pg**		**08 07 38.0**	**-0.1**
KMRS	**Kahramanmaras**	**0.55**	**310**	*e*PG		**Pg**		**08 07 44.5**	**+0.2**
KAMA	**Osmaniye**	**0.61**	**273**	*i* P		**Pg**		**08 07 46.1**	**+0.6**
URFA	**Urfa**	**1.15**	**75**	*e*PN		**Pg**		**08 07 55.0**	**-0.7**
URFA				*e*SN		**Sg**		**08 08 10.1**	**-0.4**
URFA	**Urfa**	**1.15**	**75**	*e*Pn		**Pg**		**08 07 55.0**	**-0.7**
AKCD	**Akcadag**	**1.20**	**19**	P		**Pb**		**08 07 57.2**	**-0.3**
AKCD	**Akcadag**	**1.20**	**19**	*i* P		**Pb**		**08 07 57.1**	**-0.3**
AKCD				*i* S		**Sb**		**08 08 14.1**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.27**	**232**	*e*PN		**Pg**		**08 07 58.1**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.27**	**232**	*e*Pn		**Pg**		**08 07 58.1**	**+0.1**
KOZT	**Kozan**	**1.32**	**285**	*e*PN		**Pg**		**08 07 58.6**	**-0.4**
KOZT	**Kozan**	**1.32**	**285**	*e*Pn		**Pg**		**08 07 58.6**	**-0.4**
DARE	**Darende-Malaty**	**1.41**	**2**	*e*PN		**Pg**		**08 07 59.8**	**-1.0**
DARE	**Darende-Malaty**	**1.41**	**2**	*e*Pn		**Pg**		**08 07 59.8**	**-1.0**
SARI	**SarD1z-Kayseri**	**1.48**	**328**	*e*PN		**Pn**		**08 08 01.6**	**-0.3**
ELZG	**Elazig**	**1.82**	**42**	S		**Sg**		**08 08 32.9**	**+0.7**
ELZG	**Elazig**	**1.82**	**42**	*i* P		**Pg**		**08 08 11.9**	**+3.2**
ELZG				*i* S		**Sg**		**08 08 32.9**	**+0.7**

*NIED **17** 08:18:00, 36.90N×142.00E, h26km, Mw3.4 Best double couple: M0 1.21000×10^14 NP1:φs192.00000°, δ6.00000°, λ84.00000°. NP2:φs18.00000°, δ84.00000°, λ91.00000°.*
JMA 17 08:18:29.8±0.3, 36.93N×141.98E, h26km±4km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.96**	**281**	P		Pn		08 18 47.4	-0.3
JFK	**Kawauchi**	**0.98**	**297**	P		Pn		08 18 47.5	-0.5
JHO	**Hitachi**	**1.18**	**255**	P		Pn		08 18 50.5	-0.1
JMM	**Marumori**	**1.33**	**315**	P		Pn		08 18 52.6	-0.1
JFT	**Otama**	**1.44**	**295**	P		Pb		08 18 55.2	-0.7
JFT				*e*S		Sn		08 19 12.5	+0.3
JIO	**Ouri**	**1.60**	**342**	P		Pn		08 18 57.4	+1.0
JIO				*e*S		Sn		08 19 17.1	+0.9
JOU	**Okura**	**1.77**	**324**	P		Pn		08 19 00.2	+1.4
JOU				*e*S		Sn		08 19 21.4	+0.9
JFY	**Yanaizu**	**1.88**	**285**	P		Pb		08 19 02.2	-1.2
JFY				*e*S		Sb		08 19 25.0	-1.5
JYS	**Shirataka**	**1.99**	**311**	P		Pn		08 19 03.5	+1.7
JAG	**Ashikaga**	**2.09**	**257**	P		Pn		08 19 04.5	+1.3
JAG				*e*S		Sn		08 19 28.9	+0.5
JMK	**Ichinoseki**	**2.11**	**344**	P		Pn		08 19 05.1	+1.8
MAT	**Matsushiro**	**3.06**	**264**	P		Pb		08 19 20.2	-3.3
MAT				S		Sb		08 19 58.3	-2.0

IDC 17 08:41:51.6±2.0, 5.63S×151.23E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/28, mbtmp3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=107.2km s-min=27.5km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.51**	**227**	Pn		Pn		08 43 18.8	+3.9
	1.3nm,0.3s,baz=225,slow=20,SNR=3.2								
PMG				Sn		Sn		08 44 13.7	-5.4
	0.7nm,0.3s,baz=210,slow=20,SNR=1.9								
CTA	**Charters Tower**	**15.16**	**198**	Pn		P		08 45 33.4	+0.8
	0.4nm,0.3s,baz=0.0,slow=9.1,SNR=3.4								
WRA	**Warramunga Arr**	**21.73**	**228**	P		P		08 46 44.6	-0.1
	1.1nm,0.5s,baz=53,slow=11,SNR=14								
ASAR	**Alice Springs**	**24.49**	**221**	P		P		08 47 12.7	-0.1
	0.4nm,0.4s,baz=57,slow=8.8,SNR=9.3								
FITZ	**Fitzroy Crossi**	**27.89**	**241**	P		P		08 47 43.3	-0.2
	1.9nm,0.8s,baz=90,slow=12,SNR=2.6								
JHJ	**Hachijo jima 2**	**40.04**	**345**	LR		LR		09 05 32.6	
	comp=Z,16nm,18.3s,baz=232,slow=36								
ILAR	**Eielson Array**	**83.52**	**22**	P		P		08 54 20.8	-0.3
	0.3nm,0.6s,baz=241,slow=5.4,SNR=5.1								
TORD	**Torodi Ar. Bea**	**149.06**	**286**	PKPbc		PKPbc		09 01 43.0	+0.1
	0.3nm,0.3s,baz=98,slow=2.1,SNR=5.0								

IDC 17 09:15:06.1±1.8, 5.60S×147.49E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/37, mbtmp3.8/5, ML4.0/1, MS2.7/2, Ms1 2.7/2, ms1mx2.5/28, Error ellipse: s-maj=66.1km s-min=27.4km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**185**	Pn		Pn		09 16 06.2	+0.3
	2.4nm,0.3s,baz=5.7,slow=10,SNR=5.9								
PMG				Sn		Sn		09 16 46.9	-4.5
	7.4nm,0.3s,baz=211,slow=20,SNR=6.3								
PMG				LR		LR		09 18 03.9	
	comp=Z,46nm,20.3s,baz=264,slow=47								
WRA	**Warramunga Arr**	**19.16**	**221**	P		P		09 19 31.1	-0.2
	0.4nm,0.3s,baz=40,slow=11,SNR=23								
ASAR	**Alice Springs**	**22.23**	**215**	P		P		09 20 04.3	-0.2
	2.0nm,0.5s,baz=51,slow=9.0,SNR=63								
ASAR				S		S		09 24 06.1	-4.3
	0.8nm,0.8s,baz=36,slow=20,SNR=3.3								
FITZ	**Fitzroy Crossi**	**24.70**	**238**	P		P		09 20 29.8	+0.7
	3.5nm,0.5s,baz=48,slow=9.7,SNR=15								
KAPI	**Kappang**	**27.63**	**270**	LR		LR		09 33 21.1	
	comp=Z,38nm,19.2s,baz=151,slow=40								
ILAR	**Eielson Array**	**84.92**	**23**	P		P		09 27 43.6	+0.8
	0.2nm,0.6s,baz=236,slow=6.1,SNR=2.9								
TORD	**Torodi Ar. Bea**	**145.46**	**285**	PKPbc		PKPbc		09 34 44.9	-2.4
	0.5nm,0.9s,baz=66,slow=3.7,SNR=4.3								

*BJI **17** 09:16:08.5, 13.22N×41.59E, h4km, mb5.2/77, mB5.4/63, Ms5.8/84, Ms7 5.6/77*
*DHMR **17** 09:16:08.7±1.3, 13.30N×41.85E, h12km±12km, ML5.5*
*IDC **17** 09:16:10.3±0.5, 13.20N×41.71E, h0km, mb5.3/40, mb1 5.3/44, mb1mx5.2/50, mbtmp5.2/44, ML3.9/4, MS5.3/37, Ms1 5.2/37, ms1mx5.1/50, Error ellipse: s-maj=12.8km s-min=8.7km az=57.0*
*MOS **17** 09:16:10.8±0.8, 13.30N×41.70E, h10km, mb5.7/74, MS5.2/35, Error ellipse: s-maj=7.7km s-min=3.4km az=95.4*
*ISCJB **17** 09:16:10.6±0.2, 13.25N±0.02×41.71E±0.01, h11km, mb5.3/205, MS5.3/373, Error ellipse: s-maj=3.4km s-min=1.9km az=16.0*
*CSEM **17** 09:16:11.0±0.1, 13.26N×41.75E, h2km, mb5.4/99, Ms5.4, Mw5.6, Error ellipse: s-maj=4.8km s-min=3.1km az=16.0*
*STR **17** 09:16:11.3±0.0, 13.32N×41.80E, Mb5.4, Error ellipse: s-maj=0.0km s-min=0.0km az=122.0*
*NEIC **17** 09:16:12.6±0.2, 13.30N×41.73E, h10km, mb5.5/85, MS5.4/297, MW5.6, Error ellipse: s-maj=5.4km s-min=4.5km az=219.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^17 Nm; Mrr 0.10; Mθθ -0.37; Mφφ 0.28; Mrθ -0.52; Mrφ -2.57; Mθφ -1.46; Best double couple: Ms 3.00000×10^17 NP1:φs 3.00000°, δ87.00000°, λ-29.00000°. NP2:φs 95.00000°, δ61.00000°, λ-176.00000°. Principal axes: T 2.7800, Plg18.0000°, Azm53.0000°; N 0.4300, Plg61.0000°, Azm177.0000°; P -3.2100, Plg23.0000°, Azm315.0000°;*
NEIC Felt at Asmera, Eritrea, at Mek'ele, Ethiopia and at Al Hudaydah, Yemen.
*GCMT **17** 09:16:12.6±0.1, 13.46N×41.76E, h12km, MW5.6/129, Moment Tensor Solution. s108,c186; s129,c337; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr -0.62±.03; Mθθ -0.86±.04; Mφφ 1.47±.04; Mrθ -0.61±.09; Mθφ -3.11±.03; Mrφ 0.17±.09; Best double couple: Ms 3.38200×10^17 NP1:φs 101.00000°, δ88.00000°, λ-169.00000°. NP2:φs 10.00000°, δ79.00000°, λ-2.00000°. Principal axes: T 3.6820, Plg6.0000°, Azm235.0000°; N -0.6050, Plg79.0000°, Azm111.0000°; P -3.0810, Plg9.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*DSN **17** 09:16:12.0±0.0, 13.17N×42.14E, h10km, mb5.7 Error ellipse: s-maj=3.3km s-min=1.1km az=303.0*
ISC 17 09:16:12.0±0.5, 13.26N±0.03×41.69E±0.03, h7km±2km, h7km:pP-P, n1635, σ1s55/1549, mb5.4/225, MS5.4/375, 121C-40D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.06**	**147**	Pn		**Pn**		**09 16 44.2**	**-2.8**
	932nm,0.3s,baz=330,slow=4.4,SNR=1780								
ATD				Lg		Lg		09 17 13.7	
	4μm,0.3s,baz=167,slow=22,SNR=22								
ATD				LR		LR		09 17 31.4	
	comp=Z,44μm,21.7s,baz=258,slow=41								
UDYN	**Al 'Udayn**	**2.32**	**72**	⇑*i*P		**Pn**		**09 16 47.1**	**-3.6**
UDYN				*i* S		**Sn**		**09 17 16.0**	**-3.6**
UDYN				AML		AML		09 17 35.7	
	comp=N,43μm,0.6s								
DHBB	**Dhamar BB**	**2.92**	**63**	⇑*i*P		**Pn**		**09 16 55.8**	**-3.4**
DHBB				*i* S		**Sn**		**09 17 32.9**	**-1.8**
DHBB	**Dhamar BB**	**2.92**	**63**	⇑*i*P		**Pn**		**09 16 55.8**	**-3.4**
DHBB				*i* S		**Sn**		**09 17 32.9**	**-1.8**
DAMY	**Dhamar**	**2.93**	**63**	*e*Pn		**Pn**		**09 16 56.4**	**-2.8**
DAMY	**Dhamar**	**2.93**	**63**	*e*Pn		**Pn**		**09 16 56.4**	**-2.8**
HAJJ	**Hajjah**	**3.05**	**37**	⇑*i*P		**Pn**		**09 16 57.0**	**-3.8**
HAJJ				AML		AML		09 17 09.1	
	comp=Z,32μm,0.6s								
HAJJ				*i* S		**Sn**		**09 17 37.1**	**-0.5**
HAJJ	**Hajjah**	**3.05**	**37**	⇑*i*P		**Pn**		**09 16 57.0**	**-3.8**
	comp=Z,16μm,0.6s								
HAJJ				*i* S		**Sn**		**09 17 37.1**	**-0.5**
SANA	**San'a**	**3.22**	**49**	⇑*i*P		**Pn**		**09 17 00.2**	**-3.1**
SANA				*i* S		**Sn**		**09 17 40.3**	**-1.8**
ADEN	**Aden**	**3.24**	**98**	⇑*i*P		**Pn**		**09 17 00.3**	**-3.0**
ADEN				*i* S		**Sn**		**09 17 39.7**	**-2.4**
ADEN				AML		AML		09 17 50.7	
	comp=E,41μm,0.7s								
ADEN	**Aden**	**3.24**	**98**	⇑*i*P		**Pn**		**09 17 00.3**	**-3.0**
ADEN				*i* S		**Sn**		**09 17 39.7**	**-2.4**
	comp=E,20μm,0.7s								
FRSS	**Farasan al Kab**	**3.48**	**7**	S		**Sn**		**09 17 42.3**	**-5.7**
FRSS				P		**Pn**		**09 17 03.4**	**-3.2**
BDHA	**Al Bayda'**	**3.83**	**79**	⇑*i*P		**Pn**		**09 17 08.5**	**-3.2**
BDHA				*i* S		**Sn**		**09 17 54.6**	**-2.5**
BDHA				AML		AML		09 18 23.1	
	comp=E,60μm,0.7s								
BDHA	**Al Bayda'**	**3.83**	**79**	⇑*i*P		**Pn**		**09 17 08.5**	**-3.2**
BDHA				*i* S		**Sn**		**09 17 54.6**	**-2.5**
	comp=E,30μm,0.7s								
DJNS	**Zahran al Janu**	**4.76**	**22**	P		**Pn**		**09 17 22.5**	**-2.0**
FURI	**Furi**	**5.25**	**215**	P		**Pn**		**09 17 32.1**	**+0.9**
FURI				S		**Sb**		**09 18 45.3**	**-2.4**
FURI	**Furi**	**5.25**	**215**	*e*Pn		**Pn**		**09 17 31.2**	**-0.1**
FURI	**Furi**	**5.25**	**215**	*e*Pn		**Pn**		**09 17 31.2**	**-0.1**
NAMS	**An Nimas**	**5.90**	**5**	P		**Pn**		**09 17 37.9**	**-2.2**
ABTO	**Aybut**	**11.91**	**69**	Pn		Pn		09 19 06.9	+4.6
	SNR=5.1								
KMBO	**Kilima Mbogo**	**14.96**	**197**	Pn		**Pn**		**09 19 44.7**	**+0.5**
	comp=E,0.3nm,0.3s,baz=26,slow=13,SNR=25								
KMBO				Lg		Lg		09 23 55.1	
	comp=E,0.4nm,0.3s,baz=96,slow=13,SNR=3.3								
KMBO				LR		LR		09 25 17.6	
	comp=E,15μm,21.4s,baz=8.5,slow=37								
KMBO	**Kilima Mbogo**	**14.96**	**197**	*e*P		**Pn**		**09 19 45.5**	**+1.3**
KMBO	**Kilima Mbogo**	**14.96**	**197**	Pn		**Pn**		**09 19 45.7**	**+1.5**
	SNR=24								
KMBO	**Kilima Mbogo**	**14.96**	**197**	P		**Pn**		**09 19 45.7**	**+1.5**
	SNR=24								
KMBO	**Kilima Mbogo**	**14.96**	**197**	*e*Pn		**Pn**		**09 19 45.5**	**+1.3**
KMBO	**Kilima Mbogo**	**14.96**	**197**	*e*Pn		**Pn**		**09 19 45.5**	**+1.3**
FAQ	**Al Faqa, Dubai**	**17.39**	**47**	*i* P		**Pn**		**09 20 12.1**	**-3.2**
	SNR=61								
EIL	**Elat**	**17.48**	**340**	P		**P**		**09 20 17.2**	**-0.4**
	comp=E,0.4nm,0.3s,baz=181,slow=5.9,SNR=19								
EIL				Lg		Lg		09 25 25.0	
	comp=E,0.2nm,0.3s,baz=334,slow=19,SNR=2.2								
EIL				LR		LR		09 25 34.1	
	comp=E,11μm,20.5s,baz=162,slow=32								
MBAR	**Mbarara**	**17.54**	**219**	*e*P		**Pn**		**09 20 14.3**	**-3.1**
MBAR				pmax		pmax			
	comp=Z,280nm,1.9s								
MBAR	**Mbarara**	**17.54**	**219**	*e*Pn		**Pn**		**09 20 14.3**	**-3.1**
	comp=Z,282nm,1.9s								
NAZ	**Nazwa, Dubai**	**17.59**	**46**	*i* P		**Pn**		**09 20 14.6**	**-3.2**
	SNR=87								
ASHO	**Ashiyiah**	**17.69**	**48**	*i* P		**Pn**		**09 20 15.7**	**-3.4**
	SNR=61								
ASHO	**Ashiyiah**	**17.69**	**48**	Pn		**Pn**		**09 20 17.7**	**-1.4**
	SNR=55								
ASHO	**Ashiyiah**	**17.69**	**48**	P		**Pn**		**09 20 17.7**	**-1.4**
	SNR=55								
ASHO	**Ashiyiah**	**17.69**	**48**	P		**Pn**		**09 20 17.7**	**-1.4**
	SNR=55								
HATD	**Hatta, Dubai**	**17.83**	**48**	*i* P		**Pn**		**09 20 17.6**	**-3.2**
	SNR=62								
UOSS	**Minazif**	**17.95**	**48**	*e*Pn		**Pn**		**09 20 19.6**	**-2.7**
	comp=Z,152nm,1.8s								
UOSS	**Minazif**	**17.95**	**48**	*e*Pn		**Pn**		**09 20 19.6**	**-2.7**
	comp=Z,152nm,1.8s								
JMDO	**Jabal Madar**	**18.05**	**58**	Pn		**Pn**		**09 20 21.9**	**-1.5**
	SNR=55								
JMDO	**Jabal Madar**	**18.05**	**58**	P		**Pn**		**09 20 21.9**	**-1.5**
	SNR=55								
JMDO	**Jabal Madar**	**18.05**	**58**	P		**Pn**		**09 20 21.9**	**-1.5**
	SNR=55								
SMDO	**Samad**	**18.33**	**56**	Pn		**Pn**		**09 20 25.6**	**-1.4**
	SNR=67								
SMDO	**Samad**	**18.33**	**56**	P		**Pn**		**09 20 25.6**	**-1.4**
	SNR=67								
SMDO	**Samad**	**18.33**	**56**	P		**Pn**		**09 20 25.6**	**-1.4**
	SNR=67								
BANOM	**Banah**	**18.63**	**45**	*i* P		**P**		**09 20 27.5**	**-2.9**
	SNR=41								
BANOM	**Banah**	**18.63**	**45**	P		**P**		**09 20 29.7**	**-0.6**
	SNR=32								
BANOM	**Banah**	**18.63**	**45**	P		**P**		**09 20 29.7**	**-0.6**
	SNR=32								
BANOM	**Banah**	**18.63**	**45**	P		**P**		**09 20 29.7**	**-0.6**
	SNR=32								
WBK	**Wadi Bani Khal**	**18.87**	**58**	P		**P**		**09 20 32.5**	**-0.4**
	SNR=36								
WBK	**Wadi Bani Khal**	**18.87**	**58**	P		**P**		**09 20 32.5**	**-0.4**
	SNR=36								
WBK	**Wadi Bani Khal**	**18.87**	**58**	P		**P**		**09 20 32.5**	**-0.4**
	SNR=36								
WSAR	**Wadi Sarin**	**18.88**	**56**	P		**P**		**09 20 31.4**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=266,slow=12,SNR=20								
WSAR				S		**Sn**		**09 24 04.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=215,slow=17,SNR=0.9								
WSAR				LR		LR		09 28 50.2	
	comp=Z,39μm,18.9s,baz=240,slow=40								
ASF	**Jabal al Asfar**	**19.33**	**348**	P		**Pn**		**09 20 39.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=119,slow=7.2,SNR=48								
ASF				Lg		Lg		09 26 19.2	
	comp=Z,0.3nm,0.3s,baz=89,slow=8.4,SNR=3.3								
ASF				LR		LR		09 27 01.5	
	comp=Z,5μm,18.2s,baz=126,slow=34								
SALA	**Sala**	**19.89**	**348**	*e*P		**Pn**		**09 20 48.1**	**+2.4**
SALA	**Sala**	**19.89**	**348**	*e*P		**Pn**		**09 20 48.2**	**+2.4**
ZALF	**Zalf**	**19.97**	**349**	*e*P		**Pn**		**09 20 48.3**	**+1.6**
ZALF	**Zalf**	**19.97**	**349**	*e*P		**Pn**		**09 20 48.7**	**+2.1**
MMAI	**Mount Meron Ar**	**20.49**	**345**	P		Pn		09 20 52.5	-0.2
	comp=Z,53nm,0.9s,baz=174,slow=9.1,SNR=33								
MMAI				LR		LR		09 27 53.0	
	comp=Z,7μm,19.5s,baz=180,slow=34								
TOTH	**TOTAH**	**20.58**	**347**	*e*P		**P**		**09 20 48.6**	**-3.0**
BRBR	**Barbar**	**20.73**	**346**	*e*P		**P**		**09 20 54.1**	**+0.7**
RCY	**Rachaya**	**20.84**	**346**	*e*P		Pn		09 20 56.2	-0.8
RCY	**Rachaya**	**20.84**	**346**	*e*P		Pn		09 20 56.2	-0.7
DQRL	**Deir Qamar**	**21.10**	**346**	*e*P		**P**		**09 20 59.8**	**+2.5**
DQRL	**Deir Qamar**	**21.10**	**346**	*e*P		**P**		**09 20 59.8**	**+2.5**
BHL	**Bhannes**	**21.27**	**346**	*e*P		**P**		**09 21 00.1**	**+1.0**
BHL	**Bhannes**	**21.27**	**346**	*e*P		**P**		**09 21 00.1**	**+1.0**
HWQ	**Hawqa**	**21.56**	**347**	*e*P		**P**		**09 21 03.1**	**+0.9**
HWQ	**Hawqa**	**21.56**	**347**	*e*P		**P**		**09 21 03.1**	**+0.9**
HAWK	**Hawweik**	**21.70**	**348**	*e*P		**P**		**09 21 03.1**	**-0.6**
BIDA	**Albida**	**22.20**	**348**	*e*P		**P**		09 21 01.3	-7.7
MZRK	**Al-Mazaregh**	**22.49**	**358**	*e*P		**P**		09 21 03.8	-8.3
WRDH	**Warideh**	**22.66**	**349**	*e*P		**P**		**09 21 10.8**	**-3.1**
MNKR	**ALMNKUR**	**22.69**	**355**	*e*P		**P**		**09 21 08.0**	**-6.2**
SZAC	**Souni**	**22.84**	**341**	P		**P**		**09 21 17.9**	**+2.1**
CSS	**Mathiatis**	**22.89**	**342**	P		**P**		**09 21 18.5**	**+2.2**
CSS	**Mathiatis**	**22.89**	**342**	P		**P**		**09 21 17.7**	**+1.4**
CSS	**Mathiatis**	**22.89**	**342**	*e*P		**P

DALY	Dalyan (Mu˘la	26.21	336	*e*P		P	09 21 47.9	+0.5	
DALY	Dalyan (Mu˘la	26.21	336	*e*P		P	09 21 47.9	+0.5	
ILIC	ilic-Erzincan	26.23	355	*e*P		P	09 21 48.9	+1.1	
ILIC	ilic-Erzincan	26.23	355	*e*P		P	09 21 48.9	+1.1	
AGRB	Hanur-Agry	26.24	2	*e*P		P	09 21 49.8	+1.9	
AGRB	Hanur-Agry	26.24	2	*e*P		P	09 21 49.8	+1.9	
LAST	Lasithi	26.27	329	P		P	09 21 48.5	+0.4	
LAST	Lasithi	26.27	329	*e*P		P	09 21 49.2	+1.1	
	comp=Z,304nm,1.5s								
LAST	Lasithi	26.27	329	*e*P		P	09 21 49.2	+1.1	
	comp=Z,304nm,1.5s								
LAST				LR		LR			
	comp=Z,3µm,19.0s								
CHBY	Cihanbeyli	26.40	344	*e*P		P	09 21 49.0	-0.3	
CHBY	Cihanbeyli	26.40	344	*e*P		P	09 21 49.0	-0.3	
ISP	Isparta	26.41	340	*i* P		P	09 21 50.0	+0.6	
ISP				pmax		pmax			
	comp=Z,18nm,0.7s								
SIVA	Sivas	26.50	328	P		P	09 21 50.4	+0.3	
SIVA	Sivas	26.50	328	P		P	09 21 50.4	+0.3	
EZM	Erzurum	26.54	359	*e*P		P	09 21 52.8	+2.1	
SERE	Serefiikochisa	26.58	346	*e*P		P	09 21 51.4	+0.5	
SERE	Serefiikochisa	26.58	346	*e*P		P	09 21 51.4	+0.5	
YER	Yerkesik	26.63	336	*e*P		P	09 21 52.4	+1.1	
YER	Yerkesik	26.63	336	P		P	09 21 52.7	+1.4	
YER	Yerkesik	26.63	336	*e*P		P	09 21 52.4	+1.1	
IDI	Anoyia	26.67	328	P		P	09 21 53.1	+1.4	
	comp=Z,100nm,1.0s,baz=162,slow=12,SNR=13								
IDI	Anoyia	26.67	328	P		P	09 21 52.3	+0.6	
IDI	Anoyia	26.67	328	*e*P		P	09 21 52.9	+1.2	
	comp=Z,158nm,1.1s								
IDI	Anoyia	26.67	328	*e*P		P	09 21 52.9	+1.2	
	comp=Z,158nm,1.1s								
IDI				LR		LR			
	comp=Z,2µm,22.0s								
DENT	Denizli	26.88	337	*e*P		P	09 21 58.7	+5.2	
GNI	Garni	26.92	5	P		P	09 21 55.5	+1.5	
	comp=Z,113nm,0.9s,baz=141,slow=3.0,SNR=26								
GNI	Garni	26.92	5	*i* P		P	09 21 55.6	+1.6	
	SNR=17								
GNI	Garni	26.92	5	*c i* P		P	09 21 55.6	+1.6	
GNI	Garni	26.92	5	P		P	09 21 55.9	+1.9	
	SNR=23								
GNI	Garni	26.92	5	P		P	09 21 55.9	+1.9	
	SNR=23								
GNI	Garni	26.92	5	P		P	09 21 55.6	+1.6	
	SNR=17								
GNI	Garni	26.92	5	*e*P		P	09 21 56.1	+2.1	
GNI				LR		LR			
	comp=Z,6µm,21.0s								
KAMT	Kaman	26.94	346	*e*P		P	09 21 54.2	0.0	
KAMT	Kaman	26.94	346	*e*P		P	09 21 54.2	0.0	
KIZT	Kizilcal	26.96	343	*e*P		P	09 21 56.9	+2.6	
BODT	Bodrum	26.97	334	*e*P		P	09 21 48.8	-5.5	
BODT	Bodrum	26.97	334	P		P	09 21 55.7	+1.4	
BODT	Bodrum	26.97	334	P		P	09 21 55.7	+1.4	
VAM	Vamos	27.12	327	P		P	09 21 57.1	+1.4	
VAM	Vamos	27.12	327	P		P	09 21 57.1	+1.4	
AFSR	Af˘ar-Bala (A	27.17	345	*e*P		P	09 22 02.6	+4.4	
SENK	Senkaya-Erzuru	27.20	1	*e*P		P	09 21 56.9	+0.3	
SANT	Santorini	27.24	330	PFAKE			09 22 10.0	+13	
SANT				LR		LR			
	comp=Z,2µm,20.0s								
IMMV	Iera Moni Meta	27.27	327	P		P	09 21 57.6	+0.5	
IMMV	Iera Moni Meta	27.27	327	P		P	09 21 57.6	+0.5	
BR101	Keskin Array S	27.30	346	*e*P		P	09 21 57.6	+0.2	
BR101	Keskin Array S	27.30	346	*e*PcP		PcP	09 25 16.9	-0.2	
BR101	Keskin Array S	27.30	346	*e*P		P	09 21 57.6	+0.2	
BR101				*e*PcP		PcP	09 25 16.9	-0.2	
BR131	Keskin Array S	27.30	346	*e*P		P	09 21 58.3	+0.9	
BR131	Keskin Array S	27.30	346	*e*PcP		PcP	09 25 18.5	+1.5	
BR131	Keskin Array S	27.30	346	*e*P		P	09 21 58.4	+0.9	
BR131				*e*PcP		PcP	09 25 18.5	+1.5	
BRTR	Keskin Array B	27.30	346	P		P	09 21 57.6	+0.2	
	comp=Z,57nm,1.0s,baz=163,slow=8.8,SNR=102								
BRTR				PcP		PcP	09 25 16.9	-0.2	
	comp=Z,10nm,0.9s,baz=159,slow=5.3,SNR=8.4								
BRTR				LR		LR	09 31 46.0		
	comp=Z,4µm,18.4s,baz=150,slow=34								
BRTR	Keskin Array B	27.30	346	*i* P		P	09 21 58.2	+0.8	
BRTR				pmax		pmax			
	comp=Z,57nm,1.0s								
RSDY	Resadiye-TOKAT	27.30	353	*e*P		P	09 21 58.1	+0.8	
RSDY	Resadiye-TOKAT	27.30	353	*e*P		P	09 21 58.1	+0.8	
AYDB	Zeytinkoy-Aydi	27.49	336	*e*P		P	09 21 59.2	+0.1	
AYDB	Zeytinkoy-Aydi	27.49	336	*e*P		P	09 21 59.2	+0.1	
CORM	Corum	27.52	348	*e*P		P	09 21 56.6	-2.8	
SVRH	Sivrihisar-ESK	27.59	343	*e*P		P	09 22 02.2	+2.3	
SVRH	Sivrihisar-ESK	27.59	343	*e*P		P	09 22 02.2	+2.3	
BR231	Keskin MP Arra	27.62	345	*e*P		P	09 21 58.9	-1.3	
BR231	Keskin MP Arra	27.62	345	*e*P		P	09 21 58.9	-1.3	
ANTO	Ankara	27.64	345	*e*P		P	09 22 02.3	+1.9	
ANTO				pmax		pmax			
	comp=Z,120nm,1.1s								
ANTO	Ankara	27.64	345	*e*P		P	09 22 02.3	+1.9	
	comp=Z,116nm,1.1s								
ANTO	Ankara	27.64	345	*e*P		P	09 22 02.3	+1.9	
	comp=Z,116nm,1.1s								
ANTO				LR		LR			
	comp=Z,3µm,22.0s								
LOD	Lodumlu	27.67	345	*e*P		P	09 22 05.0	+4.4	
KTUT	Trabzon	27.67	357	*e*P		P	09 21 57.4	-3.2	
KULA	Kula-Manisa	27.68	338	*e*P		P	09 22 02.3	+1.5	
KULA	Kula-Manisa	27.68	338	*e*P		P	09 22 02.3	+1.5	
SMG	Samos	27.72	334	P		P	09 22 02.6	+1.6	
SMG	Samos	27.72	334	P		P	09 22 02.6	+1.6	
APE	Apeiranthos	27.77	331	*e*P		P	09 22 03.0	+1.4	
APE	Apeiranthos	27.77	331	*e*P		P	09 22 03.0	+1.4	
ESKT	Eskisehir	27.85	342	*e*P		P	09 21 54.1	-8.2	
ANKY	Antikythira Is	27.94	327	P		P	09 22 03.7	+0.7	
ANKY	Antikythira Is	27.94	327	P		P	09 22 03.7	+0.7	
AKH	Akhalkalaki	28.09	3	*e*P		P	09 22 04.8	+0.3	
AKH	Akhalkalaki	28.09	3	P		P	09 22 05.2	+0.7	
AKH	Akhalkalaki	28.09	3	P		P	09 22 05.2	+0.7	
AKH	Akhalkalaki	28.09	3	*e*P		P	09 22 04.8	+0.3	
IZM	Izmir	28.13	335	*e*P		P	09 22 07.2	+2.5	
CANT	Cankiri	28.15	347	*e*P		P	09 22 05.4	+0.5	
KVT	Kavak	28.15	351	*e*P		P	09 22 06.6	+1.7	
KVT	Kavak	28.15	351	*e*P		P	09 22 06.6	+1.7	
DGRG	David-gareji	28.27	6	P		P	09 22 07.5	+1.6	
DGRG	David-gareji	28.27	6	P		P	09 22 07.5	+1.6	
TBLG	Delisi	28.49	5	P		P	09 22 09.1	+1.2	
TBLG	Delisi	28.49	5	P		P	09 22 09.1	+1.2	
GEYT	Alibeck	28.59	28	P		P	09 22 09.0	+0.1	
	comp=Z,10nm,0.8s,baz=204,slow=6.5,SNR=10.0								
GEYT				LR		LR	09 35 12.3		
	comp=Z,5µm,18.7s,baz=200,slow=40								
CHOS	Chios island	28.62	334	*e*P		P	09 22 09.8	+0.7	
CHOS	Chios island	28.62	334	P		P	09 22 09.7	+0.5	
CHOS	Chios island	28.62	334	P		P	09 22 09.7	+0.5	
MDUB	Mudurnu	28.63	343	*e*P		P	09 22 09.0	-0.2	
MDUB	Mudurnu	28.63	343	*e*P		P	09 22 09.0	-0.2	
DST	Dursunbey	28.66	339	*e*P		P	09 22 05.8	-3.7	
BYBT	Boyabat	28.75	349	*e*P		P	09 22 10.1	0.0	
BYBT	Boyabat	28.75	349	*e*P		P	09 22 10.1	0.0	
VLI	Veliai	28.78	328	P		P	09 22 11.0	+0.5	
VLI	Veliai	28.78	328	P		P	09 22 11.0	+0.5	
CAVI	Cavuskoy	28.79	341	*e*P		P	09 22 14.4	+3.8	
GULT	Gulveren	28.79	342	*e*P		P	09 22 14.4	+3.8	
DUS	Dusheti	28.84	5	P		P	09 22 19.5	+8.5	
DUS	Dusheti	28.84	5	P		P	09 22 19.5	+8.4	
DKL	Dikili	28.85	336	*e*P		P	09 22 12.0	+1.0	
DKL	Dikili	28.85	336	*e*P		P	09 22 12.0	+1.0	
BALB	Balikesir	28.96	338	*e*P		P	09 22 15.0	+2.9	
SAFT	Safranbolu	28.96	346	*e*P		P	09 22 12.4	+0.3	
SAFT	Safranbolu	28.96	346	*e*P		P	09 22 12.4	+0.3	
IZI	Iznik	29.03	341	*e*P		P	09 22 12.2	-0.6	
IZI	Iznik	29.03	341	*e*P		P	09 22 12.2	-0.6	
ADVT	Abdulvahap	29.03	341	*e*P		P	09 22 15.0	+2.3	
ADVT	Abdulvahap	29.03	341	*e*P		P	09 22 15.0	+2.3	
GUDG	Gudauri	29.20	4	P		P	09 22 15.5	+1.1	
SNOP	Sinop	29.20	350	*e*P		P	09 22 16.2	+2.0	
SNOP	Sinop	29.20	350	*e*P		P	09 22 16.2	+2.0	
GEMT	Gemlik	29.21	340	*e*P		P	09 22 15.9	+1.6	
GEMT	Gemlik	29.21	340	*e*P		P	09 22 15.9	+1.6	
VLY	Voula,Athens	29.22	330	P		P	09 22 13.7	-0.7	
VLY	Voula,Athens	29.22	330	P		P	09 22 13.7	-0.7	
DID	Didima	29.23	329	P		P	09 22 12.8	-1.7	
DID	Didima	29.23	329	P		P	09 22 12.8	-1.7	
PRK	Paraskevi	29.25	335	P		P	09 22 15.5	+0.9	
PRK	Paraskevi	29.25	335	P		P	09 22 15.5	+0.9	
MDNY	Mudanya-Bursa	29.25	340	*e*P		P	09 22 14.3	-0.3	
MDNY	Mudanya-Bursa	29.25	340	*e*P		P	09 22 14.3	-0.3	
ONI	Oni	29.26	3	P		P	09 22 15.3	+0.5	
ONI	Oni	29.26	3	P		P	09 22 15.3	+0.5	
KCTX	Karacabey (Bur	29.34	339	*e*P		P	09 22 17.6	+2.1	
KCTX	Karacabey (Bur	29.34	339	*e*P		P	09 22 17.6	+2.1	
PTL	Penteli	29.34	330	P		P	09 22 15.3	-0.2	
PTL	Penteli	29.34	330	P		P	09 22 15.3	-0.2	
KDZE	Karadeniz Ereo	29.35	344	*e*P		P	09 22 14.9	-0.6	
KDZE	Karadeniz Ereo	29.35	344	*e*P		P	09 22 14.9	-0.6	
CHVG	Ch'k'valeri	29.35	1	P		P	09 22 18.2	+2.7	
BZK	Bozkurt	29.36	348	*e*P		P	09 22 19.5	+3.9	
SIGR	SIGRI	29.40	334	*e*P		P	09 22 18.0	+2.0	
SIGR	SIGRI	29.40	334	P		P	09 22 16.9	+1.0	
SIGR	SIGRI	29.40	334	P		P	09 22 16.9	+1.0	
HRT	Hereke	29.41	341	*e*P		P	09 22 19.7	+3.6	
ARMT	Armutlu	29.44	340	*e*P		P	09 22 18.0	+1.7	
ARMT	Armutlu	29.44	340	*e*P		P	09 22 18.0	+1.7	
ZEI	Tsey	29.48	3	*e*P		P	09 22 16.4	-0.5	
ZEI				pmax		pmax			
	comp=Z,276nm,1.1s								
PYL	PYLOS	29.55	326	P		P	09 22 15.5	-1.8	
PYL	PYLOS	29.55	326	P		P	09 22 15.5	-1.8	
VLX	Vlachokerasia	29.56	328	P		P	09 22 17.0	-0.6	
VLX	Vlachokerasia	29.56	328	P		P	09 22 17.0	-0.6	
EDC	Edincik	29.59	338	*e*P		P	09 22 17.3	-0.4	
EDC	Edincik	29.59	338	*e*P		P	09 22 17.3	-0.4	
ITM	Ithomi	29.66	327	P		P	09 22 17.9	-0.4	
ITM	Ithomi	29.66	327	P		P	09 22 17.9	-0.4	
VILL	Villia	29.70	330	P		P	09 22 18.5	-0.2	
VILL	Villia	29.70	330	P		P	09 22 18.5	-0.2	
SILT	Sile	29.72	341	*e*P		P	09 22 20.9	+2.1	
SILT	Sile	29.72	341	*e*P		P	09 22 20.9	+2.1	
EZN	Ezine	29.72	336	*e*P		P	09 22 19.5	+0.7	
EZN	Ezine	29.72	336	*e*P		P	09 22 19.5	+0.7	
LTK	Loutraki	29.76	329	P		P	09 22 18.3	-0.9	
LTK	Loutraki	29.76	329	P		P	09 22 18.3	-0.9	
ISK	Istanbul-Kandi	29.82	341	*e*P		P	09 22 19.2	-0.5	
ISK	Istanbul-Kandi	29.82	341	*e*P		P	09 22 19.2	-0.5	
KRBG	Karabiga-Canak	29.84	338	*e*P		P	09 22 23.8	+4.0	
NEY	Neytrino	29.89	2‖	*e*P		P	09 22 22.2	+1.7	
NEY				pmax		pmax			
	comp=Z,15nm,1.1s								
MRMT	Marmara Adasi	29.91	338	*e*P		P	09 22 23.1	+2.5	
KLYT	Kilyos	30.00	341	*e*P		P	09 22 21.9	+0.7	
KLYT	Kilyos	30.00	341	*e*P		P	09 22 21.9	+0.7	
BGKT	Bogazkoy	30.02	340	*e*P		P	09 22 24.9	+3.5	
LPK	Lapseki	30.02	337	*e*P		P	09 22 23.3	+1.8	
LPK	Lapseki	30.02	337	*e*P		P	09 22 23.3	+1.8	
GELI	Tayfur-Gelibol	30.16	336	*e*P		P	09 22 13.0	-10	
CTKS	Kestanelik-??a	30.16	340	*e*P		P	09 22 23.0	+0.4	
CTKS	Kestanelik-??a	30.16	340	*e*P		P	09 22 23.0	+0.4	
NCK	Nalchik	30.17	3‖	*e*P		P	09 22 24.6	+1.8	
NCK				pmax		pmax			
	comp=Z,12nm,0.7s								
KLV	Kalavryta, Ach	30.19	328	P		P	09 22 22.1	-1.0	
KLV	Kalavryta, Ach	30.19	328	P		P	09 22 22.1	-1.0	
GADA	Gvkgeada	30.21	336	*e*P		P	09 22 22.9	-0.2	
GADA	Gvkgeada	30.21	336	P		P	09 22 23.7	+0.6	
GADA	Gvkgeada	30.21	336	*e*P		P	09 22 22.9	-0.2	
LKR	Lokris	30.24	330	P		P	09 22 22.4	-1.0	
LKR	Lokris	30.24	330	P		P	09 22 22.4	-1.0	
ATAL	Atalanti	30.26	330	P		P	09 22 22.6	-1.0	
ATAL	Atalanti	30.26	330	P		P	09 22 22.6	-1.0	
SOC	Sochi	30.26	357	*d i* P		P	09 22 24.2	+0.7	
SOC				*e*			09 23 18.9		
SOC				*e*S		S	09 27 26.9	+3.4	
SOC				*e*SS		ScP	09 29 03.4	-3.7	
SOC				*e*SSS		SSS	09 29 13.6		
SOC				pmax		pmax			
	comp=Z,31nm,1.0s								
SOC				MLR		MLR			
	comp=Z,6µm,13.0s								
DSF	Desfina	30.28	329	P		P	09 22 23.0	-0.9	
DSF	Desfina	30.28	329	P		P	09 22 23.0	-0.9	
SMIA	Simia	30.32	331	P		P	09 22 23.9	-0.2	
SMIA	Simia	30.32	331	P		P	09 22 23.9	-0.2	
DRO	Drossia	30.35	328	P		P	09 22 24.2	-0.2	
DRO	Drossia	30.35	328	P		P	09 22 24.2	-0.2	
ERIK	Erikli-Kesan	30.38	337	*e*P		P	09 22 24.8	+0.2	
ERIK	Erikli-Kesan	30.38	337	*e*P		P	09 22 24.8	+0.2	
KBZ	Khabaz	30.38	2	P		P	09 22 25.1	+0.6	
	comp=Z,96nm,1.0s,baz=353,slow=24,SNR=50								
KBZ				LR		LR	09 34 44.7		
	comp=Z,5µm,20.1s,baz=188,slow=37								
LAKA	Lakka	30.43	328	P		P	09 22 24.6	-0.5	
LAKA	Lakka	30.43	328	P		P	09 22 24.6	-0.5	
KALE	Kalithea	30.46	329	P		P	09 22 24.7	-0.8	
KALE	Kalithea	30.46	329	P		P	09 22 24.7	-0.8	
SERG	Sergoula	30.52	329	P		P	09 22 25.2	-0.7	
SERG	Sergoula	30.52	329	P		P	09 22 25.2	-0.7	
SMTH	Samothraki Isl	30.59	335	P		P	09 22 27.1	+0.6	
SMTH	Samothraki Isl	30.59	335	P		P	09 22 27.1	+0.6	
KIV	Kislovodsk	30.60	1	*e*P		P	09 22 27.5	+0.9	
KIV	Kislovodsk	30.60	1	*i* P		P	09 22 27.6	+1.0	
	SNR=30								
KIV	Kislovodsk	30.60	1	*c i* P		P	09 22 27.1	+0.5	
KIV				*e*			09 23 31.4		
KIV				*i* S		S	09 27 32.8	+3.8	
KIV				*e*SS		SS	09 29 28.6	-11	
KIV				pmax		pmax			
	comp=Z,235nm,1.0s								
KIV				MLR		MLR			
	comp=Z,5µm,16.0s								
KIV	Kislovodsk	30.60	1	P		P	09 22 28.1	+1.4	
	SNR=60								
KIV	Kislovodsk	30.60	1	P		P	09 22 28.1	+1.4	
	SNR=60								
KIV	Kislovodsk	30.60	1	*e*P		P	09 22 27.5	+0.9	
	comp=Z,268nm,1.1s								
KIV	Kislovodsk	30.60	1	*e*P		P	09 22 27.5	+0.9	
	comp=Z,268nm,1.1s								
KIV				LR		LR			
	comp=Z,6µm,18.0s								
KVAR	Kislovodsk Arr	30.60	1	P		P	09 22 27.5	+0.8	
	comp=Z,186nm,1.1s,baz=220,slow=4.3,SNR=32								
KVAR				LR		LR	09 34 40.2		
	comp=Z,4µm,19.3s,baz=172,slow=36								
AXS	Araxos	30.71	328	P		P	09 22 27.9	+0.4	
AXS	Araxos	30.71	328	P		P	09 22 27.9	+0.4	
ANX	Ano Chora	30.73	329	P		P	09 22 27.5	-0.3	
ANX	Ano Chora	30.73	329	P		P	09 22 27.5	-0.3	
ALN	Alexandroupoli	30.75	336	*e*P		P	09 22 28.3	+0.4	
ALN	Alexandroupoli	30.75	336	P		P	09 22 28.4	+0.5	
ALN	Alexandroupoli	30.75	336	*e*P		P	09 22 28.3	+0.4	
AGG	Agios Georgios	30.85	330	*e*P		P	09 22 28.3	+0.5	
AGG	Agios Georgios	30.85	330	P		P	09 22 27.9	-1.0	
AGG	Agios Georgios	30.85	330	*e*P		P	09 22 28.4	-0.5	
AGG				pmax		pmax			
	comp=Z,210nm,1.0s								
AGG	Agios Georgios	30.85	330	*e*P		P	09 22 28.4	-0.5	
	comp=Z,213nm,1.1s								
AGG	Agios Georgios	30.85	330	*e*P		P	09 22 28.4	-0.5	
	comp=Z,213nm,1.1s								
AGG				LR		LR			
	comp=Z,3µm,20.0s								
FYTO	Fytoko, Volos	30.86	331	P		P	09 22 27.9	-1.0	
FYTO	Fytoko, Volos	30.86	331	P		P	09 22 27.9	-1.0	
PVO	Paravola	30.95	328	P		P	09 22 29.8	+0.2	
PVO	Paravola	30.95	328	P		P	09 22 29.8	+0.2	
EVR	Evrytania	31.03	329	P		P	09 22 30.0	-0.5	
EVR	Evrytania	31.03	329	P		P	09 22 30.0	-0.5	
PDO	Prodromos	31.11	328	P		P	09 22 30.4	-0.7	
PDO	Prodromos	31.11	328	P		P	09 22 30.4	-0.7	
OUR	Ouranopolis	31.13	333	*e*P		P	09 22 31.0	-0.3	
OUR	Ouranopolis	31.13	333	P		P	09 22 31.0	-0.3	
OUR	Ouranopolis	31.13	333	P		P	09 22 31.0	-0.3	
EDRB	Edirne	31.31	338	*e*P		P	09 22 25.7	-7.2	
EDRB	Edirne	31.31	338	P		P	09 22 33.1	+0.3	
EDRB	Edirne	31.31	338	P		P	09 22 33.1	+0.3	
POO	Poona	31.34	76	*e*P		P	09 22 35.0	+1.6	
POO				IAmb		IAmb	09 22 37.6		
	comp=Z,39nm,0.4s								
LSZ	Lusaka	31.35	206	LR		LR	09 34 51.0		
	comp=Z,12µm,19.4s,baz=36,slow=36								
LSZ	Lusaka	31.35	206	PFAKE			09 22 50.0	+16	
LSZ				LR		LR			
	comp=Z,18µm,19.0s								
THL	Klokotos Trika	31.43	330	P		P	09 22 32.5	-1.4	
THL	Klokotos Trika	31.43	330	P		P	09 22 32.5	-1.4	
KAVA	Kavala	31.45	335	P		P	09 22 34.4	+0.3	
KAVA	Kavala	31.45	335	P		P	09 22 34.4	+0.3	
DSL	Palaion Diasel	31.55	328	P		P	09 22 34.7	-0.4	
DSL	Palaion Diasel	31.55	328	P		P	09 22 34.7	-0.4	
LIT	Litokhoron	31.62	331	P		P	09 22 34.6	-1.0	
LIT	Litokhoron	31.62	331	P		P	09 22 34.6	-1.0	
KDZ	Kurdzhali	31.64	336	*i* P		P	09 22 35.9	+0.1	
KDZ	Kurdzhali	31.64	336	*i* P		P	09 22 35.9	+0.1	
ANN	Anapa	31.64	354	*e*P		P	09 22 32.9	-2.8	
ANN				*e**PP		pP	09 22 37.1	-0.8	
ANN				*e*			09 23 36.5		
ANN				*e*S		S	09 27 43.5	-1.6	
ANN				pmax		pmax			
	comp=Z,16nm,0.9s								
GOF	Gofitskoye	31.71	2‖	*e*P		P	09 22 37.5	+1.2	
HORT	Hortiatis	31.74	333	*e*P		P	09 22 38.2	+1.5	
HORT	Hortiatis	31.74	333	*e*P		P	09 22 38.2	+1.5	
RZN	Rozhen	31.95	336	*i* P		P	09 22 39.7	+1.0	
RZN	Rozhen	31.95	336	*i* P		P	09 22 39.7	+1.0	
NVR	Nevrokopi	32.02	334	P		P	09 22 39.0	-0.1	
NVR	Nevrokopi	32.02	334	P		P	09 22 39.0	-0.1	
KPRO	Kipourio	32.05	330	P		P	09 22 38.3	-1.1	
KPRO	Kipourio	32.05	330	P		P	09 22 38.3	-1.1	
OPO	Ambohidratompo	32.09	170	P		P	09 22 39.0	-1.1	
	comp=Z,3.2nm,0.7s,baz=22,slow=7.5,SNR=3.7								
OPO				LR		LR	09 35 06.5		
	comp=Z,2µm,18.9s,baz=344,slow=36								
OPO	Ambohidratompo	32.09	170	*e*P		P	09 22 39.0	-1.1	
SIM	Simferopol'	32.23	350	*e*P		P	09 22 40.5	-0.4	
SIM				*e*			09 23 53.0		
SIM				*e*S		S	09 27 57.0	+2.6	
SIM							09 33 10.0		
SIM				pmax		pmax			
	comp=Z,123nm,1.0s								
SIM				pmax		pmax			
	comp=Z,220nm,18.5s								
MMB	Musomiste	32.27	334	*i* P		P	09 22 41.4	0.0	
MMB	Musomiste	32.27	334	*i* P		P	09 22 41.4	0.0	
PRD	Provadia	32.28	340	*i* P		P	09 22 41.3	0.0	
PRD	Provadia	32.28	340	*i* P		P	09 22 41.3	0.0	
PLD	Plovdiv	32.31	336	*i* P		P	09 22 42.2	+0.6	
PLD	Plovdiv	32.31	336	*i* P		P	09 22 42.2	+0.6	
GRG	Griva	32.34	332	P		P	09 22 40.8	-1.2	
GRG	Griva	32.34	332	P		P	09 22 40.8	-1.2	
PSN	Preselentsi	32.47	342	*i* P		P	09 22 42.7	-0.2	
PSN	Preselentsi	32.47	342	*i* P		P	09 22 42.7	-0.2	
ABPO	Ambohimpanom	32.53	170	PFAKE			09 23 00.0	+16	
ABPO				LR		LR			
	comp=Z,6µm,20.0s								
VAY	Valandovo	32.56	333	P		P	09 22 44.7	+0.9	
VAY	Valandovo	32.56	333	*i* P		P	09 22 44.6	+0.9	
VAY	Valandovo	32.56	333	*i* P		P	09 22 44.6	+0.8	
KBL	Kabul	32.59	45	*e*P		P	09 22 44.3	-0.1	
KBL				pmax		pmax			
	comp=Z,43nm,1.1s								
KBL				MLR		MLR			
	comp=Z,6µm,20.0s								
KBL	Kabul	32.59	45	*e*P		P	09 22 44.3	-0.1	
	comp=Z,43nm,1.1s								
KBL	Kabul	32.59	45	*e*P		P	09 22 44.3	-0.1	
	comp=Z,43nm,1.1s								
KBL				LR		LR			
	com

SRE	**Strehaia**	**35.05 337**	⇑	*i*	P		**P**	**09 23 05.8**	**+0.3**
SRE	**Strehaia**	**35.05 337**	⇑		P		**P**	**09 23 05.8**	**+0.3**
SRE	**Strehaia**	**35.05 337**	⇑	*i*	P		**P**	**09 23 05.8**	**+0.3**
CLTB	**Caltabellotta**	**35.08 319**		*e*	P		**P**	**09 23 06.2**	**+0.3**
	comp=Z,71nm,0.9s								
CLTB	**Caltabellotta**	**35.08 319**		*e*	P		**P**	**09 23 06.2**	**+0.3**
	comp=Z,71nm,0.9s								
CLTB					LR		LR		
	comp=Z,4μm,18.0s								
SG1	**Sgolgore (BA)**	**35.12 326**		*e*	P		**P**	**09 23 07.3**	**+1.1**
ARR	**Arges**	**35.13 339**	⇑	*i*	P		**P**	**09 23 06.3**	**+0.1**
ARR	**Arges**	**35.13 339**	⇑	*i*	P		**P**	**09 23 06.3**	**+0.1**
CEME	**Cevo**	**35.22 330**	⇑	*i*	P		**P**	**09 23 06.6**	**-0.4**
CEME	**Cevo**	**35.22 330**	⇑	*i*	P		**P**	**09 23 06.6**	**-0.4**
BHPL	**Bhopal**	**35.27 68**		*e*	P		**P**	**09 23 07.2**	**-0.5**
BHPL					IAmb		IAmb	09 23 11.4	
	comp=Z,3μm,2.2s								
KIS	**Kishinev**	**35.33 345**	⇓	*i*	P		**P**	**09 23 08.0**	**+0.2**
	comp=Z,600nm,4.0s								
KIS					eS		**S**	**09 28 45.0**	**+2.8**
KIS	**Kishinev**	**35.33 345**		*e*	PcS		PcS	09 29 18.0	-6.9
KIS					eSS		SS	09 31 20.0	+4.3
KIS					eLQ		LQ	09 34 50.0	
KIS					LRM		MLR	09 38 48.0	
	comp=Z,2μm,16.0s								
KIS	**Kishinev**	**35.33 345**	⇖	*i*	P		**P**	**09 23 08.0**	**+0.2**
KIS				*e*				09 24 30.0	
KIS				*e*				09 24 40.0	
KIS				eS			**S**	**09 28 45.0**	**+2.8**
KIS				eSS			**SS**	**09 31 20.0**	**+4.3**
KIS				pmax		pmax			
	comp=Z,400nm,2.0s								
KIS				pmax		pmax			
	comp=Z,600nm,4.0s								
KIS				pmax		pmax			
	comp=N,500nm,2.0s								
KIS				MLR		MLR			
	comp=N,1μm,14.0s								
KIS				MLR		MLR			
	comp=Z,3μm,14.0s								
KIS				MLR		MLR			
	comp=E,900nm,11.0s								
KIS				MLR		MLR			
	comp=Z,2μm,16.0s								
KIS	**Kishinev**	**35.33 345**	⇓	*i*	P		**P**	**09 23 08.0**	**+0.2**
	comp=Z,600nm,4.0s								
HCY	**Herceg Novi**	**35.35 330**	⇑	*i*	P		**P**	**09 23 07.6**	**-0.4**
HCY	**Herceg Novi**	**35.35 330**	⇑	*i*	P		**P**	**09 23 07.6**	**-0.4**
NKME	**Niksic**	**35.37 331**	⇑	*i*	P		**P**	**09 23 07.5**	**-0.8**
NKME	**Niksic**	**35.37 331**	⇑	*i*	P		**P**	**09 23 07.5**	**-0.8**
NKY	**Niksic**	**35.38 331**		*e*	P		**P**	**09 23 07.6**	**-0.9**
NKY	**Niksic**	**35.38 331**		*e*	P		**P**	**09 23 07.6**	**-0.9**
DOPR	**Dopca**	**35.40 340**	⇑	*i*	P		**P**	**09 23 08.7**	**+0.2**
DOPR	**Dopca**	**35.40 340**	⇑	*i*	P		**P**	**09 23 08.7**	**+0.2**
GRUS	**Gruza**	**35.43 333**	⇑	*i*	P		**P**	**09 23 07.8**	**-1.0**
IVAS	**Ivanjica**	**35.44 333**		*e*	P		**P**	**09 23 07.5**	**-1.4**
TESR	**Tescani**	**35.49 342**	⇑	*i*	P		**P**	**09 23 09.4**	**+0.2**
TESR	**Tescani**	**35.49 342**	⇑	*i*	P		**P**	**09 23 09.4**	**+0.2**
CDT	**Castel del Mon**	**35.51 326**		*e*	P		**P**	**09 23 09.6**	**+0.1**
PLE	**Pljevlja**	**35.59 332**	⇑	*i*	P		**P**	**09 23 09.3**	**-1.0**
PLE	**Pljevlja**	**35.59 332**	⇑	*i*	P		**P**	**09 23 09.4**	**-0.9**
TAM	**Tamanrasset**	**35.59 291**		*e*	P		**P**	**09 23 10.4**	**-0.2**
TAM					pmax		pmax		
	comp=Z,53nm,1.2s								
TAM					MLR		MLR		
	comp=Z,3μm,18.0s								
TAM	**Tamanrasset**	**35.59 291**		*e*	P		**P**	**09 23 10.4**	**-0.2**
	comp=Z,53nm,1.2s								
TAM	**Tamanrasset**	**35.59 291**		*e*	P		**P**	**09 23 10.4**	**-0.2**
	comp=Z,53nm,1.2s								
TAM					LR		LR		
	comp=Z,3μm,18.0s								
SRSP	**Sriramsagar**	**35.61 76**		*e*	P		**P**	**09 23 10.7**	**0.0**
SRSP					IAmb		IAmb	09 23 12.9	
	comp=Z,55nm,1.2s								
SRSP					eS		**S**	**09 28 45.8**	**-1.6**
SRSP					IVMs_BB		IVMs_BB	09 36 51.6	
	comp=Z,2μm,21.2s								
BRY	**Bratogost**	**35.67 330**		*e*	P		**P**	**09 23 10.0**	**-1.0**
BRY	**Bratogost**	**35.67 330**		*e*	P		**P**	**09 23 11.1**	**+0.1**
UPM	**Unac-Piva**	**35.72 331**		*e*	P		**P**	**09 23 10.9**	**-0.6**
UPM	**Unac-Piva**	**35.72 331**		*e*	P		**P**	**09 23 10.9**	**-0.6**
MDVR	**Moldovita**	**35.74 335**	⇑	*i*	P		**P**	**09 23 11.3**	**-0.1**
MDVR	**Moldovita**	**35.74 335**	⇑	*i*	P		**P**	**09 23 11.3**	**-0.1**
HYBB	**Hyderabad (bro**	**35.75 79**		*e*	P		**P**	**09 23 13.0**	**+1.1**
HYBB					IAmb		IAmb	09 23 13.5	
	comp=Z,171nm,1.6s								
HYBB					eS		**S**	**09 28 46.5**	**-3.0**
HYBB					IVMs_BB		IVMs_BB	09 36 08.4	
	comp=Z,2μm,15.0s								
HYB	**Hyderabad**	**35.75 79**		*i*	P		**P**	**09 23 13.0**	**+1.1**
HYB					eS		**S**	**09 28 50.0**	**+0.5**
HYB					eScS		**ScS**	**09 33 30.0**	**-2.0**
HYB	**Hyderabad**	**35.75 79**		*e*	P		**P**	**09 23 12.4**	**+0.5**
HYB					IAmb		IAmb	09 23 13.6	
	comp=Z,174nm,1.6s								
TRUS	**Trudelj**	**35.84 334**	⇑	*i*	P		**P**	**09 23 10.9**	**-1.3**
DIVS	**Divibare**	**35.92 333**		P	P		**P**	**09 23 11.8**	**-1.2**
DIVS	**Divibare**	**35.92 333**	⇑	*i*	P		**P**	**09 23 11.8**	**-1.2**
BBLS	**Lazići**	**36.00 332**	⇑	*i*	P		**P**	**09 23 12.7**	**-1.0**
SRLM	**Srisailam**	**36.06 81**		*e*	P		**P**	**09 23 14.2**	**-0.3**
SRLM					IAmb		IAmb	09 23 17.1	
	comp=Z,36nm,1.1s								
SRLM					eS		**S**	**09 28 52.2**	**-2.1**
SRLM					IVMs_BB		IVMs_BB	09 35 57.1	
	comp=Z,2μm,15.5s								
MS1	**Monte Sant'Ang**	**36.12 327**		*e*	P		**P**	**09 23 15.3**	**+0.5**
RCLA	**Racherla**	**36.13 82**		*e*	P		**P**	**09 23 16.1**	**+1.0**
RCLA					IAmb		IAmb	09 23 18.0	
	comp=Z,125nm,1.1s								
RCLA					eS		**S**	**09 28 54.1**	**-1.3**
RCLA					IVMs_BB		IVMs_BB	09 34 18.4	
	comp=Z,2μm,29.9s								
NDI	**New Delhi**	**36.38 59**		*ex*	P			09 23 10.0	-7.1
NDI				*ex*	x			09 24 32.0	
NJS	**Nagarjunasagar**	**36.46 80**		*e*	P		**P**	**09 23 19.0**	**+1.1**
NJS					IAmb		IAmb	09 23 19.8	
	comp=Z,59nm,1.2s								
NJS					eS		**S**	**09 28 57.7**	**-2.6**
NJS					IVMs_BB		IVMs_BB	09 36 08.2	
	comp=Z,2μm,19.9s								
BZS	**Buzias**	**36.47 336**	⇓	*i*	P		**P**	**09 23 17.4**	**-0.2**
BZS	**Buzias**	**36.47 336**	⇓		P		**P**	**09 23 17.4**	**-0.2**
BZS	**Buzias**	**36.47 336**	⇓	*i*	P		**P**	**09 23 17.4**	**-0.2**
NGP	**Nagpur**	**36.47 72**		*e*	P		**P**	**09 23 17.0**	**-0.9**
NGP					IAmb		IAmb	09 24 28.7	
	comp=Z,17nm,1.2s								
THN	**Thein Dam**	**36.48 53**		*e*	P		**P**	**09 23 15.0**	**-2.9**
TEKS	**Tekeris**	**36.48 333**		*e*	P		**P**	**09 23 16.2**	**-1.5**
SORM	**Soroca**	**36.50 345**	⇑	*i*	P		**P**	**09 23 17.5**	**-0.3**
SORM	**Soroca**	**36.50 345**	⇑		P		**P**	**09 23 17.5**	**-0.3**
SORM	**Soroca**	**36.50 345**	⇑	*i*	P		**P**	**09 23 17.5**	**-0.3**
RPR	**Rampur**	**36.51 76**		*e*	P		**P**	**09 23 19.9**	**+1.6**
RPR					IAmb		IAmb	09 23 21.2	
	comp=Z,124nm,1.3s								
RPR					eS		**S**	**09 28 59.8**	**-1.2**
RPR					IVMs_BB		IVMs_BB	09 37 02.4	
	comp=Z,2μm,14.3s								
CJR	**Cluj-Napoca**	**36.66 339**	⇑	*i*	P		**P**	**09 23 19.7**	**+0.4**
CJR	**Cluj-Napoca**	**36.66 339**	⇑		P		**P**	**09 23 19.7**	**+0.4**
CJR	**Cluj-Napoca**	**36.66 339**	⇑	*i*	P		**P**	**09 23 19.7**	**+0.4**
KEST	**Kesra**	**36.70 313**			P		**P**	**09 23 20.3**	**+0.5**
	comp=Z,32nm,0.9s,baz=79,slow=2.8,SNR=18								
KEST					LR		LR	09 40 30.1	
	comp=Z,13μm,18.0s,baz=62,slow=40								
KEST	**Kesra**	**36.70 313**		*e*	P		**P**	**09 23 20.4**	**+0.5**
	comp=Z,35nm,0.9s								
KEST	**Kesra**	**36.70 313**		*e*	P		**P**	**09 23 20.4**	**+0.5**
	comp=Z,35nm,0.9s								
KEST					LR		LR		
	comp=Z,14μm,18.0s								
DGAR	**Diego Garcia**	**36.81 122**			PFAKE			09 23 30.0	+9.1
DGAR					LR		LR		
	comp=Z,3μm,20.0s								
FGSL	**Fruska Gora**	**36.84 334**		*i*	P		**P**	**09 23 19.7**	**-1.1**
BUR08	**Bucovina Ar. S**	**36.94 341**		*e*	P		**P**	**09 23 21.9**	**+0.1**
BUR08	**Bucovina Ar. S**	**36.94 341**		*e*	P		**P**	**09 23 21.9**	**+0.1**
SIRR	**Siria**	**36.99 337**	⇑	*i*	P		**P**	**09 23 22.7**	**+0.6**
SIRR	**Siria**	**36.99 337**	⇑	*i*	P		**P**	**09 23 22.7**	**+0.6**
DRGR		**37.04 338**	⇓	*i*	P		**P**	**09 23 22.9**	**+0.4**
DRGR		**37.04 338**	⇓		P		**P**	**09 23 22.9**	**+0.4**
DRGR		**37.04 338**	⇓	*i*	P		**P**	**09 23 22.9**	**+0.4**
ADKI	**Addanki**	**37.10 81**		*e*	P		**P**	**09 23 24.6**	**+1.2**
ADKI					IAmb		IAmb	09 23 27.1	
	comp=Z,62nm,1.1s								
ADKI					eS		**S**	**09 29 08.2**	**-1.9**
ADKI					IVMs_BB		IVMs_BB	09 36 27.6	
	comp=Z,2μm,18.0s								
SDNR	**Sundarnagar**	**37.11 55**		*e*	P		**P**	**09 23 20.5**	**-2.8**
SMLA	**Simla**	**37.13 56**		*e*	P		**P**	**09 23 25.0**	**+1.6**
SMLA					IAmb		IAmb	09 23 26.6	
	comp=Z,210nm,1.4s								
DDI	**Dehra Dun**	**37.58 57**		*e*	P		**P**	**09 23 27.0**	**-0.4**
BLY	**Banja Luka**	**37.70 331**	⇑	*i*	P		**P**	**09 23 27.7**	**-0.4**
VRH	**Novokhopyorsk**	**37.84 0**		*e*	P		**P**	**09 23 28.6**	**-0.5**
VRH				*e*				09 24 54.7	
VRH				eS			**S**	**09 29 25.7**	**+5.3**
VRH					pmax		pmax		
	comp=Z,170nm,1.1s								
VRH					smax		smax		
	comp=E,1μm,3.2s								
VRH					MLR		MLR		
	comp=Z,2μm,11.0s								
IUG	**Iuzhnay**	**37.84 35**		*e*	P		**P**	**09 23 28.3**	**-1.2**
	comp=Z,767nm,1.7s								
IUG				*i*	PP		**PP**	**09 24 54.7**	**-1.2**
IUG				eS			**S**	**09 29 21.0**	**0.0**
IUG				*i*	SS		**SnSn**	**09 32 03.0**	**+1.5**
IUG					LR		LR	09 40 27.2	
	comp=Z,5μm,13.9s								
VSR	**Storozhevoye**	**37.91 357**		*e*	P		**P**	**09 23 28.4**	**-1.3**
VSR				*e*				09 24 56.9	
VSR				eS			**S**	**09 29 24.5**	**+3.0**
VSR					pmax		pmax		
	comp=Z,80nm,1.1s								
VSR					smax		smax		
	comp=E,490nm,3.1s								
VSR					MLR		MLR		
	comp=Z,3μm,13.0s								
AQU	**L'Aquila**	**37.95 325**		*e*	P		**P**	**09 23 30.4**	**0.0**
AQU					pmax		pmax		
	comp=Z,81nm,1.1s								
AQU	**L'Aquila**	**37.95 325**		*e*	P		**P**	**09 23 30.4**	**0.0**
	comp=Z,81nm,1.1s								
AQU	**L'Aquila**	**37.95 325**		*e*	P		**P**	**09 23 30.4**	**0.0**
	comp=Z,81nm,1.1s								
BRLS	**Borolday**	**38.07 34**		*e*	P		**P**	**09 23 29.9**	**-1.4**
	comp=Z,241nm,1.3s								
BRLS				*i*	PP		**PP**	**09 24 57.2**	**-1.1**
BRLS				eS			**S**	**09 29 23.6**	**-0.8**
BRLS				*i*	SS		**SnSn**	**09 32 08.7**	**+1.7**
BRLS					LR		LR	09 39 25.5	
	comp=Z,2μm,11.8s								
ABSA	**Djebel Ababsia**	**38.29 313**			P		**P**	**09 23 34.2**	**+0.9**
ABSA	**Djebel Ababsia**	**38.29 313**			P		**P**	**09 23 34.2**	**+0.9**
CMAH	**Djebel Manchou**	**38.49 313**			P		**P**	**09 23 35.6**	**+0.6**
CMAH	**Djebel Manchou**	**38.49 313**			P		**P**	**09 23 35.6**	**+0.6**
VSL	**Villasalto**	**38.64 319**		*e*	P		**P**	**09 23 36.5**	**+0.4**
	comp=Z,111nm,1.3s								
VSL	**Villasalto**	**38.64 319**		*e*	P		**P**	**09 23 36.5**	**+0.4**
	comp=Z,111nm,1.3s								
VSL					LR		LR		
	comp=Z,2μm,18.0s								
PVM	**Polavaram**	**38.68 79**		*e*	P		**P**	**09 23 37.4**	**+0.7**
PVM					IAmb		IAmb	09 23 40.2	
	comp=Z,64nm,1.0s								
PVM				eS			**S**	**09 29 33.5**	**-0.5**
PVM					IVMs_BB		IVMs_BB	09 37 37.1	
	comp=Z,2μm,18.8s								
AK11	**Malin Array Si**	**38.69 347**		*e*	P		**P**	**09 23 34.7**	**-1.6**
AK11	**Malin Array Si**	**38.69 347**		*e*	PcP		**PcP**	**09 25 48.4**	**+0.2**
AK11	**Malin Array Si**	**38.69 347**		*e*	P		**P**	**09 23 34.7**	**-1.6**
AK11				*e*	PcP		**PcP**	**09 25 48.4**	**+0.2**
KIEV	**Kiev**	**38.69 347**	⇓	*i*	P		**P**	**09 23 35.9**	**-0.4**
KIEV					pmax		pmax		
	comp=Z,98nm,1.7s								
KIEV	**Kiev**	**38.69 347**			P		**P**	**09 23 36.6**	**+0.3**
	SNR=19								
KIEV	**Kiev**	**38.69 347**		*e*	P		**P**	**09 23 35.1**	**-1.3**
	comp=Z,47nm,1.0s								
KIEV					LR		LR		
	comp=Z,2μm,20.0s								
AKASG	**Malin Array Be**	**38.70 347**			P		**P**	**09 23 35.2**	**-1.2**
	comp=Z,29nm,1.0s,baz=163,slow=6.9,SNR=44								
AKASG					PcP		**PcP**	**09 25 49.1**	**+0.9**
	comp=Z,6.4nm,0.9s,baz=159,slow=3.0,SNR=5.9								
AKASG					LR		LR	09 41 35.4	
	comp=Z,2μm,18.4s,baz=160,slow=39								
AKASG	**Malin Array Be**	**38.70 347**		*i*	P		**P**	**09 23 35.2**	**-1.2**
AKASG					pmax		pmax		
	comp=Z,30nm,0.9s								
AKBB	**Malin Array Si**	**38.70 347**		*e*	P		**P**	**09 23 35.5**	**-0.9**
AKBB					pmax		pmax		
	comp=Z,53nm,1.0s								
AKBB					MLR		MLR		
	comp=Z,2μm,19.0s								
AKBB	**Malin Array Si**	**38.70 347**		*e*	P		**P**	**09 23 35.5**	**-0.9**
	comp=Z,53nm,1.0s								
AKBB	**Malin Array Si**	**38.70 347**		*e*	P		**P**	**09 23 35.5**	**-0.9**
	comp=Z,53nm,1.0s								
AKBB					LR		LR		
	comp=Z,2μm,19.0s								
KK31	**Karatay Array**	**38.74 34**		*i*	P		**P**	**09 23 36.8**	**-0.1**
KK31					pmax		pmax		
	comp=Z,39nm,0.9s								
KKAR	**Karatay Array**	**38.74 34**		*e*	P		**P**	**09 23 37.1**	**+0.2**
KKAR	**Karatay Array**	**38.74 34**		*e*	P		**P**	**09 23 37.1**	**+0.2**
KKAR	**Karatay Array**	**38.74 34**		*e*	P		**P**	**09 23 37.1**	**+0.2**
UZH	**Uzhgorod**	**38.76 339**		*e*	P		**P**	**09 23 36.6**	**-0.3**
UZH				*e*				09 23 39.4	
UZH				*i*				09 25 06.6	
UZH				eS			**S**	**09 29 32.8**	**-1.6**
UZH					MLR		MLR		
	comp=N,9μm,14.0s								
UZH					MLR		MLR		
	comp=E,3μm,14.0s								
UZH					MLR		MLR		
	comp=Z,2μm,14.0s								
PALK	**Pallekele**	**38.81 95**			P		**P**	**09 23 38.0**	**+0.2**
	comp=Z,48nm,1.0s,baz=296,slow=8.5,SNR=8.2								
PALK	**Pallekele**	**38.81 95**		*i*	P		**P**	**09 23 39.5**	**+1.6**
PALK	**Pallekele**	**38.81 95**		*e*	P		**P**	**09 23 38.6**	**+0.7**
	comp=Z,72nm,1.0s								
PALK	**Pallekele**	**38.81 95**		*e*	P		**P**	**09 23 38.6**	**+0.7**
	comp=Z,72nm,1.0s								
PALK					LR		LR		
	comp=Z,4μm,19.0s								
TOC2	**Torodi Ar. Sit**	**38.89 275**			PFAKE			09 23 50.0	+12
TOC2					LR		LR		
	comp=Z,1μm,22.0s								
TOC3	**Torodi Ar. Sit**	**38.89 275**			PFAKE			09 23 50.0	+11
TOC3					LR		LR		
	comp=Z,6μm,21.0s								
CKFL	**Kef-Lekhel**	**38.89 313**			P		**P**	**09 23 38.7**	**+0.3**
CKFL	**Kef-Lekhel**	**38.89 313**			P		**P**	**09 23 38.7**	**+0.3**
TOB2	**Torodi Ar. Sit**	**38.90 275**			PFAKE			09 23 50.0	+11
TOB2					LR		LR		
	comp=Z,4μm,20.0s								
TOB3	**Torodi Ar. Sit**	**38.90 275**			PFAKE			09 23 50.0	+11
TOB3					LR		LR		
	comp=Z,5μm,20.0s								
TOC1	**Torodi Ar. Sit**	**38.90 275**			PFAKE			09 23 50.0	+11
TOC1					LR		LR		
	comp=Z,5μm,20.0s								
TOC4	**Torodi Ar. Sit**	**38.91 275**			PFAKE			09 23 50.0	+11
TOC4					LR		LR		
	comp=Z,6μm,20.0s								
TOA0	**Torodi Ar. Sit**	**38.91 275**		*e*	P		**P**	**09 23 37.7**	**-1.0**
TOA0	**Torodi Ar. Sit**	**38.91 275**		*e*	P		**P**	**09 23 37.7**	**-1.0**
TOA0					LR		LR		
	comp=Z,4μm,20.0s								
TOB1	**Torodi Ar. Sit**	**38.91 275**			PFAKE			09 23 50.0	+11
TOB1					LR		LR		
	comp=Z,5μm,20.0s								
TORD	**Torodi Ar. Bea**	**38.91 275**			P		**P**	**09 23 37.4**	**-1.3**
	comp=Z,58nm,1.1s,baz=89,slow=6.5,SNR=106								
TORD					LR		LR	09 39 52.5	
	comp=Z,4μm,18.4s,baz=90,slow=36								
TOA1	**Torodi Ar. Sit**	**38.91 275**		*e*	P		**P**	**09 23 37.4**	**-1.3**
	comp=Z,126nm,1.3s								
TOA1	**Torodi Ar. Sit**	**38.91 275**		*e*	P		**P**	**09 23 37.4**	**-1.3**
	comp=Z,126nm,1.3s								
TOA1					LR		LR		
	comp=Z,4μm,20.0s								
AB31	**Akbulak array**	**38.92 19**		*i*	P		**P**	**09 23 38.0**	**-0.3**
AB31					pmax		pmax		
	comp=Z,58nm,1.1s								
ABKAR	**Akbulak array**	**38.92 19**		*e*	P		**P**	**09 23 37.9**	**-0.4**
ABKAR	**Akbulak array**	**38.92 19**		*e*	P		**P**	**09 23 37.9**	**-0.4**
TOB4	**Torodi Ar. Sit**	**38.92 275**			PFAKE			09 23 50.0	+11
TOB4					LR		LR		
	comp=Z,6μm,20.0s								
TOB5	**Torodi Ar. Sit**	**38.93 275**			PFAKE			09 23 50.0	+11
TOB5					LR		LR		
	comp=Z,3μm,19.0s								
TOC7	**Torodi Ar. Sit**	**38.93 275**			PFAKE			09 23 50.0	+11
TOC7					LR		LR		
	comp=Z,1μm,21.0s								
TOC5	**Torodi Ar. Sit**	**38.93 275**			PFAKE			09 23 50.0	+11
TOC5					LR		LR		
	comp=Z,6μm,20.0s								
CAEH	**'Ain El Ouahch**	**38.97 313**			P		**P**	**09 23 39.2**	**+0.2**
CAEH	**'Ain El Ouahch**	**38.97 313**			P		**P**	**09 23 39.2**	**+0.2**
CASM	**Ain Smara**	**38.99 312**			P		**P**	**09 23 40.0**	**+0.8**
CASM	**Ain Smara**	**38.99 312**			P		**P**	**09 23 40.0**	**+0.8**
KOLS	**Kolonicke sedl**	**39.02 340**		*e*	P		**P**	**09 23 40.4**	**+1.2**
KOLS					pmax		pmax		
	comp=Z,252nm,2.5s								
KOLS	**Kolonicke sedl**	**39.02 340**		*e*	P		**P**	**09 23 40.4**	**+1.2**
	comp=Z,252nm,2.5s								
KOLS	**Kolonicke sedl**	**39.02 340**		*e*	P		**P**	**09 23 40.4**	**+1.2**
KOLS					eS		**S**	**09 29 46.2**	**+7.7**
KOLS					eL		L	09 39 18.6	
BUD	**Budapest**	**39.02 335**	⇓	*e*	P		**P**	**09 23 40.9**	**+1.7**
BUD	**Budapest**	**39.02 335**	⇓	*e*	P		**P**	**09 23 40.9**	**+1.7**
PSZ	**Piszkesteto**	**39.03 337**	⇑	*i*	P		**P**	**09 23 39.2**	**-0.2**
PSZ	**Piszkesteto**	**39.03 337**	⇓	*e*	P		**P**	**09 23 39.7**	**+0.3**
PSZ	**Piszkesteto**	**39.03 337**	⇑		P		**P**	**09 23 39.2**	**-0.2**
PSZ	**Piszkesteto**	**39.03 337**		*e*	P		**P**	**09 23 38.8**	**-0.5**
	comp=Z,183nm,1.4s								
PSZ	**Piszkesteto**	**39.03 337**		*e*	P		**P**	**09 23 38.8**	**-0.5**
	comp=Z,183nm,1.4s								
PSZ					LR		LR		
	comp=Z,1μm,20.0s								
BOJS	**Bojanci**	**39.18 330**		*i*	P		**P**	**09 23 40.0**	**-0.5**
BOJS				*i*				09 25 12.5	
BOJS	**Bojanci**	**39.18 330**			P		**P**	**09 23 40.0**	**-0.5**
BEHE	**Becsehely**	**39.19 333**		*e*	P		**P**	**09 23 43.1**	**+2.5**
BEHE	**Becsehely**	**39.19 333**		*e*	P		**P**	**09 23 43.1**	**+2.5**
LVV	**L'vov**	**39.23 342**		*e*	P		**P**	**09 23 42.0**	**+1.1**
LVV				*e*				09 25 17.8	
LVV				eS			**S**	**09 29 45.0**	**+3.5**
CRVS	**Cervenica-Dubn**	**39.27 339**		*e*	P		**P**	**09 23 41.7**	**+0.4**
CRVS				eS			**S**	**09 29 47.2**	**+4.9**
CRVS	**Cervenica-Dubn**	**39.27 339**		*e*	P		**P**	**09 23 41.7**	**+0.4**
CRVS	**Cervenica-Dubn**	**39.27 339**		*e*	P		**P**	**09 23 41.7**	**+0.4**
CRVS				eS			**S**	**09 29 47.2**	**+4.9**
KECS	**Kecovo**	**39.28 338**		*e*	P		**P**	**09 23 42.5**	**+1.2**
KECS					pmax		pmax		
	comp=Z,26nm,1.0s								
KECS	**Kecovo**	**39.28 338**		*e*	P		**P**	**09 23 42.5**	**+1.2**
	comp=Z,26nm,1.0s								
KECS	**Kecovo**	**39.28 338**		*e*	P		**P**	**09 23 42.5**	**+1.2**
KECS				eS			**S**	**09 29 50.3**	**+8.0**
LPSR	**Galich'ya Gora**	**39.30 357**		*e*	P		**P**	**09 23 40.7**	**-0.7**
LPSR				*e*				09 25 14.2	
LPSR				eS			**S**	**09 29 45.8**	**+3.3**
LPSR					pmax		pmax		
	comp=Z,140nm,1.0s								
LPSR					smax		smax		
	comp=N,330nm,3.3s								
LPSR					MLR		MLR		
	comp=Z,1μm,13.0s								
CRES	**Cresnjev**	**39.32 331**		*e*	P		**P**	**09 23 41.5**	**-0.2**
AKTO	**Aktyubinsk**	**39.39 16**			P		**P**	**09 23 41.6**	**-0.6**
	comp=Z,91nm,1.0s,baz=218,slow=9.0,SNR=77								
AKTO					LR		LR	09 42 48.9	
	comp=Z,3μm,18.2s,baz=188,slow=40								
AKTO	**Aktyubinsk**	**39.39 16**			P		**P**	**09 23 41.7**	**-0.6**
AKTO					pmax		pmax		
	comp=Z,106nm,1.0s								
MNAS	**Manas**	**39.47 37**			P		**P**	**09 23 43.7**	**+0.5**
MNAS					pmax		pmax		
	comp=Z,55nm,1.5s								
KWP	**Kalwaria Pacla**	**39.48 341**		*e*	P		**P**	**09 23 43.5**	**+0.5**
KWP	**Kalwaria

comp=Z,87nm,1.2s,SNR=41
ARSA Arzberg 40.34 332 P **P** **09 23 50.3 +0.1**
comp=Z,87nm,1.2s,SNR=41
ATAF Djebel Tarf 40.44 310 P P 09 23 45.6 -5.7
SMOL Smolenice 40.49 335 *e*P **P** **09 23 52.5 +1.1**
SMOL Smolenice 40.49 335 *e*P **P** **09 23 52.5 +1.1**
SMOL Smolenice 40.49 335 *e*P **P** **09 23 52.5 +1.1**
CONA Conrad Observa 40.70 333 *i* P **P** **09 23 53.2 -0.1**
comp=Z,51nm,1.2s,SNR=44
CONA Conrad Observa 40.70 333 P **P** **09 23 53.2 -0.1**
comp=Z,51nm,1.2s,SNR=44
AAK Ala-Archa 40.73 38 P **P** **09 23 54.3 +0.6**
comp=Z,38nm,1.1s,baz=236,slow=6.7,SNR=32
AAK LR LR 09 43 33.7
comp=Z,10μm,19.7s,baz=239,slow=40
AAK Ala-Archa 40.73 38 P **P** **09 23 53.9 +0.2**
AAK pmax pmax
comp=Z,73nm,1.4s
AAK Ala-Archa 40.73 38 P **P** **09 23 54.6 +0.9**
SNR=38
AAK Ala-Archa 40.73 38 P **P** **09 23 54.6 +0.9**
SNR=38
AAK P **P** **09 23 54.6 +0.9**
SNR=38
AAK Ala-Archa 40.73 38 P **P** **09 23 53.5 -0.2**
SNR=26
AAK Ala-Archa 40.73 38 *e*P **P** **09 23 54.6 +0.9**
comp=Z,85nm,1.4s
AAK LR LR
comp=Z,10μm,19.0s
MYKA Terra Mystica 40.77 330 *i* P **P** **09 23 53.7 -0.1**
comp=Z,56nm,1.6s,SNR=16
MYKA Terra Mystica 40.77 330 P **P** **09 23 53.7 -0.1**
comp=Z,56nm,1.6s,SNR=16
VLC Villacollemand 40.80 325 PFAKE 09 24 10.0 +16
VLC LR LR
comp=Z,600nm,19.0s
AKET Djebel Ketaf 40.80 311 P P 09 23 47.2 -7.2
FRU Bishkek 40.92 38 *e*P **P** **09 23 55.0 -0.1**
FRU *e*S **S** **09 30 14.0 +6.9**
FRU pmax pmax
comp=Z,290nm,2.3s
FRU MLR MLR
comp=E,11μm,15.0s
OJC Ojcow 40.97 339 *e*P **P** **09 23 54.6 -0.8**
OJC Ojcow 40.97 339 *e*P **P** **09 23 54.6 -0.8**
OJC Ojcow 40.97 339 *e*P **P** **09 23 54.6 -0.8**
comp=E,62nm,1.1s
OJC Ojcow 40.97 339 *e*P **P** **09 23 54.6 -0.8**
comp=E,62nm,1.1s
CHLP Challavanipeta 41.01 77 *e*P **P** **09 23 55.1 -1.0**
CHLP IAmb IAmb 09 23 59.1
comp=Z,48nm,1.1s
CHLP *e*S **S** **09 30 09.0 0.0**
CHLP IVMs_BB IVMs_BB 09 38 18.9
comp=Z,1μm,16.2s
PYUN Piuthan 41.14 62 *e*P **P** **09 23 57.7 +0.3**
comp=Z,174nm,1.1s
ADJB Djebel Djouab 41.18 310 P **P** **09 23 54.0 -3.4**
KBA Koelnbreinsper 41.23 331 *i* P **P** **09 23 57.4 -0.4**
comp=Z,34nm,0.9s,SNR=19
KBA Koelnbreinsper 41.23 331 P **P** **09 23 57.4 -0.4**
comp=Z,34nm,0.9s,SNR=19
OKC Ostrava-Krasne 41.27 337 *e*P **P** **09 23 57.9 +0.1**
OKC *e*PP **PnPn** **09 25 36.7 -0.8**
OKC *e*S **S** **09 30 13.5 +1.5**
OKC AMS AMS 09 43 20.0
comp=Z,1μm,13.6s
OKC Ostrava-Krasne 41.27 337 *e*P **P** **09 23 57.9 +0.1**
OKC *e* 09 25 36.7
OKC *e*S **S** **09 30 13.5 +1.5**
OKC MLR MLR
comp=Z,1μm,13.6s
OKC Ostrava-Krasne 41.27 337 P **P** **09 23 57.9 +0.1**
MOA Molln 41.36 332 *i* P **P** **09 23 58.5 -0.1**
comp=Z,80nm,1.2s,SNR=29
MOA Molln 41.36 332 P **P** **09 23 58.5 -0.1**
comp=Z,80nm,1.2s,SNR=29
ABMS Boumerdes 41.39 311 P P 09 23 48.5 -10
ABTA Abfaltersbach 41.40 330 *i* P **P** **09 23 59.2 +0.1**
comp=Z,73nm,1.7s,SNR=18
ABTA Abfaltersbach 41.40 330 P **P** **09 23 59.2 +0.1**
comp=Z,73nm,1.7s,SNR=18
MORC Moravsky Berou 41.45 336⇑ *i*P **P** **09 23 58.5 -0.9**
MORC Moravsky Berou 41.45 336 ⇑P **P** **09 23 58.5 -0.9**
MORC Moravsky Berou 41.45 336 *e*P **P** **09 23 58.7 -0.7**
comp=Z,227nm,1.2s
MORC Moravsky Berou 41.45 336 *e*P **P** **09 23 58.7 -0.7**
comp=Z,227nm,1.2s
MORC LR LR
comp=Z,3μm,20.0s
VRAC Vranov 41.46 335⇑ *i*P **P** **09 23 58.1 -1.3**
VRAC Vranov 41.46 335 ⇑P **P** **09 23 58.1 -1.3**
VRAC Vranov 41.46 335⇑ *i*P **P** **09 23 58.1 -1.3**
EMHD Djebel Mahouad 41.56 310 P **P** **09 24 01.6 +1.1**
EMHD Djebel Mahouad 41.56 310 P **P** **09 24 01.6 +1.1**
TKM2 Tokmak 2 41.56 38 *e*P **P** **09 24 00.7 +0.1**
TKM2 pmax pmax
comp=Z,120nm,1.8s
TKM2 Tokmak 2 41.56 38 *e*P **P** **09 24 00.7 +0.1**
comp=Z,115nm,1.8s
TKM2 Tokmak 2 41.56 38 *e*P **P** **09 24 00.7 +0.1**
comp=Z,115nm,1.8s
TKM2 LR LR
comp=Z,11μm,18.0s
KOLN Koldanda 41.60 63 *e*P **P** **09 24 01.4 +0.3**
comp=Z,168nm,1.0s
ABA Alger-Bouzarea 41.74 311 P P 09 23 51.5 -10
TREC Trest 41.91 334 AMS AMS 09 48 10.0
comp=Z,2μm,15.5s
OBN Obninsk 41.95 356 P **P** **09 24 03.2 -0.1**
comp=Z,139nm,1.1s,baz=193,slow=18,SNR=17
OBN Obninsk 41.95 356*c* *i*P **P** **09 24 02.7 -0.5**
OBN *e* 09 25 47.4
OBN *i*S **S** **09 30 21.6 -0.3**
OBN pmax pmax
comp=Z,161nm,1.2s
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 41.95 356 *e*P **P** **09 24 02.9 -0.3**
comp=Z,158nm,1.2s
OBN Obninsk 41.95 356 *e*P **P** **09 24 02.9 -0.3**
comp=Z,158nm,1.2s
OBN LR LR
comp=Z,2μm,20.0s
WTTA Wattenberg 42.19 329 *i* P **P** **09 24 04.9 -0.8**
comp=Z,21nm,1.0s,SNR=7.5
WTTA Wattenberg 42.19 329 P **P** **09 24 04.9 -0.8**
comp=Z,21nm,1.0s,SNR=7.5
WATA Walderalm 42.27 330 *i* P **P** **09 24 06.1 -0.2**
comp=Z,44nm,1.2s,SNR=10
WATA Walderalm 42.27 330 P **P** **09 24 06.1 -0.2**
comp=Z,44nm,1.2s,SNR=10
GEA0 GERESS Array S 42.34 333 *e*P **P** **09 24 05.6 -1.1**
GEA0 GERESS Array S 42.34 333 *e*P **P** **09 24 05.6 -1.1**
GEC2 GERESS Array S 42.35 333 *e*P **P** **09 24 06.0 -0.8**
GEC2 pmax pmax
comp=Z,120nm,1.3s
GEC2 GERESS Array S 42.35 333 *e*P **P** **09 24 06.0 -0.8**
comp=Z,117nm,1.3s
GEC2 GERESS Array S 42.35 333 *e*P **P** **09 24 06.0 -0.8**
comp=Z,117nm,1.3s
GEC2 LR LR
comp=Z,1μm,22.0s
GERES GERESS Array B 42.35 333 P **P** **09 24 05.6 -1.1**
comp=Z,36nm,0.9s,baz=132,slow=4.0,SNR=94
DPC Dobruska-Polom 42.38 336 *e*P **P** **09 24 06.6 -0.4**
DPC *e*S **S** **09 30 31.1 +2.4**
DPC AMS AMS 09 47 20.0
comp=Z,1μm,12.6s
DPC Dobruska-Polom 42.38 336 *e*P **P** **09 24 06.6 -0.4**
DPC *e*S **S** **09 30 31.1 +2.4**
DPC MLR MLR
comp=Z,1μm,12.6s
DPC Dobruska-Polom 42.38 336 P **P** **09 24 06.6 -0.4**
FUORN Ofenpass-Fuorn 42.46 328 *e*P **P** **09 24 07.4 -0.5**
comp=Z,88nm,1.3s
FUORN Ofenpass-Fuorn 42.46 328 *e*P **P** **09 24 07.4 -0.5**
comp=Z,88nm,1.3s
FETA Feichten 42.48 329 *i* P **P** **09 24 07.6 -0.4**
comp=Z,45nm,1.0s,SNR=27
FETA Feichten 42.48 329 P **P** **09 24 07.6 -0.4**
comp=Z,45nm,1.0s,SNR=27
ETRT Tiaret 42.50 308 P **P** **09 24 08.1 -0.1**
ETRT Tiaret 42.50 308 P **P** **09 24 08.1 -0.1**
MOS Moscow 42.50 357 *e*P **P** **09 24 07.6 -0.1**

MOS *e* 09 25 49.1
MOS *e*S **S** **09 30 36.0 +6.0**
MOS pmax pmax
comp=Z,250nm,1.3s
MOS pmax pmax
comp=N,140nm,1.3s
MOS pmax pmax
comp=Z,700nm,1.9s
MOS pmax pmax
comp=N,600nm,3.0s
MOS smax smax
comp=E,2μm,3.5s
MOS MLR MLR
comp=Z,3μm,12.0s
MOTA Moosalm 42.51 329 *i* P **P** **09 24 07.2 -1.0**
comp=Z,22nm,1.0s,SNR=10
MOTA Moosalm 42.51 329 P **P** **09 24 07.2 -1.0**
comp=Z,22nm,1.0s,SNR=10
GKN Gorkha 42.55 63 *e*P **P** **09 24 08.5 -0.3**
comp=Z,163nm,1.1s
MICGM Minsk 42.55 348 *e*P **P** **09 24 07.0 -1.2**
MICGM *e*PP **PP** **09 25 50.0 +3.2**
MICGM *e*S **S** **09 30 28.0 -2.9**
MICGM *e*SS **SnSn** **09 34 00.0 +5.5**
MICGM *e*SSS SSS 09 35 06.0
MICGM *e*LQ LQ 09 37 10.0
MICGM *e*LR LR 09 40 50.0
MNK Minsk 42.55 348 *e*P **P** **09 24 07.0 -1.2**
MNK *e* 09 25 50.0
MNK *e*S **S** **09 30 28.0 -2.9**
KUU Kurty 42.56 37 *e*P **P** **09 24 07.5 -1.0**
comp=Z,320nm,1.3s
KUU *i* PP **PP** **09 25 46.4 -0.7**
KUU *e*S **S** **09 30 30.7 -0.7**
KUU *i* SS **SS** **09 33 42.5 +1.5**
KUU LR LR 09 42 19.8
comp=Z,5μm,15.1s
AAA Alma-Ata 42.57 39 *e*P **P** **09 24 08.4 -0.2**
AAA *e*S **S** **09 30 29.8 -1.8**
AAA pmax pmax
comp=Z,900nm,6.0s
AAA smax smax
comp=E,1μm,12.8s
AAA MLR MLR
comp=Z,11μm,17.0s
MDOK Medeo 42.57 39 *i* P **P** **09 24 05.3 -3.5**
comp=Z,132nm,1.6s
MDOK *i* PP **PP** **09 25 44.9 -2.5**
MDOK *e*S **S** **09 30 29.3 -2.6**
MDOK *i* SS **SS** **09 33 41.7 +0.1**
MDOK LR LR 09 40 54.4
comp=Z,5μm,14.8s
KHC Kasperske Hory 42.61 333 *e*P **P** **09 24 07.9 -1.0**
KHC *ex* x 09 24 16.0
KHC *ex* x 09 24 28.2
KHC *e*PP **PP** **09 25 50.1 +2.5**
KHC *e*S **S** **09 30 31.3 -0.7**
KHC AMS AMS 09 50 10.0
comp=Z,1μm,12.4s
KHC Kasperske Hory 42.61 333 *e*P **P** **09 24 07.9 -1.0**
KHC *e* 09 24 16.0
KHC *e* 09 25 50.1
KHC *e*S **S** **09 30 31.3 -0.7**
KHC MLR MLR
comp=Z,1μm,12.4s
KHC Kasperske Hory 42.61 333 *e*P **P** **09 24 07.5 -1.4**
comp=Z,30nm,1.2s
KHC Kasperske Hory 42.61 333 *e*P **P** **09 24 07.5 -1.4**
comp=Z,30nm,1.2s
KHC LR LR
comp=Z,499nm,22.0s
UPC Upice 42.63 336 *e*P **P** **09 24 08.4 -0.5**
UPC *e*S **S** **09 30 34.0 +1.8**
UPC AMS AMS 09 46 00.0
comp=Z,1μm,14.9s
UPC Upice 42.63 336 *e*P **P** **09 24 08.4 -0.5**
UPC *e*S **S** **09 30 34.0 +1.8**
UPC MLR MLR
comp=Z,1μm,14.9s
UPC Upice 42.63 336 P **P** **09 24 08.4 -0.5**
BWNR Bhubaneshwar 42.71 74 *e*P **P** **09 24 10.3 +0.3**
BWNR IAmb IAmb 09 24 13.7
comp=Z,62nm,1.1s
RETA Reutte 42.78 329 *i* P **P** **09 24 09.1 -1.2**
comp=Z,31nm,1.2s,SNR=9.8
RETA Reutte 42.78 329 P **P** **09 24 09.1 -1.2**
comp=Z,31nm,1.2s,SNR=9.8
KSP Ksiaz 42.78 336 *e*P **P** **09 24 09.4 -0.7**
KSP Ksiaz 42.78 336 *e*P **P** **09 24 09.5 -0.7**
KSP Ksiaz 42.78 336 *e*P **P** **09 24 09.4 -0.7**
PRU Pruhonice 42.84 334 *e*P **P** **09 24 09.8 -0.8**
PRU *e*S **S** **09 30 36.3 +1.1**
PRU AMS AMS 09 49 00.0
comp=Z,1μm,12.8s
PRU Pruhonice 42.84 334 *e*P **P** **09 24 09.8 -0.8**
PRU *e*S **S** **09 30 36.3 +1.1**
PRU MLR MLR
comp=Z,1μm,12.8s
PRU Pruhonice 42.84 334 P **P** **09 24 09.8 -0.8**
PRU S **S** **09 30 36.3 +1.1**
TUE Stuetta 42.84 327 *e*P **P** **09 24 10.5 -0.4**
comp=Z,102nm,1.6s
TUE Stuetta 42.84 327 *e*P **P** **09 24 10.5 -0.4**
comp=Z,102nm,1.6s
EANR 'Ain N'Sour 42.85 309 P **P** **09 24 11.1 +0.1**
EANR 'Ain N'Sour 42.85 309 P **P** **09 24 11.1 +0.1**
DMN Daman 42.88 64 *e*P **P** **09 24 11.8 +0.2**
comp=Z,230nm,1.3s
BOK Bokaro 43.03 69 *e*P **P** **09 24 12.1 -0.6**
BOK IAmb IAmb 09 24 14.6
comp=Z,30nm,1.0s
KKN Kakani 43.07 63 *e*P **P** **09 24 13.1 0.0**
comp=Z,255nm,1.3s
DAVA Damuels 43.09 328 *i* P **P** **09 24 11.9 -1.0**
comp=Z,84nm,0.8s,SNR=24
DAVA Damuels 43.09 328 P **P** **09 24 11.9 -1.0**
comp=Z,84nm,0.8s,SNR=24
PKIN Phulchoki 43.13 64 *e*P **P** **09 24 13.4 -0.3**
comp=Z,148nm,1.7s
NACGM Naroch 43.16 347 *e*P **P** **09 24 12.0 -1.1**
NACGM *e*P **pP** **09 24 13.0 -2.4**
NACGM PM 09 24 18.0
comp=Z,0.2nm,0.7s
NACGM *e*S **S** **09 30 44.0 +4.3**
NACGM *e*SS **ScS** **09 34 16.0 +2.1**
NACGM *e*SSS SSS 09 35 16.0
NACGM *e*LQ LQ 09 38 49.0
NACGM *e*LR LR 09 42 26.0
NACGM LRM MLR 09 44 27.0
comp=Z,3.0nm,18.0s
NACGM Naroch 43.16 347 *e*P **P** **09 24 12.0 -1.1**
SUW Suwalki 43.20 344 *e*P **P** **09 24 12.8 -0.7**
SUW Suwalki 43.20 344 *e*P **P** **09 24 12.8 -0.7**
SUW Suwalki 43.20 344 *e*P **P** **09 24 12.8 -0.7**
PVCC Panska Ves 43.23 335 *e*P **P** **09 24 13.6 -0.2**
PVCC AMS AMS 09 44 20.0
comp=Z,1μm,14.1s
PVCC Panska Ves 43.23 335 *e*P **P** **09 24 13.6 -0.2**
PVCC MLR MLR
comp=Z,1μm,14.1s
PVCC Panska Ves 43.23 335 P **P** **09 24 13.6 -0.2**
SATY Saty 43.35 40 *i* P **P** **09 24 14.1 -0.9**
comp=Z,465nm,1.7s
SATY *i* PP **PP** **09 25 54.9 -0.8**
SATY *e*S **S** **09 30 43.0 -0.3**
SATY LR LR 09 42 36.5
comp=Z,2μm,13.2s
BNI Bardonecchia 43.45 324 PFAKE 09 24 30.0 +14
BNI LR LR
comp=Z,1μm,21.0s
IDID Didziasalis 43.55 348 *e*P **P** **09 24 16.0 -0.2**
IDID IAmb IAmb 09 24 19.7
comp=Z,55nm,0.9s
IDID Didziasalis 43.55 348 *e*P **P** **09 24 16.0 -0.2**
SNR=25
GUN Gumba 43.61 63 *e*P **P** **09 24 17.5 -0.1**
comp=Z,315nm,1.1s
KPKS Kokpek 43.74 39 *e*P **P** **09 24 16.0 -2.2**
comp=Z,812nm,1.6s
KPKS *i* PP **PP** **09 25 57.9 -2.0**
KPKS *e*S **S** **09 30 46.9 -1.9**
KPKS LR LR 09 43 21.2
comp=Z,6μm,14.8s
BRG Berggiesshubel 43.76 335 *i* P **P** **09 24 16.8 -1.2**
comp=Z,54nm,1.3s

BRG PP **PcP** **09 26 03.0 -1.8**
BRG S **S** **09 30 50.0 +1.4**
BRG SS **SS** **09 34 00.0 -4.2**
comp=N,1μm,15.4s
comp=E,1μm,15.9s
comp=Z,1μm,14.2s
BRG Berggiesshubel 43.76 335 *i* P **P** **09 24 16.8 -1.2**
BRG 09 26 03.0
BRG S **S** **09 30 50.0 +1.4**
BRG SS **SS** **09 34 00.0 -4.2**
BRG pmax pmax
comp=Z,54nm,1.3s
BRG MLR MLR
comp=N,1μm,15.4s
BRG MLR MLR
comp=E,1μm,15.9s
BRG MLR MLR
comp=Z,1μm,14.2s
UZB Uzynbulak 43.78 40 *i* P **P** **09 24 16.4 -2.2**
comp=Z,285nm,1.0s
UZB *i* PP **PP** **09 25 58.3 -2.1**
UZB *e*S **S** **09 30 48.5 -1.1**
UZB LR LR 09 42 51.5
comp=Z,5μm,16.0s
GDM Grand'Maison 43.86 324 *e*P **P** **09 24 18.6 -0.5**
GDM Grand'Maison 43.86 324 *e*P **P** **09 24 18.6 -0.5**
SENIN Lac Senin/Sane 43.88 326 *e*P **P** **09 24 18.2 -1.1**
comp=Z,114nm,1.1s
SENIN Lac Senin/Sane 43.88 326 *e*P **P** **09 24 18.2 -1.1**
comp=Z,114nm,1.1s
SENIN LR LR
comp=Z,600nm,21.0s
ISAL Salakas 43.92 347 *e*P **P** **09 24 18.9 -0.2**
ISAL IAmb IAmb 09 24 22.7
comp=Z,46nm,0.9s
ISAL Salakas 43.92 347 *e*P **P** **09 24 19.0 -0.2**
SNR=25
NKC Novy Kostel 43.92 333 *e*S **S** **09 30 52.1 +1.0**
NKC AMS AMS 09 48 50.0
comp=Z,2μm,12.3s
NKC Novy Kostel 43.92 333 S **S** **09 30 52.1 +1.0**
OG26 St.-Nazaire-De 43.98 322 *e*P **P** **09 24 20.2 +0.2**
OG26 St.-Nazaire-De 43.98 322 *e*P **P** **09 24 20.2 +0.2**
IZAR Zarasai 44.06 347 *e*P **P** **09 24 20.1 -0.2**
IZAR IAmb IAmb 09 24 23.8
comp=Z,48nm,1.1s
IZAR Zarasai 44.06 347 *e*P **P** **09 24 20.1 -0.2**
SNR=25
RAMN Ramite 44.08 65 *e*P **P** **09 24 20.9 -0.4**
comp=Z,208nm,1.5s
GRFO Grafenberg 44.08 332 *e*P **P** **09 24 19.3 -1.4**
GRFO pmax pmax
comp=Z,48nm,1.0s
GRFO MLR MLR
comp=Z,799nm,19.0s
GRFO Grafenberg 44.08 332 *e*P **P** **09 24 19.3 -1.4**
comp=Z,48nm,1.0s
GRFO Grafenberg 44.08 332 *e*P **P** **09 24 19.3 -1.4**
comp=Z,48nm,1.0s
GRFO LR LR
comp=Z,799nm,19.0s
GRN Grenoble 44.09 323 *e*P **P** **09 24 19.5 -1.5**
GRN Grenoble 44.09 323 *e*P **P** **09 24 19.5 -1.5**
SPAK Spaichingen-Ko 44.19 329⇑ *e*P **P** **09 24 21.9 +0.3**
SHLS Shalkode 44.33 40 *e*P **P** **09 24 23.3 +0.3**
comp=Z,177nm,1.5s
SHLS LR LR 09 42 53.3
comp=Z,2μm,15.4s
STU Stuttgart 44.42 329 PFAKE 09 24 40.0 +17
STU LR LR
comp=Z,1μm,19.0s
BBS Basel-Blauen 44.44 327⇑ *e*P **P** **09 24 22.1 -1.6**
FELD Feldberg im Sc 44.44 328 *e*P **P** **09 24 22.4 -1.4**
CLL Collm 44.47 335 *i* P **P** **09 24 22.8 -0.9**
comp=Z,81nm,1.4s
CLL *e*Plp 09 24 25.0
CLL *i* 09 24 58.3
CLL *e*PP **PP** **09 26 08.0 +0.5**
comp=Z,72nm,1.9s
CLL *e*PPlp 09 26 12.0
CLL *e*S **S** **09 31 03.0 +3.9**
comp=N,2μm,15.0s
CLL *e*S **S** **09 31 03.0 +3.9**
CLL *e*S **S** **09 31 03.0 +3.9**
CLL *e*SS **SS** **09 34 14.0 -4.3**
CLL L L 09 45 00.0
comp=Z,1μm,19.5s
CLL Collm 44.47 335 *e*P **P** **09 24 22.8 -0.9**
CLL pmax pmax
comp=Z,67nm,1.3s
CLL Collm 44.47 335 *e*P **P** **09 24 22.8 -0.9**
comp=Z,67nm,1.3s
CLL Collm 44.47 335 *e*P **P** **09 24 22.8 -0.9**
comp=Z,67nm,1.3s
CLL LR LR
comp=Z,1μm,19.0s
BRZS Berezniki 44.52 28 *i* P **P** **09 24 23.5 -0.7**
comp=Z,92nm,1.3s
BRZS *i* PP **PcP** **09 26 06.4 -1.0**
BRZS *e*S **S** **09 30 59.5 -0.4**
BRZS *i* SS **ScS** **09 34 22.1 -0.7**
BRZS LR LR 09 43 09.7
comp=Z,2μm,15.6s
BOSA Boshof 44.56 201 LR LR 09 41 48.1
comp=Z,8μm,18.4s,baz=26,slow=35
BFO Black Forest 44.57 328 *i* P **P** **09 24 24.4 -0.2**
BFO Black Forest 44.57 328 *e*P **P** **09 24 24.4 -0.2**
comp=Z,65nm,1.3s
BFO Black Forest 44.57 328 *e*P **P** **09 24 24.4 -0.2**
comp=Z,65nm,1.3s
FILF Fillols 44.63 318⇑ *e*P **P** **09 24 24.9 -0.4**
FILF Fillols 44.63 318⇑ *e*P **P** **09 24 24.9 -0.4**
LOMF Lomont 44.74 326⇑ *e*P **P** **09 24 26.3 +0.3**
LOMF Lomont 44.74 326⇑ *e*P **P** **09 24 26.3 +0.3**
SSB Saint Sauveur 44.82 323 *e*P **P** **09 24 26.2 -0.5**
SSB Saint Sauveur 44.82 323 *e*P **P** **09 24 25.7 -1.0**
SSB pmax pmax
comp=Z,34nm,0.9s
SSB MLR MLR
comp=Z,800nm,19.0s
SSB Saint Sauveur 44.82 323 *e*P **P** **09 24 26.2 -0.5**
SSB Saint Sauveur 44.82 323 *e*P **P** **09 24 25.7 -1.0**
comp=Z,34nm,0.9s
SSB LR LR
comp=Z,800nm,19.0s
LIBD Limburg 44.83 328⇑ *e*P **P** **09 24 25.6 -1.0**
MOF Molkenrain 44.88 327⇑ *e*P **P** **09 24 25.8 -1.4**
MOF Molkenrain 44.88 327⇑ *e*P **P** **09 24 25.8 -1.4**
VALF Valcebollere 44.91 318 *e*P **P** **09 24 28.0 +0.4**
VALF Valcebollere 44.91 318 *e*P **P** **09 24 28.0 +0.4**
ARU Arti 44.99 13 P **P** **09 24 27.2 -0.6**
comp=Z,76nm,0.9s,baz=195,slow=4.4,SNR=32
ARU LR LR 09 46 38.9
comp=Z,3μm,18.3s,baz=198,slow=41
ARU Arti 44.99 13*c* *i*P **P** **09 24 27.4 -0.5**
ARU 09 26 12.0
ARU PPP PPP 09 26 51.5
ARU S **S** **09 31 08.4 +1.9**
ARU SS **ScS** **09 34 21.2 -4.3**
ARU pmax pmax
comp=Z,112nm,1.0s
ARU MLR MLR
comp=Z,4μm,16.0s
ARU Arti 44.99 13 *e*P **P** **09 24 27.3 -0.6**
comp=Z,108nm,1.0s
ARU Arti 44.99 13 *e*P **P** **09 24 27.3 -0.5**
comp=Z,108nm,1.0s
ARU LR LR
comp=Z,3μm,19.0s
ECH Echery 45.10 328⇑ *e*P **P** **09 24 27.3 -1.5**
ECH Echery 45.10 328⇑ *e*P **P** **09 24 27.3 -1.5**
TOD Tromm 45.17 330⇑ *e*P **P** **09 24 28.2 -1.2**
ZRNK Zerenda 45.17 23 *e*P **P** **09 24 29.1 -0.2**
ZRNK pmax pmax
comp=Z,83nm,1.0s
ZRNK MLR MLR
comp=Z,4μm,19.0s
ZRNK Zerenda 45.17 23 *e*P **P** **09 24 29.1 -0.2**
comp=Z,83nm,1.0s
ZRNK Zerenda 45.17 23 *e*P **P** **09 24 29.1 -0.2**
comp=Z,83nm,1.0s
ZRNK LR LR
comp=Z,4μm,19.0s
LANF Langenberg 45.25 329 *e*P **P** **09 24 28.6 -1.4**
LANF Langenberg 45.25 329 *e*P **P** **09 24 28.6 -1.4**

KTD Kalmit 45.33 329 ⇑ eP P 09 24 30.8 +0.1
LBL Lubilhac 45.56 322 ⇑ eP P 09 24 33.2 +0.6
LBL Lubilhac 45.56 322 ⇑ eP P 09 24 33.2 +0.6
PLDF La Plantade 45.74 323 ⇑ eP P 09 24 33.5 -0.5
PLDF La Plantade 45.74 323 ⇑ eP P 09 24 33.5 -0.5
BRVK Borovoye 45.75 24 c iP P 09 24 33.5 -0.3
BRVK pmax pmax
comp=Z,78nm,1.0s
BRVK Borovoye 45.75 24 eP P 09 24 33.6 -0.3
comp=Z,75nm,1.0s
BRVK Borovoye 45.75 24 eP P 09 24 33.6 -0.3
comp=Z,75nm,1.0s
BRVK LR LR
comp=Z,3µm,19.0s
BVA0 Borovoye Array 45.77 24 i P P 09 24 33.5 -0.5
BVA0 pmax pmax
comp=Z,42nm,1.0s
BVAR Borovoye Array 45.77 24 P P 09 24 33.4 -0.6
comp=Z,36nm,0.9s,baz=208,slow=6.0,SNR=64
BVAR PcP PcP 09 26 12.9 +1.3
comp=Z,10nm,0.9s,baz=227,slow=3.3,SNR=4.5
BVAR LR LR 09 45 18.6
comp=Z,3µm,20.3s,baz=223,slow=38
VOSK Vostochnaya 45.78 25 eP P 09 24 33.7 -0.4
VOSK pmax pmax
comp=Z,48nm,1.0s
VOSK MLR MLR
comp=Z,3µm,19.0s
VOSK Vostochnaya 45.78 25 eP P 09 24 33.7 -0.4
comp=Z,48nm,1.0s
VOSK Vostochnaya 45.78 25 eP P 09 24 33.6 -0.4
comp=Z,48nm,1.0s
VOSK LR LR
comp=Z,3µm,19.0s
SVE Sverdlovsk 45.84 14 de P P 09 24 34.3 -0.2
SVE eS S 09 31 25.2 +6.5
SVE e 09 34 34.7
SVE pmax pmax
comp=Z,109nm,1.1s
SVE MLR MLR
comp=Z,4µm,14.0s
MELF Melles 45.95 318 ⇑ eP P 09 24 36.7 +0.9
MELF Melles 45.95 318 ⇑ eP P 09 24 36.7 +0.9
ABH Alteburg 45.96 330 eP P 09 24 34.0 -1.7
ZFT Errachidia 46.03 302 i P P 09 24 37.0 +0.3
AGO Saint Agoulin 46.07 323 ⇑ eP P 09 24 36.2 -0.4
AGO Saint Agoulin 46.07 323 ⇑ eP P 09 24 36.2 -0.4
RUP Ruppelstein 46.09 329 ⇑ eP P 09 24 36.9 +0.2
RESF Ens 46.20 318 ⇑ eP P 09 24 37.6 -0.1
RESF Ens 46.20 318 ⇑ eP P 09 24 37.6 -0.1
KIC Kosan Boka 46.21 266 eP P 09 24 37.0 -1.1
comp=Z,216nm,1.3s
DBIC Dimbokro 46.26 267 P P 09 24 37.4 -1.1
comp=Z,45nm,1.0s,baz=56,slow=8.8,SNR=15
DBIC LR LR 09 42 39.2
comp=Z,4µm,18.0s,baz=62,slow=34
DBIC Dimbokro 46.26 267 eP P 09 24 37.8 -0.6
DBIC pmax pmax
comp=Z,90nm,1.1s
DBIC Dimbokro 46.26 267 eP P 09 24 37.8 -0.6
comp=Z,90nm,1.1s
DBIC Dimbokro 46.26 267 eP P 09 24 37.8 -0.6
comp=Z,90nm,1.1s
VERF Verneugheol 46.29 322 eP P 09 24 37.8 -0.6
VERF Verneugheol 46.29 322 eP P 09 24 37.8 -0.6
CHKZ Chkalovo 46.35 23 P P 09 24 37.6 -1.0
CHKZ pmax pmax
comp=Z,54nm,1.1s
TIC Toumodi 46.42 267 eP P 09 24 38.5 -1.3
VIEF Viey 46.44 318 eP P 09 24 39.2 -0.4
VIEF Viey 46.44 318 eP P 09 24 39.2 -0.4
VSU Vasula 46.50 349 ⇓ eP P 09 24 39.1 -0.6
VSU pmax pmax
comp=Z,180nm,1.0s
VSU Vasula 46.50 349 eP P 09 24 39.2 -0.5
comp=Z,121nm,1.3s,SNR=156
LIC Lamto 46.52 266 eP P 09 24 39.3 -1.2
comp=Z,90nm,0.9s
WLF Walferdange 46.52 329 P P 09 24 39.6 -0.4
comp=Z,55nm,2.2s
WLF Walferdange 46.52 329 eP P 09 24 39.3 -0.7
WLF pmax pmax
comp=Z,70nm,1.3s
WLF Walferdange 46.52 329 eP P 09 24 39.3 -0.7
comp=Z,70nm,1.3s
WLF Walferdange 46.52 329 eP P 09 24 39.3 -0.7
comp=Z,70nm,1.3s
SLIT Slitere, Latvi 46.67 346 eP P 09 24 39.8 -1.2
SNR=24
BSD Bornholm Skovb 46.69 339 eP P 09 24 38.6 -2.6
BSD pmax pmax
comp=Z,140nm,1.4s
BSD Bornholm Skovb 46.69 339 i P P 09 24 38.6 -2.6
comp=Z,141nm,1.4s
REYF Montagne du Re 46.79 318 ⇑ eP P 09 24 42.1 -0.3
REYF Montagne du Re 46.79 318 ⇑ eP P 09 24 42.1 -0.3
RGN Rugen 46.81 338 PFAKE 09 24 50.0 +7.8
RGN LR LR
comp=Z,1µm,20.0s
CZD Col de Zad 46.83 303 i P P 09 24 44.0 +1.0
ATE Arette 47.00 318 eP P 09 24 43.8 -0.2
ATE Arette 47.00 318 eP P 09 24 43.8 -0.2
MEM Membach 47.19 330 P P 09 24 45.8 +0.6
comp=Z,33nm,1.1s
MEM Membach 47.19 330 P P 09 24 45.8 +0.6
comp=Z,33nm,1.1s
ORDF Ordiarp 47.21 318 eP P 09 24 46.0 +0.4
ORDF Ordiarp 47.21 318 eP P 09 24 46.0 +0.4
MTSE Matsuia 47.31 347 eP P 09 24 45.9 -0.1
SNR=156
BCLA Clavier 47.42 329 P P 09 24 46.9 -0.2
comp=Z,39nm,1.3s
BCLA Clavier 47.42 329 P P 09 24 46.8 -0.2
comp=Z,39nm,1.3s
BEBN Eben Emael 47.47 330 P P 09 24 47.4 0.0
BEBN Eben Emael 47.47 330 P P 09 24 47.4 0.0
MAKZ Makanchi 47.48 37 P P 09 24 47.3 -0.3
MAKZ pmax pmax
comp=Z,144nm,1.4s
MAKZ Makanchi 47.48 37 eP P 09 24 47.4 -0.2
comp=Z,135nm,1.2s
MAKZ Makanchi 47.48 37 eP P 09 24 47.4 -0.2
comp=Z,135nm,1.2s
MAKZ LR LR
comp=Z,10µm,20.0s
KIB El Ksiba 47.54 302 i P P 09 24 48.0 -0.4
KLMR Klimovskoe 47.54 359 ⇑ iP P 09 24 46.9 -0.9
KLMR e 09 26 15.6
KLMR eS S 09 31 47.1 +4.2
KLMR pmax pmax
comp=Z,178nm,1.0s
DOU Dourbes 47.58 328 P P 09 24 47.6 -0.7
comp=Z,18nm,1.3s
DOU Dourbes 47.58 328 P P 09 24 47.6 -0.7
comp=Z,18nm,1.3s
MK01 Makanchi Array 47.65 37 eP P 09 24 48.4 -0.6
MK01 Makanchi Array 47.65 37 eP P 09 24 48.4 -0.6
MK31 Makanchi Array 47.66 37 iP P 09 24 48.6 -0.4
MK31 pmax pmax
comp=Z,127nm,1.1s
MK31 Makanchi Array 47.66 37 eP P 09 24 48.8 -0.2
MK31 Makanchi Array 47.66 37 eP P 09 24 48.8 -0.2
MK32 Makanchi Array 47.66 37 eP P 09 24 48.5 -0.5
MK32 Makanchi Array 47.66 37 eP P 09 24 48.5 -0.5
MKAR Makanchi Array 47.66 37 P P 09 24 48.5 -0.5
comp=Z,105nm,1.1s,baz=234,slow=7.1,SNR=62
MKAR LR LR 09 49 07.7
comp=Z,9µm,20.0s,baz=244,slow=42
MKAR Makanchi Array 47.66 37 iP P 09 24 48.7 -0.3
MKAR pmax pmax
comp=Z,105nm,1.1s
MKAR Makanchi Array 47.66 37 eP P 09 24 48.7 -0.3
MKAR Makanchi Array 47.66 37 eP P 09 24 48.7 -0.3
KURBB Kurchatov Arra 47.77 31 P P 09 24 49.8 +0.1
comp=Z,73nm,1.0s,baz=234,slow=8.0,SNR=72
KURBB PcP PcP 09 26 20.1 +1.4
comp=Z,6.7nm,0.9s,baz=236,slow=4.8,SNR=4.3
TZC Tazercounte 47.83 301 i P P 09 24 51.0 +0.3
KURK Kurchatov 47.87 31 eP P 09 24 50.5 0.0
KURK pmax pmax
comp=Z,390nm,1.1s
KURK Kurchatov 47.87 31 eP P 09 24 50.5 0.0
KURK Kurchatov 47.87 31 ePcP PcP 09 26 20.1 +1.0
KURK Kurchatov 47.87 31 eP P 09 24 50.5 0.0
KURK ePcP PcP 09 26 20.1 +1.0
KURK LR LR
comp=Z,6µm,19.0s
ES19 SONSECA Array 47.88 312 eP P 09 24 49.8 -1.1
ES19 SONSECA Array 47.88 312 eP P 09 24 49.8 -1.1
ESDC Sonseca Array 47.92 312 P P 09 24 50.4 -0.8
comp=Z,16nm,1.0s,baz=108,slow=7.8,SNR=31
ESDC LR LR 09 44 49.6
comp=Z,1µm,19.2s,baz=115,slow=36
ESLA Sonseca Array 47.92 312 eP P 09 24 51.0 -0.2
comp=Z,48nm,1.3s
ESLA Sonseca Array 47.92 312 eP P 09 24 51.0 -0.2
comp=Z,48nm,1.3s
ESLA LR LR
comp=Z,2µm,20.0s
SNF Seneffe 47.99 329 P P 09 24 51.6 +0.2
SNF Seneffe 47.99 329 P P 09 24 51.6 +0.2
PAB San Pablo 48.15 312 eP P 09 24 52.7 -0.3
PAB pmax pmax
comp=Z,60nm,1.3s
PAB San Pablo 48.15 312 eP P 09 24 52.7 -0.3
comp=Z,60nm,1.3s
PAB San Pablo 48.15 312 eP P 09 24 52.7 -0.3
comp=Z,60nm,1.3s
PAB LR LR
comp=Z,3µm,21.0s
LSA Lhasa 48.47 62 P P 09 24 56.4 +0.3
LSA PMZ
comp=Z,57nm,1.4s
LSA Lhasa 48.47 62 eP P 09 24 56.8 +0.7
LSA pmax pmax
comp=Z,65nm,1.2s
LSA MLR MLR
comp=Z,2µm,21.0s
LSA Lhasa 48.47 62 eP P 09 24 56.8 +0.7
comp=Z,65nm,1.2s
LSA Lhasa 48.47 62 eP P 09 24 56.8 +0.7
comp=Z,65nm,1.2s
LSA LR LR
comp=Z,2µm,21.0s
RTC Rabat Centre 48.52 304 PFAKE 09 25 10.0 +14
RTC LR LR
comp=Z,46µm,18.0s
SEM Semipalatinsk 48.52 32 eP P 09 24 54.6 -1.0
comp=Z,259nm,1.5s
SEM LR LR 09 46 00.0
comp=Z,3µm,16.7s
MEF Metsahovi 48.58 349 eP P 09 24 54.9 -0.9
comp=Z,67nm,1.4s,SNR=23
SHL Shillong 48.63 68 eP P 09 24 56.3 -0.8
SHL IAmb IAmb 09 24 58.9
comp=Z,105nm,1.7s
SHL ex x 09 32 04.0
OUK Oukaimeden 48.80 300 i P P 09 24 59.5 +1.0
ZSN Zaisan 49.23 37 i P P 09 25 01.4 +0.3
comp=Z,161nm,1.7s
ZSN i PP PP 09 26 55.3 +0.4
ZSN eS S 09 32 08.4 +1.0
ZSN LR LR 09 46 15.7
comp=Z,3µm,13.0s
FIA0 FINESS Array S 49.42 350 eP P 09 25 00.7 -1.6
FIA0 FINESS Array S 49.42 350 eP P 09 25 00.7 -1.6
FIA0 FINESS Array S 49.42 350 eP P 09 25 00.7 -1.6
FIA1 FINESS Array S 49.42 350 eP P 09 25 01.5 -0.8
FIA1 FINESS Array S 49.42 350 eP P 09 25 01.5 -0.8
FINES FINESS Array B 49.42 350 P P 09 25 00.7 -1.6
comp=Z,33nm,0.9s,baz=148,slow=8.6,SNR=42
FINES LR LR 09 46 40.0
comp=Z,1µm,18.4s,baz=158,slow=37
FINES FINESS Array B 49.42 350 i P P 09 25 01.1 -1.2
FINES pmax pmax
comp=Z,33nm,0.9s
SUR Sutherland 49.59 203 PFAKE 09 25 20.0 +16
SUR LR LR
comp=Z,12µm,19.0s
WMQ Urumqi 49.70 43 P P 09 25 05.4 +0.6
WMQ pP sP 09 25 10.1 +2.1
WMQ sP pP 09 25 13.8 +6.7
WMQ PP PP 09 27 00.4 +1.1
WMQ S S 09 32 12.6 -1.4
WMQ SS SS 09 35 40.6 -5.8
WMQ PMZ
comp=Z,17nm,1.2s
WMQ PMZ
comp=Z,290nm,3.8s
WMQ LN
comp=Z,5µm,17.6s
WMQ LE
comp=Z,3µm,17.2s
WMQ LZ
comp=Z,2µm,18.4s
MUD Monsted U'grnd 49.81 337 i P P 09 25 05.5 +0.2
MUD pmax pmax
comp=Z,64nm,1.0s
MUD Monsted U'grnd 49.81 337 i P P 09 25 05.5 +0.2
comp=Z,64nm,1.0s
MUD Monsted U'grnd 49.81 337 i P P 09 25 05.5 +0.2
comp=Z,64nm,1.0s
RAF Rauma 49.85 347 eP P 09 25 04.8 -0.7
comp=Z,29nm,1.8s,SNR=157
YBT Youssef Ben Ta 49.98 298 i P P 09 25 06.0 -1.1
PVAQ Vaqueiros 50.03 308 eP P 09 25 06.9 -0.5
comp=Z,53nm,1.2s
PVAQ eS S 09 32 23.0 +4.2
PVAQ eLR LR 09 40 49.0
comp=Z,3µm,16.0s
PVAQ Vaqueiros 50.03 308 eP P 09 25 06.9 -0.5
comp=Z,53nm,1.2s
PBEJ Beja 50.31 309 eP P 09 25 09.4 -0.1
comp=Z,53nm,1.5s
PBEJ Beja 50.31 309 eP P 09 25 09.4 -0.1
comp=Z,53nm,1.5s
PESTR Estremoz 50.34 310 eP P 09 25 09.2 -0.5
comp=Z,57nm,1.6s
PESTR Estremoz 50.34 310 eP P 09 25 09.2 -0.5
comp=Z,57nm,1.6s
PCVE Castro Verde 50.34 308 eP P 09 25 10.2 +0.5
comp=Z,31nm,1.0s
PCVE Castro Verde 50.34 308 eP P 09 25 10.2 +0.5
comp=Z,31nm,1.0s
PMRV Marv??o 50.35 311 eP P 09 25 09.1 -0.7
comp=Z,58nm,1.5s
PMRV eS S 09 32 23.7 +0.5
PMRV eLR LR 09 41 23.9
comp=Z,3µm,18.0s
PMRV Marv??o 50.35 311 eP P 09 25 09.1 -0.7
comp=Z,58nm,1.5s
PMRV eS S 09 32 23.7 +0.5
MESJ Messejana 50.53 308 eP P 09 25 10.5 -0.6
MESJ eS S 09 32 25.8 +0.1
MESJ AMS AMS 09 49 34.1
comp=Z,2µm,19.7s
MESJ Messejana 50.53 308 eP P 09 25 09.3 -1.8
comp=Z,70nm,1.5s
MESJ Messejana 50.53 308 eP P 09 25 09.3 -1.8
comp=Z,70nm,1.5s
EVO Evora 50.56 309 eP P 09 25 11.1 -0.2
comp=Z,97nm,1.3s
EVO Evora 50.56 309 eP P 09 25 11.1 -0.2
comp=Z,97nm,1.3s
MVO Moncorvo 50.62 313 eS S 09 32 32.0 +5.0
MVO eLR LR 09 41 36.7
comp=Z,2µm,18.0s
MORF Marmelete 50.73 308 eP P 09 25 12.5 -0.2
MORF eS S 09 32 28.7 +0.2
MORF AMS AMS 09 47 30.9
comp=Z,3µm,17.3s
PNCL Nicolau / Gran 50.84 309 eP P 09 25 13.0 -0.4
comp=Z,63nm,1.1s
PNCL Nicolau / Gran 50.84 309 eP P 09 25 13.0 -0.4
comp=Z,63nm,1.1s
PVIS Viseu 51.10 312 eP P 09 25 15.8 +0.3
comp=Z,60nm,1.3s
PVIS Viseu 51.10 312 eP P 09 25 15.8 +0.3
comp=Z,60nm,1.3s
PVRL Vila Real 51.15 313 eP P 09 25 16.4 +0.6
comp=Z,67nm,1.3s
PVRL Vila Real 51.15 313 eP P 09 25 16.4 +0.6
comp=Z,67nm,1.3s
POLO Lamas de Olo 51.23 313 eP P 09 25 16.0 -0.5
comp=Z,39nm,1.3s
POLO Lamas de Olo 51.23 313 eP P 09 25 16.0 -0.5
comp=Z,39nm,1.3s
PCAS Casmilo, Conde 51.35 311 eP P 09 25 17.6 +0.3
PCAS Casmilo, Conde 51.35 311 eP P 09 25 17.6 +0.3
LIS Lisbon 51.47 309 eP P 09 25 17.4 -0.7
LIS eS S 09 32 38.7 +0.1
LIS AMS AMS 09 49 44.5
comp=Z,3µm,15.4s
CMBY CAMPBELL BAY 51.72 91 eP P 09 25 19.3 -1.1
PGAV Gavieira, Arco 51.76 313 eP P 09 25 20.8 +0.4
comp=Z,147nm,1.6s
PGAV eS S 09 32 46.4 +3.6
PGAV eLR LR 09 41 58.9
comp=Z,2µm,16.0s
PGAV Gavieira, Arco 51.76 313 eP P 09 25 20.8 +0.4
comp=Z,147nm,1.6s
KONO Kongsberg 52.03 340 PFAKE 09 25 30.0 +8.0
KONO LR LR
comp=Z,1µm,22.0s
NC602 NORSAR Array S 52.25 342 eP P 09 25 22.3 -1.3
NC602 NORSAR Array S 52.25 342 eP P 09 25 22.3 -1.3
NC405 NORSAR Array S 52.50 342 eP P 09 25 25.7 +0.2
NC405 NORSAR Array S 52.50 342 eP P 09 25 25.7 +0.2
NAO01 NORSAR Array S 52.54 342 eP P 09 25 25.0 -0.8
NAO01 NORSAR Array S 52.54 342 eP P 09 25 25.0 -0.8
NB201 NORSAR Array S 52.57 342 eP P 09 25 25.4 -0.6
NB201 NORSAR Array S 52.57 342 eP P 09 25 25.4 -0.6
NB2 NORSAR Subarra 52.59 342 P P 09 25 24.6 -1.6
comp=Z,49nm,1.1s,baz=142,slow=7.4
NB2 NORSAR Subarra 52.59 342 P P 09 25 24.6 -1.6
baz=142,slow=7.4
NB2 NORSAR Subarra 52.59 342 P P 09 25 24.6 -1.6
comp=Z,49nm,1.1s,baz=142,slow=7.4,SNR=1.3
NB200 NORSAR Array S 52.59 342 eP P 09 25 24.9 -1.3
NB200 NORSAR Array S 52.59 342 eP P 09 25 24.9 -1.3
NOA NORSAR Array B 52.59 342 P P 09 25 24.9 -1.3
comp=Z,29nm,1.0s,baz=138,slow=7.8,SNR=29
NOA LR LR 09 50 32.5
comp=Z,597nm,19.7s,baz=135,slow=39
NVS Novosibirsk 52.59 29 eP P 09 25 26.4 +0.2
NVS e 09 27 21.9
NVS pmax pmax
comp=N,45nm,1.0s
NVS pmax pmax
comp=E,28nm,1.0s
NVS pmax pmax
comp=Z,93nm,1.0s
NBO02 NORSAR Array S 52.71 342 eP P 09 25 25.2 -1.8
NBO02 NORSAR Array S 52.71 342 eP P 09 25 25.2 -1.8
NBO00 NORSAR Array S 52.72 342 eP P 09 25 26.0 -1.1
NBO00 NORSAR Array S 52.72 342 eP P 09 25 26.0 -1.1
ZAA0 Zalesovo Array 52.85 30 eP P 09 25 27.0 -1.2
ZAA0 Zalesovo Array 52.85 30 eP P 09 25 27.0 -1.2
ZALV Zalesovo Beam 52.85 30 P P 09 25 26.7 -1.4
comp=Z,113nm,1.0s,baz=240,slow=7.2,SNR=70
ZAA1 Zalesovo Array 52.85 30 eP P 09 25 26.7 -1.5
ZAA1 Zalesovo Array 52.85 30 eP P 09 25 26.7 -1.5
NC204 NORSAR Array S 52.91 342 eP P 09 25 27.8 -0.8
NC204 NORSAR Array S 52.91 342 eP P 09 25 27.8 -0.8
ESK Eskdalemuir 54.46 330 i P P 09 25 41.3 +1.3
APA Apatity 54.53 356 ⇑ iP P 09 25 38.0 -2.3
APA i 09 27 48.0
APA i S S 09 33 19.0 -0.5
APA pmax pmax
comp=Z,27nm,0.8s
MLSI Meulaboh, Aceh 54.70 94 P P 09 25 44.0 +1.6
LVZ Lovozero 54.78 357 ce P P 09 25 41.3 -0.9
LVZ pmax pmax
comp=Z,56nm,1.0s
LVZ Lovozero 54.78 357 eP P 09 25 41.9 -0.2
comp=Z,62nm,1.1s
LVZ Lovozero 54.78 357 eP P 09 25 41.9 -0.2
comp=Z,62nm,1.1s
LVZ LR LR
comp=Z,1µm,19.0s
KHLT Khaolaem Dam 55.09 81 P P 09 25 47.8 +2.6
comp=Z,28nm,1.2s
CHTO Chiang Mai 55.11 76 P P 09 25 45.6 +0.3
comp=Z,73nm,1.2s,comp=Z,3µm
CHTO Chiang Mai 55.11 76 eP P 09 25 44.0 -1.3
CHTO pmax pmax
comp=Z,15nm,1.0s
CHTO MLR MLR
comp=Z,1µm,21.0s
CHTO Chiang Mai 55.11 76 P P 09 25 45.1 -0.2
SNR=6.3
CHTO Chiang Mai 55.11 76 P P 09 25 45.1 -0.2
SNR=6.3
CHTO P P 09 25 45.1 -0.2
SNR=6.3
CHTO Chiang Mai 55.11 76 P P 09 25 45.1 -0.2
SNR=6.3
CHTO Chiang Mai 55.11 76 eP P 09 25 44.0 -1.3
comp=Z,15nm,1.0s
CHTO LR LR
comp=Z,1µm,21.0s
CMMT Chiang Mai 55.11 76 P P 09 25 45.5 +0.2
comp=Z,16nm,1.2s,comp=Z,721nm
CM31 Chiang Mai Arr 55.13 77 eP P 09 25 45.6 +0.1
CM31 Chiang Mai Arr 55.13 77 eP P 09 25 45.6 +0.1
CMAR Chiang Mai Arr 55.13 77 P P 09 25 44.4 -1.1
comp=Z,39nm,1.0s,baz=276,slow=6.6,SNR=56
CMAR LR LR 09 46 20.9
comp=Z,827nm,21.4s,baz=281,slow=33
CMAR Chiang Mai Arr 55.13 77 i P P 09 25 37.2 -8.3
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CM01 Chiang Mai Arr 55.15 77 eP P 09 25 44.8 -0.8
CM01 Chiang Mai Arr 55.15 77 eP P 09 25 44.8 -0.8
SHEL Horse Pasture 55.16 240 PFAKE 09 26 00.0 +14
SHEL LR LR
comp=Z,6µm,18.0s
UMPA Umpang Tak 55.22 79 P P 09 25 48.9 +2.8
comp=Z,9.5nm,1.2s,comp=Z,1µm
LAMP Lampang 55.78 77 P P 09 25 50.2 +0.1
comp=Z,27nm,1.1s,comp=Z,239nm
GSI Gunungsitoli 56.55 97 P P 09 25 59.0 +3.3
GSI Gunungsitoli 56.55 97 eP P 09 25 55.8 +0.1
comp=Z,68nm,1.1s
GSI Gunungsitoli 56.55 97 eP P 09 25 55.8 +0.1
comp=Z,68nm,1.1s
VAL Valentia 56.59 324 eP P 09 25 55.0 -0.3
VAL Valentia 56.59 324 ⇑ iS S 09 33 46.5 -0.9
VAL Valentia 56.59 324 ⇑ iS S 09 33 46.5 -0.9
KRAB Krabi 56.62 89 P P 09 26 00.2 +4.0
comp=Z,38nm,1.3s,comp=Z,930nm
UTTA Uttaradit 56.71 77 P P 09 25 57.0 +0.3
comp=Z,10nm,1.2s,comp=Z,96nm
PMOZ Porto Moniz, M 56.87 301 eLR LR 09 44 49.6
comp=Z,4µm,16.0s
GTA Gaotai 57.15 52 eP P 09 26 00.0 +0.3
GTA pP sP 09 26 04.8 +1.9
GTA sP pP 09 26 07.6 +5.6
GTA S S 09 33 57.8 +2.2
GTA sS sS 09 34 04.5 +5.1
GTA SS SS 09 37 50.1 +5.7
GTA PMZ
comp=Z,26nm,1.4s
GTA PMZ
comp=Z,360nm,6.9s
GTA LN
comp=Z,4µm,17.3s
GTA LE
comp=Z,3µm,17.1s
GTA LZ
comp=Z,3µm,16.9s
ARA0 ARCESS Array S 57.16 353 eP P 09 25 58.3 -0.8
ARA0 ARCESS Array S 57.16 353 eP P 09 25 58.3 -0.8
ARCES ARCESS Array B 57.16 353 P P 09 25 58.3 -0.8
comp=Z,21nm,0.8s,baz=163,slow=4.5,SNR=41
ARCES LR LR 09 50 28.8
comp=Z,1µm,20.8s,baz=159,slow=36
ARE0 ARCESS Array S 57.16 353 eP P 09 25 59.2 +0.1
comp=Z,60nm,1.3s
ARE0 ARCESS Array S 57.16 353 eP P 09 25 59.2 +0.1
comp=Z,60nm,1.3s
ARE0 LR LR
comp=Z,2µm,19.0s
TRTT Trang 57.17 89 P P 09 26 01.6 +1.5
comp=Z,50nm,1.6s
PBKT Sadao Pong 57.20 79 P P 09 26 00.4 +0.1
comp=Z,66nm,1.1s,comp=Z,1µm
KEV Kevo 57.21 354 eP P 09 25 59.1 -0.3
KEV pmax pmax
comp=Z,64nm,1.0s
KEV Kevo 57.21 354 eP P 09 25 59.1 -0.3
comp=Z,64nm,0.9s
KEV Kevo 57.21 354 eP P 09 25 59.1 -0.3
comp=Z,64nm,0.9s
KEV LR LR
comp=Z,1µm,19.0s

PSI Prapat 57.49 95 PFAKE 09 26 10.0 +7.5
PSI LR LR
comp=Z,1µm,19.0s
KMI Kunming 58.43 69 P **P** **09 26 09.9 +0.8**
KMI pP sP 09 26 14.6 +2.3
KMI sP pP 09 26 15.9 +4.5
KMI PP **PP** **09 28 23.9 +5.5**
KMI S **S** **09 34 14.3 +1.3**
KMI SS **SS** **09 38 08.8 +3.5**
KMI PMZ
comp=Z,33nm,0.8s
KMI PMZ
comp=Z,280nm,4.3s
KMI LN
comp=Z,810nm,19.4s
KMI LE
comp=Z,860nm,21.4s
KMI LZ
comp=Z,1µm,21.4s
KULM Kulim 58.61 92 ⇓P **P** **09 26 11.0 +0.8**
KULM Kulim 58.61 92 *e*P **P** **09 26 09.6 -0.6**
comp=Z,44nm,1.3s
KULM Kulim 58.61 92 *e*P **P** **09 26 09.6 -0.6**
comp=Z,44nm,1.3s
KULM LR LR
comp=Z,3µm,19.0s
MNSI Mandailing Nat 58.62 97 P **P** **09 26 11.5 +1.2**
KHON Khomkaen 59.00 79 P **P** **09 26 14.1 +1.3**
comp=Z,24nm,1.1s
IPM Ipoh 59.15 93 PFAKE 09 26 30.0 +16
IPM LR LR
comp=Z,2µm,20.0s
CD2 Chengdu 59.43 62 *e*P **P** **09 26 14.5 -1.2**
CD2 sP sP 09 26 19.3 +0.3
CD2 PcS **PcS** **09 31 04.5 -1.2**
CD2 S **S** **09 34 24.5 -1.0**
CD2 sS sS 09 34 29.9 +0.5
CD2 SS **SS** **09 38 20.8 +0.3**
CD2 PMZ
comp=Z,50nm,0.5s
CD2 PMZ
comp=Z,280nm,8.5s
CD2 LN
comp=Z,4µm,18.8s
CD2 LE
comp=Z,2µm,15.4s
CD2 LZ
comp=Z,4µm,17.9s
PPI Padang Panjang 59.74 98 P **P** **09 26 19.0 +1.0**
LZH Lanzhou 59.86 56 ⇑P **P** **09 26 19.8 +1.0**
LZH pP sP 09 26 23.0 +1.0
LZH sP pP 09 26 24.5 +3.4
LZH PP **PP** **09 28 34.0 +3.2**
LZH S **S** **09 34 29.3 -1.8**
LZH sS sS 09 34 37.0 +2.0
LZH ScS **ScS** **09 36 09.0 -1.2**
LZH SS **SS** **09 38 27.0 -0.3**
LZH PMZ
comp=Z,86nm,1.3s
LZH PMZ
comp=Z,440nm,6.5s
LZH LN
comp=Z,2µm,14.2s
LZH LE
comp=Z,4µm,15.6s
LZH LZ
comp=Z,4µm,17.5s
PDSI Padang 59.92 99 P **P** **09 26 21.7 +2.4**
FRIM Kepong 60.01 94 ⇑P **P** **09 26 21.2 +1.3**
SKNT Sakolnakorn 60.04 78 P **P** **09 26 19.4 -0.7**
comp=Z,60nm,1.2s
BKNI Bangkinang 60.15 97 PFAKE 09 26 30.0 +9.1
BKNI LR LR
comp=Z,1µm,18.0s
MOY Mondy 60.80 38 *e*P **P** **09 26 24.7 -0.1**
MOY pmax pmax
comp=Z,76nm,2.7s
UBPT Khong Chiam 61.65 80 P **P** **09 26 31.1 +0.1**
comp=Z,23nm,1.3s
ZAK Zakamensk 61.85 40 *e*P **P** **09 26 31.1 -0.9**
ZAK pmax pmax
comp=Z,11nm,1.7s
KGM Kluang 61.94 95 ⇑P **P** **09 26 34.2 +1.1**
GYA Guiyang 61.95 67 ⇓*i*P **P** **09 26 32.5 -0.6**
GYA ScP **ScP** **09 31 16.4 +0.1**
GYA S **S** **09 34 57.5 -0.5**
GYA SS **SS** **09 39 01.8 +1.5**
GYA PMZ
comp=Z,60nm,1.0s
GYA PMZ
comp=Z,140nm,6.0s
GYA LN
comp=Z,3µm,19.8s
GYA LE
comp=Z,1µm,20.2s
GYA LZ
comp=Z,2µm,20.8s
TLY Talaya 62.39 38 P **P** **09 26 36.3 +0.8**
comp=Z,2.4nm,0.5s,baz=266,slow=14,SNR=1.7
TLY Talaya 62.39 38*c i*P **P** **09 26 35.1 -0.4**
TLY *e* 09 28 49.6
TLY *e*S S 09 34 53.3 -9.3
TLY *e* 09 36 29.6
TLY pmax pmax
comp=Z,31nm,2.3s
TLY MLR MLR
comp=Z,6µm,17.0s
TLY Talaya 62.39 38 *e*P **P** **09 26 36.3 +0.8**
TLY LR LR
comp=Z,8µm,19.0s
MYKOM Kota Tinggi 62.51 95 ⇓P **P** **09 26 38.5 +1.6**
MYKOM Kota Tinggi 62.51 95 *e*P **P** **09 26 37.4 +0.6**
comp=Z,72nm,1.3s
MYKOM Kota Tinggi 62.51 95 *e*P **P** **09 26 37.4 +0.6**
comp=Z,72nm,1.3s
MYKOM LR LR
comp=Z,1µm,20.0s
KSI Kapahiang 62.73 101 P **P** **09 26 41.3 +2.9**
IRK Irkutsk 62.90 38 *e*P **P** **09 26 37.8 -1.1**
IRK pmax pmax
comp=Z,78nm,1.7s
NRIK Noril'sk 63.02 17 P **P** **09 26 38.4 -0.9**
comp=Z,57nm,0.9s,baz=218,slow=4.8,SNR=46
NRIK LR LR 09 59 42.7
comp=Z,2µm,18.5s,baz=231,slow=41
SONA0 Songino Array 63.34 43 *e*P **P** **09 26 41.6 -0.4**
comp=Z,43nm,1.0s
SONA0 Songino Array 63.34 43 *e*P **P** **09 26 41.6 -0.4**
comp=Z,43nm,1.0s
SONM Songino Array 63.34 43 P **P** **09 26 41.6 -0.4**
comp=Z,31nm,0.9s,baz=256,slow=6.8,SNR=50
SONM LR LR 09 58 54.9
comp=Z,5µm,18.6s,baz=266,slow=40
SONA1 Songino Array 63.34 43 *e*P **P** **09 26 41.7 -0.4**
SONA1 Songino Array 63.34 43 *e*P **P** **09 26 41.7 -0.4**
LHSI Lahat 63.67 101 P **P** **09 26 46.1 +1.5**
ULN Ulaanbaatar 63.78 43 ⇓*i*P **P** **09 26 45.1 +0.1**
ULN pmax pmax
comp=Z,25nm,1.2s
ULN Ulaanbaatar 63.78 43 P **P** **09 26 44.7 -0.2**
SNR=14
ULN Ulaanbaatar 63.78 43 P **P** **09 26 44.7 -0.2**
SNR=14
ULN P **P** **09 26 44.7 -0.2**
SNR=14
ULN P **P** **09 26 44.7 -0.2**
SNR=14
ULN Ulaanbaatar 63.78 43 P **P** **09 26 44.7 -0.2**
SNR=14
ULN Ulaanbaatar 63.78 43 *e*P **P** **09 26 45.0 +0.1**
comp=Z,20nm,1.1s
ULN LR LR
comp=Z,5µm,19.0s
XAN Xi'an 63.90 58 P **P** **09 26 45.5 -0.3**
XAN pP sP 09 26 49.5 +0.4
XAN sP pP 09 26 52.1 +3.9
XAN PP **PP** **09 29 08.5 +2.2**
XAN S **S** **09 35 22.6 +0.5**
XAN sS sS 09 35 29.5 +3.5
XAN SS **SS** **09 39 33.5 +3.1**
XAN PMZ
comp=Z,36nm,1.2s
XAN PMZ
comp=Z,270nm,8.1s
XAN LN
comp=Z,3µm,17.3s
XAN LE
comp=Z,3µm,16.8s
XAN LZ
comp=Z,3µm,17.8s
CMLA Cha da Macela 64.04 306 *i* P P 09 26 41.4 -5.2
CMLA Cha da Macela 64.04 306 PFAKE 09 27 00.0 +13
CMLA LR LR
comp=Z,2µm,22.0s
ENH Enshi 64.36 63 *e*P **P** **09 26 48.5 -0.4**
comp=Z,72nm,1.2s
ENH Enshi 64.36 63 *e*P **P** **09 26 48.5 -0.4**
comp=Z,72nm,1.2s
ENH LR LR
comp=Z,2µm,21.0s
LWLI Liwa 64.53 102 P **P** **09 26 53.1 +2.8**
BTO Baotou 65.07 51 *e*P **P** **09 26 52.3 -1.2**
KASI Kota Agung 65.09 103 P **P** **09 26 55.5 +1.6**
QIZ Qiongzhong 65.37 75 P **P** **09 26 55.8 +0.1**
QIZ S **S** **09 35 38.3 -2.3**
QIZ sS **sS** **09 35 47.4 +2.9**
QIZ PMZ
comp=Z,24nm,1.5s
QIZ LE
comp=Z,930nm,19.4s
QIZ LZ
comp=Z,1µm,48.9s
QIZ Qiongzhong 65.37 75 *e*P **P** **09 26 55.7 +0.1**
comp=Z,61nm,1.4s
QIZ Qiongzhong 65.37 75 *e*P **P** **09 26 55.7 +0.1**
comp=Z,61nm,1.4s
QIZ LR LR
comp=Z,800nm,20.0s
SPA0 Spitsbergen Ar 66.14 354 *e*P **P** **09 26 59.3 -0.3**
SPA0 Spitsbergen Ar 66.14 354 *e*P **P** **09 26 59.3 -0.3**
HHC Hu-ho-hao-te 66.25 51 *e*P **P** **09 27 01.3 +0.2**
HHC PP **PP** **09 29 28.8 +1.9**
HHC S **S** **09 35 49.5 -1.4**
HHC sS sS 09 35 55.5 +0.7
HHC SS **SS** **09 40 07.3 +0.4**
HHC PMZ
comp=Z,24nm,1.0s
HHC PMZ
comp=Z,590nm,7.2s
HHC LN
comp=Z,4µm,20.2s
HHC LE
comp=Z,2µm,18.0s
HHC LZ
comp=Z,2µm,18.2s
TIY Taiyuan 66.82 55 *e*P **P** **09 27 07.1 +2.3**
TIY pP **sP** **09 27 11.6 +3.6**
TIY S **S** **09 36 00.6 +2.7**
TIY PMZ
comp=Z,340nm,3.6s
TIY LN
comp=Z,3µm,14.6s
TIY LE
comp=Z,770nm,13.8s
TIY LZ
comp=Z,3µm,22.7s
KBS Kingsbay 67.23 354 *e*P **P** **09 27 06.6 +0.1**
KBS pmax pmax
comp=Z,58nm,1.2s
KBS Kingsbay 67.23 354 *e*P **P** **09 27 06.6 +0.1**
comp=Z,58nm,1.3s
KBS Kingsbay 67.23 354 *e*P **P** **09 27 06.6 +0.1**
comp=Z,58nm,1.3s
KBS LR LR
comp=Z,1µm,19.0s
CBJI Citeko 67.59 103 P **P** **09 27 13.5 +3.6**
GZH Guangzhou 68.21 70 *e*P **P** **09 27 18.1 +4.4**
GZH S **S** **09 36 22.5 +7.7**
WHN Wuhan 68.55 62 P **P** **09 27 16.1 +0.4**
WHN S **S** **09 36 20.4 +1.8**
WHN PMZ
comp=Z,200nm,1.4s
WHN PMZ
comp=Z,900nm,3.9s
WHN LN
comp=Z,4µm,14.4s
WHN LE
comp=Z,5µm,18.2s
WHN LZ
comp=Z,4µm,18.3s
KSM Kuching 68.85 94 *e*P **P** **09 27 17.9 0.0**
comp=Z,41nm,1.2s
KSM Kuching 68.85 94 *e*P **P** **09 27 17.9 0.0**
comp=Z,41nm,1.2s
KSM LR LR
comp=Z,1µm,21.0s
SCO Scoresbysund 68.90 341 *i* P **P** **09 27 18.3 +1.2**
SCO pmax pmax
comp=Z,51nm,1.6s
SCO Scoresbysund 68.90 341 *i* P **P** **09 27 18.3 +1.2**
comp=Z,51nm,1.6s
SCO Scoresbysund 68.90 341 *i* P **P** **09 27 18.3 +1.2**
BJT Baijiatuao 69.75 52 *e*P **P** **09 27 23.6 +0.6**
BJT pmax pmax
comp=Z,58nm,1.3s
BJT MLR MLR
comp=Z,4µm,18.0s
BJT Baijiatuao 69.75 52 *e*P **P** **09 27 23.6 +0.6**
comp=Z,58nm,1.3s
BJT Baijiatuao 69.75 52 *e*P **P** **09 27 23.6 +0.6**
comp=Z,58nm,1.3s
BJT LR LR
comp=Z,4µm,18.0s
BJI Beijing 69.75 52 P **P** **09 27 23.8 +0.8**
BJI S **S** **09 36 31.1 -1.4**
BJI SS **SS** **09 41 00.8 0.0**
BJI PMZ
comp=Z,26nm,1.4s
BJI PMZ
comp=Z,430nm,4.1s
BJI LN
comp=Z,5µm,22.2s
BJI LE
comp=Z,3µm,21.3s
BJI LZ
comp=Z,3µm,28.0s
KPJI Karang Pucung 69.83 103 P **P** **09 27 26.3 +2.4**
STKI Sintang 70.32 95 P **P** **09 27 29.1 +2.2**
SBUM Sibu 70.49 92 ⇓P **P** **09 27 29.6 +1.6**
SBUM Sibu 70.49 92 PFAKE 09 27 40.0 +12
SBUM LR LR
comp=Z,1µm,19.0s
DAG Danmarks Havn 70.56 348 *i* P **P** **09 27 26.2 -1.1**
DAG pmax pmax
comp=Z,130nm,1.4s
DAG Danmarks Havn 70.56 348 *i* P **P** **09 27 26.2 -1.1**
comp=Z,56nm,1.4s
TIA Tai'an 70.60 56 ⇓P **P** **09 27 28.8 +0.5**
TIA PP **PP** **09 30 06.8 +2.2**
TIA S **S** **09 36 45.6 +2.9**
TIA PMZ
comp=Z,50nm,1.5s
TIA PMZ
comp=Z,340nm,4.3s
TIA LN
comp=Z,3µm,18.4s
TIA LE
comp=Z,1µm,18.4s
TIA LZ
comp=Z,620nm,14.3s
HIA Hailar 72.28 42 PFAKE 09 27 50.0 +12
HIA LR LR
comp=Z,3µm,21.0s
NJ2 Nanjing 72.30 60 *e*P **P** **09 27 39.4 +0.8**
NJ2 pP **sP** **09 27 41.4 -0.4**
NJ2 S **S** **09 36 57.9 -4.4**
NJ2 PMZ
comp=Z,25nm,1.0s
NJ2 LN
comp=Z,3µm,18.4s
NJ2 LE
comp=Z,3µm,19.5s
NJ2 LZ
comp=Z,2µm,23.9s
QZH Quanzhou 72.78 68 ⇑*i*P P 09 27 35.8 -5.8
QZH PP **PP** **09 30 17.3 -6.2**
QZH S S 09 36 58.3 -10
QZH Quanzhou 72.78 68 SS SS 09 41 40.9 -7.1
QZH pmax pmax
comp=Z,570nm,4.7s
QZH LR LR
comp=N,3µm,15.7s
QZH LR LR
comp=E,3µm,18.7s
QZH LR LR
comp=Z,3µm,18.4s
KKM Kota Kinabalu 73.60 88 PFAKE 09 28 00.0 +13
KKM LR LR
comp=Z,1µm,21.0s
DL2 Dalian 74.02 53 ⇑*i*P **P** **09 27 48.0 -0.6**
DL2 PP **PP** **09 30 34.9 +1.2**
DL2 S **S** **09 37 22.6 +0.9**
DL2 SS **SS** **09 42 10.3 +4.2**
DL2 PMZ
comp=Z,72nm,1.1s
DL2 PMZ
comp=Z,230nm,5.2s
DL2 LN
comp=Z,1µm,15.1s
DL2 LE
comp=Z,2µm,18.2s
DL2 LZ
comp=Z,3µm,18.4s
SSE Sheshan 74.37 61 P **P** **09 27 50.8 0.0**
SSE PP **PP** **09 30 38.9 +2.0**
SSE S **S** **09 37 26.8 +0.9**
SSE SS **SS** **09 42 14.4 +2.6**
SSE PMZ
comp=Z,20nm,0.8s
SSE PMZ
comp=Z,140nm,5.4s
SSE LN
comp=Z,2µm,15.4s
SSE LE
comp=Z,1µm,15.6s
SSE LZ
comp=Z,1µm,18.1s
SUMG Summit 74.48 342 *i* P **P** **09 27 50.4 -0.8**
SUMG pmax pmax
comp=Z,110nm,1.0s
SUMG Summit 74.48 342 *i* P **P** **09 27 50.4 -0.8**
comp=Z,111nm,1.0s
SUMG Summit 74.48 342 *e*P **P** **09 27 50.3 -0.9**
comp=Z,139nm,1.1s
SUMG Summit 74.48 342 *e*P **P** **09 27 50.3 -0.9**
comp=Z,139nm,1.1s
SUMG LR LR
comp=Z,800nm,20.0s
TPUB Ta-pu 74.84 69 PFAKE 09 28 10.0 +16
TPUB LR LR
comp=Z,1µm,20.0s
SSLB Suanglung 75.07 69 PFAKE 09 28 10.0 +15
SSLB LR LR
comp=Z,2µm,19.0s
SNY Shenyang 75.28 50 ⇑P **P** **09 27 55.1 -0.8**
SNY S **S** **09 37 35.9 +0.3**
SNY SS **SS** **09 42 24.0 -1.1**
SNY PMZ
comp=Z,42nm,0.9s
SNY PMZ
comp=Z,300nm,9.0s
SNY LN
comp=Z,3µm,19.1s
SNY LE
comp=Z,2µm,22.0s
SNY LZ
comp=Z,5µm,18.2s
CLNS Chul'man 75.30 34 *e*P **P** **09 27 57.0 +1.2**
CLNS pmax pmax
comp=Z,20nm,1.1s
CLNS MLR MLR
comp=Z,2µm,14.0s
TWG Pinlang 75.32 70 PFAKE 09 28 10.0 +14
TWG LR LR
comp=Z,4µm,20.0s
YHNB Yeheng 75.33 68 PFAKE 09 28 10.0 +13
YHNB LR LR
comp=Z,2µm,21.0s
TATO Taipei 75.39 67 PFAKE 09 28 10.0 +13
TATO LR LR
comp=Z,2µm,22.0s
YULB Yu-li 75.44 69 *e*P **P** **09 27 56.4 -0.8**
comp=Z,14nm,0.9s
YULB Yu-li 75.44 69 *e*P **P** **09 27 56.4 -0.8**
comp=Z,14nm,0.9s
YULB LR LR
comp=Z,1µm,20.0s
NACB Ninganchiao 75.60 68 PFAKE 09 28 10.0 +12
NACB LR LR
comp=Z,3µm,21.0s
MYLDM Lahad Datu 76.01 88 PFAKE 09 28 10.0 +9.4
MYLDM LR LR
comp=Z,2µm,19.0s
CN2 Changchun 76.47 48 *e*P **P** **09 28 03.5 +0.8**
CN2 *e*S **S** **09 37 46.6 -2.2**
CN2 SS **SS** **09 42 43.4 +0.2**
CN2 PMZ
comp=Z,30nm,0.9s
CN2 LN
comp=Z,2µm,16.0s
CN2 LE
comp=Z,3µm,16.0s
CN2 LZ
comp=Z,3µm,17.0s
TIXI Tiksi 76.62 19 ⇓*e*P **P** **09 28 01.8 -1.2**
TIXI pmax pmax
comp=Z,25nm,0.9s
TIXI Tiksi 76.62 19 *e*P **P** **09 28 02.3 -0.7**
comp=Z,21nm,0.9s
TIXI Tiksi 76.62 19 *e*P **P** **09 28 02.3 -0.7**
comp=Z,21nm,0.9s
TIXI LR LR
comp=Z,3µm,18.0s
YOJ Yonaguni jima 76.83 68 PFAKE 09 28 20.0 +15
YOJ LR LR
comp=Z,1µm,20.0s
YAK Yakutsk 77.46 29 LR LR 10 06 57.0
comp=Z,4µm,18.3s,baz=269,slow=39
YAK Yakutsk 77.46 29 *e*P **P** **09 28 07.8 0.0**
YAK *e**PP **PcP** **09 28 14.5 -3.7**
YAK *e* 09 28 21.5
YAK *e* 09 31 02.4
YAK *e*PPP PPP 09 32 51.9
YAK *e*S **S** **09 37 57.7 -1.1**
YAK *e* 09 38 21.1
YAK *e*SS **SS** **09 43 01.7 +4.5**
YAK *e*SSS SSS 09 46 22.2
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,66nm,1.8s
YAK pmax pmax
comp=N,63nm,4.0s
YAK pmax pmax
comp=E,81nm,3.9s
YAK smax smax
comp=N,424nm,6.4s
YAK smax smax
comp=E,303nm,6.7s
YAK MLR MLR
comp=Z,4µm,17.0s
YAK MLR MLR
comp=N,1µm,16.0s
YAK MLR MLR
comp=E,2µm,18.0s
YAK Yakutsk 77.46 29 PFAKE 09 28 20.0 +12
YAK LR LR
comp=Z,4µm,19.0s
INCN Inchon 78.09 54 PFAKE 09 28 20.0 +8.1
INCN LR LR
comp=Z,3µm,18.0s
SFJD Kangerlussuaq 78.81 336 *i* P **P** **09 28 14.8 -0.4**
SFJD Kangerlussuaq 78.81 336 *i* P **P** **09 28 14.8 -0.4**
SFJD Kangerlussuaq 78.81 336 *e*P **P** **09 28 14.1 -1.1**
comp=Z,53nm,1.3s
SFJD Kangerlussuaq 78.81 336 *e*P **P** **09 28 14.2 -1.1**
comp=Z,53nm,1.3s
SFJD LR LR
comp=Z,900nm,19.0s
KS01 Wonju Array Si 79.08 54 *e*P **P** **09 28 17.0 -0.3**
KS01 Wonju Array Si 79.08 54 *e*P **P** **09 28 17.1 -0.3**
KSRS Korea Array 79.11 54 P **P** **09 28 16.9 -0.6**
comp=Z,15nm,1.0s,baz=274,slow=5.6,SNR=43

KSRS LR LR 10 09 34.3
comp=Z,2µm,19.0s,baz=290,slow=40
RCBR Riachuelo 79.33 261 PFAKE 09 28 30.0 +11
RCBR LR LR
comp=Z,2µm,20.0s
MDJ Mudanjiang 79.34 47 P **P** **09 28 19.0 +0.4**
MDJ pP sP 09 28 23.0 +1.1
MDJ PcP **PcP** **09 28 26.4 -0.4**
MDJ PP **PP** **09 31 15.5 -2.8**
MDJ S **S** **09 38 19.1 -0.6**
MDJ ScS **ScS** **09 38 40.4 -1.9**
MDJ PMZ
comp=Z,31nm,1.0s
MDJ PMZ
comp=Z,140nm,8.6s
MDJ LN
comp=Z,3µm,20.6s
MDJ LE
comp=Z,730nm,19.4s
MDJ LZ
comp=Z,2µm,18.3s
MDJ Mudanjiang 79.34 47 *e*P **P** **09 28 18.8 +0.2**
comp=Z,43nm,1.1s
MDJ Mudanjiang 79.34 47 *e*P **P** **09 28 18.8 +0.2**
comp=Z,43nm,1.1s
MDJ LR LR
comp=Z,3µm,20.0s
KAPI Kappang 79.58 98 P **P** **09 28 19.8 -0.6**
comp=Z,5.0nm,0.3s,baz=254,slow=3.4,SNR=4.9
KAPI Kappang 79.58 98 *e*P **P** **09 28 19.9 -0.6**
comp=Z,44nm,1.3s
KAPI Kappang 79.58 98 *e*P **P** **09 28 19.9 -0.6**
comp=Z,44nm,1.3s
KAPI LR LR
comp=Z,900nm,20.0s
KULLO Kullorsuaq 79.67 344 *i* P **P** **09 28 19.0 -0.9**
KULLO pmax pmax
comp=Z,100nm,1.1s
KULLO Kullorsuaq 79.67 344 *i* P **P** **09 28 19.0 -0.9**
comp=Z,104nm,1.1s
KLR Kul'dur 80.12 42 *i* P **P** **09 28 21.2 -1.6**
USRK Ussuriysk Ar. 81.10 47 P **P** **09 28 27.0 -1.1**
comp=Z,15nm,0.9s,baz=258,slow=6.8,SNR=30
USRK LR LR 10 10 04.0
comp=Z,2µm,18.9s,baz=279,slow=40
JOW Kunigami 81.13 65 PFAKE 09 28 40.0 +11
JOW LR LR
comp=Z,1µm,21.0s
GTOI Gorontalo 81.40 91 P **P** **09 28 27.6 -2.7**
SYO Syowa Base 82.07 181⇑ *e*P **P** **09 28 31.6 -0.9**
SYO Syowa Base 82.07 181⇑ *e*pP pP 09 28 35.0 0.0
MAW Mawson 82.10 172 P **P** **09 28 33.7 +1.0**
comp=Z,5.1nm,0.9s,baz=10,slow=4.6,SNR=4.8
MAW LR LR 10 01 02.3
comp=Z,1µm,19.4s,baz=339,slow=33
MAW Mawson 82.10 172 *e*P **P** **09 28 33.7 +1.0**
MAW pmax pmax
comp=Z,18nm,1.9s
MAW Mawson 82.10 172 *e*P **P** **09 28 33.7 +1.0**
comp=Z,18nm,1.9s
MAW Mawson 82.10 172 *e*P **P** **09 28 33.7 +1.0**
comp=Z,18nm,1.9s
JNU Nakatsue 82.21 58 *e*P **P** **09 28 34.2 -0.1**
comp=Z,75nm,1.4s
JNU Nakatsue 82.21 58 *e*P **P** **09 28 34.2 -0.1**
comp=Z,75nm,1.4s
JNU LR LR
comp=Z,2µm,18.0s
EDFI Ende, Flores 82.37 101 P **P** **09 28 34.8 -0.7**
HABR Khabarovsk 82.40 42 *e*P **P** **09 28 33.0 -1.9**
HABR *e*PP **pP** **09 28 36.3 -1.0**
HABR *e* 09 28 37.8
HABR *e* 09 31 41.8
HABR *e*S **S** **09 38 50.4 -1.1**
HABR *e*SS **SS** **09 44 11.7 -0.1**
HABR *e*SSS SSS 09 47 40.3
HABR MLR MLR
comp=Z,3µm,20.0s
MMRI Maumere 82.87 101 PFAKE 09 28 50.0 +12
MMRI LR LR
comp=Z,700nm,20.0s
NKL Nikolayevsk 84.82 37 *e*P **P** **09 28 45.0 -2.2**
NKL *e* 09 39 14.0
NKL *e* 09 44 46.0
NKL pmax pmax
comp=Z,39nm,1.0s
SOEI Soe 85.08 101 P P 09 28 56.4 +7.0
SOEI Soe 85.08 101 *e*P **P** **09 28 49.5 +0.1**
comp=Z,126nm,1.2s
SOEI Soe 85.08 101 *e*P **P** **09 28 49.5 +0.1**
comp=Z,126nm,1.2s
NVL N'lazarevskaya 86.29 190 *e*P **P** **09 28 57.3 +3.3**
INU Inuyama 86.71 55 *e*P **P** **09 28 57.2 +0.2**
comp=Z,46nm,1.3s
INU Inuyama 86.71 55 *e*P **P** **09 28 57.1 +0.2**
comp=Z,46nm,1.3s
INU LR LR
comp=Z,1µm,18.0s
MJB9 Matsu-Tunnel 87.35 53 *e*P **P** **09 28 59.8 -0.3**
comp=Z,14nm,1.7s
MJB9 Matsu-Tunnel 87.35 53 *e*P **P** **09 28 59.8 -0.3**
comp=Z,14nm,1.7s
MAJO Matsushiro 87.35 53 *e*P **P** **09 28 59.8 -0.3**
MAJO pmax pmax
comp=Z,55nm,1.7s
MAJO Matsushiro 87.35 53 *e*P **P** **09 28 59.8 -0.3**
comp=Z,55nm,1.7s
MAJO Matsushiro 87.35 53 *e*P **P** **09 28 59.8 -0.3**
comp=Z,55nm,1.7s
MAJO LR LR
comp=Z,2µm,21.0s
MAT Matsushiro 87.35 53 P **P** **09 29 00.0 -0.2**
MAT S **S** **09 39 38.0 -3.3**
MJAR Matsushiro Arr 87.35 53 P **P** **09 28 59.8 -0.3**
comp=Z,9.6nm,1.0s,baz=286,slow=5.6,SNR=20
MJAR LR LR 10 13 15.8
comp=Z,1µm,19.1s,baz=305,slow=39
SEY Seymchan 87.40 25 *c*e**P** **P** **09 28 59.6 -0.2**
YSS Yuzh-Sakhalins 87.82 42 PFAKE 09 29 10.0 +7.9
YSS LR LR
comp=Z,2µm,18.0s
MA2 Magadan 88.04 29 *e*P **P** **09 29 03.3 +0.4**
RES Resolute Bay 88.18 349 PFAKE 09 29 10.0 +6.7
RES LR LR
comp=Z,900nm,19.0s
FITZ Fitzroy Crossi 88.44 109 P **P** **09 29 05.5 -0.1**
comp=Z,29nm,1.0s,baz=282,slow=5.0,SNR=16
FITZ Fitzroy Crossi 88.44 109 *e*P **P** **09 29 05.4 -0.1**
comp=Z,32nm,1.0s
FITZ Fitzroy Crossi 88.44 109 *e*P **P** **09 29 05.4 -0.1**
comp=Z,32nm,1.0s
FITZ LR LR
comp=Z,1µm,20.0s
ASAJ Asahikawa 88.54 45 PFAKE 09 29 20.0 +14
ASAJ LR LR
comp=Z,2µm,20.0s
ERM Erimo 89.55 47 PFAKE 09 29 20.0 +10
ERM LR LR
comp=Z,4µm,19.0s
SCHQ Schefferville 89.60 327 P **P** **09 29 09.6 -0.8**
comp=Z,13nm,1.2s,baz=54,slow=5.3,SNR=5.5
SCHQ LR LR 10 09 21.0
comp=Z,642nm,19.5s,baz=86,slow=36
SCHQ Schefferville 89.60 327 *e*P **P** **09 29 10.1 -0.3**
comp=Z,41nm,1.4s
SCHQ Schefferville 89.60 327 *e*P **P** **09 29 10.1 -0.3**
comp=Z,41nm,1.4s
SNAA Sanae 89.81 193 *e*P **P** **09 29 10.6 -0.3**
SNAA pmax pmax
comp=Z,9.0nm,1.0s
SNAA MLR MLR
comp=Z,2µm,19.0s
SNAA Sanae 89.81 193 *e*P **P** **09 29 10.6 -0.3**
comp=Z,8.8nm,1.0s
SNAA Sanae 89.81 193 *e*P **P** **09 29 10.6 -0.3**
comp=Z,8.8nm,1.0s
SNAA LR LR
comp=Z,2µm,19.0s
BILL Bilibino 89.81 18 *c*e**P** **P** **09 29 10.8 -0.3**
BILL *e* 09 32 42.7
BILL *e*PPP PPP 09 34 42.4
BILL *e*S S 09 39 52.6 -11
BILL pmax pmax
comp=Z,23nm,1.0s
BILL Bilibino 89.81 18 *e*P **P** **09 29 11.0 -0.1**
comp=Z,25nm,1.1s
BILL Bilibino 89.81 18 *e*P **P** **09 29 11.0 -0.1**
comp=Z,25nm,1.1s
BILL LR LR
comp=Z,2µm,19.0s
CBIJ Chichi jima 93.14 61 PFAKE 09 29 40.0 +13
CBIJ LR LR
comp=Z,800nm,20.0s
BDFB Brasilia 93.23 255 LR LR 10 09 09.0
comp=Z,1µm,18.4s,baz=78,slow=34
BDFB Brasilia 93.23 255 PFAKE 09 29 40.0 +12
BDFB LR LR
comp=Z,3µm,20.0s
CASY Casey 93.80 158 PFAKE 09 29 40.0 +11
CASY LR LR
comp=Z,2µm,19.0s
EMMW East Machias 93.90 318 PFAKE 09 29 40.0 +10
EMMW LR LR
comp=Z,2µm,21.0s
PEA0B Petropavlovsk- 94.33 33 PFAKE 09 29 40.0 +7.7
PEA0B LR LR
comp=Z,3µm,20.0s
SPB Sao Paulo 94.42 247 PFAKE 09 29 40.0 +6.7
SPB LR LR
comp=Z,4µm,18.0s
PET Petropavlovsk 94.88 33 PFAKE 09 29 50.0 +15
PET LR LR
comp=Z,2µm,19.0s
WVL Waterville 95.39 318 PFAKE 09 29 50.0 +13
WVL LR LR
comp=Z,2µm,19.0s
BBSR BB Station 96.38 305 PFAKE 09 29 50.0 +7.9
BBSR LR LR
comp=Z,1µm,20.0s
WR1 Warramunga Arr 96.87 109 *e*P **P** **09 29 43.5 -1.0**
comp=Z,21nm,1.5s
WR1 Warramunga Arr 96.87 109 *e*P **P** **09 29 43.5 -1.0**
comp=Z,21nm,1.5s
WR1 *e*PP **PP** **09 33 45.8 +5.8**
WRA Warramunga Arr 96.87 109 P **P** **09 29 43.5 -1.0**
comp=Z,4.7nm,0.9s,baz=296,slow=3.7,SNR=15
WRA PP **PP** **09 33 45.8 +5.8**
comp=Z,4.0nm,1.2s,baz=282,slow=8.8,SNR=4.9
WRA LR LR 10 11 29.4
comp=Z,379nm,18.1s,baz=270,slow=34
FFD Franklin Falls 97.16 318 PFAKE 09 30 00.0 +15
FFD LR LR
comp=Z,2µm,20.0s
AS31 Alice Springs 97.20 113 *e*P **P** **09 29 44.9 -1.1**
comp=Z,1.9nm,1.3s
AS31 Alice Springs 97.20 113 *e*P **P** **09 29 44.9 -1.1**
comp=Z,1.9nm,1.3s
ASAR Alice Springs 97.20 113 P **P** **09 29 44.9 -1.1**
comp=Z,2.2nm,0.9s,baz=291,slow=4.0,SNR=10
ASAR PP **PP** **09 33 45.6 +3.0**
comp=Z,1.9nm,1.1s,baz=275,slow=8.0,SNR=4.2
ASAR LR LR 10 15 58.7
comp=Z,626nm,18.1s,baz=284,slow=37
WES Weston 97.41 317 PFAKE 09 30 00.0 +13
WES LR LR
comp=Z,1µm,18.0s
HNH Hanover 97.47 318 PFAKE 09 30 00.0 +13
HNH LR LR
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 97.52 317 PFAKE 09 30 00.0 +13
HRV LR LR
comp=Z,800nm,19.0s
BRYW Bryant College 97.75 316 PFAKE 09 30 00.0 +12
BRYW LR LR
comp=Z,3µm,21.0s
FRNY Flat Rock 97.80 320 PFAKE 09 30 00.0 +12
FRNY LR LR
comp=Z,2µm,19.0s
QUA2 Belchertown 98.14 317 PFAKE 09 30 00.0 +10
QUA2 LR LR
comp=Z,800nm,18.0s
TNA Tin City 98.33 12 PFAKE 09 30 00.0 +10
TNA LR LR
comp=Z,1µm,18.0s
ANWB Willy Bob 98.49 290 PFAKE 09 30 00.0 +8.1
ANWB LR LR
comp=Z,2µm,21.0s
INK Inuvik 98.58 358 P Pdif 09 29 51.2 0.0
comp=Z,4.2nm,1.2s,baz=6.7,slow=9.4,SNR=4.7
INK PP **PP** **09 33 51.7 +0.7**
comp=Z,4.9nm,1.1s,baz=14,slow=12,SNR=3.8
INK Inuvik 98.58 358 *e*P Pdif 09 29 51.4 +0.2
INK *e* 09 33 52.4
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 98.58 358 *e*P Pdif 09 29 51.4 +0.2
comp=Z,7.4nm,1.3s
INK Inuvik 98.58 358 *e*P Pdif 09 29 51.4 +0.1
comp=Z,7.4nm,1.3s
INK LR LR
comp=Z,600nm,20.0s
FDF Fort de France 98.73 287 PFAKE 09 30 00.0 +6.9
FDF LR LR
comp=Z,1µm,20.0s
TRY Troy 98.81 318 PFAKE 09 30 00.0 +7.2
TRY LR LR
comp=Z,2µm,20.0s
COLD Coldfoot 99.26 5 PFAKE 09 30 10.0 +16
COLD LR LR
comp=Z,1µm,20.0s
SMRT St. Maarten 99.55 291 PFAKE 09 30 10.0 +13
SMRT LR LR
comp=Z,2µm,21.0s
SEUS St. Eustatius 99.63 291 PFAKE 09 30 10.0 +13
SEUS LR LR
comp=Z,3µm,20.0s
FCC Fort Churchill 99.74 338 PFAKE 09 30 10.0 +13
FCC LR LR
comp=Z,800nm,21.0s
PAL Palisades 99.75 316 PFAKE 09 30 10.0 +13
PAL LR LR
comp=Z,2µm,20.0s
SABA Saba 99.83 291 PFAKE 09 30 10.0 +12
SABA LR LR
comp=Z,3µm,20.0s
ODNJ Ogdensburg 100.19 316 PFAKE 09 30 10.0 +11
ODNJ LR LR
comp=Z,2µm,19.0s
FYU Fort Yukon 100.23 3 PFAKE 09 30 10.0 +11
FYU LR LR
comp=Z,600nm,20.0s
BRNJ Basking Ridge 100.35 316 PFAKE 09 30 10.0 +10
BRNJ LR LR
comp=Z,1µm,18.0s
KSPA Keystone Colle 100.74 317 PFAKE 09 30 10.0 +8.5
KSPA LR LR
comp=Z,1µm,20.0s
STVI Saint Thomas 101.16 292 PFAKE 09 30 20.0 +16
STVI LR LR
comp=Z,1µm,20.0s
SADO Sadowa 101.28 321 PFAKE 09 30 20.0 +16
SADO LR LR
comp=Z,1µm,18.0s
PSUB Penn St. - Bra 101.30 316 PFAKE 09 30 20.0 +16
PSUB LR LR
comp=Z,1µm,18.0s
MLY Manley 101.37 5 PFAKE 09 30 10.0 +6.1
MLY LR LR
comp=Z,1µm,21.0s
PTGA Pitinga 101.52 272 PFAKE 09 30 20.0 +15
PTGA LR LR
comp=Z,1µm,18.0s
MDM Murphy Dome 101.65 4 PFAKE 09 30 20.0 +15
MDM LR LR
comp=Z,900nm,20.0s
COLA College 101.76 4 PFAKE 09 30 20.0 +15
COLA LR LR
comp=Z,800nm,19.0s
ILAR Eielson Array 101.93 4 P **Pdif** **09 30 06.7 +0.4**
comp=Z,1.2nm,1.0s,baz=334,slow=3.2,SNR=8.2
ILAR PP **PP** **09 34 16.4 -0.1**
comp=Z,3.6nm,1.0s,baz=350,slow=9.2,SNR=4.7
ILAR PKKP **PKKPbc** **09 46 12.7 -0.6**
comp=Z,0.2nm,0.9s,baz=203,slow=6.6,SNR=4.2
ILB Eielson Array 101.93 4 *e*Pdif **Pdif** **09 30 06.7 +0.4**
CCB Clear Creek Bu 101.99 4 PFAKE 09 30 20.0 +13
CCB LR LR
comp=Z,700nm,19.0s
HUMP Col San Antoni 102.04 292 PFAKE 09 30 20.0 +12
HUMP LR LR
comp=Z,1µm,22.0s
WRH Wood River Hil 102.14 4 PFAKE 09 30 20.0 +13
WRH LR LR
comp=Z,900nm,22.0s
YKA Yellowknife Ar 102.24 349 P **Pdif** **09 30 08.7 +1.1**
comp=Z,1.4nm,0.9s,baz=23,slow=5.5,SNR=5.4
YKA PP **PP** **09 34 17.7 -1.2**
comp=Z,9.6nm,1.0s,baz=19,slow=7.6,SNR=14
YKB5 Yellowknife Ar 102.24 349 *e*Pdif **Pdif** **09 30 08.9 +1.2**
BPAW Bear Paw Mtn. 102.26 6 PFAKE 09 30 20.0 +12
BPAW LR LR
comp=Z,900nm,19.0s
SJG San Juan 102.32 292 PFAKE 09 30 20.0 +11
SJG LR LR
comp=Z,2µm,21.0s
BWN Browne 102.33 5 PFAKE 09 30 20.0 +12
BWN LR LR
comp=Z,900nm,21.0s
SSPA Standing Stone 102.59 317 PFAKE 09 30 20.0 +10
SSPA LR LR
comp=Z,1µm,20.0s
SMY Shemya 102.61 27 PFAKE 09 30 20.0 +10
SMY LR LR
comp=Z,2µm,19.0s
KTH Kantishna Hill 102.81 6 PFAKE 09 30 20.0 +10
KTH LR LR
comp=Z,700nm,20.0s
TTA Tatalina 102.81 8 PFAKE 09 30 20.0 +10
TTA LR LR
comp=Z,1µm,21.0s
MCK McKinley 102.81 5 PFAKE 09 30 20.0 +10
MCK LR LR
comp=Z,903nm,21.0s
DAWY Dawson 102.91 0 PFAKE 09 30 20.0 +9.3
DAWY LR LR
comp=Z,1µm,20.0s
TRF Thorofare Moun 102.97 5 PFAKE 09 30 20.0 +8.9
TRF LR LR
comp=Z,900nm,20.0s
RND Reindeer 103.14 5 PFAKE 09 30 20.0 +8.2
RND LR LR
comp=Z,1µm,21.0s
MPR Mayaguez 103.18 292 PFAKE 09 30 20.0 +7.3
MPR LR LR
comp=Z,900nm,22.0s
QSPA South Pole Qui 103.19 180 PFAKE 09 30 20.0 +8.2
QSPA LR LR
comp=Z,2µm,22.0s
M54A Oil Creek Stat 103.30 319 P **Pdif** **09 30 12.2 -0.7**
baz=58
PPLA Purkeypile 103.32 6 PFAKE 09 30 20.0 +7.3
PPLA LR LR
comp=Z,801nm,19.0s
ALLY Alegheny Colle 103.53 319 PFAKE 09 30 30.0 +16
ALLY LR LR
comp=Z,800nm,18.0s
PAX Paxson 103.81 3 PFAKE 09 30 30.0 +15
PAX LR LR
comp=Z,800nm,20.0s
SVW2 Sparrevohn 104.62 9 PFAKE 09 30 30.0 +12
SVW2 LR LR
comp=Z,800nm,18.0s
SML Sawmill 104.76 5 PFAKE 09 30 30.0 +11
SML LR LR
comp=Z,1µm,19.0s
SCM Sheep Creek Mo 104.81 4 PFAKE 09 30 30.0 +11
SCM LR LR
comp=Z,600nm,22.0s
PMR Palmer 104.90 5 PFAKE 09 30 30.0 +10
PMR LR LR
comp=Z,700nm,20.0s
SPIA Saint Paul Isl 105.00 17 PFAKE 09 30 30.0 +10
SPIA LR LR
comp=Z,2µm,18.0s
STKA Stephens Creek 105.20 120 PFAKE 09 34 50.0
STKA LR LR
comp=Z,500nm,19.0s
KLU Klutina 105.25 4 PFAKE 09 34 50.0
KLU LR LR
comp=Z,700nm,18.0s
RC01 Rabbit Creek A 105.34 6 PFAKE 09 34 50.0
RC01 LR LR
comp=Z,1µm,18.0s
GRTK Grand Turk 105.58 297 PFAKE 09 34 50.0
GRTK LR LR
comp=Z,1µm,20.0s
DIV Divide 105.62 4 PFAKE 09 34 50.0
DIV LR LR
comp=Z,900nm,18.0s
BMRM Bremner River 105.85 3 PFAKE 09 34 50.0
BMRM LR LR
comp=Z,800nm,21.0s
EYAK Cordova Ski Ar 106.20 4 PFAKE 09 34 50.0
EYAK LR LR
comp=Z,1µm,21.0s
EFI East Falkland 106.33 220 PFAKE 09 34 50.0
EFI LR LR
comp=Z,2µm,20.0s
SEW Seward 106.34 6 PFAKE 09 34 50.0
SEW LR LR
comp=Z,1µm,21.0s
SAML Samuel 106.39 264 PFAKE 09 34 50.0
SAML LR LR
comp=Z,600nm,19.0s
RAGM Ragged Mountai 106.42 3 PFAKE 09 34 50.0
RAGM LR LR
comp=Z,2µm,18.0s
BRLK Bradley Lake 106.52 7 PFAKE 09 34 50.0
BRLK LR LR
comp=Z,1µm,20.0s
HOM Homer 106.53 7 PFAKE 09 34 50.0
HOM LR LR
comp=Z,1µm,18.0s
SDDR Presa de Saban 106.62 295 PFAKE 09 34 50.0
SDDR LR LR
comp=Z,1µm,20.0s
ULM Lac du Bonnet 106.65 333 PFAKE 09 34 50.0
ULM LR LR
comp=Z,800nm,19.0s
CNPM China Poot 106.71 7 PFAKE 09 34 50.0
CNPM LR LR
comp=Z,1µm,18.0s
PMG Port Moresby 107.05 96 PFAKE 09 34 50.0
PMG LR LR
comp=Z,600nm,20.0s
MID Middleton Isla 107.27 4 PFAKE 09 34 50.0
MID LR LR
comp=Z,1µm,18.0s
SKAG Skagway 107.49 358 PFAKE 09 34 50.0
SKAG LR LR
comp=Z,700nm,20.0s
KMSC Kings Mountain 107.72 314 PFAKE 09 34 50.0
KMSC LR LR
comp=Z,800nm,20.0s
DHAK Deception Hill 107.90 360 PFAKE 09 34 50.0
DHAK LR LR
comp=Z,1µm,20.0s
CTAO Charters Tower 107.93 107 PFAKE 09 34 50.0
CTAO LR LR
comp=Z,2µm,19.0s
DLBC Dease Lake 108.24 355 PFAKE 09 34 50.0
DLBC LR LR
comp=Z,1µm,20.0s
KDAK Kodiak Island 108.24 8 PFAKE 09 34 50.0
KDAK LR LR
comp=Z,1µm,20.0s
TZTN Tazewell 108.50 316 PFAKE 09 34 50.0
TZTN LR LR
comp=Z,1µm,18.0s
SFIN Lafayette 108.59 321 PFAKE 09 34 50.0
SFIN LR LR
comp=Z,800nm,19.0s
OHAK Old Harbor 108.69 9 PFAKE 09 34 50.0
OHAK LR LR
comp=Z,1µm,20.0s
SPMN Marine on St. 108.72 328 PFAKE 09 34 50.0
SPMN LR LR
comp=Z,1µm,20.0s
TRQA Tornquist 108.76 234 PFAKE 09 34 50.0
TRQA LR LR
comp=Z,3µm,21.0s
BLO Bloomington 108.95 320 PFAKE 09 34 50.0
BLO LR LR
comp=Z,1µm,19.0s
UNV Unalaska Valle 108.96 17 PFAKE 09 34 50.0
UNV LR LR
comp=Z,2µm,20.0s

B30A **Myrvik Farm, E** **109.07 333** P **PKiKP** **09 34 42.9 +0.2**
baz=41
TKL **Tuckaleechee C** **109.14 315** PFAKE 09 34 50.0
TKL LR LR
comp=Z,1μm,20.0s
SDV **Santo Domingo** **109.30 284** PFAKE 09 35 00.0
SDV LR LR
comp=Z,900nm,21.0s
WCI **Wyandotte Cave** **109.36 319** PFAKE 09 35 00.0
WCI LR LR
comp=Z,2μm,20.0s
GTBY **Guantanamo Bay** **109.63 297** PFAKE 09 35 00.0
GTBY LR LR
comp=Z,2μm,20.0s
CPCT **Cooper Cave** **109.76 316** PFAKE 09 35 00.0
CPCT LR LR
comp=Z,700nm,19.0s
I37A **Lemond, Waseca** **109.86 327** P **PKiKP** **09 34 44.5 +0.2**
baz=47
MDND **Maddock** **110.08 333** PFAKE 09 35 00.0
MDND LR LR
comp=Z,1μm,20.0s
H35A **Sunnyside Ranc** **110.13 328** P **PKiKP** **09 34 44.5 -0.2**
baz=45
OLIL **Olney** **110.20 320** PFAKE 09 35 00.0
OLIL LR LR
comp=Z,1μm,18.0s
L39A **Vinton** **110.37 325** P **PKiKP** **09 34 45.0 -0.3**
baz=48
USIN **University of** **110.39 319** PFAKE 09 35 00.0
USIN LR LR
comp=Z,2μm,20.0s
C28A **Hausauer Farms** **110.52 334** P **PKiKP** **09 34 45.0 -0.5**
baz=40
SWET **Sewanee** **110.85 316** PFAKE 09 35 00.0
SWET LR LR
comp=Z,300nm,20.0s
TIGA **Tifton** **111.25 312** PFAKE 09 35 00.0
TIGA LR LR
comp=Z,1μm,20.0s
DWPF **Disney Wildern** **111.30 307** PFAKE 09 35 00.0
DWPF LR LR
comp=Z,2μm,20.0s
CRAG **Craig** **111.40 357** PFAKE 09 35 00.0
CRAG LR LR
comp=Z,1μm,19.0s
M38A **Pleasantville** **111.51 325** P **PKiKP** **09 34 47.5 +0.1**
baz=48
SIUC **Southern Illin** **111.52 320** PFAKE 09 35 00.0
SIUC LR LR
comp=Z,1μm,19.0s
SLM **Saint Louis** **111.58 321** PFAKE 09 35 00.0
SLM LR LR
comp=Z,1μm,20.0s
WVT **Waverly** **111.58 318** PFAKE 09 35 00.0
WVT LR LR
comp=Z,900nm,19.0s
ECSD **EROS Data Cent** **111.72 329** P **PKiKP** **09 34 47.8 -0.1**
baz=44
P40A **Paris** **112.10 323** P **PKiKP** **09 34 49.3 +0.6**
baz=49
E26A **Carlson Angus** **112.38 334** P **PKiKP** **09 34 49.1 +0.1**
baz=38
MTDJ **Mount Denham** **112.40 296** PFAKE 09 35 00.0
MTDJ LR LR
comp=Z,1μm,19.0s
PVMO **Portageville** **112.62 319** PFAKE 09 35 00.0
PVMO LR LR
comp=Z,1μm,20.0s
PBMO **Poplar Bluff** **112.86 320** PFAKE 09 35 00.0
PBMO LR LR
comp=Z,2μm,20.0s
Y47A **UCPARC, Winfie** **112.89 316** P **PKiKP** **09 34 50.1 -0.2**
baz=54
EIDS **Eidsvold** **112.93 112** PFAKE 09 35 00.0
EIDS LR LR
comp=Z,2μm,20.0s
MET **Memphis--Engin** **113.56 318** PFAKE 09 35 00.0
MET LR LR
comp=Z,900nm,18.0s
ARMA **Armidale** **113.68 118** PFAKE 09 35 00.0
ARMA LR LR
comp=Z,2μm,19.0s
LAO **LASA Array** **113.74 336** P **PKiKP** **09 34 51.2 -0.5**
baz=34
LVC **Limon Verde** **113.81 251** PFAKE 09 35 00.0
LVC LR LR
comp=Z,2μm,22.0s
R38A **Fenwick Farm,** **114.07 323** P PKPdf 09 34 52.5 +0.1
baz=48
BGNE **Belgrade** **114.18 328** PFAKE 09 35 00.0 +7.4
BGNE LR LR
comp=Z,1μm,20.0s
WALA **Waterton Lakes** **114.31 343** PFAKE 09 35 00.0 +7.2
WALA LR LR
comp=Z,1μm,18.0s
S38A **Stockton** **114.44 322** P PKPdf 09 34 53.5 +0.3
baz=48
U40A **Yellville** **114.64 321** P PKPdf 09 34 54.1 +0.5
baz=50
HELC **Santa Helena** **114.73 283** PFAKE 09 35 10.0 +15
HELC LR LR
comp=Z,3μm,22.0s
PRAC **Prado** **114.84 280** PFAKE 09 35 10.0 +15
PRAC LR LR
comp=Z,1μm,19.0s
S37A **Fort Scott** **114.90 323** P PKPdf 09 34 53.9 -0.2
baz=47
RSSD **Black Hills** **114.92 333** PFAKE 09 35 10.0 +16
RSSD LR LR
comp=Z,700nm,20.0s
WHAR **Wooly Hollow** **114.96 320** PFAKE 09 35 10.0 +16
WHAR LR LR
comp=Z,1μm,18.0s
U39A **Green Forest** **115.00 321** P **PKPdf** **09 34 54.5 +0.1**
baz=49
X201 **Greenbrier Sit** **115.01 320** PFAKE 09 35 10.0 +16
X201 LR LR
comp=Z,900nm,18.0s
W41B **Gary Mavity, V** **115.01 319** P **PKPdf** **09 34 54.1 -0.2**
baz=50
T38A **Diamond** **115.06 322** P **PKPdf** **09 34 54.4 0.0**
baz=48
X301 **Greenbrier Sit** **115.07 320** PFAKE 09 35 10.0 +16
X301 LR LR
comp=Z,800nm,19.0s
UALR **University of** **115.32 319** PFAKE 09 35 10.0 +15
UALR LR LR
comp=Z,1μm,18.0s
HHAR **Hobbs** **115.35 321** PFAKE 09 35 10.0 +15
HHAR LR LR
comp=Z,1μm,20.0s
245A **Little AP, Sta** **115.38 315** P **PKPdf** **09 34 55.7 +0.6**
baz=54
V39A **Pettigrew** **115.46 321** P **PKPdf** **09 34 55.8 +0.6**
baz=49
CCAR **Cane Creek** **115.49 318** PFAKE 09 35 10.0 +15
CCAR LR LR
comp=Z,1μm,20.0s
U38A **Gravette** **115.52 322** P **PKPdf** **09 34 55.6 +0.3**
baz=48
Q33A **Connelly Farm,** **115.74 326** P **PKPdf** **09 34 56.3 +0.7**
baz=44
S35A **Otter Creek Ra** **115.81 324** P **PKPdf** **09 34 56.5 +0.7**
baz=46
X40A **Basin Creek Fa** **115.82 319** P **PKPdf** **09 34 56.4 +0.5**
baz=50
R34A **Isabella, Hill** **115.91 325** P **PKPdf** **09 34 56.8 +0.8**
baz=45
V38A **Canehill** **115.91 321** P **PKPdf** **09 34 55.9 -0.1**
baz=48
W39A **Magazine** **115.96 320** P **PKPdf** **09 34 56.7 +0.5**
baz=49
T36A **Boggs Farm, Ca** **115.98 323** P **PKPdf** **09 34 56.7 +0.5**
baz=47
S34A **Willow Spring** **116.25 324** P **PKPdf** **09 34 57.1 +0.4**
baz=46
MSO **Missoula** **116.31 342** P **PKPdf** **09 34 57.1 +0.4**
baz=26
MSO **Missoula** **116.31 342** *e*PKIKP **PKPdf** **09 34 58.0 +1.3**
MSO **Missoula** **116.31 342** *e*PKPdf **PKPdf** **09 34 58.0 +1.3**
R33A **Olander Ranch,** **116.31 325** P **PKPdf** **09 34 57.4 +0.6**
baz=44
V37A **Hulbert** **116.34 322** P **PKPdf** **09 34 57.3 +0.4**
baz=48
U36A **Oologah** **116.35 322** P **PKPdf** **09 34 57.7 +0.8**
baz=47
B08A **Colville Reser** **116.38 346** PFAKE 09 35 10.0 +13
B08A LR LR
comp=Z,700nm,20.0s
445A **Amite** **116.45 314** P **PKPdf** **09 34 57.9 +0.7**
baz=54
W38A **Poteau** **116.50 321** P **PKPdf** **09 34 57.6 +0.4**
baz=49
WLAR **White Oak Lake** **116.50 319** PFAKE 09 35 10.0 +13
WLAR LR LR
comp=Z,1μm,18.0s
BOZ **Bozeman (W)** **116.61 339** P **PKPdf** **09 34 58.2 +0.8**
baz=29
BOZ **Bozeman (W)** **116.61 339** *e*PKIKP **PKPdf** **09 34 59.4 +2.1**
BOZ **Bozeman (W)** **116.61 339** *e*PKIKP **PKPdf** **09 34 59.4 +2.1**
BOZ **Bozeman (W)** **116.61 339** *e*PKPdf **PKPdf** **09 34 59.4 +2.1**
X39A **Fountain Ranch** **116.61 320** P **PKPdf** **09 34 58.2 +0.7**
baz=49
C09A **Chrisman Ranch** **116.64 345** PFAKE 09 35 10.0 +13
C09A LR LR
comp=Z,900nm,20.0s
TUL1 **Leonard** **116.71 322** P **PKPdf** **09 34 58.1 +0.5**
baz=47
TUL1 **Leonard** **116.71 322** PFAKE 09 35 10.0 +12
TUL1 LR LR
comp=Z,1μm,18.0s
Z40A **Long Farm, Mag** **116.96 318** P **PKPdf** **09 34 57.7 -0.4**
baz=50
PGC **Sidney** **116.97 349** PFAKE 09 35 10.0 +12
PGC LR LR
comp=Z,800nm,19.0s
YHH **Holmes Hill** **117.08 338** PFAKE 09 35 10.0 +12
YHH LR LR
comp=Z,900nm,19.0s
LKWY **Lake** **117.11 338** PFAKE 09 35 10.0 +12
LKWY LR LR
comp=Z,2μm,20.0s
K22A **Casper** **117.18 334** PFAKE 09 35 10.0 +11
K22A LR LR
comp=Z,800nm,20.0s
DLMT **Dillon** **117.18 340** PFAKE 09 35 10.0 +12
DLMT LR LR
comp=Z,500nm,20.0s
YMR **Madison River** **117.22 338** PFAKE 09 35 10.0 +11
YMR LR LR
comp=Z,900nm,18.0s
H17A **Grant Village** **117.32 338** PFAKE 09 35 10.0 +11
H17A LR LR
comp=Z,2μm,20.0s
X37A **Clayton** **117.34 321** P **PKPdf** **09 34 57.9 -0.9**
baz=48
YFT **Old Faithful** **117.36 338** PFAKE 09 35 10.0 +11
YFT LR LR
comp=Z,2μm,19.0s
U34A **Anderson Ranch** **117.38 324** PFAKE 09 35 10.0 +11
U34A LR LR
comp=Z,1μm,19.0s
342A **Flagon Creek P** **117.43 316** P **PKPdf** **09 34 58.4 -0.7**
baz=52
D08A **Wollman Farm,** **117.49 345** PFAKE 09 35 10.0 +11
D08A LR LR
comp=Z,1μm,20.0s
YPP **Pitchstone Pla** **117.51 338** PFAKE 09 35 10.0 +11
YPP LR LR
comp=Z,1μm,20.0s
FLWY **Flagg Ranch** **117.63 338** PFAKE 09 35 10.0 +11
FLWY LR LR
comp=Z,700nm,19.0s
T32A **Huddler Ranch,** **117.64 325** P **PKPdf** **09 34 59.7 +0.3**
baz=44
LTY **Liberty** **117.72 347** PFAKE 09 35 10.0 +11
LTY LR LR
comp=Z,600nm,18.0s
V34A **Guthrie** **117.79 323** PFAKE 09 35 10.0 +10
V34A LR LR
comp=Z,2μm,18.0s
E09A **Wood Farm, Sta** **117.80 344** PFAKE 09 35 10.0 +11
E09A LR LR
comp=Z,900nm,18.0s
PHWY **Pilot Hill** **117.80 332** PFAKE 09 35 10.0 +10
PHWY LR LR
comp=Z,1μm,18.0s
BCIP **Isla Barro Col** **117.82 288** PFAKE 09 35 10.0 +10
BCIP LR LR
comp=Z,600nm,20.0s
IMW **Indian Meadow** **117.88 338** PFAKE 09 35 10.0 +10
IMW LR LR
comp=Z,900nm,20.0s
MOOW **Moose Ponds** **117.94 338** PFAKE 09 35 10.0 +10
MOOW LR LR
comp=Z,1μm,19.0s
X36A **Centrahoma** **117.95 321** P **PKPdf** **09 35 00.5 +0.5**
baz=47
LOHW **Long Hollow** **118.00 338** PFAKE 09 35 10.0 +10
LOHW LR LR
comp=Z,800nm,20.0s
F10A **Beach Ranch, E** **118.05 343** PFAKE 09 35 10.0 +10
F10A LR LR
comp=Z,900nm,19.0s
D05A **Enumclaw** **118.08 347** PFAKE 09 35 10.0 +10
D05A LR LR
comp=Z,600nm,19.0s
SNOW **Snow King Moun** **118.19 338** PFAKE 09 35 10.0 +9.4
SNOW LR LR
comp=Z,1μm,18.0s
TPAW **Teton Pass** **118.23 338** PFAKE 09 35 10.0 +9.3
TPAW LR LR
comp=Z,1μm,19.0s
KSCO **Kaye Shedlock'** **118.25 329** PFAKE 09 35 10.0 +9.4
KSCO LR LR
comp=Z,1μm,19.0s
REDW **Red Top Meadow** **118.31 338** PFAKE 09 35 10.0 +9.2
REDW LR LR
comp=Z,800nm,19.0s
PD31 **Pinedale Array** **118.32 336** *e*PKIKP **PKPdf** **09 35 01.1 +0.3**
PD31 **Pinedale Array** **118.32 336** *e*PKPdf **PKPdf** **09 35 01.1 +0.3**
PDAR **Pinedale Array** **118.32 336** PKP **PKPdf** **09 34 59.8 -1.1**
comp=Z,2.3nm,0.8s,baz=337,slow=2.1,SNR=13
PDAR PKKPab **PKKPab** **09 45 23.3 -0.1**
comp=Z,0.3nm,0.4s,baz=185,slow=9.8,SNR=4.5
BW06 **Boulder Array** **118.32 336** P **PKPdf** **09 35 01.0 +0.1**
baz=32
BW06 **Boulder Array** **118.32 336** *e*PKIKP **PKPdf** **09 34 59.7 -1.1**
BW06 **Boulder Array** **118.32 336** *e*PKIKP **PKPdf** **09 35 01.2 +0.4**
BW06 **Boulder Array** **118.32 336** *e*PKPdf **PKPdf** **09 34 59.7 -1.1**
BW06 *e*PKPdf **PKPdf** **09 35 01.2 +0.4**
BW06 LR LR
comp=Z,1μm,20.0s
542A **Morse** **118.34 315** P **PKPdf** **09 35 00.5 -0.3**
baz=52
N23A **Red Feather La** **118.35 333** P **PKPdf** **09 35 01.2 +0.2**
baz=36
N23A **Red Feather La** **118.35 333** PFAKE 09 35 10.0 +9.0
N23A LR LR
comp=Z,900nm,20.0s
W34A **Bridge Creek,** **118.35 323** PFAKE 09 35 10.0 +9.2
W34A LR LR
comp=Z,1μm,19.0s
X35A **Drake** **118.45 322** P **PKPdf** **09 35 01.2 +0.2**
baz=47
LON **Longmire** **118.45 347** *e*PKIKP **PKPdf** **09 35 01.7 +1.0**
LON MLR MLR
comp=Z,400nm,20.0s
LON **Longmire** **118.45 347** *e*PKIKP **PKPdf** **09 35 01.7 +1.0**
LON **Longmire** **118.45 347** *e*PKPdf **PKPdf** **09 35 01.7 +1.0**
LON LR LR
comp=Z,400nm,20.0s
X34A **Smith Ranch, M** **118.83 322** P **PKPdf** **09 35 02.4 +0.7**
baz=46
AHID **Auburn Hatcher** **118.91 337** PFAKE 09 35 10.0 +8.1
AHID LR LR
comp=Z,1μm,20.0s
E03A **Lebam** **119.01 348** PFAKE 09 35 10.0 +8.3
E03A LR LR
comp=Z,900nm,20.0s
G08A **Pilot Rock** **119.15 344** PFAKE 09 35 10.0 +7.8
G08A LR LR
comp=Z,1μm,19.0s
OTAV **Otavalo** **119.21 278** PFAKE 09 35 20.0 +16
OTAV LR LR
comp=Z,1μm,20.0s
W32A **Sentinel** **119.29 324** P **PKPdf** **09 35 03.3 +0.6**
baz=44
WMOK **Wichita Mounta** **119.29 323** *e*PKIKP **PKPdf** **09 35 03.7 +1.1**
WMOK **Wichita Mounta** **119.29 323** *e*PKIKP **PKPdf** **09 35 03.7 +1.1**
WMOK **Wichita Mounta** **119.29 323** *e*PKPdf **PKPdf** **09 35 03.7 +1.1**
WMOK LR LR
comp=Z,900nm,21.0s
F04A **Amboy** **119.36 347** PFAKE 09 35 10.0 +7.6
F04A LR LR
comp=Z,700nm,19.0s
Q24A **Divide** **119.52 331** PFAKE 09 35 10.0 +6.7
Q24A LR LR
comp=Z,2μm,19.0s
X32A **Elmer** **119.81 323** P **PKPdf** **09 35 03.9 +0.3**
baz=45
MFID **Camas Ranch** **119.97 341** *e*PKIKP **PKPdf** **09 35 05.8 +2.0**
MFID **Camas Ranch** **119.97 341** *e*PKPdf **PKPdf** **09 35 05.8 +2.0**
MFID LR LR
comp=Z,800nm,20.0s
O20A **White River Ci** **119.98 334** P **PKPdf** **09 35 04.3 +0.2**
baz=34
O20A **White River Ci** **119.98 334** *e*PKIKP **PKPdf** **09 35 04.9 +0.9**
O20A **White River Ci** **119.98 334** *e*PKPdf **PKPdf** **09 35 04.9 +0.9**
HWUT **Hardware Ranch** **120.09 337** *e*PKIKP **PKPdf** **09 35 05.4 +1.2**
HWUT **Hardware Ranch** **120.09 337** *e*PKPdf **PKPdf** **09 35 05.4 +1.2**
HWUT LR LR
comp=Z,1μm,20.0s
NNA **Nana** **120.14 264** PFAKE 09 35 20.0 +15
NNA LR LR
comp=Z,5μm,21.0s
SMCO **Snowmass** **120.20 332** *e*PKIKP **PKPdf** **09 35 06.3 +1.5**
SMCO **Snowmass** **120.20 332** *e*PKPdf **PKPdf** **09 35 06.3 +1.5**
Z33A **Whitaker Ranch** **120.29 322** P **PKPdf** **09 35 05.2 +0.6**
baz=46
134A **White-Moore Ra** **120.37 321** P **PKPdf** **09 35 05.0 +0.2**
baz=47
WHTX **Lake Whitney,** **120.38 320** PFAKE 09 35 20.0 +15
WHTX LR LR
comp=Z,1μm,19.0s
HVU **Hansel Valley** **120.39 338** *e*PKIKP **PKPdf** **09 35 06.0 +1.3**
HVU MLR MLR
comp=Z,900nm,19.0s
HVU **Hansel Valley** **120.39 338** *e*PKIKP **PKPdf** **09 35 06.0 +1.3**
HVU **Hansel Valley** **120.39 338** *e*PKPdf **PKPdf** **09 35 06.0 +1.3**
HVU LR LR
comp=Z,900nm,19.0s
TCUT **Toone Canyon** **120.45 337** PFAKE 09 35 20.0 +15
TCUT LR LR
comp=Z,1μm,20.0s
T25A **Trinidad** **120.59 329** *e*PKIKP **PKPdf** **09 35 06.6 +1.3**
T25A **Trinidad** **120.59 329** *e*PKPdf **PKPdf** **09 35 06.6 +1.3**
T25A LR LR
comp=Z,1μm,19.0s
TEIG **Tepich** **120.60 303** PFAKE 09 35 20.0 +15
TEIG LR LR
comp=Z,1μm,19.0s
SDCO **Great Sand Dun** **120.65 330** *e*PKIKP **PKPdf** **09 35 06.9 +1.4**
SDCO **Great Sand Dun** **120.65 330** *e*PKPdf **PKPdf** **09 35 06.9 +1.4**
SPUT **South Promonto** **120.68 338** PFAKE 09 35 20.0 +15
SPUT LR LR
comp=Z,1μm,20.0s
JLU **Jordanelle** **120.91 336** PFAKE 09 35 20.0 +14
JLU LR LR
comp=Z,1μm,20.0s
BGU **Big Grassy Mou** **121.23 338** *e*PKIKP **PKPdf** **09 35 07.9 +1.6**
BGU **Big Grassy Mou** **121.23 338** *e*PKPdf **PKPdf** **09 35 07.9 +1.6**
BGU LR LR
comp=Z,800nm,19.0s
P18A **Preston Nutter** **121.25 335** PFAKE 09 35 20.0 +13
P18A LR LR
comp=Z,1μm,20.0s
ABTX **Abilene, Hawle** **121.28 322** PFAKE 09 35 20.0 +13
ABTX LR LR
comp=Z,900nm,20.0s
S22A **4UR Ranch, Cre** **121.29 331** *e*PKIKP **PKPdf** **09 35 08.4 +1.6**
S22A **4UR Ranch, Cre** **121.29 331** *e*PKPdf **PKPdf** **09 35 08.3 +1.6**
S22A LR LR
comp=Z,1μm,19.0s
HDC **Heredia** **121.45 291** PFAKE 09 35 20.0 +13
HDC LR LR
comp=Z,800nm,20.0s
P17A **Butcher Ranch,** **121.58 335** PFAKE 09 35 20.0 +13
P17A LR LR
comp=Z,1μm,22.0s
WVOR **Wild Horse Val** **121.70 343** *e*PKIKP **PKPdf** **09 35 08.4 +1.2**
WVOR MLR MLR
comp=Z,1μm,19.0s
WVOR **Wild Horse Val** **121.70 343** *e*PKIKP **PKPdf** **09 35 08.4 +1.2**
WVOR **Wild Horse Val** **121.70 343** *e*PKPdf **PKPdf** **09 35 08.4 +1.2**
WVOR LR LR
comp=Z,1μm,19.0s
DUG **Dugway, Tooele** **121.78 337** *e*PKIKP **PKPdf** **09 35 08.8 +1.4**
DUG **Dugway, Tooele** **121.78 337** *e*PKIKP **PKPdf** **09 35 08.8 +1.4**
DUG **Dugway, Tooele** **121.78 337** *e*PKPdf **PKPdf** **09 35 08.8 +1.4**
SRU **San Rafael Swe** **121.80 335** *e*PKIKP **PKPdf** **09 35 08.3 +0.7**
SRU MLR MLR
comp=Z,900nm,20.0s
SRU **San Rafael Swe** **121.80 335** *e*PKIKP **PKPdf** **09 35 08.3 +0.7**
SRU **San Rafael Swe** **121.80 335** *e*PKPdf **PKPdf** **09 35 08.3 +0.7**
SRU LR LR
comp=Z,900nm,20.0s
TMUT **Trail Mountain** **121.92 335** PFAKE 09 35 20.0 +12
TMUT LR LR
comp=Z,900nm,21.0s
MSTX **Muleshoe** **122.12 325** PFAKE 09 35 20.0 +12
MSTX LR LR
comp=Z,1μm,20.0s
TGUH **Tegucigalpa,Un** **122.63 296** PFAKE 09 35 20.0 +11
TGUH LR LR
comp=Z,1μm,19.0s
HUMO **Hull Mountain** **122.65 347** PFAKE 09 35 20.0 +11
HUMO LR LR
comp=Z,600nm,19.0s
MOD **Modoc Plateau** **122.66 344** PFAKE 09 35 20.0 +11
MOD LR LR
comp=Z,900nm,19.0s
MSU **Marysvale** **122.99 336** *e*PKIKP **PKPdf** **09 35 12.1 +2.2**
ANMO **Albuquerque** **123.33 329** *e*PKIKP **PKPdf** **09 35 12.6 +2.0**
ANMO **Albuquerque** **123.33 329** *e*PKIKP **PKPdf** **09 35 12.2 +1.6**
ANMO **Albuquerque** **123.33 329** *e*PKPdf **PKPdf** **09 35 12.2 +1.6**
ANMO LR LR
comp=Z,1μm,20.0s
YBH **Yreka Blue Hor** **123.42 346** PFAKE 09 35 20.0 +10
YBH LR LR
comp=Z,1μm,18.0s
LAZ **Ladron** **124.10 329** *e*PKPdf **PKPdf** **09 35 14.5 +2.3**
SZCU **Shurtz Canyon** **124.14 336** PFAKE 09 35 20.0 +7.9
SZCU LR LR
comp=Z,2μm,18.0s
CCUT **Cedar City** **124.29 336** PFAKE 09 35 20.0 +7.6
CCUT LR LR
comp=Z,1μm,19.0s
R11A **Troy Canyon, C** **124.42 338** PFAKE 09 35 20.0 +7.4
R11A LR LR
comp=Z,900nm,20.0s
PAHR **Pah Rah Range** **124.44 342** *e*PKIKP **PKPdf** **09 35 14.4 +1.9**
PAHR **Pah Rah Range** **124.44 342** *e*PKPdf **PKPdf** **09 35 14.4 +1.9**
WDC **Whiskeytown Da** **124.47 345** PFAKE 09 35 20.0 +7.6
WDC LR LR
comp=Z,700nm,20.0s
KNB **Kanab** **124.53 335** *e*PKIKP **PKPdf** **09 35 15.2 +2.4**
LCMT **Little Creek M** **124.71 336** *e*PKIKP **PKPdf** **09 35 13.7 +0.6**
LCMT **Little Creek M** **124.71 336** *e*PKPdf **PKPdf** **09 35 13.7 +0.6**
W18A **Petrified Fore** **124.78 331** PFAKE 09 35 20.0 +6.6
W18A LR LR
comp=Z,1μm,20.0s
U15A **North Rim** **124.82 334** *e*PKIKP **PKPdf** **09 35 15.8 +2.3**
U15A **North Rim** **124.82 334** *e*PKPdf **PKPdf** **09 35 15.8 +2.3**
YERR **Yerington** **125.06 342** PFAKE 09 35 30.0 +16
YERR LR LR
comp=Z,600nm,19.0s
WUAZ **Wupatki** **125.19 333** PFAKE 09 35 30.0 +16
WUAZ LR LR
comp=Z,900nm,20.0s
MNTX **Cornudas Mount** **125.27 325** P **PKPdf** **09 35 13.6 -0.6**
baz=40,SNR=26
MNTX **Cornudas Mount** **125.27 325** *e*PKIKP **PKPdf** **09 35 13.3 -0.9**
MNTX **Cornudas Mount** **125.27 325** *e*PKPdf **PKPdf** **09 35 13.3 -0.9**
X18A **Snowflake** **125.37 331** *e*PKIKP **PKPdf** **09 35 15.8 +1.3**
X18A **Snowflake** **125.37 331** *e*PKPdf **PKPdf** **09 35 15.8 +1.3**
AFDM **Forest Hills D** **125.60 343** *e*PKIKP **PKPdf** **09 35 16.7 +2.1**
AFDM **Forest Hills D** **125.60 343** *e*PKPdf **PKPdf** **09 35 16.7 +2.1**
AFDM LR LR
comp=Z,600nm,20.0s
CCIG **Comitan** **125.74 301** PFAKE 09 35 30.0 +14
CCIG LR LR
comp=Z,2μm,21.0s
SHPR **Sheep Range** **125.90 337** *e*PKIKP **PKPdf** **09 35 16.5 +1.0**
SHPR **Sheep Range** **125.90 337** *e*PKPdf **PKPdf** **09 35 16.5 +1.0**

TPNV	**Topopah Spring**	**125.91**	**338**	*e*PKIKP	**PKPdf**	**09 35 17.8**	**+2.3**
LTX	**Lajitas**	**126.04**	**322**	*e*PKIKP	**PKPdf**	**09 35 14.5**	**-1.3**
LTX	**Lajitas**	**126.04**	**322**	*e*PKIKP	**PKPdf**	**09 35 14.5**	**-1.3**
LTX	**Lajitas**	**126.04**	**322**	*e*PKPdf	**PKPdf**	**09 35 14.5**	**-1.3**
TXAR	**Lajitas Array**	**126.04**	**322**	PKP	**PKPdf**	**09 35 14.5**	**-1.3**
	comp=Z,6.2nm,0.9s,baz=92,slow=1.9,SNR=33						
TX31	**Lajitas Ar. Si**	**126.04**	**322**	*e*PKIKP	**PKPdf**	**09 35 14.8**	**-1.1**
TX31	**Lajitas Ar. Si**	**126.04**	**322**	*e*PKPdf	**PKPdf**	**09 35 14.7**	**-1.1**
TX31				*e*PKPdf	**PKPdf**	**09 35 14.8**	**-1.1**
X16A	**Lo Mia Camp, P**	**126.14**	**332**	*e*PKIKP	**PKPdf**	**09 35 16.8**	**+0.8**
X16A	**Lo Mia Camp, P**	**126.14**	**332**	*e*PKPdf	**PKPdf**	**09 35 16.8**	**+0.8**
CMB	**Columbia Colle**	**126.28**	**342**	*e*PKIKP	**PKPdf**	**09 35 18.2**	**+2.2**
CMB	**Columbia Colle**	**126.28**	**342**	*e*PKIKP	**PKPdf**	**09 35 18.2**	**+2.2**
CMB	**Columbia Colle**	**126.28**	**342**	*e*PKPdf	**PKPdf**	**09 35 18.2**	**+2.2**
FURC	**Furnace Creek,**	**126.56**	**338**	P	**PKPdf**	**09 35 17.0**	**+0.6**
	baz=26,SNR=11						
DZM	**Mont Dzumac**	**126.87**	**108**	*e*LR	LR	10 15 03.4	
	comp=Z,2µm,23.1s						
LDFC	**Landfair**	**127.13**	**336**	PFAKE		09 35 30.0	+12
LDFC				LR	LR		
	comp=Z,1µm,19.0s						
MPMC	**Manual Prospec**	**127.15**	**339**	P	**PKPdf**	**09 35 19.0**	**+1.1**
	baz=26,SNR=5.4						
PDMCI	**Parker Dam,Lak**	**127.41**	**335**	P	**PKPdf**	**09 35 18.9**	**+0.8**
	baz=30,SNR=6.4						
GSC	**Goldstone, Bar**	**127.58**	**338**	P	**PKPdf**	**09 35 18.8**	**+0.2**
	baz=27,SNR=5.9						
GSC	**Goldstone, Bar**	**127.58**	**338**	*e*PKIKP	**PKPdf**	**09 35 21.3**	**+2.7**
GSC	**Goldstone, Bar**	**127.58**	**338**	PFAKE		09 35 30.0	+11
GSC				LR	LR		
	comp=Z,800nm,20.0s						
TUC	**Tucson**	**127.58**	**330**	*e*PKIKP	**PKPdf**	**09 35 20.7**	**+2.0**
TUC				MLR	MLR		
	comp=Z,2µm,18.0s						
TUC	**Tucson**	**127.58**	**330**	*e*PKIKP	**PKPdf**	**09 35 20.7**	**+2.0**
TUC	**Tucson**	**127.58**	**330**	*e*PKPdf	**PKPdf**	**09 35 20.7**	**+2.0**
TUC				LR	LR		
	comp=Z,2µm,18.0s						
LRMC	**Laurel Mtn Rad**	**127.74**	**339**	P	**PKPdf**	**09 35 19.7**	**+0.8**
	baz=26,SNR=6.4						
IRM	**Iron Mountain**	**127.95**	**336**	P	**PKPdf**	**09 35 19.7**	**+0.5**
	baz=29,SNR=11						
OXZ	**Oxford**	**128.01**	**135**	PFAKE		09 35 30.0	+11
OXZ				LR	LR		
	comp=Z,3µm,18.0s						
BELC	**Belle Mtn. Jos**	**128.42**	**336**	P	**PKPdf**	**09 35 21.7**	**+1.4**
	baz=28,SNR=6.7						
PFO	**Pinyon Flats O**	**128.95**	**336**	*e*PKIKP	**PKPdf**	**09 35 24.0**	**+2.7**
HPIG		**129.00**	**322**	*e*PKIKP	**PKPdf**	**09 35 23.2**	**+1.5**
HPIG		**129.00**	**322**	*e*PKPdf	**PKPdf**	**09 35 23.2**	**+1.5**
ZAIG	**Zacatecas**	**129.92**	**315**	PFAKE		09 35 40.0	+16
ZAIG				LR	LR		
	comp=Z,700nm,19.0s						
TLIG	**Tlapa**	**130.23**	**307**	PFAKE		09 35 40.0	+16
TLIG				LR	LR		
	comp=Z,1µm,21.0s						
TBI	**Tubuai**	**165.42**	**135**	*e*SS	SS	10 01 36.1	-3.4
	comp=Z,241nm,28.8s						
TBI	**Tubuai**	**165.42**	**135**	*e*LR	LR	10 32 48.8	
	comp=Z,818nm,27.5s						
PPT2	**Papeete2**	**168.31**	**113**	*e*SS	SS	10 02 04.2	-6.4
	comp=Z,659nm,28.2s						
PPT2	**Papeete2**	**168.31**	**113**	*e*LR	LR	10 34 13.6	
	comp=Z,2µm,27.8s						
RKT	**Rikitea**	**169.70**	**197**	*e*SS	SS	10 02 26.3	+5.6
	comp=Z,483nm,30.0s						
RKT	**Rikitea**	**169.70**	**197**	*e*LR	LR	10 34 39.9	
	comp=Z,940nm,29.2s						
TAOE	**Nuku Hiva Isla**	**175.26**	**23**	*e*LR	LR	10 37 34.8	
	comp=Z,1µm,25.9s						

ISK ***17*** *09:25:15.6, 37°.24N×28°.17E, h5km, MD2.6*
ISCJB ***17*** *09:25:16.5±0.6, 37°.26N±0°.04×28°.21E±0°.04, h0km, Error ellipse: s-maj=5.8km s-min=4.6km az=11.1*
DDA ***17*** *09:25:16.5, 37°.22N×28°.24E, h7km, Md2.6, Suspected Mining explosion.*
CSEM ***17*** *09:25:16.7±0.2, 37°.26N×28°.18E, h2km, MD2.6, Error ellipse: s-maj=5.2km s-min=4.3km az=21.0, Suspected Mining explosion.*

ISC 17 09:25:14.2±1.0, 37°.35N±0°.05×28°.23E±0°.04, h0km, n15, σ0s.34/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.22**	**169**	*e*PG	**Pg**	**09 25 18.7**	**+0.4**
YER	**Yerkesik**	**0.22**	**169**	*e*Pg	**Pg**	**09 25 18.7**	**+0.4**
TURN	**Turunc**	**0.56**	**148**	*i* P	**Pg**	**09 25 24.7**	**-0.2**
TURN				*i* S	**Sg**	**09 25 32.7**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.63**	**147**	*e*PG	**Pb**	**09 25 28.1**	**+0.1**
DALY				*e*SG	**Sb**	**09 25 36.8**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.63**	**147**	*e*Pg	**Pb**	**09 25 28.1**	**+0.1**
DALY				*e*Sg	**Sb**	**09 25 36.8**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.66**	**336**	*e*PG	**Pn**	**09 25 30.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.66**	**336**	*e*Pg	**Pn**	**09 25 30.8**	**-0.1**
BDRM	**Kayabasi**	**0.69**	**246**	P	**Pb**	**09 25 29.0**	**-0.1**
BDRM	**Kayabasi**	**0.69**	**246**	*i* P	**Pb**	**09 25 29.0**	**-0.1**
BDRM				*i* S	**Sb**	**09 25 39.4**	**+0.3**
DNZL	**Cakiroluk**	**0.73**	**62**	P	**Pn**	**09 25 32.4**	**+0.4**
DNZL				S	**Sn**	**09 25 43.7**	**-0.3**
DNZL	**Cakiroluk**	**0.73**	**62**	*i* P	**Pn**	**09 25 32.4**	**+0.4**
DNZL				*i* S	**Sn**	**09 25 43.7**	**-0.3**
BODT	**Bodrum**	**0.79**	**249**	*e*PG	**Pb**	**09 25 30.6**	**-0.2**
BODT	**Bodrum**	**0.79**	**249**	*e*Pg	**Pb**	**09 25 30.6**	**-0.2**
FETY	**Fethiye**	**0.99**	**136**	*e*PG	**Pn**	**09 25 35.2**	**-0.1**
FETY	**Fethiye**	**0.99**	**136**	*e*Pg	**Pn**	**09 25 35.2**	**-0.1**

IDC ***17*** *09:40:21.1±2.8, 53°.55N×87°.78E, h0km, mb1 3.4/2, mb1mx3.1/51, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=25.5km s-min=15.0km az=63.0*
NNC ***17*** *09:40:24.6±3.4, 53°.40N×87°.47E, h1km±15km, mb4.1, mpv3.7, Error ellipse: s-maj=24.3km s-min=21.2km az=36.0*

ISC 17 09:40:23.7±4.1, 53°.6N±0°.1×87°.7E±0°.2, h10km, n7, σ0s.82/10, 8C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**283**	*i*		09 52 00.0	
	baz=100,slow=318,SNR=15						
ZALV	**Zalesovo Beam**	**1.72**	**283**	Pn	**Pn**	**09 40 53.0**	**-0.7**
	5.1nm,0.3s,baz=99,slow=14,SNR=34						
ZALV				Lg	Lg	09 41 17.8	
	8.6nm,0.3s,baz=106,slow=24,SNR=19						
KURK	**Kurchatov**	**6.26**	**246**	⇑Pn	**Pn**	**09 41 55.7**	**-0.3**
	6.7nm,0.4s						
KURK				⇑Pg	**Pb**	**09 42 13.9**	**+1.3**
	28nm,1.3s						
KURK				⇑Lg	Lg	09 43 39.6	
	47nm,0.9s						
KURBB	**Kurchatov Arra**	**6.36**	**246**	Pn	**Pn**	**09 41 57.4**	**+0.1**
	0.4nm,0.3s,baz=64,slow=14,SNR=12						
KURBB				Lg	Lg	09 43 45.0	
	0.0nm,0.3s,baz=63,slow=32,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.36**	**246**	⇑Pn	**Pn**	**09 41 57.2**	**-0.1**
	2.9nm,0.3s,baz=64,slow=14						
KURBB				⇑Sn	**Sn**	**09 43 08.9**	**-1.0**
	7.9nm,0.6s						
KURBB				⇑Lg	Lg	09 43 43.2	
	8.1nm,0.6s						
MK31	**Makanchi Array**	**7.62**	**209**	⇓Pn	**Pn**	**09 42 14.2**	**-0.5**
	0.2nm,0.2s,baz=49,slow=36,SNR=8.7						
MK31				⇑Sn	**Sn**	**09 43 39.9**	**-1.1**
	0.3nm,0.3s,baz=30,slow=22,SNR=4.2						
MK31				⇑Lg	Lg	09 44 20.4	
	2.9nm,0.8s,baz=49,slow=32,SNR=5.3						
MKAR	**Makanchi Array**	**7.62**	**209**	Pn	**Pn**	**09 42 14.7**	**0.0**
	0.4nm,0.3s,baz=30,slow=14,SNR=12						
MKAR				Sn	**Sn**	**09 43 40.5**	**-0.5**
	0.1nm,0.3s,baz=31,slow=28,SNR=3.9						
MKAR				Lg	Lg	09 44 19.8	
	0.1nm,0.3s,baz=40,slow=27,SNR=3.4						

MEX 17 09:47:12.4±0.5, 32°.35N×115°.08W, h26km±14km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.12**	**301**	*e*P	Pb	09 47 16.7	-0.6
SPIG	**San Pedro Mart**	**1.34**	**194**	*e*P	Pn	09 47 33.6	-2.1
SPIG				*i* S	Sn	09 47 48.5	-4.4
TJIG	**Tijuana**	**1.35**	**274**	*e*P	Pn	09 47 33.1	-2.5
TJIG				*e*S	Sn	09 47 48.5	-4.2

ISCJB ***17*** *09:49:05.9±0.6, 37°.87N±0°.04×26°.96E±0°.06, h10km±11km, Error ellipse: s-maj=8.7km s-min=4.0km az=143.1*
DDA ***17*** *09:49:05.7, 37°.87N×26°.94E, h6km, Md2.6*
ISK ***17*** *09:49:06.1, 37°.90N×27°.07E, h28km, MD2.5*
CSEM ***17*** *09:49:06.1±0.1, 37°.87N×27°.01E, h15km, MD2.5, Error ellipse: s-maj=3.7km s-min=2.5km az=58.0*

ISC 17 09:49:06.1±0.9, 37°.89N±0°.03×26°.98E±0°.04, h12km±8km, n16, σ0s53/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGB	**¯zmir**	**0.18**	**336**	*i* P	**Pg**	**09 49 10.1**	**-0.1**
DGB				*i* S	**Sg**	**09 49 12.5**	**-0.4**
GCAM	**G?zelcaml?**	**0.28**	**132**	P	**Pg**	**09 49 11.9**	**+0.1**
GCAM				S	**Sg**	**09 49 16.0**	**+0.4**
GCAM	**G?zelcaml?**	**0.28**	**132**	*i* P	**Pg**	**09 49 11.9**	**+0.1**
GCAM				*i* S	**Sg**	**09 49 16.0**	**+0.4**
ZEY	**¯zmir**	**0.51**	**314**	*i* P	**Pg**	**09 49 15.6**	**-0.5**
ZEY				*i* S	**Sg**	**09 49 22.6**	**-0.4**
IZM	**Izmir**	**0.56**	**24**	*e*PG	**Pg**	**09 49 17.1**	**+0.1**
IZM				*e*SG	**Sb**	**09 49 26.4**	**+0.5**
IZM	**Izmir**	**0.56**	**24**	*e*Pg	**Pg**	**09 49 17.2**	**+0.1**
IZM				*e*Sg	**Sb**	**09 49 26.4**	**+0.5**
URLA	**Izmir**	**0.56**	**328**	P	**Pb**	**09 49 17.5**	**-0.4**
URLA				S	**Sb**	**09 49 25.7**	**-0.2**
URLA	**Izmir**	**0.56**	**328**	*i* P	**Pb**	**09 49 17.5**	**-0.4**
URLA				*i* S	**Sb**	**09 49 25.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.73**	**85**	*e*PG	**Pg**	**09 49 19.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.73**	**85**	*e*Pg	**Pg**	**09 49 19.7**	**-0.5**
BODT	**Bodrum**	**0.86**	**162**	*e*PG	**Pg**	**09 49 22.4**	**-0.4**
BODT				*e*SG	**Sb**	**09 49 34.6**	**+0.1**
BODT	**Bodrum**	**0.86**	**162**	*e*Pg	**Pg**	**09 49 22.4**	**-0.4**
BODT				*e*Sg	**Sb**	**09 49 34.7**	**+0.1**
CHOS	**Chios island**	**0.88**	**305**	*e*PG	**Pb**	**09 49 23.8**	**+0.4**
CHOS				*e*SG	**Sb**	**09 49 36.5**	**+1.3**
CHOS	**Chios island**	**0.88**	**305**	*e*Pg	**Pb**	**09 49 23.8**	**+0.4**
CHOS				*e*Sg	**Sb**	**09 49 36.5**	**+1.3**
APE	**Apeiranthos**	**1.41**	**235**	*e*PN	**Pn**	**09 49 31.5**	**-0.1**
APE	**Apeiranthos**	**1.41**	**235**	*e*Pn	**Pn**	**09 49 31.5**	**-0.1**

IDC ***17*** *09:50:40.7±1.8, 38°.77N×142°.70E, h0km, mb3.6/4, mb1 3.7/8, mb1mx3.5/38, mbtmp3.7/8, ML3.5/3, Error ellipse: s-maj=46.3km s-min=21.6km az=78.0*
JMA ***17*** *09:50:43.7±0.2, 38°.84N×142°.45E, h26km±2km, M3.8*

ISC 17 09:50:42.9±1.1, 38°.83N±0°.06×142°.51E±0°.06, h14km±5km, n22, σ1s58/24, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.70**	**291**	P	**Pg**	**09 50 56.5**	**0.0**
OFUJ				S	**Sg**	**09 51 05.0**	**-0.8**
JIO	**Ouri**	**0.98**	**248**	P	**Pg**	**09 51 00.5**	**-1.4**
JIO				S	**Sg**	**09 51 12.5**	**-2.2**
JMK	**Ichinoseki**	**1.01**	**277**	P	**Pg**	**09 51 01.4**	**-1.1**
JMK				S	**Sg**	**09 51 13.6**	**-2.1**
JOM	**Ohasama**	**1.14**	**305**	P	**Pb**	**09 51 03.6**	**-0.9**
JOM				S	**Sg**	**09 51 18.2**	**-1.7**
JTH	**Tanohata**	**1.22**	**336**	P	**Pn**	**09 51 04.2**	**-1.3**
JOU	**Okura**	**1.52**	**253**	P	**Pn**	**09 51 09.3**	**-0.4**
JRG	**Rokugo**	**1.57**	**292**	P	**Pn**	**09 51 10.5**	**+0.2**
JRG				S	**Sn**	**09 51 30.5**	**+0.1**
MJAR	**Matsushiro Arr**	**4.11**	**238**	Pn	**Pn**	**09 51 46.5**	**+1.2**
	2.8nm,0.3s,baz=36,slow=13,SNR=23						
MAT	**Matsushiro**	**4.11**	**238**	P	**Pn**	**09 51 46.5**	**+1.2**
MAT				*e*S	**Sn**	**09 52 36.8**	**+3.7**
ASAJ	**Asahikawa**	**5.28**	**1**	Pn	**Pn**	**09 52 02.5**	**+1.0**
	0.9nm,0.3s,baz=226,slow=9.5,SNR=5.5						
JHJ	**Hachijo jima 2**	**6.11**	**202**	Pn	**Pn**	**09 52 11.9**	**-0.9**
	8.8nm,0.3s,baz=90,slow=20,SNR=3.9						
USRK	**Ussuriysk Ar.**	**9.54**	**308**	Pn	**Pn**	**09 53 02.5**	**+2.7**
	0.2nm,0.3s,baz=102,slow=15,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.39**	**125**	T	T	10 26 26.0	
	baz=317,slow=75,SNR=68						
H11N1	**WAKE ISLAND Hy**	**28.40**	**125**	T	T	10 26 27.1	
	baz=317,slow=75,SNR=60						
H11N3	**WAKE ISLAND Hy**	**28.41**	**125**	T	T	10 26 26.9	
	baz=317,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	10 27 24.8	
	baz=318,slow=76,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	10 27 24.2	
	baz=318,slow=76,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**29.19**	**127**	T	T	10 27 25.4	
	baz=318,slow=76,SNR=9.8						
MKAR	**Makanchi Array**	**43.92**	**301**	P	**P**	**09 58 49.9**	**+0.7**
	0.3nm,0.4s,baz=79,slow=8.0,SNR=2.8						
MKAR				pP	**sP**	**09 58 56.5**	**+1.3**
	1.9nm,0.7s,baz=85,slow=9.8,SNR=7.2						
KURBB	**Kurchatov Arra**	**45.60**	**307**	P	**P**	**09 59 02.9**	**+0.4**
	0.7nm,0.4s,baz=82,slow=8.4,SNR=4.8						
KURBB				pP	**sP**	**09 59 10.2**	**+1.8**
	1.9nm,0.5s,baz=82,slow=8.3,SNR=7.7						
WRA	**Warramunga Arr**	**56.96**	**189**	P	**P**	**10 00 41.5**	**-0.4**
	0.4nm,0.5s,baz=4.4,slow=6.7,SNR=6.5						
ASAR	**Alice Springs**	**62.69**	**189**	P	**P**	**10 01 07.3**	**+0.1**
	0.2nm,0.7s,baz=16,slow=6.9,SNR=4.0						

KRSC 17 10:07:50.2±0.9, 56°.29N×163°.22E, h6km±7km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.29**	**263**	*e*P	Pg	10 07 56.7	+0.8
KBG				*e*S	Sg	10 08 00.3	+0.6
SMKR	**Semkarok**	**1.02**	**287**	*e*P	Pg	10 08 09.0	-0.7
BDR	**Baidarnaya**	**1.15**	**285**	*e*P	Pg	10 08 11.8	-0.5
BDR				*e*S	Sg	10 08 27.2	0.0
SRKR	**Sorokina**	**1.20**	**289**	*e*P	Pg	10 08 12.3	-0.8
SRKR				*e*S	Sg	10 08 28.0	-0.6
ZLN	**Zelenaya**	**1.38**	**259**	*e*P	Pn	10 08 16.2	+0.1
ZLN				*e*S	Sn	10 08 34.8	+0.1
CIRR	**Tsirk**	**1.39**	**264**	*e*P	Pn	10 08 16.2	-0.1
CIRR				*e*S	Sb	10 08 34.5	-0.3
LGNR	**Loginova**	**1.43**	**263**	*e*P	Pn	10 08 15.7	-1.3
KLY	**Klyuchi**	**1.43**	**272**	*e*P	Pn	10 08 14.4	-2.3
KLY				*e*S	Sb	10 08 31.4	-4.4
KIRR	**Kirishev**	**1.65**	**259**	*e*P	Pb	10 08 20.7	-0.4
KIRR				*e*S	Sb	10 08 41.9	-0.2
KPT	**Kopyto**	**1.71**	**260**	*e*P	Pb	10 08 22.1	0.0
KPT				*e*S	Sg	10 08 45.1	0.0
KMNR	**Kamenistaya**	**1.76**	**253**	*e*P	Pb	10 08 22.6	-0.3
KMNR				*e*S	Sb	10 08 45.9	+0.6
KOZ	**Kozyrevsk**	**1.89**	**264**	*e*P	Pb	10 08 24.5	-0.5
KOZ				*e*S	Sb	10 08 49.3	+0.4
BKI	**Bering**	**1.90**	**124**	*e*P	Pb	10 08 24.5	-0.7
BKI				*e*S	Sb	10 08 49.2	+0.1
MKZ	**Mys Kozlova**	**1.94**	**207**	*e*P	Pn	10 08 24.6	+1.0
MKZ				*e*S	Sn	10 08 49.1	+0.9
ESO	**Esso**	**2.56**	**264**	*e*P	Pb	10 08 35.1	-1.4
SDLR	**Sedlovina**	**3.93**	**222**	*e*P	Pn	10 08 53.9	+2.8
SMAR	**Somma**	**3.97**	**222**	*e*P	Pn	10 08 54.6	+2.8
AVH	**Avacha**	**3.99**	**222**	*e*P	Pn	10 08 56.3	+4.3
GNL	**Ganaly**	**4.00**	**232**	*e*P	Pn	10 08 55.1	+3.0
UGLR	**Uglovaya**	**4.00**	**221**	*e*P	Pn	10 08 55.7	+3.5

KRSC 17 10:11:11.2±2.0, 50°.44N×157°.43E, h40km±27km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.87**	**287**	*e*P	Pn	10 11 27.5	+0.6
SKR				*e*S	Sn	10 11 37.8	-0.6
PAU	**Pauzhetka**	**1.10**	**340**	*e*P	Pn	10 11 32.0	+1.9
PAU				*e*S	Sn	10 11 45.3	+1.2
ASAK	**Asacha**	**1.97**	**9**	*e*P	Pn	10 11 44.8	+2.7
RUS	**Russkaya**	**2.11**	**18**	*e*P	Pn	10 11 45.1	+1.2
RUS				*e*S	Sn	10 12 09.1	+0.2
PET	**Petropavlovsk**	**2.70**	**16**	*e*S	Sn	10 12 27.3	+3.9
UGLR	**Uglovaya**	**2.91**	**17**	*e*P	Pn	10 11 59.1	+4.1
AVH	**Avacha**	**2.94**	**16**	*e*P	Pn	10 11 59.6	+4.1
AVH				*e*S	Sn	10 12 34.0	+4.4
KOK	**Koryaka**	**2.95**	**14**	*e*P	Pn	10 12 00.1	+4.4
SMAR	**Somma**	**2.95**	**16**	*e*P	Pn	10 12 00.1	+4.3
SDLR	**Sedlovina**	**2.98**	**17**	*e*P	Pn	10 11 59.3	+3.2
KRX	**Arik**	**3.02**	**14**	*e*P	Pn	10 12 01.2	+4.6
KRX				*e*S	Sn	10 12 37.2	+5.6
MKZ	**Mys Kozlova**	**4.89**	**31**	*e*P	Pn	10 12 24.9	+2.8

IDC 17 10:11:21.2±1.2, 9°.84S×123°.22E, h0km, mb4.0/1, mb1 4.4/3, mb1mx3.7/37, mbtmp4.1/3, ML4.0/2, Error ellipse: s-maj=18.3km s-min=12.0km az=29.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.70**	**134**	Pn	Pn	10 14 50.6	0.0
	0.7nm,0.3s,baz=306,slow=15,SNR=43						
WRA				Sn	Sn	10 17 26.5	-7.9
	1.4nm,0.3s,baz=302,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.12**	**145**	Pn	Pn	10 15 22.2	0.0
	0.6nm,0.3s,baz=318,slow=12,SNR=54						
ASAR				Sn	Sn	10 18 19.9	-13
	0.3nm,0.3s,baz=313,slow=22,SNR=8.9						
MKAR	**Makanchi Array**	**67.16**	**331**	P	P	10 22 17.0	0.0
	1.0nm,0.6s,baz=143,slow=7.5,SNR=2.6						

IDC 17 10:14:48.1±0.2, 53°.55N×87°.80E, h0km, ML2.9/1, Error ellipse: s-maj=3.4km s-min=0.1km az=14.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**284**	*i*		10 26 05.0	
	baz=100,slow=320,SNR=26						
ZALV	**Zalesovo Beam**	**1.81**	**284**	Pn	Pn	10 15 20.6	0.0
	2.8nm,0.3s,baz=103,slow=14,SNR=19						
ZALV				Lg	Lg	10 15 44.8	
	2.6nm,0.3s,baz=113,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**6.42**	**247**	Pn	Pn	10 16 24.9	+1.2
	baz=62,slow=14						
KURBB				Lg	Lg	10 18 12.1	
	0.1nm,0.3s,baz=64,slow=35,SNR=7.2						
MKAR	**Makanchi Array**	**7.63**	**210**	Pn	Pn	10 16 42.1	+1.7
	0.2nm,0.3s,baz=33,slow=14,SNR=5.5						
MKAR				Sn	Sn	10 18 08.1	+0.6
	baz=32,slow=28						
MKAR				Lg	Lg	10 18 50.2	
	0.1nm,0.3s,baz=40,slow=30,SNR=6.6						

HEL ***17*** *10:15:54.9±0.2, 67°.72N×34°.00E, h0km, ML2.7, Explosion*
ISCJB ***17*** *10:15:55.7±0.9, 67°.74N±0°.04×33°.6E±0°.1, h0km, mb3.1/1, Error ellipse: s-maj=7.6km s-min=5.8km az=168.2*
CSEM ***17*** *10:15:55.1±1.0, 67°.62N×33°.82E, h1km, ML2.5, Error ellipse: s-maj=19.6km s-min=11.7km az=80.0, Mining explosion.*
IDC ***17*** *10:15:56.8±1.2, 67°.73N×33°.61E, h0km, mb3.1/1, mb1 3.4/6, mb1mx3.2/45, mbtmp3.4/6, ML3.4/5, Error ellipse: s-maj=13.9km s-min=9.2km az=77.0*
NAO ***17*** *10:15:56.3±1.2, 67°.68N×33°.78E, ML3.1*

ISC 17 10:15:54.8±1.2, 67°.54N±0°.04×33°.74E±0°.07, h0km, n40, σ1s88/64, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APZ9	**Apatity**	**0.13**	**284**	Pg	**Pg**	**10 15 59.8**	**+2.5**
APZ9				Lg	Lg	10 16 02.7	
APZ9	**Apatity**	**0.13**	**284**	Pg	**Pg**	**10 15 59.8**	**+2.5**
APZ9				Lg	Lg	10 16 02.7	
APZ9	**Apatity**	**0.13**	**284**	Pg	**Pg**	**10 15 59.8**	**+2.5**
	SNR=91						
APZ9				Lg	Lg	10 16 02.7	
APA0	**Apatity Array**	**0.29**	**284**	Pg	**Pb**	**10 16 02.3**	**-0.6**
	baz=98,slow=16						
APA0				Lg	Lg	10 16 06.9	
	baz=74,slow=37						
APA0	**Apatity Array**	**0.29**	**284**	Pg	**Pb**	**10 16 02.3**	**-0.6**
	baz=98,slow=16						
APA0				Lg	Lg	10 16 06.9	
	baz=74,slow=37						
APA0	**Apatity Array**	**0.29**	**284**	Pg	**Pb**	**10 16 02.3**	**-0.6**
	SNR=90						
APA0				Lg	Lg	10 16 06.9	
VRF	**Varrio**	**1.59**	**280**	*e*P	**Pn**	**10 16 24.4**	**+0.2**
VRF				*e*S	**Sg**	**10 16 46.1**	**+0.3**
VRF				MSG		10 16 49.2	
	comp=Z,77nm,0.2s						
VRF	**Varrio**	**1.59**	**280**	P	**Pn**	**10 16 24.4**	**+0.2**
VRF				S	**Sg**	**10 16 46.1**	**+0.3**
KU6	**Riekki**	**2.15**	**227**	*e*P	**Pb**	**10 16 34.3**	**-0.3**
KU6				*e*S	**Sg**	**10 17 04.3**	**+0.6**
KU6				MSG		10 17 07.2	
	comp=Z,37nm,0.3s						
KU6	**Riekki**	**2.15**	**227**	P	**Pb**	**10 16 34.2**	**-0

comp=Z,0.2nm,0.3s,baz=34,slow=10,SNR=4.1
HFS Sn **Sn** **10 20 43.9 -4.9**
comp=Z,0.3nm,0.3s,baz=47,slow=22,SNR=4.1
HFS Hagfors 11.49 239 Pn **Pn** **10 18 38.5 -1.4**
baz=40,slow=12
HFS Sn **Sn** **10 20 43.7 -5.1**
baz=41,slow=28
HFS Hagfors 11.49 239 Pn **Pn** **10 18 38.5 -1.4**
SNR=50
NB2 NORSAR Subarra 11.69 247 Pn **Pn** **10 18 41.5 -1.1**
baz=45,slow=14
NB2 NORSAR Subarra 11.69 247 P **Pn** **10 18 41.5 -1.1**
baz=45,slow=14
NB2 NORSAR Subarra 11.69 247 P **Pn** **10 18 41.5 -1.1**
SNR=47
NOA NORSAR Array B 11.69 247 Pn **Pn** **10 18 41.3 -1.3**
comp=Z,0.3nm,0.3s,baz=40,slow=10,SNR=5.2
SPA0 Spitsbergen Ar 11.76 342 Pn **Pn** **10 18 40.1 -3.4**
baz=143,slow=16
SPA0 Spitsbergen Ar 11.76 342 P **Pn** **10 18 40.1 -3.4**
baz=143,slow=16
SPITS Spitsbergen Ar 11.76 342 Pn **Pn** **10 18 40.2 -3.3**
baz=143,slow=17,SNR=11
BVAR Borovoye Array 22.78 111 P **P** **10 21 01.2 +2.7**
comp=Z,0.2nm,0.3s,baz=327,slow=13,SNR=2.4

ISCJB ***17*** *10:33:19.5±0.5, 33.82N±0.04×135.34E±0.03, h57km±5km, mb3.3/2, Error ellipse: s-maj=6.8km s-min=4.3km az=175.4*
JMA ***17*** *10:33:20.9, 33.86N×135.37E, h51km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕs176.00000°, δ67.00000°, λ-48.00000°. NP2: ϕs289.00000°, δ47.00000°, λ-148.00000°. Principal axes: T Plg12.0000°, Azm237.0000°; N Plg39.0000°, Azm337.0000°; P Plg49.0000°, Azm133.0000°;*
JMA Felt I J1.
IDC ***17*** *10:33:20.8±1.9, 33.75N×135.36E, h46km±27km, mb3.1/2, mb1 3.6/6, mb1mx3.3/45, mbtmp3.6/6, ML3.6/4 Error ellipse: s-maj=32.7km s-min=22.7km az=14.0*
ISC 17 10:33:20.7±1.0, 33.83N±0.04×135.33E±0.03, h49km±7km, n20, σ1.9s12/35, 8C-4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.03**	**50**	⇓P			**Pn**	**10 33 28.6**	**+0.3**
JWM				S			**Sn**	**10 33 33.7**	**0.0**
JWZ	**Kozaga**	**0.44**	**132**	⇑P			**Pn**	**10 33 31.3**	**0.0**
JWZ				S			**Sn**	**10 33 39.1**	**+0.3**
JWY	**Kouya**	**0.45**	**30**	⇑P			**Pn**	**10 33 31.3**	**-0.1**
JWY				S			**Sn**	**10 33 38.6**	**-0.4**
JAJ2	**Tsuna**	**0.69**	**328**	⇓P			**Pn**	**10 33 34.6**	**+0.2**
JAJ2				S			**Sn**	**10 33 44.6**	**+0.4**
JAI	**Aioi**	**0.73**	**267**	⇑P			**Pn**	**10 33 35.0**	**+0.2**
JAI				S			**Sn**	**10 33 45.2**	**+0.2**
JHE	**Heguri**	**0.87**	**20**	⇑P			**Pn**	**10 33 36.4**	**-0.4**
JHE				S			**Sn**	**10 33 47.7**	**-0.8**
JKN2	**Miekihoku**	**0.89**	**62**	⇑P			**Pn**	**10 33 36.4**	**-0.5**
JKN2				S			**Sn**	**10 33 47.6**	**-1.2**
JMN	**Monobe**	**1.21**	**266**	⇑P			**Pn**	**10 33 41.3**	**0.0**
JMN				S			**Sn**	**10 33 56.0**	**-0.6**
JKS	**Kasai**	**1.22**	**341**	⇓P			**Pn**	**10 33 41.3**	**-0.1**
JKS				S			**Sn**	**10 33 56.1**	**-0.7**
TTO1	**TONANKAI O.B.S**	**1.23**	**99**	P			**Pn**	**10 33 41.5**	**+0.2**
TTO1				X				10 33 57.6	
TSUJ	**Tsu 2**	**1.26**	**46**	⇑P			**Pn**	**10 33 41.2**	**-0.8**
JIE	**Ise**	**1.28**	**64**	⇑P			**Pn**	**10 33 41.9**	**-0.3**
JIE				S			**Sn**	**10 33 57.0**	**-1.2**
JJS	**Sakaide**	**1.28**	**296**	⇓P			**Pn**	**10 33 42.1**	**-0.1**
JJS				S			**Sn**	**10 33 57.5**	**-0.8**
MAT	**Matsushiro**	**3.59**	**40**	P			**Pn**	**10 34 13.7**	**-0.2**
MAT				*e*S			**Sn**	**10 34 59.0**	**+3.9**
MJAR	**Matsushiro Arr**	**3.59**	**40**	P			**Pn**	**10 34 14.5**	**+0.6**
	1.9nm,0.3s,baz=221,slow=13,SNR=15								
JNU	**Nakatsue**	**3.78**	**260**	P			**Pn**	**10 34 17.1**	**+0.5**
	14nm,0.3s,baz=85,slow=4.3,SNR=88								
JNU				S			**Sn**	**10 34 58.2**	**-1.6**
	3.6nm,0.3s,baz=167,slow=22,SNR=2.4								
JHJ	**Hachijo jima 2**	**3.79**	**100**	P			**Pn**	**10 34 16.6**	**0.0**
	7.5nm,0.3s,baz=283,slow=18,SNR=2.6								
JHJ				S			**Sn**	**10 34 57.7**	**-2.3**
	38nm,0.3s,baz=100,slow=21,SNR=8.5								
KSRS	**Korea Array**	**7.03**	**303**	P			**Pn**	**10 35 01.9**	**+0.9**
	0.6nm,0.3s,baz=122,slow=14,SNR=7.3								
KSRS				S			**Sn**	**10 36 17.0**	**-2.6**
	0.7nm,0.3s,baz=124,slow=24,SNR=10								
MKAR	**Makanchi Array**	**41.71**	**304**	P			**P**	**10 41 05.6**	**+0.8**
	0.3nm,0.4s,baz=94,slow=8.9,SNR=3.1								
WRA	**Warramunga Arr**	**53.48**	**181**	P			**P**	**10 42 35.8**	**-0.4**
	0.2nm,0.4s,baz=358,slow=7.9,SNR=3.2								

KRSC ***17*** *10:39:32.5±3.2, 48.39N×156.48E, h101km±47km, ML6.0, FELT [II] at lighthouse Krugliy.*
ISCJB ***17*** *10:39:33.6±0.6, 48.50N±0.02×156.32E±0.02, h29km±4km, mb5.3/373, MS4.9/55, Error ellipse: s-maj=2.8km s-min=1.7km az=155.1*
BJI ***17*** *10:39:33.5, 48.45N×156.45E, h40km, mb5.3/85, mB5.3/55, Ms5.2/85, Ms7 5.0/79*
SKHL ***17*** *10:39:35.3±0.7, 48.42N×156.37E, h52km±8km, mb5.7/3, mbh5.6/2, Ms5.1/6, msh6.4/1*
SKHL Felt (III) at Severo-Kurilsk(250 km).
MOS ***17*** *10:39:35.2±1.0, 48.55N×156.27E, h40km, mb5.5/102, MS4.8/34, Error ellipse: s-maj=5.4km s-min=2.7km az=84.9*
MOS Felt (III) Severo-Kuril'sk.
IDC ***17*** *10:39:40.0±0.4, 48.60N×156.13E, h65km±3km, mb4.9/29, mb1 5.0/36, mb1mx4.9/42, mbtmp5.1/36, MS4.8/36, Ms1 4.8/36, ms1mx4.7/41, Error ellipse: s-maj=9.7km s-min=8.0km az=126.0*
GCMT ***17*** *10:39:39.8±0.1, 48.54N×156.33E, h35km, MW5.4/126, Moment Tensor Solution. s100,c169; s126,c226; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr1.10±.03; Mθθ0.28±.02; Mϕϕ-1.38±.02; Mrθ-0.56±.03; Mθϕ-0.35±.01; Mϕr0.77±.03; Best double couple: M0 1.62100×10^17 NP1:ϕs345.00000°, δ64.00000°, λ61.00000°. NP2:ϕs218.00000°, δ38.00000°, λ136.00000°. Principal axes: T 1.6230, Plg59.0000°, Azm212.0000°; N -0.0020, Plg26.0000°, Azm359.0000°; P -1.6190, Plg14.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *10:39:39.8±0.1, 48.60N×156.20E, mb5.3/290 Error ellipse: s-maj=3.0km s-min=1.7km az=155.0*
NEIC Felt [III] at Severo-Kuril'sk. Also felt at Petropavlovsk-Kamchatskiy.
ISC 17 10:39:37.2±0.2, 48.54N±0.03×156.19E±0.03, h41km±1km, h41km:pP-P, n1393, σ1.32/1568, mb5.3/379, MS5.0/56, 71C-21D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.14**	**359**	⇑*i*P			**Pn**	**10 40 10.2**	**-0.2**
SKR				pmax			pmax		
	comp=Z,2μm,0.6s								
SKR	**Severo-Kuril's**	**2.14**	**359**	*e*P			**Pn**	**10 40 10.4**	**-0.1**
SKR				AMB			AMB	10 40 12.8	
	comp=Z,2μm,0.6s								
SKR				*e*S			**Sn**	**10 40 36.9**	**+1.1**
SKR				A			A	10 40 37.9	
	comp=Z,13μm,0.2s								
SKR				AMS			AMS	10 41 59.0	
	comp=Z,23μm,11.0s								
SKR				AMS			AMS	10 41 59.0	
	comp=Z,22μm,11.0s								
SKR	**Severo-Kuril's**	**2.14**	**359**	*e*P			**Pn**	**10 40 10.1**	**-0.3**
SKR				*e*S			**Sn**	**10 40 35.7**	**-0.1**
PAU	**Pauzhetka**	**2.96**	**8**	PN			**Pn**	**10 40 21.4**	**-0.2**
PAU				S			**Sn**	**10 40 55.7**	**-0.1**
PAU	**Pauzhetka**	**2.96**	**8**	*e*P			**Pn**	**10 40 21.1**	**-0.5**
PAU				AMB			AMB	10 40 22.8	
	comp=Z,1μm,0.6s								
PAU				*e*S			**Sn**	**10 40 54.8**	**-1.0**
PAU				A			A	10 40 55.9	
	comp=Z,20μm,0.5s								
PAU				A			A	10 40 55.9	
	comp=Z,14μm,0.5s								
PAU				AMS			AMS	10 42 59.0	
	comp=Z,13μm,11.0s								
PAU				AMS			AMS	10 42 59.0	
	comp=Z,18μm,11.0s								
PAU	**Pauzhetka**	**2.96**	**8**	*e*P			**Pn**	**10 40 21.4**	**-0.2**
PAU				*e*S			**Sn**	**10 40 55.7**	**-0.1**
ASAK	**Asacha**	**4.00**	**15**	PN			**Pn**	**10 40 35.6**	**-0.4**
ASAK				S			**Sn**	**10 41 21.5**	**-0.1**
ASAK	**Asacha**	**4.00**	**15**	*i* P			**Pn**	**10 40 35.6**	**-0.4**
ASAK				*e*S			**Sn**	**10 41 21.5**	**-0.1**
RUS	**Russkaya**	**4.17**	**20**	PN			**Pn**	**10 40 36.9**	**-1.3**
RUS	**Russkaya**	**4.17**	**20**	*i* P			**Pn**	**10 40 36.9**	**-1.3**
RUS				*e*S			**Sn**	**10 41 22.4**	**-3.2**
GRL	**Gorelyy**	**4.19**	**16**	PN			**Pn**	**10 40 39.0**	**+0.3**
GRL				S			**Sn**	**10 41 26.1**	**-0.3**
GRL	**Gorelyy**	**4.19**	**16**	*i* P			**Pn**	**10 40 39.0**	**+0.3**
GRL				*e*S			**Sn**	**10 41 26.1**	**-0.3**
KRMR	**Karymshinskiy**	**4.47**	**15**	PN			**Pn**	**10 40 42.4**	**+0.1**
KRMR				S			**Sn**	**10 41 35.5**	**+2.5**
KRMR	**Karymshinskiy**	**4.47**	**15**	*e*P			**Pn**	**10 40 42.4**	**+0.1**
KRMR				*e*S			**Sn**	**10 41 35.5**	**+2.5**
PEA0	**Petropavlovsk-**	**4.67**	**11**	*e*Pn			**Pn**	**10 40 45.6**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.67**	**11**	*e*Pn			**Pn**	**10 40 45.8**	**+0.6**
PETK	**Petropavlovsk-**	**4.67**	**11**	P			**Pn**	**10 40 45.7**	**+0.5**
	comp=Z,87nm,0.3s,baz=179,slow=12,SNR=775								
PETK				LR			LR	10 42 57.4	
	comp=Z,13μm,20.1s,baz=206,slow=43								
PEA1	**Petropavlovsk-**	**4.67**	**11**	*e*Pn			**Pn**	**10 40 45.6**	**+0.4**
PET	**Petropavlovsk**	**4.75**	**18**	*i* PN			**Pn**	**10 40 45.6**	**-0.6**
PET				pmax			pmax		
	comp=Z,1μm,0.6s								
PET				pmax			pmax		
	comp=Z,993nm,0.6s								
PET				MLR			MLR		
	comp=Z,7μm,14.0s								
PET				MLR			MLR		
	comp=Z,6μm,13.0s								
PET	**Petropavlovsk**	**4.75**	**18**	*e*P			**Pn**	**10 40 45.7**	**-0.6**
PET				AMB			AMB	10 40 46.2	
	comp=Z,800nm,0.4s								
PET				*e*S			**Sn**	**10 41 38.9**	**-1.1**
PET				A			A	10 41 39.6	
	comp=Z,8μm,0.5s								
PET				AMS			AMS	10 43 27.0	
	comp=Z,5μm,13.0s								
PET				AMS			AMS	10 43 27.0	
	comp=Z,24μm,13.0s								
PET				AMS			AMS	10 43 27.0	
	comp=Z,5μm,13.0s								
PET	**Petropavlovsk**	**4.75**	**18**	*e*Pn			**Pn**	**10 40 45.6**	**-0.6**
PET				*e*Sn			**Sn**	**10 41 38.9**	**-1.1**
PET	**Petropavlovsk**	**4.75**	**18**	*i* P			**Pn**	**10 40 45.2**	**-1.0**
PET				*e*S			**Sn**	**10 41 38.4**	**-1.6**
INSR	**Institute**	**4.78**	**18**	PN			**Pn**	**10 40 51.1**	**+4.4**
INSR	**Institute**	**4.78**	**18**	*e*P			**Pn**	**10 40 51.1**	**+4.4**
INSR				*e*S			**Sn**	**10 41 39.0**	**-1.7**
UGLR	**Uglovaya**	**4.96**	**19**	PN			**Pn**	**10 40 49.2**	**0.0**
UGLR	**Uglovaya**	**4.96**	**19**	*i* P			**Pn**	**10 40 49.2**	**0.0**
UGLR				*e*S			**Sn**	**10 41 42.8**	**-2.5**
AVH	**Avacha**	**5.00**	**18**	PN			**Pn**	**10 40 50.0**	**+0.3**
AVH				S			**Sn**	**10 41 46.7**	**+0.5**
AVH	**Avacha**	**5.00**	**18**	*e*P			**Pn**	**10 40 50.0**	**+0.3**
AVH				*e*S			**Sn**	**10 41 46.7**	**+0.5**
KOK	**Koryaka**	**5.00**	**17**	PN			**Pn**	**10 40 50.7**	**+0.9**
KOK				S			**Sn**	**10 41 47.0**	**+0.7**
KOK	**Koryaka**	**5.00**	**17**	*e*P			**Pn**	**10 40 50.7**	**+0.9**
KOK				*e*S			**Sn**	**10 41 47.0**	**+0.7**
SMAR	**Somma**	**5.01**	**18**	PN			**Pn**	**10 40 49.6**	**-0.4**
SMAR	**Somma**	**5.01**	**18**	*i* P			**Pn**	**10 40 49.6**	**-0.4**
SMAR				*e*S			**Sn**	**10 41 45.6**	**-1.0**
KRER	**Koryakskii**	**5.04**	**18**	PN			**Pn**	**10 40 50.5**	**+0.2**
KRER				S			**Sn**	**10 41 47.0**	**-0.3**
KRER	**Koryakskii**	**5.04**	**18**	*e*P			**Pn**	**10 40 50.5**	**+0.2**
KRER				*e*S			**Sn**	**10 41 47.0**	**-0.3**
SDLR	**Sedlovina**	**5.04**	**19**	PN			**Pn**	**10 40 49.6**	**-0.7**
SDLR	**Sedlovina**	**5.04**	**19**	*i* P			**Pn**	**10 40 49.6**	**-0.7**
SDLR				*e*S			**Sn**	**10 41 45.1**	**-2.2**
NLC	**Nalytchevo**	**5.05**	**22**	PN			**Pn**	**10 40 48.2**	**-2.1**
NLC	**Nalytchevo**	**5.05**	**22**	*e*P			**Pn**	**10 40 48.2**	**-2.1**
NLC				*e*S			**Sn**	**10 41 47.1**	**-5.5**
KRX	**Arik**	**5.07**	**17**	PN			**Pn**	**10 40 51.0**	**+0.3**
KRX				S			**Sn**	**10 41 47.8**	**-0.2**
KRX	**Arik**	**5.07**	**17**	*e*P			**Pn**	**10 40 51.0**	**+0.3**
KRX				*e*S			**Sn**	**10 41 47.8**	**-0.2**
GNL	**Ganaly**	**5.28**	**11**	PN			**Pn**	**10 40 54.3**	**+0.7**
GNL				S			**Sn**	**10 41 57.5**	**+4.4**
GNL	**Ganaly**	**5.28**	**11**	*i* P			**Pn**	**10 40 54.3**	**+0.7**
GNL				*e*S			**Sn**	**10 41 57.5**	**+4.4**
KUR	**Kuril'sk**	**6.59**	**243**	*i* PN			**Pn**	**10 41 12.9**	**+1.4**
KUR				pmax			pmax		
	comp=E,95nm,0.7s								
KUR				pmax			pmax		
	comp=Z,582nm,0.7s								
KUR				pmax			pmax		
	comp=N,68nm,0.5s								
KUR				pmax			pmax		
	comp=Z,2μm,3.9s								
KUR	**Kuril'sk**	**6.59**	**243**	*e*P			**Pn**	**10 41 10.4**	**-1.1**
KUR				AMB			AMB	10 41 11.4	
	comp=Z,2μm,0.6s								
KUR				*e*S			**Sn**	**10 42 23.0**	**-2.4**
KUR				A			A	10 42 23.9	
	comp=Z,8μm,2.0s								
KUR				A			A	10 42 23.9	
	comp=Z,9μm,2.0s								
KUR				A			A	10 42 31.1	
	comp=Z,1μm,0.5s								
KUR				A			A	10 42 31.1	
	comp=Z,785nm,0.5s								
KUR				AMS			AMS	10 43 35.0	
	comp=Z,12μm,13.0s								
KUR				AMS			AMS	10 43 35.0	
	comp=Z,9μm,13.0s								
KUR				AMS			AMS	10 43 35.0	
	comp=Z,12μm,13.0s								
MKZ	**Mys Kozlova**	**6.94**	**28**	PN			**Pn**	**10 41 14.2**	**-2.0**
MKZ	**Mys Kozlova**	**6.94**	**28**	*i* P			**Pn**	**10 41 14.2**	**-2.0**
TUMD	**Tumrok D**	**7.16**	**20**	*e*S			**Sn**	**10 42 36.3**	**-3.0**
TUMR	**Tumrok**	**7.18**	**18**	PN			**Pn**	**10 41 19.8**	**+0.1**
TUMR	**Tumrok**	**7.18**	**18**	*e*P			**Pn**	**10 41 19.8**	**+0.1**
ESO	**Esso**	**7.55**	**11**	PN			**Pn**	**10 41 24.5**	**-0.2**
ESO	**Esso**	**7.55**	**11**	*e*P			**Pn**	**10 41 24.5**	**-0.2**
KMNR	**Kamenistaya**	**7.64**	**17**	PN			**Pn**	**10 41 28.0**	**+2.0**
KMNR	**Kamenistaya**	**7.64**	**17**	*i* P			**Pn**	**10 41 28.0**	**+2.0**
KPT	**Kopyto**	**7.83**	**17**	PN			**Pn**	**10 41 28.4**	**-0.2**
KPT	**Kopyto**	**7.83**	**17**	*e*P			**Pn**	**10 41 28.4**	**-0.2**
KIRR	**Kirishev**	**7.85**	**17**	PN			**Pn**	**10 41 28.7**	**-0.1**
KIRR	**Kirishev**	**7.85**	**17**	*e*P			**Pn**	**10 41 28.7**	**-0.1**
KOZ	**Kozyrevsk**	**7.86**	**15**	PN			**Pn**	**10 41 28.6**	**-0.3**
KOZ	**Kozyrevsk**	**7.86**	**15**	*e*P			**Pn**	**10 41 28.6**	**-0.3**
BZMR	**Bezymyannaya**	**7.86**	**18**	PN			**Pn**	**10 41 29.0**	**0.0**
BZMR	**Bezymyannaya**	**7.86**	**18**	*e*P			**Pn**	**10 41 29.0**	**0.0**
SHO	**Shikotan**	**8.00**	**238**	*c i*PN			**Pn**	**10 41 27.5**	**-3.3**
SHO				pmax			pmax		
	comp=Z,543nm,0.7s								
SHO				pmax			pmax		
	comp=E,227nm,0.4s								
SHO				pmax			pmax		
	comp=N,246nm,0.3s								
SHO	**Shikotan**	**8.00**	**238**	*e*P			**Pn**	**10 41 27.7**	**-3.1**
SHO				AMB			AMB	10 41 28.7	
	comp=N,300nm,0.6s								
SHO				*e*S			**Sn**	**10 42 52.0**	**-7.9**
SHO				A			A	10 42 58.3	
	comp=N,2μm,0.4s								
SHO				AMS			AMS	10 44 11.0	
	comp=N,6μm,11.0s								
SHO				AMS			AMS	10 44 11.0	
	comp=N,3μm,11.0s								
ZLN	**Zelenaya**	**8.00**	**19**	PN			**Pn**	**10 41 31.1**	**+0.2**
ZLN	**Zelenaya**	**8.00**	**19**	*e*P			**Pn**	**10 41 31.1**	**+0.2**
LGNR	**Loginova**	**8.04**	**18**	PN			**Pn**	**10 41 33.2**	**+1.6**
LGNR	**Loginova**	**8.04**	**18**	*i* P			**Pn**	**10 41 33.2**	**+1.6**
CIRR	**Tsirk**	**8.08**	**18**	PN			**Pn**	**10 41 32.5**	**+0.5**
CIRR	**Tsirk**	**8.08**	**18**	*e*P			**Pn**	**10 41 32.5**	**+0.5**
KRSR	**Krestovskiy**	**8.14**	**18**	PN			**Pn**	**10 41 32.3**	**-0.5**
KRSR	**Krestovskiy**	**8.14**	**18**	*e*P			**Pn**	**10 41 32.3**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**8.45**	**242**	*d i*PN			**Pn**	**10 41 36.7**	**-0.3**
YUK				pmax			pmax		
	comp=Z,871nm,0.4s								
YUK				pmax			pmax		
	comp=N,554nm,0.5s								
YUK				pmax			pmax		
	comp=E,594nm,0.5s								
YUK				MLR			MLR		
	comp=Z,11μm,18.0s								
YUK				MLR			MLR		
	comp=E,13μm,15.0s								
YUK				MLR			MLR		
	comp=N,5μm,16.0s								
YUK	**Yuzh-Kuril'sk**	**8.45**	**242**	*e*P			**Pn**	**10 41 36.8**	**-0.3**
YUK				AMB			AMB	10 41 37.4	
	comp=N,700nm,0.3s								
YUK				*e*S			**Sn**	**10 43 07.8**	**-3.2**
YUK				A			A	10 43 15.8	
	comp=N,5μm,1.0s								
BDR	**Baidarnaya**	**8.60**	**19**	PN			**Pn**	**10 41 38.9**	**-0.2**
BDR	**Baidarnaya**	**8.60**	**19**	*e*P			**Pn**	**10 41 38.9**	**-0.2**
SMKR	**Semkarok**	**8.67**	**20**	PN			**Pn**	**10 41 39.1**	**-0.9**
SMKR	**Semkarok**	**8.67**	**20**	*e*P			**Pn**	**10 41 39.1**	**-0.9**
SRKR	**Sorokina**	**8.67**	**19**	PN			**Pn**	**10 41 39.1**	**-0.9**
SRKR	**Sorokina**	**8.67**	**19**	*e*P			**Pn**	**10 41 39.1**	**-0.9**
KBG	**Krutoberegovo**	**8.69**	**25**	PN			**Pn**	**10 41 39.2**	**-1.0**
KBG	**Krutoberegovo**	**8.69**	**25**	*e*P			**Pn**	**10 41 39.2**	**-1.0**
KBG				*e*S			**Sn**	**10 43 10.1**	**-6.6**
BKI	**Bering**	**9.00**	**39**	PN			**Pn**	**10 41 41.3**	**-3.2**
BKI	**Bering**	**9.00**	**39**	*e*P			**Pn**	**10 41 41.3**	**-3.2**
BKI				*e*S			Sn	10 43 12.1	-12
TYV	**Tymovskoe**	**9.07**	**290**	*e*PN			**Pn**	**10 41 48.5**	**+3.0**
TYV				pmax			pmax		
	comp=Z,128nm,1.0s								
TYV				pmax			pmax		
	comp=Z,1μm,2.0s								
TYV				MLR			MLR		
	comp=E,16μm,20.0s								
TYV				MLR			MLR		
	comp=Z,12μm,20.0s								
TYV	**Tymovskoe**	**9.07**	**290**	*e*P			**Pn**	**10 41 47.0**	**+1.5**
TYV				AMB			AMB	10 42 06.1	
	comp=Z,100nm,1.3s								
TYV				*e*S			**Sn**	**10 43 26.0**	**-0.3**
TYV				AMS			AMS	10 45 28.0	
	comp=Z,16μm,20.0s								
TYV				AMS			AMS	10 45 28.0	
	comp=Z,12μm,20.0s								
YSS	**Yuzh-Sakhalins**	**9.19**	**265**	⇓*i*PN			**Pn**	**10 41 50.6**	**+3.5**
YSS				pmax			pmax		
	comp=Z,350nm,0.5s								
YSS				MLR			MLR		
	comp=Z,4μm,14.0s								
YSS				MLR			MLR		
	comp=N,3μm,16.0s								
YSS				MLR			MLR		
	comp=E,4μm,15.0s								
YSS	**Yuzh-Sakhalins**	**9.19**	**265**	*e*P			**Pn**	**10 41 49.9**	**+2.7**
YSS				AMB			AMB	10 41 51.8	
	comp=E,200nm,0.5s								
YSS				*e*S			**Sn**	**10 43 26.9**	**-2.3**
YSS				AMS			AMS	10 46 00.0	
	comp=E,3μm,15.0s								
YSS				AMS			AMS	10 46 00.0	
	comp=E,4μm,15.0s								
YSS				AMS			AMS	10 46 00.0	
	comp=E,4μm,15.0s								
YSS	**Yuzh-Sakhalins**	**9.19**	**265**	*e*Pn			**Pn**	**10 41 50.6**	**+3.5**
YSS				*e*Sn			**Sn**	**10 43 34.1**	**+4.9**
UGL	**Uglegorsk**	**9.34**	**279**	*e*PN			**Pn**	**10 41 47.2**	**-1.9**
UGL				*e*SS			Sn	10 43 45.4	+13
UGL	**Uglegorsk**	**9.34**	**279**	*e*P			**Pn**	**10 41 51.2**	**+2.1**
UGL				AMB			AMB	10 41 54.3	
	comp=E,300nm,0.7s								
UGL				*e*S			**Sn**	**10 43 31.8**	**-0.9**
UGL				AMS			AMS	10 45 49.0	
	comp=E,7μm,19.0s								
UGL				AMS			AMS	10 45 49.0	
	comp=E,6μm,19.0s								
UGL				AMS			AMS	10 45 49.0	
	comp=E,6μm,19.0s								
OKH	**Okha**	**9.73**	**306**	*e*PN			**Pn**	**10 41 58.0**	**+3.5**
OKH				pmax			pmax		
	comp=Z,2μm,7.0s								
OKH	**Okha**	**9.73**	**306**	*e*P			**Pn**	**10 41 58.0**	**+3.5**
OKH				AMB			AMB	10 41 58.1	
	comp=Z,300nm,1.0s								
OKH				AMB			AMB	10 42 07.8	
	comp=Z,2μm,7.0s								
OKH				*e*S			**Sn**	**10 43 43.9**	**+1.5**
OKH				AMS			AMS	10 48 12.0	
	comp=Z,6μm,13.0s								
OKH				AMS			AMS	10 48 12.0	
	comp=Z,7μm,13.0s								
OKH				AMS			AMS	10 48 12.0	
	comp=Z,4μm,13.0s								
ASAJ	**Asahikawa**	**10.39**	**250**	P			**Pn**	**10 42 05.5**	**+2.0**
	baz=69,slow=11								
ASAJ				S			**Sn**	**10 44 01.2**	**+2.6**
	baz=178,slow=25,SNR=1.1								
ASAJ	**Asahikawa**	**10.39**	**250**	*e*Pn			**Pn**	**10 42 05.0**	**+1.4**
ASAJ				*e*Sn			**Sn**	**10 44 02.1**	**+3.6**
NKL	**Nikolayevsk**	**10.83**	**301**	*i* PN			**Pn**	**10 42 12.0**	**+2.5**
NKL				*e*S			**Sn**	**10 44 18.0**	**+8.7**
NKL				pmax			pmax		
	comp=N,70nm,1.3s								
NKL				pmax			pmax		
	comp=E,170nm,1.3s								
NKL				pmax			pmax		
	comp=Z,200nm,1.3s								
NKL				pmax			pmax		
	comp=N,1μm,4.0s								
NKL				pmax			pmax		
	comp=Z,1μm,4.0s								
NKL				smax			smax		
	comp=N,700nm,9.0s								
NKL				smax			smax		
	comp=E,1μm,9.0s								
NKL				MLR			MLR		
	comp=E,6μm,18.0s								
NKL				MLR			MLR		
	comp=Z,8μm,18.0s

EKMR AMB AMB 10 43 31.9
comp=Z,19nm,0.6s
EKMR AMB AMB 10 43 31.9
comp=Z,59nm,0.6s
KLR Kul'dur 16.08 282 P P 10 43 21.9 -1.0
comp=Z,5.6nm,0.3s,baz=83,slow=13,SNR=78
KLR S S **10 46 28.2 -1.0**
comp=Z,0.2nm,0.3s,baz=320,slow=8.2,SNR=1.2
KLR LR LR 10 49 50.1
comp=Z,7µm,20.2s,baz=86,slow=38
KLR Kul'dur 16.08 282 P P **10 43 21.9 -1.0**
KLR pmax pmax
comp=Z,6.0nm,0.3s
KLR MLR MLR
comp=Z,7µm,20.2s
USRK Ussuriysk Ar. 17.23 264 P Pn **10 43 33.7 -0.9**
comp=Z,2.6nm,0.3s,baz=68,slow=11,SNR=26
USRK S Sn **10 46 41.9 -3.3**
baz=245,slow=8.3,SNR=1.4
USRK LR LR 10 49 45.0
comp=Z,3µm,20.9s,baz=66,slow=35
VLA Vladivostok 17.75 261⇑*e*P Pn **10 43 41.2 +0.2**
MJAR Matsushiro Arr 17.82 234 P Pn **10 43 39.2 -2.8**
comp=Z,1.5nm,0.3s,baz=29,slow=14,SNR=56
MJAR S Sn **10 46 50.8 -8.7**
comp=Z,0.6nm,0.3s,baz=25,slow=15,SNR=4.2
MJAR LR LR 10 51 03.4
comp=Z,3µm,21.2s,baz=50,slow=38
MJB9 Matsu-Tunnel 17.82 234 *e*Pn Pn **10 43 39.1 -2.8**
comp=Z,38nm,0.8s
MJB9 *e*S S **10 47 07.8 +2.9**
MAJO Matsushiro 17.82 234*d i*P Pn **10 43 39.8 -2.2**
MAJO Matsushiro 17.82 234 *e*Pn Pn **10 43 38.9 -3.0**
comp=Z,145nm,0.8s
MAJO *e*S S **10 47 07.5 +2.6**
BMKR Bomnak 17.99 300 *e*P Pn **10 43 44.0 0.0**
BMKR AMB AMB 10 43 57.9
comp=Z,14nm,0.6s
MSHR Mys Shultsa 18.47 261⇓*i*P P **10 43 49.0 -0.4**
MDJ Mudanjiang 18.66 268 P P **10 43 50.4 -1.1**
MDJ pP Pn 10 43 57.1 +4.9
MDJ sP pP 10 44 01.6 0.0
MDJ S Sn **10 47 17.4 -2.3**
MDJ sS sS 10 47 32.9 -5.0
MDJ PcP PcP **10 48 18.8 +0.4**
MDJ ScP ScP **10 51 51.9 +1.5**
MDJ PcS PcS **10 51 55.3 +0.2**
MDJ PMZ
comp=Z,57nm,1.5s
MDJ PMZ
comp=Z,610nm,5.8s
MDJ LN
comp=Z,1µm,17.1s
MDJ LE
comp=Z,2µm,19.9s
MDJ LZ
comp=Z,3µm,19.9s
MDJ Mudanjiang 18.66 268 *e*P P **10 43 50.4 -1.1**
comp=Z,93nm,0.9s
MDJ *e*S S **10 47 21.8 0.0**
ZEA Zeya 18.81 297 *e*P Pn **10 43 54.0 +0.1**
ZEA AMB AMB 10 44 02.2
comp=Z,56nm,1.0s
ZEA AMB AMB 10 44 02.2
comp=Z,100nm,1.0s
ZEA AMB AMB 10 44 09.0
comp=Z,1µm,6.0s
ZEA AMB AMB 10 44 09.0
comp=Z,1µm,6.0s
ZEA *e*S Sn **10 47 23.5 +0.3**
ZEA AMS AMS 10 51 51.0
comp=Z,5µm,18.0s
ZEA AMS AMS 10 51 51.0
comp=Z,6µm,18.0s
KROS Kirovskiy 19.04 299 *e*P P **10 43 56.0 +0.4**
KROS AMB AMB 10 43 59.1
comp=Z,70nm,1.0s
KROS AMB AMB 10 43 59.1
comp=Z,90nm,1.0s
INU Inuyama 19.35 234 *e*P P **10 43 59.3 +0.2**
comp=Z,86nm,0.8s
INU *e*S Sn **10 47 37.3 +0.8**
JHJ Hachijo jima 2 19.72 225 P P **10 44 04.1 +0.9**
comp=Z,7.2nm,0.3s,baz=102,slow=7.1,SNR=4.8
JHJ S S 10 47 31.1 -12
comp=Z,15nm,0.3s,baz=90,slow=21,SNR=6.1
JHJ LR LR 10 54 40.7
comp=Z,535nm,18.2s,baz=38,slow=46
YAK Yakutsk 20.06 322 P P **10 44 05.6 -1.0**
comp=Z,0.0nm,0.3s,baz=286,slow=19,SNR=9.0
YAK pP **sP** **10 44 21.3 -0.6**
comp=Z,0.0nm,0.3s,baz=106,slow=19,SNR=5.1
YAK S S **10 47 45.9 -3.6**
comp=Z,0.0nm,0.3s,baz=203,slow=24,SNR=20
YAK LR LR 10 52 32.2
comp=Z,2µm,18.1s,baz=124,slow=39
YAK Yakutsk 20.06 322 *e*P P **10 44 05.5 -1.0**
YAK *e* 10 44 22.0
YAK *e*S S **10 47 46.5 -2.9**
YAK *e* 10 48 26.5
YAK pmax pmax
comp=Z,69nm,0.8s
YAK pmax pmax
comp=Z,115nm,0.9s
YAK pmax pmax
comp=N,67nm,1.2s
YAK pmax pmax
comp=E,122nm,1.2s
YAK smax smax
comp=N,2µm,2.0s
YAK smax smax
comp=E,1µm,2.0s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=N,1µm,14.0s
YAK MLR MLR
comp=E,2µm,16.0s
YAK Yakutsk 20.06 322 *e*P P **10 44 05.2 -1.4**
comp=E,170nm,0.8s
YAK *e*S S **10 47 47.3 -2.1**
BILL Bilibino 20.20 11⇓*e*P P **10 44 07.9 -0.2**
BILL *e* 10 44 26.0
BILL pmax pmax
comp=Z,70nm,2.5s
BILL MLR MLR
comp=Z,5µm,19.0s
BILL Bilibino 20.20 11 *e*P P **10 44 07.9 -0.2**
BILL Bilibino 20.20 11 *e*P P **10 44 08.3 +0.2**
comp=Z,112nm,1.1s
CLNS Chul'man 20.55 306 *e*P Pn 10 44 13.9 -0.6
CLNS *e* 10 44 31.3
CLNS *e*S S **10 48 00.8 +1.4**
CLNS *e* 10 48 22.5
CLNS pmax pmax
comp=Z,29nm,0.9s
CLNS pmax pmax
comp=N,31nm,1.0s
CLNS pmax pmax
comp=E,26nm,1.1s
CLNS pmax pmax
comp=Z,85nm,1.0s
CLNS pmax pmax
comp=E,49nm,1.2s
CLNS pmax pmax
comp=N,85nm,1.2s
CLNS smax smax
comp=E,71nm,1.5s
CLNS smax smax
comp=N,68nm,1.5s
CLNS MLR MLR
comp=N,2µm,20.0s
CLNS MLR MLR
comp=Z,3µm,19.0s
CLNS MLR MLR
comp=E,3µm,19.0s
CLNS Chul'man 20.55 306 *e*P Pn 10 44 13.9 -0.6
CN2 Changchun 21.73 269 *e*P P **10 44 21.4 -3.3**
CN2 *e*S S **10 48 13.6 -9.2**
CN2 PMZ
comp=E,30nm,0.8s
CN2 LN
comp=E,2µm,16.0s
CN2 LE
comp=E,3µm,16.0s
CN2 LZ
comp=E,2µm,19.0s
GAMB Gambell 23.14 37 *e*P P **10 44 39.1 -0.4**
comp=E,166nm,1.6s
KSRS Korea Array 23.32 252 P P **10 44 41.8 +0.3**
comp=E,141nm,1.0s,baz=54,slow=9.5,SNR=244
KSRS PcP PcP **10 48 27.8 +0.3**
comp=E,7.1nm,1.0s,baz=29,slow=1.2,SNR=7.0
KSRS S S **10 48 55.1 +4.1**
comp=E,8.0nm,1.2s,baz=44,slow=13,SNR=7.4
KSRS LR LR 10 53 40.4
comp=E,5µm,20.2s,baz=46,slow=36
KSRS Korea Array 23.32 252 P P **10 44 41.8 +0.3**
KSRS 10 48 27.8
KSRS S S **10 48 55.1 +4.1**
KSRS pmax pmax
comp=Z,137nm,1.0s
KSRS smax smax
comp=N,8.0nm,1.2s
KSRS MLR MLR
comp=Z,5µm,20.2s
KS01 Wonju Array Si 23.33 252 *e*P P **10 44 41.1 -0.4**
KS01 *e*PcP PcP **10 48 27.5 0.0**
KS15 Wonju Array Si 23.36 252 *e*P P **10 44 41.8 0.0**
SNY Shenyang 23.82 266⇑P P **10 44 45.6 -0.6**
SNY S S **10 48 56.3 -2.6**
SNY PMZ
comp=Z,48nm,1.2s
SNY LN
comp=Z,2µm,17.7s
SNY LE
comp=Z,3µm,22.2s
SNY LZ
comp=Z,4µm,25.5s
HIA Hailar 23.83 286 *e*P P **10 44 43.8 -2.5**
HIA pmax pmax
comp=Z,67nm,1.2s
HIA Hailar 23.83 286 *e*P P **10 44 43.8 -2.5**
comp=Z,67nm,1.2s
CBIJ Chichi jima 24.02 212 *e*P P **10 44 48.3 +0.2**
comp=Z,352nm,1.0s
JCJ Chichijima 24.02 212 P P **10 44 48.4 +0.2**
comp=Z,254nm,1.0s,baz=34,slow=4.8,SNR=22
JCJ LR LR 10 53 39.5
comp=Z,347nm,20.6s,baz=37,slow=35
INCN Inchon 24.13 254 P P **10 44 50.4 +1.3**
SNR=16
INCN Inchon 24.13 254 P P **10 44 50.4 +1.3**
SNR=16
INCN Inchon 24.13 254 *e*P P **10 44 50.4 +1.3**
comp=Z,280nm,1.4s
TJN Taejon 24.34 251*c i*P P **10 44 51.7 +0.7**
JNU Nakatsue 24.42 240 P P **10 44 52.1 +0.3**
comp=Z,42nm,0.9s,baz=51,slow=9.1,SNR=12
JNU LR LR 10 55 08.4
comp=Z,1µm,21.6s,baz=53,slow=38
JNU Nakatsue 24.42 240 *e*P P **10 44 52.2 +0.3**
comp=Z,276nm,1.4s
TNA Tin City 25.38 35 *e*P P **10 45 00.7 +0.6**
comp=Z,315nm,1.6s
TIXI Tiksi 26.39 341 P P **10 45 08.1 -1.2**
comp=Z,24nm,1.0s,baz=133,slow=9.2,SNR=32
TIXI pP **sP** **10 45 24.1 -1.4**
comp=Z,47nm,0.8s,baz=130,slow=9.8,SNR=11
TIXI PcP PcP **10 48 33.8 +0.2**
comp=Z,9.5nm,0.9s,baz=113,slow=2.9,SNR=3.4
TIXI S S **10 49 36.4 -3.0**
comp=Z,1.7nm,0.3s,baz=29,slow=21,SNR=1.5
TIXI LR LR 10 57 03.8
comp=Z,1µm,18.5s,baz=152,slow=40
TIXI Tiksi 26.39 341*d i*P P **10 45 08.4 -0.9**
TIXI pmax pmax
comp=Z,36nm,1.0s
TIXI MLR MLR
comp=Z,1µm,18.0s
TIXI Tiksi 26.39 341 *e*P P **10 45 08.9 -0.4**
TIXI *e*PcP PcP **10 48 33.8 +0.2**
TIXI *e*S S **10 49 36.4 -3.0**
DL2 Dalian 26.57 262 P P **10 45 11.3 +0.1**
DL2 S S **10 49 42.0 -0.8**
DL2 PMZ
comp=Z,68nm,0.9s
DL2 PMZ
comp=Z,490nm,9.1s
DL2 LE
comp=Z,2µm,21.8s
DL2 LZ
comp=Z,3µm,20.9s
BJI Beijing 29.59 268 P P **10 45 38.8 +0.7**
BJI pP pP **10 45 47.3 -2.1**
BJI sP sP **10 45 50.9 -3.4**
BJI S S **10 50 26.9 -3.4**
BJI sS sS **10 50 47.3 -1.8**
BJI PMZ
comp=Z,13nm,0.9s
BJI PMZ
comp=Z,290nm,6.2s
BJI LN
comp=Z,2µm,16.6s
BJI LE
comp=Z,2µm,22.2s
BJI LZ
comp=Z,2µm,25.7s
TT01 Tatalina 29.69 43 *e*P P **10 45 38.6 -0.1**
TTA Tatalina 29.69 43 *e*P P **10 45 39.1 +0.2**
TTA pmax pmax
comp=Z,40nm,1.3s
TTA Tatalina 29.69 43 *e*P P **10 45 39.1 +0.2**
comp=Z,40nm,1.4s
SVW2 Sparrevohn 29.75 47 *e*P P **10 45 39.2 -0.2**
comp=Z,72nm,1.6s
H11N2 WAKE ISLAND Hy 30.02 160 T T 11 18 08.9
baz=341,slow=76,SNR=38
H11N1 WAKE ISLAND Hy 30.03 160 T T 11 17 46.5
baz=341,slow=76,SNR=69
H11N3 WAKE ISLAND Hy 30.03 160 T T 11 18 03.3
baz=341,slow=76,SNR=40
JOW Kunigami 30.66 235 *e*P P **10 45 47.7 0.0**
comp=Z,223nm,1.3s
TIA Tai'an 31.04 261⇑P P **10 45 51.1 +0.1**
TIA pP pP **10 45 58.9 -3.4**
TIA S S **10 50 54.6 +1.4**
TIA PMZ
comp=Z,50nm,1.1s
TIA PMZ
comp=Z,250nm,5.4s
TIA LN
comp=Z,1µm,20.8s
TIA LE
comp=Z,2µm,17.8s
TIA LZ
comp=Z,180nm,7.7s
RSO Redoubt South 31.13 48 *e*P P **10 45 51.1 -0.7**
H11S1 WAKE ISLAND Hy 31.15 160 T T 11 19 12.7
baz=344,slow=76,SNR=461
H11S3 WAKE ISLAND Hy 31.16 160 T T 11 19 11.6
baz=344,slow=76,SNR=344
H11S2 WAKE ISLAND Hy 31.17 160 T T 11 19 14.6
baz=344,slow=76,SNR=80
KDAK Kodiak Island 31.36 53 *i*P P **10 45 51.7 -1.8**
KDAK Kodiak Island 31.36 53 *e*P P **10 45 51.8 -1.7**
comp=Z,35nm,0.8s
PPLA Purkeypile 31.44 44 *e*P P **10 45 55.1 +0.8**
comp=Z,89nm,1.3s
SPU Mount Spurr 31.46 47 *e*P P **10 45 54.4 -0.2**
SSE Sheshan 31.68 250 P P **10 45 57.5 +0.9**
SSE S S **10 51 05.5 +2.3**
SSE PMZ
comp=Z,70nm,1.1s
SSE PMZ
comp=Z,170nm,3.6s
SSE LN
comp=Z,2µm,25.7s
SSE LE
comp=Z,810nm,25.7s
SSE LZ
comp=Z,2µm,26.1s
CNPM China Poot 31.93 50 *e*P P **10 45 57.8 -0.8**
comp=Z,19nm,0.8s
KTH Kantishna Hill 32.04 42 *e*P P **10 45 59.6 +0.1**
comp=Z,103nm,1.3s
BPAW Bear Paw Mtn. 32.04 41 *e*P P **10 45 59.5 0.0**
comp=Z,24nm,0.8s
BRLK Bradley Lake 32.09 49 *e*P P **10 45 58.7 -1.3**
comp=Z,15nm,0.8s
SUA Susitna One 32.09 46 *e*P P **10 45 59.0 -1.1**
comp=Z,112nm,1.8s
SUA *e*PcP PcP **10 48 48.5 0.0**
MLY Manley 32.21 40 *e*P P **10 46 01.2 +0.1**
comp=Z,41nm,1.3s
HHC Hu-ho-hao-te 32.26 273 *e*P P **10 46 00.9 -0.9**
HHC PP PnPn **10 47 06.1 -2.7**
HHC S S **10 51 09.5 -2.8**
HHC PMZ
comp=Z,41nm,1.1s
HHC PMZ
comp=Z,140nm,4.7s
HHC LN
comp=Z,2µm,13.8s
HHC LE
comp=Z,2µm,13.5s
HHC LZ
comp=Z,2µm,13.4s
ULN Ulaanbaatar 32.30 288*c i*P P **10 46 00.8 -1.4**
ULN pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 32.30 288 *e*P P **10 46 00.9 -1.3**
comp=Z,111nm,0.9s
TRF Thorofare Moun 32.32 43 *e*P P **10 46 01.8 -0.4**
comp=Z,21nm,0.8s
NJ2 Nanjing 32.51 253 *e*P P **10 46 03.8 -0.1**
NJ2 pP **pP** **10 46 11.3 -3.9**
NJ2 sP **sP** **10 46 19.8 -0.3**
NJ2 PP PnPn **10 47 14.3 +2.3**
NJ2 S S **10 51 19.1 +3.1**
NJ2 PMZ
comp=Z,45nm,0.8s
NJ2 LN
comp=Z,3µm,18.4s
NJ2 LE
comp=Z,2µm,20.6s
NJ2 LZ
comp=Z,4µm,17.3s
RC01 Rabbit Creek A 32.59 47 *e*P P **10 46 03.2 -1.1**
comp=Z,18nm,0.8s
RC01 *e*PcP PcP **10 48 50.0 +0.3**
COLD Coldfoot 32.67 35 *e*P P **10 46 05.1 +0.1**
comp=Z,65nm,1.4s
BWN Browne 32.71 41 *e*P P **10 46 06.1 +0.8**
comp=Z,222nm,1.1s
IRK Irkutsk 32.72 296 *e*P P **10 46 04.6 -1.0**
IRK pmax pmax
comp=Z,44nm,1.8s
SONA1 Songino Array 32.72 288 *e*P P **10 46 04.5 -1.3**
SONA0 Songino Array 32.73 288 *e*P P **10 46 05.0 -0.9**
comp=Z,8.7nm,1.0s
SONA0 *e*PcP PcP **10 48 50.4 -0.1**
SONM Songino Array 32.73 288 P P **10 46 05.0 -0.9**
comp=Z,1.1nm,0.4s,baz=63,slow=7.7,SNR=11
SONM PcP PcP **10 48 50.4 -0.1**
comp=Z,6.6nm,1.0s,baz=91,slow=3.1,SNR=7.1
SONM pPcP 10 49 08.9
comp=Z,4.0nm,0.7s,baz=128,slow=2.9,SNR=4.5
SONM LR LR 11 00 39.9
comp=Z,5µm,18.3s,baz=88,slow=39
SEW Seward 32.79 49 *e*P P **10 46 04.5 -1.5**
comp=Z,92nm,1.7s
PMR Palmer 32.86 46 *e*P P **10 46 04.9 -1.8**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 32.86 46 *e*P P **10 46 05.9 -0.7**
comp=Z,14nm,1.0s
MCK McKinley 32.93 42 *e*P P **10 46 06.8 -0.5**
MCK pmax pmax
comp=Z,41nm,1.0s
MCK McKinley 32.93 42 *e*P P **10 46 06.8 -0.5**
MCK McKinley 32.93 42 *e*P P **10 46 06.8 -0.5**
comp=Z,41nm,1.0s
RND Reindeer 32.96 43 *e*P P **10 46 06.6 -1.1**
RND pmax pmax
comp=Z,44nm,1.0s
RND Reindeer 32.96 43 *e*P P **10 46 06.6 -1.1**
comp=Z,44nm,1.0s
SML Sawmill 33.23 46 *e*P P **10 46 09.3 -0.7**
SML pmax pmax
comp=Z,450nm,1.7s
SML Sawmill 33.23 46 *e*P P **10 46 09.3 -0.7**
comp=Z,446nm,1.7s
TLY Talaya 33.24 296 P P **10 46 10.0 -0.2**
comp=Z,10nm,0.7s,baz=68,slow=6.4,SNR=11
TLY PcP PcP **10 48 52.1 +0.4**
comp=Z,4.4nm,0.8s,baz=128,slow=6.5,SNR=3.9
TLY Talaya 33.24 296 *e*P P **10 46 10.1 -0.1**
TLY *e*S S **10 51 32.3 +5.1**
TLY pmax pmax
comp=Z,34nm,1.2s
TLY MLR MLR
comp=Z,3µm,17.0s
TLY Talaya 33.24 296 *e*P P **10 46 10.1 -0.1**
MDM Murphy Dome 33.27 40 *e*P P **10 46 10.1 -0.2**
comp=Z,31nm,0.8s
TIY Taiyuan 33.30 268 *e*P P **10 46 11.8 +1.0**
TIY pP pP **10 46 18.1 -4.1**
TIY PP PP **10 47 25.5 -1.0**
TIY S S **10 51 29.4 +1.0**
TIY sS sS **10 51 49.4 +2.1**
TIY LN
comp=Z,1µm,16.0s
TIY LE
comp=Z,2µm,20.9s
TIY LZ
comp=Z,3µm,21.5s
WRH Wood River Hil 33.32 41 *e*P P **10 46 10.1 -0.6**
comp=Z,37nm,1.2s
COLA College 33.43 40*c i*P P **10 46 11.1 -0.5**
COLA pmax pmax
comp=Z,78nm,0.9s
COLA MLR MLR
comp=Z,2µm,19.0s
COLA College 33.43 40 *e*P P **10 46 11.1 -0.5**
COLA College 33.43 40 *e*P P **10 46 11.8 +0.2**
comp=Z,71nm,0.7s
CCB Clear Creek Bu 33.45 40 *e*P P **10 46 11.2 -0.6**
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 33.71 45 *e*P P **10 46 13.5 -0.7**
SCM pmax pmax
comp=Z,51nm,1.0s
SCM Sheep Creek Mo 33.71 45 *e*P P **10 46 13.5 -0.7**
comp=Z,51nm,1.1s
HDA Harding Lake 33.81 41 *e*P P **10 46 13.9 -1.1**
comp=Z,42nm,1.2s
ZAK Zakamensk 33.84 293 *e*P P **10 46 14.6 -0.9**
ZAK pmax pmax
comp=Z,16nm,1.4s
IL1 Eielson Array 33.84 40 *e*P P **10 46 14.0 -1.2**
ILAR Eielson Array 33.84 40 P P **10 46 14.2 -1.0**
comp=Z,10nm,0.7s,baz=248,slow=7.9,SNR=107
ILAR pP **sP** **10 46 31.9 +0.4**
comp=Z,14nm,0.7s,baz=259,slow=7.1,SNR=9.7
ILAR LR LR 11 02 57.8
comp=Z,1µm,18.9s,baz=270,slow=41
ILAR Eielson Array 33.84 40 P P **10 46 14.2 -1.0**
ILAR *PP **sP** **10 46 31.9 +0.4**
ILAR pmax pmax
comp=Z,13nm,0.9s
ILAR MLR MLR
comp=Z,1µm,18.9s
ILB Eielson Array 33.84 40 *e*P P **10 46 14.3 -1.0**
KLU Klutina 34.40 46 *e*P P **10 46 19.5 -0.7**
comp=Z,35nm,1.0s
DIV Divide 34.51 47 *e*P P **10 46 20.1 -1.0**
comp=Z,36nm,0.7s
PAX Paxson 34.51 43 *e*P P **10 46 20.1 -1.0**
PAX pmax pmax
comp=Z,88nm,1.8s
PAX Paxson 34.51 43 *e*P P **10 46 20.1 -1.0**
comp=Z,88nm,1.8s
FYU Fort Yukon 34.57 37 *e*P P **10 46 22.2 +0.7**
comp=Z,318nm,1.5s
EYAK Cordova Ski Ar 34.58 48 *e*P P **10 46 20.9 -0.7**
comp=Z,98nm,1.7s
MOY Mondy 34.83 296 *e*P P **10 46 24.2 +0.1**
MOY pmax pmax
comp=Z,37nm,3.1s
BMRM Bremner River 35.09 47 *e*P P **10 46 25.6 -0.5**
comp=Z,34nm,0.9s
DOT Dot Lake 35.10 42 *e*P P **10 46 24.8 -1.3**
comp=Z,62nm,0.8s
RAGM Ragged Mountai 35.13 48 *e*P P **10 46 26.2 -0.2**
comp=Z,178nm,1.9s
MENT Mentasta 35.31 43 *e*P P **10 46 28.0 +0.1**
comp=Z,21nm,0.8s
CRQM Cirque 35.83 47 *e*P P **10 46 32.7 +0.1**
comp=Z,57nm,0.8s

BALM	**Baldy**	**36.17**	**46**	*e*P		**P**	**10 46 34.9**	**-0.5**
BALM				pmax		pmax			
	comp=Z,43nm,1.1s								
BALM	**Baldy**	**36.17**	**46**	*e*P		**P**	**10 46 34.9**	**-0.5**
	comp=Z,43nm,1.1s								
YHNB	**Yeheng**	**36.24**	**241**	*e*P		**P**	**10 46 38.0**	**+1.7**
	comp=Z,28nm,1.1s								
EGAK	**Eagle**	**36.30**	**40**	*e*P		**P**	**10 46 35.5**	**-0.8**
	comp=Z,45nm,0.8s								
WHN	**Wuhan**	**36.39**	**256**	P		**P**	**10 46 37.4**	**-0.1**
WHN				PMZ					
	comp=Z,220nm,1.3s								
WHN				LN					
	comp=Z,4μm,19.4s								
WHN				LE					
	comp=Z,3μm,17.6s								
WHN				LZ					
	comp=Z,5μm,22.5s								
DAWY	**Dawson**	**37.13**	**41**	*e*P		**P**	**10 46 43.2**	**-0.3**
	comp=Z,22nm,1.1s								
SSLB	**Suanglung**	**37.16**	**241**	*e*P		**P**	**10 46 44.0**	**-0.2**
	comp=Z,22nm,0.9s								
YULB	**Yu-li**	**37.27**	**240**	*e*P		**P**	**10 46 45.0**	**0.0**
	comp=Z,30nm,1.1s								
QZH	**Quanzhou**	**37.69**	**245**	⇑*i*P		P	10 46 42.1	-6.4
QZH				S		S	10 52 26.6	-9.1
QZH				pmax		pmax			
	comp=Z,160nm,1.2s								
QZH				pmax		pmax			
	comp=Z,1μm,3.5s								
QZH				LR		LR			
	comp=N,2μm,17.1s								
QZH				LR		LR			
	comp=E,1μm,12.2s								
QZH				LR		LR			
	comp=Z,4μm,31.8s								
TPUB	**Ta-pu**	**37.73**	**241**	*e*P		**P**	**10 46 49.2**	**+0.2**
	comp=Z,81nm,1.0s								
XAN	**Xi'an**	**37.74**	**265**	P		**P**	**10 46 48.5**	**-0.5**
XAN				pP		pP	10 47 00.0	-0.4
XAN				sP		sP	10 47 03.0	-2.3
XAN				PMZ					
	comp=Z,55nm,1.5s								
XAN				PMZ					
	comp=Z,140nm,4.1s								
XAN				LN					
	comp=Z,2μm,21.5s								
XAN				LE					
	comp=Z,2μm,20.5s								
XAN				LZ					
	comp=Z,2μm,22.5s								
TWG	**Pinlang**	**37.84**	**240**	*e*P		**P**	**10 46 52.0**	**+2.1**
	comp=Z,461nm,1.4s								
NRIK	**Noril'sk**	**38.32**	**328**	P		**P**	**10 46 52.1**	**-1.4**
	comp=Z,5.1nm,0.8s,baz=103,slow=6.8,SNR=13								
NRIK				PcP		**PcP**	**10 49 06.5**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=99,slow=1.3,SNR=5.1								
NRIK				S		**S**	**10 52 41.8**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=277,slow=20,SNR=8.2								
NRIK				LR		LR	11 03 23.0		
	comp=Z,966nm,19.3s,baz=84,slow=37								
INK	**Inuvik**	**39.01**	**34**	*e*P		**P**	**10 46 59.9**	**+0.7**
INK				pmax		pmax			
	comp=Z,68nm,1.0s								
INK	**Inuvik**	**39.01**	**34**	*e*P		**P**	**10 46 59.9**	**+0.7**
INK	**Inuvik**	**39.01**	**34**	*e*P		**P**	**10 46 59.9**	**+0.7**
	comp=Z,68nm,1.0s								
ENH	**Enshi**	**39.73**	**260**	*e*P		**P**	**10 47 05.1**	**-0.6**
	comp=Z,154nm,1.3s								
LZH	**Lanzhou**	**39.91**	**272**	⇑P		**P**	**10 47 08.5**	**+1.2**
LZH				pP		pP	10 47 19.8	+1.0
LZH				sP		sP	10 47 24.8	+1.1
LZH				PP		**PnPn**	**10 48 45.0**	**+2.1**
LZH				sS		sS	10 53 28.0	-0.5
LZH				SS		**SS**	**10 56 01.3**	**-5.5**
LZH				PMZ					
	comp=Z,250nm,1.4s								
LZH				PMZ					
	comp=Z,620nm,4.5s								
LZH				LN					
	comp=Z,2μm,15.0s								
LZH				LE					
	comp=Z,2μm,16.0s								
LZH				LZ					
	comp=Z,3μm,18.0s								
SKAG	**Skagway**	**39.92**	**48**	*e*P		**P**	**10 47 07.9**	**+1.0**
	comp=Z,61nm,1.4s								
GTA	**Gaotai**	**40.75**	**279**	*e*P		**P**	**10 47 14.0**	**-0.1**
GTA				pP		pP	10 47 23.3	-2.3
GTA				sP		sP	10 47 27.3	-3.2
GTA				PcP		**PcP**	**10 49 15.4**	**+0.6**
GTA				S		**S**	**10 53 22.9**	**+1.1**
GTA				sS		sS	10 53 39.5	-1.4
GTA				SS		**SS**	**10 56 18.9**	**-4.4**
GTA				PMZ					
	comp=Z,12nm,1.0s								
GTA				PMZ					
	comp=Z,210nm,6.4s								
GTA				LN					
	comp=Z,1μm,15.0s								
GTA				LE					
	comp=Z,1μm,17.6s								
GTA				LZ					
	comp=Z,2μm,18.3s								
WRAK	**Wrangell Islan**	**42.38**	**51**	*e*P		**P**	**10 47 28.2**	**+1.1**
	comp=Z,15nm,0.8s								
DLBC	**Dease Lake**	**42.85**	**48**	*e*P		**P**	**10 47 32.3**	**+1.3**
	comp=Z,26nm,1.0s								
CD2	**Chengdu**	**43.10**	**266**	⇑*i*P		**P**	**10 47 33.4**	**+0.1**
CD2				pP		pP	10 47 44.3	-0.6
CD2				sP		sP	10 47 49.3	-0.4
CD2				PcS		**PcS**	**10 53 15.0**	**-0.2**
CD2				S		**S**	**10 53 56.6**	**+0.1**
CD2				sS		sS	10 54 15.9	+0.2
CD2				PMZ					
	comp=Z,180nm,0.9s								
CD2				PMZ					
	comp=Z,390nm,6.7s								
CD2				LN					
	comp=Z,4μm,19.8s								
CD2				LE					
	comp=Z,2μm,20.4s								
CD2				LZ					
	comp=Z,2μm,21.8s								
ZAA1	**Zalesovo Array**	**43.26**	**305**	*e*P		**P**	**10 47 32.4**	**-1.9**
ZAA0	**Zalesovo Array**	**43.26**	**305**	*e*P		**P**	**10 47 32.0**	**-2.3**
ZAA0				*e*P		**P**	**10 47 33.4**	**-0.9**
ZALV	**Zalesovo Beam**	**43.26**	**305**	P		**P**	**10 47 32.4**	**-1.9**
	comp=Z,6.8nm,0.5s,baz=62,slow=6.4,SNR=20								
ZALV				PcP		**PcP**	**10 49 22.7**	**+0.1**
	comp=Z,14nm,0.9s,baz=90,slow=3.0,SNR=14								
ZALV				pPcP			10 49 41.5		
	comp=Z,8.5nm,0.8s,baz=59,slow=4.4,SNR=3.9								
ZALV				LR		LR	11 07 23.1		
	comp=Z,2μm,19.0s,baz=66,slow=38								
ZALV	**Zalesovo Beam**	**43.26**	**305**	*i* P		**P**	**10 47 32.7**	**-1.6**
ZALV				pmax		pmax			
	comp=Z,7.0nm,0.5s								
NVS	**Novosibirsk**	**43.76**	**307**	⇑*i*P		**P**	**10 47 38.1**	**-0.2**
NVS				*e*			10 49 25.0		
NVS				*e*S		**S**	**10 54 03.6**	**-1.9**
NVS				pmax		pmax			
	comp=Z,76nm,2.2s								
NVS				pmax		pmax			
	comp=N,24nm,1.8s								
NVS				pmax		pmax			
	comp=E,36nm,1.6s								
NVS				smax		smax			
	comp=N,14nm,1.9s								
NVS				smax		smax			
	comp=E,22nm,1.9s								
NVS	**Novosibirsk**	**43.76**	**307**	*e*P		**P**	**10 47 38.1**	**-0.2**
GYA	**Guiyang**	**44.12**	**258**	⇑*i*P		**P**	**10 47 41.0**	**-0.7**
GYA				pP		pP	10 47 54.3	+1.0
GYA				PP		**PcP**	**10 49 27.6**	**+1.4**
GYA				ScP		**ScP**	**10 53 15.0**	**+0.5**
GYA				S		**S**	**10 54 10.3**	**-1.4**
GYA				sS		sS	10 54 31.8	+0.8
GYA				SS		**SS**	**10 57 22.9**	**-7.1**
GYA				PMZ					
	comp=E,60nm,1.0s								
GYA				PMZ					
	comp=E,130nm,5.9s								
GYA				LN					
	comp=E,580nm,18.0s								
GYA				LE					
	comp=E,520nm,19.2s								
GYA				LZ					
	comp=E,540nm,18.6s								
TGY	**Tagaytay City**	**44.97**	**232**	P		**P**	**10 47 49.5**	**+1.1**
	comp=E,221nm,0.4s,baz=357,slow=1.7,SNR=12								
WMQ	**Urumqi**	**46.22**	**291**	P		**P**	**10 47 59.3**	**+1.2**
WMQ				pP		pP	10 48 11.6	+1.9
WMQ				sP		sP	10 48 17.8	+3.2
WMQ				PcP		**PcP**	**10 49 33.6**	**+0.5**
WMQ				PP		**PP**	**10 49 49.9**	**+3.1**
WMQ				S		**S**	**10 54 43.0**	**+1.5**
WMQ				SS		**SS**	**10 58 01.1**	**-5.6**
WMQ				PMZ					
	comp=E,13nm,0.6s								
WMQ				PMZ					
	comp=E,68nm,3.8s								
WMQ				LN					
	comp=E,1μm,17.4s								
WMQ				LE					
	comp=E,960nm,15.6s								
WMQ				LZ					
	comp=E,770nm,15.6s								
QIZ	**Qiongzhong**	**47.46**	**248**	P		**P**	**10 48 09.1**	**+1.2**
QIZ				S		**S**	**10 55 05.5**	**+6.0**
QIZ				sS		**sS**	**10 55 20.3**	**+1.4**
QIZ				PMZ					
	comp=E,57nm,1.1s								
QIZ				LN					
	comp=E,600nm,23.7s								
QIZ				LE					
	comp=E,700nm,22.4s								
QIZ				LZ					
	comp=E,990nm,24.8s								
QIZ	**Qiongzhong**	**47.46**	**248**	*e*P		**P**	**10 48 09.8**	**+1.9**
	comp=E,69nm,1.0s								
KMI	**Kunming**	**47.60**	**260**	P		**P**	**10 48 08.9**	**-0.4**
KMI				pP		pP	10 48 20.4	-0.6
KMI				sP		sP	10 48 24.6	-1.2
KMI				PP		**PP**	**10 50 00.8**	**-0.2**
KMI				S		**S**	**10 55 01.8**	**-0.2**
KMI				sS		sS	10 55 20.4	-1.0
KMI				PMZ					
	comp=E,51nm,1.0s								
KMI				PMZ					
	comp=E,390nm,5.2s								
KMI				LN					
	comp=E,970nm,24.1s								
KMI				LE					
	comp=E,900nm,19.3s								
KMI				LZ					
	comp=E,2μm,21.3s								
MK31	**Makanchi Array**	**47.97**	**297**	*i* P		**P**	**10 48 10.6**	**-1.0**
MK31				pmax		pmax			
	comp=Z,8.0nm,0.7s								
MK31	**Makanchi Array**	**47.97**	**297**	*e*P		**P**	**10 48 11.3**	**-0.3**
MK32	**Makanchi Array**	**47.97**	**297**	*e*P		**P**	**10 48 10.4**	**-1.1**
MK32				*e*S		**S**	**10 55 03.6**	**-2.7**
MK32				*e*ScS		**ScS**	**10 58 08.9**	**+7.9**
MKAR	**Makanchi Array**	**47.97**	**297**	P		**P**	**10 48 10.4**	**-1.1**
	comp=Z,12nm,0.8s,baz=66,slow=6.8,SNR=66								
MKAR				S		**S**	**10 55 03.6**	**-2.7**
	comp=Z,0.1nm,0.2s,baz=68,slow=12,SNR=2.7								
MKAR				ScS		**ScS**	**10 58 08.9**	**+7.9**
	comp=Z,0.6nm,0.7s,baz=81,slow=7.7,SNR=4.3								
MKAR				LR		LR	11 09 52.8		
	comp=Z,2μm,18.3s,baz=41,slow=38								
MKAR	**Makanchi Array**	**47.97**	**297**	*i* P		**P**	**10 48 10.8**	**-0.8**
MKAR				pmax		pmax			
	comp=Z,12nm,0.8s								
MKAR	**Makanchi Array**	**47.97**	**297**	*e*P		**P**	**10 48 11.3**	**-0.3**
MK01	**Makanchi Array**	**47.97**	**297**	*e*P		**P**	**10 48 10.7**	**-0.9**
KURK	**Kurchatov**	**48.11**	**303**	P		**P**	**10 48 11.3**	**-1.3**
KURK				pmax		pmax			
	comp=Z,183nm,0.8s								
KURK	**Kurchatov**	**48.11**	**303**	*e*P		**P**	**10 48 11.7**	**-0.9**
	comp=Z,100nm,0.8s								
MAKZ	**Makanchi**	**48.14**	**297**	*e*P		**P**	**10 48 12.5**	**-0.4**
MAKZ				pmax		pmax			
	comp=Z,41nm,1.4s								
MAKZ	**Makanchi**	**48.14**	**297**	*e*P		**P**	**10 48 12.5**	**-0.4**
	comp=Z,41nm,1.4s								
YKW3	**Yellowknife Ar**	**48.20**	**38**	*e*P		**P**	**10 48 13.0**	**-0.1**
	comp=Z,31nm,0.9s								
YKA	**Yellowknife Ar**	**48.23**	**38**	P		**P**	**10 48 13.2**	**-0.2**
	comp=Z,22nm,0.8s,baz=296,slow=7.7,SNR=68								
YKA				pP		**sP**	**10 48 31.0**	**+1.0**
	comp=Z,26nm,0.8s,baz=294,slow=7.3,SNR=13								
YKA				PcP		**PcP**	**10 49 40.2**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=302,slow=3.3,SNR=4.4								
YKA				LR		LR	11 12 04.7		
	comp=Z,55nm,20.0s,baz=0.0,slow=40								
YKA	**Yellowknife Ar**	**48.23**	**38**	*e*P		**P**	**10 48 13.3**	**-0.1**
YKB5	**Yellowknife Ar**	**48.23**	**38**	*e*P		**P**	**10 48 12.8**	**-0.6**
YKB5				*e*PcP		**PcP**	**10 49 39.9**	**0.0**
RES	**Resolute Bay**	**48.46**	**20**	*e*P		**P**	**10 48 16.3**	**+1.3**
RES				pmax		pmax			
	comp=Z,33nm,1.0s								
RES	**Resolute Bay**	**48.46**	**20**	*e*P		**P**	**10 48 16.3**	**+1.3**
	comp=Z,33nm,1.0s								
CHKZ	**Chkalovo**	**50.87**	**310**	P		**P**	**10 48 32.1**	**-1.4**
CHKZ				pmax		pmax			
	comp=Z,25nm,0.8s								
MANU	**Manus Island**	**50.96**	**191**	*e*P		**P**	**10 48 34.4**	**-0.2**
	comp=Z,97nm,1.0s								
KBS	**Kingsbay**	**51.03**	**352**	*e*P		**P**	**10 48 35.2**	**+0.7**
KBS				pmax		pmax			
	comp=Z,47nm,1.0s								
KBS	**Kingsbay**	**51.03**	**352**	*e*P		**P**	**10 48 35.2**	**+0.7**
	comp=Z,47nm,0.9s								
A04D	**Lummi Island**	**51.10**	**57**	P		**P**	**10 48 34.8**	**-0.5**
	baz=303								
NLWA	**Neilton Lookou**	**51.16**	**59**	*e*P		**P**	**10 48 36.0**	**+0.1**
	comp=Z,37nm,0.9s								
VOSK	**Vostochnaya**	**51.18**	**309**	P		**P**	**10 48 35.1**	**-0.9**
VOSK				pmax		pmax			
	comp=Z,17nm,0.7s								
VOSK	**Vostochnaya**	**51.18**	**309**	*e*P		**P**	**10 48 35.0**	**-0.9**
	comp=Z,24nm,0.6s								
VOSK				*e*S		**S**	**10 55 49.9**	**-1.1**
SPA0	**Spitsbergen Ar**	**51.21**	**350**	*e*P		**P**	**10 48 35.6**	**-0.3**
BVA0	**Borovoye Array**	**51.33**	**309**	P		**P**	**10 48 36.6**	**-0.4**
BVA0				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BVAR	**Borovoye Array**	**51.33**	**309**	P		**P**	**10 48 36.4**	**-0.7**
	comp=Z,14nm,0.7s,baz=60,slow=8.8,SNR=53								
BVAR				pP		**sP**	**10 48 53.1**	**-0.6**
	comp=Z,29nm,0.7s,baz=52,slow=7.9,SNR=8.9								
BVAR				PcP		**PcP**	**10 49 51.4**	**0.0**
	comp=Z,17nm,0.9s,baz=67,slow=3.9,SNR=6.9								
BVAR				S		**S**	**10 55 50.5**	**-2.5**
	comp=Z,1.9nm,0.8s,baz=56,slow=11,SNR=3.7								
BRVK	**Borovoye**	**51.36**	**310**	*i* P		**P**	**10 48 37.2**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,68nm,0.7s								
BRVK				MLR		MLR			
	comp=Z,3μm,19.0s								
BRVK	**Borovoye**	**51.36**	**310**	*e*P		**P**	**10 48 37.2**	**-0.1**
BRVK	**Borovoye**	**51.36**	**310**	*e*P		**P**	**10 48 37.0**	**-0.3**
	comp=Z,68nm,0.7s								
B05A	**Bryant**	**51.69**	**57**	P		**P**	**10 48 39.2**	**-0.6**
	baz=303,SNR=10								
E03A	**Lebam**	**51.80**	**60**	*e*P		**P**	**10 48 40.5**	**-0.1**
	comp=Z,37nm,0.9s								
JCW	**Jim Creek**	**51.82**	**57**	*e*P		**P**	**10 48 40.4**	**-0.5**
B06A	**Marblemount**	**51.89**	**57**	*e*P		**P**	**10 48 40.6**	**-0.6**
	comp=Z,15nm,0.7s								
ZRNK	**Zerenda**	**52.07**	**310**	P		**P**	**10 48 42.0**	**-0.6**
ZRNK				pmax		pmax			
	comp=Z,13nm,0.7s								
ZRNK	**Zerenda**	**52.07**	**310**	*e*P		**P**	**10 48 41.9**	**-0.6**
	comp=Z,19nm,0.7s								
LSA	**Lhasa**	**52.24**	**274**	P		**P**	**10 48 46.3**	**+1.6**
LSA				PMZ					
	comp=Z,80nm,1.0s								
D05A	**Enumclaw**	**52.34**	**59**	*e*P		**P**	**10 48 44.4**	**-0.3**
	comp=Z,27nm,0.8s								
F04D	**Rainier, OR**	**52.38**	**60**	P		**P**	**10 48 44.7**	**-0.3**
	baz=304								
PNT	**Penticton**	**52.48**	**55**	*e*P		**P**	**10 48 45.0**	**-0.7**
PNT	**Penticton**	**52.48**	**55**	*e*P		**P**	**10 48 45.0**	**-0.7**
C06D	**Leavenworth**	**52.55**	**57**	P		**P**	**10 48 45.9**	**-0.4**
	baz=304								
JAY	**Jayapura**	**52.61**	**200**	P		**P**	**10 48 47.6**	**+0.6**
RABL	**Rabaul**	**52.63**	**185**	*e*P		**P**	**10 48 47.3**	**+0.2**
	comp=Z,503nm,1.4s								
SKNT	**Sakolnakorn**	**52.66**	**252**	P		**P**	**10 48 47.8**	**+0.4**
	comp=Z,141nm,1.2s,comp=Z,4μm								
FMW	**Mount Fremont**	**52.66**	**59**	*e*P		**P**	**10 48 47.0**	**-0.3**
LON	**Longmire**	**52.69**	**59**	*e*P		**P**	**10 48 46.6**	**-0.7**
LON	**Longmire**	**52.69**	**59**	*e*P		**P**	**10 48 46.6**	**-0.7**
G03D	**McMinnville, O**	**52.72**	**61**	P		**P**	**10 48 47.3**	**-0.1**
	baz=305								
GENI	**Genyem**	**52.80**	**200**	P		**P**	**10 48 48.9**	**+0.5**
OTUK	**Ortayu**	**52.89**	**304**	P		**P**	**10 48 47.7**	**-1.1**
OTUK				pmax		pmax			
	comp=Z,19nm,1.2s								
UBPT	**Khong Chiam**	**53.01**	**249**	P		**P**	**10 48 50.6**	**+0.7**
	comp=Z,96nm,1.4s								
B08A	**Colville Reser**	**53.17**	**56**	*e*P		**P**	**10 48 50.1**	**-0.7**
	comp=Z,26nm,1.1s								
I03D	**Drain, OR**	**53.54**	**63**	P		**P**	**10 48 53.7**	**+0.2**
	baz=306,SNR=6.9								
MYLDM	**Lahad Datu**	**53.79**	**229**	⇑P		**P**	**10 48 57.5**	**+1.9**
MYLDM	**Lahad Datu**	**53.79**	**229**	*e*P		**P**	**10 48 57.1**	**+1.5**
	comp=Z,238nm,1.6s								
G05D	**Wamic, OR**	**53.83**	**60**	P		**P**	**10 48 55.8**	**+0.1**
	baz=305								
KHON	**Khomkaen**	**53.87**	**253**	P		**P**	**10 48 57.0**	**+0.8**
	comp=Z,58nm,1.1s,comp=Z,813nm								
SVE	**Sverdlovsk**	**53.92**	**317**	⇑*i*P		**P**	**10 48 56.3**	**+0.1**
SVE				*e*S		**S**	**10 56 26.9**	**-1.4**
SVE				pmax		pmax			
	comp=Z,27nm,0.7s								
SVE				MLR		MLR			
	comp=Z,670nm,16.0s								
SVE	**Sverdlovsk**	**53.92**	**317**	*e*P		**P**	**10 48 56.3**	**+0.1**
I04A	**Tendick Farm,**	**54.03**	**62**	P		**P**	**10 48 57.2**	**0.0**
	baz=306,SNR=10								
SDKM	**Sandakan**	**54.06**	**231**	⇓P		**P**	**10 48 58.2**	**+0.6**
TKM2	**Tokmak 2**	**54.07**	**296**	P		**P**	**10 48 56.8**	**-0.9**
TKM2				pmax		pmax			
	comp=Z,9.0nm,1.1s								
TKM2	**Tokmak 2**	**54.07**	**296**	*e*P		**P**	**10 48 57.7**	**0.0**
	comp=Z,25nm,1.0s								
C09A	**Chrisman Ranch**	**54.07**	**56**	*e*P		**P**	**10 48 56.9**	**-0.5**
	comp=Z,48nm,1.4s								
KKM	**Kota Kinabalu**	**54.22**	**232**	⇓P		**P**	**10 49 00.2**	**+1.3**
KKM	**Kota Kinabalu**	**54.22**	**232**	*e*P		**P**	**10 48 59.6**	**+0.7**
	comp=Z,100nm,1.2s								
UTTA	**Uttaradit**	**54.28**	**256**	P		**P**	**10 48 59.7**	**+0.5**
	comp=Z,13nm,1.1s,comp=Z,132nm								
L02D	**Cave Junction,**	**54.29**	**64**	P		**P**	**10 48 59.4**	**+0.3**
	baz=306,SNR=5.5								
LAMP	**Lampang**	**54.31**	**257**	P		**P**	**10 49 00.1**	**+0.7**
	comp=Z,21nm,0.9s,comp=Z,193nm								
I05D	**Terrebonne, OR**	**54.34**	**61**	P		**P**	**10 48 59.4**	**-0.1**
	baz=306,SNR=6.1								
HUMO	**Hull Mountain**	**54.41**	**64**	*e*P		**P**	**10 49 00.5**	**+0.5**
	comp=Z,19nm,1.0s								
NEW	**Newport**	**54.44**	**55**	P		**P**	**10 48 59.4**	**-0.7**
	baz=306,SNR=6.0								
NEW	**Newport**	**54.44**	**55**	*e*P		**P**	**10 48 58.8**	**-1.3**
NEW				pmax		pmax			
	comp=Z,28nm,1.3s								
NEW	**Newport**	**54.44**	**55**	*e*P		**P**	**10 48 58.8**	**-1.3**
	comp=Z,28nm,1.4s								
SHL	**Shillong**	**54.48**	**269**	*e*P		**P**	**10 49 00.8**	**-0.1**
SHL				IAmb		IAmb	10 49 02.8		
	comp=Z,27nm,0.7s								
SHL				*e*S		**S**	**10 56 38.0**	**+1.0**
CHTO	**Chiang Mai**	**54.54**	**258**	P		**P**	**10 49 01.5**	**+0.4**
	comp=Z,425nm,1.7s,comp=Z,6μm								
CHTO	**Chiang Mai**	**54.54**	**258**	*e*P		**P**	**10 49 01.6**	**+0.4**
CHTO				pmax		pmax			
	comp=Z,110nm,1.2s								
CHTO	**Chiang Mai**	**54.54**	**258**	P		**P**	**10 49 02.1**	**+0.9**
	SNR=21								
CHTO	**Chiang Mai**	**54.54**	**258**	P		**P**	**10 49 02.1**	**+0.9**
	SNR=21								
CHTO	**Chiang Mai**	**54.54**	**258**	*e*P		**P**	**10 49 01.6**	**+0.4**
	comp=Z,114nm,1.2s								
FRU	**Bishkek**	**54.70**	**297**	*e*P		**P**	**10 49 01.5**	**-0.6**
FRU				pmax		pmax			
	comp=Z,95nm,2.0s								
CM31	**Chiang Mai Arr**	**54.80**	**258**	*e*P		**P**	**10 49 03.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**54.80**	**258**	P		**P**	**10 49 03.7**	**+0.7**
	comp=Z,27nm,0.9s,baz=31,slow=7.5,SNR=90								
CMAR				pP		**sP**	**10 49 19.2**	**-0.5**
	comp=Z,27nm,0.9s,baz=34,slow=7.2,SNR=5.7								
CMAR				LR		LR	11 13 28.9		
	comp=Z,2μm,20.7s,baz=64,slow=37								
CMAR	**Chiang Mai Arr**	**54.80**	**258**	*i* P		**P**	**10 49 03.9**	**+0.9**
CMAR				pmax		pmax			
	comp=Z,27nm,0.9s								
CMAR	**Chiang Mai Arr**	**54.80**	**258**	*e*P		**P**	**10 49 03.9**	**+0.9**
CM01	**Chiang Mai Arr**	**54.82**	**258**	*e*P		**P**	**10 49 03.8**	**+0.7**
PBKT	**Sadao Pong**	**54.88**	**254**	P		**P**	**10 49 04.0**	**+0.5**
	comp=Z,36nm,1.5s,comp=Z,988nm								
AAK	**Ala-Archa**	**54.89**	**297**	*c i*P		**P**	**10 49 03.5**	**-0.1**
AAK				pmax		pmax			
	comp=Z,58nm,1.2s								
AAK				MLR		MLR			
	comp=Z,4μm,18.0s								
AAK	**Ala-Archa**	**54.89**	**297**	P		**P**	**10 49 03.8**	**+0.1**
	SNR=15								
AAK	**Ala-Archa**	**54.89**	**297**	P		**P**	**10 49 03.8**	**+0.1**
	SNR=15								
AAK	**Ala-Archa**	**54.89**	**297**	*e*P		**P**	**10 49 03.5**	**-0.1**
AAK	**Ala-Archa**	**54.89**	**297**	*e*P		**P**	**10 49 03.9**	**+0.3**
	comp=Z,24nm,1.1s								
DAG	**Danmarks Havn**	**54.92**	**359**	⇑*i*P		**P**	**10 49 03.2**	**+0.1**
DAG				pmax		pmax			
	comp=Z,83nm,1.1s								
DAG	**Danmarks Havn**	**54.92**	**359**	⇑*i*P		**P**	**10 49 03.2**	**+0.1**
	comp=Z,66nm,1.1s								
KHMM	**Horse Mountain**	**54.98**	**66**	*e*P		**P**	**10 49 05.3**	**+1.1**
	comp=Z,62nm,1.1s								
J05D	**Fort Rock, OR**	**55.03**	**62**	P		**P**	**10 49 05.2**	**+0.6**
	baz=307,SNR=57								
SUKH	**Sukhothai**	**55.07**	**256**	P		**P**	**10 49 05.9**	**+1.0**
	comp=Z,8.2nm,0.6s,comp=Z,96nm								
YBH	**Yreka Blue Hor**	**55.08**	**64**	*e*P		**P**	**10 49 05.4**	**+0.5**
YBH				pmax		pmax			
	comp=Z,37nm,0.9s								
YBH	**Yreka Bl

KSH SS SS 11 00 45.9 +5.0
KSH PMZ
comp=Z,43nm,1.4s
KSH LN
comp=Z,850nm,12.7s
KSH LE
comp=Z,1µm,13.8s
KSH LZ
comp=Z,3µm,17.5s
LVZ Lovozero 55.94 337 *c iP* **P 10 49 10.1 -0.5**
LVZ pmax pmax
comp=Z,32nm,1.0s
LVZ MLR MLR
comp=Z,1µm,20.0s
LVZ Lovozero 55.94 337 *eP* **P 10 49 10.6 +0.1**
comp=Z,28nm,1.0s
BSMT Bassoo Peak 55.95 54 *eP* **P 10 49 11.0 -0.2**
BLMT Blacktail Moun 56.08 54 *eP* **P 10 49 12.1 -0.1**
SRAK Srakaew 56.11 251 P **P 10 49 10.8 -1.6**
comp=Z,224nm,1.1s,comp=Z,2µm
MRSI Marisa 56.26 223 P **P 10 49 12.8 -0.6**
JTMT Jette 56.28 54 *eP* **P 10 49 13.4 -0.1**
BMO Blue Mountains 56.35 59 *eP* **P 10 49 13.9 -0.1**
BMO pmax pmax
comp=Z,18nm,0.9s
BMO Blue Mountains 56.35 59 *eP* **P 10 49 13.9 -0.1**
comp=Z,18nm,0.9s
YBMT Yellow Bay 56.36 54 *eP* **P 10 49 13.9 -0.1**
MOD Modoc Plateau 56.41 63 *eP* **P 10 49 14.6 +0.1**
comp=Z,37nm,0.8s
O03D Paynes Creek 56.49 65 P **P 10 49 14.5 -0.5**
baz=308,SNR=18
UMPA Umpang Tak 56.50 256 P **P 10 49 18.1 +2.8**
comp=Z,18nm,1.1s,comp=Z,1µm
SWMT Swartz Lake 56.58 54 *eP* **P 10 49 15.3 -0.2**
SANI Sanana 56.81 217 P **P 10 49 16.9 -0.4**
ARA0 ARCESS Array S 56.83 341 *eP* **P 10 49 16.8 -0.1**
ARA0 *ePcP* **PcP 10 50 10.8 -1.3**
ARCES ARCESS Array B 56.83 341 P **P 10 49 16.6 -0.3**
comp=Z,12nm,0.8s,baz=42,slow=7.9,SNR=37
ARCES PcP **PcP 10 50 10.8 -1.3**
comp=Z,7.4nm,0.8s,baz=47,slow=7.1,SNR=6.1
ARCES pPcP 10 50 30.9
comp=Z,3.1nm,0.6s,baz=351,slow=1.6,SNR=4.0
ARCES PKPPKP **P'P'df 11 19 13.3 -2.1**
comp=Z,2.4nm,0.9s,baz=180,slow=1.2,SNR=4.3
ARCES LR LR 11 19 14.2
comp=Z,939nm,18.9s,baz=33,slow=42
ARE0 ARCESS Array S 56.83 341 *eP* **P 10 49 16.9 0.0**
ARE0 *ePcP* **PcP 10 50 13.2 +1.1**
GUN Gumba 56.90 276 *eP* **P 10 49 19.0 +0.6**
comp=Z,72nm,0.5s
KKAR Karatay Array 56.95 299 *eP* **P 10 49 19.1 +1.0**
KKAR Karatay Array 56.95 299 *eP* **P 10 49 19.1 +1.0**
SLMT Seeley Lake 57.01 54 *eP* **P 10 49 20.6 +1.9**
MSO Missoula 57.02 55 P **P 10 49 18.4 -0.4**
baz=308,SNR=26
MSO Missoula 57.02 55 *eP* **P 10 49 18.4 -0.4**
comp=Z,54nm,1.4s
WVOR Wild Horse Val 57.06 62 *eP* **P 10 49 19.0 -0.1**
WVOR pmax pmax
comp=Z,36nm,1.0s
WVOR Wild Horse Val 57.06 62 *eP* **P 10 49 19.0 -0.1**
comp=Z,36nm,1.0s
RAMN Ramite 57.06 275 *eP* **P 10 49 19.9 +0.5**
comp=Z,119nm,0.7s
ORV Oroville 57.13 66 *eP* **P 10 49 18.8 -0.7**
ORV pmax pmax
comp=Z,21nm,0.9s
ORV Oroville 57.13 66 *eP* **P 10 49 18.8 -0.7**
comp=Z,21nm,0.8s
CHMT Chamberlain Mo 57.34 55 *eP* **P 10 49 20.5 -0.6**
KKN Kakani 57.38 276 *eP* **P 10 49 22.4 +0.8**
comp=Z,892nm,1.6s
PKIN Phulchoki 57.44 276 *eP* **P 10 49 23.2 +1.1**
comp=Z,31nm,0.6s
DMN Daman 57.61 276 *eP* **P 10 49 24.4 +1.1**
comp=Z,589nm,1.3s
GKN Gorkha 57.66 277 *eP* **P 10 49 24.4 +0.9**
comp=Z,954nm,1.4s
AFDM Forest Hills D 57.83 66 *eP* **P 10 49 24.3 -0.1**
comp=Z,13nm,1.1s
MFID Camas Ranch 58.08 59 *eP* **P 10 49 26.0 -0.2**
comp=Z,16nm,1.0s
PMG Port Moresby 58.24 190 *eP* **P 10 49 27.1 -0.3**
PMG pmax pmax
comp=Z,310nm,1.8s
PMG Port Moresby 58.24 190 *eP* **P 10 49 27.1 -0.3**
comp=Z,307nm,1.8s
PAHR Pah Rah Range 58.31 64 *eP* **P 10 49 27.7 -0.2**
comp=Z,20nm,0.9s
PCI Palu 58.44 224 P **P 10 49 28.9 +0.1**
LRM Limekiln Ridge 58.46 55 *eP* **P 10 49 28.7 -0.3**
PHET Kaeng Krachan 58.47 253 P **P 10 49 30.6 +1.5**
comp=Z,26nm,1.0s,comp=Z,230nm
KOLN Koldanda 58.50 277 *eP* **P 10 49 30.3 +0.8**
comp=Z,388nm,1.5s
EGMT Eagleton 58.51 52 P **P 10 49 28.8 -0.3**
baz=309,SNR=7.7
EGMT Eagleton 58.51 52 *eP* **P 10 49 29.2 +0.1**
comp=Z,30nm,0.6s
DLMT Dillon 58.67 56 *eP* **P 10 49 30.4 0.0**
comp=Z,87nm,1.9s
PYUN Piuthan 58.68 278 *eP* **P 10 49 31.5 +0.8**
comp=Z,757nm,1.4s
SUMG Summit 58.75 5⇑ *iP* **P 10 49 31.7 +0.9**
SUMG pmax pmax
comp=Z,35nm,0.9s
SUMG Summit 58.75 5⇑ *iP* **P 10 49 31.7 +0.9**
comp=Z,35nm,0.9s
SUMG Summit 58.75 5 *eP* **P 10 49 31.7 +0.9**
comp=Z,76nm,0.8s
CMB Columbia Colle 58.76 67 *eP* **P 10 49 31.0 0.0**
CMB pmax pmax
comp=Z,13nm,0.9s
CMB Columbia Colle 58.76 67 *eP* **P 10 49 30.9 0.0**
comp=Z,13nm,0.9s
HLID Hailey 58.79 58 P **P 10 49 31.2 0.0**
baz=309,SNR=32
HLID Hailey 58.79 58 *eP* **P 10 49 31.2 0.0**
comp=Z,48nm,1.5s
YERR Yerington 58.85 65 *eP* **P 10 49 31.8 0.0**
comp=Z,28nm,0.9s
AB31 Akbulak array 58.86 310 P **P 10 49 31.2 -0.2**
AB31 pmax pmax
comp=Z,26nm,0.6s
ABKAR Akbulak array 58.86 310 *eP* **P 10 49 31.1 -0.3**
MCMT McKenzie Canyo 58.86 56 *eP* **P 10 49 31.3 -0.5**
BOZ Bozeman (W) 59.02 55 P **P 10 49 33.0 +0.3**
baz=309,SNR=48
BOZ Bozeman (W) 59.02 55 *eP* **P 10 49 32.9 +0.1**
BOZ pmax pmax
comp=Z,52nm,1.0s
BOZ Bozeman (W) 59.02 55 *eP* **P 10 49 32.9 +0.1**
BOZ Bozeman (W) 59.02 55 *eP* **P 10 49 32.9 +0.1**
comp=Z,52nm,1.0s
WAKR Walker 59.04 66 *eP* **P 10 49 33.2 +0.1**
comp=Z,24nm,0.8s
AKTO Aktyubinsk 59.07 312 P **P 10 49 32.9 +0.1**
AKTO pmax pmax
comp=Z,12nm,1.1s
SBUM Sibu 59.36 234 *eP* **P 10 49 36.2 +0.9**
comp=Z,62nm,1.0s
TVH1 TV Hill, Hawth 59.48 65 *eP* **P 10 49 36.1 -0.2**
comp=Z,20nm,0.9s
TVH3 East Aurora ar 59.51 65 *eP* **P 10 49 36.3 -0.1**
comp=Z,15nm,1.0s
TVH2 Borealis Mine 59.53 65 *eP* **P 10 49 36.2 -0.3**
comp=Z,10nm,1.1s
LGTI Lohaghat 59.58 281 *eP* **P 10 49 37.1 +0.4**
KLMR Klimovskoe 59.63 330 *eP* **P 10 49 34.1 -2.4**
KLMR *e* 10 51 45.7
KLMR pmax pmax
comp=Z,97nm,1.2s
QLMT Earthquake Lak 59.64 55 *eP* **P 10 49 37.5 +0.3**
YHB Horse Butte 59.82 55 *eP* **P 10 49 38.9 +0.4**
YMC Maple Creek 59.92 55 *eP* **P 10 49 39.5 +0.4**
KDI Kendari 59.92 220 P **P 10 49 40.4 +1.3**
MLAC Mammoth, Mammo 59.97 66 P **P 10 49 40.0 +0.5**
baz=310
GCMT Greycliff 59.98 54 *eP* **P 10 49 39.9 +0.5**
YHH Holmes Hill 59.99 55 *eP* **P 10 49 39.8 +0.2**
comp=Z,36nm,1.0s
ELK Elko 60.10 61 *eP* **P 10 49 40.4 0.0**
comp=Z,10nm,0.8s
MCID Moose Creek 60.19 56 *eP* **P 10 49 41.9 +0.9**

YFT Old Faithful 60.21 56 *eP* **P 10 49 42.8 +1.7**
comp=Z,37nm,0.9s
DHRM DHARAMSHALA 60.29 286 *eP* **P 10 49 42.1 +0.4**
TTSI Tana Toraja 60.34 223 P **P 10 49 42.3 +0.4**
YPP Pitchstone Pla 60.34 56 *eP* **P 10 49 42.8 +0.7**
comp=Z,18nm,1.2s
SDNR Sundarnagar 60.35 285 *eP* **P 10 49 42.0 0.0**
H17A Grant Village 60.39 55 P **P 10 49 44.0 +1.6**
baz=310,SNR=23
H17A Grant Village 60.39 55 *eP* **P 10 49 44.1 +1.7**
comp=Z,45nm,0.9s
DDI Dehra Dun 60.43 283 *eP* **P 10 49 43.6 +1.1**
SMLA Simla 60.47 285 *eP* **P 10 49 43.1 +0.4**
IMW Indian Meadow 60.51 56 *eP* **P 10 49 44.0 +0.7**
comp=Z,38nm,1.2s
FLWY Flagg Ranch 60.52 56 *eP* **P 10 49 44.1 +0.9**
comp=Z,36nm,1.0s
RCTC Rector, Farmer 60.57 67 P **P 10 49 42.6 -0.7**
baz=311
RLMT Red Lodge 60.63 54 P **P 10 49 44.5 +0.6**
baz=311,SNR=36
RLMT Red Lodge 60.63 54 *eP* **P 10 49 44.5 +0.6**
comp=Z,42nm,0.9s
SMMC Simmler 60.75 69 P **P 10 49 44.6 -0.1**
baz=311
BHK Bhakra 60.76 285 *eP* **P 10 49 43.3 -1.4**
TPAW Teton Pass 60.77 56 *eP* **P 10 49 45.7 +0.7**
comp=Z,41nm,0.9s
ILULI Ilulissat 60.85 11 *i P* **P 10 49 44.5 -0.2**
ILULI Ilulissat 60.85 11 *i P* **P 10 49 44.5 -0.2**
MTKI Muara Teweh, K 60.85 229 P **P 10 49 47.0 +1.5**
HVU Hansel Valley 60.85 59 *eP* **P 10 49 45.4 0.0**
HVU pmax pmax
comp=Z,20nm,1.1s
HVU Hansel Valley 60.85 59 *eP* **P 10 49 45.4 0.0**
comp=Z,20nm,1.1s
LOHW Long Hollow 60.88 56 *eP* **P 10 49 46.0 +0.4**
comp=Z,46nm,1.2s
SNOW Snow King Moun 60.90 56 *eP* **P 10 49 46.5 +0.7**
comp=Z,38nm,0.9s
REDW Red Top Meadow 60.91 56 *eP* **P 10 49 46.5 +0.6**
comp=Z,53nm,1.0s
VES Vestal, Richgr 60.97 68 P **P 10 49 44.9 -1.2**
baz=311,SNR=8.5
DGMT Dagmar 61.06 49 P **P 10 49 46.5 0.0**
baz=312,SNR=11
DGMT Dagmar 61.06 49 *eP* **P 10 49 47.0 +0.4**
comp=Z,57nm,0.9s
PKM Mcpherson Peak 61.14 69 P **P 10 49 47.1 -0.5**
baz=311
AHID Auburn Hatcher 61.16 57 *eP* **P 10 49 47.7 +0.1**
comp=Z,128nm,0.3s
CWC Cottonwood Cre 61.20 67 P **P 10 49 47.4 -0.5**
baz=311
LAO LASA Array 61.21 51 P **P 10 49 47.8 +0.2**
baz=311
KSM Kuching 61.21 235 *eP* **P 10 49 49.2 +1.2**
comp=Z,140nm,1.1s
BGU Big Grassy Mou 61.27 60 *eP* **P 10 49 48.1 -0.1**
comp=Z,5.0nm,0.9s
GRAC Grapevine Rang 61.27 66 P **P 10 49 48.1 0.0**
baz=311,SNR=11
A25A Svangstu Ranch 61.28 48 P **P 10 49 48.2 +0.2**
baz=312,SNR=12
SURA Surathani 61.32 250 P **P 10 49 50.4 +1.7**
comp=Z,36nm,1.5s,comp=Z,4µm
SPUT South Promonto 61.35 59 *eP* **P 10 49 48.8 0.0**
comp=Z,28nm,1.1s
R11A Troy Canyon, C 61.45 63 P **P 10 49 49.2 -0.4**
baz=311,SNR=45
R11A Troy Canyon, C 61.45 63 *eP* **P 10 49 49.0 -0.5**
comp=Z,20nm,0.9s
SBC Santa Barbara 61.50 69 P **P 10 49 49.3 -0.3**
baz=311
ARVC Arvin 61.60 68 P **P 10 49 49.9 -0.4**
baz=311
HWUT Hardware Ranch 61.65 58 *eP* **P 10 49 50.9 +0.1**
comp=Z,16nm,0.6s
B25A Knox Farm, Ray 61.71 48 P **P 10 49 51.3 +0.4**
baz=312
RSUT Red Spur Mount 61.72 58 *eP* **P 10 49 51.6 +0.2**
STKI Sintang 61.76 233 P **P 10 49 52.7 +1.1**
MPMC Manual Prospec 61.81 67 P **P 10 49 51.5 -0.4**
baz=311,SNR=17
A26A Wade Farm, Ken 61.84 47 P **P 10 49 51.7 -0.1**
baz=313
SCZ2 Santa Cruz Isl 61.84 70 P **P 10 49 52.4 +0.3**
baz=312
DUG Dugway, Tooele 61.87 60 P **P 10 49 52.4 0.0**
baz=311,SNR=43
DUG Dugway, Tooele 61.87 60 *eP* **P 10 49 52.3 0.0**
DUG pmax pmax
comp=Z,43nm,1.2s
DUG Dugway, Tooele 61.87 60 *eP* **P 10 49 52.3 0.0**
DUG Dugway, Tooele 61.87 60 *eP* **P 10 49 52.3 0.0**
comp=Z,43nm,1.2s
FURC Furnace Creek, 61.92 66 P **P 10 49 52.3 -0.1**
baz=311,SNR=39
TPNV Topopah Spring 61.97 65 P **P 10 49 52.7 -0.4**
baz=311,SNR=20
TPNV Topopah Spring 61.97 65 *eP* **P 10 49 52.7 -0.4**
TPNV pmax pmax
comp=Z,29nm,1.0s
TPNV Topopah Spring 61.97 65 *eP* **P 10 49 52.7 -0.4**
comp=Z,29nm,1.0s
OSI Osito Audit: C 62.00 69 P **P 10 49 52.8 -0.4**
baz=312
OSI Osito Audit: C 62.00 69 *eP* **P 10 49 53.1 0.0**
comp=Z,31nm,0.8s
BW06 Boulder Array 62.01 56 P **P 10 49 53.1 -0.2**
baz=312,SNR=57
BW06 Boulder Array 62.01 56 *eP* **P 10 49 53.2 -0.2**
PD31 Pinedale Array 62.01 56 *eP* **P 10 49 53.2 -0.1**
PDAR Pinedale Array 62.01 56 P **P 10 49 53.0 -0.4**
comp=Z,28nm,0.9s,baz=302,slow=2.8,SNR=128
PDAR *pP* **sP 10 50 11.3 +1.1**
comp=Z,14nm,0.8s,baz=269,slow=2.5,SNR=7.0
PDAR LR LR 11 13 52.5
comp=Z,437nm,22.0s,baz=318,slow=33
C25A Freed Ranch, W 62.04 49 P **P 10 49 53.4 +0.3**
baz=312
TCUT Toone Canyon 62.06 59 *eP* **P 10 49 53.9 +0.2**
comp=Z,90nm,1.6s
LRMC Laurel Mtn Rad 62.07 67 P **P 10 49 52.7 -1.0**
baz=312,SNR=12
KAPI Kappang 62.11 222 *eP* **P 10 49 53.8 -0.1**
comp=Z,172nm,1.6s
CTU Camp Tracy 62.15 59 *eP* **P 10 49 54.2 0.0**
comp=Z,94nm,1.4s
BWNR Bhubaneshwar 62.16 270 *eP* **P 10 49 54.3 +0.1**
BWNR IAmb IAmb 10 49 54.9
comp=Z,13nm,0.6s
SKLT Songkhla 62.26 248 P **P 10 49 56.6 +1.6**
comp=Z,88nm,1.3s,comp=Z,1µm
EDW2 Edwards Air Fo 62.27 68 P **P 10 49 54.5 -0.4**
baz=312,SNR=17
TRTT Trang 62.31 249 P **P 10 49 56.7 +1.4**
comp=Z,60nm,1.3s
KRAB Krabi 62.32 250 P **P 10 49 57.0 +1.6**
comp=Z,55nm,1.0s
JLU Jordanelle 62.38 59 *eP* **P 10 49 55.9 0.0**
comp=Z,16nm,1.0s
D25A Fairfield 62.38 49 P **P 10 49 55.6 +0.1**
baz=313
SNCC San Nicolas Is 62.41 70 P **P 10 49 55.4 -0.4**
baz=312
DECC Green Verdugo 62.48 69 P **P 10 49 55.7 -0.6**
baz=312
DGPR DIGLIPUR 62.58 259 *eP* **P 10 49 57.4 +0.3**
SHOC Shoshone, Teco 62.65 66 P **P 10 49 56.9 -0.5**
baz=312,SNR=8.4
MWC Mount Wilson 62.67 68 *eP* **P 10 49 57.3 -0.5**
MWC pmax pmax
comp=Z,35nm,1.1s
MWC Mount Wilson 62.67 68 *eP* **P 10 49 57.3 -0.5**
comp=Z,35nm,1.1s
A28A Rude Farm, Bot 62.69 46 P **P 10 49 57.5 0.0**
baz=314
GSC Goldstone, Bar 62.72 67 P **P 10 49 57.5 -0.6**
baz=312,SNR=10
GSC Goldstone, Bar 62.72 67 *eP* **P 10 49 57.4 -0.6**
GSC pmax pmax
comp=Z,16nm,0.9s
GSC Goldstone, Bar 62.72 67 *eP* **P 10 49 57.7 -0.3**
comp=Z,16nm,0.9s
E25A Miller Ranch, 62.78 50 P **P 10 49 58.2 0.0**
baz=313

BSSI Bau Bau, Buton 62.79 221 P **P 10 49 59.2 +0.7**
FMP Fort Macarthur 62.86 69 P **P 10 49 59.0 +0.1**
baz=312
BFSC Mount Baldy Ra 62.91 68 P **P 10 49 58.7 -0.6**
baz=312,SNR=5.6
D26A Manning 62.91 49 P **P 10 49 58.8 -0.2**
baz=313
SHPR Sheep Range 62.92 65 *eP* **P 10 49 59.1 -0.3**
comp=Z,17nm,1.1s
B28A Dugan Ranch, T 62.96 47 P **P 10 49 59.2 -0.1**
baz=314
SFJD Kangerlussuaq 63.00 11 *i P* **P 10 49 59.6 +0.4**
SFJD pmax pmax
comp=Z,25nm,0.9s
SFJD Kangerlussuaq 63.00 11 *i P* **P 10 49 59.6 +0.4**
comp=Z,25nm,0.9s
SFJD Kangerlussuaq 63.00 11 *eP* **P 10 49 59.9 +0.7**
comp=Z,27nm,0.9s
BBKI Banjar Baru 63.05 228 P **P 10 50 00.1 -0.1**
F25A Bowman 63.15 50 P **P 10 50 00.7 0.0**
baz=313,SNR=5.3
TUQ Turquoise Moun 63.17 66 P **P 10 50 00.5 -0.5**
baz=312
A29A Manning Farm, 63.17 46 P **P 10 50 00.7 +0.1**
baz=314,SNR=14
E26A Carlson Angus 63.28 49 P **P 10 50 01.3 -0.2**
baz=313,SNR=8.2
FIA1 FINESS Array S 63.28 336 *eP* **P 10 50 01.3 +0.1**
FIA0 FINESS Array S 63.28 336 *eP* **P 10 50 01.4 +0.2**
FIA0 FINESS Array S 63.28 336 *eP* **P 10 50 01.1 -0.1**
FIA0 FINESS Array S 63.28 336 P **P 10 50 01.3 +0.2**
FIA0 FINESS Array S 63.28 336 *eP* **P 10 50 01.1 -0.1**
FINES FINESS Array B 63.28 336 P **P 10 50 01.1 -0.1**
comp=Z,17nm,0.5s,baz=36,slow=7.8,SNR=128
FINES LR LR 11 20 25.2
comp=Z,1µm,19.8s,baz=32,slow=39
FINES FINESS Array B 63.28 336 *i P* **P 10 50 01.2 +0.1**
FINES pmax pmax
comp=Z,17nm,0.5s
FINES FINESS Array B 63.28 336 *eP* **P 10 50 01.2 +0.1**
COEN Coen 63.29 194 *eP* **P 10 50 01.5 -0.2**
comp=Z,123nm,1.0s
KBL Kabul 63.32 293 *eP* **P 10 50 01.7 -0.4**
KBL pmax pmax
comp=Z,137nm,1.1s
KBL Kabul 63.32 293 *eP* **P 10 50 01.7 -0.4**
comp=Z,136nm,1.1s
HEC Hector,Ludlow 63.33 67 P **P 10 50 01.3 -0.7**
baz=312,SNR=10.0
BBRC Big Bear Solar 63.34 68 P **P 10 50 01.6 -0.7**
baz=312
MSU Marysvale 63.35 61 *eP* **P 10 50 02.5 +0.2**
MSU Marysvale 63.35 61 *eP* **P 10 50 02.5 +0.2**
TMUT Trail Mountain 63.39 60 *eP* **P 10 50 02.8 +0.2**
comp=Z,21nm,1.0s
SZCU Shurtz Canyon 63.43 63 *eP* **P 10 50 02.6 -0.3**
comp=Z,26nm,1.1s
C28A Hausauer Farms 63.45 47 P **P 10 50 02.6 +0.1**
baz=314
P17A Butcher Ranch, 63.54 60 *eP* **P 10 50 03.3 -0.1**
comp=Z,43nm,1.3s
F26A Lodgepole 63.60 50 P **P 10 50 03.4 -0.2**
baz=313,SNR=18
A30A Hoffart Farm, 63.60 45 P **P 10 50 03.6 +0.1**
baz=314,SNR=5.9
MURC Murrieta 63.62 68 P **P 10 50 03.1 -0.8**
baz=312,SNR=7.1
MTPU Mount Pierson 63.66 62 *eP* **P 10 50 04.8 +0.2**
comp=Z,16nm,0.9s
KULM Kulim 63.71 246 *eP* **P 10 50 05.5 +0.8**
comp=Z,119nm,1.1s
D28A Regan 63.72 48 P **P 10 50 04.4 0.0**
baz=314
LCMT Little Creek M 63.73 63 *eP* **P 10 50 04.8 +0.1**
comp=Z,31nm,0.9s
MDND Maddock 63.74 47 P **P 10 50 04.6 +0.2**
baz=314,SNR=5.2
MDND Maddock 63.74 47 *eP* **P 10 50 05.0 +0.5**
comp=Z,59nm,1.0s
K22A Casper 63.75 55 P **P 10 50 04.3 -0.5**
baz=313,SNR=12
K22A Casper 63.75 55 *eP* **P 10 50 04.7 -0.1**
comp=Z,59nm,1.4s
GMRC Granite Mounta 63.77 67 P **P 10 50 04.4 -0.6**
baz=312
ULM Lac du Bonnet 63.80 43 P **P 10 50 04.0 -0.7**
comp=Z,8.4nm,0.7s,baz=312,slow=6.8,SNR=12
ULM LR LR 11 18 33.7
comp=Z,1µm,21.4s,baz=314,slow=37
ULM Lac du Bonnet 63.80 43 P **P 10 50 04.0 -0.7**
ULM pmax pmax
comp=Z,10.0nm,0.8s
ULM MLR MLR
comp=Z,1µm,21.4s
ULM Lac du Bonnet 63.80 43 *eP* **P 10 50 04.3 -0.4**
comp=Z,16nm,1.0s
LDFC Landfair 63.91 66 *eP* **P 10 50 05.3 -0.5**
comp=Z,41nm,0.8s
SRU San Rafael Swe 63.91 60 *eP* **P 10 50 05.7 -0.2**
SRU pmax pmax
comp=Z,45nm,0.9s
SRU San Rafael Swe 63.91 60 *eP* **P 10 50 05.7 -0.2**
comp=Z,45nm,0.9s
B30A Myrvik Farm, E 63.93 46 P **P 10 50 05.9 +0.2**
baz=315,SNR=35
H25A Fruitdale 63.96 51 P **P 10 50 05.6 -0.4**
baz=313,SNR=9.8
KNB Kanab 63.98 63 *eP* **P 10 50 06.6 +0.2**
KNB pmax pmax
comp=Z,38nm,1.0s
KNB Kanab 63.98 63 *eP* **P 10 50 06.6 +0.2**
comp=Z,38nm,1.0s
PBKI Pangkalan Bun 64.00 231 P **P 10 50 07.4 +0.9**
PFO Pinyon Flats O 64.06 68 *eP* **P 10 50 06.2 -0.7**
PFO pmax pmax
comp=Z,32nm,1.9s
PFO Pinyon Flats O 64.06 68 *eP* **P 10 50 06.2 -0.7**
comp=Z,32nm,1.9s
MMU Miners Mountai 64.08 61 *eP* **P 10 50 07.3 +0.2**
RSSD Black Hills 64.08 52 P **P 10 50 06.6 -0.3**
baz=313
RSSD Black Hills 64.08 52 *eP* **P 10 50 06.7 -0.3**
RSSD pmax pmax
comp=Z,66nm,0.9s
RSSD Black Hills 64.08 52 *eP* **P 10 50 06.7 -0.3**
comp=Z,66nm,0.9s
BELC Belle Mtn. Jos 64.09 67 P **P 10 50 05.9 -1.2**
baz=313,SNR=7.8
MOS Moscow 64.12 326 *eP* **P 10 50 06.4 -0.3**
MOS *e* 10 50 37.3
MOS pmax pmax
comp=Z,300nm,1.7s
MOS pmax pmax
comp=N,200nm,1.5s
MOS pmax pmax
comp=Z,190nm,1.5s
MOS Moscow 64.12 326 *eP* **P 10 50 06.3 -0.4**
IPM Ipoh 64.12 245 *eP* **P 10 50 07.5 +0.1**
comp=Z,88nm,1.2s
A31A Linda, St. Vin 64.13 45 P **P 10 50 06.7 -0.2**
baz=315
109C Camp Elliot, M 64.15 69 P **P 10 50 06.6 -0.7**
baz=313
B31A Greenbush Farm 64.27 45 P **P 10 50 07.8 0.0**
baz=315,SNR=18
D29A Pettibone, Tap 64.29 47 P **P 10 50 07.7 -0.4**
baz=314
C30A Mose, Pekin 64.39 46 P **P 10 50 08.0 -0.7**
baz=315
NEE2 Needles Airpor 64.41 66 P **P 10 50 08.2 -0.8**
baz=313
A32A Rocking H Ranc 64.46 44 P **P 10 50 08.5 -0.6**
baz=315
IRM Iron Mountain 64.50 67 P **P 10 50 09.2 -0.5**
baz=313,SNR=15
O20A White River Ci 64.51 58 P **P 10 50 09.4 -0.5**
baz=313,SNR=16
O20A White River Ci 64.51 58 *eP* **P 10 50 09.5 -0.4**
comp=Z,45nm,1.3s
SOEI Soe 64.52 215 P **P 10 50 09.3 -0.7**
SOEI Soe 64.52 215 *eP* **P 10 50 09.2 -0.7**
comp=Z,157nm,1.2s
BAR Barrett 64.56 69 *eP* **P 10 50 09.1 -1.0**
comp=Z,10nm,0.9s
MONP2 Monument Peak 64.57 69 P **P 10 50 09.4 -1.0**
baz=313
MYKOM Kota Tinggi 64.59 241 *eP* **P 10 50 11.5 +1.1**

comp=Z,116nm,1.2s
E29A Napoleon 64.62 48 P P 10 50 09.6 -0.6
baz=315
EDFI Ende, Flores 64.63 218 P P 10 50 09.4 -1.3
W13A Hualapai Mount 64.63 65 *e*P P 10 50 10.3 -0.4
comp=Z,10nm,1.0s
BC3 Big Chuckawall 64.65 67 P P 10 50 09.8 -1.0
baz=313,SNR=8.9
D30A Buchanan 64.67 47 P P 10 50 09.9 -0.7
baz=315,SNR=5.6
C31A Landman Farms, 64.68 46 P P 10 50 10.0 -0.6
baz=315,SNR=12
U15A North Rim 64.69 63 *e*P P 10 50 10.9 -0.2
comp=Z,23nm,1.0s
B32A Ashes, Strandq 64.81 45 P P 10 50 10.9 -0.6
baz=316,SNR=13
SWSC Sam W. Stewart 64.92 68 P P 10 50 11.8 -0.5
baz=313
IKP In-Ko-Pah, Jac 64.93 69 P P 10 50 11.8 -0.7
baz=313
A33A Warroad 64.96 44 P P 10 50 11.7 -0.6
baz=316,SNR=15
OBN Obninsk 64.98 327 *c i*P P 10 50 12.0 -0.4
OBN *e* 10 50 42.5
OBN *e* 10 52 38.5
OBN *i* S S 10 58 49.7 -1.2
OBN *e*SS SS 11 02 59.4 -2.8
OBN pmax pmax
comp=Z,179nm,1.1s
OBN MLR MLR
comp=Z,760nm,20.0s
OBN Obninsk 64.98 327 *e*P P 10 50 12.2 -0.2
OBN Obninsk 64.98 327 *e*P P 10 50 12.7 +0.4
comp=Z,160nm,1.1s
PDMCI Parker Dam,Lak 65.02 66 P P 10 50 12.4 -0.6
baz=313,SNR=7.5
E30A Jud 65.02 47 P P 10 50 12.1 -0.8
baz=315
MTN Manton Dam 65.03 207 *e*P P 10 50 13.2 0.0
comp=Z,248nm,1.3s
F29A Eureka 65.04 48 P P 10 50 12.5 -0.5
baz=315
PV09 Paradox Valley 65.12 60 *e*P P 10 50 13.7 -0.3
Y12C Blythe 65.16 67 P P 10 50 13.6 -0.3
baz=313,SNR=5.8
Y12C Blythe 65.16 67 *e*P P 10 50 13.4 -0.5
comp=Z,11nm,0.8s
AGMN Agassiz Nation 65.20 44 P P 10 50 13.2 -0.7
baz=316,SNR=17
AGMN Agassiz Nation 65.20 44 *e*P P 10 50 13.4 -0.5
comp=Z,30nm,1.1s
D31A Mcclaflin, Tow 65.21 46 P P 10 50 13.4 -0.6
baz=315
C32A Crookston 65.22 45 P P 10 50 13.7 -0.4
baz=316
PV10 Paradox Valley 65.26 60 *e*P P 10 50 14.8 0.0
N23A Red Feather La 65.27 56 P P 10 50 14.9 +0.1
baz=314,SNR=20
N23A Red Feather La 65.27 56 *e*P P 10 50 15.1 +0.2
comp=Z,50nm,1.3s
B33A Robert and Kas 65.34 44 P P 10 50 14.2 -0.7
baz=316,SNR=5.2
PV05 Paradox Valley 65.43 60 *e*P P 10 50 15.7 -0.2
G29A Hoven 65.44 49 P P 10 50 14.9 -0.7
baz=315
GLA Glamis 65.45 67 P P 10 50 15.4 -0.5
baz=313,SNR=5.1
GLA Glamis 65.45 67 *e*P P 10 50 15.5 -0.3
GLA pmax pmax
comp=Z,28nm,1.1s
GLA Glamis 65.45 67 *e*P P 10 50 15.5 -0.3
comp=Z,28nm,1.1s
E31A Nome 65.48 47 P P 10 50 14.9 -0.9
baz=316,SNR=9.2
VSU Vasula 65.56 334 *c i*P P 10 50 16.6 +0.5
VSU MLR MLR
comp=Z,3µm,19.0s
B34A Aery, Baudette 65.62 44 P P 10 50 15.9 -0.8
baz=317,SNR=10
C33A Trail 65.63 45 P P 10 50 16.0 -0.7
baz=316
BHPL Bhopal 65.65 278 *e*P P 10 50 17.3 +0.1
PV01 Paradox Valley 65.69 60 *e*P P 10 50 17.2 -0.4
H29A Onida 65.70 50 P P 10 50 16.3 -1.0
baz=315
F31A Hecla 65.80 48 P P 10 50 16.8 -1.0
baz=316
E32A Braaten, Kindr 65.85 46 P P 10 50 17.3 -0.9
baz=316
WUAZ Wupatki 65.85 63 P P 10 50 18.5 -0.1
baz=314,SNR=11
WUAZ Wupatki 65.85 63 *e*P P 10 50 18.9 +0.3
comp=Z,19nm,1.0s
G30A Faulkton 65.88 49 P P 10 50 17.4 -1.0
baz=315,SNR=13
SMCO Snowmass 65.88 58 *e*P P 10 50 18.8 -0.2
comp=Z,28nm,0.9s
VRH Novokhopyorsk 65.94 321 *e*P P 10 50 18.1 -0.5
VRH pmax pmax
comp=Z,180nm,1.3s
Y14A Wickenburg 65.95 66 *e*P P 10 50 18.8 -0.3
comp=Z,61nm,1.1s
LPSR Galich'ya Gora 66.02 324 *e*P P 10 50 19.4 +0.3
LPSR pmax pmax
comp=Z,160nm,1.1s
NGP Nagpur 66.04 275 *e*P P 10 50 21.6 +1.8
D33A AnnSam, Waubun 66.04 45 P P 10 50 18.7 -0.7
baz=316
I29A Vivian Onida 66.08 50 P P 10 50 19.2 -0.6
baz=315
C34A RKJ Ranch, Bem 66.11 44 P P 10 50 18.7 -1.1
baz=317
B35A Bob, Littlefor 66.14 43 P P 10 50 19.3 -0.7
baz=317,SNR=18
ISCO Idaho Springs 66.21 56 P P 10 50 21.3 +0.3
baz=314,SNR=40
ISCO Idaho Springs 66.21 56 *e*P P 10 50 21.2 +0.2
ISCO pmax pmax
comp=Z,35nm,1.0s
ISCO Idaho Springs 66.21 56 *e*P P 10 50 21.2 +0.2
comp=Z,35nm,1.0s
G31A Conde 66.27 48 P P 10 50 20.4 -0.5
baz=316
F32A Veblen 66.34 47 P P 10 50 20.9 -0.5
baz=316
MVCO Mesa Verde 66.37 60 P P 10 50 21.7 -0.3
baz=314,SNR=20
MVCO Mesa Verde 66.37 60 *e*P P 10 50 21.5 -0.4
comp=Z,26nm,1.0s
PLAI Plampang 66.38 222 P P 10 50 21.1 -0.7
D34A Park Rapids 66.39 45 P P 10 50 21.0 -0.7
baz=317,SNR=22
E33A Westby DABS, E 66.42 46 P P 10 50 21.4 -0.5
baz=316,SNR=8.7
SUSD Miller 66.46 49 P P 10 50 21.4 -0.8
baz=316
C35A Jirik Farms, M 66.50 44 P P 10 50 21.3 -1.0
baz=317,SNR=14
X16A Lo Mia Camp, P 66.56 64 *e*P P 10 50 23.2 0.0
comp=Z,15nm,1.0s
I30A Oacoma 66.60 50 P P 10 50 22.5 -0.5
baz=316
H31A Wolsey 66.67 49 P P 10 50 22.5 -1.0
baz=316,SNR=7.2
PSI Prapat 66.72 246 *e*P P 10 50 24.7 +0.4
PSI *e**PP sP 10 50 41.8 +0.6
PSI pmax pmax
comp=Z,58nm,1.0s
PSI Prapat 66.72 246 *e*P P 10 50 24.2 -0.1
comp=Z,58nm,1.0s
E34A Wadena 66.81 45 P P 10 50 23.8 -0.6
baz=317
D35A Remer 66.92 44 P P 10 50 24.2 -0.8
baz=317,SNR=9.5
S22A 4UR Ranch, Cre 66.95 59 P P 10 50 26.0 +0.3
baz=314,SNR=40
S22A 4UR Ranch, Cre 66.95 59 *e*P P 10 50 26.0 +0.3
comp=Z,31nm,1.1s
I31A Royce, Wessing 66.97 49 P P 10 50 24.3 -1.1
baz=316
NC303 NORSAR Array S 66.98 342 *e*P P 10 50 25.6 +0.4
VSR Storozhevoye 66.98 323 *e*P P 10 50 24.6 -0.7
VSR pmax pmax
comp=Z,160nm,1.1s
C36A Pine Crest Far 66.98 43 P P 10 50 24.5 -0.9
baz=318,SNR=6.3
J30A Dallas 66.99 50 P P 10 50 24.9 -0.7
baz=316,SNR=14
NC405 NORSAR Array S 67.01 342 *e*P P 10 50 25.9 +0.5
Q24A Divide 67.05 57 P P 10 50 26.1 -0.3
baz=315,SNR=5.6
Q24A Divide 67.05 57 *e*P P 10 50 26.0 -0.3
comp=Z,10nm,0.9s
NC204 NORSAR Array S 67.05 343 *e*P P 10 50 26.4 +0.8
W18A Petrified Fore 67.09 63 P P 10 50 26.1 -0.5
baz=314
E35A Pequot Lakes 67.14 45 P P 10 50 25.6 -0.8
baz=317
NB201 NORSAR Array S 67.15 342 *e*P P 10 50 26.7 +0.4
G33A Ortonville 67.16 47 P P 10 50 25.9 -0.7
baz=317,SNR=6.5
H32A Carlson Farm, 67.17 48 P P 10 50 25.5 -1.2
baz=316
NB2 NORSAR Subarra 67.18 342 P P 10 50 26.7 +0.3
comp=Z,115nm,1.0s,baz=24,slow=6.5
NB2 NORSAR Subarra 67.18 342 P P 10 50 26.7 +0.3
baz=24,slow=6.5
NB200 NORSAR Array S 67.18 342 *e*P P 10 50 26.7 +0.3
NB200 *e*pP sP 10 50 43.7 +0.4
NOA NORSAR Array B 67.18 342 P P 10 50 26.7 +0.3
comp=Z,58nm,0.9s,baz=25,slow=6.4,SNR=100
NOA pP sP 10 50 43.7 +0.4
comp=Z,18nm,0.9s,baz=25,slow=6.4,SNR=5.0
NOA LR LR 11 24 39.4
comp=Z,850nm,19.5s,baz=20,slow=40
NBO02 NORSAR Array S 67.24 343 *e*P P 10 50 27.1 +0.2
D36A Goodland 67.26 44 P P 10 50 26.1 -1.1
baz=318,SNR=5.6
NBO00 NORSAR Array S 67.27 343 *e*P P 10 50 27.7 +0.7
F34A Alexandria 67.30 46 P P 10 50 26.7 -0.7
baz=317
C37A Embarrass 67.30 43 P P 10 50 26.6 -0.8
baz=318,SNR=7.5
OGNE Ogallala 67.35 53 P P 10 50 27.9 -0.1
baz=315,SNR=19
OGNE Ogallala 67.35 53 *e*P P 10 50 28.0 +0.1
comp=Z,124nm,0.8s
X18A Snowflake 67.38 63 *e*P P 10 50 28.4 0.0
comp=Z,23nm,1.3s
H33A Prehn Over Nor 67.39 48 P P 10 50 27.1 -1.0
baz=317,SNR=13
NC602 NORSAR Array S 67.39 342 *e*P P 10 50 27.9 +0.1
K30A Basset 67.39 51 P P 10 50 27.6 -0.5
baz=316,SNR=10
J31A Geddes 67.39 50 P P 10 50 27.3 -0.8
baz=316,SNR=7.6
NAO01 NORSAR Array S 67.42 342 *e*P P 10 50 28.2 +0.2
214A Organ Pipe Nat 67.44 67 P P 10 50 28.0 -0.5
baz=314
GEYT Alibeck 67.44 302 P P 10 50 29.6 +1.0
comp=Z,58nm,1.0s,baz=29,slow=3.3,SNR=47
GEYT LR LR 11 22 05.3
comp=Z,1µm,20.8s,baz=50,slow=38
EYMN Ely 67.45 42 P P 10 50 27.6 -0.8
baz=318,SNR=12
EYMN Ely 67.45 42 *e*P P 10 50 27.5 -0.8
comp=Z,16nm,0.9s
I32A Karley and Nic 67.50 49 P P 10 50 27.6 -1.2
baz=316
G34A Benson 67.52 47 P P 10 50 28.1 -0.8
baz=317,SNR=6.7
F35A Swanville 67.58 46 P P 10 50 28.5 -0.7
baz=317,SNR=8.6
D37A Cotton 67.61 43 P P 10 50 28.3 -1.1
baz=318,SNR=7.6
SDCO Great Sand Dun 67.70 58 P P 10 50 30.3 -0.2
baz=315,SNR=17
SDCO Great Sand Dun 67.70 58 *e*P P 10 50 30.3 -0.2
comp=Z,12nm,1.0s
E36A McGregor 67.71 44 P P 10 50 29.3 -0.7
baz=318,SNR=18
C38A Sawbill Land. 67.72 42 P P 10 50 29.0 -1.1
baz=319,SNR=8.2
J32A Parkston 67.79 49 P P 10 50 29.2 -1.3
baz=316
I33A Coleman 67.82 48 P P 10 50 29.6 -1.2
baz=317
K31A O'Neill 67.87 50 P P 10 50 30.5 -0.6
baz=316
H34A Spellman Lake, 67.87 47 P P 10 50 30.3 -0.7
baz=317
IZAR Zarasai 67.97 332 *e*P P 10 50 32.1 +0.6
IZAR lAmb lAmb 10 50 33.5
comp=Z,47nm,1.0s
E37A Wrenshall 68.07 44 P P 10 50 31.3 -1.0
baz=318
F36A Milaca 68.07 45 P P 10 50 31.3 -1.0
baz=318,SNR=8.4
G35A Watkins 68.09 46 P P 10 50 31.9 -0.5
baz=318
ECSD EROS Data Cent 68.14 48 P P 10 50 31.9 -0.9
baz=317,SNR=44
ECSD EROS Data Cent 68.14 48 *e*P P 10 50 32.0 -0.9
comp=Z,36nm,0.9s
L31A Butterfield Fa 68.15 51 P P 10 50 32.3 -0.6
baz=316,SNR=9.8
C39A Grand Marais 68.15 42 P P 10 50 31.4 -1.4
baz=319,SNR=8.6
ISAL Salakas 68.16 332 *e*P P 10 50 33.3 +0.7
ISAL lAmb lAmb 10 50 34.9
comp=Z,62nm,1.0s
IDID Didziasalis 68.18 332 *e*P P 10 50 33.4 +0.6
IDID lAmb lAmb 10 50 34.9
comp=Z,62nm,1.0s
K32A Verdigre 68.24 50 P P 10 50 32.3 -1.2
baz=317
J33A Davis 68.27 49 P P 10 50 32.6 -1.0
baz=317,SNR=5.1
I34A Hadley 68.29 48 P P 10 50 33.1 -0.6
baz=317
H35A Sunnyside Ranc 68.31 47 P P 10 50 33.6 -0.2
baz=318,SNR=26
KSCO Kaye Shedlock' 68.41 55 P P 10 50 34.2 -0.5
baz=316,SNR=5.7
KSCO Kaye Shedlock' 68.41 55 *e*P P 10 50 34.5 -0.2
comp=Z,32nm,1.1s
TUC Tucson 68.42 65 P P 10 50 34.3 -0.5
baz=315
TUC Tucson 68.42 65 *e*P P 10 50 34.7 -0.1
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC Tucson 68.42 65 *e*P P 10 50 34.7 -0.1
comp=Z,9.3nm,1.0s
G36A St. Michael 68.43 46 P P 10 50 33.8 -0.7
baz=318
MICGM Minsk 68.49 331⇑ *e*P P 10 50 35.0 +0.3
MICGM PM 10 50 36.0
comp=Z,0.5nm,1.0s
MICGM *e*LR LR 11 20 48.0
MNK Minsk 68.49 331⇑ *e*P P 10 50 35.0 +0.3
NACGM Naroch 68.51 331 *e*P P 10 50 35.0 +0.1
NACGM PM 10 50 36.0
comp=Z,0.3nm,0.8s
NACGM *e*LQ LQ 11 15 18.0
NACGM *e*LR LR 11 19 28.0
M31A Lambtecht Ranc 68.68 51 P P 10 50 34.9 -1.3
baz=317
L32A Elgin 68.70 50 P P 10 50 35.5 -0.8
baz=317,SNR=6.7
GSI Gunungsitoli 68.72 246 *e*P P 10 50 36.8 0.0
comp=Z,174nm,1.4s
T25A Trinidad 68.75 58 P P 10 50 36.7 -0.3
baz=316,SNR=20
T25A Trinidad 68.75 58 *e*P P 10 50 36.6 -0.3
comp=Z,29nm,1.0s
K33A Hardington 68.77 49 P P 10 50 36.0 -0.8
baz=317
KONO Kongsberg 68.78 343 *e*P P 10 50 37.5 +1.1
KONO pmax pmax
comp=Z,110nm,1.1s
KONO Kongsberg 68.78 343 *e*P P 10 50 37.5 +1.1
comp=Z,107nm,1.1s
J34A George 68.79 48 P P 10 50 35.9 -1.0
baz=317
MSVF Nonsavu 68.80 158 *e*P P 10 50 37.6 +0.5
MSVF pmax pmax
comp=Z,76nm,1.4s
MSVF Nonsavu 68.80 158 *e*P P 10 50 37.6 +0.5
comp=Z,76nm,1.4s
H36A Jessenland, He 68.83 46 P P 10 50 37.0 -0.1
baz=318,SNR=16
I35A Creekview Farm 68.85 47 P P 10 50 36.3 -0.9
baz=318,SNR=7.2
SPMN Marine on St. 68.88 45 P P 10 50 36.6 -0.7
baz=318,SNR=9.1
SPMN Marine on St. 68.88 45 *e*P P 10 50 37.0 -0.3
comp=Z,23nm,0.8s
CTAO Charters Tower 68.89 190 *e*P P 10 50 36.7 -0.9
CTAO pmax pmax
comp=Z,71nm,1.1s
CTAO Charters Tower 68.89 190 *e*P P 10 50 36.7 -0.9
comp=Z,71nm,1.1s
L33A Hoskins 68.95 50 P P 10 50 36.7 -1.2
baz=317
HYB Hyderabad 69.01 273 *i* P P 10 50 38.0 -0.6
HYB *e*pP sP 10 50 59.5 +4.0
HYB Hyderabad 69.01 273 *e*P P 10 50 38.1 -0.5
HYB lAmb lAmb 10 50 39.0
comp=Z,20nm,0.5s
BGNE Belgrade 69.06 51 P P 10 50 37.5 -1.1
baz=317
BGNE Belgrade 69.06 51 *e*P P 10 50 38.0 -0.6
comp=Z,78nm,1.1s
N31A Bailey Ranch, 69.06 52 P P 10 50 37.5 -1.1
baz=317
J35A Milford 69.11 48 P P 10 50 37.5 -1.3
baz=318
LAZ Ladron 69.12 62 *e*P P 10 50 39.5 +0.2
ANMO Albuquerque 69.13 61⇑ *i*P P 10 50 39.7 +0.4
ANMO pmax pmax
comp=Z,14nm,1.1s
ANMO MLR MLR
comp=Z,332nm,18.0s
ANMO Albuquerque 69.13 61 *e*P P 10 50 39.1 -0.3
comp=Z,15nm,1.1s
K34A Le Mars 69.17 49 P P 10 50 38.1 -1.1
baz=318,SNR=5.3
I36A Fitzsimmons Fa 69.20 47 P P 10 50 38.8 -0.6
baz=318
H37A Dierke Farm, C 69.31 46 P P 10 50 39.7 -0.4
baz=319,SNR=9.5
O31A Woolen Ranch, 69.36 52 P P 10 50 39.0 -1.4
baz=317
M33A Taylor Creek F 69.43 50 P P 10 50 39.5 -1.3
baz=317,SNR=7.9
N32A Stulken Farm, 69.45 51 P P 10 50 40.4 -0.6
baz=317
LPM Los Pinos Moun 69.48 61 *e*P P 10 50 41.5 +0.1
I37A Lemond, Waseca 69.50 46 P P 10 50 41.1 -0.1
baz=318,SNR=38
L34A Svendsen Farm, 69.55 49 P P 10 50 40.3 -1.3
baz=318,SNR=8.2
J36A Seneca 1, Swea 69.56 47 P P 10 50 40.7 -0.9
baz=318,SNR=9.3
K35A Storm Lake 69.57 48 P P 10 50 40.5 -1.2
baz=318,SNR=12
BNM Barren Site 69.60 61 *e*P P 10 50 42.5 +0.2
M34A Aspy Farms, Fr 69.79 50 P P 10 50 41.9 -1.2
baz=318,SNR=8.3
L35A Bielow Farm, R 69.86 49 P P 10 50 42.0 -1.5
baz=318,SNR=5.2
COWI Conover 69.90 42 *e*P P 10 50 42.8 -0.9
comp=Z,10nm,0.9s
N33A J Bar K, Exete 69.91 51 P P 10 50 42.3 -1.5
baz=317
J37A Redenius Farm, 69.95 47 P P 10 50 43.4 -0.7
baz=319,SNR=11
319A Douglas 69.99 65 *e*P P 10 50 44.8 +0.2
comp=Z,48nm,1.1s
I38A Scanlan Farm, 69.99 46 P P 10 50 43.3 -0.9
baz=319,SNR=6.2
GOF Gofitskoye 70.00 316⇑ *e*P P 10 50 45.7 +1.4
K36A Gilmore City 70.02 48 P P 10 50 43.4 -1.0
baz=318,SNR=12
121A Cookes Peak, D 70.06 63 P P 10 50 45.1 0.0
baz=316,SNR=6.4
CBKS Cedar Bluff 70.11 54 P P 10 50 43.9 -1.2
baz=317
CBKS Cedar Bluff 70.11 54 *e*P P 10 50 43.8 -1.3
CBKS pmax pmax
comp=Z,38nm,0.8s
CBKS Cedar Bluff 70.11 54 *e*P P 10 50 43.8 -1.3
comp=Z,38nm,0.8s
P32A Huiting Farm, 70.12 52 P P 10 50 43.7 -1.5
baz=317,SNR=14
M35A Neola 70.27 49 P P 10 50 45.1 -0.8
baz=318,SNR=8.2
L36A Harm Buss Farm 70.31 48 P P 10 50 45.1 -1.1
baz=318
K37A Belmond 70.32 47 P P 10 50 45.2 -1.1
baz=319,SNR=7.3
N34A Lincoln 70.32 50 P P 10 50 44.7 -1.6
baz=318
O33A Hebron 70.33 51 P P 10 50 44.6 -1.8
baz=318
J38A Wedel Dairy, R 70.47 46 P P 10 50 46.0 -1.2
baz=319,SNR=12
Q32A Meitler Ranch, 70.61 53 P P 10 50 46.5 -1.6
baz=317,SNR=6.7
O34A Beatrice 70.71 51 P P 10 50 46.8 -1.9
baz=318,SNR=13
M36A Felix, Anita 70.72 49 P P 10 50 47.4 -1.4
baz=318
P33A Williams Farm, 70.74 52 P P 10 50 47.1 -1.8
baz=318
N35A Tabor 70.74 50 P P 10 50 47.9 -1.0
baz=318,SNR=7.1
L37A Phoenix Point, 70.74 48 P P 10 50 47.9 -1.0
baz=319,SNR=15
KLNR Kaliningrad 70.75 335 *i* P P 10 50 48.5 -0.1
KLNR pmax pmax
comp=Z,232nm,1.3s
J39A Decorah 70.82 46 P P 10 50 47.9 -1.4
baz=319,SNR=15
SCHQ Schefferville 70.83 25 P P 10 50 49.3 +0.2
comp=Z,15nm,0.9s,baz=349,slow=6.2,SNR=13
SCHQ pP sP 10 51 07.5 +1.3
comp=Z,22nm,0.8s,baz=341,slow=6.5,SNR=7.9
SCHQ LR LR 11 27 48.4
comp=Z,532nm,18.6s,baz=323,slow=41
SCHQ Schefferville 70.83 25 *e*P P 10 50 49.4 +0.2
comp=Z,55nm,1.0s
K38A Parkersburg 70.83 47 P P 10 50 48.3 -1.1
baz=319
DZM Mont Dzumac 70.89 170 *e*P P 10 50 49.5 -0.3
comp=Z,130nm,1.3s
DZM *e*S S 11 00 06.0 +3.8
comp=Z,509nm,27.2s
DZM Mont Dzumac 70.89 170 *e*LR LR 11 12 18.0
comp=Z,594nm,29.4s
DZM Mont Dzumac 70.89 170 P P 10 50 50.8 +1.0
baz=52,slow=12
DZM Mont Dzumac 70.89 170 *e*P P 10 50 49.6 -0.3
comp=Z,108nm,1.5s
WRAB Tennant Creek 70.91 202 *e*P P 10 50 49.4 -0.6
WRAB pmax pmax
comp=Z,170nm,1.0s
WRAB Tennant Creek 70.91 202 *e*P P 10 50 49.4 -0.6
comp=Z,165nm,1.0s
WB2 Warramunga Arr 70.92 202 *e*P P 10 50 49.5 -0.5
comp=Z,166nm,1.0s
WR1 Warramunga Arr 70.92 202 *e*P P 10 50 48.9 -1.1
comp=Z,166nm,1.0s
WR1 *e*pP sP 10 51 07.7 +0.7
WRA Warramunga Arr 70.92 202 P P 10 50 48.9 -1.1
comp=Z,92nm,0.9s,baz=19,slow=6.6,SNR=196
WRA pP sP 10 51 07.7 +0.7
comp=Z,28nm,1.0s,baz=18,slow=6.5,SNR=4.5
WRA LR LR 11 19 06.4
comp=Z,270nm,21.6s,baz=25,slow=33
WRA Warramunga Arr 70.92 202 *i* P P 10 50 47.0 -3.0
WRA pmax pmax
comp=Z,92nm,0.9s
NCK Nalchik 70.93 315⇓ *i*P P 10 50 51.6 +1.6
NCK pmax pmax
comp=Z,256nm,1.2s
NCK MLR MLR
comp=Z,587nm,18.0s
R32A Long Quarter, 70.94 53 P P 10 50 48.5 -1.7
baz=317
Q33A Connelly Farm, 70.99 52 P P 10 50 48.7 -1.7
baz=318,SNR=24
KIV Kislovodsk 71.01 316 *i* P P 10 50 51.9 +1.3
SNR=41
KIV Kislovodsk 71.01 316 *c i*P P 10 50 51.7 +1.1
KIV *e* 10 51 13.0
KIV *e* 10 53 24.5
KIV *i* S S 10 59 59.4 -4.0
KIV *e*SSS SSS 11 07 49.0
KIV pmax pmax
comp=Z,178nm,1.2s

KIV MLR MLR
comp=Z,563nm,22.0s
KIV Kislovodsk 71.01 316 P **P** **10 50 52.4 +1.9**
SNR=46
KIV Kislovodsk 71.01 316 P **P** **10 50 52.4 +1.9**
SNR=46
KIV Kislovodsk 71.01 316 *e*P **P** **10 50 51.8 +1.3**
comp=Z,172nm,1.2s
KBZ Khabaz 71.08 315 P **P** **10 50 52.2 +1.4**
comp=Z,107nm,1.1s,baz=0.6,slow=24,SNR=166
KBZ LR LR 11 24 29.1
comp=Z,772nm,21.5s,baz=20,slow=38
P34A Walnut Farm, R 71.11 51 P **P** **10 50 49.3 -1.8**
baz=318
L38A Oak Wood Farm, 71.12 47 P **P** **10 50 50.2 -0.9**
baz=319,SNR=11
N36A Muff Farm, Cla 71.12 49 P **P** **10 50 50.2 -1.0**
baz=318
M37A Trindle Farm, 71.13 48 P **P** **10 50 50.4 -0.9**
baz=319
SCIA State Center 71.17 48 *e*P **P** **10 50 51.4 -0.1**
comp=Z,87nm,0.7s
AKASG Malin Array Be 71.18 328 P **P** **10 50 50.9 -0.4**
comp=Z,20nm,0.7s,baz=34,slow=6.4,SNR=113
AKASG pP **sP** **10 51 08.4 0.0**
comp=Z,10nm,0.5s,baz=32,slow=6.2,SNR=8.5
AKASG LR LR 11 25 05.7
comp=Z,790nm,19.2s,baz=20,slow=38
AKASG Malin Array Be 71.18 328 *i*P **P** **10 50 51.0 -0.4**
AKASG pmax pmax
comp=Z,19nm,0.7s
AKBB Malin Array Si 71.18 328 *e*P **P** **10 50 50.9 -0.4**
AKBB pmax pmax
comp=Z,90nm,1.1s
AKBB Malin Array Si 71.18 328 *e*P **P** **10 50 50.9 -0.4**
comp=Z,90nm,1.1s
KIEV Kiev 71.19 328 *e*P **P** **10 50 51.0 -0.4**
KIEV pmax pmax
comp=Z,89nm,1.1s
KIEV Kiev 71.19 328 *e*P **P** **10 50 51.0 -0.4**
KIEV Kiev 71.19 328 *e*P **P** **10 50 51.0 -0.4**
comp=Z,90nm,1.1s
K39A Oelwein 71.21 46 P **P** **10 50 50.1 -1.6**
baz=320,SNR=11
AK11 Malin Array Si 71.22 328 *e*P **P** **10 51 0.0 -0.6**
GUDG Gudauri 71.29 313 P **P** **10 50 54.2 +1.7**
ZEI Tsey 71.33 314 *e*P **P** **10 50 48.2 -4.4**
ZEI pmax pmax
comp=Z,241nm,1.3s
POO Poona 71.33 277 *e*P **P** **10 50 53.4 +0.6**
S32A Newby Ranch, P 71.35 54 P **P** **10 50 51.1 -1.6**
baz=318,SNR=5.3
R33A Olander Ranch, 71.42 53 P **P** **10 50 51.3 -1.7**
baz=318
Q34A Chapman 71.51 52 P **P** **10 50 52.0 -1.6**
baz=318
NEY Neytrino 71.53 315 *d i*P **P** **10 50 55.7 +1.9**
NEY pmax pmax
comp=Z,13nm,1.3s
NEY MLR MLR
comp=Z,529nm,20.0s
N37A Lee Faris, Mou 71.54 49 P **P** **10 50 52.8 -0.9**
baz=319
M38A Pleasantville 71.55 48 P **P** **10 50 52.7 -1.0**
baz=319,SNR=11
KSU1 Kansas State U 71.55 52 P **P** **10 50 52.0 -1.8**
baz=318
KSU1 Kansas State U 71.55 52 *e*P **P** **10 50 52.5 -1.4**
comp=Z,31nm,0.7s
K40A Colesburg 71.58 46 P **P** **10 50 52.7 -1.2**
baz=320,SNR=16
L39A Vinton 71.60 47 P **P** **10 50 53.0 -1.0**
baz=320,SNR=25
O36A Bolckow 71.63 50 P **P** **10 50 52.8 -1.4**
baz=319
ONI Oni 71.69 314 P **P** **10 50 56.0 +1.3**
ONI Oni 71.69 314 P **P** **10 50 56.0 +1.3**
FITZ Fitzroy Crossi 71.73 211 *e*P **P** **10 50 55.1 +0.3**
comp=Z,178nm,1.2s
T32A Huddler Ranch, 71.74 54 P **P** **10 50 53.5 -1.5**
baz=318,SNR=8.2
R34A Isabella, Hill 71.81 53 P **P** **10 50 53.8 -1.6**
baz=318
JFWS Jewell Farm 71.83 45 *e*P **P** **10 50 54.3 -1.1**
JFWS pmax pmax
comp=Z,13nm,1.0s
JFWS Jewell Farm 71.83 45 *e*P **P** **10 50 54.3 -1.1**
comp=Z,13nm,1.0s
P36A Good Intent, A 71.89 50 P **P** **10 50 54.1 -1.7**
baz=319
AMTX Amarillo 71.90 58 P **P** **10 50 55.6 -0.5**
baz=317
AMTX Amarillo 71.90 58 *e*P **P** **10 50 56.0 -0.1**
comp=Z,24nm,1.0s
S33A Kaszmaul Farm, 71.93 54 P **P** **10 50 54.6 -1.5**
baz=318
MSTX Muleshoe 71.95 59 P **P** **10 50 55.7 -0.8**
baz=317,SNR=12
MSTX Muleshoe 71.95 59 *e*P **P** **10 50 55.9 -0.5**
comp=Z,38nm,1.0s
N38A Joes South For 72.00 48 P **P** **10 50 55.3 -1.2**
baz=319,SNR=8.0
O37A Wolven Farm, M 72.02 49 P **P** **10 50 55.6 -0.9**
baz=319
Q35A Mercer Eighty, 72.03 51 P **P** **10 50 54.9 -1.8**
baz=318
MNTX Cornudas Mount 72.08 62 P **P** **10 50 56.8 -0.3**
baz=316,SNR=24
MNTX Cornudas Mount 72.08 62 *e*P **P** **10 50 56.7 -0.4**
comp=Z,31nm,1.4s
T33A Patterson Ranc 72.18 54 P **P** **10 50 56.1 -1.5**
baz=318
U32A Winter Ranch, 72.29 55 P **P** **10 50 57.2 -1.1**
baz=318
N39A Derby Farms, D 72.30 48 P **P** **10 50 57.1 -1.1**
baz=320,SNR=7.3
S34A Willow Spring 72.33 53 P **P** **10 50 56.6 -1.9**
baz=318
R35A Emporia Munici 72.34 52 P **P** **10 50 57.2 -1.4**
baz=318
P37A Lathrop 72.35 50 P **P** **10 50 57.2 -1.4**
baz=319,SNR=11
L41A Preston 72.36 46 P **P** **10 50 57.4 -1.2**
baz=320,SNR=12
O38A Galt 72.39 49 P **P** **10 50 57.7 -1.1**
baz=319,SNR=5.2
AKH Akhalkalaki 72.57 313 P **P** **10 51 01.5 +1.4**
AKH Akhalkalaki 72.57 313 P **P** **10 51 01.5 +1.4**
BGD Bogdanovka 72.63 313 P **P** **10 51 02.7 +2.2**
SOC Sochi 72.66 317 *e*P **P** **10 50 58.9 -1.4**
SOC *e* 10 53 40.5
SOC *e*PPP PPP 10 55 28.3
SOC *e*S **S** **11 00 24.8 +2.6**
SOC *e*SS **SS** **11 05 04.9 +3.9**
SOC pmax pmax
comp=Z,85nm,1.2s
SOC Sochi 72.66 317 *e*P **P** **10 51 00.9 +0.6**
R36A Gordon, Harris 72.71 51 P **P** **10 50 59.2 -1.6**
baz=319,SNR=5.6
ANN Anapa 72.72 319 *e*P **P** **10 50 58.4 -2.2**
ANN *e**PP **pP** **10 51 08.8 -4.1**
ANN *e* 10 51 14.3
ANN *e*PPP PPP 10 55 26.1
ANN *e*S **S** **11 00 22.7 -0.1**
ANN pmax pmax
comp=Z,126nm,1.5s
U33A Lingo Farm, Me 72.73 54 P **P** **10 50 59.8 -1.1**
baz=318,SNR=6.4
P38A Dawn 72.74 49 P **P** **10 50 59.8 -1.1**
baz=319,SNR=20
O39A Kirksville 72.75 48 P **P** **10 50 59.9 -1.1**
baz=320,SNR=8.2
V32A Arapaho 72.75 55 P **P** **10 51 00.7 -0.4**
baz=318
S35A Otter Creek Ra 72.76 52 P **P** **10 50 59.8 -1.2**
baz=319
Q37A Longview Farm, 72.83 50 P **P** **10 50 59.7 -1.7**
baz=319
GNI Garni 72.92 312 *e*P **P** **10 51 04.3 +2.1**
GNI pmax pmax
comp=Z,263nm,1.4s
GNI Garni 72.92 312 *e*P **P** **10 51 04.3 +2.1**
comp=Z,263nm,1.4s
BEL Belsk 73.00 333 *e*P **P** **10 51 03.1 +0.9**
BEL Belsk 73.00 333 *e*P **P** **10 51 03.1 +0.9**
U34A Anderson Ranch 73.04 54 P **P** **10 51 01.5 -1.2**
baz=318
U34A Anderson Ranch 73.04 54 *e*P **P** **10 51 02.0 -0.8**
comp=Z,87nm,1.8s
R37A Teagarden Farm 73.06 51 P **P** **10 51 01.0 -1.8**
baz=319
W32A Sentinel 73.08 56 P **P** **10 51 02.8 -0.2**
baz=318,SNR=11
V33A Lossen Ranch, 73.09 55 P **P** **10 51 02.1 -0.9**
baz=318
S36A Lake Cedric, C 73.11 52 P **P** **10 51 01.5 -1.6**
baz=319,SNR=8.5
O40A La Belle 73.19 48 P **P** **10 51 02.6 -0.9**
baz=320,SNR=22
Q38A Cooks Store, C 73.19 50 P **P** **10 51 02.3 -1.3**
baz=320,SNR=33
T35A Sooner Cattle 73.23 53 P **P** **10 51 02.4 -1.5**
baz=319
P39B Salisbury 73.23 49 P **P** **10 51 02.9 -0.9**
baz=320,SNR=11
Q39A Willow Grove F 73.46 49 P **P** **10 51 04.1 -1.0**
baz=320,SNR=7.7
T36A Boggs Farm, Ca 73.46 53 P **P** **10 51 03.6 -1.6**
baz=319
S37A Fort Scott 73.48 51 P **P** **10 51 03.7 -1.6**
baz=319,SNR=12
W33A Caddo, Fort Co 73.49 56 P **P** **10 51 05.3 -0.2**
baz=318,SNR=6.9
V34A Guthrie 73.50 54 P **P** **10 51 04.7 -0.7**
baz=318,SNR=11
V34A Guthrie 73.50 54 *e*P **P** **10 51 04.9 -0.6**
comp=Z,38nm,0.9s
V34A *e*S **S** **11 00 33.8 +1.8**
U35A Pawnee 73.52 54 P **P** **10 51 04.4 -1.1**
baz=319
P40A Paris 73.55 48 P **P** **10 51 04.9 -0.8**
baz=320,SNR=36
X32A Elmer 73.58 57 P **P** **10 51 05.2 -0.8**
baz=318,SNR=10
WMOK Wichita Mounta 73.62 56 P **P** **10 51 05.6 -0.7**
baz=318,SNR=36
WMOK Wichita Mounta 73.62 56 *e*P **P** **10 51 05.5 -0.7**
WMOK pmax pmax
comp=Z,30nm,1.0s
WMOK Wichita Mounta 73.62 56 *e*P **P** **10 51 05.5 -0.7**
comp=Z,30nm,0.9s
R38A Fenwick Farm, 73.64 51 P **P** **10 51 04.3 -1.9**
baz=320,SNR=21
SORM Soroca 73.64 327 ⇑*i*P **P** **10 51 06.4 +0.4**
SORM Soroca 73.64 327 ⇑P **P** **10 51 06.4 +0.4**
O41A Passleys Farm, 73.68 47 P **P** **10 51 05.6 -0.8**
baz=320,SNR=17
EIDS Eidsvold 73.71 185 *e*P **P** **10 51 06.9 +0.4**
comp=Z,217nm,1.8s
LVV L'vov 73.72 330 *e*P **P** **10 51 05.8 -0.7**
W34A Bridge Creek, 73.81 55 P **P** **10 51 06.8 -0.5**
baz=318
W34A Bridge Creek, 73.81 55 *e*P **P** **10 51 07.0 -0.3**
comp=Z,36nm,1.1s
T37A Cheneyville 18 73.92 52 P **P** **10 51 06.6 -1.2**
baz=319,SNR=24
V35A Meyer Ranch, C 73.92 54 P **P** **10 51 07.0 -1.0**
baz=319,SNR=6.3
X33A Lawton 73.92 56 P **P** **10 51 06.8 -1.2**
baz=318
P41A Barry, Barry 73.93 48 P **P** **10 51 07.1 -0.8**
baz=320,SNR=16
Q40A Laux Farm, Aux 73.95 49 P **P** **10 51 06.9 -1.1**
baz=320,SNR=13
U36A Oologah 74.04 53 P **P** **10 51 07.4 -1.1**
baz=319,SNR=7.7
S38A Stockton 74.06 51 P **P** **10 51 06.8 -1.9**
baz=320,SNR=22
HDIL Hopedale 74.11 46 P **P** **10 51 08.1 -0.9**
baz=321,SNR=16
HDIL Hopedale 74.11 46 *e*P **P** **10 51 08.2 -0.7**
comp=Z,72nm,0.8s
X34A Smith Ranch, M 74.25 55 P **P** **10 51 09.4 -0.4**
baz=319,SNR=7.6
Y33A Hilltop Ranch, 74.25 56 P **P** **10 51 08.9 -1.0**
baz=318,SNR=8.9
T38A Diamond 74.31 52 P **P** **10 51 08.9 -1.3**
baz=320,SNR=48
S39A Bolivar 74.31 51 P **P** **10 51 08.3 -1.9**
baz=320,SNR=14
KWP Kalwaria Pacla 74.31 331 *e*P **P** **10 51 10.8 +0.8**
KWP Kalwaria Pacla 74.31 331 ⇑*i*P **P** **10 51 10.8 +0.8**
KWP Kalwaria Pacla 74.31 331 *e*P **P** **10 51 10.8 +0.8**
U37A Salina 74.35 53 P **P** **10 51 09.5 -0.9**
baz=319,SNR=14
W35A Tecumseh 74.36 54 P **P** **10 51 09.7 -0.8**
baz=319,SNR=15
TUL1 Leonard 74.37 53 P **P** **10 51 09.7 -0.9**
baz=319,SNR=12
TUL1 Leonard 74.37 53 *e*P **P** **10 51 09.9 -0.7**
comp=Z,30nm,0.8s
V36A Jess 74.38 53 P **P** **10 51 09.7 -0.9**
baz=319,SNR=17
R40A Maddies Statio 74.39 49 P **P** **10 51 09.3 -1.3**
baz=320,SNR=31
KIS Kishinev 74.42 326 ⇑*i*P **P** **10 51 11.0 +0.4**
comp=Z,400nm,2.0s
KIS *e*S **S** **11 00 44.0 +2.1**
KIS LRM MLR 11 29 50.0
comp=Z,600nm,18.0s
KIS Kishinev 74.42 326 α*i*P **P** **10 51 11.0 +0.4**
KIS *e* 10 51 26.0
KIS *e* 10 55 40.0
KIS *e*S **S** **11 00 44.0 +2.1**
KIS pmax pmax
comp=Z,400nm,2.0s
KIS pmax pmax
comp=Z,300nm,2.0s
AS01 Alice Springs 74.59 201 *e*P **P** **10 51 11.9 +0.1**
AS31 Alice Springs 74.60 201 *e*P **P** **10 51 12.1 +0.3**
comp=Z,31nm,1.0s
ASAR Alice Springs 74.60 201 P **P** **10 51 12.0 +0.2**
comp=Z,73nm,0.9s,baz=12,slow=5.2,SNR=346
ASAR pP **sP** **10 51 30.2 +1.3**
comp=Z,27nm,1.0s,baz=14,slow=5.2,SNR=4.5
ASAR LR LR 11 21 43.9
comp=Z,244nm,22.0s,baz=28,slow=34
U38A Gravette 74.71 52 P **P** **10 51 11.2 -1.3**
baz=320,SNR=14
Z33A Whitaker Ranch 74.71 57 P **P** **10 51 11.6 -1.0**
baz=318,SNR=5.1
ABTX Abilene, Hawle 74.71 58 P **P** **10 51 12.1 -0.4**
baz=318,SNR=7.6
ABTX Abilene, Hawle 74.71 58 *e*P **P** **10 51 12.2 -0.4**
comp=Z,31nm,0.9s
W36A Wetumka 74.72 54 P **P** **10 51 11.7 -0.8**
baz=319,SNR=20
OJC Ojcow 74.72 333 *e*P **P** **10 51 13.0 +0.7**
OJC Ojcow 74.72 333 *e*P **P** **10 51 13.0 +0.7**
OJC pmax pmax
comp=Z,62nm,1.2s
OJC Ojcow 74.72 333 *e*P **P** **10 51 13.0 +0.7**
comp=Z,62nm,1.2s
V37A Hulbert 74.73 53 P **P** **10 51 11.8 -0.8**
baz=319,SNR=27
Y34A Reagan Ranch, 74.77 56 P **P** **10 51 12.3 -0.5**
baz=319,SNR=10
Q42A Golden Eagle 74.78 48 P **P** **10 51 12.2 -0.6**
baz=321,SNR=21
T39A Clever 74.79 51 P **P** **10 51 11.5 -1.5**
baz=320,SNR=8.9
S40A Lebanon 74.80 50 P **P** **10 51 11.6 -1.5**
baz=320,SNR=20
TX31 Lajitas Ar. Si 74.81 63 *e*P **P** **10 51 13.0 -0.4**
LTX Lajitas 74.81 63 *e*P **P** **10 51 12.9 -0.4**
LTX *e**PP **sP** **10 51 30.6 +0.3**
LTX Lajitas 74.81 63 *e*P **P** **10 51 12.9 -0.4**
LTX *e*pP **sP** **10 51 30.6 +0.3**
TXAR Lajitas Array 74.81 63 P **P** **10 51 12.9 -0.4**
comp=Z,25nm,0.7s,baz=299,slow=4.5,SNR=312
TXAR pP **sP** **10 51 30.6 +0.3**
comp=Z,8.3nm,0.6s,baz=301,slow=4.8,SNR=7.5
TXAR PKPPKP **P'P'df** **11 18 39.8 -3.8**
comp=Z,0.5nm,0.9s,baz=156,slow=6.4,SNR=4.3
X35A Drake 74.87 55 P **P** **10 51 12.3 -1.1**
baz=319,SNR=12
STHS Stebnicka Huta 74.97 331 *e*P **P** **10 51 14.8 +1.0**
STHS *e* 10 51 33.3
STHS pmax pmax
comp=Z,38nm,1.0s
STHS Stebnicka Huta 74.97 331 *e*P **P** **10 51 14.8 +1.0**
STHS *e* 10 51 33.3
KOLS Kolonicke sedl 75.06 331 *e*P **P** **10 51 14.8 +0.5**
KOLS *e* 10 51 33.1
KOLS pmax pmax
comp=Z,30nm,1.0s
KOLS Kolonicke sedl 75.06 331 *e*P **P** **10 51 14.8 +0.5**
KOLS *e* 10 51 33.1
HHAR Hobbs 75.06 52 *e*P **P** **10 51 13.6 -1.0**
comp=Z,26nm,0.7s
ESK Eskdalemuir 75.08 348 *i*P **P** **10 51 15.6 +1.3**
X36A Centrahoma 75.08 55 P **P** **10 51 13.9 -0.8**
baz=319,SNR=11
Z34A Collier Ranch, 75.12 56 P **P** **10 51 14.0 -0.9**
baz=319,SNR=7.3
133A Hamilton Ranch 75.13 58 P **P** **10 51 14.4 -0.7**
baz=318,SNR=9.9
T40A Mansfield 75.14 50 P **P** **10 51 13.5 -1.5**
baz=320
V38A Canehill 75.14 52 P **P** **10 51 13.9 -1.1**
baz=320,SNR=32
W37B Quinton 75.14 54 P **P** **10 51 14.3 -0.7**
baz=319,SNR=18
Q43A New Douglas 75.17 47 P **P** **10 51 14.3 -0.8**
baz=321,SNR=5.7
BUR08 Bucovina Ar. S 75.18 328 *e*P **P** **10 51 15.5 +0.3**
KSP Ksiaz 75.19 335 *e*P **P** **10 51 14.7 -0.3**
KSP Ksiaz 75.19 335 *e*P **P** **10 51 14.7 -0.3**
BURAR Bucovina Array 75.20 328 ⇓*i*P **P** **10 51 15.3 0.0**
BURAR Bucovina Array 75.20 328 ⇓P **P** **10 51 15.3 0.0**
Y35A Marietta 75.20 55 P **P** **10 51 13.9 -1.4**
baz=319
SADO Sadowa 75.22 37 *e*P **P** **10 51 14.7 -0.5**
comp=Z,14nm,1.0s
U39A Green Forest 75.23 51 P **P** **10 51 14.3 -1.2**
baz=320,SNR=60
NIE Niedzica 75.27 332 *e*P **P** **10 51 16.5 +1.0**
NIE Niedzica 75.27 332 *e*P **P** **10 51 16.5 +1.0**
SFIN Lafayette 75.29 45 P **P** **10 51 14.8 -0.9**
baz=322,SNR=6.6
SFIN Lafayette 75.29 45 *e*P **P** **10 51 15.2 -0.5**
comp=Z,28nm,1.3s
UZH Uzhgorod 75.32 330 ⇑*i*P **P** **10 51 16.0 +0.2**
UZH *e* 10 51 23.6
CRVS Cervenica-Dubn 75.35 331 *e*P **P** **10 51 16.8 +0.8**
CRVS *e* 10 51 34.9
CRVS Cervenica-Dubn 75.35 331 *e*P **P** **10 51 16.8 +0.8**
CRVS *e* 10 51 34.9
HPIG 75.37 66 *e*P **P** **10 51 16.1 -0.5**
comp=Z,18nm,0.9s
Z35A Perchaven, San 75.52 56 P **P** **10 51 15.7 -1.5**
baz=319
Q44A Meyer Farm, Va 75.53 47 P **P** **10 51 16.3 -0.9**
baz=322,SNR=11
OKC Ostrava-Krasne 75.55 333 ⇑*e*P **P** **10 51 18.4 +1.3**
OKC *e*pP **sP** **10 51 36.4 +2.2**
OKC AMS AMS 11 28 00.0
comp=Z,800nm,17.7s
OKC Ostrava-Krasne 75.55 333 *e*P **P** **10 51 18.4 +1.3**
OKC *e* 10 51 36.4
OKC MLR MLR
comp=Z,800nm,17.7s
V39A Pettigrew 75.56 52 P **P** **10 51 16.2 -1.3**
baz=320,SNR=35
U40A Yellville 75.57 51 P **P** **10 51 16.2 -1.2**
baz=320,SNR=45
UPC Upice 75.57 335 ⇑*e*P **P** **10 51 18.3 +1.1**
UPC *e*x x 10 51 25.6
UPC *e*pP **sP** **10 51 36.2 +1.9**
UPC AMS AMS 11 27 40.0
comp=Z,1μm,19.6s
UPC Upice 75.57 335 *e*P **P** **10 51 18.3 +1.1**
UPC *e* 10 51 25.6
UPC *e* 10 51 36.2
UPC MLR MLR
comp=Z,1μm,19.6s
233A Rising Star 75.58 58 P **P** **10 51 16.9 -0.8**
baz=319,SNR=13
X37A Clayton 75.59 54 P **P** **10 51 16.6 -1.0**
baz=320,SNR=6.0
T41A Mountain View 75.60 50 P **P** **10 51 16.1 -1.5**
baz=321,SNR=18
Y36A Durant 75.62 55 P **P** **10 51 16.9 -0.8**
baz=319,SNR=13
DPC Dobruska-Polom 75.62 335 *e*P **P** **10 51 18.3 +0.7**
DPC *e*PCP **PcP** **10 51 26.2 -4.1**
DPC *e*pP **sP** **10 51 36.7 +2.1**
DPC *e*S **S** **11 00 57.0 +1.6**
DPC AMS AMS 11 28 50.0
comp=Z,1μm,19.2s
DPC Dobruska-Polom 75.62 335 *e*P **P** **10 51 18.3 +0.7**
DPC *e* 10 51 26.2
DPC *e* 10 51 36.7
DPC *e*S **S** **11 00 57.0 +1.6**
DPC MLR MLR
comp=Z,1μm,19.2s
134A White-Moore Ra 75.63 57 P **P** **10 51 17.2 -0.6**
baz=319,SNR=7.0
TESR Tescani 75.63 327 ⇓*i*P **P** **10 51 18.4 +0.8**
CLL Collm 75.66 337 *i*P **P** **10 51 17.7 0.0**
comp=Z,46nm,1.2s
CLL *i* 10 51 25.8
comp=Z,29nm,1.0s
CLL *e* 10 51 36.0
comp=Z,148nm,1.9s
CLL L L 11 29 00.0
comp=Z,1μm,18.6s
CLL L L 13 28 00.0
comp=Z,100nm,21.3s
CLL Collm 75.66 337 *e*P **P** **10 51 17.9 +0.2**
CLL pmax pmax
comp=Z,220nm,2.0s
CLL Collm 75.66 337 *e*P **P** **10 51 17.9 +0.2**
CLL Collm 75.66 337 *e*P **P** **10 51 17.9 +0.2**
comp=Z,217nm,2.0s
W38A Poteau 75.68 53 P **P** **10 51 17.4 -0.7**
baz=320,SNR=14
LANS Liptovska Anna 75.76 332 *e*P **P** **10 51 19.9 +1.5**
LANS Liptovska Anna 75.76 332 *e*P **P** **10 51 19.9 +1.5**
TRQ Mont Tremblant 75.77 34 *e*P **P** **10 51 17.7 -0.8**
MORC Moravsky Berou 75.79 334 ⇑*i*P **P** **10 51 19.4 +0.9**
MORC Moravsky Berou 75.79 334 ⇑P **P** **10 51 19.4 +0.9**
MORC Moravsky Berou 75.79 334 *e*P **P** **10 51 19.1 +0.6**
comp=Z,198nm,1.0s
BRG Berggiesshubel 75.81 336 *e*P **P** **10 51 18.8 +0.2**
comp=Z,32nm,1.5s
comp=N,1μm,20.1s
comp=E,460nm,17.5s
comp=Z,1μm,18.2s
BRG Berggiesshubel 75.81 336 *e*P **P** **10 51 18.8 +0.2**
BRG pmax pmax
comp=Z,32nm,1.5s
BRG MLR MLR
comp=N,1μm,20.1s
BRG MLR MLR
comp=E,460nm,17.5s
BRG MLR MLR
comp=Z,1μm,18.2s
X38A Whitesboro 75.82 54 P **P** **10 51 18.2 -0.7**
baz=320,SNR=13
Y37A Hugo 75.92 54 P **P** **10 51 18.3 -1.2**
baz=320
PVCC Panska Ves 75.95 336 ⇑*e*P **P** **10 51 20.5 +1.1**
PVCC AMS AMS 11 29 00.0
comp=Z,1μm,18.4s
PVCC Panska Ves 75.95 336 *e*P **P** **10 51 20.5 +1.1**
PVCC MLR MLR
comp=Z,1μm,18.4s
W39A Magazine 75.97 52 P **P** **10 51 18.7 -1.0**
baz=320,SNR=16
R44A Waltonville 76.01 47 P **P** **10 51 19.1 -0.9**
baz=322,SNR=10
135A Vickery Place, 76.01 57 P **P** **10 51 19.1 -0.9**
baz=319
Z36A Blue Ridge 76.01 55 P **P** **10 51 18.9 -1.1**
baz=319
234A Clairette 76.02 57 P **P** **10 51 19.3 -0.8**
baz=319,SNR=5.5
KECS Kecovo 76.03 331 *e*P **P** **10 51 20.4 +0.5**
KECS *e* 10 51 38.3
KECS pmax pmax
comp=Z,11nm,1.0s
KECS Kecovo 76.03 331 *e*P **P** **10 51 20.4 +0.5**
KECS *e* 10 51 38.3
333A Richland Sprin 76.05 58 P **P** **10 51 19.7 -0.6**
baz=319,SNR=18
OLIL Olney 76.11 47 *e*P **P** **10 51 20.2 -0.3**
comp=Z,28nm,0.9s
LMQ La Malbaie 76.12 30 *e*P **P** **10 51 20.0 -0.5**
VRI Vrincioaia 76.15 326 ⇑*i*P **P** **10 51 22.8 +2.2**

VRI	**Vrincioaia**	**76.15**	**326**	⇑	*i*P		**P**	**10 51 22.8**	**+2.2**
CFR	**Carcaliu**	**76.20**	**325**	⇑	*i*P		**P**	**10 51 21.0**	**+0.1**
CFR	**Carcaliu**	**76.20**	**325**	⇑	P		**P**	**10 51 21.0**	**+0.1**
JCT	**Junction City**	**76.22**	**60**		P		**P**	**10 51 20.0**	**-1.3**
	baz=319								
X39A	**Fountain Ranch**	**76.32**	**53**		P		**P**	**10 51 21.1**	**-0.7**
	baz=320,SNR=30								
W40A	**Ferguson Farm,**	**76.35**	**52**		P		**P**	**10 51 21.0**	**-0.9**
	baz=320,SNR=13								
S44A	**Carbondale**	**76.36**	**48**		P		**P**	**10 51 21.2**	**-0.7**
	baz=322,SNR=8.4								
SIUC	**Southern Illin**	**76.36**	**48**		*e*P		**P**	**10 51 21.6**	**-0.3**
	comp=Z,42nm,1.0s								
V41A	**Mountainview**	**76.37**	**51**		P		**P**	**10 51 20.6**	**-1.4**
	baz=321,SNR=32								
WHTX	**Lake Whitney,**	**76.41**	**57**		P		**P**	**10 51 21.6**	**-0.7**
	baz=319,SNR=5.8								
WHTX	**Lake Whitney,**	**76.41**	**57**		*e*P		**P**	**10 51 22.1**	**-0.2**
	comp=Z,34nm,0.9s								
433A	**Art**	**76.42**	**59**		P		**P**	**10 51 21.4**	**-1.0**
	baz=319,SNR=22								
GOPC	**GO Pecny, Ondr**	**76.45**	**335**		*e*P		**P**	**10 51 23.0**	**+0.8**
GOPC	**GO Pecny, Ondr**	**76.45**	**335**		*e*P		**P**	**10 51 23.0**	**+0.8**
PRU	**Pruhonice**	**76.45**	**336**	⇑	*e*P		**P**	**10 51 22.8**	**+0.6**
PRU					*e*PCP		**PcP**	**10 51 31.0**	**-2.8**
PRU					*e*pP		**sP**	**10 51 40.5**	**+1.2**
PRU					AMS		AMS	11 29 20.0	
	comp=Z,1µm,20.0s								
PRU	**Pruhonice**	**76.45**	**336**		*e*P		**P**	**10 51 22.8**	**+0.6**
PRU					*e*			10 51 31.0	
PRU					*e*			10 51 40.5	
PRU					MLR		MLR		
	comp=Z,1µm,20.0s								
PRU	**Pruhonice**	**76.45**	**336**		*e*P		**P**	**10 51 22.8**	**+0.6**
334A	**Lometa**	**76.47**	**58**		P		**P**	**10 51 22.0**	**-0.6**
	baz=319,SNR=14								
VRAC	**Vranov**	**76.48**	**334**	⇑	*i*P		**P**	**10 51 23.5**	**+1.1**
VRAC	**Vranov**	**76.48**	**334**	⇑	P		**P**	**10 51 23.5**	**+1.1**
PBMO	**Poplar Bluff**	**76.48**	**49**		*e*P		**P**	**10 51 22.2**	**-0.4**
	comp=Z,43nm,1.1s								
VYHS	**Vyhne**	**76.54**	**332**		*e*P		**P**	**10 51 23.6**	**+0.8**
VYHS					*e*			10 51 41.5	
VYHS					pmax		pmax		
	comp=Z,28nm,1.3s								
VYHS					MLR		MLR		
	comp=Z,600nm,23.5s								
VYHS	**Vyhne**	**76.54**	**332**		*e*P		**P**	**10 51 23.6**	**+0.8**
VYHS					*e*			10 51 41.5	
136A	**Ennis**	**76.56**	**56**		P		**P**	**10 51 22.3**	**-0.8**
	baz=319,SNR=8.7								
MIAR	**Mount Ida**	**76.58**	**53**		P		**P**	**10 51 22.5**	**-0.7**
	baz=320,SNR=23								
MIAR	**Mount Ida**	**76.58**	**53**		*e*P		**P**	**10 51 22.5**	**-0.7**
MIAR					pmax		pmax		
	comp=Z,27nm,0.8s								
MIAR	**Mount Ida**	**76.58**	**53**		*e*P		**P**	**10 51 22.5**	**-0.7**
	comp=Z,26nm,0.8s								
X201	**Greenbrier Sit**	**76.64**	**51**		*e*P		**P**	**10 51 22.3**	**-1.3**
	comp=Z,23nm,0.8s								
MBWA	**Marble Bar**	**76.66**	**215**		*e*P		**P**	**10 51 23.4**	**-0.2**
	comp=Z,109nm,1.5s								
X301	**Greenbrier Sit**	**76.67**	**52**		*e*P		**P**	**10 51 22.8**	**-0.9**
	comp=Z,24nm,0.7s								
WHAR	**Wooly Hollow**	**76.68**	**51**		*e*P		**P**	**10 51 22.8**	**-1.0**
	comp=Z,55nm,1.3s								
HARR	**Harsova**	**76.69**	**325**	⇑	*i*P		**P**	**10 51 24.1**	**+0.4**
HARR	**Harsova**	**76.69**	**325**	⇑	P		**P**	**10 51 24.1**	**+0.4**
S45A	**Carrier Mills**	**76.70**	**48**		P		**P**	**10 51 23.3**	**-0.6**
	baz=322,SNR=6.8								
TIRR	**Tirgusor**	**76.70**	**324**	⇑	*i*P		**P**	**10 51 24.1**	**+0.4**
TIRR	**Tirgusor**	**76.70**	**324**	⇑	P		**P**	**10 51 24.1**	**+0.4**
TIRR	**Tirgusor**	**76.70**	**324**		*e*P		**P**	**10 51 24.0**	**+0.4**
	comp=Z,41nm,0.9s								
PSZ	**Piszkesteto**	**76.72**	**331**	⇓	*i*P		**P**	**10 51 25.4**	**+1.5**
PSZ	**Piszkesteto**	**76.72**	**331**	⇑	*e*P		**P**	**10 51 24.7**	**+0.8**
PSZ	**Piszkesteto**	**76.72**	**331**	⇓	P		**P**	**10 51 25.4**	**+1.5**
PSZ	**Piszkesteto**	**76.72**	**331**		*e*P		**P**	**10 51 24.5**	**+0.7**
	comp=Z,165nm,2.0s								
V42A	**Cord**	**76.75**	**51**		P		**P**	**10 51 22.9**	**-1.3**
	baz=321,SNR=11								
MLR	**Muntele Rosu**	**76.75**	**327**	⇓	*i*P		**P**	**10 51 25.3**	**+1.1**
MLR	**Muntele Rosu**	**76.75**	**327**	⇓	P		**P**	**10 51 25.3**	**+1.1**
MLR	**Muntele Rosu**	**76.75**	**327**		*e*P		**P**	**10 51 25.0**	**+0.8**
	comp=Z,43nm,0.9s								
Y39A	**Lockesburg**	**76.77**	**54**		P		**P**	**10 51 23.5**	**-0.8**
	baz=320,SNR=5.3								
DRGR		**76.78**	**329**	⇓	*i*P		**P**	**10 51 24.8**	**+0.6**
DRGR		**76.78**	**329**	⇓	P		**P**	**10 51 24.8**	**+0.6**
NKC	**Novy Kostel**	**76.78**	**337**	⇑	*e*P		**P**	**10 51 24.8**	**+0.7**
NKC					*e*pP		**sP**	**10 51 42.8**	**+1.6**
NKC					AMS		AMS	11 29 00.0	
	comp=Z,1µm,19.9s								
NKC	**Novy Kostel**	**76.78**	**337**		*e*P		**P**	**10 51 24.8**	**+0.7**
NKC					*e*			10 51 42.8	
NKC					MLR		MLR		
	comp=Z,1µm,19.9s								
W41B	**Gary Mavity, V**	**76.80**	**51**		P		**P**	**10 51 23.1**	**-1.3**
	baz=321,SNR=31								
TREC	**Trest**	**76.81**	**335**	⇑	*e*P		**P**	**10 51 25.4**	**+1.1**
TREC					AMS		AMS	11 27 40.0	
	comp=Z,1µm,22.2s								
TREC	**Trest**	**76.81**	**335**		*e*P		**P**	**10 51 25.4**	**+1.1**
TREC					MLR		MLR		
	comp=Z,1µm,22.2s								
Z38A	**Mt. Pleasant**	**76.82**	**55**		P		**P**	**10 51 23.5**	**-1.1**
	baz=320								
434A	**Burnet**	**76.84**	**58**		P		**P**	**10 51 23.8**	**-0.9**
	baz=319,SNR=13								
ISR	**Istrita**	**76.85**	**326**	⇑	*i*P		**P**	**10 51 25.9**	**+1.2**
ISR	**Istrita**	**76.85**	**326**	⇑	P		**P**	**10 51 25.9**	**+1.2**
PARMO	**Parma**	**76.91**	**49**		*e*P		**P**	**10 51 25.1**	**+0.1**
236A	**Katherine and**	**76.92**	**56**		P		**P**	**10 51 24.4**	**-0.8**
	baz=320,SNR=5.1								
USIN	**University of**	**76.92**	**47**		*e*P		**P**	**10 51 25.1**	**0.0**
	comp=Z,58nm,0.9s								
533A	**Kerrville**	**76.96**	**59**		P		**P**	**10 51 24.9**	**-0.6**
	baz=319,SNR=13								
335A	**Moody**	**76.96**	**57**		P		**P**	**10 51 24.9**	**-0.6**
	baz=319,SNR=7.6								
X40A	**Basin Creek Fa**	**77.02**	**52**		P		**P**	**10 51 24.8**	**-0.9**
	baz=321,SNR=11								
UALR	**University of**	**77.05**	**52**		*e*P		**P**	**10 51 25.2**	**-0.7**
	comp=Z,11nm,0.8s								
LONY	**Lake Ozonia**	**77.12**	**35**		*e*P		**P**	**10 51 25.0**	**-1.1**
	comp=Z,27nm,1.5s								
VOIR		**77.13**	**327**	⇑	*i*P		**P**	**10 51 27.0**	**+0.8**
VOIR		**77.13**	**327**	⇑	P		**P**	**10 51 27.1**	**+0.8**
Y40A	**Okolona**	**77.15**	**53**		P		**P**	**10 51 25.5**	**-0.9**
	baz=320								
BANOM	**Banah**	**77.17**	**295**		*i*P		**P**	**10 51 27.1**	**+0.4**
	SNR=14								
BANOM	**Banah**	**77.17**	**295**		P		**P**	**10 51 27.9**	**+1.1**
	SNR=5.4								
BANOM	**Banah**	**77.17**	**295**		P		**P**	**10 51 27.9**	**+1.1**
	SNR=5.4								
X41A	**Kaden, Bauxite**	**77.18**	**52**		P		**P**	**10 51 25.7**	**-0.9**
	baz=321,SNR=9.0								
336A	**Riesel**	**77.21**	**57**		P		**P**	**10 51 26.2**	**-0.6**
	baz=320								
138A	**Matatall Enter**	**77.21**	**55**		P		**P**	**10 51 26.0**	**-0.8**
	baz=320								
CWF	**Charnwood Fore**	**77.30**	**346**		*e*P		**P**	**10 51 27.8**	**+0.8**
	comp=Z,56nm,1.2s								
FRNY	**Flat Rock**	**77.31**	**34**		*e*P		**P**	**10 51 26.1**	**-1.0**
	comp=Z,9.2nm,1.0s								
534A	**Blanco**	**77.31**	**59**		P		**P**	**10 51 26.7**	**-0.8**
	baz=319,SNR=19								
237A	**Washetta, Mont**	**77.31**	**56**		P		**P**	**10 51 26.1**	**-1.3**
	baz=320								
ARR	**Arges**	**77.34**	**327**	⇑	*i*P		**P**	**10 51 29.4**	**+2.0**
633A	**Saathoff Ranch**	**77.34**	**60**		P		**P**	**10 51 27.0**	**-0.5**
	baz=319,SNR=12								
WCI	**Wyandotte Cave**	**77.37**	**46**		*e*P		**P**	**10 51 27.2**	**-0.4**
WCI					pmax		pmax		
	comp=Z,54nm,0.9s								
WCI	**Wyandotte Cave**	**77.37**	**46**		*e*P		**P**	**10 51 27.2**	**-0.4**
	comp=Z,54nm,0.9s								
BUD	**Budapest**	**77.38**	**332**	⇑	*e*P		**P**	**10 51 28.6**	**+1.1**
MMNY	**Mt. Morris Dam**	**77.40**	**38**		*e*P		**P**	**10 51 27.2**	**-0.5**
PSN	**Preselentsi**	**77.44**	**324**		*e*P		**P**	**10 51 28.4**	**+0.5**
WLAR	**White Oak Lake**	**77.48**	**53**		*e*P		**P**	**10 51 27.9**	**-0.4**
	comp=Z,44nm,0.9s								
KHC	**Kasperske Hory**	**77.49**	**336**	⇑	*i*P		**P**	**10 51 29.0**	**+0.9**
KHC					*e*PCP		**PcP**	**10 51 37.2**	**-1.2**
KHC					*e*pP		**sP**	**10 51 45.2**	**0.0**
KHC					*ex*		x	11 00 58.1	
KHC					AMS		AMS	11 29 50.0	
	comp=Z,2µm,20.6s								
KHC	**Kasperske Hory**	**77.49**	**336**	⇑	*i*P		**P**	**10 51 29.0**	**+0.9**
KHC					*e*			10 51 37.2	
KHC					*e*			10 51 45.2	
KHC					MLR		MLR		
	comp=Z,2µm,20.6s								
KHC	**Kasperske Hory**	**77.49**	**336**		*e*P		**P**	**10 51 29.1**	**+0.9**
	comp=Z,12nm,0.8s								
V44A	**Blytheville**	**77.49**	**50**		P		**P**	**10 51 28.0**	**-0.3**
	baz=322								
SIRR	**Siria**	**77.59**	**330**	⇑	*i*P		**P**	**10 51 29.5**	**+0.8**
Y41A	**Eaglette Beard**	**77.60**	**53**		P		**P**	**10 51 28.5**	**-0.5**
	baz=321								
Z40A	**Long Farm, Mag**	**77.66**	**53**		P		**P**	**10 51 29.0**	**-0.3**
	baz=321,SNR=6.2								
M54A	**Oil Creek Stat**	**77.69**	**40**		P		**P**	**10 51 28.7**	**-0.7**
	baz=326,SNR=5.1								
238A	**Jacksonville**	**77.69**	**55**		P		**P**	**10 51 29.2**	**-0.3**
	baz=320								
GEC2	**GERESS Array S**	**77.72**	**336**		*e*P		**P**	**10 51 29.9**	**+0.4**
GEC2					pmax		pmax		
	comp=Z,18nm,1.0s								
GEC2	**GERESS Array S**	**77.72**	**336**		*e*P		**P**	**10 51 29.9**	**+0.4**
	comp=Z,18nm,1.0s								
GERES	**GERESS Array B**	**77.72**	**336**		P		**P**	**10 51 29.8**	**+0.3**
	comp=Z,6.2nm,0.9s,baz=36,slow=5.0,SNR=34								
GERES					pP		**sP**	**10 51 47.8**	**+1.2**
	comp=Z,9.3nm,0.7s,baz=32,slow=6.5,SNR=10								
GERES					LR		LR	11 30 33.6	
	comp=Z,1µm,19.0s,baz=19,slow=39								
GEA0	**GERESS Array S**	**77.72**	**336**		*e*P		**P**	**10 51 29.4**	**-0.1**
832A	**Faith Ranch, C**	**77.76**	**61**		P		**P**	**10 51 29.6**	**-0.3**
	baz=319,SNR=10								
733A	**Divot King Ran**	**77.83**	**60**		P		**P**	**10 51 29.9**	**-0.4**
	baz=319,SNR=5.1								
CONA	**Conrad Observa**	**77.94**	**334**		*i*P		**P**	**10 51 31.8**	**+1.1**
	comp=Z,49nm,1.4s,SNR=18								
UOSS	**Mit**	**77.95**	**294**		*e*P		**P**	**10 51 31.4**	**+0.3**
	comp=Z,7.6nm,1.1s								
SOP	**Sopron**	**77.95**	**333**	⇑	*e*P		**P**	**10 51 32.0**	**+1.3**
MEM	**Membach**	**77.96**	**341**		P		**P**	**10 51 31.3**	**+0.6**
	comp=Z,20nm,1.4s								
N54A	**Moraine State**	**78.00**	**40**		P		**P**	**10 51 30.5**	**-0.6**
	baz=326,SNR=5.3								
X43A	**Marvell**	**78.01**	**51**		P		**P**	**10 51 30.6**	**-0.6**
	baz=321								
CCAR	**Cane Creek**	**78.02**	**52**		*e*P		**P**	**10 51 31.5**	**+0.2**
	comp=Z,56nm,1.0s								
V45A	**Humboldt**	**78.03**	**49**		P		**P**	**10 51 30.6**	**-0.8**
	baz=322								
239A	**Gary**	**78.03**	**55**		P		**P**	**10 51 31.2**	**-0.2**
	baz=320								
140A	**Cam and Jess,**	**78.04**	**54**		P		**P**	**10 51 31.2**	**-0.2**
	baz=321								
Y42A	**Garnett, Star**	**78.07**	**52**		P		**P**	**10 51 31.3**	**-0.2**
	baz=321								
536A	**Bastrop**	**78.08**	**58**		P		**P**	**10 51 31.0**	**-0.6**
	baz=320								
338A	**Crockett**	**78.08**	**56**		P		**P**	**10 51 31.8**	**+0.2**
	baz=320,SNR=5.6								
HATD	**Hatta, Dubai**	**78.08**	**294**		*i*P		**P**	**10 51 32.2**	**+0.4**
	SNR=9.6								
SFNV	**Sufian**	**78.11**	**312**		*e*P		**P**	**10 51 32.0**	**+0.1**
NATX	**Nacogdoches**	**78.13**	**55**		P		**P**	**10 51 31.7**	**-0.2**
	baz=320								
NATX	**Nacogdoches**	**78.13**	**55**		*e*P		**P**	**10 51 32.5**	**+0.5**
	comp=Z,76nm,1.0s								
734A	**La Parita Cree**	**78.15**	**60**		P		**P**	**10 51 31.9**	**-0.2**
	baz=319								
PRD	**Provadia**	**78.16**	**324**		*e*P		**P**	**10 51 31.6**	**-0.3**
BZS	**Buzias**	**78.17**	**329**	⇑	*i*P		**P**	**10 51 31.9**	**0.0**
BZS	**Buzias**	**78.17**	**329**	⇑	P		**P**	**10 51 31.9**	**0.0**
ASHO	**Ashiyiah**	**78.23**	**294**		*i*P		**P**	**10 51 33.0**	**+0.4**
	SNR=8.0								
ASHO	**Ashiyiah**	**78.23**	**294**		P		**P**	**10 51 33.8**	**+1.1**
	SNR=6.0								
ASHO	**Ashiyiah**	**78.23**	**294**		P		**P**	**10 51 33.8**	**+1.1**
	SNR=6.0								
NAZ	**Nazwa, Dubai**	**78.25**	**294**		*i*P		**P**	**10 51 33.0**	**+0.3**
	SNR=10								
WVT	**Waverly**	**78.29**	**48**		*e*P		**P**	**10 51 32.3**	**-0.4**
	comp=Z,19nm,0.9s								
WVT					*e*pP		**sP**	**10 51 50.1**	**+0.3**
BCLA	**Clavier**	**78.29**	**341**		P		**P**	**10 51 35.4**	**+2.9**
	comp=Z,25nm,1.6s								
240A	**Hunter Patters**	**78.40**	**55**		P		**P**	**10 51 33.4**	**-0.1**
	baz=321								
X44A	**Crenshaw**	**78.40**	**51**		P		**P**	**10 51 32.8**	**-0.6**
	baz=322								
Z42A	**Norrel Spur, H**	**78.42**	**53**		P		**P**	**10 51 33.1**	**-0.4**
	baz=321								
141A	**Papa Simpson,**	**78.43**	**54**		P		**P**	**10 51 33.2**	**-0.4**
	baz=321								
438A	**Sam Houston St**	**78.45**	**57**		P		**P**	**10 51 33.8**	**+0.1**
	baz=320								
Y43A	**Makayla and Ka**	**78.46**	**51**		P		**P**	**10 51 33.3**	**-0.4**
	baz=322								
PKME	**Peaks-Kenny Pk**	**78.46**	**31**		*e*P		**P**	**10 51 33.6**	**+0.1**
	comp=Z,23nm,1.1s								
MOA	**Molln**	**78.47**	**335**		*i*P		**P**	**10 51 34.5**	**+0.9**
	comp=Z,15nm,1.1s,SNR=5.2								
FAQ	**Al Faqa, Dubai**	**78.47**	**294**		*i*P		**P**	**10 51 33.6**	**-0.3**
	SNR=9.7								
BR101	**Keskin Array S**	**78.47**	**318**		*e*P		**P**	**10 51 34.1**	**+0.3**
BR131	**Keskin Array S**	**78.47**	**318**		*e*P		**P**	**10 51 34.3**	**+0.4**
BRTR	**Keskin Array B**	**78.47**	**318**		P		**P**	**10 51 34.1**	**+0.3**
	comp=Z,21nm,1.0s,baz=64,slow=2.9,SNR=75								
BRTR					LR		LR	11 31 39.5	
	comp=Z,230nm,18.9s,baz=17,slow=40								
BRTR	**Keskin Array B**	**78.47**	**318**		P		**P**	**10 51 34.2**	**+0.3**
BRTR					pmax		pmax		
	comp=Z,20nm,1.0s								
537A	**Green Hill Far**	**78.49**	**58**		P		**P**	**10 51 34.0**	**0.0**
	baz=320								
339A	**Huntington**	**78.51**	**56**		P		**P**	**10 51 33.8**	**-0.2**
	baz=320								
ACCN	**Adirondack Com**	**78.52**	**35**		*e*P		**P**	**10 51 33.8**	**-0.1**
	comp=Z,20nm,1.0s								
636A	**Smothers Creek**	**78.53**	**58**		P		**P**	**10 51 34.3**	**+0.1**
	baz=320,SNR=6.4								
735A	**Kenedy**	**78.58**	**59**		P		**P**	**10 51 35.0**	**+0.6**
	baz=320,SNR=5.2								
ARSA	**Arzberg**	**78.65**	**334**		*i*P		**P**	**10 51 35.7**	**+1.1**
	comp=Z,38nm,1.4s,SNR=17								
SZH	**Strchica**	**78.66**	**325**		*e*P		**P**	**10 51 34.1**	**-0.6**
933A	**Laredo**	**78.67**	**61**		P		**P**	**10 51 35.5**	**+0.5**
	baz=319,SNR=15								
JMDO	**Jabal Madar**	**78.68**	**291**		P		**P**	**10 51 36.9**	**+1.7**
	SNR=5.5								
JMDO	**Jabal Madar**	**78.68**	**291**		P		**P**	**10 51 36.9**	**+1.7**
	SNR=5.5								
834A	**Tilden**	**78.70**	**60**		P		**P**	**10 51 35.8**	**+0.7**
	baz=319,SNR=6.9								
ARMA	**Armidale**	**78.71**	**184**		*e*P		**P**	**10 51 35.7**	**+0.7**
	comp=Z,138nm,1.2s								
ANTO	**Ankara**	**78.72**	**319**		*e*P		**P**	**10 51 36.5**	**+1.3**
ANTO					pmax		pmax		
	comp=Z,29nm,0.7s								
ANTO	**Ankara**	**78.72**	**319**		*e*P		**P**	**10 51 36.5**	**+1.3**
	comp=Z,29nm,0.7s								
DOU	**Dourbes**	**78.75**	**342**		P		**P**	**10 51 35.5**	**+0.5**
	comp=Z,14nm,2.8s								
BR231	**Keskin MP Arra**	**78.75**	**319**		*e*P		**P**	**10 51 34.7**	**-0.7**
OXF	**Oxford**	**78.77**	**50**		*e*P		**P**	**10 51 35.1**	**-0.3**
OXF					*e*PP		**sP**	**10 51 52.3**	**-0.2**
OXF					pmax		pmax		
	comp=Z,84nm,1.1s								
OXF	**Oxford**	**78.77**	**50**		*e*P		**P**	**10 51 35.1**	**-0.3**
	comp=Z,84nm,1.1s								
OXF					*e*pP		**sP**	**10 51 52.3**	**-0.2**
Y44A	**Strider, Charl**	**78.79**	**51**		P		**P**	**10 51 35.2**	**-0.3**
	baz=322								
439A	**Center Grove,**	**78.81**	**56**		P		**P**	**10 51 35.3**	**-0.4**
	baz=320								
340A	**Bronson**	**78.81**	**55**		P		**P**	**10 51 35.3**	**-0.4**
	baz=321								
Z43A	**Armstrong Fami**	**78.84**	**52**		P		**P**	**10 51 35.0**	**-0.8**
	baz=321								
X45A	**UM Field Stati**	**78.85**	**50**		P		**P**	**10 51 34.8**	**-1.0**
	baz=322								
241A	**Mo Tay, Goldon**	**78.87**	**54**		P		**P**	**10 51 36.1**	**+0.1**
	baz=321,SNR=6.8								
MDVR	**Moldovita**	**78.87**	**329**	⇓	*i*P		**P**	**10 51 36.2**	**+0.3**
736A	**Circle Diamond**	**78.92**	**59**		P		**P**	**10 51 37.3**	**+1.0**
	baz=320,SNR=5.8								
WVL	**Waterville**	**78.95**	**32**		*e*P		**P**	**10 51 36.7**	**+0.5**
	comp=Z,27nm,0.9s								
637A	**Eagle Lake**	**78.97**	**58**		P		**P**	**10 51 37.1**	**+0.5**
	baz=320								
BEHE	**Becsehely**	**78.98**	**333**		*e*P		**P**	**10 51 37.4**	**+1.0**
142A	**Monroe**	**78.98**	**53**		P		**P**	**10 51 36.6**	**0.0**
	baz=321								
835A	**Beeville**	**78.99**	**60**		P		**P**	**10 51 37.3**	**+0.5**
	baz=320								
PLAL	**Pickwick Lake**	**79.07**	**49**		*e*P		**P**	**10 51 36.1**	**-0.9**
	comp=Z,25nm,1.0s								
934A	**Benavides**	**79.11**	**61**		P		**P**	**10 51 38.1**	**+0.7**
	baz=319								
143A	**Socs Landing,**	**79.15**	**53**		P		**P**	**10 51 37.5**	**0.0**
	baz=321								
SSPA	**Standing Stone**	**79.16**	**39**		*e*P		**P**	**10 51 37.3**	**-0.1**
	comp=Z,12nm,0.9s								
O56A	**Blue Knob Stat**	**79.18**	**40**		P		**P**	**10 51 37.1**	**-0.5**
	baz=327,SNR=6.0								
Y45A	**Yeager Farm, C**	**79.21**	**51**		P		**P**	**10 51 37.4**	**-0.4**
	baz=322,SNR=5.7								
242A	**Grayson**	**79.25**	**53**		P		**P**	**10 51 37.9**	**-0.2**
	baz=321								
341A	**Kurthwood**	**79.27**	**55**		P		**P**	**10 51 37.8**	**-0.4**
	baz=321								
SOKA	**Soboth**	**79.31**	**334**		*i*P		**P**	**10 51 39.1**	**+0.8**
	comp=Z,68nm,1.5s,SNR=25								
GROS	**Grobnik**	**79.37**	**334**		*i*P		**P**	**10 51 38.9**	**+0.3**
MPEP	**Malo Peshtene**	**79.40**	**327**		*e*P		**P**	**10 51 39.0**	**+0.3**
LMN	**Caledonia Moun**	**79.41**	**28**		*e*P		**P**	**10 51 38.8**	**+0.1**
	comp=Z,31nm,0.8s								
034A	**Hebbronville**	**79.42**	**61**		P		**P**	**10 51 39.9**	**+0.8**
	baz=320,SNR=6.3								
KBA	**Koelnbreinsper**	**79.43**	**335**		*i*P		**P**	**10 51 40.3**	**+1.3**
	comp=Z,74nm,1.2s,SNR=40								
Z45A	**Winona**	**79.52**	**51**		P		**P**	**10 51 39.2**	**-0.4**
	baz=322,SNR=5.2								
Y46A	**Houston**	**79.55**	**50**		P		**P**	**10 51 39.0**	**-0.7**
	baz=322,SNR=10								
BFO	**Black Forest**	**79.57**	**339**		*i*P		**P**	**10 51 40.8**	**+1.2**
BFO	**Black Forest**	**79.57**	**339**		*e*P		**P**	**10 51 40.5**	**+0.9**
OBKA	**Obir**	**79.60**	**334**		*i*P		**P**	**10 51 40.6**	**+0.7**
	comp=Z,13nm,0.9s,SNR=7.9								
DRWC	**Darouich**	**79.61**	**315**		*e*P		**P**	**10 51 40.1**	**0.0**
WATA	**Walderalm**	**79.67**	**336**		*i*P		**P**	**10 51 41.5**	**+1.1**
	comp=Z,75nm,1.4s,SNR=6.8								
342A	**Flagon Creek P**	**79.69**	**54**		P		**P**	**10 51 40.5**	**0.0**
	baz=321								
441A	**DeRidder**	**79.71**	**55**		P		**P**	**10 51 41.1**	**+0.5**
	baz=321								
WTTA	**Wattenberg**	**79.72**	**336**		*i*P		**P**	**10 51 42.0**	**+1.3**
	comp=Z,76nm,1.7s,SNR=14								
RETA	**Reutte**	**79.75**	**337**		*i*P		**P**	**10 51 41.8**	**+1.1**
	comp=Z,16nm,1.1s,SNR=5.6								
243A	**Waterproof**	**79.75**	**53**		P		**P**	**10 51 40.6**	**-0.2**
	baz=322								
MYKA	**Terra Mystica**	**79.75**	**335**		*i*P		**P**	**10 51 41.3**	**+0.6**
	comp=Z,30nm,1.6s,SNR=8.3								
MOTA	**Moosalm**	**79.79**	**337**		*i*P		**P**	**10 51 41.7**	**+0.8**
	comp=Z,33nm,1.1s,SNR=12								
N59A	**State Game Lan**	**79.79**	**37**		P		**P**	**10 51 40.4**	**-0.6**
	baz=328								
TAOE	**Nuku Hiva Isla**	**79.80**	**116**		*e*LR		LR	11 16 39.7	
	comp=Z,2µm,22.7s,baz=331								
SWET	**Sewanee**	**79.95**	**47**		*e*P		**P**	**10 51 41.0**	**-0.9**
	comp=Z,8.7nm,0.8s								
COCO	**West Island**	**79.95**	**239**		*i*P		**P**	**10 51 43.9**	**+1.9**

comp=Z,196nm,18.1s,baz=350,slow=39
PYM Petit Puy Mans 83.21 341 *e*P **P 10 51 57.5 -1.5**
SSB Saint Sauveur 83.32 340 *e*P **P 10 52 00.5 +0.9**
SSB pmax pmax
comp=Z,19nm,0.8s
SSB Saint Sauveur 83.32 340 *e*P **P 10 52 00.5 +0.9**
comp=Z,19nm,0.8s
LBL Lubilhac 83.65 341 *e*P **P 10 52 02.2 +0.9**
TIGA Tifton 84.15 48 P **P 10 52 04.0 0.0**
baz=325,SNR=6.4
CUC Castrocucco 85.12 331 *e*P **P 10 52 08.3 -0.4**
comp=Z,29nm,1.5s
TIP Timpagrande 85.54 330 *e*P **P 10 52 11.1 +0.2**
comp=Z,55nm,1.1s
LAST Lasithi 85.80 321 *e*P **P 10 52 12.1 -0.1**
comp=Z,156nm,1.2s
IDI Anoyia 85.93 322 *e*P **P 10 52 14.5 +1.6**
comp=Z,80nm,1.5s
TBI Tubuai 86.47 132 *e*LR LR 11 19 36.0
comp=Z,1μm,25.2s,baz=330
VSL Villasalto 87.53 335 *e*P **P 10 52 21.8 +1.3**
comp=Z,27nm,1.0s
NWAO Narrogin (SRO) 88.26 212 *e*P **P 10 52 23.4 -0.4**
NWAO pmax pmax
comp=Z,96nm,1.1s
NWAO Narrogin (SRO) 88.26 212 *e*P **P 10 52 23.4 -0.4**
comp=Z,96nm,1.1s
ES19 SONSECA Array 90.38 345 *e*P **P 10 52 33.6 -0.5**
ESDC Sonseca Array 90.42 345 P **P 10 52 34.1 -0.1**
comp=Z,3.8nm,0.8s,baz=8.3,slow=4.1,SNR=18
ESDC LR LR 11 40 04.5
comp=Z,484nm,18.7s,baz=10.0,slow=40
ESLA Sonseca Array 90.42 345 *e*P **P 10 52 34.3 +0.1**
comp=Z,46nm,1.6s
PAB San Pablo 90.61 345 *e*P **P 10 52 35.1 0.0**
PAB pmax pmax
comp=Z,20nm,1.3s
PAB San Pablo 90.61 345 *e*P **P 10 52 35.1 0.0**
comp=Z,20nm,1.3s
KEST Kesra 91.04 334 P **P 10 52 37.3 +0.1**
comp=Z,6.6nm,1.1s,baz=356,slow=5.1,SNR=8.7
KEST LR LR 11 37 07.8
comp=Z,806nm,21.7s,baz=340,slow=38
KEST Kesra 91.04 334 *e*P **P 10 52 37.5 +0.2**
comp=Z,13nm,0.9s
RKT Rikitea 94.06 121 *e*LR LR 11 23 03.3
comp=Z,642nm,33.0s,baz=326
TOA1 Torodi Ar. Sit 114.54 333 *e*PKiKP **PKiKP 10 58 12.2 -0.8**
TORD Torodi Ar. Bea 114.54 333 PKP PKPdf 10 58 12.2 -0.8
comp=Z,1.4nm,1.0s,baz=344,slow=1.6,SNR=6.3
TORD pPKP pPKiKP 10 58 31.6 +5.5
comp=Z,0.5nm,0.5s,baz=30,slow=1.6,SNR=3.0
TORD PP PP 10 58 57.7 -11
comp=Z,3.7nm,1.0s,baz=21,slow=5.8,SNR=6.4
TORD PKKPbc **PKKPbc 11 08 49.5 -0.1**
comp=Z,2.1nm,0.9s,baz=213,slow=2.7,SNR=7.7
TORD PKKPab **PKKPab 11 08 56.5 -3.7**
comp=Z,2.9nm,1.0s,baz=218,slow=1.7,SNR=7.0
TORD PKKP **PKKPdf 11 09 08.3 -3.1**
comp=Z,0.9nm,0.8s,baz=224,slow=2.3,SNR=4.5
CASY Casey 119.70 199 *e*PKPdf **PKPdf 10 58 20.4 -0.8**
DBIC Dimbokro 122.56 337 PKP **PKPdf 10 58 25.9 -2.6**
comp=Z,8.0nm,1.0s,baz=39,slow=2.3,SNR=2.6
DBIC pPKP **pPKPdf 10 58 46.1 +4.7**
comp=Z,8.7nm,0.9s,baz=1.9,slow=4.6,SNR=2.8
PTGA Pitinga 123.09 45 *e*PKPdf **PKPdf 10 58 29.3 -0.2**
MIR Mirnyy 124.39 206 *i* PKIKP **PKPdf 10 58 30.0 -0.2**
MIR pmax pmax
comp=Z,4.0nm,1.5s
VNDA Vanda 125.84 178 PKP **PKPdf 10 58 31.9 -0.9**
comp=Z,10nm,0.9s,baz=318,slow=4.3,SNR=42
SBA Scott Base 126.29 177 *e*PKIKP **PKPdf 10 58 33.5 -0.1**
SBA Scott Base 126.29 177 *e*PKPdf **PKPdf 10 58 33.5 -0.1**
SAML Samuel 128.54 53 *e*PKPdf **PKPdf 10 58 39.5 -0.4**
LPAZ La Paz 131.67 64 PKP **PKPdf 10 58 46.4 -0.1**
comp=Z,4.8nm,0.9s,baz=3.7,slow=4.0,SNR=15
LPAZ SKPbc **SKPbc 11 02 08.8 +0.3**
comp=Z,3.2nm,1.1s,baz=24,slow=6.0,SNR=5.5
PB11 IPOC Station P 133.40 68 *e*PKPdf **PKPdf 10 58 48.9 -0.1**
PB01 IPOC Station P 134.47 69 *e*PKPdf **PKPdf 10 58 51.2 +0.2**
MAW Mawson 134.82 213 PKP **PKPdf 10 58 49.5 -0.5**
comp=Z,7.6nm,1.0s,baz=348,slow=1.7,SNR=7.5
MAW PP **PP 11 01 24.7 -0.6**
comp=Z,3.7nm,0.8s,baz=68,slow=9.2,SNR=5.2
MAW Mawson 134.82 213 *e*PKPdf **PKPdf 10 58 50.0 0.0**
BDFB Brasilia 141.65 40 PKP **PKPdf 10 59 04.9 +0.6**
comp=Z,10.0nm,1.0s,baz=336,slow=3.4,SNR=6.3
SYO Syowa Base 143.54 213↓*i* X PKPab 10 59 01.0 -1.4
SYO Syowa Base 143.54 213 *i* X pPKiKP 10 59 22.0 -0.2
CPUP Villa Florida 145.78 62 PKPbc **PKPdf 10 59 11.1 -0.1**
comp=Z,35nm,1.0s,baz=311,slow=2.7,SNR=40
CPUP pPKPbc pPKPbc 10 59 28.9 +4.4
comp=Z,7.2nm,0.7s,baz=343,slow=2.9,SNR=3.8
PLCA Paso Flores 146.28 94 PKPbc **PKPbc 10 59 12.8 -0.1**
comp=Z,21nm,0.9s,baz=290,slow=3.2,SNR=19
CHRN Cochrane 147.71 106 *e*PKPbc **PKPbc 10 59 17.1 +0.5**
NVL N'lazarevskaya 152.13 204 *e*PKIKP **PKPbc 10 59 27.8 +1.2**
PMSA Palmer Station 153.19 142 *e*PKPdf **PKPdf 10 59 21.2 -0.4**
PMSA *e*PKPbc **PKPbc 10 59 29.2 +0.1**
SNAA Sanae 154.85 195 PKP **PKPdf 10 59 22.5 -1.4**
SNAA Sanae 154.85 195 *e*PKIKP **PKPdf 10 59 22.8 -1.1**
SNAA e 10 59 47.6
SNAA Sanae 154.85 195 *e*PKPdf **PKPdf 10 59 22.8 -1.1**
SNAA *e*PKPab **PKPab 10 59 47.6 -0.5**
VNA1 Neumayer--Stat 156.62 193 PKP **PKPdf 10 59 25.6 -0.5**

CSEM ***17*** *10:48:52.4±0.4,38.94N×21.46E,h15km,ML1.8,Error ellipse: s-maj=8.3km s-min=4.9km az=166.0*
THE ***17*** *10:48:54.2,38.84N×21.55E,h1km±1km,ML1.8/4,Error ellipse: s-maj=1.7km s-min=0.3km az=321.0*
ATH 17 10:48:52.9,38.91N×21.47E,h16km±6km,ML1.6/8,Error ellipse: s-maj=6.2km s-min=1.2km az=89.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.26**	**88**	P	Pg	10 48 58.4	-0.4
EVR				S	Sg	10 49 01.5	-1.3
EVR	**Evrytania**	**0.26**	**88**	P	Pg	10 48 58.4	-0.4
EVR				S	Sg	10 49 02.6	-0.2
EVR	**Evrytania**	**0.26**	**88**	P	Pg	10 48 58.0	-0.8
EVR				S	Sg	10 49 02.6	-0.2
EVR				AML	AML	10 49 04.0	
	comp=N,338μm,0.1s						
PVO	**Paravola**	**0.30**	**172**	P	Pg	10 48 58.7	-0.6
PVO				S	Sg	10 49 02.0	-1.6
PVO	**Paravola**	**0.30**	**172**	P	Pg	10 48 58.7	-0.6
PVO				S	Sg	10 49 02.9	-0.7
PVO	**Paravola**	**0.30**	**172**	P	Pg	10 48 58.1	-1.1
PVO				S	Sg	10 49 02.9	-0.7
PVO				AML	AML	10 49 07.0	
	comp=E,184μm,0.5s						
PVO				AML	AML	10 49 07.4	
	comp=N,201μm,0.3s						
PDO	**Prodromos**	**0.39**	**216**	P	Pb	10 49 01.3	0.0
PDO				S	Sb	10 49 07.1	+0.1
PDO	**Prodromos**	**0.39**	**216**	P	Pb	10 49 01.3	0.0
PDO				S	Sb	10 49 07.1	+0.1
PDO	**Prodromos**	**0.39**	**216**	P	Pb	10 49 01.8	+0.4
PDO				AML	AML	10 49 08.5	
	comp=E,492μm,0.3s						
PDO				S	Sn	10 49 09.2	-1.6
PDO				AML	AML	10 49 12.3	
	comp=N,625μm,0.4s						
EFP	**Efpalio**	**0.59**	**145**	P	Pn	10 49 06.3	-0.3
EFP				S	Sb	10 49 13.8	+0.9
EFP	**Efpalio**	**0.59**	**145**	P	Pn	10 49 06.3	-0.3
EFP				S	Sb	10 49 13.8	+0.9
EFP				AML	AML	10 49 16.0	
	comp=N,166μm,0.3s						
EFP				AML	AML	10 49 19.9	
	comp=E,157μm,0.4s						
LKD2	**Lefkada island**	**0.65**	**260**	P	Pb	10 49 06.4	+0.5
LKD2				S	Sn	10 49 17.6	+0.3
LKD2	**Lefkada island**	**0.65**	**260**	P	Pb	10 49 06.4	+0.5
LKD2				S	Sn	10 49 17.6	+0.3
LKD2				AML	AML	10 49 18.3	
	comp=E,150μm,0.3s						
LKD2				AML	AML	10 49 20.5	
	comp=N,117μm,0.4s						
AGG	**Agios Georgios**	**0.68**	**80**	P	Pg	10 49 06.2	-0.1
AGG				S	Sb	10 49 15.8	+0.3
AGG	**Agios Georgios**	**0.68**	**80**	P	Pg	10 49 05.9	-0.4
AGG				S	Sb	10 49 15.8	+0.3
AGG	**Agios Georgios**	**0.68**	**80**	P	Pg	10 49 05.9	-0.3
AGG				S	Sb	10 49 16.2	+0.7
AGG				AML	AML	10 49 17.7	
	comp=N,248μm,0.3s						
AGG				AML	AML	10 49 18.4	
	comp=E,378μm,0.4s						
KALE	**Kalithea**	**0.73**	**135**	P	Pg	10 49 06.6	-0.7
KALE				S	Sg	10 49 16.3	-0.8
KALE	**Kalithea**	**0.73**	**135**	P	Pg	10 49 06.6	-0.7
KALE				S	Sg	10 49 16.3	-0.8
KALE				AML	AML	10 49 21.2	
	comp=E,89μm,0.3s						
KALE				AML	AML	10 49 21.4	
	comp=N,101μm,0.2s						
LAKA	**Lakka**	**0.78**	**149**	P	Pn	10 49 08.8	-0.4
LAKA				S	Sn	10 49 19.8	-0.7
LAKA	**Lakka**	**0.78**	**149**	P	Pn	10 49 08.8	-0.4
LAKA				S	Sn	10 49 19.8	-0.7
LAKA				AML	AML	10 49 23.2	
	comp=N,22μm,0.4s						
LAKA				AML	AML	10 49 24.5	
	comp=E,25μm,0.4s						
KFL	**Anninata**	**0.96**	**214**	P	Pb	10 49 09.7	-1.5
KFL				S	Sg	10 49 24.5	+0.2
KFL	**Anninata**	**0.96**	**214**	P	Pb	10 49 09.7	-1.5
KFL				S	Sg	10 49 24.5	+0.2
DRO	**Drossia**	**0.97**	**169**	P	Pn	10 49 11.9	0.0
DRO				S	Sb	10 49 24.1	+0.1
DRO	**Drossia**	**0.97**	**169**	P	Pg	10 49 11.8	0.0
DRO				S	Sb	10 49 24.1	+0.1
VLS	**Valsamata**	**1.01**	**224**	P	Pb	10 49 10.7	-1.3
VLS				S	Sb	10 49 25.1	+0.1

UPP ***17*** *10:49:13.2,63.74N×28.38E,h0km,ML1.4,Suspected Mining explosion.*
CSEM ***17*** *10:49:15.6±0.3,63.97N×28.12E,h2km,ML1.4,Error ellipse: s-maj=8.4km s-min=7.3km az=69.0,Mining explosion.*
HEL 17 10:49:15.7±0.2,64.01N×28.15E,h0km,Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KJN	**Kajaani**	**0.21**	**293**	*e*P	Pg	10 49 19.3	-0.3
KJN				*e*S	Sg	10 49 22.0	-0.3
KJN	**Kajaani**	**0.21**	**293**	P	Pg	10 49 19.2	-0.4
KJN				S	Sg	10 49 22.0	-0.3
OUL	**Oulu**	**1.46**	**319**	*e*P	Pn	10 49 41.4	-1.8
OUL	**Oulu**	**1.46**	**319**	P	Pn	10 49 41.3	-1.9
OUFX	**Oulainen**	**1.55**	**285**	*e*P	Pn	10 49 43.3	-1.2
OUFX				*e*S	Sn	10 50 03.1	-2.2
OUFX	**Oulainen**	**1.55**	**285**	P	Pn	10 49 43.3	-1.2
OUFX				S	Sn	10 50 03.0	-2.3
SUF	**Sumiainen**	**1.57**	**216**	*e*P	Pn	10 49 43.1	-1.7
SUF				*e*S	Sn	10 50 04.0	-1.9
SUF	**Sumiainen**	**1.57**	**216**	P	Pn	10 49 43.1	-1.7
SUF				S	Sn	10 50 03.9	-2.0
JOF	**Joensuu**	**1.79**	**126**	*e*P	Pn	10 49 47.1	-0.8
JOF				*e*S	Sn	10 50 09.9	-1.3
JOF	**Joensuu**	**1.79**	**126**	P	Pn	10 49 47.0	-0.8
JOF				S	Sn	10 50 09.9	-1.4
MSF	**Maaselka**	**1.95**	**11**	*e*P	Pn	10 49 49.9	-0.1
MSF	**Maaselka**	**1.95**	**11**	P	Pn	10 49 49.9	-0.1
KU6	**Riekki**	**2.16**	**19**	*e*P	Pn	10 49 54.0	+1.1
KU6	**Riekki**	**2.16**	**19**	P	Pn	10 49 54.0	+1.1
KEF	**Keuruu**	**2.37**	**220**	*e*P	Pn	10 49 56.9	+1.1
VAF	**Ylistaro**	**2.64**	**251**	*e*P	Pn	10 50 00.6	+1.1
VAF	**Ylistaro**	**2.64**	**251**	P	Pn	10 50 00.5	+1.1
UMAU	**Umeaa**	**3.30**	**271**	P	Pn	10 50 07.4	-1.1
UMAU				S	Sn	10 50 49.8	+1.5
ERTU	**Ertsjaerv**	**3.58**	**318**	P	Pn	10 50 13.2	+0.8
PAJU	**Pajala**	**3.68**	**328**	P	Pn	10 50 14.9	+1.1
PAJU				S	Sn	10 50 59.5	+1.6
LILU	**Lilltraesk**	**3.79**	**293**	P	Pn	10 50 15.2	-0.1

ISCJB ***17*** *11:10:11.1±0.5,29.98N±0.04×139.6E±0.1,h450km, mb3.2/5,Error ellipse: s-maj=16.2km s-min=4.8km az=168.4*
JMA ***17*** *11:10:11.2±0.3,29.95N×139.61E,h450km±5km,M3.8*
IDC ***17*** *11:10:11.6±0.8,29.80N×139.03E,h409km±12km,mb2.9/5, mb1 3.1/8,mb1mx2.9/39,mbtmp3.8/8,Error ellipse: s-maj=32.5km s-min=9.8km az=74.0*
ISC 17 11:10:12.6±0.8,30.05N±0.07×139.6E±0.1,h450km,n19, σ1§92/29,mb3.4/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.06**	**3**	P	**P**	**11 11 20.5**	**+0.6**
JHJ2				S	**S**	**11 12 13.7**	**-1.1**
JHJ	**Hachijo jima 2**	**3.07**	**3**	P	**P**	**11 11 20.5**	**+0.5**
	37nm,0.3s,baz=70,slow=20,SNR=25						
JHJ				S	**S**	**11 12 13.1**	**-1.8**
	28nm,0.3s,baz=249,slow=23,SNR=11						
CBIJ	**Chichi jima**	**3.72**	**142**	P	**P**	**11 11 23.7**	**-1.7**
CBIJ				S	**S**	**11 12 20.2**	**-4.3**
JCJ	**Chichijima**	**3.72**	**142**	P	**P**	**11 11 23.7**	**-1.7**
	7.8nm,0.3s,baz=100,slow=24,SNR=7.5						
JCJ				S	**S**	**11 12 20.4**	**-4.1**
	81nm,0.3s,baz=300,slow=20,SNR=21						
BSO1	**Boso 1**	**4.74**	**14**	S	**S**	**11 12 42.8**	**+2.7**
JWZ	**Kozaga**	**4.79**	**317**	P	**P**	**11 11 34.8**	**-0.1**
BSO3	**Boso 3**	**4.80**	**9**	P	**P**	**11 11 36.0**	**+1.4**
BSO3				S	**S**	**11 12 43.3**	**+1.6**
JOD2	**Odawara 2**	**5.22**	**355**	P	**P**	**11 11 39.7**	**+0.7**
JHU	**Hanno**	**5.80**	**357**	P	**P**	**11 11 44.9**	**+0.2**
JHU				S	**S**	**11 12 57.4**	**-2.6**
JRY	**Ryogami san**	**5.98**	**355**	P	**P**	**11 11 47.7**	**+1.1**
JRY				S	**S**	**11 13 00.8**	**-2.7**
JAG	**Ashikaga**	**6.36**	**359**	P	**P**	**11 11 50.9**	**+0.4**
JAG				S	**S**	**11 13 07.5**	**-3.1**
MJAR	**Matsushiro Arr**	**6.58**	**350**	P	**P**	**11 11 53.2**	**+0.4**
	1.1nm,0.3s,baz=166,slow=10,SNR=9.6						
MJAR				S	**S**	**11 13 14.2**	**-0.7**
	0.5nm,0.3s,baz=169,slow=14,SNR=4.2						
MAT	**Matsushiro**	**6.58**	**350**	P	**P**	**11 11 53.3**	**+0.5**
MAT				*e*S	**S**	**11 13 13.9**	**-1.0**
JHO	**Hitachi**	**6.60**	**7**	S	**S**	**11 13 13.6**	**-1.5**
MKAR	**Makanchi Array**	**46.86**	**308**	P	**P**	**11 18 00.0**	**-0.6**
	0.2nm,0.4s,baz=90,slow=5.8,SNR=2.5						
WRA	**Warramunga Arr**	**49.96**	**186**	P	**P**	**11 18 23.9**	**-0.1**
	0.9nm,0.3s,baz=2.5,slow=7.9,SNR=50						
WRA				PcP	**PcP**	**11 19 38.7**	**+2.4**
	0.5nm,0.8s,baz=357,slow=4.0,SNR=2.7						
ASAR	**Alice Springs**	**53.68**	**186**	P	**P**	**11 18 51.2**	**+0.2**
	0.7nm,0.4s,baz=7.5,slow=7.8,SNR=21						
ILAR	**Eielson Array**	**56.25**	**30**	P	P	11 19 13.8	+5.3
	0.1nm,0.5s,baz=274,slow=4.8,SNR=4.4						
STKA	**Stephens Creek**	**61.61**	**178**	P	**P**	**11 19 46.3**	**+1.2**
	1.1nm,0.4s,baz=344,slow=13,SNR=5.2						

ISCJB ***17*** *11:21:46.6±0.7,10.38N±0.03×70.79W±0.03,h18km±6km, Error ellipse: s-maj=5.0km s-min=4.3km az=43.9*
FUNV ***17*** *11:21:46.4,10.39N×70.80W,h8km,MW2.6*
ISC 17 11:21:45.4±1.5,10.38N±0.03×70.79W±0.03,h9km±12km, n17,σ0§66/33,1C-2D,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QARV	**Quebrada Arrib**	**0.31**	**123**	↓*i* P	**Pb**	**11 21 53.5**	**+0.3**
QARV				*e*S	**Sb**	**11 21 57.7**	**-0.8**
DABV	**Dabajuro**	**0.56**	**16**	↑*e* P	**Pg**	**11 21 57.0**	**+0.6**
DABV				*e*S	**Sb**	**11 22 05.3**	**-0.3**
CURV	**Curarigua**	**0.89**	**114**	*e*P	**Pg**	**11 22 04.2**	**-0.3**
CURV				*e*S	**Sb**	**11 22 15.7**	**+0.4**
SIQV	**Siquisique**	**1.00**	**74**	*e*P	**Pg**	**11 22 04.4**	**-0.4**
SIQV				*e*S	**Sb**	**11 22 18.6**	**+0.2**
SDV	**Santo Domingo**	**1.49**	**174**	*e*P	**Pn**	**11 22 13.3**	**+0.7**
SDV				*e*S	**Sn**	**11 22 32.6**	**+0.3**
SDV				*i*		11 22 36.6	
	comp=Z,55nm,0.3s						
SDV	**Santo Domingo**	**1.49**	**174**	*e*P	**Pn**	**11 22 13.3**	**+0.7**
SDV				*e*S	**Sn**	**11 22 33.0**	**+0.7**
SANV	**Sanarito**	**1.51**	**125**	*e*P	**Pg**	**11 22 14.5**	**0.0**
SANV				*e*S	**Sb**	**11 22 33.9**	**+0.8**
VIRV	**Villa del Rosa**	**1.59**	**275**	*e*P	**Pn**	**11 22 14.1**	**+0.3**
VIRV				*e*S	**Sn**	**11 22 35.1**	**+0.6**
TEPV	**Terepaima**	**1.63**	**104**	*e*P	**Pn**	**11 22 15.0**	**+0.7**
TEPV				*e*S	**Sb**	**11 22 36.5**	**+0.1**
MONV	**Montecano**	**1.76**	**27**	↓*e*P	**Pn**	**11 22 16.1**	**0.0**
MONV				*e*S	**Sn**	**11 22 39.1**	**+0.3**
URIC	**Uribia, Colomb**	**1.77**	**318**	*e*P	**Pn**	**11 22 17.0**	**+0.8**
URIC				*e*S	**Sb**	**11 22 40.1**	**-0.3**
URIC				*i*		11 22 42.6	
	comp=Z,32nm,0.2s						
SOCV	**Socops**	**2.08**	**182**	*e*P	**Pn**	**11 22 21.7**	**+1.2**
SOCV				*e*S	**Sn**	**11 22 46.5**	**-0.1**
MAPV	**Macapo**	**2.36**	**103**	*e*P	**Pn**	**11 22 25.1**	**+0.7**
MAPV				*e*S	**Sn**	**11 22 53.6**	**0.0**
TURV	**Turiamo**	**2.91**	**88**	*e*P	**Pn**	**11 22 31.7**	**-0.2**
TURV				*e*S	**Sn**	**11 23 05.8**	**-1.1**
CAPV	**Capacho**	**2.91**	**211**	*e*P	**Pn**	**11 22 32.7**	**+0.2**
CAPV				*e*S	**Sn**	**11 23 06.7**	**-0.8**
BAUV	**El Baul**	**3.06**	**117**	*e*P	**Pn**	**11 22 34.6**	**+0.6**
BAUV				*e*S	**Sn**	**11 23 09.9**	**-1.0**
GRMC	**Gramalote, San**	**3.31**	**217**	*e*P	**Pb**	**11 22 43.1**	**-1.3**

TRN 17 11:21:55.8,16.10N×61.79W,h178km,MD3.6,5C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZG	**Guadaloupe-1**	**0.04**	**22**	↑*i* P	Pn	11 22 19.9	+0.6
MLG	**Mont-d'or**	**0.09**	**117**	↑*i* P	Pn	11 22 20.4	+1.0
FNG	**Fond-Bernard**	**0.11**	**112**	*e*P	Pn	11 22 20.5	+1.0
DOG	**Dongo Capester**	**0.18**	**113**	↑*i* P	Pn	11 22 20.6	+1.1
TBG	**Guadaloupe-3**	**0.29**	**150**	*e*P	Pn	11 22 20.6	+0.9
TBG				*e*S	Sn	11 22 38.4	+0.4
SEG	**Port Louis**	**0.41**	**43**	↑*i* P	Pn	11 22 21.2	+1.3
MGG	**Marie-Galante**	**0.49**	**112**	*e*P	Pn	11 22 21.4	+1.1
MGG				*e*S	Sn	11 22 40.0	+0.9
BBL	**Barber's Block**	**0.65**	**152**	↑*i* P	Pn	11 22 21.7	+0.6
MLYT	**Lee's Yard**	**0.72**	**328**	*e*P	Pn	11 22 23.1	+1.6
MLYT				*e*S	Sn	11 22 42.0	+0.6
DEG	**La Desirade**	**0.73**	**73**	*e*P	Pn	11 22 22.9	+1.4
DEG				*e*S	Sn	11 22 41.5	+0.1
BPA	**Boggy Peak**	**0.94**	**356**	*e*P	Pn	11 22 24.5	+1.6
BPA				*e*S	Sn	11 22 44.8	+0.9
SKI	**Saint Kitts**	**1.52**	**324**	*e*P	Pn	11 22 28.2	+0.4
ANWB	**Willy Bob**	**1.56**	**0**	*e*P	Pn	11 22 28.9	+0.8
ANWB				*e*S	Sn	11 22 53.5	+0.1

ISCJB ***17*** *11:28:46.5±1.3,34.18S±0.08×72.42W±0.09,h28km±10km, mb3.9/1,Error ellipse: s-maj=14.9km s-min=10.0km az=143.6*
GUC ***17*** *11:28:46.7±0.6,34.16S×72.33W,h34km±3km,ML4.1*
IDC ***17*** *11:28:49.7±7.4,34.11S×72.20W,h34km±53km,mb3.7/1, mb1 3.6/3,mb1mx3.4/25,mbtmp3.6/3,ML3.5/2,MS3.5/2, Ms1 3.5/2,ms1mx3.2/19,Error ellipse: s-maj=118.8km s-min=37.6km az=92.0*
ISC 17 11:28:46.8±1.9,34.08S±0.07×72.33W±0.09,h15km±10km, n23,σ1§14/29,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.41**	**139**	↓*i* P	**Pg**	**11 28 55.1**	**0.0**
CHPI				AMP		11 28 59.3	
CHPI				*i* S	**Sg**	**11 29 01.2**	**+0.4**
RCDM	**Rinconada Maip**	**1.40**	**66**	↓*i* P	**Pn**	**11 29 11.3**	**-0.5**
RCDM				*i* S	**Sn**	**11 29 30.0**	**0.0**
ANTU	**Antumapu**	**1.50**	**71**	*e*P	**Pn**	**11 29 13.3**	**+0.1**
ANTU				*e*S	**Sn**	**11 29 33.0**	**+0.4**
ROC1	**El Roble**	**1.56**	**45**	*e*P	**Pn**	**11 29 14.1**	**0.0**
ROC1				*e*S	**Sg**	**11 29 37.4**	**+0.4**
ROCH	**El Roble**	**1.56**	**45**	*e*P	**Pn**	**11 29 14.2**	**+0.1**
ROCH				IAML		11 29 45.6	
	comp=N,2μm,0.5s						
CLCH	**Cerro Calan**	**1.65**	**66**	↑*i* P	**Pn**	**11 29 15.3**	**+0.2**
CLCH				*i* S	**Sb**	**11 29 37.2**	**-0.2**
CLCH				IAML		11 29 43.7	
	comp=E,6μm,0.5s						
PEL	**Peldehue**	**1.66**	**56**	↑*i* P	**Pn**	**11 29 15.7**	**+0.3**
PEL				*i* S	**Sb**	**11 29 37.7**	**-0.2**
PEL				IAML		11 29 45.2	
	comp=N,3μm,0.6s						
FCH	**Farellones**	**1.86**	**67**	↓*i* P	**Pn**	**11 29 18.6**	**+0.2**
FCH				*i* S	**Sn**	**11 29 42.8**	**+1.0**
FCH				IAML		11 29 49.1	
	comp=E,2μm,0.3s						
AUSP	**Uspallata**	**3.09**	**54**	*e*P	**Pn**	**11 29 37.6**	**+2.4**
AAGR	**Agrelo**	**3.09**	**72**	*e*P	**Pb**	**11 29 39.0**	**-2.5**
ARCO	**CERRO ARCO**	**3.10**	**67**	*e*P	**Pb**	**11 29 41.2**	**-0.5**
ARCO				IAML		11 29 46.3	
	comp=Z,294nm,0.7s						
ASAL	**Salagasta**	**3.28**	**64**	*e*P	**Pn**	**11 29 39.5**	**+1.8**
RTLS	**Leoncito**	**3.42**	**49**	*e*P	**Pn**	**11 29 43.0**	**+3.3**
AGUA	**GUANDACOL**	**5.63**	**37**	*e*P	**Pn**	**11 30 10.2**	**+0.3**
MRA	**San Martin**	**5.79**	**75**	*e*P	**Pn**	**11 30 14.0**	**+1.9**
MRA				IAML		11 31 54.7	
	comp=Z,39nm,0.6s						
PLCA	**Paso Flores**	**6.79**	**168**	Pn	**Pn**	**11 30 26.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=9.3,slow=11,SNR=3.2						
PLCA				LR	LR	11 33 07.8	
	comp=Z,349nm,21.3s,baz=341,slow=38						
CPUP	**Villa Florida**	**15.09**	**63**	LR	LR	11 37 50.3	
	comp=Z,220nm,20.4s,baz=310,slow=36						
LPAZ	**La Paz**	**18.12**	**13**	P	**P**	**11 32 59.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=179,slow=9.7,SNR=6.8						
TXAR	**Lajitas Array**	**69.69**	**331**	pP	pP	11 40 05.4	+4.5
	comp=Z,0.1nm,0.5s,baz=161,slow=8.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**84.47**	**70**	P	**P**	**11 41 18.6**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=252,slow=4.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**153.10**	**43**	PKP	**PKPdf**	**11 48 35.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=302,slow=2.7,SNR=3.1						
KURBB				PKPbc	**PKPbc**	**11 48 42.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=281,slow=2.5,SNR=5.0						
ZALV	**Zalesovo Beam**	**154.42**	**32**	PKPbc	**PKPbc**	**11 48 45.7**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=316,slow=6.0,SNR=3.6						
MKAR	**Makanchi Array**	**157.00**	**49**	PKPab	**PKPab**	**11 49 11.7**	**0.0**
	comp=

comp=E,820nm,0.5s
BDHA Al Bayda' 3.87 73 *i* P **Pn 11 33 20.2 +0.1**
BDHA *i* S **Sn 11 34 05.5 -0.3**
BDHA AML AML 11 34 33.7
comp=N,835nm,0.6s
FURI Furi 4.97 218 P **Pg 11 33 54.3 -1.4**
FURI S **Sg 11 35 01.4 +1.2**
TORD Torodi Ar. Bea 39.00 275 P P 11 39 31.7 -15
comp=N,0.3nm,0.8s,baz=82,slow=3.2,SNR=3.0
MKAR Makanchi Array 47.93 37 P **P 11 40 59.4 +0.5**
comp=N,1.0nm,0.8s,baz=223,slow=5.0,SNR=6.5
KURBB Kurchatov Arra 48.07 31 P **P 11 41 00.6 +0.7**
comp=N,0.5nm,0.6s,baz=235,slow=8.1,SNR=5.2
ZALV Zalesovo Beam 53.15 30 P **P 11 41 37.1 -1.1**
comp=N,0.7nm,0.4s,baz=256,slow=6.0,SNR=3.9
CMAR Chiang Mai Arr 55.17 76 P **P 11 41 55.2 +1.7**
comp=N,0.6nm,0.3s,baz=274,slow=7.0,SNR=3.2
SONM Songino Array 63.58 43 P **P 11 42 50.9 -0.5**
comp=N,0.8nm,0.4s,baz=249,slow=10,SNR=4.4

ISCJB ***17*** *11:32:22.8±0.8, 13°08N±0°.10×144°.5E±0°.2, h54km, mb3.8/9, MS3.3/1, Error ellipse: s-maj=23.1km s-min=10.7km az=27.2*
IDC ***17*** *11:32:24.2±1.1, 13°.16N×144°.63E, h49km±11km, mb3.6/9, mb1 3.8/9, mb1mx3.5/52, mbtmp3.9/9, MS3.5/1, Ms1 3.5/1, ms1mx2.9/36, Error ellipse: s-maj=30.3km s-min=15.6km az=95.0*

ISC 17 11:32:24.9±0.8, 13°.2N±0°.1×144°.6E±0°.2, h54km, n19, σ0s79/14, mb3.9/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.51**	**31**	LR	LR	11 32 34.9	
	comp=Z,89nm,19.4s,baz=317,slow=22						
GUMO				P	**Pn**	**11 32 36.5**	**0.0**
	597nm,0.3s,baz=313,slow=7.6,SNR=212						
GUMO				S	**Sn**	**11 32 45.5**	**+0.6**
	2µm,0.3s,baz=330,slow=20,SNR=146						
JHJ	**Hachijo jima 2**	**20.36**	**348**	LR	LR	11 44 33.0	
	comp=Z,126nm,18.3s,baz=106,slow=36						
H11S3	**WAKE ISLAND Hy 21.89**	**73**		T	T	11 59 48.0	
	baz=259,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy 21.91**	**73**		T	T	11 59 49.0	
	baz=259,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy 21.91**	**73**		T	T	11 59 49.6	
	baz=259,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy 22.34**	**70**		T	T	12 00 24.5	
	baz=256,slow=75,SNR=32						
H11N2	**WAKE ISLAND Hy 22.35**	**70**		T	T	12 00 25.0	
	baz=256,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy 22.36**	**70**		T	T	12 00 22.2	
	baz=256,slow=75,SNR=31						
MJAR	**Matsushiro Arr**	**23.99**	**347**	P	**P**	**11 37 34.7**	**+0.2**
	1.1nm,0.6s,baz=166,slow=7.0,SNR=4.9						
KSRS	**Korea Array**	**28.42**	**331**	P	**P**	**11 38 14.8**	**+0.4**
	0.6nm,0.7s,baz=145,slow=9.3,SNR=4.6						
WRA	**Warramunga Ar**	**34.40**	**197**	P	**P**	**11 39 06.7**	**-0.5**
	2.9nm,0.8s,baz=20,slow=9.5,SNR=13						
FITZ	**Fitzroy Crossi**	**36.26**	**212**	PcP	**PcP**	**11 41 48.8**	**+1.3**
	2.5nm,0.9s,baz=27,slow=3.9,SNR=3.2						
ASAR	**Alice Springs**	**38.06**	**196**	P	**P**	**11 39 37.8**	**-0.6**
	0.6nm,0.5s,baz=19,slow=12,SNR=22						
ASAR				PcP	**PcP**	**11 41 53.9**	**+1.0**
	0.4nm,0.7s,baz=26,slow=2.3,SNR=4.7						
MKAR	**Makanchi Array**	**61.62**	**316**	P	**P**	**11 42 37.4**	**+0.3**
	0.7nm,0.6s,baz=93,slow=8.1,SNR=5.8						
KURBB	**Kurchatov Arra**	**64.79**	**320**	P	**P**	**11 42 57.8**	**-0.1**
	0.7nm,0.5s,baz=101,slow=6.7,SNR=8.0						
ILAR	**Eielson Array**	**69.07**	**25**	P	**P**	**11 43 23.6**	**-1.3**
	0.9nm,0.6s,baz=250,slow=6.2,SNR=17						
BVAR	**Borovoye Array**	**70.11**	**322**	P	**P**	**11 43 30.9**	**-0.6**
	0.6nm,0.5s,baz=128,slow=9.3,SNR=2.7						
YKA	**Yellowknife Ar**	**83.36**	**27**	P	**P**	**11 44 45.7**	**-0.3**
	0.6nm,0.5s,baz=290,slow=5.1,SNR=4.3						
LPAZ	**La Paz**	**148.21**	**100**	PKPbc	**PKPbc**	**11 52 07.6**	**+1.0**
	2.2nm,0.8s,baz=285,slow=3.4,SNR=8.4						

GEN ***17*** *11:33:08.0, 43°.27N×12°.87E, h2km, ML3.1*
LDG ***17*** *11:33:09.9±0.2, 43°.13N×12°.56E, h2km, Ml3.2/6, Error ellipse: s-maj=5.7km s-min=3.7km az=161.0*
ISCJB ***17*** *11:33:10.1±0.2, 43°.11N±0°.01×12°.53E±0°.02, h11km±1km, Error ellipse: s-maj=2.6km s-min=2.3km az=142.9*
ROM ***17*** *11:33:10.2±0.1, 43°.13N×12°.56E, h9km, Ml3.3/38, Error ellipse: s-maj=0.9km s-min=0.8km az=147.0*
CSEM ***17*** *11:33:10.5±0.1, 43°.09N×12°.51E, h5km, ML4.0/20, Error ellipse: s-maj=2.9km s-min=2.6km az=173.0*
PRU ***17*** *11:33:13.0, 43°.22N×12°.76E, h0km*

ISC 17 11:33:10.3±0.8, 43°.12N±0°.02×12°.51E±0°.01, h13km±4km, n162, σ1s89/231, 4C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATCC	**AVT- Casa Cast**	**0.12**	**54**	⇑*i*Pg	**Pg**	**11 33 13.0**	**-0.6**
ATCC				Sg	**Sg**	**11 33 14.9**	**-1.1**
	61µm,0.4s						
ATCC	**AVT- Casa Cast**	**0.12**	**54**	⇑*i*Pg	**Pg**	**11 33 13.0**	**-0.6**
ATCC				Sg	**Sg**	**11 33 14.9**	**-1.1**
	61µm,0.4s						
ATTE	**AVT- Monte Tez**	**0.14**	**306**	Pg	**Pg**	**11 33 14.2**	**+0.2**
ATTE				Sg	**Sg**	**11 33 17.0**	**+0.5**
	8µm,0.3s						
ATTE	**AVT- Monte Tez**	**0.14**	**306**	Pg	**Pg**	**11 33 14.2**	**+0.2**
ATTE				Sg	**Sg**	**11 33 17.0**	**+0.5**
	8µm,0.3s						
MURB	**Monte Urbino**	**0.15**	**5**	⇑*i*Pg	**Pg**	**11 33 13.9**	**-0.2**
MURB				Sg	**Sg**	**11 33 16.6**	**-0.1**
	60µm,0.3s						
MURB	**Monte Urbino**	**0.15**	**5**	⇑*i*Pg	**Pg**	**11 33 13.9**	**-0.2**
MURB				Sg	**Sg**	**11 33 16.6**	**-0.1**
	60µm,0.3s						
SNTG	**Esanatoglia**	**0.34**	**66**	Pg	**Pg**	**11 33 16.8**	**-0.6**
SNTG				Sg	**Sg**	**11 33 21.9**	**-0.2**
	7µm,0.5s						
SNTG	**Esanatoglia**	**0.34**	**66**	Pg	**Pg**	**11 33 16.8**	**-0.6**
SNTG				Sg	**Sg**	**11 33 21.9**	**-0.2**
	7µm,0.5s						
MGAB	**Montegabbione**	**0.35**	**235**	Pg	**Pg**	**11 33 18.4**	**+0.9**
MGAB				Sg	**Sb**	**11 33 24.9**	**+0.9**
	5µm,0.4s						
MGAB	**Montegabbione**	**0.35**	**235**	Pg	**Pg**	**11 33 18.4**	**+0.9**
ATPC	**Poggio Castell**	**0.37**	**354**	Pg	**Pg**	**11 33 17.8**	**0.0**
ATPC				Sg	**Sb**	**11 33 23.7**	**-0.7**
	5µm,0.2s						
ATPC	**Poggio Castell**	**0.37**	**354**	Pg	**Pg**	**11 33 17.8**	**0.0**
ATPC				Sg	**Sb**	**11 33 23.7**	**-0.7**
	5µm,0.2s						
SSFR	**Montelago di S**	**0.38**	**32**	Pg	**Pg**	**11 33 17.4**	**-0.6**
SSFR				Sg	**Sg**	**11 33 23.1**	**0.0**
	21µm,0.2s						
SSFR	**Montelago di S**	**0.38**	**32**	Pg	**Pg**	**11 33 17.4**	**-0.6**
SSFR				Sg	**Sg**	**11 33 23.1**	**0.0**
	21µm,0.2s						
ATMC	**Monte Cedrone**	**0.40**	**325**	Pg	**Pg**	**11 33 18.5**	**+0.1**
	2µm,0.3s						
ATMC	**Monte Cedrone**	**0.40**	**325**	Pg	**Pg**	**11 33 18.5**	**+0.1**
	2µm,0.3s						
PIEI	**Pieia**	**0.42**	**3**	Pg	**Pg**	**11 33 18.5**	**-0.2**
PIEI				Sg	**Sb**	**11 33 25.0**	**-1.0**
	2µm,0.2s						
PIEI	**Pieia**	**0.42**	**3**	Pg	**Pg**	**11 33 18.5**	**-0.2**
PIEI				Sg	**Sb**	**11 33 25.0**	**-1.0**
	2µm,0.2s						
FDMO	**Fiordimonte**	**0.43**	**100**	Pg	**Pg**	**11 33 18.4**	**-0.5**
FDMO				Sg	**Sg**	**11 33 24.6**	**-0.1**
	2µm,0.2s						
FDMO	**Fiordimonte**	**0.43**	**100**	Pg	**Pg**	**11 33 18.4**	**-0.5**
FDMO				Sg	**Sg**	**11 33 24.6**	**-0.1**
	2µm,0.2s						
FRON	**Frontone**	**0.43**	**21**	Pg	**Pg**	**11 33 18.3**	**-0.6**
FRON				Sg	**Sg**	**11 33 24.8**	**0.0**
	3µm,0.3s						
FRON	**Frontone**	**0.43**	**21**	Pg	**Pg**	**11 33 18.3**	**-0.6**
FRON				Sg	**Sg**	**11 33 24.8**	**0.0**
	3µm,0.3s						
BADI	**Badiali**	**0.44**	**334**	Pg	**Pg**	**11 33 19.2**	**+0.1**
BADI				Sg	**Sb**	**11 33 26.3**	**-0.1**
	2µm,0.2s						
BADI	**Badiali**	**0.44**	**334**	Pg	**Pg**	**11 33 19.2**	**+0.1**
BADI				Sg	**Sb**	**11 33 26.3**	**-0.1**
	2µm,0.2s						
CAFI	**Castiglion Fio**	**0.45**	**298**	Pg	**Pg**	**11 33 19.8**	**+0.5**
CAFI				Sg	**Sg**	**11 33 27.1**	**+1.8**
	2µm,0.2s						
CAFI	**Castiglion Fio**	**0.45**	**298**	Pg	**Pg**	**11 33 19.8**	**+0.5**
CAFI				Sg	**Sg**	**11 33 27.1**	**+1.8**
	2µm,0.2s						
ARVD	**Arcevia**	**0.50**	**39**	Pg	**Pg**	**11 33 19.4**	**-0.7**
ARVD				Sg	**Sb**	**11 33 26.8**	**-1.3**
	2µm,0.2s						
ARVD	**Arcevia**	**0.50**	**39**	Pg	**Pg**	**11 33 19.4**	**-0.7**
ARVD				Sg	**Sb**	**11 33 26.8**	**-1.3**
	2µm,0.2s						
CESX	**Cesi**	**0.51**	**174**	Pg	**Pg**	**11 33 20.5**	**+0.2**
CESX				Sg	**Sb**	**11 33 29.4**	**+1.0**
	2µm,0.4s						
CESX	**Cesi**	**0.51**	**174**	Pg	**Pg**	**11 33 20.5**	**+0.2**
SACS	**San Casciano d**	**0.51**	**239**	Pg	**Pg**	**11 33 21.2**	**+0.7**
SACS				Sg	**Sb**	**11 33 30.1**	**+1.5**
	2µm,0.4s						
NRCA	**Norcia**	**0.53**	**122**	Pg	**Pg**	**11 33 20.3**	**-0.4**
NRCA	**Norcia**	**0.53**	**122**	Pg	**Pg**	**11 33 20.3**	**-0.4**
CING	**Cingoli**	**0.56**	**62**	Pg	**Pg**	**11 33 20.7**	**-0.7**
CING				Sg	**Sb**	**11 33 29.1**	**-1.0**
	1µm,0.2s						
CING	**Cingoli**	**0.56**	**62**	Pg	**Pg**	**11 33 20.7**	**-0.7**
CING				Sg	**Sb**	**11 33 29.1**	**-1.0**
	1µm,0.2s						
FSSB	**Fossombrone**	**0.61**	**19**	Pg	**Pg**	**11 33 21.7**	**-0.6**
FSSB				Sg	**Sb**	**11 33 30.7**	**-0.6**
	3µm,0.3s						
FSSB	**Fossombrone**	**0.61**	**19**	Pg	**Pg**	**11 33 21.7**	**-0.6**
FSSB				Sg	**Sb**	**11 33 30.7**	**-0.6**
	3µm,0.3s						
CRE	**Caprese Michel**	**0.65**	**321**	Pg	**Pg**	**11 33 23.4**	**+0.4**
	1µm,0.5s						
CRE	**Caprese Michel**	**0.65**	**321**	Pg	**Pg**	**11 33 23.4**	**+0.4**
	1µm,0.5s						
CPGN	**Carpegna, Ital**	**0.70**	**349**	Pg	**Pb**	**11 33 24.5**	**0.0**
	903nm,0.8s						
CPGN	**Carpegna, Ital**	**0.70**	**349**	Pg	**Pb**	**11 33 24.5**	**0.0**
	903nm,0.8s						
MCIV	**Monte Civitell**	**0.70**	**241**	Pg	**Pg**	**11 33 24.4**	**+0.5**
	546nm,0.3s						
MCIV	**Monte Civitell**	**0.70**	**241**	Pg	**Pg**	**11 33 24.4**	**+0.5**
	546nm,0.3s						
LATE	**Laterza**	**0.72**	**226**	Pg	**Pg**	**11 33 25.2**	**+0.8**
	2µm,0.5s						
LATE	**Laterza**	**0.72**	**226**	Pg	**Pg**	**11 33 25.2**	**+0.8**
	2µm,0.5s						
RM32	**Poggio Cancell**	**0.79**	**133**	Pg	**Pg**	**11 33 25.1**	**-0.7**
	465nm,0.7s						
RM32	**Poggio Cancell**	**0.79**	**133**	Pg	**Pg**	**11 33 25.1**	**-0.7**
	465nm,0.7s						
RM33	**Pellescritta (**	**0.80**	**139**	Pg	**Pg**	**11 33 25.3**	**-0.5**
	691nm,0.5s						
RM33	**Pellescritta (**	**0.80**	**139**	Pg	**Pg**	**11 33 25.3**	**-0.5**
	691nm,0.5s						
ARCI	**Arcidosso**	**0.80**	**251**	Pg	**Pg**	**11 33 26.3**	**+0.4**
	225nm,0.7s						
ARCI	**Arcidosso**	**0.80**	**251**	Pg	**Pg**	**11 33 26.3**	**+0.4**
	225nm,0.7s						
T0502	**Localit` San**	**0.83**	**341**	Pg	**Pb**	**11 33 26.9**	**+0.3**
	481nm,0.4s						
ASQU	**Asqua**	**0.86**	**323**	Pg	**Pg**	**11 33 27.1**	**+0.1**
	401nm,0.4s						
ASQU	**Asqua**	**0.86**	**323**	Pg	**Pg**	**11 33 27.1**	**+0.1**
	401nm,0.4s						
PESA	**Pesaro**	**0.86**	**16**	Pg	**Pg**	**11 33 26.5**	**-0.5**
	961nm,0.3s						
PESA	**Pesaro**	**0.86**	**16**	Pg	**Pg**	**11 33 26.5**	**-0.5**
	961nm,0.3s						
OFFI	**Offida**	**0.88**	**101**	Pg	**Pb**	**11 33 27.7**	**+0.2**
	2µm,0.8s						
OFFI	**Offida**	**0.88**	**101**	Pg	**Pb**	**11 33 27.7**	**+0.2**
	2µm,0.8s						
AOI	**Ancona**	**0.91**	**61**	Pg	**Pg**	**11 33 27.0**	**-0.9**
	298nm,0.3s						
AOI	**Ancona**	**0.91**	**61**	Pg	**Pg**	**11 33 27.0**	**-0.9**
	298nm,0.3s						
SFI	**Santa Sofia**	**0.92**	**329**	Pg	**Pg**	**11 33 28.5**	**+0.3**
	318nm,0.4s						
SFI	**Santa Sofia**	**0.92**	**329**	Pg	**Pg**	**11 33 28.5**	**+0.3**
	318nm,0.4s						
FIAM	**Fiamignano**	**0.96**	**152**	Pg	**Pg**	**11 33 28.0**	**-0.9**
	397nm,0.5s						
FIAM	**Fiamignano**	**0.96**	**152**	Pg	**Pg**	**11 33 28.0**	**-0.9**
	397nm,0.5s						
FROS	**Frosini**	**0.99**	**276**	Pg	**Pg**	**11 33 30.0**	**+0.5**
	384nm,0.6s						
FROS	**Frosini**	**0.99**	**276**	Pg	**Pg**	**11 33 30.0**	**+0.5**
	384nm,0.6s						
AQU	**L'Aquila**	**1.01**	**139**	*e*Pn	**Pg**	**11 33 28.9**	**-0.9**
GUMA	**Gualdo di Mace**	**1.05**	**92**	Pg	Pg	11 33 21.9	-8.6
	4µm,0.4s						
TOLF	**Tolfa**	**1.12**	**200**	Pg	**Pg**	**11 33 31.8**	**0.0**
	169nm,0.5s						
TOLF	**Tolfa**	**1.12**	**200**	Pg	**Pg**	**11 33 31.8**	**0.0**
	169nm,0.5s						
TRIF	**Trifonti**	**1.18**	**270**	Pg	**Pg**	**11 33 32.7**	**-0.3**
	255nm,0.6s						
TRIF	**Trifonti**	**1.18**	**270**	Pg	**Pg**	**11 33 32.7**	**-0.3**
	255nm,0.6s						
CERT	**Cerreto**	**1.22**	**163**	Pg	**Pg**	**11 33 33.0**	**-0.8**
	367nm,0.7s						
CERT	**Cerreto**	**1.22**	**163**	Pg	**Pg**	**11 33 33.0**	**-0.8**
	367nm,0.7s						
VCEL	**Villa Celiera**	**1.22**	**126**	Pg	**Pg**	**11 33 32.8**	**-1.0**
	475nm,0.4s						
VCEL	**Villa Celiera**	**1.22**	**126**	Pg	**Pg**	**11 33 32.8**	**-1.0**
	475nm,0.4s						
CASP	**Castiglione de**	**1.25**	**255**	Pg	**Pg**	**11 33 32.8**	**-1.6**
	94nm,0.8s						
CASP	**Castiglione de**	**1.25**	**255**	Pg	**Pg**	**11 33 32.8**	**-1.6**
	94nm,0.8s						
POPM	**Popiglio**	**1.57**	**307**	P	**Pn**	**11 33 37.8**	**-0.2**
POPM				S	**Sn**	**11 33 57.8**	**-0.4**
MAIM	**Mastiano**	**1.67**	**299**	P	**Pn**	**11 33 39.3**	**0.0**
SARO	**Sassorosso**	**1.86**	**306**	P	**Pn**	**11 33 41.4**	**-0.6**
NVLJ	**Novalja**	**2.24**	**49**	*e*Pn	**Pn**	**11 33 47.6**	**+0.5**
NVLJ				Sn	**Sn**	**11 34 15.9**	**+1.4**
NVLJ	**Novalja**	**2.24**	**49**	*e*Pn	**Pn**	**11 33 47.6**	**+0.5**
NVLJ				Sn	**Sn**	**11 34 15.9**	**+1.4**
CODM	**Codolo**	**2.31**	**304**	P	**Pn**	**11 33 48.3**	**+0.2**
PGF	**Pioggiola**	**2.64**	**259**	*e*Pn	**Pn**	**11 33 53.6**	**+0.9**
PGF	**Pioggiola**	**2.64**	**259**	*e*Pn	**Pn**	**11 33 53.6**	**+0.9**
UDBI	**Udbina**	**2.75**	**58**	*e*Pn	**Pn**	**11 33 55.9**	**+1.7**
UDBI				Sn	**Sn**	**11 34 29.5**	**+2.2**
UDBI	**Udbina**	**2.75**	**58**	*e*Pn	**Pn**	**11 33 55.8**	**+1.7**
UDBI				Sn	**Sn**	**11 34 29.4**	**+2.2**
CEY	**Cerknica**	**2.96**	**27**	*e*Pn	**Pn**	**11 33 57.7**	**+0.7**
JAVS	**Javornik**	**2.99**	**21**	*i* Pn	**Pn**	**11 33 58.1**	**+0.6**
JAVS				*i* Sn	**Sn**	**11 34 34.6**	**+1.3**
JAVS	**Javornik**	**2.99**	**21**	Pn	**Pn**	**11 33 58.1**	**+0.6**
JAVS				*i* Sn	**Sn**	**11 34 34.6**	**+1.3**
VOJS	**Vojsko**	**3.08**	**18**	*i* Pn	**Pn**	**11 33 59.4**	**+0.7**
VOJS				*i* Sn	**Sn**	**11 34 37.9**	**+2.5**
VOJS	**Vojsko**	**3.08**	**18**	*i* Pn	**Pn**	**11 33 59.4**	**+0.7**
VOJS				*i* Sn	**Sn**	**11 34 37.9**	**+2.5**
ROBS	**Robic**	**3.21**	**13**	*i* Pn	**Pn**	**11 34 01.4**	**+0.9**
ROBS				*i* Sn	**Sn**	**11 34 39.6**	**+1.1**
CADS	**Cadrg**	**3.23**	**15**	*i* Pn	**Pn**	**11 34 01.7**	**+0.9**
CADS				*i* Sn	**Sn**	**11 34 40.8**	**+1.6**
LJU	**Ljubljana**	**3.26**	**26**	*e*Pn	**Pn**	**11 34 02.9**	**+1.7**
CRES	**Cresnjev**	**3.43**	**37**	*e*Pn	**Pn**	**11 34 05.5**	**+2.0**
MYKA	**Terra Mystica**	**3.60**	**13**	*i* Pn	**Pn**	**11 34 08.0**	**+2.1**
	2.1nm,0.2s						
MYKA				*i* Sn	**Sn**	**11 34 51.1**	**+2.8**
	7.3nm,0.3s						
MYKA	**Terra Mystica**	**3.60**	**13**	Pn	**Pn**	**11 34 08.0**	**+2.1**
	2.1nm,0.2s						
MYKA				Sn	**Sn**	**11 34 51.1**	**+2.8**
	7.3nm,0.3s						
ABTA	**Abfaltersbach**	**3.63**	**0**	*i* Pn	**Pn**	**11 34 08.9**	**+2.6**
	19nm,0.4s,SNR=19						
ABTA				*i* Sn	**Sn**	**11 34 52.3**	**+3.3**
	39nm,0.5s						
ABTA	**Abfaltersbach**	**3.63**	**0**	Pn	**Pn**	**11 34 08.9**	**+2.6**
	19nm,0.4s,SNR=19						
ABTA				Sn	**Sn**	**11 34 52.3**	**+3.3**
	39nm,0.5s						
OBKA	**Obir**	**3.69**	**22**	*i* Pn	**Pn**	**11 34 08.8**	**+1.7**
	2.5nm,0.2s						
OBKA	**Obir**	**3.69**	**22**	Pn	**Pn**	**11 34 08.8**	**+1.7**
	2.5nm,0.2s						
BLY	**Banja Luka**	**3.75**	**63**	*e*Pn	**Pn**	**11 34 10.9**	**+3.0**
SBF	**Sospel**	**3.77**	**283**	*e*Pn	**Pn**	**11 34 08.8**	**+0.7**
SBF				*e*Sn	**Sn**	**11 34 48.7**	**-3.6**
	13nm,0.4s						
SBF	**Sospel**	**3.77**	**283**	*e*Pn	**Pn**	**11 34 08.8**	**+0.7**
SBF				*e*Sn	**Sn**	**11 34 48.7**	**-3.6**
	6.3nm,0.4s						
KBA	**Koelnbreinsper**	**4.01**	**8**	*i* Pn	**Pn**	**11 34 13.8**	**+2.3**
	7.8nm,0.3s,SNR=11						
KBA				*i* Sn	**Sn**	**11 35 00.1**	**+1.7**
	11nm,0.3s						
KBA	**Koelnbreinsper**	**4.01**	**8**	Pn	**Pn**	**11 34 13.8**	**+2.3**
	7.8nm,0.3s,SNR=11						
KBA				Sn	**Sn**	**11 35 00.1**	**+1.7**
	11nm,0.3s						
FETA	**Feichten**	**4.10**	**343**	*e*Pn	**Pn**	**11 34 16.3**	**+3.4**
	5.5nm,0.5s						
FETA				*i* Sn	**Sn**	**11 35 01.5**	**+0.7**
	6.4nm,0.7s						
FETA	**Feichten**	**4.10**	**343**	Pn	**Pn**	**11 34 16.3**	**+3.4**
	5.5nm,0.5s						
FETA				Sn	**Sn**	**11 35 01.5**	**+0.7**
	6.4nm,0.7s						
WTTA	**Wattenberg**	**4.19**	**352**	*i* Pn	**Pn**	**11 34 17.9**	**+3.8**
	2.6nm,0.2s						
WTTA	**Wattenberg**	**4.19**	**352**	Pn	**Pn**	**11 34 17.9**	**+3.8**
	2.6nm,0.2s						
WATA	**Walderalm**	**4.27**	**351**	*i* Pn	**Pn**	**11 34 19.0**	**+3.8**
	SNR=6.1						
WATA	**Walderalm**	**4.27**	**351**	Pn	**Pn**	**11 34 19.0**	**+3.8**
	SNR=6.1						
FRF	**La Foret Royal**	**4.30**	**278**	*e*Pn	**Pn**	**11 34 15.6**	**+0.2**
FRF	**La Foret Royal**	**4.30**	**278**	*e*Pn	**Pn**	**11 34 15.6**	**+0.2**
MOTA	**Moosalm**	**4.34**	**347**	*i* Pn	**Pn**	**11 34 19.9**	**+3.8**
MOTA	**Moosalm**	**4.34**	**347**	Pn	**Pn**	**11 34 20.0**	**+3.8**
LMR	**La Mourre**	**4.39**	**275**	*e*Pn	**Pn**	**11 34 16.9**	**+0.3**
LMR	**La Mourre**	**4.39**	**275**	*e*Pn	**Pn**	**11 34 16.9**	**+0.3**
BRY	**Bratogost**	**4.43**	**91**	*e*Pn	**Pn**	**11 34 19.2**	**+1.9**
MBDF	**Montbardon**	**4.45**	**293**	*e*P	**Pn**	**11 34 19.6**	**+2.0**
MBDF				*e*Sn	**Sn**	**11 35 05.3**	**-3.9**
	3.6nm,0.3s						
MBDF	**Montbardon**	**4.45**	**293**	*e*P	**Pn**	**11 34 19.6**	**+2.0**
MBDF				*e*Sn	**Sn**	**11 35 05.3**	**-3.9**
	1.8nm,0.3s						
RETA	**Reutte**	**4.54**	**345**	*i* Pn	Pn	11 34 23.1	+4.3
RETA	**Reutte**	**4.54**	**345**	Pn	Pn	11 34 23.1	+4.3
DAVA	**Damuels**	**4.56**	**337**	*e*Pn	**Pn**	**11 34 22.9**	**+3.7**
	12nm,0.6s						
DAVA				*i* Sn	**Sn**	**11 35 16.2**	**+4.0**
	16nm,0.3s						
DAVA	**Damuels**	**4.56**	**337**	Pn	**Pn**	**11 34 22.9**	**+3.7**
	12nm,0.6s						
DAVA				Sn	**Sn**	**11 35 16.2**	**+4.0**
	16nm,0.3s						
ARSA	**Arzberg**	**4.65**	**26**	*i* Pn	**Pn**	**11 34 21.5**	**+1.2**
	2.2nm,0.3s						
ARSA				*i* Sn	**Sn**	**11 35 14.3**	**+0.2**
	5.9nm,0.4s						
ARSA	**Arzberg**	**4.65**	**26**	Pn	**Pn**	**11 34 21.5**	**+1.2**
	2.2nm,0.3s						
ARSA				Sn	**Sn**	**11 35 14.3**	**+0.2**
	5.9nm,0.4s						
UPM	**Unac-Piva**	**4.68**	**87**	*e*Pn	**Pn**	**11 34 23.6**	**+2.8**
LPG	**La Plagne**	**4.77**	**302**	*e*Pn	**Pn**	**11 34 20.7**	**-1.4**
LPG	**La Plagne**	**4.77**	**302**	*e*P	**Pn**	**11 34 24.9**	**+2.8**
LPG	**La Plagne**	**4.77**	**302**	*e*Pn	**Pn**	**11 34 20.7**	**-1.4**
LPG	**La Plagne**	**4.77**	**302**	*e*P	**Pn**	**11 34 24.9**	**+2.8**
LPL	**La Plagne**	**4.79**	**302**	*e*P	**Pn**	**11 34 24.7**	**+2.4**
LPL				*e*Sn	**Sn**	**11 35 13.9**	**-3.9**
	3.9nm,0.4s						
LPL	**La Plagne**	**4.79**	**302**	*e*P	**Pn**	**11 34 24.7**	**+2.4**
LPL				*e*Sn	**Sn**	**11 35 13.9**	**-3.9**
	2.0nm,0.4s						
MOA	**Molln**	**4.89**	**14**	*i* Pn	**Pn**	**11 34 25.6**	**+2.0**
	3.6nm,0.2s						
MOA				*i* Sn	**Sn**	**11 35 20.7**	**+0.7**
MOA	**Molln**	**4.89**	**14**	Pn	**Pn**	**11 34 25.6**	**+2.0**
	3.6nm,0.2s						
MOA				Sn	**Sn**	**11 35 20.7**	**+0.7**
DRME	**Dracevica, Mon**	**5.01**	**98**	*e*Pn	**Pn**	**11 34 27.2**	**+2.0**
BBLS	**Lazići**	**5.07**	**79**	*e*Pn	**Pn**	**11 34 27.9**	**+1.8**
ORIF	**Oris-en-Rattie**	**5.11**	**293**	*e*P	**Pn**	**11 34 29.4**	**+2.8**
ORIF	**Oris-en-Rattie**	**5.11**	**293**	*e*P	**Pn**	**11 34 29.4**	**+2.8**
SMRF	**Simiane la Rot**	**5.11**	**282**	*e*P	**Pn**	**11 34 29.1**	**+2.5**
SMRF	**Simiane la Rot**	**5.11**	**282**	*e*P	**Pn**	**11 34 29.1**	**+2.5**
TEKS	**Tekeris**	**5.28**	**72**	*e*Pn	**Pn**	**11 34 30.6**	**+1.7**
CONA	**Conrad Observa**	**5.36**	**25**	*i* Pn	**Pn**	**

18nm,0.3s,baz=203,slow=28,SNR=144
MAT Matsushiro 2.51 356 P **Pn 11 44 18.3 -0.2**
MAT S **S 11 44 56.5 -0.5**
MAT Matsushiro 2.51 356 P **Pn 11 44 18.4 -0.1**
MAT *e*S **S 11 44 56.8 -0.2**
JAG Ashikaga 2.54 20 ⇑P **Pn 11 44 17.5 -1.3**
JWT Wachi 2.77 298 ⇑P **Pn 11 44 21.3 +0.2**
JWT *e*S **S 11 45 00.0 -1.6**
JKG Kaga 2.81 323 ⇑P **Pn 11 44 21.7 +0.2**
JKG *e*S **S 11 45 03.0 +0.7**
JAI Aioi 3.29 267 ⇓P **Pn 11 44 26.3 -0.4**
JAI S **S 11 45 10.5 -1.1**
JSZ Suzu 3.51 346 P **Pn 11 44 28.8 -0.2**
JSZ *e*S **S 11 45 15.8 -0.1**
JNU Nakatsue 6.35 264 P **Pn 11 45 03.2 +0.3**
1.4nm,0.3s,baz=82,slow=4.5,SNR=9.5
JCJ Chichijima 7.64 154 P Pn 11 45 12.9 -6.2
1.9nm,0.3s,baz=150,slow=23,SNR=14
JCJ S S 11 46 34.0 -13
22nm,0.3s,baz=256,slow=20,SNR=11
KSRS Korea Array 9.18 295 P **Pn 11 45 39.5 +1.2**
0.3nm,0.3s,baz=107,slow=13,SNR=16
ASAJ Asahikawa 10.58 17 P **Pn 11 45 55.9 +0.2**
1.1nm,0.3s,baz=173,slow=0.0,SNR=9.4
ASAJ S S 11 47 42.4 -12
0.3nm,0.3s,baz=276,slow=19,SNR=2.0
USRK Ussuriysk Ar. 11.30 336 P **Pn 11 46 04.7 0.0**
0.2nm,0.3s,baz=118,slow=12,SNR=3.6
KLR Kul'dur 15.97 344 P **P 11 46 59.3 -0.3**
0.4nm,0.3s,baz=150,slow=8.8,SNR=9.0
SONM Songino Array 27.61 310 P **P 11 48 54.6 +1.1**
2.1nm,0.5s,baz=108,slow=9.5,SNR=7.2
H11N2 WAKE ISLAND Hy 29.02 112 T T 12 18 57.0
baz=306,slow=75,SNR=4.7
H11N1 WAKE ISLAND Hy 29.02 112 T T 12 18 56.0
baz=306,slow=75,SNR=4.3
H11N3 WAKE ISLAND Hy 29.03 112 T T 12 18 58.4
baz=306,slow=75,SNR=4.4
CMAR Chiang Mai Arr 38.38 256 P **P 11 50 26.5 0.0**
0.3nm,0.3s,baz=44,slow=8.6,SNR=4.4
ZALV Zalesovo Beam 42.20 315 P **P 11 50 56.1 -1.1**
0.5nm,0.4s,baz=107,slow=9.7,SNR=2.3
MKAR Makanchi Array 43.70 304 P **P 11 51 09.9 +0.6**
1.3nm,0.4s,baz=89,slow=9.9,SNR=14
KURBB Kurchatov Arra 45.98 310 P **P 11 51 27.4 +0.3**
1.3nm,0.4s,baz=90,slow=7.3,SNR=26
BVAR Borovoye Array 50.82 314 P **P 11 52 04.1 +0.3**
0.6nm,0.4s,baz=84,slow=5.9,SNR=3.6
FITZ Fitzroy Crossi 53.25 195 P **P 11 52 21.3 -0.7**
1.6nm,0.4s,baz=18,slow=7.2,SNR=12
WRA Warramunga Arr 53.81 185 P **P 11 52 24.8 -1.3**
2.9nm,0.3s,baz=360,slow=7.6,SNR=108
ASAR Alice Springs 57.54 185 P **P 11 52 51.2 -1.2**
0.8nm,0.5s,baz=18,slow=9.9,SNR=22
INK Inuvik 58.16 26 P **P 11 52 56.4 +0.3**
0.7nm,0.6s,baz=288,slow=20,SNR=3.3
FINES FINESS Array B 70.31 332 P **P 11 54 15.6 +0.8**
0.4nm,0.5s,baz=76,slow=32,SNR=3.7
TXAR Lajitas Array 93.91 51 P **P 11 56 19.4 +1.1**
0.7nm,0.8s,baz=286,slow=5.8,SNR=6.8
LPAZ La Paz 150.32 60 PKPbc **PKPbc 12 02 51.2 -0.3**
1.4nm,0.7s,baz=46,slow=5.7,SNR=6.5

NIED ***17*** *12:09:00,32.70N×132.20E,h32km,Mw4.2 Best double couple: M₀2.17000×10¹⁵ NP1:φ₅163.00000°,δ34.00000°, λ-116.00000°. NP2:φ₅13.00000°,δ60.00000°, λ-74.00000°.*
ISCJB ***17*** *12:09:06.5±0.4,32.71N±0.04×132.13E±0.04,h55km±3km, mb3.8/12,MS3.4/7,Error ellipse: s-maj=7.5km s-min=4.5km az=153.9*
IDC ***17*** *12:09:06.4±0.8,32.91N×132.31E,h39km±5km,mb3.7/11, mb1 3.8/11,mb1mx3.7/33,mbtmp3.9/11,MS3.3/11, Ms1 3.3/11,ms1mx3.1/48,Error ellipse: s-maj=25.4km s-min=13.1km az=55.0*
JMA ***17*** *12:09:07.3,32.68N×132.13E,h37km±1km,M4.1 Broadband fault plane solution: P waves. NP1: φ₅10.00000°,δ71.00000°,λ-78.00000°. NP2:φ₅157.00000°, δ22.00000°,λ-121.00000°. Principal axes: T Plg25.0000°, Azm91.0000°; N Plg11.0000°, Azm186.0000°; P Plg62.0000°, Azm298.0000°;*
JMA Felt II J1.
ISC 17 12:09:07.1±0.6,32.69N±0.05×132.13E±0.03,h41km±5km, n37,σ1§17/42,mb3.8/12,MS3.4/7,8C,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUS	**Usuki**	**0.49**	**320**	⇑P	**Pn**	**12 09 17.9**	**+0.1**
JUS				S	**Sn**	**12 09 25.5**	**+0.2**
JKIT	**Kitakata**	**0.57**	**264**	⇑P	**Pn**	**12 09 18.9**	**+0.1**
JKIT				S	**Sn**	**12 09 26.7**	**-0.4**
JTO	**Tosashimizu**	**0.59**	**73**	⇑P	**Pn**	**12 09 19.1**	**0.0**
JTO				S	**Sn**	**12 09 27.8**	**+0.1**
UWA2	**Uwa jima 2**	**0.67**	**38**	⇑P	**Pn**	**12 09 20.1**	**-0.1**
UWA2				S	**Sn**	**12 09 29.8**	**+0.2**
JTSN	**Tsuno**	**0.69**	**230**	⇑P	**Pn**	**12 09 20.4**	**0.0**
JTSN				*e*S	**Sn**	**12 09 30.4**	**+0.5**
JNA	**Nagahama**	**0.92**	**19**	⇑P	**Pn**	**12 09 23.7**	**+0.2**
JNA				*e*S	**Sn**	**12 09 35.4**	**-0.1**
JKU	**Kubokawa**	**1.00**	**52**	⇑P	**Pn**	**12 09 24.8**	**+0.1**
JKU				S	**Sn**	**12 09 37.5**	**-0.1**
JIU2	**Izumi 2**	**1.12**	**263**	⇑P	**Pn**	**12 09 27.6**	**+1.4**
JNU	**Nakatsue**	**1.14**	**293**	Pn	**Pn**	**12 09 28.0**	**+1.4**
	269nm,0.3s,baz=107,slow=4.4,SNR=1816						
JNU				Sn	**Sn**	**12 09 43.4**	**+2.4**
	1μm,0.3s,baz=323,slow=15,SNR=96						
JNU				LR	LR	12 10 09.4	
	comp=Z,800nm,18.6s,baz=122,slow=52						
JTZ	**Takazaki**	**1.18**	**229**	P	**Pn**	**12 09 27.8**	**+0.7**
JET	**Tanbara**	**1.33**	**35**	P	**Pn**	**12 09 29.9**	**+0.6**
KSRS	**Korea Array**	**5.87**	**325**	Pn	**Pn**	**12 10 33.1**	**+1.6**
	1.2nm,0.3s,baz=144,slow=14,SNR=37						
KSRS				Sn	**Sn**	**12 11 38.6**	**+1.1**
	1.2nm,0.3s,baz=155,slow=27,SNR=4.8						
KSRS				LR	LR	12 13 08.2	
	comp=Z,176nm,19.2s,baz=124,slow=42						
MAT	**Matsushiro**	**6.32**	**51**	P	**Pn**	**12 10 38.9**	**+1.2**
MAT				*e*S	**Sn**	**12 11 51.4**	**+2.8**
MJAR	**Matsushiro Arr**	**6.32**	**51**	Pn	**Pn**	**12 10 39.5**	**+1.8**
	1.8nm,0.3s,baz=272,slow=19,SNR=22						
MJAR				LR	LR	12 13 21.5	
	comp=Z,170nm,18.8s,baz=70,slow=42						
JHJ	**Hachijo jima 2**	**6.45**	**84**	Pn	**Pn**	**12 10 40.4**	**+0.8**
	28nm,0.3s,baz=60,slow=22,SNR=9.1						
JHJ				LR	LR	12 12 53.0	
	comp=Z,139nm,20.9s,baz=304,slow=36						
USRK	**Ussuriysk Ar.**	**11.49**	**360**	LR	LR	12 16 10.4	
	comp=Z,116nm,18.3s,baz=187,slow=38						
KLR	**Kul'dur**	**16.53**	**359**	Pn	**P**	**12 12 59.8**	**+1.9**
	1.1nm,0.3s,baz=167,slow=10,SNR=50						
SONM	**Songino Array**	**24.63**	**315**	P	**P**	**12 14 22.0**	**-1.8**
	2.5nm,0.9s,baz=119,slow=9.1,SNR=8.7						
SONM				LR	LR	12 25 19.2	
	comp=Z,121nm,18.3s,baz=284,slow=40						
YAK	**Yakutsk**	**29.40**	**358**	LR	LR	12 25 30.1	
	comp=Z,75nm,21.9s,baz=147,slow=34						
CMAR	**Chiang Mai Arr**	**32.96**	**253**	LR	LR	12 30 34.6	
	comp=Z,47nm,19.5s,baz=90,slow=39						
SIJI	**Sorong**	**33.39**	**182**	LR	LR	12 28 23.4	
	comp=Z,71nm,20.9s,slow=34						
H11S3	**WAKE ISLAND Hy**	**34.05**	**106**	T	T	12 52 10.7	
	baz=291,slow=74						
H11S1	**WAKE ISLAND Hy**	**34.06**	**106**	T	T	12 52 18.9	
	baz=291,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.07**	**106**	T	T	12 52 16.2	
	baz=291						
ZALV	**Zalesovo Beam**	**39.51**	**317**	LR	LR	12 33 38.9	
	comp=Z,59nm,20.4s,baz=68,slow=37						
MKAR	**Makanchi Array**	**40.16**	**306**	P	**P**	**12 16 38.2**	**-0.9**
	0.3nm,0.4s,baz=94,slow=11,SNR=3.6						
MKAR				sP	**sP**	**12 16 53.9**	**-1.5**
	1.9nm,0.8s,baz=96,slow=8.7,SNR=5.4						
MKAR				LR	LR	12 34 36.6	
	comp=Z,47nm,20.8s,baz=8.5,slow=38						
WRA	**Warramunga Arr**	**52.38**	**177**	P	**P**	**12 18 15.4**	**+0.2**
	1.4nm,0.8s,baz=353,slow=8.3,SNR=7.8						
WRA				pP	**pP**	**12 18 26.6**	**-0.3**
	1.8nm,0.7s,baz=355,slow=8.3,SNR=7.1						
ASAR	**Alice Springs**	**56.06**	**178**	P	**P**	**12 18 43.3**	**+1.2**
	0.6nm,0.8s,baz=9.6,slow=6.1,SNR=7.5						
ASAR				pP	**pP**	**12 18 55.0**	**+1.1**
	1.1nm,0.6s,baz=11,slow=13,SNR=8.1						
ILAR	**Eielson Array**	**57.16**	**30**	P	**P**	**12 18 50.7**	**+1.2**
	0.5nm,0.7s,baz=291,slow=6.6,SNR=8.3						
STKA	**Stephens Creek**	**64.84**	**171**	P	**P**	**12 19 42.7**	**+1.0**
	2.4nm,0.8s,baz=348,slow=14,SNR=2.5						
STKA				pP	**pP**	**12 19 54.5**	**+0.7**
	2.3nm,0.7s,baz=313,slow=8.1,SNR=2.3						
ARCES	**ARCESS Array B**	**65.27**	**338**	LR	LR	12 53 02.6	
	comp=Z,41nm,18.5s,baz=97,slow=40						
KBZ	**Khabaz**	**67.76**	**308**	P	**P**	**12 20 00.2**	**-0.3**
	1.7nm,0.7s,baz=162,slow=24,SNR=4.0						
FINES	**FINESS Array B**	**68.94**	**330**	P	**P**	**12 20 06.2**	**-1.4**
	0.8nm,0.9s,baz=29,slow=4.4,SNR=5.5						
YKA	**Yellowknife Ar**	**71.25**	**27**	P	**P**	**12 20 20.4**	**-1.3**
	1.3nm,0.8s,baz=302,slow=5.3,SNR=7.0						
AKASG	**Malin Array Be**	**72.84**	**320**	P	**P**	**12 20 30.9**	**-0.6**
	0.5nm,0.4s,baz=62,slow=7.2,SNR=4.7						
NOA	**NORSAR Array B**	**75.01**	**334**	P	**P**	**12 20 42.7**	**-1.3**
	0.8nm,1.0s,baz=44,slow=4.5,SNR=2.5						
BRTR	**Keskin Array B**	**75.75**	**308**	P	**P**	**12 20 47.3**	**-1.5**
	1.4nm,0.9s,baz=93,slow=4.9,SNR=7.4						

ISK ***17*** *12:09:55.7,39.01N×29.18E,h11km,ML1.9*
ISCJB ***17*** *12:09:56.6±0.7,39.10N±0.05×28.99E±0.05,h9km,Error ellipse: s-maj=8.3km s-min=4.2km az=147.3*
DDA ***17*** *12:09:56.7,39.11N×28.98E,h7km,Md2.5*
CSEM ***17*** *12:09:56.7±0.2,39.10N×28.98E,h5km,ML1.9,Error ellipse: s-maj=7.0km s-min=4.0km az=137.0*
ISC 17 12:09:56.8±1.1,39.12N±0.04×28.98E±0.03,h9km,n10, σ0§48/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**251**	P	**Pg**	**12 10 01.5**	**+0.2**
DEMI				S	**Sg**	**12 10 04.7**	**+0.3**
DEMI	**Demirci**	**0.22**	**251**	*i* P	**Pg**	**12 10 01.5**	**+0.2**
DEMI				*i* S	**Sg**	**12 10 04.7**	**+0.3**
GDZ	**Gediz**	**0.39**	**94**	P	**Pg**	**12 10 04.8**	**+0.2**
GDZ				S	**Sg**	**12 10 10.2**	**+0.5**
GDZ	**Gediz**	**0.39**	**94**	*i* P	**Pg**	**12 10 04.8**	**+0.2**
GDZ				*i* S	**Sg**	**12 10 10.2**	**+0.5**
TVSB	**Tavsanli**	**0.50**	**48**	*e*PG	**Pg**	**12 10 05.8**	**-0.8**
TVSB				*e*SG	**Sg**	**12 10 13.1**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**48**	*e*Pg	**Pg**	**12 10 05.8**	**-0.8**
TVSB				*e*Sg	**Sg**	**12 10 13.1**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*PG	**Pg**	**12 10 08.7**	**-0.7**
KULA				*e*SG	**Sg**	**12 10 17.7**	**-0.2**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*Pg	**Pg**	**12 10 08.7**	**-0.7**
KULA				*e*Sg	**Sg**	**12 10 17.7**	**-0.2**
ARMT	**Armutlu**	**1.45**	**356**	*e*PN	**Pb**	**12 10 24.3**	**+0.3**
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn	**Pb**	**12 10 24.3**	**+0.3**

KRNET ***17*** *12:12:32.4±0.1,39.93N×77.31E,mb3.6*
SOME ***17*** *12:12:34.6,40.28N×77.32E,h0km*
NNC ***17*** *12:12:38.6±1.8,40.39N×77.34E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=17.7km s-min=9.1km az=172.0*
ISC 17 12:12:33.6±2.0,40.0N±0.1×77.19E±0.04,h10km,n37, σ2§03/71,32C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.38**	**343**	⇑*i*P	**Pb**	**12 13 14.8**	**-2.0**
	baz=341						
ULHL				⇑*i*S	**Sb**	**12 13 44.4**	**-1.9**
	baz=341						
KZA	**Kyzart**	**2.57**	**326**	⇑*i*P	**Pb**	**12 13 18.0**	**-2.0**
	baz=325						
KZA				⇑*i*S	**Sb**	**12 13 52.0**	**+0.2**
	baz=325						
PRZ	**Przheval'sk**	**2.67**	**20**	⇑*i*P	**Pn**	**12 13 18.2**	**+1.3**
	baz=18						
PRZ				⇑*i*S	**Sb**	**12 13 52.3**	**-2.2**
	baz=18						
BOOM	**Boomskoye usch**	**2.69**	**340**	⇑*e*P	**Pb**	**12 13 19.4**	**-2.6**
	baz=338						
BOOM				⇑*i*S	**Sb**	**12 13 54.6**	**-0.5**
	baz=338						
ANVS	**Anan'yevo**	**2.83**	**7**	⇓*e*P	**Pn**	**12 13 20.6**	**+1.5**
	baz=5.0						
ANVS				⇓*i*S	**Sb**	**12 13 57.9**	**-1.3**
	baz=5.0						
ARLS	**Aral**	**2.88**	**312**	⇑*i*P	**Pb**	**12 13 23.6**	**-1.6**
	baz=312						
ARLS				⇑*i*S	**Sb**	**12 14 00.4**	**-0.2**
	baz=312						
UCH	**Uchtor**	**3.03**	**319**	⇑*i*P	**Pb**	**12 13 24.9**	**-3.1**
	baz=318						
UCH				⇑*i*S	**Sb**	**12 14 03.3**	**-1.9**
	baz=318						
TNSS	**Tian-Shan**	**3.08**	**357**	*e*P	**Pb**	**12 13 27.2**	**-1.5**
	56nm,0.5s						
TNSS				*e*S	**Sb**	**12 14 05.1**	**-1.3**
	235nm,0.7s						
IZV	**Izvestkoviy**	**3.09**	**352**	*e*P	**Pb**	**12 13 27.3**	**-1.6**
	46nm,0.5s						
IZV				*e*S	**Sb**	**12 14 05.3**	**-1.4**
	139nm,0.5s						
KBK	**Karagaybulak**	**3.17**	**329**	⇑*i*P	**Pb**	**12 13 26.6**	**-3.6**
	baz=328						
KBK				⇑*i*S	**Sb**	**12 14 05.7**	**-3.3**
	baz=328						
TKM2	**Tokmak 2**	**3.18**	**338**	⇑*i*P	**Pn**	**12 13 26.1**	**+2.1**
	baz=337						
TKM2				⇑*i*S	**Sn**	**12 14 04.6**	**+2.5**
	baz=337						
TKM2	**Tokmak 2**	**3.18**	**338**	⇑Pn	**Pn**	**12 13 26.1**	**+2.1**
	11nm,0.7s						
TKM2				⇓Lg	Lg	12 14 09.8	
	63nm,0.6s						
MDOK	**Medeo**	**3.19**	**358**	⇑*i*P	**Pb**	**12 13 29.4**	**-1.1**
	36nm,0.5s						
MDOK				⇓*i*S	**Sb**	**12 14 09.2**	**-0.4**
	152nm,0.7s						
KST	**Kastek**	**3.21**	**344**	⇑*i*P	**Pb**	**12 13 29.2**	**-1.6**
	2.2nm,0.3s						
KST				*e*S	**Sb**	**12 14 09.2**	**-0.7**
	67nm,0.8s						
SATY	**Saty**	**3.22**	**16**	*e*P	**Pb**	**12 13 29.0**	**-2.0**
	68nm,0.7s						
SATY				*e*S	**Sb**	**12 14 07.9**	**-2.4**
	97nm,0.9s						
KOTS	**Kotyrbulak**	**3.26**	**359**	*e*P	**Pb**	**12 13 30.6**	**-1.1**
KOTS				*e*S	**Sb**	**12 14 10.5**	**-1.1**
ZHN	**Zhinishke**	**3.33**	**16**	*e*P	**Pb**	**12 13 31.6**	**-1.2**
	24nm,0.6s						
ZHN				*e*S	**Sb**	**12 14 11.9**	**-1.5**
	55nm,0.5s						
AAK	**Ala-Archa**	**3.35**	**323**	⇑*i*P	**Pn**	**12 13 29.0**	**+2.8**
	baz=323						
AAK				⇑*i*S	**Sb**	**12 14 10.4**	**-3.6**
	baz=323						
AAK	**Ala-Archa**	**3.35**	**323**	⇑Pn	**Pn**	**12 13 29.0**	**+2.8**
	17nm,0.6s						
AAK				⇓Lg	Lg	12 14 15.2	
	95nm,0.9s						
FRU1	**Bishkek**	**3.43**	**327**	⇓*e*P	**Pn**	**12 13 29.9**	**+2.7**
	baz=326						
FRU1				⇓*e*S	**Sb**	**12 14 12.2**	**-4.1**
	baz=326						
DGS	**Degeres**	**3.44**	**342**	*e*P	**Pb**	**12 13 33.8**	**-0.9**
	14nm,0.6s						
DGS				*e*S	**Sb**	**12 14 16.4**	**-0.2**
	66nm,0.9s						
UZB	**Uzynbulak**	**3.46**	**23**	*e*P	**Pb**	**12 13 33.0**	**-2.1**
	14nm,0.7s						
UZB				*e*S	**Sb**	**12 14 15.2**	**-2.0**
	38nm,0.8s						
CHMS	**Chumysh**	**3.54**	**330**	⇓*i*P	**Pn**	**12 13 31.0**	**+2.3**
	baz=329						
CHMS				⇓*i*S	**Sn**	**12 14 14.3**	**+3.7**
	baz=329						
KURS	**Kuram**	**3.59**	**11**	*e*P	**Pb**	**12 13 36.0**	**-1.2**
KURS				*e*S	**Sb**	**12 14 20.2**	**-0.7**
KPKS	**Kokpek**	**3.67**	**17**	*e*P	**Pb**	**12 13 36.9**	**-1.6**
	33nm,0.4s						
KPKS				*e*S	**Sb**	**12 14 21.7**	**-1.5**
	49nm,0.5s						
KTBS	**Karatobe**	**3.76**	**354**	*e*P	**Pb**	**12 13 38.5**	**-1.6**
KTBS				*e*S	**Sb**	**12 14 24.0**	**-1.7**
PDGK	**Podgornoye**	**3.77**	**26**	⇑*e*P	**Pn**	**12 13 33.4**	**+1.6**
	baz=25						
PDGK				⇑*i*S	**Sn**	**12 14 18.6**	**+2.5**
	baz=25						
PDGK	**Podgornoye**	**3.77**	**26**	⇑Pn	**Pn**	**12 13 31.9**	**+0.1**
	3.3nm,0.4s						
PDGK				⇑Pg	**Pb**	**12 13 38.9**	**-1.3**
	11nm,0.5s						
PDGK				⇑Lg	Lg	12 14 26.5	
	68nm,0.6s						
SHLS	**Shalkode**	**3.77**	**31**	*e*P	**Pb**	**12 13 38.4**	**-2.0**
	16nm,0.4s						
SHLS				*e*S	**Sb**	**12 14 24.2**	**-2.0**
	76nm,0.4s						
CHKK	**Chushkaly**	**3.90**	**358**	*e*P	**Pb**	**12 13 41.5**	**-1.0**
	20nm,0.5s						
CHKK				*e*S	**Sb**	**12 14 29.4**	**-0.3**
	158nm,0.5s						
KUU	**Kurty**	**3.97**	**351**	*e*P	**Pb**	**12 13 43.1**	**-0.7**
	17nm,0.4s						
KUU				⇑*i*S	**Sb**	**12 14 32.4**	**+0.6**
	53nm,0.6s						
KTMS	**Ketmen**	**4.20**	**33**	*e*P	**Pb**	**12 13 46.1**	**-1.6**
	2.7nm,0.4s						
KTMS				*e*S	**Sb**	**12 14 37.7**	**-0.9**
	29nm,0.9s						
ARXS	**Arharly**	**4.27**	**6**	*e*P	**Pb**	**12 13 47.6**	**-1.1**
	20nm,0.7s						
ARXS				*e*S	**Sb**	**12 14 40.3**	**0.0**
	42nm,0.5s						
MNAS	**Manas**	**4.34**	**307**	⇓*e*P	**Pn**	**12 13 42.2**	**+2.4**
	baz=307						
MNAS				⇓*e*S	**Sn**	**12 14 34.1**	**+3.6**
	baz=307						
MNAS	**Manas**	**4.34**	**307**	⇑Pn	**Pn**	**12 13 43.7**	**+3.9**
	2.5nm,0.5s						
MNAS				⇑Pg	**Pg**	**12 13 56.5**	**-0.2**
	9.1nm,0.7s						
MNAS				⇑Lg	Lg	12 14 50.9	
	9.6nm,0.7s						
DJR	**Jarkent**	**4.77**	**23**	⇓*i*P	**Pb**	**12 13 56.7**	**-0.6**
	11nm,0.6s						
DJR				⇓*i*S	**Sb**	**12 14 57.1**	**+2.3**
	15nm,0.8s						
KK31	**Karatay Array**	**5.91**	**304**	⇑Pg	**Pg**	**12 14 23.7**	**-3.1**
	2.1nm,0.7s,baz=136,slow=15,SNR=8.8						
KK31				⇓Lg	Lg	12 15 40.2	
	5.5nm,0.9s,baz=133,slow=28,SNR=4.7						

IDC 17 12:26:02.6±16.0,4.75S×154.40E,h93km±143km,mb4.0/5, mb1 4.1/6,mb1mx3.5/40,mbtmp4.3/6,ML4.2/1,MS3.8/1, Ms1 3.8/1,ms1mx2.5/37,Error ellipse: s-maj=119.0km s-min=36.7km az=13.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.19**	**207**	P	P	12 29 58.2	+1.0
	0.6nm,0.3s,baz=15,slow=12,SNR=10						
DZM	**Mont Dzumac**	**20.80**	**147**	P	P	12 30 36.9	+0.2
	12nm,0.4s,baz=325,slow=12,SNR=44						
WRA	**Warramunga Arr**	**24.69**	**231**	P	P	12 31 15.7	+0.5
	6.6nm,0.5s,baz=56,slow=10,SNR=137						
ASAR	**Alice Springs**	**27.29**	**224**	P	P	12 31 37.9	-0.7
	1.0nm,0.4s,baz=58,slow=9.6,SNR=46						
STKA	**Stephens Creek**	**29.54**	**202**	P	P	12 31 57.4	-1.1
	3.6nm,1.1s,baz=10,slow=11,SNR=2.2						
FITZ	**Fitzroy Crossi**	**31.09**	**242**	P	P	12 32 12.7	+0.4
	1.5nm,0.5s,baz=52,slow=7.7,SNR=10						
RAO	**Raoul Island**	**35.79**	**136**	LR	LR	12 45 16.0	
	comp=Z,155nm,19.8s,baz=355,slow=32						

DDA ***17*** *12:27:42.3,38.69N×34.69E,h5km,Md2.8,Suspected Mining explosion.*
ISCJB ***17*** *12:27:43.7±0.6,38.73N±0.04×34.68E±0.06,h0km,Error ellipse: s-maj=7.3km s-min=4.3km az=33.3*
CSEM ***17*** *12:27:43.6±0.3,38.74N×34.70E,h1km,MD2.8,Error ellipse: s-maj=8.2km s-min=5.1km az=115.0,Suspected Mining explosion.*
ISK ***17*** *12:27:43.2,38.75N×34.69E,h5km,ML1.9*
ISC 17 12:27:42.8±0.9,38.69N±0.04×34.65E±0.05,h0km,n18, σ0§58/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNS	**Nevsehir-Avano**	**0.19**	**53**	P	**Pg**	**12 27 46.5**	**0.0**
AVNS				S	**Sg**	**12 27 49.5**	**+0.5**
AVNS	**Nevsehir-Avano**	**0.19**	**53**	*i* P	**Pg**	**12 27 46.5**	**0.0**
AVNS				*i* S	**Sg**	**12 27 49.5**	**+0.5**
GULA	**Gulagac**	**0.48**	**223**	*e*PG	**Pb**	**12 27 54.0**	**-0.2**
GULA				*e*SG	**Sb**	**12 28 01.8**	**0.0**
GULA	**Gulagac**	**0.48**	**223**	*e*Pg	**Pb**	**12 27 54.0**	**-0.2**
GULA				*e*Sg	**Sb**	**12 28 01.8**	**0.0**
NIG	**Nigde**	**0.58**	**183**	*e*PG	**Pb**	**12 27 56.4**	**+0.3**
NIG	**Nigde**	**0.58**	**183**	*e*Pg	**Pb**	**12 27 56.4**	**+0.3**
SERE	**Sereflikochisa**	**0.89**	**287**	*e*PG	**Pb**	**12 28 01.2**	**0.0**
SERE	**Sereflikochisa**	**0.89**	**287**	*e*Pg	**Pb**	**12 28 01.2**	**0.0**
CDAG	**Cicekdag**	**0.96**	**347**	P	**Pg**	**12 28 01.2**	**0.0**
CDAG				S	**Sb**	**12 28 15.5**	**-0.1**
CDAG	**Cicekdag**	**0.96**	**347**	*i* P	**Pg**	**12 28 01.2**	**0.0**
CDAG				*i* S	**Sb**	**12 28 15.5**	**-0.1**
YOZ	**Yozgat**	**1.08**	**28**	*e*PG	**Pg**	**12 28 02.4**	**-1.1**
YOZ	**Yozgat**	**1.08**	**28**	*e*Pg	**Pg**	**12 28 02.4**	**-1.1**
AFSR	**Af˙ar-Bala (A**	**1.44**	**302**	*e*PN	**Pb**	**12 28 10.6**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**1.44**	**302**	*e*Pn	**Pb**	**12 28 10.6**	**-0.1**
CORM	**Corum**	**1.48**	**359**	*e*PN	**Pn**	**12 28 10.4**	**-0.5**
CORM	**Corum**	**1.48**	**359**	*e*Pn	**Pn**	**12 28 10.4**	**-0.5**
COAL	**Corum-Alaca**	**1.58**	**9**	P	**Pg**	**12 28 13.3**	**+0.1**
COAL	**Corum-Alaca**	**1.58**	**9**	*i* P	**Pg**	**12 28 13.3**	**+0.1**
COAL				*i* S	**Sg**	**12 28 35.5**	**+1.8**

ISCJB ***17*** *12:46:09.2±0.4,0.10S±0.10×15.94W±0.09,h10km, mb4.4/17,MS3.9/12,Error ellipse: s-maj=15.9km s-min=9.9km az=141.5*
IDC ***17*** *12:46:09.3±0.8,0.12S×15.98W,h0km,mb4.2/13, mb1 4.3/14,mb1mx4.0/46,mbtmp4.2/14,ML3.8/1,MS3.9/13, Ms1 3.9/13,ms1mx3.7/26,Error ellipse: s-maj=30.1km s-min=19.2km az=130.0*
NEIC ***17*** *12:46:10.9±0.4,0.12S×15.92W,h10km,mb4.6/3,Error ellipse: s-maj=15.9km s-min=9.2km az=145.0*
ISC 17 12:46:10.8±0.6,0.2S±0.1×15.9W±0.1,h10km,n38, σ1§08/21,mb4.5/17,MS3.9/12,1D,North of Ascension Island

| Code | Station Name | Δ° | AZ° |

comp=Z,59nm,18.1s,baz=176,slow=35
KMBO Kilima Mbogo 53.20 91 LR LR 13 15 56.9
comp=Z,141nm,20.5s,baz=288,slow=34
LPAZ La Paz 53.88 250 LR LR 13 17 22.5
comp=Z,159nm,19.6s,baz=88,slow=35
GERES GERESS Array B 55.10 23 P **P 12 55 43.6 +0.4**
0.6nm,0.6s,baz=224,slow=3.7,SNR=6.7
BBSR BB Station 56.19 310 *eP* **P 12 55 50.9 -0.3**
21nm,1.2s
BRG Berggiesshubel 56.82 22 *eP* **P 12 55 58.3 +2.9**
11nm,1.7s
BRTR Keskin Array B 60.11 43 P **P 12 56 19.6 +0.9**
4.4nm,1.1s,baz=232,slow=6.1,SNR=17
AKASG Malin Array Be 63.49 30 P **P 12 56 40.3 -0.9**
0.3nm,0.3s,baz=232,slow=6.7,SNR=10.0
PLCA Paso Flores 63.78 224 LR LR 13 19 57.4
comp=Z,85nm,21.6s,baz=119,slow=32
NOA NORSAR Array B 64.49 14 P **P 12 56 47.7 +0.1**
1.4nm,0.8s,baz=208,slow=6.6,SNR=2.4
KBZ Khabaz 68.08 42 P **P 12 57 12.2 +1.3**
3.4nm,0.9s,baz=72,slow=24,SNR=5.2
FINES FINESS Array B 69.23 20 P **P 12 57 18.3 +0.7**
1.0nm,0.5s,baz=224,slow=5.3,SNR=6.1
SNAA Sanae 71.90 176 *eP* **P 12 57 34.1 +0.2**
SYO Syowa Base 78.09 162‖ *eP* **P 12 58 08.6 -1.0**
ARU Arti 81.59 33 P **P 12 58 28.5 -0.4**
1.1nm,0.3s,baz=250,slow=8.6,SNR=2.9
MAW Mawson 85.59 158 P **P 12 58 50.2 +1.0**
4.2nm,0.9s,baz=276,slow=11,SNR=5.7
QSPA South Pole Qui 89.92 180 *eP* **P 12 59 10.8 +0.7**
18nm,0.9s
NRIK Noril'sk 94.89 20 LR LR 13 46 02.6
comp=Z,58nm,18.4s,baz=324,slow=38
MKAR Makanchi Array 95.76 43 P **P 12 59 37.5 +0.1**
0.7nm,0.9s,baz=269,slow=5.8,SNR=3.6
PALK Pallekele 96.61 83 LR LR 13 39 13.3
comp=Z,58nm,20.4s,baz=113,slow=33
ASAR Alice Springs 142.35 131 PKhKP PKPpre 13 05 37.3
0.6nm,0.9s,baz=247,slow=1.9,SNR=3.7
WRA Warramunga Arr 144.70 126 PKP **PKPab 13 05 46.7 -0.9**
3.3nm,1.0s,baz=247,slow=2.9,SNR=13

NEIC ***17*** *12:46:55.1,51.37N×175.96W, h22km, mb4.5/48, ML4.4(AEIC), After AEIC.*
ISCJB ***17*** *12:46:57.0±0.5,51.57N±0.05×176.03W±0.04, h56km±3km, mb4.5/43, MS4.0/27, Error ellipse: s-maj=9.3km s-min=3.7km az=163.2*
MOS ***17*** *12:46:56.8±1.4,51.50N×175.86W, h59km, mb4.5/21, Error ellipse: s-maj=10.4km s-min=8.1km az=84.4*
IDC ***17*** *12:46:58.1±0.6,51.54N×176.00W, h55km±6km, mb3.9/21, mb1 4.0/22, mb1mx3.8/53, mbtmp4.2/22, MS4.0/27, Ms1 4.0/27, ms1mx3.9/37, Error ellipse: s-maj=18.0km s-min=11.8km az=166.0*

ISC 17 12:46:57.9±0.6, 51.55N±0.07×176.08W±0.04, h49km±4km, h48km: pP-P, n177, σ1s 74/160, mb4.5/43, MS4.0/27, 6C-2D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.37**	**327**	*ePn*	**Pn**	**12 47 06.6**	**-1.0**
GSCK	**Great Sitkin C**	**0.46**	**354**	*ePn*	**Pn**	**12 47 08.1**	**-0.6**
GSMY	**Great Sitkin M**	**0.49**	**2**	*ePn*	**Pn**	**12 47 08.3**	**-0.6**
GSTD	**Great Sitkin T**	**0.51**	**355**	*ePn*	**Pn**	**12 47 08.8**	**-0.4**
ADAG	**Mount Adagdak**	**0.54**	**323**	*ePn*	**Pn**	**12 47 09.6**	**+0.1**
GSTR	**Great Sitkin T**	**0.54**	**1**	*ePn*	**Pn**	**12 47 09.3**	**-0.3**
KIRH	**Kanaga Island**	**0.72**	**299**	*ePn*	**Pn**	**12 47 11.3**	**-0.5**
KIKV	**Kanaga Island**	**0.75**	**296**	*ePn*	**Pn**	**12 47 11.6**	**-0.6**
KICM	**Kanaga Island**	**0.79**	**298**	*ePn*	**Pn**	**12 47 12.2**	**-0.5**
TAPA	**Tanaga Point A**	**1.11**	**284**	*ePn*	**Pn**	**12 47 16.3**	**-0.7**
TAFL	**Tanaga Flats**	**1.15**	**281**	*ePn*	**Pn**	**12 47 16.7**	**-0.8**
TAFP	**Tanaga Falls P**	**1.23**	**287**	*ePn*	**Pn**	**12 47 18.3**	**-0.4**
KOKL	**Mount Kliuchef**	**1.40**	**56**	*ePn*	**Pn**	**12 47 19.8**	**-1.2**
GAEA	**Gareloi East**	**1.68**	**279**	*ePn*	**Pn**	**12 47 25.1**	**+0.3**
NIKH	**Nikolski High**	**4.66**	**69**	*ePn*	**Pn**	**12 48 05.5**	**-0.1**
NIKH				*eSn*	Sn	12 49 10.5	+12
MSOM	**Makushin Julie**	**6.00**	**64**	*eP*	**Pn**	**12 48 24.4**	**+0.5**
MSOM	**Makushin Julie**	**6.00**	**64**	*ePn*	**Pn**	**12 48 24.4**	**+0.5**
SMY	**Shemya**	**6.16**	**285**	*eP*	**Pn**	**12 48 28.1**	**+1.9**
SMY	**Shemya**	**6.16**	**285**	*ePn*	**Pn**	**12 48 28.1**	**+1.9**
UNV	**Unalaska Valle**	**6.26**	**65**	*ePn*	**Pn**	**12 48 28.9**	**+1.4**
UNV				*eSn*	**Sn**	**12 49 43.2**	**+5.6**
SPIA	**Saint Paul Isl**	**6.58**	**29**	*ePn*	**Pn**	**12 48 35.5**	**+3.5**
SPIA				*eSn*	**Sn**	**12 49 50.7**	**+5.1**
AKUT	**Akutan**	**6.76**	**63**	*ePn*	**Pn**	**12 48 36.7**	**+2.3**
SDPT	**Sand Point**	**10.05**	**62**	*ePn*	**Pn**	**12 49 18.7**	**-0.7**
GAMB	**Gambell**	**12.47**	**9**	*ePn*	**Pn**	**12 49 53.4**	**+1.0**
TNA	**Tin City**	**14.66**	**13**	*ePn*	**Pn**	**12 50 22.2**	**+0.3**
SVW2	**Sparrevohn**	**14.79**	**42**	*ePn*	**P**	**12 50 31.5**	**+2.9**
KDAK	**Kodiak Island**	**14.91**	**56**	*eP*	**Pn**	**12 50 22.8**	**-2.4**
KDAK	**Kodiak Island**	**14.91**	**56**	*ePn*	**Pn**	**12 50 22.8**	**-2.4**
PET	**Petropavlovsk**	**15.51**	**285**	*eP*	**P**	**12 50 37.3**	**+0.6**
PET				*eS*	**Sn**	**12 53 26.4**	**+2.8**
PET	comp=Z,300nm,3.9s			pmax	pmax		
PET	comp=Z,1μm,21.0s			MLR	MLR		
PET	comp=Z,800nm,17.0s			MLR	MLR		
PET	**Petropavlovsk** comp=Z,20nm,1.0s	**15.51**	**285**	*ePn*	**Pn**	**12 50 29.2**	**-3.8**
TT01	**Tatalina**	**15.64**	**36**	*ePn*	**P**	**12 50 40.2**	**+2.1**
TTA	**Tatalina**	**15.66**	**36**	*eP*	**P**	**12 50 40.6**	**+2.2**
TTA	comp=Z,29nm,1.3s			pmax	pmax		
TTA	**Tatalina** comp=Z,29nm,1.3s	**15.66**	**36**	*ePn*	**P**	**12 50 40.5**	**+2.2**
RSO	**Redoubt South**	**15.72**	**46**	*ePn*	**P**	**12 50 39.6**	**+0.4**
PEA1	**Petropavlovsk-**	**16.08**	**286**	*ePn*	**P**	**12 50 42.4**	**-0.6**
PETK	**Petropavlovsk-** comp=Z,0.2nm,0.3s,baz=85,slow=15,SNR=5.6	**16.08**	**286**	P	**P**	**12 50 42.3**	**-0.6**
CNPM	**China Poot** comp=Z,26nm,1.2s	**16.09**	**51**	*ePn*	**Pn**	**12 50 40.2**	**-0.3**
SUA	**Susitna One** comp=Z,5.6nm,0.7s	**17.03**	**45**	*ePn*	**P**	**12 50 53.1**	**-0.5**
PPLA	**Purkeypile** comp=Z,38nm,1.2s	**17.09**	**39**	*ePn*	**P**	**12 50 57.5**	**+3.3**
SEW	**Seward** comp=Z,11nm,0.8s	**17.13**	**50**	*ePn*	**Pn**	**12 50 51.6**	**-1.8**
RC01	**Rabbit Creek A** comp=Z,9.5nm,1.0s	**17.33**	**46**	*ePn*	**P**	**12 50 56.6**	**-0.2**
TRF	**Thorofare Moun** comp=Z,95nm,1.8s	**18.11**	**39**	*eP*	**Pn**	**12 51 08.8**	**+3.1**
BPAW	**Bear Paw Mtn.** comp=Z,13nm,0.8s	**18.18**	**37**	*eP*	**Pn**	**12 51 08.4**	**+2.1**
SML	**Sawmill**	**18.22**	**45**	*eP*	**P**	**12 51 05.6**	**-1.1**
SML	comp=Z,16nm,1.1s			pmax	pmax		
SML	**Sawmill** comp=Z,16nm,1.1s	**18.22**	**45**	*eP*	**P**	**12 51 05.6**	**-1.1**
BILL	**Bilibino**	**18.64**	**339**↑	*iP*	**Pn**	**12 51 12.8**	**+1.0**
BILL	comp=Z,21nm,1.0s			pmax	pmax		
BILL	comp=Z,703nm,21.0s			MLR	MLR		
BILL	**Bilibino** comp=Z,22nm,1.1s	**18.64**	**339**	*eP*	**P**	**12 51 11.2**	**+0.2**
RND	**Reindeer**	**18.66**	**40**	*eP*	**P**	**12 51 11.2**	**-0.3**
RND	comp=Z,17nm,0.8s			pmax	pmax		
RND	**Reindeer** comp=Z,17nm,0.8s	**18.66**	**40**	*eP*	**P**	**12 51 11.2**	**-0.3**
RND				*eS*	**S**	**12 54 44.0**	**+2.7**
SCM	**Sheep Creek Mo**	**18.68**	**45**	*eP*	**Pn**	**12 51 12.0**	**-0.5**
SCM				*e*		12 54 32.6	
SCM	comp=Z,34nm,1.3s			pmax	pmax		
SCM	**Sheep Creek Mo** comp=Z,34nm,1.3s	**18.68**	**45**	*eP*	**Pn**	**12 51 12.0**	**-0.5**
SCM				*eSn*	**Sn**	**12 54 32.6**	**-7.7**
MLY	**Manley** comp=Z,17nm,1.0s	**18.77**	**34**	*eP*	**Pn**	**12 51 13.5**	**-0.1**
MLY				*eSn*	**Sn**	**12 54 34.8**	**-7.7**
MCK	**McKinley**	**18.78**	**39**	*eP*	**Pn**	**12 51 13.8**	**+0.2**
MCK	comp=Z,62nm,1.6s			pmax	pmax		
MCK	**McKinley** comp=Z,62nm,1.6s	**18.78**	**39**	*eP*	**Pn**	**12 51 13.8**	**+0.2**
BWN	**Browne** comp=Z,40nm,0.9s	**18.79**	**38**	*eP*	**P**	**12 51 08.7**	**-4.1**
BWN				*eS*	**S**	**12 54 44.2**	**+0.6**
KLU	**Klutina** comp=Z,11nm,1.1s	**19.20**	**47**	*eP*	**Pn**	**12 51 19.4**	**+0.7**
KLU				*eS*	**S**	**12 54 52.1**	**-0.1**
WRH	**Wood River Hil** comp=Z,12nm,0.9s	**19.46**	**38**	*eP*	**P**	**12 51 19.6**	**-0.5**
WRH				*eS*	**S**	**12 54 52.9**	**-4.2**
RAGM	**Ragged Mountai** comp=Z,11nm,0.8s	**19.50**	**51**	*eP*	**Pn**	**12 51 23.0**	**+0.8**
MDM	**Murphy Dome** comp=Z,19nm,1.0s	**19.64**	**36**	*eP*	**P**	**12 51 21.5**	**-0.6**
CCB	**Clear Creek Bu** comp=Z,21nm,1.4s	**19.65**	**37**	*eP*	**P**	**12 51 20.7**	**-1.4**
BMRM	**Bremner River** comp=Z,14nm,1.0s	**19.67**	**49**	*eP*	**P**	**12 51 21.9**	**-0.6**
COLA	**College**	**19.74**	**37**‖	*eP*	**Pn**	**12 51 25.1**	**+0.1**
HDA	**Harding Lake** comp=Z,12nm,0.8s	**19.87**	**38**	*eP*	**Pn**	**12 51 26.5**	**0.0**
ILAR	**Eielson Array** comp=Z,0.9nm,0.6s,baz=238,slow=9.9,SNR=16	**20.05**	**38**	P	**P**	**12 51 24.2**	**-2.5**
ILB	**Eielson Array**	**20.05**	**38**	*eP*	Pn	12 51 27.8	-0.9
MA2	**Magadan** comp=Z,8.0nm,0.7s,baz=118,slow=13,SNR=4.4	**20.21**	**306**	P	Pn	12 51 33.2	+2.6
COLD	**Coldfoot** comp=Z,13nm,1.0s	**20.25**	**29**	*eP*	Pn	12 51 30.3	-0.7
SEY	**Seymchan** comp=Z,11nm,0.8s,baz=113,slow=11,SNR=19	**20.27**	**316**	P	**P**	**12 51 30.2**	**+1.2**
SEY	**Seymchan**	**20.27**	**316**↑	*iP*	Pn	12 51 33.7	+2.4
DOT	**Dot Lake** comp=Z,58nm,1.0s	**20.73**	**42**	*eP*	**P**	**12 51 33.2**	**-0.7**
EGAK	**Eagle** comp=Z,63nm,1.7s	**22.31**	**40**	*eP*	**P**	**12 51 50.5**	**-0.3**
DAWY	**Dawson** comp=Z,26nm,1.3s	**22.82**	**43**	*eP*	**P**	**12 51 56.0**	**-0.3**
WRAK	**Wrangell Islan** comp=Z,24nm,0.9s	**25.82**	**62**	*eP*	P	12 52 34.1	+10
INK	**Inuvik** comp=Z,1.6nm,0.6s,baz=191,slow=5.8,SNR=6.2	**26.35**	**35**	P	**P**	**12 52 31.3**	**+2.6**
INK	**Inuvik**	**26.35**	**35**	*eP*	**P**	**12 52 28.2**	**-0.6**
INK	comp=Z,7.0nm,1.1s			pmax	pmax		
INK	**Inuvik** comp=Z,7.1nm,1.1s	**26.35**	**35**	*eP*	**P**	**12 52 28.2**	**-0.6**
DLBC	**Dease Lake** comp=Z,375nm,19.5s,baz=287,slow=38	**26.84**	**57**	LR	LR	13 03 49.1	
BBB	**Bella Bella** comp=Z,222nm,21.5s,baz=288,slow=32	**29.20**	**70**	LR	LR	13 02 20.0	
YAK	**Yakutsk** comp=Z,488nm,20.9s,baz=90,slow=36	**30.58**	**311**	LR	LR	13 05 11.1	
TIXI	**Tiksi** comp=Z,298nm,19.7s,baz=102,slow=38	**31.33**	**330**	LR	LR	13 06 47.0	
KLR	**Kul'dur** comp=Z,362nm,21.8s,slow=36	**32.76**	**287**	LR	LR	13 06 31.2	
KLR	**Kul'dur**	**32.76**	**287**	*i* P	**P**	**12 53 25.7**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.7s,baz=285,slow=7.5,SNR=3.2	**33.87**	**47**	P	**P**	**12 53 34.6**	**-0.8**
YKA	comp=Z,43nm,18.1s,baz=0.0,slow=41			LR	LR	13 09 55.1	
YKB5	**Yellowknife Ar**	**33.87**	**47**	*eP*	**P**	**12 53 34.6**	**-0.8**
H11N2	**WAKE ISLAND Hy** baz=18,slow=76,SNR=209	**34.46**	**209**	T	T	13 30 14.1	
H11N3	**WAKE ISLAND Hy** baz=18,slow=76,SNR=175	**34.47**	**209**	T	T	13 30 13.8	
H11N1	**WAKE ISLAND Hy** baz=18,slow=76,SNR=138	**34.48**	**209**	T	T	13 30 14.6	
USRK	**Ussuriysk Ar.** comp=Z,2.8nm,0.6s,baz=61,slow=6.0,SNR=7.2	**34.96**	**279**	P	**P**	**12 53 44.3**	**-0.6**
USRK	comp=Z,299nm,21.6s,baz=39,slow=35			LR	LR	13 07 13.3	
MJAR	**Matsushiro Arr** comp=Z,3.4nm,0.9s,baz=52,slow=7.6,SNR=12	**35.40**	**263**	P	**P**	**12 53 49.8**	**+0.2**
MJAR	comp=Z,257nm,21.8s,baz=75,slow=33			LR	LR	13 06 19.4	
MAJO	**Matsushiro**	**35.49**	**263**‖	*eP*	**P**	**12 53 50.5**	**+0.8**
MAJO	**Matsushiro** comp=Z,15nm,1.1s	**35.49**	**263**	*eP*	**P**	**12 53 51.3**	**+1.7**
MJB9	**Matsu-Tunnel** comp=Z,3.8nm,1.1s	**35.49**	**263**	*eP*	**P**	**12 53 51.3**	**+1.6**
H11S1	**WAKE ISLAND Hy** baz=18,slow=76,SNR=128	**35.67**	**209**	T	T	13 31 47.8	
H11S2	**WAKE ISLAND Hy** baz=18,slow=76,SNR=80	**35.69**	**209**	T	T	13 31 50.6	
H11S3	**WAKE ISLAND Hy** baz=18,slow=76,SNR=48	**35.69**	**209**	T	T	13 31 51.2	
MSHR	**Mys Shultsa**	**36.33**	**277**↑	*eP*	**P**	**12 53 58.8**	**+2.1**
MSO	**Missoula**	**39.80**	**71**	*eP*	P	12 54 33.0	+6.9
PAHR	**Pah Rah Range**	**40.40**	**84**	*eP*	P	12 54 38.9	+7.7
KSRS	**Korea Array** comp=Z,3.7nm,0.9s,baz=56,slow=8.0,SNR=17	**41.33**	**273**	P	**P**	**12 54 39.3**	**+0.7**
KSRS	comp=Z,100nm,21.2s,baz=53,slow=35			LR	LR	13 11 03.6	
KS01	**Wonju Array Si**	**41.34**	**273**	*eP*	**P**	**12 54 38.7**	**0.0**
KS15	**Wonju Array Si**	**41.36**	**273**	*eP*	**P**	**12 54 40.6**	**+1.8**
DLMT	**Dillon** comp=Z,9.8nm,1.4s	**41.37**	**73**	*eP*	**P**	**12 54 42.9**	**+3.9**
RLMT	**Red Lodge** comp=Z,19nm,1.0s	**43.47**	**71**	*eP*	**P**	**12 54 57.5**	**+1.3**
TPNV	**Topopah Spring**	**44.04**	**85**	*eP*	**P**	**12 55 01.4**	**+0.6**
TPNV	comp=Z,7.0nm,0.9s			pmax	pmax		
TPNV	**Topopah Spring** comp=Z,6.6nm,0.9s	**44.04**	**85**	*eP*	**P**	**12 55 01.4**	**+0.6**
DUG	**Dugway, Tooele**	**44.17**	**79**	*eP*	P	12 55 07.0	+5.2
DUG	comp=Z,10.0nm,1.1s			pmax	pmax		
DUG	**Dugway, Tooele** comp=Z,9.9nm,1.1s	**44.17**	**79**	*eP*	P	12 55 07.0	+5.3
LAO	**LASA Array** comp=Z,18nm,0.6s	**44.39**	**68**	*eP*	**P**	**12 55 01.6**	**-1.8**
BW06	**Boulder Array**	**44.63**	**74**	*eP*	**P**	**12 55 05.6**	**+0.1**
PD31	**Pinedale Array**	**44.63**	**74**	*eP*	**P**	**12 55 05.5**	**-0.1**
PDAR	**Pinedale Array** comp=Z,1.8nm,0.6s,baz=292,slow=4.2,SNR=11	**44.63**	**74**	P	**P**	**12 55 04.9**	**-0.6**
PDAR				pP	**pP**	**12 55 19.9**	**+1.2**
PDAR	comp=Z,13nm,0.9s,baz=305,slow=5.2,SNR=13			LR	LR	13 10 47.5	
TMUT	**Trail Mountain** comp=Z,17nm,1.4s	**45.70**	**79**	*eP*	**P**	**12 55 14.0**	**-0.2**
W13A	**Hualapai Mount** comp=Z,12nm,1.4s	**46.69**	**85**	*eP*	**P**	**12 55 21.8**	**-0.1**
SONA0	**Songino Array** comp=Z,2.9nm,1.0s	**48.08**	**298**	*eP*	**P**	**12 55 32.9**	**+0.5**
SONM	**Songino Array** comp=Z,0.5nm,0.5s,baz=72,slow=4.7,SNR=3.1	**48.08**	**298**	P	**P**	**12 55 32.9**	**+0.5**
SONM	comp=Z,274nm,18.9s,baz=52,slow=38			LR	LR	13 17 04.6	
ULM	**Lac du Bonnet** comp=Z,124nm,18.4s,baz=288,slow=38	**48.16**	**58**	LR	LR	13 17 32.7	
ZAK	**Zakamensk** comp=Z,4.0nm,1.6s	**48.31**	**302**	*eP*	**P**	**12 55 33.3**	**-0.8**
ZAK				pmax	pmax		
SDCO	**Great Sand Dun** comp=Z,12nm,1.3s	**50.15**	**77**	*eP*	**P**	**12 55 50.2**	**+1.6**
T25A	**Trinidad** comp=Z,37nm,1.2s	**51.21**	**77**	*eP*	**P**	**12 55 58.1**	**+1.7**
ANMO	**Albuquerque**	**51.39**	**80**↑	*eP*	**P**	**12 56 01.0**	**+3.2**
ANMO	comp=Z,3.0nm,1.3s			pmax	pmax		
MSTX	**Muleshoe** comp=Z,28nm,1.2s	**54.30**	**79**	*eP*	**P**	**12 56 20.6**	**+1.5**
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.6s,baz=48,slow=1.6,SNR=5.7	**55.13**	**315**	PcP	**PcP**	**12 57 25.2**	**-0.2**
ZALV	comp=Z,365nm,20.0s,baz=70,slow=38			LR	LR	13 21 53.4	
LTX	**Lajitas**	**56.94**	**83**	*eP*	**P**	**12 56 37.6**	**-0.6**
LTX				*e**PP	**pP**	**12 56 52.4**	**+0.7**
LTX	**Lajitas**	**56.94**	**83**	*eP*	**P**	**12 56 37.6**	**-0.6**
LTX				epP	**pP**	**12 56 52.4**	**+0.7**
TXAR	**Lajitas Array** comp=Z,1.0nm,0.6s,baz=305,slow=4.8,SNR=21	**56.94**	**83**	P	**P**	**12 56 37.6**	**-0.6**
TXAR	comp=Z,3.7nm,0.7s,baz=300,slow=5.0,SNR=14			pP	**pP**	**12 56 52.4**	**+0.7**
TXAR	comp=Z,134nm,21.7s,baz=0.0,slow=33			LR	LR	13 18 05.5	
ARA0	**ARCESS Array S**	**58.19**	**351**	*eP*	**P**	**12 56 46.2**	**0.0**
ARCES	**ARCESS Array B** comp=Z,3.3nm,0.9s,baz=32,slow=7.8,SNR=4.5	**58.19**	**351**	P	**P**	**12 56 46.2**	**0.0**
ARCES	comp=Z,151nm,21.0s,baz=68,slow=37			LR	LR	13 22 34.6	
SCHQ	**Schefferville** comp=Z,201nm,18.7s,baz=294,slow=38	**58.80**	**40**	LR	LR	13 23 43.1	
X201	**Greenbrier Sit** comp=Z,14nm,1.3s	**59.66**	**70**	*eP*	**P**	**12 56 55.4**	**-1.5**
WHAR	**Wooly Hollow** comp=Z,18nm,1.5s	**59.70**	**70**	*eP*	**P**	**12 56 58.4**	**+1.2**
KURK	**Kurchatov**	**60.12**	**315**	*eP*	**P**	**12 56 59.3**	**-0.5**
KURK	comp=Z,4.0nm,0.5s			pmax	pmax		
KURK	**Kurchatov** comp=Z,4.5nm,0.5s	**60.12**	**315**	*eP*	**P**	**12 56 59.2**	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,3.5nm,0.6s,baz=44,slow=6.4,SNR=38	**60.22**	**315**	P	**P**	**12 57 00.1**	**-0.4**
MK32	**Makanchi Array**	**61.24**	**310**	*eP*	**P**	**12 57 06.4**	**-1.2**
MKAR	**Makanchi Array** comp=Z,2.0nm,0.4s,baz=50,slow=4.9,SNR=6.7	**61.24**	**310**	P	**P**	**12 57 06.4**	**-1.2**
MKAR	comp=Z,146nm,19.4s,baz=37,slow=38			LR	LR	13 25 48.1	
MKAR	**Makanchi Array**	**61.24**	**310**	*eP*	**P**	**12 57 06.5**	**-1.1**
MKAR	comp=Z,2.0nm,0.4s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,1.1nm,0.4s,baz=51,slow=5.7,SNR=7.9	**61.84**	**321**	P	**P**	**12 57 11.0**	**-0.5**
BVAR	**Borovoye Array**	**61.84**	**321**	P	**P**	**12 57 11.0**	**-0.5**
BVAR	comp=Z,1.0nm,0.4s			pmax	pmax		
ZRNK	**Zerenda**	**62.43**	**322**	*eP*	**P**	**12 57 16.0**	**+0.5**
ZRNK	comp=Z,4.0nm,0.8s			pmax	pmax		
ZRNK	**Zerenda** comp=Z,4.1nm,0.8s	**62.43**	**322**	*eP*	**P**	**12 57 15.9**	**+0.5**
KLMR	**Klimovskoe**	**64.37**	**342**	*eP*	**P**	**12 57 27.8**	**-0.2**
KLMR				*e**PP	**sP**	**12 57 44.5**	**-2.8**
KLMR	comp=Z,4.0nm,1.1s			pmax	pmax		
FIA0	**FINESS Array S**	**65.97**	**349**	*eP*	**P**	**12 57 37.2**	**-1.2**
FIA0	**FINESS Array S**	**65.97**	**349**	*eP*	**P**	**12 57 37.2**	**-1.2**
FINES	**FINESS Array B** comp=Z,1.0nm,0.8s,baz=351,slow=7.0,SNR=2.1	**65.97**	**349**	P	**P**	**12 57 37.2**	**-1.2**
TAOE	**Nuku Hiva Isla** comp=Z,231nm,22.0s	**67.66**	**141**	*eLR*	LR	13 18 14.0	
AAK	**Ala-Archa** comp=Z,3.6nm,0.5s,baz=159,slow=5.0,SNR=5.3	**68.04**	**311**	P	**P**	**12 57 52.3**	**+0.2**
AAK	comp=Z,130nm,18.5s,baz=61,slow=38			LR	LR	13 29 49.0	
AAK	**Ala-Archa**	**68.04**	**311**↑	*eP*	**P**	**12 57 53.7**	**+1.6**
AAK	comp=Z,21nm,1.4s			pmax	pmax		
AKTO	**Aktyubinsk** comp=Z,1.4nm,0.5s,baz=62,slow=10	**68.51**	**326**	P	**P**	**12 57 55.1**	**+0.4**
KKAR	**Karatay Array**	**69.50**	**314**	*eP*	**P**	**12 58 00.8**	**-0.2**
KKAR	**Karatay Array**	**69.50**	**314**	*eP*	**P**	**12 58 00.8**	**-0.2**
PPT	**Papeete** comp=Z,152nm,20.0s,baz=335,slow=30	**72.62**	**154**	LR	LR	13 23 16.6	
PPT2	**Papeete2** comp=Z,238nm,24.2s	**72.64**	**154**	*eLR*	LR	13 20 22.4	
CMAR	**Chiang Mai Arr** comp=Z,2.0nm,0.7s,baz=26,slow=6.8,SNR=11	**72.68**	**278**	P	**P**	**12 58 20.8**	**+0.3**
CMAR	comp=Z,57nm,19.0s,baz=60,slow=39			LR	LR	13 33 46.9	
CMAR	**Chiang Mai Arr**	**72.68**	**278**	*i* P	**P**	**12 58 21.6**	**+1.0**
CMAR	comp=Z,2.0nm,0.7s			pmax	pmax		
CM01	**Chiang Mai Arr**	**72.70**	**278**	*eP*	**P**	**12 58 21.6**	**+0.9**
DZM	**Mont Dzumac** comp=Z,219nm,25.4s	**74.89**	**197**	*eLR*	LR	13 21 46.4	
AKASG	**Malin Array Be** comp=Z,134nm,19.4s,baz=20,slow=39	**75.88**	**344**	LR	LR	13 35 45.7	
KBL	**Kabul**	**77.05**	**310**	*eP*	**P**	**12 58 45.0**	**-0.9**
KBL	comp=Z,9.0nm,1.1s			pmax	pmax		
KBL	**Kabul** comp=Z,9.1nm,1.1s	**77.05**	**310**	*eP*	**P**	**12 58 45.0**	**-0.9**
TBI	**Tubuai** comp=Z,231nm,24.2s	**78.16**	**155**	*eLR*	LR	13 23 02.1	
KAPI	**Kappang** comp=Z,31nm,22.0s,baz=34,slow=32	**78.28**	**246**	LR	LR	13 29 09.3	
KBZ	**Khabaz** comp=Z,98nm,21.7s,baz=8.5,slow=38	**79.27**	**332**	LR	LR	13 37 53.7	
KHC	**Kasperske Hory**	**79.36**	**354**	*eP*	**P**	**12 59 00.5**	**+2.3**
KHC	**Kasperske Hory**	**79.36**	**354**	*eP*	**P**	**12 59 00.5**	**+2.3**
GERES	**GERESS Array B** comp=Z,40nm,18.9s,baz=14,slow=38	**79.63**	**353**	LR	LR	13 36 52.8	
RKT	**Rikitea** comp=Z,288nm,25.2s,baz=341	**82.64**	**142**	*eLR*	LR	13 25 19.4	
RKT	**Rikitea** comp=Z,2.2nm,0.4s	**82.64**	**142**	*eT*	T	14 30 19.8	
WR1	**Warramunga Arr**	**83.34**	**226**	*eP*	**P**	**12 59 18.1**	**-1.3**
WR1				*ep*P	**pP**	**12 59 33.7**	**0.0**
WRA	**Warramunga Arr** comp=Z,1.2nm,0.9s,baz=36,slow=6.1,SNR=7.3	**83.34**	**226**	P	**P**	**12 59 18.1**	**-1.3**
WRA				pP	**pP**	**12 59 33.7**	**0.0**
BRTR	**Keskin Array B** comp=Z,41nm,19.5s,baz=44,slow=40	**85.47**	**337**	LR	LR	13 44 17.3	
FITZ	**Fitzroy Crossi** comp=Z,5.1nm,1.1s,baz=18,slow=4.2,SNR=10	**85.93**	**234**	*eP*	**P**	**12 59 32.5**	**0.0**
FITZ	**Fitzroy Crossi** comp=Z,32nm,1.7s	**85.93**	**234**	*eP*	**P**	**12 59 32.5**	**0.0**
ASAR	**Alice Springs** comp=Z,1.2nm,0.6s,baz=25,slow=4.3,SNR=17	**86.79**	**225**	P	**P**	**12 59 36.1**	**-0.6**
ASAR	comp=Z,2.4nm,1.0s,baz=44,slow=4.1,SNR=7.5			pP	**pP**	**12 59 52.0**	**+1.1**
ASAR	comp=Z,28nm,18.9s,baz=34,slow=34			LR	LR	13 36 33.1	
STKA	**Stephens Creek** comp=Z,1.3nm,0.6s,baz=295,slow=6.9,SNR=3.3	**91.02**	**215**	P	**P**	**12 59 56.0**	**-0.4**
STKA	comp=Z,97nm,19.9s,baz=27,slow=32			LR	LR	13 36 09.8	
TOA1	**Torodi Ar. Sit**	**115.54**	**2**	*e*PKPdf	**PKPdf**	**13 05 33.5**	**-1.1**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.5s,baz=350,slow=2.3,SNR=8.5	**115.54**	**2**	PKP	**PKPdf**	**13 05 33.5**	**-1.1**
MAW	**Mawson** comp=Z,3.5nm,1.0s,baz=274,slow=4.4,SNR=5.0	**147.66**	**218**	PKPbc	**PKPbc**	**13 06 34.8**	**-0.5**

IDC 17 12:55:50.3±2.0, 5.70S×151.16E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/33, mbtmp3.8/4, Error ellipse: s-maj=106.9km s-min=27.9km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 0.7nm,0.3s,baz=6.7,slow=17,SNR=2.9	**5.41**	**227**	Pn	Pn	12 57 17.8	+5.5
PMG	0.9nm,0.

MKAR				Lg	Lg	13 03 44.2		
	0.1nm,0.3s,baz=22,slow=32,SNR=3.6							
BVAR	**Borovoye Array**	**9.03**	**269**	Pn	**Pn**	**13 01 59.8**	**+0.3**
	0.2nm,0.3s,baz=68,slow=16,SNR=2.5							
BVAR				Sn	**Sn**	**13 03 40.4**	**-0.7**
	0.4nm,0.3s,baz=73,slow=29,SNR=3.6							

JMA ***17*** *13:14:36.8±0.1,24.˚13N×121.˚67E,h10km±1km,M2.7*
TAP ***17*** *13:14:37.5,24.˚16N×121.˚71E,h10km,ML3.3,B*
ISC 17 13:14:37.4±0.9,24.˚15N±0.˚02×121.˚72E±0.˚03,h12km±6km, n54,σ0s89/81,10C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.14**	**237**	⇓*iP*	**Pb**	**13 14 40.7**	**-1.2**
	baz=230						
TWD				*i* S	**Sg**	**13 14 43.0**	**-0.1**
	baz=230						
EHP	**Heping Village**	**0.16**	**7**	*eP*	**Pg**	**13 14 41.6**	**+0.5**
	baz=14						
EHP				*eS*	**Sg**	**13 14 44.3**	**+0.7**
	baz=14						
HWA	**Hwalien**	**0.20**	**211**	*eP*	**Pb**	**13 14 42.6**	**-0.5**
	baz=214						
ENA	**Nanau**	**0.27**	**4**	⇑*iP*	**Pg**	**13 14 43.1**	**+0.1**
	baz=7.0						
ENA				S	**Sg**	**13 14 46.8**	**0.0**
	baz=7.0						
WHF	**Hehuan Shan**	**0.41**	**269**	⇑P	**Pb**	**13 14 45.8**	**-1.2**
	baz=268						
WHF				S	**Sg**	**13 14 51.2**	**-0.2**
	baz=268						
NNS	**Nan Shan**	**0.42**	**312**	⇑*iP*	**Pb**	**13 14 45.9**	**-1.0**
	baz=312						
NNS				*i* S	**Sg**	**13 14 51.7**	**+0.1**
	baz=312						
ESL	**Shilin**	**0.43**	**218**	⇑P	**Pb**	**13 14 45.9**	**-1.0**
	baz=227						
TWC	**Suao**	**0.47**	**15**	*eP*	**Pg**	**13 14 46.7**	**+0.1**
	baz=10.0						
TWC				*eS*	**Sg**	**13 14 52.8**	**-0.1**
	baz=10.0						
ENTT	**Nioudou**	**0.50**	**344**	⇑*iP*	**Pb**	**13 14 47.6**	**-0.6**
	baz=344						
ENTT				S	**Sg**	**13 14 54.3**	**+0.3**
	baz=344						
TWT	**Tachien**	**0.51**	**281**	⇑*iP*	**Pb**	**13 14 48.0**	**-0.3**
	baz=280						
TWT				*i* S	**Sb**	**13 14 54.1**	**-1.6**
	baz=280						
TWE	**Neicheng**	**0.57**	**355**	⇑*iP*	**Pb**	**13 14 48.8**	**-0.5**
	baz=356						
TWE				*eS*	**Sg**	**13 14 55.8**	**-0.2**
	baz=356						
ILA	**Ilan**	**0.61**	**2**	*eP*	**Pg**	**13 14 49.5**	**+0.2**
	baz=356						
ILA				*eS*	**Sg**	**13 14 57.8**	**+0.5**
	baz=356						
NSK	**Sanguang**	**0.61**	**328**	⇑*iP*	**Pb**	**13 14 49.5**	**-0.6**
	baz=328						
NSK				*i* S	**Sg**	**13 14 57.5**	**0.0**
	baz=328						
EGS		**0.71**	**16**	*eP*	**Pb**	**13 14 51.6**	**-0.2**
	baz=24						
EHY	**Hungye**	**0.74**	**209**	*eP*	**Pb**	**13 14 51.5**	**-0.7**
	baz=211						
SMLT	**Sun Moon Lake**	**0.80**	**250**	*eP*	**Pn**	**13 14 53.4**	**-1.1**
	baz=250						
SMLT				S	**Sb**	**13 15 03.0**	**-1.0**
	baz=250						
NSTT	**Nanjuang**	**0.81**	**306**	⇑P	**Pb**	**13 14 53.4**	**0.0**
	baz=306						
NSTT				*eS*	**Sb**	**13 15 04.4**	**+0.1**
	baz=306						
TYC	**Yuchr**	**0.83**	**253**	⇓P	**Pb**	**13 14 53.5**	**-0.2**
	baz=243						
TYC				*eS*	**Sb**	**13 15 03.8**	**-1.0**
	baz=243						
TWA	**Mucha**	**0.83**	**351**	*eP*	**Pb**	**13 14 53.6**	**-0.2**
	baz=352						
TWB1	**Santiao Chiao**	**0.89**	**16**	*eP*	**Pg**	**13 14 54.3**	**-0.2**
	baz=9.0						
TWB1				*eS*	**Sg**	**13 15 06.0**	**-0.1**
	baz=9.0						
TWQ1	**Liyutan**	**0.89**	**283**	*eP*	**Pn**	**13 14 55.8**	**+0.2**
	baz=282						
TWQ1				*eS*	**Sn**	**13 15 08.7**	**+0.3**
	baz=282						
TWF1	**Yuli**	**0.89**	**206**	*eP*	**Pg**	**13 14 53.1**	**-1.4**
	baz=218						
TAP1	**Taipei**	**0.90**	**349**	*eP*	**Pg**	**13 14 53.3**	**-1.5**
	baz=347						
TAP	**Taipei**	**0.90**	**348**	*eP*	**Pg**	**13 14 53.5**	**-1.4**
	baz=347						
NSY	**Sanyi**	**0.91**	**287**	*eP*	**Pn**	**13 14 56.3**	**+0.3**
	baz=286						
NWF	**Wu-fen Shan**	**0.91**	**4**	P	**Pb**	**13 14 55.5**	**+0.2**
	baz=354						
NWF				S	**Sg**	**13 15 06.7**	**-0.3**
	baz=354						
NCU	**National Centr**	**0.95**	**329**	*eP*	**Pn**	**13 14 56.7**	**+0.2**
	baz=336						
NCU				*eS*	**Sn**	**13 15 11.2**	**+1.3**
	baz=336						
TCU	**Taichung**	**0.95**	**270**	*eP*	**Pn**	**13 14 58.1**	**+1.6**
	baz=270						
YUS	**Yu-Shan**	**0.96**	**227**	*eP*	**Pn**	**13 14 56.4**	**-0.8**
	baz=218						
YUS				*eS*	**Sn**	**13 15 10.0**	**-1.1**
	baz=218						
TWS1	**Kuangyinshan**	**0.98**	**344**	*eP*	**Pn**	**13 14 57.1**	**+0.2**
	baz=351						
TWS1				*eS*	**Sn**	**13 15 11.1**	**+0.2**
	baz=351						
WNT	**Mingjian**	**0.99**	**254**	*eP*	**Pn**	**13 14 57.6**	**+0.5**
	baz=249						
WNT				*eS*	**Sn**	**13 15 12.7**	**+1.8**
	baz=249						
ALS	**Alishan**	**1.05**	**233**	⇓*eP*	**Pn**	**13 14 57.9**	**-0.3**
	baz=224						
ALS				*eS*	**Sn**	**13 15 14.4**	**+1.4**
	baz=224						
CHKT	**Chengkung**	**1.10**	**197**	*eP*	**Pb**	**13 14 57.9**	**-0.5**
	baz=185						
CHN5	**Tsauling**	**1.10**	**240**	*eP*	**Pn**	**13 14 59.4**	**+0.7**
	baz=241						
TWY	**Chenhua**	**1.12**	**354**	*eP*	**Pn**	**13 14 59.6**	**+0.7**
	baz=4.0						
ELDTW	**Lidau**	**1.16**	**214**	*eP*	**Pb**	**13 14 58.4**	**-0.9**
	baz=217						
WGK	**Gukeng**	**1.16**	**246**	*eP*	**Pn**	**13 15 01.1**	**+1.7**
	baz=247						
YOJ	**Yonaguni jima**	**1.22**	**75**	P	**Pn**	**13 15 00.3**	**+0.1**
YOJ	**Yonaguni jima**	**1.22**	**75**	*eP*	**Pn**	**13 15 00.1**	**-0.1**
	baz=62						
CHN4	**Tsaushan**	**1.30**	**232**	*eP*	**Pg**	**13 15 03.3**	**+0.8**
	baz=222						
CHN4				*eS*	**Sg**	**13 15 22.4**	**+2.9**
	baz=222						
STYT	**Tauyuan**	**1.32**	**222**	⇑P	**Pg**	**13 15 02.2**	**-0.7**
	baz=223						
STYT				S	**Sg**	**13 15 20.7**	**+0.6**
	baz=223						
CHY	**Chiayi**	**1.35**	**241**	*eP*	**Pg**	**13 15 04.8**	**+1.4**
	baz=243						
WTP	**Ta-pu**	**1.36**	**228**	*eP*	**Pg**	**13 15 03.1**	**-0.4**
	baz=219						
TWK	**Hsinying**	**1.43**	**232**	*eP*	**Pg**	**13 15 04.7**	**-0.3**
	baz=234						
TWG	**Pinlang**	**1.45**	**204**	*eP*	**Pb**	**13 15 03.8**	**-0.6**
	baz=217						
CHN1	**Nanshi**	**1.46**	**229**	*eP*	**Pg**	**13 15 05.0**	**-0.4**
	baz=224						
CHN1				*eS*	**Sg**	**13 15 27.0**	**+2.7**
	baz=224						
WSF	**Szhu**	**1.46**	**250**	*eP*	**Pg**	**13 15 05.1**	**-0.4**
	baz=239						
WSF				*eS*	**Sg**	**13 15 25.8**	**+1.3**
	baz=239						
SGST	**Jiashian**	**1.49**	**225**	*eP*	**Pg**	**13 15 05.2**	**-0.9**
	baz=227						
PCYT	**Pengchaiyu**	**1.50**	**12**	*eP*	**Pn**	**13 15 04.2**	**0.0**
	baz=9.0						
SSD	**Sandimen**	**1.72**	**216**	*eP*	**Pb**	**13 15 08.6**	**-0.4**
	baz=230						
IRIF	**Iriomote-Funau**	**1.84**	**84**	P	**Pn**	**13 15 09.7**	**+0.9**
IRIF				*eS*	**Sb**	**13 15 34.0**	**-0.1**
PNG	**Penghu**	**2.07**	**254**	*eP*	**Pb**	**13 15 14.1**	**-0.7**
	baz=256						
JIJ	**Ishigaki jima**	**2.22**	**84**	P	**Pn**	**13 15 14.6**	**+0.6**
JISG	**Ishigakijimahi**	**2.40**	**79**	P	**Pn**	**13 15 16.9**	**+0.4**

NIED ***17*** *13:20:00,24.˚50N×122.˚20E,h11km,Mw3.6 Best double couple: M0 3.19000×10^14 NP1:φs28.00000°,δ44.00000°, λ150.00000°. NP2:φs141.00000°,δ69.00000°,λ50.00000°.*
TAP ***17*** *13:20:04.0,24.˚52N×122.˚16E,h17km,ML3.9,C*
JMA ***17*** *13:20:04.1,24.˚46N×122.˚17E,h31km±4km,M3.7*
ISC 17 13:20:03.0±1.2,24.˚46N±0.˚02×122.˚24E±0.˚02,h3km±11km, n72,σ0s89/98,9C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.39**	**293**	⇑*iP*	**Pg**	**13 20 10.2**	**-0.3**
	baz=288						
TWC				*i* S	**Sg**	**13 20 13.8**	**-1.7**
	baz=288						
ENA	**Nanau**	**0.46**	**266**	⇑*iP*	**Pg**	**13 20 12.2**	**+0.3**
	baz=256						
EGS		**0.48**	**324**	⇓*iP*	**Pg**	**13 20 12.2**	**+0.1**
	baz=322						
EGS				S	**Sg**	**13 20 18.2**	**-0.2**
	baz=322						
ILA	**Ilan**	**0.54**	**304**	*eP*	**Pg**	**13 20 13.4**	**-0.1**
	baz=298						
ILA				*eS*	**Sg**	**13 20 21.3**	**+0.8**
	baz=298						
TWE	**Neicheng**	**0.58**	**297**	⇑*iP*	**Pg**	**13 20 14.0**	**-0.2**
	baz=295						
TWE				*eS*	**Sg**	**13 20 21.6**	**-0.3**
	baz=295						
TWB1	**Santiao Chiao**	**0.59**	**337**	P	**Pg**	**13 20 14.4**	**0.0**
	baz=347						
TWB1				*eS*	**Sg**	**13 20 22.9**	**+0.8**
	baz=347						
ENTT	**Nioudou**	**0.64**	**286**	⇑*iP*	**Pg**	**13 20 15.2**	**-0.2**
	baz=282						
ENTT				*eS*	**Sg**	**13 20 23.6**	**-0.1**
	baz=282						
JYNG	**Yonagunijimaku**	**0.64**	**91**	P	**Pb**	**13 20 17.5**	**+0.6**
JYNG				S	**Sb**	**13 20 27.6**	**+1.4**
TWD	**Chiawan**	**0.70**	**238**	*eP*	**Pb**	**13 20 17.4**	**-0.5**
	baz=233						
TWD				*eS*	**Sb**	**13 20 28.0**	**0.0**
	baz=233						
YOJ	**Yonaguni jima**	**0.70**	**90**	P	**Pb**	**13 20 18.5**	**+0.6**
YOJ				*eS*	**Sb**	**13 20 29.1**	**+1.1**
YOJ	**Yonaguni jima**	**0.70**	**90**	⇓*iP*	**Pb**	**13 20 18.6**	**+0.6**
	baz=94						
YOJ				*i* S	**Sb**	**13 20 29.3**	**+1.3**
	baz=94						
NWF	**Wu-fen Shan**	**0.74**	**326**	P	**Pg**	**13 20 17.4**	**+0.2**
	baz=324						
NWF				S	**Sg**	**13 20 27.6**	**+0.8**
	baz=324						
HWA	**Hwalien**	**0.75**	**231**	*eP*	**Pn**	**13 20 20.4**	**-0.2**
	baz=230						
NNS	**Nan Shan**	**0.79**	**269**	⇑P	**Pg**	**13 20 18.1**	**-0.1**
	baz=263						
NNS				*eS*	**Sg**	**13 20 27.8**	**-0.7**
	baz=263						
TWA	**Mucha**	**0.79**	**311**	*eP*	**Pg**	**13 20 18.5**	**+0.3**
	baz=312						
TWA				S	**Sg**	**13 20 27.6**	**-0.9**
	baz=312						
NSK	**Sanguang**	**0.83**	**285**	⇑*iP*	**Pg**	**13 20 18.8**	**-0.3**
	baz=282						
NSK				S	**Sg**	**13 20 28.2**	**-1.6**
	baz=282						
TAP1	**Taipei**	**0.87**	**312**	*eP*	**Pb**	**13 20 20.5**	**-0.4**
	baz=312						
TAP1				*eS*	**Sg**	**13 20 30.3**	**-0.8**
	baz=312						
TAP	**Taipei**	**0.88**	**311**	*eP*	**Pb**	**13 20 21.1**	**0.0**
	baz=312						
WHF	**Hehuan Shan**	**0.94**	**251**	P	**Pg**	**13 20 21.4**	**+0.2**
	baz=244						
ESL	**Shilin**	**0.98**	**229**	*eP*	**Pb**	**13 20 22.8**	**+0.2**
	baz=222						
TWS1	**Kuangyinshan**	**0.98**	**311**	*eP*	**Pb**	**13 20 22.8**	**0.0**
	baz=311						
TWS1				*eS*	**Sg**	**13 20 34.0**	**-0.7**
	baz=311						
TWT	**Tachien**	**0.99**	**258**	*eP*	**Pg**	**13 20 22.5**	**+0.4**
	baz=253						
TWT				*eS*	**Sb**	**13 20 37.0**	**+0.4**
	baz=253						
TWY	**Chenhua**	**1.00**	**324**	*eP*	**Pg**	**13 20 22.2**	**0.0**
	baz=327						
TWY				*eS*	**Sg**	**13 20 35.1**	**-0.1**
	baz=327						
NCU	**National Centr**	**1.09**	**298**	*eP*	**Pb**	**13 20 24.4**	**-0.1**
	baz=297						
NCU				*eS*	**Sb**	**13 20 39.3**	**+0.2**
	baz=297						
NSTT	**Nanjuang**	**1.14**	**279**	⇑*iP*	**Pb**	**13 20 25.2**	**-0.3**
	baz=276						
PCYT	**Pengchaiyu**	**1.18**	**352**	*eP*	**Pg**	**13 20 24.1**	**-1.5**
	baz=358						
HSN	**Hsinchu**	**1.21**	**287**	*eP*	**Pb**	**13 20 26.3**	**-0.3**
	baz=304						
HSN				*eS*	**Sn**	**13 20 42.9**	**-0.8**
	baz=304						
EHY	**Hungye**	**1.27**	**222**	*eP*	**Pn**	**13 20 27.0**	**-0.7**
	baz=215						
TWQ1	**Liyutan**	**1.34**	**266**	P	**Pg**	**13 20 29.6**	**+0.8**
	baz=261						
NSY	**Sanyi**	**1.35**	**268**	*eP*	**Pg**	**13 20 29.9**	**+1.0**
	baz=277						
SMLT	**Sun Moon Lake**	**1.35**	**245**	*eP*	**Pg**	**13 20 29.4**	**+0.4**
	baz=226						
IRIF	**Iriomote-Funau**	**1.36**	**95**	P	**Pn**	**13 20 27.9**	**-1.1**
IRIF				*eS*	**Sb**	**13 20 46.5**	**-0.5**
TYC	**Yuchr**	**1.38**	**247**	*eP*	**Pg**	**13 20 29.8**	**+0.3**
	baz=229						
TWF1	**Yuli**	**1.40**	**218**	*eP*	**Pn**	**13 20 28.4**	**-1.1**
	baz=211						
TCU	**Taichung**	**1.46**	**258**	⇑*eP*	**Pg**	**13 20 32.4**	**+1.4**
	baz=238						
HATJ	**Hateruma jima**	**1.48**	**105**	P	**Pn**	**13 20 30.4**	**-0.2**
YUS	**Yu-Shan**	**1.52**	**231**	⇓*eP*	**Pg**	**13 20 32.6**	**+0.3**
	baz=223						
WNT	**Mingjian**	**1.54**	**248**	*eP*	**Pg**	**13 20 34.0**	**+1.5**
	baz=242						
WNT				*eS*	**Sg**	**13 20 55.8**	**+3.4**
	baz=242						
CHKT	**Chengkung**	**1.57**	**211**	*eP*	**Pn**	**13 20 30.6**	**-1.3**
	baz=193						
ALS	**Alishan**	**1.62**	**235**	*eP*	**Pg**	**13 20 34.4**	**+0.3**
	baz=212						
JKRS	**Kuro-shima**	**1.63**	**97**	P	**Pn**	**13 20 32.2**	**-0.4**
JKRS				*eS*	**Sn**	**13 20 53.5**	**-0.6**
CHN5	**Tsauling**	**1.67**	**239**	*eP*	**Pg**	**13 20 35.1**	**+0.1**
	baz=215						
ELDTW	**Lidau**	**1.69**	**222**	*eP*	**Pn**	**13 20 33.5**	**-0.1**
	baz=204						
WGK	**Gukeng**	**1.72**	**244**	*eP*	**Pg**	**13 20 36.4**	**+0.5**
	baz=218						
JIJ	**Ishigaki jima**	**1.74**	**93**	P	**Pn**	**13 20 33.1**	**-1.0**
JIJ				*eS*	**Sn**	**13 20 56.0**	**-0.8**
CHN4	**Tsaushan**	**1.87**	**234**	*eP*	**Pb**	**13 20 38.2**	**+0.4**
	baz=211						
STYT	**Tauyuan**	**1.87**	**227**	⇑*eP*	**Pb**	**13 20 37.2**	**-0.8**
	baz=206						
WTCT	**Ta-ch'eng**	**1.89**	**252**	*eP*	**Pb**	**13 20 38.1**	**0.0**
	baz=245						
JISG	**Ishigakijimahi**	**1.89**	**86**	P	**Pn**	**13 20 35.1**	**-1.1**
CHY	**Chiayi**	**1.92**	**240**	*eP*	**Pg**	**13 20 39.6**	**-0.2**
	baz=214						
WTP	**Ta-pu**	**1.92**	**231**	*eP*	**Pb**	**13 20 38.6**	**-0.1**
	baz=208						
TWG	**Pinlang**	**1.95**	**214**	*eP*	**Pn**	**13 20 35.2**	**-1.9**
	baz=207						
TWK	**Hsinying**	**2.00**	**234**	*eP*	**Pb**	**13 20 40.6**	**+0.5**
	baz=225						
CHN1	**Nanshi**	**2.02**	**231**	*eP*	**Pb**	**13 20 40.2**	**-0.2**
	baz=213						
CHN1				*eS*	**Sg**	**13 21 07.3**	**-0.5**
	baz=213						
WSF	**Szhu**	**2.02**	**247**	*eP*	**Pb**	**13 20 40.6**	**+0.2**
	baz=238						
SGST	**Jiashian**	**2.05**	**228**	*eP*	**Pb**	**13 20 40.9**	**0.0**
	baz=209						
SGST				*eS*	**Sg**	**13 21 08.6**	**-0.2**
	baz=209						
CHN8	**Yiju**	**2.16**	**240**	*eP*	**Pn**	**13 20 41.1**	**+1.1**
	baz=214						
ECL	**Taimali**	**2.20**	**213**	*eP*	**Pn**	**13 20 38.6**	**-1.9**
	baz=206						
JTJ	**Tarama**	**2.25**	**85**	P	**Pn**	**13 20 41.1**	**0.0**
SSD	**Sandimen**	**2.26**	**221**	*eP*	**Pb**	**13 20 43.1**	**-1.3**
	baz=203						
TWM1	**Shoushan**	**2.33**	**226**	*eP*	**Pb**	**13 20 44.7**	**-1.1**
	baz=216						
EAST	**Anshuo**	**2.43**	**212**	*eP*	**Pn**	**13 20 42.8**	**-0.9**
	baz=206						
LAY	**Lan-yu**	**2.49**	**195**	*eP*	**Pn**	**13 20 43.3**	**-1.2**
	baz=181						
SCZT	**Fangliau**	**2.56**	**216**	*eP*	**Pn**	**13 20 47.1**	**+1.7**
	baz=201						
PNG	**Penghu**	**2.61**	**251**	*eP*	**Pn**	**13 20 46.7**	**+0.5**
	baz=242						
WDGT	**Dungji**	**2.65**	**244**	*eP*	**Pn**	**13 20 48.5**	**+1.8**
	baz=235						
JIRB	**Irabujima**	**2.69**	**82**	P	**Pn**	**13 20 47.5**	**+0.2**
JIKM	**Ikemajima**	**2.77**	**80**	P	**Pn**	**13 20 49.3**	**+0.9**
TSEB	**Hengchuen, Pin**	**2.83**	**206**	*eP*	**Pn**	**13 20 49.4**	**+0.2**
	baz=196						
TWK1	**Hengchun**	**2.83**	**208**	*eP*	**Pn**	**13 20 48.4**	**-0.8**
	baz=197						
JOGS	**Gusukube**	**2.90**	**83**	P	**Pn**	**13 20 50.5**	**+0.4**
KNM	**Kinmen**	**3.47**	**270**	*eP*	**Pn**	**13 21 00.1**	**+2.1**
	baz=266						

IDC 17 13:30:55.2±4.6,10.˚96S×115.˚75E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/35,mbtmp3.6/5,ML3.3/1,Error ellipse: s-maj=280.5km s-min=21.3km az=47.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.91**	**128**	Pn	Pn	13 33 44.7	-1.8
	0.2nm,0.3s,baz=294,slow=12,SNR=5.9						
FITZ				Sn	Sn	13 35 47.4	-13
	0.1nm,0.3s,baz=24,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**20.00**	**119**	P	P	13 35 29.8	+0.1
	0.5nm,0.7s,baz=303,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**21.42**	**129**	P	P	13 35 45.5	+0.6
	0.5nm,0.4s,baz=298,slow=10,SNR=10						
MKAR	**Makanchi Array**	**64.81**	**335**	P	P	13 41 34.5	-1.3
	0.8nm,0.4s,baz=151,slow=7.0,SNR=8.4						
ZALV	**Zalesovo Beam**	**69.79**	**341**	P	P	13 42 08.5	+1.4
	0.6nm,0.5s,baz=159,slow=5.4,SNR=2.4						

IDC 17 13:36:35.0±45.0,16.˚04S×172.˚34W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.6/37,mbtmp4.0/3,Error ellipse: s-maj=878.6km s-min=182.9km az=79.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.61**	**241**	P	P	13 44 50.2	+0.8
	2.1nm,0.8s,baz=80,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**50.69**	**257**	P	P	13 45 36.1	-0.7
	0.3nm,0.5s,baz=98,slow=7.1,SNR=12						
ASAR	**Alice Springs**	**50.88**	**252**	P	P	13 45 38.1	-0.2
	3.9nm,0.6s,baz=88,slow=8.1,SNR=68						

NIED ***17*** *13:49:00,27.˚20N×144.˚00E,h8km,Mw4.3 Best double couple: M0 2.81000×10^15 NP1:φs9.00000°,δ29.00000°, λ-40.00000°. NP2:φs136.00000°,δ72.00000°, λ-113.00000°.*
BJI ***17*** *13:49:37.3,26.˚62N×144.˚44E,h4km,mb4.4/37,mB4.8/27, Ms4.0/13,Ms7 3.7/13*
IDC ***17*** *13:49:41.9±0.6,26.˚89N×144.˚04E,h0km,mb4.3/22, mb1 4.4/27,mb1mx4.3/44,mbtmp4.3/27,ML3.5/4,MS3.1/13, Ms1 3.2/13,ms1mx3.0/50,Error ellipse: s-maj=16.8km s-min=13.8km az=91.0*
NEIC ***17*** *13:49:43.9±0.2,26.˚94N×143.˚92E,h10km,mb4.7/41,Error ellipse: s-maj=5.4km s-min=4.8km az=169.0*
JMA ***17*** *13:49:44.9,27.˚16N×143.˚99E,h72km,M4.2*
MOS ***17*** *13:49:45.8±1.3,26.˚97N×143.˚91E,h33km,mb4.8/41,Error ellipse: s-maj=10.6km s-min=6.0km az=104.6*
ISCJB ***17*** *13:49:47.2±0.3,27.˚20N±0.˚04×143.˚90E±0.˚03,h33km, mb4.5/69,MS3.3/13,Error ellipse: s-maj=5.6km s-min=3.7km az=3.4*
ISC 17 13:49:47.8±0.5,27.˚01N±0.˚05×144.˚06E±0.˚06,h35km,n192, σ1s93/199,mb4.6/70,MS3.4/13,4C-10D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.67**	**273**	P	**Pn**	**13 50 11.8**	**-2.8**
CBIJ				*eS*	**Sn**	**13 50 31.9**	**-2.9**
CBIJ	**Chichi jima**	**1.67**	**273**	*eP*	**Pn**	**13 50 12.0**	**-2.6**
CBIJ				*eSn*	**Sn**	**13 50 31.9**	**-2.9**
CBIJ				Sn	Sn	13 50 32.3	-2.5
JCJ	**Chichijima**	**1.67**	**273**	Pn	**Pn**	**13 50 11.9**	**-2.7**
	50nm,0.3s,baz=340,slow=20,SNR=62						
JCJ				Sn	**Sn**	**13 50 32.3**	**-2.5**
	baz=270,slow=20						
JHJ	**Hachijo jima 2**	**7.13**	**330**	Pn	**Pn**	**13 51 28.6**	**-1.0**
	4.1nm,0.3s,baz=65,slow=15,SNR=2.9						
JHJ				Sn	**Sn**	**13 52 44.0**	**-5.4**
	8.4nm,0.3s,baz=66,slow=20,SNR=2.9						
BSO1	**Boso 1**	**8.07**	**342**	*eS*	**Sn**	**13 53 06.8**	**-4.9**
BSO2	**Boso 2**	**8.22**	**341**	*eS*	**Sn**	**13 53 13.6**	**-2.3**
BSO3	**Boso 3**	**8.35**	**339**	P	**Pn**	**13 51 42.3**	**-3.8**
BSO3				*eS*	**Sn**	**13 53 15.6**	**-3.3**
BSO4	**Boso 4**	**8.57**	**339**	*eS*	**Sn**	**13 53 23.9**	**-0.9**
JHU	**Hanno**	**9.71**	**336**	P	**Pn**	**13 52 01.3**	**-3.8**
MJAR	**Matsushiro Arr**	**10.73**	**334**	Pn	**Pn**	**13 52 16.9**	**-2.1**
	1.3nm,0.3s,baz=154,slow=11,SNR=30						
MJAR				LR	LR	13 58 47.9	
	comp=Z,28nm,18.3s,baz=140,slow=51						
MAJO	**Matsushiro**	**10.73**	**334**	⇑*eP*	**Pn**	**13 52 17.4**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,83nm,0.9s						
MAJO	**Matsushiro**	**10.73**	**334**	*eP*n	**Pn**	**13 52 15.3**	**-3.7**
MAJO				*eS*n	**Sn**	**13 54 19.0**	**+1.1**
MAT	**Matsushiro**	**10.73**	**334**	P	**Pn**	**13 52 17.0**	**-2.0**
MAT				S	**Sn**	**13 54 11.2**	**-6.7**
MJB9	**Matsu-Tunnel**	**10.73**	**334**	*eP*n	**Pn**	**13 52 15.5**	**-3.5**
JNU	**Nakatsue**	**12.93**	**301**	LR	LR	13 57 52.0	
	comp=Z,70nm,18.7s,baz=104,slow=38						
GUMO	**Guam**	**13.37**	**177**	LR	LR	13 55 51.7	
	comp=Z,17nm,21.7s,baz=35,slow=28						
TJN	**Taejon**	**16.98**	**307**	⇓*eP*	**P**	**13 53 46.7**	**+2.5**
ASAJ	**Asahikawa**	**17.11**	**356**	P	**Pn**	**13 53 42.9**	**-1.3**
	baz=131,slow=19						
KSRS	**Korea Array**	**17.15**	**311**	P	**Pn**	**13 53 43.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=117,slow=11,SNR=13						
KSAR	**Wonju Array Be**	**17.17**	**311**	P	**Pn**	**13 53 43.5**	**-1.4**
KSAR	**Wonju Array Be**	**

HABR				*e*S	**S**	**13 58 52.9 +3.3**			
HABR				*e*SS	**SnSn**	**13 59 21.7 +1.4**			
HABR				*e*SSS	SSS	13 59 36.0			
HABR						14 05 58.6			
HABR				MLR	MLR				
	comp=Z,47nm,17.0s								
KLR	**Kul'dur**	**24.15**	**340**	P	**P**	**13 55 00.7 +0.2**			
	comp=Z,5.2nm,0.9s,baz=150,slow=8.4,SNR=16								
PETK	**Petropavlovsk-**	**27.99**	**18**	LR	LR	14 05 08.3			
	comp=Z,46nm,21.8s,baz=198,slow=33								
HHC	**Hu-ho-hao-te**	**30.10**	**306**	*e*P	**P**	**13 55 55.4 +1.2**			
HHC				PMZ					
	comp=Z,20nm,1.0s								
HHC				PMZ					
	comp=Z,110nm,4.8s								
ENH	**Enshi**	**30.45**	**284**	*e*P	**P**	**13 55 55.5 -1.8**			
	comp=Z,10nm,1.0s								
GYA	**Guiyang**	**33.32**	**278**	*e*P	**P**	**13 56 22.9 +0.2**			
GYA				PMZ					
	comp=Z,10.0nm,0.8s								
LZH	**Lanzhou**	**35.24**	**295**	*e*P	**P**	**13 56 38.9 -0.4**			
LZH				pP	pP	13 56 42.3 -7.1			
LZH				sP	sP	13 56 43.8 -10			
LZH				*e*PP	**PnPn**	**13 57 58.0 +0.3**			
LZH				PMZ					
	comp=Z,21nm,1.2s								
LZH				PMZ					
	comp=Z,75nm,5.3s								
LZH				LN					
	comp=Z,350nm,13.0s								
LZH				LE					
	comp=Z,360nm,13.2s								
LZH				LZ					
	comp=Z,410nm,16.5s								
CD2	**Chengdu**	**35.34**	**286**	*e*P	**P**	**13 56 39.0 -1.0**			
CD2				pP	pP	13 56 42.1 -8.1			
CD2				sP	sP	13 56 43.4 -11			
CD2				S	**S**	**14 02 13.6 +1.4**			
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
ULN	**Ulaanbaatar**	**35.54**	**316**⇑	*i*P	**P**	**13 56 43.3 +1.6**			
ULN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
ULN	**Ulaanbaatar**	**35.54**	**316**	*e*P	**P**	**13 56 40.7 -1.0**			
	comp=Z,7.9nm,1.2s								
SONA1	**Songino Array**	**35.94**	**315**	*e*P	**P**	**13 56 45.6 +0.6**			
SONM	**Songino Array**	**35.94**	**315**	P	**P**	**13 56 46.4 +1.3**			
	comp=Z,1.8nm,0.8s,baz=129,slow=8.7,SNR=9.5								
YAK	**Yakutsk**	**36.31**	**349**	*e*P	**P**	**13 56 48.4 +0.5**			
YAK				pmax	pmax				
	comp=Z,12nm,1.0s								
SEY	**Seymchan**	**36.34**	**6**	P	**P**	**13 56 48.4 +0.3**			
	comp=Z,2.1nm,0.7s,baz=180,slow=6.2,SNR=5.9								
SEY	**Seymchan**	**36.34**	**6**⇑	*e*P	**P**	**13 56 49.6 +1.5**			
KMI	**Kunming**	**37.05**	**277**	P	**P**	**13 56 54.4 -0.5**			
KMI				pP	pP	13 56 57.8 -7.3			
KMI				PMZ					
	comp=Z,17nm,0.7s								
GTA	**Gaotai**	**38.67**	**300**	*e*P	**P**	**13 57 07.8 -0.5**			
GTA				pP	pP	13 57 12.3 -6.2			
GTA				sP	sP	13 57 15.0 -7.8			
GTA				PMZ					
	comp=Z,3.0nm,1.1s								
ZAK	**Zakamensk**	**38.78**	**318**	*e*P	**P**	**13 57 09.5 +0.4**			
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.3s								
CMAR	**Chiang Mai Arr**	**42.29**	**268**	P	**P**	**13 57 37.0 -1.3**			
	comp=Z,1.3nm,0.6s,baz=60,slow=6.7,SNR=7.7								
CMAR				LR	LR	14 15 18.3			
	comp=Z,19nm,18.7s,baz=145,slow=36								
BILL	**Bilibino**	**43.18**	**12**⇓	*e*P	**P**	**13 57 45.0 +0.1**			
BILL				*e*		13 59 23.7			
BILL				pmax	pmax				
	comp=Z,4.0nm,1.2s								
BILL				MLR	MLR				
	comp=Z,45nm,19.0s								
BILL	**Bilibino**	**43.18**	**12**	*e*P	**P**	**13 57 44.8 -0.1**			
	comp=Z,3.5nm,0.8s								
TIXI	**Tiksi**	**45.48**	**353**⇓	*e*P	**P**	**13 58 02.3 -0.9**			
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.0s								
TIXI	**Tiksi**	**45.48**	**353**	*e*P	**P**	**13 58 03.2 0.0**			
	comp=Z,4.5nm,0.8s								
CTAO	**Charters Tower**	**46.86**	**177**	*e*P	**P**	**13 58 12.9 -1.8**			
CTAO				pmax	pmax				
	comp=Z,17nm,1.4s								
CTAO	**Charters Tower**	**46.86**	**177**	*e*P	**P**	**13 58 12.9 -1.8**			
	comp=Z,16nm,1.4s								
WRAB	**Tennant Creek**	**47.60**	**192**	*d i*P	**P**	**13 58 20.6 +0.2**			
WRAB				pmax	pmax				
	comp=Z,34nm,1.0s								
WRAB	**Tennant Creek**	**47.60**	**192**	*e*P	**P**	**13 58 18.5 -1.9**			
	comp=Z,12nm,0.8s								
WB2	**Warramunga Arr**	**47.61**	**192**	*e*P	**P**	**13 58 17.9 -2.6**			
	comp=Z,19nm,0.9s								
WRA	**Warramunga Arr**	**47.61**	**192**	P	**P**	**13 58 18.5 -2.0**			
	comp=Z,10nm,0.8s,baz=13,slow=8.5,SNR=39								
WRA	**Warramunga Arr**	**47.61**	**192**	*i* P	**P**	**13 58 18.7 -1.8**			
WRA				pmax	pmax				
	comp=Z,11nm,0.8s								
WMQ	**Urumqi**	**47.98**	**306**	P	**P**	**13 58 25.0 +1.7**			
WMQ				pP	pP	13 58 29.4 -4.3			
WMQ				sP	sP	13 58 31.4 -6.5			
WMQ				PMZ					
	comp=Z,5.0nm,0.6s								
WMQ				PMZ					
	comp=Z,37nm,4.0s								
WMQ				LN					
	comp=Z,11nm,17.4s								
WMQ				LE					
	comp=Z,12nm,23.0s								
WMQ				LZ					
	comp=Z,10.0nm,19.8s								
FITZ	**Fitzroy Crossi**	**48.27**	**204**	LR	LR	14 19 45.3			
	comp=Z,67nm,19.4s,slow=38								
FITZ	**Fitzroy Crossi**	**48.27**	**204**	*e*P	**P**	**13 58 24.3 -1.3**			
	comp=Z,14nm,0.8s								
ZAA0	**Zalesovo Array**	**50.65**	**319**	*e*P	**P**	**13 58 43.4 -0.1**			
ZALV	**Zalesovo Beam**	**50.65**	**319**	P	**P**	**13 58 42.2 -1.2**			
	comp=Z,1.7nm,0.5s,baz=104,slow=6.3,SNR=9.5								
AS01	**Alice Springs**	**51.31**	**192**	*e*P	**P**	**13 58 47.0 -1.8**			
AS31	**Alice Springs**	**51.32**	**192**	*e*P	**P**	**13 58 46.9 -1.9**			
	comp=Z,3.4nm,1.6s								
ASAR	**Alice Springs**	**51.32**	**192**	P	**P**	**13 58 46.6 -2.2**			
	comp=Z,1.1nm,0.7s,baz=13,slow=7.3,SNR=21								
NVS	**Novosibirsk**	**51.68**	**320**	*e*P	**P**	**13 58 47.0 -4.1**			
MK01	**Makanchi Array**	**51.81**	**310**	*e*P	**P**	**13 58 52.5 +0.1**			
MK31	**Makanchi Array**	**51.82**	**310**	*e*P	**P**	**13 58 52.6 +0.2**			
MK31	**Makanchi Array**	**51.82**	**310**	*e*P	**P**	**13 58 52.6 +0.2**			
MKAR	**Makanchi Array**	**51.82**	**310**	P	**P**	**13 58 52.9 +0.5**			
	comp=Z,2.5nm,0.6s,baz=92,slow=8.6,SNR=21								
MKAR	**Makanchi Array**	**51.82**	**310**	*e*P	**P**	**13 58 52.7 +0.3**			
MKAR	**Makanchi Array**	**51.82**	**310**	*e*P	**P**	**13 58 52.7 +0.3**			
MAKZ	**Makanchi**	**52.03**	**310**	*e*P	**P**	**13 58 54.4 +0.4**			
MAKZ				pmax	pmax				
	comp=Z,7.0nm,1.0s								
MAKZ	**Makanchi**	**52.03**	**310**	*e*P	**P**	**13 58 54.4 +0.4**			
	comp=Z,7.3nm,1.0s								
NRIK	**Noril'sk**	**53.34**	**338**	P	**P**	**13 59 02.6 -0.7**			
	comp=Z,6.5nm,0.8s,baz=106,slow=7.2,SNR=7.1								
NRIK				LR	LR	14 23 51.4			
	comp=Z,22nm,20.9s,baz=110,slow=38								
KURK	**Kurchatov**	**54.24**	**315**	*e*P	**P**	**13 59 08.7 -1.4**			
KURK				pmax	pmax				
	comp=Z,18nm,1.0s								
KURK	**Kurchatov**	**54.24**	**315**	*e*P	**P**	**13 59 08.7 -1.4**			
	comp=Z,18nm,1.0s								
TRF	**Thorofare Moun**	**55.34**	**30**	*e*P	**P**	**13 59 17.2 -0.8**			
	comp=Z,9.0nm,1.2s								
PMR	**Palmer**	**55.62**	**32**	*e*P	**P**	**13 59 19.3 -0.6**			
PMR				pmax	pmax				
	comp=Z,8.0nm,1.1s								
PMR	**Palmer**	**55.62**	**32**	*e*P	**P**	**13 59 19.3 -0.6**			
	comp=Z,8.3nm,1.1s								
RND	**Reindeer**	**55.97**	**30**	*e*P	**P**	**13 59 21.5 -1.0**			
RND				pmax	pmax				
	comp=Z,4.0nm,0.9s								
RND	**Reindeer**	**55.97**	**30**	*e*P	**P**	**13 59 21.5 -1.0**			
	comp=Z,3.7nm,0.9s								
SML	**Sawmill**	**56.02**	**32**	*e*P	**P**	**13 59 22.3 -0.5**			
SML				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SML	**Sawmill**	**56.02**	**32**	*e*P	**P**	**13 59 22.3 -0.5**			
	comp=Z,5.2nm,0.9s								
COLD	**Coldfoot**	**56.03**	**25**	*e*P	**P**	**13 59 23.2 +0.5**			
	comp=Z,5.4nm,1.0s								
SCM	**Sheep Creek Mo**	**56.50**	**32**	*e*P	**P**	**13 59 26.4 +0.1**			
SCM				pmax	pmax				
	comp=Z,8.0nm,0.9s								
SCM	**Sheep Creek Mo**	**56.50**	**32**	*e*P	**P**	**13 59 26.4 +0.1**			
	comp=Z,7.5nm,0.9s								
TKM2	**Tokmak 2**	**56.83**	**305**	*e*P	**P**	**13 59 27.3 -1.9**			
TKM2				pmax	pmax				
	comp=Z,11nm,1.4s								
TKM2	**Tokmak 2**	**56.83**	**305**	*e*P	**P**	**13 59 27.3 -1.9**			
	comp=Z,11nm,1.4s								
IL1	**Eielson Array**	**56.99**	**29**	*e*P	**P**	**13 59 28.4 -1.2**			
ILAR	**Eielson Array**	**56.99**	**29**	P	**P**	**13 59 29.0 -0.6**			
	comp=Z,2.9nm,1.0s,baz=260,slow=5.7,SNR=24								
ILAR				LR	LR	14 22 34.1			
	comp=Z,22nm,20.7s,baz=223,slow=34								
ILAR	**Eielson Array**	**56.99**	**29**	P	**P**	**13 59 29.0 -0.6**			
ILAR				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ILAR	**Eielson Array**	**56.99**	**29**	P	**P**	**13 59 29.0 -0.6**			
ILB	**Eielson Array**	**56.99**	**29**	*e*P	**P**	**13 59 28.2 -1.4**			
KSH	**Kashi**	**57.05**	**301**	*e*P	P	13 59 35.9 +5.2			
KSH				pP	pP	13 59 40.3 -1.0			
KSH				PcP	**PcP**	**14 00 29.0 +3.6**			
KSH				PP	**PP**	**14 01 42.5 +5.0**			
KSH				S	**S**	**14 07 30.5 +7.3**			
KSH				ScS	**ScS**	**14 09 21.9 +4.3**			
KSH				SS	**SS**	**14 11 19.9 +8.0**			
KSH				PMZ					
	comp=Z,5.0nm,0.6s								
KSH				PMZ					
	comp=Z,150nm,5.5s								
KSH				LN					
	comp=Z,310nm,12.6s								
KSH				LE					
	comp=Z,180nm,9.6s								
AAK	**Ala-Archa**	**57.68**	**305**⇓	*e*P	**P**	**13 59 35.6 +0.5**			
AAK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BMRM	**Bremner River**	**57.76**	**33**	*e*P	**P**	**13 59 34.4 -0.8**			
	comp=Z,10nm,1.1s								
FYU	**Fort Yukon**	**57.87**	**26**	*e*P	**P**	**13 59 38.1 +2.3**			
	comp=Z,10nm,1.2s								
DOT	**Dot Lake**	**58.13**	**30**	*e*P	**P**	**13 59 38.0 +0.3**			
	comp=Z,12nm,1.2s								
CRQM	**Cirque**	**58.47**	**33**	*e*P	**P**	**13 59 41.8 +1.5**			
	comp=Z,12nm,1.0s								
STKA	**Stephens Creek**	**58.60**	**182**	P	**P**	**13 59 40.1 -1.2**			
	comp=Z,2.5nm,0.7s,baz=345,slow=7.3,SNR=4.7								
BRVK	**Borovoye**	**59.30**	**318**	*d i*P	**P**	**13 59 46.3 +0.4**			
BRVK				pmax	pmax				
	comp=Z,18nm,1.2s								
KKAR	**Karatay Array**	**60.49**	**306**	*e*P	**P**	**13 59 54.8 +0.5**			
KKAR	**Karatay Array**	**60.49**	**306**	*e*P	**P**	**13 59 54.8 +0.5**			
INK	**Inuvik**	**62.42**	**25**	P	**P**	**14 00 07.5 +0.6**			
	comp=Z,2.4nm,0.5s,baz=253,slow=5.2,SNR=6.4								
INK	**Inuvik**	**62.42**	**25**	*e*P	**P**	**14 00 07.8 +0.8**			
INK	**Inuvik**	**62.42**	**25**	*e*P	**P**	**14 00 07.7 +0.8**			
ARU	**Arti**	**65.51**	**323**	*d i*P	**P**	**14 00 27.5 +0.1**			
ARU						14 02 51.7			
ARU				PPP	PPP	14 04 25.1			
ARU				S	**S**	**14 09 14.3 +4.5**			
ARU				SS	**SS**	**14 13 21.1 -2.1**			
ARU				pmax	pmax				
	comp=Z,11nm,1.2s								
ABKAR	**Akbulak array**	**66.35**	**315**	*e*P	**P**	**14 00 33.1 +0.2**			
YKA	**Yellowknife Ar**	**71.42**	**29**	P	**P**	**14 01 04.3 +0.1**			
	comp=Z,3.4nm,0.8s,baz=298,slow=5.4,SNR=14								
KLMR	**Klimovskoe**	**73.49**	**330**	P	**P**	**14 01 16.1 -0.5**			
KLMR				*e*		14 03 59.0			
KLMR				pmax	pmax				
	comp=Z,4.0nm,1.1s								
ARCES	**ARCESS Array B**	**74.17**	**341**	P	**P**	**14 01 20.8 +0.4**			
	comp=Z,3.7nm,0.9s,baz=28,slow=10,SNR=4.5								
YBH	**Yreka Blue Hor**	**74.82**	**51**	*e*P	**P**	**14 01 26.6 +1.8**			
YBH				pmax	pmax				
	comp=Z,12nm,0.9s								
YBH	**Yreka Blue Hor**	**74.82**	**51**	*e*P	**P**	**14 01 26.6 +1.8**			
	comp=Z,12nm,0.9s								
K05A	**Summer Lake**	**75.67**	**49**	*e*P	**P**	**14 01 31.4 +1.5**			
	comp=Z,17nm,0.9s								
NEW	**Newport**	**75.84**	**43**	*e*P	**P**	**14 01 31.6 +1.1**			
NEW				pmax	pmax				
	comp=Z,10.0nm,0.9s								
NEW	**Newport**	**75.84**	**43**	*e*P	**P**	**14 01 31.6 +1.1**			
	comp=Z,9.9nm,0.9s								
MOD	**Modoc Plateau**	**76.41**	**50**	*e*P	**P**	**14 01 35.1 +1.1**			
	comp=Z,5.4nm,0.9s								
AFDM	**Forest Hills D**	**77.14**	**53**	*e*P	**P**	**14 01 39.7 +1.6**			
	comp=Z,6.5nm,1.1s								
BMO	**Blue Mountains**	**77.16**	**46**	*e*P	**P**	**14 01 39.1 +0.9**			
BMO				pmax	pmax				
	comp=Z,7.0nm,1.0s								
BMO	**Blue Mountains**	**77.16**	**46**	*e*P	**P**	**14 01 39.0 +0.9**			
	comp=Z,7.1nm,1.0s								
WVOR	**Wild Horse Val**	**77.31**	**49**	*e*P	**P**	**14 01 39.9 +0.8**			
WVOR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
WVOR	**Wild Horse Val**	**77.31**	**49**	*e*P	**P**	**14 01 39.9 +0.8**			
	comp=Z,6.4nm,1.1s								
JTMT	**Jette**	**77.78**	**43**	*e*P	**P**	**14 01 43.0 +1.4**			
YBMT	**Yellow Bay**	**77.89**	**42**	*e*P	**P**	**14 01 43.5 +1.3**			
CMB	**Columbia Colle**	**77.94**	**53**	*e*P	**P**	**14 01 43.7 +1.1**			
CMB				pmax	pmax				
	comp=Z,11nm,0.8s								
CMB	**Columbia Colle**	**77.94**	**53**	*e*P	**P**	**14 01 43.7 +1.1**			
	comp=Z,11nm,0.8s								
PAHR	**Pah Rah Range**	**77.95**	**52**	*e*P	**P**	**14 01 43.7 +1.0**			
	comp=Z,4.6nm,0.9s								
SWMT	**Swartz Lake**	**78.06**	**43**	*e*P	**P**	**14 01 44.1 +1.0**			
FINES	**FINESS Array B**	**78.76**	**334**	P	**P**	**14 01 47.0 +0.5**			
	comp=Z,2.6nm,0.9s,baz=61,slow=4.8,SNR=4.6								
FINES				LR	LR	14 38 58.2			
	comp=Z,22nm,21.4s,baz=150,slow=38								
FINES	**FINESS Array B**	**78.76**	**334**	*i* P	**P**	**14 01 47.7 +1.2**			
FINES				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KBZ	**Khabaz**	**79.28**	**314**	P	**P**	**14 01 50.6 +0.9**			
	comp=Z,6.7nm,0.9s,baz=39,slow=23,SNR=13								
KIV	**Kislovodsk**	**79.32**	**314**⇓	*e*P	**P**	**14 01 52.1 +2.0**			
KIV				*e*		14 02 00.1			
KIV				*e*		14 04 53.0			
KIV				pmax	pmax				
	comp=Z,12nm,1.1s								
KIV				MLR	MLR				
	comp=Z,27nm,17.0s								
HLID	**Hailey**	**79.60**	**46**	*e*P	**P**	**14 01 52.9 +1.2**			
	comp=Z,4.0nm,1.0s								
LRM	**Limekiln Ridge**	**79.79**	**44**	*e*P	**P**	**14 01 53.5 +0.7**			
DLMT	**Dillon**	**79.92**	**44**	*e*P	**P**	**14 01 54.2 +0.8**			
	comp=Z,6.0nm,1.1s								
ELK	**Elko**	**80.34**	**49**	*e*P	**P**	**14 01 57.1 +1.2**			
ELK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
ELK	**Elko**	**80.34**	**49**	*e*P	**P**	**14 01 57.1 +1.2**			
	comp=Z,4.9nm,0.9s								
BOZ	**Bozeman (W)**	**80.38**	**44**	*e*P	**P**	**14 01 57.0 +1.1**			
BOZ				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BOZ	**Bozeman (W)**	**80.38**	**44**	*e*P	**P**	**14 01 57.0 +1.1**			
	comp=Z,3.8nm,0.8s								
SUMG	**Summit**	**80.67**	**1**	P	**P**	**14 01 56.1 -1.1**			
SUMG				pmax	pmax				
	comp=Z,9.0nm,1.0s								
SUMG	**Summit**	**80.67**	**1**	P	**P**	**14 01 56.1 -1.1**			
	comp=Z,8.5nm,1.0s								
R11A	**Troy Canyon, C**	**81.20**	**52**	*e*P	**P**	**14 02 01.2 +0.7**			
TPNV	**Topopah Spring**	**81.37**	**53**	*e*P	**P**	**14 02 01.9 +0.5**			
TPNV				pmax	pmax				
	comp=Z,9.0nm,0.9s								
TPNV	**Topopah Spring**	**81.37**	**53**	*e*P	**P**	**14 02 01.9 +0.5**			
	comp=Z,8.8nm,0.9s								
HVU	**Hansel Valley**	**81.50**	**47**	*e*P	**P**	**14 02 03.3 +1.4**			
HVU	**Hansel Valley**	**81.50**	**47**	*e*P	**P**	**14 02 03.3 +1.4**			
IMW	**Indian Meadow**	**81.66**	**45**	*e*P	**P**	**14 02 04.7 +1.8**			
FLWY	**Flagg Ranch**	**81.72**	**45**	*e*P	**P**	**14 02 05.4 +2.3**			
TPAW	**Teton Pass**	**81.85**	**45**	*e*P	**P**	**14 02 05.5 +1.6**			
MOOW	**Moose Ponds**	**81.85**	**45**	*e*P	**P**	**14 02 04.8 +0.9**			
	comp=Z,3.1nm,1.2s								
RLMT	**Red Lodge**	**82.08**	**43**	*e*P	**P**	**14 02 06.5 +1.4**			
	comp=Z,8.6nm,0.8s								
DUG	**Dugway, Tooele**	**82.23**	**49**	*e*P	**P**	**14 02 06.6 +0.7**			
DUG	**Dugway, Tooele**	**82.23**	**49**	*e*P	**P**	**14 02 06.6 +0.7**			
SHPR	**Sheep Range**	**82.36**	**53**	*e*P	**P**	**14 02 07.8 +1.3**			
HWUT	**Hardware Ranch**	**82.38**	**47**	*e*P	**P**	**14 02 07.8 +1.2**			
PFO	**Pinyon Flats O**	**82.75**	**56**	*i* P	**P**	**14 02 10.1 +1.5**			
LDFC	**Landfair**	**83.06**	**54**	*e*P	**P**	**14 02 11.1 +0.9**			
BW06	**Boulder Array**	**83.09**	**45**	*e*P	**P**	**14 02 10.9 +0.5**			
PD31	**Pinedale Array**	**83.09**	**45**	*e*P	**P**	**14 02 10.0 -0.4**			
PDAR	**Pinedale Array**	**83.09**	**45**	P	**P**	**14 02 10.8 +0.4**			
	comp=Z,2.4nm,0.8s,baz=270,slow=4.2,SNR=13								
PDAR				LR	LR	14 32 05.3			
	comp=Z,40nm,20.6s,baz=290,slow=31								
CCUT	**Cedar City**	**83.13**	**51**	*e*P	**P**	**14 02 12.0 +1.4**			
LCMT	**Little Creek M**	**83.47**	**52**	*e*P	**P**	**14 02 13.4 +1.1**			
KIEV	**Kiev**	**83.68**	**325**⇓	*e*P	**P**	**14 02 14.1 +1.2**			
KIEV				pmax	pmax				
	comp=Z,29nm,1.4s								
KNB	**Kanab**	**83.76**	**52**	*e*P	**P**	**14 02 14.3 +0.5**			
KNB	**Kanab**	**83.76**	**52**	*e*P	**P**	**14 02 14.3 +0.5**			
P18A	**Preston Nutter**	**84.23**	**48**	*e*P	**P**	**14 02 16.8 +0.4**			
NB2	**NORSAR Subarra**	**84.30**	**339**	P	**P**	**14 02 16.0 0.0**			
	comp=Z,6.1nm,1.1s,baz=42,slow=4.8								
NOA	**NORSAR Array B**	**84.30**	**339**	P	**P**	**14 02 15.9 0.0**			
	comp=Z,4.4nm,1.0s,baz=39,slow=5.0,SNR=5.4								
NOA				LR	LR	14 45 23.9			
	comp=Z,5.6nm,21.5s,baz=10.0,slow=40								
SRU	**San Rafael Swe**	**84.31**	**49**	*e*P	**P**	**14 02 16.7 +0.1**			
SRU	**San Rafael Swe**	**84.31**	**49**	*e*P	**P**	**14 02 16.7 +0.1**			
Y14A	**Wickenburg**	**85.13**	**54**	*e*P	**P**	**14 02 21.6 +0.9**			
PV09	**Paradox Valley**	**85.55**	**49**	*e*P	**P**	**14 02 23.7 +0.7**			
SFJD	**Kangerlussuaq**	**85.64**	**6**	P	**P**	**14 02 22.1 -0.3**			
	comp=Z,13nm,0.9s,baz=23,slow=7.8,SNR=5.1								
PV10	**Paradox Valley**	**85.68**	**49**	*e*P	**P**	**14 02 24.8 +1.2**			
PV01	**Paradox Valley**	**86.12**	**49**	*e*P	**P**	**14 02 26.6 +0.9**			
ULM	**Lac du Bonnet**	**86.60**	**34**	P	**P**	**14 02 27.0 -0.5**			
	comp=Z,1.7nm,0.4s,baz=286,slow=3.4,SNR=2.8								
ULM	**Lac du Bonnet**	**86.60**	**34**	P	**P**	**14 02 27.0 -0.5**			
ULM				pmax	pmax				
	comp=Z,2.0nm,0.4s								
BRTR	**Keskin Array B**	**87.28**	**314**	P	**P**	**14 02 30.6 -0.7**			
	comp=Z,1.1nm,0.7s,baz=68,slow=4.7,SNR=7.6								
BRTR	**Keskin Array B**	**87.28**	**314**	*i* P	**P**	**14 02 30.8 -0.5**			
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ANMO	**Albuquerque**	**89.25**	**51**⇑	*e*P	**P**	**14 02 41.7 +0.9**			
ANMO				pmax	pmax				
	comp=Z,4.0nm,1.1s								
EYMN	**Ely**	**90.28**	**34**	*e*P	**P**	**14 02 45.8 +0.7**			
MNTX	**Cornudas Mount**	**91.77**	**53**	*e*P	**P**	**14 02 53.3 +0.9**			
GERES	**GERESS Array B**	**92.44**	**330**	LR	LR	14 50 23.1			
	comp=Z,20nm,18.6s,baz=23,slow=39								
TX31	**Lajitas Ar. Si**	**94.31**	**54**	*e*P	**P**	**14 03 04.6 +0.4**			
TXAR	**Lajitas Array**	**94.31**	**54**	P	**P**	**14 03 05.0 +0.8**			
	comp=Z,1.2nm,0.9s,baz=298,slow=2.7,SNR=9.1								
TXAR				LR	LR	14 40 14.0			
	comp=Z,19nm,20.6s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**94.31**	**54**	P	**P**	**14 03 05.0 +0.8**			
TXAR				pmax	pmax				
	comp=Z,1.0nm,1.0s								

ISK ***17*** *13:53:53.9, 38.°03N×34.°86E, h5km, ML1.8*
ISCJB ***17*** *13:53:54.9±0.6, 37.°98N±0.°03×34.°80E±0.°04, h0km, Error ellipse: s-maj=4.9km s-min=4.2km az=13.9*
DDA ***17*** *13:53:54.4, 37.°97N×34.°72E, h7km, Md2.6, Suspected Mining explosion.*
CSEM ***17*** *13:53:55.0±0.4, 37.°96N×34.°77E, h1km, ML1.8, Error ellipse: s-maj=7.3km s-min=6.8km az=6.0, Suspected Mining explosion.*

ISC 17 13:53:53.8±0.8, 37.°91N±0.°03×34.°86E±0.°04, h0km, n12, σ0s64/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIG	**Nigde**	**0.28**	**315**	PG		**Pg**	**13 53 58.9**	**-0.2**
NIG				*e*SG		**Sg**	**13 54 03.1**	**+0.4**
NIG	**Nigde**	**0.28**	**315**	*i* Pg		**Pg**	**13 53 58.9**	**-0.2**
NIG				*e*Sg		**Sg**	**13 54 03.1**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**0.44**	**66**	P		**Pb**	**13 54 04.3**	**-0.2**
YAHY				S		**Sb**	**13 54 13.0**	**+1.3**
YAHY	**KAYSERI_Yahyal**	**0.44**	**66**	*i* P		**Pb**	**13 54 04.3**

15nm,0.3s,baz=324,slow=22,SNR=4.8

MJAR				LR	LR	14 22 42.4		
	comp=Z,158nm,18.5s,baz=85,slow=44							
MAT	**Matsushiro**	**2.12**	**270**	P	**Pn**	**14 21 38.3**	**+0.5**	
MAT				S	**Sb**	**14 22 07.5**	**+0.4**	
JHJ	**Hachijo jima 2**	**3.55**	**194**	Pn	**Pn**	**14 21 58.3**	**+0.8**	
	4.1nm,0.3s,baz=88,slow=10,SNR=1.6							
JHJ				Sn	**Sn**	**14 22 40.6**	**+1.4**	
	5.0nm,0.3s,baz=245,slow=3.1,SNR=2.2							
JNU	**Nakatsue**	**8.88**	**250**	LR	LR	14 27 14.4		
	comp=Z,19nm,19.8s,baz=126,slow=41							
KSRS	**Korea Array**	**10.37**	**279**	Pn	Pn	14 23 38.6	+7.6	
	0.1nm,0.3s,baz=95,slow=14,SNR=3.3							
KSRS				LR	LR	14 27 03.6		
	comp=Z,50nm,18.6s,baz=132,slow=34							
H11N2	**WAKE ISLAND Hy**	**28.32**	**119**	T	T	14 56 26.9		
	baz=313,slow=75,SNR=101							
H11N1	**WAKE ISLAND Hy**	**28.32**	**119**	T	T	14 56 26.9		
	baz=313,slow=75,SNR=69							
H11N3	**WAKE ISLAND Hy**	**28.33**	**119**	T	T	14 56 27.6		
	baz=313,slow=75,SNR=85							
H11S1	**WAKE ISLAND Hy**	**29.00**	**121**	T	T	14 57 13.8		
	baz=314,slow=76,SNR=577							
H11S3	**WAKE ISLAND Hy**	**29.00**	**121**	T	T	14 57 11.0		
	baz=314,slow=76,SNR=470							
H11S2	**WAKE ISLAND Hy**	**29.02**	**121**	T	T	14 57 21.3		
	baz=314,slow=76,SNR=330							
ZALV	**Zalesovo Beam**	**41.89**	**313**	P	**P**	**14 28 51.6**	**-0.7**	
	0.8nm,0.5s,baz=107,slow=7.2,SNR=3.5							
MKAR	**Makanchi Array**	**43.98**	**302**	P	**P**	**14 29 09.4**	**0.0**	
	0.2nm,0.7s,baz=82,slow=3.1,SNR=2.8							
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**14 29 23.7**	**-1.1**	
	1.3nm,0.6s,baz=84,slow=7.8,SNR=8.0							
WRA	**Warramunga Arr**	**56.54**	**187**	P	**P**	**14 30 42.6**	**-2.1**	
	0.6nm,0.8s,baz=6.5,slow=7.1,SNR=4.7							
ASAR	**Alice Springs**	**60.27**	**187**	P	**P**	**14 31 09.2**	**-1.5**	
	0.4nm,0.9s,baz=15,slow=7.9,SNR=4.5							
DZM	**Mont Dzumac**	**63.14**	**153**	LR	LR	14 55 03.6		
	comp=Z,32nm,19.3s,baz=190,slow=32							
NOA	**NORSAR Array B**	**74.43**	**337**	P	**P**	**14 32 42.8**	**+2.8**	
	0.8nm,0.8s,baz=39,slow=6.1,SNR=2.5							
MLR	**Muntele Rosu**	**79.44**	**320**	LR	LR	15 11 39.7		
	comp=Z,8.2nm,18.7s,baz=180,slow=38							

NEIC ***17*** *14:31:37.0±0.5,55.94S×26.78W,h35km,mb4.2/2,Error ellipse: s-maj=13.5km s-min=10.6km az=209.0*

ISCJB ***17*** *14:31:38.1±0.8,56.0S±0.1×27.0W±0.2,h63km,mb4.2/5, Error ellipse: s-maj=17.1km s-min=12.6km az=37.9*

IDC ***17*** *14:31:42.2±12.0,55.97S×27.04W,h76km±112km,mb3.8/4, mb1 4.0/4,mb1mx3.7/19,mbtmp4.1/4,Error ellipse: s-maj=41.2km s-min=24.8km az=73.0*

ISC 17 14:31:39.7±0.8,56.0S±0.1×27.0W±0.1,h63km,n17, σ1°28/12,mb4.2/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.73**	**283**	*e*Pn	**Pn**	**14 33 00.2**	**-1.8**
SNAA	**Sanae**	**18.75**	**156**	*e*P	**Pn**	**14 35 53.3**	**-0.9**
	32nm,0.3s						
EFI	**East Falkland**	**18.77**	**270**	P	**Pn**	**14 35 54.5**	**0.0**
PMSA	**Palmer Station**	**20.05**	**229**	*e*P	**P**	**14 36 06.5**	**-0.6**
	3.6nm,0.5s						
QSPA	**South Pole Qui**	**34.27**	**180**	*e*P	**P**	**14 38 19.9**	**+0.5**
	2.6nm,0.4s						
CPUP	**Villa Florida**	**36.87**	**311**	P	**P**	**14 38 42.4**	**+0.6**
	0.7nm,0.3s,baz=213,slow=17,SNR=3.0						
SUR	**Sutherland**	**40.49**	**75**	P	**P**	**14 39 10.0**	**-2.3**
VNDA	**Vanda**	**46.65**	**183**	P	**P**	**14 40 02.2**	**+1.2**
	1.4nm,0.6s,baz=184,slow=9.0,SNR=8.9						
H10S2	**ASCENSION HYDR**	**47.89**	**16**	T	T	15 33 06.9	
	baz=189,slow=75,SNR=80						
H10S3	**ASCENSION HYDR**	**47.90**	**16**	T	T	15 33 03.2	
	baz=189,slow=75,SNR=61						
H10S1	**ASCENSION HYDR**	**47.91**	**16**	T	T	15 33 06.4	
	baz=189,slow=75,SNR=58						
H10N3	**ASCENSION HYDR**	**49.01**	**16**	T	T	15 34 31.0	
	baz=264,slow=74,SNR=50						
H10N2	**ASCENSION HYDR**	**49.03**	**16**	T	T	15 34 32.1	
	baz=190,slow=74,SNR=32						
LPAZ	**La Paz**	**50.45**	**305**	P	**P**	**14 40 32.5**	**+0.9**
	2.1nm,0.5s,baz=113,slow=4.6,SNR=9.1						
TORD	**Torodi Ar. Bea**	**72.33**	**29**	P	**P**	**14 43 03.3**	**+1.3**
	1.5nm,0.5s,baz=201,slow=6.0,SNR=18						
ILAR	**Eielson Array**	**150.17**	**312**	PKPbc	**PKPbc**	**14 51 22.2**	**+0.5**
	1.8nm,0.7s,baz=130,slow=2.8,SNR=8.8						
SONM	**Songino Array**	**150.59**	**86**	PKPbc	**PKPbc**	**14 51 24.0**	**+0.6**
	0.8nm,0.5s,baz=255,slow=2.7,SNR=4.8						

IDC 17 14:31:50.6±13.0,19.59S×178.70W,h520km±155km, mb2.7/4,mb1 3.1/4,mb1mx2.8/18,mbtmp3.6/4,Error ellipse: s-maj=122.3km s-min=44.8km az=164.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.08**	**261**	P	P	14 39 12.4	-0.2
	0.2nm,0.3s,baz=96,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**44.10**	**256**	P	P	14 39 12.6	-0.1
	0.3nm,0.5s,baz=91,slow=8.3,SNR=12						
TXAR	**Lajitas Array**	**87.12**	**58**	P	P	14 43 41.2	-0.2
	0.4nm,0.8s,baz=207,slow=5.8,SNR=5.0						
ILAR	**Eielson Array**	**87.58**	**13**	P	P	14 43 42.9	+0.2
	0.3nm,0.5s,baz=230,slow=6.8,SNR=5.1						
BRTR	**Keskin Array B**	**145.74**	**313**	PKPbc	PKPdf	14 50 30.9	+0.7
	0.6nm,0.6s,baz=145,slow=4.5,SNR=3.8						

ISCJB ***17*** *14:41:11.4±0.6,37.80N±0.03×26.88E±0.05,h7km±5km, Error ellipse: s-maj=6.8km s-min=4.2km az=146.7*

CSEM ***17*** *14:41:11.6±0.2,37.80N×26.88E,h10km,MD2.8,Error ellipse: s-maj=5.9km s-min=4.1km az=62.0*

DDA ***17*** *14:41:12.0,37.84N×26.94E,h8km,Md2.8*

ISK ***17*** *14:41:11.1,37.80N×26.90E,h13km,MD2.9*

ISC 17 14:41:11.8±1.0,37.81N±0.02×26.90E±0.03,h12km±8km, n32,σ0°35/44,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**˜zmir**	**0.24**	**357**	*i* P	**Pg**	**14 41 16.7**	**-0.2**
DGB				*i* S	**Sg**	**14 41 19.8**	**-0.6**
GCAM	**G?zelcaml?**	**0.29**	**112**	P	**Pg**	**14 41 17.7**	**-0.1**
GCAM				S	**Sg**	**14 41 22.1**	**+0.4**
GCAM	**G?zelcaml?**	**0.29**	**112**	*i* P	**Pg**	**14 41 17.7**	**-0.1**
GCAM				*i* S	**Sg**	**14 41 22.1**	**+0.4**
ZEY	**˜zmir**	**0.53**	**324**	*i* P	**Pg**	**14 41 22.1**	**-0.1**
ZEY				*i* S	**Sb**	**14 41 30.1**	**-0.6**
URLA	**Izmir**	**0.60**	**337**	P	**Pg**	**14 41 23.8**	**+0.2**
URLA				S	**Sg**	**14 41 32.0**	**+0.5**
URLA	**Izmir**	**0.60**	**337**	*i* P	**Pg**	**14 41 23.8**	**+0.2**
URLA				*i* S	**Sg**	**14 41 32.0**	**+0.5**
IZM	**Izmir**	**0.65**	**26**	*e*PG	**Pg**	**14 41 23.8**	**-0.8**
IZM				*e*SG	**Sb**	**14 41 34.4**	**+0.1**
IZM	**Izmir**	**0.65**	**26**	*e*Pg	**Pg**	**14 41 23.8**	**-0.8**
IZM				*e*Sg	**Sb**	**14 41 34.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**80**	*e*PG	**Pg**	**14 41 27.2**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**80**	*e*Pg	**Pg**	**14 41 27.2**	**-0.1**
BODT	**Bodrum**	**0.82**	**156**	*e*PG	**Pg**	**14 41 27.2**	**-0.4**
BODT	**Bodrum**	**0.82**	**156**	*e*Pg	**Pg**	**14 41 27.2**	**-0.4**
BDRM	**Kayabasi**	**0.86**	**149**	P	**Pb**	**14 41 29.1**	**+0.3**
BDRM				S	**Sb**	**14 41 40.4**	**+0.2**
BDRM	**Kayabasi**	**0.86**	**149**	*i* P	**Pb**	**14 41 29.1**	**+0.3**
BDRM				*i* S	**Sb**	**14 41 40.4**	**+0.2**
CHOS	**Chios island**	**0.88**	**311**	*e*PG	**Pg**	**14 41 28.5**	**-0.3**
CHOS	**Chios island**	**0.88**	**311**	*e*Pg	**Pg**	**14 41 28.5**	**-0.3**
DKL	**Dikili**	**1.26**	**0**	*e*PN	**Pn**	**14 41 35.1**	**-0.1**
DKL	**Dikili**	**1.26**	**0**	*e*Pn	**Pn**	**14 41 35.1**	**-0.1**
AKS	**Akhisar**	**1.29**	**34**	*e*PN	**Pn**	**14 41 35.6**	**-0.1**
AKS	**Akhisar**	**1.29**	**34**	*e*Pn	**Pn**	**14 41 35.6**	**-0.1**
YER	**Yerkesik**	**1.29**	**121**	*e*PN	**Pn**	**14 41 35.4**	**-0.4**
YER	**Yerkesik**	**1.29**	**121**	*e*Pn	**Pn**	**14 41 35.4**	**-0.4**
APE	**Apeiranthos**	**1.31**	**236**	*e*PN	**Pn**	**14 41 35.7**	**-0.4**
APE	**Apeiranthos**	**1.31**	**236**	*e*Pn	**Pn**	**14 41 35.7**	**-0.4**
KULA	**Kula-Manisa**	**1.56**	**63**	*e*PN	**Pn**	**14 41 39.1**	**-0.3**
KULA	**Kula-Manisa**	**1.56**	**63**	*e*Pn	**Pn**	**14 41 39.1**	**-0.3**
SIGR	**SIGRI**	**1.62**	**330**	*e*PN	**Pn**	**14 41 40.4**	**+0.2**
SIGR	**SIGRI**	**1.62**	**330**	*e*Pn	**Pn**	**14 41 40.4**	**+0.2**
DEMI	**Demirci**	**1.89**	**49**	P	**Pb**	**14 41 46.5**	**+0.3**
DEMI				S	**Sb**	**14 42 09.8**	**0.0**
DEMI	**Demirci**	**1.89**	**49**	*i* P	**Pb**	**14 41 46.5**	**+0.3**
DEMI				*i* S	**Sb**	**14 42 09.8**	**0.0**
TVSB	**Tavsanli**	**2.59**	**50**	*e*PN	**Pn**	**14 41 53.6**	**0.0**
TVSB	**Tavsanli**	**2.59**	**50**	*e*Pn	**Pn**	**14 41 53.6**	**0.0**

MEX 17 14:44:11.4±0.3,17.33N×101.20W,h22km±8km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.94**	**108**	*i* P	Pb	14 44 26.1	-2.9
CAIG				*i* S	Sb	14 44 37.7	-3.3
MEIG	**Mezcala**	**1.62**	**68**	*i* P	Pn	14 44 35.8	-2.9
MEIG				*i* S	Sn	14 44 55.1	-3.8
PLIG	**Platanillo**	**1.93**	**57**	*i* P	Pn	14 44 40.7	-2.3
PLIG				*i* S	Sn	14 45 03.2	-3.4
TLIG	**Tlapa**	**2.53**	**84**	*i* P	Pn	14 44 49.0	-2.2
TLIG				*i* S	Sn	14 45 18.4	-3.0
YAIG	**Yautepec**	**2.54**	**53**	*i* S	Sn	14 45 18.4	-3.3

NIED ***17*** *14:46:00,37.70N×143.50E,h5km,Mw3.7 Best double couple: M0=4.60000×10^14 NP1:φs=38.00000°,δ36.00000°, λ=-69.00000°. NP2:φs=193.00000°,δ57.00000°, λ=-105.00000°.*

IDC ***17*** *14:46:06.8±0.9,37.52N×143.67E,h0km,mb3.7/7, mb1 3.8/11,mb1mx3.6/54,mbtmp3.8/11,ML3.7/4,MS2.8/5, Ms1 2.8/5,ms1mx2.5/34,Error ellipse: s-maj=26.5km s-min=16.7km az=101.0*

ISCJB ***17*** *14:46:09.8±0.6,37.64N±0.03×143.53E±0.05,h33km, mb3.7/7,MS3.5/1,Error ellipse: s-maj=5.6km s-min=4.2km az=6.3*

JMA ***17*** *14:46:10.2±0.1,37.67N×143.49E,h43km,M3.8*

ISC 17 14:46:10.7±0.8,37.61N±0.04×143.68E±0.07,h35km,n37, σ2°41/47,mb3.7/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.03**	**295**	P	**Pn**	**14 46 40.9**	**-1.4**
JIO				*e*S	**Sn**	**14 47 03.6**	**-2.8**
OFUJ	**Ofunato**	**2.16**	**313**	P	**Pn**	**14 46 42.5**	**-1.6**
OFUJ				*e*S	**Sn**	**14 47 06.0**	**-3.7**
JMK	**Ichinoseki**	**2.36**	**305**	P	**Pn**	**14 46 45.4**	**-1.4**
JMK				*e*S	**Sn**	**14 47 11.6**	**-2.9**
JOU	**Okura**	**2.50**	**288**	P	**Pn**	**14 46 48.1**	**-0.8**
JOU				*e*S	**Sn**	**14 47 15.9**	**-2.3**
JOM	**Ohasama**	**2.64**	**316**	P	**Pn**	**14 46 49.8**	**-1.0**
JOM				*e*S	**Sn**	**14 47 18.7**	**-2.9**
JFT	**Otama**	**2.66**	**269**	P	**Pn**	**14 46 50.1**	**-0.9**
JFT				*e*S	**Sn**	**14 47 20.1**	**-2.0**
JYK	**Kaneyama**	**2.92**	**298**	P	**Pn**	**14 46 53.8**	**-0.8**
JYK				*e*S	**Sn**	**14 47 26.6**	**-1.9**
JRG	**Rokugo**	**2.98**	**308**	P	**Pn**	**14 46 54.9**	**-0.6**
JRG				*e*S	**Sn**	**14 47 29.1**	**-0.9**
JANG	**Nango**	**3.24**	**329**	P	**Pn**	**14 46 58.5**	**-0.4**
JANG				*e*S	**Sn**	**14 47 33.6**	**-2.7**
JAG	**Ashikaga**	**3.58**	**252**	P	**Pn**	**14 47 03.4**	**-0.3**
JAG				*e*S	**Sn**	**14 47 43.1**	**-1.8**
BSO1	**Boso 1**	**3.67**	**217**	P	**Pn**	**14 47 04.2**	**-0.3**
BSO1				S	**Sn**	**14 47 46.2**	**-0.1**
JTM	**Tenmabayashi**	**3.77**	**328**	*e*S	**Sn**	**14 47 46.1**	**-3.2**
JRY	**Ryogami san**	**4.15**	**249**	P	**Pn**	**14 47 10.9**	**-0.7**
JRY				*e*S	**Sn**	**14 47 55.7**	**-3.2**
JOT	**Ohata**	**4.28**	**332**	P	**Pn**	**14 47 13.2**	**-0.1**
JOD2	**Odawara 2**	**4.38**	**239**	P	**Pn**	**14 47 15.3**	**+0.6**
JOD2				*e*S	**Sn**	**14 48 00.9**	**-3.7**
MJAR	**Matsushiro Arr**	**4.50**	**258**	Pn	**Pn**	**14 47 17.2**	**+0.8**
	4.5nm,0.3s,baz=89,slow=15,SNR=30						
MJAR				Sn	**Sn**	**14 48 09.8**	**+2.2**
	1.2nm,0.3s,baz=56,slow=45,SNR=3.6						
MJAR				LR	LR	14 49 19.7	
	comp=Z,63nm,18.2s,baz=55,slow=43						
MAT	**Matsushiro**	**4.51**	**258**	P	**Pn**	**14 47 16.8**	**+0.4**
MAT				S	**Sn**	**14 48 08.0**	**+0.4**
JKB	**Kayabe**	**4.74**	**335**	P	**Pn**	**14 47 19.8**	**+0.3**
JCH	**Churui**	**5.00**	**357**	P	**Pn**	**14 47 21.8**	**-1.4**
JCH				*e*S	**Sn**	**14 48 15.4**	**-4.4**
JHJ	**Hachijo jima 2**	**5.50**	**217**	Pn	**Pn**	**14 47 29.4**	**-0.6**
	8.1nm,0.3s,baz=256,slow=23,SNR=13						
JHJ				Sn	**Sn**	**14 48 27.6**	**-4.5**
	8.2nm,0.3s,baz=54,slow=23,SNR=3.5						
JCJ	**Chichijima**	**10.56**	**187**	Pn	**Pn**	**14 48 36.2**	**-3.3**
	1.5nm,0.3s,baz=268,slow=21,SNR=3.7						
JCJ				Sn	**Sn**	**14 50 28.2**	**-8.3**
JNU	**Nakatsue**	**11.37**	**251**	LR	LR	14 53 53.5	
	comp=Z,26nm,18.7s,baz=299,slow=41						
KSRS	**Korea Array**	**12.52**	**274**	Pn	P	14 49 10.1	-7.3
	0.1nm,0.3s,baz=86,slow=14,SNR=3.0						
KSRS				LR	LR	14 53 41.8	
	comp=Z,28nm,18.0s,baz=10.0,slow=36						
KLR	**Kul'dur**	**14.47**	**327**	Pn	**Pn**	**14 49 32.9**	**+0.1**
	0.1nm,0.3s,baz=122,slow=17,SNR=3.9						
KLR				LR	LR	14 55 16.1	
	comp=Z,38nm,18.2s,baz=154,slow=38						
SEY	**Seymchan**	**25.91**	**9**	P	**P**	**14 51 41.4**	**+2.3**
	1.8nm,0.8s,baz=226,slow=9.5,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**26.94**	**125**	T	T	15 20 08.3	
	baz=317,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**26.95**	**125**	T	T	15 20 10.6	
	baz=317,slow=75,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**26.96**	**125**	T	T	15 20 10.0	
	baz=317,slow=75,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**27.71**	**127**	T	T	15 21 09.1	
	baz=320						
H11S3	**WAKE ISLAND Hy**	**27.71**	**127**	T	T	15 21 08.3	
	baz=320						
H11S2	**WAKE ISLAND Hy**	**27.72**	**127**	T	T	15 21 10.3	
	baz=320						
MKAR	**Makanchi Array**	**45.35**	**302**	P	**P**	**14 54 27.0**	**+1.7**
	0.2nm,0.5s,baz=82,slow=9.1,SNR=4.2						
ILAR	**Eielson Array**	**48.04**	**33**	P	**P**	**14 54 48.2**	**+2.2**
	0.9nm,0.8s,baz=264,slow=6.5,SNR=9.4						
BVAR	**Borovoye Array**	**51.52**	**312**	P	**P**	**14 55 13.9**	**+1.2**
	0.3nm,0.3s,baz=65,slow=8.1,SNR=2.6						
WRA	**Warramunga Arr**	**57.92**	**190**	P	**P**	**14 56 00.2**	**+0.9**
	1.3nm,0.8s,baz=11,slow=7.4,SNR=11						
WRA				LR	LR	15 24 18.8	
	comp=Z,34nm,19.3s,baz=205,slow=40						
ASAR	**Alice Springs**	**61.64**	**190**	P	**P**	**14 56 25.9**	**+1.1**
	0.2nm,0.8s,baz=12,slow=15,SNR=4.2						
HFS	**Hagfors**	**74.30**	**337**	P	**P**	**14 57 45.8**	**+1.8**
	2.1nm,0.8s,baz=77,slow=7.6,SNR=2.9						

IDC 17 14:48:06.8±2.1,1.33N×129.21E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/46,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=139.3km s-min=20.1km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.63**	**190**	P	P	14 52 37.0	-0.1
	0.1nm,0.3s,baz=42,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**21.73**	**167**	P	P	14 52 58.1	-1.7
	0.2nm,0.3s,baz=344,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**25.26**	**170**	P	P	14 53 36.0	+1.1
	1.1nm,0.6s,baz=349,slow=11,SNR=15						
MKAR	**Makanchi Array**	**60.93**	**325**	P	P	14 58 21.2	-0.4
	0.7nm,0.6s,baz=120,slow=8.7,SNR=7.7						
KURBB	**Kurchatov Arra**	**65.08**	**327**	P	P	14 58 49.5	+0.3
	0.4nm,0.6s,baz=132,slow=6.0,SNR=6.6						

ISCJB ***17*** *14:58:11.5±0.8,32.20N±0.03×115.27W±0.07, h18km±12km,Error ellipse: s-maj=10.0km s-min=5.5km az=165.6*

ECX ***17*** *14:58:12.6±0.6,32.18N×115.27W,h7km,MD2.5,ML2.8*

MEX ***17*** *14:58:13.5±0.5,32.24N×115.19W,h16km±381km,MD3.6*

ISC 17 14:58:10.6±1.1,32.21N±0.05×115.22W±0.07, h26km±10km,n13,σ0°42/19,1C,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.20**	**5**	*e*S	**Sb**	**14 58 19.8**	**-0.5**
CPBX	**Cerro Prieto**	**0.22**	**341**	*e*P	**Pb**	**14 58 16.7**	**+0.1**
CPBX				*e*S	**Sb**	**14 58 21.0**	**+0.2**
CPBX				IAML		14 58 22.3	
	comp=E,4μm,0.3s						
CPBX				⇑*e*		14 58 22.3	
WESC	**Westside Schoo**	**0.70**	**322**	*e*P	**Pn**	**14 58 24.9**	**+0.1**
ECBX	**El Chinero**	**0.75**	**169**	*e*P	**Pn**	**14 58 25.6**	**+0.2**
ECBX				*e*S	**Sn**	**14 58 35.6**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.87**	**301**	*e*P	**Pn**	**14 58 27.5**	**+0.3**
ZAX	**El Zacaton**	**1.13**	**233**	*e*P	**Pb**	**14 58 31.2**	**-0.3**
ZAX				*e*S	**Sb**	**14 58 45.8**	**0.0**
ZAX				*e*S	**Sn**	**14 58 46.6**	**+1.0**
SPIG	**San Pedro Mart**	**1.18**	**190**	*e*P	**Pb**	**14 58 32.5**	**0.0**
SPIG				*i* S	**Sn**	**14 58 46.6**	**-0.4**
SPIG	**San Pedro Mart**	**1.18**	**190**	*e*P	**Pb**	**14 58 32.4**	**0.0**
TJIG	**Tijuana**	**1.25**	**281**	*i* P	**Pb**	**14 58 33.1**	**-0.4**
TJIG				*e*S	**Sn**	**14 58 47.7**	**-0.8**
TJIG	**Tijuana**	**1.25**	**281**	*e*P	**Pb**	**14 58 33.8**	**+0.3**
ECNX	**Esteban Cantu**	**1.29**	**245**	*e*P	**Pb**	**14 58 34.3**	**0.0**
BAR	**Barrett**	**1.31**	**291**	*e*P	**Pb**	**14 58 34.7**	**+0.1**
PBX	**Punta Banda**	**1.36**	**250**	*e*P	**Pb**	**14 58 35.0**	**-0.4**

ISCJB ***17*** *15:01:01.9±0.4,49.84N±0.03×18.45E±0.03,h0km,Error ellipse: s-maj=4.2km s-min=2.1km az=18.7*

IPEC ***17*** *15:01:02.9±0.2,49.83N×18.56E,h0km±3km,ML2.1/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*

CSEM ***17*** *15:01:03.2±0.2,49.83N×18.46E,h2km,ML2.6/8,Error ellipse: s-maj=6.1km s-min=3.0km az=13.0*

VIE ***17*** *15:01:04.6±0.9,49.65N×18.43E,h0km,mb2.5/3,ML2.3/3, Error ellipse: s-maj=7.8km s-min=5.0km az=49.0, Suspected Mining induced.*

PRU ***17*** *15:01:04.1,49.83N×18.46E,h0km*

ISC 17 15:01:02.8±0.7,49.82N±0.03×18.51E±0.02,h0km,n45, σ1°15/76,4C-7D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.23**	**274**	⇓*i* PG	**Pg**	**15 01 08.5**	**+1.2**
OKC				*e*SG	**Sg**	**15 01 11.4**	**+1.1**
	229nm,0.7s						
OKC	**Ostrava-Krasne**	**0.23**	**274**	Pg	**Pg**	**15 01 08.5**	**+1.2**
OKC				Sg	**Sg**	**15 01 11.4**	**+1.1**
	229nm,0.7s						
RAC	**Raciborz**	**0.33**	**323**	*e*Sg	**Sg**	**15 01 15.0**	**+1.6**
MORC	**Moravsky Berou**	**0.63**	**266**	⇓*i* P	**Pg**	**15 01 15.4**	**+0.6**
MORC	**Moravsky Berou**	**0.63**	**266**	S	**Sn**	**15 01 28.8**	**-1.0**
MORC	**Moravsky Berou**	**0.63**	**266**	*e*Pg	**Pg**	**15 01 15.5**	**+0.6**
MORC				*e*Sg	**Sg**	**15 01 23.5**	**+0.6**
	38nm,0.6s						
LANS	**Liptovska Anna**	**0.92**	**137**	*e*PG	**Pg**	**15 01 21.2**	**+0.8**
LANS				*e*SG	**Sb**	**15 01 34.6**	**+0.2**
OJC	**Ojcow**	**0.92**	**64**	*e*Pg	**Pg**	**15 01 20.5**	**0.0**
OJC				*e*Sg	**Sg**	**15 01 33.4**	**+0.9**
OJC	**Ojcow**	**0.92**	**64**	*e*Pg	**Pg**	**15 01 20.5**	**0.0**
OJC				*e*Sg	**Sg**	**15 01 33.4**	**+0.9**
NIE	**Niedzica**	**1.23**	**108**	*e*Pg	**Pg**	**15 01 26.9**	**+0.4**
NIE				*e*Sg	**Sb**	**15 01 44.0**	**+0.5**
NIE	**Niedzica**	**1.23**	**108**	*e*Pg	**Pg**	**15 01 26.9**	**+0.4**
NIE				*e*Sg	**Sb**	**15 01 44.0**	**+0.5**
VRAC	**Vranov**	**1.35**	**248**	⇑*i* P	**Pg**	**15 01 27.9**	**-0.7**
VRAC	**Vranov**	**1.35**	**248**	⇑*i* P	**Pg**	**15 01 27.9**	**-0.7**
VRAC	**Vranov**	**1.35**	**248**	*e*Pg	**Pg**	**15 01 28.6**	**0.0**
VRAC				*e*Sg	**Sg**	**15 01 46.1**	**0.0**
	24nm,0.5s						
VRAC				S	**Sn**	**15 01 47.9**	**+0.4**
VYHS	**Vyhne**	**1.35**	**171**	*e*PN	**Pg**	**15 01 28.4**	**-0.2**
VYHS				*e*SN	**Sb**	**15 01 47.0**	**+0.3**
VYHS				*e*LG	Lg	15 01 49.4	
SMOL	**Smolenice**	**1.49**	**209**	*e*PN	**Pn**	**15 01 30.8**	**0.0**
SMOL				*e*SN	**Sg**	**15 01 50.6**	**0.0**
DPC	**Dobruska-Polom**	**1.50**	**291**	*e*PG	**Pn**	**15 01 30.8**	**-0.3**
DPC				*e*SG	**Sb**	**15 01 51.2**	**-0.1**
	18nm,0.6s						
DPC	**Dobruska-Polom**	**1.50**	**291**	Pg	**Pn**	**15 01 30.8**	**-0.3**
DPC				Sg	**Sb**	**15 01 51.2**	**-0.1**
	18nm,0.6s						
UPC	**Upice**	**1.74**	**294**	⇓*e*PG	**Pn**	**15 01 35.0**	**+0.6**
UPC				*e*SG	**Sg**	**15 01 58.8**	**0.0**
UPC	**Upice**	**1.74**	**294**	Pg	**Pn**	**15 01 35.0**	**+0.6**
UPC				Sg	**Sg**	**15 01 58.8**	**0.0**
KSP	**Ksiaz**	**1.75**	**307**	*e*Pg	**Pb**	**15 01 36.0**	**+0.2**
KSP				*e*Sg	**Sg**	**15 01 58.9**	**-0.1**
KSP	**Ksiaz**	**1.75**	**307**	*e*Pg	**Pb**	**15 01 36.0**	**+0.2**
KSP				*e*Sg	**Sg**	**15 01 58.9**	**-0.1**
STHS	**Stebnicka Huta**	**1.83

HIZ	Hauiti	0.57	321	Pn	Pn	15 13 07.6	-0.2
MOVZ	Moawhango	0.57	143	PN	Pn	15 13 07.5	-0.3
MOVZ				SN	Sn	15 13 22.4	-1.5
MOVZ	Moawhango	0.57	143	Pn	Pn	15 13 07.5	-0.3
TLZ	Tolley Road	0.65	16	⇓PN	Pn	15 13 08.1	-0.2
TLZ	Tolley Road	0.65	16	Pn	Pn	15 13 08.2	-0.2
MHEZ	Mangahewa	0.78	261	⇓PN	Pn	15 13 09.2	+0.1
MHEZ	Mangahewa	0.78	261	Pn	Pn	15 13 09.2	+0.1
WAZ	Wanganui	0.84	197	⇑PN	Pn	15 13 09.6	-0.1
WAZ	Wanganui	0.84	197	Pn	Pn	15 13 09.6	-0.1
LREZ	Lake Rotokare	0.87	234	⇓PN	Pn	15 13 10.1	+0.2
MRHZ	Matea Rd	0.87	83	PN	Pn	15 13 09.4	-0.5
MRHZ				SN	Sn	15 13 26.3	-1.2
DREZ	Durham Road	0.90	254	PN	Pn	15 13 09.8	-0.3
DREZ	Durham Road	0.90	254	Pn	Pn	15 13 09.8	-0.3
BKZ	Black Stump Fm	0.94	103	⇓PN	Pn	15 13 10.2	-0.3
BKZ				AML	AML	15 13 28.4	
BKZ				AML	AML	15 13 29.5	
BKZ	Black Stump Fm	0.94	103	Pn	Pn	15 13 10.2	-0.3
PREZ	Palmer Road	0.98	246	PN	Pn	15 13 10.6	-0.2
PREZ	Palmer Road	0.98	246	Pn	Pn	15 13 10.6	-0.1
KWHZ	Kaweka Forest	0.98	119	PN	Pn	15 13 11.1	+0.2
KWHZ				SN	Sn	15 13 29.2	0.0
NEZ	North Egmont	1.00	251	⇑PN	Pn	15 13 10.8	-0.2
NEZ	North Egmont	1.00	251	Pn	Pn	15 13 10.8	-0.2
KRHZ	Kereru	1.07	130	Pn	Pn	15 13 11.7	+0.1
NMHZ	Naumai	1.17	98	PN	Pn	15 13 13.3	+0.7
NMHZ	Naumai	1.17	98	Pn	Pn	15 13 13.3	+0.7
PNHZ	Pukenui	1.18	145	⇓PN	Pn	15 13 12.6	0.0
PNHZ	Pukenui	1.18	145	Pn	Pn	15 13 12.6	0.0
MCHZ	McNeill Hill	1.18	115	⇓PN	Pn	15 13 13.5	+0.9
MCHZ	McNeill Hill	1.18	115	Pn	Pn	15 13 13.5	+0.9
TSZ	Takapari Road	1.21	156	PN	Pn	15 13 12.9	0.0
TSZ				AML	AML	15 13 32.2	
TSZ				AML	AML	15 13 33.0	
TSZ	Takapari Road	1.21	156	Pn	Pn	15 13 12.9	0.0
OHWZ	Ohakea	1.25	180	⇑PN	Pn	15 13 13.5	+0.2
ARHZ	Aropaoanui	1.35	104	⇓PN	Pn	15 13 14.8	+0.5
ARHZ	Aropaoanui	1.35	104	Pn	Pn	15 13 14.8	+0.5
RTZ	Ruatahuna	1.35	76	PN	Pn	15 13 13.9	-0.5
RAHZ	Arahi	1.38	89	Pn	Pn	15 13 15.0	+0.4
WPHZ	Waipukurau	1.41	142	⇓PN	Pn	15 13 14.8	-0.1
WPHZ	Waipukurau	1.41	142	Pn	Pn	15 13 14.8	-0.1
KAHZ	Kahuranaki	1.48	125	⇓PN	Pn	15 13 15.9	+0.2
KAHZ	Kahuranaki	1.48	125	Pn	Pn	15 13 15.9	+0.2
POWZ	Post Office Ro	1.48	166	PN	Pn	15 13 15.0	-0.6
POWZ	Post Office Ro	1.48	166	Pn	Pn	15 13 15.1	-0.6
DVHZ	Dannevirke	1.50	154	PN	Pn	15 13 15.3	-0.6
DVHZ	Dannevirke	1.50	154	Pn	Pn	15 13 15.3	-0.6
WHHZ	Waihua	1.50	95	Pn	Pn	15 13 16.1	+0.3
CKHZ	Cape Kidnapper	1.54	118	PN	Pn	15 13 16.6	+0.3
CKHZ				SN	Sn	15 13 38.4	-0.4
CKHZ	Cape Kidnapper	1.54	118	Pn	Pn	15 13 16.6	+0.3
CKHZ				Sn	Sn	15 13 38.4	-0.4
URZ	Urewera	1.57	64	⇑PN	Pn	15 13 15.9	-0.7
URZ				AML	AML	15 13 37.6	
URZ				AML	AML	15 13 38.0	
URZ	Urewera	1.57	64	*e*Pn	Pn	15 13 16.0	-0.6
URZ				*e*Sn	Sn	15 13 37.2	-2.1
PXZ	Pawanui	1.61	132	⇓PN	Pn	15 13 16.8	-0.2
PXZ				AML	AML	15 13 39.6	
PXZ				AML	AML	15 13 39.7	
PXZ				AML	AML	15 13 40.6	
PXZ				AML	AML	15 13 40.7	
PXZ	Pawanui	1.61	132	Pn	Pn	15 13 16.8	-0.2
PRHZ	Porangahau	1.66	143	⇓PN	Pn	15 13 17.4	-0.3
PRHZ	Porangahau	1.66	143	Pn	Pn	15 13 17.4	-0.3
PRWZ	Pori Road	1.68	163	PN	Pn	15 13 17.3	-0.5
PRWZ	Pori Road	1.68	163	Pn	Pn	15 13 17.3	-0.5
RAGZ	Rawiri	1.71	75	PN	Pn	15 13 18.1	-0.1
RAGZ	Rawiri	1.71	75	Pn	Pn	15 13 18.1	-0.1
MRZ	Mangatainoka R	1.72	173	⇑PN	Pn	15 13 17.2	-1.0
MRZ	Mangatainoka R	1.72	173	Pn	Pn	15 13 17.2	-1.0
ANWZ	Angora Road	1.75	150	⇓PN	Pn	15 13 18.3	-0.3
KNZ	Kokohu	1.84	93	PN	Pn	15 13 19.3	-0.4
KNZ	Kokohu	1.84	93	Pn	Pn	15 13 19.3	-0.4
MWZ	Matawai	1.84	71	⇑PN	Pn	15 13 19.0	-0.7
MWZ				AML	AML	15 13 46.6	
MWZ				AML	AML	15 13 48.0	
MWZ	Matawai	1.84	71	Pn	Pn	15 13 19.1	-0.7
OGWZ	Otaki Gorge	1.87	183	⇑PN	Pn	15 13 19.0	-1.0
OGWZ	Otaki Gorge	1.87	183	Pn	Pn	15 13 19.0	-1.0
BFZ	Birch Farm	1.87	158	PN	Pn	15 13 19.1	-0.9
BFZ				AML	AML	15 13 42.8	
BFZ				AML	AML	15 13 42.9	
BFZ				AML	AML	15 13 42.9	
BFZ				AML	AML	15 13 42.9	
BFZ	Birch Farm	1.87	158	Pn	Pn	15 13 19.1	-0.9
TIWZ	Tintock	1.87	167	PN	Pn	15 13 19.0	-1.1
TIWZ				AML	AML	15 13 43.9	
TIWZ				AML	AML	15 13 44.1	
TIWZ	Tintock	1.87	167	Pn	Pn	15 13 19.0	-1.1
RIGZ	Rimuhau	1.93	83	⇓PN	Pn	15 13 20.6	-0.2
KIWZ	Kapiti Island	1.93	189	PN	Pn	15 13 19.2	-1.5
KIW				AML	AML	15 13 44.8	
KIW				AML	AML	15 13 45.4	
KIW	Kapiti Island	1.93	189	Pn	Pn	15 13 19.2	-1.5
HOWZ	Holdsworth Sta	1.95	175	⇑PN	Pn	15 13 19.6	-1.3
HOWZ	Holdsworth Sta	1.95	175	Pn	Pn	15 13 19.6	-1.3
MHGZ	Mahia Peninsul	2.03	96	PN	Pn	15 13 21.7	-0.2
MHGZ	Mahia Peninsul	2.03	96	Pn	Pn	15 13 21.7	-0.1
TKGZ	Te Karaka	2.05	76	⇓PN	Pn	15 13 21.9	-0.2
TKGZ	Te Karaka	2.05	76	Pn	Pn	15 13 21.9	-0.2
DUWZ	D'Urville Isla	2.13	210	⇓PN	Pn	15 13 21.5	-1.7
DUWZ	D'Urville Isla	2.13	210	Pn	Pn	15 13 21.5	-1.7
CAWZ	Cannon Point	2.16	185	⇑PN	Pn	15 13 21.9	-1.5
CAW				AML	AML	15 13 49.9	
CAW				AML	AML	15 13 50.6	
CAWZ	Cannon Point	2.16	185	Pn	Pn	15 13 21.9	-1.5
TMWZ	Te Maipa	2.20	169	PN	Pn	15 13 22.5	-1.4
TMWZ	Te Maipa	2.20	169	Pn	Pn	15 13 22.5	-1.4
MTWZ	Mount Morrison	2.21	176	PN	Pn	15 13 22.3	-1.7
MTW				AML	AML	15 13 48.3	
MTW				AML	AML	15 13 50.9	
MTWZ	Mount Morrison	2.21	176	Pn	Pn	15 13 22.4	-1.7
TWGZ	Tauwhareparae	2.23	71	PN	Pn	15 13 24.1	-0.2
TWGZ	Tauwhareparae	2.23	71	Pn	Pn	15 13 24.1	-0.2
HAZ	Te Kaha	2.28	59	PN	Pn	15 13 23.8	-1.0
WELZ	Wellington	2.37	190	⇑PN	Pn	15 13 24.0	-1.9
WEL				AML	AML	15 13 24.7	
WELZ	Wellington	2.37	190	Pn	Pn	15 13 24.0	-1.9
TCWZ	Tory Channel	2.39	199	PN	Pn	15 13 24.4	-1.9
TCW				AML	AML	15 13 54.7	
TCW				AML	AML	15 13 56.5	
TCWZ	Tory Channel	2.39	199	Pn	Pn	15 13 24.4	-1.9
PAWZ	Paruwai Farm	2.43	178	⇑PN	Pn	15 13 24.7	-2.0
PAWZ				AML	AML	15 13 52.8	
PAWZ				AML	AML	15 13 53.0	
PAWZ	Paruwai Farm	2.43	178	Pn	Pn	15 13 24.8	-2.0
TRWZ	Traveller	2.46	173	PN	Pn	15 13 25.4	-1.7
TRWZ				AML	AML	15 13 53.8	
TRWZ				AML	AML	15 13 55.6	
TRWZ	Traveller	2.46	173	Pn	Pn	15 13 25.4	-1.7
MSWZ	Moikau Station	2.46	181	⇑PN	Pn	15 13 25.1	-2.0
MSWZ				AML	AML	15 13 53.4	
MSWZ				AML	AML	15 13 53.5	
MSWZ	Moikau Station	2.46	181	Pn	Pn	15 13 25.1	-2.0
PUZ	Puketiti	2.47	70	PN	Pn	15 13 26.9	-0.7
PUZ				AML	AML	15 13 57.7	
PUZ				AML	AML	15 13 58.9	
BHWZ	Baring Head	2.48	188	⇑PN	Pn	15 13 25.2	-2.0
BHW				AML	AML	15 13 56.2	
BHW				AML	AML	15 13 56.2	
BHWZ	Baring Head	2.48	188	Pn	Pn	15 13 25.2	-2.0
PLWZ	Palliser	2.62	181	PN	Pn	15 13 26.8	-2.3
PLWZ	Palliser	2.62	181	Pn	Pn	15 13 26.8	-2.3
WMGZ	Waiomatatini S	2.69	66	PN	Pn	15 13 28.6	-1.3
WMGZ	Waiomatatini S	2.69	66	Pn	Pn	15 13 28.6	-1.3
TUWZ	Tuamarina	2.69	203	PN	Pn	15 13 27.4	-2.5
TUWZ				AML	AML	15 13 29.2	
TUWZ				AML	AML	15 13 29.3	
TUWZ	Tuamarina	2.69	203	Pn	Pn	15 13 27.4	-2.5
NNZ	Nelson	2.71	213	PN	Pn	15 13 27.6	-2.5
NNZ	Nelson	2.71	213	Pn	Pn	15 13 27.6	-2.5
QRZ	Quartz Range	2.84	228	⇑PN	Pn	15 13 29.0	-2.9
QRZ	Quartz Range	2.84	228	Pn	Pn	15 13 29.0	-2.9
CMWZ	Cape Campbell	2.92	196	PN	Pn	15 13 31.1	-1.7
CMWZ	Cape Campbell	2.92	196	Pn	Pn	15 13 31.1	-1.7
BSWZ	Blackbirch Sta	2.97	201	PN	Pn	15 13 31.2	-2.3
BSWZ	Blackbirch Sta	2.97	201	Pn	Pn	15 13 31.2	-2.3
THZ	Tophouse	3.36	212	PN	Pn	15 13 35.4	-3.2
THZ	Tophouse	3.36	212	Pn	Pn	15 13 35.4	-3.2
KHZ	Kahutara	3.71	201	⇑PN	Pn	15 13 40.3	-2.8
KHZ	Kahutara	3.71	201	Pn	Pn	15 13 40.3	-2.8
DSZ	Denniston Nort	3.87	223	PN	Pn	15 13 41.5	-3.7
DSZ	Denniston Nort	3.87	223	Pn	Pn	15 13 41.5	-3.7
LTZ	Lake Taylor	4.47	210	PN	Pn	15 13 48.8	-4.2
LTZ	Lake Taylor	4.47	210	Pn	Pn	15 13 48.9	-4.2
INZ	Inchbonnie	4.78	217	PN	Pn	15 13 52.5	-4.6
OXZ	Oxford	5.02	208	PN	Pn	15 13 55.2	-5.1
OXZ	Oxford	5.02	208	Pn	Pn	15 13 55.2	-5.1
MQZ	McQueen's Vall	5.15	202	PN	Pn	15 13 57.1	-5.0
MQZ	McQueen's Vall	5.15	202	Pn	Pn	15 13 57.1	-5.0
WVZ	Waitaha Valley	5.38	219	PN	Pn	15 14 00.1	-4.9
WVZ	Waitaha Valley	5.38	219	Pn	Pn	15 14 00.1	-4.9
RPZ	Rata Peaks	5.74	213	PN	Pn	15 14 05.0	-4.9
RPZ	Rata Peaks	5.74	213	Pn	Pn	15 14 05.0	-4.9
FOZ	Fox Glacier	6.17	220	PN	Pn	15 14 09.8	-5.8
FOZ	Fox Glacier	6.17	220	Pn	Pn	15 14 09.8	-5.8
LBZ	Lake Benmore	6.65	214	PN	Pn	15 14 15.8	-6.3
LBZ	Lake Benmore	6.65	214	Pn	Pn	15 14 15.8	-6.3
ODZ	Otahua Downs	7.01	208	PN	Pn	15 14 21.8	-5.0
ODZ	Otahua Downs	7.01	208	Pn	Pn	15 14 21.9	-5.0
EAZ	Earnscleugh	7.70	213	PN	Pn	15 14 29.6	-6.5
EAZ	Earnscleugh	7.70	213	Pn	Pn	15 14 29.6	-6.5
TUZ	Tuapeka	8.16	209	Pn	Pn	15 14 37.7	-4.5

MAN 17 15:30:10,8°38N×124°57E, h20km, mb4.5, ML3.4, MS3.3, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.15**	**59**	⇑*i* P	Pb	15 30 16.0	+1.5
CGP				*i* S	Sb	15 30 20.5	+3.0
BUKP	**Musuan**	**0.70**	**135**	*e*P	Pn	15 30 25.1	+0.3
BUKP				*e*S	Sn	15 30 35.6	+0.6
CTBH	**Cotabato--PC H**	**1.20**	**195**	*e*P	Pb	15 30 32.7	+0.7
CTBH				*i* S	Sn	15 30 49.1	+1.9
DCPH	**Dipolog City**	**1.22**	**280**	⇑*e*P	Pn	15 30 31.7	-0.2
PAGZ	**Pagadian**	**1.29**	**246**	*e*P	Pn	15 30 32.9	+0.1
PAGZ				*e*S	Sb	15 30 50.4	+0.8
TBP	**Tagbilaran**	**1.48**	**332**	⇑*i* P	Pn	15 30 35.9	+0.4
TBP				*i* S	Sb	15 30 56.6	+1.5
SNPH	**Sibulan**	**1.63**	**306**	*i* P	Pn	15 30 37.3	-0.3
SNPH				*i* S	Sb	15 30 59.5	0.0
LLP	**Lapu-Lapu**	**2.01**	**343**	⇑*e*P	Pn	15 30 44.3	+1.5
LLP				*e*S	Sb	15 31 09.4	-1.2
IPIL	**Ipil**	**2.06**	**254**	*e*P	Pb	15 30 45.4	-1.4
IPIL				*e*S	Sb	15 31 10.4	-1.6
GUIM	**Jordan**	**2.96**	**319**	*e*P	Pn	15 30 57.0	+1.1
GUIM				*e*S	Sb	15 31 36.8	-1.2

IDC 17 15:39:24.3±2.6, 7°28S×129°77E, h67km±26km, mb3.7/4, mb1 4.1/8, mb1mx3.6/40, mbtmp4.2/8, Error ellipse: s-maj=39.5km s-min=17.2km az=80.0

ISC 17 15:39:22.0±0.8, 7°31S±0°06×130°0E±0°1, h50km, n9, σ2°83/13, mb3.7/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.52**	**11**	P	**Pn**	**15 40 57.7**	**+2.3**
	12nm,0.3s,baz=187,slow=5.6,SNR=3.2						
SIJI				S	**Sn**	**15 42 05.3**	**-3.2**
FITZ	**Fitzroy Crossi**	**11.55**	**201**	P	**Pn**	**15 42 06.9**	**+2.6**
	4.6nm,0.3s,baz=18,slow=9.6,SNR=107						
FITZ				S	**Sn**	**15 44 09.0**	**-2.8**
	4.0nm,0.3s,baz=192,slow=12,SNR=8.1						
WRA	**Warramunga Arr**	**13.24**	**162**	P	**Pn**	**15 42 29.9**	**+2.5**
	1.5nm,0.3s,baz=334,slow=13,SNR=84						
WRA				S	**Sn**	**15 44 49.4**	**-3.9**
	3.4nm,0.3s,baz=344,slow=21,SNR=9.0						
ASAR	**Alice Springs**	**16.69**	**168**	P	**Pn**	**15 43 14.9**	**+2.3**
	0.7nm,0.3s,baz=331,slow=8.9,SNR=55						
ASAR				S	**Sn**	**15 46 13.2**	**-3.9**
	1.1nm,0.3s,baz=347,slow=24,SNR=9.3						
STKA	**Stephens Creek**	**26.72**	**158**	P	**P**	**15 44 59.2**	**+2.3**
	2.1nm,0.9s,baz=336,slow=16,SNR=3.0						
CMAR	**Chiang Mai Arr**	**39.94**	**310**	P	**P**	**15 46 51.6**	**-0.2**
	0.7nm,0.6s,baz=135,slow=6.6,SNR=7.5						
MKAR	**Makanchi Array**	**68.49**	**327**	P	**P**	**15 50 18.4**	**-0.8**
	3.6nm,0.5s,baz=121,slow=8.0,SNR=46						
BVAR	**Borovoye Array**	**78.33**	**328**	P	**P**	**15 51 15.5**	**-1.4**
	0.4nm,0.7s,baz=111,slow=7.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**128.88**	**281**	PKP	**PKPdf**	**15 58 24.8**	**-0.4**
	0.4nm,0.6s,baz=129,slow=2.3,SNR=3.0						

MEX 17 15:42:33.1±0.3, 15°85N×96°10W, h33km±6km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.09**	**184**	*i* P	Pb	15 42 37.3	-1.5
HUIG				*i* S	Sb	15 42 41.1	-1.7
VHO	**Vista Hermosa**	**1.35**	**334**	*i* P	Pn	15 42 53.9	-2.0
VHO				*i* S	Sn	15 43 10.2	-2.6
PNIG	**Pinotepa**	**2.02**	**286**	*i* P	Pn	15 43 03.3	-1.6
PNIG				*i* S	Sn	15 43 26.3	-2.6

MAN 17 15:45:18,8°42N×124°63E, h38km, mb4.2, ML3.0, MS2.7, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.07**	**65**	⇑*i* P	Pn	15 45 24.1	-0.2
CGP				*i* S	Sn	15 45 27.5	-1.2
BUKP	**Musuan**	**0.69**	**141**	*e*P	Pn	15 45 32.6	+1.3
BUKP				*e*S	Sn	15 45 43.3	+2.4
DCPH	**Dipolog City**	**1.27**	**277**	⇑*e*P	Pn	15 45 39.5	+0.3
PAGZ	**Pagadian**	**1.36**	**245**	*e*P	Pn	15 45 40.5	+0.1
PAGZ				*e*S	Sn	15 45 57.9	+0.7
TBP	**Tagbilaran**	**1.47**	**329**	*i* P	Pn	15 45 43.4	+1.5
IPIL	**Ipil**	**2.13**	**253**	*e*P	Pn	15 45 52.4	+1.4
IPIL				*e*S	Sn	15 46 20.4	+4.2

NSSP 17 15:53:35.9, 40°85N×47°07E, h7km, Ms3.5
AZER 17 15:53:38.4±0.0, 40°93N×46°97E, h24km, Error ellipse: s-maj=0.1km s-min=0.1km az=323.0
CSEM 17 15:53:39.3±0.2, 40°90N×47°06E, h20km, ML3.5, Error ellipse: s-maj=5.2km s-min=4.2km az=7.0
MOS 17 15:53:39.3±2.3, 41°08N×47°09E, h5km, mb4.1/1, Error ellipse: s-maj=10.2km s-min=5.5km az=98.6

ISC 17 15:53:39.2±0.8, 40°88N±0°02×47°05E±0°02, h30km±5km, n86, σ1°89/145, 27C-33D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNGR	**Mingechevir, A**	**0.11**	**166**	⇓P	**Pb**	**15 53 45.0**	**+0.3**
	SNR=742						
MNGR				⇓S	**Sb**	**15 53 50.3**	**+1.9**
MNGR	**Mingechevir, A**	**0.11**	**166**	P	**Pb**	**15 53 45.0**	**+0.3**
	SNR=742						
SEKA	**Sheki**	**0.35**	**19**	⇓Pg	**Pb**	**15 53 46.1**	**-1.4**
	SNR=224						
SEKA				⇓Sg	**Sb**	**15 53 51.6**	**-1.4**
SEKA	**Sheki**	**0.35**	**19**	Pg	**Pb**	**15 53 46.1**	**-1.4**
	SNR=224						
SEKA				Sg	**Sb**	**15 53 51.6**	**-1.4**
GANJ	**Ganja**	**0.60**	**247**	⇓P	**Pb**	**15 53 50.8**	**-0.6**
	SNR=44						
GANJ				⇓S	**Sb**	**15 53 59.7**	**+0.1**
GANJ	**Ganja**	**0.60**	**247**	P	**Pb**	**15 53 50.8**	**-0.6**
	SNR=44						
QBL	**Gabala**	**0.60**	**84**	⇓Pg	**Pb**	**15 53 50.6**	**-0.7**
	SNR=17						
QBL				⇓Sg	**Sn**	**15 53 60.0**	**-0.5**
QBL	**Gabala**	**0.60**	**84**	Pg	**Pb**	**15 53 50.6**	**-0.7**
	SNR=17						
BRDA	**Brd**	**0.62**	**171**	⇓P	**Pn**	**15 53 52.8**	**+0.8**
	SNR=9.2						
BRDA				⇑S	**Sn**	**15 54 02.3**	**+1.3**
BRDA	**Brd**	**0.62**	**171**	P	**Pn**	**15 53 52.8**	**+0.8**
	SNR=9.2						
ZRD	**Zardab**	**0.77**	**141**	⇓P	**Pn**	**15 53 54.8**	**+0.8**
	SNR=44						
ZRD				⇓S	**Sn**	**15 54 08.3**	**+3.7**
ZRD	**Zardab**	**0.77**	**141**	P	**Pn**	**15 53 54.8**	**+0.8**
	SNR=44						

AKT	**Akhty**	**0.79**	**40**	⇓*i*PG	**Pb**	**15 53 53.3**	**-1.2**
AKT				*i* S	**Sb**	**15 54 04.2**	**-0.8**
ZKTA	**Zakatala**	**0.82**	**337**	⇓P	**Pb**	**15 53 54.0**	**-1.0**
	SNR=189						
ZKTA				⇑S	**Sb**	**15 54 05.9**	**+0.1**
IML	**Ismayilli**	**0.86**	**95**	⇓Pg	**Pb**	**15 53 55.0**	**-0.8**
	SNR=55						
IML				⇑Sg	**Sn**	**15 54 07.6**	**+0.6**
IML	**Ismayilli**	**0.86**	**95**	Pg	**Pb**	**15 53 55.0**	**-0.8**
	SNR=55						
XNQ	**Khinaliq**	**0.88**	**70**	⇑Pg	**Pb**	**15 53 54.6**	**-1.5**
	SNR=41						
XNQ				⇓Sg	**Sn**	**15 54 07.2**	**-0.3**
XNQ	**Khinaliq**	**0.88**	**70**	Pg	**Pb**	**15 53 54.6**	**-1.5**
	SNR=41						
XNQ				Sg	**Sn**	**15 54 07.2**	**-0.3**
GDB	**GEDABAY**	**1.00**	**261**	⇓P	**Pb**	**15 53 56.8**	**-1.2**
	SNR=57						
GDB				⇑S	**Sb**	**15 54 10.6**	**-0.3**
GDB	**GEDABAY**	**1.00**	**261**	P	**Pb**	**15 53 56.8**	**-1.2**
	SNR=57						
KDMR	**Kurdemir**	**1.00**	**120**	⇓Pg	**Pn**	**15 53 57.6**	**+0.5**
	SNR=14						
KDMR				⇑Sg	**Sn**	**15 54 12.9**	**+2.7**
KDMR	**Kurdemir**	**1.00**	**120**	Pg	**Pn**	**15 53 57.6**	**+0.5**
	SNR=14						
KSMR	**Kasumkent**	**1.09**	**48**	*e*PG	**Pb**	**15 54 01.0**	**+1.5**
KSMR				*e*S	**Sn**	**15 54 17.0**	**+4.5**
KSMR				pmax	pmax		
	comp=Z,708nm,0.1s						
QSAR	**Qusar**	**1.11**	**55**	⇑P	**Pb**	**15 53 59.7**	**-0.2**
	SNR=87						
QSAR				⇓S	**Sn**	**15 54 15.8**	**+2.7**
PQL	**Pirkuli**	**1.18**	**94**	⇓Pg	**Pb**	**15 54 00.2**	**-0.8**
	SNR=7.7						
PQL				⇑Sg	**Sn**	**15 54 17.4**	**+2.6**
PQL	**Pirkuli**	**1.18**	**94**	Pg	**Pb**	**15 54 00.2**	**-0.8**
	SNR=7.7						
QUBA	**Quba, Azerbaij**	**1.19**	**66**	⇓P	**Pb**	**15 54 01.1**	**-0.1**
	SNR=16						
QUBA				⇓S	**Sn**	**15 54 18.4**	**+3.4**
QUBA	**Quba, Azerbaij**	**1.19**	**66**	P	**Pb**	**15 54 01.1**	**-0.1**
	SNR=16						
KMKR	**Kumukh**	**1.25**	**2**	⇓*i*PG	**Pb**	**15 54 01.5**	**-0.8**
KMKR				*i* S	**Sn**	**15 54 18.0**	**+1.3**
KMKR				pmax	pmax		
	comp=Z,83nm,0.3s						
QZX	**Qazax, Azerbai**	**1.28**	**278**	⇑P	**Pn**	**15 54 01.8**	**+0.7**
	SNR=11						
QZX				⇑S	**Sb**	**15 54 19.4**	**+0.5**
QZX	**Qazax, Azerbai**	**1.28**	**278**	P	**Pn**	**15 54 01.8**	**+0.7**
	SNR=11						
QZX				S	**Sb**	**15 54 19.4**	**+0.5**
URKR	**Urkarakh**	**1.36**	**19**	*i*PG	**Pb**	**15 54 04.0**	**-0.1**
URKR				*i* S	**Sb**	**15 54 23.0**	**+1.9**
URKR				pmax	pmax		
	comp=Z,204nm,0.2s						
SIZA	**Siyzn**	**1.41**	**81**	⇓P	**Pb**	**15 54 04.9**	**-0.1**
	SNR=16						
SIZA				⇓S	**Sb**	**15 54 25.6**	**+2.9**
SIZA	**Siyzn**	**1.41**	**81**	P	**Pb**	**15 54 04.9**	**-0.1**
	SNR=16						
ATGJ	**Altiaghaj**	**1.43**	**90**	⇑P	**Pb**	**15 54 05.0**	**-0.4**
	SNR=5.9						
ATGJ				⇓S	**Sb**	**15 54 24.9**	**+1.7**
ATGJ	**Altiaghaj**	**1.43**	**90**	P	**Pb**	**15 54 05.0**	**-0.4**
	SNR=5.9						
SAAT	**Saatly**	**1.46**	**134**	⇑Pg	**Pn**	**15 54 03.5**	**0.0**
SAAT				⇑Sg	**Sb**	**15 54 24.0**	**0.0**
SAAT	**Saatly**	**1.46**	**134**	Pg	**Pn**	**15 54 03.5**	**0.0**
SAAT				Sg	**Sb**	**15 54 24.0**	**0.0**
GBS	**Qobustan**	**1.48**	**103**	⇑P	**Pb**	**15 54 06.2**	**0.0**
	SNR=4.2						
GBS				⇑S	**Sb**	**15 54 27.9**	**+3.3**
GBS	**Qobustan**	**1.48**	**103**	P	**Pb**	**15 54 06.2**	**0.0**
	SNR=4.2						
GRS	**Goris**	**1.48**	**202**	⇑*i*P	**Pn**	**15 54

KORR	**Kora**	**3.13**	**316**	*e*PN	**Pb**	**15 54 30.9**	**-3.3**
KORR				*e*S	**Sb**	**15 55 09.8**	**-2.1**
ONI	**Oni**	**3.19**	**304**	P	**Pn**	**15 54 29.5**	**+2.2**
ONI	**Oni**	**3.19**	**304**	PN	**Pn**	**15 54 29.5**	**+2.2**
LSNR	**Lesken**	**3.39**	**316**	*e*PN	**Pb**	**15 54 41.9**	**+3.3**
LSNR				*e*S	**Sb**	**15 55 23.2**	**+3.8**
AKTO	**Aktyubinsk** comp=Z,4.7nm,1.5s	**12.24**	**35**	⇑Pn	**Pn**	**15 56 31.0**	**-0.3**
AKTO				⇑Sn	**Sn**	**15 58 44.6**	**-2.0**
	comp=Z,1.8nm,0.9s						
AKTO	**Aktyubinsk** comp=Z,4.7nm,1.5s	**12.24**	**35**	Pn	**Pn**	**15 56 31.0**	**-0.3**
AB31	**Akbulak array** comp=Z,0.2nm,0.4s,baz=236,slow=12,SNR=2.8	**12.36**	**43**	⇑Pn	**Pn**	**15 56 29.6**	**-3.4**
AB31				⇓Sn	**Sn**	**15 58 43.9**	**-5.7**
	comp=Z,0.8nm,0.7s						
AB31	**Akbulak array** comp=Z,0.2nm,0.4s,SNR=2.8	**12.36**	**43**	Pn	**Pn**	**15 56 29.6**	**-3.4**
AB31				Sn	**Sn**	**15 58 43.9**	**-5.7**
	comp=Z,0.8nm,0.7s						

IDC 17 15:54:29.2±9.6, 4°.29S×127°.91E, h550km±132km, mb2.1/2, mb1 2.5/4, mb1mx2.4/32, mbtmp3.3/4, Error ellipse: s-maj=125.5km s-min=36.1km az=54.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.90**	**189**	P	P	15 57 27.5	+0.1
	0.3nm,0.3s,baz=22,slow=5.5,SNR=12						
WRA	**Warramunga Arr**	**16.77**	**159**	P	P	15 57 56.1	+0.2
	0.2nm,0.3s,baz=338,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**20.11**	**164**	P	P	15 58 26.2	-0.2
	0.2nm,0.5s,baz=341,slow=7.5,SNR=8.4						
MKAR	**Makanchi Array**	**64.84**	**327**	P	P	16 04 14.2	0.0
	0.1nm,0.5s,baz=101,slow=4.6,SNR=2.6						

IDC 17 16:30:33.7±8.0, 5°.87S×150°.55E, h115km±54km, mb3.3/3, mb1 3.4/4, mb1mx3.1/24, mbtmp3.6/4, Error ellipse: s-maj=93.8km s-min=56.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.86**	**223**	P	Pn	16 31 44.4	-0.3
	0.7nm,0.3s,baz=27,slow=21,SNR=1.5						
PMG				S	Sn	16 32 40.8	+0.9
	1.0nm,0.3s,baz=180,slow=19,SNR=1.3						
WRA	**Warramunga Arr**	**21.07**	**227**	P	P	16 35 08.0	-1.0
	0.7nm,0.6s,baz=53,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**23.87**	**220**	P	P	16 35 36.9	+0.1
	1.0nm,0.6s,baz=56,slow=9.3,SNR=20						
FITZ	**Fitzroy Crossi**	**27.18**	**241**	P	P	16 36 07.6	+0.9
	2.5nm,1.1s,baz=98,slow=19,SNR=1.6						
TORD	**Torodi Ar. Bea**	**148.47**	**286**	PKPbc	PKPbc	16 50 07.3	-0.8
	0.5nm,0.6s,baz=57,slow=2.0,SNR=4.0						

WEL 17 16:36:40.5±0.6, 36°.96S×176°.97E, h170km±5km, ML3.6/12, 1C-1D, Error ellipse: s-maj=6.9km s-min=5.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.03**	**141**	PN	Pn	16 37 07.6	+0.2
HAZ				SN	Sn	16 37 28.1	0.0
MXZ	**Matakaoa Point**	**1.23**	**120**	*e*PN	Pn	16 37 08.9	-0.1
MXZ				AML	AML	16 37 30.8	
URZ	**Urewera**	**1.30**	**175**	⇓PN	Pn	16 37 09.0	-0.7
WMGZ	**Waiomatatini S**	**1.44**	**127**	PN	Pn	16 37 11.1	+0.1
WMGZ				SN	Sn	16 37 34.1	-0.5
MWZ	**Matawai**	**1.44**	**162**	PN	Pn	16 37 10.7	-0.3
MWZ				AML	AML	16 37 41.5	
TWGZ	**Tauwhareparae**	**1.46**	**147**	PN	Pn	16 37 11.5	+0.3
PUZ	**Puketiti**	**1.51**	**138**	PN	Pn	16 37 11.3	-0.4
PUZ				SN	Sn	16 37 34.5	-1.4
RAGZ	**Rawiri**	**1.57**	**167**	PN	Pn	16 37 13.2	+0.8
TKGZ	**Te Karaka**	**1.63**	**155**	PN	Pn	16 37 12.8	-0.1
RTZ	**Ruatahuna**	**1.65**	**180**	PN	Pn	16 37 12.6	-0.6
CNGZ	**Carnagh Statio**	**1.81**	**148**	PN	Pn	16 37 14.8	+0.1
SNGZ	**Shannon Statio**	**1.84**	**171**	PN	Pn	16 37 14.7	-0.5
RIGZ	**Rimuhau**	**1.85**	**160**	PN	Pn	16 37 14.9	-0.4
WHHZ	**Waihua**	**2.12**	**174**	PN	Pn	16 37 17.4	-0.8
KNZ	**Kokohu**	**2.13**	**165**	PN	Pn	16 37 16.9	-1.4
KNZ				AML	AML	16 45 13.8	
NMHZ	**Naumai**	**2.14**	**183**	PN	Pn	16 37 17.7	-0.7
BKZ	**Black Stump Fm**	**2.23**	**190**	PN	Pn	16 37 17.6	-2.0
ARHZ	**Aropaoanui**	**2.30**	**179**	PN	Pn	16 37 19.2	-1.0
MHGZ	**Mahia Peninsul**	**2.31**	**162**	PN	Pn	16 37 19.2	-1.2
MCHZ	**McNeill Hill**	**2.49**	**185**	PN	Pn	16 37 21.1	-1.3
KWHZ	**Kaweka Forest**	**2.50**	**190**	PN	Pn	16 37 21.1	-1.5
KRHZ	**Kereru**	**2.72**	**190**	PN	Pn	16 37 23.0	-2.2
KAHZ	**Kahuranaki**	**2.83**	**181**	PN	Pn	16 37 24.5	-2.1
PNHZ	**Pukenui**	**3.01**	**191**	PN	Pn	16 37 25.9	-2.9
PXZ	**Pawanui**	**3.07**	**182**	PN	Pn	16 37 26.6	-2.8
WPHZ	**Waipukurau**	**3.13**	**187**	PN	Pn	16 37 27.3	-2.9
TSZ	**Takapari Road**	**3.19**	**194**	AML	AML	16 37 51.9	
WAZ	**Wanganui**	**3.20**	**209**	PN	Pn	16 37 29.5	-1.6
PRHZ	**Porangahau**	**3.31**	**184**	PN	Pn	16 37 29.8	-2.7
DVHZ	**Dannevirke**	**3.39**	**190**	PN	Pn	16 37 29.9	-3.6
ANWZ	**Angora Road**	**3.52**	**186**	PN	Pn	16 37 32.0	-3.1
POWZ	**Post Office Ro**	**3.55**	**195**	PN	Pn	16 37 32.4	-3.1
PRWZ	**Peri Road**	**3.67**	**192**	PN	Pn	16 37 32.4	-4.7
BFZ	**Birch Farm**	**3.76**	**188**	PN	Pn	16 37 34.4	-3.8
MRZ	**Mangatainoka R**	**3.85**	**196**	PN	Pn	16 37 32.9	-6.4
TIWZ	**Tintock**	**3.90**	**192**	PN	Pn	16 37 35.9	-4.1
HOWZ	**Holdsworth Sta**	**4.09**	**196**	PN	Pn	16 37 37.9	-4.6
OGWZ	**Otaki Gorge**	**4.10**	**199**	⇑PN	Pn	16 37 38.5	-4.0
KIW	**Kapiti Island**	**4.21**	**202**	PN	Pn	16 37 39.7	-4.3
CAW	**Cannon Point**	**4.40**	**199**	PN	Pn	16 37 41.7	-4.7
WEL	**Wellington**	**4.65**	**201**	PN	Pn	16 37 44.7	-4.8
MSWZ	**Moikau Station**	**4.65**	**196**	PN	Pn	16 37 44.2	-5.4
MSWZ				SN	Sn	16 38 34.7	-9.1
TCW	**Tory Channel**	**4.73**	**205**	PN	Pn	16 37 45.9	-4.8
PLWZ	**Palliser**	**4.79**	**196**	PN	Pn	16 37 46.0	-5.5
TUWZ	**Tuamarina**	**5.04**	**207**	PN	Pn	16 37 49.7	-5.1
NNZ	**Nelson**	**5.09**	**212**	PN	Pn	16 37 50.8	-4.5
QRZ	**Quartz Range**	**5.19**	**221**	PN	Pn	16 37 52.0	-4.6
BSWZ	**Blackbirch Sta**	**5.32**	**206**	*e*PN	Pn	16 37 53.1	-5.3
THZ	**Tophouse**	**5.74**	**212**	PN	Pn	16 37 59.6	-4.3
KHZ	**Kahutara**	**6.06**	**205**	PN	Pn	16 38 01.4	-6.6
LTZ	**Lake Taylor**	**6.84**	**210**	PN	Pn	16 38 13.1	-5.5
INZ	**Inchbonnie**	**7.16**	**215**	PN	Pn	16 38 16.8	-5.8
OXZ	**Oxford**	**7.39**	**209**	PN	Pn	16 38 19.3	-6.4
MQZ	**McQueen's Vall**	**7.50**	**205**	PN	Pn	16 38 19.7	-7.3

IDC 17 16:45:33.4±2.0, 23°.60N×99°.28E, h0km, mb3.5/2, mb1 3.3/3, mb1mx3.1/36, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=55.8km s-min=20.6km az=85.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.13**	**184**	Pn	Pn	16 46 50.5	-1.0
	0.2nm,0.3s,baz=354,slow=18,SNR=5.3						
CMAR				Lg	Lg	16 48 17.4	
	0.2nm,0.3s,baz=1.7,slow=28,SNR=5.2						
MKAR	**Makanchi Array**	**26.87**	**334**	P	P	16 51 16.1	+0.3
	0.3nm,0.7s,baz=145,slow=8.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**32.20**	**344**	P	P	16 52 02.7	-0.2
	0.4nm,0.4s,baz=132,slow=4.1,SNR=1.9						

IDC 17 17:21:16.3±1.6, 20°.55N×120°.82E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.5/44, mbtmp3.8/6, MS2.8/1, Ms1 3.0/1, ms1mx2.4/38, Error ellipse: s-maj=63.1km s-min=21.0km az=48.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.72**	**268**	P	P	17 25 58.0	-0.5
	0.6nm,0.8s,baz=70,slow=11,SNR=3.7						
CMAR				LR	LR	17 35 29.2	
	comp=Z,25nm,18.3s,baz=305,slow=41						
MKAR	**Makanchi Array**	**40.78**	**319**	P	P	17 28 59.3	0.0
	0.4nm,0.8s,baz=112,slow=10.0,SNR=3.7						
WRA	**Warramunga Arr**	**42.36**	**161**	P	P	17 29 11.7	-0.7
	0.9nm,0.5s,baz=344,slow=9.0,SNR=23						
H11N1	**WAKE ISLAND Hy**	**43.16**	**83**	T	T	18 15 04.0	
	baz=280,slow=74,SNR=76						
H11N2	**WAKE ISLAND Hy**	**43.16**	**83**	T	T	18 15 07.1	
	baz=280,slow=74,SNR=57						
H11N3	**WAKE ISLAND Hy**	**43.17**	**83**	T	T	18 15 05.9	
	baz=280,slow=74,SNR=50						
H11S3	**WAKE ISLAND Hy**	**43.18**	**85**	T	T	18 15 06.9	
	baz=282,slow=75,SNR=54						
H11S1	**WAKE ISLAND Hy**	**43.19**	**85**	T	T	18 15 08.5	
	baz=282,slow=75,SNR=74						
H11S2	**WAKE ISLAND Hy**	**43.20**	**85**	T	T	18 15 10.1	
	baz=282,slow=75,SNR=84						
ASAR	**Alice Springs**	**45.76**	**163**	P	P	17 29 40.4	+0.6
	0.5nm,0.3s,baz=342,slow=6.9,SNR=29						
CTA	**Charters Tower**	**47.45**	**147**	P	P	17 29 52.4	-0.6
	1.9nm,0.5s,baz=323,slow=8.0,SNR=5.7						
STKA	**Stephens Creek**	**55.80**	**159**	P	P	17 30 55.5	+0.3
	3.7nm,0.8s,baz=316,slow=6.5,SNR=5.3						

IDC 17 17:28:15.3±8.5, 5°.88S×150°.73E, h94km±59km, mb3.3/3, mb1 3.5/4, mb1mx3.1/26, mbtmp3.6/4, ML0.9/1, Error ellipse: s-maj=107.9km s-min=57.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.98**	**225**	P	Pn	17 29 27.4	-0.3
	0.3nm,0.3s,baz=290,slow=17,SNR=1.4						
PMG				S	Sn	17 30 25.1	+1.0
	0.9nm,0.3s,baz=259,slow=6.4,SNR=2.1						
WRA	**Warramunga Arr**	**21.20**	**227**	P	P	17 32 53.5	0.0
	0.7nm,0.7s,baz=54,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**23.98**	**221**	P	P	17 33 21.6	+0.4
	1.0nm,0.8s,baz=58,slow=8.8,SNR=12						
FITZ	**Fitzroy Crossi**	**27.34**	**241**	P	P	17 33 50.7	-1.0
	4.5nm,1.1s,baz=150,slow=22,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.65**	**286**	PKPbc	PKPbc	17 47 52.3	-0.4
	0.1nm,0.4s,baz=58,slow=1.2,SNR=2.2						

PRE 17 17:29:41.7±1.4, 20°.98S×26°.46E, h5km, ML4.0, Botswana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.58**	**113**	*e*P	Pn	17 30 39.1	+1.2
MSNA				*e*S	Sn	17 31 20.3	-0.4
MSNA				AML	AML	17 31 39.6	
	comp=Z,206nm,0.2s						
PRYS	**Parys**	**5.97**	**172**	*e*P	Pn	17 31 13.3	+2.3
PRYS				*e*S	Sn	17 32 17.7	-2.2
PRYS				AML	AML	17 32 59.0	
	comp=Z,19nm,0.6s						
SWZ	**Schweizer**	**6.26**	**189**	*e*P	Pn	17 31 16.0	+1.1
SWZ				*e*S	Sn	17 32 24.2	-2.7
SWZ				AML	AML	17 32 60.0	
	comp=Z,44nm,0.6s						
UPI	**Upington**	**8.74**	**212**	*e*P	Pn	17 31 50.6	+1.7
UPI				*e*S	Sn	17 33 23.7	-4.2
UPI				AML	AML	17 34 32.0	
	comp=Z,7.4nm,0.7s						
KOMG	**Komaggas**	**11.95**	**221**	*e*P	Pn	17 32 33.6	+0.8
KOMG				*e*S	Sn	17 34 39.6	-6.9
KOMG				AML	AML	17 35 39.2	
	comp=Z,4.3nm,0.6s						

MAN 17 17:38:26, 11°.40N×125°.65E, h0km, mb4.6, ML3.5, MS3.5, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.29**	**313**	*e*P	Pg	17 38 32.4	+0.9
BESP				*e*S	Sb	17 38 40.6	+1.2
PLP	**Palo**	**0.70**	**250**	‖*e*P	Pb	17 38 40.5	-0.6
PLP				*i* S	Sn	17 38 53.2	-1.5
OCLP	**Ormoc**	**1.08**	**251**	*e*P	Pb	17 38 47.8	+0.1
OCLP				*e*S	Sn	17 39 04.8	+0.7

*ISCJB **17** 17:38:50.3±0.2, 32°.98N±0°.02×116°.30W±0°.02, h21km±3km, Error ellipse: s-maj=2.8km s-min=2.3km az=137.0*
*ECX **17** 17:38:51.5±0.6, 32°.98N×116°.36W, h7km, MD3.6, ML3.7*
*MEX **17** 17:38:51.0±0.8, 33°.00N×116°.35W, h8km, MD3.5*
*NEIC **17** 17:38:51.0, 33°.00N×116°.35W, h8km, ML3.6(PAS), After PAS.*
NEIC Felt [III] at Descanso and [II] at Alpine, El Cajon, Lakeside, La Mesa, Pine Valley, Poway, Ramona and San Diego. Felt widely in San Diego County.

ISC 17 17:38:49.8±0.8, 32°.98N±0°.02×116°.27W±0°.02, h15km±6km, n81, σ1°08/109, 2C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBKC	**Canebrake**	**0.09**	**169**	‖*i*P	**Pg**	**17 38 53.5**	**+0.5**
MONP2	**Monument Peak**	**0.16**	**234**	P	**Pg**	**17 38 53.6**	**-0.4**
MONP2				S	**Sg**	**17 38 56.1**	**-0.7**
	baz=29						
CRR	**Carrizo Plain**	**0.27**	**111**	⇑*i*P	**Pb**	**17 38 57.2**	**+0.8**
IKP	**In-Ko-Pah, Jac**	**0.36**	**158**	P	**Pb**	**17 38 58.3**	**+0.4**
IKP	baz=330,SNR=1000			S	**Sb**	**17 39 03.8**	**+0.4**
	baz=330						
IKP	**In-Ko-Pah, Jac**	**0.36**	**158**	‖*e*P	**Pb**	**17 38 58.4**	**+0.4**
IKP				*e*S	**Sb**	**17 39 03.8**	**+0.4**
SWSC	**Sam W. Stewart**	**0.40**	**95**	P	**Pb**	**17 38 59.4**	**+0.9**
SWSC	baz=277,SNR=288			S	**Sb**	**17 39 05.6**	**+1.2**
	baz=277						
BAR	**Barrett**	**0.45**	**228**	‖*e*P	**Pg**	**17 38 58.9**	**+0.1**
BAR				*e*S	**Sg**	**17 39 04.7**	**-0.3**
BAR	**Barrett**	**0.45**	**228**	*e*Pg	**Pg**	**17 38 59.0**	**+0.1**
BAR				*e*Sg	**Sg**	**17 39 04.8**	**-0.3**
WESC	**Westside Schoo**	**0.51**	**116**	*e*P	**Pn**	**17 39 01.9**	**-0.6**
WESC				*e*S	**Sn**	**17 39 09.7**	**-1.2**
SDRC	**San Diego Road**	**0.62**	**246**	*e*P	**Pg**	**17 39 01.4**	**-0.5**
TPFO	**Pinon Flats**	**0.64**	**346**	P	**Pg**	**17 39 02.1**	**-0.3**
TPFO	baz=172,SNR=192			S	**Sg**	**17 39 10.1**	**-0.8**
	baz=172						
PFO	**Pinyon Flats O**	**0.65**	**346**	*e*Pg	**Pg**	**17 39 02.4**	**-0.1**
PFO				*e*Sg	**Sg**	**17 39 10.2**	**-0.9**
TJIG	**Tijuana**	**0.65**	**212**	*e*P	**Pg**	**17 39 02.4**	**-0.1**
TJIG				*e*S	**Sg**	**17 39 10.3**	**-0.7**
TJIG	**Tijuana**	**0.65**	**212**	*e*P	**Pg**	**17 39 01.9**	**-0.6**
TJIG				*e*S	**Sg**	**17 39 10.6**	**-0.5**
109C	**Camp Elliot, M**	**0.71**	**263**	P	**Pg**	**17 39 02.8**	**-0.8**
109C	baz=80,SNR=46			S	**Sg**	**17 39 11.4**	**-1.6**
	baz=80						
BC3	**Big Chuckawall**	**0.96**	**45**	P	**Pg**	**17 39 08.2**	**-0.2**
	baz=229,SNR=77						
MURC	**Murrieta**	**0.99**	**309**	P	**Pb**	**17 39 07.9**	**-0.7**
	baz=130,SNR=147						
CPBX	**Cerro Prieto**	**0.99**	**124**	*e*P	**Pn**	**17 39 09.8**	**+0.7**
CPBX				*e*S	**Sn**	**17 39 24.5**	**+1.6**
CPBX				IAML		17 39 38.2	
	comp=E,5μm,0.4s						
CPBX				⇓*e*		17 39 38.2	
CPBX	**Cerro Prieto**	**0.99**	**124**	*e*Pn	**Pn**	**17 39 10.0**	**+0.8**
CPBX				*e*Sn	**Sn**	**17 39 23.7**	**+0.8**
BELC	**Belle Mtn. Jos**	**1.04**	**13**	P	**Pb**	**17 39 09.4**	**-0.2**
BELC	baz=196,SNR=512			S	**Sb**	**17 39 23.6**	**+0.5**
	baz=196						
MBIG	**Mexicali**	**1.07**	**122**	*e*P	**Pb**	**17 39 08.6**	**-1.4**
MBIG				*e*S	**Sb**	**17 39 23.1**	**-0.8**
GLA	**Glamis**	**1.22**	**86**	P	**Pn**	**17 39 12.3**	**0.0**
	baz=268,SNR=51						
GLA	**Glamis**	**1.22**	**86**	*e*Pg	**Pn**	**17 39 12.3**	**0.0**
PBX	**Punta Banda**	**1.30**	**197**	*e*P	**Pn**	**17 39 13.4**	**+0.1**
PBX				*e*S	**Sb**	**17 39 30.4**	**+0.1**
ECNX	**Esteban Cantu**	**1.35**	**192**	*e*P	**Pn**	**17 39 14.4**	**+0.2**
ECNX				*e*S	**Sn**	**17 39 32.5**	**+0.5**
BBRC	**Big Bear Solar**	**1.39**	**337**	P	**Pn**	**17 39 15.1**	**+0.3**
	baz=159,SNR=9.4						
BBRC				Sb	**Sn**	**17 39 33.1**	**+0.1**
	baz=159						
ZAX	**El Zacaton**	**1.47**	**180**	*e*P	**Pn**	**17 39 16.4**	**+0.6**
ZAX				IAML		17 39 43.8	
	comp=E,815nm,0.6s						
ZAX				⇑*e*		17 39 43.8	
IRM	**Iron Mountain**	**1.50**	**38**	P	**Pn**	**17 39 16.2**	**0.0**
	baz=221,SNR=41						
IRM				Sb	**Sg**	**17 39 38.1**	**-0.1**
	baz=221						
Y12C	**Blythe**	**1.65**	**62**	Sb	**Sg**	**17 39 43.3**	**+0.4**
	baz=244						
Y12C	**Blythe**	**1.65**	**62**	*e*Pn	**Pn**	**17 39 18.1**	**-0.1**
BFSC	**Mount Baldy Ra**	**1.70**	**318**	Pb	**Pn**	**17 39 20.0**	**+0.9**
	baz=138,SNR=45						
BFSC				Sb	**Sn**	**17 39 41.6**	**+0.9**
	baz=138						
SSK	**Sunset Peak**	**1.70**	**316**	*e*Pn	**Pb**	**17 39 20.8**	**-0.2**
ECBX	**El Chinero**	**1.83**	**145**	*e*P	**Pb**	**17 39 23.6**	**+0.6**
ECBX				*e*S	**Sg**	**17 39 48.3**	**-0.3**
HEC	**Hector,Ludlow**	**1.84**	**358**	Pg	**Pb**	**17 39 24.4**	**+1.2**
	baz=180,SNR=62						
FMP	**Fort Macarthur**	**1.84**	**294**	Sb	**Sn**	**17 39 45.9**	**+2.1**
	baz=113						
SCI2	**San Clemente I**	**1.91**	**270**	P	**Pn**	**17 39 21.7**	**-0.1**
	baz=89,SNR=11						
SCI2				S	**Sn**	**17 39 45.1**	**-0.5**
	baz=89						
MWC	**Mount Wilson**	**1.94**	**310**	*e*Pn	**Pn**	**17 39 23.8**	**+1.5**
MWC				*e*Sn	**Sn**	**17 39 48.5**	**+2.0**
RRX	**Edison Barstow**	**1.98**	**342**	Pg	**Pb**	**17 39 26.8**	**+1.3**
	baz=164						
PASC	**Pasadena Art C**	**1.99**	**307**	*e*Pn	**Pn**	**17 39 24.9**	**+2.1**
PASC				*e*Sn	**Sn**	**17 39 49.9**	**+2.3**
SPIG	**San Pedro Mart**	**2.05**	**160**	*e*P	**Pn**	**17 39 23.8**	**-0.2**
SPIG				*e*S	**Sn**	**17 39 48.0**	**-1.5**
SPIG	**San Pedro Mart**	**2.05**	**160**	*e*Sn	**Sn**	**17 39 48.0**	**-1.5**
113A	**Mohawk Valley,**	**2.12**	**95**	*e*Pn	**Pn**	**17 39 25.0**	**+0.3**
DECC	**Green Verdugo**	**2.14**	**307**	Sb	**Sb**	**17 39 54.4**	**-0.2**
	baz=127						
NEE2	**Needles Airpor**	**2.25**	**37**	Sb	**Sg**	**17 40 00.8**	**-1.3**
	baz=220						
LDFC	**Landfair**	**2.30**	**24**	*e*Pn	**Pn**	**17 39 28.2**	**+0.9**
GSC	**Goldstone, Bar**	**2.35**	**349**	P	**Pn**	**17 39 28.3**	**+0.3**
	baz=171,SNR=60						
GSC	**Goldstone, Bar**	**2.35**	**349**	*e*Pn	**Pn**	**17 39 28.4**	**+0.4**
EDW2	**Edwards Air Fo**	**2.37**	**323**	P	**Pn**	**17 39 28.4**	**+0.2**
	baz=144,SNR=38						
EDW2				Sb	**Sb**	**17 40 02.1**	**+0.7**
	baz=144						
TUQ	**Turquoise Moun**	**2.46**	**7**	P	**Pn**	**17 39 29.6**	**0.0**
	baz=188,SNR=51						
OSI	**Osito Audit: C**	**2.61**	**309**	Sb	**Sb**	**17 40 09.2**	**+1.0**
	baz=129						
OSI	**Osito Audit: C**	**2.61**	**309**	*e*Pn	**Pn**	**17 39 33.9**	**+2.4**
SNCC	**San Nicolas Is**	**2.74**	**276**	P	**Pn**	**17 39 33.1**	**-0.1**
	baz=94						
SNCC	**San Nicolas Is**	**2.74**	**276**	*e*Pn	**Pn**	**17 39 33.7**	**+0.4**
Y14A	**Wickenburg**	**2.89**	**70**	*e*Pn	**Pn**	**17 39 37.0**	**+1.6**
W13A	**Hualapai Mount**	**2.89**	**43**	*e*Pn	**Pn**	**17 39 36.4**	**+0.9**
214A	**Organ Pipe Nat**	**3.10**	**108**	P	**Pn**	**17 39 38.8**	**+0.6**
	baz=290						
MPMC	**Manual Prospec**	**3.23**	**342**	P	**Pn**	**17 39 40.4**	**+0.3**
	baz=163,SNR=32						
ISA	**Isabella, Lake**	**3.23**	**326**	*e*Pn	**Pn**	**17 39 40.7**	**+0.6**
PKM	**Mcpherson Peak**	**3.50**	**304**	P	**Pn**	**17 39 44.4**	**+0.5**
	baz=122						
FURC	**Furnace Creek,**	**3.51**	**352**	Pg	**Pg**	**17 39 55.8**	**-1.2**
	baz=173,SNR=50						
SHPR	**Sheep Range**	**3.63**	**14**	*e*Pg	**Pb**	**17 39 53.3**	**-0.4**
TPNV	**Topopah Spring**	**3.96**	**0**	P	**Pn**	**17 39 51.5**	**+1.4**
	baz=181,SNR=6.9						
TPNV	**Topopah Spring**	**3.96**	**0**	*e*Pn	**Pn**	**17 39 51.5**	**+1.4**
X16A	**Lo Mia Camp, P**	**4.27**	**69**	*e*Pn	**Pn**	**17 39 55.2**	**+0.7**
PAGB	**Antelope Grade**	**4.28**	**311**	*e*Pn	**Pn**	**17 39 56.1**	**+1.6**
TUC	**Tucson**	**4.68**	**97**	*e*Pn	**Pn**	**17 40 01.4**	**+1.5**
LCMT	**Little Creek M**	**4.72**	**31**	*e*Pn	**Pn**	**17 40 00.5**	**-0.1**
U15A	**North Rim**	**4.75**	**43**	*e*Pn	**Pn**	**17 40 01.0**	**-0.1**
KNB	**Kanab**	**4.92**	**34**	*e*Pn	**Pn**	**17 40 03.0**	**-0.3**
PMPB	**Monarch Peak**	**4.93**	**312**	*e*Pn	**Pn**	**17 40 04.5**	**+1.0**
CCUT	**Cedar City**	**5.14**	**27**	*e*Pn	**Pn**	**17 40 06.6**	**+0.2**
R11A	**Troy Canyon, C**	**5.38**	**6**	*e*Pn	**Pn**	**17 40 11.0**	**+1.3**
PKCU	**Pink Cliffs**	**5.50**	**35**	*e*Pn	**Pn**	**17 40 10.9**	**-0.6**
TVH3	**East Aurora ar**	**5.75**	**340**	*e*Pn	**Pn**	**17 40 17.3**	**+2.6**
TVH1	**TV Hill, Hawth**	**5.83**	**340**	*e*Pn	**Pn**	**17 40 16.8**	**+0.9**
TVH1				*e*Pg	**Pg**	**17 40 39.0**	**-2.4**
PSUT	**Pine Spring**	**5.88**	**19**	*e*Pn	**Pn**	**17 40 16.9**	**+0.4**
MTPU	**Mount Pierson**	**6.05**	**32**	*e*Pn	**Pn**	**17 40 19.6**	**+0.6**
PEV	**Pleasant Valle**	**6.06**	**313**	*e*Sg	**Sg**	**17 41 59.2**	**-5.0**
WAKR	**Walker**	**6.08**	**336**	*e*Pn	**Pn**	**17 40 19.4**	**+0.1**
MSU	**Marysvale**	**6.44**	**30**	*e*Pn	**Pn**	**17 40 23.5**	**-0.8**
MGL	**Magalia**	**8.04**	**329**	*e*Pn	**Pn**	**17 40 52.1**	**+6.0**
MGL				*e*Sn	**Sn**	**17 42 18.5**	**+1

mb1 4.0/33,mb1mx3.9/48,mbtmp4.6/33,Error ellipse: s-maj=13.0km s-min=6.7km az=71.0

ISC 17 17:59:03.1±0.3,**7.78S**±0.04×**117.38E**±0.04,**h300**km,**n150,** σ1**65**/163,**mb4.3**/72,**Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.08**	**207**	P	**Pn**	**17 59 41.5**	**-2.4**
TWSI				S	**S**	**18 00 11.7**	**-4.6**
PLAI	**Plampang**	**1.12**	**160**	P	**Pn**	**17 59 41.5**	**-2.6**
PLAI				S	**S**	**18 00 11.5**	**-5.2**
DNP	**Denpasar**	**2.33**	**247**	P	**Pn**	**17 59 51.4**	**-1.2**
DNP				S	**S**	**18 00 29.6**	**-2.5**
WBSI	**Waikabubak, Su**	**2.72**	**133**	P	**Pn**	**17 59 53.7**	**-2.5**
WBSI				S	**S**	**18 00 33.9**	**-4.7**
ABJI	**Asem Bagus**	**3.12**	**269**	P	**Pn**	**17 59 59.8**	**-0.3**
JAGI	**Jajag, Banyuwa**	**3.27**	**258**	P	**Pn**	**18 00 00.9**	**-0.7**
JAGI				S	**S**	**18 00 46.9**	**-1.5**
JAGI	**Jajag, Banyuwa**	**3.27**	**258**	*e*Pn	**Pn**	**18 00 00.6**	**-1.1**
JAGI				*e*S	**S**	**18 00 43.0**	**-5.4**
WSI	**Waingapu**	**3.44**	**123**	P	**Pn**	**18 00 00.9**	**-2.5**
WSI				S	**S**	**18 00 47.6**	**-4.0**
BSSI	**Bau Bau, Buton**	**3.49**	**62**	P	**Pn**	**18 00 03.5**	**-0.4**
KAPI	**Kappang**	**3.62**	**41**	P	**Pn**	**18 00 05.9**	**+0.7**
	1.0nm,0.3s,baz=229,slow=6.9,SNR=4.5						
KAPI	**Kappang**	**3.62**	**41**	*e*Pn	**Pn**	**18 00 03.8**	**-1.5**
BLJI	**Banyuglugur**	**3.75**	**270**	P	**Pn**	**18 00 06.8**	**+0.1**
GMJI	**Gumukmas**	**3.93**	**262**	P	**Pn**	**18 00 08.1**	**-0.5**
BASI	**Baing, Sumba**	**3.98**	**128**	P	**Pn**	**18 00 07.2**	**-2.0**
BASI				S	**S**	**18 00 58.3**	**-3.8**
EDFI	**Ende, Flores**	**4.37**	**103**	P	**Pn**	**18 00 11.9**	**-1.7**
MMRI	**Maumere**	**4.88**	**100**	P	**Pn**	**18 00 18.0**	**-1.3**
MMRI	**Maumere**	**4.88**	**100**	*e*Pn	**Pn**	**18 00 18.6**	**-0.7**
MMRI				*e*S	**S**	**18 01 20.6**	**0.0**
GRJI	**Gresik**	**4.94**	**280**	P	**Pn**	**18 00 20.4**	**+0.4**
BBKI	**Banjar Baru**	**4.97**	**329**	P	**Pn**	**18 00 22.0**	**+1.6**
	400nm,1.0s,4μm1.7nm						
TTSI	**Tana Toraja**	**5.29**	**27**	P	**Pn**	**18 00 24.9**	**+0.8**
PWJI	**Pagerwojo**	**5.53**	**267**	P	**Pn**	**18 00 27.5**	**+0.6**
NGJI	**Ngawi**	**5.88**	**274**	P	**Pn**	**18 00 31.6**	**+0.5**
PCJI	**Pacitan**	**6.16**	**266**	P	**Pn**	**18 00 34.9**	**+0.5**
WOJI	**Wonogiri, Jawa**	**6.40**	**269**	P	**Pn**	**18 00 38.0**	**+0.7**
UGM	**Wanagama**	**6.80**	**268**	*e*Pn	**Pn**	**18 00 42.2**	**+0.1**
UGM				*e*S	S	18 01 52.4	-10
SOEI	**Soe**	**7.08**	**107**	P	**Pn**	**18 00 44.9**	**-0.8**
SOEI	**Soe**	**7.08**	**107**	*e*Pn	**Pn**	**18 00 44.9**	**-0.8**
SOEI				*e*S	**S**	**18 02 01.7**	**-7.0**
MTKI	**Muara Teweh, K**	**7.23**	**340**	P	**Pn**	**18 00 48.3**	**+1.0**
PCI	**Palu**	**7.25**	**20**	P	**Pn**	**18 00 49.2**	**+1.6**
PBKI	**Pangkalan Bun**	**7.60**	**311**	P	**Pn**	**18 00 53.6**	**+1.7**
KPJI	**Karang Pucung**	**8.39**	**272**	P	**Pn**	**18 01 02.7**	**+1.1**
LUWI	**Luwuk**	**8.58**	**39**	*e*Pn	**Pn**	**18 01 01.7**	**-2.2**
CISI	**Cisompet, Garu**	**9.48**	**271**	*e*Pn	**Pn**	**18 01 13.7**	**-1.4**
CISI				*e*S	S	18 02 51.3	-11
SBUM	**Sibu**	**11.39**	**333**	*e*Pn	**Pn**	**18 01 38.4**	**0.0**
KSM	**Kuching**	**11.58**	**322**	*e*Pn	**Pn**	**18 01 42.0**	**+1.2**
MYLDM	**Lahad Datu**	**12.92**	**5**	*e*Pn	**P**	**18 02 01.1**	**+3.8**
FITZ	**Fitzroy Crossi**	**13.04**	**143**	P	**P**	**18 01 59.0**	**+0.4**
	9.9nm,0.3s,baz=333,slow=8.0,SNR=176						
FITZ				S	**S**	**18 04 29.1**	**+6.5**
	2.1nm,0.3s,baz=133,slow=11,SNR=4.2						
FITZ	**Fitzroy Crossi**	**13.04**	**143**	*e*Pn	**P**	**18 01 59.2**	**+0.6**
FITZ				*e*S	**S**	**18 04 25.4**	**+2.8**
MBWA	**Marble Bar**	**13.50**	**171**	*e*P	**P**	**18 02 03.8**	**+0.1**
MBWA				*e*S	**S**	**18 04 34.0**	**+1.2**
KKM	**Kota Kinabalu**	**13.78**	**355**	*e*P	**Pn**	**18 02 08.5**	**+1.2**
SAUI	**Saumlaki**	**13.79**	**92**	*e*P	**P**	**18 02 07.0**	**0.0**
MTN	**Manton Dam**	**14.43**	**112**	*e*P	**Pn**	**18 02 15.2**	**+0.2**
MYKOM	**Kota Tinggi**	**16.51**	**305**	*e*P	**P**	**18 02 37.2**	**+0.4**
	39nm,1.5s						
IPM	**Ipoh**	**20.36**	**306**	*e*P	**P**	**18 03 15.5**	**-2.4**
	26nm,1.3s						
WRA	**Warramunga Arr**	**20.40**	**128**	P	**P**	**18 03 18.2**	**-0.1**
	7.6nm,0.5s,baz=304,slow=12,SNR=113						
WR1	**Warramunga Arr**	**20.40**	**128**	*e*P	**P**	**18 03 18.2**	**-0.1**
	21nm,0.6s						
WRAB	**Tennant Creek**	**20.41**	**128**	*e*P	**P**	**18 03 18.3**	**-0.1**
	16nm,0.6s						
WB2	**Warramunga Arr**	**20.41**	**128**	*e*P	**P**	**18 03 17.9**	**-0.5**
KULM	**Kulim**	**21.14**	**307**	*e*P	**P**	**18 03 26.0**	**+0.5**
	20nm,1.4s						
GSI	**Gunungsitoli**	**21.71**	**294**	*e*P	**P**	**18 03 29.9**	**-0.9**
	71nm,2.0s						
TGY	**Tagaytay City**	**22.02**	**9**	P	**P**	**18 03 33.5**	**0.0**
	130nm,0.5s,baz=206,slow=3.8,SNR=4.7						
AS31	**Alice Springs**	**22.38**	**137**	*e*P	**P**	**18 03 37.9**	**+1.2**
	9.8nm,0.7s						
ASAR	**Alice Springs**	**22.38**	**137**	P	**P**	**18 03 37.6**	**+0.9**
	24nm,0.4s,baz=312,slow=9.3,SNR=531						
AS01	**Alice Springs**	**22.41**	**137**	*e*P	**P**	**18 03 37.7**	**+0.7**
NWAO	**Narrogin (SRO)**	**25.03**	**180**	P	**P**	**18 04 01.4**	**+0.9**
	6.5nm,0.4s,baz=234,slow=8.2,SNR=16						
NWAO	**Narrogin (SRO)**	**25.03**	**180**	*e*P	**P**	**18 04 01.5**	**+1.0**
	101nm,1.9s						
COEN	**Coen**	**26.05**	**106**	*e*P	**P**	**18 04 10.1**	**+0.2**
	27nm,1.3s						
BBOO	**Buckleboo**	**30.34**	**148**	*e*P	**P**	**18 04 48.5**	**+0.9**
	149nm,1.9s						
CTA	**Charters Tower**	**30.52**	**117**	P	**P**	**18 04 50.7**	**+1.4**
	6.1nm,0.6s,baz=284,slow=11,SNR=9.9						
YULB	**Yu-li**	**31.21**	**7**	*e*P	**P**	**18 04 54.4**	**-0.9**
	28nm,1.6s						
CM01	**Chiang Mai Arr**	**31.75**	**325**	*e*P	**P**	**18 05 01.3**	**+1.2**
CM31	**Chiang Mai Arr**	**31.79**	**325**	*e*P	**P**	**18 05 01.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**31.79**	**325**	P	**P**	**18 05 01.6**	**+1.2**
	3.7nm,0.6s,baz=156,slow=6.8,SNR=34						
CHTO	**Chiang Mai**	**32.07**	**326**	*e*P	**P**	**18 05 03.0**	**+0.1**
	18nm,1.7s						
YHNB	**Yeheng**	**32.48**	**7**	*e*P	**P**	**18 05 06.8**	**+0.4**
	18nm,1.0s						
STKA	**Stephens Creek**	**32.91**	**140**	P	**P**	**18 05 11.4**	**+1.4**
	7.7nm,0.4s,baz=324,slow=7.8,SNR=40						
STKA	**Stephens Creek**	**32.91**	**140**	*e*P	**P**	**18 05 11.4**	**+1.4**
	6.1nm,1.4s						
KMI	**Kunming**	**35.67**	**337**	P	P	18 05 21.8	-12
KMI				pmax	pmax		
	comp=Z,11nm,1.3s						
JOW	**Kunigami**	**35.99**	**17**	*e*P	**P**	**18 05 37.5**	**+1.3**
	comp=Z,32nm,1.2s						
EIDS	**Eidsvold**	**36.57**	**123**	*e*P	**P**	**18 05 39.9**	**-1.3**
	comp=Z,45nm,1.7s						
WHN	**Wuhan**	**38.21**	**356**	P	**P**	**18 05 56.3**	**+1.6**
ENH	**Enshi**	**38.58**	**349**	*e*P	**P**	**18 05 58.5**	**+0.6**
	comp=Z,9.8nm,0.7s						
ARMA	**Armidale**	**39.17**	**130**	*e*P	**P**	**18 06 05.8**	**+2.9**
	comp=Z,51nm,1.7s						
CAN	**Canberra**	**39.88**	**138**	*e*P	**P**	**18 06 10.5**	**+1.9**
	comp=Z,87nm,1.7s						
HNR	**Honiara**	**42.10**	**95**	*e*P	**P**	**18 06 24.8**	**-2.1**
	comp=Z,45nm,1.3s						
CBIJ	**Chichi jima**	**42.18**	**34**	*e*P	**P**	**18 06 26.3**	**-1.0**
	comp=Z,50nm,0.7s						
JCJ	**Chichijima**	**42.18**	**34**	P	**P**	**18 06 26.1**	**-1.1**
	comp=Z,60nm,0.8s,baz=134,slow=22,SNR=7.9						
XAN	**Xi'an**	**42.35**	**350**	P	**P**	**18 06 28.3**	**-0.2**
XAN				PMZ			
	comp=Z,9.0nm,0.8s						
XAN				PMZ			
	comp=Z,26nm,4.3s						
JNU	**Nakatsue**	**42.65**	**17**	P	**P**	**18 06 31.1**	**+0.1**
	comp=Z,20nm,0.8s,baz=246,slow=1.3,SNR=16						
JNU	**Nakatsue**	**42.65**	**17**	*e*P	**P**	**18 06 30.4**	**-0.6**
	comp=Z,21nm,0.8s						
LSA	**Lhasa**	**45.00**	**327**	*e*P	**P**	**18 06 50.4**	**+0.3**
	comp=Z,7.8nm,1.2s						
KS15	**Wonju Array Si**	**46.04**	**12**	*e*P	**P**	**18 06 58.3**	**+0.8**
KSAR	**Wonju Array Be**	**46.04**	**12**	*e*P	**P**	**18 06 58.2**	**+0.7**
KSRS	**Korea Array**	**46.06**	**12**	P	**P**	**18 06 58.2**	**+0.6**
	comp=Z,12nm,0.9s,baz=190,slow=8.0,SNR=55						
DL2	**Dalian**	**46.61**	**5**	P	**P**	**18 07 01.8**	**0.0**
DL2				PMZ			
	comp=Z,34nm,0.9s						
INU	**Inuyama**	**46.72**	**22**	*e*P	**P**	**18 07 02.5**	**-0.3**
	comp=Z,7.1nm,0.9s						
BJT	**Baijiatuan**	**47.57**	**359**	*e*P	**P**	**18 07 08.9**	**-0.2**
	comp=Z,28nm,0.5s						
MAJO	**Matsushiro**	**48.23**	**23**	*e*P	**P**	**18 07 13.2**	**-1.0**
	comp=Z,10.0nm,0.7s						
MAT	**Matsushiro**	**48.23**	**23**	P	**P**	**18 07 13.1**	**-1.2**
MJAR	**Matsushiro Arr**	**48.23**	**23**	P	**P**	**18 07 12.8**	**-1.5**
	comp=Z,9.4nm,0.8s,baz=200,slow=8.3,SNR=43						
MJB9	**Matsu-Tunnel**	**48.23**	**23**	*e*P	**P**	**18 07 13.4**	**-0.9**
	comp=Z,2.6nm,0.7s						
DZM	**Mont Dzumac**	**49.27**	**112**	*e*P	**P**	**18 07 23.2**	**+0.6**
	comp=Z,23nm,1.3s						
GTA	**Gaotai**	**49.69**	**342**	*e*P	**P**	**18 07 26.3**	**+0.8**
GTA				PMZ			
	comp=Z,13nm,1.0s						
MDJ	**Mudanjiang**	**53.30**	**11**	*e*P	**P**	**18 07 51.9**	**+0.1**
	comp=Z,26nm,0.8s						
USRK	**Ussuriysk Ar.**	**53.39**	**13**	P	**P**	**18 07 52.8**	**+0.4**
	comp=Z,16nm,0.6s,baz=193,slow=6.9,SNR=48						
ULN	**Ulaanbaatar**	**56.15**	**352**	*e*P	**P**	**18 08 12.1**	**-0.1**
	comp=Z,7.4nm,0.6s						
SONA0	**Songino Array**	**56.22**	**351**	*e*P	**P**	**18 08 12.8**	**+0.2**
	comp=Z,15nm,0.7s						
SONM	**Songino Array**	**56.22**	**351**	P	**P**	**18 08 12.8**	**+0.2**
	comp=Z,17nm,0.7s,baz=170,slow=8.7,SNR=73						
SONA1	**Songino Array**	**56.23**	**351**	*e*P	**P**	**18 08 12.3**	**-0.4**
HIA	**Hailar**	**56.84**	**2**	*e*P	**P**	**18 08 16.0**	**-0.8**
	comp=Z,8.2nm,0.5s						
KLR	**Kul'dur**	**58.14**	**11**	P	**P**	**18 08 25.3**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=213,slow=3.7,SNR=20						
CASY	**Casey**	**58.60**	**183**	*e*P	**P**	**18 08 30.1**	**+1.3**
	comp=Z,28nm,2.0s						
RPZ	**Rata Peaks**	**58.79**	**137**	P	**P**	**18 08 31.7**	**+1.2**
	comp=Z,12nm,0.9s,baz=307,slow=5.1,SNR=3.6						
YSS	**Yuzh-Sakhalins**	**58.97**	**20**	*e*P	**P**	**18 08 31.8**	**+0.2**
	comp=Z,23nm,1.2s						
THZ	**Tophouse**	**59.41**	**134**	*e*P	**P**	**18 08 36.4**	**+1.5**
	comp=Z,251nm,2.0s						
KSH	**Kashi**	**60.68**	**324**	*e*P	**P**	**18 08 44.3**	**+0.8**
KSH				pP	pP	18 09 54.1	+4.8
KSH				PMZ			
	comp=Z,2.0nm,0.3s						
BKZ	**Black Stump Fm**	**61.31**	**130**	*e*P	**P**	**18 08 48.6**	**+0.9**
	comp=Z,97nm,1.7s						
URZ	**Urewera**	**61.57**	**129**	P	**P**	**18 08 51.8**	**+2.5**
	comp=Z,18nm,0.9s,baz=78,slow=13,SNR=2.4						
MK01	**Makanchi Array**	**62.63**	**334**	*e*P	**P**	**18 08 55.7**	**-0.5**
MK01				*e*PcP	**PcP**	**18 09 31.3**	**-0.7**
MK31	**Makanchi Array**	**62.65**	**334**	*e*P	**P**	**18 08 56.0**	**-0.3**
MK32	**Makanchi Array**	**62.65**	**334**	*e*P	**P**	**18 08 55.7**	**-0.6**
MKAR	**Makanchi Array**	**62.65**	**334**	P	**P**	**18 08 55.7**	**-0.6**
	comp=Z,21nm,0.3s,baz=142,slow=5.8,SNR=45						
MKAR	**Makanchi Array**	**62.65**	**334**	*e*P	**P**	**18 08 55.9**	**-0.4**
MAKZ	**Makanchi**	**62.80**	**333**	*e*P	**P**	**18 08 56.9**	**-0.4**
	comp=Z,1.9nm,0.9s						
TKM2	**Tokmak 2**	**63.16**	**327**	*e*P	**P**	**18 08 58.7**	**-1.2**
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**63.57**	**326**	P	**P**	**18 09 02.4**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=285,slow=2.8,SNR=3.5						
EKS2	**Erkin-Say**	**63.99**	**326**	*e*P	**P**	**18 09 04.3**	**-1.0**
	comp=Z,3.8nm,1.0s						
WSAR	**Wadi Sarin**	**65.16**	**300**	P	**P**	**18 09 13.3**	**+0.4**
	comp=Z,9.8nm,1.0s,baz=123,slow=12,SNR=2.9						
KURK	**Kurchatov**	**67.20**	**334**	*e*P	**P**	**18 09 24.5**	**-0.8**
	comp=Z,14nm,0.9s						
ZAA0	**Zalesovo Array**	**67.34**	**340**	*e*P	**P**	**18 09 24.4**	**-1.7**
ZALV	**Zalesovo Beam**	**67.34**	**340**	P	**P**	**18 09 24.7**	**-1.4**
	comp=Z,3.8nm,0.6s,baz=152,slow=5.2,SNR=17						
ZAA1	**Zalesovo Array**	**67.34**	**340**	*e*P	**P**	**18 09 24.7**	**-1.4**
CRZF	**Crozet Islands**	**67.60**	**223**	*e*P	**P**	**18 09 28.6**	**+0.7**
	comp=Z,863nm,2.0s						
UOSS	**Minazif**	**67.83**	**301**	*e*P	**P**	**18 09 29.9**	**+0.1**
	comp=Z,38nm,1.4s						
ABPO	**Ambohimpanom**	**68.79**	**253**	*e*P	**P**	**18 09 33.5**	**-2.5**
	comp=Z,66nm,1.9s						
OPO	**Ambohidratompo**	**68.84**	**253**	P	**P**	**18 09 36.4**	**0.0**
	comp=Z,3.8nm,0.7s,baz=86,slow=4.6,SNR=6.8						
YAK	**Yakutsk**	**70.25**	**6**	*e*P	**P**	**18 09 43.5**	**-0.3**
	comp=Z,8.5nm,0.5s						
GEYT	**Ailbeck**	**71.45**	**314**	P	**P**	**18 09 50.4**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=179,slow=8.3,SNR=4.0						
VOSK	**Vostochnaya**	**72.00**	**332**	*e*P	**P**	**18 09 53.4**	**-1.1**
	comp=Z,2.5nm,0.7s						
BVAR	**Borovoye Array**	**72.47**	**332**	P	**P**	**18 09 56.5**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=142,slow=7.5,SNR=14						
ZRNK	**Zerenda**	**73.07**	**332**	*e*P	**P**	**18 09 59.5**	**-1.2**
	comp=Z,4.7nm,0.6s						
VNDA	**Vanda**	**73.44**	**171**	P	**P**	**18 10 04.0**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=316,slow=7.8,SNR=9.2						
VNDA	**Vanda**	**73.44**	**171**	*e*P	**P**	**18 10 03.9**	**+1.5**
	comp=Z,2.9nm,0.6s						
SEY	**Seymchan**	**75.42**	**16**	P	**P**	**18 10 14.2**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=214,slow=21,SNR=5.4						
AKTO	**Aktyubinsk**	**77.31**	**326**	P	**P**	**18 10 24.1**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=109,slow=6.8,SNR=13						
TIXI	**Tiksi**	**79.62**	**4**	P	**P**	**18 10 35.6**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=142,slow=2.8,SNR=7.1						
NRIK	**Noril'sk**	**79.66**	**350**	P	**P**	**18 10 37.7**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=152,slow=4.3,SNR=3.2						
KMBO	**Kilima Mbogo**	**80.07**	**270**	P	**P**	**18 10 39.7**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=55,slow=12,SNR=5.9						
KMBO	**Kilima Mbogo**	**80.07**	**270**	*e*P	**P**	**18 10 39.7**	**-1.2**
	comp=Z,13nm,1.8s						
KBZ	**Khabaz**	**84.28**	**315**	P	**P**	**18 11 01.8**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=187,slow=24,SNR=3.4						
BOSA	**Boshof**	**88.18**	**242**	P	**P**	**18 11 21.6**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=140,slow=1.6,SNR=3.9						
BR101	**Keskin Array S**	**90.13**	**310**	*e*P	**P**	**18 11 28.5**	**-1.4**
BRTR	**Keskin Array B**	**90.13**	**310**	P	**P**	**18 11 28.5**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=123,slow=4.6,SNR=3.7						
AKASG	**Malin Array Be**	**94.79**	**320**	P	**P**	**18 11 48.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=76,slow=3.5,SNR=4.0						
YKA	**Yellowknife Ar**	**113.73**	**24**	PKiKP	**PKiKP**	**18 17 04.8**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=306,slow=1.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**116.67**	**281**	PKP	**PKPdf**	**18 17 11.7**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=48,slow=2.0,SNR=11						
TOA1	**Torodi Ar. Sit**	**116.67**	**281**	*e*PKPdf	**PKPdf**	**18 17 11.7**	**-1.1**
CPUP	**Villa Florida**	**145.71**	**188**	PKPbc	**PKPab**	**18 18 08.8**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=148,slow=3.3,SNR=12						
LVC	**Limon Verde**	**149.18**	**169**	PKPbc	**PKPbc**	**18 18 19.4**	**+1.8**
	comp=Z,18nm,0.7s,baz=248,slow=4.0,SNR=5.8						
BDFB	**Brasilia**	**152.60**	**212**	PKPbc	**PKPbc**	**18 18 25.5**	**+0.1**
	comp=Z,3.4nm,0.5s,baz=201,slow=5.5,SNR=5.4						

IDC 17 18:26:55.4±9.8,**5.91S**×**151.15E**,**h61**km±70km,**mb3.2**/2,**mb1 3.5**/3,**mb1mx3.0**/42,**mbtmp3.5**/3,**ML1.3**/1,**Error ellipse: s-maj=117.6km s-min=60.4km az=124.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27**	**228**	P	Pn	18 28 12.1	+0.5
	0.6nm,0.3s,baz=202,slow=16,SNR=2.8						
PMG				S	Sn	18 29 12.1	+1.1
	1.0nm,0.3s,baz=112,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**21.49**	**228**	P	P	18 31 39.0	-0.3
	0.8nm,0.5s,baz=54,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**24.24**	**221**	P	P	18 32 06.5	-0.3
	1.2nm,0.6s,baz=53,slow=9.1,SNR=22						
TORD	**Torodi Ar. Bea**	**149.06**	**286**	PKPbc	PKPbc	18 46 37.6	-0.2
	0.3nm,0.8s,baz=94,slow=4.3,SNR=2.2						

*NIED **17** 18:31:00,33.00N×141.00E,h77km,Mw3.8 Best double couple: M0 5.28000×10^14 NP1:φs352.00000°,δ73.00000°,λ6.00000°. NP2:φs260.00000°,δ84.00000°,λ163.00000°.*

*ISCJB **17** 18:31:16.5±0.9,32.92N±0.05×140.99E±0.09, h65km±10km,mb3.8/4,Error ellipse: s-maj=13.0km s-min=7.8km az=179.4*

*JMA **17** 18:31:17.8±0.1,33.01N×140.98E,h57km,M3.5*

*IDC **17** 18:31:19.2±2.0,32.77N×140.73E,h64km±14km,mb3.5/4, mb1 3.6/6,mb1mx3.2/49,mbtmp3.7/6,MS2.4/1,Ms1 2.4/1, ms1mx2.0/31,Error ellipse: s-maj=37.8km s-min=10.5km az=68.0*

ISC 17 18:31:16.4±1.4,**32.92N**±0.05×**141.09E**±0.08,**h47**km±16km, **n20,** σ1**48**/28,**mb3.8**/4,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.09**	**281**	P	**Pn**	**18 31 35.6**	**+0.4**
JHJ2				*e*S	**Sn**	**18 31 48.5**	**-0.6**
JHCJ	**Hachijojimakas**	**1.10**	**279**	P	**Pn**	**18 31 35.8**	**+0.4**
JHCJ				S	**Sn**	**18 31 48.1**	**-1.3**
JHJ	**Hachijo jima 2**	**1.12**	**281**	P	**Pn**	**18 31 35.9**	**+0.3**
	316nm,0.3s,baz=110,slow=22,SNR=544						
JHJ				S	**Sn**	**18 31 48.5**	**-1.4**
	214nm,0.3s,baz=295,slow=23,SNR=14						
BSO1	**Boso 1**	**1.73**	**357**	P	**Pn**	**18 31 44.7**	**+1.1**
BSO3	**Boso 3**	**1.94**	**346**	P	**Pn**	**18 31 47.6**	**+0.9**
BSO3				S	**Sn**	**18 32 10.3**	**+0.6**
JIM2	**Oshima 2**	**2.27**	**323**	P	**Pn**	**18 31 51.7**	**+0.3**
JIZS	**Izushimoda**	**2.57**	**315**	P	**Pn**	**18 31 56.5**	**+1.0**
JIZS				S	**Sn**	**18 32 24.7**	**-0.9**
JOD2	**Odawara 2**	**2.87**	**325**	P	**Pn**	**18 32 00.1**	**+0.4**
JOD2				S	**Sn**	**18 32 30.7**	**-2.3**
TK02	**Tokai 2**	**2.97**	**291**	P	**Pn**	**18 32 02.7**	**+1.9**
SHZ3	**Shizuoka 3**	**3.21**	**313**	P	**Pn**	**18 32 06.5**	**+2.1**
JYN	**Shimob**	**3.33**	**321**	P	**Pn**	**18 32 07.8**	**+1.8**
MJAR	**Matsushiro Arr**	**4.33**	**328**	P	**Pn**	**18 32 20.8**	**+1.2**
	1.6nm,0.3s,baz=161,slow=12,SNR=23						
MJAR				S	**Sn**	**18 33 09.8**	**+1.0**
	1.9nm,0.3s,baz=163,slow=25,SNR=7.0						
MAT	**Matsushiro**	**4.33**	**328**	P	**Pn**	**18 32 20.6**	**+1.0**
MAT				S	**Sn**	**18 33 05.5**	**-3.3**
JCJ	**Chichijima**	**5.88**	**170**	P	**Pn**	**18 32 42.0**	**+1.1**
	baz=330,slow=20						
JCJ				S	**Sn**	**18 33 45.7**	**-1.3**
	6.4nm,0.3s,baz=292,slow=22,SNR=7.6						
JNU	**Nakatsue**	**8.58**	**274**	P	**Pn**	**18 33 21.0**	**+3.0**
	0.5nm,0.3s,baz=136,slow=6.2,SNR=4.1						
USRK	**Ussuriysk Ar.**	**13.32**	**330**	LR	LR	18 39 40.2	
	comp=Z,15nm,20.1s,baz=276,slow=38						
SONM	**Songino Array**	**30.05**	**310**	P	**P**	**18 37 20.4**	**-0.6**
	0.5nm,0.8s,baz=123,slow=11,SNR=2.4						
KURBB	**Kurchatov Arra**	**48.41**	**311**	P	**P**	**18 39 53.2**	**-0.4**
	0.5nm,0.4s,baz=89,slow=7.7,SNR=17						
WRA	**Warramunga Arr**	**52.95**	**188**	P	**P**	**18 40 28.2**	**+0.1**
	1.5nm,0.5s,baz=4.8,slow=7.6,SNR=28						
ASAR	**Alice Springs**	**56.68**	**188**	P	**P**	**18 40 55.5**	**+0.5**
	0.4nm,0.5s,baz=2.3,slow=6.7,SNR=21						

KRSC 17 18:35:55.9±0.7,**55.23N**×**161.74E**,**h75**km±13km,**ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.68**	**180**	*i* P	Pn	18 36 12.3	+1.3
MKZ				*e*S	Sn	18 36 23.7	+1.6
KZV	**Kizimen**	**0.83**	**262**	*e*P	Pn	18 36 13.2	+0.3
KZV				*e*S	Sn	18 36 26.3	+0.8
TUMR	**Tumrok**	**0.91**	**274**	*i* P	Pn	18 36 15.3	+1.6
TUMR				*i* S	Sn	18 36 28.2	+1.2
ZLN	**Zelenaya**	**0.95**	**326**	*i* P	Pn	18 36 15.6	+1.5
ZLN				*e*S	Sn	18 36 29.3	+1.6
BZMR	**Bezymyannaya**	**1.00**	**315**	*i* P	Pn	18 36 15.8	+1.0
BZMR				*e*S	Sn	18 36 29.1	+0.2
KMNR	**Kamenistaya**	**1.00**	**302**	*i* P	Pn	18 36 16.0	+1.2
KMNR				*e*S	Sn	18 36 29.7	+0.9
LGNR	**Loginova**	**1.04**	**326**	*i* P	Pn	18 36 17.2	+1.8
LGNR				*i* S	Sn	18 36 32.3	+2.4
CIRR	**Tsirk**	**1.05**	**328**	*i* P	Pn	18 36 17.0	+1.6
CIRR				*e*S	Sn	18 36 31.6	+1.7
KPT	**Kopyto**	**1.13**	**311**	*i* P	Pn	18 36 17.7	+1.3
KPT				*e*S	Sn	18 36 32.4	+0.7
KBG	**Krutoberegovo**

mb3.7/2, Error ellipse: s-maj=6.1km s-min=3.0km az=140.4
*WEL **17** 18:50:51.0±0.1, 43°.58S×172°.81E, h6km, ML4.5/36, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0*
WEL Felt from Canterbury to Otago, maximum reported intensity MM 5.
*IDC **17** 18:50:50.8±1.6, 43°.23S×172°.56E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/23, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=44.6km s-min=15.0km az=148.0*
*NEIC **17** 18:50:51.3, 43°.58S×172°.78E, h6km, ML4.5(WEL), After WEL.*
NEIC Felt at Christchurch.

ISC 17 18:50:50.2±1.0, 43°.64S±0°.04×172°.81E±0°.03, h12km±6km, n118, σ1°36/128, 6C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.13**	**238**	⇑PG		**Pb**		**18 50 54.8**	**+0.1**
MQZ				SG		**Sg**		**18 50 57.3**	**+1.4**
MQZ				AML		AML		18 50 57.6	
MQZ	**McQueen's Vall**	**0.13**	**238**	*e*Pn		**Pb**		**18 50 54.8**	**+0.1**
MQZ				*e*				18 50 57.4	
CRLZ	**Canterbury Las**	**0.15**	**294**	⇑*e*PG		**Pg**		**18 50 53.8**	**0.0**
CRLZ				AML		AML		18 50 55.8	
CRLZ				AML		AML		18 50 55.9	
CRLZ				AML		AML		18 50 56.4	
CRLZ				AML		AML		18 50 56.4	
CRLZ	**Canterbury Las**	**0.15**	**294**	*e*Pg		**Pg**		**18 50 52.5**	**-1.2**
OXZ	**Oxford**	**0.64**	**299**	⇓P*		**Pg**		**18 51 02.7**	**0.0**
OXZ				SG		**Sg**		**18 51 11.0**	**-0.2**
OXZ	**Oxford**	**0.64**	**299**	*e*Pn		**Pg**		**18 51 02.7**	**0.0**
OXZ				*e*Sn		**Sg**		**18 51 11.3**	**+0.1**
LTZ	**Lake Taylor**	**0.94**	**335**	⇓P*		**Pg**		**18 51 08.3**	**-0.1**
LTZ				S*		**Sg**		**18 51 20.4**	**-0.2**
LTZ				AML		AML		18 51 21.3	
LTZ	**Lake Taylor**	**0.94**	**335**	*e*Pn		**Pg**		**18 51 08.3**	**-0.1**
LTZ				*e*Sn		**Sb**		**18 51 20.7**	**-0.3**
RPZ	**Rata Peaks**	**1.28**	**266**	Pg		**Pn**		**18 51 14.0**	**+0.1**
	533nm,0.3s,baz=153,slow=2.3,SNR=2508								
RPZ				Lg		Lg		18 51 29.3	
	396nm,0.3s,baz=30,slow=16,SNR=26								
RPZ	**Rata Peaks**	**1.28**	**266**	⇑P*		**Pn**		**18 51 14.0**	**+0.1**
RPZ				AML		AML		18 51 34.0	
RPZ				AML		AML		18 51 35.7	
RPZ	**Rata Peaks**	**1.28**	**266**	*e*Pn		**Pn**		**18 51 13.9**	**+0.1**
RPZ				*e*Sn		**Sb**		**18 51 29.1**	**-1.5**
RPZ				*e*Sn		**Sn**		**18 51 29.3**	**-1.7**
KHZ	**Kahutara**	**1.33**	**24**	P*		**Pn**		**18 51 13.7**	**-1.0**
KHZ	**Kahutara**	**1.33**	**24**	*e*Pn		**Pn**		**18 51 14.0**	**-0.6**
KHZ				*e*Sn		**Sb**		**18 51 31.1**	**-1.0**
INZ	**Inchbonnie**	**1.35**	**312**	P*		**Pn**		**18 51 14.2**	**-0.7**
WVZ	**Waitaha Valley**	**1.61**	**290**	PN		**Pn**		**18 51 18.6**	**+0.1**
WVZ				AML		AML		18 51 45.8	
WVZ				AML		AML		18 51 45.9	
WVZ	**Waitaha Valley**	**1.61**	**290**	Pn		**Pn**		**18 51 18.7**	**+0.2**
THZ	**Tophouse**	**1.87**	**2**	PN		**Pn**		**18 51 21.5**	**-0.7**
THZ				AML		AML		18 51 59.3	
THZ				AML		AML		18 52 01.0	
THZ	**Tophouse**	**1.87**	**2**	*e*Pn		**Pn**		**18 51 21.3**	**-0.9**
DSZ	**Denniston Nort**	**2.03**	**338**	PN		**Pn**		**18 51 24.0**	**-0.3**
DSZ				AML		AML		18 51 55.8	
DSZ				AML		AML		18 51 55.8	
DSZ				AML		AML		18 51 59.4	
DSZ				AML		AML		18 51 59.4	
DSZ	**Denniston Nort**	**2.03**	**338**	*e*Sn		**Sg**		**18 51 55.9**	**+0.4**
LBZ	**Lake Benmore**	**2.04**	**248**	PN		**Pn**		**18 51 25.0**	**+0.6**
LBZ				AML		AML		18 52 05.6	
LBZ				AML		AML		18 52 05.6	
LBZ				AML		AML		18 52 07.6	
LBZ				AML		AML		18 52 07.6	
LBZ	**Lake Benmore**	**2.04**	**248**	*e*Pn		**Pn**		**18 51 24.9**	**+0.5**
BSWZ	**Blackbirch Sta**	**2.07**	**23**	⇑PN		**Pn**		**18 51 24.6**	**-0.3**
BSWZ				AML		AML		18 51 51.3	
BSWZ				AML		AML		18 52 07.8	
BSWZ	**Blackbirch Sta**	**2.07**	**23**	Pn		**Pn**		**18 51 24.6**	**-0.3**
ODZ	**Otahua Downs**	**2.10**	**227**	PN		**Pn**		**18 51 25.7**	**+0.5**
ODZ				AML		AML		18 52 06.2	
ODZ				AML		AML		18 52 06.2	
ODZ				AML		AML		18 52 10.8	
ODZ				AML		AML		18 52 10.8	
ODZ	**Otahua Downs**	**2.10**	**227**	*e*Pn		**Pn**		**18 51 25.8**	**+0.6**
CMWZ	**Cape Campbell**	**2.15**	**29**	PN		**Pn**		**18 51 26.0**	**0.0**
CMWZ				AML		AML		18 52 14.5	
CMWZ				AML		AML		18 52 28.0	
CMWZ	**Cape Campbell**	**2.15**	**29**	Pn		**Pg**		**18 51 35.5**	**+4.0**
FOZ	**Fox Glacier**	**2.18**	**272**	PN		**Pn**		**18 51 27.6**	**+1.3**
FOZ				AML		AML		18 51 55.0	
FOZ				AML		AML		18 51 55.0	
FOZ				AML		AML		18 52 07.9	
FOZ				AML		AML		18 52 08.0	
FOZ	**Fox Glacier**	**2.18**	**272**	*e*Pn		**Pn**		**18 51 28.0**	**+1.7**
FOZ				*e*Sn		**Sb**		**18 51 55.0**	**-1.5**
TUWZ	**Tuamarina**	**2.36**	**21**	PN		**Pn**		**18 51 28.0**	**-0.8**
TUWZ				AML		AML		18 52 19.8	
TUWZ				AML		AML		18 52 20.0	
NNZ	**Nelson**	**2.45**	**10**	PN		**Pn**		**18 51 29.9**	**-0.1**
NNZ				AML		AML		18 52 17.7	
NNZ				AML		AML		18 52 17.7	
NNZ				AML		AML		18 52 25.6	
NNZ				AML		AML		18 52 25.6	
NNZ	**Nelson**	**2.45**	**10**	Pn		**Pn**		**18 51 30.1**	**+0.1**
TCW	**Tory Channel**	**2.66**	**25**	PN		**Pn**		**18 51 31.8**	**-1.1**
TCW				AML		AML		18 52 18.0	
TCW				AML		AML		18 52 28.0	
TCW	**Tory Channel**	**2.66**	**25**	*e*Pn		**Pn**		**18 51 31.8**	**-1.1**
TCW				*e*Sn		**Sg**		**18 52 18.0**	**+2.4**
SNZO	**South Karori**	**2.71**	**32**	*e*Pn		**Pn**		**18 51 32.7**	**-0.9**
HHSZ	**Highcliff Hill**	**2.75**	**214**	PN		**Pn**		**18 51 34.6**	**+0.4**
HHSZ	**Highcliff Hill**	**2.75**	**214**	Pn		**Pn**		**18 51 34.7**	**+0.6**
WEL	**Wellington**	**2.76**	**32**	PN		**Pn**		**18 51 33.4**	**-0.9**
WEL				AML		AML		18 52 05.8	
WEL				AML		AML		18 52 10.1	
QRZ	**Quartz Range**	**2.82**	**356**	PN		**Pn**		**18 51 35.0**	**0.0**
QRZ				AML		AML		18 52 22.5	
QRZ				AML		AML		18 52 22.5	
QRZ				AML		AML		18 52 23.1	
QRZ				AML		AML		18 52 23.1	
QRZ	**Quartz Range**	**2.82**	**356**	*e*Pn		**Pn**		**18 51 35.0**	**0.0**
QRZ				*e*Sn		**Sg**		**18 52 23.1**	**+2.5**
MSWZ	**Moikau Station**	**2.86**	**40**	PN		**Pn**		**18 51 34.4**	**-1.3**
MSWZ				AML		AML		18 52 08.8	
MSWZ				AML		AML		18 52 09.9	
MSWZ	**Moikau Station**	**2.86**	**40**	Pn		**Pn**		**18 51 34.4**	**-1.3**
JCZ	**Jackson Bay**	**2.94**	**260**	PN		**Pn**		**18 51 37.8**	**+0.9**
JCZ				AML		AML		18 52 29.5	
JCZ				AML		AML		18 52 31.4	
DUWZ	**D'Urville Isla**	**2.95**	**17**	*e*Pn		**Pn**		**18 51 36.9**	**0.0**
EAZ	**Earnscleugh**	**2.97**	**236**	⇑PN		**Pn**		**18 51 37.7**	**+0.5**
EAZ				AML		AML		18 52 28.5	
EAZ				AML		AML		18 52 29.5	
EAZ				AML		AML		18 52 41.8	
EAZ				AML		AML		18 52 41.8	
EAZ	**Earnscleugh**	**2.97**	**236**	*e*Pn		**Pn**		**18 51 37.7**	**+0.5**
WKZ	**Wanaka**	**2.98**	**245**	PN		**Pn**		**18 51 37.8**	**+0.5**
WKZ				AML		AML		18 52 33.4	
WKZ				AML		AML		18 52 41.1	
WKZ				AML		AML		18 52 50.8	
WKZ				AML		AML		18 52 50.9	
WKZ	**Wanaka**	**2.98**	**245**	*e*Pn		**Pn**		**18 51 37.9**	**+0.5**
CAW	**Cannon Point**	**3.03**	**34**	PN		**Pn**		**18 51 36.9**	**-1.1**
CAW				AML		AML		18 52 16.2	
CAW				AML		AML		18 52 21.7	
CAW	**Cannon Point**	**3.03**	**34**	*e*Sn		**Sn**		**18 52 19.2**	**+2.0**
TRWZ	**Traveller**	**3.09**	**45**	AML		AML		18 52 19.2	
TRWZ				AML		AML		18 52 29.7	
TRWZ	**Traveller**	**3.09**	**45**	*e*Sn		**Sb**		**18 52 19.2**	**-3.5**
KIW	**Kapiti Island**	**3.18**	**30**	PN		**Pn**		**18 51 39.2**	**-0.9**
KIW				AML		AML		18 52 16.3	
KIW				AML		AML		18 52 18.2	
KIW	**Kapiti Island**	**3.18**	**30**	*e*Pn		**Pn**		**18 51 39.2**	**-0.9**
KIW				*e*Sn		**Sn**		**18 52 18.2**	**+0.3**
TUZ	**Tuapeka**	**3.24**	**223**	⇑PN		**Pn**		**18 51 41.4**	**+0.5**
TUZ				AML		AML		18 52 39.7	
TUZ				AML		AML		18 52 39.7	
TUZ				AML		AML		18 52 44.2	
TUZ				AML		AML		18 52 44.2	
TUZ	**Tuapeka**	**3.24**	**223**	Pn		**Pn**		**18 51 41.4**	**+0.5**
OGWZ	**Otaki Gorge**	**3.32**	**33**	PN		**Pn**		**18 51 40.7**	**-1.3**
OGWZ	**Otaki Gorge**	**3.32**	**33**	Pn		**Pn**		**18 51 40.7**	**-1.3**
HOWZ	**Holdsworth Sta**	**3.39**	**37**	PN		**Pn**		**18 51 41.6**	**-1.4**
HOWZ	**Holdsworth Sta**	**3.39**	**37**	Pn		**Pn**		**18 51 41.6**	**-1.4**
MRZ	**Mangatainoka R**	**3.62**	**36**	PN		**Pn**		**18 51 44.4**	**-1.6**
MRZ	**Mangatainoka R**	**3.62**	**36**	*e*Pn		**Pn**		**18 51 44.4**	**-1.6**
TIWZ	**Tintock**	**3.66**	**40**	PN		**Pn**		**18 51 44.9**	**-1.8**
TIWZ				AML		AML		18 52 31.7	
TIWZ				AML		AML		18 52 32.6	
TIWZ	**Tintock**	**3.66**	**40**	Pn		**Pn**		**18 51 44.9**	**-1.8**
MSZ	**Milford Sound**	**3.66**	**252**	PN		**Pn**		**18 51 46.7**	**0.0**
MSZ				AML		AML		18 52 05.2	
MSZ				AML		AML		18 52 05.2	
MSZ				AML		AML		18 52 52.9	
MSZ				AML		AML		18 52 53.0	
MLZ	**Mavora Lakes**	**3.78**	**241**	PN		**Pn**		**18 51 48.2**	**-0.1**
MLZ				AML		AML		18 52 57.3	
MLZ				AML		AML		18 53 01.9	
SYZ	**Scrubby Hill**	**3.90**	**221**	PN		**Pn**		**18 51 50.6**	**+0.7**
SYZ				AML		AML		18 53 07.6	
SYZ				AML		AML		18 53 07.6	
SYZ				AML		AML		18 53 09.4	
SYZ				AML		AML		18 53 09.4	
SYZ	**Scrubby Hill**	**3.90**	**221**	Pn		**Pn**		**18 51 50.6**	**+0.7**
BFZ	**Birch Farm**	**3.90**	**42**	PN		**Pn**		**18 51 48.2**	**-1.8**
BFZ				AML		AML		18 52 35.5	
BFZ				AML		AML		18 52 35.5	
BFZ				AML		AML		18 52 38.4	
BFZ				AML		AML		18 52 38.5	
BFZ	**Birch Farm**	**3.90**	**42**	*e*Pn		**Pn**		**18 51 48.1**	**-1.9**
BFZ				*e*Sn		Sn		18 52 25.3	-10
POWZ	**Post Office Ro**	**3.92**	**35**	PN		**Pn**		**18 51 50.0**	**-0.3**
POWZ	**Post Office Ro**	**3.92**	**35**	Pn		**Pn**		**18 51 49.5**	**-0.7**
WHZ	**Wether Hill Ro**	**4.13**	**235**	PN		**Pn**		**18 51 52.6**	**-0.6**
WHZ				AML		AML		18 53 12.3	
WHZ				AML		AML		18 53 19.2	
WHZ	**Wether Hill Ro**	**4.13**	**235**	*e*Pn		**Pn**		**18 51 52.5**	**-0.6**
ANWZ	**Angora Road**	**4.18**	**42**	PN		**Pn**		**18 51 52.3**	**-1.6**
WAZ	**Wanganui**	**4.21**	**24**	⇓PN		**Pn**		**18 51 54.9**	**+0.7**
WAZ				AML		AML		18 52 48.4	
WAZ				AML		AML		18 53 10.5	
WAZ	**Wanganui**	**4.21**	**24**	Pn		**Pn**		**18 51 54.9**	**+0.7**
DCZ	**Deep Cove**	**4.44**	**244**	PN		**Pn**		**18 51 57.2**	**-0.1**
DCZ				AML		AML		18 53 21.1	
DCZ				AML		AML		18 53 22.3	
DCZ	**Deep Cove**	**4.44**	**244**	*e*Pn		**Pn**		**18 51 57.2**	**-0.1**
NEZ	**North Egmont**	**4.47**	**13**	PN		**Pn**		**18 51 58.8**	**+1.0**
NEZ	**North Egmont**	**4.47**	**13**	Pn		**Pn**		**18 51 58.9**	**+1.0**
PNHZ	**Pukenui**	**4.50**	**35**	PN		**Pn**		**18 51 56.5**	**-1.8**
PNHZ	**Pukenui**	**4.50**	**35**	Pn		**Pn**		**18 51 56.5**	**-1.8**
DREZ	**Durham Road**	**4.56**	**14**	PN		**Pn**		**18 51 60.0**	**+0.9**
APZ	**The Paps**	**4.67**	**225**	PN		**Pn**		**18 52 01.0**	**+0.5**
APZ				AML		AML		18 53 30.5	
APZ				AML		AML		18 53 38.8	
APZ	**The Paps**	**4.67**	**225**	*e*Pn		**Pn**		**18 52 01.0**	**+0.5**
VRZ	**Vera Road**	**4.74**	**19**	AML		AML		18 53 22.8	
VRZ				AML		AML		18 53 38.2	
VRZ	**Vera Road**	**4.74**	**19**	Pn		**Pn**		**18 52 02.0**	**+0.5**
MOVZ	**Moawhango**	**4.77**	**29**	*e*Pn		**Pn**		**18 52 00.6**	**-1.4**
MOVZ				*e*Sn		**Sn**		**18 52 55.4**	**-1.8**
PYZ	**Puysegur Point**	**5.04**	**238**	PN		**Pn**		**18 52 06.2**	**+0.6**
PYZ	**Puysegur Point**	**5.04**	**238**	*e*Pn		**Pn**		**18 52 05.7**	**+0.1**
MCHZ	**McNeill Hill**	**5.10**	**36**	PN		**Pn**		**18 52 05.8**	**-0.7**
MCHZ	**McNeill Hill**	**5.10**	**36**	Pn		**Pn**		**18 52 04.7**	**-1.8**
BKZ	**Black Stump Fm**	**5.25**	**33**	PN		**Pn**		**18 52 06.0**	**-2.6**
BKZ	**Black Stump Fm**	**5.25**	**33**	*e*Sn		**Sn**		**18 53 08.1**	**-1.1**
HIZ	**Hauiti**	**5.35**	**17**	PN		**Pn**		**18 52 09.6**	**-0.3**
HIZ				AML		AML		18 53 13.2	
HIZ				AML		AML		18 53 31.3	
HIZ	**Hauiti**	**5.35**	**17**	*e*Pn		**Pn**		**18 52 09.3**	**-0.6**
HIZ				*e*Sn		**Sn**		**18 53 13.2**	**+1.8**
NMHZ	**Naumai**	**5.44**	**35**	PN		**Pn**		**18 52 09.6**	**-1.6**
NMHZ	**Naumai**	**5.44**	**35**	Pn		**Pn**		**18 52 09.6**	**-1.6**
RAGZ	**Rawiri**	**6.20**	**36**	PN		**Pn**		**18 52 19.4**	**-2.3**
TOZ	**Tahuroa Road**	**6.24**	**20**	PN		**Pn**		**18 52 21.5**	**-0.7**
URZ	**Urewera**	**6.28**	**33**	Pn		**Pn**		**18 52 19.8**	**-2.8**
	2.3nm,0.3s,baz=212,slow=7.4,SNR=27								
URZ	**Urewera**	**6.28**	**33**	*e*Pn		**Pn**		**18 52 19.8**	**-2.8**
MWZ	**Matawai**	**6.39**	**36**	PN		**Pn**		**18 52 20.3**	**-3.8**
MWZ	**Matawai**	**6.39**	**36**	*e*Pn		**Pn**		**18 52 20.4**	**-3.8**
MWZ				*e*Sn		**Sn**		**18 53 34.1**	**-2.9**
TKGZ	**Te Karaka**	**6.44**	**38**	PN		**Pn**		**18 52 22.0**	**-2.9**
AWAZ	**Awhitu Peninsu**	**6.71**	**13**	PN		**Pn**		**18 52 28.6**	**+0.1**
TWGZ	**Tauwhareparae**	**6.71**	**37**	PN		**Pn**		**18 52 27.2**	**-1.4**
MXZ	**Matakaoa Point**	**7.37**	**36**	*e*Pn		**Pn**		**18 52 35.8**	**-1.8**
OUZ	**Omahuta**	**8.43**	**4**	*e*Pn		**Pn**		**18 52 51.2**	**-0.9**
DZM	**Mont Dzumac**	**22.15**	**344**	*e*LR		LR		19 01 28.3	
	116nm,24.7s								
TBI	**Tubuai**	**36.99**	**69**	*e*T		T		19 36 12.6	
	10nm,0.4s								
ASAR	**Alice Springs**	**37.58**	**289**	P		**P**		**18 58 03.2**	**-1.4**
	0.6nm,0.5s,baz=129,slow=6.2,SNR=16								
WRA	**Warramunga Arr**	**39.83**	**294**	P		**P**		**18 58 24.4**	**+0.9**
	1.0nm,0.5s,baz=134,slow=7.9,SNR=28								
PPT2	**Papeete2**	**40.96**	**63**	eLR		LR		19 09 58.6	
	63nm,22.5s								
TORD	**Torodi Ar. Bea**	**148.67**	**197**	PKPbc		**PKPab**		**19 10 40.4**	**-0.7**
	0.8nm,1.0s,baz=130,slow=1.1,SNR=3.0								
BRTR	**Keskin Array B**	**149.48**	**277**	PKPbc		**PKPbc**		**19 10 41.5**	**+2.4**
	0.5nm,0.7s,baz=121,slow=2.9,SNR=4.0								

*NIED **17** 18:52:00, 37°.60N×143°.80E, h5km, Mw3.7 Best double couple: M0 3.59000×10^14 NP1:φ=48.00000°, δ=21.00000°, λ=-46.00000°. NP2:φ=181.00000°, δ=75.00000°, λ=-105.00000°.*
*IDC **17** 18:52:07.9±1.3, 37°.25N×144°.30E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.6/39, mbtmp3.8/8, ML3.8/3, MS2.3/1, Ms1 2.3/1, ms1mx2.0/43, Error ellipse: s-maj=33.0km s-min=21.7km az=127.0*
*ISCJB **17** 18:52:09.3±0.5, 37°.57N±0°.04×144°.00E±0°.04, h33km, mb4.4/11, Error ellipse: s-maj=5.4km s-min=4.5km az=146.3*
*NEIC **17** 18:52:11.7±0.5, 37°.51N×144°.10E, h35km, mb4.9/6, Error ellipse: s-maj=11.3km s-min=6.9km az=134.0*
*JMA **17** 18:52:11.3±0.3, 37°.58N×143°.85E, h49km, M3.8*
ISC 17 18:52:11.8±0.8, 37°.56N±0°.06×143°.95E±0°.07, h35km, n41, σ2°17/47, mb4.7/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.24**	**294**	P		**Pn**		**18 52 46.0**	**-0.4**
JIO				*e*S		**Sn**		**18 53 11.7**	**-1.1**
OFUJ	**Ofunato**	**2.35**	**311**	P		**Pn**		**18 52 47.5**	**-0.4**
OFUJ				*e*S		**Sn**		**18 53 14.0**	**-1.6**
JOM	**Ohasama**	**2.83**	**313**	*e*S		**Sn**		**18 53 26.6**	**-0.8**
JFT	**Otama**	**2.87**	**270**	P		**Pn**		**18 52 55.5**	**+0.4**
JFT				*e*S		**Sn**		**18 53 27.8**	**-0.6**
JYK	**Kaneyama**	**3.14**	**297**	P		**Pn**		**18 52 59.0**	**+0.3**
JYK				*e*S		**Sn**		**18 53 34.8**	**-0.1**
JANG	**Nango**	**3.40**	**327**	*e*S		**Sn**		**18 53 40.1**	**-1.2**
JRY	**Ryogami san**	**4.33**	**251**	P		**Pn**		**18 53 14.5**	**-0.7**
JRY				*e*S		**Sn**		**18 54 01.2**	**-3.3**
ERM	**Erimo**	**4.50**	**352**	*e*Pn		**Pn**		**18 53 16.8**	**-0.6**
ERM				*e*Sn		Sn		18 53 59.8	-8.6
MJAR	**Matsushiro Arr**	**4.70**	**259**	Pn		**Pn**		**18 53 21.2**	**+1.0**
	8.8nm,0.3s,baz=90,slow=15,SNR=76								
MAJO	**Matsushiro**	**4.70**	**259**	*e*Pn		**Pn**		**18 53 21.7**	**+1.4**
MAJO				*e*Sn		**Sn**		**18 54 14.1**	**+0.5**
MAT	**Matsushiro**	**4.70**	**259**	P		**Pn**		**18 53 21.5**	**+1.2**
MAT				S		**Sn**		**18 54 14.0**	**+0.4**
MJB9	**Matsu-Tunnel**	**4.71**	**259**	*e*Pn		**Pn**		**18 53 21.8**	**+1.5**
MJB9				*e*Sn		**Sn**		**18 54 14.1**	**+0.4**
JCH	**Churui**	**5.07**	**355**	P		**Pn**		**18 53 24.4**	**-0.9**
JCH				*e*S		**Sn**		**18 54 18.9**	**-3.7**
JHJ2	**Mitsune**	**5.57**	**219**	*e*Pn		**Pn**		**18 53 31.6**	**-0.6**
JHJ2				*e*Sn		Sn		18 54 26.1	-8.9
JHJ	**Hachijo jima 2**	**5.58**	**219**	Pn		**Pn**		**18 53 31.7**	**-0.6**
	7.3nm,0.3s,baz=127,slow=23,SNR=7.3								
JHJ						Sn		**18 54 27.7**	**-7.5**
	6.7nm,0.3s,baz=73,slow=19,SNR=3.2								
NEM2	**Nemuro 2**	**5.96**	**13**	P		**Pn**		**18 53 34.7**	**-2.8**
NEM2				*e*S		**Sn**		**18 54 38.2**	**-6.3**
INU	**Inuyama**	**6.01**	**251**	*e*Pn		**Pn**		**18 53 39.5**	**+1.4**
ASAJ	**Asahikawa**	**6.63**	**352**	Pn		**Pn**		**18 53 47.0**	**+0.2**
	baz=90,slow=3.2								
ASAJ						Sn		**18 55 04.7**	**+3.6**
	1.2nm,0.3s,baz=54,slow=19,SNR=4.3								
ASAJ	**Asahikawa**	**6.63**	**352**	*e*Pn		**Pn**		**18 53 46.6**	**-0.1**
ASAJ				*e*Sn		**Sn**		**18 54 58.0**	**-3.0**
ASAJ				*e*Sn		Sn		18 55 04.7	+3.6
YSS	**Yuzh-Sakhalins**	**9.43**	**355**	*e*Pn		**Pn**		**18 54 23.8**	**-1.2**
KSRS	**Korea Array**	**12.73**	**274**	Pn		**Pn**		**18 55 13.1**	**+2.8**
	0.3nm,0.3s,baz=90,slow=13,SNR=6.1								
KSRS				LR		LR		19 00 38.8	
	comp=Z,13nm,19.0s,baz=220,slow=39								
KS15	**Wonju Array Si**	**12.76**	**274**	*e*Pn		**Pn**		**18 55 12.8**	**+2.2**
KSAR	**Wonju Array Be**	**12.76**	**274**	Pn		**Pn**		**18 55 13.1**	**+2.4**
SEY	**Seymchan**	**25.93**	**9**	P		**P**		**18 57 43.1**	**+2.8**
	2.1nm,0.7s,baz=117,slow=3.0,SNR=7.4								
H11S1	**WAKE ISLAND Hy**	**27.50**	**127**	T		T		19 26 07.2	
	baz=315,slow=74								
H11S3	**WAKE ISLAND Hy**	**27.50**	**127**	T		T		19 26 07.8	
	baz=315,slow=74								
H11S2	**WAKE ISLAND Hy**	**27.52**	**127**	T		T		19 26 09.3	
	baz=315								
GAMB	**Gambell**	**37.23**	**31**	*e*P		**P**		**18 59 19.5**	**0.0**
	34nm,1.6s								
ZAA1	**Zalesovo Array**	**43.06**	**312**	*e*P		P		19 00 13.4	+5.4
ZALV	**Zalesovo Beam**	**43.06**	**312**	P		P		19 00 13.4	+5.4
	0.6nm,0.4s,baz=98,slow=8.9,SNR=3.2								
MK01	**Makanchi Array**	**45.55**	**302**	*e*P		**P**		**19 00 29.6**	**+1.5**
MK32	**Makanchi Array**	**45.56**	**302**	*e*P		P		19 00 33.4	+5.3
MKAR	**Makanchi Array**	**45.56**	**302**	P		P		19 00 33.4	+5.3
	0.4nm,0.7s,baz=103,slow=6.5,SNR=4.3								
HOM	**Homer**	**45.80**	**40**	*e*P		**P**		**19 00 28.7**	**-1.0**
	65nm,0.6s								
KTH	**Kantishna Hill**	**46.18**	**34**	*e*P		**P**		**19 00 31.6**	**-1.2**
	21nm,1.8s								
PMG	**Port Moresby**	**46.81**	**176**	*e*P		**P**		**19 00 36.9**	**-1.2**
	25nm,1.1s								
ILAR	**Eielson Array**	**47.97**	**33**	P		**P**		**19 00 48.5**	**+1.9**
	0.7nm,0.7s,baz=264,slow=6.8,SNR=9.0								
ILB	**Eielson Array**	**47.97**	**33**	*e*P		**P**		**19 00 46.6**	**0.0**
INK	**Inuvik**	**53.00**	**27**	*e*P		**P**		**19 01 23.6**	**-0.9**
	15nm,1.9s								
WR1	**Warramunga Arr**	**57.90**	**191**	*e*P		**P**		**19 02 00.0**	**-0.3**
	19nm,1.6s								
WRA	**Warramunga Arr**	**57.90**	**191**	P		**P**		**19 02 00.0**	**-0.3**
	0.5nm,0.7s,baz=11,slow=7.1,SNR=4.3								

WEL 17 18:52:52.0±0.4, 38°.55S×178°.67E, h33km, ML3.0/2, 2C, Error ellipse: s-maj=3.9km s-min=2.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.37**	**281**	PN		**Pb**		**18 53 00.9**	**+0.2**
TKGZ	**Te Karaka**	**0.66**	**280**	⇑PN		Pn		18 53 04.5	-0.4
TKGZ				SN		Sb		18 53 14.0	-0.1
TKGZ				SN		Sn		18 53 14.2	0.0
TWGZ	**Tauwhareparae**	**0.66**	**304**	⇑PN		Pn		18 53 04.7	-0.5
TWGZ				SN		Sb		18 53 13.5	-0.8
TWGZ				SN		Sn		18 53 14.7	+0.3
RIGZ	**Rimuhau**	**0.73**	**258**	*e*PN		**Pn**		18 53 05.8	-0.2
MWZ	**Matawai**	**0.93**	**283**	PN		Pn		18 53 08.1	-0.7
MWZ				SN		Sn		18 53 19.6	-1.3
MWZ				AML		AML

JCJ	**Chichijima**	**9.45**	**179**	Pn	**Pn**	**19 11 19.1**	**-0.2**
	3.6nm,0.3s,baz=108,slow=23,SNR=11						
JCJ				Sn	Sn	19 12 54.8	-10
	3.4nm,0.3s,baz=299,slow=19,SNR=4.3						
USRK	**Ussuriysk Ar.**	**10.81**	**318**	Pn	**Pn**	**19 11 40.1**	**+2.3**
	0.1nm,0.3s,baz=106,slow=21,SNR=3.3						
KSRS	**Korea Array**	**11.33**	**279**	Pn	**Pn**	**19 11 47.8**	**+2.8**
	0.1nm,0.3s,baz=95,slow=13,SNR=4.8						
KSRS				LR	LR	19 15 49.2	
	comp=Z,61nm,19.2s,baz=96,slow=35						
KSAR	**Wonju Array Be**	**11.36**	**279**	Pn	**Pn**	**19 11 47.8**	**+2.3**
JOW	**Kunigami**	**15.21**	**234**	*e*Pn	**Pn**	**19 12 34.3**	**-3.7**
	21nm,1.1s						
PETK	**Petropavlovsk-**	**19.84**	**29**	LR	LR	19 21 15.5	
	comp=Z,220nm,21.3s,baz=67,slow=37						
YAK	**Yakutsk**	**26.63**	**347**	*e*P	**P**	**19 14 42.1**	**+0.9**
	2.4nm,0.4s,baz=124,slow=3.6,SNR=2.4						
YAK	**Yakutsk**	**26.63**	**347**	*e*P	**P**	**19 14 41.7**	**+0.5**
	8.1nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.47**	**121**	T	T	19 44 12.2	
	baz=314,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**27.48**	**121**	T	T	19 44 12.8	
	baz=314,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**27.49**	**121**	T	T	19 44 32.7	
	baz=314,slow=75,SNR=21						
ENH	**Enshi**	**27.81**	**266**	*e*P	**P**	**19 14 51.6**	**-0.6**
	27nm,2.0s						
ULN	**Ulaanbaatar**	**28.04**	**305**	*e*P	**P**	**19 14 54.6**	**+0.3**
	2.2nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.18**	**123**	T	T	19 45 08.6	
	baz=315,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.18**	**123**	T	T	19 45 30.6	
	baz=315,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.20**	**123**	T	T	19 45 10.4	
	baz=315,slow=75,SNR=13						
SONA1	**Songino Array**	**28.46**	**305**	*e*P	**P**	**19 14 58.5**	**+0.5**
SONA0	**Songino Array**	**28.47**	**305**	*e*P	**P**	**19 14 58.3**	**+0.2**
	3.0nm,0.8s						
SONM	**Songino Array**	**28.47**	**305**	P	**P**	**19 14 58.3**	**+0.2**
	3.0nm,0.7s,baz=103,slow=8.6,SNR=18						
RABL	**Rabaul**	**41.64**	**165**	*e*P	**P**	**19 16 55.0**	**+3.7**
ZAA0	**Zalesovo Array**	**42.60**	**313**	*e*P	**P**	**19 16 58.4**	**-0.5**
ZAA1	**Zalesovo Array**	**42.60**	**313**	*e*P	**P**	**19 16 58.9**	**+0.1**
ZALV	**Zalesovo Beam**	**42.60**	**313**	P	**P**	**19 16 58.9**	**+0.1**
	2.2nm,0.7s,baz=90,slow=7.2,SNR=9.7						
NRIK	**Noril'sk**	**43.90**	**335**	LR	LR	19 37 00.9	
	comp=Z,32nm,18.5s,baz=70,slow=38						
MK01	**Makanchi Array**	**44.80**	**303**	*e*P	**P**	**19 17 16.5**	**-0.1**
MK31	**Makanchi Array**	**44.80**	**303**	*e*P	**P**	**19 17 16.1**	**-0.6**
MK32	**Makanchi Array**	**44.80**	**303**	*e*P	**P**	**19 17 17.0**	**+0.3**
MKAR	**Makanchi Array**	**44.80**	**303**	P	**P**	**19 17 17.0**	**+0.3**
	0.9nm,0.6s,baz=86,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**44.80**	**303**	*e*P	**P**	**19 17 16.4**	**-0.3**
MAKZ	**Makanchi**	**45.01**	**303**	*e*P	**P**	**19 17 18.4**	**+0.1**
	1.5nm,0.7s						
KAPI	**Kappang**	**46.33**	**212**	*e*P	**P**	**19 17 28.2**	**-0.8**
	8.8nm,1.0s						
KURK	**Kurchatov**	**46.62**	**309**	*e*P	**P**	**19 17 31.1**	**+0.2**
	2.3nm,0.7s						
VOSK	**Vostochnaya**	**50.97**	**312**	*e*P	**P**	**19 18 04.0**	**-0.3**
	1.5nm,0.8s						
ZRNK	**Zerenda**	**52.09**	**313**	*e*P	**P**	**19 18 12.9**	**+0.1**
	5.9nm,1.6s						
WR1	**Warramunga Arr**	**56.68**	**189**	*e*P	**P**	**19 18 46.7**	**+0.3**
	36nm,1.8s						
WRA	**Warramunga Arr**	**56.68**	**189**	P	**P**	**19 18 46.7**	**+0.3**
	0.5nm,0.3s,baz=7.0,slow=7.2,SNR=12						
UWE	**Uwekahuna**	**56.97**	**89**	*e*P	**P**	**19 18 49.0**	**+0.3**
	2µm,0.9s						
ARU	**Arti**	**57.04**	**319**	*e*P	**P**	**19 18 49.0**	**+0.4**
	8.0nm,1.6s						
ABKAR	**Akbulak array**	**58.63**	**311**	*e*P	**P**	**19 18 59.7**	**-0.1**
DLBC	**Dease Lake**	**58.67**	**38**	*e*P	**P**	**19 18 60.0**	**-0.2**
	20nm,2.0s						
AS01	**Alice Springs**	**60.40**	**189**	*e*P	**P**	**19 19 12.9**	**+0.7**
AS31	**Alice Springs**	**60.41**	**189**	*e*P	**P**	**19 19 12.2**	**-0.1**
	1.6nm,1.2s						
ASAR	**Alice Springs**	**60.41**	**189**	P	**P**	**19 19 12.8**	**+0.5**
	0.8nm,0.7s,baz=13,slow=7.4,SNR=9.0						
NB200	**NORSAR Array S**	**74.81**	**338**	*e*P	**P**	**19 20 44.1**	**+1.2**
NOA	**NORSAR Array B**	**74.81**	**338**	P	**P**	**19 20 44.1**	**+1.2**
	1.2nm,0.7s,baz=39,slow=5.7,SNR=3.6						
AKASG	**Malin Array Be**	**74.97**	**323**	P	**P**	**19 20 44.5**	**+0.6**
	0.7nm,0.4s,baz=48,slow=6.2,SNR=4.5						

*IDC **17** 19:16:16.8±1.5,5.65S×151.04E, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/36, mbtmp4.2/7, ML1.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.5/36, Error ellipse: s-maj=59.2km s-min=20.8km az=120.0*

*ISCJB **17** 19:16:18.0±0.6,5.37S±0.09×150.58E±0.09, h10km, mb4.2/11, MS3.3/2, Error ellipse: s-maj=16.4km s-min=8.8km az=135.1*

*NEIC **17** 19:16:20.0±0.7,5.33S×150.51E, h10km, mb4.4/7, Error ellipse: s-maj=18.0km s-min=12.1km az=143.0*

ISC 17 19:16:20.0±0.7,5.3S±0.1×150.52E±0.10, h10km, n25, σ1s70/25, mb4.3/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.26**	**219**	Pn	**Pn**	**19 17 39.6**	**+0.8**
	2.7nm,0.3s,baz=37,slow=14,SNR=8.1						
PMG				Sn	**Sn**	**19 18 41.4**	**+1.9**
	2.1nm,0.3s,baz=201,slow=7.7,SNR=4.2						
PMG	**Port Moresby**	**5.26**	**219**	*e*Pn	**Pn**	**19 17 40.8**	**+2.0**
PMG				*e*Sn	**Sn**	**19 18 37.6**	**-1.9**
HNR	**Honiara**	**10.21**	**114**	*i* P	**Pn**	**19 18 48.5**	**+1.7**
HNR	**Honiara**	**10.21**	**114**	*e*Pn	**Pn**	**19 18 49.8**	**+3.0**
MTN	**Manton Dam**	**20.54**	**247**	*e*P	**P**	**19 20 59.8**	**+0.9**
	60nm,1.6s						
WRAB	**Tennant Creek**	**21.42**	**226**	*e*P	**P**	**19 21 06.9**	**-1.5**
	16nm,1.1s						
WB2	**Warramunga Arr**	**21.43**	**226**	*e*P	**P**	**19 21 07.7**	**-0.8**
WR1	**Warramunga Arr**	**21.43**	**226**	*e*P	**P**	**19 21 08.4**	**-0.1**
	20nm,1.4s						
WRA	**Warramunga Arr**	**21.43**	**226**	P	**P**	**19 21 08.4**	**-0.1**
	5.8nm,0.6s,baz=54,slow=11,SNR=45						
DZM	**Mont Dzumac**	**22.70**	**139**	LR	LR	19 27 55.5	
	comp=Z,108nm,18.2s,baz=86,slow=32						
AS01	**Alice Springs**	**24.25**	**220**	*e*P	**P**	**19 21 36.7**	**-0.8**
AS31	**Alice Springs**	**24.28**	**220**	*e*P	**P**	**19 21 36.9**	**-0.8**
	3.7nm,0.6s						
ASAR	**Alice Springs**	**24.28**	**220**	P	**P**	**19 21 36.3**	**-1.4**
	9.5nm,0.7s,baz=56,slow=9.4,SNR=104						
FITZ	**Fitzroy Crossi**	**27.43**	**240**	P	**P**	**19 22 07.4**	**+1.2**
	5.2nm,0.6s,baz=69,slow=7.2,SNR=16						
FITZ	**Fitzroy Crossi**	**27.43**	**240**	*e*P	**P**	**19 22 07.8**	**+1.5**
	17nm,1.4s						
STKA	**Stephens Creek**	**27.73**	**196**	P	**P**	**19 22 04.8**	**-4.0**
	3.1nm,0.9s,baz=15,slow=12,SNR=3.5						
STKA	**Stephens Creek**	**27.73**	**196**	*e*P	**P**	**19 22 06.1**	**-2.6**
	3.5nm,1.6s						
FUNA	**Funafuti**	**28.65**	**98**	*e*P	**P**	**19 22 15.1**	**-2.1**
	173nm,1.3s						
YAK	**Yakutsk**	**69.03**	**350**	*e*P	**P**	**19 27 25.2**	**-0.4**
	11nm,0.9s						
MK32	**Makanchi Array**	**79.22**	**319**	*e*P	**P**	**19 28 26.4**	**+0.9**
MKAR	**Makanchi Array**	**79.22**	**319**	P	**P**	**19 28 26.4**	**+0.9**
	0.7nm,1.1s,baz=126,slow=7.3,SNR=3.1						
ILAR	**Eielson Array**	**83.49**	**23**	P	**P**	**19 28 47.2**	**-0.5**
	0.5nm,0.8s,baz=261,slow=6.9,SNR=5.8						
ARU	**Arti**	**95.46**	**326**	LR	LR	20 11 18.3	
	comp=Z,12nm,22.0s,baz=164,slow=34						
TORD	**Torodi Ar. Bea**	**148.28**	**286**	PKPbc	**PKPbc**	**19 36 07.6**	**0.0**
	1.4nm,0.7s,baz=95,slow=3.4,SNR=6.5						
TOA1	**Torodi Ar. Sit**	**148.28**	**286**	*e*PKPbc	**PKPbc**	**19 36 07.6**	**0.0**

*NIED **17** 19:21:00, 36.30N×140.30E, h101km, Mw4.1 Best double couple: M0 1.44000×10^15 NP1:φs0.00000°, δ45.00000°, λ-138.00000°. NP2:φs238.00000°, δ62.00000°, λ-53.00000°.*

*ISCJB **17** 19:21:54.0±0.6, 36.26N±0.05×140.42E±0.09, h110km±4km, mb4.0/10, Error ellipse: s-maj=12.0km s-min=7.7km az=165.1*

*IDC **17** 19:21:55.8±1.7, 36.21N×140.35E, h107km±15km, mb3.7/10, mb1 3.8/14, mb1mx3.5/54, mbtmp4.1/14, Error ellipse: s-maj=23.4km s-min=10.2km az=70.0*

*JMA **17** 19:21:56.1±0.1, 36.28N×140.30E, h101km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs220.00000°, δ50.00000°, λ-87.00000°. NP2:φs35.00000°, δ40.00000°, λ-94.00000°. Principal axes: T Plg5.0000°, Azm308.0000°; N Plg3.0000°, Azm38.0000°; P Plg84.0000°, Azm153.0000°;*

JMA Felt I J1.

ISC 17 19:21:54.9±0.7, 36.31N±0.06×140.49E±0.07, h104km±6km, n31, σ1s73/33, mb4.1/10, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.26**	**252**	⇓P	**Pn**	**19 22 10.4**	**+0.7**
JYT				S	**Sn**	**19 22 21.5**	**+0.7**
JAG	**Ashikaga**	**0.85**	**278**	⇓P	**Pn**	**19 22 13.8**	**-0.2**
JAG				S	**Sn**	**19 22 26.8**	**-1.7**
JKT	**Katashina**	**1.10**	**295**	⇑P	**Pn**	**19 22 16.9**	**+0.1**
JKT				S	**Sn**	**19 22 32.8**	**-0.5**
JFY	**Yanaizu**	**1.27**	**330**	⇑P	**Pn**	**19 22 19.2**	**+0.6**
JRY	**Ryogami san**	**1.32**	**258**	⇓P	**Pn**	**19 22 18.9**	**-0.3**
JRY				S	**Sn**	**19 22 36.2**	**-1.5**
MJAR	**Matsushiro Arr**	**1.86**	**278**	P	**Pn**	**19 22 25.7**	**-0.1**
	24nm,0.3s,baz=93,slow=12,SNR=304						
MJAR				LR	LR	19 22 55.8	
	comp=Z,93nm,18.7s,baz=105,slow=35						
MAT	**Matsushiro**	**1.86**	**278**	P	**Pn**	**19 22 25.7**	**-0.1**
MAT				S	**Sn**	**19 22 46.6**	**-2.8**
JHJ	**Hachijo jima 2**	**3.23**	**191**	P	**Pn**	**19 22 43.8**	**-0.1**
	37nm,0.3s,baz=160,slow=23,SNR=46						
JHJ				S	**Sn**	**19 23 19.8**	**-1.9**
	281nm,0.3s,baz=247,slow=23,SNR=20						
ASAJ	**Asahikawa**	**7.96**	**11**	P	**Pn**	**19 23 46.2**	**-1.5**
	2.3nm,0.3s,baz=200,slow=14,SNR=32						
ASAJ				S	**Sn**	**19 25 10.6**	**-5.5**
	baz=61,slow=19						
JNU	**Nakatsue**	**8.53**	**251**	P	**Pn**	**19 23 56.5**	**+0.9**
	0.4nm,0.3s,baz=56,slow=11,SNR=8.0						
JCJ	**Chichijima**	**9.30**	**171**	P	**Pn**	**19 24 02.7**	**-3.2**
	baz=258,slow=20						
JCJ				S	Sn	19 25 37.8	-11
	5.5nm,0.3s,baz=217,slow=20,SNR=4.6						
KSRS	**Korea Array**	**10.14**	**280**	P	**Pn**	**19 24 18.3**	**+1.0**
	0.2nm,0.3s,baz=96,slow=13,SNR=17						
USRK	**Ussuriysk Ar.**	**10.21**	**323**	P	**Pn**	**19 24 18.5**	**+0.2**
	0.3nm,0.3s,baz=127,slow=12,SNR=15						
KLR	**Kul'dur**	**14.41**	**336**	P	**Pn**	**19 25 11.8**	**-1.9**
	0.1nm,0.3s,baz=155,slow=14,SNR=2.9						
SONM	**Songino Array**	**27.59**	**305**	P	**P**	**19 27 32.5**	**+0.3**
	1.2nm,0.6s,baz=109,slow=9.5,SNR=10						
H11N2	**WAKE ISLAND Hy**	**28.43**	**118**	T	T	19 58 03.9	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.44**	**118**	T	T	19 58 02.7	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.45**	**118**	T	T	19 58 05.1	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**29.11**	**121**	T	T	19 58 53.6	
	baz=314,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.11**	**121**	T	T	19 58 56.2	
	baz=314,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.12**	**121**	T	T	19 58 51.2	
	baz=314,slow=75,SNR=16						
ZALV	**Zalesovo Beam**	**41.36**	**313**	P	**P**	**19 29 34.4**	**0.0**
	2.3nm,0.6s,baz=80,slow=7.1,SNR=9.8						
MKAR	**Makanchi Array**	**43.88**	**303**	P	**P**	**19 29 50.9**	**+0.1**
	2.8nm,0.7s,baz=92,slow=10.0,SNR=32						
ILAR	**Eielson Array**	**50.50**	**32**	P	**P**	**19 30 43.5**	**+1.6**
	1.4nm,0.8s,baz=268,slow=6.2,SNR=12						
ILAR				pP	**pP**	**19 31 10.0**	**+3.3**
	0.7nm,0.9s,baz=284,slow=6.7,SNR=3.5						
WRA	**Warramunga Arr**	**56.25**	**187**	P	**P**	**19 31 24.1**	**-0.2**
	2.5nm,0.6s,baz=2.2,slow=7.5,SNR=27						
ARU	**Arti**	**56.41**	**319**	P	**P**	**19 31 24.9**	**-0.3**
	2.5nm,0.7s,baz=31,slow=3.6,SNR=4.1						
AKTO	**Aktyubinsk**	**58.61**	**312**	P	**P**	**19 31 40.3**	**-0.4**
	0.9nm,0.3s,baz=233,slow=5.1,SNR=3.2						
ASAR	**Alice Springs**	**59.98**	**187**	P	**P**	**19 31 50.8**	**+0.4**
	1.3nm,0.8s,baz=17,slow=6.4,SNR=11						
AKASG	**Malin Array Be**	**74.42**	**322**	P	**P**	**19 33 22.8**	**+1.6**
	0.2nm,0.3s,baz=56,slow=8.3,SNR=3.6						
TXAR	**Lajitas Array**	**91.15**	**52**	P	**P**	**19 34 49.9**	**+1.6**
	0.3nm,0.5s,baz=289,slow=2.3,SNR=4.7						
LPAZ	**La Paz**	**147.70**	**59**	PKPbc	**PKPbc**	**19 41 29.9**	**+1.3**
	0.6nm,0.4s,baz=349,slow=5.2,SNR=3.5						

*CSEM **17** 19:29:25.7, 38.35N×21.67E, h24km, ML0.9/6*

ATH 17 19:29:25.7, 38.35N×21.67E, h24km±3km, ML0.9/6, Error ellipse: s-maj=3.0km s-min=0.9km az=52.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.11**	**123**	P	Pb	19 29 30.1	-0.2
UPR	**University Cam**	**0.11**	**123**	P	Pb	19 29 30.1	-0.2
EFP	**Efpalio**	**0.20**	**67**	P	Pb	19 29 31.7	+0.4
EFP				S	Sb	19 29 35.2	0.0
EFP	**Efpalio**	**0.20**	**67**	P	Pb	19 29 31.7	+0.4
EFP				S	Sb	19 29 35.2	+0.1
EFP				AML	AML	19 29 37.9	
	comp=N,135µm,0.2s						
EFP				AML	AML	19 29 38.1	
	comp=E,157µm,0.2s						
LAKA	**Lakka**	**0.27**	**113**	P	Pb	19 29 32.8	+0.6
LAKA				S	Sb	19 29 36.6	0.0
LAKA	**Lakka**	**0.27**	**113**	P	Pb	19 29 32.8	+0.6
LAKA				S	Sb	19 29 36.6	0.0
AXS	**Araxos**	**0.27**	**237**	P	Pb	19 29 33.0	+0.8
AXS	**Araxos**	**0.27**	**237**	P	Pb	19 29 33.0	+0.8
PVO	**Paravola**	**0.29**	**338**	P	Pb	19 29 33.0	+0.5
PVO				S	Sb	19 29 36.8	-0.4
PVO	**Paravola**	**0.29**	**338**	P	Pb	19 29 33.0	+0.4
PVO				S	Sb	19 29 36.9	-0.4
SERG	**Sergoula**	**0.31**	**78**	P	Pb	19 29 32.7	-0.2
ANX	**Ano Chora**	**0.32**	**39**	P	Pb	19 29 33.2	+0.2
ANX	**Ano Chora**	**0.32**	**39**	P	Pb	19 29 33.2	+0.2
TRIZ	**Trizonia**	**0.32**	**86**	P	Pb	19 29 33.2	+0.3
TRIZ				S	Sb	19 29 39.2	+1.3
RLS	**Riolos of Patr**	**0.33**	**209**	P	Pb	19 29 33.4	+0.3
RLS				S	Sb	19 29 37.8	-0.3
RLS	**Riolos of Patr**	**0.33**	**209**	S	Sb	19 29 37.8	-0.3
RLS				AML	AML	19 29 40.9	
	comp=N,29µm,0.1s						
RLS				AML	AML	19 29 41.2	
	comp=E,31µm,0.1s						
KALE	**Kalithea**	**0.38**	**83**	P	Pb	19 29 33.6	-0.3
KALE				S	Sb	19 29 40.3	+0.9
KALE	**Kalithea**	**0.38**	**83**	P	Pb	19 29 33.6	-0.3
KALE				S	Sb	19 29 40.3	+0.9
KALE				AML	AML	19 29 41.9	
	comp=N,42µm,0.3s						
KALE				AML	AML	19 29 42.9	
	comp=E,35µm,0.2s						
DRO	**Drossia**	**0.40**	**175**	P	Pb	19 29 34.1	0.0
DRO				S	Sb	19 29 39.6	-0.3
DRO	**Drossia**	**0.40**	**175**	P	Pb	19 29 34.1	-0.1
DRO				S	Sb	19 29 39.6	-0.3
DRO				AML	AML	19 29 42.6	
	comp=N,45µm,0.2s						
DRO				AML	AML	19 29 43.1	
	comp=E,64µm,0.3s						
PDO	**Prodromos**	**0.46**	**304**	P	Pb	19 29 35.6	+0.5
PDO				S	Sb	19 29 41.7	+0.1
PDO	**Prodromos**	**0.46**	**304**	P	Pb	19 29 35.6	+0.5
PDO				S	Sb	19 29 41.7	+0.1
PDO				AML	AML	19 29 44.0	
	comp=N,52µm,0.3s						
PDO				AML	AML	19 29 44.9	
	comp=E,39µm,0.4s						
KLV	**Kalavryta, Ach**	**0.49**	**128**	P	Pb	19 29 35.2	-0.5
KLV				S	Sb	19 29 43.7	+1.2
KLV	**Kalavryta, Ach**	**0.49**	**128**	P	Pb	19 29 35.2	-0.5
KLV				S	Sb	19 29 43.7	+1.2
KLV				AML	AML	19 29 44.5	
	comp=N,9µm,0.3s						
KLV				AML	AML	19 29 46.3	
	comp=E,15µm,0.4s						
DSF	**Desfina**	**0.68**	**84**	P	Pb	19 29 37.5	-1.4
DSF	**Desfina**	**0.68**	**84**	P	Pb	19 29 37.5	-1.4
AGG	**Agios Georgios**	**0.85**	**37**	P	Pb	19 29 41.1	-0.8
AGG	**Agios Georgios**	**0.85**	**37**	P	Pb	19 29 41.1	-0.8

*NIED **17** 19:48:00, 36.20N×137.40E, h11km, Mw3.7 Best double couple: M0 4.51000×10^14 NP1:φs342.00000°, δ86.00000°, λ3.00000°. NP2:φs252.00000°, δ87.00000°, λ176.00000°.*

*ISCJB **17** 19:48:23.2±1.3, 36.10N±0.08×137.47E±0.05, h9km±8km, mb3.3/2, Error ellipse: s-maj=13.0km s-min=6.5km az=166.1*

*JMA **17** 19:48:24.4, 36.16N×137.44E, h7km±1km, M3.8*

Broadband fault plane solution: P waves. NP1: φs69.00000°, δ75.00000°, λ165.00000°. NP2: φs163.00000°, δ75.00000°, λ15.00000°. Principal axes: T Plg21.0000°, Azm26.0000°; N Plg69.0000°, Azm206.0000°; P Plg0.0000°, Azm116.0000°;

JMA Felt III J1.

*IDC **17** 19:48:26.6±2.2, 36.24N×137.56E, h33km±28km, mb3.1/2, mb1 3.5/4, mb1mx3.1/56, mbtmp3.5/4, ML3.4/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/13 Error ellipse: s-maj=30.7km s-min=10.0km az=59.0*

ISC 17 19:48:22.7±2.0, 36.20N±0.08×137.58E±0.06, h5km±14km, n10, σ1s35/13, 1C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.21**	**276**	⇓P	**Pg**	**19 48 27.2**	**+0.3**
JGN				S	**Sg**	**19 48 29.1**	**-0.6**
JTT	**Ttatey**	**0.45**	**334**	⇑P	**Pb**	**19 48 33.5**	**+0.3**
JTT				S	**Sb**	**19 48 39.9**	**-0.3**
MAT	**Matsushiro**	**0.61**	**56**	P	**Pn**	**19 48 38.6**	**+0.5**
MAT				S	**Sn**	**19 48 48.0**	**-0.4**
MJAR	**Matsushiro Arr**	**0.61**	**56**	Pg	**Pn**	**19 48 38.7**	**+0.5**
	136nm,0.3s,baz=239,slow=17,SNR=740						
MJAR				Lg	Lg	19 48 49.1	
	87nm,0.3s,baz=244,slow=37,SNR=23						
JKG	**Kaga**	**1.01**	**275**	⇓P	**Pb**	**19 48 41.6**	**-1.1**
JKG				*i* S	**Sb**	**19 48 53.9**	**-2.4**
JHJ	**Hachijo jima 2**	**3.57**	**149**	LR	LR	19 51 07.0	
	comp=Z,74nm,21.4s,baz=132,slow=44						
JNU	**Nakatsue**	**6.32**	**243**	Pn	**Pn**	**19 49 58.7**	**+2.1**
	0.6nm,0.3s,baz=223,slow=2.1,SNR=5.9						
JNU				Lg	Lg	19 51 37.6	
	0.5nm,0.3s,baz=184,slow=13,SNR=6.5						
KSRS	**Korea Array**	**7.84**	**282**	Pn	**Pn**	**19 50 19.1**	**+1.6**
	1.5nm,0.3s,baz=97,slow=14,SNR=12						
WRA	**Warramunga Arr**	**55.92**	**184**	P	**P**	**19 58 00.9**	**-0.9**
	0.3nm,0.7s,baz=359,slow=7.5,SNR=4.5						
ASAR	**Alice Springs**	**59.64**	**184**	P	**P**	**19 58 28.5**	**+0.5**
	0.2nm,0.8s,baz=14,slow=7.8,SNR=1.6						

*NIED **17** 19:51:00, 39.60N×143.40E, h23km, Mw3.8 Best double couple: M0 5.22000×10^14 NP1:φs194.00000°, δ22.00000°, λ73.00000°. NP2:φs32.00000°, δ69.00000°, λ97.00000°.*

*IDC **17** 19:51:22.0±1.8, 39.58N×143.40E, h0km, mb3.7/6, mb1 3.8/11, mb1mx3.6/58, mbtmp3.9/11, ML3.6/3, MS3.1/3, Ms1 3.1/3, ms1mx2.5/53, Error ellipse: s-maj=45.4km s-min=17.0km az=77.0*

*JMA **17** 19:51:23.9±0.3, 39.63N×143.44E, h37km, M3.8*

ISC 17 19:51:24.8±1.0, 39.42N±0.06×143.17E±0.07, h18km, n26, σ2s15/22, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.06**	**279**	P	**Pg**	**19 51 45.9**	**+0.5**
JOM	**Ohasama**	**1.46**	**273**	P	**Pb**	**19 51 52.1**	**+0.7**
JOM				S	**Sg**	**19 52 12.6**	**+0.7**
JMK	**Ichinoseki**	**1.59**	**253**	P	**Pb**	**19 51 54.3**	**+0.6**
JMK				S	**Sg**	**19 52 17.0**	**+0.9**
JANG	**Nango**	**1.59**	**307**	P	**Pn**	**19 51 51.1**	**-1.0**
JOT	**Ohata**	**2.54**	**321**	P	**Pn**	**19 52 03.1**	**-2.1**
ASAJ	**Asahikawa**	**4.71**	**355**	Pn	**Pn**	**19 52 33.6**	**-1.3**
	baz=270,slow=20						
ASAJ				Sn	**Sn**	**19 53 26.6**	**-2.5**
	1.4nm,0.3s,baz=3.2,slow=18,SNR=2.5						
MJAR	**Matsushiro Arr**	**4.86**	**235**	Pn	**Pn**	**19 52 40.7**	**+3.6**
	1.4nm,0.3s,baz=37,slow=13,SNR=13						
MAT	**Matsushiro**	**4.86**	**235**	P	**Pn**	**19 52 40.9**	**+3.8**
MAT				*e*S	**Sb**	**19 53 45.0**	**-2.7**
JHJ	**Hachijo jima 2**	**6.86**	**205**	Pn	**Pn**	**19 53 05.9**	**+1.4**
	4.1nm,0.3s,baz=60,slow=20,SNR=2.8						
JHJ				Sn	**Sn**	**19 54 17.5**	**-4.6**
	5.0nm,0.3s,baz=53,slow=20,SNR=2.5						
USRK	**Ussuriysk Ar.**	**9.62**	**303**	Pn	**Pn**	**19 53 44.4**	**+2.2**
	0.2nm,0.3s,baz=89,slow=14,SNR=4.3						
USRK				LR	LR	19 57 16.0	
	comp=Z,82nm,19.0s,baz=162,slow=37						
KSRS	**Korea Array**	**12.12**	**265**	LR	LR	19 58 34.4	
	comp=Z,49nm,18.3s,baz=70,slow=35						
JCJ	**Chichijima**	**12.32**	**184**	Pn	**Pn**	**19 54 18.8**	**-0.5**
	0.4nm,0.3s,baz=284,slow=19,SNR=4.1						
SONM	**Songino Array**	**27.70**	**300**	P	**P**	**19 57 12.6**	**+0.6**
	0.7nm,0.5s,baz=99,slow=10.0,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**28.33**	**127**	T	T	20 27 02.6	
	baz=325						
H11N1	**WAKE ISLAND Hy**	**28.34**	**127**	T	T	20 27 06.5	
	baz=325						
H11N3	**WAKE ISLAND Hy**	**28.34**	**127**	T	T	20 26 57.8	
	baz=325						
H11S1	**WA

ASHT Ashkhabad 1.15 79 *i* P **Pb 19 56 02.7 -0.2**
ASHT Ashkhabad 1.15 79 P **Pb 19 56 02.7 -0.2**
comp=Z,438nm,0.6s
IEMG Emamgholi 1.38 102 *e*AMB AMB 19 56 36.0
comp=Z,20µm,0.3s
IEMG *e*Pg **Pn** **19 56 05.4 -1.2**
IQHU Qucahn 1.42 117 *e*Sg **Sb** **19 56 25.3 -0.5**
IQHU *e*Pn **Pn** **19 56 06.5 -0.4**
IQHU *e*AMB AMB 19 56 49.4
comp=Z,31µm,0.3s
IKRD Kardeh 1.56 127 *e*Pn Pg 19 56 19.5 +8.5
IKRD *e*AMB AMB 19 56 54.2
comp=Z,12µm,0.6s
IAKL Akhelmad 1.82 127 *e*Pg **Pn** **19 56 12.1 -0.5**
IAKL *e*AMB AMB 19 56 15.7
comp=Z,10µm,0.4s
IAKL Akhelmad 1.82 127 Pg **Pn** **19 56 12.1 -0.5**
SHRO Shahrood 1.89 204 *e*Pg **Pn** **19 56 13.7 +0.3**
SHRO *e*Sg **Sn** **19 56 37.9 +0.5**
SHRO AML AML 19 56 43.5
comp=N,754nm,0.6s
SHRO AML AML 19 56 47.7
comp=E,585nm,0.6s
SHRO Shahrood 1.89 204 *e*Pn **Pn** **19 56 13.1 -0.3**
IPAY Payeh 2.07 127 *e*Pn **Pn** **19 56 17.0 +1.0**
IPAY *e*AMB AMB 19 56 59.2
comp=Z,7µm,0.2s
IPAY Payeh 2.07 127 *e*Pn **Pn** **19 56 17.0 +1.0**
ISRO Mashad 2.46 124 *e*Pn **Pn** **19 56 22.4 +1.2**
ISRO Mashad 2.46 124 *e*Pn **Pn** **19 56 22.4 +1.2**
IMOG Moghan 2.50 129 *e*Pn **Pn** **19 56 23.6 +1.7**
IMOG *e*AMB AMB 19 56 28.8
comp=Z,5µm,0.3s
IMOG Moghan 2.50 129 *e*Pn **Pn** **19 56 23.6 +1.7**
IMOG Moghan 2.50 129 Pn **Pn** **19 56 23.6 +1.7**
IGLO Ghaloghah 2.78 245 *e*Pn **Pn** **19 56 26.7 +1.0**
IGLO *e*AMB AMB 19 57 29.6
comp=Z,11µm,0.3s
IMYA Miami 2.87 118 *e*Pn **Pn** **19 56 27.8 +0.9**
IMYA *e*AMB AMB 19 57 40.6
comp=Z,7µm,0.5s
IMYA Miami 2.87 118 *e*Pn **Pn** **19 56 27.8 +0.9**
IMYA Miami 2.87 118 Pn **Pn** **19 56 27.8 +0.9**
IANJ Anjilo 3.33 228 *e*Pn **Pn** **19 56 34.7 +1.5**
IANJ *e*AMB AMB 19 57 45.8
comp=Z,3µm,0.4s
IANJ Anjilo 3.33 228 *e*Pn **Pn** **19 56 34.7 +1.5**
ISHM Shahmirzad 3.51 238 *e*Pn **Pn** **19 56 38.3 +2.5**
ISHM *e*AMB AMB 19 57 43.2
comp=Z,3µm,0.4s
IALA Alasht 3.70 245 *e*Pn **Pn** **19 56 40.8 +2.2**
IALA *e*AMB AMB 19 57 31.2
comp=Z,3µm,0.2s
IALA Alasht 3.70 245 Pn **Pn** **19 56 40.7 +2.2**
IALA Alasht 3.70 245 Pn **Pn** **19 56 40.7 +2.2**
IFIR Firoozkooh 3.97 240 *e*Pn **Pn** **19 56 44.3 +2.2**
IFIR *e*AMB AMB 19 56 59.4
comp=Z,2µm,0.2s
IFIR Firoozkooh 3.97 240 *e*Pn **Pn** **19 56 44.3 +2.2**
IFIR Firoozkooh 3.97 240 Pn **Pn** **19 56 44.3 +2.2**
ILAS Lasjerd 3.98 235 *e*Pn **Pn** **19 56 43.9 +1.7**
ILAS *e*AMB AMB 19 58 09.1
comp=E,2µm,0.2s
ILAS Lasjerd 3.98 235 Pn **Pn** **19 56 43.8 +1.6**
ILAS Lasjerd 3.98 235 Pn **Pn** **19 56 43.8 +1.6**
IPRN Peran 3.98 250 *e*Pn **Pn** **19 56 43.6 +1.4**
IPRN *e*AMB AMB 19 58 14.6
comp=Z,4µm,0.3s
IPRN Peran 3.98 250 Pn **Pn** **19 56 43.5 +1.4**
TABS Tabas 4.07 178 *e*Pn **Pn** **19 56 43.6 +0.2**
TABS AML AML 19 57 56.8
comp=N,89nm,0.6s
TABS Tabas 4.07 178 *e*Pn **Pn** **19 56 43.6 +0.2**
IDMV Damavand 4.50 243 *e*Pn **Pn** **19 56 51.5 +2.1**
IDMV *e*AMB AMB 19 57 47.9
comp=Z,1µm,0.4s
IDMV Damavand 4.50 243 *e*Pn **Pn** **19 56 51.5 +2.1**
IAFJ Afjeh 4.60 248 *e*AMB AMB 19 58 11.8
comp=Z,966nm,0.2s
IVRN Varamin 5.02 239 *e*Pn **Pn** **19 56 57.0 +0.6**
IVRN *e*AMB AMB 19 57 37.6
comp=Z,531nm,0.2s
IVRN Varamin 5.02 239 *e*Pn **Pn** **19 56 57.0 +0.6**
ITEG Tejag 5.04 163 *e*Pn **Pn** **19 56 57.5 +0.7**
ITEG *e*AMB AMB 19 57 08.8
comp=Z,952nm,0.3s
ITEG Tejag 5.04 163 Pn **Pn** **19 56 57.4 +0.7**
ITEG Tejag 5.04 163 Pn **Pn** **19 56 57.4 +0.7**
IKOO Kooshah 5.55 162 *e*AMB AMB 19 57 07.5
comp=Z,262nm,0.3s
IKOO *e*Pn **Pn** **19 57 04.5 +0.7**
IRAZ Razeghan 6.11 250 *e*Pn **Pn** **19 57 12.9 +1.4**
IRAZ *e*AMB AMB 19 58 03.4
comp=Z,376nm,0.3s
IRAZ Razeghan 6.11 250 *e*Pn **Pn** **19 57 12.9 +1.4**
IKLH Kolahrood 6.21 227 *e*Pn **Pn** **19 57 14.0 +1.1**
IKLH *e*AMB AMB 19 59 13.4
comp=Z,451nm,0.4s
IKLH Kolahrood 6.21 227 *e*Pn **Pn** **19 57 14.0 +1.1**
IKLH Kolahrood 6.21 227 Pn **Pn** **19 57 14.0 +1.1**
IBAF Bafgh 6.23 191 *e*Pn **Pn** **19 57 14.1 +1.1**
IBAF *e*AMB AMB 19 58 32.9
comp=Z,540nm,0.3s
IBAF Bafgh 6.23 191 *e*Pn **Pn** **19 57 14.1 +1.1**
IBAF Bafgh 6.23 191 Pn **Pn** **19 57 14.1 +1.1**
IRAM Ramesheh 7.00 214 *e*Pn **Pn** **19 57 24.6 +0.9**
IRAM *e*AMB AMB 19 57 26.7
comp=Z,185nm,0.3s
IRAM Ramesheh 7.00 214 *e*Pn **Pn** **19 57 24.6 +0.9**
IRAM Ramesheh 7.00 214 Pn **Pn** **19 57 24.6 +0.9**
IPIR Pirpir 7.06 226 *e*Pn **Pn** **19 57 28.3 +3.6**
IPIR *e*AMB AMB 19 57 32.0
comp=Z,263nm,0.2s
IPIR Pirpir 7.06 226 *e*Pn **Pn** **19 57 28.3 +3.6**
GNI Garni 9.82 288 Pn **Pn** **19 58 02.7 +0.4**
comp=Z,1.8nm,0.3s,baz=31,slow=6.9,SNR=6.8
GNI Sn **Sn** **19 59 46.5 -6.1**
comp=Z,0.3nm,0.3s,baz=240,slow=20,SNR=1.3
GNI LR LR 20 03 27.9
comp=Z,49nm,21.4s,baz=84,slow=48
GNI Garni 9.82 288 *e*Pn **Pn** **19 57 59.7 -2.6**
GNI *e*Sn **Sn** **19 59 46.5 -6.1**
KBL Kabul 10.28 104 *e*P **Pn** **19 58 08.1 -0.6**
KBL Kabul 10.28 104 *e*Pn **Pn** **19 58 08.1 -0.6**
KBL Kabul 10.28 104 *e*Pn **Pn** **19 58 08.1 -0.6**
DUS Dusheti 10.37 299 P **Pn** **19 58 12.0 +2.2**
DUS Dusheti 10.37 299 P **Pn** **19 58 12.0 +2.2**
GUDG Gudauri 10.66 300 P **Pn** **19 58 15.0 +1.1**
AKH Akhalkalaki 11.02 294 P **Pn** **19 58 20.9 +2.1**
AKH Akhalkalaki 11.02 294 P **Pn** **19 58 20.9 +2.1**
ZEI Tsey 11.18 301 *e*P **Pn** **19 58 23.5 +2.5**
ZEI pmax pmax
comp=Z,21nm,0.6s
ONI Oni 11.41 299 P **Pn** **19 58 25.8 +1.8**
ONI Oni 11.41 299 P **Pn** **19 58 25.8 +1.8**
KK31 Karatay Array 11.64 58 Pn **Pn** **19 58 25.8 -1.3**
comp=Z,9.9nm,0.9s,baz=242,slow=17,SNR=54
KK31 ⇓Sn **Sn** **20 00 37.8 +0.7**
comp=Z,43nm,1.8s,baz=240,slow=30,SNR=3.9
KK31 Karatay Array 11.64 58 P **Pn** **19 58 25.8 -1.3**
KK31 Karatay Array 11.64 58 Pn **Pn** **19 58 25.8 -1.3**
comp=Z,9.9nm,0.9s,SNR=54
KK31 Sn **Sn** **20 00 37.8 +0.7**
comp=Z,43nm,1.8s,SNR=3.9
KKAR Karatay Array 11.64 58 *e*P **Pn** **19 58 26.0 -1.1**
KKAR Karatay Array 11.64 58 *e*Pn **Pn** **19 58 26.0 -1.1**
KKAR Karatay Array 11.64 58 *e*Pn **Pn** **19 58 25.9 -1.1**
NCK Nalchik 11.67 304 ⇓ *i*P **Pn** **19 58 26.1 -1.4**
NCK pmax pmax
comp=Z,11nm,0.6s
AB31 Akbulak array 11.73 10 ⇑Pn **Pn** **19 58 27.0 -1.2**
comp=Z,3.9nm,0.6s,baz=202,slow=13,SNR=27
AB31 ⇓Sn **Sn** **20 00 34.7 -4.4**
comp=Z,3.7nm,0.6s,baz=196,slow=23,SNR=3.4
AB31 Akbulak array 11.73 10 P **Pn** **19 58 27.0 -1.2**
AB31 Akbulak array 11.73 10 Pn **Pn** **19 58 27.0 -1.2**
comp=Z,3.9nm,0.6s,SNR=27
ABKAR Akbulak array 11.73 10 *e*Pn **Pn** **19 58 27.2 -1.0**
ABKAR Akbulak array 11.73 10 *e*Pn **Pn** **19 58 27.2 -1.0**
NEY Neytrino 12.15 301 *i* P **Pn** **19 58 35.3 +1.0**
NEY pmax pmax
comp=Z,1.0nm,0.6s
KBZ Khabaz 12.23 304 Pn **Pn** **19 58 33.4 -1.6**
comp=Z,0.8nm,0.3s,baz=15,slow=24,SNR=12
KBZ Sn Sn 20 00 44.2 -7.1
comp=Z,0.2nm,0.3s,baz=17,slow=20,SNR=4.0
KVAR Kislovodsk Arr 12.46 304 Pn **Pn** **19 58 36.7 -1.6**
baz=314,slow=3.0,SNR=21
KVAR Sn **Sn** **20 00 51.4 -5.7**
baz=204,slow=20,SNR=5.0
KIV Kislovodsk 12.46 304 ⇓ *e*P **Pn** **19 58 36.5 -1.9**
KIV *e*S **Sn** **20 00 53.8 -3.5**
KIV pmax pmax
comp=Z,12nm,0.6s
KIV MLR MLR
comp=Z,26nm,16.0s
KIV Kislovodsk 12.46 304 *e*Pn **Pn** **19 58 36.8 -1.6**
KIV Kislovodsk 12.46 304 *e*Pn **Pn** **19 58 36.8 -1.6**
KIV *e*Sn **Sn** **20 00 50.5 -6.8**
AKTO Aktyubinsk 12.73 3 Pn **Pn** **19 58 41.4 -0.6**
comp=Z,0.6nm,0.3s,baz=179,slow=15,SNR=19
AKTO Sn **Sn** **20 00 58.1 -5.5**
comp=Z,0.2nm,0.3s,baz=104,slow=19,SNR=4.8
AKTO Aktyubinsk 12.73 3 ⇓Pn **Pn** **19 58 41.3 -0.6**
comp=Z,18nm,1.1s
AKTO ⇓Sn **Sn** **20 01 00.6 -3.0**
comp=Z,5.8nm,0.6s
AKTO Aktyubinsk 12.73 3 Pn **Pn** **19 58 41.3 -0.6**
comp=Z,18nm,1.1s
AKTO Sn **Sn** **20 01 00.6 -3.0**
comp=Z,5.8nm,0.6s
UOSS Minazif 12.76 183 *e*Pn **Pn** **19 58 41.4 -1.0**
UOSS Minazif 12.76 183 *e*Pn **Pn** **19 58 41.4 -1.0**
MNAS Manas 12.81 63 ⇓Pn **Pn** **19 58 42.4 -0.9**
comp=Z,5.2nm,1.2s
MNAS ⇓Sn **Sn** **20 01 01.3 -4.7**
comp=Z,5.6nm,0.9s
MNAS Manas 12.81 63 P **Pn** **19 58 42.3 -0.9**
MNAS Manas 12.81 63 Pn **Pn** **19 58 42.4 -0.9**
comp=Z,5.2nm,1.2s
EKS2 Erkin-Say 13.77 64 *e*P **Pn** **19 58 55.2 -1.0**
EKS2 Erkin-Say 13.77 64 *e*Pn **Pn** **19 58 55.2 -1.0**
EKS2 Erkin-Say 13.77 64 *e*Pn **Pn** **19 58 55.2 -1.0**
AAK Ala-Archa 14.27 64 Pn **Pn** **19 59 01.6 -1.6**
comp=Z,0.4nm,0.3s,baz=245,slow=6.8,SNR=11
AAK LR LR 20 05 46.5
comp=Z,45nm,19.2s,baz=240,slow=42
AAK Ala-Archa 14.27 64 ⇑Pn **Pn** **19 59 02.9 -0.3**
comp=Z,7.3nm,0.8s
AAK Ala-Archa 14.27 64 ⇑ *i*P **Pn** **19 59 01.9 -1.3**
AAK pmax pmax
comp=Z,20nm,0.8s
AAK Ala-Archa 14.27 64 *e*Pn **Pn** **19 59 02.2 -1.0**
AAK Ala-Archa 14.27 64 *e*Pn **Pn** **19 59 02.2 -1.0**
FRU Bishkek 14.41 64 *e*P P **19 59 15.0 +3.1**
FRU pmax pmax
comp=E,80nm,1.9s
TKM2 Tokmak 2 15.13 64 ⇓Pn **Pn** **19 59 13.6 -1.3**
comp=E,3.2nm,0.8s
TKM2 Tokmak 2 15.13 64 *e*P **Pn** **19 59 13.6 -1.3**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 15.13 64 Pn **Pn** **19 59 13.6 -1.3**
comp=Z,3.2nm,0.8s
TKM2 Tokmak 2 15.13 64 *e*Pn **Pn** **19 59 13.6 -1.3**
comp=Z,3.3nm,0.8s
OTUK Ortayu 15.37 42 ⇑Pn **Pn** **19 59 15.3 -2.6**
comp=Z,12nm,0.9s
OTUK ⇓Sn **Sn** **20 02 12.0 +3.9**
comp=Z,9.0nm,0.8s
OTUK Ortayu 15.37 42 P **Pn** **19 59 15.3 -2.6**
OTUK Ortayu 15.37 42 Pn **Pn** **19 59 15.3 -2.6**
comp=Z,12nm,0.9s
VRH Novokhopyorsk 17.27 326 *e*P **P** **19 59 45.4 +2.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
ASF Jabal al Asfar 17.34 257 P **Pn** **19 59 45.1 +1.9**
comp=Z,0.1nm,0.3s,baz=55,slow=16,SNR=2.7
ZRNK Zerenda 17.38 25 ⇓Pn **Pn** **19 59 41.7 -1.7**
comp=Z,7.6nm,1.0s
ZRNK ⇑Sn **Sn** **20 03 01.0 +4.2**
comp=Z,6.2nm,1.1s
ZRNK Zerenda 17.38 25 *e*P **Pn** **19 59 42.4 -1.1**
ZRNK pmax pmax
comp=Z,5.0nm,0.9s
ZRNK Zerenda 17.38 25 *e*Pn **Pn** **19 59 42.3 -1.1**
comp=Z,5.1nm,0.9s
ZRNK Zerenda 17.38 25 *e*Pn **Pn** **19 59 42.4 -1.1**
comp=Z,5.1nm,0.9s
VOSK Vostochnaya 17.91 29 ⇑Pn **Pn** **19 59 47.5 -2.5**
comp=Z,13nm,1.2s
VOSK ⇑Sn **Sn** **20 03 12.5 +3.0**
comp=Z,4.7nm,1.0s
VOSK Vostochnaya 17.91 29 *e*P **Pn** **19 59 47.9 -2.0**
VOSK pmax pmax
comp=Z,13nm,1.2s
VOSK Vostochnaya 17.91 29 *e*Pn **Pn** **19 59 47.9 -2.0**
comp=Z,13nm,1.2s
VOSK Vostochnaya 17.91 29 *e*Pn **Pn** **19 59 47.9 -2.0**
comp=Z,13nm,1.2s
BVA0 Borovoye Array 17.93 27 ⇓Pn **Pn** **19 59 49.8 -0.4**
comp=Z,15nm,1.0s,baz=0.0,slow=0.1,SNR=3.6
BVA0 Borovoye Array 17.93 27 Pn **Pn** **19 59 49.8 -0.4**
comp=Z,15nm,1.0s,SNR=3.6
BVAR Bovoye Array 17.93 27 P **Pn** **19 59 49.9 -0.3**
comp=Z,0.6nm,0.3s,baz=206,slow=8.7,SNR=27
BR101 Keskin Array S 18.30 283 *e*Pn **Pn** **19 59 56.2 +1.3**
BR101 Keskin Array S 18.30 283 *e*Pn **Pn** **19 59 56.2 +1.3**
BR131 Keskin Array S 18.30 283 *e*Pn **Pn** **19 59 52.9 -2.1**
BRTR Keskin Array B 18.30 283 P **Pn** **19 59 56.2 +1.3**
comp=Z,0.1nm,0.3s,baz=119,slow=11,SNR=5.0
VSR Storozhevoye 18.45 323 *e*P **P** **19 59 56.6 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.5s
CHKZ Chkalovo 18.53 26 ⇓Pn **Pn** **19 59 58.4 +0.8**
comp=Z,17nm,1.2s
CHKZ Chkalovo 18.53 26 P **Pn** **19 59 58.4 +0.8**
CHKZ Chkalovo 18.53 26 Pn **Pn** **19 59 58.4 +0.8**
comp=Z,17nm,1.2s
ARU Arti 18.74 3 P **Pn** **20 00 01.1 +1.0**
comp=Z,0.0nm,0.3s,baz=171,slow=5.6,SNR=20
ARU Arti 18.74 3 *d i*P **P** **20 00 00.6 +0.9**
ARU pmax pmax
comp=Z,23nm,1.0s
ARU Arti 18.74 3 *e*P **P** **20 00 00.7 +1.0**
comp=Z,18nm,0.9s
ARU Arti 18.74 3 *e*P **P** **20 00 00.7 +1.0**
comp=Z,18nm,0.9s
ANTO Ankara 18.94 284 *e*P **P** **19 59 59.6 -2.5**
ANTO pmax pmax
comp=Z,6.0nm,0.6s
ANTO Ankara 18.94 284 *e*P **P** **19 59 59.6 -2.5**
comp=Z,5.5nm,0.6s
BR231 Keskin MP Arra 18.96 284 *e*P **P** **19 59 58.8 -3.5**
CSS Mathiatis 19.22 269 *e*P P 19 59 59.7 -5.5
comp=Z,4.8nm,1.2s
SVE Sverdlovsk 19.27 6 ⇓ *e*P **Pn** **20 00 09.7 +3.2**
SVE pmax pmax
comp=Z,19nm,1.0s
LPSR Galich'ya Gora 19.48 326 *e*P **Pn** **20 00 10.3 +1.3**
LPSR pmax pmax
comp=Z,30nm,1.5s
KURBB Kurchatov Arra 20.05 43 P Pn 20 00 16.5 +0.7
comp=Z,3.7nm,0.9s,baz=246,slow=12,SNR=12
KURK Kurchatov 20.15 43 P **P** **20 00 16.5 +1.4**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 20.15 43 *e*P **P** **20 00 16.5 +1.4**
KURK Kurchatov 20.15 43 *e*P **P** **20 00 16.5 +1.4**
MAKZ Makanchi 20.55 56 *e*P **P** **20 00 19.7 +0.1**
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
MAKZ Makanchi 20.55 56 *e*P **P** **20 00 19.7 +0.1**
comp=Z,6.8nm,1.1s
MAKZ Makanchi 20.55 56 *e*P **P** **20 00 19.7 +0.1**
comp=Z,6.8nm,1.1s
MK01 Makanchi Array 20.75 56 *e*P **P** **20 00 21.6 -0.2**
MK01 Makanchi Array 20.75 56 *e*P **P** **20 00 21.6 -0.2**
MK31 Makanchi Array 20.75 56 *e*P **P** **20 00 22.4 +0.6**
MK31 Makanchi Array 20.75 56 *e*P **P** **20 00 22.4 +0.6**
MK31 Makanchi Array 20.75 56 *e*P **P** **20 00 22.4 +0.6**
MK32 Makanchi Array 20.75 56 *e*P Pn 20 00 23.6 -0.6
MK32 Makanchi Array 20.75 56 *e*P **P** **20 00 23.6 +1.8**
MKAR Makanchi Array 20.75 56 P **P** **20 00 23.6 +1.8**
comp=Z,6.5nm,0.9s,baz=245,slow=10,SNR=21
MKAR LR LR 20 08 53.1
comp=Z,25nm,19.5s,baz=251,slow=38
MKAR Makanchi Array 20.75 56 *e*P **P** **20 00 22.4 +0.6**
MKAR Makanchi Array 20.75 56 *e*P **P** **20 00 22.4 +0.6**
OBN Obninsk 22.22 328 P **P** **20 00 38.1 +0.7**
comp=Z,5.5nm,0.5s,baz=153,slow=19,SNR=4.7
OBN Obninsk 22.22 328 ⇓ *e*P **P** **20 00 37.6 +0.2**
OBN *e* 20 00 58.1
OBN pmax pmax
comp=Z,12nm,0.9s
OBN MLR MLR
comp=Z,36nm,16.0s
OBN Obninsk 22.22 328 *e*P **P** **20 00 37.8 +0.4**
comp=Z,10nm,0.9s
OBN Obninsk 22.22 328 *e*P **P** **20 00 37.8 +0.4**
comp=Z,10nm,0.9s
TIRR Tirgusor 22.47 296 *e*P **P** **20 00 39.1 -1.0**
TIRR pmax pmax
comp=Z,19nm,1.8s
TIRR Tirgusor 22.47 296 *e*P **P** **20 00 39.1 -1.0**
comp=Z,19nm,1.8s
TIRR Tirgusor 22.47 296 *e*P **P** **20 00 39.1 -1.0**
comp=Z,19nm,1.8s
CFR Carcaliu 22.76 298 ⇑ *i*P **P** **20 00 43.2 -0.1**
CFR Carcaliu 22.76 298 ⇑P **P** **20 00 43.2 -0.1**
CFR Carcaliu 22.76 298 ⇑ *i*P **P** **20 00 43.2 -0.1**
AKASG Malin Array Be 23.57 312 P **P** **20 00 51.6 +0.2**
comp=Z,1.6nm,0.5s,baz=105,slow=8.8,SNR=8.4
AKASG Malin Array Be 23.57 312 *i* P **P** **20 00 53.0 +1.5**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 23.57 312 *e*P **P** **20 00 50.8 -0.7**
AKBB pmax pmax
comp=Z,9.0nm,0.6s
AKBB Malin Array Si 23.57 312 *e*P **P** **20 00 50.8 -0.7**
comp=Z,9.4nm,0.6s
AKBB Malin Array Si 23.57 312 *e*P **P** **20 00 50.8 -0.7**
comp=Z,9.4nm,0.6s
KIEV Kiev 23.58 312 ⇑ *e*P **P** **20 00 50.6 -0.9**
KIEV pmax pmax
comp=Z,19nm,1.8s
KIEV Kiev 23.58 312 *e*P **P** **20 00 50.6 -0.9**
comp=Z,6.8nm,0.7s
KIEV Kiev 23.58 312 *e*P **P** **20 00 50.6 -0.9**
comp=Z,6.8nm,0.7s
AK11 Malin Array Si 23.60 312 *e*P **P** **20 00 53.2 +1.5**
AK11 Malin Array Si 23.60 312 *e*P **P** **20 00 53.2 +1.5**
PLOR Plostina 23.90 299 ⇑ *i*P **P** **20 00 55.1 +0.3**
PLOR Plostina 23.90 299 ⇑P **P** **20 00 55.1 +0.3**
PLOR Plostina 23.90 299 ⇑ *i*P **P** **20 00 55.1 +0.3**
TESR Tescani 24.01 301 ⇓ *i*P **P** **20 00 56.8 +1.0**
TESR Tescani 24.01 301 ⇓ *i*P **P** **20 00 56.8 +1.0**
MLR Muntele Rosu 24.34 298 P **P** **20 01 01.7 +2.8**
comp=Z,1.6nm,0.7s,baz=80,slow=1.5,SNR=16
MLR Muntele Rosu 24.34 298 ⇑ *i*P **P** **20 01 02.3 +3.3**
MLR Muntele Rosu 24.34 298 ⇑P **P** **20 01 02.3 +3.3**
MLR Muntele Rosu 24.34 298 *e*P **P** **20 01 00.9 +1.9**
comp=Z,9.1nm,0.8s
MLR Muntele Rosu 24.34 298 *e*P **P** **20 01 00.9 +1.9**
comp=Z,9.1nm,0.8s
DOPR Dopca 24.79 299 ⇓ *i*P **P** **20 01 04.9 +2.0**
DOPR Dopca 24.79 299 ⇓P **P** **20 01 04.9 +2.0**
ZAA0 Zalesovo Array 25.07 41 *e*P **P** **20 01 06.0 +0.7**
ZAA0 Zalesovo Array 25.07 41 *e*P **P** **20 01 06.0 +0.7**
ZALV Zalesovo Beam 25.07 41 P **P** **20 01 06.2 +0.9**
comp=Z,1.7nm,0.8s,baz=240,slow=9.9,SNR=13
ZAA1 Zalesovo Array 25.07 41 *e*P **P** **20 01 06.2 +0.9**
ZAA1 Zalesovo Array 25.07 41 *e*P **P** **20 01 06.2 +0.9**
BURAR Bucovina Array 25.19 303 ⇑ *i*P **P** **20 01 08.4 +1.8**
BURAR Bucovina Array 25.19 303 ⇑P **P** **20 01 08.4 +1.8**
BURAR Bucovina Array 25.19 303 ⇑ *i*P **P** **20 01 08.4 +1.8**
BUR08 Bucovina Ar. S 25.20 303 *e*P **P** **20 01 07.9 +1.2**
BUR08 Bucovina Ar. S 25.20 303 *e*P **P** **20 01 07.9 +1.2**
KLMR Klimovskoe 25.63 340 *e*P **P** **20 01 11.1 +0.8**
KLMR pmax pmax
comp=Z,7.0nm,1.0s
IDI Anoyia 25.82 274 P **P** **20 01 13.0 +0.5**
comp=Z,7.0nm,0.7s,baz=90,slow=4.4,SNR=6.2
IDI Anoyia 25.82 274 *e*P **P** **20 01 12.8 +0.3**
comp=Z,36nm,1.3s
IDI Anoyia 25.82 274 *e*P **P** **20 01 12.8 +0.3**
comp=Z,36nm,1.3s
DRGR 26.74 301 ⇓ *i*P **P** **20 01 23.2 +2.6**
DRGR 26.74 301 ⇓P **P** **20 01 23.2 +2.6**
DRGR 26.74 301 ⇓ *i*P **P** **20 01 23.2 +2.6**
BZS Buzias 27.38 298 ⇑ *i*P **P** **20 01 28.4 +2.1**
BZS Buzias 27.38 298 ⇑P **P** **20 01 28.4 +2.1**
BZS Buzias 27.38 298 ⇑ *i*P **P** **20 01 28.4 +2.1**
FIA0 FINESS Array S 30.53 331 *e*P **P** **20 01 54.6 +0.5**
FIA0 FINESS Array S 30.53 331 *e*P **P** **20 01 54.6 +0.5**
FIA0 FINESS Array S 30.53 331 *e*P **P** **20 01 54.6 +0.5**
FINES FINESS Array B 30.53 331 P **P** **20 01 54.6 +0.5**
comp=Z,1.5nm,0.6s,baz=126,slow=8.8,SNR=4.5
FINES FINESS Array B 30.53 331 *e*P **P** **20 01 56.5 +2.4**
CUC Castrocucco 31.92 287 *e*P **P** **20 02 07.5 +0.8**
comp=Z,1.4nm,0.9s
CUC Castrocucco 31.92 287 *e*P **P** **20 02 07.5 +0.8**
comp=Z,1.4nm,0.9s
GEA0 GERESS Array S 32.97 304 *e*P **P** **20 02 15.7 -0.2**
GEA0 GERESS Array S 32.97 304 *e*P **P** **20 02 15.7 -0.2**
GERES GERESS Array B 32.97 304 P **P** **20 02 15.7 -0.2**
comp=Z,0.5nm,0.6s,baz=101,slow=6.9,SNR=5.7
GERES GERESS Array B 32.97 304 *e*P **P** **20 02 17.1 +1.2**
ARCES ARCESS Array B 36.07 342 LR LR 20 19 27.8
comp=Z,40nm,18.2s,baz=90,slow=40
NC405 NORSAR Array S 36.51 325 *e*P **P** **20 02 46.8 +0.6**
NC405 NORSAR Array S 36.51 325 *e*P **P** **20 02 46.8 +0.6**
NB201 NORSAR Array S 36.68 324 *e*P **P** **20 02 48.5 +0.8**
NB201 NORSAR Array S 36.68 324 *e*P **P** **20 02 48.5 +0.8**
NC303 NORSAR Array S 36.70 325 *e*P **P** **20 02 48.8 +1.0**
NC303 NORSAR Array S 36.70 325 *e*P **P** **20 02 48.8 +1.0**
NB200 NORSAR Array S 36.72 324 *e*P **P** **20 02 48.7 +0.8**
NB200 NORSAR Array S 36.72 324 *e*P **P** **20 02 48.7 +0.8**
NOA NORSAR Array B 36.72 324 P **P** **20 02 48.7 +0.8**
comp=Z,0.8nm,0.7s,baz=132,slow=7.3,SNR=3.9
ULN Ulaanbaatar 37.54 58 ⇑ *e*P **P** **20 02 57.0 +1.8**
ULN pmax pmax
comp=Z,2.0nm,0.8s
CM31 Chiang Mai Arr 41.31 106 *e*P **P** **20 03 24.3 -2.5**
CM31 Chiang Mai Arr 41.31 106 *e*P **P** **20 03 24.3 -2.5**
CMAR Chiang Mai Arr 41.31 106 P **P** **20 03 26.8 0.0**
comp=Z,1.0nm,0.8s,baz=299,slow=7.5,SNR=6.5
CM01 Chiang Mai Arr 41.34 106 *e*P **P** **20 03 27.1 0.0**
CM01 Chiang Mai Arr 41.34 106 *e*P **P** **20 03 27.1 0.0**
SPA0 Spitsbergen Ar 43.91 349 *e*P **P** **20 03 46.5 -0.8**
SPA0 Spitsbergen Ar 43.91 349 *e*P **P** **20 03 46.5 -0.8**
SPITS Spitsbergen Ar 43.91 349 LR LR 20 24 42.1
comp=Z,42nm,18.6s,baz=160,slow=40
MBAR Mbarara 45.17 219 *e*P P 20 03 54.3 -3.9
MBAR pmax pmax
comp=Z,16nm,1.9s
MBAR Mbarara 45.17 219 *e*P P 20 03 54.3 -3.9
comp=Z,16nm,1.9s
TAM Tamanrasset 46.30 266 *e*P **P** **20 04 06.4 -0.7**
TAM pmax pmax
comp=Z,9.0nm,1.7s
TAM Tamanrasset 46.30 266 *e*P **P** **20 04 06.3 -0.8**
comp=Z,8.7nm,1.7s
TAM Tamanrasset 46.30 266 *e*P **P** **20 04 06.3 -0.8**
comp=Z,8.7nm,1.7s
ES19 SONSECA Array 46.72 292 *e*P **P** **20 04 08.9 -1.2**
ES19 SONSECA Array 46.72 292 *e*P **P** **20 04 08.9 -1.2**
ESDC Sonseca Array 46.77 292 P **P** **20 04 10.7 +0.2**
comp=Z,1.3nm,0.7s,baz=67,slow=7.8,SNR=9.8
JMIC Jan Mayen 46.88 336 LR LR 20 24 51.8
comp=Z,17nm,19.4s,baz=84,slow=37
TIXI Tiksi 49.01 24 LR LR 20 27 45.2
comp=Z,45nm,18.7s,baz=263,slow=39
TIXI Tiksi 49.01 24 *ce*P **P** **20 04 27.2 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,2.5s
TIXI Tiksi 49.01 24 *e*P **P** **20 04 28.3 +1.0**
comp=Z,2.8nm,1.1s
TIXI Tiksi 49.01 24 *e*P **P** **20 04 28.3 +1.0**
comp=Z,2.8nm,1.1s
TOA1 Torodi Ar. Sit 54.70 259 *e*P **P** **20 05 11.5 +1.0**
comp=Z,10nm,1.4s
TOA1 Torodi Ar. Sit 54.70 259 *e*P **P** **20 05 11.5 +1.0**
comp=Z,10nm,1.4s
TORD Torodi Ar. Bea 54.70 259 P **P** **20 05 11.5 +1.0**
comp=Z,0.7nm,0.9s,baz=76,slow=7.6,SNR=3.1
LSZ Lusaka 59.25 213 LR LR 20 33 27.3
comp=Z,53nm,20.2s,baz=72,slow=38
BILL Bilibino 62.23 24 ⇑ *e*P **P** **20 06 05.0 +2.6**
BILL *e* 20 08 22.0
BILL *i* S S 20 14 18.4 -9.4
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,42nm,16.0s

MATP	**Matopo**	**63.74**	**210**	LR	LR	20 34 39.2		
	comp=Z,60nm,18.2s,slow=37							
RES	**Resolute Bay**	**66.32**	**352**	*e*P	**P**	**20 06 30.1**	**+1.1**	
RES				pmax	pmax			
	comp=Z,6.0nm,1.0s							
RES	**Resolute Bay**	**66.32**	**352**	*e*P	**P**	**20 06 30.1**	**+1.1**	
	comp=Z,5.6nm,1.0s							
RES	**Resolute Bay**	**66.32**	**352**	*e*P	**P**	**20 06 30.1**	**+1.1**	
	comp=Z,5.6nm,1.0s							
COLD	**Coldfoot**	**73.35**	**11**	*e*P	**P**	**20 07 14.4**	**+2.0**	
	comp=Z,11nm,1.8s							
COLD	**Coldfoot**	**73.35**	**11**	*e*P	**P**	**20 07 14.4**	**+2.0**	
	comp=Z,11nm,1.8s							
ILAR	**Eielson Array**	**76.13**	**10**	P	**P**	**20 07 30.3**	**+1.7**	
	comp=Z,0.2nm,0.6s,baz=324,slow=1.2,SNR=3.1							

IDC ***17*** *19:57:10.0±1.8,26.64N×143.87E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/51,mbtmp3.5/5, Error ellipse: s-maj=45.7km s-min=26.1km az=54.0*
ISCJB ***17*** *19:57:12.9±1.3,26.7N±0.2×144.0E±0.1,h38km,mb3.6/5, Error ellipse: s-maj=29.4km s-min=15.1km az=22.5*

ISC 17 19:57:15.3±1.5,26.6N±0.2×143.9E±0.2,h38km,n6, σ0s72/7,mb3.7/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.56**	**288**	Pn	**Pn**	**19 57 39.7**	**-0.9**
	5.0nm,0.3s,baz=279,slow=19,SNR=13						
JCJ				Sn	**Sn**	**19 58 00.2**	**+0.7**
	baz=270,slow=20						
SONM	**Songino Array**	**36.09**	**316**	P	**P**	**20 04 14.3**	**+0.8**
	0.3nm,0.5s,baz=99,slow=6.4,SNR=2.5						
WRA	**Warramunga Arr**	**47.20**	**192**	P	**P**	**20 05 44.7**	**+0.2**
	0.4nm,0.5s,baz=11,slow=8.5,SNR=6.1						
MKAR	**Makanchi Array**	**51.92**	**310**	P	**P**	**20 06 20.4**	**+0.1**
	0.6nm,0.7s,baz=93,slow=9.2,SNR=4.4						
KURBB	**Kurchatov Arra**	**54.43**	**315**	P	**P**	**20 06 38.3**	**-0.3**
	0.5nm,0.5s,baz=91,slow=7.6,SNR=4.5						
BVAR	**Borovoye Array**	**59.39**	**318**	P	**P**	**20 07 13.4**	**-0.4**
	0.3nm,0.4s,baz=89,slow=7.8,SNR=1.9						

NIED ***17*** *19:58:00,36.80N×143.80E,h5km,Mw3.4 Best double couple: M0 1.23000×10^14 NP1:ϕs43.00000°,δ34.00000°, λ-99.00000°. NP2:ϕs234.00000°,δ56.00000°, λ-84.00000°.*
IDC ***17*** *19:58:27.3±4.5,36.58N×144.12E,h0km,mb3.3/2, mb1 3.6/5,mb1mx3.3/57,mbtmp3.7/5,ML3.3/2,MS3.3/1, Ms1 3.3/1,ms1mx2.3/27, Error ellipse: s-maj=76.5km s-min=43.6km az=30.0*
ISCJB ***17*** *19:58:29.7±0.8,36.72N±0.03×143.86E±0.06,h33km, mb3.4/2,MS3.2/1, Error ellipse: s-maj=6.9km s-min=5.0km az=1.7*
JMA ***17*** *19:58:31.5±0.4,36.80N×143.78E,h45km,M3.5*

ISC 17 19:58:28.2±1.2,36.74N±0.05×144.14E±0.08,h35km,n28, σ2s68/38,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.69**	**284**	P	**Pn**	**19 59 09.8**	**+0.8**
JFK				S	**Sn**	**19 59 37.8**	**-2.5**
ONAJ	**Iwakimizuishiy**	**2.70**	**279**	P	**Pn**	**19 59 09.2**	**0.0**
ONAJ				*e*S	**Sn**	**19 59 38.5**	**-2.2**
JIO	**Ouri**	**2.80**	**308**	P	**Pn**	**19 59 11.4**	**+0.9**
JFT	**Otama**	**3.14**	**285**	P	**Pn**	**19 59 17.1**	**+1.9**
JFT				*e*S	**Sn**	**19 59 48.5**	**-2.9**
JMK	**Ichinoseki**	**3.19**	**315**	P	**Pn**	**19 59 17.3**	**+1.4**
JMK				S	**Sn**	**19 59 51.3**	**-1.5**
BSO1	**Boso 1**	**3.31**	**232**	P	**Pn**	**19 59 19.3**	**+2.2**
BSO1				S	**Sn**	**19 59 55.9**	**+1.0**
JOM	**Ohasama**	**3.53**	**321**	P	**Pn**	**19 59 22.2**	**+1.6**
JOM				S	**Sn**	**19 59 58.9**	**-2.2**
JYK	**Kaneyama**	**3.70**	**307**	P	**Pn**	**19 59 25.5**	**+2.6**
JYK				*e*S	**Sn**	**20 00 03.9**	**-1.3**
JAG	**Ashikaga**	**3.79**	**267**	P	**Pn**	**19 59 25.5**	**+1.4**
JAG				*e*S	**Sn**	**20 00 03.8**	**-3.6**
JRY	**Ryogami san**	**4.29**	**262**	P	**Pn**	**19 59 32.1**	**+1.1**
JRY				*e*S	**Sn**	**20 00 15.9**	**-3.9**
JOD2	**Odawara 2**	**4.35**	**252**	P	**Pn**	**19 59 30.7**	**-1.2**
JOD2				S	**Sn**	**20 00 19.5**	**-1.9**
MJAR	**Matsushiro Arr**	**4.77**	**269**	Pn	**Pn**	**19 59 40.0**	**+2.3**
	1.0nm,0.3s,baz=89,slow=15,SNR=9.1						
MJAR				Sn	**Sn**	**20 00 34.9**	**+3.1**
	0.4nm,0.3s,baz=317,slow=32,SNR=2.8						
MAT	**Matsushiro**	**4.78**	**269**	P	**Pn**	**19 59 39.9**	**+2.2**
MAT				*e*S	**Sn**	**20 00 32.2**	**+0.4**
JHJ2	**Mitsune**	**5.07**	**226**	P	**Pn**	**19 59 42.8**	**+1.0**
JHJ2				S	**Sn**	**20 00 36.4**	**-2.7**
JHJ	**Hachijo jima 2**	**5.09**	**226**	Pn	**Pn**	**19 59 42.9**	**+1.0**
	4.3nm,0.3s,baz=336,slow=21,SNR=9.4						
JHJ				Sn	**Sn**	**20 00 37.3**	**-2.2**
	15nm,0.3s,baz=78,slow=23,SNR=5.8						
JOT	**Ohata**	**5.22**	**334**	P	**Pn**	**19 59 46.6**	**+2.9**
JOT				*e*S	**Sn**	**20 00 40.3**	**-2.4**
JKB	**Kayabe**	**5.67**	**336**	P	**Pn**	**19 59 52.5**	**+2.5**
JCH	**Churui**	**5.89**	**354**	P	**Pn**	**19 59 53.7**	**+0.7**
JCH				S	**Sn**	**20 00 55.2**	**-4.1**
JCJ	**Chichijima**	**9.76**	**190**	Pn	**Pn**	**20 00 47.0**	**+0.9**
	baz=308,slow=19						
JCJ				Sn	**Sn**	**20 02 26.1**	**-8.4**
	1.3nm,0.3s,baz=302,slow=19,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**26.15**	**124**	T	T	20 29 48.4	
	baz=317,slow=76,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**26.16**	**124**	T	T	20 29 48.3	
	baz=317,slow=76,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**26.17**	**124**	T	T	20 29 49.1	
	baz=317,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**26.90**	**126**	T	T	20 30 51.5	
	baz=319,slow=76,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**26.90**	**126**	T	T	20 30 51.9	
	baz=319,slow=76,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**26.91**	**126**	T	T	20 30 52.9	
	baz=319,slow=76,SNR=7.3						
TLY	**Talaya**	**32.17**	**311**	LR	LR	20 18 25.1	
	comp=Z,48nm,19.3s,baz=262,slow=37						
WRA	**Warramunga Arr**	**57.13**	**191**	P	**P**	**20 08 14.3**	**+2.9**
	0.4nm,0.7s,baz=8.5,slow=7.1,SNR=2.4						
ASAR	**Alice Springs**	**60.86**	**191**	P	**P**	**20 08 40.7**	**+3.5**
	0.2nm,0.9s,baz=8.1,slow=8.7,SNR=1.6						

MOS ***17*** *20:01:15.6±2.3,48.83N×157.43E,h15km,mb4.2/1, Error ellipse: s-maj=64.1km s-min=8.6km az=85.2*

KRSC 17 20:01:15.7±2.0,48.83N×157.43E,h15km±7km,ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.04**	**336**	PN	Pn	20 01 49.9	+0.4
SKR				S	Sn	20 02 14.0	-0.7
SKR	**Severo-Kuril's**	**2.04**	**336**	P	Pn	20 01 49.9	+0.4
SKR				*e*S	Sn	20 02 14.0	-0.7
PAU	**Pauzhetka**	**2.67**	**352**	*e*S	Sb	20 02 33.0	-2.7
ASAK	**Asacha**	**3.57**	**5**	PN	Pn	20 02 14.4	+3.8
ASAK	**Asacha**	**3.57**	**5**	P	Pn	20 02 14.4	+3.8
RUS	**Russkaya**	**3.67**	**10**	PN	Pn	20 02 15.1	+3.2
RUS				S	Sb	20 03 00.5	-4.1
RUS	**Russkaya**	**3.67**	**10**	P	Pn	20 02 15.1	+3.2
RUS				S	Sb	20 03 00.5	-4.1
UGLR	**Uglovaya**	**4.47**	**11**	PN	Pn	20 02 27.3	+4.3
UGLR	**Uglovaya**	**4.47**	**11**	P	Pn	20 02 27.3	+4.3
NLC	**Nalytchevo**	**4.51**	**15**	S	Sn	20 03 21.5	+5.9
AVH	**Avacha**	**4.52**	**10**	PN	Pn	20 02 28.2	+4.6
AVH	**Avacha**	**4.52**	**10**	P	Pn	20 02 28.2	+4.6
SMAR	**Somma**	**4.53**	**10**	PN	Pn	20 02 28.9	+5.1
SMAR	**Somma**	**4.53**	**10**	P	Pn	20 02 28.9	+5.1
SDLR	**Sedlovina**	**4.55**	**11**	PN	Pn	20 02 27.3	+3.3
SDLR	**Sedlovina**	**4.55**	**11**	P	Pn	20 02 27.3	+3.3
KRER	**Koryakskii**	**4.56**	**10**	PN	Pn	20 02 28.5	+4.3
KRER	**Koryakskii**	**4.56**	**10**	P	Pn	20 02 28.5	+4.3
GNL	**Ganaly**	**4.88**	**4**	PN	Pn	20 02 33.3	+4.7
GNL	**Ganaly**	**4.88**	**4**	P	Pn	20 02 33.3	+4.7
MKZ	**Mys Kozlova**	**6.33**	**23**	PN	Pn	20 02 52.4	+4.1
MKZ	**Mys Kozlova**	**6.33**	**23**	P	Pn	20 02 52.4	+4.1

NNC ***17*** *20:07:58.1±5.1,37.84N×56.73E,h0km,mb3.9,mpv4.2, Error ellipse: s-maj=50.5km s-min=17.2km az=24.0*
IDC ***17*** *20:07:58.4±1.1,37.57N×56.88E,h0km,mb3.2/5, mb1 3.6/10,mb1mx3.4/54,mbtmp3.6/10,ML3.3/4, Error ellipse: s-maj=12.4km s-min=9.2km az=21.0*
CSEM ***17*** *20:08:02.0±0.4,37.74N×56.89E,h20km,ML3.1, Error ellipse: s-maj=11.6km s-min=7.8km az=167.0*
TEH ***17*** *20:08:04.2,37.55N×56.98E,h14km,ML3.3*

ISC 17 20:07:59.3±1.4,37.75N±0.05×56.95E±0.03,h1km±10km, n46,σ2s01/56,mb3.6/3,6C-3D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRVT	**Maraveh tapeh**	**0.69**	**263**	*e*Pg	**Pg**	**20 08 13.0**	**+0.5**
MRVT				*e*Sg	**Sb**	**20 08 23.2**	**-1.0**
GEYT	**Alibeck**	**0.94**	**79**	Pg	**Pg**	**20 08 17.1**	**-0.2**
	21nm,0.3s,baz=250,slow=20,SNR=75						
GEYT				Lg	Lg	20 08 33.5	
	112nm,0.3s,baz=83,slow=34,SNR=33						
GEYT				LR	LR	20 08 51.1	
	comp=Z,82nm,19.7s,baz=0.0,slow=50						
ISFR	**Sfrayin**	**1.09**	**130**	*e*Pg	**Pg**	**20 08 18.0**	**-2.2**
ISFR				*e*AMB	AMB	20 08 44.1	
	comp=Z,13μm,0.2s						
ASHT	**Ashkhabad**	**1.15**	**80**	⇑P	**Pg**	**20 08 21.4**	**0.0**
	comp=Z,132nm,0.5s						
ASHT				⇓S	**Sn**	**20 08 41.1**	**+2.2**
	comp=Z,2μm,1.3s						
ASHT	**Ashkhabad**	**1.15**	**80**	P	**Pg**	**20 08 21.4**	**0.0**
	comp=Z,132nm,0.5s						
ASHT				S	**Sn**	**20 08 41.1**	**+2.2**
	comp=Z,2μm,1.3s						
IEMG	**Emamgholi**	**1.39**	**103**	*e*Pg	**Pg**	**20 08 24.9**	**-1.1**
IEMG				*e*AMB	AMB	20 08 50.9	
	comp=Z,7μm,0.3s						
IEMG	**Emamgholi**	**1.39**	**103**	*e*Pg	**Pg**	**20 08 24.9**	**-1.1**
IKRD	**Kardeh**	**1.58**	**128**	*e*Pn	Pg	20 08 39.9	+10
IKRD				*e*AMB	AMB	20 09 16.5	
	comp=Z,2μm,0.2s						
IAKL	**Akhelmad**	**1.84**	**128**	*e*Pn	**Pn**	**20 08 31.6**	**-0.7**
IAKL				*e*Sg	**Sb**	**20 08 58.2**	**+0.6**
IAKL				*e*AMB	AMB	20 09 03.4	
	comp=Z,4μm,0.2s						
IAKL	**Akhelmad**	**1.84**	**128**	*e*Pn	**Pn**	**20 08 31.6**	**-0.7**
IAKL				*e*Sg	**Sb**	**20 08 58.2**	**+0.6**
SHRO	**Shahrood**	**1.91**	**204**	*e*Pn	**Pn**	**20 08 32.5**	**-0.6**
SHRO				*e*Sg	**Sn**	**20 08 57.6**	**-0.3**
IPAY	**Payeh**	**2.09**	**128**	*e*Pn	**Pn**	**20 08 36.4**	**+0.8**
IPAY				*e*Sg	**Sb**	**20 09 04.8**	**+0.2**
IPAY				*e*AMB	AMB	20 09 10.9	
	comp=Z,4μm,0.1s						
IPAY	**Payeh**	**2.09**	**128**	*e*Pn	**Pn**	**20 08 36.4**	**+0.8**
IPAY				*e*Sg	**Sb**	**20 09 04.8**	**+0.2**
ISRO	**Mashad**	**2.48**	**125**	*e*Pn	**Pb**	**20 08 43.5**	**-1.2**
ISRO	**Mashad**	**2.48**	**125**	*e*Pn	**Pb**	**20 08 43.5**	**-1.2**
IMOG	**Moghan**	**2.52**	**130**	*e*Pn	**Pn**	**20 08 42.8**	**+1.2**
IMOG				*e*AMB	AMB	20 09 24.0	
	comp=Z,1μm,0.2s						
IMOG	**Moghan**	**2.52**	**130**	*e*Pn	**Pn**	**20 08 42.8**	**+1.2**
IGLO	**Ghaloghah**	**2.79**	**244**	*e*Pn	**Pn**	**20 08 47.0**	**+1.8**
IGLO				*e*Sg	**Sg**	**20 09 29.4**	**+0.5**
IGLO				*e*AMB	AMB	20 09 37.5	
	comp=Z,2μm,0.2s						
IMYA	**Miami**	**2.89**	**118**	*e*Pn	**Pn**	**20 08 48.5**	**+1.9**
IMYA				*e*AMB	AMB	20 09 36.9	
	comp=Z,1μm,0.2s						
IMYA	**Miami**	**2.89**	**118**	*e*Pn	**Pn**	**20 08 48.5**	**+1.9**
IANJ	**Anjilo**	**3.34**	**228**	*e*Pn	**Pn**	**20 08 54.2**	**+1.3**
IANJ				*e*AMB	AMB	20 10 09.6	
	comp=Z,410nm,0.3s						
IANJ	**Anjilo**	**3.34**	**228**	*e*Pn	**Pn**	**20 08 54.2**	**+1.3**
ISHM	**Shahmirzad**	**3.52**	**238**	*e*Pn	**Pn**	**20 08 58.0**	**+2.6**
ISHM				*e*AMB	AMB	20 09 52.6	
	comp=Z,725nm,0.2s						
IALA	**Alasht**	**3.71**	**245**	*e*Pn	**Pn**	**20 09 00.0**	**+2.0**
IALA				*e*AMB	AMB	20 09 58.5	
	comp=Z,602nm,0.1s						
IALA	**Alasht**	**3.71**	**245**	*e*Pn	**Pn**	**20 09 00.0**	**+2.0**
IFIR	**Firoozkooh**	**3.98**	**239**	*e*AMB	AMB	20 09 16.0	
	comp=Z,229nm,0.1s						
IFIR				*e*Pn	**Pn**	**20 09 03.8**	**+2.2**
IDMV	**Damavand**	**4.51**	**243**	*e*Pn	**Pn**	**20 09 12.9**	**+3.9**
IDMV				*e*AMB	AMB	20 09 32.2	
	comp=Z,170nm,0.3s						
IKOO	**Kooshah**	**5.58**	**162**	*e*Pn	Pn	20 09 13.9	-10
IKOO				*e*AMB	AMB	20 09 27.1	
	comp=Z,90nm,0.1s						
GNI	**Garni**	**9.81**	**288**	Pn	**Pn**	**20 10 24.0**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=78,slow=9.3,SNR=3.2						
KK31	**Karatay Array**	**11.63**	**58**	⇑Pn	**Pn**	**20 10 46.8**	**+0.4**
	comp=Z,3.2nm,0.9s,baz=241,slow=16,SNR=18						
KK31				⇑Sn	**Sn**	**20 12 59.5**	**+2.6**
	comp=Z,0.3nm,0.3s,baz=155,slow=9,SNR=7.2						
KK31	**Karatay Array**	**11.63**	**58**	Pn	**Pn**	**20 10 46.8**	**+0.4**
	comp=Z,3.2nm,0.9s,SNR=18						
KK31				Sn	**Sn**	**20 12 59.5**	**+2.6**
	comp=Z,0.3nm,0.3s,SNR=7.2						
AB31	**Akbulak array**	**11.70**	**10**	⇑Pn	**Pn**	**20 10 48.1**	**+0.8**
	comp=Z,0.8nm,0.6s						
AB31				⇓Sn	**Sn**	**20 12 53.3**	**-5.1**
	comp=Z,1.1nm,0.5s						
AB31	**Akbulak array**	**11.70**	**10**	Pn	**Pn**	**20 10 48.1**	**+0.8**
	comp=Z,0.8nm,0.6s						
KBZ	**Khabaz**	**12.21**	**304**	Pn	**Pn**	**20 10 52.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=17,slow=20,SNR=3.5						
AKTO	**Aktyubinsk**	**12.70**	**3**	Pn	**Pn**	**20 11 01.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=179,slow=13,SNR=6.3						
AKTO				Sn	**Sn**	**20 13 15.9**	**-7.0**
	comp=Z,0.2nm,0.3s,baz=110,slow=12,SNR=2.7						
AKTO	**Aktyubinsk**	**12.70**	**3**	⇑Pn	**Pn**	**20 11 01.7**	**+0.7**
	comp=Z,2.9nm,0.9s						
AKTO				⇑Sn	**Sn**	**20 13 17.7**	**-5.3**
	comp=Z,1.7nm,0.6s						
AKTO	**Aktyubinsk**	**12.70**	**3**	Pn	**Pn**	**20 11 01.7**	**+0.7**
	comp=Z,2.9nm,0.9s						
BVA0	**Borovoye Array**	**17.91**	**27**	⇓Pn	**P**	**20 12 11.5**	**+1.4**
	comp=Z,2.5nm,0.8s						
BVA0	**Borovoye Array**	**17.91**	**27**	Pn	**P**	**20 12 11.5**	**+1.4**
	comp=Z,2.5nm,0.8s						
BVAR	**Borovoye Array**	**17.91**	**27**	P	**Pn**	**20 12 09.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=205,slow=9.5,SNR=11						
ARU	**Arti**	**18.72**	**3**	P	**Pn**	**20 12 20.2**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=273,slow=19,SNR=4.6						
KURBB	**Kurchatov Arra**	**20.03**	**43**	P	Pn	20 12 36.4	+1.2
	comp=Z,0.8nm,0.9s,baz=245,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**20.74**	**56**	P	Pn	20 12 42.9	-0.7
	comp=Z,0.9nm,0.8s,baz=240,slow=10,SNR=8.9						
AKASG	**Malin Array Be**	**23.55**	**312**	P	**P**	**20 13 10.8**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=108,slow=8.6,SNR=3.6						
MLR	**Muntele Rosu**	**24.32**	**298**	P	**P**	**20 13 18.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=173,slow=8.1,SNR=6.6						
ZALV	**Zalesovo Beam**	**25.05**	**41**	P	**P**	**20 13 25.5**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=268,slow=9.8,SNR=4.2						

ISCJB ***17*** *20:10:06.8±1.3,36.43N±0.06×141.10E±0.07,h7km±7km, mb3.6/3, Error ellipse: s-maj=10.0km s-min=8.9km az=165.4*
IDC ***17*** *20:10:06.5±2.2,36.52N×141.12E,h0km,mb3.6/3, mb1 3.7/5,mb1mx3.3/66,mbtmp3.6/5,ML3.2/2,MS2.1/2, Ms1 2.1/2,ms1mx2.0/48, Error ellipse: s-maj=42.6km s-min=27.4km az=63.0*
JMA ***17*** *20:10:09.4±0.1,36.48N×140.96E,h15km±1km,M3.4*

ISC 17 20:10:07.8±1.8,36.45N±0.05×141.06E±0.07,h8km±11km, n12,σ1s01/17,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.42**	**293**	P	**Pg**	**20 10 16.2**	**+0.1**
JHO				*e*S	**Sg**	**20 10 21.4**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.68**	**343**	P	**Pb**	**20 10 21.9**	**-0.1**
JYT	**Yasato**	**0.73**	**253**	P	**Pg**	**20 10 22.1**	**+0.2**
JYT				S	**Sg**	**20 10 31.7**	**+0.3**
JFK	**Kawauchi**	**0.93**	**351**	P	**Pb**	**20 10 25.6**	**-0.6**
JSB	**Shiboa**	**1.05**	**300**	P	**Pb**	**20 10 28.2**	**0.0**
JSB				S	**Sb**	**20 10 41.8**	**-0.4**
MJAR	**Matsushiro Arr**	**2.30**	**273**	Pn	**Pn**	**20 10 46.1**	**+0.2**
	5.0nm,0.3s,baz=89,slow=9.6,SNR=22						
MJAR				Sn	**Sn**	**20 11 15.2**	**+0.7**
	11nm,0.3s,baz=73,slow=17,SNR=9.1						
MJAR				LR	LR	20 11 33.8	
	comp=Z,21nm,20.5s,baz=80,slow=38						
MAT	**Matsushiro**	**2.30**	**273**	P	**Pn**	**20 10 46.5**	**+0.5**
MAT				S	**Sb**	**20 11 16.9**	**-1.2**
JHJ	**Hachijo jima 2**	**3.48**	**198**	Pn	**Pn**	**20 11 03.9**	**+1.6**
	5.6nm,0.3s,baz=83,slow=19,SNR=1.8						
JHJ				Sn	**Sb**	**20 11 49.4**	**-2.7**
	10.0nm,0.3s,baz=75,slow=20,SNR=1.7						
JCJ	**Chichijima**	**9.37**	**174**	LR	LR	20 15 14.0	
	comp=Z,23nm,20.4s,baz=94,slow=33						
ZALV	**Zalesovo Beam**	**42.10**	**313**	P	**P**	**20 18 00.2**	**+0.1**
	0.5nm,0.4s,baz=99,slow=6.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**46.14**	**308**	P	**P**	**20 18 32.2**	**-0.3**
	0.6nm,0.6s,baz=83,slow=7.4,SNR=5.7						
WRA	**Warramunga Arr**	**56.44**	**188**	P	**P**	**20 19 50.1**	**+0.1**
	0.2nm,0.3s,baz=5.5,slow=7.2,SNR=1.9						

CSEM ***17*** *20:11:47.9±0.4,50.41N×18.84E,h2km,Error ellipse: s-maj=8.3km s-min=3.5km az=3.0*

PRU 17 20:11:48.6,50.38N×18.84E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.13**	**132**	*e*Pg	Pg	20 11 51.0	-0.1
CHZP				*e*Sg	Sg	20 11 53.1	+0.3
OJC	**Ojcow**	**0.64**	**104**	*e*Pg	Pg	20 12 00.1	-0.7
OJC				*e*Sg	Sg	20 12 08.4	-0.6
OJC	**Ojcow**	**0.64**	**104**	*e*Pg	Pg	20 12 00.1	-0.7
OJC				*e*Sg	Sg	20 12 08.4	-0.6
OKC	**Ostrava-Krasne**	**0.70**	**220**	*e*PG	Pg	20 12 01.9	-0.1
OKC				*e*SG	Sg	20 12 12.3	+1.2
	3.2nm,0.3s						
OKC	**Ostrava-Krasne**	**0.70**	**220**	Pg	Pg	20 12 01.9	-0.1
OKC				Sg	Sg	20 12 12.3	+1.2
	3.2nm,0.3s						
MORC	**Moravsky Berou**	**1.03**	**235**	*e*Pg	Pg	20 12 08.3	0.0
MORC				*e*Sg	Sb	20 12 22.7	-0.7
LANS	**Liptovska Anna**	**1.30**	**161**	*e*Pg	Pg	20 12 12.7	-0.7
LANS				*e*Sg	Sg	20 12 29.4	-0.8
LANS	**Liptovska Anna**	**1.30**	**161**	*e*PG	Pg	20 12 12.7	-0.7
LANS				*e*SG	Sg	20 12 29.4	-0.8
DPC	**Dobruska-Polom**	**1.61**	**270**	*e*PG	Pn	20 12 18.0	-0.4
DPC				*e*SG	Sg	20 12 40.3	-0.1
	2.0nm,0.4s						
DPC	**Dobruska-Polom**	**1.61**	**270**	Pg	Pn	20 12 18.0	-0.4
DPC				Sg	Sg	20 12 40.3	-0.1
	2.0nm,0.4s						
VRAC	**Vranov**	**1.81**	**234**	*e*Sg	Sb	20 12 46.0	+0.3
STHS	**Stebnicka Huta**	**1.83**	**121**	*e*Pn	Pn	20 12 22.0	+0.7
STHS	**Stebnicka Huta**	**1.83**	**121**	*e*PN	Pn	20 12 22.0	+0.7
STHS				eLg	Lg	20 12 56.6	
KHC	**Kasperske Hory**	**3.63**	**252**	*e*SG	Sg	20 13 45.3	0.0
KHC	**Kasperske Hory**	**3.63**	**252**	Sg	Sg	20 13 45.3	0.0

NIED ***17*** *20:13:00,40.10N×142.10E,h71km,Mw3.4 Best double couple: M0 1.59000×10^14 NP1:ϕs355.00000°,δ32.00000°, λ33.00000°. NP2:ϕs236.00000°,δ73.00000°,λ118.00000°.*
ISCJB ***17*** *20:13:03.2±0.7,40.14N±0.04×142.11E±0.09,h68km±5km, mb3.4/5, Error ellipse: s-maj=11.9km s-min=6.1km az=1.2*
JMA ***17*** *20:13:04.5,40.15N×142.06E,h60km±1km,M3.7*
JMA Felt II J1.
IDC ***17*** *20:13:04.6±2.3,40.14N×142.32E,h77km±23km,mb3.2/5, mb1 3.3/8,mb1mx3.1/67,mbtmp3.4/8, Error ellipse: s-maj=32.3km s-min=16.6km az=91.0*

ISC 17 20:13:04.4±1.1,40.13N±0.04×142.07E±0.08,h62km±7km, n19,σ0s83/28,mb3.5/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.25**	**219**	P	**Pn**	**20 13 14.5**	**+0.2**
JTH				S	**Sn**	**20 13 21.6**	**+0.1**
JANG	**Nango**	**0.48**	**300**	P	**Pn**	**20 13 16.2**	**-0.1**
JANG				*e*S	**Sn**	**20 13 24.9**	**-0.1**
JKZ	**Kuzumaki**	**0.58**	**255**	P	**Pn**	**20 13 17.5**	**+0.1**
JKZ				*e*S	**Sn**	**20 13 26.8**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.59**	**199**	P	**Pn**	**20 13 17.5**	**+0.1**
MIYJ				*e*S	**Sn**	**20 13 27.1**	**+0.2**
JOM	**Ohasama**	**0.89**	**222**	P	**Pn**	**20 13 21.2**	**+0.1**
JOM				*e*S	**Sn**	**20 13 33.6**	**+0.2**
JTM	**Tenmabayashi**	**1.00**	**311**	P	**Pn**	**20 13 22.3**	**-0.2**
JTM				*e*S	**Sn**	**20 13 35.7**	**-0.2**
JAH	**Hinai**	**1.10**	**273**	P	**Pn**	**20 13 23.7**	**0.0**
JAH				*e*S	**Sn**	**20 13 38.4**	**+0.3**
JRG	**Rokugo**	**1.33**	**237**	P	**Pn**	**20 13 27.5**	**+0.7**
JMK	**Ichinoseki**	**1.35**	**209**	P	**Pn**	**20 13

CLVN				Sn	**Sn**	**20 16 48.4 +3.2**
CLVN				Sg	**Sg**	**20 17 03.3 +1.0**
SMPN	**Simpson Lake**	**3.72**	**56**	Pn	**Pn**	**20 16 08.3 +3.5**
SMPN				Sn	**Sn**	**20 16 53.8 +5.2**
BVCY	**Beaver Creek**	**4.70**	**216**	Pn	**Pn**	**20 16 16.9 -1.3**
BVCY				Sn	**Sn**	**20 17 09.1 -3.6**
BVCY				Sg	**Sb**	**20 17 30.7 +4.5**
DOT	**Dot Lake**	**4.72**	**240**	Pn	**Pn**	**20 16 17.3 -1.2**
DOT				Pg	**Pb**	**20 16 31.4 +1.4**
DOT				Sg	**Sb**	**20 17 26.2 -0.6**
YUK1	**Sand Pete Hill**	**4.85**	**213**	Pn	**Pn**	**20 16 18.9 -1.5**
YUK1				Pg	**Pb**	**20 16 34.3 +2.0**
YUK1				Sn	**Sn**	**20 17 10.1 -6.5**
YUK1				Sg	**Sb**	**20 17 33.9 +3.2**
YUK3	**Moose Creek**	**5.17**	**211**	Pn	**Pn**	**20 16 23.7 -1.2**
YUK3				Sn	**Sn**	**20 17 21.0 -3.6**
YUK3				Sg	**Sb**	**20 17 45.7 +5.6**
ILAR	**Eielson Array**	**5.21**	**258**	Pn	**Pn**	**20 16 24.1 -1.1**
	0.8nm,0.3s,baz=65,slow=13,SNR=21					
ILAR				Lg	Lg	20 17 48.9
	4.0nm,0.3s,baz=69,slow=27,SNR=12					
ILAR				LR	LR	20 18 38.2
	comp=Z,57nm,21.4s,baz=326,slow=42					
YUK2	**White River**	**5.25**	**212**	Pn	**Pn**	**20 16 24.4 -1.4**
YUK2				Sn	**Sn**	**20 17 21.9 -4.3**
YUK2				Sg	**Sb**	**20 17 43.3 +1.2**
YUK5	**Granite Creek**	**5.38**	**195**	Pn	**Pn**	**20 16 25.4 -2.2**
YUK5				Pg	**Pb**	**20 16 44.4 +3.1**
YUK5				Sg	**Sb**	**20 17 49.5 +3.7**
YUK6	**Outpost Mounta**	**5.62**	**197**	Pn	**Pn**	**20 16 30.1 -0.9**
YUK6				Pg	Pb	20 16 50.5 +5.1
YUK6				Sg	**Sb**	**20 17 59.4 +6.6**
HYT	**Haines Junctio**	**5.64**	**193**	Pn	**Pn**	**20 16 30.4 -0.8**
HYT				Pg	**Pb**	**20 16 48.7 +2.9**
HYT				Sg	**Sb**	**20 17 55.7 +2.2**
PAX	**Paxson**	**5.64**	**238**	Pn	**Pn**	**20 16 30.3 -0.9**
PAX				Sn	**Sn**	**20 17 30.7 -5.3**
PAX				Sg	**Sb**	**20 17 53.7 +0.3**
YUK7	**Dusty Glacier**	**6.00**	**195**	Pn	**Pn**	**20 16 36.1 -0.1**
YUK7				Pg	**Pb**	**20 16 56.4 +4.5**
YUK7				Sn	**Sn**	**20 17 41.2 -3.6**
YUK7				Sg	**Sb**	**20 18 08.6 +5.0**
CTGM	**Chitina Glacie**	**6.09**	**211**	Pn	**Pn**	**20 16 37.0 -0.3**
CTGM				Sn	**Sn**	**20 17 42.7 -4.4**
COLD	**Coldfoot**	**6.11**	**285**	Pn	**Pn**	**20 16 38.7 +1.2**
COLD				Sn	**Sn**	**20 17 46.1 -1.3**
DHRN	**Dharma Camp**	**6.16**	**76**	Pn	**Pn**	**20 16 40.4 +2.2**
BALM	**Baldy**	**6.25**	**215**	Pn	**Pn**	**20 16 38.9 -0.7**
PLBC	**Pleasant Camp**	**6.93**	**186**	Pn	**Pn**	**20 16 49.0 +0.3**
PLBC				Sg	**Sb**	**20 18 35.0 +4.7**
KUKN	**Kugluktuk,NWT**	**7.88**	**70**	Pn	**Pn**	**20 17 03.8 +2.1**
KUKN				Sn	**Sn**	**20 18 29.4 -1.3**
DLBC	**Dease Lake**	**8.23**	**162**	Pn	**Pn**	**20 17 05.1 -1.6**
DLBC				Sg	Sb	20 19 19.5 +12
FNBB	**Fort Nelson**	**9.24**	**138**	Pn	**Pn**	**20 17 20.6 +0.1**
YKR1	**Yellowknife Ar**	**9.44**	**105**	Pn	**Pn**	**20 17 23.6 +0.5**
YKR1				Sn	Sn	20 19 01.8 -7.2
YKR2	**Yellowknife Ar**	**9.46**	**105**	Pn	**Pn**	**20 17 23.8 +0.5**
YKR2				Sn	Sn	20 19 02.1 -7.4
YKR3	**Yellowknife Ar**	**9.47**	**105**	Pn	**Pn**	**20 17 23.8 +0.2**
YKR3				Sn	Sn	20 19 03.3 -6.7
YKR4	**Yellowknife Ar**	**9.49**	**104**	Pn	**Pn**	**20 17 24.6 +0.7**
YKR4				Sn	**Sn**	**20 19 05.0 -5.5**
YKB0	**Yellowknife Ar**	**9.51**	**104**	Pn	**Pn**	**20 17 24.6 +0.6**
YKB0				Sn	Sn	20 19 03.8 -7.0
YKR5	**Yellowknife Ar**	**9.51**	**104**	Pn	**Pn**	**20 17 24.5 +0.4**
YKR5				Sn	Sn	20 19 04.1 -6.8
YKB9	**Yellowknife Ar**	**9.52**	**104**	Pn	**Pn**	**20 17 24.6 +0.3**
YKB9				Sn	**Sn**	**20 19 05.9 -5.2**
YKW3	**Yellowknife Ar**	**9.53**	**104**	Pn	**Pn**	**20 17 25.0 +0.7**
YKW3				Sn	**Sn**	**20 19 06.2 -5.1**
YKR6	**Yellowknife Ar**	**9.53**	**104**	Pn	**Pn**	**20 17 24.5 +0.1**
YKR6				Sn	**Sn**	**20 19 06.1 -5.3**
YKB8	**Yellowknife Ar**	**9.53**	**104**	Pn	**Pn**	**20 17 24.9 +0.5**
YKB8				Sn	Sn	20 19 03.3 -8.2
YKB7	**Yellowknife Ar**	**9.54**	**104**	Pn	**Pn**	**20 17 25.2 +0.6**
YKB7				Sn	**Sn**	**20 19 05.1 -6.6**
YKR7	**Yellowknife Ar**	**9.55**	**104**	Pn	**Pn**	**20 17 25.1 +0.5**
YKB6	**Yellowknife Ar**	**9.56**	**104**	Pn	**Pn**	**20 17 25.4 +0.7**
YKB6				Sn	**Sn**	**20 19 05.8 -6.2**
YKA	**Yellowknife Ar**	**9.57**	**104**	Pn	**Pn**	**20 17 24.8 0.0**
	1.1nm,0.3s,baz=296,slow=13,SNR=31					
YKA				Sn	**Sn**	**20 19 06.0 -6.3**
	1.4nm,0.3s,baz=305,slow=22,SNR=5.4					
YKA				Lg	Lg	20 20 09.8
	0.5nm,0.3s,baz=302,slow=30,SNR=4.3					
YKR8	**Yellowknife Ar**	**9.57**	**104**	Pn	**Pn**	**20 17 25.6 +0.7**
YKR8				Sn	**Sn**	**20 19 05.8 -6.5**
YKB4	**Yellowknife Ar**	**9.58**	**104**	Pn	**Pn**	**20 17 25.6 +0.5**
YKB4				Sn	**Sn**	**20 19 08.3 -4.3**
YKR9	**Yellowknife Ar**	**9.59**	**104**	Pn	**Pn**	**20 17 25.5 +0.4**
YKR9				Sn	**Sn**	**20 19 06.8 -5.9**
YKB3	**Yellowknife Ar**	**9.59**	**104**	Pn	**Pn**	**20 17 25.5 +0.3**
YKB3				Sn	**Sn**	**20 19 06.8 -6.1**
YKB2	**Yellowknife Ar**	**9.61**	**105**	Pn	**Pn**	**20 17 25.9 +0.5**
YKB2				Sn	**Sn**	**20 19 06.8 -6.4**
YKB1	**Yellowknife Ar**	**9.62**	**105**	Pn	**Pn**	**20 17 26.0 +0.4**
YKB1				Sn	Sn	20 19 06.0 -7.6
COKN	**Cook Lake**	**11.52**	**93**	Sn	Sn	20 19 53.1 -6.9
SNLN	**Sandy Lake, NW**	**12.19**	**94**	Pn	**Pn**	**20 18 00.7 0.0**
SNLN				Sn	Sn	20 20 07.8 -8.5
WHFN	**White Fish Lak**	**12.53**	**94**	Pn	**Pn**	**20 18 05.5 +0.1**
WHFN				Sn	Sn	20 20 16.6 -8.2
RES	**Resolute Bay**	**15.39**	**40**	Pn	**Pn**	**20 18 43.3 -0.8**
RES				Sn	**Sn**	**20 21 28.4 -5.8**
YBKN	**Baker Lake, Hu**	**16.19**	**79**	Sn	Sn	20 21 42.3 -12
SMLN	**Simpson Lake,**	**16.38**	**63**	Pn	**Pn**	**20 18 54.9 -1.9**
SMLN				Sn	Sn	20 21 46.8 -12
BULN	**Bullion Camp,**	**16.54**	**71**	Pn	**Pn**	**20 18 58.7 -0.2**
BULN				Sn	Sn	20 21 49.0 -13
KUGN	**Kugaaruk Camp,**	**17.18**	**64**	Pn	**Pn**	**20 19 04.8 -2.1**
KUGN				Sn	Sn	20 22 04.9 -13
MCMN	**McManaman Lake**	**18.12**	**80**	Pn	**Pn**	**20 19 19.3 +0.7**
MCMN				Sn	Sn	20 22 26.7 -14
SEDN	**First Sedna Si**	**18.58**	**79**	Pn	**P**	**20 19 23.6 -0.4**
SEDN				Sn	Sn	20 22 36.3 -15
AP3N	**Apex site 3 Nu**	**18.79**	**58**	Pn	**P**	**20 19 26.8 +0.4**
AP3N				Sn	Sn	20 22 43.4 -13
LAIN	**Lailor River,**	**19.20**	**58**	Pn	**P**	**20 19 31.3 +0.4**
LAIN				Sn	Sn	20 22 51.9 -15
GIFN	**Gifford Fjord,**	**19.60**	**55**	Pn	**P**	**20 19 36.9 +1.8**
GIFN				Sn	S	20 23 03.3 -13
PDAR	**Pinedale Array**	**27.42**	**137**	P	**P**	**20 20 56.1 +3.0**
	0.2nm,0.4s,baz=5.7,slow=3.6,SNR=1.7					
FINES	**FINESS Array B**	**51.77**	**11**	P	**P**	**20 24 17.2 +3.0**
	2.0nm,0.9s,baz=2.9,slow=7.6,SNR=4.2					

IDC 17 20:24:45.4±4.3,**5°83S**×**151°31E**,**h0**km,**mb2.9/2**,
mb1 3.3/2,**mb1mx3.1**/30,**mbtmp3.0**/2,**Error ellipse:**
s-maj=182.2km s-min=55.5km az=119.0,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.43**	**229**	Pn	Pn	20 26 12.7	+5.1
	0.8nm,0.3s,baz=0.0,slow=20,SNR=2.2						
PMG				Sn	Sn	20 27 10.4	-0.6
	1.4nm,0.3s,baz=308,slow=18,SNR=2.1						
WRA	**Warramunga Arr**	**21.65**	**228**	P	P	20 29 37.6	-0.1
	0.5nm,0.8s,baz=52,slow=10,SNR=2.2						
ASAR	**Alice Springs**	**24.39**	**222**	P	P	20 30 05.5	-0.2
	0.2nm,0.6s,baz=61,slow=8.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**149.19**	**286**	PKPbc	PKPbc	20 44 36.7	-0.3
	0.5nm,0.8s,baz=74,slow=3.2,SNR=3.1						

IDC **17** *20:39:39.8±1.8,24°.13S×66°.85W,h190km±14km,mb3.0/2, mb1 3.2/4,mb1mx3.1/27,mbtmp3.5/4,Error ellipse: s-maj=39.7km s-min=18.9km az=16.0*

SJA **17** *20:39:39.5±0.3,24°.05S×67°.03W,h178km±29km,ML2.1, MW2.8*

ISCJB **17** *20:39:40.4±0.7,24°.01S±0°.08×66°.71W±0°.08,h181km, mb3.1/2,Error ellipse: s-maj=12.9km s-min=7.8km az=41.6*

ISC 17 20:39:39.9±0.9,**24°.07S**±0°.09×**66°.78W**±0°.08,**h181**km,**n12**, σ1**s80**/14,**Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.57**	**96**	*eP*	**Pn**	**20 40 15.5**	**+2.6**
AZAP				*eS*	**Sn**	**20 40 36.0**	**-2.4**
ASTB	**Santa Barbara**	**2.13**	**87**	*eP*	**Pn**	**20 40 21.5**	**+2.8**
FSA	**Cafayete**	**2.16**	**161**	*eP*	**Pn**	**20 40 20.4**	**+1.4**
FSA				IAML		20 40 21.8	
	comp=Z,7.7nm,0.6s						
FSA				*eS*	**Sn**	**20 40 50.7**	**+1.2**
LVC	**Limon Verde**	**2.44**	**306**	P	**Pn**	**20 40 23.1**	**+0.8**
	comp=Z,1μm,0.3s,baz=153,slow=6.7,SNR=490						
LVC				S	**Sn**	**20 40 56.0**	**+0.8**
	comp=Z,1μm,0.3s,baz=291,slow=20,SNR=55						
CPUP	**Villa Florida**	**8.85**	**107**	P	**Pn**	**20 41 44.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=278,slow=6.9,SNR=4.7						
SIV	**San Ignacio**	**9.66**	**35**	P	**Pn**	**20 41 56.1**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=223,slow=13,SNR=2.3						
TXAR	**Lajitas Array**	**63.85**	**324**	P	**P**	**20 49 52.0**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=156,slow=6.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P	**P**	**20 51 09.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=258,slow=5.1,SNR=8.3						
ASAR	**Alice Springs**	**128.48**	**204**	PKP	**PKPdf**	**20 58 24.2**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=147,slow=2.2,SNR=1.6						
WRA	**Warramunga Arr**	**131.66**	**207**	PKP	**PKPdf**	**20 58 30.1**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=158,slow=1.9,SNR=7.5						
ZALV	**Zalesovo Beam**	**143.36**	**28**	PKP	PKPbc	20 58 49.3	-0.7
	comp=Z,0.6nm,0.5s,baz=324,slow=4.1,SNR=2.4						
MKAR	**Makanchi Array**	**146.45**	**40**	PKPbc	**PKPdf**	**20 58 58.6**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=310,slow=2.9,SNR=10						

SCB **17** *20:43:04.8±0.4,18°.05S×69°.11W,h132km,Ml3.9/3,Error ellipse: s-maj=13.4km s-min=4.4km az=82.0*

ISCJB **17** *20:43:05.1±0.2,18°.20S±0°.03×69°.36W±0°.05,h140km±2km, mb4.6/33,Error ellipse: s-maj=7.9km s-min=3.9km az=15.6*

NEIC **17** *20:43:05.4±0.7,18°.12S×69°.16W,h125km±6km,mb4.6/24, Error ellipse: s-maj=11.4km s-min=7.0km az=82.0*

GUC **17** *20:43:06.7±0.6,18°.23S×69°.38W,h123km±4km,ML4.3*

IDC **17** *20:43:07.3±0.7,18°.14S×69°.02W,h137km±6km,mb4.1/11, mb1 4.3/16,mb1mx4.1/32,mbtmp4.6/16,MS2.7/2, Ms1 2.7/2,ms1mx2.6/23,Error ellipse: s-maj=16.9km s-min=10.3km az=108.0*

ISC 17 20:43:06.0±0.5,**18°18S**±0°.03×**69°28W**±0°.05,**h133**km±4km, **n88**,σ1**s84**/111,**mb4.6**/33,**11C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB13	**IPOC Station P**	**0.26**	**233**	*i* P	**Pn**	**20 43 25.3**	**+0.1**
PB13				*i* S	**Sn**	**20 43 39.3**	**-0.4**
MNMC	**Minye Minye**	**0.99**	**197**	*i* P	**Pn**	**20 43 28.9**	**-0.5**
MNMC				*i* S	**Sn**	**20 43 45.9**	**-1.4**
MNMC				IAML		20 43 48.4	
	comp=E,16μm,0.4s						
PB12	**IPOC Station P**	**1.08**	**246**	↑*i* P	**Pn**	**20 43 29.1**	**-1.0**
PB12				*i* S	**Sn**	**20 43 46.6**	**-1.8**
BBOJ	**La Paz, Jacaqu**	**1.58**	**41**	↑*i* Pn	**Pn**	**20 43 37.0**	**+1.2**
BBOJ				↑↑*i* Sn	**Sn**	**20 44 00.1**	**+1.6**
	comp=E,522nm,0.7s						
PB11	**IPOC Station P**	**1.61**	**193**	↑*i* P	**Pn**	**20 43 35.9**	**+0.1**
PB11				*i* S	**Sn**	**20 43 58.8**	**+0.2**
PB11				IAML		20 43 59.7	
	comp=N,8μm,0.2s						
PB11	**IPOC Station P**	**1.61**	**193**	*e*Pn	**Pn**	**20 43 35.9**	**+0.1**
PB11				*e*Sn	**Sn**	**20 43 57.6**	**-1.0**
PSGC	**Pisagua**	**1.62**	**209**	*e*P	**Pn**	**20 43 35.0**	**-0.7**
PSGC				*i* S	**Sn**	**20 43 57.4**	**-1.2**
PSGC				IAML		20 44 03.5	
	comp=E,2μm,0.5s						
BBOD	**La Paz, Gloria**	**1.67**	**23**	↑*i* Pn	**Pn**	**20 43 37.8**	**+1.0**
BBOD				↑↑*i* Sn	**Sn**	**20 44 01.1**	**+0.9**
BBOE	**La Paz, Chanca**	**1.84**	**43**	↑*i* Pn	**Pn**	**20 43 40.1**	**+1.3**
PB08	**IPOC Station P**	**1.96**	**176**	*i* P	**Pn**	**20 43 41.0**	**+1.0**
PB08				*i* S	**Sn**	**20 44 06.5**	**+0.4**
PB08				IAML		20 44 10.3	
	comp=N,1μm,0.6s						
HMBC	**Humberstone**	**2.17**	**195**	*e*P	**Pn**	**20 43 41.8**	**-0.5**
HMBC				*e*S	**Sn**	**20 44 08.4**	**-1.8**
HMBC				IAML		20 44 17.9	
	comp=N,3μm,0.4s						
LPAZ	**La Paz**	**2.18**	**31**	P	**Pn**	**20 43 44.2**	**+1.2**
	comp=N,138nm,0.3s,baz=213,slow=6.8,SNR=153						
LPAZ				S	**Sn**	**20 44 10.0**	**-1.2**
	comp=N,6.0nm,0.3s,baz=270,slow=18,SNR=4.3						
LPAZ				LR	LR	20 44 10.2	
	comp=N,87nm,19.6s,baz=94,slow=31						
LPAZ	**La Paz**	**2.18**	**31**	*e*Pn	**Pn**	**20 43 44.1**	**+1.2**
LPAZ				*e*Sn	**Sn**	**20 44 10.2**	**-1.0**
LPAZ	**La Paz**	**2.18**	**31**	↑*i* Pn	**Pn**	**20 43 43.9**	**+1.0**
LPAZ				*e*Sn	**Sn**	**20 44 11.4**	**+0.2**
	comp=N,284nm,0.9s						
BBOB	**La Paz, Bander**	**2.30**	**29**	↑*i* Pn	**Pn**	**20 43 45.3**	**+0.9**
BBOB				↑↑*i* Sn	**Sn**	**20 44 14.5**	**+0.7**
	comp=N,204nm,0.3s						
PB01	**IPOC Station P**	**2.86**	**184**	*e*Pn	**Pn**	**20 43 51.3**	**+0.4**
PB01				*e*Sn	**Sn**	**20 44 21.8**	**-3.9**
PB04	**IPOC Station P**	**4.21**	**191**	*e*Pn	**Pn**	**20 44 07.9**	**-0.9**
PB04				*e*Sn	Sn	20 44 50.8	-6.8
LVC	**Limon Verde**	**4.42**	**176**	P	**Pn**	**20 44 13.1**	**+1.4**
	comp=N,643nm,0.3s,baz=334,slow=7.3,SNR=20						
LVC				S	**Sn**	**20 45 01.0**	**-1.9**
	comp=N,1μm,0.3s,baz=117,slow=17,SNR=17						
LVC	**Limon Verde**	**4.42**	**176**	*e*Pn	**Pn**	**20 44 12.4**	**+0.7**
LVC				*e*Sn	**Sn**	**20 45 00.3**	**-2.6**
MOCB	**Mochara**	**4.60**	**132**	*e*Pn	**Pn**	**20 44 17.4**	**+3.2**
PB10	**IPOC Station P**	**5.44**	**192**	*e*Pn	**Pn**	**20 44 23.0**	**-2.1**
PB10				*e*Sn	Sn	20 45 17.6	-9.1
SIV	**San Ignacio**	**8.15**	**76**	P	**Pn**	**20 44 59.4**	**-2.1**
	comp=N,12nm,0.3s,baz=262,slow=10,SNR=121						
SIV				S	**Sn**	**20 46 27.3**	**-4.8**
	baz=0.0,slow=20,SNR=2.0						
SIV				LR	LR	20 48 26.7	
	comp=N,86nm,18.5s,baz=234,slow=40						
SIV	**San Ignacio**	**8.15**	**76**	*e*P	**Pn**	**20 44 58.7**	**-2.8**
NNA	**Nana**	**9.55**	**309**	*e*Pn	**Pn**	**20 45 18.0**	**-2.3**
SAML	**Samuel**	**10.92**	**34**	*e*Pn	**Pn**	**20 45 35.2**	**-3.4**
CPUP	**Villa Florida**	**13.71**	**128**	P	**Pn**	**20 46 13.6**	**-1.3**
	comp=N,0.2nm,0.3s,baz=306,slow=13,SNR=4.8						
CPUP	**Villa Florida**	**13.71**	**128**	*e*Pn	**Pn**	**20 46 13.0**	**-1.9**
PTGA	**Pitinga**	**19.61**	**29**	P	**P**	**20 47 22.7**	**-1.4**
	comp=N,11nm,0.3s,baz=332,slow=23,SNR=95						
PTGA				S	**S**	**20 50 50.9**	**-7.3**
	comp=N,0.0nm,0.3s,baz=342,slow=20,SNR=2.3						
PTGA	**Pitinga**	**19.61**	**29**	*e*P	**P**	**20 47 21.6**	**-2.5**
PTGA				*e*Pn	**P**	**20 47 22.7**	**-1.4**
PTGA				S	**S**	**20 50 50.9**	**-7.3**
OTAV	**Otavalo**	**20.40**	**333**	*e*P	Pn	**20 47 36.2**	**-0.3**
	comp=N,23nm,1.8s						
TRQA	**Tornquist**	**20.81**	**164**	*e*P	**P**	**20 47 37.5**	**+0.7**
	comp=N,34nm,0.8s						
SPB	**Sao Paulo**	**21.11**	**109**	*e*P	**P**	**20 47 38.1**	**-1.9**
	comp=N,18nm,1.1s						
PLCA	**Paso Flores**	**22.50**	**183**	P	**P**	**20 47 55.1**	**+0.5**
	comp=N,15nm,1.0s,baz=29,slow=8.9,SNR=7.3						
PLCA	**Paso Flores**	**22.50**	**183**	*e*P	**P**	**20 47 55.4**	**+0.9**
	comp=N,22nm,1.0s						
RUSC	**La Rusia**	**24.21**	**351**	*e*P	**P**	**20 48 10.2**	**-0.7**
	comp=N,3.6nm,1.1s						
HELC	**Santa Helena**	**24.99**	**345**	*e*P	**P**	**20 48 16.5**	**-1.4**
	comp=N,7.7nm,0.5s						
SABA	**Saba**	**36.07**	**10**	*e*P	**P**	**20 49 53.9**	**-1.0**
	comp=N,331nm,1.6s						
USHA	**Ushuaia**	**36.59**	**179**	P	**P**	**20 50 00.5**	**+1.5**
	comp=N,26nm,0.8s,baz=28,slow=15,SNR=4.6						
GRTK	**Grand Turk**	**39.49**	**357**	*e*P	**P**	**20 50 23.1**	**-0.5**
	comp=N,201nm,1.4s						
TEIG	**Tepich**	**42.47**	**333**	*e*P	**P**	**20 50 51.5**	**+3.5**
	comp=N,38nm,1.8s						
MIAR	**Mount Ida**	**57.30**	**336**	*e*P	**P**	**20 52 40.5**	**+0.7**
	comp=N,4.6nm,0.8s						
X301	**Greenbrier Sit**	**57.48**	**338**	*e*P	**P**	**20 52 43.5**	**+2.4**
	comp=N,13nm,1.1s						
X201	**Greenbrier Sit**	**57.51**	**338**	*e*P	**P**	**20 52 39.0**	**-2.3**
	comp=N,8.7nm,0.9s						
PSUB	**Penn St. - Bra**	**58.09**	**354**	*e*P	**P**	**20 52 46.6**	**+1.4**
	comp=N,35nm,1.7s						
PBMO	**Poplar Bluff**	**58.19**	**340**	*e*P	**P**	**20 52 44.8**	**-1.3**
	comp=N,10nm,0.7s						
ABTX	**Abilene, Hawle**	**58.27**	**330**	*e*P	**P**	**20 52 47.6**	**+0.8**
	comp=N,9.4nm,1.2s						
WCI	**Wyandotte Cave**	**58.34**	**344**	*e*P	**P**	**20 52 48.6**	**+1.5**
	comp=N,30nm,1.5s						
WMOK	**Wichita Mounta**	**59.63**	**332**	*e*P	**P**	**20 52 57.2**	**+1.1**
	comp=N,5.5nm,1.1s						
MSTX	**Muleshoe**	**60.89**	**328**	*e*P	**P**	**20 53 04.9**	**+0.1**
	comp=N,4.9nm,0.9s						
AMTX	**Amarillo**	**61.09**	**330**	*e*P	**P**	**20 53 06.3**	**+0.2**
	comp=N,20nm,1.9s						
SNAA	**Sanae**	**65.52**	**161**	*e*P	**P**	**20 53 35.8**	**+1.0**
	comp=N,7.0nm,0.9s						
PV10	**Paradox Valley**	**67.50**	**327**	*e*PcP	**PcP**	**20 54 12.4**	**-1.9**
DBIC	**Dimbokro**	**68.17**	**75**	P	**P**	**20 53 52.0**	**-0.4**
	comp=N,7.7nm,0.8s,baz=228,slow=5.1,SNR=15						
DBIC	**Dimbokro**	**68.17**	**75**	*e*P	**P**	**20 53 51.0**	**-1.4**
	comp=N,29nm,1.4s						
CCUT	**Cedar City**	**69.23**	**324**	*e*P	**P**	**20 54 01.0**	**+2.3**
	comp=N,5.8nm,1.0s						
PD31	**Pinedale Array**	**71.07**	**330**	*e*P	**P**	**20 54 09.3**	**-0.6**
PDAR	**Pinedale Array**	**71.07**	**330**	P	**P**	**20 54 11.4**	**+1.6**
	comp=N,0.3nm,0.4s,baz=90,slow=5.4,SNR=2.8						
QSPA	**South Pole Qui**	**72.00**	**180**	*e*P	**P**	**20 54 16.6**	**+1.6**
ULM	**Lac du Bonnet**	**72.06**	**342**	P	**P**	**20 54 14.8**	**-0.5**
	comp=N,2.1nm,0.3s,baz=160,slow=5.9,SNR=3.3						
GCMT	**Greycliff**	**73.43**	**332**	*e*PcP	**PcP**	**20 54 39.2**	**+0.1**
PAHR	**Pah Rah Range**	**74.15**	**322**	*e*P	**P**	**20 54 30.8**	**+2.7**
	comp=N,5.9nm,1.0s						
TOA0	**Torodi Ar. Sit**	**76.60**	**71**	*e*P	**P**	**20 54 41.0**	**-1.3**
	comp=N,6.5nm,0.6s						
TOA1	**Torodi Ar. Sit**	**76.60**	**71**	*e*P	**P**	**20 54 41.8**	**-0.5**
	comp=N,5.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.60**	**71**	P	**P**	**20 54 41.8**	**-0.5**
	comp=N,6.2nm,0.6s,baz=252,slow=5.2,SNR=104						
KCPM	**Cahto Peak**	**76.65**	**320**	*e*P	**P**	**20 54 39.7**	**-2.6**
	comp=N,28μm,0.6s						
YBMT	**Yellow Bay**	**76.96**	**331**	*e*P	**P**	**20 54 42.1**	**-1.8**
SYO	**Syowa Base**	**79.72**	**160**	↑*e*P	**P**	**20 54 58.6**	**0.0**
VNDA	**Vanda**	**80.05**	**190**	P	**P**	**20 55 02.1**	**+1.9**
	comp=N,1.6nm,0.8s,baz=131,slow=4.5,SNR=12						
ESDC	**Sonseca Array**	**83.73**	**45**	P	**P**	**20 55 20.8**	**+0.6**
	comp=N,1.3nm,0.8s,baz=270,slow=4.8,SNR=6.4						
ESDC				pP	**pP**	**20 55 55.2**	**+1.3**
	comp=N,0.1nm,0.3s,baz=71,slow=27,SNR=2.0						
ES19	**SONSECA Array**	**83.79**	**45**	*e*P	**P**	**20 55 20.7**	**+0.2**
MAW	**Mawson**	**87.60**	**163**	P	**P**	**20 55 38.7**	**0.0**
	comp=N,4.2nm,0.8s,baz=239,slow=5.9,SNR=4.6						
MAW	**Mawson**	**87.60**	**163**	*e*P	**P**	**20 55 39.2**	**+0.5**
	comp=N,11nm,1.9s						
YKA	**Yellowknife Ar**	**87.95**	**341**	P	**P**	**20 55 41.1**	**+0.8**
	comp=N,3.9nm,0.7s,baz=133,slow=4.6,SNR=20						
YKA				pP	**pP**	**20 56 16.3**	**+1.9**
	comp=N,1.3nm,0.8s,baz=133,slow=4.8,SNR=2.9						
YKA				sP	**sP**	**20 56 30.9**	**+2.5**
	comp=N,1.3nm,0.8s,baz=133,slow=5.2,SNR=3.5						
YKB5	**Yellowknife Ar**	**87.95**	**341**	*e*P	**P**	**20 55 40.8**	**+0.5**
DAVOX	**Davos/Dischmat**	**95.88**	**43**	P	**P**	**20 56 17.7**	**0.0**
	comp=N,1.9nm,0.8s,baz=345,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**132.65**	**209**	PKP	**PKPdf**	**21 02 04.9**	**-0.8**
	comp=N,0.5nm,0.7s,baz=141,slow=2.3,SNR=8.7						
WR1	**Warramunga Arr**	**135.59**	**213**	*e*PKPdf	**PKPdf**	**21 02 12.4**	**+1.1**
WRA	**Warramunga Arr**	**135.59**	**213**	PKP	**PKPdf**	**21 02 12.4**	**+1.1**
	comp=N,1.5nm,0.8s,baz=141,slow=1.8,SNR=17						
KURK	**Kurchatov**	**138.71**	**31**	*e*PKPdf	**PKPdf**	**21 02 17.6**	**+1.6**
KURBB	**Kurchatov Arra**	**138.72**	**31**	PKP	**PKPdf**	**21 02 17.6**	**+1.5**

JIKM eS Sn 21 33 37.0 -1.7
JMJ Miyako jima 2 2.00 208 P Pn 21 33 13.7 -0.9
JMJ S Sn 21 33 38.1 -2.2
JOGS Gusukube 2.01 205 P Pn 21 33 13.9 -0.7
JOGS eS Sn 21 33 38.5 -1.9
JIRB Irabujima 2.04 211 P Pn 21 33 13.8 -1.3
JIRB S Sn 21 33 38.7 -2.5
JOKE Okinoerabujima 2.13 68 P Pn 21 33 14.9 -1.3
JOKE S Sn 21 33 40.8 -2.5
JTJ Tarama 2.44 218 P Pn 21 33 18.8 -1.2
JTJ S Sn 21 33 47.3 -2.8
JTK Tokunoshima 2.61 62 P Pn 21 33 20.8 -1.4
JTK S Sn 21 33 51.5 -2.6
JISG Ishigakijimahi 2.71 223 P Pn 21 33 22.3 -1.2
JISG S Sn 21 33 53.7 -2.6
JIJ Ishigaki jima 2.98 222 P Pn 21 33 25.2 -1.8
JIJ eS Sn 21 33 58.6 -3.9
JAMN Amaminishikomi 3.01 56 P Pn 21 33 25.7 -1.7
JAMN S Sn 21 33 59.5 -3.8
JKRS Kuro-shima 3.15 222 P Pn 21 33 27.7 -1.5
JKRS S Sn 21 34 03.5 -3.1
IRIF Iriomote-Funau 3.26 227 P Pn 21 33 29.1 -1.5
IRIF S Sn 21 34 06.4 -2.7
HATJ Hateruma jima 3.41 223 P Pn 21 33 31.3 -1.3
JAM Amami Oshima 3.42 57 P Pn 21 33 31.1 -1.7
JAM S Sn 21 34 09.4 -3.5
JTAJ Takarajima 3.60 44 P Pn 21 33 34.4 -0.7
JTAJ eS Sn 21 34 16.7 -0.4
JZK Kikaishima 3.66 61 P Pn 21 33 34.6 -1.3
JZK S Sn 21 34 16.3 -2.2
YOJ Yonaguni jima 3.68 236 P Pn 21 33 35.7 -0.5
YOJ Yonaguni jima 3.68 236 eP Pn 21 33 35.4 -0.8
YOJ Yonaguni jima 3.68 236 ePn Pn 21 33 35.4 -0.8
JYNG Yonagunijimaku 3.73 236 P Pn 21 33 36.8 -0.1
JMZ Minamidaito 2 4.45 99 P Pn 21 33 43.3 -3.2
TATO Taipei 4.66 251 ePn Pn 21 33 49.3 +0.1
YHNB Yeheng 4.87 248 ePn Pn 21 33 52.7 +0.5
NACB Ninganchiao 4.92 242 ePn Pn 21 33 51.5 -1.3
YULB Yu-li 5.57 236 ePn Pn 21 33 58.4 -3.3
SSLB Suanglung 5.62 241 ePn Pn 21 34 00.6 -1.7
TWG Pinlang 6.08 233 ePn Pn 21 34 04.9 -3.6
TPUB Ta-pu 6.13 239 ePn Pn 21 34 07.7 -1.5
QZH Quanzhou 7.17 258 P Pn 21 34 27.6 +4.4
QZH S Sn 21 35 41.0 -2.2
JNU Nakatsue 7.61 30 P Pn 21 34 29.3 +0.3
14nm,0.3s,baz=202,slow=6.7,SNR=162
JNU Nakatsue 7.61 30 ePn Pn 21 34 29.4 +0.4
NJ2 Nanjing 8.50 312 eP Pn 21 34 42.1 +1.1
NJ2 S Sn 21 36 15.1 -0.2
NJ2 PMZ
40nm,0.8s
NJ2 LN
63nm,12.7s
NJ2 LE
180nm,13.5s
NJ2 LZ
310nm,7.6s
TJN Taejon 9.80 5 *d* iP Pn 21 35 01.2 +2.7
INCN Inchon 10.87 1 ePn Pn 21 35 14.5 +1.6
KS15 Wonju Array Si 10.90 7 ePn Pn 21 35 15.5 +2.2
KSAR Wonju Array Be 10.90 7 P Pn 21 35 15.4 +2.1
KSAR Wonju Array Be 10.90 7 P Pn 21 35 15.4 +2.1
KSRS Korea Array 10.92 7 P Pn 21 35 15.4 +1.9
2.6nm,0.3s,baz=184,slow=12,SNR=183
KSRS LR LR 21 39 22.0
comp=Z,71nm,19.1s,baz=208,slow=37
KS01 Wonju Array Si 10.94 7 ePn Pn 21 35 14.6 +0.9
WHN Wuhan 11.25 293 P Pn 21 35 19.3 +1.3
WHN S Sn 21 37 34.1 +12
WHN LN
940nm,2.7s
WHN LE
570nm,3.2s
WHN LZ
610nm,9.3s
TIA Tai'an 12.40 323 ⇑P Pn 21 35 35.0 +1.9
TIA PMZ
30nm,1.3s
INU Inuyama 12.65 44 ePn Pn 21 35 36.6 +0.2
DL2 Dalian 12.90 343 ⇓ iP Pn 21 35 41.4 +1.8
DL2 sP sP 21 36 14.4
DL2 S Sn 21 38 03.3 +1.6
DL2 PMZ
77nm,0.7s
DL2 PMZ
320nm,4.7s
JHJ Hachijo jima 2 13.35 58 LR LR 21 40 31.4
comp=Z,27nm,19.9s,baz=280,slow=35
CBIJ Chichi jima 14.16 84 ePn Pn 21 35 56.1 +0.3
JCJ Chichijima 14.16 84 P Pn 21 35 55.7 -0.2
baz=274,slow=15
MAJO Matsushiro 14.16 43 ⇑eP P 21 35 58.3 -1.2
MAJO pmax pmax
comp=Z,84nm,1.1s
MAJO Matsushiro 14.16 43 ePn Pn 21 35 56.0 +0.2
MAT Matsushiro 14.16 43 P Pn 21 35 53.0 -2.8
MJB9 Matsu-Tunnel 14.16 43 ePn Pn 21 35 56.2 +0.4
MJAR Matsushiro Arr 14.16 43 P Pn 21 35 52.4 -3.4
comp=Z,0.1nm,0.3s,baz=236,slow=12,SNR=13
MJAR LR LR 21 41 48.9
comp=Z,31nm,21.5s,baz=280,slow=39
ENH Enshi 15.27 288 ePn Pn 21 36 09.4 -0.6
comp=Z,11nm,0.9s
BJT Baijiatuau 15.85 330 eP P 21 36 18.3 +0.1
BJT pmax pmax
comp=Z,65nm,1.1s
BJT Baijiatuau 15.85 330 ePn P 21 36 18.3 +0.1
comp=Z,65nm,1.1s
BJI Beijing 15.86 330 P P 21 36 18.6 +0.3
BJI S Sn 21 39 12.3 -0.7
BJI PMZ
comp=Z,55nm,1.3s
BJI PMZ
comp=Z,320nm,9.0s
BJI LN
comp=Z,170nm,13.2s
BJI LE
comp=Z,75nm,14.5s
BJI LZ
comp=Z,190nm,38.1s
TIY Taiyuan 16.16 317 eP P 21 36 23.4 +1.7
TIY PMZ
comp=Z,80nm,1.4s
TIY PMZ
comp=Z,280nm,5.3s
TIY LN
comp=Z,170nm,11.5s
TIY LE
comp=Z,160nm,4.8s
TIY LZ
comp=Z,210nm,8.8s
MSHR Mys Shultsa 16.43 13 ⇓eP P 21 36 26.0 +1.4
XAN Xi'an 16.76 300 P P 21 36 29.8 +1.4
XAN sP sP 21 37 05.8 -0.4
XAN S S 21 39 37.0 +0.3
XAN PMZ
comp=Z,15nm,0.9s
XAN PMZ
comp=Z,120nm,5.8s
XAN LN
comp=Z,220nm,8.0s
XAN LE
comp=Z,100nm,7.0s
XAN LZ
comp=Z,180nm,8.6s
VLA Vladivostok 17.10 14 ⇑eP Pn 21 36 32.5 +0.3
VLA pmax pmax
comp=Z,17nm,0.7s
CN2 Changchun 17.19 358 eP Pn 21 36 34.3 +1.0
CN2 *es*P sP 21 37 10.1 -0.7
CN2 *e*S Sn 21 39 40.3 -4.6
CN2 PMZ
comp=Z,40nm,0.7s
CN2 PMZ
comp=Z,300nm,4.0s
GYA Guiyang 17.61 274 P Pn 21 36 38.6 -0.1
GYA PP pP 21 36 56.8 -3.2
GYA S S 21 39 48.0 -6.8
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
USRK Ussuriysk Ar. 18.16 13 P P 21 36 42.7 -0.8
baz=199,slow=8.6,SNR=4.9

MDJ Mudanjiang 18.18 7 P Pn 21 36 44.5 -0.7
MDJ S Sn 21 40 07.8 -0.8
MDJ PcP PcP 21 41 10.9 -0.5
MDJ ScP ScP 21 44 35.4 +0.1
MDJ PcS PcS 21 44 50.1 +2.2
MDJ PMZ
comp=Z,16nm,0.8s
MDJ PMZ
comp=Z,70nm,7.4s
MDJ Mudanjiang 18.18 7 eP P 21 36 44.3 +0.5
HHC Hu-ho-hao-te 18.76 323 eP Pn 21 36 52.6 +0.4
HHC S S 21 40 17.4 0.0
HHC PMZ
comp=Z,37nm,1.1s
HHC PMZ
comp=Z,190nm,3.9s
BTO Baotou 19.45 320 eP P 21 36 57.3 -0.6
CD2 Chengdu 20.25 288 eP P 21 37 06.0 -0.5
CD2 S S 21 40 46.4 -0.6
CD2 PcP PcP 21 41 15.1 -0.3
CD2 PMZ
comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,260nm,5.0s
CD2 LN
comp=Z,340nm,7.9s
CD2 LE
comp=Z,230nm,9.5s
CD2 LZ
comp=Z,290nm,7.8s
SARN Sarigan 20.55 115 eP P 21 37 10.9 +1.1
ERM Erimo 20.67 38 ⇓eP P 21 37 10.1 -0.7
KMI Kunming 21.28 271 P P 21 37 22.9 +5.1
KMI pmax pmax
comp=Z,5.0nm,1.2s
LZH Lanzhou 21.38 302 ⇑P P 21 37 19.1 +0.4
LZH pP pP 21 37 43.3 +1.8
LZH PP PnPn 21 37 49.0 +3.0
LZH S S 21 41 03.1 -5.8
LZH PMZ
comp=Z,26nm,1.0s
LZH PMZ
comp=Z,190nm,6.1s
LZH LN
comp=Z,270nm,11.0s
LZH LE
comp=Z,270nm,10.2s
LZH LZ
comp=Z,380nm,14.5s
GUMO Guam 21.64 123 P P 21 37 23.0 +1.5
comp=Z,165nm,1.0s,baz=180,slow=1.0,SNR=3.2
GUMO LR LR 21 44 09.8
comp=Z,31nm,21.3s,baz=160,slow=32
ASAJ Asahikawa 21.88 33 P P 21 37 23.4 -0.3
comp=Z,3.5nm,0.4s,baz=224,slow=6.7,SNR=11
MYLDM Lahad Datu 22.57 201 eP P 21 37 32.2 +1.3
comp=Z,47nm,1.2s
KKM Kota Kinabalu 22.60 207 eP P 21 37 31.8 +0.5
comp=Z,40nm,1.2s
HABR Khabarovsk 22.88 15 eP P 21 37 32.2 -1.4
HABR *e*SP sP 21 38 13.4 +0.5
HABR *e* 21 41 17.4
HABR *e*S S 21 41 33.3 -0.4
HABR *e*SS sS 21 42 19.0 +2.4
HABR *e* 21 48 28.9
HABR MLR MLR
comp=Z,24nm,17.0s
KLR Kul'dur 22.99 9 P P 21 37 33.1 -1.6
comp=Z,5.1nm,0.6s,baz=220,slow=6.4,SNR=16
KLR LR LR 21 46 16.2
comp=Z,46nm,20.1s,baz=186,slow=36
YSS Yuzh-Sakhalins 24.12 28 eP P 21 37 44.7 -0.3
YSS pmax pmax
comp=Z,21nm,0.7s
YSS Yuzh-Sakhalins 24.12 28 eP P 21 37 44.7 -0.3
comp=Z,21nm,0.7s
GTA Gaotai 25.55 307 eP P 21 37 57.8 -0.5
GTA pP pP 21 38 24.3 -0.6
GTA S S 21 42 14.9 -2.0
GTA SS SnSn 21 43 31.3 +6.1
GTA PMZ
comp=Z,17nm,1.1s
GTA PMZ
comp=Z,31nm,5.5s
GTA LN
comp=Z,100nm,9.7s
GTA LE
comp=Z,83nm,8.8s
GTA LZ
comp=Z,100nm,9.0s
ULN Ulaanbaatar 26.07 330 *c* iP P 21 38 03.0 +0.1
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 26.07 330 eP P 21 38 03.1 +0.1
comp=Z,15nm,1.1s
SONM Songino Array 26.35 329 P P 21 38 04.5 -0.9
comp=Z,7.3nm,0.6s,baz=143,slow=9.4,SNR=19
SONM pP pP 21 38 32.8 +0.9
comp=Z,10nm,1.1s,baz=139,slow=9.8,SNR=3.7
SONM ScP ScP 21 44 56.4 -0.1
comp=Z,4.7nm,0.9s,baz=157,slow=1.6,SNR=14
SONM LR LR 21 50 47.2
comp=Z,57nm,18.5s,baz=94,slow=41
SONA1 Songino Array 26.36 329 eP P 21 38 05.5 0.0
SONA1 eScP ScP 21 44 57.1 +0.7
CMAR Chiang Mai Arr 26.53 258 pP pP 21 38 35.8 +2.1
comp=Z,0.5nm,0.4s,baz=58,slow=7.8,SNR=4.7
CMAR PcP PcP 21 41 29.0 +0.2
comp=Z,0.8nm,0.3s,baz=34,slow=0.7,SNR=7.1
CMAR LR LR 21 48 53.9
comp=Z,29nm,18.2s,baz=65,slow=37
SBUM Sibu 27.56 212 eP P 21 38 17.2 +0.9
comp=Z,14nm,0.8s
KSM Kuching 29.34 214 eP P 21 38 33.5 +1.4
comp=Z,15nm,0.8s
TLY Talaya 30.38 332 eP P 21 38 41.0 0.0
TLY pmax pmax
comp=Z,11nm,0.6s
TLY MLR MLR
comp=Z,50nm,18.0s
TLY Talaya 30.38 332 eP P 21 38 41.0 0.0
comp=Z,13nm,0.7s
MOY Mondy 31.54 329 eP P 21 38 51.4 +0.1
PETK Petropavlovsk- 35.30 33 P P 21 39 24.4 +0.6
comp=Z,4.3nm,0.8s,baz=215,slow=6.3,SNR=3.8
PETK LR LR 21 53 30.6
comp=Z,22nm,19.5s,baz=238,slow=35
WMQ Urumqi 35.57 309 P P 21 39 26.4 +0.1
WMQ pP pP 21 39 55.3 +1.7
WMQ S S 21 44 52.6 -0.4
WMQ SS SnSn 21 47 19.5 -7.9
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,64nm,4.2s
WMQ LN
comp=Z,22nm,19.8s
WMQ LE
comp=Z,28nm,21.0s
WMQ LZ
comp=Z,28nm,23.2s
PET Petropavlovsk 35.72 34 eP P 21 39 26.5 -0.8
PET pmax pmax
comp=Z,31nm,1.8s
MTN Manton Dam 39.47 173 eP P 21 39 59.0 -0.2
comp=Z,77nm,1.1s
MK01 Makanchi Array 40.02 312 eP P 21 40 02.7 -0.9
MK01 ePcP PcP 21 42 06.9 +0.7
MK01 eScP ScP 21 45 44.2 +0.4
MK31 Makanchi Array 40.03 312 eP P 21 40 03.2 -0.5
MK31 Makanchi Array 40.03 312 eP P 21 40 03.2 -0.5
MK31 eScP ScP 21 45 45.1 +1.3
MKAR Makanchi Array 40.03 312 P P 21 40 02.9 -0.8
comp=Z,8.9nm,0.5s,baz=97,slow=11,SNR=158
MKAR pP pP 21 40 31.2 -0.3
comp=Z,5.2nm,0.6s,baz=99,slow=9.9,SNR=5.0
MKAR PcP PcP 21 42 06.8 +0.6
comp=Z,2.1nm,0.6s,baz=70,slow=3.7,SNR=7.2
MKAR ScP ScP 21 45 44.6 +0.8
comp=Z,3.8nm,0.9s,baz=96,slow=4.9,SNR=16
MKAR Makanchi Array 40.03 312 eP P 21 40 03.2 -0.5
MKAR pP pP 21 40 31.2 -0.3
MKAR PcP PcP 21 42 06.8 +0.6
MKAR eScP ScP 21 45 45.1 +1.3
SEY Seymchan 40.19 18 P P 21 40 03.8 -0.9
comp=Z,4.1nm,0.5s,baz=224,slow=5.8,SNR=18
SEY Seymchan 40.19 18 ⇑eP P 21 40 04.9 +0.2
MAKZ Makanchi 40.25 312 eP P 21 40 04.6 -0.8
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 40.25 312 eP P 21 40 04.6 -0.8
comp=Z,19nm,1.0s
MAKZ eScP ScP 21 45 45.3 +0.7
ZAA0 Zalesovo Array 40.94 323 eP P 21 40 09.9 -1.1
ZAA0 epP pP 21 40 37.8 -1.1
ZAA0 eScP ScP 21 45 47.2 0.0
ZALV Zalesovo Beam 40.94 323 P P 21 40 10.1 -0.9
comp=Z,7.3nm,0.4s,baz=109,slow=7.9,SNR=43
ZALV pP pP 21 40 36.5 -2.4
comp=Z,4.5nm,0.6s,baz=116,slow=8.1,SNR=3.8
ZALV PcP PcP 21 42 07.6 -1.3
comp=Z,0.6nm,0.4s,baz=123,slow=5.3,SNR=2.5
ZALV ScP ScP 21 45 46.2 -1.0
comp=Z,4.4nm,0.8s,baz=119,slow=5.2,SNR=13
ZALV LR LR 21 58 10.1
comp=Z,34nm,18.1s,baz=68,slow=37
PMG Port Moresby 41.10 148 P P 21 40 13.0 +0.3
comp=Z,16nm,0.8s,baz=337,slow=13,SNR=4.0
PMG LR LR 21 53 53.5
comp=Z,60nm,21.4s,baz=68,slow=31
NVS Novosibirsk 42.16 324 ⇓ *i* P P 21 40 19.8 -1.1
NVS *e* 21 40 50.7
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=Z,7.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,1.2s
KURK Kurchatov 43.40 317 eP P 21 40 30.3 -0.7
KURK pmax pmax
comp=Z,36nm,0.9s
KURK Kurchatov 43.40 317 eP P 21 40 30.3 -0.7
comp=Z,36nm,0.9s
KURK *e* 21 40 58.5
COEN Coen 43.50 156 eP P 21 40 33.3 +1.2
comp=Z,46nm,0.9s
KSH Kashi 43.62 300 eP P 21 40 35.6 +2.5
KSH PP PcP 21 42 20.5 +2.1
KSH S S 21 46 56.8 +3.4
KSH ScS ScS 21 50 19.3 -0.6
KSH PMZ
comp=Z,2.0nm,0.6s
KSH PMZ
comp=Z,130nm,5.7s
KSH LN
comp=Z,120nm,6.6s
KSH LE
comp=Z,140nm,5.1s
KSH LZ
comp=Z,180nm,6.4s
TKM2 Tokmak 2 44.09 305 eP P 21 40 36.3 -0.6
TKM2 *e* 21 41 05.6
TKM2 Tokmak 2 44.09 305 eP P 21 40 36.3 -0.6
TKM2 *e* 21 41 05.6
FITZ Fitzroy Crossi 44.43 181 P P 21 40 39.8 +0.3
comp=Z,28nm,0.8s,baz=7.8,slow=7.4,SNR=37
FITZ pP pP 21 41 06.6 -1.2
comp=Z,7.4nm,0.8s,baz=14,slow=12,SNR=2.4
FITZ Fitzroy Crossi 44.43 181 eP P 21 40 39.4 0.0
comp=Z,29nm,0.9s
FITZ pP pP 21 41 06.6 -1.2
TIXI Tiksi 45.12 1 ⇑eP P 21 40 44.7 +0.4
TIXI pmax pmax
comp=Z,3.0nm,2.0s
WRAB Tennant Creek 46.89 170 *c* eP P 21 40 58.8 -0.1
WRAB pmax pmax
comp=Z,52nm,0.9s
WRAB Tennant Creek 46.89 170 eP P 21 40 58.2 -0.6
comp=Z,18nm,0.8s
WRA Warramunga Arr 46.90 170 P P 21 40 59.1 +0.1
comp=Z,16nm,0.8s,baz=351,slow=8.5,SNR=60
WRA pP pP 21 41 26.5 -1.0
comp=Z,8.7nm,1.0s,baz=353,slow=8.5,SNR=4.4
WRA PcP PcP 21 42 30.1 +0.3
comp=Z,3.4nm,0.7s,baz=347,slow=3.9,SNR=6.0
WB2 Warramunga Arr 46.90 170 eP P 21 40 59.2 +0.3
comp=Z,23nm,0.9s
BILL Bilibino 47.87 19 ⇑eP P 21 41 04.9 -1.0
BILL *e**PP pP 21 41 35.7 +1.2
BILL *e* 21 43 02.6
BILL *e*PPP PPP 21 43 52.3
BILL pmax pmax
comp=Z,7.0nm,1.1s
NRIK Noril'sk 48.40 343 P P 21 41 09.6 -0.3
comp=Z,2.5nm,0.6s,baz=311,slow=19,SNR=3.2
NRIK pP pP 21 41 38.1 -0.5
comp=Z,12nm,0.9s,baz=121,slow=6.4,SNR=7.5
NRIK PcP PcP 21 42 33.0 -1.4
comp=Z,3.7nm,0.8s,baz=186,slow=9.2,SNR=1.7
NRIK LR LR 22 03 50.2
comp=Z,66nm,20.5s,baz=106,slow=39
VOSK Vostochnaya 48.47 318 eP P 21 41 10.2 -0.6
VOSK pmax pmax
comp=Z,5.0nm,1.0s
VOSK Vostochnaya 48.47 318 eP P 21 41 10.2 -0.6
comp=Z,4.9nm,1.0s
ZRNK Zerenda 49.69 318 eP P 21 41 19.9 -0.1
ZRNK pmax pmax
comp=Z,20nm,1.4s
ZRNK Zerenda 49.69 318 eP P 21 41 19.9 -0.1
comp=Z,20nm,1.4s
ZRNK eScP ScP 21 46 23.4 -0.1
CTA Charters Tower 50.26 155 P P 21 41 25.4 +0.7
comp=Z,15nm,0.9s,baz=335,slow=9.2,SNR=12
CTAO Charters Tower 50.26 155 eP P 21 41 25.8 +1.1
CTAO pmax pmax
comp=Z,30nm,1.1s
CTAO Charters Tower 50.26 155 eP P 21 41 25.8 +1.1
comp=Z,30nm,1.1s
AS31 Alice Springs 50.49 171 eP P 21 41 27.2 +0.8
comp=Z,8.3nm,1.2s
ASAR Alice Springs 50.49 171 P P 21 41 27.2 +0.8
comp=Z,14nm,0.9s,baz=358,slow=14,SNR=95
ASAR PcP PcP 21 42 43.1 +0.4
comp=Z,4.8nm,0.8s,baz=351,slow=2.4,SNR=11
AS01 Alice Springs 50.50 171 eP P 21 41 26.3 -0.1
SVE Sverdlovsk 54.94 322 eP P 21 41 59.0 +0.3
ABKAR Akbulak array 55.16 313 eP P 21 42 00.6 +0.1
ARU Arti 56.06 322 *d* iP P 21 42 05.4 -1.3
ARU *PP pP 21 42 36.9 +0.8
ARU 21 42 59.6
ARU 21 44 10.2
ARU S S 21 49 44.9 -0.7
ARU SS SS 21 53 30.6 -2.6
ARU pmax pmax
comp=Z,17nm,1.7s
ARU Arti 56.06 322 eP P 21 42 05.3 -1.4
comp=Z,9.2nm,1.3s
GEYT Alibeck 57.64 300 P P 21 42 18.7 +0.4
comp=Z,1.1nm,0.5s,baz=61,slow=12,SNR=3.9
GEYT pP pP 21 42 48.1 +0.2
comp=Z,8.0nm,0.9s,baz=60,slow=3.6,SNR=9.2
BBOO Buckleboo 59.79 171 eP P 21 42 33.8 +0.9
comp=Z,34nm,0.8s
NWAO Narrogin (SRO) 59.82 189 P P 21 42 33.5 +0.4
comp=Z,14nm,0.9s,baz=291,slow=8.6,SNR=5.1
STKA Stephens Creek 59.93 165 P P 21 42 34.4 +0.5
comp=Z,25nm,0.7s,baz=345,slow=6.4,SNR=62
STKA Stephens Creek 59.93 165 eP P 21 42 34.7 +0.8
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 59.93 165 eP P 21 42 34.7 +0.8
comp=Z,5.5nm,0.8s
TT01 Tatalina 61.08 31 eP P 21 42 41.4 0.0
TTA Tatalina 61.09 31 eP P 21 42 41.9 +0.4
TTA pmax pmax
comp=Z,7.0nm,0.7s
TTA Tatalina 61.09 31 eP P 21 42 41.9 +0.4
comp=Z,6.6nm,0.7s
SVW2 Sparrevohn 61.38 33 eP P 21 42 44.4 +1.0
comp=Z,14nm,0.6s
RSO Redoubt South 62.82 33 eP P 21 42 53.7 +0.4
PPLA Purkeypile 62.84 31 eP P 21 42 54.5 +1.2
comp=Z,12nm,0.7s
SPU Mount Spurr 63.08 33 eP P 21 42 55.5 +0.6
KDAK Kodiak Island 63.24 36 *i* P P 21 42 55.7 -0.1
BPAW Bear Paw Mtn. 63.25 29 eP P 21 42 56.5 +0.6
comp=Z,9.3nm,0.6s
MLY Manley 63.26 28 eP P 21 42 56.8 +0.8
comp=Z,13nm,0.7s
COLD Coldfoot 63.27 26 eP P 21 42 57.0 +1.0

	comp=Z,3.1nm,0.8s								
KTH	**Kantishna Hill**	**63.34**	**30**	*e*P		**P**	**21 42 57.3**	**+0.8**
	comp=Z,7.1nm,0.7s								
TRF	**Thorofare Moun**	**63.63**	**30**	*e*P		**P**	**21 42 58.8**	**+0.2**
	comp=Z,21nm,1.7s								
SUA	**Susitna One**	**63.67**	**32**	*e*P		**P**	**21 42 58.8**	**0.0**
	comp=Z,30nm,0.7s								
BRLK	**Bradley Lake**	**63.84**	**34**	*e*P		**P**	**21 42 59.6**	**-0.2**
	comp=Z,26nm,0.8s								
MCK	**McKinley**	**64.19**	**29**	*e*P		**P**	**21 43 02.0**	**-0.1**
MCK				pmax	pmax				
	comp=Z,14nm,0.7s								
MCK	**McKinley**	**64.19**	**29**	*e*P		**P**	**21 43 02.0**	**-0.1**
	comp=Z,14nm,0.7s								
RND	**Reindeer**	**64.28**	**30**	*e*P		**P**	**21 43 02.5**	**-0.2**
RND				pmax	pmax				
	comp=Z,39nm,0.6s								
RND	**Reindeer**	**64.28**	**30**	*e*P		**P**	**21 43 02.5**	**-0.2**
	comp=Z,38nm,0.6s								
MDM	**Murphy Dome**	**64.33**	**28**	*e*P		**P**	**21 43 03.5**	**+0.6**
	comp=Z,31nm,0.7s								
PMR	**Palmer**	**64.42**	**32**	*e*P		**P**	**21 43 03.1**	**-0.4**
PMR				pmax	pmax				
	comp=Z,8.0nm,0.7s								
PMR	**Palmer**	**64.42**	**32**	*e*P		**P**	**21 43 03.1**	**-0.4**
	comp=Z,7.6nm,0.7s								
WRH	**Wood River Hil**	**64.46**	**29**	*e*P		**P**	**21 43 03.6**	**-0.1**
	comp=Z,8.7nm,0.9s								
COLA	**College**	**64.50**	**28**	*c i*P		**P**	**21 43 04.8**	**+0.8**
COLA				pmax	pmax				
	comp=Z,7.0nm,0.7s								
CCB	**Clear Creek Bu**	**64.55**	**28**	*e*P		**P**	**21 43 03.9**	**-0.4**
	comp=Z,5.1nm,0.6s								
SML	**Sawmill**	**64.76**	**32**	*e*P		**P**	**21 43 05.8**	**0.0**
SML				pmax	pmax				
	comp=Z,11nm,0.8s								
SML	**Sawmill**	**64.76**	**32**	*e*P		**P**	**21 43 05.8**	**0.0**
	comp=Z,12nm,0.8s								
IL1	**Eielson Array**	**64.92**	**28**	*e*P		**P**	**21 43 04.9**	**-1.9**
ILAR	**Eielson Array**	**64.92**	**28**	P		**P**	**21 43 06.0**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=253,slow=4.3,SNR=32								
ILAR	**Eielson Array**	**64.92**	**28**	P		**P**	**21 43 06.0**	**-0.8**
ILAR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ILB	**Eielson Array**	**64.92**	**28**	*e*P		**P**	**21 43 06.2**	**-0.6**
FYU	**Fort Yukon**	**65.30**	**26**	*e*P		**P**	**21 43 10.3**	**+1.2**
	comp=Z,11nm,0.8s								
KLMR	**Klimovskoe**	**65.64**	**328**	*e*P		**P**	**21 43 07.3**	**-4.1**
KLMR				*e**PP		**pP**	**21 43 39.3**	**-2.4**
KLMR				pmax	pmax				
	comp=Z,5.0nm,1.4s								
KLU	**Klutina**	**65.95**	**32**	*e*P		**P**	**21 43 13.9**	**+0.4**
	comp=Z,12nm,0.7s								
DIV	**Divide**	**66.09**	**32**	*e*P		**P**	**21 43 15.2**	**+0.8**
	comp=Z,25nm,0.7s								
DOT	**Dot Lake**	**66.35**	**29**	*e*P		**P**	**21 43 15.7**	**-0.3**
	comp=Z,44nm,0.7s								
VRH	**Novokhopyorsk**	**66.49**	**317**	*e*P		**P**	**21 43 15.9**	**-1.1**
MENT	**Mentasta**	**66.65**	**30**	*e*P		**P**	**21 43 18.3**	**+0.4**
	comp=Z,17nm,0.7s								
BMRM	**Bremner River**	**66.68**	**32**	*e*P		**P**	**21 43 18.6**	**+0.4**
	comp=Z,15nm,0.7s								
RAGM	**Ragged Mountai**	**66.78**	**33**	*e*P		**P**	**21 43 19.7**	**+0.9**
	comp=Z,17nm,0.8s								
MSVF	**Nonsavu**	**66.80**	**126**	*e*P		**P**	**21 43 21.4**	**+1.9**
MSVF				pmax	pmax				
	comp=Z,28nm,0.9s								
MSVF	**Nonsavu**	**66.80**	**126**	*e*P		**P**	**21 43 21.4**	**+1.9**
	comp=Z,28nm,0.9s								
ZEI	**Tsey**	**67.17**	**308**	*e*P		**P**	**21 43 19.9**	**-1.9**
EGAK	**Eagle**	**67.33**	**28**	*e*P		**P**	**21 43 22.5**	**+0.4**
	comp=Z,7.8nm,0.8s								
CRQM	**Cirque**	**67.43**	**32**	*e*P		**P**	**21 43 23.7**	**+0.7**
	comp=Z,14nm,0.8s								
KBZ	**Khabaz**	**67.62**	**309**	P		**P**	**21 43 24.4**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=178,slow=24,SNR=7.6								
KBZ				pP		**pP**	**21 43 54.5**	**-0.2**
	comp=Z,13nm,0.9s,baz=18,slow=23,SNR=11								
KIV	**Kislovodsk**	**67.70**	**309**	*c e*P		**P**	**21 43 25.4**	**+0.4**
KIV				*e**PP		**pP**	**21 43 56.8**	**+1.4**
KIV				*e*SS		SS	21 56 34.2	-1.4
KIV				pmax	pmax				
	comp=Z,15nm,1.0s								
KIV	**Kislovodsk**	**67.70**	**309**	*e*P		**P**	**21 43 25.6**	**+0.6**
KIV				*e*			21 43 54.7	
LPSR	**Galich'ya Gora**	**67.82**	**319**	*e*P		**P**	**21 43 29.0**	**+3.6**
NEY	**Neytrino**	**67.87**	**308⇓**	*e*P		**P**	**21 43 25.8**	**-0.4**
NEY				pmax	pmax				
	comp=Z,2.0nm,1.4s								
VSR	**Storozhevoye**	**68.04**	**317**	*e*P		**P**	**21 43 26.0**	**-0.8**
DAWY	**Dawson**	**68.25**	**28**	*e*P		**P**	**21 43 28.6**	**+0.6**
	comp=Z,6.6nm,0.7s								
OBN	**Obninsk**	**68.50**	**322⇑**	*e*P		**P**	**21 43 28.8**	**-0.8**
OBN				*e**PP		**pP**	**21 44 00.8**	**+0.7**
OBN				*e*			21 46 04.5	
OBN				*e*S		SKiKP	21 52 47.9	-22
OBN				pmax	pmax				
	comp=Z,23nm,1.7s								
ARCES	**ARCESS Array B**	**69.05**	**338**	P		**P**	**21 43 32.5**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=61,slow=7.3,SNR=3.3								
ARCES				LR		LR	22 19 09.3		
	comp=Z,13nm,18.1s,baz=44,slow=40								
INK	**Inuvik**	**69.23**	**23**	P		**P**	**21 43 33.7**	**-0.1**
	comp=Z,10nm,0.8s,baz=292,slow=8.2,SNR=17								
INK	**Inuvik**	**69.23**	**23**	*e*P		**P**	**21 43 34.3**	**+0.4**
INK				pmax	pmax				
	comp=Z,16nm,0.9s								
INK	**Inuvik**	**69.23**	**23**	*e*P		**P**	**21 43 34.3**	**+0.4**
	comp=Z,16nm,0.9s								
FINES	**FINESS Array B**	**71.71**	**330**	P		**P**	**21 43 48.0**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=59,slow=5.4,SNR=17								
FINES				pP		**pP**	**21 44 20.0**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=75,slow=10,SNR=5.9								
FINES				LR		LR	22 18 52.9		
	comp=Z,35nm,19.1s,baz=40,slow=39								
FINES	**FINESS Array B**	**71.71**	**330**	P		**P**	**21 43 48.0**	**-1.1**
FINES				pmax	pmax				
	comp=Z,5.0nm,0.8s								
FINES				MLR		MLR			
	comp=Z,35nm,19.1s								
AKASG	**Malin Array Be**	**74.15**	**319**	P		**P**	**21 44 03.0**	**-0.6**
	comp=Z,2.5nm,0.5s,baz=54,slow=5.9,SNR=17								
AKASG				pP		**pP**	**21 44 34.6**	**0.0**
	comp=Z,3.6nm,0.7s,baz=54,slow=6.2,SNR=5.1								
AKASG	**Malin Array Be**	**74.15**	**319**	*i* P		**P**	**21 44 03.0**	**-0.6**
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.5s								
KIEV	**Kiev**	**74.17**	**319⇑**	*i*P		**P**	**21 44 03.0**	**-0.7**
KIEV				pmax	pmax				
	comp=Z,11nm,1.5s								
KIEV	**Kiev**	**74.17**	**319**	*e*P		**P**	**21 44 02.4**	**-1.4**
	comp=Z,7.7nm,0.9s								
AK11	**Malin Array Si**	**74.20**	**319**	*e*P		**P**	**21 44 03.1**	**-0.8**
AK11				*e*pP		**pP**	**21 44 36.8**	**+1.9**
DLBC	**Dease Lake**	**74.48**	**32**	*e*P		**P**	**21 44 07.6**	**+2.1**
	comp=Z,14nm,1.7s								
BR131	**Keskin Array S**	**75.47**	**307**	*e*P		**P**	**21 44 11.6**	**-0.1**
BRTR	**Keskin Array B**	**75.47**	**307**	P		**P**	**21 44 11.0**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=72,slow=6.1,SNR=12								
BRTR				pP		**pP**	**21 44 43.1**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=101,slow=5.2,SNR=4.8								
BRTR	**Keskin Array B**	**75.47**	**307**	*i* P		**P**	**21 44 11.5**	**-0.2**
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
BR231	**Keskin MP Arra**	**76.04**	**308**	*e*P		**P**	**21 44 11.8**	**-3.1**
SUW	**Suwalki**	**76.17**	**324**	*e*P		**P**	**21 44 14.8**	**-0.4**
SUW	**Suwalki**	**76.17**	**324**	*e*P		**P**	**21 44 14.8**	**-0.4**
CFR	**Carcaliu**	**77.03**	**314⇓**	*i*P		**P**	**21 44 20.0**	**-0.2**
CFR	**Carcaliu**	**77.03**	**314**	⇓P		**P**	**21 44 20.0**	**-0.2**
TIRR	**Tirgusor**	**77.16**	**313**	*e*P		**P**	**21 44 19.4**	**-1.5**
TIRR				*e*			21 44 52.6	
TIRR	**Tirgusor**	**77.16**	**313**	*e*P		**P**	**21 44 19.4**	**-1.5**
TIRR				*e*			21 44 52.6	
TESR	**Tescani**	**77.42**	**316⇑**	*i*P		**P**	**21 44 22.5**	**+0.2**
VRI	**Vrincioaia**	**77.64**	**315⇑**	*i*P		**P**	**21 44 24.7**	**+1.1**
VRI	**Vrincioaia**	**77.64**	**315**	⇑P		**P**	**21 44 24.7**	**+1.1**
BUR08	**Bucovina Ar. S**	**77.82**	**317**	*e*P		**P**	**21 44 24.8**	**+0.1**
BUR08				*e*pP		**pP**	**21 44 57.6**	**+1.8**
BURAR	**Bucovina Array**	**77.82**	**317⇑**	*i*P		**P**	**21 44 25.1**	**+0.4**
BURAR	**Bucovina Array**	**77.82**	**317**	⇑P		**P**	**21 44 25.1**	**+0.4**
NB2	**NORSAR Subarra**	**78.24**	**333**	P		**P**	**21 44 25.7**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=56,slow=5.9								
NB2	**NORSAR Subarra**	**78.24**	**333**	P		**P**	**21 44 25.3**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=54,slow=5.6								
NOA	**NORSAR Array B**	**78.24**	**333**	P		**P**	**21 44 25.1**	**-1.6**
	comp=Z,1.8nm,0.9s,baz=57,slow=5.0,SNR=3.7								
NOA				pP		**pP**	**21 44 59.2**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=55,slow=5.4,SNR=5.9								
NOA				LR		LR	22 23 26.6		
	comp=Z,19nm,19.1s,baz=115,slow=39								
MLR	**Muntele Rosu**	**78.30**	**315⇑**	*i*P		**P**	**21 44 27.6**	**+0.2**
MLR	**Muntele Rosu**	**78.30**	**315**	⇑P		**P**	**21 44 27.6**	**+0.2**
MLR	**Muntele Rosu**	**78.30**	**315**	*e*P		**P**	**21 44 27.6**	**+0.2**
	comp=Z,7.9nm,1.2s								
KWP	**Kalwaria Pacla**	**78.40**	**320**	*e*P		**P**	**21 44 28.4**	**+0.6**
KWP	**Kalwaria Pacla**	**78.40**	**320**	⇓*i*P		**P**	**21 44 28.3**	**+0.6**
KWP	**Kalwaria Pacla**	**78.40**	**320**	⇓P		**P**	**21 44 28.3**	**+0.6**
YKA	**Yellowknife Ar**	**78.91**	**24**	P		**P**	**21 44 30.5**	**+0.3**
	comp=Z,12nm,0.7s,baz=305,slow=5.2,SNR=55								
KOLS	**Kolonicke sedl**	**78.98**	**319**	*e*P		**P**	**21 44 30.9**	**0.0**
KOLS	**Kolonicke sedl**	**78.98**	**319**	*e*P		**P**	**21 44 30.9**	**0.0**
UZH	**Uzhgorod**	**79.11**	**319**	*e*P		**P**	**21 44 31.0**	**-0.6**
ARR	**Arges**	**79.18**	**315⇑**	*i*P		**P**	**21 44 32.0**	**-0.2**
CRVS	**Cervenica-Dubn**	**79.47**	**320**	*e*P		**P**	**21 44 33.7**	**+0.1**
CRVS	**Cervenica-Dubn**	**79.47**	**320**	*e*P		**P**	**21 44 33.7**	**+0.1**
OJC	**Ojcow**	**79.78**	**321**	*e*P		**P**	**21 44 35.7**	**+0.5**
OJC	**Ojcow**	**79.78**	**321**	*e*P		**P**	**21 44 35.6**	**+0.4**
OJC				pmax	pmax				
	comp=Z,8.0nm,0.9s								
OJC	**Ojcow**	**79.78**	**321**	*e*P		**P**	**21 44 35.6**	**+0.4**
	comp=Z,7.6nm,0.9s								
BZS	**Buzias**	**80.94**	**317⇑**	*i*P		**P**	**21 44 40.6**	**-0.9**
BZS	**Buzias**	**80.94**	**317**	⇑P		**P**	**21 44 40.6**	**-0.9**
VYHS	**Vyhne**	**81.18**	**320**	*e*P		**P**	**21 44 43.4**	**+0.6**
VYHS				pmax	pmax				
	comp=Z,4.0nm,1.2s								
VYHS	**Vyhne**	**81.18**	**320**	*e*P		**P**	**21 44 43.4**	**+0.6**
VYHS				*e*			21 45 16.2		
KSP	**Ksiaz**	**81.39**	**323**	*e*P		**P**	**21 44 44.1**	**+0.3**
KSP	**Ksiaz**	**81.39**	**323**	*e*P		**P**	**21 44 44.1**	**+0.3**
BRG	**Berggiesshubel**	**82.63**	**324**	*e*P		**P**	**21 44 50.4**	**+0.1**
	comp=Z,4.2nm,1.0s								
BRG	**Berggiesshubel**	**82.63**	**324**	*e*P		**P**	**21 44 50.4**	**+0.1**
BRG				pmax	pmax				
	comp=Z,4.0nm,1.0s								
CLL	**Collm**	**82.88**	**324**	*i* P		**P**	**21 44 51.6**	**+0.1**
CLL				*i*			21 45 24.7		
	comp=Z,9.0nm,1.1s								
GERES	**GERESS Array B**	**83.88**	**322**	P		**P**	**21 44 56.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=46,slow=5.6,SNR=4.9								
GERES				pP		**pP**	**21 45 28.7**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=64,slow=3.1,SNR=3.7								
FUORN	**Ofenpass-Fuorn**	**87.06**	**322**	*e*P		**P**	**21 45 13.3**	**+0.4**
	comp=Z,8.9nm,0.9s								
FUORN				*e*pP		**pP**	**21 45 47.1**	**+2.4**
LRM	**Limekiln Ridge**	**90.36**	**37**	*e*P		**P**	**21 45 29.5**	**+1.1**
LRM				*e*pP		**pP**	**21 45 58.7**	**-1.7**
RLMT	**Red Lodge**	**92.50**	**36**	*e*P		**P**	**21 45 37.6**	**-0.8**
	comp=Z,15nm,1.0s								
FXWY	**Fox Creek**	**92.55**	**38**	*e*P		**P**	**21 45 36.1**	**-2.5**
	comp=Z,3.7nm,0.6s								
PV10	**Paradox Valley**	**97.16**	**41**	*e*P		Pdif	21 46 00.7	+0.8

IDC ***17*** *21:34:19.7±1.1, 55.57S×28.56W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.9/17, mbtmp4.0/3, MS3.4/3, Ms1 3.4/3, ms1mx3.2/15, Error ellipse: s-maj=47.2km s-min=32.4km az=89.0*

ISCJB ***17*** *21:34:23.8±0.7, 55.7S±0.1×28.6W±0.2, h45km, mb4.1/10, MS3.4/3, Error ellipse: s-maj=20.0km s-min=11.9km az=148.4*

NEIC ***17*** *21:34:24.7±0.5, 55.67S×28.56W, h35km, mb4.3/8, Error ellipse: s-maj=16.1km s-min=10.0km az=57.0*

ISC 17 21:34:25.9±0.8, 55.7S±0.1×28.6W±0.1, h45km, n24, σ1s01/16, mb4.0/10, MS3.4/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.73**	**284**	*e*	Pn	**Pn**		**21 35 33.9**	**-0.7**
SNAA	**Sanae**	**19.41**	**156**	*e*	P	**P**		**21 38 46.0**	**-1.9**
	216nm,0.6s								
PMSA	**Palmer Station**	**19.53**	**228**	*e*	P	**P**		**21 38 49.2**	**+0.1**
	33nm,1.1s								
CPUP	**Villa Florida**	**35.96**	**313**		LR	LR		21 56 04.8	
	comp=Z,61nm,18.1s,baz=195,slow=36								
MAW	**Mawson**	**40.93**	**144**		LR	LR		21 57 34.5	
	comp=Z,68nm,19.2s,baz=232,slow=34								
LVC	**Limon Verde**	**44.41**	**301**	*e*	P	**P**		**21 42 32.6**	**+0.2**
	1.1nm,0.5s								
SBA	**Scott Base**	**46.39**	**184**	*e*	P	**P**		**21 42 47.7**	**+0.7**
	0.9nm,0.8s								
VNDA	**Vanda**	**46.90**	**183**		P	**P**		**21 42 51.6**	**+0.6**
	0.9nm,0.7s,baz=187,slow=7.4,SNR=7.0								
H10S2	**ASCENSION HYDR**	**47.90**	**19**		T	T		22 34 50.7	
	baz=191								
H10S3	**ASCENSION HYDR**	**47.90**	**19**		T	T		22 34 51.0	
	baz=191								
H10S1	**ASCENSION HYDR**	**47.92**	**19**		T	T		22 34 52.2	
	baz=191								
H10N1	**ASCENSION HYDR**	**49.02**	**19**		T	T		22 36 17.1	
	baz=195								
H10N3	**ASCENSION HYDR**	**49.02**	**19**		T	T		22 36 13.8	
	baz=195								
H10N2	**ASCENSION HYDR**	**49.03**	**19**		T	T		22 36 19.6	
	baz=195								
LPAZ	**La Paz**	**49.50**	**307**		P	**P**		**21 43 12.7**	**+0.3**
	1.6nm,0.8s,baz=152,slow=5.3,SNR=4.3								
LPAZ					LR	LR		22 05 24.3	
	comp=Z,24nm,19.3s,baz=177,slow=38								
SAML	**Samuel**	**53.97**	**316**	*e*	P	**P**		**21 43 45.0**	**0.0**
	1.5nm,0.8s								
CASY	**Casey**	**54.53**	**161**	*e*	P	**P**		**21 43 48.8**	**+0.3**
	0.4nm,0.9s								
OTAV	**Otavalo**	**68.77**	**305**	*e*	P	**P**		**21 45 26.7**	**+1.0**
	2.6nm,0.6s								
TORD	**Torodi Ar. Bea**	**73.15**	**31**		P	**P**		**21 45 50.8**	**-0.7**
	1.5nm,0.8s,baz=200,slow=6.0,SNR=7.9								
SDV	**Santo Domingo**	**73.17**	**316**	*e*	P	**P**		**21 45 51.0**	**-0.9**
	7.6nm,0.4s								
SJG	**San Juan**	**80.06**	**324**	*e*	P	**P**		**21 46 31.0**	**+0.5**
	8.9nm,0.9s								
ILAR	**Eielson Array**	**149.26**	**312**		PKPbc	**PKPbc**		**21 54 07.3**	**-0.6**
	0.9nm,0.8s,baz=112,slow=1.4,SNR=8.0								
BPAW	**Bear Paw Mtn.**	**150.87**	**310**	*e*	PKPbc	**PKPbc**		**21 54 11.1**	**-0.7**
SONM	**Songino Array**	**151.52**	**87**		PKPbc	**PKPbc**		**21 54 16.1**	**+2.1**
	0.3nm,0.4s,baz=212,slow=1.2,SNR=2.1								

CSEM ***17*** *22:03:50.0, 35.63N×27.10E, h24km, ML2.4/1*

ATH 17 22:03:50.0, 35.63N×27.10E, h24km±2km, ML2.4/1, Error ellipse: s-maj=6.7km s-min=1.2km az=148.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.10**	**150**	P		P	Pb	22 03 54.7	+0.2
KARP				S		S	Sb	22 03 56.8	-0.7
KARP	**Karpathos**	**0.10**	**150**	P		P	Pb	22 03 54.7	+0.2
KARP				S		S	Sb	22 03 56.8	-0.7
KARP				AML		AML		22 03 57.6	
	comp=N,3336μm,0.2s								
KARP				AML		AML		22 03 57.7	
	comp=E,3134μm,0.1s								
ZKR	**Zakros**	**0.89**	**235**	P		P	Pb	22 04 06.9	+0.1
ZKR				S		S	Sn	22 04 20.9	+1.7
ZKR	**Zakros**	**0.89**	**235**	P		P	Pb	22 04 06.9	+0.1
ZKR				S		S	Sn	22 04 20.9	+1.7
ARG	**Arkhangelos**	**1.01**	**55**	P		P	Pb	22 04 09.4	+0.5
ARG				S		S	Sn	22 04 23.5	+1.1
NPS	**Neapolis**	**1.27**	**254**	P		P	Pb	22 04 14.8	+1.5
NPS				S		S	Sb	22 04 31.0	+1.8
NPS	**Neapolis**	**1.27**	**254**	P		P	Pb	22 04 14.8	+1.5
NPS				S		S	Sb	22 04 31.0	+1.7
LAST	**Lasithi**	**1.41**	**251**	P		P	Pb	22 04 17.1	+1.4
LAST				S		S	Sb	22 04 33.8	+0.6
LAST	**Lasithi**	**1.41**	**251**	P		P	Pb	22 04 17.1	+1.5
IDI	**Anoyia**	**1.84**	**260**	P		P	Pn	22 04 21.6	+1.4
IDI	**Anoyia**	**1.84**	**260**	P		P	Pn	22 04 21.6	+1.4

IDC 17 22:07:59.4±3.3, 23.75S×69.84E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/41, mbtmp3.7/5, Error ellipse: s-maj=117.4km s-min=33.4km az=42.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**58.18**	**104**	P		P	P	22 17 55.6	0.0
	0.4nm,0.7s,baz=249,slow=6.7,SNR=4.4								
WRAB	**Tennant Creek**	**59.56**	**100**	*i* P		P		22 18 10.5	+5.3
MKAR	**Makanchi Array**	**71.11**	**9**	P		P		22 19 19.6	+0.1
	0.8nm,0.7s,baz=196,slow=5.6,SNR=6.8								
BRTR	**Keskin Array B**	**71.61**	**331**	P		P		22 19 22.9	+0.1
	0.3nm,0.6s,baz=149,slow=5.9,SNR=3.4								
KURBB	**Kurchatov Arra**	**74.44**	**6**	P		P		22 19 39.0	-0.1
	0.4nm,0.8s,baz=204,slow=6.7,SNR=5.4								
ZALV	**Zalesovo Beam**	**78.45**	**9**	P		P		22 20 01.7	0.0
	0.5nm,0.3s,baz=190,slow=6.9,SNR=3.7								

IDC ***17*** *22:08:17.8±0.5, 23.91S×69.60E, h0km, mb4.3/32, mb1 4.4/32, mb1mx4.4/40, mbtmp4.3/32, MS5.0/24, Ms1 5.0/24, ms1mx4.9/30, Error ellipse: s-maj=14.6km s-min=13.1km az=36.0*

BJI ***17*** *22:08:17.4, 23.88S×69.02E, h14km, mb4.8/60, mB5.3/50, Ms5.3/61, Ms7 5.0/60*

MOS ***17*** *22:08:19.4±1.1, 23.91S×69.65E, h17km, mb5.3/43, MS4.6/7, Error ellipse: s-maj=11.3km s-min=5.9km az=104.7*

ISCJB ***17*** *22:08:19.4±0.2, 23.93S±0.04×69.59E±0.04, h17km, mb4.9/120, MS5.0/31, Error ellipse: s-maj=6.1km s-min=5.3km az=1.5*

GCMT ***17*** *22:08:19.9±0.1, 23.77S×69.51E, h12km, MW5.4/123, Moment Tensor Solution. s93,c137; s123,c252; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr-1.43±.02; Mθθ0.35±.01; Mϕϕ1.08±.01; Mrθ0.17±.04; Mθϕ-0.57±.01; Mϕr0.53±.04; Best double couple: M0 1.51400×1017 NP1:ϕs166.00000°, δ54.00000°, λ-73.00000°. NP2:ϕs318.00000°, δ39.00000°, λ-112.00000°. Principal axes: T 1.4460, Plg8.0000°, Azm244.0000°; N 0.1330, Plg14.0000°, Azm336.0000°; P -1.5820, Plg74.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *22:08:19.9±0.2, 23.88S×69.53E, h10km, mb5.1/53 Error ellipse: s-maj=7.2km s-min=5.9km az=187.0*

ISC 17 22:08:20.9±0.6, 23.95S±0.05×69.44E±0.05, h15km±3km, h14km:pP-P, n348, σ1s59/377, mb5.0/120, MS5.0/32, 10C-14D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**11.65**	**286**	*e*	Pn	**Pn**		**22 11 07.5**	**+0.7**
H08S1	**Diego Garcia H**	**16.47**	**11**		T	T		22 28 56.9	
	baz=191,slow=76,SNR=1059								
H08S2	**Diego Garcia H**	**16.47**	**11**		T	T		22 28 58.5	
	baz=191,slow=76,SNR=1451								
H08S3	**Diego Garcia H**	**16.49**	**11**		T	T		22 29 00.0	
	baz=191,slow=76,SNR=724								
H08N3	**Diego Garcia H**	**17.56**	**5**		T	T		22 30 26.2	
	baz=169,slow=72,SNR=13								
H08N1	**Diego Garcia H**	**17.57**	**5**		T	T		22 30 31.9	
	baz=169,slow=72,SNR=13								
H08N2	**Diego Garcia H**	**17.58**	**5**		T	T		22 30 28.3	
	baz=169,slow=72,SNR=17								
ABPO	**Ambohimpanom**	**21.24**	**279**	*e*	P	**P**		**22 13 07.3**	**+0.5**
ABPO				pmax	pmax				
	comp=Z,135nm,1.6s								
ABPO	**Ambohimpanom**	**21.24**	**279**	*e*	P	**P**		**22 13 07.3**	**+0.5**
	comp=Z,135nm,1.6s								
OPO	**Ambohidratompo**	**21.41**	**280**	P		**P**		**22 13 10.6**	**+2.0**
	comp=Z,5.0nm,0.9s,baz=16,slow=1.6,SNR=9.6								
PAF	**Port-aux-Franc**	**25.36**	**179**	*e*	P	**P**		**22 13 47.9**	**+0.6**
PAF				pmax	pmax				
	comp=Z,413nm,1.4s								
PAF	**Port-aux-Franc**	**25.36**	**179**	*e*	P	**P**		**22 13 47.9**	**+0.6**
	comp=Z,413nm,1.4s								
PALK	**Pallekele**	**32.92**	**21**		LR	LR		22 24 46.9	
	comp=Z,5μm,21.9s,baz=119,slow=30								
GSI	**Gunungsitoli**	**37.11**	**51**	*e*	P	**P**		**22 15 30.4**	**-0.8**
	comp=Z,28nm,1.2s								
PDSI	**Padang**	**37.78**	**57**	P		P		22 15 41.9	+5.0
	comp=Z,8.5nm,1.4s								
PPI	**Padang Panjang**	**38.02**	**57**	P		P		22 15 43.7	+4.8
	comp=Z,16nm,1.1s								
MNSI	**Mandailing Nat**	**38.22**	**54**	P		P		22

comp=Z,28nm,2.2s,comp=Z,7µm
KAPI Kappang 51.89 77 *e*P **P 22 17 27.4 -1.9**
comp=Z,49nm,1.7s
FITZ Fitzroy Crossi 52.50 95 *e*P **P 22 17 33.2 -0.6**
comp=Z,23nm,1.3s
MMRI Maumere 52.61 82 *e*P **P 22 17 33.4 -1.3**
comp=Z,124nm,1.3s
KOLN Koldanda 53.20 16 *e*P **P 22 17 37.7 -1.2**
comp=Z,40nm,0.8s
RAMN Ramite 53.24 19 *e*P **P 22 17 40.1 +0.8**
comp=Z,40nm,0.9s
PYUN Piuthan 53.37 15 *e*P **P 22 17 39.2 -1.0**
comp=Z,61nm,0.9s
DMN Daman 53.44 17 *e*P **P 22 17 40.6 -0.2**
comp=Z,73nm,1.0s
PKIN Phulchoki 53.49 18 *e*P **P 22 17 41.4 +0.3**
comp=Z,41nm,1.7s
KKN Kakani 53.66 17 *e*P **P 22 17 42.0 -0.3**
comp=Z,53nm,1.0s
GKN Gorkha 53.69 17 *e*P **P 22 17 42.0 -0.5**
comp=Z,40nm,1.0s
SHL Shillong 53.80 25 *e*P **P 22 17 47.0 +3.6**
KKM Kota Kinabalu 54.48 63 *e*P **P 22 17 47.0 -1.5**
comp=Z,26nm,1.2s
LUWI Luwuk 56.39 74 *e*P **P 22 18 00.4 -1.7**
comp=Z,47nm,1.0s
NVL N'lazarevskaya 57.10 199 *e*P **P 22 18 09.4 +3.1**
NVL *e*S S 22 26 11.4 +11
LSA Lhasa 57.27 22 P **P 22 18 09.0 +0.4**
LSA PMZ
comp=Z,12nm,3.0s
LSA Lhasa 57.27 22 *e*P **P 22 18 08.2 -0.5**
LSA pmax pmax
comp=Z,82nm,2.0s
LSA Lhasa 57.27 22 *e*P **P 22 18 08.2 -0.5**
comp=Z,82nm,2.0s
QIZ Qiongzhong 58.11 46 P **P 22 18 11.8 -2.4**
QIZ S **S 22 26 20.6 +5.5**
QIZ SS **SS 22 30 12.5 +5.5**
QIZ PMZ
comp=Z,19nm,2.0s
QIZ LN
comp=Z,1µm,18.4s
QIZ LE
comp=Z,850nm,18.4s
QIZ LZ
comp=Z,2µm,17.8s
KBL Kabul 58.17 360 *e*P **P 22 18 14.7 +0.2**
KBL pmax pmax
comp=Z,35nm,1.1s
KBL Kabul 58.17 360 *e*P **P 22 18 14.7 +0.2**
comp=Z,35nm,1.1s
KMI Kunming 58.48 36 P **P 22 18 17.9 +1.0**
KMI pP sP 22 18 23.8 +0.4
KMI sP pP 22 18 26.3 +4.7
KMI S **S 22 26 21.3 +1.1**
KMI PMZ
comp=Z,8.0nm,1.5s
KMI PMZ
comp=Z,160nm,4.6s
KMI LN
comp=Z,1µm,18.8s
KMI LE
comp=Z,1µm,19.0s
KMI LZ
comp=Z,2µm,19.0s
ASAR Alice Springs 58.48 104 P **P 22 18 14.4 -2.6**
comp=Z,3.0nm,0.6s,baz=254,slow=6.3,SNR=28
ASAR PcP **PcP 22 19 07.0 -0.5**
comp=Z,1.7nm,0.6s,baz=255,slow=3.9,SNR=4.4
ASAR LR LR 22 39 53.2
comp=Z,2µm,21.5s,baz=274,slow=32
AS31 Alice Springs 58.49 104 *e*P **P 22 18 18.2 +1.2**
comp=Z,2.6nm,0.7s
AS01 Alice Springs 58.53 104 *e*P **P 22 18 16.2 -1.0**
WRA Warramunga Arr 59.87 100 P **P 22 18 25.3 -1.2**
comp=Z,3.8nm,0.8s,baz=256,slow=6.6,SNR=22
WRA LR LR 22 42 05.1
comp=Z,2µm,19.1s,baz=260,slow=34
WRA Warramunga Arr 59.87 100 *e*P **P 22 18 25.9 -0.6**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WB2 Warramunga Arr 59.88 100 *e*P **P 22 18 27.4 +0.8**
comp=Z,23nm,1.1s
WRAB Tennant Creek 59.88 100 *e*P **P 22 18 26.1 -0.6**
comp=Z,14nm,0.8s
GYA Guiyang 61.69 38 *e*P **P 22 18 41.0 +2.2**
GYA PP **PP 22 20 58.9 +4.0**
GYA ScP **ScP 22 23 22.4 +0.9**
GYA S **S 22 27 03.3 +2.1**
GYA SS **SS 22 31 07.4 +4.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.9s
GYA LN
comp=Z,480nm,18.8s
GYA LE
comp=Z,420nm,19.0s
GYA LZ
comp=Z,440nm,19.4s
SNAA Sanae 61.90 200 P **P 22 18 39.5 0.0**
SNAA Sanae 61.90 200 *e*P **P 22 18 39.6 0.0**
SNAA pmax pmax
comp=Z,35nm,1.8s
SNAA Sanae 61.90 200 *e*P **P 22 18 39.5 0.0**
comp=Z,35nm,1.8s
GEYT Alibeck 62.46 350 P **P 22 18 43.9 +0.3**
comp=Z,1.3nm,0.7s,baz=53,slow=17,SNR=5.6
GEYT LR LR 22 42 45.0
comp=Z,623nm,20.5s,baz=120,slow=33
DAV Davao City (W) 62.83 68 LR LR 22 43 40.3
comp=Z,629nm,21.5s,baz=230,slow=34
STKA Stephens Creek 63.22 115 P **P 22 18 48.3 -0.7**
comp=Z,1.2nm,0.5s,baz=284,slow=5.8,SNR=4.4
STKA LR LR 22 43 00.6
comp=Z,2µm,19.6s,baz=252,slow=33
STKA Stephens Creek 63.22 115 *e*P **P 22 18 49.4 +0.4**
STKA pmax pmax
comp=Z,4.0nm,0.9s
KSH Kashi 63.43 6 P **P 22 18 47.8 -2.3**
KSH pP pP 22 18 51.9 -3.0
KSH PcP **PcP 22 19 24.0 -2.9**
KSH PP **PP 22 21 07.8 -2.2**
KSH S **S 22 27 16.3 -6.3**
KSH PMZ
comp=Z,30nm,1.4s
KSH PMZ
comp=Z,250nm,2.9s
KSH LN
comp=Z,680nm,14.9s
KSH LE
comp=Z,370nm,13.0s
KSH LZ
comp=Z,2µm,25.7s
VNA1 Neumayer--Stat 63.55 201 P **P 22 18 49.0 -1.4**
CD2 Chengdu 63.69 33 *e*P **P 22 18 52.0 0.0**
CD2 pP sP 22 18 55.3 -3.2
CD2 S **S 22 27 28.3 +2.2**
CD2 sS sS 22 27 33.8 0.0
CD2 SS **SS 22 31 37.8 +3.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
CD2 LN
comp=Z,1µm,25.3s
CD2 LE
comp=Z,1µm,19.3s
CD2 LZ
comp=Z,1µm,23.8s
IUG luzhnay 65.76 0 *i* P **P 22 19 05.0 -0.3**
comp=Z,238nm,2.0s
QSPA South Pole Qui 66.18 180 *e*P **P 22 19 06.4 -1.5**
comp=Z,179nm,1.4s
ENH Enshi 66.20 37 *e*P **P 22 19 08.7 +0.4**
comp=Z,22nm,1.3s
EKS2 Erkin-Say 66.39 3 *e*P **P 22 19 09.2 -0.2**
EKS2 pmax pmax
comp=Z,17nm,1.1s
EKS2 Erkin-Say 66.39 3 *e*P **P 22 19 09.2 -0.2**
comp=Z,17nm,1.1s
AAK Ala-Archa 66.41 4 P **P 22 19 09.7 +0.1**
comp=Z,1.3nm,0.4s,baz=164,slow=6.5,SNR=12
AAK LR LR 22 45 49.7
comp=Z,967nm,19.6s,baz=176,slow=34

AAK Ala-Archa 66.41 4 *i*P **P 22 19 10.4 +0.8**
AAK pmax pmax
comp=Z,67nm,2.0s
AAK Ala-Archa 66.41 4 *e*P **P 22 19 11.1 +1.5**
comp=Z,32nm,1.6s
FRU Bishkek 66.62 4 *e*P **P 22 19 10.0 -0.7**
FRU pmax pmax
comp=Z,60nm,2.2s
KKAR Karatay Array 66.72 1 *e*P **P 22 19 11.2 -0.2**
KKAR Karatay Array 66.72 1 *e*P **P 22 19 11.2 -0.2**
TKM2 Tokmak 2 66.77 5 *e*P **P 22 19 10.6 -1.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.7s
TKM2 Tokmak 2 66.77 5 *e*P **P 22 19 10.6 -1.3**
comp=Z,9.0nm,0.7s
MDOK Medeo 67.14 6 *e*P **P 22 19 13.4 -0.8**
comp=Z,198nm,2.0s
MDOK *e*S **S 22 28 06.1 -2.0**
MDOK LR LR 22 43 37.4
comp=Z,422nm,18.0s
SATY Saty 67.18 7 *e*P **P 22 19 12.9 -1.5**
comp=Z,314nm,1.9s
SATY *e*S **S 22 28 05.8 -2.7**
SATY LR LR 22 46 12.9
comp=Z,247nm,14.9s
VNDA Vanda 67.32 166 P **P 22 19 14.4 -0.5**
comp=Z,2.6nm,0.9s,baz=278,slow=6.3,SNR=11
VNDA Vanda 67.32 166 *e*P **P 22 19 13.5 -1.3**
VNDA pmax pmax
comp=Z,20nm,1.4s
VNDA Vanda 67.32 166 *e*P **P 22 19 13.4 -1.3**
comp=Z,20nm,1.4s
UZB Uzynbulak 67.34 8 *i* P **P 22 19 14.0 -1.5**
comp=Z,116nm,2.1s
UZB LR LR 22 46 19.8
comp=Z,124nm,15.0s
KPKS Kokpek 67.61 7 *i* P **P 22 19 15.9 -1.2**
comp=Z,180nm,1.6s
KPKS *e*S **S 22 28 12.4 -1.2**
KPKS LR LR 22 46 15.7
comp=Z,327nm,16.2s
GNI Garni 67.80 340 P **P 22 19 19.0 +0.6**
comp=Z,14nm,1.2s,baz=32,slow=19,SNR=5.0
GNI Garni 67.80 340 *e*P **P 22 19 18.8 +0.4**
GNI Garni 67.80 340 *e*P **P 22 19 18.8 +0.4**
comp=Z,916nm,2.2s
KUU Kurty 67.80 5 *e*P **P 22 19 16.4 -1.7**
comp=Z,250nm,1.8s
KUU *e*S **S 22 28 13.3 -2.4**
KUU LR LR 22 46 32.8
comp=Z,295nm,16.6s
LZH Lanzhou 67.99 30 *e*P **P 22 19 20.8 +1.1**
LZH pP sP 22 19 24.1 -2.1
LZH sP pP 22 19 25.5 +1.0
LZH PP **PP 22 21 54.3 +4.2**
LZH *e*S **S 22 28 19.0 +0.4**
LZH sS sS 22 28 26.1 -0.3
LZH *e*SS **SS 22 32 44.0 +2.7**
LZH PMZ
comp=Z,64nm,1.6s
LZH PMZ
comp=Z,320nm,9.0s
LZH LN
comp=Z,600nm,15.0s
LZH LE
comp=Z,590nm,16.0s
LZH LZ
comp=Z,930nm,18.2s
QZH Quanzhou 68.04 48 P P 22 19 11.3 -8.7
QZH PP PP 22 21 38.8 -12
QZH S S 22 28 07.4 -12
SBA Scott Base 68.30 167 *e*P **P 22 19 21.4 +0.5**
SBA pmax pmax
comp=Z,36nm,1.7s
SBA Scott Base 68.30 167 *e*P **P 22 19 21.4 +0.5**
comp=Z,36nm,1.7s
DGRG David-gareji 68.79 341 P **P 22 19 25.0 +0.6**
DGRG David-gareji 68.79 341 P **P 22 19 25.0 +0.6**
XAN Xi'an 68.81 34 P **P 22 19 24.1 -0.6**
XAN pP sP 22 19 28.1 -3.2
XAN sP pP 22 19 30.6 +1.1
XAN PP **PP 22 21 54.1 -3.0**
XAN S **S 22 28 21.8 -6.3**
XAN PMZ
comp=Z,8.0nm,1.3s
XAN PMZ
comp=Z,56nm,3.4s
XAN LN
comp=Z,760nm,18.2s
XAN LE
comp=Z,1µm,18.9s
XAN LZ
comp=Z,1µm,18.9s
GTA Gaotai 69.13 25 *e*P **P 22 19 27.0 +0.3**
GTA pP sP 22 19 31.3 -1.9
GTA sP pP 22 19 34.4 +2.9
GTA S **S 22 28 33.8 +1.9**
GTA sS sS 22 28 42.8 +3.1
GTA PMZ
comp=Z,12nm,1.6s
GTA PMZ
comp=Z,150nm,6.2s
GTA LN
comp=Z,760nm,20.4s
GTA LE
comp=Z,550nm,20.7s
GTA LZ
comp=Z,920nm,22.1s
BGD Bogdanovka 69.17 339 P **P 22 19 28.5 +1.4**
TBLG Delisi 69.24 340 P **P 22 19 29.9 +2.7**
TBLG Delisi 69.24 340 P **P 22 19 29.9 +2.7**
WMQ Urumqi 69.48 14 P **P 22 19 28.4 -0.4**
WMQ pP sP 22 19 33.4 -1.9
WMQ sP pP 22 19 35.8 +2.3
WMQ PP **PP 22 22 04.0 +1.2**
WMQ S **S 22 28 33.6 -2.2**
WMQ SS **SS 22 33 02.4 -1.6**
WMQ PMZ
comp=Z,8.0nm,1.4s
WMQ PMZ
comp=Z,180nm,3.8s
WMQ LN
comp=Z,400nm,15.2s
WMQ LE
comp=Z,280nm,19.2s
WMQ LZ
comp=Z,320nm,19.6s
GUDG Gudauri 69.98 341 P **P 22 19 33.7 +1.6**
ONI Oni 70.42 340 P **P 22 19 35.6 +1.1**
ONI Oni 70.42 340 P **P 22 19 35.6 +1.1**
CTA Charters Tower 70.49 104 LR LR 22 48 11.1
comp=Z,3µm,19.4s,baz=258,slow=34
NCK Nalchik 71.19 340 *e*P **P 22 19 39.6 +0.5**
NCK pmax pmax
comp=Z,29nm,1.6s
NEY Neytrino 71.24 340 *e*P **P 22 19 41.6 +1.9**
MAKZ Makanchi 71.33 9 *e*P **P 22 19 39.8 -0.1**
MAKZ pmax pmax
comp=Z,34nm,1.8s
MAKZ Makanchi 71.33 9 *e*P **P 22 19 39.8 -0.1**
comp=Z,34nm,1.8s
MK01 Makanchi Array 71.34 9 *e*P **P 22 19 37.8 -2.2**
MK31 Makanchi Array 71.36 9 *e*P **P 22 19 38.8 -1.3**
MK31 Makanchi Array 71.36 9 *e*P **P 22 19 38.8 -1.3**
MKAR Makanchi Array 71.36 9 P **P 22 19 38.4 -1.8**
comp=Z,1.4nm,0.4s,baz=201,slow=5.9,SNR=28
MKAR LR LR 22 49 41.1
comp=Z,618nm,20.2s,baz=185,slow=35
MKAR Makanchi Array 71.36 9 *e*P **P 22 19 38.8 -1.3**
MKAR Makanchi Array 71.36 9 *e*P **P 22 19 38.8 -1.3**
BRTR Keskin Array B 71.62 332 P **P 22 19 41.4 -0.6**
comp=Z,4.4nm,0.9s,baz=152,slow=5.6,SNR=23
KBZ Khabaz 71.62 340 P **P 22 19 41.4 -0.2**
comp=Z,6.5nm,1.1s,baz=2.1,slow=24,SNR=12
KIV Kislovodsk 71.89 340 *d i*P **P 22 19 43.9 +0.5**
KIV *e* 22 22 24.8
KIV *i* S **S 22 29 04.0 +0.2**
KIV *i* SS **SS 22 33 39.5 -1.5**
KIV pmax pmax
comp=Z,25nm,1.4s
KIV Kislovodsk 71.89 340 *e*P **P 22 19 42.9 -0.5**
comp=Z,19nm,1.0s
BR231 Keskin MP Arra 72.09 331 *e*P **P 22 19 41.7 -3.0**
ZSN Zaisan 72.33 11 *e*P **P 22 19 45.4 -0.5**
comp=Z,52nm,1.4s

ZSN *e*S **S 22 29 07.0 -1.7**
ZSN LR LR 22 48 24.2
comp=Z,316nm,14.4s
SOC Sochi 72.53 338 *e*P **P 22 19 47.6 +0.4**
SOC *e* 22 22 29.2
SOC *e*PPP PPP 22 24 15.9
SOC *e*S **S 22 29 08.3 -2.7**
SOC *e*SS **SS 22 33 54.6 +3.9**
SOC pmax pmax
comp=Z,13nm,0.6s
SOC MLR MLR
comp=Z,171nm,15.0s
NJ2 Nanjing 73.00 42 *e*P P 22 19 41.8 -8.4
NJ2 S **S 22 29 12.8 -4.1**
ABKAR Akbulak array 73.36 354 *e*P **P 22 19 50.8 -1.1**
TIY Taiyuan 73.45 34 *e*P **P 22 19 53.1 +0.3**
TIY PMZ
comp=Z,220nm,9.2s
TIY LN
comp=Z,650nm,14.8s
TIY LE
comp=Z,320nm,14.1s
TIY LZ
comp=Z,810nm,16.0s
SSE Sheshan 73.83 45 P **P 22 19 54.9 -0.2**
SSE S **S 22 29 25.8 -0.4**
SSE PMZ
comp=Z,17nm,0.7s
SSE PMZ
comp=Z,55nm,4.8s
SSE LN
comp=Z,410nm,18.9s
SSE LE
comp=Z,440nm,18.9s
SSE LZ
comp=Z,550nm,26.9s
ANN Anapa 74.40 337 *d i*P **P 22 19 57.0 -1.1**
ANN *e**PP **sP 22 20 06.4 +1.7**
ANN *e* 22 20 09.9
ANN *e*S **S 22 29 30.5 -1.6**
ANN pmax pmax
comp=Z,95nm,1.9s
SEM Semipalatinsk 74.64 7 *e*P **P 22 19 56.9 -2.5**
SEM LR LR 22 48 45.2
comp=Z,229nm,17.5s
KURBB Kurchatov Arra 74.67 6 P **P 22 19 58.4 -1.2**
comp=Z,2.2nm,0.8s,baz=198,slow=6.5,SNR=23
AKTO Aktyubinsk 74.74 352 P **P 22 19 58.9 -1.1**
comp=Z,3.6nm,0.8s,baz=159,slow=7.1,SNR=20
KURK Kurchatov 74.77 6 *e*P **P 22 19 59.1 -1.0**
KURK pmax pmax
comp=Z,59nm,1.1s
KURK Kurchatov 74.77 6 *e*P **P 22 19 59.1 -1.0**
comp=Z,59nm,1.1s
TIA Tai'an 74.89 38 *e*P **P 22 20 01.4 +0.2**
TIA pP **PcP 22 20 11.8 -3.3**
TIA S **S 22 29 37.9 -0.1**
TIA SKS **SKSac 22 30 07.1 -2.5**
TIA PMZ
comp=Z,10.0nm,1.1s
TIA PMZ
comp=Z,350nm,4.8s
TIA LN
comp=Z,620nm,20.8s
TIA LE
comp=Z,580nm,18.4s
TIA LZ
comp=Z,700nm,18.4s
PMG Port Moresby 75.07 94 LR LR 22 52 25.1
comp=Z,1µm,18.5s,baz=234,slow=35
HHC Hu-ho-hao-te 75.41 32 *e*P **P 22 20 05.3 +1.0**
HHC S **S 22 29 48.8 +4.9**
HHC SS **SS 22 34 34.4 -0.6**
HHC PMZ
comp=Z,17nm,1.0s
HHC PMZ
comp=Z,200nm,7.6s
HHC LN
comp=Z,510nm,18.1s
HHC LE
comp=Z,840nm,18.7s
HHC LZ
comp=Z,460nm,17.3s
TOA0 Torodi Ar. Sit 75.74 292 *e*P **P 22 20 05.8 -0.8**
TORD Torodi Ar. Bea 75.74 292 P **P 22 20 05.7 -0.8**
comp=Z,4.5nm,1.2s,baz=118,slow=3.3,SNR=13
TORD LR LR 22 52 45.3
comp=Z,1µm,18.1s,baz=125,slow=35
SIM Simferopol' 75.76 335 *e*P **P 22 20 05.1 -0.9**
SIM *e*S **S 22 29 46.0 -1.3**
SIM pmax pmax
comp=Z,20nm,1.2s
SIM MLR MLR
comp=Z,130nm,17.4s
ZRNK Zerenda 76.57 360 *e*P **P 22 20 08.9 -1.5**
ZRNK pmax pmax
comp=Z,34nm,1.9s
ZRNK Zerenda 76.57 360 *e*P **P 22 20 08.9 -1.5**
comp=Z,34nm,1.9s
AGG Agios Georgios 76.59 324 *e*P **P 22 20 10.5 -0.4**
AGG pmax pmax
comp=Z,26nm,0.9s
AGG Agios Georgios 76.59 324 *e*P **P 22 20 10.5 -0.4**
comp=Z,26nm,0.9s
BVAR Borovoye Array 76.65 1 P **P 22 20 09.3 -1.6**
comp=Z,1.2nm,0.8s,baz=145,slow=5.4,SNR=7.9
KDZ Kurdzhali 76.95 328 P **P 22 20 14.0 +1.2**
BJI Beijing 77.13 35 P **P 22 20 13.8 0.0**
BJI PP **PP 22 23 09.1 +1.2**
BJI S **S 22 30 01.0 -1.4**
BJI SS **SS 22 35 03.5 +2.9**
BJI PMZ
comp=Z,10.0nm,1.9s
BJI PMZ
comp=Z,200nm,3.6s
BJI LN
comp=Z,780nm,21.2s
BJI LE
comp=Z,990nm,21.2s
BJI LZ
comp=Z,2µm,24.5s
PSN Preselentsi 77.22 331 P **P 22 20 14.5 +0.2**
RZN Rozhen 77.32 327 P **P 22 20 15.0 -0.2**
TAM Tamanrasset 77.54 302 *e*P **P 22 20 19.3 +2.5**
TAM pmax pmax
comp=Z,28nm,1.7s
TAM Tamanrasset 77.54 302 *e*P **P 22 20 19.3 +2.5**
comp=Z,28nm,1.7s
TIRR Tirgusor 77.73 331 *e*P **P 22 20 15.8 -1.3**
TIRR pmax pmax
comp=Z,16nm,0.9s
TIRR Tirgusor 77.73 331 *e*P **P 22 20 15.8 -1.3**
comp=Z,16nm,0.9s
SZH Strazhica 77.93 329 P **P 22 20 18.5 +0.2**
CFR Carcaliu 78.42 332 *i*P **P 22 20 21.3 +0.4**
CFR Carcaliu 78.42 332 ||P **P 22 20 21.3 +0.4**
DBIC Dimbokro 78.50 283 LR LR 22 53 12.0
comp=Z,2µm,18.7s,baz=107,slow=34
ZAA0 Zalesovo Array 78.70 9 *e*P **P 22 20 20.7 -1.6**
ZALV Zalesovo Beam 78.70 9 P **P 22 20 20.6 -1.7**
comp=Z,1.9nm,0.6s,baz=204,slow=3.3,SNR=8.4
VRH Novokhopyorsk 78.71 343 *e*P **P 22 20 21.4 -0.9**
VRH pmax pmax
comp=Z,20nm,1.4s
SONM Songino Array 78.79 24 P **P 22 20 21.7 -1.4**
comp=Z,2.9nm,1.0s,baz=225,slow=4.7,SNR=17
SONM LR LR 22 53 58.4
comp=Z,1µm,21.7s,baz=201,slow=35
SONM Songino Array 78.79 24 *e*P **P 22 20 23.9 +0.8**
SONM pmax pmax
comp=Z,2.0nm,0.8s
MPEP Malo Peshtene 79.05 328 P **P 22 20 24.5 0.0**
ULN Ulaanbaatar 79.07 25 *c i*P **P 22 20 23.1 -1.6**
ULN pmax pmax
comp=Z,21nm,1.7s
ULN Ulaanbaatar 79.07 25 *e*P **P 22 20 25.3 +0.7**
comp=Z,39nm,1.8s
DL2 Dalian 79.33 39 P P 22 20 32.0 +5.9
DL2 Dalian 79.33 39 S **S 22 30 33.3 +7.2**
VSR Storozhevoye 79.44 341 *e*P **P 22 20 26.0 -0.4**
VSR pmax pmax
comp=Z,20nm,1.4s
KIS Kishinev 79.57 333 *e*P **P 22 20 28.0 +0.8**
KIS *e*pP PcP 22 20 54.0 +19
KIS LRM MLR 22 54 18.0

comp=Z,300nm,16.0s
KIS Kishinev 79.57 333 eP P 22 20 28.0 +0.8
KIS e 22 20 40.0
KIS e 22 23 32.0
KIS e 22 30 30.0
KIS e 22 30 50.0
KIS e 22 31 36.0
KIS pmax pmax
comp=Z,300nm,16.0s
VRI Vrincioaia 79.57 331 ⇓iP P 22 20 27.3 0.0
VRI Vrincioaia 79.57 331 ⇓P P 22 20 27.3 0.0
MLR Muntele Rosu 79.63 331 ⇓iP P 22 20 28.5 +0.7
MLR Muntele Rosu 79.63 331 ⇓P P 22 20 28.5 +0.7
TIP Timpagrande 79.80 321 eP P 22 20 29.3 +0.6
comp=Z,35nm,1.7s
ZAK Zakamensk 79.83 21 eP P 22 20 27.4 -1.3
ZAK pmax pmax
comp=Z,5.0nm,2.4s
TESR Tescani 80.11 332 ⇑iP P 22 20 31.1 +1.0
ARR Arges 80.13 330 ⇑iP P 22 20 29.3 -1.1
ARU Arti 80.59 354 P P 22 20 31.4 -1.1
comp=Z,0.8nm,0.3s,baz=164,slow=4.6,SNR=14
ARU Arti 80.59 354 diP P 22 20 32.0 -0.5
ARU 22 23 32.3
ARU S S 22 30 38.7 0.0
ARU pmax pmax
comp=Z,55nm,2.5s
ARU MLR MLR
comp=Z,667nm,19.0s
ARU Arti 80.59 354 eP P 22 20 31.9 -0.6
comp=Z,55nm,1.7s
LPSR Galich'ya Gora 80.74 342 eP P 22 20 33.1 -0.3
LPSR pmax pmax
comp=Z,20nm,1.6s
SVE Sverdlovsk 80.80 355 eP P 22 20 33.8 +0.2
SVE pmax pmax
comp=Z,53nm,2.0s
CUC Castrocucco 80.88 321 eP P 22 20 33.5 -1.0
comp=Z,5.6nm,1.2s
TLY Talaya 81.07 21 P P 22 20 33.9 -1.3
comp=Z,0.7nm,0.4s,baz=197,slow=4.9,SNR=5.1
TLY Talaya 81.07 21 eP P 22 20 34.7 -0.5
TLY e 22 20 42.7
TLY eS S 22 30 33.7 -10
TLY pmax pmax
comp=Z,11nm,1.6s
TLY MLR MLR
comp=Z,583nm,18.0s
TLY Talaya 81.07 21 eP P 22 20 36.1 +0.9
comp=Z,25nm,1.8s
BURAR Bucovina Array 81.58 332 ⇓iP P 22 20 39.2 +1.1
BURAR Bucovina Array 81.58 332 ⇓P P 22 20 39.2 +1.1
BUR08 Bucovina Ar. S 81.61 332 eP P 22 20 39.4 +1.1
RPZ Rata Peaks 81.70 134 LR LR 22 48 49.6
comp=Z,307nm,21.0s,baz=252,slow=30
BZS Buzias 81.74 328 ⇑iP P 22 20 38.9 0.0
BZS Buzias 81.74 328 ⇑P P 22 20 38.9 0.0
IRK Irkutsk 81.75 21 eP P 22 20 38.0 -0.8
IRK pmax pmax
comp=Z,57nm,3.1s
KSAR Wonju Array Be 82.14 43 P P 22 20 38.8 -2.4
KSAR Wonju Array Be 82.14 43 P P 22 20 38.8 -2.4
KEST Kesra 82.16 315 P P 22 20 40.6 -0.8
comp=Z,6.3nm,0.9s,baz=139,slow=3.3,SNR=8.7
KEST LR LR 22 56 39.9
comp=Z,717nm,19.8s,baz=57,slow=35
KEST Kesra 82.16 315 eP P 22 20 44.0 +2.6
comp=Z,70nm,1.8s
KSRS Korea Array 82.17 43 P P 22 20 38.8 -2.6
comp=Z,1.1nm,0.5s,baz=233,slow=4.1,SNR=7.6
AKASG Malin Array Be 82.37 336 P P 22 20 40.8 -1.2
comp=Z,1.8nm,0.6s,baz=136,slow=4.4,SNR=19
AKASG Malin Array Be 82.37 336 eP P 22 20 40.8 -1.2
AKASG pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 82.37 336 diP P 22 20 40.9 -1.1
KIEV pmax pmax
comp=Z,29nm,2.0s
KIEV Kiev 82.37 336 eP P 22 20 40.9 -1.1
comp=Z,12nm,0.9s
TRPA Tarpa 83.16 330 eP P 22 20 47.1 +0.9
OBN Obninsk 83.62 342 ⇓eP P 22 20 47.9 -0.5
OBN e 22 23 59.9
OBN ePPP PPP 22 25 54.9
OBN iS SSS **S 22 31 09.6 -0.3**
OBN iSSS SSS 22 40 07.9
OBN pmax pmax
comp=Z,45nm,1.6s
UZH Uzhgorod 83.64 331 eP P 22 20 45.8 -2.9
UZH i 22 20 49.4
UZH i 22 20 54.8
LVV L'vov 83.77 332 eP P 22 20 49.5 +0.2
MOS Moscow 83.87 343 eP P 22 20 49.7 +0.1
MOS e 22 21 00.1
MOS pmax pmax
comp=Z,73nm,1.8s
KOLS Kolonicke sedl 83.87 331 eP P 22 20 50.1 +0.2
KOLS pmax pmax
comp=Z,26nm,1.6s
KOLS Kolonicke sedl 83.87 331 eP P 22 20 50.1 +0.2
KWP Kalwaria Pacla 84.20 332 eP P 22 20 52.6 +1.1
KWP Kalwaria Pacla 84.20 332 ⇑iP P 22 20 51.7 +0.2
KWP Kalwaria Pacla 84.20 332 ⇑P P 22 20 51.7 +0.2
CRVS Cervenica-Dubn 84.21 330 eP P 22 20 51.9 +0.3
CRVS Cervenica-Dubn 84.21 330 eP P 22 20 51.9 +0.3
PSZ Piszkesteto 84.22 329 eP P 22 20 51.2 -0.6
KECS Kecovo 84.35 330 eP P 22 20 52.1 -0.2
KECS e 22 20 58.5
KECS pmax pmax
comp=Z,3.0nm,0.7s
KECS Kecovo 84.35 330 eP P 22 20 52.1 -0.2
KECS e 22 20 58.5
STHS Stebnicka Huta 84.68 331 eP P 22 20 54.0 0.0
STHS e 22 20 59.5
STHS pmax pmax
comp=Z,6.0nm,1.0s
STHS Stebnicka Huta 84.68 331 eP P 22 20 54.0 0.0
STHS e 22 20 59.5
CN2 Changchun 84.72 37 eP P 22 20 53.3 -1.0
CN2 eS **S 22 31 17.6 -3.9**
CN2 SS **SS 22 36 56.6 +2.6**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,600nm,19.0s
CN2 LE
comp=Z,500nm,19.0s
CN2 LZ
comp=Z,600nm,21.0s
NIE Niedzica 85.11 330 eP P 22 20 57.4 +1.2
NIE Niedzica 85.11 330 eP P 22 20 57.4 +1.2
VYHS Vyhne 85.13 329 eP P 22 20 56.2 -0.1
VYHS e 22 21 02.4
VYHS pmax pmax
comp=Z,11nm,1.2s
VYHS Vyhne 85.13 329 eP P 22 20 56.2 -0.1
VYHS e 22 21 02.4
LANS Liptovska Anna 85.30 330 eP P 22 20 57.5 +0.3
LANS e 22 21 03.8
LANS Liptovska Anna 85.30 330 eP P 22 20 57.5 +0.3
LANS e 22 21 03.8
SOP Sopron 85.67 327 eP P 22 20 58.6 -0.4
SOKA Soboth 85.76 326 eP P 22 20 59.9 +0.3
comp=Z,12nm,1.9s,SNR=6.8
ARSA Arzberg 85.89 326 eP P 22 21 00.2 0.0
comp=Z,13nm,1.2s,SNR=6.0
OBKA Obir 85.90 325 eP P 22 21 00.6 +0.3
comp=Z,8.8nm,1.1s
MICGM Minsk 85.90 337 e P 22 21 04.0 +4.1
MNK Minsk 85.90 337 eP P 22 21 01.0 +1.1
OJC Ojcow 85.91 331 eP P 22 21 00.4 +0.3
OJC Ojcow 85.91 331 eP P 22 21 00.4 +0.3
OJC Ojcow 85.91 331 eP P 22 21 00.4 +0.3
comp=Z,62nm,2.0s
CONA Conrad Observa 86.18 327 eP P 22 21 01.9 +0.3
comp=Z,24nm,1.4s,SNR=11
OKC Ostrava-Krasne 86.39 330 eP P 22 21 03.3 +0.8
OKC epP **sP 22 21 08.2 -0.9**
OKC Ostrava-Krasne 86.39 330 eP P 22 21 03.3 +0.8
OKC e 22 21 08.2
BEL Belsk 86.64 332 eP P 22 21 05.2 +1.5
BEL Belsk 86.64 332 eP P 22 21 05.1 +1.5

KBA Koelnbreinsper 86.89 325 i P P 22 21 05.3 0.0
comp=Z,12nm,1.8s
MOA Molln 86.93 326 eP P 22 21 05.4 +0.1
comp=Z,36nm,1.3s,SNR=9.7
ABTA Abfaltersbach 87.12 325 eP P 22 21 06.2 -0.1
comp=Z,21nm,1.4s,SNR=8.7
SUW Suwalki 87.28 335 eP P 22 21 07.7 +1.0
SUW Suwalki 87.28 335 eP P 22 21 07.7 +1.0
TREC Trest 87.28 328 eP P 22 21 06.4 -0.5
TREC epP **sP 22 21 13.0 -0.5**
TREC Trest 87.28 328 eP P 22 21 06.4 -0.5
TREC e 22 21 13.0
DZM Mont Dzumac 87.29 113 eSS SS 22 37 25.6 -6.4
comp=Z,268nm,27.4s
DZM Mont Dzumac 87.29 113 eLR LR 22 48 48.0
comp=Z,2μm,23.9s
DZM Mont Dzumac 87.29 113 LR LR 22 57 17.5
comp=Z,654nm,20.5s,baz=240,slow=34
MDJ Mudanjiang 87.55 38 P P 22 21 08.8 +0.5
MDJ pP sP 22 21 12.3 -2.6
MDJ sP pP 22 21 13.8 +0.7
MDJ PP **PP 22 24 34.3 +0.6**
MDJ S **S 22 31 52.0 +2.9**
MDJ SS **SS 22 37 36.6 +1.1**
MDJ PMZ
comp=Z,4.0nm,0.5s
MDJ PMZ
comp=Z,110nm,7.5s
MDJ LN
comp=Z,450nm,18.5s
MDJ LE
comp=Z,360nm,17.4s
MDJ LZ
comp=Z,680nm,18.5s
DPC Dobruska-Polom 87.60 329 eP P 22 21 09.0 +0.6
DPC AMS AMS 22 57 10.0
comp=Z,200nm,23.8s
DPC Dobruska-Polom 87.60 329 eP P 22 21 09.0 +0.6
DPC MLR MLR
comp=Z,200nm,23.8s
UPC Upice 87.85 329 eP P 22 21 10.3 +0.7
UPC epP **sP 22 21 16.1 -0.1**
UPC Upice 87.85 329 eP P 22 21 10.3 +0.7
UPC e 22 21 16.1
GERES GERESS Array B 87.86 327 P P 22 21 08.3 -1.4
comp=Z,1.8nm,1.0s,baz=134,slow=3.9,SNR=9.9
KLMR Klimovskoe 87.92 346 eP P 22 21 07.0 -2.6
KLMR pmax pmax
comp=Z,82nm,1.5s
KSP Ksiaz 87.95 329 eP P 22 21 11.7 +1.7
KSP Ksiaz 87.95 329 eP P 22 21 11.7 +1.7
GOPC GO Pecny, Ondr 88.04 328 eP P 22 21 10.1 -0.4
GOPC epP **sP 22 21 15.6 -1.5**
GOPC AMS AMS 23 01 30.0
comp=Z,200nm,16.5s
GOPC GO Pecny, Ondr 88.04 328 eP P 22 21 10.1 -0.4
GOPC e 22 21 15.6
GOPC MLR MLR
comp=Z,200nm,16.5s
KHC Kasperske Hory 88.11 327 eP P 22 21 09.0 -1.9
KHC epP **sP 22 21 16.5 -1.0**
KHC Kasperske Hory 88.11 327 eP P 22 21 09.0 -1.9
KHC e 22 21 16.5
KHC Kasperske Hory 88.11 327 eP P 22 21 09.2 -1.7
comp=Z,4.3nm,1.1s
PRU Pruhonice 88.20 328 eP P 22 21 10.4 -0.8
PRU epP **sP 22 21 17.5 -0.4**
PRU AMS AMS 23 03 10.0
comp=Z,200nm,19.4s
PRU Pruhonice 88.20 328 eP P 22 21 10.4 -0.8
PRU e 22 21 17.5
PRU MLR MLR
comp=Z,200nm,19.4s
FETA Feichten 88.24 324 eP P 22 21 12.3 +0.6
comp=Z,28nm,1.1s,SNR=6.4
MOTA Moosalm 88.24 325 i P P 22 21 11.7 -0.1
comp=Z,13nm,0.9s,SNR=6.5
MJAR Matsushiro Arr 88.42 49 P P 22 21 12.5 -0.1
comp=Z,0.6nm,0.4s,baz=225,slow=3.2,SNR=3.1
MJAR LR LR 23 01 34.5
comp=Z,515nm,18.2s,baz=240,slow=36
RETA Reutte 88.51 325 eP P 22 21 13.3 +0.4
comp=Z,25nm,1.4s,SNR=5.9
PVCC Panska Ves 88.55 329 eP P 22 21 13.3 +0.4
PVCC epP **sP 22 21 19.4 -0.1**
PVCC Panska Ves 88.55 329 eP P 22 21 13.3 +0.4
PVCC e 22 21 19.4
TUE Stuetta 88.65 323 eP P 22 21 12.7 -1.0
comp=Z,9.1nm,0.7s
USRK Ussuriysk Ar. 88.68 40 P P 22 21 11.9 -1.7
comp=Z,0.9nm,0.7s,baz=68,slow=15,SNR=4.1
USRK LR LR 22 59 25.0
comp=Z,1μm,20.8s,baz=220,slow=35
DAVA Damuels 88.86 324 eP P 22 21 15.0 +0.4
comp=Z,76nm,1.6s
BRG Berggiesshubel 89.08 329 eP P 22 21 16.8 +1.5
comp=Z,43nm,1.8s
BRG e 22 21 27.8
comp=Z,37nm,1.8s
BRG Berggiesshubel 89.08 329 eP P 22 21 16.8 +1.5
BRG e 22 21 27.8
BRG pmax pmax
comp=Z,43nm,1.8s
NKC Novy Kostel 89.39 327 eP P 22 21 17.3 +0.5
NKC epP **sP 22 21 23.8 +0.3**
NKC Novy Kostel 89.39 327 eP P 22 21 17.3 +0.5
NKC e 22 21 23.8
GRFO Grafenberg 89.65 326 eP P 22 21 15.8 -2.3
GRFO pmax pmax
comp=Z,16nm,0.8s
GRFO Grafenberg 89.65 326 eP P 22 21 15.8 -2.3
comp=Z,16nm,0.8s
CLL Collm 89.81 328 iP P 22 21 20.1 +1.4
comp=Z,42nm,1.8s
CLL ePP **PP 22 24 51.0 -0.6**
CLL eSS SS 22 38 07.0 -1.1
CLL L L 23 02 00.0
comp=Z,100nm,20.5s
KLR Kul'dur 91.49 35 P P 22 21 25.8 -0.9
comp=Z,1.0nm,0.6s,baz=222,slow=5.8,SNR=6.2
FINES FINESS Array B 91.97 341 P P 22 21 28.4 -0.2
comp=Z,2.0nm,0.9s,baz=127,slow=4.7,SNR=5.9
FINES FINESS Array B 91.97 341 eP P 22 21 31.2 +2.7
FINES pmax pmax
comp=Z,1.0nm,0.5s
ESDC Sonseca Array 93.15 312 P P 22 21 35.4 +0.7
comp=Z,0.8nm,0.8s,baz=108,slow=3.2,SNR=6.1
NRIK Noril'sk 93.94 6 LR LR 23 03 38.9
comp=Z,519nm,21.3s,baz=190,slow=35
TBI Tubuai 119.69 138 eLR LR 23 03 47.8
comp=Z,360nm,30.0s
LPAZ La Paz 122.42 230 ePKIKP PKPdf 22 27 24.2 +6.9
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
PPT2 Papeete2 123.84 134 eLR LR 23 05 44.1
comp=Z,545nm,31.0s
RKT Rikitea 127.55 151 eLR LR 23 07 30.4
comp=Z,314nm,26.2s
TAOE Nuku Hiva Isla 136.43 135 eLR LR 23 11 35.8
comp=Z,417nm,28.6s
YKA Yellowknife Ar 141.37 3 PKP PKPdf 22 27 51.3 +0.6
comp=Z,1.0nm,0.8s,baz=344,slow=3.2,SNR=3.7
TRQ Mont Tremblant 143.55 317 ePKPpre PKPpre 22 27 53.1
TRQ ePKPdf **PKiKP 22 27 59.3 +0.8**
ACCN Adirondack Com 144.07 312 ePKPdf PKPdf 22 27 55.1 -1.0
LONY Lake Ozonia 144.22 314 ePKPdf PKPdf 22 27 56.1 -0.3
BINY Binghamton 146.09 311 ePKPdf PKPbc 22 28 00.1 -0.5
SADO Sadowa 147.08 317 ePKPdf PKPbc 22 28 03.5 +0.2
MVL Millersville 147.10 307 ePKPdf PKPab 22 28 05.6 +0.5
SSPA Standing Stone 147.99 309 ePKPbc PKPbc 22 28 05.5 -0.5
VWCC Virginia Weste 150.67 304 ePKPbc PKPbc 22 28 14.1 +1.3
BLA Blacksburg 151.01 304 ePKIKP PKPbc 22 28 13.6 0.0
BLA e 22 28 19.9
BLA Blacksburg 151.01 304 ePKPbc PKPbc 22 28 13.6 0.0
BLA ePKPab **PKPab 22 28 19.9 -1.3**
ULM Lac du Bonnet 151.36 340 PKPbc PKPbc 22 28 12.1 -1.8
comp=Z,4.7nm,0.5s,baz=9.8,slow=3.8,SNR=6.1
ULM Lac du Bonnet 151.36 340 ePKIKP PKPbc 22 28 13.2 -0.7
ULM Lac du Bonnet 151.36 340 ePKPbc PKPbc 22 28 13.2 -0.7
EYMN Ely 151.66 332 ePKPbc PKPbc 22 28 14.0 -0.7
ACSO Alum Creek Sta 151.71 312 ePKPab PKPab 22 28 22.3 -1.6
AGMN Agassiz Nation 153.05 338 ePKPbc PKPbc 22 28 17.6 -0.2
ECSD EROS Data Cent 157.18 333 ePKPab PKPab 22 28 48.6 +1.6
FLWY Flagg Ranch 159.91 0 ePKPab PKPab 22 28 57.4 -1.6

MOD Modoc Plateau 160.34 22 ePKPab PKPab 22 29 01.3 +0.4
FXWY Fox Creek 160.35 1 ePKPdf PKPdf 22 28 22.0 +1.7
BW06 Boulder Array 161.21 358 ePKPdf PKPdf 22 28 21.6 +0.3
MIAR Mount Ida 161.83 309 ePKIKP PKPdf 22 28 23.9 +2.0
MIAR Mount Ida 161.83 309 ePKPdf PKPdf 22 28 23.9 +2.0
HWUT Hardware Ranch 162.37 2 ePKPab PKPab 22 29 10.8 +1.0
WMOK Wichita Mounta 165.14 319 ePKIKP PKPdf 22 28 25.6 +0.5
WMOK e 22 29 22.3
WMOK Wichita Mounta 165.14 319 ePKPdf PKPdf 22 28 25.6 +0.5
WMOK ePKPab **PKPab 22 29 22.3 +0.3**
TX31 Lajitas Ar. Si 171.83 313 ePKPdf PKPdf 22 28 30.9 +1.1
TXAR Lajitas Array 171.83 313 PKPab PKPab 22 29 52.6 +0.7
comp=Z,0.8nm,0.9s,baz=90,slow=2.8,SNR=6.5

MEX 17 22:13:51.1±1.1, 16°13'N×97°80'W, h4km±12km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.41**	**310**	*eP*		Pg	22 13 58.4	-0.7
PNIG				*eS*		Sg	22 14 04.6	+0.1
VHO	**Vista Hermosa**	**1.39**	**47**	*eP*		Pn	22 14 13.2	-4.2
VHO				*eS*		Sg	22 14 30.5	-5.2
TLIG	**Tlapa**	**1.61**	**333**	*eP*		Pn	22 14 17.4	-3.0
TLIG				*eS*		Sn	22 14 37.3	-4.3
MEIG	**Mezcala**	**2.50**	**316**	*eP*		Pn	22 14 29.4	-3.2
PLIG	**Platanillo**	**2.78**	**324**	*eP*		Pb	22 14 40.1	-1.3
PLIG				*eS*		Sb	22 15 13.5	-2.4
ARIG	**Puente Sto Nin**	**3.25**	**312**	*eP*		Pn	22 14 39.9	-3.0
ARIG				*eS*		Sn	22 15 17.2	-4.7

MEX 17 22:24:48.2±0.5, 15°03'N×93°87'W, h30km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PCIG		**0.92**	**43**	*i* P		Pn	22 25 02.5	-2.5
PCIG				*eS*		Sn	22 25 14.4	-2.9

IDC 17 22:24:48.3±4.0, 5°84'S×151°16'E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/35, mbtmp3.3/2, Error ellipse: s-maj=174.1km s-min=49.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.53**	**228**	P		P	22 29 39.0	-0.4
	0.4nm,0.5s,baz=55,slow=10,SNR=4.6							
ASAR	**Alice Springs**	**24.29**	**221**	P		P	22 30 08.1	+0.5
	0.8nm,0.7s,baz=50,slow=9.2,SNR=7.7							
TORD	**Torodi Ar. Bea**	**149.04**	**286**	PKPbc		PKPbc	22 44 38.8	-0.8
	0.7nm,1.0s,baz=100,slow=2.1,SNR=3.0							

IDC 17 22:26:55.7±3.7, 6°04'S×151°51'E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/33, mbtmp3.4/2, Error ellipse: s-maj=159.3km s-min=49.4km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.67**	**229**	P		P	22 31 48.6	+0.4
	0.6nm,0.6s,baz=54,slow=10,SNR=6.6							
ASAR	**Alice Springs**	**24.37**	**222**	P		P	22 32 15.6	-0.2
	0.7nm,0.6s,baz=57,slow=9.4,SNR=6.2							
TORD	**Torodi Ar. Bea**	**149.44**	**286**	PKPbc		PKPbc	22 46 47.4	-0.6
	0.3nm,0.7s,baz=87,slow=2.5,SNR=3.3							

ISCJB ***17*** *22:28:52.2±1.0, 23°.9S±0°.2×69°.7E±0°.1, h10km, mb3.9/12, MS3.7/1, Error ellipse: s-maj=34.1km s-min=15.6km az=10.9*

IDC ***17*** *22:28:52.5±1.0, 23°.85S×69°.70E, h0km, mb4.0/11, mb1 4.0/11, mb1mx3.8/43, mbtmp4.0/11, MS3.7/1, Ms1 3.9/1, ms1mx3.1/32, Error ellipse: s-maj=38.8km s-min=18.2km az=19.0*

NEIC ***17*** *22:28:54.1±0.6, 23°.84S×69°.70E, h10km, mb4.2/1, Error ellipse: s-maj=21.5km s-min=10.0km az=191.0*

ISC 17 22:28:54.0±1.1, 23°.9S×69°.7E±0°.1, h10km, n21, σ0°.32/15, mb4.0/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**16.33**	**10**	T		T	22 49 36.2	
	baz=191,slow=76,SNR=29							
H08S2	**Diego Garcia H**	**16.33**	**10**	T		T	22 49 36.6	
	baz=191,slow=76,SNR=26							
H08S3	**Diego Garcia H**	**16.35**	**10**	T		T	22 49 38.7	
	baz=191,slow=76,SNR=27							
OPO	**Ambohidratompo**	**21.63**	**280**	P		**P**	**22 33 44.9**	**+0.2**
	2.1nm,0.3s,baz=116,slow=17,SNR=5.6							
KMBO	**Nilima Mbogo**	**38.71**	**301**	P		**P**	**22 36 18.8**	**0.0**
	0.4nm,0.3s,baz=221,slow=19,SNR=3.2							
H01W2	**Cape Leeuwin H**	**39.97**	**116**	T		T	23 18 55.8	
	baz=273							
H01W3	**Cape Leeuwin H**	**39.97**	**116**	T		T	23 18 54.7	
	baz=273							
H01W1	**Cape Leeuwin H**	**39.98**	**116**	T		T	23 18 56.3	
	baz=273							
CMAR	**Chiang Mai Arr**	**50.81**	**37**	LR		LR	22 57 11.0	
	comp=Z,69nm,19.7s,baz=150,slow=33							
ASAR	**Alice Springs**	**58.27**	**104**	P		**P**	**22 38 49.7**	**+0.4**
	1.3nm,0.7s,baz=256,slow=5.8,SNR=12							
ASAR					PcP	**PcP**	**22 39 40.2**	**-0.3**
	1.1nm,0.7s,baz=260,slow=3.3,SNR=6.3							
WRA	**Warramunga Arr**	**59.65**	**100**	P		**P**	**22 38 58.8**	**-0.1**
	1.8nm,0.8s,baz=257,slow=6.9,SNR=7.5							
MKAR	**Makanchi Array**	**71.22**	**9**	P		**P**	**22 40 13.4**	**+0.2**
	1.9nm,0.8s,baz=189,slow=6.1,SNR=20							
BRTR	**Keskin Array B**	**71.64**	**331**	P		**P**	**22 40 16.4**	**+0.3**
	1.4nm,0.8s,baz=130,slow=5.4,SNR=8.8							
ABKAR	**Akbulak array**	**73.29**	**353**	*eP*		**P**	**22 40 24.9**	**-0.5**
	1.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**75.93**	**291**	P		**P**	**22 40 41.4**	**-0.1**
	0.6nm,1.1s,baz=113,slow=3.2,SNR=2.4							
ZALV	**Zalesovo Beam**	**78.57**	**9**	P		**P**	**22 40 55.7**	**+0.3**
	2.2nm,0.8s,baz=192,slow=4.7,SNR=9.9							
SONM	**Songino Array**	**78.61**	**24**	P		**P**	**22 40 56.4**	**+0.4**
	0.4nm,0.5s,baz=250,slow=4.4,SNR=3.5							
KSAR	**Wonju Array Be**	**81.90**	**43**	P		**P**	**22 41 13.7**	**-0.1**
KSRS	**Korea Array**	**81.94**	**43**	P		**P**	**22 41 13.7**	**-0.3**
	0.7nm,0.5s,baz=230,slow=5.3,SNR=5.6							
AKASG	**Malin Array Be**	**82.38**	**335**	P		**P**	**22 41 15.6**	**-0.4**
	0.4nm,0.4s,baz=135,slow=4.3,SNR=8.8							
COWI	**Conover**	**151.99**	**328**	*e*PKPbc		**PKPbc**	**22 48 49.5**	**0.0**

MAN 17 22:43:53, 14°68'N×124°09'E, h30km, mb4.3, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PVCP	**Virac**	**1.08**	**177**	*eP*		Pb	22 44 13.3	+0.1
PVCP				*eS*		Sn	22 44 26.5	+0.3
GQP	**Guinayangan**	**1.77**	**244**	⇑*eP*		Pn	22 44 21.8	+0.2
GQP				*eS*		Sn	22 44 41.8	-1.3
POLP	**Polilio Island**	**2.08**	**271**	*eP*		Pn	22 44 27.5	+1.7
POLP				*eS*		Sn	22 44 52.5	+1.8
BALP	**Baler**	**2.64**	**294**	*eP*		Pn	22 44 32.4	-1.2

JMA 17 23:14:30.2±0.1, 38°.27N×141°.80E, h49km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JIO	**Ouri**	**0.40**	**298**	P		Pn	23 14 40.4	+0.2
JIO				*eS*		Sn	23 14 47.2	-0.2
OFUJ	**Ofunato**	**0.81**	**353**	P		Pn	23 14 45.5	+0.1
OFUJ				*eS*		Sn	23 14 56.0	-0.5
JMK	**Ichinoseki**	**0.82**	**326**	P		Pn	23 14 45.9	+0.4
JMM	**Marumori**	**0.89**	**243**	P		Pn	23 14 46.2	-0.2
JMM				*eS*		Sn	23 14 57.6	-0.7
JOU	**Okura**	**0.90**	**276**	P		Pn	23 14 46.9	+0.3
JOU				*eS*		Sn	23 14 59.0	+0.5
JFK	**Kawauchi**	**1.16**	**219**	P		Pn	23 14 49.9	-0.2
JFK				*eS*		Sn	23 15 04.1	-0.8
JOM	**Ohasama**	**1.27**	**342**	P		Pn	23 14 52.0	+0.5
JOM				*eS*		Sn	23 15 07.9	+0.5
JYK	**Kaneyama**	**1.30**	**300**	P		Pn	23 14 52.5	+0.5
JYS	**Shirataka**	**1.37**	**268**	P		Pn	23 14 53.5	+0.6
JYS				*eS*		Sn	23 15 10.7	+0.9

JFT	**Otama**	**1.38 237**	P	Pn	23 14 53.7	+0.6
JFT			*e*S	Sn	23 15 10.5	+0.3
JRG	**Rokugo**	**1.45 321**	P	Pn	23 14 55.0	+1.0

IDC 17 23:43:24.8±3.6, 5°.78S×151°.18E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.4/31, mbtmp3.6/2, Error ellipse: s-maj=143.0km s-min=48.6km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**228**	P	P	23 48 16.2	-0.3
	1.1nm,0.5s,baz=54,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.34**	**221**	P	P	23 48 44.9	+0.2
	1.0nm,0.6s,baz=58,slow=9.0,SNR=16						
TORD	**Torodi Ar. Bea**	**149.05**	**286**	PKPbc	PKPbc	00 03 15.5	-0.6
	0.3nm,0.5s,baz=57,slow=3.0,SNR=6.0						

*DHMR **17** 23:45:07.1±1.4, 13°.44N×42°.00E, h8km±17km, ML3.9*
ISC 17 23:44:57.8±1.5, 13°.40N±0°.10×41°.75E±0°.10, h10km, n4, σ1§44/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHBB	**Dhamar BB**	**2.81**	**65**	*i* P	**Pg**	**23 45 52.7**	**+1.0**
DHBB				*i* S	**Sg**	**23 46 26.4**	**-1.8**
HAJJ	**Hajjah**	**2.90**	**38**	*i* P	**Pg**	**23 45 53.7**	**+0.2**
HAJJ				*i* S	**Sg**	**23 46 31.0**	**-0.2**
HAJJ				AML	AML	23 46 52.4	
	comp=Z,536nm,0.9s						
BDHA	**Al Bayda'**	**3.75**	**81**	*i* P	**Pb**	**23 46 04.4**	**+0.1**
BDHA				*i* S	**Sb**	**23 46 50.0**	**+0.1**
BDHA				AML	AML	23 47 12.7	
	comp=N,807nm,0.7s						
FURI	**Furi**	**5.39**	**214**	P	**Pg**	**23 46 39.8**	**-1.4**
FURI				S	**Sg**	**23 47 53.2**	**+2.0**

IDC 17 23:53:47.4±3.8, 5°.58S×151°.00E, h0km, mb3.1/2, mb1 3.4/2, mb1mx2.8/36, mbtmp3.2/2, Error ellipse: s-maj=164.5km s-min=47.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**227**	P	P	23 58 39.0	-0.1
	0.4nm,0.5s,baz=53,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**24.38**	**221**	P	P	23 59 07.6	0.0
	0.4nm,0.6s,baz=55,slow=8.8,SNR=8.4						
TORD	**Torodi Ar. Bea**	**148.82**	**286**	PKPbc	PKPbc	00 13 37.5	-0.6
	1.2nm,0.7s,baz=70,slow=2.4,SNR=14						

IDC 17 23:57:48.4±3.9, 5°.63S×151°.01E, h0km, mb3.2/2, mb1 3.5/2, mb1mx2.9/39, mbtmp3.3/2, Error ellipse: s-maj=165.5km s-min=48.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.57**	**227**	P	P	00 02 39.8	-0.1
	0.4nm,0.5s,baz=54,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**24.35**	**221**	P	P	00 03 08.6	+0.3
	0.6nm,0.6s,baz=55,slow=9.4,SNR=9.5						
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc	PKPbc	00 17 38.4	-0.8
	0.6nm,0.8s,baz=64,slow=3.1,SNR=3.4						

*JMA **18** 00:04:17.9±0.1, 23°.99N×122°.29E, h17km±4km, M2.8*
*ISCJB **18** 00:04:18.1±0.8, 24°.01N±0°.02×122°.30E±0°.01, h12km±6km, Error ellipse: s-maj=2.9km s-min=2.1km az=156.1*
*TAP **18** 00:04:19.4, 24°.09N×122°.21E, h20km, ML3.3, C*
ISC 18 00:04:18.0±1.1, 24°.02N±0°.02×122°.26E±0°.02, h18km±4km, n51, σ0§67/99, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.61**	**276**	*i* P	**Pg**	**00 04 30.9**	**+0.8**
	baz=270						
TWD				S	**Sb**	**00 04 39.3**	**+1.0**
	baz=270						
ENA	**Nanau**	**0.62**	**311**	P	**Pg**	**00 04 30.4**	**0.0**
	baz=319						
ENA				*e*S	**Sb**	**00 04 39.2**	**+0.6**
	baz=319						
TWC	**Suao**	**0.69**	**327**	P	**Pb**	**00 04 31.2**	**-0.4**
	baz=336						
TWC				S	**Sb**	**00 04 39.7**	**-1.1**
	baz=336						
JYNG	**Yonagunijimaku**	**0.76**	**56**	P	**Pb**	**00 04 32.1**	**-0.6**
JYNG				S	**Sb**	**00 04 41.6**	**-1.0**
ESL	**Shilin**	**0.79**	**255**	*e*P	**Pg**	**00 04 33.9**	**+0.5**
	baz=238						
ESL				S	**Sg**	**00 04 43.9**	**+0.1**
	baz=238						
YOJ	**Yonaguni jima**	**0.81**	**57**	P	**Pb**	**00 04 33.3**	**-0.3**
YOJ				*e*S	**Sb**	**00 04 43.3**	**-0.9**
EGS		**0.87**	**340**	*e*P	**Pg**	**00 04 35.0**	**-0.1**
	baz=342						
EGS				S	**Sb**	**00 04 46.0**	**+0.1**
	baz=342						
TWE	**Neicheng**	**0.88**	**322**	*e*P	**Pb**	**00 04 34.8**	**+0.1**
	baz=330						
TWE				*e*S	**Sn**	**00 04 47.2**	**-0.6**
	baz=330						
ENTT	**Nioudou**	**0.88**	**314**	*e*P	**Pg**	**00 04 35.3**	**+0.1**
	baz=321						
ENTT				*e*S	**Sn**	**00 04 47.3**	**-0.6**
	baz=321						
NNS	**Nan Shan**	**0.91**	**297**	P	**Pg**	**00 04 35.9**	**+0.1**
	baz=295						
NNS				*e*S	**Sg**	**00 04 47.5**	**-0.4**
	baz=295						
WHF	**Hehuan Shan**	**0.92**	**278**	P	**Pb**	**00 04 35.7**	**+0.1**
	baz=262						
WHF				*e*S	**Sn**	**00 04 48.9**	**-0.5**
	baz=262						
EHY	**Hungye**	**1.00**	**239**	*e*P	**Pb**	**00 04 37.2**	**+0.4**
	baz=225						
EHY				*e*S	**Sg**	**00 04 50.9**	**+0.2**
	baz=225						
TWB1	**Santiao Chiao**	**1.01**	**346**	P	**Pn**	**00 04 37.4**	**+0.1**
	baz=347						
TWB1				S	**Sb**	**00 04 50.0**	**0.0**
	baz=347						
TWT	**Tachien**	**1.02**	**283**	*e*P	**Pg**	**00 04 38.3**	**+0.4**
	baz=269						
TWT				*e*S	**Sn**	**00 04 52.7**	**+1.3**
	baz=269						
NSK	**Sanguang**	**1.05**	**309**	P	**Pn**	**00 04 38.0**	**+0.1**
	baz=308						
NSK				S	**Sg**	**00 04 51.8**	**-0.4**
	baz=308						
WDT	**Danda**	**1.06**	**256**	P	**Pb**	**00 04 38.0**	**0.0**
	baz=237						
WDT				S	**Sb**	**00 04 52.1**	**+0.3**
	baz=237						
TWF1	**Yuli**	**1.11**	**233**	*e*P	**Pb**	**00 04 38.4**	**-0.3**
	baz=217						
TWF1				S	**Sn**	**00 04 53.5**	**+0.1**
	baz=217						
NWF	**Wu-fen Shan**	**1.13**	**337**	*e*P	**Pb**	**00 04 39.2**	**+0.1**
	baz=354						
NWF				*e*S	**Sn**	**00 04 53.8**	**-0.3**
	baz=354						
TWA	**Mucha**	**1.14**	**327**	*e*P	**Pg**	**00 04 40.3**	**+0.3**
	baz=336						
TWA				*e*S	**Sg**	**00 04 55.1**	**+0.1**
	baz=336						
CHKT	**Chengkung**	**1.23**	**222**	*e*P	**Pn**	**00 04 39.9**	**-0.4**
	baz=207						
CHKT				*e*S	**Sb**	**00 04 54.5**	**-1.8**
	baz=207						
SMLT	**Sun Moon Lake**	**1.25**	**264**	*e*P	**Pn**	**00 04 41.1**	**+0.4**
	baz=261						
SMLT				S	**Sn**	**00 04 57.4**	**+0.2**
	baz=261						
TYC	**Yuchr**	**1.29**	**265**	*e*P	**Pn**	**00 04 41.4**	**+0.3**
	baz=262						
TYC				*e*S	**Sg**	**00 04 59.2**	**-0.6**
	baz=262						
NSTT	**Nanjuang**	**1.30**	**298**	*e*P	**Pg**	**00 04 42.8**	**-0.4**
	baz=297						
NSTT				*e*S	**Sg**	**00 05 00.0**	**-0.1**
	baz=297						
YUS	**Yu-Shan**	**1.31**	**246**	*e*P	**Pb**	**00 04 42.8**	**+0.4**
	baz=243						
YUS				*e*S	**Sb**	**00 04 59.2**	**+0.1**
	baz=243						
TWS1	**Kuangyinshan**	**1.32**	**325**	*e*P	**Pb**	**00 04 42.3**	**+0.1**
	baz=339						
TWS1				*e*S	**Sg**	**00 05 00.3**	**-0.5**
	baz=339						
IRIF	**Iriomote-Funau**	**1.38**	**77**	P	**Pn**	**00 04 42.7**	**+0.4**
IRIF				*e*S	**Sb**	**00 05 00.9**	**+0.4**
TWY	**Chenhua**	**1.39**	**334**	*e*P	**Pg**	**00 04 44.7**	**-0.1**
	baz=335						
TWY				*e*S	**Sb**	**00 05 01.0**	**+0.3**
	baz=335						
TWQ1	**Liyutan**	**1.40**	**284**	*e*P	**Pg**	**00 04 44.5**	**-0.5**
	baz=268						
TWQ1				*e*S	**Sg**	**00 05 03.6**	**+0.4**
	baz=268						
ELDTW	**Lidau**	**1.41**	**234**	*e*P	**Pn**	**00 04 42.5**	**-0.4**
	baz=218						
ELDTW				*e*S	**Sn**	**00 04 59.9**	**-1.2**
	baz=218						
HATJ	**Hateruma jima**	**1.41**	**88**	*e*S	**Sb**	**00 05 02.9**	**+1.4**
NSY	**Sanyi**	**1.42**	**286**	*e*P	**Pg**	**00 04 45.0**	**-0.5**
	baz=270						
NSY				*e*S	**Sg**	**00 05 04.4**	**+0.3**
	baz=270						
ALS	**Alishan**	**1.43**	**249**	*e*P	**Pb**	**00 04 44.2**	**-0.1**
	baz=246						
ALS				*e*S	**Sb**	**00 05 02.4**	**+0.1**
	baz=246						
TCU	**Taichung**	**1.45**	**275**	*e*P	**Pg**	**00 04 46.1**	**0.0**
	baz=273						
TCU				*e*S	**Sg**	**00 05 05.3**	**+0.3**
	baz=273						
CHN5	**Tsauling**	**1.51**	**254**	*e*P	**Pb**	**00 04 45.7**	**+0.1**
	baz=239						
CHN5				*e*S	**Sg**	**00 05 05.9**	**-1.0**
	baz=239						
WGK	**Gukeng**	**1.59**	**258**	*e*P	**Pb**	**00 04 47.6**	**+0.7**
	baz=256						
PCYT	**Pengchaiyu**	**1.61**	**354**	*e*P	**Pn**	**00 04 45.5**	**0.0**
	baz=355						
PCYT				*e*S	**Sn**	**00 05 04.6**	**-1.2**
	baz=355						
JKRS	**Kuro-shima**	**1.61**	**82**	P	**Pn**	**00 04 46.8**	**+1.3**
JKRS				*e*S	**Sb**	**00 05 07.7**	**+0.4**
TWG	**Pinlang**	**1.62**	**223**	*e*P	**Pn**	**00 04 45.3**	**-0.3**
	baz=221						
TWG				*e*S	**Sn**	**00 05 04.5**	**-1.6**
	baz=221						
STYT	**Tauyuan**	**1.62**	**238**	*e*P	**Pg**	**00 04 48.7**	**-0.5**
	baz=236						
STYT				*e*S	**Sb**	**00 05 07.4**	**-0.2**
	baz=236						
CHN4	**Tsaushan**	**1.67**	**247**	*e*P	**Pb**	**00 04 49.0**	**+0.8**
	baz=232						
CHN4				*e*S	**Sg**	**00 05 10.7**	**-1.2**
	baz=232						
WTP	**Ta-pu**	**1.70**	**243**	*e*P	**Pb**	**00 04 48.9**	**+0.2**
	baz=241						
WTP				*e*S	**Sb**	**00 05 11.3**	**+1.6**
	baz=241						
JIJ	**Ishigaki jima**	**1.75**	**78**	P	**Pn**	**00 04 47.8**	**+0.3**
JIJ				*e*S	**Sn**	**00 05 09.1**	**-0.2**
TWK	**Hsinying**	**1.79**	**246**	*e*P	**Pb**	**00 04 49.8**	**-0.6**
	baz=243						
TWK				*e*S	**Sb**	**00 05 13.6**	**+1.2**
	baz=243						
CHN1	**Nanshi**	**1.79**	**243**	*e*P	**Pb**	**00 04 50.5**	**+0.1**
	baz=240						
CHN1				*e*S	**Sb**	**00 05 13.7**	**+1.1**
	baz=240						
SGST	**Jiashian**	**1.80**	**239**	*e*S	**Sb**	**00 05 13.6**	**+0.9**
	baz=237						
JISG	**Ishigakijimahi**	**1.95**	**73**	P	**Pn**	**00 04 50.6**	**+0.4**
JISG				S	**Sn**	**00 05 14.7**	**+0.4**
SSD	**Sandimen**	**1.96**	**230**	*e*P	**Pb**	**00 04 53.0**	**-0.2**
	baz=220						
SSD				*e*S	**Sb**	**00 05 17.3**	**0.0**
	baz=220						
EAST	**Anshuo**	**2.09**	**219**	*e*P	**Pn**	**00 04 52.2**	**+0.1**
	baz=218						
EAST				*e*S	**Sn**	**00 05 18.3**	**+0.6**
	baz=218						
SCZT	**Fangliau**	**2.23**	**223**	*e*P	**Pb**	**00 04 56.6**	**-1.2**
	baz=215						
SCZT				*e*S	**Sb**	**00 05 23.9**	**-1.2**
	baz=215						
JTJ	**Tarama**	**2.31**	**74**	P	**Pn**	**00 04 56.2**	**+1.0**
JTJ				S	**Sn**	**00 05 23.6**	**+0.5**
TWK1	**Hengchun**	**2.47**	**213**	*e*P	**Pn**	**00 04 58.9**	**+1.6**
	baz=213						
TWK1				*e*S	**Sn**	**00 05 26.5**	**-0.4**
	baz=213						

IDC 18 00:04:50.6±6.6, 24°.06S×178°.87W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/24, mbtmp3.7/2, Error ellipse: s-maj=344.0km s-min=68.0km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.03**	**261**	P	P	00 12 52.6	+0.3
	0.8nm,0.7s,baz=98,slow=7.2,SNR=5.8						
WRA	**Warramunga Arr**	**43.43**	**266**	P	P	00 12 55.1	-0.4
	0.5nm,0.3s,baz=104,slow=8.5,SNR=24						
BRTR	**Keskin Array B**	**148.50**	**308**	PKPbc	PKPbc	00 24 39.1	-0.6
	0.4nm,0.6s,baz=122,slow=1.9,SNR=4.6						

IDC 18 00:07:18.8±17.0, 49°.92S×28°.49E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/25, mbtmp3.7/3, Error ellipse: s-maj=1404.0km s-min=37.4km az=46.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**67.07**	**332**	P	P	00 18 13.8	0.0
	0.6nm,0.9s,baz=148,slow=7.1,SNR=4.7						
ASAR	**Alice Springs**	**81.55**	**117**	P	P	00 19 38.7	+0.3
	0.5nm,0.7s,baz=216,slow=5.0,SNR=6.4						
WRA	**Warramunga Arr**	**84.69**	**115**	P	P	00 19 54.3	-0.4
	0.9nm,1.0s,baz=208,slow=3.8,SNR=2.9						

MEX 18 00:09:30.3±0.8, 15°.91N×91°.10W, h20km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.05**	**265**	*e*P	Pn	00 10 01.1	-2.6
PCIG				*e*S	Sn	00 10 24.1	-4.7

*NIED **18** 00:13:00, 36°.90N×141°.10E, h35km, Mw3.4 Best double couple: M0 1.28000×10^14 NP1: φs208.00000°, δ17.00000°, λ96.00000°. NP2: φs22.00000°, δ73.00000°, λ88.00000°.*
*IDC **18** 00:13:33.0±1.9, 37°.15N×141°.45E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/43, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=41.4km s-min=28.0km az=63.0*
*JMA **18** 00:13:40.6±0.1, 36°.94N×141°.06E, h51km±1km, M3.6*
JMA Felt I J1.
ISC 18 00:13:37.3±1.4, 36°.90N±0°.06×141°.2E±0°.1, h21km±5km, n22, σ1§05/24, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.40**	**300**	P	**Pn**	**00 13 49.4**	**+1.5**
ONAJ				S	**Sn**	**00 13 55.5**	**+0.6**
JFK	**Kawauchi**	**0.54**	**328**	P	**Pn**	**00 13 51.1**	**+1.2**
JFK				*i* S	**Sn**	**00 13 58.3**	**-0.1**
JHO	**Hitachi**	**0.61**	**241**	P	**Pn**	**00 13 51.9**	**+1.1**
JHO				S	**Sn**	**00 13 59.7**	**-0.2**
JFT	**Otama**	**0.94**	**311**	P	**Pn**	**00 13 56.6**	**+1.2**
JFT				S	**Sn**	**00 14 08.0**	**-0.2**
JMM	**Marumori**	**1.02**	**340**	P	**Pn**	**00 13 57.3**	**+0.9**
JMM				S	**Sb**	**00 14 09.7**	**+0.4**
JSB	**Shiboa**	**1.05**	**274**	P	**Pn**	**00 13 57.7**	**+0.8**
JSB				S	**Sb**	**00 14 10.2**	**0.0**
JFY	**Yanaizu**	**1.32**	**293**	P	**Pn**	**00 14 01.0**	**+0.4**
JAG	**Ashikaga**	**1.51**	**252**	P	**Pn**	**00 14 03.7**	**+0.6**
JOU	**Okura**	**1.53**	**343**	P	**Pb**	**00 14 04.7**	**-0.2**
JKT	**Katashina**	**1.60**	**266**	P	**Pb**	**00 14 05.5**	**-0.7**
MJAR	**Matsushiro Arr**	**2.46**	**262**	Pn	**Pn**	**00 14 17.6**	**+1.4**
	4.4nm,0.3s,baz=85,slow=15,SNR=14						
MJAR				Sn	**Sb**	**00 14 50.2**	**-0.4**
	3.8nm,0.3s,baz=106,slow=18,SNR=5.4						
MAT	**Matsushiro**	**2.46**	**262**	P	**Pn**	**00 14 17.9**	**+1.7**
MAT				S	**Sn**	**00 14 46.6**	**+1.0**
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**00 19 24.3**	**-0.2**
	0.2nm,0.5s,baz=98,slow=8.9,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	00 49 25.1	
	baz=313,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	00 49 25.8	
	baz=313,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.22**	**120**	T	T	00 49 26.5	
	baz=313,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.91**	**122**	T	T	00 50 25.2	
	baz=314,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.91**	**122**	T	T	00 50 24.5	
	baz=314,slow=76,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**28.93**	**122**	T	T	00 50 25.6	
	baz=314,slow=76,SNR=6.1						
ZALV	**Zalesovo Beam**	**41.90**	**312**	P	**P**	**00 21 24.5**	**-1.4**
	0.3nm,0.3s,baz=91,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**00 21 41.7**	**-2.0**
	0.5nm,0.7s,baz=99,slow=8.0,SNR=3.1						
WRA	**Warramunga Arr**	**56.91**	**188**	P	**P**	**00 23 21.7**	**+0.8**
	0.4nm,0.8s,baz=2.9,slow=7.5,SNR=3.9						

JMA 18 00:17:44.4, 36°.91N×140°.67E, h7km±1km, M3.5, 5C-2D Broadband fault plane solution: P waves. NP1: φs225.00000°, δ54.00000°, λ-69.00000°. NP2: φs13.00000°, δ41.00000°, λ-116.00000°. Principal axes: T Plg7.0000°, Azm301.0000°; N Plg17.0000°, Azm33.0000°; P Plg72.0000°, Azm189.0000°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.22**	**28**	⇓P	Pg	00 17 49.0	+0.2
ONAJ				S	Sg	00 17 52.5	+0.8
JHO	**Hitachi**	**0.31**	**195**	⇓P	Pg	00 17 50.5	0.0
JHO				*e*S	Sg	00 17 54.8	+0.2
JFK	**Kawauchi**	**0.48**	**20**	⇑P	Pg	00 17 53.7	-0.1
JSB	**Shiboa**	**0.60**	**276**	⇑P	Pb	00 17 56.9	-0.4
JSB				S	Sb	00 18 05.6	-0.4
JFT	**Otama**	**0.66**	**336**	⇑P	Pg	00 17 57.4	+0.2
JFT				S	Sg	00 18 06.4	+0.6
JYT	**Yasato**	**0.78**	**210**	P	Pg	00 17 59.1	-0.3
JYT				S	Sg	00 18 09.7	+0.1
JFY	**Yanaizu**	**0.92**	**303**	⇑P	Pg	00 18 01.8	-0.2
JMM	**Marumori**	**0.96**	**6**	⇑P	Pg	00 18 02.1	-0.7
JMM				S	Sg	00 18 15.0	-0.3
MAT	**Matsushiro**	**2.01**	**260**	P	Pn	00 18 19.3	+0.5
MAT				S	Sb	00 18 46.5	-0.1

*ISCJB **18** 00:21:37.1±0.6, 10°.92S±0°.09×162°.17E±0°.09, h54km, mb4.2/12, MS3.6/6 Error ellipse: s-maj=15.1km s-min=10.2km az=42.0*
*IDC **18** 00:21:38.5±0.8, 10°.85S×162°.19E, h52km±6km, mb3.9/9, mb1 4.1/10, mb1mx3.9/28, mbtmp4.2/10, MS3.6/8, Ms1 3.6/8, ms1mx3.2/33, Error ellipse: s-maj=18.6km s-min=11.2km az=32.0*
*NEIC **18** 00:21:41.6±1.1, 10°.80S×161°.96E, h78km±10km, mb4.6/3, Error ellipse: s-maj=14.4km s-min=9.6km az=74.0*
ISC 18 00:21:39.1±0.6, 10°.72S±0°.09×162°.22E±0°.09, h54km, n19, σ1§46/24, mb4.2/12, MS3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.58**	**300**	P	**Pn**	**00 22 18.8**	**+0.4**
	361nm,0.3s,baz=255,slow=2.3,SNR=44						
HNR				S	**Sn**	**00 22 50.2**	**+1.6**
	600nm,0.3s,baz=106,slow=5.8,SNR=12						
HNR				LR	LR	00 23 19.4	
	comp=Z,953nm,20.3s,baz=130,slow=39						
HNR	**Honiara**	**2.58**	**300**	*i* P	**Pn**	**00 22 18.0**	**-0.4**
HNR				*i* S	**Sn**	**00 22 50.5**	**+1.9**
DZM	**Mont Dzumac**	**11.99**	**161**	P	**Pn**	**00 24 29.9**	**+2.5**
	0.6nm,0.3s,baz=24,slow=7.0,SNR=33						
DZM				LR	LR	00 28 25.0	
	comp=Z,168nm,18.1s,baz=52,slow=34						
CTA	**Charters Tower**	**17.97**	**237**	P	**Pn**	**00 25 48.3**	**+3.0**
	0.4nm,0.3s,baz=64,slow=13,SNR=6.3						
WRA	**Warramunga Arr**	**28.37**	**248**	P	**P**	**00 27 26.4**	**-2.0**
	3.8nm,0.7s,baz=78,slow=9.4,SNR=17						
STKA	**Stephens Creek**	**28.40**	**219**	P	**P**	**00 27 27.0**	**-1.5**
	3.3nm,0.8s,baz=24,slow=12,SNR=4.4						
STKA				LR	LR	00 38 10.3	
	comp=Z,288nm,19.7s,baz=35,slow=35						
ASAR	**Alice Springs**	**29.88**	**241**	P	**P**	**00 27 39.1**	**-2.7**
	1.0nm,0.3s,baz=64,slow=9.8,SNR=22						
ASAR				LR	LR	00 39 06.8	
	comp=Z,181nm,20.2s,baz=69,slow=35						
PPT	**Papeete**	**47.14**	**104**	LR	LR	00 47 58.0	
	comp=Z,36nm,18.5s,baz=289,slow=34						
KSRS	**Korea Array**	**57.71**	**328**	LR	LR	00 54 34.7	
	comp=Z,26nm,19.9s,baz=89,slow=34						
USRK	**Ussuriysk Ar.**	**61.16**	**336**	P	**P**	**00 31 49.0**	**+1.0**
	2.2nm,0.8s,baz=123,slow=7.0,SNR=4.7						
USRK				pP	**pP**	**00 32 02.1**	**-0.8**
	2.5nm,0.7s,baz=133,slow=8.4,SNR=4.3						
VNDA	**Vanda**	**66.78**	**180**	P	**P**	**00 32 25.1**	**+0.7**
	1.7nm,0.7s,baz=348,slow=6.4,SNR=16						
VNDA				LR	LR	00 58 07.0	
	comp=Z,66nm,18.2s,baz=46,slow=33						
SONM	**Songino Array**	**76.39**	**325**	P	**P**	**00 33 22.3**	**-0.6**
	0.5nm,0.5s,baz=144,slow=5.8,SNR=3.5						
SONM				pP	**pP**	**00 33 37.6**	**-0.6**
	2.7nm,0.7s,baz=139,slow=5.6,SNR=3.9						
BILL	**Bilibino**	**78.61**	**2**	*e*P	**P**	**00 33 35.3**	**+0.6**
	1.1nm,0.4s						
BILL				*e*		00 33 50.8	
QSPA	**South Pole Qui**	**79.28**	**180**	*e*P	**P**	**00 33 37.1**	**-1.5**
	3.5nm,0.7s						
ILAR	**Eielson Array**	**84.34**	**20**	P	**P**	**00 34 04.5**	**-0.5**
	1.2nm,0.6s,baz=242,slow=4.6,SNR=15						
ILAR				pP	**pP**	**00 34 20.7**	**+0.2**
	0.7nm,0.6s,baz=239,slow=4.9,SNR=4.3						
ILAR				LR	LR	01 06 02.5	
	comp=Z,28nm,20.0s,baz=249,slow=32						
EGAK	**Eagle**	**86.30**	**21**	*e*P	**P**	**00 34 15.7**	**+0.9**
	5.6nm,1.0s						
MKAR	**Makanchi Array**	**90.93**	**317**	P	**P**	**00 34 37.1**	**-0.1**
	0.3nm,0.6s,baz=93,slow=5.9,SNR=2.9						
MKAR				pP	**pP**	**00 34 51.7**	**-1.1**
	1.1nm,0.8s,baz=101,slow=5.0,SNR=5.6						
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**	**00 35 01.7**	**+0.3**
	0.4nm,0.6s,baz=261,slow=6.1,SNR=5.4						
YKA				pP	**pP**	**00 35 17.1**	**+0.1**
	0.6nm,0.8s,baz=259,slow=4.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**160.79**	**279**	PKP	**PKPdf**	**00 41 33.3**	**-0.9**
	0.8nm,1.1s,baz=20,slow=2.5,SNR=2.8						

*ISCJB **18** 00:26:13.9±0.5, 39°.08N±0°.04×29°.05E±0°.03, h5km±5km, Error ellipse: s-maj=6.1km s-min=3.8km az=164.6*
*DDA **18** 00:26:13.7, 39°.11N×29°.04E, h6km, Md2.8*
*ISK **18** 00:26:13.7, 39°.08N×29°.07E, h8km, MD2.8*
*CSEM **18** 00:26:14.0±0.1, 39°.08N×29°.06E, h5km, MD2.8, Error ellipse: s-maj=2.1km s-min=1.8km az=163.0*
ISC 18 00:26:14.2±0.9, 39°.09N±0°.02×29°.06E±0°.02, h10km±9km, n54, σ0§55/70, Turkey

|

AKS	**Akhisar**	**0.99**	**258**	*e*PG	**Pg**	**00 26 33.1**	**-0.2**
AKS	**Akhisar**	**0.99**	**258**	*e*Pg	**Pg**	**00 26 33.1**	**-0.2**
BALB	**Balikesir**	**1.06**	**301**	*e*PN	**Pb**	**00 26 34.9**	**+0.1**
BALB	**Balikesir**	**1.06**	**301**	*e*Pn	**Pb**	**00 26 34.9**	**+0.1**
IGD	**Bursa**	**1.18**	**5**	*i* P	**Pb**	**00 26 34.8**	**-1.9**
IGD				*i* S	**Sb**	**00 26 52.1**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*Pn	**Pb**	**00 26 38.2**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*Pn	**Pb**	**00 26 38.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*PN	**Pg**	**00 26 38.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*Pn	**Pg**	**00 26 38.9**	**0.0**
IZI	**Iznik**	**1.29**	**14**	*e*PN	**Pg**	**00 26 39.1**	**+0.1**
IZI	**Iznik**	**1.29**	**14**	*e*Pn	**Pg**	**00 26 39.1**	**+0.1**
BALY	**Balya**	**1.29**	**301**	P	**Pn**	**00 26 38.0**	**-0.4**
BALY				S	**Sb**	**00 26 54.2**	**-1.1**
BALY	**Balya**	**1.29**	**301**	*i* P	**Pn**	**00 26 38.0**	**-0.4**
BALY				*i* S	**Sb**	**00 26 54.2**	**-1.1**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*PN	**Pb**	**00 26 38.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*Pn	**Pb**	**00 26 38.7**	**0.0**
BORA	**Eskisehir**	**1.34**	**53**	P	**Pn**	**00 26 38.9**	**-0.2**
BORA				S	**Sg**	**00 26 57.5**	**+0.2**
BORA	**Eskisehir**	**1.34**	**53**	*i* P	**Pn**	**00 26 38.9**	**-0.2**
BORA				*i* S	**Sg**	**00 26 57.5**	**+0.2**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*PN	**Pb**	**00 26 40.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*Pn	**Pb**	**00 26 40.8**	**-0.2**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*PN	**Pn**	**00 26 40.8**	**+0.4**
ADVT				*e*SN	**Sg**	**00 27 00.5**	**-0.1**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*Pn	**Pn**	**00 26 40.8**	**+0.4**
ADVT				*e*Sn	**Sg**	**00 27 00.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**219**	*e*PN	**Pn**	**00 26 41.0**	**+0.1**
AYDB				*e*SN	**Sb**	**00 27 00.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**219**	*e*Pn	**Pn**	**00 26 41.0**	**+0.1**
AYDB				*e*Sn	**Sb**	**00 27 00.5**	**+0.2**
ARMT	**Armutlu**	**1.48**	**354**	*e*PN	**Pn**	**00 26 41.4**	**+0.4**
ARMT	**Armutlu**	**1.48**	**354**	*e*Pn	**Pn**	**00 26 41.4**	**+0.4**
EDC	**Edincik**	**1.56**	**324**	*e*PN	**Pb**	**00 26 42.9**	**-0.3**
EDC	**Edincik**	**1.56**	**324**	*e*Pn	**Pb**	**00 26 42.9**	**-0.3**
KNL	**Bal¯–kesir**	**1.67**	**315**	*i* P	**Pb**	**00 26 45.3**	**+0.2**
KNL				*i* S	**Sb**	**00 27 06.6**	**+0.5**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**00 26 44.8**	**+0.1**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**	**00 26 44.8**	**+0.1**
KRBG	**Karabiga-Canak**	**1.88**	**314**	*e*PN	**Pn**	**00 26 47.3**	**+0.9**
KRBG	**Karabiga-Canak**	**1.88**	**314**	*e*Pn	**Pn**	**00 26 47.3**	**+0.9**
MRMT	**Marmara Adasi**	**1.88**	**324**	*e*PN	**Pn**	**00 26 47.3**	**+0.7**
MRMT				*e*SN	**Sb**	**00 27 12.0**	**-0.4**
MRMT	**Marmara Adasi**	**1.88**	**324**	*e*Pn	**Pn**	**00 26 47.3**	**+0.7**
MRMT				*e*Sn	**Sb**	**00 27 12.0**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*PN	**Pn**	**00 26 47.8**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*Pn	**Pn**	**00 26 47.8**	**+0.3**
ISK	**Istanbul-Kandi**	**1.97**	**0**	*e*PN	**Pn**	**00 26 48.3**	**+0.6**
ISK	**Istanbul-Kandi**	**1.97**	**0**	*e*Pn	**Pn**	**00 26 48.3**	**+0.6**
KLYT	**Kilyos**	**2.16**	**360**	*e*PN	**Pn**	**00 26 51.2**	**+0.9**
KLYT	**Kilyos**	**2.16**	**360**	*e*Pn	**Pn**	**00 26 51.2**	**+0.9**
CTKS	**Kestanelik-??a**	**2.19**	**349**	*e*PN	**Pn**	**00 26 52.1**	**+1.5**
CTKS	**Kestanelik-??a**	**2.19**	**349**	*e*Pn	**Pn**	**00 26 52.1**	**+1.5**

*ISCJB **18** 00:40:19.7±0.6,39.˝70N±0.˝04×27.˝66E±0.˝05,h16km±6km, Error ellipse: s-maj=7.4km s-min=6.5km az=35.9*
*DDA **18** 00:40:19.3,39.˝68N×27.˝64E,h7km,Md2.6*
*CSEM **18** 00:40:19.5±0.1,39.˝70N×27.˝65E,h14km,MD2.5, Error ellipse: s-maj=1.8km s-min=1.4km az=147.0*
*ISK **18** 00:40:19.1,39.˝70N×27.˝64E,h15km,MD2.5*

ISC 18 00:40:19.7±1.0,39.˝70N±0.˝03×27.˝65E±0.˝03,h18km±6km, n39,σ0ş38/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.05**	**325**	P	**Pg**	**00 40 22.8**	**-0.2**
BALY	**Balya**	**0.05**	**325**	P	**Pg**	**00 40 22.8**	**-0.2**
BALB	**Balikesir**	**0.19**	**110**	*e*PG	**Pg**	**00 40 23.9**	**-0.5**
BALB	**Balikesir**	**0.19**	**110**	*e*Pg	**Pg**	**00 40 23.9**	**-0.5**
GONE	**Gonen-Balikesi**	**0.34**	**4**	*e*PG	**Pg**	**00 40 26.3**	**-0.7**
GONE				*e*SG	**Sg**	**00 40 32.1**	**+0.2**
GONE	**Gonen-Balikesi**	**0.34**	**4**	*e*Pg	**Pg**	**00 40 26.3**	**-0.7**
GONE				*e*Sg	**Sg**	**00 40 32.1**	**+0.2**
KNL	**Bal¯–kesir**	**0.58**	**350**	*i* P	**Pg**	**00 40 30.2**	**-0.9**
KNL				*i* S	**Sb**	**00 40 39.3**	**+0.1**
EDC	**Edincik**	**0.66**	**14**	*e*PG	**Pb**	**00 40 32.8**	**0.0**
EDC	**Edincik**	**0.66**	**14**	*e*Pg	**Pb**	**00 40 32.8**	**0.0**
KRBG	**Karabiga-Canak**	**0.74**	**339**	*e*PG	**Pb**	**00 40 33.9**	**-0.2**
KRBG	**Karabiga-Canak**	**0.74**	**339**	*e*Pg	**Pb**	**00 40 33.9**	**-0.2**
KCTX	**Karacabey (Bur**	**0.78**	**44**	*e*PG	**Pb**	**00 40 34.4**	**-0.4**
KCTX	**Karacabey (Bur**	**0.78**	**44**	*e*Pg	**Pb**	**00 40 34.4**	**-0.4**
AYVA	**Ayvalik**	**0.84**	**242**	P	**Pb**	**00 40 35.7**	**-0.1**
AYVA	**Ayvalik**	**0.84**	**242**	*i* P	**Pb**	**00 40 35.7**	**-0.1**
DKL	**Dikili**	**0.86**	**223**	*e*PG	**Pb**	**00 40 36.0**	**0.0**
DKL	**Dikili**	**0.86**	**223**	*e*Pg	**Pb**	**00 40 36.0**	**0.0**
MRMT	**Marmara Adasi**	**0.90**	**357**	*e*PG	**Pb**	**00 40 37.0**	**+0.1**
MRMT	**Marmara Adasi**	**0.90**	**357**	*e*Pg	**Pb**	**00 40 37.0**	**+0.1**
LPK	**Lapseki**	**0.96**	**315**	*e*PG	**Pb**	**00 40 37.8**	**0.0**
LPK	**Lapseki**	**0.96**	**315**	*e*Pg	**Pb**	**00 40 37.8**	**0.0**
GELI	**Tayfur-Gelibol**	**1.14**	**308**	*e*PN	**Pb**	**00 40 40.9**	**0.0**
GELI	**Tayfur-Gelibol**	**1.14**	**308**	*e*Pn	**Pb**	**00 40 40.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.16**	**54**	*e*PN	**Pb**	**00 40 41.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.16**	**54**	*e*Pn	**Pb**	**00 40 41.2**	**+0.1**
ARMT	**Armutlu**	**1.27**	**47**	*e*PN	**Pb**	**00 40 42.9**	**-0.1**
ARMT	**Armutlu**	**1.27**	**47**	*e*Pn	**Pb**	**00 40 42.9**	**-0.1**
ERIK	**Erikli-Kesan**	**1.30**	**318**	*e*PN	**Pn**	**00 40 43.2**	**+0.2**
ERIK	**Erikli-Kesan**	**1.30**	**318**	*e*Pn	**Pn**	**00 40 43.2**	**+0.2**
TVSB	**Tavsanli**	**1.42**	**100**	*e*PN	**Pn**	**00 40 44.9**	**+0.1**
TVSB	**Tavsanli**	**1.42**	**100**	*e*Pn	**Pn**	**00 40 44.9**	**+0.1**
GADA	**Gvkgeada**	**1.43**	**290**	*e*PN	**Pn**	**00 40 45.1**	**+0.3**
GADA	**Gvkgeada**	**1.43**	**290**	*e*Pn	**Pn**	**00 40 45.2**	**+0.3**
SIGR	**SIGRI**	**1.48**	**251**	*e*PN	**Pn**	**00 40 45.7**	**+0.3**
SIGR	**SIGRI**	**1.48**	**251**	*e*Pn	**Pn**	**00 40 45.7**	**+0.3**
CTKS	**Kestanelik-??a**	**1.67**	**23**	*e*PN	**Pn**	**00 40 48.8**	**+0.8**
CTKS	**Kestanelik-??a**	**1.67**	**23**	*e*Pn	**Pn**	**00 40 48.8**	**+0.8**
ADVT	**Abdulvahap**	**1.76**	**65**	*e*PN	**Pn**	**00 40 49.9**	**+0.6**
ADVT	**Abdulvahap**	**1.76**	**65**	*e*Pn	**Pn**	**00 40 49.9**	**+0.6**

*NIED **18** 00:41:00,37.˝30N×142.˝10E,h17km,Mw3.5 Best double couple: M₀2.33000×10¹⁴ NP1:φ₀83.00000°,δ31.00000°, λ-17.00000°. NP2:φ₀187.00000°,δ81.00000°, λ-120.00000°.*
*IDC **18** 00:41:30.0±1.3,37.˝13N×142.˝20E,h0km,mb3.8/5, mb1 3.8/9,mb1mx3.6/34,mbtmp3.7/9,ML3.4/3,MS3.0/2, Ms1 3.0/2,ms1mx2.4/46,Error ellipse: s-maj=25.4km s-min=21.3km az=108.0*
*ISCJB **18** 00:41:30.5±1.8,37.˝23N±0.˝05×142.˝13E±0.˝06, h14km±13km,mb3.7/5,MS3.3/1,Error ellipse: s-maj=8.7km s-min=7.7km az=163.3*
*JMA **18** 00:41:32.3±0.2,37.˝26N×142.˝06E,h30km±5km,M3.7*

ISC 18 00:41:30.6±3.0,37.˝25N±0.˝05×142.˝08E±0.˝07,h3km±18km, n25,σ1ş33/26,mb3.8/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.97**	**277**	P	**Pb**	**00 41 49.7**	**-0.4**
JFK				S	**Sb**	**00 42 01.9**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.04**	**262**	P	**Pb**	**00 41 50.2**	**-1.0**
ONAJ				*e*S	**Sg**	**00 42 04.1**	**+0.2**
JMM	**Marumori**	**1.19**	**301**	P	**Pn**	**00 41 53.1**	**-1.1**
JMM				*e*S	**Sb**	**00 42 07.8**	**-1.9**
JIO	**Ouri**	**1.33**	**334**	P	**Pn**	**00 41 54.8**	**-1.3**
JFT	**Otama**	**1.42**	**281**	P	**Pn**	**00 41 57.2**	**-0.5**
JFT				S	**Sb**	**00 42 14.8**	**-1.3**
JOU	**Okura**	**1.58**	**315**	P	**Pn**	**00 41 59.4**	**-0.1**
JOU				S	**Sn**	**00 42 19.5**	**-1.0**
JMK	**Ichinoseki**	**1.83**	**338**	P	**Pn**	**00 42 02.8**	**-0.1**
JYK	**Kaneyama**	**2.15**	**321**	P	**Pn**	**00 42 07.2**	**-0.1**
MJAR	**Matsushiro Arr**	**3.19**	**258**	Pn	**Pn**	**00 42 22.0**	**+0.4**
	3.1nm,0.3s,baz=82,slow=15,SNR=12						
MJAR				Sn	**Sn**	**00 43 01.3**	**+1.2**
	1.1nm,0.3s,baz=116,slow=11,SNR=4.9						
MJAR				LR	LR	00 43 53.4	
	comp=Z,113nm,18.7s,baz=70,slow=44						
MAT	**Matsushiro**	**3.19**	**258**	P	**Pn**	**00 42 22.2**	**+0.6**
MAT				*e*S	**Sn**	**00 43 01.0**	**+0.9**
JHJ	**Hachijo jima 2**	**4.53**	**205**	Pn	**Pn**	**00 42 40.5**	**+0.4**
	8.3nm,0.3s,baz=66,slow=20,SNR=5.7						
JHJ				Sn	**Sn**	**00 43 30.1**	**-3.2**
	6.8nm,0.3s,baz=66,slow=20,SNR=2.9						
USRK	**Ussuriysk Ar.**	**10.33**	**315**	Pn	**Pn**	**00 44 01.0**	**+1.3**
	0.1nm,0.3s,baz=177,slow=30,SNR=2.2						
KSRS	**Korea Array**	**11.28**	**275**	Pn	**Pn**	**00 44 14.9**	**+2.3**
	0.2nm,0.3s,baz=94,slow=13,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**27.80**	**122**	T	T	01 16 27.3	
	baz=315,slow=75,SNR=93						
H11N1	**WAKE ISLAND Hy**	**27.81**	**122**	T	T	01 16 58.3	
	baz=315,slow=75,SNR=57						
H11N3	**WAKE ISLAND Hy**	**27.82**	**122**	T	T	01 16 39.8	
	baz=315,slow=75,SNR=62						
SONM	**Songino Array**	**28.11**	**303**	P	**P**	**00 47 24.5**	**+0.8**
	1.8nm,0.7s,baz=116,slow=8.7,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	01 17 18.3	
	baz=316,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy**	**28.54**	**124**	T	T	01 17 18.2	
	baz=316,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**28.55**	**124**	T	T	01 17 21.0	
	baz=316,slow=76,SNR=63						
ZALV	**Zalesovo Beam**	**42.16**	**312**	P	**P**	**00 49 24.8**	**+0.6**
	0.6nm,0.5s,baz=111,slow=7.1,SNR=3.4						
MKAR	**Makanchi Array**	**44.46**	**302**	P	**P**	**00 49 44.4**	**+1.6**
	1.3nm,0.6s,baz=88,slow=11,SNR=12						
ILAR	**Eielson Array**	**49.02**	**32**	P	**P**	**00 50 18.6**	**+0.3**
	0.6nm,0.8s,baz=260,slow=5.6,SNR=6.8						
WRA	**Warramunga Arr**	**57.35**	**189**	P	**P**	**00 51 18.6**	**-1.4**
	0.4nm,0.4s,baz=6.8,slow=7.0,SNR=4.7						
RES	**Resolute Bay**	**62.26**	**15**	LR	LR	01 20 37.8	
	comp=Z,20nm,19.3s,baz=48,slow=38						

*IDC **18** 00:50:14.3±2.8,21.˝65S×72.˝37W,h0km,mb3.9/2, mb1 4.0/3,mb1mx3.7/19,mbtmp3.9/3,ML4.0/1,Error ellipse: s-maj=77.8km s-min=62.1km az=162.0*
*NEIC **18** 00:50:15.8±0.7,21.˝61S×72.˝41W,h10km,mb4.1/8,Error ellipse: s-maj=17.8km s-min=9.6km az=207.0*
*ISCJB **18** 00:50:17.8±1.1,21.˝5S±0.˝2×72.˝3W±0.˝1,h33km,mb4.0/10, Error ellipse: s-maj=26.3km s-min=14.4km az=27.4*

ISC 18 00:50:19.5±1.1,21.˝6S±0.˝2×72.˝3W±0.˝2,h35km,n12, σ0ş59/12,mb4.0/10,Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.33**	**109**	Pn	**Pn**	**00 51 09.0**	**-0.5**
LPAZ	**La Paz**	**6.59**	**38**	Pn	**Pn**	**00 51 54.2**	**-0.3**
	1.4nm,0.3s,baz=281,slow=9.0,SNR=34						
OTAV	**Otavalo**	**22.49**	**344**	*e*P	**P**	**00 55 16.1**	**-0.5**
	1.0nm,0.4s						
SJG	**San Juan**	**39.91**	**9**	*e*P	**P**	**00 57 51.1**	**+0.8**
	4.2nm,0.6s						
TEIG	**Tepich**	**44.38**	**338**	*e*P	**P**	**00 58 26.0**	**-0.8**
	6.8nm,1.2s						
WMOK	**Wichita Mounta**	**61.39**	**335**	P	**P**	**01 00 31.6**	**-0.5**
	0.9nm,0.9s						
ANMO	**Albuquerque**	**64.89**	**329**	*e*P	**P**	**01 00 56.0**	**+0.4**
	0.8nm,0.8s						
RSSD	**Black Hills**	**71.54**	**336**	P	**P**	**01 01 37.3**	**+0.2**
	1.6nm,0.9s						
CMB	**Columbia Colle**	**74.52**	**322**	*e*P	**P**	**01 01 54.5**	**-0.2**
	8.4nm,0.9s						
NEW	**Newport**	**80.25**	**331**	*e*P	**P**	**01 02 26.4**	**-0.1**
	1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.39**	**72**	P	**P**	**01 02 28.6**	**+0.6**
	1.2nm,0.7s,baz=258,slow=5.2,SNR=7.5						
YKA	**Yellowknife Ar**	**90.23**	**342**	P	**P**	**01 03 16.5**	**+0.5**
	0.5nm,0.9s,baz=136,slow=5.5,SNR=3.5						

NEIC 18 00:50:21.0,15.˝66S×74.˝44W,h68km,mb4.0/5,After ARE.,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.33**	**327**	*e*Pn	Pn	00 51 26.0	+1.5
NNA				*e*Sn	Sn	00 52 14.2	+0.4
LVC	**Limon Verde**	**8.66**	**144**	*e*Pn	Pn	00 52 24.9	+0.9
	5.7nm,0.4s						
SAML	**Samuel**	**12.86**	**60**	*e*Pn	Pn	00 53 20.8	-0.1
LCO	**Las Campanas**	**13.73**	**166**	*e*Pn	Pn	00 53 33.0	+0.2
OTAV	**Otavalo**	**16.29**	**346**	*e*Pn	Pn	00 54 03.9	-2.2
SDV	**Santo Domingo**	**24.68**	**9**	*e*P	P	00 55 36.0	+0.1
	1.9nm,0.5s						
WMOK	**Wichita Mounta**	**55.20**	**336**	*e*P	P	00 59 47.2	+0.3
	0.6nm,0.5s						
SDCO	**Great Sand Dun**	**60.62**	**332**	*e*P	P	01 00 27.8	+2.7
	1.2nm,0.7s						
PV10	**Paradox Valley**	**62.78**	**330**	*e*P	P	01 00 39.5	-0.1
	22nm,0.5s						
NEW	**Newport**	**74.12**	**332**	*e*P	P	01 01 50.3	+0.3
	1.5nm,0.6s						
SUMG	**Summit**	**91.20**	**10**	*e*P	P	01 03 18.9	+0.4
	2.2nm,0.7s						

SJA 18 00:54:18.6±1.0,31.˝26S×68.˝65W,h98km±6km,ML2.0, MW2.7,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**0.34**	**23**	*e*P	Pn	00 54 34.3	+1.0
AMOG				*e*S	Sn	00 54 45.0	+0.8
RTCV	**Cerro Valdivia**	**0.61**	**172**	*e*P	Pn	00 54 35.9	+0.7
RTCV				*e*S	Sn	00 54 48.9	+1.4
RTLS	**Leoncito**	**0.78**	**226**	*e*P	Pn	00 54 37.9	+0.9
RTLS				*e*S	Sn	00 54 52.3	+1.7
AUSP	**Uspallata**	**1.15**	**213**	*e*P	Pn	00 54 42.0	+1.1
AUSP				*e*S	Sn	00 54 59.1	+1.4
ASAL	**Salagasta**	**1.34**	**187**	*e*P	Pn	00 54 44.1	+1.2
ASAL				*e*S	Sn	00 55 03.2	+1.9
ARCO	**CERRO ARCO**	**1.60**	**189**	*e*P	Pn	00 54 47.2	+1.1
ARCO				*e*S	Sn	00 55 08.9	+1.8
ARCO				IAML		00 55 10.7	
	comp=Z,13nm,0.3s						
ACAN	**Cantantal**	**1.60**	**130**	*e*P	Pn	00 54 47.3	+1.2
ACAN				*e*S	Sn	00 55 07.5	+0.5

*ISCJB **18** 00:58:17.9±0.7,5.˝36S±0.˝03×145.˝87E±0.˝04,h105km±7km, mb4.9/45,Error ellipse: s-maj=6.5km s-min=5.4km az=1.1*
*IDC **18** 00:58:17.9±0.8,5.˝29S×146.˝01E,h96km±7km,mb4.0/13, mb1 4.2/15,mb1mx4.0/33,mbtmp4.3/15,MS3.0/3, Ms1 3.0/3,ms1mx2.7/30,Error ellipse: s-maj=17.4km s-min=8.9km az=88.0*
*BJI **18** 00:58:18.9,5.˝30S×145.˝80E,h97km,mb4.6/20,mB4.9/13*
*NEIC **18** 00:58:19.3±0.5,5.˝35S×145.˝84E,h104km±5km,mb5.1/35, Error ellipse: s-maj=4.1km s-min=3.8km az=104.0*

ISC 18 00:58:19.3±0.5,5.˝36S±0.˝04×145.˝92E±0.˝05,h101km±4km, h101km:pP-P,n79,σ1ş39/101,mb5.0/44,1C,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.60**	**24**	*e*Pn	**Pn**	**00 59 11.8**	**-1.3**
PMG	**Port Moresby**	**4.20**	**163**	P	**Pn**	**00 59 21.5**	**+0.3**
	56nm,0.3s,baz=344,slow=7.0,SNR=65						
PMG				S	**Sn**	**01 00 09.4**	**+0.2**
	119nm,0.3s,baz=133,slow=23,SNR=24						
PMG				LR	LR	01 00 55.3	
	comp=Z,157nm,20.5s,baz=342,slow=37						
JAY	**Jayapura**	**5.92**	**298**	P	**Pn**	**00 59 44.5**	**-0.1**
	0.2nm,0.3s,baz=89,slow=22,SNR=4.9						
JAY				S	**Sn**	**01 00 54.6**	**+3.5**
	0.2nm,0.3s,baz=82,slow=22,SNR=1.9						
RABL	**Rabaul**	**6.33**	**80**	*e*Pn	**Pn**	**00 59 51.8**	**+1.7**
COEN	**Coen**	**8.96**	**197**	*e*Pn	**Pn**	**01 00 26.4**	**+0.6**
COEN				*e*Sn	**Sn**	**01 02 05.3**	**+0.2**
HNR	**Honiara**	**14.48**	**107**	*e*Pn	**Pn**	**01 01 41.0**	**+1.5**
CTA	**Charters Tower**	**14.64**	**179**	P	**P**	**01 01 46.6**	**+1.6**
	1.5nm,0.3s,baz=356,slow=14,SNR=14						
CTAO	**Charters Tower**	**14.64**	**179**	*e*Pn	**Pn**	**01 01 40.5**	**-1.0**
SAUI	**Saumlaki**	**14.75**	**259**	*e*Pn	**Pn**	**01 01 41.7**	**-1.2**
MTN	**Manton Dam**	**16.38**	**242**	*e*Pn	**Pn**	**01 02 02.0**	**-1.3**
	29nm,0.6s						
WRAB	**Tennant Creek**	**18.34**	**217**	*e*P	**P**	**01 02 24.8**	**-1.1**
	27nm,0.8s						
WB2	**Warramunga Arr**	**18.35**	**217**	*e*P	**P**	**01 02 25.7**	**-0.3**
	14nm,1.1s						
WRA	**Warramunga Arr**	**18.36**	**217**	P	**P**	**01 02 25.7**	**-0.4**
	1.5nm,0.3s,baz=35,slow=11,SNR=37						
WRA				PcP	**PcP**	**01 06 52.9**	**-0.7**
	0.1nm,0.3s,baz=21,slow=2.1,SNR=5.1						
EIDS	**Eidsvold**	**20.50**	**167**	*e*P	**P**	**01 02 50.2**	**+0.9**
	36nm,1.5s						
AS01	**Alice Springs**	**21.54**	**211**	*e*P	**P**	**01 02 58.8**	**-1.8**
AS31	**Alice Springs**	**21.57**	**211**	*e*P	**P**	**01 03 00.7**	**-0.2**
	2.7nm,0.7s						
ASAR	**Alice Springs**	**21.57**	**211**	P	**P**	**01 02 59.8**	**-1.0**
	4.0nm,0.5s,baz=48,slow=8.1,SNR=39						
ASAR				S	**S**	**01 06 56.0**	**+1.8**
	1.0nm,0.9s,baz=37,slow=23,SNR=4.1						
SOEI	**Soe**	**21.90**	**257**	*e*P	**P**	**01 03 03.9**	**-0.6**
SOEI				*e*pP	pP	01 03 14.4	-10
SARN	**Sarigan**	**21.92**	**360**	*e*P	**P**	**01 03 03.0**	**-1.6**
LUWI	**Luwuk**	**23.50**	**280**	*e*P	**P**	**01 03 19.5**	**-0.8**
	44nm,1.2s						
FITZ	**Fitzroy Crossi**	**23.51**	**236**	P	**P**	**01 03 19.7**	**-0.7**
	14nm,0.5s,baz=47,slow=10,SNR=56						
FITZ	**Fitzroy Crossi**	**23.51**	**236**	*e*P	**P**	**01 03 19.9**	**-0.5**
	17nm,0.6s						
MMRI	**Maumere**	**23.73**	**261**	*e*P	**P**	**01 03 21.6**	**-0.7**
	92nm,1.4s						
ARMA	**Armidale**	**25.50**	**168**	*e*P	**P**	**01 03 38.5**	**+0.1**
	48nm,1.5s						
KWAJ	**Kwajalein Atol**	**25.80**	**57**	*e*P	**P**	**01 03 41.8**	**+0.7**
	279nm,0.8s						
KAPI	**Kappang**	**26.06**	**270**	P	**P**	**01 03 44.8**	**+1.3**
	7.2nm,0.6s,baz=31,slow=6.7,SNR=5.0						
KAPI	**Kappang**	**26.06**	**270**	*e*P	**P**	**01 03 42.6**	**-0.9**
	22nm,1.4s						
STKA	**Stephens Creek**	**26.69**	**188**	P	**P**	**01 03 49.0**	**0.0**
	4.9nm,0.5s,baz=355,slow=8.2,SNR=7.3						
STKA				LR	LR	01 15 47.5	
	comp=Z,44nm,21.7s,baz=300,slow=39						
STKA	**Stephens Creek**	**26.69**	**188**	*e*P	**P**	**01 03 48.9**	**-0.1**
	3.9nm,1.1s						
TARA	**Tarawa**	**27.79**	**77**	*e*P	**P**	**01 04 00.3**	**+1.3**
	164nm,1.1s						
LHI	**Lord Howe Isla**	**28.80**	**156**	*e*P	**P**	**01 04 08.4**	**+0.7**
	402nm,1.3s						
BBOO	**Buckleboo**	**28.82**	**197**	*e*P	**P**	**01 04 08.4**	**+0.5**
	132nm,2.0s						
MYLDM	**Lahad Datu**	**29.32**	**290**	*e*P	**P**	**01 04 11.8**	**-0.8**
	22nm,1.1s						
KKM	**Kota Kinabalu**	**31.75**	**291**	*e*P	**P**	**01 04 32.6**	**-1.5**
	32nm,1.1s						
CBIJ	**Chichi jima**	**32.47**	**354**	*e*P	**P**	**01 04 40.0**	**-0.2**
	69nm,1.3s						
MSVF	**Nonsavu**	**33.72**	**114**	*e*P	**P**	**01 04 52.1**	**+0.7**
	15nm,0.9s						
SBUM	**Sibu**	**34.55**	**282**	*e*P	**P**	**01 04 57.0**	**-1.4**
	19nm,1.7s						
KSM	**Kuching**	**36.21**	**280**	*e*P	**P**	**01 05 11.6**	**-1.1**
	44nm,1.6s						
JOW	**Kunigami**	**36.28**	**333**	*e*P	**P**	**01 05 13.5**	**+0.4**
	98nm,0.3s						
TWG	**Pinlang**	**37.08**	**320**	*e*P	**P**	**01 05 18.7**	**-1.3**
	188nm,1.8s						
NACB	**Ninganchiao**	**37.73**	**322**	*e*P	**P**	**01 05 24.7**	**-0.8**
	19nm,0.9s						
SSLB	**Suanglung**	**37.85**	**321**	*e*P	**P**	**01 05 26.2**	**-0.2**
	36nm,1.8s						
CISI	**Cisompet, Garu**	**37.92**	**265**	*e*P	**P**	**01 05 26.4**	**-0.8**
	174nm,1.7s						
TATO	**Taipei**	**38.40**	**323**	*e*P	**P**	**01 05 30.5**	**-0.4**
	95nm,1.4s						
XMIS	**Christmas Isla**	**40.18**	**260**	*e*P	**P**	**01 05 45.1**	**-0.9**
	214nm,1.2s						
JNU	**Nakatsue**	**40.85**	**341**	*e*P	**P**	**01 05 51.6**	**+0.4**
	39nm,1.7s						
INU	**Inuyama**	**41.35**	**349**	*e*P	**P**	**01 05 55.9**	**+0.6**
	15nm,1.3s						
MJAR	**Matsushiro Arr**	**42.31**	**351**	LR

KSH LE
100nm,4.8s
KSH LZ
150nm,6.1s
MAW Mawson 82.42 203 P **P** **01 10 29.2 -0.7**
2.6nm,0.6s,baz=117,slow=18,SNR=5.7
RC01 Rabbit Creek A 82.63 26 *eP* **P** **01 10 30.4 -0.7**
13nm,0.4s
ILAR Eielson Array 85.32 23 P **P** **01 10 42.1 -2.7**
3.3nm,0.6s,baz=250,slow=5.1,SNR=46
ILAR pP **pP** **01 11 08.2 -2.9**
0.8nm,0.6s,baz=254,slow=4.6,SNR=2.7
SYO Syowa Base 90.82 200⇑ *eP* **P** **01 11 09.2 -1.7**
YKA Yellowknife Ar 99.11 28 P **Pdif** **01 11 47.0 -1.8**
0.4nm,0.8s,baz=291,slow=1.9,SNR=3.3
YKA PKKPbc **PKKPbc** **01 28 13.0 -3.6**
0.3nm,0.6s,baz=75,slow=2.7,SNR=4.6
TORD Torodi Ar. Bea 143.89 285 PKhKP PKPpre 01 17 39.7
0.2nm,0.3s,baz=59,slow=3.2,SNR=14
SIV San Ignacio 145.88 129 PKPbc **PKPdf** **01 17 46.4 -0.9**
2.9nm,0.6s,baz=249,slow=4.3,SNR=8.6

IDC 18 01:10:01.7±3.5, 5°29S×153°85E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/41, mbtmp3.8/4, Error ellipse: s-maj=129.8km s-min=31.4km az=113.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.93**	**231**	P		P		01 15 17.8	0.0
	0.6nm,0.7s,baz=54,slow=9.7,SNR=3.8								
ASAR	**Alice Springs**	**26.52**	**224**	P		P		01 15 41.2	-0.1
	0.7nm,0.9s,baz=61,slow=8.7,SNR=3.4								
MKAR	**Makanchi Array**	**81.39**	**319**	P		P		01 22 21.2	+0.6
	1.2nm,0.8s,baz=96,slow=6.1,SNR=6.3								
BVAR	**Borovoye Array**	**90.26**	**323**	P		P		01 23 03.8	-0.6
	1.1nm,0.6s,baz=110,slow=6.6,SNR=7.0								
TORD	**Torodi Ar. Bea**	**151.46**	**288**	PKPbc		PKPbc		01 29 58.5	-0.3
	0.7nm,0.5s,baz=72,slow=2.5,SNR=14								

*KRSC **18** 01:10:14.9±2.8, 49°.59N×157°.37E, h49km±25km, ML4.9*
*ISCJB **18** 01:10:15.3±0.7, 49°.61N±0°.06×156°.38E±0°.07, h86km±6km, mb3.8/20, Error ellipse: s-maj=11.2km s-min=4.7km az=141.4*
*MOS **18** 01:10:15.3±1.0, 49°.63N×156°.37E, h87km, mb4.0/13, Error ellipse: s-maj=10.7km s-min=4.9km az=74.2*
*IDC **18** 01:10:16.5±0.6, 49°.56N×156°.32E, h78km±5km, mb3.6/16, mb1 3.8/20, mb1mx3.6/61, mbtmp3.9/20, MS3.0/9, Ms1 3.1/9, ms1mx2.8/35, Error ellipse: s-maj=15.0km s-min=9.6km az=132.0*
ISC 18 01:10:16.3±0.6, 49°.59N±0°.07×156°.48E±0°.06, h81km±4km, h80km:pP-P, n81, σ1s34/101, mb4.0/20, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.12**	**348**	*e*PN		**Pn**		**01 10 36.4**	**-0.4**
SKR				*e*S		**Sn**		**01 10 51.9**	**-0.3**
SKR				pmax		pmax			
	comp=Z,851nm,0.9s								
SKR				smax		smax			
	comp=N,4µm,0.2s								
SKR				smax		smax			
	comp=E,5µm,0.2s								
SKR	**Severo-Kuril's**	**1.12**	**348**	*e*P		**Pn**		**01 10 36.1**	**-0.7**
SKR				*e*S		**Sn**		**01 10 52.0**	**-0.3**
PAU	**Pauzhetka**	**1.89**	**6**	PN		**Pn**		**01 10 47.0**	**+0.2**
PAU				S		**Sn**		**01 11 10.3**	**+0.4**
PAU	**Pauzhetka**	**1.89**	**6**	*e*P		**Pn**		**01 10 47.0**	**+0.2**
PAU				*e*S		**Sn**		**01 11 10.3**	**+0.4**
ASAK	**Asacha**	**2.94**	**17**	PN		**Pn**		**01 11 01.1**	**+0.2**
ASAK				S		**Sn**		**01 11 35.4**	**+0.2**
ASAK	**Asacha**	**2.94**	**17**	*e*P		**Pn**		**01 11 01.1**	**+0.2**
ASAK				*e*S		**Sn**		**01 11 35.4**	**+0.2**
RUS	**Russkaya**	**3.13**	**24**	PN		**Pn**		**01 11 02.2**	**-1.1**
RUS				S		**Sn**		**01 11 37.4**	**-2.1**
RUS	**Russkaya**	**3.13**	**24**	*e*P		**Pn**		**01 11 02.2**	**-1.1**
RUS				*e*S		**Sn**		**01 11 37.4**	**-2.1**
KRMR	**Karymshinskiy**	**3.41**	**17**	PN		**Pn**		**01 11 08.0**	**+0.9**
KRMR				S		**Sn**		**01 11 47.2**	**+0.8**
KRMR	**Karymshinskiy**	**3.41**	**17**	*e*P		**Pn**		**01 11 08.0**	**+0.9**
KRMR				*e*S		**Sn**		**01 11 47.2**	**+0.8**
PETK	**Petropavlovsk-**	**3.61**	**12**	P		**Pn**		**01 11 11.0**	**+1.2**
	comp=E,6.6nm,0.3s,baz=185,slow=12,SNR=53								
PETK				S		**Sn**		**01 11 54.8**	**+3.5**
	comp=E,3.0nm,0.3s,baz=149,slow=17,SNR=5.6								
PET	**Petropavlovsk**	**3.70**	**21**	*e*PN		**Pn**		**01 11 10.9**	**-0.2**
PET				*e*S		**Sn**		**01 11 52.9**	**-0.6**
PET				pmax		pmax			
	comp=Z,92nm,0.5s								
PET				smax		smax			
	comp=E,192nm,0.6s								
PET				smax		smax			
	comp=N,218nm,0.6s								
PET				MLR		MLR			
	comp=Z,100nm,16.0s								
PET	**Petropavlovsk**	**3.70**	**21**	*e*P		**Pn**		**01 11 11.3**	**+0.2**
PET				*e*S		**Sn**		**01 11 53.5**	**0.0**
DALK	**Dalny**	**3.73**	**22**	PN		**Pn**		**01 11 11.6**	**+0.1**
DALK				S		**Sn**		**01 11 53.0**	**-1.3**
DALK	**Dalny**	**3.73**	**22**	*e*P		**Pn**		**01 11 11.6**	**+0.1**
DALK				*e*S		**Sn**		**01 11 53.0**	**-1.3**
UGLR	**Uglovaya**	**3.91**	**21**	PN		**Pn**		**01 11 14.5**	**+0.4**
UGLR	**Uglovaya**	**3.91**	**21**	*e*P		**Pn**		**01 11 14.5**	**+0.4**
AVH	**Avacha**	**3.94**	**20**	PN		**Pn**		**01 11 15.5**	**+1.0**
AVH	**Avacha**	**3.94**	**20**	*e*P		**Pn**		**01 11 15.5**	**+1.0**
KOK	**Koryaka**	**3.95**	**19**	PN		**Pn**		**01 11 16.2**	**+1.7**
KOK	**Koryaka**	**3.95**	**19**	*e*P		**Pn**		**01 11 16.2**	**+1.7**
SMAR	**Somma**	**3.96**	**21**	PN		**Pn**		**01 11 15.4**	**+0.6**
SMAR	**Somma**	**3.96**	**21**	*e*P		**Pn**		**01 11 15.4**	**+0.6**
SDLR	**Sedlovina**	**3.99**	**21**	PN		**Pn**		**01 11 14.8**	**-0.3**
SDLR	**Sedlovina**	**3.99**	**21**	*e*P		**Pn**		**01 11 14.8**	**-0.3**
NLC	**Nalytchevo**	**4.01**	**26**	PN		**Pn**		**01 11 13.9**	**-1.4**
NLC				S		**Sn**		**01 11 57.7**	**-3.4**
NLC	**Nalytchevo**	**4.01**	**26**	*e*P		**Pn**		**01 11 13.9**	**-1.4**
NLC				*e*S		**Sn**		**01 11 57.7**	**-3.4**
KRX	**Arik**	**4.01**	**19**	PN		**Pn**		**01 11 16.5**	**+1.0**
KRX	**Arik**	**4.01**	**19**	*e*P		**Pn**		**01 11 16.5**	**+1.0**
GNL	**Ganaly**	**4.21**	**12**	PN		**Pn**		**01 11 19.3**	**+1.1**
GNL	**Ganaly**	**4.21**	**12**	*e*P		**Pn**		**01 11 19.3**	**+1.1**
MKZ	**Mys Kozlova**	**5.94**	**31**	PN		**Pn**		**01 11 39.6**	**-1.9**
MKZ	**Mys Kozlova**	**5.94**	**31**	*e*P		**Pn**		**01 11 39.6**	**-1.9**
MKZ				*e*S		**Sn**		**01 12 42.8**	**-5.2**
KUR	**Kuril'sk**	**7.28**	**237**	PN		Pn		01 11 54.1	-5.8
BKI	**Bering**	**8.08**	**42**	*e*S		Sn		01 13 31.4	-8.9
YUK	**Yuzh-Kuril'sk**	**9.15**	**237**	*e*PN		**Pn**		**01 12 24.9**	**-0.5**
UGL	**Uglegorsk**	**9.43**	**272**	*e*PN		**Pn**		**01 12 27.8**	**-1.3**
UGL				*e*S		**Sn**		**01 14 12.3**	**-1.0**
YSS	**Yuzh-Sakhalins**	**9.52**	**259**⇑	*e*PN		**Pn**		**01 12 33.0**	**+2.6**
YSS				pmax		pmax			
	comp=Z,20nm,0.8s								
MA2	**Magadan**	**10.54**	**344**	P		Pn		01 12 48.7	+4.5
	comp=Z,1.1nm,0.3s,baz=42,slow=2.0,SNR=4.0								
MA2				LR		LR		01 16 42.4	
	comp=Z,56nm,19.6s,baz=134,slow=37								
ASAJ	**Asahikawa**	**10.96**	**245**	P		**Pn**		**01 12 50.0**	**-0.1**
ASAJ	**Asahikawa**	**10.96**	**245**	PN		**Pn**		**01 12 50.0**	**-0.1**
HABR	**Khabarovsk**	**14.10**	**274**	*e*P		**Pn**		**01 13 30.4**	**-1.6**
HABR				*e*S		**Sn**		**01 16 05.4**	**-1.4**
HABR				pmax		pmax			
	comp=Z,14nm,1.5s								
HABR				pmax		pmax			
	comp=E,24nm,1.3s								
HABR				MLR		MLR			
	comp=Z,72nm,17.0s								
KLR	**Kul'dur**	**16.08**	**278**	P		**P**		**01 13 58.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=76,slow=12,SNR=7.6								
KLR				LR		LR		01 19 50.0	
	comp=Z,47nm,20.4s,baz=100,slow=36								
USRK	**Ussuriysk Ar.**	**17.55**	**261**	P		**P**		**01 14 15.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=71,slow=13,SNR=6.4								
MJA0	**Matsu Arr-Jizo**	**18.57**	**232**	*e*P		**Pn**		**01 14 27.0**	**-0.9**
MJA0				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MAJO	**Matsushiro**	**18.59**	**232**	*de*P		**Pn**		**01 14 26.8**	**-1.3**
MAJO				pmax		pmax			
	comp=Z,46nm,0.7s								
MAT	**Matsushiro**	**18.59**	**232**	P		**Pn**		**01 14 26.5**	**-1.6**
MJAR	**Matsushiro Arr**	**18.59**	**232**	P		**Pn**		**01 14 27.0**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=26,slow=11,SNR=23								
MJAR				pP		**pP**		**01 14 42.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=45,slow=10,SNR=1.5								
KSRS	**Korea Array**	**23.84**	**250**	P		**P**		**01 15 22.2**	**+0.4**
	comp=Z,5.8nm,0.8s,baz=46,slow=9.8,SNR=33								
TJN	**Taejon**	**24.88**	**249**⇓	*e*P		**P**		**01 15 31.9**	**+0.7**
JNU	**Nakatsue**	**25.11**	**239**	P		**P**		**01 15 33.8**	**+0.2**
	comp=Z,8.6nm,1.0s,baz=56,slow=4.3,SNR=4.8								
TIXI	**Tiksi**	**25.47**	**340**	P		**P**		**01 15 35.8**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=130,slow=13,SNR=3.9								
TIXI				LR		LR		01 26 44.5	
	comp=Z,22nm,20.1s,baz=78,slow=39								
TIXI	**Tiksi**	**25.47**	**340**⇓	*e*P		**P**		**01 15 35.6**	**-0.7**
TIXI				pmax		pmax			
	comp=Z,1.0nm,0.7s								
H11S1	**WAKE ISLAND Hy**	**32.08**	**162**	T		T		01 50 48.6	
	baz=347,slow=76,SNR=247								
H11S3	**WAKE ISLAND Hy**	**32.09**	**162**	T		T		01 50 53.2	
	baz=347,slow=76,SNR=315								
H11S2	**WAKE ISLAND Hy**	**32.10**	**162**	T		T		01 50 50.3	
	baz=347,slow=76,SNR=137								
ULN	**Ulaanbaatar**	**32.18**	**286**⇓	*e*P		**P**		**01 16 34.9**	**-1.5**
ULN				pmax		pmax			
	comp=Z,5.0nm,2.5s								
SONM	**Songino Array**	**32.60**	**286**	P		**P**		**01 16 38.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=69,slow=8.1,SNR=2.3								
SONM				LR		LR		01 31 54.5	
	comp=Z,29nm,19.7s,baz=97,slow=40								
ILAR	**Eielson Array**	**32.93**	**41**	P		**P**		**01 16 43.4**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=257,slow=8.6,SNR=4.5								
ILAR				pP		**pP**		**01 17 01.3**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=259,slow=8.2,SNR=6.9								
ILAR				sP		**sP**		**01 17 11.2**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=251,slow=7.9,SNR=4.4								
TLY	**Talaya**	**32.97**	**294**	LR		LR		01 30 02.3	
	comp=Z,35nm,19.2s,baz=42,slow=36								
ZAK	**Zakamensk**	**33.61**	**292**	*e*P		**P**		**01 16 47.2**	**-1.5**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
NRIK	**Noril'sk**	**37.54**	**327**	LR		LR		01 35 24.5	
	comp=Z,28nm,19.0s,baz=129,slow=40								
ZALV	**Zalesovo Beam**	**42.82**	**304**	P		**P**		**01 18 04.9**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=60,slow=9.9,SNR=5.9								
YKA	**Yellowknife Ar**	**47.30**	**39**	P		**P**		**01 18 42.1**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=304,slow=8.4,SNR=2.5								
YKA				pP		**pP**		**01 19 01.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=298,slow=7.7,SNR=11								
MKAR	**Makanchi Array**	**47.66**	**297**	P		**P**		**01 18 43.3**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=64,slow=8.2,SNR=8.6								
MKAR				LR		LR		01 39 17.2	
	comp=Z,28nm,18.7s,baz=50,slow=37								
BVAR	**Borovoye Array**	**50.81**	**309**	P		**P**		**01 19 08.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=57,slow=11,SNR=5.1								
CMAR	**Chiang Mai Arr**	**55.21**	**257**	P		**P**		**01 19 41.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=34,slow=6.6,SNR=4.4								
CMAR	**Chiang Mai Arr**	**55.21**	**257**	*e*P		**P**		**01 19 44.2**	**+3.4**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ARCES	**ARCESS Array B**	**55.90**	**341**	LR		LR		01 47 04.1	
	comp=Z,17nm,18.1s,baz=70,slow=40								
PDAR	**Pinedale Array**	**61.28**	**57**	P		**P**		**01 20 24.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=344,slow=2.9,SNR=3.4								
PDAR				pP		**pP**		**01 20 44.9**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=325,slow=2.3,SNR=4.2								
FINES	**FINESS Array B**	**62.41**	**336**	P		**P**		**01 20 29.4**	**-0.6**
	comp=Z,2.4nm,1.0s,baz=149,slow=30,SNR=2.2								
NOA	**NORSAR Array B**	**66.24**	**342**	LR		LR		01 55 04.3	
	comp=Z,11nm,18.1s,baz=15,slow=41								
KIEV	**Kiev**	**70.41**	**328**⇑	*e*P		**P**		**01 21 19.6**	**-1.7**
KIEV				pmax		pmax			
	comp=Z,3.0nm,1.3s								
WRA	**Warramunga Arr**	**71.96**	**202**	P		**P**		**01 21 30.4**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=20,slow=6.4,SNR=6.6								
TXAR	**Lajitas Array**	**74.17**	**63**	P		**P**		**01 21 45.6**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=296,slow=4.2,SNR=17								
TXAR				pP		**pP**		**01 22 06.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=297,slow=4.0,SNR=5.6								
CLL	**Collm**	**74.77**	**337**	*i* P		**P**		**01 21 47.9**	**+0.8**
	comp=Z,9.0nm,1.4s								
CLL				*i* PcP		**PcP**		**01 22 01.3**	**+0.4**
CLL				*e*pP		**pP**		**01 22 11.0**	**+2.6**
CLL	**Collm**	**74.77**	**337**	*i* P		**P**		**01 21 47.9**	**+0.8**
CLL				pmax		pmax			
	comp=Z,9.0nm,1.4s								
ASAR	**Alice Springs**	**75.64**	**201**	P		**P**		**01 21 53.0**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=15,slow=5.5,SNR=8.1								
ASAR	**Alice Springs**	**75.64**	**201**	P		**P**		**01 21 53.0**	**+0.6**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BRTR	**Keskin Array B**	**77.81**	**318**	P		**P**		**01 22 05.5**	**+0.7**
	comp=Z,0.5nm,1.0s,baz=152,slow=5.5,SNR=3.5								
BRTR				sP		**sP**		**01 22 33.7**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=117,slow=4.3,SNR=3.7								
BRTR	**Keskin Array B**	**77.81**	**318**	P		**P**		**01 22 05.5**	**+0.7**
BRTR				*SP		**sP**		**01 22 33.7**	**-1.2**
BRTR				pmax		pmax			
	comp=Z,1.0nm,1.0s								
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								

*IDC **18** 01:10:11.7±1.7, 34°.79S×179°.39E, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.1/28, mbtmp4.3/4, MS3.8/18, Ms1 3.8/18, ms1mx3.8/27, Error ellipse: s-maj=50.5km s-min=31.2km az=42.0*
*ISCJB **18** 01:10:17.7±1.1, 35°.30S±0°.06×178°.5E±0°.1, h10km, mb4.1/4, MS3.8/14, Error ellipse: s-maj=13.2km s-min=7.6km az=162.9*
*WEL **18** 01:10:18.9±0.7, 35°.21S×178°.45E, h12km, ML4.6/6, Error ellipse: s-maj=5.6km s-min=4.6km az=90.0*
ISC 18 01:10:18.3±1.2, 35°.26S±0°.09×178°.5E±0°.1, h10km, n51, σ1s43/33, mb4.3/4, MS3.9/14, 1C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.31**	**184**	S		**Sn**		**01 11 24.7**	**-0.1**
MXZ				T		T		01 13 18.1	
MXZ				AML		AML		01 13 26.8	
WMGZ	**Waiomatatini S**	**2.56**	**182**	PN		**Pn**		**01 11 00.0**	**+0.2**
WMGZ				SN		**Sn**		**01 11 33.8**	**+2.8**
HAZ	**Te Kaha**	**2.56**	**193**	P*		**Pn**		**01 10 58.2**	**-1.7**
KUZ	**Kuaotunu**	**2.70**	**236**	PN		**Pn**		**01 11 01.1**	**-0.7**
KUZ				SN		**Sn**		**01 11 34.2**	**-0.3**
KUZ				AML		AML		01 11 44.3	
PUZ	**Puketiti**	**2.81**	**184**	PN		**Pn**		**01 11 03.3**	**-0.1**
PUZ				SN		**Sn**		**01 11 38.4**	**+0.9**
PUZ				AML		AML		01 11 58.2	
TWGZ	**Tauwhareparae**	**2.94**	**188**	PN		**Pn**		**01 11 05.6**	**+0.4**
MWZ	**Matawai**	**3.17**	**194**	P*		**Pn**		**01 11 07.0**	**-1.3**
MWZ				AML		AML		01 12 04.5	
MWZ				AML		AML		01 12 10.4	
URZ	**Urewera**	**3.20**	**200**	Pn		**Pn**		**01 11 08.0**	**-0.6**
	15nm,0.3s,baz=249,slow=3.0,SNR=66								
URZ				Sn		**Sn**		**01 11 45.6**	**-1.1**
	14nm,0.3s,baz=261,slow=22,SNR=11								
URZ				LR		LR		01 12 32.0	
	comp=Z,2µm,18.8s,baz=38,slow=36								
URZ	**Urewera**	**3.20**	**200**	P*		**Pn**		**01 11 07.6**	**-1.0**
URZ				S*		**Sn**		**01 11 44.9**	**-1.8**
URZ				AML		AML		01 11 46.0	
MKAZ	**Moumakai**	**3.27**	**235**	PN		**Pn**		**01 11 09.6**	**-0.1**
RAGZ	**Rawiri**	**3.35**	**195**	P*		**Pn**		**01 11 10.4**	**-0.4**
TOZ	**Tahuroa Road**	**3.45**	**224**	P*		**Pn**		**01 11 12.7**	**+0.6**
RIGZ	**Rimuhau**	**3.49**	**190**	PN		**Pn**		**01 11 12.8**	**0.0**
RIGZ				SN		**Sn**		**01 11 56.3**	**+2.1**
SNGZ	**Shannon Statio**	**3.64**	**194**	PN		**Pn**		**01 11 15.3**	**+0.6**
NMHZ	**Naumai**	**4.06**	**199**	*e*PN		**Pn**		**01 11 20.8**	**+0.1**
ARHZ	**Aropaoanui**	**4.17**	**196**	PN		**Pn**		**01 11 22.3**	**+0.2**
BKZ	**Black Stump Fm**	**4.22**	**202**	P*		**Pn**		**01 11 22.3**	**-0.5**
BKZ				AML		AML		01 11 48.8	
BKZ				AML		AML		01 12 52.4	
MCHZ	**McNeill Hill**	**4.42**	**198**	PN		**Pn**		**01 11 25.8**	**+0.3**
OTVZ	**Oturere**	**4.51**	**209**	P*		**Pn**		**01 11 29.3**	**+2.5**
MRZ	**Mangatainoka R**	**5.87**	**202**	*e*PN		**Pn**		**01 11 42.8**	**-2.5**
RAO	**Raoul Island**	**6.71**	**28**	LR		LR		01 13 45.6	
	comp=Z,320nm,19.7s,baz=141,slow=36								
CTZ	**Chatham Island**	**9.27**	**157**	*e*PN		Pn		01 12 27.3	-4.6
CTZ				SN		Sn		01 13 59.9	-16
RPZ	**Rata Peaks**	**10.21**	**212**	LR		LR		01 17 16.5	
	comp=Z,851nm,18.8s,baz=20,slow=39								
DZM	**Mont Dzumac**	**16.85**	**318**	eLR		LR		01 18 19.3	
	2µm,23.9s								
DZM	**Mont Dzumac**	**16.85**	**318**	LR		LR		01 19 14.4	
	comp=Z,996nm,21.1s,baz=203,slow=32								
TBI	**Tubuai**	**30.22**	**76**	*e*LR		LR		01 24 24.1	
	182nm,24.5s								
TBI	**Tubuai**	**30.22**	**76**	*e*T		T		01 47 44.1	
	50nm,0.3s								
STKA	**Stephens Creek**	**30.82**	**266**	P		**P**		**01 16 36.6**	**+2.1**
	1.9nm,0.6s,baz=93,slow=13,SNR=3.7								
STKA				LR		LR		01 28 00.6	
	comp=Z,129nm,18.6s,baz=84,slow=34								
PPT2	**Papeete2**	**33.37**	**66**	*e*LR		LR		01 25 41.4	
	160nm,26.8s								
PPT2	**Papeete2**	**33.37**	**66**	*e*T		T		01 51 39.5	
	3.7nm,0.2s								
PPT	**Papeete**	**33.38**	**66**	LR		LR		01 30 14.4	
	comp=Z,31nm,18.3s,baz=208,slow=37								
TVO	**Taravao**	**33.49**	**67**	*e*T		T		01 51 48.8	
	1.8nm,0.3s								
VAH	**Vaihoa**	**36.29**	**65**	*e*T		T		01 55 18.1	
	16nm,0.3s								
ASAR	**Alice Springs**	**40.21**	**274**	P		**P**		**01 17 55.2**	**0.0**
	7.1nm,0.7s,baz=118,slow=7.7,SNR=56								
ASAR				LR		LR		01 34 53.9	
	comp=Z,261nm,18.4s,baz=123,slow=36								
WRA	**Warramunga Arr**	**41.66**	**280**	P		**P**		**01 18 07.6**	**+0.4**
	5.9nm,0.7s,baz=121,slow=7.5,SNR=26								
WRA				LR		LR		01 34 16.9	
	comp=Z,292nm,21.4s,baz=130,slow=34								
RKT	**Rikitea**	**42.03**	**86**	*e*LR		LR		01 29 50.2	
	237nm,26.8s								
VNDA	**Vanda**	**42.99**	**185**	P		**P**		**01 18 17.2**	**-0.1**
	1.0nm,0.9s,baz=356,slow=7.5,SNR=6.0								
VNDA				LR		LR		01 32 11.2	
	comp=Z,95nm,20.1s,baz=20,slow=30								
TAOE	**Nuku Hiva Isla**	**45.97**	**65**	*e*LR		LR		01 31 18.3	
	138nm,28.7s								
MAW	**Mawson**	**66.72**	**202**	LR		LR		01 49 11.9	
	comp=Z,110nm,19.2s,baz=68,slow=35								
SYO	**Syowa Base**	**71.71**	**194**⇑	*e*P		P		01 21 35.0	-5.0
MJAR	**Matsushiro Arr**	**80.68**	**328**	LR		LR		01 52 39.0	
	comp=Z,16nm,21.7s,baz=110,slow=32								
PLCA	**Paso Flores**	**81.30**	**134**	LR		LR		01 49 46.7	
	comp=Z,116nm,20.6s,baz=232,slow=29								
KSRS	**Korea Array**	**86.24**	**322**	LR		LR		01 57 31.4	
	comp=Z,20nm,19.3s,baz=142,slow=33								
PETK	**Petropavlovsk-**	**89.84**	**348**	LR		LR		01 57 40.5	
	comp=Z,40nm,20.7s,baz=133,slow=32								
CMAR	**Chiang Mai Arr**	**92.30**	**291**	LR		LR		02 06 21.2	
	comp=Z,14nm,21.3s,baz=220,slow=36								
NNA	**Nana**	**94.82**	**108**	LR		LR		01 56 37.5	
	comp=Z,63nm,20.9s,baz=222,slow=30								
LPAZ	**La Paz**	**98.72**	**117**	LR		LR		01 59 51.8	
	comp=Z,38nm,20.0s,baz=196,slow=30								
CPUP	**Villa Florida**	**99.15**	**131**	LR		LR		02 00 45.4	
	comp=Z,143nm,21.3s,baz=212,slow=31								
FINES	**FINESS Array B**	**148.49**	**335**	PKPbc		**PKPdf**		**01 30 00.1**	**-0.7**
	1.9nm,0.8s,baz=2.9,slow=3.8,SNR=5.6								
BRTR	**Keskin Array B**	**151.88**	**290**	PKPbc		**PKPdf**		**01 30 08.2**	**+1.1**
	0.6nm,0.8s,baz=108,slow=4.0,SNR=6.3								
TORD	**Torodi Ar. Bea**	**157.80**	**188**	PKPab		**PKPab**		**01 30 44.1**	**-4.0**
	1.3nm,0.9s,baz=168,slow=4.9,SNR=5.3								

*ISCJB **18** 01:16:03.8±1.3, 16°.0S±0°.1×74°.6W±0°.2, h49km, mb3.3/2, MS3.6/1, Error ellipse: s-maj=30.0km s-min=8.1km az=138.2*
*IDC **18** 01:16:06.8±2.2, 15°.89S×74°.52W, h64km±20km, mb3.1/2, mb1 3.8/6, mb1mx3.5/24, mbtmp3.9/6, MS3.8/1, Ms1 3.8/1, ms1mx2.7/8, Error ellipse: s-maj=50.4km s-min=12.7km az=48.0*
ISC 18 01:16:06.2±1.1, 15°.9S±0°.1×74°.5W±0°.2, h49km, n7, σ2s13/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.51**	**330**	P		**Pn**		**01 17 13.6**	**+1.5**
	12nm,0.3s,baz=129,slow=11,SNR=11								
NNA				S		**Sn**		**

BORA				S		Sb	01 40 57.8	-0.4
BORA	**Eskisehir**	**1.28**	**54**	*i* P		**Pg**	**01 40 40.8**	**-0.1**
BORA				*i* S		**Sb**	**01 40 57.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*PN		**Pb**	**01 40 42.0**	**+0.8**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn		**Pb**	**01 40 42.0**	**+0.8**
BALY	**Balya**	**1.31**	**298**	*i* P		**Pb**	**01 40 44.0**	**+2.2**
ARMT	**Armutlu**	**1.45**	**352**	*e*PN		**Pn**	**01 40 43.9**	**+0.2**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn		**Pn**	**01 40 43.9**	**+0.2**
EDC	**Edincik**	**1.56**	**322**	*e*PN		**Pb**	**01 40 46.0**	**+0.1**
EDC	**Edincik**	**1.56**	**322**	*e*Pn		**Pb**	**01 40 46.0**	**+0.1**
GULT	**Gulveren**	**1.69**	**39**	*e*PN		**Pn**	**01 40 45.8**	**-1.3**
GULT	**Gulveren**	**1.69**	**39**	*e*Pn		**Pn**	**01 40 45.8**	**-1.3**

NIED ***18*** *01:40:00, 38.˚40N×141.˚80E, h59km, Mw3.8 Best double couple: M₀4.89000×10¹⁴ NP1:φs343.00000°, δ48.00000°, λ42.00000°. NP2:φs222.00000°, δ60.00000°, λ129.00000°.*
ISCJB ***18*** *01:40:19.6±0.8, 38.˚32N±0.˚03×141.˚87E±0.˚08, h60km±6km, mb3.7/6, Error ellipse: s-maj=10.8km s-min=5.1km az=17.2*
JMA ***18*** *01:40:20.7±0.1, 38.˚35N×141.˚80E, h57km±1km, M3.8*
JMA Felt II J1.
IDC ***18*** *01:40:21.9±3.5, 38.˚30N×141.˚88E, h68km±30km, mb3.5/6, mb1 3.8/10, mb1mx3.4/46, mbtmp3.9/10, ML3.5/4, MS2.3/1, Ms1 2.3/1, ms1mx1.9/42, Error ellipse: s-maj=28.1km s-min=16.8km az=76.0*
ISC 18 01:40:20.0±1.3, **38.˚31N**±0.˚04×**141.˚94E**±0.˚09, **h50**km±12km, **n29**, σ0**.95**/37, **mb3.7**/6, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.48**	**287**	P	**Pn**	**01 40 31.2**	**+0.1**
JIO				S	**Sn**	**01 40 38.4**	**-0.6**
OFUJ	**Ofunato**	**0.80**	**345**	P	**Pn**	**01 40 35.2**	**+0.1**
OFUJ				*e*S	**Sn**	**01 40 45.5**	**-0.5**
JMK	**Ichinoseki**	**0.85**	**319**	P	**Pn**	**01 40 35.7**	**-0.1**
JMK				S	**Sn**	**01 40 46.4**	**-0.9**
JOU	**Okura**	**1.00**	**273**	P	**Pn**	**01 40 37.4**	**-0.4**
JOU				S	**Sn**	**01 40 49.7**	**-1.2**
JMM	**Marumori**	**1.01**	**244**	P	**Pn**	**01 40 37.5**	**-0.3**
JMM				S	**Sn**	**01 40 49.7**	**-1.2**
JFK	**Kawauchi**	**1.26**	**222**	P	**Pn**	**01 40 41.8**	**+0.4**
JFK				S	**Sn**	**01 40 57.1**	**-0.2**
JOM	**Ohasama**	**1.27**	**337**	P	**Pn**	**01 40 41.5**	**+0.2**
JOM				*e*S	**Sn**	**01 40 56.7**	**-0.5**
JYK	**Kaneyama**	**1.38**	**297**	P	**Pn**	**01 40 42.5**	**-0.4**
JYK				*e*S	**Sn**	**01 40 58.7**	**-1.3**
JYS	**Shirataka**	**1.48**	**267**	P	**Pn**	**01 40 44.0**	**-0.2**
JYS				S	**Sn**	**01 41 01.6**	**-0.8**
JRG	**Rokugo**	**1.49**	**317**	P	**Pn**	**01 40 44.9**	**+0.5**
JRG				*e*S	**Sn**	**01 41 02.4**	**-0.2**
JFT	**Otama**	**1.49**	**238**	P	**Pn**	**01 40 44.9**	**+0.4**
JFT				*e*S	**Sn**	**01 41 02.4**	**-0.4**
MJAR	**Matsushiro Arr**	**3.45**	**240**	P	**Pn**	**01 41 12.6**	**+1.3**
	5.5nm,0.3s,baz=39,slow=12,SNR=31						
MJAR				S	**Sn**	**01 41 52.3**	**+1.3**
	2.0nm,0.3s,baz=89,slow=15,SNR=4.9						
MJAR				LR	LR	01 42 53.4	
	comp=Z,43nm,20.1s,baz=80,slow=45						
MAT	**Matsushiro**	**3.46**	**240**	P	**Pn**	**01 41 13.0**	**+1.7**
MAT				*e*S	**Sn**	**01 41 50.2**	**-0.8**
JHJ	**Hachijo jima 2**	**5.47**	**199**	P	**Pn**	**01 41 39.2**	**+0.2**
	16nm,0.3s,baz=113,slow=22,SNR=8.4						
JHJ				S	**Sn**	**01 42 38.6**	**-1.9**
	14nm,0.3s,baz=78,slow=22,SNR=3.4						
USRK	**Ussuriysk Ar.**	**9.52**	**311**	P	**Pn**	**01 42 35.1**	**+0.7**
	0.5nm,0.3s,baz=114,slow=14,SNR=13						
KSRS	**Korea Array**	**11.11**	**270**	P		**01 42 59.2**	**+3.0**
	0.5nm,0.3s,baz=75,slow=14,SNR=4.0						
SONM	**Songino Array**	**27.44**	**302**	P	**P**	**01 46 01.1**	**0.0**
	0.2nm,0.3s,baz=119,slow=34,SNR=2.5						
H11N2	**WAKE ISLAND Hy 28.47**	**124**		T	T	02 16 30.1	
	baz=316,slow=76,SNR=258						
H11N1	**WAKE ISLAND Hy 28.48**	**124**		T	T	02 16 30.8	
	baz=316,slow=76,SNR=357						
H11N3	**WAKE ISLAND Hy 28.49**	**124**		T	T	02 16 31.5	
	baz=316,slow=76,SNR=365						
H11S1	**WAKE ISLAND Hy 29.23**	**126**		T	T	02 17 26.7	
	baz=318,slow=76,SNR=94						
H11S3	**WAKE ISLAND Hy 29.23**	**126**		T	T	02 17 26.8	
	baz=318,slow=76,SNR=110						
H11S2	**WAKE ISLAND Hy 29.25**	**126**		T	T	02 17 31.0	
	baz=318,slow=76,SNR=102						
ZALV	**Zalesovo Beam**	**41.37**	**311**	P	**P**	**01 48 00.2**	**-0.8**
	0.6nm,0.3s,baz=107,slow=9.8,SNR=2.9						
MKAR	**Makanchi Array**	**43.80**	**301**	P	**P**	**01 48 20.2**	**-0.6**
	0.8nm,0.6s,baz=82,slow=9.7,SNR=6.9						
WRA	**Warramunga Arr**	**58.38**	**188**	P	**P**	**01 50 09.8**	**-0.5**
	2.7nm,0.6s,baz=6.6,slow=7.3,SNR=25						
ASAR	**Alice Springs**	**62.11**	**188**	P	**P**	**01 50 35.6**	**-0.1**
	1.2nm,0.7s,baz=2.5,slow=4.4,SNR=10						
TXAR	**Lajitas Array**	**89.02**	**53**	P	**P**	**01 53 10.2**	**+0.3**
	0.1nm,0.5s,baz=318,slow=5.2,SNR=3.0						
LPAZ	**La Paz**	**145.68**	**59**	PKPbc	**PKPdf**	**01 59 53.8**	**-0.2**
	1.2nm,0.9s,baz=249,slow=2.9,SNR=3.1						

ISCJB ***18*** *01:45:44.0±0.6, 6.˚81N±0.˚04×73.˚05W±0.˚05, h166km±5km, Error ellipse: s-maj=9.6km s-min=3.4km az=32.1*
FUNV ***18*** *01:45:44.3, 6.˚67N×73.˚15W, h167km, MW2.5*
RSNC ***18*** *01:45:46.7±0.5, 6.˚77N×73.˚11W, h150km±3km, ML2.5*
ISC 18 01:45:43.9±1.3, **6.˚79N**±0.˚04×**73.˚04W**±0.˚05, **h167**km±8km, **n27**, σ1**.15**/49, **1C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**216**	*e*P	**Pn**	**01 46 06.8**	**+0.1**
BARC				*i*		01 46 25.4	
	comp=Z,96nm,0.5s						
BTLC	**Betulia, Santa**	**0.26**	**299**	*e*P	**Pn**	**01 46 07.0**	**+0.2**
GIRC	**Giron, Santand**	**0.32**	**331**	*e*P	**Pn**	**01 46 06.9**	**+0.1**
GIRC				*e*S	**Sn**	**01 46 22.6**	**-1.8**
PAMC	**Pamplona, Colo**	**0.64**	**32**	*e*P	**Pn**	**01 46 09.0**	**+0.4**
PAMC				*e*S	**Sn**	**01 46 26.5**	**-0.9**
BRRC	**Barranca, Sant**	**0.74**	**295** ⇑	*i* P	**Pn**	**01 46 08.7**	**+0.2**
BRRC				*e*S	**Sn**	**01 46 26.0**	**-1.4**
BRRC				*i*		01 46 30.0	
	comp=Z,82nm,0.1s						
RUSC	**La Rusia**	**0.90**	**183**	*e*P	**Pn**	**01 46 10.6**	**+0.4**
RUSC				*e*S	**Sn**	**01 46 29.1**	**-1.3**
RUSC				*i*		01 46 31.2	
	comp=Z,49nm,0.3s						
CBRI	**Barrientos, No**	**0.95**	**15**	*e*P	**Pn**	**01 46 11.3**	**+1.1**
CBRI				*e*S	**Sn**	**01 46 30.3**	**-0.2**
CBRI				*i*		01 46 35.5	
	comp=Z,24nm,0.5s						
GRMC	**Gramalote, San**	**0.95**	**14**	*i* P	**Pn**	**01 46 12.6**	**+2.4**
GRMC				*e*S	**Sn**	**01 46 32.3**	**+1.8**
GRMC				*i*		01 46 37.2	
	comp=Z,36nm,0.3s						
CAPV	**Capacho**	**1.28**	**34** ⇓	*i* P	**Pn**	**01 46 14.6**	**+1.6**
CAPV				*e*S	**Sn**	**01 46 35.9**	**+0.3**
OCAC	**Ocana**	**1.46**	**349**	*e*P	**Pn**	**01 46 15.9**	**+1.3**
OCAC				*e*S	**Sn**	**01 46 37.5**	**-1.0**
OCAC				*i*		01 46 42.6	
	comp=Z,38nm,0.4s						
NORC	**Norcasia**	**2.19**	**236**	*e*P	**Pn**	**01 46 22.6**	**+0.2**
NORC				*e*S	**Sn**	**01 46 50.7**	**-1.5**
CHIC	**Chingaza**	**2.26**	**198**	*e*P	**Pn**	**01 46 24.6**	**+1.0**
CHIC				*e*S	**Sn**	**01 46 53.9**	**-0.3**
CHIC				*i*		01 47 00.1	
	comp=Z,20nm,0.4s						
ROSC	**El Rosal**	**2.32**	**213**	*e*P	**Pn**	**01 46 25.0**	**+0.8**
ROSC				*e*S	**Sn**	**01 46 55.0**	**-0.4**
ROSC				*i*		01 47 02.6	
	comp=Z,39nm,0.3s						
SOCV	**Socops**	**2.62**	**55**	*e*P	**Pn**	**01 46 29.1**	**+1.6**
SOCV				*e*S	**Sn**	**01 47 01.4**	**+0.2**
VIGV	**El Vigia**	**2.62**	**39**	*e*P	**Pn**	**01 46 28.9**	**+1.4**
VIGV				*e*S	**Sn**	**01 47 01.5**	**+0.2**
VILC	**Villavicencio,**	**2.74**	**194**	*e*P	**Pn**	**01 46 30.2**	**+1.1**
VILC				*e*S	**Sn**	**01 47 04.4**	**+0.3**
VILC				*i*		01 47 17.9	
	comp=Z,13nm,0.3s						
DBBC	**Dabeiba**	**3.16**	**274**	*e*P	**Pn**	**01 46 34.8**	**+0.7**
SDV	**Santo Domingo**	**3.16**	**49**	*e*P	**Pn**	**01 46 35.3**	**+1.0**
SDV				*e*S	**Sn**	**01 47 13.3**	**-0.1**
PRAC	**Prado**	**3.57**	**211**	*e*P	**Pn**	**01 46 40.5**	**+1.2**
PRAC				*e*S	**Sn**	**01 47 22.1**	**-0.3**
SJAC	**San Juan de Ar**	**3.61**	**195**	*e*P	**Pn**	**01 46 40.7**	**+0.8**
SJAC				*e*S	**Sn**	**01 47 23.2**	**-0.3**

VIRV	**Villa del Rosa**	**3.74**	**10**	*e*P	**Pn**	**01 46 41.7**	**+0.3**
VIRV				*e*S	**Sn**	**01 47 25.1**	**-1.1**
QARV	**Quebrada Arrib**	**4.21**	**36**	*e*P	**Pn**	**01 46 48.3**	**+0.9**
QARV				*e*S	**Sn**	**01 47 35.8**	**-1.2**
CURV	**Curarigua**	**4.42**	**43**	*e*P	**Pn**	**01 46 51.2**	**+1.1**
CURV				*e*S	**Sn**	**01 47 40.5**	**-1.4**
TEPV	**Terepaima**	**4.94**	**50**	*e*P	**Pn**	**01 46 57.4**	**+0.4**
BAUV	**El Baul**	**5.39**	**66**	*e*P	**Pn**	**01 47 03.2**	**+0.3**
BAUV				*e*S	**Sn**	**01 48 01.7**	**-3.0**
MAPV	**Macapo**	**5.45**	**56**	*e*P	**Pn**	**01 47 03.8**	**+0.3**
MAPV				*e*S	**Sn**	**01 48 03.4**	**-2.6**
MONV	**Montecano**	**5.96**	**30**	*e*P	**Pn**	**01 47 10.8**	**+0.5**

IDC 18 01:52:24.8±2.6, **6.˚53S**×**148.˚26E**, **h0**km, **mb3.6**/2, **mb1 3.8**/4, **mb1mx3.5**/32, **mbtmp3.7**/4, **ML3.7**/1, **Error ellipse: s-maj=77.5km s-min=32.5km az=103.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.06**	**201**	Pn	Pn	01 53 15.6	+1.2
	4.4nm,0.3s,baz=257,slow=17,SNR=12						
PMG				Sn	Sn	01 53 53.7	+1.9
	4.7nm,0.3s,baz=8.2,slow=18,SNR=6.3						
WRA	**Warramunga Arr**	**18.99**	**224**	P	P	01 56 47.2	-0.9
	0.2nm,0.3s,baz=51,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**21.93**	**217**	P	P	01 57 19.1	-1.0
	0.9nm,0.4s,baz=52,slow=9.2,SNR=18						
STKA	**Stephens Creek**	**25.98**	**193**	P	P	01 57 59.7	+0.4
	1.0nm,0.6s,baz=356,slow=6.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**146.43**	**284**	PKPbc	PKPbc	02 12 08.5	-0.5
	0.3nm,0.5s,baz=64,slow=3.5,SNR=9.4						

ISK ***18*** *01:57:29.1, 34.˚64N×28.˚98E, h18km, ML3.2*
ISCJB ***18*** *01:57:31.4±1.3, 34.˚76N±0.˚04×29.˚11E±0.˚04, h15km±12km, Error ellipse: s-maj=7.6km s-min=5.3km az=163.6*
ATH ***18*** *01:57:32.4, 34.˚93N×29.˚01E, h18km±5km, ML2.1/1, Error ellipse: s-maj=6.2km s-min=1.5km az=32.0*
CSEM ***18*** *01:57:32.2±0.3, 34.˚80N×29.˚10E, h10km, MD3.1, Error ellipse: s-maj=8.6km s-min=4.8km az=168.0*
DDA ***18*** *01:57:37.3, 35.˚13N×29.˚63E, h13km, Md3.1*
ISC 18 01:57:32.8±3.6, **34.˚80N**±0.˚06×**29.˚10E**±0.˚04, **h15**km±25km, **n54**, σ1**.06**/70, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.40**	**16**	P	**Pb**	**01 57 58.6**	**-0.1**
KSL				S	**Sn**	**01 58 14.2**	**-1.9**
KSL				AML	AML	01 58 17.4	
	comp=E,145μm,0.3s						
KSL				AML	AML	01 58 17.5	
	comp=N,140μm,0.7s						
AKAS	**Kas**	**1.49**	**16**	P	**Pn**	**01 57 59.3**	**+0.2**
AKAS				S	**Sb**	**01 58 18.9**	**-0.1**
AKAS	**Kas**	**1.49**	**16**	*i* P	**Pn**	**01 57 59.3**	**+0.2**
AKAS				*i* S	**Sb**	**01 58 18.9**	**-0.1**
ARG	**Arkhangelos**	**1.62**	**331**	P	**Pn**	**01 58 00.4**	**-0.4**
ARG				S	**Sn**	**01 58 21.1**	**-0.4**
KARP	**Karpathos**	**1.76**	**296**	P	**Pn**	**01 58 03.0**	**+0.3**
KARP				S	**Sn**	**01 58 25.0**	**+0.2**
KARP	**Karpathos**	**1.76**	**296**	P	**Pn**	**01 58 03.0**	**+0.3**
KARP				S	**Sn**	**01 58 25.0**	**+0.2**
FETY	**Fethiye**	**1.83**	**359**	*e*PN	**Pn**	**01 58 03.0**	**-0.8**
FETY	**Fethiye**	**1.83**	**359**	*e*Pn	**Pn**	**01 58 03.0**	**-0.8**
DALY	**Dalyan (Mu¨la**	**2.05**	**350**	*e*PN	**Pn**	**01 58 05.7**	**-1.0**
DALY	**Dalyan (Mu¨la**	**2.05**	**350**	*e*Pn	**Pn**	**01 58 05.7**	**-1.0**
ELL	**Elmali**	**2.05**	**18**	*e*PN	**Pn**	**01 58 06.6**	**-0.3**
ELL	**Elmali**	**2.05**	**18**	*e*Pn	**Pn**	**01 58 06.6**	**-0.3**
GLHS	**Glhisar (BURDU**	**2.37**	**8**	*e*PN	**Pn**	**01 58 10.8**	**-0.4**
GLHS				*e*SN	**Sn**	**01 58 41.0**	**+0.9**
GLHS	**Glhisar (BURDU**	**2.37**	**8**	*e*Pn	**Pn**	**01 58 10.9**	**-0.4**
GLHS				*e*Sn	**Sn**	**01 58 41.1**	**+0.9**
ZKR	**Zakros**	**2.39**	**278**	P	**Pn**	**01 58 11.8**	**+0.4**
ZKR	**Zakros**	**2.39**	**278**	P	**Pn**	**01 58 11.8**	**+0.4**
KORT	**Korkueli**	**2.42**	**24**	P	**Pn**	**01 58 13.1**	**+1.2**
KORT				S	**Sn**	**01 58 43.3**	**+2.0**
KORT	**Korkueli**	**2.42**	**24**	*i* P	**Pn**	**01 58 13.1**	**+1.2**
KORT				*i* S	**Sn**	**01 58 43.3**	**+2.0**
YER	**Yerkesik**	**2.42**	**344**	*e*PN	**Pn**	**01 58 10.9**	**-1.0**
YER				*e*SN	**Sn**	**01 58 41.0**	**-0.2**
YER	**Yerkesik**	**2.42**	**344**	*e*Pn	**Pn**	**01 58 10.9**	**-1.0**
YER				*e*Sn	**Sn**	**01 58 41.1**	**-0.2**
ANTB	**Antalya**	**2.44**	**31**	*e*PN	**Pn**	**01 58 11.8**	**-0.3**
ANTB	**Antalya**	**2.44**	**31**	*e*Pn	**Pn**	**01 58 11.8**	**-0.3**
GOLH	**Golhisar**	**2.46**	**9**	P	**Pn**	**01 58 13.8**	**+1.3**
GOLH				S	**Sn**	**01 58 43.5**	**+1.2**
GOLH	**Golhisar**	**2.46**	**9**	*i* P	**Pn**	**01 58 13.8**	**+1.3**
GOLH				*i* S	**Sn**	**01 58 43.5**	**+1.2**
BODT	**Bodrum**	**2.69**	**328**	*e*PN	**Pn**	**01 58 14.0**	**-1.5**
BODT	**Bodrum**	**2.69**	**328**	*e*Pn	**Pn**	**01 58 14.0**	**-1.5**
NPS	**Neapolis**	**2.90**	**280**	P	**Pn**	**01 58 18.8**	**+0.4**
NPS	**Neapolis**	**2.90**	**280**	P	**Pn**	**01 58 18.8**	**+0.4**
GAZI	**Gazipasa**	**2.99**	**60**	*i* P	**Pn**	**01 58 18.7**	**-0.9**
GAZI				S	**Sn**	**01 58 52.8**	**-2.3**
GAZI	**Gazipasa**	**2.99**	**60**	*i* P	**Pn**	**01 58 18.7**	**-0.9**
GAZI				*i* S	**Sn**	**01 58 52.8**	**-2.3**
LAST	**Lasithi**	**3.00**	**278**	P	**Pn**	**01 58 19.6**	**-0.2**
LAST	**Lasithi**	**3.00**	**278**	P	**Pn**	**01 58 19.6**	**-0.2**
SUTC	**Sutluce-Ispart**	**3.08**	**29**	*e*PN	**Pn**	**01 58 21.4**	**+0.4**
SUTC	**Sutluce-Ispart**	**3.08**	**29**	*e*Pn	**Pn**	**01 58 21.4**	**+0.4**
LEF	**Lefka**	**3.13**	**83**	*e*PN	**Pn**	**01 58 20.2**	**-1.3**
LEF	**Lefka**	**3.13**	**83**	*e*Pn	**Pn**	**01 58 20.2**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**3.29**	**343**	*e*PN	**Pn**	**01 58 23.2**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**3.29**	**343**	*e*Pn	**Pn**	**01 58 23.2**	**-0.7**
IDI	**Anoyia**	**3.49**	**279**	P	**Pn**	**01 58 25.8**	**-0.8**
IDI	**Anoyia**	**3.49**	**279**	P	**Pn**	**01 58 25.8**	**-0.8**
ERMK	**Ermenek**	**3.60**	**58**	P	**Pn**	**01 58 29.5**	**+1.2**
ERMK	**Ermenek**	**3.60**	**58**	*i* P	**Pn**	**01 58 29.5**	**+1.2**
LFK	**Lefkose**	**3.67**	**81**	*e*PN	**Pn**	**01 58 28.7**	**-0.3**
LFK	**Lefkose**	**3.67**	**81**	*e*Pn	**Pn**	**01 58 28.7**	**-0.3**
KONT	**Konya--Tatoy**	**4.09**	**39**	*e*PN	**Pn**	**01 58 35.8**	**+0.9**
KONT	**Konya--Tatoy**	**4.09**	**39**	*e*Pn	**Pn**	**01 58 35.8**	**+0.9**
IMMV	**Iera Moni Meta**	**4.25**	**280**	P	**Pn**	**01 58 39.2**	**+2.3**
IMMV	**Iera Moni Meta**	**4.25**	**280**	P	**Pn**	**01 58 39.2**	**+2.3**
LADK	**Ladik-KONYA**	**4.29**	**37**	*e*PN	**Pn**	**01 58 39.0**	**+1.4**
LADK	**Ladik-KONYA**	**4.29**	**37**	*e*Pn	**Pn**	**01 58 39.0**	**+1.4**
KARA	**Karaisali**	**5.41**	**61**	*e*PN	**Pn**	**01 58 53.8**	**+0.8**
KARA	**Karaisali**	**5.41**	**61**	*e*Pn	**Pn**	**01 58 53.8**	**+0.8**
AGG	**Agios Georgios**	**6.87**	**310**	*e*PN	**Pn**	**01 59 12.3**	**-0.7**
AGG	**Agios Georgios**	**6.87**	**310**	*e*Pn	**Pn**	**01 59 12.3**	**-0.7**

IDC 18 01:59:32.4±1.7, **7.˚58N**×**89.˚33W**, **h0**km, **mb3.8**/3, **mb1 4.1**/3, **mb1mx3.6**/28, **mbtmp3.8**/3, **Error ellipse: s-maj=188.2km s-min=29.9km az=68.0, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**25.51**	**330**	P	P	02 05 02.7	0.0
	0.6nm,0.6s,baz=144,slow=9.5,SNR=9.7						
PLCA	**Paso Flores**	**51.09**	**162**	P	P	02 08 36.6	-0.2
	3.7nm,0.8s,baz=325,slow=13,SNR=3.0						
YKA	**Yellowknife Ar**	**57.84**	**346**	P	P	02 09 25.6	+0.1
	0.3nm,0.6s,baz=152,slow=7.3,SNR=4.5						

BEO ***18*** *02:12:20.6±0.7, 45.˚83N×21.˚57E, h7km±2km, M2.5/1*
ISCJB ***18*** *02:12:21.2±0.4, 45.˚83N±0.˚02×21.˚42E±0.˚03, h12km±2km, Error ellipse: s-maj=3.3km s-min=2.5km az=20.6*
CSEM ***18*** *02:12:21.6±0.1, 45.˚81N×21.˚42E, h10km, ML2.3, Error ellipse: s-maj=3.4km s-min=2.3km az=103.0*
BUC ***18*** *02:12:21.2±0.2, 45.˚80N×21.˚48E, h12km±3km, MD2.4/3, Error ellipse: s-maj=3.7km s-min=2.4km az=104.0*
ISC 18 02:12:21.3±0.8, **45.˚79N**±0.˚02×**21.˚50E**±0.˚02, **h13**km±5km, **n84**, σ0**.91**/134, **27C-15D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.19**	**154** ⇑	*i* P	**Pg**	**02 12 25.8**	**+0.2**
BZS	**Buzias**	**0.19**	**154**	S	**Sg**	**02 12 29.1**	**+0.5**
BZS	**Buzias**	**0.19**	**154** ⇑	*i* P	**Pg**	**02 12 25.8**	**+0.2**
BZS				*i* S	**Sg**	**02 12 29.1**	**+0.5**
BZS	**Buzias**	**0.19**	**154**	*e*Pg	**Pg**	**02 12 25.8**	**+0.2**
BZS	**Buzias**	**0.19**	**154** ⇓	*i* P	**Pg**	**02 12 25.8**	**+0.2**
BZS				S	**Sg**	**02 12 29.1**	**+0.5**
TIM	**Timisoara**	**0.20**	**255** ⇓	*i* P	**Pg**	**02 12 25.8**	**0.0**
TIM	**Timisoara**	**0.20**	**255**	S	**Sg**	**02 12 28.6**	**-0.2**

TIM	**Timisoara**	**0.20**	**255** ⇓	*i* P		**Pg**	**02 12 25.8**	**0.0**
TIM				*i* S		**Sg**	**02 12 28.6**	**-0.2**
TIM	**Timisoara**	**0.20**	**255** ⇓	*i* P		**Pg**	**02 12 25.8**	**0.0**
TIM				S		**Sg**	**02 12 28.6**	**-0.2**
BANR	**Banloc**	**0.48**	**212** ⇑	*i* P		**Pg**	**02 12 31.2**	**+0.4**
BANR	**Banloc**	**0.48**	**212**	S		**Sg**	**02 12 38.0**	**+0.8**
BANR	**Banloc**	**0.48**	**212** ⇑	*i* P		**Pg**	**02 12 31.2**	**+0.4**
BANR				*i* S		**Sg**	**02 12 38.0**	**+0.8**
BANR	**Banloc**	**0.48**	**212** ⇑	*i* P		**Pg**	**02 12 31.2**	**+0.4**
BANR				S		**Sg**	**02 12 38.0**	**+0.8**
SIRR	**Siria**	**0.49**	**13** ⇑	*i* P		**Pg**	**02 12 31.2**	**+0.2**
SIRR	**Siria**	**0.49**	**13**	S		**Sg**	**02 12 37.3**	**-0.3**
SIRR	**Siria**	**0.49**	**13** ⇑	*i* P		**Pg**	**02 12 31.2**	**+0.2**
SIRR				*i* S		**Sg**	**02 12 37.3**	**-0.3**
SIRR	**Siria**	**0.49**	**13** ⇑	*i* P		**Pg**	**02 12 31.2**	**+0.2**
SIRR				S		**Sg**	**02 12 37.3**	**-0.3**
DEV	**Deva**	**0.99**	**84** ⇓	*i* P		**Pg**	**02 12 40.8**	**+0.4**
DEV	**Deva**	**0.99**	**84** ⇓	*i* P		**Pg**	**02 12 40.8**	**+0.4**
DEV				*i* S		**Sn**	**02 12 55.3**	**+0.6**
DEV	**Deva**	**0.99**	**84** ⇓	*i* P		**Pg**	**02 12 40.8**	**+0.4**
DEV				S		**Sn**	**02 12 55.3**	**+0.6**
MDVR	**Moldovita**	**1.02**	**171** ⇑	*i* P		**Pb**	**02 12 40.7**	**-0.2**
MDVR	**Moldovita**	**1.02**	**171** ⇑	*i* P		**Pb**	**02 12 40.7**	**-0.2**
MDVR				*i* S		**Sn**	**02 12 55.3**	**-0.3**
MDVR	**Moldovita**	**1.02**	**171** ⇑	*i* P		**Pb**	**02 12 40.7**	**-0.2**
MDVR				S		**Sn**	**02 12 55.3**	**-0.3**
DRGR		**1.31**	**40** ⇑	*i* P		**Pn**	**02 12 45.6**	**+0.2**
DRGR		**1.31**	**40** ⇑	*i* P		**Pn**	**02 12 45.6**	**+0.2**
DRGR				*i* S		**Sg**	**02 13 03.4**	**-0.1**
DRGR		**1.31**	**40** ⇑	*i* P		**Pn**	**02 12 45.6**	**+0.2**
DRGR				S		**Sg**	**02 13 03.4**	**-0.1**
FGSL	**Fruska Gora**	**1.34**	**243**	*e*Pg		**Pb**	**02 12 46.5**	**+0.1**
FGSL				*e*Sg		**Sg**	**02 13 05.8**	**+1.1**
FRGS	**Fruska Gora**	**1.34**	**243**	*e*Pg		**Pb**	**02 12 46.5**	**+0.1**
FRGS				*e*Sg		**Sg**	**02 13 05.8**	**+1.1**
KUBS	**Kucevo**	**1.38**	**175**	*e*Pg		**Pn**	**02 12 44.5**	**-1.9**
KUBS				*e*Sg		**Sb**	**02 13 05.1**	**+0.5**
KUBS	**Kucevo**	**1.38**	**175**	*e*Pg		**Pn**	**02 12 44.5**	**-1.9**
KUBS				*e*Sg		**Sb**	**02 13 05.1**	**+0.5**
LOT	**Lotru**	**1.63**	**101** ⇓	*i* P		**Pg**	**02 12 52.3**	**-0.3**
LOT	**Lotru**	**1.63**	**101** ⇓	*i* P		**Pg**	**02 12 52.3**	**-0.3**
LOT				*i* S		**Sg**	**02 13 13.1**	**-0.7**
LOT	**Lotru**	**1.63**	**101** ⇓	*i* P		**Pg**	**02 12 52.3**	**-0.3**
LOT				S		**Sg**	**02 13 13.1**	**-0.7**
CJR	**Cluj-Napoca**	**1.73**	**57** ⇑	*i* P		**Pn**	**02 12 52.0**	**+0.9**
CJR	**Cluj-Napoca**	**1.73**	**57** ⇑	*i* P		**Pn**	**02 12 52.0**	**+0.9**
CJR				*i* S		**Sb**	**02 13 15.1**	**+0.6**
CJR	**Cluj-Napoca**	**1.73**	**57** ⇑	*i* P		**Pn**	**02 12 52.0**	**+0.9**
CJR				S		**Sb**	**02 13 15.1**	**+0.6**
TRUS	**Trudelj**	**1.75**	**207**	*

VNDA Vanda 14.31 189 Pn **Pn** 02 22 11.0 -0.1
0.8nm,0.3s,baz=30,slow=15,SNR=93
VNDA LR LR 02 26 31.1
comp=Z,9µm,20.7s,baz=22,slow=32
SBA Scott Base 14.38 185 *e*Pn **Pn** 02 22 11.4 -0.7
255nm,1.5s
RPZ Rata Peaks 19.98 358 LR LR 02 29 46.2
comp=Z,5µm,19.9s,baz=201,slow=33
CASY Casey 25.27 236 *e*P **P** 02 24 15.9 +1.2
8.3nm,1.1s
URZ Urewera 25.60 9 LR LR 02 32 40.5
comp=Z,3µm,21.6s,baz=196,slow=33
QSPA South Pole Qui 26.45 180 *e*P **P** 02 24 25.5 -0.2
188nm,1.2s
STKA Stephens Creek 37.11 314 P **P** 02 25 59.9 +0.7
1.7nm,0.4s,baz=240,slow=8.7,SNR=2.9
STKA LR LR 02 38 44.1
comp=Z,1µm,18.9s,baz=148,slow=32
MAW Mawson 39.63 215 P **P** 02 26 22.3 +2.3
2.5nm,0.7s,baz=137,slow=8.5,SNR=5.4
MAW LR LR 02 43 01.2
comp=Z,1µm,20.6s,baz=131,slow=37
DZM Mont Dzumac 41.73 352 *e*LR LR 02 38 12.9
3µm,20.9s
DZM Mont Dzumac 41.73 352 P **P** 02 26 37.1 -0.8
18nm,1.1s,baz=183,slow=10,SNR=5.1
DZM Mont Dzumac 41.73 352 *e*P **P** 02 26 37.4 -0.5
118nm,1.8s
SYO Syowa Base 43.44 203 ⥣ *i*P **P** 02 26 50.6 -0.6
SYO Syowa Base 43.44 203 ‖ *e*pP pP 02 26 53.0 -1.3
SNAA Sanae 44.91 182 *e*P **P** 02 27 01.6 -1.5
1µm,1.3s
H01W1 Cape Leeuwin H 45.23 281 T T 03 15 55.3
baz=148,slow=76,SNR=160
H01W2 Cape Leeuwin H 45.23 281 T T 03 15 55.5
baz=148,slow=76,SNR=99
H01W3 Cape Leeuwin H 45.24 281 T T 03 15 56.4
baz=148,slow=76,SNR=131
CTA Charters Tower 46.92 326 P **P** 02 27 18.5 -0.8
3.0nm,0.6s,baz=136,slow=10,SNR=3.6
CTAO Charters Tower 46.92 326 *e*P **P** 02 27 18.3 -1.1
190nm,1.4s
ASAR Alice Springs 47.25 309 P **P** 02 27 21.1 -0.9
6.5nm,1.0s,baz=157,slow=7.7,SNR=17
ASAR PcP **PcP** 02 28 53.7 +0.6
3.1nm,1.0s,baz=154,slow=3.9,SNR=5.0
ASAR LR LR 02 45 24.8
comp=Z,754nm,18.6s,baz=152,slow=34
TBI Tubuai 47.62 51 *e*S S 02 34 31.5 +11
385nm,26.2s
TBI *e*LQ LQ 02 38 20.1
3µm,28.0s
TBI *e*LR LR 02 40 40.1
973nm,26.2s,baz=208
TBI Tubuai 47.62 51 *e*T T 03 18 00.5
26nm,0.3s
WRA Warramunga Arr 50.55 312 P **P** 02 27 46.2 -1.2
8.2nm,1.0s,baz=163,slow=6.2,SNR=14
WRA PcP **PcP** 02 29 05.3 +0.2
1.9nm,1.0s,baz=144,slow=2.6,SNR=2.2
WRA LR LR 02 47 25.8
comp=Z,1µm,18.3s,baz=155,slow=34
WRAB Tennant Creek 50.56 312 *e*P **P** 02 27 47.0 -0.4
9.3nm,0.9s
TVO Taravao 52.86 48 *e*T T 03 24 31.9
8.9nm,0.2s
PPT2 Papeete2 52.93 48 *e*S S 02 35 44.8 +11
119nm,27.5s
PPT2 *e*LQ LQ 02 40 32.8
2µm,25.2s
PPT2 *e*LR LR 02 43 04.7
1µm,25.0s,baz=195
PPT2 Papeete2 52.93 48 *e*T T 03 24 36.6
10nm,0.3s
PPT Papeete 52.95 48 LR LR 02 43 45.4
comp=Z,438nm,21.1s,baz=196,slow=28
TIAR Tiarei 53.03 48 *e*T T 03 24 44.5
4.3nm,0.3s
MEH Mehetia 53.17 50 *e*T T 03 24 56.8
27nm,0.2s
RKT Rikitea 53.34 66 *e*S S 02 35 52.3 +13
152nm,24.2s
RKT *e*LR LR 02 43 18.1
1µm,29.0s,baz=205
RKT Rikitea 53.34 66 *e*T T 03 25 14.4
20nm,0.4s
VAH Vaihoa 55.77 49 *e*T T 03 28 10.4
445nm,0.3s
PMG Port Moresby 57.00 330 *e*P **P** 02 28 34.9 +0.4
5.1nm,0.5s
SOEI Soe 63.52 305 *e*P **P** 02 29 19.0 -0.3
TAOE Nuku Hiva Isla 64.31 54 *e*LR LR 02 48 22.9
556nm,26.1s
PLCA Paso Flores 64.79 132 P **P** 02 29 27.4 +0.1
5.0nm,0.8s,baz=200,slow=10,SNR=2.9
TRQA Tornquist 69.96 137 *e*P **P** 02 30 00.8 +0.7
4.7nm,0.9s
DAV Davao City (W) 78.73 313 LR LR 03 05 46.6
comp=Z,172nm,18.2s,baz=162,slow=36
KKM Kota Kinabalu 81.06 304 *e*P **P** 02 31 04.3 +0.3
LVC Limon Verde 81.82 125 *e*P **P** 02 31 08.3 -0.1
11nm,1.0s
H11S2 WAKE ISLAND Hy 81.97 355 T T 04 01 45.7
baz=149,slow=76,SNR=6.8
H11S3 WAKE ISLAND Hy 81.98 355 T T 04 01 42.4
baz=149,slow=76,SNR=5.3
H11S1 WAKE ISLAND Hy 81.99 355 T T 04 01 43.5
baz=149,slow=76,SNR=5.5
CPUP Villa Florida 82.28 137 P **P** 02 31 10.1 -0.2
5.9nm,1.1s,baz=86,slow=2.6,SNR=4.7
CPUP LR LR 03 04 41.0
comp=Z,599nm,18.9s,baz=198,slow=33
H11N1 WAKE ISLAND Hy 83.18 355 T T 04 02 57.8
baz=150
H11N3 WAKE ISLAND Hy 83.19 355 T T 04 03 02.9
baz=150
H11N2 WAKE ISLAND Hy 83.20 355 T T 04 02 59.0
baz=150
BOSA Boshof 84.39 209 LR LR 03 06 33.3
comp=Z,822nm,20.2s,baz=172,slow=34
H08S2 Diego Garcia H 87.46 258 T T 04 08 56.1
baz=153,slow=76,SNR=92
H08S1 Diego Carcia H 87.46 258 T T 04 08 57.2
baz=153,slow=76,SNR=96
H08S3 Diego Garcia H 87.48 258 T T 04 08 57.7
baz=153,slow=76,SNR=158
LPAZ La Paz 87.90 123 P **P** 02 31 38.7 -0.6
6.5nm,1.1s,baz=190,slow=2.1,SNR=10
LPAZ LR LR 03 01 53.5
comp=Z,178nm,21.4s,baz=212,slow=29
CMAR Chiang Mai Arr 99.14 293 LR LR 03 12 34.0
comp=Z,187nm,21.9s,baz=164,slow=33
H06S1 SOCORRO T 100.96 70 T T 04 25 10.4
SNR=8.1
H06E1 SOCORRO T-PHAS 101.01 70 T T 04 25 07.8
SNR=12
KSRS Korea Array 106.69 325 PP PP 02 37 33.0 +3.8
0.3nm,0.3s,baz=159,slow=7.6,SNR=5.4
KLR Kul'dur 116.92 332 PKP **PKPdf** 02 37 33.1 +0.7
1.1nm,0.7s,baz=266,slow=4.3,SNR=4.0
SONM Songino Array 122.52 313 PKP **PKPdf** 02 37 44.4 +1.1
0.3nm,0.4s,baz=90,slow=40,SNR=2.9
PDAR Pinedale Array 122.61 59 PKP **PKPdf** 02 37 44.7 +0.8
0.2nm,0.3s,baz=236,slow=12,SNR=2.4
H02S1 DAWSON INLET T 124.22 37 T T 04 54 04.9
SNR=51
H02N1 VAN INLET T-PH 124.25 37 T T 04 54 07.3
SNR=48
NEW Newport 124.58 50 *e*PKPdf **PKPdf** 02 37 47.0 -0.2
TORD Torodi Ar. Bea 129.12 192 PKP **PKPdf** 02 37 58.0 +1.1
3.7nm,1.2s,baz=177,slow=2.3,SNR=8.2
TKM2 Tokmak 2 130.12 287 *e*PKPdf **PKPdf** 02 37 58.1 -0.1
MCK McKinley 130.31 22 *e*PKPdf **PKPdf** 02 37 58.2 +0.5
AAK Ala-Archa 130.35 286 *e*PKPdf **PKPdf** 02 37 57.4 -1.2
MKAR Makanchi Array 130.48 295 PKP **PKPdf** 02 37 59.5 +1.0
2.9nm,1.1s,baz=152,slow=5.4,SNR=11
EKS2 Erkin-Say 130.69 286 *e*PKPdf **PKPdf** 02 37 59.2 0.0
ILAR Eielson Array 131.62 22 PKP **PKPdf** 02 38 00.8 +0.7
2.5nm,1.1s,baz=238,slow=2.4,SNR=8.9
KURK Kurchatov 135.07 296 *e*PKPdf **PKPdf** 02 38 07.3 +0.4
YKA Yellowknife Ar 137.14 41 PKhKP PKPpre 02 38 07.3
0.3nm,0.7s,baz=221,slow=2.2,SNR=3.4
INK Inuvik 137.23 26 *e*PKPdf **PKPdf** 02 38 08.8 -1.6
TAM Tamanrasset 138.19 199 *e*PKPdf **PKPdf** 02 38 14.0 +0.1
ABKAR Akbulak array 141.85 281 *e*PKPdf **PKPdf** 02 38 18.6 -0.8
KBZ Khabaz 145.18 260 PKPbc **PKPbc** 02 38 23.2 -1.9
11nm,1.2s,baz=12,slow=24,SNR=7.1
NRIK Noril'sk 145.24 322 PKPbc **PKPbc** 02 38 23.1 -1.5
17nm,1.0s,baz=111,slow=3.8,SNR=12
KIV Kislovodsk 145.45 260 *e*PKPbc **PKPab** 02 38 26.5 +0.1
BRTR Keskin Array B 145.82 246 PKPbc **PKPdf** 02 38 26.1 -0.8
11nm,0.9s,baz=160,slow=3.9,SNR=37
ARU Arti 147.47 289 *e*PKPbc **PKPbc** 02 38 31.9 +0.3
ANX Ano Chora 149.25 230 P **PKPbc** 02 38 37.7 +0.8
AGG Agios Georgios 149.49 231 P **PKPbc** 02 38 35.9 -1.5
AGG Agios Georgios 149.49 231 P **PKPbc** 02 38 35.9 -1.5
XOR Xorichti 149.50 232 P **PKPdf** 02 38 31.4 -1.5
XOR Xorichti 149.50 232 P **PKPdf** 02 38 31.4 -1.5
SMTH Samothraki Isl 149.63 236 P **PKPab** 02 38 41.0 -1.9
SMTH Samothraki Isl 149.63 236 P **PKPab** 02 38 41.0 -1.9
SCHQ Schefferville 149.67 79 PKPbc **PKPbc** 02 38 39.1 +1.9
7.0nm,0.9s,baz=148,slow=1.8,SNR=5.8
DSL Palaion Diasel 150.01 229 P **PKPbc** 02 38 40.9 +2.2
DSL Palaion Diasel 150.01 229 P **PKPbc** 02 38 40.9 +2.2
THL Klokotos Trika 150.09 231 P **PKPbc** 02 38 39.0 +0.2
KEST Kesra 150.12 209 PKPab **PKPab** 02 38 44.1 -1.0
7.0nm,0.9s,baz=280,slow=4.8,SNR=6.1
RES Resolute Bay 150.33 32 PKPbc **PKPbc** 02 38 38.6 +0.3
7.5nm,1.1s,baz=201,slow=4.6,SNR=4.6
RES Resolute Bay 150.33 32 *e*PKPbc **PKPbc** 02 38 39.1 +0.8
EDRB Edirne 150.36 239 P **PKPbc** 02 38 39.4 +0.1
EDRB Edirne 150.36 239 P **PKPbc** 02 38 39.4 +0.1
NVR Nevrokopi 151.01 235 P **PKPbc** 02 38 40.3 -0.7
NVR Nevrokopi 151.01 235 P **PKPbc** 02 38 40.3 -0.7
NEST Nestorio 151.18 230 P **PKPbc** 02 38 41.0 -0.5
TIP Timpagrande 151.44 223 P **PKPbc** 02 38 46.2 +4.1
TIP Timpagrande 151.44 223 *e*PKPbc **PKPbc** 02 38 40.8 -1.3
TIRR Tirgusor 151.91 244 ⥣ *i*P **PKPbc** 02 38 43.6 +0.8
TIRR Tirgusor 151.91 244 *e*PKPbc **PKPbc** 02 38 42.6 -0.3
CFR Carcaliu 152.61 245 ‖ *i*P **PKPbc** 02 38 48.5 +4.1
VRI Vrincioaia 153.74 244 ‖ *i*P **PKPbc** 02 38 50.9 +4.0
MLR Muntele Rosu 153.75 242 ‖ *i*P **PKPbc** 02 38 47.2 +0.1
ESDC Sonseca Array 155.88 187 PKP **PKPdf** 02 38 43.2 +0.9
1.3nm,1.0s,baz=328,slow=24,SNR=3.2
AKASG Malin Array Be 156.48 254 PKPab **PKPab** 02 39 13.4 +2.0
3.1nm,0.8s,baz=129,slow=3.6,SNR=5.9
GERES GERESS Array B 161.08 229 PKP **PKPdf** 02 38 50.4 +2.1
0.4nm,0.9s,baz=337,slow=4.3,SNR=3.5

*IDC **18** 02:18:56.4±1.1,6.°48S×148.°12E,h0km,mb4.2/6, mb1 4.4/8,mb1mx4.0/40,mbtmp4.2/8,ML4.1/1,MS3.4/2, Ms1 3.4/2,ms1mx2.8/33,Error ellipse: s-maj=46.3km s-min=20.6km az=113.0*
*ISCJB **18** 02:19:02.3±1.0,6.°6S±0.°1×147.°9E±0.°2,h51km,mb4.4/9, MS3.3/1,Error ellipse: s-maj=23.5km s-min=15.0km az=20.6*
*NEIC **18** 02:19:03.6±1.9,6.°57S×147.°99E,h49km±15km,mb4.3/2, Error ellipse: s-maj=16.1km s-min=14.8km az=168.0*
ISC 18 02:19:03.6±0.9,6.°5S±0.°1×148.°0E±0.°2,h51km,n18, σ0s87/18,mb4.2/9,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.00**	**196**	Pn	**Pn**	**02 19 47.6**	**-1.0**
	20nm,0.3s,baz=6.7,slow=6.8,SNR=35						
PMG				Sn	**Sn**	**02 20 25.7**	**+2.3**
	12nm,0.3s,baz=192,slow=16,SNR=4.4						
PMG				LR	LR	02 21 06.7	
	comp=Z,494nm,18.3s,baz=360,slow=42						
COEN	**Coen**	**8.79**	**212**	*e*Pn	**Pn**	**02 21 07.8**	**-0.3**
WRAB	**Tennant Creek**	**18.80**	**223**	*e*P	**P**	**02 23 18.6**	**-0.4**
	4.7nm,0.7s						
WRA	**Warramunga Arr**	**18.81**	**223**	P	**Pn**	**02 23 19.5**	**-0.6**
	0.6nm,0.3s,baz=50,slow=11,SNR=21						
ASAR	**Alice Springs**	**21.78**	**217**	P	**P**	**02 23 50.5**	**-0.9**
	5.0nm,0.7s,baz=56,slow=9.5,SNR=51						
FITZ	**Fitzroy Crossi**	**24.64**	**240**	P	**P**	**02 24 19.8**	**+0.2**
	13nm,0.4s,baz=53,slow=8.2,SNR=60						
STKA	**Stephens Creek**	**25.94**	**192**	P	**P**	**02 24 30.3**	**-1.0**
	1.5nm,0.3s,baz=9.9,slow=10,SNR=4.0						
KAPI	**Kappang**	**28.12**	**272**	LR	LR	02 38 39.8	
	comp=Z,78nm,18.1s,baz=164,slow=42						
MBWA	**Marble Bar**	**30.97**	**239**	*e*P	**P**	**02 25 15.5**	**-0.8**
	34nm,0.7s						
KULM	**Kulim**	**48.67**	**283**	*e*P	**P**	**02 27 44.1**	**+1.0**
	5.4nm,0.6s						
VNDA	**Vanda**	**71.36**	**177**	P	**P**	**02 30 18.0**	**+0.3**
	1.3nm,0.8s,baz=335,slow=6.7,SNR=4.7						
MAW	**Mawson**	**82.16**	**203**	P	**P**	**02 31 18.8**	**+0.2**
	1.8nm,0.7s,baz=108,slow=13,SNR=2.8						
QSPA	**South Pole Qui**	**83.47**	**180**	*e*P	**P**	**02 31 25.6**	**-0.1**
	9.8nm,0.8s						
ILAR	**Eielson Array**	**85.56**	**23**	P	**P**	**02 31 35.9**	**-0.1**
	0.5nm,0.7s,baz=246,slow=5.8,SNR=5.6						
GERES	**GERESS Array B**	**122.86**	**326**	PKP	**PKPdf**	**02 37 54.0**	**-0.3**
	0.4nm,0.5s,baz=50,slow=2.3,SNR=6.6						
LCO	**Las Campanas**	**128.70**	**135**	*e*PKPdf	**PKPdf**	**02 38 06.5**	**+0.2**
SAML	**Samuel**	**145.36**	**116**	*e*PKPbc	**PKPdf**	**02 38 37.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**146.15**	**284**	PKPbc	**PKPab**	**02 38 40.5**	**+0.5**
	2.0nm,0.5s,baz=68,slow=3.8,SNR=47						

*ISCJB **18** 02:21:30.5±0.5,32.°54N±0.°03×115.°63W±0.°02,h13km±3km, Error ellipse: s-maj=4.3km s-min=2.9km az=15.2*
*NEIC **18** 02:21:31.6,32.°56N×115.°67W,h14km,ML3.0(PAS),After PAS.*
NEIC Felt at El Centro, California.
*MEX **18** 02:21:31.7±0.8,32.°70N×115.°56W,h17km±97km,MD3.5*
ISC 18 02:21:29.7±1.1,32.°58N±0.°03×115.°62W±0.°02,h6km±10km, n28,σ0s99/53,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.32**	**121**	*e*P	**Pb**	**02 21 38.5**	**+0.8**
CPBX				*i* S	**Sb**	**02 21 44.6**	**+1.5**
SWSC	**Sam W. Stewart**	**0.39**	**338**	P	**Pb**	**02 21 39.0**	**0.0**
	baz=164,SNR=20						
SWSC				S	**Sb**	**02 21 44.6**	**-0.7**
	baz=164						
MBIG	**Mexicali**	**0.40**	**116**	*e*P	**Pb**	**02 21 38.8**	**-0.4**
MBIG				*e*S	**Sb**	**02 21 44.7**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**0.42**	**280**	P	**Pb**	**02 21 39.0**	**-0.5**
	baz=103,SNR=214						
IKP				S	**Sg**	**02 21 44.0**	**+0.8**
	baz=103						
MONP2	**Monument Peak**	**0.74**	**295**	P	**Pb**	**02 21 45.1**	**-0.1**
	baz=117,SNR=42						
MONP2				S	**Sg**	**02 21 54.4**	**+0.8**
	baz=117						
GLA	**Glamis**	**0.82**	**55**	P	**Pb**	**02 21 46.4**	**+0.1**
	baz=236,SNR=31						
GLA				S	**Sb**	**02 21 57.9**	**+0.2**
	baz=236						
TJIG	**Tijuana**	**0.90**	**261**	*e*P	**Pg**	**02 21 47.3**	**+0.4**
TJIG				*e*S	**Sg**	**02 21 58.4**	**-0.3**
CBX	**Cerro Bola**	**0.92**	**253**	*e*P	**Pb**	**02 21 48.0**	**-0.1**
CBX				*e*S	**Sg**	**02 21 59.7**	**+0.4**
CBX	**Cerro Bola**	**0.92**	**253**	*e*P	**Pb**	**02 21 48.0**	**-0.1**
CBX				*e*S	**Sg**	**02 21 59.7**	**+0.4**
BC3	**Big Chuckawall**	**1.08**	**8**	P	**Pg**	**02 21 50.3**	**-0.1**
	baz=189,SNR=6.9						
TPFO	**Pinon Flats**	**1.24**	**326**	P	**Pg**	**02 21 52.4**	**-1.1**
	baz=147,SNR=14						
TPFO				S	**Sb**	**02 22 10.2**	**+0.3**
	baz=147						
PFO	**Pinyon Flats O**	**1.24**	**326**	P	**Pg**	**02 21 52.4**	**-1.1**
	baz=147,SNR=14						
PFO				S	**Sb**	**02 22 10.3**	**+0.3**
	baz=147						
PFO	**Pinyon Flats O**	**1.24**	**326**	*e*Pn	**Pg**	**02 21 52.2**	**-1.3**
PFO				*e*Sn	**Sg**	**02 22 09.7**	**0.0**
109C	**Camp Elliot, M**	**1.29**	**284**	P	**Pn**	**02 21 53.7**	**-0.5**
	baz=105,SNR=29						
109C				S	**Sb**	**02 22 10.5**	**-0.6**
	baz=105						
BELC	**Belle Mtn. Jos**	**1.45**	**348**	P	**Pb**	**02 21 57.3**	**+0.1**
	baz=169,SNR=15						
Y12C	**Blythe**	**1.49**	**38**	P	**Pb**	**02 21 57.4**	**-0.3**
	baz=219,SNR=8.9						
Y12C				S	**Sg**	**02 22 18.7**	**+1.3**
	baz=219						
SPIG	**San Pedro Mart**	**1.54**	**175**	*e*P	**Pn**	**02 21 57.5**	**-0.5**
SPIG				*e*S	**Sn**	**02 22 17.8**	**-0.7**
SPIG	**San Pedro Mart**	**1.54**	**175**	*e*P	**Pn**	**02 21 57.5**	**-0.5**
SPIG				*e*S	**Sn**	**02 22 17.8**	**-0.7**
IRM	**Iron Mountain**	**1.62**	**14**	P	**Pb**	**02 21 59.6**	**-0.4**
	baz=195						
MURC	**Murrieta**	**1.67**	**308**	Pb	**Pg**	**02 22 01.9**	**+0.3**
	baz=129,SNR=20						
MURC				S	**Sb**	**02 22 22.1**	**+0.1**
	baz=129						
BBRC	**Big Bear Solar**	**2.00**	**327**	Sb	**Sg**	**02 22 34.2**	**+0.4**
	baz=148						
PDMCI	**Parker Dam,Lak**	**2.12**	**35**	Pb	**Pg**	**02 22 09.9**	**-0.4**
	baz=217						
PDMCI				Sb	**Sg**	**02 22 37.1**	**-0.7**
	baz=217						
BFSC	**Mount Baldy Ra**	**2.37**	**315**	Pb	**Pb**	**02 22 13.5**	**+0.6**
	baz=135,SNR=7.7						
BFSC				Sb	**Sb**	**02 22 44.0**	**+1.5**
	baz=135						
214A	**Organ Pipe Nat**	**2.46**	**104**	*e*Pn	**Pn**	**02 22 11.2**	**+0.8**
214A				*e*Pg	**Pg**	**02 22 18.9**	**+2.0**
TUC	**Tucson**	**4.10**	**92**	*e*Pn	**Pn**	**02 22 33.6**	**+0.6**
TUC				*e*Pg	**Pg**	**02 22 47.3**	**-0.9**
TUC				*e*Sn	**Sn**	**02 23 22.0**	**+0.7**
TUC				*e*Sg	**Sg**	**02 23 37.0**	**-4.4**
WUAZ	**Wupatki**	**4.58**	**49**	*e*Pn	**Pn**	**02 22 40.8**	**+1.1**
WUAZ				*e*Pg	**Pg**	**02 22 57.0**	**-0.5**
W18A	**Petrified Fore**	**5.51**	**61**	*e*Pn	**Pn**	**02 22 54.4**	**+1.8**
121A	**Cookes Peak, D**	**6.62**	**88**	*e*Pn	**Pn**	**02 23 08.1**	**+0.4**
121A				*e*Sn	**Sn**	**02 24 23.1**	**-0.5**

*IDC **18** 02:26:15.2±10.0,36.°88N×144.°10E,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.3/41,mbtmp3.4/3,ML3.2/1,Error ellipse: s-maj=230.1km s-min=49.3km az=28.0*
*JMA **18** 02:26:37.9±0.2,37.°41N×141.°95E,h40km±4km,M3.3*
ISC 18 02:26:20.2±1.7,37.°00N±0.°09×142.°92E±0.°09,h25km,n13, σ3s03/18,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.68**	**283**	P	**Pb**	**02 26 53.7**	**+3.2**
JFK				S	**Sn**	**02 27 04.7**	**-4.1**
ONAJ	**Iwakimizuishiy**	**1.70**	**274**	P	**Pb**	**02 26 55.3**	**+4.4**
ONAJ				S	**Sn**	**02 27 07.5**	**-1.9**
JMM	**Marumori**	**1.91**	**298**	P	**Pb**	**02 26 56.2**	**+1.9**
JMM				S	**Sn**	**02 27 09.3**	**-5.0**
JIO	**Ouri**	**1.92**	**320**	P	**Pb**	**02 26 57.7**	**+3.2**
JFT	**Otama**	**2.13**	**285**	P	**Pb**	**02 27 00.5**	**+2.4**
JFT				S	**Sn**	**02 27 16.7**	**-3.2**
JOU	**Okura**	**2.25**	**308**	P	**Pb**	**02 27 02.2**	**+1.9**
JMK	**Ichinoseki**	**2.37**	**326**	P	**Pb**	**02 27 05.4**	**+3.2**
JYS	**Shirataka**	**2.58**	**299**	P	**Pb**	**02 27 06.0**	**+0.2**
JFY	**Yanaizu**	**2.60**	**280**	P	**Pb**	**02 27 07.5**	**+1.3**
JYK	**Kaneyama**	**2.79**	**314**	P	**Pb**	**02 27 10.3**	**+0.9**
MJAR	**Matsushiro Arr**	**3.81**	**265**	Pn	**Pb**	**02 27 27.5**	**+0.7**
	1.0nm,0.3s,baz=80,slow=15,SNR=4.5						
MJAR				Sn	**Sb**	**02 28 15.8**	**+3.2**
	0.8nm,0.3s,baz=86,slow=25,SNR=6.0						
WRA	**Warramunga Arr**	**57.21**	**190**	P	**P**	**02 36 03.0**	**-2.3**
	0.4nm,0.4s,baz=9.4,slow=7.6,SNR=6.6						
ASAR	**Alice Springs**	**60.93**	**189**	P	**P**	**02 36 31.5**	**+0.4**
	0.5nm,1.0s,baz=17,slow=8.4,SNR=3.2						

*ISCJB **18** 02:41:14.9±0.4,41.°91N±0.°03×126.°75W±0.°04,h10km, mb4.0/26,MS3.7/10,Error ellipse: s-maj=5.3km s-min=3.8km az=40.9*
*IDC **18** 02:41:14.9±1.7,42.°10N×126.°84W,h0km,mb3.8/10, mb1 4.0/11,mb1mx3.7/57,mbtmp3.8/11,ML4.2/1,MS3.9/15, Ms1 3.8/15,ms1mx3.6/52,Error ellipse: s-maj=43.5km s-min=20.3km az=24.0*
*NEIC **18** 02:41:16.2±0.6,41.°88N×126.°83W,h10km,mb4.2/21, Error ellipse: s-maj=8.9km s-min=5.1km az=218.0*
ISC 18 02:41:15.9±0.8,41.°87N±0.°06×126.°82W±0.°08,h10km, n111,σ1s33/101,mb4.2/26,MS3.8/10,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSXB	**Camp Six Broad**	**2.20**	**90**	P	**Pn**	**02 41 50.7**	**-1.9**
JCC	**Jacoby Creek,**	**2.35**	**116**	*e*Pn	**Pn**	**02 41 52.0**	**-2.5**
L02D	**Cave Junction,**	**2.42**	**82**	P	**Pn**	**02 41 53.8**	**-1.7**
	baz=264,SNR=64						
KHMM	**Horse Mountain**	**2.53**	**112**	*e*Pn	**Pn**	**02 41 55.8**	**-1.4**
KTRM	**Thompson Ridge**	**2.57**	**88**	P	**Pn**	**02 41 55.9**	**-1.9**
KMRM	**Mail Ridge**	**2.87**	**124**	*e*Pn	**Pn**	**02 42 00.6**	**-1.2**
DBO	**Dodson Butte**	**2.93**	**63**	*e*Pn	**Pn**	**02 42 01.4**	**-1.2**
UMPQ	**Umpqua Communi**	**2.94**	**60**	P	**Pn**	**02 42 01.4**	**-1.3**
HUMO	**Hull Mountain**	**2.96**	**74**	*e*Pn	**Pn**	**02 42 01.6**	**-1.5**
M02C	**Callahan**	**3.01**	**98**	P	**Pn**	**02 42 03.0**	**-0.7**
	baz=281,SNR=44						
M02C				S	**Sn**	**02 42 39.5**	**-0.4**
	baz=281						
YBH	**Yreka Blue Hor**	**3.08**	**91**	*e*Pn	**Pn**	**02 42 04.2**	**-0.5**
I03D	**Drain, OR**	**3.14**	**53**	P	**Pn**	**02 42 04.1**	**-1.4**
	baz=236,SNR=158						
I03D				S	**Sn**	**02 42 41.6**	**-1.4**
	baz=236						
N02D	**Trinity Center**	**3.22**	**105**	P	**Pn**	**02 42 05.6**	**-1.0**
	baz=288						
WDC	**Whiskeytown Da**	**3.48**	**110**	*e*Pn	**Pn**	**02 42 09.4**	**-0.6**
M04C	**Macdoel**	**3.73**	**90**	P	**Pn**	**02 42 13.5**	**-0.1**
	baz=273,SNR=11						
COR	**Corvallis**	**3.74**	**42**	*e*Pn	**Pn**	**02 42 13.1**	**-0.6**
COR				*e*Sn	**Sn**	**02 42 58.8**	**+1.0**
I04A	**Tendick Farm,**	**3.77**	**58**	P	**Pn**	**02 42 13.7**	**-0.5**
	baz=241,SNR=29						
O03D	**Paynes Creek**	**4.11**	**111**	P	**Pn**	**02 42 17.4**	**-1.4**
	baz=294						
O03D				S	**Sn**	**02 43 06.5**	**-0.5**
	baz=294						
G03D	**McMinnville, O**	**4.23**	**37**	P	**Pn**	**02 42 19.6**	**-0.7**
	baz=219,SNR=6.0						
G03D				S	**Sn**	**02 43 08.2**	**-1.5**
	baz=219						
J05D	**Fort Rock, OR**	**4.36**	**69**	P	**Pn**	**02 42 22.2**	**-0.2**
	baz=253,SNR=7.3						
K05A	**Summer Lake**	**4.48**	**77**	*e*Pn	**Pn**	**02 42 24.3**	**+0.3**
G04A	**Mulino**	**4.59**	**42**	*e*Pn	**Pn**	**02 42 26.0**	**+0.6**
F03A	**Seaside**	**4.70**	**29**	*e*Pn	**Pn**	**02 42 26.6**	**-0.3**
MOD	**Modoc Plateau**	**4.87**	**87**	*e*Pn	**Pn**	**02 42 28.5**	**-0.8**
F04A	**Amboy**	**5.16**	**37**	*e*Pn	**Pn**	**02 42 33.9**	**+0.7**
F04A				*e*Sn	**Sn**	**02 43 33.1**	**+0.3**
E03A	**Lebam**	**5.23**	**25**	*e*Pn	**Pn**	**02 42 33.9**	**-0.2**
AFDM	**Forest Hills D**	**5.33**	**121**	*e*Pn	**Pn**	**02 42 37.0**	**+1.4**
G06A	**Carlson Farm,**	**5.62**	**51**	*e*Pn	**Pn**	**02 42 39.3**	**-0.2**
NLWA	**Neilton Lookou**	**5.91**	**20**	*e*Pn	**Pn**	**02 42 42.9**	**-0.7**
PAHR	**Pah Rah Range**	**6.04**	**108**	*e*Pn	**Pn**	**02 42 48.4**	**+2.9**
LON	**Longmire**	**6.06**	**35**	*e*Pn	**Pn**	**02 42 47.0**	**+1.3**
WVOR	**Wild Horse Val**	**6.11**	**82**	*e*Pn	**Pn**	**02 42 45.5**	**-0.9**
D05A	**Enumclaw**	**6.34**	**31**	*e*Pn	**Pn**	**02 42 51.0**	**+1.6**
G08A	**Pilot Rock**	**6.66**	**56**	*e*Pn	**Pn**	**02 42 54.5**	**+0.6**
HAWA	**Hanford**	**6.92**	**47**	*e*Pn	**Pn**	**02 42 57.1**	**-0.4**
PGC	**Sidney**	**7.19**	**18**	*e*Pn	**Pn**	**02 43 00.9**	**-0.1**
BMO	**Blue Mountains**	**7.55**	**64**	*e*Pn	**Pn**	**02 43 06.7**	**+0.6**
MFID	**Camas Ranch**	**8.25**	**76**	*e*Pn	**Pn**	**02 43 13.9**	**-1.9**
	2.2nm,0.4s						
NEW	**Newport**	**9.38**	**44**	LR	LR	02 47 14.

PHWY	**Pilot Hill**	**16.00**	**85**	*e*Pn		**Pn**	**02 45 02.3**	**+1.0**
	5.5nm,0.9s							
DLBC	**Dease Lake**	**16.71**	**354**	LR		LR	02 50 41.4	
	comp=Z,191nm,18.4s,baz=202,slow=34							
SDCO	**Great Sand Dun**	**16.88**	**97**	*e*Pn		**Pn**	**02 45 13.3**	**+0.7**
	17nm,1.5s							
ANMO	**Albuquerque**	**17.37**	**107**	P		**P**	**02 45 22.1**	**+2.1**
	0.1nm,0.3s,baz=317,slow=12,SNR=3.9							
ANMO				LR		LR	02 52 30.1	
	comp=Z,508nm,20.2s,baz=301,slow=39							
BNM	**Barren Site**	**17.66**	**109**	*e*Pn		**P**	**02 45 23.5**	**+0.4**
MNTX	**Cornudas Mount**	**19.90**	**114**	*e*P		**P**	**02 45 47.8**	**+0.3**
	11nm,1.5s							
AMTX	**Amarillo**	**20.86**	**101**	*e*P		**P**	**02 45 57.4**	**-0.7**
	4.8nm,0.7s							
BALM	**Baldy**	**21.39**	**339**	*e*P		**P**	**02 46 05.1**	**+1.5**
	13nm,1.3s							
YKA	**Yellowknife Ar**	**21.90**	**15**	P		**P**	**02 46 07.8**	**-1.0**
	2.0nm,0.8s,baz=206,slow=11,SNR=8.5							
YKA				LR		LR	02 53 49.5	
	comp=Z,8.1nm,20.6s,baz=180,slow=35							
ECSD	**EROS Data Cent**	**22.19**	**75**	*e*P		**P**	**02 46 13.4**	**+1.2**
	14nm,1.2s							
TX31	**Lajitas Ar. Si**	**22.52**	**116**	*e*P		**P**	**02 46 17.5**	**+1.6**
TXAR	**Lajitas Array**	**22.52**	**116**	P		**P**	**02 46 19.0**	**+3.1**
	0.6nm,0.8s,baz=298,slow=8.3,SNR=7.9							
TXAR				LR		LR	02 54 48.4	
	comp=Z,76nm,21.8s,baz=0.0,slow=36							
AGMN	**Agassiz Nation**	**22.68**	**63**	*e*P		**P**	**02 46 18.9**	**+1.5**
	12nm,1.1s							
ULM	**Lac du Bonnet**	**22.92**	**58**	P		**P**	**02 46 20.4**	**+0.5**
	6.5nm,1.1s,baz=262,slow=12,SNR=5.5							
ULM				LR		LR	02 55 31.9	
	comp=Z,306nm,18.3s,baz=264,slow=38							
ULM	**Lac du Bonnet**	**22.92**	**58**	*e*P		**P**	**02 46 21.2**	**+1.3**
	37nm,1.4s							
DAWY	**Dawson**	**23.40**	**346**	*e*P		**P**	**02 46 24.3**	**-0.4**
	8.2nm,1.2s							
EGAK	**Eagle**	**24.38**	**345**	*e*P		**P**	**02 46 35.4**	**+1.5**
	1.4nm,0.8s							
RND	**Reindeer**	**25.12**	**337**	*e*P		**P**	**02 46 42.6**	**+1.8**
	8.8nm,1.2s							
MCK	**McKinley**	**25.40**	**337**	*e*P		**P**	**02 46 43.7**	**+0.5**
	6.2nm,1.0s							
EYMN	**Ely**	**25.59**	**64**	*e*P		**P**	**02 46 47.1**	**+2.0**
	21nm,1.8s							
ILAR	**Eielson Array**	**25.65**	**340**	P		**P**	**02 46 44.2**	**-1.3**
	2.3nm,0.9s,baz=155,slow=8.2,SNR=24							
ILAR				LR		LR	02 55 01.4	
	comp=Z,210nm,20.9s,baz=163,slow=32							
CCB	**Clear Creek Bu**	**25.79**	**339**	*e*P		**P**	**02 46 47.0**	**+0.3**
	4.1nm,1.1s							
PPLA	**Purkeypile**	**25.82**	**333**	*e*P		**P**	**02 46 47.7**	**+0.5**
	18nm,1.3s							
MLY	**Manley**	**26.89**	**338**	*e*P		**P**	**02 46 57.4**	**+0.6**
	6.0nm,1.2s							
SCHQ	**Schefferville**	**40.67**	**50**	LR		LR	03 05 53.6	
	comp=Z,125nm,21.6s,baz=278,slow=36							
H11N3	**WAKE ISLAND Hy**	**59.59**	**270**	T		T	03 55 46.2	
	baz=52,slow=75,SNR=60							
H11N2	**WAKE ISLAND Hy**	**59.59**	**270**	T		T	03 55 43.4	
	baz=52,slow=75,SNR=53							
H11N1	**WAKE ISLAND Hy**	**59.60**	**270**	T		T	03 55 53.5	
	baz=52,slow=75,SNR=45							
OTAV	**Otavalo**	**60.07**	**120**	*e*P		**P**	**02 51 23.3**	**-0.6**
	2.0nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**60.48**	**269**	T		T	03 56 50.4	
	baz=52,slow=75,SNR=83							
H11S2	**WAKE ISLAND Hy**	**60.49**	**269**	T		T	03 56 49.2	
	baz=52,slow=75,SNR=96							
H11S3	**WAKE ISLAND Hy**	**60.50**	**269**	T		T	03 56 59.0	
	baz=52,slow=75,SNR=48							
PPT	**Papeete**	**62.77**	**205**	LR		LR	03 12 39.6	
	comp=Z,79nm,21.4s,baz=295,slow=30							
USRK	**Ussuriysk Ar.**	**69.04**	**311**	LR		LR	03 21 14.5	
	comp=Z,188nm,20.9s,baz=151,slow=35							
SONM	**Songino Array**	**79.05**	**327**	P		**P**	**02 53 19.6**	**-0.7**
	0.6nm,0.7s,baz=67,slow=3.9,SNR=4.9							
SONM				LR		LR	03 29 00.8	
	comp=Z,247nm,20.8s,baz=132,slow=36							
HHC	**Hu-ho-hao-te**	**82.17**	**319**	*e*P		**P**	**02 53 36.9**	**-0.2**
HHC				pmax		pmax		
	comp=Z,7.0nm,1.0s							
GERES	**GERESS Array B**	**83.21**	**25**	P		**P**	**02 53 43.0**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=320,slow=12,SNR=3.6							
BVAR	**Borovoye Array**	**84.32**	**350**	P		**P**	**02 53 47.5**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=29,slow=5.8,SNR=3.7							
KURK	**Kurchatov**	**85.15**	**344**	P		**P**	**02 53 51.3**	**-0.8**
KURBB	**Kurchatov Arra**	**85.26**	**344**	P		**P**	**02 53 51.3**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=16,slow=4.6,SNR=7.0							
AKASG	**Malin Array Be**	**85.46**	**15**	P		**P**	**02 53 52.0**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=358,slow=5.5,SNR=4.0							
AKASG	**Malin Array Be**	**85.46**	**15**	P		**P**	**02 53 52.0**	**-1.6**
PSZ	**Piszkesteto**	**85.87**	**22**	*e*P		**P**	**02 53 55.6**	**-0.2**
	comp=Z,2.6nm,0.7s							
AKTO	**Aktyubinsk**	**87.98**	**357**	P		**P**	**02 54 04.9**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=22,slow=4.5,SNR=3.9							
MKAR	**Makanchi Array**	**88.01**	**340**	LR		LR	03 35 50.6	
	comp=Z,103nm,20.6s,baz=128,slow=37							
ABKAR	**Akbulak array**	**89.06**	**356**	*e*P		**P**	**02 54 10.2**	**-0.9**
	comp=Z,1.1nm,0.6s							
TKM2	**Tokmak 2**	**93.21**	**344**	*e*P		**P**	**02 54 31.6**	**+0.9**
	comp=Z,1.1nm,0.6s							
TGY	**Tagaytay City**	**96.51**	**295**	LR		LR	03 28 24.5	
	comp=Z,52nm,20.6s,baz=170,slow=29							

IDC 18 02:54:26.0±2.3, 5.81S×151.34E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/27, mbtmpb3.3/3, Error ellipse: s-maj=160.4km s-min=29.3km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.69**	**228**	P	P	02 59 18.2	-0.5
	0.5nm,0.5s,baz=54,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**24.43**	**222**	P	P	02 59 46.9	+0.2
	0.5nm,0.7s,baz=52,slow=9.2,SNR=6.3						
ILAR	**Eielson Array**	**83.64**	**22**	P	P	03 06 55.8	-0.3
	0.2nm,0.9s,baz=230,slow=2.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**149.21**	**286**	PKPbc	PKPbc	03 14 17.7	0.0
	0.3nm,0.6s,baz=95,slow=2.0,SNR=4.9						

IDC 18 03:20:09.7±1.9, 5.75S×151.38E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/36, mbtmpb3.9/4, Error ellipse: s-maj=106.8km s-min=26.3km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.77**	**228**	P	P	03 25 02.5	-0.6
	1.9nm,0.6s,baz=54,slow=11,SNR=17						
ASAR	**Alice Springs**	**24.51**	**222**	P	P	03 25 31.0	0.0
	2.6nm,0.7s,baz=56,slow=9.4,SNR=22						
FITZ	**Fitzroy Crossi**	**27.97**	**242**	P	P	03 26 01.9	-0.4
	3.5nm,0.9s,baz=62,slow=5.9,SNR=5.1						
ILAR	**Eielson Array**	**83.56**	**22**	P	P	03 32 38.5	-1.0
	0.2nm,0.5s,baz=236,slow=5.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.23**	**286**	PKPbc	PKPbc	03 40 02.8	+1.4
	1.5nm,1.3s,baz=53,slow=2.2,SNR=5.3						

*TIF **18** 03:25:20.5, 42.51N×42.79E, h18km*
*DDA **18** 03:25:38.7, 41.55N×42.15E, h7km, Md2.7*
ISC 18 03:25:20.2±3.1, 42.5N±0.1×42.75E±0.07, h2km±13km, n11, σ0.99/14, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.53**	**79**	P	Pg	03 25 31.2	+0.9
ONI				S	Sg	03 25 38.6	+1.5
CHVG	**Ch'k'valeri**	**0.54**	**295**	S	Pg	03 25 31.3	+0.7
CHVG				S	Sg	03 25 40.9	+3.3
EPOS	**Posof**	**0.98**	**181**	*i* P	**Pg**	**03 25 39.8**	**+0.8**
EPOS				*i* S	**Sn**	**03 25 53.9**	**-1.8**
GUDG	**Gudauri**	**1.28**	**90**	P	Pn	03 25 45.4	+0.2
GUDG				S	Sn	03 26 01.2	-1.8
BGD	**Bogdanovka**	**1.38**	**152**	P	Pb	03 25 46.2	-0.6
BGD				S	**Sb**	**03 26 04.4**	**-0.4**
DBOC	**Borcka**	**1.40**	**216**	*i* P	**Pg**	**03 25 46.7**	**-0.2**
DBOC				*i* S	**Sn**	**03 26 05.3**	**-0.4**
ARTV	**Artvin**	**1.44**	**206**	*i* P	**Pg**	**03 25 47.4**	**-0.4**
ARTV				*i* S	**Sn**	**03 26 07.3**	**+0.3**
DAGI	**Agillar**	**1.54**	**204**	*i* P	**Pb**	**03 25 49.2**	**-0.3**
DAGI				*i* S	**Sn**	**03 26 10.0**	**+0.7**
TBLG	**Delisi**	**1.66**	**116**	P	Pn	03 25 49.3	-1.0
TBLG				S	**Sn**	**03 26 12.5**	**+0.3**
DBAD	**Bademkaya**	**1.67**	**209**	*i* P	**Pb**	**03 25 50.9**	**-0.7**
DBAD				*i* S	**Sn**	**03 26 14.5**	**+2.0**
DDEM	**Demirkent**	**1.76**	**205**	*i* P	**Pn**	**03 25 52.1**	**+0.4**
DDEM				*i* S	**Sg**	**03 26 17.0**	**+0.3**

WEL 18 03:29:46.3±0.2, 38.01S×176.60E, h135km±2km, ML3.9/17, 21C-8D, Error ellipse: s-maj=1.2km s-min=1.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.07**	**64**	↑P	Pn	03 30 04.5	0.0
EDRZ	**Edgecumbe**	**0.14**	**129**	P	Pn	03 30 04.6	0.0
OPRZ	**Ohinepanea**	**0.17**	**349**	↑P	Pn	03 30 04.4	-0.3
TARZ	**Mount Tarawera**	**0.23**	**198**	↑P	Pn	03 30 05.1	+0.2
KARZ	**Kaharoa**	**0.28**	**269**	P	Pn	03 30 04.9	0.0
HLRZ	**Highlands Stat**	**0.31**	**219**	P	Pn	03 30 04.6	-0.5
RRRZ	**Republican Roa**	**0.33**	**191**	↑P	Pn	03 30 05.1	-0.1
TGRZ	**Tauranga**	**0.39**	**317**	↑P	Pn	03 30 05.3	-0.1
HRRZ	**Handcock Road**	**0.45**	**213**	↑P	Pn	03 30 05.8	+0.1
URZ	**Urewera**	**0.47**	**121**	↓P	Pn	03 30 05.2	-0.5
URZ					SN	03 30 20.1	-0.4
URZ					AML	03 30 20.1	
MUGZ	**Murupara**	**0.48**	**164**	↑P	Pn	03 30 05.5	-0.3
MUGZ					SN	03 30 20.1	-0.6
PRRZ	**Plateau Road**	**0.51**	**198**	↑P	Pn	03 30 05.9	-0.1
KMRZ	**Kaimai**	**0.55**	**288**	PN	Pn	03 30 06.3	+0.1
KMRZ					SN	03 30 22.1	+0.9
ALRZ	**Allen Road**	**0.58**	**200**	↑P	Pn	03 30 06.4	0.0
WPRZ	**Whakapapaterin**	**0.61**	**214**	↑P	Pn	03 30 06.7	+0.1
RTZ	**Ruatahuna**	**0.67**	**153**	↑P	Pn	03 30 06.9	-0.1
MWZ	**Matawai**	**0.80**	**114**	↑P	Pn	03 30 07.6	-0.3
MWZ					AML	03 30 26.0	
MWZ					AML	03 30 27.5	
RAGZ	**Rawiri**	**0.80**	**127**	↑P	Pn	03 30 08.1	+0.1
RAGZ					SN	03 30 24.9	+0.4
MRHZ	**Matea Rd**	**0.83**	**190**	↑P	Pn	03 30 08.1	-0.2
MRHZ					SN	03 30 24.4	-0.6
TLZ	**Tolley Road**	**0.89**	**249**	PN	Pn	03 30 09.0	+0.3
TOZ	**Tahuroa Road**	**0.91**	**288**	↓P	Pn	03 30 09.1	+0.3
SNGZ	**Shannon Statio**	**0.96**	**143**	↑P	Pn	03 30 09.5	+0.2
HAZ	**Te Kaha**	**0.97**	**75**	↑P	Pn	03 30 08.5	-0.8
TKGZ	**Te Karaka**	**1.07**	**114**	↑P	Pn	03 30 10.4	+0.1
NMHZ	**Naumai**	**1.09**	**171**	PN	Pn	03 30 11.1	+0.5
TWGZ	**Tauwhareparae**	**1.10**	**99**	PN	Pn	03 30 10.8	+0.2
TWGZ					SN	03 30 30.0	+0.8
RIGZ	**Rimuhau**	**1.15**	**127**	↑P	Pn	03 30 11.3	+0.3
BKZ	**Black Stump Fm**	**1.15**	**184**	PN	Pn	03 30 10.7	-0.5
BKZ					SN	03 30 29.4	-0.7
BKZ					AML	03 30 30.3	
WHHZ	**Waihua**	**1.17**	**155**	PN	Pn	03 30 11.4	+0.2
ARHZ	**Aropaoanui**	**1.28**	**166**	PN	Pn	03 30 12.6	+0.2
PUZ	**Puketiti**	**1.31**	**93**	↑P	Pn	03 30 12.3	-0.4
PUZ					AML	03 30 34.0	
PUZ					AML	03 30 38.5	
KNZ	**Kokohu**	**1.31**	**140**	PN	Pn	03 30 12.5	-0.1
KNZ					AML	03 30 33.4	
KNZ					AML	03 30 33.7	
KRVZ	**Karewarewa**	**1.31**	**215**	PN	Pn	03 30 13.0	+0.2
CNGZ	**Carnagh Statio**	**1.35**	**111**	PN	Pn	03 30 13.6	+0.5
PRGZ	**Paritu Road**	**1.36**	**132**	PN	Pn	03 30 13.1	0.0
OTVZ	**Oturere**	**1.36**	**212**	↓P	Pn	03 30 13.5	+0.2
KWHZ	**Kaweka Forest**	**1.41**	**185**	↑P	Pn	03 30 13.6	-0.2
MXZ	**Matakaoa Point**	**1.43**	**72**	PN	Pn	03 30 14.0	+0.1
MXZ					AML	03 30 36.4	
MCHZ	**McNeill Hill**	**1.43**	**177**	PN	Pn	03 30 14.1	+0.1
WMGZ	**Waiomatatini S**	**1.45**	**83**	PN	Pn	03 30 13.9	-0.3
HIZ	**Hauiti**	**1.46**	**250**	PN	Pn	03 30 14.5	+0.3
MKAZ	**Moumakai**	**1.46**	**308**	PN	Pn	03 30 14.2	-0.1
FWVZ	**Far West T-bar**	**1.48**	**213**	↓P	Pn	03 30 14.7	-0.1
WHVZ	**Whangaehu Hut**	**1.49**	**212**	↓P	Pn	03 30 14.6	-0.2
WNVZ	**Wahianoa**	**1.53**	**211**	↓P	Pn	03 30 14.9	-0.3
MHGZ	**Mahia Peninsul**	**1.53**	**138**	PN	Pn	03 30 15.2	+0.2
MOVZ	**Moawhango**	**1.54**	**205**	PN	Pn	03 30 14.5	-0.7
KRHZ	**Kereru**	**1.64**	**186**	PN	Pn	03 30 15.6	-0.7
CKHZ	**Cape Kidnapper**	**1.68**	**167**	PN	Pn	03 30 16.6	-0.1
KAHZ	**Kahuranaki**	**1.79**	**173**	PN	Pn	03 30 17.7	-0.3
PNHZ	**Pukenui**	**1.92**	**189**	PN	Pn	03 30 18.5	-1.1
PXZ	**Pawanui**	**2.02**	**174**	↓P	Pn	03 30 19.9	-0.8
PXZ					AML	03 30 48.1	
PXZ					AML	03 30 48.1	
PXZ					AML	03 30 48.2	
PXZ					AML	03 30 48.2	
WPHZ	**Waipukurau**	**2.05**	**183**	PN	Pn	03 30 20.1	-1.0
TSZ	**Takapari Road**	**2.10**	**193**	PN	Pn	03 30 20.7	-1.0
TSZ					AML	03 30 49.2	
TSZ					AML	03 30 50.0	
WAZ	**Wanganui**	**2.15**	**215**	↑P	Pn	03 30 21.8	-0.5
PRHZ	**Porangahau**	**2.25**	**179**	PN	Pn	03 30 22.0	-1.6
DVHZ	**Dannevirke**	**2.31**	**188**	PN	Pn	03 30 22.6	-1.7
OHWZ	**Ohakea**	**2.41**	**204**	PN	Pn	03 30 25.0	-0.5
ANWZ	**Angora Road**	**2.44**	**182**	PN	Pn	03 30 24.7	-1.2
POWZ	**Post Office Ro**	**2.46**	**195**	PN	Pn	03 30 25.1	-1.6
PRWZ	**Pori Road**	**2.58**	**191**	PN	Pn	03 30 26.4	-1.3
BFZ	**Birch Farm**	**2.68**	**186**	PN	Pn	03 30 27.0	-1.9
BFZ					AML	03 31 00.5	
BFZ					AML	03 31 00.5	
BFZ					AML	03 31 02.1	
BFZ					AML	03 31 02.1	
MRZ	**Mangatainoka R**	**2.76**	**196**	↓P	Pn	03 30 27.7	-2.2
TIWZ	**Tintock**	**2.81**	**191**	PN	Pn	03 30 28.6	-2.0
TIWZ					AML	03 31 02.4	
TIWZ					AML	03 31 05.7	
HOWZ	**Holdsworth Sta**	**3.00**	**196**	PN	Pn	03 30 30.4	-2.6
OGWZ	**Otaki Gorge**	**3.01**	**201**	PN	Pn	03 30 30.7	-2.5
KIW	**Kapiti Island**	**3.13**	**204**	PN	Pn	03 30 32.1	-2.6
KIW					AML	03 31 08.6	
KIW					AML	03 31 09.6	
TMWZ	**Te Maipa**	**3.14**	**190**	PN	Pn	03 30 32.1	-2.7
MTW	**Mount Morrison**	**3.25**	**195**	PN	Pn	03 30 33.2	-3.1
MTW					AML	03 31 11.5	
MTW					AML	03 31 12.1	
CAW	**Cannon Point**	**3.31**	**200**	PN	Pn	03 30 33.9	-3.1
TRWZ	**Traveller**	**3.45**	**191**	PN	Pn	03 30 35.9	-3.0
TRWZ					AML	03 31 15.7	
PAWZ	**Paruwai Farm**	**3.48**	**195**	PN	Pn	03 30 36.0	-3.3
PAWZ					AML	03 31 16.7	
PAWZ					AML	03 31 16.9	
MSWZ	**Moikau Station**	**3.55**	**197**	PN	Pn	03 30 36.8	-3.4
MSWZ					AML	03 31 18.6	
MSWZ					AML	03 31 18.6	
WEL	**Wellington**	**3.56**	**203**	PN	Pn	03 30 37.3	-3.0
BHW	**Baring Head**	**3.64**	**201**	PN	Pn	03 30 37.8	-3.6
TCW	**Tory Channel**	**3.66**	**209**	PN	Pn	03 30 38.0	-3.6
TCW					AML	03 31 21.1	
TCW					AML	03 31 21.6	
PLWZ	**Palliser**	**3.70**	**196**	PN	Pn	03 30 38.5	-3.7
TUWZ	**Tuamarina**	**3.98**	**210**	PN	Pn	03 30 42.0	-3.8
TUWZ					AML	03 31 28.4	
NNZ	**Nelson**	**4.05**	**217**	PN	Pn	03 30 43.4	-3.4
BSWZ	**Blackbirch Sta**	**4.25**	**209**	PN	Pn	03 30 46.0	-3.4
THZ	**Tophouse**	**4.70**	**216**	PN	Pn	03 30 51.7	-3.8
KHZ	**Kahutara**	**4.98**	**207**	PN	Pn	03 30 55.1	-4.0
LTZ	**Lake Taylor**	**5.79**	**213**	PN	Pn	03 31 04.9	-5.2
INZ	**Inchbonnie**	**6.13**	**218**	PN	Pn	03 31 10.7	-3.8
OXZ	**Oxford**	**6.34**	**212**	PN	Pn	03 31 12.2	-5.1
MQZ	**McQueen's Vall**	**6.42**	**206**	PN	Pn	03 31 12.1	-6.3

IDC 18 03:33:35.4±6.0, 13.14S×173.58W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/49, mbtmpb3.7/3, Error ellipse: s-maj=221.9km s-min=27.3km az=8.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.92**	**114**	Pn	Pn	03 34 09.4	0.0
	18nm,0.3s,baz=165,slow=12,SNR=9.9						
AFI				Sn	Sn	03 34 28.9	-5.3
	29nm,0.3s,baz=70,slow=22,SNR=10						
STKA	**Stephens Creek**	**45.05**	**238**	P	P	03 41 53.9	+0.7
	2.6nm,0.8s,baz=296,slow=1.6,SNR=3.3						
WRA	**Warramunga Arr**	**50.22**	**255**	P	P	03 42 33.9	+0.3
	0.6nm,0.9s,baz=94,slow=6.7,SNR=4.6						
ASAR	**Alice Springs**	**50.67**	**250**	P	P	03 42 35.9	-1.1
	0.3nm,0.5s,baz=85,slow=7.7,SNR=6.2						

MEX 18 03:38:53.6±0.8, 16.01N×99.73W, h16km±23km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.88**	**350**	*e*P	Pb	03 39 07.5	-3.0
ACP2				*e*S	Sb	03 39 17.6	-4.4
CAIG	**El Cayaco**	**1.16**	**333**	*e*P	Pn	03 39 10.9	-4.3
CAIG				*i* S	Sb	03 39 25.2	-4.8
PNIG	**Pinotepa**	**1.58**	**76**	*e*P	Pn	03 39 16.9	-4.1
PNIG				*e*S	Sn	03 39 36.2	-5.1
TLIG	**Tlapa**	**1.91**	**36**	*e*P	Pn	03 39 23.0	-2.6
TLIG				*i* S	Sn	03 39 44.5	-4.8
PLIG	**Platanillo**	**2.38**	**5**	*e*P	Pn	03 39 31.0	-1.1
PLIG				*e*S	Sn	03 39 56.7	-4.4

*ATH **18** 03:41:13.3, 40.30N×27.67E, h19km±2km, ML2.2/3, Error ellipse: s-maj=6.7km s-min=1.6km az=47.0*
*DDA **18** 03:41:14.3, 40.32N×27.71E, h10km, Md2.7*
*ISCJB **18** 03:41:14.2±0.4, 40.34N±0.02×27.71E±0.02, h5km±3km, Error ellipse: s-maj=3.7km s-min=2.5km az=166.2*
*CSEM **18** 03:41:14.5±0.1, 40.34N×27.69E, h8km, MD2.7, Error ellipse: s-maj=2.4km s-min=1.9km az=172.0*
*ISK **18** 03:41:14.0, 40.34N×27.70E, h5km, MD2.7*
*THE **18** 03:41:14.6, 40.29N×27.77E, h6km±3km, ML2.3/5, Error ellipse: s-maj=3.2km s-min=1.0km az=116.0*
ISC 18 03:41:14.6±0.8, 40.33N±0.02×27.70E±0.01, h13km±6km, n86, σ0.49/118, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDC	**Edincik**	**0.13**	**84**	*e*PG	**Pg**	**03 41 18.1**	**+0.2**
EDC	**Edincik**	**0.13**	**84**	*e*Pg	**Pg**	**03 41 18.1**	**+0.2**
KNL	**Bal¯kesir**	**0.15**	**245**	*i* P	**Pg**	**03 41 17.5**	**-0.7**
KNL				*i* S	**Sg**	**03 41 20.4**	**-0.3**
MRMT	**Marmara Adasi**	**0.28**	**344**	*e*PG	**Pg**	**03 41 20.8**	**+0.3**
MRMT	**Marmara Adasi**	**0.28**	**344**	*e*Pg	**Pg**	**03 41 20.8**	**+0.3**
GONE	**Gonen-Balikesi**	**0.29**	**182**	*e*PG	**Pg**	**03 41 20.6**	**+0.1**
GONE	**Gonen-Balikesi**	**0.29**	**182**	*e*Pg	**Pg**	**03 41 20.6**	**+0.1**
KRBG	**Karabiga-Canak**	**0.31**	**281**	*e*PG	**Pg**	**03 41 20.4**	**-0.6**
KRBG				*e*SG	**Sg**	**03 41 25.4**	**+0.2**
KRBG	**Karabiga-Canak**	**0.31**	**281**	*e*Pg	**Pg**	**03 41 20.4**	**-0.6**
KRBG				*e*Sg	**Sg**	**03 41 25.5**	**+0.2**
KCTX	**Karacabey (Bur**	**0.51**	**98**	*e*PG	**Pg**	**03 41 23.8**	**-0.8**
KCTX	**Karacabey (Bur**	**0.51**	**98**	*e*Pg	**Pg**	**03 41 23.8**	**-0.8**
SART	**Tekirdag**	**0.53**	**312**	P	**Pg**	**03 41 25.2**	**+0.1**
SART	**Tekirdag**	**0.53**	**312**	*i* P	**Pg**	**03 41 25.2**	**+0.1**
BALY	**Balya**	**0.60**	**186**	P	**Pg**	**03 41 26.0**	**-0.3**
BALY				S	**Sg**	**03 41 34.4**	**+0.2**
BALY	**Balya**	**0.60**	**186**	*i* P	**Pg**	**03 41 26.0**	**-0.3**
BALY				*i* S	**Sg**	**03 41 34.4**	**+0.2**
TKR	**Tekirdag**	**0.67**	**349**	*e*PG	**Pg**	**03 41 27.1**	**-0.5**
TKR	**Tekirdag**	**0.67**	**349**	*e*Pg	**Pg**	**03 41 27.1**	**-0.5**
BALB	**Balikesir**	**0.71**	**169**	*e*PG	**Pg**	**03 41 27.7**	**-0.7**
BALB	**Balikesir**	**0.71**	**169**	*e*Pg	**Pg**	**03 41 27.7**	**-0.7**
LPK	**Lapseki**	**0.72**	**273**	*e*PG	**Pg**	**03 41 28.5**	**-0.1**
LPK	**Lapseki**	**0.72**	**273**	*e*Pg	**Pg**	**03 41 28.5**	**-0.1**
CRLT	**Corlu**	**0.80**	**2**	*e*PG	**Pg**	**03 41 29.9**	**-0.1**
CRLT	**Corlu**	**0.80**	**2**	*e*Pg	**Pg**	**03 41 29.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.91**	**87**	*e*PG	**Pg**	**03 41 31.6**	**-0.5**
MDNY	**Mudanya-Bursa**	**0.91**	**87**	*e*Pg	**Pg**	**03 41 31.6**	**-0.5**
ARMT	**Armutlu**	**0.92**	**75**	*e*PG	**Pg**	**03 41 32.1**	**-0.2**
ARMT	**Armutlu**	**0.92**	**75**	*e*Pg	**Pg**	**03 41 32.1**	**-0.2**
KESN	**Edirne-Kesan**	**0.92**	**303**	P	**Pb**	**03 41 33.0**	**+0.3**
KESN				S	**Sb**	**03 41 45.9**	**+1.0**
KESN	**Edirne-Kesan**	**0.92**	**303**	*i* P	**Pb**	**03 41 33.0**	**+0.3**
KESN				*i* S	**Sb**	**

AYDB	Zeytinkoy-Aydi	2.39 176	*e*PN	Pn	03 41 55.0	+1.4
AYDB	Zeytinkoy-Aydi	2.39 176	*e*Pn	Pn	03 41 55.0	+1.4

*ISCJB **18** 03:42:46.0±0.3, 17.°07N×95.°05×95.°18W±0.°04, h135km±5km, mb3.5/5, Error ellipse: s-maj=8.2km s-min=5.1km az=19.2*
*IDC **18** 03:42:47.7±4.8, 17.°23N×95.°03W, h115km±42km, mb3.4/6, mb1 3.5/8, mb1mx3.3/43, mbtmp3.7/8, Error ellipse: s-maj=38.7km s-min=17.5km az=45.0*
*NEIC **18** 03:42:48.3, 17.°01N×95.°26W, h143km, MD4.0(MEX), After MEX.*
*MEX **18** 03:42:48.3±1.0, 17.°01N×95.°26W, h143km±17km, MD4.0*

ISC 18 03:42:47.5±0.7, **17.°09N**±0.°06×**95.°20W**±0.°04, **h122**km±9km, **n128**, σ1°**04**/141, **mb3.7**/5, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXBJ	**Oaxaca**	**1.46**	**269**	*e*P	**Pn**	**03 43 14.6**	**-0.2**
OXBJ				*e*S	**Sn**	**03 43 36.0**	**+0.6**
VHO	**Vista Hermosa**	**1.47**	**270**	*e*P	**Pn**	**03 43 15.5**	**+0.6**
VHO				*i* S	**Sn**	**03 43 36.4**	**+0.7**
VHO	**Vista Hermosa**	**1.47**	**270**	*e*P	**Pn**	**03 43 15.5**	**+0.6**
VHO				*i* S	**Sn**	**03 43 36.4**	**+0.7**
HUIG	**Huatulco**	**1.57**	**214**	*e*P	**Pn**	**03 43 15.9**	**-0.1**
HUIG				*e*S	**Sn**	**03 43 37.5**	**-0.1**
HUIG	**Huatulco**	**1.57**	**214**	*e*P	**Pn**	**03 43 15.9**	**-0.1**
HUIG				*e*S	**Sn**	**03 43 37.5**	**-0.1**
TGBT	**Tuxtla Gutierr**	**2.04**	**98**	*e*P	**Pn**	**03 43 24.8**	**+3.2**
TGBT				*e*S	**Sn**	**03 43 46.8**	**-0.9**
PCIG		**2.35**	**126**	*e*P	**Pn**	**03 43 26.4**	**+1.0**
PCIG				*e*S	**Sn**	**03 43 55.0**	**+0.5**
PCIG		**2.35**	**126**	*e*P	**Pn**	**03 43 26.4**	**+1.0**
PCIG				*e*S	**Sn**	**03 43 55.0**	**+0.5**
TPIG	**Tehuac#an**	**2.45**	**303**	*e*P	**Pn**	**03 43 27.2**	**+0.4**
TPIG				*e*S	**Sn**	**03 43 57.9**	**+0.7**
TPIG	**Tehuac#an**	**2.45**	**303**	*e*P	**Pn**	**03 43 27.2**	**+0.4**
TPIG				*e*S	**Sn**	**03 43 57.9**	**+0.7**
PNIG	**Pinotepa**	**2.89**	**257**	*e*P	**Pn**	**03 43 31.1**	**-1.3**
PNIG				*e*S	**Sn**	**03 44 05.9**	**-1.1**
PNIG	**Pinotepa**	**2.89**	**257**	*e*P	**Pn**	**03 43 31.1**	**-1.3**
PNIG				*e*S	**Sn**	**03 44 05.9**	**-1.1**
TLIG	**Tlapa**	**3.25**	**279**	*e*P	**Pn**	**03 43 37.6**	**+0.3**
TLIG				*i* S	**Sn**	**03 44 15.1**	**-0.5**
TEIG	**Tepich**	**7.27**	**63**	P	**Pn**	**03 44 28.2**	**-2.8**
	1.2nm,0.3s,baz=270,slow=24,SNR=8.8						
TEIG				S	**Sn**	**03 45 47.3**	**-4.8**
	2.0nm,0.3s,baz=350,slow=21,SNR=3.8						
933A	**Laredo**	**11.13**	**341**	P	**Pn**	**03 45 24.2**	**+1.0**
	baz=160						
832A	**Faith Ranch, C**	**11.98**	**339**	P	**Pn**	**03 45 34.2**	**-0.1**
	baz=158						
434A	**Burnet**	**13.95**	**349**	P	**Pn**	**03 45 59.8**	**-0.1**
	baz=168						
433A	**Art**	**14.06**	**346**	P	**Pn**	**03 46 00.1**	**-1.3**
	baz=165						
339A	**Huntington**	**14.20**	**2**	P	**Pn**	**03 46 02.8**	**-0.2**
	baz=183						
334A	**Lometa**	**14.45**	**350**	P	**Pn**	**03 46 04.8**	**-1.5**
	baz=169						
TXAR	**Lajitas Array**	**14.45**	**329**	P	**Pn**	**03 46 07.1**	**+0.7**
	0.1nm,0.3s,baz=150,slow=12,SNR=7.0						
333A	**Richland Sprin**	**14.59**	**347**	P	**Pn**	**03 46 08.3**	**+0.3**
	baz=166						
WHTX	**Lake Whitney,**	**14.98**	**353**	P	**P**	**03 46 15.2**	**-0.2**
	baz=172						
234A	**Clairette**	**15.09**	**350**	P	**P**	**03 46 16.3**	**-0.4**
	baz=169,SNR=6.6						
233A	**Rising Star**	**15.24**	**348**	P	**Pn**	**03 46 16.4**	**+0.1**
	baz=167,SNR=5.1						
135A	**Vickery Place,**	**15.53**	**353**	P	**P**	**03 46 21.6**	**0.0**
	baz=172						
134A	**White-Moore Ra**	**15.64**	**351**	P	**P**	**03 46 23.1**	**+0.4**
	baz=170						
133A	**Hamilton Ranch**	**15.81**	**348**	P	**P**	**03 46 25.5**	**+0.8**
	baz=167						
Z37A	**Pogue Cattle C**	**16.05**	**359**	P	**P**	**03 46 27.2**	**0.0**
	baz=179						
Z38A	**Mt. Pleasant**	**16.09**	**1**	P	**P**	**03 46 27.9**	**+0.1**
	baz=181						
Z34A	**Collier Ranch,**	**16.40**	**352**	P	**Pn**	**03 46 30.8**	**+0.3**
	baz=171						
Z33A	**Whitaker Ranch**	**16.45**	**349**	P	**Pn**	**03 46 31.0**	**-0.2**
	baz=168						
Y36A	**Durant**	**16.77**	**357**	P	**P**	**03 46 34.3**	**-0.9**
	baz=177						
Y38A	**Idabel**	**16.78**	**1**	P	**P**	**03 46 34.9**	**-0.3**
	baz=182						
Y39A	**Lockesburg**	**16.81**	**3**	P	**P**	**03 46 35.5**	**-0.1**
	baz=184						
Y37A	**Hugo**	**16.82**	**359**	P	**P**	**03 46 35.1**	**-0.7**
	baz=179						
Y35A	**Marietta**	**16.83**	**355**	P	**P**	**03 46 35.8**	**0.0**
	baz=174						
Y34A	**Reagan Ranch,**	**16.96**	**353**	P	**P**	**03 46 37.4**	**+0.1**
	baz=172,SNR=6.5						
Y33A	**Hilltop Ranch,**	**17.13**	**350**	P	**P**	**03 46 38.8**	**-0.4**
	baz=169						
MNTX	**Cornudas Mount**	**17.23**	**329**	P	**Pn**	**03 46 40.7**	**-0.1**
	baz=146						
X35A	**Drake**	**17.31**	**355**	P	**P**	**03 46 40.6**	**-0.6**
	baz=174						
X39A	**Fountain Ranch**	**17.38**	**3**	P	**P**	**03 46 41.6**	**-0.3**
	baz=184						
X37A	**Clayton**	**17.43**	**360**	P	**P**	**03 46 42.5**	**0.0**
	baz=180						
X36A	**Centrahoma**	**17.44**	**357**	P	**P**	**03 46 42.0**	**-0.6**
	baz=176						
MIAR	**Mount Ida**	**17.45**	**4**	P	**P**	**03 46 42.2**	**-0.5**
	baz=185						
X38A	**Whitesboro**	**17.51**	**1**	P	**P**	**03 46 43.4**	**0.0**
	baz=181,SNR=7.3						
X34A	**Smith Ranch, M**	**17.60**	**353**	P	**Pn**	**03 46 45.5**	**+0.3**
	baz=172						
X32A	**Elmer**	**17.65**	**349**	P	**P**	**03 46 44.4**	**-0.5**
	baz=167						
Y46A	**Houston**	**17.67**	**18**	P	**P**	**03 46 44.8**	**-0.3**
	baz=200						
WMOK	**Wichita Mounta**	**17.87**	**350**	P	**P**	**03 46 47.2**	**-0.2**
	baz=169						
W38A	**Poteau**	**17.92**	**2**	P	**P**	**03 46 47.9**	**+0.1**
	baz=182						
W37B	**Quinton**	**17.98**	**359**	P	**P**	**03 46 49.2**	**+0.7**
	baz=180						
W36A	**Wetumka**	**18.00**	**357**	P	**P**	**03 46 48.0**	**-0.8**
	baz=177						
X45A	**UM Field Stati**	**18.03**	**16**	P	**P**	**03 46 48.0**	**-1.1**
	baz=198						
W35A	**Tecumseh**	**18.05**	**356**	P	**P**	**03 46 48.6**	**-0.8**
	baz=175						
W39A	**Magazine**	**18.08**	**4**	P	**P**	**03 46 49.3**	**-0.3**
	baz=184,SNR=6.2						
MSTX	**Muleshoe**	**18.13**	**339**	P	**Pn**	**03 46 51.7**	**0.0**
	baz=156						
W41B	**Gary Mavity, V**	**18.20**	**8**	P	**P**	**03 46 49.9**	**-1.1**
	baz=189						
W33A	**Caddo, Fort Co**	**18.23**	**351**	P	**Pn**	**03 46 52.2**	**-0.5**
	baz=170,SNR=5.8						
W32A	**Sentinel**	**18.32**	**349**	P	**P**	**03 46 52.7**	**+0.4**
	baz=168						
V36A	**Jenks**	**18.64**	**358**	P	**P**	**03 46 54.9**	**-0.8**
	baz=178,SNR=7.8						
AMTX	**Amarillo**	**18.65**	**343**	P	**P**	**03 46 56.0**	**0.0**
	baz=161						
V35A	**Meyer Ranch, C**	**18.66**	**356**	P	**P**	**03 46 55.0**	**-0.9**
	baz=175,SNR=6.1						
V38A	**Canehill**	**18.71**	**2**	P	**P**	**03 46 55.9**	**-0.7**
	baz=182,SNR=14						
V37A	**Hulbert**	**18.72**	**0**	P	**P**	**03 46 55.6**	**-1.0**
	baz=180,SNR=9.3						
V39A	**Pettigrew**	**18.73**	**4**	P	**P**	**03 46 55.7**	**-1.0**
	baz=185,SNR=14						
TUL1	**Leonard**	**18.76**	**359**	P	**P**	**03 46 56.1**	**-0.9**
	baz=178						
V34A	**Guthrie**	**18.79**	**354**	P	**P**	**03 46 56.8**	**-0.6**
	baz=173						
V41A	**Mountainview**	**18.82**	**8**	P	**P**	**03 46 56.7**	**-1.0**
	baz=189,SNR=9.5						
V33A	**Lossen Ranch,**	**18.86**	**352**	P	**P**	**03 46 57.7**	**-0.4**
	baz=171,SNR=8.2						
V32A	**Arapaho**	**18.87**	**350**	P	**P**	**03 46 57.8**	**-0.5**
	baz=169						
V42A	**Cord**	**18.95**	**10**	P	**P**	**03 46 58.1**	**-1.0**
	baz=191,SNR=19						
121A	**Cookes Peak, D**	**19.13**	**326**	P	**Pn**	**03 47 03.2**	**-0.3**
	baz=141						
U36A	**Oologah**	**19.23**	**359**	P	**P**	**03 47 01.2**	**-1.0**
	baz=179						
U37A	**Salina**	**19.24**	**0**	P	**P**	**03 47 00.6**	**-1.7**
	baz=180						
U35A	**Pawnee**	**19.26**	**356**	P	**P**	**03 47 01.7**	**-0.7**
	baz=176						
U39A	**Green Forest**	**19.28**	**4**	P	**P**	**03 47 02.1**	**-0.6**
	baz=185,SNR=8.0						
U38A	**Gravette**	**19.29**	**2**	P	**P**	**03 47 01.8**	**-1.0**
	baz=182,SNR=6.5						
U40A	**Yellville**	**19.31**	**6**	P	**P**	**03 47 02.4**	**-0.6**
	baz=187,SNR=14						
U34A	**Anderson Ranch**	**19.38**	**354**	P	**P**	**03 47 02.5**	**-1.3**
	baz=174						
U33A	**Lingo Farm, Me**	**19.44**	**353**	P	**P**	**03 47 02.7**	**-1.8**
	baz=172						
T35A	**Sooner Cattle**	**19.79**	**357**	P	**P**	**03 47 07.6**	**-0.6**
	baz=176,SNR=8.5						
T38A	**Diamond**	**19.89**	**2**	P	**P**	**03 47 08.7**	**-0.6**
	baz=183,SNR=11						
T36A	**Boggs Farm, Ca**	**19.91**	**358**	P	**P**	**03 47 08.5**	**-1.0**
	baz=178,SNR=7.8						
T39A	**Clever**	**19.93**	**4**	P	**P**	**03 47 08.8**	**-0.9**
	baz=185						
T34A	**McClaskey Farm**	**19.93**	**355**	P	**P**	**03 47 08.9**	**-0.9**
	baz=175						
T37A	**Cheneyville 18**	**19.96**	**1**	P	**P**	**03 47 09.1**	**-0.9**
	baz=181						
T41A	**Mountain View**	**20.11**	**8**	P	**P**	**03 47 11.0**	**-0.6**
	baz=190,SNR=13						
T40A	**Mansfield**	**20.13**	**6**	P	**P**	**03 47 11.2**	**-0.7**
	baz=188						
T32A	**Huddler Ranch,**	**20.28**	**351**	P	**P**	**03 47 12.8**	**-0.8**
	baz=170						
ANMO	**Albuquerque**	**20.43**	**333**	P	**P**	**03 47 16.4**	**+1.1**
	1.4nm,0.5s,baz=145,slow=12,SNR=7.2						
ANMO	**Albuquerque**	**20.43**	**333**	P	**P**	**03 47 16.3**	**+0.9**
	baz=148						
S38A	**Stockton**	**20.50**	**3**	P	**P**	**03 47 14.8**	**-1.1**
	baz=184						
S35A	**Otter Creek Ra**	**20.54**	**357**	P	**P**	**03 47 15.5**	**-0.8**
	baz=177,SNR=13						
S36A	**Lake Cedric, C**	**20.56**	**359**	P	**P**	**03 47 15.4**	**-1.1**
	baz=179						
S40A	**Lebanon**	**20.57**	**6**	P	**P**	**03 47 15.8**	**-0.8**
	baz=188						
S39A	**Bolivar**	**20.59**	**4**	P	**P**	**03 47 15.6**	**-1.2**
	baz=185						
S34A	**Willow Spring**	**20.60**	**356**	P	**P**	**03 47 15.9**	**-1.0**
	baz=175						
TUC	**Tucson**	**20.70**	**320**	P	Pn	03 47 20.2	-1.5
	baz=134						
S43A	**Fulton Ridge,**	**20.90**	**11**	P	**P**	**03 47 18.4**	**-1.7**
	baz=194						
R38A	**Fenwick Farm,**	**21.05**	**3**	P	**P**	**03 47 20.3**	**-1.5**
	baz=184						
R39A	**Chumby, Stover**	**21.23**	**5**	P	**P**	**03 47 23.0**	**-0.7**
	baz=186						
R40A	**Maddies Statio**	**21.28**	**6**	P	**P**	**03 47 23.4**	**-0.8**
	baz=188						
R33A	**Olander Ranch,**	**21.28**	**354**	P	**P**	**03 47 23.8**	**-0.5**
	baz=173						
KMSC	**Kings Mountain**	**21.83**	**32**	P	**P**	**03 47 29.0**	**-1.0**
	baz=218						
Q39A	**Willow Grove F**	**21.96**	**5**	P	**P**	**03 47 30.8**	**-0.7**
	baz=186						
Q42A	**Golden Eagle**	**22.12**	**10**	P	**P**	**03 47 31.8**	**-1.2**
	baz=192						
Q43A	**New Douglas**	**22.30**	**11**	P	**P**	**03 47 33.2**	**-1.7**
	baz=194						
Q44A	**Meyer Farm, Va**	**22.40**	**13**	P	**P**	**03 47 34.2**	**-1.7**
	baz=196						
P39B	**Salisbury**	**22.42**	**5**	P	**P**	**03 47 34.9**	**-1.2**
	baz=186						
SDCO	**Great Sand Dun**	**22.49**	**338**	P	**P**	**03 47 37.2**	**0.0**
	baz=154						
P40A	**Paris**	**22.53**	**6**	P	**P**	**03 47 35.5**	**-1.7**
	baz=188						
O40A	**La Belle**	**23.13**	**7**	P	**P**	**03 47 41.4**	**-1.6**
	baz=188						
O41A	**Passleys Farm,**	**23.25**	**8**	P	**P**	**03 47 43.7**	**-0.4**
	baz=191						
L38A	**Oak Wood Farm,**	**25.04**	**4**	P	**P**	**03 47 58.8**	**-1.5**
	baz=185						
SDV	**Santo Domingo**	**25.27**	**106**	P	**P**	**03 48 02.4**	**-0.5**
	1.3nm,0.4s,baz=347,slow=7.1,SNR=4.4						
K36A	**Gilmore City**	**25.48**	**1**	P	**P**	**03 48 04.5**	**+0.3**
	baz=182						
J36A	**Seneca 1, Swea**	**26.17**	**1**	P	**P**	**03 48 09.4**	**-1.0**
	baz=182						
LRMC	**Laurel Mtn Rad**	**27.13**	**317**	P	**P**	**03 48 22.5**	**+3.1**
	baz=127						
HLID	**Hailey**	**31.01**	**332**	P	**P**	**03 48 54.1**	**+0.4**
	baz=143						
AGMN	**Agassiz Nation**	**31.13**	**359**	P	**P**	**03 48 53.2**	**-1.3**
	baz=179						
B35A	**Bob, Littlefor**	**31.21**	**2**	P	**P**	**03 48 53.1**	**-2.1**
	baz=183						
B31A	**Greenbush Farm**	**31.32**	**357**	P	**P**	**03 48 55.4**	**-0.7**
	baz=176						
B30A	**Myrvik Farm, E**	**31.38**	**356**	P	**P**	**03 48 55.9**	**-0.8**
	baz=174						
LPAZ	**La Paz**	**42.57**	**140**	P	**P**	**03 50 33.3**	**+1.0**
	1.1nm,0.8s,baz=5.0,slow=5.4,SNR=4.5						
SCHQ	**Schefferville**	**43.52**	**24**	P	**P**	**03 50 39.8**	**+0.9**
	2.6nm,0.8s,baz=222,slow=4.0,SNR=3.6						
YKA	**Yellowknife Ar**	**47.35**	**348**	P	**P**	**03 51 07.5**	**-1.3**
	0.5nm,0.6s,baz=154,slow=7.3,SNR=6.6						
ILAR	**Eielson Array**	**58.80**	**337**	P	**P**	**03 52 33.0**	**+0.3**
	0.2nm,0.6s,baz=96,slow=4.6,SNR=3.1						

*ROM **18** 03:52:10.6±0.3, 44.°09N×13.°96E, h10km, Md2.5/11, Ml1.8/10, Error ellipse: s-maj=3.6km s-min=2.8km az=160.0*
*CSEM **18** 03:52:12.7±0.3, 43.°97N×13.°84E, h10km, ML2.8/4, Error ellipse: s-maj=13.5km s-min=4.7km az=144.0*

ISC 18 03:52:13.0±1.1, **44.°00N**±0.°07×**13.°84E**±0.°05, **h17**km±10km, **n26**, σ0°**73**/40, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.77**	**217**	Pg	**Pb**	**03 52 27.5**	**-0.5**
CING				Sg	**Sn**	**03 52 40.7**	**+0.3**
CING	**Cingoli**	**0.77**	**217**	Pg	**Pb**	**03 52 27.5**	**-0.5**
CING				Sg	**Sn**	**03 52 40.7**	**+0.3**
ARVD	**Arcevia**	**0.82**	**233**	Pg	**Pb**	**03 52 28.5**	**-0.2**
ARVD				Sg	**Sg**	**03 52 40.7**	**+1.0**
	12nm,0.7s						
ARVD	**Arcevia**	**0.82**	**233**	Pg	**Pb**	**03 52 28.5**	**-0.2**
ARVD				Sg	**Sg**	**03 52 40.7**	**+1.0**
	12nm,0.7s						
FSSB	**Fossombrone**	**0.82**	**249**	Pg	**Pb**	**03 52 28.7**	**-0.1**
FSSB				Sg	**Sg**	**03 52 40.9**	**+1.0**
	51nm,0.4s						
FSSB	**Fossombrone**	**0.82**	**249**	Pg	**Pb**	**03 52 28.7**	**-0.1**
FSSB				Sg	**Sg**	**03 52 40.9**	**+1.0**
	51nm,0.4s						
FRON	**Frontone**	**0.93**	**240**	Pg	**Pb**	**03 52 30.2**	**-0.6**
FRON				Sg	**Sn**	**03 52 44.9**	**+0.5**
	2µm,6.4s						
FRON	**Frontone**	**0.93**	**240**	Pg	**Pb**	**03 52 30.2**	**-0.6**
FRON				Sg	**Sn**	**03 52 44.9**	**+0.5**
	2µm,6.4s						
NVLJ	**Novalja**	**0.94**	**52**	*i* Pg	**Pn**	**03 52 31.1**	**-0.2**
NVLJ				Sg	**Sn**	**03 52 44.7**	**+0.4**
NVLJ	**Novalja**	**0.94**	**52**	*i* Pg	**Pn**	**03 52 31.1**	**-0.2**
NVLJ				Sg	**Sn**	**03 52 44.7**	**+0.4**
SNTG	**Esanatoglia**	**0.98**	**222**	Pg	**Pb**	**03 52 31.2**	**-0.4**
SNTG				Sg	**Sn**	**03 52 46.6**	**+1.0**
	16nm,0.5s						
SNTG	**Esanatoglia**	**0.98**	**222**	Pg	**Pb**	**03 52 31.2**	**-0.4**
SNTG				Sg	**Sn**	**03 52 46.6**	**+1.0**
	16nm,0.5s						
PIEI	**Pieia**	**1.05**	**244**	Pg	**Pb**	**03 52 32.1**	**-0.6**
	24nm,0.3s						
PIEI	**Pieia**	**1.05**	**244**	Pg	**Pb**	**03 52 32.1**	**-0.6**
	24nm,0.3s						
FDMO	**Fiordimonte**	**1.10**	**210**	Pg	**Pn**	**03 52 33.1**	**-0.6**
	12nm,0.4s						
FDMO	**Fiordimonte**	**1.10**	**210**	Pg	**Pn**	**03 52 33.1**	**-0.6**
	12nm,0.4s						
ATPC	**Poggio Castell**	**1.12**	**243**	Pg	**Pb**	**03 52 33.8**	**-0.2**
	30nm,0.7s						
ATPC	**Poggio Castell**	**1.12**	**243**	Pg	**Pb**	**03 52 33.8**	**-0.2**
	30nm,0.7s						
CESI	**CESI - Serrava**	**1.20**	**215**	Pg	**Pb**	**03 52 35.1**	**-0.2**
	10.0nm,0.9s						
CESI	**CESI - Serrava**	**1.20**	**215**	Pg	**Pb**	**03 52 35.1**	**-0.2**
	10.0nm,0.9s						
BADI	**Badiali**	**1.25**	**248**	Pg	**Pb**	**03 52 35.8**	**-0.3**
	7µm,16.0s						
BADI	**Badiali**	**1.25**	**248**	Pg	**Pb**	**03 52 35.8**	**-0.3**
	7µm,16.0s						
NRCA	**Norcia**	**1.27**	**205**	Pg	**Pn**	**03 52 35.9**	**-0.2**
	13nm,0.4s						
NRCA	**Norcia**	**1.27**	**205**	Pg	**Pn**	**03 52 35.9**	**-0.2**
	13nm,0.4s						
UDBI	**Udbina**	**1.48**	**68**	*e*Pn	**Pg**	**03 52 40.5**	**-1.1**
UDBI				Sn	**Sg**	**03 53 02.7**	**+1.8**
UDBI	**Udbina**	**1.48**	**68**	*e*Pn	**Pg**	**03 52 40.5**	**-1.1**
UDBI				Sn	**Sg**	**03 53 02.7**	**+1.8**

*NIED **18** 04:02:00, 37.°70N×143.°90E, h5km, Mw3.7 Best double couple: M0 4.18000×10^14 NP1:φs20.00000°, δ19.00000°, λ-59.00000°. NP2:φs168.00000°, δ74.00000°, λ-100.00000°.*
*IDC **18** 04:02:56.5±1.3, 37.°48N×144.°19E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.6/46, mbtmp3.8/6, ML3.4/3, Error ellipse: s-maj=39.5km s-min=23.9km az=128.0*
*ISCJB **18** 04:02:59.0±0.9, 37.°66N±0.°07×143.°95E±0.°09, h33km, mb3.8/3, Error ellipse: s-maj=11.3km s-min=7.8km az=44.2*
*JMA **18** 04:02:59.7±0.2, 37.°72N×143.°90E, h49km, M3.6*

ISC 18 04:03:00.5±1.3, **37.°62N**±0.°06×**144.°02E**±0.°09, **h35**km, **n14**, σ2°**30**/20, **mb3.8**/3, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.26**	**292**	P	**Pn**	**04 03 34.1**	**-1.3**
JIO				S	**Sn**	**04 03 59.2**	**-2.9**
OFUJ	**Ofunato**	**2.35**	**309**	P	**Pn**	**04 03 35.0**	**-1.6**
JMK	**Ichinoseki**	**2.57**	**302**	P	**Pn**	**04 03 38.4**	**-1.2**
JMK				S	**Sn**	**04 04 07.6**	**-2.0**
JOM	**Ohasama**	**2.82**	**312**	P	**Pn**	**04 03 42.0**	**-1.1**
JOM				S	**Sn**	**04 04 13.3**	**-2.6**
JFT	**Otama**	**2.92**	**269**	P	**Pn**	**04 03 44.5**	**0.0**
JFT				S	**Sn**	**04 04 17.5**	**-0.9**
JYK	**Kaneyama**	**3.15**	**295**	P	**Pn**	**04 03 46.9**	**-0.8**
JRY	**Ryogami san**	**4.41**	**250**	P	**Pn**	**04 04 04.3**	**-0.6**
MJAR	**Matsushiro Arr**	**4.77**	**259**	Pn	**Pn**	**04 04 10.5**	**+0.7**
	1.2nm,0.3s,baz=84,slow=14,SNR=24						
MAT	**Matsushiro**	**4.77**	**259**	P	**Pn**	**04 04 11.1**	**+1.2**
MAT				*e*S	**Sn**	**04 05 08.3**	**+4.4**
JHJ	**Hachijo jima 2**	**5.67**	**219**	Pn	**Pn**	**04 04 20.5**	**-1.8**
	4.4nm,0.3s,baz=90,slow=14,SNR=2.6						
JHJ				Sn	**Sn**	**04 05 20.9**	**-5.3**
	2.2nm,0.3s,baz=246,slow=20,SNR=3.2						
KSRS	**Korea Array**	**12.78**	**274**	Pn	**Pn**	**04 06 02.4**	**+2.8**
	0.2nm,0.3s,baz=83,slow=15,SNR=4.6						
ILAR	**Eielson Array**	**47.88**	**33**	P	**P**	**04 11 36.0**	**+1.2**
	0.7nm,0.7s,baz=262,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**57.98**	**191**	P	**P**	**04 12 49.9**	**+0.3**
	1.0nm,0.7s,baz=9.9,slow=7.1,SNR=6.2						
ASAR	**Alice Springs**	**61.70**	**191**	P	**P**	**04 13 16.1**	**+1.0**
	0.4nm,0.7s,baz=5.9,slow=7.4,SNR=4.5						

*CSEM **18** 04:14:22.8, 39.°48N×29.°78W, h10km, ML3.4*

PDA 18 04:14:22.8±1.2, **39.°48N×29.°78W, h10**km, **MD3.9, ML3.4, Error ellipse: s-maj=8.1km s-min=3.3km az=32.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.06**	**282**	*e*P	Pg	04 14 39.2	-3.9
H07S1	**FLORES T-PHASE**	**1.11**	**265**	*e*P	Pb	04 14 39.8	-4.3
PCED	**Cedros**	**1.20**	**135**	*e*P	Pb	04 14 40.3	-5.2
PCED				*e*S	Sb	04 14 54.0	-7.0
PCED				A	A	04 14 56.4	
	387nm,0.5s						
PCED	**Cedros**	**1.20**	**135**	*e*P	Pb	04 14 40.3	-5.2
PCED				*e*S	Sb	04 14 54.0	-7.0
CALA	**Caldeira**	**1.23**	**137**	*e*P	Pn	04 14 42.0	-4.1
CALA				*e*S	Sb	04 14 55.8	-6.3
CALA	**Caldeira**	**1.23**	**137**	*e*P	Pn	04 14 42.0	-4.1
CALA				*e*S	Sb	04 14 55.8	-6.3
HOR	**Horta**	**1.31**	**136**	*e*P	Pn	04 14 42.4	-4.7
HOR				*e*S	Sb	04 14 56.9	-7.3
HOR				A	A	04 14 58.5	
	423nm,0.3s						
HOR	**Horta**	**1.31**	**136**	*e*P	Pn	04 14 42.4	-4.7
HOR				*e*S	Sb	04 14 56.9	-7.3
ROSA	**Rosais**	**1.42**	**122**	*e*P	Pn	04 14 44.0	-4.6
ROSA				*e*S	Sn	04 14 59.8	-7.5
ROSA				A	A	04 15 05.0	
	174nm,0.4s						
ROSA	**Rosais**	**1.42**	**122**	*e*P	Pn	04 14 44.0	-4.6
ROSA				*e*S	Sn	04 14 59.8	-7.5
PCAN	**Candelaria**	**1.43**	**135**	*e*P	Pn	04 14 44.0	-4.8
PCAN				*e*S	Sn	04 15 00.5	-7.2
PCAN				A	A	04 15 07.7	
	370nm,0.4s						
PCAN	**Candelaria**	**1.43**	**135**	*e*P	Pn	04 14 44.0	-4.8
PCAN				*e*S	Sn	04 15 00.5	-7.2
PICO	**Pico**	**1.44**	**132**	*e*P	Pn	04 14 44.3	-4.7
PICO				*e*S	Sn	04 15 00.7	-7.3
PICO				A	A	04 15 01.9	
	682nm,0.3s						
PICO	**Pico**	**1.44**	**132**	*e*P	Pn	04 14 44.3	-4.7
PICO				*e*S	Sn	04 15 00.7	-7.3
PGRA	**Graciosa**	**1.47**	**107**	*e*P	Pn	04 14 44.1	-5.2
PGRA				*e*S	Sn	04 15 00.4	-8.2
PGRA				A	A	04 15 01.0	
	123nm,0.4s						
PGRA	**Graciosa**	**1.47**	**107**	*e*P	Pn	04 14 44.1	-5.2
PGRA				*e*S	Sn	04 15 00.4	-8.2
PMAN	**Manadas**	**1.56

MGAN				AML	AML	04 17 41.9	
	comp=E,215nm,0.6s						
APYN	**Apoyeque**	**1.38**	**20**	*eP*	Pn	04 17 19.4	-1.0
MOMN	**Momotombo**	**1.49**	**11**	*eP*	Pn	04 17 20.9	-1.2
CNGN	**Cerro Negro**	**1.56**	**5**	*eP*	Pn	04 17 21.7	-1.3
CNGN				*eP*	Pb	04 17 22.2	-1.7
CNGN				*eS*	Sn	04 17 43.5	-0.2
CNGN				*eS*	Sb	04 17 44.0	0.0
BOAB	**BOACO BROADBAN**	**.89**	**37**	*eP*	Pn	04 17 26.1	-1.4
BOAB				*eS*	Sb	04 17 53.2	-0.3
JCR	**Jicaral**	**2.01**	**122**	*eP*	Pn	04 17 28.0	-1.2
JCR				*eS*	Sg	04 18 00.7	+1.7
ESTN	**Estel**	**2.20**	**12**	*eP*	Pn	04 17 31.0	-0.8
CGA2	**Cerro Gallo 2**	**2.50**	**111**	*eP*	Pn	04 17 36.1	+0.1
CGA2				*eS*	Sn	04 18 08.3	+1.1
CNCH	**Conchagua**	**2.52**	**337**	*eP*	Pn	04 17 35.9	-0.4
ESPN	**Las Esperanzas**	**2.78**	**63**	*eP*	Pn	04 17 38.3	-1.5
VSM	**San Miguel**	**2.85**	**331**	*eP*	Pn	04 17 41.7	+0.8
VSM				*eS*	Sn	04 18 17.1	+1.2
PACA	**Pacayal**	**2.91**	**330**	*eP*	Pn	04 17 41.7	+0.1
PACA				*eS*	Sn	04 18 17.5	+0.4
URSC	**Urasca**	**3.20**	**110**	*eP*	Pn	04 17 47.6	+1.9

IDC 18 04:21:51.1±4.2, 5°.67S×151°.06E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/36, mbtmp3.3/2, Error ellipse: s-maj=180.6km s-min=51.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**227**	P	P	04 26 42.2	-0.3
	1.0nm,0.7s,baz=53,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**24.35**	**221**	P	P	04 27 11.1	+0.1
	0.4nm,0.5s,baz=57,slow=8.4,SNR=6.7						
TORD	**Torodi Ar. Bea**	**148.90**	**286**	PKPbc	PKPbc	04 41 41.5	-0.5
	0.3nm,0.6s,baz=63,slow=2.4,SNR=5.4						

*TAP **18** 04:22:41.6, 25°.86N×122°.52E, h224km±1km, ML3.5, D*
*ISCJB **18** 04:22:42.8±1.0, 25°.57N±0°.09×122°.51E±0°.04, h228km±8km, Error ellipse: s-maj=15.5km s-min=5.3km az=171.2*
*JMA **18** 04:22:43.3±0.3, 25°.40N×122°.45E, h230km, M3.3*
ISC 18 04:22:43.0±3.1, 25°.6N±0°.1×122°.50E±0°.05, h228km±18km, n28, σ0°65/47, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.39**	**281**	*eP*	**Pn**	**04 23 12.6**	**-0.4**
	baz=237						
NWF	**Wu-fen Shan**	**0.81**	**234**	*eP*	**Pn**	**04 23 14.0**	**-0.8**
	baz=219						
TWC	**Suao**	**1.11**	**212**	*eP*	**Pn**	**04 23 16.7**	**+0.2**
	baz=198						
TWC				*eS*	**S**	**04 23 44.4**	**+1.9**
	baz=198						
TWE	**Neicheng**	**1.12**	**222**	*eP*	**Pn**	**04 23 17.1**	**+0.6**
	baz=218						
JYNG	**Yonagunijimaku**	**1.17**	**160**	P	**Pn**	**04 23 16.6**	**-0.3**
ENTT	**Nioudou**	**1.24**	**223**	P	**Pn**	**04 23 17.9**	**+0.6**
	baz=215						
ENTT				*eS*	**S**	**04 23 44.8**	**+0.6**
	baz=215						
ENA	**Nanau**	**1.32**	**212**	*eP*	**Pn**	**04 23 18.7**	**+0.8**
	baz=206						
ENA				*eS*	**S**	**04 23 45.8**	**+0.7**
	baz=206						
NSK	**Sanguang**	**1.35**	**230**	P	**Pn**	**04 23 18.2**	**-0.1**
	baz=225						
NSK				S	**S**	**04 23 45.4**	**-0.3**
	baz=225						
NNS	**Nan Shan**	**1.51**	**223**	P	**Pn**	**04 23 19.9**	**+0.3**
	baz=223						
NNS				*eS*	**S**	**04 23 48.3**	**+0.3**
	baz=223						
NSTT	**Nanjuang**	**1.64**	**236**	P	**Pn**	**04 23 20.4**	**-0.1**
	baz=231						
NSTT				S	**S**	**04 23 48.6**	**-1.0**
	baz=231						
IRIF	**Iriomote-Funau**	**1.65**	**137**	P	**Pn**	**04 23 20.6**	**0.0**
IRIF				*eS*	**S**	**04 23 49.0**	**-0.8**
TWD	**Chiawan**	**1.68**	**209**	*eP*	**Pn**	**04 23 20.5**	**-0.3**
	baz=213						
TWD				*eS*	**S**	**04 23 50.1**	**-0.2**
	baz=213						
WHF	**Hehuan Shan**	**1.80**	**219**	P	**Pn**	**04 23 22.6**	**+0.2**
	baz=208						
WHF				*eS*	**S**	**04 23 52.6**	**-0.3**
	baz=208						
JKRS	**Kuro-shima**	**1.90**	**133**	P	**Pn**	**04 23 23.1**	**+0.3**
JKRS				S	**S**	**04 23 53.6**	**-0.1**
JISG	**Ishigakijimahi**	**1.91**	**120**	P	**Pn**	**04 23 22.4**	**-0.4**
JISG				S	**S**	**04 23 53.6**	**-0.2**
HATJ	**Hateruma jima**	**1.91**	**141**	P	**Pn**	**04 23 23.2**	**+0.3**
HATJ				*eS*	**S**	**04 23 54.5**	**+0.6**
JIJ	**Ishigaki jima**	**1.91**	**128**	P	**Pn**	**04 23 22.8**	**0.0**
JIJ				*eS*	**S**	**04 23 52.1**	**-1.8**
NSY	**Sanyi**	**1.94**	**235**	*eP*	**Pn**	**04 23 23.9**	**+0.7**
	baz=228						
ESL	**Shilin**	**1.99**	**209**	*eP*	**Pn**	**04 23 23.1**	**-0.5**
	baz=201						
ESL				*eS*	**S**	**04 23 54.5**	**-0.8**
	baz=201						
JTJ	**Tarama**	**2.20**	**114**	P	**Pn**	**04 23 26.6**	**+1.0**
SMLT	**Sun Moon Lake**	**2.21**	**221**	*eP*	**Pn**	**04 23 25.7**	**-0.2**
	baz=217						
SMLT				*eS*	**S**	**04 23 59.8**	**+0.4**
	baz=217						
TYC	**Yuchr**	**2.22**	**223**	P	**Pn**	**04 23 25.7**	**-0.2**
	baz=224						
TYC				*eS*	**S**	**04 23 58.5**	**-0.8**
	baz=224						
TWF1	**Yuli**	**2.45**	**207**	*eP*	**Pn**	**04 23 27.5**	**-0.8**
	baz=201						
YUS	**Yu-Shan**	**2.49**	**215**	*eP*	**Pn**	**04 23 29.1**	**-0.1**
	baz=205						
YUS				*eS*	**S**	**04 24 06.1**	**+0.9**
	baz=205						
JIRB	**Irabujima**	**2.53**	**106**	*eS*	**S**	**04 24 04.7**	**-0.3**
ALS	**Alishan**	**2.56**	**217**	*eP*	**Pn**	**04 23 29.4**	**-0.3**
	baz=220						
ALS				*eS*	**S**	**04 24 05.9**	**-0.2**
	baz=220						
JIKM	**Ikemajima**	**2.57**	**104**	*eS*	**S**	**04 24 06.3**	**+0.6**
ELDTW	**Lidau**	**2.72**	**210**	*eP*	**Pn**	**04 23 31.5**	**+0.3**
	baz=202						
ELDTW				*eS*	**S**	**04 24 09.3**	**+0.4**
	baz=202						

*CSEM **18** 04:29:35.7, 39°.41N×29°.87W, h14km, ML3.2*
PDA 18 04:29:35.7±1.1, 39°.41N×29°.87W, h14km±9km, MD4.0, ML3.2, Error ellipse: s-maj=5.9km s-min=5.7km az=21.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.00**	**287**	*eP*	Pb	04 29 50.9	-4.0
H07N1				*eS*	Sb	04 30 02.6	-5.5
H07N1				*eT*	T	04 30 38.1	
H07S1	**FLORES T-PHASE**	**1.03**	**269**	*eP*	Pb	04 29 51.6	-3.8
H07S1				*eS*	Sb	04 30 02.8	-6.1
H07S1				*eT*	T	04 30 34.7	
PCED	**Cedros**	**1.20**	**130**	*eP*	Pn	04 29 53.4	-4.7
PCED				*eS*	Sb	04 30 06.6	-7.0
PCED				A	A	04 30 08.1	
	98nm,0.3s						
PCED	**Cedros**	**1.20**	**130**	*eP*	Pn	04 29 53.4	-4.7
PCED				*eS*	Sb	04 30 06.6	-7.0
CALA	**Caldeira**	**1.23**	**132**	*eP*	Pn	04 29 54.4	-4.2
CALA				*eS*	Sb	04 30 08.0	-6.6
CALA	**Caldeira**	**1.23**	**132**	*eP*	Pn	04 29 54.4	-4.2
CALA				*eS*	Sb	04 30 08.0	-6.6
PCAN	**Candelaria**	**1.44**	**131**	*eP*	Pn	04 29 56.9	-4.5
PCAN				*eS*	Sn	04 30 13.1	-7.0
PCAN				A	A	04 30 16.0	
	192nm,0.2s						
PCAN	**Candelaria**	**1.44**	**131**	*eP*	Pn	04 29 56.9	-4.5
PCAN				*eS*	Sn	04 30 13.1	-7.0
ROSA	**Rosais**	**1.44**	**118**	*eP*	Pn	04 29 56.9	-4.6
ROSA				*eS*	Sn	04 30 13.0	-7.3
ROSA				A	A	04 30 20.6	
	61nm,0.2s						
ROSA	**Rosais**	**1.44**	**118**	*eP*	Pn	04 29 56.9	-4.6
ROSA				*eS*	Sn	04 30 13.0	-7.3
PICO	**Pico**	**1.45**	**128**	*eP*	Pn	04 29 57.1	-4.5
PICO				*eS*	Sn	04 30 13.6	-6.8
PICO				A	A	04 30 15.6	
	432nm,0.2s						
PICO	**Pico**	**1.45**	**128**	*eP*	Pn	04 29 57.1	-4.5
PICO				*eS*	Sn	04 30 13.6	-6.8
PGRA	**Graciosa**	**1.52**	**104**	*eP*	Pn	04 29 57.7	-4.8
PGRA				*eS*	Sn	04 30 14.4	-7.7
PGRA				A	A	04 30 15.4	
	37nm,0.3s						
PGRA	**Graciosa**	**1.52**	**104**	*eP*	Pn	04 29 57.7	-4.8
PGRA				*eS*	Sn	04 30 14.4	-7.7
PMAN	**Manadas**	**1.59**	**119**	*eP*	Pn	04 29 58.9	-4.6
PMAN				*eS*	Sn	04 30 16.5	-7.4
PMAN				A	A	04 30 18.5	
	69nm,0.3s						
PMAN	**Manadas**	**1.59**	**119**	*eP*	Pn	04 29 58.9	-4.6
PMAN				*eS*	Sn	04 30 16.5	-7.4
ADH	**Angra Heroismo**	**2.19**	**109**	*eP*	Pn	04 30 07.2	-4.5
ADH	**Angra Heroismo**	**2.19**	**109**	*eP*	Pn	04 30 07.2	-4.5
PSET	**Sete Cidades**	**3.62**	**115**	*eP*	Pn	04 30 27.4	-4.0
PSET	**Sete Cidades**	**3.62**	**115**	*eP*	Pn	04 30 27.4	-4.0
PDA	**Ponta Delgada**	**3.69**	**115**	*eP*	Pn	04 30 28.3	-4.1
PDA	**Ponta Delgada**	**3.69**	**115**	*eP*	Pn	04 30 28.3	-4.1
GRON	**Grota Negra**	**3.77**	**114**	*eP*	Pn	04 30 31.3	-2.3
CMLA	**Cha da Macela**	**3.78**	**114**	*eP*	Pn	04 30 29.9	-3.7
CMLA				*eS*	Sn	04 31 09.6	-8.4
CMLA	**Cha da Macela**	**3.78**	**114**	*eP*	Pn	04 30 29.9	-3.7
CMLA				*eS*	Sn	04 31 09.6	-8.4
BART	**Pico Bartolome**	**4.03**	**112**	*eP*	Pn	04 30 33.1	-4.0
BART				*eS*	Sn	04 31 16.7	-7.5
BART				A	A	04 31 19.6	
	4.1nm,0.3s						
BART	**Pico Bartolome**	**4.03**	**112**	*eP*	Pn	04 30 33.1	-4.0
BART				*eS*	Sn	04 31 16.7	-7.5
PSMA	**Santa Maria**	**4.45**	**121**	*eP*	Pn	04 30 38.8	-3.9
PSMA				*eS*	Sn	04 31 25.9	-8.4
PSMA				A	A	04 31 27.3	
	5.5nm,0.2s						
PSMN	**Pico do Norte,**	**4.48**	**121**	*eP*	Pn	04 30 38.8	-4.5
PSMN				*eS*	Sn	04 31 26.8	-8.5
PSMN				A	A	04 31 30.3	
	5.2nm,0.2s						
PSMN	**Pico do Norte,**	**4.48**	**121**	*eP*	Pn	04 30 38.8	-4.5
PSMN				*eS*	Sn	04 31 26.8	-8.5

*NIED **18** 04:30:00, 36°.20N×141°.80E, h17km, Mw4.1 Best double couple: M0 1.66000×10^15 NP1:φs222.00000°, δ23.00000°, λ105.00000°. NP2:φs26.00000°, δ68.00000°, λ84.00000°.*
*IDC **18** 04:30:39.2±0.6, 36°.18N×141°.87E, h0km, mb3.9/17, mb1 4.1/22, mb1mx4.0/53, mbtmp4.0/22, ML3.9/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/45, Error ellipse: s-maj=17.6km s-min=15.0km az=106.0*
*ISCJB **18** 04:30:40.6±0.4, 36°.19N±0°.03×141°.96E±0°.05, h23km, mb4.1/27, Error ellipse: s-maj=5.6km s-min=4.4km az=19.3*
*JMA **18** 04:30:42.9±0.2, 36°.23N×141°.79E, h52km, M4.2*
*NEIC **18** 04:30:43.0±2.0, 36°.21N×141°.91E, h25km±14km, mb4.4/9, Error ellipse: s-maj=7.8km s-min=7.0km az=90.0*
ISC 18 04:30:42.8±0.5, 36°.19N±0°.05×141°.88E±0°.06, h23km, n60, σ1°07/59, mb4.2/27, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.96**	**240**	P	**Pb**	**04 30 59.8**	**-0.9**
CHOJ				*eS*	**Sb**	**04 31 12.1**	**-0.8**
JHO	**Hitachi**	**1.14**	**292**	P	**Pn**	**04 31 01.2**	**-2.1**
ONAJ	**Iwakimizuishiy**	**1.26**	**317**	P	**Pn**	**04 31 03.2**	**-1.8**
ONAJ				S	**Sn**	**04 31 19.4**	**-1.8**
JFK	**Kawauchi**	**1.42**	**326**	P	**Pn**	**04 31 05.8**	**-1.5**
BSO1	**Boso 1**	**1.70**	**206**	P	**Pn**	**04 31 11.5**	**+1.0**
BSO3	**Boso 3**	**1.78**	**219**	P	**Pn**	**04 31 11.6**	**-0.2**
JFT	**Otama**	**1.81**	**317**	P	**Pn**	**04 31 12.2**	**-0.4**
JMM	**Marumori**	**1.89**	**333**	P	**Pn**	**04 31 12.6**	**-0.9**
JAG	**Ashikaga**	**1.97**	**278**	P	**Pn**	**04 31 13.5**	**-1.3**
JFY	**Yanaizu**	**2.12**	**305**	P	**Pn**	**04 31 16.7**	**-0.2**
JKT	**Katashina**	**2.19**	**286**	P	**Pn**	**04 31 17.5**	**-0.4**
MJAR	**Matsushiro Arr**	**2.98**	**278**	Pn	**Pn**	**04 31 28.7**	**+0.1**
	37nm,0.3s,baz=102,slow=8.7,SNR=228						
MJAR				LR	LR	04 32 41.9	
	comp=Z,354nm,19.4s,baz=105,slow=42						
MAJO	**Matsushiro**	**2.98**	**278**	*eP*n	**Pn**	**04 31 28.8**	**+0.2**
MAT	**Matsushiro**	**2.98**	**278**	P	**Pn**	**04 31 28.8**	**+0.1**
MAT				S	**Sn**	**04 32 06.8**	**+3.0**
JHJ	**Hachijo jima 2**	**3.52**	**210**	Pn	**Pn**	**04 31 36.2**	**+0.2**
	20nm,0.3s,baz=22,slow=11,SNR=7.1						
JHJ				Sn	**Sn**	**04 32 14.9**	**-2.0**
	35nm,0.3s,baz=232,slow=20,SNR=6.3						
ERM	**Erimo**	**5.90**	**9**	*e*Pn	**Pn**	**04 32 06.9**	**-1.8**
ERM				*e*Sn	**Sn**	**04 33 14.8**	**-0.8**
CBIJ	**Chichi jima**	**9.07**	**178**	Pn	**Pn**	**04 32 52.5**	**+0.3**
CBIJ				Sn	Sn	04 34 20.4	-13
JCJ	**Chichijima**	**9.07**	**178**	Pn	**Pn**	**04 32 52.5**	**+0.2**
JCJ				Sn	Sn	04 34 20.4	-13
	1.3nm,0.3s,baz=294,slow=20,SNR=2.3						
JNU	**Nakatsue**	**9.56**	**255**	Pn	**Pn**	**04 33 00.0**	**+0.9**
	0.8nm,0.3s,baz=54,slow=14,SNR=5.2						
JNU				LR	LR	04 36 55.0	
	comp=Z,233nm,20.6s,baz=301,slow=39						
JNU	**Nakatsue**	**9.56**	**255**	*e*Pn	**Pn**	**04 32 60.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**11.00**	**320**	Pn	**Pn**	**04 33 19.7**	**+1.1**
	0.3nm,0.3s,baz=124,slow=14,SNR=4.1						
KSRS	**Korea Array**	**11.26**	**281**	Pn	**Pn**	**04 33 25.1**	**+3.0**
	0.3nm,0.3s,baz=92,slow=14,SNR=16						
KSAR	**Wonju Array Be**	**11.29**	**281**	Pn	**Pn**	**04 33 25.1**	**+2.5**
H11N2	**WAKE ISLAND Hy**	**27.40**	**120**	T	T	05 05 52.4	
	baz=312,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**27.41**	**120**	T	T	05 05 57.2	
	baz=312,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**27.42**	**120**	T	T	05 05 47.5	
	baz=312,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**28.09**	**122**	T	T	05 07 12.8	
	baz=314,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hy**	**28.09**	**122**	T	T	05 06 58.7	
	baz=314,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	05 06 54.2	
	baz=314,slow=75,SNR=23						
ULN	**Ulaanbaatar**	**28.14**	**305**	*eP*	**P**	**04 36 33.2**	**0.0**
	14nm,1.4s						
SONM	**Songino Array**	**28.57**	**305**	P	**P**	**04 36 36.5**	**-0.5**
	2.4nm,0.6s,baz=108,slow=9.0,SNR=11						
TIXI	**Tiksi**	**36.17**	**353**	P	**P**	**04 37 42.8**	**-0.2**
	1.4nm,0.3s,baz=138,slow=2.9,SNR=3.0						
CMAR	**Chiang Mai Arr**	**41.65**	**257**	P	**P**	**04 38 29.5**	**-0.1**
	0.7nm,0.4s,baz=37,slow=7.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**42.76**	**313**	P	**P**	**04 38 38.3**	**+0.1**
	2.7nm,0.5s,baz=98,slow=6.7,SNR=9.2						
MKAR	**Makanchi Array**	**44.89**	**303**	P	**P**	**04 38 55.3**	**-0.1**
	2.5nm,0.7s,baz=89,slow=9.8,SNR=16						
KURK	**Kurchatov**	**46.75**	**309**	*eP*	**P**	**04 39 09.3**	**-0.6**
	40nm,0.5s						
ILAR	**Eielson Array**	**50.01**	**32**	P	**P**	**04 39 35.7**	**+0.8**
	0.6nm,0.8s,baz=273,slow=5.9,SNR=9.0						
TKM2	**Tokmak 2**	**50.36**	**299**	*eP*	**P**	**04 39 38.9**	**+0.7**
	3.9nm,0.4s						
AAK	**Ala-Archa**	**51.22**	**299**	*eP*	**P**	**04 39 44.7**	**+0.1**
	2.2nm,0.3s						
DOT	**Dot Lake**	**51.30**	**33**	*eP*	**P**	**04 39 44.7**	**0.0**
	2.8nm,0.6s						
EKS2	**Erkin-Say**	**51.72**	**299**	*eP*	**P**	**04 39 49.4**	**+1.1**
	3.5nm,0.9s						
WRAB	**Tennant Creek**	**56.27**	**189**	*eP*	**P**	**04 40 21.9**	**+0.4**
	9.3nm,1.1s						
WRA	**Warramunga Arr**	**56.28**	**189**	P	**P**	**04 40 20.7**	**-0.9**
	0.6nm,0.5s,baz=6.0,slow=7.6,SNR=7.2						
ARU	**Arti**	**57.24**	**319**	*eP*	**P**	**04 40 27.9**	**-0.1**
ABKAR	**Akbulak array**	**58.77**	**311**	*eP*	**P**	**04 40 38.0**	**-0.9**
	1.1nm,0.4s						
ASAR	**Alice Springs**	**60.01**	**188**	P	**P**	**04 40 46.8**	**-0.8**
	0.4nm,0.7s,baz=15,slow=11,SNR=4.9						
YKA	**Yellowknife Ar**	**64.35**	**30**	P	**P**	**04 41 16.9**	**+0.6**
	0.4nm,0.9s,baz=299,slow=7.7,SNR=3.3						
ARCES	**ARCESS Array B**	**64.92**	**340**	P	**P**	**04 41 20.0**	**+0.1**
	3.2nm,1.1s,baz=46,slow=8.8,SNR=6.1						
FINES	**FINESS Array B**	**69.73**	**333**	P	**P**	**04 41 49.9**	**-0.6**
	0.6nm,0.3s,baz=58,slow=5.6,SNR=9.8						
BMO	**Blue Mountains**	**72.23**	**47**	*eP*	**P**	**04 42 06.2**	**+0.2**
	2.2nm,0.8s						
NB2	**NORSAR Subarra**	**75.11**	**338**	P	**P**	**04 42 22.8**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.11**	**338**	P	**P**	**04 42 22.6**	**0.0**
	comp=Z,0.8nm,0.5s,baz=43,slow=5.5,SNR=5.3						
AKASG	**Malin Array Be**	**75.19**	**323**	P	**P**	**04 42 23.1**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=46,slow=5.7,SNR=12						
KIEV	**Kiev**	**75.20**	**323**	*eP*	**P**	**04 42 22.3**	**-1.0**
	comp=Z,2.1nm,0.6s						
PDAR	**Pinedale Array**	**77.99**	**46**	P	**P**	**04 42 39.9**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=238,slow=5.1,SNR=2.3						
BRTR	**Keskin Array B**	**79.69**	**312**	P	**P**	**04 42 49.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=57,slow=5.3,SNR=4.6						
GERES	**GERESS Array B**	**83.62**	**328**	P	**P**	**04 43 08.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=32,slow=5.3,SNR=4.0						
TXAR	**Lajitas Array**	**90.34**	**53**	P	**P**	**04 43 43.7**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=312,slow=4.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**118.19**	**315**	PKP	**PKPdf**	**04 49 28.2**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=354,slow=1.4,SNR=4.0						
LPAZ	**La Paz**	**146.78**	**61**	PKPbc	**PKPbc**	**04 50 24.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=306,slow=2.1,SNR=7.4						

*NIED **18** 04:33:00, 36°.70N×140°.60E, h11km, Mw3.5 Best double couple: M0 2.14000×10^14 NP1:φs166.00000°, δ44.00000°, λ-34.00000°. NP2:φs282.00000°, δ67.00000°, λ-128.00000°.*
JMA 18 04:33:22.4, 36°.68N×140°.62E, h12km, M3.8, 6C-1D Broadband fault plane solution: P waves. NP1: φs315.00000°, δ60.00000°, λ-93.00000°. NP2: φs141.00000°, δ30.00000°, λ-85.00000°. Principal axes: T Plg15.0000°, Azm47.0000°; N Plg3.0000°, Azm316.0000°; P Plg75.0000°, Azm216.0000°; Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.08**	**211**	⇑P	Pg	04 33 25.0	0.0
JHO				S	Sg	04 33 26.7	-0.2
ONAJ	**Iwakimizuishiy**	**0.45**	**19**	⇑P	Pg	04 33 31.1	-0.1
ONAJ				S	Sg	04 33 37.4	+0.2
JYT	**Yasato**	**0.57**	**217**	⇑P	Pg	04 33 33.1	-0.4
JYT				S	Sg	04 33 41.4	+0.4
JSB	**Shiboa**	**0.63**	**297**	⇑P	Pb	04 33 35.1	-0.3
JSB				S	Sg	04 33 43.6	+0.6
JFK	**Kawauchi**	**0.71**	**16**	⇑P	Pg	04 33 35.6	-0.7
JFK				S	Sg	04 33 45.2	-0.5
JFT	**Otama**	**0.87**	**345**	⇑P	Pg	04 33 38.7	-0.5
JFT				S	Sg	04 33 50.0	-0.5
JAG	**Ashikaga**	**0.97**	**255**	S	Sg	04 33 52.4	-1.5
JFY	**Yanaizu**	**1.03**	**315**	P	Pb	04 33 41.9	-0.3
JKT	**Katashina**	**1.10**	**275**	⇓P	Pb	04 33 42.8	-0.7
JKT				S	Sb	04 33 57.1	-0.8
MAT	**Matsushiro**	**1.95**	**267**	P	Pn	04 33 55.5	+0.2
MAT				S	Sn	04 34 20.8	+1.1

*IDC **18** 04:35:33.2±1.6, 17°.66S×177°.23W, h330km±17km, mb3.9/9, mb1 4.1/10, mb1mx3.6/40, mbtmp4.6/10 Error ellipse: s-maj=23.3km s-min=11.3km az=135.0*
*NEIC **18** 04:35:39.7±1.0, 17°.76S×177°.34W, h397km±10km, mb4.1/18, Error ellipse: s-maj=15.8km s-min=8.1km az=139.0*
ISC 18 04:35:36.7±0.6, 17°.7S±0°.2×177°.0W±0°.1, h372km, n69, σ1°31/71, mb4.1/26, 5C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**269**	*e*Pn	**Pn**	**04 36 55.5**	**+1.3**
AFI	**Afiamalu**	**6.30**	**54**	P	**Pn**	**04 37 10.3**	**-1.5**
	24nm,0.3s,baz=32,slow=1.1,SNR=24						
AFI				S	**S**	**04 38 24.4**	**-4.8**
	16nm,0.3s,baz=238,slow=18,SNR=6.0						
DZM	**Mont Dzumac**	**16.14**	**252**	P	**P**	**04 39 02.2**	**-0.7**
	0.3nm,0.3s,baz=64,slow=15,SNR=4.7						
DZM	**Mont Dzumac**	**16.14**	**252**	*eP*	**P**	**04 39 02.2**	**-0.7**
	10nm,0.7s						
URZ	**Urewera**	**21.13**	**193**	P	**P**	**04 39 51.4**	**-1.9**
	6.7nm,0.3s,baz=297,slow=2.8,SNR=9.5						
RPZ	**Rata Peaks**	**27.83**	**199**	P	**P**	**04 40 53.6**	**+0.2**
	8.9nm,0.6s,baz=34,slow=2.9,SNR=6.1						
CTAO	**Charters Tower**	**34.78**	**260**	*eP*	**P**	**04 41 52.4**	**-1.6**
	21nm,0.7s						
STKA	**Stephens Creek**	**39.89**	**241**	P	**P**	**04 42 35.7**	**-0.5**
	4.8nm,0.5s,baz=90,slow=8.9,SNR=7.8						
WRAB	**Tennant Creek**	**45.95**	**259**	*eP*	**P**	**04 43 22.6**	**-1.8**
	2.3nm,0.5s						
WRA	**Warramunga Arr**	**45.96**	**259**	P	**P**	**04 43 22.4**	**-2.1**
	1.9nm,0.5s,baz=96,slow=7.0,SNR=33						
ASAR	**Alice Springs**	**46.11**	**254**	P	**P**	**04 43 24.6**	**-1.1**
	16nm,0.5s,baz=90,slow=8.2,SNR=227						
WVOR	**Wild Horse Val**	**80.39**	**40**	*eP*	**P**	**04 47 09.8**	**+1.9**
	2.2nm,0.6s						
TUC	**Tucson**	**80.53**	**52**	*eP*	**P**	**04 47 11.1**	**+2.3**
	5.6nm,0.8s						
ELK	**Elko**	**81.60**	**43**	*eP*	**P**	**04 47 16.2**	**+1.8**
	2.3nm,0.9s						
DUG	**Dugway, Tooele**	**82.91**	**44**	*eP*	**P**	**04 47 22.8**	**+1.8**
	1.7nm,0.9s						
HLID	**Hailey**	**83.61**	**41**	*eP*	**P**	**04 47 26.7**	**+2.2**
	3.0nm,0.7s						
MCK	**

comp=Z,1.5nm,0.6s
KBA Koelnbreinsper 149.47 346 *i* PKiKP **PKiKP 04 54 43.2 -0.5**
comp=Z,3.2nm,0.5s
WATA Walderalm 149.59 348 *i* PKiKP **PKiKP 04 54 43.5 -0.3**
comp=Z,3.4nm,0.6s
RETA Reutte 149.60 350 *i* PKiKP **PKiKP 04 54 43.6 -0.1**
comp=Z,6.3nm,1.1s
WTTA Wattenberg 149.65 348 *i* PKiKP **PKiKP 04 54 44.1 0.0**
comp=Z,6.9nm,0.5s
MOTA Moosalm 149.67 349 *i* PKiKP **PKiKP 04 54 43.8 -0.2**
comp=Z,2.5nm,0.5s
OBKA Obir 149.70 344 *i* PKPbc **PKPbc 04 54 43.2 0.0**
comp=Z,4.9nm,1.1s
DAVA Damuels 149.94 351 *i* PKiKP **PKiKP 04 54 44.9 +0.3**
comp=Z,10nm,1.0s
ABTA Abfaltersbach 149.97 347 *i* PKiKP **PKiKP 04 54 44.1 -0.4**
comp=Z,7.8nm,0.6s
FETA Feichten 150.05 349 *i* PKiKP **PKiKP 04 54 45.1 +0.3**
comp=Z,5.7nm,0.7s
TORD Torodi Ar. Bea 175.32 165 PKP **PKPdf 04 55 02.7 -0.8**
comp=Z,0.8nm,0.9s,baz=297,slow=1.0,SNR=3.4
TORD PKPab **PKPab 04 56 42.8 +0.8**
comp=Z,0.7nm,1.1s,baz=197,slow=4.5,SNR=3.1

NIED ***18*** *04:39:00, 37.˚10N× 140.˚70E, h8km, Mw4.4 Best double couple: M₀4.54000×10¹⁵ NP1:φs136.00000°, δ22.00000°, λ-19.00000°. NP2:φs244.00000°, δ83.00000°, λ-111.00000°.*

BJI ***18*** *04:39:02.1, 36.˚86N× 140.˚75E, h20km, mb4.6/32, mB4.8/22, Ms4.4/16, Ms7 4.3/12*

ISCJB ***18*** *04:39:04.3±0.3, 37.˚07N±0.˚02× 140.˚61E±0.˚03, h23km±2km, mb4.5/88, MS3.6/19, Error ellipse: s-maj=4.2km s-min=3.1km az=36.6*

JMA ***18*** *04:39:04.6, 37.˚06N× 140.˚63E, h15km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs251.00000°, δ76.00000°, λ-125.00000°. NP2: φs142.00000°, δ38.00000°, λ-23.00000°. Principal axes: T Plg23.0000°, Azm7.0000°; N Plg34.0000°, Azm260.0000°; P Plg47.0000°, Azm124.0000°;*

JMA Felt IV J1.

MOS ***18*** *04:39:05.5±1.1, 37.˚12N× 140.˚51E, h33km, mb4.7/45 Error ellipse: s-maj=9.0km s-min=5.6km az=98.0*

IDC ***18*** *04:39:08.8±1.9, 37.˚09N× 140.˚46E, h49km±18km, mb4.2/23, mb1 4.3/25, mb1mx4.2/47, mbtmp4.4/25, ML4.3/2, MS3.6/20, Ms1 3.6/20, ms1mx3.5/43, Error ellipse: s-maj=15.9km s-min=11.2km az=94.0*

NEIC ***18*** *04:39:08.6±0.5, 37.˚12N× 140.˚46E, h43km±4km, mb4.6/60, Error ellipse: s-maj=4.9km s-min=3.5km az=131.0*

NEIC Felt at Tokai. Recorded [4 JMA] in Fukushima.

ISC 18 04:39:04.7±0.6, 37.˚05N±0.˚03× 140.˚70E±0.˚03, h16km±3km, n216, σ1§67/230, mb4.5/88, MS3.7/19, 12C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.10**	**56**	⇑P	**Pg**	**04 39 08.4**	**+0.2**
ONAJ				S	**Sg**	**04 39 11.1**	**+0.7**
JFK	**Kawauchi**	**0.35**	**24**	⇑P	**Pg**	**04 39 11.9**	**-0.1**
JFK				*e*S	**Sg**	**04 39 17.0**	**0.0**
JHO	**Hitachi**	**0.45**	**193**	⇑P	**Pg**	**04 39 13.3**	**-0.4**
JHO				*e*S	**Sg**	**04 39 19.5**	**-0.3**
JFT	**Otama**	**0.55**	**329**	⇑P	**Pg**	**04 39 14.9**	**-0.8**
JFT				*e*S	**Sb**	**04 39 21.9**	**-1.8**
JSB	**Shiboa**	**0.63**	**263**	⇓P	**Pg**	**04 39 16.3**	**-0.8**
JSB				*e*S	**Sg**	**04 39 24.0**	**-1.4**
JMM	**Marumori**	**0.82**	**5**	⇑P	**Pb**	**04 39 19.6**	**-1.0**
JMM				*e*S	**Sb**	**04 39 30.4**	**-1.1**
JFY	**Yanaizu**	**0.87**	**295**	P	**Pb**	**04 39 20.0**	**-1.5**
MJAR	**Matsushiro Arr**	**2.06**	**257**	P	**Pn**	**04 39 39.0**	**+0.3**
	56nm,0.3s,baz=67,slow=16,SNR=101						
MJAR				S	**Sn**	**04 40 04.6**	**+0.6**
	104nm,0.3s,baz=81,slow=15,SNR=15						
MAJO	**Matsushiro**	**2.06**	**257**	*i* P	**Pn**	**04 39 39.1**	**+0.4**
MAJO	**Matsushiro**	**2.06**	**257**	*e*Pn	**Pn**	**04 39 39.4**	**+0.7**
MAJO				*e*Sn	**Sn**	**04 40 00.2**	**-3.9**
MAT	**Matsushiro**	**2.06**	**257**	P	**Pn**	**04 39 39.2**	**+0.5**
MAT				S	**Sb**	**04 40 06.0**	**-1.2**
MJB9	**Matsu-Tunnel**	**2.06**	**257**	*e*Pn	**Pn**	**04 39 39.6**	**+0.9**
INU	**Inuyama**	**3.42**	**241**	*e*Pn	**Pn**	**04 39 59.6**	**+2.1**
JHJ	**Hachijo jima 2**	**3.99**	**191**	P	**Pn**	**04 40 07.3**	**+2.2**
	146nm,0.3s,baz=317,slow=2.7,SNR=21						
JHJ				S	**Sn**	**04 40 51.1**	**-0.5**
	123nm,0.3s,baz=37,slow=23,SNR=5.9						
JHJ				LR	LR	04 41 48.0	
	comp=Z,804nm,18.8s,baz=30,slow=40						
JHJ2	**Mitsune**	**3.99**	**191**	*e*Pn	**Pn**	**04 40 06.8**	**+1.5**
JHJ2				*e*Sn	**Sn**	**04 40 51.4**	**-0.3**
ERM	**Erimo**	**5.31**	**20**	*ce*P	**Pn**	**04 40 23.1**	**-0.3**
ERM				pmax	pmax		
	comp=Z,96nm,1.2s						
ERM	**Erimo**	**5.31**	**20**	*e*Pn	**Pn**	**04 40 23.1**	**-0.3**
ERM				*e*Sn	**Sn**	**04 41 23.9**	**-0.3**
ASAJ	**Asahikawa**	**7.21**	**11**	*e*Pn	**Pn**	**04 40 49.4**	**0.0**
JNU	**Nakatsue**	**8.95**	**247**	P	**Pn**	**04 41 17.6**	**+4.2**
	comp=Z,0.9nm,0.3s,baz=68,slow=8.3,SNR=11						
JNU	**Nakatsue**	**8.95**	**247**	*e*Pn	**Pn**	**04 41 14.9**	**+1.6**
VLA	**Vladivostok**	**9.07**	**315**	⇑*i*P	**Pn**	**04 41 15.4**	**+0.4**
VLA				*e*S	**Sn**	**04 42 58.0**	**+1.3**
VLA				pmax	pmax		
	comp=Z,28nm,0.8s						
MSHR	**Mys Shultsa**	**9.19**	**310**	*i* P	**Pn**	**04 41 13.9**	**-2.6**
USRK	**Ussuriysk Ar.**	**9.74**	**320**	P	Pn	04 41 28.8	+4.7
	comp=Z,1.7nm,0.3s,baz=134,slow=13,SNR=112						
KUR	**Kuril'sk**	**9.80**	**31**	*e*P	**Pn**	**04 41 24.0**	**-0.9**
KUR				*e*S	**Sn**	**04 43 09.1**	**-5.4**
KUR				pmax	pmax		
	comp=Z,46nm,0.4s						
KUR				smax	smax		
	comp=N,52nm,0.7s						
KUR				smax	smax		
	comp=E,57nm,0.7s						
CBIJ	**Chichi jima**	**10.00**	**172**	*e*Pn	**Pn**	**04 41 24.9**	**-2.9**
CBIJ				*e*Sn	Sn	04 43 08.5	-11
JCJ	**Chichijima**	**10.00**	**172**	P	**Pn**	**04 41 24.4**	**-3.4**
	comp=E,36nm,0.3s,baz=302,slow=22,SNR=28						
JCJ				S	Sn	04 43 08.6	-11
	comp=E,12nm,0.3s,baz=283,slow=21,SNR=3.8						
YSS	**Yuzh-Sakhalins**	**10.02**	**8**	⇑*e*P	**Pn**	**04 41 28.2**	**+0.3**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS	**Yuzh-Sakhalins**	**10.02**	**8**	*e*Pn	**Pn**	**04 41 28.1**	**+0.3**
KSRS	**Korea Array**	**10.19**	**276**	P	**Pn**	**04 41 34.4**	**+4.1**
	comp=Z,0.6nm,0.3s,baz=91,slow=13,SNR=17						
KSAR	**Wonju Array Be**	**10.22**	**276**	P	**Pn**	**04 41 34.4**	**+3.6**
KSAR	**Wonju Array Be**	**10.22**	**276**	P	**Pn**	**04 41 34.4**	**+3.6**
MDJ	**Mudanjiang**	**11.30**	**315**	P	**Pn**	**04 41 49.4**	**+3.9**
MDJ				S	**Sn**	**04 43 58.3**	**+6.9**
MDJ				PMZ			
	comp=Z,24nm,1.2s						
MDJ				PMZ			
	comp=Z,130nm,8.8s						
MDJ	**Mudanjiang**	**11.30**	**315**	*e*Pn	**Pn**	**04 41 45.0**	**-0.6**
	comp=Z,28nm,1.0s						
KLR	**Kul'dur**	**13.80**	**335**	P	**Pn**	**04 42 20.7**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=137,slow=15,SNR=26						
KLR				LR	LR	04 47 26.5	
	comp=Z,371nm,19.2s,baz=151,slow=36						
TYV	**Tymovskoe**	**13.88**	**5**	*e*P	**Pn**	**04 42 19.5**	**-1.2**
TYV				pmax	pmax		
	comp=Z,13nm,0.6s						
TYV				MLR	MLR		
	comp=E,1μm,14.0s						
TYV				MLR	MLR		
	comp=Z,1μm,13.0s						
PETK	**Petropavlovsk-**	**19.97**	**31**	P	**Pn**	**04 43 37.9**	**+0.1**
	comp=Z,7.3nm,0.7s,baz=210,slow=9.6,SNR=4.8						
PETK				LR	LR	04 51 03.5	
	comp=Z,66nm,19.4s,baz=226,slow=36						
WHN	**Wuhan**	**22.80**	**261**	*e*P	**P**	**04 44 07.8**	**+1.1**
WHN				LN			
	comp=Z,710nm,16.6s						
WHN				LE			
	comp=Z,970nm,15.6s						
WHN				LZ			
	comp=Z,740nm,15.3s						
HHC	**Hu-ho-hao-te**	**22.93**	**289**	*e*P	**P**	**04 44 06.6**	**-1.5**
HHC				pP	sP	04 44 16.0	+1.2
HHC				sP	pP	04 44 20.6	+7.9
HHC				S	**S**	**04 48 14.4**	**-3.1**
HHC				sS	sS	04 48 26.0	+0.5
HHC				PMZ			
	comp=Z,14nm,1.0s						
HHC				PMZ			
	comp=Z,94nm,4.7s						
MA2	**Magadan**	**23.46**	**13**	P	**P**	**04 44 12.6**	**-0.6**
	comp=Z,14nm,0.7s,baz=208,slow=12,SNR=6.5						
MA2				LR	LR	04 53 25.7	
	comp=Z,103nm,19.2s,baz=200,slow=36						
MA2	**Magadan**	**23.46**	**13**	*e*P	**P**	**04 44 13.0**	**-0.3**
	comp=Z,60nm,0.6s						
YAK	**Yakutsk**	**25.94**	**348**	LR	LR	04 54 50.9	
	comp=Z,194nm,18.4s,baz=130,slow=36						
YAK	**Yakutsk**	**25.94**	**348**	*e*P	**P**	**04 44 34.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,23nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK	**Yakutsk**	**25.94**	**348**	*e*P	**P**	**04 44 35.3**	**-0.7**
	comp=E,21nm,0.4s						
XAN	**Xi'an**	**25.97**	**273**	P	**P**	**04 44 40.3**	**+3.7**
XAN				PMZ			
	comp=E,5.0nm,0.6s						
XAN				PMZ			
	comp=E,35nm,4.1s						
ENH	**Enshi**	**26.76**	**265**	*e*P	**P**	**04 44 42.1**	**-1.8**
	comp=E,6.3nm,0.7s						
ULN	**Ulaanbaatar**	**26.87**	**304**	*ce*P	**P**	**04 44 41.9**	**-2.9**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	**Ulaanbaatar**	**26.87**	**304**	*e*P	**P**	**04 44 44.4**	**-0.4**
	comp=Z,5.7nm,0.7s						
SEY	**Seymchan**	**26.89**	**12**	P	**P**	**04 44 44.6**	**0.0**
	comp=Z,8.5nm,0.7s,baz=194,slow=12,SNR=20						
SEY	**Seymchan**	**26.89**	**12**	*ce*P	**P**	**04 44 45.7**	**+1.1**
SONA1	**Songino Array**	**27.30**	**304**	*e*P	**P**	**04 44 46.6**	**-2.0**
SONM	**Songino Array**	**27.30**	**304**	P	**P**	**04 44 46.5**	**-2.2**
	comp=Z,4.3nm,0.8s,baz=99,slow=8.2,SNR=17						
SONM				LR	LR	04 55 45.9	
	comp=Z,80nm,18.7s,baz=100,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	05 14 51.1	
	baz=313,slow=75,SNR=3416						
H11N1	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	05 14 51.7	
	baz=313,slow=75,SNR=3472						
H11N3	**WAKE ISLAND Hy**	**28.67**	**120**	T	T	05 14 52.4	
	baz=313,slow=75,SNR=920						
H11S1	**WAKE ISLAND Hy**	**29.35**	**122**	T	T	05 15 44.0	
	baz=314,slow=76,SNR=3141						
H11S3	**WAKE ISLAND Hy**	**29.35**	**122**	T	T	05 15 44.1	
	baz=314,slow=76,SNR=1538						
H11S2	**WAKE ISLAND Hy**	**29.37**	**122**	T	T	05 15 45.7	
	baz=314,slow=76,SNR=2140						
LZH	**Lanzhou**	**29.50**	**279**	*e*P	**P**	**04 45 11.3**	**+2.9**
LZH				pP	sP	04 45 19.8	+4.5
LZH				sP	pP	04 45 23.6	+10
LZH				PMZ			
	comp=Z,16nm,1.0s						
TLY	**Talaya**	**29.89**	**311**	LR	LR	04 57 36.9	
	comp=Z,120nm,19.8s,baz=104,slow=37						
GYA	**Guiyang**	**30.66**	**260**	*e*P	**P**	**04 45 18.6**	**0.0**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**31.10**	**270**	*e*P	**P**	**04 45 20.5**	**-1.9**
GTA	**Gaotai**	**32.01**	**287**	*e*P	**P**	**04 45 33.8**	**+3.3**
GTA				pP	sP	04 45 40.8	+3.4
GTA				sP	pP	04 45 44.4	+9.0
GTA				S	**S**	**04 50 46.1**	**+4.5**
GTA				sS	sS	04 50 53.3	+3.6
GTA				SS	**SnSn**	**04 52 29.9**	**-1.0**
GTA				PMZ			
	comp=Z,6.0nm,0.7s						
GTA				PMZ			
	comp=Z,81nm,5.5s						
GTA				LN			
	comp=Z,110nm,13.8s						
GTA				LE			
	comp=Z,98nm,13.8s						
QIZ	**Qiongzhong**	**32.41**	**245**	P	**P**	**04 45 34.6**	**+0.6**
QIZ				sP	**sP**	**04 45 43.3**	**+2.4**
QIZ				S	**S**	**04 50 44.4**	**-3.5**
QIZ				PMZ			
	comp=Z,16nm,2.2s						
BILL	**Bilibino**	**34.18**	**17**	⇓*i*P	**P**	**04 45 48.3**	**-0.6**
BILL				*i*		04 48 31.2	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,89nm,16.0s						
BILL	**Bilibino**	**34.18**	**17**	*e*P	**P**	**04 45 48.2**	**-0.7**
	comp=Z,4.4nm,0.9s						
KMI	**Kunming**	**34.40**	**261**	P	**P**	**04 45 50.9**	**-0.6**
KMI				pP	pP	04 45 56.4	0.0
KMI				sP	sP	04 46 00.3	+1.9
KMI				PMZ			
	comp=Z,13nm,0.5s						
KMI				LN			
	comp=Z,180nm,16.0s						
KMI				LE			
	comp=Z,150nm,18.9s						
TIXI	**Tiksi**	**35.21**	**354**	⇓*e*P	**P**	**04 45 56.4**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
TIXI	**Tiksi**	**35.21**	**354**	*e*P	**P**	**04 45 56.5**	**-1.2**
	comp=Z,5.0nm,0.7s						
WMQ	**Urumqi**	**40.32**	**297**	P	**P**	**04 46 41.9**	**+0.5**
WMQ				pP	sP	04 46 47.9	-0.4
WMQ				sP	pP	04 46 50.9	+4.5
WMQ				PMZ			
	comp=Z,7.0nm,0.6s						
WMQ				PMZ			
	comp=Z,56nm,4.0s						
WMQ				LN			
	comp=Z,120nm,15.6s						
WMQ				LE			
	comp=Z,65nm,14.4s						
CMAR	**Chiang Mai Arr**	**40.95**	**255**	LR	LR	05 04 36.9	
	comp=Z,28nm,20.7s,baz=100,slow=38						
TNA	**Tin City**	**41.13**	**30**	*e*P	**P**	**04 46 48.7**	**+1.2**
	comp=Z,13nm,0.9s						
ZAA0	**Zalesovo Array**	**41.48**	**312**	*e*P	**P**	**04 46 49.0**	**-1.7**
ZALV	**Zalesovo Beam**	**41.48**	**312**	P	**P**	**04 46 48.9**	**-1.8**
	comp=Z,3.5nm,0.5s,baz=93,slow=6.5,SNR=13						
ZALV				PcP	**PcP**	**04 48 46.7**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=98,slow=3.2,SNR=3.5						
ZALV				LR	LR	05 04 36.5	
	comp=Z,79nm,19.8s,baz=70,slow=37						
NRIK	**Noril'sk**	**43.02**	**335**	P	**P**	**04 47 01.8**	**-1.2**
	comp=Z,3.0nm,0.4s,baz=107,slow=11,SNR=4.8						
MK01	**Makanchi Array**	**43.62**	**302**	*e*P	**P**	**04 47 06.9**	**-1.4**
MK31	**Makanchi Array**	**43.63**	**302**	*e*P	**P**	**04 47 07.4**	**-0.9**
MK31	**Makanchi Array**	**43.63**	**302**	*e*P	**P**	**04 47 07.3**	**-0.9**
MKAR	**Makanchi Array**	**43.63**	**302**	P	**P**	**04 47 07.3**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=87,slow=10,SNR=26						
MKAR				LR	LR	05 05 18.3	
	comp=Z,65nm,20.7s,baz=88,slow=36						
MKAR	**Makanchi Array**	**43.63**	**302**	*e*P	**P**	**04 47 07.4**	**-0.9**
MAKZ	**Makanchi**	**43.84**	**302**	*e*P	**P**	**04 47 09.7**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAKZ	**Makanchi**	**43.84**	**302**	*e*P	**P**	**04 47 09.7**	**-0.3**
	comp=Z,3.8nm,0.6s						
KURK	**Kurchatov**	**45.47**	**308**	*e*P	**P**	**04 47 20.8**	**-2.1**
KURK				pmax	pmax		
	comp=Z,50nm,0.6s						
KURK	**Kurchatov**	**45.47**	**308**	*e*P	**P**	**04 47 20.8**	**-2.1**
	comp=Z,50nm,0.6s						
SVW2	**Sparrevohn**	**45.86**	**37**	*e*P	**P**	**04 47 26.3**	**+0.4**
	comp=Z,8.9nm,1.0s						
KDAK	**Kodiak Island**	**47.47**	**42**	*i* P	**P**	**04 47 40.2**	**+1.7**
SPU	**Mount Spurr**	**47.57**	**37**	*e*P	**P**	**04 47 41.0**	**+1.7**
BPAW	**Bear Paw Mtn.**	**48.03**	**33**	*e*P	**P**	**04 47 43.4**	**+0.6**
KTH	**Kantishna Hill**	**48.06**	**34**	*e*P	**P**	**04 47 44.0**	**+1.0**
	comp=Z,8.2nm,1.0s						
MLY	**Manley**	**48.14**	**32**	*e*P	**P**	**04 47 45.4**	**+1.7**
	comp=Z,3.9nm,0.7s						
SUA	**Susitna One**	**48.19**	**37**	*e*P	**P**	**04 47 45.2**	**+1.0**
	comp=Z,9.4nm,1.0s						
TRF	**Thorofare Moun**	**48.34**	**34**	*e*P	**P**	**04 47 46.3**	**+0.9**
	comp=Z,3.6nm,0.9s						
COLD	**Coldfoot**	**48.42**	**29**	*e*P	**P**	**04 47 46.2**	**+0.5**
	comp=Z,1.8nm,0.8s						
RC01	**Rabbit Creek A**	**48.70**	**37**	*e*P	**P**	**04 47 48.8**	**+0.8**
	comp=Z,14nm,1.2s						
MCK	**McKinley**	**48.94**	**34**	*e*P	**P**	**04 47 50.7**	**+0.9**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MCK	**McKinley**	**48.94**	**34**	*e*P	**P**	**04 47 50.7**	**+0.9**
	comp=Z,4.6nm,0.9s						
PMR	**Palmer**	**48.96**	**37**	*e*P	**P**	**04 47 50.8**	**+0.9**
PMR				pmax	pmax		
	comp=Z,11nm,1.0s						
PMR	**Palmer**	**48.96**	**37**	*e*P	**P**	**04 47 50.8**	**+0.9**
	comp=Z,11nm,1.0s						
RND	**Reindeer**	**48.99**	**34**	*e*P	**P**	**04 47 50.9**	**+0.7**
RND				pmax	pmax		
	comp=Z,9.0nm,1.2s						
RND	**Reindeer**	**48.99**	**34**	*e*P	**P**	**04 47 50.9**	**+0.7**
	comp=Z,9.4nm,1.2s						
TKM2	**Tokmak 2**	**49.12**	**298**	*e*P	**P**	**04 47 50.7**	**-1.0**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TKM2	**Tokmak 2**	**49.12**	**298**	*e*P	**P**	**04 47 50.7**	**-1.0**
	comp=Z,8.9nm,1.0s						
MDM	**Murphy Dome**	**49.21**	**32**	*e*P	**P**	**04 47 53.4**	**+1.5**
	comp=Z,6.1nm,0.8s						
WRH	**Wood River Hil**	**49.28**	**33**	*e*P	**P**	**04 47 54.1**	**+1.7**
	comp=Z,4.7nm,1.0s						
SML	**Sawmill**	**49.32**	**36**	*e*P	**P**	**04 47 52.9**	**+0.1**
SML				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SML	**Sawmill**	**49.32**	**36**	*e*P	**P**	**04 47 52.9**	**+0.1**
	comp=Z,0.7nm,0.7s						
IL1	**Eielson Array**	**49.79**	**32**	*e*P	**P**	**04 47 56.2**	**-0.1**
ILAR	**Eielson Array**	**49.79**	**32**	P	**P**	**04 47 56.4**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=271,slow=6.2,SNR=22						
ILB	**Eielson Array**	**49.79**	**32**	*e*P	**P**	**04 47 56.8**	**+0.6**
KSH	**Kashi**	**49.88**	**294**	*e*P	P	04 48 02.9	+5.5
KSH				pP	sP	04 48 08.8	+4.3
KSH				PcP	**PcP**	**04 49 23.4**	**+5.6**
KSH				PP	**PP**	**04 49 59.4**	**+7.3**
KSH				S	**S**	**04 55 10.5**	**+3.6**
KSH				ScS	**ScS**	**04 57 50.0**	**+1.5**
KSH				SS	**SS**	**04 58 39.4**	**+0.1**
KSH				PMZ			
	comp=Z,3.0nm,0.5s						
KSH				PMZ			
	comp=Z,83nm,4.1s						
KSH				LN			
	comp=Z,140nm,5.9s						
KSH				LE			
	comp=Z,100nm,9.8s						
KSH				LZ			
	comp=Z,200nm,12.4s						
AAK	**Ala-Archa**	**49.98**	**298**	⇓*e*P	**P**	**04 47 56.1**	**-2.1**
AAK				pmax	pmax		
	comp=Z,14nm,1.5s						
AAK	**Ala-Archa**	**49.98**	**298**	*e*P	**P**	**04 47 56.4**	**-1.8**
	comp=Z,2.3nm,0.4s						
EKS2	**Erkin-Say**	**50.48**	**298**	*e*P	**P**	**04 48 01.1**	**-0.8**
EKS2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
EKS2	**Erkin-Say**	**50.48**	**298**	*e*P	**P**	**04 48 01.1**	**-0.8**
	comp=Z,2.2nm,0.6s						
KLU	**Klutina**	**50.50**	**37**	*e*P	**P**	**04 48 03.4**	**+1.7**
	comp=Z,3.4nm,0.8s						
DIV	**Divide**	**50.61**	**37**	*e*P	**P**	**04 48 03.5**	**+0.9**
	comp=Z,9.9nm,1.0s						
COEN	**Coen**	**50.78**	**177**	*e*P	**P**	**04 48 04.6**	**+0.4**
	comp=Z,15nm,0.9s						
ZRNK	**Zerenda**	**50.97**	**312**	*e*P	**P**	**04 48 04.5**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,17nm,1.0s						
ZRNK	**Zerenda**	**50.97**	**312**	*e*P	**P**	**04 48 04.5**	**-0.9**
	comp=Z,17nm,1.0s						
DOT	**Dot Lake**	**51.11**	**34**	*e*P	**P**	**04 48 07.2**	**+0.9**
	comp=Z,8.9nm,0.7s						
BMRM	**Bremner River**	**51.20**	**37**	*e*P	**P**	**04 48 08.0**	**+1.0**
	comp=Z,11nm,1.1s						
MENT	**Mentasta**	**51.35**	**35**	*e*P	**P**	**04 48 09.5**	**+1.4**
	comp=Z,5.5nm,0.7s						
EGAK	**Eagle**	**52.23**	**32**	*e*P	**P**	**04 48 14.8**	**+0.3**
	comp=Z,8.1nm,1.4s						
KKAR	**Karatay Array**	**52.62**	**300**	*e*P	**P**	**04 48 17.1**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KKAR	**Karatay Array**	**52.62**	**300**	*e*P	**P**	**04 48 17.1**	**-0.7**
	comp=Z,1.8nm,0.5s						
INK	**Inuvik**	**54.64**	**27**	P	**P**	**04 48 32.9**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=288,slow=6.4,SNR=6.4						
INK	**Inuvik**	**54.64**	**27**	*e*P	**P**	**04 48 32.8**	**+0.7**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**54.64**	**27**	*e*P	**P**	**04 48 32.8**	**+0.7**
	comp=Z,4.1nm,0.8s						
ARU	**Arti**	**55.97**	**318**	*e*P	**P**	**04 48 40.6**	**-1.4**
ARU				pmax	pmax		
	comp=Z,11nm,0.7s						
ARU	**Arti**	**55.97**	**318**	*e*P	**P**	**04 48 40.6**	**-1.4**
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**56.66**	**197**	P	**P**	**04 48 48.2**	**+1.0**
	comp=Z,4.4nm,0.5s,baz=27,slow=10,SNR=5.4						
WRAB	**Tennant Creek**	**56.99**	**187**	*ce*P	**P**	**04 48 48.6**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,64nm,1.0s						
WRAB	**Tennant Creek**	**56.99**	**187**	*e*P	**P**	**04 48 48.6**	**-0.9**
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**57.00**	**187**	*e*P	**P**	**04 48 49.3**	**-0.3**
	comp=Z,24nm,0.6s						
WRA	**Warramunga Arr**	**57.00**	**187**	P	**P**	**04 48 48.5**	**-1.1**
	comp=Z,21nm,0.7s,baz=3.8,slow=7.4,SNR=72						
CTA	**Charters Tower**	**57.07**	**174**	P	**P**	**04 48 50.0**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=307,slow=5.1,SNR=3.7						
ABKAR	**Akbulak array**	**57.49**	**310**	*e*P	**P**	**04 48 51.7**	**-1.2**
	comp=Z,6.9nm,0.6s						
AS01	**Alice Springs**	**60.72**	**187**	*e*P	**P**	**04 49 15.0**	**-0.5**
AS31	**Alice Springs**	**60.72**	**187**	*e*P	**P**	**04 49 15.4**	**-0.1**
	comp=Z,2.7nm,0.6s						
ASAR	**Alice Springs**	**60.73**	**187**	P	**P**	**04 49 14.9**	**-0.6**
	comp=Z,8.3nm,0.7s,baz=13,slow=7.2,SNR=32						
RES	**Resolute Bay**	**62.73**	**14**	*e*P	**P**	**04 49 28.4**	**0.0**
RES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
RES	**Resolute Bay**	**62.73**	**14**	*e*P

comp=Z,5.4nm,0.8s
NB2 NORSAR Subarra 73.95 337 P **P** 04 50 37.6 -1.3
comp=Z,3.3nm,0.8s,baz=40,slow=6.2
NOA NORSAR Array B 73.95 337 P **P** 04 50 38.0 -0.9
comp=Z,3.4nm,0.8s,baz=39,slow=5.9,SNR=13
NOA LR LR 05 26 08.4
comp=Z,66nm,18.2s,baz=95,slow=38
AK11 Malin Array Si 73.98 322 *e*P **P** 04 50 38.0 -1.2
NBO02 NORSAR Array S 74.06 337 *e*P **P** 04 50 38.7 -0.8
LRM Limekiln Ridge 74.54 44 *e*P **P** 04 50 44.2 +1.4
DLMT Dillon 74.73 44 *e*P **P** 04 50 45.3 +1.4
comp=Z,14nm,1.6s
BOZ Bozeman (W) 75.10 44 *e*P **P** 04 50 46.8 +0.8
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 75.10 44 *e*P **P** 04 50 46.8 +0.8
comp=Z,3.0nm,0.8s
IMW Indian Meadow 76.57 45 *e*P **P** 04 50 56.8 +2.2
comp=Z,2.7nm,0.8s
HVU Hansel Valley 76.82 47 *e*P **P** 04 50 57.1 +1.2
HVU pmax pmax
comp=Z,2.0nm,0.7s
HVU Hansel Valley 76.82 47 *e*P **P** 04 50 57.1 +1.2
comp=Z,2.1nm,0.7s
R11A Troy Canyon, C 77.20 52 *e*P **P** 04 50 59.7 +1.5
comp=Z,4.0nm,1.0s
TPNV Topopah Spring 77.63 53 *e*P **P** 04 51 02.0 +1.5
TPNV pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 77.63 53 *e*P **P** 04 51 02.0 +1.5
comp=Z,3.2nm,0.8s
DUG Dugway, Tooele 77.78 49 *e*P **P** 04 51 01.7 +0.4
DUG pmax pmax
comp=Z,3.0nm,0.9s
DUG Dugway, Tooele 77.78 49 *e*P **P** 04 51 01.7 +0.4
comp=Z,2.5nm,0.9s
BUR08 Bucovina Ar. S 77.93 321 *e*P **P** 04 51 01.6 -0.3
BW06 Boulder Array 78.06 45 *e*P **P** 04 51 03.4 +0.5
PDAR Pinedale Array 78.06 45 P **P** 04 51 03.4 +0.4
comp=Z,1.0nm,0.7s,baz=255,slow=4.0,SNR=6.8
BR131 Keskin Array S 78.41 311 *e*P **P** 04 51 05.2 +0.4
BRTR Keskin Array B 78.41 311 P **P** 04 51 03.6 -1.2
comp=Z,1.0nm,0.7s,baz=129,slow=4.0,SNR=6.6
BRTR LR LR 05 29 46.7
comp=Z,21nm,18.0s,baz=66,slow=39
BRTR Keskin Array B 78.41 311 *ce*P **P** 04 51 04.0 -0.8
BRTR pmax pmax
comp=Z,1.0nm,0.7s
SHPR Sheep Range 78.59 53 *e*P **P** 04 51 08.1 +2.2
comp=Z,2.2nm,0.8s
STHS Stebnicka Huta 78.62 325 *e*P **P** 04 51 06.3 +0.7
STHS pmax pmax
comp=Z,3.0nm,0.9s
BR231 Keskin MP Arra 78.86 312 *e*P **P** 04 51 04.9 -2.3
CRVS Cervenica-Dubn 78.88 324 *e*P **P** 04 51 07.5 +0.5
LCMT Little Creek M 79.49 51 *e*P **P** 04 51 12.6 +1.8
comp=Z,3.3nm,1.1s
MTPU Mount Pierson 79.50 50 *e*P **P** 04 51 13.3 +2.2
comp=Z,4.3nm,1.0s
PFO Pinyon Flats O 79.51 56 LR LR 05 20 45.1
comp=Z,31nm,20.0s,baz=178,slow=31
KNB Kanab 79.75 51 *e*P **P** 04 51 12.7 +0.5
KNB pmax pmax
comp=Z,28nm,2.0s
KNB Kanab 79.75 51 *e*P **P** 04 51 12.7 +0.5
comp=Z,28nm,2.0s
SRU San Rafael Swe 79.83 48 *e*P **P** 04 51 14.1 +1.4
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 79.83 48 *e*P **P** 04 51 14.1 +1.4
comp=Z,5.1nm,0.8s
DPC Dobruska-Polom 80.14 328 *e*P **P** 04 51 14.1 +0.2
DPC Dobruska-Polom 80.14 328 *e*P **P** 04 51 14.1 +0.2
VYHS Vyhne 80.39 325 *e*P **P** 04 51 15.0 -0.3
VYHS pmax pmax
comp=Z,2.0nm,1.1s
U15A North Rim 80.45 51 *e*P **P** 04 51 18.1 +1.9
comp=Z,3.1nm,0.9s
BRG Berggiesshubel 80.75 329 *e*P **P** 04 51 16.7 -0.4
BRG pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 80.80 330 *i*P **P** 04 51 17.3 -0.1
CLL pmax pmax
comp=Z,8.0nm,1.2s
PRU Pruhonice 81.17 328 *e*P **P** 04 51 19.3 -0.1
PRU *e*PCP **pP** 04 51 23.6 -1.1
PRU Pruhonice 81.17 328 *e*P **P** 04 51 19.3 -0.1
PV10 Paradox Valley 81.19 48 *e*P **P** 04 51 21.9 +1.8
PV05 Paradox Valley 81.35 49 *e*P **P** 04 51 22.6 +1.8
Y14A Wickenburg 81.56 54 *e*P **P** 04 51 23.7 +1.8
comp=Z,13nm,0.9s
PV01 Paradox Valley 81.63 48 *e*P **P** 04 51 24.0 +1.6
KHC Kasperske Hory 82.23 328 *e*P **P** 04 51 24.8 -0.3
KHC *e*PCP **pP** 04 51 28.9 -1.5
KHC Kasperske Hory 82.23 328 *e*P **P** 04 51 24.8 -0.3
GERES GERESS Array B 82.40 328 P **P** 04 51 24.7 -1.3
comp=Z,0.7nm,0.4s,baz=35,slow=5.5,SNR=7.8
GERES LR LR 05 32 23.0
comp=Z,39nm,18.7s,baz=34,slow=39
GEA0 GERESS Array S 82.40 328 *e*P **P** 04 51 25.1 -1.0
SDCO Great Sand Dun 83.70 47 *e*P **P** 04 51 34.0 +0.8
comp=Z,1.2nm,0.9s
PPT Papeete 85.15 116 LR LR 05 20 53.8
comp=Z,41nm,21.2s,baz=325,slow=29
TX31 Lajitas Ar. Si 90.56 52 *e*P **P** 04 52 07.4 +1.0
TXAR Lajitas Array 90.57 52 P **P** 04 52 07.0 +0.6
comp=Z,1.1nm,0.8s,baz=302,slow=3.2,SNR=11
ESDC Sonseca Array 97.02 333 LR LR 05 40 10.0
comp=Z,40nm,20.4s,baz=85,slow=38
TORD Torodi Ar. Bea 116.91 314 PKP **PKPdf** 04 57 48.1 -1.0
comp=Z,0.2nm,0.4s,baz=16,slow=1.3,SNR=5.7
QSPA South Pole Qui 126.79 180 *e*PKPdf **PKPdf** 04 58 07.4 +0.8
LPAZ La Paz 147.18 59 PKPbc **PKPbc** 04 58 48.7 +0.4
comp=Z,2.8nm,0.9s,baz=5.8,slow=2.7,SNR=8.9

IDC 18 04:40:52.5±4.0, 6°32S×128°33E, h382km±45km, mb2.9/1, mb1 3.3/4, mb1mx2.9/40, mbtmp4.0/4, Error ellipse: s-maj=77.4km s-min=16.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.00**	**192**	P	P	04 43 31.1	-1.8
	0.4nm,0.3s,baz=24,slow=11,SNR=8.9						
FITZ				S	S	04 45 49.3	+3.7
	0.1nm,0.3s,baz=323,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**14.75**	**157**	P	P	04 44 03.7	+0.6
	1.4nm,0.3s,baz=337,slow=12,SNR=29						
WRA				S	S	04 46 40.1	-0.7
	0.5nm,0.3s,baz=334,slow=16,SNR=8.5						
ASAR	**Alice Springs**	**18.06**	**163**	P	P	04 44 39.4	+0.8
	0.6nm,0.3s,baz=344,slow=12,SNR=17						
ASAR				S	S	04 47 46.6	+0.7
	0.2nm,0.3s,baz=344,slow=19,SNR=9.2						
MKAR	**Makanchi Array**	**66.76**	**327**	P	P	04 51 04.0	-0.1
	0.3nm,0.5s,baz=115,slow=7.4,SNR=3.0						

*CSEM **18** 04:41:53.2, 39°.46N×29°.83W, h10km, ML2.3*
PDA 18 04:41:53.2±0.9, 39°.46N×29°.83W, h10km, MD3.5, ML2.3, Error ellipse: s-maj=10.0km s-min=5.9km az=55.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.21**	**133**	*e*S	Sb	04 42 25.1	-6.7
PCED				A	A	04 42 25.5	
	19nm,0.3s						
PCED	**Cedros**	**1.21**	**133**	*e*S	Sb	04 42 25.1	-6.7
CALA	**Caldeira**	**1.24**	**135**	*e*S	Sb	04 42 26.0	-6.9
CALA	**Caldeira**	**1.24**	**135**	*e*S	Sb	04 42 26.0	-6.9
ROSA	**Rosais**	**1.44**	**121**	*e*P	Pn	04 42 14.9	-4.4
ROSA				*e*S	Sn	04 42 30.8	-7.5
ROSA				A	A	04 42 31.6	
	8.0nm,0.1s						
ROSA	**Rosais**	**1.44**	**121**	*e*P	Pn	04 42 14.9	-4.4
ROSA				*e*S	Sn	04 42 30.8	-7.5
PCAN	**Candelaria**	**1.45**	**133**	*e*P	Pn	04 42 14.8	-4.6
PCAN				*e*S	Sn	04 42 30.7	-7.8
PCAN				A	A	04 42 31.8	
	26nm,0.2s						
PCAN	**Candelaria**	**1.45**	**133**	*e*P	Pn	04 42 14.8	-4.6
PCAN				*e*S	Sn	04 42 30.7	-7.8
PICO	**Pico**	**1.45**	**131**	*e*P	Pn	04 42 15.0	-4.6
PICO				*e*S	Sn	04 42 31.4	-7.3
PICO				A	A	04 42 33.4	
	38nm,0.2s						
PICO	**Pico**	**1.45**	**131**	*e*P	Pn	04 42 15.0	-4.6
PICO				*e*S	Sn	04 42 31.4	-7.3
PGRA	**Graciosa**	**1.50**	**106**	*e*S	Sn	04 42 31.9	-7.8
PGRA				A	A	04 42 32.6	
	23nm,0.3s						
PGRA	**Graciosa**	**1.50**	**106**	*e*S	Sn	04 42 31.9	-7.8
PMAN	**Manadas**	**1.59**	**121**	*e*P	Pn	04 42 16.9	-4.4
PMAN				*e*S	Sn	04 42 34.9	-7.0
PMAN				A	A	04 42 36.3	
	12nm,0.3s						
PMAN	**Manadas**	**1.59**	**121**	*e*P	Pn	04 42 16.9	-4.4
PMAN				*e*S	Sn	04 42 34.9	-7.0
PSMA	**Santa Maria**	**4.44**	**122**	*e*P	Pn	04 42 56.0	-4.6
PSMN	**Pico do Norte,**	**4.48**	**122**	*e*P	Pn	04 42 56.9	-4.3
PSMN	**Pico do Norte,**	**4.48**	**122**	*e*P	Pn	04 42 56.9	-4.3

IDC 18 04:44:34.9±2.0, 5°.50S×150°.69E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/21, Error ellipse: s-maj=133.3km s-min=28.9km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.23**	**222**	Pn	Pn	04 46 00.3	+5.8
	1.6nm,0.3s,baz=49,slow=9.3,SNR=2.4						
PMG				Sn	Sn	04 46 55.5	0.0
	3.6nm,0.3s,baz=293,slow=23,SNR=4.6						
PMG				LR	LR	04 48 07.5	
	comp=Z,130nm,19.5s,baz=332,slow=41						
WRA	**Warramunga Arr**	**21.43**	**226**	P	P	04 49 24.8	0.0
	2.8nm,0.8s,baz=52,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**24.24**	**220**	P	P	04 49 53.7	-0.1
	3.0nm,0.8s,baz=53,slow=9.7,SNR=11						
ILAR	**Eielson Array**	**83.60**	**22**	P	P	04 57 04.3	-0.5
	0.4nm,0.6s,baz=253,slow=5.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**148.50**	**286**	PKPbc	PKPbc	05 04 24.8	0.0
	0.8nm,0.6s,baz=65,slow=3.3,SNR=15						

WEL 18 04:45:56.3±0.6, 37°.08S×176°.66E, h300km±6km, ML3.9/11, 2C-2D, Error ellipse: s-maj=15.4km s-min=9.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.23**	**163**	↑P	Pn	04 46 37.8	0.0
URZ				SN	S	04 47 10.4	-0.3
MUGZ	**Murupara**	**1.40**	**177**	PN	Pn	04 46 38.9	+0.2
MWZ	**Matawai**	**1.43**	**152**	PN	Pn	04 46 37.5	-1.5
MWZ				AML	AML	04 47 17.3	
MWZ				AML	AML	04 47 24.6	
TWGZ	**Tauwhareparae**	**1.52**	**137**	PN	Pn	04 46 40.2	+0.7
WMGZ	**Waiomatatini S**	**1.58**	**119**	PN	Pn	04 46 40.1	+0.3
PUZ	**Puketiti**	**1.61**	**129**	↓PN	Pn	04 46 40.1	0.0
PUZ				AML	AML	04 46 44.8	
MRHZ	**Matea Rd**	**1.77**	**186**	PN	Pn	04 46 41.0	-0.2
SNGZ	**Shannon Statio**	**1.79**	**163**	PN	Pn	04 46 41.5	+0.2
RIGZ	**Rimuhau**	**1.85**	**152**	PN	Pn	04 46 42.0	+0.2
CNGZ	**Carnagh Statio**	**1.86**	**139**	PN	Pn	04 46 42.4	+0.5
NMHZ	**Naumai**	**2.02**	**177**	PN	Pn	04 46 43.6	+0.4
BKZ	**Black Stump Fm**	**2.09**	**184**	↑PN	Pn	04 46 43.3	-0.5
KNZ	**Kokohu**	**2.10**	**158**	PN	Pn	04 46 43.6	-0.1
KNZ				AML	AML	04 49 14.7	
ARHZ	**Aropaoanui**	**2.20**	**173**	PN	Pn	04 46 44.6	0.0
MHGZ	**Mahia Peninsul**	**2.29**	**155**	PN	Pn	04 46 45.5	+0.1
KWHZ	**Kaweka Forest**	**2.35**	**185**	PN	Pn	04 46 45.5	-0.4
MCHZ	**McNeill Hill**	**2.37**	**179**	PN	Pn	04 46 45.9	-0.1
WNVZ	**Wahianoa**	**2.40**	**200**	PN	Pn	04 46 46.1	-0.4
KRHZ	**Kereru**	**2.58**	**185**	PN	Pn	04 46 47.0	-0.9
KAHZ	**Kahuranaki**	**2.72**	**177**	PN	Pn	04 46 48.9	-0.4
PNHZ	**Pukenui**	**2.86**	**187**	PN	Pn	04 46 49.5	-1.1
TSZ	**Takapari Road**	**3.03**	**190**	PN	Pn	04 46 50.9	-1.4
DVHZ	**Dannevirke**	**3.24**	**187**	PN	Pn	04 46 53.1	-1.3
ANWZ	**Angora Road**	**3.38**	**182**	↓PN	Pn	04 46 54.8	-1.0
POWZ	**Post Office Ro**	**3.38**	**192**	*e*PN	Pn	04 46 54.7	-1.1
BFZ	**Birch Farm**	**3.62**	**185**	PN	Pn	04 46 56.7	-1.5
MRZ	**Mangatainoka R**	**3.68**	**193**	PN	Pn	04 46 56.7	-2.2
TIWZ	**Tintock**	**3.75**	**189**	PN	Pn	04 46 58.0	-1.7
OGWZ	**Otaki Gorge**	**3.91**	**197**	PN	Pn	04 46 59.2	-2.2
HOWZ	**Holdsworth Sta**	**3.92**	**193**	PN	Pn	04 46 59.4	-2.1
KIW	**Kapiti Island**	**4.02**	**199**	PN	Pn	04 47 00.2	-2.4
CAW	**Cannon Point**	**4.21**	**197**	PN	Pn	04 47 02.5	-2.2
TCW	**Tory Channel**	**4.53**	**203**	PN	Pn	04 47 06.0	-2.2
TUWZ	**Tuamarina**	**4.83**	**205**	PN	Pn	04 47 09.1	-2.6
THZ	**Tophouse**	**5.51**	**211**	PN	Pn	04 47 17.3	-2.4

*ISCJB **18** 04:57:11.9±0.4, 24°.13N±0°.03×122°.27E±0°.02, h26km±4km, Error ellipse: s-maj=4.7km s-min=2.4km az=161.8*
*JMA **18** 04:57:11.8±0.1, 24°.09N×122°.23E, h43km±3km, M2.1*
*TAP **18** 04:57:12.7, 24°.15N×122°.26E, h33km, ML2.9, D*
ISC 18 04:57:10.0±1.1, 24°.09N±0°.03×122°.25E±0°.02, h16km±9km, n41, σ0°60/72, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.57**	**306**	*i*P	Pn	04 57 23.9	+0.4
	baz=300						
ENA				*i*S	Sn	04 57 32.1	-0.5
	baz=300						
TWD	**Chiawan**	**0.60**	**269**	*i*P	Pn	04 57 24.3	+0.5
	baz=263						
TWD				S	Sn	04 57 33.1	-0.1
	baz=263						
HWA	**Hwalien**	**0.60**	**259**	*e*P	Pn	04 57 24.9	+1.1
	baz=253						
HWA				*e*S	Sn	04 57 34.5	+1.3
	baz=253						
TWC	**Suao**	**0.64**	**325**	*i*P	Pn	04 57 24.3	0.0
	baz=321						
TWC				*i*S	Sb	04 57 31.9	+0.6
	baz=321						
JYNG	**Yonagunijimaku**	**0.73**	**60**	P	Pn	04 57 26.2	+0.6
JYNG				S	Sn	04 57 36.4	0.0
YOJ	**Yonaguni jima**	**0.79**	**62**	P	Pn	04 57 26.9	+0.5
YOJ				S	Sn	04 57 37.6	-0.2
ESL	**Shilin**	**0.80**	**250**	*e*P	Pn	04 57 27.4	+0.9
	baz=245						
ESL				*e*S	Sn	04 57 38.5	+0.5
	baz=245						
EGS		**0.81**	**339**	*e*S	Sg	04 57 36.8	+0.4
	baz=337						
TWE	**Neicheng**	**0.82**	**320**	*i*P	Pn	04 57 27.3	+0.4
	baz=317						
TWE				S	Sn	04 57 37.8	-1.0
	baz=317						
ENTT	**Nioudou**	**0.83**	**311**	P	Pn	04 57 27.3	+0.3
	baz=308						
ENTT				*e*S	Sn	04 57 38.0	-0.9
	baz=308						
NNS	**Nan Shan**	**0.87**	**294**	P	Pn	04 57 28.2	+0.5
	baz=289						
WHF	**Hehuan Shan**	**0.90**	**274**	P	Pn	04 57 28.8	+0.4
	baz=269						
WHF				S	Sn	04 57 41.0	-0.3
	baz=269						
TWB1	**Santiao Chiao**	**0.95**	**345**	*e*S	Sb	04 57 39.3	-1.0
	baz=344						
TWT	**Tachien**	**1.00**	**280**	*e*P	Pg	04 57 30.8	+1.5
	baz=275						
NSK	**Sanguang**	**1.00**	**306**	*i*P	Pg	04 57 29.8	+0.4
	baz=302						
NSK				S	Sb	04 57 41.5	-0.5
	baz=302						
NWF	**Wu-fen Shan**	**1.07**	**336**	*e*S	Sn	04 57 44.4	-0.5
	baz=334						
TWA	**Mucha**	**1.08**	**326**	*e*S	Sg	04 57 45.0	+0.1
	baz=323						
WDT	**Danda**	**1.08**	**252**	P	Pg	04 57 31.6	+0.7
	baz=249						
WDT				*e*S	Sn	04 57 45.1	-0.2
	baz=249						
TWF1	**Yuli**	**1.14**	**230**	*e*P	Pg	04 57 32.4	+0.3
	baz=227						
TWF1				*e*S	Sg	04 57 46.8	-0.1
	baz=227						
SMLT	**Sun Moon Lake**	**1.25**	**261**	P	Pg	04 57 34.4	+0.2
	baz=257						
SMLT				*e*S	Sn	04 57 49.4	-0.1
	baz=257						
NSTT	**Nanjuang**	**1.26**	**296**	*e*P	Pg	04 57 34.4	0.0
	baz=292						
NSTT				*e*S	Sn	04 57 49.7	+0.1
	baz=292						
CHKT	**Chengkung**	**1.28**	**220**	*e*S	Sb	04 57 49.2	-0.6
	baz=217						
TYC	**Yuchr**	**1.29**	**262**	*e*P	Pg	04 57 34.7	-0.1
	baz=259						
TYC				*e*S	Sg	04 57 50.7	-1.0
	baz=259						
YUS	**Yu-Shan**	**1.33**	**244**	P	Pg	04 57 36.1	+0.3
	baz=241						
YUS				*e*S	Sn	04 57 52.0	0.0
	baz=241						
IRIF	**Iriomote-Funau**	**1.37**	**79**	P	Pb	04 57 35.2	0.0
IRIF				*e*S	Sb	04 57 52.7	+0.2
TWQ1	**Liyutan**	**1.37**	**281**	*e*P	Pg	04 57 36.3	-0.2
	baz=278						
TWQ1				*e*S	Sg	04 57 53.5	-0.9
	baz=278						
NSY	**Sanyi**	**1.40**	**284**	*e*P	Pg	04 57 36.7	-0.2
	baz=281						
NSY				*e*S	Sg	04 57 54.7	-0.4
	baz=281						
TCU	**Taichung**	**1.44**	**273**	*e*S	Sg	04 57 56.5	-0.1
	baz=269						
ELDTW	**Lidau**	**1.44**	**232**	*e*P	Pb	04 57 36.5	-0.1
	baz=229						
ELDTW				*e*S	Sb	04 57 54.2	-0.5
	baz=229						
ALS	**Alishan**	**1.44**	**247**	*e*P	Pg	04 57 38.0	+0.1
	baz=244						
ALS				*e*S	Sg	04 57 55.8	-0.9
	baz=244						
CHN5	**Tsauling**	**1.52**	**252**	*e*P	Pg	04 57 39.3	0.0
	baz=249						
CHN5				*e*S	Sg	04 57 58.6	-0.5
	baz=249						
JKRS	**Kuro-shima**	**1.61**	**84**	P	Pb	04 57 39.3	0.0
JKRS				S	Sb	04 57 59.2	-0.3
STYT	**Tauyuan**	**1.65**	**236**	*e*P	Pb	04 57 40.6	+0.6
	baz=234						
STYT				*e*S	Sb	04 58 01.6	+1.0
	baz=234						
CHN4	**Tsaushan**	**1.69**	**245**	*e*P	Pg	04 57 41.9	-0.5
	baz=242						
CHN4				*e*S	Sg	04 58 03.2	-1.2
	baz=242						
WTP	**Ta-pu**	**1.72**	**241**	*e*P	Pg	04 57 42.2	-0.8
	baz=239						
WTP				*e*S	Sg	04 58 04.6	-0.9
	baz=239						
JIJ	**Ishigaki jima**	**1.75**	**81**	P	Pn	04 57 40.3	+0.7
JIJ				S	Sn	04 58 00.7	-0.9
TWK	**Hsinying**	**1.81**	**243**	*e*S	Sb	04 58 05.7	+0.5
	baz=241						
CHN1	**Nanshi**	**1.82**	**241**	*e*P	Pg	04 57 44.2	-0.7
	baz=238						
CHN1				*e*S	Sb	04 58 05.2	-0.2
	baz=238						
SGST	**Jiashian**	**1.83**	**237**	*e*P	Pn	04 57 40.6	-0.2
	baz=235						
JISG	**Ishigakijimahi**	**1.94**	**75**	P	Pn	04 57 42.5	+0.2
JISG				S	Sn	04 58 06.0	-0.3
JTJ	**Tarama**	**2.30**	**76**	P	Pn	04 57 48.1	+0.9
JTJ				S	Sn	04 58 15.3	+0.1

CASC 18 05:11:35.8±1.8, 11°.71N×87°.17W, h35km±14km, MD4.3, ML3.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.73**	**50**	*e*P	Pn	05 11 49.3	-0.4
CNGN	**Cerro Negro**	**0.91**	**30**	*e*P	Pn	05 11 51.8	-0.4
CNGN				*e*S	Sb	05 12 05.3	+0.2
CNGN				AML	AML	05 12 08.0	
	comp=N,1μm,0.3s						
MOMN	**Momotombo**	**0.93**	**41**	*e*P	Pn	05 11 51.8	-0.6
XAVN	**Gruta Xavier**	**0.93**	**62**	*e*P	Pn	05 11 52.1	-0.4
APYN	**Apoyeque**	**0.95**	**57**	*e*P	Pn	05 11 52.5	-0.3
MGAN	**Managua**	**1.00**	**64**	*e*P	Pn	05 11 53.2	-0.2
MGAN				*e*S	Sb	05 12 07.5	-0.2
ESTN	**Estel**	**1.59**	**29**	*e*P	Pn	05 12 01.1	-0.5
BOAB	**BOACO BROADBAN**	**1.64**	**63**	*e*P	Pn	05 12 01.6	-0.6
BOAB				*e*S	Sn	05 12 22.6	+0.4
CNCH	**Conchagua**	**1.69**	**337**	*e*P	Pn	05 12 03.6	+0.6
CNCH				*e*S	Sn	05 12 23.6	+0.1
VSM	**San Miguel**	**2.02**	**328**	*e*P	Pn	05 12 09.0	+1.3
PACA	**Pacayal**	**2.08**	**327**	*e*P	Pn	05 12 09.1	+0.7
PACA				*e*S	Sn	05 12 33.3	+0.1
LFRS	**El Faro**	**2.66**	**316**	*e*P	Pn	05 12 17.1	+0.8
LFRS				*e*S	Sn	05 12 48.3	+1.0
LBRS	**Las Brisas**	**2.73**	**318**	*e*P	Pn	05 12 18.1	+0.9
LBRS				*e*S	Sn	05 12 49.7	+0.6
JCR	**Jicaral**	**2.73**	**132**	*e*P	Pn	05 12 18.9	+1.6
URSC	**Urasca**	**3.81**	**119**	*e*P	Pn	05 12 33.6	+1.3

IDC 18 05:20:07.7±3.7, 5°.83S×151°.13E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/26, mbtmp3.6/2, Error ellipse: s-maj=143.9km s-min=49.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.53**	**228**	P	P	05 24 58.4	-0.2
	1.0nm,0.5s,baz=54,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.28**	**221**	P	P	05 25 27.2	+0.2
	1.4nm,0.7s,baz=57,slow=9.1,SNR=18						
TORD	**Torodi Ar. Bea**	**149.02**	**286**	PKPbc	PKPbc	05 39 58.2	-0.7
	0.3nm,0.6s,baz=77,slow=3.6,SNR=4.5						

*SCB **18** 05:38:20.1±0.6, 17°.78S×69°.94W, h120km, Ml4.8/1, Error ellipse: s-maj=17.8km s-min=4.8km az=95.0*
*ISCJB **18** 05:38:21.5±0.1, 17°.76S±0°.02×69°.74W±0°.04, h113km, mb4.9/204, Error ellipse: s-maj=5.5km s-min=2.5km az=164.9*
*BJI **18** 05:38:21.0, 17°.60S×69°.60W, h84km, mB5.2/10, Ms5.3/4, Ms7 5.1/3*
*IDC **18** 05:38:24.0±0.5, 17°.67S×69°.73W, h114km±3km, mb4.6/16, mb1 4.8/19, mb1mx4.6/26, mbtmp5.0/19, MS3.4/4, Ms1 3.4/4, ms1mx3.0/24, Error ellipse: s-maj=15.7km s-min=11.3km az=82.0*
*NEIC **18** 05:38:23.9±0.1, 17°.64S×69°.59W, mb4.8/175, Error ellipse: s-maj=5.9km s-min=3.6km az=68.0*
NEIC Felt [III] at Codpa and [II] at Alcerreca, Arica, Camina, Cuya, Poconchile, Putre and Visviri. Felt [II] at Locumba and Tacna, Peru. Also felt at La Paz, Bolivia.
*GUC **18** 05:38:25.6±0.3, 18°.22S×70°.31W, h106km±4km, ML4.7*
ISC 18 05:38:22.8±0.4, 17°.89S±0°.03×69°.99W±0°.05, h105km±3km, n701, σ1°34/721, mb4.9/203, 13C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minye Minye**	**1.29**	**163**	↑*e*P	Pn	05 38 48.4	+1.2
MNMC				*e*S	Sn	05 39 06.0	+0.4
MNMC				IAML		05 39 11.9	
	comp=E,32μm,0.3s						
PSGC	**Pisagua**	**1.71**	**184**	↑*e*P	Pn	05 38 51.6	-0.4
PSGC				*e*S	Sn	05 39 11.0	-3.2
PSGC				IAML		05 39 21.6	
	comp=E,7μm,0.5s						
BBOD	**La Paz, Gloria**	**1.82**	**47**	↑*i*Pn	Pn	05 38 54.8	+1.0
BBOJ	**La Paz, Jacaqu**	**1.94**	**63**	↑*i*Pn	Pn	05 38 57.0	+1.6
BBOE	**La Paz, Chanca**	**2.19**	**61**	↑*i*Pn	Pn	05 39 00.5	+1.9
PB08	**IPOC Station P**	**2.38**	**161**	↑*e*P	Pn	05 39 02.6	+1.7
PB08				*e*S	Sn	05 39 30.9	+0.9
PB08

PB01 eSn Sn 05 39 46.8 -1.6
PB07 IPOC Station P 3.82 179 eP Pn 05 39 20.0 +0.2
PB07 eS Sn 05 40 01.5 -2.5
PB09 IPOC Station P 3.96 170 eP Pn 05 39 22.6 +0.9
PB09 eS Sn 05 40 06.1 -1.1
PB04 IPOC Station P 4.43 182 ePn Pn 05 39 27.9 -0.1
PB04 eSn Sn 05 40 19.0 +0.4
LVC Limon Verde 4.81 168 P Pn 05 39 33.9 +0.6
comp=N,999nm,0.3s,baz=344,slow=10,SNR=107
LVC S Sn 05 40 25.9 -2.2
comp=N,8µm,0.3s,baz=270,slow=20,SNR=28
LVC LR LR 05 41 48.8
comp=N,1µm,19.7s,baz=324,slow=41
LVC Limon Verde 4.81 168 ePn Pn 05 39 34.3 +1.0
LVC eSn Sn 05 40 27.0 -1.1
MOCB Mochara 5.30 130⇑ iPn Pn 05 39 42.7 +2.7
PB10 IPOC Station P 5.62 185 ePn Pn 05 39 42.0 -2.0
SIV San Ignacio 8.74 79 P Pn 05 40 23.4 -3.0
comp=N,87nm,0.3s,baz=276,slow=14,SNR=472
SIV San Ignacio 8.74 79⇑ iP Pn 05 40 23.4 -3.0
NNA Nana 8.84 311 P Pn 05 40 26.7 -1.1
comp=N,4.6nm,0.3s,baz=113,slow=14,SNR=5.9
NNA S Sn 05 41 58.1 -7.7
comp=N,2.5nm,0.3s,baz=210,slow=20,SNR=2.3
VCA Vinchina 10.93 172 i P Pn 05 40 51.6 -4.5
VCA i S Sn 05 42 50.2 -6.3
VCA IAML 05 42 55.9
comp=Z,62nm,0.6s
SAML Samuel 11.08 38 ePn Pn 05 40 53.6 -4.5
CYA Choya 11.19 161 i P Pn 05 40 54.0 -5.7
AGUA GUANDACOL 11.63 173 i P Pn 05 41 00.0 -5.5
AGUA i S Sn 05 43 05.8 -7.7
AMOG MOGNA 13.07 174 i P Pn 05 41 18.0 -6.4
AMOG i S Sn 05 43 36.2 -12
RTLL Cerro Villicun 13.46 174 i P Pn 05 41 23.2 -6.3
RTLL i S Sn 05 43 45.1 -13
RTLS Leoncito 13.87 178 i P Pn 05 41 28.8 -6.3
RTLS i S Sn 05 43 55.7 -12
RTCV Cerro Valdivia 13.98 175 i P Pn 05 41 30.0 -6.3
RTCV i S Sn 05 43 56.8 -13
TCA Tanti 14.26 161 i P Pn 05 41 32.3 -7.6
AUSP Uspallata 14.29 178 i P Pn 05 41 33.9 -6.6
CPUP Villa Florida 14.43 128 P Pn 05 41 40.3 -1.7
comp=Z,0.2nm,0.3s,baz=311,slow=15,SNR=9.8
CPUP LR LR 05 48 37.5
comp=Z,33nm,20.6s,baz=304,slow=43
CPUP Villa Florida 14.43 128 ePn Pn 05 41 40.5 -1.5
ACAN Cantantal 14.55 171 i P Pn 05 41 36.3 -7.3
ACAN i S Sn 05 44 08.8 -15
ASAL Salagasta 14.68 176 i P Pn 05 41 37.9 -7.4
ASAL i S Sn 05 44 11.6 -16
ARCO CERRO ARCO 14.92 177 i P Pn 05 41 42.1 -6.3
MRA San Martin 14.98 166 i P Pn 05 41 41.2 -7.9
ROC1 El Roble 15.06 183 ePn Pn 05 41 49.5 -0.7
PTGA Pitinga 19.69 31 P P 05 42 41.0 -2.9
comp=Z,30nm,0.3s,baz=200,slow=14,SNR=180
OTAV Otavalo 19.84 334 eP P 05 42 46.0 0.0
OTAV Otavalo 19.84 334 eP P 05 42 46.1 +0.2
comp=Z,30nm,0.8s
TRQA Tornquist 21.29 162 eP P 05 43 01.1 +0.2
comp=Z,48nm,0.8s
POPC Popayan, Colom 21.34 341 eP P 05 43 00.4 -1.4
SPB Sao Paulo 21.84 109 eP P 05 43 04.2 -2.7
comp=Z,13nm,0.6s
PRAC Prado 22.00 347 eP P 05 43 07.0 -1.6
PRAC Prado 22.00 347 eP P 05 43 07.6 -1.1
comp=Z,21nm,0.6s
GRGC Isla de Gorgon 22.27 338 eP P 05 43 10.3 -1.1
PLCA Paso Flores 22.77 181 P P 05 43 17.3 +0.8
comp=Z,22nm,0.6s,baz=26,slow=10,SNR=49
PLCA LR LR 05 53 40.0
comp=Z,188nm,18.8s,baz=312,slow=40
PLCA Paso Flores 22.77 181 eP P 05 43 17.7 +1.2
comp=Z,137nm,1.5s
NORC Norcasia 23.79 348 eP P 05 43 22.9 -3.2
RUSC La Rusia 23.82 352 eP P 05 43 24.3 -2.5
BARC Barichara 24.52 352 eP P 05 43 29.3 -3.6
HELC Santa Helena 24.54 347 eP P 05 43 30.8 -2.4
comp=Z,32nm,0.5s
CBRI Barrientos, No 25.59 354 eP P 05 43 35.0 -7.6
GRMC Gramalote, San 25.59 354 eP P 05 43 38.4 -4.2
SDV Santo Domingo 26.61 359 P P 05 43 48.5 -3.2
comp=Z,5.0nm,0.4s,baz=170,slow=6.1,SNR=7.6
SDV Santo Domingo 26.61 359 eP P 05 43 49.0 -2.7
comp=Z,34nm,1.4s
PCRV Puerto La Cruz 28.38 11 P P 05 44 05.3 -2.0
comp=Z,5.9nm,0.4s,baz=180,slow=11,SNR=9.4
BCIP Isla Barro Col 28.58 339 eP P 05 44 10.0 +0.9
comp=Z,62nm,1.5s
CHRN Cochrane 29.36 184 eP P 05 44 17.5 +1.8
comp=Z,23nm,0.8s
SVB Belmont 32.14 16 eP P 05 44 37.8 -2.7
comp=Z,89nm,0.6s
FDF Fort de France 33.56 16 eP P 05 44 49.3 -3.7
comp=Z,103nm,1.2s
EFI East Falkland 35.02 167 eP P 05 45 06.0 +0.9
comp=Z,38nm,1.0s
RCBR Riachuelo 35.37 74 eP P 05 45 06.2 -2.5
comp=Z,49nm,1.4s
CELP Cerrillos 35.89 6 eP P 05 45 09.3 -3.6
SJG San Juan 35.97 6 eP P 05 45 09.8 -3.8
comp=Z,25nm,1.1s
MPR Mayaguez 35.98 5 eP P 05 45 10.7 -3.0
comp=Z,24nm,0.7s
HUMP Col San Antoni 36.03 7 eP P 05 45 11.8 -2.2
comp=Z,20nm,0.9s
LRS Lares 36.08 5 eP P 05 45 11.5 -3.0
CBYP Canovanas 36.16 7 eP P 05 45 11.7 -3.5
comp=Z,41nm,0.6s
AGP Aguadilla 36.17 5 eP P 05 45 12.1 -3.2
comp=Z,208nm,1.4s
STVI Saint Thomas 36.35 8 eP P 05 45 13.8 -3.0
comp=Z,29nm,1.1s
ABVI Anegada Island 36.81 9 eP P 05 45 18.5 -2.1
comp=Z,131nm,0.8s
USHA Ushuaia 36.90 178 P P 05 45 22.4 +1.4
comp=Z,95nm,0.7s,baz=352,slow=6.7,SNR=12
CCIG Comitan 40.35 326 eP P 05 45 51.2 +0.5
comp=Z,40nm,1.6s
TEIG Tepich 41.91 334 eP P 05 46 03.2 +0.1
comp=Z,19nm,0.6s
HOPE Hope Point 44.53 153 eP P 05 46 25.1 +1.3
comp=Z,126nm,1.2s
BBSR BB Station 50.23 6 eP P 05 47 05.1 -3.0
comp=Z,110nm,2.0s
RGRS Roger Stewart 51.44 349 eP P 05 47 16.1 -1.1
comp=Z,447nm,0.8s
448A Bay Minette 51.49 340 P P 05 47 17.5 -0.1
baz=158
447A Lucedale 51.62 339 P P 05 47 18.7 +0.1
baz=157
NHSC New Hope 51.63 349 eP P 05 47 17.4 -1.2
comp=Z,108nm,1.4s
035Z Hargill 51.84 328 P P 05 47 21.3 +1.0
baz=145
446A Poplarville 51.86 339 P P 05 47 20.7 +0.3
baz=156
544A White Castle 51.89 337 P P 05 47 21.4 +0.7
baz=154
348A Jackson 51.95 340 P P 05 47 20.9 -0.1
baz=158
347A Saraland 52.14 340 P P 05 47 22.0 -0.4
baz=157,SNR=18
346A Big Creek Wild 52.44 339 P P 05 47 24.8 +0.1
baz=156,SNR=8.4
248A Dixon Mills 52.53 341 P P 05 47 24.7 -0.6
baz=158,SNR=30
345A Thompson Farm, 52.56 338 P P 05 47 25.5 -0.1
baz=155,SNR=5.3
GOGA Godfrey 52.61 346 eP P 05 47 24.5 -1.4
034A Hebbronville 52.65 327 P P 05 47 27.3 +1.0
baz=144
247A Quitman 52.76 340 P P 05 47 26.8 -0.3
baz=157,SNR=12
246A Jackson Lee, B 52.90 340 P P 05 47 27.7 -0.3
baz=156
344A Westbrook Farm 52.94 338 P P 05 47 28.5 +0.1
baz=155,SNR=7.8
JSC Jenkinsville 52.98 348 eP P 05 47 27.1 -1.5
comp=Z,5.8nm,0.7s
934A Benavides 53.00 328 P P 05 47 29.9 +1.0
baz=145
245A Little AP, Sta 53.17 339 P P 05 47 29.5 -0.6
baz=156,SNR=15
835A Beeville 53.22 329 P P 05 47 30.6 +0.1
baz=146
147A Livingston 53.23 341 P P 05 47 29.7 -0.7
baz=158
441A DeRidder 53.26 335 P P 05 47 31.2 +0.6
baz=152
933A Laredo 53.39 327 P P 05 47 32.2 +0.4
baz=144
736A Circle Diamond 53.41 330 P P 05 47 33.3 +1.5
baz=147,SNR=5.2
834A Tilden 53.45 328 P P 05 47 33.1 +1.0
baz=145
146A Union 53.45 340 P P 05 47 31.8 -0.3
baz=157,SNR=9.1
244A Avery, Jackson 53.46 338 P P 05 47 32.2 0.0
baz=155
342A Flagon Creek P 53.47 336 P P 05 47 32.9 +0.7
baz=153,SNR=5.9
637A Eagle Lake 53.48 331 P P 05 47 33.4 +1.1
baz=148
243A Waterproof 53.60 337 P P 05 47 33.7 +0.5
baz=154
Z47A Carrollton 53.65 341 P P 05 47 32.5 -1.0
baz=158,SNR=17
Z48A Northport 53.66 342 P P 05 47 32.5 -1.1
baz=159,SNR=26
145A Houston Renfro 53.71 339 P P 05 47 34.1 +0.1
baz=156
341A Kurthwood 53.76 335 P P 05 47 34.9 +0.6
baz=152
KMSC Kings Mountain 53.82 348 P P 05 47 33.6 -1.2
baz=166
KMSC Kings Mountain 53.82 348 eP P 05 47 33.4 -1.3
comp=Z,10nm,0.6s
636A Smothers Creek 53.85 331 P P 05 47 36.1 +1.0
baz=147
144A Alexander Plac 53.90 339 P P 05 47 36.2 +0.8
baz=155
Z46A Louisville 53.92 340 P P 05 47 35.5 0.0
baz=157
537A Green Hill Far 54.01 332 P P 05 47 37.4 +1.1
baz=148
833A Chaparral WMA, 54.03 328 P P 05 47 36.9 +0.5
baz=144,SNR=7.6
734A La Parita Cree 54.04 329 P P 05 47 37.6 +1.1
baz=145
635A Leesville 54.11 330 P P 05 47 37.3 +0.3
baz=146
Y47A UCPARC, Winfie 54.24 342 P P 05 47 36.4 -1.4
baz=158,SNR=32
241A Mo Tay, Goldon 54.27 336 P P 05 47 38.9 +0.9
baz=152
832A Faith Ranch, C 54.30 327 P P 05 47 39.4 +1.0
baz=144
733A Divot King Ran 54.30 328 P P 05 47 38.9 +0.6
baz=145
339A Huntington 54.33 334 P P 05 47 40.2 +1.7
baz=150
Z45A Winona 54.33 340 P P 05 47 38.2 -0.3
baz=156
536A Bastrop 54.35 331 P P 05 47 39.4 +0.7
baz=147
Z44A Pea Ridge, Bel 54.49 339 P P 05 47 39.1 -0.5
baz=155
Y46A Houston 54.53 341 P P 05 47 38.6 -1.4
baz=157,SNR=9.9
535A Dale 54.55 330 P P 05 47 41.0 +0.9
baz=147
240A Hunter Patters 54.62 335 P P 05 47 41.6 +1.0
baz=152
338A Crockett 54.67 333 P P 05 47 42.0 +1.1
baz=150,SNR=5.9
NATX Nacogdoches 54.74 334 P P 05 47 43.3 +1.8
baz=150
NATX Nacogdoches 54.74 334 eP P 05 47 43.7 +2.2
comp=Z,37nm,0.6s
CPCT Cooper Cave 54.80 345 eP P 05 47 40.5 -1.4
comp=Z,6.5nm,0.9s
TKL Tuckaleechee C 54.83 346 eP P 05 47 40.4 -1.7
comp=Z,17nm,1.1s
633A Saathoff Ranch 54.85 329 P P 05 47 42.7 +0.4
baz=145,SNR=15
337A Centerville 54.88 333 P P 05 47 42.8 +0.3
baz=149
239A Gary 54.89 335 P P 05 47 42.8 +0.2
baz=151
SWET Sewanee 54.94 344 eP P 05 47 41.2 -1.7
comp=Z,8.9nm,0.8s
ASCN Ascension 54.95 87 eP P 05 47 42.9 -0.5
comp=Z,151nm,1.0s
534A Blanco 54.98 330 P P 05 47 43.2 0.0
baz=146
Z42A Norrel Spur, H 55.02 338 P P 05 47 44.4 +0.9
baz=154
140A Cam and Jess, 55.08 336 P P 05 47 44.8 +0.9
baz=152
238A Jacksonville 55.15 334 P P 05 47 45.4 +1.0
baz=150
435B Jarrell 55.19 331 P P 05 47 45.7 +0.9
baz=147
X45A UM Field Stati 55.20 340 P P 05 47 43.5 -1.2
baz=157
533A Kerrville 55.28 329 P P 05 47 45.8 +0.3
baz=145
OXF Oxford 55.29 340 eP P 05 47 43.6 -1.7
comp=Z,34nm,0.9s
PLAL Pickwick Lake 55.31 342 eP P 05 47 43.5 -2.1
comp=Z,21nm,0.8s
Z41A Richland Creek 55.33 337 P P 05 47 46.1 +0.5
baz=153
336A Riesel 55.36 332 P P 05 47 46.6 +0.6
baz=148
237A Washetta, Mont 55.44 333 P P 05 47 47.4 +0.9
baz=149
139A Bunkhouse Ranc 55.44 335 P P 05 47 47.1 +0.7
baz=151
X44A Crenshaw 55.51 340 P P 05 47 46.9 -0.1
baz=156
434A Burnet 55.53 330 P P 05 47 47.4 +0.2
baz=146,SNR=5.2
335A Moody 55.54 331 P P 05 47 47.8 +0.5
baz=147,SNR=6.2
CCAR Cane Creek 55.54 338 eP P 05 47 47.5 +0.4
comp=Z,22nm,0.7s
Z40A Long Farm, Mag 55.55 336 P P 05 47 47.7 +0.4
baz=152
TZTN Tazewell 55.63 347 eP P 05 47 46.1 -1.7
comp=Z,30nm,1.6s
VWCC Virginia Weste 55.64 350 eP P 05 47 46.4 -1.4
BLA Blacksburg 55.67 350 eP P 05 47 47.9 -0.3
comp=Z,10nm,0.8s
236A Katherine and 55.75 333 P P 05 47 49.5 +0.8
baz=149,SNR=6.6
X43A Marvell 55.77 339 P P 05 47 49.0 +0.1
baz=155
W45A Hickory Valley 55.81 341 P P 05 47 47.8 -1.3
baz=157,SNR=10
Y41A Eaglette Beard 55.81 337 P P 05 47 49.2 0.0
baz=153
WLAR White Oak Lake 55.83 337 eP P 05 47 49.9 +0.7
comp=Z,27nm,0.6s
433A Art 55.88 330 P P 05 47 49.7 0.0
baz=146,SNR=17
137A Heron Place, G 55.93 334 P P 05 47 51.1 +1.2
baz=150,SNR=6.3
334A Lometa 55.95 331 P P 05 47 50.6 +0.4
baz=147
136A Ennis 56.15 333 P P 05 47 52.6 +1.0
baz=149
Z38A Mt. Pleasant 56.17 335 P P 05 47 52.6 +0.9
baz=151
Y40A Okolona 56.18 337 P P 05 47 52.1 +0.3
baz=153
V45A Humboldt 56.28 341 P P 05 47 50.8 -1.6
baz=158,SNR=7.5
333A Richland Sprin 56.30 330 P P 05 47 52.9 +0.2
baz=146,SNR=6.2
WVT Waverly 56.31 343 eP P 05 47 51.0 -1.6
comp=Z,45nm,0.6s
X41A Kaden, Bauxite 56.33 338 P P 05 47 52.2 -0.5
baz=154,SNR=15
Y39A Lockesburg 56.42 336 P P 05 47 53.8 +0.4
baz=152,SNR=9.3
X40A Basin Creek Fa 56.44 337 P P 05 47 53.3 -0.3
baz=153
234A Clairette 56.47 331 P P 05 47 54.1 +0.2
baz=147,SNR=14
UALR University of 56.52 338 eP P 05 47 53.4 -0.7
comp=Z,27nm,0.6s
135A Vickery Place, 56.61 332 P P 05 47 55.4 +0.6
baz=148
MIAR Mount Ida 56.76 337 P P 05 47 55.2 -0.7
baz=152,SNR=20
MIAR Mount Ida 56.76 337 eP P 05 47 55.5 -0.4
comp=Z,16nm,0.6s
Z36A Blue Ridge 56.79 334 P P 05 47 56.3 +0.2
baz=149
GNAR Gosnell 56.82 341 eP P 05 47 55.4 -0.8
SLBS Sierra La Lagu 56.82 315 eP P 05 47 58.5 +1.9
comp=Z,56nm,1.8s
233A Rising Star 56.83 331 P P 05 47 56.6 +0.1
baz=146,SNR=15
W41B Gary Mavity, V 56.84 338 P P 05 47 55.5 -0.9
baz=154,SNR=16
GLAT Glass 56.87 341 eP P 05 47 55.2 -1.4
134A White-Moore Ra 56.92 332 P P 05 47 57.3 +0.2
baz=147,SNR=8.2
X39A Fountain Ranch 56.94 336 P P 05 47 57.3 +0.2
baz=152,SNR=28
X301 Greenbrier Sit 56.95 338 eP P 05 47 56.6 -0.6
comp=Z,27nm,0.7s
WHAR Wooly Hollow 56.96 338 eP P 05 47 56.4 -0.9
comp=Z,24nm,0.9s
X201 Greenbrier Sit 56.99 338 eP P 05 47 56.7 -0.7
comp=Z,29nm,0.7s
Y37A Hugo 57.07 335 P P 05 47 59.4 +1.3
baz=150,SNR=20
TXAR Lajitas Array 57.10 325 P P 05 47 58.0 -0.4
comp=Z,1.3nm,0.5s,baz=151,slow=8.6,SNR=21
TX31 Lajitas Ar. Si 57.10 325 eP P 05 47 58.6 +0.1
V42A Cord 57.12 339 P P 05 47 57.1 -1.2
baz=155,SNR=9.7
W40A Ferguson Farm, 57.15 338 P P 05 47 58.4 -0.2
baz=153,SNR=18
Z35A Perchaven, San 57.20 333 P P 05 47 59.9 +0.9
baz=148
133A Hamilton Ranch 57.33 331 P P 05 48 00.1 +0.2
baz=146
SDMD Soldier's Deli 57.35 354 eP P 05 47 58.0 -2.0
comp=Z,3.7nm,0.7s
X38A Whitesboro 57.35 336 P P 05 48 00.9 +0.8
baz=151,SNR=13
V41A Mountainview 57.36 339 P P 05 47 59.1 -1.0
baz=154,SNR=54
PARMO Parma 57.38 341 eP P 05 47 59.1 -1.0
W39A Magazine 57.42 337 P P 05 48 01.0 +0.5
baz=152,SNR=17
X37A Clayton 57.50 335 P P 05 48 01.8 +0.8
baz=151,SNR=9.9
Z34A Collier Ranch, 57.52 332 P P 05 48 01.8 +0.6
baz=148
W38A Poteau 57.59 336 P P 05 48 02.3 +0.6
baz=152,SNR=18
Y35A Marietta 57.59 333 P P 05 48 02.8 +1.1
baz=149,SNR=6.5
ABTX Abilene, Hawle 57.68 330 P P 05 48 02.8 +0.4
baz=146
ABTX Abilene, Hawle 57.68 330 eP P 05 48 02.3 -0.1
comp=Z,17nm,0.8s
PBMO Poplar Bluff 57.69 341 eP P 05 48 01.2 -1.2
comp=Z,104nm,0.4s
Z33A Whitaker Ranch 57.83 332 P P 05 48 04.0 +0.5
baz=147,SNR=17
X36A Centrahoma 57.88 334 P P 05 48 03.8 +0.1
baz=150,SNR=9.4
MVL Millersville 57.89 354 eP P 05 48 01.9 -1.7
comp=Z,18nm,1.4s
V39A Pettigrew 57.94 337 P P 05 48 03.7 -0.5
baz=153,SNR=62
Y34A Reagan Ranch, 57.95 333 P P 05 48 04.9 +0.6
baz=148,SNR=10
S45A Carrier Mills 57.97 343 P P 05 48 03.2 -1.1
baz=159,SNR=28
MCWV Mont Chateau 57.98 351 eP P 05 48 03.3 -1.0
comp=Z,9.6nm,0.8s
USIN University of 57.98 344 eP P 05 48 03.4 -1.0
comp=Z,37nm,0.6s
X35A Drake 57.99 334 P P 05 48 04.5 -0.1
baz=149,SNR=7.2
W37B Quinton 58.00 335 P P 05 48 05.2 +0.6
baz=151,SNR=6.5
U40A Yellville 58.12 338 P P 05 48 04.6 -0.8
baz=154,SNR=36
S44A Carbondale 58.18 342 P P 05 48 04.7 -1.1
baz=158,SNR=84
SIUC Southern Illin 58.19 342 eP P 05 48 04.7 -1.1
comp=Z,254nm,0.8s
V38A Canehill 58.24 337 P P 05 48 05.1 -1.2
baz=152,SNR=38
S43A Fulton Ridge, 58.31 341 P P 05 48 05.4 -1.3
baz=157,SNR=47
W36A Wetumka 58.32 335 P P 05 48 06.4 -0.4
baz=150,SNR=13
U39A Green Forest 58.37 338 P P 05 48 06.1 -1.0
baz=153,SNR=25
T41A Mountain View 58.37 340 P P 05 48 05.9 -1.2
baz=155,SNR=30
O56A Blue Knob Stat 58.40 352 P P 05 48 06.5 -0.8
baz=170
BRNJ Basking Ridge 58.42 356 eP P 05 48 05.7 -1.6
comp=Z,74nm,1.6s
HHAR Hobbs 58.44 337 eP P 05 48 06.9 -0.8
comp=Z,16nm,0.7s
X34A Smith Ranch, M 58.53 333 P P 05 48 08.6 +0.3
baz=148,SNR=12
V37A Hulbert 58.54 336 P P 05 48 08.4 +0.1
baz=151,SNR=11
W35A Tecumseh 58.60 334 P P 05 48 08.4 -0.3
baz=149,SNR=7.1
R44A Waltonville 58.64 342 P P 05 48 07.4 -1.5
baz=158,SNR=11
SSPA Standing Stone 58.68 353 eP P 05 48 07.5 -1.7
comp=Z,9.7nm,1.1s
T40A Mansfield 58.72 339 P P 05 48 08.6 -0.9
baz=154,SNR=11
U38A Gravette 58.75 337 P P 05 48 09.1 -0.6
baz=152,SNR=10
X33A Lawton 58.77 333 P P 05 48 10.4 +0.4
baz=148,SNR=13
V36A Jenks 58.77 335 P P 05 48 10.1 +0.1
baz=150,SNR=9.8
TUL1 Leonard 58.82 336 P P 05 48 10.6 +0.4
baz=151,SNR=8.6
TUL1 Leonard 58.82 336 eP P 05 48 10.5 +0.3
comp=Z,13nm,0.6s
ODNJ Ogdensburg 58.82 356 eP P 05 48 08.0 -2.1
comp=Z,24nm,1.6s
OLIL Olney 58.82 343 eP P 05 48 08.2 -2.0
comp=Z,21nm,0.6s
BLO Bloomington 58.83 345 eP P 05 48 08.7 -1.6
comp=Z,37nm,0.8s
T39A Clever 58.90 338 P P 05 48 10.3 -0.5
baz=153,SNR=19
U37A Salina 58.99 336 P P 05 48 11.3 -0.1
baz=151,SNR=7.4
X32A Elmer 59.02 332 P P 05 48 12.1 +0.4
baz=147,SNR=5.4
W34A Bridge Creek, 59.05 334 P P 05 48 12.1 +0.2
baz=148
W34A Bridge Creek, 59.05 334 eP P 05 48 12.1 +0.2
comp=Z,8.0nm,0.6s
WMOK Wichita Mounta 59.06 332 P P 05 48 11.7 -0.3
baz=147
WMOK Wichita Mounta 59.06 332 eP P 05 48 11.5 -0.5
comp=Z,3.3nm,0.6s
ACSO Alum Creek Sta 59.07 348 eP P 05 48 10.2 -1.7
comp=Z,24nm,1.0s
V35A Meyer Ranch, C 59.11 335 P P 05 48 11.9 -0.4
baz=150,SNR=6.8
S40A Lebanon 59.12 339 P P 05 48 11.4 -0.9
baz=154,SNR=36
U36A Oologah 59.22 336 P P 05 48 13.2 +0.2
baz=151,SNR=6.4
Q44A Meyer Farm, Va 59.23 343 P P 05 48 11.4 -1.6
baz=158,SNR=10
T38A Diamond 59.24 337 P P 05 48 12.8 -0.4
baz=152,SNR=52
W33A Caddo, Fort Co 59.27 333 P P 05 48 13.9 +0.5
baz=148,SNR=12
N54A Moraine State 59.28 351 P P 05 48 12.3 -1.0
baz=168,SNR=6.4
V34A Guthrie 59.45 334 P P 05 48 14.3 -0.3
baz=149,SNR=17
V34A Guthrie 59.45 334 eP P 05 48 14.2 -0.5
comp=Z,34nm,0.5s
Q43A New Douglas 59.47 342 P P 05 48 13.0 -1.6
baz=158,SNR=10
S39A Bolivar 59.48 339 P P 05 48 14.1 -0.7

baz=154,SNR=67
BRYW Bryant College 59.52 359 eP P 05 48 13.2 -1.8
comp=Z,49nm,0.8s
T37A Cheneyville 18 59.55 337 P P 05 48 14.7 -0.5
baz=152,SNR=32
W32A Sentinel 59.59 332 P P 05 48 15.7 0.0
baz=147,SNR=29
U35A Pawnee 59.59 335 P P 05 48 15.7 +0.1
baz=150,SNR=12
S38A Stockton 59.63 338 P P 05 48 15.3 -0.6
baz=153,SNR=15
R40A Maddies Statio 59.67 340 P P 05 48 14.8 -1.2
baz=155,SNR=52
Q42A Golden Eagle 59.69 342 P P 05 48 15.2 -0.9
baz=157,SNR=15
V33A Lossen Ranch, 59.76 334 P P 05 48 17.2 +0.4
baz=148
M54A Oil Creek Stat 59.77 352 P P 05 48 15.2 -1.5
baz=169,SNR=7.8
T36A Boggs Farm, Ca 59.86 336 P P 05 48 17.6 +0.2
baz=151
MNTX Cornudas Mount 59.86 325 P P 05 48 17.1 -0.5
baz=140,SNR=9.9
MNTX Cornudas Mount 59.86 325 eP P 05 48 17.0 -0.5
comp=Z,7.6nm,1.3s
R39A Chumby, Stover 59.94 339 P P 05 48 18.0 0.0
baz=154
ALLY Alegheny Colle 59.97 351 eP P 05 48 16.7 -1.4
comp=Z,41nm,0.6s
U34A Anderson Ranch 59.98 334 P P 05 48 17.9 -0.3
baz=149,SNR=11
U34A Anderson Ranch 59.98 334 eP P 05 48 17.8 -0.3
comp=Z,25nm,0.7s
T35A Sooner Cattle 59.98 336 P P 05 48 18.4 +0.2
baz=150,SNR=7.1
WES Weston 59.98 359 eP P 05 48 15.9 -2.2
comp=Z,207nm,2.0s
V32A Arapaho 60.00 333 P P 05 48 18.2 -0.2
baz=147,SNR=12
BINY Binghamton 60.04 355 eP P 05 48 17.1 -1.4
comp=Z,16nm,0.6s
S37A Fort Scott 60.08 337 P P 05 48 18.5 -0.4
baz=152,SNR=18
HRV Adam Dziewonsk 60.10 359 eP P 05 48 17.4 -1.5
comp=Z,25nm,0.8s
SFIN Lafayette 60.11 345 P P 05 48 16.7 -2.3
baz=161,SNR=18
SFIN Lafayette 60.11 345 eP P 05 48 16.8 -2.3
comp=Z,39nm,0.6s
R38A Fenwick Farm, 60.13 338 P P 05 48 18.3 -0.9
baz=153,SNR=24
U33A Lingo Farm, Me 60.21 334 P P 05 48 19.7 -0.1
baz=148
Q40A Laux Farm, Aux 60.24 340 P P 05 48 19.0 -0.9
baz=155,SNR=7.0
MSTX Muleshoe 60.29 329 P P 05 48 20.4 -0.2
baz=143,SNR=6.6
MSTX Muleshoe 60.29 329 eP P 05 48 20.3 -0.2
comp=Z,10nm,0.6s
S36A Lake Cedric, C 60.33 337 P P 05 48 20.5 -0.1
baz=151,SNR=11
T34A McClaskey Farm 60.34 335 P P 05 48 20.7 0.0
baz=150,SNR=6.7
TRY Troy 60.41 357 eP P 05 48 19.8 -1.2
comp=Z,23nm,0.8s
AMTX Amarillo 60.50 330 P P 05 48 22.6 +0.7
baz=144
AMTX Amarillo 60.50 330 eP P 05 48 20.4 -1.6
comp=Z,8.6nm,0.4s
P41A Barry, Barry 60.55 341 P P 05 48 20.7 -1.3
baz=156,SNR=26
R37A Teagarden Farm 60.57 338 P P 05 48 21.6 -0.6
baz=152,SNR=5.9
S35A Otter Creek Ra 60.57 336 P P 05 48 22.3 0.0
baz=151,SNR=17
Q39A Willow Grove F 60.58 340 P P 05 48 21.3 -0.9
baz=154,SNR=27
P40A Paris 60.72 341 P P 05 48 22.3 -0.9
baz=155,SNR=22
Q38A Cooks Store, C 60.72 339 P P 05 48 22.7 -0.5
baz=154
R36A Gordon, Harris 60.83 337 P P 05 48 23.4 -0.5
baz=152
HDIL Hopedale 60.85 343 P P 05 48 22.3 -1.8
baz=158,SNR=20
HDIL Hopedale 60.85 343 eP P 05 48 22.1 -2.0
comp=Z,64nm,0.6s
S34A Willow Spring 60.90 336 P P 05 48 24.2 -0.3
baz=150
O41A Passleys Farm, 60.90 342 P P 05 48 22.7 -1.7
baz=157,SNR=17
P39B Salisbury 60.91 340 P P 05 48 23.4 -1.1
baz=155,SNR=14
Q37A Longview Farm, 60.94 338 P P 05 48 24.1 -0.6
baz=153
R35A Emporia Munici 61.09 337 P P 05 48 26.0 +0.3
baz=151,SNR=7.1
T32A Huddler Ranch, 61.19 334 P P 05 48 27.2 +0.8
baz=148
O40A La Belle 61.20 341 P P 05 48 25.3 -1.2
baz=156,SNR=21
P38A Dawn 61.29 339 P P 05 48 26.1 -0.9
baz=154,SNR=20
Q36A Arnold C. Orve 61.37 338 P P 05 48 27.1 -0.6
baz=152,SNR=9.0
R34A Isabella, Hill 61.47 336 P P 05 48 28.6 +0.2
baz=150,SNR=7.6
Q35A Mercer Eighty, 61.49 337 P P 05 48 27.9 -0.6
baz=151,SNR=8.9
P37A Lathrop 61.53 339 P P 05 48 27.9 -0.9
baz=153,SNR=13
O39A Kirksville 61.54 340 P P 05 48 27.8 -0.9
baz=155
S32A Newby Ranch, P 61.63 334 P P 05 48 29.5 +0.1
baz=148
MDV Middlebury 61.65 357 eP P 05 48 27.9 -1.4
O38A Galt 61.72 340 P P 05 48 29.3 -0.7
baz=154,SNR=7.6
R33A Olander Ranch, 61.77 335 P P 05 48 30.6 +0.3
baz=149
121A Cookes Peak, D 61.82 324 P P 05 48 31.9 +0.9
baz=138
319A Douglas 61.82 322 eP P 05 48 31.9 +0.9
comp=Z,12nm,0.7s
P36A Good Intent, A 61.86 338 P P 05 48 30.3 -0.6
baz=152,SNR=11
Q34A Chapman 61.89 336 P P 05 48 31.4 +0.2
baz=150
KSU1 Kansas State U 61.92 337 P P 05 48 31.3 0.0
baz=151
KSU1 Kansas State U 61.92 337 eP P 05 48 32.3 +1.0
comp=Z,25nm,0.8s
O37A Wolven Farm, M 61.98 339 P P 05 48 31.1 -0.6
baz=153
P35A Duane Minner, 62.08 337 P P 05 48 32.5 +0.2
baz=151
N39A Derby Farms, D 62.09 341 P P 05 48 31.3 -1.1
baz=155
WVL Waterville 62.15 0 eP P 05 48 31.4 -1.3
comp=Z,110nm,1.9s
R32A Long Quarter, 62.16 335 P P 05 48 33.3 +0.3
baz=148
O36A Bolckow 62.23 339 P P 05 48 32.4 -1.0
baz=153
N38A Joes South For 62.25 340 P P 05 48 32.5 -1.0
baz=154
Q33A Connelly Farm, 62.30 336 P P 05 48 33.9 +0.1
baz=149
EMMW East Machias 62.33 2 eP P 05 48 32.4 -1.5
comp=Z,81nm,1.6s
LONY Lake Ozonia 62.34 356 eP P 05 48 32.7 -1.3
comp=Z,6.6nm,0.8s
P34A Walnut Farm, R 62.39 337 P P 05 48 35.2 +0.8
baz=151,SNR=11
BNM Barren Site 62.41 326 eP P 05 48 36.1 +1.1
FRNY Flat Rock 62.50 357 eP P 05 48 33.6 -1.4
comp=Z,7.7nm,0.8s
LPM Los Pinos Moun 62.53 326 eP P 05 48 36.5 +0.7
N37A Lee Faris, Mou 62.53 339 P P 05 48 34.8 -0.6
baz=154,SNR=6.0
Q32A Meitler Ranch, 62.58 335 P P 05 48 35.9 +0.1
baz=149
L41A Preston 62.60 343 P P 05 48 34.3 -1.4
baz=158,SNR=26
P33A Williams Farm, 62.63 336 P P 05 48 36.2 +0.1
baz=150
O35A Humboldt 62.69 338 P P 05 48 36.4 0.0
baz=152

M38A Pleasantville 62.80 341 P P 05 48 36.3 -0.9
baz=155,SNR=7.4
PKME Peaks-Kenny Pk 62.85 1 eP P 05 48 36.2 -1.1
comp=Z,16nm,0.6s
LAZ Ladron 62.87 326 eP P 05 48 39.4 +1.4
O34A Beatrice 62.90 337 P P 05 48 38.4 +0.6
baz=151,SNR=10
SADO Sadowa 62.91 353 eP P 05 48 36.1 -1.6
comp=Z,7.4nm,0.6s
CBKS Cedar Bluff 62.91 334 P P 05 48 39.9 +1.9
baz=148
ANMO Albuquerque 62.93 327 P P 05 48 38.8 +0.4
baz=140
ANMO Albuquerque 62.93 327 eP P 05 48 38.7 +0.3
comp=Z,3.2nm,0.6s
L39A Vinton 63.08 342 P P 05 48 37.4 -1.5
baz=156,SNR=12
N35A Tabor 63.12 338 P P 05 48 38.8 -0.4
baz=152
O33A Hebron 63.14 337 P P 05 48 39.2 -0.2
baz=150
P32A Huiting Farm, 63.14 336 P P 05 48 39.3 -0.2
baz=149
SCIA State Center 63.25 341 eP P 05 48 39.2 -0.8
comp=Z,49nm,0.6s
JFWS Jewell Farm 63.31 343 eP P 05 48 39.3 -1.2
comp=Z,68nm,0.6s
K40A Olesburg 63.35 343 P P 05 48 39.7 -1.0
baz=157,SNR=15
M36A Felix, Anita 63.36 339 P P 05 48 40.5 -0.3
baz=153,SNR=24
TUC Tucson 63.38 322 P P 05 48 41.8 +0.5
baz=136
TUC Tucson 63.38 322 eP P 05 48 42.0 +0.7
comp=Z,19nm,1.9s
L38A Oak Wood Farm, 63.38 341 P P 05 48 39.6 -1.3
baz=155,SNR=6.0
N34A Lincoln 63.40 338 P P 05 48 40.9 -0.3
baz=151,SNR=5.1
O32A Brockman Farm, 63.56 336 P P 05 48 42.0 -0.3
baz=149
K39A Oelwein 63.58 342 P P 05 48 40.5 -1.7
baz=156,SNR=7.2
LMN Caledonia Moun 63.61 4 eP P 05 48 40.2 -2.2
comp=Z,14nm,0.8s
L37A Phoenix Point, 63.62 340 P P 05 48 41.4 -1.1
baz=154,SNR=6.0
T25A Trinidad 63.62 330 P P 05 48 43.3 +0.3
baz=143
T25A Trinidad 63.62 330 eP P 05 48 43.4 +0.5
comp=Z,4.7nm,1.0s
N33A J Bar K, Exete 63.66 337 P P 05 48 42.5 -0.4
baz=150
M35A Neola 63.67 339 P P 05 48 43.1 +0.2
baz=152,SNR=10
K38A Parkersburg 63.78 341 P P 05 48 42.5 -1.1
baz=155,SNR=7.2
O31A Woolen Ranch, 63.88 335 P P 05 48 44.6 +0.3
baz=148
L36A Harm Buss Farm 63.89 340 P P 05 48 43.7 -0.6
baz=153,SNR=32
TRQ Mont Tremblant 63.94 356 eP P 05 48 42.8 -1.8
M34A Aspy Farms, Fr 64.02 338 P P 05 48 45.2 +0.1
baz=151
VNA1 Neumayer--Stat 64.02 161 P P 05 48 46.4 +1.7
J39A Decorah 64.10 343 P P 05 48 44.4 -1.3
baz=156,SNR=21
K37A Belmond 64.16 341 P P 05 48 44.6 -1.4
baz=154,SNR=6.3
L35A Bielow Farm, R 64.19 339 P P 05 48 46.2 -0.1
baz=152,SNR=22
M33A Taylor Creek F 64.30 338 P P 05 48 46.7 -0.3
baz=151
K36A Gilmore City 64.30 340 P P 05 48 46.6 -0.4
baz=154
N31A Bailey Ranch, 64.31 336 P P 05 48 47.5 +0.4
baz=149
J38A Wedel Dairy, R 64.31 342 P P 05 48 46.4 -0.6
baz=156
KSCO Kaye Shedlock' 64.32 332 P P 05 48 48.0 +0.7
baz=145
214A Organ Pipe Nat 64.34 320 P P 05 48 48.5 +1.0
baz=134
L34A Svendsen Farm, 64.35 338 P P 05 48 47.8 +0.4
baz=152,SNR=15
BGNE Belgrade 64.51 337 P P 05 48 48.4 0.0
baz=150,SNR=5.4
BGNE Belgrade 64.51 337 eP P 05 48 48.6 +0.2
comp=Z,78nm,0.9s
X18A Snowflake 64.51 324 eP P 05 48 50.3 +1.6
comp=Z,6.1nm,1.1s
J37A Redenius Farm, 64.63 341 P P 05 48 48.2 -0.9
baz=155,SNR=15
K35A Storm Lake 64.63 340 P P 05 48 48.8 -0.4
baz=153,SNR=6.1
SDCO Great Sand Dun 64.63 329 P P 05 48 50.1 +0.5
baz=142,SNR=22
SDCO Great Sand Dun 64.63 329 eP P 05 48 50.2 +0.5
comp=Z,5.4nm,0.6s
M31A Lambtecht Ranc 64.77 336 P P 05 48 50.7 +0.6
baz=149
W18A Petrified Fore 64.82 325 P P 05 48 50.9 +0.1
baz=137
L33A Hoskins 64.84 338 P P 05 48 51.1 +0.6
baz=151
J36A Seneca 1, Swea 64.89 341 P P 05 48 50.1 -0.7
baz=154,SNR=16
K34A Le Mars 64.89 339 P P 05 48 50.3 -0.5
baz=152,SNR=7.3
I38A Scanlan Farm, 64.93 342 P P 05 48 50.0 -1.0
baz=156,SNR=19
K33A Hardington 65.13 338 P P 05 48 52.7 +0.2
baz=151
J35A Milford 65.20 340 P P 05 48 52.3 -0.6
baz=153,SNR=8.1
I37A Lemond, Waseca 65.22 342 P P 05 48 52.3 -0.7
baz=155,SNR=15
X16A Lo Mia Camp, P 65.27 323 eP P 05 48 55.1 +1.4
comp=Z,5.4nm,1.1s
S22A 4UR Ranch, Cre 65.29 328 P P 05 48 54.2 +0.3
baz=141
S22A 4UR Ranch, Cre 65.29 328 eP P 05 48 54.5 +0.6
comp=Z,3.1nm,0.9s
J34A George 65.38 339 P P 05 48 53.9 0.0
baz=152,SNR=6.7
I36A Fitzsimmons Fa 65.41 341 P P 05 48 53.5 -0.6
baz=154,SNR=9.6
L31A Butterfield Fa 65.43 337 P P 05 48 54.9 +0.6
baz=149,SNR=5.4
Q24A Divide 65.43 330 P P 05 48 54.9 +0.1
baz=142
Q24A Divide 65.43 330 eP P 05 48 55.9 +1.1
comp=Z,4.7nm,1.0s
K32A Verdigre 65.53 338 P P 05 48 55.0 0.0
baz=150
I35A Creekview Farm 65.57 340 P P 05 48 54.7 -0.4
baz=153,SNR=11
H37A Dike Farm, C 65.59 342 P P 05 48 54.5 -0.8
baz=156,SNR=8.4
OGNE Ogallala 65.66 334 P P 05 48 56.6 +0.6
baz=146
MVCO Mesa Verde 65.72 327 P P 05 48 57.2 +0.5
baz=139
MVCO Mesa Verde 65.72 327 eP P 05 48 57.1 +0.5
comp=Z,15nm,1.4s
J33A Davis 65.75 339 P P 05 48 56.2 -0.1
baz=151,SNR=18
K31A O'Neill 65.78 337 P P 05 48 57.0 +0.3
baz=149
Y14A Wickenburg 65.84 322 eP P 05 48 58.5 +1.2
comp=Z,18nm,1.0s
H36A Jessenland, He 65.89 341 P P 05 48 56.8 -0.4
baz=155,SNR=28
ECSD EROS Data Cent 66.00 339 P P 05 48 57.5 -0.4
baz=152,SNR=19
ECSD EROS Data Cent 66.00 339 eP P 05 48 57.7 -0.2
comp=Z,12nm,0.7s
COWI Conover 66.00 346 eP P 05 48 56.8 -1.1
comp=Z,14nm,0.8s
SNAA Sanae 66.01 161 P P 05 48 58.7 +0.9
SNAA Sanae 66.01 161 eP P 05 48 58.5 +0.8
comp=Z,19nm,0.9s
I34A Hadley 66.02 340 P P 05 48 58.3 +0.2
baz=152
WUAZ Wupatki 66.03 324 P P 05 48 59.0 +0.5
baz=136
WUAZ Wupatki 66.03 324 eP P 05 48 59.9 +1.4
J32A Parkston 66.11 338 P P 05 48 58.4 -0.2

baz=150,SNR=7.7
SPMN Marine on St. 66.15 343 P P 05 48 57.7 -1.1
baz=156,SNR=27
SPMN Marine on St. 66.15 343 eP P 05 48 57.8 -1.1
comp=Z,30nm,0.6s
K30A Basset 66.15 337 P P 05 48 59.1 +0.1
baz=149,SNR=6.3
H35A Sunnyside Ranc 66.28 341 P P 05 48 59.1 -0.5
baz=154,SNR=33
ISCO Idaho Springs 66.31 331 P P 05 49 01.0 +0.6
baz=142
ISCO Idaho Springs 66.31 331 eP P 05 49 01.1 +0.6
comp=Z,3.6nm,0.8s
I33A Coleman 66.33 339 P P 05 49 00.2 +0.1
baz=152,SNR=8.9
J31A Geddes 66.36 337 P P 05 49 00.5 +0.2
baz=150
G36A St. Michael 66.43 342 P P 05 49 00.0 -0.6
baz=155,SNR=6.1
PV01 Paradox Valley 66.46 328 eP P 05 49 02.4 +1.0
SMCO Snowmass 66.47 329 eP P 05 49 02.5 +1.0
comp=Z,6.6nm,0.6s
H34A Spellman Lake, 66.55 340 P P 05 49 01.1 -0.3
baz=153,SNR=10
G35A Watkins 66.64 341 P P 05 49 01.6 -0.4
baz=154,SNR=5.5
J30A Dallas 66.66 337 P P 05 49 02.2 0.0
baz=149
PV05 Paradox Valley 66.69 327 eP P 05 49 02.6 -0.1
PDMCI Parker Dam,Lak 66.77 321 P P 05 49 04.0 +0.9
baz=133
SWSC Sam W. Stewart 66.86 319 P P 05 49 03.0 -0.6
baz=132
H33A Prehn Over Nor 66.88 340 P P 05 49 03.5 -0.1
baz=152,SNR=14
I31A Royce, Wessing 66.92 338 P P 05 49 04.1 +0.3
baz=150,SNR=18
F36A Milaca 66.94 342 P P 05 49 03.1 -0.8
baz=155,SNR=31
H32A Carlson Farm, 66.95 339 P P 05 49 04.1 +0.1
baz=151,SNR=9.6
G34A Benson 67.02 341 P P 05 49 03.6 -0.8
baz=153,SNR=8.7
BC3 Big Chuckawall 67.12 320 P P 05 49 06.0 +0.5
baz=132
W13A Hualapai Mount 67.17 322 eP P 05 49 07.6 +1.7
comp=Z,3.8nm,0.8s
U15A North Rim 67.20 324 eP P 05 49 07.3 +1.3
comp=Z,6.5nm,0.9s
MONP2 Monument Peak 67.22 319 P P 05 49 07.4 +1.2
baz=131
G33A Ortonville 67.23 340 P P 05 49 05.3 -0.5
baz=152,SNR=9.5
BAR Barrett 67.23 318 eP P 05 49 06.5 +0.4
comp=Z,9.5nm,0.9s
F35A Swanville 67.24 342 P P 05 49 05.2 -0.6
baz=154,SNR=9.4
IRM Iron Mountain 67.28 320 P P 05 49 07.3 +0.9
baz=133
H31A Wolsey 67.29 338 P P 05 49 07.1 +1.0
baz=150
N23A Red Feather La 67.34 331 P P 05 49 07.2 +0.3
baz=142
N23A Red Feather La 67.34 331 eP P 05 49 07.5 +0.7
comp=Z,6.6nm,1.0s
F34A Alexandria 67.39 341 P P 05 49 06.9 +0.1
baz=154
PHWY Pilot Hill 67.44 332 eP P 05 49 08.4 +0.9
comp=Z,4.1nm,0.5s
E36A McGregor 67.46 343 P P 05 49 06.8 -0.4
baz=156,SNR=23
BELC Belle Mtn. Jos 67.69 320 P P 05 49 09.7 +0.6
baz=132
DRLN Deer Lake 67.75 9 eP P 05 49 06.8 -2.2
comp=Z,20nm,0.5s
F33A 5 Mile Ranch, 67.76 340 P P 05 49 08.5 -0.5
baz=152,SNR=16
D37A Cotton 67.82 344 P P 05 49 08.7 -0.7
baz=156,SNR=13
E35A Pequot Lakes 67.82 342 P P 05 49 08.9 -0.6
baz=154,SNR=11
O20A White River Ci 67.83 329 P P 05 49 10.6 +0.7
baz=140
O20A White River Ci 67.83 329 eP P 05 49 11.0 +1.1
comp=Z,5.5nm,0.8s
C39A Grand Marais 67.85 345 P P 05 49 08.5 -1.0
baz=159,SNR=61
KNB Kanab 67.91 324 eP P 05 49 12.1 +1.6
comp=Z,11nm,0.9s
E34A Wadena 68.01 342 P P 05 49 10.1 -0.5
baz=154
GMRC Granite Mounta 68.01 321 P P 05 49 12.3 +1.3
baz=132,SNR=7.8
C38A Sawbill Land. 68.03 345 P P 05 49 09.7 -1.1
baz=158,SNR=14
D36A Goodland 68.03 343 P P 05 49 09.9 -0.8
baz=156,SNR=12
G30A Faulkton 68.09 338 P P 05 49 10.9 -0.2
baz=150
LCMT Little Creek M 68.15 324 eP P 05 49 10.7 -1.2
comp=Z,4.1nm,0.9s
D35A Remer 68.20 343 P P 05 49 11.5 -0.3
baz=155,SNR=7.6
SRU San Rafael Swe 68.20 327 eP P 05 49 13.0 +0.8
comp=Z,4.9nm,0.6s
E33A Westby DABS, E 68.26 341 P P 05 49 11.5 -0.7
baz=153
C37A Embarrass 68.28 344 P P 05 49 11.3 -0.9
baz=157,SNR=18
MTPU Mount Pierson 68.30 325 eP P 05 49 13.5 +0.4
comp=Z,3.9nm,0.8s
EYMN Ely 68.30 345 P P 05 49 11.3 -1.1
baz=158,SNR=22
EYMN Ely 68.30 345 eP P 05 49 11.3 -1.1
comp=Z,18nm,0.5s
F31A Hecla 68.42 339 P P 05 49 13.2 0.0
baz=151,SNR=8.7
P18A Preston Nutter 68.45 328 eP P 05 49 15.3 +1.4
comp=Z,16nm,1.0s
HEC Hector,Ludlow 68.45 320 P P 05 49 15.2 +1.5
baz=132
C36A Pine Crest Far 68.48 344 P P 05 49 12.9 -0.6
baz=156,SNR=25
D34A Park Rapids 68.53 342 P P 05 49 13.2 -0.7
baz=154,SNR=7.3
P17A Butcher Ranch, 68.58 327 eP P 05 49 15.6 +1.0
comp=Z,6.5nm,0.6s
CCUT Cedar City 68.60 324 eP P 05 49 16.5 +1.7
comp=Z,7.4nm,0.8s
MSU Marysvale 68.64 326 eP P 05 49 16.2 +1.2
TMUT Trail Mountain 68.70 327 eP P 05 49 16.7 +1.2
comp=Z,4.4nm,0.6s
C35A Jirik Farms, M 68.74 343 P P 05 49 14.5 -0.6
baz=155,SNR=14
DBIC Dimbokro 68.75 75 P P 05 49 14.3 -1.6
comp=Z,42nm,0.7s,baz=230,slow=7.5,SNR=66
DBIC pP pP 05 49 43.2 +0.9
comp=Z,20nm,0.9s,baz=190,slow=7.0,SNR=4.3
BFSC Mount Baldy Ra 68.88 319 P P 05 49 17.2 +0.7
baz=131
RRX Edison Barstow 68.89 320 P P 05 49 17.6 +1.2
baz=131
SHPR Sheep Range 68.89 322 eP P 05 49 16.9 +0.4
comp=Z,7.0nm,0.9s
E31A Nome 68.91 340 P P 05 49 16.0 -0.2
baz=151
C34A RKJ Ranch, Bem 68.96 342 P P 05 49 15.8 -0.8
baz=154,SNR=5.1
K22A Casper 69.00 332 P P 05 49 17.8 +0.8
baz=142
K22A Casper 69.00 332 eP P 05 49 17.6 +0.6
comp=Z,5.0nm,0.6s
GSC Goldstone, Bar 69.06 320 P P 05 49 18.6 +1.1
baz=132
GSC Goldstone, Bar 69.06 320 eP P 05 49 19.3 +1.8
comp=Z,4.4nm,0.8s
RSSD Black Hills 69.11 334 P P 05 49 18.2 +0.4
baz=145
RSSD Black Hills 69.11 334 eP P 05 49 18.6 +0.8
comp=Z,8.6nm,0.9s
E30A Jud 69.20 339 P P 05 49 18.2 +0.1
baz=150
B35A Bob, Littlefor 69.27 343 P P 05 49 17.7 -0.7
baz=155,SNR=24
C33A Trail 69.31 342 P P 05 49 18.3 -0.3
baz=153,SNR=7.5
EDW2 Edwards Air Fo 69.51 319 P P 05 49 21.4 +1.2
baz=131

B34A	**Aery, Baudette**	**69.64**	**343**	P		**P**		**05 49 20.1**	**-0.5**	
	baz=154,SNR=9.9									
D30A	**Buchanan**	**69.68**	**339**	P		**P**		**05 49 20.9**	**-0.1**	
	baz=150,SNR=6.5									
B33A	**Robert and Kas**	**69.72**	**342**	P		**P**		**05 49 20.7**	**-0.5**	
	baz=154									
JLU	**Jordanelle**	**69.79**	**328**	*e*P		**P**		**05 49 23.2**	**+1.2**	
	comp=Z,5.0nm,0.8s									
AGMN	**Agassiz Nation**	**69.82**	**342**	P		**P**		**05 49 21.4**	**-0.4**	
	baz=153,SNR=12									
AGMN	**Agassiz Nation**	**69.82**	**342**	*e*P		**P**		**05 49 21.1**	**-0.7**	
	comp=Z,11nm,0.8s									
TPNV	**Topopah Spring**	**69.83**	**322**	P		**P**		**05 49 24.0**	**+1.7**	
	baz=132,SNR=16									
TPNV	**Topopah Spring**	**69.83**	**322**	*e*P		**P**		**05 49 24.1**	**+1.7**	
	comp=Z,9.3nm,0.8s									
FURC	**Furnace Creek,**	**69.87**	**321**	P		**P**		**05 49 23.7**	**+1.4**	
	baz=132,SNR=10									
C31A	**Landman Farms,**	**69.95**	**340**	P		**P**		**05 49 22.3**	**-0.3**	
	baz=151,SNR=8.0									
MPMC	**Manual Prospec**	**69.97**	**321**	P		**P**		**05 49 24.3**	**+1.0**	
	baz=131,SNR=5.4									
F26A	**Lodgepole**	**70.01**	**336**	P		**P**		**05 49 23.5**	**+0.4**	
	baz=146,SNR=8.4									
C30A	**Mose, Pekin**	**70.11**	**340**	P		**P**		**05 49 24.1**	**+0.5**	
	baz=151									
B32A	**Ashes, Strandq**	**70.11**	**342**	P		**P**		**05 49 23.2**	**-0.4**	
	baz=153,SNR=9.0									
TCUT	**Toone Canyon**	**70.15**	**328**	*e*P		**P**		**05 49 25.6**	**+1.3**	
	comp=Z,7.4nm,0.8s									
DUG	**Dugway, Tooele**	**70.20**	**326**	P		**P**		**05 49 25.5**	**+1.0**	
	baz=136,SNR=7.6									
DUG	**Dugway, Tooele**	**70.20**	**326**	*e*P		**P**		**05 49 25.8**	**+1.3**	
	comp=Z,19nm,1.7s									
A33A	**Warroad**	**70.26**	**343**	P		**P**		**05 49 24.1**	**-0.3**	
	baz=154,SNR=20									
F25A	**Bowman**	**70.37**	**336**	P		**P**		**05 49 25.9**	**+0.5**	
	baz=146									
R11A	**Troy Canyon, C**	**70.41**	**323**	P		**P**		**05 49 27.1**	**+1.3**	
	baz=133,SNR=12									
R11A	**Troy Canyon, C**	**70.41**	**323**	*e*P		**P**		**05 49 27.4**	**+1.6**	
	comp=Z,3.8nm,0.9s									
E26A	**Carlson Angus**	**70.45**	**337**	P		**P**		**05 49 26.5**	**+0.7**	
	baz=147									
BW06	**Boulder Array**	**70.48**	**330**	P		**P**		**05 49 26.9**	**+0.6**	
	baz=140									
BW06	**Boulder Array**	**70.48**	**330**	*e*P		**P**		**05 49 25.4**	**-0.8**	
	comp=Z,2.2nm,0.8s									
PD31	**Pinedale Array**	**70.48**	**330**	*e*P		**P**		**05 49 27.5**	**+1.2**	
PDAR	**Pinedale Array**	**70.48**	**330**	P		**P**		**05 49 25.9**	**-0.3**	
	comp=Z,1.4nm,0.4s,baz=116,slow=6.9,SNR=11									
PDAR				pP		**pP**		**05 49 55.1**	**+2.4**	
	comp=Z,1.1nm,0.5s,baz=139,slow=7.7,SNR=2.7									
CWC	**Cottonwood Cre**	**70.58**	**320**	P		**P**		**05 49 28.2**	**+1.2**	
	baz=131									
HWUT	**Hardware Ranch**	**70.59**	**328**	*e*P		**P**		**05 49 27.1**	**+0.3**	
	comp=Z,3.9nm,0.6s									
MDND	**Maddock**	**70.61**	**339**	P		**P**		**05 49 27.1**	**+0.4**	
	baz=150,SNR=6.2									
MDND	**Maddock**	**70.61**	**339**	*e*P		**P**		**05 49 27.0**	**+0.4**	
	comp=Z,30nm,0.6s									
B30A	**Myrvik Farm, E**	**70.72**	**340**	P		**P**		**05 49 27.3**	**+0.1**	
	baz=151,SNR=6.0									
VES	**Vestal, Richgr**	**70.81**	**319**	P		**P**		**05 49 29.1**	**+1.0**	
	baz=130									
SPUT	**South Promonto**	**70.82**	**327**	*e*P		**P**		**05 49 29.1**	**+0.8**	
	comp=Z,4.3nm,1.0s									
BGU	**Big Grassy Mou**	**70.84**	**327**	*e*P		**P**		**05 49 28.1**	**-0.3**	
	comp=Z,3.2nm,0.8s									
D26A	**Manning**	**70.91**	**337**	P		**P**		**05 49 29.1**	**+0.6**	
	baz=147									
B29A	**Wagenman Farm,**	**71.06**	**340**	P		**P**		**05 49 29.8**	**+0.5**	
	baz=150									
RCTC	**Rector, Farmer**	**71.21**	**320**	P		**P**		**05 49 31.6**	**+1.2**	
	baz=130									
AHID	**Auburn Hatcher**	**71.22**	**329**	*e*P		**P**		**05 49 31.2**	**+0.5**	
	comp=Z,4.6nm,0.7s									
HVU	**Hansel Valley**	**71.33**	**328**	*e*P		**P**		**05 49 31.9**	**+0.6**	
	comp=Z,3.4nm,0.7s									
D25A	**Fairfield**	**71.34**	**337**	P		**P**		**05 49 32.3**	**+1.1**	
	baz=146									
B28A	**Dugan Ranch, T**	**71.38**	**339**	P		**P**		**05 49 31.8**	**+0.5**	
	baz=149									
A29A	**Manning Farm,**	**71.42**	**340**	P		**P**		**05 49 31.4**	**-0.1**	
	baz=150,SNR=12									
REDW	**Red Top Meadow**	**71.55**	**330**	*e*P		**P**		**05 49 33.6**	**+0.9**	
	comp=Z,15nm,1.7s									
ULM	**Lac du Bonnet**	**71.58**	**343**	P		**P**		**05 49 31.5**	**-0.9**	
	comp=Z,20nm,0.5s,baz=153,slow=6.8,SNR=30									
ULM				pP		**pP**		**05 49 59.4**	**+0.4**	
	comp=Z,8.3nm,0.6s,baz=137,slow=7.5,SNR=2.9									
ULM				LR		LR		06 22 51.7		
	comp=Z,21nm,18.7s,baz=326,slow=37									
ULM	**Lac du Bonnet**	**71.58**	**343**	*e*P		**P**		**05 49 31.8**	**-0.6**	
	comp=Z,18nm,0.6s									
ULM				pP		**pP**		**05 49 59.4**	**+0.4**	
SNOW	**Snow King Moun**	**71.58**	**330**	*e*P		**P**		**05 49 34.0**	**+1.1**	
	comp=Z,5.5nm,1.2s									
LOHW	**Long Hollow**	**71.62**	**330**	*e*P		**P**		**05 49 34.0**	**+0.9**	
	comp=Z,2.9nm,0.6s									
TPAW	**Teton Pass**	**71.70**	**330**	*e*P		**P**		**05 49 34.7**	**+1.0**	
	comp=Z,3.2nm,0.8s									
MOOW	**Moose Ponds**	**71.79**	**330**	*e*P		**P**		**05 49 34.7**	**+0.5**	
	comp=Z,11nm,1.8s									
FXWY	**Fox Creek**	**71.84**	**330**	*e*P		**P**		**05 49 35.1**	**+0.6**	
	comp=Z,2.9nm,0.8s									
ELK	**Elko**	**71.88**	**325**	*e*P		**P**		**05 49 35.8**	**+1.0**	
	comp=Z,2.2nm,0.8s									
IMW	**Indian Meadow**	**72.00**	**330**	*e*P		**P**		**05 49 36.3**	**+0.8**	
	comp=Z,4.7nm,0.9s									
FLWY	**Flagg Ranch**	**72.03**	**330**	*e*P		**P**		**05 49 36.8**	**+1.3**	
	comp=Z,6.0nm,0.8s									
LAO	**LASA Array**	**72.10**	**335**	P		**P**		**05 49 36.5**	**+0.8**	
	baz=143									
LAO	**LASA Array**	**72.10**	**335**	*e*P		**P**		**05 49 36.4**	**+0.7**	
	comp=Z,26nm,1.5s									
A27A	**Ledoux Ranch,**	**72.11**	**339**	P		**P**		**05 49 36.3**	**+0.6**	
	baz=148									
RLMT	**Red Lodge**	**72.16**	**332**	P		**P**		**05 49 37.2**	**+0.9**	
	baz=140									
RLMT	**Red Lodge**	**72.16**	**332**	*e*P		**P**		**05 49 37.4**	**+1.1**	
	comp=Z,6.9nm,1.0s									
H17A	**Grant Village**	**72.20**	**331**	P		**P**		**05 49 38.1**	**+1.5**	
	baz=139									
H17A	**Grant Village**	**72.20**	**331**	*e*P		**P**		**05 49 38.6**	**+2.0**	
	comp=Z,3.2nm,0.8s									
QSPA	**South Pole Qui**	**72.29**	**180**	*e*P		**P**		**05 49 38.2**	**+1.5**	
SCHQ	**Schefferville**	**72.47**	**2**	P		**P**		**05 49 35.9**	**-1.8**	
	comp=Z,16nm,0.7s,baz=201,slow=6.7,SNR=22									
SCHQ	**Schefferville**	**72.47**	**2**	*e*P		**P**		**05 49 35.7**	**-1.9**	
	comp=Z,16nm,0.8s									
YHH	**Holmes Hill**	**72.63**	**331**	*e*P		**P**		**05 49 41.4**	**+2.2**	
	comp=Z,11nm,1.3s									
HLID	**Hailey**	**73.45**	**328**	P		**P**		**05 49 45.2**	**+1.2**	
	baz=136,SNR=7.5									
HLID	**Hailey**	**73.45**	**328**	*e*P		**P**		**05 49 45.3**	**+1.4**	
	comp=Z,4.0nm,1.0s									
PAHR	**Pah Rah Range**	**73.51**	**322**	*e*P		**P**		**05 49 46.2**	**+1.9**	
	comp=Z,12nm,0.8s									
MCMT	**McKenzie Canyo**	**73.60**	**330**	*e*P		**P**		**05 49 46.2**	**+1.3**	
BOZ	**Bozeman (W)**	**73.64**	**331**	P		**P**		**05 49 45.8**	**+0.8**	
	baz=138									
BOZ	**Bozeman (W)**	**73.64**	**331**	*e*P		**P**		**05 49 45.5**	**+0.5**	
	comp=Z,7.6nm,1.5s									
DLMT	**Dillon**	**73.88**	**330**	*e*P		**P**		**05 49 47.4**	**+1.0**	
	comp=Z,6.0nm,1.3s									
MFID	**Camas Ranch**	**74.07**	**327**	*e*P		**P**		**05 49 49.0**	**+1.5**	
	comp=Z,9.3nm,1.1s									
LRM	**Limekiln Ridge**	**74.15**	**331**	*e*P		**P**		**05 49 48.9**	**+0.8**	
ORV	**Oroville**	**74.66**	**321**	*e*P		**P**		**05 49 52.7**	**+1.9**	
	comp=Z,14nm,1.1s									
O03D	**Paynes Creek**	**75.30**	**322**	P		**P**		**05 49 55.2**	**+0.6**	
	baz=129									
MSO	**Missoula**	**75.59**	**331**	P		**P**		**05 49 56.5**	**+0.4**	
	baz=137									
BMO	**Blue Mountains**	**75.84**	**327**	*e*P		**P**		**05 49 58.6**	**+1.0**	
	comp=Z,3.6nm,0.7s									
WDC	**Whiskeytown Da**	**75.92**	**321**	*e*P		**P**		**05 49 57.5**	**-0.5**	
	comp=Z,4.9nm,0.8s									
N02D	**Trinity Center**	**76.27**	**322**	P		**P**		**05 50 00.3**	**+0.2**	
	baz=128									
M04C	**Macdoel**	**76.27**	**323**	P		**P**		**05 50 01.1**	**+1.0**	
	baz=129									
K05A	**Summer Lake**	**76.34**	**324**	*e*P		**P**		**05 50 02.2**	**+1.6**	
	comp=Z,28nm,1.4s									
F10A	**Beach Ranch, E**	**76.58**	**328**	*e*P		**P**		**05 50 02.9**	**+1.2**	
	comp=Z,5.6nm,0.8s									
M02C	**Callahan**	**76.61**	**322**	P		**P**		**05 50 02.8**	**+0.7**	
	baz=128									
J05D	**Fort Rock, OR**	**76.89**	**324**	P		**P**		**05 50 04.7**	**+1.1**	
	baz=130									
TOA0	**Torodi Ar. Sit**	**77.14**	**72**	*e*P		**P**		**05 50 03.7**	**-1.8**	
	comp=Z,42nm,0.6s									
TORD	**Torodi Ar. Bea**	**77.14**	**72**	P		**P**		**05 50 03.6**	**-1.9**	
	comp=Z,37nm,0.5s,baz=254,slow=5.2,SNR=194									
TORD				pP		**pP**		**05 50 33.2**	**+0.8**	
	comp=Z,15nm,1.0s,baz=255,slow=4.9,SNR=3.2									
TORD				S		**S**		**05 59 42.1**	**-4.5**	
	comp=Z,0.9nm,0.8s,baz=265,slow=12,SNR=5.3									
HUMO	**Hull Mountain**	**77.43**	**323**	*e*P		**P**		**05 50 06.7**	**+0.2**	
	comp=Z,24nm,1.8s									
L02D	**Cave Junction,**	**77.53**	**322**	P		**P**		**05 50 08.3**	**+1.3**	
	baz=128									
I05D	**Terrebonne, OR**	**77.63**	**325**	P		**P**		**05 50 08.5**	**+0.9**	
	baz=130									
I04A	**Tendick Farm,**	**77.87**	**324**	P		**P**		**05 50 09.6**	**+0.7**	
	baz=129									
FCC	**Fort Churchill**	**78.90**	**347**	*e*P		**P**		**05 50 14.1**	**0.0**	
	comp=Z,8.9nm,0.8s									
SBA	**Scott Base**	**79.18**	**190**	*e*P		**P**		**05 50 18.1**	**+2.5**	
	comp=Z,12nm,1.1s									
MORF	**Marmelete**	**79.63**	**45**	*e*P		**P**		**05 50 17.5**	**-1.2**	
MORF				AMb		AMB		05 50 19.4		
	comp=Z,32nm,1.5s									
MORF	**Marmelete**	**79.63**	**45**	*e*P		**P**		**05 50 19.4**	**+0.6**	
	comp=Z,39nm,1.4s									
PTEO	**Sao Teotonio**	**79.71**	**45**	*e*P		**P**		**05 50 20.0**	**+0.9**	
	comp=Z,38nm,1.0s									
LIS	**Lisbon**	**80.05**	**44**	*e*P		P		05 50 14.2	-6.7	
PNCL	**Nicolau / Gran**	**80.14**	**45**	*e*P		**P**		**05 50 21.4**	**0.0**	
	comp=Z,19nm,1.8s									
MESJ	**Messejana**	**80.20**	**45**	*e*P		**P**		**05 50 20.4**	**-1.3**	
MESJ				AMb		AMB		05 50 21.3		
	comp=Z,28nm,1.7s									
MESJ	**Messejana**	**80.20**	**45**	*e*P		**P**		**05 50 21.5**	**-0.2**	
	comp=Z,37nm,2.0s									
VNDA	**Vanda**	**80.21**	**190**	P		**P**		**05 50 23.3**	**+2.1**	
	comp=Z,8.7nm,0.8s,baz=117,slow=4.8,SNR=55									
VNDA	**Vanda**	**80.21**	**190**	*e*P		**P**		**05 50 23.5**	**+2.3**	
	comp=Z,8.9nm,0.8s									
PCVE	**Castro Verde**	**80.22**	**45**	*e*P		**P**		**05 50 22.1**	**+0.3**	
	comp=Z,36nm,1.8s									
SYO	**Syowa Base**	**80.23**	**160**‖	*e*P		**P**		**05 50 20.7**	**-0.7**	
SYO	**Syowa Base**	**80.23**	**160**‖	*e*X		sP		05 51 05.0	+5.3	
E03A	**Lebam**	**80.25**	**326**	*e*P		**P**		**05 50 22.9**	**+1.2**	
	comp=Z,11nm,0.9s									
PVAQ	**Vaqueiros**	**80.32**	**46**	*e*P		**P**		**05 50 23.6**	**+1.2**	
	comp=Z,31nm,1.3s									
PBEJ	**Beja**	**80.54**	**45**	*e*P		**P**		**05 50 23.5**	**-0.1**	
	comp=Z,20nm,1.9s									
B05A	**Bryant**	**80.58**	**328**	P		**P**		**05 50 23.9**	**+0.4**	
	baz=130									
EVO	**Evora**	**80.71**	**45**	*e*P		**P**		**05 50 24.2**	**-0.2**	
	comp=Z,26nm,1.2s									
NLWA	**Neilton Lookou**	**80.94**	**326**	*e*P		**P**		**05 50 26.8**	**+1.3**	
	comp=Z,23nm,1.4s									
PTOM	**Tomar**	**81.02**	**43**	*e*P		**P**		**05 50 25.7**	**-0.3**	
	comp=Z,48nm,1.7s									
PESTR	**Estremoz**	**81.16**	**44**	*e*P		**P**		**05 50 27.3**	**+0.4**	
	comp=Z,18nm,1.4s									
PGC	**Sidney**	**81.52**	**327**	*e*P		**P**		**05 50 29.5**	**+1.1**	
	comp=Z,23nm,1.1s									
PVIS	**Viseu**	**81.93**	**43**	*e*P		**P**		**05 50 30.3**	**-0.6**	
	comp=Z,33nm,1.8s									
MTE	**Manteigas**	**81.99**	**43**	*e*P		**P**		**05 50 31.6**	**+0.3**	
	comp=Z,57nm,1.5s									
TSUM	**Tsumeb**	**82.08**	**108**	*e*P		**P**		**05 50 32.2**	**-0.2**	
PVRL	**Vila Real**	**82.34**	**42**	*e*P		**P**		**05 50 32.3**	**-0.7**	
	comp=Z,42nm,1.7s									
POLO	**Lamas de Olo**	**82.34**	**42**	*e*P		**P**		**05 50 32.6**	**-0.5**	
	comp=Z,37nm,1.8s									
PCAB	**Cabril**	**82.37**	**42**	*e*P		**P**		**05 50 32.7**	**-0.5**	
	comp=Z,69nm,1.7s									
MVO	**Moncorvo**	**82.72**	**43**	*e*P		**P**		**05 50 34.6**	**-0.5**	
	comp=Z,51nm,1.8s									
PBRG	**Braganca**	**83.24**	**42**	*e*P		**P**		**05 50 37.2**	**-0.5**	
	comp=Z,26nm,1.7s									
PAB	**San Pablo**	**83.68**	**45**	*e*P		**P**		**05 50 40.4**	**+0.4**	
	comp=Z,11nm,0.6s									
ESDC	**Sonseca Array**	**84.00**	**45**	P		**P**		**05 50 41.0**	**-0.6**	
	comp=Z,4.5nm,0.6s,baz=250,slow=5.2,SNR=26									
ESLA	**Sonseca Array**	**84.00**	**45**	*e*P		**P**		**05 50 41.4**	**-0.3**	
	comp=Z,24nm,1.5s									
ES19	**SONSECA Array**	**84.06**	**45**	*e*P		**P**		**05 50 41.2**	**-0.7**	
TAM	**Tamanrasset**	**84.13**	**64**	*e*P		**P**		**05 50 42.8**	**0.0**	
	comp=Z,17nm,1.6s									
YKA	**Yellowknife Ar**	**87.46**	**341**	P		**P**		**05 50 57.9**	**-0.2**	
	comp=Z,3.6nm,0.6s,baz=133,slow=4.9,SNR=79									
YKA				pP		**pP**		**05 51 25.7**	**+0.2**	
	comp=Z,6.9nm,0.6s,baz=135,slow=4.9,SNR=4.3									
MAW	**Mawson**	**88.07**	**164**	P		**P**		**05 51 01.9**	**+0.9**	
	comp=Z,14nm,0.7s,baz=214,slow=6.0,SNR=33									
MAW	**Mawson**	**88.07**	**164**	*e*P		**P**		**05 51 02.4**	**+1.3**	
	comp=Z,2.8nm,0.7s									
DLBC	**Dease Lake**	**90.54**	**333**	*e*P		**P**		**05 51 13.7**	**+0.9**	
	comp=Z,4.4nm,0.8s									
KEST	**Kesra**	**91.96**	**53**	P		**P**		**05 51 18.4**	**-1.5**	
	comp=Z,2.7nm,0.6s,baz=188,slow=4.1,SNR=5.9									
SUMG	**Summit**	**92.67**	**9**	*i* P		**P**		**05 51 22.6**	**-0.1**	
	comp=Z,6.2nm,0.8s									
SUMG	**Summit**	**92.67**	**9**	*e*P		**P**		**05 51 22.5**	**-0.2**	
	comp=Z,6.8nm,0.8s									
RES	**Resolute Bay**	**93.71**	**354**	*e*P		**P**		**05 51 28.9**	**+2.0**	
	comp=Z,7.7nm,1.4s									
CASY	**Casey**	**96.09**	**180**	*e*P		**P**		**05 51 39.5**	**+1.3**	
	comp=Z,8.4nm,1.3s									
GERES	**GERESS Array B**	**99.21**	**42**	P		**Pdif**		**05 51 50.6**	**-2.0**	
	comp=Z,0.6nm,0.7s,baz=248,slow=4.1,SNR=4.9									
FINES	**FINESS Array B**	**108.43**	**30**	PKKPbc		PKKPbc		06 07 49.6	-1.7	
	comp=Z,1.4nm,0.9s,baz=132,slow=2.1,SNR=4.0									
ARCES	**ARCESS Array B**	**108.53**	**22**	PKKPbc		PKKPbc		06 07 49.0	-2.2	
	comp=Z,1.9nm,0.9s,baz=86,slow=3.7,SNR=10									
STKA	**Stephens Creek**	**121.99**	**212**	PKP		**PKPdf**		**05 57 05.6**	**+0.1**	
	comp=Z,2.7nm,0.6s,baz=72,slow=3.1,SNR=8.6									
STKA	**Stephens Creek**	**121.99**	**212**	*e*PKPdf		**PKPdf**		**05 57 06.1**	**+0.6**	
SEY	**Seymchan**	**126.39**	**337**	PKP		**PKPdf**		**05 57 13.7**	**+0.9**	
	comp=Z,2.2nm,0.2s,baz=24,slow=5.4,SNR=5.1									
ABKAR	**Akbulak array**	**129.13**	**40**	*e*PKPdf		**PKPdf**		**05 57 20.0**	**+1.6**	
AS01	**Alice Springs**	**132.54**	**210**	*e*PKPdf		**PKPdf**		**05 57 25.6**	**-0.3**	
ASAR	**Alice Springs**	**132.57**	**210**	PKP		**PKPdf**		**05 57 25.7**	**-0.2**	
	comp=Z,2.4nm,0.6s,baz=134,slow=2.0,SNR=33									
AS31	**Alice Springs**	**132.57**	**210**	*e*PKPdf		**PKPdf**		**05 57 25.9**	**0.0**	
ZRNK	**Zerenda**	**132.68**	**33**	*e*PKPdf		**PKPdf**		**05 57 26.3**	**+1.2**	
WB2	**Warramunga Arr**	**135.46**	**214**	*e*PKPdf		**PKPdf**		**05 57 31.7**	**+0.3**	
WRA	**Warramunga Arr**	**135.46**	**214**	PKP		**PKPdf**		**05 57 31.7**	**+0.3**	
	comp=Z,5.0nm,0.6s,baz=150,slow=1.8,SNR=37									
WRAB	**Tennant Creek**	**135.47**	**214**	*e*PKPdf		**PKPdf**		**05 57 32.2**	**+0.8**	
ZAA0	**Zalesovo Array**	**139.08**	**23**	*e*PKPdf		**PKPdf**		**05 57 37.0**	**+0.1**	
ZAA0				*e*PKPdf		**PKiKP**		**05 57 37.8**	**-1.4**	
ZALV	**Zalesovo Beam**	**139.08**	**23**	PKP		**PKPdf**		**05 57 37.0**	**0.0**	
	comp=Z,1.7nm,0.5s,baz=310,slow=2.8,SNR=8.4									
ZALV				pPKP		**pPKPdf**		**05 58 06.6**	**+0.9**	
	comp=Z,2.0nm,0.7s,baz=283,slow=2.3,SNR=2.8									
ZALV				SKPbc		**SKPbc**		**06 01 02.5**	**-0.1**	
	comp=Z,4.5nm,0.9s,baz=316,slow=4.0,SNR=11									
MTN	**Manton Dam**	**143.03**	**216**	*e*PKPdf		**PKPdf**		**05 57 44.2**	**-1.0**	
MKAR	**Makanchi Array**	**143.22**	**32**	PKhKP		PKPpre		05 57 40.4		
	comp=Z,0.8nm,0.6s,baz=330,slow=3.2,SNR=6.8									
MKAR				SKPbc		**SKPbc**		**06 01 11.8**	**-1.8**	
	comp=Z,0.9nm,0.7s,baz=354,slow=2.6,SNR=4.9									
MK01	**Makanchi Array**	**143.25**	**32**	*e*PKPpre		PKPpre		05 57 41.7		
KSH	**Kashi**	**143.50**	**47**	PKP		**PKPdf**		**05 57 52.9**	**+7.4**	
KSH				pPKP		pPKPdf		05 58 19.0	+4.7	
KSH				PP		PP		06 01 10.8	+13	
KSH				PKS		**PKSdf**		**06 01 25.5**	**+4.2**	
KSH				SKS		**SKSdf**		**06 04 49.8**	**+4.0**	
KLR	**Kul'dur**	**144.13**	**336**	PKP		**PKPab**		**05 57 44.1**	**+0.2**	
	comp=Z,1.1nm,0.5s,baz=46,slow=2.7,SNR=4.8									
SARN	**Sarigan**	**145.86**	**274**	*e*PKPdf		**PKPbc**		**05 57 50.5**	**-0.3**	
GUMO	**Guam**	**146.21**	**268**	*e*PKPdf		**PKPab**		**05 57 52.5**	**-0.3**	
USRK	**Ussuriysk Ar.**	**147.91**	**330**	PKPbc		**PKPbc**		**05 57 55.9**	**+0.1**	
	comp=Z,7.3nm,0.7s,baz=51,slow=4.2,SNR=14									
USRK				pPKPbc		**pPKPbc**		**05 58 27.1**	**+2.8**	
	comp=Z,5.0nm,0.7s,baz=29,slow=2.6,SNR=4.5									
WMQ	**Urumqi**	**148.03**	**31**	PKPbc		**PKPbc**		**05 57 56.6**	**+0.3**	
WMQ				LN						
	comp=Z,59nm,28.8s									
WMQ				LE						
	comp=Z,98nm,29.8s									
WMQ				LZ						
	comp=Z,81nm,33.2s									
MJAR	**Matsushiro Arr**	**148.96**	**312**	PKPbc		**PKPbc**		**05 57 59.1**	**+0.3**	
	comp=Z,5.4nm,0.8s,baz=92,slow=1.2,SNR=20									
MJAR				pPKPbc		**pPKPbc**		**05 58 29.8**	**+2.4**	
	comp=Z,3.7nm,0.7s,baz=104,slow=1.6,SNR=3.1									
MAJO	**Matsushiro**	**148.96**	**312**	*e*PKPbc		**PKPbc**		**05 57 59.6**	**+0.8**	
MAT	**Matsushiro**	**148.96**	**312**	PKP		**PKPbc**		**05 57 59.3**	**+0.5**	
MJB9	**Matsu-Tunnel**	**148.96**	**312**	*e*PKPbc		**PKPbc**		**05 57 59.8**	**+0.9**	
SOEI	**Soe**	**149.13**	**208**	*e*PKPbc		**PKPbc**		**05 58 01.7**	**+1.7**	
SONA1	**Songino Array**	**149.97**	**5**	*e*PKPdf		**PKPdf**		**05 57 57.8**	**+1.7**	
SONA1				*e*PKPbc		**PKPbc**		**05 58 01.5**	**+0.3**	
SONM	**Songino Array**	**149.98**	**5**	PKP		**PKPdf**		**05 57 57.0**	**+0.9**	
	comp=Z,2.1nm,0.6s,baz=336,slow=3.3,SNR=5.5									
SONM				PKPbc		**PKPbc**		**05 58 01.1**	**-0.1**	
	comp=Z,2.1nm,0.6s,baz=323,slow=1.8,SNR=15									
SONM				pPKPbc		**pPKPbc**		**05 58 31.3**	**+1.5**	
	comp=Z,3.2nm,0.7s,baz=318,slow=2.9,SNR=3.4									
KS01	**Wonju Array Si**	**154.95**	**325**	*e*PKPdf		**PKPdf**		**05 58 04.2**	**+0.6**	
KS01				*e*PKPbc		**PKiKP**		**05 58 12.7**	**+0.3**	
KSRS	**Korea Array**	**154.95**	**325**	PKP		**PKPdf**		**05 58 04.2**	**+0.7**	
	comp=Z,1.7nm,0.9s,baz=83,slow=1.2,SNR=7.3									
KSRS				PKPbc		**PKiKP**		**05 58 12.5**	**+0.2**	
	comp=Z,1.5nm,0.6s,baz=44,slow=0.9,SNR=7.8									
KSAR	**Wonju Array Be**	**154.98**	**325**	PKP		**PKPdf**		**05 58 04.2**	**+0.6**	
KSAR				PKPbc		**PKPbc**		**05 58 12.5**	**+0.1**	
KAPI	**Kappang**	**155.30**	**204**	*e*PKPab		**PKPab**		**05 58 32.2**	**+2.1**	
HHC	**Hu-ho-hao-te**	**157.07**	**357**	*e*PKP		**PKPdf**		**05 58 03.3**	**-3.2**	
LZH	**Lanzhou**	**161.07**	**16**	*e*PKP		**PKPdf**		**05 58 15.3**	**+4.0**	
CD2	**Chengdu**	**165.84**	**22**	PKP		**PKPdf**		**05 58 17.0**	**+1.2**	
GYA	**Guiyang**	**170.92**	**19**	*e*PKP		**PKPdf**		**05 58 20.0**	**+0.6**	
GYA				PKPab		**PK

PPT2	**Papeete2**	**53.27**	**47**	*e*S	**S**		**06 13 25.2**	**+4.5**
	334nm,26.2s							
PPT2				*e*LQ	LQ		06 18 19.1	
	1µm,25.2s							
PPT2				*e*LR	LR		06 21 04.0	
	701nm,24.5s,baz=198							
PPT2	**Papeete2**	**53.27**	**47**	*e*T	T		07 02 22.2	
	18nm,0.3s							
PPT	**Papeete**	**53.29**	**47**	LR	LR		06 21 32.4	
	comp=Z,336nm,20.3s,baz=198,slow=28							
TIAR	**Tiarei**	**53.37**	**47**	*e*T	T		07 02 29.3	
	5.1nm,0.3s							
RKT	**Rikitea**	**53.43**	**65**	*e*S	**S**		**06 13 30.2**	**+7.6**
	156nm,41.0s							
RKT				*e*LQ	LQ		06 18 57.4	
	299nm,27.8s							
RKT				*e*LR	LR		06 21 16.5	
	491nm,28.0s							
RKT	**Rikitea**	**53.43**	**65**	*e*T	T		07 02 45.8	
	19nm,0.3s							
MEH	**Mehetia**	**53.49**	**49**	*e*T	T		07 02 40.0	
	43nm,0.3s							
HNR	**Honiara**	**55.62**	**345**	*e*P	**P**		**06 06 06.3**	**-0.2**
	107nm,1.4s							
FITZ	**Fitzroy Crossi**	**55.96**	**303**	LR	LR		06 28 31.9	
	comp=Z,196nm,18.1s,baz=164,slow=35							
VAH	**Vaihoa**	**56.10**	**48**	*e*T	T		07 05 54.9	
	503nm,0.3s							
PMG	**Port Moresby**	**57.79**	**330**	LR	LR		06 26 04.9	
	comp=Z,448nm,21.5s,baz=186,slow=31							
PMG	**Port Moresby**	**57.79**	**330**	*e*P	**P**		**06 06 21.4**	**-0.5**
	47nm,1.3s							
TAOE	**Nuku Hiva Isla**	**64.57**	**53**	*e*LR	LR		06 26 25.1	
	406nm,24.1s							
SBUM	**Sibu**	**79.88**	**298**	*e*P	**P**		**06 08 39.8**	**+0.4**
	29nm,1.5s							
LVC	**Limon Verde**	**81.18**	**125**	*e*P	**P**		**06 08 46.8**	**-0.1**
	12nm,1.2s							
CPUP	**Villa Florida**	**81.56**	**136**	P	**P**		**06 08 46.3**	**-2.1**
	3.9nm,1.0s,baz=263,slow=8.1,SNR=3.5							
CPUP				LR	LR		06 42 29.5	
	comp=Z,477nm,18.3s,baz=202,slow=34							
CPUP	**Villa Florida**	**81.56**	**136**	*e*P	**P**		**06 08 48.2**	**-0.1**
BOSA	**Boshof**	**83.83**	**208**	LR	LR		06 44 21.1	
	comp=Z,540nm,19.9s,baz=176,slow=34							
LPAZ	**La Paz**	**87.28**	**123**	P	**P**		**06 09 16.1**	**-2.1**
	4.8nm,1.2s,baz=49,slow=2.6,SNR=6.8							
LPAZ				LR	LR		06 40 03.6	
	comp=Z,112nm,21.4s,baz=204,slow=30							
LPAZ	**La Paz**	**87.28**	**123**	*e*P	**P**		**06 09 17.2**	**-1.0**
	13nm,1.1s							
H08S2	**Diego Garcia H**	**87.53**	**258**	T	T		07 46 36.0	
	baz=153,slow=76,SNR=29							
H08S1	**Diego Garcia H**	**87.54**	**258**	T	T		07 46 36.1	
	baz=153,slow=76,SNR=24							
H08S3	**Diego Garcia H**	**87.55**	**258**	T	T		07 46 37.0	
	baz=153,slow=76,SNR=27							
CMAR	**Chiang Mai Arr**	**99.67**	**292**	LR	LR		06 50 41.7	
	comp=Z,69nm,21.8s,baz=172,slow=33							
CD2	**Chengdu**	**109.03**	**302**	Pdif	**Pdif**		**06 10 56.5**	**+0.8**
CD2				S	**Sdif**		**06 23 06.3**	**+1.3**
CD2				SS	**SS**		**06 30 50.8**	**+3.3**
CD2				LE				
	320nm,22.4s							
CD2				LZ				
	660nm,22.0s							
LZH	**Lanzhou**	**113.65**	**304**	*e*PKP	**PKiKP**		**06 15 08.1**	**-0.5**
LZH				sPKP			06 15 17.3	
HHC	**Hu-ho-hao-te**	**115.32**	**313**	*e*PKP	**PKPdf**		**06 15 15.0**	**+3.4**
HHC				PP	PP		06 16 21.4	+8.1
HHC				PPMZ				
	64nm,8.4s							
HHC				LN				
	120nm,15.9s							
HHC				LE				
	150nm,19.8s							
HHC				LZ				
	140nm,20.2s							
WMQ	**Urumqi**	**126.44**	**296**	PKP	**PKPdf**		**06 15 33.5**	**+0.7**
WMQ				LN				
	64nm,29.6s							
WMQ				LE				
	94nm,30.8s							
WMQ				LZ				
	82nm,33.4s							
KSH	**Kashi**	**127.59**	**284**	PKP	**PKPdf**		**06 15 38.9**	**+3.7**
KSH				PP	**PP**		**06 17 43.8**	**+6.9**
KSH				PKS	**PKSdf**		**06 19 15.3**	**+3.5**
KSH				SKKS			06 24 35.8	
KSH				SS	**SS**		**06 34 52.4**	**+4.5**
KSH				PPMZ				
	110nm,7.7s							
KSH				LN				
	86nm,6.6s							
KSH				LE				
	100nm,6.1s							
TORD	**Torodi Ar. Bea**	**128.42**	**191**	PKP	**PKPdf**		**06 15 31.1**	**-6.3**
	1.0nm,1.0s,baz=222,slow=1.9,SNR=3.3							
MKAR	**Makanchi Array**	**131.03**	**294**	PKP	**PKPdf**		**06 15 34.1**	**-7.3**
	0.1nm,0.3s,baz=149,slow=3.4,SNR=2.8							
IL1	**Eielson Array**	**132.24**	**22**	*e*PKPpre	PKPpre		06 15 35.5	
ILAR	**Eielson Array**	**132.24**	**22**	PKP	**PKPdf**		**06 15 36.9**	**-6.2**
	0.6nm,0.9s,baz=235,slow=2.6,SNR=4.5							
YKA	**Yellowknife Ar**	**137.56**	**41**	PKP	**PKPdf**		**06 15 46.6**	**-6.4**
	0.3nm,0.8s,baz=224,slow=2.6,SNR=3.2							
BRTR	**Keskin Array B**	**145.72**	**244**	PKPbc	**PKPbc**		**06 16 01.4**	**-7.6**
	2.0nm,1.1s,baz=150,slow=3.2,SNR=7.1							
BR131	**Keskin Array S**	**145.72**	**244**	*e*PKPdf	**PKPdf**		**06 16 06.2**	**-2.4**
NRIK	**Noril'sk**	**145.99**	**321**	PKPbc	PKPbc		06 16 00.3	-8.5
	10.0nm,0.9s,baz=124,slow=4.8,SNR=7.8							
BR231	**Keskin MP Arra**	**146.15**	**243**	*e*PKPdf	**PKPdf**		**06 16 08.3**	**-1.0**
AGG	**Agios Georgios**	**149.18**	**229**	*e*PKPdf	**PKPdf**		**06 16 14.8**	**+0.5**
SCHQ	**Schefferville**	**149.57**	**80**	*e*PKPdf	**PKPbc**		**06 16 17.0**	**-1.9**
TIP	**Timpagrande**	**151.03**	**221**	*e*PKPdf	**PKPdf**		**06 16 18.5**	**+1.3**
TIP				*e*PKPbc	**PKPbc**		**06 16 19.5**	**-3.4**
TIRR	**Tirgusor**	**151.78**	**242**	*e*PKPdf	**PKPdf**		**06 16 19.7**	**+1.7**
CRVS	**Cervenica-Dubn**	**158.12**	**239**	*e*PKP	**PKPdf**		**06 16 31.9**	**+5.3**
CRVS				*e*			06 17 01.8	

IDC ***18*** *05:57:20.0±3.9, 25°.27N×126°.67E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/37, mbtmp3.9/5, ML3.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/40, Error ellipse: s-maj=82.5km s-min=46.2km az=-5.0*

ISCJB ***18*** *05:57:52.1±0.4, 27°.28N±0°.07×126°.67E±0°.06, h194km±7km, mb3.5/4, Error ellipse: s-maj=13.9km s-min=4.1km az=142.9*

JMA ***18*** *05:57:55.1±0.4, 27°.54N×126°.62E, h159km, M3.9*

ISC 18 05:57:52.9±0.8, 27°.36N±0°.08×126°.62E±0°.06, h190km±9km, n30, σ1°61/46, mb3.7/4, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAGN	**Aguni-jima**	**0.95**	**144**	P		**Pn**	**05 58 21.9**	**+0.6**
JAGN				S		**Sn**	**05 58 42.6**	**-0.6**
JKE	**Kume jima 2**	**1.04**	**172**	P		**Pn**	**05 58 22.3**	**+0.3**
JKE				S		**Sn**	**05 58 44.9**	**+0.5**
JIH	**Iheya**	**1.24**	**105**	P		**Pn**	**05 58 24.2**	**+0.7**
JIH				S		**Sn**	**05 58 45.6**	**-1.5**
JNTH	**Nagotoyohara**	**1.51**	**123**	P		**Pn**	**05 58 27.0**	**+1.2**
JNTH				S		**Sn**	**05 58 50.0**	**-1.2**
JOW	**Kunigami**	**1.57**	**109**	P		**Pn**	**05 58 27.1**	**+0.7**
JOW				S		**Sn**	**05 58 50.4**	**-1.9**
JJT2	**Tamagusuku 2**	**1.58**	**140**	P		**Pn**	**05 58 28.3**	**+1.8**
JJT2				S		**Sn**	**05 58 53.1**	**+0.6**
JOKE	**Okinoerabujima**	**1.74**	**89**	P		**Pn**	**05 58 28.5**	**+0.5**
JOKE				S		**Sn**	**05 58 52.8**	**-2.4**
JTK	**Tokunoshima**	**2.12**	**78**	P		**Pn**	**05 58 31.8**	**-0.1**
JTK				S		**Sn**	**05 58 59.2**	**-3.0**
JAMN	**Amaminishikomi**	**2.43**	**68**	P		**Pn**	**05 58 34.9**	**-0.5**
JAMN				S		**Sn**	**05 59 05.1**	**-3.4**
JIKM	**Ikemajima**	**2.72**	**207**	P		**Pn**	**05 58 39.4**	**+0.6**
JOGS	**Gusukube**	**2.81**	**203**	P		**Pn**	**05 58 40.6**	**+0.8**
JIRB	**Irabujima**	**2.83**	**208**	P		**Pn**	**05 58 40.3**	**+0.2**
JIRB				S		**Sn**	**05 59 14.6**	**-2.3**
JAM	**Amami Oshima**	**2.85**	**68**	P		**Pn**	**05 58 39.7**	**-0.5**
JAM				S		**Sn**	**05 59 14.9**	**-2.2**
JTAJ	**Takarajima**	**2.90**	**51**	P		**Pn**	**05 58 40.9**	**+0.1**
JTJ	**Tarama**	**3.21**	**213**	P		**Pn**	**05 58 44.5**	**-0.1**
JTJ				*e*S		**Sn**	**05 59 22.6**	**-2.3**
JISG	**Ishigakijimahi**	**3.45**	**217**	P		**Pn**	**05 58 47.4**	**-0.2**
JISG				S		**Sn**	**05 59 28.8**	**-1.5**
JIJ	**Ishigaki jima**	**3.72**	**217**	P		**Pn**	**05 58 50.1**	**-0.8**
JIJ				S		**Sn**	**05 59 32.5**	**-3.8**
JKRS	**Kuro-shima**	**3.90**	**218**	P		**Pn**	**05 58 52.4**	**-0.7**
JKRS				S		**Sn**	**05 59 38.4**	**-1.8**
IRIF	**Iriomote-Funau**	**3.98**	**221**	P		**Pn**	**05 58 53.4**	**-0.7**
IRIF				S		**Sn**	**05 59 39.9**	**-2.2**
HATJ	**Hateruma jima**	**4.15**	**218**	P		**Pn**	**05 58 55.6**	**-0.7**
HATJ				*e*S		**Sn**	**05 59 44.1**	**-1.9**
YOJ	**Yonaguni jima**	**4.34**	**229**	P		**Pn**	**05 58 59.0**	**+0.3**
JYNG	**Yonagunijimaku**	**4.39**	**230**	P		**Pn**	**05 58 59.7**	**+0.3**
JMZ	**Minamidaito 2**	**4.40**	**109**	P		**Pn**	**05 58 59.7**	**+0.3**
JMZ				S		**Sn**	**05 59 48.4**	**-3.1**
KSRS	**Korea Array**	**10.13**	**6**	Pn		**Pn**	**06 00 14.9**	**+1.1**
	0.2nm,0.3s,baz=185,slow=14,SNR=9.3							
JHJ	**Hachijo jima 2**	**12.74**	**60**	LR		LR	06 04 38.4	
	comp=Z,87nm,19.4s,baz=60,slow=32							
JCJ	**Chichijima**	**13.86**	**88**	LR		LR	06 05 00.3	
	comp=Z,63nm,19.4s,baz=106,slow=33							
SONM	**Songino Array**	**25.83**	**328**	P		**P**	**06 03 09.9**	**+3.1**
	2.6nm,0.6s,baz=143,slow=10,SNR=16							
MKAR	**Makanchi Array**	**39.71**	**311**	P		**P**	**06 05 06.5**	**-0.2**
	0.9nm,0.5s,baz=93,slow=7.9,SNR=7.9							
ZALV	**Zalesovo Beam**	**40.48**	**323**	P		**P**	**06 05 12.6**	**-0.3**
	1.3nm,0.3s,baz=116,slow=7.9,SNR=5.4							
YKA	**Yellowknife Ar**	**78.11**	**25**	P		**P**	**06 09 31.0**	**+0.5**
	0.1nm,0.3s,baz=300,slow=5.5,SNR=3.9							

IDC 18 06:09:59.7±3.7, 24°.08S×179°.76E, h601km±62km, mb3.5/5, mb1 3.8/6, mb1mx3.2/37, mbtmp4.7/6, Error ellipse: s-maj=149.8km s-min=15.2km az=172.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAR	**Rarotonga**	**19.10**	**85**	P		P	06 13 45.4	0.0
	3.8nm,0.3s,baz=176,slow=2.6,SNR=3.6							
CTA	**Charters Tower**	**31.26**	**271**	P		P	06 15 32.1	-0.2
	12nm,0.5s,baz=94,slow=12,SNR=6.2							
ASAR	**Alice Springs**	**41.79**	**261**	P		P	06 16 58.3	-0.2
	4.5nm,0.7s,baz=97,slow=7.3,SNR=40							
WRA	**Warramunga Arr**	**42.17**	**266**	P		P	06 17 00.7	-0.8
	6.8nm,0.5s,baz=96,slow=8.4,SNR=200							
FITZ	**Fitzroy Crossi**	**50.60**	**266**	P		P	06 18 05.5	+0.6
	1.9nm,0.5s,baz=93,slow=5.9,SNR=11							
TXAR	**Lajitas Array**	**90.71**	**58**	P		P	06 21 59.4	-0.5
	1.0nm,0.7s,baz=211,slow=7.1,SNR=16							
ARCES	**ARCESS Array B**	**132.02**	**348**	PKP		PKPdf	06 28 04.5	-0.7
	0.7nm,0.6s,baz=16,slow=1.8,SNR=4.9							
FINES	**FINESS Array B**	**138.55**	**341**	PKP		PKPdf	06 28 18.5	+1.1
	1.6nm,1.0s,baz=90,slow=2.9,SNR=4.1							
AKASG	**Malin Array Be**	**145.00**	**327**	PKPbc		PKPdf	06 28 29.4	+0.2
	0.8nm,0.3s,baz=42,slow=4.0,SNR=6.7							
BRTR	**Keskin Array B**	**147.51**	**307**	PKPbc		PKPbc	06 28 37.2	-0.4
	0.4nm,0.4s,baz=100,slow=2.2,SNR=2.9							

NIED ***18*** *06:13:00, 38°.00N×141°.80E, h53km, Mw4.0 Best double couple: M0 1.09000×10^15 NP1:φ=143.00000°, δ=24.00000°, λ=66.00000°. NP2:φ=349.00000°, δ=68.00000°, λ=100.00000°.*

JMA 18 06:13:27.9±0.1, 38°.03N×141°.76E, h56km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIO	**Ouri**	**0.53**	**323**	P		Pn	06 13 40.0	+0.1
JIO				S		Sn	06 13 48.5	-0.1
JMM	**Marumori**	**0.78**	**258**	P		Pn	06 13 42.9	0.0
JMM				*e*S		Sn	06 13 53.8	-0.1
JOU	**Okura**	**0.93**	**292**	P		Pn	06 13 45.1	+0.3
JOU				S		Sn	06 13 57.7	+0.4
JFK	**Kawauchi**	**0.96**	**227**	P		Pn	06 13 45.3	-0.1
JFK				S		Sn	06 13 58.3	0.0
JMK	**Ichinoseki**	**1.01**	**335**	P		Pn	06 13 46.3	+0.3
JMK				S		Sn	06 13 59.5	+0.2
JFT	**Otama**	**1.24**	**246**	P		Pn	06 13 49.5	+0.5
JFT				*e*S		Sn	06 14 05.2	+0.5
JYS	**Shirataka**	**1.35**	**279**	P		Pn	06 13 51.0	+0.5
JYS				*e*S		Sn	06 14 08.2	+0.8
JYK	**Kaneyama**	**1.41**	**309**	P		Pn	06 13 51.7	+0.4
JYK				*e*S		Sn	06 14 09.5	+0.6
JOM	**Ohasama**	**1.49**	**346**	P		Pn	06 13 52.7	+0.4
JOM				*e*S		Sn	06 14 11.0	+0.3
JRG	**Rokugo**	**1.62**	**327**	P		Pn	06 13 54.8	+0.6
JYA	**Atsumi**	**1.71**	**290**	P		Pn	06 13 55.8	+0.5
JFY	**Yanaizu**	**1.74**	**250**	P		Pn	06 13 56.6	+0.8
JFY				*e*S		Sn	06 14 17.9	+0.9

IDC 18 06:16:12.9±3.1, 6°.49S×148°.20E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.5/40, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=80.1km s-min=33.1km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**3.07**	**200**	Pn		Pn	06 17 04.3	+1.6
	4.4nm,0.3s,baz=349,slow=9.2,SNR=10							
PMG				Sn		Sn	06 17 43.1	+2.8
	3.2nm,0.3s,baz=124,slow=23,SNR=5.2							
WRA	**Warramunga Arr**	**18.97**	**224**	P		P	06 20 35.8	-0.3
	0.1nm,0.3s,baz=52,slow=11,SNR=5.0							
ASAR	**Alice Springs**	**21.92**	**217**	P		P	06 21 07.3	-0.7
	0.7nm,0.7s,baz=51,slow=9.3,SNR=7.6							
FITZ	**Fitzroy Crossi**	**24.84**	**240**	P		P	06 21 36.3	-1.0
	2.2nm,0.6s,baz=64,slow=11,SNR=8.4							
TORD	**Torodi Ar. Bea**	**146.37**	**284**	PKPbc		PKPbc	06 35 56.9	0.0
	0.7nm,0.9s,baz=82,slow=3.3,SNR=3.2							

IDC 18 06:18:50.5±2.0, 5°.53S×150°.67E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/38, mbtmp3.7/4, ML1.0/1, Error ellipse: s-maj=128.8km s-min=24.6km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.19**	**222**	Pn		Pn	06 20 10.1	+0.7
	0.4nm,0.3s,baz=56,slow=4.0,SNR=1.9							
PMG				Sn		Sn	06 21 10.5	+0.4
	2.0nm,0.3s,baz=120,slow=20,SNR=4.3							
WRA	**Warramunga Arr**	**21.39**	**227**	P		P	06 23 40.1	+0.2
	1.0nm,0.6s,baz=53,slow=10,SNR=7.0							
ASAR	**Alice Springs**	**24.20**	**220**	P		P	06 24 08.7	-0.3
	2.3nm,0.7s,baz=51,slow=9.5,SNR=18							
ILAR	**Eielson Array**	**83.64**	**22**	P		P	06 31 19.8	-0.8
	0.3nm,0.5s,baz=254,slow=3.4,SNR=4.5							
TORD	**Torodi Ar. Bea**	**148.50**	**286**	PKPbc		PKPbc	06 38 40.6	+0.3
	0.7nm,0.7s,baz=83,slow=3.1,SNR=5.7							

TRN 18 06:30:02.3, 17°.63N×61°.57W, h25km, MD3.7, 1C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANWB	**Willy Bob**	**0.21**	**280**	*i* P		Pn	06 30 09.8	0.0
ANWB				*e*S		Sb	06 30 14.9	+2.8
BPA	**Boggy Peak**	**0.64**	**205**	*e*P		Pn	06 30 17.2	+1.3
BPA				*e*S		Sn	06 30 27.0	+1.7
MLYT	**Lee's Yard**	**1.08**	**213**	*i* P		Pb	06 30 23.4	+1.0
MLYT				*e*S		Sb	06 30 38.8	+2.7
SKI	**Saint Kitts**	**1.15**	**255**	*e*P		Pb	06 30 24.3	+0.6
SKI				*e*S		Sb	06 30 40.9	+2.7
SEG	**Port Louis**	**1.22**	**177**	*e*P		Pb	06 30 25.8	+1.0
SEUS	**St. Eustatius**	**1.35**	**264**	*e*P		Pb	06 30 27.4	+0.4
SEUS				*e*S		Sb	06 30 45.3	+1.4
DEG	**La Desirade**	**1.40**	**159**	*e*P		Pb	06 30 27.1	-0.7
DEG				*e*S		Sb	06 30 47.3	+2.0
SMRT	**St. Maarten**	**1.49**	**286**	*e*S		Sb	06 30 48.3	+0.3
SABA	**Saba**	**1.59**	**270**	*e*P		Pn	06 30 29.7	+0.7
SABA				*e*S		Sb	06 30 51.7	+0.8
MGG	**Marie-Galante**	**1.72**	**172**	*e*P		Pn	06 30 31.9	+1.2
TBG	**Guadaloupe-3**	**1.77**	**182**	*e*P		Pn	06 30 32.7	+1.3
TBG				*e*S		Sb	06 30 56.3	+0.4
DWS	**Wesley**	**2.07**	**173**	*e*S		Sn	06 31 02.0	+1.6
BBL	**Barber's Block**	**2.10**	**177**	*e*P		Pb	06 30 37.9	-1.8
BBL				*e*S		Sb	06 31 03.9	-1.4

NNC ***18*** *06:39:32.8±2.4, 53°.98N×86°.49E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=23.1km s-min=17.8km az=88.0*

IDC 18 06:39:31.2±2.4, 54°.10N×86°.38E, h0km, mb1 3.6/2, mb1mx3.2/43, mbtmp3.6/2, ML3.3/2, 5C-3D, Error ellipse: s-maj=19.9km s-min=12.4km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**261**	*i*			06 46 00.0	
	baz=80,slow=313,SNR=2.7							
ZALV	**Zalesovo Beam**	**0.94**	**261**	Pg		Pg	06 39 47.7	-1.5
	3.3nm,0.3s,baz=82,slow=17,SNR=32							
ZALV				Lg		Lg	06 40 02.3	
	6.7nm,0.3s,baz=78,slow=29,SNR=20							
KURK	**Kurchatov**	**5.84**	**238**	⇓Pn		Pn	06 40 59.6	+0.7
	11nm,0.6s							
KURK				⇑Lg		Lg	06 42 39.6	
	50nm,1.0s							
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn		Pn	06 41 01.6	+1.2
	0.4nm,0.3s,baz=55,slow=14,SNR=30							
KURBB				Lg		Lg	06 42 42.4	
	0.1nm,0.3s,baz=52,slow=32,SNR=5.7							
KURBB	**Kurchatov Arra**	**5.94**	**237**	⇑Pn		Pn	06 41 01.2	+0.8
	2.2nm,0.6s							
KURBB				⇓Lg		Lg	06 42 41.9	
	5.2nm,0.6s							
MK31	**Makanchi Array**	**7.77**	**201**	⇑Pn		Pn	06 41 26.1	+0.6
	0.3nm,0.3s,baz=23,slow=11,SNR=33							
MK31				Sn		Sn	06 42 54.0	-0.2
	1.8nm,0.7s,baz=27,slow=26,SNR=5.2							
MK31				Lg		Lg	06 43 35.8	
	1.8nm,0.8s,baz=30,slow=27,SNR=3.6							
MKAR	**Makanchi Array**	**7.77**	**201**	Pn		Pn	06 41 26.4	+0.9
	1.0nm,0.3s,baz=23,slow=13,SNR=35							
MKAR				Sn		Sn	06 42 53.2	-0.9
	0.2nm,0.3s,baz=16,slow=27,SNR=8.3							
MKAR				Lg		Lg	06 43 33.8	
	0.1nm,0.3s,baz=29,slow=29,SNR=4.3							
MAKZ	**Makanchi**	**7.83**	**203**	⇑Pn		Pn	06 41 27.7	+1.4
	1.2nm,0.7s							
MAKZ				⇑Sn		Sn	06 42 55.8	+0.3
MAKZ				⇓Lg		Lg	06 43 36.1	
	3.0nm,0.9s							

DDA ***18*** *06:45:11.5, 36°.89N×39°.22E, h7km, Md2.9*

ISK ***18*** *06:45:12.4, 36°.98N×39°.26E, h2km, MD3.0*

CSEM ***18*** *06:45:12.6±0.4, 36°.92N×39°.24E, h2km, MD3.0, Error ellipse: s-maj=9.0km s-min=4.5km az=175.0*

ISC 18 06:45:12.2±1.7, 36°.89N±0°.06×39°.22E±0°.03, h3km±12km, n24, σ0°83/40, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URFA	**Urfa**	**0.63**	**330**	*e*PG		**Pg**	**06 45 24.5**	**+0.1**
URFA				*e*SG		**Sg**	**06 45 33.6**	**+1.0**
URFA	**Urfa**	**0.63**	**330**	*e*Pg		**Pg**	**06 45 24.5**	**+0.1**
URFA				*e*Sg		**Sg**	**06 45 33.6**	**+1.0**
ATAB	**Bozova**	**0.94**	**308**	P		**Pg**	**06 45 29.3**	**-0.9**
ATAB				S		**Sg**	**06 45 42.2**	**-0.1**
ATAB	**Bozova**	**0.94**	**308**	*i* P		**Pg**	**06 45 29.3**	**-0.9**
ATAB				*i* S		**Sg**	**06 45 42.2**	**-0.1**
MAZI	**Mazidag**	**1.13**	**60**	*e*PG		**Pg**	**06 45 33.6**	**-0.2**
MAZI				*e*SG		**Sb**	**06 45 49.1**	**-0.4**
MAZI	**Mazidag**	**1.13**	**60**	*e*Pg		**Pg**	**06 45 33.6**	**-0.2**
MAZI				*e*Sg		**Sb**	**06 45 49.1**	**-0.4**
DIY	**Diyarbakir**	**1.28**	**38**	*e*Pn		**Pg**	**06 45 36.5**	**-0.2**
DYBB	**Diyarbakir**	**1.29**	**34**	*e*PN		**Pg**	**06 45 36.5**	**-0.3**
MARD	**Mardin**	**1.31**	**71**	*i* P		**Pg**	**06 45 36.4**	**-0.9**
MARD				*i* S		**Sn**	**06 45 55.3**	**-0.4**
GZT	**Gaziantep**	**1.40**	**290**	*i* P		**Pn**	**06 45 35.0**	**-3.8**
GZT				*i* S		**Sg**	**06 45 57.5**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.48**	**3**	*e*PN		**Pn**	**06 45 39.7**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.48**	**3**	*e*Pn		**Pn**	**06 45 39.7**	**-0.2**
ELZG	**Elazig**	**1.61**	**353**	P		**Pb**	**06 45 42.6**	**-0.1**
ELZG				S		**Sg**	**06 46 04.1**	**+0.1**
ELZG	**Elazig**	**1.61**	**353**	*i* P		**Pb**	**06 45 42.6**	**-0.1**
ELZG				*i* S		**Sg**	**06 46 04.1**	**+0.1**
GAZ	**Gaziantep**	**1.63**	**280**	*e*PN		**Pb**	**06 45 43.5**	**+0.5**
GAZ	**Gaziantep**	**1.63**	**280**	*e*Pn		**Pb**	**06 45 43.5**	**+0.5**
KUZU	**Kuzuini**	**1.73**	**267**	P		**Pn**	**06 45 44.3**	**+1.1**
KUZU				S		**Sn**	**06 46 06.0**	**+0.3**
KUZU	**Kuzuini**	**1.73**	**267**	*i* P		**Pn**	**06 45 44.3**	**+1.1**
KUZU				*i* S		**Sn**	**06 46 06.0**	**+0.3**
AKCD	**Akcadag**	**1.74**	**324**	P		**Pn**	**06 45 44.0**	**+0.6**
AKCD				S		**Sg**	**06 46 08.6**	**+0.5**
AKCD	**Akcadag**	**1.74**	**324**	*i* P		**Pn**	**06 45 44.0**	**+0.6**
AKCD				*i* S		**Sg**	**06 46 08.6**	**+0.5**
BTMN	**Batman**	**1.91**	**58**	P		**Pn**	**06 45

RPZ	**Rata Peaks**	**19.88**	**354**	LR	LR	07 01 13.5		
	comp=Z,761nm,20.0s,baz=190,slow=33							
URZ	**Urewera**	**25.32**	**6**	LR	LR	07 03 56.6		
	comp=Z,581nm,21.8s,baz=190,slow=33							
STKA	**Stephens Creek**	**37.62**	**312**	LR	LR	07 09 42.0		
	comp=Z,234nm,19.7s,baz=159,slow=31							
MAW	**Mawson**	**40.24**	**214**	LR	LR	07 14 57.5		
	comp=Z,140nm,18.5s,baz=112,slow=37							
DZM	**Mont Dzumac**	**41.70**	**349**	eLR	LR	07 09 46.5		
	476nm,20.9s							
H01W1	**Cape Leeuwin H**	**46.03**	**279**	T	T	07 47 15.7		
	baz=147,slow=76,SNR=39							
H01W2	**Cape Leeuwin H**	**46.04**	**279**	T	T	07 47 16.0		
	baz=147,slow=76,SNR=37							
H01W3	**Cape Leeuwin H**	**46.05**	**279**	T	T	07 47 16.9		
	baz=147,slow=76,SNR=43							
NWAO	**Narrogin (SRO)**	**46.34**	**284**	LR	LR	07 13 10.1		
	comp=Z,346nm,18.6s,baz=10,slow=30							
TBI	**Tubuai**	**46.87**	**49**	eLQ	LQ	07 09 44.3		
	595nm,29.0s							
TBI				eLR	LR	07 12 03.3		
	148nm,28.5s							
TBI	**Tubuai**	**46.87**	**49**	*e*T	T	07 49 20.0		
TBI				*e*T	T	07 49 24.5		
	14nm,0.3s							
CTA	**Charters Tower**	**47.27**	**323**	LR	LR	07 14 43.4		
	comp=Z,348nm,20.9s,baz=202,slow=31							
ASAR	**Alice Springs**	**47.81**	**307**	P	P	06 58 48.3	-0.5	
	0.8nm,0.8s,baz=151,slow=6.7,SNR=3.6							
ASAR				LR	LR	07 17 12.3		
	comp=Z,165nm,19.1s,baz=151,slow=34							
WRA	**Warramunga Arr**	**51.09**	**310**	P	P	06 59 14.0	+0.2	
	1.7nm,1.1s,baz=157,slow=7.1,SNR=3.4							
WRA				LR	LR	07 18 44.0		
	comp=Z,270nm,18.9s,baz=150,slow=34							
TVO	**Taravao**	**52.12**	**46**	*e*T	T	07 55 58.6		
	2.8nm,0.3s							
PPT2	**Papeete2**	**52.20**	**46**	eLQ	LQ	07 11 58.1		
	356nm,25.0s							
PPT2				eLR	LR	07 14 31.7		
	94nm,22.2s							
PPT2	**Papeete2**	**52.20**	**46**	*e*T	T	07 56 04.3		
	4.1nm,0.3s							
RKT	**Rikitea**	**52.50**	**64**	eLR	LR	07 14 28.1		
	260nm,29.5s							
RKT	**Rikitea**	**52.50**	**64**	*e*T	T	07 56 29.0		
	4.8nm,0.2s							
VAH	**Vaihoa**	**55.03**	**47**	*e*T	T	07 59 36.5		
	67nm,0.2s							
FITZ	**Fitzroy Crossi**	**55.97**	**301**	LR	LR	07 20 41.9		
	comp=Z,80nm,19.3s,baz=164,slow=33							
TAOE	**Nuku Hiva Isla**	**63.54**	**52**	eLR	LR	07 19 45.7		
	168nm,23.6s							
CPUP	**Villa Florida**	**81.81**	**135**	LR	LR	07 36 06.6		
	comp=Z,81nm,19.2s,baz=202,slow=34							
BOSA	**Boshof**	**84.93**	**207**	LR	LR	07 37 58.2		
	comp=Z,106nm,20.4s,baz=172,slow=34							
H08S2	**Diego Garcia H**	**88.32**	**256**	T	T	08 40 09.6		
	baz=153,slow=76,SNR=15							
H08S1	**Diego Garcia H**	**88.33**	**256**	T	T	08 40 22.8		
	baz=153,slow=76,SNR=11							
H08S3	**Diego Garcia H**	**88.34**	**256**	T	T	08 40 14.1		
	baz=153,slow=76,SNR=13							
CMAR	**Chiang Mai Arr**	**99.86**	**291**	LR	LR	07 46 34.0		
	comp=Z,33nm,19.6s,baz=176,slow=34							
BRTR	**Keskin Array B**	**146.66**	**244**	PKPbc	PKPbc	07 09 51.9	-0.7	
	1.1nm,1.0s,baz=176,slow=3.8,SNR=3.6							

*ISCJB **18** 07:01:35.1±1.3,36°.51N±0°.08×27°.60E±0°.08, h15km, Error ellipse: s-maj=13.2km s-min=6.7km az=35.6*
*CSEM **18** 07:01:35.4±0.2,36°.51N×27°.61E, h8km, MD2.4, Error ellipse: s-maj=5.1km s-min=2.6km az=21.0*
*ISK **18** 07:01:35.0,36°.52N×27°.61E, h12km, MD2.4*
ISC 18 07:01:35.4±1.2**, 36°.53N**±0°.07×**27°.64E**±0°.04**, h15**km**, n15,** σ1º**87/19, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros Isl.**	**0.38**	**281**	*e*PG	**Pg**	**07 01 42.6**	**-0.5**
NIS1	**Nisyros Isl.**	**0.38**	**281**	*e*Pg	**Pg**	**07 01 42.6**	**-0.5**
BDRM	**Kayabasi**	**0.56**	**343**	P	**Pg**	**07 01 46.3**	**-0.1**
BDRM				S	**Sg**	**07 01 54.3**	**+0.5**
BDRM	**Kayabasi**	**0.56**	**343**	*i* P	**Pg**	**07 01 46.3**	**-0.1**
BDRM				*i* S	**Sg**	**07 01 54.3**	**+0.5**
BODT	**Bodrum**	**0.59**	**333**	*e*PG	**Pg**	**07 01 46.8**	**-0.3**
BODT				*e*SG	**Sg**	**07 01 55.8**	**+0.8**
BODT	**Bodrum**	**0.59**	**333**	*e*Pg	**Pg**	**07 01 46.8**	**-0.3**
BODT				*e*Sg	**Sg**	**07 01 55.8**	**+0.8**
YER	**Yerkesik**	**0.79**	**40**	*e*PG	**Pg**	**07 01 51.3**	**+0.5**
YER	**Yerkesik**	**0.79**	**40**	*e*Pg	**Pg**	**07 01 51.3**	**+0.5**
TURN	**Turunc**	**0.84**	**66**	*i* P	Pb	07 01 46.7	-5.0
TURN				*i* S	**Sb**	**07 01 56.1**	**-6.7**
DALY	**Dalyan (Mu¨la**	**0.86**	**70**	*e*PG	**Pb**	**07 01 52.7**	**+0.7**
DALY	**Dalyan (Mu¨la**	**0.86**	**70**	*e*Pg	**Pb**	**07 01 52.7**	**+0.7**
FETY	**Fethiye**	**1.16**	**84**	*e*PN	**Pb**	**07 01 58.1**	**+0.9**
FETY	**Fethiye**	**1.16**	**84**	*e*Pn	**Pb**	**07 01 58.1**	**+0.9**
ANTB	**Antalya**	**2.45**	**80**	*e*PN	**Pn**	**07 02 16.3**	**+1.5**
ANTB	**Antalya**	**2.45**	**80**	*e*Pn	**Pn**	**07 02 16.3**	**+1.5**

*ISCJB **18** 07:09:05.8±0.6,39°.06N±0°.05×29°.09E±0°.04, h9km, Error ellipse: s-maj=7.5km s-min=4.0km az=155.0*
*DDA **18** 07:09:05.5, 39°.09N×29°.08E, h7km, Md2.3*
*CSEM **18** 07:09:05.8±0.1, 39°.07N×29°.11E, h5km, MD2.3, Error ellipse: s-maj=4.3km s-min=2.7km az=138.0*
*ISK **18** 07:09:05.5, 39°.07N×29°.14E, h5km, MD2.6*
ISC 18 07:09:06.0±0.9**, 39°.08N**±0°.03×**29°.08E**±0°.03**, h9**km**, n20,** σ0º**34/28, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**262**	P	**Pg**	**07 09 11.4**	**-0.4**
DEMI				S	**Sg**	**07 09 15.8**	**+0.1**
DEMI	**Demirci**	**0.29**	**262**	*i* P	**Pg**	**07 09 11.4**	**-0.4**
DEMI				*i* S	**Sg**	**07 09 15.8**	**+0.1**
GDZ	**Gediz**	**0.31**	**89**	P	**Pg**	**07 09 12.2**	**0.0**
GDZ				S	**Sg**	**07 09 16.9**	**+0.6**
GDZ	**Gediz**	**0.31**	**89**	*i* P	**Pg**	**07 09 12.2**	**0.0**
GDZ				*i* S	**Sg**	**07 09 16.9**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**39**	*e*PG	**Pg**	**07 09 14.7**	**-0.4**
TVSB				*e*SG	**Sg**	**07 09 21.3**	**0.0**
TVSB	**Tavsanli**	**0.47**	**39**	*e*Pg	**Pg**	**07 09 14.7**	**-0.4**
TVSB				*e*Sg	**Sg**	**07 09 21.3**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**210**	*e*PG	**Pg**	**07 09 18.9**	**+0.2**
KULA	**Kula-Manisa**	**0.66**	**210**	*e*Pg	**Pg**	**07 09 18.9**	**+0.2**
KHL	**Karahalli**	**0.83**	**156**	*e*PG	**Pg**	**07 09 21.5**	**-0.5**
KHL	**Karahalli**	**0.83**	**156**	*e*Pg	**Pg**	**07 09 21.5**	**-0.5**
AKS	**Akhisar**	**1.01**	**259**	*e*PG	**Pb**	**07 09 26.0**	**+0.3**
AKS	**Akhisar**	**1.01**	**259**	*e*Pg	**Pb**	**07 09 26.0**	**+0.3**
CAVI	**Cavuskoy**	**1.26**	**27**	*e*PN	**Pn**	**07 09 29.6**	**-0.1**
CAVI	**Cavuskoy**	**1.26**	**27**	*e*Pn	**Pn**	**07 09 29.7**	**-0.1**
IZI	**Iznik**	**1.29**	**13**	*e*PN	**Pg**	**07 09 30.8**	**+0.1**
IZI	**Iznik**	**1.29**	**13**	*e*Pn	**Pg**	**07 09 30.8**	**+0.1**
BORA	**Eskisehir**	**1.32**	**53**	P	**Pn**	**07 09 30.4**	**-0.3**
BORA				S	**Sn**	**07 09 48.3**	**-0.2**
BORA	**Eskisehir**	**1.32**	**53**	*i* P	**Pn**	**07 09 30.4**	**-0.3**
BORA				*i* S	**Sn**	**07 09 48.4**	**-0.2**
ARMT	**Armutlu**	**1.49**	**353**	*e*PN	**Pb**	**07 09 34.2**	**+0.4**
ARMT	**Armutlu**	**1.49**	**353**	*e*Pn	**Pb**	**07 09 34.2**	**+0.4**

WEL 18 07:12:15.1±0.1**, 43°.56S**×**172°.74E, h8km, ML3.7/17, 3C-2D, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.09**	**262**	PG	Pg	07 12 17.2	0.0
CRLZ				AML	AML	07 12 19.0	
CRLZ				SG	Sg	07 12 19.0	+0.3
CRLZ				AML	AML	07 12 19.0	
CRLZ				AML	AML	07 12 19.1	
MQZ	**McQueen's Vall**	**0.16**	**204**	⇑PG	Pg	07 12 18.6	+0.2
MQZ				SG	Sg	07 12 21.2	+0.6
MQZ				AML	AML	07 12 21.4	
OXZ	**Oxford**	**0.56**	**295**	⇓P*	Pg	07 12 25.8	-0.2
OXZ				SG	Sg	07 12 34.2	+0.8
LTZ	**Lake Taylor**	**0.85**	**336**	⇓P*	Pg	07 12 31.5	0.0
LTZ				S*	Sg	07 12 43.1	+0.6
LTZ				AML	AML	07 12 44.1	
RPZ	**Rata Peaks**	**1.23**	**262**	⇑P*	Pb	07 12 37.2	-1.5
RPZ				AML	AML	07 12 57.9	
RPZ				AML	AML	07 13 04.2	
INZ	**Inchbonnie**	**1.27**	**311**	P*	Pn	07 12 38.7	-0.4
KHZ	**Kahutara**	**1.29**	**27**	P*	Pn	07 12 37.5	-1.9
WVZ	**Waitaha Valley**	**1.54**	**288**	PN	Pn	07 12 42.6	-0.2
WVZ				AML	AML	07 13 14.7	
WVZ				AML	AML	07 13 16.2	
THZ	**Tophouse**	**1.80**	**4**	PN	Pn	07 12 44.8	-1.8
THZ				AML	AML	07 13 19.6	
THZ				AML	AML	07 13 23.4	
DSZ	**Denniston Nort**	**1.94**	**339**	PN	Pn	07 12 47.6	-0.8
DSZ				AML	AML	07 13 16.4	
DSZ				AML	AML	07 13 22.8	
DSZ				AML	AML	07 13 32.9	
LBZ	**Lake Benmore**	**2.02**	**245**	PN	Pn	07 12 48.9	-0.6
LBZ				AML	AML	07 13 23.8	
LBZ				AML	AML	07 13 26.0	
BSWZ	**Blackbirch Sta**	**2.03**	**25**	PN	Pn	07 12 48.0	-1.6
ODZ	**Otahua Downs**	**2.11**	**225**	⇑PN	Pn	07 12 49.2	-1.5
ODZ				AML	AML	07 13 24.4	
ODZ				AML	AML	07 13 24.4	
ODZ				AML	AML	07 13 28.5	
ODZ				AML	AML	07 13 28.5	
FOZ	**Fox Glacier**	**2.13**	**270**	PN	Pn	07 12 51.5	+0.6
FOZ				AML	AML	07 13 26.5	
FOZ				AML	AML	07 15 22.4	
TUWZ	**Tuamarina**	**2.31**	**23**	PN	Pn	07 12 51.8	-1.6
NNZ	**Nelson**	**2.39**	**12**	AML	AML	07 13 39.1	
QRZ	**Quartz Range**	**2.74**	**357**	AML	AML	07 12 57.2	
QRZ				PN	Pn	07 12 59.4	+0.1
QRZ				AML	AML	07 13 48.7	
WKZ	**Wanaka**	**2.96**	**243**	PN	Pg	07 13 10.8	-1.0
WKZ				AML	AML	07 13 56.0	
WKZ				AML	AML	07 13 57.7	
EAZ	**Earnscleugh**	**2.97**	**235**	PN	Pn	07 13 01.3	-1.2
EAZ				AML	AML	07 13 55.8	
EAZ				AML	AML	07 13 58.0	
CAW	**Cannon Point**	**3.00**	**36**	AML	AML	07 13 39.7	
TUZ	**Tuapeka**	**3.26**	**222**	PN	Pn	07 13 06.0	-0.4
TUZ				AML	AML	07 14 01.5	
TUZ				AML	AML	07 14 04.4	
MRZ	**Mangatainoka R**	**3.59**	**37**	PN	Pn	07 13 08.5	-2.5
SYZ	**Scrubby Hill**	**3.92**	**219**	PN	Pn	07 13 15.1	-0.5
SYZ				AML	AML	07 14 25.5	

*IDC **18** 07:33:42.1±2.7, 37°.59N×143°.92E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.4/46, mbtmp3.7/6, ML3.5/3, Error ellipse: s-maj=53.0km s-min=30.0km az=68.0*
*ISCJB **18** 07:33:45.6±1.0, 37°.72N±0°.05×143°.54E±0°.08, h33km, mb3.5/3, Error ellipse: s-maj=9.4km s-min=7.5km az=2.8*
*JMA **18** 07:33:45.4±0.2, 37°.78N×143°.54E, h45km, M3.4*
ISC 18 07:33:47.6±1.4**, 37°.71N**±0°.05×**143°.6E**±0°.1**, h35**km**, n20,** σ2º**03/24, mb3.5/3, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.91**	**293**	P	**Pn**	**07 34 15.8**	**-1.8**
JIO				*e*S	**Sn**	**07 34 37.9**	**-2.5**
OFUJ	**Ofunato**	**2.03**	**313**	P	**Pn**	**07 34 16.9**	**-2.4**
JMK	**Ichinoseki**	**2.23**	**304**	P	**Pn**	**07 34 20.2**	**-1.9**
JOU	**Okura**	**2.39**	**287**	P	**Pn**	**07 34 23.4**	**-0.9**
JOM	**Ohasama**	**2.51**	**315**	P	**Pn**	**07 34 24.1**	**-1.8**
JOM				*e*S	**Sn**	**07 34 52.8**	**-2.5**
JFT	**Otama**	**2.58**	**267**	P	**Pn**	**07 34 26.3**	**-0.6**
JFT				*e*S	**Sn**	**07 34 55.7**	**-1.4**
JYK	**Kaneyama**	**2.80**	**296**	*e*S	**Sn**	**07 35 01.7**	**-0.8**
JANG	**Nango**	**3.10**	**329**	P	**Pn**	**07 34 32.9**	**-1.2**
JAG	**Ashikaga**	**3.54**	**250**	P	**Pn**	**07 34 39.3**	**-0.8**
JAG				*e*S	**Sn**	**07 35 19.5**	**-1.3**
JRY	**Ryogami san**	**4.12**	**247**	P	**Pn**	**07 34 47.3**	**-0.7**
JRY				*e*S	**Sn**	**07 35 31.5**	**-3.5**
MJAR	**Matsushiro Arr**	**4.45**	**256**	Pn	**Pn**	**07 34 53.3**	**+0.7**
	2.9nm,0.3s,baz=79,slow=14,SNR=14						
MAT	**Matsushiro**	**4.45**	**256**	P	**Pn**	**07 34 53.6**	**+1.0**
MAT				S	**Sn**	**07 35 44.0**	**+0.8**
JHJ	**Hachijo jima 2**	**5.53**	**215**	Pn	**Pn**	**07 35 06.1**	**-1.4**
	6.9nm,0.3s,baz=66,slow=23,SNR=4.1						
JHJ				Sn	**Sn**	**07 36 06.4**	**-3.4**
	20nm,0.3s,baz=69,slow=23,SNR=4.1						
KSRS	**Korea Array**	**12.43**	**274**	Pn	**Pn**	**07 36 45.5**	**+3.6**
	0.1nm,0.3s,baz=83,slow=14,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**27.07**	**125**	T	T	08 07 43.5	
	baz=317,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.08**	**125**	T	T	08 07 47.6	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**27.09**	**125**	T	T	08 07 47.6	
	baz=317,slow=75						
SONM	**Songino Array**	**28.86**	**302**	P	**P**	**07 39 45.8**	**+2.9**
	0.4nm,0.6s,baz=90,slow=9.7,SNR=3.2						
MKAR	**Makanchi Array**	**45.22**	**302**	P	**P**	**07 42 01.9**	**+0.6**
	0.5nm,0.8s,baz=89,slow=7.8,SNR=3.3						
WRA	**Warramunga Arr**	**58.00**	**190**	P	**P**	**07 43 36.2**	**-0.6**
	0.6nm,0.8s,baz=8.2,slow=7.2,SNR=4.9						

*ISCJB **18** 07:50:34.8±0.4, 40°.67N±0°.02×26°.15E±0°.02, h9km±3km, Error ellipse: s-maj=2.9km s-min=2.6km az=157.4*
*ISK **18** 07:50:34.2, 40°.67N×26°.14E, h8km, ML3.2*
*DDA **18** 07:50:34.8, 40°.65N×26°.19E, h20km, Ml3.5*
*ATH **18** 07:50:34.9, 40°.66N×26°.11E, h30km±1km, ML2.7/1, Error ellipse: s-maj=3.1km s-min=1.4km az=231.0*
*CSEM **18** 07:50:35.1±0.1, 40°.67N×26°.15E, h10km, ML2.9, Error ellipse: s-maj=2.6km s-min=2.1km az=160.0*
*THE **18** 07:50:35.4, 40°.67N×26°.15E, h11km, ML2.9/7, Error ellipse: s-maj=1.3km s-min=0.8km az=279.0*
*SOF **18** 07:50:36.3, 40°.69N×26°.05E, h10km, MD2.7*
ISC 18 07:50:35.2±0.9**, 40°.66N**±0°.02×**26°.14E**±0°.02**, h12**km**±**7km**, n143,** σ0º**73/176, 5C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALN	**Alexandroupoli**	**0.24**	**342**	P	**Pg**	**07 50 40.4**	**0.0**
ALN				S	**Sg**	**07 50 44.0**	**+0.1**
ALN	**Alexandroupoli**	**0.24**	**342**	P	**Pg**	**07 50 40.4**	**0.0**
ALN				S	**Sg**	**07 50 44.0**	**+0.1**
ERIK	**Erikli-Kesan**	**0.28**	**88**	PG	**Pg**	**07 50 40.7**	**-0.3**
ERIK	**Erikli-Kesan**	**0.28**	**88**	*i* Pg	**Pg**	**07 50 40.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.37**	**136**	PG	**Pg**	**07 50 42.6**	**0.0**
GELI				SG	**Sg**	**07 50 47.5**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.37**	**136**	*i* Pg	**Pg**	**07 50 42.6**	**0.0**
GELI				*i* Sg	**Sg**	**07 50 47.5**	**+0.1**
KESN	**Edirne-Kesan**	**0.44**	**68**	P	**Pg**	**07 50 43.1**	**-0.9**
KESN				S	**Sg**	**07 50 49.1**	**-0.8**
KESN	**Edirne-Kesan**	**0.44**	**68**	*i* P	**Pg**	**07 50 43.1**	**-0.9**
KESN				*i* S	**Sg**	**07 50 49.1**	**-0.8**
SMTH	**Samothraki Isl**	**0.51**	**248**	P	**Pg**	**07 50 44.7**	**-0.4**
SMTH				S	**Sb**	**07 50 52.9**	**-0.4**
SMTH	**Samothraki Isl**	**0.51**	**248**	P	**Pg**	**07 50 45.3**	**+0.2**
SMTH				S	**Sb**	**07 50 52.9**	**-0.4**
SMTH	**Samothraki Isl**	**0.51**	**248**	P	**Pg**	**07 50 45.3**	**+0.2**
SMTH				S	**Sb**	**07 50 53.0**	**-0.4**
SMTH				AML	AML	07 50 53.6	
	comp=N,4543μm,0.1s						
SMTH				AML	AML	07 50 53.9	
	comp=E,3383μm,0.1s						
GADA	**Gvkgeada**	**0.51**	**202**	*e*PG	**Pg**	**07 50 45.3**	**+0.1**
GADA	**Gvkgeada**	**0.51**	**202**	P	**Pg**	**07 50 45.2**	**+0.1**
GADA				S	**Sb**	**07 50 53.9**	**+0.5**
GADA	**Gvkgeada**	**0.51**	**202**	P	**Pg**	**07 50 45.2**	**+0.1**
GADA				S	**Sb**	**07 50 53.9**	**+0.5**
LPK	**Lapseki**	**0.55**	**121**	*e*PG	**Pg**	**07 50 45.9**	**-0.1**
LPK	**Lapseki**	**0.55**	**121**	*e*Pg	**Pg**	**07 50 45.9**	**-0.1**
SART	**Tekirdag**	**0.79**	**88**	P	**Pg**	**07 50 49.8**	**-0.7**
SART				S	**Sg**	**07 51 00.4**	**-0.4**
SART	**Tekirdag**	**0.79**	**88**	*i* P	**Pg**	**07 50 49.8**	**-0.7**
SART				*i* S	**Sg**	**07 51 00.4**	**-0.4**
BOZC	**Bozcaada**	**0.82**	**185**	*i* P	**Pb**	**07 50 50.5**	**-0.6**
BOZC				*i* S	**Sb**	**07 51 02.9**	**+0.4**
EZN	**Ezine**	**0.85**	**170**	*e*PG	**Pg**	**07 50 50.8**	**-0.8**
EZN	**Ezine**	**0.85**	**170**	P	**Pg**	**07 50 50.9**	**-0.7**
EZN	**Ezine**	**0.85**	**170**	P	**Pg**	**07 50 50.9**	**-0.7**
KRBG	**Karabiga-Canak**	**0.92**	**107**	*e*PG	**Pg**	**07 50 52.1**	**-0.9**
KRBG	**Karabiga-Canak**	**0.92**	**107**	*e*Pg	**Pg**	**07 50 52.1**	**-0.9**
LIA	**Limnos Island**	**1.06**	**224**	P	**Pb**	**07 50 54.6**	**-0.9**
LIA				S	**Sb**	**07 51 10.1**	**+0.8**
LIA	**Limnos Island**	**1.06**	**224**	P	**Pb**	**07 50 54.6**	**-0.9**
LIA				S	**Sb**	**07 51 09.8**	**+0.5**
TKR	**Tekirdag**	**1.11**	**72**	*e*PN	**Pb**	**07 50 56.0**	**-0.3**
TKR	**Tekirdag**	**1.11**	**72**	*e*Pn	**Pb**	**07 50 56.0**	**-0.3**
MRMT	**Marmara Adasi**	**1.11**	**93**	*e*PN	**Pb**	**07 50 55.1**	**-1.2**
MRMT	**Marmara Adasi**	**1.11**	**93**	*e*Pn	**Pb**	**07 50 55.2**	**-1.2**
KNL	**Bal¨–kesir**	**1.13**	**110**	*i* P	**Pb**	**07 50 55.6**	**-1.0**
KNL				*i* S	**Sg**	**07 51 11.4**	**-0.1**
EDRB	**Edirne**	**1.27**	**21**	*e*PN	**Pn**	**07 50 58.4**	**-0.3**
EDRB	**Edirne**	**1.27**	**21**	P	**Pn**	**07 50 57.6**	**-1.1**
EDRB				S	**Sg**	**07 51 15.4**	**-0.7**
EDRB	**Edirne**	**1.27**	**21**	P	**Pn**	**07 50 57.6**	**-1.1**
EDRB	**Edirne**	**1.27**	**21**	*e*Pn	**Pn**	**07 50 58.4**	**-0.3**
EDRB				S	**Sg**	**07 51 15.4**	**-0.7**
KAVA	**Kavala**	**1.28**	**286**	P	**Pn**	**07 50 58.2**	**-0.7**
KAVA				S	**Sb**	**07 51 15.6**	**-0.1**
KAVA	**Kavala**	**1.28**	**286**	P	**Pn**	**07 50 58.3**	**-0.7**
KAVA				S	**Sb**	**07 51 15.6**	**-0.1**
KAVA	**Kavala**	**1.28**	**286**	P	**Pn**	**07 50 58.3**	**-0.7**
CRLT	**Corlu**	**1.29**	**68**	*e*PN	**Pn**	**07 50 59.2**	**+0.1**
CRLT	**Corlu**	**1.29**	**68**	*e*Pn	**Pn**	**07 50 59.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.33**	**117**	*e*PN	**Pn**	**07 50 59.6**	**0.0**
GONE	**Gonen-Balikesi**	**1.33**	**117**	*e*Pn	**Pn**	**07 50 59.6**	**0.0**
EDC	**Edincik**	**1.35**	**103**	*e*PN	**Pb**	**07 51 00.3**	**-0.1**
EDC	**Edincik**	**1.35**	**103**	*e*Pn	**Pb**	**07 51 00.3**	**-0.1**
AYVA	**Ayvalik**	**1.42**	**163**	P	**Pb**	**07 51 01.4**	**-0.2**
AYVA				S	**Sb**	**07 51 20.1**	**+0.5**
AYVA	**Ayvalik**	**1.42**	**163**	*i* P	**Pb**	**07 51 01.4**	**-0.2**
AYVA				*i* S	**Sb**	**07 51 20.1**	**+0.5**
PRK	**Paraskevi**	**1.42**	**176**	P	**Pn**	**07 51 01.0**	**+0.2**
PRK				S	**Sb**	**07 51 20.1**	**+0.5**
PRK	**Paraskevi**	**1.42**	**176**	P	**Pn**	**07 51 01.0**	**+0.2**
PRK				S	**Sb**	**07 51 20.1**	**+0.5**
PRK	**Paraskevi**	**1.42**	**176**	P	**Pb**	**07 51 01.4**	**-0.2**
PHSR	**Pinarhisar**	**1.42**	**47**	*e*PN	**Pn**	**07 51 01.0**	**+0.1**
PHSR	**Pinarhisar**	**1.42**	**47**	*e*Pn	**Pn**	**07 51 01.0**	**+0.1**
BALY	**Balya**	**1.46**	**129**	P	**Pn**	**07 51 01.8**	**+0.4**
BALY	**Balya**	**1.46**	**129**	*i* P	**Pn**	**07 51 01.8**	**+0.4**
DIM	**Dimitrovgrad**	**1.46**	**342**	*i* P	**Pb**	**07 51 02.4**	**+0.1**
DIM	**Dimitrovgrad**	**1.46**	**342**	*i* P	**Pb**	**07 51 02.4**	**+0.1**
DIM	**Dimitrovgrad**	**1.46**	**342**	*i* P	**Pb**	**07 51 02.4**	**+0.1**
SIGR	**SIGRI**	**1.47**	**189**	*e*PN	**Pn**	**07 51 01.7**	**+0.2**
SIGR	**SIGRI**	**1.47**	**189**	P	**Pn**	**07 51 01.2**	**-0.3**
SIGR				S	**Sn**	**07 51 21.0**	**+0.4**
SIGR	**SIGRI**	**1.47**	**189**	P	**Pn**	**07 51 01.4**	**-0.1**
SIGR	**SIGRI**	**1.47**	**189**	*e*Pn	**Pn**	**07 51 01.7**	**+0.2**
SIGR				S	**Sn**	**07 51 21.0**	**+0.4**
SIGR	**SIGRI**	**1.47**	**189**	P	**Pn**	**07 51 01.4**	**-0.1**
RZN	**Rozhen**	**1.49**	**314**	*i* P	**Pb**	**07 51 02.4**	**-0.5**
RZN	**Rozhen**	**1.49**	**314**	*i* P	**Pb**	**07 51 02.4**	**-0.5**
RZN	**Rozhen**	**1.49**	**314**	*i* P	**Pb**	**07 51 02.4**	**-0.5**
BALB	**Balikesir**	**1.68**	**127**	*e*PN	**Pn**	**07 51 04.4**	**0.0**
BALB	**Balikesir**	**1.68**	**127**	*e*Pn	**Pn**	**07 51 04.4**	**0.0**
OUR	**Ouranopolis**	**1.68**	**259**	*e*PN	**Pn**	**07 51 04.3**	**-0.1**
OUR	**Ouranopolis**	**1.68**	**259**	P	**Pn**	**07 51 03.5**	**-0.9**
OUR				S	**Sb**	**07 51 27.6**	**+0.4**
OUR	**Ouranopolis**	**1.68**	**259**	P	**Pn**	**07 51 03.5**	**-0.9**
OUR	**Ouranopolis**	**1.68**	**259**	*e*Pn	**Pn**	**07 51 04.3**	**-0.1**
OUR				S	**Sb**	**07 51 27.6**	**+0.4**
OUR	**Ouranopolis**	**1.68**	**259**	P	**Pn**	**07 51 03.2**	**-1.2**
DKL	**Dikili**	**1.69**	**159**	*e*PN	**Pn**	**07 51 05.0**	**+0.4**
DKL	**Dikili**	**1.69**	**159**	*e*Pn	**Pn**	**07 51 05.0**	**+0.4**
KCTX	**Karacabey (Bur**	**1.73**	**103**	*e*PN	**Pn**	**07 51 05.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.73**	**103**	*e*Pn	**Pn**	**07 51 05.3**	**+0.1**
ELBA	**Catalca**	**1.80**	**74**	P	**Pn**	**07 51 05.0**	**-1.1**
ELBA				S	**Sb**	**07 51 31.3**	**+0.7**

AGUA *i* S **Sn** **08 10 13.8 +0.1**
AVFE Valle Fertil 2.86 189 IAML 08 09 59.4
comp=Z,69nm,0.3s
AMOG MOGNA 3.40 204 *i* P **Pn** **08 09 58.6 -0.4**
AMOG *i* S **Sn** **08 10 38.9 -1.5**
RTLL Cerro Villicun 3.75 201 *i* P **Pn** **08 10 03.3 -0.2**
RTCV Cerro Valdivia 4.26 199 *i* P **Pn** **08 10 09.8 -0.3**
ACAN Cantantal 4.44 183 *i* P **Pn** **08 10 11.9 -0.5**
RTLS Leoncito 4.47 207 *i* P **Pn** **08 10 13.3 +0.3**
MRA San Martin 4.69 168 *i* P **Pn** **08 10 15.3 -0.5**
ARCO CERRO ARCO 5.29 199 *i* P **Pn** **08 10 23.4 -0.3**
ARCO IAML 08 11 26.0
comp=Z,22nm,0.4s
LVC Limon Verde 5.50 340 P **Pn** **08 10 26.9 +0.2**
comp=Z,10nm,0.3s,baz=100,slow=17,SNR=5.0
LVC S **Sn** **08 11 26.9 -2.9**
comp=Z,28nm,0.3s,baz=287,slow=21,SNR=9.5
CPUP Villa Florida 8.67 82 P **Pn** **08 11 08.4 +0.2**
comp=Z,0.1nm,0.3s,baz=257,slow=13,SNR=3.2
LPAZ La Paz 11.54 354 P **Pn** **08 11 46.1 -0.4**
comp=Z,0.1nm,0.3s,baz=135,slow=2.9,SNR=3.3
TORD Torodi Ar. Bea 77.89 68 P **P** **08 20 45.9 +0.1**
comp=Z,0.3nm,0.6s,baz=289,slow=6.3,SNR=4.1
ASAR Alice Springs 125.01 203 PKP **PKPdf** **08 27 47.1 0.0**
comp=Z,0.1nm,0.4s,baz=169,slow=1.2,SNR=3.3
WRA Warramunga Arr 128.25 206 PKP **PKPdf** **08 27 53.7 +0.4**
comp=Z,0.5nm,0.9s,baz=153,slow=2.0,SNR=10
KURBB Kurchatov Arra 145.34 39 PKPbc **PKPab** **08 28 24.8 +0.6**
comp=Z,0.4nm,0.7s,baz=302,slow=3.4,SNR=4.3
ZALV Zalesovo Beam 146.68 31 PKPbc **PKPab** **08 28 28.5 -0.7**
comp=Z,0.7nm,0.5s,baz=266,slow=4.3,SNR=2.8
MKAR Makanchi Array 149.33 44 PKPbc **PKPbc** **08 28 36.0 +1.0**
comp=Z,0.3nm,0.7s,baz=336,slow=2.7,SNR=3.8
MKAR PKPab **PKPab** **08 28 41.6 +1.5**
comp=Z,0.1nm,0.4s,baz=270,slow=2.9,SNR=2.5

ISCJB ***18*** *08:15:26.1±0.2,51.51N±0.01×16.10E±0.02,h0km, mb3.8/6,Error ellipse: s-maj=1.9km s-min=1.6km az=11.5*
CSEM ***18*** *08:15:27.9±0.1,51.51N×16.11E,h2km,ML4.0/8,Error ellipse: s-maj=2.2km s-min=1.9km az=45.0*
MOS ***18*** *08:15:27.8±1.1,51.53N×16.10E,h10km,mb4.3/7,Error ellipse: s-maj=7.6km s-min=4.4km az=84.2*
IDC ***18*** *08:15:28.4±0.6,51.49N×15.93E,h0km,mb3.7/4, mb1 3.6/12,mb1mx3.4/54,mbtmp3.6/12,ML3.2/8,Error ellipse: s-maj=13.5km s-min=7.1km az=102.0*
PRU ***18*** *08:15:28.9,51.50N×16.09E,h0km*
WAR ***18*** *08:15:28.8,51.49N×16.09E,h1km,Mw3.2*
BGR ***18*** *08:15:29.6±0.2,51.45N×16.09E,h1km,ML3.5/31,Error ellipse: s-maj=3.3km s-min=2.2km az=27.0*
UPP ***18*** *08:15:32.0±3.1,51.77N×15.55E,h0km,ML2.1,Suspected explosion*
VIE ***18*** *08:15:32.0±0.5,51.21N×16.20E,h0km,mb2.9/8,ML3.1/9, Error ellipse: s-maj=6.1km s-min=4.1km az=90.0, Suspected Mining induced.*

ISC 18 08:15:28.1±0.5,51.51N±0.02×16.08E±0.02,h0km,n207, σ1§34/319,mb3.7/6,5C-14D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**169**	*i* Pg		**Pg**	**08 15 41.3**	**+0.1**
KSP				*e*Sg		**Sg**	**08 15 50.5**	**+0.4**
KSP	**Ksiaz**	**0.69**	**169**	⇓*i*P		**Pg**	**08 15 41.3**	**+0.1**
KSP				*e*			08 15 50.5	
KSP	**Ksiaz**	**0.69**	**169**	*e*Pg		**Pg**	**08 15 41.4**	**+0.1**
KSP				*e*Sg		**Sg**	**08 15 50.8**	**+0.6**
KSP	**Ksiaz**	**0.69**	**169**	*i* Pg		**Pg**	**08 15 41.3**	**+0.1**
KSP				*e*Sg		**Sg**	**08 15 50.5**	**+0.4**
KSP	**Ksiaz**	**0.69**	**169**	*i* Pgd		**Pg**	**08 15 41.3**	**+0.1**
KSP				*e*Sg		**Sg**	**08 15 50.5**	**+0.4**
UPC	**Upice**	**1.01**	**182**	⇓*i*PG		**Pg**	**08 15 47.2**	**-0.2**
UPC				*e*SG		**Sg**	**08 16 00.6**	**+0.1**
	270nm,0.3s							
UPC	**Upice**	**1.01**	**182**	⇓*i*P		**Pg**	**08 15 47.2**	**-0.2**
UPC				*e*			08 16 00.6	
UPC				smax	smax			
	comp=N,270nm,0.3s							
UPC	**Upice**	**1.01**	**182**	Pg		**Pg**	**08 15 47.2**	**-0.2**
UPC				Sg		**Sg**	**08 16 00.6**	**+0.1**
	comp=N,270nm,0.3s							
DPC	**Dobruska-Polom**	**1.18**	**172**	⇓*i*PG		**Pg**	**08 15 50.1**	**-0.5**
DPC				*e*SG		**Sg**	**08 16 05.1**	**-0.8**
	comp=N,241nm,0.7s							
DPC	**Dobruska-Polom**	**1.18**	**172**	⇓*i*P		**Pg**	**08 15 50.1**	**-0.5**
DPC				*e*			08 16 05.1	
DPC				smax	smax			
	comp=N,241nm,0.7s							
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*Pg		**Pg**	**08 15 50.1**	**-0.5**
DPC				*e*Sg		**Sg**	**08 16 05.3**	**-0.6**
DPC	**Dobruska-Polom**	**1.18**	**172**	Pg		**Pg**	**08 15 50.1**	**-0.5**
DPC				Sg		**Sg**	**08 16 05.3**	**-0.6**
PVCC	**Panska Ves**	**1.37**	**225**	⇓*e*PG		**Pg**	**08 15 54.1**	**-0.3**
PVCC				*e*SG		**Sn**	**08 16 13.6**	**+0.2**
	comp=N,343nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**225**	*e*P		**Pg**	**08 15 54.1**	**-0.3**
PVCC				*e*			08 16 13.6	
PVCC				smax	smax			
	comp=N,343nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**225**	*e*Pn		**Pg**	**08 15 54.3**	**-0.1**
PVCC				*e*Pg		**Pb**	**08 15 54.8**	**+0.1**
PVCC				*e*Sg		**Sn**	**08 16 13.6**	**+0.2**
PVCC	**Panska Ves**	**1.37**	**225**	Pn		**Pg**	**08 15 54.3**	**-0.1**
PVCC				Sg		**Sn**	**08 16 13.6**	**+0.2**
	comp=N,343nm,0.2s							
BRG	**Berggiesshubel**	**1.49**	**245**	PN		**Pn**	**08 15 55.4**	**-0.7**
BRG				PG		**Pb**	**08 15 56.7**	**0.0**
BRG				SG		**Sn**	**08 16 17.3**	**+1.0**
	comp=N,199nm,0.5s							
BRG	**Berggiesshubel**	**1.49**	**245**	P		**Pn**	**08 15 55.4**	**-0.7**
BRG							08 16 17.3	
BRG				smax	smax			
	comp=N,199nm,0.5s							
BRG	**Berggiesshubel**	**1.49**	**245**	*e*Pn		**Pn**	**08 15 55.5**	**-0.7**
BRG				*e*Pg		**Pg**	**08 15 56.8**	**+0.1**
BRG	**Berggiesshubel**	**1.49**	**245**	Pn		**Pn**	**08 15 55.5**	**-0.7**
RUE	**Ruedersdorf**	**1.72**	**305**	*e*Pn		**Pn**	**08 15 58.5**	**-0.8**
RUE				*e*Sg		**Sg**	**08 16 25.6**	**+2.2**
RUE	**Ruedersdorf**	**1.72**	**305**	Pn		**Pn**	**08 15 58.5**	**-0.8**
RUE				Sg		**Sg**	**08 16 25.6**	**+2.2**
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	⇓*e*PG		**Pb**	**08 16 02.1**	**+0.1**
GOPC				*e*SG		**Sb**	**08 16 25.1**	**0.0**
	comp=N,172nm,0.8s							
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	*e*P		**Pb**	**08 16 02.1**	**+0.1**
GOPC				*e*			08 16 25.1	
GOPC				smax	smax			
	comp=N,172nm,0.8s							
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	Pg		**Pb**	**08 16 02.1**	**+0.1**
GOPC				Sg		**Sb**	**08 16 25.1**	**0.0**
	comp=N,172nm,0.8s							
PRU	**Pruhonice**	**1.81**	**213**	⇓*e*PN		**Pn**	**08 15 59.8**	**-0.8**
PRU				*e*PG		**Pb**	**08 16 01.8**	**-0.4**
PRU				*e*SG		**Sb**	**08 16 25.4**	**0.0**
	comp=N,178nm,0.6s							
PRU	**Pruhonice**	**1.81**	**213**	*e*P		**Pn**	**08 15 59.8**	**-0.8**
PRU				*e*			08 16 25.4	
PRU				smax	smax			
	comp=N,178nm,0.6s							
PRU	**Pruhonice**	**1.81**	**213**	*e*Pn		**Pn**	**08 15 59.8**	**-0.8**
PRU				*e*Pg		**Pb**	**08 16 02.2**	**0.0**
PRU				*e*Sg		**Sg**	**08 16 26.1**	**-0.3**
PRU	**Pruhonice**	**1.81**	**213**	Pn		**Pn**	**08 15 59.8**	**-0.8**
FBE	**Freiberg**	**1.81**	**252**	*e*Pn		**Pn**	**08 16 01.3**	**+0.7**
FBE				*e*Pg		**Pg**	**08 16 02.9**	**0.0**
FBE				*e*Sg		**Sg**	**08 16 27.1**	**+0.7**
FBE	**Freiberg**	**1.81**	**252**	Pn		**Pn**	**08 16 01.3**	**+0.7**
CLL	**Collm**	**1.94**	**265**	*i* Pn		**Pn**	**08 16 01.7**	**-0.6**
	comp=Z,20nm,0.8s							
CLL				*i* Pg		**Pb**	**08 16 04.7**	**+0.4**
CLL				*i*			08 16 09.1	
CLL				*i* Sg		**Sg**	**08 16 30.7**	**+0.3**
	comp=Z,122nm,1.1s							
CLL	**Collm**	**1.94**	**265**	*i* P		**Pn**	**08 16 01.7**	**-0.6**
CLL				*i*			08 16 30.7	
CLL				pmax	pmax			
	comp=Z,20nm,0.8s							
CLL	**Collm**	**1.94**	**265**	*e*Pn		**Pn**	**08 16 01.7**	**-0.6**
CLL				*e*Pg		**Pg**	**08 16 04.9**	**-0.4**
CLL				*e*Sg		**Sg**	**08 16 31.0**	**+0.6**
CLL	**Collm**	**1.94**	**265**	Pn		**Pn**	**08 16 01.7**	**-0.6**
MORC	**Moravsky Berou**	**1.97**	**151**	P		**Pn**	**08 16 02.0**	**-0.8**
MORC	**Moravsky Berou**	**1.97**	**151**	*e*Pn		**Pn**	**08 16 02.1**	**-0.7**
MORC				*e*Sg		**Sg**	**08 16 30.0**	**0.0**
MORC	**Moravsky Berou**	**1.97**	**151**	Pn		**Pn**	**08 16 02.1**	**-0.7**
MORC				Sg		**Sb**	**08 16 30.0**	**0.0**
OKC	**Ostrava-Krasne**	**2.13**	**141**	⇓*e*PN		**Pn**	**08 16 03.6**	**-1.4**
OKC				*e*PG		**Pb**	**08 16 08.0**	**+0.4**
OKC				*e*SG		**Sb**	**08 16 34.4**	**-0.2**
	comp=Z,233nm,0.7s							
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*P		**Pn**	**08 16 03.6**	**-1.4**
OKC				*e*			08 16 34.4	
OKC				smax	smax			
	comp=N,233nm,0.7s							
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*Pn		**Pn**	**08 16 04.0**	**-1.0**
OKC				*e*Pg		**Pb**	**08 16 08.1**	**+0.5**
OKC				*e*Sg		**Sb**	**08 16 34.9**	**+0.3**
OKC	**Ostrava-Krasne**	**2.13**	**141**	Pn		**Pn**	**08 16 04.0**	**-1.0**
OKC	**Ostrava-Krasne**	**2.13**	**141**	Pg		**Pb**	**08 16 08.1**	**+0.5**
OKC				Sg		**Sb**	**08 16 34.9**	**+0.3**
VRAC	**Vranov**	**2.23**	**171**	Pn		**Pn**	**08 16 06.2**	**-0.1**
	comp=N,3.3nm,0.3s,baz=326,slow=18,SNR=18							
VRAC				Lg	Lg		08 16 38.4	
	comp=N,5.4nm,0.3s,baz=109,slow=22,SNR=4.4							
VRAC	**Vranov**	**2.23**	**171**	*e*Pn		**Pn**	**08 16 06.3**	**-0.1**
VRAC				*e*Pg		**Pg**	**08 16 10.2**	**-0.7**
VRAC				*e*Sg		**Sb**	**08 16 38.5**	**+1.0**
TREC	**Trest**	**2.25**	**190**	⇓*e*PN		**Pn**	**08 16 06.8**	**+0.1**
TREC	**Trest**	**2.25**	**190**	*e*Pn		**Pn**	**08 16 06.8**	**+0.1**
TREC	**Trest**	**2.25**	**190**	Pn		**Pn**	**08 16 06.8**	**+0.1**
KRUC	**Moravsky**	**2.46**	**175**	P		**Pn**	**08 16 09.4**	**-0.1**
KRUC	**Moravsky**	**2.46**	**175**	*e*Pn		**Pn**	**08 16 09.7**	**+0.2**
KRUC				*e*Pg		**Pb**	**08 16 13.9**	**+0.6**
KRUC				*e*Sg		**Sg**	**08 16 46.0**	**-1.2**
KRUC	**Moravsky**	**2.46**	**175**	Pn		**Pn**	**08 16 09.7**	**+0.2**
WERD	**Werda**	**2.61**	**247**	*e*Pn		**Pn**	**08 16 11.8**	**+0.2**
WERD				*e*Pg		**Pg**	**08 16 17.6**	**-0.6**
WERD				*e*Sg		**Sg**	**08 16 51.8**	**-0.3**
WERD	**Werda**	**2.61**	**247**	Pn		**Pn**	**08 16 11.8**	**+0.2**
NKC	**Novy Kostel**	**2.63**	**242**	⇓*e*PN		**Pn**	**08 16 12.3**	**+0.4**
NKC				*e*PG		**Pg**	**08 16 18.3**	**-0.3**
NKC				*e*SG		**Sg**	**08 16 54.7**	**+2.0**
	comp=N,143nm,0.6s							
NKC	**Novy Kostel**	**2.63**	**242**	*e*P		**Pn**	**08 16 12.3**	**+0.4**
NKC	**Novy Kostel**	**2.63**	**242**	*e*Pn		**Pn**	**08 16 12.3**	**+0.4**
NKC				*e*Pg		**Pg**	**08 16 19.7**	**+1.1**
NKC				*e*Sg		**Sg**	**08 16 53.7**	**+1.0**
NKC	**Novy Kostel**	**2.63**	**242**	Pn		**Pn**	**08 16 12.3**	**+0.4**
NKC	**Novy Kostel**	**2.63**	**242**	Pg		**Pg**	**08 16 18.3**	**-0.3**
NKC				Sg		**Sg**	**08 16 53.7**	**+1.0**
WERN	**Wernitzgruen**	**2.65**	**244**	*e*Pn		**Pn**	**08 16 12.4**	**+0.3**
WERN				*e*Pg		**Pg**	**08 16 19.6**	**+0.7**
WERN				*e*Sg		**Sg**	**08 16 53.0**	**-0.2**
WERN	**Wernitzgruen**	**2.65**	**244**	Pn		**Pn**	**08 16 12.4**	**+0.3**
WERN	**Wernitzgruen**	**2.65**	**244**	Pg		**Pg**	**08 16 19.6**	**+0.7**
WERN				Sg		**Sg**	**08 16 53.0**	**-0.2**
PLN	**Plauen**	**2.68**	**249**	*e*Pn		**Pn**	**08 16 12.7**	**+0.1**
PLN				*e*Pg		**Pg**	**08 16 20.4**	**+0.8**
PLN				*e*Sg		**Sg**	**08 16 55.3**	**+0.9**
PLN	**Plauen**	**2.68**	**249**	Pn		**Pn**	**08 16 12.7**	**+0.1**
OJC	**Ojcow**	**2.69**	**117**	*e*Pn		**Pn**	**08 16 11.3**	**-1.3**
OJC				*e*Pg		**Pg**	**08 16 19.0**	**-0.6**
OJC				*e*Sg		**Sg**	**08 16 54.7**	**+0.3**
OJC	**Ojcow**	**2.69**	**117**	*e*P		**Pn**	**08 16 11.3**	**-1.3**
OJC				*e*			08 16 54.7	
OJC	**Ojcow**	**2.69**	**117**	*e*Pn		**Pn**	**08 16 11.3**	**-1.3**
OJC				*e*Pg		**Pg**	**08 16 19.5**	**-0.1**
OJC				*e*Sg		**Sg**	**08 16 54.9**	**+0.4**
OJC	**Ojcow**	**2.69**	**117**	Pn		**Pn**	**08 16 11.3**	**-1.3**
OJC	**Ojcow**	**2.69**	**117**	*e*Pn		**Pn**	**08 16 11.3**	**-1.3**
OJC				*e*Pg		**Pg**	**08 16 19.0**	**-0.6**
OJC				*e*Sg		**Sg**	**08 16 54.7**	**+0.3**
NEUB	**Neuenburg**	**2.72**	**265**	*e*Pg		**Pg**	**08 16 20.1**	**0.0**
NEUB				*e*Sg		**Sg**	**08 16 55.9**	**+0.6**
NEUB	**Neuenburg**	**2.72**	**265**	Pg		**Pg**	**08 16 20.1**	**0.0**
NEUB				Sg		**Sg**	**08 16 55.9**	**+0.6**
JAVC	**Velka Javorina**	**2.85**	**158**	*e*Pn		**Pn**	**08 16 15.4**	**+0.5**
JAVC				*e*Pg		**Pg**	**08 16 22.5**	**-0.2**
JAVC				*e*Sg		**Sg**	**08 17 01.0**	**+1.4**
JAVC	**Velka Javorina**	**2.85**	**158**	Pn		**Pn**	**08 16 15.4**	**+0.5**
JAVC	**Velka Javorina**	**2.85**	**158**	Pg		**Pg**	**08 16 22.5**	**-0.2**
JAVC				Sg		**Sg**	**08 17 01.0**	**+1.4**
KHC	**Kasperske Hory**	**2.88**	**215**	⇓*e*PN		**Pn**	**08 16 14.8**	**-0.4**
KHC				*e*PG		**Pb**	**08 16 21.1**	**+0.8**
KHC				*e*SN		**Sn**	**08 16 49.4**	**-1.1**
KHC				*e*SG		**Sg**	**08 16 59.8**	**-0.6**
	comp=N,55nm,0.6s							
KHC	**Kasperske Hory**	**2.88**	**215**	*e*P		**Pn**	**08 16 14.8**	**-0.4**
KHC				*e*			08 16 49.4	
KHC				smax	smax			
	comp=N,55nm,0.6s							
KHC	**Kasperske Hory**	**2.88**	**215**	*e*Pn		**Pn**	**08 16 14.9**	**-0.4**
KHC				*e*Pg		**Pb**	**08 16 21.5**	**+1.2**
KHC				*e*Sg		**Sg**	**08 17 00.0**	**-0.4**
KHC	**Kasperske Hory**	**2.88**	**215**	Pn		**Pn**	**08 16 14.8**	**-0.4**
KHC	**Kasperske Hory**	**2.88**	**215**	Pg		**Pb**	**08 16 21.5**	**+1.2**
KHC				Sn		**Sn**	**08 16 49.4**	**-1.1**
KHC				Sg		**Sg**	**08 17 00.0**	**-0.4**
MOX	**Moxa**	**2.95**	**255**	P		**Pn**	**08 16 16.9**	**+0.7**
MOX	**Moxa**	**2.95**	**255**	*e*Pn		**Pn**	**08 16 15.9**	**-0.3**
MOX				*e*Pg		**Pg**	**08 16 24.1**	**-0.5**
MOX				*e*Sg		**Sg**	**08 17 03.6**	**+0.8**
MOX	**Moxa**	**2.95**	**255**	Pn		**Pn**	**08 16 15.9**	**-0.3**
ROTZ	**Rotzenmuhle**	**3.02**	**236**	*e*Pn		**Pn**	**08 16 17.3**	**+0.1**
ROTZ				*e*Sg		**Sg**	**08 17 04.8**	**-0.4**
ROTZ	**Rotzenmuhle**	**3.02**	**236**	Pn		**Pn**	**08 16 17.3**	**+0.1**
ROTZ				Sg		**Sg**	**08 17 04.8**	**-0.4**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn		**Pn**	**08 16 18.7**	**+0.6**
GEC2				*e*Pg		**Pb**	**08 16 25.0**	**+1.2**
GEC2				*e*Sg		**Sg**	**08 17 05.5**	**-1.5**
GEC2	**GERESS Array S**	**3.08**	**211**	Pn		**Pn**	**08 16 18.7**	**+0.6**
GEC2	**GERESS Array S**	**3.08**	**211**	Pg		**Pb**	**08 16 25.0**	**+1.2**
GEC2				Sg		**Sg**	**08 17 05.5**	**-1.5**
GERES	**GERESS Array B**	**3.08**	**211**	Pn		**Pn**	**08 16 17.9**	**-0.2**
	comp=N,2.8nm,0.3s,baz=30,slow=12,SNR=44							
GERES				Lg	Lg		08 17 03.8	
	comp=N,10nm,0.3s,baz=30,slow=27,SNR=10							
GERES	**GERESS Array B**	**3.08**	**211**	*e*P		**Pn**	**08 16 18.4**	**+0.3**
GERES				pmax	pmax			
	comp=Z,3.0nm,0.3s							
SMOL	**Smolenice**	**3.13**	**163**	*e*P		**Pg**	**08 16 27.6**	**-0.4**
SMOL	**Smolenice**	**3.13**	**163**	*e*Pg		**Pg**	**08 16 27.6**	**-0.4**
SMOL				*e*Sg		**Sg**	**08 17 11.0**	**+2.5**
SMOL	**Smolenice**	**3.13**	**163**	*e*PG		**Pg**	**08 16 27.6**	**-0.4**
SMOL				*e*SG		**Sg**	**08 17 11.0**	**+2.5**
WET	**Wettzell**	**3.14**	**222**	P		**Pn**	**08 16 18.8**	**0.0**
WET	**Wettzell**	**3.14**	**222**	*e*Pn		**Pn**	**08 16 19.0**	**+0.2**
WET				*e*Sn		**Sn**	**08 16 56.8**	**-0.2**
WET				*e*Sg		**Sg**	**08 17 06.9**	**-1.9**
WET	**Wettzell**	**3.14**	**222**	Pn		**Pn**	**08 16 19.0**	**+0.2**
WET				Sn		**Sn**	**08 16 56.8**	**-0.2**
WET				Sg		**Sg**	**08 17 06.9**	**-1.9**
LANS	**Liptovska Anna**	**3.21**	**136**	*e*P		**Pb**	**08 16 26.9**	**+0.9**
LANS	**Liptovska Anna**	**3.21**	**136**	*e*Pg		**Pb**	**08 16 26.9**	**+0.9**
LANS				*e*Sg		**Sg**	**08 17 08.8**	**-2.4**
LANS	**Liptovska Anna**	**3.21**	**136**	*e*PG		**Pb**	**08 16 26.9**	**+0.9**
LANS				*e*SG		**Sg**	**08 17 08.8**	**-2.4**
ASSE	**Asse, Remlinge**	**3.41**	**283**	*e*Sg		**Sg**	**08 17 17.9**	**+0.2**
ASSE	**Asse, Remlinge**	**3.41**	**283**	Sg		**Sg**	**08 17 17.9**	**+0.2**
NIE	**Niedzica**	**3.42**	**126**	*e*P		**Pg**	**08 16 32.9**	**-0.7**
NIE				*e*S		**Sg**	**08 17 18.7**	**+0.9**
NIE	**Niedzica**	**3.42**	**126**	*e*P		**Pg**	**08 16 32.9**	**-0.7**
NIE	**Niedzica**	**3.42**	**126**	*e*P		**Pg**	**08 16 32.9**	**-0.7**
NIE				*e*S		**Sg**	**08 17 18.7**	**+0.9**
VYHS	**Vyhne**	**3.51**	**148**	*e*P		**Pn**	**08 16 23.1**	**-0.8**
VYHS				pmax	pmax			
	comp=N,15nm,0.9s							
VYHS	**Vyhne**	**3.51**	**148**	*e*Pg		**Pg**	**08 16 34.2**	**-1.1**
VYHS				*e*Sg		**Sg**	**08 17 22.2**	**+1.5**
VYHS	**Vyhne**	**3.51**	**148**	*e*		**Pn**	**08 16 23.0**	**-0.8**
VYHS	**Vyhne**	**3.51**	**148**	*e*PG		**Pg**	**08 16 34.2**	**-1.1**
VYHS				*e*SG		**Sg**	**08 17 22.2**	**+1.5**
VYHS				*e*LG		Lg	08 17 33.2	
CLZ	**Clausthal**	**3.57**	**277**	*e*Pn		**Pn**	**08 16 25.3**	**+0.5**
CLZ	**Clausthal**	**3.57**	**277**	Pn		**Pn**	**08 16 25.3**	**+0.5**
CONA	**Conrad Observa**	**3.59**	**182**	Pn		**Pn**	**08 16 25.3**	**+0.2**
	comp=N,4.5nm,0.3s,SNR=5.8							
CONA				Sg		**Sg**	**08 17 20.9**	**-2.6**
	comp=N,52nm,0.5s							
GRA1	**Grafenberg Arr**	**3.59**	**241**	Pn		**Pn**	**08 16 25.6**	**+0.5**
GRA1	**Grafenberg Arr**	**3.59**	**241**	Pg		**Pg**	**08 16 37.8**	**+0.9**
GRA1				Sg		**Sg**	**08 17 23.9**	**+0.4**
GRF	**Grafenberg Arr**	**3.59**	**241**	*e*Pn		**Pn**	**08 16 25.6**	**+0.5**
GRF				*e*Pg		**Pg**	**08 16 37.8**	**+0.9**
GRF				*e*Sg		**Sg**	**08 17 23.9**	**+0.4**
GRFO	**Grafenberg**	**3.59**	**241**	P		**Pn**	**08 16 25.5**	**+0.4**
BSD	**Bornholm Skovb**	**3.67**	**349**	*e*P		**Pn**	**08 16 25.0**	**-1.1**
	SNR=50							
BSD				*e*S		**Sn**	**08 17 05.6**	**-4.5**
	comp=N,1.7nm,0.7s,SNR=50							
GTTG	**Gyttingen**	**3.82**	**273**	*e*Sg		**Sg**	**08 17 32.5**	**+1.7**
GTTG	**Gyttingen**	**3.82**	**273**	Sg		**Sg**	**08 17 32.5**	**+1.7**
MOA	**Molln**	**3.85**	**199**	Pn		**Pn**	**08 16 28.7**	**0.0**
	comp=N,5.8nm,0.2s,SNR=8.1							
MOA				Sg		**Sg**	**08 17 31.0**	**-0.9**
	comp=N,63nm,0.6s							
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*P		**Pn**	**08 16 29.4**	**0.0**
STHS				pmax	pmax			
	comp=N,71nm,1.0s							
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*Pg		**Pg**	**08 16 43.1**	**+0.1**
STHS				*e*Sg		**Sg**	**08 17 37.7**	**+4.0**
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*		**Pn**	**08 16 29.4**	**0.0**
STHS	**Stebnicka Huta**	**3.91**	**120**	*e*PG		**Pg**	**08 16 43.1**	**+0.1**
STHS				*e*SG		**Sg**	**08 17 37.7**	**+4.0**
STHS				*e*LG		Lg	08 17 50.2	
KLNR	**Kaliningrad**	**3.97**	**37**	*i* P		**Pn**	**08 16 32.1**	**+1.9**
KECS	**Kecovo**	**4.16**	**135**	*e*P		**Pn**	**08 16 33.0**	**+0.2**
KECS				pmax	pmax			
	comp=N,14nm,0.9s							
KECS	**Kecovo**	**4.16**	**135**	*e*Pg		**Pg**	**08 16 47.5**	**-0.3**
KECS				*e*Sg		**Sg**	**08 17 40.1**	**-1.5**
KECS	**Kecovo**	**4.16**	**135**	*e*		**Pn**	**08 16 33.0**	**+0.2**
KECS	**Kecovo**	**4.16**	**135**	*e*PG		**Pg**	**08 16 47.5**	**-0.3**
KECS				*e*SG		**Sg**	**08 17 40.1**	**-1.5**
KECS				*e*LG		Lg	08 17 54.5	
BSEG	**Bad Segeberg**	**4.26**	**307**	*e*Pn		**Pn**	**08 16 34.1**	**-0.1**
BSEG	**Bad Segeberg**	**4.26**	**307**	Pn		**Pn**	**08 16 34.1**	**-0.1**
ARSA	**Arzberg**	**4.28**	**185**	Pn		**Pn**	**08 16 35.3**	**+0.7**
	comp=N,2.5nm,0.2s							
ARSA				Sg		**Sg**	**08 17 43.0**	**-2.7**
	comp=N,74nm,0.8s							
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*P		**Pn**	**08 16 35.1**	**-0.1**
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*Pg		**Pg**	**08 16 51.2**	**+0.1**
CRVS				*e*Sg		**Sg**	**08 17 47.8**	**+0.5**
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*		**Pn**	**08 16 35.1**	**-0.1**
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*PG		**Pg**	**08 16 51.2**	**+0.1**
CRVS				*e*SG		**Sg**	**08 17 47.8**	**+0.5**
PSZ	**Piszkesteto**	**4.37**	**144**	P		**Pn**	**08 16 37.4**	**+1.6**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*Pg		**Pg**	**08 17 00.2**	**+1.3**
KOLS	**Kolonicke sedl**	**4.74**	**121**	*e*PG		**Pg**	**08 17 00.2**	**+1.3**
KOLS				*e*LG		Lg	08 18 20.7	
KBA	**Koelnbreinsper**	**4.79**	**203**	P		**Pn**	**08 16 42.1**	**+0.5**
KBA	**Koelnbreinsper**	**4.79**	**203**	Pn		**Pn**	**08 16 41.9**	**+0.3**
	comp=N,5.8nm,0.4s,SNR=5.6							
KBA				Sg		**Sg**	**08 18 01.6**	**-0.2**
	comp=N,35nm,0.7s							
BLEU	**Blekinge**	**4.80**	**358**	P		**Pn**	**08 16

AAK	**Ala-Archa**	**39.79**	**79**	⇑	*e*P		**P**	**08 23 05.2**	**+2.4**
AAK					pmax	pmax			
	comp=Z,3.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**40.00**	**202**		P		**P**	**08 23 03.4**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=13,slow=7.4,SNR=5.6								
SONM	**Songino Array**	**54.93**	**55**		P		**P**	**08 25 01.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=288,slow=13,SNR=4.6								
SONM	**Songino Array**	**54.93**	**55**		*e*P		**P**	**08 25 03.7**	**+3.2**
YKA	**Yellowknife Ar**	**59.85**	**336**		P		**P**	**08 25 35.3**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=30,slow=6.3,SNR=6.1								
ULM	**Lac du Bonnet**	**63.35**	**318**		*e*P		**P**	**08 26 03.2**	**+4.5**
ULM					pmax	pmax			
	comp=Z,2.0nm,0.6s								

SJA 18 08:17:42.1±0.7,**31°51'S**×**67°04'W**,**h215**km±17km,**ML2.3, MW3.6,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACHE	**Chepes**	**0.47**	**43**	*i*	P	Pn	08 18 11.3	+0.2
AVFE	**Valle Fertil**	**0.92**	**337**	*i*	P	Pn	08 18 13.4	+0.3
AVFE				*i*	S	S	08 18 36.3	-0.8
AVFE					IAML		08 18 40.0	
	comp=Z,17nm,0.3s							
RTCV	**Cerro Valdivia**	**1.33**	**254**	*i*	P	Pn	08 18 16.6	+0.8
MRA	**San Martin**	**1.44**	**129**		IAML		08 19 30.8	
	comp=Z,16nm,0.5s							
ASAL	**Salagasta**	**1.87**	**234**	*i*	P	Pn	08 18 21.1	+0.5
RTLS	**Leoncito**	**1.95**	**261**	*i*	P	Pn	08 18 22.5	+0.9
ARCO	**CERRO ARCO**	**2.09**	**230**		IAML		08 18 39.3	
	comp=Z,13nm,0.2s							
AUSP	**Uspallata**	**2.12**	**250**	*i*	P	Pn	08 18 23.7	+0.4

*NNC **18** 08:20:16.6±2.8,54°19'N×86°71'E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=22.9km s-min=21.1km az=167.0*

IDC 18 08:20:14.2±2.9,**54°30'N**×**86°87'E**,**h0**km,**mb1 2.9**/2, **mb1mx2.8**/59,**mbtmp2.9**/2,**ML2.5**/2,**3C-5D,Error ellipse: s-maj=23.3km s-min=15.6km az=60.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**254**	*i*			08 28 22.3	
	baz=74,slow=312,SNR=2.6							
ZALV	**Zalesovo Beam**	**1.26**	**254**		Pg	Pg	08 20 36.3	-2.0
	1.8nm,0.3s,baz=73,slow=16,SNR=16							
ZALV					Lg	Lg	08 20 54.2	
	3.1nm,0.3s,baz=76,slow=31,SNR=21							
KURK	**Kurchatov**	**6.18**	**238**	⇓	Pn	Pn	08 21 48.0	+1.4
	11nm,1.1s							
KURK				⇑	Lg	Lg	08 23 28.6	
	13nm,0.6s							
KURBB	**Kurchatov Arra**	**6.29**	**237**		Pn	Pn	08 21 49.0	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=12							
KURBB					Sn	Sn	08 23 00.4	-0.2
	0.0nm,0.3s,baz=51,slow=22,SNR=3.2							
KURBB					Lg	Lg	08 23 33.3	
	0.0nm,0.3s,baz=57,slow=33,SNR=5.9							
KURBB	**Kurchatov Arra**	**6.29**	**237**	⇓	Pn	Pn	08 21 48.7	+0.6
	2.1nm,0.6s							
KURBB				⇓	Sn	Sn	08 23 00.1	-0.5
	2.9nm,0.6s							
KURBB				⇑	Lg	Lg	08 23 31.8	
	5.5nm,0.8s							
MK31	**Makanchi Array**	**8.06**	**203**	⇑	Pn	Pn	08 22 11.7	-0.8
	0.1nm,0.4s,baz=24,slow=13,SNR=5.2							
MK31				⇓	Sn	Sn	08 23 45.4	+1.1
	0.8nm,0.8s,baz=27,slow=28,SNR=2.5							
MK31				⇓	Lg	Lg	08 24 27.7	
	0.8nm,0.7s,baz=27,slow=14,SNR=5.7							
MKAR	**Makanchi Array**	**8.06**	**203**		Pn	Pn	08 22 13.6	+1.1
	0.1nm,0.3s,baz=25,slow=13,SNR=4.2							
MKAR					Sn	Sn	08 23 45.2	+0.9
	0.2nm,0.3s,baz=27,slow=28,SNR=5.9							
MKAR					Lg	Lg	08 24 29.2	
	0.1nm,0.3s,baz=24,slow=25,SNR=6.0							

IDC 18 08:25:17.8±3.5,**7°10'S**×**148°85'E**,**h0**km,**mb3.1**/1, **mb1 3.5**/2,**mb1mx3.2**/36,**mbtmp3.2**/2,**ML3.3/1,MS3.5**/1, **Ms1 3.5**/1,**ms1mx2.8**/14,**Error ellipse: s-maj=124.2km s-min=46.5km az=119.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.01**	**226**		P	P	08 29 41.1	-0.2
	0.1nm,0.3s,baz=52,slow=11,SNR=5.6							
ASAR	**Alice Springs**	**21.85**	**219**		P	P	08 30 12.4	+0.2
	0.6nm,0.6s,baz=58,slow=8.9,SNR=8.1							
AFI	**Afiamalu**	**39.26**	**103**		LR	LR	08 47 23.0	
	comp=Z,59nm,18.2s,baz=129,slow=34							
TORD	**Torodi Ar. Bea**	**147.14**	**283**		PKPbc	PKPbc	08 45 03.1	-0.9
	0.4nm,0.6s,baz=65,slow=4.3,SNR=4.8							

*NEIC **18** 08:27:10.0,43°67'S×172°86'E,h7km,ML4.0(WEL),After WEL.*

WEL 18 08:27:09.7±0.2,**43°68'S**×**172°88'E**,**h5**km,**ML4.0**/15,**5C, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0,South Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.17**	**261**	⇑	PG	Pg	08 27 13.7	+0.7
MQZ					SG	Sg	08 27 15.7	+0.5
MQZ					AML	AML	08 27 16.0	
MQZ	**McQueen's Vall**	**0.17**	**261**		Pg	Pg	08 27 13.7	+0.7
MQZ					Sg	Sg	08 27 15.7	+0.5
CRLZ	**Canterbury Las**	**0.21**	**300**		PG	Pg	08 27 14.0	0.0
CRLZ					AML	AML	08 27 17.0	
CRLZ					AML	AML	08 27 17.1	
CRLZ					AML	AML	08 27 19.7	
CRLZ					AML	AML	08 27 19.7	
OXZ	**Oxford**	**0.71**	**300**		P*	Pg	08 27 23.2	-0.1
OXZ					S*	Sg	08 27 32.7	+0.2
OXZ	**Oxford**	**0.71**	**300**		P*	Pg	08 27 23.2	-0.1
OXZ					S*	Sg	08 27 32.7	+0.2
LTZ	**Lake Taylor**	**1.00**	**333**		P*	Pg	08 27 28.8	-0.2
LTZ					AML	AML	08 27 42.4	
LTZ					AML	AML	08 27 42.7	
LTZ	**Lake Taylor**	**1.00**	**333**		P*	Pg	08 27 28.8	-0.2
RPZ	**Rata Peaks**	**1.32**	**268**	⇑	P*	Pn	08 27 33.5	-1.4
RPZ					AML	AML	08 27 52.8	
RPZ					AML	AML	08 27 53.8	
RPZ	**Rata Peaks**	**1.32**	**268**	*e*	Pn	Pn	08 27 33.8	-1.1
RPZ				*e*	Sn	Sb	08 27 52.4	0.0
KHZ	**Kahutara**	**1.35**	**21**		PN	Pn	08 27 34.2	-1.0
KHZ	**Kahutara**	**1.35**	**21**	*e*	Pn	Pn	08 27 33.9	-1.4
INZ	**Inchbonnie**	**1.42**	**312**		PN	Pn	08 27 34.8	-1.4
WVZ	**Waitaha Valley**	**1.68**	**290**	⇑	PN	Pn	08 27 39.0	-0.7
WVZ					AML	AML	08 28 01.6	
WVZ					AML	AML	08 28 11.6	
WVZ	**Waitaha Valley**	**1.68**	**290**		Pn	Pn	08 27 39.0	-0.7
THZ	**Tophouse**	**1.92**	**1**	⇑	PN	Pn	08 27 41.8	-1.3
THZ					AML	AML	08 28 15.0	
THZ					AML	AML	08 28 15.5	
THZ	**Tophouse**	**1.92**	**1**		Pn	Pn	08 27 41.8	-1.3
LBZ	**Lake Benmore**	**2.07**	**249**		PN	Pn	08 27 44.5	-0.6
LBZ					AML	AML	08 28 23.1	
LBZ					AML	AML	08 28 23.1	
LBZ					AML	AML	08 28 23.4	
LBZ					AML	AML	08 28 23.4	
LBZ	**Lake Benmore**	**2.07**	**249**		Pn	Pn	08 27 44.5	-0.6
DSZ	**Denniston Nort**	**2.09**	**337**		AML	AML	08 28 15.9	
DSZ					AML	AML	08 28 15.9	
DSZ					AML	AML	08 28 19.0	
DSZ					AML	AML	08 28 19.0	
BSWZ	**Blackbirch Sta**	**2.10**	**21**		PN	Pn	08 27 44.7	-0.9
BSWZ					AML	AML	08 28 28.6	
BSWZ					AML	AML	08 28 30.7	
BSWZ	**Blackbirch Sta**	**2.10**	**21**		Pn	Pn	08 27 44.7	-0.9
ODZ	**Otahua Downs**	**2.10**	**229**	⇑	PN	Pn	08 27 44.9	-0.7
ODZ					AML	AML	08 28 26.6	
ODZ					AML	AML	08 28 26.6	
ODZ					AML	AML	08 28 29.8	
ODZ					AML	AML	08 28 29.8	
ODZ	**Otahua Downs**	**2.10**	**229**	*e*	Pn	Pn	08 27 45.1	-0.5
ODZ				*e*	Pg	Pg	08 27 51.3	+1.3
ODZ				*e*	Sg	Sg	08 28 21.8	+4.4
FOZ	**Fox Glacier**	**2.23**	**273**		PN	Pn	08 27 47.7	+0.4
FOZ					AML	AML	08 28 26.8	
FOZ					AML	AML	08 28 31.9	
FOZ	**Fox Glacier**	**2.23**	**273**		Pn	Pn	08 27 47.8	+0.4
TUWZ	**Tuamarina**	**2.38**	**20**		PN	Pn	08 27 48.3	-1.1
TUWZ					AML	AML	08 28 36.6	
TUWZ					AML	AML	08 28 47.0	
TUWZ	**Tuamarina**	**2.38**	**20**		Pn	Pn	08 27 48.4	-1.1
NNZ	**Nelson**	**2.49**	**9**		PN	Pn	08 27 50.2	-0.7
NNZ					AML	AML	08 28 47.2	
NNZ					AML	AML	08 28 57.3	
NNZ	**Nelson**	**2.49**	**9**		Pn	Pn	08 27 50.2	-0.7
TCW	**Tory Channel**	**2.68**	**23**		PN	Pn	08 27 52.7	-0.7
TCW					AML	AML	08 28 29.2	
TCW					AML	AML	08 28 51.0	
TCW	**Tory Channel**	**2.68**	**23**		Pn	Pn	08 27 52.8	-0.7
QRZ	**Quartz Range**	**2.87**	**355**		AML	AML	08 28 46.1	
QRZ					AML	AML	08 28 51.2	
WHZ	**Wether Hill Ro**	**4.15**	**236**	*e*	Pn	Pn	08 28 12.3	-1.5
WHZ				*e*	Pg	Pg	08 28 33.1	+3.9

*KRSC **18** 08:37:25.3±1.9,52°76'N×161°53'E,h40km±25km,ML4.4*

*ISCJB **18** 08:37:28.1±0.9,52°78'N±0°06×161°42'E±0°06,h41km±8km, mb3.7/14,MS3.2/3,Error ellipse: s-maj=11.0km s-min=4.5km az=155.5*

*MOS **18** 08:37:28.3±0.8,52°79'N×161°34'E,h41km,mb4.0/4,Error ellipse: s-maj=9.2km s-min=5.0km az=100.3*

*IDC **18** 08:37:33.6±2.4,52°97'N×161°01'E,h71km±21km,mb3.3/13, mb1 3.6/14,mb1mx3.4/47,mbtmp3.6/14,MS3.2/7, Ms1 3.2/7,ms1mx2.9/31,Error ellipse: s-maj=21.2km s-min=15.4km az=145.0*

ISC 18 08:37:27.7±1.1,**52°80N**±0°06×**161°41E**±0°04,**h26**km±7km, **n84,**σ1§**46**/105,**mb3.6**/14,**MS3.1**/3,**1C,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NLC	**Nalytchevo**	**1.30**	**287**		PN	**Pn**	**08 37 49.3**	**-0.8**
NLC					S	**Sn**	**08 38 06.6**	**-0.1**
NLC	**Nalytchevo**	**1.30**	**287**	*e*	P	**Pn**	**08 37 49.3**	**-0.8**
NLC				*e*	S	**Sn**	**08 38 06.6**	**-0.1**
SDLR	**Sedlovina**	**1.60**	**288**		PN	**Pn**	**08 37 53.7**	**-0.7**
SDLR					S	**Sn**	**08 38 15.2**	**+1.0**
SDLR	**Sedlovina**	**1.60**	**288**	*e*	P	**Pn**	**08 37 53.7**	**-0.7**
SDLR				*e*	S	**Sn**	**08 38 15.2**	**+1.0**
UGLR	**Uglovaya**	**1.61**	**286**		PN	**Pn**	**08 37 54.3**	**-0.3**
UGLR					S	**Sb**	**08 38 16.2**	**-0.6**
UGLR	**Uglovaya**	**1.61**	**286**	*e*	P	**Pn**	**08 37 54.3**	**-0.3**
UGLR				*e*	S	**Sb**	**08 38 16.2**	**-0.6**
DALK	**Dalny**	**1.62**	**279**		PN	**Pn**	**08 37 53.9**	**-0.7**
DALK					S	**Sn**	**08 38 14.7**	**+0.1**
DALK	**Dalny**	**1.62**	**279**	*e*	P	**Pn**	**08 37 53.9**	**-0.7**
DALK				*e*	S	**Sn**	**08 38 14.7**	**+0.1**
SMAR	**Somma**	**1.64**	**287**		PN	**Pn**	**08 37 54.9**	**-0.1**
SMAR					S	**Sn**	**08 38 15.4**	**0.0**
SMAR	**Somma**	**1.64**	**287**	*e*	P	**Pn**	**08 37 54.9**	**-0.1**
SMAR				*e*	S	**Sn**	**08 38 15.4**	**0.0**
AVH	**Avacha**	**1.68**	**287**		PN	**Pn**	**08 37 55.7**	**+0.3**
AVH					S	**Sn**	**08 38 17.7**	**+1.6**
AVH	**Avacha**	**1.68**	**287**	*e*	P	**Pn**	**08 37 55.7**	**+0.3**
AVH				*e*	S	**Sn**	**08 38 17.7**	**+1.6**
PET	**Petropavlovsk**	**1.68**	**279**	*e*	PN	**Pn**	**08 37 55.0**	**-0.3**
PET				*e*	S	**Sn**	**08 38 15.1**	**-1.0**
PET					pmax	pmax		
	comp=Z,112nm,0.5s							
PET					smax	smax		
	comp=E,1μm,0.7s							
PET					smax	smax		
	comp=N,969nm,0.6s							
PET	**Petropavlovsk**	**1.68**	**279**	*e*	P	**Pn**	**08 37 55.1**	**-0.3**
PET				*e*	S	**Sn**	**08 38 15.0**	**-1.0**
KII	**Karymskiy**	**1.71**	**317**		PN	**Pn**	**08 37 56.2**	**+0.4**
KII	**Karymskiy**	**1.71**	**317**	*e*	P	**Pn**	**08 37 56.2**	**+0.4**
KOK	**Koryaka**	**1.75**	**288**		PN	**Pn**	**08 37 56.9**	**+0.5**
KOK	**Koryaka**	**1.75**	**288**	*e*	P	**Pn**	**08 37 56.9**	**+0.5**
KRX	**Arik**	**1.76**	**290**		PN	**Pn**	**08 37 56.2**	**-0.4**
KRX					S	**Sn**	**08 38 17.9**	**-0.2**
KRX	**Arik**	**1.76**	**290**	*e*	P	**Pn**	**08 37 56.2**	**-0.4**
KRX				*e*	S	**Sn**	**08 38 17.9**	**-0.2**
MKZ	**Mys Kozlova**	**1.77**	**6**		PN	**Pn**	**08 37 55.1**	**-1.5**
MKZ	**Mys Kozlova**	**1.77**	**6**	*e*	P	**Pn**	**08 37 55.1**	**-1.5**
RUS	**Russkaya**	**1.80**	**259**		PN	**Pn**	**08 37 57.0**	**0.0**
RUS					S	**Sn**	**08 38 20.1**	**+1.1**
RUS	**Russkaya**	**1.80**	**259**	*e*	P	**Pn**	**08 37 57.0**	**0.0**
RUS				*e*	S	**Sn**	**08 38 20.1**	**+1.1**
KRMR	**Karymshinskiy**	**1.99**	**272**		PN	**Pn**	**08 37 59.3**	**-0.3**
KRMR					S	**Sn**	**08 38 24.0**	**+0.3**
KRMR	**Karymshinskiy**	**1.99**	**272**	*e*	P	**Pn**	**08 37 59.3**	**-0.3**
KRMR				*e*	S	**Sn**	**08 38 24.0**	**+0.3**
ASAK	**Asacha**	**2.18**	**260**		PN	**Pn**	**08 38 03.1**	**+0.8**
ASAK					S	**Sn**	**08 38 30.9**	**+2.4**
ASAK	**Asacha**	**2.18**	**260**	*e*	P	**Pn**	**08 38 03.1**	**+0.8**
ASAK				*e*	S	**Sn**	**08 38 30.9**	**+2.4**
PETK	**Petropavlovsk-**	**2.27**	**279**		P	**Pn**	**08 38 04.0**	**+0.5**
	comp=N,23nm,0.3s,baz=93,slow=19,SNR=155							
PETK					S	**Sn**	**08 38 30.2**	**-0.2**
	comp=N,40nm,0.3s,baz=76,slow=25,SNR=12							
PETK					LR	LR	08 38 38.6	
	comp=N,68nm,21.4s,baz=84,slow=32							
GNL	**Ganaly**	**2.27**	**295**		PN	**Pn**	**08 38 04.0**	**+0.4**
GNL					S	**Sn**	**08 38 31.9**	**+1.2**
GNL	**Ganaly**	**2.27**	**295**	*e*	P	**Pn**	**08 38 04.0**	**+0.4**
GNL				*e*	S	**Sn**	**08 38 31.9**	**+1.2**
TUMR	**Tumrok**	**2.60**	**344**		PN	**Pn**	**08 38 08.8**	**+0.7**
TUMR	**Tumrok**	**2.60**	**344**	*e*	P	**Pn**	**08 38 08.8**	**+0.7**
KMNR	**Kamenistaya**	**3.04**	**347**		PN	**Pn**	**08 38 15.6**	**+1.4**
KMNR	**Kamenistaya**	**3.04**	**347**	*e*	P	**Pn**	**08 38 15.6**	**+1.4**
KIRR	**Kirishev**	**3.22**	**349**		PN	**Pn**	**08 38 18.7**	**+2.0**
KIRR	**Kirishev**	**3.22**	**349**	*e*	P	**Pn**	**08 38 18.7**	**+2.0**
ZLN	**Zelenaya**	**3.24**	**354**		PN	**Pn**	**08 38 19.9**	**+3.0**
ZLN	**Zelenaya**	**3.24**	**354**	*e*	P	**Pn**	**08 38 19.9**	**+3.0**
KPT	**Kopyto**	**3.25**	**348**		PN	**Pn**	**08 38 17.5**	**+0.5**
KPT	**Kopyto**	**3.25**	**348**	*e*	P	**Pn**	**08 38 17.5**	**+0.5**
LGNR	**Loginova**	**3.32**	**353**		PN	**Pn**	**08 38 19.8**	**+1.7**
LGNR	**Loginova**	**3.32**	**353**	*e*	P	**Pn**	**08 38 19.8**	**+1.7**
CIRR	**Tsirk**	**3.34**	**354**		PN	**Pn**	**08 38 19.9**	**+1.5**
CIRR	**Tsirk**	**3.34**	**354**	*e*	P	**Pn**	**08 38 19.9**	**+1.5**
KOZ	**Kozyrevsk**	**3.39**	**345**		PN	**Pn**	**08 38 19.5**	**+0.7**
KOZ	**Kozyrevsk**	**3.39**	**345**	*e*	P	**Pn**	**08 38 19.5**	**+0.7**
KRSR	**Krestovskiy**	**3.46**	**352**		PN	**Pn**	**08 38 22.9**	**+3.0**
KRSR	**Krestovskiy**	**3.46**	**352**	*e*	P	**Pn**	**08 38 22.9**	**+3.0**
ESO	**Esso**	**3.51**	**334**		PN	**Pn**	**08 38 21.1**	**+0.6**
ESO	**Esso**	**3.51**	**334**	*e*	P	**Pn**	**08 38 21.1**	**+0.6**
KBG	**Krutoberegovo**	**3.54**	**12**		PN	**Pn**	**08 38 21.4**	**+0.5**
KBG	**Krutoberegovo**	**3.54**	**12**	*e*	P	**Pn**	**08 38 21.4**	**+0.5**
BKI	**Bering**	**3.61**	**46**		PN	**Pn**	**08 38 21.4**	**-0.5**
BKI	**Bering**	**3.61**	**46**	*e*	P	**Pn**	**08 38 21.4**	**-0.5**
BKI				*e*	S	**Sn**	**08 39 00.2**	**-3.4**
BDR	**Baidarnaya**	**3.78**	**358**		PN	**Pn**	**08 38 27.5**	**+3.2**
BDR	**Baidarnaya**	**3.78**	**358**	*e*	P	**Pn**	**08 38 27.5**	**+3.2**
SMKR	**Semkarok**	**3.79**	**0**		PN	**Pn**	**08 38 26.8**	**+2.4**
SMKR	**Semkarok**	**3.79**	**0**	*e*	P	**Pn**	**08 38 26.8**	**+2.4**
SRKR	**Sorokina**	**3.87**	**358**		PN	**Pn**	**08 38 28.6**	**+3.1**
SRKR	**Sorokina**	**3.87**	**358**	*e*	P	**Pn**	**08 38 28.6**	**+3.1**
MA2	**Magadan**	**9.01**	**323**		LR	LR	08 43 34.4	
	comp=N,139nm,18.3s,baz=145,slow=41							
KLR	**Kul'dur**	**18.93**	**271**		LR	LR	08 48 44.8	
	comp=N,74nm,18.5s,baz=56,slow=36							
YAK	**Yakutsk**	**19.23**	**311**		LR	LR	08 50 20.4	
	comp=N,160nm,18.9s,baz=102,slow=40							
VLA	**Vladivostok**	**21.87**	**256**	⇑	*e*P	**P**	**08 42 13.5**	**-4.8**
VLA				*i*	*SP	**sP**	**08 42 29.0**	**+0.3**
VLA					pmax	pmax		
	comp=Z,23nm,0.6s							
MJAR	**Matsushiro Arr**	**23.00**	**234**		P	**P**	**08 42 31.2**	**+0.8**
	comp=Z,2.2nm,1.0s,baz=29,slow=9.6,SNR=7.7							
MJAR	**Matsushiro Arr**	**23.00**	**234**		P	**P**	**08 42 31.2**	**+0.8**
MJAR					pmax	pmax		
	comp=Z,3.0nm,1.1s							
TIXI	**Tiksi**	**23.68**	**335**		LR	LR	08 52 52.4	
	comp=Z,68nm,19.0s,baz=134,slow=39							
KSRS	**Korea Array**	**27.85**	**250**		LR	LR	08 55 24.2	
	comp=Z,36nm,18.6s,baz=48,slow=39							
ILAR	**Eielson Array**	**28.46**	**45**		P	**P**	**08 43 21.6**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=260,slow=8.1,SNR=4.9							
SONM	**Songino Array**	**34.74**	**284**		P	**P**	**08 44 13.6**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=44,slow=6.6,SNR=2.5							
YKA	**Yellowknife Ar**	**42.84**	**43**		P	**P**	**08 45 24.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=298,slow=7.7,SNR=3.2							
ZALV	**Zalesovo Beam**	**43.60**	**304**		LR	LR	09 04 57.9	
	comp=Z,54nm,18.2s,baz=68,slow=38							
MKAR	**Makanchi Array**	**49.00**	**297**		P	**P**	**08 46 10.0**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=59,slow=9.3,SNR=4.9							
MKAR	**Makanchi Array**	**49.00**	**297**		P	**P**	**08 46 10.0**	**-1.8**
ARCES	**ARCESS Array B**	**53.81**	**342**		P	**P**	**08 46 45.8**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=29,slow=11,SNR=2.5							
PDAR	**Pinedale Array**	**56.97**	**61**		P	**P**	**08 47 12.6**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=316,slow=4.1,SNR=5.1							
FINES	**FINESS Array B**	**60.70**	**337**		P	**P**	**08 47 36.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=41,slow=6.1,SNR=5.9							
NB2	**NORSAR Subarra**	**64.04**	**344**		P	**P**	**08 47 58.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=22,slow=6.9							
NOA	**NORSAR Array B**	**64.04**	**344**		P	**P**	**08 47 58.2**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=20,slow=6.6,SNR=4.7							
AKASG	**Malin Array Be**	**69.27**	**330**		P	**P**	**08 48 31.0**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=32,slow=7.0,SNR=3.6							
TXAR	**Lajitas Array**	**70.02**	**68**		P	**P**	**08 48 39.1**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=291,slow=3.7,SNR=6.5							
WRA	**Warramunga Arr**	**76.16**	**206**		P	**P**	**08 49 14.1**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=24,slow=6.4,SNR=3.2							
ASAR	**Alice Springs**	**79.83**	**205**		P	**P**	**08 49 34.6**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=21,slow=5.7,SNR=5.3							

*ISCJB **18** 08:42:11.9±0.6,37°18N±0°04×28°18E±0°04,h0km,Error ellipse: s-maj=6.7km s-min=4.2km az=32.9*

*DDA **18** 08:42:11.5,37°25N×28°18E,h7km,Md2.6,Suspected Mining explosion.*

*CSEM **18** 08:42:11.9±0.3,37°22N×28°17E,h2km,MD2.6,Error ellipse: s-maj=8.9km s-min=5.8km az=19.0,Suspected Mining explosion.*

*ISK **18** 08:42:11.2,37°14N×28°13E,h7km,MD2.6*

ISC 18 08:42:12.4±1.0,**37°20N**±0°03×**28°15E**±0°03,**h0**km,**n19,** σ1§**12**/26,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**120**	*e*	PG	**Pg**	**08 42 14.4**	**-0.4**
YER	**Yerkesik**	**0.13**	**120**	*e*	Pg	**Pg**	**08 42 14.4**	**-0.4**
TURN	**Turunc**	**0.49**	**131**	*i*	P	**Pg**	**08 42 20.4**	**-1.4**
TURN				*i*	S	**Sg**	**08 42 27.9**	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.56**	**133**	*e*	PG	**Pg**	**08 42 22.1**	**-0.9**
DALY	**Dalyan (Mu˘la**	**0.56**	**133**	*e*	Pg	**Pg**	**08 42 22.1**	**-0.9**
BDRM	**Kayabasi**	**0.58**	**257**		P	**Pg**	**08 42 23.3**	**-0.1**
BDRM					S	**Sb**	**08 42 33.1**	**-1.0**
BDRM	**Kayabasi**	**0.58**	**257**	*i*	P	**Pg**	**08 42 23.3**	**-0.1**
BDRM				*i*	S	**Sb**	**08 42 33.1**	**-1.0**
BODT	**Bodrum**	**0.68**	**259**	*e*	PG	**Pg**	**08 42 24.4**	**-1.0**
BODT	**Bodrum**	**0.68**	**259**	*e*	Pg	**Pg**	**08 42 24.4**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**345**	*e*	PG	**Pg**	**08 42 26.8**	**-0.4**
AYDB				*e*	SG	**Sb**	**08 42 39.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**345**	*e*	Pg	**Pg**	**08 42 26.8**	**-0.4**
FETY	**Fethiye**	**0.94**	**126**	*e*	PG	**Pg**	**08 42 29.5**	**-0.8**
FETY	**Fethiye**	**0.94**	**126**	*e*	Pg	**Pg**	**08 42 29.5**	**-0.8**
GOLH	**Golhisar**	**1.13**	**88**		P	**Pg**	**08 42 32.7**	**-1.4**
GOLH	**Golhisar**	**1.13**	**88**	*i*	P	**Pg**	**08 42 32.6**	**-1.4**
GOLH				*i*	S	**Sn**	**08 42 52.6**	**+0.7**
KULA	**Kula-Manisa**	**1.38**	**17**	*e*	PN	**Pg**	**08 42 38.1**	**-0.6**
KULA	**Kula-Manisa**	**1.38**	**17**	*e*	Pn	**Pg**	**08 42 38.2**	**-0.6**
AKAS	**Kas**	**1.52**	**129**		P	**Pb**	**08 42 41.5**	**0.0**
AKAS					S	**Sn**	**08 43 04.1**	**+2.7**
AKAS	**Kas**	**1.52**	**129**	*i*	P	**Pb**	**08 42 41.5**	**0.0**
AKAS				*i*	S	**Sn**	**08 43 04.1**	**+2.7**

*NIED **18** 08:48:00,39°40N×143°10E,h17km,Mw3.4 Best double couple: M0 1.65000×10^14 NP1:ϕs 168.00000°,δ31.00000°, λ92.00000°. NP2:ϕs

FETY	**Fethiye**	**0.99**	**127**	*e*Pg	**Pg**	**08 53 50.7**	**-0.5**
GOLH	**Golhisar**	**1.16**	**90**	P	**Pn**	**08 53 57.2**	**+1.3**
GOLH	**Golhisar**	**1.16**	**90**	*i* P	**Pn**	**08 53 57.2**	**+1.3**
GOLH				*i* S	**Sn**	**08 54 12.3**	**-0.3**
KULA	**Kula-Manisa**	**1.35**	**19**	*e*PN	**Pg**	**08 53 57.8**	**-0.3**
KULA	**Kula-Manisa**	**1.35**	**19**	*e*Pn	**Pg**	**08 53 57.8**	**-0.3**
AKAS	**Kas**	**1.57**	**129**	P	**Pn**	**08 54 01.7**	**+0.2**
AKAS	**Kas**	**1.57**	**129**	*i* P	**Pn**	**08 54 01.7**	**+0.2**
AKAS				*i* S	**Sb**	**08 54 25.7**	**+3.0**

*NEIC **18** 09:05:04.3, 18.88N×67.65W, h18km, MD3.1(RSPR), After RSPR.*

RSPR 18 09:05:04.3, 18.88N×67.65W, h18km±6km, MD3.0/9, 16C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.51**	**161**	*e*P	**Pg**	09 05 13.0	-1.7
IDE	**Isla Desecheo**	**0.51**	**161**	*e*S	**Sg**	09 05 21.2	-0.4
IDE	**Isla Desecheo**	**0.51**	**161**	*e*P	**Pg**	09 05 13.0	-1.7
IDE				*e*S	**Sg**	09 05 21.2	-0.4
AGPR	**Aguadilla, PR**	**0.65**	**128**	*e*P	**Pb**	09 05 15.0	-2.1
AGPR	**Aguadilla, PR**	**0.65**	**128**	*e*S	**Sb**	09 05 24.9	-1.0
AGPR	**Aguadilla, PR**	**0.65**	**128**	*e*P	**Pb**	09 05 15.0	-2.1
AGPR				*e*S	**Sb**	09 05 24.9	-1.0
MPR	**Mayaguez**	**0.82**	**144**	*e*P	**Pb**	09 05 17.8	-2.2
MPR	**Mayaguez**	**0.82**	**144**	*e*P	**Pb**	09 05 17.8	-2.2
LSP	**Las Mesas**	**0.88**	**142**	*e*P	**Pb**	09 05 18.7	-2.3
LSP	**Las Mesas**	**0.88**	**142**	*e*P	**Pb**	09 05 18.7	-2.3
LRS	**Lares**	**0.96**	**127**	*e*P	**Pb**	09 05 19.6	-2.8
LRS				*e*S	**Sb**	09 05 32.6	-2.2
LRS	**Lares**	**0.96**	**127**	*e*P	**Pb**	09 05 19.6	-2.8
AOPR	**Arecibo Observ**	**1.00**	**122**	*e*P	**Pb**	09 05 20.1	-3.0
AOPR	**Arecibo Observ**	**1.00**	**122**	*e*S	**Sb**	09 05 32.9	-3.0
AOPR	**Arecibo Observ**	**1.00**	**122**	*e*P	**Pb**	09 05 20.1	-3.0
AOPR				*e*S	**Sb**	09 05 32.9	-3.0
CRPR	**Cabo Rojo, PR**	**1.00**	**149**	*e*P	**Pb**	09 05 21.0	-2.1
CRPR	**Cabo Rojo, PR**	**1.00**	**149**	*e*P	**Pb**	09 05 21.0	-2.1
CELP	**Cerrillos**	**1.29**	**128**	*i* P	**Pn**	09 05 25.2	-2.2
CELP				*e*S	**Sn**	09 05 40.4	-3.8
CELP	**Cerrillos**	**1.29**	**128**	*i* P	**Pn**	09 05 25.2	-2.2
OBIP	**Obispado Ponce**	**1.29**	**130**	*e*P	**Pn**	09 05 24.8	-2.7
OBIP	**Obispado Ponce**	**1.29**	**130**	*e*P	**Pn**	09 05 24.8	-2.7
SJG	**San Juan**	**1.61**	**118**	*e*P	**Pn**	09 05 29.6	-2.3
SJG				*e*S	**Sn**	09 05 48.4	-3.8
SJG	**San Juan**	**1.61**	**118**	*e*P	**Pn**	09 05 29.6	-2.3
DR12	**Loma Pena Alta**	**1.64**	**267**	*e*P	**Pn**	09 05 29.7	-2.6
DR12	**Loma Pena Alta**	**1.64**	**267**	*e*P	**Pn**	09 05 29.7	-2.6
HUMP	**Col San Antoni**	**1.86**	**113**	*e*P	**Pn**	09 05 33.0	-2.3
HUMP	**Col San Antoni**	**1.86**	**113**	*e*P	**Pn**	09 05 33.0	-2.3
STVI	**Saint Thomas**	**2.61**	**101**	*e*P	**Pn**	09 05 43.5	-2.1
STVI	**Saint Thomas**	**2.61**	**101**	*e*P	**Pn**	09 05 43.5	-2.1
SDDR	**Presa de Saban**	**3.44**	**272**	*e*Pn	**Pn**	09 05 58.2	+1.1
SDDR				*e*Sg	**Sg**	09 06 51.5	-3.6

IDC 18 09:05:09.6±2.0, 17.97S×167.29E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/37, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=41.9km s-min=34.9km az=122.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.16**	**191**	P	**Pn**	09 06 14.9	+0.4
	14nm,0.3s,baz=87,slow=7.8,SNR=70						
DZM				Sn	Sn	09 07 02.8	-1.2
	13nm,0.3s,baz=153,slow=16,SNR=14						
WRA	**Warramunga Arr**	**31.20**	**261**	P	P	09 11 30.8	-0.1
	0.7nm,0.8s,baz=87,slow=8.6,SNR=4.9						
ASAR	**Alice Springs**	**31.67**	**254**	P	P	09 11 35.1	+0.1
	0.7nm,0.4s,baz=85,slow=8.6,SNR=20						
TXAR	**Lajitas Array**	**97.79**	**62**	P	P	09 18 47.2	-0.2
	0.3nm,0.8s,baz=232,slow=4.4,SNR=3.5						

*ISCJB **18** 09:09:39.3±0.6, 39.72N±0.04×30.00E±0.04, h1km±7km, Error ellipse: s-maj=6.8km s-min=4.1km az=154.3*
*DDA **18** 09:09:39.8, 39.71N×30.04E, h7km, Md2.6*
*CSEM **18** 09:09:39.5±0.1, 39.71N×30.00E, h10km, MD2.6, Error ellipse: s-maj=3.6km s-min=2.7km az=161.0*
*ISK **18** 09:09:39.2, 39.72N×30.00E, h13km, MD2.7*

ISC 18 09:09:39.4±1.1, 39.71N±0.03×30.00E±0.02, h7km±11km, n34, σ0.62/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORA	**Eskisehir**	**0.39**	**64**	P	**Pg**	**09 09 46.9**	**0.0**
BORA				S	**Sb**	**09 09 53.7**	**-1.1**
BORA	**Eskisehir**	**0.39**	**64**	*i* P	**Pg**	**09 09 46.9**	**0.0**
BORA				*i* S	**Sb**	**09 09 53.7**	**-1.1**
TVSB	**Tavsanli**	**0.49**	**238**	*e*PG	**Pg**	**09 09 49.4**	**+0.5**
TVSB				*e*SG	**Sb**	**09 09 57.0**	**-0.9**
TVSB	**Tavsanli**	**0.49**	**238**	*e*Pg	**Pg**	**09 09 49.4**	**+0.5**
TVSB				*e*Sg	**Sb**	**09 09 57.0**	**-0.9**
CAVI	**Cavuskoy**	**0.51**	**346**	*e*PG	**Pg**	**09 09 49.0**	**-0.2**
CAVI	**Cavuskoy**	**0.51**	**346**	*e*Pg	**Pg**	**09 09 49.0**	**-0.2**
ESKT	**Eskisehir**	**0.68**	**106**	*e*PG	**Pg**	**09 09 52.7**	**+0.3**
ESKT	**Eskisehir**	**0.68**	**106**	*e*Pg	**Pg**	**09 09 52.7**	**+0.3**
ESKT	**Eskisehir**	**0.68**	**106**	*i* P	**Pg**	**09 09 52.5**	**0.0**
ESKT				*i* S	**Sg**	**09 10 01.1**	**-0.2**
SEYT	**Eskypehyr**	**0.68**	**106**	P	**Pg**	**09 09 52.5**	**0.0**
SEYT				S	**Sg**	**09 10 01.1**	**-0.2**
GDZ	**Gediz**	**0.74**	**213**	P	**Pg**	**09 09 53.4**	**-0.2**
GDZ	**Gediz**	**0.74**	**213**	*i* P	**Pg**	**09 09 53.4**	**-0.2**
IZI	**Iznik**	**0.75**	**327**	*e*PG	**Pg**	**09 09 53.9**	**+0.2**
IZI	**Iznik**	**0.75**	**327**	*e*Pg	**Pg**	**09 09 53.9**	**+0.2**
GULT	**Gulveren**	**0.82**	**28**	*e*PG	**Pg**	**09 09 55.5**	**+0.4**
GULT	**Gulveren**	**0.82**	**28**	*e*Pg	**Pg**	**09 09 55.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.08**	**308**	*e*PG	**Pg**	**09 10 00.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.08**	**308**	*e*Pg	**Pg**	**09 10 00.2**	**0.0**
HRT	**Hereke**	**1.14**	**347**	*e*PN	**Pb**	**09 10 01.1**	**-0.4**
HRT	**Hereke**	**1.14**	**347**	*e*Pn	**Pb**	**09 10 01.1**	**-0.4**
BTAS	**Taskesti**	**1.15**	**41**	P	**Pn**	**09 10 02.5**	**+0.5**
BTAS				S	**Sb**	**09 10 16.4**	**-0.4**
BTAS	**Taskesti**	**1.15**	**41**	*i* P	**Pn**	**09 10 02.5**	**+0.5**
BTAS				*i* S	**Sb**	**09 10 16.4**	**-0.4**
MDUB	**Mudurnu**	**1.19**	**50**	*e*PN	**Pb**	**09 10 02.1**	**-0.3**
MDUB	**Mudurnu**	**1.19**	**50**	*e*Pn	**Pb**	**09 10 02.1**	**-0.3**
DEMI	**Demirci**	**1.20**	**237**	P	**Pg**	**09 10 03.3**	**+0.9**
DEMI	**Demirci**	**1.20**	**237**	*i* P	**Pg**	**09 10 03.3**	**+0.9**
DEMI				*i* S	**Sn**	**09 10 21.1**	**+1.8**
SVRH	**Sivrihisar-ESK**	**1.20**	**102**	*e*PN	**Pg**	**09 10 02.6**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.20**	**102**	*e*Pn	**Pg**	**09 10 02.6**	**+0.2**
ARMT	**Armutlu**	**1.22**	**315**	*e*PN	**Pn**	**09 10 02.2**	**-0.7**
ARMT	**Armutlu**	**1.22**	**315**	*e*Pn	**Pn**	**09 10 02.2**	**-0.7**
SAHE	**Sakarya_HENDEK**	**1.31**	**29**	P	**Pg**	**09 10 05.0**	**+0.4**
SAHE				S	**Sg**	**09 10 22.6**	**+1.0**
SAHE	**Sakarya_HENDEK**	**1.31**	**29**	*i* P	**Pg**	**09 10 05.0**	**+0.4**
SAHE				*i* S	**Sg**	**09 10 22.6**	**+1.0**
KCTX	**Karacabey (Bur**	**1.38**	**294**	*e*PN	**Pn**	**09 10 04.6**	**-0.5**
KCTX	**Karacabey (Bur**	**1.38**	**294**	*e*Pn	**Pn**	**09 10 04.6**	**-0.5**

JMA 18 09:11:19.9, 37.00N×140.56E, h6km±1km, M2.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.22**	**62**	P	Pg	09 11 24.5	+0.3
ONAJ				S	Sg	09 11 27.9	+0.8
JHO	**Hitachi**	**0.39**	**179**	P	Pg	09 11 27.4	0.0
JHO				S	Sg	09 11 32.9	+0.4
JFK	**Kawauchi**	**0.44**	**34**	P	Pg	09 11 28.6	+0.1
JFK				S	Sg	09 11 34.7	+0.4
JFT	**Otama**	**0.55**	**341**	P	Pg	09 11 30.7	+0.2
JFT				S	Sg	09 11 38.3	+0.7
JFY	**Yanaizu**	**0.79**	**301**	P	Pg	09 11 35.2	0.0
JFY				S	Sg	09 11 45.4	-0.1
MAT	**Matsushiro**	**1.94**	**257**	P	Pb	09 11 54.7	-1.0
MAT				S	Sb	09 12 19.9	-0.3

*NIED **18** 09:12:00, 37.00N×141.20E, h53km, Mw4.1 Best double couple: M0.157000×10^15 NP1:φs223.00000°, δ19.00000°, λ114.00000°. NP2:φs17.00000°, δ73.00000°, λ82.00000°.*
*ISCJB **18** 09:12:48.2±0.7, 36.98N±0.03×141.24E±0.07, h52km±4km, mb3.9/18, MS3.2/7, Error ellipse: s-maj=9.6km s-min=5.4km az=13.5*
*JMA **18** 09:12:49.5±0.1, 37.00N×141.17E, h48km±1km, M4.0*

JMA Felt III J1.
*IDC **18** 09:12:50.4±0.6, 36.99N×141.16E, h55km±6km, mb3.7/18, mb1 3.8/22, mb1mx3.8/37, mbtmp4.0/22, MS3.1/12, Ms1 3.1/12, ms1mx2.8/51, Error ellipse: s-maj=11.3km s-min=9.1km az=137.0*

ISC 18 09:12:49.5±0.6, 36.97N±0.04×141.23E±0.07, h49km±5km, n44, σ1.52/51, mb3.9/18, MS3.1/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.37**	**291**	P	**Pn**	**09 12 58.6**	**-0.6**
ONAJ				S	**Sn**	**09 13 04.7**	**-1.5**
JFK	**Kawauchi**	**0.48**	**325**	P	**Pn**	**09 12 59.7**	**-0.9**
JFK				S	**Sn**	**09 13 06.7**	**-1.8**
JHO	**Hitachi**	**0.64**	**236**	P	**Pn**	**09 13 01.9**	**-0.5**
JHO				S	**Sn**	**09 13 10.5**	**-1.2**
JFT	**Otama**	**0.90**	**308**	P	**Pn**	**09 13 05.7**	**-0.1**
JFT				S	**Sn**	**09 13 17.1**	**-0.7**
JMM	**Marumori**	**0.96**	**339**	P	**Pn**	**09 13 05.7**	**-0.9**
JMM				S	**Sn**	**09 13 17.5**	**-1.7**
JFY	**Yanaizu**	**1.29**	**290**	P	**Pn**	**09 13 10.6**	**-0.6**
JOU	**Okura**	**1.46**	**342**	P	**Pn**	**09 13 12.9**	**-0.6**
JOU				S	**Sn**	**09 13 31.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.46**	**261**	P	**Pn**	**09 13 27.6**	**+0.4**
	23nm,0.3s,baz=84,slow=15,SNR=50						
MJAR				S	**Sn**	**09 13 56.2**	**+0.2**
	15nm,0.3s,baz=82,slow=18,SNR=6.9						
MJAR				LR	LR	09 14 43.3	
	comp=Z,264nm,21.5s,baz=80,slow=47						
MAT	**Matsushiro**	**2.46**	**261**	P	**Pn**	**09 13 27.9**	**+0.7**
MAT				S	**Sn**	**09 13 55.4**	**-0.6**
JHJ	**Hachijo jima 2**	**4.02**	**198**	P	**Pn**	**09 13 50.0**	**+1.4**
	46nm,0.3s,baz=328,slow=23,SNR=24						
JHJ				S	**Sn**	**09 14 35.5**	**+1.2**
	38nm,0.3s,baz=44,slow=23,SNR=9.5						
ASAJ	**Asahikawa**	**7.21**	**8**	P	**Pn**	**09 14 31.4**	**-0.9**
	baz=270,slow=20						
JNU	**Nakatsue**	**9.31**	**249**	P	**Pn**	**09 15 03.9**	**+2.7**
	0.4nm,0.3s,baz=46,slow=5.5,SNR=4.9						
JNU				LR	LR	09 18 40.1	
	comp=Z,77nm,20.6s,baz=112,slow=38						
JCJ	**Chichijima**	**9.88**	**175**	P	**Pn**	**09 15 07.6**	**-1.3**
	baz=323,slow=20						
JCJ				S	**Sn**	**09 16 51.3**	**-7.1**
	baz=53,slow=20						
USRK	**Ussuriysk Ar.**	**10.07**	**319**	P	**Pn**	**09 15 13.3**	**+1.9**
	0.3nm,0.3s,baz=133,slow=12,SNR=19						
USRK				LR	LR	09 18 49.4	
	comp=Z,93nm,21.8s,baz=154,slow=36						
KSRS	**Korea Array**	**10.62**	**277**	P	**Pn**	**09 15 21.6**	**+2.7**
	baz=91,slow=13,SNR=6.0						
KSRS				LR	LR	09 19 10.0	
	comp=Z,99nm,20.1s,baz=90,slow=36						
KLR	**Kul'dur**	**14.06**	**334**	LR	LR	09 21 24.1	
	comp=Z,82nm,18.0s,baz=158,slow=37						
YAK	**Yakutsk**	**26.10**	**348**	LR	LR	09 28 12.1	
	comp=Z,34nm,18.0s,baz=130,slow=35						
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**09 18 32.1**	**-1.0**
	1.2nm,0.6s,baz=101,slow=8.8,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	09 48 23.9	
	baz=313,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**28.25**	**120**	T	T	09 48 24.9	
	baz=313,slow=75,SNR=84						
H11N3	**WAKE ISLAND Hy**	**28.26**	**120**	T	T	09 48 38.7	
	baz=313,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	09 49 25.4	
	baz=315,slow=75,SNR=65						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	09 49 24.4	
	baz=315,slow=75,SNR=59						
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	09 49 35.1	
	baz=315,slow=75,SNR=45						
CMAR	**Chiang Mai Arr**	**41.33**	**255**	LR	LR	09 39 48.3	
	comp=Z,18nm,18.8s,baz=45,slow=39						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**09 20 34.5**	**0.0**
	4.2nm,0.5s,baz=92,slow=6.7,SNR=16						
ZALV				PcP	**PcP**	**09 22 28.2**	**-1.4**
	0.9nm,0.7s,baz=64,slow=3.4,SNR=3.5						
ZALV				LR	LR	09 38 28.9	
	comp=Z,16nm,19.2s,baz=68,slow=37						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**09 20 52.0**	**-0.3**
	1.8nm,0.8s,baz=89,slow=9.2,SNR=12						
MKAR				PcP	**PcP**	**09 22 37.4**	**+0.3**
	0.8nm,0.8s,baz=60,slow=8.5,SNR=3.7						
MKAR				LR	LR	09 38 56.9	
	comp=Z,28nm,18.8s,baz=142,slow=36						
ILAR	**Eielson Array**	**49.63**	**32**	P	**P**	**09 21 36.7**	**+1.0**
	0.4nm,0.8s,baz=276,slow=4.6,SNR=5.0						
ILAR				pP	**pP**	**09 21 50.0**	**+1.0**
	0.7nm,0.8s,baz=275,slow=6.0,SNR=5.4						
AAK	**Ala-Archa**	**50.39**	**298**	LR	LR	09 44 17.1	
	comp=Z,44nm,19.0s,baz=304,slow=38						
BVAR	**Borovoye Array**	**50.50**	**312**	P	**P**	**09 21 41.9**	**-0.7**
	1.3nm,0.5s,baz=72,slow=8.0,SNR=7.9						
BVAR				PcP	**PcP**	**09 22 59.8**	**-0.1**
	1.1nm,0.6s,baz=100,slow=3.3,SNR=5.7						
WRA	**Warramunga Arr**	**56.98**	**188**	P	**P**	**09 22 30.1**	**-0.1**
	0.8nm,0.7s,baz=5.2,slow=7.5,SNR=9.9						
WRA				pP	**pP**	**09 22 44.9**	**+1.3**
	1.6nm,0.8s,baz=2.0,slow=7.4,SNR=6.1						
AKTO	**Aktyubinsk**	**58.60**	**312**	P	**P**	**09 22 41.2**	**-0.1**
	0.3nm,0.6s,baz=58,slow=9.2,SNR=5.1						
ASAR	**Alice Springs**	**60.70**	**188**	P	**P**	**09 22 56.3**	**+0.4**
	0.5nm,0.8s,baz=13,slow=8.6,SNR=4.0						
ASAR				pP	**pP**	**09 23 11.2**	**+1.6**
	1.4nm,1.0s,baz=20,slow=4.6,SNR=6.5						
GEYT	**Alibeck**	**63.73**	**299**	P	**P**	**09 23 16.1**	**-0.1**
	1.5nm,0.4s,baz=30,slow=7.0,SNR=2.3						
YKA	**Yellowknife Ar**	**63.94**	**30**	P	**P**	**09 23 18.1**	**+1.0**
	0.3nm,0.7s,baz=308,slow=6.8,SNR=4.2						
ARCES	**ARCESS Array B**	**64.00**	**339**	P	**P**	**09 23 17.3**	**-0.2**
	2.0nm,0.9s,baz=60,slow=7.2,SNR=7.2						
FINES	**FINESS Array B**	**68.80**	**332**	P	**P**	**09 23 47.6**	**-0.6**
	2.7nm,0.7s,baz=45,slow=8.4,SNR=10						
NB2	**NORSAR Subarra**	**74.19**	**337**	P	**P**	**09 24 19.9**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**74.19**	**337**	P	**P**	**09 24 20.4**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=38,slow=5.8,SNR=12						
NOA				LR	LR	10 00 06.5	
	comp=Z,10nm,19.3s,baz=65,slow=38						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**09 24 20.0**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=46,slow=6.3,SNR=6.7						
PDAR	**Pinedale Array**	**77.82**	**45**	P	**P**	**09 24 43.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=302,slow=5.2,SNR=2.5						
BRTR	**Keskin Array B**	**78.78**	**311**	P	**P**	**09 24 47.3**	**0.0**
	comp=Z,0.5nm,0.7s,baz=82,slow=6.0,SNR=3.6						
GERES	**GERESS Array B**	**82.69**	**328**	P	**P**	**09 25 07.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=41,slow=7.6,SNR=5.0						
GERES				LR	LR	10 03 29.7	
	comp=Z,24nm,18.1s,baz=318,slow=37						
TXAR	**Lajitas Array**	**90.28**	**52**	P	**P**	**09 25 47.0**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=281,slow=2.4,SNR=3.9						
TXAR				pP	**pP**	**09 26 01.8**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=270,slow=2.5,SNR=2.8						

*BER **18** 09:13:43.0±0.3, 71.03N×5.93W, h0km, MD2.9, ML2.2*

ISC 18 09:13:41.4±3.6, 71.63N±0.08×6.7W±0.3, h9km, n4, σ2.24/6, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.82**	**224**	*e*P	**Pn**	**09 13 58.8**	**-0.4**
JNE	**Jan Mayen East**	**0.83**	**220**	*e*P	**Pn**	**09 13 58.4**	**-0.8**
JNE				IAML		09 14 13.0	
	comp=Z,99nm,0.2s						
JMIC	**Jan Mayen**	**0.87**	**224**	*e*P	**Pb**	**09 13 59.0**	**+0.3**
JMIC				*e*S	**Sg**	**09 14 11.0**	**+1.5**
JMIC				IAML		09 14 15.4	
	comp=Z,31nm,0.5s						
DAG	**Danmarks Havn**	**6.10**	**333**	*i* P	**Pn**	**09 15 13.3**	**+1.7**
DAG				*i* S	**Sn**	**09 16 18.4**	**-3.0**

*ISCJB **18** 09:23:53.6±0.8, 32.24N±0.03×115.25W±0.06, h15km±6km, Error ellipse: s-maj=8.0km s-min=5.0km az=166.1*
*ECX **18** 09:23:54.5±0.6, 32.22N×115.26W, h7km, MD2.0, ML2.3*
*MEX **18** 09:23:54.6±0.3, 32.32N×115.10W, h25km±4km, MD3.2*

ISC 18 09:23:53.5±1.0, 32.22N±0.07×115.3W±0.1, h14km±14km, n13, σ0.56/14, 3C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.19**	**19**	*e*P	**Pg**	**09 23 58.4**	**+0.4**
MBIG				*e*S	**Sg**	**09 24 00.2**	**-0.8**
CPBX	**Cerro Prieto**	**0.20**	**352**	*e*P	**Pg**	**09 23 58.4**	**+0.4**
CPBX				*e*S	**Sg**	**09 24 01.2**	**+0.1**
CPBX				IAML		09 24 03.6	
	comp=E,3μm,0.3s						
CPBX				⇓*e*		09 24 03.6	
CPBX				⇑*e*		09 24 03.8	
CPBX				IAML		09 24 03.8	
	comp=N,2μm,0.2s						
WESC	**Westside Schoo**	**0.66**	**324**	*e*P	**Pb**	**09 24 06.4**	**-0.4**
YUH	**Yuha Desert**	**0.69**	**308**	⇑*i* P	**Pb**	**09 24 06.8**	**-0.5**
ECBX	**El Chinero**	**0.77**	**166**	*e*P	**Pb**	**09 24 08.1**	**-0.5**
ECBX				*e*S	**Sg**	**09 24 18.7**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.82**	**301**	*e*P	**Pb**	**09 24 09.2**	**-0.5**
CBX	**Cerro Bola**	**1.18**	**275**	*e*P	Pn	09 24 14.8	-0.9
CBX				*i* S	**Sb**	**09 24 30.7**	**-0.2**
CBX	**Cerro Bola**	**1.18**	**275**	*e*P	Pn	09 24 15.6	-0.1
CBX				*e*S	**Sb**	**09 24 30.7**	**-0.2**
CBX				IAML		09 24 35.3	
	comp=N,45nm,0.3s						
CBX				⇑*e*		09 24 35.3	
SPIG	**San Pedro Mart**	**1.19**	**188**	*e*P	Pn	09 24 14.8	-1.1
SPIG				*e*S	**Sb**	**09 24 31.1**	**-0.2**
SPIG	**San Pedro Mart**	**1.19**	**188**	*e*P	Pn	09 24 14.8	-1.1
TJIG	**Tijuana**	**1.20**	**280**	*e*P	Pn	09 24 15.2	-0.7
TJIG				*e*S	**Sb**	**09 24 30.7**	**-0.7**
BAR	**Barrett**	**1.27**	**291**	*e*P	Pn	09 24 16.3	-0.5
SDRC	**San Diego Road**	**1.50**	**290**	*e*P	**Pn**	**09 24 20.7**	**+0.8**

JMA 18 09:24:42.7±0.1, 35.81N×140.90E, h11km±1km, M3.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.11**	**197**	P	Pg	09 24 45.5	-0.1
CHOJ				S	Sg	09 24 47.9	+0.3
JCN	**Nagara**	**0.69**	**236**	P	Pb	09 24 57.3	+0.6
JCN				S	Sn	09 25 08.2	-0.9
JYT	**Yasato**	**0.71**	**306**	P	Pg	09 24 56.0	-0.4
JYT				S	Sg	09 25 05.4	-0.3
MAT	**Matsushiro**	**2.30**	**289**	P	Pn	09 25 19.6	-1.0
MAT				S	Sn	09 25 48.0	-0.9

IDC 18 09:42:52.4±2.2, 3.71S×128.83E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/40, mbtmp3.4/3, ML3.1/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/16, Error ellipse: s-maj=169.4km s-min=27.7km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.00**	**162**	P	Pn	09 46 51.6	-0.2
	0.1nm,0.3s,baz=344,slow=13,SNR=5.9						
ASAR	**Alice Springs**	**20.43**	**167**	P	P	09 47 31.6	+0.1
	0.7nm,0.5s,baz=346,slow=11,SNR=13						
URZ	**Urewera**	**55.78**	**135**	LR	LR	10 16 44.2	
	comp=Z,27nm,19.5s,baz=356,slow=36						
MKAR	**Makanchi Array**	**64.85**	**327**	P	P	09 53 33.4	0.0
	0.2nm,0.4s,baz=116,slow=6.6,SNR=2.8						
GEYT	**Alibeck**	**77.21**	**310**	LR	LR	10 32 42.8	
	comp=Z,27nm,19.5s,baz=140,slow=39						

IDC 18 09:44:50.5±2.1, 5.74S×151.27E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/40, mbtmp3.3/3, Error ellipse: s-maj=131.9km s-min=30.6km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.46**	**228**	Sn	Sn	09 47 17.2	+0.3
	0.8nm,0.3s,baz=253,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**21.69**	**228**	P	P	09 49 43.0	-0.1
	0.4nm,0.5s,baz=53,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**24.44**	**221**	P	P	09 50 10.9	-0.3
	0.7nm,0.7s,baz=58,slow=9.2,SNR=7.5						
ILAR	**Eielson Array**	**83.60**	**22**	P	P	09 57 20.0	-0.5
	0.2nm,0.6s,baz=230,slow=4.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.12**	**286**	PKPbc	PKPbc	10 04 42.3

JNU	Nakatsue	8.04	255	*e*Pn		Pn	09 59 48.4	-1.3	
CBIJ	Chichi jima	8.61	168	*e*Pn		Pn	09 59 55.1	-2.5	
CBIJ				*e*Sn		Sn	10 01 28.1	-5.1	
JCJ	Chichijima	8.61	168	P		Pn	09 59 55.0	-2.6	
	baz=306,slow=18								
JCJ				S		Sn	10 01 26.0	-7.2	
	12nm,0.3s,baz=107,slow=19,SNR=5.5								
JCJ				LR	LR		10 02 32.1		
	comp=Z,84nm,21.7s,baz=325,slow=32								
ASAJ	Asahikawa	8.76	12	P		Pn	09 59 56.5	-3.0	
	1.9nm,0.3s,baz=157,slow=20,SNR=8.4								
ASAJ	Asahikawa	8.76	12	*e*Pn		Pn	10 00 00.1	+0.7	
KSRS	Korea Array	10.02	284	P		Pn	10 00 18.9	+2.2	
	0.3nm,0.3s,baz=100,slow=14,SNR=27								
KSRS				LR	LR		10 04 08.3		
	comp=Z,137nm,21.4s,baz=98,slow=37								
KS01	Wonju Array Si	10.04	285	*e*Pn		Pn	10 00 17.4	+0.4	
KS15	Wonju Array Si	10.04	284	*e*Pn		Pn	10 00 16.7	-0.4	
KSAR	Wonju Array Be	10.04	284	P		Pn	10 00 18.9	+1.8	
USRK	Ussuriysk Ar.	10.66	327	P		Pn	10 00 26.9	+1.4	
	0.2nm,0.3s,baz=140,slow=12,SNR=14								
KLR	Kul'dur	14.99	338	P		Pn	10 01 21.1	-2.4	
	0.1nm,0.3s,baz=153,slow=11,SNR=4.3								
KLR				LR	LR		10 06 43.4		
	comp=Z,60nm,19.7s,baz=183,slow=35								
PETK	Petropavlovsk-	21.48	30	P		P	10 02 37.2	-1.2	
	4.5nm,0.7s,baz=201,slow=12,SNR=3.6								
PETK				LR	LR		10 10 34.0		
	comp=Z,24nm,21.4s,baz=218,slow=35								
GUMO	Guam	22.28	168	LR	LR		10 11 13.2		
	comp=Z,15nm,18.5s,baz=42,slow=36								
HHC	Hu-ho-hao-te	23.02	292	*e*P		P	10 02 55.3	+0.3	
HHC				sP		sP	10 03 14.8	-3.2	
HHC				S		S	10 07 02.4	+2.1	
HHC				pmax	pmax				
	comp=Z,28nm,1.0s								
HHC				pmax	pmax				
	comp=Z,93nm,6.8s								
MA2	Magadan	25.02	13	P		P	10 03 13.9	+1.0	
	comp=Z,5.3nm,0.6s,baz=220,slow=14,SNR=5.1								
MA2				LR	LR		10 14 57.0		
	comp=Z,31nm,18.7s,baz=236,slow=41								
SONM	Songino Array	27.80	307	P		P	10 03 36.8	-1.5	
	comp=Z,0.7nm,0.4s,baz=104,slow=8.9,SNR=4.9								
SONM				LR	LR		10 14 55.1		
	comp=Z,80nm,18.8s,baz=90,slow=37								
H11N2	WAKE ISLAND Hy	28.34	117	T		T	10 33 24.1		
	baz=309,slow=75,SNR=95								
H11N1	WAKE ISLAND Hy	28.35	117	T		T	10 33 24.6		
	baz=309,slow=75,SNR=64								
H11N3	WAKE ISLAND Hy	28.36	117	T		T	10 33 25.4		
	baz=309,slow=75,SNR=87								
H11S1	WAKE ISLAND Hy	28.98	119	T		T	10 33 59.2		
	baz=311,slow=75,SNR=40								
H11S3	WAKE ISLAND Hy	28.98	119	T		T	10 34 10.1		
	baz=311,slow=75,SNR=38								
H11S2	WAKE ISLAND Hy	29.00	119	T		T	10 34 17.1		
	baz=311,slow=75,SNR=28								
LZH	Lanzhou	29.33	282	*e*P		P	10 03 57.1	+5.0	
LZH				pP		sP	10 04 12.8	-3.6	
LZH				sP		pP	10 04 22.3	+14	
LZH				pmax	pmax				
	comp=Z,14nm,1.0s								
TLY	Talaya	30.56	313	LR		LR	10 16 59.6		
	comp=Z,38nm,18.2s,baz=110,slow=37								
QIZ	Qiongzhong	31.39	246	P		P	10 04 10.1	-0.1	
QIZ				sP		sP	10 04 34.5	0.0	
QIZ				S		S	10 09 13.6	+0.7	
QIZ				SS		SS	10 11 30.0	+0.4	
QIZ				LR	LR				
	comp=N,180nm,29.5s								
QIZ				LR	LR				
	comp=Z,210nm,20.3s								
KMI	Kunming	33.73	262	P		P	10 04 30.8	-0.1	
KMI				pmax	pmax				
	comp=Z,9.0nm,0.7s								
KMI				LR	LR				
	comp=N,180nm,13.7s								
KMI				LR	LR				
	comp=E,180nm,14.8s								
KMI				LR	LR				
	comp=Z,180nm,15.8s								
TIXI	Tiksi	36.64	354	P		P	10 04 53.9	-1.1	
	comp=Z,2.5nm,0.5s,baz=159,slow=4.0,SNR=8.3								
TIXI	Tiksi	36.64	354	*e*P		P	10 04 54.2	-0.9	
	comp=Z,2.2nm,0.6s								
WMQ	Urumqi	40.61	298	P		P	10 05 30.5	+1.7	
WMQ				pP		pP	10 05 46.1	+0.5	
WMQ				sP		sP	10 05 53.5	+0.1	
WMQ				pmax	pmax				
	comp=Z,5.0nm,0.6s								
WMQ				pmax	pmax				
	comp=Z,36nm,4.2s								
WMQ				LR	LR				
	comp=N,49nm,32.0s								
WMQ				LR	LR				
	comp=E,120nm,37.2s								
WMQ				LR	LR				
	comp=Z,27nm,27.8s								
ZAA0	Zalesovo Array	42.17	314	*e*P		P	10 05 41.5	+0.2	
ZALV	Zalesovo Beam	42.17	314	P		P	10 05 41.0	-0.3	
	comp=Z,2.2nm,0.6s,baz=90,slow=6.4,SNR=5.5								
ZALV				PcP		PcP	10 07 33.6	-0.8	
	comp=Z,0.9nm,0.5s,baz=101,slow=3.1,SNR=3.5								
MK01	Makanchi Array	44.04	303	*e*P		P	10 05 56.4	-0.2	
MK31	Makanchi Array	44.05	303	*e*P		P	10 05 56.9	+0.2	
MKAR	Makanchi Array	44.05	303	P		P	10 05 56.4	-0.2	
	comp=Z,2.7nm,0.7s,baz=95,slow=9.4,SNR=21								
MKAR				LR	LR		10 24 49.2		
	comp=Z,51nm,19.9s,baz=158,slow=37								
KURK	Kurchatov	46.05	309	*e*P		P	10 06 11.2	-1.2	
	comp=Z,27nm,1.0s								
KURBB	Kurchatov Arra	46.11	309	P		P	10 06 11.9	-1.0	
	comp=Z,1.9nm,0.5s,baz=83,slow=7.6,SNR=9.9								
TKM2	Tokmak 2	49.44	299	*e*P		P	10 06 39.0	0.0	
	comp=Z,19nm,1.3s								
KSH	Kashi	50.08	295	*e*P		P	10 06 47.3	+3.5	
KSH				pP		sP	10 07 11.8	+3.0	
KSH				pmax	pmax				
	comp=Z,4.0nm,1.0s								
MDM	Murphy Dome	50.71	31	*e*P		P	10 06 49.2	+1.2	
	comp=Z,6.5nm,0.9s								
ILAR	Eielson Array	51.29	32	P		P	10 06 52.2	-0.1	
	comp=Z,1.8nm,0.7s,baz=272,slow=6.4,SNR=26								
ZRNK	Zerenda	51.65	313	*e*P		P	10 06 55.0	-0.3	
	comp=Z,3.0nm,0.8s								
DOT	Dot Lake	52.60	33	*e*P		P	10 07 02.6	+0.4	
	comp=Z,5.7nm,0.9s								
BMRM	Bremner River	52.66	36	*e*P		P	10 07 03.2	+0.5	
	comp=Z,4.2nm,0.7s								
FITZ	Fitzroy Crossi	55.11	197	P		P	10 07 21.1	+0.3	
	comp=Z,12nm,1.0s,baz=14,slow=7.9,SNR=14								
FITZ	Fitzroy Crossi	55.11	197	*e*P		P	10 07 21.4	+0.6	
	comp=Z,12nm,1.0s								
WRAB	Tennant Creek	55.46	187	*e*P		P	10 07 23.2	-0.1	
	comp=Z,2.8nm,0.4s								
WB2	Warramunga Arr	55.47	187	*e*P		P	10 07 23.8	+0.4	
	comp=Z,9.2nm,0.7s								
WRA	Warramunga Arr	55.47	187	P		P	10 07 23.1	-0.4	
	comp=Z,4.9nm,0.6s,baz=3.0,slow=7.7,SNR=113								
INK	Inuvik	56.17	27	P		P	10 07 27.0	-0.9	
	comp=Z,1.7nm,0.8s,baz=318,slow=9.2,SNR=3.4								
ARU	Arti	56.79	319	*e*P		P	10 07 32.7	+0.2	
	comp=Z,6.6nm,0.8s								
ABKAR	Akbulak array	58.11	310	*e*P		P	10 07 41.9	0.0	
AS01	Alice Springs	59.19	187	*e*P		P	10 07 49.6	0.0	
AS01				*e*pP		pP	10 08 07.4	0.0	
AS31	Alice Springs	59.19	187	*e*P		P	10 07 51.0	+1.4	
	comp=Z,1.7nm,0.4s								
ASAR	Alice Springs	59.20	187	P		P	10 07 49.8	+0.1	
	comp=Z,1.4nm,0.5s,baz=357,slow=6.5,SNR=29								
MBWA	Marble Bar	59.63	202	*e*P		P	10 07 52.7	0.0	
	comp=Z,176nm,1.8s								
RES	Resolute Bay	64.28	14	LR		LR	10 38 35.3		
	comp=Z,15nm,18.0s,baz=119,slow=38								
YKA	Yellowknife Ar	65.60	29	P		P	10 08 31.8	-0.1	
	comp=Z,0.9nm,0.7s,baz=300,slow=6.8,SNR=7.0								
NLWA	Neilton Lookou	68.47	47	*e*P		P	10 08 52.4	+1.9	
	comp=Z,19nm,1.4s								
FINES	FINESS Array B	69.64	332	P		P	10 08 56.6	-0.7	
	comp=Z,1.6nm,0.6s,baz=64,slow=8.9,SNR=5.0								
WVOR	Wild Horse Val	74.23	49	*e*P		P	10 09 26.5	+1.1	
	comp=Z,3.8nm,1.0s								
AKASG	Malin Array Be	74.83	322	P		P	10 09 27.8	-0.7	
	comp=Z,0.5nm,0.4s,baz=50,slow=5.9,SNR=6.5								
NB2	NORSAR Subarra	75.14	337	P		P	10 09 29.3	-0.9	
	comp=Z,0.5nm,0.6s,baz=41,slow=5.9								
NOA	NORSAR Array B	75.14	337	P		P	10 09 29.9	-0.4	
	comp=Z,0.7nm,0.7s,baz=41,slow=5.8,SNR=4.8								
NOA				LR	LR		10 47 09.5		
	comp=Z,13nm,18.6s,baz=80,slow=39								
PAHR	Pah Rah Range	75.29	52	*e*P		P	10 09 32.6	+1.0	
	comp=Z,6.7nm,1.4s								
LRM	Limekiln Ridge	75.92	43	*e*P		P	10 09 36.3	+1.1	
DLMT	Dillon	76.11	44	*e*P		P	10 09 36.9	+0.6	
	comp=Z,6.9nm,0.9s								
HLID	Hailey	76.13	46	*e*P		P	10 09 37.5	+1.1	
	comp=Z,3.2nm,1.1s								
BOZ	Bozeman (W)	76.49	43	*e*P		P	10 09 39.2	+0.9	
	comp=Z,4.0nm,0.9s								
ELK	Elko	77.29	49	*e*P		P	10 09 44.7	+1.7	
	comp=Z,2.1nm,0.9s								
H17A	Grant Village	77.84	44	*e*P		P	10 09 48.5	+2.4	
	comp=Z,6.6nm,1.0s								
IMW	Indian Meadow	77.94	44	*e*P		P	10 09 48.2	+1.5	
	comp=Z,4.3nm,0.9s								
MOOW	Moose Ponds	78.15	44	*e*P		P	10 09 49.2	+1.4	
	comp=Z,1.9nm,0.8s								
HVU	Hansel Valley	78.17	47	*e*P		P	10 09 49.3	+1.5	
	comp=Z,3.9nm,0.9s								
R11A	Troy Canyon, C	78.48	51	*e*P		P	10 09 50.8	+1.1	
	comp=Z,8.5nm,1.5s								
SPUT	South Promonto	78.64	47	*e*P		P	10 09 51.3	+0.8	
	comp=Z,4.0nm,1.2s								
TPNV	Topopah Spring	78.89	53	*e*P		P	10 09 52.0	+0.1	
	comp=Z,6.0nm,1.1s								
HWUT	Hardware Ranch	78.99	46	*e*P		P	10 09 53.3	+0.9	
	comp=Z,6.0nm,1.1s								
BRTR	Keskin Array B	79.05	311	P		P	10 09 53.4	+0.7	
	comp=Z,0.7nm,0.9s,baz=91,slow=5.3,SNR=3.6								
DUG	Dugway, Tooele	79.10	48	*e*P		P	10 09 54.0	+1.1	
	comp=Z,3.0nm,0.8s								
BW06	Boulder Array	79.44	45	*e*P		P	10 09 55.2	+0.3	
PDAR	Pinedale Array	79.44	45	P		P	10 09 55.1	+0.2	
	comp=Z,1.3nm,0.6s,baz=270,slow=3.0,SNR=10								
SHPR	Sheep Range	79.85	52	*e*P		P	10 09 58.3	+1.2	
	comp=Z,4.1nm,1.0s								
CCUT	Cedar City	80.37	51	*e*P		P	10 10 01.1	+1.1	
	comp=Z,2.2nm,0.9s								
MSU	Marysvale	80.52	49	*e*P		P	10 10 02.5	+1.8	
PFO	Pinyon Flats O	80.72	55	*e*P		P	10 10 02.3	+0.5	
	comp=Z,11nm,1.4s								
LCMT	Little Creek M	80.77	51	*e*P		P	10 10 03.1	+1.1	
	comp=Z,4.5nm,0.9s								
P17A	Butcher Ranch,	80.80	48	*e*P		P	10 10 03.0	+0.8	
MTPU	Mount Pierson	80.81	50	*e*P		P	10 10 03.6	+1.2	
	comp=Z,3.2nm,1.0s								
P18A	Preston Nutter	81.00	47	*e*P		P	10 10 04.7	+1.2	
	comp=Z,3.0nm,0.7s								
KNB	Kanab	81.04	51	*e*P		P	10 10 04.9	+1.4	
	comp=Z,8.1nm,1.0s								
PV09	Paradox Valley	82.39	48	*e*P		P	10 10 12.0	+1.2	
PV10	Paradox Valley	82.52	48	*e*P		P	10 10 13.2	+1.8	
PV05	Paradox Valley	82.68	48	*e*P		P	10 10 13.9	+1.8	
N23A	Red Feather La	82.71	44	*e*P		P	10 10 13.9	+1.6	
	comp=Z,4.7nm,0.9s								
Y14A	Wickenburg	82.81	53	*e*P		P	10 10 13.3	+0.6	
	comp=Z,73nm,1.9s								
WUAZ	Wupatki	82.88	51	*e*P		P	10 10 14.7	+1.5	
	comp=Z,6.3nm,1.0s								
PV01	Paradox Valley	82.96	48	*e*P		P	10 10 15.0	+1.4	
MVCO	Mesa Verde	83.60	48	*e*P		P	10 10 17.6	+0.6	
	comp=Z,26nm,2.0s								
S22A	4UR Ranch, Cre	84.26	47	*e*P		P	10 10 21.6	+1.2	
	comp=Z,5.5nm,1.0s								
SDCO	Great Sand Dun	85.05	46	*e*P		P	10 10 25.5	+1.2	
	comp=Z,3.7nm,1.3s								
T25A	Trinidad	86.10	46	*e*P		P	10 10 30.8	+1.3	
	comp=Z,4.3nm,1.0s								
ANMO	Albuquerque	86.33	49	*e*P		P	10 10 31.5	+0.9	
	comp=Z,3.1nm,1.2s								
SCHQ	Schefferville	87.03	15	P		P	10 10 33.3	-0.1	
	comp=Z,2.5nm,0.7s,baz=273,slow=7.6,SNR=4.0								
TX31	Lajitas Ar. Si	91.84	52	*e*P		P	10 10 56.7	+0.1	
TXAR	Lajitas Array	91.84	52	P		P	10 10 56.5	0.0	
	comp=Z,0.7nm,0.8s,baz=282,slow=2.8,SNR=9.6								
SAML	Samuel	146.02	44	*e*PKPdf		PKPdf	10 17 28.4	+1.0	
LPAZ	La Paz	148.32	60	PKPbc		PKPdf	10 17 32.2	+0.2	
	comp=Z,1.1nm,0.3s,baz=284,slow=3.8,SNR=11								

*BKK **18** 10:03:12.5±7.3, 13°N±25°×99°E±5°, 7, h10km, M4.6/9, mB4.8/3, mb4.8/9, Mw(mB)4.0/3*
*IDC **18** 10:03:46.3±0.5, 13.57N×92.86E, h0km, mb4.1/19, mb1 4.3/21, mb1mx4.1/56, mbtmp4.1/21, ML4.4/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/43, Error ellipse: s-maj=19.7km s-min=12.4km az=58.0*
*ISCJB **18** 10:03:49.1±0.3, 13°64N±0°04×92°79E±0°03, h29km, mb4.2/23, MS3.4/2, Error ellipse: s-maj=6.4km s-min=3.9km az=12.5*
*NEIC **18** 10:03:49.1±2.8, 13.57N×92.89E, h17km±17km, mb4.5/5, Error ellipse: s-maj=6.6km s-min=5.9km az=78.0*

ISC 18 10:03:51.1±0.5, 13.71N±0.05×92.90E±0.05, h29km, n70, σ1837/70, mb4.2/25, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.53	177	*e*P		Pn	10 04 04.8	+2.1
DGPR				*e*S		Sn	10 04 12.0	+1.2
PBA	Port Blair	2.05	184	*e*P		Pn	10 04 24.3	+0.6
PBA				*e*S		Sb	10 04 51.2	-1.6
PBA				IAML			10 04 59.0	
	comp=N,2μm,1.1s							
PBA				IAML			10 05 00.9	
	comp=E,2μm,0.3s							
KHLT	Khaolaem Dam	5.62	78	P		Pb	10 05 21.2	-7.3
	comp=E,53nm,0.7s							
SRDT	SRDT	6.07	83	P		Pb	10 05 32.5	-3.7
UMPA	Umpang Tak	6.27	66	P		Pn	10 05 27.6	+5.9
	comp=E,27nm,0.5s							
PHET	Kaeng Krachan	6.60	96	P		Pn	10 05 29.4	+3.2
	comp=E,52nm,0.5s,comp=E,958nm							
CMAR	Chiang Mai Arr	7.48	50	Pn		Pn	10 05 39.3	+1.0
	comp=E,1.2nm,0.3s,baz=240,slow=15,SNR=16							
CMAR				Sn		Sn	10 06 59.9	-2.4
	comp=E,3.7nm,0.3s,baz=238,slow=25,SNR=7.8							
CMAR				LR		LR	10 09 16.6	
	comp=E,168nm,21.2s,baz=267,slow=44							
SUKH	Sukhothai	7.49	59	P		Pn	10 05 40.6	+2.2
	comp=E,13nm,0.6s,comp=E,157nm							
PATY	Pattaya	7.79	95	P		Pn	10 05 47.4	+4.8
	comp=E,32nm,0.6s							
LAMP	Lampang	8.04	53	P		Pn	10 05 55.6	+10
	comp=E,14nm,0.6s,comp=E,274nm							
PBKT	Sadao Pong	8.29	69	P		Pn	10 05 57.1	+7.6
	comp=E,39nm,0.7s							
BWNR	Bhubaneshwar	9.43	315	*e*P		Pn	10 06 04.5	-0.5
BWNR				*e*S		Sn	10 07 40.0	-10
BWNR				IAML			10 07 45.0	
	comp=N,540nm,0.4s							
BWNR				IAML			10 07 45.3	
	comp=E,422nm,0.5s							
CHLP	Challavanipeta	9.74	300	*e*Pn		Pn	10 06 08.2	-1.1
CHLP				IAmb		IAmb	10 06 09.2	
	comp=Z,109nm,0.8s							
CHLP				*e*			10 07 46.8	
VIS	Vishakhapatnam	10.04	295	*e*P		Pn	10 06 12.0	-1.4
VIS				*e*S		Sn	10 07 53.3	-12
VIS				IAML			10 07 58.9	
	comp=N,439nm,0.5s							
VIS				IAML			10 07 59.0	
	comp=E,309nm,0.3s							
PVM	Polavaram	11.42	289	*e*Pn		Pn	10 06 31.9	-0.4
PVM				IAmb		IAmb	10 06 33.7	
	comp=Z,85nm,0.5s							
PVM				*e*			10 08 26.6	
PVM				Sn		Sn	10 08 40.7	+1.7
SHL	Shillong	11.83	356	*e*P		Pn	10 06 39.5	+1.5
SHL				IAmb		IAmb	10 06 43.1	
	comp=Z,6.0nm,0.5s							
SHL				*ex*		x	10 08 41.0	
BOK	Bokaro	12.02	328	*e*P		Pn	10 06 39.8	-0.7
BOK				IAmb		IAmb	10 06 41.8	
	comp=Z,13nm,0.5s							
MDRS	Chennai	12.33	268	*e*P		Pn	10 06 42.8	-1.9
MDRS				IAmb		IAmb	10 06 48.1	
	comp=Z,20nm,1.0s							
ADKI	Addanki	12.68	281	*e*Pn		Pn	10 06 47.2	-2.4
ADKI				IAmb		IAmb	10 06 50.5	
	comp=Z,16nm,0.7s							
ADKI				*e*			10 08 55.5	
ADKI				Sn		Sn	10 09 09.7	-0.3
NJS	Nagarjunasagar	13.42	284	*e*Pn		Pn	10 06 58.9	-0.8
NJS				IAmb		IAmb	10 07 02.7	
	comp=Z,93nm,1.8s							
NJS				*e*			10 09 12.3	
PALK	Pallekele	13.59	243	Pn		Pn	10 07 00.5	-1.6
	comp=Z,2.2nm,0.3s,baz=116,slow=10,SNR=7.7							
PALK				Sn		Sn	10 09 16.6	-16
	comp=Z,9.6nm,0.3s,baz=116,slow=18,SNR=13							
PALK				LR		LR	10 11 45.8	
	comp=Z,146nm,19.5s,baz=298,slow=36							
RCLA	Racherla	13.61	279	*e*Pn		Pn	10 07 01.3	-0.9
RCLA				IAmb		IAmb	10 07 07.5	
	comp=Z,10.0nm,0.6s							
RCLA				*e*			10 09 14.1	
SRLM	Srisailam	13.74	282	*e*Pn		Pn	10 07 03.8	-0.4
SRLM				IAmb		IAmb	10 07 05.6	
	comp=Z,26nm,0.5s							
SRLM				*e*			10 09 21.1	
RPR	Rampur	14.02	293	*e*Pn		Pn	10 07 06.6	-1.3
RPR				IAmb		IAmb	10 07 17.6	
	comp=Z,25nm,0.8s							
RPR				*e*			10 09 29.2	
RPR				Sn		Sn	10 09 43.5	+0.8
HYB	Hyderabad	14.30	287	*e*P		Pn	10 07 10.9	-0.9
HYB				IAmb		IAmb	10 07 12.8	
	comp=Z,9.0nm,0.6s							
HYBB	Hyderabad (bro	14.30	287	*e*Pn		Pn	10 07 11.4	-0.4
HYBB				IAmb		IAmb	10 07 12.3	
	comp=Z,13nm,0.5s							
HYBB				*e*			10 09 33.0	
HYBB				Sn		Sn	10 09 48.9	-0.7
RAMN	Ramite	14.43	337	*e*P		Pn	10 07 14.0	+0.4
	comp=Z,48nm,0.4s							
SRSP	Sriramsagar	14.90	292	*e*Pn		Pn	10 07 18.6	-1.2
SRSP				IAmb		IAmb	10 07 30.6	
	comp=Z,50nm,1.1s							
SRSP				*e*			10 09 49.1	
PKIN	Phulchoki	15.47	334	*e*P		Pn	10 07 27.1	-0.5
	comp=Z,19nm,0.3s							
GUN	Gumba	15.57	336	*e*P		Pn	10 07 28.4	-0.5
	comp=Z,11nm,0.3s							
DMN	Daman	15.62	333	*e*P		Pn	10 07 29.1	-0.4
	comp=Z,16nm,0.4s							
KKN	Kakani	15.71	334	*e*P		Pn	10 07 30.6	0.0
LSA	Lhasa	15.99	354	*e*Pn		Pn	10 07 35.1	+0.6
	comp=Z,20nm,0.8s							
GKN	Gorkha	16.17	333	*e*P		Pn	10 07 36.7	+0.2
	comp=Z,19nm,0.3s							
KLRI	Killari	16.27	288	*e*Pn		Pn	10 07 35.3	-2.4
KLRI				IAmb		IAmb	10 07 39.3	
	comp=Z,34nm,0.9s							
KLRI				*e*			10 10 18.6	
KLRI				Sn		Sn	10 10 38.5	+1.1
KOLN	Koldanda	16.46	330	*e*P		Pn	10 07 39.0	-1.2
	comp=Z,23nm,0.4s							
PYUN	Piuthan	17.03	329	*e*P		Pn	10 07 45.8	-1.6
	comp=Z,7.2nm,0.2s							
BHPL	Bhopal	17.46	305	*e*P		P	10 07 53.1	-0.5
BHPL				IAmb		IAmb	10 07 55.5	
	comp=Z,30nm,1.2s							
ENH	Enshi	22.49	40	*e*P		P	10 08 48.7	+0.4
	comp=Z,13nm,0.7s							
SMLA	Simla	22.58	323	*e*P		P	10 08 50.0	+0.8
SMLA				IAmb		IAmb	10 08 52.6	
	comp=Z,38nm,1.3s							
DHRM	DHARAMSHALA	23.90	323	*e*P		P	10 09 03.1	+0.5
DHRM				IAmb		IAmb	10 09 04.4	
	comp=Z,23nm,0.5s							
H08S3	Diego Garcia H	29.33	225	T		T	10 39 35.9	
	baz=44,slow=76,SNR=44							
H08S2	Diego Garcia H	29.34	225	T		T	10 39 34.1	
	baz=44,slow=76,SNR=41							
H08S1	Diego Carcia H	29.35	225	T		T	10 39 37.6	
	baz=44,slow=76,SNR=37							
MKAR	Makanchi Array	34.16	347	P		P	10 10 35.1	+1.5
	comp=Z,1.0nm,0.6s,baz=178,slow=8.4,SNR=8.7							
SONM	Songino Array	35.83	16	P		P	10 10 49.6	+1.4
	comp=Z,0.4nm,0.4s,baz=200,slow=11,SNR=4.5							
SONM				LR		LR	10 27 14.9	
	comp=Z,56nm,20.8s,baz=212,slow=39							
KURBB	Kurchatov Arra	38.62	345	P		P	10 11 13.0	+1.3
	comp=Z,1.2nm,0.6s,baz=165,slow=7.5,SNR=11							
KURK	Kurchatov	38.69	345	P		P	10 11 13.0	+0.8
KSAR	Wonju Array Be	39.07	46	P		P	10 11 16.4	+0.7
KSRS	Korea Array	39.10	46	P		P	10 11 16.4	+0.5
	comp=Z,1.1nm,0.7s,baz=240,slow=9.3,SNR=7.0							
KSRS				LR		LR	10 29 15.2	
	comp=Z,66nm,18.7s,baz=222,slow=39							
GEYT	Alibeck	39.16	314	P		P	10 11 17.1	+0.6
	comp=Z,2.5nm,0.6s,baz=128,slow=6.0,SNR=3.8							
ZALV	Zalesovo Beam	40.64	353	P		P	10 11 29.2	+0.8
	comp=Z,1.2nm,0.5s,baz=174,slow=9.4,SNR=6.3							

MW3.9,1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.40**	**233**	*i* P	Pn	10 25 44.3	+1.0
RTLS				*i* S	Sn	10 25 56.5	+1.7
RTLL	**Cerro Villicun**	**0.44**	**59**↓	*i* P	Pn	10 25 44.1	+0.9
RTLL				*i* S	Sn	10 25 55.6	+1.0
RTCV	**Cerro Valdivia**	**0.44**	**134**	*i* P	Pn	10 25 43.8	+0.5
RTCV				*i* S	Sn	10 25 55.6	+0.9
AMOG	**MOGNA**	**0.71**	**31**	*i* P	Pn	10 25 46.2	+0.7
AUSP	**Uspallata**	**0.78**	**211**	*i* P	Pn	10 25 47.5	+1.2
ASAL	**Salagasta**	**1.03**	**176**	*i* P	Pn	10 25 49.7	+0.9
ARCO	**CERRO ARCO**	**1.28**	**181**	*i* P	Pn	10 25 52.6	+0.9
ARCO				IAML		10 26 13.4	
	comp=Z,22nm,0.2s						
AVFE	**Valle Fertil**	**1.54**	**55**	IAML		10 25 46.8	
	comp=Z,15nm,0.4s						
AGUA	**GUANDACOL**	**2.10**	**10**	*i* P	Pn	10 26 03.0	+1.1

SJA 18 10:40:41.9±0.4,32.12S×68.80W,h19km±3km,ML1.9, MW3.9,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAL	**Salagasta**	**0.47**	**183**	*i* P	Pb	10 40 51.7	0.0
AUSP	**Uspallata**	**0.51**	**258**	*i* P	Pb	10 40 52.9	+0.5
AUSP				*i* S	Sn	10 41 01.3	-1.5
RTLS	**Leoncito**	**0.53**	**307**	*i* P	Pb	10 40 53.6	+0.9
RTLS				*i* S	Sn	10 41 01.9	-1.5
ARCO	**CERRO ARCO**	**0.73**	**189**	*i* P	Pg	10 40 56.7	+0.4
ARCO				IAML		10 41 09.7	
	comp=Z,11nm,0.2s						
AMOG	**MOGNA**	**1.21**	**13**	*i* P	Pg	10 41 05.0	-0.4
AMOG				*i* S	Sg	10 41 21.9	+0.8
AVFE	**Valle Fertil**	**1.86**	**39**	IAML		10 41 10.3	
	comp=Z,14nm,0.3s						
MRA	**San Martin**	**2.63**	**97**	*i* P	Pb	10 41 26.1	-2.4
MRA				*i* S	Sb	10 41 58.9	-1.6
MRA				IAML		10 42 01.1	
	comp=Z,12nm,0.5s						

NIED ***18*** *10:41:00.36˚30N×141˚.90E,h17km,Mw4.1 Best double couple: M₀1.85000×10¹⁵ NP1:φ₁89.00000°,δ24.00000°, λ73.00000°. NP2:φ₂27.00000°,δ67.00000°,λ97.00000°.*

IDC ***18*** *10:41:45.5±0.7,36˚.18N×141˚.99E,h0km,mb4.1/16, mb1 4.1/21,mb1mx4.0/54,mbtmp4.1/21,ML3.7/3,MS3.6/9, Ms1 3.6/9,ms1mx3.1/60,Error ellipse: s-maj=21.2km s-min=13.7km az=86.0*

ISCJB ***18*** *10:41:46.9±0.3,36˚.21N±0˚.03×142˚.07E±0˚.04,h23km, mb4.2/34,MS3.7/5,Error ellipse: s-maj=5.2km s-min=3.4km az=20.9*

MOS ***18*** *10:41:48.6±0.8,36˚.25N×142˚.02E,h33km,mb4.5/24,Error ellipse: s-maj=10.3km s-min=6.6km az=125.5*

BJI ***18*** *10:41:48.9,36˚.02N×141˚.91E,h33km,mb4.6/24,mB4.9/17, Ms4.5/9,Ms7 4.2/10*

NEIC ***18*** *10:41:49.3±1.5,36˚.15N×142˚.00E,h27km±10km,mb4.7/7, Error ellipse: s-maj=6.8km s-min=5.2km az=105.0*

NEIC Felt at Tokyo.

JMA ***18*** *10:41:49.3±0.2,36˚.27N×141˚.88E,h66km±5km,M3.9*

ISC 18 10:41:48.4±0.5,36˚.16N±0˚.04×142˚.10E±0˚.05,h23km,n114, σ1§86/122,mb4.3/34,MS3.6/5,4C-5D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.10**	**246**	P	**Pn**	**10 42 07.9**	**-0.5**
CHOJ				S	**Sb**	**10 42 21.8**	**-0.9**
JHO	**Hitachi**	**1.31**	**291**	P	**Pn**	**10 42 08.8**	**-2.5**
ONAJ	**Iwakimizuishiy**	**1.41**	**312**	P	**Pn**	**10 42 10.4**	**-2.3**
JFK	**Kawauchi**	**1.56**	**321**	P	**Pn**	**10 42 12.8**	**-1.9**
BSO1	**Boso 1**	**1.76**	**212**	P	**Pn**	**10 42 18.2**	**+1.3**
BSO1				*e*S	**Sn**	**10 42 39.8**	**+1.5**
BSO3	**Boso 3**	**1.87**	**224**	P	**Pn**	**10 42 19.5**	**+0.7**
JFT	**Otama**	**1.96**	**314**	P	**Pn**	**10 42 19.4**	**-0.8**
JFT				*e*S	**Sn**	**10 42 41.3**	**-2.8**
JMM	**Marumori**	**2.00**	**329**	P	**Pn**	**10 42 19.0**	**-1.8**
JAG	**Ashikaga**	**2.15**	**278**	P	**Pn**	**10 42 21.3**	**-1.6**
JFY	**Yanaizu**	**2.29**	**304**	P	**Pn**	**10 42 23.8**	**-1.0**
JRY	**Ryogami san**	**2.59**	**268**	P	**Pn**	**10 42 27.8**	**-1.1**
JOD2	**Odawara 2**	**2.61**	**251**	P	**Pn**	**10 42 29.0**	**-0.1**
JNS	**Sasagawa**	**2.78**	**308**	P	**Pn**	**10 42 31.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.16**	**278**	Pn	**Pn**	**10 42 36.0**	**-0.8**
	27nm,0.3s,baz=113,slow=8.8,SNR=305						
MJAR				LR	LR	10 43 51.9	
	comp=Z,397nm,20.6s,baz=130,slow=42						
MJAR	**Matsushiro Arr**	**3.16**	**278**	P	**Pn**	**10 42 36.0**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,27nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,397nm,20.6s						
MAJO	**Matsushiro**	**3.16**	**278***c*	*i*P	**Pn**	**10 42 36.7**	**-0.1**
MAJO	**Matsushiro**	**3.16**	**278**	*e*Pn	**Pn**	**10 42 36.9**	**+0.1**
MAJO				*e*Sn	**Sn**	**10 43 08.3**	**-5.5**
MAT	**Matsushiro**	**3.16**	**278**	P	**Pn**	**10 42 36.2**	**-0.6**
MAT				S	**Sn**	**10 43 12.1**	**-1.7**
MJB9	**Matsu-Tunnel**	**3.17**	**278**	*e*Pn	**Pn**	**10 42 37.0**	**+0.1**
JHJ2	**Mitsune**	**3.57**	**212**	*e*Pn	**Pn**	**10 42 43.0**	**+0.7**
JHJ2				*e*Sn	**Sn**	**10 43 24.5**	**+0.7**
JHJ	**Hachijo jima 2**	**3.58**	**213**	Pn	**Pn**	**10 42 43.2**	**+0.7**
	comp=Z,22nm,0.3s,baz=20,slow=21,SNR=16						
JHJ				Sn	**Sn**	**10 43 24.6**	**+0.6**
	comp=Z,96nm,0.3s,baz=63,slow=20,SNR=10						
INU	**Inuyama**	**4.21**	**260**	*e*Pn	**Pn**	**10 42 51.7**	**+0.5**
ERM	**Erimo**	**5.91**	**8**↑	*e*P	**Pn**	**10 43 12.6**	**-1.8**
ERM	**Erimo**	**5.91**	**8**	*e*Pn	**Pn**	**10 43 15.1**	**+0.6**
ERM				*e*Sn	**Sn**	**10 44 19.9**	**-1.4**
ASAJ	**Asahikawa**	**7.96**	**3**	*e*Pn	**Pn**	**10 43 43.3**	**+0.7**
CBIJ	**Chichi jima**	**9.03**	**180**	Pn	**Pn**	**10 43 57.1**	**-0.3**
CBIJ				Sn	**Sn**	**10 45 33.6**	**-4.8**
JCJ	**Chichijima**	**9.04**	**180**	Pn	**Pn**	**10 43 57.1**	**-0.3**
JCJ				Sn	**Sn**	**10 45 33.6**	**-4.8**
	comp=Z,4.4nm,0.3s,baz=284,slow=21,SNR=2.3						
JNU	**Nakatsue**	**9.73**	**255**	LR	LR	10 47 56.4	
	comp=Z,161nm,19.1s,baz=305,slow=38						
JNU	**Nakatsue**	**9.73**	**255**	*e*Pn	**Pn**	**10 44 06.2**	**-0.7**
KUR	**Kuril'sk**	**10.06**	**24**	*e*P	**Pn**	**10 44 07.9**	**-3.5**
KUR				*e*S	**Sn**	**10 45 55.9**	**-7.7**
KUR				smax	smax		
	comp=N,15nm,0.5s						
KUR				smax	smax		
	comp=E,11nm,0.5s						
VLA	**Vladivostok**	**10.50**	**315**↓	*e*P	Pn	10 44 23.4	+6.0
VLA				*e*S	**Sn**	**10 46 22.2**	**+8.0**
VLA				pmax	pmax		
	comp=Z,42nm,1.4s						
YSS	**Yuzh-Sakhalins**	**10.80**	**2**	*e*P	**Pn**	**10 44 21.7**	**+0.2**
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS	**Yuzh-Sakhalins**	**10.80**	**2**	*e*Pn	**Pn**	**10 44 21.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**11.14**	**319**	Pn	**Pn**	**10 44 27.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=120,slow=14,SNR=3.6						
USRK				LR	LR	10 48 30.8	
	comp=Z,259nm,18.8s,baz=109,slow=37						
KSRS	**Korea Array**	**11.44**	**281**	Pn	**Pn**	**10 44 32.7**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=94,slow=14,SNR=18						
KSRS				LR	LR	10 48 46.2	
	comp=Z,194nm,18.9s,baz=63,slow=37						
KS01	**Wonju Array Si**	**11.46**	**281**	*e*Pn	**Pn**	**10 44 28.8**	**-1.8**
KS15	**Wonju Array Si**	**11.47**	**281**	*e*Pn	**Pn**	**10 44 28.7**	**-2.0**
KSAR	**Wonju Array Be**	**11.47**	**281**	P	**Pn**	**10 44 32.7**	**+2.0**
KSAR	**Wonju Array Be**	**11.47**	**281**	Pn	**Pn**	**10 44 32.7**	**+2.0**
TJN	**Taejon**	**11.90**	**275**↓	*e*P	**Pn**	**10 44 38.5**	**+1.9**
KLR	**Kul'dur**	**15.10**	**333**	Pn	**Pn**	**10 45 19.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=135,slow=13,SNR=3.2						
KLR				LR	LR	10 51 08.1	
	comp=Z,142nm,18.2s,baz=140,slow=37						
BJT	**Baijiatuan**	**20.74**	**289**	*e*P	**P**	**10 46 26.4**	**-1.0**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BJT	**Baijiatuan**	**20.74**	**289**	*e*P	**P**	**10 46 26.4**	**-1.0**
	comp=Z,3.7nm,0.7s						
HIA	**Hailar**	**20.91**	**316**	*e*P	**P**	**10 46 28.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HIA	**Hailar**	**20.91**	**316**	*e*P	**P**	**10 46 28.8**	**-0.4**
	comp=Z,4.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**24.28**	**290**	*e*P	**P**	**10 47 04.3**	**+0.3**
HHC				PP	**PnPn**	**10 47 36.3**	**+2.1**
HHC				S	**S**	**10 51 18.0**	**-3.7**
HHC				PMZ			
	comp=Z,26nm,0.9s						
HHC				PMZ			
	comp=Z,76nm,5.8s						
YAK	**Yakutsk**	**27.05**	**347**	*e*P	**P**	**10 47 29.0**	**+0.4**
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				MLR	MLR		
	comp=E,69nm,17.0s						
YAK				MLR	MLR		
	comp=Z,97nm,15.0s						
YAK				MLR	MLR		
	comp=N,63nm,15.0s						
H11N2	**WAKE ISLAND Hy**	**27.23**	**120**	T	T	11 16 32.2	
	SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.24**	**120**	T	T	11 17 06.0	
	baz=201,slow=74,SNR=17						
H11N3	**WAKE ISLAND Hy**	**27.25**	**120**	T	T	11 16 57.8	
	baz=312,slow=74,SNR=14						
ENH	**Enshi**	**27.82**	**267**	*e*P	**P**	**10 47 35.4**	**-0.6**
	comp=N,15nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**27.92**	**122**	T	T	11 17 38.8	
	baz=13,slow=74,SNR=20						
H11S3	**WAKE ISLAND Hy**	**27.92**	**123**	T	T	11 17 02.7	
	SNR=16						
H11S2	**WAKE ISLAND Hy**	**27.94**	**122**	T	T	11 17 36.8	
	baz=317,slow=74,SNR=11						
ULN	**Ulaanbaatar**	**28.31**	**305**↓	*e*P	**P**	**10 47 39.9**	**-0.4**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ULN	**Ulaanbaatar**	**28.31**	**305**	*e*P	P	10 47 35.0	-5.3
	comp=Z,5.6nm,1.0s						
SONA1	**Songino Array**	**28.73**	**305**	*e*P	**P**	**10 47 44.2**	**+0.1**
SONM	**Songino Array**	**28.73**	**305**	P	**P**	**10 47 43.9**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=99,slow=9.2,SNR=22						
SONM				LR	LR	10 59 38.5	
	comp=Z,73nm,19.4s,baz=86,slow=37						
ZAK	**Zakamensk**	**31.25**	**309**	*e*P	**P**	**10 48 05.4**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TLY	**Talaya**	**31.32**	**312**	LR	LR	11 01 28.9	
	comp=Z,118nm,18.7s,baz=104,slow=38						
TLY	**Talaya**	**31.32**	**312**	*i* P	**P**	**10 48 06.5**	**-0.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GYA	**Guiyang**	**31.63**	**262**	*e*P	**P**	**10 48 10.6**	**+0.7**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**32.24**	**272**	*e*P	**P**	**10 48 13.5**	**-1.6**
CD2				pP	sP	10 48 23.4	-1.5
CD2				sP	pP	10 48 27.9	+5.9
CD2				S	**S**	**10 53 23.8**	**-3.4**
CD2				sS	sS	10 53 40.8	+2.2
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
DAV	**Davao City (W)**	**32.66**	**212**	LR	LR	11 00 38.1	
	comp=Z,822nm,20.4s,baz=126,slow=35						
BILL	**Bilibino**	**34.72**	**16**	*i* P	**P**	**10 48 37.1**	**+0.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KMI	**Kunming**	**35.39**	**263**	P	P	10 48 47.6	+4.9
KMI				PMZ			
	comp=Z,8.0nm,1.1s						
TIXI	**Tiksi**	**36.23**	**353**↑	*e*P	**P**	**10 48 49.9**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.5s						
WMQ	**Urumqi**	**41.73**	**298**	P	**P**	**10 49 36.4**	**+0.8**
WMQ				pP	sP	10 49 46.4	+0.9
WMQ				sP	pP	10 49 50.4	+7.7
WMQ				PMZ			
	comp=Z,8.0nm,0.6s						
WMQ				PMZ			
	comp=Z,82nm,4.2s						
CMAR	**Chiang Mai Arr**	**41.82**	**257**	P	**P**	**10 49 35.3**	**-1.2**
	comp=Z,4.0nm,0.4s,baz=47,slow=5.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**41.82**	**257***c*	*e*P	**P**	**10 49 36.5**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAA0	**Zalesovo Array**	**42.91**	**313**	*e*P	**P**	**10 49 44.7**	**-0.3**
ZALV	**Zalesovo Beam**	**42.91**	**313**	P	**P**	**10 49 44.6**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=87,slow=6.1,SNR=8.3						
ZALV	**Zalesovo Beam**	**42.91**	**313**	P	**P**	**10 49 44.6**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MK01	**Makanchi Array**	**45.05**	**303**	*e*P	**P**	**10 50 02.6**	**+0.3**
MK31	**Makanchi Array**	**45.05**	**303**	*e*P	**P**	**10 50 02.5**	**+0.2**
MK31	**Makanchi Array**	**45.05**	**303**	*e*P	**P**	**10 50 02.5**	**+0.2**
MKAR	**Makanchi Array**	**45.05**	**303**	P	**P**	**10 50 02.6**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=89,slow=9.5,SNR=21						
MKAR				LR	LR	11 09 15.9	
	comp=Z,65nm,18.9s,baz=75,slow=37						
MKAR	**Makanchi Array**	**45.05**	**303**	*e*P	**P**	**10 50 02.4**	**0.0**
MAKZ	**Makanchi**	**45.26**	**303**	*e*P	**P**	**10 50 03.9**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAKZ	**Makanchi**	**45.26**	**303**	*e*P	**P**	**10 50 03.9**	**-0.1**
	comp=Z,4.6nm,0.8s						
PMG	**Port Moresby**	**45.57**	**173**	P	**P**	**10 50 07.2**	**+0.6**
	comp=Z,14nm,0.9s,baz=303,slow=5.1,SNR=3.1						
KURK	**Kurchatov**	**46.91**	**309**	*e*P	**P**	**10 50 16.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,20nm,0.7s						
KURK	**Kurchatov**	**46.91**	**309**	*e*P	**P**	**10 50 16.6**	**-0.3**
	comp=Z,20nm,0.7s						
ILAR	**Eielson Array**	**49.94**	**32**	P	**P**	**10 50 41.0**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=268,slow=6.4,SNR=12						
ILAR	**Eielson Array**	**49.94**	**32**	P	**P**	**10 50 41.0**	**+0.9**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KSH	**Kashi**	**51.27**	**295**	*e*P	**P**	**10 50 53.8**	**+3.2**
KSH				pP	sP	10 51 03.9	+3.3
KSH				PcP	**PcP**	**10 52 08.8**	**+3.3**
KSH				PP	**PP**	**10 52 51.3**	**+3.9**
KSH				S	**S**	**10 58 09.5**	**+1.3**
KSH				ScS	**ScS**	**11 00 36.3**	**-3.5**
KSH				SS	**SS**	**11 01 41.0**	**-2.5**
KSH				PMZ			
	comp=Z,2.0nm,0.3s						
KSH				PMZ			
	comp=Z,76nm,4.4s						
KSH				LN			
	comp=Z,400nm,9.2s						
KSH				LE			
	comp=Z,210nm,8.2s						
KSH				LZ			
	comp=Z,270nm,6.3s						
AAK	**Ala-Archa**	**51.39**	**299**↓	*e*P	**P**	**10 50 51.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BALM	**Baldy**	**52.31**	**37**	*e*P	**P**	**10 51 00.0**	**+2.0**
BALM				pmax	pmax		
	comp=Z,17nm,1.0s						
BALM	**Baldy**	**52.31**	**37**	*e*P	**P**	**10 50 60.0**	**+2.0**
	comp=Z,17nm,1.0s						
ZRNK	**Zerenda**	**52.40**	**313**	*e*P	**P**	**10 50 59.0**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZRNK	**Zerenda**	**52.40**	**313**	*e*P	**P**	**10 50 59.0**	**+0.3**
	comp=Z,5.5nm,0.5s						
KKAR	**Karatay Array**	**54.04**	**301**	*e*P	**P**	**10 51 10.8**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KKAR	**Karatay Array**	**54.04**	**301**	*e*P	**P**	**10 51 10.8**	**-0.1**
	comp=Z,4.4nm,1.0s						
WRAB	**Tennant Creek**	**56.26**	**189**	P	**P**	**10 51 25.3**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRAB	**Tennant Creek**	**56.26**	**189**	P	**P**	**10 51 25.3**	**-1.7**
	comp=Z,0.6nm,0.4s						
WRA	**Warramunga Arr**	**56.27**	**189**	P	**P**	**10 51 27.8**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=6.9,slow=7.6,SNR=11						
ARU	**Arti**	**57.38**	**319**	*e*P	**P**	**10 51 34.9**	**+0.3**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**58.93**	**311**	*e*P	**P**	**10 51 44.7**	**-0.8**
AKTO	**Aktyubinsk**	**59.67**	**313**	P	**P**	**10 51 51.0**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=74,slow=13,SNR=5.2						
AKTO	**Aktyubinsk**	**59.67**	**313**	P	**P**	**10 51 51.0**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**60.00**	**189**	P	**P**	**10 51 54.4**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=6.8,slow=6.7,SNR=6.7						
YKA	**Yellowknife Ar**	**64.29**	**30**	P	**P**	**10 52 23.1**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=300,slow=7.2,SNR=5.3						
ARCES	**ARCESS Array B**	**65.01**	**340**	P	**P**	**10 52 26.7**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=15,slow=7.5,SNR=3.5						
OBN	**Obninsk**	**69.13**	**324**	*i* P	**P**	**10 52 52.0**	**-0.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES	**FINESS Array B**	**69.84**	**333**	P	**P**	**10 52 56.9**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=90,slow=9.5,SNR=5.7						
KIV	**Kislovodsk**	**71.90**	**311**	*i* P	**P**	**10 53 11.0**	**+1.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HRY	**Holter Researc**	**74.21**	**43**	*e*P	**P**	**10 53 24.1**	**+0.7**
NB2	**NORSAR Subarra**	**75.20**	**338**	P	**P**	**10 53 29.4**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**75.20**	**338**	P	**P**	**10 53 28.5**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=39,slow=5.7,SNR=5.8						
AKASG	**Malin Array Be**	**75.33**	**323**	P	**P**	**10 53 29.8**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=46,slow=6.2,SNR=6.3						
KIEV	**Kiev**	**75.34**	**323**↓	*e*P	**P**	**10 53 30.1**	**+0.4**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**79.84**	**312**	P	**P**	**10 53 56.4**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=99,slow=5.6,SNR=6.0						
BR231	**Keskin MP Arra**	**80.29**	**313**	*e*P	**P**	**10 53 56.7**	**-0.9**
GERES	**GERESS Array B**	**83.75**	**329**	P	**P**	**10 54 15.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=38,slow=5.0,SNR=4.9						

MEX 18 10:41:59.7±0.5,14.62N×92.97W,h118km±52km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.10**	**347**	*e*P	Pn	10 42 21.4	-1.2
PCIG				*e*S	Sn	10 42 37.9	-2.0

BJI ***18*** *10:49:06.7,41˚.80N×126˚.90W,h10km,mb5.0/32, mB5.3/18,Ms4.9/10,Ms7 4.6/9*

IDC ***18*** *10:49:08.3±0.6,41˚.83N×126˚.95W,h0km,mb4.4/23, mb1 4.5/26,mb1mx4.4/51,mbtmp4.4/26,ML3.9/3,MS4.4/27, Ms1 4.4/27,ms1mx4.2/59,Error ellipse: s-maj=17.6km s-min=13.2km az=35.0*

MOS ***18*** *10:49:09.3±1.1,41˚.82N×126˚.99W,h12km,mb5.1/40, MS4.7/9,Error ellipse: s-maj=6.0km s-min=4.7km az=122.0*

ISCJB ***18*** *10:49:10.4±0.8,41˚.93N±0˚.02×126˚.87W±0˚.03,h11km±5km, mb4.7/124,MS4.4/32,Error ellipse: s-maj=4.4km s-min=2.5km az=38.4*

NEIC ***18*** *10:49:11.4±0.3,41˚.88N×127˚.00W,h10km,mb4.8/92, Error ellipse: s-maj=4.9km s-min=2.6km az=38.0*

NEIC Felt [II] at Eureka.

GCMT ***18*** *10:49:11.4±0.1,41˚.93N×127˚.14W,h12km,MW5.2/126, Moment Tensor Solution. s85,c126; s126,c244; Duration: 1§0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.80±.01; Mθθ-0.03±.01; Mφφ0.82±.01; Mrθ0.07±.04; Mθφ-0.08±.01; Mφr-0.37±.03; Best double couple: M₀0.90200×10¹⁷ NP1:φ₁352.00000°,δ57.00000°, λ-93.00000°. NP2:φ₂177.00000°,δ33.00000°, λ-86.00000°. Principal axes: T 0.9190, Plg12.0000°, Azm84.0000°; N -0.0330, Plg2.0000°, Azm354.0000°; P -0.8860, Plg77.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 10:49:09.7±1.7,41.87N±0˚.05×127.02W±0˚.05,h3km±9km, n447,σ1§72/438,mb4.9/126,MS4.6/32,12C-13D,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**2.48**	**114**	*e*Pn	Pn	10 49 48.0	-3.1
JCC				*e*Sn	**Sn**	**10 50 18.2**	**-3.6**
L02D	**Cave Junction,**	**2.56**	**82**	P	**Pn**	**10 49 49.4**	**-2.8**
	baz=261,SNR=316						
L02D				S	**Sn**	**10 50 21.3**	**-2.6**
	baz=261						
KHMM	**Horse Mountain**	**2.67**	**111**	*e*Pn	Pn	10 49 51.1	-2.6
KHMM				*e*Sn	**Sn**	**10 50 23.6**	**-3.0**
KMRM	**Mail Ridge**	**3.00**	**122**	*e*Pn	**Pn**	**10 49 56.0**	**-2.3**
UMPQ	**Umpqua Communi**	**3.07**	**61**	*e*Pn	**Pn**	**10 49 57.1**	**-2.0**
HUMO	**Hull Mountain**	**3.10**	**75**	*e*Pn	**Pn**	**10 49 57.1**	**-2.5**
HUMO				*e*Sn	**Sn**	**10 50 35.5**	**-1.7**
M02C	**Callahan**	**3.16**	**97**	P	**Pn**	**10 49 58.3**	**-2.2**
	baz=278,SNR=222						
M02C				S	**Sn**	**10 50 35.3**	**-3.4**
	baz=278						
YBH	**Yreka Blue Hor**	**3.22**	**91**	*e*P	**Pn**	**10 49 59.7**	**-1.6**
YBH	**Yreka Blue Hor**	**3.22**	**91**	*e*Pn	**Pn**	**10 49 59.7**	**-1.6**
I03D	**Drain, OR**	**3.26**	**55**	P	**Pn**	**10 49 59.6**	**-2.1**
	baz=234,SNR=259						
N02D	**Trinity Center**	**3.37**	**104**	P	**Pn**	**10 50 01.1**	**-2.2**
	baz=285,SNR=67						
N02D				S	**Sn**	**10 50 41.0**	**-2.8**
	baz=285						
KIPM	**Iron Peak**	**3.38**	**126**	*e*Pn	**Pn**	**10 50 01.1**	**-2.5**
BUOR	**Burton Butte**	**3.58**	**82**	P	**Pn**	**10 50 05.1**	**-1.2**
LHEM	**Herd Peak**	**3.60**	**92**	P	**Pn**	**10 50 05.6**	**-1.0**
WDC	**Whiskeytown Da**	**3.62**	**109**	*e*P	**Pn**	**10 50 04.9**	**-1.7**
WDC	**Whiskeytown Da**	**3.62**	**109**	*e*Pn	**Pn**	**10 50 04.9**	**-1.7**
COR	**Corvallis**	**3.84**	**44**	*e*P	**Pn**	**10 50 09.2**	**-0.4**
COR				*e*		10 50 53.6	
COR	**Corvallis**	**3.84**	**44**	*e*Pn	**Pn**	**10 50 09.2**	**-0.4**
COR				*

PGC Sidney 7.23 19 ePn Pn 10 50 57.0 +0.8
B05A Bryant 7.28 27 P Pn 10 50 57.5 +0.6
baz=209
BMO Blue Mountains 7.68 64 eP Pn 10 51 02.2 -0.3
BMO Blue Mountains 7.68 64 ePn Pn 10 51 02.2 -0.3
B06A Marblemount 7.71 29 ePn Pn 10 51 03.9 +1.2
D08A Wollman Farm, 7.77 45 ePn Pn 10 51 02.9 -0.8
E09A Wood Farm, Sta 7.88 51 ePn Pn 10 51 04.9 -0.3
F10A Beach Ranch, E 8.17 57 ePn Pn 10 51 09.2 0.0
MFID Camas Ranch 8.39 76 ePn Pn 10 51 11.8 -0.6
B08A Colville Reser 8.46 37 ePn Pn 10 51 13.6 +0.5
C09A Chrisman Ranch 8.58 43 ePn Pn 10 51 15.2 +0.4
ELK Elko 8.94 93 eP Pn 10 51 21.5 +1.5
ELK Elko 8.94 93 ePn Pn 10 51 21.4 +1.5
ISA Isabella, Lake 9.11 130 eP Pn 10 51 23.3 +1.2
ISA Isabella, Lake 9.11 130 ePn Pn 10 51 23.3 +1.2
HLID Hailey 9.43 75 ePn Pn 10 51 26.7 +0.1
NEW Newport 9.47 44 Pn Pn 10 51 27.3 +0.2
0.4nm,0.3s,baz=231,slow=9.2,SNR=6.3
NEW LR LR 10 55 10.6
comp=Z,8µm,18.9s,baz=230,slow=38
TPNV Topopah Spring 9.67 117 eP Pn 10 51 32.6 +2.6
TPNV Topopah Spring 9.67 117 ePn Pn 10 51 32.6 +2.6
OSI Osito Audit: C 9.75 135 ePn Pn 10 51 31.8 +0.9
GSC Goldstone, Bar 10.34 126 eP Pn 10 51 38.1 -0.9
GSC Goldstone, Bar 10.34 126 ePn Pn 10 51 38.1 -0.9
BBB Bella Bella 10.34 356 LR LR 10 54 48.4
comp=Z,1µm,20.9s,baz=202,slow=33
PASC Pasadena Art C 10.37 135 ePn Pn 10 51 38.8 -0.6
MWC Mount Wilson 10.40 134 eP Pn 10 51 39.9 0.0
MWC Mount Wilson 10.40 134 ePn Pn 10 51 39.9 0.0
BSMT Bassoo Peak 10.54 51 ePn Pn 10 51 42.5 +0.8
BGU Big Grassy Mou 10.55 90 ePn Pn 10 51 43.2 +1.2
FSU Fish Springs 10.55 97 ePn Pn 10 51 43.2 +1.2
MSO Missoula 10.59 58 ePn Pn 10 51 42.8 +0.4
PSUT Pine Spring 10.61 104 ePn Pn 10 51 43.4 +0.6
HVU Hansel Valley 10.63 86 eP Pn 10 51 44.0 +0.9
HVU Hansel Valley 10.63 86 ePn Pn 10 51 44.0 +0.9
SHPR Sheep Range 10.65 116 ePn Pn 10 51 47.2 +3.9
MCMT McKenzie Canyo 10.73 69 ePn Pn 10 51 44.6 +0.1
JTMT Jette 10.78 53 ePn Pn 10 51 45.2 +0.1
SWMT Swartz Lake 10.84 54 ePn Pn 10 51 45.7 -0.2
BLMT Blacktail Moun 10.86 51 ePn Pn 10 51 46.8 +0.5
DUG Dugway, Tooele 10.86 94 eP Pn 10 51 47.4 +1.2
DUG Dugway, Tooele 10.86 94 ePn Pn 10 51 47.4 +1.2
MTUT Morton Thiokol 10.88 86 ePn Pn 10 51 47.5 +1.1
SPUT South Promonto 10.93 88 ePn Pn 10 51 46.6 -0.5
YBMT Yellow Bay 11.00 53 ePn Pn 10 51 48.4 +0.4
DLMT Dillon 11.02 67 ePn Pn 10 51 48.8 +0.4
CHMT Chamberlain Mo 11.06 58 ePn Pn 10 51 49.1 +0.1
LRM Limekiln Ridge 11.23 65 ePn Pn 10 51 51.8 +0.4
CCUT Cedar City 11.37 108 ePn Pn 10 51 55.5 +2.2
LDFC Landfair 11.53 122 ePn Pn 10 51 58.3 +2.9
HWUT Hardware Ranch 11.55 86 ePn Pn 10 51 56.4 +0.7
LCCM Lewis and Clar 11.62 65 ePn Pn 10 51 56.9 +0.2
WALA Waterton Lakes 11.66 48 ePn Pn 10 51 59.0 +1.9
LCMT Little Creek M 11.70 110 ePn Pn 10 52 00.7 +3.0
QLMT Earthquake Lak 11.73 70 ePn Pn 10 51 59.5 +1.4
PFO Pinyon Flats O 11.73 131 Pn Pn 10 51 58.0 -0.2
0.4nm,0.3s,baz=313,slow=10,SNR=7.9
PFO LR LR 10 56 14.8
comp=Z,2µm,20.4s,baz=308,slow=36
PFO Pinyon Flats O 11.73 131 eP Pn 10 51 59.4 +1.2
PFO Pinyon Flats O 11.73 131 ePn Pn 10 51 59.4 +1.2
TCUT Toone Canyon 11.73 88 ePn Pn 10 51 60.0 +1.7
BOZ Bozeman (W) 11.75 66 eP Pn 10 51 58.1 -0.2
BOZ Bozeman (W) 11.75 66 ePn Pn 10 51 58.1 -0.2
JLU Jordanelle 11.79 91 ePn Pn 10 52 00.4 +1.4
AHID Auburn Hatcher 11.82 80 ePn Pn 10 52 00.3 +0.9
MSU Marysvale 11.84 102 eP Pn 10 52 01.4 +1.8
MSU Marysvale 11.84 102 ePn Pn 10 52 01.4 +1.8
HRY Holter Researc 11.90 61 ePn Pn 10 52 02.2 +1.7
TPAW Teton Pass 11.94 77 ePn Pn 10 52 02.6 +1.5
IMW Indian Meadow 11.97 75 ePn Pn 10 52 02.7 +1.2
KNB Kanab 12.00 109 eP Pn 10 52 04.4 +2.6
KNB Kanab 12.00 109 ePn Pn 10 52 04.4 +2.6
REDW Red Top Meadow 12.01 77 ePn Pn 10 52 03.1 +1.2
MTPU Mount Pierson 12.01 104 ePn Pn 10 52 03.7 +1.6
YMR Madison River 12.03 71 ePn Pn 10 52 03.7 +1.4
SNOW Snow King Moun 12.08 77 ePn Pn 10 52 04.2 +1.2
YFT Old Faithful 12.10 72 ePn Pn 10 52 07.1 +4.0
YPP Pitchstone Pla 12.10 73 ePn Pn 10 52 05.0 +1.7
MOOW Moose Ponds 12.10 76 ePn Pn 10 52 04.5 +1.3
YHH Holmes Hill 12.13 71 ePn Pn 10 52 04.5 +0.8
FLWY Flagg Ranch 12.16 74 ePn Pn 10 52 05.4 +1.5
PKCU Pink Cliffs 12.16 106 ePn Pn 10 52 07.5 +3.3
LOHW Long Hollow 12.20 76 ePn Pn 10 52 05.7 +1.1
H17A Grant Village 12.28 73 ePn Pn 10 52 07.8 +2.1
TMUT Trail Mountain 12.29 97 ePn Pn 10 52 08.4 +2.4
W13A Hualapai Mount 12.31 119 ePn Pn 10 52 10.4 +4.3
LKWY Lake 12.42 72 eP Pn 10 52 09.9 +2.3
LKWY Lake 12.42 72 ePn Pn 10 52 09.9 +2.3
P17A Butcher Ranch, 12.59 96 ePn Pn 10 52 12.0 +2.1
U15A North Rim 12.65 111 ePn Pn 10 52 14.1 +3.2
Y12C Blythe 12.77 125 ePn Pn 10 52 15.6 +3.4
ROA Roan Cliffs 12.82 94 ePn Pn 10 52 12.7 -0.4
SRU San Rafael Swe 12.86 97 eP Pn 10 52 16.0 +2.5
SRU San Rafael Swe 12.86 97 ePn Pn 10 52 16.0 +2.5
P18A Preston Nutter 12.92 94 ePn Pn 10 52 15.1 +0.7
BW06 Boulder Array 12.96 80 ePn Pn 10 52 15.6 +0.7
PD31 Pinedale Array 12.96 80 ePn Pn 10 52 15.6 +0.6
PDAR Pinedale Array 12.96 80 Pn Pn 10 52 14.8 -0.1
0.1nm,0.3s,baz=266,slow=11,SNR=19
PDAR LR LR 10 57 25.5
comp=Z,5µm,21.6s,baz=292,slow=38
GCMT Greycliff 13.12 67 ePn Pn 10 52 17.5 +0.4
RLMT Red Lodge 13.29 70 ePn Pn 10 52 19.8 +0.4
WUAZ Wupatki 13.76 112 ePn Pn 10 52 28.9 +3.1
113A Mohawk Valley, 13.91 127 ePn Pn 10 52 29.2 +1.5
PV09 Paradox Valley 14.08 98 ePn Pn 10 52 31.6 +1.3
PV10 Paradox Valley 14.19 98 ePn Pn 10 52 33.7 +1.8
PV05 Paradox Valley 14.25 100 ePn Pn 10 52 34.9 +2.3
PV04 Paradox Valley 14.29 98 ePn Pn 10 52 31.3 -1.7
O20A White River Ci 14.29 91 ePn Pn 10 52 33.7 +0.6
X16A Lo Mia Camp, P 14.33 116 ePn Pn 10 52 37.4 +3.8
PV01 Paradox Valley 14.62 99 ePn Pn 10 52 38.3 +0.6
WRAK Wrangell Islan 14.96 348 eP P 10 52 49.7 +2.0
19nm,1.1s
MVCO Mesa Verde 15.02 102 ePn Pn 10 52 44.9 +1.7
214A Organ Pipe Nat 15.05 127 ePn Pn 10 52 44.4 +1.0
101nm,1.0s
K22A Casper 15.20 80 ePn Pn 10 52 43.7 -1.7
120nm,1.5s
X18A Snowflake 15.28 113 ePn Pn 10 52 49.5 +3.0
SMCO Snowmass 15.48 93 ePn Pn 10 52 49.5 +0.2
35nm,1.4s
N23A Red Feather La 15.85 87 ePn Pn 10 52 52.8 -1.2
118nm,1.8s
S22A 4UR Ranch, Cre 16.05 98 ePn Pn 10 52 57.5 +0.9
47nm,1.4s
TUC Tucson 16.07 121 eP Pn 10 52 58.9 +2.2
TUC pmax pmax
comp=Z,40nm,1.4s
TUC Tucson 16.07 121 ePn Pn 10 52 58.9 +2.2
comp=Z,40nm,1.4s
PHWY Pilot Hill 16.14 85 ePn Pn 10 52 56.7 -1.1
comp=Z,142nm,1.8s
DLBC Dease Lake 16.69 354 Pn P 10 53 06.2 -0.7
comp=Z,0.1nm,0.3s,baz=157,slow=11,SNR=11
DLBC LR LR 10 58 38.4
comp=Z,769nm,19.1s,baz=158,slow=34
DLBC Dease Lake 16.69 354 ePn P 10 53 09.1 +2.2
comp=Z,26nm,1.3s
Q24A Divide 16.90 93 ePn Pn 10 53 06.8 -0.7
comp=Z,74nm,1.6s
RSSD Black Hills 16.95 75 eP Pn 10 53 05.9 -2.2
RSSD pmax pmax
comp=Z,56nm,1.8s
RSSD Black Hills 16.95 75 ePn Pn 10 53 05.9 -2.2
comp=Z,56nm,1.8s
SDCO Great Sand Dun 17.03 97 ePn Pn 10 53 10.4 +1.3
comp=Z,211nm,1.6s
LAZ Ladron 17.30 109 ePn Pn 10 53 14.7 +2.2
ANMO Albuquerque 17.52 107 P Pn 10 53 15.2 +0.1
comp=Z,0.2nm,0.3s,baz=312,slow=13,SNR=21
ANMO LR LR 11 00 25.3
comp=Z,3µm,19.6s,baz=304,slow=39
ANMO Albuquerque 17.52 107 ceP Pn 10 53 15.9 +0.8
ANMO pmax pmax
comp=Z,23nm,1.7s
Y22D IRIS PASSCAL I 17.63 110 ePn P 10 53 21.2 +3.7
comp=Z,251nm,1.3s

319A Douglas 17.64 121 ePn P 10 53 19.7 +2.0
LPM Los Pinos Moun 17.71 109 ePn P 10 53 20.0 +1.5
BNM Barren Site 17.80 109 ePn Pn 10 53 20.8 +2.1
121A Cookes Peak, D 17.90 115 eP P 10 53 22.4 +1.8
comp=Z,173nm,1.7s
T25A Trinidad 18.06 98 ePn Pn 10 53 22.8 +0.9
comp=Z,87nm,1.4s
HSIG 18.29 129 ePn P 10 53 27.1 +2.5
comp=Z,22nm,1.1s
SKAG Skagway 18.35 346 eP P 10 53 27.1 +1.9
comp=Z,75nm,1.9s
OGNE Ogallala 18.75 84 eP P 10 53 29.6 -0.3
comp=Z,75nm,1.1s
KSCO Kaye Shedlock' 18.77 91 eP P 10 53 30.3 +0.2
comp=Z,289nm,1.8s
MNTX Cornudas Mount 20.04 113 eP P 10 53 46.0 +2.1
comp=Z,64nm,1.4s
MDND Maddock 20.27 64 eP Pn 10 53 52.2 +4.0
comp=Z,79nm,1.1s
MSTX Muleshoe 20.64 105 eP P 10 53 52.3 +1.8
comp=Z,105nm,1.9s
CBKS Cedar Bluff 20.98 89 eP P 10 53 56.3 +2.1
CBKS pmax pmax
comp=Z,69nm,1.3s
CBKS Cedar Bluff 20.98 89 eP P 10 53 56.2 +2.1
comp=Z,70nm,1.3s
AMTX Amarillo 21.01 101 eP P 10 53 56.0 +1.5
comp=Z,202nm,1.9s
CRQM Cirque 21.31 338 eP P 10 53 59.3 +1.7
comp=Z,82nm,1.5s
BALM Baldy 21.33 339 eP P 10 53 59.4 +1.6
BALM pmax pmax
comp=Z,29nm,1.1s
BALM Baldy 21.33 339 eP P 10 53 59.4 +1.6
comp=Z,29nm,1.1s
RAGM Ragged Mountai 21.47 336 eP P 10 54 02.9 +3.8
comp=Z,26nm,1.2s
BMRM Bremner River 21.91 337 eP P 10 54 06.1 +2.2
comp=Z,35nm,1.4s
EYAK Cordova Ski Ar 21.93 335 eP P 10 54 07.6 +3.6
comp=Z,31nm,1.2s
YKA Yellowknife Ar 21.93 15 P P 10 54 03.3 -0.7
comp=Z,11nm,0.9s,baz=205,slow=10,SNR=25
YKA PcP PcP 10 58 02.1 -0.6
comp=Z,1.4nm,0.9s,baz=198,slow=2.6,SNR=6.5
YKA LR LR 11 02 22.3
comp=Z,51nm,18.1s,baz=180,slow=36
ECSD EROS Data Cent 22.33 75 eP P 10 54 08.5 0.0
DIV Divide 22.38 336 eP P 10 54 10.9 +1.9
comp=Z,37nm,1.2s
LPIG La Paz 22.52 137 LR LR 11 02 05.8
comp=Z,980nm,18.6s,baz=330,slow=35
TX31 Lajitas Ar. Si 22.66 116 eP P 10 54 14.2 +2.0
TXAR Lajitas Array 22.66 116 P P 10 54 13.1 +0.9
comp=Z,3.7nm,0.6s,baz=299,slow=6.7,SNR=41
TXAR PcP PcP 10 58 04.3 -0.6
comp=Z,0.3nm,0.8s,baz=325,slow=1.5,SNR=3.5
KLU Klutina 22.71 336 eP P 10 54 14.5 +1.9
comp=Z,33nm,1.3s
KDAK Kodiak Island 22.71 323 eP P 10 54 13.7 +1.3
KDAK pmax pmax
comp=Z,76nm,1.5s
KDAK Kodiak Island 22.71 323 eP P 10 54 13.7 +1.3
comp=Z,76nm,1.5s
OHAK Old Harbor 22.73 321 eP P 10 54 14.1 +1.5
comp=Z,110nm,1.7s
AGMN Agassiz Nation 22.81 63 eP P 10 54 13.6 0.0
comp=Z,120nm,1.5s
SEW Seward 22.87 331 eP P 10 54 16.0 +1.9
comp=Z,55nm,1.5s
HPIG 22.99 124 eP P 10 54 17.3 +1.5
comp=Z,157nm,2.0s
ULM Lac du Bonnet 23.04 58 P P 10 54 15.0 -0.9
comp=Z,23nm,0.8s,baz=263,slow=9.9,SNR=19
ULM LR LR 11 03 27.8
comp=Z,2µm,18.4s,baz=263,slow=37
ULM Lac du Bonnet 23.04 58 eP P 10 54 15.1 -0.9
ULM pmax pmax
comp=Z,188nm,1.3s
ULM Lac du Bonnet 23.04 58 eP P 10 54 15.1 -0.9
comp=Z,188nm,1.3s
MENT Mentasta 23.29 341 eP P 10 54 19.9 +1.6
comp=Z,36nm,1.0s
DAWY Dawson 23.36 346 eP P 10 54 20.5 +1.3
comp=Z,43nm,1.3s
SCM Sheep Creek Mo 23.41 336 eP P 10 54 21.7 +2.0
SCM pmax pmax
comp=Z,183nm,1.8s
SCM Sheep Creek Mo 23.41 336 eP P 10 54 21.7 +2.0
comp=Z,183nm,1.8s
U34A Anderson Ranch 23.43 94 eP P 10 54 21.6 +1.5
comp=Z,106nm,1.4s
ABTX Abilene, Hawle 23.59 104 eP P 10 54 22.6 +1.0
comp=Z,55nm,1.0s
RC01 Rabbit Creek A 23.66 332 eP P 10 54 28.3 +6.2
comp=Z,132nm,1.7s
V34A Guthrie 23.68 95 eP P 10 54 23.2 +0.7
comp=Z,146nm,1.8s
SML Sawmill 23.70 335 eP P 10 54 24.1 +1.5
SML pmax pmax
comp=Z,25nm,1.1s
SML Sawmill 23.70 335 eP P 10 54 24.1 +1.5
comp=Z,25nm,1.1s
W34A Bridge Creek, 23.74 97 eP P 10 54 23.7 +0.6
comp=Z,95nm,1.2s
PAX Paxson 23.76 339 eP P 10 54 24.5 +1.3
PAX pmax pmax
comp=Z,19nm,1.4s
PAX Paxson 23.76 339 eP P 10 54 24.5 +1.3
comp=Z,19nm,1.4s
PMR Palmer 23.81 334 eP P 10 54 25.0 +1.5
PMR pmax pmax
comp=Z,85nm,1.8s
PMR Palmer 23.81 334 eP P 10 54 25.0 +1.5
comp=Z,85nm,1.8s
DOT Dot Lake 23.97 341 eP P 10 54 26.1 +1.0
comp=Z,20nm,1.0s
EGAK Eagle 24.33 345 eP P 10 54 29.5 +1.1
comp=Z,11nm,1.0s
RSO Redoubt South 24.36 329 eP P 10 54 33.2 +4.3
SPU Mount Spurr 24.55 330 eP P 10 54 32.0 +1.5
SPMN Marine on St. 24.91 71 eP P 10 54 35.4 +1.5
comp=Z,16nm,0.8s
TUL1 Leonard 24.94 93 eP P 10 54 38.0 +3.9
comp=Z,25nm,1.2s
RND Reindeer 25.06 337 eP P 10 54 36.4 +1.3
RND pmax pmax
comp=Z,20nm,1.2s
RND Reindeer 25.06 337 eP P 10 54 36.4 +1.3
comp=Z,20nm,1.2s
HDA Harding Lake 25.32 340 eP P 10 54 39.0 +1.6
comp=Z,72nm,1.2s
MCK McKinley 25.33 337 eP P 10 54 38.8 +1.3
MCK pmax pmax
comp=Z,31nm,1.2s
MCK McKinley 25.33 337 eP P 10 54 38.8 +1.3
comp=Z,31nm,1.2s
TRF Thorofare Moun 25.53 336 eP P 10 54 38.5 -0.9
comp=Z,31nm,1.3s
IL1 Eielson Array 25.60 340 eP P 10 54 39.2 -0.7
ILAR Eielson Array 25.60 340 P P 10 54 40.8 +0.9
comp=Z,9.2nm,0.9s,baz=157,slow=8.2,SNR=81
ILAR PcP PcP 10 58 10.0 -0.5
comp=Z,2.4nm,0.9s,baz=181,slow=2.2,SNR=13
ILAR LR LR 11 03 09.1
comp=Z,700nm,21.5s,baz=164,slow=33
ILB Eielson Array 25.60 340 eP P 10 54 40.9 +0.9
WRH Wood River Hil 25.67 339 eP P 10 54 41.7 +1.2
comp=Z,35nm,1.2s
EYMN Ely 25.72 64 eP P 10 54 43.6 +2.5
comp=Z,170nm,1.6s
CCB Clear Creek Bu 25.73 339 eP P 10 54 41.9 +0.8
comp=Z,24nm,1.3s
PPLA Purkeypile 25.74 333 eP P 10 54 43.4 +2.0
comp=Z,74nm,1.3s
KTH Kantishna Hill 25.80 335 eP P 10 54 42.1 +0.3
comp=Z,4.7nm,0.4s
BWN Browne 25.82 337 eP P 10 54 45.3 +3.4
comp=Z,122nm,1.4s
SVW2 Sparrevohn 25.85 328 eP P 10 54 42.9 +0.7
comp=Z,34nm,1.5s
COLA College 25.93 340 dP P 10 54 42.7 -0.1
COLA pmax pmax
comp=Z,6.0nm,1.0s
COLA College 25.93 340 eP P 10 54 45.6 +2.8
comp=Z,14nm,1.3s
MDM Murphy Dome 26.09 340 eP P 10 54 45.1 +0.7

comp=Z,20nm,1.4s
HHAR Hobbs 26.18 91 eP P 10 54 45.9 +0.4
comp=Z,50nm,1.4s
BPAW Bear Paw Mtn. 26.21 336 eP P 10 54 46.0 +0.5
comp=Z,15nm,1.3s
FCC Fort Churchill 26.59 39 eP P 10 54 49.5 +0.6
FCC pmax pmax
comp=Z,60nm,1.5s
FCC Fort Churchill 26.59 39 eP P 10 54 49.5 +0.6
comp=Z,60nm,1.5s
FYU Fort Yukon 26.72 344 eP P 10 54 51.6 +1.6
comp=Z,47nm,1.4s
INK Inuvik 26.72 355 LR LR 11 04 42.4
comp=Z,505nm,18.2s,baz=176,slow=35
INK Inuvik 26.72 355 eP P 10 54 50.7 +0.8
INK pmax pmax
comp=Z,23nm,1.5s
INK Inuvik 26.72 355 eP P 10 54 50.7 +0.8
comp=Z,23nm,1.5s
MLY Manley 26.83 338 eP P 10 54 52.2 +1.1
comp=Z,17nm,1.1s
JFWS Jewell Farm 27.04 75 eP P 10 54 53.8 +0.6
JFWS pmax pmax
comp=Z,55nm,1.0s
JFWS Jewell Farm 27.04 75 eP P 10 54 53.8 +0.6
comp=Z,55nm,1.0s
TT01 Tatalina 27.09 331 eP P 10 54 53.6 +0.2
TTA Tatalina 27.10 331 eP P 10 54 55.0 +1.4
TTA pmax pmax
comp=Z,9.0nm,1.0s
TTA Tatalina 27.10 331 eP P 10 54 55.0 +1.4
comp=Z,9.4nm,1.0s
MIAR Mount Ida 27.15 95 eP P 10 54 58.8 +4.6
comp=Z,110nm,2.0s
COWI Conover 27.40 68 eP P 10 54 57.2 +0.8
comp=Z,39nm,1.8s
X301 Greenbrier Sit 27.74 92 eP P 10 55 00.3 +0.9
comp=Z,32nm,1.3s
X201 Greenbrier Sit 27.74 92 eP P 10 55 00.3 +0.8
comp=Z,25nm,1.1s
WHAR Wooly Hollow 27.80 92 eP P 10 55 00.8 +0.8
comp=Z,22nm,1.0s
WLAR White Oak Lake 27.88 96 eP P 10 55 01.9 +1.2
comp=Z,71nm,1.2s
WLAR White Oak Lake 27.88 96 eP P 10 55 02.2 +1.5
comp=Z,71nm,1.2s
HDIL Hopedale 28.26 80 eP P 10 55 09.4 +5.3
comp=Z,25nm,1.1s
COLD Coldfoot 28.38 341 eP P 10 55 06.5 +1.6
comp=Z,30nm,2.0s
PBMO Poplar Bluff 28.61 88 eP P 10 55 11.0 +3.8
comp=Z,18nm,1.1s
SFIN Lafayette 29.92 79 eP P 10 55 24.0 +5.2
comp=Z,33nm,1.3s
BLO Bloomington 30.70 81 eP P 10 55 26.1 +0.3
BLO pmax pmax
comp=Z,9.0nm,0.6s
BLO Bloomington 30.70 81 eP P 10 55 26.1 +0.3
comp=Z,9.4nm,0.6s
WVT Waverly 30.80 88 eP P 10 55 26.6 0.0
WVT pmax pmax
comp=Z,36nm,1.8s
WVT Waverly 30.80 88 eP P 10 55 26.6 0.0
comp=Z,36nm,1.8s
PLAL Pickwick Lake 31.07 90 eP P 10 55 29.1 +0.1
comp=Z,84nm,1.9s
ACSO Alum Creek Sta 32.98 78 eP P 10 55 50.9 +5.1
comp=Z,12nm,0.8s
CPCT Cooper Cave 33.53 87 eP P 10 55 51.3 +0.7
comp=Z,9.3nm,1.0s
SADO Sadowa 34.56 69 eP P 10 55 59.9 +0.5
comp=Z,19nm,1.0s
ALLY Alegheny Colle 34.62 74 eP P 10 56 02.8 +2.8
comp=Z,99nm,1.6s
GOGA Godfrey 35.19 89 eP P 10 56 05.5 +0.5
GOGA pmax pmax
comp=Z,12nm,1.0s
GOGA Godfrey 35.19 89 eP P 10 56 05.5 +0.5
comp=Z,12nm,1.0s
RES Resolute Bay 35.98 14 LR LR 11 11 16.2
comp=Z,192nm,18.2s,baz=240,slow=37
KMSC Kings Mountain 36.04 85 eP P 10 56 12.0 -0.3
comp=Z,34nm,1.6s
VWCC Virginia Weste 36.20 81 eP P 10 56 16.3 +2.6
JSC Jenkinsville 36.46 87 eP P 10 56 16.2 +0.3
JSC pmax pmax
comp=Z,13nm,0.9s
JSC Jenkinsville 36.46 87 eP P 10 56 16.2 +0.3
comp=Z,13nm,0.9s
TRQ Mont Tremblant 37.39 65 eP P 10 56 23.8 0.0
SCHQ Schefferville 40.78 50 P P 10 56 50.5 -1.4
comp=Z,6.9nm,0.8s,baz=272,slow=8.7,SNR=6.6
SCHQ LR LR 11 13 49.6
comp=Z,1µm,20.4s,baz=280,slow=36
BILL Bilibino 43.34 330 dP P 10 57 12.2 -0.5
BILL i 10 59 00.1
BILL iS S 11 03 31.8 -8.9
BILL iSS SS 11 06 48.3 -5.3
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL MLR MLR
comp=Z,1µm,17.0s
BILL Bilibino 43.34 330 eP P 10 57 12.7 0.0
comp=Z,8.7nm,1.1s
PET Petropavlovsk 49.32 310 eP P 10 58 05.4 +5.6
PET eS S 11 05 09.9 +3.2
PET pmax pmax
comp=Z,100nm,11.6s
PETK Petropavlovsk- 49.84 310 P P 10 58 02.8 -1.0
comp=Z,5.5nm,0.8s,baz=76,slow=14,SNR=4.1
SUMG Summit 50.23 23 iP P 10 58 07.3 +0.3
SUMG pmax pmax
comp=Z,20nm,1.0s
SUMG Summit 50.23 23 iP P 10 58 07.3 +0.3
comp=Z,20nm,1.0s
SUMG Summit 50.23 23 eP P 10 58 07.1 +0.1
comp=Z,20nm,0.9s
MA2 Magadan 51.40 320 LR LR 11 17 27.9
comp=Z,302nm,20.6s,baz=114,slow=33
TAOE Nuku Hiva Isla 51.90 197 eLR LR 11 13 04.4
comp=Z,617nm,28.1s
TAOE Nuku Hiva Isla 51.90 197 eT T 11 53 55.6
comp=Z,24nm,0.2s
DAG Danmarks Havn 53.63 16 iP P 10 58 31.5 -0.3
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 53.63 16 iP P 10 58 31.5 -0.3
comp=Z,7.8nm,0.9s
TIXI Tiksi 55.03 338 iP P 10 58 40.8 -1.3
TIXI pmax pmax
comp=Z,13nm,1.7s
TIXI Tiksi 55.03 338 eP P 10 58 41.3 -0.8
comp=Z,4.7nm,1.0s
TIXI ePcP PcP 10 59 42.6 -1.0
SCO Scoresbysund 55.87 23 iP P 10 58 54.7 +6.6
SCO pmax pmax
comp=Z,48nm,0.9s
SCO Scoresbysund 55.87 23 iP P 10 58 54.7 +6.6
comp=Z,48nm,0.9s
KUR Kuril'sk 58.97 305 eP P 10 59 09.2 -1.1
KUR eS S 11 07 23.4 +6.2
KUR pmax pmax
comp=Z,204nm,2.7s
KUR pmax pmax
comp=Z,80nm,2.3s
KUR MLR MLR
comp=Z,134nm,16.0s
BORG Borgarnes 59.06 29 LR LR 11 24 34.1
comp=Z,740nm,19.8s,baz=292,slow=36
YAK Yakutsk 59.64 328 eP P 10 59 14.7 0.0
YAK pmax pmax
comp=Z,9.0nm,0.6s
OTAV Otavalo 60.20 120 eP P 10 59 20.8 +1.1
comp=Z,7.9nm,1.0s
YSS Yuzh-Sakhalins 61.16 309 eP P 10 59 22.4 -2.9
TIAR Tiarei 62.63 204 eT T 12 07 19.5
comp=Z,6.5nm,0.2s
PPT Papeete 62.71 204 LR LR 11 21 14.1
comp=Z,144nm,19.5s,baz=354,slow=31
PPT2 Papeete2 62.73 204 eS S 11 08 06.8 +1.0
comp=Z,598nm,26.0s
PPT2 eLR LR 11 18 01.2
comp=Z,899nm,28.5s,baz=17
RKT Rikitea 65.08 188 eS S 11 08 38.7 +4.1
comp=Z,296nm,30.0s
RKT eLQ LQ 11 16 24.6
comp=Z,364nm,33.2s

RKT					*e*LR	LR	11 19 25.6		
	comp=Z,381nm,25.8s,baz=2.8								
RKT	**Rikitea**	**65.08**	**188**	*e*T		T	12 10 24.0		
	comp=Z,3.4nm,0.3s								
KLR	**Kul'dur**	**66.00**	**315**	P		**P**	**10 59 56.8**	**-0.4**	
	comp=Z,1.0nm,0.6s,baz=47,slow=3.9,SNR=4.2								
NRIK	**Noril'sk**	**66.20**	**347**	P		**P**	**10 59 57.4**	**-0.9**	
	comp=Z,6.3nm,0.9s,baz=12,slow=6.2,SNR=10								
ARCES	**ARCESS Array B**	**67.08**	**10**	P		**P**	**11 00 03.3**	**-0.6**	
	comp=Z,4.1nm,1.1s,baz=324,slow=17,SNR=4.0								
ARCES					LR	LR	11 29 42.2		
	comp=Z,187nm,21.2s,baz=37,slow=36								
TBI	**Tubuai**	**68.14**	**202**	*e*S		**S**	**11 09 11.7**	**0.0**	
	comp=Z,540nm,28.5s								
TBI	**Tubuai**	**68.14**	**202**	*e*LR		LR	11 20 40.5		
	comp=Z,562nm,28.8s,baz=18								
USRK	**Ussuriysk Ar.**	**68.93**	**311**	P		**P**	**11 00 14.5**	**-1.4**	
	comp=Z,8.5nm,1.0s,baz=76,slow=3.1,SNR=6.2								
VLA	**Vladivostok**	**69.66**	**310**⇓	*e*P		**P**	**11 00 20.1**	**-0.3**	
VLA					pmax	pmax			
	comp=Z,25nm,0.8s								
NB2	**NORSAR Subarra**	**71.95**	**20**	P		**P**	**11 00 33.4**	**-0.8**	
	comp=Z,0.7nm,0.6s,baz=312,slow=6.9								
NOA	**NORSAR Array B**	**71.95**	**20**	P		**P**	**11 00 33.9**	**-0.3**	
	comp=Z,4.9nm,1.0s,baz=330,slow=5.6,SNR=6.0								
NOA					LR	LR	11 31 46.1		
	comp=Z,118nm,21.1s,baz=325,slow=36								
EKA	**Eskdalemuir Ar**	**72.06**	**30**	LR		LR	11 32 06.5		
	comp=Z,340nm,18.2s,baz=300,slow=36								
HFS	**Hagfors**	**73.36**	**19**	LR		LR	11 32 52.4		
	comp=Z,285nm,19.8s,baz=327,slow=36								
FINES	**FINESS Array B**	**74.74**	**13**	P		**P**	**11 00 49.8**	**-0.7**	
	comp=Z,5.0nm,0.8s,baz=350,slow=4.3,SNR=9.3								
KSRS	**Korea Array**	**75.62**	**308**	P		**P**	**11 00 55.2**	**-0.8**	
	comp=Z,1.7nm,0.9s,baz=57,slow=5.9,SNR=8.7								
KSAR	**Wonju Array Be**	**75.66**	**308**	P		**P**	**11 00 55.3**	**-0.9**	
KSAR	**Wonju Array Be**	**75.66**	**308**	P		**P**	**11 00 55.2**	**-0.9**	
IRK	**Irkutsk**	**76.28**	**330**	*e*P		**P**	**11 00 58.0**	**-1.5**	
IRK					pmax	pmax			
	comp=Z,50nm,2.4s								
TLY	**Talaya**	**76.96**	**330**	P		**P**	**11 01 03.2**	**-0.3**	
	comp=Z,4.7nm,0.9s,baz=20,slow=5.3,SNR=9.9								
TLY	**Talaya**	**76.96**	**330**	*e*P		P	11 00 57.1	-6.3	
TLY					pmax	pmax			
	comp=Z,4.0nm,0.6s								
TLY					MLR	MLR			
	comp=Z,298nm,18.0s								
KLMR	**Klimovskoe**	**77.04**	**7**	*e*P		**P**	**11 01 00.7**	**-2.9**	
KLMR					pmax	pmax			
	comp=Z,27nm,1.3s								
ZAK	**Zakamensk**	**78.14**	**330**	*e*P		**P**	**11 01 09.1**	**-1.1**	
ZAK					pmax	pmax			
	comp=Z,5.0nm,2.0s								
ULN	**Ulaanbaatar**	**78.66**	**326**⇑	*e*P		**P**	**11 01 13.1**	**-0.1**	
ULN					pmax	pmax			
	comp=Z,8.0nm,1.7s								
SONM	**Songino Array**	**78.96**	**327**	P		**P**	**11 01 13.7**	**-1.1**	
	comp=Z,4.9nm,0.9s,baz=64,slow=3.4,SNR=16								
LPAZ	**La Paz**	**79.32**	**123**	P		**P**	**11 01 16.4**	**-1.2**	
	comp=Z,2.6nm,0.8s,baz=330,slow=2.6,SNR=9.9								
NVS	**Novosibirsk**	**80.25**	**343**	*e*P		**P**	**11 01 19.8**	**-1.7**	
ZALV	**Zalesovo Beam**	**80.72**	**342**	P		**P**	**11 01 23.6**	**-0.4**	
	comp=Z,1.9nm,0.7s,baz=0.1,slow=5.9,SNR=8.2								
CLL	**Collm**	**80.88**	**24**	*i* P		**P**	**11 01 25.1**	**+0.2**	
	comp=Z,18nm,1.3s								
CLL					*e*S	**S**	**11 11 40.0**	**+6.0**	
CLL					LmV		11 38 00.0		
	comp=Z,300nm,20.7s								
CLL	**Collm**	**80.88**	**24**	*i* P		**P**	**11 01 25.1**	**+0.2**	
CLL					pmax	pmax			
	comp=Z,18nm,1.3s								
CLL					MLR	MLR			
	comp=Z,300nm,20.7s								
SVE	**Sverdlovsk**	**81.45**	**356**⇓	*i* P		**P**	**11 01 27.2**	**-0.7**	
SVE					pmax	pmax			
	comp=Z,16nm,1.1s								
BRG	**Berggiesshubel**	**81.55**	**24**	*e*P		**P**	**11 01 28.9**	**+0.4**	
	comp=Z,17nm,1.3s								
	comp=N,219nm,14.4s								
	comp=E,232nm,18.6s								
	comp=Z,366nm,20.0s								
BRG	**Berggiesshubel**	**81.55**	**24**	*e*P		**P**	**11 01 28.9**	**+0.4**	
BRG					pmax	pmax			
	comp=Z,17nm,1.3s								
BRG					MLR	MLR			
	comp=N,219nm,14.4s								
BRG					MLR	MLR			
	comp=E,232nm,18.6s								
BRG					MLR	MLR			
	comp=Z,366nm,20.0s								
NKC	**Novy Kostel**	**81.65**	**25**	AMS		AMS	11 38 00.0		
	comp=Z,300nm,21.4s								
BFO	**Black Forest**	**81.91**	**28**	*i* P		**P**	**11 01 31.5**	**+1.0**	
ARU	**Arti**	**81.95**	**357**	LR		LR	11 44 14.7		
	comp=Z,73nm,18.1s,baz=24,slow=40								
ARU	**Arti**	**81.95**	**357**	*e*P		**P**	**11 01 29.5**	**-1.0**	
ARU					*e*		11 01 36.3		
ARU					pmax	pmax			
	comp=Z,17nm,1.3s								
ARU	**Arti**	**81.95**	**357**	*e*P		**P**	**11 01 29.4**	**-1.0**	
	comp=Z,17nm,1.3s								
ARU					*e*PcP	**PcP**	**11 01 36.3**	**+0.2**	
PVCC	**Panska Ves**	**82.04**	**24**	*e*P		**P**	**11 01 31.6**	**+0.5**	
PVCC	**Panska Ves**	**82.04**	**24**	*e*P		**P**	**11 01 31.6**	**+0.5**	
HHC	**Hu-ho-hao-te**	**82.07**	**319**	*e*P		**P**	**11 01 32.0**	**+0.4**	
HHC					pP	PcP	11 01 36.8	-0.3	
HHC					S	**S**	**11 11 46.5**	**-0.4**	
HHC					sS	SKKSac	11 11 57.6	+1.3	
HHC					PMZ				
	comp=Z,20nm,1.0s								
HHC					PMZ				
	comp=Z,130nm,7.1s								
HHC					LN				
	comp=Z,140nm,15.5s								
HHC					LE				
	comp=Z,130nm,15.2s								
HHC					LZ				
	comp=Z,180nm,19.0s								
OBN	**Obninsk**	**82.38**	**9**	LR		LR	11 38 37.8		
	comp=Z,108nm,19.9s,baz=314,slow=36								
OBN	**Obninsk**	**82.38**	**9**	*i* P		**P**	**11 01 31.5**	**-1.2**	
OBN				*i*			11 01 36.8		
OBN					pmax	pmax			
	comp=Z,14nm,1.1s								
UPC	**Upice**	**82.48**	**23**	AMS		AMS	11 41 30.0		
	comp=Z,300nm,16.2s								
PRU	**Pruhonice**	**82.51**	**24**	*e*P		**P**	**11 01 33.9**	**+0.3**	
PRU					AMS	AMS	11 39 20.0		
	comp=Z,400nm,20.0s								
PRU	**Pruhonice**	**82.51**	**24**	*e*P		**P**	**11 01 33.9**	**+0.3**	
PRU					MLR	MLR			
	comp=Z,400nm,20.0s								
GOPC	**GO Pecny, Ondr**	**82.65**	**24**	*e*P		**P**	**11 01 34.2**	**-0.1**	
GOPC					AMS	AMS	11 39 10.0		
	comp=Z,400nm,23.0s								
GOPC	**GO Pecny, Ondr**	**82.65**	**24**	*e*P		**P**	**11 01 34.2**	**-0.1**	
GOPC					MLR	MLR			
	comp=Z,400nm,23.0s								
DPC	**Dobruska-Polom**	**82.72**	**23**	*e*P		**P**	**11 01 35.1**	**+0.4**	
DPC				*ex*		x	11 01 45.9		
DPC					AMS	AMS	11 41 40.0		
	comp=Z,300nm,18.2s								
DPC	**Dobruska-Polom**	**82.72**	**23**	*e*P		**P**	**11 01 35.1**	**+0.4**	
DPC					MLR	MLR			
	comp=Z,300nm,18.2s								
KHC	**Kasperske Hory**	**82.97**	**25**	*e*P		**P**	**11 01 35.8**	**-0.2**	
KHC				*ex*		x	11 01 48.1		
KHC					AMS	AMS	11 40 20.0		
	comp=Z,500nm,16.6s								
KHC	**Kasperske Hory**	**82.97**	**25**	*e*P		**P**	**11 01 35.8**	**-0.2**	
KHC					MLR	MLR			
	comp=Z,500nm,16.6s								
GERES	**GERESS Array B**	**83.26**	**25**	P		**P**	**11 01 37.0**	**-0.6**	
	comp=Z,2.4nm,1.0s,baz=347,slow=5.5,SNR=14								
GERES					LR	LR	11 40 41.8		
	comp=Z,366nm,18.8s,baz=308,slow=37								
DAVA	**Damuels**	**83.35**	**28**	*i* P		**P**	**11 01 38.1**	**0.0**	
	comp=Z,10nm,1.0s								
TREC	**Trest**	**83.41**	**24**	AMS		AMS	11 40 00.0		
	comp=Z,300nm,17.8s								
RETA	**Reutte**	**83.48**	**27**	*i* P		**P**	**11 01 39.0**	**+0.3**	
	comp=Z,12nm,1.7s								
MORC	**Moravsky Berou**	**83.58**	**22**⇑	*i* P		**P**	**11 01 39.4**	**+0.2**	
MORC	**Moravsky Berou**	**83.58**	**22**	⇑P		**P**	**11 01 39.4**	**+0.2**	
OKC	**Ostrava-Krasne**	**83.69**	**22**	*e*P		**P**	**11 01 39.9**	**+0.2**	
OKC	**Ostrava-Krasne**	**83.69**	**22**	*e*P		**P**	**11 01 39.9**	**+0.2**	
MOTA	**Moosalm**	**83.72**	**27**	*i* pP		**P**	**11 01 40.5**	**+0.5**	
	comp=Z,5.3nm,0.9s								
VRAC	**Vranov**	**83.73**	**23**	LR		LR	11 39 57.0		
	comp=Z,253nm,19.5s,baz=326,slow=36								
VRAC	**Vranov**	**83.73**	**23**⇑	*i* P		**P**	**11 01 40.5**	**+0.6**	
VRAC	**Vranov**	**83.73**	**23**	⇑P		**P**	**11 01 40.5**	**+0.6**	
ESDC	**Sonseca Array**	**83.77**	**41**	P		**P**	**11 01 40.0**	**-0.3**	
	comp=Z,3.3nm,0.9s,baz=309,slow=4.6,SNR=14								
ESDC					LR	LR	11 35 46.2		
	comp=Z,311nm,19.8s,baz=320,slow=33								
DAVOX	**Davos/Dischmat**	**83.78**	**28**	LR		LR	11 38 44.9		
	comp=Z,140nm,20.7s,baz=312,slow=36								
BVAR	**Borovoye Array**	**84.29**	**350**	P		**P**	**11 01 42.5**	**-0.2**	
	comp=Z,7.3nm,0.9s,baz=36,slow=2.8,SNR=31								
LANS	**Liptovska Anna**	**84.68**	**21**	*e*P		**P**	**11 01 45.3**	**+0.5**	
LANS	**Liptovska Anna**	**84.68**	**21**	*e*P		**P**	**11 01 45.3**	**+0.5**	
KBA	**Koelnbreinsper**	**84.70**	**26**	*i* P		**P**	**11 01 45.1**	**0.0**	
	comp=Z,12nm,1.1s								
CONA	**Conrad Observa**	**84.74**	**24**	*i* P		**P**	**11 01 45.3**	**+0.1**	
	comp=Z,12nm,1.1s								
STHS	**Stebnicka Huta**	**84.91**	**20**	*e*P		**P**	**11 01 46.5**	**+0.6**	
STHS					pmax	pmax			
	comp=Z,5.0nm,0.9s								
STHS	**Stebnicka Huta**	**84.91**	**20**	*e*P		**P**	**11 01 46.5**	**+0.6**	
VYHS	**Vyhne**	**85.10**	**22**	*e*P		**P**	**11 01 46.9**	**0.0**	
VYHS					pmax	pmax			
	comp=Z,29nm,2.6s								
VYHS	**Vyhne**	**85.10**	**22**	*e*P		**P**	**11 01 46.9**	**0.0**	
VYHS					*e*PP	**PP**	**11 05 01.2**	**-1.8**	
KURK	**Kurchatov**	**85.11**	**344**	*e*P		**P**	**11 01 45.9**	**-0.9**	
KURK	**Kurchatov**	**85.11**	**344**	*e*P		**P**	**11 01 45.9**	**-0.9**	
	comp=Z,381nm,2.1s								
SOP	**Sopron**	**85.17**	**24**⇓	*e*P		**P**	**11 01 47.4**	**+0.2**	
ARSA	**Arzberg**	**85.24**	**25**	*i* P		**P**	**11 01 47.9**	**+0.3**	
	comp=Z,9.4nm,1.2s								
CRVS	**Cervenica-Dubn**	**85.44**	**20**	*e*P		**P**	**11 01 48.5**	**0.0**	
CRVS	**Cervenica-Dubn**	**85.44**	**20**	*e*P		**P**	**11 01 48.5**	**0.0**	
AKASG	**Malin Array Be**	**85.50**	**15**	P		**P**	**11 01 47.4**	**-1.3**	
	comp=Z,3.0nm,0.6s,baz=348,slow=4.3,SNR=28								
KIEV	**Kiev**	**85.50**	**15**	*d* iP		**P**	**11 01 47.3**	**-1.4**	
KIEV					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KIEV	**Kiev**	**85.50**	**15**	*e*P		**P**	**11 01 47.6**	**-1.2**	
	comp=Z,16nm,1.3s								
SOKA	**Soboth**	**85.60**	**25**	*i* P		**P**	**11 01 49.0**	**-0.4**	
	comp=Z,16nm,1.2s								
KOLS	**Kolonicke sedl**	**85.61**	**20**	*e*P		**P**	**11 01 49.8**	**+0.4**	
KOLS					pmax	pmax			
	comp=Z,8.0nm,1.5s								
KOLS	**Kolonicke sedl**	**85.61**	**20**	*e*P		**P**	**11 01 49.8**	**+0.4**	
UZH	**Uzhgorod**	**85.90**	**20**	*e*P		P	11 01 44.0	-6.8	
UZH					*i*		11 01 48.0		
PSZ	**Piszkesteto**	**85.92**	**22**⇓	*e*P		**P**	**11 01 51.2**	**+0.2**	
PSZ	**Piszkesteto**	**85.92**	**22**	*e*P		**P**	**11 01 51.6**	**+0.6**	
PSZ					pmax	pmax			
	comp=Z,51nm,1.9s								
PSZ	**Piszkesteto**	**85.92**	**22**	*e*P		**P**	**11 01 51.6**	**+0.6**	
	comp=Z,51nm,1.9s								
SORM	**Soroca**	**87.77**	**16**⇓	*i* P		**P**	**11 01 58.6**	**-1.3**	
SORM	**Soroca**	**87.77**	**16**	⇓P		**P**	**11 01 58.6**	**-1.3**	
SIRR	**Siria**	**87.92**	**21**⇓	*i* P		**P**	**11 01 58.8**	**-1.9**	
MKAR	**Makanchi Array**	**87.95**	**340**	P		**P**	**11 01 59.8**	**-1.1**	
	comp=Z,0.9nm,0.7s,baz=30,slow=5.6,SNR=6.8								
AKTO	**Aktyubinsk**	**87.97**	**357**	P		**P**	**11 02 00.0**	**-0.9**	
	comp=Z,6.1nm,1.0s,baz=19,slow=6.3,SNR=16								
DZM	**Mont Dzumac**	**88.43**	**238**	*e*LR		LR	11 30 08.4		
	comp=Z,971nm,29.1s								
XAN	**Xi'an**	**88.67**	**317**	P		**P**	**11 02 03.8**	**-0.8**	
XAN					PMZ				
	comp=Z,8.0nm,0.9s								
XAN					PMZ				
	comp=Z,31nm,4.3s								
TESR	**Tescani**	**88.93**	**18**⇓	*i* P		**P**	**11 02 04.4**	**-1.1**	
ABKAR	**Akbulak array**	**89.05**	**355**	*e*P		**P**	**11 02 05.8**	**-0.2**	
	comp=Z,13nm,1.0s								
WMQ	**Urumqi**	**89.17**	**336**	P		**P**	**11 02 08.0**	**+1.2**	
WMQ					pP	sP	11 02 13.0	+4.9	
WMQ					sP	pP	11 02 15.0	+7.3	
WMQ					PMZ				
	comp=Z,10.0nm,1.2s								
WMQ					PMZ				
	comp=Z,61nm,3.6s								
WMQ					LN				
	comp=Z,100nm,23.0s								
WMQ					LE				
	comp=Z,85nm,13.8s								
WMQ					LZ				
	comp=Z,170nm,14.8s								
LZH	**Lanzhou**	**89.53**	**321**	*e*P		**P**	**11 02 07.4**	**-1.3**	
LZH					pP	pP	11 02 11.8	+2.1	
LZH					sP	sP	11 02 14.6	+4.6	
LZH					PMZ				
	comp=Z,42nm,1.4s								
LZH					PMZ				
	comp=Z,130nm,4.7s								
PLOR	**Plostina**	**89.55**	**18**⇓	*i* P		**P**	**11 02 06.2**	**-2.3**	
PLOR	**Plostina**	**89.55**	**18**	⇓P		**P**	**11 02 06.2**	**-2.3**	
VRI	**Vrincioaia**	**89.56**	**18**⇑	*i* P		**P**	**11 02 08.0**	**-0.5**	
VRI	**Vrincioaia**	**89.56**	**18**	⇑P		**P**	**11 02 08.0**	**-0.5**	
MLR	**Muntele Rosu**	**89.73**	**19**	LR		LR	11 43 30.8		
	comp=Z,86nm,19.9s,baz=336,slow=36								
CFR	**Carcaliu**	**90.53**	**17**⇑	*i* P		**P**	**11 02 12.0**	**-0.9**	
CFR	**Carcaliu**	**90.53**	**17**	⇑P		**P**	**11 02 12.0**	**-0.9**	
CD2	**Chengdu**	**93.78**	**318**	*e*P		**P**	**11 02 27.5**	**-0.9**	
KIV	**Kislovodsk**	**94.06**	**7**	*i* P		**P**	**11 02 28.6**	**-0.8**	
KIV					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KIV					MLR	MLR			
	comp=Z,255nm,17.0s								
KVAR	**Kislovodsk Arr**	**94.06**	**7**	LR		LR	11 46 00.9		
	comp=Z,238nm,18.6s,baz=344,slow=36								
GYA	**Guiyang**	**95.84**	**313**	*e*P		**P**	**11 02 39.8**	**+1.8**	
GYA					PMZ				
	comp=Z,10.0nm,1.0s								
KSH	**Kashi**	**96.34**	**342**	*e*P		**P**	**11 02 42.6**	**+2.6**	
KSH					pP	sP	11 02 46.8	+5.5	
KSH					PP	**PP**	**11 06 38.6**	**+6.3**	
KSH					S	**S**	**11 13 57.8**	**-3.1**	
KSH					SS	**SS**	**11 20 36.4**	**+5.1**	
KSH					PMZ				
	comp=Z,3.0nm,0.3s								
KSH					LN				
	comp=Z,170nm,4.9s								
KSH					LE				
	comp=Z,140nm,2.9s								
KSH					LZ				
	comp=Z,660nm,14.3s								
BRTR	**Keskin Array B**	**96.90**	**15**	P		**P**	**11 02 41.2**	**-1.4**	
	comp=Z,0.5nm,0.8s,baz=225,slow=3.3,SNR=3.9								
SHEL	**Horse Pasture**	**123.69**	**81**	*i* PKIKP		**PKPdf**	**11 08 08.5**	**-0.7**	
VNDA	**Vanda**	**126.62**	**195**	PKP		**PKPdf**	**11 08 12.5**	**-0.5**	
	comp=Z,2.4nm,1.0s,baz=14,slow=1.0,SNR=7.1								
KMBO	**Kilima Mbogo**	**137.03**	**23**	PKP		**PKPdf**	**11 08 35.0**	**+0.1**	
	comp=Z,2.6nm,0.9s,baz=35,slow=8.4,SNR=4.3								
KMBO	**Kilima Mbogo**	**137.03**	**23**	*c* iPKIKP		**PKPdf**	**11 08 36.2**	**+1.3**	
KMBO					pmax	pmax			
	comp=Z,3.0nm,0.9s								
NVL	**N'lazarevskaya**	**144.47**	**158**	*e*PKIKP		**PKPab**	**11 08 45.0**	**+0.5**	
MAW	**Mawson**	**153.66**	**189**	PKPbc		**PKPbc**	**11 09 06.9**	**-1.8**	
	comp=Z,2.5nm,0.8s,baz=218,slow=2.0,SNR=4.2								
BOSA	**Boshof**	**153.91**	**68**	PKPbc		**PKPbc**	**11 09 08.3**	**-2.4**	
	comp=Z,5.3nm,1.0s,baz=327,slow=3.2,SNR=3.9								

IDC ***18*** *10:51:27.7±0.6,3.˚48S×131.˚25E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/41, mbtmp4.2/12, ML4.1/1, MS4.3/1, Ms1 4.2/1, ms1mx3.3/40, Error ellipse: s-maj=37.7km s-min=14.1km az=71.0*

ISCJB ***18*** *10:51:28.9±0.4,3.˚54S±0.˚04×131.˚34E±0.˚04, h24km, mb4.3/12, MS4.2/1, Error ellipse: s-maj=5.9km s-min=5.6km az=141.8*

NEIC ***18*** *10:51:29.1±0.5,3.˚55S×131.˚22E, h10km, mb4.6/4, Error ellipse: s-maj=12.9km s-min=8.3km az=66.0*

DJA ***18*** *10:51:33.7±0.4,3.˚5S±4.˚3×13.˚1E±.˚1, h45km±13km, M4.8/7, mB5.4/1, mb4.7/7, MLv4.8/6, Mw(mB)4.9/1*

ISC 18 10:51:30.7±0.5,3.˚47S±0.˚05×131.˚30E±0.˚05, h24km, n36, σ2.˚9 21/41, mb4.4/12, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.74**	**233**	P	**Pb**	**10 52 03.7**	**+1.7**
BNDI				S	**Sb**	**10 52 27.5**	**+4.0**
MSAI	**Masohi**	**2.37**	**273**	P	**Pb**	**10 52 10.6**	**-2.2**
MSAI				S	**Sb**	**10 52 39.7**	**-1.9**
SIJI	**Sorong**	**2.58**	**359**	Pn	**Pn**	**10 52 11.7**	**+0.6**
	34nm,0.3s,baz=358,slow=6.2,SNR=5.7						
SIJI				Sn	**Sn**	**10 52 40.5**	**-1.2**
	21nm,0.3s,baz=90,slow=24,SNR=20						
RKPI	**Ransiki, Papua**	**3.47**	**56**	P	**Pn**	**10 52 24.3**	**+1.0**
RKPI				S	**Sn**	**10 53 03.7**	**0.0**
NLAI	**Namlea**	**4.20**	**273**	P	**Pn**	**10 52 34.5**	**+1.2**
LBMI	**Labuha**	**4.72**	**306**	P	**Pn**	**10 52 40.0**	**-0.5**
GENI	**Genyem**	**8.90**	**85**	P	**Pn**	**10 53 38.8**	**+0.9**
	59nm,0.7s						
SOEI	**Soe**	**9.37**	**228**	P	**Pn**	**10 53 47.6**	**+3.1**
	138nm,1.2s,2μm						
SOEI	**Soe**	**9.37**	**228**	*e*Pn	**Pn**	**10 53 44.5**	**+0.1**
	158nm,1.1s						
MRSI	**Marisa**	**10.14**	**293**	P	**Pn**	**10 53 54.8**	**-0.2**
	36nm,1.0s						
KAPI	**Kappang**	**11.62**	**262**	Pn	**Pn**	**10 54 18.5**	**+3.4**
	1.7nm,0.3s,baz=120,slow=10,SNR=4.6						
FITZ	**Fitzroy Crossi**	**15.56**	**200**	Pn	**Pn**	**10 55 05.5**	**-3.3**
	1.5nm,0.3s,baz=23,slow=9.1,SNR=10						
COEN	**Coen**	**15.69**	**132**	*e*Pn	**Pn**	**10 55 09.6**	**-0.7**
	35nm,1.0s						
BBKI	**Banjar Baru**	**16.43**	**270**	P	**Pn**	**10 55 19.3**	**-0.6**
WRAB	**Tennant Creek**	**16.63**	**170**	*e*Pn	**Pn**	**10 55 19.6**	**-2.8**
	16nm,0.7s						
WRA	**Warramunga Arr**	**16.64**	**170**	Pn	**Pn**	**10 55 18.2**	**-4.3**
	1.4nm,0.3s,baz=348,slow=14,SNR=13						
WRA				Sn	Sn	10 58 14.0	-13
	2.0nm,0.3s,baz=356,slow=22,SNR=8.0						
ASAR	**Alice Springs**	**20.24**	**173**	P	**P**	**10 56 04.7**	**+0.3**
	22nm,0.6s,baz=352,slow=11,SNR=168						
ASAR				S	**S**	**10 59 42.0**	**-8.5**
	3.1nm,0.8s,baz=201,slow=31,SNR=4.9						
MBWA	**Marble Bar**	**20.88**	**212**	*e*P	**P**	**10 56 09.1**	**-2.2**
	27nm,0.7s						
KSM	**Kuching**	**21.55**	**283**	*e*P	**P**	**10 56 18.4**	**-0.2**
	35nm,1.1s						
CTA	**Charters Tower**	**22.04**	**140**	P	**P**	**10 56 24.7**	**+0.9**
	5.1nm,0.6s,baz=326,slow=8.4,SNR=8.0						
CTAO	**Charters Tower**	**22.04**	**140**	*e*P	**P**	**10 56 24.9**	**+1.1**
	124nm,0.9s						
STKA	**Stephens Creek**	**29.87**	**162**	P	**P**	**10 57 37.1**	**+0.6**
	5.1nm,0.9s,baz=329,slow=9.0,SNR=5.6						
STKA				LR	LR	11 11 30.5	
	comp=Z,527nm,19.9s,baz=341,slow=40						
CMAR	**Chiang Mai Arr**	**38.61**	**305**	P	**P**	**10 58 53.0**	**+0.6**
	2.5nm,1.0s,baz=126,slow=7.5,SNR=4.6						
KSAR	**Wonju Array Be**	**40.83**	**356**	P	**P**	**10 59 11.7**	**+1.2**
KSRS	**Korea Array**	**40.84**	**356**	P	**P**	**10 59 11.7**	**+1.2**
	0.4nm,0.5s,baz=150,slow=5.8,SNR=4.7						
MKAR	**Makanchi Array**	**66.03**	**325**	P	**P**	**11 02 15.8**	**+0.2**
	1.9nm,0.6s,baz=114,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**69.03**	**333**	P	**P**	**11 02 36.1**	**+1.8**
	1.8nm,0.6s,baz=117,slow=5.6,SNR=6.4						
KURK	**Kurchatov**	**70.22**	**328**	*e*P	**P**	**11 02 41.6**	**-0.1**
	47nm,0.8s						
VNDA	**Vanda**	**75.78**	**173**	P	**P**	**11 03 14.7**	**+0.5**
	1.2nm,0.5s,baz=316,slow=7.2,SNR=24						
BVAR	**Borovoye Array**	**75.80**	**327**	P	**P**	**11 03 14.8**	**+0.1**
	4.4nm,0.9s,baz=120,slow=8.8,SNR=6.9						
MAW	**Mawson**	**78.69**	**201**	P	**P**	**11 03 31.4**	**+0.8**
	1.1nm,0.5s,baz=0.0,slow=1.0,SNR=3.3						
SYO	**Syowa Base**	**87.40**	**201**⇑	*e*P	**P**	**11 04 14.9**	**-0.7**
ILAR	**Eielson Array**	**89.62**	**25**	P	**P**	**11 04 25.5**	**-0.7**
	0.4nm,0.7s,baz=286,slow=4.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**129.31**	**284**	PKP	**PKPdf**	**11 10 38.3**	**0.0**
	0.7nm,0.8s,baz=67,slow=2.0,SNR=5.5						
CPUP	**Villa Florida**	**149.22**	**165**	PKPbc	**PKPbc**	**11 11 19.1**	**+1.0**
	1.4nm,0.7s,baz=147,slow=2.7,SNR=4.0						
LPAZ	**La Paz**	**152.53**	**136**	PKPbc	**PKPbc**	**11 11 28.9**	**+2.0**
	0.6nm,0.3s,baz=250,slow=5.4,SNR=4.6						

**IDC 18 10:49:18.5±2.2,6.˚88

comp=E,48μm,18.2s,baz=61,slow=40
JNU Nakatsue 9.97 246 *e*Pn **Pn 11 33 29.0 +1.2**
JNU *e*Sn **Sn 11 35 19.1 +0.2**
JTZ Takazaki 10.49 240 P **Pn 11 33 36.4 +1.6**
CBiJ Chichi jima 10.57 178 *e*Pn Pn 11 33 30.1 -5.9
CBiJ *e*Sn Sn 11 35 22.2 -11
JCJ Chichijima 10.57 178 Pn Pn 11 33 31.0 -5.0
comp=E,96nm,0.3s,baz=63,slow=15,SNR=86
JCJ Sn Sn 11 35 22.4 -11
comp=E,167nm,0.3s,baz=78,slow=23,SNR=11
KSRS Korea Array 10.98 273 Pn **Pn 11 33 45.0 +3.6**
comp=E,2.3nm,0.3s,baz=86,slow=12,SNR=152
KSRS LR LR 11 37 50.9
comp=E,30μm,19.6s,baz=72,slow=37
KS01 Wonju Array Si 11.00 273 *e*Pn **Pn 11 33 44.1 +2.4**
KS15 Wonju Array Si 11.01 273 *e*Pn **Pn 11 33 45.5 +3.6**
KSAR Wonju Array Be 11.01 273 P **Pn 11 33 45.1 +3.2**
KSAR Wonju Array Be 11.01 273 Pn **Pn 11 33 45.0 +3.2**
MDJ Mudanjiang 11.47 311 P **Pn 11 33 51.5 +3.3**
MDJ PMZ
comp=E,120nm,0.9s
MDJ PMZ
comp=E,2μm,8.3s
MDJ LN
comp=E,28μm,18.1s
MDJ LE
comp=E,11μm,19.9s
MDJ LZ
comp=E,13μm,12.7s
MDJ Mudanjiang 11.47 311 *e*Pn **Pn 11 33 51.0 +2.8**
MDJ eSn Sn 11 36 13.3 +18
TJN Taejon 11.57 268*c i*P **Pn 11 33 52.6 +3.0**
HABR Khabarovsk 11.83 338 *e*P **Pn 11 33 51.5 -1.5**
HABR *e*S **Sn 11 36 03.0 -1.1**
HABR pmax pmax
comp=Z,26nm,1.4s
HABR pmax pmax
comp=N,19nm,1.4s
HABR pmax pmax
comp=E,28nm,1.4s
HABR MLR MLR
comp=Z,7μm,13.0s
INCN Inchon 11.99 274 *e*Pn **Pn 11 33 58.8 +3.4**
INCN Sn **Sn 11 36 16.3 +7.9**
TYV Tymovskoe 13.18 3 *e*P **Pn 11 34 09.8 -1.7**
TYV *e*S **Sn 11 36 35.0 -2.3**
TYV pmax pmax
comp=E,128nm,1.0s
TYV pmax pmax
comp=Z,152nm,0.8s
TYV pmax pmax
comp=N,4μm,12.0s
TYV pmax pmax
comp=Z,4μm,6.0s
TYV smax smax
comp=E,6μm,11.0s
TYV MLR MLR
comp=E,30μm,16.0s
KLR Kul'dur 13.61 331 Pn **Pn 11 34 18.8 +1.4**
comp=E,0.5nm,0.3s,baz=125,slow=12,SNR=23
CN2 Changchun 13.77 301 *e*P **Pn 11 34 19.8 +0.2**
CN2 PMZ
comp=E,20nm,1.5s
CN2 PMZ
comp=E,500nm,4.0s
CN2 LN
comp=E,14μm,12.0s
CN2 LE
comp=E,14μm,12.0s
CN2 LZ
comp=E,10μm,13.0s
SNY Shenyang 14.57 292 ⇑P **Pn 11 34 31.4 +0.9**
SNY S **Sn 11 37 10.1 -1.0**
SNY PMZ
comp=E,47nm,1.3s
SNY PMZ
comp=E,4μm,10.4s
SNY LN
comp=E,33μm,12.4s
SNY LE
comp=E,28μm,17.6s
SNY LZ
comp=E,42μm,16.9s
NKL Nikolayevsk 15.48 358 *e*P **Pn 11 34 39.0 -3.5**
NKL *i* S **S 11 37 42.0 -6.5**
NKL pmax pmax
comp=N,260nm,1.5s
NKL pmax pmax
comp=E,200nm,1.5s
NKL pmax pmax
comp=Z,390nm,1.5s
NKL pmax pmax
comp=N,2μm,5.0s
NKL pmax pmax
comp=Z,2μm,5.0s
NKL smax smax
comp=E,3μm,10.0s
NKL MLR MLR
comp=N,10μm,17.0s
NKL MLR MLR
comp=E,14μm,17.0s
NKL MLR MLR
comp=Z,23μm,17.0s
JOW Kunigami 15.70 230 *e*Pn **Pn 11 34 42.9 -2.7**
comp=Z,685nm,1.1s
JOW *e*Sn **Sn 11 37 45.7 +6.8**
DL2 Dalian 15.84 281⇑*i*P **Pn 11 34 47.3 0.0**
DL2 S **Sn 11 37 45.6 +3.4**
DL2 PMZ
comp=Z,150nm,1.8s
DL2 PMZ
comp=Z,6μm,12.3s
DL2 LN
comp=Z,16μm,12.7s
DL2 LE
comp=Z,11μm,16.9s
DL2 LZ
comp=Z,20μm,15.7s
SKR Severo-Kuril's 16.54 34 *e*P **P 11 34 59.5 +1.0**
SKR pmax pmax
comp=Z,996nm,1.1s
SKR MLR MLR
comp=Z,10μm,22.0s
SSE Sheshan 18.18 255 P **Pn 11 35 14.8 -1.9**
SSE S **Sn 11 38 33.8 -5.2**
SSE sS **S 11 38 45.4 +1.6**
SSE PMZ
comp=Z,290nm,1.2s
SSE PMZ
comp=Z,2μm,5.8s
SSE LN
comp=Z,7μm,14.3s
SSE LE
comp=Z,22μm,14.4s
SSE LZ
comp=Z,26μm,13.3s
PEA0 Petropavlovsk- 18.99 31 *e*P **P 11 35 24.8 -0.8**
PEA0B Petropavlovsk- 18.99 31 *e*P **P 11 35 25.6 +0.1**
comp=Z,362nm,1.1s
PETK Petropavlovsk- 18.99 31 P **Pn 11 35 26.6 +0.2**
comp=Z,1.9nm,0.3s,baz=203,slow=8.2,SNR=18
PETK PcP **PcP 11 39 50.8 +0.6**
comp=Z,0.1nm,0.3s,baz=165,slow=2.9,SNR=4.3
PETK LR LR 11 42 56.1
comp=Z,5μm,21.4s,baz=214,slow=38
PET Petropavlovsk 19.32 32*c i*P **Pn 11 35 29.8 -0.5**
PET *e*S **Sn 11 39 03.3 -2.8**
PET pmax pmax
comp=Z,8μm,5.7s
PET pmax pmax
comp=Z,6μm,12.0s
PET pmax pmax
comp=Z,374nm,1.3s
PET MLR MLR
comp=Z,13μm,21.0s
PET MLR MLR
comp=Z,10μm,19.0s
PET Petropavlovsk 19.32 32 *e*P **P 11 35 28.8 -0.4**
comp=Z,545nm,1.3s
PET *e*S **Sn 11 39 05.9 -0.2**
NJ2 Nanjing 19.59 260 *e*P **P 11 35 30.3 -2.0**
NJ2 sP **pP 11 35 36.8 -2.0**
NJ2 PMZ
comp=Z,100nm,1.4s
NJ2 PMZ
comp=Z,1μm,3.7s

NEIC Felt [II] at Tokyo. Felt widely in eastern Honshu. Recorded [4 JMA] in Fukushima and Miyagi.
MOS ***18*** *11:31:06.2±0.8, 37.69N×141.74E, h37km, mb6.0/125, MS5.5/106 Error ellipse: s-maj=5.6km s-min=4.0km az=105.4*
NEIC ***18*** *11:31:06.0±0.0, 37.61N×141.86E, h11km, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.38; $M_{\theta\theta}$1.71; $M_{\phi\phi}$-0.33; $M_{r\theta}$-0.55; $M_{\theta\phi}$-0.79; $M_{r\phi}$5.00; Best double couple: $M_0$5.30000×10^{17} NP1:ϕ_s167.00000°, δ85.00000°, λ-76.00000°. NP2:ϕ_s276.00000°, δ14.00000°, λ-160.00000°. Principal axes: T 4.5000, Plg39.0000°, Azm245.0000°; N 1.3800, Plg13.0000°, Azm346.0000°; P -5.8800, Plg47.0000°, Azm91.0000°;*
NEIC ***18*** *11:31:14.2±0.0, 37.73N×141.67E, h10km, Moment Tensor Solution. s47 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.81; $M_{\theta\theta}$2.53; $M_{\phi\phi}$-0.72; $M_{r\theta}$-0.42; $M_{\theta\phi}$-1.12; $M_{r\phi}$2.49; Best double couple: $M_0$3.50000×10^{17} NP1:ϕ_s257.00000°, δ42.00000°, λ-149.00000°. NP2:ϕ_s143.00000°, δ70.00000°, λ-52.00000°. Principal axes: T 3.2100, Plg16.0000°, Azm206.0000°; N 0.6200, Plg35.0000°, Azm308.0000°; P -3.8300, Plg50.0000°, Azm95.0000°;*
ISC 18 11:31:05.9±0.3, 37.69N±0.02×141.75E±0.02, h24km±1km, h23km:pP-P,n2031,σ1s47/2161,mb5.9/555,MS5.4/458, 110C-63D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.77**	**245**	⇑P		**Pb**		**11 31 19.4**	**-1.2**
JFK				*e*S		**Sb**		**11 31 29.8**	**-0.8**
JMM	**Marumori**	**0.78**	**283**	⇑P		**Pb**		**11 31 20.3**	**-0.4**
JMM				*e*S		**Sb**		**11 31 31.2**	**+0.4**
JIO	**Ouri**	**0.82**	**338**	⇑P		**Pb**		**11 31 21.3**	**-0.2**
JIO				*e*S		**Sb**		**11 31 32.7**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.96**	**232**	⇑P		**Pb**		**11 31 21.8**	**-2.1**
JOU	**Okura**	**1.09**	**309**	⇑P		**Pb**		**11 31 25.9**	**-0.2**
JOU				*e*S		**Sn**		**11 31 41.2**	**+1.2**
JFT	**Otama**	**1.13**	**262**	⇑P		**Pn**		**11 31 26.0**	**-0.3**
JFT				*e*S		**Sb**		**11 31 41.0**	**-0.1**
JMK	**Ichinoseki**	**1.32**	**342**	⇑P		**Pn**		**11 31 29.0**	**+0.1**
JMK				*e*S		**Sb**		**11 31 46.2**	**-0.4**
OFUJ	**Ofunato**	**1.39**	**358**	⇑P		**Pn**		**11 31 29.1**	**-0.7**
JYS	**Shirataka**	**1.43**	**292**	⇑P		**Pn**		**11 31 30.8**	**+0.4**
JYS				*e*S		**Sb**		**11 31 50.7**	**+1.0**
JHO	**Hitachi**	**1.43**	**221**	⇑P		**Pn**		**11 31 27.9**	**-2.5**
JSB	**Shiboa**	**1.62**	**244**	⇑P		**Pn**		**11 31 33.1**	**0.0**
JYK	**Kaneyama**	**1.64**	**319**	⇑P		**Pn**		**11 31 33.6**	**+0.3**
JYK				*e*S		**Sb**		**11 31 55.2**	**-0.5**
JFY	**Yanaizu**	**1.65**	**261**	⇑P		**Pn**		**11 31 33.5**	**+0.1**
JFY				*e*S		**Sb**		**11 31 55.3**	**-0.6**
JOM	**Ohasama**	**1.81**	**349**	⇑P		**Pn**		**11 31 35.9**	**+0.2**
JYA	**Atsumi**	**1.84**	**300**	⇑P		**Pn**		**11 31 36.5**	**+0.5**
MIYJ	**Miyakonagasawa**	**1.88**	**2**	⇑P		**Pn**		**11 31 35.8**	**-0.8**
JRG	**Rokugo**	**1.91**	**333**	⇑P		**Pn**		**11 31 37.9**	**+0.9**
JNS	**Sasagawa**	**1.93**	**274**	⇑P		**Pn**		**11 31 37.9**	**+0.7**
JAW	**Awa shima**	**2.11**	**292**	⇑P		**Pn**		**11 31 40.6**	**+0.8**
JKT	**Katashina**	**2.20**	**246**	⇑P		**Pn**		**11 31 41.6**	**+0.6**
JYW	**Yuwa**	**2.20**	**327**	⇑P		**Pn**		**11 31 42.3**	**+1.3**
JHK	**Hiroka**	**2.22**	**259**	⇑P		**Pn**		**11 31 41.5**	**+0.3**
JAG	**Ashikaga**	**2.23**	**236**	⇑P		**Pn**		**11 31 40.6**	**-0.8**
JTH	**Tanohata**	**2.25**	**2**	⇑P		**Pn**		**11 31 40.9**	**-0.7**
JIZZ	**Izumozaki**	**2.42**	**267**	⇑P		**Pn**		**11 31 45.3**	**+1.4**
JAH	**Hinai**	**2.64**	**341**	⇑P		**Pn**		**11 31 48.2**	**+1.2**
I30JP	**ISUMI INFRASON**	**2.65**	**206**	Pn		**Pn**		**11 31 47.9**	**+0.8**
	baz=32,slow=21,SNR=14								
I30JP				*i*				11 42 40.0	
	baz=15,slow=316,SNR=0.9								
JANG	**Nango**	**2.68**	**356**	⇑P		**Pn**		**11 31 47.6**	**0.0**
JGK	**Kuni**	**2.73**	**246**	⇑P		**Pn**		**11 31 49.1**	**+0.8**
JSD	**Sado**	**2.78**	**278**	P		**Pn**		**11 31 48.9**	**0.0**
JRY	**Ryogami san**	**2.83**	**235**	⇑P		**Pn**		**11 31 48.8**	**-0.9**
JJN	**Nakama**	**2.91**	**259**	⇑P		**Pn**		**11 31 51.8**	**+1.0**
MJAR	**Matsushiro Arr**	**3.05**	**249**	Pn		**Pn**		**11 31 53.4**	**+0.7**
	409nm,0.3s,baz=72,slow=12,SNR=3603								
MJAR				Sn		**Sb**		**11 32 42.1**	**+5.7**
	413nm,0.3s,baz=179,slow=19,SNR=5.0								
MJAR				LR		LR		11 33 14.1	
	comp=Z,100μm,19.2s,baz=75,slow=44								
BSO3	**Boso 3**	**3.05**	**199**	⇑P		**Pn**		**11 31 51.9**	**-0.6**
MAJO	**Matsushiro**	**3.05**	**249***c*	*i*P		**Pn**		**11 31 53.8**	**+1.1**
MAJO	**Matsushiro**	**3.05**	**249**	*e*Pn		**Pn**		**11 31 53.9**	**+1.1**
MAJO				*e*Sg		**Sb**		**11 32 42.6**	**+6.3**
MAT	**Matsushiro**	**3.05**	**249**	P		**Pn**		**11 31 53.7**	**+1.0**
MAT				S		**Sn**		**11 32 29.8**	**+1.3**
MAT	**Matsushiro**	**3.05**	**249**	P		**Pn**		**11 31 53.7**	**+1.0**
MJB9	**Matsu-Tunnel**	**3.05**	**249**	*e*Pn		**Pn**		**11 31 53.7**	**+1.0**
JNG	**Nsakai**	**3.19**	**247**	⇑P		**Pn**		**11 31 55.5**	**+0.9**
JOD2	**Odawara 2**	**3.23**	**222**	P		**Pn**		**11 31 54.2**	**-1.0**
JYN	**Shimob**	**3.38**	**231**	⇑P		**Pn**		**11 31 57.0**	**-0.3**
AJI	**Ajiro2**	**3.40**	**220**	⇑P		**Pn**		**11 31 56.2**	**-1.3**
JNT	**Takato**	**3.42**	**239**	P		**Pn**		**11 31 58.7**	**+0.9**
JIM2	**Oshima 3**	**3.51**	**213**	⇑P		**Pn**		**11 31 57.4**	**-1.6**
JSI2	**Shiura 2**	**3.52**	**343**	⇑P		**Pn**		**11 32 00.6**	**+1.6**
JTT	**Ttatey**	**3.69**	**254**	P		**Pn**		**11 32 03.3**	**+1.9**
JIZS	**Izushimoda**	**3.77**	**219**	P		**Pn**		**11 32 01.4**	**-1.1**
JHG	**Hegura jima**	**3.83**	**274**	⇑P		**Pn**		**11 32 04.1**	**+0.8**
JGN	**Niukaw**	**3.84**	**249**	P		**Pn**		**11 32 05.0**	**+1.4**
SHZ3	**Shizuoka 3**	**3.87**	**228**	P		**Pn**		**11 32 04.4**	**+0.3**
JNY	**Yasuok**	**3.90**	**234**	⇑P		**Pn**		**11 32 05.7**	**+1.3**
JJH	**Hakui**	**4.03**	**261**	⇑P		**Pn**		**11 32 07.0**	**+0.9**
JKO	**Kozu shima**	**4.09**	**212**	⇑P		**Pn**		**11 32 06.4**	**-0.6**
JGF	**Kuroka**	**4.10**	**241**	P		**Pn**		**11 32 08.4**	**+1.2**
JSG	**Sagara**	**4.17**	**225**	P		**Pn**		**11 32 08.4**	**+0.4**
JYZW	**Yoshizawa**	**4.21**	**231**	P		**Pn**		**11 32 09.0**	**+0.4**
HMMJ	**Hamamatsu 2**	**4.31**	**230**	⇑P		**Pn**		**11 32 10.3**	**+0.3**
JAO	**Obara**	**4.35**	**238**	⇑P		**Pn**		**11 32 11.9**	**+1.3**
ERM	**Erimo**	**4.45**	**14***d*	*i*P		**Pn**		**11 32 11.4**	**-0.5**
ERM					pmax	pmax			
	comp=Z,255nm,1.0s								
ERM	**Erimo**	**4.45**	**14**	*e*Pn		**Pn**		**11 32 11.8**	**-0.1**
ERM				*e*Sn		**Sn**		**11 33 01.1**	**-1.8**
INU	**Inuyama**	**4.47**	**240**	*e*Pn		**Pn**		**11 32 13.3**	**+1.1**
JKG	**Kaga**	**4.56**	**254**	P		**Pn**		**11 32 15.3**	**+1.9**
JHJ2	**Mitsune**	**4.83**	**200**	P		**Pn**		**11 32 15.6**	**-1.6**
JHJ2	**Mitsune**	**4.83**	**200**	*e*Pn		**Pn**		**11 32 15.3**	**-1.9**
JHJ2				*e*Sn		**Sn**		**11 33 09.1**	**-3.3**
JHJ	**Hachijo jima 2**	**4.84**	**200**	Pn		**Pn**		**11 32 15.7**	**-1.6**
	comp=Z,1μm,0.3s,baz=323,slow=12,SNR=233								
JHJ				Sn		**Sn**		**11 33 09.6**	**-2.9**
	comp=Z,493nm,0.3s,baz=256,slow=23,SNR=5.5								
JHJ				LR		LR		11 34 26.1	
	comp=Z,61μm,21.7s,baz=60,slow=42								
JFM	**Mihama**	**5.11**	**247**	⇑P		**Pn**		**11 32 23.2**	**+2.2**
JWT	**Wachi**	**5.65**	**247**	⇑P		**Pn**		**11 32 30.2**	**+1.8**
JKY	**Yasaka**	**5.72**	**251**	⇑P		**Pn**		**11 32 31.5**	**+2.1**
ASAJ	**Asahikawa**	**6.45**	**5**	*e*Pn		**Pn**		**11 32 39.2**	**-0.2**
ASAJ				*e*Sn		**Sn**		**11 33 50.7**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**7.06**	**25**	*i* P		**Pn**		**11 32 45.8**	**-1.9**
KUR	**Kuril'sk**	**8.82**	**29**	*e*P		**Pn**		**11 33 11.9**	**0.0**
KUR				*e*S		**Sn**		**11 34 45.5**	**-5.0**
KUR				pmax		pmax			
	comp=E,97nm,0.6s								
KUR				pmax		pmax			
	comp=Z,312nm,0.6s								
KUR				pmax		pmax			
	comp=N,70nm,0.3s								
KUR				smax		smax			
	comp=N,344nm,0.6s								
KUR				smax		smax			
	comp=E,619nm,0.6s								
VLA	**Vladivostok**	**9.27**	**309***c*	*i*P		**Pn**		**11 33 21.6**	**+3.6**
YSS	**Yuzh-Sakhalins**	**9.29**	**4**⇑	*e*P		**Pn**		**11 33 17.1**	**-1.1**
YSS				pmax		pmax			
	comp=Z,800nm,3.0s								
YSS				pmax		pmax			
	comp=Z,170nm,0.8s								
YSS				MLR		MLR			
	comp=Z,23μm,16.0s								
YSS				MLR		MLR			
	comp=N,20μm,14.0s								
YSS				MLR		MLR			
	comp=E,33μm,15.0s								
YSS	**Yuzh-Sakhalins**	**9.29**	**4**	*e*Pn		**Pn**		**11 33 17.9**	**-0.3**
MSHR	**Mys Shultsa**	**9.46**	**304***c*	*i*P		**Pn**		**11 33 23.8**	**+3.1**
USRK	**Ussuriysk Ar.**	**9.83**	**314**	Pn		**Pn**		**11 33 28.1**	**+2.3**
	comp=E,2.2nm,0.3s,baz=125,slow=13,SNR=138								
I45RU	**USSURIYSK INFR**	**9.84**	**314**	*i*				12 26 30.0	
	baz=130,slow=322,SNR=0.9								
JNU	**Nakatsue**	**9.97**	**246**	Pn		**Pn**		**11 33 29.0**	**+1.2**
	comp=E,4.1nm,0.3s,baz=63,slow=7.9,SNR=78								
JNU				LR		LR		11 37 44.4	

IDC ***18*** *11:08:09.5±1.9, 1.88N×127.52E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/49, mbtmp3.7/4, ML3.5/1, MS4.4/1, Ms1 4.4/1, ms1mx2.9/42, Error ellipse: s-maj=103.9km s-min=23.3km az=70.0,Halmahera*

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.95**	**185**	P		P		**11 12 43.5**	**+0.2**
	0.1nm,0.3s,baz=351,slow=6.3,SNR=6.0								
WRA	**Warramunga Arr**	**22.70**	**163**	P		P		11 13 13.2	+0.3
	1.4nm,0.5s,baz=343,slow=10,SNR=28								
ASAR	**Alice Springs**	**26.14**	**167**	P		P		11 13 45.0	-0.7
	0.7nm,0.5s,baz=346,slow=7.6,SNR=21								
DZM	**Mont Dzumac**	**44.84**	**124**	LR		LR		11 35 13.0	
	comp=Z,434nm,19.1s,baz=66,slow=36								
MKAR	**Makanchi Array**	**59.52**	**326**	P		P		11 18 15.0	+0.3
	0.8nm,0.6s,baz=123,slow=8.0,SNR=7.9								

ISCJB ***18*** *11:09:07.5±0.8, 6.82N±0.05×73.09W±0.07, h157km±7km, Error ellipse: s-maj=12.4km s-min=5.9km az=33.0*
FUNV ***18*** *11:09:08.8, 6.74N×73.06W, h164km, MW2.5*
RSNC ***18*** *11:09:10.1±0.9, 6.78N×73.12W, h141km±6km, ML2.3*
ISC 18 11:09:06.7±1.6, 6.76N±0.05×73.04W±0.06, h163km±10km, n15,σ1s63/27, 1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**220**	*i* P		**Pn**		**11 09 29.3**	**+0.4**
BARC				*e*S		**Sn**		**11 09 43.4**	**-2.4**
BARC				*i*				11 09 47.5	
	comp=Z,32nm,0.2s								
GIRC	**Giron, Santand**	**0.35**	**334**	*i* P		**Pn**		**11 09 29.4**	**+0.3**
BRRC	**Barranca, Sant**	**0.75**	**297**⇑	*i*P		**Pn**		**11 09 31.3**	**+0.4**
BRRC				*e*S		**Sn**		**11 09 47.9**	**-1.6**
BRRC				*i*				11 09 53.4	
	comp=Z,63nm,0.2s								
RUSC	**La Rusia**	**0.87**	**183**	*e*P		**Pn**		**11 09 33.1**	**+0.8**
RUSC				*e*S		**Sn**		**11 09 51.3**	**-0.6**
RUSC				*i*				11 09 52.6	
	comp=Z,17nm,0.3s								
CBRI	**Barrientos, No**	**0.98**	**14**	*e*P		**Pn**		**11 09 33.9**	**+1.2**
CBRI				*e*S		**Sn**		**11 09 52.6**	**-0.2**
CBRI				*i*				11 09 54.7	
	comp=Z,27nm,0.4s								
GRMC	**Gramalote, San**	**0.98**	**14**	*i* P		**Pn**		**11 09 35.2**	**+2.5**
GRMC				*e*S		**Sn**		**11 09 54.0**	**+1.2**
GRMC				*i*				11 09 56.0	
	comp=Z,36nm,0.4s								
CAPV	**Capacho**	**1.31**	**33**	*e*P		**Pn**		**11 09 37.4**	**+1.7**
CAPV				*e*S		**Sn**		**11 09 58.7**	**+0.7**
OCAC	**Ocana**	**1.49**	**349**	*e*P		**Pn**		**11 09 37.9**	**+0.6**
OCAC				*e*S		**Sn**		**11 09 59.6**	**-1.4**
OCAC				*i*				11 10 05.0	
	comp=Z,22nm,0.2s								
NORC	**Norcasia**	**2.18**	**237**	*e*P		**Pn**		**11 09 45.4**	**+0.7**
NORC				*e*S		**Sn**		**11 10 13.1**	**-1.0**
CHIC	**Chingaza**	**2.23**	**198**	*e*P		**Pn**		**11 09 46.8**	**+1.1**
CHIC				*i*				11 10 21.3	
	comp=Z,7.2nm,0.1s								
SOCV	**Socops**	**2.64**	**55**	*e*P		**Pn**		**11 09 51.9**	**+1.7**
SOCV				*e*S		**Sn**		**11 10 23.5**	**-0.4**
PRAC	**Prado**	**3.54**	**211**	*e*P		**Pn**		**11 10 03.4**	**+1.9**
VIRV	**Villa del Rosa**	**3.77**	**10**	*e*P		**Pn**		**11 10 05.4**	**+1.1**
VIRV				*e*S		**Sn**		**11 10 47.4**	**-1.9**
CURV	**Curarigua**	**4.44**	**43**	*e*P		**Pn**		**11 10 14.5**	**+1.4**
CURV				*e*S		**Sn**		**11 11 02.5**	**-2.4**
BAUV	**El Baul**	**5.40**	**66**	*e*P		**Pn**		**11 10 26.2**	**+0.6**
BAUV				*e*S		**Sn**		**11 11 23.7**	**-3.8**

NIED ***18*** *11:15:00, 38.30N×142.00E, h68km, Mw4.2 Best double couple: $M_0$2.16000×10^{15} NP1:ϕ_s226.00000°, δ64.00000°, λ13.00000°. NP2:ϕ_s131.00000°, δ78.00000°, λ154.00000°.*
JMA 18 11:15:16.0±0.1, 38.28N×141.96E, h45km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.51**	**290**	P		P	Pn	11 15 27.2	+0.1
JIO				S		S	Sn	11 15 34.8	-0.2
OFUJ	**Ofunato**	**0.83**	**344**	P		P	Pn	11 15 31.3	0.0
OFUJ				S		S	Sn	11 15 42.1	-0.4
JMK	**Ichinoseki**	**0.89**	**319**	P		P	Pn	11 15 32.5	+0.4
JMK				S		S	Sn	11 15 44.0	+0.2
JMM	**Marumori**	**1.01**	**246**	P		P	Pn	11 15 33.7	0.0
JMM				S		S	Sn	11 15 46.1	-0.7
JOU	**Okura**	**1.02**	**275**	P		P	Pn	11 15 34.5	+0.6
JOU				S		S	Sn	11 15 47.6	+0.4
JFK	**Kawauchi**	**1.25**	**224**	P		P	Pn	11 15 36.8	-0.3
JOM	**Ohasama**	**1.30**	**337**	P		P	Pn	11 15 38.4	+0.7
MAT	**Matsushiro**	**3.46**	**241**	P		P	Pn	11 16 11.8	+4.5
MAT				*e*S		S	Sn	11 16 47.1	+0.1

NIED ***18*** *11:31:00, 37.60N×141.90E, h20km, Mw5.7 Best double couple: $M_0$3.74000×10^{17} NP1:ϕ_s246.00000°, δ36.00000°, λ-161.00000°. NP2:ϕ_s141.00000°, δ79.00000°, λ-55.00000°.*
BJI ***18*** *11:31:01.9, 37.52N×141.64E, h15km, mb5.5/89, mB5.7/73, Ms5.9/96, Ms7 5.8/88*
IDC ***18*** *11:31:02.5±0.3, 37.66N×141.75E, h0km, mb5.4/50, mb1 5.5/54, mb1mx5.4/60, mbtmp5.4/54, ML4.4/4, MS5.3/33, Ms1 5.3/33, ms1mx5.2/50, Error ellipse: s-maj=10.6km s-min=8.0km az=81.0*
JMA ***18*** *11:31:04.6±0.1, 37.62N×141.82E, h28km±2km, M6.0*
JMA Felt IV J1.
ISCJB ***18*** *11:31:05.1±0.3, 37.62N±0.01×141.73E±0.01, h26km±2km, mb5.8/526, MS5.5/451, Error ellipse: s-maj=2.2km s-min=1.6km az=155.6*
GCMT ***18*** *11:31:05.9±0.1, 37.68N×141.76E, h16km, MW5.8/135, Moment Tensor Solution. s120,c237; s135,c362; Duration: 28s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.89±.04; $M_{\theta\theta}$3.02±.03; $M_{\phi\phi}$-1.13±.03; $M_{r\theta}$-1.90±.10; $M_{\theta\phi}$-1.17±.02; $M_{r\phi}$5.86±.19; Best double couple: $M_0$6.68600×10^{17} NP1:ϕ_s152.00000°, δ83.00000°, λ-68.00000°. NP2:ϕ_s259.00000°, δ23.00000°, λ-162.00000°. Principal axes: T 5.9550, Plg35.0000°, Azm224.0000°; N 1.4610, Plg22.0000°, Azm330.0000°; P -7.4170, Plg47.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***18*** *11:31:05.9±0.1, 37.66N×141.66E, h20km, mb5.9/298, ME5.5, MS5.4/299, MW5.7, MW5.6, MW5.6 Error ellipse: s-maj=2.4km s-min=1.7km az=141.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.18; $M_{\theta\theta}$1.24; $M_{\phi\phi}$-0.06; $M_{r\theta}$-1.20; $M_{\theta\phi}$-0.28; $M_{r\phi}$2.85; Best double couple: $M_0$3.30000×10^{17} NP1:ϕ_s271.00000°, δ15.00000°, λ-149.00000°. NP2:ϕ_s151.00000°, δ82.00000°, λ-77.00000°. Principal axes: T 2.9000, Plg36.0000°, Azm229.0000°; N 0.7500, Plg13.0000°, Azm329.0000°; P -3.6400, Plg51.0000°, Azm75.0000°; Broadband fault plane solution: P waves. NP1: ϕ_s271.00000°, δ11.00000°, λ-153.00000°. NP2: ϕ_s155.00000°, δ85.00000°, λ-80.00000°. Principal axes: T Plg39.0000°, Azm236.0000°; N Plg0.0000°, Azm0.0000°; P Plg49.0000°, Azm76.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NJ2 LN
comp=Z,17µm,13.6s
NJ2 LE
comp=Z,31µm,15.2s
NJ2 LZ
comp=Z,28µm,14.1s
HIA Hailar 19.64 313⇓ *e*P **Pn 11 35 34.6 +0.4**
HIA pmax pmax
comp=Z,16nm,1.2s
HIA Hailar 19.64 313 *e*P **P 11 35 28.0 -4.8**
comp=Z,90nm,1.1s
HIA *e*S **S 11 39 11.1 -1.9**
HIA *e*ScP ScP 11 43 14.4 -12
TIA Tai'an 19.72 273⇑ P **P 11 35 31.8 -2.0**
TIA PP **PnPn 11 35 47.3 -1.8**
TIA PMZ
comp=Z,180nm,1.6s
TIA PMZ
comp=Z,4µm,3.5s
TIA LN
comp=Z,22µm,13.5s
TIA LE
comp=Z,17µm,13.0s
TIA LZ
comp=Z,19µm,13.1s
BJI Beijing 20.03 285 P **P 11 35 34.6 -2.4**
BJI S **S 11 39 18.8 -2.2**
BJI PMZ
comp=Z,41nm,1.8s
BJI PMZ
comp=Z,1µm,4.0s
BJI LN
comp=Z,15µm,14.2s
BJT Baijiatuao 20.04 285 *e*P **P 11 35 34.6 -2.5**
BJT *e*S **S 11 39 20.4 -0.8**
BJT pmax pmax
comp=Z,878nm,1.6s
BJT Baijiatuao 20.04 285 *e*P **P 11 35 34.6 -2.5**
comp=Z,878nm,1.6s
BJT *e*S **S 11 39 20.4 -0.8**
YOJ Yonaguni jima 20.72 236 *e*P **P 11 35 40.9 -3.7**
YOJ pmax pmax
comp=Z,350nm,1.3s
YOJ Yonaguni jima 20.72 236 *e*P P 11 35 36.1 -8.5
comp=Z,354nm,1.3s
YOJ LR LR
comp=Z,6µm,20.0s
SARN Sarigan 21.21 169 *e*P **P 11 35 52.4 +2.4**
TATO Taipei 21.40 239 P **P 11 35 52.1 +0.2**
SNR=9.5
TATO Taipei 21.40 239 *e*P **P 11 35 49.5 -2.4**
comp=Z,673nm,1.2s
TATO LR LR
comp=Z,10µm,21.0s
YHNB Yeheng 21.67 239 *e*P **P 11 35 50.4 -4.6**
comp=Z,232nm,0.9s
YHNB *e*S **S 11 39 51.3 -2.6**
YHNB LR LR
comp=Z,6µm,20.0s
NACB Ninganchiao 21.86 238 *e*P **P 11 35 52.7 -4.2**
comp=Z,139nm,1.0s
NACB LR LR
comp=Z,6µm,19.0s
CLNS Chul'man 22.19 335 *e*P **P 11 35 59.0 -1.3**
CLNS *e**PP **sP 11 36 10.4 +0.4**
CLNS *e* 11 39 52.2
CLNS *e*S **S 11 39 57.5 -5.8**
CLNS *e*SS **SnSn 11 40 34.5 +3.7**
CLNS *e* 11 47 19.4
CLNS pmax pmax
comp=N,51nm,1.2s
CLNS pmax pmax
comp=Z,80nm,1.2s
CLNS pmax pmax
comp=E,24nm,1.0s
CLNS pmax pmax
comp=Z,94nm,1.1s
CLNS pmax pmax
comp=N,78nm,0.8s
CLNS pmax pmax
comp=E,68nm,0.8s
CLNS smax smax
comp=E,879nm,9.3s
CLNS smax smax
comp=N,886nm,9.3s
CLNS MLR MLR
comp=Z,4µm,13.0s
CLNS MLR MLR
comp=Z,6µm,12.0s
CLNS MLR MLR
comp=Z,4µm,11.0s
SSLB Suanglung 22.55 238 *e*P **P 11 36 00.4 -3.9**
comp=Z,257nm,1.0s
SSLB LR LR
comp=Z,7µm,19.0s
YULB Yu-li 22.59 237 *e*P **P 11 36 00.1 -4.7**
comp=Z,286nm,1.3s
YULB LR LR
comp=Z,3µm,21.0s
MA2 Magadan 22.66 12 P **P 11 36 05.2 +0.1**
comp=Z,138nm,0.8s,baz=217,slow=7.9,SNR=36
MA2 LR LR 11 45 51.9
comp=Z,7µm,18.2s,baz=218,slow=39
MA2 Magadan 22.66 12 *e*P **P 11 36 05.1 0.0**
MA2 *e*S **S 11 40 09.3 -2.3**
MA2 pmax pmax
comp=Z,898nm,0.9s
MA2 Magadan 22.66 12 *e*P **P 11 36 05.1 0.0**
comp=Z,898nm,0.9s
MA2 *e*S **S 11 40 09.3 -2.3**
TPUB Ta-pu 23.10 238 *e*P **P 11 36 05.3 -4.8**
comp=Z,1µm,1.5s
TPUB *e*Sn **S 11 40 24.4 +4.5**
TPUB LR LR
comp=Z,7µm,19.0s
TWG Pinlang 23.13 236 *e*P **P 11 36 07.3 -3.1**
comp=Z,3µm,1.1s
TWG *e*S **S 11 40 21.0 +0.5**
TWG LR LR
comp=Z,21µm,19.0s
TIY Taiyuan 23.15 279 *e*P **P 11 36 07.3 -3.3**
TIY pP **pP 11 36 17.8 +0.5**
TIY S **S 11 40 13.8 -7.0**
TIY SS **SnSn 11 41 03.8 +9.2**
TIY PMZ
comp=Z,94nm,1.0s
TIY PMZ
comp=Z,430nm,4.0s
TIY LN
comp=Z,4µm,12.6s
TIY LE
comp=Z,16µm,12.5s
TIY LZ
comp=Z,19µm,14.6s
HHC Hu-ho-hao-te 23.52 287 *e*P **P 11 36 11.0 -3.3**
HHC sP pP 11 36 21.6 +0.5
HHC PP **PnPn 11 36 43.6 +2.4**
HHC S **S 11 40 21.4 -5.4**
HHC PMZ
comp=Z,51nm,1.1s
HHC PMZ
comp=Z,1µm,8.5s
HHC LN
comp=Z,14µm,12.9s
HHC LE
comp=Z,12µm,12.4s
HHC LZ
comp=Z,11µm,12.8s
WHN Wuhan 23.72 261 ⇑P **P 11 36 12.9 -3.2**
WHN S **S 11 40 19.3 -11**
WHN PMZ
comp=Z,3µm,4.0s
WHN LN
comp=Z,51nm,16.3s
WHN LE
comp=Z,15µm,13.2s
WHN LZ
comp=Z,60µm,16.4s
GUMO Guam 24.17 173 *e*P **P 11 36 20.4 +0.1**
GUMO pmax pmax
comp=Z,1µm,1.0s
GUMO Guam 24.17 173 *e*P **P 11 36 20.4 +0.1**
comp=Z,1µm,1.0s
CIT Chita 24.39 315 *e*P **P 11 36 22.7 +0.4**
CIT *e* 11 37 09.8
CIT *e* 11 40 42.4
CIT pmax pmax
comp=Z,619nm,1.9s
BTO Baotou 24.71 287 *e*P **P 11 36 21.6 -3.7**
YAK Yakutsk 25.49 347 P **P 11 36 32.2 +0.3**
comp=Z,18nm,0.6s,baz=330,slow=20,SNR=29
YAK LR LR 11 46 49.9
comp=Z,11µm,18.3s,baz=148,slow=37
YAK Yakutsk 25.49 347 *e*P **P 11 36 31.8 -0.2**
YAK *e**PP **sP 11 36 41.3 -0.7**
YAK *e*PPP PPP 11 37 12.4
YAK *e*S **S 11 40 54.6 -3.0**
YAK *e**SS **sS 11 41 08.3 -1.0**
YAK *e* 11 47 26.2
YAK pmax pmax
comp=E,32nm,0.9s
YAK pmax pmax
comp=Z,214nm,0.8s
YAK pmax pmax
comp=N,83nm,1.1s
YAK pmax pmax
comp=E,99nm,0.6s
YAK pmax pmax
comp=N,232nm,0.6s
YAK pmax pmax
comp=Z,384nm,0.9s
YAK smax smax
comp=N,2µm,1.9s
YAK smax smax
comp=E,1µm,3.0s
YAK MLR MLR
comp=E,10µm,20.0s
YAK MLR MLR
comp=N,11µm,16.0s
YAK MLR MLR
comp=Z,11µm,16.0s
YAK Yakutsk 25.49 347 *e*P **P 11 36 31.8 -0.2**
comp=Z,381nm,0.8s
YAK *e*S **S 11 40 54.8 -2.8**
SEY Seymchan 26.09 11 P **P 11 36 38.5 +1.0**
comp=Z,122nm,1.0s,baz=203,slow=7.3,SNR=104
SEY LR LR 11 48 18.7
comp=Z,6µm,18.2s,baz=150,slow=40
SEY Seymchan 26.09 11 *de*P **P 11 36 38.8 +1.3**
XAN Xi'an 26.77 272 P **P 11 36 43.3 -0.7**
XAN pP pP 11 36 47.0 -4.1
XAN sP sP 11 36 50.3 -3.7
XAN PP **PnPn 11 37 28.3 +2.7**
XAN S **S 11 41 17.4 -1.2**
XAN sS sS 11 41 23.3 -7.0
XAN SS **SnSn 11 42 29.3 +6.1**
XAN PMZ
comp=Z,100nm,1.2s
XAN PMZ
comp=Z,860nm,5.0s
XAN LN
comp=Z,9µm,15.8s
XAN LE
comp=Z,10µm,14.2s
XAN LZ
comp=Z,11µm,13.8s
SMY Shemya 27.02 46 *e*P **P 11 36 46.8 +0.9**
SMY pmax pmax
comp=Z,369nm,1.2s
SMY MLR MLR
comp=Z,7µm,20.0s
SMY Shemya 27.02 46 *e*P **P 11 36 46.8 +0.9**
comp=Z,369nm,1.2s
SMY LR LR
comp=Z,7µm,20.0s
BOD Bodaibo 27.12 327 *e*P **P 11 36 46.6 -0.2**
BOD pmax pmax
comp=Z,91nm,1.0s
ULN Ulaanbaatar 27.21 303 *c i*P **P 11 36 46.9 -1.0**
ULN pmax pmax
comp=Z,27nm,0.6s
ULN MLR MLR
comp=Z,5µm,15.0s
ULN Ulaanbaatar 27.21 303 *e*P **P 11 36 47.1 -0.8**
comp=Z,46nm,0.6s
ULN LR LR
comp=Z,3µm,22.0s
SONA1 Songino Array 27.64 303 *e*P **P 11 36 51.2 -0.6**
SONM Songino Array 27.64 303 P **P 11 36 51.2 -0.6**
comp=Z,39nm,0.6s,baz=102,slow=9.0,SNR=43
SONM LR LR 11 47 38.2
comp=Z,4µm,19.0s,baz=89,slow=36
SONM PKPPKP **P'P'df 12 11 19.0 -2.1**
comp=Z,0.9nm,0.4s,baz=253,slow=1.5,SNR=3.6
ENH Enshi 27.66 264 *e*P **P 11 36 51.0 -1.0**
comp=Z,557nm,1.0s
ENH LR LR
comp=Z,9µm,19.0s
HKC Hong Kong Obse 28.24 245 ⇑P **P 11 36 58.0 +0.8**
H11N2 WAKE ISLAND Hy 28.27 122 T T 12 06 23.6
baz=315,slow=75,SNR=2038
H11N1 WAKE ISLAND Hy 28.27 122 T T 12 06 25.7
baz=315,slow=75,SNR=2805
H11N3 WAKE ISLAND Hy 28.28 122 T T 12 06 26.2
baz=315,slow=75,SNR=2902
GZH Guangzhou 28.36 247 ⇑*i*P P 11 36 53.0 -5.2
GZH sP pP 11 37 01.1 -4.2
GZH PP **PnPn 11 37 43.4 -4.0**
GZH S **S 11 41 35.3 -8.4**
GZH PMZ
comp=Z,4µm,3.6s
PVCP Virac 28.66 218 *e*P **P 11 37 01.4 +0.6**
MCO Taipa Grande 28.80 245 P **P 11 37 03.0 +0.9**
H11S1 WAKE ISLAND Hy 29.00 124 T T 12 07 23.5
baz=316,slow=76,SNR=2149
H11S3 WAKE ISLAND Hy 29.00 124 T T 12 07 24.4
baz=316,slow=76,SNR=2473
H11S2 WAKE ISLAND Hy 29.02 124 T T 12 07 21.3
baz=316,slow=76,SNR=2548
IRK Irkutsk 29.86 311 *e*P **P 11 37 10.3 -1.0**
IRK pmax pmax
comp=Z,132nm,3.6s
TGY Tagaytay City 29.90 224 P **P 11 37 12.1 +0.1**
comp=Z,2µm,1.1s,baz=320,slow=1.3,SNR=39
TGY LR LR 11 50 29.7
comp=Z,2µm,18.1s,baz=15,slow=39
ZAK Zakamensk 30.07 307 *e*P **P 11 37 12.8 -0.5**
ZAK pmax pmax
comp=Z,42nm,1.4s
ZAK pmax pmax
comp=Z,26nm,1.5s
TLY Talaya 30.11 310 P **P 11 37 14.7 +1.3**
comp=Z,14nm,0.6s,baz=195,slow=2.2,SNR=12
TLY Talaya 30.11 310 *e*P **P 11 37 13.9 +0.4**
TLY *e* 11 38 22.7
TLY *e* 11 40 18.7
TLY *e*S **S 11 42 12.7 +2.0**
TLY *e*SS **SnSn 11 43 45.4 +1.4**
TLY pmax pmax
comp=Z,53nm,1.3s
TLY MLR MLR
comp=Z,5µm,14.0s
TLY Talaya 30.11 310 *e*P **P 11 37 12.8 -0.7**
comp=Z,61nm,1.2s
TLY LR LR
comp=Z,4µm,19.0s
LZH Lanzhou 30.22 279 ⇑P **P 11 37 14.8 -0.1**
LZH pP pP 11 37 18.3 -3.7
LZH sP sP 11 37 20.1 -4.8
LZH PP **PnPn 11 38 14.6 +1.9**
LZH *e*S **S 11 42 10.0 -3.1**
LZH sS sS 11 42 19.0 -5.8
LZH SS **SnSn 11 43 50.5 +3.1**
LZH PMZ
comp=Z,210nm,1.8s
LZH PMZ
comp=Z,740nm,4.3s
LZH LN
comp=Z,14µm,12.4s
LZH LE
comp=Z,14µm,13.2s
LZH LZ
comp=Z,14µm,15.0s
PLP Palo 30.40 214⇓ *e*P **P 11 37 15.6 -0.8**
OCLP Ormoc 30.67 215 *e*P **P 11 37 17.7 -1.0**
RCP Roxas 31.10 218⇑ *e*P **P 11 37 21.6 -0.9**
GYA Guiyang 31.60 260⇑ *i*P **P 11 37 25.0 -2.0**
GYA PP **PnPn 11 38 33.9 +3.2**
GYA PcP **PcP 11 40 20.3 +1.2**
GYA S **S 11 42 28.3 -6.4**
GYA ScP **ScP 11 44 02.5 +1.8**
GYA SS **SnSn 11 44 22.0 +1.0**
GYA ScS **ScS 11 47 58.6 -0.3**
GYA PMZ
comp=Z,520nm,1.3s
GYA PMZ
comp=Z,830nm,5.6s
GYA LN
comp=Z,8µm,19.3s
GYA LE
comp=Z,9µm,19.3s
GYA LZ
comp=Z,14µm,20.2s
LLP Lapu-Lapu 31.61 215⇑ *e*P **P 11 37 24.7 -2.3**
LLP *e*S **S 11 42 33.3 -1.3**
MOY Mondy 31.72 309 *e*P **P 11 37 28.3 +0.5**
MOY pmax pmax
comp=Z,111nm,3.8s
CD2 Chengdu 31.94 269⇑ *i*P **P 11 37 28.8 -1.1**
CD2 sP pP 11 37 33.8 -3.2
CD2 S **S 11 42 39.8 -0.1**
CD2 sS sS 11 42 45.8 -5.8
CD2 PMZ
comp=Z,190nm,0.8s
CD2 PMZ
comp=Z,480nm,5.0s
CD2 LN
comp=Z,19µm,17.9s
CD2 LE
comp=Z,12µm,13.9s
CD2 LZ
comp=Z,13µm,14.9s
GUIM Jordan 31.98 218 *e*P **P 11 37 29.9 -0.4**
GTA Gaotai 32.63 286 *e*P **P 11 37 35.3 -0.7**
GTA pP pP 11 37 39.4 -3.7
GTA sP sP 11 37 42.8 -3.2
GTA S **S 11 42 52.0 +1.4**
GTA sS sS 11 42 59.1 -3.2
GTA SS **SnSn 11 44 47.3 +1.5**
GTA PMZ
comp=Z,16nm,0.8s
GTA PMZ
comp=Z,630nm,6.7s
GTA LN
comp=Z,11µm,18.8s
GTA LE
comp=Z,8µm,17.3s
GTA LZ
comp=Z,9µm,15.0s
SNPH Sibulan 32.80 215 *e*P **P 11 37 35.1 -2.3**
CGP Cagayan de Oro 32.94 212⇓ *e*P **P 11 37 37.9 -0.8**
BUKP Musuan 33.31 211 *e*P **P 11 37 42.3 +0.4**
BILL Bilibino 33.32 17 *d i*P **P 11 37 40.9 -0.6**
BILL *i* 11 40 23.9
BILL *e*S **S 11 42 56.0 -4.4**
BILL *i* SS **SS 11 45 26.8 +2.5**
BILL pmax pmax
comp=Z,43nm,1.0s
BILL MLR MLR
comp=Z,7µm,23.0s
BILL Bilibino 33.32 17 *e*P **P 11 37 41.3 -0.2**
comp=Z,170nm,1.2s
BILL LR LR
comp=Z,5µm,19.0s
QIZ Qiongzhong 33.44 245 P **P 11 37 44.0 +0.9**
QIZ S **S 11 42 58.3 -5.0**
QIZ PMZ
comp=Z,150nm,1.4s
QIZ LN
comp=Z,11µm,16.3s
QIZ LZ
comp=Z,12µm,17.9s
QIZ Qiongzhong 33.44 245 *e*P **P 11 37 43.5 +0.4**
comp=Z,312nm,1.1s
QIZ LR LR
comp=Z,12µm,18.0s
MATI Mati 33.69 209 *e*P **P 11 37 43.3 -1.9**
DAV Davao City (W) 33.84 210 PFAKE 11 38 00.0 +14
DAV LR LR
comp=Z,5µm,21.0s
PAGZ Pagadian 34.05 214 *e*P **P 11 37 46.6 -1.7**
PATS Pohnpei 34.21 150 *e*P **P 11 37 50.2 +0.5**
comp=Z,307nm,1.2s
PATS LR LR
comp=Z,4µm,21.0s
TIXI Tiksi 34.67 353 P **P 11 37 52.5 -0.7**
comp=Z,22nm,0.7s,baz=141,slow=6.4,SNR=46
TIXI LR LR 11 52 34.4
comp=Z,7µm,21.2s,baz=158,slow=37
TIXI Tiksi 34.67 353 *d i*P **P 11 37 52.7 -0.4**
TIXI pmax pmax
comp=Z,54nm,1.7s
TIXI MLR MLR
comp=Z,8µm,16.0s
TIXI Tiksi 34.67 353 *e*P **P 11 37 52.8 -0.4**
comp=Z,40nm,0.8s
TIXI *e*S S 11 43 12.0 -9.2
KMI Kunming 35.33 261 P **P 11 37 59.0 -0.6**
KMI pP pP 11 38 07.8 +1.0
KMI sP sP 11 38 11.8 +2.1
KMI PP **PP 11 39 19.4 -0.5**
KMI S **S 11 43 27.8 -4.9**
KMI sS sS 11 43 43.1 -1.4
KMI SS **SnSn 11 45 45.0 -6.7**
KMI PMZ
comp=Z,510nm,1.2s
KMI PMZ
comp=Z,1µm,3.1s
KMI LN
comp=Z,9µm,15.0s
KMI LE
comp=Z,18µm,17.1s
KMI LZ
comp=Z,15µm,19.8s
MIDW Midway 35.35 93 *e*P **P 11 37 59.7 +0.2**
comp=Z,467nm,1.2s
MIDW LR LR
comp=Z,9µm,20.0s
SPIA Saint Paul Isl 36.90 42 *e*P **P 11 38 14.6 +2.1**
comp=Z,526nm,1.4s
SPIA LR LR
comp=Z,4µm,19.0s
SGSI Sangihe 36.96 208 P **P 11 38 14.2 +0.8**
comp=Z,875nm,1.0s,comp=Z,16µm
KWAJ Kwajalein Atol 37.05 134 PFAKE 11 38 30.0 +16
KWAJ LR LR
comp=Z,7µm,21.0s
NIKH Nikolski High 37.15 50 *e*P **P 11 38 13.6 -1.0**
comp=Z,135nm,0.8s
NIKH LR LR
comp=Z,10µm,22.0s
GAMB Gambell 38.02 32 *e*P **P 11 38 22.6 +0.9**
comp=Z,55nm,1.2s
GAMB *e*PP **PnPn 11 39 54.1 +3.9**
GAMB LR LR
comp=Z,3µm,19.0s
KDM Kudat 38.08 223 ⇓P **P 11 38 24.3 +1.5**
UNV Unalaska Valle 38.61 48 PFAKE 11 38 40.0 +13
UNV LR LR
comp=Z,4µm,19.0s
MYLDM Lahad Datu 38.69 219 *e*P **P 11 38 29.6 +1.6**
comp=Z,1µm,1.2s
SDKM Sandakan 38.96 221 ⇓P **P 11 38 31.6 +1.3**
NONG Nongkai 38.97 251 P **P 11 38 30.4 0.0**
comp=Z,236nm,1.1s,comp=Z,3µm
SKNT Sakolnakorn 39.03 249 P **P 11 38 31.0 +0.1**
comp=Z,301nm,1.3s,comp=Z,5µm
AKUT Akutan 39.05 48 PFAKE 11 38 40.0 +9.4
AKUT LR LR
comp=Z,5µm,19.0s
KKM Kota Kinabalu 39.14 223 *e*P **P 11 38 31.9 +0.1**
comp=Z,446nm,1.3s
KKM LR LR
comp=Z,3µm,20.0s
MANU Manus Island 39.88 171 *e*P **P 11 38 36.6 -1.3**
comp=Z,104nm,1.0s
JAY Jayapura 40.02 182 P **P 11 38 38.0 -1.1**
comp=Z,1.1nm,0.5s,baz=274,slow=22,SNR=8.7
JAY Jayapura 40.02 182 P **P 11 38 40.3 +1.2**
comp=Z,67nm,1.0s,comp=Z,1µm
JAY Jayapura 40.02 182 P **P 11 38 38.0 -1.1**
JAY pmax pmax
comp=Z,1.0nm,0.5s
GENI Genyem 40.11 182 P **P 11 38 40.7 +0.9**
comp=Z,272nm,1.1s,comp=Z,4µm
TNA Tin City 40.15 30 *e*P **P 11 38 40.3 +0.7**
comp=Z,208nm,1.0s
TNA LR LR

comp=Z,3µm,18.0s
KHON Khomkaen 40.29 249 P **P** **11 38 41.7 +0.4**
comp=Z,82nm,0.9s,comp=Z,828nm
LBMI Labuha 40.35 202 P **P** **11 38 42.6 +0.8**
comp=Z,471nm,1.1s,comp=Z,7µm
LOEI Loei 40.73 252 P **P** **11 38 41.8 -3.2**
comp=Z,141nm,1.3s,comp=Z,2µm
WMQ Urumqi 40.78 296 P **P** **11 38 45.6 +0.3**
WMQ pP pP 11 38 49.8 -2.7
WMQ sP sP 11 38 53.8 -1.6
WMQ PcP **PcP** **11 40 43.6 -2.5**
WMQ S **S** **11 44 55.1 +0.4**
WMQ SS **SS** **11 47 50.6 -5.1**
WMQ ScS **ScS** **11 48 48.6 -0.3**
WMQ PMZ
comp=Z,95nm,1.2s
WMQ PMZ
comp=Z,790nm,4.2s
WMQ LN
comp=Z,6µm,18.2s
WMQ LE
comp=Z,3µm,15.0s
WMQ LZ
comp=Z,3µm,21.2s
UTTA Uttaradit 41.12 253 P **P** **11 38 48.1 -0.1**
comp=Z,28nm,1.1s
CHAI Chaiyaphum 41.19 249 P **P** **11 38 48.3 -0.5**
comp=Z,76nm,1.2s,comp=Z,664nm
MRSI Marisa 41.29 211 P **P** **11 38 49.7 +0.1**
comp=Z,415nm,1.2s,comp=Z,8µm
LAMP Lampang 41.36 254 P **P** **11 38 50.5 +0.4**
comp=Z,36nm,0.7s,comp=Z,361nm
PBKT Sadao Pong 41.52 251 P **P** **11 38 51.6 +0.1**
comp=Z,212nm,1.2s,comp=Z,3µm
ZAA0 Zalesovo Array 41.67 312 *e*P **P** **11 38 52.4 +0.1**
ZALV Zalesovo Beam 41.67 312 P **P** **11 38 52.5 +0.2**
comp=Z,56nm,0.9s,baz=91,slow=7.3,SNR=109
ZALV PcP **PcP** **11 40 51.2 +2.6**
comp=Z,14nm,0.7s,baz=72,slow=3.2,SNR=2.7
ZALV LR LR 11 56 16.6
comp=Z,2µm,18.2s,baz=91,slow=36
CHTO Chiang Mai 41.71 255 P **P** **11 38 53.0 -0.1**
comp=Z,457nm,1.6s,comp=Z,9µm
CHTO Chiang Mai 41.71 255 *e*P **P** **11 38 52.6 -0.5**
CHTO pmax pmax
comp=Z,270nm,1.7s
CHTO Chiang Mai 41.71 255 *e*P **P** **11 38 52.6 -0.5**
comp=Z,273nm,1.7s
CHTO LR LR
comp=Z,5µm,20.0s
CM31 Chiang Mai Arr 41.92 255 *e*P **P** **11 38 55.4 +0.6**
CMAR Chiang Mai Arr 41.92 255 P **P** **11 38 54.8 0.0**
comp=Z,33nm,1.1s,baz=42,slow=8.3,SNR=51
CMAR LR LR 11 56 57.9
comp=Z,4µm,19.4s,baz=57,slow=37
CMAR Chiang Mai Arr 41.92 255*ce*P **P** **11 38 54.7 0.0**
CMAR pmax pmax
comp=Z,11nm,0.6s
CM01 Chiang Mai Arr 41.93 255 *e*P **P** **11 38 53.9 -1.0**
SUKH Sukhothai 41.98 253 P **P** **11 38 55.4 +0.2**
comp=Z,33nm,1.2s,comp=Z,254nm
SDPT Sand Point 42.15 46 *e*P **P** **11 38 54.9 -1.3**
comp=Z,65nm,0.7s
SDPT LR LR
comp=Z,4µm,20.0s
SANI Sanana 42.15 204 P **P** **11 38 55.8 -0.8**
comp=Z,752nm,1.1s,comp=Z,6µm
SRAK Srakaew 42.36 247 P **P** **11 38 55.1 -3.3**
comp=Z,528nm,1.0s,comp=Z,4µm
LSA Lhasa 42.42 275 P **P** **11 39 00.3 +1.0**
LSA Lhasa 42.42 275 *e*P **P** **11 39 00.4 +1.1**
LSA pmax pmax
comp=Z,199nm,1.1s
LSA MLR MLR
comp=Z,5µm,18.0s
LSA Lhasa 42.42 275 *e*P **P** **11 39 00.4 +1.1**
comp=Z,199nm,1.1s
LSA LR LR
comp=Z,5µm,18.0s
ZSN Zaisan 42.47 302 *i* P **P** **11 38 54.5 -4.4**
comp=Z,1µm,1.5s
ZSN *i* S **S** **11 45 15.3 -4.1**
ZSN LR LR 11 55 21.4
comp=Z,2µm,12.6s
MSAI Masohi 42.53 199 P **P** **11 39 02.4 +2.7**
NVS Novosibirsk 42.58 313 *i* P **P** **11 39 00.2 +0.5**
NVS *e*S **S** **11 45 19.2 -1.6**
NVS pmax pmax
comp=Z,435nm,2.0s
NVS pmax pmax
comp=E,174nm,1.6s
NVS smax smax
comp=E,105nm,2.1s
NRIK Noril'sk 42.78 335 P **P** **11 39 01.5 +0.4**
comp=E,16nm,0.6s,baz=110,slow=9.7,SNR=21
NRIK LR LR 11 57 51.9
comp=E,5µm,19.6s,baz=104,slow=38
NRIK Noril'sk 42.78 335 P **P** **11 39 01.5 +0.4**
NRIK pmax pmax
comp=Z,16nm,0.6s
NRIK MLR MLR
comp=Z,5µm,19.6s
RABL Rabaul 42.78 165 *e*P **P** **11 39 02.4 +0.7**
comp=Z,122nm,1.3s
RABL LR LR
comp=Z,6µm,18.0s
NLAI Namlea 42.94 202 P **P** **11 39 04.6 +1.7**
comp=Z,303nm,0.9s,comp=Z,3µm
PCI Palu 43.42 213 P **P** **11 39 07.2 +0.3**
comp=Z,680nm,1.2s,comp=Z,6µm
BNDI Bandanaira 43.42 197 P **P** **11 39 07.5 +0.6**
comp=Z,2µm,1.2s,comp=Z,20µm
SHL Shillong 43.68 269 *e*P **P** **11 39 10.0 +0.8**
SHL IAmb IAmb 11 39 11.3
comp=Z,91nm,1.0s
PATY Pattaya 43.94 247 P P 11 39 20.2 +9.1
MK01 Makanchi Array 43.99 302 *e*P **P** **11 39 10.8 -0.5**
MK31 Makanchi Array 44.00 302 *i* P **P** **11 39 11.7 +0.4**
MK31 pmax pmax
comp=Z,71nm,0.8s
MK31 Makanchi Array 44.00 302 *e*P **P** **11 39 11.8 +0.4**
MKAR Makanchi Array 44.00 302 P **P** **11 39 11.8 +0.4**
comp=Z,46nm,0.7s,baz=86,slow=8.6,SNR=211
MKAR LR LR 11 56 58.3
comp=Z,3µm,21.9s,baz=88,slow=35
MAKZ Makanchi 44.21 302 *e*P **P** **11 39 13.4 +0.4**
MAKZ pmax pmax
comp=Z,310nm,1.3s
MAKZ Makanchi 44.21 302 *e*P **P** **11 39 13.4 +0.4**
comp=Z,311nm,1.3s
MAKZ LR LR
comp=Z,4µm,22.0s
SRDT SRDT 44.30 250 P **P** **11 39 14.9 +0.9**
comp=Z,423nm,1.2s,comp=Z,7µm
SBUM Sibu 44.32 225 *e*P **P** **11 39 14.1 0.0**
comp=Z,184nm,1.3s
SBUM LR LR
comp=Z,4µm,19.0s
KHLT Khaolaem Dam 44.42 251 P **P** **11 39 16.9 +1.9**
comp=Z,69nm,1.1s
TT01 Tatalina 44.73 35 *e*P **P** **11 39 16.7 -0.1**
TTA Tatalina 44.73 35 *e*P **P** **11 39 18.0 +1.0**
TTA pmax pmax
comp=Z,58nm,1.2s
TTA Tatalina 44.73 35 *e*P **P** **11 39 18.0 +1.0**
comp=Z,58nm,1.2s
TTA LR LR
comp=Z,3µm,19.0s
SEM Semipalatinsk 44.75 307 *i* P **P** **11 39 15.4 -1.9**
comp=Z,543nm,1.4s
SEM *e*S **S** **11 45 50.6 -2.0**
SEM LQ LQ 11 55 06.6
SEM LR LR 11 58 28.0
comp=Z,2µm,13.2s
SVW2 Sparrevohn 44.84 38 *e*P **P** **11 39 19.4 +1.6**
comp=Z,153nm,1.2s
PHET Kaeng Krachan 44.85 248 P **P** **11 39 19.5 +1.1**
comp=Z,92nm,0.9s,comp=Z,670nm
BKB Balikpapan 45.06 216 P **P** **11 39 18.8 -1.2**
comp=Z,764nm,1.1s,comp=Z,7µm
KDI Kendari 45.09 207 P **P** **11 39 20.7 +0.4**
comp=Z,159nm,1.1s,comp=Z,3µm
TTSI Tana Toraja 45.35 212 P **P** **11 39 22.0 -0.3**
comp=Z,118nm,1.2s,comp=Z,3µm
KURK Kurchatov 45.74 308 P **P** **11 39 25.7 +0.6**
KURK S **S** **11 46 08.2 +1.3**
KURK pmax pmax
comp=Z,51nm,0.4s
KURK smax smax
comp=N,3.0nm,0.9s
KURK Kurchatov 45.74 308 *e*P **P** **11 39 24.9 -0.1**
comp=N,1µm,1.0s
KURK S **S** **11 46 08.2 +1.3**
KURK LR LR
comp=Z,13µm,21.0s
MTKI Muara Teweh, K 45.76 219 P **P** **11 39 25.6 0.0**
comp=Z,433nm,1.2s
KURBB Kurchatov Arra 45.81 308 P **P** **11 39 25.7 +0.1**
comp=Z,51nm,0.4s,baz=83,slow=8.5,SNR=201
KURBB S **S** **11 46 08.2 +0.3**
comp=Z,2.9nm,0.9s,baz=79,slow=15,SNR=5.8
OHAK Old Harbor 46.09 43 *e*P **P** **11 39 27.2 -0.5**
comp=Z,131nm,1.0s
OHAK *e*PcP **PcP** **11 41 04.5 +0.9**
OHAK LR LR
comp=Z,7µm,20.0s
TARA Tarawa 46.15 134 PFAKE 11 39 40.0 +11
TARA LR LR
comp=Z,3µm,20.0s
KSM Kuching 46.20 226 *e*P **P** **11 39 29.5 +0.4**
comp=Z,110nm,0.8s
SPSI Sidrap Palu 46.20 211 P **P** **11 39 28.4 -0.7**
comp=Z,257nm,1.1s,comp=Z,3µm
RSO Redoubt South 46.22 39 *e*P **P** **11 39 30.0 +1.0**
KDAK Kodiak Island 46.43 42 *i* P **P** **11 39 30.4 0.0**
KDAK Kodiak Island 46.43 42 *e*P **P** **11 39 30.5 +0.1**
comp=Z,267nm,1.0s
KDAK LR LR
comp=Z,8µm,21.0s
SHLS Shalkode 46.47 297 *i* P **P** **11 39 29.5 -1.7**
comp=Z,520nm,1.0s
SHLS *e*S **S** **11 46 16.5 -1.6**
SHLS LR LR 11 59 34.4
comp=Z,2µm,13.5s
SAUI Saumlaki 46.48 194 P **P** **11 39 32.0 +0.8**
comp=Z,708nm,1.2s
PPLA Purkeypile 46.48 35 *e*P **P** **11 39 32.8 +1.9**
comp=Z,218nm,1.3s
SPU Mount Spurr 46.55 38 *e*P **P** **11 39 32.6 +1.2**
STKI Sintang 46.70 224 P **P** **11 39 34.3 +1.3**
comp=Z,196nm,1.2s,comp=Z,13µm
HOM Homer 46.81 40 *e*P **P** **11 39 34.9 +1.6**
comp=Z,204nm,1.1s
HOM LR LR
comp=Z,3µm,21.0s
CNPM China Poot 47.02 40 *e*P **P** **11 39 35.0 -0.1**
comp=Z,91nm,1.0s
CNPM LR LR
comp=Z,4µm,21.0s
BPAW Bear Paw Mtn. 47.03 34 *e*P **P** **11 39 36.2 +1.2**
comp=Z,113nm,1.3s
BPAW LR LR
comp=Z,3µm,20.0s
KTH Kantishna Hill 47.05 34 *e*P **P** **11 39 36.7 +1.4**
comp=Z,263nm,1.2s
KTH LR LR
comp=Z,3µm,22.0s
UZB Uzynbulak 47.08 297 *i* P **P** **11 39 33.8 -2.1**
comp=Z,320nm,1.2s
UZB *e*S **S** **11 46 24.4 -2.3**
UZB LR LR 11 59 20.2
comp=Z,1µm,12.9s
PMG Port Moresby 47.12 173 P **P** **11 39 36.5 +0.3**
comp=Z,25nm,1.0s,baz=11,slow=9.8,SNR=3.1
PMG Port Moresby 47.12 173*ce*P **P** **11 39 35.6 -0.6**
PMG pmax pmax
comp=Z,75nm,1.1s
PMG MLR MLR
comp=Z,63µm,16.0s
PMG Port Moresby 47.12 173 *e*P **P** **11 39 36.0 -0.2**
comp=Z,93nm,1.1s
PMG LR LR
comp=Z,2µm,20.0s
MLY Manley 47.15 32 *e*P **P** **11 39 37.5 +1.5**
comp=Z,112nm,1.0s
MLY LR LR
comp=Z,3µm,20.0s
KAPI Kappang 47.16 211 *e*P **P** **11 39 36.7 +0.1**
comp=Z,1µm,1.4s
KAPI LR LR
comp=Z,2µm,22.0s
SUA Susitna One 47.17 37 *e*P **P** **11 39 37.1 +0.7**
comp=Z,95nm,1.0s
BRLK Bradley Lake 47.19 40 *e*P **P** **11 39 37.7 +1.4**
comp=Z,70nm,1.0s
BRLK LR LR
comp=Z,4µm,21.0s
RAMN Ramite 47.22 274 *e*P **P** **11 39 37.7 +0.3**
comp=Z,946nm,1.2s
KPKS Kokpek 47.23 298 *i* P **P** **11 39 36.4 -0.6**
comp=Z,864nm,1.0s
KPKS *e*S **S** **11 46 28.4 -0.4**
KPKS LR LR 12 00 05.0
comp=Z,3µm,13.0s
TRF Thorofare Moun 47.34 35 *e*P **P** **11 39 38.2 +0.5**
TRF LR LR
comp=Z,3µm,20.0s
GUN Gumba 47.36 275 *e*P **P** **11 39 38.9 +0.4**
comp=Z,505nm,0.7s
SURA Surathani 47.36 244 P **P** **11 39 39.3 +1.1**
comp=Z,176nm,1.3s,comp=Z,3µm
COLD Coldfoot 47.45 29 *e*P **P** **11 39 39.6 +1.3**
comp=Z,33nm,0.9s
ZHN Zhinishke 47.49 298 *i* P **P** **11 39 38.1 -1.0**
comp=Z,360nm,1.2s
ZHN *e*S **S** **11 46 32.5 +0.1**
ZHN LR LR 11 59 36.8
comp=Z,1µm,14.1s
JOHN Johnston Islan 47.50 102 PFAKE 11 39 50.0 +11
JOHN LR LR
comp=Z,6µm,20.0s
SATY Saty 47.54 297 *i* P **P** **11 39 38.0 -1.5**
comp=Z,686nm,1.3s
SATY *e*S **S** **11 46 31.9 -1.2**
SATY LR LR 11 59 28.9
comp=Z,5µm,15.3s
RC01 Rabbit Creek A 47.68 38 *e*P **P** **11 39 41.0 +0.9**
comp=Z,169nm,1.1s
RC01 LR LR
comp=Z,4µm,20.0s
BWN Browne 47.70 34 *e*P **P** **11 39 42.7 +2.5**
comp=Z,688nm,1.2s
BWN LR LR
comp=Z,3µm,20.0s
KKN Kakani 47.88 275 *e*P **P** **11 39 42.7 +0.3**
comp=Z,565nm,0.9s
SEW Seward 47.88 39 *e*P **P** **11 39 41.8 +0.2**
comp=Z,115nm,1.0s
SEW LR LR
comp=Z,4µm,20.0s
BSSI Bau Bau, Buton 47.90 209 P **P** **11 39 42.0 -0.3**
comp=Z,278nm,1.1s,comp=Z,3µm
MCK McKinley 47.94 34 *e*P **P** **11 39 42.8 +0.6**
MCK McKinley 47.94 34 *e*P **P** **11 39 42.8 +0.6**
comp=Z,104nm,1.1s
MCK LR LR
comp=Z,3µm,19.0s
PMR Palmer 47.94 37 *e*P **P** **11 39 41.9 -0.2**
PMR pmax pmax
comp=Z,140nm,1.1s
PMR Palmer 47.94 37 *e*P **P** **11 39 41.9 -0.2**
comp=Z,141nm,1.1s
PMR LR LR
comp=Z,5µm,22.0s
BBKI Banjar Baru 47.96 217 P **P** **11 39 43.7 +0.9**
comp=Z,757nm,1.2s,comp=Z,8µm
RND Reindeer 47.99 35 *e*P **P** **11 39 42.9 +0.3**
RND Reindeer 47.99 35 *e*P **P** **11 39 42.9 +0.3**
comp=Z,154nm,1.1s
RND LR LR
comp=Z,4µm,21.0s
SKLT Songkhla 48.05 241 P **P** **11 39 45.0 +1.4**
comp=Z,243nm,1.3s,comp=Z,3µm
SURT Suratani 48.10 245 P **P** **11 39 45.4 +1.5**
comp=Z,115nm,1.3s,comp=Z,2µm
DMN Daman 48.10 275 *e*P **P** **11 39 44.4 +0.2**
comp=Z,690nm,1.3s
MDM Murphy Dome 48.22 32 *e*P **P** **11 39 45.4 +1.2**
comp=Z,217nm,1.0s
MDM LR LR
comp=Z,3µm,21.0s
TRTT Trang 48.24 243 P **P** **11 39 46.3 +1.3**
comp=Z,250nm,1.3s,comp=Z,4µm
WRH Wood River Hil 48.29 33 *e*P **P** **11 39 45.3 +0.5**
comp=Z,68nm,1.1s
WRH LR LR
comp=Z,3µm,21.0s
GKN Gorkha 48.30 276 *e*P **P** **11 39 45.7 +0.1**
comp=Z,1µm,1.1s
SML Sawmill 48.31 37 *e*P **P** **11 39 45.8 +0.8**
SML Sawmill 48.31 37 *e*P **P** **11 39 45.8 +0.8**
comp=Z,118nm,1.0s
SML LR LR
comp=Z,5µm,22.0s
KRAB Krabi 48.32 244 P **P** **11 39 47.1 +1.5**
comp=Z,475nm,1.2s,comp=Z,4µm
COLA College 48.38 33*d* P **P** **11 39 46.0 +0.5**
COLA pmax pmax
comp=Z,51nm,1.4s
COLA College 48.38 33 *e*P **P** **11 39 45.6 +0.1**
comp=Z,74nm,0.9s
COLA LR LR
comp=Z,2µm,22.0s
CCB Clear Creek Bu 48.41 33 *e*P **P** **11 39 46.1 +0.4**
comp=Z,191nm,1.8s
CCB LR LR
comp=Z,3µm,20.0s
MDOK Medeo 48.46 298 *i* P **P** **11 39 45.7 -0.9**
comp=Z,541nm,1.1s
MDOK *e*S **S** **11 46 46.1 -0.2**
MDOK LR LR 11 59 34.6
comp=Z,1µm,13.5s
AAA Alma-Ata 48.50 298 *e*P **P** **11 39 48.1 +1.3**
AAA *e*S **S** **11 46 47.6 +0.9**
AAA pmax pmax
comp=Z,2µm,5.2s
AAA smax smax
comp=E,1µm,15.7s
AAA MLR MLR
comp=Z,10µm,17.0s
AAA Alma-Ata 48.50 298 *e*P **P** **11 39 47.2 +0.4**
comp=Z,582nm,1.1s
AAA *e*S **S** **11 46 48.9 +2.2**
AAA LR LR 12 00 26.3
comp=Z,3µm,13.9s
KUU Kurty 48.75 299 *i* P **P** **11 39 46.9 -1.8**
comp=Z,759nm,1.1s
KUU *e*S **S** **11 46 48.6 -1.5**
KUU LR LR 12 00 31.0
comp=Z,3µm,13.5s
SCM Sheep Creek Mo 48.78 37 *e*P **P** **11 39 49.5 +0.8**
SCM Sheep Creek Mo 48.78 37 *e*P **P** **11 39 49.5 +0.8**
comp=Z,146nm,1.0s
SCM LR LR
comp=Z,3µm,22.0s
HDA Harding Lake 48.79 33 *e*P **P** **11 39 48.8 +0.2**
comp=Z,146nm,1.1s
HDA LR LR
comp=Z,3µm,18.0s
ILAR Eielson Array 48.80 33 P **P** **11 39 48.9 +0.2**
comp=Z,49nm,1.0s,baz=266,slow=5.7,SNR=339
ILAR LR LR 12 01 16.5
comp=Z,3µm,20.8s,baz=280,slow=37
ILB Eielson Array 48.80 33 *e*P **P** **11 39 48.5 -0.3**
PBKI Pangkalan Bun 48.91 222 P **P** **11 39 51.1 +0.9**
comp=Z,439nm,1.1s,comp=Z,5µm
PKDT Phuket 49.16 244 P **P** **11 39 53.7 +1.6**
comp=Z,451nm,1.2s
KOLN Koldanda 49.22 276 *e*P **P** **11 39 53.1 +0.4**
comp=Z,272nm,0.9s
BOK Bokaro 49.30 270 *e*P **P** **11 39 53.3 +0.1**
BOK IAmb IAmb 11 39 56.1
comp=Z,86nm,1.0s
KULM Kulim 49.38 240 *e*P **P** **11 39 53.7 0.0**
comp=Z,323nm,1.3s
KULM LR LR
comp=Z,5µm,18.0s
FYU Fort Yukon 49.41 30 *e*P **P** **11 39 55.4 +2.1**
comp=Z,374nm,1.4s
FYU LR LR
comp=Z,2µm,19.0s
KLU Klutina 49.48 37 *e*P **P** **11 39 55.0 +1.0**
comp=Z,150nm,1.2s
KLU LR LR
comp=Z,4µm,20.0s
MID Middleton Isla 49.52 40 *e*P **P** **11 39 54.9 +0.7**
MID pmax pmax
comp=Z,117nm,1.0s
MID Middleton Isla 49.52 40 *e*P **P** **11 39 54.9 +0.7**
comp=Z,117nm,1.0s
PAX Paxson 49.54 35 *e*P **P** **11 39 55.2 +0.6**
PAX Paxson 49.54 35 *e*P **P** **11 39 55.2 +0.6**
comp=Z,37nm,0.9s
PAX LR LR
comp=Z,3µm,20.0s
PYUN Piuthan 49.55 277 *e*P **P** **11 39 55.8 +0.6**
comp=Z,3µm,1.1s
TKM2 Tokmak 2 49.55 298 P **P** **11 39 55.9 +0.8**
TKM2 pmax pmax
comp=Z,351nm,1.4s
TKM2 Tokmak 2 49.55 298 *e*P **P** **11 39 55.8 +0.8**
comp=Z,178nm,0.6s
TKM2 LR LR
comp=Z,10µm,19.0s
MMRI Maumere 49.57 206 P **P** **11 39 56.0 +0.9**
comp=Z,295nm,1.1s,comp=Z,5µm
MMRI Maumere 49.57 206 *e*P **P** **11 39 55.1 0.0**
comp=Z,430nm,1.1s
DIV Divide 49.59 37 *e*P **P** **11 39 56.1 +1.1**
comp=Z,238nm,1.1s
DIV LR LR
comp=Z,5µm,20.0s
BRZS Berezniki 49.61 308 *i* P **P** **11 39 55.0 -0.2**
comp=Z,170nm,1.2s
BRZS *i* S **S** **11 47 02.0 0.0**
BRZS LR LR 12 00 47.0
comp=Z,750nm,12.8s
EYAK Cordova Ski Ar 49.67 38 *e*P **P** **11 39 56.7 +1.3**
comp=Z,151nm,1.1s
EYAK LR LR
comp=Z,6µm,21.0s
DGPR DIGLIPUR 49.71 254 *e*P **P** **11 39 57.0 +0.8**
IPM Ipoh 49.71 239 *e*P **P** **11 39 55.6 -0.7**
comp=Z,237nm,1.0s
IPM LR LR
comp=Z,10µm,18.0s
EDFI Ende, Flores 49.86 206 P **P** **11 39 56.6 -0.9**
comp=Z,259nm,1.3s,comp=Z,4µm
MYKOM Kota Tinggi 49.87 233 *e*P **P** **11 39 57.8 +0.4**
comp=Z,168nm,1.3s
MYKOM LR LR
comp=Z,14µm,18.0s
HNR Honiara 49.88 156 P **P** **11 39 58.2 +0.8**
comp=Z,68nm,0.8s,baz=170,slow=14,SNR=6.3
HNR Honiara 49.88 156 P **P** **11 39 56.0 -1.5**
HNR Honiara 49.88 156 *e*P **P** **11 39 57.4 -0.1**
comp=Z,302nm,1.2s
HNR *e*S **S** **11 47 05.6 -0.6**
HNR LR LR
comp=Z,2µm,19.0s
SOEI Soe 49.96 203 P **P** **11 39 59.8 +1.6**
comp=Z,1µm,1.1s,comp=Z,9µm
SOEI Soe 49.96 203 *e*P **P** **11 39 57.2 -1.0**
comp=Z,1µm,1.0s
SOEI LR LR
comp=Z,5µm,21.0s
VOSK Vostochnaya 50.04 311 P **P** **11 39 58.7 +0.3**
VOSK pmax pmax
comp=Z,100nm,1.2s
CHKZ Chkalovo 50.06 313 P **P** **11 39 58.4 0.0**
CHKZ pmax pmax
comp=Z,59nm,0.6s
TPRI Tanjung Pinang 50.11 232 P **P** **11 39 59.8 +0.5**
comp=Z,218nm,1.3s,comp=Z,3µm
DOT Dot Lake 50.11 34 *e*P **P** **11 39 58.9 +0.1**
comp=Z,176nm,1.2s
DOT LR LR
comp=Z,8µm,21.0s
BMRM Bremner River 50.18 38 *e*P **P** **11 40 00.6 +1.2**
comp=Z,141nm,1.0s
BMRM LR LR
comp=Z,4µm,20.0s
RAGM Ragged Mountai 50.22 38 *e*P **P** **11 40 01.2 +1.5**
comp=Z,175nm,1.2s
RAGM LR LR
comp=Z,6µm,22.0s
OTUK Ortayu 50.26 306 P **P** **11 39 59.9 -0.2**
OTUK pmax pmax
comp=Z,180nm,1.4s
FRU Bishkek 50.27 298 *i* P **P** **11 40 00.0 -0.3**
FRU *i* 11 40 08.0
FRU *e*S **S** **11 47 07.0 -4.3**

FRU pmax pmax
comp=Z,320nm,1.8s
FRU smax smax
comp=E,220nm,2.2s
FRU MLR MLR
comp=E,8μm,17.5s
BVA0 Borovoye Array 50.33 312 P **P** **11 40 01.2 +0.7**
BVA0 pmax pmax
comp=Z,89nm,1.5s
BVAR Borovoye Array 50.33 312 P **P** **11 40 01.5 +1.0**
comp=Z,11nm,0.5s,baz=76,slow=6.3,SNR=38
BVAR PcP **PcP** **11 41 19.1 +0.2**
comp=Z,8.9nm,0.5s,baz=29,slow=3.3,SNR=2.0
MENT Mentasta 50.34 35 *e*P **P** **11 40 01.8 +1.3**
comp=Z,117nm,1.2s
MENT LR LR
comp=Z,4μm,19.0s
KSH Kashi 50.38 294 P **P** **11 40 05.6 +4.3**
KSH pP sP 11 40 10.3 -1.3
KSH PcP **PcP** **11 41 21.8 +2.2**
KSH PP **PP** **11 42 00.8 +4.0**
KSH S **S** **11 47 17.1 +3.9**
KSH ScS **ScS** **11 49 53.6 +2.6**
KSH SS **SS** **11 50 48.3 +1.6**
KSH PMZ
comp=Z,39nm,0.8s
KSH PMZ
comp=Z,1μm,5.7s
KSH LN
comp=Z,8μm,14.6s
KSH LE
comp=Z,7μm,14.3s
KSH LZ
comp=Z,12μm,15.4s
AAK Ala-Archa 50.41 298 P **P** **11 40 01.6 0.0**
AAK pmax pmax
comp=Z,105nm,1.2s
AAK Ala-Archa 50.41 298 *e*P **P** **11 40 02.2 +0.6**
comp=Z,77nm,0.9s
AAK LR LR
comp=Z,9μm,20.0s
BATI Baumata 50.57 203 P **P** **11 40 03.7 +1.0**
comp=Z,170nm,1.1s,comp=Z,2μm
EKS2 Erkin-Say 50.91 298 *e*P **P** **11 40 05.7 +0.5**
EKS2 Erkin-Say 50.91 298 *e*P **P** **11 40 05.7 +0.5**
comp=Z,50nm,0.8s
EKS2 LR LR
comp=Z,8μm,18.0s
CRQM Cirque 50.92 38 *e*P **P** **11 40 06.3 +1.2**
comp=Z,268nm,1.2s
CRQM LR LR
comp=Z,5μm,22.0s
PTH Pithoragarh 51.08 280 *e*P **P** **11 40 06.8 0.0**
LGTI Lohaghat 51.10 280 *e*P **P** **11 40 07.1 +0.4**
ZRNK Zerenda 51.16 312 *e*P **P** **11 40 07.5 +0.7**
ZRNK Zerenda 51.16 312 *e*P **P** **11 40 07.5 +0.7**
comp=Z,88nm,0.7s
ZRNK LR LR
comp=Z,3μm,18.0s
BWNR Bhubaneshwar 51.17 267 *e*P **P** **11 40 08.4 +1.1**
BWNR IAmb IAmb 11 40 10.5
comp=Z,324nm,2.1s
EGAK Eagle 51.24 32 *e*P **P** **11 40 07.6 +0.4**
comp=Z,217nm,1.8s
EGAK LR LR
comp=Z,2μm,19.0s
MTN Manton Dam 51.25 193 *e*P **P** **11 40 07.1 -0.7**
comp=Z,458nm,1.4s
MTN LR LR
comp=Z,2μm,22.0s
BALM Baldy 51.25 37 *e*P **P** **11 40 08.2 +0.7**
BALM Baldy 51.25 37 *e*P **P** **11 40 08.2 +0.7**
comp=Z,105nm,1.1s
BALM LR LR
comp=Z,3μm,22.0s
COEN Coen 51.39 178 *e*P **P** **11 40 09.4 +0.6**
comp=Z,103nm,1.0s
COEN LR LR
comp=Z,5μm,20.0s
PLAI Plampang 51.42 211 P **P** **11 40 09.5 +0.4**
comp=Z,251nm,1.0s,comp=Z,3μm
PPBI Pangkal Pinang 51.56 228 P **P** **11 40 11.1 +0.9**
comp=Z,188nm,1.2s
TWSI Taliwang, Sumb 51.71 212 P **P** **11 40 10.5 -0.8**
comp=Z,331nm,1.1s,comp=Z,3μm
SRBI Singaraja 51.85 214 P **P** **11 40 13.4 +1.1**
comp=Z,290nm,0.9s,comp=Z,7μm
MNAS Manas 51.85 298 P **P** **11 40 13.1 +0.8**
MNAS pmax pmax
comp=Z,138nm,0.8s
LHMI Lhok Sumawe 52.00 243 P P 11 40 18.7 +5.2
LHMI Lhok Sumawe 52.00 243 *e*P **P** **11 40 14.5 +1.0**
comp=Z,1μm,2.0s
LHMI LR LR
comp=Z,24μm,18.0s
ABJI Asem Bagus 52.04 215 P **P** **11 40 15.4 +1.7**
comp=Z,495nm,1.1s,comp=Z,7μm
GRJI Gresik 52.10 218 P **P** **11 40 14.6 +0.4**
comp=Z,412nm,0.8s,comp=Z,3μm
DAWY Dawson 52.10 33 *e*P **P** **11 40 14.6 +0.8**
comp=Z,43nm,1.3s
DAWY LR LR
comp=Z,4μm,20.0s
BLJI Banyuglugur 52.29 216 P P 11 40 21.8 +6.2
PSI Prapat 52.36 239 *e*P **P** **11 40 16.0 -0.3**
PSI Prapat 52.36 239 *e*P **P** **11 40 16.0 -0.3**
comp=Z,135nm,0.8s
PSI LR LR
comp=Z,7μm,19.0s
DNP Denpasar 52.38 214 P **P** **11 40 19.1 +2.9**
DDI Dehra Dun 52.42 282 *e*P **P** **11 40 16.8 +0.2**
DDI IAmb IAmb 11 40 19.3
comp=Z,384nm,1.8s
KCSI Kotacane, Aceh 52.63 241 P **P** **11 40 19.6 +1.4**
comp=Z,33nm,0.4s,comp=Z,3μm
JMBI JAMBI 52.65 231 P **P** **11 40 21.9 +3.6**
JAGI Jajag, Banyuwa 52.67 215 P **P** **11 40 22.7 +4.3**
JAGI Jajag, Banyuwa 52.67 215 *e*P **P** **11 40 20.6 +2.2**
comp=Z,278nm,1.1s
SDNR Sundarnagar 52.75 284 *e*P **P** **11 40 18.6 -0.4**
SMLA Simla 52.76 283 *e*P **P** **11 40 18.8 -0.1**
BKNI Bangkinang 52.79 235 P **P** **11 40 20.4 +1.0**
comp=Z,1μm,1.1s,comp=Z,23μm
BKNI Bangkinang 52.79 235 *e*P **P** **11 40 19.5 +0.1**
comp=Z,957nm,1.0s
BKNI LR LR
comp=Z,3μm,18.0s
GMJI Gumukmas 52.83 216 P **P** **11 40 20.1 +0.5**
comp=Z,231nm,1.2s,comp=Z,3μm
YKU2 Yakutat 52.85 39 PFAKE 11 40 30.0 +11
YKU2 LR LR
comp=Z,3μm,20.0s
DHRM DHARAMSHALA 52.94 285 *e*P **P** **11 40 20.8 +0.1**
CMBY CAMPBELL BAY 52.95 247 *e*P **P** **11 40 24.9 +4.3**
CMBY IAmb IAmb 11 40 29.4
comp=Z,281nm,0.9s
NGJI Ngawi 52.99 219 P **P** **11 40 22.4 +1.6**
comp=Z,361nm,1.2s
KK31 Karatay Array 53.03 300 *i* P **P** **11 40 21.1 +0.2**
KK31 pmax pmax
comp=Z,25nm,0.5s
KKAR Karatay Array 53.03 300 *e*P **P** **11 40 21.5 +0.6**
KKAR Karatay Array 53.03 300 *e*P **P** **11 40 21.5 +0.6**
MLSI Meulaboh, Aceh 53.05 243 P **P** **11 40 21.5 +0.1**
comp=Z,377nm,1.3s,comp=Z,5μm
BHK Bhakra 53.21 284 *e*P **P** **11 40 22.4 0.0**
TPTI 53.23 241 P **P** **11 40 23.5 +0.9**
comp=Z,46nm,1.1s,comp=Z,1μm
PWJI Pagerwojo 53.39 218 P **P** **11 40 22.7 -1.0**
comp=Z,588nm,1.0s,comp=Z,6μm
MNSI Mandailing Nat 53.39 237 P **P** **11 40 23.3 -0.5**
comp=Z,141nm,0.8s,comp=Z,2μm
CHLP Challavanipeta 53.53 266 *e*P **P** **11 40 25.1 +0.4**
CHLP IAmb IAmb 11 40 27.9
comp=Z,123nm,1.2s
CHLP *e*S **S** **11 47 56.3 -0.3**
CHLP IVMs_BB IVMs_BB 12 07 51.7
comp=Z,1μm,15.9s
DHAK Deception Hill 53.68 39 *e*P **P** **11 40 27.6 +2.2**
comp=Z,154nm,1.2s
DHAK LR LR
comp=Z,2μm,19.0s
INK Inuvik 53.68 27 P **P** **11 40 26.3 +1.0**
comp=Z,67nm,1.0s,baz=280,slow=7.7,SNR=77
INK Inuvik 53.68 27 *e*P **P** **11 40 26.2 +1.0**
comp=Z,129nm,1.1s
INK LR LR
comp=Z,4μm,21.0s
IUG luzhnay 53.69 299 *i* P **P** **11 40 25.6 -0.3**
comp=Z,774nm,1.1s
IUG *e*S **S** **11 47 58.7 +0.2**
IUG LR LR 12 03 48.3
comp=Z,960nm,13.0s
BRLS Borolday 53.71 300 *i* P **P** **11 40 25.4 -0.5**
comp=Z,63nm,0.7s
BRLS *e*S **S** **11 47 58.0 -0.5**
BRLS LR LR 12 03 57.3
comp=Z,761nm,14.0s
PPI Padang Panjang 53.80 235 P **P** **11 40 30.0 +3.2**
OPA Opana 53.85 89 *e*P **P** **11 40 28.8 +1.6**
OPA Opana 53.85 89 *e*P **P** **11 40 28.8 +1.6**
comp=Z,502nm,1.0s
UGM Wanagama 53.93 219 P **P** **11 40 27.4 -0.4**
comp=Z,1μm,1.2s
UGM Wanagama 53.93 219 *e*P **P** **11 40 26.6 -1.2**
comp=Z,1μm,1.1s
UGM LR LR
comp=Z,7μm,19.0s
KIP Kipapa 53.99 90 *d* iP **P** **11 40 28.1 0.0**
KIP Kipapa 53.99 90 *e*P **P** **11 40 29.4 +1.2**
comp=Z,298nm,1.0s
PDSI Padang 54.10 235 P **P** **11 40 28.9 -0.1**
comp=Z,36nm,0.9s
KPJI Karang Pucung 54.26 221 P **P** **11 40 29.7 -0.4**
comp=Z,476nm,1.1s
GSI Gunungsitoli 54.37 239 P **P** **11 40 31.0 0.0**
comp=Z,1μm,1.2s,comp=Z,12μm
GSI Gunungsitoli 54.37 239 *e*P **P** **11 40 30.2 -0.7**
comp=Z,1μm,1.1s
GSI LR LR
comp=Z,8μm,19.0s
LHSI Lahat 54.45 229 P **P** **11 40 31.8 +0.3**
comp=Z,426nm,1.0s,comp=Z,6μm
VIS Vishakhapatnam 54.54 265 *e*P **P** **11 40 32.9 +0.7**
VIS IAmb IAmb 11 40 35.7
comp=Z,69nm,0.7s
BLSI Bandar Lampung 54.67 227 P **P** **11 40 33.8 +0.7**
comp=Z,251nm,0.6s
SBJI Serang 54.78 225 P **P** **11 40 38.1 +4.2**
SVE Sverdlovsk 54.83 318 *d* iP **P** **11 40 35.1 +1.3**
SVE *e*S **S** **11 48 13.0 -0.2**
SVE pmax pmax
comp=Z,254nm,1.4s
SVE MLR MLR
comp=E,6μm,16.0s
KSI Kapahiang 54.87 230 P **P** **11 40 35.1 +0.4**
comp=E,198nm,1.1s,comp=E,4μm
SKAG Skagway 55.01 38 *e*P **P** **11 40 37.0 +1.9**
comp=E,105nm,1.2s
SKAG LR LR
comp=Z,3μm,20.0s
CISI Cisompet, Garu 55.04 222 P **P** **11 40 36.4 +0.6**
comp=Z,205nm,1.3s,comp=Z,2μm
CISI Cisompet, Garu 55.04 222 *e*P **P** **11 40 34.5 -1.3**
comp=Z,299nm,1.2s
CISI LR LR
comp=Z,4μm,18.0s
LWLI Liwa 55.08 228 P P 11 40 45.0 +8.8
CNJI Cibinong 55.20 223 P **P** **11 40 37.2 +0.3**
comp=Z,261nm,1.1s
MNAI Manna 55.21 230 PFAKE 11 40 50.0 +13
MNAI LR LR
comp=Z,2μm,18.0s
KASI Kota Agung 55.23 227 P **P** **11 40 36.1 -1.0**
comp=Z,167nm,1.0s
SKJI Sukabumi 55.27 224 P **P** **11 40 38.7 +1.3**
comp=Z,262nm,0.6s,comp=Z,3μm
CGJI Cibinong 55.43 225 P **P** **11 40 36.4 -2.2**
comp=Z,77nm,0.7s
HLK Haleakala 55.74 89 *e*P **P** **11 40 42.7 +1.5**
comp=Z,370nm,1.1s
PPSI Pulau Pagai 55.80 234 P P 11 40 50.7 +9.4
DZET Dzherino 55.80 295 P **P** **11 40 40.9 -0.3**
DZET pmax pmax
comp=Z,122nm,0.9s
ARU Arti 56.04 318 P **P** **11 40 43.4 +0.9**
comp=Z,83nm,0.5s,baz=73,slow=3.9,SNR=95
ARU Arti 56.04 318 *c* iP **P** **11 40 43.2 +0.7**
ARU *e**PP **sP** **11 40 51.6 -1.2**
ARU 11 41 38.8
ARU 11 42 46.0
ARU PPP PPP 11 44 08.1
ARU 11 50 25.8
ARU SS **SS** **11 52 18.3 +3.2**
ARU pmax pmax
comp=Z,163nm,1.0s
ARU Arti 56.04 318 *e*P **P** **11 40 42.4 -0.2**
comp=Z,193nm,1.0s
ARU LR LR
comp=Z,4μm,19.0s
PVM Polavaram 56.15 266 *e*P **P** **11 40 43.9 +0.1**
PVM IAmb IAmb 11 40 46.5
comp=Z,99nm,1.2s
PVM *e*S **S** **11 48 32.2 +0.5**
PVM IVMs_BB IVMs_BB 12 04 37.8
comp=Z,1μm,21.4s
BHPL Bhopal 56.28 275 *e*P **P** **11 40 44.6 -0.1**
BHPL IAmb IAmb 11 40 46.9
KKH Kailua Kona 56.51 90 *e*P **P** **11 40 48.0 +1.7**
KKH Kailua Kona 56.51 90 *e*P **P** **11 40 48.0 +1.7**
POHA Pohakuloa 56.84 90 *e*P **P** **11 40 50.3 +1.3**
comp=Z,400nm,1.0s
MLOA Mauna Loa Obse 56.92 90 *e*P **P** **11 40 51.2 +1.4**
RPR Rampur 57.11 269 *e*P **P** **11 40 50.6 -0.1**
RPR IAmb IAmb 11 40 53.1
comp=Z,106nm,0.9s
RPR *e*S **S** **11 48 44.1 -0.4**
RPR IVMs_BB IVMs_BB 12 06 30.1
comp=Z,1μm,15.9s
UWE Uwekahuna 57.21 90 PFAKE 11 41 00.0 +8.5
UWE LR LR
comp=Z,3μm,21.0s
CRAG Craig 57.40 42 *e*P **P** **11 40 53.9 +1.8**
comp=Z,128nm,1.3s
CRAG LR LR
comp=Z,3μm,20.0s
KBL Kabul 57.43 291 *e*P **P** **11 40 53.2 +0.2**
KBL Kabul 57.43 291 *e*P **P** **11 40 53.2 +0.2**
comp=Z,259nm,1.1s
KBL LR LR
comp=Z,4μm,19.0s
WRAK Wrangell Islan 57.48 41 *e*P **P** **11 40 54.4 +1.7**
comp=Z,86nm,1.1s
WRAK LR LR
comp=Z,2μm,20.0s
WB9 Warramunga Arr 57.59 188 PFAKE 11 41 10.0 +16
WB9 LR LR
comp=Z,7μm,18.0s
WB8 Warramunga Arr 57.62 188 PFAKE 11 41 10.0 +16
WB8 LR LR
comp=Z,4μm,18.0s
CTA Charters Tower 57.63 175 P **P** **11 40 53.8 -0.4**
comp=Z,12nm,0.6s,baz=354,slow=7.8,SNR=16
CTAO Charters Tower 57.63 175 *e*P **P** **11 40 53.7 -0.4**
CTAO Charters Tower 57.63 175 *e*P **P** **11 40 53.7 -0.4**
comp=Z,113nm,1.4s
CTAO LR LR
comp=Z,4μm,20.0s
WB6 Warramunga Arr 57.66 188 PFAKE 11 41 10.0 +16
WB6 LR LR
comp=Z,4μm,19.0s
WB5 Warramunga Arr 57.68 188 PFAKE 11 41 10.0 +16
WB5 LR LR
comp=Z,4μm,18.0s
WB4 Warramunga Arr 57.71 188 PFAKE 11 41 10.0 +15
WB4 LR LR
comp=Z,4μm,19.0s
AB31 Akbulak array 57.72 310 *e*P **P** **11 40 54.7 +0.2**
AB31 pmax pmax
comp=Z,37nm,0.6s
ABKAR Akbulak array 57.72 310 *e*P **P** **11 40 54.5 0.0**
WB3 Warramunga Arr 57.73 188 PFAKE 11 41 10.0 +15
WB3 LR LR
comp=Z,4μm,19.0s
WC2 Warramunga Arr 57.73 188 PFAKE 11 41 10.0 +15
WC2 LR LR
comp=Z,5μm,22.0s
WC1 Warramunga Arr 57.73 188 PFAKE 11 41 10.0 +15
WC1 LR LR
comp=Z,3μm,19.0s
WRAB Tennant Creek 57.74 188 *c* iP **P** **11 40 53.8 -1.1**
WRAB pmax pmax
comp=Z,363nm,1.0s
WRAB MLR MLR
comp=Z,9μm,19.0s
WRAB Tennant Creek 57.74 188 *e*P **P** **11 40 54.1 -0.8**
comp=Z,276nm,1.4s
WRAB LR LR
comp=Z,5μm,21.0s
WR0 Warramunga Arr 57.74 188 PFAKE 11 41 10.0 +15
WR0 LR LR
comp=Z,3μm,20.0s
WR9 Warramunga Arr 57.74 188 PFAKE 11 41 10.0 +15
WR9 LR LR
comp=Z,3μm,20.0s
WR7 Warramunga Arr 57.75 188 PFAKE 11 41 10.0 +15
WR7 LR LR
comp=Z,4μm,19.0s
WB2 Warramunga Arr 57.75 188 *e*P **P** **11 40 54.0 -0.9**
comp=Z,221nm,1.2s
WB2 LR LR
comp=Z,5μm,21.0s
WR5 Warramunga Arr 57.75 188 PFAKE 11 41 10.0 +15
WR5 LR LR
comp=Z,4μm,18.0s
WR6 Warramunga Arr 57.75 188 PFAKE 11 41 10.0 +15
WR6 LR LR
comp=Z,4μm,18.0s
WR1 Warramunga Arr 57.75 188 PFAKE 11 41 10.0 +15
WR1 LR LR
comp=Z,4μm,21.0s
WR4 Warramunga Arr 57.75 188 PFAKE 11 41 10.0 +15
WR4 LR LR
comp=Z,3μm,20.0s
WRA Warramunga Arr 57.75 188 P **P** **11 40 54.0 -1.0**
comp=Z,156nm,1.0s,baz=6.7,slow=7.3,SNR=296
WRA Warramunga Arr 57.75 188 P **P** **11 40 54.0 -1.0**
WRA pmax pmax
comp=Z,156nm,1.0s
WR3 Warramunga Arr 57.75 188 PFAKE 11 41 10.0 +15
WR3 LR LR
comp=Z,4μm,18.0s
WR2 Warramunga Arr 57.75 188 PFAKE 11 41 10.0 +15
WR2 LR LR
comp=Z,4μm,19.0s
WC4 Warramunga Arr 57.77 188 PFAKE 11 41 10.0 +15
WC4 LR LR
comp=Z,4μm,21.0s
SRSP Sriramsagar 57.82 270 *e*P **P** **11 40 55.3 -0.4**
SRSP IAmb IAmb 11 40 58.0
comp=Z,243nm,1.1s
SRSP *e*S **S** **11 48 52.3 -1.6**
SRSP IVMs_BB IVMs_BB 12 08 18.6
comp=Z,2μm,17.8s
DLBC Dease Lake 57.95 38 P **P** **11 40 57.6 +1.5**
comp=Z,41nm,0.8s,baz=298,slow=5.4,SNR=92
DLBC Dease Lake 57.95 38 *e*P **P** **11 40 58.2 +2.1**
comp=Z,92nm,1.0s
DLBC LR LR
comp=Z,3μm,21.0s
ADKI Addanki 58.25 266 *e*P **P** **11 40 59.0 +0.3**
ADKI IAmb IAmb 11 41 00.5
comp=Z,80nm,1.3s
ADKI IVMs_BB IVMs_BB 12 05 52.5
comp=Z,1μm,21.4s
NJS Nagarjunasagar 58.37 267 *e*P **P** **11 40 59.4 -0.2**
NJS IAmb IAmb 11 41 01.9
comp=Z,100nm,1.2s
NJS *e*S **S** **11 49 01.4 +0.3**
NJS IVMs_BB IVMs_BB 12 08 09.2
comp=Z,1μm,13.2s
AKTO Aktyubinsk 58.43 312 P **P** **11 40 59.8 +0.2**
comp=Z,37nm,0.8s,baz=64,slow=7.1,SNR=70
HYB Hyderabad 58.49 268 *i* P **P** **11 41 00.0 -0.4**
HYB *e*PP **PP** **11 43 12.0 +2.2**
HYB *e*S **S** **11 49 00.0 -2.7**
HYB Hyderabad 58.49 268 *e*P **P** **11 41 00.5 +0.1**
HYB IAmb IAmb 11 41 03.3
comp=Z,327nm,1.5s
HYBB Hyderabad (bro 58.49 268 *e*P **P** **11 41 00.1 -0.3**
HYBB IAmb IAmb 11 41 02.5
comp=Z,129nm,1.0s
HYBB *e*S **S** **11 49 02.9 +0.3**
HYBB IVMs_BB IVMs_BB 12 08 06.7
comp=Z,1μm,14.9s
SRLM Srisailam 58.95 267 *e*P **P** **11 41 03.1 -0.5**
SRLM IAmb IAmb 11 41 05.7
comp=Z,92nm,1.1s
SRLM *e*S **S** **11 49 07.9 -0.9**
SRLM IVMs_BB IVMs_BB 12 08 13.3
comp=Z,2μm,23.4s
RCLA Racherla 59.27 266 *e*P **P** **11 41 05.0 -0.8**
RCLA IAmb IAmb 11 41 08.2
comp=Z,84nm,1.0s
RCLA *e*S **S** **11 49 11.3 -1.4**
RCLA IVMs_BB IVMs_BB 12 05 42.2
comp=Z,1μm,25.8s
HOPEN Hopen 59.47 346 *e*P **P** **11 41 07.2 +1.0**
HOPEN IAmb IAmb 11 41 16.6
comp=Z,158nm,0.9s
HOPEN *e*S **S** **11 49 16.5 +2.8**
HOPEN IVMs_BB IVMs_BB 12 08 14.8
comp=Z,2μm,15.1s
MDRS Chennai 59.63 263 *e*P **P** **11 41 08.4 +0.1**
KLRI Killari 59.68 270 *e*P **P** **11 41 08.0 -0.6**
KLRI IAmb IAmb 11 41 10.5
comp=Z,144nm,0.9s
KLRI *e*S **S** **11 49 16.6 -1.6**
KLRI IVMs_BB IVMs_BB 12 09 12.4
comp=Z,2μm,15.4s
SPA0 Spitsbergen Ar 59.93 349 *e*P **P** **11 41 10.2 +0.8**
SPA0 *e*S **S** **11 49 21.4 +1.7**
SPA0 IVMs_BB IVMs_BB 12 07 45.6
comp=Z,1μm,23.0s
SPA0 Spitsbergen Ar 59.93 349 *e*P **P** **11 41 10.3 +0.8**
SPITS Spitsbergen Ar 59.93 349 P **P** **11 41 09.9 +0.5**
comp=Z,4.2nm,0.6s,baz=112,slow=11,SNR=20
KBS Kingsbay 60.05 350 *e*P **P** **11 41 10.9 +0.6**
KBS *e*S **S** **11 49 25.2 +3.9**
KBS Kingsbay 60.05 350 *e*P **P** **11 41 11.8 +1.5**
KBS Kingsbay 60.05 350 *e*P **P** **11 41 11.8 +1.5**
comp=Z,77nm,0.8s
KBS LR LR
comp=Z,3μm,18.0s
HSPB Hornsund (broa 60.86 348 *e*P **P** **11 41 16.9 +1.1**
HSPB *e*S **S** **11 49 34.4 +2.8**
HSPB Hornsund (broa 60.86 348 *e*P **P** **11 41 16.5 +0.7**
AS01 Alice Springs 61.47 188 *e*P **P** **11 41 18.4 -2.2**
AS01 ⇑*e* 12 10 40.3
AS31 Alice Springs 61.48 188 *e*P **P** **11 41 19.8 -0.8**
comp=Z,20nm,0.8s
AS31 LR LR
comp=Z,100nm,20.0s
ASAR Alice Springs 61.48 188 P **P** **11 41 20.1 -0.5**
comp=Z,80nm,0.9s,baz=9.3,slow=5.6,SNR=212
ASAR PKP2bc 12 10 42.9
comp=Z,2.9nm,1.0s,baz=185,slow=1.5,SNR=5.8
POO Poona 61.61 272 *e*P **P** **11 41 22.2 +0.5**
POO IAmb IAmb 11 41 23.8
comp=Z,144nm,1.1s
LVZ Lovozero 61.62 336 *c* iP **P** **11 41 21.2 +0.1**
LVZ pmax pmax
comp=Z,44nm,1.2s
LVZ MLR MLR
comp=Z,3μm,19.0s
LVZ Lovozero 61.62 336 *e*P **P** **11 41 21.5 +0.4**
comp=Z,62nm,0.7s
LVZ LR LR
comp=Z,4μm,19.0s
BJO Bjornoya 61.86 345 *e*S **S** **11 49 49.4 +5.2**
RES Resolute Bay 61.90 15 P **P** **11 41 23.1 +0.3**
comp=Z,46nm,0.9s,baz=314,slow=5.4,SNR=38
RES Resolute Bay 61.90 15 *e*P **P** **11 41 23.1 +0.3**
comp=Z,60nm,0.8s
RES LR LR
comp=Z,2μm,20.0s
MBWA Marble Bar 62.10 203 *e*P **P** **11 41 24.5 -0.3**
comp=Z,857nm,1.0s
MBWA *e*PP **PP** **11 43 44.3 +2.4**
APA Apatity 62.20 336 ⇑*i*P **P** **11 41 24.9 -0.1**
APA *i* PPP PPP 11 45 23.0
APA *i* S **S** **11 49 49.0 +0.2**
APA *i* 11 51 05.0
APA pmax pmax
comp=Z,67nm,0.8s
APA MLR MLR
comp=Z,4μm,19.0s
PALK Pallekele 62.77 257 LR LR 12 10 36.5

comp=Z,3µm,19.6s,baz=121,slow=38
PALK Pallekele 62.77 257 *i* P **P 11 41 30.6 +1.0**
SNR=6.9
PALK Pallekele 62.77 257 *i* P **P 11 41 30.9 +1.3**
PALK Pallekele 62.77 257 *e*P **P 11 41 29.9 +0.3**
comp=Z,124nm,1.1s
KEV Kevo 62.92 339 *e*P **P 11 41 30.6 +0.8**
KEV Kevo 62.92 339 *e*P **P 11 41 30.6 +0.8**
comp=Z,66nm,0.8s
KEV LR LR
comp=Z,3µm,20.0s
YKA Yellowknife Ar 63.11 30 P **P 11 41 31.3 +0.2**
comp=Z,34nm,0.9s,baz=301,slow=6.8,SNR=169
YKA PKP2bc 12 10 33.2
comp=Z,0.7nm,0.8s,baz=108,slow=2.5,SNR=3.8
YKA LR LR 12 11 13.5
comp=Z,112nm,21.9s,baz=180,slow=38
HAMF Hammerfest 63.28 341 *e*P **P 11 41 32.4 +0.3**
HAMF IAmb IAmb 11 41 41.7
comp=Z,73nm,0.5s
HAMF *e*S **S 11 50 04.0 +1.6**
HAMF *e*SS **SS 11 54 11.6 +3.6**
GOA Goa 63.31 269 *e*P **P 11 41 32.7 -0.4**
EIDS Eidsvold 63.34 171 *e*P **P 11 41 33.8 +0.8**
comp=Z,130nm,1.5s
EIDS LR LR
comp=Z,3µm,21.0s
KLMR Klimovskoe 63.34 328 *e*P **P 11 41 29.4 -3.3**
KLMR pmax pmax
comp=Z,75nm,0.8s
ARA0 ARCESS Array S 63.47 339 *e*P **P 11 41 33.8 +0.3**
ARCES ARCESS Array B 63.47 339 P **P 11 41 34.2 +0.7**
comp=Z,11nm,0.8s,baz=57,slow=8.8,SNR=26
ARE0 ARCESS Array S 63.47 339 *e*P **P 11 41 34.0 +0.6**
ARE0 *e*pP **sP 11 41 42.9 -1.0**
ARE0 IAmb IAmb 11 41 43.1
comp=Z,248nm,1.7s
ARE0 *e*S **S 11 50 06.1 +1.3**
ARE0 IVMs_BB IVMs_BB 12 15 30.0
comp=Z,1µm,19.0s
ARE0 ARCESS Array S 63.47 339 *e*P **P 11 41 34.4 +0.9**
comp=Z,100nm,1.2s
ARE0 LR LR
comp=Z,3µm,18.0s
GEYT Alibeck 63.75 299 P **P 11 41 36.4 +0.5**
comp=Z,90nm,1.2s,baz=29,slow=3.4,SNR=39
GEYT LR LR 12 13 09.2
comp=Z,3µm,18.7s,baz=55,slow=40
DZM Mont Dzumac 63.83 154 *e*P **P 11 41 36.5 +0.1**
comp=Z,339nm,1.2s
DZM *e*S **S 11 50 04.9 -5.4**
comp=Z,2µm,25.1s
DZM Mont Dzumac 63.83 154 *e*LR LR 12 00 41.5
comp=Z,3µm,23.6s
DZM Mont Dzumac 63.83 154 P **P 11 41 37.9 +1.5**
comp=Z,80nm,0.9s,baz=5.3,slow=11,SNR=13
DZM Mont Dzumac 63.83 154 *e*P **P 11 41 36.8 +0.4**
comp=Z,158nm,1.1s
DZM *e*PP **PP 11 43 58.0 +0.8**
DZM LR LR
comp=Z,4µm,20.0s
MSVF Nonsavu 64.85 141 *e*P **P 11 41 44.6 +1.4**
MSVF Nonsavu 64.85 141 *e*P **P 11 41 44.6 +1.4**
comp=Z,142nm,1.1s
MSVF LR LR
comp=Z,2µm,19.0s
COCO West Island 65.07 230 *i* P **P 11 41 47.6 +3.1**
COCO West Island 65.07 230 *e*P **P 11 41 45.9 +1.4**
comp=Z,1µm,1.2s
DAG Danmarks Havn 65.14 355⇓ *i*P **P 11 41 44.3 +0.1**
DAG *i* 11 41 53.7
DAG pmax pmax
comp=Z,39nm,0.9s
DAG MLR MLR
comp=Z,540nm,19.0s
DAG Danmarks Havn 65.14 355⇓ *i*P **P 11 41 44.3 +0.1**
comp=Z,46nm,0.9s
DAG *i* 11 41 53.7
comp=Z,520nm,19.0s
TRO Tromso 65.18 341 *e*P **P 11 41 44.8 +0.2**
TRO *e*S **S 11 50 27.4 +1.7**
PGC Sidney 65.69 46 *e*P **P 11 41 49.2 +1.0**
comp=Z,108nm,1.1s
PGC LR LR
comp=Z,2µm,22.0s
XMAS Kiritimati 65.91 107 *e*P **P 11 41 51.1 +1.0**
comp=Z,397nm,1.0s
NLWA Neilton Lookou 66.08 48 *e*P **P 11 41 52.7 +1.8**
comp=Z,237nm,1.1s
NLWA LR LR
comp=Z,2µm,22.0s
A04D Lummi Island 66.08 46 P **P 11 41 50.8 +0.1**
baz=300
B05A Bryant 66.66 46 P **P 11 41 55.6 +1.1**
baz=301,SNR=41
E03A Lebam 66.68 49 *e*P **P 11 41 56.7 +2.1**
comp=Z,196nm,1.3s
E03A LR LR
comp=Z,2µm,21.0s
MOS Moscow 66.88 323 *e*P **P 11 41 55.1 -0.6**
MOS *e* 11 44 26.8
MOS *e*S **S 11 50 45.3 -1.6**
MOS *e* 11 51 01.7
MOS *e* 11 51 48.6
MOS *e*SS **SS 11 55 04.6 +0.2**
MOS pmax pmax
comp=Z,400nm,2.3s
MOS pmax pmax
comp=Z,138nm,1.4s
MOS smax smax
comp=N,1µm,4.3s
MOS smax smax
comp=E,800nm,4.4s
MOS MLR MLR
comp=Z,4µm,17.0s
MOS MLR MLR
comp=N,1µm,14.0s
MOS MLR MLR
comp=E,4µm,17.0s
B06A Marblemount 66.88 46 PFAKE 11 42 10.0 +14
B06A LR LR
comp=Z,2µm,21.0s
F04D Rainier, OR 67.25 49 P **P 11 42 00.0 +1.8**
baz=301
VRH Novokhopyorsk 67.27 318 *e*P **P 11 41 58.6 +0.3**
VRH *e*S **S 11 50 48.1 -3.6**
VRH pmax pmax
comp=Z,110nm,0.7s
VRH pmax pmax
comp=Z,120nm,0.6s
VRH smax smax
comp=N,500nm,3.8s
VRH MLR MLR
comp=Z,8µm,22.0s
D05A Enumclaw 67.28 47 P **P 11 42 00.2 +1.8**
AFI Afiamalu 67.35 130 LR LR 12 06 29.2
comp=Z,1µm,21.2s,baz=332,slow=32
PNT Penticton 67.52 44 *e*P **P 11 42 00.7 +0.7**
PNT Penticton 67.52 44 *e*P **P 11 42 00.7 +0.7**
C06D Leavenworth 67.53 46 P **P 11 42 01.6 +1.5**
baz=302
G03D McMinnville, O 67.55 50 P **P 11 42 01.9 +1.7**
baz=301,SNR=17
LON Longmire 67.61 48 P **P 11 42 01.6 +0.9**
LON Longmire 67.61 48 P **P 11 42 01.6 +0.9**
LOF Lofoten 67.62 341 *e*P **P 11 42 03.5 +3.2**
F04A Amboy 67.68 49 PFAKE 11 42 10.0 +9.0
F04A LR LR
comp=Z,2µm,22.0s
OBN Obninsk 67.73 323 P **P 11 42 01.2 +0.2**
comp=Z,24nm,0.3s,baz=122,slow=2.9,SNR=13
OBN Obninsk 67.73 323 *d*P **P 11 42 01.4 +0.3**
OBN *i* 11 42 09.8
OBN *i* 11 42 26.7
OBN *i* 11 44 37.5
OBN pmax pmax
comp=Z,43nm,0.9s
OBN MLR MLR
comp=Z,3µm,16.0s
OBN Obninsk 67.73 323 *e*P **P 11 42 01.8 +0.7**
comp=Z,654nm,1.8s
OBN LR LR
comp=Z,3µm,19.0s
COR Corvallis 67.85 50 *e*P **P 11 42 04.2 +2.1**
COR pmax pmax
comp=Z,291nm,1.1s
COR MLR MLR
comp=Z,2µm,20.0s
COR Corvallis 67.85 50 *e*P **P 11 42 04.2 +2.1**
comp=Z,290nm,1.1s
COR LR LR
comp=Z,2µm,20.0s
LPSR Galich'ya Gora 67.97 320 *e*P **P 11 42 03.2 +0.5**
LPSR *e*S **S 11 50 56.3 -3.7**
LPSR pmax pmax
comp=Z,150nm,1.1s
LPSR pmax pmax
comp=Z,170nm,1.1s
LPSR smax smax
comp=N,580nm,5.3s
LPSR MLR MLR
comp=Z,5µm,15.0s
LTY Liberty 68.01 47 PFAKE 11 42 20.0 +17
LTY LR LR
comp=Z,2µm,22.0s
B08A Colville Reser 68.19 45 *e*P **P 11 42 05.2 +1.0**
comp=Z,143nm,1.3s
B08A LR LR
comp=Z,2µm,20.0s
I03D Drain, OR 68.29 51 P **P 11 42 06.4 +1.6**
baz=302,SNR=72
FIA1 FINESS Array S 68.35 332 *e*P **P 11 42 05.2 +0.3**
FINES FINESS Array B 68.36 332 P **P 11 42 05.2 +0.3**
comp=Z,56nm,0.8s,baz=55,slow=7.7,SNR=130
FINES FINESS Array B 68.36 332 *i*P **P 11 42 05.1 +0.2**
FINES pmax pmax
comp=Z,56nm,0.8s
ARMA Armidale 68.39 171 *e*P **P 11 42 07.0 +1.5**
comp=Z,113nm,1.3s
ARMA LR LR
comp=Z,3µm,22.0s
VSR Storozhevoye 68.61 319 *e*P **P 11 42 07.8 +1.1**
VSR *e*S **S 11 51 05.6 -2.2**
VSR pmax pmax
comp=Z,100nm,0.6s
VSR pmax pmax
comp=Z,160nm,1.1s
VSR smax smax
comp=N,660nm,6.1s
VSR MLR MLR
comp=Z,11µm,23.0s
G05D Wamic, OR 68.70 49 P **P 11 42 09.0 +1.5**
baz=302,SNR=13
I04A Tendick Farm, 68.81 51 P **P 11 42 09.5 +1.2**
baz=302,SNR=60
E07A Sunnyside 68.86 47 *e*P **P 11 42 10.8 +2.4**
comp=Z,231nm,1.5s
L02D Cave Junction, 68.94 53 P **P 11 42 10.4 +1.4**
baz=302,SNR=15
C09A Chrisman Ranch 69.08 45 *e*P **P 11 42 10.7 +0.9**
comp=Z,175nm,1.3s
C09A LR LR
comp=Z,2µm,20.0s
HUMO Hull Mountain 69.11 52 *e*P **P 11 42 11.4 +1.4**
comp=Z,113nm,1.6s
HUMO LR LR
comp=Z,2µm,20.0s
G06A Carlson Farm, 69.11 49 *e*P **P 11 42 11.4 +1.3**
comp=Z,167nm,1.3s
G06A LR LR
comp=Z,2µm,22.0s
D08A Wollman Farm, 69.12 46 *e*P **P 11 42 11.0 +1.0**
comp=Z,121nm,1.4s
D08A LR LR
comp=Z,2µm,21.0s
HAWA Hanford 69.13 47 *e*P **P 11 42 11.3 +1.2**
comp=Z,164nm,1.5s
HAWA LR LR
comp=Z,1µm,22.0s
I05D Terrebonne, OR 69.17 50 P **P 11 42 11.1 +0.6**
baz=303,SNR=43
STKA Stephens Creek 69.21 180 P **P 11 42 10.8 +0.3**
comp=Z,22nm,0.6s,baz=343,slow=7.4,SNR=40
STKA Stephens Creek 69.21 180 *e*P **P 11 42 10.8 +0.3**
comp=Z,9.9nm,1.0s
NEW Newport 69.47 44 LR LR 12 08 02.1
comp=Z,2µm,21.2s,baz=306,slow=32
NEW Newport 69.47 44 P **P 11 42 13.1 +0.8**
baz=304,SNR=33
NEW Newport 69.47 44 *e*P **P 11 42 13.0 +0.8**
NEW pmax pmax
comp=Z,113nm,1.1s
NEW Newport 69.47 44 *e*P **P 11 42 13.0 +0.8**
comp=Z,113nm,1.1s
JMIC Jan Mayen 69.54 350 *e*P **P 11 42 13.2 +1.0**
JMIC *e*S **S 11 51 17.9 -0.3**
KHMM Horse Mountain 69.55 54 *e*P **P 11 42 14.8 +1.9**
comp=Z,194nm,1.2s
KHMM LR LR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 69.73 53 *e*P **P 11 42 15.5 +1.5**
YBH pmax pmax
comp=Z,196nm,1.2s
YBH MLR MLR
comp=Z,2µm,21.0s
YBH Yreka Blue Hor 69.73 53 *e*P **P 11 42 15.5 +1.5**
comp=Z,196nm,1.2s
YBH LR LR
comp=Z,2µm,21.0s
J05D Fort Rock, OR 69.81 51 P **P 11 42 16.1 +1.6**
baz=303,SNR=119
M02C Callahan 69.83 53 P **P 11 42 15.9 +1.3**
baz=303,SNR=29
K04D Chiloquin, OR 69.85 51 P **P 11 42 16.0 +1.3**
baz=303,SNR=17
GOF Gofitskoye 69.85 312⇑ *i*P **P 11 42 14.7 +0.1**
GOF *e*S **S 11 51 24.9 +2.2**
GOF pmax pmax
comp=Z,546nm,1.3s
E09A Wood Farm, Sta 69.87 46 *e*P **P 11 42 16.2 +1.5**
comp=Z,197nm,1.4s
E09A LR LR
comp=Z,2µm,21.0s
KMRM Mail Ridge 69.91 54 *e*P **P 11 42 17.4 +2.3**
comp=Z,112nm,1.2s
KMRM LR LR
comp=Z,3µm,22.0s
VSU Vasula 70.02 330 *d*P **P 11 42 15.5 +0.2**
VSU pmax pmax
comp=Z,227nm,1.2s
VSU MLR MLR
comp=Z,10µm,17.0s
SUMG Summit 70.03 0⇓ *i*P **P 11 42 16.4 +0.8**
SUMG *i* 11 42 25.8
SUMG pmax pmax
comp=Z,67nm,1.0s
SUMG MLR MLR
comp=Z,5µm,20.0s
SUMG Summit 70.03 0⇓ *i*P **P 11 42 16.4 +0.8**
comp=Z,67nm,1.0s
SUMG *i* 11 42 25.8
comp=Z,5µm,20.0s
SUMG Summit 70.03 0 *e*P **P 11 42 16.5 +0.9**
comp=Z,277nm,1.5s
SUMG LR LR
comp=Z,5µm,20.0s
G08A Pilot Rock 70.07 48 *e*P **P 11 42 17.1 +1.0**
comp=Z,68nm,1.2s
G08A LR LR
comp=Z,2µm,21.0s
N02D Trinity Center 70.15 53 P **P 11 42 18.0 +1.5**
baz=303,SNR=39
M04C Macdoel 70.25 52 P **P 11 42 18.4 +1.1**
baz=303,SNR=64
K05A Summer Lake 70.32 51 *e*P **P 11 42 19.3 +1.6**
comp=Z,375nm,1.1s
K05A LR LR
comp=Z,2µm,20.0s
BBOO Buckleboo 70.34 185 *e*P **P 11 42 18.2 +0.7**
comp=Z,134nm,1.2s
BBOO LR LR
comp=Z,3µm,22.0s
NCK Nalchik 70.38 310⇓ *e*P **P 11 42 19.0 +1.1**
NCK pmax pmax
comp=Z,269nm,1.7s
GUDG Gudauri 70.41 309 P **P 11 42 20.2 +1.9**
WDC Whiskeytown Da 70.47 54 *e*P **P 11 42 19.5 +1.1**
WDC pmax pmax
comp=Z,120nm,1.1s
WDC MLR MLR
comp=Z,1µm,21.0s
WDC Whiskeytown Da 70.47 54 *e*P **P 11 42 19.5 +1.1**
comp=Z,120nm,1.1s
WDC LR LR
comp=Z,1µm,21.0s
DUS Dusheti 70.48 308 P P 11 42 23.4 +4.9
DUS Dusheti 70.48 308 P P 11 42 23.4 +4.9
ZEI Tsey 70.59 309 *e*P **P 11 42 18.0 -1.4**
ZEI pmax pmax
comp=Z,162nm,0.6s
TBLG Delisi 70.65 308 P P 11 42 28.8 +9.2
TBLG Delisi 70.65 308 P P 11 42 28.8 +9.3
KVAR Kislovodsk Arr 70.67 311 P **P 11 42 21.1 +1.4**
comp=Z,218nm,1.2s,baz=41,slow=12,SNR=44
KBZ Khabaz 70.67 311 P **P 11 42 20.9 +1.3**
comp=Z,53nm,0.9s,baz=180,slow=24,SNR=54
KIV Kislovodsk 70.68 311 *i*P **P 11 42 20.9 +1.1**
SNR=86
KIV Kislovodsk 70.68 311 *c i*P **P 11 42 20.7 +1.0**
KIV *i* 11 42 28.2
KIV *i* 11 42 45.8
KIV *i*S **S 11 51 27.7 -4.8**
KIV pmax pmax
comp=Z,220nm,1.0s
KIV Kislovodsk 70.68 311 *e*P **P 11 42 21.0 +1.3**
comp=Z,447nm,1.0s
KIV LR LR
comp=Z,3µm,18.0s
F10A Beach Ranch, E 70.70 46 *e*P **P 11 42 20.6 +0.8**
comp=Z,53nm,1.3s
F10A LR LR
comp=Z,2µm,22.0s
NSS Namsos 70.76 339 *e*P **P 11 42 20.5 +0.8**
NSS *e*pP **sP 11 42 28.6 -1.6**
NSS *e*S **S 11 51 32.0 -0.5**
WALA Waterton Lakes 70.77 42 *e*P **P 11 42 21.1 +0.8**
comp=Z,140nm,1.1s
WALA LR LR
comp=Z,2µm,22.0s
ONI Oni 70.97 309 P **P 11 42 23.0 +1.5**
ONI Oni 70.97 309 P **P 11 42 23.0 +1.5**
HOPS Hopland Field 70.99 55 *e*P **P 11 42 23.1 +1.4**
comp=Z,148nm,1.3s
HOPS LR LR
comp=Z,2µm,20.0s
BSMT Bassoo Peak 71.00 44 *e*P **P 11 42 22.8 +1.0**
NEY Neytrino 71.05 310 *d*P **P 11 42 23.8 +1.7**
NEY pmax pmax
comp=Z,24nm,1.1s
NEY MLR MLR
comp=Z,2µm,16.0s
O03D Paynes Creek 71.09 53 P **P 11 42 23.1 +0.7**
baz=304,SNR=56
BLMT Blacktail Moun 71.14 44 *e*P **P 11 42 23.8 +1.1**
MOD Modoc Plateau 71.14 51 *e*P **P 11 42 23.9 +1.2**
comp=Z,119nm,1.1s
MOD LR LR
comp=Z,2µm,20.0s
BIDO Bidbid 71.18 285 P P 11 42 33.0 +10
SNR=15
BIDO P P 11 42 33.0 +10
SNR=15
BANOM Banah 71.25 289 *i*P **P 11 42 24.1 +0.6**
SNR=16
BMO Blue Mountains 71.29 48 *e*P **P 11 42 24.4 +1.0**
BMO pmax pmax
comp=Z,127nm,1.2s
BMO MLR MLR
comp=Z,2µm,21.0s
BMO Blue Mountains 71.29 48 *e*P **P 11 42 24.4 +1.0**
comp=Z,127nm,1.2s
BMO LR LR
comp=Z,2µm,21.0s
JTMT Jette 71.33 44 *e*P **P 11 42 24.9 +1.1**
YBMT Yellow Bay 71.42 44 *e*P **P 11 42 25.2 +1.0**
SCO Scoresbysund 71.48 354⇓ *i*P **P 11 42 24.8 +0.8**
SCO pmax pmax
comp=Z,32nm,1.0s
SCO MLR MLR
comp=Z,2µm,21.0s
SCO Scoresbysund 71.48 354⇓ *i*P **P 11 42 24.8 +0.8**
comp=Z,32nm,1.0s
comp=Z,2µm,21.0s
GNI Garni 71.53 307 P **P 11 42 26.7 +1.7**
comp=Z,15nm,0.8s,baz=212,slow=17,SNR=8.5
GNI Garni 71.53 307 *i*P **P 11 42 26.4 +1.4**
SNR=12
GNI Garni 71.53 307 *c i*P **P 11 42 26.1 +1.1**
GNI pmax pmax
comp=Z,126nm,1.7s
GNI MLR MLR
comp=Z,5µm,16.0s
GNI Garni 71.53 307 *e*P **P 11 42 27.2 +2.1**
comp=Z,536nm,1.6s
GNI LR LR
comp=Z,2µm,19.0s
MCCM Marconi Confer 71.58 56 PFAKE 11 42 40.0 +15
MCCM LR LR
comp=Z,3µm,22.0s
AKH Akhalkalaki 71.61 308 P **P 11 42 27.4 +1.9**
AKH Akhalkalaki 71.61 308 P **P 11 42 27.4 +1.9**
BGD Bogdanovka 71.62 308 P **P 11 42 27.6 +1.9**
SWMT Swartz Lake 71.63 44 *e*P **P 11 42 26.4 +0.9**
ORV Oroville 71.70 54 *e*P **P 11 42 26.5 +0.6**
ORV pmax pmax
comp=Z,137nm,1.2s
ORV MLR MLR
comp=Z,1µm,20.0s
ORV Oroville 71.70 54 *e*P **P 11 42 26.5 +0.6**
comp=Z,137nm,1.2s
ORV LR LR
comp=Z,1µm,20.0s
CHVG Ch'k'valeri 71.73 310 P **P 11 42 28.9 +2.8**
JMDO Jabal Madar 71.84 284 P P 11 42 36.2 +9.2
SNR=14
UOSS Minazif 71.86 288 *e*P **P 11 42 27.8 +0.7**
comp=Z,18nm,1.0s
UOSS LR LR
comp=Z,1µm,19.0s
WVOR Wild Horse Val 71.87 50 *e*P **P 11 42 28.0 +1.0**
WVOR pmax pmax
comp=Z,137nm,1.2s
WVOR MLR MLR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 71.87 50 *e*P **P 11 42 28.0 +1.0**
comp=Z,137nm,1.2s
WVOR LR LR
comp=Z,2µm,21.0s
HATD Hatta, Dubai 71.98 288 *i*P **P 11 42 28.1 +0.3**
SNR=15
IZAR Zarasai 72.00 328 *e*P **P 11 42 27.8 +0.4**
IZAR IAmb IAmb 11 42 37.6
comp=Z,87nm,0.5s
MSO Missoula 72.06 44 P **P 11 42 28.6 +0.5**
baz=306,SNR=73
MSO Missoula 72.06 44 *e*P **P 11 42 28.6 +0.5**
comp=Z,102nm,1.3s
MSO LR LR
comp=Z,1µm,20.0s
IDID Didziasalis 72.07 327 *e*P **P 11 42 28.3 +0.5**
IDID IAmb IAmb 11 42 38.3
comp=Z,63nm,0.8s
MICGM Minsk 72.10 326 *e*P **P 11 42 28.0 0.0**
MICGM *e*PcP **pP 11 42 35.0 -0.6**
MICGM *e*PP **PP 11 45 10.0 +2.3**
MICGM *e*S **S 11 51 45.0 -3.4**
MICGM *e*PS **PnS 11 52 10.0 -10**
MICGM *e*SS **SS 11 56 30.0 +5.3**
MICGM *e*SSS SSS 11 59 06.0
MICGM *e*LQ LQ 12 09 40.0
MICGM *e*LR LR 12 15 04.0
MICGM LRM MLR 12 18 50.0
comp=Z,6.6nm,16.0s
MNK Minsk 72.10 326 *e*P **P 11 42 28.0 0.0**
MNK *e* 11 42 35.0
MNK *e* 11 45 10.0
MNK *e*S **S 11 51 45.0 -3.4**
MNK *e*SS **SS 11 56 30.0 +5.3**
MNK MLR MLR
comp=Z,7µm,16.0s
ASHO Ashiyiah 72.11 288 *i*P **P 11 42 29.2 +0.5**
SNR=12
ASHO Ashiyiah 72.11 288 P P 11 42 37.9 +9.3
SNR=16
ASHO P P 11 42 37.9 +9.3
SNR=16
ISAL Salakas 72.16 327 *e*P **P 11 42 28.8 +0.4**
ISAL IAmb IAmb 11 42 38.9
comp=Z,127nm,0.5s

NAZ	Nazwa, Dubai	72.25	288	*i* P		P	11 42 29.9	+0.5
	SNR=9.8							
NAZ	Nazwa, Dubai	72.25	288	P		P	11 42 39.0	+10
	SNR=15							
NAZ				P		P	11 42 39.0	+10
	SNR=15							
NACGM	Naroch	72.32	327	*e*P		P	11 42 29.0	-0.3
NACGM				*e*PcP		pP	11 42 36.0	-0.9
NACGM				*e*S		S	11 51 50.0	-0.9
NACGM				*e*LQ		LQ	12 07 38.0	
NACGM				*e*LR		LR	12 11 10.0	
NACGM				LRM		MLR	12 16 48.0	
	comp=Z,6.2nm,20.0s							
AFDM	Forest Hills D	72.38	54	*e*P		P	11 42 30.8	+0.7
	comp=Z,91nm,1.2s							
AFDM				LR		LR		
	comp=Z,1µm,20.0s							
CHMT	Chamberlain Mo	72.39	44	*e*P		P	11 42 30.4	+0.2
FAQ	Al Faqa, Dubai	72.43	288	*i* P		P	11 42 30.8	+0.3
	SNR=10							
FAQ	Al Faqa, Dubai	72.43	288	P		P	11 42 40.0	+9.5
	SNR=13							
CLDR	Caldiran	72.62	306	*e*P		P	11 42 39.7	+8.0
SOC	Sochi	72.66	312	*c i*P		P	11 42 32.0	+0.5
SOC				*e**PP		sP	11 42 40.4	-1.6
SOC				*e*			11 45 10.3	
SOC				*e*PPP		PPP	11 46 52.4	
SOC				*e*S		S	11 51 53.9	-1.2
SOC				*e*SS		SS	11 56 27.4	-6.4
SOC				pmax		pmax		
	comp=Z,51nm,0.7s							
SOC				MLR		MLR		
	comp=Z,2µm,13.0s							
CAN	Canberra	72.96	174	*e*P		P	11 42 34.5	+1.3
CAN				pmax		pmax		
	comp=Z,185nm,1.7s							
CAN	Canberra	72.96	174	*e*P		P	11 42 34.5	+1.3
	comp=Z,179nm,1.1s							
PAHR	Pah Rah Range	72.96	53	*e*P		P	11 42 34.4	+0.8
	comp=Z,144nm,1.1s							
MFID	Camas Ranch	72.99	48	*e*P		P	11 42 34.7	+1.0
MFID				LR		LR		
	comp=Z,1µm,21.0s							
ANN	Anapa	73.27	314	*c i*P		P	11 42 35.4	+0.3
ANN				*i* *PP		pP	11 42 43.6	+0.9
ANN				*e*			11 45 20.1	
ANN				*i* S		S	11 52 00.4	-1.6
ANN				pmax		pmax		
	comp=Z,109nm,1.9s							
ANN				MLR		MLR		
	comp=Z,3µm,21.0s							
CMB	Columbia Colle	73.27	55	*e*P		P	11 42 36.3	+0.9
CMB				pmax		pmax		
	comp=Z,209nm,1.2s							
CMB				MLR		MLR		
	comp=Z,2µm,21.0s							
CMB	Columbia Colle	73.27	55	*e*P		P	11 42 36.3	+0.9
	comp=Z,209nm,1.2s							
CMB				LR		LR		
	comp=Z,2µm,21.0s							
FCC	Fort Churchill	73.29	27	*e*P		P	11 42 35.2	+0.2
FCC				pmax		pmax		
	comp=Z,156nm,1.1s							
FCC				MLR		MLR		
	comp=Z,3µm,21.0s							
FCC	Fort Churchill	73.29	27	*e*P		P	11 42 35.2	+0.2
	comp=Z,156nm,1.1s							
FCC				LR		LR		
	comp=Z,3µm,21.0s							
HRY	Holter Researc	73.29	44	*e*P		P	11 42 36.5	+1.1
SAO	San Andreas Ge	73.30	56	*e*P		P	11 42 36.3	+0.8
SAO				pmax		pmax		
	comp=Z,90nm,1.2s							
SAO	San Andreas Ge	73.30	56	*e*P		P	11 42 36.3	+0.8
	comp=Z,90nm,1.2s							
NC405	NORSAR Array S	73.47	337	*e*P		P	11 42 36.5	+0.4
NC303	NORSAR Array S	73.49	337	*e*P		P	11 42 37.0	+0.8
LRM	Limekiln Ridge	73.49	45	*e*P		P	11 42 37.5	+0.8
MOL	Molde	73.53	340	*e*P		P	11 42 37.2	+0.9
MOL				*e*S		S	11 52 06.3	+1.9
HFS	Hagfors	73.60	336	P		P	11 42 37.0	+0.2
	comp=Z,47nm,0.8s,baz=38,slow=5.6,SNR=78							
EGMT	Eagleton	73.60	42	P		P	11 42 38.0	+0.8
	baz=308,SNR=70							
EGMT	Eagleton	73.60	42	*e*P		P	11 42 38.0	+0.8
	comp=Z,246nm,1.2s							
EGMT				LR		LR		
	comp=Z,2µm,22.0s							
WAKR	Walker	73.61	54	*e*P		P	11 42 38.9	+1.4
	comp=Z,128nm,1.2s							
WAKR				LR		LR		
	comp=Z,2µm,22.0s							
NC204	NORSAR Array S	73.63	338	*e*P		P	11 42 37.7	+0.6
NB201	NORSAR Array S	73.65	337	*e*P		P	11 42 36.1	-1.0
NB2	NORSAR Subarra	73.68	337	P		P	11 42 37.6	+0.2
	comp=Z,90nm,0.7s,baz=39,slow=6.2							
NB2	NORSAR Subarra	73.68	337	P		P	11 42 37.6	+0.2
	baz=39,slow=6.2							
NOA	NORSAR Array B	73.68	337	P		P	11 42 37.5	+0.2
	comp=Z,40nm,0.8s,baz=40,slow=5.8,SNR=144							
NOA				LR		LR	12 18 30.4	
	comp=Z,3µm,19.7s,baz=35,slow=39							
NOA	NORSAR Array B	73.68	337	P		P	11 42 37.5	+0.2
NOA				pmax		pmax		
	comp=Z,39nm,0.8s							
NOA				MLR		MLR		
	comp=Z,3µm,19.7s							
DLMT	Dillon	73.69	45	*e*P		P	11 42 38.5	+0.7
	comp=Z,204nm,1.1s							
DLMT				LR		LR		
	comp=Z,1µm,20.0s							
HLID	Hailey	73.73	47	P		P	11 42 39.1	+1.0
	baz=307,SNR=109							
HLID	Hailey	73.73	47	*e*P		P	11 42 39.1	+1.0
	comp=Z,93nm,1.1s							
HLID				LR		LR		
	comp=Z,2µm,22.0s							
NBO02	NORSAR Array S	73.78	337	*e*P		P	11 42 38.2	+0.3
EZM	Erzurum	73.80	308	*e*P		P	11 42 48.5	+10
NC602	NORSAR Array S	73.82	337	*e*P		P	11 42 38.4	+0.4
NC602				*e*pP		sP	11 42 47.0	-1.6
NC602	NORSAR Array S	73.82	337	*e*P		P	11 42 38.5	+0.4
NBO00	NORSAR Array S	73.82	337	*e*P		P	11 42 38.5	+0.3
MCMT	McKenzie Canyo	73.87	46	*e*P		P	11 42 39.4	+0.4
NAO01	NORSAR Array S	73.94	337	*e*P		P	11 42 39.0	+0.3
AKASG	Malin Array Be	73.94	322	P		P	11 42 38.6	-0.3
	comp=Z,27nm,0.5s,baz=46,slow=6.1,SNR=82							
AKASG				LR		LR	12 16 15.7	
	comp=Z,2µm,18.9s,baz=45,slow=37							
AKBB	Malin Array Si	73.94	322	*e*P		P	11 42 39.4	+0.5
AKBB				pmax		pmax		
	comp=Z,152nm,0.6s							
AKBB				MLR		MLR		
	comp=Z,3µm,18.0s							
AKBB	Malin Array Si	73.94	322	*e*P		P	11 42 39.4	+0.5
	comp=Z,152nm,0.6s							
AKBB				LR		LR		
	comp=Z,3µm,18.0s							
KIEV	Kiev	73.95	322	*d i*P		P	11 42 38.5	-0.5
KIEV				pmax		pmax		
	comp=Z,39nm,0.9s							
KIEV				MLR		MLR		
	comp=Z,3µm,15.0s							
KIEV	Kiev	73.95	322	*e*P		P	11 42 39.0	0.0
	comp=Z,148nm,0.7s							
KIEV				LR		LR		
	comp=Z,2µm,20.0s							
AK11	Malin Array Si	73.98	322	*e*P		P	11 42 39.2	+0.1
AKN	Aaknes	74.00	340	*e*P		P	11 42 39.9	+0.8
AKN				IAmb		IAmb	11 42 49.2	
	comp=Z,351nm,1.7s							
AKN				*e*S		S	11 52 12.4	+2.6
AKN				*e*SS		SS	11 56 58.8	+5.4
BOZ	Bozeman (W)	74.05	44	P		P	11 42 41.4	+1.4
	baz=308,SNR=160							
BOZ	Bozeman (W)	74.05	44	*e*P		P	11 42 41.0	+1.0
BOZ				pmax		pmax		
	comp=Z,141nm,1.0s							
BOZ				MLR		MLR		
	comp=Z,900nm,21.0s							
BOZ	Bozeman (W)	74.05	44	*e*P		P	11 42 41.0	+1.0
	comp=Z,141nm,1.0s							
BOZ				LR		LR		
	comp=Z,900nm,21.0s							
KTUT	Trabzon	74.15	310	*e*P		P	11 42 42.8	+2.5
VRTB	Varto-Mus	74.17	307	*e*P		P	11 42 43.1	+2.4
SUW	Suwalki	74.48	327	*e*P		P	11 42 42.0	0.0
SUW				*e*PcP		sP	11 42 50.9	-1.6
SUW				LMZ		LR	12 21 29.9	
	comp=Z,5µm,17.1s							
SUW	Suwalki	74.48	327	*e*P		P	11 42 42.0	0.0
SUW				*e*			11 42 50.9	
MLAC	Mammoth, Mammo	74.51	54	P		P	11 42 44.4	+1.5
	baz=306,SNR=38							
SIRT	Sirnak	74.51	305	*e*P		P	11 42 40.8	-1.8
YEDI	Yedisu-Bingol	74.58	308	*e*P		P	11 42 42.3	-0.9
GUMT	Gumushane	74.64	309	*e*P		P	11 42 43.1	-0.3
QLMT	Earthquake Lak	74.67	45	*e*P		P	11 42 44.9	+1.2
BNGB	Bing˜¶	74.76	308	*e*P		P	11 42 45.1	+1.0
YHB	Horse Butte	74.85	45	PFAKE			11 43 00.0	+15
YHB				LR		LR		
	comp=Z,200nm,18.0s							
ELK	Elko	74.92	50	LR		LR	12 13 48.2	
	comp=Z,1µm,19.5s,baz=135,slow=34							
ELK	Elko	74.92	50	*e*P		P	11 42 46.4	+1.2
ELK				pmax		pmax		
	comp=Z,55nm,1.1s							
ELK	Elko	74.92	50	*e*P		P	11 42 46.4	+1.2
	comp=Z,55nm,1.1s							
SVAN	Silvan-Diyarba	74.93	307	*e*P		P	11 42 46.5	+1.5
YMC	Maple Creek	74.95	45	*e*P		P	11 42 46.7	+1.4
RCTC	Rector, Farmer	75.02	56	P		P	11 42 46.2	+0.8
	baz=306,SNR=27							
YHH	Holmes Hill	75.02	45	*e*P		P	11 42 47.0	+1.3
	comp=Z,90nm,1.1s							
YHH				LR		LR		
	comp=Z,1µm,22.0s							
YMR	Madison River	75.03	45	PFAKE			11 43 00.0	+14
YMR				LR		LR		
	comp=Z,1µm,22.0s							
GCMT	Greycliff	75.04	43	*e*P		P	11 42 46.8	+1.1
SIM	Simferopol'	75.04	316	*e*P		P	11 42 44.9	-0.6
SIM				*e*			11 42 53.0	
SIM				*e*S		S	11 52 19.0	-3.0
SIM				pmax		pmax		
	comp=Z,43nm,0.8s							
YPM	Purple Mountai	75.09	45	*e*P		P	11 42 48.0	+1.8
SMMC	Simmler	75.10	57	P		P	11 42 47.2	+1.2
	baz=306,SNR=15							
MCID	Moose Creek	75.20	45	*e*P		P	11 42 48.8	+2.0
SFJD	Kangerlussuaq	75.21	5	*i*P		P	11 42 46.3	+0.3
SFJD				pmax		pmax		
	comp=Z,44nm,1.1s							
SFJD				MLR		MLR		
	comp=Z,2µm,19.0s							
SFJD	Kangerlussuaq	75.21	5	*i*P		P	11 42 46.3	+0.3
	comp=Z,44nm,1.1s							
	comp=Z,2µm,19.0s							
SFJD	Kangerlussuaq	75.21	5	*e*P		P	11 42 46.3	+0.3
	comp=Z,54nm,1.0s							
SFJD				LR		LR		
	comp=Z,2µm,22.0s							
YFT	Old Faithful	75.23	45	PFAKE			11 43 00.0	+13
YFT				LR		LR		
	comp=Z,2µm,19.0s							
TIN	Tinemaha, Big	75.24	55	P		P	11 42 48.6	+1.7
	baz=306,SNR=15							
KONO	Kongsberg	75.28	337	*e*S		S	11 52 25.0	+0.9
KONO	Kongsberg	75.28	337	*e*P		P	11 42 47.3	+0.8
KONO				pmax		pmax		
	comp=Z,64nm,0.8s							
KONO				MLR		MLR		
	comp=Z,4µm,20.0s							
KONO	Kongsberg	75.28	337	*e*P		P	11 42 47.3	+0.8
	comp=Z,64nm,0.8s							
KONO				LR		LR		
	comp=Z,4µm,20.0s							
KLNR	Kaliningrad	75.30	329	*e*P		P	11 42 46.9	+0.2
KLNR				pmax		pmax		
	comp=Z,97nm,1.0s							
YPP	Pitchstone Pla	75.36	45	*e*P		P	11 42 50.0	+2.3
	comp=Z,77nm,1.2s							
VES	Vestal, Richgr	75.39	56	P		P	11 42 48.0	+0.4
	baz=306,SNR=112							
LKWY	Lake	75.41	45	*e*P		P	11 42 51.1	+3.1
LKWY				pmax		pmax		
	comp=Z,136nm,1.1s							
LKWY	Lake	75.41	45	*e*P		P	11 42 51.1	+3.1
	comp=Z,136nm,1.1s							
H17A	Grant Village	75.42	45	P		P	11 42 50.8	+2.8
	baz=309,SNR=203							
H17A	Grant Village	75.42	45	*e*P		P	11 42 50.8	+2.8
	comp=Z,268nm,1.1s							
PKM	Mcpherson Peak	75.47	57	P		P	11 42 49.4	+1.0
	baz=306,SNR=50							
IMW	Indian Meadow	75.52	45	*e*P		P	11 42 50.4	+1.8
	comp=Z,161nm,1.1s							
IMW				LR		LR		
	comp=Z,1µm,20.0s							
FLWY	Flagg Ranch	75.54	45	*e*P		P	11 42 50.7	+2.0
	comp=Z,191nm,1.2s							
FLWY				LR		LR		
	comp=Z,900nm,19.0s							
YTP	The Promontory	75.58	45	*e*P		P	11 42 51.1	+2.2
PTK	Pertek	75.62	308	*e*P		P	11 42 51.2	+2.0
RLMT	Red Lodge	75.68	44	P		P	11 42 50.9	+1.4
	baz=309,SNR=56							
RLMT	Red Lodge	75.68	44	*e*P		P	11 42 50.7	+1.2
	comp=Z,122nm,1.2s							
RLMT				LR		LR		
	comp=Z,2µm,21.0s							
CWC	Cottonwood Cre	75.69	55	P		P	11 42 50.2	+0.6
	baz=306							
DYBB	Diyarbakir	75.72	307	*e*P		P	11 42 52.2	+2.6
MOOW	Moose Ponds	75.72	45	*e*P		P	11 42 51.1	+1.4
	comp=Z,154nm,1.3s							
MOOW				LR		LR		
	comp=Z,2µm,22.0s							
TPAW	Teton Pass	75.77	46	*e*P		P	11 42 51.6	+1.5
	comp=Z,195nm,1.4s							
TPAW				LR		LR		
	comp=Z,2µm,21.0s							
HVU	Hansel Valley	75.77	48	*e*P		P	11 42 51.3	+1.3
HVU				pmax		pmax		
	comp=Z,128nm,1.1s							
HVU				MLR		MLR		
	comp=Z,1µm,20.0s							
HVU	Hansel Valley	75.77	48	*e*P		P	11 42 51.3	+1.3
	comp=Z,128nm,1.1s							
HVU				LR		LR		
	comp=Z,1µm,20.0s							
SBC	Santa Barbara	75.79	57	P		P	11 42 51.6	+1.6
	baz=306,SNR=15							
MAZI	Mazidag	75.81	306	*e*P		P	11 42 50.8	+0.5
GRAC	Grapevine Rang	75.83	54	P		P	11 42 51.2	+1.0
	baz=307,SNR=68							
ASK	Askoy	75.89	339	*e*P		P	11 42 51.2	+1.2
LOHW	Long Hollow	75.89	46	*e*P		P	11 42 52.0	+1.3
	comp=Z,79nm,1.2s							
LOHW				LR		LR		
	comp=Z,1µm,22.0s							
ISA	Isabella, Lake	75.90	56	P		P	11 42 50.8	+0.1
	baz=306,SNR=24							
ISA	Isabella, Lake	75.90	56	*e*P		P	11 42 50.8	+0.1
ISA				pmax		pmax		
	comp=Z,81nm,1.0s							
ISA				MLR		MLR		
	comp=Z,1µm,19.0s							
ISA	Isabella, Lake	75.90	56	*e*P		P	11 42 50.8	+0.1
	comp=Z,81nm,1.0s							
ISA				LR		LR		
	comp=Z,1µm,19.0s							
SNOW	Snow King Moun	75.90	46	*e*P		P	11 42 51.7	+0.9
	comp=Z,105nm,1.1s							
SNOW				LR		LR		
	comp=Z,2µm,20.0s							
REDW	Red Top Meadow	75.91	46	*e*P		P	11 42 52.1	+1.3
	comp=Z,147nm,1.1s							
REDW				LR		LR		
	comp=Z,2µm,22.0s							
BER	Bergen	75.93	339	*e*P		P	11 42 51.1	+0.9
BER				IAmb		IAmb	11 43 00.4	
	comp=Z,129nm,0.9s							
BER				*e*S		S	11 52 34.0	+2.7
ODD1	Odda	75.95	338	*e*P		P	11 42 51.6	+1.1
ODD1				IAmb		IAmb	11 43 00.8	
	comp=Z,118nm,1.0s							
ARVC	Arvin	75.98	56	P		P	11 42 51.7	+0.6
	baz=306,SNR=39							
RSDY	Resadiye-TOKAT	75.98	310	*e*P		P	11 43 01.1	+10
SVRC	Sivrice-ELAZID	75.99	308	*e*P		P	11 42 50.5	-0.8
MTUT	Morton Thiokol	76.00	48	*e*P		P	11 42 52.7	+1.4
SORM	Soroca	76.05	321	*i*P		P	11 42 51.5	+0.3
SCZ2	Santa Cruz Isl	76.11	58	P		P	11 42 52.7	+0.8
	baz=306,SNR=7.1							
AHID	Auburn Hatcher	76.14	46	*e*P		P	11 42 53.1	+1.0
	comp=Z,131nm,1.3s							
AHID				LR		LR		
	comp=Z,2µm,20.0s							
BEI	Bear River Ran	76.14	47	*e*P		P	11 42 53.5	+1.4
BGU	Big Grassy Mou	76.14	49	*e*P		P	11 42 53.3	+1.2
	comp=Z,69nm,1.2s							
BGU				LR		LR		
	comp=Z,1µm,22.0s							
R11A	Troy Canyon, C	76.15	52	P		P	11 42 53.3	+1.1
	baz=307							
R11A	Troy Canyon, C	76.15	52	*e*P		P	11 42 53.1	+0.9
	comp=Z,190nm,1.2s							
R11A				LR		LR		
	comp=Z,1µm,19.0s							
DGMT	Dagmar	76.16	39	P		P	11 42 52.5	+0.6
	baz=312,SNR=29							
DGMT	Dagmar	76.16	39	*e*P		P	11 42 52.5	+0.6
	comp=Z,290nm,1.2s							
DGMT				LR		LR		
	comp=Z,2µm,22.0s							
SNOP	Sinop	76.25	313	*e*P		P	11 42 51.6	-0.8
SPUT	South Promonto	76.25	48	*e*P		P	11 42 54.0	+1.3
	comp=Z,156nm,1.4s							
SPUT				LR		LR		
	comp=Z,1µm,21.0s							
LAO	LASA Array	76.30	41	P		P	11 42 54.0	+1.2
	baz=311,SNR=38							
LAO	LASA Array	76.30	41	*e*P		P	11 42 53.6	+0.8
	comp=Z,275nm,1.1s							
LAO				LR		LR		
	comp=Z,2µm,21.0s							
MPMC	Manual Prospec	76.31	55	P		P	11 42 54.0	+0.8
	baz=307,SNR=178							
KVT	Kavak	76.33	311	*e*P		P	11 42 54.9	+1.9
HDU	Hyde Park	76.35	48	*e*P		P	11 42 54.4	+1.1
OSI	Osito Audit: C	76.35	57	P		P	11 42 54.5	+1.2
	baz=306,SNR=11							
OSI	Osito Audit: C	76.35	57	*e*P		P	11 42 54.5	+1.2
	comp=Z,158nm,1.0s							
OSI				LR		LR		
	comp=Z,3µm,22.0s							
A25A	Svangstu Ranch	76.38	38	P		P	11 42 54.3	+1.2
	baz=312,SNR=11							
BLS5	Blasjo	76.41	338	*e*S		S	11 52 34.6	-2.0
BLG	Laguna Peak, P	76.42	57	P		P	11 42 54.5	+0.9
	baz=306,SNR=16							
GZU	Grizzly Peak	76.46	48	*e*P		P	11 42 55.2	+1.2
FURC	Furnace Creek,	76.47	54	P		P	11 42 55.2	+1.5
	baz=307,SNR=118							
LRMC	Laurel Mtn Rad	76.53	56	P		P	11 42 55.1	+0.8
	baz=307,SNR=55							
BMUT	Black Mountain	76.56	47	*e*P		P	11 42 55.8	+1.3
KIS	Kishinev	76.56	320	*e*P		P	11 42 54.0	-0.1
KIS	Kishinev	76.56	320	*i* PcP		PcP	11 43 03.0	-2.6
KIS	Kishinev	76.56	320	*e*PP		PP	11 45 45.0	-0.8
KIS				*e*S		S	11 52 36.0	-2.7
KIS				*e*ScS		ScS	11 52 50.0	-19
KIS	Kishinev	76.56	320	*e*PS		SKSac	11 53 02.0	-2.2
KIS				*e*SS		SS	11 57 24.0	-9.0
KIS				*e*L		L	12 11 56.0	
KIS				LRM		MLR	12 19 54.0	
	comp=Z,10µm,16.0s							
KIS	Kishinev	76.56	320	*e*P		P	11 42 54.0	-0.1
KIS				*i*			11 43 03.0	
KIS				*i*			11 43 12.0	
KIS				*e*			11 45 45.0	
KIS				*e*S		S	11 52 36.0	-2.7
KIS				*e*PS		SKSac	11 53 02.0	-2.2
KIS				MLR		MLR		
	comp=Z,10µm,16.0s							
TPNV	Topopah Spring	76.57	54	P		P	11 42 55.5	+0.9
	baz=307,SNR=240							
TPNV	Topopah Spring	76.57	54	*e*P		P	11 42 55.3	+0.7
TPNV				pmax		pmax		
	comp=Z,218nm,1.1s							
TPNV				MLR		MLR		
	comp=Z,2µm,20.0s							
TPNV	Topopah Spring	76.57	54	*e*P		P	11 42 55.3	+0.7
	comp=Z,218nm,1.1s							
TPNV				LR		LR		
	comp=Z,2µm,20.0s							
HWUT	Hardware Ranch	76.59	48	*e*P		P	11 42 55.8	+1.2
	comp=Z,239nm,1.2s							
HWUT				LR		LR		
	comp=Z,1µm,21.0s							
SNCC	San Nicolas Is	76.62	58	P		P	11 42 56.2	+1.5
	baz=306,SNR=11							
SNCC	San Nicolas Is	76.62	58	*e*P		P	11 42 56.3	+1.5
	comp=Z,324nm,1.0s							
SNCC				LR		LR		
	comp=Z,4µm,20.0s							
RSUT	Red Spur Mount	76.66	48	*e*P		P	11 42 56.4	+1.3
FSU	Fish Springs	76.67	50	*e*P		P	11 42 56.3	+1.3
EDW2	Edwards Air Fo	76.68	56	P		P	11 42 56.2	+1.1
	baz=307,SNR=103							
MCU	Monte Cristo P	76.71	48	*e*P		P	11 42 56.6	+1.1
HOMB	Homborsund	76.72	337	*e*P		P	11 42 55.5	+0.7
HOMB				*e*S		S	11 52 41.1	+1.2
DUG	Dugway, Tooele	76.72	49	P		P	11 42 56.6	+1.3
	baz=308,SNR=150							
DUG	Dugway, Tooele	76.72	49	*e*P		P	11 42 56.7	+1.3
DUG				pmax		pmax		
	comp=Z,184nm,1.2s							
DUG				MLR		MLR		
	comp=Z,1µm,22.0s							
DUG	Dugway, Tooele	76.72	49	*e*P		P	11 42 56.7	+1.3
	comp=Z,184nm,1.2s							
DUG				LR		LR		
	comp=Z,1µm,22.0s							
B25A	Knox Farm, Ray	76.80	38	P		P	11 42 57.0	+1.5
	baz=313,SNR=6.3							
DECC	Green Verdugo	76.83	57	P		P	11 42 57.1	+1.2
	baz=307,SNR=22							
BYBT	Boyabat	76.85	312	*e*P		P	11 42 56.1	+0.3
URFA	Urfa	76.86	307	*e*P		P	11 42 57.3	+1.2
A26A	Wade Farm, Ken	76.93	37	P		P	11 42 57.4	+1.2
	baz=313,SNR=11							
RBU	Red Butte Cany	76.96	48	*e*P		P	11 42 57.8	+1.1
PASC	Pasadena Art C	76.97	57	*e*P		P	11 42 57.3	+0.6
	comp=Z,119nm,1.2s							
PASC				LR		LR		
	comp=Z,4µm,22.0s							
BZK	Bozkurt	76.98	313	*e*P		P	11 43 04.9	+8.4
TCUT	Toone Canyon	76.99	48	*e*P		P	11 42 58.3	+1.3
	comp=Z,334nm,1.3s							
TCUT				LR		LR		
	comp=Z,2µm,20.0s							
BSD	Bornholm Skovb	76.99	332	*i* P		P	11 42 56.6	+0.2
BSD				*i*			11 43 04.8	
BSD				MLR		MLR		
	comp=Z,4µm,16.0s							
BSD	Bornholm Skovb	76.99	332	*i* P		P	11 42 56.6	+0.2
BSD				*i*			11 43 04.8	
	comp=Z,4µm,16.0s							
LVV	L'vov	77.00	324	*e*P		P	11 42 56.6	0.0
LVV				*e*			11 45 50.0	
LVV				*e*PPP		PPP	11 47 41.4	
LVV				*e*S		S	11 52 42.2	-1.2
LVV				*e*PS		PnS	11 53 27.4	+4.0
LVV				*e*SS		SS	11 57 41.0	+1.6
LVV				pmax		pmax		
	comp=Z,500nm,1.5s							
LVV				MLR		MLR		
	comp=N,3µm,15.0s							
LVV				MLR		MLR		
	comp=E,2µm,15.0s							
LV

MWC					pmax	pmax			
	comp=Z,175nm,1.2s								
MWC					MLR	MLR			
	comp=Z,4µm,21.0s								
MWC	**Mount Wilson**	**77.03**	**57**	*eP*	**P**		**11 42 57.8**	**+0.6**	
	comp=Z,175nm,1.2s								
MWC					LR	LR			
	comp=Z,4µm,21.0s								
STAV	**Stavanger**	**77.03**	**338**	*eP*	**P**		**11 42 57.5**	**+1.1**	
STAV					lAmb	lAmb	11 43 06.4		
	comp=Z,230nm,1.4s								
BORG	**Borgarnes**	**77.03**	**353**	P	**P**		**11 42 58.5**	**+2.1**	
	comp=Z,32nm,0.8s,baz=53,slow=3.8,SNR=6.7								
BORG	**Borgarnes**	**77.03**	**353**	*i* P	**P**		**11 42 59.2**	**+2.8**	
BEL	**Belsk**	**77.04**	**327**	*eP*	**P**		**11 42 58.1**	**+1.4**	
BEL				*ePcP*	**sP**		**11 43 06.7**	**-0.5**	
BEL				LMZ	LR		12 23 27.8		
	comp=Z,5µm,16.0s								
BEL	**Belsk**	**77.04**	**327**	*eP*	**P**		**11 42 58.1**	**+1.4**	
BEL				*e*			11 43 06.7		
CTU	**Camp Tracy**	**77.05**	**48**	*eP*	**P**		**11 42 58.3**	**+1.0**	
	comp=Z,281nm,1.1s								
CTU				LR	LR				
	comp=Z,6µm,22.0s								
IAS	**Iasi**	**77.08**	**320**	⇓*i* P	**P**		**11 42 57.8**	**+0.8**	
PSUT	**Pine Spring**	**77.11**	**51**	*eP*	**P**		**11 42 58.9**	**+1.3**	
	comp=Z,157nm,1.1s								
PSUT				LR	LR				
	comp=Z,3µm,19.0s								
C25A	**Freed Ranch, W**	**77.14**	**39**	P	**P**		**11 42 58.6**	**+1.2**	
	baz=313,SNR=11								
FMP	**Fort Macarthur**	**77.17**	**57**	P	**P**		**11 42 58.7**	**+0.9**	
	baz=307,SNR=8.2								
B26A	**Jensen Ranch,**	**77.19**	**38**	P	**P**		**11 42 59.1**	**+1.4**	
	baz=313,SNR=20								
SHOC	**Shoshone, Teco**	**77.19**	**55**	P	**P**		**11 42 58.7**	**+0.8**	
	baz=307,SNR=63								
GSC	**Goldstone, Bar**	**77.20**	**55**	P	**P**		**11 42 58.8**	**+0.7**	
	baz=307,SNR=89								
GSC	**Goldstone, Bar**	**77.20**	**55**	*eP*	**P**		**11 42 58.2**	**+0.1**	
GSC				pmax	pmax				
	comp=Z,120nm,1.1s								
GSC	**Goldstone, Bar**	**77.20**	**55**	*eP*	**P**		**11 42 58.2**	**+0.1**	
	comp=Z,120nm,1.1s								
LEOM	**Leova**	**77.21**	**319**	*eP*	P		11 43 07.3	+10	
LEOM	**Leova**	**77.21**	**319**	⇑*iP*	P		11 43 07.5	+10	
A27A	**Ledoux Ranch,**	**77.27**	**37**	P	**P**		**11 42 59.0**	**+0.9**	
	baz=314								
BFSC	**Mount Baldy Ra**	**77.28**	**57**	P	**P**		**11 42 59.2**	**+0.6**	
	baz=307,SNR=67								
JLU	**Jordanelle**	**77.29**	**48**	*eP*	**P**		**11 42 59.8**	**+1.1**	
	comp=Z,121nm,1.2s								
JLU				LR	LR				
	comp=Z,1µm,19.0s								
RRX	**Edison Barstow**	**77.34**	**56**	P	**P**		**11 42 59.8**	**+1.1**	
	baz=307,SNR=7.2								
SCI2	**San Clemente I**	**77.44**	**58**	P	**P**		**11 43 00.3**	**+0.9**	
	baz=307,SNR=8.9								
COP	**Copenhagen**	**77.46**	**333**	*i* P	**P**		**11 42 59.5**	**+0.6**	
COP				*i*			11 43 07.9		
COP				MLR	MLR				
	comp=Z,2µm,15.0s								
COP	**Copenhagen**	**77.46**	**333**	*i* P	**P**		**11 42 59.5**	**+0.6**	
COP				*i*			11 43 07.9		
	comp=Z,2µm,15.0s								
D25A	**Fairfield**	**77.48**	**39**	P	**P**		**11 43 00.2**	**+0.8**	
	baz=313,SNR=12								
MNKR	**ALMNKUR**	**77.48**	**306**	*i* P	**P**		**11 42 55.2**	**-4.3**	
DAU	**Daniels Canyon**	**77.52**	**48**	*eP*	**P**		**11 43 01.4**	**+1.4**	
DAU	**Daniels Canyon**	**77.52**	**48**	*eP*	**P**		**11 43 01.4**	**+1.4**	
SHPR	**Sheep Range**	**77.53**	**53**	*eP*	**P**		**11 43 01.1**	**+1.1**	
	comp=Z,171nm,1.1s								
FLU	**Fool Peak**	**77.62**	**50**	*eP*	**P**		**11 43 01.8**	**+1.3**	
PRAR	**RASCA**	**77.63**	**321**	⇓*iP*	P		11 43 09.5	+9.3	
TUQ	**Turquoise Moun**	**77.70**	**55**	P	**P**		**11 43 01.8**	**+0.9**	
	baz=308,SNR=71								
KSRV	**Kasrt alli**	**77.70**	**306**	*eP*	**P**		**11 43 04.7**	**+3.9**	
KSRV				*i* P	**PcP**		**11 43 10.8**	**0.0**	
CORM	**Corum**	**77.74**	**311**	*eP*	**P**		**11 43 02.9**	**+1.9**	
KWP	**Kalwaria Pacla**	**77.75**	**324**	*eP*	**P**		**11 43 02.0**	**+1.2**	
KWP				*ePcP*	**PcP**		**11 43 10.8**	**0.0**	
KWP				LMZ	LR		12 22 25.7		
	comp=Z,4µm,17.0s								
KWP	**Kalwaria Pacla**	**77.75**	**324**	⇓*iP*	**P**		**11 43 02.0**	**+1.2**	
KWP	**Kalwaria Pacla**	**77.75**	**324**	*eP*	**P**		**11 43 02.0**	**+1.2**	
KWP				*e*			11 43 10.8		
KWP				MLR	MLR				
	comp=Z,4µm,17.0s								
BBRC	**Big Bear Solar**	**77.75**	**56**	P	**P**		**11 43 01.9**	**+0.6**	
	baz=307,SNR=30								
LEVU	**Levan**	**77.75**	**49**	*eP*	**P**		**11 43 02.5**	**+1.3**	
A28A	**Rude Farm, Bot**	**77.76**	**37**	P	**P**		**11 43 01.6**	**+0.7**	
	baz=314,SNR=34								
SARI	**SarD1z-Kayseri**	**77.76**	**309**	*eP*	**P**		**11 43 03.3**	**+2.0**	
TLCR		**77.77**	**318**	⇓*iP*	**P**		**11 43 01.7**	**+0.8**	
HEC	**Hector,Ludlow**	**77.80**	**55**	P	**P**		**11 43 02.3**	**+0.9**	
	baz=306,SNR=38								
BNN	**Bunyan**	**77.84**	**310**	*eP*	**P**		**11 43 01.5**	**-0.1**	
LRW	**Lerwick**	**77.86**	**342**	*eP*	**P**		**11 43 01.9**	**+0.8**	
E25A	**Miller Ranch,**	**77.88**	**40**	P	**P**		**11 43 02.4**	**+0.7**	
	baz=313,SNR=33								
DWU	**Dry Willow Pea**	**77.91**	**51**	*eP*	**P**		**11 43 03.4**	**+1.2**	
WCU	**Willow Creek**	**77.93**	**50**	*eP*	**P**		**11 43 03.8**	**+1.5**	
BUR08	**Bucovina Ar. S**	**77.95**	**322**	*eP*	**P**		**11 43 03.1**	**+1.1**	
BURAR	**Bucovina Array**	**77.96**	**322**	⇓*iP*	**P**		**11 43 02.7**	**+0.6**	
MUD	**Monsted U'grnd**	**77.97**	**335**	*i* P	**P**		**11 43 02.4**	**+0.6**	
MUD				*i*			11 43 11.5		
MUD				MLR	MLR				
	comp=Z,4µm,15.0s								
MUD	**Monsted U'grnd**	**77.97**	**335**	*i* P	**P**		**11 43 02.4**	**+0.6**	
MUD				*i*			11 43 11.5		
	comp=Z,4µm,15.0s								
MURC	**Murrieta**	**77.97**	**57**	P	**P**		**11 43 02.9**	**+0.6**	
	baz=307,SNR=31								
TESR	**Tescani**	**78.00**	**320**	⇓*iP*	**P**		**11 43 02.8**	**+0.6**	
D26A	**Manning**	**78.01**	**39**	P	**P**		**11 43 03.0**	**+0.7**	
	baz=313,SNR=17								
RGN	**Rugen**	**78.02**	**332**	PFAKE			11 43 10.0	+7.9	
RGN				LR	LR				
	comp=Z,2µm,19.0s								
CCUT	**Cedar City**	**78.03**	**52**	*eP*	**P**		**11 43 04.1**	**+1.3**	
	comp=Z,162nm,1.2s								
CCUT				LR	LR				
	comp=Z,1µm,19.0s								
KMRS	**Kahramanmaras**	**78.03**	**308**	*eP*	**P**		**11 43 04.3**	**+1.8**	
GAZ	**Gaziantep**	**78.04**	**308**	*eP*	**P**		**11 43 04.9**	**+2.2**	
B28A	**Dugan Ranch, T**	**78.04**	**37**	P	**P**		**11 43 03.2**	**+0.8**	
	baz=314,SNR=15								
SGU	**Sterling**	**78.06**	**50**	*eP*	**P**		**11 43 04.5**	**+1.5**	
CFR	**Carcaliu**	**78.13**	**319**	⇑*iP*	**P**		**11 43 04.4**	**+1.5**	
MSU	**Marysvale**	**78.16**	**50**	*eP*	**P**		**11 43 05.0**	**+1.5**	
MSU	**Marysvale**	**78.16**	**50**	*eP*	**P**		**11 43 05.0**	**+1.5**	
SAFT	**Safranbolu**	**78.20**	**313**	*eP*	**P**		**11 43 05.8**	**+2.3**	
A29A	**Manning Farm,**	**78.24**	**36**	P	**P**		**11 43 04.3**	**+0.8**	
	baz=315,SNR=90								
F25A	**Bowman**	**78.24**	**40**	P	**P**		**11 43 04.4**	**+0.8**	
	baz=313,SNR=19								
TMUT	**Trail Mountain**	**78.25**	**49**	*eP*	**P**		**11 43 05.2**	**+1.1**	
	comp=Z,119nm,1.3s								
TMUT				LR	LR				
	comp=Z,1µm,22.0s								
ODBI	**Odobesti**	**78.30**	**319**	⇑*iP*	**P**		**11 43 04.9**	**+1.1**	
E26A	**Carlson Angus**	**78.38**	**39**	P	**P**		**11 43 04.9**	**+0.5**	
	baz=313,SNR=21								
VRI	**Vrincioaia**	**78.40**	**320**	*eP*	**P**		**11 43 06.3**	**+1.9**	
VRI	**Vrincioaia**	**78.40**	**320**	⇑*iP*	**P**		**11 43 05.9**	**+1.5**	
ABTO	**Aybut**	**78.41**	**283**	P	P		11 43 13.7	+8.7	
	SNR=5.6								
P17A	**Butcher Ranch,**	**78.42**	**49**	*eP*	**P**		**11 43 06.2**	**+1.3**	
	comp=Z,279nm,1.2s								
P17A				LR	LR				
	comp=Z,1µm,21.0s								
LCMT	**Little Creek M**	**78.43**	**52**	*eP*	**P**		**11 43 06.2**	**+1.3**	
	comp=Z,202nm,1.2s								
LCMT				LR	LR				
	comp=Z,2µm,21.0s								
LDFC	**Landfair**	**78.44**	**55**	*eP*	**P**		**11 43 05.8**	**+0.8**	
	comp=Z,296nm,1.2s								
KOLS	**Kolonicke sedl**	**78.44**	**324**	*eP*	**P**		**11 43 05.7**	**+1.1**	
KOLS				*e*			11 43 14.1		
KOLS				*eS*	**S**		**11 52 58.6**	**-0.5**	
KOLS				pmax	pmax				
	comp=Z,103nm,1.4s								
KOLS				MLR	MLR				
	comp=Z,4µm,16.2s								
KOLS	**Kolonicke sedl**	**78.44**	**324**	*eP*	**P**		**11 43 05.7**	**+1.1**	
KOLS				*e*			11 43 14.1		
KOLS				*eS*	**S**		**11 52 58.6**	**-0.5**	
KOLS				eL	L		12 21 08.6		
PLOR	**Plostina**	**78.45**	**320**	⇓*iP*	**P**		**11 43 06.3**	**+1.6**	
MTPU	**Mount Pierson**	**78.45**	**51**	*eP*	**P**		**11 43 06.8**	**+1.5**	
	comp=Z,145nm,1.1s								
MTPU				LR	LR				
	comp=Z,1µm,21.0s								
PFO	**Pinyon Flats O**	**78.45**	**56**	P	**P**		**11 43 05.6**	**+0.4**	
	baz=308,SNR=47								
PFO	**Pinyon Flats O**	**78.45**	**56**	*eP*	**P**		**11 43 05.5**	**+0.4**	
PFO				pmax	pmax				
	comp=Z,161nm,1.2s								
PFO				MLR	MLR				
	comp=Z,4µm,20.0s								
PFO	**Pinyon Flats O**	**78.45**	**56**	*eP*	**P**		**11 43 05.5**	**+0.4**	
	comp=Z,160nm,1.2s								
PFO				LR	LR				
	comp=Z,4µm,20.0s								
TPFO	**Pinon Flats**	**78.46**	**56**	P	**P**		**11 43 05.5**	**+0.4**	
	baz=308,SNR=65								
109C	**Camp Elliot, M**	**78.46**	**57**	P	**P**		**11 43 05.6**	**+0.6**	
	baz=308,SNR=23								
TIRR	**Tirgusor**	**78.47**	**318**	⇑*iP*	**P**		**11 43 06.6**	**+1.8**	
TIRR	**Tirgusor**	**78.47**	**318**	*eP*	**P**		**11 43 05.0**	**+0.2**	
TIRR				pmax	pmax				
	comp=Z,94nm,1.0s								
TIRR				MLR	MLR				
	comp=Z,4µm,19.0s								
TIRR	**Tirgusor**	**78.47**	**318**	*eP*	**P**		**11 43 05.0**	**+0.2**	
	comp=Z,94nm,1.0s								
TIRR				LR	LR				
	comp=Z,4µm,19.0s								
B29A	**Wagenman Farm,**	**78.51**	**36**	P	**P**		**11 43 05.6**	**+0.6**	
	baz=315,SNR=27								
BELC	**Belle Mtn. Jos**	**78.52**	**56**	P	**P**		**11 43 05.8**	**+0.3**	
	baz=308,SNR=64								
C28A	**Hausauer Farms**	**78.54**	**38**	P	**P**		**11 43 06.1**	**+0.9**	
	baz=314,SNR=17								
HARR	**Harsova**	**78.56**	**318**	⇓*iP*	**P**		**11 43 06.6**	**+1.3**	
STHS	**Stebnicka Huta**	**78.57**	**325**	*eP*	**P**		**11 43 06.8**	**+1.4**	
STHS				*e*			11 43 16.0		
STHS				pmax	pmax				
	comp=Z,71nm,1.0s								
STHS	**Stebnicka Huta**	**78.57**	**325**	*eP*	**P**		**11 43 06.8**	**+1.4**	
STHS				*e*			11 43 16.0		
STHS				*ePP*	PP		11 46 23.1	+21	
GRER		**78.60**	**319**	⇓*iP*	P		11 43 15.8	+10	
BR131	**Keskin Array S**	**78.61**	**312**	*eP*	**P**		**11 43 06.8**	**+0.9**	
BRTR	**Keskin Array B**	**78.61**	**312**	P	**P**		**11 43 06.8**	**+0.9**	
	comp=Z,12nm,0.6s,baz=97,slow=4.0,SNR=50								
BRTR				PKKPbc	**PKKPbc**		**12 02 00.9**	**+0.9**	
	comp=Z,0.6nm,0.8s,baz=207,slow=2.5,SNR=4.0								
BRTR				LR	LR		12 22 24.4		
	comp=Z,1µm,18.3s,baz=38,slow=39								
P18A	**Preston Nutter**	**78.62**	**49**	*eP*	**P**		**11 43 07.3**	**+1.2**	
	comp=Z,152nm,1.2s								
P18A				LR	LR				
	comp=Z,2µm,21.0s								
OJC	**Ojcow**	**78.64**	**326**	*eP*	**P**		**11 43 06.6**	**+0.9**	
OJC				*ePcP*	**PcP**		**11 43 14.7**	**+0.1**	
OJC				*eS*	**S**		**11 53 00.3**	**-0.8**	
OJC				LMZ	LR		12 20 54.1		
	comp=Z,5µm,18.5s								
OJC	**Ojcow**	**78.64**	**326**	*eP*	**P**		**11 43 06.6**	**+0.9**	
OJC				*e*			11 43 14.7		
OJC				*eS*	**S**		**11 53 00.3**	**-0.8**	
OJC				MLR	MLR				
	comp=Z,5µm,18.5s								
OJC	**Ojcow**	**78.64**	**326**	*eP*	**P**		**11 43 06.5**	**+0.9**	
	comp=Z,291nm,1.2s								
UZH	**Uzhgorod**	**78.65**	**324**	⇓*eP*	**P**		**11 43 06.1**	**+0.4**	
UZH				*e*			11 43 14.9		
UZH				*i*			11 43 19.0		
UZH				*e*			11 46 08.3		
UZH				*eS*	**S**		**11 52 57.9**	**-3.3**	
UZH				*e*			11 53 17.5		
UZH				*e*			11 53 46.9		
UZH				*e*			11 58 07.5		
A30A	**Hoffart Farm,**	**78.66**	**36**	P	**P**		**11 43 06.3**	**+0.5**	
	baz=316,SNR=33								
F26A	**Lodgepole**	**78.70**	**40**	P	**P**		**11 43 06.8**	**+0.6**	
	baz=313,SNR=22								
KOZT	**Kozan**	**78.71**	**309**	*eP*	**P**		**11 43 08.0**	**+1.7**	
PKCU	**Pink Cliffs**	**78.75**	**51**	*eP*	**P**		**11 43 09.2**	**+2.2**	
	comp=Z,77nm,1.1s								
CVDA	**Cernavoda**	**78.75**	**318**	⇑*iP*	P		11 43 14.8	+8.5	
ARCR	**ARCALIA**	**78.75**	**322**	⇑*iP*	**P**		**11 43 08.0**	**+1.7**	
BMR	**Baia Mare**	**78.75**	**323**	⇑*iP*	**P**		**11 43 07.6**	**+1.2**	
SRU	**San Rafael Swe**	**78.78**	**49**	*eP*	**P**		**11 43 07.9**	**+1.0**	
SRU				pmax	pmax				
	comp=Z,193nm,1.1s								
SRU				MLR	MLR				
	comp=Z,1µm,21.0s								
SRU	**San Rafael Swe**	**78.78**	**49**	*eP*	**P**		**11 43 07.9**	**+1.0**	
	comp=Z,192nm,1.1s								
SRU				LR	LR				
	comp=Z,1µm,21.0s								
K22A	**Casper**	**78.79**	**44**	P	**P**		**11 43 07.4**	**+0.5**	
	baz=311,SNR=47								
K22A	**Casper**	**78.79**	**44**	*eP*	**P**		**11 43 07.4**	**+0.5**	
	comp=Z,162nm,1.3s								
K22A				LR	LR				
	comp=Z,1µm,22.0s								
MANR	**Mangalia**	**78.80**	**317**	⇓*iP*	**P**		**11 43 08.0**	**+1.4**	
ULM	**Lac du Bonnet**	**78.81**	**34**	P	**P**		**11 43 06.6**	**0.0**	
	comp=Z,46nm,1.0s,baz=317,slow=6.6,SNR=45								
ULM				LR	LR		12 19 02.3		
	comp=Z,1µm,19.9s,baz=329,slow=36								
ULM	**Lac du Bonnet**	**78.81**	**34**	*eP*	**P**		**11 43 06.7**	**0.0**	
	comp=Z,127nm,1.3s								
D28A	**Regan**	**78.82**	**38**	P	**P**		**11 43 07.6**	**+0.9**	
	baz=314								
BTU	**Barney Top**	**78.82**	**51**	*eP*	**P**		**11 43 09.2**	**+1.8**	
MDND	**Maddock**	**78.82**	**37**	P	**P**		**11 43 07.4**	**+0.7**	
	baz=315,SNR=19								
MDND	**Maddock**	**78.82**	**37**	*eP*	**P**		**11 43 07.5**	**+0.7**	
	comp=Z,316nm,1.1s								
MDND				LR	LR				
	comp=Z,3µm,22.0s								
CRVS	**Cervenica-Dubn**	**78.84**	**324**	*eP*	**P**		**11 43 08.1**	**+1.3**	
CRVS				*e*			11 43 16.6		
CRVS				*eS*	**S**		**11 53 01.3**	**-2.0**	
CRVS	**Cervenica-Dubn**	**78.84**	**324**	*eP*	**P**		**11 43 08.1**	**+1.3**	
CRVS				*e*			11 43 16.6		
CRVS				*eS*	**S**		**11 53 01.3**	**-2.0**	
EKU	**East Kanab**	**78.86**	**52**	*eP*	**P**		**11 43 08.8**	**+1.5**	
BAR	**Barrett**	**78.88**	**57**	*eP*	**P**		**11 43 08.0**	**+0.6**	
	comp=Z,126nm,1.1s								
BAR				LR	LR				
	comp=Z,2µm,20.0s								
TRPA	**Tarpa**	**78.89**	**323**	⇓*eP*	**P**		**11 43 08.2**	**+1.2**	
TRPA				*eP*	**sP**		**11 43 17.1**	**-0.5**	
MMU	**Miners Mountai**	**78.89**	**50**	*eP*	**P**		**11 43 09.0**	**+1.4**	
PGOR	**Pogoanele**	**78.91**	**319**	⇓*iP*	**P**		**11 43 09.5**	**+2.2**	
MONP2	**Monument Peak**	**78.92**	**57**	P	**P**		**11 43 08.2**	**+0.4**	
	baz=308,SNR=53								
AMRR	**Amara**	**78.93**	**318**	⇓*iP*	**P**		**11 43 08.5**	**+1.1**	
NEE2	**Needles Airpor**	**78.95**	**55**	P	**P**		**11 43 08.5**	**+0.8**	
	baz=308								
IRM	**Iron Mountain**	**78.98**	**55**	P	**P**		**11 43 08.7**	**+0.8**	
	baz=308,SNR=74								
B30A	**Myrvik Farm, E**	**79.00**	**36**	P	**P**		**11 43 08.4**	**+0.7**	
	baz=316,SNR=78								
NIE	**Niedzica**	**79.00**	**325**	*eP*	**P**		**11 43 09.2**	**+1.5**	
NIE				*ePcP*	**sP**		**11 43 17.2**	**-1.0**	
NIE				LMZ	LR		12 23 08.3		
	comp=Z,2µm,16.8s								
NIE	**Niedzica**	**79.00**	**325**	*eP*	**P**		**11 43 09.2**	**+1.5**	
NIE				*e*			11 43 17.2		
ISR	**Istrita**	**79.00**	**319**	⇑*iP*	**P**		**11 43 09.8**	**+2.0**	
DOPR	**Dopca**	**79.01**	**320**	⇑*iP*	**P**		**11 43 09.8**	**+2.0**	
ANTO	**Ankara**	**79.02**	**312**	*eP*	**P**		**11 43 09.4**	**+1.3**	
ANTO				pmax	pmax				
	comp=Z,133nm,0.7s								
ANTO				MLR	MLR				
	comp=Z,1µm,18.0s								
ANTO	**Ankara**	**79.02**	**312**	*eP*	**P**		**11 43 09.4**	**+1.3**	
	comp=Z,133nm,0.7s								
ANTO				LR	LR				
	comp=Z,1µm,18.0s								
LOD	**Lodumlu**	**79.03**	**312**	*eP*	**P**		**11 43 09.2**	**+1.1**	
BR231	**Keskin MP Arra**	**79.05**	**312**	*eP*	**P**		**11 43 09.9**	**+1.6**	
CEYT	**Ceyhan**	**79.05**	**308**	*eP*	**P**		**11 43 10.9**	**+2.7**	
H25A	**Fruitdale**	**79.05**	**41**	P	**P**		**11 43 08.7**	**+0.5**	
	baz=313,SNR=18								
MLR	**Muntele Rosu**	**79.05**	**320**	P	**P**		**11 43 08.7**	**+0.5**	
	comp=Z,1.8nm,0.5s,baz=18,slow=5.0,SNR=16								
MLR	**Muntele Rosu**	**79.05**	**320**	⇑*iP*	**P**		**11 43 09.4**	**+1.2**	
MLR	**Muntele Rosu**	**79.05**	**320**	*eP*	**P**		**11 43 08.5**	**+0.3**	
MLR				pmax	pmax				
	comp=Z,188nm,1.3s								
MLR				MLR	MLR				
	comp=Z,4µm,20.0s								
MLR	**Muntele Rosu**	**79.05**	**320**	*eP*	**P**		**11 43 08.5**	**+0.3**	
	comp=Z,188nm,1.3s								
MLR				LR	LR				
	comp=Z,4µm,20.0s								
NIG	**Nigde**	**79.06**	**310**	*eP*	**P**		**11 43 10.6**	**+2.1**	
BC3	**Big Chuckawall**	**79.09**	**56**	P	**P**		**11 43 09.3**	**+0.7**	
	baz=308,SNR=102								
PSN	**Preselentsi**	**79.11**	**317**	*i* P	**P**		**11 43 09.0**	**+0.7**	
AFSR	**Af'ar-Bala (A**	**79.13**	**312**	*eP*	**P**		**11 43 06.6**	**-2.1**	
GULA	**Gulagac**	**79.14**	**310**	*eP*	P		11 43 18.1	+9.3	
SERE	**Sereflikochisa**	**79.16**	**311**	*eP*	P		11 43 17.0	+8.1	
RSSD	**Black Hills**	**79.16**	**42**	P	**P**		**11 43 09.2**	**+0.3**	
	baz=313								
RSSD	**Black Hills**	**79.16**	**42**	*eP*	**P**		**11 43 09.2**	**+0.3**	
RSSD				pmax	pmax				
	comp=Z,69nm,1.0s								
RSSD				MLR	MLR				
	comp=Z,1µm,20.0s								
RSSD	**Black Hills**	**79.16**	**42**	*eP*	**P**		**11 43 09.2**	**+0.3**	
	comp=Z,69nm,1.0s								
RSSD				LR	LR				
	comp=Z,1µm,20.0s								
TAHT	**Tahtakopru-Hat**	**79.18**	**308**	*eP*	**P**		**11 43 09.4**	**+0.6**	
W13A	**Hualapai Mount**	**79.22**	**54**	*eP*	**P**		**11 43 10.1**	**+0.7**	
	comp=Z,104nm,1.2s								
W13A				LR	LR				
	comp=Z,900nm,21.0s								
IKP	**In-Ko-Pah, Jac**	**79.27**	**57**	P	**P**		**11 43 10.3**	**+0.8**	
	baz=308,SNR=63								
SWSC	**Sam W. Stewart**	**79.30**	**57**	P	**P**		**11 43 10.0**	**+0.5**	
	baz=308,SNR=21								
SECR		**79.30**	**319**	⇓*iP*	**P**		**11 43 11.3**	**+1.9**	
KARA	**Karaisali**	**79.32**	**309**	*eP*	**P**		**11 43 10.9**	**+1.2**	
B31A	**Greenbush Farm**	**79.33**	**36**	P	**P**		**11 43 10.3**	**+0.8**	
	baz=316								
CJR	**Cluj-Napoca**	**79.38**	**322**	⇑*iP*	**P**		**11 43 11.2**	**+1.3**	
D29A	**Pettibone, Tap**	**79.38**	**38**	P	**P**		**11 43 10.1**	**+0.2**	
	baz=315								
U15A	**North Rim**	**79.40**	**52**	*eP*	**P**		**11 43 11.7**	**+1.3**	
	comp=Z,221nm,1.2s								
U15A				LR	LR				
	comp=Z,2µm,22.0s								
KKUL	**Konya-Kulu**	**79.40**	**312**	*i* P	**P**		**11 43 11.1**	**+0.9**	
RAC	**Raciborz**	**79.44**	**327**	*eP*	**P**		**11 43 11.3**	**+1.3**	
RAC				*e*			11 43 19.5		
RAC				*eS*	**S**		**11 53 10.0**	**+0.4**	
RAC				MLR	MLR				
	comp=Z,4µm,19.7s								
SULR		**79.45**	**319**	⇑*iP*	**P**		**11 43 11.8**	**+1.6**	
C30A	**Mose, Pekin**	**79.46**	**37**	P	**P**		**11 43 10.5**	**+0.2**	
	baz=316,SNR=21								
O20A	**White River Ci**	**79.47**	**47**	P	**P**		**11 43 11.2**	**+0.6**	
	baz=311,SNR=62								
O20A	**White River Ci**	**79.47**	**47**	*eP*	**P**		**11 43 11.2**	**+0.6**	
	comp=Z,141nm,1.1s								
O20A				LR	LR				
	comp=Z,1µm,21.0s								
A32A	**Rocking H Ranc**	**79.50**	**35**	P	**P**		**11 43 10.3**	**-0.1**	
	baz=317,SNR=28								
PDMCI	**Parker Dam,Lak**	**79.55**	**55**	P	**P**		**11 43 11.8**	**+0.8**	
	baz=309,SNR=81								
VOIR		**79.55**	**320**	⇑*iP*	**P**		**11 43 12.6**	**+1.8**	
KRTS	**Karatas**	**79.56**	**308**	*eP*	P		11 43 17.1	+6.2	
MDUB	**Mudurnu**	**79.56**	**313**	*eP*	**P**		**11 43 12.4**	**+1.4**	
LANS	**Liptovska Anna**	**79.57**	**326**	*eP*	**P**		**11 43 12.7**	**+1.9**	
LANS				*e*			11 43 21.5		
LANS				*e*			11 46 21.5		
LANS	**Liptovska Anna**	**79.57**	**326**	*eP*	**P**		**11 43 12.7**	**+1.9**	
LANS				*e*			11 43 21.5		
LANS				*ePP*	PP		11 46 21.5	+11	
WRDH	**Warideh**	**79.58**	**307**	*i* P	**P**		**11 43 14.4**	**

DPC eS S 11 53 15.1 -1.0
DPC MLR MLR
comp=Z,4µm,15.7s
UPC Upice 80.05 328 eP P 11 43 14.7 +1.3
UPC epP sP 11 43 23.3 -0.6
UPC eS S 11 53 14.8 -1.3
UPC AMS AMS 12 23 20.0
comp=Z,6µm,15.5s
UPC Upice 80.05 328 eP P 11 43 14.7 +1.3
UPC e 11 43 23.3
UPC eS S 11 53 14.8 -1.3
UPC MLR MLR
comp=Z,6µm,15.5s
E30A Jud 80.11 38 P P 11 43 14.1 +0.3
baz=316,SNR=21
F29A Eureka 80.14 39 P P 11 43 14.5 +0.5
baz=315,SNR=19
PV10 Paradox Valley 80.14 49 eP P 11 43 15.7 +1.3
LOT Lotru 80.18 321 eP P 11 43 18.7 +4.3
LOT Lotru 80.18 321 ⇓ iP P 11 43 15.3 +1.0
KIZT Kizilcal 80.20 312 eP P 11 43 14.8 +0.3
HAWK Haweek 80.20 306 iP P 11 43 14.8 +0.2
HRT Hereke 80.20 314 eP P 11 43 14.3 -0.2
PV04 Paradox Valley 80.21 49 eP P 11 43 15.7 +1.0
HUMR Humele 80.21 320 ⇓ iP P 11 43 17.0 +2.7
AGMN Agassiz Nation 80.24 35 P P 11 43 14.2 -0.3
baz=317,SNR=51
AGMN Agassiz Nation 80.24 35 eP P 11 43 14.2 -0.3
comp=Z,91nm,1.1s
AGMN LR LR
comp=Z,3µm,21.0s
KLYT Kilyos 80.27 315 eP P 11 43 15.7 +1.0
PSZ Piszkesteto 80.28 325 ⇑ iP P 11 43 16.3 +1.6
PSZ Piszkesteto 80.28 325 ⇓ eP P 11 43 15.7 +0.9
PSZ eP sP 11 43 24.2 -1.0
PSZ Piszkesteto 80.28 325 eP P 11 43 15.6 +0.9
PSZ pmax pmax
comp=Z,299nm,1.3s
PSZ MLR MLR
comp=Z,4µm,19.0s
PSZ Piszkesteto 80.28 325 eP P 11 43 15.6 +0.9
comp=Z,299nm,1.3s
PSZ LR LR
comp=Z,4µm,19.0s
N23A Red Feather La 80.28 45 P P 11 43 16.4 +1.2
baz=312,SNR=89
N23A Red Feather La 80.28 45 eP P 11 43 16.3 +1.2
comp=Z,268nm,1.3s
N23A LR LR
comp=Z,2µm,22.0s
C32A Crookston 80.28 36 P P 11 43 14.5 -0.2
baz=317
PHWY Pilot Hill 80.28 45 eP P 11 43 15.7 +0.5
comp=Z,133nm,1.4s
PHWY LR LR
comp=Z,1µm,21.0s
D31A Mcclaflin, Tow 80.29 37 P P 11 43 14.9 +0.2
baz=316,SNR=16
KDHN Kadinhani 80.29 311 iP P 11 43 15.1 +0.1
PV05 Paradox Valley 80.30 49 eP P 11 43 16.4 +1.1
DEV Deva 80.31 322 ⇑ iP P 11 43 16.1 +1.3
RAR Rarotonga 80.33 126 LR LR 12 10 12.5
comp=Z,2µm,21.7s,baz=278,slow=29
VYHS Vyhne 80.33 325 eP P 11 43 15.9 +0.9
VYHS e 11 43 24.9
VYHS eS S 11 53 17.7 -1.4
VYHS pmax pmax
comp=Z,78nm,1.3s
VYHS MLR MLR
comp=Z,3µm,16.0s
VYHS Vyhne 80.33 325 eP P 11 43 15.9 +0.9
VYHS e 11 43 24.9
VYHS eS S 11 53 17.7 -1.4
VYHS eSS SS 11 58 23.7 -5.8
VYHS eL L 12 22 41.0
LADK Ladik-KONYA 80.36 311 eP P 11 43 16.4 +1.0
ISK Istanbul-Kandi 80.38 315 eP P 11 43 14.6 -0.8
ISK Istanbul-Kandi 80.38 315 P P 11 43 16.7 +1.4
ESKT Eskisehir 80.38 313 iP P 11 43 16.3 +0.8
B33A Robert and Kas 80.39 35 P P 11 43 15.0 -0.2
baz=312,SNR=7.3
ADVT Abdulvahap 80.42 314 eP P 11 43 16.7 +1.2
BGKT Bogazkoy 80.46 315 eP P 11 43 22.2 +6.5
Y14A Wickenburg 80.51 54 eP P 11 43 17.1 +0.8
comp=Z,686nm,1.1s
Y14A LR LR
comp=Z,4µm,19.0s
CAVI Cavuskoy 80.51 314 eP P 11 43 17.4 +1.4
KONT Konya--Tatoy 80.52 311 eP P 11 43 25.8 +10
F30A Leola 80.53 38 P P 11 43 16.2 +0.1
baz=316,SNR=9.2
CTYL Yalikoy Yolu 80.54 316 eP P 11 43 22.8 +6.6
G29A Hoven 80.54 39 P P 11 43 16.5 +0.3
baz=315,SNR=15
WUAZ Wupatki 80.55 52 P P 11 43 17.7 +1.2
baz=310,SNR=127
WUAZ Wupatki 80.55 52 eP P 11 43 17.8 +1.2
comp=Z,211nm,1.1s
WUAZ LR LR
comp=Z,2µm,21.0s
D32A Dogwood Acres, 80.56 36 P P 11 43 16.0 -0.1
baz=317,SNR=11
E31A Nome 80.56 37 P P 11 43 16.5 +0.2
baz=316,SNR=48
PV01 Paradox Valley 80.58 49 eP P 11 43 17.6 +0.8
SZH Strazhica 80.59 318 iP P 11 43 17.1 +0.7
ZALF Zalf 80.60 304 iP P 11 43 14.6 -2.1
ZIMR 80.62 319 ⇑ iP P 11 43 17.5 +1.0
BRG Berggiesshubel 80.62 330 iP P 11 43 17.2 +0.8
comp=Z,35nm,1.1s
BRG i PCP sP 11 43 25.9 -1.1
comp=Z,131nm,1.2s
BRG S S 11 53 22.0 0.0
BRG SS SS 11 58 27.0 -6.6
comp=N,4µm,15.2s
comp=E,3µm,15.9s
comp=Z,4µm,15.1s
BRG Berggiesshubel 80.62 330 iP P 11 43 17.2 +0.8
BRG i 11 43 25.9
BRG S S 11 53 22.0 0.0
BRG pmax pmax
comp=Z,35nm,1.1s
BRG MLR MLR
comp=N,4µm,15.2s
BRG MLR MLR
comp=E,3µm,15.9s
BRG MLR MLR
comp=Z,4µm,15.1s
PVCC Panska Ves 80.63 329 eP P 11 43 17.9 +1.4
PVCC epP sP 11 43 26.5 -0.5
PVCC AMS AMS 12 25 00.0
comp=Z,4µm,15.8s
PVCC Panska Ves 80.63 329 eP P 11 43 17.9 +1.4
PVCC e 11 43 26.5
PVCC MLR MLR
comp=Z,4µm,15.8s
IZI Iznik 80.64 314 eP P 11 43 26.4 +10
SIRR Siria 80.64 323 ⇑ iP P 11 43 18.4 +1.8
B34A Aery, Baudette 80.65 34 P P 11 43 16.2 -0.4
baz=318,SNR=31
CLL Collm 80.66 330 ⇑ iP P 11 43 17.2 +0.6
comp=Z,162nm,1.0s
CLL ePlp 11 43 19.0
CLL i 11 43 25.8
CLL eS S 11 53 19.0 -3.3
comp=N,1µm,16.3s
CLL eS S 11 53 19.0 -3.3
comp=E,1µm,18.0s
CLL LmV 12 23 00.0
comp=Z,4µm,18.3s
CLL Collm 80.66 330 ⇑ iP P 11 43 17.2 +0.6
CLL i 11 43 25.8
CLL eS S 11 53 19.0 -3.3
CLL pmax pmax
comp=Z,162nm,1.0s
CLL MLR MLR
comp=Z,4µm,18.3s
CLL Collm 80.66 330 eP P 11 43 16.8 +0.2
comp=Z,137nm,1.0s
CLL LR LR
comp=Z,4µm,18.0s
C33A Trail 80.68 35 P P 11 43 17.0 +0.1
baz=317,SNR=5.5
VRAC Vranov 80.71 327 P P 11 43 17.8 +0.8
comp=Z,31nm,1.0s,baz=47,slow=5.5,SNR=33
VRAC Vranov 80.71 327 ⇓ iP P 11 43 18.0 +1.0
GEMT Gemlik 80.73 314 eP P 11 43 23.6 +6.4
113A Mohawk Valley, 80.75 56 eP P 11 43 18.0 +0.5
comp=Z,144nm,1.2s
113A LR LR
comp=Z,2µm,22.0s
H29A Onida 80.80 40 P P 11 43 17.8 +0.3
baz=315,SNR=7.3
IKL Isikli 80.82 309 eP P 11 43 18.6 +0.8
ARMT Armutlu 80.83 315 eP P 11 43 18.7 +0.9
SMCO Snowmass 80.83 47 eP P 11 43 19.3 +1.0
comp=Z,107nm,1.3s
PHSR Pinarhisar 80.85 316 eP P 11 43 20.8 +2.9
F31A Hecla 80.89 38 P P 11 43 18.2 +0.2
baz=316,SNR=22
TOTH TOTAH 80.92 305 iP P 11 43 15.2 -3.2
TOTH eP P 11 43 15.2 -3.2
E32A Braaten, Kindr 80.93 37 P P 11 43 18.2 +0.1
baz=317,SNR=5.1
SMOL Smolenice 80.94 326 eP P 11 43 20.0 +1.8
SMOL e 11 43 28.8
SMOL Smolenice 80.94 326 eP P 11 43 20.0 +1.8
SMOL e 11 43 28.8
MDNY Mudanya-Bursa 80.95 315 eP P 11 43 20.8 +2.4
CRAR CRAIOVA 80.96 320 ⇑ iP P 11 43 20.5 +2.2
G30A Faulkton 80.97 39 P P 11 43 18.8 +0.3
baz=316,SNR=46
BUD Budapest 80.99 325 ⇑ eP P 11 43 19.5 +1.0
BUD eP sP 11 43 28.1 -0.9
GOPC GO Pecny, Ondr 81.01 328 eP P 11 43 19.8 +1.2
GOPC epP sP 11 43 28.5 -0.6
GOPC AMS AMS 12 24 10.0
comp=Z,4µm,17.6s
GOPC GO Pecny, Ondr 81.01 328 eP P 11 43 19.8 +1.2
GOPC e 11 43 28.5
GOPC MLR MLR
comp=Z,4µm,17.6s
MDO Dochfour 81.02 342 eP P 11 43 19.8 +1.4
SRE Strehaia 81.02 321 ⇓ iP P 11 43 20.2 +1.5
ERMK Ermenek 81.03 310 iP P 11 43 10.5 -8.7
PRU Pruhonice 81.06 329 eP P 11 43 19.8 +1.0
PRU epP sP 11 43 28.6 -0.7
PRU eS S 11 53 26.0 -0.6
PRU AMS AMS 12 24 50.0
comp=Z,4µm,17.1s
PRU Pruhonice 81.06 329 eP P 11 43 19.8 +1.0
PRU e 11 43 28.6
PRU eS S 11 53 26.0 -0.6
PRU MLR MLR
comp=Z,4µm,17.1s
D33A AnnSam, Waubun 81.10 36 P P 11 43 19.0 -0.1
baz=317,SNR=16
BZS Buzias 81.13 322 ⇑ iP P 11 43 21.1 +1.9
SALA Sala 81.13 304 iP P 11 43 15.0 -4.8
RRH Rhenigidale 81.13 344 eP P 11 43 20.1 +1.1
EDRB Edirne 81.13 317 eP P 11 43 20.9 +1.6
EDRB Edirne 81.13 317 P P 11 43 20.6 +1.3
B35A Bob, Littlefor 81.15 34 P P 11 43 19.3 0.0
baz=319,SNR=32
C34A RKJ Ranch, Bem 81.15 35 P P 11 43 19.1 -0.2
baz=318,SNR=5.9
I29A Vivian Onida 81.18 40 P P 11 43 19.9 +0.3
baz=315,SNR=13
KAC Achnashellach 81.19 343 eP P 11 43 20.0 +0.7
TREC Trest 81.19 328 eP P 11 43 20.4 +0.8
TREC epP sP 11 43 29.4 -0.7
TREC eS S 11 53 27.8 -0.3
TREC AMS AMS 12 25 20.0
comp=Z,5µm,15.4s
TREC Trest 81.19 328 eP P 11 43 20.4 +0.8
TREC e 11 43 29.4
TREC eS S 11 53 27.8 -0.3
TREC MLR MLR
comp=Z,5µm,15.4s
ISCO Idaho Springs 81.20 46 P P 11 43 20.8 +0.6
baz=312,SNR=42
ISCO Idaho Springs 81.20 46 eP P 11 43 21.2 +1.0
ISCO pmax pmax
comp=Z,199nm,1.8s
ISCO MLR MLR
comp=Z,2µm,21.0s
ISCO Idaho Springs 81.20 46 eP P 11 43 21.2 +1.0
comp=Z,199nm,1.8s
ISCO LR LR
comp=Z,2µm,21.0s
X16A Lo Mia Camp, P 81.21 53 eP P 11 43 21.4 +1.3
comp=Z,156nm,1.1s
X16A LR LR
comp=Z,1µm,21.0s
MVCO Mesa Verde 81.22 49 P P 11 43 21.1 +0.8
baz=311,SNR=106
MVCO Mesa Verde 81.22 49 eP P 11 43 21.1 +0.8
comp=Z,227nm,1.4s
MVCO LR LR
comp=Z,1µm,21.0s
TVSB Tavsanli 81.23 314 eP P 11 43 18.5 -1.5
KCTX Karacabey (Bur 81.31 315 eP P 11 43 20.8 +0.4
NRS Narsarsuaq 81.32 4 iP P 11 43 19.9 0.0
NRS MLR MLR
comp=Z,2µm,16.0s
NRS Narsarsuaq 81.32 4 iP P 11 43 19.9 0.0
comp=Z,2µm,16.0s
G31A Conde 81.37 38 P P 11 43 21.0 +0.4
baz=316,SNR=13
KPL Plockton 81.42 343 eP P 11 43 21.7 +1.2
KPL AMB AMB 11 43 31.4
comp=Z,195nm,1.1s
F32A Veblen 81.43 37 P P 11 43 20.9 +0.1
baz=317,SNR=6.7
D34A Park Rapids 81.44 35 P P 11 43 20.9 0.0
baz=318,SNR=33
GDZ Gediz 81.46 313 iP P 11 43 21.5 +0.1
E33A Westby DABS, E 81.50 36 P P 11 43 21.4 +0.2
baz=317,SNR=13
MRMT Marmara Adasi 81.51 315 eP P 11 43 20.5 -1.0
LFK Lefkose 81.53 308 eP P 11 43 21.9 +0.3
C35A Jirik Farms, M 81.54 34 P P 11 43 20.8 -0.6
baz=319,SNR=52
EDC Edincik 81.54 315 eP P 11 43 21.6 +0.1
SUSD Miller 81.56 39 P P 11 43 21.9 +0.3
baz=316,SNR=7.8
SUTC Sutluce-Ispart 81.64 311 eP P 11 43 21.4 -0.9
GAZI Gazipasa 81.67 310 iP P 11 43 18.4 -3.9
MDVR Moldovita 81.68 321 ⇑ iP P 11 43 23.1 +0.8
G32A Webster 81.69 38 P P 11 43 22.6 +0.3
baz=317,SNR=37
I30A Oacoma 81.70 40 P P 11 43 22.6 +0.3
baz=316,SNR=15
ISP Isparta 81.70 312 eP P 11 43 23.0 +0.5
ISP Isparta 81.70 312 P P 11 43 23.4 +0.9
ISP Isparta 81.70 312 eP P 11 43 23.4 +0.9
ISP pmax pmax
comp=Z,157nm,1.3s
ISP MLR MLR
comp=Z,1µm,19.0s
ISP Isparta 81.70 312 eP P 11 43 23.4 +0.9
comp=Z,157nm,1.3s
ISP LR LR
comp=Z,1µm,19.0s
NKC Novy Kostel 81.72 330 eP P 11 43 23.3 +1.0
NKC AMS AMS 12 24 00.0
comp=Z,4µm,18.1s
NKC Novy Kostel 81.72 330 eP P 11 43 23.3 +1.0
NKC MLR MLR
comp=Z,4µm,18.1s
H31A Wolsey 81.77 39 P P 11 43 22.8 +0.2
baz=316,SNR=10.0
KRBG Karabiga-Canak 81.82 315 eP P 11 43 24.4 +1.5
W18A Petrified Fore 81.83 52 P P 11 43 24.2 +0.9
baz=311,SNR=12
W18A Petrified Fore 81.83 52 eP P 11 43 25.0 +1.6
comp=Z,70nm,1.1s
W18A LR LR
comp=Z,2µm,21.0s
F33A 5 Mile Ranch, 81.85 37 P P 11 43 23.1 +0.1
baz=317,SNR=67
CSS Mathiatis 81.87 308 P P 11 43 26.0 +2.6
CSS Mathiatis 81.87 308 P P 11 43 24.4 +1.0
CSS Mathiatis 81.87 308 eP P 11 43 24.0 +0.6
comp=Z,26nm,0.7s
CSS LR LR
comp=Z,400nm,20.0s
S22A 4UR Ranch, Cre 81.87 48 P P 11 43 24.7 +1.0
baz=312,SNR=120
S22A 4UR Ranch, Cre 81.87 48 eP P 11 43 25.0 +1.3
comp=Z,123nm,1.2s
S22A LR LR
comp=Z,2µm,22.0s
E34A Wadena 81.88 36 P P 11 43 23.4 +0.2
baz=318
214A Organ Pipe Nat 81.89 56 P P 11 43 24.3 +0.8
baz=310,SNR=40
214A Organ Pipe Nat 81.89 56 eP P 11 43 24.3 +0.8
comp=Z,454nm,1.3s
DEMI Demirci 81.94 314 iP P 11 43 24.2 +0.5
SOP Sopron 81.95 326 ⇓ eP P 11 43 24.9 +1.3
SOP eP sP 11 43 33.8 -0.3
D35A Remer 81.97 35 P P 11 43 23.3 -0.4
baz=319,SNR=24
KDZ Kurdzhali 81.98 317 iP P 11 43 25.4 +1.5
C36A Pine Crest Far 82.00 34 P P 11 43 23.7 -0.1
baz=319,SNR=39
BALB Balikesir 82.01 315 eP P 11 43 23.9 -0.1
Q24A Divide 82.03 46 P P 11 43 25.2 +0.7
baz=313,SNR=18
Q24A Divide 82.03 46 eP P 11 43 25.3 +0.8
comp=Z,35nm,0.9s
Q24A LR LR
comp=Z,2µm,20.0s
LEF Lefka 82.04 308 eP P 11 43 25.9 +1.7
PLD Plovdiv 82.05 318 iP P 11 43 25.6 +1.4
ERIK Erikli-Kesan 82.07 316 eP P 11 43 23.6 -0.6
I31A Royce, Wessing 82.07 39 P P 11 43 24.4 +0.1
baz=316,SNR=9.5
CONA Conrad Observa 82.08 327 iP P 11 43 25.5 +1.2
comp=Z,26nm,0.9s,SNR=17
CONA iP sP 11 43 33.7 -1.1
comp=Z,171nm,1.4s
X18A Snowflake 82.08 52 eP P 11 43 25.8 +1.0
comp=Z,127nm,1.3s
X18A LR LR
comp=Z,2µm,21.0s
J30A Dallas 82.08 40 P P 11 43 24.8 +0.4
baz=316,SNR=20
KHC Kasperske Hory 82.12 329 eP P 11 43 25.2 +0.7
KHC epP sP 11 43 34.2 -0.8
KHC ex x 11 43 49.5
KHC eS S 11 53 36.5 -1.2
KHC AMS AMS 12 25 40.0
comp=Z,4µm,17.9s
KHC Kasperske Hory 82.12 329 eP P 11 43 25.2 +0.7
KHC e 11 43 34.2
KHC eS S 11 53 36.5 -1.2
KHC MLR MLR
comp=Z,4µm,17.9s
KHC Kasperske Hory 82.12 329 eP P 11 43 25.1 +0.6
comp=Z,44nm,0.9s
KHC LR LR
comp=Z,2µm,18.0s
LPK Lapseki 82.13 316 eP P 11 43 24.2 -0.5
EAB Aberfoyle 82.14 342 eP P 11 43 25.3 +1.0
ALN Alexandroupoli 82.17 316 eP P 11 43 24.9 +0.1
ALN Alexandroupoli 82.17 316 P P 11 43 26.1 +1.3
ALFC Alefka 82.19 309 P P 11 43 25.9 +0.8
E35A Pequot Lakes 82.20 35 P P 11 43 24.8 -0.1
baz=318,SNR=6.4
G33A Ortonville 82.25 37 P P 11 43 25.5 +0.4
baz=317,SNR=45
H32A Carlson Farm, 82.27 38 P P 11 43 25.2 -0.1
baz=317,SNR=10
GELI Tayfur-Gelibol 82.28 316 eP P 11 43 25.0 -0.3
GEC2 GERESS Array S 82.29 328 eP P 11 43 25.8 +0.4
GEC2 pmax pmax
comp=Z,57nm,0.8s
GEC2 MLR MLR
comp=Z,5µm,18.0s
GEC2 GERESS Array S 82.29 328 eP P 11 43 25.8 +0.4
comp=Z,56nm,0.8s
GEC2 LR LR
comp=Z,5µm,18.0s
GERES GERESS Array B 82.29 328 P P 11 43 25.6 +0.2
comp=Z,12nm,0.7s,baz=36,slow=5.0,SNR=86
GERES PKKPbc PKKPbc 12 01 52.4 +0.3
comp=Z,2.3nm,1.0s,baz=207,slow=1.5,SNR=8.7
GERES PKPPKP P'P'df 12 10 05.0 +1.8
comp=Z,0.6nm,0.8s,baz=163,slow=1.4,SNR=4.6
GERES LR LR 12 23 07.6
comp=Z,3µm,18.3s,baz=23,slow=38
D36A Goodland 82.30 34 P P 11 43 25.0 -0.3
baz=319,SNR=21
GEA0 GERESS Array S 82.30 328 eP P 11 43 25.6 +0.1
C37A Embarrass 82.31 33 P P 11 43 25.3 -0.1
baz=320,SNR=43
KULA Kula-Manisa 82.32 313 eP P 11 43 26.8 +1.0
KULA Kula-Manisa 82.32 313 P P 11 43 26.6 +0.8
RZN Rozhen 82.33 318 iP P 11 43 26.7 +0.8
KORT Korkueli 82.35 311 iP P 11 43 26.3 +0.3
F34A Alexandria 82.37 36 P P 11 43 26.0 +0.3
baz=318,SNR=12
OGNE Ogallala 82.42 43 P P 11 43 26.5 +0.2
baz=314,SNR=30
OGNE Ogallala 82.42 43 eP P 11 43 26.5 +0.2
comp=Z,205nm,1.2s
OGNE LR LR
comp=Z,1µm,20.0s
EYMN Ely 82.44 33 P P 11 43 26.2 0.0
baz=320,SNR=29
EYMN Ely 82.44 33 eP P 11 43 26.1 0.0
comp=Z,145nm,1.1s
EYMN LR LR
comp=Z,1µm,20.0s
AKMC Akamas 82.45 309 P P 11 43 28.5 +2.1
H33A Prehn Over Nor 82.48 38 P P 11 43 26.6 +0.2
baz=317,SNR=62
K30A Basset 82.48 41 P P 11 43 26.8 +0.3
baz=316,SNR=26
J31A Geddes 82.49 40 P P 11 43 26.5 0.0
baz=316,SNR=15
PGBU Glenifferbraes 82.51 342 eP P 11 43 26.4 +0.1
PGBU AMB AMB 11 43 37.0
comp=Z,126nm,1.2s
PPCY Paphos 82.53 309 P P 11 43 25.5 -1.3
EKA Eskdalemuir Ar 82.60 341 P P 11 43 27.4 +0.6
comp=Z,6.5nm,0.7s,baz=35,slow=5.0,SNR=18
G34A Benson 82.60 37 P P 11 43 27.3 +0.3
baz=318,SNR=36
I32A Karley and Nic 82.60 39 P P 11 43 27.2 +0.2
baz=317
ESK Eskdalemuir 82.63 341 eP P 11 43 27.4 +0.5
ESK AMB AMB 11 43 37.2
comp=Z,50nm,1.3s
ESK Eskdalemuir 82.63 341 eP P 11 43 27.9 +1.0
ESK pmax pmax
comp=Z,73nm,1.2s
ESK MLR MLR
comp=Z,2µm,18.0s
ESK Eskdalemuir 82.63 341 eP P 11 43 27.9 +1.0
comp=Z,73nm,1.2s
ESK LR LR
comp=Z,2µm,18.0s
GRFO Grafenberg 82.63 330 eP P 11 43 28.2 +1.1
GRFO pmax pmax
comp=Z,307nm,1.3s
GRFO MLR MLR
comp=Z,2µm,22.0s
GRFO Grafenberg 82.63 330 eP P 11 43 28.1 +1.1
comp=Z,307nm,1.3s
GRFO LR LR
comp=Z,2µm,22.0s
D37A Cotton 82.64 34 P P 11 43 26.7 -0.5
baz=320,SNR=14
F35A Swanville 82.64 36 P P 11 43 27.2 0.0
baz=318,SNR=27
SDCO Great Sand Dun 82.65 47 P P 11 43 28.3 +0.5
baz=313,SNR=91
SDCO Great Sand Dun 82.65 47 eP P 11 43 28.7 +0.9
comp=Z,73nm,1.3s
SDCO LR LR
comp=Z,2µm,22.0s
DNZL Cakiroluk 82.66 312 iP P 11 43 24.0 -3.6
GOLH Golhisar 82.66 312 iP P 11 43 28.2 +0.6
C38A Sawbill Land. 82.71 33 P P 11 43 27.5 -0.1
baz=320,SNR=32
ECK Cauldkaine Hil 82.73 341 eP P 11 43 27.5 +0.1
GADA Gvkgeada 82.74 316 P P 11 43 30.0 +2.2
ARSA Arzberg 82.74 326 eP P 11 43 28.4 +0.7
comp=Z,13nm,0.9s,SNR=8.0
ARSA iP sP 11 43 36.7 -1.5
comp=Z,89nm,1.3s
E36A McGregor 82.75 35 P P 11 43 27.6 -0.1
baz=319,SNR=44

EZN	Ezine	82.75	315	P	P	11 43 28.8	+0.9
ELL	Elmali	82.78	311	*e*P	P	11 43 28.1	-0.1
MOA	Molln	82.83	327	*i* P	P	11 43 28.8	+0.6
	comp=Z,26nm,1.1s,SNR=12						
MOA				*i* pP	sP	11 43 37.1	-1.6
	comp=Z,113nm,1.3s						
J32A	Parkston	82.89	39	P	P	11 43 28.6	+0.1
	baz=317,SNR=14						
I33A	Coleman	82.92	38	P	P	11 43 28.9	+0.2
	baz=317,SNR=12						
KAVA	Kavala	82.93	317	P	P	11 43 31.6	+2.8
DKL	Dikili	82.95	315	*e*P	P	11 43 29.6	+0.7
H34A	Spellman Lake,	82.96	37	P	P	11 43 29.2	+0.3
	baz=318,SNR=12						
K31A	O'Neill	82.97	40	P	P	11 43 29.2	+0.3
	baz=316,SNR=16						
TUC	Tucson	82.98	54	P	P	11 43 30.1	+0.8
	baz=310						
TUC	Tucson	82.98	54	*e*P	P	11 43 30.1	+0.8
TUC				pmax	pmax		
	comp=Z,116nm,1.4s						
TUC				MLR	MLR		
	comp=Z,2µm,21.0s						
TUC	Tucson	82.98	54	*e*P	P	11 43 30.1	+0.8
	comp=Z,116nm,1.4s						
TUC				LR	LR		
	comp=Z,2µm,21.0s						
DIVS	Divibare	83.03	322	P	P	11 43 30.3	+1.0
NVR	Nevrokopi	83.03	318	P	P	11 43 30.0	+0.7
E37A	Wrenshall	83.10	34	P	P	11 43 29.3	-0.2
	baz=320						
C39A	Grand Marais	83.12	32	P	P	11 43 29.2	-0.5
	baz=321,SNR=16						
F36A	Milaca	83.12	35	P	P	11 43 29.3	-0.4
	baz=319,SNR=15						
AYDB	Zeytinkoy-Aydi	83.15	313	*e*P	P	11 43 28.1	-2.0
BBO1	Bothel	83.15	340	*e*P	P	11 43 30.8	+1.1
G35A	Watkins	83.16	36	P	P	11 43 30.3	+0.4
	baz=318,SNR=20						
PRK	Paraskevi	83.18	315	P	P	11 43 32.6	+2.5
IZM	Izmir	83.21	314	*e*P	P	11 43 28.4	-1.9
ECSD	EROS Data Cent	83.24	38	P	P	11 43 30.3	0.0
	baz=317,SNR=89						
ECSD	EROS Data Cent	83.24	38	*e*P	P	11 43 30.4	0.0
	comp=Z,106nm,1.1s						
ECSD				LR	LR		
	comp=Z,2µm,20.0s						
L31A	Butterfield Fa	83.24	41	P	P	11 43 30.9	+0.4
	baz=316,SNR=43						
AKAS	Kas	83.31	311	*i* P	P	11 43 30.9	-0.1
LIA	Limnos Island	83.33	316	P	P	11 43 31.8	+0.9
SRS	Serrai	83.34	318	P	P	11 43 31.3	+0.4
K32A	Verdigre	83.34	40	P	P	11 43 30.9	0.0
	baz=316						
FETY	Fethiye	83.34	312	*e*P	P	11 43 28.7	-2.3
FETY	Fethiye	83.34	312	P	P	11 43 31.9	+0.9
GROS	Grobnik	83.35	326	*i* P	P	11 43 31.1	+0.1
GROS				*i*		11 43 39.4	
J33A	Davis	83.36	39	P	P	11 43 31.1	+0.1
	baz=317,SNR=12						
I34A	Hadley	83.38	38	P	P	11 43 31.5	+0.4
	baz=318,SNR=7.0						
H35A	Sunnyside Ranc	83.39	37	P	P	11 43 31.7	+0.6
	baz=318,SNR=83						
SOKA	Soboth	83.39	326	*i* P	P	11 43 31.7	+0.5
	SNR=21						
SOKA				*e*pP	pP	11 43 40.0	+1.0
	comp=Z,225nm,1.2s						
GAL1	Galloway	83.42	341	*e*P	P	11 43 31.7	+0.7
GAL1				AMB	AMB	11 43 41.3	
	comp=Z,39nm,1.0s						
KSCO	Kaye Shedlock'	83.43	45	P	P	11 43 32.0	+0.4
	baz=314,SNR=15						
KSCO	Kaye Shedlock'	83.43	45	*e*P	P	11 43 32.1	+0.5
	comp=Z,184nm,1.4s						
KSCO				LR	LR		
	comp=Z,2µm,22.0s						
SIGR	SIGRI	83.44	315	*e*P	P	11 43 33.0	+1.6
SIGR	SIGRI	83.44	315	P	P	11 43 33.7	+2.3
TURN	Turunc	83.47	312	*i* P	P	11 43 34.3	+2.7
DALY	Dalyan (Mu¨la	83.48	312	*e*P	P	11 43 29.9	-1.8
YER	Yerkesik	83.48	312	*e*P	P	11 43 32.1	+0.3
YER	Yerkesik	83.48	312	P	P	11 43 32.4	+0.6
G36A	St. Michael	83.49	36	P	P	11 43 31.9	+0.3
	baz=319,SNR=13						
URLA	Izmir	83.61	314	*i* P	P	11 43 29.8	-2.6
SOH	Sokhos	83.67	318	P	P	11 43 33.0	+0.3
OUR	Ouranopolis	83.68	317	*e*P	P	11 43 26.3	-6.3
OUR	Ouranopolis	83.68	317	P	P	11 43 33.7	+1.1
T25A	Trinidad	83.70	47	P	P	11 43 33.9	+0.8
	baz=313,SNR=93						
T25A	Trinidad	83.70	47	*e*P	P	11 43 34.1	+1.0
	comp=Z,139nm,1.1s						
T25A				LR	LR		
	comp=Z,900nm,19.0s						
VAY	Valandovo	83.73	319	P	P	11 43 34.1	+1.2
VAY	Valandovo	83.73	319	*i* P	P	11 43 33.5	+0.7
OBKA	Obir	83.74	326	*i* pP	pP	11 43 41.5	+0.8
	comp=Z,46nm,0.9s						
M31A	Lambtecht Ranc	83.77	41	P	P	11 43 32.9	-0.3
	baz=316,SNR=7.9						
L32A	Elgin	83.79	40	P	P	11 43 33.3	+0.1
	baz=317,SNR=15						
BEBN	Eben Emael	83.80	334	P	P	11 43 33.6	+0.6
	comp=Z,44nm,1.3s						
BEBN				XP	sP	11 43 42.3	-1.3
KZIT	Kziot	83.81	304	*e*P	P	11 43 33.2	-0.3
KBA	Koelnbreinsper	83.82	327	*i* P	P	11 43 33.7	+0.2
	comp=Z,31nm,0.7s,SNR=17						
KBA				*i* pP	pP	11 43 42.0	+0.8
	comp=Z,84nm,0.9s						
MEM	Membach	83.84	333	P	P	11 43 33.7	+0.4
	comp=Z,48nm,1.2s						
MEM				XP	sP	11 43 42.5	-1.3
SKO	Skopje	83.85	320	P	P	11 43 35.1	+1.6
SKO	Skopje	83.85	320	*i* P	P	11 43 35.0	+1.5
K33A	Hardington	83.87	39	P	P	11 43 34.0	+0.4
	baz=317,SNR=6.6						
PLE	Pljevlja	83.89	322	ǁ*i*P	P	11 43 34.6	+0.8
J34A	George	83.89	38	P	P	11 43 34.0	+0.2
	baz=318,SNR=6.3						
CHOS	Chios island	83.90	315	*e*P	P	11 43 25.8	-8.1
CHOS	Chios island	83.90	315	P	P	11 43 36.7	+2.8
H36A	Jessenland, He	83.90	36	P	P	11 43 34.5	+0.8
	baz=319,SNR=33						
LAZ	Ladron	83.91	51	*e*P	P	11 43 35.4	+1.2
SPMN	Marine on St.	83.94	35	P	P	11 43 34.0	+0.1
	baz=320,SNR=19						
SPMN	Marine on St.	83.94	35	*e*P	P	11 43 33.9	+0.1
	comp=Z,92nm,1.2s						
SPMN				LR	LR		
	comp=Z,3µm,21.0s						
I35A	Creekview Farm	83.94	37	P	P	11 43 34.2	+0.2
	baz=318,SNR=6.4						
PLG	Polygyros	83.94	317	P	P	11 43 35.0	+0.9
HRFI	Mount Harif	83.95	303	*e*P	P	11 43 35.8	+1.5
ANMO	Albuquerque	83.96	50	P	P	11 43 35.3	+0.8
	baz=312						
ANMO	Albuquerque	83.96	50	*d* iP	P	11 43 35.5	+1.0
ANMO				pmax	pmax		
	comp=Z,167nm,1.2s						
ANMO				MLR	MLR		
	comp=Z,1µm,19.0s						
ANMO	Albuquerque	83.96	50	*e*P	P	11 43 35.4	+1.0
	comp=Z,165nm,1.2s						
ANMO				LR	LR		
	comp=Z,1µm,20.0s						
HORT	Hortiatis	83.97	318	*e*P	P	11 43 35.0	+0.7
HORT	Hortiatis	83.97	318	P	P	11 43 34.6	+0.4
IVA	Berane	83.97	321	ǁ*i*P	P	11 43 35.2	+1.0
BDRM	Kayabasi	84.02	313	*i* P	P	11 43 35.5	+1.0
THE	Thessaloniki	84.02	318	P	P	11 43 34.5	+0.2
L33A	Hoskins	84.05	40	P	P	11 43 34.7	+0.1
	baz=317,SNR=5.4						
GRG	Griva	84.08	318	*e*P	P	11 43 36.1	+1.4
GRG	Griva	84.08	318	P	P	11 43 35.0	+0.3
BODT	Bodrum	84.09	313	*e*P	P	11 43 33.5	-1.3
PVY	Plav	84.14	321	ǁ*i*P	P	11 43 35.5	+0.3
BGNE	Belgrade	84.15	41	P	P	11 43 35.1	0.0
	baz=316,SNR=12						
BGNE	Belgrade	84.15	41	*e*P	P	11 43 35.5	+0.4
	comp=Z,367nm,1.1s						
BGNE				LR	LR		
	comp=Z,2µm,21.0s						
N31A	Bailey Ranch,	84.15	42	P	P	11 43 35.2	+0.1
	baz=316,SNR=5.2						
VISS	Visnje	84.15	326	*i* P	P	11 43 34.9	-0.1
VISS				*i*		11 43 43.2	
STU	Stuttgart	84.16	331	*e*P	P	11 43 34.9	-0.1
STU				pmax	pmax		
	comp=Z,277nm,1.3s						
STU				MLR	MLR		
	comp=Z,3µm,18.0s						
STU	Stuttgart	84.16	331	*e*P	P	11 43 34.9	-0.1
	comp=Z,277nm,1.3s						
STU				LR	LR		
	comp=Z,3µm,18.0s						
ARG	Arkhangelos	84.20	312	P	P	11 43 36.6	+1.2
J35A	Milford	84.20	38	P	P	11 43 35.3	+0.1
	baz=318						
BOJS	Bojanci	84.20	325	*i* P	P	11 43 35.3	+0.1
BOJS				*i*		11 43 43.3	
UPM	Unac-Piva	84.22	322	ǁ*i*P	P	11 43 35.5	-0.1
EIL	Elat	84.24	303	*e*P	P	11 43 38.0	+2.3
BCLA	Clavier	84.25	334	P	P	11 43 35.8	+0.4
	comp=Z,70nm,1.5s						
BCLA				XP	sP	11 43 44.4	-1.5
Y22D	IRIS PASSCAL I	84.26	51	P	P	11 43 37.5	+1.5
	baz=312,SNR=7.5						
Y22D	IRIS PASSCAL I	84.26	51	*e*P	P	11 43 37.6	+1.7
	comp=Z,109nm,1.0s						
Y22D				LR	LR		
	comp=Z,3µm,22.0s						
K34A	Le Mars	84.26	39	P	P	11 43 35.6	0.0
	baz=318,SNR=19						
LPM	Los Pinos Moun	84.28	51	*e*P	P	11 43 37.0	+0.9
I36A	Fitzsimmons Fa	84.28	37	P	P	11 43 36.0	+0.3
	baz=319,SNR=12						
GMM	Mts of Mourne	84.30	342	*e*P	P	11 43 36.3	+0.8
WATA	Walderalm	84.36	329	*i* P	P	11 43 36.3	+0.1
	comp=Z,19nm,1.1s						
WATA				*i* pP	sP	11 43 45.3	-1.5
	comp=Z,86nm,1.2s						
H37A	Dierke Farm, C	84.37	36	P	P	11 43 36.7	+0.6
	baz=320,SNR=8.0						
CWF	Charnwood Fore	84.38	338	*e*P	P	11 43 36.2	+0.2
CWF				AMB	AMB	11 43 40.0	
	comp=Z,37nm,3.1s						
CWF	Charnwood Fore	84.38	338	*e*P	P	11 43 36.7	+0.7
	comp=Z,91nm,1.1s						
CWF				LR	LR		
	comp=Z,2µm,22.0s						
BNM	Barren Site	84.39	51	*e*P	P	11 43 37.6	+0.9
WTTA	Wattenberg	84.39	328	*i* PcP	P	11 43 36.8	+0.5
	comp=Z,9.1nm,0.7s,SNR=6.5						
WTTA				*i* pP	pP	11 43 45.1	+0.9
	comp=Z,47nm,1.0s						
JAVS	Javornik	84.43	326	*i* P	P	11 43 35.6	-0.9
JAVS				*i*		11 43 44.1	
ABTA	Abfaltersbach	84.43	328	*i* P	P	11 43 35.8	-0.7
	SNR=9.0						
ABTA				*e*pP	pP	11 43 44.4	+0.1
	comp=Z,44nm,0.8s						
O31A	Woolen Ranch,	84.44	42	P	P	11 43 36.4	-0.2
	baz=316,SNR=6.6						
NKY	Niksic	84.46	322	ǁ*i*P	P	11 43 37.0	+0.2
NIS1	Nisyros Isl.	84.49	313	*e*P	P	11 43 33.5	-3.4
NKME	Niksic	84.52	322	ǁ*i*P	P	11 43 36.7	-0.3
M33A	Taylor Creek F	84.53	40	P	P	11 43 36.9	0.0
	baz=317,SNR=11						
LANF	Langenberg	84.53	332	⇑*e*P	P	11 43 37.6	+0.8
SNF	Seneffe	84.53	334	P	P	11 43 37.1	+0.4
SNF				XP	sP	11 43 45.9	-1.4
N32A	Stulken Farm,	84.54	41	P	P	11 43 36.7	-0.4
	baz=316						
MOTA	Moosalm	84.55	329	*i* P	P	11 43 37.3	+0.2
	comp=Z,49nm,1.2s,SNR=14						
MOTA				*i* pP	sP	11 43 46.2	-1.5
	comp=Z,158nm,1.3s						
VAH	Vaihoa	84.55	114	*e*P	P	11 43 36.7	-0.6
	comp=Z,182nm,1.3s						
319A	Douglas	84.56	54	*e*P	P	11 43 38.2	+0.8
	comp=Z,246nm,1.2s						
319A				LR	LR		
	comp=Z,3µm,19.0s						
AOS	Alonnisos	84.56	316	*e*P	P	11 43 38.1	+1.0
AOS	Alonnisos	84.56	316	P	P	11 43 37.5	+0.3
RETA	Reutle	84.57	329	*i* PcP	P	11 43 37.6	+0.5
	comp=Z,34nm,0.7s,SNR=19						
RETA				*i* pP	pP	11 43 46.0	+1.0
	comp=Z,234nm,1.2s						
WLF	Walferdange	84.57	333	P	P	11 43 39.0	+1.9
	comp=Z,86nm,1.7s						
WLF				XP	sP	11 43 46.7	-0.9
I37A	Lemond, Waseca	84.58	36	P	P	11 43 37.7	+0.5
	baz=319,SNR=50						
PDG	Podgorica	84.62	321	P	P	11 43 38.1	+0.7
TTG	Podgorica	84.62	321	ǁ*i*P	P	11 43 37.8	+0.4
BRY	Bratogost	84.62	322	*e*P	P	11 43 37.1	-0.5
SCHQ	Schefferville	84.63	16	P	P	11 43 37.7	+0.5
	comp=Z,30nm,0.7s,baz=334,slow=4.7,SNR=15						
SCHQ				LR	LR	12 23 42.2	
	comp=Z,3µm,20.6s,baz=340,slow=37						
SCHQ	Schefferville	84.63	16	*e*P	P	11 43 37.8	+0.5
	comp=Z,65nm,0.9s						
J36A	Seneca 1, Swea	84.65	37	P	P	11 43 37.6	+0.1
	baz=319,SNR=22						
LIT	Litokhoron	84.65	318	P	P	11 43 37.8	+0.2
L34A	Svendsen Farm,	84.65	39	P	P	11 43 37.6	0.0
	baz=318,SNR=15						
K35A	Storm Lake	84.66	38	P	P	11 43 37.6	-0.1
	baz=318,SNR=11						
PPT	Papeete	84.69	117	P	P	11 43 39.1	+1.1
	comp=Z,118nm,1.1s,baz=358,slow=1.8,SNR=12						
PPT				LR	LR	12 16 35.0	
	comp=Z,2µm,20.4s,baz=303,slow=32						
CEME	Cevo	84.70	321	ǁ*i*P	P	11 43 37.8	-0.1
PPT2	Papeete2	84.71	117	*e*P	P	11 43 37.8	-0.4
	comp=Z,145nm,1.3s						
PPT2	Papeete2	84.71	117	*e*S	S	11 54 00.9	-3.7
	comp=Z,971nm,25.2s						
PPT2	Papeete2	84.71	117	*e*LQ	LQ	12 05 59.7	
	comp=Z,2µm,26.8s						
PPT2				*e*LR	LR	12 09 54.6	
	comp=Z,3µm,24.5s,baz=317						
PPT2	Papeete2	84.71	117	*e*T	T	13 16 34.4	
	comp=Z,18nm,0.3s						
FNA	Florina	84.74	319	*e*P	P	11 43 35.8	-2.3
FNA	Florina	84.74	319	P	P	11 43 38.2	+0.1
121A	Cookes Peak, D	84.75	53	P	P	11 43 38.9	+0.4
	baz=312,SNR=99						
121A	Cookes Peak, D	84.75	53	*e*P	P	11 43 39.4	+1.0
	comp=Z,161nm,1.2s						
PAE	Paea	84.75	117	*e*P	P	11 43 37.8	-0.5
	comp=Z,30nm,1.2s						
PAE	Paea	84.75	117	*e*T	T	13 16 37.2	
	comp=Z,8.0nm,0.4s						
DOU	Dourbes	84.77	334	P	P	11 43 38.4	+0.4
	comp=Z,44nm,1.5s						
DOU				XP	sP	11 43 47.2	-1.3
FOEL	Foel Wylfa	84.79	340	*e*P	P	11 43 38.8	+0.8
FOEL				AMB	AMB	11 43 48.7	
	comp=Z,165nm,1.2s						
SKIA	Skiathos	84.79	317	P	P	11 43 39.9	+1.6
XOR	Xorichti	84.80	317	P	P	11 43 38.2	-0.2
OHR	Ohrid	84.80	319	*i* P	P	11 43 38.7	+0.2
DRME	Dracevica, Mon	84.83	321	ǁ*i*P	P	11 43 39.0	+0.5
TIAR	Tiarei	84.85	117	*e*P	P	11 43 38.3	-0.5
	comp=Z,64nm,1.1s						
TIAR	Tiarei	84.85	117	*e*T	T	13 16 44.3	
	comp=Z,14nm,0.2s						
BFO	Black Forest	84.86	331	*i* P	P	11 43 39.0	+0.5
BFO	Black Forest	84.86	331	*e*P	P	11 43 38.6	0.0
	comp=Z,230nm,1.1s						
BFO				LR	LR		
	comp=Z,2µm,20.0s						
KZN	Kozani	84.88	318	P	P	11 43 39.0	+0.1
M34A	Aspy Farms, Fr	84.89	40	P	P	11 43 38.6	-0.2
	baz=318,SNR=5.3						
COWI	Conover	84.89	33	*e*P	P	11 43 38.7	-0.1
	comp=Z,74nm,1.1s						
COWI				LR	LR		
	comp=Z,2µm,20.0s						
BUM	Brajici-Budva	84.89	321	ǁ*i*P	P	11 43 39.2	+0.3
FYTO	Fytoko, Volos	84.90	317	P	P	11 43 39.0	+0.1
O32A	Brockman Farm,	84.92	42	P	P	11 43 38.7	-0.3
	baz=316						
FETA	Feichten	84.96	329	*i* PcP	P	11 43 39.4	+0.2
	SNR=13						
FETA				*e*pP	pP	11 43 47.9	+0.9
	comp=Z,102nm,1.0s						
L35A	Bielow Farm, R	84.96	39	P	P	11 43 39.0	-0.1
	baz=318						
ULC	Ulcinj	84.97	321	ǁ*i*P	P	11 43 39.6	+0.4
HCY	Herceg Novi	84.98	322	ǁ*i*P	P	11 43 39.2	0.0
HSIG		85.00	57	*e*P	P	11 43 40.1	+0.6
	comp=Z,139nm,1.2s						
HSIG				LR	LR		
	comp=Z,3µm,21.0s						
N33A	J Bar K, Exete	85.00	41	P	P	11 43 38.9	-0.5
	baz=317,SNR=5.5						
J37A	Redenius Farm,	85.04	37	P	P	11 43 39.6	+0.1
	baz=319,SNR=56						
I38A	Scanlan Farm,	85.06	36	P	P	11 43 39.5	-0.1
	baz=320,SNR=18						
TVO	Taravao	85.06	117	*e*P	P	11 43 39.8	-0.1
	comp=Z,67nm,1.1s						
TVO	Taravao	85.06	117	*e*T	T	13 17 00.8	
	comp=Z,16nm,0.3s						
DAVA	Damuels	85.09	329	*i* PcP	P	11 43 40.3	+0.4
	comp=Z,59nm,0.9s,SNR=19						
DAVA				*i* pP	pP	11 43 48.6	+0.9
	comp=Z,171nm,1.0s						
K36A	Gilmore City	85.11	38	P	P	11 43 40.0	+0.1
	baz=319,SNR=29						
TIR	Tirane	85.11	320	*e*P	P	11 43 40.7	+0.8
TIR				pmax	pmax		
	comp=Z,185nm,1.0s						
TIR				MLR	MLR		
	comp=Z,5µm,18.0s						
TIR	Tirane	85.11	320	*e*P	P	11 43 40.7	+0.8
	comp=Z,185nm,1.0s						
TIR				LR	LR		
	comp=Z,5µm,18.0s						
APE	Apeiranthos	85.12	314	P	P	11 43 41.1	+1.0
APE	Apeiranthos	85.12	314	*de*P	P	11 43 38.9	-1.2
APE				pmax	pmax		
	comp=Z,131nm,0.8s						
APE				MLR	MLR		
	comp=Z,867nm,17.0s						
SMIA	Simia	85.14	317	P	P	11 43 40.2	+0.1
CBKS	Cedar Bluff	85.17	44	P	P	11 43 40.0	-0.3
	baz=316,SNR=11						
CBKS	Cedar Bluff	85.17	44	*e*P	P	11 43 40.5	+0.2
CBKS				pmax	pmax		
	comp=Z,136nm,1.1s						
CBKS				MLR	MLR		
	comp=Z,1µm,20.0s						
CBKS	Cedar Bluff	85.17	44	*e*P	P	11 43 40.5	+0.2
	comp=Z,136nm,1.1s						
CBKS				LR	LR		
	comp=Z,1µm,20.0s						
NEST	Nestorio	85.18	319	P	P	11 43 40.6	+0.2
P32A	Huiting Farm,	85.20	42	P	P	11 43 40.1	-0.4
	baz=316,SNR=31						
OXZ	Oxford	85.20	158	PFAKE		11 43 50.0	+10
OXZ				LR	LR		
	comp=Z,3µm,19.0s						
KARP	Karpathos	85.22	312	*e*P	P	11 43 37.1	-3.5
KARP	Karpathos	85.22	312	P	P	11 43 41.1	+0.5
KARP	Karpathos	85.22	312	*e*P	P	11 43 41.1	+0.5
	comp=Z,183nm,1.1s						
KARP				LR	LR		
	comp=Z,600nm,18.0s						
SRIG	Santa Rosalia	85.22	59	*e*P	P	11 43 41.2	+0.5
	comp=Z,212nm,1.3s						
SRIG				LR	LR		
	comp=Z,3µm,20.0s						
PENT	Pentalofos	85.30	319	P	P	11 43 40.9	-0.1
DSB	Dublin	85.31	341	*e*P	P	11 43 41.6	+1.0
	comp=Z,72nm,1.0s						
DSB				LR	LR		
	comp=Z,1µm,18.0s						
KPRO	Kipourio	85.35	318	P	P	11 43 43.5	+2.3
PTL	Penteli	85.36	316	P	P	11 43 41.1	-0.2
M35A	Neola	85.37	39	P	P	11 43 41.6	+0.4
	baz=318,SNR=8.4						
ATAL	Atalanti	85.37	316	P	P	11 43 40.8	-0.5
ECH	Echery	85.40	331	⇑*e*P	P	11 43 41.9	+0.6
L36A	Harm Buss Farm	85.41	38	P	P	11 43 41.6	+0.2
	baz=319,SNR=5.6						
K37A	Belmond	85.41	37	P	P	11 43 41.6	+0.3
	baz=319,SNR=78						
LKR	Lokris	85.41	316	P	P	11 43 41.1	-0.3
O33A	Hebron	85.42	41	P	P	11 43 40.9	-0.6
	baz=317,SNR=6.6						
N34A	Lincoln	85.42	40	P	P	11 43 41.1	-0.4
	baz=318,SNR=19						
FUORN	Ofenpass-Fuorn	85.47	329	*e*P	P	11 43 42.5	+0.5
	comp=Z,232nm,1.0s						
FUORN				LR	LR		
	comp=Z,3µm,19.0s						
STRD	Stroud	85.48	338	*e*P	P	11 43 42.7	+1.2
STRD				AMB	AMB	11 43 51.9	
	comp=Z,325nm,1.1s						
ATH	Athens Observa	85.50	316	P	P	11 43 47.9	+6.0
DAVOX	Davos/Dischmat	85.50	329	P	P	11 43 42.6	+0.6
	comp=Z,22nm,0.9s,baz=23,slow=7.7						
AGG	Agios Georgios	85.51	317	*e*P	P	11 43 41.6	-0.4
AGG	Agios Georgios	85.51	317	P	P	11 43 41.4	-0.6
AGG	Agios Georgios	85.51	317	*e*P	P	11 43 41.8	-0.2
AGG				pmax	pmax		
	comp=Z,452nm,1.6s						
AGG				MLR	MLR		
	comp=Z,6µm,18.0s						
AGG	Agios Georgios	85.51	317	*e*P	P	11 43 41.8	-0.2
	comp=Z,452nm,1.6s						
AGG				LR	LR		
	comp=Z,6µm,18.0s						
MCH1	Michaelchurch	85.52	339	*e*P	P	11 43 42.4	+0.7
MCH1				AMB	AMB	11 43 52.2	
	comp=Z,141nm,1.2s						
J38A	Wedel Dairy, R	85.54	36	P	P	11 43 42.2	+0.1
	baz=320,SNR=49						
VLY	Voula,Athens	85.54	315	P	P	11 43 42.8	+0.7
VILL	Villia	85.59	316	P	P	11 43 44.4	+2.0
SWN1	Swindon	85.61	338	*e*P	P	11 43 42.7	+0.5
SWN1				AMB	AMB	11 43 52.7	
	comp=Z,327nm,1.3s						
SANT	Santorini	85.64	313	PFAKE		11 43 50.0	+7.3
SANT				LR	LR		
	comp=Z,2µm,18.0s						
LBZ	Lake Benmore	85.66	160	*e*P	P	11 43 43.3	+1.1
	comp=Z,89nm,1.1s						
Q32A	Meitler Ranch,	85.68	43	P	P	11 43 42.6	-0.2
	baz=316,SNR=31						
THR6	Thira Island,	85.69	313	P	P	11 43 42.1	-0.8
MOF	Molkenrain	85.71	331	⇑*e*P	P	11 43 43.2	+0.3
LPW	Lampeter	85.72	340	*e*P	P	11 43 43.3	+0.6
LPW				AMB	AMB	11 43 53.1	
	comp=Z,139nm,1.1s						
O34A	Beatrice	85.80	41	P	P	11 43 42.9	-0.5
	baz=318,SNR=25						
P33A	Williams Farm,	85.82	42	P	P	11 43 43.4	-0.2
	baz=317,SNR=7.5						
M36A	Felix, Anita	85.82	39	P	P	11 43 43.8	+0.3
	baz=319,SNR=28						
L37A	Phoenix Point,	85.83	38	P	P	11 43 43.7	+0.2
	baz=319,SNR=11						
J

comp=Z,4µm,25.3s,baz=314
TAOE Nuku Hiva Isla 86.07 104 *e*T T 13 18 23.1
comp=Z,43nm,0.2s
ZKR Zakros 86.08 312 P P 11 43 46.5 +1.7
DSL Palaion Diasel 86.09 318 P P 11 43 44.2 -0.7
SERG Sergoula 86.10 317 P P 11 43 44.7 -0.2
DID Didima 86.10 316 P P 11 43 43.1 -1.8
O35A Humboldt 86.14 40 P P 11 43 45.1 0.0
baz=318,SNR=18
SGD Sagiada 86.19 319 P P 11 43 45.2 -0.1
P34A Walnut Farm, R 86.20 41 P P 11 43 45.1 -0.3
baz=317,SNR=19
L38A Oak Wood Farm, 86.21 37 P P 11 43 45.5 +0.2
baz=320,SNR=30
N36A Muff Farm, Cla 86.22 39 P P 11 43 46.0 +0.5
baz=318,SNR=8.2
M37A Trindle Farm, 86.23 39 P P 11 43 46.1 +0.7
baz=319,SNR=23
PVO Paravola 86.24 317 P P 11 43 46.0 +0.5
LOMF Lomont 86.24 331⇑ *e*P P 11 43 46.0 +0.5
SCIA State Center 86.26 38 *e*P P 11 43 46.4 +0.8
comp=Z,227nm,1.1s
SCIA LR LR
comp=Z,2µm,22.0s
LAKA Lakka 86.26 317 P P 11 43 46.1 +0.4
K39A Oelwein 86.29 36 P P 11 43 45.4 -0.3
baz=320,SNR=41
J40A Soldiers Grove 86.29 35 P P 11 43 45.4 -0.3
baz=321
KLV Kalavryta, Ach 86.31 317 P P 11 43 45.9 -0.1
NPS Neapolis 86.33 313 P P 11 43 47.5 +1.4
KEK Kerkira 86.35 319 P P 11 43 46.2 +0.1
S32A Newby Ranch, P 86.41 44 P P 11 43 46.6 +0.1
baz=316,SNR=14
PDO Prodromos 86.43 317 P P 11 43 46.7 +0.2
LAST Lasithi 86.48 313 P P 11 43 47.8 +0.9
LAST Lasithi 86.48 313 *e*P P 11 43 47.6 +0.7
comp=Z,268nm,0.8s
LAST LR LR
comp=Z,1µm,18.0s
R33A Olander Ranch, 86.49 43 P P 11 43 46.8 0.0
baz=317,SNR=14
LKD2 Lefkada island 86.58 318 P P 11 43 49.5 +2.3
Q34A Chapman 86.60 42 P P 11 43 47.3 0.0
baz=317,SNR=7.2
DRO Drossia 86.62 317 P P 11 43 48.2 +0.7
P35A Duane Minner, 86.63 41 P P 11 43 47.3 -0.2
baz=318,SNR=20
N37A Lee Faris, Mou 86.64 39 P P 11 43 47.8 +0.3
baz=319,SNR=18
KSU1 Kansas State U 86.64 42 P P 11 43 47.5 0.0
baz=318,SNR=10.0
KSU1 Kansas State U 86.64 42 *e*P P 11 43 48.0 +0.4
comp=Z,149nm,1.1s
M38A Pleasantville 86.64 38 P P 11 43 47.3 -0.1
baz=320,SNR=16
K40A Colesburg 86.64 36 P P 11 43 47.4 -0.1
baz=321,SNR=42
L39A Vinton 86.68 37 P P 11 43 47.9 +0.2
baz=320,SNR=62
O36A Bolckow 86.73 40 P P 11 43 48.4 +0.5
baz=318
IDI Anoyia 86.73 313 P P 11 43 48.7 +0.6
IDI Anoyia 86.73 313 *e*P P 11 43 47.1 -1.1
comp=Z,265nm,1.3s
IDI LR LR
comp=Z,1µm,18.0s
T32A Huddler Ranch, 86.79 44 P P 11 43 48.7 +0.4
baz=316,SNR=34
MNTX Cornudas Mount 86.82 52 P P 11 43 48.9 +0.4
baz=313,SNR=62
MNTX Cornudas Mount 86.82 52 *e*P P 11 43 48.9 +0.4
comp=Z,67nm,1.3s
MNTX LR LR
comp=Z,1µm,20.0s
VLI Veliai 86.83 315 P P 11 43 48.0 -0.5
MSTX Muleshoe 86.85 49 P P 11 43 49.1 +0.3
baz=314,SNR=26
MSTX Muleshoe 86.85 49 *e*P P 11 43 49.0 +0.2
comp=Z,101nm,1.4s
MSTX LR LR
comp=Z,1µm,22.0s
AMTX Amarillo 86.85 47 P P 11 43 49.5 +0.7
baz=315
AMTX Amarillo 86.85 47 *e*P P 11 43 49.1 +0.4
comp=Z,176nm,1.0s
AMTX LR LR
comp=Z,1µm,20.0s
SENIN Lac Senin/Sane 86.87 330 *e*P P 11 43 48.8 0.0
comp=Z,45nm,1.0s
SENIN LR LR
comp=Z,3µm,20.0s
R34A Isabella, Hill 86.89 42 P P 11 43 48.9 +0.1
baz=317,SNR=11
JFWS Jewell Farm 86.89 35 *e*P P 11 43 48.5 -0.2
JFWS pmax pmax
comp=Z,51nm,0.9s
JFWS MLR MLR
comp=Z,3µm,21.0s
JFWS Jewell Farm 86.89 35 *e*P P 11 43 48.5 -0.2
comp=Z,51nm,0.9s
JFWS LR LR
comp=Z,3µm,21.0s
DAMY Dhamar 86.91 286 *e*P P 11 43 53.2 +3.7
comp=Z,149nm,1.2s
DAMY LR LR
comp=Z,2µm,18.0s
P36A Good Intent, A 86.99 40 P P 11 43 49.3 +0.1
baz=318,SNR=32
S33A Kaszmaul Farm, 87.00 43 P P 11 43 49.9 +0.5
baz=317,SNR=10
KFL Anninata 87.00 317 P P 11 43 49.9 +0.6
VAM Vamos 87.05 314 P P 11 43 49.9 +0.3
ITM Ithomi 87.06 316 P P 11 43 49.0 -0.6
VLS Valsamata 87.06 318 P P 11 43 50.7 +1.1
KYTH Kithira 87.09 315 P P 11 43 49.2 -0.6
M39A Webster 87.09 37 P P 11 43 50.0 +0.3
baz=320
N38A Joes South For 87.10 39 P P 11 43 50.1 +0.4
baz=320,SNR=11
O37A Wolven Farm, M 87.12 39 P P 11 43 50.4 +0.5
baz=319,SNR=7.2
Q35A Mercer Eighty, 87.12 41 P P 11 43 50.1 +0.2
baz=318,SNR=53
IMMV Iera Moni Meta 87.14 314 P P 11 43 50.3 +0.3
OG01 Vacheresse 87.14 331 *e*P P 11 43 51.2 +1.3
ANKY Antikythira Is 87.23 314 P P 11 43 50.6 +0.1
T33A Patterson Ranc 87.23 44 P P 11 43 50.8 +0.4
baz=317,SNR=12
U32A Winter Ranch, 87.32 45 P P 11 43 51.4 +0.5
baz=316,SNR=13
Q36A Arnold C. Orve 87.34 41 P P 11 43 50.9 -0.1
baz=318
N39A Derby Farms, D 87.39 38 P P 11 43 51.3 +0.2
baz=320,SNR=32
VLC Villacollemand 87.40 327 PFAKE 11 44 00.0 +8.9
VLC LR LR
comp=Z,2µm,19.0s
S34A Willow Spring 87.40 43 P P 11 43 51.4 +0.2
baz=317,SNR=32
L41A Preston 87.43 36 P P 11 43 51.3 +0.1
baz=321,SNR=31
R35A Emporia Munici 87.43 42 P P 11 43 51.8 +0.4
baz=318,SNR=92
VAL Valentia 87.44 343 *e*P P 11 43 53.2 +2.1
VAL Valentia 87.44 343 ⇓*i*S S 11 54 30.5 +0.2
P37A Lathrop 87.45 40 P P 11 43 51.5 +0.1
baz=319,SNR=30
AQU L'Aquila 87.48 324 *e*P P 11 43 50.9 -0.7
AQU pmax pmax
comp=Z,141nm,1.3s
AQU MLR MLR
comp=Z,4µm,19.0s
AQU L'Aquila 87.48 324 *e*P P 11 43 50.9 -0.7
comp=Z,141nm,1.3s
AQU LR LR
comp=Z,4µm,19.0s
O38A Galt 87.49 39 P P 11 43 51.9 +0.3
baz=319,SNR=12
RSL Roselend 87.69 330 *e*P P 11 43 52.7 0.0
V32A Arapaho 87.77 45 P P 11 43 54.2 +1.1
baz=316,SNR=40
U33A Lingo Farm, Me 87.78 44 P P 11 43 53.6 +0.5
baz=317,SNR=18
R36A Gordon, Harris 87.80 41 P P 11 43 53.4 +0.2
baz=318,SNR=42
P38A Dawn 87.83 39 P P 11 43 53.6 +0.3
baz=319,SNR=70
S35A Otter Creek Ra 87.84 42 P P 11 43 53.8 +0.5
baz=318,SNR=69
O39A Kirksville 87.85 38 P P 11 43 53.8 +0.5
baz=320,SNR=6.5
T34A McClaskey Farm 87.86 43 P P 11 43 53.9 +0.4
baz=317,SNR=22
Q37A Lowry Farm, 87.93 40 P P 11 43 53.5 -0.3
baz=319,SNR=7.5
W32A Sentinel 88.09 46 P P 11 43 55.4 +0.8
baz=316,SNR=51
U34A Anderson Ranch 88.09 44 P P 11 43 55.3 +0.7
baz=317,SNR=24
U34A Anderson Ranch 88.09 44 *e*P P 11 43 55.8 +1.2
comp=Z,254nm,1.3s
U34A LR LR
comp=Z,1µm,22.0s
V33A Lossen Ranch, 88.12 45 P P 11 43 55.1 +0.4
baz=317,SNR=16
R37A Teagarden Farm 88.16 41 P P 11 43 54.9 0.0
baz=319,SNR=8.3
CUC Castrocucco 88.16 322 *e*P P 11 43 54.0 -0.9
comp=Z,21nm,1.0s
CUC LR LR
comp=Z,2µm,18.0s
S36A Lake Cedric, C 88.19 42 P P 11 43 55.3 +0.3
baz=318,SNR=38
BNI Bardonecchia 88.20 330 PFAKE 11 44 10.0 +15
BNI LR LR
comp=Z,3µm,19.0s
O40A La Belle 88.28 38 P P 11 43 56.0 +0.6
baz=320,SNR=35
Q38A Cooks Store, C 88.29 40 P P 11 43 55.4 -0.1
baz=319,SNR=32
GDM Grand'Maison 88.30 330 *e*P P 11 43 55.1 -0.5
T35A Sooner Cattle 88.30 43 P P 11 43 56.1 +0.5
baz=318,SNR=21
TIP Timpagrande 88.31 320 P P 11 43 55.9 +0.3
TIP Timpagrande 88.31 320 *e*P P 11 43 55.6 0.0
comp=Z,155nm,1.5s
TIP *e*PP PP 11 47 27.3 +4.9
TIP LR LR
comp=Z,3µm,19.0s
P39B Salisbury 88.33 39 P P 11 43 56.0 +0.3
baz=320,SNR=31
GRN Grenoble 88.41 331⇑ *e*P P 11 43 56.9 +0.9
W33A Caddo, Fort Co 88.51 45 P P 11 43 57.8 +1.2
baz=317,SNR=17
T36A Boggs Farm, Ca 88.53 43 P P 11 43 57.0 +0.3
baz=318,SNR=18
V34A Guthrie 88.54 44 P P 11 43 57.3 +0.6
baz=317,SNR=37
V34A Guthrie 88.54 44 *e*P P 11 43 57.4 +0.6
comp=Z,185nm,1.1s
V34A LR LR
comp=Z,1µm,22.0s
Q39A Willow Grove F 88.56 39 P P 11 43 56.8 +0.1
baz=320,SNR=106
X32A Elmer 88.57 46 P P 11 43 57.3 +0.4
baz=316,SNR=44
S37A Fort Scott 88.57 41 P P 11 43 56.7 -0.1
baz=319,SNR=60
U35A Pawnee 88.58 43 P P 11 43 57.3 +0.4
baz=318,SNR=22
PLDF La Plantade 88.60 332⇑ *e*P P 11 43 57.9 +1.0
WMOK Wichita Mounta 88.63 46 P P 11 43 57.4 +0.3
baz=316,SNR=96
WMOK Wichita Mounta 88.63 46 *e*P P 11 43 57.3 +0.1
WMOK pmax pmax
comp=Z,101nm,1.2s
WMOK MLR MLR
comp=Z,1µm,20.0s
WMOK Wichita Mounta 88.63 46 *e*P P 11 43 57.3 +0.1
comp=Z,101nm,1.2s
WMOK LR LR
comp=Z,1µm,20.0s
TBI Tubuai 88.64 121 *e*P P 11 43 57.2 +0.1
comp=Z,363nm,1.1s
TBI Tubuai 88.64 121 *e*LQ LQ 12 08 06.8
comp=Z,1µm,30.5s
TBI *e*LR LR 12 11 51.5
comp=Z,3µm,22.8s,baz=309
TBI Tubuai 88.64 121 *e*T T 13 21 26.2
comp=Z,191nm,0.3s
P40A Paris 88.65 39 P P 11 43 57.7 +0.5
baz=320,SNR=68
AGO Saint Agoulin 88.71 333 *e*P P 11 43 58.5 +1.1
R38A Fenwick Farm, 88.73 41 P P 11 43 57.0 -0.6
baz=319,SNR=31
O41A Passleys Farm, 88.77 38 P P 11 43 58.1 +0.4
baz=321,SNR=22
W34A Bridge Creek, 88.84 45 P P 11 43 59.1 +1.0
baz=317,SNR=17
W34A Bridge Creek, 88.84 45 *e*P P 11 43 59.1 +1.0
comp=Z,159nm,1.2s
W34A LR LR
comp=Z,2µm,22.0s
SSB Saint Sauveur 88.84 331 *e*P P 11 43 58.9 +0.9
SSB Saint Sauveur 88.84 331 *e*P P 11 43 59.2 +1.2
SSB pmax pmax
comp=Z,41nm,1.2s
SSB MLR MLR
comp=Z,2µm,18.0s
SSB Saint Sauveur 88.84 331 *e*P P 11 43 59.2 +1.2
comp=Z,41nm,1.2s
SSB LR LR
comp=Z,2µm,18.0s
X33A Lawton 88.93 46 P P 11 43 58.9 +0.3
baz=317,SNR=8.5
V35A Meyer Ranch, C 88.97 44 P P 11 43 59.2 +0.4
baz=318,SNR=13
T37A Cheneyville 18 89.00 42 P P 11 43 59.0 +0.2
baz=319,SNR=31
PYM Petit Puy Mams 89.02 332 *e*P P 11 43 59.9 +1.0
P41A Barry, Barry 89.02 38 P P 11 43 59.4 +0.5
baz=321,SNR=13
Q40A Laux Farm, Aux 89.05 39 P P 11 43 59.4 +0.4
baz=320,SNR=28
R39A Chumby, Stover 89.08 40 P P 11 43 59.0 -0.2
baz=320,SNR=35
O42A Bath 89.09 37 P P 11 43 59.2 0.0
baz=322
U36A Oologah 89.11 43 P P 11 43 59.8 +0.4
baz=318,SNR=16
S38A Stockton 89.15 41 P P 11 43 59.1 -0.5
baz=319,SNR=21
SLBS Sierra La Lagu 89.16 61 *e*P P 11 44 01.2 +1.3
comp=Z,102nm,1.2s
SLBS LR LR
comp=Z,2µm,19.0s
HDIL Hopedale 89.18 36 P P 11 44 00.1 +0.5
baz=322,SNR=26
HDIL Hopedale 89.18 36 *e*P P 11 44 00.1 +0.5
comp=Z,201nm,1.1s
HDIL LR LR
comp=Z,2µm,22.0s
Y33A Hilltop Ranch, 89.24 46 P P 11 44 00.2 +0.1
baz=317,SNR=22
X34A Smith Ranch, M 89.27 45 P P 11 44 01.0 +0.8
baz=317,SNR=26
T38A Diamond 89.40 42 P P 11 44 00.8 +0.1
baz=319,SNR=55
W35A Tecumseh 89.40 44 P P 11 44 01.2 +0.4
baz=318,SNR=22
S39A Bolivar 89.41 41 P P 11 44 00.3 -0.4
baz=320,SNR=52
U37A Salina 89.43 42 P P 11 44 01.2 +0.3
baz=318,SNR=30
TUL1 Leonard 89.43 43 P P 11 44 01.4 +0.5
baz=318,SNR=14
TUL1 Lenard 89.43 43 *e*P P 11 44 01.5 +0.5
comp=Z,160nm,1.4s
TUL1 LR LR
comp=Z,1µm,20.0s
V36A Jenks 89.44 43 P P 11 44 01.3 +0.4
baz=318,SNR=32
CEL Celeste 89.44 320 *e*P P 11 43 59.6 -1.4
comp=Z,166nm,0.9s
CEL LR LR
comp=Z,2µm,19.0s
R40A Maddies Statio 89.49 40 P P 11 44 01.2 +0.1
baz=320,SNR=63
TX31 Lajitas Ar. Si 89.51 53 *e*P P 11 44 01.9 +0.4
TXAR Lajitas Array 89.51 53 P P 11 44 01.9 +0.4
comp=Z,30nm,0.9s,baz=295,slow=3.3,SNR=261
TXAR PKKPbc PKKPbc 12 01 38.8 +4.1
comp=Z,0.7nm,0.8s,baz=156,slow=5.9,SNR=4.7
TXAR LR LR 12 21 38.1
comp=Z,1µm,19.3s,baz=0.0,slow=34
ABTX Abilene, Hawle 89.65 48 P P 11 44 02.5 +0.4
baz=316,SNR=30
ABTX Abilene, Hawle 89.65 48 *e*P P 11 44 02.9 +0.9
comp=Z,148nm,1.1s
ABTX LR LR
comp=Z,1µm,21.0s
Z33A Whitaker Ranch 89.69 47 P P 11 44 02.5 +0.4
baz=316,SNR=22
W36A Wetumka 89.77 44 P P 11 44 02.9 +0.4
baz=318,SNR=9.3
Y34A Reagan Ranch, 89.78 46 P P 11 44 02.8 +0.3
baz=317,SNR=14
U38A Gravette 89.80 42 P P 11 44 02.7 +0.1
baz=319,SNR=25
V37A Hulbert 89.81 43 P P 11 44 02.9 +0.2
baz=318,SNR=59
HPIG 89.87 56 *e*P P 11 44 03.9 +0.5
comp=Z,47nm,1.1s
HPIG LR LR
comp=Z,3µm,21.0s
Q42A Golden Eagle 89.87 38 P P 11 44 03.3 +0.5
baz=321,SNR=18
T39A Clever 89.88 41 P P 11 44 02.9 -0.1
baz=320,SNR=34
X35A Drake 89.90 45 P P 11 44 03.2 +0.1
baz=318,SNR=47
S40A Lebanon 89.90 40 P P 11 44 02.9 -0.1
baz=320,SNR=47
SADO Sadowa 89.99 28 *e*P P 11 44 03.3 0.0
comp=Z,50nm,1.1s
SADO LR LR
comp=Z,2µm,21.0s
133A Hamilton Ranch 90.09 47 P P 11 44 04.5 +0.5
baz=316,SNR=24
Z34A Collier Ranch, 90.11 46 P P 11 44 04.4 +0.3
baz=317,SNR=17
X36A Centrahoma 90.12 44 P P 11 44 04.5 +0.4
baz=318,SNR=48
HHAR Hobbs 90.15 42 *e*P P 11 44 04.2 -0.1
comp=Z,37nm,1.0s
HHAR LR LR
comp=Z,1µm,20.0s
W37B Quinton 90.20 44 P P 11 44 05.1 +0.6
baz=318,SNR=12
V38A Canehill 90.22 42 P P 11 44 04.8 +0.2
baz=319,SNR=80
Y35A Marietta 90.22 45 P P 11 44 04.7 +0.1
baz=317,SNR=14
SLM Saint Louis 90.23 38 *e*P P 11 44 05.3 +0.7
SLM pmax pmax
comp=Z,203nm,1.3s
SLM MLR MLR
comp=Z,2µm,21.0s
SLM Saint Louis 90.23 38 *e*P P 11 44 05.3 +0.7
comp=Z,203nm,1.3s
SLM LR LR
comp=Z,2µm,21.0s
T40A Mansfield 90.23 40 P P 11 44 04.4 -0.2
baz=320,SNR=36
Q43A New Douglas 90.25 38 P P 11 44 05.0 +0.4
baz=322,SNR=6.1
AAM Ann Arbor 90.28 32 *e*P P 11 44 06.0 +1.3
AAM pmax pmax
comp=Z,92nm,0.9s
AAM MLR MLR
comp=Z,1µm,20.0s
AAM Ann Arbor 90.28 32 *e*P P 11 44 06.0 +1.3
comp=Z,92nm,0.9s
AAM LR LR
comp=Z,1µm,20.0s
U39A Green Forest 90.32 42 P P 11 44 05.0 0.0
baz=320,SNR=34
TRQ Mont Tremblant 90.33 24 *e*P P 11 44 05.1 +0.1
SFIN Lafayette 90.34 35 P P 11 44 05.4 +0.3
baz=324,SNR=20
SFIN Lafayette 90.34 35 *e*P P 11 44 05.5 +0.5
comp=Z,86nm,0.9s
SFIN LR LR
comp=Z,3µm,22.0s
LMQ La Malbaie 90.43 21 *e*P P 11 44 06.2 +0.8
LMQ LR LR
comp=Z,2µm,19.0s
233A Rising Star 90.52 48 P P 11 44 06.6 +0.5
baz=316,SNR=52
Z35A Perchaven, San 90.52 46 P P 11 44 06.2 +0.2
baz=317,SNR=18
134A White-Moore Ra 90.60 47 P P 11 44 07.0 +0.6
baz=317,SNR=26
Q44A Meyer Farm, Va 90.61 37 P P 11 44 06.5 +0.2
baz=322,SNR=24
V39A Pettigrew 90.64 42 P P 11 44 06.5 -0.1
baz=319,SNR=50
X37A Clayton 90.64 44 P P 11 44 06.9 +0.3
baz=318,SNR=18
Y36A Durant 90.65 45 P P 11 44 06.8 +0.2
baz=318,SNR=38
U40A Yellville 90.67 41 P P 11 44 06.7 0.0
baz=320,SNR=66
T41A Mountain View 90.70 40 P P 11 44 06.6 -0.3
baz=320,SNR=46
W38A Poteau 90.75 43 P P 11 44 07.5 +0.5
baz=319,SNR=30
X38A Whitesboro 90.88 43 P P 11 44 08.1 +0.4
baz=319,SNR=46
Y37A Hugo 90.96 44 P P 11 44 08.3 +0.2
baz=318,SNR=9.3
333A Richland Sprin 90.97 48 P P 11 44 08.5 +0.4
baz=316,SNR=88
234A Clairette 90.98 47 P P 11 44 08.6 +0.4
baz=317,SNR=65
135A Vickery Place, 91.00 46 P P 11 44 08.9 +0.6
baz=317,SNR=11
Z36A Blue Ridge 91.03 45 P P 11 44 08.6 +0.2
baz=318,SNR=23
W39A Magazine 91.05 42 P P 11 44 08.5 +0.1
baz=319,SNR=29
R44A Waltonville 91.10 38 P P 11 44 08.8 +0.2
baz=322,SNR=17
V40A Witts Springs 91.10 41 P P 11 44 08.5 -0.2
baz=320
S43A Fulton Ridge, 91.14 39 P P 11 44 08.9 0.0
baz=322,SNR=7.4
OLIL Olney 91.19 37 *e*P P 11 44 09.5 +0.5
comp=Z,114nm,1.0s
OLIL LR LR
comp=Z,2µm,20.0s
433A Art 91.32 49 P P 11 44 09.8 0.0
baz=316,SNR=27
X39A Fountain Ranch 91.39 43 P P 11 44 10.5 +0.5
baz=319,SNR=64
334A Lometa 91.41 48 P P 11 44 10.6 +0.4
baz=317,SNR=26
W40A Ferguson Farm, 91.44 42 P P 11 44 10.5 +0.2
baz=320,SNR=32
S44A Carbondale 91.45 38 P P 11 44 10.5 +0.3
baz=322,SNR=13
SIUC Southern Illin 91.45 38 *e*P P 11 44 11.0 +0.8
comp=Z,97nm,1.0s
SIUC LR LR
comp=Z,2µm,20.0s
V41A Mountainview 91.47 41 P P 11 44 10.2 -0.2
baz=320,SNR=43
Y38A Idabel 91.49 44 P P 11 44 10.5 0.0
baz=319
Z37A Pogue Cattle C 91.54 45 P P 11 44 11.0 +0.3
baz=318,SNR=12
136A Ennis 91.56 46 P P 11 44 11.1 +0.2
baz=318,SNR=8.1
H06N1 SOCORRO T-PHAS 91.57 65 T T 13 26 10.3
SNR=65
BLO Bloomington 91.57 35 *e*P P 11 44 11.7 +0.9
BLO pmax pmax
comp=Z,97nm,1.4s
BLO MLR MLR
comp=Z,3µm,21.0s
BLO Bloomington 91.57 35 *e*P P 11 44 11.7 +0.9
comp=Z,97nm,1.4s
BLO LR LR
comp=Z,3µm,21.0s
PBMO Poplar Bluff 91.58 39 *e*P P 11 44 11.2 +0.4
comp=Z,120nm,1.3s
PBMO LR LR
comp=Z,2µm,22.0s
VSL Villasalto 91.60 325 PFAKE 11 44 20.0 +9.1
VSL LR LR
comp=Z,2µm,18.0s
MIAR Mount Ida 91.66 43 P P 11 44 11.7 +0.4

baz=319,SNR=64
MIAR **Mount Ida** **91.66** **43** *e*P P **11 44 11.7 +0.4**
MIAR pmax pmax
comp=Z,151nm,1.2s
MIAR MLR MLR
comp=Z,2µm,21.0s
MIAR **Mount Ida** **91.66** **43** *e*P P **11 44 11.7 +0.4**
MIAR
comp=Z,150nm,1.2s
LR LR
comp=Z,2µm,21.0s
H06E1 **SOCORRO T-PHAS** **91.66** **65** T T 13 26 12.8
SNR=68
H06S1 **SOCORRO T** **91.67** **65** T T 13 26 19.0
SNR=5.8
BUF **Buffalo** **91.68** **29** *e*P P **11 44 12.4 +1.2**
LONY **Lake Ozonia** **91.73** **25** *e*P P **11 44 11.5 0.0**
comp=Z,58nm,1.3s
LONY LR LR
comp=Z,2µm,19.0s
X201 **Greenbrier Sit** **91.73** **42** *e*P P **11 44 11.8 +0.1**
comp=Z,100nm,1.1s
X201 LR LR
comp=Z,2µm,22.0s
X301 **Greenbrier Sit** **91.75** **42** *e*P P **11 44 11.7 0.0**
comp=Z,80nm,1.1s
X301 LR LR
comp=Z,1µm,22.0s
DRLN **Deer Lake** **91.76** **12** PFAKE 11 44 20.0 +8.6
DRLN LR LR
comp=Z,3µm,22.0s
434A **Burnet** **91.76** **48** P P **11 44 11.8 -0.1**
baz=317,SNR=40
WHAR **Wooly Hollow** **91.77** **41** *e*P P **11 44 11.7 -0.1**
comp=Z,123nm,1.1s
WHAR LR LR
comp=Z,1µm,20.0s
S45A **Carrier Mills** **91.79** **38** P P **11 44 12.2 +0.4**
baz=322,SNR=12
Y39A **Lockesburg** **91.83** **43** P P **11 44 12.4 +0.3**
baz=319,SNR=28
533A **Kerrville** **91.84** **49** P P **11 44 12.6 +0.3**
baz=316,SNR=15
V42A **Cord** **91.85** **41** P P **11 44 12.1 0.0**
baz=321,SNR=17
Z38A **Mt. Pleasant** **91.86** **45** P P **11 44 12.7 +0.5**
baz=319,SNR=8.3
FRNY **Flat Rock** **91.87** **24** *e*P P **11 44 12.3 +0.2**
comp=Z,17nm,1.0s
FRNY LR LR
comp=Z,2µm,18.0s
W41B **Gary Mavity, V** **91.88** **42** P P **11 44 12.3 0.0**
baz=320,SNR=21
236A **Katherine and** **91.91** **46** P P **11 44 12.9 +0.4**
baz=318,SNR=9.8
137A **Heron Place, G** **91.91** **45** P P **11 44 13.0 +0.6**
baz=318
335A **Moody** **91.92** **47** P P **11 44 13.0 +0.5**
baz=317,SNR=9.8
USIN **University of** **92.00** **37** *e*P P **11 44 13.7 +0.9**
comp=Z,45nm,1.0s
USIN LR LR
comp=Z,2µm,21.0s
X40A **Basin Creek Fa** **92.10** **42** P P **11 44 13.6 +0.3**
baz=320,SNR=96
UALR **University of** **92.14** **42** *e*P P **11 44 14.3 +0.8**
comp=Z,59nm,1.4s
UALR LR LR
comp=Z,1µm,20.0s
336A **Riesel** **92.18** **47** P P **11 44 14.2 +0.5**
baz=318,SNR=13
435B **Jarrell** **92.19** **48** P P **11 44 14.1 +0.3**
baz=317,SNR=12
633A **Saathoff Ranch** **92.20** **50** P P **11 44 14.4 +0.5**
baz=316,SNR=15
534A **Blanco** **92.21** **49** P P **11 44 14.2 +0.3**
baz=317,SNR=49
Y40A **Okolona** **92.22** **43** P P **11 44 14.0 +0.2**
baz=320,SNR=9.0
PVMO **Portageville** **92.23** **39** PFAKE 11 44 30.0 +16
PVMO LR LR
comp=Z,2µm,20.0s
138A **Matatall Enter** **92.24** **45** P P **11 44 14.9 +0.9**
baz=318,SNR=8.4
ALLY **Alegheny Colle** **92.26** **30** *e*P P **11 44 14.5 +0.5**
comp=Z,79nm,1.3s
ALLY LR LR
comp=Z,2µm,18.0s
X41A **Kaden, Bauxite** **92.26** **42** P P **11 44 14.4 +0.4**
baz=320,SNR=5.0
ACSO **Alum Creek Sta** **92.28** **33** *e*P P **11 44 14.4 +0.3**
comp=Z,68nm,0.9s
ACSO LR LR
comp=Z,2µm,22.0s
Z39A **Irene McRaven,** **92.31** **44** P P **11 44 15.1 +0.8**
baz=319,SNR=5.8
237A **Washetta, Mont** **92.32** **46** P P **11 44 14.9 +0.5**
baz=318
HBAR **Harrisburg** **92.42** **40** *e*P P **11 44 16.1 +1.3**
GNAR **Gosnell** **92.42** **40** *e*P P **11 44 17.9 +3.1**
832A **Faith Ranch, C** **92.55** **51** P P **11 44 16.3 +0.8**
baz=316,SNR=10
WLAR **White Oak Lake** **92.56** **43** *e*P P **11 44 16.6 +1.2**
comp=Z,180nm,1.2s
WLAR LR LR
comp=Z,1µm,20.0s
M54A **Oil Creek Stat** **92.57** **30** P P **11 44 15.6 +0.2**
baz=328,SNR=7.4
733A **Divot King Ran** **92.66** **50** P P **11 44 16.7 +0.7**
baz=316,SNR=6.7
436A **Wall Ranch, Ga** **92.66** **47** P P **11 44 17.0 +1.0**
baz=318,SNR=5.6
Y41A **Eaglette Beard** **92.68** **43** P P **11 44 16.6 +0.6**
baz=320
238A **Jacksonville** **92.71** **45** P P **11 44 17.3 +1.1**
baz=318,SNR=6.5
Z40A **Long Farm, Mag** **92.72** **44** P P **11 44 17.1 +0.9**
baz=320,SNR=13
535A **Dale** **92.75** **48** P P **11 44 17.0 +0.6**
baz=317
MDV **Middlebury** **92.75** **24** *e*P P **11 44 16.9 +0.8**
634A **China Grove, S** **92.75** **49** P P **11 44 17.2 +0.8**
baz=317
337A **Centerville** **92.78** **46** P P **11 44 17.1 +0.6**
baz=318
PKME **Peaks-Kenny Pk** **92.81** **21** PFAKE 11 44 30.0 +14
PKME LR LR
comp=Z,2µm,20.0s
833A **Chaparral WMA,** **92.88** **51** P P **11 44 17.8 +0.8**
baz=316,SNR=16
N54A **Moraine State** **92.91** **30** P P **11 44 17.4 +0.4**
baz=328,SNR=8.8
437A **Phantom Ranch,** **93.00** **47** P P **11 44 18.6 +1.1**
baz=318
536A **Bastrop** **93.01** **48** P P **11 44 18.5 +0.9**
baz=317,SNR=8.4
734A **La Parita Cree** **93.01** **50** P P **11 44 18.7 +1.1**
baz=316
Z41A **Richland Creek** **93.05** **43** P P **11 44 18.2 +0.5**
baz=320
239A **Gary** **93.06** **45** P P **11 44 18.6 +0.8**
baz=319
338A **Crockett** **93.08** **46** P P **11 44 18.5 +0.6**
baz=318
635A **Leesville** **93.09** **49** P P **11 44 18.6 +0.6**
baz=317
140A **Cam and Jess,** **93.09** **44** P P **11 44 18.7 +0.7**
baz=319
CCAR **Cane Creek** **93.10** **42** *e*P P **11 44 19.9 +2.0**
comp=Z,160nm,1.1s
CCAR LR LR
comp=Z,2µm,22.0s
X43A **Marvell** **93.11** **41** P P **11 44 18.5 +0.6**
baz=321
MET **Memphis--Engin** **93.12** **40** PFAKE 11 44 30.0 +12
MET LR LR
comp=Z,2µm,22.0s
ACCN **Adirondack Com** **93.13** **25** *e*P P **11 44 18.8 +0.9**
comp=Z,134nm,1.5s
ACCN LR LR
comp=Z,2µm,19.0s
V45A **Humboldt** **93.13** **39** P P **11 44 17.8 -0.2**
baz=322
NATX **Nacogdoches** **93.15** **45** P P **11 44 19.0 +0.8**
baz=319
NATX **Nacogdoches** **93.15** **45** PFAKE 11 44 30.0 +12
NATX LR LR
comp=Z,3µm,22.0s
Y42A **Garnett, Star** **93.15** **42** P P **11 44 18.6 +0.5**
baz=320,SNR=7.3
HNH **Hanover** **93.30** **24** *e*P P **11 44 20.0 +1.4**
comp=Z,73nm,1.3s
HNH LR LR
comp=Z,2µm,21.0s
WVL **Waterville** **93.34** **22** *e*P P **11 44 19.9 +1.1**
comp=Z,142nm,1.4s
WVL LR LR
comp=Z,4µm,21.0s
BINY **Binghamton** **93.37** **27** *e*P P **11 44 19.9 +0.8**
comp=Z,30nm,1.0s
BINY LR LR
comp=Z,2µm,20.0s
WVT **Waverly** **93.38** **38** *e*P P **11 44 19.3 +0.1**
WVT pmax pmax
comp=Z,32nm,1.1s
WVT MLR MLR
comp=Z,2µm,19.0s
WVT **Waverly** **93.38** **38** *e*P P **11 44 19.3 +0.1**
comp=Z,32nm,1.1s
WVT LR LR
comp=Z,2µm,19.0s
438A **Sam Houston St** **93.44** **46** P P **11 44 20.6 +1.0**
baz=318
240A **Hunter Patters** **93.44** **45** P P **11 44 20.2 +0.7**
baz=319
537A **Green Hill Far** **93.45** **47** P P **11 44 20.8 +1.2**
baz=318,SNR=6.5
735A **Kenedy** **93.46** **49** P P **11 44 20.6 +1.0**
baz=317
933A **Laredo** **93.46** **51** P P **11 44 21.1 +1.3**
baz=316,SNR=31
LMN **Caledonia Moun** **93.47** **18** *e*P P **11 44 20.4 +1.0**
comp=Z,44nm,0.9s
LMN LR LR
comp=Z,2µm,20.0s
W45A **Hickory Valley** **93.48** **40** P P **11 44 20.0 +0.4**
baz=322,SNR=7.4
141A **Papa Simpson,** **93.49** **44** P P **11 44 20.6 +0.8**
baz=320
Z42A **Norrel Spur, H** **93.50** **43** P P **11 44 20.8 +1.0**
baz=320
X44A **Crenshaw** **93.50** **41** P P **11 44 20.2 +0.4**
baz=321
834A **Tilden** **93.53** **50** P P **11 44 21.3 +1.2**
baz=316
TRY **Troy** **93.71** **25** *e*P P **11 44 21.6 +1.0**
comp=Z,166nm,1.4s
TRY LR LR
comp=Z,3µm,18.0s
FFD **Franklin Falls** **93.71** **24** *e*P P **11 44 22.1 +1.5**
comp=Z,189nm,1.4s
FFD LR LR
comp=Z,3µm,19.0s
736A **Circle Diamond** **93.83** **49** P P **11 44 22.7 +1.4**
baz=317,SNR=7.7
835A **Beeville** **93.86** **50** P P **11 44 22.9 +1.4**
baz=317,SNR=6.1
OXF **Oxford** **93.87** **40** *e*P P **11 44 22.0 +0.5**
OXF pmax pmax
comp=Z,91nm,1.1s
OXF MLR MLR
comp=Z,1µm,19.0s
OXF **Oxford** **93.87** **40** *e*P P **11 44 22.0 +0.5**
comp=Z,91nm,1.1s
OXF LR LR
comp=Z,1µm,19.0s
Y44A **Strider, Charl** **93.89** **41** P P **11 44 22.3 +0.7**
baz=321
637A **Eagle Lake** **93.91** **48** P P **11 44 22.3 +0.6**
baz=318,SNR=7.4
934A **Benavides** **93.93** **51** P P **11 44 21.6 -0.2**
baz=316,SNR=7.5
X45A **UM Field Stati** **93.95** **40** P P **11 44 22.3 +0.5**
baz=322,SNR=6.8
KSPA **Keystone Colle** **94.01** **27** PFAKE 11 44 30.0 +8.0
KSPA LR LR
comp=Z,2µm,20.0s
SSPA **Standing Stone** **94.01** **29** *e*P P **11 44 22.8 +0.7**
comp=Z,16nm,1.0s
SSPA LR LR
comp=Z,1µm,19.0s
O56A **Blue Knob Stat** **94.06** **30** P P **11 44 23.1 +0.7**
baz=329,SNR=7.1
MCWV **Mont Chateau** **94.07** **31** *e*P P **11 44 23.5 +1.2**
comp=Z,22nm,1.0s
MCWV LR LR
comp=Z,900nm,20.0s
PLAL **Pickwick Lake** **94.17** **39** *e*P P **11 44 22.9 0.0**
comp=Z,26nm,1.4s
PLAL LR LR
comp=Z,2µm,22.0s
034A **Hebbronville** **94.22** **51** P P **11 44 25.1 +1.8**
baz=316,SNR=18
143A **Socs Landing,** **94.23** **43** P P **11 44 24.0 +0.8**
baz=321
Z44A **Pea Ridge, Bel** **94.30** **42** P P **11 44 24.2 +0.7**
baz=321
Y45A **Yeager Farm, C** **94.31** **41** P P **11 44 24.1 +0.6**
baz=322
341A **Kurthwood** **94.31** **45** P P **11 44 24.1 +0.5**
baz=320
638A **Rosharon** **94.44** **47** P P **11 44 25.0 +0.8**
baz=318
QUA2 **Belchertown** **94.55** **25** PFAKE 11 44 40.0 +16
QUA2 LR LR
comp=Z,2µm,20.0s
N59A **State Game Lan** **94.56** **28** P P **11 44 25.2 +0.6**
baz=331
HRV **Adam Dziewonsk** **94.61** **24** PFAKE 11 44 40.0 +15
HRV LR LR
comp=Z,2µm,19.0s
Z45A **Winona** **94.62** **41** P P **11 44 25.5 +0.6**
baz=322
Y46A **Houston** **94.64** **40** P P **11 44 25.5 +0.5**
baz=322,SNR=11
KEST **Kesra** **94.66** **323** P P **11 44 25.1 -0.1**
comp=Z,11nm,1.0s,baz=346,slow=5.0,SNR=6.6
KEST LR LR 12 30 58.2
comp=Z,2µm,19.6s,baz=344,slow=38
KEST **Kesra** **94.66** **323** *e*P P **11 44 25.4 +0.2**
comp=Z,54nm,1.3s
035A **Encino** **94.67** **51** P P **11 44 26.5 +1.2**
baz=317
540A **Vidor** **94.70** **46** P P **11 44 26.1 +0.8**
baz=319
342A **Flagon Creek P** **94.74** **44** P P **11 44 26.4 +0.9**
baz=320
ZAIG **Zacatecas** **94.77** **57** *e*P P **11 44 27.4 +1.2**
comp=Z,74nm,1.2s
ZAIG LR LR
comp=Z,3µm,20.0s
WES **Weston** **94.80** **24** PFAKE 11 44 40.0 +14
WES LR LR
comp=Z,2µm,20.0s
FURI **Furi** **94.80** **285** PFAKE 11 44 40.0 +14
FURI LR LR
comp=Z,1µm,18.0s
144A **Alexander Plac** **94.81** **42** P P **11 44 26.5 +0.7**
baz=321
ODNJ **Ogdensburg** **94.84** **27** PFAKE 11 44 40.0 +14
ODNJ LR LR
comp=Z,900nm,19.0s
LUPA **Lehigh Univers** **94.99** **27** PFAKE 11 44 40.0 +14
LUPA LR LR
comp=Z,3µm,20.0s
035Z **Hargill** **95.03** **51** P P **11 44 27.6 +0.7**
baz=317
SWET **Sewanee** **95.04** **37** *e*P P **11 44 26.9 0.0**
comp=Z,12nm,1.0s
SWET LR LR
comp=Z,500nm,20.0s
TZTN **Tazewell** **95.07** **35** *e*P P **11 44 27.6 +0.6**
comp=Z,73nm,1.3s
TZTN LR LR
comp=Z,3µm,21.0s
145A **Houston Renfro** **95.09** **42** P P **11 44 27.5 +0.4**
baz=322
244A **Avery, Jackson** **95.12** **43** P P **11 44 27.8 +0.5**
baz=321,SNR=5.5
Y47A **UCPARC, Winfie** **95.14** **39** P P **11 44 27.1 -0.3**
baz=323
BRYW **Bryant College** **95.15** **24** PFAKE 11 44 40.0 +13
BRYW LR LR
comp=Z,2µm,20.0s
MVL **Millersville** **95.15** **28** PFAKE 11 44 40.0 +13
MVL LR LR
comp=Z,1µm,20.0s
PAL **Palisades** **95.16** **26** PFAKE 11 44 40.0 +13
PAL LR LR
comp=Z,2µm,19.0s
BRNJ **Basking Ridge** **95.21** **27** PFAKE 11 44 40.0 +13
BRNJ LR LR
comp=Z,1µm,20.0s
CPCT **Cooper Cave** **95.52** **36** *e*P P **11 44 29.3 +0.3**
comp=Z,14nm,0.9s
CPCT LR LR
comp=Z,1µm,20.0s
344A **Westbrook Farm** **95.55** **43** P P **11 44 28.0 -1.2**
baz=321
Z47A **Carrollton** **95.59** **40** P P **11 44 28.0 -1.4**
baz=323
TKL **Tuckaleechee C** **95.70** **36** *e*P P **11 44 30.3 +0.5**
TKL pmax pmax
comp=Z,38nm,1.1s
TKL MLR MLR
comp=Z,2µm,22.0s
TKL **Tuckaleechee C** **95.70** **36** *e*P P **11 44 30.3 +0.5**
comp=Z,38nm,1.1s
TKL LR LR
comp=Z,2µm,22.0s
147A **Livingston** **95.90** **41** P P **11 44 29.4 -1.4**
baz=322
BLA **Blacksburg** **95.90** **33** *e*P P **11 44 31.3 +0.5**
BLA pmax pmax
comp=Z,42nm,1.0s
BLA MLR MLR
comp=Z,2µm,21.0s
BLA **Blacksburg** **95.90** **33** *e*P P **11 44 31.3 +0.5**
comp=Z,42nm,1.0s
BLA LR LR
comp=Z,2µm,21.0s
247A **Quitman** **96.21** **41** P P **11 44 31.3 -0.9**
baz=322
346A **Big Creek Wild** **96.28** **42** P P **11 44 31.1 -1.4**
baz=322
CBN **Corbin Frederi** **96.31** **30** PFAKE 11 44 40.0 +7.5
CBN LR LR
comp=Z,2µm,20.0s
248A **Dixon Mills** **96.63** **41** P P **11 44 34.1 0.0**
baz=323
347A **Saraland** **96.76** **41** P P **11 44 34.4 -0.3**
baz=322
ES19 **SONSECA Array** **96.77** **334** *e*P P **11 44 34.9 +0.2**
ESDC **Sonseca Array** **96.81** **334** P P **11 44 34.8 -0.1**
comp=Z,2.3nm,0.8s,baz=23,slow=3.8,SNR=9.8
ESDC PP **PP** **11 48 29.0 0.0**
comp=Z,1.8nm,0.7s,baz=29,slow=7.4,SNR=4.4
ESDC LR LR 12 34 01.9
comp=Z,1µm,18.3s,baz=65,slow=39
ESLA **Sonseca Array** **96.81** **334** PFAKE 11 44 50.0 +15
ESLA LR LR
comp=Z,2µm,21.0s
PAB **San Pablo** **97.06** **334** PFAKE 11 44 50.0 +14
PAB LR LR
comp=Z,2µm,20.0s
KMSC **Kings Mountain** **97.24** **34** P P **11 44 36.9 +0.1**
baz=327,SNR=7.7
KMSC **Kings Mountain** **97.24** **34** *e*P Pdif 11 44 37.0 +0.1
comp=Z,24nm,0.9s
KMSC LR LR
comp=Z,3µm,21.0s
MTE **Manteigas** **97.34** **337** PFAKE 11 44 50.0 +13
MTE LR LR
comp=Z,2µm,20.0s
GOGA **Godfrey** **97.69** **37** *e*P Pdif 11 44 39.3 +0.4
GOGA pmax pmax
comp=Z,16nm,1.4s
GOGA MLR MLR
comp=Z,2µm,22.0s
GOGA **Godfrey** **97.69** **37** *e*P Pdif 11 44 39.3 +0.4
comp=Z,16nm,1.4s
GOGA LR LR
comp=Z,2µm,22.0s
BRAL **Brewton** **97.72** **41** PFAKE 11 44 50.0 +11
BRAL LR LR
comp=Z,1µm,20.0s
MOIG **Morelia** **97.83** **58** PFAKE 11 44 50.0 +10
MOIG LR LR
comp=Z,2µm,19.0s
JSC **Jenkinsville** **97.99** **35** *e*P P **11 44 39.9 -0.3**
JSC pmax pmax
comp=Z,23nm,1.1s
JSC **Jenkinsville** **97.99** **35** *e*P P **11 44 39.9 -0.3**
comp=Z,23nm,1.1s
CNNC **Cliffs of the** **98.65** **32** PFAKE 11 45 00.0 +17
CNNC LR LR
comp=Z,1µm,20.0s
RKT **Rikitea** **98.76** **112** *e*SKSac **SKSac** **11 55 17.6 -2.8**
comp=Z,465nm,25.0s
RKT *e*SP **SP** **11 57 33.9 -3.7**
comp=Z,423nm,33.8s
RKT *e*SS **SS** **12 02 55.8 -3.3**
comp=Z,391nm,27.5s
RKT **Rikitea** **98.76** **112** *e*LR LR 12 16 48.3
comp=Z,3µm,22.5s,baz=311
TIGA **Tifton** **99.24** **38** PFAKE 11 45 00.0 +14
TIGA LR LR
comp=Z,1µm,21.0s
UNM **Universidad Na** **99.42** **57** PFAKE 11 45 00.0 +13
UNM LR LR
comp=Z,2µm,19.0s
NHSC **New Hope** **99.46** **35** PFAKE 11 45 00.0 +13
NHSC LR LR
comp=Z,3µm,21.0s
PFVI **Vila Bisbo** **100.73** **336** PFAKE 11 45 00.0 +7.6
PFVI LR LR
comp=Z,2µm,21.0s
TLIG **Tlapa** **101.08** **58** PFAKE 11 45 10.0 +16
TLIG LR LR
comp=Z,2µm,19.0s
KMBO **Kilima Mbogo** **102.14** **278** PP PP 11 49 09.6 -1.7
comp=Z,1.3nm,0.4s,baz=45,slow=11,SNR=4.1
KMBO **Kilima Mbogo** **102.14** **278** *e*P **Pdif** **11 44 58.9 -0.5**
KMBO MLR MLR
comp=Z,900nm,19.0s
KMBO **Kilima Mbogo** **102.14** **278** *e*Pdif **Pdif** **11 44 58.9 -0.5**
KMBO *e*PP **PP** **11 49 05.4 -5.9**
KMBO LR LR
comp=Z,900nm,19.0s
RTC **Rabat Centre** **102.93** **334** PFAKE 11 45 10.0 +7.8
RTC LR LR
comp=Z,5µm,19.0s
DWPF **Disney Wildern** **103.04** **38** PFAKE 11 45 10.0 +7.2
DWPF LR LR
comp=Z,2µm,19.0s
TEIG **Tepich** **105.63** **48** PFAKE 11 49 40.0
TEIG LR LR
comp=Z,1µm,22.0s
BBSR **BB Station** **106.06** **23** *e*PKKPbc PKKPbc 12 00 45.9 -3.5
BBSR LR LR
comp=Z,700nm,20.0s
CCIG **Comitan** **106.23** **54** PFAKE 11 49 40.0
CCIG LR LR
comp=Z,2µm,22.0s
TAM **Tamanrasset** **107.10** **318** *e*PKKPbc PKKPbc 12 00 48.9 +2.7
TAM LR LR
comp=Z,1µm,18.0s
TGUH **Tegucigalpa,Un** **110.97** **52** PFAKE 11 49 50.0
TGUH LR LR
comp=Z,1µm,20.0s
GTBY **Guantanamo Bay** **113.01** **38** PFAKE 11 49 50.0
GTBY LR LR
comp=Z,1µm,20.0s
GRTK **Grand Turk** **113.48** **33** PFAKE 11 49 50.0
GRTK LR LR
comp=Z,2µm,21.0s
VNDA **Vanda** **115.61** **175** PKP **PKPdf** **11 49 43.8 -0.9**
comp=Z,2.5nm,1.0s,baz=268,slow=3.4,SNR=7.4
VNDA PP **PP** **11 50 47.0 -1.0**
comp=Z,1.6nm,1.0s,baz=340,slow=9.1,SNR=6.5
VNDA PKKPbc **PKKPab** **12 00 21.1 +1.1**
comp=Z,1.6nm,1.1s,baz=183,slow=4.8,SNR=4.3
VNDA **Vanda** **115.61** **175** PKIKP **PKPdf** **11 49 43.8 -0.9**
VNDA 11 50 47.0
VNDA 12 00 21.1
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA pmax pmax
comp=Z,2.0nm,1.1s
VNDA **Vanda** **115.61** **175** *e*PKPdf **PKPdf** **11 49 44.8 +0.1**
VNDA *e*PP **PP** **11 50 49.7 +1.7**

VNDA					PKKPbc	**PKKPab**	**12 00 21.1**	**+1.1**
SBA	**Scott Base**	**116.28**	**174**	*e*PKIKP	**PKPdf**	**11 49 47.8**	**+1.9**
SBA	**Scott Base**	**116.28**	**174**	*e*PKPdf	**PKPdf**	**11 49 47.8**	**+1.9**
TOA0	**Torodi Ar. Sit**	**117.05**	**315**	*e*PKPdf	**PKPdf**	**11 49 48.5**	**-0.9**
TOA0				*e*PKPdf	**PKiKP**	**11 49 49.0**	**-0.4**
TOA0				*e*PP	**PP**	**11 50 56.1**	**-2.1**
TOA0				*e*PKKPbc	**PKKPbc**	**12 00 14.3**	**+1.3**
TOA0				*e*PKKPbc	**PKKPab**	**12 00 15.1**	**-5.0**
TORD	**Torodi Ar. Bea**	**117.05**	**315**	PKP	**PKPdf**	**11 49 48.6**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=4.8,slow=1.9,SNR=22							
TORD				PP	**PP**	**11 50 56.1**	**-2.1**
	comp=Z,6.3nm,0.7s,baz=36,slow=7.5,SNR=12							
TORD				PKKPbc	**PKKPbc**	**12 00 14.5**	**+1.5**
	comp=Z,7.5nm,1.0s,baz=220,slow=3.1,SNR=19							
BCIP	**Isla Barro Col**	**119.31**	**49**	*e*P	**PKPdf**	**11 49 51.1**	**-2.6**
MAW	**Mawson**	**120.25**	**206**	PKP	**PKPdf**	**11 49 54.5**	**+0.7**
	comp=Z,6.3nm,0.8s,baz=322,slow=3.7,SNR=9.6							
MAW				PKKPbc	**PKKPbc**	**12 00 02.1**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=246,slow=5.2,SNR=4.1							
MOTC	**Monteria, Cord**	**122.04**	**45**	*e*P	**PKPdf**	**11 49 57.3**	**-1.7**
OCAC	**Ocana**	**123.78**	**43**	*e*P	**PKPdf**	**11 50 00.8**	**-1.7**
GRMC	**Gramalote, San**	**124.49**	**43**	*e*P	**PKPdf**	**11 50 03.1**	**-0.8**
CBRI	**Barrientos, No**	**124.50**	**43**	*e*P	**PKPdf**	**11 50 03.5**	**-0.5**
SDV	**Santo Domingo**	**124.65**	**40**	*e*P	**PKPdf**	**11 50 03.5**	**-0.8**
SDV	**Santo Domingo**	**124.65**	**40**	*e*PKPdf	**PKPdf**	**11 50 04.5**	**+0.3**
BTLC	**Betulia, Santa**	**124.90**	**44**	*e*P	**PKPdf**	**11 50 05.0**	**+0.2**
LBTB	**Lobatse**	**124.97**	**264**	*e*PKIKP	**PKPdf**	**11 50 04.8**	**+0.4**
LBTB	**Lobatse**	**124.97**	**264**	*e*PKPdf	**PKPdf**	**11 50 04.8**	**+0.4**
NORC	**Norcasia**	**125.11**	**47**	*e*P	**PKPdf**	**11 50 03.9**	**-1.1**
BARC	**Barichara**	**125.22**	**44**	*e*P	**PKPdf**	**11 50 04.7**	**-0.7**
RUSC	**La Rusia**	**125.85**	**45**	*e*P	**PKPdf**	**11 50 06.3**	**-0.6**
DBIC	**Dimbokro**	**125.99**	**317**	PKP	**PKPdf**	**11 50 06.2**	**-0.3**
	comp=Z,6.9nm,0.8s,baz=352,slow=2.5,SNR=9.4							
DBIC				PP	**PP**	**11 51 57.6**	**-1.5**
	comp=Z,9.6nm,0.9s,baz=0.4,slow=6.6,SNR=3.2							
ROSC	**El Rosal**	**126.01**	**46**	PKP	**PKPdf**	**11 50 07.5**	**+0.4**
	comp=Z,25nm,1.0s,baz=236,slow=1.8,SNR=16							
ROSC	**El Rosal**	**126.01**	**46**	*e*P	**PKPdf**	**11 50 07.2**	**0.0**
CHIC	**Chingaza**	**126.52**	**46**	*e*P	**PKPdf**	**11 50 06.3**	**-1.8**
PRAC	**Prado**	**126.59**	**48**	*e*P	**PKPdf**	**11 50 07.6**	**-0.2**
PRAC	**Prado**	**126.59**	**48**	*e*PKPdf	**PKPdf**	**11 50 07.8**	**+0.1**
BOSA	**Boshof**	**126.95**	**260**	PKP	**PKPdf**	**11 50 08.0**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=130,slow=3.9,SNR=6.8							
BOSA	**Boshof**	**126.95**	**260**	PKIKP	**PKPdf**	**11 50 08.0**	**-0.1**
BOSA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
OTAV	**Otavalo**	**127.11**	**54**	*e*P	**PKPdf**	**11 50 06.3**	**-3.0**
OTAV	**Otavalo**	**127.11**	**54**	*e*PKPdf	**PKPdf**	**11 50 09.5**	**+0.2**
QSPA	**South Pole Qui**	**127.43**	**180**	*e*PKPdf	**PKPdf**	**11 50 07.5**	**-0.2**
SJAC	**San Juan de Ar**	**127.49**	**47**	*e*P	**PKPdf**	**11 50 05.2**	**-4.4**
TSUM	**Tsumeb**	**128.32**	**275**	*e*PKPdf	**PKPdf**	**11 50 11.6**	**+0.6**
SYO	**Syowa Base**	**128.91**	**207**	*e*X	**PKPdf**	**11 50 09.0**	**-1.3**
NNA	**Nana**	**137.09**	**64**	*i* PKIKP	**PKPdf**	**11 50 28.4**	**+0.9**
NNA	**Nana**	**137.09**	**64**	*e*PKPdf	**PKPdf**	**11 50 27.0**	**-0.4**
NVL	**N'lazarevskaya**	**138.00**	**202**	*e*PKHKP	PKPpre	11 50 20.3		
PTGA	**Pitinga**	**138.13**	**34**	*e*PKPpre	PKPpre	11 50 19.6		
PTGA				*e*PKPdf	**PKPdf**	**11 50 29.6**	**+0.1**	
PTGA				*e*PP	**PP**	**11 53 17.8**	**+0.8**	
SNAA	**Sanae**	**141.46**	**197**	P	PKPpre	11 50 28.3		
SNAA	**Sanae**	**141.46**	**197**	*e*PKHKP	PKPpre	11 50 27.4		
SNAA	**Sanae**	**141.46**	**197**	*e*PKPpre	PKPpre	11 50 27.4		
VNA1	**Neumayer--Stat**	**143.42**	**196**	P	PKPbc	11 50 34.7	+0.3	
SAML	**Samuel**	**143.59**	**45**	*e*PKPpre	PKPpre	11 50 36.2		
LPAZ	**La Paz**	**146.13**	**59**	*i* P	**PKPbc**	**11 50 45.1**	**-0.1**	
LPAZ	**La Paz**	**146.13**	**59**	PKPbc	**PKPbc**	**11 50 45.1**	**-0.1**	
	comp=Z,234nm,1.0s,baz=348,slow=3.5,SNR=340							
PB11	**IPOC Station P**	**147.39**	**66**	*e*PKPdf	**PKPdf**	**11 50 46.5**	**+0.7**	
RCBR	**Riachuelo**	**148.21**	**356**	*e*PKPbc	**PKPbc**	**11 50 50.4**	**0.0**	
PB01	**IPOC Station P**	**148.32**	**67**	*e*PKPdf	**PKPdf**	**11 50 47.8**	**+0.6**	
PB04	**IPOC Station P**	**148.61**	**70**	*e*PKPdf	**PKPdf**	**11 50 49.0**	**+1.3**	
PB04				*e*PKPbc	**PKiKP**	**11 50 52.7**	**-0.3**	
PB10	**IPOC Station P**	**148.99**	**72**	*e*PKPdf	**PKPdf**	**11 50 47.9**	**-0.2**	
LVC	**Limon Verde**	**149.69**	**69**	*e*PKPdf	**PKPdf**	**11 50 50.0**	**+0.3**	
LVC				*e*PKPbc	**PKiKP**	**11 50 55.9**	**+0.5**	
LCO	**Las Campanas**	**151.66**	**82**	*e*PKPbc	**PKPbc**	**11 50 59.8**	**+1.0**	
LCO				*e*PKPab	**PKPab**	**11 51 08.9**	**+1.4**	
ROC1	**El Roble**	**152.94**	**90**	*e*P	**PKPdf**	**11 50 56.1**	**+1.9**	
ROC1	**El Roble**	**152.94**	**90**	*e*PKPdf	**PKPdf**	**11 50 54.9**	**+0.7**	
ROC1				*e*PKPbc	**PKiKP**	**11 51 01.7**	**+0.1**	
CHRN	**Cochrane**	**153.12**	**122**	*e*PKPdf	**PKPdf**	**11 50 55.0**	**+1.4**	
CHRN				*e*PKPbc	**PKiKP**	**11 51 02.2**	**+1.0**	
CHRN				*e*PKPab	**PKPab**	**11 51 14.0**	**+1.2**	
AZAP	**Zapla**	**153.48**	**67**	*e*P	**PKPdf**	**11 50 55.8**	**+0.5**	
VCA	**Vinchina**	**153.49**	**79**	*e*P	**PKPdf**	**11 50 55.1**	**+0.1**	
AGUA	**GUANDACOL**	**153.60**	**81**	*e*P	**PKPdf**	**11 50 56.0**	**+0.9**	
FSA	**Cafayete**	**153.88**	**72**	*e*P	**PKPdf**	**11 50 56.4**	**+0.7**	
RTLS	**Leoncito**	**153.90**	**86**	*e*P	**PKPdf**	**11 50 56.1**	**+0.4**	
AUSP	**Uspallata**	**153.98**	**87**	*e*P	**PKPdf**	**11 50 56.1**	**+0.3**	
CANA	**Caviahue**	**154.14**	**101**	*e*P	**PKPdf**	**11 50 55.4**	**-0.3**	
AMOG	**MOGNA**	**154.20**	**84**	*e*P	**PKPdf**	**11 50 56.5**	**+0.6**	
RTLL	**Cerro Villicun**	**154.37**	**85**	*e*P	**PKPdf**	**11 50 56.1**	**0.0**	
RTCV	**Cerro Valdivia**	**154.52**	**86**	*e*P	**PKPdf**	**11 50 56.1**	**-0.2**	
ASAL	**Salagasta**	**154.54**	**88**	*e*P	**PKPdf**	**11 50 56.6**	**+0.3**	
ARCO	**CERRO ARCO**	**154.55**	**88**	*e*P	**PKPdf**	**11 50 54.1**	**-2.3**	
AAGR	**Agrelo**	**154.71**	**89**	*e*P	**PKPdf**	**11 50 57.1**	**+0.6**	
AHML	**Horco Molle**	**154.73**	**72**	*i* P	**PKPdf**	**11 50 57.0**	**+0.4**	
AHML				*i* P	**PKPdf**	**11 50 57.3**	**+0.6**	
PLCA	**Paso Flores**	**154.87**	**107**	*e*P	**PKPdf**	**11 50 55.4**	**-1.1**	
PLCA	**Paso Flores**	**154.87**	**107**	PKPbc	**PKPbc**	**11 51 05.6**	**+0.4**	
	comp=Z,29nm,1.1s,baz=261,slow=3.4,SNR=7.7							
PLCA				PKPab	**PKPab**	**11 51 21.2**	**+0.7**	
	comp=Z,81nm,1.1s,baz=320,slow=7.1,SNR=5.0							
PLCA	**Paso Flores**	**154.87**	**107**	*e*PKIKP	**PKPdf**	**11 50 56.4**	**-0.1**	
PLCA				*e*		11 51 06.1		
PLCA				*e*		11 51 21.8		
PLCA	**Paso Flores**	**154.87**	**107**	*e*PKPdf	**PKPdf**	**11 50 56.4**	**-0.1**	
PLCA				*e*PKPbc	**PKiKP**	**11 51 06.0**	**+0.9**	
PLCA				*e*PKPab	**PKPab**	**11 51 21.8**	**+1.3**	
CYA	**Choya**	**155.21**	**76**	*e*P	**PKPdf**	**11 50 57.4**	**+0.1**	
ACAN	**Cantantal**	**155.74**	**86**	*e*P	**PKPdf**	**11 50 58.3**	**+0.4**	
TCA	**Tanti**	**157.43**	**82**	*e*P	**PKPdf**	**11 50 59.3**	**-0.9**	
CPUP	**Villa Florida**	**160.29**	**60**	PKP	**PKPdf**	**11 51 03.0**	**-0.6**	
	comp=Z,1.6nm,0.5s,baz=268,slow=2.1,SNR=5.7							
CPUP				PKPab	**PKPab**	**11 51 43.6**	**-0.6**	
	comp=Z,15nm,1.0s,baz=315,slow=6.4,SNR=9.5							
CPUP				PP	**PP**	**11 55 26.9**	**+0.5**	
	comp=Z,3.5nm,1.0s,baz=341,slow=3.9,SNR=3.5							
CPUP	**Villa Florida**	**160.29**	**60**	PKIKP	**PKPdf**	**11 51 03.0**	**-0.6**	
CPUP						11 51 43.6		
CPUP						11 55 26.9		
CPUP				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CPUP				pmax	pmax			
	comp=Z,15nm,1.0s							
CPUP				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CPUP	**Villa Florida**	**160.29**	**60**	*e*PKPdf	**PKPdf**	**11 51 03.8**	**+0.2**	
CPUP				*e*PKPab	**PKPab**	**11 51 44.3**	**+0.1**	
CPUP				PP	**PP**	**11 55 26.9**	**+0.5**	
TRQA	**Tornquist**	**161.27**	**98**	*e*PKPdf	**PKPdf**	**11 51 04.9**	**+0.6**	
TRQA				*e*PKPab	**PKPab**	**11 51 48.8**	**+0.5**	

*NEIC **18** 11:33:36.1±0.8, 32.44S×179.97W, h351km±8km, mb4.4/1, Error ellipse: s-maj=18.8km s-min=10.3km az=103.0*

*IDC **18** 11:33:36.7±1.5, 32.39S×179.99W, h352km±14km, mb3.8/5, mb1 3.9/9, mb1mx3.6/34, mbtmp4.7/9, Error ellipse: s-maj=23.3km s-min=17.1km az=138.0*

ISC 18 11:33:37.2±0.6, 32.38S±0.06×179.0E±0.1, h350km, n137, σ1s80/146, mb4.1/7,1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.08**	**41**	P	Pn	11 34 41.6	-5.5
	174nm,0.3s,baz=36,slow=24,SNR=7.5						
HAZ	**Te Kaha**	**5.46**	**190**	PN	**Pn**	**11 35 05.0**	**+3.2**
HAZ				SN	**S**	**11 36 12.2**	**+2.0**
TWGZ	**Tauwhareparae**	**5.84**	**188**	Pn	**Pn**	**11 35 07.7**	**+1.5**
TWGZ	**Tauwhareparae**	**5.84**	**188**	PN	**Pn**	**11 35 09.3**	**+3.1**
TWGZ				SN	**S**	**11 36 19.8**	**+1.5**
MWZ	**Matawai**	**6.06**	**191**	Pn	**Pn**	**11 35 10.4**	**+1.7**
MWZ	**Matawai**	**6.06**	**191**	PN	**Pn**	**11 35 11.3**	**+2.6**
MWZ				SN	**S**	**11 36 23.4**	**+0.6**
URZ	**Urewera**	**6.07**	**194**	P	**Pn**	**11 35 11.3**	**+2.6**
	39nm,0.3s,baz=305,slow=2.8,SNR=107						
URZ				S	**S**	**11 36 24.0**	**+1.1**
	38nm,0.3s,baz=91,slow=22,SNR=17						
URZ	**Urewera**	**6.07**	**194**	*e*Pn	**Pn**	**11 35 11.3**	**+2.6**
URZ				S	**S**	**11 36 24.0**	**+1.1**
URZ				*e*Sn	**S**	**11 36 25.0**	**+2.1**
URZ	**Urewera**	**6.07**	**194**	Pn	**Pn**	**11 35 11.3**	**+2.6**
URZ	**Urewera**	**6.07**	**194**	PN	**Pn**	**11 35 11.3**	**+2.6**
URZ				SN	**S**	**11 36 24.6**	**+1.7**
TKGZ	**Te Karaka**	**6.12**	**189**	Pn	**Pn**	**11 35 09.7**	**+0.4**
TKGZ	**Te Karaka**	**6.12**	**189**	PN	**Pn**	**11 35 12.1**	**+2.8**
TKGZ				SN	**S**	**11 36 21.6**	**-2.3**
MUGZ	**Murupara**	**6.36**	**196**	PN	**Pn**	**11 35 15.2**	**+3.2**
RIGZ	**Rimuhau**	**6.39**	**189**	PN	**Pn**	**11 35 14.4**	**+1.9**
RTZ	**Ruatahuna**	**6.44**	**194**	PN	**Pn**	**11 35 16.2**	**+3.2**
SNGZ	**Shannon Statio**	**6.53**	**192**	Pn	**Pn**	**11 35 14.8**	**+0.7**
SNGZ	**Shannon Statio**	**6.53**	**192**	PN	**Pn**	**11 35 16.7**	**+2.6**
KNZ	**Kokohu**	**6.72**	**189**	Pn	**Pn**	**11 35 18.2**	**+2.1**
KNZ	**Kokohu**	**6.72**	**189**	PN	**Pn**	**11 35 19.8**	**+3.7**
MRHZ	**Matea Rd**	**6.78**	**198**	PN	**Pn**	**11 35 20.2**	**+3.2**
MHGZ	**Mahia Peninsul**	**6.82**	**187**	Pn	**Pn**	**11 35 19.8**	**+2.5**
MHGZ	**Mahia Peninsul**	**6.82**	**187**	PN	**Pn**	**11 35 21.0**	**+3.6**
WHHZ	**Waihua**	**6.84**	**192**	PN	**Pn**	**11 35 21.7**	**+4.1**
WHHZ				SN	**S**	**11 36 39.0**	**-0.2**
NMHZ	**Naumai**	**6.94**	**194**	Pn	**Pn**	**11 35 19.9**	**+1.1**
NMHZ	**Naumai**	**6.94**	**194**	PN	**Pn**	**11 35 19.9**	**+1.1**
HIZ	**Hauiti**	**7.00**	**208**	PN	**Pn**	11 35 27.4	+7.9
ARHZ	**Aropaoanui**	**7.06**	**193**	Pn	**Pn**	**11 35 22.9**	**+2.7**
ARHZ	**Aropaoanui**	**7.06**	**193**	PN	**Pn**	**11 35 22.9**	**+2.7**
BKZ	**Black Stump Fm**	**7.08**	**196**	Pn	**Pn**	**11 35 21.1**	**+0.7**
BKZ	**Black Stump Fm**	**7.08**	**196**	PN	**Pn**	**11 35 20.8**	**+0.4**
MCHZ	**McNeill Hill**	**7.30**	**194**	Pn	**Pn**	**11 35 25.1**	**+2.1**
MCHZ	**McNeill Hill**	**7.30**	**194**	PN	**Pn**	**11 35 26.5**	**+3.6**
MCHZ				SN	**S**	**11 36 49.0**	**0.0**
KWHZ	**Kaweka Forest**	**7.34**	**196**	PN	**Pn**	**11 35 26.1**	**+2.6**
WNVZ	**Wahianoa**	**7.47**	**201**	Pn	**Pn**	**11 35 28.5**	**+3.3**
WNVZ	**Wahianoa**	**7.47**	**201**	PN	**Pn**	**11 35 28.5**	**+3.3**
MOVZ	**Moawhango**	**7.50**	**200**	Pn	**Pn**	**11 35 26.0**	**+0.7**
MOVZ	**Moawhango**	**7.50**	**200**	PN	**Pn**	**11 35 28.1**	**+2.7**
KRHZ	**Kereru**	**7.56**	**196**	PN	**Pn**	**11 35 28.4**	**+2.0**
KAHZ	**Kahuranaki**	**7.60**	**193**	Pn	**Pn**	**11 35 28.6**	**+2.0**
KAHZ	**Kahuranaki**	**7.60**	**193**	PN	**Pn**	**11 35 28.5**	**+2.0**
PXZ	**Pawanui**	**7.83**	**192**	Pn	**Pn**	**11 35 30.8**	**+1.6**
PXZ	**Pawanui**	**7.83**	**192**	PN	**Pn**	**11 35 30.8**	**+1.6**
PXZ				SN	**S**	**11 36 59.7**	**-0.8**
PNHZ	**Pukenui**	**7.86**	**196**	Pn	**Pn**	**11 35 30.6**	**+1.1**
PNHZ	**Pukenui**	**7.86**	**196**	PN	**Pn**	**11 35 30.6**	**+1.1**
TSZ	**Takapari Road**	**8.05**	**197**	Pn	**Pn**	**11 35 33.2**	**+1.3**
TSZ	**Takapari Road**	**8.05**	**197**	PN	**P**	**11 35 35.1**	**+0.2**
WAZ	**Wanganui**	**8.05**	**203**	Pn	**P**	**11 35 35.3**	**+0.4**
WAZ	**Wanganui**	**8.05**	**203**	PN	**P**	**11 35 34.9**	**+0.1**
PRHZ	**Porangahau**	**8.10**	**193**	Pn	**P**	**11 35 34.3**	**-1.1**
PRHZ	**Porangahau**	**8.10**	**193**	PN	**P**	**11 35 34.4**	**-1.1**
DVHZ	**Dannevirke**	**8.23**	**195**	Pn	**Pn**	**11 35 34.5**	**+0.5**
ANWZ	**Angora Road**	**8.32**	**194**	PN	**P**	**11 35 38.0**	**+0.2**
OHWZ	**Ohakea**	**8.36**	**200**	PN	**P**	**11 35 39.3**	**+1.0**
OHWZ				SN	**S**	**11 37 12.8**	**+0.7**
POWZ	**Post Office Ro**	**8.41**	**197**	Pn	**Pn**	**11 35 37.5**	**+1.4**
POWZ	**Post Office Ro**	**8.41**	**197**	PN	**P**	**11 35 39.6**	**+0.7**
PRWZ	**Pori Road**	**8.52**	**196**	Pn	**P**	**11 35 39.3**	**-0.8**
PRWZ	**Pori Road**	**8.52**	**196**	PN	**P**	**11 35 39.5**	**-0.6**
BFZ	**Birch Farm**	**8.58**	**194**	Pn	**Pn**	**11 35 38.3**	**+0.2**
BFZ	**Birch Farm**	**8.58**	**194**	PN	**P**	**11 35 39.8**	**-0.9**
MRZ	**Mangatainoka R**	**8.71**	**198**	Pn	**Pn**	**11 35 39.9**	**+0.2**
MRZ	**Mangatainoka R**	**8.71**	**198**	PN	**Pn**	**11 35 39.9**	**+0.2**
TIWZ	**Tintock**	**8.75**	**196**	Pn	**P**	**11 35 42.0**	**-0.7**
TIWZ	**Tintock**	**8.75**	**196**	PN	**P**	**11 35 42.0**	**-0.7**
HOWZ	**Holdsworth Sta**	**8.95**	**197**	Pn	**Pn**	**11 35 42.0**	**-0.5**
HOWZ	**Holdsworth Sta**	**8.95**	**197**	PN	**Pn**	**11 35 42.1**	**-0.5**
OGWZ	**Otaki Gorge**	**8.97**	**199**	Pn	**Pn**	**11 35 43.4**	**+0.7**
OGWZ	**Otaki Gorge**	**8.97**	**199**	PN	**Pn**	**11 35 43.4**	**+0.7**
TMWZ	**Te Maipa**	**9.06**	**195**	Pn	**P**	**11 35 45.3**	**-0.8**
TMWZ	**Te Maipa**	**9.06**	**195**	PN	**P**	**11 35 46.2**	**0.0**
KIW	**Kapiti Island**	**9.09**	**200**	Pn	**P**	**11 35 46.0**	**-0.4**
MTW	**Mount Morrison**	**9.28**	**197**	Pn	**P**	**11 35 47.0**	**-0.4**
CAW	**Cannon Point**	**9.27**	**199**	Pn	**Pn**	**11 35 47.2**	**+0.9**
CAW	**Cannon Point**	**9.27**	**199**	PN	**Pn**	**11 35 47.2**	**+0.9**
DUWZ	**D'Urville Isla**	**9.35**	**205**	Pn	**Pn**	**11 35 47.3**	**0.0**
DUWZ	**D'Urville Isla**	**9.35**	**205**	PN	**Pn**	**11 35 47.8**	**+0.4**
TRWZ	**Traveller**	**9.39**	**196**	Pn	**P**	**11 35 49.0**	**-0.7**
TRWZ	**Traveller**	**9.39**	**196**	PN	**P**	**11 35 49.3**	**-0.4**
MSWZ	**Moikau Station**	**9.51**	**197**	Pn	**Pn**	**11 35 50.0**	**+0.8**
MSWZ	**Moikau Station**	**9.51**	**197**	PN	**Pn**	**11 35 50.0**	**+0.8**
WEL	**Wellington**	**9.52**	**200**	Pn	**P**	**11 35 50.4**	**-0.7**
WEL	**Wellington**	**9.52**	**200**	PN	**P**	**11 35 50.3**	**-0.7**
TCW	**Tory Channel**	**9.60**	**202**	Pn	**Pn**	**11 35 50.3**	**+0.1**
TCW	**Tory Channel**	**9.60**	**202**	PN	**Pn**	**11 35 50.3**	**+0.1**
BHW	**Baring Head**	**9.60**	**199**	Pn	**Pn**	**11 35 50.5**	**+0.2**
BHW	**Baring Head**	**9.60**	**199**	PN	**Pn**	**11 35 51.2**	**+0.9**
PLWZ	**Palliser**	**9.65**	**197**	Pn	**P**	**11 35 52.1**	**-0.6**
PLWZ	**Palliser**	**9.65**	**197**	PN	**P**	**11 35 52.1**	**-0.6**
TUWZ	**Tuamarina**	**9.90**	**203**	Pn	**Pn**	**11 35 53.1**	**-0.8**
TUWZ	**Tuamarina**	**9.90**	**203**	PN	**Pn**	**11 35 53.1**	**-0.8**
NNZ	**Nelson**	**9.91**	**206**	Pn	**Pn**	**11 35 54.4**	**+0.5**
NNZ	**Nelson**	**9.91**	**206**	PN	**Pn**	**11 35 54.4**	**+0.5**
QRZ	**Quartz Range**	**9.91**	**210**	Pn	**P**	**11 35 55.7**	**+0.2**
QRZ	**Quartz Range**	**9.91**	**210**	PN	**P**	**11 35 56.1**	**+0.6**
BSWZ	**Blackbirch Sta**	**10.18**	**202**	Pn	**P**	**11 35 58.0**	**-0.5**
BSWZ	**Blackbirch Sta**	**10.18**	**202**	PN	**P**	**11 35 58.0**	**-0.5**
THZ	**Tophouse**	**10.56**	**206**	Pn	**Pn**	**11 36 01.7**	**-0.1**
THZ	**Tophouse**	**10.56**	**206**	PN	**Pn**	**11 36 01.7**	**-0.1**
KHZ	**Kahutara**	**10.92**	**202**	*e*Pn	**Pn**	**11 36 06.0**	**0.0**
	283nm,0.4s						
KHZ	**Kahutara**	**10.92**	**202**	Pn	**Pn**	**11 36 06.2**	**+0.2**
KHZ	**Kahutara**	**10.92**	**202**	PN	**Pn**	**11 36 06.2**	**+0.2**
DSZ	**Denniston Nort**	**10.98**	**210**	Pn	**P**	**11 36 08.8**	**+1.3**
DSZ	**Denniston Nort**	**10.98**	**210**	PN	**P**	**11 36 08.8**	**+1.3**
LTZ	**Lake Taylor**	**11.68**	**205**	Pn	**Pn**	**11 36 14.4**	**-0.6**
LTZ	**Lake Taylor**	**11.68**	**205**	PN	**Pn**	**11 36 14.4**	**-0.6**
INZ	**Inchbonnie**	**11.94**	**208**	PN	**P**	**11 36 17.8**	**-0.2**
OXZ	**Oxford**	**12.24**	**205**	PN	**P**	**11 36 20.7**	**-0.6**
MQZ	**McQueen's Vall**	**12.37**	**202**	PN	**P**	11 36 17.8	-4.9
MQZ				SN	**S**	**11 38 34.7**	**-5.0**
RPZ	**Rata Peaks**	**12.93**	**207**	P	**Pn**	**11 36 30.9**	**+1.1**
	3.1nm,0.3s,baz=25,slow=2.0,SNR=13						
RPZ				S	**S**	**11 38 46.8**	**-4.5**
	8.3nm,0.3s,baz=38,slow=8.4,SNR=17						
FOZ	**Fox Glacier**	**13.28**	**210**	Pn	**Pn**	**11 36 35.7**	**+1.8**
FOZ	**Fox Glacier**	**13.28**	**210**	PN	**Pn**	**11 36 35.7**	**+1.8**
ODZ	**Otahua Downs**	**14.22**	**205**	Pn	**Pn**	**11 36 45.4**	**+0.5**
ODZ	**Otahua Downs**	**14.22**	**205**	PN	**Pn**	**11 36 45.4**	**+0.5**
MSVF	**Nonsavu**	**14.61**	**356**	*e*P	**P**	**11 36 47.7**	**-0.2**
	14nm,0.8s						
DZM	**Mont Dzumac**	**15.18**	**309**	P	**Pn**	**11 37 01.5**	**+5.1**
	0.6nm,0.3s,baz=135,slow=12,SNR=8.0						
STKA	**Stephens Creek**	**31.60**	**261**	P	P	11 39 35.9	+7.1
	6.3nm,0.6s,baz=100,slow=11,SNR=18						
CTA	**Charters Tower**	**31.72**	**285**	P	P	11 39 35.5	+5.6
	3.6nm,0.4s,baz=119,slow=11,SNR=17						
ASAR	**Alice Springs**	**40.53**	**271**	P	P	11 40 49.0	+5.2
	1.9nm,0.6s,baz=106,slow=7.5,SNR=38						
QSPA	**South Pole Qui**	**57.73**	**180**	*e*P	**P**	**11 42 54.3**	**+2.0**
	92nm,0.7s						
SYO	**Syowa Base**	**74.60**	**194**	*e*P	**P**	**11 44 37.2**	**-0.9**
SNAA	**Sanae**	**76.23**	**179**	P	**P**	**11 44 48.0**	**+0.6**
SNAA	**Sanae**	**76.23**	**179**	*e*P	**P**	**11 44 47.6**	**+0.2**
	158nm,0.4s						
VNA1	**Neumayer--Stat**	**77.13**	**178**	P	**P**	**11 44 53.0**	**+0.7**
KSRS	**Korea Array**	**84.26**	**321**	P	**P**	**11 45 31.7**	**+1.6**
	1.5nm,0.8s,baz=142,slow=5.8,SNR=6.4						
KSAR	**Wonju Array Be**	**84.27**	**321**	P	**P**	**11 45 31.7**	**+1.5**
PETK	**Petropavlovsk-**	**87.14**	**347**	P	**P**	**11 45 44.5**	**+0.7**
	13nm,0.7s,baz=116,slow=6.6,SNR=20						
TKM2	**Tomak 2**	**120.40**	**304**	*e*PKPdf	**PKPdf**	**11 51 46.7**	**-0.7**
KURK	**Kurchatov**	**120.57**	**313**	PKP	**PKPdf**	**11 51 45.9**	**-1.3**
KURBB	**Kurchatov Arra**	**120.61**	**313**	PKP	**PKPdf**	**11 51 45.9**	**-1.4**
	0.7nm,0.5s,baz=114,slow=1.8,SNR=8.7						
ARCES	**ARCESS Array B**	**139.94**	**346**	PKhKP	PKPpre	11 52 17.6		
	2.4nm,0.8s,baz=80,slow=1.4,SNR=5.5						
KBZ	**Khabaz**	**144.03**	**301**	PKP	**PKPdf**	**11 52 31.6**	**+0.3**
	3.0nm,0.7s,baz=24,slow=24,SNR=4.3						
KIV	**Kislovodsk**	**144.17**	**302**	*e*PKPbc	**PKPab**	**11 52 25.1**	**-5.5**
FINES	**FINESS Array B**	**146.05**	**337**	PKPbc	**PKPbc**	**11 52 35.3**	**-0.4**
	7.8nm,0.4s,baz=46,slow=4.3,SNR=71						
NB2	**NORSAR Subarra**	**150.24**	**348**	PKP	**PKPbc**	**11 52 45.6**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**150.24**	**348**	PKPbc	**PKPbc**	**11 52 45.5**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=16,slow=4.2,SNR=13						
NOA				PKPab	**PKPab**	**11 52 54.1**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=24,slow=3.3,SNR=10						
AKASG	**Malin Array Be**	**151.21**	**318**	PKPbc	**PKPbc**	**11 52 48.9**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=42,slow=2.7,SNR=4.7						
AKASG				PKPab	**PKPab**	**11 52 58.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=188,slow=29,SNR=4.8						
KIEV	**Kiev**	**151.23**	**318**	*e*PKPdf	**PKPdf**	**11 52 36.8**	**-5.9**
TORD	**Torodi Ar. Bea**	**160.70**	**188**	PKPab	**PKPab**	**11 53 39.9**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=165,slow=4.8,SNR=8.2

PMG Port Moresby 3.16 172 *d* iP **Pn 11 57 25.1 -1.2**
PMG Port Moresby 3.16 172 *e*Pn **Pn 11 57 25.6 -0.7**
PMG *e*Sn **Sn 11 58 00.8 -2.0**
RABL Rabaul 5.82 70 *e*Pn **Pn 11 58 04.7 +1.8**
JAY Jayapura 7.04 302 Pn **Pn 11 58 21.9 +2.2**
0.5nm,0.3s,baz=274,slow=23,SNR=8.1
JAY Sn Sn 11 59 56.8 +18
0.1nm,0.3s,baz=270,slow=23,SNR=1.8
JAY LR LR 12 01 53.1
comp=Z,252nm,18.1s,baz=154,slow=45
JAY Jayapura 7.04 302 P **Pn 11 58 23.3 +3.7**
GENI Genyem 7.46 299 P **Pn 11 58 29.4 +4.1**
COEN Coen 8.40 204 *e*Pn **Pn 11 58 36.5 -1.7**
COEN *e*Sn **Sn 12 00 08.3 -3.4**
HNR Honiara 13.50 104 Pn **Pn 11 59 44.4 -3.6**
12nm,0.3s,baz=229,slow=12,SNR=4.0
HNR Honiara 13.50 104 *e*P **Pn 11 59 51.0 +3.0**
HNR Honiara 13.50 104 *e*Pn **Pn 11 59 50.9 +2.8**
CTA Charters Tower 13.75 182 Pn **Pn 11 59 51.3 -0.1**
2.9nm,0.3s,baz=0.6,slow=14,SNR=47
CTA LR LR 12 04 58.4
comp=Z,4µm,20.3s,baz=354,slow=37
CTAO Charters Tower 13.75 182 *e*P **Pn 11 59 51.6 +0.1**
CTAO *e* 12 02 30.3
CTAO Charters Tower 13.75 182 *e*Pn **Pn 11 59 51.6 +0.1**
CTAO *e*Sn **Sn 12 02 30.3 +7.6**
MTN Manton Dam 16.68 246 *e*Pn **Pn 12 00 27.9 -1.5**
62nm,0.6s
PATS Pohnpei 17.43 42 *e*Pn **P 12 00 40.7 +1.3**
216nm,0.9s
WRAB Tennant Creek 18.13 220 *d* iP **P 12 00 45.2 -2.0**
WRAB pmax pmax
comp=Z,260nm,1.1s
WRAB Tennant Creek 18.13 220 *e*P **P 12 00 45.6 -1.6**
comp=Z,124nm,1.0s
WB2 Warramunga Arr 18.13 220 *e*P **P 12 00 45.7 -1.5**
comp=Z,104nm,1.0s
WRA Warramunga Arr 18.14 220 P **P 12 00 45.0 -2.3**
comp=Z,2.5nm,0.3s,baz=45,slow=12,SNR=130
WRA S **Sn 12 04 09.5 +0.2**
baz=41,slow=21,SNR=5.1
WRA ScP **ScP 12 08 55.1 +4.4**
comp=Z,0.1nm,0.3s,baz=29,slow=2.2,SNR=7.3
EIDS Eidsvold 19.46 168 *e*P **P 12 01 01.8 +0.1**
comp=Z,164nm,1.4s
NLAI Namlea 19.76 278 P **Pn 12 01 08.8 +1.9**
GUMO Guam 19.80 355 LR LR 12 07 52.9
comp=Z,1µm,19.6s,baz=187,slow=34
GUMO Guam 19.80 355 *e*P **Pn 12 01 06.7 -0.7**
GUMO pmax pmax
comp=Z,307nm,1.0s
GUMO Guam 19.80 355 *e*P **Pn 12 01 06.7 -0.7**
comp=Z,306nm,1.0s
LBMI Labuha 19.95 286 P **Pn 12 01 11.4 +2.2**
SANI Sanana 21.07 281 P **P 12 01 22.4 +3.1**
comp=Z,1µmcomp=Z,96nm,0.7s
AS01 Alice Springs 21.21 214 *e*P **P 12 01 19.1 -1.6**
AS31 Alice Springs 21.23 214 *e*P **P 12 01 20.1 -1.0**
comp=Z,24nm,0.8s
ASAR Alice Springs 21.23 214 P **P 12 01 19.4 -1.6**
comp=Z,35nm,1.1s,baz=52,slow=8.4,SNR=55
ASAR S **S 12 05 17.4 +3.0**
comp=Z,14nm,0.7s,baz=39,slow=18,SNR=7.1
ASAR LR LR 12 10 38.5
comp=Z,4µm,19.8s,baz=28,slow=40
ASAR Alice Springs 21.23 214 P **P 12 01 19.4 -1.6**
ASAR S **S 12 05 17.5 +3.0**
ASAR pmax pmax
comp=Z,17nm,0.9s
ASAR smax smax
comp=N,14nm,0.7s
ASAR MLR MLR
comp=Z,4µm,19.8s
SOEI Soe 22.48 260 *e*P **P 12 01 32.8 -1.7**
comp=Z,92nm,0.9s
FITZ Fitzroy Crossi 23.68 238 P **P 12 01 45.0 -1.3**
comp=Z,40nm,0.8s,baz=50,slow=7.9,SNR=101
FITZ ScP **ScP 12 09 09.8 +5.7**
comp=Z,20nm,1.0s,baz=79,slow=7.8,SNR=3.8
FITZ LR LR 12 11 55.2
comp=Z,3µm,18.1s,baz=62,slow=39
FITZ Fitzroy Crossi 23.68 238 *e*P **P 12 01 44.6 -1.8**
comp=Z,77nm,0.9s
FITZ ScP **ScP 12 09 09.8 +5.7**
ARMA Armidale 24.48 170 *e*P **P 12 01 53.2 -0.4**
comp=Z,91nm,1.5s
DZM Mont Dzumac 24.72 131 P **P 12 01 53.2 -2.7**
comp=Z,26nm,0.9s,baz=249,slow=12,SNR=13
DZM Mont Dzumac 24.72 131 *e*P **P 12 01 54.2 -1.7**
comp=Z,66nm,1.2s
EDFI Ende, Flores 24.91 263 P **P 12 01 55.4 -2.4**
MRSI Marisa 25.60 284 P P 12 02 12.8 +8.9
STKA Stephens Creek 25.93 190 P **P 12 02 05.2 -1.4**
comp=Z,34nm,0.8s,baz=349,slow=9.2,SNR=43
STKA LR LR 12 13 24.9
comp=Z,2µm,18.6s,baz=357,slow=39
STKA Stephens Creek 25.93 190 *e*P **P 12 02 04.1 -2.6**
comp=Z,8.3nm,0.9s
KAPI Kappang 26.84 271 P **P 12 02 17.4 +2.2**
comp=Z,9.9nm,0.6s,baz=85,slow=9.0,SNR=4.8
KAPI Kappang 26.84 271 *e*P **P 12 02 14.0 -1.1**
BBOO Buckleboo 28.21 199 *e*P **P 12 02 24.3 -2.9**
comp=Z,38nm,0.9s
TWSI Taliwang, Sumb 29.66 263 P P 12 02 47.5 +7.2
MSVF Nonsavu 32.66 113 *e*P **P 12 03 06.9 +0.1**
MSVF pmax pmax
comp=Z,19nm,1.0s
MSVF Nonsavu 32.66 113 *e*P **P 12 03 06.9 +0.1**
comp=Z,19nm,1.0s
JCJ Chichijima 33.45 353 P **P 12 03 12.3 -1.0**
comp=Z,43nm,0.7s,baz=136,slow=8.6,SNR=3.6
JCJ LR LR 12 15 41.8
comp=Z,804nm,18.2s,slow=34
CBIJ Chichi jima 33.45 353 P **P 12 03 12.3 -1.0**
SBUM Sibu 35.49 283 *e*P **P 12 03 30.6 -0.8**
comp=Z,21nm,1.1s
JOW Kunigami 37.43 332 *e*P **P 12 03 47.4 -0.1**
comp=Z,45nm,1.0s
TWG Pinlang 38.26 320 *e*P **P 12 03 52.2 -2.5**
comp=Z,172nm,1.4s
YOJ Yonaguni jima 38.28 324 *e*P **P 12 03 54.8 0.0**
YOJ pmax pmax
comp=Z,152nm,0.9s
YOJ Yonaguni jima 38.28 324 *e*P **P 12 03 54.8 0.0**
comp=Z,152nm,0.9s
YULB Yu-li 38.53 321 *e*P **P 12 03 55.0 -1.9**
comp=Z,15nm,0.7s
TPUB Ta-pu 38.88 320 *e*P **P 12 03 58.4 -1.5**
comp=Z,51nm,1.0s
NACB Ninganchiao 38.91 322 *e*P **P 12 03 59.2 -0.9**
comp=Z,64nm,1.0s
SSLB Suanglung 39.03 321 *e*P **P 12 04 00.6 -0.6**
comp=Z,28nm,0.9s
YHNB Yeheng 39.41 322 *e*P **P 12 04 04.3 -0.1**
comp=Z,116nm,1.0s
TATO Taipei 39.57 323 *e*P **P 12 04 05.2 -0.4**
comp=Z,232nm,0.9s
JNU Nakatsue 41.95 340 P **P 12 04 24.4 -0.7**
comp=Z,75nm,0.9s,baz=139,slow=4.3,SNR=18
JNU LR LR 12 20 45.2
comp=Z,1µm,18.4s,baz=138,slow=35
JNU Nakatsue 41.95 340 *e*P **P 12 04 24.5 -0.7**
comp=Z,89nm,0.9s
BKZ Black Stump Fm 42.37 145 *e*P **P 12 04 28.7 +0.1**
comp=Z,76nm,1.2s
INU Inuyama 42.38 348 *e*P **P 12 04 27.4 -1.1**
comp=Z,12nm,0.8s
SNZO South Karori 42.91 149 *e*P **P 12 04 33.4 +0.6**
RPZ Rata Peaks 43.01 154 *e*P **P 12 04 34.8 +1.2**
comp=Z,72nm,1.2s
MJAR Matsushiro Arr 43.31 350 P **P 12 04 35.1 -1.1**
comp=Z,9.2nm,0.8s,baz=178,slow=8.2,SNR=25
MAJO Matsushiro 43.31 350 *c* iP **P 12 04 34.7 -1.5**
MAJO pmax pmax
comp=Z,107nm,1.0s
MAJO Matsushiro 43.31 350 *e*P **P 12 04 35.3 -0.8**
comp=Z,15nm,0.7s
MAT Matsushiro 43.31 350 P **P 12 04 34.7 -1.5**
MJB9 Matsu-Tunnel 43.32 350 *e*P **P 12 04 35.5 -0.7**
comp=Z,3.9nm,0.7s
QIZ Qiongzhong 44.16 305 P **P 12 04 42.8 -0.4**
QIZ PMZ
comp=Z,13nm,0.9s
SSE Sheshan 44.44 328 P **P 12 04 45.1 -0.1**
SSE PMZ
comp=Z,89nm,0.8s
SSE PMZ
comp=Z,2µm,12.0s
SSE LN
comp=Z,2µm,26.3s
SSE LE
comp=Z,2µm,26.7s
SSE LZ
comp=Z,760nm,24.7s
TJN Taejon 46.13 338‖ *e*P **P 12 04 57.8 -0.7**
NJ2 Nanjing 46.43 327 *e*P **P 12 05 01.0 0.0**
NJ2 S **S 12 11 43.8 -1.6**
NJ2 PMZ
comp=Z,34nm,1.1s
NJ2 PMZ
comp=Z,570nm,8.3s
NJ2 LN
comp=Z,2µm,14.6s
NJ2 LE
comp=Z,3µm,16.3s
NJ2 LZ
comp=Z,2µm,12.5s
KSRS Korea Array 46.89 339 P **P 12 05 04.3 -0.1**
comp=Z,57nm,0.9s,baz=158,slow=9.0,SNR=268
KSRS ScP **ScP 12 10 34.1 +7.8**
comp=Z,0.7nm,1.0s,baz=270,slow=1.3,SNR=4.2
KS15 Wonju Array Si 46.89 339 *e*P **P 12 05 04.3 -0.1**
KSAR Wonju Array Be 46.89 339 P **P 12 05 04.3 -0.2**
KSAR Wonju Array Be 46.89 339 P **P 12 05 04.3 -0.2**
KSAR ScP **ScP 12 10 34.1 +7.7**
KS01 Wonju Array Si 46.92 339 *e*P **P 12 05 03.7 -1.0**
INCN Inchon 47.38 338 *e*P **P 12 05 08.5 +0.1**
comp=Z,68nm,0.8s
WHN Wuhan 47.95 322‖ *i* P **P 12 05 13.5 +0.7**
WHN PMZ
comp=Z,92nm,1.0s
SKNT Sakolnakorn 48.12 299 P **P 12 05 14.7 +0.3**
comp=Z,165nm,0.9s
NONG Nongkai 49.30 300 P **P 12 05 23.6 +0.1**
comp=Z,86nm,0.8s,comp=Z,4µm
CHAI Chaiyaphum 49.44 297 P **P 12 05 24.8 +0.3**
comp=Z,29nm,0.8s,comp=Z,213nm
ASAJ Asahikawa 50.28 356 *e*P **P 12 05 31.3 +0.9**
comp=Z,12nm,0.8s
MSHR Mys Shultsa 50.63 345‖ *e*P **P 12 05 33.0 -0.1**
GYA Guiyang 50.63 312 P **P 12 05 35.0 +1.4**
GYA pP pP 12 05 48.8 +1.6
GYA PP **PP 12 07 32.3 +2.3**
GYA S **S 12 12 45.4 +0.3**
GYA sS sS 12 13 09.0 +1.1
GYA SS **SS 12 16 17.6 -2.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.9s
GYA LN
comp=Z,460nm,19.8s
GYA LE
comp=Z,420nm,20.0s
GYA LZ
comp=Z,480nm,20.2s
LOEI Loei 50.70 299 P **P 12 05 32.0 -2.1**
comp=Z,76nm,1.0s,comp=Z,1µm
ENH Enshi 50.91 318 *e*P **P 12 05 35.0 -0.5**
comp=Z,8.9nm,0.7s
VLA Vladivostok 50.95 346 *c* iP **P 12 05 35.4 -0.1**
VLA pmax pmax
comp=Z,54nm,1.1s
KUR Kuril'sk 51.27 1 *e*P **P 12 05 39.4 +1.6**
UTTA Uttaradit 51.42 298 P **P 12 05 40.3 +0.8**
comp=Z,44nm,0.8s,comp=Z,274nm
USRK Ussuriysk Ar. 51.95 347 P **P 12 05 42.4 -0.6**
comp=Z,60nm,1.1s,baz=167,slow=7.9,SNR=31
SUKH Sukhothai 52.13 298 P **P 12 05 46.2 +1.5**
comp=Z,22nm,1.0s,comp=Z,147nm
UMPA Umpang Tak 52.33 296 P P 12 05 40.9 -5.4
LAMP Lampang 52.53 299 P **P 12 05 48.8 +1.0**
comp=Z,45nm,0.8s,comp=Z,325nm
KMI Kunming 52.92 308 P **P 12 05 51.8 +1.0**
KMI pP pP 12 06 02.3 -2.2
KMI PMZ
comp=Z,46nm,1.0s
MDJ Mudanjiang 52.93 345 P **P 12 05 49.6 -0.6**
MDJ PMZ
comp=Z,48nm,0.8s
MDJ PMZ
comp=Z,840nm,9.3s
MDJ Mudanjiang 52.93 345 *e*P **P 12 05 49.6 -0.6**
comp=Z,39nm,0.8s
CM01 Chiang Mai Arr 53.08 298 *e*P **P 12 05 50.6 -1.2**
YSS Yuzh-Sakhalins 53.10 357 *e*P **P 12 05 51.5 +0.2**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS Yuzh-Sakhalins 53.10 357 *e*P **P 12 05 51.5 +0.2**
comp=Z,30nm,1.1s
CM31 Chiang Mai Arr 53.11 299 *e*P **P 12 05 53.5 +1.4**
CMAR Chiang Mai Arr 53.11 299 P **P 12 05 53.4 +1.3**
comp=Z,2µm,0.4s,baz=122,slow=5.8,SNR=120
CMAR Chiang Mai Arr 53.11 299 P **P 12 05 53.4 +1.3**
CMAR pmax pmax
comp=Z,64nm,0.8s
CHTO Chiang Mai 53.25 299 P **P 12 05 53.9 +0.9**
comp=Z,389nm,1.1s
CHTO Chiang Mai 53.25 299 *e*P **P 12 05 54.0 +0.9**
CHTO pmax pmax
comp=Z,74nm,1.0s
CHTO Chiang Mai 53.25 299 *e*P **P 12 05 54.0 +1.0**
comp=Z,74nm,1.0s
CN2 Changchun 53.41 341 *e*P **P 12 05 51.8 -1.9**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,1µm,7.0s
XAN Xi'an 53.69 321 P **P 12 05 55.3 -0.8**
XAN PMZ
comp=Z,39nm,1.1s
BJT Baijiatuau 53.97 331 *e*P **P 12 05 57.3 -0.7**
BJT pmax pmax
comp=Z,68nm,1.4s
BJT Baijiatuau 53.97 331 *e*P **P 12 05 57.3 -0.7**
comp=Z,68nm,1.4s
BJI Beijing 53.98 331 P **P 12 05 57.3 -0.7**
BJI S **S 12 13 31.9 +1.6**
BJI PMZ
comp=Z,23nm,0.8s
BJI LN
comp=Z,2µm,14.9s
BJI LE
comp=Z,1µm,16.8s
BJI LZ
comp=Z,1µm,16.8s
CD2 Chengdu 55.24 315 *e*P **P 12 06 06.6 -0.8**
CD2 pP pP 12 06 20.4 -0.8
CD2 sP sP 12 06 26.5 -0.4
CD2 PcS **PcS 12 11 06.8 -1.2**
CD2 S **S 12 13 47.5 -0.2**
CD2 sS sS 12 14 11.4 +0.7
CD2 SS **SS 12 17 33.9 +1.2**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,320nm,5.4s
CD2 LN
comp=Z,1µm,17.9s
CD2 LE
comp=Z,940nm,13.9s
CD2 LZ
comp=Z,1µm,14.9s
HABR Khabarovsk 55.45 351 *e*P **P 12 06 06.0 -2.5**
HABR *e**PP **pP 12 06 19.8 -2.5**
HABR *e**SP **sP 12 06 26.0 -2.0**
HABR *e* 12 07 05.6
HABR *e*PPP PPP 12 09 23.5
HABR *e*S **S 12 13 48.0 -1.7**
HABR *e**SS **sS 12 14 11.5 -1.3**
HABR *e* 12 15 50.8
HABR *e*SS **SS 12 17 35.0 -0.3**
HABR pmax pmax
comp=E,4.0nm,0.6s
HABR pmax pmax
comp=N,9.0nm,1.3s
HABR pmax pmax
comp=Z,20nm,1.3s
HABR MLR MLR
comp=Z,767nm,20.0s
KLR Kul'dur 56.78 348 P **P 12 06 18.0 0.0**
comp=Z,16nm,0.9s,baz=172,slow=3.1,SNR=39
HHC Hu-ho-hao-te 56.90 329 *e*P **P 12 06 21.5 +2.4**
HHC PMZ
comp=Z,46nm,1.0s
HHC PMZ
comp=Z,340nm,9.7s
HHC LN
comp=Z,540nm,16.7s
HHC LE
comp=Z,550nm,15.2s
HHC LZ
comp=Z,830nm,13.9s
TYV Tymovskoe 57.00 357 *e*P **P 12 06 20.0 +0.5**
TYV pmax pmax
comp=Z,51nm,1.2s
LZH Lanzhou 58.21 320 *e*P **P 12 06 29.0 +0.5**
LZH pP pP 12 06 40.3 -2.1
LZH sP sP 12 06 47.3 -0.8
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,130nm,4.3s
NKL Nikolayevsk 59.40 356 *e*P **P 12 06 36.0 -0.2**
NKL pmax pmax
comp=Z,60nm,1.0s
PETK Petropavlovsk- 59.88 8 P **P 12 06 40.3 +0.8**
comp=Z,25nm,1.0s,baz=159,slow=6.5,SNR=15
PETK LR LR 12 28 13.8
comp=Z,716nm,21.9s,baz=197,slow=32
PET Petropavlovsk 59.92 8 *e*P P 12 06 45.5 +5.7
PET pmax pmax
comp=Z,16nm,0.8s
HIA Hailar 60.09 340 *c* iP **P 12 06 40.6 -0.5**
HIA pmax pmax
comp=Z,68nm,1.0s
HIA Hailar 60.09 340 *e*P **P 12 06 40.8 -0.3**
comp=Z,72nm,1.0s
GTA Gaotai 62.75 320 *e*P **P 12 06 58.0 -1.4**
GTA pP pP 12 07 11.4 -2.0
GTA sP sP 12 07 17.1 -2.0
GTA PMZ
comp=Z,9.0nm,0.7s
LSA Lhasa 64.16 307 *e*P **P 12 07 08.8 -0.5**
LSA pmax pmax
comp=Z,18nm,0.7s
LSA Lhasa 64.16 307 *e*P **P 12 07 08.8 -0.5**
comp=Z,18nm,0.7s
ULN Ulaanbaatar 64.19 331 *de*P **P 12 07 08.8 0.0**
ULN pmax pmax
comp=Z,11nm,0.9s
ULN Ulaanbaatar 64.19 331 *e*P **P 12 07 08.5 -0.3**
SONM Songino Array 64.48 331 P **P 12 07 10.3 -0.4**
comp=Z,7.5nm,1.0s,baz=155,slow=8.2,SNR=11
CASY Casey 64.93 195 *e*P **P 12 07 12.5 -0.6**
CLNS Chul'man 65.37 347 *e*P **P 12 07 13.7 -2.4**
CLNS pmax pmax
comp=Z,51nm,0.9s
CLNS pmax pmax
comp=N,25nm,0.9s
CLNS pmax pmax
comp=E,13nm,0.9s
MA2 Magadan 65.71 2 P **P 12 07 18.2 0.0**
comp=E,26nm,0.8s,baz=183,slow=4.0,SNR=8.8
RAMN Ramite 66.82 303 *e*P **P 12 07 25.8 -0.5**
ZAK Zakamensk 67.72 332 *e*P **P 12 07 29.6 -1.8**
ZAK pmax pmax
comp=Z,13nm,1.1s
GUN Gumba 67.76 303 *e*P **P 12 07 32.3 -0.1**
comp=Z,104nm,0.8s
PKIN Phulchoki 68.05 303 *e*P **P 12 07 33.3 -0.8**
comp=Z,32nm,0.9s
KKN Kakani 68.21 303 *e*P **P 12 07 34.6 -0.5**
comp=Z,79nm,0.9s
DMN Daman 68.30 303 *e*P **P 12 07 35.5 -0.2**
comp=Z,111nm,1.0s
TLY Talaya 68.44 333 P **P 12 07 36.0 +0.3**
comp=Z,7.2nm,1.0s,baz=242,slow=8.4,SNR=6.1
TLY Talaya 68.44 333 *e*P P 12 07 30.0 -5.7
TLY pmax pmax
comp=Z,8.0nm,0.8s
IRK Irkutsk 68.54 334 *e*P P 12 07 31.4 -5.0
IRK pmax pmax
comp=Z,26nm,1.8s
GKN Gorkha 68.82 303 *e*P **P 12 07 38.4 -0.4**
comp=Z,95nm,1.0s
BOD Bodaibo 69.13 342 *e*P **P 12 07 36.4 -3.5**
BOD pmax pmax
comp=Z,17nm,1.0s
BOD Bodaibo 69.13 342 *e*P **P 12 07 36.4 -3.5**
BOD pmax pmax
comp=Z,17nm,1.0s
SEY Seymchan 69.13 3 P **P 12 07 39.7 -0.1**
comp=Z,20nm,0.9s,baz=185,slow=4.5,SNR=33
SEY Seymchan 69.13 3 *ce*P **P 12 07 40.0 +0.2**
YAK Yakutsk 69.35 352 P **P 12 07 40.6 -0.5**
comp=Z,1.4nm,0.3s,baz=349,slow=21,SNR=6.5
YAK Yakutsk 69.35 352 *e*P **P 12 07 40.6 -0.5**
YAK pmax pmax
comp=N,22nm,1.3s
YAK pmax pmax
comp=Z,59nm,1.4s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK Yakutsk 69.35 352 *e*P **P 12 07 40.8 -0.3**
KOLN Koldanda 69.61 303 *e*P **P 12 07 42.7 -1.1**
comp=E,76nm,0.8s
MOY Mondy 69.66 332 *e*P **P 12 07 43.5 +0.1**
MOY pmax pmax
comp=Z,21nm,1.6s
PYUN Piuthan 70.23 303 *e*P **P 12 07 46.8 -0.7**
comp=Z,116nm,0.8s
MIR Mirnyy 70.43 200 *i* P **P 12 07 47.5 -0.3**
MIR pmax pmax
comp=Z,4.0nm,0.8s
HYB Hyderabad 71.27 291 *i* P **P 12 07 54.0 +0.2**
VNDA Vanda 71.67 177 P **P 12 07 55.1 -0.1**
comp=Z,4.6nm,0.8s,baz=322,slow=6.3,SNR=26
VNDA LR LR 12 36 32.7
comp=Z,923nm,21.0s,baz=344,slow=34
SBA Scott Base 72.32 176 *e*P **P 12 07 59.5 +0.5**
SBA Scott Base 72.32 176 *e*P **P 12 07 59.5 +0.5**
WMQ Urumqi 72.79 319 P **P 12 08 02.4 -0.1**
WMQ pP pP 12 08 17.3 +0.5
WMQ sP sP 12 08 23.4 +1.0
WMQ PMZ
comp=Z,17nm,1.4s
WMQ PMZ
comp=Z,290nm,9.2s
WMQ LN
comp=Z,430nm,15.8s
WMQ LE
comp=Z,530nm,14.0s
WMQ LZ
comp=Z,190nm,14.8s
BILL Bilibino 75.41 7 *d* iP **P 12 08 17.7 +0.6**
BILL *i* 12 08 32.7
BILL pmax pmax
comp=Z,18nm,1.1s
MKAR Makanchi Array 77.50 321 P **P 12 08 29.0 -0.5**
comp=Z,4.7nm,0.8s,baz=100,slow=8.0,SNR=4.9
TIXI Tiksi 78.64 354‖ *e*P **P 12 08 33.6 -1.6**
TIXI pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 78.64 354 *e*P **P 12 08 33.0 -2.2**
ZALV Zalesovo Beam 79.07 328 P **P 12 08 36.2 -1.7**
comp=Z,5.5nm,0.5s,baz=124,slow=5.3,SNR=4.3
KSH Kashi 79.33 312 *e*P **P 12 08 41.8 +1.9**
KSH PcP **PcP 12 08 49.3 +1.4**
KSH pP pP 12 08 56.5 +2.2
KSH PP **PP 12 11 44.8 +4.4**
KSH S **S 12 18 38.5 +1.5**
KSH ScS **ScS 12 18 57.5 -1.7**
KSH SS **SS 12 23 50.8 +5.8**
KSH PMZ
comp=Z,8.0nm,1.0s
KSH PMZ
comp=Z,1µm,10.7s
KSH LN
comp=Z,360nm,12.1s
KSH LE
comp=Z,190nm,6.2s
KSH LZ
comp=Z,800nm,15.5s
KDAK Kodiak Island 80.27 28 P **P 12 08 43.2 -1.1**
KDAK pmax pmax
comp=Z,38nm,1.7s
KDAK Kodiak Island 80.27 28 P P **P 12 08 43.2 -1.1**

comp=Z,38nm,1.7s
KURK Kurchatov 81.24 323 *e*P **P 12 08 48.1 -1.6**
KURK pmax pmax
comp=Z,35nm,1.1s
AAK Ala-Archa 81.31 315 P **P 12 08 49.0 -1.5**
comp=Z,2.5nm,0.5s,baz=139,slow=9.0,SNR=3.3
AAK Ala-Archa 81.31 315‖ *e*P **P 12 08 50.2 -0.3**
AAK pmax pmax
comp=Z,18nm,1.0s
AAK Ala-Archa 81.31 315 *e*P **P 12 08 49.4 -1.1**
comp=Z,8.7nm,0.9s
MAW Mawson 81.89 203 P **P 12 08 51.7 -1.2**
comp=Z,4.0nm,0.7s,baz=96,slow=7.6,SNR=8.6
SEW Seward 82.78 27 *e*P **P 12 08 57.6 +0.1**
RC01 Rabbit Creek A 83.09 26 *e*P **P 12 08 59.2 0.0**
comp=Z,38nm,1.2s
PMR Palmer 83.57 26 *e*P **P 12 09 01.2 -0.4**
PMR pmax pmax
comp=Z,24nm,1.0s
PMR Palmer 83.57 26 *e*P **P 12 09 01.2 -0.4**
comp=Z,24nm,1.0s
QSPA South Pole Qui 83.71 180 *e*P **P 12 09 01.7 -0.8**
comp=Z,68nm,0.7s
KTH Kantishna Hill 83.71 24 *e*P **P 12 09 01.7 -0.7**
comp=Z,22nm,1.0s
KTH *e*PP **PP 12 12 11.9 -4.0**
TRF Thorofare Moun 83.92 24 *e*P **P 12 09 03.8 +0.2**
comp=Z,10nm,0.8s
SML Sawmill 84.01 26 *e*P **P 12 09 03.8 -0.1**
SML pmax pmax
comp=Z,14nm,1.2s
SML Sawmill 84.01 26 *e*P **P 12 09 03.8 -0.1**
comp=Z,14nm,1.2s
MCK McKinley 84.59 24 *e*P **P 12 09 06.2 -0.6**
MCK pmax pmax
comp=Z,68nm,1.1s
MCK McKinley 84.59 24 *e*P **P 12 09 06.2 -0.6**
comp=Z,68nm,1.1s
DIV Divide 84.86 27 *e*P **P 12 09 07.8 -0.4**
comp=Z,50nm,1.2s
BMRM Bremner River 85.32 27 *e*P **P 12 09 10.4 -0.2**
comp=Z,48nm,1.2s
COLA College 85.50 23 *de*P **P 12 09 10.1 -1.2**
COLA pmax pmax
comp=Z,21nm,1.0s
COLA College 85.50 23 *e*P **P 12 09 10.5 -0.8**
comp=Z,39nm,1.1s
COLD Coldfoot 85.68 20 *e*P **P 12 09 12.6 +0.4**
comp=Z,16nm,1.0s
ILAR Eielson Array 85.84 23 P **P 12 09 11.3 -1.7**
comp=Z,15nm,0.9s,baz=257,slow=4.3,SNR=106
ILAR LR LR 12 44 04.0
comp=Z,383nm,20.0s,baz=278,slow=33
DOT Dot Lake 86.54 25 *e*P **P 12 09 15.7 -0.8**
comp=Z,94nm,1.1s
EGAK Eagle 88.12 24 *e*P **P 12 09 24.2 +0.1**
comp=Z,30nm,1.0s
DAWY Dawson 88.63 25 *e*P **P 12 09 26.9 +0.3**
comp=Z,47nm,1.2s
SKAG Skagway 89.28 30 *e*P **P 12 09 30.2 +0.6**
comp=Z,16nm,1.1s
SYO Syowa Base 90.25 200‖ *e*P **P 12 09 32.0 -2.0**
WSAR Wadi Sarin 90.67 293 P **P 12 09 36.3 -0.6**
comp=Z,14nm,0.9s,baz=131,slow=8.3,SNR=5.1
INK Inuvik 92.01 21 P **P 12 09 41.6 -0.4**
comp=Z,11nm,1.1s,baz=275,slow=5.1,SNR=5.6
INK Inuvik 92.01 21 *e*P **P 12 09 41.7 -0.4**
comp=Z,17nm,1.1s
M02C Callahan 94.43 49 P **P 12 09 55.3 +1.3**
baz=266
N02D Trinity Center 94.51 49 P **P 12 09 57.8 +3.4**
baz=266
O03D Paynes Creek 95.15 50 P **P 12 10 01.3 +3.9**
baz=266
B05A Bryant 95.43 42 P **P 12 10 00.2 +1.9**
baz=267
J05D Fort Rock, OR 95.75 47 P P 12 10 05.2 +5.1
baz=267
ISA Isabella, Lake 97.53 55 P Pdif 12 10 13.5 +5.2
baz=268
EDW2 Edwards Air Fo 97.89 56 P **P 12 10 09.8 -0.1**
baz=268
BFSC Mount Baldy Ra 98.14 56 P Pdif 12 10 12.6 +1.4
baz=268
LRMC Laurel Mtn Rad 98.17 55 P Pdif 12 10 12.0 +0.7
baz=268
MPMC Manual Prospec 98.34 55 P Pdif 12 10 15.6 +3.5
baz=268
NEW Newport 98.75 42 P Pdif 12 10 14.1 +0.6
baz=270
YKA Yellowknife Ar 99.54 28 P **Pdif 12 10 16.4 -0.1**
comp=Z,2.9nm,1.0s,baz=274,slow=4.5,SNR=16
R11A Troy Canyon, C 99.90 52 P **Pdif 12 10 18.1 -0.8**
baz=270
BC3 Big Chuckawall 99.96 57 P **Pdif 12 10 18.9 -0.4**
baz=269
KLMR Klimovskoe 103.78 331 *e*P **Pdif 12 10 29.0 -6.4**
KLMR pmax pmax
comp=Z,17nm,1.5s
PDAR Pinedale Array 104.31 48 Pdiff **Pdif 12 10 39.9 +1.3**
comp=Z,1.1nm,0.8s,baz=251,slow=4.5,SNR=6.3
PDAR PKiKP **PKiKP 12 14 56.0 +1.0**
comp=Z,0.2nm,0.4s,baz=238,slow=5.2,SNR=3.2
TXAR Lajitas Array 110.15 61 PKiKP **PKiKP 12 15 05.6 -0.5**
comp=Z,0.5nm,0.9s,baz=174,slow=2.5,SNR=4.5
BRG Berggiesshubel 120.76 327 *e*P **PKPdf 12 15 24.8 -0.9**
comp=Z,4.4nm,1.1s
BRG *e* 12 15 32.0
comp=Z,7.0nm,1.4s
BRG Berggiesshubel 120.76 327 *e*PKIKP **PKPdf 12 15 24.8 -0.9**
BRG pmax pmax
comp=Z,7.0nm,1.4s
GERES GERESS Array B 121.95 325 PKP **PKPdf 12 15 28.1 -0.1**
comp=Z,0.4nm,0.5s,baz=48,slow=2.0,SNR=3.9
ACSO Alum Creek Sta 124.20 45 *e*PKPdf **PKPdf 12 15 33.0 +0.4**
BCLA Clavier 125.47 331 PKP **PKPdf 12 15 32.0 -2.6**
BCIP Isla Barro Col 133.82 83 *e*P **PKPdf 12 15 51.3 -0.3**
NORC Norcasia 138.66 89 *e*P PKPpre 12 15 56.2
LPAZ La Paz 138.90 123 PKhKP PKPpre 12 15 55.7
comp=Z,1.8nm,0.6s,baz=154,slow=3.7,SNR=8.1
ROSC El Rosal 139.16 90 PKP **PKPdf 12 16 01.9 -0.1**
comp=Z,5.6nm,0.4s,baz=83,slow=8.9,SNR=4.3
CHIC Chingaza 139.73 90 *e*P PKPpre 12 15 53.8
CPUP Villa Florida 140.09 145 PKP **PKPdf 12 16 03.5 +0.6**
comp=Z,2.2nm,0.7s,baz=312,slow=1.0,SNR=5.3
BARC Barichara 140.38 87 *e*P PKPpre 12 15 57.0
RUSC La Rusia 140.45 88 *e*P PKPpre 12 15 56.6
SDV Santo Domingo 142.91 84 *e*P PKPpre 12 16 04.8
SDV Santo Domingo 142.91 84 *e*PKPdf PKPpre 12 16 04.9
TORD Torodi Ar. Bea 144.86 284 PKP **PKPab 12 16 10.9 +0.2**
comp=Z,87nm,0.8s,baz=80,slow=3.4,SNR=326
TORD SKP 12 19 49.1
comp=Z,2.9nm,0.8s,baz=68,slow=2.5,SNR=3.9
SJG San Juan 145.87 67 *e*PKP2 **PKPbc 12 16 14.3 +0.4**
SJG San Juan 145.87 67 *e*PKPbc **PKPbc 12 16 14.3 +0.4**
SAML Samuel 146.60 117 *e*PKPbc **PKPbc 12 16 16.2 0.0**
SPB Sao Paulo 147.28 156 *e*PKPbc **PKPab 12 16 19.0 -0.6**
DBIC Dimbokro 151.73 272 PKPbc **PKPbc 12 16 29.2 -0.1**
comp=Z,6.7nm,0.5s,baz=66,slow=1.9,SNR=21

*BJI **18** 11:57:54.6, 1°.31N×98°.78E, h15km, mb4.6/34, mB5.2/7, Ms5.1/17, Ms7 4.8/16*
*ISCJB **18** 11:57:57.0±0.2, 1°.81N±0°.02×99°.00E±0°.03, h10km, mb4.7/57, MS4.5/11, Error ellipse: s-maj=4.9km s-min=2.6km az=143.6*
*MOS **18** 11:57:59.6±1.7, 1°.77N×99°.12E, h33km, mb5.0/36, Error ellipse: s-maj=10.4km s-min=5.7km az=111.6*
*DJA **18** 11:58:00.7±0.2, 2°.N±2°.×9°.9E±°, h10km, M5.2/18, mb5.0/16, mB5.7/7, MLv5.4/18, Mw(mB)5.2/7*
*GCMT **18** 11:58:01.0±0.2, 1°.80N×99°.12E, h17km±1km, MW5.2/100, Moment Tensor Solution. s40,c49; s100,c153; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.17±.02; Mθθ-0.58±.02; Mϕϕ 0.74±.02; Mrθ-0.21±.05; Mθϕ-0.11±.01; Mϕr-0.49±.07; Best double couple: M0 0.84400×10^17 NP1:ϕs36.00000°, δ86.00000°, λ-40.00000°. NP2:ϕs129.00000°, δ51.00000°, λ-175.00000°. Principal axes: T 0.9560, Plg23.0000°, Azm89.0000°; N -0.2240, Plg50.0000°, Azm211.0000°; P -0.7310, Plg30.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*KLM **18** 11:58:02.0, 1°.80N×99°.25E, h20km, mb5.0, ML5.4, MS6.1*

*NEIC **18** 11:58:01.0±1.3, 1°.85N×99°.11E, h25km±9km, mb4.9/20, MW5.0, Error ellipse: s-maj=8.1km s-min=5.3km az=219.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^16 Nm; Mrr-1.32; Mθθ-3.30; Mϕϕ 4.62; Mrθ 1.08; Mθϕ-1.09; Mϕr-0.26; Best double couple: Mw 4.40000×10^16 NP1: ϕs215.00000°, δ72.00000°, λ-13.00000°. NP2: ϕs310.00000°, δ77.00000°, λ-161.00000°. Principal axes: T 4.7900, Plg4.0000°, Azm82.0000°; N -0.9200, Plg67.0000°, Azm343.0000°; P -3.8700, Plg22.0000°, Azm173.0000°;*
NEIC Felt [V] at Sibolga and [IV] at Sarulla and Tarutung. Felt [IV] at Petaling Jaya and [II] at Kuala Lumpur, Malaysia. Also felt at Balakong, Kajang-Sungai Chua, Klang, Nilai, Rawang, Shah Alam and Subang Jaya.
*IDC **18** 11:58:06.7±4.5, 1°.82N×99°.14E, h75km±41km, mb4.3/25, mb1 4.4/27, mb1mx4.2/51, mbtmp4.6/27, ML4.5/2, MS4.6/11, Ms1 4.7/11, ms1mx4.4/34 Error ellipse: s-maj=19.3km s-min=10.5km az=51.0*
ISC 18 11:57:59.6±1.2, 1°.77N±0°.03×99°.06E±0°.03, h17km±7km, n362, σ1§68/342, mb4.8/62, MS4.7/11, 18C-10D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.03**	**353**	*e*P		**Pb**		**11 58 16.1**	**-3.0**
PSI	**Prapat**	**1.03**	**353**	*e*Pg		**Pb**		**11 58 16.1**	**-3.0**
MNSI	**Mandailing Nat**	**1.10**	**152**	P		**Pb**		**11 58 20.0**	**-0.2**
MNSI				S		**Sn**		**11 58 36.2**	**+1.1**
GSI	**Gunungsitoli**	**1.55**	**253**	P		**Pn**		**11 58 27.5**	**+1.0**
GSI				S		**Sn**		**11 58 49.5**	**+3.2**
GSI	**Gunungsitoli**	**1.55**	**253**	*e*Pn		**Pn**		**11 58 27.0**	**+0.5**
GSI				*e*Sn		**Sb**		**11 58 50.0**	**+2.7**
TSI	**Tuntungan**	**1.79**	**344**	P		**Pb**		**11 58 32.2**	**+0.2**
KCSI	**Kotacane, Aceh**	**2.16**	**324**	P		**Pn**		**11 58 37.1**	**+2.2**
TPTI		**2.39**	**308**	P		**Pn**		**11 58 40.3**	**+2.3**
BKNI	**Bangkinang**	**2.45**	**126**	P		**Pn**		**11 58 40.0**	**+1.2**
BKNI	**Bangkinang**	**2.45**	**126**	Pn		**Pn**		**11 58 40.0**	**+1.2**
BKNI				*e*Sn		**Sb**		**11 59 12.3**	**-0.8**
PPI	**Padang Panjang**	**2.59**	**149**	P		**Pn**		**11 58 42.3**	**+1.6**
PPI				S		**Sn**		**11 59 14.8**	**+3.0**
FRIM	**Kepong**	**2.95**	**60**	⇑P		**Pn**		**11 58 44.0**	**-1.7**
PDSI	**Padang**	**3.01**	**152**	P		**Pn**		**11 58 47.8**	**+1.2**
PDSI				S		**Sn**		**11 59 23.1**	**+0.8**
IPM	**Ipoh**	**3.33**	**36**	⇑P		**Pn**		**11 58 51.3**	**+0.3**
IPM	**Ipoh**	**3.33**	**36**	*e*Pn		**Pn**		**11 58 51.4**	**+0.3**
IPM				*e*Sg		**Sb**		**11 59 41.8**	**+3.1**
MLSI	**Meulaboh, Aceh**	**3.63**	**313**	P		**Pn**		**11 58 57.1**	**+2.0**
KULM	**Kulim**	**3.84**	**24**	⇓P		**Pn**		**11 58 57.8**	**-0.2**
KULM	**Kulim**	**3.84**	**24**	*e*Pn		**Pn**		**11 58 57.6**	**-0.3**
KULM				*e*Sg		**Sb**		**11 59 54.7**	**+1.5**
RGRI	**Rengat**	**3.89**	**123**	P		**Pn**		**11 59 00.1**	**+1.4**
LHMI	**Lhok Sumawe**	**4.03**	**329**	P		**Pn**		**11 59 02.7**	**+2.1**
LHMI	**Lhok Sumawe**	**4.03**	**329**	*e*Pn		**Pn**		**11 59 01.1**	**+0.5**
KGM	**Kluang**	**4.27**	**87**	⇓P		**Pn**		**11 59 02.3**	**-1.5**
PPSI	**Pulau Pagai**	**4.60**	**168**	P		**Pn**		**11 59 09.6**	**+1.1**
MYKOM	**Kota Tinggi**	**4.79**	**90**	⇑P		**Pn**		**11 59 09.4**	**-1.7**
MYKOM	**Kota Tinggi**	**4.79**	**90**	*e*Pn		**Pn**		**11 59 10.4**	**-0.6**
KTGM	**Kuala Trenggan**	**5.39**	**49**	⇓P		**Pn**		**11 59 19.1**	**-0.2**
TPRI	**Tanjung Pinang**	**5.53**	**99**	P		**Pn**		**11 59 22.9**	**+1.6**
	702nm,0.7s,7μm3.3nm								
SKLT	**Songkhla**	**5.58**	**16**	P		**Pn**		**11 59 23.5**	**+1.5**
	319nm,0.7s,6μm4.8nm								
JMBI	**JAMBI**	**5.70**	**126**	P		**Pg**		**11 59 47.2**	**-1.5**
TRTT	**Trang**	**6.06**	**6**	P		**Pn**		**11 59 32.6**	**+4.1**
	331nm,0.6s,5μm3.1nm								
PKDT	**Phuket**	**6.12**	**353**	P		Pb		11 59 40.3	-5.6
KRAB	**Krabi**	**6.41**	**1**	P		**Pn**		**11 59 36.6**	**+3.3**
	432nm,0.6s								
KSI	**Kapahiang**	**6.44**	**147**	P		**Pn**		**11 59 35.2**	**+1.4**
	247nm,1.0s,4μm3.6nm								
LHSI	**Lahat**	**7.13**	**141**	P		**Pn**		**11 59 44.4**	**+1.2**
	145nm,1.1s,2μm1.7nm								
CMBY	**CAMPBELL BAY**	**7.30**	**316**	*e*P		**Pn**		**11 59 45.9**	**+0.4**
CMBY					IAmb	IAmb		12 00 04.9	
	comp=Z,129nm,0.8s								
SURA	**Surathani**	**7.37**	**4**	P		Pn		11 59 52.4	+5.9
	comp=Z,180nm,0.8s,comp=Z,6μmcomp=Z,1.9nm								
LWLI	**Liwa**	**8.39**	**143**	P		**Pn**		**12 00 01.8**	**+1.1**
	comp=Z,83nm,0.7s								
TNG	**Tangerang**	**10.94**	**136**	P		**Pn**		**12 00 36.4**	**+0.9**
	comp=Z,21μmcomp=Z,1μm,0.5s								
TNG				P		**Pn**		**12 00 36.7**	**+1.2**
	comp=Z,29μmcomp=Z,2μm,0.5s								
KSM	**Kuching**	**11.25**	**91**	⇑P		**Pn**		**12 00 41.8**	**+2.0**
CHBT	**CHBT**	**11.38**	**16**	P		**Pn**		**12 00 45.2**	**+3.6**
	comp=Z,136μm,0.9s								
PBA	**Port Blair**	**11.65**	**328**	*e*P		Pn		12 00 45.2	0.0
PBA					IAmb	IAmb		12 00 53.0	
	comp=Z,44nm,0.7s								
SRAK	**Srakaew**	**12.52**	**13**	P		Pn		12 01 03.2	+6.1
	comp=Z,211nm,0.8s,comp=Z,2μm								
STKI	**Sintang**	**12.53**	**98**	P		**Pn**		**12 00 58.8**	**+1.5**
	comp=Z,32nm,0.8s								
DGPR	**DIGLIPUR**	**12.86**	**332**	*e*P		**Pn**		**12 01 01.4**	**-0.3**
SBUM	**Sibu**	**13.17**	**87**	⇑P		**Pn**		**12 01 08.7**	**+2.6**
SBUM	**Sibu**	**13.17**	**87**	*e*Pn		**Pn**		**12 01 06.1**	**0.0**
BTM	**Bintulu**	**14.08**	**84**	⇑P		**Pn**		**12 01 21.1**	**+3.0**
CHAI	**Chaiyaphum**	**14.34**	**11**	P		P		**12 01 32.7**	**+3.7**
PBKT	**Sadao Pong**	**14.83**	**7**	P		**P**		**12 01 36.0**	**+1.6**
KHON	**Khomkaen**	**14.94**	**14**	P		**P**		**12 01 38.9**	**+3.2**
NGJI	**Ngawi**	**15.35**	**126**	P		**P**		**12 01 42.2**	**+2.0**
SUKH	**Sukhothai**	**15.62**	**2**	P		**P**		**12 01 48.2**	**+4.9**
LOEI	**Loei**	**15.79**	**8**	P		**P**		**12 01 47.9**	**+2.7**
	comp=Z,53nm,2.4s								
SKNT	**Sakolnakorn**	**15.87**	**17**	P		**P**		**12 01 46.9**	**+0.9**
	comp=Z,104nm,1.6s								
GRJI	**Gresik**	**15.93**	**123**	P		**P**		**12 01 52.3**	**+5.6**
UTTA	**Uttaradit**	**15.94**	**5**	P		**P**		**12 01 50.6**	**+3.8**
CM01	**Chiang Mai Arr**	**16.55**	**360**	*e*Pn		**Pn**		**12 01 50.1**	**-0.9**
CM01				*e*S		**S**		**12 05 08.2**	**+2.1**
CM31	**Chiang Mai Arr**	**16.58**	**360**	*e*Pn		**P**		**12 01 57.8**	**+3.8**
CMAR	**Chiang Mai Arr**	**16.58**	**360**	P		**P**		**12 01 54.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=191,slow=12,SNR=21								
CMAR					LR	LR		12 08 33.2	
	comp=Z,2μm,21.7s,baz=190,slow=38								
BBKI	**Banjar Baru**	**16.61**	**108**	P		**P**		**12 01 56.1**	**+1.8**
LAMP	**Lampang**	**16.66**	**2**	P		**P**		**12 01 58.8**	**+4.0**
	comp=Z,10nm,1.0s,comp=Z,107nm								
NONG	**Nongkai**	**16.68**	**14**	P		**P**		**12 01 58.2**	**+3.2**
	comp=Z,86nm,2.1s,comp=Z,5μm								
CHTO	**Chiang Mai**	**16.94**	**360**	P		**P**		**12 02 01.5**	**+3.6**
	comp=Z,163nm,1.9s								
CHTO	**Chiang Mai**	**16.94**	**360**	*e*P		**P**		**12 01 58.4**	**+0.5**
CHTO					pmax	pmax			
	comp=Z,34nm,1.1s								
CHTO	**Chiang Mai**	**16.94**	**360**	*e*P		**P**		**12 01 58.4**	**+0.5**
	comp=Z,34nm,1.1s								
CHTO				*e*S		**S**		**12 05 13.7**	**-0.4**
BLJI	**Banyuglugur**	**17.31**	**123**	P		**P**		**12 02 06.2**	**+4.2**
KKM	**Kota Kinabalu**	**17.63**	**76**	⇑P		**P**		**12 02 05.9**	**+0.2**
KKM	**Kota Kinabalu**	**17.63**	**76**	*e*P		**Pn**		**12 02 05.4**	**+0.6**
	comp=Z,46nm,1.1s								
KKM				*e*S		**Sn**		**12 05 23.6**	**+2.6**
KDM	**Kudat**	**18.44**	**73**	⇑P		**Pn**		**12 02 15.6**	**+1.0**
SRBI	**Singaraja**	**18.85**	**122**	P		**Pn**		**12 02 21.1**	**+1.5**
	comp=Z,154nm,1.4s,comp=Z,4μm								
TSM	**Tawau**	**18.95**	**82**	⇑P		**Pn**		**12 02 21.2**	**+0.3**
PALK	**Pallekele**	**19.09**	**287**	P		**Pn**		**12 02 25.3**	**+2.7**
	comp=Z,1.1nm,0.3s,baz=116,slow=9.7,SNR=8.8								
MYLDM	**Lahad Datu**	**19.70**	**80**	⇑P		**P**		**12 02 28.6**	**+0.3**
MYLDM	**Lahad Datu**	**19.70**	**80**	*e*P		**Pn**		**12 02 30.8**	**+1.0**
	comp=Z,272nm,1.5s								
QIZ	**Qiongzhong**	**20.15**	**31**	P		Pn		12 02 38.3	+3.2
QIZ					PMZ				
	comp=Z,40nm,1.4s								
TWSI	**Taliwang, Sumb**	**20.61**	**121**	P		Pn		12 02 40.5	0.0
	comp=Z,53nm,1.2s								
KAPI	**Kappang**	**21.74**	**108**	P		**P**		**12 02 53.3**	**+2.8**
	comp=Z,22nm,0.8s,baz=283,slow=6.4,SNR=3.6								
KAPI					LR	LR		12 11 52.8	
	comp=Z,3μm,18.5s,baz=290,slow=38								
BSSI	**Bau Bau, Buton**	**22.80**	**110**	P		P		12 03 11.4	+10
KMI	**Kunming**	**23.49**	**8**	P		**P**		**12 03 13.6**	**+4.7**
KMI				sP		sP		12 03 21.6	+5.5
KMI					PMZ				
	comp=Z,14nm,1.6s								
KMI					LN				
	comp=Z,2μm,16.3s								
KMI					LE				
	comp=Z,6μm,17.2s								
KMI					LZ				
	comp=Z,3μm,13.7s								
SHL	**Shillong**	**24.65**	**344**	*e*P		**P**		**12 03 20.7**	**+1.0**
SHL					IAmb	IAmb		12 03 24.2	
	comp=Z,13nm,0.4s								
TGY	**Tagaytay City**	**24.86**	**59**	LR		LR		12 13 44.8	
	comp=Z,2μm,18.4s,baz=240,slow=38								
BOK	**Bokaro**	**25.34**	**331**	*e*P		**P**		**12 03 25.9**	**+0.1**
BOK					IAmb	IAmb		12 03 29.9	
	comp=Z,26nm,0.2s								
HYB	**Hyderabad**	**25.45**	**309**	*i* P		**P**		**12 03 28.0**	**+1.0**
HYB	**Hyderabad**	**25.45**	**309**	*e*P		**P**		**12 03 27.9**	**+0.9**
HYB					IAmb	IAmb		12 03 31.7	
	comp=Z,16nm,0.5s								
GYA	**Guiyang**	**25.61**	**16**	⇑*i*P		**P**		**12 03 30.8**	**+2.4**
GYA					PP	**PnPn**		**12 04 10.3**	**+5.6**
GYA					S	**S**		**12 07 56.3**	**+0.3**
GYA					ScP	**ScP**		**12 10 39.4**	**+1.2**
GYA					PMZ				
	comp=Z,20nm,0.8s								
GYA					PMZ				
	comp=Z,120nm,5.0s								
GYA					LN				
	comp=Z,530nm,16.8s								
GYA					LE				
	comp=Z,470nm,17.0s								
GYA					LZ				
	comp=Z,480nm,17.2s								
DAV	**Davao City (W)**	**26.95**	**78**	LR		LR		12 15 30.6	
	comp=Z,965nm,19.3s,baz=202,slow=39								
RAMN	**Ramite**	**27.75**	**336**	*e*P		**P**		**12 03 44.8**	**-3.0**
	comp=Z,11nm,0.3s								
DGAR	**Diego Garcia**	**28.07**	**251**‖	*e*P		**P**		**12 03 48.5**	**-2.0**
H08S2	**Diego Garcia H**	**28.10**	**250**	T		T		12 31 31.1	
	baz=72,slow=75,SNR=585								
H08S3	**Diego Garcia H**	**28.11**	**250**	T		T		12 31 30.1	
	baz=72,slow=75,SNR=812								
H08S1	**Diego Garcia H**	**28.12**	**250**	T		T		12 31 26.6	
	baz=72,slow=75,SNR=50								
PKIN	**Phulchoki**	**28.80**	**334**	*e*P		**P**		**12 03 55.3**	**-2.0**
KKN	**Kakani**	**29.04**	**334**	*e*P		**P**		**12 03 57.1**	**-2.2**
CD2	**Chengdu**	**29.32**	**8**	P		**P**		**12 04 02.5**	**+0.9**
CD2				pP		pP		12 04 06.4	-0.4
CD2				sP		sP		12 04 08.1	-0.8
CD2				S		**S**		**12 08 57.0**	**+2.7**
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,220nm,5.0s								
CD2				LN					
	comp=Z,3μm,15.4s								
CD2				LE					
	comp=Z,8μm,19.4s								
CD2				LZ					
	comp=Z,3μm,12.9s								
GKN	**Gorkha**	**29.51**	**333**	*e*P		**P**		**12 04 01.6**	**-1.8**
	comp=Z,10nm,0.5s								
QZH	**Quanzhou**	**29.77**	**38**	⇑*i*P		P		12 04 12.4	+6.9
QZH					PMZ				
	comp=Z,130nm,1.2s								
QZH					LN				
	comp=Z,9μm,15.0s								
QZH					LE				
	comp=Z,11μm,15.4s								
QZH					LZ				
	comp=Z,3μm,11.6s								
KOLN	**Koldanda**	**29.79**	**332**	*e*P		**P**		**12 04 05.3**	**-0.6**
	comp=Z,23nm,0.6s								
BHPL	**Bhopal**	**29.93**	**317**	*e*P		**P**		**12 04 07.6**	**+0.5**
BHPL					IAmb	IAmb		12 04 12.7	
	comp=Z,5.4nm,0.5s								
PYUN	**Piuthan**	**30.36**	**331**	*e*P		**P**		**12 04 09.9**	**-1.1**
	comp=Z,19nm,0.7s								
XAN	**Xi'an**	**33.40**	**15**	P		**P**		**12 04 39.5**	**+2.0**
XAN					PMZ				
	comp=Z,9.0nm,0.5s								
LZH	**Lanzhou**	**34.43**	**7**	*e*P		P		12 04 51.4	+4.9
LZH				pP		sP		12 04 55.3	+1.4
LZH				sP		pP		12 04 57.3	+5.5
LZH				PMZ					
	comp=Z,39nm,1.4s								
LZH					PMZ				
	comp=Z,160nm,5.1s								
SMLA	**Simla**	**35.80**	**327**	*e*P		**P**		**12 04 58.4**	**+0.2**
SMLA					IAmb	IAmb		12 05 01.7	
	comp=Z,8.6nm,0.8s								
DHRM	**DHARAMSHALA**	**37.13**	**327**	*e*P		**P**		**12 05 09.6**	**-0.3**
GTA	**Gaotai**	**37.47**	**1**	*e*P		**P**		**12 05 14.3**	**+1.8**
GTA					PMZ				
	comp=Z,10.0nm,1.0s								
KLBR	**Kellerberrin**	**37.63**	**153**	P		**P**		**12 05 13.7**	**-0.1**
	baz=38								
NWAO	**Narrogin (SRO)**	**38.55**	**155**	P		**P**		**12 05 22.7**	**+1.2**
	comp=Z,24nm,1.0s,baz=326,slow=7.0,SNR=3.1								
KMBL	**Kambalda**	**39.45**	**149**	P		**P**		**12 05 29.8**	**+0.6**
	baz=39								
HHC	**Hu-ho-hao-te**	**40.51**	**15**	*e*P		**P**		**12 05 39.8**	**+1.9**
HHC				PP		**PnPn**		**12 07 19.5**	**+4.2**
HHC				S		**S**		**12 11 50.0**	**+3.6**
HHC				sS		sS		12 12 01.3	+6.2
HHC				PMZ					
	comp=Z,15nm,1.0s								
HHC				LN					
	comp=Z,2μm,15.7s								
HHC				LE					
	comp=Z,2μm,16.2s								
HHC				LZ					
	comp=Z,2μm,15.9s								
WRA	**Warramunga Arr**	**40.78**	**124**	P		**P**		**12 05 39.2**	**-1.1**
	comp=Z,32nm,1.1s,baz=301,slow=8.8,SNR=9.3								
WRA					LR	LR		12 23 06.1	
	comp=Z,733nm,20.4s,baz=350,slow=37								
WRA	**Warramunga Arr**	**40.78**	**124**	*i* P		**P**		**12 05 38.0**	**-2.4**
WRA					pmax	pmax			
	comp=Z,32nm,1.1s								
WRAB	**Tennant Creek**	**40.79**	**124**‖	*e*P		**P**		**12 05 37.2**	**-3.2**
WRAB					pmax	pmax			
	comp=Z,23nm,0.5s								
JAY	**Jayapura**	**41.85**	**96**	LR		LR		12 25 09.6	
	comp=Z,34nm,18.4s,baz=183,slow=39								
ASAR	**Alice Springs**	**42.28**	**129**	P		**P**		**12 05 53.3**	**+0.7**
	comp=Z,5.7nm,0.9s,baz=306,slow=7.5,SNR=4.5								
ASAR					LR	LR		12 23 36.8	
	comp=Z,466nm,20.4s,baz=297,slow=36								
KSH	**Kashi**	**43.05**	**334**	*e*P		**P**		**12 05 58.1**	**-0.7**
KSH				pP		pP		12 06 02.5	-1.6

SONM	Songino Array	46.32	7	P		P		12 06 24.7	-0.1
	comp=Z,4.9nm,0.8s,baz=189,slow=8.9,SNR=13								
SONA1	Songino Array	46.34	7	*e*P		P		12 06 24.2	-0.6
ULN	Ulaanbaatar	46.44	7⇑	*e*P		P		12 06 27.3	+1.7
ULN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ULN	Ulaanbaatar	46.44	7	*e*P		P		12 06 25.5	-0.2
	comp=Z,12nm,0.8s								
MK01	Makanchi Array	47.14	344	*e*P		P		12 06 30.2	-0.9
MK31	Makanchi Array	47.17	344	*i* P		P		12 06 30.1	-1.2
MK31				pmax	pmax				
	comp=Z,3.0nm,0.6s								
MK31	Makanchi Array	47.17	344	*e*P		P		12 06 30.7	-0.6
MKAR	Makanchi Array	47.17	344	P		P		12 06 30.4	-0.9
	comp=Z,7.2nm,0.8s,baz=153,slow=7.6,SNR=41								
MKAR				LR		LR		12 29 25.5	
	comp=Z,758nm,19.0s,baz=145,slow=40								
MAKZ	Makanchi	47.27	344	*e*P		P		12 06 30.7	-1.3
MAKZ				pmax	pmax				
	comp=Z,6.0nm,0.7s								
MAKZ	Makanchi	47.27	344	*e*P		P		12 06 30.7	-1.3
	comp=Z,5.8nm,0.7s								
KKAR	Karatay Array	48.40	332	*e*P		P		12 06 40.8	-0.1
KKAR	Karatay Array	48.40	332	*e*P		P		12 06 40.8	-0.1
ZAK	Zakamensk	48.57	4	*e*P		P		12 06 42.8	+0.7
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.8s								
MTSU	Mount Surprise	48.73	116	P		P		12 06 43.5	-0.3
	baz=49,SNR=5.3								
PMG	Port Moresby	49.18	104	LR		LR		12 30 06.2	
	comp=Z,506nm,18.5s,baz=284,slow=39								
PMG	Port Moresby	49.18	104⇓	*e*P		P		12 06 45.6	-1.7
PMG				pmax	pmax				
	comp=Z,82nm,1.0s								
MSHR	Mys Shultsa	49.75	31⇑	*e*P		P		12 06 49.6	-1.6
TLY	Talaya	49.88	4	*e*P		P		12 06 51.3	-0.8
TLY				pmax	pmax				
	comp=Z,5.0nm,0.8s								
CTA	Charters Tower	51.11	118	P		P		12 07 01.6	-0.2
	comp=Z,11nm,1.1s,baz=276,slow=11,SNR=3.6								
CTA	Charters Tower	51.11	118	P		P		12 07 01.2	-0.6
	baz=51								
HTT	Hallett	51.34	137	P		P		12 07 04.4	+1.0
	baz=51								
KURK	Kurchatov	51.75	344	*e*P		P		12 07 05.3	-0.8
KURK				pmax	pmax				
	comp=Z,30nm,0.7s								
KURK	Kurchatov	51.75	344	*e*P		P		12 07 05.3	-0.8
	comp=Z,30nm,0.7s								
QLP	Quilpie	51.88	126	P		P		12 07 06.6	-0.9
	baz=52,SNR=6.8								
GEYT	Alibeck	51.99	319	P		P		12 07 08.0	-0.2
	comp=Z,3.4nm,0.5s,baz=148,slow=9.6,SNR=5.9								
STKA	Stephens Creek	52.38	133	P		P		12 07 09.9	-1.3
	comp=Z,12nm,0.9s,baz=308,slow=7.3,SNR=5.1								
STKA	Stephens Creek	52.38	133	P		P		12 07 10.1	-1.1
	baz=52,SNR=6.6								
STKA	Stephens Creek	52.38	133	*e*P		P		12 07 09.9	-1.3
STKA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
STKA	Stephens Creek	52.38	133	*e*P		P		12 07 09.9	-1.3
	comp=Z,4.1nm,1.1s								
ZAA0	Zalesovo Array	53.31	350	*e*P		P		12 07 16.6	-1.0
ZALV	Zalesovo Beam	53.31	350	P		P		12 07 16.8	-0.9
	comp=Z,10nm,0.6s,baz=175,slow=6.3,SNR=29								
NVS	Novosibirsk	54.46	349	*e*P		P		12 07 26.9	+0.9
KLR	Kul'dur	54.93	26	*e*P		P		12 07 27.1	-2.4
CMSA	Cobar Meteorol	55.24	131	P		P		12 07 30.8	-1.4
	baz=55,SNR=10								
RMQ	Roma	55.54	124	P		P		12 07 34.6	+0.2
	baz=56								
VOSK	Vostochnaya	55.89	340	P		P		12 07 35.3	-1.1
VOSK				pmax	pmax				
	comp=Z,9.0nm,0.9s								
ZRNK	Zerenda	56.78	339	P		P		12 07 41.4	-1.3
ZRNK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
ZRNK	Zerenda	56.78	339	*e*P		P		12 07 41.1	-1.6
	comp=Z,6.0nm,0.8s								
EIDS	Eidsvold	57.09	122	P		P		12 07 44.7	-0.7
	baz=57								
AB31	Akbulak array	57.91	331	*i* P		P		12 07 49.5	-1.3
AB31				pmax	pmax				
	comp=Z,5.0nm,0.6s								
ABKAR	Akbulak array	57.91	331	*e*P		P		12 07 49.8	-0.9
	comp=Z,4.8nm,0.6s								
YSS	Yuzh-Sakhalins	58.84	34	*e*P		P		12 07 58.3	+1.0
ARMA	Armidale	59.38	127	P		P		12 08 02.3	+0.8
	baz=59								
HNR	Honiara	61.65	102	P		P		12 08 17.0	-0.2
	comp=Z,44nm,0.9s,baz=289,slow=3.1,SNR=3.8								
KMBO	Kilima Mbogo	61.87	268	P		P		12 08 20.4	+1.5
	comp=Z,1.2nm,0.4s,baz=46,slow=12,SNR=5.4								
KMBO				LR		LR		12 30 06.0	
	comp=Z,688nm,21.4s,baz=84,slow=31								
KMBO	Kilima Mbogo	61.87	268	*i* P		P		12 08 20.3	+1.3
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.4s								
GNI	Garni	62.19	315⇓	*e*P		P		12 08 17.6	-3.0
GNI				pmax	pmax				
	comp=Z,17nm,0.9s								
SVE	Sverdlovsk	62.86	337	*e*P		P		12 08 25.9	+1.4
SVE				pmax	pmax				
	comp=Z,20nm,1.4s								
ARU	Arti	63.40	336	*d i* P		P		12 08 26.7	-1.4
ARU								12 10 44.0	
ARU				S		S		12 16 59.9	-0.1
ARU				SS		SS		12 21 02.5	-4.4
ARU				pmax	pmax				
	comp=Z,13nm,1.2s								
ARU	Arti	63.40	336	*e*P		P		12 08 27.4	-0.6
	comp=Z,15nm,1.3s								
ZEI	Tsey	63.82	318	*e*P		P		12 08 30.1	-1.3
ZEI				pmax	pmax				
	comp=Z,31nm,0.6s								
NEY	Neytrino	64.80	318⇓	*e*P		P		12 08 36.6	-1.2
NEY				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KBZ	Khabaz	64.87	318	P		P		12 08 37.6	-0.3
	comp=Z,9.1nm,0.8s,baz=200,slow=24,SNR=16								
KIV	Kislovodsk	65.10	318	*i* P		P		12 08 39.7	+0.1
KIV				*i*				12 08 55.8	
KIV				*i*				12 09 09.3	
KIV				pmax	pmax				
	comp=Z,9.0nm,0.8s								
KIV	Kislovodsk	65.10	318	*e*P		P		12 08 39.6	0.0
	comp=Z,14nm,0.8s								
SOC	Sochi	66.95	317	*e*P		P		12 08 49.6	-1.8
SOC				pmax	pmax				
	comp=Z,10.0nm,0.4s								
NRIK	Noril'sk	67.89	356	P		P		12 08 58.2	+1.4
	comp=Z,5.0nm,0.3s,baz=157,slow=5.2,SNR=17								
NRIK				LR		LR		12 39 41.3	
	comp=Z,604nm,18.6s,baz=168,slow=37								
NRIK	Noril'sk	67.89	356	P		P		12 08 58.2	+1.3
NRIK				pmax	pmax				
	comp=Z,5.0nm,0.3s								
VRH	Novokhopyorsk	68.70	325	*e*P		P		12 09 00.9	-1.4
VRH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
MA2	Magadan	70.02	25	*e*P		P		12 09 06.5	-3.8
BR131	Keskin Array S	70.11	312	*e*P		P		12 09 10.4	-1.0
BRTR	Keskin Array B	70.11	312	P		P		12 09 10.4	-1.0
	comp=Z,4.2nm,0.7s,baz=132,slow=7.2,SNR=18								
BRTR	Keskin Array B	70.11	312	*i* P		P		12 09 10.3	-1.2
BRTR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
VSR	Storozhevoye	70.17	325	*e*P		P		12 09 08.9	-2.5
VSR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
LPSR	Galich'ya Gora	70.86	326	*e*P		P		12 09 14.7	-0.8
LPSR				pmax	pmax				
	comp=Z,9.0nm,0.7s								
TIXI	Tiksi	72.31	10⇓	*e*P		P		12 09 22.8	-1.1
TIXI				pmax	pmax				
	comp=Z,22nm,1.1s								
TIXI	Tiksi	72.31	10	*e*P		P		12 09 22.9	-1.1
	comp=Z,43nm,1.2s								
SEY	Seymchan	72.52	23⇑	*e*P		P		12 09 23.7	-1.6
OBN	Obninsk	73.12	328	*i* P		P		12 09 30.8	+1.8
OBN				*i*				12 09 48.3	
OBN				pmax	pmax				
	comp=Z,17nm,1.1s								
KLMR	Klimovskoe	74.05	334	*e*P		P		12 09 32.0	-2.4
KLMR				pmax	pmax				
	comp=Z,11nm,1.5s								
TIRR	Tirgusor	75.01	316	*e*P		P		12 09 39.7	-0.6
TIRR				pmax	pmax				
	comp=Z,8.0nm,1.0s								
TIRR	Tirgusor	75.01	316	*e*P		P		12 09 39.7	-0.6
	comp=Z,8.0nm,1.0s								
AKASG	Malin Array Be	75.95	322	P		P		12 09 46.2	+0.6
	comp=Z,1.0nm,0.4s,baz=84,slow=5.1,SNR=11								
AKASG	Malin Array Be	75.95	322	*i* P		P		12 09 48.0	+2.4
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.4s								
KIEV	Kiev	75.96	322⇑	*e*P		P		12 09 42.3	-3.3
KIEV				pmax	pmax				
	comp=Z,1.0nm,0.9s								
KIEV	Kiev	75.96	322	*e*P		P		12 09 48.0	+2.4
	comp=Z,14nm,1.3s								
AK11	Malin Array Si	75.98	322	*e*P		P		12 09 47.6	+1.9
BOSA	Boshof	76.67	240	P		P		12 09 50.4	0.0
	comp=Z,3.1nm,0.7s,baz=70,slow=3.1,SNR=3.9								
MLR	Muntele Rosu	76.94	316	*e*P		P		12 09 52.2	+0.7
MLR				pmax	pmax				
	comp=Z,31nm,1.4s								
MLR	Muntele Rosu	76.94	316	*e*P		P		12 09 52.1	+0.7
	comp=Z,31nm,1.4s								
BUR08	Bucovina Ar. S	77.85	318	*e*P		P		12 09 57.2	+0.6
KOLS	Kolonicke sedl	79.99	319	*e*P		P		12 10 10.9	+2.7
KOLS				pmax	pmax				
	comp=Z,11nm,1.5s								
KOLS	Kolonicke sedl	79.99	319	*e*P		P		12 10 10.9	+2.7
FINES	FINESS Array B	80.36	332	P		P		12 10 09.0	-0.8
	comp=Z,2.1nm,0.5s,baz=103,slow=5.6,SNR=18								
FINES	FINESS Array B	80.36	332	*i* P		P		12 10 11.8	+2.0
FINES				pmax	pmax				
	comp=Z,2.0nm,0.5s								
CRVS	Cervenica-Dubn	80.52	319	*e*P		P		12 10 15.0	+4.0
CRVS	Cervenica-Dubn	80.52	319	*e*P		P		12 10 15.0	+4.0
SYO	Syowa Base	81.12	198	*e*P		P		12 10 16.6	+2.9
ARCES	ARCESS Array B	82.63	340	P		P		12 10 21.6	-0.1
	comp=Z,1.1nm,0.4s,baz=100,slow=4.6,SNR=19								
ARCES				LR		LR		12 52 48.3	
	comp=Z,426nm,18.8s,baz=111,slow=40								
TIP	Timpagrande	82.91	309	*e*P		P		12 10 24.1	+0.2
	comp=Z,12nm,1.2s								
MORC	Moravsky Berou	83.17	320	*e*P		P		12 10 25.8	+0.9
MORC				pmax	pmax				
	comp=Z,19nm,1.1s								
MORC	Moravsky Berou	83.17	320	*e*P		P		12 10 25.8	+0.9
	comp=Z,19nm,1.1s								
GEA0	GERESS Array S	85.61	319	*e*P		P		12 10 37.4	0.0
GEC2	GERESS Array S	85.61	319	*e*P		P		12 10 38.7	+1.2
GEC2				pmax	pmax				
	comp=Z,8.0nm,1.2s								
GEC2	GERESS Array S	85.61	319	*e*P		P		12 10 38.6	+1.2
	comp=Z,7.9nm,1.2s								
GERES	GERESS Array B	85.61	319	P		P		12 10 39.1	+1.6
	comp=Z,2.0nm,1.0s,baz=84,slow=5.5,SNR=7.0								
VNDA	Vanda	86.02	169	P		P		12 10 38.3	-0.4
	comp=Z,5.4nm,1.2s,baz=310,slow=4.7,SNR=5.3								
VNDA	Vanda	86.02	169	*e*P		P		12 10 39.1	+0.3
VNDA				pmax	pmax				
	comp=Z,18nm,0.6s								
VNDA	Vanda	86.02	169	*e*P		P		12 10 39.0	+0.3
	comp=Z,18nm,0.6s								
CLL	Collm	86.16	321	*i* P		P		12 10 42.9	+3.0
	comp=Z,13nm,1.6s								
CLL	Collm	86.16	321	*i* P		P		12 10 42.9	+3.0
CLL				pmax	pmax				
	comp=Z,13nm,1.6s								
SPA0	Spitsbergen Ar	86.78	348	*e*P		P		12 10 43.5	+0.9
NB2	NORSAR Subarra	87.41	331	P		P		12 10 44.8	-1.1
	comp=Z,1.6nm,0.8s,baz=94,slow=4.8								
NOA	NORSAR Array B	87.41	331	P		P		12 10 45.5	-0.5
	comp=Z,4.4nm,0.8s,baz=93,slow=4.9,SNR=6.2								
NBO02	NORSAR Array S	87.59	331	*e*P		P		12 10 48.3	+1.5
KEST	Kesra	88.74	306	P		P		12 10 52.4	-0.5
	comp=Z,3.8nm,0.5s,baz=280,slow=11,SNR=3.8								
KEST	Kesra	88.74	306	*e*P		P		12 10 53.3	+0.4
	comp=Z,20nm,1.3s								
SNAA	Sanae	95.41	198	*e*P		P		12 11 21.0	-1.9
BPAW	Bear Paw Mtn.	97.02	25	*e*P		P		12 11 29.1	-1.3
	comp=Z,4.9nm,0.8s								
J05D	Fort Rock, OR	122.40	34	P		PKPdf		12 16 53.6	-0.9
	baz=310								
MSO	Missoula	123.59	27	P		PKPdf		12 16 54.9	-1.7
	baz=319								
MSO	Missoula	123.59	27	*e*PKPdf		PKPdf		12 16 56.4	-0.3
DLMT	Dillon	125.31	27	*e*PKPdf		PKPdf		12 16 60.0	-0.1
BOZ	Bozeman (W)	125.53	26	P		PKPdf		12 16 58.9	-1.6
	baz=321								
BOZ	Bozeman (W)	125.53	26	*e*PKIKP		PKPdf		12 17 00.3	-0.2
BOZ	Bozeman (W)	125.53	26	*e*PKPdf		PKPdf		12 17 00.3	-0.2
ULM	Lac du Bonnet	126.62	12	PKP		PKPdf		12 17 00.4	-1.8
	comp=Z,2.6nm,0.6s,baz=341,slow=4.8,SNR=3.8								
LAO	LASA Array	126.86	22	P		PKPdf		12 17 01.7	-1.1
	baz=328								
LAO	LASA Array	126.86	22	*e*PKPdf		PKPdf		12 17 03.1	+0.2
RLMT	Red Lodge	126.96	25	P		PKPdf		12 17 01.7	-1.6
	baz=324								
H17A	Grant Village	126.97	26	*e*PKPdf		PKPdf		12 17 04.8	+1.3
REDW	Red Top Meadow	127.65	27	*e*PKPdf		PKPdf		12 17 04.9	+0.2
B30A	Myrvik Farm, E	127.75	15	P		PKPdf		12 17 03.1	-1.3
	baz=338								
D26A	Manning	127.86	19	P		PKPdf		12 17 04.2	-0.6
	baz=332								
A33A	Warroad	127.96	12	P		PKPdf		12 17 03.9	-0.9
	baz=342								
B32A	Ashes, Strandq	128.23	13	P		PKPdf		12 17 04.2	-1.1
	baz=340								
C31A	Landman Farms,	128.50	14	P		PKPdf		12 17 04.5	-1.4
	baz=338								
BW06	Boulder Array	128.71	27	P		PKPdf		12 17 04.7	-2.0
	baz=322								
D30A	Buchanan	128.87	16	P		PKPdf		12 17 05.3	-1.3
	baz=337								
R11A	Troy Canyon, C	128.87	35	P		PKPdf		12 17 06.7	-0.4
	baz=313								
R11A	Troy Canyon, C	128.87	35	*e*PKPdf		PKPdf		12 17 07.7	+0.5
DUG	Dugway, Tooele	129.09	31	P		PKPdf		12 17 07.3	-0.1
	baz=317								
DUG	Dugway, Tooele	129.09	31	*e*PKIKP		PKPdf		12 17 07.9	+0.5
DUG	Dugway, Tooele	129.09	31	*e*PKPdf		PKPdf		12 17 07.8	+0.5
MPMC	Manual Prospec	129.25	39	P		PKPdf		12 17 07.7	-0.2
	baz=310								
IKP	In-Ko-Pah, Jac	132.29	41	P		PKPdf		12 17 13.2	-0.4
	baz=309								
PV10	Paradox Valley	132.38	30	*e*PKPdf		PKPdf		12 17 14.5	+0.6
ECSD	EROS Data Cent	132.57	15	P		PKPdf		12 17 12.8	-0.9
	baz=338								
ECSD	EROS Data Cent	132.57	15	*e*PKPdf		PKPdf		12 17 12.9	-0.9
J37A	Redenius Farm,	133.71	13	P		PKPdf		12 17 15.6	-0.3
	baz=342								
J38A	Wedel Dairy, R	133.93	12	P		PKPdf		12 17 15.2	-1.1
	baz=344								
S22A	4UR Ranch, Cre	133.96	29	P		PKPdf		12 17 14.3	-2.6
	baz=323								
J39A	Decorah	134.07	11	P		PKPdf		12 17 15.2	-1.3
	baz=345								
K37A	Belmond	134.21	13	P		PKPdf		12 17 15.7	-1.2
	baz=342								
T25A	Trinidad	135.58	27	P		PKPdf		12 17 18.2	-1.7
	baz=325								
Q35A	Mercer Eighty,	137.25	17	P		PKPdf		12 17 22.1	-0.5
	baz=338								
121A	Cookes Peak, D	137.47	34	P		PKPdf		12 17 21.8	-1.6
	baz=318								
P39B	Salisbury	137.53	14	P		PKPdf		12 17 22.6	-0.5
	baz=342								
P40A	Paris	137.65	13	P		PKPdf		12 17 22.5	-0.9
	baz=343								
Q38A	Cooks Store, C	137.82	15	P		PKPdf		12 17 21.9	-1.7
	baz=341								
R36A	Gordon, Harris	137.90	17	P		PKPdf		12 17 22.0	-1.8
	baz=338								
Q39A	Willow Grove F	137.90	14	P		PKPdf		12 17 22.5	-1.3
	baz=342								
O56A	Blue Knob Stat	138.11	357	P		PKPdf		12 17 22.6	-1.6
	baz=3.5								
Q42A	Golden Eagle	138.56	11	P		PKPdf		12 17 24.0	-1.0
	baz=345								
R39A	Chumby, Stover	138.58	14	P		PKPdf		12 17 23.8	-1.3
	baz=342								
S38A	Stockton	139.00	16	P		PKPdf		12 17 24.2	-1.6
	baz=340								
S39A	Bolivar	139.10	15	P		PKPdf		12 17 25.6	-0.4
	baz=341								
MNTX	Cornudas Mount	139.43	33	P		PKPdf		12 17 25.9	-0.9
	baz=321								
MNTX	Cornudas Mount	139.43	33	*e*PKPdf		PKPdf		12 17 27.9	+1.1
W32A	Sentinel	139.49	23	P		PKPdf		12 17 26.2	-0.6
	baz=331								
U38A	Gravette	139.98	17	P		PKPdf		12 17 25.0	-2.7
	baz=339								
V39A	Pettigrew	140.75	16	P		PKPpre		12 17 22.0	
	baz=340								
X35A	Drake	141.00	21	P		PKPpre		12 17 21.6	
	baz=334								
V41A	Mountainview	141.20	15	P		PKPpre		12 17 23.0	
	baz=342								
W38A	Poteau	141.21	18	P		PKPpre		12 17 23.5	
	baz=338								
V42A	Cord	141.37	14	P		PKPpre		12 17 24.6	
	baz=343								
X37A	Clayton	141.38	19	P		PKPpre		12 17 24.5	
	baz=336								
X38A	Whitesboro	141.48	19	P		PKPpre		12 17 26.9	
	baz=337								
W41B	Gary Mavity, V	141.75	15	P		PKPpre		12 17 26.0	
	baz=342								
X39A	Fountain Ranch	141.85	18	P		PKPpre		12 17 25.0	
	baz=338								
MIAR	Mount Ida	141.98	17	P		PKPpre		12 17 25.4	
	baz=339								
MIAR	Mount Ida	141.98	17	*e*PKIKP		PKPpre		12 17 25.9	
MIAR	Mount Ida	141.98	17	*e*PKPpre		PKPpre		12 17 25.9	
TXAR	Lajitas Array	142.19	33	PKP		PKPdf		12 17 29.4	-2.7
	comp=Z,0.5nm,0.5s,baz=260,slow=1.5,SNR=10								
X40A	Basin Creek Fa	142.24	16	P		PKPdf		12 17 29.6	-2.3
	baz=340								
Y39A	Lockesburg	142.38	18	P		PKPpre		12 17 26.4	
	baz=338								
333A	Richland Sprin	142.89	26	P		PKPpre		12 17 28.1	
	baz=329								
Z40A	Long Farm, Mag	143.23	18	P		PKPab		12 17 30.7	+1.5
	baz=339								
236A	Katherine and	143.30	22	P		PKPab		12 17 29.3	-0.3
	baz=333								
433A	Art	143.33	27	P		PKPab		12 17 30.2	+0.5
	baz=329								
Z41A	Richland Creek	143.41	17	P		PKPab		12 17 30.6	+0.7
	baz=340								
237A	Washetta, Mont	143.57	22	P		PKPab		12 17 31.4	+0.8
	baz=334								
335A	Moody	143.58	24	P		PKPbc		12 17 33.2	+1.7
	baz=332								
Z42A	Norrel Spur, H	143.63	16	P		PKPab		12 17 32.3	+1.5
	baz=341								
434A	Burnet	143.64	26	P		PKPab		12 17 31.4	+0.4
	baz=330								
Y46A	Houston	143.76	11	P		PKPbc		12 17 33.0	+1.0
	baz=346								
Y47A	UCPARC, Winfie	143.93	10	P		PKPab		12 17 31.8	-0.1
	baz=348								
141A	Papa Simpson,	143.99	17	P		PKPab		12 17 32.7	+0.5
	baz=339								
Z44A	Pea Ridge, Bel	144.01	14	P		PKPab		12 17 32.8	+0.6
	baz=344								
239A	Gary	144.03	20	P		PKPab		12 17 32.9	+0.5
	baz=337								
Z45A	Winona	144.09	13	P		PKPab		12 17 30.3	-2.2
	baz=345								
337A	Centerville	144.16	22	P		PKPab		12 17 30.3	-2.6
	baz=334								
NATX	Nacogdoches	144.20	20	P		PKPab		12 17 30.9	-2.1
	baz=336								
534A	Blanco	144.22	27	P		PKPab		12 17 32.4	-0.8
	baz=329								
240A	Hunter Patters	144.25	19	P		PKPab		12 17 33.3	+0.2
	baz=338								
142A	Monroe	144.31	16	P		PKPab		12 17 33.4	0.0
	baz=341								
338A	Crockett	144.34	21	P		PKPab		12 17 33.9	+0.4
	baz=335								
633A	Saathoff Ranch	144.38	28	P		PKPab		12 17 34.4	+0.6
	baz=328								
Z46A	Louisville	144.41	12	P		PKPab		12 17 34.1	+0.4
	baz=346								
Z48A	Northport	144.49	10	P		PKPab		12 17 33.5	-0.5
	baz=349								
437A	Phantom Ranch,	144.50	23	P		PKPab		12 17 34.8	+0.7
	baz=333								
Z47A	Carrollton	144.57	10	P		PKPab		12 17 34.4	+0.1
	baz=348								
339A	Huntington	144.63	20	P		PKPbc		12 17 36.5	+1.8
	baz=336								
144A	Alexander Plac	144.63	14	P		PKPab		12 17 35.2	+0.6
	baz=344								
242A	Grayson	144.71	17	P		PKPab		12 17 33.9	-0.9
	baz=340								
145A	Houston Renfro	144.77	13	P		PKPab		12 17 35.1	0.0
	baz=344								
438A	Sam Houston St	144.82	22	P		PKPab		12 17 35.3	0.0
	baz=334								
GOGA	Godfrey	144.93	4	*e*PKIKP		PKPab		12 17 35.7	+0.1
GOGA	Godfrey	144.93	4	*e*PKPdf		PKPab		12 17 35.7	+0.1
146A	Union	144.93	12	P		PKPab		12 17 35.4	-0.2
	baz=346								
733A	Divot King Ran	144.94	29	P		PKPab		12 17 35.9	0.0
	baz=327								
832A	Faith Ranch, C	144.97	30	P		PKPab		12 17 35.9	-0.1
	baz=326								
147A	Livingston	145.05	11	P		PKPab		12 17 35.7	-0.4
	baz=347								

7.6nm,1.1s,baz=300,slow=9.7,SNR=3.6
MKAR Makanchi Array 47.47 345 P P 12 09 43.6 -0.6
2.3nm,0.7s,baz=145,slow=7.3,SNR=2.1
ZALV Zalesovo Beam 53.64 350 P P 12 10 30.1 -0.5
3.1nm,0.6s,baz=168,slow=5.7,SNR=4.1
BRTR Keskin Array B 70.24 312 P P 12 12 22.9 +0.1
2.1nm,0.9s,baz=134,slow=8.2,SNR=4.0
NOA NORSAR Array B 87.66 331 P P 12 13 58.3 +0.5
1.5nm,0.9s,baz=95,slow=5.0,SNR=3.5
TXAR Lajitas Array 142.57 33 PKP PKPdf 12 20 43.7 +0.3
0.7nm,0.9s,baz=54,slow=1.6,SNR=2.2

DJA 18 12:07:02.5±0.3,1°N±3°×9°9E±°, h49km±9km, M4.2/12, MLv4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.59**	**160**	P		P	Pn	12 07 15.8	+0.9
MNSI				S		S	Sn	12 07 26.4	+2.6
GSI	**Gunungsitoli**	**1.81**	**268**	P		P	Pn	12 07 29.5	-1.7
GSI				S		S	Sn	12 07 53.6	+0.7
BKNI	**Bangkinang**	**1.95**	**122**	P		P	Pn	12 07 33.3	+0.1
PPI	**Padang Panjang**	**2.07**	**151**	P		P	Pn	12 07 34.8	0.0
TSI	**Tuntungan**	**2.28**	**339**	P		P	Pn	12 07 37.5	-0.2
PDSI	**Padang**	**2.50**	**154**	P		P	Pn	12 07 41.1	+0.3
KCSI	**Kotacane, Aceh**	**2.68**	**323**	P		P	Pn	12 07 43.3	+0.1
TPTI		**2.90**	**311**	P		P	Pn	12 07 46.4	+0.2
MLSI	**Meulaboh, Aceh**	**4.14**	**314**	P		P	Pn	12 08 03.6	+0.3
PPSI	**Pulau Pagai**	**4.14**	**171**	P		P	Pn	12 08 03.7	+0.4

*SJA **18** 12:27:36.1±0.5, 22°.45S×70°.51W, h306km±66km, ML4.0, MW4.0*
*ISCJB **18** 12:27:57.9±0.3, 21°.93S±0°.03×68°.44W±0°.04, h116km±3km, mb4.4/41, Error ellipse: s-maj=7.1km s-min=5.4km az=155.6*
*IDC **18** 12:27:58.1±0.8, 21°.76S×68°.39W, h103km±9km, mb4.2/8, mb1 4.3/11, mb1mx4.0/24, mbtmp4.5/11, Error ellipse: s-maj=19.1km s-min=14.1km az=142.0*
*NEIC **18** 12:27:58.4±0.5, 21°.91S×68°.32W, h106km±4km, mb4.5/35, Error ellipse: s-maj=6.9km s-min=6.1km az=48.0*
*GUC **18** 12:27:59.6±0.4, 21°.87S×68°.71W, h122km±3km, ML4.5*
*SCB **18** 12:28:04.1±0.2, 21°.28S×68°.04W, h100km, Ml3.5/2, Error ellipse: s-maj=4.7km s-min=1.9km az=45.0*

ISC 18 12:27:58.5±0.7, 21°.89S±0°.04×68°.44W±0°.05, h112km±6km, n86, σ1°82/99, mb4.5/41, 5C-6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.75**	**277**	↑*eP*			**Pn**	**12 28 18.5**	**+0.8**
PB09				*eS*			**Sn**	**12 28 32.6**	**+0.6**
PB09				IAML				12 28 35.3	
	comp=N,34μm,0.3s								
LVC	**Limon Verde**	**0.84**	**211**	P			**Pn**	**12 28 19.3**	**+0.6**
LVC	comp=N,20μm,0.3s,baz=26,slow=8.0,SNR=3708			S			**Sn**	**12 28 34.8**	**+0.9**
	comp=N,90μm,0.3s,baz=240,slow=22,SNR=137								
PB01	**IPOC Station P**	**1.29**	**311**	↑*eP*			**Pn**	**12 28 23.4**	**+0.3**
PB01				*eS*			**Sn**	**12 28 41.5**	**-0.1**
PB01				IAML				12 28 43.4	
	comp=E,9μm,0.3s								
PB01	**IPOC Station P**	**1.29**	**311**	*ePn*			**Pn**	**12 28 23.6**	**+0.5**
PB01				*eSn*			**Sn**	**12 28 41.9**	**+0.2**
PB07	**IPOC Station P**	**1.35**	**277**	*eP*			**Pn**	**12 28 23.8**	**-0.1**
PB07				*eS*			**Sn**	**12 28 42.1**	**-1.1**
PB07				IAML				12 28 44.2	
	comp=E,9μm,0.3s								
PB04	**IPOC Station P**	**1.65**	**254**	↑*eP*			**Pn**	**12 28 26.9**	**-0.4**
PB04				*eS*			**Sn**	**12 28 47.8**	**-1.5**
PB04				IAML				12 28 55.1	
	comp=E,5μm,0.5s								
PB04	**IPOC Station P**	**1.65**	**254**	*ePn*			**Pn**	**12 28 26.9**	**-0.4**
PB04				*eSn*			**Sn**	**12 28 48.8**	**-0.5**
PB08	**IPOC Station P**	**1.86**	**339**	↓*eP*			**Pn**	**12 28 31.9**	**+1.6**
PB08				*eS*			**Sn**	**12 28 56.2**	**+1.8**
PB08				IAML				12 28 57.5	
	comp=E,4μm,0.9s								
HMBC	**Humberstone**	**2.10**	**320**	↓*eP*			**Pn**	**12 28 32.5**	**-0.5**
HMBC				*eS*			**Sn**	**12 28 58.0**	**-1.3**
HMBC				IAML				12 29 01.0	
	comp=E,6μm,0.7s								
PB11	**IPOC Station P**	**2.40**	**332**	*ePn*			**Pn**	**12 28 37.1**	**+0.2**
PB11				*eSn*			**Sn**	**12 29 04.2**	**-2.1**
PB10	**IPOC Station P**	**2.54**	**230**	*ePn*			**Pn**	**12 28 37.2**	**-1.2**
PB10				*eSn*			**Sn**	**12 29 03.7**	**-5.5**
MOCB	**Mochara**	**2.68**	**77**	↑*iPn*			**Pn**	**12 28 44.6**	**+3.8**
AZAP	**Zapla**	**3.88**	**127**	*iP*			**Pn**	**12 28 58.6**	**+2.1**
SLA	**San Lorenzo**	**3.90**	**137**	*iP*			**Pn**	**12 28 56.1**	**-0.7**
ASTB	**Santa Barbara**	**4.21**	**120**	*iP*			**Pn**	**12 29 03.0**	**+2.2**
FSA	**Cafayete**	**4.77**	**152**	*iP*			Pn	12 29 00.6	-7.8
FSA				IAML				12 30 13.9	
	comp=Z,7.2nm,0.5s								
BBOJ	**La Paz, Jacaqu**	**4.89**	**3**	↓*iPn*			**Pn**	**12 29 13.0**	**+2.6**
BBOJ				*eSn*			**Sn**	**12 30 01.3**	**-5.0**
	comp=Z,34nm,0.6s								
BBOE	**La Paz, Chanca**	**5.07**	**5**	↑*iPn*			**Pn**	**12 29 15.1**	**+2.3**
BBOD	**La Paz, Gloria**	**5.22**	**358**	↓*iPn*			**Pn**	**12 29 16.7**	**+1.8**
BBOD				*eSn*			**Sn**	**12 30 09.7**	**-4.6**
	comp=Z,36nm,0.6s								
LPAZ	**La Paz**	**5.58**	**3**	P			**Pn**	**12 29 22.8**	**+3.0**
	comp=Z,5.5nm,0.3s,baz=221,slow=1.5,SNR=153								
LPAZ	**La Paz**	**5.58**	**3**	*ePn*			**Pn**	**12 29 22.1**	**+2.3**
LPAZ	**La Paz**	**5.58**	**3**	*ePn*			**Pn**	**12 29 21.6**	**+1.8**
AHML	**Horco Molle**	**5.64**	**150**	*iP*			Pn	12 29 11.1	-9.0
BBOB	**La Paz, Bander**	**5.72**	**3**	↓*ePn*			**Pn**	**12 29 23.3**	**+1.6**
SIV	**San Ignacio**	**9.11**	**51**	P			**Pn**	**12 30 05.3**	**-1.9**
	comp=Z,11nm,0.3s,baz=249,slow=13,SNR=106								
SIV				S			**Sn**	**12 31 45.4**	**-2.6**
	comp=Z,1.6nm,0.3s,baz=320,slow=19,SNR=5.7								
SIV	**San Ignacio**	**9.11**	**51**	*eP*			**Pn**	**12 30 05.2**	**-1.9**
SIV				*eS*			**Sn**	**12 31 39.9**	**-8.0**
CPUP	**Villa Florida**	**11.07**	**116**	P			**Pn**	**12 30 31.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=292,slow=12,SNR=12								
CPUP	**Villa Florida**	**11.07**	**116**	*ePn*			**Pn**	**12 30 31.3**	**-2.2**
SAML	**Samuel**	**13.82**	**22**	*ePn*			**Pn**	**12 31 09.2**	**-0.5**
PLCA	**Paso Flores**	**18.87**	**185**	P			**Pn**	**12 32 11.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=22,slow=11,SNR=4.2								
SPB	**Sao Paulo**	**19.45**	**99**	*eP*			**P**	**12 32 14.9**	**-1.5**
	comp=Z,22nm,0.7s								
PTGA	**Pitinga**	**22.59**	**23**	P			**P**	**12 32 49.1**	**-0.8**
	comp=Z,6.5nm,0.3s,baz=212,slow=16,SNR=15								
PTGA	**Pitinga**	**22.59**	**23**	*eP*			**P**	**12 32 49.2**	**-0.8**
	comp=Z,7.7nm,0.6s								
OTAV	**Otavalo**	**24.06**	**335**	*eP*			**P**	**12 33 07.4**	**+3.3**
	comp=Z,4.3nm,0.8s								
RCBR	**Riachuelo**	**35.28**	**68**	P			**P**	**12 34 42.7**	**-0.2**
	comp=Z,22nm,0.8s,baz=246,slow=12,SNR=7.5								
ZAIG	**Zacatecas**	**55.46**	**321**	*eP*			**P**	**12 37 23.6**	**+1.5**
	comp=Z,5.5nm,0.8s								
WVT	**Waverly**	**60.55**	**342**	*eP*			**P**	**12 37 56.1**	**-0.9**
	comp=Z,4.8nm,0.8s								
TXAR	**Lajitas Array**	**61.20**	**325**	P			**P**	**12 38 01.9**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=152,slow=8.5,SNR=7.2								
SNAA	**Sanae**	**61.77**	**161**	P			**P**	**12 38 04.7**	**-0.2**
MNTX	**Cornudas Mount**	**63.96**	**325**	*eP*			**P**	**12 38 19.8**	**-0.2**
	comp=Z,3.4nm,1.0s								
319A	**Douglas**	**65.86**	**322**	*eP*			**P**	**12 38 33.6**	**+1.2**
	comp=Z,6.9nm,0.9s								
LPM	**Los Pinos Moun**	**66.66**	**326**	*eP*			**P**	**12 38 38.6**	**+1.1**
ANMO	**Albuquerque**	**67.06**	**327**	*eP*			**P**	**12 38 40.9**	**+0.9**
	comp=Z,4.7nm,0.9s								
TUC	**Tucson**	**67.41**	**322**	*eP*			**P**	**12 38 43.6**	**+1.4**
	comp=Z,6.6nm,1.3s								
QSPA	**South Pole Qui**	**68.31**	**180**	*eP*			**P**	**12 38 48.4**	**+1.0**
DBIC	**Dimbokro**	**68.43**	**73**	P			**P**	**12 38 48.6**	**-0.2**
	comp=Z,6.3nm,0.6s,baz=227,slow=4.5,SNR=13								
SDCO	**Great Sand Dun**	**68.80**	**329**	*eP*			**P**	**12 38 51.9**	**+0.9**
	comp=Z,3.7nm,0.8s								
MVCO	**Mesa Verde**	**69.86**	**327**	*eP*			**P**	**12 38 58.0**	**+0.5**
	comp=Z,18nm,1.3s								
WUAZ	**Wupatki**	**70.10**	**324**	*eP*			**P**	**12 38 60.0**	**+1.1**
	comp=Z,12nm,0.9s								
PV01	**Paradox Valley**	**70.61**	**327**	*eP*			**P**	**12 39 03.0**	**+1.0**
SMCO	**Snowmass**	**70.64**	**329**	*eP*			**P**	**12 39 02.9**	**+0.5**
	comp=Z,7.2nm,1.2s								
U15A	**North Rim**	**71.27**	**324**	*eP*			**P**	**12 39 07.2**	**+1.0**
	comp=Z,6.8nm,0.8s								
PHWY	**Pilot Hill**	**71.64**	**331**	*eP*			**P**	**12 39 06.7**	**-1.5**
	comp=Z,17nm,1.4s								
O20A	**White River Ci**	**72.00**	**329**	*eP*			**P**	**12 39 11.3**	**+1.0**
	comp=Z,9.0nm,0.8s								
SRU	**San Rafael Swe**	**72.34**	**327**	*eP*			**P**	**12 39 13.7**	**+1.3**
	comp=Z,11nm,0.7s								
P18A	**Preston Nutter**	**72.59**	**327**	*eP*			**P**	**12 39 14.8**	**+0.9**
	comp=Z,56nm,1.2s								
CCUT	**Cedar City**	**72.68**	**324**	*eP*			**P**	**12 39 16.5**	**+2.1**
	comp=Z,11nm,0.8s								
P17A	**Butcher Ranch,**	**72.72**	**327**	*eP*			**P**	**12 39 15.9**	**+1.3**
	comp=Z,9.8nm,0.7s								
TMUT	**Trail Mountain**	**72.83**	**327**	*eP*			**P**	**12 39 16.5**	**+1.1**
	comp=Z,4.4nm,0.9s								
SHPR	**Sheep Range**	**72.93**	**322**	*eP*			**P**	**12 39 16.8**	**+0.9**
	comp=Z,3.3nm,0.8s								
JLU	**Jordanelle**	**73.93**	**327**	*eP*			**P**	**12 39 22.8**	**+1.1**
	comp=Z,4.7nm,0.7s								
DUG	**Dugway, Tooele**	**74.32**	**326**	*eP*			**P**	**12 39 25.0**	**+1.1**
	comp=Z,4.7nm,0.9s								
PDAR	**Pinedale Array**	**74.66**	**330**	P			**P**	**12 39 26.0**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=125,slow=9.3,SNR=7.2								
HWUT	**Hardware Ranch**	**74.74**	**328**	*eP*			**P**	**12 39 26.8**	**+0.5**
	comp=Z,4.7nm,0.8s								
REDW	**Red Top Meadow**	**75.73**	**329**	*eP*			**P**	**12 39 32.7**	**+0.7**
	comp=Z,2.5nm,0.7s								
LOHW	**Long Hollow**	**75.80**	**330**	*eP*			**P**	**12 39 33.4**	**+1.0**
	comp=Z,4.6nm,0.6s								
SYO	**Syowa Base**	**75.99**	**159**	↓*eP*			**P**	**12 39 32.0**	**-0.9**
IMW	**Indian Meadow**	**76.18**	**330**	*eP*			**P**	**12 39 35.6**	**+0.9**
	comp=Z,10nm,1.3s								
FLWY	**Flagg Ranch**	**76.21**	**330**	*eP*			**P**	**12 39 36.0**	**+1.3**
	comp=Z,10nm,0.8s								
RLMT	**Red Lodge**	**76.36**	**332**	*eP*			**P**	**12 39 36.6**	**+1.0**
	comp=Z,3.7nm,0.8s								
TOA0	**Torodi Ar. Sit**	**77.08**	**70**	*eP*			**P**	**12 39 39.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**77.08**	**70**	P			**P**	**12 39 39.5**	**-0.5**
	comp=Z,4.5nm,0.3s,baz=254,slow=4.9,SNR=61								
PAHR	**Pah Rah Range**	**77.55**	**322**	*eP*			**P**	**12 39 43.5**	**+1.2**
	comp=Z,11nm,0.8s								
HLID	**Hailey**	**77.60**	**328**	*eP*			**P**	**12 39 43.9**	**+1.4**
	comp=Z,9.4nm,0.9s								
MCMT	**McKenzie Canyo**	**77.78**	**329**	*eP*			**P**	**12 39 45.3**	**+1.7**
BOZ	**Bozeman (W)**	**77.83**	**331**	*eP*			**P**	**12 39 44.2**	**+0.5**
	comp=Z,0.8nm,0.8s								
MOD	**Modoc Plateau**	**79.54**	**323**	*eP*			**P**	**12 39 54.1**	**+0.9**
	comp=Z,6.8nm,0.9s								
K05A	**Summer Lake**	**80.42**	**324**	*eP*			**P**	**12 39 58.9**	**+1.0**
	comp=Z,9.9nm,0.8s								
BOSA	**Boshof**	**82.88**	**118**	P			**P**	**12 40 13.9**	**+2.7**
	comp=Z,3.5nm,1.0s,baz=266,slow=1.6,SNR=3.3								
YKA	**Yellowknife Ar**	**91.70**	**340**	P			**P**	**12 40 52.7**	**0.0**
	comp=Z,2.6nm,0.6s,baz=134,slow=4.6,SNR=34								
CCB	**Clear Creek Bu**	**105.11**	**334**	*ePdif*			**Pdif**	**12 41 54.9**	**+1.7**
MCK	**McKinley**	**105.29**	**333**	*ePdif*			**Pdif**	**12 41 52.8**	**-1.2**
ASAR	**Alice Springs**	**129.77**	**207**	PKP			**PKPdf**	**12 46 55.2**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=132,slow=1.7,SNR=8.9								
WRA	**Warramunga Arr**	**132.84**	**210**	PKP			**PKPdf**	**12 47 01.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=159,slow=1.8,SNR=14								
ZALV	**Zalesovo Beam**	**142.12**	**26**	PKP			**PKPdf**	**12 47 17.7**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=297,slow=4.3,SNR=4.3								
MKAR	**Makanchi Array**	**145.69**	**37**	PKPbc			**PKPbc**	**12 47 24.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=332,slow=2.1,SNR=12								

*ISCJB **18** 12:28:46.6±0.6, 19°.11N±0°.05×64°.94W±0°.03, h25km, mb3.3/3, MS3.6/2, Error ellipse: s-maj=6.9km s-min=3.8km az=9.8*
*IDC **18** 12:28:46.6±4.9, 19°.17N×65°.28W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.4/29, mbtmp3.4/3, MS3.6/2, Ms1 3.6/2, ms1mx3.4/16, Error ellipse: s-maj=107.0km s-min=23.3km az=108.0*
*NEIC **18** 12:28:49.2, 19°.07N×64°.89W, h20km, MD3.9(RSPR), After RSPR.*
*RSPR **18** 12:28:49.2, 19°.07N×64°.89W, h20km±2km, MD3.9/6*

ISC 18 12:28:47.3±0.9, 19°.01N±0°.06×64°.87W±0°.03, h25km, n42, σ0°45/58, mb3.4/3, 28C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.58**	**118**	↓*eP*			**Pn**	**12 28 59.8**	**-0.2**
ABV	**Anegada**	**0.58**	**118**	↓*eP*			**Pn**	**12 28 59.8**	**-0.2**
ABV				*eS*			**Sn**	**12 29 08.7**	**0.0**
ABVI	**Anegada Island**	**0.58**	**118**	↓*eP*			**Pn**	**12 28 59.8**	**-0.2**
ABVI				*eS*			**Sn**	**12 29 08.7**	**0.0**
STVI	**Saint Thomas**	**0.66**	**187**	↑*eP*			**Pn**	**12 29 01.5**	**+0.4**
STVI	**Saint Thomas**	**0.66**	**187**	*eS*			**Sn**	**12 29 11.0**	**+0.4**
STVI	**Saint Thomas**	**0.66**	**187**	↑*eP*			**Pn**	**12 29 01.5**	**+0.4**
STVI				*eS*			**Sn**	**12 29 11.0**	**+0.4**
STVI	**Saint Thomas**	**0.66**	**187**	↑*eP*			**Pn**	**12 29 01.5**	**+0.4**
STVI				*eS*			**Sn**	**12 29 11.0**	**+0.4**
CBYP	**Canovanas**	**1.19**	**232**	↑*eP*			**Pn**	**12 29 08.3**	**-0.1**
CBYP	**Canovanas**	**1.19**	**232**	↑*eP*			**Pn**	**12 29 08.3**	**-0.1**
CBYP	**Canovanas**	**1.19**	**232**	↑*eP*			**Pn**	**12 29 08.3**	**-0.1**
HUMP	**Col San Antoni**	**1.27**	**227**	*eS*			**Sn**	**12 29 25.2**	**-0.4**
HUMP	**Col San Antoni**	**1.27**	**227**	↑*eP*			**Pb**	**12 29 09.7**	**-0.7**
HUMP	**Col San Antoni**	**1.27**	**227**	↑*eP*			**Pb**	**12 29 09.7**	**-0.7**
HUMP				*eS*			**Sn**	**12 29 25.2**	**-0.4**
HUMP	**Col San Antoni**	**1.27**	**227**	↑*eP*			**Pb**	**12 29 09.7**	**-0.7**
HUMP				*eS*			**Sn**	**12 29 25.2**	**-0.4**
SJG	**San Juan**	**1.50**	**234**	↑*eP*			**Pn**	**12 29 12.7**	**0.0**
SJG	**San Juan**	**1.50**	**234**	Pn			**Sn**	**12 29 12.7**	**0.0**
SJG				Sn			**Sn**	**12 29 31.8**	**+0.3**
SJG	**San Juan**	**1.50**	**234**	↑*eP*			**Pn**	**12 29 12.7**	**0.0**
CELP	**Cerrillos**	**1.87**	**240**	↑*eP*			**Pn**	**12 29 18.0**	**+0.3**
CELP				*eS*			**Sn**	**12 29 40.5**	**+0.1**
CELP	**Cerrillos**	**1.87**	**240**	↑*eP*			**Pn**	**12 29 18.0**	**+0.3**
CELP				*eS*			**Sn**	**12 29 40.5**	**+0.1**
CELP	**Cerrillos**	**1.87**	**240**	↑*eP*			**Pn**	**12 29 18.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.90**	**250**	↑*eP*			**Pn**	**12 29 17.9**	**-0.3**
AOPR	**Arecibo Observ**	**1.90**	**250**	↑*eP*			**Sn**	**12 29 40.5**	**-0.8**
AOPR	**Arecibo Observ**	**1.90**	**250**	↑*eP*			**Pn**	**12 29 17.9**	**-0.3**
AOPR				*eS*			**Sn**	**12 29 40.5**	**-0.8**
AOPR	**Arecibo Observ**	**1.90**	**250**	↑*eP*			**Pn**	**12 29 17.9**	**-0.3**
AOPR				*eS*			**Sn**	**12 29 40.5**	**-0.8**
OBIP	**Obispado Ponce**	**1.91**	**240**	↑*eP*			**Pn**	**12 29 18.6**	**+0.4**
OBIP	**Obispado Ponce**	**1.91**	**240**	*eS*			**Sn**	**12 29 41.3**	**-0.1**
OBIP	**Obispado Ponce**	**1.91**	**240**	↑*eP*			**Pn**	**12 29 18.6**	**+0.4**
OBIP				*eS*			**Sn**	**12 29 41.3**	**-0.1**
OBIP	**Obispado Ponce**	**1.91**	**240**	↑*eP*			**Pn**	**12 29 18.6**	**+0.4**
OBIP				*eS*			**Sn**	**12 29 41.3**	**-0.1**
LRS	**Lares**	**2.00**	**249**	↑*eP*			**Pn**	**12 29 19.8**	**+0.2**
LRS	**Lares**	**2.00**	**249**	↑*eP*			**Pn**	**12 29 19.8**	**+0.2**
LRS	**Lares**	**2.00**	**249**	↑*eP*			**Pn**	**12 29 19.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.34**	**245**	↑*eP*			**Pn**	**12 29 24.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.34**	**245**	*eS*			**Sn**	**12 29 52.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.34**	**245**	↑*eP*			**Pn**	**12 29 24.7**	**+0.5**
CRPR				*eS*			**Sn**	**12 29 52.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.34**	**245**	↑*eP*			**Pn**	**12 29 24.7**	**+0.5**
CRPR				*eS*			**Sn**	**12 29 52.7**	**+0.4**
DR12	**Loma Pena Alta**	**4.27**	**268**	↑*eP*			**Pn**	**12 29 50.9**	**+0.1**
DR12				*eS*			**Sn**	**12 30 39.8**	**-0.2**
DR12	**Loma Pena Alta**	**4.27**	**268**	↑*eP*			**Pn**	**12 29 50.9**	**+0.1**
SDDR	**Presa de Saban**	**6.07**	**271**	*ePn*			**Pn**	**12 30 16.8**	**+1.2**
	16nm,0.5s								
SDDR				*eSn*			**Sn**	**12 31 24.6**	**+0.3**
TXAR	**Lajitas Array**	**36.71**	**294**	P			**P**	**12 35 52.5**	**-0.1**
	0.4nm,0.9s,baz=120,slow=11,SNR=3.9								
TXAR				LR		LR		12 53 19.8	
	comp=Z,203nm,20.8s,baz=0.0,slow=41								
PDAR	**Pinedale Array**	**44.41**	**312**	P			**P**	**12 36 55.6**	**-0.7**
	0.5nm,0.6s,baz=107,slow=8.8,SNR=3.1								
YKA	**Yellowknife Ar**	**55.20**	**334**	LR		LR		13 02 00.2	
	comp=Z,33nm,20.7s,baz=0.0,slow=36								
ILAR	**Eielson Array**	**69.58**	**333**	P			**P**	**12 39 55.2**	**+1.3**
	0.2nm,0.7s,baz=109,slow=4.9,SNR=3.0								

*ISK **18** 12:31:29.4, 40°.00N×30°.15E, h5km, MD2.8*
*DDA **18** 12:31:30.0, 39°.98N×30°.14E, h7km, Md2.7*
*CSEM **18** 12:31:30.0±0.1, 40°.00N×30°.15E, h5km, MD2.7, Error ellipse: s-maj=2.5km s-min=2.2km az=66.0*

ISC 18 12:31:30.1±1.0, 40°.00N±0°.02×30°.15E±0°.02, h5km±9km, n51, σ0°53/67, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORA	**Eskisehir**	**0.26**	**116**	P			**Pg**	**12 31 35.0**	**-0.3**
BORA				S			**Sg**	**12 31 39.3**	**+0.5**
BORA	**Eskisehir**	**0.26**	**116**	*iP*			**Pg**	**12 31 35.0**	**-0.3**
BORA				*iS*			**Sg**	**12 31 39.3**	**+0.5**
CAVI	**Cavuskoy**	**0.31**	**312**	*ePG*			**Pg**	**12 31 36.2**	**0.0**
CAVI	**Cavuskoy**	**0.31**	**312**	*ePg*			**Pg**	**12 31 36.2**	**0.0**
GPA	**Golpazari**	**0.32**	**23**	*ePG*			**Pg**	**12 31 36.1**	**-0.2**
GPA	**Golpazari**	**0.32**	**23**	*ePg*			**Pg**	**12 31 36.2**	**-0.2**
GULT	**Gulveren**	**0.52**	**33**	*ePG*			**Pg**	**12 31 40.0**	**-0.2**
GULT	**Gulveren**	**0.52**	**33**	*ePg*			**Pg**	**12 31 40.0**	**-0.2**
ADVT	**Abdulvahap**	**0.54**	**325**	*ePG*			**Pg**	**12 31 40.2**	**-0.3**
ADVT	**Abdulvahap**	**0.54**	**325**	*ePg*			**Pg**	**12 31 40.2**	**-0.3**
IZI	**Iznik**	**0.62**	**304**	*ePG*			**Pg**	**12 31 41.7**	**-0.3**
IZI	**Iznik**	**0.62**	**304**	*ePg*			**Pg**	**12 31 41.7**	**-0.3**
ESKT	**Eskisehir**	**0.72**	**131**	*ePG*			**Pg**	**12 31 43.7**	**-0.3**
ESKT	**Eskisehir**	**0.72**	**131**	*ePg*			**Pg**	**12 31 43.7**	**-0.3**
ESKT	**Eskisehir**	**0.72**	**131**	*iP*			**Pb**	**12 31 44.6**	**-0.6**
ESKT				*iS*			**Sg**	**12 31 53.3**	**-0.1**
SEYT	**Eskypehyr**	**0.72**	**131**	P			**Pb**	**12 31 44.6**	**-0.6**
SEYT				S			**Sg**	**12 31 53.3**	**-0.1**
TVSB	**Tavsanli**	**0.76**	**224**	*ePG*			**Pg**	**12 31 44.6**	**-0.1**
TVSB				*eSG*			**Sb**	**12 31 55.5**	**-1.0**
TVSB	**Tavsanli**	**0.76**	**224**	*ePg*			**Pg**	**12 31 44.6**	**-0.1**
TVSB				*eSg*			**Sb**	**12 31 55.5**	**-1.0**
IGD	**Bursa**	**0.77**	**291**	*iP*			**Pg**	**12 31 43.3**	**-1.6**
IGD				*iS*			**Sg**	**12 31 55.5**	**+0.5**
GEMT	**Gemlik**	**0.85**	**301**	*ePG*			**Pg**	**12 31 46.6**	**+0.1**
GEMT	**Gemlik**	**0.85**	**301**	*ePg*			**Pg**	**12 31 46.6**	**+0.1**
HRT	**Hereke**	**0.90**	**336**	*ePG*			**Pg**	**12 31 47.5**	**0.0**
HRT	**Hereke**	**0.90**	**336**	*ePg*			**Pg**	**12 31 47.5**	**0.0**
MDUB	**Mudurnu**	**0.94**	**59**	*ePG*			**Pg**	**12 31 48.0**	**-0.1**
MDUB	**Mudurnu**	**0.94**	**59**	*ePg*			**Pg**	**12 31 48.0**	**-0.1**
SAHE	**Sakarya_HENDEK**	**1.01**	**32**	P			**Pb**	**12 31 49.9**	**-0.3**
SAHE	**Sakarya_HENDEK**	**1.01**	**32**	*iP*			**Pb**	**12 31 49.9**	**-0.3**
SAHE				*iS*			**Sn**	**12 32 06.8**	**+1.2**
MDNY	**Mudanya-Bursa**	**1.04**	**292**	*ePG*			**Pg**	**12 31 49.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.04**	**292**	*ePg*			**Pg**	**12 31 49.7**	**-0.3**
GDZ	**Gediz**	**1.04**	**210**	P			**Pg**	**12 31 49.8**	**-0.3**
GDZ				S			**Sb**	**12 32 05.5**	**+0.8**
GDZ	**Gediz**	**1.04**	**210**	*iP*			**Pg**	**12 31 49.8**	**-0.3**
GDZ				*iS*			**Sb**	**12 32 05.5**	**+0.8**
KAND	**Kocaeli-Kandir**	**1.10**	**2**	P			**Pb**	**12 31 51.4**	**-0.2**
KAND				S			**Sn**

PAMC				*e*S		**Sn**	**13 18 31.8**	**-0.8**
BRRC	**Barranca, Sant**	**0.73**	**293**	⇓*i*P		**Pn**	**13 18 14.7**	**0.0**
BRRC				*e*S		**Sn**	**13 18 31.7**	**-1.0**
BRRC				*i*			13 18 34.2	
	comp=Z,1μm,0.2s							
RUSC	**La Rusia**	**0.92**	**183**	*e*P		**Pn**	**13 18 16.7**	**-0.1**
RUSC				*e*S		**Sn**	**13 18 34.6**	**-1.6**
RUSC				*i*			13 18 36.6	
	comp=Z,654nm,0.4s							
CBRI	**Barrientos, No**	**0.92**	**15**	*i* P		**Pn**	**13 18 17.4**	**+1.1**
CBRI				*e*S		**Sn**	**13 18 35.0**	**-0.6**
CBRI				*i*			13 18 41.5	
	comp=Z,636nm,0.8s							
GRMC	**Gramalote, San**	**0.92**	**15**	*i* P		**Pn**	**13 18 18.7**	**+2.4**
GRMC				*e*S		**Sn**	**13 18 38.4**	**+2.8**
GRMC				*i*			13 18 39.7	
	comp=Z,754nm,0.4s							
GUEC	**Guerrero, Nort**	**1.01**	**6**	*e*P		**Pn**	**13 18 18.2**	**+1.0**
CAPV	**Capacho**	**1.26**	**35**	⇓*i*P		**Pn**	**13 18 20.9**	**+1.5**
CAPV				*e*S		**Sn**	**13 18 42.4**	**+1.5**
OCAC	**Ocana**	**1.44**	**349**	*e*P		**Pn**	**13 18 21.5**	**+0.6**
OCAC				*e*S		**Sn**	**13 18 43.4**	**-0.5**
OCAC				*i*			13 18 47.8	
	comp=Z,513nm,0.2s							
NORC	**Norcasia**	**2.21**	**236**	*e*P		**Pn**	**13 18 28.8**	**-0.5**
CHIC	**Chingaza**	**2.28**	**198**	*e*P		**Pn**	**13 18 30.9**	**+0.4**
CHIC				*e*S		**Sn**	**13 18 59.9**	**-1.0**
CHIC				*i*			13 19 04.5	
	comp=Z,140nm,0.3s							
ROSC	**El Rosal**	**2.34**	**213**	P		**Pn**	**13 18 32.5**	**+1.2**
	comp=Z,27nm,0.3s,baz=312,slow=23,SNR=24							
ROSC				S		**Sn**	**13 18 59.4**	**-2.8**
	comp=Z,28nm,0.3s,baz=57,slow=9.0,SNR=10							
ROSC	**El Rosal**	**2.34**	**213**	*e*P		**Pn**	**13 18 32.4**	**+1.2**
ROSC				*e*S		**Sn**	**13 19 00.9**	**-1.2**
ROSC				*i*			13 19 09.0	
	comp=Z,314nm,0.4s							
SOCV	**Socops**	**2.61**	**56**	*e*P		**Pn**	**13 18 35.3**	**+1.2**
SOCV				*e*S		**Sn**	**13 19 07.6**	**+0.4**
VILC	**Villavicencio,**	**2.77**	**194**	*e*P		**Pn**	**13 18 36.2**	**+0.1**
VILC				*e*S		**Sn**	**13 19 11.1**	**+0.1**
VILC				*i*			13 19 15.4	
	comp=Z,126nm,0.2s							
SDV	**Santo Domingo**	**3.15**	**49**	P		**Pn**	**13 18 42.6**	**+1.6**
	comp=Z,14nm,0.3s,baz=235,slow=11,SNR=11							
SDV				S		**Sn**	**13 19 21.3**	**+1.8**
	comp=Z,28nm,0.3s,baz=24,slow=14,SNR=26							
SDV	**Santo Domingo**	**3.15**	**49**	*e*P		**Pn**	**13 18 42.3**	**+1.4**
SDV				*i*			13 19 21.7	
	comp=Z,79nm,0.3s							
SDV	**Santo Domingo**	**3.15**	**49**	*e*P		**Pn**	**13 18 42.5**	**+1.5**
DBBC	**Dabeiba**	**3.15**	**274**	*e*P		**Pn**	**13 18 41.2**	**+0.2**
TOLC	**Tolima**	**3.17**	**226**	*e*P		**Pn**	**13 18 41.7**	**+0.2**
ELOV	**Elorza**	**3.54**	**87**	*e*P		**Pn**	**13 18 47.2**	**+1.5**
ELOV				*e*S		**Sn**	**13 19 28.3**	**+0.3**
PRAC	**Prado**	**3.59**	**211**	*e*P		**Pn**	**13 18 46.3**	**-0.2**
PRAC				*e*S		**Sn**	**13 19 28.6**	**-0.9**
SJAC	**San Juan de Ar**	**3.64**	**195**	*e*P		**Pn**	**13 18 46.6**	**-0.6**
VIRV	**Villa del Rosa**	**3.71**	**10**	*e*P		**Pn**	**13 18 47.8**	**-0.2**
VIRV				*e*S		**Sn**	**13 19 29.7**	**-2.5**
SANV	**Sanarito**	**4.37**	**52**	*e*P		**Pn**	**13 18 57.3**	**+0.6**
SANV				*e*S		**Sn**	**13 19 46.6**	**-1.1**
CURV	**Curarigua**	**4.40**	**44**	*e*P		**Pn**	**13 18 57.4**	**+0.4**
CURV				*e*S		**Sn**	**13 19 46.6**	**-1.7**
DABV	**Dabajuro**	**4.72**	**30**	*e*P		**Pn**	**13 19 01.3**	**+0.2**
DABV				*e*S		**Sn**	**13 19 53.1**	**-2.5**
TEPV	**Terepaima**	**4.92**	**50**	*e*P		**Pn**	**13 19 04.8**	**+1.0**
TEPV				*e*S		**Sn**	**13 19 57.9**	**-2.7**
SIQV	**Siquisique**	**4.97**	**40**	*e*P		**Pn**	**13 19 04.3**	**-0.2**
BAUV	**El Baul**	**5.38**	**67**	*e*P		**Pn**	**13 19 09.4**	**-0.4**
BAUV				*e*S		**Sn**	**13 20 08.4**	**-2.9**
MAPV	**Macapo**	**5.43**	**56**	*e*P		**Pn**	**13 19 11.1**	**+0.6**
MAPV				*e*S		**Sn**	**13 20 10.1**	**-2.5**
MONV	**Montecano**	**5.93**	**30**	*e*P		**Pn**	**13 19 17.0**	**-0.2**
MONV				*e*S		**Sn**	**13 20 20.2**	**-4.3**
TURV	**Turiamo**	**6.28**	**55**	*e*P		**Pn**	**13 19 21.7**	**-0.1**
TURV				*e*S		**Sn**	**13 20 29.0**	**-3.8**
BIRV	**Birongo**	**7.62**	**61**	*e*P		**Pn**	**13 19 39.6**	**+0.1**
CUPV	**Cœpira**	**7.86**	**65**	*e*P		**Pn**	**13 19 42.8**	**-0.1**
CUPV				*e*S		**Sn**	**13 21 05.3**	**-5.5**
TXAR	**Lajitas Array**	**36.52**	**312**	P		**P**	**13 24 43.5**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=122,slow=9.7,SNR=2.6							
YKA	**Yellowknife Ar**	**63.29**	**340**	P		**P**	**13 28 03.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=134,slow=6.1,SNR=4.3							
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc		**PKPbc**	**13 37 21.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=121,slow=3.6,SNR=15							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		**PKPbc**	**13 37 24.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=108,slow=2.7,SNR=20							

GUC ***18*** *13:19:49.2±0.6,34°.78S×71°.59W,h36km±3km, ML3.7*
ISC 18 13:19:48.3±3.9,**34°.71S**±0°.06×**72°.3W**±0°.1,**h30**km±17km,
n20,σ**2º70/33,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.89**	**140**	*i* P		**Pn**	**13 20 01.2**	**-3.5**
TALC				*i* S		**Sn**	**13 20 10.3**	**-6.4**
ANU	**Antumapu**	**1.81**	**51**	*i* P		**Pn**	**13 20 31.4**	**-3.0**
ANTU				*i* S		**Sn**	**13 20 32.8**	**-6.6**
ANTU				IAML			13 20 39.9	
	comp=N,2μm,0.4s							
CLCH	**Cerro Calan**	**1.99**	**49**	*i* P		**Pn**	**13 20 17.6**	**-2.3**
CLCH				*i* S		**Sn**	**13 20 38.9**	**-4.9**
CLCH				IAML			13 20 45.4	
	comp=N,2μm,0.7s							
ROC1	**El Roble**	**2.05**	**33**	*i* P		Pn	13 20 18.1	-2.8
ROC1				*i* P		Pn	13 20 18.4	-2.6
ROC1				*i* P		Pn	13 20 18.6	-2.4
ROC1				*i* S		**Sn**	**13 20 44.7**	**-0.9**
ROC1				*i* S		**Sn**	**13 20 44.9**	**-0.7**
ROC1				*i* S		**Sn**	**13 20 45.5**	**-0.1**
ROCH	**El Roble**	**2.06**	**33**	*e*P		**Pn**	**13 20 20.5**	**-0.5**
ROCH				*e*S		**Sn**	**13 20 44.9**	**-0.8**
ROCH				IAML			13 20 49.8	
	comp=N,2μm,0.4s							
PEL	**Peldehue**	**2.08**	**42**	*i* P		**Pn**	**13 20 19.7**	**-1.5**
PEL				*i* S		**Sn**	**13 20 42.5**	**-3.5**
PEL				IAML			13 20 49.6	
	comp=N,1μm,0.3s							
FCH	**Farellones**	**2.19**	**51**	*i* P		**Pn**	**13 20 20.8**	**-2.1**
FCH				*i* S		**Sn**	**13 20 44.4**	**-4.7**
FCH				IAML			13 20 48.7	
	comp=N,1μm,0.1s							
CANA	**Caviahue**	**3.33**	**162**	*i* P		**Pb**	**13 20 43.9**	**-2.8**
CANA				*i* S		**Sb**	**13 21 25.6**	**-1.2**
AAGR	**Agrelo**	**3.33**	**62**	*i* P		**Pn**	**13 20 38.9**	**+0.4**
ARCO	**CERRO ARCO**	**3.39**	**58**	*i* P		**Pn**	**13 20 39.1**	**-0.2**
ARCO				*i* S		**Sn**	**13 21 21.2**	**+2.6**
ARCO				IAML			13 21 26.8	
	comp=Z,92nm,0.8s							
AUSP	**Uspallata**	**3.50**	**46**	*i* P		**Pn**	**13 20 40.3**	**-0.5**
AUSP				*i* S		**Sn**	**13 21 22.8**	**+1.5**
ASAL	**Salagasta**	**3.60**	**55**	*i* P		**Pn**	**13 20 42.1**	**0.0**
ASAL				*i* S		**Sn**	**13 21 25.8**	**+2.1**
RTLS	**Leoncito**	**3.86**	**42**	*i* P		**Pn**	**13 20 45.1**	**-0.8**
RTLS				*i* S		**Sn**	**13 21 31.6**	**+1.2**
RTCV	**Cerro Valdivia**	**4.26**	**49**	*i* P		**Pn**	**13 20 50.7**	**-0.5**
RTLL	**Cerro Villicun**	**4.68**	**45**	*i* P		**Pn**	**13 20 56.9**	**0.0**
RTLL				*i* S		**Sn**	**13 21 51.2**	**+1.0**
ACAN	**Cantantal**	**4.94**	**62**	*i* P		**Pn**	**13 21 01.7**	**+1.2**
AMOG	**MOGNA**	**4.96**	**42**	*i* P		**Pn**	**13 21 00.1**	**-0.7**
AVFE	**Valle Fertil**	**5.76**	**47**	IAML			13 22 16.6	
	comp=Z,17nm,0.5s							
MRA	**San Martin**	**5.97**	**69**	*i* P		**Pn**	**13 21 16.0**	**+1.3**
MRA				IAML			13 22 52.7	
	comp=Z,25nm,0.7s							
AGUA	**GUANDACOL**	**6.14**	**33**	*i* P		**Pn**	**13 21 15.6**	**-1.5**

IDC ***18*** *13:24:15.6±9.7,36°.37N×71°.06E,h157km±72km, mb3.1/3, mb1 3.2/6, mb1mx2.9/46, mbtmp3.6/6, Error ellipse: s-maj=154.9km s-min=55.8km az=92.0*
ISCJB ***18*** *13:24:17.6±1.1,36°.56N±0°.07×71°.0E±0°.1,h188km, mb3.2/2, Error ellipse: s-maj=13.4km s-min=9.4km az=176.9*
NNC ***18*** *13:24:23.8±1.6,36°.97N×70°.85E,h214km±29km, mb2.5, mpv3.6, Error ellipse: s-maj=16.8km s-min=11.5km az=30.0*
ISC 18 13:24:17.4±1.5,**36°.6N**±0°.1×**70°.8E**±0°.1,**h188**km,**n11,**
σ**1º40/17,3C-5D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MNAS	**Manas**	**6.01**	**12**	⇓P		**Pn**	**13 25 47.0**	**+2.3**
	3.2nm,0.5s							
MNAS				⇓S		**Sn**	**13 26 53.6**	**-0.1**
	22nm,0.7s							
KK31	**Karatay Array**	**6.49**	**358**	⇑P		**Pn**	**13 25 53.3**	**+2.5**
	1.0nm,0.3s,baz=186,slow=13,SNR=17							
KK31				S		**Sn**	**13 27 03.6**	**-1.1**
	7.6nm,0.5s,baz=182,slow=18,SNR=20							
AAK	**Ala-Archa**	**6.65**	**24**	P		**Pn**	**13 25 53.5**	**+0.4**
	2.1nm,0.3s,baz=172,slow=2.6,SNR=5.2							
AAK				S		**Sn**	**13 27 08.9**	**+0.2**
	0.5nm,0.3s,baz=117,slow=20,SNR=10							
AAK	**Ala-Archa**	**6.65**	**24**	P		**Pn**	**13 25 55.6**	**+2.5**
	1.9nm,0.3s							
AAK				⇓S		**Sn**	**13 27 09.2**	**+0.4**
	5.0nm,0.7s							
TKM2	**Tokmak 2**	**7.30**	**29**	⇓P		**Pn**	**13 26 03.2**	**+1.6**
	8.7nm,0.7s							
TKM2				⇑S		**Sn**	**13 27 23.8**	**-0.4**
	1.2nm,0.6s							
MKAR	**Makanchi Array**	**13.29**	**36**	P		**P**	**13 27 20.8**	**-1.2**
	0.1nm,0.3s,baz=224,slow=8.5,SNR=3.7							
AB31	**Akbulak array**	**14.91**	**331**	⇑P		**P**	**13 27 40.0**	**+0.1**
	0.2nm,0.3s,baz=143,slow=12,SNR=3.8							
AB31				⇓S		**Sn**	**13 30 24.1**	**-1.3**
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**15.06**	**19**	P		**P**	**13 27 41.6**	**0.0**
	0.1nm,0.3s,baz=214,slow=8.5,SNR=4.1							
ZALV	**Zalesovo Beam**	**19.88**	**25**	P		**Pn**	**13 28 36.4**	**-1.6**
	1.1nm,0.5s,baz=224,slow=10,SNR=5.6							
WRA	**Warramunga Arr**	**82.18**	**122**	P		**P**	**13 36 17.4**	**-0.1**
	0.3nm,0.5s,baz=328,slow=5.0,SNR=4.3							
ASAR	**Alice Springs**	**84.44**	**125**	P		**P**	**13 36 28.9**	**-0.1**
	0.3nm,0.6s,baz=312,slow=5.1,SNR=6.3							

ISK ***18*** *13:26:58.6,39°.97N×28°.73E,h6km, MD2.6*
DDA ***18*** *13:26:59.3,40°.04N×28°.73E,h15km, Md2.5*
CSEM ***18*** *13:26:59.2±0.2,39°.97N×28°.75E, h10km, MD2.6, Error ellipse: s-maj=6.3km s-min=4.1km az=76.0*
ISC 18 13:26:59.4±1.1,**39°.98N**±0°.03×**28°.73E**±0°.04,**h11**km±10km,
n28,σ**0º91/37,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MDNY	**Mudanya-Bursa**	**0.40**	**17**	*e*PG		**Pg**	**13 27 07.3**	**-0.1**
MDNY				*e*SG		**Sg**	**13 27 13.6**	**+0.8**
MDNY	**Mudanya-Bursa**	**0.40**	**17**	*e*Pg		**Pg**	**13 27 07.3**	**-0.1**
MDNY				*e*Sg		**Sg**	**13 27 13.6**	**+0.8**
KCTX	**Karacabey (Bur**	**0.40**	**315**	*e*PG		**Pg**	**13 27 07.4**	**0.0**
KCTX	**Karacabey (Bur**	**0.40**	**315**	*e*Pg		**Pg**	**13 27 07.4**	**0.0**
IGD	**Bursa**	**0.46**	**52**	*i* P		**Pg**	**13 27 07.1**	**-1.3**
IGD				*i* S		**Sg**	**13 27 14.8**	**+0.4**
ARMT	**Armutlu**	**0.59**	**10**	*e*PG		**Pg**	**13 27 11.0**	**+0.1**
ARMT	**Armutlu**	**0.59**	**10**	*e*Pg		**Pg**	**13 27 11.0**	**+0.1**
IZI	**Iznik**	**0.67**	**58**	*e*PG		**Pg**	**13 27 12.4**	**0.0**
IZI	**Iznik**	**0.67**	**58**	*e*Pg		**Pg**	**13 27 12.4**	**0.0**
TVSB	**Tavsanli**	**0.77**	**133**	*e*PG		**Pg**	**13 27 13.7**	**-0.7**
TVSB	**Tavsanli**	**0.77**	**133**	*e*Pg		**Pg**	**13 27 13.7**	**-0.7**
CAVI	**Cavuskoy**	**0.88**	**75**	*e*PG		**Pg**	**13 27 15.7**	**-0.7**
CAVI	**Cavuskoy**	**0.88**	**75**	*e*Pg		**Pg**	**13 27 15.7**	**-0.7**
ADVT	**Abdulvahap**	**0.89**	**59**	*e*PG		**Pg**	**13 27 16.5**	**-0.1**
ADVT	**Abdulvahap**	**0.89**	**59**	*e*Pg		**Pg**	**13 27 16.5**	**-0.1**
DEMI	**Demirci**	**0.94**	**181**	P		**Pg**	**13 27 17.6**	**+0.1**
DEMI				S		**Sn**	**13 27 33.2**	**+1.1**
DEMI	**Demirci**	**0.94**	**181**	*i* P		**Pg**	**13 27 17.6**	**+0.1**
DEMI				*i* S		**Sn**	**13 27 33.1**	**+1.1**
GDZ	**Gediz**	**1.06**	**147**	P		**Pg**	**13 27 19.2**	**-0.8**
GDZ				S		**Sn**	**13 27 36.4**	**+1.1**
GDZ	**Gediz**	**1.06**	**147**	*i* P		**Pb**	**13 27 19.2**	**-0.8**
GDZ				*i* S		**Sn**	**13 27 36.4**	**+1.1**
ISK	**Istanbul-Kandi**	**1.11**	**13**	*e*PN		**Pb**	**13 27 20.2**	**-0.5**
ISK	**Istanbul-Kandi**	**1.11**	**13**	*e*Pn		**Pb**	**13 27 20.2**	**-0.5**
KLYT	**Kilyos**	**1.29**	**10**	*e*PN		**Pg**	**13 27 24.1**	**-0.1**
KLYT	**Kilyos**	**1.29**	**10**	*e*Pn		**Pg**	**13 27 24.1**	**-0.1**
BORA	**Eskisehir**	**1.33**	**94**	P		**Pg**	**13 27 24.8**	**-0.1**
BORA				S		**Sg**	**13 27 44.1**	**+1.9**
BORA	**Eskisehir**	**1.33**	**94**	*i* P		**Pg**	**13 27 24.8**	**-0.1**
BORA				*i* S		**Sg**	**13 27 44.1**	**+1.9**
KAND	**Kocaeli-Kandir**	**1.57**	**45**	*i* P		Pg	13 27 36.8	+7.2
SAHE	**Sakarya_HENDEK**	**1.84**	**61**	P		**Pn**	**13 27 29.6**	**-1.4**
SAHE	**Sakarya_HENDEK**	**1.84**	**61**	*i* P		**Pn**	**13 27 29.6**	**-1.4**
SAHE				*i* S		**Pg**	**13 27 36.8**	**+2.1**

KRSC ***18*** *13:35:27.9±2.0,50°.77N×150°.91E,h596km±37km, ML4.8*
ISCJB ***18*** *13:35:31.7±0.4,51°.37N±0°.08×150°.17E±0°.07,h518km, mb3.7/14, Error ellipse: s-maj=10.8km s-min=4.9km az=161.6*
MOS ***18*** *13:35:32.3±0.6,51°.34N×150°.60E,h547km, mb4.0/8, Error ellipse: s-maj=15.2km s-min=9.5km az=56.8*
IDC ***18*** *13:35:33.2±1.1,51°.33N×150°.53E,h542km±15km, mb3.1/14,mb1 3.3/20,mb1mx3.1/41,mbtmp4.1/20, Error ellipse: s-maj=13.8km s-min=9.5km az=126.0*
ISC 18 13:35:31.8±0.6,**51°.22N**±0°.10×**150°.32E**±0°.07,**h518**km,**n51,**
σ**2º01/60,mb3.7/14,1D,Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.71**	**96**	P		**P**	**13 36 50.1**	**+1.0**
SKR	**Severo-Kuril's**	**3.71**	**96**	*e*P		**P**	**13 36 50.1**	**+1.0**
TYV	**Tymovskoe**	**4.85**	**269**	*e*P		**P**	**13 36 57.2**	**-1.1**
TYV				pmax	pmax			
	comp=Z,22nm,0.8s							
ASAK	**Asacha**	**4.85**	**73**	P		P	13 37 00.8	+2.4
ASAK	**Asacha**	**4.85**	**73**	*e*P		P	13 37 00.8	+2.4
PETK	**Petropavlovsk-**	**4.92**	**65**	P		**P**	**13 36 59.8**	**+0.9**
	comp=Z,4.7nm,0.3s,baz=196,slow=0.3,SNR=57							
KRMR	**Karymshinskiy**	**5.09**	**68**	P		**P**	**13 37 01.9**	**+1.5**
KRMR	**Karymshinskiy**	**5.09**	**68**	*e*P		**P**	**13 37 01.9**	**+1.5**
RUS	**Russkaya**	**5.23**	**73**	P		**P**	**13 37 02.2**	**+0.6**
RUS				S		**S**	**13 38 13.5**	**-1.7**
RUS	**Russkaya**	**5.23**	**73**	*e*P		**P**	**13 37 02.2**	**+0.6**
RUS				*e*S		**S**	**13 38 13.5**	**-1.7**
GNL	**Ganaly**	**5.28**	**59**	P		**P**	**13 37 03.1**	**+0.9**
GNL	**Ganaly**	**5.28**	**59**	*e*P		**P**	**13 37 03.1**	**+0.9**
PET	**Petropavlovsk**	**5.45**	**67**	*e*P		**P**	**13 37 03.7**	**+0.1**
PET				*e*S		**S**	**13 38 20.1**	**+1.3**
PET				pmax	pmax			
	comp=Z,91nm,0.5s							
PET				smax	smax			
	comp=N,49nm,0.8s							
PET				smax	smax			
	comp=E,42nm,0.7s							
PET				MLR	MLR			
	comp=Z,300nm,11.0s							
PET				MLR	MLR			
	comp=Z,400nm,11.0s							
PET	**Petropavlovsk**	**5.45**	**67**	*e*P		P	13 37 05.3	+1.7
PET				*e*S		**S**	**13 38 20.7**	**+1.9**
DALK	**Dalny**	**5.51**	**67**	P		**P**	**13 37 04.5**	**+0.4**
DALK				S		**S**	**13 38 19.1**	**-0.7**
DALK	**Dalny**	**5.51**	**67**	*e*P		**P**	**13 37 04.5**	**+0.4**
DALK				*e*S		**S**	**13 38 19.1**	**-0.7**
KOK	**Koryaka**	**5.52**	**65**	P		**P**	**13 37 05.4**	**+1.0**
KOK	**Koryaka**	**5.52**	**65**	*e*P		**P**	**13 37 05.4**	**+1.0**
KRX	**Arik**	**5.54**	**64**	P		**P**	**13 37 06.2**	**+1.5**
KRX	**Arik**	**5.54**	**64**	*e*P		**P**	**13 37 06.2**	**+1.5**
AVH	**Avacha**	**5.56**	**65**	P		**P**	**13 37 05.8**	**+1.0**
AVH				S		**S**	**13 38 25.0**	**+4.0**
AVH	**Avacha**	**5.56**	**65**	*e*P		**P**	**13 37 05.8**	**+1.0**
AVH				*e*S		**S**	**13 38 25.0**	**+4.0**
UGLR	**Uglovaya**	**5.60**	**66**	P		P	13 37 07.2	+2.1
UGLR				S		**S**	**13 38 24.4**	**+2.8**
UGLR	**Uglovaya**	**5.60**	**66**	*e*P		P	13 37 07.2	+2.1
UGLR				*e*S		**S**	**13 38 24.4**	**+2.8**
SMAR	**Somma**	**5.60**	**65**	*e*S		**S**	**13 38 20.9**	**-0.9**
SDLR	**Sedlovina**	**5.65**	**65**	P		**P**	**13 37 06.7**	**+1.0**
SDLR				S		**S**	**13 38 22.8**	**+0.3**
SDLR	**Sedlovina**	**5.65**	**65**	*e*P		**P**	**13 37 06.7**	**+1.0**
SDLR				*e*S		**S**	**13 38 22.8**	**+0.3**
NKL	**Nikolayevsk**	**6.24**	**292**	*e*P		**P**	**13 37 15.0**	**+4.0**
NKL				pmax	pmax			
	comp=Z,20nm,0.6s							
MKZ	**Mys Kozlova**	**7.67**	**60**	P		**P**	**13 37 23.5**	**-1.6**
MKZ	**Mys Kozlova**	**7.67**	**60**	*e*P		**P**	**13 37 23.5**	**-1.6**
MA2	**Magadan**	**8.38**	**2**	P		**P**	**13 37 33.4**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=313,slow=4.3,SNR=5.4							
ASAJ	**Asahikawa**	**8.80**	**219**	P		**P**	**13 37 39.9**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=53,slow=7.6,SNR=12							
SEY	**Seymchan**	**11.80**	**5**	P		**P**	**13 38 08.6**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=186,slow=10.0,SNR=18							
KLR	**Kul'dur**	**12.06**	**268**	P		**P**	**13 38 14.4**	**+3.6**
	comp=Z,0.8nm,0.3s,baz=71,slow=7.0,SNR=10.0							
VLA	**Vladivostok**	**14.90**	**244**	⇓*e*P		**P**	**13 38 35.2**	**-5.4**
VLA				*e*S		**S**	**13 41 09.0**	**-7.2**
VLA				pmax	pmax			
	comp=Z,18nm,1.4s							
MJAR	**Matsushiro Arr**	**17.04**	**215**	P		**P**	**13 39 03.9**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=13,slow=10,SNR=32							
KSRS	**Korea Array**	**21.00**	**238**	P		**P**	**13 39 40.8**	**+2.2**
	comp=Z,0.8nm,0.5s,baz=42,slow=8.8,SNR=7.8							
TIXI	**Tiksi**	**22.65**	**342**	P		**P**	**13 39 52.0**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=147,slow=3.5,SNR=7.2							
SONM	**Songino Array**	**28.39**	**281**	P		**P**	**13 40 44.7**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=63,slow=7.8,SNR=4.4							
ILAR	**Eielson Array**	**34.34**	**43**	P		**P**	**13 41 33.1**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=276,slow=8.9,SNR=29							
ZALV	**Zalesovo Beam**	**38.62**	**300**	P		**P**	**13 42 10.0**	**0.0**
	comp=Z,0.6nm,0.4s,baz=78,slow=6.1,SNR=3.2							
ZALV	**Zalesovo Beam**	**38.62**	**300**	P		**P**	**13 42 10.0**	**0.0**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**38.95**	**35**	P		**P**	**13 42 10.8**	**-1.6**
	comp=Z,2.7nm,0.4s,baz=280,slow=6.4,SNR=16							
MKAR	**Makanchi Array**	**43.40**	**292**	P		**P**	**13 42 48.6**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=56,slow=5.6,SNR=9.8							
YKA	**Yellowknife Ar**	**48.49**	**38**	P		**P**	**13 43 24.7**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=304,slow=7.2,SNR=8.1							
ARU	**Arti**	**50.52**	**314**	P		**P**	**13 43 41.5**	**-0.2**
	comp=Z,2.4nm,0.3s,baz=118,slow=1.9,SNR=4.6							
CMAR	**Chiang Mai Arr**	**51.88**	**250**	P		**P**	**13 43 53.3**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=20,slow=6.3,SNR=5.0							
FINES	**FINESS Array B**	**59.22**	**332**	P		**P**	**13 44 41.3**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=33,slow=7.4,SNR=10							
GEYT	**Alibeck**	**62.82**	**297**	P		**P**	**13 45 05.9**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=44,slow=4.5,SNR=4.6							
WRA	**Warramunga Arr**	**72.23**	**196**	P		**P**	**13 46 04.1**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=13,slow=6.5,SNR=17							
WRA				PcP		**PcP**	**13 46 17.9**	**-0.8**
	comp=Z,0.4nm,1.0s,baz=12,slow=5.0,SNR=5.0							
ASAR	**Alice Springs**	**75.95**	**195**	P		**P**	**13 46 25.6**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=6.2,slow=5.4,SNR=45							

ISCJB ***18*** *13:47:51.3±1.1,35°.73N±0°.05×142°.2E±0°.1,h35km, mb3.2/2, Error ellipse: s-maj=11.7km s-min=6.7km az=176.2*
JMA ***18*** *13:47:52.1±0.2,35°.75N×142°.15E, h58km±4km, M2.8*
IDC ***18*** *13:48:03.4±1.6,34°.17N×137°.57E, h0km, mb3.2/2, mb1 3.2/4,mb1mx3.2/34,mbtmp3.1/4, ML2.9/2, Error ellipse: s-maj=39.4km s-min=27.2km az=66.0*
ISC 18 13:47:52.0±1.5,**35°.73N**±0°.05×**142°.2E**±0°.1,**h35**km,**n15,**
σ**1º00/20,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**1.12**	**269**	P		**Pn**	**13 48 11.1**	**-0.1**
BSO1	**Boso 1**	**1.49**	**224**	P	

IDC 18 14:26:53.7±1.8,5.71S×151.28E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.6/34,mbtmp3.9/5,ML1.8/1,Error ellipse: s-maj=101.6km s-min=22.7km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.49	228	Pn	Pn	14 28 19.0	+2.2
	2.1nm,0.3s,baz=31,slow=14,SNR=8.6						
PMG				Sn	Sn	14 29 22.8	+2.1
	1.3nm,0.3s,baz=144,slow=17,SNR=2.5						
WRA	Warramunga Arr	21.71	228	P	P	14 31 45.8	-0.8
	2.0nm,0.5s,baz=53,slow=11,SNR=10						
ASAR	Alice Springs	24.46	221	P	P	14 32 14.2	-0.5
	2.1nm,0.6s,baz=58,slow=8.8,SNR=35						
FITZ	Fitzroy Crossi	27.89	242	P	P	14 32 45.4	-0.3
	3.1nm,0.6s,baz=60,slow=7.7,SNR=12						
ILAR	Eielson Array	83.57	22	P	P	14 39 23.4	-0.1
	0.2nm,0.5s,baz=252,slow=5.8,SNR=3.7						
TORD	Torodi Ar. Bea	149.12	286	PKPbc	PKPbc	14 46 45.2	+0.1
	0.5nm,0.8s,baz=93,slow=3.6,SNR=3.0						

IDC 18 14:41:32.7±7.9,6.09S×150.99E,h97km±54km,mb3.2/3, mb1 3.4/4,mb1mx3.1/38,mbtmp3.6/4,Error ellipse: s-maj=95.4km s-min=54.1km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.02	229	P	Pn	14 42 45.7	-0.1
	0.6nm,0.3s,baz=354,slow=19,SNR=2.8						
PMG				S	Sn	14 43 43.1	+0.5
	0.9nm,0.3s,baz=148,slow=19,SNR=3.2						
WRA	Warramunga Arr	21.24	228	P	P	14 46 10.8	-0.4
	0.6nm,0.6s,baz=54,slow=11,SNR=8.9						
ASAR	Alice Springs	23.99	221	P	P	14 46 39.0	+0.4
	0.7nm,0.6s,baz=60,slow=9.0,SNR=17						
FITZ	Fitzroy Crossi	27.46	242	P	P	14 47 10.2	+0.2
	1.5nm,0.7s,baz=63,slow=11,SNR=4.0						
TORD	Torodi Ar. Bea	148.95	285	PKPbc	PKPbc	15 01 09.7	-0.8
	0.3nm,0.5s,baz=90,slow=2.9,SNR=3.5						

ISCJB 18 14:46:42.7±0.8,5.84S±0.06×147.6E±0.2,h77km, mb3.8/10,Error ellipse: s-maj=23.5km s-min=7.3km az=12.0
IDC 18 14:46:48.8±1.8,6.09S×147.73E,h129km±19km,mb3.6/9, mb1 3.8/11,mb1mx3.6/35,mbtmp4.0/11,MS4.4/1, Ms1 4.4/1,ms1mx2.6/29,Error ellipse: s-maj=34.5km s-min=11.6km az=112.0
NEIC 18 14:46:49.3±2.1,5.94S×147.61E,h129km±23km,mb4.4/2, Error ellipse: s-maj=34.5km s-min=15.4km az=107.0
ISC 18 14:46:44.6±0.9,5.82S±0.07×147.4E±0.2,h77km,n19, σ1.78/22,mb3.8/10,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.57	184	P	Pn	14 47 40.7	+3.0
	8.9nm,0.3s,baz=50,slow=12,SNR=47						
PMG				S	Sn	14 48 18.6	-0.2
	52nm,0.3s,baz=43,slow=6.6,SNR=5.2						
PMG	Port Moresby	3.57	184	ePn	Pn	14 47 40.7	+3.0
PMG				eSn	Sn	14 48 18.9	+0.1
CTA	Charters Tower	14.23	185	P	P	14 50 06.5	-1.1
	0.3nm,0.3s,baz=1.8,slow=15,SNR=6.7						
WRAB	Tennant Creek	18.93	221	eP	Pn	14 51 01.0	0.0
	17nm,0.7s						
WRA	Warramunga Arr	18.95	221	P	Pn	14 51 00.8	-0.4
	1.9nm,0.3s,baz=48,slow=10,SNR=113						
WRA				S	S	14 54 27.6	-3.4
	0.2nm,0.3s,baz=44,slow=25,SNR=4.7						
WRA				PcP	PcP	14 55 21.2	-1.7
	baz=28,slow=2.3,SNR=4.9						
ASAR	Alice Springs	22.01	215	P	P	14 51 34.2	+1.4
	14nm,0.6s,baz=52,slow=8.9,SNR=287						
FITZ	Fitzroy Crossi	24.53	238	P	P	14 51 58.8	+1.7
	26nm,0.5s,baz=48,slow=10,SNR=97						
FITZ	Fitzroy Crossi	24.53	238	P	P	14 51 57.1	-0.1
	6.4nm,0.6s						
STKA	Stephens Creek	26.49	191	P	P	14 52 12.8	-2.1
	1.2nm,0.8s,baz=7.1,slow=11,SNR=2.5						
RAO	Raoul Island	40.16	130	LR	LR	15 06 47.7	
	comp=Z,486nm,20.9s,baz=278,slow=30						
MJAR	Matsushiro Arr	43.02	349	P	P	14 54 37.8	+1.2
	0.7nm,0.5s,baz=167,slow=5.4,SNR=6.2						
KSRS	Korea Array	46.74	339	P	P	14 55 08.0	+1.8
	0.5nm,0.7s,baz=153,slow=8.0,SNR=5.9						
KSAR	Wonju Array Be	46.74	339	P	P	14 55 08.0	+1.8
SONM	Songino Array	64.46	331	P	P	14 57 14.8	+1.7
	1.1nm,0.5s,baz=114,slow=3.5,SNR=4.2						
MKAR	Makanchi Array	77.63	320	P	P	14 58 32.5	-0.3
	0.2nm,0.4s,baz=96,slow=8.9,SNR=6.8						
ZALV	Zalesovo Beam	79.09	328	P	P	14 58 39.4	-1.2
	0.9nm,0.4s,baz=130,slow=6.4,SNR=4.8						
ILAR	Eielson Array	85.15	23	P	P	14 59 10.2	-1.9
	0.6nm,0.5s,baz=252,slow=5.0,SNR=6.7						
BVAR	Borovoye Array	86.88	324	P	P	14 59 19.5	-1.3
	0.3nm,0.4s,baz=107,slow=5.9,SNR=3.5						
TORD	Torodi Ar. Bea	145.46	285	PKPbc	PKPdf	15 06 14.1	-0.8
	0.8nm,0.3s,baz=70,slow=2.8,SNR=6.1						

SOME 18 14:52:11.3,44.75N×80.83E,h10km
NNC 18 14:52:12.6±1.8,44.87N×81.00E,h0km,mb2.8,mpv2.4, Error ellipse: s-maj=18.8km s-min=12.0km az=104.0
ISC 18 14:52:09.1±1.5,44.80N±0.05×81.01E±0.05,h0km±12km, n20,σ0.87/34,3C-5D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.99	242	eP	Pg	14 52 28.3	+0.2
	6.2nm,0.1s						
DJR				eS	Sg	14 52 40.5	-0.5
	19nm,0.3s						
KAPS	Kapalarasan	1.27	293	⇓iP	Pn	14 52 34.0	-0.2
	8.3nm,0.1s						
KAPS				eS	Sn	14 52 50.3	-1.7
	35nm,0.5s						
KTMS	Ketmen	1.44	200	eP	Pn	14 52 35.6	-0.9
	7.0nm,0.1s						
KTMS				eS	Sb	14 52 53.4	-2.3
	45nm,0.1s						
SHLS	Shalkode	1.83	207	eP	Pn	14 52 43.1	+1.1
	7.1nm,0.4s						
SHLS				eS	Sn	14 53 06.5	+0.4
	29nm,0.8s						
TDK	Taldyqorghan	1.86	277	eP	Pg	14 52 45.0	+0.1
	20nm,0.4s						
TDK				eS	Sg	14 53 09.3	+0.3
	104nm,0.8s						
MNBS	Baschi	2.01	250	eP	Pb	14 52 45.5	-1.0
	0.3nm,0.2s						
MNBS				eS	Sn	14 53 10.0	-0.1
	60nm,0.3s						
MAKZ	Makanchi	2.12	18	⇓Pg	Pg	14 52 50.2	+0.5
	0.8nm,0.3s						
MAKZ				⇓Lg	Lg	14 53 18.6	
	4.6nm,0.2s						
KPKS	Kokpek	2.14	232	eP	Pb	14 52 48.2	-0.6
	11nm,0.1s						
KPKS				eS	Sn	14 53 14.5	+1.0
	95nm,0.3s						
MK31	Makanchi Array	2.18	24	⇓Pg	Pg	14 52 51.3	+0.4
	0.6nm,0.2s,baz=204,slow=16,SNR=6.9						
MK31				Lg	Lg	14 53 19.7	
	2.9nm,0.2s,baz=201,slow=24,SNR=21						
UZB	Uzynbulak	2.19	222	eP	Pn	14 52 48.2	+1.4
	2.0nm,0.1s						
UZB				eS	Sn	14 53 15.4	+0.6
	16nm,0.2s						
ARXS	Arharly	2.35	257	eP	Pb	14 52 52.4	0.0
	4.9nm,0.2s						
ARXS				eS	Sb	14 53 22.0	0.0
	33nm,0.4s						
KURS	Kuram	2.43	238	eP	Pb	14 52 52.0	-1.7
	4.5nm,1.0s						
KURS				eS	Sn	14 53 21.7	+1.1
	11nm,1.2s						
ZHN	Zhinishke	2.48	230	eP	Pb	14 52 54.7	+0.2
	5.7nm,0.1s						
ZHN				eS	Sb	14 53 25.5	-0.1
	54nm,0.2s						
SATY	Saty	2.56	228	eP	Pb	14 52 55.7	-0.3
	5.4nm,0.1s						
SATY				eS	Sb	14 53 27.7	-0.5
	37nm,0.3s						
CHKK	Chushkaly	3.03	253	eP	Pb	14 53 03.0	-0.8
	1.2nm,0.2s						
CHKK				eS	Sb	14 53 40.4	-0.9
	20nm,0.2s						
MDOK	Medeo	3.30	242	eP	Pb	14 53 08.7	+0.2
	3.3nm,0.8s						
MDOK				eS	Sb	14 53 49.8	+0.5
	5.0nm,0.6s						
KUU	Kurty	3.47	256	⇑iP	Pb	14 53 11.3	-0.1
	3.2nm,0.3s						
KUU				⇓iS	Sb	14 53 55.0	+0.8
	10nm,0.4s						
MTBS	Maitube	3.71	245	eP	Pb	14 53 15.5	0.0
	3.2nm,0.2s						
MTBS				eS	Sb	14 54 01.4	+0.4
	16nm,0.3s						
KURBB	Kurchatov Arra	6.06	345	⇑Lg	Lg	14 55 22.4	
	4.8nm,0.8s						
KURK	Kurchatov	6.13	346	⇑Lg	Lg	14 55 23.7	
	7.3nm,0.6s						

IDC 18 14:53:15.2±8.0,5.89S×150.46E,h114km±54km,mb3.0/2, mb1 3.2/3,mb1mx2.9/37,mbtmp3.4/3,Error ellipse: s-maj=116.6km s-min=56.1km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.79	223	P	Pn	14 54 25.4	+0.2
	0.6nm,0.3s,baz=303,slow=17,SNR=2.8						
PMG				S	Sn	14 55 20.2	+0.5
	1.3nm,0.3s,baz=343,slow=17,SNR=3.1						
WRA	Warramunga Arr	20.99	227	P	P	14 57 49.4	-0.3
	0.7nm,0.4s,baz=53,slow=11,SNR=7.1						
ASAR	Alice Springs	23.80	220	P	P	14 58 18.1	+0.4
	0.4nm,0.5s,baz=55,slow=9.1,SNR=8.4						
TORD	Torodi Ar. Bea	148.39	285	PKPbc	PKPbc	15 12 48.7	-0.7
	0.6nm,0.6s,baz=84,slow=3.3,SNR=3.8						

HLW 18 14:57:14.5,35.73N×27.83E,h27km±12km,Md3.5
DDA 18 14:57:16.8,35.26N×27.67E,h27km,Ml4.6
MOS 18 14:57:18.9±1.3,35.32N×27.80E,h33km,mb4.5/33,Error ellipse: s-maj=5.6km s-min=2.9km az=98.8
IDC 18 14:57:18.2±2.5,35.46N×27.64E,h17km±15km,mb4.2/30, mb1 4.2/41,mb1mx4.2/61,mbtmp4.3/41,ML4.2/11, MS3.9/27,Ms1 3.9/27,ms1mx3.7/50,Error ellipse: s-maj=12.3km s-min=9.7km az=174.0
ISCJB 18 14:57:19.1±0.2,35.27N±0.01×27.80E±0.01,h44km±2km, mb4.3/64,MS3.9/23,Error ellipse: s-maj=2.6km s-min=1.5km az=26.8
NEIC 18 14:57:19.0,35.42N×27.75E,h26km,mb4.5/15, ML4.9(THE),ML4.7(ATH),After ATH.
ATH 18 14:57:19.0,35.43N×27.75E,h26km,ML4.7/17,Error ellipse: s-maj=1.0km s-min=0.6km az=325.0
CSEM 18 14:57:19.3±0.1,35.28N×27.72E,h20km,mb4.7/9,Error ellipse: s-maj=3.3km s-min=2.1km az=25.0
PDG 18 14:57:19.2±0.7,35.39N×27.76E,h15km±1km,ML4.7/10, Error ellipse: s-maj=1.5km s-min=1.2km az=90.0
ISK 18 14:57:19.0,35.47N×27.74E,h14km,ML4.6
THE 18 14:57:20.1,35.46N×27.76E,h0km±1km,ML4.8/27,Error ellipse: s-maj=2.0km s-min=0.7km az=146.0
NIC 18 14:57:21.7±0.4,35.78N×27.92E,h25km,mb5.1,ML4.9
NSSC 18 14:57:22.3±1.8,35.58N×28.12E,h29km±261km,ML3.9
GII 18 14:57:25.0±0.0,35.28N×28.23E,h30km,mb4.3/3, MD4.2/3
BEO 18 14:57:58.6±1.4,37.53N×25.63E,h0km,M3.5/2
ISC 18 14:57:19.4±0.6,35.38N±0.03×27.77E±0.02,h26km±4km, n919,σ2.03/1025,mb4.4/64,MS3.9/23,46C-52D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.53	289	ePG	Pb	14 57 28.9	-1.2
KARP	Karpathos	0.53	289	P	Pb	14 57 29.3	-0.9
KARP				S	Sb	14 57 37.7	+0.2
KARP	Karpathos	0.53	289	ePg	Pb	14 57 29.0	-1.2
KARP	Karpathos	0.53	289	P	Pb	14 57 29.3	-0.9
KARP				S	Sb	14 57 36.5	-1.1
KARP	Karpathos	0.53	289	ePg	Pb	14 57 29.0	-1.2
KARP				S	Sb	14 57 37.7	+0.2
KARP	Karpathos	0.53	289	P	Pb	14 57 29.3	-0.9
KARP				S	Sb	14 57 36.5	-1.1
KARP				AML	AML	14 57 38.3	
KARP				AML	AML	14 57 39.0	
ARG	Arkhangelos	0.88	19	P	Pn	14 57 36.4	+0.2
ARG				S	Sn	14 57 50.0	+1.8
ARG	Arkhangelos	0.88	19	P	Pn	14 57 36.4	+0.2
ARG				S	Sn	14 57 50.0	+1.8
ARG	Arkhangelos	0.88	19	P	Pn	14 57 36.4	+0.2
ARG				S	Sn	14 57 50.0	+1.8
ARG	Arkhangelos	0.88	19	P	Pn	14 57 36.4	+0.2
ARG				S	Sn	14 57 50.0	+1.8
ZKR	Zakros	1.30	259	P	Pb	14 57 42.6	-0.6
ZKR				S	Sb	14 58 03.7	+4.2
ZKR	Zakros	1.30	259	P	Pb	14 57 42.6	-0.6
ZKR				S	Sb	14 58 02.1	+2.6
ZKR	Zakros	1.30	259	P	Pb	14 57 42.6	-0.6
ZKR	Zakros	1.30	259	P	Pb	14 57 42.6	-0.6
ZKR				S	Sb	14 58 02.1	+2.6
ZKR				AML	AML	14 58 08.3	
	comp=N,59337μm,0.6s						
ZKR				AML	AML	14 58 10.2	
NIS1	Nisyros Isl.	1.31	339	ePN	Pb	14 57 42.8	-0.7
NIS1				eSN	Sb	14 57 59.2	-0.8
NIS1	Nisyros Isl.	1.31	339	P	Pb	14 57 42.6	-0.9
NIS1				S	Sb	14 58 00.0	+0.1
NIS1	Nisyros Isl.	1.31	339	ePn	Pb	14 57 42.8	-0.7
NIS1	Nisyros Isl.	1.31	339	P	Pb	14 57 43.6	+0.1
NIS1				eSn	Sb	14 57 59.2	-0.8
NIS1				S	Sb	14 58 00.5	+0.6
NIS1	Nisyros Isl.	1.31	339	P	Pb	14 57 42.6	-0.9
NIS1				S	Sb	14 58 00.0	+0.1
NIS1	Nisyros Isl.	1.31	339	P	Pb	14 57 43.6	+0.1
NIS1				S	Sb	14 58 00.5	+0.6
NIS1				AML	AML	14 58 07.3	
	comp=N,91362μm,0.8s						
NIS1				AML	AML	14 58 11.2	
	comp=E,95071μm,0.7s						
NISR	Nisiros	1.34	337	P	Pb	14 57 43.2	-0.7
NISR				S	Sb	14 58 01.9	+1.3
NISR	Nisiros	1.34	337	P	Pb	14 57 43.6	-0.3
NISR				S	Sb	14 58 01.9	+1.3
NISR	Nisiros	1.34	337	P	Pb	14 57 43.2	-0.7
NISR	Nisiros	1.34	337	P	Pb	14 57 43.6	-0.3
NISR				S	Sb	14 57 59.5	-1.1
NISR				AML	AML	14 58 09.8	
	comp=E,48215μm,0.8s						
NISR				AML	AML	14 58 13.8	
	comp=N,30970μm,0.8s						
DALY	Dalyan (Mu˜la	1.60	26	ePN	Pn	14 57 46.9	+0.8
DALY	Dalyan (Mu˜la	1.60	26	ePn	Pn	14 57 46.9	+0.8
TURN	Turunc	1.64	24	iP	Pn	14 57 46.4	-0.2
TURN				iS	Sn	14 58 06.1	-0.6
FETY	Fethiye	1.64	40	ePN	Pn	14 57 47.6	+0.9
FETY	Fethiye	1.64	40	P	Pn	14 57 47.6	+0.9
FETY	Fethiye	1.64	40	ePn	Pn	14 57 47.6	+0.9
FETY	Fethiye	1.64	40	P	Pn	14 57 47.6	+0.9
KSL	Kastellorizon	1.66	62	P	Pb	14 57 48.4	-0.9
KSL	Kastellorizon	1.66	62	P	Pb	14 57 48.4	-0.9
KSL	Kastellorizon	1.66	62	P	Pn	14 57 48.1	+1.2
KSL				AML	AML	14 58 32.2	
	comp=E,11940μm,0.9s						
KSL				AML	AML	14 58 35.9	
	comp=N,8457μm,0.9s						
BDRM	Kayabasi	1.71	351	P	Pb	14 57 48.6	-1.5
BDRM				S	Sb	14 58 10.2	-1.0
BDRM	Kayabasi	1.71	351	iP	Pb	14 57 48.6	-1.5
BDRM				iS	Sb	14 58 10.2	-1.0
AKAS	Kas	1.72	60	P	Pb	14 57 49.5	-0.9
AKAS				S	Sb	14 58 12.5	+1.0
AKAS	Kas	1.72	60	iP	Pb	14 57 49.5	-0.9
AKAS				iS	Sb	14 58 12.5	+1.0
BODT	Bodrum	1.72	348	ePN	Pn	14 57 47.9	+0.2
BODT	Bodrum	1.72	348	P	Pn	14 57 48.4	+0.7
BODT				S	Sb	14 58 09.9	-1.8
BODT	Bodrum	1.72	348	ePn	Pn	14 57 47.9	+0.2
BODT	Bodrum	1.72	348	P	Pn	14 57 48.4	+0.7
BODT				S	Sb	14 58 09.9	-1.8
BODT	Bodrum	1.72	348	P	Pn	14 57 48.4	+0.7
NPS	Neapolis	1.77	267	P	Pb	14 57 50.1	-1.2
NPS	Neapolis	1.77	267	P	Pb	14 57 50.1	-1.2
NPS	Neapolis	1.77	267	P	Pb	14 57 50.8	-0.5
NPS				S	Sb	14 58 13.4	+0.4
NPS	Neapolis	1.77	267	P	Pb	14 57 50.1	-1.2
NPS	Neapolis	1.77	267	P	Pb	14 57 50.8	-0.5
NPS				S	Sb	14 58 13.4	+0.4
NPS				AML	AML	14 58 22.7	
	comp=N,27788μm,0.5s						
NPS				AML	AML	14 58 24.8	
	comp=E,49378μm,1.0s						
YER	Yerkesik	1.80	13	ePN	Pn	14 57 49.4	+0.5
YER	Yerkesik	1.80	13	P	Pb	14 57 50.6	-1.2
YER	Yerkesik	1.80	13	P	Pb	14 57 50.6	-1.2
YER	Yerkesik	1.80	13	ePn	Pn	14 57 49.4	+0.5
YER	Yerkesik	1.80	13	P	Pb	14 57 50.6	-1.2
YER	Yerkesik	1.80	13	P	Pb	14 57 50.6	-1.2
LAST	Lasithi	1.89	264	P	Pb	14 57 52.6	-0.8
LAST	Lasithi	1.89	264	P	Pb	14 57 52.5	-0.8
LAST	Lasithi	1.89	264	P	Pb	14 57 52.6	-0.8
LAST	Lasithi	1.89	264	P	Pb	14 57 52.5	-0.8
SANT	Santorini	2.13	298	P	Pn	14 57 54.3	+1.0
SANT	Santorini	2.13	298	P	Pn	14 57 54.3	+1.0
SANT				S	Sb	14 58 21.2	-2.1
SANT	Santorini	2.13	298	ePn	Pn	14 57 54.0	+0.7
SANT	Santorini	2.13	298	P	Pn	14 57 54.2	+1.0
SANT				S	Sb	14 58 21.2	-2.1
SANT				AML	AML	14 58 25.1	
	comp=N,17743μm,1.0s						
SANT				AML	AML	14 58 36.0	
	comp=E,30341μm,1.2s						
THR6	Thira Island,	2.16	298	P	Pn	14 57 55.0	+1.2
THR6	Thira Island,	2.16	298	P	Pn	14 57 55.0	+1.2
THR6	Thira Island,	2.16	298	P	Pn	14 57 55.0	+1.2
THR7	Fira-Santorini	2.17	299	P	Pn	14 57 55.1	+1.2
THR7	Fira-Santorini	2.17	299	P	Pn	14 57 55.1	+1.2
THR2	Thira island,	2.18	300	P	Pn	14 57 55.1	+1.1
THR2	Thira island,	2.18	300	P	Pn	14 57 55.1	+1.1
THR2	Thira island,	2.18	300	P	Pn	14 57 55.1	+1.1
THR3	Thira Island,	2.19	299	P	Pn	14 57 55.3	+1.2
THR3	Thira Island,	2.19	299	P	Pn	14 57 55.3	+1.2
THR3	Thira Island,	2.19	299	P	Pn	14 57 55.3	+1.2
ELL	Elmali	2.21	51	ePN	Pn	14 57 55.9	+1.4
ELL	Elmali	2.21	51	ePn	Pn	14 57 55.9	+1.4
CMBO	Columbo, Santo	2.21	300	P	Pn	14 57 55.6	+1.2
CMBO	Columbo, Santo	2.21	300	P	Pn	14 57 55.6	+1.2
CMBO				S	Sn	14 58 22.3	+1.4
CMBO	Columbo, Santo	2.21	300	P	Pn	14 57 54.8	+0.4
CMBO				S	Sn	14 58 22.3	+1.4
CMBO				AML	AML	14 58 31.8	
	comp=N,40338μm,0.8s						
CMBO				AML	AML	14 58 33.2	
	comp=E,30408μm,0.6s						
IACM	Heraklion	2.21	269	P	Pb	14 57 57.0	-1.7
IACM	Heraklion	2.21	269	P	Pb	14 57 56.5	-2.2
IACM	Heraklion	2.21	269	P	Pb	14 57 56.5	-2.2
THR5	Thira Island,	2.23	298	ePN	Pn	14 57 55.7	+1.0
THR5	Thira Island,	2.23	298	P	Pn	14 57 55.9	+1.3
THR5	Thira Island,	2.23	298	P	Pn	14 57 55.9	+1.3
GLHS	Glhisar (BURDU	2.26	38	ePN	Pn	14 57 56.2	+1.1
GLHS	Glhisar (BURDU	2.26	38	ePn	Pn	14 57 56.3	+1.1
GOLH	Golhisar	2.35	37	P	Pb	14 57 59.2	-2.0
GOLH	Golhisar	2.35	37	iP	Pb	14 57 59.2	-2.0
GCAM	G?zelcaml?	2.36	350	P	Pn	14 57 58.0	+1.5
GCAM	G?zelcaml?	2.36	350	iP	Pn	14 57 58.0	+1.5
IDI	Anoyia	2.36	269	Pn	Pn	14 57 57.8	+1.2
	comp=E,101nm,0.3s,baz=78,slow=15,SNR=237						
IDI				Sn	Sn	14 58 26.8	+2.1
	comp=E,124nm,0.3s,baz=4.3,slow=11,SNR=5.4						
IDI	Anoyia	2.36	269	P	Pn	14 57 58.3	+1.8
IDI	Anoyia	2.36	269	P	Pn	14 57 58.3	+1.8
IDI				Sn	Sn	14 58 26.8	+2.1
IDI	Anoyia	2.36	269	P	Pn	14 57 58.3	+1.8
IDI				Sn	Sn	14 58 26.8	+2.1
IDI	Anoyia	2.36	269	P	Pn	14 57 57.6	+1.0
IDI				AML	AML	14 58 43.0	
	comp=N,9446μm,0.5s						
IDI				AML	AML	14 58 47.9	
	comp=E,11163μm,0.9s						
SMG	Samos	2.45	342	P	Pn	14 57 58.4	+0.7
SMG	Samos	2.45	342	P	Pn	14 57 58.9	+1.2
SMG	Samos	2.45	342	P	Pn	14 57 58.4	+0.7
SMG	Samos	2.45	342	P	Pn	14 57 58.9	+1.2
SMG				AML	AML	14 58 47.3	
	comp=N,5358μm,0.5s						
SMG				AML	AML	14 58 49.7	
	comp=E,6683μm,0.8s						
SIVA	Sivas	2.45	262	P	Pb	14 58 00.6	-2.3
SIVA	Sivas	2.45	262	P	Pn	14 57 59.8	+2.0
SIVA				S	Sb	14 58 30.1	-2.5
SIVA	Sivas	2.45	262	P	Pb	14 58 00.6	-2.3
SIVA	Sivas	2.45	262	P	Pn	14 57 59.8	+2.0
SIVA				S	Sb	14 58 30.1	-2.5
SIVA				AML	AML	14 58 51.3	
	comp=N,34173μm,0.7s						
SIVA				AML	AML	14 58 54.1	
	comp=E,32427μm,0.8s						
APE	Apeiranthos	2.48	314	ePN	Pn	14 57 58.8	+0.6
APE	Apeiranthos	2.48	314	P	Pn	14 57 58.9	+0.7
APE	Apeiranthos	2.48	314c	iP	Pn	14 57 58.5	+0.3
APE	Apeiranthos	2.48	314	P	Pn	14 57 58.9	+0.7
APE	Apeiranthos	2.48	314	P	Pn	14 57 58.9	+0.7
APE	Apeiranthos	2.48	314	P	Pn	14 57 58.3	+0.2
APE				AML	AML	14 58 29.4	
	comp=N,10156μm,1.0s						
APE				AML	AML	14 58 30.9	
	comp=E,8734μm,0.3s						
DNZL	Cakiroluk	2.52	24	P	Pn	14 58 00.7	+1.8
DNZL	Cakiroluk	2.52	24	iP	Pn	14 58 00.7	+1.8
DNZL				iS	Sb	14 58 41.7	+6.8
AYDB	Zeytinkoy-Aydi	2.57	2	ePN	Pn	14 58 00.5	+1.1
AYDB	Zeytinkoy-Aydi	2.57	2	ePn	Pn	14 58 00.5	+1.1
DENT	Denizli	2.58	23	ePN	Pn	14 58 00.5	+0.9
DENT	Denizli	2.58	23	ePn	Pn	14 58 00.5	+0.9
KORT	Korkueli	2.64	51	P	Pn	14 58 02.3	+1.8
KORT				S	Sb	14 58 35.7	-2.4
KORT	Korkueli	2.64	51	iP	Pn	14 58 02.3	+1.8
KORT				iS	Sb	14 58 35.7	-2.4
DGB	˜zmir	2.76	345	iP	Pn	14 58 03.0	+1.0
ANTB	Antalya	2.78	56	ePN	Pn	14 58 04.5	+2.2
ANTB	Antalya	2.78	56	ePn	Pn	14 58 04.5	+2.2
VAM	Vamos	2.92	272	P	Pn	14 58 06.2	+2.0
VAM	Vamos	2.92	272	P	Pn	14 58 06.2	+2.0
VAM	Vamos	2.92	272	P	Pn	14 58 06.2	+2.0
VAM	Vamos	2.92	272	P	Pn	14 58 06.2	+2.0
MHLO	Agia Marina, M	3.03	297	P	Pn	14 58 08.4	+2.7
MHLO	Agia Marina, M	3.03	297	P	Pn	14 58 08.4	+2.7
MHLO	Agia Marina, M	3.03	297	P	Pn	14 58 06.8	+1.1
MHLO				AML	AML	14 59 03.0	
	comp=N,18605μm,1.0s						
MHLO				AML	AML	14 59 05.2	
	comp=E,20624μm,0.9s						
IZM	Izmir	3.04	352	ePN	Pn	14 58 07.1	+1.2
IZM	Izmir	3.04	352	ePn	Pn	14 58 07.1	+1.2
GVD	Gavdhos	3.07	261	P	Pn	14 58 08.4	+2.2
GVD	Gavdhos	3.07	261	P	Pn	14 58 08.4	+2.2
GVD	Gavdhos	3.07	261	P	Pn	14 58 08.4	+2.2
GVD	Gavdhos	3.07	261	P	Pn	14 58 08.6	+2.4
BCK	Bucak	3.08	47	ePN	Pn	14 58 08.1	+1.7
BCK	Bucak	3.08	47	ePn	Pn	14 58 08.1	+1.7
IMMV	Iera Moni Meta	3.10	273	P	Pn	14 58 08.7	+2.1
IMMV	Iera Moni Meta	3.10	273	P	Pn	14 58 08.7	+2.1
IMMV	Iera Moni Meta	3.10	273	P	Pn	14 58 09.2	+2.5
KHL	Karahalli	3.26	25	ePN	Pn	14 58 10.3	+1.4
KHL	Karahalli	3.26	25	ePn	Pn	14 58 10.3	+1.4
ISP	Isparta	3.29	41	ePN	Pn	14 58 10.8	+1.4
ISP	Isparta	3.29	41	P	Pn	14 58 10.8	+1.4
ISP	Isparta	3.29	41	Pn	Pn	14 58 11.0	+1.6
ISP	Isparta	3.29	41	eP	Pn	14 58 11.1	+1.6
ISP	Isparta	3.29	41	P	Pn	14 58 10.8	+1.4
ISP	Isparta	3.29	41	ePn	Pn	14 58 11.1	+1.6
CHOS	Chios island	3.31	336	ePN	Pn	14 58 10.8	+1.3
CHOS	Chios island	3.31	336	P	Pn	14 58 10.8	+1.3
CHOS	Chios island	3.31	336	P	Pn	14 58 10.8	+1.3
CHOS	Chios island	3.31	336	P	Pn	14 58 10.8	+1.3
CHOS	Chios island	3.31	336	P	Pn	14 58 10.7	+1.1
SUTC	Sutluce-Ispart	3.34	50	ePN	Pn	14 58 12.0	+1.9

SUTC	Sutluce-Ispart	3.34	50	*e*Pn	Pn	14 58 12.0	+1.9		
AKS	Akhisar	3.50	0	*e*PN	Pn	14 58 13.0	+0.9		
AKS	Akhisar	3.50	0	*e*Pn	Pn	14 58 13.0	+0.9		
ANKY	Antikythira Is	3.68	279	P	Pn	14 58 16.2	+1.6		
ANKY	Antikythira Is	3.68	279	P	Pn	14 58 16.2	+1.6		
ANKY	Antikythira Is	3.68	279	P	Pn	14 58 16.2	+1.6		
ANKY	Antikythira Is	3.68	279	P	Pn	14 58 16.2	+1.6		
DEMI	Demirci	3.73	11	P	Pn	14 58 16.3	+0.8		
DEMI	Demirci	3.73	11	*i* P	Pn	14 58 16.3	+0.8		
AKMC	Akamas	3.75	94	P	Pn	14 58 16.0	+0.4		
	baz=283								
AKMC	Akamas	3.75	94	P	Pn	14 58 16.0	+0.4		
DKL	Dikili	3.75	350	*e*PN	Pn	14 58 16.8	+1.2		
DKL	Dikili	3.75	350	*e*Pn	Pn	14 58 16.8	+1.2		
PPCY	Paphos	3.78	96	P	Pn	14 58 16.2	+0.2		
	baz=285								
PPCY	Paphos	3.78	96	P	Pn	14 58 16.2	+0.2		
GAZI	Gazipasa	3.79	76	P	Pn	14 58 16.7	+0.5		
GAZI				S	Sn	14 58 58.9	-1.0		
GAZI	Gazipasa	3.79	76	*i* P	Pn	14 58 16.7	+0.5		
GAZI				*i* S	Sn	14 58 58.9	-1.0		
GEDZ	Gediz	3.89	19	*e*PN	Pn	14 58 19.3	+1.7		
GEDZ	Gediz	3.89	19	*e*Pn	Pn	14 58 19.3	+1.7		
KYTH	Kithira	3.94	284	P	Pn	14 58 19.7	+1.4		
KYTH	Kithira	3.94	284	P	Pn	14 58 19.9	+1.7		
KYTH	Kithira	3.94	284	P	Pn	14 58 19.7	+1.4		
KYTH	Kithira	3.94	284	P	Pn	14 58 19.9	+1.7		
GDZ	Gediz	3.95	20	P	Pn	14 58 19.4	+1.0		
GDZ	Gediz	3.95	20	*i* P	Pn	14 58 19.4	+1.0		
ALFC	Alefka	3.95	92	P	Pn	14 58 18.8	+0.4		
	baz=280								
ALFC				S	Sn	14 59 02.4	-1.6		
ALFC	Alefka	3.95	92	P	Pn	14 58 18.8	+0.4		
ALFC				S	Sn	14 59 02.4	-1.6		
PRK	Paraskevi	4.04	343	P	Pn	14 58 20.8	+1.2		
PRK	Paraskevi	4.04	343	P	Pn	14 58 20.8	+1.2		
PRK	Paraskevi	4.04	343	P	Pn	14 58 21.2	+1.6		
PRK	Paraskevi	4.04	343	P	Pn	14 58 20.8	+1.2		
PRK	Paraskevi	4.04	343	P	Pn	14 58 21.2	+1.6		
VLY	Voula,Athens	4.04	309	P	Pn	14 58 21.2	+1.6		
VLY	Voula,Athens	4.04	309	P	Pn	14 58 21.6	+2.0		
VLY	Voula,Athens	4.04	309	P	Pn	14 58 21.2	+1.6		
VLY	Voula,Athens	4.04	309	P	Pn	14 58 21.6	+2.0		
VLY				AML	AML	14 59 27.2			
	comp=E,5408µm,0.8s								
VLY				AML	AML	14 59 28.1			
	comp=N,4717µm,0.8s								
ATHU	Athens Univers	4.12	310	P	Pn	14 58 22.3	+1.6		
ATHU	Athens Univers	4.12	310	P	Pn	14 58 22.3	+1.6		
ATHU	Athens Univers	4.12	310	P	Pn	14 58 22.3	+1.6		
PTL	Penteli	4.12	311	P	Pn	14 58 22.8	+2.1		
PTL	Penteli	4.12	311	P	Pn	14 58 22.8	+2.1		
PTL	Penteli	4.12	311	P	Pn	14 58 22.8	+2.1		
PTL	Penteli	4.12	311	P	Pn	14 58 22.8	+2.1		
SIGR	SIGRI	4.12	339	*e*PN	Pn	14 58 22.5	+1.8		
SIGR	SIGRI	4.12	339	P	Pn	14 58 22.2	+1.5		
SIGR	SIGRI	4.12	339	*e*Pn	Pn	14 58 22.5	+1.8		
SIGR	SIGRI	4.12	339	P	Pn	14 58 22.2	+1.5		
SIGR	SIGRI	4.12	339	P	Pn	14 58 22.7	+2.0		
VLI	Veliai	4.14	290	P	Pn	14 58 22.2	+1.2		
VLI	Veliai	4.14	290	P	Pn	14 58 22.7	+1.7		
VLI	Veliai	4.14	290	P	Pn	14 58 22.2	+1.2		
VLI	Veliai	4.14	290	P	Pn	14 58 22.7	+1.7		
VLI				AML	AML	14 59 13.2			
	comp=E,4314µm,1.3s								
VLI				AML	AML	14 59 22.2			
	comp=N,4071µm,0.9s								
ATH	Athens Observa	4.16	310	P	Pn	14 58 23.5	+2.2		
ATH	Athens Observa	4.16	310	P	Pn	14 58 23.5	+2.2		
ATH	Athens Observa	4.16	310	P	Pn	14 58 23.5	+2.2		
ATH	Athens Observa	4.16	310	P	Pn	14 58 23.5	+2.2		
BOLV	Bolvadin	4.19	36	P	Pn	14 58 24.1	+2.3		
BOLV	Bolvadin	4.19	36	*i* P	Pn	14 58 24.1	+2.3		
LEF	Lefka	4.20	92	*e*PN	Pn	14 58 22.0	+0.3		
LEF	Lefka	4.20	92	*e*Pn	Pn	14 58 22.0	+0.3		
DID	Didima	4.23	301	P	Pn	14 58 23.6	+1.4		
DID	Didima	4.23	301	P	Pn	14 58 24.3	+2.1		
DID	Didima	4.23	301	P	Pn	14 58 23.6	+1.4		
DID	Didima	4.23	301	P	Pn	14 58 24.3	+2.1		
DID				AML	AML	14 59 21.9			
	comp=E,1574µm,1.1s								
DID				AML	AML	14 59 23.0			
	comp=N,2161µm,1.0s								
KRND	KRANIDI	4.23	300	P	Pn	14 58 24.1	+1.9		
KRND	KRANIDI	4.23	300	P	Pn	14 58 24.1	+1.9		
KRND	KRANIDI	4.23	300	P	Pn	14 58 24.0	+1.8		
KRND				AML	AML	14 59 22.1			
	comp=E,3932µm,1.2s								
KRND				AML	AML	14 59 23.8			
	comp=N,3472µm,0.9s								
SZAC	Souni	4.24	97	P	Pn	14 58 22.7	+0.4		
	baz=285								
SZAC				S	Sn	14 59 11.6	+0.7		
SZAC	Souni	4.24	97	P	Pn	14 58 22.7	+0.4		
SZAC				S	Sn	14 59 11.6	+0.7		
BALB	Balikesir	4.26	1	*e*PN	Pn	14 58 24.6	+2.1		
BALB	Balikesir	4.26	1	*e*Pn	Pn	14 58 24.6	+2.1		
TVSB	Tavsanli	4.28	18	*e*PN	Pn	14 58 24.2	+1.2		
TVSB	Tavsanli	4.28	18	*e*Pn	Pn	14 58 24.2	+1.2		
EREA	Eretria	4.33	316	P	Pn	14 58 25.8	+2.3		
EREA	Eretria	4.33	316	P	Pn	14 58 25.8	+2.3		
ERMK	Ermenek	4.35	72	P	Pn	14 58 26.3	+2.2		
ERMK				S	Sn	14 59 17.6	+3.5		
ERMK	Ermenek	4.35	72	*i* P	Pn	14 58 26.3	+2.2		
ERMK				*i* S	Sn	14 59 17.6	+3.5		
SLUM	Salum	4.43	210	P	Pn	14 58 25.3	+0.4		
	baz=209								
SLUM	Salum	4.43	210	P	Pn	14 58 25.3	+0.4		
MAMC	Mammari	4.46	91	P	Pn	14 58 25.9	+0.6		
	baz=279								
MAMC	Mammari	4.46	91	P	Pn	14 58 25.9	+0.6		
KONT	Konya--Tatoy	4.49	54	*e*PN	Pn	14 58 28.6	+2.8		
KONT	Konya--Tatoy	4.49	54	*e*Pn	Pn	14 58 28.6	+2.8		
VILL	Villia	4.54	309	P	Pn	14 58 28.4	+2.0		
VILL	Villia	4.54	309	P	Pn	14 58 28.4	+2.0		
CSS	Mathiatis	4.57	94	P	Pn	14 58 27.1	+0.2		
	baz=282								
CSS				S	Sn	14 59 19.0	-0.2		
CSS	Mathiatis	4.57	94	P	Pn	14 58 27.2	+0.3		
CSS	Mathiatis	4.57	94	P	Pn	14 58 26.6	-0.3		
CSS	Mathiatis	4.57	94	P	Pn	14 58 27.2	+0.3		
CSS				S	Sn	14 59 19.0	-0.2		
CSS	Mathiatis	4.57	94	*e*Pn	Pn	14 58 27.1	+0.2		
EZN	Ezine	4.59	346	*e*PN	Pn	14 58 28.9	+1.9		
EZN	Ezine	4.59	346	*e*Pn	Pn	14 58 29.0	+1.9		
VIL2	Platees	4.59	309	P	Pn	14 58 28.1	+0.9		
LADK	Ladik-KONYA	4.64	51	*e*PN	Pn	14 58 30.3	+2.4		
LADK	Ladik-KONYA	4.64	51	*e*Pn	Pn	14 58 30.3	+2.4		
LTK	Loutraki	4.68	306	P	Pn	14 58 30.8	+2.4		
LTK	Loutraki	4.68	306	P	Pn	14 58 30.8	+2.4		
LTK	Loutraki	4.68	306	P	Pn	14 58 30.8	+2.4		
LTK	Loutraki	4.68	306	P	Pn	14 58 31.4	+3.0		
VLX	Vlachokerasia	4.79	296	P	Pn	14 58 32.8	+2.9		
VLX	Vlachokerasia	4.79	296	P	Pn	14 58 32.5	+2.6		
VLX	Vlachokerasia	4.79	296	P	Pn	14 58 32.8	+2.9		
VLX	Vlachokerasia	4.79	296	P	Pn	14 58 32.5	+2.6		
KIZT	Kizilcal	4.79	42	*e*PN	Pn	14 58 31.9	+1.9		
KIZT	Kizilcal	4.79	42	*e*Pn	Pn	14 58 31.9	+1.9		
ESKT	Eskisehir	4.80	30	*e*PN	Pn	14 58 32.5	+2.4		
ESKT	Eskisehir	4.80	30	*e*Pn	Pn	14 58 32.6	+2.4		
IKL	Isikli	4.88	78	*e*PN	Pn	14 58 33.3	+2.2		
IKL	Isikli	4.88	78	*e*Pn	Pn	14 58 33.3	+2.2		
AOS	Alonnisos	4.90	322	*e*PN	Pn	14 58 33.8	+2.5		
AOS	Alonnisos	4.90	322	P	Pn	14 58 33.3	+2.0		
AOS	Alonnisos	4.90	322	P	Pn	14 58 33.3	+2.0		
AOS	Alonnisos	4.90	322	*e*Pn	Pn	14 58 33.8	+2.5		
AOS	Alonnisos	4.90	322	P	Pn	14 58 33.3	+2.0		
KCTX	Karacabey (Bur	4.90	5	*e*PN	Pn	14 58 33.3	+1.8		
KCTX	Karacabey (Bur	4.90	5	*e*Pn	Pn	14 58 33.3	+1.8		
LIA	Limnos Island	4.96	336	P	Pn	14 58 34.0	+1.8		
LIA	Limnos Island	4.96	336	P	Pn	14 58 34.0	+1.8		
LIA	Limnos Island	4.96	336	P	Pn	14 58 34.0	+1.8		
EDC	Edincik	4.96	1	*e*PN	Pn	14 58 34.0	+1.8		
EDC	Edincik	4.96	1	*e*Pn	Pn	14 58 34.0	+1.8		
KRBG	Karabiga-Canak	5.02	356	*e*PN	Pn	14 58 34.8	+1.7		
KRBG	Karabiga-Canak	5.02	356	*e*Pn	Pn	14 58 34.8	+1.7		
LKR	Lokris	5.03	312	P	Pn	14 58 35.4	+2.3		
LKR	Lokris	5.03	312	P	Pn	14 58 35.4	+2.3		
LKR	Lokris	5.03	312	P	Pn	14 58 35.4	+2.3		
LKR	Lokris	5.03	312	P	Pn	14 58 35.4	+2.3		
GADA	Gvkgeada	5.03	343	*e*PN	Pn	14 58 35.3	+2.2		
GADA	Gvkgeada	5.03	343	P	Pn	14 58 34.9	+1.7		
GADA	Gvkgeada	5.03	343	P	Pn	14 58 34.9	+1.7		
GADA	Gvkgeada	5.03	343	*e*Pn	Pn	14 58 35.3	+2.2		
GADA	Gvkgeada	5.03	343	P	Pn	14 58 34.9	+1.7		
ATAL	Atalanti	5.04	312	P	Pn	14 58 35.5	+2.2		
ATAL	Atalanti	5.04	312	P	Pn	14 58 35.5	+2.2		
ATAL	Atalanti	5.04	312	P	Pn	14 58 35.5	+2.2		
LPK	Lapseki	5.05	351	*e*PN	Pn	14 58 35.1	+1.6		
LPK	Lapseki	5.05	351	*e*Pn	Pn	14 58 35.1	+1.6		
ITM	Ithomi	5.05	293	P	Pn	14 58 35.9	+2.4		
ITM	Ithomi	5.05	293	P	Pn	14 58 35.9	+2.4		
ITM	Ithomi	5.05	293	P	Pn	14 58 35.9	+2.4		
ITM	Ithomi	5.05	293	P	Pn	14 58 35.1	+1.6		
CAVI	Cavuskoy	5.09	18	*e*PN	Pn	14 58 36.5	+2.5		
CAVI	Cavuskoy	5.09	18	*e*Pn	Pn	14 58 36.5	+2.5		
PYL	PYLOS	5.11	289	P	Pn	14 58 35.4	+1.1		
PYL	PYLOS	5.11	289	P	Pn	14 58 35.4	+1.1		
PYL	PYLOS	5.11	289	P	Pn	14 58 35.4	+1.1		
PYL	PYLOS	5.11	289	P	Pn	14 58 35.3	+1.1		
GELI	Tayfur-Gelibol	5.12	349	*e*PN	Pn	14 58 36.1	+1.7		
GELI	Tayfur-Gelibol	5.12	349	*e*Pn	Pn	14 58 36.1	+1.7		
IZI	Iznik	5.13	15	*e*PN	Pn	14 58 37.2	+2.6		
IZI	Iznik	5.13	15	*e*Pn	Pn	14 58 37.2	+2.6		
DSF	Desfina	5.18	307	P	Pn	14 58 37.7	+2.4		
DSF	Desfina	5.18	307	P	Pn	14 58 37.7	+2.4		
DSF	Desfina	5.18	307	P	Pn	14 58 37.7	+2.4		
DSF	Desfina	5.18	307	P	Pn	14 58 37.9	+2.6		
CHBY	Cihanbeyli	5.20	51	*e*PN	Pn	14 58 38.5	+2.9		
CHBY	Cihanbeyli	5.20	51	*e*Pn	Pn	14 58 38.5	+2.9		
MRMT	Marmara Adasi	5.22	359	*e*PN	Pn	14 58 37.6	+1.8		
MRMT	Marmara Adasi	5.22	359	*e*Pn	Pn	14 58 37.6	+1.8		
KLV	Kalavryta, Ach	5.24	302	P	Pn	14 58 39.0	+2.8		
KLV	Kalavryta, Ach	5.24	302	P	Pn	14 58 38.4	+2.2		
KLV	Kalavryta, Ach	5.24	302	P	Pn	14 58 39.0	+2.8		
KLV	Kalavryta, Ach	5.24	302	P	Pn	14 58 38.4	+2.2		
ARMT	Armutlu	5.25	9	*e*PN	Pn	14 58 39.0	+2.8		
ARMT	Armutlu	5.25	9	*e*Pn	Pn	14 58 39.0	+2.8		
ADVT	Abdulvahap	5.28	17	*e*PN	Pn	14 58 39.4	+2.8		
ADVT	Abdulvahap	5.28	17	*e*Pn	Pn	14 58 39.4	+2.8		
NEO	Neokhori	5.34	319	P	Pn	14 58 39.8	+2.3		
NEO	Neokhori	5.34	319	P	Pn	14 58 39.8	+2.3		
NEO	Neokhori	5.34	319	P	Pn	14 58 39.8	+2.3		
ERIK	Erikli-Kesan	5.38	350	*e*PN	Pn	14 58 40.2	+2.3		
ERIK	Erikli-Kesan	5.38	350	*e*Pn	Pn	14 58 40.2	+2.3		
SMTH	Samothraki Isl	5.38	341	P	Pn	14 58 39.1	+1.0		
SMTH	Samothraki Isl	5.38	341	P	Pn	14 58 39.1	+1.0		
SMTH	Samothraki Isl	5.38	341	P	Pn	14 58 39.1	+1.0		
XOR	Xorichti	5.40	319	P	Pn	14 58 40.1	+1.8		
XOR	Xorichti	5.40	319	P	Pn	14 58 40.1	+1.8		
XOR	Xorichti	5.40	319	P	Pn	14 58 40.1	+1.8		
GULT	Gulveren	5.49	22	*e*PN	Pn	14 58 42.3	+2.7		
GULT	Gulveren	5.49	22	*e*Pn	Pn	14 58 42.3	+2.7		
DRO	Drossia	5.51	300	P	Pn	14 58 42.7	+2.9		
DRO	Drossia	5.51	300	P	Pn	14 58 42.7	+2.9		
DRO	Drossia	5.51	300	P	Pn	14 58 42.9	+3.1		
AGG	Agios Georgios	5.67	312	P	Pn	14 58 44.3	+2.3		
AGG	Agios Georgios	5.67	312	*e*P	Pn	14 58 44.8	+2.8		
AGG	Agios Georgios	5.67	312	P	Pn	14 58 44.3	+2.3		
AGG	Agios Georgios	5.67	312	*e*Pn	Pn	14 58 44.8	+2.8		
AGG	Agios Georgios	5.67	312	*e*Pn	Pn	14 58 44.8	+2.8		
AGG	Agios Georgios	5.67	312	P	Pn	14 58 45.0	+3.0		
ALN	Alexandroupoli	5.68	347	*e*PN	Pn	14 58 44.2	+2.2		
ALN	Alexandroupoli	5.68	347	P	Pn	14 58 43.6	+1.6		
ALN	Alexandroupoli	5.68	347	P	Pn	14 58 43.6	+1.6		
ALN	Alexandroupoli	5.68	347	P	Pn	14 58 43.6	+1.6		
ALN	Alexandroupoli	5.68	347	*e*Pn	Pn	14 58 44.2	+2.2		
ALN	Alexandroupoli	5.68	347	P	Pn	14 58 43.6	+1.6		
ALN	Alexandroupoli	5.68	347	P	Pn	14 58 42.5	+0.4		
ANX	Ano Chora	5.68	306	P	Pn	14 58 45.4	+3.2		
ANX	Ano Chora	5.68	306	P	Pn	14 58 45.4	+3.2		
RLS	Riolos of Patr	5.73	300	P	Pn	14 58 47.9	+5.1		
RLS	Riolos of Patr	5.73	300	P	Pn	14 58 45.6	+2.8		
RLS	Riolos of Patr	5.73	300	P	Pn	14 58 47.9	+5.1		
MDUB	Mudurnu	5.76	27	*e*PN	Pn	14 58 45.9	+2.6		
MDUB	Mudurnu	5.76	27	*e*Pn	Pn	14 58 45.9	+2.6		
ISK	Istanbul-Kandi	5.77	10	*e*PN	Pn	14 58 45.5	+2.2		
ISK	Istanbul-Kandi	5.77	10	*e*Pn	Pn	14 58 45.5	+2.2		
BGKT	Bogazkoy	5.85	7	*e*PN	Pn	14 58 46.9	+2.5		
BGKT	Bogazkoy	5.85	7	*e*Pn	Pn	14 58 46.9	+2.5		
AFSR	Af ar-Bala (A	5.85	44	*e*PN	Pn	14 58 48.4	+3.8		
AXS	Araxos	5.85	301	P	Pn	14 58 46.8	+4.1		
AXS	Araxos	5.85	301	P	Pn	14 58 46.8	+2.3		
AXS	Araxos	5.85	301	P	Pn	14 58 46.8	+2.3		
CTKS	Kestanelik-??a	5.88	5	*e*PN	Pn	14 58 46.9	+2.1		
CTKS	Kestanelik-??a	5.88	5	*e*Pn	Pn	14 58 46.9	+2.1		
EVR	Evrytania	5.93	308	P	Pn	14 58 48.6	+2.9		
EVR	Evrytania	5.93	308	P	Pn	14 58 48.6	+2.9		
EVR	Evrytania	5.93	308	P	Pn	14 58 48.6	+2.9		
EVR	Evrytania	5.93	308	P	Pn	14 58 48.8	+3.1		
KLYT	Kilyos	5.95	9	*e*PN	Pn	14 58 48.7	+2.9		
KLYT	Kilyos	5.95	9	*e*Pn	Pn	14 58 48.7	+2.9		
SILT	Sile	5.95	14	*e*PN	Pn	14 58 48.4	+2.6		
SILT	Sile	5.95	14	*e*Pn	Pn	14 58 48.4	+2.6		
PVO	Paravola	5.95	305	P	Pn	14 58 48.8	+2.9		
PVO	Paravola	5.95	305	P	Pn	14 58 48.8	+2.9		
BR231	Keskin MP Arra	5.97	40	*e*Pn	Pn	14 58 50.2	+4.1		
ANTO	Ankara	6.00	40	*e*P	Pn	14 58 49.0	+2.5		
ANTO	Ankara	6.00	40	*e*Pn	Pn	14 58 49.0	+2.5		
ANTO	Ankara	6.00	40	*e*Pn	Pn	14 58 49.0	+2.5		
ZKS	Zakynthos	6.08	294	P	Pn	14 58 49.1	+1.4		
ZKS	Zakynthos	6.08	294	P	Pn	14 58 49.1	+1.4		
ZKS	Zakynthos	6.08	294	P	Pn	14 58 50.6	+2.9		
KAVA	Kavala	6.17	336	P	Pn	14 58 51.0	+2.2		
KAVA	Kavala	6.17	336	P	Pn	14 58 51.0	+2.2		
KAVA	Kavala	6.17	336	P	Pn	14 58 51.0	+2.2		
PDO	Prodromos	6.18	303	P	Pn	14 58 52.9	+4.0		
PDO	Prodromos	6.18	303	P	Pn	14 58 52.9	+4.0		
SQR	Saqqara	6.19	151	P	Pn	14 58 49.2	0.0		
	baz=153								
SQR	Saqqara	6.19	151	P	Pn	14 58 49.2	0.0		
THL	Klokotos Trika	6.20	314	P	Pn	14 58 51.9	+2.7		
THL	Klokotos Trika	6.20	314	P	Pn	14 58 51.9	+2.7		
LIT	Litokhoron	6.30	320	P	Pn	14 58 53.1	+2.4		
LIT	Litokhoron	6.30	320	P	Pn	14 58 53.1	+2.4		
LIT	Litokhoron	6.30	320	P	Pn	14 58 53.1	+2.4		
LIT	Litokhoron	6.30	320	P	Pn	14 58 53.1	+2.4		
BR131	Keskin Array S	6.37	45	*e*Pn	Pn	14 58 53.8	+2.1		
BR131	Keskin Array S	6.37	45	*e*Pn	Pn	14 58 53.8	+2.1		
BRTR	Keskin Array B	6.37	45	Pn	Pn	14 58 53.3	+1.6		
	comp=N,2.2nm,0.3s,baz=216,slow=14,SNR=62								
BRTR				Sn	Sn	15 00 04.3	+0.8		
	comp=N,2.4nm,0.3s,baz=215,slow=24,SNR=10								
BRTR	Keskin Array B	6.37	45	*i* P	Pn	14 58 54.0	+2.3		
BRTR				pmax	pmax				
	comp=Z,14nm,0.7s								
VLS	Valsamata	6.41	298	P	Pn	14 58 53.9	+1.8		
VLS	Valsamata	6.41	298	P	Pn	14 58 53.9	+1.8		
VLS	Valsamata	6.41	298	P	Pn	14 58 53.9	+1.8		
VLS	Valsamata	6.41	298	P	Pn	14 58 53.9	+1.8		
SWA2		6.42	198	P	Pn	14 58 52.9	+0.5		
	baz=198								
SWA2		6.42	198	P	Pn	14 58 52.8	+0.5		
DSL	Palaion Diasel	6.51	307	P	Pn	14 58 55.5	+1.9		
DSL	Palaion Diasel	6.51	307	P	Pn	14 58 55.5	+1.9		
DSL	Palaion Diasel	6.51	307	P	Pn	14 58 55.5	+1.9		
DSL	Palaion Diasel	6.51	307	P	Pn	14 58 54.4	+0.8		
KDZ	Kurdzhali	6.53	344	*i* P	Pn	14 58 55.0	+1.2		
OFRI	'Ofer	6.59	113	Pn	Pn	14 58 54.1	-0.6		
OFRI	'Ofer	6.59	113	Pn	Pn	14 58 54.1	-0.6		
SRS	Serrai	6.61	331	P	Pn	14 58 57.1	+2.2		
SRS	Serrai	6.61	331	P	Pn	14 58 57.1	+2.2		
SRS	Serrai	6.61	331	P	Pn	14 58 57.1	+2.2		
SRS	Serrai	6.61	331	P	Pn	14 58 57.1	+2.2		
LKD2	Lefkada island	6.63	303	P	Pn	14 58 57.6	+2.4		
LKD2	Lefkada island	6.63	303	P	Pn	14 58 57.6	+2.4		
LKD2	Lefkada island	6.63	303	P	Pn	14 58 57.6	+2.4		
DQRL	Deir Qamar	6.65	102	*e*P	Pn	14 58 55.3	-0.2		
DQRL	Deir Qamar	6.65	102	*e*P	Pn	14 58 55.3	-0.2		
ARNB	Al Arnab	6.70	83	*e*P	Pn	14 58 56.1	0.0		
ARNB				*e*S	Sn	15 00 02.4	-9.2		
ARNB				AML	AML	15 00 15.9			
	comp=E,216nm,0.6s								
ARNB				AML	AML	15 00 15.9			
	comp=N,170nm,0.6s								
BLGI	Bet Lehem HaGe	6.70	111	Pn	Pn	14 58 56.6	+0.5		
BLGI	Bet Lehem HaGe	6.70	111	Pn	Pn	14 58 56.6	+0.5		
NVR	Nevrokopi	6.71	334	P	Pn	14 58 58.2	+1.9		
NVR	Nevrokopi	6.71	334	P	Pn	14 58 58.2	+1.9		
NVR	Nevrokopi	6.71	334	P	Pn	14 58 58.2	+1.9		
MMC7	Mount Meron ar	6.74	108	Pn	Pn	14 58 56.4	-0.3		
MMC7	Mount Meron ar	6.74	108	Pn	Pn	14 58 56.4	-0.3		
RZN	Rozhen	6.74	340	*i* P	Pn	14 58 59.0	+2.2		
MMA0B	Mount Meron ar	6.75	108	Pn	Pn	14 58 56.6	-0.2		
MMA0B	Mount Meron ar	6.75	108	Pn	Pn	14 58 56.6	-0.2		
MMAI	Mount Meron Ar	6.75	108	Pn	Pn	14 58 56.2	-0.6		
	comp=N,13nm,0.3s,baz=291,slow=12,SNR=43								
MMAI				Sn	Sn	15 00 14.2	+1.4		
	comp=N,46nm,0.3s,baz=299,slow=24,SNR=12								
SLTI	Sal'it	6.81	115	Pn	Pn	14 58 56.8	-0.8		
SLTI	Sal'it	6.81	115	Pn	Pn	14 58 56.8	-0.8		
HWQ	Hawqa	6.81	97	*e*P	Pn	14 58 57.0	-0.7		
HWQ	Hawqa	6.81	97	*e*P	Pn	14 58 57.0	-0.7		
KPRO	Kipourio	6.83	314	P	Pn	14 59 01.1	+3.1		
KPRO	Kipourio	6.83	314	P	Pn	14 59 01.1	+3.1		
KZN	Kozani	6.84	318	P	Pn	14 59 00.8	+2.7		
KZN	Kozani	6.84	318	P	Pn	14 59 00.8	+2.7		
KZN	Kozani	6.84	318	P	Pn	14 59 00.8	+2.7		
KZN	Kozani	6.84	318	P	Pn	14 59 00.8	+2.7		
KSDI	Kefar Szold	6.88	106	Pn	Pn	14 58 57.9	-0.7		
KSDI	Kefar Szold	6.88	106	Pn	Pn	14 58 57.9	-0.7		
RCY	Rachaya	6.92	103	*e*P	Pn	14 58 58.5	-0.8		
RCY	Rachaya	6.92	103	*e*P	Pn	14 58 58.5	-0.8		
JAN	Janina	6.96	310	P	Pn	14 59 03.4	+3.6		
JAN	Janina	6.96	310	P	Pn	14 59 03.4	+3.6		
JAN	Janina	6.96	310	P	Pn	14 59 03.4	+3.6		
JAN	Janina	6.96	310	P	Pn	14 59 03.4	+3.6		

MBRI Sn **Sn** **15 00 44.5 -4.2**
MBRI Mt Berech 8.20 131 Pn **Pn** **14 59 17.4 +0.6**
SKO Skopje 8.24 325 *e*Pn Pn 14 59 24.5 +7.2
ASF Jabal al Asfar 8.24 110 Pn **Pn** **14 59 17.9 +0.5**
comp=E,2.2nm,0.3s,baz=238,slow=5.2,SNR=11
ASF Sn **Sn** **15 00 52.7 +3.1**
comp=E,2.6nm,0.3s,baz=258,slow=21,SNR=3.6
ZALF Zalf 8.29 104 *e*P **Pn** **14 59 18.2 +0.2**
ZALF *e*S Sn 15 00 41.9 -9.0
ZALF AML AML 15 01 06.9
comp=E,73nm,0.5s
ZALF AML AML 15 01 07.9
comp=N,56nm,0.6s
EIL Elat 8.31 131 Pn **Pn** **14 59 18.4 +0.2**
comp=N,10nm,0.3s,baz=326,slow=2.8,SNR=57
EIL Sn **Sn** **15 00 47.5 -3.8**
comp=N,13nm,0.3s,baz=352,slow=19,SNR=5.8
EIL Elat 8.31 131 Pn **Pn** **14 59 18.8 +0.5**
EIL Sn **Sn** **15 00 47.2 -4.1**
HBST Basata 8.51 134 P **Pn** **14 59 21.2 +0.2**
baz=136
HBST Basata 8.51 134 P **Pn** **14 59 21.2 +0.2**
TIR Tirane 8.61 316 *e*P **Pn** **14 59 23.2 +0.9**
TIR Tirane 8.61 316 *e*Pn **Pn** **14 59 23.2 +0.9**
TIR Tirane 8.61 316 *e*Pn **Pn** **14 59 23.2 +0.9**
HAQS Haql 8.74 134 P **Pn** **14 59 24.7 +0.5**
BARS Barje 8.75 330 *e*Pn **Pn** **14 59 27.3 +3.0**
ZAPS Zavoj 8.83 335 *e*Pn Pn 14 59 30.4 +5.0
TIRR Tirgusor 9.08 3⇑*i*P **Pn** **14 59 30.9 +2.1**
TIRR Tirgusor 9.08 3⇑P **Pn** **14 59 30.9 +2.1**
TIRR Tirgusor 9.08 3 *e*Pn **Pn** **14 59 29.5 +0.7**
TIRR Tirgusor 9.08 3⇑*i*P **Pn** **14 59 30.9 +2.1**
TIRR Tirgusor 9.08 3 *e*Pn **Pn** **14 59 29.5 +0.7**
SH2 Sharm el Sheik 9.20 143 P **Pn** **14 59 30.3 -0.2**
baz=144
SH2 Sharm el Sheik 9.20 143 P **Pn** **14 59 30.3 -0.2**
RSHS 9.24 138 P **Pn** **14 59 31.7 +0.7**
HARR Harsova 9.30 1⇓*i*P **Pn** **14 59 35.1 +3.3**
HARR Harsova 9.30 1⇓P **Pn** **14 59 35.1 +3.3**
HARR Harsova 9.30 1⇓*i*P **Pn** **14 59 35.1 +3.3**
BDAS Al Bad' 9.31 136 P **Pn** **14 59 32.3 +0.3**
JLOS 9.31 133 P **Pn** **14 59 32.1 0.0**
ULC Ulcinj 9.36 317 *e*Pn **Pn** **14 59 35.3 +2.6**
ULC *e*Sn **Sn** **15 01 17.2 +0.1**
ULC Ulcinj 9.36 317 *e*Pn **Pn** **14 59 35.3 +2.6**
ULC *e*Sn **Sn** **15 01 17.2 +0.1**
SELS Selova 9.37 329 *e*Pn **Pn** **14 59 35.5 +2.7**
PVY Plav 9.43 322⇑*i*Pn **Pn** **14 59 36.7 +3.1**
PVY *e*Sn **Sn** **15 01 18.1 -0.7**
PVY Plav 9.43 322⇑*i*Pn **Pn** **14 59 36.7 +3.1**
DRME Dracevica, Mon 9.55 318⇓*i*Pn **Pn** **14 59 38.1 +3.0**
DRME *e*Sn **Sn** **15 01 21.4 -0.1**
DRME Dracevica, Mon 9.55 318⇓*i*Pn **Pn** **14 59 38.1 +3.0**
DRME *e*Sn **Sn** **15 01 21.4 -0.1**
TIP Timpagrande 9.56 297 *e*Pn **Pn** **14 59 33.9 -1.6**
BEY Berane 9.66 323⇓*i*Pn **Pn** **14 59 40.6 +3.7**
BEY *e*Sn **Sn** **15 01 24.7 +0.1**
IVA Berane 9.66 323⇓*i*Pn **Pn** **14 59 40.6 +3.7**
IVA *e*Sn **Sn** **15 01 24.7 +0.1**
PDG Podgorica 9.67 319⇑*i*Pn **Pn** **14 59 39.5 +2.6**
PDG *e*Sn **Sn** **15 01 24.7 +0.1**
TTG Podgorica 9.67 319⇑*i*Pn **Pn** **14 59 39.5 +2.6**
TTG *e*Sn **Sn** **15 01 24.7 +0.1**
TAR1 Taranto 9.75 305 *e*Pn **Pn** **14 59 38.7 +0.8**
ISR Istrita 9.78 355⇑*i*P **Pn** **14 59 41.4 +3.1**
ISR Istrita 9.78 355⇑P **Pn** **14 59 41.4 +3.1**
ISR Istrita 9.78 355⇑*i*P **Pn** **14 59 41.4 +3.1**
BUM Brajici-Budva 9.78 318⇑*i*Pn **Pn** **14 59 40.8 +2.4**
BUM *e*Sn **Sn** **15 01 27.2 -0.2**
BUM Brajici-Budva 9.78 318⇑*i*Pn **Pn** **14 59 40.8 +2.4**
BUM *e*Sn **Sn** **15 01 27.2 -0.2**
CFR Carcaliu 9.79 2⇑*i*P **Pn** **14 59 40.1 +1.6**
CFR Carcaliu 9.79 2⇑P **Pn** **14 59 40.1 +1.6**
CFR Carcaliu 9.79 2⇑*i*P **Pn** **14 59 40.1 +1.6**
TLCR 9.83 4⇓*i*P **Pn** **14 59 40.9 +1.9**
TLCR 9.83 4⇓P **Pn** **14 59 40.9 +1.9**
TLCR 9.83 4⇓*i*P **Pn** **14 59 40.9 +1.9**
CEME Cevo 9.94 319⇓*i*Pn **Pn** **14 59 42.8 +2.3**
CEME *e*Sn **Sn** **15 01 31.6 +0.4**
CEME Cevo 9.94 319⇓*i*Pn **Pn** **14 59 42.8 +2.3**
CEME *e*Sn **Sn** **15 01 31.6 +0.4**
CEL Celeste 9.95 290 *e*Pn **Pn** **14 59 40.7 -0.1**
CEL Celeste 9.95 290 *e*Pn **Pn** **14 59 40.7 -0.1**
GRER 10.01 357⇓*i*P **Pn** **14 59 45.0 +3.5**
GRER 10.01 357⇓*i*P **Pn** **14 59 45.0 +3.5**
NKME Niksic 10.07 320⇑*i*Pn **Pn** **14 59 45.8 +3.5**
NKME *e*Sn **Sn** **15 01 34.5 +0.1**
NKME Niksic 10.07 320⇑*i*Pn **Pn** **14 59 45.8 +3.5**
NKME *e*Sn **Sn** **15 01 34.5 +0.1**
NKY Niksic 10.08 320⇓*i*Pn **Pn** **14 59 45.3 +2.8**
NKY *e*Sn **Sn** **15 01 34.4 -0.4**
NKY Niksic 10.08 320⇓*i*Pn **Pn** **14 59 45.3 +2.8**
NKY *e*Sn **Sn** **15 01 34.4 -0.4**
IVAS Ivanjica 10.08 327 *e*Pn **Pn** **14 59 46.0 +3.5**
GRUS Gruza 10.09 330 *e*Pn **Pn** **14 59 45.4 +2.8**
HCY Herceg Novi 10.10 317⇓*i*Pn **Pn** **14 59 45.0 +2.3**
HCY *e*Sn **Sn** **15 01 35.0 -0.1**
HCY Herceg Novi 10.10 317⇓*i*Pn **Pn** **14 59 45.0 +2.3**
HCY *e*Sn **Sn** **15 01 35.0 -0.1**
MLR Muntele Rosu 10.20 353 Pn **Pn** **14 59 46.3 +2.1**
comp=N,0.1nm,0.3s,baz=190,slow=5.2,SNR=21
MLR LR LR 15 04 26.3
comp=N,278nm,21.0s,baz=178,slow=42
MLR Muntele Rosu 10.20 353⇓*i*P **Pn** **14 59 47.0 +2.9**
MLR Muntele Rosu 10.20 353⇓P **Pn** **14 59 47.1 +2.9**
MLR Muntele Rosu 10.20 353 *e*Pn **Pn** **14 59 46.5 +2.3**
MLR Muntele Rosu 10.20 353⇓*i*P **Pn** **14 59 47.0 +2.9**
MLR Muntele Rosu 10.20 353 *e*Pn **Pn** **14 59 46.5 +2.3**
PLE Pljevlja 10.25 323⇑*i*Pn **Pn** **14 59 48.4 +3.5**
PLE *e*Sn **Sn** **15 01 38.9 -0.1**
PLE Pljevlja 10.25 323⇑*i*Pn **Pn** **14 59 48.4 +3.5**
PLE *e*Sn **Sn** **15 01 38.9 -0.1**
VOIR 10.26 349⇓*i*P **Pn** **14 59 48.0 +3.0**
VOIR 10.26 349⇓P **Pn** **14 59 48.0 +3.0**
VOIR 10.26 349⇓*i*P **Pn** **14 59 48.0 +3.0**
ARR Arges 10.26 347⇑*i*P **Pn** **14 59 48.8 +3.8**
ARR Arges 10.26 347⇑*i*P **Pn** **14 59 48.8 +3.8**
TBKS Tabuk 10.32 131 P **Pn** **14 59 49.6 +3.8**
BRY Bratogost 10.38 319⇓*i*Pn **Pn** **14 59 49.1 +2.4**
BRY *e*Sn **Sn** **15 01 42.0 -0.2**
BRY Bratogost 10.38 319⇓*i*Pn **Pn** **14 59 49.1 +2.4**
BRY *e*Sn **Sn** **15 01 42.0 -0.2**
UPM Unac-Piva 10.40 321⇓*i*Pn **Pn** **14 59 50.0 +3.0**
UPM *e*Sn **Sn** **15 01 42.7 -0.1**
UPM Unac-Piva 10.40 321⇓*i*Pn **Pn** **14 59 50.0 +3.0**
UPM *e*Sn **Sn** **15 01 42.7 -0.1**
MDVR Moldovita 10.47 336⇑*i*P **Pn** **14 59 51.7 +3.8**
MDVR Moldovita 10.47 336⇑*i*P **Pn** **14 59 51.7 +3.8**
TRUS Trudelj 10.49 330 *e*Pn **Pn** **14 59 51.8 +3.7**
PLOR Plostina 10.50 356⇑*i*P **Pn** **14 59 51.8 +3.6**
PLOR Plostina 10.50 356⇑P **Pn** **14 59 51.8 +3.6**
PLOR Plostina 10.50 356⇑*i*P **Pn** **14 59 51.8 +3.6**
VRI Vrincioaia 10.51 356⇓*i*P **Pn** **14 59 51.0 +2.7**
VRI Vrincioaia 10.51 356⇓P **Pn** **14 59 51.0 +2.7**
VRI Vrincioaia 10.51 356⇓*i*P **Pn** **14 59 51.0 +2.7**
CUC Castrocucco 10.54 299 *e*Pn **Pn** **14 59 47.7 -1.0**
DIVS Divibare 10.57 328 *e*Pn **Pn** **14 59 52.7 +3.5**
DIVS Divibare 10.57 328 *e*Pn **Pn** **14 59 52.6 +3.4**
BBLS Lazići 10.65 325 *e*Pn **Pn** **14 59 53.6 +3.3**
SIM Simferopol' 10.72 25 *e*P Pn 14 59 57.6 +6.4
SIM S **Sn** **15 01 57.0 +6.8**
SIM pmax pmax
comp=Z,47nm,0.4s
SIM smax smax
comp=E,46μm,1.1s
DOPR Dopca 10.73 351⇓*i*P **Pn** **14 59 54.0 +2.6**
DOPR Dopca 10.73 351⇓*i*P **Pn** **14 59 54.0 +2.6**
WDD Wied Dalam 10.80 276 *e*Pn **Pn** **14 59 51.2 -1.1**
VAE Valguarnera 10.97 285 LR LR 15 05 42.5
comp=E,295nm,18.1s,baz=86,slow=46
DEV Deva 11.12 342⇓*i*P **Pn** **14 59 59.9 +3.2**
DEV Deva 11.12 342⇓*i*P **Pn** **14 59 59.9 +3.2**
TEKS Tekeris 11.13 328 *e*Pn **Pn** **15 00 00.6 +3.8**
TEKS Tekeris 11.13 328 *e*Pn **Pn** **14 59 59.1 +2.3**
TESR Tescani 11.16 356⇓*i*P **Pn** **14 59 59.2 +2.0**
TESR Tescani 11.16 356⇓*i*P **Pn** **14 59 59.2 +2.0**
BZS Buzias 11.25 337⇑*i*P **Pn** **15 00 01.4 +3.0**
BZS Buzias 11.25 337⇑P **Pn** **15 00 01.4 +3.0**
BZS Buzias 11.25 337⇑*i*P **Pn** **15 00 01.4 +3.0**
FRGS Fruska Gora 11.50 331 *e*Pn **Pn** **15 00 06.1 +4.2**
MILM Milestii Mici 11.56 4⇓*i*P **Pn** **15 00 05.8 +3.2**
MILM Milestii Mici 11.56 4⇓*i*P **Pn** **15 00 05.8 +3.2**
KIS Kishinev 11.64 4 *e* **Pn** **15 00 08.0 +4.3**
KIS *e*S **Sn** **15 02 19.0 +6.3**
KIS LRM MLR 15 05 06.0
comp=E,700nm,14.0s
CJR Cluj-Napoca 11.75 346⇓*i*P **Pn** **15 00 06.5 +1.1**
CJR Cluj-Napoca 11.75 346⇓P **Pn** **15 00 06.5 +1.1**
CJR Cluj-Napoca 11.75 346⇓*i*P **Pn** **15 00 06.5 +1.1**
ANN Anapa 11.96 35 *e*P **Pn** **15 00 07.7 -0.4**
ANN *e*S **Sn** **15 02 24.7 +4.1**
ANN pmax pmax
comp=Z,27nm,1.0s
ANN MLR MLR
comp=Z,197nm,9.0s
DRGR 12.02 343⇑*i*P **Pn** **15 00 13.0 +3.9**
DRGR 12.02 343⇑P **Pn** **15 00 13.0 +3.9**
DRGR 12.02 343⇑*i*P **Pn** **15 00 13.0 +3.9**
BLY Banja Luka 12.38 322 *e*Pn **Pn** **15 00 13.9 +0.1**
BURAR Bucovina Array 12.38 352⇑*i*P **Pn** **15 00 17.3 +3.4**
BURAR Bucovina Array 12.38 352⇑P **Pn** **15 00 17.3 +3.4**
BURAR Bucovina Array 12.38 352⇑*i*P **Pn** **15 00 17.3 +3.4**
BUR08 Bucovina Ar. S 12.41 352 *e*Pn **Pn** **15 00 16.2 +1.8**
BUR08 Bucovina Ar. S 12.41 352 *e*Pn **Pn** **15 00 16.2 +1.8**
SORM Soroca 12.76 2⇑*i*P **Pn** **15 00 21.4 +2.4**
SORM Soroca 12.76 2⇑P **Pn** **15 00 21.4 +2.4**
SORM Soroca 12.76 2⇑*i*P **Pn** **15 00 21.4 +2.4**
PSZ Piszkesteto 13.84 337⇓*i*P **Pn** **15 00 36.8 +3.0**
PSZ Piszkesteto 13.84 337⇓P **Pn** **15 00 36.8 +3.0**
PSZ Piszkesteto 13.84 337 *e*Pn **Pn** **15 00 37.1 +3.3**
PSZ Piszkesteto 13.84 337 *e*Pn **Pn** **15 00 37.1 +3.3**
UZH Uzhgorod 13.85 345 *e*P **P** **15 00 41.0 -1.0**
UZH *e*S Sn 15 03 16.0 +9.2
UZH MLR MLR
comp=N,4μm,11.0s
UZH MLR MLR
comp=E,2μm,11.0s
UZH MLR MLR
comp=Z,1μm,11.0s
BOJS Bojanci 13.88 321 *i* Pn **Pn** **15 00 35.1 +0.7**
BOJS *i* Sn **Sn** **15 03 03.0 -4.6**
BOJS Bojanci 13.88 321 Pn **Pn** **15 00 35.1 +0.7**
NEY Neytrino 13.98 51⇓*e*P **Pn** **15 00 37.0 +1.1**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KOLS Kolonicke sedl 14.14 345 *e*P **P** **15 00 42.7 -2.5**
KOLS Kolonicke sedl 14.14 345 *e*PN **P** **15 00 42.7 -2.5**
ONI Oni 14.15 55 P **P** **15 00 48.0 +2.6**
ONI Oni 14.15 55 P **P** **15 00 48.0 +2.6**
KECS Kecovo 14.16 340 *e*P **P** **15 00 46.9 +1.4**
KECS Kecovo 14.16 340 *e* **P** **15 00 46.9 +1.4**
GNI Garni 14.24 65 LR LR 15 06 27.4
comp=Z,283nm,21.1s,baz=288,slow=38
GNI Garni 14.24 65*c*P **Pn** **15 00 39.3 -0.2**
CRVS Cervenica-Dubn 14.29 343 *e*P **P** **15 00 44.0 -3.0**
CRVS Cervenica-Dubn 14.29 343 *e*Pn **P** **15 00 44.0 -3.0**
CRVS Cervenica-Dubn 14.29 343 *e*PN **P** **15 00 44.0 -3.0**
VISS Visnje 14.30 321 *i* Pn **Pn** **15 00 40.9 +0.8**
VISS *i* Sn **Sn** **15 03 14.0 -3.8**
VISS Visnje 14.30 321 *i* Pn **Pn** **15 00 40.9 +0.8**
KIV Kislovodsk 14.31 49 *i* P **P** **15 00 49.1 +1.8**
KIV *i* S S 15 03 28.7 -9.4
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,541nm,16.0s
KVAR Kislovodsk Arr 14.32 49 Pn **P** **15 00 45.9 -1.4**
baz=114,slow=4.2,SNR=5.9
KBZ Khabaz 14.32 50 Pn **P** **15 00 44.0 -3.2**
comp=Z,0.1nm,0.3s,baz=4.8,slow=24,SNR=3.4
CEY Cerknica 14.47 320 *e*Pn **Pn** **15 00 42.8 +0.3**
ZEI Tsey 14.53 55 *e*P **P** **15 00 50.4 +0.5**
ZEI pmax pmax
comp=Z,44nm,0.6s
LJU Ljubljana 14.62 321 *e*Pn **Pn** **15 00 44.9 +0.4**
VYHS Vyhne 14.68 336 *e*P **P** **15 00 49.4 -1.9**
VYHS Vyhne 14.68 336 *e*PN **P** **15 00 49.4 -1.9**
LVV L'vov 14.69 350 *e*P **Pn** **15 00 45.4 0.0**
LVV *e*S **Sn** **15 03 26.8 -0.4**
LVV MLR MLR
comp=N,400nm,13.0s
LVV MLR MLR
comp=E,800nm,13.0s
LVV MLR MLR
comp=Z,300nm,14.0s
JAVS Javornik 14.77 319 *i* Pn **Pn** **15 00 45.7 -0.8**
JAVS *i* Sn **Sn** **15 03 24.3 -5.0**
JAVS Javornik 14.77 319 *i* Pn **Pn** **15 00 45.7 -0.8**
GUDG Gudauri 14.79 56 P **P** **15 00 55.2 +2.4**
SOKA Soboth 14.81 324 *i* Pn **Pn** **15 00 48.4 +1.3**
comp=Z,9.7nm,0.8s
SOKA Soboth 14.81 324 Pn **Pn** **15 00 48.4 +1.3**
comp=Z,9.7nm,0.8s
OBKA Obir 14.93 322 *e*Pn **Pn** **15 00 49.7 +1.0**
comp=Z,9.5nm,0.7s
OBKA Obir 14.93 322 Pn **Pn** **15 00 49.7 +1.0**
comp=Z,9.5nm,0.7s
ARSA Arzberg 14.99 326 *i* P **Pn** **15 00 51.7 +2.2**
comp=Z,4.1nm,0.7s
KEST Kesra 15.01 277 Pn **Pn** **15 00 47.8 -2.1**
comp=Z,0.3nm,0.3s,baz=58,slow=9.5,SNR=4.7
KEST Kesra 15.01 277 *e*Pn **Pn** **15 00 50.5 +0.6**
KEST Kesra 15.01 277 *e*Pn **Pn** **15 00 50.5 +0.6**
LANS Liptovska Anna 15.06 339 *e*P **P** **15 00 56.7 +1.2**
LANS Liptovska Anna 15.06 339 *e*PN **P** **15 00 56.7 +1.2**
KIEV Kiev 15.35 3⇓*e*P **Pn** **15 00 55.1 +1.0**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
KIEV Kiev 15.35 3 *e*Pn **Pn** **15 00 55.3 +1.2**
comp=Z,11nm,0.8s
KIEV Kiev 15.35 3 *e*Pn **Pn** **15 00 55.3 +1.2**
comp=Z,11nm,0.8s
AKASG Malin Array Be 15.35 3 Pn **Pn** **15 00 52.6 -1.6**
comp=Z,1.7nm,0.3s,baz=196,slow=11,SNR=13
AKASG LR LR 15 07 22.0
comp=Z,369nm,20.3s,baz=190,slow=40
AKASG Malin Array Be 15.35 3*c**e*P **Pn** **15 00 55.9 +1.7**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
CONA Conrad Observa 15.36 328 *i* P **P** **15 00 58.3 -0.5**
comp=Z,1.6nm,0.6s
CONA Conrad Observa 15.36 328 P **P** **15 00 58.3 -0.5**
comp=Z,1.6nm,0.6s
KBA Koelnbreinsper 15.92 322 *i* Pn **Pn** **15 01 01.5 -0.3**
comp=Z,21nm,0.8s
KBA Koelnbreinsper 15.92 322 Pn **Pn** **15 01 01.5 -0.3**
comp=Z,21nm,0.8s
MOA Moln 16.01 325 *i* P **Pn** **15 01 03.7 +1.0**
comp=Z,5.7nm,0.8s
MOA Moln 16.01 325 P **Pn** **15 01 03.7 +1.0**
comp=Z,5.7nm,0.8s
OKC Ostrava-Krasne 16.07 337 *e*P **P** **15 01 07.4 +0.7**
OKC AMS AMS 15 07 50.0
comp=Z,700nm,11.2s
OKC Ostrava-Krasne 16.07 337 *e*P **P** **15 01 07.4 +0.7**
OKC MLR MLR
comp=Z,700nm,11.2s
OKC Ostrava-Krasne 16.07 337 P **P** **15 01 07.4 +0.7**
ABTA Abfaltersbach 16.14 319 *i* Pn **Pn** **15 01 03.3 -1.2**
comp=Z,13nm,0.7s
ABTA Abfaltersbach 16.14 319 Pn **Pn** **15 01 03.3 -1.2**
comp=Z,13nm,0.7s
VRAC Vranov 16.16 333 Pn **Pn** **15 01 04.8 +0.1**
comp=Z,0.6nm,0.3s,baz=148,slow=12,SNR=3.1
VRAC LR LR 15 08 00.5
comp=Z,453nm,19.0s,baz=146,slow=40
VRAC Vranov 16.16 333⇑*i*P **P** **15 01 07.5 -0.2**
VRAC Vranov 16.16 333⇑P **P** **15 01 07.5 -0.2**
VRAC Vranov 16.16 333⇑*i*P **P** **15 01 07.5 -0.2**
MORC Moravsky Berou 16.22 336⇓*i*P **P** **15 01 08.1 -0.3**
MORC Moravsky Berou 16.22 336⇓P **P** **15 01 08.1 -0.3**
MORC Moravsky Berou 16.22 336⇓*i*P **P** **15 01 08.1 -0.3**
TREC Trest 16.58 331 AMS AMS 15 08 40.0
comp=Z,600nm,8.5s
GEA0 GERESS Array S 16.99 327 *e*Pn **Pn** **15 01 15.4 +0.2**
GEA0 GERESS Array S 16.99 327 *e*Pn **Pn** **15 01 15.4 +0.2**
GEC2 GERESS Array S 16.99 327 *e*P **Pn** **15 01 15.0 -0.3**
GEC2 pmax pmax
comp=Z,21nm,1.1s
GEC2 GERESS Array S 16.99 327 *e*Pn **Pn** **15 01 15.0 -0.3**
comp=Z,21nm,1.1s
GEC2 GERESS Array S 16.99 327 *e*Pn **Pn** **15 01 15.0 -0.3**
comp=Z,21nm,1.1s
GERES GERESS Array B 16.99 327 Pn **Pn** **15 01 15.3 +0.1**
comp=Z,0.7nm,0.3s,baz=139,slow=12,SNR=28
GERES LR LR 15 08 22.8
comp=Z,232nm,19.8s,baz=136,slow=39
WATA Walderalm 17.01 320 *i* P **P** **15 01 16.3 -0.9**
comp=Z,29nm,1.1s
WATA Walderalm 17.01 320 P **P** **15 01 16.3 -0.9**
comp=Z,29nm,1.1s
DPC Dobruska-Polom 17.13 334 *e*P **P** **15 01 19.2 +0.8**
DPC *es*P **sP** **15 01 30.5 +1.6**
DPC AMS AMS 15 08 30.0
comp=Z,700nm,11.9s
DPC Dobruska-Polom 17.13 334 *e*P **P** **15 01 19.2 +0.8**
DPC MLR MLR
comp=Z,700nm,11.9s
DPC Dobruska-Polom 17.13 334 P **P** **15 01 19.2 +0.8**
KHC Kasperske Hory 17.26 327 *e*P **Pn** **15 01 18.6 +0.1**
KHC *ex* x 15 01 40.7
KHC AMS AMS 15 08 40.0
comp=Z,600nm,11.1s
KHC Kasperske Hory 17.26 327 *e*P **Pn** **15 01 18.6 +0.1**
KHC MLR MLR
comp=Z,600nm,11.1s
KHC Kasperske Hory 17.26 327 P **Pn** **15 01 18.6 +0.1**
KHC Kasperske Hory 17.26 327 *e*Pn **Pn** **15 01 18.6 +0.1**
comp=Z,10nm,0.9s
MOTA Moosalm 17.26 319 *i* Pn **P** **15 01 20.5 +0.4**
comp=Z,17nm,0.8s
MOTA Moosalm 17.26 319 P **P** **15 01 20.5 +0.4**
comp=Z,17nm,0.8s
FETA Feichten 17.27 318 *e*Pn **P** **15 01 20.4 +0.2**
comp=Z,32nm,0.8s
FETA Feichten 17.27 318 P **P** **15 01 20.4 +0.2**
comp=Z,32nm,0.8s
FUORN Ofenpass-Fuorn 17.30 316 *e*P **P** **15 01 21.0 +0.4**
comp=Z,30nm,1.1s
FUORN Ofenpass-Fuorn 17.30 316 *e*P **P** **15 01 21.0 +0.4**
comp=Z,30nm,1.1s
GOPC GO Pecny, Ondr 17.35 331 *e*P **P** **15 01 20.4 -0.4**
GOPC AMS AMS 15 09 00.0
comp=Z,600nm,9.9s
GOPC GO Pecny, Ondr 17.35 331 *e*P **P** **15 01 20.4 -0.4**
GOPC MLR MLR
comp=Z,600nm,9.9s
GOPC GO Pecny, Ondr 17.35 331 P **P** **15 01 20.4 -0.4**
UPC Upice 17.37 334 *e*P **P** **15 01 22.9 +1.9**
UPC *ep*P **pP** **15 01 27.8 -0.3**
UPC AMS AMS 15 08 40.0
comp=Z,800nm,13.7s
UPC Upice 17.37 334 *e*P **P** **15 01 22.9 +1.9**
UPC MLR MLR
comp=Z,800nm,13.7s
UPC Upice 17.37 334 P **P** **15 01 22.9 +1.9**
PRU Pruhonice 17.50 331 *e*P **P** **15 01 22.0 -0.5**
PRU *ep*P **pP** **15 01 25.5 -4.1**
PRU *es*P **sP** **15 01 33.7 +0.7**
PRU AMS AMS 15 08 50.0
comp=Z,800nm,12.2s
PRU Pruhonice 17.50 331 *e*P **P** **15 01 22.0 -0.5**
PRU MLR MLR
comp=Z,800nm,12.2s
PRU Pruhonice 17.50 331 P **P** **15 01 22.0 -0.5**
DAVOX Davos/Dischmat 17.61 316 P **Pn** **15 01 22.4 -0.7**
comp=Z,0.4nm,0.3s,baz=140,slow=15,SNR=3.9
DAVOX LR LR 15 08 33.8
comp=Z,711nm,20.7s,baz=112,slow=39
VSR Storozhevoye 17.84 24 *e*P **P** **15 01 27.0 +0.9**
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR MLR MLR
comp=Z,250nm,19.0s
DAVA Damuels 17.90 317 *i* P **Pn** **15 01 26.4 -0.2**
comp=Z,16nm,0.7s
DAVA Damuels 17.90 317 P **Pn** **15 01 26.4 -0.2**
comp=Z,16nm,0.7s
PVCC Panska Ves 17.92 332 *e*P **P** **15 01 29.5 +2.4**
PVCC Panska Ves 17.92 332 *e*P **P** **15 01 29.5 +2.4**
PVCC Panska Ves 17.92 332 P **P** **15 01 29.5 +2.4**
BRG Berggiesshubel 18.44 331 *e*P **P** **15 01 32.3 -0.5**
comp=Z,6.0nm,1.0s
BRG *e* 15 01 47.1
comp=Z,9.6nm,1.0s
BRG Berggiesshubel 18.44 331 *e*P **P** **15 01 32.3 -0.5**
BRG pmax pmax
comp=Z,10.0nm,1.0s
NKC Novy Kostel 18.57 328 *e*P **Pn** **15 01 35.8 +1.2**
NKC AMS AMS 15 09 30.0
comp=Z,700nm,11.0s
NKC Novy Kostel 18.57 328 *e*P **Pn** **15 01 35.8 +1.2**
NKC MLR MLR
comp=Z,700nm,11.0s
NKC Novy Kostel 18.57 328 P **Pn** **15 01 35.8 +1.2**
GRFO Grafenberg 18.74 325 *e*P **P** **15 01 35.4 -0.7**
GRFO pmax pmax
comp=Z,24nm,0.9s
GRFO Grafenberg 18.74 325 *e*P **P** **15 01 35.4 -0.7**
comp=Z,24nm,0.9s
GRFO Grafenberg 18.74 325 *e*P **P** **15 01 35.4 -0.7**
comp=Z,24nm,0.9s
VRH Novokhopyorsk 18.74 28 *e*P **P** **15 01 35.8 -0.3**
VRH pmax pmax
comp=Z,10.0nm,0.5s
VRH MLR MLR
comp=Z,360nm,18.0s
SENIN Lac Senin/Sane 18.92 312 *e*P **P** **15 01 36.7 -1.7**
comp=Z,29nm,0.8s
SENIN Lac Senin/Sane 18.92 312 *e*P **P** **15 01 36.7 -1.7**
comp=Z,29nm,0.8s
LPSR Galich'ya Gora 18.96 21 *e*P **Pn** **15 01 41.0 +1.8**
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR MLR MLR
comp=Z,230nm,22.0s
SPAK Spaichingen-Ko 18.97 318 *e*P **P** **15 01 37.8 -1.0**
CLL Collm 19.15 331 *i* P **P** **15 01 39.9 -0.7**
comp=Z,19nm,1.3s
CLL Collm 19.15 331 *i* P **P** **15 01 39.9 -0.7**
CLL pmax pmax
comp=Z,19nm,1.3s
CLL Collm 19.15 331 *e*P **P** **15 01 39.6 -1.0**
comp=Z,9.5nm,0.8s
CLL Collm 19.15 331 *e*P **P** **15 01 39.6 -1.0**
comp=Z,9.5nm,0.8s
BBS Basel-Blauen 19.34 315 *e*P **P** **15 01 42.1 -0.7**
BFO Black Forest 19.35 318 *e*P **P** **15 01 42.8 -0.1**
BFO pmax pmax
comp=Z,18nm,0.9s
BFO Black Forest 19.35 318 *e*P **P** **15 01 42.8 -0.1**
comp=Z,18nm,0.9s
BFO Black Forest 19.35 318 *e*P **P** **15 01 42.8 -0.1**
comp=Z,18nm,0.9s
LOMF Lomont 19.68 314 *e*P **Pn** **15 01 47.5 -0.6**
LOMF Lomont 19.68 314 *e*P **Pn** **15 01 47.5 -0.6**
MOF Molkenrain 19.76 315 *e*P **P** **15 01 47.5 +0.1**
MOF Molkenrain 19.76 315 *e*P **P** **15 01 47.5 +0.1**
ECH Echery 19.94 316 *e*P **Pn** **15 01 50.8 -0.3**
ECH Echery 19.94 316 *e*P **Pn** **15 01 50.8 -0.3**
LANF Langenberg 20.01 319 *e*P **Pn** **15 01 52.5 +0.6**
LANF Langenberg 20.01 319 *e*P **Pn** **15 01 52.5 +0.6**
KTD Kalmit 20.07 320 *e*P Pn 15 01 51.4 -1.1
OBN Obninsk 20.65 14 P **P** **15 01 56.5 -0.4**
comp=Z,24nm,0.4s,baz=118,slow=3.6,SNR=5.6
OBN Obninsk 20.65 14 *i* P **P** **15 01 56.2 -0.7**
OBN *i* 15 02 17.1
OBN *i* S **S** **15 05 45.1 -1.1**
OBN pmax pmax
comp=Z,11nm,0.8s
OBN MLR MLR
comp=Z,394nm,18.0s
RUP Ruppelstein 20.83 320 *e*P **P** **15 01 56.8 -2.2**
LBL Lubilhac 21.07 305 *e*P **P** **15 01 54.8 -6.8**
PLDF La Plantade 21.08 307 *e*P **P** **15 01 54.9 -6.8**
PYM Petit Puy Mans 21.40 306 *e*P **P** **15 01 59.0 -6.2**
AGO Saint Agoulin 21.43 307 *e*P **P** **15 01 56.0 -9.4**
MOS Moscow 21.46 15 *e*P **P** **15 02 03.6 -1.9**
MOS *e* 15 02 33.6
MOS *e*S **S** **15 06 00.5 -1.6**
MOS pmax pmax
comp=Z,27nm,1.1s
MEM Membach 21.91 321 P **P** **15 02 10.0 -0.5**
comp=Z,18nm,1.2s
MEM Membach 21.91 321 P **P** **15 02 10.0 -0.5**
comp=Z,18nm,1.2s
BCLA Clavier 22.17 320 P **P** **15 02 12.7 -0.6**
comp=Z,14nm,1.5s
BCLA Clavier 22.17 320 P **P** **15 02 12.6 -0.6**
comp=Z,14nm,1.5s

DOU	**Dourbes**	**22.37**	**318**	P		**P**	**15 02 16.5**	**+1.0**
DOU	**Dourbes**	**22.37**	**318**	P		**P**	**15 02 16.4**	**+1.0**
VSU	**Vasula**	**23.11**	**359**↑	*eP*		**P**	**15 02 23.4**	**+0.4**
VSU	comp=Z,53nm,2.1s			pmax	pmax			
GEYT	**Alibeck**	**24.43**	**75**	P		**P**	**15 02 36.8**	**+0.9**
GEYT	comp=Z,5.1nm,0.5s,baz=256,slow=11,SNR=14			LR	LR		15 14 40.8	
ES19	**SONSECA Array**	**25.41**	**289**	*eP*		**P**	**15 02 43.9**	**-1.0**
ES19	**SONSECA Array**	**25.41**	**289**	*eP*		**P**	**15 02 43.9**	**-1.0**
ESDC	**Sonseca Array**	**25.46**	**289**	P		**P**	**15 02 44.7**	**-0.6**
ESLA	comp=Z,13nm,0.6s,baz=80,slow=9.3,SNR=93 **Sonseca Array**	**25.46**	**289**	*eP*		**P**	**15 02 44.3**	**-1.0**
ESLA	comp=Z,17nm,0.8s **Sonseca Array**	**25.46**	**289**	*eP*		**P**	**15 02 44.3**	**-1.0**
PAB	comp=Z,17nm,0.8s **San Pablo**	**25.76**	**289**	*eP*		**P**	**15 02 47.6**	**-0.4**
PAB	comp=Z,14nm,0.8s			pmax	pmax			
PAB	**San Pablo**	**25.76**	**289**	*eP*		**P**	**15 02 47.6**	**-0.4**
PAB	comp=Z,14nm,0.8s **San Pablo**	**25.76**	**289**	*eP*		**P**	**15 02 47.6**	**-0.4**
FINES	comp=Z,14nm,0.8s **FINESS Array B**	**26.11**	**358**	P		**P**	**15 02 49.3**	**-1.5**
FINES	comp=Z,1.6nm,0.3s,baz=161,slow=11,SNR=22			LR	LR		15 13 50.7	
FINES	**FINESS Array B**	**26.11**	**358**	*i P*		**P**	**15 02 49.5**	**-1.3**
FINES	comp=Z,344nm,19.1s,baz=188,slow=38			pmax	pmax			
HFS	comp=Z,2.0nm,0.3s **Hagfors**	**26.40**	**344**	P		**P**	**15 02 51.7**	**-1.8**
HFS	comp=Z,2.2nm,0.3s,baz=154,slow=12,SNR=24			LR	LR		15 14 06.1	
AKTO	comp=Z,433nm,18.3s,baz=164,slow=38 **Aktyubinsk**	**26.55**	**46**	P		**P**	**15 02 55.2**	**+0.2**
AKTO	comp=Z,4.4nm,0.7s,baz=246,slow=7.5,SNR=15			LR	LR		15 17 27.6	
AKTO	comp=Z,244nm,18.1s,baz=241,slow=46 **Aktyubinsk**	**26.55**	**46**	P		**P**	**15 02 54.8**	**-0.2**
AKTO	comp=Z,14nm,0.9s			pmax	pmax			
KLMR	**Klimovskoe**	**26.59**	**13**	*eP*		**P**	**15 02 53.0**	**-2.2**
KLMR				*e*			15 03 34.8	
KLMR				*eS*		**S**	**15 07 27.9**	**-0.1**
KLMR	comp=Z,15nm,0.8s			pmax	pmax			
MDT	**Midelt**	**26.88**	**274**	P		**P**	**15 02 58.0**	**-0.2**
MDT	comp=Z,1.3nm,0.6s,baz=88,slow=13,SNR=3.7			LR	LR		15 14 35.8	
AB31	comp=Z,154nm,21.2s,baz=81,slow=39 **Akbulak array**	**27.30**	**50**	*eP*		**P**	**15 03 02.5**	**+0.8**
AB31	comp=Z,2.0nm,0.5s			pmax	pmax			
ABKAR	**Akbulak array**	**27.30**	**50**	*eP*		**P**	**15 03 02.6**	**+0.9**
ABKAR	**Akbulak array**	**27.30**	**50**	*eP*		**P**	**15 03 02.6**	**+0.9**
PBRG	**Braganca**	**27.60**	**294**	*eP*		**P**	**15 03 03.7**	**-0.9**
PBRG	comp=Z,24nm,1.4s **Braganca**	**27.60**	**294**	*eP*		**P**	**15 03 03.7**	**-0.9**
NAO01	**NORSAR Array S**	**27.69**	**342**	*eP*		**P**	**15 03 03.2**	**-1.9**
NC405	**NORSAR Array S**	**27.73**	**343**	*eP*		**P**	**15 03 03.1**	**-2.4**
NB2	**NORSAR Subarra**	**27.78**	**343**	P		**P**	**15 03 03.6**	**-2.4**
NOA	comp=Z,1.9nm,0.6s,baz=150,slow=9.3 **NORSAR Array B**	**27.78**	**343**	P		**P**	**15 03 03.6**	**-2.4**
NOA	comp=Z,3.8nm,0.9s,baz=151,slow=9.2,SNR=8.9			LR	LR		15 15 07.8	
NOA	comp=Z,217nm,19.7s,baz=160,slow=39 **NORSAR Array B**	**27.78**	**343**	P		**P**	**15 03 03.6**	**-2.4**
NOA	comp=Z,3.0nm,0.8s			pmax	pmax			
NOA				MLR	MLR			
MVO	comp=Z,217nm,19.7s **Moncorvo**	**27.80**	**293**	*eP*		**P**	**15 03 05.8**	**-0.6**
MVO	comp=Z,24nm,1.7s **Moncorvo**	**27.80**	**293**	*eP*		**P**	**15 03 05.8**	**-0.6**
NC303	**NORSAR Array S**	**27.91**	**343**	*eP*		**P**	**15 03 06.1**	**-1.0**
NC303	**NORSAR Array S**	**27.91**	**343**	*eP*		**P**	**15 03 06.0**	**-1.0**
PMRV	**Marv??o**	**28.12**	**289**	*eP*		**P**	**15 03 08.2**	**-1.0**
PMRV	**Marv??o**	**28.12**	**289**	*eP*		**P**	**15 03 08.2**	**-1.0**
MTE	**Manteigas**	**28.20**	**291**	*eP*		**P**	**15 03 09.4**	**-0.6**
MTE	comp=Z,24nm,2.0s **Manteigas**	**28.20**	**291**	*eP*		**P**	**15 03 09.4**	**-0.6**
PESTR	comp=Z,25nm,1.4s **Estremoz**	**28.30**	**288**	*eP*		**P**	**15 03 09.8**	**-1.1**
PESTR	**Estremoz**	**28.30**	**288**	*eP*		**P**	**15 03 09.8**	**-1.1**
PVRL	comp=Z,29nm,1.5s **Vila Real**	**28.32**	**293**	*eP*		**P**	**15 03 10.6**	**-0.4**
PVRL	**Vila Real**	**28.32**	**293**	*eP*		**P**	**15 03 10.6**	**-0.4**
POLO	**Lamas de Olo**	**28.38**	**293**	*eP*		**P**	**15 03 11.2**	**-0.4**
POLO	comp=Z,14nm,2.0s **Lamas de Olo**	**28.38**	**293**	*eP*		**P**	**15 03 11.2**	**-0.4**
PVIS	**Viseu**	**28.46**	**292**	*eP*		**P**	**15 03 11.9**	**-0.4**
PVIS	comp=Z,36nm,1.3s **Viseu**	**28.46**	**292**	*eP*		**P**	**15 03 11.9**	**-0.4**
PVAQ	comp=Z,29nm,1.6s **Vaqueiros**	**28.54**	**285**	*eP*		**P**	**15 03 12.1**	**-0.9**
PVAQ	**Vaqueiros**	**28.54**	**285**	*eP*		**P**	**15 03 12.1**	**-0.9**
PBDV	**Barranco-do-Ve**	**28.73**	**284**	*eP*		**P**	**15 03 14.2**	**-0.5**
PBDV	**Barranco-do-Ve**	**28.73**	**284**	*eP*		**P**	**15 03 14.2**	**-0.5**
EKA	**Eskdalemuir Ar**	**29.13**	**323**	P		**P**	**15 03 16.4**	**-1.5**
EKA	comp=Z,0.7nm,0.4s,baz=126,slow=9.7,SNR=8.5			ScP		**ScP**	**15 10 05.6**	**+0.7**
ARU	comp=Z,1.8nm,0.8s,baz=139,slow=4.0,SNR=3.6 **Arti**	**29.63**	**35***d*	*iP*		**P**	**15 03 22.2**	**-0.2**
ARU							15 04 18.4	
ARU				S		**S**	**15 08 19.7**	**+3.7**
ARU				SS		**SnSn**	**15 09 50.2**	**+4.7**
ARU	comp=Z,4.0nm,1.7s			pmax	pmax			
SVE	**Sverdlovsk**	**30.82**	**36**	*eP*		P	15 03 40.5	+7.6
TOA0	**Torodi Ar. Sit**	**32.30**	**233**	*eP*		**P**	**15 03 46.5**	**+0.2**
TOA0	comp=Z,18nm,1.0s **Torodi Ar. Sit**	**32.30**	**233**	*eP*		**P**	**15 03 46.5**	**+0.2**
TORD	comp=Z,18nm,1.0s **Torodi Ar. Bea**	**32.30**	**233**	P		**P**	**15 03 46.1**	**-0.2**
TORD	comp=Z,6.4nm,0.5s,baz=37,slow=8.3,SNR=62			ScP		**ScP**	**15 10 15.9**	**-0.1**
KK31	comp=Z,0.5nm,0.8s,baz=31,slow=3.5,SNR=3.6 **Karatay Array**	**33.69**	**64**	P		**P**	**15 03 59.6**	**+1.3**
KK31	comp=Z,2.0nm,0.5s			pmax	pmax			
KKAR	**Karatay Array**	**33.69**	**64**	*eP*		**P**	**15 03 59.3**	**+1.0**
KKAR	**Karatay Array**	**33.69**	**64**	*eP*		**P**	**15 03 59.3**	**+1.0**
ZRNK	**Zerenda**	**33.82**	**46**	*eP*		**P**	**15 03 59.8**	**+0.5**
ZRNK	comp=Z,8.0nm,0.9s			pmax	pmax			
ZRNK	**Zerenda**	**33.82**	**46**	*eP*		**P**	**15 03 59.8**	**+0.5**
ZRNK	comp=Z,8.0nm,0.9s **Zerenda**	**33.82**	**46**	*eP*		**P**	**15 03 59.8**	**+0.5**
ARCES	comp=Z,8.0nm,0.9s **ARCESS Array B**	**34.23**	**359**	P		**P**	**15 04 01.3**	**-1.3**
ARCES	comp=Z,1.7nm,0.6s,baz=176,slow=8.4,SNR=10			LR	LR		15 18 32.7	
BVAR	comp=Z,244nm,21.6s,baz=190,slow=37 **Borovoye Array**	**34.65**	**46**	P		**P**	**15 04 07.6**	**+1.1**
BVAR	comp=Z,0.9nm,0.6s,baz=272,slow=5.8,SNR=7.9			LR	LR		15 22 41.1	
OTUK	comp=Z,275nm,19.6s,baz=252,slow=44 **Ortayu**	**35.13**	**55**	P		**P**	**15 04 10.9**	**+0.2**
OTUK	comp=Z,8.0nm,1.0s			pmax	pmax			
AAK	**Ala-Archa**	**36.64**	**64**	P		**P**	**15 04 25.1**	**+1.2**
AAK	comp=Z,1.5nm,0.3s,baz=186,slow=6.4,SNR=2.8 **Ala-Archa**	**36.64**	**64**↓	*eP*		**P**	**15 04 25.2**	**+1.3**
FRU	comp=Z,7.0nm,1.0s **Bishkek**	**36.72**	**64**	*eP*		P	15 04 40.0	+16
FRU				*e*			15 04 47.0	
KMBO	**Kilima Mbogo**	**37.38**	**164**	LR		LR	15 21 49.6	
KSH	comp=Z,242nm,18.8s,baz=290,slow=39 **Kashi**	**38.13**	**69**	*eP*		**P**	**15 04 34.8**	**-1.7**
KSH				pP		pP	15 04 39.4	-4.9
KSH				PP		**PP**	**15 06 04.1**	**+0.4**
KSH				PcP		**PcP**	**15 06 51.1**	**+0.1**
KSH				S		**S**	**15 10 24.0**	**-4.1**
KSH				SS		**SnSn**	**15 13 00.1**	**-12**
KSH	**Kashi**	**38.13**	**69**	ScS		ScS	15 14 44.3	-2.3
KSH	comp=Z,4.0nm,0.3s			pmax	pmax			
KSH	comp=Z,87nm,4.5s			pmax	pmax			
KSH	comp=N,280nm,7.6s			LR	LR			
KSH	comp=E,120nm,7.3s			LR	LR			
KURBB	**Kurchatov Arra**	**39.32**	**51**	P		**P**	**15 04 46.8**	**+0.6**
KURK	comp=E,1.6nm,0.4s,baz=275,slow=8.8,SNR=12 **Kurchatov**	**39.38**	**51**	*eP*		**P**	**15 04 46.1**	**-0.5**
KURK	comp=Z,25nm,1.0s			pmax	pmax			
KURK	**Kurchatov**	**39.38**	**51**	*eP*		**P**	**15 04 46.1**	**-0.5**
KURK	comp=Z,25nm,1.0s **Kurchatov**	**39.38**	**51**	*eP*		**P**	**15 04 46.1**	**-0.5**
DBIC	comp=Z,25nm,1.0s **Dimbokro**	**41.40**	**234**	P		**P**	**15 05 03.5**	**-0.3**
DBIC	comp=Z,5.0nm,0.5s,baz=15,slow=8.4,SNR=9.3			LR	LR		15 25 04.4	
MK31	comp=Z,239nm,18.9s,baz=20,slow=40 **Makanchi Array**	**41.87**	**57**	*eP*		**P**	**15 05 08.0**	**+0.7**
MK31	comp=Z,9.0nm,1.1s			pmax	pmax			
MK31	**Makanchi Array**	**41.87**	**57**	*eP*		**P**	**15 05 07.7**	**+0.4**
MK31	**Makanchi Array**	**41.87**	**57**	*eP*		**P**	**15 05 07.7**	**+0.4**
MKAR	**Makanchi Array**	**41.87**	**57**	P		**P**	**15 05 08.1**	**+0.8**
MKAR	comp=Z,2.0nm,0.5s,baz=271,slow=7.9,SNR=44			ScP		**ScP**	**15 10 52.8**	**+1.5**
MKAR	comp=Z,0.8nm,0.9s,baz=293,slow=6.3,SNR=3.8			LR	LR		15 24 30.2	
MKAR	comp=Z,137nm,20.0s,baz=270,slow=39 **Makanchi Array**	**41.87**	**57**	*eP*		**P**	**15 05 07.7**	**+0.4**
MKAR	**Makanchi Array**	**41.87**	**57**	*eP*		**P**	**15 05 07.7**	**+0.4**
MKAR				ScP		**ScP**	**15 10 52.8**	**+1.5**
MK01	**Makanchi Array**	**41.88**	**57**	*eP*		**P**	**15 05 07.3**	**-0.1**
MK01	**Makanchi Array**	**41.88**	**57**	*eP*		**P**	**15 05 07.3**	**-0.1**
NVS	**Novosibirsk**	**42.42**	**45**	*eP*		**P**	**15 05 11.1**	**-0.5**
SPA0	**Spitsbergen Ar**	**43.18**	**357**	*eP*		**P**	**15 05 16.9**	**-0.7**
SPA0	**Spitsbergen Ar**	**43.18**	**357**	*eP*		**P**	**15 05 16.9**	**-0.7**
SPITS	**Spitsbergen Ar**	**43.18**	**357**	P		**P**	**15 05 16.6**	**-1.0**
ZAA0	comp=Z,1.5nm,0.4s,baz=157,slow=11,SNR=16 **Zalesovo Array**	**43.31**	**46**	*eP*		**P**	**15 05 17.1**	**-1.8**
ZALV	**Zalesovo Beam**	**43.31**	**46**	P		**P**	**15 05 18.6**	**-0.2**
ZALV	comp=Z,2.5nm,0.5s,baz=266,slow=8.6,SNR=12			LR	LR		15 27 19.2	
WMQ	comp=Z,177nm,21.6s,baz=252,slow=42 **Urumqi**	**46.04**	**60**	P		**P**	**15 05 43.4**	**+2.5**
WMQ				pP		pP	15 05 48.4	-0.5
WMQ				sP		sP	15 05 50.4	-1.6
NRIK	**Noril'sk**	**46.78**	**25**	P		**P**	**15 05 46.7**	**+0.5**
NRIK	comp=Z,2.0nm,0.4s,baz=62,slow=13,SNR=6.2			LR	LR		15 28 32.6	
PYUN	comp=Z,152nm,19.5s,baz=278,slow=40 **Piuthan**	**47.01**	**83**	*eP*		**P**	**15 05 50.3**	**+1.5**
KOLN	comp=Z,37nm,0.6s **Koldanda**	**47.63**	**83**	*eP*		**P**	**15 05 54.9**	**+1.2**
GKN	comp=Z,11nm,0.6s **Gorkha**	**48.38**	**82**	*eP*		**P**	**15 06 00.3**	**+0.9**
DMN	comp=Z,13nm,0.5s **Daman**	**48.92**	**82**	*eP*		**P**	**15 06 04.5**	**+0.8**
KKN	**Kakani**	**48.99**	**82**	*eP*		**P**	**15 06 04.5**	**+0.3**
PKIN	**Phulchoki**	**49.17**	**82**	*eP*		**P**	**15 06 06.3**	**+0.7**
ZAK	comp=Z,25nm,1.0s **Zakamensk**	**54.99**	**49**	*eP*		**P**	**15 06 48.9**	**+0.5**
ZAK	comp=Z,4.0nm,1.1s			pmax	pmax			
GTA	**Gaotai**	**55.97**	**63**	*eP*		**P**	**15 06 58.6**	**+2.9**
GTA				pP		pP	15 07 03.0	-0.8
GTA				sP		sP	15 07 06.5	-0.4
GTA	comp=Z,3.0nm,1.1s			pmax	pmax			
SONM	**Songino Array**	**57.69**	**51**	P		**P**	**15 07 08.9**	**+1.2**
ULN	comp=Z,1.3nm,0.6s,baz=286,slow=7.9,SNR=3.3 **Ulaanbaatar**	**58.10**	**51**↓	*eP*		**P**	**15 07 12.1**	**+1.5**
ULN	comp=Z,2.0nm,1.3s			pmax	pmax			
TIXI	**Tiksi**	**60.20**	**21**↑	*eP*		**P**	**15 07 26.2**	**+1.6**
TIXI	comp=Z,1.0nm,0.9s			pmax	pmax			
BOSA	**Boshof**	**63.69**	**182**	P		**P**	**15 07 49.5**	**+0.9**
HHC	comp=Z,5.6nm,0.9s,baz=5.4,slow=7.5,SNR=6.2 **Hu-ho-hao-te**	**63.73**	**57**	*eP*		**P**	**15 07 50.4**	**+1.4**
HHC				sP		pP	15 07 57.3	+0.1
HHC				S		**S**	**15 16 23.5**	**+1.4**
HHC				sS		sS	15 16 29.5	-6.1
HHC	comp=Z,22nm,1.0s			pmax	pmax			
HHC	comp=Z,84nm,7.5s			pmax	pmax			
HHC	comp=N,210nm,17.7s			LR	LR			
HHC	comp=E,120nm,18.8s			LR	LR			
HHC	comp=Z,78nm,15.3s			LR	LR			
KMI	**Kunming**	**64.18**	**77**	P		**P**	**15 07 52.8**	**+0.5**
KMI				pP		pP	15 07 57.8	-2.7
KMI				sP		sP	15 08 00.6	-3.1
KMI	comp=Z,6.0nm,1.3s			pmax	pmax			
KMI	comp=Z,92nm,35.7s			LR	LR			
SCHQ	**Schefferville**	**64.40**	**320**	P		**P**	**15 07 51.7**	**-1.3**
SCHQ	comp=Z,4.4nm,0.4s,baz=115,slow=3.3,SNR=3.4			LR	LR		15 35 42.3	
CMAR	comp=Z,71nm,20.3s,baz=86,slow=36 **Chiang Mai Arr**	**64.42**	**85**	P		**P**	**15 07 54.5**	**+0.8**
GYA	comp=Z,0.9nm,0.5s,baz=300,slow=6.6,SNR=4.8 **Guiyang**	**66.64**	**73**	*eP*		**P**	**15 08 09.0**	**+0.9**
GYA	comp=Z,10.0nm,1.0s			pmax	pmax			
KLR	**Kul'dur**	**72.19**	**42**	P		**P**	**15 08 42.3**	**+0.5**
BILL	comp=Z,1.0nm,0.5s,baz=296,slow=5.0,SNR=4.0 **Bilibino**	**72.31**	**15**	*i P*		**P**	**15 08 40.8**	**-1.5**
BILL				*i*			15 08 48.2	
BILL				*i*			15 08 58.5	
BILL				*i*			15 11 20.0	
BILL				*i S*		**SKSac**	**15 18 40.2**	**-4.5**
BILL	comp=Z,2.0nm,1.1s			pmax	pmax			
QIZ	**Qiongzhong**	**72.93**	**79**	P		**P**	**15 08 45.9**	**-0.9**
QIZ	comp=Z,18nm,1.7s			pmax	pmax			
USRK	**Ussuriysk Ar.**	**75.16**	**46**	P		**P**	**15 08 59.6**	**+0.2**
USRK	comp=Z,3.0nm,0.6s,baz=23,slow=6.3,SNR=6.1			LR	LR		15 45 34.0	
KSAR	comp=Z,55nm,18.3s,baz=298,slow=38 **Wonju Array Be**	**76.42**	**54**	P		**P**	**15 09 07.4**	**+0.7**
KSAR	**Wonju Array Be**	**76.42**	**54**	P		**P**	**15 09 07.4**	**+0.7**
KSRS	**Korea Array**	**76.44**	**54**	P		**P**	**15 09 07.4**	**+0.6**
KSRS	comp=Z,0.7nm,0.5s,baz=298,slow=4.6,SNR=6.0			LR	LR		15 46 23.8	
COLD	comp=Z,110nm,21.8s,baz=274,slow=38 **Coldfoot**	**77.70**	**359**	*eP*		**P**	**15 09 14.4**	**+1.0**
COLD	comp=Z,3.7nm,1.0s **Coldfoot**	**77.70**	**359**	*eP*		**P**	**15 09 14.4**	**+1.0**
YKA	comp=Z,3.7nm,1.0s **Yellowknife Ar**	**77.88**	**343**	P		**P**	**15 09 13.4**	**-1.0**
ILAR	comp=Z,1.2nm,0.6s,baz=28,slow=5.4,SNR=12 **Eielson Array**	**80.09**	**358**	P		**P**	**15 09 26.1**	**-0.4**
ILAR	comp=Z,0.5nm,0.6s,baz=341,slow=3.7,SNR=9.1			LR	LR		15 47 59.4	
ULM	comp=Z,46nm,18.8s,baz=25,slow=38 **Lac du Bonnet**	**81.30**	**327**	P		**P**	**15 09 32.3**	**-0.9**
ULM	comp=Z,2.9nm,0.4s,baz=54,slow=3.9,SNR=6.3			LR	LR		15 44 44.6	
PETK	comp=Z,134nm,21.4s,baz=26,slow=35 **Petropavlovsk-**	**81.74**	**28**	LR		LR	15 50 22.2	
PPLA	comp=Z,62nm,18.9s,baz=298,slow=39 **Purkeypile**	**82.06**	**360**	*eP*		**P**	**15 09 37.1**	**-0.1**
PPLA	comp=Z,10.0nm,1.0s **Purkeypile**	**82.06**	**360**	*eP*		**P**	**15 09 37.1**	**-0.1**
MJAR	comp=Z,10.0nm,1.0s **Matsushiro Arr**	**83.57**	**49**	P		**P**	**15 09 45.8**	**+0.3**
PDAR	comp=Z,1.0nm,0.9s,baz=314,slow=3.4,SNR=3.2 **Pinedale Array**	**93.01**	**330**	LR		LR	15 53 53.6	
WRA	comp=Z,43nm,20.1s,baz=44,slow=37 **Warramunga Arr**	**114.49**	**98**	PKP		PKPdf	15 15 57.3	-0.1
ASAR	comp=Z,0.4nm,0.8s,baz=316,slow=1.3,SNR=5.0 **Alice Springs**	**115.99**	**102**	PKP		**PKPdf**	**15 16 00.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=310,slow=1.7,SNR=8.8							

*CSEM **18** 15:02:39.7±0.1, 40.15N×27.70E, h5km, MD2.7, Error ellipse: s-maj=4.1km s-min=2.6km az=26.0*
*ISK **18** 15:02:39.0, 40.17N×27.68E, h6km, MD2.7*
*DDA **18** 15:02:40.0, 40.19N×27.72E, h7km, Md2.8*

ISC 18 15:02:39.9±1.0, 40.18N±0.03×27.70E±0.02, h9km±8km, n35, σ0.955/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNL	Bal¯–kesir	0.16	306	*i* P	Pg	15 02 43.1	-0.2
KNL				*i* S	Sg	15 02 46.4	+0.7
EDC	Edincik	0.21	37	*e*PG	Pg	15 02 44.0	-0.2
EDC				*e*SG	Sg	15 02 47.7	+0.5
EDC	Edincik	0.21	37	*e*Pg	Pg	15 02 44.1	-0.2
EDC				*e*Sg	Sg	15 02 47.7	+0.5
KRBG	Karabiga-Canak	0.38	306	*e*PG	Pg	15 02 46.6	-0.6
KRBG	Karabiga-Canak	0.38	306	*e*Pg	Pg	15 02 46.7	-0.6
MRMT	Marmara Adasi	0.43	350	*e*PG	Pg	15 02 48.2	-0.2
MRMT	Marmara Adasi	0.43	350	*e*Pg	Pg	15 02 48.2	-0.2
KCTX	Karacabey (Bur	0.51	80	*e*PG	Pg	15 02 49.4	-0.5
KCTX	Karacabey (Bur	0.51	80	*e*Pg	Pg	15 02 49.4	-0.5
BALB	Balikesir	0.55	165	*e*PG	Pg	15 02 50.0	-0.6
BALB	Balikesir	0.55	165	*e*Pg	Pg	15 02 50.0	-0.6
SART	Tekirdag	0.65	323	P	Pb	15 02 53.0	-0.5
SART				S	Sb	15 03 02.9	+0.3
SART	Tekirdag	0.65	323	*i* P	Pb	15 02 53.0	-0.5
SART				*i* S	Sb	15 03 02.9	+0.3
LPK	Lapseki	0.74	286	*e*PG	Pg	15 02 53.6	-0.6
LPK	Lapseki	0.74	286	*e*Pg	Pg	15 02 53.6	-0.6
MDNY	Mudanya-Bursa	0.93	78	*e*PG	Pg	15 02 57.5	-0.3
MDNY	Mudanya-Bursa	0.93	78	*e*Pg	Pg	15 02 57.5	-0.3
GELI	Tayfur-Gelibol	0.96	284	*e*PG	Pg	15 02 57.5	-0.9
GELI	Tayfur-Gelibol	0.96	284	*e*Pg	Pg	15 02 57.5	-0.9
ARMT	Armutlu	0.97	66	*e*PG	Pg	15 02 58.4	-0.2
ARMT	Armutlu	0.97	66	*e*Pg	Pg	15 02 58.4	-0.2
KESN	Edirne-Kesan	1.01	310	P	Pn	15 03 01.1	+0.4
KESN				S	Sn	15 03 14.8	-0.5
KESN	Edirne-Kesan	1.01	310	*i* P	Pn	15 03 01.1	+0.4
KESN				*i* S	Sn	15 03 14.8	-0.5
IGD	Bursa	1.16	85	*i* P	Pb	15 03 00.8	-1.3
IGD				*i* S	Sn	15 03 18.6	+0.4
BOZC	Bozcaada	1.31	256	*i* P	Pg	15 03 05.1	+0.2
BOZC				*i* S	Sn	15 03 23.9	+1.9
IZI	Iznik	1.37	83	*e*PN	Pn	15 03 05.6	+0.3
IZI	Iznik	1.37	83	*e*Pn	Pn	15 03 05.6	+0.3
DEMI	Demirci	1.38	145	P	Pb	15 03 06.0	+0.1
DEMI				S	Sb	15 03 23.7	0.0
DEMI	Demirci	1.38	145	*i* P	Pb	15 03 06.0	+0.1
DEMI				*i* S	Sb	15 03 23.7	0.0
GADA	Gvkgeada	1.38	271	*e*PN	Pn	15 03 05.3	-0.1
GADA	Gvkgeada	1.38	271	*e*Pn	Pn	15 03 05.3	-0.1
TVSB	Tavsanli	1.54	117	*e*PN	Pn	15 03 07.7	0.0
TVSB	Tavsanli	1.54	117	*e*Pn	Pn	15 03 07.7	0.0
CAVI	Cavuskoy	1.64	88	*e*PN	Pn	15 03 09.2	+0.2
CAVI	Cavuskoy	1.64	88	*e*Pn	Pn	15 03 09.3	+0.2

*NIED **18** 15:04:00, 37.90N×142.30E, h11km, Mw3.7 Best double couple: M0 3.70000×10^14 NP1:φs144.00000°, δ49.00000°, λ-140.00000°. NP2:φs25.00000°, δ61.00000°, λ-48.00000°.*
*ISCJB **18** 15:04:14.3±0.6, 37.94N±0.04×142.30E±0.06, h30km, mb3.8/9, Error ellipse: s-maj=7.3km s-min=5.8km az=167.9*
*JMA **18** 15:04:14.0±0.2, 37.92N×142.28E, h34km±2km, M4.1*
*IDC **18** 15:04:18.9±3.4, 37.89N×142.21E, h51km±28km, mb3.5/9, mb1 3.6/13, mb1mx3.4/46, mbtmp3.7/13, ML2.9/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/33, Error ellipse: s-maj=32.9km s-min=14.3km az=81.0*

ISC 18 15:04:16.9±0.9, 38.01N±0.05×142.20E±0.07, h30km, n30, σ1.852/30, mb3.9/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.81**	**304**	P	Pn	**15 04 30.7**	**-1.5**
JIO				S	Sb	**15 04 42.0**	**-1.0**
JMM	**Marumori**	**1.12**	**263**	P	Pn	**15 04 34.5**	**-2.0**
JMM				*e*S	Sn	**15 04 48.7**	**-2.3**
OFUJ	**Ofunato**	**1.15**	**339**	P	Pn	**15 04 35.4**	**-1.6**
JMK	**Ichinoseki**	**1.22**	**321**	P	Pn	**15 04 37.1**	**-0.8**
JFK	**Kawauchi**	**1.23**	**239**	P	Pn	**15 04 35.2**	**-2.9**
JOU	**Okura**	**1.27**	**287**	P	Pn	**15 04 37.8**	**-0.7**
JOU				S	Sn	**15 04 55.1**	**+0.6**
JFT	**Otama**	**1.56**	**252**	P	Pn	**15 04 41.2**	**-1.3**
JOM	**Ohasama**	**1.63**	**334**	P	Pn	**15 04 42.9**	**-0.6**
JYS	**Shirataka**	**1.70**	**278**	P	Pn	**15 04 43.9**	**-0.6**
JYK	**Kaneyama**	**1.71**	**303**	P	Pn	**15 04 44.1**	**-0.5**
JYK				S	Sb	**15 05 07.6**	**-1.2**
MJAR	**Matsushiro Arr**	**3.50**	**247**	P	Pn	**15 05 09.3**	**0.0**
MAT	1.8nm,0.3s,baz=82,slow=15,SNR=23 **Matsushiro**	**3.51**	**247**	P	Pn	**15 05 08.8**	**-0.5**
MAT				*e*S	Sn	**15 05 53.1**	**+3.3**
JHJ	**Hachijo jima 2**	**5.26**	**203**	P	Pn	**15 05 33.4**	**0.0**
JHJ	3.9nm,0.3s,baz=72,slow=20,SNR=2.3			S	Sn	**15 06 32.3**	**-0.7**
USRK	7.5nm,0.3s,baz=68,slow=19,SNR=2.6 **Ussuriysk Ar.**	**9.88**	**312**	P	Pn	**15 06 39.9**	**+3.1**
KSRS	0.3nm,0.3s,baz=137,slow=17,SNR=3.7 **Korea Array**	**11.33**	**272**	P	Pn	**15 06 59.4**	**+2.9**
KSRS	0.1nm,0.3s,baz=77,slow=13,SNR=4.4			LR	LR	15 10 58.4	
H11N2	comp=Z,26nm,18.5s,baz=325,slow=35 **WAKE ISLAND Hy**	**28.13**	**123**	T	T	15 39 15.1	
H11N1	baz=316,slow=75,SNR=150 **WAKE ISLAND Hy**	**28.14**	**123**	T	T	15 39 19.1	
H11N3	baz=316,slow=75,SNR=81 **WAKE ISLAND Hy**	**28.15**	**123**	T	T	15 39 19.8	
H11S1	baz=316,slow=75,SNR=81 **WAKE ISLAND Hy**	**28.88**	**125**	T	T	15 40 16.0	
H11S3	baz=317,slow=76,SNR=42 **WAKE ISLAND Hy**	**28.89**	**125**	T	T	15 40 16.6	
H11S2	baz=317,slow=76,SNR=48 **WAKE ISLAND Hy**	**28.90**	**125**	T	T	15 40 17.7	
ZALV	baz=317,slow=76,SNR=38 **Zalesovo Beam**	**41.73**	**312**	P	P	**15 12 02.5**	**-0.5**
MKAR	0.8nm,0.4s,baz=88,slow=7.6,SNR=5.9 **Makanchi Array**	**44.14**	**301**	P	P	**15 12 22.8**	**+0.2**
ILAR	0.4nm,0.7s,baz=87,slow=11,SNR=4.2 **Eielson Array**	**48.34**	**33**	P	P	**15 12 55.6**	**+0.3**
BVAR

PML	**Morne Lenard**	**1.62**	**160**	*e*P	Pn	15 07 44.4 +1.5
FDF	**Fort de France**	**1.67**	**159**	*e*P	Pn	15 07 44.2 +0.7
FDF				*e*S	Sn	15 08 08.3 +0.8
ZAM	**Aeronautique**	**1.86**	**158**	*e*P	Pn	15 07 46.3 +0.7
LPMF	**Morne Lapointe**	**1.89**	**156**	*e*P	Pn	15 07 46.6 +0.7
TRMF	**Trois Ilets**	**1.89**	**159**	*e*P	Pn	15 07 46.9 +1.0
SMRT	**St. Maarten**	**2.14**	**324**	*e*P	Pn	15 07 51.0 +2.2
SMRT				*e*S	Sn	15 08 16.6 -0.5

*CSEM **18** 15:08:58.9±0.2, 39.˚73N×27.˚50E, h5km, MD2.7, Error ellipse: s-maj=4.9km s-min=4.8km az=51.0*
*ISK **18** 15:08:58.6, 39.˚76N×27.˚52E, h10km, MD2.5*
*ATH **18** 15:08:59.9, 39.˚70N×27.˚44E, h12km±2km, ML2.2/3, Error ellipse: s-maj=3.9km s-min=1.7km az=277.0*
*DDA **18** 15:08:59.9, 39.˚77N×27.˚51E, h7km, Md2.7*
ISC 18 15:08:58.8±0.9, 39.˚74N±0.˚02×27.˚49E±0.˚02, h13km±7km, n49, σ1°16/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALY	**Balya**	**0.10**	**92**	P	**Pg**	**15 09 01.9**	**+0.1**
BALY	**Balya**	**0.10**	**92**	*i* P	**Pg**	**15 09 01.9**	**+0.1**
BALB	**Balíkesir**	**0.32**	**109**	*e*PG	**Pb**	**15 09 05.0**	**-1.3**
BALB				*e*SG	**Sb**	**15 09 09.6**	**-1.7**
BALB	**Balikesir**	**0.32**	**109**	*e*Pg	**Pb**	**15 09 05.0**	**-1.3**
BALB				*e*Sg	**Sb**	**15 09 09.6**	**-1.7**
GONE	**Gonen-Balikesi**	**0.34**	**26**	*e*PG	**Pg**	**15 09 05.2**	**-0.5**
GONE				*e*SG	**Sg**	**15 09 10.0**	**-0.3**
GONE	**Gonen-Balikesi**	**0.34**	**26**	*e*Pg	**Pg**	**15 09 05.2**	**-0.5**
GONE				*e*Sg	**Sg**	**15 09 10.0**	**-0.3**
KNL	**Bal¯kesir**	**0.53**	**3**	*i* P	**Pg**	**15 09 06.7**	**-2.4**
KNL				*i* S	**Sb**	**15 09 17.8**	**+0.3**
KRBG	**Karabiga-Canak**	**0.67**	**347**	*e*PG	**Pg**	**15 09 11.9**	**+0.1**
KRBG	**Karabiga-Canak**	**0.67**	**347**	*e*Pg	**Pg**	**15 09 11.9**	**+0.1**
AYVA	**Ayvalik**	**0.76**	**235**	*i* P	Pb	15 09 05.1	-8.7
AYVA				*i* S	**Sn**	**15 09 28.1**	**+1.6**
DKL	**Dikili**	**0.81**	**214**	*e*PG	**Pn**	**15 09 14.9**	**-1.0**
DKL	**Dikili**	**0.81**	**214**	*e*Pg	**Pn**	**15 09 14.9**	**-1.0**
KCTX	**Karacabey (Bur**	**0.84**	**52**	*e*PG	**Pb**	**15 09 14.4**	**-0.9**
KCTX	**Karacabey (Bur**	**0.84**	**52**	*e*Pg	**Pb**	**15 09 14.4**	**-0.9**
LPK	**Lapseki**	**0.84**	**318**	*e*PG	**Pb**	**15 09 15.2**	**-0.1**
LPK	**Lapseki**	**0.84**	**318**	*e*Pg	**Pb**	**15 09 15.2**	**-0.1**
MRMT	**Marmara Adasi**	**0.86**	**5**	*e*PG	**Pb**	**15 09 14.9**	**-0.8**
MRMT				*e*SG	**Sb**	**15 09 27.4**	**+0.2**
MRMT	**Marmara Adasi**	**0.86**	**5**	*e*Pg	**Pb**	**15 09 14.9**	**-0.8**
MRMT				*e*Sg	**Sb**	**15 09 27.4**	**+0.2**
SART	**Tekirdag**	**0.97**	**346**	P	**Pg**	**15 09 18.7**	**+1.1**
SART				S	**Sn**	**15 09 32.5**	**+0.5**
SART	**Tekirdag**	**0.97**	**346**	*i* P	**Pg**	**15 09 18.7**	**+1.1**
SART				*i* S	**Sn**	**15 09 32.5**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.02**	**310**	*e*PG	**Pn**	**15 09 18.6**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.02**	**310**	*e*Pg	**Pn**	**15 09 18.6**	**-0.2**
PRK	**Paraskevi**	**1.07**	**243**	P	**Pb**	**15 09 17.8**	**-1.3**
PRK	**Paraskevi**	**1.07**	**243**	P	**Pb**	**15 09 17.8**	**-1.3**
BOZC	**Bozcaada**	**1.11**	**276**	*i* P	**Pg**	**15 09 21.3**	**+1.0**
BOZC				*i* S	**Sg**	**15 09 37.4**	**+2.6**
DEMI	**Demirci**	**1.18**	**126**	P	**Pg**	**15 09 23.1**	**+1.6**
DEMI	**Demirci**	**1.18**	**126**	*i* P	**Pg**	**15 09 23.1**	**+1.6**
DEMI				*i* S	**Sg**	**15 09 41.7**	**+4.9**
ERIK	**Erikli-Kesan**	**1.19**	**321**	*e*PN	**Pg**	**15 09 21.9**	**+0.1**
ERIK	**Erikli-Kesan**	**1.19**	**321**	*e*Pn	**Pg**	**15 09 21.9**	**+0.1**
GADA	**Gvkgeada**	**1.30**	**291**	*e*PN	**Pg**	**15 09 23.5**	**-0.4**
GADA	**Gvkgeada**	**1.30**	**291**	*e*Pn	**Pg**	**15 09 23.5**	**-0.4**
ARMT	**Armutlu**	**1.33**	**51**	*e*PN	**Pb**	**15 09 23.4**	**-0.2**
ARMT	**Armutlu**	**1.33**	**51**	*e*Pn	**Pb**	**15 09 23.4**	**-0.2**
SIGR	**SIGRI**	**1.38**	**248**	*e*PN	**Pg**	**15 09 24.9**	**-0.3**
SIGR	**SIGRI**	**1.38**	**248**	*e*Pn	**Pg**	**15 09 24.9**	**-0.3**
SIGR				S	**Sg**	**15 09 42.8**	**-0.3**
SIGR	**SIGRI**	**1.38**	**248**	P	**Pg**	**15 09 25.0**	**-0.3**
SIGR				S	**Sg**	**15 09 42.8**	**-0.3**
SIGR				AML	AML	15 09 48.3	
	comp=N,154µm,0.6s						
SIGR				AML	AML	15 09 50.2	
	comp=E,162µm,0.6s						
TVSB	**Tavsanli**	**1.55**	**100**	*e*PN	**Pb**	**15 09 26.6**	**-0.8**
TVSB	**Tavsanli**	**1.55**	**100**	*e*Pn	**Pb**	**15 09 26.6**	**-0.8**
ALN	**Alexandroupoli**	**1.60**	**317**	*e*PN	**Pb**	**15 09 27.9**	**-0.3**
ALN	**Alexandroupoli**	**1.60**	**317**	*e*Pn	**Pb**	**15 09 27.9**	**-0.3**
ALN	**Alexandroupoli**	**1.60**	**317**	P	**Pg**	**15 09 30.1**	**+0.6**
ALN				S	**Sg**	**15 09 51.4**	**+1.1**
ALN	**Alexandroupoli**	**1.60**	**317**	P	**Pg**	**15 09 30.1**	**+0.6**
ALN				S	**Sg**	**15 09 51.4**	**+1.1**
ALN				AML	AML	15 09 54.1	
	comp=N,150µm,1.0s						
ALN				AML	AML	15 09 56.5	
	comp=E,69µm,0.5s						
SMTH	**Samothraki Isl**	**1.67**	**296**	P	**Pg**	**15 09 30.6**	**-0.3**
SMTH				S	**Sg**	**15 09 54.2**	**+1.6**
SMTH	**Samothraki Isl**	**1.67**	**296**	P	**Pg**	**15 09 30.6**	**-0.3**
SMTH				S	**Sg**	**15 09 54.2**	**+1.6**
SMTH				AML	AML	15 09 56.2	
	comp=E,117µm,0.6s						
SMTH				AML	AML	15 10 00.0	
	comp=N,159µm,0.6s						
CHOS	**Chios island**	**1.76**	**220**	*e*PN	**Pb**	**15 09 30.5**	**-0.4**
CHOS	**Chios island**	**1.76**	**220**	*e*Pn	**Pb**	**15 09 30.5**	**-0.4**
LIA	**Limnos Island**	**1.79**	**276**	P	**Pn**	**15 09 28.0**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**1.82**	**170**	*e*PN	**Pb**	**15 09 30.6**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**1.82**	**170**	*e*Pn	**Pb**	**15 09 30.6**	**-1.4**

*NNC **18** 15:15:33.5±3.2, 44.˚28N×81.˚12E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=43.2km s-min=7.7km az=132.0*
*SOME **18** 15:15:34.4, 44.˚12N×81.˚42E, h15km*
ISC 18 15:15:29.8±1.8, 44.˚11N±0.˚05×81.˚69E±0.˚07, h4km±14km, n19, σ1°07/34, 3C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.18**	**236**	*e*P	**Pn**	**15 15 53.0**	**-0.1**
	81nm,0.1s						
KTMS				*e*S	**Sb**	**15 16 07.0**	**-1.3**
	130nm,0.1s						
DJR	**Jarkent**	**1.38**	**280**	*e*P	**Pg**	**15 15 57.1**	**+0.8**
	59nm,0.2s						
DJR				⇓*i*S	**Sn**	**15 16 14.1**	**-0.5**
	223nm,0.3s						
SHLS	**Shalkode**	**1.62**	**235**	*e*P	**Pg**	**15 16 01.1**	**+0.2**
	83nm,0.1s						
SHLS				*e*S	**Sb**	**15 16 20.8**	**-0.5**
	256nm,0.4s						
KAPS	**Kapalarasan**	**2.03**	**306**	*e*P	**Pg**	**15 16 08.3**	**-0.5**
	15nm,0.2s						
KAPS				*e*S	**Sb**	**15 16 32.7**	**-0.3**
	167nm,0.5s						
UZB	**Uzynbulak**	**2.16**	**244**	*e*P	**Pg**	**15 16 10.7**	**-0.6**
	11nm,0.1s						
UZB				*e*S	**Sb**	**15 16 37.1**	**+0.3**
	35nm,0.1s						
KPKS	**Kokpek**	**2.27**	**254**	*e*P	**Pb**	**15 16 11.7**	**+0.3**
	105nm,0.1s						
KPKS				*e*S	**Sb**	**15 16 39.2**	**-0.6**
	253nm,0.3s						
TDK	**Taldyqorghan**	**2.51**	**292**	*e*P	**Pg**	**15 16 17.2**	**-0.7**
	21nm,0.4s						
TDK				*e*S	**Sb**	**15 16 47.8**	**+1.1**
	136nm,0.5s						
ZHN	**Zhinishke**	**2.54**	**249**	*e*P	**Pg**	**15 16 17.5**	**-1.1**
	11nm,0.1s						
ZHN				*e*S	**Sb**	**15 16 48.5**	**+0.8**
	116nm,0.2s						
SATY	**Saty**	**2.61**	**247**	*e*P	**Pb**	**15 16 17.9**	**+0.8**
	18nm,0.1s						
SATY				*e*S	**Sb**	**15 16 49.3**	**-0.2**
	120nm,0.1s						
KURS	**Kuram**	**2.62**	**257**	*e*P	**Pg**	**15 16 19.3**	**-0.8**
	3.3nm,0.5s						
KURS				*e*S	**Sb**	**15 16 51.2**	**+1.3**
	22nm,0.5s						
MAKZ	**Makanchi**	**2.70**	**4**	⇓Pg	**Pg**	**15 16 21.5**	**-0.1**
	0.8nm,0.4s						
MAKZ				⇑Lg	Lg	15 16 56.9	
	6.0nm,0.6s						
MK31	**Makanchi Array**	**2.71**	**9**	⇑Pg	**Pg**	**15 16 21.5**	**-0.3**
	0.4nm,0.2s,baz=204,slow=15,SNR=65						
MK31				⇓Lg	Lg	15 16 56.0	
	7.1nm,0.5s,baz=194,slow=26,SNR=21						
ARXS	**Arharly**	**2.78**	**273**	*e*P	**Pb**	**15 16 19.4**	**-0.7**
	11nm,0.2s						
ARXS				*e*S	**Sb**	**15 16 51.5**	**-2.9**
	85nm,0.4s						
CHKK	**Chushkaly**	**3.39**	**268**	*e*P	**Pb**	**15 16 32.1**	**+1.7**
	16nm,0.4s						
CHKK				*e*S	**Sb**	**15 17 12.9**	**+0.9**
	66nm,0.3s						
MDOK	**Medeo**	**3.50**	**256**	*e*P	**Pb**	**15 16 33.8**	**+1.4**
	5.6nm,0.4s						
MDOK				*e*S	**Sb**	**15 17 16.5**	**+1.2**
	14nm,0.5s						
KUU	**Kurty**	**3.87**	**269**	*e*P	**Pb**	**15 16 39.2**	**+0.7**
	6.3nm,0.9s						
KUU				*e*S	**Sb**	**15 17 25.8**	**+0.1**
	28nm,0.4s						
KST	**Kastek**	**4.29**	**258**	*e*P	**Pg**	**15 16 51.9**	**-0.2**
	2.7nm,0.5s						
KST				⇓*i*S	**Sg**	**15 17 47.7**	**-0.1**
	14nm,0.8s						
TKM2	**Tokmak 2**	**4.59**	**257**	⇑Pg	**Pb**	**15 16 49.3**	**-1.6**
	3.5nm,0.6s						
TKM2				⇓Lg	Lg	15 17 47.7	
	6.9nm,0.6s						
AAK	**Ala-Archa**	**5.45**	**257**	⇓Pg	**Pb**	**15 17 07.6**	**+2.0**
	2.5nm,0.6s						
AAK				⇓Lg	Lg	15 18 18.1	
	4.1nm,0.6s						

*GUC **18** 15:21:58.0±0.7, 34.˚19S×72.˚27W, h35km±4km, ML3.6*
ISC 18 15:21:57.3±3.5, 34.˚23S±0.˚06×72.˚2W±0.˚1, h7km±19km, n14, σ1°31/21, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.13**	**133**	*i* S	**Sg**	**15 22 34.3**	**+0.7**
TALC	**Talca**	**1.26**	**157**	*i* P	**Pn**	**15 22 21.3**	**0.0**
TALC				*i* S	**Sb**	**15 22 38.5**	**+0.6**
RCDM	**Rinconada Maip**	**1.40**	**58**	⇑*i*P	**Pn**	**15 22 22.0**	**-1.2**
RCDM				*i* S	**Sb**	**15 22 40.8**	**-0.9**
ANTU	**Antumapu**	**1.48**	**64**	*i* S	**Sn**	**15 22 43.5**	**-0.6**
ANTU				IAML		15 22 49.3	
	comp=N,1µm,0.4s						
ROC1	**El Roble**	**1.61**	**39**	*e*P	**Pn**	**15 22 26.0**	**-0.4**
ROC1				*e*S	**Sn**	**15 22 47.6**	**+0.1**
ROCH	**El Roble**	**1.61**	**39**	*e*P	**Pn**	**15 22 25.8**	**-0.6**
ROCH				IAML		15 22 57.5	
	comp=E,841nm,0.5s						
CLCH	**Cerro Calan**	**1.64**	**60**	⇓*i*P	**Pn**	**15 22 26.2**	**-0.4**
CLCH				*i* S	**Sn**	**15 22 47.8**	**-0.1**
CLCH				IAML		15 22 54.3	
	comp=E,1µm,0.7s						
PEL	**Peldehue**	**1.68**	**50**	⇓*i*P	**Pn**	**15 22 26.3**	**-0.9**
PEL				*i* S	**Sn**	**15 22 48.8**	**-0.2**
PEL				IAML		15 22 56.9	
	comp=E,708nm,0.4s						
FCH	**Farellones**	**1.85**	**61**	⇓*i*P	**Pn**	**15 22 29.7**	**0.0**
FCH				*i* S	**Sn**	**15 22 53.2**	**-0.3**
FCH				IAML		15 22 58.8	
	comp=N,962nm,0.3s						
ARCO	**CERRO ARCO**	**3.08**	**64**	*e*P	**Pb**	**15 22 52.5**	**0.0**
ARCO				IAML		15 22 59.0	
	comp=Z,95nm,0.8s						
ARCO				*e*S	**Sb**	**15 23 31.1**	**+0.6**
AUSP	**Uspallata**	**3.11**	**51**	*e*P	**Pn**	**15 22 50.3**	**+3.3**
AUSP				*e*S	**Sb**	**15 23 33.6**	**+2.2**
ASAL	**Salagasta**	**3.28**	**61**	*e*P	**Pb**	**15 22 53.6**	**-2.2**
RTLS	**Leoncito**	**3.46**	**46**	*e*P	**Pn**	**15 22 53.7**	**+1.8**
AVFE	**Valle Fertil**	**5.38**	**50**	IAML		15 24 07.1	
	comp=Z,21nm,0.5s						

*DDA **18** 15:41:53.8, 35.˚43N×27.˚77E, h6km, Ml3.9*
*ISK **18** 15:41:54.4, 35.˚34N×27.˚74E, h7km, MD3.2*
*ISCJB **18** 15:41:54.8±1.0, 35.˚35N±0.˚04×27.˚75E±0.˚03, h8km±7km, Error ellipse: s-maj=7.3km s-min=4.6km az=169.7*
*CSEM **18** 15:41:55.8±0.3, 35.˚39N×27.˚72E, h10km, ML3.1, Error ellipse: s-maj=6.7km s-min=3.4km az=165.0*
*ATH **18** 15:41:55.7, 35.˚38N×27.˚69E, h28km±2km, ML3.0/2, Error ellipse: s-maj=5.9km s-min=1.4km az=331.0*
*THE **18** 15:41:56.7, 35.˚44N×27.˚66E, h0km±1km, ML3.1/5, Error ellipse: s-maj=3.4km s-min=1.0km az=145.0*
ISC 18 15:41:55.4±1.2, 35.˚37N±0.˚04×27.˚75E±0.˚02, h11km±9km, n66, σ0°97/92, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.51**	**290**	*e*PG	**Pg**	**15 42 05.0**	**-0.4**
KARP				*e*SG	**Sg**	**15 42 12.7**	**+0.6**
KARP	**Karpathos**	**0.51**	**290**	P	**Pg**	**15 42 05.3**	**0.0**
KARP				S	**Sg**	**15 42 12.9**	**+0.9**
KARP	**Karpathos**	**0.51**	**290**	*e*Pg	**Pg**	**15 42 05.0**	**-0.4**
KARP	**Karpathos**	**0.51**	**290**	P	**Pg**	**15 42 05.3**	**0.0**
KARP				S	**Sg**	**15 42 12.1**	**0.0**
KARP	**Karpathos**	**0.51**	**290**	P	**Pg**	**15 42 05.1**	**-0.2**
KARP				S	**Sg**	**15 42 12.1**	**0.0**
KARP				AML	AML	15 42 14.2	
	comp=N,6821µm,0.4s						
KARP				AML	AML	15 42 14.3	
	comp=E,6486µm,0.4s						
ARG	**Arkhangelos**	**0.90**	**20**	P	**Pb**	**15 42 13.6**	**+0.7**
ARG				S	**Sn**	**15 42 27.6**	**+0.8**
ARG	**Arkhangelos**	**0.90**	**20**	P	**Pb**	**15 42 13.6**	**+0.7**
ARG				S	**Sn**	**15 42 26.8**	**0.0**
ZKR	**Zakros**	**1.28**	**259**	P	**Pn**	**15 42 18.3**	**-0.9**
ZKR	**Zakros**	**1.28**	**259**	P	**Pn**	**15 42 18.3**	**-0.9**
ZKR	**Zakros**	**1.28**	**259**	P	**Pn**	**15 42 17.8**	**-1.4**
NIS1	**Nisyros Isl.**	**1.31**	**340**	*e*PN	**Pb**	**15 42 20.0**	**0.0**
NIS1	**Nisyros Isl.**	**1.31**	**340**	P	**Pn**	**15 42 19.3**	**-0.3**
NIS1				S	**Sg**	**15 42 37.5**	**-0.1**
NIS1	**Nisyros Isl.**	**1.31**	**340**	P	**Pn**	**15 42 19.3**	**-0.3**
NIS1	**Nisyros Isl.**	**1.31**	**340**	*e*Pn	**Pb**	**15 42 20.0**	**0.0**
NIS1				S	**Sg**	**15 42 37.5**	**-0.1**
NIS1	**Nisyros Isl.**	**1.31**	**340**	P	**Pn**	**15 42 19.3**	**-0.3**
DALY	**Dalyan (Mu˘la**	**1.62**	**27**	*e*PN	**Pn**	**15 42 24.6**	**+0.8**
DALY				*e*SN	**Sb**	**15 42 46.5**	**+0.9**
DALY	**Dalyan (Mu˘la**	**1.62**	**27**	*e*Pn	**Pn**	**15 42 24.6**	**+0.8**
DALY				*e*Sn	**Sb**	**15 42 46.5**	**+0.9**
TURN	**Turunc**	**1.65**	**25**	*i* P	**Pn**	**15 42 22.9**	**-1.3**
TURN				*i* S	**Sn**	**15 42 43.5**	**-1.9**
FETY	**Fethiye**	**1.66**	**40**	*e*PN	**Pn**	**15 42 25.1**	**+0.7**
FETY	**Fethiye**	**1.66**	**40**	P	**Pn**	**15 42 25.8**	**-0.2**
FETY	**Fethiye**	**1.66**	**40**	*e*Pn	**Pn**	**15 42 25.1**	**+0.7**
FETY	**Fethiye**	**1.66**	**40**	P	**Pb**	**15 42 25.8**	**-0.2**
KSL	**Kastellorizon**	**1.68**	**62**	P	**Pn**	**15 42 24.6**	**-0.1**
KSL				S	**Sb**	**15 42 47.5**	**0.0**
KSL	**Kastellorizon**	**1.68**	**62**	P	**Pn**	**15 42 24.6**	**-0.1**
KSL				S	**Sb**	**15 42 47.5**	**0.0**
KSL				AML	AML	15 42 51.1	
	comp=N,319µm,0.8s						
KSL				AML	AML	15 42 51.9	
	comp=E,668µm,0.5s						
BDRM	**Kayabasi**	**1.71**	**352**	P	**Pn**	**15 42 24.6**	**-0.5**
BDRM				S	**Sb**	**15 42 48.8**	**+0.6**
BDRM	**Kayabasi**	**1.71**	**352**	*i* P	**Pn**	**15 42 24.6**	**-0.5**
BDRM				*i* S	**Sb**	**15 42 48.8**	**+0.6**
BODT	**Bodrum**	**1.72**	**348**	*e*PN	**Pn**	**15 42 25.9**	**+0.6**
BODT	**Bodrum**	**1.72**	**348**	P	**Pn**	**15 42 25.1**	**-0.2**
BODT				S	**Sn**	**15 42 47.3**	**0.0**
BODT	**Bodrum**	**1.72**	**348**	P	**Pn**	**15 42 25.1**	**-0.2**
BODT	**Bodrum**	**1.72**	**348**	*e*Pn	**Pn**	**15 42 25.9**	**+0.6**
BODT				S	**Sn**	**15 42 47.3**	**0.0**
AKAS	**Kas**	**1.74**	**60**	P	**Pn**	**15 42 26.5**	**+0.9**
AKAS				S	**Sb**	**15 42 49.1**	**-0.1**
AKAS	**Kas**	**1.74**	**60**	*i* P	**Pn**	**15 42 26.5**	**+0.9**
AKAS				*i* S	**Sb**	**15 42 49.1**	**-0.1**
NPS	**Neapolis**	**1.75**	**267**	P	**Pn**	**15 42 26.7**	**+1.0**
NPS	**Neapolis**	**1.75**	**267**	P	**Pn**	**15 42 26.7**	**+1.0**
NPS	**Neapolis**	**1.75**	**267**	P	**Pb**	**15 42 27.7**	**+0.2**
YER	**Yerkesik**	**1.81**	**14**	*e*PN	**Pn**	**15 42 27.6**	**+1.1**
YER	**Yerkesik**	**1.81**	**14**	*e*Pn	**Pn**	**15 42 27.6**	**+1.1**
LAST	**Lasithi**	**1.87**	**264**	P	**Pn**	**15 42 28.2**	**+0.8**
LAST				S	**Sn**	**15 42 51.5**	**+0.5**
LAST	**Lasithi**	**1.87**	**264**	P	**Pn**	**15 42 28.2**	**+0.8**
LAST				S	**Sn**	**15 42 51.5**	**+0.5**
LAST	**Lasithi**	**1.87**	**264**	P	**Pb**	**15 42 28.7**	**-0.9**
ELL	**Elmali**	**2.22**	**51**	*e*PN	**Pn**	**15 42 33.0**	**+0.7**
ELL	**Elmali**	**2.22**	**51**	*e*Pn	**Pn**	**15 42 33.0**	**+0.7**
GLHS	**Glhisar (BURDU**	**2.27**	**38**	*e*PN	**Pn**	**15 42 33.8**	**+0.8**
GLHS	**Glhisar (BURDU**	**2.27**	**38**	*e*Pn	**Pn**	**15 42 33.8**	**+0.8**
IDI	**Anoyia**	**2.34**	**269**	P	**Pn**	**15 42 34.2**	**+0.4**
IDI	**Anoyia**	**2.34**	**269**	P	**Pn**	**15 42 34.6**	**+0.8**
IDI	**Anoyia**	**2.34**	**269**	P	**Pn**	**15 42 34.6**	**+0.8**
GOLH	**Golhisar**	**2.37**	**38**	P	**Pn**	**15 42 35.7**	**+1.5**
GOLH	**Golhisar**	**2.37**	**38**	*i* P	**Pn**	**15 42 35.7**	**+1.5**
SMG	**Samos**	**2.44**	**343**	P	**Pn**	**15 42 33.7**	**-1.5**
SMG	**Samos**	**2.44**	**343**	P	**Pn**	**15 42 33.7**	**-1.5**
APE	**Apeiranthos**	**2.47**	**314**	*e*PN	**Pn**	**15 42 36.6**	**+1.1**
APE	**Apeiranthos**	**2.47**	**314**	*e*Pn	**Pn**	**15 42 36.6**	**+1.1**
DNZL	**Cakiroluk**	**2.54**	**24**	P	**Pn**	**15 42 36.5**	**-0.2**
DNZL	**Cakiroluk**	**2.54**	**24**	*i* P	**Pn**	**15 42 36.5**	**-0.2**
DNZL				*i* S	**Sg**	**15 43 15.7**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**2.57**	**3**	*e*PN	**Pn**	**15 42 36.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**2.57**	**3**	*e*Pn	**Pn**	**15 42 36.9**	**-0.1**
IMMV	**Iera Moni Meta**	**3.08**	**273**	P	**Pn**	**15 42 44.9**	**+1.0**
IMMV	**Iera Moni Meta**	**3.08**	**273**	P	**Pn**	**15 42 44.9**	**+1.0**
IMMV	**Iera Moni Meta**	**3.08**	**273**	P	**Pn**	**15 42 45.6**	**+1.7**
URLA	**Izmir**	**3.12**	**343**	P	**Pn**	**15 42 44.5**	**0.0**
URLA	**Izmir**	**3.12**	**343**	*i* P	**Pn**	**15 42 44.5**	**0.0**
GAZI	**Gazipasa**	**3.81**	**76**	P	**Pn**	**15 42 53.5**	**-0.5**
GAZI				S	**Sn**	**15 43 36.0**	**-2.8**
GAZI	**Gazipasa**	**3.81**	**76**	*i* P	**Pn**	**15 42 53.5**	**-0.5**
GAZI				*i* S	**Sn**	**15 43 36.0**	**-2.8**
ERMK	**Ermenek**	**4.37**	**72**	P	**Pn**	**15 43 05.0**	**+3.1**
ERMK				S	**Sn**	**15 43 52.9**	**-0.1**
ERMK	**Ermenek**	**4.37**	**72**	*i* P	**Pn**	**15 43 05.0**	**+3.1**
ERMK				*i* S	**Sn**	**15 43 52.9**	**-0.1**

*IDC **18** 15:42:07.2±2.5, 8.˚97S×112.˚81E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/40, mbtmp3.5/3, MS3.9/1, Ms1 3.9/1, ms1mx2.7/35, Error ellipse: s-maj=139.8km s-min=25.0km az=48.0*
*DJA **18** 15:42:13.0±0.8, 9.˚5S×114.˚3E, h10km±7km, M4.4/12, mB5.1/1, mb5.0/2, MLv4.0/12, Mw(mB)4.5/1*
*ISCJB **18** 15:42:14.1±0.6, 8.˚88S±0.˚07×113.˚03E±0.˚04, h63km, mb3.5/3, Error ellipse: s-maj=9.8km s-min=5.0km az=0.8*
ISC 18 15:42:15.5±1.1, 8.˚8S±0.˚1×113.˚04E±0.˚04, h63km, n18, σ1°48/21, mb3.5/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**0.68**	**37**	P	**Pn**	**15 42 28.2**	**-1.5**
GMJI				S	**Sn**	**15 42 38.1**	**-1.9**
JAGI	**Jajag, Banyuwa**	**1.16**	**73**	P	**Pn**	**15 42 34.3**	**-1.5**
JAGI				S	**Sn**	**15 42 49.2**	**-1.6**
BLJI	**Banyuglugur**	**1.20**	**27**	P	**Pn**	**15 42 37.3**	**+1.0**
BLJI				S	**Sn**	**15 42 54.2**	**+2.4**
PWJI	**Pagerwojo**	**1.45**	**303**	P	**Pn**	**15 42 37.9**	**-1.8**
PWJI				S	**Sn**	**15 42 58.8**	**+1.0**
ABJI	**Asem Bagus**	**1.56**	**50**	P	**Pn**	**15 42 42.5**	**+1.4**
PCJI	**Pacitan**	**1.94**	**288**	P	**Pn**	**15 42 46.0**	**-0.2**
NGJI	**Ngawi**	**2.12**	**313**	P	**Pn**	**15 42 45.4**	**-3.3**
SRBI	**Singaraja**	**2.27**	**71**	P	**Pn**	**15 42 50.9**	**+0.1**
UGM	**Wanagama**	**2.64**	**290**	P	**Pn**	**15 42 56.5**	**+0.6**
TWSI	**Taliwang, Sumb**	**3.80**	**89**	P	**Pn**	**15 43 11.5**	**-0.2**
KPJI	**Karang Pucung**	**4.32**	**290**	P	**Pn**	**15 43 20.3**	**+1.5**
PLAI	**Plampang**	**4.69**	**90**	P	**Pn**	**15 43 24.6**	**+0.8**
CISI	**Cisompet, Garu**	**5.32**	**283**	P	**Pn**	**15 43 31.9**	**-0.6**
CNJI	**Cibinong**	**6.04**	**284**	P	**Pn**	**15 43 41.7**	**-0.6**
WRA	**Warramunga Arr**	**23.38**	**121**	P	**P**	**15 47 18.1**	**-0.8**
	1.1nm,0.5s,baz=294,slow=12,SNR=14						
ASAR	**Alice Springs**	**24.83**	**129**	P	**P**	**15 47 32.8**	**+0.6**
	0.7nm,0.4s,baz=304,slow=9.0,SNR=36						
JCJ	**Chichijima**	**45.53**	**37**	LR	LR	16 08 07.9	
	comp=Z,139nm,21.1s,baz=126,slow=34						
MKAR	**Makanchi Array**	**61.77**	**337**	P	**P**	**15 52 28.1**	**+0.5**
	0.2nm,0.5s,baz=155,slow=6.1,SNR=4.0						

*IDC **18** 15:48:30.3±0.5, 5.˚84S×151.˚30E, h0km, mb4.4/24, mb1 4.6/24, mb1mx4.5/42, mbtmp

HTT	**Hallett**	**29.68**	**201**	P	**P**	**15 54 38.5**	**-0.4**
	baz=30,SNR=9.3						
KAPI	**Kappang**	**31.39**	**270**	LR	LR	16 07 59.3	
	comp=Z,58nm,21.4s,baz=72,slow=37						
ARPS	**Mount Arapiles**	**31.90**	**194**	P	**P**	**15 54 58.1**	**-0.2**
	baz=32,SNR=5.9						
JAGI	**Jajag, Banyuwa**	**36.91**	**264**	*eP*	**P**	**15 55 38.8**	**-3.2**
	59nm,0.7s						
GIRL	**Giralia**	**39.40**	**241**	P	**P**	**15 56 03.7**	**+0.8**
	baz=39,SNR=4.4						
URZ	**Urewera**	**39.83**	**148**	LR	LR	16 11 25.0	
	comp=Z,82nm,18.9s,baz=7.5,slow=34						
KLBR	**Kellerberrin**	**40.44**	**227**	P	**P**	**15 56 10.6**	**-0.9**
	baz=40,SNR=13						
MORW	**Morawa**	**40.47**	**231**	P	**P**	**15 56 11.3**	**-0.4**
	baz=40,SNR=12						
BLDU	**Ballidu**	**40.70**	**229**	P	**P**	**15 56 13.0**	**-0.7**
	baz=41,SNR=9.5						
YULB	**Yu-li**	**41.30**	**316**	*eP*	**P**	**15 56 17.5**	**-1.2**
	17nm,0.7s						
RPZ	**Rata Peaks**	**41.47**	**158**	P	**P**	**15 56 20.4**	**+0.7**
	14nm,0.9s,baz=356,slow=1.5,SNR=5.1						
TPUB	**Ta-pu**	**41.71**	**315**	*eP*	**P**	**15 56 20.5**	**-1.5**
	19nm,0.5s						
SSLB	**Suanglung**	**41.80**	**316**	*eP*	**P**	**15 56 22.3**	**-0.4**
	10nm,0.7s						
KPJI	**Karang Pucung**	**42.07**	**266**	P	**P**	**15 56 26.3**	**+1.2**
YHNB	**Yeheng**	**42.10**	**317**	*eP*	**P**	**15 56 26.2**	**+1.0**
	37nm,0.9s						
CISI	**Cisompet, Garu**	**43.18**	**265**	P	**P**	**15 56 34.3**	**+0.1**
CISI	**Cisompet, Garu**	**43.18**	**265**	*eP*	**P**	**15 56 31.8**	**-2.4**
	125nm,0.6s						
JNU	**Nakatsue**	**43.39**	**335**	P	**P**	**15 56 35.2**	**-0.3**
	8.3nm,0.8s,baz=70,slow=1.2,SNR=5.0						
JNU	**Nakatsue**	**43.39**	**335**	*eP*	**P**	**15 56 34.9**	**-0.6**
	21nm,1.2s						
CNJI	**Cibinong**	**43.86**	**266**	P	**P**	**15 56 39.5**	**-0.1**
MJAR	**Matsushiro Arr**	**43.98**	**345**	P	**P**	**15 56 38.8**	**-1.3**
	1.0nm,0.8s,baz=165,slow=9.6,SNR=4.5						
MJAR				LR	LR	16 14 46.7	
	comp=Z,75nm,18.1s,baz=190,slow=36						
CBJI	**Citeko**	**44.16**	**267**	P	**P**	**15 56 45.5**	**+3.5**
CGJI	**Cibinong**	**45.30**	**267**	P	**P**	**15 56 49.9**	**-1.2**
KASI	**Kota Agung**	**46.54**	**268**	P	**P**	**15 57 00.8**	**0.0**
QIZ	**Qiongzhong**	**47.75**	**302**	P	P	15 57 04.8	-5.4
QIZ				pP	pP	15 57 21.1	-0.8
QIZ				sP	sP	15 57 26.3	-0.4
QIZ				S	**S**	**16 04 03.8**	**-0.3**
QIZ				sS	sS	16 04 23.4	-0.1
QIZ				PMZ			
	18nm,1.7s						
KSRS	**Korea Array**	**48.34**	**335**	P	**P**	**15 57 14.6**	**+0.2**
	2.7nm,0.7s,baz=152,slow=8.8,SNR=14						
KSRS				LR	LR	16 16 05.1	
	comp=Z,47nm,21.2s,baz=107,slow=34						
KSAR	**Wonju Array Be**	**48.34**	**335**	P	**P**	**15 57 14.6**	**+0.1**
KS01	**Wonju Array Si**	**48.37**	**335**	*eP*	**P**	**15 57 14.6**	**0.0**
PPI	**Padang Panjang**	**51.06**	**274**	P	**P**	**15 57 35.2**	**-0.4**
	24nm,0.9s						
USRK	**Usuriysk Ar.**	**52.83**	**343**	P	**P**	**15 57 45.9**	**-2.3**
	2.0nm,0.8s,baz=119,slow=16,SNR=6.1						
GYA	**Guiyang**	**53.88**	**309**	*eP*	**P**	**15 57 58.0**	**+1.5**
GYA				pP	pP	15 58 10.5	+2.2
GYA				PP	**PP**	**16 00 01.4**	**+3.3**
GYA				ScP	**ScP**	**16 02 55.8**	**-0.9**
GYA				S	**S**	**16 05 28.0**	**-1.2**
GYA				sS	sS	16 05 50.5	+1.7
GYA				SS	**SS**	**16 09 09.3**	**-1.6**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			
	120nm,6.0s						
GYA				LN			
	460nm,19.8s						
GYA				LE			
	420nm,20.0s						
GYA				LZ			
	480nm,20.2s						
KMI	**Kunming**	**56.37**	**305**	P	**P**	**15 58 16.5**	**+2.0**
KMI				PMZ			
	6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**56.99**	**296**	P	**P**	**15 58 18.3**	**-0.5**
	0.7nm,0.6s,baz=112,slow=4.2,SNR=4.4						
CMAR				LR	LR	16 23 22.3	
	comp=Z,21nm,19.0s,baz=135,slow=37						
KLR	**Kul'dur**	**57.51**	**345**	P	**P**	**15 58 21.1**	**-0.7**
	1.9nm,0.8s,baz=148,slow=1.2,SNR=8.3						
CD2	**Chengdu**	**58.33**	**312**	*eP*	**P**	**15 58 27.8**	**-0.3**
CD2				pP	pP	15 58 40.8	+0.8
CD2				sP	sP	15 58 46.4	+1.7
CD2				PcS	**PcS**	**16 03 19.8**	**-0.7**
CD2				S	**S**	**16 06 27.8**	**-0.1**
CD2				sS	sS	16 06 50.1	+2.3
CD2				SS	**SS**	**16 10 21.8**	**+1.1**
CD2				PMZ			
	20nm,0.5s						
CD2				PMZ			
	220nm,5.2s						
CD2				LN			
	160nm,11.9s						
CD2				LE			
	210nm,19.4s						
CD2				LZ			
	260nm,15.4s						
PETK	**Petropavlovsk-**	**59.06**	**5**	P	**P**	**15 58 31.1**	**-1.5**
	3.7nm,0.7s,baz=164,slow=6.4,SNR=9.0						
PETK				LR	LR	16 20 33.5	
	comp=Z,57nm,21.1s,baz=170,slow=33						
HHC	**Hu-ho-hao-te**	**59.09**	**326**	*eP*	**P**	**15 58 35.8**	**+2.6**
HHC				pP	sP	15 58 48.8	-1.1
HHC				sP	pP	15 58 53.8	+8.6
HHC				S	**S**	**16 06 42.3**	**+4.7**
HHC				PMZ			
	16nm,1.0s						
HHC				PMZ			
	79nm,4.4s						
HHC				LN			
	110nm,16.2s						
HHC				LE			
	110nm,14.4s						
LZH	**Lanzhou**	**60.99**	**317**	*eP*	**P**	**15 58 48.4**	**+2.0**
LZH				pP	sP	15 59 02.5	-0.7
LZH				sP	pP	15 59 06.3	+7.9
LZH				PMZ			
	19nm,1.0s						
LZH				PMZ			
	110nm,4.4s						
SONM	**Songino Array**	**66.47**	**329**	P	**P**	**15 59 22.4**	**+0.1**
	1.4nm,0.5s,baz=123,slow=5.5,SNR=5.1						
SONM				LR	LR	16 28 07.6	
	comp=Z,87nm,20.9s,baz=238,slow=36						
CASY	**Casey**	**66.51**	**197**	*eP*	**P**	**15 59 21.6**	**-0.5**
	4.5nm,0.7s						
SEY	**Seymchan**	**68.66**	**1**	P	**P**	**15 59 34.9**	**-0.7**
	1.5nm,0.8s						
VNDA	**Vanda**	**71.78**	**178**	P	**P**	**15 59 54.6**	**+0.1**
	3.2nm,0.8s,baz=319,slow=7.3,SNR=18						
VNDA	**Vanda**	**71.78**	**178**	*eP*	**P**	**15 59 54.9**	**+0.4**
BILL	**Bilibino**	**74.55**	**6**	*eP*	**P**	**16 00 10.3**	**-0.6**
	2.2nm,0.7s						
WMQ	**Urumqi**	**75.54**	**318**	P	**P**	**16 00 17.8**	**+0.5**
WMQ				pP	PcP	16 00 31.3	+1.2
WMQ				sP	sP	16 00 36.3	+2.0
WMQ				PMZ			
	4.0nm,0.6s						
WMQ				PMZ			
	30nm,4.0s						
CNPM	**China Poot**	**79.38**	**26**	*eP*	**P**	**16 00 38.6**	**+0.3**
MK01	**Makanchi Array**	**80.16**	**319**	*eP*	**P**	**16 00 42.5**	**-0.4**
MK31	**Makanchi Array**	**80.17**	**319**	*eP*	**P**	**16 00 43.0**	**0.0**
MKAR	**Makanchi Array**	**80.17**	**319**	P	**P**	**16 00 42.5**	**-0.5**
	0.5nm,0.5s,baz=102,slow=6.7,SNR=9.5						
MKAR				LR	LR	16 35 07.1	
	comp=Z,21nm,19.5s,baz=130,slow=35						
MKAR	**Makanchi Array**	**80.17**	**319**	*eP*	**P**	**16 00 43.0**	**0.0**
MAKZ	**Makanchi**	**80.38**	**319**	*eP*	**P**	**16 00 43.7**	**-0.3**
ZALV	**Zalesovo Beam**	**81.24**	**327**	P	**P**	**16 00 46.5**	**-1.9**
	2.0nm,0.6s,baz=111,slow=5.8,SNR=6.9						
ZALV				LR	LR	16 37 33.1	
	comp=Z,40nm,19.9s,baz=70,slow=36						
TRF	**Thorofare Moun**	**81.81**	**23**	*eP*	**P**	**16 00 49.9**	**-1.5**
	2.3nm,0.7s						
RND	**Reindeer**	**82.34**	**23**	*eP*	**P**	**16 00 53.3**	**-0.9**
MLY	**Manley**	**82.47**	**21**	*eP*	**P**	**16 00 53.4**	**-1.4**
MCK	**McKinley**	**82.47**	**23**	*eP*	**P**	**16 00 53.5**	**-1.2**
	7.1nm,0.9s						
BWN	**Browne**	**82.49**	**22**	*eP*	**P**	**16 00 58.7**	**+3.8**
KSH	**Kashi**	**82.51**	**311**	*eP*	**P**	**16 00 56.9**	**+1.3**
KSH				pP	pP	16 01 09.6	+1.5
KSH				PP	**PP**	**16 04 08.4**	**+3.0**
KSH				S	**S**	**16 11 08.4**	**-1.4**
KSH				PMZ			
	2.0nm,0.3s						
KSH				PMZ			
	110nm,4.9s						
KSH				LN			
	320nm,11.9s						
KSH				LE			
	240nm,13.5s						
KLU	**Klutina**	**82.63**	**25**	*eP*	**P**	**16 00 58.0**	**+2.3**
WRH	**Wood River Hil**	**83.16**	**22**	*eP*	**P**	**16 00 57.1**	**-1.2**
CCB	**Clear Creek Bu**	**83.36**	**22**	*eP*	**P**	**16 00 57.8**	**-1.4**
KURK	**Kurchatov**	**83.72**	**322**	*eP*	**P**	**16 01 00.8**	**-0.6**
KURBB	**Kurchatov Arra**	**83.74**	**322**	P	**P**	**16 01 00.2**	**-1.3**
	1.7nm,0.8s,baz=111,slow=3.8,SNR=18						
ILAR	**Eielson Array**	**83.76**	**22**	P	**P**	**16 00 59.7**	**-1.6**
	5.1nm,0.6s,baz=246,slow=5.0,SNR=67						
ILAR				LR	LR	16 36 48.1	
	comp=Z,52nm,18.3s,baz=284,slow=35						
ILB	**Eielson Array**	**83.76**	**22**	*eP*	**P**	**16 00 59.8**	**-1.6**
IL1	**Eielson Array**	**83.76**	**22**	*eP*	**P**	**16 00 59.7**	**-1.7**
MAW	**Mawson**	**83.96**	**203**	P	**P**	**16 01 02.8**	**+0.5**
	5.2nm,0.6s,baz=94,slow=5.7,SNR=24						
MAW				LR	LR	16 38 01.5	
	comp=Z,55nm,18.1s,baz=62,slow=35						
MAW	**Mawson**	**83.96**	**203**	P	**P**	**16 01 02.7**	**+0.4**
	baz=84,SNR=12						
QSPA	**South Pole Qui**	**84.05**	**180**	*eP*	**P**	**16 01 03.4**	**+0.4**
MENT	**Mentasta**	**84.20**	**25**	*eP*	**P**	**16 01 03.8**	**+0.2**
AAK	**Ala-Archa**	**84.33**	**314**	P	**P**	**16 01 05.1**	**+0.1**
	1.8nm,0.4s,baz=178,slow=4.3,SNR=3.7						
DOT	**Dot Lake**	**84.36**	**24**	*eP*	**P**	**16 01 04.3**	**-0.2**
EGAK	**Eagle**	**85.98**	**23**	*eP*	**P**	**16 01 12.8**	**+0.3**
NRIK	**Noril'sk**	**86.53**	**341**	P	**P**	**16 01 13.7**	**-1.4**
	1.5nm,0.5s,baz=151,slow=4.4,SNR=5.6						
NRIK				LR	LR	16 41 22.6	
	comp=Z,20nm,18.7s,baz=129,slow=37						
KKAR	**Karatay Array**	**87.30**	**314**	*eP*	**P**	**16 01 18.4**	**-1.1**
INK	**Inuvik**	**90.04**	**21**	P	**P**	**16 01 31.6**	**-0.2**
	1.5nm,0.5s,baz=341,slow=3.7,SNR=5.7						
HUMO	**Hull Mountain**	**90.86**	**47**	*eP*	**P**	**16 01 37.8**	**+1.6**
SYO	**Syowa Base**	**92.11**	**200**	*ieP*	**P**	**16 01 40.0**	**-1.5**
YKA	**Yellowknife Ar**	**97.12**	**28**	P	Pdif	16 02 04.6	+0.1
	0.5nm,0.5s,baz=269,slow=4.9,SNR=10						
PDAR	**Pinedale Array**	**100.72**	**48**	P	**Pdif**	**16 02 20.4**	**-1.1**
	0.7nm,0.5s,baz=217,slow=3.7,SNR=4.8						
ARCES	**ARCESS Array B**	**107.48**	**343**	PKiKP	**PKiKP**	**16 06 58.4**	**-0.3**
	1.0nm,0.5s,baz=112,slow=1.3,SNR=10						
FINES	**FINESS Array B**	**111.43**	**335**	PKiKP	**PKiKP**	**16 07 05.8**	**-0.5**
	1.7nm,0.7s,baz=48,slow=2.1,SNR=8.8						
AKASG	**Malin Array Be**	**114.50**	**324**	PKP	PKPdf	16 07 11.4	-1.0
	1.6nm,0.5s,baz=65,slow=2.2,SNR=7.3						
BRTR	**Keskin Array B**	**114.90**	**311**	PKiKP	**PKiKP**	**16 07 13.0**	**-0.8**
	1.3nm,0.8s,baz=90,slow=1.4,SNR=7.7						
NB2	**NORSAR Subarra**	**117.43**	**339**	PKPdf	**PKPdf**	**16 07 17.1**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**117.43**	**339**	PKP	**PKPdf**	**16 07 17.1**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=47,slow=1.9,SNR=7.5						
KOLS	**Kolonicke sedl**	**119.33**	**324**	*e*PKP	**PKPdf**	**16 07 22.6**	**+0.8**
CRVS	**Cervenica-Dubn**	**119.82**	**324**	*e*PKP	**PKPdf**	**16 07 23.0**	**+0.2**
KECS	**Kecovo**	**120.59**	**324**	*e*PDIFF	**Pdif**	**16 03 46.5**	**-2.8**
LANS	**Liptovska Anna**	**120.84**	**325**	*e*PKP	**PKPdf**	**16 07 25.7**	**+0.9**
VYHS	**Vyhne**	**121.53**	**325**	*e*PKP	**PKPdf**	**16 07 26.1**	**0.0**
BRG	**Berggiesshubel**	**122.87**	**329**	*e*PKP	**PKPdf**	**16 07 28.6**	**0.0**
	comp=Z,5.4nm,0.9s						
CLL	**Collm**	**123.08**	**330**	*i* P	**PKPdf**	**16 07 29.0**	**+0.1**
	comp=Z,6.0nm,0.8s						
CONA	**Conrad Observa**	**123.52**	**326**	*i* PKiKP	**PKPdf**	**16 07 30.1**	**0.0**
	comp=Z,4.0nm,0.7s						
ARSA	**Arzberg**	**124.09**	**325**	*i* PKiKP	**PKPdf**	**16 07 30.8**	**-0.3**
	comp=Z,1.8nm,0.7s						
KHC	**Kasperske Hory**	**124.09**	**328**	*e*PKPdf	**PKPdf**	**16 07 31.0**	**0.0**
GERES	**GERESS Array B**	**124.19**	**327**	PKP	**PKPdf**	**16 07 31.4**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=62,slow=1.9,SNR=39						
MOA	**Molln**	**124.46**	**326**	*i* PKiKP	**PKPdf**	**16 07 31.5**	**-0.3**
	comp=Z,2.3nm,0.8s						
SOKA	**Soboth**	**124.68**	**325**	*i* PKiKP	**PKPdf**	**16 07 32.0**	**-0.3**
	comp=Z,6.3nm,1.1s						
OBKA	**Obir**	**125.05**	**325**	*i* PKiKP	**PKiKP**	**16 07 33.3**	**-0.1**
	comp=Z,5.0nm,1.1s						
KBA	**Koelnbreinsper**	**125.41**	**326**	*i* PKiKP	**PKPdf**	**16 07 33.7**	**-0.1**
	comp=Z,7.4nm,1.0s						
ABTA	**Abfaltersbach**	**126.07**	**326**	*i* PKiKP	**PKPdf**	**16 07 34.4**	**-0.6**
	comp=Z,7.6nm,1.0s						
WATA	**Walderalm**	**126.24**	**327**	*i* PKiKP	**PKPdf**	**16 07 35.1**	**-0.2**
	comp=Z,4.4nm,0.7s						
WTTA	**Wattenberg**	**126.25**	**327**	*i* PKiKP	**PKPdf**	**16 07 35.5**	**+0.1**
	comp=Z,3.2nm,0.5s						
MOTA	**Moosalm**	**126.49**	**327**	*i* PKiKP	**PKPdf**	**16 07 35.6**	**-0.2**
	comp=Z,4.5nm,0.5s						
RETA	**Reutte**	**126.58**	**328**	*i* PKiKP	**PKPdf**	**16 07 35.6**	**-0.3**
	comp=Z,3.8nm,0.9s						
FETA	**Feichten**	**126.89**	**327**	*i* PKiKP	**PKiKP**	**16 07 36.9**	**-0.2**
	comp=Z,6.8nm,0.9s						
DAVA	**Damuels**	**127.18**	**328**	*i* PKiKP	**PKPdf**	**16 07 37.2**	**0.0**
	comp=Z,6.1nm,0.7s						
KEST	**Kesra**	**134.16**	**316**	PKP	**PKPdf**	**16 07 51.2**	**+0.5**
	comp=Z,6.8nm,0.9s,baz=294,slow=17,SNR=5.8						
LPAZ	**La Paz**	**135.20**	**120**	PKP	**PKPdf**	**16 07 53.2**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=306,slow=2.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**149.18**	**286**	PKPbc	**PKPbc**	**16 08 21.6**	**-0.4**
	comp=Z,18nm,0.8s,baz=71,slow=2.8,SNR=86						
DBIC	**Dimbokro**	**156.26**	**273**	PKPab	**PKPab**	**16 08 56.0**	**-0.2**
	comp=Z,6.6nm,0.9s,baz=38,slow=4.3,SNR=4.8						

*IDC **18** 16:04:15.9±1.5,2.°35S×121.°35E,h0km,mb3.3/3, mb1 3.6/4,mb1mx3.3/47,mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=40.2km s-min=24.2km az=75.0*
*NEIC **18** 16:04:19.0,2.°51S×121.°29E,h10km,mb3.5/1,After DJA. NEIC Felt [III] at Soroako.*
*ISCJB **18** 16:04:20.1±0.7,2.°47S±0.°06×121.°18E±0.°07,h53km, mb3.3/4,Error ellipse: s-maj=10.3km s-min=8.0km az=174.4*
*DJA **18** 16:04:20.3±0.4,2.°5S±4.°×12.°1E±.°,h46km±55km,M4.0/9, mb4.2/1,MLv3.9/9*

ISC 18 16:04:22.2±0.9,**2.°43S**±0.°05×**121.°15E**±0.°07,**h53**km,**n17, σ2.893**/17,**mb3.4**/4,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.46**	**245**	P	**Pn**	**16 04 44.4**	**-1.9**
TTSI				S	**Sn**	**16 04 58.1**	**-6.3**
PCI	**Palu**	**2.01**	**319**	P	**Pn**	**16 04 51.2**	**-2.5**
SPSI	**Sidrap Palu**	**2.05**	**222**	P	**Pn**	**16 04 54.0**	**-0.4**
SPSI				S	Sn	16 05 02.1	-17
KDI	**Kendari**	**2.11**	**136**	P	**Pn**	**16 04 52.2**	**-2.9**
KAPI	**Kappang**	**2.92**	**209**	Pn	**Pn**	**16 05 05.3**	**-0.9**
	4.2nm,0.3s,baz=52,slow=3.5,SNR=16						
KAPI				Sn	**Sn**	**16 05 46.0**	**+5.9**
	7.9nm,0.3s,baz=149,slow=22,SNR=8.6						
KAPI	**Kappang**	**2.92**	**209**	*e*Pn	**Pn**	**16 05 05.1**	**-1.1**
KAPI				*e*Sn	**Sn**	**16 05 38.1**	**-2.0**
MRSI	**Marisa**	**3.00**	**15**	P	**Pn**	**16 05 05.8**	**-1.5**
BSSI	**Bau Bau, Buton**	**3.74**	**190**	P	**Pn**	**16 05 15.6**	**-1.9**
MMRI	**Maumere**	**6.26**	**170**	P	Pn	16 06 02.4	+10
EDFI	**Ende, Flores**	**6.30**	**175**	P	Pn	16 06 01.2	+8.5
BBKI	**Banjar Baru**	**6.38**	**261**	P	Pn	16 05 48.1	-5.7
KSM	**Kuching**	**11.51**	**290**	Pn	**Pn**	**16 07 05.9**	**+1.9**
CISI	**Cisompet, Garu**	**14.22**	**249**	P	**Pn**	**16 07 39.6**	**-1.3**
WRA	**Warramunga Arr**	**21.65**	**144**	P	**P**	**16 09 07.3**	**-1.1**
	1.2nm,0.8s,baz=323,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**24.45**	**151**	P	**P**	**16 09 36.8**	**+0.5**
	1.0nm,0.9s,baz=325,slow=9.3,SNR=5.5						
CHTO	**Chiang Mai**	**30.38**	**315**	P	**P**	**16 10 32.1**	**+2.6**
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.74**	**330**	P	**P**	**16 14 22.9**	**+1.2**
	0.2nm,0.6s,baz=124,slow=7.0,SNR=2.7						

*ISCJB **18** 16:14:02.6±0.7,51.°49N±0.°10×178.°65E±0.°05,h80km±6km, mb3.7/13,Error ellipse: s-maj=16.1km s-min=5.5km az=2.7*
*NEIC **18** 16:14:02.1,51.°48N×178.°62E,h74km,mb4.0/5,After AEIC.*
*IDC **18** 16:14:06.7±5.7,51.°57N×178.°61E,h101km±52km, mb3.4/11,mb1 3.7/12,mb1mx3.4/53,mbtmp3.8/12,MS3.6/2, Ms1 3.6/2,ms1mx2.6/28,Error ellipse: s-maj=30.6km s-min=13.0km az=163.0*

ISC 18 16:14:04.2±1.2,**51.°5N**±0.°1×**178.°68E**±0.°05,**h78**km±11km, **n51, σ1.928**/51,**mb3.9**/13,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**1.61**	**80**	P	**Pn**	**16 14 30.0**	**-0.8**
GANE	**Gareloi Northe**	**1.61**	**78**	P	**Pn**	**16 14 29.8**	**-1.1**
GANE				S	**Sn**	**16 14 51.6**	**+0.5**
GAEA	**Gareloi East**	**1.62**	**80**	P	**Pn**	**16 14 30.0**	**-1.0**
TASE	**Tanaga Southea**	**2.07**	**80**	P	**Pn**	**16 14 36.1**	**-0.8**
TAFP	**Tanaga Falls P**	**2.11**	**78**	P	**Pn**	**16 14 36.4**	**-1.1**
TAFP				S	**Sn**	**16 15 02.6**	**-0.3**
TAFL	**Tanaga Flats**	**2.15**	**82**	P	**Pn**	**16 14 37.4**	**-0.6**
TAPA	**Tanaga Point A**	**2.20**	**81**	P	**Pn**	**16 14 38.0**	**-0.8**
KICM	**Kanaga Island**	**2.60**	**80**	P	**Pn**	**16 14 43.5**	**-0.4**
KIKV	**Kanaga Island**	**2.61**	**81**	P	**Pn**	**16 14 43.4**	**-0.7**
KIKV				S	**Sn**	**16 15 15.4**	**+0.6**
KINC	**Kanaga Island**	**2.64**	**79**	P	**Pn**	**16 14 43.8**	**-0.7**
KINC				S	**Sn**	**16 15 15.8**	**+0.3**
KIRH	**Kanaga Island**	**2.66**	**80**	P	**Pn**	**16 14 44.4**	**-0.4**
ADAG	**Mount Adagdak**	**2.97**	**79**	P	**Pn**	**16 14 48.5**	**-0.5**
SMY	**Shemya**	**3.07**	**295**	P	**Pn**	**16 14 49.1**	**-1.3**
SMY				S	**Sn**	**16 15 26.6**	**+0.7**
ETKA	**Kagalaska Isla**	**3.08**	**82**	P	**Pn**	**16 14 50.2**	**-0.3**
ETKA				S	**Sn**	**16 15 26.9**	**+0.7**
GSCK	**Great Sitkin C**	**3.24**	**79**	P	**Pn**	**16 14 51.9**	**-0.8**
GSTD	**Great Sitkin T**	**3.26**	**79**	P	**Pn**	**16 14 52.6**	**-0.4**
GSTD				S	**Sn**	**16 15 32.8**	**+2.1**
GSMY	**Great Sitkin M**	**3.31**	**79**	P	**Pn**	**16 14 53.4**	**-0.3**
KOWE	**Korovin West**	**4.46**	**76**	P	**Pn**	**16 15 09.8**	**+0.5**
KOKL	**Mount Kliuchef**	**4.48**	**77**	P	**Pn**	**16 15 10.0**	**+0.4**
KOFP	**Korovin Flat P**	**4.54**	**78**	P	**Pn**	**16 15 11.3**	**+0.9**
NIKH	**Nikolski High**	**7.79**	**74**	P	**Pn**	**16 15 55.4**	**+0.7**
SPIA	**Saint Paul Isl**	**8.59**	**44**	P	**Pn**	**16 16 07.6**	**+2.0**
MCIR	**Makushin Cirqu**	**9.09**	**69**	P	**Pn**	**16 16 13.5**	**+1.1**
UNV	**Unalaska Valle**	**9.30**	**70**	P	**Pn**	**16 16 16.3**	**+1.1**
AKGG	**Akutan Green G**	**9.65**	**68**	P	**Pn**	**16 16 21.8**	**+1.7**
PETK	**Petropavlovsk-**	**12.93**	**285**	P	**Pn**	**16 17 06.0**	**+1.4**
	0.1nm,0.3s,baz=92,slow=15,SNR=2.8						
SDPT	**Sand Point**	**12.99**	**65**	*e*Pn	**Pn**	**16 17 05.8**	**+0.4**
BILL	**Bilibino**	**17.64**	**345**	*eP*	**P**	**16 18 03.4**	**-0.9**
	5.0nm,1.1s						
PPLA	**Purkeypile**	**19.26**	**43**	*eP*	**Pn**	**16 18 24.4**	**+0.5**
	3.5nm,0.6s						
KTH	**Kantishna Hill**	**20.04**	**41**	*eP*	**P**	**16 18 27.7**	**-2.9**
	8.5nm,0.8s						
BPAW	**Bear Paw Mtn.**	**20.23**	**40**	*eP*	**P**	**16 18 31.6**	**-1.1**
	0.8nm,0.9s						
ILAR	**Eielson Array**	**22.13**	**40**	P	**P**	**16 18 52.4**	**-0.6**
	0.6nm,0.5s,baz=234,slow=8.4,SNR=14						
DOT	**Dot Lake**	**22.98**	**44**	*eP*	**P**	**16 18 56.1**	**-5.8**
	8.0nm,0.8s						
EGAK	**Eagle**	**24.48**	**42**	*eP*	**P**	**16 19 14.9**	**-0.6**
	8.9nm,1.0s						
INK	**Inuvik**	**28.25**	**36**	P	**P**	**16 19 50.4**	**+1.1**
	0.9nm,0.5s,baz=253,slow=13,SNR=3.2						
KLR	**Kul'dur**	**29.62**	**284**	P	**P**	**16 20 01.8**	**+0.1**
	3.2nm,0.6s,baz=71,slow=8.0,SNR=19						
H11N2	**WAKE ISLAND Hy**	**33.05**	**201**	T	T	16 55 48.7	
	baz=10,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.06**	**201**	T	T	16 55 59.8	
	baz=10						
H11N1	**WAKE ISLAND Hy**	**33.07**	**201**	T	T	16 56 11.5	
	baz=10,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.28**	**200**	T	T	16 57 19.7	
	baz=19						
H11S2	**WAKE ISLAND Hy**	**34.30**	**200**	T	T	16 57 17.7	
	baz=19,slow=74						
H11S3	**WAKE ISLAND Hy**	**34.30**	**200**	T	T	16 57 15.8	
	baz=19,slow=74						
YKA	**Yellowknife Ar**	**36.27**	**46**	P	**P**	**16 20 59.8**	**+0.4**
	0.9nm,0.6s,baz=281,slow=8.0,SNR=9.9						
KSRS	**Korea Array**	**38.06**	**269**	P	**P**	**16 21 15.2**	**+0.4**
	0.6nm,0.8s,baz=63,slow=8.4,SNR=5.6						
PDAR	**Pinedale Array**	**47.76**	**71**	P	**P**	**16 22 33.4**	**0.0**
	1.1nm,0.5s,baz=270,slow=5.9,SNR=9.3						
PDAR				LR	LR	16 42 11.2	
	comp=Z,92nm,19.3s,baz=260,slow=35						
MKAR	**Makanchi Array**	**58.70**	**307**	P	**P**	**16 23 52.8**	**-0.5**
	0.6nm,0.6s,baz=52,slow=6.5,SNR=7.3						
TXAR	**Lajitas Array**	**60.18**	**79**	P	**P**	**16 24 04.6**	**+0.7**
	0.9nm,0.6s,baz=298,slow=4.5,SNR=18						
FINES	**FINESS Array B**	**65.28**	**346**	LR	LR	16 55 01.4	
	comp=Z,30nm,21.2s,baz=60,slow=38						
AKASG	**Malin Array Be**	**74.90**	**340**	P	**P**	**16 25 35.4

481nm,0.5s
CUC Castrocucco 0.99 22 Pg **Pn 16 14 54.3 +1.1**
33nm,1.2s
CUC Castrocucco 0.99 22 Pg **Pn 16 14 54.3 +1.1**
33nm,1.2s
MCSR Castroreale 1.01 184 Pg **Pn 16 14 54.1 +0.6**
208nm,0.3s
MCSR Castroreale 1.01 184 Pg **Pn 16 14 54.1 +0.6**
208nm,0.3s
BULG Bulgheria - Ca 1.01 2 Pg **Pn 16 14 55.0 +1.7**
58nm,1.2s
BULG Bulgheria - Ca 1.01 2 Pg **Pn 16 14 55.0 +1.7**
58nm,1.2s
NOV Novara 1.05 189 Pg **Pn 16 14 54.6 +0.9**
100nm,0.3s
NOV Novara 1.05 189 Pg **Pn 16 14 54.6 +0.9**
100nm,0.3s
SERS Sersale 1.05 91 Pg **Pn 16 14 54.6 +0.9**
100nm,0.4s
SERS Sersale 1.05 91 Pg **Pn 16 14 54.6 +0.9**
100nm,0.4s
PLAC Placanica 1.06 125 Pg **Pn 16 14 54.4 +0.7**
117nm,0.5s
PLAC Placanica 1.06 125 Pg **Pn 16 14 54.4 +0.7**
117nm,0.5s
TIP Timpagrande 1.11 84 Pg **Pn 16 14 55.1 +1.2**
74nm,0.6s
TIP Timpagrande 1.11 84 Pg **Pn 16 14 55.1 +1.2**
74nm,0.6s
SALB San Lorenzo Be 1.12 44 Pg **Pn 16 14 55.5 +1.5**
80nm,0.5s
SALB San Lorenzo Be 1.12 44 Pg **Pn 16 14 55.5 +1.5**
80nm,0.5s
SOI Samo 1.14 150 Pg **Pn 16 14 54.5 +0.4**
SOI Sg **S 16 15 22.1 -1.5**
100nm,0.6s
SOI Samo 1.14 150 Pg **Pn 16 14 54.5 +0.4**
SOI Sg **S 16 15 22.1 -1.5**
100nm,0.6s
SIRI Monte Sirino - 1.19 20 Pg **Pn 16 14 55.5 +1.1**
20nm,0.5s
SIRI Monte Sirino - 1.19 20 Pg **Pn 16 14 55.5 +1.1**
20nm,0.5s
PIPA Pietrapaola 1.22 70 Pg **Pn 16 14 55.7 +1.2**
62nm,0.3s
PIPA Pietrapaola 1.22 70 Pg **Pn 16 14 55.7 +1.2**
62nm,0.3s
MPAZ Palizzi 1.23 155 Pg **Pn 16 14 55.1 +0.4**
92nm,0.4s
MPAZ Palizzi 1.23 155 Pg **Pn 16 14 55.1 +0.4**
92nm,0.4s
MNO Monte Soro 1.24 204 Pg **Pn 16 14 56.6 +1.6**
34nm,0.2s
MNO Monte Soro 1.24 204 Pg **Pn 16 14 56.6 +1.6**
34nm,0.2s
CMPR Campora 1.25 359 Pg **Pn 16 14 56.5 +1.8**
42nm,1.1s
CMPR Campora 1.25 359 Pg **Pn 16 14 56.5 +1.8**
42nm,1.1s
MCEL Monticello 1.30 16 Pg **Pn 16 14 57.2 +2.1**
30nm,0.8s
MCEL Monticello 1.30 16 Pg **Pn 16 14 57.2 +2.1**
30nm,0.8s
CDRU Civita di Ruta 1.42 359 Pg **Pn 16 14 57.5 +1.6**
12nm,1.1s
CDRU Civita di Ruta 1.42 359 Pg **Pn 16 14 57.5 +1.6**
12nm,1.1s
PLLN Pollina 1.43 221 ⇓*iP*g **Pn 16 14 56.8 +0.8**
50nm,0.3s
PLLN Pollina 1.43 221 ⇓*iP*g **Pn 16 14 56.8 +0.8**
50nm,0.3s
GIB Gibilmanna 1.49 224 Pg **Pn 16 14 57.0 +0.5**
212nm,0.4s
GIB Gibilmanna 1.49 224 Pg **Pn 16 14 57.0 +0.5**
212nm,0.4s
RESU Resuttano 1.74 216 Pg **Pn 16 15 00.4 +2.0**
38nm,0.9s
RESU Resuttano 1.74 216 Pg **Pn 16 15 00.4 +2.0**
38nm,0.9s
VAE Valguarnera 1.75 205 P **Pn 16 14 59.9 +1.5**
5.3nm,0.3s,baz=343,slow=7.4,SNR=6.5
VAE S **S 16 15 33.5 +2.1**
2.5nm,0.3s,baz=232,slow=19,SNR=3.1
HLNI Lentini 1.76 192 Pg **Pn 16 14 59.0 +0.6**
43nm,0.2s
HLNI Lentini 1.76 192 Pg **Pn 16 14 59.0 +0.6**
43nm,0.2s
HCRL Carlentini 1.80 188 Pg **Pn 16 14 59.1 +0.3**
92nm,0.3s
HCRL Carlentini 1.80 188 Pg **Pn 16 14 59.1 +0.3**
92nm,0.3s
SSY Sortino 1.92 186 Pg **Pn 16 15 00.1 +0.3**
105nm,0.3s
SSY Sortino 1.92 186 Pg **Pn 16 15 00.1 +0.3**
105nm,0.3s
RAFF Raffo Rosso 2.00 203 ⇓*iP*g **Pn 16 15 01.6 +1.2**
47nm,0.7s
RAFF Raffo Rosso 2.00 203 ⇓*iP*g **Pn 16 15 01.6 +1.2**
47nm,0.7s
HAVL Avola 2.11 185 Pg **Pn 16 15 01.9 +0.4**
124nm,0.3s
HAVL Avola 2.11 185 Pg **Pn 16 15 01.9 +0.4**
124nm,0.3s
HMDC Modica 2.15 192 Pg **Pn 16 15 02.6 +0.8**
160nm,1.5s
HMDC Modica 2.15 192 Pg **Pn 16 15 02.6 +0.8**
160nm,1.5s
FETA Feichten 8.63 339 *i* Pn **Pn 16 16 21.4 +3.4**
6.1nm,0.9s
WATA Walderalm 8.71 343 *i* Pn **Pn 16 16 22.4 +3.4**
5.2nm,0.4s
MOTA Moosalm 8.83 341 *i* Pn **Pn 16 16 22.4 +2.0**
1.8nm,0.5s
GERES GERESS Array B 9.84 354 P **Pn 16 16 33.0 -0.1**
0.1nm,0.3s,baz=167,slow=12,SNR=3.9
VRAC Vranov 10.28 5 P **Pn 16 16 38.1 -0.3**
0.4nm,0.3s,baz=17,slow=17,SNR=4.4
BRTR Keskin Array B 14.17 82 P **P 16 17 29.9 +3.2**
0.1nm,0.3s,baz=266,slow=11,SNR=5.1
AKASG Malin Array Be 15.21 36 P **P 16 17 38.6 +0.9**
0.7nm,0.3s,baz=226,slow=9.6,SNR=3.5
MMAI Mount Meron Ar 17.30 104 P **Pn 16 18 04.2 +0.6**
0.6nm,0.3s,baz=298,slow=7.1,SNR=4.2
EKA Eskdalemuir Ar 20.45 329 P **P 16 18 32.1 -2.2**
0.3nm,0.3s,baz=136,slow=10,SNR=4.5
HFS Hagfors 21.11 358 P **P 16 18 38.0 -3.0**
0.7nm,0.5s,baz=184,slow=10,SNR=6.3
FINES FINESS Array B 23.37 13 P **P 16 19 01.1 -0.5**
2.9nm,0.4s,baz=186,slow=8.3,SNR=34
ARCES ARCESS Array B 31.01 7 P **P 16 20 07.8 -1.7**
1.3nm,0.7s,baz=186,slow=8.5,SNR=5.1
MKAR Makanchi Array 48.28 58 P **P 16 22 31.8 +0.4**
0.5nm,0.4s,baz=280,slow=7.0,SNR=12
YKA Yellowknife Ar 71.10 338 P **P 16 25 05.5 -0.5**
0.2nm,0.4s,baz=43,slow=5.9,SNR=4.0

---

*ISCJB **18** 16:16:19.7±0.6, 19°.35S±0°.04×69°.69W±0°.08, h97km±4km, mb3.6/2, Error ellipse: s-maj=12.5km s-min=5.9km az=172.4*

*GUC **18** 16:16:19.8±0.4, 19°.33S×69°.61W, h86km±2km, ML4.0*

*IDC **18** 16:16:23.1±1.7, 19°.24S×69°.27W, h124km±24km, mb3.2/2, mb1 3.6/6, mb1mx3.4/26, mbtmp3.8/6, Error ellipse: s-maj=39.0km s-min=15.0km az=100.0*

ISC 18 16:16:20.0±0.9, 19°.28S±0°.04×69°.58W±0°.07, h84km±7km, n18, σ2$03/25, 3C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minye Minye**	**0.15**	**354**	⇓*iP*	**Pn**	**16 16 33.4**	**+0.9**
MNMC				*i* S	**Sn**	**16 16 43.3**	**+1.6**
MNMC				IAML		16 16 43.7	
	comp=N,39μm,0.3s						
PB11	**IPOC Station P**	**0.48**	**189**	⇓*iP*	**Pn**	**16 16 34.2**	**-0.1**
PB11				*i* S	**Sn**	**16 16 45.0**	**+0.3**
PSGC	**Pisagua**	**0.60**	**238**	⇑*iP*	**Pn**	**16 16 35.0**	**-0.1**
PSGC				*i* S	**Sn**	**16 16 46.4**	**-0.1**
PSGC				IAML		16 16 46.6	
	comp=N,3μm,0.2s						
PB13	**IPOC Station P**	**0.94**	**4**	⇑*iP*	**Pn**	**16 16 41.0**	**+1.7**
PB13				*i* S	**Sn**	**16 16 56.6**	**+3.0**
PB08	**IPOC Station P**	**0.94**	**155**	⇓*iP*	**Pn**	**16 16 39.2**	**+0.1**
PB08				*i* S	**Sn**	**16 16 54.0**	**+0.7**
PB08				IAML		16 16 54.8	
	comp=E,2μm,0.3s						
PB12	**IPOC Station P**	**0.97**	**313**	⇑*iP*	**Pn**	**16 16 39.5**	**+0.4**
PB12				*i* S	**Sn**	**16 16 54.3**	**+1.0**
HMBC	**Humberstone**	**1.03**	**196**	⇓*iP*	**Pn**	**16 16 39.7**	**-0.2**
HMBC				*i* S	**Sn**	**16 16 54.7**	**0.0**
HMBC				IAML		16 16 58.1	
	comp=N,4μm,0.3s						
PB01	**IPOC Station P**	**1.76**	**177**	⇓*iP*	**Pn**	**16 16 48.7**	**-0.2**
PB01				*i* S	**Sn**	**16 17 11.0**	**+0.2**
PB01				IAML		16 17 16.1	
	comp=N,2μm,0.4s						
PB07	**IPOC Station P**	**2.45**	**187**	⇓*iP*	**Pn**	**16 16 58.5**	**+0.3**
PB07				IAML		16 17 33.9	
	comp=N,662nm,0.4s						
PB09	**IPOC Station P**	**2.52**	**173**	IAML		16 17 37.4	
	comp=E,3μm,0.5s						
PB04	**IPOC Station P**	**3.08**	**190**	IAML		16 17 57.7	
	comp=E,427nm,0.5s						
LPAZ	**La Paz**	**3.28**	**25**	P	**Pn**	**16 17 13.2**	**+3.3**
	comp=E,1.7nm,0.3s,baz=202,slow=7.9,SNR=52						
LPAZ				S	**Sn**	**16 17 44.6**	**-3.5**
	comp=E,1.0nm,0.3s,baz=195,slow=18,SNR=4.3						
LVC	**Limon Verde**	**3.37**	**169**	P	**Pn**	**16 17 13.1**	**+2.3**
	comp=E,346nm,0.3s,baz=335,slow=9.2,SNR=39						
LVC				S	**Sn**	**16 17 55.5**	**+5.5**
	comp=E,1μm,0.3s,baz=126,slow=19,SNR=16						
PB06	**IPOC Station P**	**3.41**	**180**	IAML		16 18 03.6	
	comp=E,435nm,0.5s						
SIV	**San Ignacio**	**8.74**	**69**	P	**Pn**	**16 18 20.9**	**-2.8**
	comp=E,0.5nm,0.3s,baz=180,slow=1.6,SNR=6.6						
CPUP	**Villa Florida**	**13.29**	**124**	P	**Pn**	**16 19 24.3**	**-1.0**
	comp=E,0.1nm,0.3s,baz=304,slow=14,SNR=3.6						
TXAR	**Lajitas Array**	**58.46**	**325**	P	**P**	**16 26 06.5**	**-1.0**
	comp=E,0.2nm,0.6s,baz=159,slow=7.7,SNR=2.6						
YKA	**Yellowknife Ar**	**88.90**	**341**	P	**P**	**16 29 04.1**	**-0.4**
	comp=E,0.6nm,0.6s,baz=131,slow=4.9,SNR=9.6						

---

*NIED **18** 16:37:00, 36°.90N×143°.60E, h5km, Mw3.7 Best double couple: M₀3.54000×10¹⁴ NP1:φs56.00000°, δ24.00000°, λ-77.00000°. NP2:φs222.00000°, δ66.00000°, λ-96.00000°.*

*IDC **18** 16:37:44.0±1.0, 36°.62N×143°.91E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/36, mbtmp3.6/7, ML3.5/2, MS2.5/3, Ms1 2.5/3, ms1mx2.3/38, Error ellipse: s-maj=30.9km s-min=22.3km az=121.0*

*ISCJB **18** 16:37:46.9±0.7, 36°.83N±0°.04×143°.58E±0°.06, h33km, mb3.6/5, Error ellipse: s-maj=7.1km s-min=5.8km az=138.6*

*JMA **18** 16:37:47.2±0.3, 36°.87N×143°.60E, h53km, M3.6*

ISC 18 16:37:48.5±1.0, 36°.79N±0°.05×143°.63E±0°.08, h35km, n22, σ1$87/30, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.28**	**286**	P	**Pn**	**16 38 22.8**	**-0.8**
JFK				S	**Sn**	**16 38 48.9**	**-1.6**
ONAJ	**Iwakimizuishiy**	**2.29**	**279**	P	**Pn**	**16 38 23.6**	**-0.2**
ONAJ				S	**Sn**	**16 38 49.5**	**-1.3**
JIO	**Ouri**	**2.46**	**313**	P	**Pn**	**16 38 25.0**	**-1.1**
JIO				S	**Sn**	**16 38 52.4**	**-2.5**
JMM	**Marumori**	**2.50**	**296**	P	**Pn**	**16 38 25.9**	**-0.8**
JMM				S	**Sn**	**16 38 54.6**	**-1.4**
JFT	**Otama**	**2.73**	**287**	P	**Pn**	**16 38 30.1**	**+0.3**
JFT				S	**Sn**	**16 39 01.4**	**-0.2**
JMK	**Ichinoseki**	**2.88**	**319**	*e*S	**Sn**	**16 39 02.4**	**-3.0**
BSO1	**Boso 1**	**3.03**	**226**	P	**Pn**	**16 38 33.5**	**+0.1**
JOM	**Ohasama**	**3.25**	**326**	P	**Pn**	**16 38 35.6**	**-1.5**
JOM				S	**Sn**	**16 39 11.7**	**-2.9**
JYK	**Kaneyama**	**3.35**	**310**	P	**Pn**	**16 38 37.8**	**-0.6**
JYK				*e*S	**Sn**	**16 39 15.6**	**-1.3**
JAG	**Ashikaga**	**3.38**	**265**	P	**Pn**	**16 38 38.9**	**+0.2**
JRY	**Ryogami san**	**3.89**	**260**	P	**Pn**	**16 38 45.8**	**0.0**
JRY				S	**Sn**	**16 39 28.2**	**-2.0**
JANG	**Nango**	**3.95**	**336**	P	**Pn**	**16 38 45.1**	**-1.5**
MJAR	**Matsushiro Arr**	**4.36**	**268**	Pn	**Pn**	**16 38 53.4**	**+1.1**
	2.4nm,0.3s,baz=88,slow=15,SNR=29						
MJAR				LR	LR	16 40 59.0	
	comp=Z,21nm,19.3s,baz=185,slow=43						
MAT	**Matsushiro**	**4.36**	**268**	P	**Pn**	**16 38 53.7**	**+1.4**
MAT				S	**Sn**	**16 39 40.6**	**-1.4**
JHJ	**Hachijo jima 2**	**4.83**	**222**	Pn	**Pn**	**16 38 57.4**	**-1.3**
	6.6nm,0.3s,baz=321,slow=23,SNR=9.3						
JHJ				Sn	**Sn**	**16 39 47.6**	**-5.8**
	23nm,0.3s,baz=72,slow=24,SNR=6.3						
KSRS	**Korea Array**	**12.55**	**278**	LR	LR	16 45 25.2	
	comp=Z,25nm,18.8s,baz=320,slow=36						
KLR	**Kul'dur**	**15.15**	**329**	LR	LR	16 46 19.2	
	comp=Z,28nm,20.6s,baz=120,slow=33						
MKAR	**Makanchi Array**	**45.75**	**303**	P	**P**	**16 46 09.7**	**+3.3**
	0.3nm,0.8s,baz=98,slow=7.9,SNR=2.9						
ILAR	**Eielson Array**	**48.76**	**32**	P	**P**	**16 46 30.1**	**+0.7**
	0.5nm,0.8s,baz=256,slow=6.3,SNR=9.3						
WRA	**Warramunga Arr**	**57.10**	**190**	P	**P**	**16 47 31.2**	**-0.2**
	0.5nm,0.5s,baz=10,slow=7.7,SNR=5.6						
ASAR	**Alice Springs**	**60.82**	**190**	P	**P**	**16 47 57.5**	**+0.3**
	0.3nm,0.5s,baz=5.5,slow=7.5,SNR=9.2						
TXAR	**Lajitas Array**	**88.85**	**54**	P	**P**	**16 50 39.6**	**+0.3**
	0.4nm,0.8s,baz=299,slow=2.5,SNR=5.4						

IDC 18 16:52:40.6±26.0, 23°.35S×174°.49W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/31, mbtmp4.0/4, Error ellipse: s-maj=474.6km s-min=146.7km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.54**	**267**	P	P	16 59 48.9	+0.7
	2.4nm,0.4s,baz=100,slow=9.6,SNR=11						
STKA	**Stephens Creek**	**39.61**	**248**	P	P	17 00 14.1	+0.1
	1.2nm,0.6s,baz=105,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**47.10**	**259**	P	P	17 01 14.2	-0.5
	0.7nm,0.8s,baz=100,slow=7.9,SNR=15						
WRA	**Warramunga Arr**	**47.49**	**264**	P	P	17 01 17.1	-0.6
	1.4nm,0.5s,baz=102,slow=7.8,SNR=15						

---

*NIED **18** 16:54:00, 22°.20N×121°.70E, h11km, Mw4.3 Best double couple: M₀3.22000×10¹⁵ NP1:φs118.00000°, δ19.00000°, λ-86.00000°. NP2:φs294.00000°, δ71.00000°, λ-91.00000°.*

*IDC **18** 16:54:03.8±0.6, 21°.90N×121°.63E, h0km, mb3.9/18, mb1 4.1/19, mb1mx3.9/51, mbtmp3.9/19, ML3.2/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/34, Error ellipse: s-maj=24.9km s-min=12.5km az=66.0*

*BJI **18** 16:54:05.8, 21°.98N×121°.48E, h10km, mb3.9/9, mB4.4/6, ML3.9/1, Ms3.9/5, Ms7 3.7/4*

*TAP **18** 16:54:05.1, 21°.95N×121°.49E, h13km, ML4.3, C*

*JMA **18** 16:54:06.5±0.2, 22°.23N×121°.67E, h7km, M4.1*

*NEIC **18** 16:54:08.8±0.6, 22°.05N×121°.59E, h35km, mb4.3/2, ML4.7(TAP), Error ellipse: s-maj=15.6km s-min=10.1km az=80.0*

NEIC Recorded [4 TAP] at Taitung.

ISC 18 16:54:05.6±1.0, 22°.01N±0°.03×121°.56E±0°.03, h13km±5km, n115, σ1$32/143, mb4.0/19, MS3.4/8, 3C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.03**	**345**	⇓*iP*	**Pg**	**16 54 08.6**	**+0.7**
	baz=44						
TSEB	**Hengchuen, Pin**	**0.62**	**260**	*e*P	**Pn**	**16 54 18.1**	**-2.0**
	baz=266						
TSEB				S	**Sn**	**16 54 27.1**	**-2.9**
	baz=266						
TWK1	**Hengchun**	**0.70**	**265**	⇓P	**Pg**	**16 54 18.4**	**-0.8**
	baz=270						
TWK1				S	**Sg**	**16 54 27.9**	**-0.6**
	baz=270						
TAW	**Tawu**	**0.71**	**300**	⇑P	**Pg**	**16 54 18.6**	**-0.7**
	baz=309						
TAW				S	**Sg**	**16 54 28.6**	**-0.1**
	baz=309						
EAST	**Anshuo**	**0.76**	**300**	⇑*iP*	**Pb**	**16 54 19.5**	**-1.2**
	baz=307						
EAST				S	**Sb**	**16 54 29.6**	**-1.4**
	baz=307						
ECL	**Taimali**	**0.81**	**316**	P	**Pb**	**16 54 20.2**	**-1.4**
	baz=325						
ECL				*e*S	**Sb**	**16 54 31.1**	**-1.5**
	baz=325						
TTN	**Taitung**	**0.84**	**333**	*e*P	**Pg**	**16 54 21.9**	**+0.1**
	baz=354						
TWG	**Pinlang**	**0.93**	**331**	*e*P	**Pb**	**16 54 22.3**	**-1.3**
	baz=321						
TWG	**Pinlang**	**0.93**	**331**	*e*Pn	**Pb**	**16 54 22.2**	**-1.3**
TWG				*e*Sn	**Sg**	**16 54 35.9**	**+0.2**
SCZT	**Fangliau**	**0.94**	**293**	*e*P	**Pb**	**16 54 22.9**	**-1.0**
	baz=311						
CHKT	**Chengkung**	**1.10**	**351**	⇓P	**Pn**	**16 54 24.8**	**-1.9**
	baz=8.0						
CHKT				*e*S	**Sb**	**16 54 39.0**	**-1.9**
	baz=8.0						
SSD	**Sandimen**	**1.13**	**311**	*e*P	**Pn**	**16 54 26.1**	**-1.1**
	baz=327						
TWP	**Hsiaoliuchiu**	**1.16**	**287**	*e*P	**Pg**	**16 54 28.2**	**+0.3**
	baz=293						
SGLT	**Jiouru**	**1.22**	**306**	*e*P	**Pg**	**16 54 28.9**	**-0.2**
	baz=322						
SGLT				*e*S	**Sg**	**16 54 45.5**	**+0.5**
	baz=322						
ELDTW	**Lidau**	**1.28**	**337**	*e*P	**Pn**	**16 54 27.6**	**-1.7**
	baz=343						
TWM1	**Shoushan**	**1.33**	**308**	*e*P	**Pg**	**16 54 31.4**	**+0.3**
	baz=327						
TWM1				*e*S	**Sg**	**16 54 49.4**	**+0.9**
	baz=327						
TWF1	**Yuli**	**1.36**	**350**	*e*P	**Pn**	**16 54 29.1**	**-1.3**
	baz=5.0						
STYT	**Tauyuan**	**1.37**	**327**	*e*P	**Pn**	**16 54 29.8**	**-0.7**
	baz=345						
SGST	**Jiashian**	**1.40**	**320**	*e*P	**Pg**	**16 54 31.7**	**-0.8**
	baz=333						
SGST				*e*S	**Sg**	**16 54 51.4**	**+0.6**
	baz=333						
YULB	**Yu-li**	**1.40**	**350**	*e*Pn	**Pn**	**16 54 29.7**	**-1.2**
YULB				*e*Sn	**Sb**	**16 54 49.2**	**-0.3**
EHY	**Hungye**	**1.51**	**352**	*e*P	**Pn**	**16 54 31.1**	**-1.3**
	baz=5.0						
CHN1	**Nanshi**	**1.51**	**321**	*e*P	**Pg**	**16 54 33.6**	**-1.0**
	baz=328						
CHN1				*e*S	**Sg**	**16 54 55.0**	**+0.7**
	baz=328						
WTP	**Ta-pu**	**1.51**	**325**	⇓P	**Pb**	**16 54 33.0**	**-0.6**
	baz=345						
WTP				*e*S	**Sg**	**16 54 55.2**	**+0.8**
	baz=345						
CHN3	**Shinhua**	**1.54**	**314**	*e*P	**Pg**	**16 54 34.0**	**-1.0**
	baz=320						
TPUB	**Ta-pu**	**1.55**	**326**	*e*Pn	**Pb**	**16 54 33.1**	**-1.1**
TPUB				*e*Sn	**Sb**	**16 54 53.4**	**-0.4**
YUS	**Yu-Shan**	**1.58**	**339**	*e*P	**Pn**	**16 54 33.5**	**-0.3**
	baz=345						
TWK	**Hsinying**	**1.60**	**322**	*e*P	**Pb**	**16 54 33.6**	**-1.5**
	baz=328						
CHN4	**Tsaushan**	**1.61**	**326**	*e*P	**Pb**	**16 54 34.9**	**-0.3**
	baz=342						
ALS	**Alishan**	**1.65**	**335**	*e*P	**Pb**	**16 54 34.8**	**-1.3**
	baz=342						
ALS				*e*S	**Sg**	**16 54 58.3**	**-0.5**
	baz=342						
SCLT	**Jiali**	**1.72**	**313**	*e*P	**Pb**	**16 54 36.1**	**-0.9**
	baz=320						
SCLT				*e*S	**Sb**	**16 54 58.7**	**+0.1**
	baz=320						
CHN5	**Tsauling**	**1.78**	**333**	*e*P	**Pb**	**16 54 37.6**	**-0.6**
	baz=340						
CHN5				*e*S	**Sb**	**16 55 00.2**	**-0.3**
	baz=340						
ESL	**Shilin**	**1.80**	**356**	*e*P	**Pn**	**16 54 35.9**	**-0.5**
	baz=8.0						
CHY	**Chiayi**	**1.82**	**325**	*e*P	**Pb**	**16 54 38.2**	**-0.6**
	baz=330						
CHN2	**Minshiung**	**1.82**	**327**	*e*P	**Pn**	**16 54 35.7**	**-0.9**
	baz=332						
CHN8	**Yiju**	**1.83**	**317**	*e*P	**Pn**	**16 54 36.4**	**-0.3**
	baz=323						
SSLB	**Suanglung**	**1.86**	**343**	*e*Pn	**Pn**	**16 54 36.6**	**-0.6**
SSLB				*e*Sn	**Sn**	**16 55 00.2**	**-0.5**
WGK	**Gukeng**	**1.91**	**331**	*e*P	**Pb**	**16 54 39.1**	**-1.2**
	baz=337						
SMLT	**Sun Moon Lake**	**1.97**	**342**	*e*P	**Pb**	**16 54 40.5**	**-0.9**
	baz=359						
SMLT				*e*S	**Sb**	**16 55 06.6**	**+0.8**
	baz=359						
TYC	**Yuchr**	**2.00**	**341**	⇓*e*P	**Pb**	**16 54 40.8**	**-1.0**
	baz=348						
TYC				*e*S	**Sb**	**16 55 07.2**	**+0.6**
	baz=348						
WSF	**Szhu**	**2.04**	**323**	*e*P	**Pb**	**16 54 40.4**	**-2.1**
	baz=328						
TWD	**Chiawan**	**2.06**	**1**	*e*P	**Pn**	**16 54 39.9**	**-0.1**
	baz=15						
WHF	**Hehuan Shan**	**2.15**	**353**	*e*P	**Pb**	**16 54 43.5**	**-1.1**
	baz=8.0						
WDGT	**Dungji**	**2.15**	**306**	*e*P	**Pn**	**16 54 39.6**	**-1.6**
	baz=310						
NACB	**Ninganchiao**	**2.16**	**1**	*e*Pn	**Pn**	**16 54 39.1**	**-2.2**
NACB				*e*Sn	**Sn**	**16 55 06.2**	**-1.8**
TWT	**Tachien**	**2.27**	**351**	*e*P	**Pb**	**16 54 44.5**	**-2.0**
	baz=6.0						
TCU	**Taichung**	**2.28**	**339**	*e*P	**Pb**	**16 54 45.3**	**-1.4**
	baz=327						
ENA	**Nanau**	**2.42**	**4**	*e*P	**Pn**	**16 54 43.5**	**-1.4**
	baz=18						
PNG	**Penghu**	**2.42**	**310**	*e*P	**Pn**	**16 54 44.4**	**-0.5**
	baz=317						
PNG				*e*S	**Sn**	**16 55 12.2**	**-2.1**
	baz=317						
NNS	**Nan Shan**	**2.43**	**356**	*e*P	**Pb**	**16 54 47.5**	**-1.8**
	baz=1.0						
TWQ1	**Liyutan**	**2.44**	**343**	*e*P	**Pb**	**16 54 47.4**	**-2.0**
	baz=332						
TWQ1				*e*S	**Sb**	**16 55 17.1**	**-2.3**
	baz=332						
NSY	**Sanyi**	**2.51**	**343**	*e*P	**Pb**	**16 54 48.1**	**-2.5**
	baz=331						
TWC	**Suao**	**2.61**	**6**	*e*P	**Pn**	**16 54 48.1**	**+0.7**
	baz=10.0						
ENTT	**Nioudou**	**2.62**	**0**	*e*P	**Pn**	**16 54 48.9**	**+1.2**
	baz=4.0						
YHNB	**Yeheng**	**2.66**	**356**	*e*Pn	**Pn**	**16 54 49.2**	**+1.0**
YHNB				*e*Sn	**Sn**	**16 55 19.6**	**-0.8**
NSTT	**Nanjuang**	**2.66**	**349**	*e*P	**Pb**	**16 54 50.7**	**-2.4**
	baz=339						
NSTT				*e*S	**Sb**	**16 55 24.3**	**-1.5**
	baz=339						
NSK	**Sanguang**	**2.67**	**356**	*e*P	**Pn**	**16 54 49.2**	**+0.8**
	baz=11						
TWE	**Neicheng**	**2.71**	**2**	*e*P	**Pb**	**16 54 50.6**	**-3.3**
	baz=16						
JYNG	**Yonaguni jima**	**2.75**	**27**	P	**Pn**	**16 54 49.2**	**-0.2**
YOJ	**Yonaguni jima**	**2.79**	**28**	P	**Pn**	**16 54 49.7**	**-0.2**
YOJ	**Yonaguni jima**	**2.79**	**28**	*e*P	**Pn**	**16 54 49.9**	**0.0**
	baz=31						
YOJ	**Yonaguni jima**	**2.79**	**28**	*e*Pn	**Pn**	**16 54 49.7**	**-0.2**
EGS		**2.85**	**7**	*e*P	**Pb**	**16 54 54.3**	**-2.0**
	baz=20						
HATJ	**Hateruma jima**	**2.91**	**45**	P	**Pn**	**16 54 51.1**	**-0.5**
HATJ				S	**Sn**	**16 55 24.9**	**-1.5**
TATO	**Taipei**	**2.96**	**359**	*e*Pn	**Pn**	**16 54 52.5**	**+0.2**
TATO				*e*Sn	**Sn**	**16 55 27.7**	**+0.1**
TWA	**Mucha**	**2.96**	**0**	*e*P	**Pb**	**16 54 55.0**	**-3.2**
	baz=5.0						
TWB1	**Santiao Chiao**	**3.02**	**7**	*e*P	**Pn**	**16 54 54.6**	**+1.5**
	baz=22						
TAP1	**Taipei**	**3.02**	**359**	*e*P	**Pb**	**16 54 58.2**	**-1.1**
	baz=12						
NWF	**Wu-fen Shan**	**3.06**	**4**	*e*P	**Pn**	**16 54 54.3**	**+0.5**
	baz=358						
IRIF	**Iriomote-Funau**	**3.06**	**40**	P	**Pn**	**16 54 53.5**	**-0.2**
IRIF				S	**Sn**	**16 55 28.6**	**-1.6**
TWS1	**Kuangyinshan**	**3.08**	**358**	*e*P	**Pb**	**16 54 56.9**	**-3.4**
	baz=11						
JKRS	**Kuro-shima**	**3.17**	**45**	P	**Pn**	**16 54 55.0**	**-0.1**
JKRS				*e*S	**Sn**	**16 55 31.2**	**-1.6**
TWY	**Chenhua**	**3.26**	**1**	*e*P	**Pb**	**16 55 00.4**	**-2.8**
	baz=5.0						

	comp=E,160nm,0.9s							
QZH					LR		LR	
	comp=Z,760nm,14.2s							
JIRB	**Irabujima**	**4.35**	**49**		P		**Pn**	**16 55 10.9 -0.5**
JIRB					S		**Sn**	**16 55 59.7 -2.3**
JMJ	**Miyako jima 2**	**4.42**	**50**	*e*	S		**Sn**	**16 56 02.8 -1.1**
JIKM	**Ikemajima**	**4.46**	**49**		P		**Pn**	**16 55 12.6 -0.3**
JIKM					S		**Sn**	**16 56 03.3 -1.5**
JOGS	**Gusukube**	**4.47**	**51**		P		**Pn**	**16 55 12.8 -0.3**
JOGS					*e*S		**Sn**	**16 56 04.6 -0.4**
TGY	**Tagaytay City**	**7.88**	**184**		LR		LR	16 59 41.6
	comp=Z,229nm,18.4s,baz=299,slow=43							
KSAR	**Wonju Array Be**	**16.33**	**18**		Pn		**P**	**16 57 56.4 -1.1**
KSRS	**Korea Array**	**16.35**	**18**		Pn		**P**	**16 57 56.4 -1.3**
	comp=Z,0.1nm,0.3s,baz=195,slow=11,SNR=16							
KSRS					LR		LR	17 05 00.7
	comp=Z,125nm,18.6s,baz=192,slow=40							
MAJO	**Matsushiro**	**20.47**	**41**		P		**P**	**16 58 42.5 -0.5**
	comp=Z,12nm,0.4s							
MJAR	**Matsushiro Arr**	**20.47**	**41**		LR		LR	17 07 27.6
	comp=Z,70nm,19.2s,baz=185,slow=39							
CMAR	**Chiang Mai Arr**	**21.51**	**265**		P		**P**	**16 58 56.4 +1.9**
	comp=Z,1.8nm,0.9s,baz=68,slow=8.1,SNR=7.2							
CMAR					PcP		**PcP**	**17 02 57.7 +0.5**
	comp=Z,0.6nm,0.8s,baz=22,slow=1.0,SNR=4.3							
CMAR					LR		LR	17 07 31.8
	comp=Z,77nm,20.3s,baz=75,slow=38							
USRK	**Ussuriysk Ar.**	**23.76**	**19**		P		**P**	**16 59 17.5 -0.1**
	comp=Z,0.8nm,0.6s,baz=224,slow=9.7,SNR=3.1							
SONM	**Songino Array**				P		**P**	**17 00 02.1 +1.2**
	comp=Z,0.7nm,0.6s,baz=167,slow=6.8,SNR=2.7							
SONM					LR		LR	17 12 33.6
	comp=Z,229nm,18.5s,baz=91,slow=39							
WMQ	**Urumqi**	**35.43**	**316**	*e*P			**P**	**17 01 03.6 +2.0**
MKAR	**Makanchi Array**	**40.16**	**318**		P		**P**	**17 01 42.8 +1.4**
	comp=Z,2.2nm,0.7s,baz=113,slow=9.3,SNR=19							
MKAR					PcP		**PcP**	**17 03 46.0 +0.3**
	comp=Z,0.5nm,0.7s,baz=123,slow=1.6,SNR=4.5							
MKAR					LR		LR	17 19 21.4
	comp=Z,46nm,19.5s,baz=122,slow=38							
PETK	**Petropavlovsk-**	**41.49**	**32**		LR		LR	17 18 05.6
	comp=Z,47nm,21.9s,baz=251,slow=35							
ZALV	**Zalesovo Beam**	**42.26**	**328**		P		**P**	**17 01 59.2 +0.6**
	comp=Z,1.3nm,0.6s,baz=117,slow=8.5,SNR=7.5							
ZALV					LR		LR	17 21 12.3
	comp=Z,81nm,18.0s,baz=68,slow=38							
H11N1	**WAKE ISLAND Hy**	**42.31**	**85**		T		T	17 47 09.2
	baz=282,slow=75,SNR=19							
H11N2	**WAKE ISLAND Hy**	**42.31**	**84**		T		T	17 47 07.1
	baz=282,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**42.32**	**84**		T		T	17 47 10.7
	baz=282,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hy**	**42.37**	**86**		T		T	17 47 08.9
	baz=283,slow=75,SNR=75							
H11S1	**WAKE ISLAND Hy**	**42.38**	**86**		T		T	17 47 10.9
	baz=283,slow=75,SNR=90							
H11S2	**WAKE ISLAND Hy**	**42.39**	**86**		T		T	17 47 09.6
	baz=283,slow=75,SNR=72							
WRA	**Warramunga Arr**	**43.52**	**162**		P		**P**	**17 02 07.2 -1.9**
	comp=Z,3.1nm,0.7s,baz=343,slow=8.9,SNR=13							
KURK	**Kurchatov**	**43.99**	**321**	*e*P			**P**	**17 02 10.8 -1.8**
KURBB	**Kurchatov Arra**	**44.00**	**321**		P		**P**	**17 02 13.7 +1.0**
	comp=Z,3.8nm,1.0s,baz=112,slow=8.6,SNR=14							
ASAR	**Alice Springs**	**46.96**	**164**		P		**P**	**17 02 35.5 -0.8**
	comp=Z,1.4nm,0.5s,baz=344,slow=7.9,SNR=56							
ASAR					PcP		**PcP**	**17 04 08.4 -0.5**
	comp=Z,1.1nm,0.9s,baz=348,slow=2.4,SNR=4.9							
CTA	**Charters Tower**	**48.30**	**148**		P		**P**	**17 02 46.6 -0.2**
	comp=Z,1.2nm,0.5s,baz=340,slow=12,SNR=4.2							
BVAR	**Borovoye Array**	**49.58**	**322**		P		**P**	**17 02 57.4 +1.1**
	comp=Z,0.7nm,0.5s,baz=95,slow=6.7,SNR=6.1							
BVAR					PcP		**PcP**	**17 04 18.6 +0.7**
	comp=Z,0.9nm,0.6s,baz=46,slow=6.4,SNR=3.6							
NRIK	**Noril'sk**	**51.59**	**345**		LR		LR	17 27 49.9
	comp=Z,57nm,19.1s,baz=120,slow=39							
ABKAR	**Akbulak array**	**55.22**	**315**		P		**P**	**17 03 36.3 -1.9**
	comp=Z,1.2nm,19.7s							
STKA	**Stephens Creek**	**56.91**	**160**		P		**P**	**17 03 50.0 -0.4**
	comp=Z,3.9nm,0.7s,baz=332,slow=6.2,SNR=9.8							
STKA					LR		LR	17 31 26.7
	comp=Z,40nm,19.9s,baz=210,slow=40							
ILAR	**Eielson Array**	**70.99**	**27**		P		**P**	**17 05 25.2 +2.5**
	comp=Z,0.2nm,0.5s,baz=283,slow=5.1,SNR=3.8							
FINES	**FINESS Array B**	**73.50**	**330**		P		**P**	**17 05 38.6 +0.9**
	comp=Z,2.2nm,0.8s,baz=46,slow=5.5,SNR=10							
AKASG	**Malin Array Be**	**74.72**	**319**		P		**P**	**17 05 46.2 +1.0**
	comp=Z,1.0nm,0.6s,baz=60,slow=5.7,SNR=4.1							
BRTR	**Keskin Array B**	**74.75**	**307**		P		**P**	**17 05 46.5 +0.8**
	comp=Z,0.9nm,0.7s,baz=121,slow=4.8,SNR=5.7							
NOA	**NORSAR Array B**	**80.31**	**332**		P		**P**	**17 06 16.5 +0.3**
	comp=Z,1.1nm,0.8s,baz=61,slow=5.2,SNR=3.6							
GERES	**GERESS Array B**	**84.74**	**321**		P		**P**	**17 06 40.7 +1.0**
	comp=Z,0.6nm,0.8s,baz=47,slow=5.8,SNR=3.8							
YKA	**Yellowknife Ar**	**84.83**	**23**		P		**P**	**17 06 40.0 +0.3**
	comp=Z,0.4nm,0.6s,baz=309,slow=5.2,SNR=3.2							

NIED ***18*** *16:57:00,38.˚60N×142.˚00E,h35km,Mw3.5 Best double couple: M₀1.95000×10¹⁴ NP1:φ₀177.00000°,δ29.00000°, λ-31.00000°. NP2:φ₀294.00000°,δ75.00000°, λ-116.00000°.*

IDC ***18*** *16:57:45.9±2.0,38.˚70N×142.˚51E,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.4/45,mbtmp3.6/5,ML3.5/2,Error ellipse: s-maj=43.4km s-min=30.6km az=74.0*

ISCJB ***18*** *16:57:50.6±1.3,38.˚55N±0.˚05×142.˚11E±0.˚09,h30km±7km, mb3.6/3,Error ellipse: s-maj=12.1km s-min=7.5km az=6.8*

JMA ***18*** *16:57:52.6±0.1,38.˚60N×142.˚00E,h34km±1km,M3.9*

JMA Felt I J1.

ISC 18 16:57:51.7±1.9, 38.˚55N±0.˚05×142.˚0E±0.˚1, h29km±12km, n14,σ1°35/23, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.54**	**260**	P		P	**Pb**	**16 58 03.3**	**+0.6**
JIO				S		S	**Sb**	**16 58 10.0**	**-0.2**
OFUJ	**Ofunato**	**0.59**	**332**	P		P	**Pb**	**16 58 03.7**	**0.0**
OFUJ				S		S	**Sb**	**16 58 11.5**	**-0.3**
JMK	**Ichinoseki**	**0.74**	**303**	P		P	**Pb**	**16 58 06.1**	**0.0**
JMK				S		S	**Sb**	**16 58 15.5**	**-0.5**
JOM	**Ohasama**	**1.08**	**328**	P		P	**Pn**	**16 58 11.0**	**+0.1**
JOM				S		S	**Sb**	**16 58 24.6**	**-1.0**
JOU	**Okura**	**1.08**	**260**	P		P	**Pn**	**16 58 11.6**	**+0.6**
JOU				S		S	**Sb**	**16 58 25.5**	**-0.1**
JMM	**Marumori**	**1.19**	**235**	P		P	**Pn**	**16 58 12.7**	**+0.3**
JMM				S		S	**Sn**	**16 58 27.4**	**-0.1**
JYK	**Kaneyama**	**1.35**	**286**	P		P	**Pn**	**16 58 15.3**	**+0.7**
JRG	**Rokugo**	**1.37**	**308**	P		P	**Pn**	**16 58 15.9**	**+1.0**
MJAR	**Matsushiro Arr**	**3.63**	**238**	Pn		P	**Pn**	**16 58 48.7**	**+2.6**
	1.5nm,0.3s,baz=34,slow=13,SNR=20								
MJAR						Sn	**Sb**	**16 59 37.8**	**-1.2**
	1.2nm,0.3s,baz=315,slow=55,SNR=3.9								
MAT	**Matsushiro**	**3.64**	**238**	P		P	**Pn**	**16 58 48.5**	**+2.4**
MAT				S		S	**Sb**	**16 59 35.3**	**-3.7**
JHJ	**Hachijo jima 2**	**5.72**	**199**	Pn		P	**Pn**	**16 59 15.6**	**+0.9**
	6.2nm,0.3s,baz=322,slow=22,SNR=9.6								
JHJ				Sn			**Sn**	**17 00 17.8**	**-1.6**
	7.9nm,0.3s,baz=234,slow=19,SNR=4.4								
KURBB	**Kurchatov Arra**	**45.46**	**307**	P		P	**P**	**17 06 08.0**	**0.0**
	0.5nm,0.4s,baz=79,slow=7.9,SNR=6.3								
WRA	**Warramunga Arr**	**58.63**	**188**	P		P	**P**	**17 07 46.1**	**-0.1**
	0.6nm,0.9s,baz=6.9,slow=7.3,SNR=5.3								
ASAR	**Alice Springs**	**62.36**	**188**	P		P	**P**	**17 08 11.6**	**0.0**
	0.3nm,0.9s,baz=358,slow=5.6,SNR=3.1								

CASC 18 17:08:16.2±1.9, 13.˚24N×90.˚27W, h16km±13km, MD4.4, ML3.8, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUS1	**Cusmapa**	**0.73**	**25**	*i* P		P	Pg	17 08 30.0	-0.6
MONT	**Ecomontaæa**	**0.86**	**44**	⇓*i* P		P	Pb	17 08 32.7	-0.2
SBLS	**San Blas**	**0.86**	**46**	*e*P		P	Pb	17 08 32.1	-0.8
SBLS				⇓*i* P		P	Pg	17 08 32.6	-0.4
SNJE	**San Jose**	**0.89**	**46**	⇓*i* P		P	Pb	17 08 33.1	-0.4
IXG	**Ixpaco**	**0.94**	**349**	⇑*i* P		P	Pb	17 08 32.7	-1.6
BOQS	**Boqueron**	**1.08**	**63**	*e*P		P	Pb	17 08 35.3	-1.3
BOQS				*e*P		P	Pn	17 08 35.9	-1.0
SNET	**Serv Nac Est T**	**1.10**	**66**	*e*P		P	Pb	17 08 36.1	-0.8
SNET				*e*P		P	Pb	17 08 36.1	-0.8
SNET						AML	AML	17 08 37.7	
	comp=Z,2μm,0.2s								
SNET				*e*S		S	Sb	17 08 50.0	-1.0
SNET				*e*S		S	Sg	17 08 50.1	-1.8
LFU	**La Fuente**	**1.23**	**66**	*e*P		P	Pn	17 08 38.8	0.0
LFRS	**El Faro**	**1.23**	**72**	*e*P		P	Pn	17 08 37.9	-1.0
LBRS	**Las Brisas**	**1.29**	**67**	*e*P		P	Pn	17 08 39.5	-0.2
SNVI	**San Vicente**	**1.44**	**75**	*e*P		P	Pn	17 08 42.0	+0.3
SNVI				*e*S		S	Sb	17 09 01.7	+0.9
PACA	**Pacayal**	**1.90**	**83**	*e*P		P	Pn	17 08 48.2	0.0
LCY	**Lacayo**	**1.93**	**84**	*e*P		P	Pn	17 08 48.7	+0.2
VSM	**San Miguel**	**1.95**	**84**	*e*P		P	Pn	17 08 48.0	-0.8
CNCH	**Conchagua**	**2.37**	**89**	*e*P		P	Pn	17 08 52.4	-2.1
CNGN	**Cerro Negro**	**3.56**	**102**	*e*P		P	Pn	17 09 11.1	+0.3
COPN	**Copaltepe**	**3.74**	**106**	*e*P		P	Pn	17 09 09.3	-4.0

ISCJB ***18*** *17:11:37.0±0.9, 12.˚89N±0.˚05×89.˚44W±0.˚06, h10km, mb3.6/3,MS2.9/2,Error ellipse: s-maj=10.4km s-min=3.9km az=147.0*

CASC ***18*** *17:11:41.1±2.2, 13.˚13N×89.˚36W, h48km±24km, MD4.4, ML4.5*

IDC ***18*** *17:11:50.0±9.8, 13.˚71N×88.˚89W, h132km±63km, mb3.2/3, mb1 3.7/4,mb1mx3.3/30,mbtmp3.8/4,MS3.0/3,Ms1 3.0/3, ms1mx2.7/18, Error ellipse: s-maj=100.9km s-min=58.1km az=22.0*

ISC 18 17:11:36.4±1.0, 13.˚05N±0.˚06×89.˚46W±0.˚06, h10km, n36, σ1°38/37, 1C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.57**	**44**	*i* P		P	**Pn**	**17 11 51.7**	**+1.1**
AIES						AML	AML	17 11 59.8	
	comp=Z,19μm,0.2s								
AIES						*e*S	**Sn**	**17 12 00.2**	**+0.1**
COLS	**Colinas**	**0.63**	**14**	⇓*i* P		P	**Pn**	**17 11 52.9**	**+1.3**
SNET	**Serv Nac Est T**	**0.67**	**19**	*e*P		P	**Pn**	**17 11 53.0**	**+0.9**
SNET				*e*S		S	**Sn**	**17 12 02.2**	**-0.6**
SNET						AML	AML	17 12 04.1	
	comp=Z,29μm,0.2s								
LFRS	**El Faro**	**0.69**	**34**	⇓*i* P		P	**Pn**	**17 11 53.3**	**+0.9**
BOQS	**Boqueron**	**0.71**	**14**	⇑*i* P		P	**Pn**	**17 11 53.9**	**+1.2**
LFU	**La Fuente**	**0.78**	**26**	⇓*i* P		P	**Pn**	**17 11 54.6**	**+1.1**
LBRS	**Las Brisas**	**0.80**	**31**	⇓*i* P		P	**Pn**	**17 11 54.9**	**+1.0**
SBLS	**San Blas**	**0.80**	**349**	*e*P		P	**Pn**	**17 11 55.5**	**+1.5**
MONT	**Ecomontaæa**	**0.83**	**347**	*e*P		P	**Pn**	**17 11 56.0**	**+1.6**
SNVI	**San Vicente**	**0.83**	**47**	⇓*i* P		P	**Pn**	**17 11 54.8**	**+0.6**
SNJE	**San Jose**	**0.83**	**350**	*e*P		P	**Pn**	**17 11 56.0**	**+1.6**
CUS1	**Cusmapa**	**0.98**	**331**	*i* P		P	**Pn**	**17 11 58.1**	**+1.8**
RBDL	**Robledal**	**1.08**	**348**	⇓*i* P		P	**Pn**	**17 11 59.1**	**+1.3**
LCY	**Lacayo**	**1.20**	**72**	*i* P		P	**Pg**	**17 12 00.6**	**+1.1**
VSM	**San Miguel**	**1.22**	**72**	*e*P		P	**Pg**	**17 12 00.8**	**+0.9**
CAHU	**Cacaocuatique**	**1.41**	**59**	⇓*i* P		P	**Pn**	**17 12 02.9**	**+0.4**
CNCH	**Conchagua**	**1.60**	**82**	*e*P		P	**Pn**	**17 12 06.0**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.35**	**64**	*e*P		P	**Pn**	**17 12 15.5**	**+0.4**
CNGN	**Cerro Negro**	**2.75**	**101**	*e*P		P	**Pn**	**17 12 21.9**	**+1.3**
MOMN	**Momotombo**	**2.92**	**102**	*e*P		P	**Pn**	**17 12 24.1**	**+1.1**
COPN	**Copaltepe**	**2.93**	**107**	*e*P		P	**Pn**	**17 12 23.9**	**+0.8**
COPN				*e*S		S	**Sn**	**17 12 56.7**	**-1.7**
ESTN	**Estel**	**3.01**	**89**	*e*P		P	**Pn**	**17 12 25.3**	**+1.0**
APYN	**Apoyeque**	**3.14**	**105**	*e*P		P	**Pn**	**17 12 27.2**	**+1.2**
MGAN	**Managua**	**3.26**	**106**	*e*P		P	**Pn**	**17 12 31.0**	**+3.3**
BOAB	**BOACO BROADBAN**	**3.75**	**99**	*e*P		P	**Pn**	**17 12 34.9**	**+0.6**
CONN	**Concepcion**	**4.03**	**111**	*e*P		P	**Pn**	**17 12 39.6**	**+1.4**
JCR	**Jicaral**	**5.32**	**126**	*e*S		S	**Sn**	**17 13 55.7**	**-1.7**
CGA2	**Cerro Gallo 2**	**5.75**	**121**	*e*S		S	**Sn**	**17 14 08.8**	**+0.6**
URSC	**Urasca**	**6.42**	**119**	*e*Pn		P	Pn	17 13 16.9	+5.6
URSC				*e*S		S	**Sn**	**17 14 27.1**	**+2.3**
TEIG	**Tepich**	**7.23**	**9**	P		P	**Pn**	**17 13 23.6**	**+1.4**
	comp=Z,4.4nm,0.3s,baz=87,slow=23,SNR=22								
TEIG						LR	LR	17 16 32.7	
	comp=Z,74nm,18.3s,baz=331,slow=43								
TXAR	**Lajitas Array**	**20.89**	**323**	P		P	**P**	**17 16 19.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=144,slow=11,SNR=14								
TXAR						LR	LR	17 24 30.5	
	comp=Z,35nm,19.8s,baz=0.0,slow=37								
TKL	**Tuckaleechee C**	**23.09**	**12**	LR		LR	LR	17 25 13.6	
	comp=Z,66nm,21.7s,baz=260,slow=36								
PDAR	**Pinedale Array**	**34.34**	**333**	P		P	**P**	**17 18 22.2**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=150,slow=6.3,SNR=2.5								
YKA	**Yellowknife Ar**	**52.54**	**346**	P		P		17 20 45.4	-4.3
	comp=Z,1.6nm,0.8s,baz=143,slow=7.5,SNR=14								
WRA	**Warramunga Arr**	**137.54**	**255**	PKP			**PKPdf**	**17 30 59.9**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=87,slow=1.9,SNR=4.6								
CMAR	**Chiang Mai Arr**	**147.62**	**345**	PKPbc			**PKPdf**	**17 31 17.7**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=323,slow=3.4,SNR=5.8								

NIED ***18*** *17:19:00,23.˚90N×122.˚40E,h26km,Mw4.1 Best double couple: M₀1.36000×10¹⁵ NP1:φ₀263.00000°,δ14.00000°, λ110.00000°. NP2:φ₀63.00000°,δ76.00000°,λ85.00000°.*

BJI ***18*** *17:19:45.6,24.˚06N×122.˚40E,h6km,mb3.5/3,ML3.5/3, Ms3.5/2,Ms7 3.4/2*

TAP ***18*** *17:19:47.4,23.˚96N×122.˚46E,h21km,ML4.3,D*

JMA ***18*** *17:19:47.4±0.3,23.˚94N×122.˚44E,h22km±5km,M3.8*

ISCJB ***18*** *17:19:47.5±0.3,23.˚91N±0.˚02×122.˚50E±0.˚01,h23km±2km, mb4.1/19,Error ellipse: s-maj=2.7km s-min=1.9km az=155.1*

NEIC ***18*** *17:19:47.1±1.1,24.˚02N×122.˚49E,h25km±8km,mb4.3/9, Error ellipse: s-maj=6.2km s-min=5.9km az=98.0*

IDC ***18*** *17:19:53.0±6.2,24.˚08N×122.˚42E,h75km±59km,mb3.7/10, mb1 3.8/11,mb1mx3.5/37,mbtmp4.0/11,ML3.9/1,MS2.9/2, Ms1 2.9/2,ms1mx2.6/44,Error ellipse: s-maj=41.3km s-min=16.3km az=65.0*

ISC 18 17:19:45.7±0.9, 23.˚91N±0.˚02×122.˚51E±0.˚02, h18km±4km, n128, σ1°11/201, mb4.1/19, 2C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.67**	**36**	P		P	**Pn**	**17 20 00.5**	**+0.3**
JYNG				*e*S		S	**Sn**	**17 20 08.8**	**-1.4**
YOJ	**Yonaguni jima**	**0.71**	**40**	P		P	**Pn**	**17 20 01.4**	**+0.5**
YOJ				*e*S		S	**Sn**	**17 20 10.2**	**-1.1**
YOJ	**Yonaguni jima**	**0.71**	**40**	*e*Pn		P	**Pn**	**17 20 01.2**	**+0.4**
HWA	**Hwalien**	**0.83**	**275**	*e*P		P	**Pb**	**17 20 02.3**	**+0.7**
	baz=256								
HWA				*e*S		S	**Sb**	**17 20 14.0**	**+1.5**
	baz=256								
TWD	**Chiawan**	**0.86**	**282**	⇓*i* P		P	**Pb**	**17 20 02.4**	**+0.4**
	baz=263								
TWD				S		S	**Sg**	**17 20 13.5**	**-0.3**
	baz=263								
ENA	**Nanau**	**0.87**	**306**	P		P	**Pb**	**17 20 02.7**	**+0.4**
	baz=305								
ENA				*e*S		S	**Sb**	**17 20 14.2**	**+0.6**
	baz=305								
NACB	**Ninganchiao**	**0.88**	**288**	*e*Pg		Pg	**Pg**	**17 20 02.5**	**-0.4**
TEGC	**Jichi Village**	**0.91**	**258**	*e*P		P	**Pn**	**17 20 04.6**	**+1.0**
	baz=252								
TEGC				*e*S		S	**Sn**	**17 20 16.7**	**+0.4**
	baz=252								
ESF	**Shoufeng Towns**	**0.92**	**268**	*e*P		P	**Pn**	**17 20 04.3**	**+0.6**
	baz=252								
ESF				*e*S		S	**Sg**	**17 20 16.1**	**+0.3**
	baz=252								
TWC	**Suao**	**0.92**	**319**	⇑*i* P		P	**Pg**	**17 20 03.3**	**-0.4**
	baz=319								
TWC				*e*S		S	**Sb**	**17 20 15.9**	**+0.9**
	baz=319								
ESL	**Shilin**	**0.99**	**265**	⇓P		P	**Pb**	**17 20 04.2**	**-0.2**
	baz=260								
ESL				*e*S		S	**Sb**	**17 20 16.3**	**-0.8**
	baz=260								
EGS		**1.07**	**330**	P		P	**Pg**	**17 20 06.5**	**0.0**
	baz=321								
EGS				*e*S		S	**Sn**	**17 20 20.9**	**+0.7**
	baz=321								
ILA	**Ilan**	**1.10**	**321**	*e*P		P	**Pg**	**17 20 07.1**	**+0.1**
	baz=321								
ILA				*e*S		S	**Sn**	**17 20 21.8**	**+0.8**
	baz=321								
TWE	**Neicheng**	**1.12**	**316**	P		P	**Pg**	**17 20 07.2**	**-0.2**
	baz=316								
TWE				*e*S		S	**Sn**	**17 20 22.0**	**+0.6**
	baz=316								
ENTT	**Niioudou**	**1.13**	**310**	⇓*i* P		P	**Pg**	**17 20 07.2**	**-0.4**
	baz=309								
ENTT				*e*S		S	**Sn**	**17 20 22.3**	**+0.6**
	baz=309								
EHY	**Hungye**	**1.16**	**250**	*e*P		P	**Pn**	**17 20 07.4**	**+0.3**
	baz=245								
EHY				*e*S		S	**Sb**	**17 20 21.6**	**-0.4**
	baz=245								
WHF	**Hehuan Shan**	**1.17**	**282**	*e*S		S	**Sb**	**17 20 21.6**	**-0.9**
	baz=264								
NNS	**Nan Shan**	**1.17**	**297**	⇓P		P	**Pn**	**17 20 07.5**	**+0.3**
	baz=282								
NNS				*e*S		S	**Sb**	**17 20 22.9**	**+0.6**
	baz=282								
IRIF	**Iriomote-Funau**	**1.19**	**69**	P		P	**Pg**	**17 20 09.9**	**+1.2**
IRIF				S		S	**Sg**	**17 20 27.1**	**+2.8**
HATJ	**Hateruma jima**	**1.19**	**83**	P		P	**Pg**	**17 20 10.1**	**+1.4**
HATJ				S		S	**Sg**	**17 20 26.4**	**+2.1**
TWB1	**Santiao Chiao**	**1.19**	**336**	P		P	**Pb**	**17 20 08.0**	**+0.2**
	baz=356								
TWB1				*e*S		S	**Sg**	**17 20 24.4**	**0.0**
	baz=356								
YULB	**Yu-li**	**1.23**	**245**	*e*Pn		P	**Pn**	**17 20 08.1**	**+0.1**
TWF1	**Yuli**	**1.25**	**244**	P		P	**Pn**	**17 20 08.9**	**+0.7**
	baz=239								
TWF1				*e*S		S	**Sn**	**17 20 25.5**	**+0.9**
	baz=239								
TWT	**Tachien**	**1.27**	**286**	P		P	**Pb**	**17 20 09.8**	**+0.6**
	baz=269								
TWT				*e*S		S	**Sb**	**17 20 26.1**	**+0.8**
	baz=269								
YHNB	**Yeheng**	**1.28**	**306**	*e*Pn		P	**Pn**	**17 20 09.2**	**+0.4**
NSK	**Sanguang**	**1.30**	**306**	⇓P		P	**Pb**	**17 20 09.7**	**0.0**
	baz=305								
NSK				*e*S		S	**Sn**	**17 20 26.8**	**+0.8**
	baz=305								
CHKT	**Chengkung**	**1.33**	**233**	*e*P		P	**Pn**	**17 20 09.4**	**+0.1**
	baz=228								
CHKT				*e*S		S	**Sn**	**17 20 24.9**	**-1.6**
	baz=228								
NWF	**Wu-fen Shan**	**1.33**	**330**	⇓P		P	**Pb**	**17 20 10.3**	**+0.1**
	baz=331								
NWF				*e*S		S	**Sg**	**17 20 28.4**	**-0.5**
	baz=331								
TWA	**Mucha**	**1.36**	**322**	*e*P		P	**Pg**	**17 20 11.9**	**-0.1**
	baz=322								
TWA				*e*S		S	**Sg**	**17 20 29.3**	**-0.5**
	baz=322								
JKRS	**Kuro-shima**	**1.41**	**76**	P		Pg	**Pg**	**17 20 13.3**	**+0.5**
JKRS				*e*S		S	**Sg**	**17 20 32.9**	**+1.7**
TATO	**Taipei**	**1.41**	**319**	*e*Pn		Pb	**Pb**	**17 20 11.4**	**-0.1**
SSLB	**Suanglung**	**1.43**	**265**	*e*Pn		Pn	**Pn**	**17 20 11.7**	**+0.9**
SSLB				*e*Sn		Sn	**Sn**	**17 20 27.1**	**-2.1**
TAP1	**Taipei**	**1.44**	**321**	*e*P		Pb	**Pb**	**17 20 12.4**	**+0.4**
	baz=321								
TAP1				*e*S		S	**Sg**	**17 20 31.6**	**-0.8**
	baz=321								
TAP	**Taipei**	**1.45**	**321**	*e*P		Pg	**Pg**	**17 20 12.8**	**-0.9**
	baz=321								
TAP				*e*S		S	**Sg**	**17 20 31.6**	**-1.0**
	baz=321								
SMLT	**Sun Moon Lake**	**1.48**	**269**	⇓*e*P		Pn	**Pn**	**17 20 12.4**	**+1.0**
	baz=266								
SMLT				*e*S		S	**Sn**	**17 20 30.8**	**+0.4**
	baz=266								
YUS	**Yu-Shan**	**1.49**	**254**	*e*P		Pb	**Pb**	**17 20 13.1**	**-0.1**
	baz=250								
YUS				*e*S		S	**Sn**	**17 20 31.0**	**-0.2**
	baz=250								
TYC	**Yuchr**	**1.52**	**270**	*e*P		Pb	**Pb**	**17 20 13.0**	**-0.2**
	baz=256								
TYC				*e*S		S	**Sn**	**17 20 31.3**	**+0.1**
	baz=256								
TWS1	**Kuangyinshan**	**1.55**	**320**	P		Pb	**Pb**	**17 20 13.6**	**-0.2**
	baz=320								
TWS1				*e*S		S	**Sb**	**17 20 33.8**	**+0.7**
	baz

TWK				*e*S		**Sb**	**17 20 45.6**	**+0.4**
	baz=247							
WTCT	**Ta-ch'eng**	**2.04 269**		*e*P		**Pb**	**17 20 21.8**	**-0.5**
	baz=265							
WTCT				*e*S		**Sb**	**17 20 47.1**	**-0.2**
	baz=265							
LAY	**Lan-yu**	**2.06 206**		*e*P		**Pn**	**17 20 19.9**	**+0.4**
	baz=202							
LAY				*e*S		**Sn**	**17 20 43.7**	**-1.1**
	baz=202							
SSD	**Sandimen**	**2.08 237**		*e*P		**Pb**	**17 20 21.9**	**-1.1**
	baz=226							
SSD				*e*S		**Sb**	**17 20 47.8**	**-0.7**
	baz=226							
WSF	**Szhu**	**2.12 263**		*e*P		**Pb**	**17 20 22.8**	**-0.7**
	baz=259							
WSF				*e*S		**Sb**	**17 20 49.3**	**-0.2**
	baz=259							
JTJ	**Tarama**	**2.12 70**		P		**Pb**	**17 20 23.2**	**-0.5**
JTJ				S		**Sb**	**17 20 49.5**	**-0.2**
CHN3	**Shinhua**	**2.14 248**		*e*P		**Pb**	**17 20 24.2**	**+0.3**
	baz=244							
CHN3				*e*S		**Sb**	**17 20 51.5**	**+1.3**
	baz=244							
TAW	**Tawu**	**2.15 224**		*e*P		**Pb**	**17 20 23.2**	**-0.8**
	baz=232							
TAW				*e*S		**Sn**	**17 20 46.2**	**-0.5**
	baz=232							
EAST	**Anshuo**	**2.16 226**		*e*P		**Pn**	**17 20 22.2**	**+1.4**
	baz=222							
EAST				*e*S		**Sn**	**17 20 47.0**	**-0.1**
	baz=222							
CHN8	**Yiju**	**2.19 256**		*e*P		**Pb**	**17 20 23.7**	**-1.0**
	baz=252							
CHN8				*e*S		**Sn**	**17 20 50.1**	**+2.4**
	baz=252							
SGLT	**Jiouru**	**2.20 238**		*e*P		**Pb**	**17 20 26.1**	**+1.2**
	baz=234							
SGLT				*e*S		**Sb**	**17 20 53.5**	**+1.6**
	baz=234							
TWM1	**Shoushan**	**2.21 241**		*e*P		**Pb**	**17 20 26.0**	**+1.0**
	baz=238							
TWM1				*e*S		**Sb**	**17 20 53.4**	**+1.3**
	baz=238							
SCLT	**Jiali**	**2.25 251**		*e*P		**Pb**	**17 20 24.8**	**-1.1**
	baz=247							
SCLT				*e*S		**Sb**	**17 20 52.8**	**-0.5**
	baz=247							
TAI1	**Yung-k'ang**	**2.27 248**		*e*P		**Pb**	**17 20 26.0**	**-0.1**
	baz=244							
TAI1				*e*S		**Sb**	**17 20 53.5**	**-0.4**
	baz=244							
SCZT	**Fangliau**	**2.32 229**		*e*P		**Pb**	**17 20 26.5**	**-0.5**
	baz=217							
SCZT				*e*S		**Sn**	**17 20 53.0**	**+2.0**
	baz=217							
TSEB	**Hengchuen, Pin**	**2.49 217**		*e*P		**Pb**	**17 20 28.2**	**-1.8**
	baz=214							
TSEB				*e*S		**Sn**	**17 20 56.9**	**+1.6**
	baz=214							
HEN	**Hengchun**	**2.50 221**		*e*P		**Pn**	**17 20 27.6**	**+2.1**
	baz=217							
HEN				*e*S		**Sn**	**17 20 56.6**	**+1.0**
	baz=217							
TWK1	**Hengchun**	**2.51 219**		*e*P		**Pb**	**17 20 28.9**	**-1.3**
	baz=215							
TWK1				*e*S		**Sn**	**17 20 56.8**	**+1.0**
	baz=215							
JIRB	**Irabujima**	**2.59 69**		P		**Pb**	**17 20 29.4**	**-2.2**
JIKM	**Ikemajima**	**2.69 67**		P		**Pb**	**17 20 32.3**	**-1.0**
JMJ	**Miyako jima 2**	**2.69 70**		P		**Pb**	**17 20 32.6**	**-0.7**
WDGT	**Dungji**	**2.70 257**		*e*P		**Pn**	**17 20 30.1**	**+1.9**
	baz=253							
WDGT				*e*S		**Sn**	**17 21 01.0**	**+0.6**
	baz=253							
PNG	**Penghu**	**2.73 263**		*e*P		**Pn**	**17 20 30.3**	**+1.6**
	baz=259							
PNG				*e*S		**Sn**	**17 21 02.2**	**+1.0**
	baz=259							
JOGS	**Gusukube**	**2.77 72**		P		**Pb**	**17 20 33.3**	**-1.4**
QZH	**Quanzhou**	**3.72 287**	⇑	*i*Pn		Pn	17 20 35.1	-7.1
QZH				Sn		Sn	17 21 15.0	-11
QZH				smax		smax		
	comp=N,180nm,0.8s							
QZH				smax		smax		
	comp=E,190nm,0.7s							
QZH				LR		LR		
	comp=Z,640nm,10.4s							
KNM	**Kinmen**	**3.76 279**		*e*P		**Pn**	**17 20 45.2**	**+2.4**
	baz=275							
JOW	**Kunigami**	**5.97 60**		*e*Pn		**Pn**	**17 21 13.1**	**0.0**
JNU	**Nakatsue**	**11.76 37**		LR		LR	17 27 15.0	
	comp=Z,48nm,19.4s,baz=126,slow=38							
ENH	**Enshi**	**13.21 301**		*e*Pn		**Pn**	**17 22 48.1**	**-4.4**
KSAR	**Wonju Array Be**	**14.25 18**		P		**Pn**	**17 23 10.2**	**+3.6**
KSRS	**Korea Array**	**14.27 18**		P		**Pn**	**17 23 10.2**	**+3.3**
	comp=Z,0.6nm,0.3s,baz=198,slow=12,SNR=47							
KSRS				LR		LR	17 29 09.3	
	comp=Z,64nm,20.0s,baz=187,slow=39							
KS01	**Wonju Array Si**	**14.29 18**		*e*P		**P**	**17 23 13.7**	**-0.5**
SONA0	**Songino Array**	**27.10 336**		*e*P		**P**	**17 25 26.6**	**-1.0**
	comp=Z,2.9nm,0.9s							
SONM	**Songino Array**	**27.10 336**		P		**P**	**17 25 26.6**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=153,slow=9.1,SNR=8.4							
SONA1	**Songino Array**	**27.11 336**		*e*P		**P**	**17 25 26.7**	**-0.9**
MK01	**Makanchi Array**	**39.37 316**		*e*P		**P**	**17 27 13.9**	**-0.2**
MK31	**Makanchi Array**	**39.38 316**		*e*P		**P**	**17 27 14.3**	**0.0**
MK32	**Makanchi Array**	**39.38 316**		*e*P		**P**	**17 27 14.2**	**0.0**
MKAR	**Makanchi Array**	**39.38 316**		P		**P**	**17 27 14.2**	**0.0**
	comp=Z,1.6nm,0.4s,baz=101,slow=9.3,SNR=40							
MKAR	**Makanchi Array**	**39.38 316**		*e*P		**P**	**17 27 14.5**	**+0.2**
MAKZ	**Makanchi**	**39.59 316**		*e*P		**P**	**17 27 15.4**	**-0.5**
	comp=Z,4.9nm,1.1s							
ZAA0	**Zalesovo Array**	**41.14 327**		*e*P		**P**	**17 27 27.1**	**-1.5**
ZALV	**Zalesovo Beam**	**41.14 327**		P		**P**	**17 27 27.5**	**-1.1**
	comp=Z,4.0nm,0.6s,baz=117,slow=8.0,SNR=15							
ZAA1	**Zalesovo Array**	**41.14 327**		*e*P		**P**	**17 27 27.5**	**-1.1**
H11S3	**WAKE ISLAND Hy**	**41.41 89**		T		T	18 11 55.2	
	baz=283,slow=75,SNR=6.4							
H11S1	**WAKE ISLAND Hy**	**41.42 89**		T		T	18 11 56.0	
	baz=283,slow=75,SNR=8.2							
H11S2	**WAKE ISLAND Hy**	**41.43 89**		T		T	18 11 56.5	
	baz=283,slow=75,SNR=10							
TKM2	**Tokmak 2**	**42.89 308**		*e*P		**P**	**17 27 44.4**	**+1.1**
	comp=Z,5.2nm,0.8s							
KURK	**Kurchatov**	**43.08 320**		*e*P		**P**	**17 27 44.2**	**-0.3**
	comp=Z,1.1nm,0.9s							
EKS2	**Erkin-Say**	**44.16 307**		*e*P		**P**	**17 27 54.2**	**+0.6**
	comp=Z,4.9nm,1.2s							
WR1	**Warramunga Arr**	**45.09 164**		*e*P		**P**	**17 28 02.6**	**+1.7**
	comp=Z,20nm,1.6s							
WRA	**Warramunga Arr**	**45.09 164**		P		**P**	**17 28 02.6**	**+1.7**
	comp=Z,1.2nm,0.7s,baz=348,slow=9.1,SNR=5.2							
KKAR	**Karatay Array**	**46.60 307**		*e*P		**P**	**17 28 12.7**	**-0.1**
VOSK	**Vostochnaya**	**48.23 320**		*e*P		**P**	**17 28 24.0**	**-1.2**
	comp=Z,1.3nm,0.8s							
AS31	**Alice Springs**	**48.57 166**		*e*P		**P**	**17 28 28.9**	**+0.7**
	comp=Z,1.2nm,1.0s							
ASAR	**Alice Springs**	**48.57 166**		P		**P**	**17 28 30.7**	**+2.6**
	comp=Z,0.8nm,0.8s,baz=344,slow=7.5,SNR=11							
ABKAR	**Akbulak array**	**54.50 314**		*e*P		**P**	**17 29 12.5**	**+0.2**
GEYT	**Alibeck**	**55.98 301**		P		**P**	**17 29 22.9**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=49,slow=4.5,SNR=6.8							
KIV	**Kislovodsk**	**66.70 309**		*e*P		**P**	**17 30 35.8**	**+0.1**
	comp=Z,8.3nm,1.3s							
FINES	**FINESS Array B**	**72.29 330**		P		**P**	**17 31 08.8**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=83,slow=7.9,SNR=4.9							
BRTR	**Keskin Array B**	**74.31 307**		P		**P**	**17 31 21.6**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=103,slow=5.3,SNR=9.3							
NOA	**NORSAR Array B**	**79.03 332**		P		**P**	**17 31 48.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=62,slow=4.1,SNR=3.0							
YKA	**Yellowknife Ar**	**82.75 23**		P		**P**	**17 32 07.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=317,slow=5.5,SNR=4.5							

*ISCJB **18** 17:23:02.9±0.9, 37.69N±0.05×143.61E±0.08, h33km, mb3.6/3, Error ellipse: s-maj=9.2km s-min=7.4km az=162.3*

*IDC **18** 17:23:02.7±2.2, 37.27N×143.81E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/42, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=44.7km s-min=32.2km az=64.0*

*JMA **18** 17:23:04.1±0.1, 37.74N×143.52E, h46km, M3.1*

ISC 18 17:23:04.0±1.4, **37.73N**±0.06×**143.66E**±0.10, **h35**km, **n14,** σ1§**16/20, mb3.6/3, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.96**	**292**	P	**Pn**	**17 23 34.5**	**-0.2**
JIO				*e*S	**Sn**	**17 23 56.9**	**-1.2**
OFUJ	**Ofunato**	**2.06**	**311**	P	**Pn**	**17 23 35.9**	**-0.3**
JMK	**Ichinoseki**	**2.27**	**303**	P	**Pn**	**17 23 39.0**	**0.0**
JOM	**Ohasama**	**2.54**	**314**	P	**Pn**	**17 23 43.1**	**+0.3**
JOM				*e*S	**Sn**	**17 24 11.9**	**-0.6**
JFT	**Otama**	**2.64**	**266**	P	**Pn**	**17 23 44.0**	**-0.2**
JFT				*e*S	**Sn**	**17 24 14.2**	**-0.8**
JYK	**Kaneyama**	**2.85**	**296**	P	**Pn**	**17 23 47.9**	**+0.9**
JYK				*e*S	**Sn**	**17 24 20.1**	**0.0**
JAG	**Ashikaga**	**3.60**	**250**	P	**Pn**	**17 23 57.9**	**+0.5**
JAG				*e*S	**Sn**	**17 24 37.8**	**-0.9**
JRY	**Ryogami san**	**4.18**	**247**	P	**Pn**	**17 24 05.8**	**+0.5**
MJAR	**Matsushiro Arr**	**4.51**	**256**	Pn	**Pn**	**17 24 11.9**	**+2.1**
	1.5nm,0.3s,baz=89,slow=15,SNR=23						
JCH	**Churui**	**4.89**	**357**	P	**Pn**	**17 24 15.8**	**+0.8**
JCH				*e*S	**Sn**	**17 25 08.4**	**-1.8**
JHJ	**Hachijo jima 2**	**5.58**	**216**	Pn	**Pn**	**17 24 24.0**	**-0.6**
	3.1nm,0.3s,baz=73,slow=20,SNR=5.8						
JHJ				Sn	**Sn**	**17 25 24.7**	**-2.7**
	6.6nm,0.3s,baz=253,slow=19,SNR=3.1						
MKAR	**Makanchi Array**	**45.27**	**302**	P	P	17 31 24.7	+6.7
	0.6nm,0.9s,baz=82,slow=8.7,SNR=3.8						
WRA	**Warramunga Arr**	**58.03**	**190**	P	**P**	**17 32 54.7**	**+1.2**
	0.7nm,0.7s,baz=7.5,slow=6.8,SNR=5.0						
ASAR	**Alice Springs**	**61.75**	**190**	P	**P**	**17 33 19.6**	**+0.6**
	0.5nm,1.0s,baz=3.1,slow=7.4,SNR=3.5						

*ISCJB **18** 17:25:38.5±0.8, 32.35N±0.05×115.36W±0.06, h18km±9km, Error ellipse: s-maj=10.5km s-min=5.8km az=44.9*

*ECX **18** 17:25:39.8±0.6, 32.33N×115.39W, h4km, MD2.3, ML2.4*

*MEX **18** 17:25:40.3±0.8, 32.40N×115.26W, h16km±19km, MD3.6*

ISC 18 17:25:38.3±0.9, **32.32N**±0.09×**115.39W**±0.09, **h16**km±13km, **n11,** σ**0§61**/18, **1D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.12**	**38**	*e*P	**Pg**	**17 25 41.9**	**0.0**
CPBX				*e*S	**Sg**	**17 25 44.5**	**+0.2**
CPBX				IAML		17 25 47.0	
	comp=E,7μm,0.1s						
CPBX				*e*		17 25 47.0	
CPBX				IAML		17 25 47.0	
	comp=N,4μm,0.3s						
MBIG	**Mexicali**	**0.18**	**63**	*e*P	**Pg**	**17 25 43.3**	**+0.5**
MBIG				*e*S	**Sg**	**17 25 44.6**	**-1.1**
WESC	**Westside Schoo**	**0.52**	**326**	*e*P	**Pb**	**17 25 49.2**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.69**	**298**	*e*P	**Pb**	**17 25 51.8**	**-0.2**
ECBX	**El Chinero**	**0.90**	**161**	*e*P	**Pb**	**17 25 55.8**	**+0.2**
ECBX				*e*S	**Sb**	**17 26 08.1**	**+0.8**
ECBX				IAML		17 26 08.6	
	comp=E,75nm,0.5s						
ECBX				⇓*e*		17 26 08.6	
CBX	**Cerro Bola**	**1.08**	**270**	*e*P	**Pn**	**17 25 58.9**	**0.0**
CBX				*e*S	**Sb**	**17 26 13.4**	**+0.8**
CBX	**Cerro Bola**	**1.08**	**270**	*e*P	**Pn**	**17 25 58.9**	**0.0**
CBX				*e*S	**Sb**	**17 26 13.4**	**+0.8**
TJIG	**Tijuana**	**1.09**	**276**	*e*P	**Pn**	**17 25 59.0**	**-0.1**
TJIG				*e*S	**Sb**	**17 26 12.5**	**-0.4**
BAR	**Barrett**	**1.14**	**288**	*e*P	**Pb**	**17 25 59.6**	**0.0**
SPIG	**San Pedro Mart**	**1.28**	**183**	*e*P	**Pn**	**17 26 01.6**	**-0.2**
SPIG				*e*S	**Sn**	**17 26 17.7**	**-1.1**
SDRC	**San Diego Road**	**1.37**	**288**	*e*P	**Pn**	**17 26 03.1**	**+0.3**

*IDC **18** 17:28:00.5±1.1, 14.46N×146.98E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/43, mbtmp3.8/9, ML4.0/1, Error ellipse: s-maj=30.5km s-min=18.3km az=106.0*

*ISCJB **18** 17:28:02.8±0.5, 14.39N±0.06×147.10E±0.07, h33km, mb4.2/13, Error ellipse: s-maj=9.8km s-min=8.7km az=37.2*

*NEIC **18** 17:28:04.5±2.6, 14.38N×147.06E, h30km±19km, mb4.7/5, Error ellipse: s-maj=12.0km s-min=8.6km az=68.0*

ISC 18 17:28:04.7±0.8, **14.34N**±0.08×**147.07E**±0.09, **h33**km, **n26,** σ**0§98/27, mb4.1/13, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.26**	**251**	Pn	**Pn**	**17 28 39.4**	**-0.4**
	45nm,0.3s,baz=119,slow=0.7,SNR=16						
GUMO				Sn	**Sn**	**17 29 06.5**	**-0.1**
	35nm,0.3s,baz=158,slow=24,SNR=7.3						
ANA2	**Anatahan**	**2.38**	**327**	*e*Pn	**Pn**	**17 28 41.9**	**+0.4**
SARN	**Sarigan**	**2.66**	**332**	*e*Pn	**Pn**	**17 28 45.5**	**+0.3**
PATS	**Pohnpei**	**13.33**	**123**	*e*Pn	**Pn**	**17 31 10.8**	**-0.8**
KSRS	**Korea Array**	**28.63**	**327**	P	**P**	**17 33 57.4**	**-0.8**
	0.6nm,0.6s,baz=144,slow=9.2,SNR=5.5						
KS15	**Wonju Array Si**	**28.64**	**327**	*e*P	**P**	**17 33 58.0**	**-0.3**
KSAR	**Wonju Array Be**	**28.64**	**327**	P	**P**	**17 33 57.4**	**-1.0**
WR1	**Warramunga Arr**	**36.30**	**200**	*e*P	**P**	**17 35 07.3**	**+1.9**
	28nm,1.8s						
WRA	**Warramunga Arr**	**36.30**	**200**	P	**P**	**17 35 07.3**	**+1.9**
	0.6nm,0.7s,baz=23,slow=9.3,SNR=3.5						
ASAR	**Alice Springs**	**39.91**	**199**	P	**P**	**17 35 36.3**	**+0.5**
	0.4nm,0.7s,baz=15,slow=7.7,SNR=2.5						
SONA0	**Songino Array**	**47.38**	**323**	*e*P	**P**	**17 36 36.3**	**+0.5**
	1.9nm,0.5s						
SONM	**Songino Array**	**47.38**	**323**	P	**P**	**17 36 36.3**	**+0.5**
	1.0nm,0.6s,baz=136,slow=6.6,SNR=4.3						
ZAA0	**Zalesovo Array**	**62.27**	**324**	*e*P	**P**	**17 38 21.6**	**-1.7**
ZAA1	**Zalesovo Array**	**62.27**	**324**	*e*P	**P**	**17 38 22.0**	**-1.3**
ZALV	**Zalesovo Beam**	**62.27**	**324**	P	**P**	**17 38 22.0**	**-1.3**
	0.4nm,0.3s,baz=95,slow=8.8,SNR=2.8						
MK01	**Makanchi Array**	**62.44**	**315**	*e*P	**P**	**17 38 24.1**	**-0.5**
MK31	**Makanchi Array**	**62.45**	**315**	*e*P	**P**	**17 38 24.4**	**-0.4**
MK32	**Makanchi Array**	**62.45**	**315**	*e*P	**P**	**17 38 25.2**	**+0.5**
MKAR	**Makanchi Array**	**62.45**	**315**	P	**P**	**17 38 25.2**	**+0.5**
	0.6nm,0.4s,baz=91,slow=8.4,SNR=18						
MKAR	**Makanchi Array**	**62.45**	**315**	*e*P	**P**	**17 38 24.9**	**+0.2**
TTA	**Tatalina**	**62.55**	**26**	*e*P	**P**	**17 38 24.9**	**-0.3**
	14nm,1.8s						
MAKZ	**Makanchi**	**62.66**	**315**	*e*P	**P**	**17 38 26.5**	**+0.3**
	1.9nm,0.6s						
RC01	**Rabbit Creek A**	**64.69**	**29**	*e*P	**P**	**17 38 41.1**	**+1.9**
	22nm,0.9s						
ILAR	**Eielson Array**	**66.98**	**25**	P	**P**	**17 38 54.7**	**+0.8**
	0.5nm,0.4s,baz=250,slow=6.0,SNR=11						
ILB	**Eielson Array**	**66.98**	**25**	*e*P	**P**	**17 38 54.1**	**+0.2**
FINES	**FINESS Array B**	**91.37**	**336**	P	**P**	**17 41 06.2**	**-0.9**
	1.1nm,0.8s,baz=123,slow=7.0,SNR=3.7						

IDC 18 17:29:44.1±8.5, **6.07S×150.92E, h92**km±59km, **mb3.5/2, mb1 3.6/3, mb1mx3.1/35, mbtmp3.8/3, ML1.0/1, Error ellipse: s-maj=108.6km s-min=55.7km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.98**	**228**	P	Pn	17 30 56.8	+0.3
	0.4nm,0.3s,baz=257,slow=19,SNR=1.8						
PMG				S	Sn	17 31 53.5	+0.6
	0.9nm,0.3s,baz=251,slow=18,SNR=2.5						
WRA	**Warramunga Arr**	**21.20**	**228**	P	P	17 34 22.2	-0.3
	1.5nm,0.5s,baz=54,slow=10,SNR=20						
ASAR	**Alice Springs**	**23.96**	**221**	P	P	17 34 50.3	+0.3
	2.5nm,0.7s,baz=58,slow=8.9,SNR=42						
TORD	**Torodi Ar. Bea**	**148.88**	**285**	PKPbc	PKPbc	17 49 21.5	-0.7
	0.8nm,0.6s,baz=71,slow=2.6,SNR=5.5						

*GCMT **18** 17:30:19.5±0.1, 13.98N×92.33W, h26km, MW5.5/112, Moment Tensor Solution. s112,c210; s110,c187; Duration: 18.3 Moment tensor: Scale 10^17^Nm; Mrr1.74±.03; Mθθ-1.36±.02; Mϕϕ-0.37±.03; Mrθ0.74±.04; Mθϕ0.59±.02; Mrϕ-0.83±.05; Best double couple: M0 2.01700×10^17^ NP1:ϕ1=127.00000°, δ62.00000°, λ101.00000°. NP2:ϕ2=285.00000°, δ30.00000°, λ71.00000°. Principal axes: T 2.1070, Plg71.0000°, Azm61.0000°; N -0.1770, Plg9.0000°, Azm302.0000°; P -1.9270, Plg16.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **18** 17:30:19.5±0.2, 14.02N×91.64W, h32km, mb4.9/81, MS4.8/134, MW5.5, MW5.4 Error ellipse: s-maj=4.5km s-min=2.8km az=216.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^17^Nm; Mrr1.31; Mθθ0.08; Mϕϕ-1.40; Mrθ-0.03; Mθϕ0.29; Mrϕ0.06; Best double couple: M0 1.40000×10^17^ NP1:ϕ1=170.00000°, δ44.00000°, λ91.00000°. NP2:ϕ2=348.00000°, δ46.00000°, λ89.00000°. Principal axes: T 1.3100, Plg88.0000°, Azm223.0000°; N 0.1400, Plg1.0000°, Azm349.0000°; P -1.4500, Plg1.0000°, Azm79.0000°;*

NEIC Felt [II] at Antigua Guatemala and Guatemala. Felt in much of southwestern Guatemala. Also felt at Antiguo Cuscatlan, Izalco, Olocuitla and San Salvador, El Salvador.

*CASC **18** 17:30:20.1±1.7, 14.27N×91.68W, h0km±182km, MD4.9, ML4.6, mb4.9(NEIC)*

*NEIC **18** 17:30:20.0±0.0, 13.91N×92.11W, h30km, Moment Tensor Solution. s30 Moment tensor: Scale 10^17^Nm; Mrr1.46; Mθθ-1.28; Mϕϕ-0.17; Mrθ1.04; Mθϕ1.16; Mrϕ-0.45; Best double couple: M0 2.10000×10^17^ NP1:ϕ1=115.00000°, δ62.00000°, λ82.00000°. NP2:ϕ2=312.00000°, δ29.00000°, λ104.00000°. Principal axes: T 1.8100, Plg72.0000°, Azm6.0000°; N 0.5300, Plg7.0000°, Azm119.0000°; P -2.3400, Plg16.0000°, Azm211.0000°;*

*MEX **18** 17:30:20.4±0.6, 13.91N×92.11W, h20km, MD4.8*

*ISCJB **18** 17:30:24.1±0.4, 14.08N±0.02×91.61W±0.02, h91km±3km, mb4.7/97, Error ellipse: s-maj=4.9km s-min=2.6km az=44.3*

*BJI **18** 17:30:26.0, 14.20N×91.50W, h76km, mB5.1/7, Ms5.3/7, Ms7 5.0/7*

*IDC **18** 17:30:27.5±2.7, 14.12N×91.59W, h101km±23km, mb4.2/20, mb1 4.4/23, mb1mx4.3/35, mbtmp4.6/23, MS4.7/30, Ms1 4.7/30, ms1mx4.7/36, Error ellipse: s-maj=21.0km s-min=10.1km az=58.0*

*MOS **18** 17:30:27.3±0.9, 14.42N×91.67W, h99km, mb4.9/28, MS4.7/17, Error ellipse: s-maj=10.3km s-min=4.7km az=108.9*

ISC 18 17:30:23.5±0.8, **14.07N**±0.05×**91.82W**±0.05, **h70**km±6km, **n915,** σ1§**49/823, mb4.8/97, 6C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUS1	**Cusmapa**	**1.82**	**95**	*e*P	**Pn**	**17 30 50.6**	**-2.2**
RBDL	**Robledal**	**2.07**	**88**	*e*P	**Pn**	**17 30 54.9**	**-1.3**
PCIG		**2.12**	**321**	*e*P	Pn	17 30 51.4	-5.4
PCIG				*e*S	**Sn**	**17 31 15.2**	**-6.9**
PCIG		**2.12**	**321**	*e*Pn	Pn	17 30 51.4	-5.4
PCIG				*e*Sn	**Sn**	**17 31 15.2**	**-6.9**
MONT	**Ecomontaæa**	**2.12**	**95**	*e*P	**Pn**	**17 30 56.0**	**-1.1**
SBLS	**San Blas**	**2.15**	**96**	*e*P	**Pn**	**17 30 55.7**	**-1.6**
SNJE	**San Jose**	**2.16**	**95**	*e*P	**Pn**	**17 30 56.3**	**-1.2**
CCIG	**Comitan**	**2.23**	**352**	*e*P	**Pn**	**17 30 58.2**	**-0.2**
CCIG				*e*S	**Sn**	**17 31 22.8**	**-2.2**
CCIG	**Comitan**	**2.23**	**352**	*e*Pn	**Pn**	**17 30 57.7**	**-0.6**
COLS	**Colinas**	**2.48**	**99**	*e*P	**Pn**	**17 31 00.2**	**-1.5**
BOQS	**Boqueron**	**2.49**	**97**	*e*P	**Pn**	**17 31 00.9**	**-1.0**
SNET	**Serv Nac Est T**	**2.54**	**98**	*e*P	**Pn**	**17 31 01.2**	**-1.4**
SNET				*e*S	**Sn**	**17 31 32.8**	**+0.2**
SNET				AML	AML	17 31 54.1	
	comp=Z,7μm,0.7s						
LFU	**La Fuente**	**2.65**	**96**	*e*P	**Pn**	**17 31 03.0**	**-1.0**
LFRS	**El Faro**	**2.71**	**99**	*e*P	**Pn**	**17 31 03.6**	**-1.3**
LBRS	**Las Brisas**	**2.72**	**97**	*e*P	**Pn**	**17 31 03.9**	**-1.0**
SNVI	**San Vicente**	**2.93**	**98**	*e*P	**Pn**	**17 31 07.1**	**-0.9**
TGBT	**Tuxtla Gutierr**	**2.96**	**336**	*e*P	**Pn**	17 31 14.3	+6.2
PACA	**Pacayal**	**3.45**	**99**	*e*P	**Pn**	**17 31 14.2**	**-0.8**
LCY	**Lacayo**	**3.48**	**100**	*e*P	**Pn**	**17 31 14.7**	**-0.7**
VSM	**San Miguel**	**3.50**	**100**	*e*P	**Pn**	**17 31 16.3**	**+0.5**
CAHU	**Cacacuatique**	**3.52**	**94**	*e*P	**Pn**	**17 31 15.4**	**-0.6**
TGUH	**Tegucigalpa,Un**	**4.41**	**90**	*e*Pn	**Pn**	**17 31 26.7**	**-1.3**
HUIG	**Huatulco**	**4.48**	**293**	*e*P	Pn	17 31 22.6	-6.3
HUIG				*e*S	Sn	17 32 09.6	-10
HUIG	**Huatulco**	**4.48**	**293**	*e*Pn	Pn	17 31 22.6	-6.3
CNGN	**Cerro Negro**	**5.22**	**107**	*e*P	**Pn**	**17 31 38.0**	**-1.2**
CNGN				*e*S	**Sn**	**17 32 45.1**	**+7.0**
CNGN				AML	AML	17 32 58.3	
	comp=N,1μm,0.6s						
MOMN	**Momotombo**	**5.40**	**107**	*e*P	**Pn**	**17 31 38.3**	**-3.3**
COPN	**Copaltepe**	**5.43**	**110**	*e*P	**Pn**	**17 31 40.2**	**-1.7**
VHO	**Vista Hermosa**	**5.60**	**303**	*e*P	Pn	17 31 40.4	-4.0
VHO				*e*S	Sn	17 32 39.8	-7.7
VHO	**Vista Hermosa**	**5.60**	**303**	*e*Pn	Pn	17 31 40.4	-4.0
VHO				*e*Sn	Sn	17 32 39.8	-7.7
TEIG	**Tepich**	**7.00**	**28**	P	**Pn**	**17 32 05.0**	**+1.6**
	comp=N,28nm,0.3s,baz=91,slow=23,SNR=144						
TEIG				S	**Sn**	**17 33 24.7**	**+3.1**
	comp=N,6.4nm,0.3s,baz=180,slow=21,SNR=4.8						
TEIG				LR	LR	17 35 24.9	
	comp=N,4μm,19.9s,baz=186,slow=43						
TEIG	**Tepich**	**7.00**	**28**	*e*P	**Pn**	**17 32 04.6**	**+1.2**
TEIG	**Tepich**	**7.00**	**28**	*e*Pn	**Pn**	**17 32 04.0**	**+0.6**
TEIG		

344A Westbrook Farm 17.34 3 P P 17 34 22.1 +0.7
baz=183
339A Huntington 17.37 352 P P 17 34 23.4 +1.8
baz=171
340A Bronson 17.38 354 P P 17 34 23.7 +1.9
baz=173
346A Big Creek Wild 17.38 7 P P 17 34 26.0 +4.3
baz=187,SNR=7.4
435B Jarrell 17.46 343 P P 17 34 25.1 +2.4
baz=161
338A Crockett 17.51 350 P P 17 34 24.4 +1.2
baz=168
347A Saraland 17.52 9 P P 17 34 24.9 +1.6
baz=190
348A Jackson 17.64 11 P P 17 34 28.9 +4.3
baz=192,SNR=7.9
434A Burnet 17.70 341 P Pn 17 34 27.5 +2.1
baz=159,SNR=8.6
243A Waterproof 17.74 1 P Pn 17 34 26.8 +1.0
baz=180
NATX Nacogdoches 17.80 352 P Pn 17 34 28.2 +1.6
baz=170,SNR=5.7
NATX Nacogdoches 17.80 352 *e*Pn Pn 17 34 26.9 +0.3
comp=N,87nm,0.9s
HELC Santa Helena 17.83 114 *e*Pn P 17 34 24.7 -2.7
336A Riesel 17.85 346 P Pn 17 34 29.0 +1.8
baz=164
335A Moody 17.89 344 P Pn 17 34 28.5 +0.8
baz=162
241A Mo Tay, Goldon 17.90 357 P Pn 17 34 29.1 +1.3
baz=176
433A Art 17.91 339 P Pn 17 34 29.5 +1.6
baz=156
244A Avery, Jackson 17.93 3 P Pn 17 34 28.6 +0.5
baz=183
245A Little AP, Sta 17.97 5 P Pn 17 34 29.7 +1.1
baz=186
240A Hunter Patters 17.98 355 P Pn 17 34 29.2 +0.4
baz=173
239A Gary 18.04 353 P Pn 17 34 30.4 +1.0
baz=171
238A Jacksonville 18.11 351 P Pn 17 34 31.2 +0.9
baz=169
247A Quitman 18.14 9 P P 17 34 30.5 +0.3
baz=189
334A Lometa 18.17 342 P Pn 17 34 32.0 +0.9
baz=159,SNR=17
HPIG 18.20 317 *e*P P 17 34 31.3 +0.2
237A Washetta, Mont 18.22 349 P Pn 17 34 33.6 +1.9
baz=167
248A Dixon Mills 18.33 11 P Pn 17 34 34.2 +1.2
baz=192
236A Katherine and 18.37 347 P Pn 17 34 34.7 +1.3
baz=165
333A Richland Sprin 18.40 340 P Pn 17 34 35.0 +1.2
baz=157,SNR=12
142A Monroe 18.40 360 P Pn 17 34 34.8 +1.0
baz=179
141A Papa Simpson, 18.48 357 P Pn 17 34 35.6 +0.8
baz=176
143A Socs Landing, 18.56 1 P Pn 17 34 35.7 0.0
baz=181
140A Cam and Jess, 18.56 355 P Pn 17 34 35.6 -0.1
baz=174
146A Union 18.66 7 P Pn 17 34 39.0 +2.1
baz=188
139A Bunkhouse Ranc 18.68 353 P Pn 17 34 38.0 +0.9
baz=172
NORC Norcasia 18.70 115 *e*P Pn 17 34 38.7 +1.1
LTX Lajitas 18.74 326 *e*P Pn 17 34 38.7 +0.6
LTX Lajitas 18.74 326 *e*P Pn 17 34 38.6 +0.6
TX31 Lajitas Ar. Si 18.74 326 *e*P Pn 17 34 38.2 +0.1
TXAR Lajitas Array 18.74 326 P Pn 17 34 38.6 +0.6
comp=N,0.9nm,0.3s,baz=157,slow=9.6,SNR=136
TXAR LR LR 17 43 06.6
comp=N,986nm,20.2s,baz=0.0,slow=40
138A Matatall Enter 18.75 351 P Pn 17 34 41.1 +3.1
baz=170
234A Clairette 18.77 343 P Pn 17 34 38.7 +0.4
baz=160,SNR=9.6
137A Heron Place, G 18.80 350 P Pn 17 34 39.7 +1.1
baz=168
147A Livingston 18.81 9 P Pn 17 34 40.3 +1.6
baz=190
136A Ennis 18.82 348 P Pn 17 34 39.1 +0.2
baz=165
TIGA Tifton 18.87 22 P Pn 17 34 40.3 +0.8
baz=205
TIGA Tifton 18.87 22 *e*P Pn 17 34 39.8 +0.4
comp=N,70nm,0.8s
233A Rising Star 19.01 341 P Pn 17 34 41.2 0.0
baz=158
OCAC Ocana 19.05 106 *e*P Pn 17 34 40.9 -0.9
Z43A Armstrong Fami 19.07 1 P P 17 34 41.1 +0.8
baz=181
OTAV Otavalo 19.07 135 *e*P P 17 34 39.0 -2.1
135A Vickery Place, 19.10 345 P P 17 34 41.7 +1.0
baz=163,SNR=6.1
Z42A Norrel Spur, H 19.12 360 P Pn 17 34 41.9 -0.5
baz=179
Z41A Richland Creek 19.13 357 P Pn 17 34 42.1 -0.4
baz=177
Z40A Long Farm, Mag 19.16 356 P P 17 34 42.2 +0.8
baz=175
Z44A Pea Ridge, Bel 19.17 4 P Pn 17 34 42.5 -0.5
baz=184
Z46A Louisville 19.22 7 P Pn 17 34 44.2 +0.6
baz=188
134A White-Moore Ra 19.29 344 P P 17 34 43.7 +1.0
baz=161,SNR=7.1
Z38A Mt. Pleasant 19.32 352 P Pn 17 34 44.2 -0.5
baz=170
Z45A Winona 19.32 5 P Pn 17 34 44.9 +0.2
baz=186
Z47A Carrollton 19.35 10 P Pn 17 34 45.2 +0.1
baz=190,SNR=21
ROSC El Rosal 19.53 116 P Pn 17 34 46.9 -0.9
comp=N,2.1nm,0.3s,baz=71,slow=2.5,SNR=15
ROSC LR LR 17 43 47.8
comp=N,1μm,18.1s,baz=298,slow=41
ROSC El Rosal 19.53 116 *e*P Pn 17 34 47.4 -0.4
ROSC El Rosal 19.53 116 *e*P P 17 34 45.7 -0.3
133A Hamilton Ranch 19.56 342 P Pn 17 34 47.2 -0.5
baz=159,SNR=12
BTLC Betulia, Santa 19.57 109 *e*P Pn 17 34 47.2 -0.9
WLAR White Oak Lake 19.57 357 *e*P P 17 34 44.3 -1.5
Z36A Blue Ridge 19.57 348 P P 17 34 47.1 +1.2
baz=166
Z48A Northport 19.61 11 P Pn 17 34 48.2 0.0
baz=192,SNR=11
SLBS Sierra La Lagu 19.62 302 *e*P Pn 17 34 50.3 +1.8
PRAC Prado 19.62 120 *e*P Pn 17 34 47.4 -1.2
PRAC Prado 19.62 120 *e*P P 17 34 46.6 0.0
Y42A Garnett, Star 19.68 0 P P 17 34 47.5 +0.4
baz=180
GRMC Gramalote, San 19.70 107 *e*P P 17 34 47.0 -0.5
CBRI Barrientos, No 19.71 107 *e*P Pn 17 34 49.7 0.0
Y41A Eaglette Beard 19.74 358 P P 17 34 48.5 +0.8
baz=177
CCAR Cane Creek 19.77 0 *e*P P 17 34 47.6 -0.3
BARC Barichara 19.77 110 *e*P P 17 34 48.6 +0.2
ABTX Abilene, Hawle 19.81 340 P P 17 34 49.8 +1.3
baz=157
ABTX Abilene, Hawle 19.81 340 *e*P P 17 34 48.9 +0.5
comp=N,35nm,0.9s
Z35A Perchaven, San 19.81 346 P P 17 34 49.8 +1.4
baz=164
Y45A Yeager Farm, C 19.82 6 P P 17 34 48.8 +0.3
baz=186
Y44A Strider, Charl 19.86 4 P Pn 17 34 50.3 -0.8
baz=184
Y39A Lockesburg 19.89 354 P P 17 34 50.1 +0.8
baz=173,SNR=7.7
Y40A Okolona 19.90 356 P P 17 34 50.4 +1.0
baz=175
Y46A Houston 19.91 7 P Pn 17 34 52.9 +1.2
baz=188,SNR=11
Y38A Idabel 19.95 353 P P 17 34 51.0 +1.1
baz=171,SNR=14
Z34A Collier Ranch, 20.00 345 P P 17 34 51.9 +1.3
baz=162
Y47A UCPARC, Winfie 20.08 10 P Pn 17 34 54.5 +0.8
baz=191,SNR=12
LPIG La Paz 20.10 303 LR LR 17 42 29.9
comp=N,2μm,18.6s,baz=124,slow=36
Y37A Hugo 20.12 351 P P 17 34 52.4 +0.6
baz=169,SNR=7.2

CHIC Chingaza 20.14 116 *e*P Pn 17 34 54.4 -0.7
RUSC La Rusia 20.15 112 *e*P P 17 34 52.3 -0.5
RUSC La Rusia 20.15 112 *e*P P 17 34 52.5 -0.3
Z33A Whitaker Ranch 20.15 343 P P 17 34 53.1 +0.9
baz=160,SNR=13
Y36A Durant 20.16 349 P P 17 34 52.8 +0.6
baz=167
SDDR Presa de Saban 20.28 73 *e*P P 17 34 53.5 -0.2
SDDR LR LR
comp=Z,4μm,19.0s
Y35A Marietta 20.31 347 P P 17 34 54.7 +0.8
baz=165,SNR=18
X41A Kaden, Bauxite 20.35 358 P P 17 34 54.9 +0.7
baz=178
X40A Basin Creek Fa 20.35 358 P P 17 34 55.3 +1.0
baz=177,SNR=8.1
X43A Marvell 20.38 2 P Pn 17 34 59.8 +2.5
baz=182
X45A UM Field Stati 20.39 6 P P 17 34 55.0 +0.3
baz=186
MIAR Mount Ida 20.45 356 P P 17 34 56.0 +0.6
baz=175,SNR=15
MIAR Mount Ida 20.45 356 *e*P P 17 34 55.5 +0.1
MIAR pmax pmax
comp=Z,72nm,1.2s
MIAR MLR MLR
comp=Z,2μm,19.0s
MIAR Mount Ida 20.45 356 *e*P P 17 34 55.5 +0.1
comp=Z,72nm,1.2s
MIAR LR LR
comp=Z,2μm,19.0s
X39A Fountain Ranch 20.46 355 P Pn 17 34 57.3 -1.0
baz=173,SNR=6.2
OXF Oxford 20.48 6 *e*P P 17 34 55.2 -0.4
OXF pmax pmax
comp=Z,139nm,1.1s
OXF Oxford 20.48 6 *e*P P 17 34 55.1 -0.4
comp=Z,140nm,1.1s
Y34A Reagan Ranch, 20.52 346 P P 17 34 56.1 -0.1
baz=163,SNR=10
UALR University of 20.63 359 *e*P P 17 34 58.5 +1.2
SJAC San Juan de Ar 20.64 120 *e*P Pn 17 34 58.9 -1.8
X37A Clayton 20.69 352 P P 17 34 59.0 +1.1
baz=170,SNR=8.8
X38A Whitesboro 20.70 353 P P 17 34 58.8 +0.8
baz=171,SNR=62
GOGA Godfrey 20.70 20 *e*P P 17 34 58.5 +0.4
GOGA pmax pmax
comp=Z,59nm,0.9s
GOGA MLR MLR
comp=Z,4μm,19.0s
GOGA Godfrey 20.70 20 *e*P P 17 34 58.5 +0.4
comp=Z,59nm,0.9s
GOGA LR LR
comp=Z,4μm,19.0s
X35A Drake 20.78 348 P P 17 34 59.2 +0.3
baz=165,SNR=17
Y33A Hilltop Ranch, 20.79 344 P P 17 34 59.5 +0.5
baz=161,SNR=7.3
X36A Centrahoma 20.82 349 P P 17 34 59.7 +0.3
baz=167,SNR=11
W41B Gary Mavity, V 21.02 359 P P 17 35 02.3 +0.8
baz=178,SNR=5.4
GRTK Grand Turk 21.03 66 *e*P P 17 34 59.4 -2.3
GRTK LR LR
comp=Z,1μm,19.0s
MET Memphis--Engin 21.04 4 *e*P P 17 35 01.8 +0.2
W38A Poteau 21.06 354 P P 17 35 02.8 +0.9
baz=172,SNR=12
W40A Ferguson Farm, 21.07 357 P P 17 35 02.9 +0.9
baz=176
X301 Greenbrier Sit 21.09 359 *e*P P 17 35 02.2 0.0
PLAL Pickwick Lake 21.10 9 *e*P P 17 35 01.2 -1.1
W39A Magazine 21.11 356 P P 17 35 03.2 +0.7
baz=174
W45A Hickory Valley 21.14 6 P P 17 35 02.9 +0.2
baz=187
WHAR Wooly Hollow 21.14 359 *e*P P 17 35 03.2 +0.4
X201 Greenbrier Sit 21.14 359 *e*P P 17 35 03.1 +0.3
X34A Smith Ranch, M 21.16 346 P P 17 35 04.4 +1.4
baz=163
CLNB Carlsbad 21.21 331 *e*P P 17 35 04.8 +1.2
W37B Quinton 21.23 352 P P 17 35 04.9 +1.1
baz=170,SNR=5.4
X33A Lawton 21.26 345 P P 17 35 03.9 -0.2
baz=162,SNR=15
W36A Wetumka 21.36 350 P P 17 35 05.2 +0.1
baz=168
X32A Elmer 21.36 343 P P 17 35 05.4 +0.2
baz=159,SNR=17
SDV Santo Domingo 21.39 102 P P 17 35 06.6 +0.8
comp=Z,9.4nm,0.3s,baz=294,slow=6.6,SNR=4.4
SDV LR LR 17 44 40.3
comp=Z,2μm,18.9s,baz=276,slow=40
SDV Santo Domingo 21.39 102 *e*P P 17 35 03.5 -2.3
comp=Z,23nm,0.7s
HBAR Harrisburg 21.43 3 *e*P P 17 35 04.7 -1.1
W35A Tecumseh 21.49 349 P P 17 35 06.4 -0.1
baz=168,SNR=20
MNTX Cornudas Mount 21.51 327 P P 17 35 07.3 +0.5
baz=141,SNR=80
MNTX Cornudas Mount 21.51 327 *e*P P 17 35 06.6 -0.1
comp=Z,51nm,0.9s
MNTX LR LR
comp=Z,1μm,19.0s
WMOK Wichita Mounta 21.52 344 P P 17 35 07.3 +0.4
baz=161,SNR=8.9
WMOK Wichita Mounta 21.52 344 *e*P P 17 35 06.2 -0.7
WMOK pmax pmax
comp=Z,26nm,0.9s
WMOK MLR MLR
comp=Z,2μm,22.0s
WMOK Wichita Mounta 21.52 344 *e*P P 17 35 06.2 -0.7
comp=Z,26nm,0.9s
WMOK LR LR
comp=Z,2μm,22.0s
RGRS Roger Stewart 21.54 27 *e*P P 17 35 04.3 -2.8
V41A Mountainview 21.63 359 P P 17 35 07.6 -0.4
baz=179,SNR=9.8
V42A Cord 21.65 1 P P 17 35 07.8 -0.4
baz=181,SNR=8.7
NHSC New Hope 21.72 27 PFAKE 17 35 20.0 +11
NHSC LR LR
comp=Z,3μm,20.0s
SWET Sewanee 21.72 13 *e*P P 17 35 09.3 +0.3
V45A Humboldt 21.74 6 P P 17 35 09.8 +0.7
baz=187,SNR=6.9
V39A Pettigrew 21.74 356 P P 17 35 09.9 +0.6
baz=175,SNR=14
W34A Bridge Creek, 21.75 347 P P 17 35 09.1 -0.2
baz=164,SNR=12
W34A Bridge Creek, 21.75 347 *e*P P 17 35 08.7 -0.6
comp=Z,61nm,0.7s
V38A Canehill 21.83 354 P P 17 35 10.1 -0.1
baz=173
W33A Caddo, Fort Co 21.84 345 P P 17 35 09.9 -0.3
baz=162,SNR=7.5
CPRX Cap Rock 21.84 332 *e*P P 17 35 10.7 +0.3
HALT Halls 21.87 5 *e*P P 17 35 07.0 -3.5
V37A Hulbert 21.93 353 P P 17 35 10.6 -0.6
baz=171,SNR=16
V36A Jenks 21.95 351 P P 17 35 11.6 +0.3
baz=169
W32A Sentinel 22.01 344 P P 17 35 11.6 -0.5
baz=160,SNR=37
TUL1 Leonard 22.04 351 P P 17 35 13.0 +0.5
baz=169
TUL1 Leonard 22.04 351 *e*P P 17 35 11.2 -1.2
comp=Z,59nm,1.1s
V35A Meyer Ranch, C 22.07 349 P P 17 35 12.9 +0.2
baz=167
MSTX Muleshoe 22.17 335 P P 17 35 13.5 -0.5
baz=150,SNR=26
MSTX Muleshoe 22.17 335 *e*P P 17 35 13.2 -0.7
comp=Z,52nm,1.0s
HHAR Hobbs 22.21 355 *e*P P 17 35 13.5 -0.7
U40A Yellville 22.22 358 P P 17 35 13.9 -0.4
baz=177
GLAT Glass 22.23 5 *e*P P 17 35 14.2 -0.2
WVT Waverly 22.26 9 *e*P P 17 35 13.9 -0.9
WVT Waverly 22.26 9 *e*P P 17 35 13.9 -0.9
U39A Green Forest 22.27 356 P P 17 35 15.1 +0.2
baz=175,SNR=9.9
V34A Guthrie 22.27 348 P P 17 35 13.8 -1.2
baz=165,SNR=12
V34A Guthrie 22.27 348 *e*P P 17 35 13.4 -1.5
comp=Z,38nm,0.9s

JSC Jenkinsville 22.28 24 *e*P P 17 35 15.1 +0.1
JSC Jenkinsville 22.28 24 *e*P P 17 35 15.1 +0.1
CPCT Cooper Cave 22.29 16 *e*P P 17 35 15.0 0.0
PVMO Portageville 22.34 5 *e*P P 17 35 15.7 +0.1
UTMT University of 22.34 6 *e*P P 17 35 14.8 -0.9
U38A Gravette 22.40 355 P P 17 35 16.1 -0.2
baz=173
V33A Lossen Ranch, 22.43 346 P P 17 35 16.4 -0.2
baz=163
U37A Salina 22.44 353 P P 17 35 16.9 +0.1
baz=171
U36A Oologah 22.51 352 P P 17 35 17.5 +0.1
baz=170
V32A Arapaho 22.52 345 P P 17 35 16.9 -0.7
baz=161,SNR=9.9
AMTX Amarillo 22.56 338 P P 17 35 17.9 -0.2
baz=154
AMTX Amarillo 22.56 338 *e*P P 17 35 17.4 -0.8
comp=Z,47nm,0.6s
PARMO Parma 22.58 4 *e*P P 17 35 17.9 -0.3
U35A Pawnee 22.64 350 P P 17 35 18.8 -0.1
baz=167
PBMO Poplar Bluff 22.65 3 *e*P P 17 35 17.3 -1.6
TKL Tuckaleechee C 22.69 17 P P 17 35 20.3 +0.9
comp=Z,9.9nm,0.7s,baz=194,slow=13,SNR=10
TKL Tuckaleechee C 22.69 17 *e*P P 17 35 19.6 +0.3
TKL Tuckaleechee C 22.69 17 *e*P P 17 35 19.6 +0.3
U34A Anderson Ranch 22.86 348 P P 17 35 20.2 -0.9
baz=165
U34A Anderson Ranch 22.86 348 *e*P P 17 35 18.6 -2.6
T41A Mountain View 22.89 0 P P 17 35 20.7 -0.7
baz=180,SNR=12
T39A Clever 22.91 357 P P 17 35 21.1 -0.5
baz=176,SNR=10
U33A Lingo Farm, Me 22.98 347 P P 17 35 21.3 -1.0
baz=164
T38A Diamond 22.98 355 P P 17 35 21.8 -0.5
baz=173
T40A Mansfield 23.00 359 P P 17 35 23.3 +0.7
baz=178,SNR=5.9
KMSC Kings Mountain 23.02 22 P P 17 35 22.5 -0.2
baz=206,SNR=14
KMSC Kings Mountain 23.02 22 *e*P P 17 35 22.5 -0.2
comp=Z,33nm,0.9s
T37A Cheneyville 18 23.13 354 P P 17 35 23.7 -0.1
baz=172,SNR=8.9
U32A Winter Ranch, 23.14 345 P P 17 35 23.5 -0.4
baz=162
T35A Sooner Cattle 23.14 350 P P 17 35 23.5 -0.4
baz=168,SNR=7.7
HSIG 23.14 313 *e*P P 17 35 23.8 -0.2
SRIG Santa Rosalia 23.17 308 *e*P P 17 35 24.4 +0.2
T36A Boggs Farm, Ca 23.19 352 P P 17 35 23.2 -1.1
baz=170
T34A McClaskey Farm 23.36 349 P P 17 35 25.2 -0.8
baz=166
S40A Lebanon 23.45 359 P P 17 35 26.0 -0.7
baz=178
121A Cookes Peak, D 23.46 324 P P 17 35 29.1 +2.0
baz=138,SNR=80
S43A Fulton Ridge, 23.46 3 P P 17 35 25.9 -0.9
baz=184,SNR=11
319A Douglas 23.53 320 *e*P P 17 35 29.4 +1.7
S38A Stockton 23.54 356 P P 17 35 27.0 -0.6
baz=174,SNR=8.0
S39A Bolivar 23.57 357 P P 17 35 27.5 -0.4
baz=176,SNR=14
TZTN Tazewell 23.58 17 *e*P P 17 35 26.8 -1.2
comp=Z,47nm,1.1s
S44A Carbondale 23.64 5 P P 17 35 28.6 0.0
baz=186,SNR=46
SIUC Southern Illin 23.67 5 *e*P P 17 35 28.2 -0.6
S45A Carrier Mills 23.69 6 P P 17 35 28.5 -0.5
baz=187,SNR=12
S37A Fort Scott 23.75 354 P P 17 35 29.4 -0.1
baz=172
S36A Lake Cedric, C 23.80 353 P P 17 35 29.7 -0.3
baz=170,SNR=6.8
S35A Otter Creek Ra 23.86 351 P P 17 35 30.3 -0.2
baz=169,SNR=12
T32A Huddler Ranch, 23.88 346 P P 17 35 30.3 -0.4
baz=162
S34A Willow Spring 24.01 350 P P 17 35 31.6 -0.2
baz=167
BNM Barren Site 24.08 329 *e*P P 17 35 34.9 +2.1
USIN University of 24.09 8 *e*P P 17 35 32.0 -0.5
R38A Fenwick Farm, 24.10 356 P P 17 35 32.4 -0.2
baz=175,SNR=13
R40A Maddies Statio 24.13 359 P P 17 35 32.4 -0.5
baz=178,SNR=11
Y22D IRIS PASSCAL I 24.17 328 P P 17 35 34.5 +1.0
baz=142
Y22D IRIS PASSCAL I 24.17 328 *e*P P 17 35 34.0 +0.5
R39A Chumby, Stover 24.18 358 P P 17 35 33.1 -0.2
baz=177
R44A Waltonville 24.21 5 P P 17 35 33.5 -0.1
baz=186,SNR=6.4
LPM Los Pinos Moun 24.21 329 *e*P P 17 35 35.7 +1.8
R37A Teagarden Farm 24.30 354 P P 17 35 35.2 +0.8
baz=172
S32A Newby Ranch, P 24.38 346 P P 17 35 36.3 +1.1
baz=163
R36A Gordon, Harris 24.38 353 P P 17 35 35.7 +0.5
baz=171
R35A Emporia Munici 24.47 352 P P 17 35 36.1 +0.1
baz=169
SLM Saint Louis 24.52 3 *e*P P 17 35 35.3 -1.1
SLM Saint Louis 24.52 3 *e*P P 17 35 35.3 -1.1
CNNC Cliffs of the 24.54 28 PFAKE 17 35 50.0 +13
CNNC LR LR
comp=Z,3μm,19.0s
LAZ Ladron 24.54 328 *e*P P 17 35 39.0 +2.1
WCI Wyandotte Cave 24.56 11 *e*P P 17 35 36.0 -0.9
WCI pmax pmax
comp=Z,130nm,0.8s
WCI Wyandotte Cave 24.56 11 *e*P P 17 35 36.0 -0.9
comp=Z,130nm,0.8s
R34A Isabella, Hill 24.61 350 P P 17 35 37.3 0.0
baz=167
ANMO Albuquerque 24.63 330 P P 17 35 39.3 +1.6
comp=Z,23nm,0.8s,baz=154,slow=12,SNR=61
ANMO LR LR 17 46 34.9
comp=Z,1μm,18.8s,baz=134,slow=39
ANMO Albuquerque 24.63 330 P P 17 35 38.6 +0.9
baz=144
ANMO Albuquerque 24.63 330 *c i*P P 17 35 39.1 +1.4
ANMO pmax pmax
comp=Z,24nm,0.8s
ANMO Albuquerque 24.63 330 *e*P P 17 35 38.9 +1.2
comp=Z,27nm,0.8s
R33A Olander Ranch, 24.76 348 P P 17 35 39.1 +0.5
baz=165
Q42A Golden Eagle 24.78 2 P P 17 35 38.6 -0.1
baz=183,SNR=6.7
OLIL Olney 24.79 7 *e*P P 17 35 38.2 -0.7
Q37A Longview Farm, 24.82 355 P P 17 35 38.5 -0.7
baz=174
Q40A Laux Farm, Aux 24.83 360 P P 17 35 38.9 -0.4
baz=179
Q38A Cooks Store, C 24.85 357 P P 17 35 39.5 0.0
baz=175
Q43A New Douglas 24.85 4 P P 17 35 39.4 0.0
baz=184,SNR=11
Q44A Meyer Farm, Va 24.86 5 P P 17 35 38.5 -1.1
baz=186,SNR=11
Q39A Willow Grove F 24.90 358 P P 17 35 40.0 +0.1
baz=177
ATAH Atahualpa 24.92 147 P P 17 35 42.5 +1.7
comp=Z,9.0nm,0.9s,baz=140,slow=15,SNR=2.5
ATAH LR LR 17 44 21.3
comp=Z,2μm,18.5s,baz=309,slow=34
Q35A Mercer Eighty, 24.98 352 P P 17 35 40.3 -0.3
baz=170
SJG San Juan 24.98 77 LR LR 17 45 29.6
comp=Z,3μm,21.7s,baz=256,slow=36
SJG San Juan 24.98 77 *e*P P 17 35 39.2 -1.7
SJG San Juan 24.98 77 *e*P P 17 35 39.1 -1.7
Q36A Arnold C. Orve 25.01 353 P P 17 35 41.7 +0.8
baz=171
R32A Long Quarter, 25.02 347 P P 17 35 41.9 +0.8
baz=164
TUC Tucson 25.10 320 P P 17 35 43.6 +1.7
baz=132
TUC Tucson 25.10 320 *e*P P 17 35 42.8 +0.9
TUC pmax pmax
comp=Z,9.0nm,0.9s
TUC MLR MLR

	comp=Z,5µm,19.0s									
TUC	**Tucson**	**25.10**	**320**	*e*P		**P**		**17 35 42.8**	**+0.9**	
	comp=Z,9.1nm,0.9s									
TUC				LR		LR				
	comp=Z,5µm,19.0s									
Q34A	**Chapman**	**25.17**	**351**	P		**P**		**17 35 42.9**	**+0.5**	
	baz=168									
BLA	**Blacksburg**	**25.20**	**22**	*e*P		**P**		**17 35 46.4**	**+3.7**	
BLA				pmax		pmax				
	comp=Z,47nm,1.1s									
BLA				MLR		MLR				
	comp=Z,3µm,22.0s									
BLA	**Blacksburg**	**25.20**	**22**	*e*P		**P**		**17 35 46.4**	**+3.7**	
	comp=Z,47nm,1.1s									
BLA				LR		LR				
	comp=Z,3µm,22.0s									
KSU1	**Kansas State U**	**25.29**	**351**	P		**P**		**17 35 43.9**	**+0.4**	
	baz=169									
KSU1	**Kansas State U**	**25.29**	**351**	*e*P		**P**		**17 35 44.1**	**+0.6**	
	comp=Z,26nm,0.7s									
KSU1				LR		LR				
	comp=Z,2µm,20.0s									
P39B	**Salisbury**	**25.34**	**358**	P		**P**		**17 35 44.7**	**+0.8**	
	baz=178									
P40A	**Paris**	**25.37**	**360**	P		**P**		**17 35 43.2**	**-0.9**	
	baz=179									
VWCC	**Virginia Weste**	**25.39**	**22**	*e*P		**P**		**17 35 43.7**	**-0.6**	
Q33A	**Connelly Farm,**	**25.40**	**349**	P		**P**		**17 35 44.9**	**+0.5**	
	baz=166									
BLO	**Bloomington**	**25.44**	**10**	*e*P		**P**		**17 35 43.9**	**-0.9**	
BLO	**Bloomington**	**25.44**	**10**	*e*P		**P**		**17 35 43.9**	**-0.9**	
P38A	**Dawn**	**25.51**	**357**	P		**P**		**17 35 45.8**	**+0.4**	
	baz=176									
P41A	**Barry, Barry**	**25.52**	**1**	P		**P**		**17 35 45.4**	**-0.2**	
	baz=181									
P37A	**Lathrop**	**25.52**	**355**	P		**P**		**17 35 44.6**	**-0.9**	
	baz=174,SNR=5.4									
Q32A	**Meitler Ranch,**	**25.53**	**348**	P		**P**		**17 35 45.4**	**-0.3**	
	baz=164									
T25A	**Trinidad**	**25.58**	**336**	P		**P**		**17 35 48.7**	**+2.3**	
	baz=150,SNR=9.7									
T25A	**Trinidad**	**25.58**	**336**	*e*P		**P**		**17 35 48.3**	**+1.9**	
CBKS	**Cedar Bluff**	**25.63**	**346**	PFAKE				17 36 00.0	+13	
CBKS				LR		LR				
	comp=Z,1µm,20.0s									
P36A	**Good Intent, A**	**25.63**	**354**	P		**P**		**17 35 47.2**	**+0.6**	
	baz=172									
P35A	**Duane Minner,**	**25.63**	**352**	P		**P**		**17 35 47.5**	**+0.9**	
	baz=170									
P34A	**Walnut Farm, R**	**25.76**	**351**	P		**P**		**17 35 49.0**	**+1.2**	
	baz=168,SNR=8.4									
P33A	**Williams Farm,**	**25.80**	**350**	P		**P**		**17 35 49.6**	**+1.5**	
	baz=166									
O40A	**La Belle**	**25.96**	**360**	P		**P**		**17 35 49.5**	**0.0**	
	baz=180,SNR=8.3									
O38A	**Galt**	**26.00**	**357**	P		**P**		**17 35 50.7**	**+0.9**	
	baz=176									
O36A	**Bolckow**	**26.11**	**355**	P		**P**		**17 35 51.9**	**+1.0**	
	baz=173									
P32A	**Huiting Farm,**	**26.15**	**348**	P		**P**		**17 35 52.5**	**+1.2**	
	baz=165									
X18A	**Snowflake**	**26.15**	**324**	*e*P		**P**		**17 35 52.9**	**+1.4**	
214A	**Organ Pipe Nat**	**26.19**	**316**	P		**P**		**17 35 53.5**	**+1.8**	
	baz=128,SNR=8.8									
O35A	**Humboldt**	**26.35**	**353**	P		**P**		**17 35 54.1**	**+1.0**	
	baz=171									
O34A	**Beatrice**	**26.37**	**352**	P		**P**		**17 35 54.2**	**+1.0**	
	baz=169									
O33A	**Hebron**	**26.40**	**350**	P		**P**		**17 35 54.6**	**+1.1**	
	baz=167									
W18A	**Petrified Fore**	**26.46**	**326**	*e*P		**P**		**17 35 55.8**	**+1.5**	
	comp=Z,18nm,0.9s									
HDIL	**Hopedale**	**26.48**	**4**	P		**P**		**17 35 54.3**	**0.0**	
	baz=185									
HDIL	**Hopedale**	**26.48**	**4**	*e*P		**P**		**17 35 54.1**	**-0.2**	
	comp=Z,26nm,0.9s									
HDIL				LR		LR				
	comp=Z,1µm,20.0s									
SDCO	**Great Sand Dun**	**26.54**	**335**	P		**P**		**17 35 56.9**	**+1.8**	
	baz=149									
SDCO	**Great Sand Dun**	**26.54**	**335**	*e*P		**P**		**17 35 56.8**	**+1.7**	
	comp=Z,6.5nm,0.9s									
SDCO				LR		LR				
	comp=Z,1µm,19.0s									
SFIN	**Lafayette**	**26.54**	**8**	P		**P**		**17 35 54.3**	**-0.4**	
	baz=190,SNR=11									
SFIN	**Lafayette**	**26.54**	**8**	*e*P		**P**		**17 35 53.7**	**-1.0**	
	comp=Z,21nm,0.7s									
KSCO	**Kaye Shedlock'**	**26.62**	**341**	P		**P**		**17 35 56.7**	**+1.1**	
	baz=156									
KSCO	**Kaye Shedlock'**	**26.62**	**341**	*e*P		**P**		**17 35 56.0**	**+0.4**	
	comp=Z,23nm,0.8s									
N39A	**Derby Farms, D**	**26.72**	**359**	P		**P**		**17 35 57.2**	**+0.9**	
	baz=178									
O31A	**Woolen Ranch,**	**26.81**	**347**	P		**P**		**17 35 58.6**	**+1.4**	
	baz=163									
PCRV	**Puerto La Cruz**	**26.85**	**95**	LR		LR		17 48 39.5		
	comp=Z,2µm,18.8s,baz=298,slow=41									
X16A	**Lo Mia Camp, P**	**26.93**	**322**	*e*P		**P**		**17 36 00.3**	**+1.7**	
S22A	**4UR Ranch, Cre**	**27.10**	**333**	P		**P**		**17 36 01.6**	**+1.4**	
	baz=146,SNR=12									
S22A	**4UR Ranch, Cre**	**27.10**	**333**	*e*P		**P**		**17 36 01.4**	**+1.2**	
ACSO	**Alum Creek Sta**	**27.20**	**15**	*e*P		**P**		**17 35 59.6**	**-1.1**	
ACSO				LR		LR				
	comp=Z,3µm,19.0s									
CBN	**Corbin Frederi**	**27.24**	**25**	PFAKE				17 36 10.0	+8.9	
CBN				LR		LR				
	comp=Z,2µm,19.0s									
113A	**Mohawk Valley,**	**27.32**	**317**	*e*P		**P**		**17 36 02.8**	**+0.9**	
MVCO	**Mesa Verde**	**27.43**	**330**	P		**P**		**17 36 04.9**	**+1.8**	
	baz=143,SNR=28									
MVCO	**Mesa Verde**	**27.43**	**330**	*e*P		**P**		**17 36 04.8**	**+1.7**	
	comp=Z,44nm,0.9s									
MVCO				LR		LR				
	comp=Z,567nm,20.0s									
Y14A	**Wickenburg**	**27.57**	**320**	*e*P		**P**		**17 36 05.2**	**+1.0**	
MCWV	**Mont Chateau**	**27.59**	**20**	*e*P		**P**		**17 36 01.4**	**-2.7**	
WUAZ	**Wupatki**	**27.67**	**324**	P		**P**		**17 36 06.8**	**+1.7**	
	baz=136,SNR=15									
WUAZ	**Wupatki**	**27.67**	**324**	*e*P		**P**		**17 36 06.2**	**+1.0**	
	comp=Z,29nm,1.0s									
WUAZ				LR		LR				
	comp=Z,3µm,19.0s									
SABA	**Saba**	**27.70**	**79**	*e*P		**P**		**17 36 02.2**	**-3.3**	
SCIA	**State Center**	**27.77**	**358**	PFAKE				17 36 20.0	+14	
SCIA				LR		LR				
	comp=Z,1µm,20.0s									
L41A	**Preston**	**27.93**	**2**	P		**P**		**17 36 07.9**	**+0.7**	
	baz=182									
SEUS	**St. Eustatius**	**27.95**	**79**	*e*P		**P**		**17 36 04.5**	**-3.1**	
L39A	**Vinton**	**27.96**	**360**	P		**P**		**17 36 08.1**	**+0.7**	
	baz=179									
L38A	**Oak Wood Farm,**	**27.99**	**358**	P		**P**		**17 36 08.3**	**+0.6**	
	baz=177									
PV01	**Paradox Valley**	**28.20**	**331**	*e*P		**P**		**17 36 12.8**	**+2.9**	
GLA	**Glamis**	**28.21**	**316**	P		**P**		**17 36 11.6**	**+1.8**	
	baz=127,SNR=6.3									
GLA	**Glamis**	**28.21**	**316**	*e*P		**P**		**17 36 10.7**	**+0.9**	
GLA	**Glamis**	**28.21**	**316**	*e*P		**P**		**17 36 10.7**	**+0.9**	
OGNE	**Ogallala**	**28.23**	**344**	P		**P**		**17 36 11.2**	**+1.2**	
	baz=158									
OGNE	**Ogallala**	**28.23**	**344**	*e*P		**P**		**17 36 10.4**	**+0.5**	
OGNE				LR		LR				
	comp=Z,1µm,21.0s									
PV15	**Paradox Valley**	**28.33**	**332**	*e*P		**P**		**17 36 11.8**	**+0.7**	
ISCO	**Idaho Springs**	**28.36**	**337**	P		**P**		**17 36 13.6**	**+2.2**	
	baz=151									
ISCO	**Idaho Springs**	**28.36**	**337**	*e*P		**P**		**17 36 13.3**	**+1.9**	
ISCO				*e*				17 39 24.0		
ISCO				pmax		pmax				
	comp=Z,3.0nm,0.8s									
ISCO				MLR		MLR				
	comp=Z,739nm,20.0s									
ISCO	**Idaho Springs**	**28.36**	**337**	*e*P		**P**		**17 36 13.3**	**+1.9**	
	comp=Z,3.2nm,0.8s									
ISCO				*e*PcP		**PcP**		**17 39 24.0**	**+1.4**	
ISCO				LR		LR				
	comp=Z,739nm,20.0s									
SMCO	**Snowmass**	**28.36**	**335**	*e*P		**P**		**17 36 11.9**	**+0.4**	
PV05	**Paradox Valley**	**28.41**	**330**	*e*P		**P**		**17 36 13.3**	**+1.6**	
Y12C	**Blythe**	**28.43**	**318**	P		**P**		**17 36 13.7**	**+2.0**	
	baz=128									
Y12C	**Blythe**	**28.43**	**318**	*e*P		**P**		**17 36 13.0**	**+1.3**	
SDMD	**Soldier's Deli**	**28.49**	**25**	*e*P		**P**		**17 36 12.5**	**+0.4**	
PDMCI	**Parker Dam,Lak**	**28.53**	**319**	P		**P**		**17 36 14.6**	**+2.0**	
	baz=129,SNR=5.7									
K40A	**Colesburg**	**28.54**	**1**	P		**P**		**17 36 13.2**	**+0.6**	
	baz=181									
O56A	**Blue Knob Stat**	**28.57**	**22**	P		**P**		**17 36 12.6**	**-0.4**	
	baz=207									
PV10	**Paradox Valley**	**28.62**	**331**	*e*P		**P**		**17 36 14.5**	**+0.8**	
K37A	**Belmond**	**28.64**	**357**	P		**P**		**17 36 14.5**	**+1.0**	
	baz=176									
N54A	**Moraine State**	**28.72**	**19**	P		**P**		**17 36 14.3**	**+0.1**	
	baz=204,SNR=6.6									
PV09	**Paradox Valley**	**28.76**	**331**	*e*P		**P**		**17 36 16.7**	**+1.7**	
JFWS	**Jewell Farm**	**28.78**	**2**	*e*P		**P**		**17 36 15.4**	**+0.7**	
JFWS				MLR		MLR				
	comp=Z,2µm,20.0s									
JFWS	**Jewell Farm**	**28.78**	**2**	*e*P		**P**		**17 36 15.4**	**+0.7**	
JFWS				LR		LR				
	comp=Z,2µm,20.0s									
SWSC	**Sam W. Stewart**	**28.81**	**315**	P		**P**		**17 36 17.2**	**+2.1**	
	baz=125									
U15A	**North Rim**	**28.84**	**324**	*e*P		**P**		**17 36 17.6**	**+2.0**	
IKP	**In-Ko-Pah, Jac**	**28.85**	**314**	P		**P**		**17 36 17.7**	**+2.1**	
	baz=124									
W13A	**Hualapai Mount**	**28.88**	**320**	*e*P		**P**		**17 36 15.6**	**-0.4**	
BC3	**Big Chuckawall**	**28.99**	**316**	P		**P**		**17 36 18.7**	**+1.9**	
	baz=126,SNR=18									
AAM	**Ann Arbor**	**29.01**	**13**	*e*P		**P**		**17 36 16.2**	**-0.5**	
AAM				MLR		MLR				
	comp=Z,3µm,19.0s									
AAM	**Ann Arbor**	**29.01**	**13**	*e*P		**P**		**17 36 16.2**	**-0.5**	
AAM				LR		LR				
	comp=Z,3µm,19.0s									
IRM	**Iron Mountain**	**29.09**	**318**	P		**P**		**17 36 19.4**	**+1.8**	
	baz=128,SNR=10									
ANWB	**Willy Bob**	**29.09**	**79**	*e*P		**P**		**17 36 16.6**	**-1.2**	
ANWB				LR		LR				
	comp=Z,3µm,20.0s									
SSPA	**Standing Stone**	**29.14**	**22**	*e*P		**P**		**17 36 17.6**	**-0.4**	
	comp=Z,39nm,0.9s									
J38A	**Wedel Dairy, R**	**29.16**	**359**	P		**P**		**17 36 19.1**	**+1.1**	
	baz=178									
MONP2	**Monument Peak**	**29.21**	**314**	P		**P**		**17 36 20.6**	**+1.7**	
	baz=124									
J36A	**Seneca 1, Swea**	**29.24**	**356**	P		**P**		**17 36 20.0**	**+1.2**	
	baz=175									
BAR	**Barrett**	**29.27**	**314**	*e*P		**P**		**17 36 19.9**	**+0.7**	
ALLY	**Alegheny Colle**	**29.30**	**18**	*e*P		**P**		**17 36 18.0**	**-1.3**	
GRGR	**Grenville**	**29.43**	**90**	PFAKE				17 36 30.0	+9.1	
GRGR				LR		LR				
	comp=Z,1µm,20.0s									
N23A	**Red Feather La**	**29.44**	**338**	*e*P		**P**		**17 36 20.7**	**-0.2**	
BELC	**Belle Mtn. Jos**	**29.56**	**316**	P		**P**		**17 36 23.7**	**+1.8**	
	baz=126,SNR=5.4									
KNB	**Kanab**	**29.56**	**324**	*e*P		**P**		**17 36 23.7**	**+1.8**	
KNB	**Kanab**	**29.56**	**324**	*e*P		**P**		**17 36 23.7**	**+1.8**	
PKCU	**Pink Cliffs**	**29.58**	**326**	*e*P		**P**		**17 36 22.6**	**+0.4**	
PHWY	**Pilot Hill**	**29.62**	**339**	*e*P		**P**		**17 36 22.9**	**+0.4**	
LDFC	**Landfair**	**29.63**	**319**	*e*P		**P**		**17 36 24.9**	**+2.3**	
PFO	**Pinyon Flats O**	**29.64**	**315**	P		**P**		**17 36 23.9**	**+1.3**	
	comp=Z,2.7nm,0.6s,baz=11,slow=2.4,SNR=3.8									
PFO				LR		LR		17 48 26.8		
	comp=Z,2µm,20.5s,baz=135,slow=36									
PFO	**Pinyon Flats O**	**29.64**	**315**	*e*P		**P**		**17 36 23.3**	**+0.6**	
PFO	**Pinyon Flats O**	**29.64**	**315**	*e*P		**P**		**17 36 23.3**	**+0.6**	
O20A	**White River Ci**	**29.70**	**334**	P		**P**		**17 36 24.6**	**+1.5**	
	baz=146									
O20A	**White River Ci**	**29.70**	**334**	*e*P		**P**		**17 36 24.5**	**+1.3**	
FDF	**Fort de France**	**29.70**	**85**	PFAKE				17 36 30.0	+6.7	
FDF				LR		LR				
	comp=Z,2µm,19.0s									
SVB	**Belmont**	**29.70**	**88**	*e*P		**P**		**17 36 21.1**	**-2.2**	
J31A	**Geddes**	**29.73**	**350**	P		**P**		**17 36 24.5**	**+1.3**	
	baz=166									
LCMT	**Little Creek M**	**29.79**	**324**	*e*P		**P**		**17 36 25.7**	**+1.7**	
NNA	**Nana**	**29.84**	**149**	LR		LR		17 46 08.6		
	comp=Z,2µm,21.8s,baz=316,slow=32									
ECSD	**EROS Data Cent**	**29.85**	**353**	P		**P**		**17 36 25.4**	**+1.2**	
	baz=170									
ECSD	**EROS Data Cent**	**29.85**	**353**	*e*P		**P**		**17 36 25.0**	**+0.7**	
	comp=Z,3.0nm,0.8s									
ECSD				LR		LR				
	comp=Z,1µm,22.0s									
I38A	**Scanlan Farm,**	**29.88**	**359**	P		**P**		**17 36 24.9**	**+0.4**	
	baz=179									
SRU	**San Rafael Swe**	**29.91**	**330**	*e*P		**P**		**17 36 26.6**	**+1.6**	
SRU	**San Rafael Swe**	**29.91**	**330**	*e*P		**P**		**17 36 26.6**	**+1.6**	
MTPU	**Mount Pierson**	**29.95**	**327**	*e*P		**P**		**17 36 27.9**	**+2.3**	
LUPA	**Lehigh Univers**	**30.09**	**25**	*e*P		**P**		**17 36 26.2**	**-0.2**	
SZCU	**Shurtz Canyon**	**30.11**	**325**	*e*P		**P**		**17 36 28.9**	**+2.0**	
P18A	**Preston Nutter**	**30.18**	**331**	*e*P		**P**		**17 36 28.3**	**+0.8**	
N59A	**State Game Lan**	**30.20**	**25**	P		**P**		**17 36 27.0**	**-0.4**	
	baz=212									
CCUT	**Cedar City**	**30.24**	**325**	*e*P		**P**		**17 36 30.1**	**+2.1**	
MSU	**Marysvale**	**30.29**	**327**	*e*P		**P**		**17 36 29.4**	**+1.0**	
MSU	**Marysvale**	**30.29**	**327**	*e*P		**P**		**17 36 29.4**	**+1.0**	
P17A	**Butcher Ranch,**	**30.30**	**330**	*e*P		**P**		**17 36 30.1**	**+1.6**	
TUQ	**Turquoise Moun**	**30.38**	**319**	P		**P**		**17 36 31.2**	**+2.1**	
	baz=128									
TMUT	**Trail Mountain**	**30.39**	**329**	*e*P		**P**		**17 36 31.0**	**+1.6**	
TCRU	**Three Creeks R**	**30.50**	**327**	*e*P		**P**		**17 36 32.1**	**+1.8**	
SHPP	**Sheep Range**	**30.58**	**321**	*e*P		**P**		**17 36 33.2**	**+2.3**	
SHPR				*e*PcP		**PcP**		**17 36 31.1**	**+2.9**	
BBSR	**BB Station**	**30.74**	**49**	*e*P		**P**		**17 36 30.6**	**-1.5**	
BBSR				LR		LR				
	comp=Z,1µm,21.0s									
BFSC	**Mount Baldy Ra**	**30.82**	**315**	P		**P**		**17 36 34.9**	**+1.9**	
	baz=124									
BUF	**Buffalo**	**30.86**	**19**	*e*P		**P**		**17 36 32.6**	**-0.5**	
CPNY	**Central Park**	**30.86**	**27**	*e*P		**P**		**17 36 31.7**	**-1.4**	
GSC	**Goldstone, Bar**	**30.86**	**318**	P		**P**		**17 36 35.3**	**+1.9**	
	baz=127									
GSC	**Goldstone, Bar**	**30.86**	**318**	*e*P		**P**		**17 36 34.6**	**+1.2**	
GSC	**Goldstone, Bar**	**30.86**	**318**	*e*P		**P**		**17 36 34.5**	**+1.2**	
PAL	**Palisades**	**31.06**	**27**	*e*P		**P**		**17 36 34.0**	**-0.9**	
PAL	**Palisades**	**31.06**	**27**	*e*P		**P**		**17 36 34.0**	**-0.9**	
SPMN	**Marine on St.**	**31.07**	**359**	*e*P		**P**		**17 36 33.6**	**-1.3**	
MWC	**Mount Wilson**	**31.08**	**315**	*e*P		**P**		**17 36 36.8**	**+1.4**	
MWC	**Mount Wilson**	**31.08**	**315**	*e*P		**P**		**17 36 36.8**	**+1.4**	
PASC	**Pasadena Art C**	**31.14**	**315**	*e*P		**P**		**17 36 38.0**	**+2.3**	
MPU	**Maple Canyon**	**31.15**	**330**	*e*P		**P**		**17 36 37.6**	**+1.6**	
K22A	**Casper**	**31.18**	**339**	P		**P**		**17 36 37.6**	**+1.4**	
	baz=151									
K22A	**Casper**	**31.18**	**339**	*e*P		**P**		**17 36 36.4**	**+0.1**	
BINY	**Binghamton**	**31.21**	**23**	*e*P		**P**		**17 36 35.3**	**-0.9**	
	comp=Z,14nm,0.8s									
BINY				LR		LR				
	comp=Z,2µm,20.0s									
PSUT	**Pine Spring**	**31.21**	**325**	*e*P		**P**		**17 36 38.2**	**+1.7**	
EDW2	**Edwards Air Fo**	**31.41**	**316**	P		**P**		**17 36 40.1**	**+1.9**	
	baz=125									
G32A	**Webster**	**31.46**	**352**	P		**P**		**17 36 39.2**	**+0.8**	
	baz=169									
JLU	**Jordanelle**	**31.52**	**331**	*e*P		**P**		**17 36 40.5**	**+1.3**	
TPNV	**Topopah Spring**	**31.53**	**321**	P		**P**		**17 36 41.8**	**+2.4**	
	baz=130,SNR=7.7									
TPNV	**Topopah Spring**	**31.53**	**321**	*e*P		**P**		**17 36 40.9**	**+1.5**	
TPNV	**Topopah Spring**	**31.53**	**321**	*e*P		**P**		**17 36 40.9**	**+1.5**	
LRMC	**Laurel Mtn Rad**	**31.55**	**317**	P		**P**		**17 36 41.5**	**+2.1**	
	baz=126,SNR=5.6									
G30A	**Faulkton**	**31.58**	**350**	P		**P**		**17 36 40.7**	**+1.3**	
	baz=166									
FURC	**Furnace Creek,**	**31.61**	**319**	P		**P**		**17 36 41.7**	**+1.9**	
	baz=128,SNR=9.0									
RSSD	**Black Hills**	**31.72**	**343**	P		**P**		**17 36 41.8**	**+0.8**	
	baz=157									
RSSD	**Black Hills**	**31.72**	**343**	*e*P		**P**		**17 36 41.3**	**+0.3**	
RSSD				pmax		pmax				
	comp=Z,5.0nm,0.9s									
RSSD	**Black Hills**	**31.72**	**343**	*e*P		**P**		**17 36 41.3**	**+0.3**	
	comp=Z,5.4nm,0.9s									
CTU	**Camp Tracy**	**31.73**	**330**	*e*P		**P**		**17 36 42.7**	**+1.6**	
OSI	**Osito Audit: C**	**31.76**	**315**	*e*P		**P**		**17 36 43.4**	**+2.2**	
MPMC	**Manual Prospec**	**31.76**	**318**	P		**P**		**17 36 43.4**	**+1.9**	
	baz=127,SNR=20									
G29A	**Hoven**	**31.78**	**349**	P		**P**		**17 36 41.2**	**0.0**	
	baz=165									
DUG	**Dugway, Tooele**	**31.87**	**329**	P		**P**		**17 36 44.5**	**+2.2**	
	baz=139,SNR=13									
DUG	**Dugway, Tooele**	**31.87**	**329**	*e*P		**P**		**17 36 43.6**	**+1.3**	
DUG				pmax		pmax				
	comp=Z,11nm,1.0s									
DUG				MLR		MLR				
	comp=Z,2µm,19.0s									
DUG	**Dugway, Tooele**	**31.87**	**329**	*e*P		**P**		**17 36 43.6**	**+1.3**	
	comp=Z,11nm,1.0s									
DUG				LR		LR				
	comp=Z,2µm,19.0s									
TCUT	**Toone Canyon**	**31.90**	**331**	*e*P		**P**		**17 36 44.7**	**+2.0**	
COWI	**Conover**	**32.01**	**4**	*e*P		**P**		**17 36 42.1**	**-1.2**	
	comp=Z,8.2nm,0.8s									
COWI				LR		LR				
	comp=Z,1µm,19.0s									
R11A	**Troy Canyon, C**	**32.06**	**323**	P		**P**		**17 36 46.5**	**+2.5**	
	baz=132,SNR=16									
R11A	**Troy Canyon, C**	**32.06**	**323**	*e*P		**P**		**17 36 45.9**	**+2.0**	
	comp=Z,12nm,1.2s									
H25A	**Fruitdale**	**32.07**	**344**	P		**P**		**17 36 46.2**	**+2.4**	
	baz=158,SNR=6.8									
ARVC	**Arvin**	**32.11**	**316**	P		**P**		**17 36 46.6**	**+2.4**	
	baz=124									
ISA	**Isabella, Lake**	**32.18**	**317**	*e*P		**P**		**17 36 45.0**	**+0.1**	
ISA	**Isabella, Lake**	**32.18**	**317**	*e*P		**P**		**17 36 45.0**	**+0.1**	
GRAC	**Grapevine Rang**	**32.26**	**320**	P		**P**		**17 36 48.1**	**+2.6**	
	baz=128,SNR=8.0									
HWUT	**Hardware Ranch**	**32.36**	**332**	*e*P		**P**		**17 36 48.0**	**+1.4**	
	comp=Z,21nm,1.0s									
HWUT				LR		LR				
	comp=Z,1µm,19.0s									
CWC	**Cottonwood Cre**	**32.37**	**318**	P		**P**		**17 36 48.9**	**+2.2**	
	baz=127									
PD31	**Pinedale Array**	**32.43**	**335**	*e*P		**P**		**17 36 47.0**	**-0.2**	
PDAR	**Pinedale Array**	**32.43**	**335**	P		**P**		**17 36 48.6**	**+1.4**	
	comp=Z,3.9nm,0.8s,baz=132,slow=8.9,SNR=13									
PDAR				PcP		**PcP**		**17 39 34.5**	**+1.4**	
	comp=Z,1.9nm,0.7s,baz=145,slow=3.6,SNR=7.0									
PDAR				LR		LR		17 52 22.4		
	comp=Z,1µm,20.4s,baz=152,slow=40									
BW06	**Boulder Array**	**32.44**	**335**	P		**P**		**17 36 48.8**	**+1.5**	
	baz=146,SNR=6.2									
BW06	**Boulder Array**	**32.44**	**335**	*e*P		**P**		**17 36 47.2**	**-0.1**	
BW06				LR		LR				
	comp=Z,2µm,21.0s									
SADO	**Sadowa**	**32.45**	**17**	*e*P		**P**		**17 36 45.8**	**-1.3**	
BGU	**Big Grassy Mou**	**32.53**	**329**	*e*P		**P**		**17 36 49.8**	**+1.8**	
SPUT	**South Promonto**	**32.54**	**330**	*e*P		**P**		**17 36 48.7**	**+0.6**	
TRY	**Troy**	**32.58**	**25**	*e*P		**P**		**17 36 48.0**	**-0.1**	
VES	**Vestal, Richgr**	**32.69**	**316**	P		**P**		**17 36 51.3**	**+2.0**	
	baz=124,SNR=7.3									
F26A	**Lodgepole**	**32.98**	**346**	P		**P**		**17 36 53.0**	**+1.2**	
	baz=160									
RCTC	**Rector, Farmer**	**33.06**	**317**	P		**P**		**17 36 54.9**	**+2.4**	
	baz=125									
HVU	**Hansel Valley**	**33.06**	**331**	*e*P		**P**		**17 36 54.4**	**+1.8**	
HVU	**Hansel Valley**	**33.06**	**331**	*e*P		**P**		**17 36 54.4**	**+1.8**	
AHID	**Auburn Hatcher**	**33.08**	**334**	*e*P		**P**		**17 36 53.3**	**+0.4**	
	comp=Z,13nm,0.9s									
AHID				LR		LR				
	comp=Z,850nm,19.0s									
F25A	**Bowman**	**33.24**	**345**	P		**P**		**17 36 56.3**	**+2.2**	
	baz=159									
WES	**Weston**	**33.32**	**28**	*e*P		**P**		**17 36 53.9**	**-0.8**	
WES	**Weston**	**33.32**	**28**	*e*P		**P**		**17 36 53.9**	**-0.8**	
PAGB	**Antelope Grade**	**33.41**	**315**	*e*P		**P**		**17 36 57.7**	**+2.1**	
REDW	**Red Top Meadow**	**33.46**	**334**	*e*P		**P**		**17 36 57.1**	**+0.9**	
	comp=Z,30nm,0.9s									
SNOW	**Snow King Moun**	**33.50**	**335**	*e*P		**P**		**17 36 58.0**	**+1.4**	
	comp=Z,51nm,1.1s									
ELK	**Elko**	**33.53**	**327**	*e*P		**P**		**17 36 57.5**	**+0.6**	
ELK				pmax		p

ULM LR LR 17 55 39.0
comp=Z,1µm,18.9s,baz=180,slow=42
ORV Oroville 36.39 320 *eP* **P 17 37 23.5 +2.2**
ORV Oroville 36.39 320 *eP* **P 17 37 23.5 +2.2**
SAML Samuel 36.47 127 *eP* **P 17 37 19.9 -2.3**
comp=Z,12nm,1.0s
SAML LR LR
comp=Z,800nm,22.0s
PKME Peaks-Kenny Pk 36.49 27 *eP* **P 17 37 21.9 0.0**
comp=Z,26nm,1.1s
PKME LR LR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 36.54 326 *eP* **P 17 37 23.8 +1.3**
WVOR pmax pmax
comp=Z,21nm,0.9s
WVOR MLR MLR
comp=Z,976nm,20.0s
WVOR Wild Horse Val 36.54 326 *eP* **P 17 37 23.8 +1.3**
comp=Z,21nm,0.9s
WVOR LR LR
comp=Z,976nm,20.0s
EGMT Eagleton 36.99 340 PFAKE 17 37 40.0 +14
EGMT LR LR
comp=Z,855nm,20.0s
O03D Paynes Creek 37.02 321 P **P 17 37 27.3 +0.7**
baz=126
MOD Modoc Plateau 37.12 324 *eP* **P 17 37 28.1 +0.6**
comp=Z,10nm,1.1s
CHMT Chamberlain Mo 37.34 336 *eP* **P 17 37 29.6 +0.2**
MSO Missoula 37.55 335 P **P 17 37 32.1 +1.0**
baz=143,SNR=5.7
MSO Missoula 37.55 335 *eP* **P 17 37 32.4 +1.3**
MSO *eP*cP **PcP 17 39 51.5 +3.6**
BMO Blue Mountains 37.55 330 *eP* **P 17 37 31.5 +0.4**
comp=Z,12nm,1.1s
BMO LR LR
comp=Z,2µm,19.0s
WDC Whiskeytown Da 37.64 320 *eP* **P 17 37 31.1 -0.7**
WDC Whiskeytown Da 37.64 320 *eP* **P 17 37 31.1 -0.7**
KCPM Cahto Peak 37.79 318 *e*pP pP 17 37 44.8 -5.4
M04C Macdoel 37.94 323 P **P 17 37 36.3 +1.9**
baz=128
K05A Summer Lake 37.98 324 *eP* **P 17 37 35.7 +0.8**
SWMT Swartz Lake 38.12 336 *eP* **P 17 37 37.1 +1.2**
KMRM Mail Ridge 38.17 319 *eP* **P 17 37 38.0 +1.6**
LPAZ La Paz 38.18 141 P **P 17 37 36.5 -0.7**
comp=Z,2.8nm,0.6s,baz=325,slow=7.2,SNR=14
LPAZ PcP **PcP 17 39 50.7 -0.1**
comp=Z,1.5nm,0.7s,baz=278,slow=2.7,SNR=3.6
LPAZ LR LR 17 52 59.7
comp=Z,1µm,20.5s,baz=326,slow=36
LPAZ La Paz 38.18 141 *eP* **P 17 37 36.1 -1.1**
LPAZ *e* 17 39 50.7
LPAZ La Paz 38.18 141 *eP* **P 17 37 36.1 -1.1**
LPAZ *e*PcP **PcP 17 39 50.7 -0.1**
F10A Beach Ranch, E 38.34 331 *eP* **P 17 37 38.5 +0.8**
K04D Chiloquin, OR 38.41 324 P **P 17 37 39.9 +1.5**
baz=129
YBMT Yellow Bay 38.41 336 *eP* **P 17 37 39.8 +1.5**
J05D Fort Rock, OR 38.53 325 P **P 17 37 40.4 +1.0**
baz=130
KHMM Horse Mountain 38.55 320 *eP* **P 17 37 41.1 +1.5**
BLMT Blacktail Moun 38.67 336 *eP* **P 17 37 39.6 -1.0**
G08A Pilot Rock 38.68 329 *eP* **P 17 37 41.2 +0.6**
JCC Jacoby Creek, 38.70 320 *eP* **P 17 37 42.4 +1.7**
BSMT Bassoo Peak 38.71 335 *eP* **P 17 37 40.8 -0.2**
LMN Caledonia Moun 39.02 30 *eP* **P 17 37 43.4 +0.1**
HUMO Hull Mountain 39.09 323 *eP* **P 17 37 44.5 +0.5**
comp=Z,13nm,0.7s
E09A Wood Farm, Sta 39.17 331 *eP* **P 17 37 45.1 +0.6**
I05D Terrebonne, OR 39.27 326 P **P 17 37 46.4 +0.8**
baz=131
WALA Waterton Lakes 39.34 337 *eP* **P 17 37 47.5 +1.3**
G06A Carlson Farm, 39.50 328 *eP* **P 17 37 49.3 +1.9**
I04A Tendick Farm, 39.52 325 P **P 17 37 48.8 +1.2**
baz=129
HAWA Hanford 39.74 330 PFAKE 17 38 00.0 +11
HAWA LR LR
comp=Z,1µm,19.0s
G05D Wamic, OR 39.86 327 P **P 17 37 51.4 +1.0**
baz=132
D08A Wollman Farm, 39.93 331 *eP* **P 17 37 52.2 +1.4**
I03D Drain, OR 39.99 324 P **P 17 37 52.8 +1.5**
baz=128,SNR=8.7
NEW Newport 40.02 334 P **P 17 37 52.6 +1.0**
baz=140
NEW Newport 40.02 334 *eP* **P 17 37 51.8 +0.2**
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW MLR MLR
comp=Z,952nm,19.0s
NEW Newport 40.02 334 *eP* **P 17 37 51.8 +0.2**
comp=Z,6.1nm,0.8s
NEW LR LR
comp=Z,952nm,19.0s
E07A Sunnyside 40.02 330 *eP* **P 17 37 51.0 -0.7**
PB11 IPOC Station P 40.07 146 *eP* **P 17 37 51.3 -1.2**
C09A Chrisman Ranch 40.17 332 *eP* **P 17 37 53.5 +0.6**
SAW Saint Andrews 40.62 331 P **P 17 37 58.1 +1.5**
G03D McMinnville, O 40.88 326 P **P 17 38 00.3 +1.5**
baz=129
F04A Amboy 40.90 327 *eP* **P 17 37 58.4 -0.4**
LTY Liberty 40.91 330 *eP* **P 17 37 59.8 +0.7**
B08A Colville Reser 41.07 332 *eP* **P 17 38 01.3 +1.0**
LON Longmire 41.13 328 *eP* **P 17 38 01.3 +0.5**
LON Longmire 41.13 328 *eP* **P 17 38 01.3 +0.5**
F03A Seaside 41.50 326 *eP* **P 17 38 03.7 -0.2**
D05A Enumclaw 41.51 329 *eP* **P 17 38 03.7 -0.2**
PNT Penticton 41.90 333 *eP* **P 17 38 08.5 +1.5**
PNT Penticton 41.90 333 *eP* **P 17 38 08.5 +1.5**
E03A Lebam 41.90 327 *eP* **P 17 38 07.7 +0.7**
PB04 IPOC Station P 41.95 149 *eP* **P 17 38 07.3 -0.6**
B06A Marblemount 42.18 331 *eP* **P 17 38 10.0 +0.8**
B05A Bryant 42.30 330 P **P 17 38 11.6 +1.4**
baz=133,SNR=9.6
BLN Blyn Mountain 42.56 329 *eP* **P 17 38 15.1 +2.7**
NLWA Neilton Lookou 42.60 328 *eP* **P 17 38 14.3 +1.5**
NLWA LR LR
comp=Z,2µm,19.0s
LVC Limon Verde 42.81 148 *eP* **P 17 38 13.9 -1.2**
LVC LR LR
comp=Z,1µm,19.0s
A04D Lummi Island 42.91 330 P **P 17 38 16.9 +1.7**
baz=133,SNR=6.8
MCW Mount Constitu 42.94 330 P **P 17 38 16.5 +1.0**
MCW Mount Constitu 42.94 330 P **P 17 38 16.5 +1.0**
PGC Sidney 43.22 329 *eP* **P 17 38 18.6 +0.9**
FCC Fort Churchill 44.65 358 *eP* **P 17 38 27.6 -1.3**
FCC pmax pmax
comp=Z,11nm,0.9s
FCC Fort Churchill 44.65 358 *eP* **P 17 38 27.6 -1.3**
comp=Z,11nm,0.9s
SCHQ Schefferville 45.10 20 P **P 17 38 31.6 -1.1**
comp=Z,28nm,0.9s,baz=215,slow=5.3,SNR=16
SCHQ LR LR 17 58 20.3
comp=Z,3µm,20.3s,baz=210,slow=37
SCHQ Schefferville 45.10 20 *eP* **P 17 38 31.0 -1.7**
YKA Yellowknife Ar 51.00 347 P **P 17 39 18.0 -0.1**
comp=Z,6.8nm,0.6s,baz=149,slow=7.6,SNR=54
YKA PcP **PcP 17 40 34.7 +1.5**
comp=Z,7.6nm,0.9s,baz=146,slow=3.5,SNR=17
YKB5 Yellowknife Ar 51.00 347 *eP* **P 17 39 17.6 -0.4**
YKB5 *e*PcP **PcP 17 40 33.4 +0.1**
YKW3 Yellowknife Ar 51.06 347 *eP* **P 17 39 17.8 -0.7**
YKW3 *e*PcP **PcP 17 40 34.5 +1.0**
CRAG Craig 52.15 332 *eP* **P 17 39 28.4 +1.8**
CPUP Villa Florida 52.32 140 P **P 17 39 26.8 -1.6**
comp=Z,3.8nm,0.8s,baz=330,slow=6.9,SNR=9.8
CPUP LR LR 18 03 21.7
comp=Z,1µm,18.4s,baz=324,slow=38
CPUP Villa Florida 52.32 140 *eP* **P 17 39 26.3 -2.1**
CPUP Villa Florida 52.32 140 *eP* **P 17 39 26.3 -2.1**
WRAK Wrangell Islan 52.36 333 PFAKE 17 39 40.0 +12
WRAK LR LR
comp=Z,855nm,20.0s
DLBC Dease Lake 52.67 336 *eP* **P 17 39 32.6 +2.0**
comp=Z,50nm,1.1s
TAOE Nuku Hiva Isla 53.08 247 *e*S S 17 47 11.4 +12
comp=Z,511nm,23.4s
TAOE *e*LR LR 17 54 48.0
comp=Z,1µm,25.9s,baz=62
TAOE Nuku Hiva Isla 53.08 247 *e*T T 18 36 11.2
comp=Z,52nm,0.2s
SKAG Skagway 55.46 335 *eP* **P 17 39 52.6 +1.9**
RKT Rikitea 56.12 229 *e*S S 17 47 51.2 +11
comp=Z,1µm,28.0s
RKT *e*LQ LQ 17 54 09.7
comp=Z,421nm,36.0s
RKT *e*LR LR 17 56 32.5
comp=Z,1µm,25.8s,baz=47
RKT Rikitea 56.12 229 *e*T T 18 39 59.2
comp=Z,12nm,0.3s
SPB Sao Paulo 57.31 130 PFAKE 17 40 20.0 +15
SPB LR LR
comp=Z,862nm,19.0s
PLCA Paso Flores 57.98 161 LR LR 18 00 24.8
comp=Z,1µm,18.3s,baz=20,slow=31
RCBR Riachuelo 58.89 106 *eP* **P 17 40 15.4 -0.4**
RCBR LR LR
comp=Z,939nm,19.0s
TRQA Tornquist 58.92 153 PFAKE 17 40 30.0 +14
TRQA LR LR
comp=Z,1µm,21.0s
BALM Baldy 59.25 334 *eP* **P 17 40 20.1 +2.4**
BALM Baldy 59.25 334 *eP* **P 17 40 20.1 +2.4**
SFJD Kangerlussuaq 59.40 18 PFAKE 17 40 30.0 +12
SFJD LR LR
comp=Z,2µm,19.0s
CRQM Cirque 59.46 334 *eP* **P 17 40 21.7 +2.5**
DAWY Dawson 59.68 338 *eP* **P 17 40 20.8 +0.3**
comp=Z,9.1nm,1.0s
RAGM Ragged Mountai 59.96 333 *eP* **P 17 40 24.9 +2.5**
BMRM Bremner River 60.19 333 *eP* **P 17 40 25.3 +1.2**
comp=Z,11nm,0.6s
INK Inuvik 60.43 343 P **P 17 40 26.8 +1.4**
comp=Z,15nm,1.0s,baz=126,slow=6.8,SNR=13
INK Inuvik 60.43 343 *eP* **P 17 40 26.3 +0.9**
INK *e* 17 41 10.5
INK pmax pmax
comp=Z,13nm,0.9s
INK Inuvik 60.43 343 *eP* **P 17 40 26.2 +0.9**
comp=Z,13nm,0.9s
INK *e*PcP **PcP 17 41 10.5 +0.8**
EYAK Cordova Ski Ar 60.51 333 *eP* **P 17 40 27.5 +1.4**
EGAK Eagle 60.72 338 *eP* **P 17 40 27.7 +0.2**
comp=Z,18nm,0.9s
EGAK LR LR
comp=Z,976nm,20.0s
MENT Mentasta 60.75 336 *eP* **P 17 40 29.5 +1.7**
DIV Divide 60.77 333 *eP* **P 17 40 29.0 +1.0**
comp=Z,34nm,1.1s
KLU Klutina 61.00 334 *eP* **P 17 40 30.4 +0.8**
DOT Dot Lake 61.23 336 *eP* **P 17 40 31.2 +0.2**
comp=Z,53nm,1.0s
PAX Paxson 61.47 335 *eP* **P 17 40 33.3 +0.5**
PAX *e* 17 41 14.6
PAX pmax pmax
comp=Z,17nm,1.0s
PAX Paxson 61.47 335 *eP* **P 17 40 33.3 +0.5**
comp=Z,17nm,1.0s
PAX *e*PcP **PcP 17 41 14.6 +0.5**
SCM Sheep Creek Mo 61.75 334 *eP* **P 17 40 35.4 +0.8**
SCM Sheep Creek Mo 61.75 334 *eP* **P 17 40 35.4 +0.8**
SEW Seward 62.01 331 *eP* **P 17 40 36.6 +0.3**
SML Sawmill 62.17 333 *eP* **P 17 40 37.9 +0.5**
SML pmax pmax
comp=Z,8.0nm,1.2s
SML Sawmill 62.17 333 *eP* **P 17 40 37.9 +0.5**
comp=Z,8.0nm,1.2s
PMR Palmer 62.44 333 *eP* **P 17 40 39.8 +0.7**
PMR pmax pmax
comp=Z,25nm,1.1s
PMR Palmer 62.44 333 *eP* **P 17 40 39.8 +0.7**
comp=Z,25nm,1.1s
RC01 Rabbit Creek A 62.51 332 *eP* **P 17 40 40.5 +0.8**
BRLK Bradley Lake 62.57 331 *eP* **P 17 40 41.1 +1.1**
CNPM China Poot 62.65 330 *eP* **P 17 40 41.4 +0.8**
HDA Harding Lake 62.71 336 *eP* **P 17 40 41.4 +0.5**
KDAK Kodiak Island 62.75 328 *i P* **P 17 40 42.4 +1.1**
KDAK Kodiak Island 62.75 328 *eP* **P 17 40 41.9 +0.6**
comp=Z,13nm,0.9s
KDAK LR LR
comp=Z,511nm,19.0s
IL1 Eielson Array 62.85 337 *eP* **P 17 40 41.8 0.0**
ILAR Eielson Array 62.85 337 P **P 17 40 42.4 +0.6**
comp=Z,33nm,1.1s,baz=124,slow=5.0,SNR=98
ILAR LR LR 18 10 11.3
comp=Z,1µm,20.9s,baz=136,slow=38
ILB Eielson Array 62.85 337 *eP* **P 17 40 42.0 +0.2**
OHAK Old Harbor 62.95 328 *eP* **P 17 40 43.0 +0.5**
comp=Z,24nm,1.1s
RND Reindeer 63.04 335 *eP* **P 17 40 44.1 +0.9**
RND Reindeer 63.04 335 *eP* **P 17 40 44.1 +0.9**
SUA Susitna One 63.10 333 *eP* **P 17 40 44.9 +1.2**
CCB Clear Creek Bu 63.15 336 *eP* **P 17 40 43.9 +0.1**
WRH Wood River Hil 63.18 336 *eP* **P 17 40 44.1 +0.1**
WRH *e*PcP **PcP 17 41 22.1 +1.2**
MCK McKinley 63.21 335 *eP* **P 17 40 45.3 +1.0**
MCK pmax pmax
comp=Z,29nm,1.0s
MCK McKinley 63.21 335 *eP* **P 17 40 45.3 +1.0**
comp=Z,29nm,1.0s
COLA College 63.27 337 *d iP* **P 17 40 45.5 +1.0**
COLA pmax pmax
comp=Z,24nm,1.0s
COLA College 63.27 337 PFAKE 17 41 00.0 +15
COLA LR LR
comp=Z,921nm,20.0s
MDM Murphy Dome 63.45 337 *eP* **P 17 40 46.1 +0.3**
SPU Mount Spurr 63.60 332 *eP* **P 17 40 47.8 +0.9**
BWN Browne 63.60 336 *eP* **P 17 40 47.3 +0.5**
TRF Thorofare Moun 63.65 335 *eP* **P 17 40 47.7 +0.3**
RSO Redoubt South 63.68 331 *eP* **P 17 40 48.5 +0.8**
KTH Kantishna Hill 63.96 335 *eP* **P 17 40 49.8 +0.6**
comp=Z,34nm,1.1s
BPAW Bear Paw Mtn. 64.19 335 *eP* **P 17 40 50.8 +0.1**
comp=Z,6.6nm,1.1s
PPLA Purkeypile 64.25 334 *eP* **P 17 40 51.6 +0.3**
MLY Manley 64.45 336 *eP* **P 17 40 52.9 +0.5**
PPT Papeete 65.07 243 LR LR 18 02 05.5
comp=Z,684nm,19.0s,baz=100,slow=29
PPT2 Papeete2 65.08 243 *e*S S 17 49 46.4 +11
comp=Z,416nm,25.2s
PPT2 Papeete2 65.08 243 *e*LR LR 18 00 25.1
comp=Z,1µm,24.2s
COLD Coldfoot 65.14 339 *eP* **P 17 40 58.2 +1.4**
comp=Z,22nm,1.0s
SVW2 Sparrevohn 65.20 331 *eP* **P 17 40 57.2 -0.1**
CHGN Chignik 65.46 326 *eP* **P 17 40 59.5 +0.5**
TT01 Tatalina 65.92 333 *eP* **P 17 41 01.3 -0.5**
TTA Tatalina 65.92 333 *eP* **P 17 41 02.0 0.0**
TTA Tatalina 65.92 333 *eP* **P 17 41 02.0 0.0**
SUMG Summit 66.13 15 *i P* **P 17 41 02.9 -0.7**
SUMG Summit 66.13 15 *i P* **P 17 41 02.9 -0.7**
SUMG Summit 66.13 15 *eP* **P 17 41 02.8 -0.8**
comp=Z,8.4nm,1.0s
TBI Tubuai 67.53 237 *e*S S 17 50 17.1 +13
comp=Z,346nm,24.2s
TBI Tubuai 67.53 237 *e*LR LR 18 01 45.9
comp=Z,1µm,25.8s,baz=64
BORG Borgarnes 69.08 26 PFAKE 17 41 30.0 +8.3
BORG LR LR
comp=Z,242nm,20.0s
PMOZ Porto Moniz, M 69.70 60 *e*LR LR 18 03 30.2
comp=Z,463nm,20.0s
UNV Unalaska Valle 69.73 322 *eP* **P 17 41 27.1 +1.1**
comp=Z,36nm,0.9s
TNA Tin City 71.55 335 *eP* **P 17 41 38.9 +2.1**
EFI East Falkland 71.73 159 PFAKE 17 41 50.0 +12
EFI LR LR
comp=Z,1µm,21.0s
DAG Danmarks Havn 72.56 13⇑ *iP* **P 17 41 41.3 -1.4**
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG Danmarks Havn 72.56 13⇑ *iP* **P 17 41 41.3 -1.4**
comp=Z,8.3nm,0.7s
PGAV Gavieira, Arco 75.98 50 *e*LR LR 18 08 41.5
comp=Z,513nm,16.0s
MTE Manteigas 76.71 51 *e*LR LR 18 07 56.2
comp=Z,465nm,18.0s
MTE Manteigas 76.71 51 PFAKE 17 42 20.0 +12
MTE LR LR
comp=Z,677nm,21.0s
PMRV Marv??o 76.95 52 *e*LR LR 18 08 50.1
comp=Z,565nm,20.0s
PVAQ Vaqueiros 76.97 54 *e*LR LR 18 05 44.6
comp=Z,944nm,20.0s
MVO Moncorvo 77.00 51 *e*LR LR 18 08 51.4
comp=Z,484nm,20.0s
ESK Eskdalemuir 77.79 36 *i P* **P 17 42 12.8 -0.3**
ESK Eskdalemuir 77.79 36 *eP* **P 17 42 11.5 -1.6**
ESK LR LR
comp=Z,654nm,20.0s
RTC Rabat Centre 78.16 58 PFAKE 17 42 30.0 +14
RTC LR LR
comp=Z,3µm,20.0s
KBS Kingsbay 78.91 11 PFAKE 17 42 30.0 +11
KBS LR LR
comp=Z,956nm,19.0s
PAB San Pablo 79.27 52 PFAKE 17 42 30.0 +8.3
PAB LR LR
comp=Z,606nm,22.0s
ESDC Sonseca Array 79.54 52 P **P 17 42 21.8 -1.4**
comp=Z,3.9nm,1.0s,baz=289,slow=5.6,SNR=9.5
ESDC LR LR 18 13 06.2
comp=Z,376nm,21.6s,baz=285,slow=32
ES19 SONSECA Array 79.58 52 *eP* **P 17 42 21.6 -1.8**
ASCN Ascension 79.89 101 PFAKE 17 42 40.0 +15
ASCN LR LR
comp=Z,879nm,20.0s
MDT Midelt 80.21 59 LR LR 18 14 29.3
comp=Z,295nm,20.0s,slow=33
BILL Bilibino 81.46 338 *eP* **P 17 42 33.6 +0.8**
BILL pmax pmax
comp=Z,47nm,1.0s
BILL MLR MLR
comp=Z,420nm,20.0s
BILL Bilibino 81.46 338 *eP* **P 17 42 33.6 +0.8**
comp=Z,47nm,1.0s
BILL LR LR
comp=Z,420nm,20.0s
KONO Kongsberg 83.66 30 *eP* **P 17 42 43.9 -0.5**
KONO pmax pmax
comp=Z,35nm,1.2s
KONO Kongsberg 83.66 30 PFAKE 17 43 00.0 +16
KONO LR LR
comp=Z,386nm,19.0s
NBO02 NORSAR Array S 83.84 29 *eP* **P 17 42 44.8 -0.6**
NB2 NORSAR Subarra 84.01 28 P **P 17 42 46.2 0.0**
comp=Z,4.7nm,0.9s,baz=288,slow=5.3
NB200 NORSAR Array S 84.01 28 *eP* **P 17 42 46.0 -0.2**
NOA NORSAR Array B 84.01 28 P **P 17 42 46.0 -0.2**
comp=Z,3.7nm,0.9s,baz=289,slow=5.2,SNR=12
NOA LR LR 18 20 41.2
comp=Z,314nm,19.7s,baz=290,slow=36
NOA NORSAR Array B 84.01 28 P **P 17 42 46.0 -0.2**
WLF Walferdange 84.49 40 PFAKE 17 43 00.0 +11
WLF LR LR
comp=Z,544nm,22.0s
DBIC Dimbokro 85.47 84 LR LR 18 18 58.4
comp=Z,417nm,20.1s,baz=262,slow=34
ARA0 ARCESS Array S 86.02 18 *eP* **P 17 42 55.1 -1.0**
ARCES ARCESS Array B 86.02 18 P **P 17 42 55.1 -1.0**
comp=Z,1.6nm,0.6s,baz=297,slow=4.0,SNR=6.0
ARCES LR LR 18 20 51.0
comp=Z,635nm,21.7s,baz=302,slow=35
BNI Bardonecchia 86.06 45 PFAKE 17 43 10.0 +13
BNI LR LR
comp=Z,705nm,22.0s
BFO Black Forest 86.23 41 PFAKE 17 43 10.0 +12
BFO LR LR
comp=Z,647nm,21.0s
KEV Kevo 86.36 18 PFAKE 17 43 10.0 +12
KEV LR LR
comp=Z,661nm,20.0s
TUE Stuetta 87.44 43 PFAKE 17 43 20.0 +16
TUE LR LR
comp=Z,426nm,19.0s
CLL Collm 88.16 37 *eP* **P 17 43 05.0 -1.8**
CLL *e*S **S 17 53 42.0 -3.5**
CLL Lm MLR 18 22 00.0
comp=N,200nm,20.9s
CLL Lm MLR 18 22 00.0
comp=E,400nm,21.2s
CLL Collm 88.16 37 *eP* **P 17 43 05.0 -1.8**
SEY Seymchan 88.77 336‖ *eP* **P 17 43 10.9 +1.5**
VLC Villacollemand 88.86 45 PFAKE 17 43 20.0 +10
VLC LR LR
comp=Z,173nm,21.0s
BRG Berggiesshubel 88.86 38 P **P 17 43 13.0 +2.9**
BRG Berggiesshubel 88.86 38 P **P 17 43 13.0 +2.9**
BRG S **PS 17 55 14.0 +9.1**
BRG MLR MLR
comp=N,216nm,17.0s
BRG MLR MLR
comp=E,256nm,19.9s
BRG MLR MLR
comp=Z,409nm,19.6s
GERES GERESS Array B 89.44 40 P **P 17 43 11.9 -1.0**
comp=Z,1.4nm,0.9s,baz=270,slow=1.3,SNR=4.5
GERES LR LR 18 19 36.6
comp=Z,362nm,21.4s,baz=282,slow=33
GERES GERESS Array B 89.44 40 P **P 17 43 12.0 -1.0**
GEA0 GERESS Array S 89.44 40 *eP* **P 17 43 11.8 -1.2**
VSL Villasalto 89.59 49 PFAKE 17 43 30.0 +16
VSL LR LR
comp=Z,474nm,21.0s
LVZ Lovozero 89.70 18 PFAKE 17 43 30.0 +16
LVZ LR LR
comp=Z,732nm,22.0s
TOA1 Torodi Ar. Sit 90.19 76 *eP* **P 17 43 14.4 -2.6**
TORD Torodi Ar. Bea 90.19 76 P **P 17 43 14.4 -2.6**
comp=Z,0.5nm,0.5s,baz=287,slow=5.4,SNR=7.1
TORD LR LR 18 21 07.9
comp=Z,452nm,21.1s,baz=260,slow=34
PET Petropavlovsk 90.20 325 *eP* **P 17 43 17.8 +1.5**
PET *e*S **S 17 54 06.1 +1.6**
PET pmax pmax
comp=Z,200nm,12.2s
PET MLR MLR
comp=Z,200nm,15.0s
PET Petropavlovsk 90.20 325 PFAKE 17 43 30.0 +14
PET LR LR
comp=Z,226nm,22.0s
TIXI Tiksi 90.23 348 *ceP* **P 17 43 16.1 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 90.23 348 *eP* **P 17 43 15.4 -0.6**
comp=Z,7.6nm,0.8s
TIXI LR LR
comp=Z,547nm,20.0s
FIA0 FINESS Array S 90.37 25 *eP* **P 17 43 16.5 -0.4**
FIA0 FINESS Array S 90.37 25 *eP* **P 17 43 16.5 -0.4**
FIA1 FINESS Array S 90.37 25 *eP* **P 17 43 16.3 -0.5**
FINES FINESS Array B 90.37 25 P **P 17 43 16.5 -0.4**
comp=Z,3.1nm,0.9s,baz=164,slow=7.5,SNR=5.5
FINES LR LR 18 23 27.7
comp=Z,358nm,21.3s,baz=308,slow=35
FINES FINESS Array B 90.37 25 *i P* **P 17 43 17.8 +0.9**
FINES pmax pmax
comp=Z,3.0nm,0.9s
PETK Petropavlovsk- 90.69 326 LR LR 18 22 11.1
comp=Z,77nm,21.7s,baz=54,slow=34
KEST Kesra 90.72 53 P **P 17 43 17.1 -2.1**
comp=Z,6.7nm,1.0s,baz=275,slow=6.9,SNR=3.9
KEST Kesra 90.72 53 *eP* **P 17 43 17.9 -1.3**
FUNA Funafuti 91.06 262 PFAKE 17 43 30.0 +9.0
FUNA LR LR
comp=Z,9µm,19.0s
MA2 Magadan 91.12 333 PFAKE 17 43 30.0 +10
MA2 LR LR
comp=Z,321nm,19.0s
TAM Tamanrasset 91.23 66 PFAKE 17 43 30.0 +8.1
TAM LR LR
comp=Z,442nm,22.0s
AQU L'Aquila 91.53 46 PFAKE 17 43 30.0 +7.2
AQU LR LR
comp=Z,531nm,20.0s
CLTB Caltabellotta 93.06 50 PFAKE 17 43 40.0 +10
CLTB LR LR
comp=Z,301nm,21.0s
PSZ Piszkesteto 93.60 39 PFAKE 17 43 40.0 +7.7
PSZ LR LR
comp=Z,427nm,20.0s
CUC Castrocucco 94.09 47 PFAKE 17 43 50.0 +15
CUC LR LR
comp=Z,194nm,20.0s
WDD Wied Dalam 94.64 51 PFAKE 17 43 50.0 +13
WDD LR LR
comp=Z,266nm,19.0s
TARA Tarawa 94.77 273 PFAKE 17 43 50.0 +12
TARA LR LR
comp=Z,49nm,19.0s
CEL Celeste 94.79 49 PFAKE 17 43 50.0 +12
CEL LR LR
comp=Z,312nm,22.0s

TIP	**Timpagrande**	**95.07**	**48**	PFAKE			17 43 50.0	+11
TIP				LR	LR			
	comp=Z,378nm,20.0s							
KLMR	**Klimovskoe**	**95.92**	**22**	*e*P	**P**		**17 43 41.2**	**-1.3**
KLMR				*e*			17 47 33.1	
KLMR				pmax	pmax			
	comp=Z,5.0nm,1.3s							
TIR	**Tirane**	**96.38**	**45**	PFAKE			17 44 00.0	+15
TIR				LR	LR			
	comp=Z,265nm,20.0s							
NRIK	**Noril'sk**	**96.81**	**0**	LR	LR		18 32 06.5	
	comp=Z,1µm,18.2s,baz=4.0,slow=38							
YAK	**Yakutsk**	**97.45**	**342**	*e*P	Pdif		17 43 49.5	+0.1
YAK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
YAK	**Yakutsk**	**97.45**	**342**	PFAKE			17 44 00.0	+11
YAK				LR	LR			
	comp=Z,369nm,20.0s							
KIEV	**Kiev**	**97.57**	**33**	PFAKE			17 44 00.0	+10
KIEV				LR	LR			
	comp=Z,335nm,19.0s							
AKASG	**Malin Array Be**	**97.58**	**33**	LR	LR		18 32 56.8	
	comp=Z,219nm,18.1s,baz=300,slow=38							
OBN	**Obninsk**	**98.54**	**27**	*i* P	**P**		**17 43 52.5**	**-1.9**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
OBN	**Obninsk**	**98.54**	**27**	PFAKE			17 44 10.0	+16
OBN				LR	LR			
	comp=Z,507nm,19.0s							
YSS	**Yuzh-Sakhalins**	**102.09**	**325**	PFAKE			17 44 20.0	+10
YSS				LR	LR			
	comp=Z,90nm,20.0s							
SANT	**Santorini**	**102.50**	**47**	PFAKE			17 44 20.0	+7.5
SANT				LR	LR			
	comp=Z,158nm,20.0s							
QSPA	**South Pole Qui**	**104.01**	**180**	PFAKE			17 44 30.0	+11
QSPA				LR	LR			
	comp=Z,862nm,19.0s							
ERM	**Erimo**	**104.71**	**321**	PFAKE			17 44 30.0	+7.8
ERM				LR	LR			
	comp=Z,193nm,20.0s							
ISP	**Isparta**	**105.29**	**44**	PFAKE			17 48 50.0	
ISP				LR	LR			
	comp=Z,224nm,20.0s							
ARU	**Arti**	**105.54**	**17**	PFAKE			17 48 50.0	
ARU				LR	LR			
	comp=Z,580nm,22.0s							
DZM	**Mont Dzumac**	**105.86**	**251**	*e*LR	LR		18 19 33.2	
	comp=Z,501nm,24.3s							
SBA	**Scott Base**	**106.06**	**192**	PFAKE			17 48 50.0	
SBA				LR	LR			
	comp=Z,595nm,21.0s							
CSS	**Mathiatis**	**108.73**	**45**	PFAKE			17 49 00.0	
CSS				LR	LR			
	comp=Z,57nm,22.0s							
KIV	**Kislovodsk**	**108.92**	**33**	PFAKE			17 49 00.0	
KIV				LR	LR			
	comp=Z,239nm,22.0s							
HNR	**Honiara**	**109.81**	**265**	PFAKE			17 49 00.0	
HNR				LR	LR			
	comp=Z,423nm,22.0s							
MDJ	**Mudanjiang**	**110.53**	**330**	PFAKE			17 49 00.0	
MDJ				LR	LR			
	comp=Z,191nm,22.0s							
MAJO	**Matsushiro**	**111.03**	**319**	PFAKE			17 49 00.0	
MAJO				LR	LR			
	comp=Z,263nm,20.0s							
HIA	**Hailar**	**111.05**	**338**	PFAKE			17 49 00.0	
HIA				LR	LR			
	comp=Z,446nm,21.0s							
TSUM	**Tsumeb**	**112.56**	**105**	PFAKE			17 49 00.0	
TSUM				LR	LR			
	comp=Z,447nm,20.0s							
GNI	**Garni**	**112.64**	**35**	PFAKE			17 49 00.0	
GNI				LR	LR			
	comp=Z,290nm,20.0s							
TLY	**Talaya**	**113.16**	**350**	PFAKE			17 49 10.0	
TLY				LR	LR			
	comp=Z,265nm,19.0s							
KURK	**Kurchatov**	**114.96**	**7**	PFAKE			17 49 10.0	+13
KURK				LR	LR			
	comp=Z,705nm,19.0s							
ULN	**Ulaanbaatar**	**116.09**	**346**	PFAKE			17 49 10.0	+11
ULN				LR	LR			
	comp=Z,260nm,19.0s							
SONA0	**Songino Array**	**116.27**	**346**	*e*PKPdf	**PKPdf**		**17 49 00.3**	**+1.0**
SONM	**Songino Array**	**116.27**	**346**	PKP	**PKPdf**		**17 49 00.3**	**+1.0**
	comp=Z,1.4nm,0.9s,baz=191,slow=1.5,SNR=3.9							
KS01	**Wonju Array Si**	**116.59**	**325**	*e*PKPdf	**PKPdf**		**17 48 60.0**	**-0.1**
KSRS	**Korea Array**	**116.59**	**325**	PKP	**PKPdf**		**17 49 00.2**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=10,slow=1.7,SNR=10							
KSAR	**Wonju Array Be**	**116.62**	**325**	PKIKP	**PKPdf**		**17 49 00.3**	**+0.2**
KSAR	**Wonju Array Be**	**116.62**	**325**	PKP	**PKPdf**		**17 49 00.2**	**+0.2**
INCN	**Inchon**	**117.27**	**326**	PFAKE			17 49 10.0	+8.6
INCN				LR	LR			
	comp=Z,239nm,20.0s							
MK32	**Makanchi Array**	**119.19**	**5**	*e*PKPdf	**PKPdf**		**17 49 04.5**	**-0.3**
MKAR	**Makanchi Array**	**119.19**	**5**	PKP	**PKPdf**		**17 49 04.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=335,slow=2.0,SNR=7.1							
MKAR	**Makanchi Array**	**119.19**	**5***c*	*i*PKIKP	**PKPdf**		**17 49 05.6**	**+0.7**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BJT	**Baijiatuan**	**120.22**	**335**	PFAKE			17 49 20.0	+13
BJT				LR	LR			
	comp=Z,550nm,19.0s							
BOSA	**Boshof**	**120.22**	**115**	PKP	**PKPdf**		**17 49 08.2**	**+0.9**
	comp=Z,4.8nm,0.9s,baz=296,slow=2.7,SNR=6.2							
GEYT	**Alibeck**	**121.08**	**28**	PKP	**PKPdf**		**17 49 09.3**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=256,slow=6.0,SNR=6.2							
HHC	**Hu-ho-hao-te**	**121.22**	**339**	*e*PKP	**PKPdf**		**17 49 07.3**	**-1.7**
MBAR	**Mbarara**	**121.65**	**82**	PFAKE			17 49 20.0	+9.4
MBAR				LR	LR			
	comp=Z,1µm,22.0s							
EKS2	**Erkin-Say**	**122.02**	**12**	PFAKE			17 49 20.0	+9.4
EKS2				LR	LR			
	comp=Z,381nm,21.0s							
LSZ	**Lusaka**	**122.11**	**99**	PFAKE			17 49 20.0	+8.7
LSZ				LR	LR			
	comp=Z,302nm,20.0s							
TKM2	**Tokmak 2**	**122.13**	**11**	PFAKE			17 49 20.0	+9.1
TKM2				LR	LR			
	comp=Z,368nm,19.0s							
PMG	**Port Moresby**	**122.19**	**268**	PFAKE			17 49 20.0	+8.6
PMG				LR	LR			
	comp=Z,324nm,20.0s							
AAK	**Ala-Archa**	**122.20**	**12**	PFAKE			17 49 20.0	+9.1
AAK				LR	LR			
	comp=Z,339nm,21.0s							
WMQ	**Urumqi**	**122.39**	**0**	PKP	**PKPdf**		**17 49 12.1**	**+0.9**
WMQ				PP	**PP**		**17 50 52.9**	**+6.4**
WMQ				PKS	**PKSdf**		**17 52 47.5**	**-0.3**
WMQ				SS	SS		18 07 21.1	+0.2
WMQ				PPMZ				
	comp=Z,73nm,4.6s							
WMQ				LN				
	comp=Z,320nm,17.6s							
WMQ				LE				
	comp=Z,130nm,18.8s							
WMQ				LZ				
	comp=Z,250nm,20.0s							
CTAO	**Charters Tower**	**124.39**	**255**	PFAKE			17 49 30.0	+15
CTAO				LR	LR			
	comp=Z,657nm,19.0s							
KSH	**Kashi**	**125.50**	**12**	PKP	**PKPdf**		**17 49 17.1**	**-0.2**
KSH				PP	**PP**		**17 51 12.9**	**+5.4**
KSH				PKS	**PKSdf**		**17 52 52.9**	**-1.2**
KSH				SKS	**SKSdf**		**17 56 18.3**	**-5.1**
KSH				SKKS	**SKKSac**		**17 57 54.0**	**-7.0**
KSH				PPMZ				
	comp=Z,150nm,5.2s							
KSH				LN				
	comp=Z,120nm,6.0s							
KSH				LE				
	comp=Z,100nm,5.9s							
KSH				LZ				
	comp=Z,290nm,16.0s							
CASY	**Casey**	**125.73**	**191**	PFAKE			17 49 30.0	+13
CASY				LR	LR			
	comp=Z,159nm,19.0s							
LZH	**Lanzhou**	**127.97**	**344**	*e*PKP	**PKPdf**		**17 49 21.8**	**-0.4**
LZH				sPKP			17 49 51.3	
LZH				PPMZ				
	comp=Z,85nm,4.5s							
LZH				LN				
	comp=Z,320nm,16.7s							
LZH				LE				
	comp=Z,300nm,15.3s							
LZH				LZ				
	comp=Z,520nm,17.0s							
KMBO	**Kilima Mbogo**	**128.04**	**80**	PFAKE			17 49 40.0	+17
KMBO				LR	LR			
	comp=Z,372nm,19.0s							
STKA	**Stephens Creek**	**128.24**	**240**	PKP	**PKPdf**		**17 49 22.6**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=280,slow=1.0,SNR=5.9							
STKA	**Stephens Creek**	**128.24**	**240**	*e*PKIKP	**PKPdf**		**17 49 22.4**	**-0.1**
STKA	**Stephens Creek**	**128.24**	**240**	*e*PKPdf	**PKPdf**		**17 49 22.4**	**-0.1**
XAN	**Xi'an**	**128.25**	**338**	PKP	**PKPdf**		**17 49 25.6**	**+3.0**
XAN				PPMZ				
	comp=Z,77nm,5.8s							
TATO	**Taipei**	**129.39**	**320**	PFAKE			17 49 40.0	+15
TATO				LR	LR			
	comp=Z,191nm,20.0s							
YHNB	**Yeheng**	**129.68**	**320**	PFAKE			17 49 40.0	+14
YHNB				LR	LR			
	comp=Z,329nm,20.0s							
ENH	**Enshi**	**131.38**	**335**	*e*PKPdf	**PKPdf**		**17 49 29.4**	**+0.8**
ENH				LR	LR			
	comp=Z,348nm,19.0s							
CD2	**Chengdu**	**132.84**	**342**	PKP	**PKPdf**		**17 49 31.5**	**+0.1**
WRAB	**Tennant Creek**	**135.57**	**256**	PFAKE			17 49 50.0	+13
WRAB				LR	LR			
	comp=Z,272nm,19.0s							
WR1	**Warramunga Arr**	**135.58**	**256**	*e*PKPdf	**PKPdf**		**17 49 36.4**	**-0.3**
WRA	**Warramunga Arr**	**135.58**	**256**	PKP	**PKPdf**		**17 49 36.4**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=88,slow=2.2,SNR=12							
WRA	**Warramunga Arr**	**135.58**	**256***c*	*e*PKIKP	**PKPdf**		**17 49 36.9**	**+0.2**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AS31	**Alice Springs**	**135.85**	**250**	*e*PKPdf	**PKPdf**		**17 49 36.7**	**-0.4**
ASAR	**Alice Springs**	**135.85**	**250**	PKP	**PKPdf**		**17 49 37.3**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=100,slow=2.6,SNR=9.0							
LSA	**Lhasa**	**136.40**	**356**	*e*PKIKP	**PKPdf**		**17 49 40.3**	**+1.7**
LSA				MLR	MLR			
	comp=Z,335nm,22.0s							
LSA	**Lhasa**	**136.40**	**356**	*e*PKPdf	**PKPdf**		**17 49 40.3**	**+1.7**
LSA				LR	LR			
	comp=Z,335nm,22.0s							
KMI	**Kunming**	**138.54**	**340**	PKP	**PKPdf**		**17 49 41.3**	**-1.1**
KMI				PP	**PP**		**17 52 35.1**	**+3.4**
KMI				PKS	**PKSdf**		**17 53 17.5**	**-1.4**
KMI				LN				
	comp=Z,280nm,21.4s							
KMI				LE				
	comp=Z,160nm,17.7s							
KMI				LZ				
	comp=Z,410nm,21.4s							
QIZ	**Qiongzhong**	**140.80**	**326**	PFAKE			17 50 00.0	+14
QIZ				LR	LR			
	comp=Z,298nm,20.0s							
FITZ	**Fitzroy Crossi**	**143.82**	**259**	PKP	PKPbc		17 49 49.5	0.0
	comp=Z,2.5nm,0.8s,baz=294,slow=20,SNR=4.3							
FITZ	**Fitzroy Crossi**	**143.82**	**259**	*e*PKPpre	PKPbc		17 49 49.7	+0.2
SOEI	**Soe**	**144.46**	**273**	*e*PKPdf	**PKPdf**		**17 49 52.6**	**-0.4**
CHTO	**Chiang Mai**	**145.65**	**342**	*e*PKIKP	**PKPdf**		**17 49 54.9**	**0.0**
CHTO				MLR	MLR			
	comp=Z,240nm,20.0s							
CHTO	**Chiang Mai**	**145.65**	**342**	*e*PKPdf	**PKPdf**		**17 49 54.9**	**0.0**
CHTO				LR	LR			
	comp=Z,240nm,20.0s							
KKM	**Kota Kinabalu**	**145.75**	**304**	PFAKE			17 50 10.0	+14
KKM				LR	LR			
	comp=Z,187nm,20.0s							
CM31	**Chiang Mai Arr**	**145.99**	**342**	*e*PKPdf	**PKPab**		**17 49 56.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**145.99**	**342**	PKPbc	**PKPab**		**17 49 57.1**	**+0.3**
	comp=Z,31nm,0.8s,baz=334,slow=3.3,SNR=65							
CM01	**Chiang Mai Arr**	**146.02**	**341**	*e*PKPdf	**PKPab**		**17 49 56.7**	**-0.2**
KAPI	**Kappang**	**147.63**	**283**	PFAKE			17 50 10.0	+6.6
KAPI				LR	LR			
	comp=Z,164nm,20.0s							
KSM	**Kuching**	**153.19**	**303**	PFAKE			17 50 20.0	+5.5
KSM				LR	LR			
	comp=Z,202nm,21.0s							
KULM	**Kulim**	**157.13**	**326**	PFAKE			17 50 20.0	+7.6
KULM				LR	LR			
	comp=Z,336nm,19.0s							
PSI	**Prapat**	**160.14**	**327**	*e*PKIKP	**PKPdf**		**17 50 15.7**	**-0.4**
PSI				*e*			17 50 56.2	
PSI	**Prapat**	**160.14**	**327**	*e*PKPdf	**PKPdf**		**17 50 15.7**	**-0.4**
PSI				*e*PKPab	**PKPab**		**17 50 56.2**	**0.0**

BER 18 17:42:22.3±1.0, 76.92N×18.74E, h20km±12km, MD1.7, ML1.1, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**0.73**	**278**	*e*P	Pb	17 42 35.4	-1.0
HSPB				*e*S	Sb	17 42 45.1	-0.8
HSPB				IAML		17 42 48.7	
	comp=Z,4.2nm,0.2s						
HSPB	**Hornsund (broa**	**0.73**	**278**	*e*P	Pb	17 42 35.1	-1.2
SPA0	**Spitsbergen Ar**	**1.36**	**339**	*e*P	Pn	17 42 44.6	-1.5
SPA0				*e*Pg	Pb	17 42 45.4	-1.7
HOPEN	**Hopen**	**1.51**	**103**	*e*Sg	Sb	17 43 07.7	-0.4
KBS	**Kingsbay**	**2.47**	**328**	*e*Pg	Pb	17 43 05.2	-0.6
KBS				IAML		17 43 42.4	
	comp=Z,4.1nm,0.4s						

IDC 18 17:50:41.3±2.5, 10.04S×113.73E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/43, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=131.2km s-min=23.8km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.05**	**126**	Pn	Pn	17 53 59.6	-2.1
	0.2nm,0.3s,baz=296,slow=9.5,SNR=12						
FITZ				Sn	Sn	17 56 22.3	-16
	0.2nm,0.3s,baz=192,slow=23,SNR=6.7						
WRA	**Warramunga Arr**	**22.18**	**119**	P	P	17 55 39.6	+0.3
	0.7nm,0.6s,baz=293,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**23.54**	**128**	P	P	17 55 54.0	+0.5
	0.5nm,0.8s,baz=301,slow=9.9,SNR=12						
H08S2	**Diego Garcia H**	**40.80**	**270**	T	T	18 41 33.9	
	baz=96,slow=74						
H08S3	**Diego Garcia H**	**40.81**	**270**	T	T	18 41 31.7	
	baz=96,slow=74						
H08S1	**Diego Garcia H**	**40.82**	**270**	T	T	18 41 33.6	
	baz=96						
MKAR	**Makanchi Array**	**63.16**	**336**	P	P	18 01 10.9	-0.2
	0.3nm,0.4s,baz=149,slow=6.9,SNR=5.7						

IDC 18 18:19:15.5±7.5, 19.56S×168.96E, h18km±42km, mb3.6/3, mb1 3.7/4, mb1mx3.2/26, mbtmp4.0/4, MS4.1/1, Ms1 4.1/1, ms1mx3.0/28, Error ellipse: s-maj=106.7km s-min=70.2km az=122.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.43**	**223**	P	Pn	18 20 10.1	+0.2
	3.3nm,0.3s,baz=128,slow=24,SNR=52						
DZM				S	Sn	18 20 52.6	+0.1
	1.1nm,0.3s,baz=114,slow=20,SNR=3.1						
STKA	**Stephens Creek**	**27.45**	**238**	P	P	18 24 43.7	-0.4
	0.8nm,0.3s,baz=93,slow=12,SNR=5.5						
WRA	**Warramunga Arr**	**32.55**	**263**	P	P	18 25 29.2	+0.1
	0.3nm,0.3s,baz=92,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**32.79**	**256**	P	P	18 25 31.2	0.0
	4.4nm,0.6s,baz=89,slow=7.7,SNR=131						
ASAR				LR	LR	18 39 38.6	
	comp=Z,354nm,20.1s,baz=82,slow=37						

*IDC **18** 18:33:13.9±2.1, 31.97S×177.74W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/25, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=53.4km s-min=33.2km az=126.0*

ISC 18 18:33:15.7±2.2, 32.0S×177.6W±0.3, h18km, n6, σ0.87/8, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.58**	**214**	Pn	**Pn**	**18 35 04.5**	**-0.8**
	0.4nm,0.3s,baz=317,slow=19,SNR=3.6						
URZ				Sn	**Sn**	**18 36 31.6**	**+0.9**
	1.5nm,0.3s,baz=185,slow=22,SNR=11						
CTA	**Charters Tower**	**34.45**	**281**	P	**P**	**18 40 03.1**	**+0.5**
	1.2nm,0.4s,baz=109,slow=14,SNR=7.5						
ASAR	**Alice Springs**	**43.41**	**268**	P	**P**	**18 41 17.2**	**-0.4**
	0.7nm,0.6s,baz=105,slow=7.4,SNR=18						
WRA	**Warramunga Arr**	**44.55**	**274**	P	**P**	**18 41 26.0**	**-0.8**
	0.9nm,0.4s,baz=111,slow=8.0,SNR=8.2						
FINES	**FINESS Array B**	**146.81**	**339**	PKPbc	**PKPbc**	**18 52 55.8**	**-0.2**
	1.1nm,0.5s,baz=42,slow=4.7,SNR=12						
BRTR	**Keskin Array B**	**153.68**	**296**	PKPbc	**PKPbc**	**18 53 14.7**	**+1.0**
	0.2nm,0.4s,baz=126,slow=5.6,SNR=2.4						
BRTR				PKPab	**PKPab**	**18 53 26.6**	**+0.1**
	0.4nm,0.7s,baz=134,slow=3.6,SNR=4.3						

*ISCJB **18** 18:35:42.3±2.0, 32.17S±0.06×177.1W±0.3, h10km, mb4.6/11, Error ellipse: s-maj=38.1km s-min=8.2km az=6.0*
*NEIC **18** 18:35:44.8±1.2, 32.01S×177.43W, h8km±4km, mb4.8/14, Error ellipse: s-maj=24.0km s-min=10.2km az=96.0*
*IDC **18** 18:35:47.1±1.1, 31.98S×177.72W, h0km, mb4.4/4, mb1 4.5/6, mb1mx4.1/30, mbtmp4.4/6, ML4.1/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/36, Error ellipse: s-maj=33.2km s-min=23.4km az=128.0*

ISC 18 18:35:49.0±0.8, 31.91S±0.07×177.7W±0.1, h18km, n50, σ2.27/50, mb4.7/11, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.66**	**357**	Pn	**Pn**	**18 36 32.5**	**+1.6**
	152nm,0.3s,baz=67,slow=18,SNR=3.8						
RAO				Sn	**Sn**	**18 36 58.8**	**-3.9**
	94nm,0.3s,baz=90,slow=20,SNR=3.6						
RAO	**Raoul Island**	**2.66**	**357**	*e*Pn	Pn	18 36 25.5	-5.5
RAO				*e*Sn	**Sn**	**18 36 58.8**	**-3.9**
URZ	**Urewera**	**7.61**	**212**	Pn	**Pn**	**18 37 37.1**	**-1.8**
	0.6nm,0.3s,baz=108,slow=19,SNR=3.9						
URZ				Sn	**Sn**	**18 39 05.6**	**+0.9**
	10nm,0.3s,baz=162,slow=20,SNR=9.7						
OUZ	**Omahuta**	**7.95**	**243**	*e*Pn	Pn	18 37 50.0	+6.4
BKZ	**Black Stump Fm**	**8.63**	**211**	*e*Pn	**Pn**	**18 37 50.5**	**-2.4**
HIZ	**Hauiti**	**8.94**	**221**	*e*Pn	**Pn**	**18 38 00.7**	**+3.4**
BFZ	**Birch Farm**	**10.00**	**207**	*e*Pn	**Pn**	**18 38 11.9**	**+0.1**
BFZ				*e*Sn	**Sn**	**18 39 56.4**	**-7.2**
THZ	**Tophouse**	**12.35**	**215**	*e*Pn	**Pn**	**18 38 42.2**	**-1.7**
KHZ	**Kahutara**	**12.57**	**211**	*e*Pn	**Pn**	**18 38 45.1**	**-1.7**
OXZ	**Oxford**	**13.96**	**212**	*e*Pn	**Pn**	**18 39 04.7**	**-1.3**
MQZ	**McQueen's Vall**	**13.99**	**210**	*e*Pn	**Pn**	18 39 01.1	-5.2
RPZ	**Rata Peaks**	**14.72**	**214**	Pn	**Pn**	**18 39 13.3**	**-3.0**
	1.5nm,0.3s,baz=65,slow=5.6,SNR=6.9						
RPZ				Sn	Sn	18 41 46.7	-12
	0.4nm,0.3s,baz=246,slow=15,SNR=3.7						
LBZ	**Lake Benmore**	**15.64**	**214**	*e*Pn	**Pn**	**18 39 26.2**	**-2.2**
	97nm,1.7s						
ODZ	**Otahua Downs**	**15.93**	**211**	*e*Pn	**Pn**	**18 39 28.4**	**-3.8**
	74nm,1.4s						
WKZ	**Wanaka**	**16.52**	**215**	*e*Pn	**Pn**	**18 39 36.3**	**-3.5**
	125nm,1.4s						
DZM	**Mont Dzumac**	**17.15**	**301**	LR	LR	18 45 30.0	
	comp=Z,224nm,18.2s,baz=122,slow=34						
MLZ	**Mavora Lakes**	**17.36**	**215**	*e*Pn	**Pn**	**18 39 48.3**	**-1.9**
	85nm,1.7s						
WHZ	**Wether Hill Ro**	**17.82**	**214**	*e*P	**Pn**	**18 39 52.7**	**-3.2**
	200nm,1.9s						
DCZ	**Deep Cove**	**17.91**	**217**	*e*P	**Pn**	**18 39 55.1**	**-1.9**
	99nm,1.4s						
CTA	**Charters Tower**	**34.29**	**281**	P	**P**	**18 42 36.8**	**+2.4**
	4.1nm,0.4s,baz=94,slow=10,SNR=24						
CTAO	**Charters Tower**	**34.29**	**281**	*e*pP	pP	18 42 37.0	-2.9
STKA	**Stephens Creek**	**34.38**	**259**	P	**P**	**18 42 37.1**	**+2.0**
	2.2nm,0.7s,baz=108,slow=11,SNR=5.9						
STKA	**Stephens Creek**	**34.38**	**259**	*e*P	**P**	**18 42 36.9**	**+1.8**
	4.7nm,1.6s						
BBOO	**Buckleboo**	**38.80**	**256**	*e*P	**P**	**18 43 13.4**	**+0.7**
	40nm,1.4s						
COEN	**Coen**	**39.92**	**287**	*e*pP	**P**	**18 43 24.0**	**+1.8**
TAOE	**Nuku Hiva Isla**	**41.72**	**65**	*e*pP	**P**	**18 43 37.3**	**0.0**
AS01	**Alice Springs**	**43.23**	**268**	*e*P	**P**	**18 43 50.4**	**+1.0**
AS31	**Alice Springs**	**43.27**	**268**	*e*P	**P**	**18 43 50.3**	**+0.6**
	1.6nm,0.7s						
ASAR	**Alice Springs**	**43.27**	**268**	P	**P**	**18 43 50.2**	**+0.5**
	2.1nm,0.5s,baz=108,slow=7.4,SNR=52						
WB2	**Warramunga Arr**	**44.38**	**274**	*e*P	**P**	**18 43 58.2**	**-0.5**
	9.9nm,0.5s						
WRAB	**Tennant Creek**	**44.39**	**274**	*e*P	**P**	**18 43 58.2**	**-0.5**
	9.3nm,0.8s						
WR1	**Warramunga Arr**	**44.40**	**274**	*e*pP	**P**	**18 43 59.2**	**+0.4**
WRA	**Warramunga Arr**	**44.40**	**274**	P	**P**	**18 43 59.2**	**+0.4**
	4.6nm,0.6s,baz=113,slow=7.6,SNR=22						
MTN	**Manton Dam**	**50.45**	**280**	*e*P	**P**	**18 44 45.6**	**-0.3**
	77nm,1.7s						
FITZ	**Fitzroy Crossi**	**52.59**	**271**	*e*P	**P**	**18 45 02.1**	**+0.2**
	26nm,1.6s						
CASY	**Casey**	**53.91**	**208**	*e*P	**P**	**18 45 13.3**	**+2.3**
	7.4nm,0.6s						
SYO	**Syowa Base**	**75.69**	**193**	*i*eX		18 47 38.9	
MK32	**Makanchi Array**	**118.91**	**309**	*e*pPKPdf	**PKPdf**	**18 54 36.5**	**+0.3**
MKAR	**Makanchi Array**	**118.91**	**309**	PKP	**PKPdf**	**18 54 36.5**	**+0.4**
	0.4nm,0.7s,baz=184,slow=1.5,SNR=4.8						
GEYT	**Alibeck**	**134.38**	**294**	PKP	**PKPdf**	**18 55 07.2**	**+1.2**
	0.8nm,0.6s,baz=51,slow=7.6,SNR=2.5						
KBZ	**Khabaz**	**146.12**	**302**	PKPbc	**PKPab**	**18 55 28.3**	**-0.1**
	3.9nm,0.9s,baz=211,slow=24,SNR=4.6						
FIA0	**FINESS Array S**	**146.64**	**339**	*e*pPKPdf	**PKPab**	**18 55 29.1**	**-0.7**
FINES	**FINESS Array B**	**146.64**	**339**	PKPbc	**PKPab**	**18 55 29.1**	**-0.7**
	3.0nm,0.4s,baz=44,slow=3.8,SNR=45						
NB2	**NORSAR Subarra**	**150.28**	**351**	PKP	**PKPab**	**18 55 40.5**	**-4.1**
	comp=Z,1.0nm,0.6s,baz=13,slow=4.3						
NOA	**NORSAR Array B**	**150.28**	**351**	PKPbc	**PKPab**	**18 55 41.0**	**-3.6**
	comp=Z,0.8nm,0.8s,baz=16,slow=4.2,SNR=3.8						
AKASG	**Malin Array Be**	**152.63**	**321**	PKPbc	**PKPbc**	**18 55 44.5

baz=212,slow=13
ASAJ Asahikawa 1.15 135 ⇑P **Pn 18 50 42.7 +0.2**
ASAJ eS **S 18 51 13.5 -0.2**
JHR Hokuryu 1.21 171 ⇑P **Pn 18 50 43.8 +1.0**
JKK2 Kamakawa 2 1.41 139 ⇑P **Pn 18 50 44.4 +0.4**
JAB Ashibetsu 1.53 159 ⇑P **Pn 18 50 45.4 +0.5**
JMP Maruseppu 1.64 124 ⇑P **Pn 18 50 46.2 +0.6**
JMP eS **S 18 51 19.9 +0.5**
JSK Shakotan 1.74 205 P **Pn 18 50 47.1 +0.8**
JFR Furan 1.95 155 P **Pn 18 50 48.3 +0.3**
JFR eS **S 18 51 24.0 +0.2**
JTKR Abashiri--Toko 2.00 118 ⇑P **Pn 18 50 48.9 +0.6**
JTKR eS **S 18 51 24.3 0.0**
JEW Eniwo 2.10 180 ⇑P **Pn 18 50 52.2 +1.0**
JEW eS **S 18 51 27.0 +1.0**
YSS Yuzh-Sakhalins 2.20 23 eP **Pn 18 50 50.0 +0.1**
YSS AMB AMB 18 50 50.3
20nm,0.3s
YSS eS **S 18 51 24.0 -3.3**
YSS A A 18 51 26.8
70nm,0.5s
YSS A A 18 51 26.8
40nm,0.5s
JAR Ashorobuto 2.33 134 ⇑P **Pn 18 50 52.0 +0.8**
JAR eS **S 18 51 29.6 0.0**
JCH Churui 2.70 149 P **Pn 18 50 53.4 -1.3**
JCH eS **S 18 51 31.6 -4.2**
JRA Rausu 2.80 110 ⇓P **Pn 18 50 56.4 +0.8**
JRA eS **S 18 51 38.1 +0.6**
JNBK Urakawa-nobuka 2.82 160 ⇓P **Pn 18 50 56.1 +0.2**
JNBK eS **S 18 51 37.0 -1.0**
JAK Akkeshi 3.03 129 eS **S 18 51 38.4 -3.4**
JKB Kayabe 3.07 186 ⇑P **Pn 18 50 58.1 -0.3**
JOSM Okushiri--Mats 3.21 208 ⇑P **Pn 18 51 00.2 +0.4**
NEM2 Nemuro 2 3.45 116 P **Pn 18 51 00.8 -1.6**
NEM2 eS **S 18 51 45.6 -4.1**
TEY Ternei 3.46 273 eP **Pn 18 51 03.0 +0.7**
TEY AMB AMB 18 51 03.8
9.0nm,0.5s
TEY AMB AMB 18 51 03.8
38nm,0.5s
TEY AMB AMB 18 51 03.8
35nm,0.5s
TEY eS **S 18 51 49.3 -0.4**
TEY A A 18 51 51.8
76nm,1.2s
TEY A A 18 51 51.8
35nm,1.2s
TEY A A 18 51 51.8
52nm,1.2s
SHO Shikotan 3.98 104 eP Pn 18 51 14.9 +6.7
SHO AMB AMB 18 51 22.6
93nm,0.7s
SHO eS **S 18 52 04.7 +4.4**
SHO A A 18 52 05.9
15nm,0.5s
UGL Uglegorsk 4.16 5 eP **Pn 18 51 09.2 -0.8**
UGL AMB AMB 18 51 10.5
39nm,0.5s
KUR Kuril'sk 4.54 84 ⇓*i*P **Pn 18 51 15.2 +0.8**
KUR AMB AMB 18 51 15.9
4.0nm,0.8s
KUR AMB AMB 18 51 15.9
6.0nm,0.8s
KUR AMB AMB 18 51 15.9
22nm,0.8s
KUR eS **S 18 52 17.1 +5.5**
KUR A A 18 52 26.8
6.0nm,0.5s
KUR A A 18 52 26.8
3.0nm,0.5s
TYV Tymovskoe 5.98 7 eP **Pn 18 51 32.0 +0.6**
TYV AMB AMB 18 51 33.0
10.0nm,0.5s
GRNR Gornyy 6.75 332 eP **Pn 18 51 40.0 -0.9**
GRNR AMB AMB 18 51 40.7
10.0nm,0.6s
USRK Ussuriysk Ar. 6.81 267 P **Pn 18 51 42.5 +0.7**
1.2nm,0.3s,baz=82,slow=14,SNR=31
KLR Kul'dur 7.90 306 P **Pn 18 51 55.1 +0.1**
0.9nm,0.3s,baz=114,slow=13,SNR=31
EKMR Ekimchan 9.87 329 eP **Pn 18 52 19.5 +0.1**
EKMR AMB AMB 18 52 20.0
4.0nm,0.5s
BMKR Bomnak 12.71 325 eP **P 18 52 56.0 +0.6**
BMKR AMB AMB 18 52 56.8
2.0nm,0.6s
ZEA Zeya 12.77 319 eP **Pn 18 52 55.0 +0.1**
ZEA AMB AMB 18 52 57.2
29nm,0.6s
KROS Kirovskiy 13.33 321 eP **P 18 53 02.8 +0.5**
KROS AMB AMB 18 53 03.3
3.0nm,0.5s
MA2 Magadan 15.70 18 P **P 18 53 28.1 -0.1**
1.5nm,0.3s,baz=231,slow=8.8,SNR=9.2
SEY Seymchan 19.09 15 P **P 18 54 03.9 -0.9**
1.1nm,0.3s,baz=196,slow=7.9,SNR=35
SONM Songino Array 24.24 289 P **P 18 54 55.4 +0.9**
2.2nm,0.5s,baz=81,slow=9.2,SNR=10
MKAR Makanchi Array 40.40 294 P **P 18 57 14.7 +0.9**
0.5nm,0.5s,baz=81,slow=9.8,SNR=8.1
ILAR Eielson Array 42.95 37 P **P 18 57 33.4 -0.7**
1.9nm,0.6s,baz=280,slow=7.8,SNR=30
INK Inuvik 47.43 30 P **P 18 58 08.0 -0.9**
1.4nm,0.5s,baz=270,slow=7.2,SNR=4.9
YKA Yellowknife Ar 57.03 32 P **P 18 59 19.1 0.0**
1.6nm,0.6s,baz=305,slow=6.4,SNR=18
GEYT Alibeck 60.27 295 P **P 18 59 42.3 +0.4**
0.7nm,0.5s,baz=5.2,slow=1.6,SNR=2.5
FINES FINESS Array B 61.90 331 P **P 18 59 51.0 -1.3**
0.7nm,0.4s,baz=63,slow=8.8,SNR=4.8
KBZ Khabaz 65.91 308 P **P 19 00 20.2 +1.7**
1.0nm,0.6s,baz=15,slow=24,SNR=3.6
NOA NORSAR Array B 66.94 336 P **P 19 00 23.9 -0.9**
0.7nm,0.7s,baz=36,slow=6.1,SNR=4.4
AKASG Malin Array Be 68.14 321 P **P 19 00 32.1 -0.3**
1.2nm,0.4s,baz=43,slow=6.2,SNR=12
FRB Frobisher Bay 69.08 14 P **P 19 00 36.8 -1.1**
9.0nm,0.7s,baz=349,slow=6.9,SNR=13
PDAR Pinedale Array 72.16 47 P **P 19 00 57.8 +0.6**
2.2nm,0.6s,baz=283,slow=1.9,SNR=16
ULM Lac du Bonnet 72.92 34 P **P 19 01 00.4 -0.7**
3.0nm,0.5s,baz=302,slow=9.6,SNR=3.3
BRTR Keskin Array B 73.72 310 P **P 19 01 05.8 -0.4**
0.4nm,0.6s,baz=74,slow=5.1,SNR=2.9
CLL Collm 74.29 329 *i* P **P 19 01 09.0 -0.1**
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 75.86 328 eP **P 19 01 18.0 -0.1**
GERES GERESS Array B 76.05 327 P **P 19 01 19.6 +0.3**
comp=Z,0.3nm,0.3s,baz=32,slow=5.8,SNR=2.9
TXAR Lajitas Array 85.27 53 P **P 19 02 09.1 +0.8**
comp=Z,0.4nm,0.5s,baz=310,slow=4.3,SNR=6.4

*JMA **18** 18:59:50.8±0.3,21.°99N×121.°66E,h0km,M3.2*
*ISCJB **18** 18:59:52.4±0.8,21.°96N±0.°04×121.°65E±0.°02,h12km±7km,*
Error ellipse: s-maj=7.0km s-min=3.2km az=175.2
*TAP **18** 18:59:53.5,21.°97N×121.°49E,h12km,ML3.2,C*
ISC 18 18:59:52.8±1.2,21.°95N±0.°04×121.°57E±0.°03,h17km±6km,
n47,σ0.°96/92,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.09**	**348**	⇓*i*	P		**Pg**	**18 59 56.6**	**+0.3**
	baz=43								
LAY				*i*	S		**Sg**	**18 59 58.8**	**+0.1**
	baz=43								
TSEB	**Hengchuen, Pin**	**0.62**	**265**		P		**Pn**	**19 00 06.5**	**-0.3**
	baz=265								
TSEB					S		**Sn**	**19 00 16.2**	**-0.1**
	baz=265								
TWK1	**Hengchun**	**0.71**	**270**		P		**Pb**	**19 00 06.8**	**+0.1**
	baz=287								
TWK1					S		**Sb**	**19 00 16.4**	**+0.3**
	baz=287								
TAW	**Tawu**	**0.74**	**303**		P		**Pg**	**19 00 07.0**	**-0.4**
	baz=308								
TAW					S		**Sg**	**19 00 16.7**	**-0.5**
	baz=308								
HEN	**Hengchun**	**0.78**	**274**		P		**Pb**	**19 00 08.1**	**+0.3**
	baz=290								
HEN					S		**Sb**	**19 00 18.4**	**+0.4**
	baz=290								
EAST	**Anshuo**	**0.80**	**303**	*i*	P		**Pg**	**19 00 07.7**	**-0.6**
	baz=308								
EAST				*i*	S		**Sg**	**19 00 17.9**	**-1.0**
	baz=308								
ECL	**Taimali**	**0.86**	**318**		P		**Pg**	**19 00 08.4**	**-1.1**
	baz=325								
ECL					S		**Sg**	**19 00 19.6**	**-1.3**
	baz=325								
TTN	**Taitung**	**0.89**	**334**	eP			**Pg**	**19 00 09.6**	**-0.6**
	baz=355								
TTN					eS		**Sg**	**19 00 20.4**	**-1.5**
	baz=355								
SCZT	**Fangliau**	**0.98**	**296**	eP			**Pb**	**19 00 10.3**	**-0.9**
	baz=311								
SCZT					S		**Sb**	**19 00 23.3**	**-0.5**
	baz=311								
TWG	**Pinlang**	**0.98**	**332**	eP			**Pb**	**19 00 11.0**	**-0.3**
	baz=322								
TWG					S		**Sb**	**19 00 23.7**	**-0.3**
	baz=322								
CHKT	**Chengkung**	**1.16**	**351**		P		**Pn**	**19 00 13.3**	**-0.8**
	baz=8.0								
CHKT					S		**Sb**	**19 00 27.2**	**-1.8**
	baz=8.0								
SSD	**Sandimen**	**1.18**	**312**	eP			**Pg**	**19 00 16.0**	**+0.5**
	baz=328								
SSD					eS		**Sb**	**19 00 29.7**	**+0.2**
	baz=328								
SGLT	**Jiouru**	**1.26**	**308**	eP			**Pb**	**19 00 16.2**	**+0.2**
	baz=322								
SGLT					eS		**Sb**	**19 00 31.8**	**-0.2**
	baz=322								
ELDTW	**Lidau**	**1.33**	**338**	eP			**Pn**	**19 00 16.9**	**+0.2**
	baz=345								
ELDTW					eS		**Sb**	**19 00 33.5**	**-0.8**
	baz=345								
TWM1	**Shoushan**	**1.37**	**309**	eP			**Pg**	**19 00 20.3**	**+1.0**
	baz=326								
TWF1	**Yuli**	**1.42**	**350**	eP			**Pn**	**19 00 17.6**	**-0.1**
	baz=6.0								
TWF1					eS		**Sn**	**19 00 35.0**	**-1.0**
	baz=6.0								
STYT	**Tauyuan**	**1.42**	**328**	eP			**Pb**	**19 00 18.5**	**-0.3**
	baz=346								
STYT					eS		**Sn**	**19 00 35.9**	**-0.3**
	baz=346								
SGST	**Jiashian**	**1.45**	**321**	eP			**Pg**	**19 00 20.6**	**-0.1**
	baz=333								
SGST					eS		**Sg**	**19 00 39.2**	**-0.4**
	baz=333								
CHN1	**Nanshi**	**1.56**	**322**	eP			**Pn**	**19 00 19.9**	**+0.2**
	baz=329								
CHN1					eS		**Sb**	**19 00 41.2**	**+0.5**
	baz=329								
WTP	**Ta-pu**	**1.56**	**326**	eP			**Pg**	**19 00 22.2**	**-0.7**
	baz=346								
WTP					eS		**Sg**	**19 00 43.5**	**+0.3**
	baz=346								
EHY	**Hungye**	**1.56**	**352**	eP			**Pn**	**19 00 20.4**	**+0.6**
	baz=7.0								
EHY					eS		**Sn**	**19 00 39.7**	**0.0**
	baz=7.0								
YUS	**Yu-Shan**	**1.63**	**340**	eP			**Pb**	**19 00 22.5**	**-0.2**
	baz=346								
TWK	**Hsinying**	**1.65**	**323**	eP			**Pn**	**19 00 21.3**	**+0.3**
	baz=330								
TWK					eS		**Sg**	**19 00 45.4**	**-0.6**
	baz=330								
CHN4	**Tsaushan**	**1.66**	**327**	eP			**Pn**	**19 00 21.7**	**+0.7**
	baz=346								
CHN4					eS		**Sg**	**19 00 45.4**	**-1.0**
	baz=346								
ALS	**Alishan**	**1.71**	**336**	eP			**Pb**	**19 00 24.2**	**+0.4**
	baz=343								
ALS					eS		**Sg**	**19 00 46.9**	**-1.0**
	baz=343								
CHN5	**Tsauling**	**1.83**	**333**	eP			**Pb**	**19 00 26.1**	**+0.2**
	baz=341								
CHN5					eS		**Sg**	**19 00 51.1**	**-0.8**
	baz=341								
ESL	**Shilin**	**1.86**	**356**	eP			**Pn**	**19 00 23.9**	**+0.1**
	baz=12								
ESL					eS		**Sn**	**19 00 46.2**	**-0.7**
	baz=12								
WGK	**Gukeng**	**1.96**	**332**	eP			**Pn**	**19 00 26.1**	**+0.9**
	baz=340								
WGK					eS		**Sb**	**19 00 53.4**	**+1.2**
	baz=340								
SMLT	**Sun Moon Lake**	**2.02**	**342**	eP			**Pb**	**19 00 29.5**	**+0.4**
SMLT					eS		**Sb**	**19 00 53.5**	**-0.5**
TYC	**Yuchr**	**2.05**	**341**	eP			**Pn**	**19 00 28.1**	**+1.7**
	baz=349								
TYC					eS		**Sb**	**19 00 56.0**	**+1.2**
	baz=349								
WNT	**Mingjian**	**2.08**	**337**	eP			**Pb**	**19 00 29.5**	**-0.6**
	baz=345								
WNT					eS		**Sb**	**19 00 57.0**	**+1.2**
	baz=345								
TWT	**Tachien**	**2.32**	**351**	eP			**Pb**	**19 00 35.3**	**+1.1**
	baz=358								
TWT					eS		**Sn**	**19 01 00.2**	**+1.7**
	baz=358								
PNG	**Penghu**	**2.46**	**311**	eP			**Pn**	**19 00 32.2**	**+0.2**
	baz=318								
PNG					eS		**Sn**	**19 01 00.8**	**-0.9**
	baz=318								
ENA	**Nanau**	**2.47**	**4**	eP			**Pn**	**19 00 32.7**	**+0.5**
	baz=20								
ENA					eS		**Sn**	**19 01 01.9**	**0.0**
	baz=20								
NNS	**Nan Shan**	**2.48**	**356**	eP			**Pn**	**19 00 33.5**	**+1.0**
	baz=3.0								
NNS					eS		**Sn**	**19 01 02.4**	**-0.1**
	baz=3.0								
TWQ1	**Liyutan**	**2.50**	**343**	eP			**Pn**	**19 00 34.8**	**+2.2**
	baz=334								
TWQ1					eS		**Sn**	**19 01 05.5**	**+2.9**
	baz=334								
NSY	**Sanyi**	**2.56**	**343**	eP			**Pb**	**19 00 37.7**	**-0.6**
	baz=351								
NSY					eS		**Sb**	**19 01 08.6**	**-1.0**
	baz=351								
ENTT	**Nioudou**	**2.68**	**360**	eP			**Pn**	**19 00 36.4**	**+1.3**
	baz=14								
ENTT					eS		**Sn**	**19 01 08.1**	**+1.0**
	baz=14								
NSK	**Sanguang**	**2.72**	**356**	eP			**Pn**	**19 00 36.6**	**+0.9**
	baz=13								
NSK					eS		**Sn**	**19 01 09.7**	**+1.4**
	baz=13								
NSTT	**Nanjuang**	**2.72**	**349**	eP			**Pn**	**19 00 37.0**	**+1.4**
	baz=7.0								
NSTT					eS		**Sn**	**19 01 11.0**	**+2.9**
	baz=7.0								
TWE	**Neicheng**	**2.76**	**2**	eP			**Pn**	**19 00 40.6**	**-0.9**
	baz=18								
TWE					eS		**Sn**	**19 01 11.2**	**+2.2**
	baz=18								
HATJ	**Hateruma jima**	**2.94**	**44**		P		**Pn**	**19 00 39.3**	**+0.7**
HATJ					eS		**Sn**	**19 01 12.9**	**-0.6**
IRIF	**Iriomote-Funau**	**3.10**	**40**		P		**Pn**	**19 00 41.6**	**+0.8**
IRIF					S		**Sn**	**19 01 17.9**	**+0.5**
JKRS	**Kuro-shima**	**3.20**	**44**		P		**Pn**	**19 00 43.1**	**+0.9**
JKRS					eS		**Sn**	**19 01 19.1**	**-0.8**
JIJ	**Ishigaki jima**	**3.37**	**44**		P		**Pn**	**19 00 45.6**	**+1.0**
JIJ					S		**Sn**	**19 01 22.7**	**-1.5**
JISG	**Ishigakijimahi**	**3.64**	**43**		P		**Pn**	**19 00 48.9**	**+0.7**
JISG					eS		**Sn**	**19 01 29.9**	**-0.8**
JTJ	**Tarama**	**3.93**	**46**		P		**Pn**	**19 00 53.2**	**+0.9**
JTJ					S		**Sn**	**19 01 37.6**	**-0.4**

*NIED **18** 19:00:00,36.°70N×141.°90E,h35km,Mw3.8 Best double*
couple: M0 5.21000×10^14 NP1:φ8=174.00000°,δ23.00000°,
λ54.00000°. NP2:φ8=32.00000°,δ71.00000°,λ104.00000°.
*JMA **18** 19:00:49.1±0.3,36.°71N×141.°91E,h36km,M3.6*
*ISCJB **18** 19:00:50.8±1.0,36.°65N±0.°05×141.°8E±0.°1,h35km,*
mb3.5/4, Error ellipse: s-maj=12.4km s-min=7.3km az=6.9
*IDC **18** 19:00:58.5±5.8,36.°50N×141.°24E,h73km±38km,mb3.3/4,*
mb1 3.4/7,mb1mx3.2/50,mbtmp3.6/7,ML3.0/3,MS2.8/3,
Ms1 2.8/3,ms1mx2.5/30, Error ellipse: s-maj=74.6km
s-min=14.9km az=77.0
ISC 18 19:00:52.4±1.2,36.74N±0.°06×141.°8E±0.°1,h35km,n19,
σ1.°20/18,mb3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.84**	**295**		P		**Pn**	**19 01 06.4**	**-1.4**
JFK	**Kawauchi**	**0.94**	**312**		P		**Pn**	**19 01 07.6**	**-1.5**
JHO	**Hitachi**	**0.96**	**262**		P		**Pn**	**19 01 08.0**	**-1.3**
JMM	**Marumori**	**1.36**	**326**		P		**Pn**	**19 01 13.9**	**-0.9**
JFT	**Otama**	**1.37**	**305**		P		**Pn**	**19 01 15.1**	**+0.1**
JIO	**Ouri**	**1.74**	**350**		P		**Pn**	**19 01 19.0**	**-1.0**
JFY	**Yanaizu**	**1.77**	**293**		P		**Pn**	**19 01 21.3**	**+0.8**
JOU	**Okura**	**1.84**	**332**		P		**Pn**	**19 01 21.5**	**+0.1**
JAG	**Ashikaga**	**1.88**	**261**		P		**Pn**	**19 01 21.7**	**-0.3**
MJAR	**Matsushiro Arr**	**2.86**	**267**		P		**Pn**	**19 01 35.3**	**-0.1**
	9.0nm,0.3s,baz=100,slow=12,SNR=85								
MJAR					LR		LR	19 02 49.3	
	comp=Z,91nm,21.1s,baz=90,slow=46								
MAT	**Matsushiro**		**2.86**	**267**	P		**Pn**	**19 01 36.9**	**+1.4**
MAT					eS		**Sn**	**19 02 07.6**	**-1.1**
JHJ	**Hachijo jima 2**		**3.96**	**205**	P		**Pn**	**19 01 51.1**	**+0.5**
	9.2nm,0.3s,baz=70,slow=18,SNR=15								
JHJ					S		**Sn**	**19 02 33.2**	**-2.6**
	20nm,0.3s,baz=132,slow=22,SNR=6.6								
JCJ	**Chichijima**		**9.63**	**178**	LR		LR	19 06 10.2	
	comp=Z,60nm,21.4s,baz=243,slow=33								
USRK	**Ussuriysk Ar.**		**10.52**	**318**	P		Pn	**19 03 25.9**	**+5.4**
	0.2nm,0.3s,baz=129,slow=12,SNR=5.5								
USRK					LR		LR	19 07 08.9	
	comp=Z,80nm,18.4s,baz=353,slow=36								
KSRS	**Korea Array**		**11.07**	**278**	P		Pn	19 03 34.6	+6.5
	0.1nm,0.3s,baz=87,slow=14,SNR=6.4								
SONM	**Songino Array**		**28.17**	**304**	P		**P**	**19 06 42.8**	**+1.4**
	0.7nm,0.4s,baz=105,slow=11,SNR=4.1								
ZALV	**Zalesovo Beam**		**42.31**	**313**	P		**P**	**19 08 43.4**	**+0.9**
	0.6nm,0.4s,baz=96,slow=7.4,SNR=3.4								
MKAR	**Makanchi Array**		**44.50**	**302**	P		**P**	**19 09 00.5**	**+0.2**
	0.6nm,0.8s,baz=89,slow=9.1,SNR=5.8								
WRA	**Warramunga Arr**		**56.81**	**188**	P		**P**	**19 10 33.1**	**-0.2**
	0.3nm,0.7s,baz=4.9,slow=7.5,SNR=3.4								

*JMA **18** 19:04:38.6±0.2,22.°04N×121.°67E,h5km,M3.8*
*IDC **18** 19:04:38.4±1.2,21.°81N×121.°47E,h0km,mb3.5/5,*
mb1 3.7/6,mb1mx3.4/47,mbtmp3.5/6,ML3.2/1, Error
ellipse: s-maj=43.0km s-min=21.2km az=81.0
*TAP **18** 19:04:40.2,22.°00N×121.°48E,h11km,ML3.8,C*
ISC 18 19:04:39.2±1.1,21.°98N±0.°04×121.°60E±0.°03,h14km±6km,
n75,σ1.°03/98,mb3.6/4,3C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.07**	**324**	⇓*i*	P		**Pg**	**19 04 43.1**	**+1.2**
	baz=63								
TSEB	**Hengchuen, Pin**	**0.65**	**263**	*i*	P		**Pb**	**19 04 52.9**	**+0.6**
	baz=280								
TSEB					S		**Sn**	**19 05 02.5**	**-1.6**
	baz=280								
TWK1	**Hengchun**	**0.73**	**267**	*i*	P		**Pb**	**19 04 53.3**	**-0.5**
	baz=284								
TWK1					S		**Sb**	**19 05 03.1**	**-0.6**
	baz=284								
TAW	**Tawu**	**0.75**	**300**		P		**Pg**	**19 04 53.2**	**-0.6**
	baz=306								
TAW					eS		**Sg**	**19 05 02.5**	**-1.2**
	baz=306								
HEN	**Hengchun**	**0.80**	**272**	⇑*i*	P		**Pb**	**19 04 54.5**	**-0.3**
	baz=287								
HEN					S		**Sb**	**19 05 05.0**	**-0.5**
	baz=287								
EAST	**Anshuo**	**0.80**	**300**	⇑*i*	P		**Pg**	**19 04 54.1**	**-0.6**
	baz=306								
EAST				*i*	S		**Sg**	**19 05 03.6**	**-1.6**
	baz=306								
ECL	**Taimali**	**0.85**	**316**	eP			**Pg**	**19 04 54.9**	**-0.8**
	baz=324								
ECL					eS		**Sg**	**19 05 05.1**	**-1.9**
	baz=324								
TTN	**Taitung**	**0.87**	**332**	eP			**Pg**	**19 04 55.8**	**-0.3**
	baz=355								
TWG	**Pinlang**	**0.97**	**330**	eP			**Pb**	**19 04 57.2**	**-0.6**
	baz=322								
TWG					eS		**Sg**	**19 05 09.6**	**-0.9**
	baz=322								
SCZT	**Fangliau**	**0.98**	**293**	⇑P			**Pb**	**19 04 57.3**	**-0.8**
	baz=310								
SCZT					eS		**Sg**	**19 05 09.5**	**-1.6**
	baz=310								
CHKT	**Chengkung**	**1.13**	**349**	⇓eP			**Pb**	**19 04 59.5**	**-1.1**
	baz=9.0								
CHKT					eS		**Sb**	**19 05 13.7**	**-1.5**
	baz=9.0								
SSD	**Sandimen**	**1.17**	**311**	eP			**Pb**	**19 05 00.7**	**-0.6**
	baz=327								
TWP	**Hsiaoliuchiu**	**1.20**	**288**	eP			**Pg**	**19 05 02.7**	**+0.4**
	baz=291								
SGLT	**Jiouru**	**1.26**	**306**	eP			**Pn**	**19 05 01.9**	**-0.5**
	baz=321								
ELDTW	**Lidau**	**1.32**	**336**	eP			**Pn**	**19 05 03.0**	**-0.3**
	baz=344								
TWM1	**Shoushan**	**1.37**	**308**	eP			**Pg**	**19 05 06.5**	**+1.0**
	baz=326								
TWF1	**Yuli**	**1.39**	**349**	eP			**Pn**	**19 05 04.4**	**+0.2**
	baz=6.0								
STYT	**Tauyuan**	**1.41**	**327**	eP			**Pn**	**19 05 04.7**	**+0.2**
	baz=346								
STYT					eS		**Sn**	**19 05 22.9**	**-0.1**
	baz=346								
SGST	**Jiashian**	**1.44**	**320**	eP			**Pb**	**19 05 05.9**	**+0.1**
	baz=328								
SGST					eS		**Sb**	**19 05 24.3**	**+0.1**
	baz=328								
EHY	**Hungye**	**1.54**	**351**	eP			**Pn**	**19 05 06.7**	**+0.4**
	baz=6.0								
CHN1	**Nanshi**	**1.55**	**321**		P		**Pb**	**19 05 08.3**	**+0.6**
	baz=329								
CHN1					eS		**Sg**	**19 05 29.5**	**+0.3**
	baz=329								
WTP	**Ta-pu**	**1.55**	**324**	eP			**Pb**	**19 05 07.9**	**+0.1**
	baz=347								
WTP					eS		**Sg**	**19 05 28.6**	**-0.6**
	baz=347								
CHN3	**Shinhua**	**1.58**	**314**	eP			**Pb**	**19 05 08.7**	**+0.5**
	baz=320								
YUS	**Yu-Shan**	**1.61**	**339**	eP			**Pn**	**19 05 08.6**	**+0.8**
	baz=346								
TWK	**Hsinying**	**1.64**	**322**	eP			**Pb**	**19 05 09.2**	**0.0**
	baz=329								
CHN4	**Tsaushan**	**1.65**	**326**	eP			**Pb**	**19 05 09.5**	**+0.1**
	baz=347								
CHN4					eS		**Sg**	**19 05 32.2**	**-0.1**
	baz=347								
ALS	**Alishan**	**1.69**	**335**	eP			**Pb**	**19 05 09.9**	**-0.3**
	baz=342								
SCLT	**Jiali**	**1.76**	**313**	eP			**Pn**	**19 05 08.3**	**-0.9**
	baz=321								
SCLT					eS		**Sn**	**19 05 32.0**	**+0.5**
	baz=321								
CHN5	**Tsauling**	**1.82**	**332**	eP			**Pb**	**19 05 12.6**	**+0.2**
	baz=349								
ESL	**Shilin**	**1.83**	**355**	eP			**Pn**	**19 05 11.1**	**+0.8**
	baz=13								
ESL					eS		**Sn**	**19 05 34.4**	**+1.1**
	baz=13								
CHY	**Chiayi**	**1.86**	**325**	eP			**Pb**	**19 05 13.2**	**+0.3**
	baz=334								
CHY					eS		**Sn**	**19 05 34.7**	**+0.8**
	baz=334								
CHN2	**Minshiung**	**1.86**	**326**	eP			**Pb**	**19 05 12.7**	**-0.2**
	baz=334								
CHN8	**Yiju**	**1.87**	**317**	eP			**Pn**	**19 05 11.9**	**+1.1**
	baz=326								
CHN8					eS		**Sn**	**19 05 35.0**	**+0.8**
	baz=326								
WGK	**Gukeng**	**1.95**	**331**	eP			**Pb**	**19 05 14.6**	**+0.1**
	baz=339								
SMLT	**Sun Moon Lake**	**2.00**	**341**	eP			**Pb**	**19 05 15.1**	**-0.4**
	baz=360								
TYC	**Yuchr**	**2.03**	**341**	eP			**Pb**	**19 05 15.1**	**-0.9**
	baz=350								
TYC					eS		**Sb**	**19 05 41.3**	**+0.2**
	baz=350								
WNT	**Mingjian**	**2.07**	**336**	eP			**Pb**	**19 05 15.3**	**-1.2**
	baz=345								
WNT					eS		**Sn**	**19 05 40.7**	**+1.6**
	baz=345								
WSF	**Szhu**	**2.08**	**323**	eP			**Pn**	**19 05 14.6**	**+0.9**
	baz=332								
WSF					eS		**Sb**	**19 05 41.4**	**-1.1**
	baz=332								
TWD	**Chiawan**	**2.09**	**360**	eP			**Pb**	**19 05 16.4**	**-0.5**
	baz=16								
WDGT	**Dungji**	**2.20**	**306

	baz=311								
TWT	**Tachien**	**2.29**	**350**	*e*P		**Pb**	**19 05 20.5**	**0.0**
	baz=8.0								
ENA	**Nanau**	**2.44**	**3**	*e*P		**Pb**	**19 05 21.4**	**-1.5**
	baz=18								
NNS	**Nan Shan**	**2.46**	**355**	*e*P		**Pb**	**19 05 22.4**	**-0.9**
	baz=13								
PNG	**Penghu**	**2.46**	**310**	*e*P		**Pn**	**19 05 18.3**	**-0.6**
	baz=316								
TWQ1	**Liyutan**	**2.48**	**342**	*e*P		**Pn**	**19 05 20.9**	**+1.8**
	baz=334								
NSY	**Sanyi**	**2.54**	**343**	*e*P		**Pn**	**19 05 22.3**	**+2.2**
	baz=352								
NSY				*e*S		**Sb**	**19 05 55.4**	**-0.4**
	baz=352								
TWC	**Suao**	**2.63**	**5**	*e*P		**Pb**	**19 05 25.6**	**-0.5**
	baz=21								
ENTT	**Nioudou**	**2.65**	**359**	*e*P		**Pn**	**19 05 24.0**	**+2.5**
	baz=14								
ENTT				*e*S		**Sb**	**19 05 57.4**	**-1.4**
	baz=14								
NSK	**Sanguang**	**2.69**	**355**	*e*P		**Pn**	**19 05 24.9**	**+2.7**
	baz=13								
NSTT	**Nanjuang**	**2.69**	**348**	*e*P		**Pb**	**19 05 26.3**	**-0.9**
	baz=7.0								
TWE	**Neicheng**	**2.73**	**1**	*e*P		**Pb**	**19 05 25.7**	**-2.1**
	baz=359								
JYNG	**Yonagunijimaku**	**2.75**	**27**	P		**Pn**	**19 05 23.7**	**+0.7**
YOJ	**Yonaguni jima**	**2.79**	**28**	*e*P		**Pn**	**19 05 25.4**	**+1.9**
	baz=31								
EGS		**2.87**	**6**	*e*P		**Pn**	**19 05 26.6**	**+2.0**
	baz=21								
HATJ	**Hateruma jima**	**2.90**	**44**	P		**Pn**	**19 05 25.7**	**+0.7**
HATJ				*e*S		**Sn**	**19 05 58.8**	**-0.9**
IRIF	**Iriomote-Funau**	**3.06**	**40**	P		**Pn**	**19 05 28.0**	**+0.9**
IRIF				S		**Sn**	**19 06 02.8**	**-0.7**
NWF	**Wu-fen Shan**	**3.08**	**3**	*e*P		**Pn**	**19 05 30.4**	**+2.8**
	baz=1.0								
JKRS	**Kuro-shima**	**3.16**	**44**	P		**Pn**	**19 05 29.5**	**+1.0**
JKRS				*e*S		**Sn**	**19 06 05.5**	**-0.6**
JIJ	**Ishigaki jima**	**3.33**	**44**	P		**Pn**	**19 05 31.3**	**+0.3**
JIJ				*e*S		**Sn**	**19 06 09.0**	**-1.4**
JISG	**Ishigakijimahi**	**3.60**	**43**	P		**Pn**	**19 05 34.7**	**+0.1**
JISG				S		**Sn**	**19 06 16.2**	**-0.7**
JTJ	**Tarama**	**3.89**	**47**	P		**Pn**	**19 05 39.5**	**+0.9**
JTJ				S		**Sn**	**19 06 24.0**	**-0.2**
JIRB	**Irabujima**	**4.34**	**49**	P		**Pn**	**19 05 45.2**	**+0.4**
JIRB				*e*S		**Sn**	**19 06 34.1**	**-1.1**
JIKM	**Ikemajima**	**4.45**	**48**	*e*S		**Sn**	**19 06 37.9**	**-0.1**
KSRS	**Korea Array**	**16.36**	**18**	Pn		**P**	**19 08 31.0**	**-0.3**
	0.1nm,0.3s,baz=200,slow=11,SNR=5.6								
MJAR	**Matsushiro Arr**	**20.46**	**41**	P		Pn	19 09 20.1	+1.5
	0.9nm,0.8s,baz=238,slow=11,SNR=4.4								
FITZ	**Fitzroy Crossi**	**40.03**	**174**	P		**P**	**19 12 13.4**	**-0.6**
	1.8nm,0.9s,baz=347,slow=14,SNR=3.6								
MKAR	**Makanchi Array**	**40.20**	**318**	P		**P**	**19 12 16.8**	**+1.6**
	0.8nm,0.7s,baz=115,slow=8.8,SNR=7.5								
H11N1	**WAKE ISLAND Hy 42.27**		**84**	T		T	19 57 40.7		
	baz=282,slow=75,SNR=7.0								
H11N2	**WAKE ISLAND Hy 42.28**		**84**	T		T	19 57 40.5		
	baz=282,slow=75,SNR=11								
H11N3	**WAKE ISLAND Hy 42.29**		**84**	T		T	19 57 42.6		
	baz=282,slow=75,SNR=9.2								
H11S3	**WAKE ISLAND Hy 42.34**		**86**	T		T	19 57 43.2		
	baz=282,slow=75,SNR=20								
H11S1	**WAKE ISLAND Hy 42.35**		**86**	T		T	19 57 43.6		
	baz=282,slow=75,SNR=26								
H11S2	**WAKE ISLAND Hy 42.35**		**86**	T		T	19 57 44.3		
	baz=282,slow=75,SNR=29								
WRA	**Warramunga Arr**	**43.49**	**162**	P		**P**	**19 12 42.4**	**0.0**
	0.6nm,0.6s,baz=343,slow=9.0,SNR=7.4								
ASAR	**Alice Springs**	**46.93**	**164**	P		**P**	**19 13 10.6**	**+1.0**
	0.3nm,0.5s,baz=346,slow=7.7,SNR=5.5								

*CRAAG **18** 19:06:21.0,36.27N×2.53E, Ml3.9*
*ISCJB **18** 19:06:22.9±0.5,36.40N±0.03×2.49E±0.03, h18km, Error ellipse: s-maj=4.3km s-min=3.4km az=143.7*
*MDD **18** 19:06:22.9±0.4,36.26N×2.54E, h0km, mb4.0/13, Error ellipse: s-maj=5.8km s-min=3.7km az=5.0, PRXIMO*
*CSEM **18** 19:06:22.4±0.2,36.22N×2.54E, h10km, mb4.0, Error ellipse: s-maj=4.8km s-min=3.0km az=165.0*

ISC 18 19:06:22.9±0.8, 36.27N±0.04×2.57E±0.02, h18km, n98, σ1§34/128, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.32**	**103**	P		**Pg**	**19 06 29.0**	**-0.8**
EMHD	**Djebel Mahouad**	**0.32**	**103**	P		**Pg**	**19 06 29.0**	**-0.8**
EMHD	**Djebel Mahouad**	**0.32**	**103**	P		**Pg**	**19 06 29.0**	**-0.8**
ABA	**Alger-Bouzarea**	**0.65**	**35**	P		**Pb**	**19 06 35.6**	**-0.1**
ABA	**Alger-Bouzarea**	**0.65**	**35**	P		**Pb**	**19 06 35.6**	**-0.1**
ABA	**Alger-Bouzarea**	**0.65**	**35**	P		**Pb**	**19 06 35.6**	**-0.1**
ADJB	**Djebel Djoudb**	**0.71**	**99**	P		**Pb**	**19 06 36.2**	**-0.6**
ADJB	**Djebel Djoudb**	**0.71**	**99**	P		**Pb**	**19 06 36.2**	**-0.6**
ADJB	**Djebel Djoudb**	**0.71**	**99**	P		**Pb**	**19 06 36.2**	**-0.6**
EBNR	**Beni Rached**	**0.84**	**272**	P		**Pb**	**19 06 38.0**	**-1.0**
EBNR	**Beni Rached**	**0.84**	**272**	P		**Pb**	**19 06 38.0**	**-1.0**
ECHA	**Ech Chlef**	**0.98**	**263**	P		**Pb**	**19 06 40.0**	**-1.3**
ECHA	**Ech Chlef**	**0.98**	**263**	P		**Pb**	**19 06 40.0**	**-1.3**
ECHF	**Ech Chlef**	**1.00**	**264**	P		**Pb**	**19 06 40.0**	**-1.7**
ECHF	**Ech Chlef**	**1.00**	**264**	P		**Pb**	**19 06 40.0**	**-1.7**
EANR	**'Ain N'Sour**	**1.23**	**255**	P		**Pn**	**19 06 45.8**	**+0.5**
EANR	**'Ain N'Sour**	**1.23**	**255**	P		**Pn**	**19 06 45.8**	**+0.5**
EANR	**'Ain N'Sour**	**1.23**	**255**	P		**Pn**	**19 06 45.8**	**+0.5**
ETRT	**Tiaret**	**1.36**	**230**	P		**Pn**	**19 06 47.0**	**0.0**
ETRT	**Tiaret**	**1.36**	**230**	P		**Pn**	**19 06 47.0**	**0.0**
ETRT	**Tiaret**	**1.36**	**230**	P		**Pn**	**19 06 47.0**	**0.0**
OKGL	**Djebel Kef Gue**	**1.58**	**262**	P		**Pn**	**19 06 49.7**	**-0.3**
	73nm,0.2s,SNR=7.9							
OKGL				S		**Sb**	**19 07 12.2**	**+1.0**
	446nm,0.3s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**1.58**	**262**	P		**Pn**	**19 06 49.7**	**-0.3**
	73nm,0.2s,SNR=7.9							
OKGL				S		**Sb**	**19 07 12.2**	**+1.0**
	446nm,0.3s,SNR=7.9							
SET	**Setif**	**2.29**	**91**	P		**Pn**	**19 07 01.0**	**+1.2**
SET	**Setif**	**2.29**	**91**	P		**Pn**	**19 07 01.0**	**+1.2**
SET	**Setif**	**2.29**	**91**	P		**Pn**	**19 07 01.0**	**+1.2**
CKHR	**Kef el Ahmar**	**2.39**	**95**	P		**Pb**	**19 07 08.0**	**+2.5**
CKHR	**Kef el Ahmar**	**2.39**	**95**	P		**Pb**	**19 07 08.0**	**+2.5**
ODJA	**Bouhanifia**	**2.40**	**248**	P		**Pg**	**19 07 11.0**	**+2.0**
ODJA	**Bouhanifia**	**2.40**	**248**	P		**Pg**	**19 07 11.0**	**+2.0**
DFRA	**Djebel Bou Aff**	**2.68**	**83**	P		**Pg**	**19 07 14.0**	**-0.3**
DFRA	**Djebel Bou Aff**	**2.68**	**83**	P		**Pg**	**19 07 14.0**	**-0.3**
EIBI	**Ibiza**	**2.92**	**341**	⇓P		**Pn**	**19 07 09.3**	**+0.9**
	8.0nm,0.2s,SNR=18							
EIBI				S		**Sn**	**19 07 42.0**	**-1.1**
	25nm,0.2s							
EIBI	**Ibiza**	**2.92**	**341**	P		**Pn**	**19 07 09.3**	**+0.9**
	8.0nm,0.2s,SNR=18							
EMUR	**La Murta**	**3.43**	**298**	P		**Pn**	**19 07 16.4**	**+1.0**
	1.3nm,0.2s,SNR=6.5							
EMUR				S		**Sn**	**19 07 54.8**	**-0.9**
	2.8nm,0.3s							
EMUR	**La Murta**	**3.43**	**298**	P		**Pn**	**19 07 16.4**	**+1.0**
	1.3nm,0.2s,SNR=6.5							
EMUR				S		**Sn**	**19 07 54.8**	**-0.9**
	2.8nm,0.3s							
AFON	**Font Roja**	**3.44**	**315**	P		**Pn**	**19 07 16.5**	**+0.8**
	0.4nm,0.2s,SNR=7.9							
AFON				S		**Sn**	**19 07 56.6**	**+0.5**
	1.2nm,0.3s,SNR=7.9							
AFON	**Font Roja**	**3.44**	**315**	P		**Pn**	**19 07 16.5**	**+0.8**
	0.4nm,0.2s,SNR=7.9							
AFON				S		**Sn**	**19 07 56.6**	**+0.5**
	1.2nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**3.50**	**3**	P		**Pn**	**19 07 16.9**	**+0.6**
	4.1nm,0.1s,SNR=35							
ETOS				S		**Sn**	**19 07 55.3**	**-1.9**
	7.1nm,0.2s							
ETOS	**Mallorca**	**3.50**	**3**	P		**Pn**	**19 07 16.9**	**+0.6**
	4.1nm,0.1s,SNR=35							
ENIJ	**Nijar**	**3.91**	**282**	P		**Pn**	**19 07 22.4**	**+0.4**
	0.7nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**19 08 04.6**	**-2.8**
	13nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**3.91**	**282**	P		**Pn**	**19 07 22.4**	**+0.4**
	0.7nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**4.04**	**307**	P		**Pn**	**19 07 25.1**	**+1.2**
	1.5nm,0.1s,SNR=16							
ETOB				S		**Sn**	**19 08 09.9**	**-1.0**
	6.8nm,0.3s							
ETOB	**Tobarra**	**4.04**	**307**	P		**Pn**	**19 07 25.1**	**+1.2**
	1.5nm,0.1s,SNR=16							
EBER	**Berja**	**4.44**	**280**	P		**Pn**	**19 07 29.5**	**0.0**
	2.5nm,0.2s,SNR=15							
EBER				S		**Sn**	**19 08 19.8**	**-1.0**
	12nm,0.5s							
EBER	**Berja**	**4.44**	**280**	P		**Pn**	**19 07 29.5**	**0.0**
	2.5nm,0.2s,SNR=15							
EBER				S		**Sn**	**19 08 19.8**	**-1.0**
	12nm,0.5s							
SESP	**Santiago Espad**	**4.48**	**296**	P		**Pn**	**19 07 31.9**	**+1.9**
	1.4nm,0.3s,SNR=7.9							
SESP				S		**Sn**	**19 08 21.6**	**-0.2**
	12nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**4.48**	**296**	P		**Pn**	**19 07 31.9**	**+1.9**
	1.4nm,0.3s,SNR=7.9							
SESP				S		**Sn**	**19 08 21.6**	**-0.2**
	12nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**4.68**	**302**	P		**Pn**	**19 07 34.1**	**+1.4**
	0.9nm,0.2s,SNR=4.0							
EVIA				S		**Sn**	**19 08 27.1**	**+0.5**
	2.9nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**4.68**	**302**	P		**Pn**	**19 07 34.1**	**+1.4**
	0.9nm,0.2s,SNR=4.0							
EVIA				S		**Sn**	**19 08 27.1**	**+0.5**
	2.9nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**4.74**	**331**	P		**Pn**	**19 07 34.7**	**+1.2**
	6.6nm,0.2s,SNR=26							
EMOS				S		**Sn**	**19 08 26.1**	**-2.0**
	6.1nm,0.2s,SNR=7.0							
EMOS	**Mosqueruela**	**4.74**	**331**	P		**Pn**	**19 07 34.7**	**+1.2**
	6.6nm,0.2s,SNR=26							
EQES	**Quesada**	**4.77**	**290**	P		**Pn**	**19 07 35.1**	**+1.2**
	0.6nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**19 08 28.1**	**-0.6**
	8.6nm,0.4s,SNR=7.9							
EQES	**Quesada**	**4.77**	**290**	P		**Pn**	**19 07 35.1**	**+1.2**
	0.6nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**19 08 28.1**	**-0.6**
	8.6nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**4.92**	**283**	P		**Pn**	**19 07 37.1**	**+1.1**
	1.2nm,0.3s,SNR=6.5							
EQUE				S		**Sn**	**19 08 31.0**	**-1.4**
	3.4nm,0.3s,SNR=4.0							
EQUE	**Quentar**	**4.92**	**283**	P		**Pn**	**19 07 37.1**	**+1.1**
	1.2nm,0.3s,SNR=6.5							
ERTA	**Horta de San J**	**5.00**	**340**	P		**Pn**	**19 07 37.8**	**+0.8**
	0.7nm,0.1s,SNR=7.9							
ERTA				S		**Sn**	**19 08 33.3**	**-1.0**
	2.1nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**5.00**	**340**	P		**Pn**	**19 07 37.8**	**+0.8**
	0.7nm,0.1s,SNR=7.9							
SELV	**Sierra Elvira**	**5.15**	**283**	P		**Pn**	**19 07 40.3**	**+1.2**
	0.2nm,0.1s,SNR=4.0							
SELV	**Sierra Elvira**	**5.15**	**283**	P		**Pn**	**19 07 40.3**	**+1.2**
	0.2nm,0.1s,SNR=4.0							
EPOB	**Poblet**	**5.21**	**348**	P		**Pn**	**19 07 41.2**	**+1.3**
	0.4nm,0.2s,SNR=7.9							
EPOB				S		**Sn**	**19 08 37.2**	**-2.3**
	1.3nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**5.21**	**348**	P		**Pn**	**19 07 41.2**	**+1.3**
	0.4nm,0.2s,SNR=7.9							
EGOR	**Sierra Gorda,**	**5.43**	**281**	P		**Pn**	**19 07 43.4**	**+0.3**
	0.3nm,0.1s,SNR=4.0							
EGOR	**Sierra Gorda,**	**5.43**	**281**	P		**Pn**	**19 07 43.4**	**+0.3**
	0.3nm,0.1s,SNR=4.0							
CFON	**Fontmartina**	**5.49**	**359**	P		**Pn**	**19 07 44.6**	**+0.9**
	3.3nm,0.2s,SNR=11							
CFON				S		**Sn**	**19 08 43.5**	**-2.9**
	4.4nm,0.2s							
CFON	**Fontmartina**	**5.49**	**359**	P		**Pn**	**19 07 44.6**	**+0.9**
	3.3nm,0.2s,SNR=11							
EMIJ	**Mijas**	**5.93**	**275**	P		**Pn**	**19 07 49.6**	**-0.2**
	0.2nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**5.93**	**275**	P		**Pn**	**19 07 49.6**	**-0.2**
	0.2nm,0.1s,SNR=7.9							
ESAC	**San Caprasio**	**5.94**	**337**	S		**Sn**	**19 08 54.9**	**-2.6**
	15nm,0.5s,SNR=7.9							
EADA	**Adamuz**	**6.01**	**290**	S		**Sn**	**19 08 57.5**	**-1.8**
	2.0nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	**6.17**	**2**	P		**Pn**	**19 07 53.9**	**+0.7**
	1.4nm,0.2s,SNR=7.9							
EJON				S		**Sn**	**19 09 00.9**	**-2.4**
	1.4nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**6.17**	**2**	P		**Pn**	**19 07 53.9**	**+0.7**
	1.4nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**6.18**	**305**	P		**Pn**	**19 07 54.3**	**+1.1**
	0.7nm,0.1s,baz=116,slow=13,SNR=5.6							
ESDC				S		**Sn**	**19 09 01.9**	**-1.6**
	0.5nm,0.2s,baz=117,slow=24,SNR=4.2							
ESDC	**Sonseca Array**	**6.18**	**305**	P		**Pn**	**19 07 54.3**	**+1.1**
	0.7nm,0.1s,slow=13,SNR=5.6							
CSOR	**Sort**	**6.20**	**350**	P		**Pn**	**19 07 54.7**	**+1.2**
	1.5nm,0.2s,SNR=7.7							
CSOR				S		**Sn**	**19 09 01.6**	**-2.4**
	1.9nm,0.3s							
CSOR	**Sort**	**6.20**	**350**	P		**Pn**	**19 07 54.7**	**+1.2**
	1.5nm,0.2s,SNR=7.7							
SJAF	**Saint Jean de**	**6.21**	**2**	P		**Pn**	**19 07 55.5**	**+1.9**
	0.2nm,0.1s,SNR=7.9							
SJAF				S		**Sn**	**19 09 00.1**	**-4.1**
	1.0nm,0.4s,SNR=7.9							
SJAF	**Saint Jean de**	**6.21**	**2**	P		**Pn**	**19 07 55.5**	**+1.9**
	0.2nm,0.1s,SNR=7.9							
CLLI	**Llivia**	**6.22**	**356**	P		**Pn**	**19 07 55.4**	**+1.6**
	0.5nm,0.2s,SNR=7.8							
CLLI				S		**Sn**	**19 09 01.6**	**-2.9**
	0.6nm,0.3s							
CLLI	**Llivia**	**6.22**	**356**	P		**Pn**	**19 07 55.4**	**+1.6**
	0.5nm,0.2s,SNR=7.8							
ECAB	**El Cabril**	**6.63**	**288**	P		**Pn**	**19 07 58.6**	**-0.8**
	0.2nm,0.3s,SNR=7.9							
ECAB				S		**Sn**	**19 09 11.8**	**-2.7**
	0.9nm,0.4s,SNR=7.9							
ECAB	**El Cabril**	**6.63**	**288**	P		**Pn**	**19 07 58.6**	**-0.8**
	0.2nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**6.85**	**312**	P		**Pn**	**19 08 04.8**	**+2.3**
	1.2nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**6.85**	**312**	P		**Pn**	**19 08 04.8**	**+2.3**
	1.2nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**7.19**	**337**	P		**Pn**	**19 08 08.2**	**+1.0**
	0.2nm,0.1s,SNR=7.9							
IELO	**Elcoad**	**7.19**	**337**	P		**Pn**	**19 08 08.2**	**+1.0**
	0.2nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.54**	**284**	P		**Pn**	**19 08 11.6**	**-0.4**
	0.1nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.54**	**284**	P		**Pn**	**19 08 11.6**	**-0.4**
	0.1nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**7.62**	**337**	P		**Pn**	**19 08 14.2**	**+1.2**
	0.4nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**7.62**	**337**	P		**Pn**	**19 08 14.2**	**+1.2**
	0.4nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**7.79**	**302**	P		**Pn**	**19 08 17.0**	**+1.6**
	0.2nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**7.79**	**302**	P		**Pn**	**19 08 17.0**	**+1.6**
	0.2nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**8.95**	**306**	P		**Pn**	**19 08 32.1**	**+0.8**
	0.6nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**8.95**	**306**	P		**Pn**	**19 08 32.1**	**+0.8**
	0.6nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**9.18**	**311**	P		**Pn**	**19 08 35.8**	**+1.3**
	0.8nm,0.2s,SNR=4.9							
ECAL	**Calabor**	**9.18**	**311**	P		**Pn**	**19 08 35.8**	**+1.3**
	0.8nm,0.2s,SNR=4.9							
EARI	**Arriondas**	**9.22**	**322**	P		**Pn**	**19 08 36.3**	**+1.3**
	0.3nm,0.2s,SNR=5.0							
EARI	**Arriondas**	**9.22**	**322**	P		**Pn**	**19 08 36.3**	**+1.3**
	0.3nm,0.2s,SNR=5.0							

*NIED **18** 19:10:00,37.00N×141.20E, h11km, Mw4.0 Best double couple: M0 1.05000×10^15 NP1:φ=252.00000°, δ=34.00000°, λ=-63.00000°. NP2:φ=41.00000°, δ=60.00000°, λ=-107.00000°.*
*ISCJB **18** 19:10:27.9±0.8,36.99N±0.03×141.31E±0.05, h25km±5km, mb4.3/36, Error ellipse: s-maj=6.8km s-min=4.8km az=23.0*
*JMA **18** 19:10:29.3±0.1,36.99N×141.20E, h28km±1km, M4.3*
JMA Felt III J1.
*NEIC **18** 19:10:31.8±0.7,37.04N×141.19E, h37km±6km, mb4.5/21, Error ellipse: s-maj=6.6km s-min=5.0km az=124.0*
NEIC Recorded [3 JMA] in Fukushima.
*IDC **18** 19:10:32.8±2.9,37.00N×141.11E, h43km±27km, mb3.8/15, mb1 3.9/17, mb1mx3.8/54, mbtmp4.0/17, ML3.9/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/39, Error ellipse: s-maj=22.5km*

s-min=14.4km az=76.0

ISC 18 19:10:27.9±1.4, 36.97N±0.06×141.31E±0.06, h13km±8km, n87, σ1§13/88, mb4.3/36, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.43**	**288**	P		**Pg**	**19 10 37.1**	**+0.6**
ONAJ				S		**Sg**	**19 10 42.4**	**+0.2**
JFK	**Kawauchi**	**0.53**	**319**	P		**Pg**	**19 10 38.7**	**+0.4**
JFK				S		**Sg**	**19 10 45.1**	**-0.2**
JHO	**Hitachi**	**0.69**	**239**	P		**Pg**	**19 10 41.3**	**-0.1**
JHO				S		**Sg**	**19 10 50.0**	**-0.5**
JFT	**Otama**	**0.95**	**305**	P		**Pb**	**19 10 45.9**	**-0.3**
JFT				S		**Sb**	**19 10 57.1**	**-1.6**
JMM	**Marumori**	**0.98**	**335**	P		**Pb**	**19 10 45.9**	**-0.9**
JMM				S		**Sb**	**19 10 58.3**	**-1.4**
JSB	**Shiboa**	**1.11**	**270**	P		**Pb**	**19 10 48.7**	**-0.3**
JSB				S		**Sb**	**19 11 02.5**	**-0.9**
JFY	**Yanaizu**	**1.35**	**289**	P		**Pn**	**19 10 52.1**	**-0.4**
JFY				S		**Sn**	**19 11 08.5**	**-1.8**
MJAR	**Matsushiro Arr**	**2.53**	**261**	P		**Pn**	**19 11 09.1**	**+0.4**
	15nm,0.3s,baz=89,slow=15,SNR=101							
MJAR				S		**Sn**	**19 11 41.5**	**+2.3**
	38nm,0.3s,baz=85,slow=32,SNR=7.7							
MAJO	**Matsushiro**	**2.53**	**261**	*e*Pn		**Pn**	**19 11 09.4**	**+0.8**
MJB9	**Matsu-Tunnel**	**2.53**	**261**	*e*Pn		**Pn**	**19 11 09.4**	**+0.8**
INU	**Inuyama**	**3.83**	**246**	*e*Pn		**Pn**	**19 11 27.6**	**+1.1**
JHJ2	**Mitsune**	**4.04**	**198**	*e*Pn		**Pn**	**19 11 31.1**	**+1.7**
JHJ	**Hachijo jima 2**	**4.04**	**198**	P		**Pn**	**19 11 31.3**	**+1.8**
	40nm,0.3s,baz=152,slow=23,SNR=20							
JHJ				S		**Sn**	**19 12 14.4**	**-2.2**
	60nm,0.3s,baz=265,slow=22,SNR=7.5							
ERM	**Erimo**	**5.24**	**15**	*e*Pn		**Pn**	**19 11 46.9**	**+1.1**
ASAJ	**Asahikawa**	**7.21**	**7**	*e*Pn		**Pn**	**19 12 12.7**	**-0.2**
JNU	**Nakatsue**	**9.37**	**249**	LR		LR	19 15 50.0	
	comp=Z,61nm,19.1s,baz=140,slow=34							
CBIJ	**Chichi jima**	**9.87**	**175**	*e*Pn		**Pn**	**19 12 47.5**	**-2.0**
CBIJ				*e*Sn		Sn	19 14 31.7	-8.5
JCJ	**Chichijima**	**9.87**	**175**	P		**Pn**	**19 12 48.0**	**-1.5**
	17nm,0.3s,baz=292,slow=22,SNR=21							
JCJ				S		Sn	19 14 31.2	-9.0
	baz=233,slow=20							
USRK	**Ussuriysk Ar.**	**10.11**	**318**	P		Pn	19 12 57.3	+4.6
	0.3nm,0.3s,baz=134,slow=14,SNR=11							
KSRS	**Korea Array**	**10.69**	**277**	P		Pn	19 13 05.6	+5.0
	0.3nm,0.3s,baz=90,slow=14,SNR=24							
KSRS				LR		LR	19 16 52.1	
	comp=Z,84nm,18.5s,baz=164,slow=36							
KS15	**Wonju Array Si**	**10.72**	**277**	*e*Pn		**Pn**	**19 13 01.9**	**+0.8**
KSAR	**Wonju Array Be**	**10.72**	**277**	P		Pn	19 13 05.6	+4.5
MDJ	**Mudanjiang**	**11.70**	**314**	*e*Pn		**Pn**	**19 13 16.1**	**+1.6**
KLR	**Kul'dur**	**14.09**	**333**	LR		LR	19 19 06.4	
	comp=Z,84nm,19.6s,baz=230,slow=37							
ENH	**Enshi**	**27.24**	**265**	*e*P		**P**	**19 16 09.5**	**-2.2**
	6.6nm,1.0s							
SONA1	**Songino Array**	**27.75**	**304**	*e*P		**P**	**19 16 14.8**	**-1.4**
SONA0	**Songino Array**	**27.75**	**304**	*e*P		**P**	**19 16 16.9**	**+0.6**
	1.9nm,0.7s							
SONM	**Songino Array**	**27.75**	**304**	P		**P**	**19 16 16.9**	**+0.6**
	1.4nm,0.6s,baz=96,slow=8.7,SNR=6.0							
H11N2	**WAKE ISLAND Hy 28.19**		**121**	T		T	19 45 54.5	
	baz=313,slow=75,SNR=740							
H11N1	**WAKE ISLAND Hy 28.20**		**121**	T		T	19 45 55.1	
	baz=313,slow=75,SNR=368							
H11N3	**WAKE ISLAND Hy 28.20**		**121**	T		T	19 45 55.9	
	baz=313,slow=75,SNR=349							
H11S1	**WAKE ISLAND Hy 28.90**		**123**	T		T	19 46 47.0	

IDC 18 19:14:21.2±10.0, 13°39S×167°10E, h263km±125km, mb3.0/3, mb1 3.2/4, mb1mx2.8/38, mbtmp3.6/4, Error ellipse: s-maj=129.9km s-min=37.8km az=155.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.66**	**184**	P	Pn	19 16 23.2	+0.3
	0.3nm,0.3s,baz=318,slow=14,SNR=4.0						
ASAR	**Alice Springs**	**33.02**	**247**	P	P	19 20 31.8	-0.5
	0.3nm,0.7s,baz=79,slow=9.1,SNR=4.2						
ILAR	**Eielson Array**	**85.31**	**18**	P	P	19 26 27.6	-0.7
	0.4nm,0.6s,baz=230,slow=5.8,SNR=7.6						
MKAR	**Makanchi Array**	**96.12**	**317**	P	P	19 27 19.8	+0.6
	0.2nm,0.5s,baz=85,slow=6.1,SNR=3.0						
ARCES	**ARCESS Array B**	**118.92**	**346**	PKP	PKPdf	19 32 38.1	+0.2
	0.4nm,0.4s,baz=64,slow=2.1,SNR=4.4						

WEL 18 19:26:34.3±0.2, 43°55S×172°92E, h7km, ML3.6/15, 3C-3D, Error ellipse: s-maj=1.3km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.22**	**264**	⇑PG	Pg	19 26 38.8	+0.1
CRLZ				SG	Sg	19 26 41.8	+0.2
CRLZ				AML	AML	19 26 41.9	
CRLZ				AML	AML	19 26 41.9	
CRLZ				AML	AML	19 26 41.9	
MQZ	**McQueen's Vall**	**0.25**	**232**	⇑PG	Pg	19 26 39.6	+0.4
MQZ				SG	Sg	19 26 43.1	+0.5
MQZ				AML	AML	19 26 43.3	
OXZ	**Oxford**	**0.68**	**289**	⇓P*	Pg	19 26 47.2	-0.2
OXZ				S*	Sg	19 26 56.5	+0.2
LTZ	**Lake Taylor**	**0.91**	**328**	⇓P*	Pg	19 26 51.9	+0.2
LTZ				S*	Sb	19 27 04.0	-0.5
LTZ				AML	AML	19 27 04.8	
KHZ	**Kahutara**	**1.22**	**22**	P*	Pb	19 26 56.4	-1.2
INZ	**Inchbonnie**	**1.36**	**307**	PN	Pn	19 26 58.4	-1.3
RPZ	**Rata Peaks**	**1.37**	**263**	⇓PN	Pn	19 26 58.6	-1.2
RPZ				AML	AML	19 27 23.1	
RPZ				AML	AML	19 27 28.6	
WVZ	**Waitaha Valley**	**1.67**	**286**	PN	Pn	19 27 03.4	-0.4
WVZ				AML	AML	19 27 30.9	
WVZ				AML	AML	19 27 40.5	
THZ	**Tophouse**	**1.79**	**360**	⇑PN	Pn	19 27 04.5	-1.1
THZ				AML	AML	19 27 40.6	
THZ				AML	AML	19 27 45.3	
DSZ	**Denniston Nort**	**1.98**	**335**	AML	AML	19 27 35.6	
DSZ				AML	AML	19 27 35.6	
DSZ				AML	AML	19 27 35.6	
DSZ				AML	AML	19 27 36.6	
LBZ	**Lake Benmore**	**2.15**	**246**	PN	Pn	19 27 09.9	-0.6
LBZ				AML	AML	19 27 52.3	
LBZ				AML	AML	19 27 53.8	
ODZ	**Otahua Downs**	**2.21**	**227**	PN	Pn	19 27 10.6	-0.7
ODZ				AML	AML	19 27 48.7	
ODZ				AML	AML	19 27 54.3	
ODZ				AML	AML	19 28 00.7	
ODZ				AML	AML	19 35 06.4	
FOZ	**Fox Glacier**	**2.26**	**269**	PN	Pn	19 27 12.4	+0.4
FOZ				AML	AML	19 27 41.0	
FOZ				AML	AML	19 35 10.7	
NNZ	**Nelson**	**2.36**	**8**	PN	Pn	19 27 13.1	-0.3
TCW	**Tory Channel**	**2.55**	**24**	PN	Pn	19 27 14.6	-1.3
BHW	**Baring Head**	**2.58**	**35**	PN	Pn	19 27 14.2	-2.2
QRZ	**Quartz Range**	**2.74**	**354**	PN	Pn	19 27 18.2	-0.4
QRZ				AML	AML	19 27 39.9	
QRZ				AML	AML	19 27 39.9	
QRZ				AML	AML	19 27 58.7	
QRZ				AML	AML	19 28 14.6	
DUWZ	**D'Urville Isla**	**2.85**	**15**	PN	Pn	19 27 19.7	-0.4
HHSZ	**Highcliff Hill**	**2.86**	**215**	PN	Pn	19 27 19.4	-0.9
CAW	**Cannon Point**	**2.91**	**34**	PN	Pn	19 27 19.6	-1.4
JCZ	**Jackson Bay**	**3.04**	**259**	PN	Pn	19 27 23.6	+0.8
JCZ				AML	AML	19 29 53.3	
WKZ	**Wanaka**	**3.08**	**244**	PN	Pn	19 27 22.7	-0.1
EAZ	**Earnscleugh**	**3.09**	**236**	PN	Pn	19 27 22.7	-0.7
EAZ				AML	AML	19 28 24.2	
EAZ				AML	AML	19 28 24.3	
OGWZ	**Otaki Gorge**	**3.20**	**32**	PN	Pn	19 27 23.4	-1.6
TUZ	**Tuapeka**	**3.36**	**223**	PN	Pn	19 27 26.4	-0.7
TUZ				AML	AML	19 28 48.6	
TUZ				AML	AML	19 31 32.3	
MRZ	**Mangatainoka R**	**3.50**	**35**	PN	Pn	19 27 27.2	-1.8
BFZ	**Birch Farm**	**3.79**	**42**	PN	Pn	19 27 30.9	-2.1
BFZ				AML	AML	19 35 28.8	
MLZ	**Mavora Lakes**	**3.89**	**241**	PN	Pn	19 27 33.6	-0.8
SYZ	**Scrubby Hill**	**4.01**	**221**	PN	Pn	19 27 35.7	-0.3

IDC 18 19:35:38.9±10.0, 13°87S×167°22E, h158km±92km, mb3.4/3, mb1 3.5/4, mb1mx3.1/31, mbtmp3.8/4, Error ellipse: s-maj=96.8km s-min=42.3km az=167.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.19**	**185**	P	Pn	19 37 34.8	-0.1
	0.3nm,0.3s,baz=73,slow=17,SNR=3.1						
STKA	**Stephens Creek**	**29.52**	**228**	P	P	19 41 28.4	-0.1
	1.1nm,0.3s,baz=61,slow=8.3,SNR=7.8						
WRA	**Warramunga Arr**	**31.99**	**255**	P	P	19 41 51.0	+0.6
	0.4nm,0.5s,baz=86,slow=9.2,SNR=5.0						
ASAR	**Alice Springs**	**32.94**	**248**	P	P	19 41 58.2	-0.4
	0.4nm,0.4s,baz=74,slow=9.6,SNR=26						
ARCES	**ARCESS Array B**	**119.41**	**346**	PKP	PKPdf	19 54 08.7	-0.2
	2.5nm,0.9s,baz=64,slow=2.1,SNR=3.9						

*ISCJB **18** 19:45:38.2±0.7, 33°02N±0°03×35°95E±0°05, h10km±6km, Error ellipse: s-maj=7.9km s-min=4.6km az=157.4*
*NSSC **18** 19:45:38.5±0.6, 33°01N×35°98E, h7km±3km, ML1.3*
*GRAL **18** 19:45:38.9±0.3, 33°01N×35°97E, h0km±7km, MD2.6*
*CSEM **18** 19:45:38.9, 33°01N×35°97E, h0km, ML2.6*

ISC 18 19:45:38.2±1.1, 33°02N±0°04×35°95E±0°05, h12km±10km, n10, σ0°43/18, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCHB	**Talchebab**	**0.35**	**177**	*e*P	**Pg**	**19 45 45.5**	**+0.2**
TCHB				*e*S	**Sg**	**19 45 50.4**	**+0.5**
TCHB				AML	AML	19 45 50.9	
	comp=N,130nm,0.2s						
TCHB				AML	AML	19 45 53.3	
	comp=E,44nm,0.3s						
RCY	**Rachaya**	**0.49**	**349**	*e*P	**Pg**	**19 45 47.8**	**-0.1**
RCY				*e*S	**Sg**	**19 45 54.5**	**+0.1**
TOTH	**TOTAH**	**0.53**	**49**	*e*P	**Pg**	**19 45 48.9**	**+0.3**
TOTH				*e*S	**Sg**	**19 45 55.9**	**+0.3**
TOTH				AML	AML	19 45 56.5	
	comp=E,49nm,0.2s						
TOTH				AML	AML	19 45 57.1	
	comp=N,17nm,0.2s						
SALA	**Sala**	**0.73**	**115**	*e*P	**Pg**	**19 45 52.2**	**-0.2**
SALA				*e*S	**Sg**	**19 46 01.9**	**0.0**
SALA				AML	AML	19 46 04.5	
	comp=N,15nm,0.4s						
SALA				AML	AML	19 46 05.7	
	comp=E,2.1nm,0.2s						
DQRL	**Deir Qamar**	**0.76**	**335**	*e*P	**Pg**	**19 45 52.7**	**-0.2**
DQRL				*e*S	**Sg**	**19 46 03.0**	**+0.1**
DQRL	**Deir Qamar**	**0.76**	**335**	*e*P	**Pg**	**19 45 52.7**	**-0.2**
DQRL				*e*S	**Sg**	**19 46 03.0**	**+0.1**
ZALF	**Zalf**	**1.17**	**94**	*e*P	**Pb**	**19 45 59.8**	**-0.6**
ZALF				*e*S	**Sb**	**19 46 15.1**	**-0.4**
ZALF				AML	AML	19 46 16.4	
	comp=E,10.0nm,0.3s						
ZALF				AML	AML	19 46 18.2	
	comp=N,8.9nm,0.5s						
HWQ	**Hawqa**	**1.26**	**360**	*e*P	**Pn**	**19 46 01.6**	**-0.2**
HWQ	**Hawqa**	**1.26**	**360**	*e*P	**Pn**	**19 46 01.6**	**-0.2**
HAWK	**Haweek**	**1.55**	**14**	*e*P	**Pn**	**19 46 06.2**	**+0.4**
HAWK				*e*S	**Sn**	**19 46 26.9**	**+1.1**
HAWK				AML	AML	19 46 28.3	
	comp=E,5.6nm,0.8s						
HAWK				AML	AML	19 46 28.9	
	comp=N,6.2nm,0.5s						

IDC 18 19:50:41.2±2.0, 3°39N×128°75E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/36, mbtmp3.4/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/26, Error ellipse: s-maj=109.9km s-min=22.1km az=72.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.57**	**188**	P	P	19 55 34.1	+1.6
	1.7nm,1.0s,baz=0.0,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**23.82**	**167**	P	P	19 55 55.4	-0.8
	0.2nm,0.3s,baz=343,slow=10.0,SNR=9.7						
ASAR	**Alice Springs**	**27.35**	**170**	P	P	19 56 27.2	-1.0
	0.3nm,0.4s,baz=345,slow=6.8,SNR=19						
JNU	**Nakatsue**	**29.65**	**4**	LR	LR	20 10 50.6	
	comp=Z,68nm,18.0s,baz=295,slow=41						
MKAR	**Makanchi Array**	**59.00**	**324**	P	P	20 00 43.3	+0.6
	0.4nm,0.8s,baz=114,slow=7.3,SNR=2.7						

IDC 18 20:02:10.8±3.5, 55°73S×148°67E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.7/23, mbtmp3.5/3, Error ellipse: s-maj=343.0km s-min=26.1km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**22.38**	**173**	P	P	20 07 10.1	0.0
	1.1nm,1.1s,baz=332,slow=8.9,SNR=3.0						
H01W1	**Cape Leeuwin H**	**31.49**	**297**	T	T	20 40 57.1	
	baz=143,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**31.50**	**297**	T	T	20 40 58.5	
	baz=143,slow=76,SNR=20						
H01W3	**Cape Leeuwin H**	**31.51**	**297**	T	T	20 40 58.6	
	baz=143,slow=76,SNR=22						
ASAR	**Alice Springs**	**33.83**	**335**	P	P	20 08 54.4	-0.3
	0.7nm,1.0s,baz=162,slow=9.6,SNR=4.4						
WRA	**Warramunga Arr**	**37.33**	**337**	P	P	20 09 24.7	0.0
	0.8nm,0.5s,baz=165,slow=7.5,SNR=7.4						

*BJI **18** 20:04:12.8, 19°46S×175°43W, h196km, mb5.1/53, mB5.3/32*
*MOS **18** 20:04:14.2±0.1, 19°27S×175°93W, h189km, mb5.2/38, Error ellipse: s-maj=8.0km s-min=6.9km az=74.4*
*ISCJB **18** 20:04:14.2±0.9, 19°38S±0°03×175°91W±0°03, h195km±8km, mb5.1/232, Error ellipse: s-maj=5.4km s-min=3.3km az=148.8*
*IDC **18** 20:04:15.9±1.4, 19°39S×175°85W, h198km±12km, mb4.7/30, mb1 4.7/33, mb1mx4.7/38, mbtmp5.2/33, MS3.7/3, Ms1 3.7/3, ms1mx3.0/34, Error ellipse: s-maj=10.0km s-min=8.8km az=117.0*
*NEIC **18** 20:04:19.6±0.9, 19°41S×175°90W, h236km±8km, mb5.1/180, MW5.3, Error ellipse: s-maj=4.4km s-min=3.4km az=127.0 Best double couple: NP1: ϕs37.00000°, δ81.00000°, λ-82.00000°. NP2:ϕs174.00000°, δ11.00000°, λ-132.00000°. Principal axes: T 1.2500, Plg36.0000°, Azm120.0000°; N 0.0600, Plg8.0000°, Azm216.0000°; P -1.3100, Plg53.0000°, Azm316.0000°;*
*GCMT **18** 20:04:19.6±0.2, 19°49S×175°49W, h247km±1km, MW5.3/89, Moment Tensor Solution. s78,c111; s89,c130; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.47±.18; Mθθ 1.60±.24; Mϕϕ -1.13±.22; Mrθ -4.57±.19; Mθϕ 1.95±.19; Mϕr -7.96±.16; Best double couple: Ms9.46900×10¹⁶ NP1:ϕs29.00000°, δ88.00000°, λ-103.00000°. NP2:ϕs289.00000°, δ14.00000°, λ-10.00000°. Principal axes: T 9.8390, Plg41.0000°, Azm131.0000°; N -0.7460, Plg13.0000°, Azm29.0000°; P -9.0990, Plg46.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 20:04:15.7±0.4, 19°32S±0°04×175°82W±0°04, h202km±3km, h202km; pP-P, n850, σ1s37/947, mb5.2/231, 40C-59D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.58**	**88**	P	**Pn**	**20 05 38.6**	**+1.0**
	baz=5.5,SNR=45						
MSVF	**Nonsavu**	**6.02**	**284**	*e*P	Pn	20 05 48.3	+4.8
MSVF	**Nonsavu**	**6.02**	**284**	*e*Pn	Pn	20 05 51.8	+8.3
AFI	**Afiamalu**	**6.63**	**36**	P	**Pn**	**20 05 50.7**	**-0.6**
	107nm,0.3s,baz=146,slow=2.7,SNR=41						
AFI				S	**S**	**20 06 58.8**	**-8.2**
	481nm,0.3s,baz=41,slow=22,SNR=25						
AFI	**Afiamalu**	**6.63**	**36**	*e*Pn	**Pn**	**20 05 50.5**	**-0.9**
AFI				*e*S	**S**	**20 06 59.8**	**-7.2**
RAO	**Raoul Island**	**10.07**	**191**	*e*P	**Pn**	**20 06 36.4**	**+0.6**
RAO	**Raoul Island**	**10.07**	**191**	*e*Pn	Pn	20 06 30.4	-5.3
FUNA	**Funafuti**	**11.77**	**335**	*e*Pn	**P**	**20 07 03.3**	**+0.6**
RAR	**Rarotonga**	**15.18**	**100**	P	**P**	**20 07 40.4**	**-0.1**
	2.6nm,0.3s,baz=277,slow=17,SNR=4.9						
RAR	**Rarotonga**	**15.18**	**100**	*e*Pn	**Pn**	**20 07 40.1**	**0.0**
	142nm,1.0s						
DZM	**Mont Dzumac**	**16.82**	**258**	*e*P	**Pn**	**20 08 02.3**	**+2.4**
	655nm,0.7s						
DZM	**Mont Dzumac**	**16.82**	**258**	P	**Pn**	**20 08 03.3**	**+3.4**
	36nm,0.3s,baz=86,slow=14,SNR=317						
DZM	**Mont Dzumac**	**16.82**	**258**	*e*P	**Pn**	**20 08 01.6**	**+1.8**
	389nm,0.6s						
OUZ	**Onahuta**	**18.40**	**208**	*e*P	**Pn**	**20 08 17.6**	**-0.6**
	385nm,2.0s						
MXZ	**Matakaoa Point**	**18.88**	**195**	*e*P	**Pn**	**20 08 23.7**	**-0.3**
	390nm,1.5s						
URZ	**Urewera**	**19.85**	**197**	P	**P**	**20 08 29.7**	**-1.5**
	19nm,0.3s,baz=263,slow=3.7,SNR=54						
URZ				S	**S**	**20 11 54.8**	**-8.7**
	2.2nm,0.3s,baz=294,slow=22,SNR=9.1						
URZ				LR	LR	20 14 50.6	
	comp=Z,335nm,19.4s,baz=12,slow=32						
HIZ	**Hauiti**	**20.77**	**201**	*e*P	**P**	**20 08 42.2**	**+1.1**
	275nm,1.3s						
BKZ	**Black Stump Fm**	**20.86**	**197**	*e*P	**P**	**20 08 40.5**	**-1.6**
	27nm,0.9s						
BFZ	**Birch Farm**	**22.35**	**196**	*e*P	**P**	**20 08 57.1**	**+0.2**
	54nm,0.6s						
TARA	**Tarawa**	**23.33**	**330**	*e*P	**P**	**20 09 06.7**	**+0.6**
	480nm,1.4s						
SNZO	**South Karori**	**23.36**	**198**	*e*P	**P**	**20 09 05.5**	**-0.6**
	128nm,1.1s						
THZ	**Tophouse**	**24.34**	**201**	*e*P	**P**	**20 09 14.5**	**-0.5**
	293nm,1.8s						
KHZ	**Kahutara**	**24.72**	**199**	*e*P	**P**	**20 09 18.3**	**-0.1**
	48nm,0.8s						
PAE	**Paea**	**24.94**	**90**	*e*P	**P**	**20 09 21.4**	**+0.8**
	16nm,0.8s						
PPT2	**Papeete2**	**24.95**	**90**	*e*P	**P**	**20 09 21.8**	**+1.0**
	161nm,1.2s						
PPT	**Papeete**	**24.95**	**90**	P	**P**	**20 09 21.7**	**+0.9**
	145nm,1.0s,baz=274,slow=4.4,SNR=7.5						
TIAR	**Tiarei**	**25.17**	**90**	*e*P	**P**	**20 09 23.2**	**+0.4**
	19nm,0.9s						
HNR	**Honiara**	**25.41**	**289**	P	**P**	**20 09 25.2**	**+0.2**
	151nm,0.8s,baz=200,slow=3.1,SNR=18						
HNR	**Honiara**	**25.41**	**289**	*e*P	**P**	**20 09 25.0**	**0.0**
HNR	**Honiara**	**25.41**	**289**	P	**P**	**20 09 25.2**	**+0.2**
HNR				pmax	pmax		
	comp=Z,121nm,0.6s						
LTZ	**Lake Taylor**	**25.46**	**201**	*e*P	**P**	**20 09 24.7**	**-0.5**
	comp=Z,88nm,0.7s						
OXZ	**Oxford**	**26.02**	**200**	*e*P	**P**	**20 09 29.7**	**-0.4**
	comp=Z,87nm,0.6s						
MQZ	**McQueen's Vall**	**26.17**	**199**	*e*P	**P**	**20 09 31.3**	**-0.1**
	comp=Z,36nm,0.6s						
RPZ	**Rata Peaks**	**26.70**	**201**	P	**P**	**20 09 35.0**	**-1.2**
	comp=Z,20nm,0.6s,baz=24,slow=1.8,SNR=15						
FOZ	**Fox Glacier**	**26.99**	**203**	*e*P	**P**	**20 09 38.0**	**-0.7**
	comp=Z,60nm,0.8s						
VAH	**Vaihoa**	**27.21**	**86**	*e*P	**P**	**20 09 41.5**	**+0.5**
	comp=Z,50nm,1.0s						
LBZ	**Lake Benmore**	**27.59**	**202**	*e*P	**P**	**20 09 42.6**	**-1.5**
	comp=Z,150nm,1.8s						
XMAS	**Kiritimati**	**27.87**	**42**	*e*P	**P**	**20 09 46.7**	**-0.2**
	comp=Z,202nm,1.4s						
ODZ	**Otahua Downs**	**28.01**	**201**	*e*P	**P**	**20 09 47.2**	**-0.6**
	comp=Z,76nm,1.5s						
WKZ	**Wanaka**	**28.39**	**203**	*e*P	**P**	**20 09 50.2**	**-1.0**
	comp=Z,202nm,1.7s						
MLZ	**Mavora Lakes**	**29.19**	**204**	*e*P	**P**	**20 09 58.0**	**-0.3**
	comp=Z,180nm,1.7s						
DCZ	**Deep Cove**	**29.64**	**205**	*e*P	**P**	**20 10 02.4**	**+0.2**
	comp=Z,220nm,1.9s						
WHZ	**Wether Hill Ro**	**29.70**	**203**	*e*P	**P**	**20 10 02.4**	**-0.4**
	comp=Z,60nm,0.7s						
PYZ	**Puysegur Point**	**30.41**	**204**	*e*P	**P**	**20 10 09.3**	**+0.4**
	comp=Z,97nm,1.1s						
EIDS	**Eidsvold**	**31.14**	**253**	P	**P**	**20 10 16.1**	**+0.4**
	baz=31,SNR=24						
EIDS	**Eidsvold**	**31.14**	**253**	*e*P	**P**	**20 10 16.1**	**+0.4**
	comp=Z,25nm,0.6s						
ARMA	**Armidale**	**31.42**	**243**	P	**P**	**20 10 19.6**	**+1.4**
	baz=32,SNR=25						
ARMA	**Armidale**	**31.42**	**243**	*e*P	**P**	**20 10 19.5**	**+1.2**
	comp=Z,19nm,0.8s						
KWAJ	**Kwajalein Atol**	**32.37**	**328**	*e*P	**P**	**20 10 26.1**	**-0.3**
KWAJ	**Kwajalein Atol**	**32.37**	**328**	*e*P	**P**	**20 10 26.1**	**-0.3**
	comp=Z,778nm,1.4s						
MGCD	**Mangrove Creek**	**32.57**	**238**	P	**P**	**20 10 30.0**	**+1.9**
	baz=33,SNR=7.8						
RMQ	**Roma**	**33.32**	**251**	P	**P**	**20 10 35.9**	**+1.2**
	baz=33,SNR=22						
CNB	**Canberra Magne**	**34.58**	**235**	P	**P**	**20 10 45.9**	**+0.4**
	baz=35,SNR=38						
RABL	**Rabaul**	**34.66**	**292**	*e*P	**P**	**20 10 45.6**	**-0.8**
	comp=Z,182nm,1.3s						
CAN	**Canberra**	**34.86**	**236**	*e*P	**P**	**20 10 48.3**	**+0.4**
CAN				pmax	pmax		
	comp=Z,143nm,2.0s						
CAN	**Canberra**	**34.86**	**236**	*e*P	**P**	**20 10 48.2**	**+0.4**
	comp=Z,143nm,2.0s						
CTA	**Charters Tower**	**35.66**	**262**	P	**P**	**20 10 56.1**	**+1.3**
	comp=Z,104nm,0.5s,baz=90,slow=13						
CTA				PcP	**PcP**	**20 13 18.3**	**-0.5**
	comp=Z,8.3nm,0.5s,baz=92,slow=5.1,SNR=6.4						
CTA				ScP	**ScP**	**20 16 44.8**	**-0.8**
	comp=Z,7.0nm,0.9s,baz=55,slow=7.7,SNR=5.4						
CTAO	**Charters Tower**	**35.66**	**262**	*e*P	**P**	**20 10 56.0**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,700nm,1.4s						
CTAO	**Charters Tower**	**35.66**	**262**	*e*P	**P**	**20 10 56.0**	**+1.1**
CMSA	**Cobar Meteorol**	**36.64**	**243**	P	**P**	**20 11 03.3**	**+0.3**
	baz=37,SNR=23						
PMG	**Port Moresby**	**37.12**	**280**	PcP	**PcP**	**20 13 24.3**	**+1.1**
	comp=Z,8.7nm,0.6s,baz=333,slow=6.8,SNR=3.0						
PMG	**Port Moresby**	**37.12**	**280**	*ce*P	**P**	**20 11 07.6**	**+0.4**
PMG				pmax	pmax		
	comp=Z,711nm,1.1s						
PMG	**Port Moresby**	**37.12**	**280**	*e*P	**P**	**20 11 08.0**	**+0.8**
	comp=Z,172nm,1.1s						
PMG				PcP	**PcP**	**20 13 24.3**	**+1.1**
QLP	**Quilpie**	**37.37**	**251**	P	**P**	**20 11 09.3**	**+0.2**
	baz=37,SNR=47						
MTSU	**Mount Surprise**	**37.71**	**265**	P	**P**	**20 11 12.9**	**+0.7**
	baz=38,SNR=144						
RKT	**Rikitea**	**38.18**	**103**	*e*P	**P**	**20 11 17.3**	**+1.3**
	comp=Z,196nm,1.1s						
TOO	**Toolangi**	**38.24**	**233**	P	**P**	**20 11 16.1**	**-0.3**
	baz=38,SNR=20						
COEN	**Coen**	**39.58**	**271**	P	**P**	**20 11 28.6**	**+0.9**
	baz=40,SNR=71						
COEN	**Coen**	**39.58**	**271**	*e*P	**P**	**20 11 28.4**	**+0.7**
	comp=Z,158nm,1.2s						
MANU	**Manus Island**	**39.89**	**291**	*e*P	**P**	**20 11 31.9**	**+1.6**
	comp=Z,295nm,1.0s						
MCQ	**Macquarie Isla**	**40.05**	**203**	*e*P	**P**	**20 11 32.5**	**+1.5**
MCQ				pmax	pmax		
	comp=Z,340nm,1.7s						
MCQ	**Macquarie Isla**	**40.05**	**203**	*e*P	**P**	**20 11 32.6**	**+1.7**
	comp=Z,342nm,1.8s						
STKA	**Stephens Creek**	**40.14**	**243**	P	**P**	**20 11 32.8**	**+0.6**
	comp=Z,24nm,0.7s,baz=92,slow=9.7,SNR=49						
STKA				PcP	**PcP**	**20 13 33.8**	**+1.3**
	comp=Z,11nm,0.6s,baz=92,slow=6.6,SNR=5.9						
STKA				ScP	**ScP**	**20 17 01.8**	**-0.7**
	comp=Z,5.0nm,0.7s,baz=89,slow=3.3,SNR=5.2						
STKA	**Stephens Creek**	**40.14**	**243**	P	**P**	**20 11 32.8**	**+0.6**
	baz=40,SNR=31						
STKA	**Stephens Creek**	**40.14**	**243**	*e*P	**P**	**20 11 32.6**	**+0.4**
STKA				*e*		20 13 33.5	
STKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**40.14**	**243**	*e*P	**P**	**20 11 32.6**	**+0.4**
	comp=Z,6.5nm,0.8s						
STKA				*e*PcP	**PcP**	**20 13 33.5**	**+1.0**
STKA				*e*ScP	**ScP**	**20 17 03.1**	**+0.7**
ARPS	**Mount Arapiles**	**40.84**	**236**	P	**P**	**20 11 39.0**	**+1.2**
	baz=41,SNR=5.4						
QIS	**Mount Isa**	**41.82**	**260**	P	**P**	**20 11 45.8**	**-0.2**
	baz=42,SNR=22						
PTCN	**Pitcairn Islan**	**42.57**	**106**	*e*P	**P**	**20 11 51.5**	**-0.5**
	comp=Z,424nm,1.3s						
HTT	**Hallett**	**42.58**	**241**	P	**P**	**20 11 51.7**	**-0.4**
	baz=43,SNR=15						
HPO	**Honuapo**	**43.04**	**29**	*e*P	**P**	**20 11 54.7**	**-1.0**
POHA	**Pohakuloa**	**43.64**	**28**	*e*P	**P**	**20 12 00.4**	**-0.3**
	comp=Z,219nm,1.5s						
KIP	**Kipapa**	**44.09**	**24**	*e*P	**P**	**20 12 03.3**	**-0.7**
KIP				pmax	pmax		
	comp=Z,260nm,1.5s						
KIP	**Kipapa**	**44.09**	**24**	*e*P	**P**	**20 12 04.3**	**+0.3**
	comp=Z,258nm,1.5s						
BBOO	**Buckleboo**	**44.90**	**243**	P	**P**	**20 12 09.9**	**-0.6**
	baz=45,SNR=56						
BBOO	**Buckleboo**	**44.90**	**243**	*e*P	**P**	**20 12 10.0**	**-0.6**
	comp=Z,40nm,0.6s						
JAY	**Jayapura**	**45.65**	**286**	P	**P**	**20 12 18.6**	**+2.0**
	comp=Z,168nm,1.1s,comp=Z,2μm						
GENI	**Genyem**	**46.11**	**286**	P	**P**	**20 12 21.5**	**+1.4**
	comp=Z,423nm,1.5s,comp=Z,6μm						
AS01	**Alice Springs**	**46.75**	**255**	*e*P	**P**	**20 12 24.7**	**-0.3**
AS01				*e*PcP	**PcP**	**20 13 55.4**	**+0.2**
AS31	**Alice Springs**	**46.79**	**255**	*e*P	**P**	**20 12 24.9**	**-0.5**
	comp=Z,31nm,0.6s						
AS31				*e*PcP	**PcP**	**20 13 55.3**	**0.0**
AS31				*e*ScP	**ScP**	**20 17 29.1**	**-0.7**
AS31				*e*S	**S**	**20 18 54.5**	**-5.8**
ASAR	**Alice Springs**	**46.79**	**255**	P	**P**	**20 12 25.2**	**-0.2**
	comp=Z,123nm,0.7s,baz=93,slow=8.4,SNR=1538						
ASAR				PcP	**PcP**	**20 13 55.1**	**-0.1**
	comp=Z,15nm,0.5s,baz=106,slow=3.9,SNR=8.0						
ASAR				ScP	**ScP**	**20 17 29.1**	**-0.7**
	comp=Z,6.0nm,0.8s,baz=100,slow=4.0,SNR=11						
ASAR				S	**S**	**20 18 54.5**	**-5.8**
	comp=Z,3.2nm,0.7s,baz=92,slow=15,SNR=10						
WB2	**Warramunga Arr**	**46.79**	**260**	*e*P	**P**	**20 12 24.8**	**-0.7**
	comp=Z,131nm,0.6

SOEI Soe 58.53 270 *e*P P **20 13 52.9 +1.3**
SBA Scott Base 59.18 184 *e*P P **20 13 56.9 +2.0**
SBA Scott Base 59.18 184 *e*P P **20 13 57.1 +2.2**
comp=Z,19nm,0.8s
VNDA Vanda 59.27 186 P P **20 13 57.3 +1.8**
comp=Z,6.9nm,0.8s,baz=0.4,slow=7.4,SNR=55
VNDA Vanda 59.27 186 *e*P P **20 13 56.8 +1.3**
VNDA Vanda 59.27 186 *e*P P **20 13 57.0 +1.4**
SANI Sanana 59.39 279 P P **20 13 59.7 +2.3**
MBWA Marble Bar 60.12 256 *e*P P **20 14 01.1 -1.1**
comp=Z,53nm,0.6s
KLBR Kellerberrin 60.41 244 P P **20 14 03.6 -0.5**
baz=60,SNR=50
NWAO Narrogin (SRO) 60.73 243 P P **20 14 06.0 -0.2**
baz=61,SNR=19
NWAO Narrogin (SRO) 60.73 243 *e*P P **20 14 05.8 -0.4**
NWAO pmax pmax
comp=Z,115nm,1.5s
NWAO Narrogin (SRO) 60.73 243 *e*P P **20 14 05.8 -0.4**
comp=Z,115nm,1.5s
MMRI Maumere 60.77 271 P P **20 14 07.1 +0.3**
comp=Z,157nm,0.8s,comp=Z,2µm
MMRI Maumere 60.77 271 *e*P P **20 14 06.2 -0.6**
comp=Z,95nm,0.7s
MMRI Maumere 60.77 271 *e*P P **20 14 06.7 -0.1**
comp=Z,95nm,0.7s
RKGY Rocky Gully 60.80 241 P P **20 14 06.8 +0.1**
baz=61,SNR=5.4
EDFI Ende, Flores 61.25 270 P P **20 14 09.2 -1.0**
comp=Z,101nm,0.9s,comp=Z,1µm
BLDU Ballidu 61.40 245 P P **20 14 10.2 -0.6**
baz=61,SNR=70
CBIJ Chichi jima 61.53 317 *e*P P **20 14 11.9 +0.3**
comp=Z,71nm,1.1s
JCJ Chichijima 61.53 317 P P **20 14 11.6 0.0**
comp=Z,18nm,0.4s,baz=269,slow=14,SNR=6.0
KDI Kendari 61.88 276 P P **20 14 15.4 +1.2**
comp=Z,46nm,1.3s
MORW Morawa 62.17 247 P P **20 14 15.1 -0.8**
baz=62,SNR=27
DAV Davao City (W) 63.38 289 *e*P P **20 14 22.7 -1.4**
comp=Z,223nm,0.4s
MRSI Marisa 64.08 280 P P **20 14 29.8 +1.1**
comp=Z,48nm,1.1s,comp=Z,2µm
KAPI Kappang 64.23 274 *e*P P **20 14 28.7 -1.0**
comp=Z,20nm,0.8s
SPSI Sidrap Palu 64.56 275 P P **20 14 31.4 -0.4**
comp=Z,46nm,0.8s
GIRL Giralia 64.84 253 P P **20 14 34.4 +0.9**
baz=65,SNR=13
PLAI Plampang 64.93 269 P P **20 14 33.9 -0.3**
PCI Palu 65.54 278 P P **20 14 40.1 +1.9**
TWSI Taliwang, Sumb 65.80 269 P P **20 14 39.6 -0.2**
CASY Casey 65.90 205 *e*P P **20 14 39.7 +0.2**
comp=Z,27nm,1.4s
JHJ2 Mitsune 67.18 320 *e*P P **20 14 49.1 +1.0**
comp=Z,325nm,1.1s
JHJ Hachijo jima 2 67.21 320 P P **20 14 49.2 +0.9**
comp=Z,89nm,0.4s,baz=136,slow=4.7,SNR=13
JAGI Jajag, Banyuwa 68.45 268 P P **20 14 56.0 -0.5**
comp=Z,118nm,1.0s
JAGI Jajag, Banyuwa 68.45 268 *e*P P **20 14 54.3 -2.2**
comp=Z,106nm,1.0s
MYLDM Lahad Datu 69.03 284 *e*P P **20 15 01.3 +1.3**
comp=Z,133nm,1.5s
BLJI Banyuglugur 69.20 269 P P **20 15 01.7 +0.6**
comp=Z,95nm,0.6s,comp=Z,2µm
TSM Tawau 69.27 282 ⇑P P **20 15 02.3 +0.7**
INU Inuyama 70.40 320 *e*P P **20 15 07.3 -0.6**
comp=Z,77nm,1.5s
SDKM Sandakan 70.40 284 ⇑P P **20 15 08.2 -0.3**
MJAR Matsushiro Arr 70.51 322 P P **20 15 08.6 0.0**
comp=Z,29nm,0.6s,baz=154,slow=6.0,SNR=129
MAJO Matsushiro 70.51 322 *e*P P 20 15 03.7 -4.9
MAJO Matsushiro 70.51 322 *e*P P **20 15 08.8 +0.2**
comp=Z,58nm,0.8s
MJB9 Matsu-Tunnel 70.52 322 *e*P P **20 15 09.0 +0.3**
comp=Z,15nm,0.8s
QSPA South Pole Qui 70.74 180 *e*P P **20 15 10.2 +0.4**
comp=Z,30nm,0.9s
PWJI Pagerwojo 70.80 268 P P **20 15 10.8 -0.1**
JOW Kunigami 71.01 309 *e*P P **20 15 13.1 +1.3**
comp=Z,63nm,1.2s
KDM Kudat 71.23 285 ⇑P P **20 15 14.3 +0.9**
NGJI Ngawi 71.33 269 P P 20 15 24.7 +11
PCJI Pacitan 71.34 268 P P **20 15 14.5 +0.4**
KKM Kota Kinabalu 71.46 284 *e*P P **20 15 15.1 +0.2**
comp=Z,186nm,1.9s
ERM Erimo 71.84 329 *ce*P P **20 15 18.4 +2.0**
ERM pmax pmax
comp=Z,48nm,1.1s
ERM Erimo 71.84 329 *e*P P **20 15 18.2 +1.8**
comp=Z,43nm,1.0s
UGM Wanagama 72.05 268 P P **20 15 18.5 +0.2**
UGM Wanagama 72.05 268 *e*P P **20 15 17.9 -0.5**
comp=Z,599nm,1.6s
KUR Kuril'sk 72.24 334 *e*P P **20 15 20.2 +1.5**
NIKH Nikolski High 72.25 4 *e*P P **20 15 18.9 +0.4**
comp=Z,171nm,1.3s
SMY Shemya 72.28 354 *e*P P **20 15 19.0 +0.2**
SMY pmax pmax
comp=Z,93nm,0.9s
SMY Shemya 72.28 354 *e*P P **20 15 19.0 +0.2**
comp=Z,93nm,0.9s
JNU Nakatsue 72.86 315 P P **20 15 23.2 +0.5**
comp=Z,12nm,0.7s,baz=67,slow=2.0,SNR=12
JNU LR LR 20 42 11.8
comp=Z,30nm,19.5s,baz=121,slow=31
JNU Nakatsue 72.86 315 *e*P P **20 15 22.9 +0.2**
comp=Z,35nm,1.1s
UNV Unalaska Valle 73.31 6 *e*P P **20 15 24.8 0.0**
comp=Z,105nm,1.6s
ASAJ Asahikawa 73.70 330 *e*P P **20 15 29.6 +2.2**
comp=Z,160nm,1.5s
KPJI Karang Pucung 73.72 268 P P **20 15 27.7 -0.5**
YOJ Yonaguni jima 73.76 304 *e*P P **20 15 28.7 +0.6**
YOJ pmax pmax
comp=Z,321nm,1.4s
YOJ Yonaguni jima 73.76 304 *e*P P **20 15 28.7 +0.6**
comp=Z,321nm,1.4s
SBUM Sibu 73.84 278 *e*P P **20 15 29.6 +0.7**
comp=Z,103nm,1.8s
TWG Pinlang 74.50 301 *e*P P **20 15 31.1 -1.3**
comp=Z,228nm,0.5s
YULB Yu-li 74.59 302 *e*P P **20 15 32.2 -0.7**
comp=Z,28nm,0.5s
CISI Cisompet, Garu 74.71 267 P P **20 15 33.0 -0.9**
CISI Cisompet, Garu 74.71 267 *e*P P **20 15 32.7 -1.3**
comp=Z,116nm,0.6s
NACB Ninganchiao 74.74 303 *e*P P **20 15 33.5 -0.2**
comp=Z,204nm,1.4s
SSLB Suanglung 75.06 302 *e*P P **20 15 35.0 -0.6**
comp=Z,56nm,0.5s
TPUB Ta-pu 75.08 302 *e*P P **20 15 35.2 -0.6**
comp=Z,129nm,0.6s
LEM Lembang 75.12 268 P P 20 15 42.2 +5.8
YHNB Yeheng 75.16 303 *e*P P **20 15 36.0 -0.3**
comp=Z,40nm,0.8s
TATO Taipei 75.22 303 *e*P P **20 15 36.7 +0.2**
comp=Z,55nm,0.8s
KSM Kuching 75.29 277 *e*P P **20 15 37.7 +0.5**
comp=Z,56nm,0.7s
PET Petropavlovsk 75.36 344 *e*P P **20 15 37.2 +0.6**
PET *e**PP **pP** **20 16 24.6 -0.3**
PET *e*S **S** **20 25 01.4 +2.1**
PET pmax pmax
comp=Z,13nm,0.7s
PET pmax pmax
comp=Z,100nm,13.1s
CNJI Cibinong 75.43 267 P P **20 15 36.8 -1.2**
SBC Santa Barbara 75.52 45 P P **20 15 39.5 +1.5**
baz=234
PANM San Antonio Re 75.53 43 *e*P P **20 15 39.5 +1.4**
PEA0 Petropavlovsk- 75.69 344 *e*P P **20 15 39.1 +0.6**
PEA0B Petropavlovsk- 75.69 344 *e*P P **20 15 39.5 +1.0**
comp=Z,166nm,1.4s
PETK Petropavlovsk- 75.69 344 P P **20 15 39.5 +1.0**
comp=Z,37nm,0.8s,baz=117,slow=7.1,SNR=27
PETK LR LR 20 41 46.0
comp=Z,37nm,21.7s,baz=161,slow=30
PEA1 Petropavlovsk- 75.69 344 *e*P P **20 15 39.5 +0.9**
PKM Mcpherson Peak 75.72 45 P P **20 15 40.4 +1.0**
baz=234
YSS Yuzh-Sakhalins 75.79 332 ⇑*e*P P **20 15 40.7 +1.5**
YSS *e*S **S** **20 25 05.8 +1.6**
YSS pmax pmax
comp=Z,70nm,1.6s
YSS pmax pmax
comp=Z,500nm,3.5s
YSS Yuzh-Sakhalins 75.79 332 *e*P P **20 15 40.2 +1.0**
comp=Z,94nm,1.1s
CBJI Citeko 75.97 268 P P **20 15 40.1 -0.9**
SKJI Sukabumi 76.07 267 P P **20 15 41.3 -0.3**
KCPM Cahto Peak 76.29 39 *e*P P **20 15 47.0 +4.6**
comp=Z,27um,0.6s
SPIA Saint Paul Isl 76.35 3 *e*P P **20 15 43.6 +1.5**
comp=Z,229nm,1.4s
KMRM Mail Ridge 76.56 38 *e*P P **20 15 45.8 +1.9**
comp=Z,86nm,1.3s
CHGN Chignik 76.75 10 *e*P P **20 15 44.3 -0.1**
VES Vestal, Richgr 76.76 44 P P **20 15 46.4 +1.5**
baz=234
BFSC Mount Baldy Ra 76.79 46 P P **20 15 46.6 +1.2**
baz=235
MONP2 Monument Peak 76.90 48 P P **20 15 47.7 +1.6**
baz=236
EDW2 Edwards Air Fo 76.93 46 P P **20 15 47.7 +1.7**
baz=235,SNR=6.7
IKP In-Ko-Pah, Jac 76.99 48 P P **20 15 47.8 +1.4**
baz=237
CGJI Cibinong 77.00 267 P P **20 15 45.9 -0.9**
TJN Taejon 77.12 316 ⇓*e*P P **20 15 46.8 -0.1**
CMB Columbia Colle 77.22 42 *e*P P **20 15 48.8 +1.2**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 77.22 42 *e*P P **20 15 48.8 +1.2**
comp=Z,8.2nm,1.0s
PFO Pinyon Flats O 77.27 47 P P **20 15 49.8 +1.7**
comp=Z,2.8nm,0.6s,baz=272,slow=2.2,SNR=4.8
PFO Pinyon Flats O 77.27 47 *e*P P **20 15 49.8 +1.7**
comp=Z,15nm,1.7s
KSRS Korea Array 77.39 317 P P **20 15 50.3 +1.9**
comp=Z,10nm,0.8s,baz=126,slow=5.9,SNR=54
KSRS Korea Array 77.39 317 P P **20 15 50.3 +1.9**
KSRS pmax pmax
comp=Z,11nm,0.8s
AFDM Forest Hills D 77.41 41 *e*P P **20 15 47.7 -0.9**
comp=Z,18nm,1.5s
KS15 Wonju Array Si 77.41 317 *e*P P **20 15 50.0 +1.4**
KSAR Wonju Array Be 77.41 317 P P **20 15 50.3 +1.8**
KSAR Wonju Array Be 77.41 317 P P **20 15 50.3 +1.8**
KS01 Wonju Array Si 77.42 317 *e*P P **20 15 49.8 +1.2**
WDC Whiskeytown Da 77.47 39 *e*P P **20 15 50.4 +1.6**
WDC pmax pmax
comp=Z,18nm,1.2s
WDC Whiskeytown Da 77.47 39 *e*P P **20 15 50.4 +1.6**
comp=Z,18nm,1.2s
LRMC Laurel Mtn Rad 77.48 45 P P **20 15 50.8 +1.7**
baz=235
QZH Quanzhou 77.50 302 ⇓*i*P P 20 15 42.9 -6.4
QZH pmax pmax
comp=Z,110nm,0.6s
O03D Paynes Creek 77.73 39 P P **20 15 51.6 +1.2**
baz=231
CWC Cottonwood Cre 77.77 44 P P **20 15 51.9 +1.1**
baz=235
BELC Belle Mtn. Jos 77.80 47 P P **20 15 52.1 +1.1**
baz=236,SNR=7.4
M02C Callahan 77.80 38 P P **20 15 52.1 +1.4**
baz=230
BLSI Bandar Lampung 77.81 269 P P **20 15 50.4 -1.0**
L02D Cave Junction, 77.86 37 P P **20 15 52.4 +1.4**
baz=230
MPMC Manual Prospec 77.94 45 P P **20 15 52.5 +0.7**
baz=235,SNR=7.3
GSC Goldstone, Bar 77.97 46 P P **20 15 53.1 +1.3**
baz=236
GSC Goldstone, Bar 77.97 46 *e*P P **20 15 53.2 +1.3**
GSC pmax pmax
comp=Z,17nm,1.5s
GSC Goldstone, Bar 77.97 46 *e*P P **20 15 53.2 +1.3**
comp=Z,17nm,1.5s
BC3 Big Chuckawall 77.99 48 P P **20 15 53.0 +0.9**
baz=237
PPBI Pangkal Pinang 78.00 272 P P **20 15 57.1 +4.7**
TIN Tinemaha, Big 78.02 44 P P **20 15 53.3 +1.2**
baz=234
HEC Hector,Ludlow 78.03 46 P P **20 15 53.4 +1.2**
baz=236,SNR=5.3
WAKR Walker 78.10 42 *e*P P **20 15 54.4 +1.8**
comp=Z,16nm,1.2s
YBH Yreka Blue Hor 78.10 38 *e*P P **20 15 54.3 +1.9**
YBH pmax pmax
comp=Z,34nm,1.3s
YBH Yreka Blue Hor 78.10 38 *e*P P **20 15 54.3 +1.9**
comp=Z,34nm,1.3s
GLA Glamis 78.11 49 P P **20 15 53.7 +1.1**
baz=237
INCN Inchon 78.24 317 *e*P P **20 15 54.1 +1.0**
comp=Z,43nm,1.1s
PNTR Pine Nut 78.34 41 *e*P P **20 15 56.4 +2.4**
comp=Z,12nm,0.7s
KASI Kota Agung 78.47 268 P P **20 15 54.1 -0.9**
IRM Iron Mountain 78.48 48 P P **20 15 55.7 +1.1**
baz=237
TVH1 TV Hill, Hawth 78.49 42 *e*P P **20 15 56.3 +1.3**
comp=Z,28nm,1.5s
YERR Yerington 78.51 42 *e*P P **20 15 55.8 +1.0**
comp=Z,10nm,0.6s
HUMO Hull Mountain 78.52 37 *e*P P **20 15 56.3 +1.7**
comp=Z,16nm,1.3s
VLA Vladivostok 78.53 324 *d i*P P **20 15 55.9 +1.4**
VLA pmax pmax
comp=Z,30nm,0.9s
GRAC Grapevine Rang 78.55 44 P P **20 15 56.3 +1.4**
baz=235
OHAK Old Harbor 78.55 12 *e*P P **20 15 54.9 +0.6**
comp=Z,20nm,0.9s
FURC Furnace Creek, 78.59 45 P P **20 15 56.5 +1.5**
baz=236
MSHR Mys Shultsa 78.59 323 *d i*P P **20 15 57.0 +2.1**
M04C Macdoel 78.64 38 P P **20 15 57.7 +2.3**
baz=231
Y12C Blythe 78.70 48 P P **20 15 57.1 +1.4**
baz=238
TYV Tymovskoe 78.83 335 *e*P P **20 15 56.5 +0.5**
TYV pmax pmax
comp=Z,128nm,0.6s
PAHR Pah Rah Range 78.85 41 *e*P P **20 15 58.5 +1.9**
comp=Z,20nm,1.5s
LWLI Liwa 79.05 268 P P **20 15 57.8 -0.4**
USRK Ussuriysk Ar. 79.17 325 P P **20 16 00.2 +2.2**
comp=Z,19nm,0.7s,baz=122,slow=3.9,SNR=52
KDAK Kodiak Island 79.22 12 *i* P P **20 15 59.0 +1.1**
KDAK Kodiak Island 79.22 12 *e*P P **20 15 59.1 +1.1**
comp=Z,67nm,1.4s
TPNV Topopah Spring 79.27 45 P P **20 16 00.7 +1.8**
baz=236,SNR=11
TPNV Topopah Spring 79.27 45 *e*P P **20 16 00.3 +1.4**
TPNV pmax pmax
comp=Z,19nm,1.4s
TPNV Topopah Spring 79.27 45 *e*P P **20 16 00.3 +1.4**
comp=Z,19nm,1.4s
I04A Tendick Farm, 79.58 36 P P **20 16 01.8 +1.4**
baz=230
MOD Modoc Plateau 79.62 39 *e*P P **20 16 01.3 +0.6**
comp=Z,16nm,1.2s
SHPR Sheep Range 79.75 46 *e*P P **20 16 03.9 +2.4**
comp=Z,21nm,1.7s
K05A Summer Lake 79.78 38 *e*P P **20 16 02.6 +1.0**
comp=Z,34nm,1.3s
Y14A Wickenburg 79.87 49 *e*P P **20 16 03.7 +1.5**
comp=Z,15nm,0.9s
J05D Fort Rock, OR 79.93 37 P P **20 16 04.4 +2.0**
baz=231
G03D McMinnville, O 80.03 35 P P **20 16 05.3 +2.7**
baz=230
HABR Khabarovsk 80.46 329 *e*P P **20 16 04.3 -0.5**
HABR *e**PP **pP** **20 16 52.6 -1.1**
HABR *e**SP **sP** **20 17 14.0 -1.0**
HABR *e*PPP PPP 20 21 00.0
HABR *e*S **S** **20 25 53.6 -0.4**
HABR *e*SS **SS** **20 31 10.7 -0.6**
HABR *e*SSS SSS 20 34 37.9
HABR pmax pmax
comp=E,25nm,1.1s
HABR pmax pmax
comp=N,21nm,1.1s
HABR pmax pmax
comp=Z,117nm,1.1s
HABR MLR MLR
comp=Z,39nm,22.0s
R11A Troy Canyon, C 80.48 44 P P **20 16 06.7 +1.3**
baz=236
R11A Troy Canyon, C 80.48 44 *e*P P **20 16 06.8 +1.3**
I05D Terrebonne, OR 80.53 36 P P **20 16 07.2 +1.8**
baz=231
TUC Tucson 80.65 51 P P **20 16 07.4 +1.0**
baz=240
TUC Tucson 80.65 51 *e*P P **20 16 08.4 +2.0**
TUC pmax pmax
comp=Z,19nm,1.6s
TUC Tucson 80.65 51 *e*P P **20 16 08.4 +2.0**
comp=Z,19nm,1.6s
NJ2 Nanjing 80.73 309 *e*P P **20 16 08.0 +1.3**
NJ2 PMZ
comp=Z,41nm,0.8s
MDJ Mudanjiang 80.76 324 P P **20 16 08.8 +2.3**
MDJ pP pP 20 16 53.8 -1.7
MDJ sP sP 20 17 15.9 -0.9
MDJ PP **PP** **20 19 15.3 +1.4**
MDJ S **S** **20 26 03.0 +5.7**
MDJ PMZ
comp=Z,110nm,0.9s
MDJ PMZ
comp=Z,190nm,5.2s
MDJ LN
comp=Z,27nm,24.1s
MDJ LE
comp=Z,25nm,21.5s
MDJ LZ
comp=Z,62nm,24.1s
MDJ Mudanjiang 80.76 324 *e*P P **20 16 08.3 +1.8**
comp=Z,102nm,0.8s
KSI Kapahiang 80.87 269 P P **20 16 07.2 -0.7**
CNPM China Poot 81.10 12 *e*P P **20 16 08.3 +0.3**
comp=Z,20nm,0.9s
G05D Wamic, OR 81.11 36 P P **20 16 10.0 +1.6**
baz=231
319A Douglas 81.31 53 *e*P P **20 16 11.0 +1.0**
comp=Z,9.1nm,1.0s
LCMT Little Creek M 81.32 46 *e*P P **20 16 11.8 +1.9**
comp=Z,4.4nm,0.7s
BRLK Bradley Lake 81.39 12 *e*P P **20 16 09.9 +0.4**
comp=Z,33nm,1.2s
MYKOM Kota Tinggi 81.47 275 *e*P P **20 16 11.1 +0.1**
comp=Z,36nm,0.7s
CCUT Cedar City 81.52 45 *e*P P **20 16 13.1 +2.1**
comp=Z,4.7nm,0.7s
KNB Kanab 81.61 46 *e*P P **20 16 13.7 +2.3**
KNB pmax pmax
comp=Z,30nm,1.7s
KNB Kanab 81.61 46 *e*P P **20 16 13.7 +2.3**
comp=Z,30nm,1.7s
U15A North Rim 81.66 47 *e*P P **20 16 14.1 +2.2**
comp=Z,11nm,0.6s
RSO Redoubt South 81.67 11 *e*P P **20 16 10.3 -0.9**
SVW2 Sparrevohn 81.78 10 *e*P P **20 16 11.8 +0.3**
comp=Z,46nm,2.0s
WUAZ Wupatki 81.83 48 P P **20 16 14.0 +1.4**
baz=239
D05A Enumclaw 81.98 34 *e*P P **20 16 14.5 +1.6**
comp=Z,36nm,1.3s
ELK Elko 82.04 42 *e*P P **20 16 15.1 +1.4**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 82.04 42 *e*P P **20 16 15.1 +1.4**
comp=Z,3.8nm,0.8s
HPIG 82.07 58 *e*P P **20 16 14.2 +0.1**
comp=Z,5.2nm,0.8s
DL2 Dalian 82.30 316 ⇓*i*P P **20 16 16.1 +1.4**
DL2 S **S** **20 26 13.3 -0.1**
DL2 sS **sS** **20 27 38.1 -0.9**
DL2 PMZ
comp=Z,47nm,1.3s
DL2 PMZ
comp=Z,120nm,4.2s
G08A Pilot Rock 82.45 37 *e*P P **20 16 17.0 +1.5**
comp=Z,14nm,1.0s
SPU Mount Spurr 82.47 11 *e*P P **20 16 14.9 -0.3**
MTPU Mount Pierson 82.57 46 *e*P P **20 16 18.9 +2.2**
comp=Z,15nm,1.5s
KLR Kul'dur 82.58 328 P P **20 16 17.7 +1.7**
comp=Z,8.8nm,0.7s,baz=110,slow=4.6,SNR=38
A04D Lummi Island 82.59 32 P P **20 16 18.4 +2.4**
baz=230
B05A Bryant 82.61 33 P P **20 16 17.9 +1.8**
baz=230
CN2 Changchun 82.64 321 *e*P P **20 16 17.8 +1.4**
CN2 *ep*P pP 20 17 04.5 -1.0
CN2 PP **PP** **20 19 32.4 +3.0**
CN2 S **S** **20 26 15.6 -1.0**
CN2 PMZ
comp=Z,70nm,1.2s
CN2 PMZ
comp=Z,300nm,4.0s
SNY Shenyang 82.65 319 ⇓P P **20 16 17.9 +1.4**
SNY S **S** **20 26 14.8 -1.9**
W18A Petrified Fore 82.79 49 P P **20 16 18.5 +0.8**
baz=240
MSU Marysvale 82.82 45 *e*P P **20 16 20.4 +2.6**
MSU Marysvale 82.82 45 *e*P P **20 16 20.4 +2.6**
CRAG Craig 82.83 23 *e*P P **20 16 18.7 +1.6**
comp=Z,19nm,1.0s
RC01 Rabbit Creek A 82.84 12 *e*P P **20 16 17.5 +0.5**
comp=Z,45nm,1.4s
GAMB Gambell 82.89 2 *e*P P **20 16 18.3 +1.1**
comp=Z,19nm,0.8s
121A Cookes Peak, D 82.97 52 P P **20 16 20.3 +1.7**
baz=242
SUA Susitna One 82.98 12 *e*P P **20 16 18.6 +0.7**
comp=Z,18nm,0.8s
BMO Blue Mountains 83.13 38 *e*P P **20 16 19.7 +0.7**
comp=Z,11nm,1.4s
MFID Camas Ranch 83.17 39 *e*P P **20 16 20.6 +1.3**
comp=Z,4.7nm,0.8s
MA2 Magadan 83.22 344 P P **20 16 19.3 +0.3**
comp=Z,8.5nm,0.6s,baz=220,slow=8.8,SNR=5.6
EYAK Cordova Ski Ar 83.23 14 *e*P P **20 16 19.4 +0.4**
comp=Z,20nm,1.1s
DUG Dugway, Tooele 83.29 43 P P **20 16 21.7 +1.7**
baz=238
RAGM Ragged Mountai 83.34 15 *e*P P **20 16 20.4 +0.7**
comp=Z,29nm,1.2s
MAW Mawson 83.35 199 P P **20 16 20.1 +0.5**
comp=Z,5.1nm,0.6s,baz=128,slow=11,SNR=17
MAW Mawson 83.35 199 P P **20 16 19.6 -0.1**
baz=83,SNR=6.5
MAW Mawson 83.35 199 *e*P P **20 16 20.2 +0.5**
MAW pmax pmax
comp=Z,4.0nm,1.4s
MAW Mawson 83.35 199 *e*P P **20 16 20.2 +0.5**
comp=Z,3.7nm,1.4s
PMR Palmer 83.42 12 *e*P P **20 16 20.4 +0.5**
PMR pmax pmax
comp=Z,13nm,0.8s
PMR Palmer 83.42 12 *e*P P **20 16 20.4 +0.5**
comp=Z,12nm,0.8s
TT01 Tatalina 83.43 9 *e*P P **20 16 21.1 +1.1**
TTA Tatalina 83.45 9 *e*P P **20 16 21.7 +1.4**
TTA pmax pmax
comp=Z,33nm,1.2s
TTA Tatalina 83.45 9 *e*P P **20 16 21.6 +1.4**
comp=Z,33nm,1.2s
DIV Divide 83.73 14 *e*P P **20 16 22.2 +0.6**
comp=Z,28nm,0.8s
SML Sawmill 83.78 13 *e*P P **20 16 22.3 +0.5**
SML pmax pmax
comp=Z,29nm,1.5s
SML Sawmill 83.78 13 *e*P P **20 16 22.3 +0.5**
comp=Z,29nm,1.5s
F10A Beach Ranch, E 83.83 37 *e*P P **20 16 23.6 +1.0**
comp=Z,15nm,0.9s
WRAK Wrangell Islan 83.84 23 *e*P P **20 16 23.8 +1.6**
comp=Z,43nm,0.3s
BMRM Bremner River 83.87 15 *e*P P **20 16 22.7 +0.3**
comp=Z,80nm,1.5s
TMUT Trail Mountain 83.88 45 *e*P P **20 16 24.8 +1.6**
comp=Z,12nm,0.7s
PPI Padang Panjang 83.98 272 P P **20 16 24.4 +0.5**
TIA Tai'an 84.01 312 ⇓P P **20 16 24.8 +1.2**
TIA PMZ
comp=Z,30nm,1.4s
SCM Sheep Creek Mo 84.01 13 *e*P P **20 16 23.5 +0.4**
SCM pmax pmax
comp=Z,26nm,0.6s
SCM Sheep Creek Mo 84.01 13 *e*P P **20 16 23.5 +0.4**
comp=Z,26nm,0.6s
KLU Klutina 84.02 14 *e*P P **20 16 23.4 +0.3**
comp=Z,11nm,1.0s
PPLA Purkeypile 84.04 11 *e*P P **20 16 22.7 -0.5**

comp=Z,7.7nm,0.6s
HLID Hailey 84.11 40 P **P** **20 16 26.0 +1.8**
baz=236
HLID Hailey 84.11 40 *e*P **P** **20 16 25.3 +1.2**
comp=Z,6.4nm,0.7s
SRU San Rafael Swe 84.24 45 *e*P **P** **20 16 26.3 +1.4**
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 84.24 45 *e*P **P** **20 16 26.3 +1.4**
comp=Z,7.6nm,0.8s
MNTX Cornudas Mount 84.41 54 P **P** **20 16 27.4 +1.7**
baz=243
MNTX Cornudas Mount 84.41 54 *e*P **P** **20 16 27.3 +1.6**
comp=Z,35nm,1.8s
BALM Baldy 84.49 16 *e*P **P** **20 16 26.5 +1.0**
BALM pmax pmax
comp=Z,16nm,0.6s
BALM Baldy 84.49 16 *e*P **P** **20 16 26.5 +1.0**
comp=Z,16nm,0.6s
BNM Barren Site 84.58 51 *e*P **P** **20 16 28.4 +1.5**
PV05 Paradox Valley 84.69 47 *e*P **P** **20 16 28.9 +1.7**
LTX Lajitas 84.70 57 *e*P **P** **20 16 29.1 +1.8**
LTX Lajitas 84.70 57 *e*P **P** **20 16 29.1 +1.8**
TX31 Lajitas Ar. Si 84.70 57 *e*P **P** **20 16 28.9 +1.5**
TXAR Lajitas Array 84.70 57 P **P** **20 16 29.1 +1.8**
comp=Z,6.7nm,1.0s,baz=218,slow=8.3,SNR=45
TXAR Lajitas Array 84.70 57 P **P** **20 16 29.1 +1.8**
TXAR pmax pmax
comp=Z,4.0nm,0.7s
TNA Tin City 84.83 3 *e*P **P** **20 16 28.1 +1.1**
comp=Z,23nm,0.7s
KTH Kantishna Hill 84.87 11 *e*P **P** **20 16 26.8 -0.6**
comp=Z,18nm,1.0s
PV09 Paradox Valley 84.88 46 *e*P **P** **20 16 29.1 +0.9**
TRF Thorofare Moun 84.89 11 *e*P **P** **20 16 27.3 -0.3**
comp=Z,42nm,0.8s
IPM Ipoh 85.02 276 *e*P **P** **20 16 29.4 +0.2**
comp=Z,113nm,0.6s
ANMO Albuquerque 85.08 51 P **P** **20 16 29.9 +0.7**
baz=242
ANMO Albuquerque 85.08 51 *e*P **P** **20 16 30.8 +1.6**
ANMO pmax pmax
comp=Z,16nm,1.3s
ANMO Albuquerque 85.08 51 *e*P **P** **20 16 30.8 +1.6**
comp=Z,16nm,1.3s
RND Reindeer 85.12 12 *e*P **P** **20 16 29.2 +0.6**
RND pmax pmax
comp=Z,52nm,0.8s
RND Reindeer 85.12 12 *e*P **P** **20 16 29.2 +0.6**
comp=Z,52nm,0.8s
MNSI Mandailing Nat 85.16 273 P **P** **20 16 29.0 -0.9**
SKAG Skagway 85.18 19 *e*P **P** **20 16 29.9 +1.0**
comp=Z,21nm,1.1s
BPAW Bear Paw Mtn. 85.36 11 *e*P **P** **20 16 29.1 -0.6**
comp=Z,7.2nm,0.7s
MCK McKinley 85.40 12 *e*P **P** **20 16 29.9 0.0**
MCK pmax pmax
comp=Z,58nm,1.0s
MCK McKinley 85.40 12 *e*P **P** **20 16 29.9 0.0**
comp=Z,58nm,1.0s
KULM Kulim 85.65 277 *e*P **P** **20 16 32.6 +0.4**
comp=Z,30nm,0.7s
BWN Browne 85.70 11 *e*P **P** **20 16 31.7 +0.4**
comp=Z,47nm,1.0s
SEY Seymchan 85.72 346 P **P** **20 16 32.2 +0.8**
comp=Z,45nm,0.9s,baz=155,slow=5.6,SNR=71
SEY Seymchan 85.72 346↓ *e*P **P** **20 16 32.0 +0.6**
MENT Mentasta 85.79 14 *e*P **P** **20 16 33.1 +1.3**
comp=Z,33nm,1.2s
S22A 4UR Ranch, Cre 86.11 48 P **P** **20 16 35.5 +1.1**
baz=242
S22A 4UR Ranch, Cre 86.11 48 *e*P **P** **20 16 35.8 +1.4**
comp=Z,21nm,1.1s
S22A *e*S **S** **20 26 54.5 +2.6**
MSO Missoula 86.19 37 P **P** **20 16 35.4 +1.1**
baz=236
WRH Wood River Hil 86.23 12 *e*P **P** **20 16 33.9 0.0**
comp=Z,40nm,1.0s
MLY Manley 86.26 10 *e*P **P** **20 16 33.8 -0.4**
comp=Z,24nm,1.2s
SKLT Songkhla 86.31 279 P **P** **20 16 37.2 +1.7**
comp=Z,75nm,1.3s,comp=Z,1μm
DOT Dot Lake 86.33 14 *e*P **P** **20 16 34.9 +0.4**
comp=Z,48nm,0.8s
HDA Harding Lake 86.39 12 *e*P **P** **20 16 34.7 -0.1**
comp=Z,16nm,0.7s
PSI Prapat 86.44 274 *e*P **P** **20 16 35.5 -0.8**
PSI pmax pmax
comp=Z,28nm,0.9s
PSI Prapat 86.44 274 *e*P **P** **20 16 35.5 -0.8**
comp=Z,28nm,0.9s
CCB Clear Creek Bu 86.44 12 *e*P **P** **20 16 34.9 0.0**
comp=Z,20nm,0.8s
BJT Baijiatuau 86.51 314 *e*P **P** **20 16 37.5 +1.6**
BJT pmax pmax
comp=Z,41nm,1.0s
BJT Baijiatuau 86.51 314 *e*P **P** **20 16 37.5 +1.6**
comp=Z,41nm,1.0s
BJI Beijing 86.51 315 P **P** **20 16 37.1 +1.2**
BJI sP **sP** **20 17 45.3 -1.3**
BJI S **S** **20 26 55.6 +0.6**
BJI PMZ
comp=Z,39nm,1.2s
BJI LN
comp=Z,81nm,5.4s
CHMT Chamberlain Mo 86.63 38 *e*P **P** **20 16 36.6 0.0**
COLA College 86.64 12 *d i*P **P** **20 16 35.8 0.0**
COLA pmax pmax
comp=Z,24nm,0.9s
COLA College 86.64 12 *e*P **P** **20 16 35.8 0.0**
comp=Z,27nm,0.7s
MDM Murphy Dome 86.64 11 *e*P **P** **20 16 35.6 -0.4**
comp=Z,110nm,1.9s
SKNT Sakolnakorn 86.65 289 P **P** **20 16 37.8 +0.7**
comp=Z,56nm,1.2s
SMCO Snowmass 86.68 47 *e*P **P** **20 16 38.4 +1.1**
comp=Z,5.4nm,1.0s
BW06 Boulder Array 86.71 42 P **P** **20 16 37.9 +0.8**
baz=240
BW06 Boulder Array 86.71 42 *e*P **P** **20 16 37.4 +0.3**
PD31 Pinedale Array 86.71 42 *e*P **P** **20 16 37.4 +0.3**
PDAR Pinedale Array 86.71 42 P **P** **20 16 37.9 +0.7**
comp=Z,1.3nm,0.7s,baz=222,slow=3.0,SNR=9.5
IL1 Eielson Array 86.73 12 *e*P **P** **20 16 36.2 -0.2**
ILAR Eielson Array 86.73 12 *e*P **P** **20 16 36.5 +0.1**
comp=Z,4.9nm,0.7s,baz=229,slow=6.1,SNR=43
ILAR PP PP 20 19 54.0 -8.0
comp=Z,0.6nm,1.0s,baz=211,slow=8.0,SNR=2.8
ILB Eielson Array 86.73 12 *e*P **P** **20 16 36.3 -0.1**
BOZ Bozeman (W) 86.91 39 P **P** **20 16 39.7 +1.8**
baz=238
BOZ Bozeman (W) 86.91 39 *e*P **P** **20 16 39.1 +1.2**
BOZ pmax pmax
comp=Z,19nm,1.7s
BOZ Bozeman (W) 86.91 39 *e*P **P** **20 16 39.0 +1.2**
comp=Z,19nm,1.7s
ENH Enshi 87.09 303 *e*P **P** **20 16 39.6 +0.6**
comp=Z,326nm,1.7s
GSI Gunungsitoli 87.22 272 *e*P **P** **20 16 40.6 +0.7**
comp=Z,49nm,0.7s
SRAK Srakaew 87.35 286 P **P** **20 16 40.5 +0.1**
comp=Z,53nm,0.8s
TRTT Trang 87.40 279 P **P** **20 16 42.3 +1.6**
comp=Z,121nm,0.8s,comp=Z,1μm
KHON Khomkaen 87.46 288 P **P** **20 16 42.3 +1.4**
comp=Z,12nm,0.6s,comp=Z,264nm
DAWY Dawson 87.78 15 *e*P **P** **20 16 42.2 +0.8**
comp=Z,20nm,1.0s
GYA Guiyang 87.86 299↓ *i*P **P** **20 16 43.4 +0.6**
GYA pP pP 20 17 32.8 +0.2
GYA sP sP 20 17 54.0 +0.3
GYA PP **PP** **20 20 15.6 +3.5**
GYA SKS **SKSac** **20 26 51.4 -0.8**
GYA S **S** **20 27 08.9 +0.1**
GYA sS sS 20 28 35.0 -0.6
GYA PMZ
comp=Z,20nm,0.8s
SURA Surathani 87.91 280 P **P** **20 16 45.2 +2.1**
comp=Z,57nm,1.2s,comp=Z,11μm
EGAK Eagle 87.96 14 *e*P **P** **20 16 42.7 +0.5**
comp=Z,18nm,1.1s
TIY Taiyuan 88.04 311 *e*P **P** **20 16 44.8 +1.5**
CHAI Chaiyaphum 88.06 287 P **P** **20 16 44.7 +0.9**
comp=Z,5.5nm,0.8s
BILL Bilibino 88.09 353 *d i*P **P** **20 16 43.0 +0.2**
BILL *i* 20 20 11.4
BILL pmax pmax
comp=Z,22nm,1.4s
BILL Bilibino 88.09 353 *e*P **P** **20 16 43.2 +0.4**
comp=Z,23nm,1.3s
N23A Red Feather La 88.18 45 P **P** **20 16 44.8 +0.6**
baz=242
SYO Syowa Base 88.31 192↓ *e*P **P** **20 16 42.9 -1.1**
633A Saathoff Ranch 88.32 58 P **P** **20 16 45.3 +0.6**
baz=247
COLD Coldfoot 88.37 10 *e*P **P** **20 16 44.8 +0.7**
comp=Z,7.5nm,0.8s
PLCA Paso Flores 88.58 133 P **P** **20 16 46.3 +0.3**
comp=Z,4.3nm,0.7s,baz=238,slow=8.1,SNR=6.6
PLCA Paso Flores 88.58 133 *e*P **P** **20 16 46.6 +0.6**
comp=Z,65nm,1.8s
533A Kerrville 88.67 58 P **P** **20 16 47.3 +0.9**
baz=247
433A Art 88.90 57 P **P** **20 16 48.4 +1.0**
baz=247
534A Blanco 89.11 58 P **P** **20 16 48.7 +0.3**
baz=247
SNAA Sanae 89.11 178 P **P** **20 16 46.6 -1.2**
SNAA Sanae 89.11 178 *e*P **P** **20 16 46.9 -0.9**
SNAA pmax pmax
comp=Z,6.0nm,0.8s
SNAA Sanae 89.11 178 *e*P **P** **20 16 46.9 -0.9**
comp=Z,5.5nm,0.8s
PHET Kaeng Krachan 89.17 284 P **P** **20 16 51.2 +2.2**
comp=Z,26nm,0.9s,comp=Z,272nm
ABTX Abilene, Hawle 89.20 55 P **P** **20 16 50.1 +1.2**
baz=246
PBKT Sadao Pong 89.20 288 P **P** **20 16 50.8 +1.7**
comp=Z,24nm,1.4s,comp=Z,2μm
LOEI Loei 89.27 289 P **P** **20 16 49.6 +0.2**
comp=Z,41nm,1.1s
133A Hamilton Ranch 89.76 55 P **P** **20 16 52.2 +0.7**
baz=247
334A Lometa 89.80 57 P **P** **20 16 52.1 +0.4**
baz=247
VNA1 Neumayer--Stat 89.84 176 P **P** **20 16 51.0 -0.1**
UTTA Uttaradit 89.98 289 P **P** **20 16 54.8 +2.1**
comp=Z,3.8nm,1.2s,comp=Z,41nm
HHC Hu-ho-hao-te 90.01 314 *e*P **P** **20 16 54.3 +1.8**
HHC sP sP 20 18 01.3 -2.2
HHC SKS **SKSac** **20 27 01.3 -2.9**
HHC S **ScS** **20 27 32.6 +0.9**
HHC PMZ
comp=Z,44nm,1.1s
HHC PMZ
comp=Z,87nm,5.9s
Z33A Whitaker Ranch 90.14 55 P **P** **20 16 54.0 +0.8**
baz=247
X32A Elmer 90.19 54 P **P** **20 16 53.9 +0.4**
baz=247
134A White-Moore Ra 90.40 56 P **P** **20 16 54.9 +0.5**
baz=247
W32A Sentinel 90.50 53 P **P** **20 16 55.3 +0.5**
baz=247
KMI Kunming 90.65 296 P **P** **20 16 57.8 +1.8**
KMI pP pP 20 17 44.0 -1.9
KMI sP sP 20 18 06.9 -0.1
KMI PP **PP** **20 20 38.5 +4.1**
KMI SKS **SKSac** **20 27 05.8 -3.0**
KMI S **S** **20 27 34.3 -0.6**
KMI sS sS 20 29 07.3 +5.0
KMI PMZ
comp=Z,24nm,1.4s
KMI PMZ
comp=Z,110nm,4.8s
KMI LZ
comp=Z,74nm,44.3s
SUKH Sukhothai 90.72 288 P **P** **20 16 57.9 +1.7**
comp=Z,8.8nm,0.8s,comp=Z,91nm
RSSD Black Hills 90.89 43 P **P** **20 16 57.5 +0.8**
baz=244
LAMP Lampang 91.07 289 P **P** **20 16 59.4 +1.6**
comp=Z,21nm,0.8s,comp=Z,158nm
236A Katherine and 91.40 57 P **P** **20 16 59.5 +0.5**
baz=248
CM01 Chiang Mai Arr 91.64 289 *e*P **P** **20 17 01.6 +1.2**
CM31 Chiang Mai Arr 91.66 289 *e*P **P** **20 17 01.6 +1.0**
CMAR Chiang Mai Arr 91.66 289 P **P** **20 17 02.0 +1.5**
comp=Z,13nm,0.8s,baz=113,slow=2.8,SNR=54
CHTO Chiang Mai 91.78 289 P **P** **20 17 02.2 +1.1**
comp=Z,145nm,1.1s,comp=Z,2μm
CHTO Chiang Mai 91.78 289 *e*P **P** **20 17 01.7 +0.6**
CHTO pmax pmax
comp=Z,19nm,0.8s
CHTO Chiang Mai 91.78 289 *e*P **P** **20 17 01.7 +0.6**
comp=Z,19nm,0.8s
YAK Yakutsk 91.81 337 P **P** **20 17 00.0 -0.1**
comp=Z,1.2nm,0.3s,baz=293,slow=18,SNR=7.3
YAK Yakutsk 91.81 337 *e*P **P** **20 16 58.3 -1.8**
YAK pmax pmax
comp=Z,19nm,0.7s
YAK Yakutsk 91.81 337 *e*P **P** **20 16 60.0 -0.1**
comp=Z,35nm,0.6s
CD2 Chengdu 91.89 302 *e*P **P** **20 17 02.8 +1.4**
CD2 pP pP 20 17 51.4 0.0
CD2 sP sP 20 18 12.3 -0.1
CD2 SKS **SKSac** **20 27 16.3 +1.1**
CD2 S **ScS** **20 27 47.6 0.0**
CD2 sS sS 20 29 13.5 +0.4
CD2 SS **SS** **20 34 02.8 +3.5**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,220nm,5.2s
INK Inuvik 92.62 15 P **P** **20 17 04.4 +0.6**
comp=Z,12nm,0.9s,baz=204,slow=3.1,SNR=14
INK Inuvik 92.62 15 *e*P **P** **20 17 04.0 +0.2**
INK pmax pmax
comp=Z,21nm,1.0s
INK Inuvik 92.62 15 *e*P **P** **20 17 04.0 +0.2**
comp=Z,20nm,1.0s
LZH Lanzhou 93.69 307 *e*P **P** **20 17 11.5 +1.7**
LZH pP pP 20 17 58.0 -1.7
LZH SKS **SKSac** **20 27 24.3 -0.9**
LZH *e*S **S** **20 27 58.0 -3.4**
LZH PMZ
comp=Z,96nm,1.4s
LZH PMZ
comp=Z,140nm,4.0s
YKA Yellowknife Ar 94.60 24 P **P** **20 17 13.5 +0.5**
comp=Z,2.2nm,0.8s,baz=238,slow=4.4,SNR=20
YKB5 Yellowknife Ar 94.60 24 *e*P **P** **20 17 13.1 +0.1**
ECSD EROS Data Cent 95.65 46 *e*P **P** **20 17 18.2 -0.1**
comp=Z,12nm,1.5s
ULN Ulaanbaatar 95.82 319 *d i*P **P** **20 17 19.3 +0.1**
ULN pmax pmax
comp=Z,24nm,1.2s
ULN Ulaanbaatar 95.82 319 *e*P **P** **20 17 19.5 +0.3**
comp=Z,24nm,1.2s
SONA0 Songino Array 96.22 319 *e*P **P** **20 17 21.4 +0.4**
comp=Z,33nm,1.6s
SONA0 *e*PP **PP** **20 21 12.3 -4.9**
SONA1 Songino Array 96.22 319 *e*P **P** **20 17 21.1 +0.1**
SONM Songino Array 96.22 319 P **P** **20 17 21.4 +0.4**
comp=Z,3.0nm,0.6s,baz=137,slow=4.8,SNR=22
SONM PP **PP** **20 21 12.3 -4.9**
comp=Z,0.8nm,0.9s,baz=112,slow=5.9,SNR=3.9
T41A Mountain View 96.84 53 P **P** **20 17 24.2 +0.4**
baz=251
GTA Gaotai 97.82 309 *e*P Pdif 20 17 29.4 +1.0
GTA PMZ
comp=Z,6.0nm,1.2s
PB11 IPOC Station P 97.88 114 *e*P Pdif 20 17 29.4 +0.2
comp=Z,16nm,1.2s
TIXI Tiksi 98.15 345 P **P** **20 17 28.7 -0.2**
comp=Z,1.6nm,0.3s,baz=126,slow=3.4,SNR=5.7
TIXI PP **PP** **20 21 28.3 -2.9**
comp=Z,3.5nm,1.1s,baz=118,slow=7.7,SNR=8.2
TIXI Tiksi 98.15 345↓ *e*P **P** **20 17 28.6 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
TIXI Tiksi 98.15 345 *e*P **P** **20 17 28.4 -0.5**
TIXI *e*PP **PP** **20 21 28.9 -2.3**
LPAZ La Paz 100.60 111 P **Pdif** **20 17 43.6 +1.7**
comp=Z,0.9nm,0.8s,baz=241,slow=5.0,SNR=2.8
LPAZ PP **PP** **20 21 51.1 -0.3**
comp=Z,1.4nm,1.1s,baz=203,slow=2.4,SNR=3.5
NRIK Noril'sk 110.25 338 PP PP 20 22 58.8 -2.0
comp=Z,1.3nm,0.3s,baz=101,slow=7.2,SNR=5.9
ZAA0 Zalesovo Array 110.86 321 *e*Pdif **Pdif** **20 18 25.3 -0.6**
ZAA0 *e*PKiKP **PKiKP** **20 22 23.3 -1.1**
ZAA1 Zalesovo Array 110.86 321 *e*Pdif **Pdif** **20 18 25.5 -0.3**
ZAA1 *e*PKiKP **PKiKP** **20 22 23.6 -0.8**
ZALV Zalesovo Beam 110.86 321 Pdiff **Pdif** **20 18 25.5 -0.3**
comp=Z,0.3nm,0.4s,baz=141,slow=7.1,SNR=3.0
ZALV PKiKP **PKiKP** **20 22 23.6 -0.8**
comp=Z,1.5nm,0.5s,baz=158,slow=1.5,SNR=10
MK01 Makanchi Array 111.87 314 *e*Pdif **Pdif** **20 18 31.0 +0.4**
MK01 *e*PKiKP **PKiKP** **20 22 25.7 -0.9**
MK31 Makanchi Array 111.88 314 *e*P **Pdif** **20 18 29.8 -0.8**
MK31 *i* 20 22 25.9
MK31 Makanchi Array 111.88 314 *e*Pdif **Pdif** **20 18 29.8 -0.8**
MK31 *e*PKiKP **PKiKP** **20 22 25.9 -0.8**
MK32 Makanchi Array 111.88 314 *e*Pdif **Pdif** **20 18 32.7 +2.1**
MK32 *e*PKiKP **PKiKP** **20 22 26.1 -0.5**
MK32 *e*PKKPbc **PKKPbc** **20 33 19.9 -1.1**
MKAR Makanchi Array 111.88 314 Pdiff **Pdif** **20 18 32.7 +2.1**
comp=Z,0.6nm,0.6s,baz=85,slow=5.0,SNR=6.0
MKAR PKiKP **PKiKP** **20 22 26.1 -0.5**
comp=Z,1.0nm,0.5s,baz=96,slow=8.7,SNR=3.8
MKAR PKKPbc **PKKPbc** **20 33 19.9 -1.1**
comp=Z,0.7nm,0.5s,baz=263,slow=4.2,SNR=9.4
KSH Kashi 115.89 305 PKP **PKPdf** **20 22 32.6 -2.1**
KSH PP **PP** **20 23 45.1 +3.3**
KSH PKS **PKSdf** **20 26 07.6 -3.9**
KSH SKS **SKSdf** **20 29 20.8 -6.9**
KSH SKKS **SKKSac** **20 30 14.8 -7.4**
KSH PPMZ
comp=Z,68nm,3.0s
KSH LN
comp=Z,120nm,6.3s
KSH LE
comp=Z,97nm,7.7s
TKM2 Tokmak 2 116.37 309 *e*PKIKP **PKPdf** **20 22 34.7 -1.0**
TKM2 Tokmak 2 116.37 309 *e*PKPdf **PKPdf** **20 22 34.6 -1.0**
VOSK Vostochnaya 119.17 320 *e*PKIKP **PKPdf** **20 22 39.5 -0.9**
VOSK Vostochnaya 119.17 320 *e*PKPdf **PKPdf** **20 22 39.5 -0.9**
KKAR Karatay Array 120.10 309 *e*PKIKP **PKPdf** **20 22 41.7 -0.8**
KKAR Karatay Array 120.10 309 *e*PKPdf **PKPdf** **20 22 41.7 -0.8**
SPA0 Spitsbergen Ar 120.81 357 *e*PKPdf **PKPdf** **20 22 42.6 -0.4**
SPITS Spitsbergen Ar 120.81 357 PKP **PKPdf** **20 22 43.0 0.0**
comp=Z,2.2nm,0.4s,baz=110,slow=3.6,SNR=20
SPITS Spitsbergen Ar 120.81 357 PKIKP **PKPdf** **20 22 43.0 0.0**
SPITS pmax pmax
comp=Z,2.0nm,0.4s
KBL Kabul 121.11 299 *e*PKIKP **PKPdf** **20 22 44.3 -0.7**
KBL Kabul 121.11 299 *e*PKPdf **PKPdf** **20 22 44.3 -0.7**
SVE Sverdlovsk 124.17 326 *e*PKIKP **PKPdf** **20 22 49.9 0.0**
SVE pmax pmax
comp=Z,26nm,1.3s
ARU Arti 125.38 326 PKP **PKPdf** **20 22 52.3 +0.1**
comp=Z,9.1nm,0.8s,baz=136,slow=0.3,SNR=19
ARU PP **PP** **20 24 42.2 -3.3**
comp=Z,2.2nm,0.8s,baz=88,slow=7.5,SNR=6.9
ARU Arti 125.38 326 *i* PKIKP **PKPdf** **20 22 51.8 -0.4**
ARU 20 29 43.8
ARU Arti 125.38 326 *e*PKPdf **PKPdf** **20 22 52.1 -0.1**
ARU *e*PP **PP** **20 24 41.7 -3.8**
ABKAR Akbulak array 126.62 318 *e*PKPdf **PKPdf** **20 22 54.6 -0.2**
ABKAR *e*PP **PP** **20 24 50.5 -3.5**
AKTO Aktyubinsk 127.53 319 PKP **PKPdf** **20 22 56.4 -0.1**
comp=Z,3.3nm,0.7s,baz=57,slow=3.9,SNR=6.5
ARA0 ARCESS Array S 128.12 351 *e*PKPdf **PKPdf** **20 22 57.1 0.0**
ARA0 *e*PKPdf **PKiKP** **20 22 57.4 -0.3**
ARCES ARCESS Array B 128.12 351 PKP **PKPdf** **20 22 57.1 0.0**
comp=Z,5.7nm,0.4s,baz=0.6,slow=0.7,SNR=98
BOSA Boshof 128.17 204 PKP **PKPdf** **20 22 58.6 0.0**
comp=Z,2.2nm,0.5s,baz=149,slow=5.5,SNR=7.9
GEYT Alibeck 129.86 304 PKP **PKPdf** **20 23 01.8 +0.3**
comp=Z,3.1nm,0.6s,baz=228,slow=1.8,SNR=8.4
GEYT PP **PP** **20 25 13.3 -2.4**
comp=Z,5.9nm,1.2s,baz=72,slow=4.8,SNR=6.0
GEYT SKPbc SKPbc 20 26 04.6 -0.2
comp=Z,2.1nm,0.8s,baz=31,slow=5.9,SNR=3.9
KLMR Klimovskoe 131.60 338 *e*PKIKP **PKPdf** **20 23 03.8 -0.1**
KLMR *e* 20 25 25.6
KLMR pmax pmax
comp=Z,13nm,1.3s
BANOM Banah 131.69 288 P **SKPbc** **20 26 09.8 -2.2**
HATD Hatta, Dubai 131.77 286 P **SKPbc** **20 26 10.8 -1.4**
SNR=6.9
ASHO Ashiyiah 131.83 286 P **SKPbc** **20 26 11.3 -1.2**
SNR=6.4
FIA1 FINESS Array S 135.19 345 *e*PKPdf **PKPdf** **20 23 07.8 -2.9**
FIA0 FINESS Array S 135.19 345 *e*PKHKP PKPpre 20 22 57.7
FIA0 *e* 20 23 08.8
FIA0 FINESS Array S 135.19 345 *e*PKPpre PKPpre 20 22 57.6
FIA0 *e*PKPdf **PKPdf** **20 23 08.8 -1.9**
FINES FINESS Array B 135.19 345 PKhKP PKPpre 20 22 57.6
comp=Z,2.2nm,0.8s,baz=126,slow=1.9,SNR=10.0
FINES PKP **PKPdf** **20 23 08.8 -1.9**
comp=Z,2.9nm,0.6s,baz=95,slow=2.5,SNR=20
VRH Novokhopyorsk 136.61 326 *e*PKIKP **PKPdf** **20 23 14.4 +0.8**
VRH pmax pmax
comp=Z,8.0nm,0.6s
OBN Obninsk 136.66 333 *i* PKIKP **PKPdf** **20 23 13.8 +0.3**
OBN *i* 20 25 54.5
OBN pmax pmax
comp=Z,13nm,1.0s
LPSR Galich'ya Gora 137.22 329 *e*PKIKP **PKPdf** **20 23 15.8 +1.1**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
VSU Vasula 137.58 343↓ *i*PKIKP **PKPdf** **20 23 17.3 +2.2**
NC303 NORSAR Array S 137.83 355 *e*PKPdf **PKPdf** **20 23 14.7 -0.9**
VSR Storozhevoye 137.93 327 *e*PKIKP **PKPdf** **20 23 16.1 +0.1**
VSR pmax pmax
comp=Z,10.0nm,1.3s
NB2 NORSAR Subarra 138.03 355 PKP PKPpre 20 23 06.7
comp=Z,2.7nm,0.9s,baz=14,slow=2.5
NB200 NORSAR Array S 138.03 355 *e*PKPpre PKPpre 20 23 08.1
NB200 *e*PKPdf **PKiKP** **20 23 17.3 -0.8**
NOA NORSAR Array B 138.03 355 PKhKP PKPpre 20 23 08.1
comp=Z,1.0nm,0.6s,baz=33,slow=1.9,SNR=5.0
NOA PKP **PKiKP** **20 23 17.3 -0.8**
comp=Z,0.7nm,0.5s,baz=54,slow=0.2,SNR=7.3
KBZ Khabaz 139.53 316 PKhKP PKPpre 20 23 13.8
comp=Z,1.1nm,0.6s,baz=7.4,slow=24,SNR=3.7
NEY Neytrino 139.84 315↓ *i*PKIKP **PKPdf** **20 23 21.2 +1.2**
KMBO Kilima Mbogo 141.70 242 PKhKP PKPpre 20 23 20.2
comp=Z,1.8nm,0.6s,baz=73,slow=4.0,SNR=8.7
SUW Suwalki 142.42 342 *e*PKP PKPpre 20 23 20.2
SUW Suwalki 142.42 342 *e*PKHKP PKPpre 20 23 20.2
ANN Anapa 142.49 320 *e*PKHKP PKPpre 20 23 19.8
ANN pmax pmax
comp=Z,30nm,1.5s
BTMN Batman 142.86 308 *i* P **PKPdf** **20 23 23.1 -2.4**
AKASG Malin Array Be 142.93 333 PKhKP PKPpre 20 23 21.2
comp=Z,9.8nm,0.5s,baz=43,slow=4.1,SNR=61
AKASG SKP 20 26 41.1
comp=Z,0.8nm,0.6s,baz=43,slow=5.4,SNR=4.0
AKBB Malin Array Si 142.93 333 *e*PKHKP PKPpre 20 23 20.8
AKBB Malin Array Si 142.93 333 *e*PKPpre PKPpre 20 23 20.8
KIEV Kiev 142.94 333 *e*PKHKP PKPpre 20 23 21.0
KIEV Kiev 142.94 333 *e*PKPpre PKPpre 20 23 20.9
AK11 Malin Array Si 142.97 333 *e*PKPpre PKPpre 20 23 21.3
GMK Mull of Kintyr 143.28 9 *e*P PKPbc 20 23 23.0 -0.2
MARD Mardin 143.42 307 *i* P PKPbc 20 23 24.8 +0.4
ESK Eskdalemuir 143.63 7 *e*P PKPab 20 23 26.3 +0.4
TNCL Tunceli-Merkez 143.69 311 *i* P **PKPdf** **20 23 26.2 -0.7**
GAL1 Galloway 143.88 9 *e*P PKPbc 20 23 24.7 -0.2
MZRK Al-Mazaregh 143.98 305 *i* P **PKPdf** **20 23 28.6 +1.1**
SUSE Susehri 144.18 313 *i* P **PKPdf** **20 23 27.6 -0.3**
GMM Mts of Mourne 144.29 10 *e*P PKPbc 20 23 26.5 +0.3
KESW Keswick, Cumbr 144.36 7 *e*P PKPbc 20 23 26.9 +0.5
SIM Simferopol' 144.36 323 *de*PKIKP **PKPab** **20 23 26.2 -0.2**
SIM *e* 20 24 30.0
SIM pmax pmax
comp=Z,92nm,0.9s
WIM Isle of Man 144.58 9 *e*P PKPbc 20 23 27.4 +0.3
ERBA Erbaa 144.96 315 *i* P **PKPdf** **20 23 30.1 +1.0**
SAMS Samsun-Alacam 145.02 316 *i* P **PKPdf** **20 23 30.4 +1.4**
BEL Belsk 145.03 342 *e*PKP **PKPdf** **20 23 29.6 +0.9**
BEL Belsk 145.03 342 *e*PKIKP **PKPdf** **20 23 29.6 +0.9**
FURI Furi 145.04 258 *e*PKPbc **PKPab** **20 23 30.7 +0.4**
DSB Dublin 145.17 11 *e*PKPdf **PKPab** **20 23 29.1 -0.1**
SORM Soroca 145.22 331↑ *i*P **PKPdf** **20 23 25.4 -3.7**
TOKA Tokat 145.31 314 *i* P **PKPab** **20 23 31.3 +1.0**
HAVZ Havza 145.47 316 *i* P **PKPab** **20 23 32.8 +2.0**
WPM1 Penmaenmawr 145.55 9 *e*P **PKPab** **20 23 30.8 +0.1**
LVV L'vov 145.68 337 *e*PKIKP **PKPdf** **20 23 29.6 -0.3**
LVV *e* 20 24 36.2
GZT Gaziantep 145.80 309 *i* P **PKPab** **20 23 32.7 +0.4**
BOYT Boyabat 145.82 317 *i* P **PKPab** **20 23 33.1 +0.9**
KIS Kishinev 145.82 329 *i* P **PKPab** **20 23 32.0 +0.1**
KIS XM 20 23 33.0

	comp=Z,200nm,2.0s							
KIS	**Kishinev**	**145.82**	**329**ᴷ	*i* PKP2		**PKPab**	**20 23 32.0**	**+0.1**
KIS				pmax	pmax			
	comp=Z,170nm,2.0s							
CUSAR	**Sarkisla-SIVAS**	**145.89**	**313**	*i* P		**PKPab**	**20 23 33.1**	**+0.5**
FOEL	**Foel Wylfa**	**146.01**	**8**	*eP*		**PKPab**	**20 23 32.2**	**-0.2**
IAS	**Iasi**	**146.27**	**331**	⇓*i* P		**PKPbc**	**20 23 33.0**	**+0.5**
IAS	**Iasi**	**146.27**	**331**	⇓PKP2		**PKPbc**	**20 23 33.0**	**+0.5**
HCB	**Kahramanmara˘**	**146.28**	**309**	*i* P		**PKPab**	**20 23 33.6**	**-0.5**
KWP	**Kalwaria Pacla**	**146.31**	**338**	*eP*		**PKPab**	**20 23 33.2**	**-0.6**
KWP	**Kalwaria Pacla**	**146.31**	**338**	⇓P		**PKPab**	**20 23 33.3**	**-0.4**
KWP	**Kalwaria Pacla**	**146.31**	**338**	⇓PKP2		**PKPab**	**20 23 33.3**	**-0.4**
COAL	**Corum-Alaca**	**146.35**	**315**	*i* P		**PKPab**	**20 23 34.2**	**-0.2**
CWF	**Charnwood Fore**	**146.38**	**6**	*eP*		**PKPbc**	**20 23 32.8**	**+0.3**
CWF	**Charnwood Fore**	**146.38**	**6**	*e*PKPdf		**PKPbc**	**20 23 33.1**	**+0.5**
KUZU	**Kuzuini**	**146.38**	**308**	*i* P		**PKPab**	**20 23 34.4**	**-0.1**
HLM1	**Long Mynd**	**146.41**	**8**	*eP*		**PKPbc**	**20 23 33.2**	**+0.5**
LEOM	**Leova**	**146.47**	**329**	⇑*i* P		**PKPab**	**20 23 33.8**	**-0.6**
LEOM	**Leova**	**146.47**	**329**	⇑PKP2		**PKPab**	**20 23 33.8**	**-0.6**
KAMA	**Osmaniye**	**146.52**	**309**	*i* P		**PKPbc**	**20 23 34.3**	**+0.7**
LPW	**Lampeter**	**146.64**	**9**	*eP*		**PKPbc**	**20 23 32.9**	**-0.5**
DRWC	**Darouich**	**146.74**	**308**	*i* P		**PKPab**	**20 23 35.4**	**-0.5**
PRAR	**RASCA**	**146.75**	**332**	⇑*i* P		**PKPdf**	**20 23 32.6**	**+0.8**
OJC	**Ojcow**	**146.75**	**342**	*e*PKP		**PKPbc**	**20 23 34.4**	**+0.6**
OJC	**Ojcow**	**146.75**	**342**	*e*PKP2		**PKPbc**	**20 23 34.4**	**+0.6**
OJC	**Ojcow**	**146.75**	**342**	*e*PKPdf		**PKPbc**	**20 23 33.7**	**0.0**
ILGA	**Ilgaz**	**146.78**	**317**	*i* P		**PKPab**	**20 23 35.3**	**-0.8**
MCH1	**Michaelchurch**	**146.91**	**8**	*eP*		**PKPbc**	**20 23 34.4**	**+0.2**
BUR08	**Bucovina Ar. S**	**146.97**	**334**	*e*PKPdf		**PKPdf**	**20 23 31.7**	**-0.6**
BUR08				*e*PKPbc		**PKPbc**	**20 23 35.5**	**+0.9**
BURAR	**Bucovina Array**	**146.99**	**334**	⇓*i* P		**PKPbc**	**20 23 35.5**	**+0.9**
BURAR	**Bucovina Array**	**146.99**	**334**	⇓PKP2		**PKPbc**	**20 23 35.5**	**+0.9**
STHS	**Stebnicka Huta**	**147.00**	**339**	*e*PKP2		**PKPab**	**20 23 35.5**	**-0.9**
STHS	**Stebnicka Huta**	**147.00**	**339**	*e*PKP		**PKPab**	**20 23 35.5**	**-0.9**
STHS				*e*			20 23 38.5	
KOLS	**Kolonicke sedl**	**147.06**	**338**	*e*PKIKP		**PKPdf**	**20 23 33.4**	**+1.1**
KOLS				*e*			20 23 38.1	
KOLS	**Kolonicke sedl**	**147.06**	**338**	*e*PKP		**PKPdf**	**20 23 33.4**	**+1.1**
KOLS				*e*			20 23 38.1	
CDAG	**Cicekdag**	**147.07**	**314**	*i* P		**PKPbc**	**20 23 35.6**	**+0.5**
SSW	**Stow on the Wo**	**147.08**	**7**	*eP*		**PKPbc**	**20 23 35.0**	**+0.4**
TLCR		**147.10**	**327**	⇑*i* P		**PKPbc**	**20 23 35.7**	**+0.9**
TLCR		**147.10**	**327**	⇑PKP2		**PKPbc**	**20 23 35.7**	**+0.9**
KSP	**Ksiaz**	**147.11**	**346**	*e*PKP		**PKPbc**	**20 23 35.8**	**+1.1**
KSP	**Ksiaz**	**147.11**	**346**	*e*PKP2		**PKPbc**	**20 23 35.8**	**+1.1**
AVNS	**Nevsehir-Avano**	**147.13**	**313**	*i* P		**PKPbc**	**20 23 36.0**	**+0.6**
TESR	**Tescani**	**147.20**	**331**	⇓*i* P		**PKPbc**	**20 23 35.5**	**+0.4**
ELDT	**Eldivan**	**147.26**	**316**	*i* P		**PKPbc**	**20 23 36.8**	**+1.1**
MBAR	**Mbarara**	**147.27**	**236**	*e*PKIKP		**PKPbc**	**20 23 35.9**	**-0.6**
MBAR	**Mbarara**	**147.27**	**236**	*e*PKPbc		**PKPbc**	**20 23 35.9**	**-0.6**
NIE	**Niedzica**	**147.30**	**340**	*e*PKP		**PKPbc**	**20 23 36.5**	**+1.1**
NIE	**Niedzica**	**147.30**	**340**	*e*PKP2		**PKPbc**	**20 23 36.5**	**+1.1**
UZH	**Uzhgorod**	**147.30**	**338**	⇑*i* PKP2		**PKPbc**	**20 23 35.5**	**+0.2**
CLL	**Collm**	**147.33**	**350**	*i* PKPdf		**PKPdf**	**20 23 33.3**	**+0.7**
	comp=Z,13nm,1.4s							
CLL				*i* PKPbc		**PKPbc**	**20 23 35.8**	**+0.5**
	comp=Z,75nm,1.0s							
CLL				*i* PKPab		**PKPab**	**20 23 38.2**	**+0.6**
	comp=Z,61nm,1.2s							
CLL				*i*			20 23 46.3	
CLL				*i* pPKPbc	pPKPbc		20 24 41.1	+14
	comp=Z,22nm,1.0s							
CLL				*e*PP		**PP**	**20 27 05.0**	**+3.2**
CLL				*e*SSS		SSS	20 51 39.0	
CLL	**Collm**	**147.33**	**350**	*i* PKIKP		**PKPdf**	**20 23 33.3**	**+0.7**
CLL				*i*			20 23 35.8	
CLL				*i*			20 24 41.1	
CLL				pmax	pmax			
	comp=Z,13nm,1.4s							
CLL				pmax	pmax			
	comp=Z,75nm,1.0s							
CLL	**Collm**	**147.33**	**350**	*e*PKPdf		**PKPdf**	**20 23 32.6**	**0.0**
CLL				*e*PKPbc		**PKPbc**	**20 23 35.6**	**+0.3**
WRDH	**Warideh**	**147.34**	**306**	*i* P		**PKPbc**	**20 23 36.8**	**+0.8**
CRVS	**Cervenica-Dubn**	**147.37**	**339**	*e*PKIKP		**PKPbc**	**20 23 34.2**	**-1.3**
CRVS				*e*			20 23 39.4	
CRVS	**Cervenica-Dubn**	**147.37**	**339**	*e*PKP		**PKPbc**	**20 23 34.2**	**-1.3**
CRVS				*e*			20 23 39.4	
YAYL	**Yayladag**	**147.38**	**307**	*i* P		**PKPbc**	**20 23 35.1**	**-1.0**
YURE	**YUREGIR**	**147.43**	**309**	*i* P		**PKPbc**	**20 23 37.0**	**+0.9**
ZALF	**Zalf**	**147.44**	**301**	*i* P		**PKPbc**	**20 23 36.8**	**+0.5**
CFR	**Carcaliu**	**147.45**	**328**	⇓*i* P		**PKPbc**	**20 23 36.3**	**+0.5**
CFR	**Carcaliu**	**147.45**	**328**	⇓PKP2		**PKPbc**	**20 23 36.3**	**+0.5**
UPC	**Upice**	**147.49**	**346**	*e*PKPDF		**PKPdf**	**20 23 34.3**	**+1.4**
UPC				⇑*e*PKP		**PKiKP**	**20 23 36.8**	**-1.0**
UPC				*ex*		x	20 24 42.1	
UPC	**Upice**	**147.49**	**346**	*e*PKIKP		**PKPdf**	**20 23 34.3**	**+1.4**
UPC				*e*			20 23 36.8	
UPC				*e*			20 24 42.1	
BR101	**Keskin Array S**	**147.51**	**315**	*e*PKPbc		**PKPbc**	**20 23 36.5**	**+0.2**
BR131	**Keskin Array S**	**147.51**	**315**	*e*PKPdf		**PKPdf**	**20 23 32.7**	**-0.8**
BR131				*e*PKPbc		**PKPbc**	**20 23 36.5**	**+0.2**
BRTR	**Keskin Array B**	**147.51**	**315**	PKPbc		**PKPbc**	**20 23 36.5**	**+0.1**
	comp=Z,15nm,0.6s,baz=126,slow=2.1,SNR=61							
ARNB	**Al Arnab**	**147.55**	**307**	*i* P		**PKPbc**	**20 23 36.7**	**+0.1**
ODBI	**Odobesti**	**147.56**	**330**	⇓*i* P		**PKPab**	**20 23 38.2**	**-0.5**
DPC	**Dobruska-Polom**	**147.56**	**345**	*e*PKPDF		**PKPdf**	**20 23 33.9**	**+0.8**
DPC				⇑*e*PKP		**PKiKP**	**20 23 37.1**	**-0.9**
DPC				*e*PKPAB		**PKPab**	**20 23 40.2**	**+1.5**
DPC				*ep*PKP		pPKP	20 24 41.8	
DPC	**Dobruska-Polom**	**147.56**	**345**	*e*PKIKP		**PKPdf**	**20 23 33.9**	**+0.8**
DPC				*e*			20 23 37.1	
DPC				*e*			20 24 41.8	
OKC	**Ostrava-Krasne**	**147.57**	**343**	⇑*e*PKP		**PKPbc**	**20 23 36.7**	**+0.7**
OKC				*e*PKPAB		**PKPab**	**20 23 40.0**	**+1.4**
OKC	**Ostrava-Krasne**	**147.57**	**343**	*e*PKP2		**PKPbc**	**20 23 36.7**	**+0.7**
BRG	**Berggiesshubel**	**147.58**	**348**	*e*PKP		**PKPdf**	**20 23 33.7**	**+0.6**
	comp=Z,12nm,1.4s							
BRG				*es*PKP			20 24 42.3	
	comp=Z,16nm,1.2s							
BRG				*e*			20 27 10.0	
	comp=Z,13nm,1.5s							
BRG	**Berggiesshubel**	**147.58**	**348**	*e*PKIKP		**PKPdf**	**20 23 33.7**	**+0.6**
BRG				*e*			20 24 42.3	
BRG				*e*			20 27 10.0	
BRG				pmax	pmax			
	comp=Z,13nm,1.4s							
TRPA	**Tarpa**	**147.63**	**337**	⇓*ep*PKiKP		**PKPbc**	**20 23 36.8**	**+0.6**
VRI	**Vrincioaia**	**147.64**	**330**	⇓*i* P		**PKPbc**	**20 23 36.8**	**+0.5**
VRI	**Vrincioaia**	**147.64**	**330**	⇓PKP2		**PKPbc**	**20 23 36.8**	**+0.5**
BMR	**Baia Mare**	**147.64**	**335**	⇑*i* P		**PKPbc**	**20 23 37.2**	**+0.9**
BMR	**Baia Mare**	**147.64**	**335**	⇑PKP2		**PKPbc**	**20 23 37.2**	**+0.9**
PLOR	**Plostina**	**147.69**	**330**	⇓*i* P		**PKPbc**	**20 23 36.8**	**+0.3**
PLOR	**Plostina**	**147.69**	**330**	⇓PKP2		**PKPbc**	**20 23 36.8**	**+0.3**
HAWK	**Haweek**	**147.69**	**305**	*i* P		**PKPbc**	**20 23 36.6**	**-0.4**
ARCR	**ARCALIA**	**147.76**	**334**	⇓*i* P		**PKPab**	**20 23 38.5**	**-1.0**
FKH	**Fakeheh**	**147.78**	**304**	*eP*		**PKPbc**	**20 23 38.1**	**+0.9**
PVCC	**Panska Ves**	**147.78**	**348**	*e*PKPDF		**PKPdf**	**20 23 34.7**	**+1.3**
PVCC				⇑*e*PKP		**PKPdf**	**20 23 34.8**	**+1.3**
PVCC				*e*PKPAB		**PKiKP**	**20 23 37.5**	**-0.8**
PVCC	**Panska Ves**	**147.78**	**348**	*e*PKIKP		**PKPdf**	**20 23 34.7**	**+1.3**
PVCC				*e*			20 23 37.5	
MORC	**Moravsky Berou**	**147.79**	**344**	⇓*i* P		**PKPbc**	**20 23 37.5**	**+0.9**
MORC	**Moravsky Berou**	**147.79**	**344**	⇓PKP2		**PKPbc**	**20 23 37.5**	**+0.9**
MORC	**Moravsky Berou**	**147.79**	**344**	*e*PKPdf		**PKPdf**	**20 23 34.0**	**+0.5**
MORC				*e*PKPbc		**PKPbc**	**20 23 37.6**	**+0.9**
WOL	**Wolverton**	**147.79**	**6**	*eP*		**PKPbc**	**20 23 36.9**	**+0.3**
LANS	**Liptovska Anna**	**147.80**	**341**	*e*PKP2		**PKPab**	**20 23 38.5**	**-1.1**
LANS	**Liptovska Anna**	**147.80**	**341**	*e*PKP		**PKPab**	**20 23 38.5**	**-1.1**
LANS				*e*			20 23 41.8	
TIRR	**Tirgusor**	**147.81**	**327**	⇑*i* P		**PKPbc**	**20 23 37.7**	**+0.9**
TIRR	**Tirgusor**	**147.81**	**327**	⇑PKP2		**PKPbc**	**20 23 37.7**	**+0.9**
TIRR	**Tirgusor**	**147.81**	**327**	*e*PKPbc		**PKPbc**	**20 23 36.8**	**+0.1**
GRER		**147.88**	**329**	⇑*i* P		**PKPab**	**20 23 38.6**	**-1.4**
BBAL	**Bala**	**147.95**	**315**	*i* P		**PKPbc**	**20 23 38.2**	**+0.7**
AKSY	**AKSARAY - Alti**	**147.96**	**313**	*i* P		**PKPbc**	**20 23 38.0**	**+0.5**
BCAM	**Yenicaga**	**147.96**	**318**	*i* P		**PKPbc**	**20 23 37.8**	**+0.3**
SALA	**Sala**	**147.99**	**301**	*i* P		**PKPbc**	**20 23 37.9**	**0.0**
ANTO	**Ankara**	**148.00**	**316**	*e*PKIKP		**PKPdf**	**20 23 34.1**	**-0.1**
ANTO				*e*			20 23 38.1	
ANTO	**Ankara**	**148.00**	**316**	*e*PKPdf		**PKPdf**	**20 23 34.1**	**-0.1**
ANTO				*e*PKPbc		**PKPbc**	**20 23 38.1**	**+0.5**
BR231	**Keskin MP Arra**	**148.02**	**316**	*e*PKPdf		**PKPdf**	**20 23 33.6**	**-0.7**
BR231				*e*PKPdf		**PKPbc**	**20 23 34.1**	**-3.6**
BR231				*e*PKPbc		**PKiKP**	**20 23 37.3**	**-2.1**
BR231				*e*PKPbc		**PKPab**	**20 23 38.6**	**-2.4**
KECS	**Kecovo**	**148.06**	**339**	*e*PKP2		**PKPbc**	**20 23 38.7**	**+1.4**
KECS	**Kecovo**	**148.06**	**339**	*e*PKP		**PKPbc**	**20 23 38.7**	**+1.4**
KECS				*e*			20 23 42.4	
CVDA	**Cernavoda**	**148.09**	**327**	⇑*i* P		**PKPbc**	**20 23 38.8**	**+1.3**
HWQ	**Hawqa**	**148.13**	**304**	*eP*		**PKPbc**	**20 23 38.4**	**+0.3**
MANR	**Mangalia**	**148.15**	**325**	⇑*i* P		**PKPbc**	**20 23 38.8**	**+1.1**
DOPR	**Dopca**	**148.18**	**331**	⇓*i* P		**PKPbc**	**20 23 39.0**	**+1.2**
PGOR	**Pogoanele**	**148.21**	**328**	⇓*i* P		**PKPbc**	**20 23 38.8**	**+1.0**
AMRR	**Amara**	**148.25**	**328**	⇓*i* P		**PKPbc**	**20 23 39.0**	**+1.1**
AMRR	**Amara**	**148.25**	**328**	⇓PKP2		**PKPbc**	**20 23 39.1**	**+1.1**
KKUL	**Konya-Kulu**	**148.27**	**315**	*i* P		**PKPbc**	**20 23 39.1**	**+0.8**
ISR	**Istrita**	**148.28**	**329**	⇓*i* P		**PKPbc**	**20 23 38.8**	**+0.7**
ISR	**Istrita**	**148.28**	**329**	⇓PKP2		**PKPbc**	**20 23 38.8**	**+0.7**
MLR	**Muntele Rosu**	**148.29**	**330**	⇓*i* P		**PKPbc**	**20 23 38.3**	**+0.1**
MLR	**Muntele Rosu**	**148.29**	**330**	⇓PKP2		**PKPbc**	**20 23 38.3**	**+0.1**
MLR	**Muntele Rosu**	**148.29**	**330**	*e*PKPdf		**PKPdf**	**20 23 34.0**	**-0.5**
MLR				*e*PKPbc		**PKPbc**	**20 23 38.4**	**+0.1**
PRU	**Pruhonice**	**148.30**	**347**	⇑*e*PKP		**PKPbc**	**20 23 38.5**	**+0.6**
PRU				*e*PKPAB		**PKPab**	**20 23 42.6**	**+1.0**
PRU				*ep*PKP		pPKP	20 24 43.1	
PRU	**Pruhonice**	**148.30**	**347**	*e*PKP2		**PKPbc**	**20 23 38.5**	**+0.6**
GOPC	**GO Pecny, Ondr**	**148.32**	**347**	⇑*e*PKP		**PKPbc**	**20 23 38.8**	**+0.8**
GOPC	**GO Pecny, Ondr**	**148.32**	**347**	*e*PKP2		**PKPbc**	**20 23 38.8**	**+0.8**
CJR	**Cluj-Napoca**	**148.38**	**334**	⇓*i* P		**PKPbc**	**20 23 39.0**	**+0.7**
CJR	**Cluj-Napoca**	**148.38**	**334**	⇓PKP2		**PKPbc**	**20 23 39.0**	**+0.7**
PSN	**Preselentsi**	**148.46**	**326**	P		**PKPbc**	**20 23 39.0**	**+0.5**
NKC	**Novy Kostel**	**148.46**	**350**	⇑*e*PKP		**PKPbc**	**20 23 39.2**	**+0.8**
NKC				*e*PKPAB		**PKPab**	**20 23 43.1**	**+0.9**
NKC	**Novy Kostel**	**148.46**	**350**	*e*PKP2		**PKPbc**	**20 23 39.2**	**+0.8**
VRAC	**Vranov**	**148.46**	**344**	⇑*i* P		**PKPbc**	**20 23 39.6**	**+1.2**
VRAC	**Vranov**	**148.46**	**344**	⇑PKP2		**PKPbc**	**20 23 39.6**	**+1.2**
BHL	**Bhannes**	**148.48**	**304**	*eP*		**PKPbc**	**20 23 39.6**	**+0.6**
SECR		**148.57**	**330**	⇓*i* P		**PKPbc**	**20 23 39.3**	**+0.5**
BEBN	**Eben Emael**	**148.57**	**358**	PKPbc		**PKPbc**	**20 23 39.5**	**+1.0**
VYHS	**Vyhne**	**148.57**	**341**	*e*PKP2		**PKPbc**	**20 23 39.5**	**+0.8**
VYHS	**Vyhne**	**148.57**	**341**	*e*PKP		**PKPbc**	**20 23 39.5**	**+0.8**
VYHS				*e*			20 23 44.1	
DQRL	**Deir Qamar**	**148.61**	**304**	*eP*		**PKPbc**	**20 23 40.3**	**+0.9**
KIZK	**Mersin**	**148.66**	**309**	*i* P		**PKPbc**	**20 23 39.7**	**+0.5**
DRGR		**148.67**	**335**	⇓*i* P		**PKPbc**	**20 23 39.7**	**+0.6**
DRGR		**148.67**	**335**	⇓PKP2		**PKPbc**	**20 23 39.7**	**+0.6**
SAHE	**Sakarya_HENDEK**	**148.70**	**319**	*i* P		**PKPbc**	**20 23 39.5**	**+0.3**
VOIR		**148.74**	**331**	⇑*i* P		**PKPbc**	**20 23 39.9**	**+0.6**
VOIR		**148.74**	**331**	⇑PKP2		**PKPbc**	**20 23 39.9**	**+0.6**
PSZ	**Piszkesteto**	**148.75**	**339**	⇑*i* P		**PKPbc**	**20 23 39.8**	**+0.6**
PSZ	**Piszkesteto**	**148.75**	**339**	⇓*ep*PKiKP		**PKPbc**	**20 23 39.8**	**+0.6**
PSZ	**Piszkesteto**	**148.75**	**339**	*e*PKIKP		**PKPdf**	**20 23 36.5**	**+1.3**
PSZ	**Piszkesteto**	**148.75**	**339**	*e*PKPdf		**PKPdf**	**20 23 36.5**	**+1.3**
PSZ				*e*PKPbc		**PKiKP**	**20 23 39.9**	**-0.6**
TREC	**Trest**	**148.75**	**346**	⇑*e*PKP		**PKPbc**	**20 23 39.7**	**+0.6**
TREC	**Trest**	**148.75**	**346**	*e*PKP2		**PKPbc**	**20 23 39.7**	**+0.6**
MEM	**Membach**	**148.75**	**358**	PKPbc		**PKPbc**	**20 23 39.5**	**+0.5**
BTAS	**Taskesti**	**148.77**	**318**	*i* P		**PKPbc**	**20 23 39.7**	**+0.2**
SNF	**Seneffe**	**148.88**	**360**	PKPbc		**PKPbc**	**20 23 40.0**	**+0.7**
SNF				PKPab		**PKPab**	**20 23 44.1**	**+0.2**
BCLA	**Clavier**	**148.96**	**359**	PKPbc		**PKPbc**	**20 23 39.9**	**+0.4**
BCLA				PKPab		**PKPab**	**20 23 44.8**	**+0.6**
KAND	**Kocaeli-Kandir**	**148.96**	**320**	*i* P		**PKPbc**	**20 23 40.0**	**+0.1**
MMAI	**Mount Meron Ar**	**148.97**	**302**	PKPbc		**PKPbc**	**20 23 41.1**	**+0.8**
	comp=Z,38nm,0.7s,baz=72,slow=5.7,SNR=86							
SMOL	**Smolenice**	**148.97**	**343**	*e*PKP2		**PKPbc**	**20 23 41.3**	**+1.6**
SMOL	**Smolenice**	**148.97**	**343**	*e*PKP		**PKPbc**	**20 23 41.3**	**+1.6**
SMOL				*e*			20 23 46.3	
ARR	**Arges**	**148.98**	**331**	⇓*i* P		**PKPbc**	**20 23 41.2**	**+1.3**
KDHN	**Kadinhani**	**149.14**	**314**	*i* P		**PKPbc**	**20 23 40.6**	**0.0**
GRFO	**Grafenberg**	**149.18**	**351**	*e*PKP2		**PKPbc**	**20 23 41.3**	**+1.1**
GRFO	**Grafenberg**	**149.18**	**351**	*e*PKPbc		**PKPbc**	**20 23 41.2**	**+1.1**
PRD	**Provadia**	**149.20**	**326**	P		**PKPbc**	**20 23 41.2**	**+0.8**
DOU	**Dourbes**	**149.29**	**359**	PKPbc		**PKPbc**	**20 23 41.1**	**+0.7**
DOU				PKPab		**PKPab**	**20 23 46.2**	**+0.6**
LOT	**Lotru**	**149.31**	**332**	⇑*i* P		**PKPbc**	**20 23 40.8**	**+0.1**
KHC	**Kasperske Hory**	**149.31**	**348**	*e*PKPDF		**PKPdf**	**20 23 36.0**	**0.0**
KHC				⇑*e*PKP		**PKiKP**	**20 23 41.3**	**-0.4**
KHC				*e*PKPAB		**PKPab**	**20 23 46.9**	**+1.1**
KHC				*ep*PKP		pPKP	20 24 46.5	
KHC	**Kasperske Hory**	**149.31**	**348**	*e*PKIKP		**PKPdf**	**20 23 36.0**	**0.0**
KHC				*e*			20 23 46.9	
KHC				*e*			20 24 46.5	
KHC	**Kasperske Hory**	**149.31**	**348**	*e*PKPdf		**PKPdf**	**20 23 36.0**	**0.0**
KHC				*e*PKPbc		**PKiKP**	**20 23 41.2**	**-0.4**
BUD	**Budapest**	**149.41**	**340**	⇓*ep*PKiKP		**PKPbc**	**20 23 41.3**	**+0.5**
ESKT	**Eskisehir**	**149.45**	**317**	*i* P		**PKPbc**	**20 23 41.7**	**+0.3**
HUMR	**Humele**	**149.46**	**330**	⇓*i* P		**PKPbc**	**20 23 40.9**	**-0.1**
ERMK	**Ermenek**	**149.48**	**310**	*i* P		**PKPbc**	**20 23 42.4**	**+0.8**
BORA	**Eskisehir**	**149.50**	**318**	*i* P		**PKPbc**	**20 23 41.7**	**+0.3**
SIRR	**Siria**	**149.51**	**336**	⇑*i* P		**PKPbc**	**20 23 42.1**	**+1.0**
GERES	**GERESS Array B**	**149.56**	**348**	PKP		**PKPdf**	**20 23 36.5**	**0.0**
	comp=Z,3.7nm,1.0s,baz=38,slow=2.4,SNR=5.6							
GERES				PKPbc		**PKPbc**	**20 23 41.4**	**+0.2**
	comp=Z,12nm,0.8s,baz=29,slow=2.2,SNR=66							
GEA0	**GERESS Array S**	**149.57**	**348**	*e*PKPdf		**PKPdf**	**20 23 36.0**	**-0.5**
GEA0				*e*PKPbc		**PKiKP**	**20 23 41.8**	**-0.5**
WLF	**Walferdange**	**149.69**	**357**	PKPbc		**PKPbc**	**20 23 43.0**	**+1.6**
WLF	**Walferdange**	**149.69**	**357**	*e*PKPdf		**PKPdf**	**20 23 37.9**	**+1.4**
WLF				*e*PKPbc		**PKiKP**	**20 23 42.6**	**+0.3**
JSA	**Saint Aubin**	**149.77**	**8**	*eP*		**PKPbc**	**20 23 42.0**	**+0.4**
CSS	**Mathiatis**	**149.88**	**307**	P		**PKPbc**	**20 23 42.9**	**+0.5**
CSS	**Mathiatis**	**149.88**	**307**	P		**PKPbc**	**20 23 42.3**	**-0.1**
CSS	**Mathiatis**	**149.88**	**307**	*e*PKPdf		**PKPdf**	**20 23 36.9**	**-0.4**
CSS				*e*PKPbc		**PKPbc**	**20 23 42.3**	**-0.1**
MAMC	**Mammari**	**149.88**	**308**	P		**PKPbc**	**20 23 43.2**	**+0.9**
ZIMI		**149.92**	**328**	⇑P		**PKPbc**	**20 23 42.9**	**+0.8**
ZIMI		**149.92**	**328**	⇑PKP2		**PKPbc**	**20 23 42.9**	**+0.8**
CONA	**Conrad Observa**	**149.93**	**344**	*i* PKiKP		**PKiKP**	**20 23 42.9**	**-0.1**
	comp=Z,41nm,1.0s,SNR=19							
SOP	**Sopron**	**149.97**	**343**	⇓*ep*PKiKP		**PKPbc**	**20 23 43.0**	**+0.9**
BZS	**Buzias**	**150.07**	**335**	⇓*i* P		**PKPbc**	**20 23 42.7**	**+0.3**
SRE	**Strehaia**	**150.17**	**332**	⇑*i* P		**PKPbc**	**20 23 43.5**	**+0.8**
SRE	**Strehaia**	**150.17**	**332**	⇑PKIKP		**PKPbc**	**20 23 43.6**	**+0.8**
LANF	**Langenberg**	**150.27**	**355**	PKP		**PKPbc**	**20 23 43.9**	**+1.1**
SZAC	**Souni**	**150.30**	**307**	P		**PKPbc**	**20 23 43.7**	**+0.3**
STU	**Stuttgart**	**150.34**	**353**	*e*PKIKP		**PKPdf**	**20 23 38.4**	**+0.8**
STU				*e*			20 23 50.7	
STU	**Stuttgart**	**150.34**	**353**	*e*PKPdf		**PKPdf**	**20 23 38.4**	**+0.8**
STU				*e*PKPbc		**PKiKP**	**20 23 43.5**	**-0.2**
STU				*e*PKPab		**PKPab**	**20 23 50.7**	**+0.7**
ALFC	**Alefka**	**150.35**	**308**	P		**PKPbc**	**20 23 43.6**	**+0.1**
TVSB	**Tavsanli**	**150.38**	**318**	*e*PN		**PKPbc**	**20 23 42.3**	**-1.2**
TVSB	**Tavsanli**	**150.38**	**318**	*e*Pn		**PKPbc**	**20 23 42.3**	**-1.2**
MOA	**Molln**	**150.38**	**346**	*i* PKiKP		**PKPbc**	**20 23 43.5**	**+0.4**
	comp=Z,19nm,1.1s,SNR=6.9							
SUTC	**Sutluce-Ispart**	**150.43**	**313**	*e*PN		**PKPbc**	**20 23 42.8**	**-0.9**
SUTC	**Sutluce-Ispart**	**150.43**	**313**	*e*Pn		**PKPbc**	**20 23 42.8**	**-0.9**
BANR	**Banloc**	**150.45**	**335**	⇓*i* P		**PKPbc**	**20 23 44.4**	**+1.1**
AKMC	**Akamas**	**150.61**	**308**	P		**PKPbc**	**20 23 43.7**	**-0.4**
ARSA	**Arzberg**	**150.64**	**344**	*i* PKiKP		**PKPbc**	**20 23 43.9**	**+0.1**
	comp=Z,11nm,1.0s,SNR=6.4							
MDVR	**Moldovita**	**150.71**	**334**	⇓*i* P		**PKPbc**	**20 23 44.5**	**+0.4**
BFO	**Black Forest**	**150.87**	**354**	*e*PKIKP		**PKPbc**	**20 23 44.4**	**+0.1**
BFO				*e*			20 23 52.6	
BFO	**Black Forest**	**150.87**	**354**	*e*PKPbc		**PKPbc**	**20 23 44.4**	**+0.1**
BFO				*e*PKPab		**PKPab**	**20 23 52.6**	**+0.5**
MPEP	**Malo Peshtene**	**150.93**	**330**	P		**PKPbc**	**20 23 45.0**	**+0.4**
BEHE	**Becsehely**	**151.01**	**342**	⇓*ep*PKiKP		**PKPbc**	**20 23 45.0**	**+0.4**
ECH	**Echery**	**151.08**	**356**	PKP		**PKPbc**	**20 23 44.7**	**-0.1**
KORT	**Korkueli**	**151.12**	**313**	*i* P		**PKPbc**	**20 23 45.4**	**+0.1**
KORT	**Korkueli**	**151.12**	**313**	*i* P		**PKPbc**	**20 23 45.5**	**+0.1**
KORT				*i* S		**PKPab**	**20 23 55.3**	**+1.5**
SOKA	**Soboth**	**151.30**	**344**	*i* PKPbc		**PKPbc**	**20 23 45.2**	**-0.1**
	comp=Z,27nm,1.0s,SNR=8.2							
KBA	**Koelnbreinsper**	**151.32**	**347**	*i* PKPbc		**PKPbc**	**20 23 45.1**	**-0.5**
	comp=Z,13nm,0.6s,SNR=8.6							
BALY	**Balya**	**151.34**	**320**	*i* P		**PKPbc**	**20 23 45.8**	**+0.1**
GROS	**Grobnik**	**151.38**	**344**	*i* PKPdf		**PKPbc**	**20 23 45.2**	**-0.4**
RETA	**Reutte**	**151.40**	**351**	*i* PKiKP		**PKPbc**	**20 23 45.8**	**+0.2**
	comp=Z,19nm,1.0s,SNR=7.2							
WATA	**Walderalm**	**151.41**	**349**	*i* PKiKP		**PKPbc**	**20 23 45.7**	**0.0**
	comp=Z,22nm,0.5s,SNR=19							
MOF	**Molkenrain**	**151.44**	**356**	PKP		**PKPbc**	**20 23 46.0**	**+0.3**
WTTA	**Wattenberg**	**151.47**	**349**	*i* PKiKP		**PKiKP**	**20 23 46.3**	**-0.1**
	comp=Z,19nm,0.5s,SNR=11							
MOTA	**Moosalm**	**151.48**	**350**	*i* PKiKP		**PKPbc**	**20 23 45.9**	**0.0**
	comp=Z,17nm,0.7s,SNR=10							
ALN	**Alexandroupoli**	**151.51**	**324**	P		**PKPbc**	**20 23 45.3**	**-0.6**
GOLH	**Golhisar**	**151.53**	**314**	*i* P		**PKPbc**	**20 23 46.6**	**+0.3**
GOLH	**Golhisar**	**151.53**

IL1	**Eielson Array**	**49.69**	**32**	*eP*	**P**	**20 14 20.6 +2.7**
ILAR	**Eielson Array**	**49.69**	**32**	P	**P**	**20 14 20.6 +2.7**
	0.5nm,0.8s,baz=272,slow=5.9,SNR=8.9					
ARU	**Arti**	**56.43**	**319**	*eP*	**P**	**20 15 08.3 +0.6**
	4.8nm,1.3s					
FITZ	**Fitzroy Crossi**	**56.63**	**198**	*eP*	**P**	**20 15 10.2 +0.8**
	76nm,1.9s					
PGC	**Sidney**	**66.53**	**46**	*eP*	**P**	**20 16 15.3 -0.7**
	15nm,0.6s					
NLWA	**Neilton Lookou**	**66.90**	**47**	*eP*	**P**	**20 16 18.6 +0.1**
	29nm,1.6s					
LTY	**Liberty**	**68.84**	**46**	*eP*	**P**	**20 16 29.6 -1.2**
	8.7nm,0.6s					

NIED ***18*** *20:14:00,38.00N×141.70E,h44km,Mw3.6 Best double couple: M₀2.62000×10¹⁴ NP1:φs208.00000°,δ35.00000°, λ123.00000°. NP2:φs350.00000°,δ61.00000°,λ69.00000°.*
IDC ***18*** *20:14:07.6±2.4,37.97N×142.33E,h0km,mb3.6/2, mb1 3.8/4,mb1mx3.4/53,mbtmp3.7/4,ML3.5/2,Error ellipse: s-maj=44.2km s-min=32.5km az=69.0*
JMA ***18*** *20:14:15.2±0.1,37.97N×141.67E,h50km±1km,M3.7*

ISC 18 20:14:10.6±2.1,37°95N±0.04°×141°77E±0.07°,h5km±12km, n17,σ1§32/31,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.60**	**327**	P	**Pn**	**20 14 27.0**	**+1.2**
JIO				S	**Sn**	**20 14 34.9**	**-1.0**
JMM	**Marumori**	**0.78**	**264**	P	**Pn**	**20 14 28.9**	**+0.7**
JMM				S	**Sb**	**20 14 38.4**	**+1.0**
JFK	**Kawauchi**	**0.92**	**231**	P	**Pn**	**20 14 31.0**	**+0.8**
JFK				S	**Sb**	**20 14 42.8**	**+1.2**
JOU	**Okura**	**0.96**	**296**	P	**Pn**	**20 14 31.6**	**+0.8**
JOU				S	**Sn**	**20 14 43.6**	**-1.3**
JMK	**Ichinoseki**	**1.09**	**337**	P	**Pn**	**20 14 33.6**	**+1.1**
JMK				S	**Sb**	**20 14 46.7**	**+0.3**
JFT	**Otama**	**1.22**	**250**	P	**Pn**	**20 14 35.5**	**+1.2**
JFT				S	**Sb**	**20 14 50.1**	**0.0**
JYS	**Shirataka**	**1.37**	**282**	P	**Pn**	**20 14 37.3**	**+0.9**
JYS				eS	**Sb**	**20 14 53.9**	**-0.7**
JYK	**Kaneyama**	**1.47**	**311**	P	**Pg**	**20 14 38.7**	**-0.1**
JYK				eS	**Sg**	**20 14 56.0**	**-1.8**
JOM	**Ohasama**	**1.56**	**346**	P	**Pn**	**20 14 40.5**	**+1.5**
JOM				eS	**Sn**	**20 14 59.5**	**-0.2**
JRG	**Rokugo**	**1.69**	**329**	P	**Pb**	**20 14 42.5**	**+0.3**
JRG				eS	**Sn**	**20 15 03.2**	**+0.3**
JFY	**Yanaizu**	**1.73**	**252**	P	**Pn**	**20 14 42.5**	**+1.2**
JYA	**Atsumi**	**1.74**	**292**	P	**Pn**	**20 14 42.3**	**+0.8**
JYA				S	**Sn**	**20 15 03.6**	**-0.4**
MJAR	**Matsushiro Arr**	**3.17**	**245**	Pn	**Pn**	**20 15 03.4**	**+2.2**
	2.6nm,0.3s,baz=67,slow=11,SNR=25						
MJAR				Sn	**Sb**	**20 15 48.0**	**+1.6**
	2.4nm,0.3s,baz=324,slow=16,SNR=5.0						
MAT	**Matsushiro**	**3.17**	**245**	P	**Pn**	**20 15 03.2**	**+2.0**
MAT				S	**Sn**	**20 15 39.2**	**-0.2**
JHJ	**Hachijo jima 2**	**5.09**	**199**	Pn	**Pn**	**20 15 29.1**	**+1.6**
	7.8nm,0.3s,baz=113,slow=7.7,SNR=4.1						
JHJ				Sn	**Sn**	**20 16 23.9**	**-2.7**
	7.4nm,0.3s,baz=72,slow=20,SNR=3.4						
MKAR	**Makanchi Array**	**43.88**	**301**	P	**P**	**20 22 18.8**	**+0.9**
	0.4nm,0.8s,baz=76,slow=7.7,SNR=3.9						
WRA	**Warramunga Arr**	**58.01**	**188**	P	**P**	**20 24 02.3**	**-2.1**
	1.1nm,0.8s,baz=5.8,slow=7.3,SNR=7.3						

JMA 18 20:33:53.2±0.2,38°49N×144°43E,h19km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.24**	**286**	P	Pn	20 34 30.4	+1.2
OFUJ				eS	Sb	20 34 58.4	-1.9
MIYJ	**Miyakonagasawa**	**2.30**	**299**	P	Pn	20 34 31.1	+1.0
MIYJ				S	Sn	20 34 59.1	+1.1
JMK	**Ichinoseki**	**2.55**	**281**	P	Pn	20 34 35.0	+1.4
JMK				eS	Sn	20 35 06.0	+1.9
JOM	**Ohasama**	**2.63**	**293**	P	Pn	20 34 36.2	+1.5
JOM				eS	Sn	20 35 08.7	+2.6
JANG	**Nango**	**2.94**	**311**	P	Pn	20 34 39.3	+0.4
JANG				eS	Sn	20 35 14.9	+1.3
JOU	**Okura**	**2.96**	**269**	P	Pn	20 34 41.0	+1.8
JOU				eS	Sn	20 35 16.1	+1.9
JRG	**Rokugo**	**3.10**	**288**	P	Pn	20 34 43.1	+2.1
JRG				eS	Sn	20 35 21.1	+3.6
JYK	**Kaneyama**	**3.21**	**279**	P	Pn	20 34 44.8	+2.1
JYK				eS	Sn	20 35 23.5	+3.1
JFT	**Otama**	**3.38**	**255**	P	Pn	20 34 46.6	+1.7
JAH	**Hinai**	**3.40**	**301**	P	Pn	20 34 47.1	+2.0
JAH				eS	Sn	20 35 27.3	+2.4
JTM	**Tenmabayashi**	**3.46**	**313**	P	Pn	20 34 48.0	+1.9
JTM				S	Sn	20 35 27.4	+0.8
JOT	**Ohata**	**3.89**	**319**	P	Pn	20 34 54.1	+2.2

IDC ***18*** *20:38:21.0±2.9,6.05S×147.58E,h0km,mb3.9/3, mb1 4.0/5,mb1mx3.5/38,mbtmp3.8/5,ML3.6/1,MS2.9/1, Ms1 2.9/1,ms1mx2.5/27,Error ellipse: s-maj=61.6km s-min=37.9km az=89.0*
ISCJB ***18*** *20:38:26.0±0.8,6.23S±0.08×147.77E±0.09,h63km, mb4.5/7,Error ellipse: s-maj=14.6km s-min=9.5km az=38.1*
NEIC ***18*** *20:38:26.9±0.9,6.25S×147.78E,h47km±9km,mb4.1/5, Error ellipse: s-maj=12.2km s-min=6.5km az=142.0*

ISC 18 20:38:28.0±0.9,6°24S±0.09°×147°8E±0.1°,h63km,n20, σ0§74/21,mb4.0/7,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.21**	**191**	Pn	**Pn**	**20 39 15.4**	**-0.7**
	7.5nm,0.3s,baz=339,slow=4.6,SNR=17						
PMG				Sn	**Sn**	**20 39 53.0**	**0.0**
	12nm,0.3s,baz=336,slow=21,SNR=5.7						
PMG	**Port Moresby**	**3.21**	**191**	*eP*n	**Pn**	**20 39 15.0**	**-1.0**
PMG				Sn	**Sn**	**20 39 53.0**	**0.0**
RABL	**Rabaul**	**4.79**	**65**	*eP*n	**Pn**	**20 39 37.0**	**-0.8**
COEN	**Coen**	**8.92**	**210**	*eP*n	**Pn**	**20 40 32.6**	**-1.6**
WRAB	**Tennant Creek**	**18.87**	**223**	*eP*	**P**	**20 42 42.7**	**-0.7**
	11nm,1.1s						
WB2	**Warramunga Arr**	**18.88**	**223**	*eP*	**P**	**20 42 42.7**	**-0.8**
WR1	**Warramunga Arr**	**18.89**	**223**	*eP*	**P**	**20 42 43.0**	**-0.5**
	20nm,1.6s						
WRA	**Warramunga Arr**	**18.89**	**223**	P	**P**	**20 42 43.0**	**-0.5**
	0.2nm,0.3s,baz=44,slow=12,SNR=12						
GUMO	**Guam**		**19.92**	**352**	LR	LR	20 49 13.9
	comp=Z,36nm,18.5s,baz=130,slow=33						
AS01	**Alice Springs**	**21.86**	**216**	*eP*	**P**	**20 43 15.6**	**0.0**
AS31	**Alice Springs**	**21.88**	**216**	*eP*	**P**	**20 43 15.8**	**-0.1**
	1.6nm,1.1s						
ASAR	**Alice Springs**	**21.89**	**216**	P	**P**	**20 43 16.0**	**+0.1**
	1.9nm,0.6s,baz=55,slow=8.7,SNR=32						
FITZ	**Fitzroy Crossi**	**24.63**	**239**	P	**P**	**20 43 43.0**	**+0.2**
	1.2nm,0.3s,baz=53,slow=8.8,SNR=16						
FITZ	**Fitzroy Crossi**	**24.63**	**239**	*eP*	**P**	**20 43 43.2**	**+0.4**
	11nm,1.1s						
STKA	**Stephens Creek**	**26.16**	**192**	P	**P**	**20 43 57.9**	**+1.4**
	3.7nm,1.1s,baz=339,slow=14,SNR=2.9						
STKA	**Stephens Creek**	**26.16**	**192**	*eP*	**P**	**20 43 56.7**	**+0.2**
	4.5nm,1.6s						
MYLDM	**Lahad Datu**	**31.38**	**291**	*eP*	**P**	**20 44 43.8**	**+0.6**
	46nm,1.5s						
PYZ	**Puysegur Point**	**42.99**	**161**	*eP*	**P**	**20 46 21.9**	**+0.7**
	289nm,1.5s						
RAR	**Rarotonga**	**52.80**	**112**	*eP*	**P**	**20 47 37.9**	**+0.6**
	286nm,1.8s						
TORD	**Torodi Ar. Bea**	**145.93**	**284**	PKPbc	**PKPbc**	**20 58 01.9**	**+0.3**
	0.8nm,0.7s,baz=74,slow=3.3,SNR=7.0						

ISCJB ***18*** *20:40:27.8±0.2,62.09N±0.02×148.31W±0.03,h54km±2km, mb4.3/62,MS3.4/7,Error ellipse: s-maj=2.9km s-min=2.5km az=15.5*
NEIC ***18*** *20:40:29.4,62.08N×148.26W,h29km,mb4.5/40,MW4.1, ML4.0(AEIC),Moment Tensor Solution. s47 Moment tensor: Scale 10¹⁵Nm; Mrr-1.70; Mθθ1.02; Mφφ0.68; Mrθ-0.24; Mrφ0.89; Mθφ0.62; Best double couple: M₀1.90000×10¹⁵ NP1:φs212.00000°,δ51.00000°, λ-114.00000°. NP2:φs68.00000°,δ44.00000°, λ-63.00000°. Principal axes: T 1.7700, Plg4.0000°, Azm319.0000°; N 0.1600, Plg18.0000°, Azm228.0000°; P -1.9200, Plg71.0000°, Azm60.0000°; After AEIC.*

2011 JUN

NEIC Felt [II] at Palmer. Also felt at Girdwood and Valdez.
IDC ***18*** *20:40:32.1±2.5,62.25N×148.38W,h74km±20km,mb3.7/22, mb1 3.8/25,mb1mx3.7/50,mbtmp4.0/25,MS3.2/9, Ms1 3.2/9,ms1mx2.9/42 Error ellipse: s-maj=19.0km s-min=12.7km az=30.0*

ISC 18 20:40:28.3±0.7,62°09N±0°03'×148°32W±0°03,h42km±7km, n213,σ1§24/225,mb4.3/62,MS3.3/7,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SML	**Sawmill**	**0.28**	**181**	*eP*n	**Pn**	**20 40 36.3**	**-0.2**
SML				*eS*n	**Sn**	**20 40 42.3**	**0.0**
SML				*eS*n	Sn	20 40 42.5	+0.2
GHO	**Glory Hole Cre**	**0.43**	**222**	*eP*n	**Pn**	**20 40 37.9**	**-0.3**
GHO				*eS*n	**Sn**	**20 40 45.3**	**+0.1**
SCM	**Sheep Creek Mo**	**0.53**	**118**	*eP*n	**Pn**	**20 40 39.2**	**-0.4**
SCM				*eS*n	**Sn**	**20 40 47.5**	**-0.1**
SCM				*eS*n	Sn	20 40 48.1	+0.5
PMR	**Palmer**	**0.63**	**218**	*eP*n	**Pn**	**20 40 40.2**	**-0.6**
PMR				*eS*n	**Sn**	**20 40 49.3**	**-0.4**
KNK	**Knik Glacier**	**0.68**	**186**	*eP*n	**Pn**	**20 40 41.1**	**-0.4**
KNK				*eS*n	**Sn**	**20 40 51.2**	**+0.2**
CUT	**Chulitna**	**0.97**	**290**	*eP*n	**Pn**	**20 40 45.6**	**+0.3**
HUR	**Hurricane**	**1.08**	**326**	*eP*n	**Pn**	**20 40 47.4**	**+0.4**
RC01	**Rabbit Creek A**	**1.21**	**215**	*eP*n	**Pn**	**20 40 49.4**	**+0.7**
RC01				*eS*n	**Sn**	**20 41 06.2**	**+2.3**
FIB	**Fire Island**	**1.28**	**225**	*eP*n	**Pn**	**20 40 51.1**	**+1.5**
KLU	**Klutina**	**1.29**	**117**	*eP*n	**Pn**	**20 40 49.7**	**-0.1**
KLU				*eS*n	**Sn**	**20 41 06.6**	**+0.8**
SUA	**Susitna One**	**1.31**	**243**	P	**Pn**	**20 40 50.9**	**+0.7**
PS11	**TAPS Pump St11**	**1.34**	**89**	*eP*n	**Pn**	**20 40 51.9**	**+1.4**
RND	**Reindeer**	**1.35**	**350**	*eP*n	**Pn**	**20 40 50.8**	**+0.2**
VLZ	**Valdez**	**1.35**	**134**	*eP*n	**Pn**	**20 40 50.0**	**-0.6**
VMT	**TAPS Tl Valdez**	**1.37**	**136**	*eP*n	**Pn**	**20 40 50.5**	**-0.4**
VMT				*eS*n	**Sn**	**20 41 09.9**	**+2.1**
DIV	**Divide**	**1.55**	**127**	*eP*n	**Pn**	**20 40 53.0**	**-0.4**
DIV				*eS*n	**Sn**	**20 41 13.8**	**+1.4**
DIV				S	**Sn**	**20 41 14.0**	**+1.6**
PAX	**Paxson**	**1.59**	**55**	*eP*n	**Pn**	**20 40 55.7**	**+1.7**
PAX				*eS*n	**Sn**	**20 41 16.6**	**+3.2**
TRF	**Thorofare Moun**	**1.64**	**327**	*eP*n	**Pn**	**20 40 55.1**	**+0.4**
MCK	**McKinley**	**1.68**	**351**	*eP*n	**Pn**	**20 40 56.0**	**+0.9**
STLK	**Strandline Lak**	**1.77**	**252**	P	**Pn**	**20 40 58.0**	**+1.5**
PS10	**TAPS Pump St10**	**1.78**	**40**	*eP*n	**Pn**	**20 40 58.6**	**+2.1**
SLKM	**Skilak Lake**	**1.83**	**211**	*eP*n	**Pn**	**20 40 58.4**	**+1.2**
KTH	**Kantishna Hill**	**1.90**	**321**	*eP*n	**Pn**	**20 40 59.0**	**+0.8**
HIN	**Hinchinbrook I**	**1.91**	**152**	*eP*n	**Pn**	**20 40 59.0**	**+0.7**
PPLA	**Purkeypile**	**1.97**	**296**	*eP*n	**Pn**	**20 41 00.4**	**+1.2**
EYAK	**Cordova Ski Ar**	**1.98**	**140**	*eP*n	**Pn**	**20 41 00.0**	**+0.8**
SPU	**Mount Spurr**	**2.00**	**245**	*eP*n	**Pn**	**20 41 00.9**	**+1.3**
SPCR	**Spurr Chakacha**	**2.06**	**246**	P	**Pn**	**20 41 01.8**	**+1.4**
SEW	**Seward**	**2.07**	**196**	*eP*n	**Pn**	**20 41 01.2**	**+0.8**
BMRM	**Bremner River**	**2.10**	**121**	*eP*n	**Pn**	**20 41 01.0**	**0.0**
CKL	**Chakachamna La**	**2.12**	**247**	P	**Pn**	**20 41 02.7**	**+1.4**
BWN	**Browne**	**2.16**	**347**	*eP*n	**Pn**	**20 41 02.4**	**+0.7**
SPWE	**Spurr West**	**2.18**	**250**	P	**Pn**	**20 41 03.9**	**+1.8**
MENT	**Mentasta**	**2.30**	**66**	*eP*n	**Pn**	**20 41 04.8**	**+1.1**
BPAW	**Bear Paw Mtn.**	**2.36**	**330**	*eP*n	**Pn**	**20 41 04.9**	**+0.5**
WRH	**Wood River Hil**	**2.40**	**2**	*eP*n	**Pn**	**20 41 05.6**	**+0.6**
HDA	**Harding Lake**	**2.41**	**14**	*eP*n	**Pn**	**20 41 06.3**	**+1.2**
RAGM	**Ragged Mountai**	**2.45**	**132**	*eP*n	**Pn**	**20 41 06.1**	**+0.3**
VRDI	**Verde Repeater**	**2.48**	**108**	P	**Pn**	**20 41 06.5**	**+0.3**
DOT	**Dot Lake**	**2.50**	**49**	*eP*n	**Pn**	**20 41 07.6**	**+1.2**
PS08	**TAPS Pump Stn8**	**2.56**	**15**	*eP*n	**Pn**	**20 41 08.5**	**+1.4**
MCARA	**McCarthy VSAT**	**2.62**	**103**	P	**Pn**	**20 41 09.0**	**+1.0**
RDJH	**Redoubt Jeurge**	**2.63**	**237**	P	**Pn**	**20 41 10.3**	**+2.0**
BRLK	**Bradley Lake**	**2.65**	**209**	*eP*n	**Pn**	**20 41 09.1**	**+0.7**
RSO	**Redoubt South**	**2.69**	**235**	*eP*n	**Pn**	**20 41 10.2**	**+1.0**
NCT	**North Crescent**	**2.70**	**237**	*eP*n	**Pn**	**20 41 10.9**	**+1.7**
RDWB	**Redoubt West**	**2.71**	**236**	P	**Pn**	**20 41 10.4**	**+1.0**
IL1	**Eielson Array**	**2.77**	**13**	*eP*n	**Pn**	**20 41 11.6**	**+1.5**
ILAR	**Eielson Array**	**2.77**	**13**	P	**Pn**	**20 41 11.9**	**+1.9**
	31nm,0.3s,baz=195,slow=14,SNR=1396						
ILAR				S	**Sn**	**20 41 43.9**	**+1.7**
	79nm,0.3s,baz=196,slow=20,SNR=22						
ILAR				LR	LR	20 42 29.8	
	comp=Z,259nm,20.1s,baz=198,slow=45						
ILB	**Eielson Array**	**2.77**	**13**	*eP*n	**Pn**	**20 41 11.5**	**+1.4**
COLA	**College**	**2.81**	**4**	*eP*n	**Pn**	**20 41 11.9**	**+1.4**
BERG	**Berg Lake**	**2.81**	**125**	*eP*n	**Pn**	**20 41 11.0**	**+0.4**
NICHA	**Nichawak Mount**	**2.81**	**129**	P	**Pn**	**20 41 11.2**	**+0.5**
CRQM	**Cirque**	**2.83**	**116**	*eP*n	**Pn**	**20 41 11.5**	**+0.5**
MID	**Middleton Isla**	**2.84**	**159**	*eP*n	**Pn**	**20 41 12.5**	**+1.4**
MDM	**Murphy Dome**	**2.88**	**1**	*eP*n	**Pn**	**20 41 12.2**	**+0.5**
HOM	**Homer**	**2.93**	**215**	*eP*n	**Pn**	**20 41 14.2**	**+2.0**
PTPK	**Patty Peak**	**2.94**	**105**	P	**Pn**	**20 41 13.6**	**+1.1**
CNPM	**China Poot**	**2.94**	**210**	*eP*n	**Pn**	**20 41 13.8**	**+1.4**
KHIT	**Khitrov Hills**	**2.95**	**122**	P	**Pn**	**20 41 13.3**	**+0.6**
TGL	**Tana Glacier**	**2.96**	**114**	*eP*n	**Pn**	**20 41 13.2**	**+0.4**
SUCK	**Suckling Hills**	**2.99**	**130**	P	**Pn**	**20 41 13.7**	**+0.6**
GRIN	**Grindle Hills**	**3.02**	**125**	P	**Pn**	**20 41 14.2**	**+0.6**
BALM	**Baldy**	**3.05**	**108**	*eP*n	**Pn**	**20 41 14.3**	**+0.3**
KIAG	**Kiagna River**	**3.09**	**1**	P	**Pn**	**20 41 14.7**	**+0.1**
MLY	**Manley**	**3.15**	**341**	*eP*n	**Pn**	**20 41 15.8**	**+0.4**
BCA3	**Beaver Creek A**	**3.18**	**69**	*eP*n	**Pn**	**20 41 16.8**	**+1.0**
ISLE	**Juniper Island**	**3.24**	**115**	P	**Pn**	**20 41 16.9**	**+0.2**
KULT	**Kultieth River**	**3.28**	**122**	P	**Pn**	**20 41 17.7**	**+0.5**
BARK	**Barkley Ridge**	**3.28**	**118**	*eP*n	**Pn**	**20 41 17.7**	**+0.4**
BARN	**Barnard Glacie**	**3.35**	**105**	*eP*n	**Pn**	**20 41 19.0**	**+0.8**
OPT	**Oil Point**	**3.43**	**227**	*eP*n	**Pn**	**20 41 21.2**	**+2.1**
GRNC	**Granite Creek**	**3.44**	**110**	P	**Pn**	**20 41 19.7**	**+0.2**
CTGM	**Chitina Glacie**	**3.53**	**106**	*eP*n	**Pn**	**20 41 21.5**	**+0.8**
SVW2	**Sparrevohn**	**3.61**	**257**	*eP*n	**Pn**	**20 41 22.1**	**+0.5**
TT01	**Tatalina**	**3.67**	**286**	*eP*n	**Pn**	**20 41 23.0**	**+0.6**
TTA	**Tatalina**	**3.67**	**287**	*eP*n	**Pn**	**20 41 23.5**	**+1.1**
AUE	**Augustine Isla**	**3.69**	**224**	*eP*n	**Pn**	**20 41 24.6**	**+1.9**
AUL	**Augustine Lava**	**3.70**	**225**	P	**Pn**	**20 41 24.7**	**+1.9**
AUSE	**Augustine SEas**	**3.72**	**224**	P	**Pn**	**20 41 25.0**	**+1.9**
AUI	**Augustine Isla**	**3.73**	**225**	P	**Pn**	**20 41 25.4**	**+2.1**
LOGN	**Logan Glacier**	**3.73**	**107**	P	**Pn**	**20 41 24.5**	**+1.0**
RKAV	**Rock Avalanche**	**3.82**	**115**	P	**Pn**	**20 41 25.0**	**+0.3**
PS06	**TAPS Pump Stn6**	**3.83**	**351**	*eP*n	**Pn**	**20 41 26.4**	**+1.7**
TABL	**Table Mountain**	**3.84**	**112**	P	**Pn**	**20 41 25.1**	**+0.1**
CDD	**Cape Douglas**	**4.12**	**222**	P	**Pn**	**20 41 30.1**	**+1.5**
MCNL	**McNeil River**	**4.15**	**228**	P	**Pn**	**20 41 31.0**	**+1.9**
EGAK	**Eagle**	**4.20**	**47**	*eP*n	**Pn**	**20 41 30.9**	**+1.3**
FOPK	**Fourpeaked Vol**	**4.21**	**220**	P	**Pn**	**20 41 31.0**	**+1.2**
DAWY	**Dawson**	**4.52**	**60**	*eP*n	**Pn**	**20 41 35.3**	**+1.2**
IM3	**Indian Mountai**	**4.58**	**331**	P	**Pn**	**20 41 35.8**	**+0.9**
FYU	**Fort Yukon**	**4.69**	**15**	*eP*n	**Pn**	**20 41 38.6**	**+2.2**
KDAK	**Kodiak Island**	**4.82**	**208**	*eP*n	**Pn**	**20 41 37.8**	**-0.4**
PS05	**TAPS Pump Stn5**	**4.85**	**349**	*eP*n	**Pn**	**20 41 40.7**	**+2.1**
YKU2	**Yakutat**	**4.96**	**118**	*eP*n	**Pn**	**20 41 39.2**	**-0.9**
KABR	**Katmai Barrier**	**5.18**	**223**	P	**Pn**	**20 41 44.0**	**+0.8**
KELA	**Mount Kelaz**	**5.20**	**229**	P	**Pn**	**20 41 44.5**	**+1.0**
COLD	**Coldfoot**	**5.22**	**352**	*eP*n	**Pn**	**20 41 44.9**	**+1.1**
HYT	**Haines Junctio**	**5.34**	**99**	*eP*n	**Pn**	**20 41 46.0**	**+0.5**
OHAK	**Old Harbor**	**5.49**	**209**	*eP*n	**Pn**	**20 41 46.0**	**-0.8**
BM3	**Burnt Mountain**	**5.58**	**15**	*eP*n	**Pn**	**20 41 50.0**	**+1.3**
DHAK	**Deception Hill**	**5.81**	**117**	*eP*n	**Pn**	**20 41 52.3**	**+0.4**
SKAG	**Skagway**	**6.88**	**107**	*eP*n	**Pn**	**20 42 06.6**	**+0.1**
CHGN	**Chignik**	**7.77**	**226**	*eP*n	**Pn**	**20 42 18.4**	**-0.2**
INK	**Inuvik**	**8.79**	**38**	P	**Pn**	**20 42 33.8**	**+1.3**
	0.7nm,0.3s,baz=244,slow=18,SNR=18						
INK				S	**Sn**	**20 44 09.8**	**-0.2**
	1.2nm,0.3s,baz=331,slow=20,SNR=5.7						
INK				LR	LR	20 46 11.2	
	comp=Z,88nm,18.7s,baz=207,slow=39						
INK	**Inuvik**	**8.79**	**38**	*eP*n	**Pn**	**20 42 33.5**	**+1.0**
INK				*eS*n	**Sn**	**20 44 06.6**	**-3.5**
SDPT	**Sand Point**	**9.24**	**229**	*eP*n	**Pn**	**20 42 38.0**	**-0.8**
TNA	**Tin City**	**9.32**	**300**	*eP*n	**Pn**	**20 42 42.1**	**+2.3**
TNA				*eS*n	**Sn**	**20 44 22.5**	**-0.6**
DLBC	**Dease Lake**	**9.79**	**104**	LR	LR	20 46 34.4	
	comp=Z,133nm,19.8s,baz=334,slow=37						
DLBC	**Dease Lake**	**9.79**	**104**	*eP*n	**Pn**	**20 42 45.6**	**-0.7**
WRAK	**Wrangell Islan**	**9.94**	**118**	*eP*n	**Pn**	**20 42 48.8**	**+0.4**
CRAG	**Craig**	**10.29**	**123**	*eP*n	**Pn**	**20 42 52.4**	**-0.7**
GAMB	**Gambell**	**10.77**	**289**	*eP*n	**Pn**	**20 43 01.7**	**+2.1**
YKB5	**Yellowknife Ar**	**15.59**	**74**	*eP*n	**Pn**	**20 44 03.2**	**-1.5**
YKA	**Yellowknife Ar**	**15.59**	**74**	P	**Pn**	**20 44 05.6**	**+1.0**
	0.1nm,0.3s,baz=282,slow=10,SNR=11						
YKA				LR	LR	20 50 22.5	
	comp=Z,4.9nm,19.8s,baz=0.0,slow=38						
NEW	**Newport**		**22.27**	**114**	P	**P**	**20 45 23.9**	**+2.4**
	6.3nm,1.0s,baz=40,slow=5.0,SNR=4.3						
NEW				LR	LR	20 53 59.3	
	comp=Z,64nm,18.2s,baz=298,slow=36						
NEW	**Newport**		**22.27**	**114**	*eP*	**P**	**20 45 21.7**	**+0.3**
	6.1nm,0.9s						
RES	**Resolute Bay**	**22.31**	**34**	P	**P**	**20 45 21.4**	**-0.2**
	3.1nm,0.5s,baz=232,slow=7.8,SNR=5.2						
RES	**Resolute Bay**	**22.31**	**34**	*eP*	**P**	**20 45 22.4**	**+0.7**
	6.6nm,0.9s						
YBMT	**Yellow Bay**	**23.93**	**111**	*eP*	**P**	**20 45 39.1**	**+0.9**
FCC	**Fort Churchill**	**26.31**	**73**	*eP*	**P**	**20 45 59.3**	**-0.2**
	9.7nm,1.1s						
SEY	**Seymchan**		**26.55**	**298**	P	**P**	**20 46 03.5**	**+1.8**
	2.9nm,0.6s,baz=62,slow=19,SNR=5.5						
YHH	**Holmes Hill**	**27.69**	**111**	*eP*	**P**	**20 46 13.7**	**+1.2**
	2.2nm,0.7s						
IMW	**Indian Meadow**	**28.36**	**112**	*eP*	**P**	**20 46 19.4**	**+1.0**
	4.4nm,0.8s						
FXWY	**Fox Creek**	**28.53**	**113**	*eP*	**P**	**20 46 19.8**	**-0.1**
	1.6nm,0.8s						
TPAW	**Teton Pass**	**28.68**	**113**	*eP*	**P**	**20 46 21.3**	**0.0**
	13nm,1.6s						
MA2	**Magadan**	**28.84**	**293**	LR	LR	20 58 47.2	
	comp=Z,39nm,18.9s,baz=130,slow=38						
AHID	**Auburn Hatcher**	**29.20**	**114**	*eP*	**P**	**20 46 25.2**	**-0.6**
	3.4nm,0.5s						
JSFB	**Stanford Teles**	**29.53**	**135**	*eP*	**P**	**20 46 30.9**	**+2.5**
JSFB				*eP*cP	**PcP**	**20 49 32.3**	**-0.4**
BW06	**Boulder Array**	**29.87**	**112**	*eP*	**P**	**20 46 32.9**	**+1.2**
	1.9nm,0.8s						
PD31	**Pinedale Array**	**29.87**	**112**	*eP*	**P**	**20 46 33.0**	**+1.3**
PDAR	**Pinedale Array**	**29.87**	**112**	P	**P**	**20 46 33.3**	**+1.6**
	1.4nm,0.9s,baz=297,slow=6.5,SNR=8.3						
BGU	**Big Grassy Mou**	**29.91**	**119**	*eP*	**P**	**20 46 33.0**	**+1.0**
	1.4nm,0.9s						
TIXI	**Tiksi**		**31.18**	**323**	P	**P**	**20 46 41.4**	**-1.3**
	1.2nm,0.3s,baz=74,slow=4.2,SNR=4.2						
TIXI				PcP	**PcP**	**20 49 35.3**	**-1.1**
	1.2nm,0.3s,baz=30,slow=3.1,SNR=4.0						
RSSD	**Black Hills**	**31.27**	**104**	*eP*	**P**	**20 46 44.7**	**+0.7**
	2.5nm,0.6s						
MSU	**Marysvale**	**32.30**	**120**	*eP*	**P**	**20 46 55.2**	**+2.0**
SRU	**San Rafael Swe**	**32.47**	**117**	*eP*	**P**	**20 46 55.9**	**+1.3**
	3.6nm,0.7s						
O20A	**White River Ci**	**32.59**	**114**	*eP*	**P**	**20 46 57.0**	**+1.3**
	4.5nm,1.0s						
PHWY	**Pilot Hill**	**32.85**	**109**	*eP*	**P**	**20 46 58.9**	**+0.8**
	8.5nm,0.7s						
N23A	**Red Feather La**	**32.97**	**110**	*eP*	**P**	**20 46 59.5**	**+0.5**
	4.7nm,1.2s						
W13A	**Hualapai Mount**	**34.58**	**125**	*eP*	**P**	**20 47 12.8**	**-0.3**
	2.3nm,0.9s						
Q24A	**Divide**	**34.90**	**111**	*e

comp=Z,13nm,1.3s
CM31 Chiang Mai Arr 83.97 298 *e*P **P 20 52 53.3 -0.7**
CMAR Chiang Mai Arr 83.97 298 P **P 20 52 53.6 -0.3**
comp=Z,0.9nm,0.8s,baz=20,slow=6.8,SNR=5.3
CMAR LR LR 21 32 54.7
comp=Z,9.3nm,18.8s,baz=205,slow=38
CTA Charters Tower 96.74 239 LR LR 21 33 54.3
comp=Z,161nm,20.6s,slow=33
BOSA Boshof 146.25 10 PKPbc **PKPbc 21 00 02.5 -1.3**
comp=Z,2.1nm,0.5s,baz=6.0,slow=3.4,SNR=7.5

NIED ***18*** *20:46:00,37.˚40N×143.˚50E,h5km,Mw3.6 Best double couple: M₀2.60000×10¹⁴ NP1:φ₀25.00000°, δ26.00000°, λ-85.00000°. NP2:φ₀199.00000°, δ64.00000°, λ-93.00000°.*
IDC ***18*** *20:46:34.1±1.2,37.˚31N×143.˚89E,h0km,mb3.6/3, mb1 3.7/7,mb1mx3.4/47,mbtmp3.6/7,ML3.5/4,MS2.5/2, Ms1 2.5/2,ms1mx2.2/35,Error ellipse: s-maj=34.5km s-min=22.1km az=113.0*
ISCJB ***18*** *20:46:37.7±0.7,37.˚34N±0.˚04×143.˚55E±0.˚06,h33km, mb3.7/3,Error ellipse: s-maj=6.3km s-min=5.4km az=6.9*
JMA ***18*** *20:46:38.9±0.2,37.˚36N×143.˚46E,h45km,M3.6*
ISC 18 20:46:38.6±1.2,37.˚31N±0.˚05×143.˚61E±0.˚08,h35km,n22, σ1°81/37,mb3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.12**	**303**	P		**Pn**	**20 47 11.4**	**-0.2**
JIO				S		**Sn**	**20 47 34.6**	**-2.1**
JFK	**Kawauchi**	**2.18**	**272**	P		**Pn**	**20 47 12.1**	**-0.3**
JFK				eS		**Sn**	**20 47 36.3**	**-2.0**
ONAJ	**Iwakimizuishiy**	**2.26**	**266**	P		**Pn**	**20 47 13.7**	**+0.2**
ONAJ				eS		**Sn**	**20 47 38.2**	**-1.9**
JMM	**Marumori**	**2.31**	**285**	P		**Pn**	**20 47 13.6**	**-0.5**
JMM				S		**Sn**	**20 47 39.5**	**-1.8**
JMK	**Ichinoseki**	**2.50**	**312**	P		**Pn**	**20 47 16.6**	**-0.1**
JMK				S		**Sn**	**20 47 45.1**	**-0.9**
JFT	**Otama**	**2.62**	**276**	P		**Pn**	**20 47 19.2**	**+0.8**
JFT				eS		**Sn**	**20 47 48.9**	**0.0**
JOM	**Ohasama**	**2.83**	**321**	P		**Pn**	**20 47 21.3**	**+0.1**
JOM				S		**Sn**	**20 47 52.4**	**-1.7**
JYK	**Kaneyama**	**3.03**	**303**	P		**Pn**	**20 47 24.4**	**+0.4**
JYK				eS		**Sn**	**20 47 58.8**	**-0.2**
BSO1	**Boso 1**	**3.41**	**220**	P		**Pn**	**20 47 29.3**	**+0.6**
JAG	**Ashikaga**	**3.45**	**256**	P		**Pn**	**20 47 30.4**	**+0.6**
JAG				S		**Sn**	**20 48 07.7**	**-1.8**
JANG	**Nango**	**3.47**	**332**	P		**Pn**	**20 47 30.9**	**+0.8**
JANG				S		**Sn**	**20 48 07.7**	**-2.2**
JRY	**Ryogami san**	**4.00**	**253**	P		**Pn**	**20 47 38.1**	**+0.7**
JRY				eS		**Sn**	**20 48 20.1**	**-3.0**
JOD2	**Odawara 2**	**4.19**	**242**	P		**Pn**	**20 47 41.2**	**+1.2**
JOD2				eS		**Sn**	**20 48 25.3**	**-2.4**
MJAR	**Matsushiro Arr**	**4.40**	**262**	Pn		**Pn**	**20 47 44.6**	**+1.8**
	2.8nm,0.3s,baz=89,slow=15,SNR=32							
MJAR				Sn		**Sn**	**20 48 34.2**	**+1.3**
	1.3nm,0.3s,baz=7.6,slow=28,SNR=5.6							
MJAR				LR		LR	20 49 37.3	
	comp=Z,38nm,18.5s,baz=80,slow=40							
MAT	**Matsushiro**	**4.40**	**262**	P		**Pn**	**20 47 44.9**	**+2.0**
MAT				S		**Sn**	**20 48 33.2**	**+0.3**
JHJ	**Hachijo jima 2**	**5.23**	**218**	Pn		**Pn**	**20 47 53.2**	**-1.0**
	6.4nm,0.3s,baz=107,slow=17,SNR=5.1							
JHJ				Sn		**Sn**	**20 48 47.9**	**-5.4**
	15nm,0.3s,baz=65,slow=23,SNR=6.0							
ASAJ	**Asahikawa**	**6.84**	**354**	Pn		**Pn**	**20 48 17.4**	**+1.0**
	1.3nm,0.3s,baz=218,slow=8.5,SNR=20							
ASAJ				Sn		**Sn**	**20 49 29.9**	**-3.1**
	0.3nm,0.3s,baz=64,slow=29,SNR=6.0							
JCJ	**Chichijima**	**10.26**	**187**	Pn		Pn	20 48 58.3	-5.0
	1.5nm,0.3s,baz=274,slow=19,SNR=2.5							
KSRS	**Korea Array**	**12.48**	**275**	Pn		**Pn**	**20 49 36.9**	**+3.2**
	0.1nm,0.3s,baz=82,slow=14,SNR=3.6							
KSRS				LR		LR	20 54 01.8	
	comp=Z,32nm,18.9s,baz=144,slow=35							
ILAR	**Eielson Array**	**48.32**	**33**	P		**P**	**20 55 15.0**	**-1.2**
	0.5nm,0.7s,baz=268,slow=6.7,SNR=6.6							
WRA	**Warramunga Arr**	**57.61**	**190**	P		**P**	**20 56 26.3**	**+1.2**
	0.6nm,0.5s,baz=10,slow=7.3,SNR=6.7							
ASAR	**Alice Springs**	**61.34**	**190**	P		**P**	**20 56 52.4**	**+1.6**
	0.3nm,0.5s,baz=1.0,slow=6.7,SNR=5.8							

JMA ***18*** *21:14:03.1±0.2,21.˚96N×121.˚57E,h32km*
TAP ***18*** *21:14:04.1,22.˚06N×121.˚47E,h7km±1km,ML3.0,C*
ISC 18 21:14:03.0±1.2,21.˚99N±0.˚05×121.˚56E±0.˚03,h19km±3km, n38,σ0°90/74,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.05**	**346**	*i* P		**Pg**	**21 14 06.8**	**+0.2**
	baz=103							
LAY				S		**Sg**	**21 14 08.5**	**-0.5**
	baz=103							
TSEB	**Hengchuen, Pin**	**0.62**	**262**	P		**Pn**	**21 14 16.5**	**-0.3**
	baz=254							
TSEB				S		**Sn**	**21 14 26.1**	**-0.1**
	baz=254							
TWK1	**Hengchun**	**0.70**	**266**	P		**Pg**	**21 14 16.9**	**-0.1**
	baz=259							
TWK1				S		**Sg**	**21 14 26.3**	**-0.1**
	baz=259							
TAW	**Tawu**	**0.72**	**301**	P		**Pg**	**21 14 17.3**	**+0.1**
	baz=299							
TAW				eS		**Sg**	**21 14 26.5**	**-0.3**
	baz=299							
HEN	**Hengchun**	**0.77**	**271**	*e*P		**Pg**	**21 14 18.1**	**0.0**
	baz=265							
HEN				eS		**Sn**	**21 14 28.7**	**-1.1**
	baz=265							
EAST	**Anshuo**	**0.77**	**301**	P		**Pg**	**21 14 17.8**	**-0.3**
	baz=299							
EAST				S		**Sg**	**21 14 27.5**	**-1.0**
	baz=299							
ECL	**Taimali**	**0.82**	**317**	*e*P		**Pb**	**21 14 18.6**	**-0.2**
	baz=318							
ECL				eS		**Sb**	**21 14 29.2**	**-0.3**
	baz=318							
TWG	**Pinlang**	**0.94**	**331**	P		**Pn**	**21 14 21.3**	**+0.1**
	baz=334							
TWG				S		**Sg**	**21 14 33.4**	**-0.5**
	baz=334							
SCZT	**Fangliau**	**0.95**	**294**	*e*P		**Pg**	**21 14 22.2**	**+0.6**
	baz=291							
SCZT				eS		**Sn**	**21 14 34.7**	**+0.4**
	baz=291							
CHKT	**Chengkung**	**1.12**	**351**	*e*P		**Pg**	**21 14 24.8**	**+0.1**
	baz=354							
CHKT				eS		**Sb**	**21 14 37.4**	**-0.5**
	baz=354							
SSD	**Sandimen**	**1.14**	**311**	*e*P		**Pg**	**21 14 25.4**	**+0.2**
	baz=311							
SSD				eS		**Sb**	**21 14 38.1**	**-0.5**
	baz=311							
ELDTW	**Lidau**	**1.29**	**337**	*e*P		**Pb**	**21 14 27.0**	**+0.2**
	baz=339							
TWM1	**Shoushan**	**1.34**	**308**	*e*P		**Pg**	**21 14 29.2**	**+0.3**
	baz=308							
TWM1				eS		**Sb**	**21 14 44.7**	**+0.3**
	baz=308							
TWF1	**Yuli**	**1.38**	**350**	*e*P		**Pb**	**21 14 28.5**	**+0.4**
	baz=353							
TWF1				eS		**Sn**	**21 14 44.8**	**0.0**
	baz=353							
STYT	**Tauyuan**	**1.38**	**328**	*e*P		**Pb**	**21 14 28.8**	**+0.5**
	baz=329							
STYT				eS		**Sb**	**21 14 45.9**	**+0.3**
	baz=329							
SGST	**Jiashian**	**1.41**	**320**	*e*P		**Pg**	**21 14 31.1**	**+0.8**
	baz=321							
SGST				eS		**Sg**	**21 14 48.9**	**0.0**
	baz=321							
EHY	**Hungye**	**1.52**	**352**	*e*P		**Pn**	**21 14 30.1**	**+0.8**
	baz=354							
EHY				eS		**Sb**	**21 14 49.6**	**0.0**
	baz=354							
CHN1	**Nanshi**	**1.52**	**321**	*e*P		**Pb**	**21 14 31.4**	**+0.7**
	baz=322							
CHN1				eS		**Sg**	**21 14 50.9**	**-1.4**
	baz=322							
WTP	**Ta-pu**	**1.52**	**325**	*e*P		**Pb**	**21 14 31.2**	**+0.5**
	baz=326							
WTP				eS		**Sb**	**21 14 50.5**	**+0.8**
	baz=326							
YUS	**Yu-Shan**	**1.59**	**339**	*e*P		**Pb**	**21 14 32.7**	**+0.5**
	baz=341							
YUS				eS		**Sb**	**21 14 51.3**	**-0.7**
	baz=341							
CHN4	**Tsaushan**	**1.62**	**327**	*e*P		**Pb**	**21 14 33.2**	**+0.9**
	baz=327							
CHN4				eS		**Sg**	**21 14 54.1**	**-1.4**
	baz=327							
ALS	**Alishan**	**1.67**	**335**	*e*P		**Pb**	**21 14 33.4**	**+0.1**
	baz=337							
ALS				eS		**Sg**	**21 14 55.5**	**-1.4**
	baz=337							
CHN5	**Tsauling**	**1.79**	**333**	*e*P		**Pb**	**21 14 35.9**	**+0.5**
	baz=334							
CHN5				eS		**Sb**	**21 14 58.1**	**+0.6**
	baz=334							
SMLT	**Sun Moon Lake**	**1.98**	**342**	*e*P		**Pb**	**21 14 38.6**	**+0.1**
	baz=344							
SMLT				eS		**Sb**	**21 15 03.6**	**+0.8**
	baz=344							
TYC	**Yuchr**	**2.01**	**341**	*e*P		**Pb**	**21 14 38.8**	**-0.2**
	baz=343							
TYC				eS		**Sb**	**21 15 03.5**	**-0.1**
	baz=343							
WHF	**Hehuan Shan**	**2.16**	**353**	*e*P		**Pn**	**21 14 39.9**	**+1.5**
	baz=354							
WHF				eS		**Sb**	**21 15 08.5**	**+0.2**
	baz=354							
TWT	**Tachien**	**2.28**	**351**	*e*P		**Pb**	**21 14 43.3**	**-0.4**
	baz=352							
TWT				eS		**Sb**	**21 15 10.2**	**-1.4**
	baz=352							
NNS	**Nan Shan**	**2.44**	**356**	*e*P		**Pb**	**21 14 45.2**	**-1.2**
	baz=357							
NNS				eS		**Sb**	**21 15 15.9**	**-0.3**
	baz=357							
TWQ1	**Liyutan**	**2.46**	**343**	*e*P		**Pb**	**21 14 46.7**	**+0.2**
	baz=344							
TWQ1				eS		**Sb**	**21 15 15.1**	**-1.3**
	baz=344							
NSY	**Sanyi**	**2.52**	**343**	*e*P		**Pb**	**21 14 46.5**	**-1.2**
	baz=344							
NSY				eS		**Sb**	**21 15 17.2**	**-1.2**
	baz=344							
ENTT	**Nioudou**	**2.64**	**0**	*e*P		**Pb**	**21 14 47.6**	**-2.0**
	baz=2.0							
ENTT				eS		**Sb**	**21 15 19.6**	**-2.0**
	baz=2.0							
NSK	**Sanguang**	**2.68**	**356**	*e*P		**Pb**	**21 14 48.6**	**-1.8**
	baz=357							
NSK				eS		**Sn**	**21 15 19.8**	**+2.7**
	baz=357							
HATJ	**Hateruma jima**	**2.91**	**45**	P		**Pn**	**21 14 49.7**	**+1.4**
HATJ				eS		**Sn**	**21 15 22.9**	**+0.1**
IRIF	**Iriomote-Funau**	**3.07**	**40**	P		**Pn**	**21 14 51.8**	**+1.4**
IRIF				eS		**Sn**	**21 15 26.4**	**-0.2**
JKRS	**Kuro-shima**	**3.17**	**45**	P		**Pn**	**21 14 53.6**	**+1.7**
JKRS				S		**Sn**	**21 15 29.6**	**+0.4**
JIJ	**Ishigaki jima**	**3.35**	**45**	P		**Pn**	**21 14 55.2**	**+0.9**
JIJ				eS		**Sn**	**21 15 33.6**	**+0.1**
JISG	**Ishigakijimahi**	**3.61**	**44**	P		**Pn**	**21 14 59.2**	**+1.3**
JISG				eS		**Sn**	**21 15 38.8**	**-1.3**
JTJ	**Tarama**	**3.91**	**47**	*e*S		**Sn**	**21 15 46.9**	**-0.5**

ISCJB ***18*** *21:18:40.5±0.4,19.˚63S±0.˚03×69.˚25W±0.˚08,h123km±3km, mb4.2/11,Error ellipse: s-maj=11.8km s-min=5.6km az=0.6*
IDC ***18*** *21:18:41.0±2.7,19.˚43S×69.˚07W,h108km±23km,mb4.1/6, mb1 4.2/8,mb1mx3.8/30,mbtmp4.5/8,Error ellipse: s-maj=34.5km s-min=19.3km az=123.0*
GUC ***18*** *21:18:41.3±0.6,19.˚62S×69.˚28W,h113km±3km,ML4.2*
NEIC ***18*** *21:18:41.0,19.˚62S×69.˚28W,h113km,mb4.1/8,After GUC.*
NEIC Felt [III] at Cuya and [II] at Arica, Camina, Codpa, Pisagua and Poconchile.
ISC 18 21:18:41.3±0.6,19.˚60S±0.˚04×69.˚22W±0.˚08,h115km±5km, n30,σ1°00/42,mb4.2/11,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.45**	**248**	*i* P		**Pn**	**21 18 58.2**	**-0.4**
PB11				*i* S		**Sn**	**21 19 11.2**	**-0.4**
PB08	**IPOC Station P**	**0.55**	**174**	*i* P		**Pn**	**21 18 59.9**	**+0.3**
PB08				*i* S		**Sn**	**21 19 13.4**	**+0.2**
PB08				IAML			21 19 14.8	
	comp=E,12μm,0.1s							
MNMC	**Minye Minye**	**0.59**	**322**	*i* P		**Pn**	**21 18 59.7**	**0.0**
MNMC				*i* S		**Sn**	**21 19 13.4**	**-0.1**
PSGC	**Pisagua**	**0.85**	**270**	*i* P		**Pn**	**21 19 01.1**	**-0.6**
PSGC				*i* S		**Sn**	**21 19 16.0**	**-1.1**
PSGC				IAML			21 19 17.4	
	comp=N,4μm,0.2s							
HMBC	**Humberstone**	**0.93**	**223**	*i* P		**Pn**	**21 19 02.2**	**-0.2**
HMBC				*i* S		**Sn**	**21 19 17.7**	**-0.6**
HMBC				IAML			21 19 19.4	
	comp=N,14μm,0.3s							
PB13	**IPOC Station P**	**1.28**	**348**	*i* P		**Pn**	**21 19 07.4**	**+0.8**
PB13				*i* S		**Sn**	**21 19 26.4**	**+0.7**
PB01	**IPOC Station P**	**1.46**	**190**	*i* P		**Pn**	**21 19 08.0**	**-0.1**
PB01				*i* S		**Sn**	**21 19 28.3**	**-0.2**
LVC	**Limon Verde**	**3.01**	**175**	P		**Pn**	**21 19 29.1**	**+1.1**
	comp=N,1μm,0.3s,baz=352,slow=9.5,SNR=377							
LVC				S		**Sn**	**21 20 03.5**	**-0.5**
	comp=N,2μm,0.3s,baz=332,slow=8.0,SNR=15							
LVC	**Limon Verde**	**3.01**	**175**	*e*Pn		**Pn**	**21 19 28.7**	**+0.7**
LVC				eSn		**Sn**	**21 20 03.6**	**-0.3**
LPAZ	**La Paz**	**3.45**	**18**	P		**Pn**	**21 19 36.0**	**+1.9**
	comp=N,17nm,0.3s,baz=204,slow=6.5,SNR=423							
LPAZ				S		**Sn**	**21 20 15.1**	**+0.5**
	comp=N,1.8nm,0.3s,baz=72,slow=20,SNR=3.1							
SIV	**San Ignacio**	**8.54**	**66**	P		**Pn**	**21 20 39.5**	**-2.8**
	comp=N,8.6nm,0.3s,baz=270,slow=11,SNR=73							
SAML	**Samuel**	**12.09**	**30**	*e*Pn		**Pn**	**21 21 30.1**	**+0.2**
	comp=N,3.9nm,0.4s							
TRQA	**Tornquist**	**19.44**	**163**	*e*P		**P**	**21 22 58.2**	**-0.6**
	comp=N,1.3nm,0.6s							
PTGA	**Pitinga**	**20.82**	**27**	P		**P**	**21 23 11.2**	**-2.6**
	comp=N,9.7nm,0.3s,baz=209,slow=15,SNR=41							
PLCA	**Paso Flores**	**21.10**	**183**	P		**P**	**21 23 19.2**	**+2.6**
	comp=N,9.8nm,0.8s,baz=246,slow=7.6,SNR=3.1							
OTAV	**Otavalo**	**21.69**	**334**	*e*P		**P**	**21 23 23.6**	**0.0**
	comp=N,1.7nm,0.8s							
RCBR	**Riachuelo**	**35.17**	**72**	P		**P**	**21 25 24.1**	**-0.3**
	comp=N,22nm,1.1s,baz=235,slow=10,SNR=7.8							
RCBR	**Riachuelo**	**35.17**	**72**	*e*P		**P**	**21 25 24.7**	**+0.2**
SJG	**San Juan**	**37.59**	**5**	*e*P		**P**	**21 25 45.5**	**+0.6**
	comp=N,3.2nm,0.4s							
TEIG	**Tepich**	**43.76**	**334**	*e*P		**P**	**21 26 35.8**	**+0.3**
	comp=N,9.2nm,1.0s							
DBIC	**Dimbokro**	**68.48**	**74**	P		**P**	**21 29 30.9**	**-0.8**
	comp=N,3.4nm,0.9s,baz=204,slow=6.4,SNR=9.6							
RSSD	**Black Hills**	**70.97**	**334**	*e*P		**P**	**21 29 46.7**	**+0.2**
	comp=N,0.8nm,0.5s							
HWUT	**Hardware Ranch**	**72.42**	**328**	*e*P		**P**	**21 29 55.0**	**-0.3**
	comp=N,1.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**77.00**	**71**	P		**P**	**21 30 20.6**	**-1.3**
	comp=N,1.6nm,0.4s,baz=253,slow=5.1,SNR=14							
TORD				pP		**pP**	**21 30 51.6**	**+0.5**
	comp=N,1.9nm,0.8s,baz=253,slow=5.5,SNR=6.1							
WALA	**Waterton Lakes**	**79.06**	**332**	*e*P		**P**	**21 30 33.0**	**+0.2**
	comp=N,2.0nm,0.6s							
YKA	**Yellowknife Ar**	**89.31**	**341**	P		**P**	**21 31 24.2**	**+0.1**
	comp=N,1.7nm,0.7s,baz=133,slow=4.8,SNR=17							
YKA				pP		**pP**	**21 31 55.5**	**+1.5**
	comp=N,0.6nm,0.7s,baz=134,slow=4.8,SNR=5.3							
DLBC	**Dease Lake**	**92.39**	**333**	*e*P		**P**	**21 31 38.5**	**-0.1**
ASAR	**Alice Springs**	**131.45**	**209**	PKP		**PKPdf**	**21 37 40.7**	**-0.4**
	comp=N,0.5nm,0.7s,baz=113,slow=1.6,SNR=6.3							
WRA	**Warramunga Arr**	**134.43**	**212**	PKP		**PKPdf**	**21 37 47.6**	**+0.9**
	comp=N,0.5nm,0.6s,baz=146,slow=1.7,SNR=5.9							
SONM	**Songino Array**	**151.61**	**6**	PKPbc		**PKPbc**	**21 38 22.6**	**+0.4**
	comp=N,0.9nm,0.4s,baz=337,slow=1.0,SNR=4.4							

SCB ***18*** *21:20:20.0±0.6,19.˚68S×71.˚28W,h45km,Ml3.6/1,Error ellipse: s-maj=50.4km s-min=13.5km az=128.0*
GUC ***18*** *21:20:33.8±0.4,19.˚25S×70.˚03W,h36km±2km,ML3.8*
ISC 18 21:20:32.5±2.7,19.˚24S±0.˚04×70.˚04W±0.˚05,h13km±25km, n12,σ1°30/21,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.37**	**193**	*i* P		**Pn**	**21 20 42.5**	**-1.1**
PSGC				*i* S		**Sb**	**21 20 48.5**	**+1.8**
PSGC				IAML			21 20 49.0	
	comp=E,9μm,0.5s							
MNMC	**Minye Minye**	**0.43**	**76**	*i* P		**Pb**	**21 20 43.2**	**+1.2**
MNMC				*i* S		**Sb**	**21 20 50.3**	**+1.7**
PB11	**IPOC Station P**	**0.63**	**146**	*i* P		**Pn**	**21 20 46.1**	**-1.2**
PB11				*i* S		**Sb**	**21 20 55.2**	**+1.0**
PB12	**IPOC Station P**	**0.68**	**336**	*i* P		**Pb**	**21 20 47.1**	**+0.9**
PB12				*i* S		**Sb**	**21 20 56.9**	**+1.3**
PB13	**IPOC Station P**	**1.03**	**29**	*i* P		**Pb**	**21 20 53.2**	**+0.6**
PB13				eS		**Sb**	**21 21 06.5**	**+0.2**
HMBC	**Humberstone**	**1.04**	**172**	*i* P		**Pn**	**21 20 52.4**	**-0.6**
HMBC				*i* S		**Sb**	**21 21 06.2**	**+0.1**
HMBC				IAML			21 21 06.8	
	comp=E,5μm,0.5s							
PB08	**IPOC Station P**	**1.22**	**137**	*e*P		**Pn**	**21 20 55.6**	**-0.1**
PB08				eS		**Sb**	**21 21 11.1**	**-0.4**
PB08				IAML			21 21 12.0	
	comp=E,5μm,0.1s							
BBOJ	**La Paz, Jacaqu**	**2.85**	**38**	*e*Pn		**Pb**	**21 21 24.4**	**+0.8**
BBOD	**La Paz, Gloria**	**2.93**	**28**	*e*Pn		**Pb**	**21 21 24.6**	**-0.3**
BBOE	**La Paz, Chanca**	**3.10**	**39**	*e*Pn		**Pb**	**21 21 28.3**	**+0.4**
LPAZ	**La Paz**	**3.45**	**32**	*e*Pn		**Pb**	**21 21 32.0**	**-1.8**
LPAZ				eSn		**Sg**	**21 22 24.7**	**+1.2**
BBOB	**La Paz, Bander**	**3.58**	**31**	*e*Pn		**Pb**	**21 21 33.2**	**-2.7**
BBOB				eSn		**Sg**	**21 22 26.4**	**-1.0**
	comp=E,33nm,0.5s							

JMA ***18*** *21:22:33.8±0.3,21.˚95N×121.˚66E,h21km,M3.2*
TAP ***18*** *21:22:36.0,22.˚04N×121.˚51E,h10km±1km,ML3.1,C*
ISC 18 21:22:34.9±1.0,22.˚03N±0.˚04×121.˚57E±0.˚04,h17km±6km, n33,σ0°66/56,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.02**	**315**	*i* P		**Pg**	**21 22 38.0**	**+0.1**
	baz=94							
TSEB	**Hengchuen, Pin**	**0.63**	**259**	*e*P		**Pb**	**21 22 47.7**	**+0.3**
	baz=257							
TSEB				*i* S		**Sb**	**21 22 56.8**	**+0.8**
	baz=257							
TAW	**Tawu**	**0.70**	**298**	*e*P		**Pg**	**21 22 48.3**	**-0.3**
	baz=299							
TAW				S		**Sg**	**21 22 57.7**	**-0.3**
	baz=299							
TWK1	**Hengchun**	**0.71**	**264**	P		**Pg**	**21 22 48.3**	**-0.5**
	baz=261							
TWK1				S		**Sg**	**21 22 57.4**	**-0.9**
	baz=261							
EAST	**Anshuo**	**0.75**	**298**	*i* P		**Pg**	**21 22 49.0**	**-0.7**
	baz=299							
EAST				S		**Sg**	**21 22 58.9**	**-0.8**
	baz=299							
HEN	**Hengchun**	**0.77**	**269**	*e*P		**Pb**	**21 22 49.4**	**-0.3**
	baz=266							
HEN				eS		**Sg**	**21 22 59.4**	**-0.7**
	baz=266							
ECL	**Taimali**	**0.80**	**315**	*e*P		**Pb**	**21 22 49.6**	**-0.7**
	baz=317							
ECL				eS		**Sb**	**21 23 00.3**	**-0.7**
	baz=317							
TTN	**Taitung**	**0.82**	**332**	*e*P		**Pb**	**21 22 50.4**	**-0.4**
	baz=335							
TTN				eS		**Sb**	**21 23 01.4**	**-0.1**
	baz=335							
TWG	**Pinlang**	**0.91**	**330**	*e*P		**Pb**	**21 22 52.2**	**-0.1**
	baz=332							
TWG				eS		**Sb**	**21 23 04.3**	**+0.2**
	baz=332							
SCZT	**Fangliau**	**0.94**	**292**	*e*P		**Pn**	**21 22 53.6**	**+0.3**
	baz=291							
CHKT	**Chengkung**	**1.08**	**350**	*e*P		**Pb**	**21 22 54.6**	**-0.5**
	baz=353							
CHKT				eS		**Sb**	**21 23 08.8**	**-0.3**
	baz=353							
SSD	**Sandimen**	**1.12**	**310**	*e*P		**Pg**	**21 22 56.5**	**-0.1**
	baz=311							
ELDTW	**Lidau**	**1.26**	**336**	*e*P		**Pb**	**21 22 58.5**	**+0.2**
	baz=338							
TWM1	**Shoushan**	**1.32**	**307**	*e*P		**Pg**	**21 23 00.7**	**+0.3**
	baz=307							
TWM1				eS		**Sg**	**21 23 17.6**	**-0.1**
	baz=307							
TWF1	**Yuli**	**1.34**	**349**	*e*P		**Pn**	**21 22 59.1**	**+0.2**
	baz=351							
TWF1				eS		**Sn**	**21 23 16.4**	**0.0**
	baz=351							
STYT	**Tauyuan**	**1.36**	**327**	*e*P		**Pb**	**21 22 60.0**	**+0.1**
	baz=328							
STYT				eS		**Sg**	**21 23 19.7**	**+0.9**
	baz=328							
EHY	**Hungye**	**1.49**	**351**	*e*P		**Pb**	**21 23 01.7**	**-0.5**
	baz=353							
WTP	**Ta-pu**	**1.50**	**324**	*e*P		**Pg**	**21 23 03.2**	**-0.5**
	baz=325							
WTP				eS		**Sb**	**21 23 21.6**	**+0.5**
	baz=325							
CHN1	**Nanshi**	**1.50**	**320**	*e*P		**Pb**	**21 23 03.0**	**+0.7**
	baz=321							
CHN1				eS		**Sg**	**21 23 23.6**	**+0.2**
	baz=321							
YUS	**Yu-Shan**	**1.56**	**339**	*e*P		**Pb**	**21 23 04.1**	**+0.4**
	baz=340							
YUS				eS		**Sg**	**21 23 25.2**	**-0.3**
	baz=340							
CHN4	**Tsaushan**	**1.60**	**326**	*e*P		**Pb**	**21 23 04.3**	**+0.4**
	baz=327							
CHN4				eS		**Sb**	**21 23 25.0**	**+1.2**
	baz=327							
ALS	**Alishan**	**1.64**	**335**	*e*P		**Pb**	**21 23 05.0**	**+0.2**
	baz=336							
CHN5	**Tsauling**	**1.77**	**333**	*e*P		**Pb**	**21 23 06.8**	**0.0**
	baz=333							
CHN5				eS		**Sg**	**21 23 30.7**	**-1.1**
	baz=333							
SMLT	**Sun Moon Lake**	**1.95**	**342**	*e*P		**Pn**	**21 23 08.8**	**+1.5**
	baz=343							
SMLT				eS		**Sb**	**21 23 34.6**	**+0.5**

NEIC 18 21:32:59.9±3.1, 26.58N×112.85W, h10km, mb4.0/9, Error ellipse: s-maj=36.9km s-min=8.4km az=182.0, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC	**Tucson**	**5.99**	**17**	*e*Pn	Pn	21 34 28.0	-0.7
PFO	**Pinyon Flats O**	**7.67**	**337**	*e*Pn	Pn	21 34 52.3	+0.4
MNTX	**Cornudas Mount**	**8.28**	**50**	Pn	Pn	21 35 00.3	+0.1
WUAZ	**Wupatki**	**9.00**	**8**	*e*Pn	Pn	21 35 09.8	-0.3
ANMO	**Albuquerque**	**9.98**	**32**	*e*Pn	Pn	21 35 23.5	-0.1
MVCO	**Mesa Verde**	**11.22**	**18**	*e*Pn	Pn	21 35 40.1	-0.6
PV01	**Paradox Valley**	**12.07**	**16**	*e*Pn	Pn	21 35 52.4	+0.2
SAO	**San Andreas Ge**	**12.51**	**326**	Pn	Pn	21 35 57.9	-0.2
SDCO	**Great Sand Dun** 5.8nm,1.4s	**12.75**	**27**	*e*Pn	Pn	21 36 01.7	+0.1
CMB	**Columbia Colle**	**13.07**	**333**	*e*Pn	Pn	21 36 05.7	-0.1
DUG	**Dugway, Tooele** 53nm,0.6s	**13.58**	**0**	*e*Pn	Pn	21 36 12.8	+0.1
HOPS	**Hopland Field**	**15.06**	**328**	Pn	Pn	21 36 33.1	+0.3
BW06	**Boulder Array** 5.6nm,0.8s	**16.37**	**9**	*e*Pn	Pn	21 36 50.9	+0.8
MOD	**Modoc Plateau** 2.7nm,0.8s	**16.47**	**340**	*e*Pn	Pn	21 36 50.8	-0.4
REDW	**Red Top Meadow** 10nm,0.9s	**16.82**	**5**	*e*Pn	Pn	21 36 55.6	-0.2
TPAW	**Teton Pass** 31nm,1.5s	**16.94**	**5**	*e*Pn	Pn	21 36 52.6	-4.7
HLID	**Hailey** 12nm,1.3s	**16.99**	**356**	*e*Pn	Pn	21 36 57.4	-0.5
LOHW	**Long Hollow** 17nm,1.3s	**17.09**	**6**	*e*Pn	P	21 37 00.1	-0.9
MOOW	**Moose Ponds** 20nm,1.5s	**17.22**	**5**	*e*Pn	Pn	21 37 01.5	+0.7
IMW	**Indian Meadow** 17nm,1.3s	**17.35**	**5**	*e*Pn	Pn	21 36 58.1	-4.3
WALA	**Waterton Lakes** 8.9nm,1.2s	**22.46**	**358**	*e*P	P	21 37 58.6	-0.6

*ISCJB **18** 21:36:58.9±1.0, 38.05N±0.06×142.98E±0.09, h18km, mb3.5/3, Error ellipse: s-maj=10.9km s-min=7.6km az=153.1*
*IDC **18** 21:36:58.0±2.5, 37.84N×143.27E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/37, mbtmp3.6/4, ML3.1/2, MS2.2/1, Ms1 2.2/1, ms1mx2.0/23, Error ellipse: s-maj=56.5km s-min=32.0km az=62.0*
*JMA **18** 21:37:02.1±0.1, 38.16N×142.87E, h36km±3km, M3.4*
ISC 18 21:36:60.0±1.4, 38.04N±0.05×143.0E±0.1, h18km, n15, σ1$71/20, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.35**	**288**	P	**Pn**	**21 37 23.5**	**-0.5**
JIO				*e*S	**Sn**	**21 37 39.0**	**-2.5**
OFUJ	**Ofunato**	**1.47**	**316**	P	**Pn**	**21 37 24.8**	**-0.7**
JMK	**Ichinoseki**	**1.66**	**304**	P	**Pn**	**21 37 27.8**	**-0.4**
JMK				*e*S	**Sn**	**21 37 46.7**	**-2.3**
JMM	**Marumori**	**1.74**	**265**	P	**Pn**	**21 37 29.2**	**-0.1**
JOU	**Okura**	**1.86**	**281**	P	**Pn**	**21 37 31.3**	**+0.3**
JOM	**Ohasama**	**1.95**	**318**	P	**Pn**	**21 37 32.0**	**-0.2**
JOM				*e*S	**Sn**	**21 37 54.3**	**-1.9**
JFT	**Otama**	**2.16**	**257**	P	**Pn**	**21 37 36.5**	**+1.3**
JFT				*e*S	**Sn**	**21 38 01.1**	**-0.4**
JYK	**Kaneyama**	**2.24**	**294**	P	**Pn**	**21 37 36.3**	**+0.1**
JYS	**Shirataka**	**2.31**	**275**	P	**Pn**	**21 37 37.6**	**+0.4**
JANG	**Nango**	**2.60**	**334**	P	**Pn**	**21 37 41.1**	**0.0**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=60,slow=12,SNR=5.8	**4.09**	**250**	Pn	**Pn**	**21 38 03.5**	**+1.8**
MJAR				LR	LR	21 40 02.3	
	comp=Z,24nm,18.2s,baz=120,slow=44						
JHJ	**Hachijo jima 2** 6.8nm,0.3s,baz=64,slow=23,SNR=10	**5.56**	**209**	Pn	**Pn**	**21 38 21.3**	**-0.5**
JHJ				Sn	**Sn**	**21 39 21.1**	**-4.1**
	15nm,0.3s,baz=113,slow=22,SNR=8.0						
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=91,slow=8.7,SNR=5.6	**44.65**	**302**	P	**P**	**21 45 14.6**	**+3.1**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=7.9,slow=7.1,SNR=6.2	**58.24**	**190**	P	**P**	**21 46 52.5**	**-0.9**
ASAR	**Alice Springs** 0.4nm,1.1s,baz=356,slow=6.5,SNR=3.4	**61.97**	**189**	P	**P**	**21 47 19.1**	**+0.2**

*ISCJB **18** 21:42:18.7±0.3, 43.06N±0.02×13.25E±0.04, h11km±4km, Error ellipse: s-maj=4.7km s-min=2.4km az=165.5*
*CSEM **18** 21:42:18.9±0.1, 43.06N×13.25E, h5km, ML3.5/18, Error ellipse: s-maj=2.8km s-min=1.9km az=76.0*
*ROM **18** 21:42:18.3±0.1, 43.07N×13.24E, h7km, Md2.8/26, Ml2.7/27, Error ellipse: s-maj=1.3km s-min=0.8km az=70.0*
*VIE **18** 21:42:19.1±0.6, 43.05N×13.27E, h8km, mb2.5/1, ML2.5/2, Error ellipse: s-maj=22.8km s-min=4.2km az=83.0*
ISC 18 21:42:19.1±0.9, 43.06N±0.02×13.26E±0.03, h9km±7km, n60, σ0$69/99, 8C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.13**	**260**	⇑*i*Pg	**Pg**	**21 42 21.7**	**-0.3**
FDMO				Sg	**Sg**	**21 42 24.0**	**0.0**
	3µm,0.2s						
FDMO	**Fiordimonte**	**0.13**	**260**	⇑*i*Pg	**Pg**	**21 42 21.7**	**-0.3**
FDMO				Sg	**Sg**	**21 42 24.0**	**0.0**
	3µm,0.2s						
NRCA	**Norcia**	**0.25**	**205**	⇑*i*Pg	**Pg**	**21 42 24.0**	**-0.1**
NRCA				Sg	**Sg**	**21 42 28.7**	**+1.2**
	3µm,0.1s						
NRCA	**Norcia**	**0.25**	**205**	⇑*i*Pg	**Pg**	**21 42 24.0**	**-0.1**
NRCA				Sg	**Sg**	**21 42 28.7**	**+1.2**
	3µm,0.1s						
SNTG	**Esanatoglia**	**0.30**	**310**	⇑*i*Pg	**Pg**	**21 42 24.6**	**-0.5**
SNTG				Sg	**Sg**	**21 42 29.6**	**+0.4**
	454nm,0.2s						
SNTG	**Esanatoglia**	**0.30**	**310**	⇑*i*Pg	**Pg**	**21 42 24.6**	**-0.5**
SNTG				Sg	**Sg**	**21 42 29.6**	**+0.4**
	454nm,0.2s						
CING	**Cingoli**	**0.32**	**352**	Pg	**Pg**	**21 42 24.8**	**-0.6**
CING				Sg	**Sg**	**21 42 30.1**	**+0.4**
	1µm,0.1s						
CING	**Cingoli**	**0.32**	**352**	Pg	**Pg**	**21 42 24.8**	**-0.6**
CING				Sg	**Sg**	**21 42 30.1**	**+0.4**
	1µm,0.1s						
OFFI	**Offida**	**0.34**	**112**	Pg	**Pb**	**21 42 26.7**	**-0.6**
	2µm,0.2s						
OFFI	**Offida**	**0.34**	**112**	Pg	**Pb**	**21 42 26.7**	**-0.6**
	2µm,0.2s						
ATCC	**AVT- Casa Cast**	**0.47**	**286**	⇑*i*Pg	**Pg**	**21 42 27.8**	**-0.4**
ATCC				Sg	**Sg**	**21 42 35.3**	**+0.9**
	800nm,0.2s						
ATCC	**AVT- Casa Cast**	**0.47**	**286**	⇑*i*Pg	**Pg**	**21 42 27.8**	**-0.4**
ATCC				Sg	**Sg**	**21 42 35.3**	**+0.9**
	800nm,0.2s						
LNSS	**Leonessa**	**0.48**	**199**	Pg	**Pg**	**21 42 28.2**	**-0.3**
LNSS				Sg	**Sb**	**21 42 36.2**	**-0.9**
	1µm,0.1s						
LNSS	**Leonessa**	**0.48**	**199**	Pg	**Pg**	**21 42 28.2**	**-0.3**
LNSS				Sg	**Sb**	**21 42 36.2**	**-0.9**
	1µm,0.1s						
RM32	**Poggio Cancell**	**0.49**	**177**	Pg	**Pg**	**21 42 28.3**	**-0.3**
RM32				Sg	**Sb**	**21 42 36.6**	**-0.7**
	373nm,0.3s						
RM32	**Poggio Cancell**	**0.49**	**177**	Pg	**Pg**	**21 42 28.3**	**-0.3**
RM32				Sg	**Sb**	**21 42 36.6**	**-0.7**
	373nm,0.3s						
ARVD	**Arcevia**	**0.50**	**332**	Pg	**Pg**	**21 42 28.1**	**-0.6**
ARVD				Sg	**Sb**	**21 42 37.0**	**-0.4**
	199nm,0.2s						
ARVD	**Arcevia**	**0.50**	**332**	Pg	**Pg**	**21 42 28.1**	**-0.6**
ARVD				Sg	**Sb**	**21 42 37.0**	**-0.4**
	199nm,0.2s						
RM29	**Verrico (Monte**	**0.50**	**185**	Pg	**Pg**	**21 42 28.5**	**-0.3**
RM29				Sg	**Sb**	**21 42 37.0**	**-0.6**
	960nm,0.3s						
RM29	**Verrico (Monte**	**0.50**	**185**	Pg	**Pg**	**21 42 28.5**	**-0.3**
RM29				Sg	**Sb**	**21 42 37.0**	**-0.6**
	960nm,0.3s						
SSFR	**Montelago di S** 808nm,0.2s	**0.51**	**317**	Pg	**Pg**	**21 42 28.5**	**-0.5**
SSFR	**Montelago di S** 808nm,0.2s	**0.51**	**317**	Pg	**Pg**	**21 42 28.5**	**-0.5**
AOI	**Ancona**	**0.55**	**27**	Pg	**Pg**	**21 42 29.3**	**-0.5**
AOI				Sg	**Sb**	**21 42 38.3**	**-0.7**
	229nm,0.3s						
AOI	**Ancona**	**0.55**	**27**	Pg	**Pg**	**21 42 29.3**	**-0.5**
AOI				Sg	**Sb**	**21 42 38.3**	**-0.7**
	229nm,0.3s						
RM33	**Pellescritta (**	**0.55**	**183**	Pg	**Pg**	**21 42 29.4**	**-0.4**
RM33				Sg	**Sb**	**21 42 38.1**	**-0.9**
	454nm,0.2s						
RM33	**Pellescritta (**	**0.55**	**183**	Pg	**Pg**	**21 42 29.4**	**-0.4**
RM33				Sg	**Sb**	**21 42 38.1**	**-0.9**
	454nm,0.2s						
MURB	**Monte Urbino**	**0.57**	**291**	Pg	**Pg**	**21 42 29.6**	**-0.6**
MURB				Sg	**Sb**	**21 42 39.2**	**-0.5**
	833nm,0.3s						
MURB	**Monte Urbino**	**0.57**	**291**	Pg	**Pg**	**21 42 29.6**	**-0.6**
MURB				Sg	**Sb**	**21 42 39.2**	**-0.5**
	833nm,0.3s						
FRON	**Frontone**	**0.60**	**320**	Pg	**Pg**	**21 42 30.4**	**-0.3**
FRON				Sg	**Sb**	**21 42 39.8**	**-0.6**
	226nm,0.3s						
FRON	**Frontone**	**0.60**	**320**	Pg	**Pg**	**21 42 30.4**	**-0.3**
FRON				Sg	**Sb**	**21 42 39.8**	**-0.6**
	226nm,0.3s						
CESX	**Cesi**	**0.67**	**228**	Pg	**Pg**	**21 42 31.2**	**-0.8**
CESX				Sg	**Sg**	**21 42 41.3**	**+0.5**
	352nm,0.4s						
CESX	**Cesi**	**0.67**	**228**	Pg	**Pg**	**21 42 31.2**	**-0.8**
CESX				Sg	**Sg**	**21 42 41.3**	**+0.5**
	352nm,0.4s						
ATTE	**AVT- Monte Tez** 164nm,0.7s	**0.68**	**282**	Pg	**Pg**	**21 42 31.6**	**-0.5**
ATTE	**AVT- Monte Tez** 164nm,0.7s	**0.68**	**282**	Pg	**Pg**	**21 42 31.6**	**-0.5**
PIEI	**Pieia**	**0.71**	**312**	Pg	**Pg**	**21 42 31.7**	**-1.1**
PIEI				Sg	**Sb**	**21 42 43.1**	**-0.5**
	133nm,0.1s						
PIEI	**Pieia**	**0.71**	**312**	Pg	**Pg**	**21 42 31.7**	**-1.1**
PIEI				Sg	**Sb**	**21 42 43.1**	**-0.5**
	133nm,0.1s						
AQU	**L'Aquila**	**0.71**	**171**	Pg	**Pg**	**21 42 32.3**	**-0.5**
AQU				Sg	**Sb**	**21 42 43.5**	**-0.1**
	180nm,0.3s						
AQU	**L'Aquila**	**0.71**	**171**	Pg	**Pg**	**21 42 32.3**	**-0.5**
AQU				Sg	**Sb**	**21 42 43.5**	**-0.1**
	180nm,0.3s						
ATPC	**Poggio Castell** 221nm,0.2s	**0.72**	**306**	Pg	**Pg**	**21 42 32.3**	**-0.7**
ATPC	**Poggio Castell** 221nm,0.2s	**0.72**	**306**	Pg	**Pg**	**21 42 32.3**	**-0.7**
FSSB	**Fossombrone** 430nm,0.4s	**0.72**	**331**	Pg	**Pg**	**21 42 32.8**	**-0.2**
FSSB	**Fossombrone** 430nm,0.4s	**0.72**	**331**	Pg	**Pg**	**21 42 32.8**	**-0.2**
VCEL	**Villa Celiera** 313nm,0.4s	**0.79**	**147**	Pg	**Pg**	**21 42 34.1**	**-0.2**
VCEL	**Villa Celiera** 313nm,0.4s	**0.79**	**147**	Pg	**Pg**	**21 42 34.1**	**-0.2**
FIAM	**Fiamignano** 195nm,0.7s	**0.80**	**188**	Pg	**Pg**	**21 42 33.6**	**-0.8**
FIAM				Sg	**Sb**	**21 42 45.7**	**-0.4**
	195nm,0.7s						
FIAM	**Fiamignano** 195nm,0.7s	**0.80**	**188**	Pg	**Pg**	**21 42 33.6**	**-0.8**
FIAM				Sg	**Sb**	**21 42 45.7**	**-0.4**
	195nm,0.7s						
FAGN	**Fagnano** 703nm,0.6s	**0.83**	**163**	Pg	**Pg**	**21 42 34.0**	**-1.0**
FAGN	**Fagnano** 703nm,0.6s	**0.83**	**163**	Pg	**Pg**	**21 42 34.0**	**-1.0**
MGAB	**Montegabbione** 154nm,0.3s	**0.85**	**260**	Pg	**Pg**	**21 42 34.6**	**-0.9**
MGAB	**Montegabbione** 154nm,0.3s	**0.85**	**260**	Pg	**Pg**	**21 42 34.6**	**-0.9**
BADI	**Badiali** 101nm,0.3s	**0.87**	**302**	Pg	**Pg**	**21 42 34.7**	**-1.0**
BADI	**Badiali** 101nm,0.3s	**0.87**	**302**	Pg	**Pg**	**21 42 34.7**	**-1.0**
CAFI	**Castiglion Fio** 83nm,0.8s	**0.98**	**286**	Pg	**Pg**	**21 42 37.0**	**-1.0**
CAFI	**Castiglion Fio** 83nm,0.8s	**0.98**	**286**	Pg	**Pg**	**21 42 37.0**	**-1.0**
NVLJ	**Novalja**	**1.90**	**37**	*e*Pn	**Pn**	**21 42 51.2**	**-0.6**
NVLJ				Sn	**Sn**	**21 43 15.7**	**-0.1**
NVLJ	**Novalja**	**1.90**	**37**	*e*Pn	**Pn**	**21 42 51.1**	**-0.6**
NVLJ				Sn	**Sn**	**21 43 15.7**	**-0.1**
UDBI	**Udbina**	**2.33**	**50**	*e*Pn	**Pn**	**21 42 58.2**	**+0.5**
UDBI				Sn	**Sn**	**21 43 27.3**	**+0.8**
UDBI	**Udbina**	**2.33**	**50**	*e*Pn	**Pn**	**21 42 58.2**	**+0.5**
UDBI				Sn	**Sn**	**21 43 27.3**	**+0.8**
OBKA	**Obir** 1.6nm,0.3s	**3.57**	**14**	Pn	**Pn**	**21 43 16.1**	**+1.4**
OBKA				Sn	**Sn**	**21 43 58.5**	**+1.4**
	2.8nm,0.3s						
MOTA	**Moosalm** 0.3nm,0.2s	**4.55**	**341**	Pn	**Pn**	**21 43 30.1**	**+1.9**

*ISK **18** 21:52:45.6, 34.61N×29.12E, h22km, MD3.5*
*ISCJB **18** 21:52:48.6±0.8, 34.71N±0.05×29.14E±0.04, h37km, Error ellipse: s-maj=7.9km s-min=4.7km az=176.6*
*CSEM **18** 21:52:49.8±0.4, 34.70N×29.11E, h40km, ML2.0*
*DDA **18** 21:52:50.2, 34.94N×29.04E, h31km, Ml3.5*
*ATH **18** 21:52:51.6, 35.10N×28.87E, h26km±14km, ML2.0/1, Error ellipse: s-maj=15.3km s-min=2.7km az=151.0*
ISC 18 21:52:50.9±1.5, 34.81N±0.07×29.08E±0.03, h37km, n65, σ1$44/80, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.40**	**17**	P	**Pn**	**21 53 13.6**	**-0.3**
KSL				S	**Sn**	**21 53 32.2**	**+1.1**
KSL				AML	AML	21 53 33.8	
	comp=N,129µm,0.4s						
KSL				AML	AML	21 53 33.9	
	comp=E,131µm,0.4s						
AKAS	**Kas**	**1.48**	**17**	P	**Pn**	**21 53 15.6**	**+0.4**
AKAS				S	**Sn**	**21 53 34.2**	**+0.9**
AKAS	**Kas**	**1.48**	**17**	*i* P	**Pn**	**21 53 15.6**	**+0.4**
AKAS				*i* S	**Sn**	**21 53 34.2**	**+0.9**
ARG	**Arkhangelos**	**1.61**	**331**	P	**Pn**	**21 53 17.5**	**+0.8**
KARP	**Karpathos**	**1.74**	**296**	*e*PN	**Pn**	**21 53 17.2**	**-1.4**
KARP				*e*SN	**Sn**	**21 53 40.0**	**+0.5**
KARP	**Karpathos**	**1.74**	**296**	*e*Pn	**Pn**	**21 53 17.2**	**-1.4**
KARP	**Karpathos**	**1.74**	**296**	P	**Pn**	**21 53 19.6**	**+1.1**
KARP				*e*Sn	**Sn**	**21 53 40.0**	**+0.5**
KARP	**Karpathos**	**1.74**	**296**	P	**Pn**	**21 53 19.6**	**+1.1**
FETY	**Fethiye**	**1.82**	**0**	*e*PN	**Pn**	**21 53 19.2**	**-0.5**
FETY	**Fethiye**	**1.82**	**0**	*e*Pn	**Pn**	**21 53 19.2**	**-0.5**
DALY	**Dalyan (Mu˘la**	**2.04**	**350**	*e*PN	**Pn**	**21 53 22.4**	**-0.2**
DALY	**Dalyan (Mu˘la**	**2.04**	**350**	*e*Pn	**Pn**	**21 53 22.4**	**-0.2**
ELL	**Elmali**	**2.05**	**19**	*e*PN	**Pn**	**21 53 22.9**	**0.0**
ELL	**Elmali**	**2.05**	**19**	*e*Pn	**Pn**	**21 53 22.9**	**0.0**
TURN	**Turunc**	**2.10**	**349**	*i* P	**Pn**	**21 53 23.5**	**+0.1**
TURN				*i* S	**Sn**	**21 53 47.1**	**-1.2**
GLHS	**Glhisar (BURDU**	**2.37**	**8**	*e*PN	**Pn**	**21 53 27.1**	**-0.2**
GLHS	**Glhisar (BURDU**	**2.37**	**8**	*e*Pn	**Pn**	**21 53 27.1**	**-0.2**
ZKR	**Zakros**	**2.37**	**278**	P	**Pn**	**21 53 27.8**	**+0.5**
ZKR	**Zakros**	**2.37**	**278**	P	**Pn**	**21 53 27.8**	**+0.5**
YER	**Yerkesik**	**2.41**	**345**	*e*PN	**Pn**	**21 53 27.6**	**-0.2**
YER	**Yerkesik**	**2.41**	**345**	*e*Pn	**Pn**	**21 53 27.7**	**-0.2**
KORT	**Korkueli**	**2.42**	**25**	P	**Pn**	**21 53 29.2**	**+1.2**
KORT				S	**Sn**	**21 53 58.1**	**+1.7**
KORT	**Korkueli**	**2.42**	**25**	*i* P	**Pn**	**21 53 29.2**	**+1.2**
KORT				*i* S	**Sn**	**21 53 58.1**	**+1.7**
ANTB	**Antalya**	**2.45**	**31**	*e*PN	**Pn**	**21 53 27.7**	**-0.5**
ANTB	**Antalya**	**2.45**	**31**	*e*Pn	**Pn**	**21 53 27.7**	**-0.5**
GOLH	**Golhisar**	**2.46**	**9**	P	**Pn**	**21 53 30.3**	**+1.8**
GOLH				S	**Sn**	**21 53 58.9**	**+1.6**
GOLH	**Golhisar**	**2.46**	**9**	*i* P	**Pn**	**21 53 30.3**	**+1.8**
GOLH				*i* S	**Sn**	**21 53 58.9**	**+1.6**
BODT	**Bodrum**	**2.67**	**328**	*e*PN	**Pn**	**21 53 31.1**	**-0.3**
BODT	**Bodrum**	**2.67**	**328**	*e*Pn	**Pn**	**21 53 31.1**	**-0.3**
DNZL	**Cakiroluk**	**2.88**	**359**	P	**Pn**	**21 53 34.7**	**+0.3**
DNZL	**Cakiroluk**	**2.88**	**359**	*i* P	**Pn**	**21 53 34.7**	**+0.3**
DNZL				*i* S	**Sn**	**21 54 00.1**	**-7.7**
BCK	**Bucak**	**2.92**	**24**	*e*PN	**Pn**	**21 53 34.5**	**-0.3**
BCK	**Bucak**	**2.92**	**24**	*e*Pn	**Pn**	**21 53 34.5**	**-0.3**
GAZI	**Gazipasa**	**3.00**	**61**	P	**Pn**	**21 53 35.9**	**+0.1**
GAZI				S	**Sn**	**21 54 06.3**	**-4.2**
GAZI	**Gazipasa**	**3.00**	**61**	*i* P	**Pn**	**21 53 35.9**	**+0.1**
GAZI				*i* S	**Sn**	**21 54 06.3**	**-4.2**
LEF	**Lefka**	**3.14**	**83**	*e*PN	Pn	21 53 34.8	-3.0
LEF	**Lefka**	**3.14**	**83**	*e*Pn	Pn	21 53 34.8	-3.0
AYDB	**Zeytinkoy-Aydi**	**3.28**	**343**	*e*PN	**Pn**	**21 53 40.2**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**3.28**	**343**	*e*Pn	**Pn**	**21 53 40.3**	**+0.5**
SMG	**Samos**	**3.42**	**329**	P	**Pn**	**21 53 40.2**	**-1.4**
SMG	**Samos**	**3.42**	**329**	P	**Pn**	**21 53 40.2**	**-1.4**
ERMK	**Ermenek**	**3.61**	**58**	P	**Pn**	**21 53 46.5**	**+2.0**
ERMK				S	**Sn**	**21 54 27.2**	**+1.2**
ERMK	**Ermenek**	**3.61**	**58**	*i* P	**Pn**	**21 53 46.5**	**+2.0**
ERMK				*i* S	**Sn**	**21 54 27.2**	**+1.2**
LFK	**Lefkose**	**3.68**	**81**	*e*PN	Pn	21 53 42.7	-2.6
LFK	**Lefkose**	**3.68**	**81**	*e*Pn	Pn	21 53 42.7	-2.6
KULA	**Kula-Manisa**	**3.71**	**355**	*e*PN	**Pn**	**21 53 46.6**	**+0.8**
KULA	**Kula-Manisa**	**3.71**	**355**	*e*Pn	**Pn**	**21 53 46.6**	**+0.8**
KONT	**Konya--Tatoy**	**4.10**	**39**	*e*PN	**Pn**	**21 53 50.8**	**-0.2**
KONT	**Konya--Tatoy**	**4.10**	**39**	*e*Pn	**Pn**	**21 53 50.8**	**-0.2**
DEMI	**Demirci**	**4.24**	**356**	P	**Pn**	**21 53 52.8**	**-0.1**
DEMI	**Demirci**	**4.24**	**356**	*i* P	**Pn**	**21 53 52.8**	**-0.1**
GDZ	**Gediz**	**4.29**	**4**	P	**Pn**	**21 53 54.2**	**+0.5**
GDZ	**Gediz**	**4.29**	**4**	*i* P	**Pn**	**21 53 54.2**	**+0.5**
KDHN	**Kadinhani**	**4.44**	**32**	P	**Pn**	**21 53 56.7**	**+1.0**
KDHN				S	**Sn**	**21 54 46.3**	**+0.2**
KDHN	**Kadinhani**	**4.44**	**32**	*i* P	**Pn**	**21 53 56.7**	**+1.0**
KDHN				*i* S	**Sn**	**21 54 46.3**	**+0.2**
KIZT	**Kizilcal**	**4.64**	**28**	*e*PN	**Pn**	**21 53 59.2**	**+0.7**
KIZT	**Kizilcal**	**4.64**	**28**	*e*Pn	**Pn**	**21 53 59.2**	**+0.7**
TVSB	**Tavsanli**	**4.64**	**4**	*e*PN	**Pn**	**21 53 58.9**	**+0.3**
TVSB	**Tavsanli**	**4.64**	**4**	*e*Pn	**Pn**	**21 53 58.9**	**+0.3**
KERG	**Konya-Eregli**	**4.84**	**56**	P	**Pn**	**21 54 01.9**	**+0.6**
KERG				S	**Sn**	**21 54 55.1**	**-1.0**
KERG	**Konya-Eregli**	**4.84**	**56**	*i* P	**Pn**	**21 54 01.9**	**+0.6**
KERG				*i* S	**Sn**	**21 54 55.1**	**-1.0**
MERS	**Mersin**	**4.87**	**63**	*e*PN	**Pn**	**21 54 01.0**	**-0.7**
MERS	**Mersin**	**4.87**	**63**	*e*Pn	**Pn**	**21 54 01.0**	**-0.7**
AGG	**Agios Georgios**	**6.85**	**310**	*e*PN	**Pn**	**21 54 30.3**	**+1.5**
AGG	**Agios Georgios**	**6.85**	**310**	*e*Pn	**Pn**	**21 54 30.3**	**+1.5**

*IDC **18** 22:11:14.1±0.6, 5.85S×81.18W, h0km, mb4.6/16, mb1 4.7/20, mb1mx4.6/35, mbtmp4.6/20, ML4.1/4, MS4.2/20, Ms1 4.2/20, ms1mx4.0/33, Error ellipse: s-maj=19.9km s-min=12.6km az=59.0*
*ISCJB **18** 22:11:17.6±0.2, 5.83S±0.03×80.73W±0.04, h33km, mb4.8/153, MS4.2/15, Error ellipse: s-maj=6.5km s-min=3.5km az=148.9*
*BJI **18** 22:11:19.8, 5.80S×80.60W, h33km, mB5.3/3, Ms5.1/4, Ms7 5.0/4*
*NEIC **18** 22:11:23.3±0.6, 5.83S×80.69W, h70km±5km, mb4.8/146, Error ellipse: s-maj=5.5km s-min=3.1km az=61.0*
ISC 18 22:11:18.6±0.4, 5.95S±0.05×81.00W±0.08, h30km, n469, σ1$04/455, mb4.8/153, MS4.1/15, 1C-1D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa** 56nm,0.3s,baz=11,slow=2.8,SNR=80	**2.85**	**115**	Pn	**Pn**	**22 12 06.2**	**+3.7**
ATAH				Lg	Lg	22 12 47.6	
	283nm,0.3s,baz=167,slow=20,SNR=6.3						
ATAH				LR	LR	22 13 12.1	
	comp=Z,4µm,19.8s,baz=254,slow=39						
OTAV	**Otavalo**	**6.65**	**23**	*e*Pn	**Pn**	**22 12 55.0**	**+0.2**
NNA	**Nana** 5.9nm,0.3s,baz=313,slow=11,SNR=7.9	**7.27**	**146**	Pn	**Pn**	**22 13 04.2**	**+1.2**
NNA				Sn	**Sn**	**22 14 23.0**	**-1.6**
	8.2nm,0.3s,baz=197,slow=20,SNR=3.5						
NNA				LR	LR	22 15 38.2	
	comp=Z,869nm,21.1s,baz=200,slow=35						
PAYG	**Puerto Ayora**	**10.64**	**299**	*e*Pn	Pn	22 13 57.6	+8.4
PRAC	**Prado**	**11.38**	**33**	*e*Pn	**Pn**	**22 13 57.8**	**-1.5**
ROSC	**El Rosal**	**12.62**	**32**	LR	LR	22 20 11.6	
	comp=Z,726nm,19.8s,baz=222,slow=42						
ROSC	**El Rosal**	**12.62**	**32**	*e*Pn	**Pn**	**22 14 15.5**	**-1.2**
CHIC	**Chingaza**	**12.77**	**35**	*e*P	Pn	22 14 24.0	+5.3
NONC	**Norcasia**	**12.97**	**28**	*e*P	**Pn**	**22 14 23.1**	**+2.0**
HELC	**Santa Helena**	**13.24**	**24**	*e*Pn	**Pn**	**22 14 29.8**	**+4.8**
DBBC	**Dabeiba**	**13.74**	**20**	*e*P	**Pn**	**22 14 35.2**	**+3.6**
RUSC	**La Rusia**	**14.17**	**34**	*e*P	**Pn**	**22 14 41.4**	**+3.5**
BARC	**Barichara**	**14.70**	**32**	*e*P	**P**	**22 14 52.3**	**+1.6**
BRRC	**Barranca, Sant**	**14.87**	**29**	*e*P	**P**	**22 14 52.3**	**0.0**
BTLC	**Betulia, Santa**	**14.93**	**31**	*e*P	**P**	**22 14 52.3**	**-1.0**
BCIP	**Isla Barro Col**	**15.06**	**4**	*e*Pn	**P**	**22 14 54.9**	**+0.5**
MOTC	**Monteria, Cord**	**15.57**	**20**	*e*P	**P**	**22 15 00.2**	**+0.1**
GRMC	**Gramalote, San**	**15.85**	**31**	*e*P	**P**	**22 15 06.3**	**+2.9**
CBRI	**Barrientos, No**	**15.85**	**31**	*e*P	**P**	**22 15 03.3**	**-0.2**
LPAZ	**La Paz** 0.6nm,0.3s,baz=306,slow=9.6,SNR=17	**16.27**	**130**	Pn	**Pn**	**22 15 06.8**	**+1.1**
LPAZ				LR	LR	22 22 16.0	
	comp

65nm,2.0s
BRAL **Brewton** 37.36 351 *e*P P 22 18 28.9 +0.3
27nm,0.8s
934A **Benavides** 37.40 334 P P 22 18 30.9 +1.8
baz=150
933A **Laredo** 37.75 333 P P 22 18 33.5 +1.5
baz=149
247A **Quitman** 38.48 350 P P 22 18 39.1 +1.0
baz=167
243A **Waterproof** 38.92 346 P P 22 18 42.9 +1.1
baz=163
GOGA **Godfrey** 39.21 357 *e*P P 22 18 44.0 -0.3
6.6nm,1.0s
633A **Saathoff Ranch** 39.30 335 P P 22 18 46.2 +1.1
baz=150
534A **Blanco** 39.51 336 P P 22 18 47.4 +0.6
baz=152
Z48A **Northport** 39.60 351 P P 22 18 47.5 +0.1
baz=169
NATX **Nacogdoches** 39.70 342 *e*P P 22 18 49.2 +0.9
39nm,0.4s
Z44A **Pea Ridge, Bel** 40.02 348 P P 22 18 51.9 +0.9
baz=165
434A **Burnet** 40.12 337 P P 22 18 52.0 +0.2
baz=152
Y46A **Houston** 40.31 350 P P 22 18 52.9 -0.4
baz=167
433A **Art** 40.40 336 P P 22 18 55.0 +0.9
baz=151
334A **Lometa** 40.56 337 P P 22 18 56.4 +0.9
baz=153
138A **Matatall Enter** 40.67 342 P P 22 18 58.0 +1.7
baz=158
KMSC **Kings Mountain** 40.87 360 P P 22 18 57.8 -0.2
baz=179
KMSC **Kings Mountain** 40.87 360 *e*P P 22 18 57.3 -0.7
19nm,1.1s
CCAR **Cane Creek** 40.94 346 *e*P P 22 18 59.1 +0.6
24nm,1.0s
WLAR **White Oak Lake** 41.06 345 *e*P P 22 19 00.2 +0.7
16nm,0.8s
BBSR **BB Station** 41.15 21 *e*P P 22 18 59.0 -1.2
24nm,1.3s
TXAR **Lajitas Array** 41.30 329 P P 22 19 01.9 +0.2
0.5nm,0.7s,baz=154,slow=10,SNR=4.5
TXAR PcP PcP 22 20 59.3 -0.8
0.2nm,0.5s,baz=155,slow=7.2,SNR=3.6
TXAR LR LR 22 34 35.6
comp=Z,129nm,18.3s,baz=0.0,slow=34
TX31 **Lajitas Ar. Si** 41.30 329 *e*P P 22 19 03.1 +1.4
CPCT **Cooper Cave** 41.31 356 *e*P P 22 19 01.3 -0.3
5.5nm,0.8s
Y40A **Okolona** 41.41 345 P P 22 19 03.3 +0.9
baz=161
233A **Rising Star** 41.43 337 P P 22 19 03.6 +0.9
baz=152
TKL **Tuckaleechee C** 41.47 357 LR LR 22 35 41.4
comp=Z,294nm,20.5s,slow=36
TKL **Tuckaleechee C** 41.47 357 *e*P P 22 19 02.2 -0.7
16nm,1.1s
Y39A **Lockesburg** 41.56 344 P P 22 19 04.8 +1.2
baz=160
W45A **Hickory Valley** 41.61 350 P P 22 19 03.8 -0.2
baz=167
134A **White-Moore Ra** 41.61 338 P P 22 19 05.0 +0.9
baz=154
X40A **Basin Creek Fa** 41.74 345 P P 22 19 06.0 +0.9
baz=162
CHRN **Cochrane** 41.78 171 *e*P P 22 19 04.8 -0.5
6.9nm,1.0s
UALR **University of** 41.90 346 *e*P P 22 19 06.8 +0.4
26nm,1.5s
133A **Hamilton Ranch** 41.96 337 P P 22 19 08.2 +1.2
baz=152
MIAR **Mount Ida** 41.99 344 P P 22 19 07.9 +0.8
baz=161
MIAR **Mount Ida** 41.99 344 *e*P P 22 19 07.8 +0.6
12nm,0.9s
Z35A **Perchaven, San** 42.00 340 P P 22 19 08.9 +1.6
baz=155
Y37A **Hugo** 42.05 342 P P 22 19 09.1 +1.4
baz=158,SNR=12
X39A **Fountain Ranch** 42.10 344 P P 22 19 09.2 +1.1
baz=160,SNR=14
Y36A **Durant** 42.19 341 P P 22 19 10.4 +1.6
baz=157
W41B **Gary Mavity, V** 42.25 346 P P 22 19 09.6 +0.4
baz=163
ABTX **Abilene, Hawle** 42.26 336 P P 22 19 10.3 +0.9
baz=151
ABTX **Abilene, Hawle** 42.26 336 *e*P P 22 19 10.0 +0.6
10nm,0.9s
TZTN **Tazewell** 42.34 357 *e*P P 22 19 09.7 -0.3
16nm,1.2s
WVT **Waverly** 42.34 352 *e*P P 22 19 08.7 -1.3
9.9nm,1.4s
X301 **Greenbrier Sit** 42.35 346 *e*P P 22 19 10.6 +0.5
7.9nm,1.0s
WHAR **Wooly Hollow** 42.37 346 *e*P P 22 19 10.8 +0.5
6.6nm,0.8s
X201 **Greenbrier Sit** 42.39 346 *e*P P 22 19 11.0 +0.6
7.1nm,0.8s
Y35A **Marietta** 42.45 340 P P 22 19 12.2 +1.3
baz=156
X38A **Whitesboro** 42.45 343 P P 22 19 12.0 +1.0
baz=159,SNR=13
W40A **Ferguson Farm,** 42.47 345 P P 22 19 12.2 +1.1
baz=162
Z33A **Whitaker Ranch** 42.51 338 P P 22 19 12.9 +1.5
baz=153
X37A **Clayton** 42.54 342 P P 22 19 12.7 +1.1
baz=158,SNR=12
W39A **Magazine** 42.66 344 P P 22 19 13.5 +0.9
baz=161,SNR=13
V42A **Cord** 42.66 348 P P 22 19 12.5 -0.1
baz=164
W38A **Poteau** 42.74 344 P P 22 19 14.3 +1.0
baz=160,SNR=6.7
V41A **Mountainview** 42.81 347 P P 22 19 14.1 +0.2
baz=163,SNR=12
X36A **Centrahoma** 42.83 341 P P 22 19 14.4 +0.4
baz=157
X35A **Drake** 42.87 340 P P 22 19 15.2 +0.8
baz=156
W37B **Quinton** 43.07 343 P P 22 19 16.6 +0.7
baz=158,SNR=10
Y33A **Hilltop Ranch,** 43.10 338 P P 22 19 17.1 +0.9
baz=154
V39A **Pettigrew** 43.23 345 P P 22 19 17.8 +0.5
baz=161,SNR=5.2
W36A **Wetumka** 43.31 342 P P 22 19 18.2 +0.3
baz=157
X34A **Smith Ranch, M** 43.35 340 P P 22 19 19.2 +0.9
baz=155
PBMO **Poplar Bluff** 43.41 349 *e*P P 22 19 18.8 +0.2
9.6nm,1.2s
URVA **University of** 43.41 4 *e*P P 22 19 18.3 -0.4
V38A **Canehill** 43.45 344 P P 22 19 19.4 +0.4
baz=160,SNR=12
U40A **Yellville** 43.52 346 P P 22 19 19.9 +0.3
baz=162,SNR=9.5
W35A **Tecumseh** 43.53 341 P P 22 19 20.1 +0.4
baz=156
V37A **Hulbert** 43.68 343 P P 22 19 21.4 +0.6
baz=159
U39A **Green Forest** 43.70 345 P P 22 19 21.5 +0.4
baz=162,SNR=8.1
X32A **Elmer** 43.71 338 P P 22 19 21.8 +0.7
baz=153
HHAR **Hobbs** 43.73 345 *e*P P 22 19 21.9 +0.7
HHAR *epP* pP 22 19 29.9 -0.4
WMOK **Wichita Mounta** 43.81 339 *e*P P 22 19 17.8 -4.2
10.0nm,1.1s
V36A **Jenks** 43.82 342 P P 22 19 22.7 +0.6
baz=158
TUL1 **Leonard** 43.89 343 P P 22 19 22.8 +0.2
baz=158,SNR=6.7
TUL1 **Leonard** 43.89 343 *e*P P 22 19 22.7 +0.1
22nm,0.9s
W34A **Bridge Creek,** 43.90 340 P P 22 19 23.3 +0.6
baz=155
W34A **Bridge Creek,** 43.90 340 *e*P P 22 19 23.4 +0.7
34nm,1.2s
T41A **Mountain View** 43.94 348 P P 22 19 22.7 -0.2
baz=164,SNR=5.6
U38A **Gravette** 43.99 344 P P 22 19 23.6 +0.2
baz=160,SNR=9.3
CBN **Corbin Frederi** 44.06 4 *e*P P 22 19 23.6 -0.2
13nm,0.6s
MNTX **Cornudas Mount** 44.07 330 P P 22 19 24.8 +0.6
baz=144
MNTX **Cornudas Mount** 44.07 330 *e*P P 22 19 24.7 +0.6
8.5nm,1.3s
V35A **Meyer Ranch, C** 44.08 341 P P 22 19 24.0 -0.1
baz=157
S44A **Carbondale** 44.09 351 P P 22 19 23.3 -0.8
baz=168
SIUC **Southern Illin** 44.11 351 *e*P P 22 19 23.1 -1.2
20nm,1.0s
S43A **Fulton Ridge,** 44.12 350 P P 22 19 23.7 -0.6
baz=167
USIN **University of** 44.13 352 *e*P P 22 19 23.8 -0.6
14nm,0.8s
U37A **Salina** 44.16 344 P P 22 19 25.4 +0.7
baz=159
T40A **Mansfield** 44.20 347 P P 22 19 25.2 +0.1
baz=163
WCI **Wyandotte Cave** 44.23 354 *e*P P 22 19 24.3 -1.0
7.7nm,1.0s
T39A **Clever** 44.29 346 P P 22 19 26.1 +0.4
baz=162,SNR=7.9
W32A **Sentinel** 44.32 338 P P 22 19 26.8 +0.7
baz=153,SNR=11
U36A **Oologah** 44.33 343 P P 22 19 26.1 +0.1
baz=158
V34A **Guthrie** 44.36 341 P P 22 19 26.7 +0.3
baz=156
V34A **Guthrie** 44.36 341 *e*P P 22 19 26.5 +0.1
26nm,1.0s
T38A **Diamond** 44.53 345 P P 22 19 28.2 +0.5
baz=161
V33A **Lossen Ranch,** 44.61 340 P P 22 19 28.4 +0.1
baz=155
S40A **Leanon** 44.63 347 P P 22 19 28.6 +0.2
baz=163,SNR=5.2
MSTX **Muleshoe** 44.73 334 P P 22 19 30.2 +0.7
baz=148
MSTX **Muleshoe** 44.73 334 *e*P P 22 19 30.0 +0.5
13nm,1.0s
T37A **Cheneyville 18** 44.78 344 P P 22 19 30.3 +0.6
baz=160,SNR=7.3
V32A **Arapaho** 44.78 339 P P 22 19 30.8 +1.1
baz=154
RCBR **Riachuelo** 44.85 92 *e*P P 22 19 27.1 -3.6
44nm,1.4s
S39A **Bolivar** 44.91 346 P P 22 19 30.8 +0.1
baz=162,SNR=11
U34A **Anderson Ranch** 44.92 341 P P 22 19 30.8 0.0
baz=156
U34A **Anderson Ranch** 44.92 341 *e*P P 22 19 31.6 +0.8
14nm,0.7s
OLIL **Olney** 44.94 352 *e*P P 22 19 30.1 -0.8
37nm,1.7s
T36A **Boggs Farm, Ca** 44.99 343 P P 22 19 31.1 -0.2
baz=158
S38A **Stockton** 44.99 345 P P 22 19 31.6 +0.2
baz=161,SNR=5.2
T35A **Sooner Cattle** 45.04 342 P P 22 19 31.9 +0.1
baz=158,SNR=7.2
AMTX **Amarillo** 45.05 336 P P 22 19 32.9 +0.9
baz=150
U33A **Lingo Farm, Me** 45.11 340 P P 22 19 32.8 +0.5
baz=155
BLO **Bloomington** 45.18 354 *e*P P 22 19 32.5 -0.3
9.5nm,1.2s
Q44A **Meyer Farm, Va** 45.24 351 P P 22 19 32.3 -1.0
baz=168
R40A **Maddies Statio** 45.24 347 P P 22 19 33.2 -0.1
baz=164
T34A **Measkey Farm** 45.35 342 P P 22 19 34.6 +0.4
baz=157
S37A **Fort Scott** 45.35 345 P P 22 19 34.2 0.0
baz=160,SNR=5.4
U32A **Winter Ranch,** 45.36 339 P P 22 19 35.0 +0.7
baz=154
Q43A **New Douglas** 45.38 350 P P 22 19 34.1 -0.3
baz=167
R39A **Chumby, Stover** 45.44 347 P P 22 19 34.3 -0.5
baz=163
Q42A **Golden Eagle** 45.50 350 P P 22 19 34.9 -0.4
baz=166
R38A **Fenwick Farm,** 45.52 346 P P 22 19 35.5 0.0
baz=162,SNR=8.4
S36A **Lake Cedric, C** 45.53 344 P P 22 19 35.8 +0.2
baz=159
S35A **Otter Creek Ra** 45.69 343 P P 22 19 37.9 +0.9
baz=158,SNR=5.4
R37A **Teagarden Farm** 45.87 345 P P 22 19 38.7 +0.4
baz=160
Q40A **Laux Farm, Aux** 45.88 348 P P 22 19 38.2 -0.1
baz=164,SNR=9.5
319A **Douglas** 45.90 326 *e*P P 22 19 44.8 +6.0
15nm,1.0s
MVL **Millersville** 45.92 5 *e*P P 22 19 38.2 -0.4
7.4nm,1.1s
S34A **Willow Spring** 45.95 342 P P 22 19 39.6 +0.7
baz=157
121A **Cookes Peak, D** 45.97 328 P P 22 19 41.1 +1.7
baz=141
ACSO **Alum Creek Sta** 45.99 358 *e*P P 22 19 38.1 -1.1
8.2nm,0.8s
O56A **Blue Knob Stat** 46.04 3 P P 22 19 39.5 -0.2
baz=183
T32A **Huddler Ranch,** 46.06 340 P P 22 19 40.7 +0.9
baz=154
R36A **Gordon, Harris** 46.06 344 P P 22 19 40.1 +0.2
baz=153
Q39A **Willow Grove F** 46.12 347 P P 22 19 40.6 +0.3
baz=163
Q38A **Cooks Store, C** 46.19 346 P P 22 19 40.9 +0.1
baz=162
R35A **Emporia Munici** 46.26 343 P P 22 19 41.5 +0.2
baz=158
Q37A **Longview Farm,** 46.31 345 P P 22 19 41.9 +0.2
baz=161
P41A **Bay, Barry** 46.34 349 P P 22 19 41.8 -0.1
baz=166
P40A **Paris** 46.39 348 P P 22 19 42.1 -0.2
baz=164
SFIN **Lafayette** 46.44 354 P P 22 19 41.4 -1.3
baz=171
SFIN **Lafayette** 46.44 354 *e*P P 22 19 41.1 -1.6
6.5nm,0.6s
P39B **Salisbury** 46.50 347 P P 22 19 43.0 -0.1
baz=163,SNR=5.4
R34A **Isabella, Hill** 46.54 342 P P 22 19 44.4 +0.8
baz=157
LUPA **Lehigh Univers** 46.61 6 *e*P P 22 19 42.9 -1.1
12nm,0.6s
Q36A **Arnold C. Orve** 46.65 344 P P 22 19 44.8 +0.4
baz=160
Q35A **Mercer Eighty,** 46.71 344 P P 22 19 45.1 +0.2
baz=159,SNR=6.7
O41A **Passleys Farm,** 46.73 350 P P 22 19 44.6 -0.4
baz=158,SNR=6.4
R33A **Olander Ranch,** 46.78 342 P P 22 19 46.2 +0.8
baz=156
P38A **Dawn** 46.80 347 P P 22 19 45.1 -0.4
baz=162
N59A **State Game Lan** 46.88 5 P P 22 19 46.0 -0.2
baz=187
HDIL **Hopedale** 46.90 351 P P 22 19 45.2 -1.1
baz=168
HDIL **Hopedale** 46.90 351 *e*P P 22 19 45.5 -0.8
13nm,0.6s
O40A **La Belle** 46.92 349 P P 22 19 45.8 -0.7
baz=165
P37A **Lathrop** 46.96 346 P P 22 19 46.3 -0.5
baz=161
Q34A **Chapman** 47.02 343 P P 22 19 47.6 +0.3
baz=158,SNR=5.7
KSU1 **Kansas State U** 47.10 343 P P 22 19 48.4 +0.5
baz=158
KSU1 **Kansas State U** 47.10 343 *e*P P 22 19 47.9 0.0
69nm,1.4s
R32A **Long Quarter,** 47.11 341 P P 22 19 49.2 +1.1
baz=155
LAZ **Ladron** 47.12 330 *e*P P 22 19 48.8 +0.4
O39A **Kirksville** 47.19 348 P P 22 19 48.5 -0.1
baz=164,SNR=5.5
P36A **Good Intent, A** 47.20 345 P P 22 19 48.8 +0.1
baz=160
ANMO **Albuquerque** 47.23 331 P P 22 19 50.1 +0.9
baz=144
ANMO **Albuquerque** 47.23 331 *e*P P 22 19 49.8 +0.6
5.3nm,1.0s
M54A **Oil Creek Stat** 47.24 1 P P 22 19 48.6 -0.4
baz=181
O38A **Galt** 47.26 347 P P 22 19 48.9 -0.3
baz=163
P35A **Duane Minner,** 47.33 344 P P 22 19 49.7 -0.1
baz=159
Q33A **Connelly Farm,** 47.36 342 P P 22 19 50.0 0.0
baz=157
ALLY **Alegheny Colle** 47.37 1 *e*P P 22 19 48.5 -1.6
12nm,1.0s
TUC **Tucson** 47.45 325 P P 22 19 52.7 +1.8
baz=138
TUC **Tucson** 47.45 325 *e*P P 22 19 52.1 +1.3
4.1nm,0.9s
O37A **Wolven Farm, M** 47.46 346 P P 22 19 50.0 -0.7
baz=162
P34A **Walnut Farm, R** 47.57 343 P P 22 19 52.1 +0.5
baz=158
Q32A **Meitler Ranch,** 47.58 341 P P 22 19 52.4 +0.7
baz=156
YLE **Yale** 47.61 8 *e*P P 22 19 50.6 -1.2
108nm,1.7s
P33A **Williams Farm,** 47.72 343 P P 22 19 53.6 +0.8
baz=157
N39A **Derby Farms, D** 47.78 348 P P 22 19 53.0 -0.1
baz=164,SNR=6.5
T25A **Trinidad** 48.12 335 P P 22 19 57.3 +1.1
baz=148
T25A **Trinidad** 48.12 335 *e*P P 22 19 57.3 +1.1
22nm,1.7s
O34A **Beatrice** 48.13 344 P P 22 19 56.2 +0.3
baz=158,SNR=7.1
BINY **Binghamton** 48.13 5 *e*P P 22 19 55.1 -0.8
11nm,0.6s
O33A **Hebron** 48.28 343 P P 22 19 57.3 +0.2
baz=157
214A **Organ Pipe Nat** 48.37 323 P P 22 19 59.1 +1.2
baz=135
214A **Organ Pipe Nat** 48.37 323 *e*P P 22 19 58.7 +0.7
25nm,0.9s
M38A **Pleasantville** 48.44 348 P P 22 19 58.1 -0.2
baz=163
N35A **Tabor** 48.48 345 P P 22 19 58.6 0.0
baz=160
L41A **Preston** 48.57 351 P P 22 19 58.3 -0.9
baz=167,SNR=5.1
O32A **Brockman Farm,** 48.66 342 P P 22 20 00.3 +0.3
baz=156
N34A **Lincoln** 48.69 344 P P 22 19 59.9 -0.3
baz=159
L39A **Vinton** 48.88 349 P P 22 20 00.9 -0.8
baz=165
L38A **Oak Wood Farm,** 49.09 348 P P 22 20 02.9 -0.3
baz=164,SNR=12
SDCO **Great Sand Dun** 49.10 334 P P 22 20 04.5 +0.7
baz=147
L37A **Phoenix Point,** 49.24 347 P P 22 20 04.1 -0.2
baz=163
K40A **Colesburg** 49.29 350 P P 22 20 03.7 -1.0
baz=166,SNR=15
JFWS **Jewell Farm** 49.35 351 *e*P P 22 20 04.4 -0.9
8.2nm,0.8s
K39A **Oelwein** 49.42 349 P P 22 20 04.7 -1.1
baz=165,SNR=7.1
K38A **Parkersburg** 49.54 349 P P 22 20 06.3 -0.4
baz=164
M33A **Taylor Creek F** 49.56 344 P P 22 20 06.4 -0.5
baz=158
L35A **Bielow Farm, R** 49.64 346 P P 22 20 06.9 -0.6
baz=160
USHA **Ushuaia** 49.78 171 P P 22 20 09.6 +1.2
16nm,0.6s,baz=259,slow=4.8,SNR=6.1
K37A **Belmond** 49.83 348 P P 22 20 08.4 -0.4
baz=163,SNR=11
K36A **Gilmore City** 49.88 347 P P 22 20 09.3 0.0
baz=162
Y14A **Wickenburg** 49.90 325 *e*P P 22 20 10.2 +0.5
15nm,0.8s
J39A **Decorah** 50.00 350 P P 22 20 09.3 -0.9
baz=166,SNR=11
MVCO **Mesa Verde** 50.03 331 *e*P P 22 20 11.1 +0.3
4.8nm,0.9s
J38A **Wedel Dairy, R** 50.13 349 P P 22 20 10.1 -1.0
baz=165
WUAZ **Wupatki** 50.17 328 P P 22 20 13.1 +1.3
baz=139
WUAZ **Wupatki** 50.17 328 *e*P P 22 20 13.2 +1.3
5.3nm,0.8s
J37A **Redenius Farm,** 50.33 348 P P 22 20 12.1 -0.6
baz=163
GLA **Glamis** 50.35 323 *e*P P 22 20 14.6 +1.5
3.7nm,0.8s
OGNE **Ogallala** 50.50 339 *e*P P 22 20 15.0 +0.8
17nm,0.8s
SADO **Sadowa** 50.51 2 LR LR 22 41 18.2
comp=Z,148nm,21.1s,baz=75,slow=36
SADO **Sadowa** 50.51 2 *e*P P 22 20 12.4 -1.6
7.4nm,0.9s
J36A **Seneca 1, Swea** 50.52 347 P P 22 20 13.6 -0.5
baz=162,SNR=15
L31A **Butterfield Fa** 50.58 343 P P 22 20 15.2 +0.5
baz=156
Y12C **Blythe** 50.66 323 P P 22 20 17.0 +1.7
baz=134
Y12C **Blythe** 50.66 323 *e*P P 22 20 16.5 +1.2
5.9nm,0.9s
LONY **Lake Ozonia** 50.67 6 *e*P P 22 20 14.4 -0.8
42nm,1.9s
K32A **Verdigre** 50.78 344 P P 22 20 15.6 -0.6
baz=159
I38A **Scanlan Farm,** 50.80 349 P P 22 20 15.4 -0.8
baz=165,SNR=7.2
PV01 **Paradox Valley** 50.80 332 *e*P P 22 20 17.5 +0.8
ISCO **Idaho Springs** 50.87 336 P P 22 20 18.2 +0.9
baz=147
ISCO **Idaho Springs** 50.87 336 *e*P P 22 20 18.0 +0.7
6.7nm,1.1s
SMCO **Snowmass** 50.93 334 *e*P P 22 20 18.1 +0.3
SMCO *epP* pP 22 20 27.7 +0.9
FRNY **Flat Rock** 50.99 7 *e*P P 22 20 16.8 -0.8
37nm,1.8s
PV05 **Paradox Valley** 51.01 331 *e*P P 22 20 19.6 +1.4
BC3 **Big Chuckawall** 51.14 323 P P 22 20 21.6 +2.4
baz=133
K30A **Basset** 51.27 342 P P 22 20 20.2 +0.4
baz=156
IRM **Iron Mountain** 51.31 323 P P 22 20 21.9 +1.6
baz=134
PV09 **Paradox Valley** 51.36 332 *e*P P 22 20 21.9 +1.0
ECSD **EROS Data Cent** 51.43 346 P P 22 20 20.0 -1.0
baz=160,SNR=8.6
ECSD **EROS Data Cent** 51.43 346 *e*P P 22 20 20.0 -1.0
6.1nm,0.6s
H36A **Jessenland, He** 51.62 348 P P 22 20 21.9 -0.5
baz=163,SNR=6.0
TPFO **Pinon Flats** 51.72 322 P P 22 20 24.1 +0.6
baz=132
PFO **Pinyon Flats O** 51.73 322 *e*P P 22 20 26.1 +2.5
J30A **Dallas** 51.83 343 P P 22 20 23.8 -0.2
baz=156
H35A **Sunnyside Ranc** 51.93 347 P P 22 20 24.0 -0.7
baz=162
N23A **Red Feather La** 51.93 336 P P 22 20 24.7 -0.4
baz=148
SPMN **Marine on St.** 52.03 349 P P 22 20 24.6 -0.8
baz=165,SNR=6.8
SPMN **Marine on St.** 52.03 349 *e*P P 22 20 24.5 -0.9
17nm,1.0s
KNB **Kanab** 52.06 328 *e*P P 22 20 26.6 +0.6
KNB *epP* pP 22 20 36.0 +0.8
H34A **Spellman Lake,** 52.11 347 P P 22 20 25.7 -0.3
baz=161
PKCU **Pink Cliffs** 52.12 328 *e*P P 22 20 27.6 +1.0
9.8nm,1.2s
G36A **St. Michael** 52.22 349 P P 22 20 26.3 -0.5
baz=164
TRQ **Mont Tremblant** 52.26 6 *e*P P 22 20 25.6 -1.5
O20A **White River Ci** 52.27 334 P P 22 20 28.2 +0.6
baz=144
O20A **White River Ci** 52.27 334 *e*P P 22 20 28.2 +0.6
31nm,1.9s
LCMT **Little Creek M** 52.29 327 *e*P P 22 20 28.2 +0.5
5.4nm,1.3s
COWI **Conover** 52.32 353 *e*P P 22 20 27.1 -0.5
17nm,1.6s
H33A **Prehn Over Nor** 52.35 346 P P 22 20 27.5 -0.3
baz=160,SNR=5.5
HEC **Hector,Ludlow** 52.48 323 P P 22 20 30.4 +1.4

baz=133
MTPU **Mount Pierson** 52.50 329 *e*P P 22 20 30.2 +0.7
6.3nm,1.4s
SRU **San Rafael Swe** 52.50 331 *e*P P 22 20 31.0 +1.8
11nm,1.5s
CCUT **Cedar City** 52.75 328 *e*P P 22 20 33.3 +2.1
6.5nm,1.1s
F36A **Milaca** 52.78 349 P P 22 20 30.4 -0.5
baz=164,SNR=8.0
P18A **Preston Nutter** 52.78 332 *e*P P 22 20 32.8 +1.3
10nm,1.4s
MSU **Marysvale** 52.86 329 *e*P P 22 20 32.6 +0.6
BFSC **Mount Baldy Ra** 52.88 322 P P 22 20 33.1 +0.9
baz=132
P17A **Butcher Ranch,** 52.89 331 *e*P P 22 20 33.4 +1.2
13nm,1.2s
SHPR **Sheep Range** 52.97 325 *e*P P 22 20 33.3 +0.5
4.6nm,1.0s
TMUT **Trail Mountain** 52.98 331 *e*P P 22 20 34.4 +1.4
18nm,1.8s
F35A **Swanville** 52.98 348 P P 22 20 32.0 -0.4
baz=163
F34A **Alexandria** 53.06 348 P P 22 20 32.8 -0.3
baz=162
G32A **Webster** 53.07 345 P P 22 20 32.5 -0.6
baz=159
GSC **Goldstone, Bar** 53.09 323 *e*P P 22 20 35.9 +2.4
4.9nm,1.0s
F33A **5 Mile Ranch,** 53.34 347 P P 22 20 34.0 -1.0
baz=161
E36A **McGregor** 53.36 349 P P 22 20 34.9 -0.3
baz=164,SNR=5.1
SNCC **San Nicolas Is** 53.42 319 *e*P P 22 20 36.6 +0.7
66nm,1.3s
EDW2 **Edwards Air Fo** 53.52 322 P P 22 20 38.4 +1.8
baz=132
K22A **Casper** 53.65 337 P P 22 20 37.7 +0.1
baz=148
K22A **Casper** 53.65 337 *e*P P 22 20 37.5 -0.1
8.8nm,1.0s
PSUT **Pine Spring** 53.74 328 *e*P P 22 20 39.2 +0.8
17nm,1.4s
D37A **Cotton** 53.84 350 P P 22 20 38.5 -0.2
baz=166,SNR=5.8
TPNV **Topopah Spring** 53.90 325 P P 22 20 40.9 +1.3
baz=134
TPNV **Topopah Spring** 53.90 325 *e*P P 22 20 40.4 +0.8
7.2nm,1.3s
NLU **North Lily Min** 53.91 331 *e*P P 22 20 40.3 +0.7
17nm,1.1s
RSSD **Black Hills** 54.00 340 P P 22 20 40.6 +0.4
baz=151
RSSD **Black Hills** 54.00 340 *e*P P 22 20 40.7 +0.5
10nm,1.3s
F30A **Leola** 54.01 344 P P 22 20 39.8 -0.2
baz=157
MPMC **Manual Prospec** 54.01 323 P P 22 20 41.7 +1.3
baz=133
D35A **Remer** 54.05 349 P P 22 20 39.6 -0.7
baz=164,SNR=6.3
JLU **Jordanelle** 54.11 332 *e*P P 22 20 41.8 +0.6
7.7nm,1.1s
C39A **Grand Marais** 54.14 352 P P 22 20 39.4 -1.5
baz=168
F29A **Eureka** 54.22 344 P P 22 20 41.2 -0.3
baz=156
D34A **Park Rapids** 54.28 348 P P 22 20 41.5 -0.4
baz=162,SNR=7.3
CTU **Camp Tracy** 54.33 331 *e*P P 22 20 43.5 +0.9
16nm,0.6s
ISA **Isabella, Lake** 54.33 322 *e*P P 22 20 43.5 +0.8
5.8nm,0.8s
C37A **Embarrass** 54.35 351 P P 22 20 42.4 -0.1
baz=166,SNR=15
E31A **Nome** 54.39 346 P P 22 20 42.4 -0.4
baz=159
EYMN **Ely** 54.45 351 P P 22 20 41.9 -1.4
baz=167
EYMN **Ely** 54.45 351 *e*P P 22 20 42.5 -0.7
30nm,1.3s
DUG **Dugway, Tooele** 54.46 330 P P 22 20 44.5 +0.9
baz=140
DUG **Dugway, Tooele** 54.46 330 *e*P P 22 20 44.5 +0.9
5.6nm,1.0s
D33A **AnnSam, Waubun** 54.47 348 P P 22 20 42.8 -0.5
baz=161
C36A **Pine Crest Far** 54.49 350 P P 22 20 43.6 +0.1
baz=165,SNR=11
TCUT **Toone Canyon** 54.50 332 *e*P P 22 20 44.3 +0.4
22nm,0.7s
R11A **Troy Canyon, C** 54.53 327 *e*P P 22 20 46.2 +2.1
3.9nm,1.3s
RKT **Rikitea** 54.63 246 *e*LR LR 22 36 37.4
276nm,25.8s
RKT **Rikitea** 54.63 246 *e*T T 23 19 17.4
8.9nm,0.3s
C35A **Jirik Farms, M** 54.63 349 P P 22 20 44.4 -0.1
baz=164
D32A **Dogwood Acres,** 54.72 347 P P 22 20 44.9 -0.3
baz=160
D31A **Mcclaflin, Tow** 54.81 346 P P 22 20 45.6 -0.2
baz=159
E29A **Napoleon** 54.85 344 P P 22 20 46.1 0.0
baz=157
HWUT **Hardware Ranch** 54.95 332 *e*P P 22 20 47.5 +0.3
9.3nm,0.8s
BW06 **Boulder Array** 54.99 335 P P 22 20 47.2 -0.3
baz=144
BW06 **Boulder Array** 54.99 335 *e*P P 22 20 47.3 -0.2
PD31 **Pinedale Array** 54.99 335 *e*P P 22 20 47.7 +0.3
PDAR **Pinedale Array** 54.99 335 P P 22 20 47.2 -0.3
1.0nm,0.5s,baz=138,slow=7.2,SNR=11
PDAR LR LR 22 44 05.8
comp=Z,207nm,18.1s,baz=148,slow=36
F26A **Lodgepole** 55.08 342 P P 22 20 47.8 -0.1
baz=153
D30A **Buchanan** 55.12 345 P P 22 20 48.1 +0.1
baz=158
BGU **Big Grassy Mou** 55.12 331 *e*P P 22 20 49.6 +1.2
12nm,1.5s
SPUT **South Promonto** 55.14 331 *e*P P 22 20 49.4 +0.9
5.2nm,1.1s
B35A **Bob, Littlefor** 55.22 350 P P 22 20 48.3 -0.4
baz=164,SNR=5.9
B34A **Aery, Baudette** 55.51 349 P P 22 20 50.6 -0.2
baz=163,SNR=12
E26A **Carlson Angus** 55.57 342 P P 22 20 51.4 0.0
baz=154
AGMN **Agassiz Nation** 55.57 348 P P 22 20 51.1 -0.2
baz=162,SNR=17
AGMN **Agassiz Nation** 55.57 348 *e*P P 22 20 51.0 -0.3
18nm,0.6s
AHID **Auburn Hatcher** 55.66 333 *e*P P 22 20 53.2 +0.9
5.3nm,0.8s
B32A **Ashes, Strandq** 55.81 348 P P 22 20 52.9 -0.1
baz=161
MDND **Maddock** 56.02 345 P P 22 20 54.7 +0.2
baz=157
MDND **Maddock** 56.02 345 *e*P P 22 20 54.8 +0.2
26nm,0.9s
REDW **Red Top Meadow** 56.03 334 *e*P P 22 20 55.3 +0.4
15nm,1.2s
B31A **Greenbush Farm** 56.08 347 P P 22 20 54.9 0.0
baz=160
A33A **Warroad** 56.09 349 P P 22 20 54.7 -0.3
baz=162,SNR=7.5
ELK **Elko** 56.09 329 *e*P P 22 20 55.9 +0.5
3.3nm,1.0s
LOHW **Long Hollow** 56.12 334 *e*P P 22 20 56.4 +0.8
6.1nm,1.3s
TPAW **Teton Pass** 56.17 334 *e*P P 22 20 56.4 +0.4
6.0nm,0.9s
B30A **Myrvik Farm, E** 56.27 346 P P 22 20 56.0 -0.3
baz=159
MOOW **Moose Ponds** 56.29 334 *e*P P 22 20 56.7 -0.1
2.1nm,0.8s
FXWY **Fox Creek** 56.33 334 *e*P P 22 20 57.6 +0.5
3.1nm,1.0s
IMW **Indian Meadow** 56.50 334 *e*P P 22 20 59.1 +0.8
7.9nm,1.4s
A30A **Hoffart Farm,** 56.72 346 P P 22 20 59.2 -0.3
baz=159
H17A **Grant Village** 56.74 335 P P 22 21 00.9 +0.9
baz=144
RLMT **Red Lodge** 56.80 336 P P 22 21 00.6 +0.2
baz=145
A29A **Manning Farm,** 56.92 346 P P 22 21 01.0 +0.1
baz=158,SNR=12

ULM **Lac du Bonnet** 57.44 349 P P 22 21 03.6 -0.9
7.2nm,0.7s,baz=172,slow=7.4,SNR=8.2
ULM **Lac du Bonnet** 57.44 349 *e*P P 22 21 03.9 -0.6
9.1nm,0.8s
GCMT **Greycliff** 57.51 337 *e*P P 22 21 05.7 +0.4
HLID **Hailey** 57.80 332 P P 22 21 08.1 +0.7
baz=139,SNR=7.9
HLID **Hailey** 57.80 332 *e*P P 22 21 08.3 +0.9
5.8nm,0.9s
MCMT **McKenzie Canyo** 58.07 334 *e*P P 22 21 10.4 +1.0
BOZ **Bozeman (W)** 58.19 335 P P 22 21 10.4 +0.3
baz=143,SNR=10
BOZ **Bozeman (W)** 58.19 335 *e*P P 22 21 10.1 0.0
11nm,1.2s
MFID **Camas Ranch** 58.37 331 *e*P P 22 21 12.2 +0.8
12nm,1.0s
DLMT **Dillon** 58.38 334 *e*P P 22 21 12.2 +0.8
7.1nm,0.8s
TAOE **Nuku Hiva Isla** 58.67 263 *e*LR LR 22 38 21.9
247nm,25.3s
TAOE **Nuku Hiva Isla** 58.67 263 *e*T T 23 24 21.4
21nm,0.2s
LRM **Limekiln Ridge** 58.68 335 *e*P P 22 21 14.1 +0.5
WVOR **Wild Horse Val** 59.07 328 *e*P P 22 21 17.0 +0.7
9.2nm,1.3s
MSO **Missoula** 60.11 334 P P 22 21 23.8 +0.5
baz=141,SNR=8.1
MSO **Missoula** 60.11 334 *e*P P 22 21 23.8 +0.5
15nm,1.2s
K05A **Summer Lake** 60.48 327 *e*P P 22 21 26.9 +0.9
21nm,1.4s
F10A **Beach Ranch, E** 60.93 332 *e*P P 22 21 30.2 +1.3
12nm,1.1s
YBMT **Yellow Bay** 60.95 335 *e*P P 22 21 30.2 +1.2
J05D **Fort Rock, OR** 61.04 327 P P 22 21 30.5 +0.7
baz=132
BSMT **Bassoo Peak** 61.27 335 *e*P P 22 21 32.2 +0.9
SCHQ **Schefferville** 61.70 9 P P 22 21 31.6 -2.2
5.0nm,0.9s,baz=179,slow=7.9,SNR=4.1
SCHQ LR LR 22 48 58.8
comp=Z,78nm,20.3s,baz=134,slow=37
WALA **Waterton Lakes** 61.85 336 *e*P P 22 21 35.8 +0.7
11nm,1.0s
PPT **Papeete** 67.82 254 LR LR 22 43 42.1
comp=Z,226nm,20.0s,baz=72,slow=29
PPT2 **Papeete2** 67.82 254 *e*LR LR 22 42 47.1
317nm,25.5s
YKA **Yellowknife Ar** 72.93 344 P P 22 22 43.7 -1.0
1.4nm,0.6s,baz=138,slow=5.8,SNR=16
DLBC **Dease Lake** 75.19 336 *e*P P 22 22 59.2 +1.0
8.0nm,0.9s
DBIC **Dimbokro** 77.02 82 P P 22 23 10.2 +0.7
5.6nm,0.8s,baz=213,slow=4.6,SNR=5.7
DBIC LR LR 22 56 05.1
comp=Z,584nm,18.7s,baz=238,slow=35
SNAA **Sanae** 80.67 162 P P 22 23 28.5 0.0
SNAA **Sanae** 80.67 162 *e*P P 22 23 28.4 0.0
9.8nm,0.9s
INK **Inuvik** 82.56 343 *e*P P 22 23 38.5 +0.3
6.3nm,1.1s
SUMG **Summit** 82.96 12 *i*P P 22 23 40.1 -0.7
8.2nm,1.0s
SUMG **Summit** 82.96 12 *e*P P 22 23 40.7 -0.1
7.2nm,0.9s
EGAK **Eagle** 83.16 338 *e*P P 22 23 41.3 -0.2
13nm,1.1s
ESDC **Sonseca Array** 83.88 49 P P 22 23 47.2 +1.4
0.9nm,0.5s,baz=261,slow=4.7,SNR=13
ESDC LR LR 22 59 12.7
comp=Z,81nm,19.4s,baz=270,slow=34
ES19 **SONSECA Array** 83.93 49 *e*P P 22 23 46.9 +0.8
TOA0 **Torodi Ar. Sit** 84.27 76 *e*P P 22 23 48.6 +0.4
TORD **Torodi Ar. Bea** 84.27 76 P P 22 23 48.7 +0.4
4.7nm,0.6s,baz=285,slow=3.5,SNR=65
TORD LR LR 23 00 59.4
comp=Z,392nm,18.6s,baz=250,slow=35
ILAR **Eielson Array** 85.34 337 P P 22 23 51.7 -0.9
0.4nm,0.6s,baz=174,slow=3.3,SNR=4.6
RND **Reindeer** 85.59 335 *e*P P 22 23 54.7 +0.8
6.1nm,1.2s
BPAW **Bear Paw Mtn.** 86.73 336 *e*P P 22 23 59.1 -0.4
17nm,1.6s
PPLA **Purkeypile** 86.82 334 *e*P P 22 23 59.9 -0.2
29nm,1.6s
MLY **Manley** 86.96 336 *e*P P 22 24 00.3 -0.3
2.7nm,0.9s
COLD **Coldfoot** 87.55 339 *e*P P 22 24 04.3 +0.9
5.8nm,1.2s
TAM **Tamanrasset** 89.09 67 *e*P P 22 24 10.9 -0.9
5.8nm,1.0s
DAG **Danmarks Havn** 89.65 12 *i*P P 22 24 12.7 -0.4
7.6nm,1.0s
VNDA **Vanda** 89.90 191 P P 22 24 15.0 +0.7
0.7nm,0.8s,baz=139,slow=1.9,SNR=7.0
VNDA LR LR 22 56 58.7
comp=Z,70nm,19.4s,baz=92,slow=30
SYO **Syowa Base** 94.96 162 *e*P P 22 24 36.3 -1.5
SPITS **Spitsbergen Ar** 97.30 12 LR LR 23 08 04.6
comp=Z,17nm,20.1s,baz=335,slow=35
H11S2 **WAKE ISLAND Hyl** 12.99 287 T T 00 32 24.8
baz=89,slow=74,SNR=68
H11S1 **WAKE ISLAND Hyl** 12.99 287 T T 00 32 22.9
baz=89,slow=74,SNR=49
H11S3 **WAKE ISLAND Hyl** 13.00 287 T T 00 32 26.1
baz=89,slow=74,SNR=36
STKA **Stephens Creek** 124.67 224 PKP PKPdf 22 30 15.6 -0.4
1.6nm,0.8s,baz=129,slow=7.6,SNR=3.2
ABKAR **Akbulak array** 125.72 31 *e*PKPdf PKPdf 22 30 17.7 +0.3
ZALV **Zalesovo Beam** 130.78 11 PKP PKPdf 22 30 26.6 -0.2
1.6nm,0.6s,baz=325,slow=3.2,SNR=8.9
MJAR **Matsushiro Arr** 132.98 316 PKP PKPdf 22 30 30.6 -1.0
0.5nm,0.6s,baz=134,slow=1.5,SNR=4.3
ASAR **Alice Springs** 134.98 228 PKP PKPdf 22 30 34.9 -0.9
1.2nm,0.8s,baz=106,slow=2.0,SNR=11
WRA **Warramunga Arr** 136.75 233 PKP PKPdf 22 30 38.6 -0.6
2.1nm,0.6s,baz=118,slow=2.0,SNR=18
MKAR **Makanchi Array** 136.83 17 PKhKP PKPpre 22 30 29.0
0.1nm,0.5s,baz=354,slow=2.2,SNR=2.2
MKAR PKP PKPdf 22 30 37.5 -1.1
0.9nm,0.6s,baz=344,slow=2.0,SNR=11
SONM **Songino Array** 137.79 353 PKP PKPdf 22 30 41.2 +0.8
0.5nm,0.7s,baz=359,slow=2.5,SNR=2.6
KSRS **Kessa Array** 139.04 324 PKP PKPdf 22 30 42.8 0.0
2.3nm,1.0s,baz=50,slow=0.8,SNR=9.6
KSAR **Wonju Array Be** 139.07 324 PKP PKPdf 22 30 42.8 -0.1
KSH **Kashi** 140.66 29 PKP PKPdf 22 30 45.4 -0.5
KSH PP PP 22 33 48.1 +3.5
KSH PKS PKSdf 22 34 20.6 -1.4
KSH PPMZ
61nm,4.7s
KSH LN
69nm,3.9s
KSH LE
57nm,5.6s
WMQ **Urumqi** 140.99 13 PKP PKPdf 22 30 44.4 -1.9
WMQ LN
57nm,21.0s
WMQ LE
33nm,19.2s
WMQ LZ
42nm,24.2s
HHC **Hu-ho-hao-te** 143.47 344 *e*PKP PKPab 22 30 45.3 -1.8
GTA **Gaotai** 146.68 359 *e*PKPbc PKPdf 22 30 57.1 +0.6
GTA LN
170nm,17.1s
GTA LE
77nm,13.5s
GTA LZ
240nm,16.4s
LZH **Lanzhou** 149.68 352 *e*PKPbc PKPbc 22 31 06.5 +0.3
LZH PP PP 22 34 47.0 +9.1
LZH *e*SKKS 22 41 32.0
LZH PPMZ
94nm,5.1s
XAN **Xi'an** 150.57 343 PKPbc PKPbc 22 31 07.5 -0.7
KMI **Kunming** 160.60 350 PKP PKPdf 22 31 17.5 +0.8
QIZ **Qiongzhong** 163.25 322 PKP PKPdf 22 31 16.0 -3.3
QIZ PP PP 22 35 53.0 -0.7
QIZ SS SS 22 56 18.4 +0.9
QIZ LZ
190nm,15.9s
CMAR **Chiang Mai Arr** 167.57 0 PKPab PKPab 22 32 27.1 -1.4
2.6nm,0.9s,baz=339,slow=6.0,SNR=9.3

IDC 18 22:19:04.0±15.0, 14.74S×175.09E, h650km±209km,
mb2.9/5, mb1 3.1/5, mb1mx2.8/30, mbtmp4.1/5, Error ellipse: s-maj=109.8km s-min=76.1km az=115.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	28.00	255	P	P	P	22 24 06.5	+0.4
	1.6nm,0.6s,baz=72,slow=13,SNR=2.5							
STKA	**Stephens Creek**	34.98	235	P	P	P	22 25 05.6	+0.6
	3.1nm,0.8s,baz=81,slow=13,SNR=4.8							
WRA	**Warramunga Arr**	39.17	256	P	P	P	22 25 38.8	-0.3
	1.7nm,0.5s,baz=91,slow=8.6,SNR=21							
ASAR	**Alice Springs**	39.78	251	P	P	P	22 25 43.9	0.0
	2.0nm,0.3s,baz=83,slow=8.7,SNR=52							
ILAR	**Eielson Array**	84.36	15	P	P	P	22 30 29.3	0.0
	0.2nm,0.6s,baz=266,slow=2.4,SNR=4.1							

SFS ***18*** *22:46:12.0,36.40N×8.06W,h60km,ML4.0*
LDG ***18*** *22:46:13.9±0.3,36.64N×7.81W,h70km±3km,Ml3.4/3, Error ellipse: s-maj=6.6km s-min=3.3km az=35.0*
MDD ***18*** *22:46:13.2±0.9,36.44N×7.99W,h26km±11km,mbLg2.9/31, Error ellipse: s-maj=9.1km s-min=3.7km az=31.0,PRIMO*
CNRM ***18*** *22:46:13.2,36.16N×7.97W,h11km,MD3.3*
IGIL ***18*** *22:46:13.4,36.46N×8.05W,h14km,ML3.0*
INMG ***18*** *22:46:13.6±1.4,36.48N×8.03W,h15km±3km,MD2.8, ML3.0,Error ellipse: s-maj=4.3km s-min=2.4km az=49.0*
CSEM ***18*** *22:46:14.7±0.2,36.58N×7.88W,h60km,ML3.9/18,Error ellipse: s-maj=4.9km s-min=2.3km az=32.0*
ISC 18 22:46:10.0±0.8, 36.45N±0.03×7.98W±0.03, h10km, n196, σ1.9 97/326, 11C-11D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	0.80	3	⇑*i*P		Pg	22 46 28.0	+2.6
PBDV				*e*S		Sg	22 46 38.4	+2.6
PBDV				A		A	22 46 40.0	
	165nm,0.2s							
PBDV	**Barranco-do-Ve**	0.80	3	P		Pg	22 46 28.0	+2.6
PBDV				S		Sg	22 46 38.4	+2.6
	165nm,0.2s							
PBDV	**Barranco-do-Ve**	0.80	3	⇑*i*P		Pg	22 46 28.0	+2.6
PBDV				S		Sg	22 46 38.4	+2.6
	165nm,0.2s							
PFVI	**Vila Bisbo**	0.96	316	⇓*e*P		Pg	22 46 29.7	+1.1
PFVI				*e*S		Sg	22 46 42.0	+0.9
PFVI				A		A	22 46 47.0	
	133nm,0.4s							
PFVI	**Vila Bisbo**	0.96	316	P		Pg	22 46 29.7	+1.1
	42nm,0.1s,SNR=45							
PFVI				S		Sg	22 46 41.7	+0.6
	186nm,0.1s,SNR=8.9							
PFVI	**Vila Bisbo**	0.96	316	P		Pg	22 46 29.7	+1.1
	42nm,0.1s,SNR=45							
PFVI				S		Sg	22 46 41.7	+0.6
	186nm,0.1s,SNR=8.9							
PVAQ	**Vaqueiros**	0.98	13	⇑*e*P		Pg	22 46 30.5	+1.6
PVAQ				*e*S		Sg	22 46 43.5	+1.9
PVAQ				A		A	22 46 45.8	
	223nm,0.1s							
PVAQ	**Vaqueiros**	0.98	13	P		Pg	22 46 30.5	+1.6
PVAQ				S		Sg	22 46 43.5	+1.9
	223nm,0.1s							
PVAQ	**Vaqueiros**	0.98	13	⇑*e*P		Pg	22 46 30.5	+1.6
PVAQ				S		Sg	22 46 43.5	+1.9
	223nm,0.1s							
MORF	**Marmelete**	1.01	328	*e*P		Pg	22 46 30.6	+1.1
MORF				*e*S		Sg	22 46 43.0	+0.4
MORF				AML		AML	22 46 43.6	
	comp=N,215nm,0.3s							
MORF	**Marmelete**	1.01	328	⇓*i*P		Pg	22 46 30.6	+1.1
MORF				*e*S		Sg	22 46 43.6	+0.9
MORF				A		A	22 46 45.1	
	comp=N,291nm,0.2s							
MORF	**Marmelete**	1.01	328	P		Pg	22 46 30.6	+1.1
MORF				S		Sg	22 46 43.6	+0.9
	comp=N,291nm,0.2s							
MORF	**Marmelete**	1.01	328	⇓*i*P		Pg	22 46 30.6	+1.1
MORF				S		Sg	22 46 43.6	+0.9
	comp=N,291nm,0.2s							
EGRO	**El Granado**	1.16	20	⇑P		Pb	22 46 33.2	+1.1
	comp=N,24nm,0.1s,SNR=18							
EGRO				S		Sb	22 46 47.9	+0.7
	comp=N,121nm,0.1s,SNR=23							
EGRO	**El Granado**	1.16	20	P		Pb	22 46 33.2	+1.1
	comp=N,24nm,0.1s,SNR=18							
EGRO				S		Sb	22 46 47.9	+0.7
	comp=N,121nm,0.1s,SNR=23							
PCVE	**Castro Verde**	1.18	358	⇑*i*P		Pb	22 46 33.6	+1.0
PCVE				*e*S		Sb	22 46 48.2	+0.2
PCVE				A		A	22 46 49.7	
	comp=N,244nm,0.1s							
PCVE	**Castro Verde**	1.18	358	P		Pb	22 46 33.6	+1.0
PCVE				S		Sb	22 46 48.2	+0.2
	comp=N,244nm,0.1s							
PCVE	**Castro Verde**	1.18	358	⇑*i*P		Pb	22 46 33.6	+1.0
PCVE				S		Sb	22 46 48.2	+0.2
	comp=N,244nm,0.1s							
PTEO	**Sao Teotonio**	1.25	332	*e*P		Pb	22 46 34.1	+0.4
PTEO				*e*S		Sb	22 46 49.8	0.0
PTEO				A		A	22 46 51.0	
	comp=N,67nm,0.1s							
PTEO	**Sao Teotonio**	1.25	332	P		Pb	22 46 34.1	+0.4
PTEO				S		Sb	22 46 49.8	0.0
	comp=N,34nm,0.1s							
PTEO	**Sao Teotonio**	1.25	332	*e*P		Pb	22 46 34.1	+0.4
PTEO				S		Sb	22 46 49.8	0.0
	comp=N,34nm,0.1s							
MESJ	**Messejana**	1.40	352	*e*P		Pn	22 46 36.5	+0.8
MESJ				*e*S		Sb	22 46 53.5	-0.8
MESJ				AML		AML	22 46 54.3	
	comp=N,293nm,0.2s							
MESJ	**Messejana**	1.40	352	*e*P		Pn	22 46 36.5	+0.8
MESJ				*e*S		Sb	22 46 53.5	-0.8
MESJ				A		A	22 46 55.0	
	comp=N,130nm,0.4s							
MESJ	**Messejana**	1.40	352	P		Pn	22 46 36.5	+0.8
MESJ				S		Sb	22 46 53.5	-0.8
	comp=N,130nm,0.4s							
MESJ	**Messejana**	1.40	352	*e*P		Pn	22 46 36.5	+0.8
MESJ				S		Sb	22 46 53.5	-0.8
	comp=N,130nm,0.4s							
PBEJ	**Beja**	1.58	3	⇓*i*P		Pn	22 46 38.9	+0.8
PBEJ				*e*S		Sn	22 46 58.3	-0.3
PBEJ				A		A	22 47 00.5	
	comp=N,93nm,0.1s							
PBEJ	**Beja**	1.58	3	P		Pn	22 46 38.9	+0.8
PBEJ				S		Sn	22 46 58.3	-0.3
	comp=N,46nm,0.1s							
PBEJ	**Beja**	1.58	3	⇓*i*P		Pn	22 46 38.9	+0.8
PBEJ				S		Sn	22 46 58.3	-0.3
	comp=N,46nm,0.1s							
EMIN	**Mina Concepcio**	1.69	38	⇑P		Pn	22 46 40.0	+0.4
	comp=N,12nm,0.1s,SNR=18							
EMIN				S		Sn	22 46 59.7	-1.5
	comp=N,41nm,0.3s,SNR=5.0							
EMIN	**Mina Concepcio**	1.69	38	P		Pn	22 46 40.0	+0.4
	comp=N,12nm,0.1s,SNR=18							
EMIN				S		Sn	22 46 59.7	-1.5
	comp=N,41nm,0.3s,SNR=5.0							
PNCL	**Nicolau / Gran**	1.72	346	*e*Pn		Pn	22 46 40.5	+0.5
PNCL				*e*Sn		Sn	22 47 00.1	-1.9
PNCL				A		A	22 47 01.2	
	comp=N,64nm,0.1s							
PNCL	**Nicolau / Gran**	1.72	346	*e*Pn		Pn	22 46 40.5	+0.5
PNCL				*e*Sn		Sn	22 47 00.1	-1.9
	comp=N,64nm,0.1s							
EJIF	**Jimena Fronter**	2.03	89	P		Pn	22 46 44.9	+0.7
	comp=N,2.7nm,0.2s,SNR=7.9							
EJIF				S		Sn	22 47 09.3	-0.3
	comp=N,8.4nm,0.3s,SNR=7.9							
EJIF	**Jimena Fronter**	2.03	89	P		Pn	22 46 44.9	+0.7
	comp=N,2.7nm,0.2s,SNR=7.9							
EJIF				S		Sn	22 47 09.3	-0.3
	comp=N,8.4nm,0.3s,SNR=7.9							
EVO	**Evora**	2.08	359	⇓*i*Pn		Pn	22 46 45.8	+0.8
EVO				*e*Sn		Sn	22 47 09.9	-1.1
EVO				A		A	22 47 12.3	
	comp=N,111nm,0.2s							
EVO	**Evora**	2.08	359	Pn		Pn	22 46 45.8	+0.8
EVO				Sn		Sn	22 47 09.9	-1.1
	comp=N,111nm,0.2s							
EVO	**Evora**	2.08	359	⇓*i*Pn		Pn	22 46 45.8	+0.8
EVO				Sn		Sn	22 47 09.9	-1.1
	comp=N,111nm,0.2s							

ECEU Ceuta 2.18 104 ⇓P **Pn 22 46 47.1 +0.8**
comp=N,14nm,0.2s,SNR=18
ECEU S **Sn 22 47 12.6 -0.8**
comp=N,3.6nm,0.2s,SNR=5.0
ECEU Ceuta 2.18 104 P **Pn 22 46 47.1 +0.8**
comp=N,14nm,0.2s,SNR=18
ECEU S **Sn 22 47 12.6 -0.8**
comp=N,3.6nm,0.2s,SNR=5.0
EBAD Badajoz 2.43 18 ⇑P **Pn 22 46 50.2 +0.4**
comp=N,19nm,0.1s,SNR=18
EBAD S **Sn 22 47 17.9 -1.7**
comp=N,20nm,0.1s,SNR=29
EBAD Badajoz 2.43 18 P **Pn 22 46 50.2 +0.4**
comp=N,19nm,0.1s,SNR=18
EBAD S **Sn 22 47 17.9 -1.7**
comp=N,20nm,0.1s,SNR=29
PESTR Estremoz 2.44 7 *e*Pn **Pn 22 46 50.4 +0.5**
PESTR *e*Sn **Sn 22 47 18.0 -1.8**
PESTR A A 22 47 20.8
comp=N,31nm,0.2s
PESTR Estremoz 2.44 7 *e*Pn **Pn 22 46 50.4 +0.5**
PESTR *e*Sn **Sn 22 47 18.0 -1.8**
comp=N,31nm,0.2s
PMST Lisbon--Monsan 2.48 338 *e*Pn **Pn 22 46 51.2 +0.8**
PMST *e*Sn **Sn 22 47 19.6 -1.1**
PMST A A 22 47 21.2
comp=N,56nm,0.2s
PMST Lisbon--Monsan 2.48 338 *e*Pn **Pn 22 46 51.2 +0.8**
PMST *e*Sn **Sn 22 47 19.6 -1.1**
comp=N,56nm,0.2s
EMIJ Mijas 2.59 86 P **Pn 22 46 52.0 0.0**
comp=N,1.9nm,0.1s,SNR=16
EMIJ S **Sn 22 47 21.7 -1.8**
comp=N,5.6nm,0.1s,SNR=5.0
EMIJ Mijas 2.59 86 P **Pn 22 46 52.0 0.0**
comp=N,1.9nm,0.1s,SNR=16
EMIJ S **Sn 22 47 21.7 -1.8**
comp=N,5.6nm,0.1s,SNR=5.0
ECAB El Cabril 2.61 51 P **Pn 22 46 52.5 +0.2**
comp=N,13nm,0.1s,SNR=168
ECAB S **Sn 22 47 20.5 -3.7**
comp=N,3.4nm,0.2s,SNR=7.9
ECAB El Cabril 2.61 51 P **Pn 22 46 52.5 +0.2**
comp=N,13nm,0.1s,SNR=168
ECAB S **Sn 22 47 20.5 -3.7**
comp=N,3.4nm,0.2s,SNR=7.9
PMAFR Mafra 2.71 338 *e*Pn **Pn 22 46 54.5 +0.9**
PMAFR *e*Sn **Sn 22 47 24.9 -1.6**
PMAFR A A 22 47 26.4
comp=N,179nm,0.4s
PMAFR Mafra 2.71 338 P **Pn 22 46 54.8 +1.2**
comp=N,32nm,0.2s,SNR=27
PMAFR S **Sn 22 47 25.3 -1.2**
comp=N,112nm,0.2s,SNR=5.0
PMAFR Mafra 2.71 338 *e*Pn **Pn 22 46 54.5 +0.9**
PMAFR Mafra 2.71 338 P **Pn 22 46 54.8 +1.2**
comp=N,32nm,0.2s,SNR=27
PMAFR *e*Sn **Sn 22 47 24.9 -1.6**
comp=N,179nm,0.4s
PMAFR S **Sn 22 47 25.3 -1.2**
comp=N,112nm,0.2s,SNR=5.0
EMAL Malaga-Limoner 2.88 83 *e*P **Pn 22 46 57.1 +1.2**
EMAL *e*S **Sn 22 47 28.0 -2.6**
PMRV Marv??o 3.01 9 *e*Pn **Pn 22 46 58.4 +0.6**
PMRV *e*Sn **Sn 22 47 32.0 -2.0**
PMRV A A 22 47 34.7
comp=N,44nm,0.2s
PMRV Marv??o 3.01 9 Pn **Pn 22 46 58.4 +0.6**
PMRV Sn **Sn 22 47 32.0 -2.0**
comp=N,44nm,0.2s
PMRV Marv??o 3.01 9 *e*Pn **Pn 22 46 58.4 +0.6**
PMRV Sn **Sn 22 47 32.0 -2.0**
comp=N,44nm,0.2s
EGOR Sierra Gorda, 3.18 77 P **Pn 22 47 01.1 +0.9**
comp=N,2.7nm,0.2s,SNR=7.9
EGOR S **Sn 22 47 35.9 -2.4**
comp=N,3.3nm,0.3s,SNR=7.9
EGOR Sierra Gorda, 3.18 77 P **Pn 22 47 01.1 +0.9**
comp=N,2.7nm,0.2s,SNR=7.9
EGOR S **Sn 22 47 35.9 -2.4**
comp=N,3.3nm,0.3s,SNR=7.9
PTOM Tomar 3.18 354 *e*Pn **Pn 22 47 01.1 +0.9**
PTOM *e*Sn **Sn 22 47 35.6 -2.6**
PTOM A A 22 47 38.0
comp=N,65nm,0.1s
PTOM Tomar 3.18 354 Pn **Pn 22 47 01.1 +0.9**
PTOM Sn **Sn 22 47 35.6 -2.6**
comp=N,33nm,0.1s
PTOM Tomar 3.18 354 *e*Pn **Pn 22 47 01.1 +0.9**
PTOM Sn **Sn 22 47 35.6 -2.6**
comp=N,33nm,0.1s
EADA Adamuz 3.21 57 ⇑P **Pn 22 47 01.2 +0.6**
comp=N,14nm,0.1s,SNR=18
EADA S **Sn 22 47 35.3 -3.7**
comp=N,1.1nm,0.2s,SNR=5.0
EADA Adamuz 3.21 57 P **Pn 22 47 01.2 +0.6**
comp=N,14nm,0.1s,SNR=18
EADA S **Sn 22 47 35.3 -3.7**
comp=N,1.1nm,0.2s,SNR=5.0
PCBR Castelo Branco 3.41 7 *e*Pn **Pn 22 47 04.0 +0.7**
PCBR *e*Sn **Sn 22 47 42.3 -1.5**
PCBR A A 22 47 43.8
comp=N,58nm,0.4s
PCBR Castelo Branco 3.41 7 Pn **Pn 22 47 04.0 +0.7**
PCBR Sn **Sn 22 47 42.3 -1.5**
comp=N,29nm,0.4s
PCBR Castelo Branco 3.41 7 *e*Pn **Pn 22 47 04.0 +0.7**
PCBR Sn **Sn 22 47 42.3 -1.5**
comp=N,29nm,0.4s
SELV Sierra Elvira 3.50 76 P **Pn 22 47 06.2 +1.6**
comp=N,1.1nm,0.1s,SNR=7.9
SELV S **Sn 22 47 43.5 -2.7**
comp=N,0.3nm,0.2s,SNR=7.9
SELV Sierra Elvira 3.50 76 P **Pn 22 47 06.2 +1.6**
comp=N,1.1nm,0.1s,SNR=7.9
SELV S **Sn 22 47 43.5 -2.7**
comp=N,0.3nm,0.2s,SNR=7.9
PCAS Casmilo, Conde 3.62 354 *e*Pn **Pn 22 47 07.0 +0.8**
PCAS *e*Sn **Sn 22 47 47.1 -1.9**
PCAS A A 22 47 49.7
comp=N,33nm,0.4s
PCAS Casmilo, Conde 3.62 354 *e*Pn **Pn 22 47 07.0 +0.8**
PCAS *e*Sn **Sn 22 47 47.1 -1.9**
comp=N,33nm,0.4s
EQUE Quentar 3.72 77 P **Pn 22 47 09.2 +1.5**
comp=N,2.0nm,0.1s,SNR=12
EQUE S **Sn 22 47 48.9 -2.7**
comp=N,3.6nm,0.1s,SNR=7.9
EQUE Quentar 3.72 77 P **Pn 22 47 09.2 +1.5**
comp=N,2.0nm,0.1s,SNR=12
EQUE S **Sn 22 47 48.9 -2.7**
comp=N,3.6nm,0.1s,SNR=7.9
COI Coimbra 3.77 355 Pn **Pn 22 47 09.2 +1.0**
COI Sn **Sn 22 47 49.8 -2.8**
comp=N,24nm,0.4s
COI Coimbra 3.77 355 *e*Pn **Pn 22 47 09.2 +1.0**
COI Sn **Sn 22 47 49.8 -2.8**
comp=N,24nm,0.4s
EPLA Plasencia 3.91 22 P **Pn 22 47 11.2 +1.0**
comp=N,4.5nm,0.2s,SNR=16
EPLA S **Sn 22 47 52.9 -3.3**
comp=N,9.3nm,0.1s,SNR=7.9
EPLA Plasencia 3.91 22 P **Pn 22 47 11.2 +1.0**
comp=N,4.5nm,0.2s,SNR=16
EPLA S **Sn 22 47 52.9 -3.3**
comp=N,9.3nm,0.1s,SNR=7.9
MTE Manteigas 3.96 5 *e*Pn **Pn 22 47 11.6 +0.7**
MTE *e*Sn **Sn 22 47 55.3 -2.2**
MTE A A 22 47 56.8
comp=N,34nm,0.3s
MTE Manteigas 3.96 5 Pn **Pn 22 47 11.6 +0.7**
MTE Sn **Sn 22 47 55.3 -2.2**
comp=N,17nm,0.3s
MTE Manteigas 3.96 5 *e*Pn **Pn 22 47 11.6 +0.7**
MTE Sn **Sn 22 47 55.3 -2.2**
comp=N,17nm,0.3s
GORA Gorafe 4.09 74 P **Pn 22 47 12.6 -0.1**
comp=N,10nm,0.2s,SNR=7.9
GORA S **Sn 22 47 58.1 -2.5**
comp=N,19nm,0.2s,SNR=7.9
GORA Gorafe 4.09 74 P **Pn 22 47 12.6 -0.1**
comp=N,10nm,0.2s,SNR=7.9
GORA S **Sn 22 47 58.1 -2.5**
comp=N,19nm,0.2s,SNR=7.9
EBER Berja 4.12 82 P **Pn 22 47 13.8 +0.6**
comp=N,2.2nm,0.2s,SNR=11
EBER S **Sn 22 47 58.9 -2.6**
comp=N,1.7nm,0.2s,SNR=7.9
EBER Berja 4.12 82 P **Pn 22 47 13.8 +0.6**
comp=N,2.2nm,0.2s,SNR=11
EBER S **Sn 22 47 58.9 -2.6**
comp=N,1.7nm,0.2s,SNR=7.9
EQES Quesada 4.15 70 P **Pn 22 47 14.3 +0.7**
comp=N,3.6nm,0.1s,SNR=50
EQES S **Sn 22 47 59.4 -2.9**
comp=N,3.6nm,0.2s,SNR=7.9
EQES Quesada 4.15 70 P **Pn 22 47 14.3 +0.7**
comp=N,3.6nm,0.1s,SNR=50
EQES S **Sn 22 47 59.4 -2.9**
comp=N,3.6nm,0.2s,SNR=7.9
CZD Col de Zad 4.18 144 *i* P Pn 22 47 12.0 -2.1
PVIS Viseu 4.26 1 *e*Pn **Pn 22 47 15.8 +0.8**
PVIS *e*Sn **Sn 22 48 02.4 -2.5**
PVIS A A 22 48 04.4
comp=N,22nm,0.1s
PVIS Viseu 4.26 1 Pn **Pn 22 47 15.8 +0.8**
PVIS Sn **Sn 22 48 02.4 -2.5**
comp=N,11nm,0.1s
PVIS Viseu 4.26 1 *e*Pn **Pn 22 47 15.8 +0.8**
PVIS Sn **Sn 22 48 02.4 -2.5**
comp=N,11nm,0.1s
EHUE Huescar 4.52 71 P **Pn 22 47 20.1 +1.5**
comp=N,7.8nm,0.2s,SNR=7.9
EHUE S **Sn 22 48 09.4 -1.8**
comp=N,0.8nm,0.2s,SNR=7.9
EHUE Huescar 4.52 71 P **Pn 22 47 20.1 +1.5**
comp=N,7.8nm,0.2s,SNR=7.9
EHUE S **Sn 22 48 09.4 -1.8**
comp=N,0.8nm,0.2s,SNR=7.9
ESDC Sonseca Array 4.52 43 P **Pn 22 47 19.3 +0.7**
comp=N,51nm,0.2s,baz=227,slow=13,SNR=156
ESDC S **Sn 22 48 07.7 -3.5**
comp=N,3.2nm,0.1s,baz=228,slow=23,SNR=7.9
ESDC Sonseca Array 4.52 43 P **Pn 22 47 19.3 +0.7**
comp=N,51nm,0.2s,SNR=156
ESDC S **Sn 22 48 07.7 -3.5**
comp=N,3.2nm,0.1s,SNR=7.9
SESP Santiago Espad 4.65 67 P **Pn 22 47 21.4 +1.0**
comp=N,4.2nm,0.2s,SNR=7.9
SESP S **Sn 22 48 10.1 -4.4**
comp=N,10nm,0.1s,SNR=7.9
SESP Santiago Espad 4.65 67 P **Pn 22 47 21.4 +1.0**
comp=N,4.2nm,0.2s,SNR=7.9
SESP S **Sn 22 48 10.1 -4.4**
comp=N,10nm,0.1s,SNR=7.9
ENIJ Nijar 4.67 82 P **Pn 22 47 20.9 +0.3**
comp=N,3.3nm,0.4s,SNR=7.9
ENIJ S **Sn 22 48 10.6 -4.3**
comp=N,2.1nm,0.2s,SNR=7.9
ENIJ Nijar 4.67 82 P **Pn 22 47 20.9 +0.3**
comp=N,3.3nm,0.4s,SNR=7.9
ENIJ S **Sn 22 48 10.6 -4.3**
comp=N,2.1nm,0.2s,SNR=7.9
MVO Moncorvo 4.77 9 *e*Pn **Pn 22 47 22.5 +0.4**
MVO *e*Sn **Sn 22 48 13.7 -3.7**
MVO A A 22 48 17.3
comp=N,20nm,0.8s
MVO Moncorvo 4.77 9 P **Pn 22 47 22.4 +0.4**
comp=N,5.2nm,0.1s,SNR=34
MVO S **Sn 22 48 13.1 -4.3**
comp=N,18nm,0.2s,SNR=7.9
MVO Moncorvo 4.77 9 P **Pn 22 47 22.4 +0.4**
comp=N,5.2nm,0.1s,SNR=34
MVO S **Sn 22 48 13.1 -4.3**
comp=N,18nm,0.2s,SNR=7.9
MVO *e*Sn **Sn 22 48 13.7 -3.7**
comp=N,20nm,0.8s
PVRL Vila Real 4.83 2 *e*Pn **Pn 22 47 23.2 +0.4**
PVRL *e*Sn **Sn 22 48 15.1 -3.7**
PVRL A A 22 48 18.7
comp=N,25nm,0.1s
PVRL Vila Real 4.83 2 Pn **Pn 22 47 23.2 +0.4**
PVRL Sn **Sn 22 48 15.1 -3.7**
comp=N,12nm,0.1s
PVRL Vila Real 4.83 2 *e*Pn **Pn 22 47 23.2 +0.4**
PVRL Sn **Sn 22 48 15.1 -3.7**
comp=N,12nm,0.1s
EVIA Vianos 4.87 62 P **Pn 22 47 23.2 -0.3**
comp=N,5.9nm,0.1s,SNR=7.9
EVIA S **Sn 22 48 15.8 -4.2**
comp=N,9.6nm,0.2s,SNR=7.9
EVIA Vianos 4.87 62 P **Pn 22 47 23.2 -0.3**
comp=N,5.9nm,0.1s,SNR=7.9
EVIA S **Sn 22 48 15.8 -4.2**
comp=N,9.6nm,0.2s,SNR=7.9
POLO Lamas de Olo 4.92 2 *e*Pn **Pn 22 47 24.7 +0.6**
POLO *e*Sn **Sn 22 48 18.5 -2.7**
POLO A A 22 48 20.4
comp=N,12nm,0.3s
POLO Lamas de Olo 4.92 2 *e*Pn **Pn 22 47 24.7 +0.6**
POLO *e*Sn **Sn 22 48 18.5 -2.7**
comp=N,12nm,0.3s
GUD Guadarrama 5.15 34 ⇓P **Pn 22 47 28.3 +0.9**
comp=N,4.5nm,0.2s,SNR=18
GUD S **Sn 22 48 23.0 -3.9**
comp=N,4.9nm,0.2s,SNR=7.9
GUD Guadarrama 5.15 34 P **Pn 22 47 28.3 +0.9**
comp=N,4.5nm,0.2s,SNR=18
GUD S **Sn 22 48 23.0 -3.9**
comp=N,4.9nm,0.2s,SNR=7.9
OUK Oukaimeden 5.22 179 *i* P Pn 22 47 27.0 -1.5
PCAB Cabril 5.26 360 *e*Pn **Pn 22 47 29.2 +0.5**
PCAB *e*Sn **Sn 22 48 25.9 -3.4**
PCAB A A 22 48 28.8
comp=N,18nm,0.2s
PCAB Cabril 5.26 360 Pn **Pn 22 47 29.2 +0.5**
PCAB Sn **Sn 22 48 25.9 -3.4**
comp=N,8.8nm,0.2s
PCAB Cabril 5.26 360 *e*Pn **Pn 22 47 29.2 +0.5**
PCAB Sn **Sn 22 48 25.9 -3.4**
comp=N,8.8nm,0.2s
ELOB Lobios 5.41 359 P **Pn 22 47 31.2 +0.3**
comp=N,3.0nm,0.1s,SNR=7.9
ELOB S **Sn 22 48 29.0 -4.3**
comp=N,6.0nm,0.2s,SNR=7.9
ELOB Lobios 5.41 359 P **Pn 22 47 31.2 +0.3**
comp=N,3.0nm,0.1s,SNR=7.9
ELOB S **Sn 22 48 29.0 -4.3**
comp=N,6.0nm,0.2s,SNR=7.9
PBRG Braganca 5.44 10 ⇓*e*Pn **Pn 22 47 31.6 +0.4**
PBRG *e*Sn **Sn 22 48 30.4 -3.4**
PBRG A A 22 48 32.7
comp=N,10nm,0.4s
PBRG Braganca 5.44 10 Pn **Pn 22 47 31.6 +0.4**
PBRG Sn **Sn 22 48 30.4 -3.4**
comp=N,5.2nm,0.4s
PBRG Braganca 5.44 10 ⇓*e*Pn **Pn 22 47 31.6 +0.4**
PBRG Sn **Sn 22 48 30.4 -3.4**
comp=N,5.2nm,0.4s
PGAV Gavieira, Arco 5.52 358 *e*Pn **Pn 22 47 33.0 +0.7**
PGAV *e*Sn **Sn 22 48 31.4 -4.4**
PGAV A A 22 48 35.1
comp=N,11nm,0.5s
PGAV Gavieira, Arco 5.52 358 *e*Pn **Pn 22 47 33.0 +0.7**
PGAV *e*Sn **Sn 22 48 31.4 -4.4**
comp=N,11nm,0.5s
EMUR La Murta 5.56 73 P **Pn 22 47 32.9 0.0**
comp=N,0.4nm,0.1s,SNR=7.9
EMUR S **Sn 22 48 31.9 -5.0**
comp=N,0.3nm,0.4s,SNR=7.9
EMUR La Murta 5.56 73 P **Pn 22 47 32.9 0.0**
comp=N,0.4nm,0.1s,SNR=7.9
EMUR S **Sn 22 48 31.9 -5.0**
comp=N,0.3nm,0.4s,SNR=7.9
ETOB Tobarra 5.56 65 P **Pn 22 47 32.6 -0.3**
comp=N,5.8nm,0.2s,SNR=7.9
ETOB S **Sn 22 48 31.6 -5.4**
comp=N,3.9nm,0.1s,SNR=7.9
ETOB Tobarra 5.56 65 P **Pn 22 47 32.6 -0.3**
comp=N,5.8nm,0.2s,SNR=7.9
ETOB S **Sn 22 48 31.6 -5.4**
comp=N,3.9nm,0.1s,SNR=7.9
ECAL Calabor 5.57 10 P **Pn 22 47 33.6 +0.6**
comp=N,2.8nm,0.1s,SNR=7.9
ECAL S **Sn 22 48 32.9 -4.3**
comp=N,8.9nm,0.1s,SNR=7.9
ECAL Calabor 5.57 10 P **Pn 22 47 33.6 +0.6**
comp=N,2.8nm,0.1s,SNR=7.9
ECAL S **Sn 22 48 32.9 -4.3**
comp=N,8.9nm,0.1s,SNR=7.9
AFON Font Roja 6.31 67 P **Pn 22 47 44.5 +1.2**
comp=N,0.3nm,0.2s,SNR=7.9
AFON S **Sn 22 48 50.7 -4.8**
comp=N,0.6nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 6.35 359 P **Pn 22 47 44.4 +0.7**
comp=N,0.6nm,0.1s,SNR=7.9
EAGO S **Sn 22 48 50.1 -6.1**
comp=N,2.0nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 6.35 359 P **Pn 22 47 44.4 +0.7**
comp=N,0.6nm,0.1s,SNR=7.9
EAGO S **Sn 22 48 50.1 -6.1**
comp=N,2.0nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.54 354 P **Pn 22 47 47.1 +0.9**
comp=N,1.0nm,0.1s,SNR=7.9
EMAZ S **Sn 22 48 55.1 -5.8**
comp=N,0.6nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.54 354 P **Pn 22 47 47.1 +0.9**
comp=N,1.0nm,0.1s,SNR=7.9
EMAZ S **Sn 22 48 55.1 -5.8**
comp=N,0.6nm,0.3s,SNR=7.9
EPON Pontenova 6.90 5 P **Pn 22 47 52.3 +1.1**
comp=N,0.3nm,0.1s,SNR=7.9
EPON S Sn 22 49 03.3 -6.6
comp=N,1.0nm,0.2s,SNR=7.9
EPON Pontenova 6.90 5 P **Pn 22 47 52.3 +1.1**
comp=N,0.3nm,0.1s,SNR=7.9
EPON S Sn 22 49 03.3 -6.5
comp=N,1.0nm,0.2s,SNR=7.9
EMOS Mosqueruela 7.08 54 P **Pn 22 47 54.5 +0.7**
comp=N,3.4nm,0.3s,SNR=7.9
EMOS S Sn 22 49 09.0 -5.3
comp=N,1.2nm,0.1s,SNR=7.9
EMOS Mosqueruela 7.08 54 P **Pn 22 47 54.5 +0.7**
comp=N,3.4nm,0.3s,SNR=7.9
EMOS S Sn 22 49 09.0 -5.4
comp=N,1.2nm,0.1s,SNR=7.9
EARI Arriondas 7.17 16 P **Pn 22 47 55.2 +0.3**
comp=N,0.3nm,0.1s,SNR=7.9
EARI S **Sn 22 49 12.1 -4.4**
comp=N,0.3nm,0.3s,SNR=7.9
EARI Arriondas 7.17 16 P **Pn 22 47 55.2 +0.3**
comp=N,0.3nm,0.1s,SNR=7.9
EARI S **Sn 22 49 12.1 -4.4**
comp=N,0.3nm,0.3s,SNR=7.9
ELAN Lanestosa 7.63 26 P **Pn 22 48 01.6 +0.4**
comp=N,0.6nm,0.1s,SNR=7.9
ELAN S Sn 22 49 21.2 -6.4
comp=N,0.6nm,0.2s,SNR=7.9
ELAN Lanestosa 7.63 26 P **Pn 22 48 01.6 +0.4**
comp=N,0.6nm,0.1s,SNR=7.9
ELAN S Sn 22 49 21.2 -6.5
comp=N,0.6nm,0.2s,SNR=7.9
ESAC San Caprasio 7.87 46 P **Pn 22 48 05.0 +0.5**
comp=N,12nm,0.3s,SNR=7.9
ESAC S Sn 22 49 28.0 -5.6
comp=N,1.7nm,0.2s,SNR=7.9
ESAC San Caprasio 7.87 46 P **Pn 22 48 05.0 +0.5**
comp=N,12nm,0.3s,SNR=7.9
ESAC S Sn 22 49 28.0 -5.6
comp=N,1.7nm,0.2s,SNR=7.9
ERTA Horta de San J 7.91 53 P **Pn 22 48 06.1 +1.0**
comp=N,0.4nm,0.2s,SNR=7.9
ERTA S Sn 22 49 28.6 -6.1
comp=N,0.3nm,0.1s,SNR=7.9
ERTA Horta de San J 7.91 53 P **Pn 22 48 06.1 +1.0**
comp=N,0.4nm,0.2s,SNR=7.9
ERTA S Sn 22 49 28.6 -6.0
comp=N,0.3nm,0.1s,SNR=7.9
EARA Aranguren 8.02 36 P **Pn 22 48 08.1 +1.5**
comp=N,10nm,0.2s,SNR=7.9
EARA S Sn 22 49 31.1 -6.3
comp=N,2.3nm,0.2s,SNR=7.9
EARA Aranguren 8.02 36 P **Pn 22 48 08.1 +1.5**
comp=N,10nm,0.2s,SNR=7.9
EARA S Sn 22 49 31.1 -6.2
comp=N,2.3nm,0.2s,SNR=7.9
IELO Elcoad 8.24 37 ⇑P **Pn 22 48 11.3 +1.7**
comp=N,6.4nm,0.2s,SNR=18
IELO S Sn 22 49 36.8 -6.0
comp=N,1.0nm,0.2s,SNR=7.9
IELO Elcoad 8.24 37 P **Pn 22 48 11.3 +1.7**
comp=N,6.4nm,0.2s,SNR=18
IELO S Sn 22 49 36.8 -6.0
comp=N,1.0nm,0.2s,SNR=7.9
EORO Oroz-Betelu 8.24 37 P **Pn 22 48 10.5 +0.9**
comp=N,2.9nm,0.1s,SNR=7.9
EORO S **Sn 22 49 37.4 -5.4**
comp=N,0.9nm,0.2s,SNR=7.9
EORO Oroz-Betelu 8.24 37 P **Pn 22 48 10.5 +0.9**
comp=N,2.9nm,0.1s,SNR=7.9
EORO S **Sn 22 49 37.4 -5.4**
comp=N,0.9nm,0.2s,SNR=7.9
EALK Alkurruntz 8.40 34 P **Pn 22 48 12.4 +0.6**
comp=N,6.1nm,0.3s,SNR=7.9
EALK S Sn 22 49 40.5 -6.2
comp=N,1.2nm,0.2s,SNR=7.9
EALK Alkurruntz 8.40 34 P **Pn 22 48 12.4 +0.6**
comp=N,6.1nm,0.3s,SNR=7.9
EALK S Sn 22 49 40.5 -6.2
comp=N,1.2nm,0.2s,SNR=7.9
SJPF Ste Jean 8.45 36 *e*P **Pn 22 48 13.2 +0.8**
SJPF *e*Sn Sn 22 49 35.7 -12
comp=N,2.0nm,0.3s
SJPF Ste Jean 8.45 36 P **Pn 22 48 13.2 +0.8**
SJPF Sn Sn 22 49 35.7 -12
comp=N,1.0nm,0.3s
SJPF Ste Jean 8.45 36 *e*P **Pn 22 48 13.2 +0.8**
SJPF Sn Sn 22 49 35.7 -12
comp=N,1.0nm,0.3s
EPOB Poblet 8.60 53 P **Pn 22 48 14.9 +0.4**
comp=N,0.6nm,0.3s,SNR=7.9
EPOB Poblet 8.60 53 P **Pn 22 48 14.9 +0.4**
comp=N,0.6nm,0.3s,SNR=7.9
ETSF Etsaut 8.62 39 *e*P **Pn 22 48 15.4 +0.6**
ETSF *e*Sn Sn 22 49 39.7 -12
comp=N,2.0nm,0.3s
ETSF Etsaut 8.62 39 P **Pn 22 48 15.4 +0.6**
ETSF Sn Sn 22 49 39.7 -12
comp=N,1.0nm,0.3s
ETSF Etsaut 8.62 39 *e*P **Pn 22 48 15.4 +0.6**
ETSF Sn Sn 22 49 39.7 -12
comp=N,1.0nm,0.3s
EFAM Famara 8.66 214 P **Pn 22 48 14.8 -0.6**
comp=N,7.4nm,0.1s,SNR=4.0
EFAM Famara 8.66 214 P **Pn 22 48 14.8 -0.6**
comp=N,7.4nm,0.1s,SNR=4.0
EPF Esparros 9.18 42 *e*P **Pn 22 48 23.3 +0.8**
EPF *e*Sn Sn 22 49 53.2 -13
comp=N,2.5nm,0.3s
EPF Esparros 9.18 42 P **Pn 22 48 23.3 +0.8**
EPF Sn Sn 22 49 53.2 -13
comp=N,1.2nm,0.3s
EPF Esparros 9.18 42 *e*P **Pn 22 48 23.3 +0.8**
EPF Sn Sn 22 49 53.2 -13
comp=N,1.2nm,0.3s
CSOR Sort 9.21 47 P **Pn 22 48 23.6 +0.7**
comp=N,0.9nm,0.2s,SNR=7.9
CSOR S Sn 22 49 59.5 -7.2
comp=N,0.2nm,0.1s,SNR=7.9
CSOR Sort 9.21 47 P **Pn 22 48 23.6 +0.7**
comp=N,0.9nm,0.2s,SNR=7.9
CSOR S Sn 22 49 59.5 -7.2
comp=N,0.2nm,0.1s,SNR=7.9
CFON Fontmartina 9.68 54 P **Pn 22 48 30.1 +0.7**
comp=N,1.0nm,0.2s,SNR=7.9
CFON Fontmartina 9.68 54 P **Pn 22 48 30.1 +0.7**
comp=N,1.0nm,0.2s,SNR=7.9
CLLI Llivia 9.77 49 P **Pn 22 48 31.4 +0.8**
comp=N,0.4nm,0.1s,SNR=7.9
CLLI S Sn 22 50 11.6 -8.9
comp=N,0.0nm,0.3s,SNR=7.9
CLLI Llivia 9.77 49 P **Pn 22 48 31.5 +0.8**
comp=N,0.4nm,0.1s,SNR=7.9
CLLI S Sn 22 50 11.6 -9.0
SNR=7.9
LFF La Frestale 10.76 35 *e*P **Pn 22 48 43.4 -0.6**
LFF La Frestale 10.76 35 P **Pn 22 48 43.4 -0.6**
LFF La Frestale 10.76 35 *e*P **Pn 22 48 43.4 -0.6**
CAF Calviac 11.39 39 *e*P **Pn 22 48 52.5 -0.3**
CAF Calviac 11.39 39 P **Pn 22 48 52.5 -0.3**
CAF Calviac 11.39 39 *e*P **Pn 22 48 52.5 -0.3**
RJF Les Rejaudoux 11.39 36 *e*P **Pn 22 48 52.3 -0.5**
RJF Les Rejaudoux 11.39 36 P **Pn 22 48 52.3 -0.5**
RJF Les Rejaudoux 11.39 36 *e*P **Pn 22 48 52.3 -0.5**
MFF Saint Martin d 11.72 28 *e*P **Pn 22 48 57.1 -0.1**
MFF Saint Martin d 11.72 28 P **Pn 22 48 57.1 -0.1**
MFF Saint Martin d 11.72 28 *e*P **Pn 22 48 57.1 -0.1**

QUIF	**Quistinic**	**12.00**	**16**	*e*P	**Pn**	**22 49 00.0**	**-1.1**
QUIF	**Quistinic**	**12.00**	**16**	P	**Pn**	**22 49 00.0**	**-1.1**
QUIF	**Quistinic**	**12.00**	**16**	*e*P	**Pn**	**22 49 00.0**	**-1.1**
TCF	**Toulx Ste Croi**	**12.45**	**35**	*e*P	**Pn**	**22 49 06.5**	**-0.7**
TCF	**Toulx Ste Croi**	**12.45**	**35**	P	**Pn**	**22 49 06.5**	**-0.7**
TCF	**Toulx Ste Croi**	**12.45**	**35**	*e*P	**Pn**	**22 49 06.5**	**-0.7**
SGMF	**Saint Gilles**	**12.46**	**17**	*e*P	**Pn**	**22 49 06.6**	**-0.7**
SGMF	**Saint Gilles**	**12.46**	**17**	P	**Pn**	**22 49 06.6**	**-0.7**
SGMF	**Saint Gilles**	**12.46**	**17**	*e*P	**Pn**	**22 49 06.6**	**-0.7**
AVF	**Avril sur Loir**	**13.35**	**36**	*e*P	**Pn**	**22 49 18.5**	**-1.0**
AVF	**Avril sur Loir**	**13.35**	**36**	P	**Pn**	**22 49 18.5**	**-1.0**
AVF	**Avril sur Loir**	**13.35**	**36**	*e*P	**Pn**	**22 49 18.5**	**-1.0**

LDG 18 22:46:35.8±0.1, 50°14N×7°89E, h7km, Md2.3/1, Ml2.3/9, Error ellipse: s-maj=1.1km s-min=0.9km az=72.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDF	**Champ du Feu**	**1.77**	**193**	*e*Pn	Pn	22 47 05.2	-1.7
CDF	**Champ du Feu**	**1.77**	**193**	*e*Pg	Pb	22 47 08.8	+0.2
CDF				*e*Sn	Sn	22 47 26.6	-3.1
CDF				*e*Sg	Sb	22 47 31.5	+0.5
	3.4nm,0.3s						
GIVF	**Givet**	**1.97**	**270**	*e*P	Pn	22 47 10.4	+0.8
GIVF				*e*Sn	Sn	22 47 31.4	-3.2
GIVF				*e*Sg	Sb	22 47 37.6	+0.8
	6.8nm,0.3s						
PAGF	**Fort de Pagny**	**2.12**	**223**	*e*Pn	Pn	22 47 09.7	-2.0
	baz=33						
PAGF				*e*Sg	Sg	22 47 42.7	-1.2
	0.6nm,0.3s,baz=40						
HAU	**Haudompre**	**2.36**	**206**	*e*Pn	Pn	22 47 12.8	-2.2
HAU	**Haudompre**	**2.36**	**206**	*e*Pg	Pb	22 47 19.6	+1.0
HAU				*e*Sg	Sg	22 47 50.8	-0.8
	2.4nm,0.2s						
BAIF	**Baives**	**2.37**	**270**	*e*P	Pn	22 47 15.7	+0.6
BAIF	**Baives**	**2.37**	**270**	*e*Pg	Pb	22 47 19.7	+0.9
BAIF				*e*Sg	Sg	22 47 50.5	-1.4
	2.6nm,0.2s						
HINF	**Hinteralfeld**	**2.42**	**197**	*e*Pg	Pb	22 47 20.7	+1.1
HINF				*e*Sg	Sb	22 47 51.4	+1.7
	2.2nm,0.2s						
MEZF	**Maizieres J'vi**	**2.47**	**230**	*e*Sg	Sg	22 47 53.6	-1.6
	2.3nm,0.3s,baz=48						
SFTF	**Sexfontaines**	**2.69**	**225**	*e*Sg	Sg	22 48 00.6	-1.5
	1.6nm,0.2s,baz=49						
LOR	**Lormes**	**3.92**	**224**	*e*Pn	Pn	22 47 33.5	-2.9
	baz=50						

NEIC ***18*** *22:50:48.9±0.7, 2°53S×101°73E, h130km±5km, mb4.6/23, Error ellipse: s-maj=9.2km s-min=4.7km az=219.0*
MOS ***18*** *22:50:48.2±1.0, 2°41S×101°86E, h135km, mb4.7/23, Error ellipse: s-maj=12.9km s-min=5.9km az=113.1*
IDC ***18*** *22:50:49.3±1.8, 2°61S×101°76E, h136km±14km, mb4.1/26, mb1 4.2/27, mb1mx4.0/53, mbtmp4.6/27, Error ellipse: s-maj=15.8km s-min=9.0km az=49.0*
ISCJB ***18*** *22:50:49.3±0.2, 2°48S±0°04×101°80E±0°04, h150km, mb4.5/67, Error ellipse: s-maj=6.3km s-min=3.9km az=40.6*
KLM ***18*** *22:50:49.7, 2°51S×101°77E, h130km, mb4.7, ML4.1*
DJA ***18*** *22:50:50.3±0.3, 3°S±4°×10°2E±°, h111km±4km, M4.7/14, mb4.6/7, mB5.4/3, MLv4.7/14, Mw(mB)4.8/3*

ISC 18 22:50:50.8±0.4, 2°52S±0°06×101°77E±0°06, h150km, n243, σ1°37/231, mb4.5/68, 18C-26D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.40**	**144**	P	**Pn**	**22 51 16.2**	**-3.2**
PPSI	**Pulau Pagai**	**1.77**	**262**	P	**Pn**	**22 51 21.0**	**-2.3**
PDSI	**Padang**	**2.06**	**321**	P	**Pn**	**22 51 23.9**	**-2.8**
JMBI	**JAMBI**	**2.07**	**65**	P	**Pn**	**22 51 23.4**	**-3.4**
LHSI	**Lahat**	**2.19**	**127**	P	**Pn**	**22 51 26.0**	**-2.2**
PPI	**Padang Panjang**	**2.46**	**326**	P	**Pn**	**22 51 28.8**	**-2.7**
BKNI	**Bangkinang**	**2.91**	**346**	P	**Pn**	**22 51 34.1**	**-3.0**
BKNI	**Bangkinang**	**2.91**	**346**	*e*Pn	**Pn**	**22 51 35.1**	**-2.0**
LWLI	**Liwa**	**3.38**	**137**	P	**Pn**	**22 51 40.7**	**-2.5**
MNSI	**Mandailing Nat**	**3.95**	**326**	P	**Pn**	**22 51 48.7**	**-1.7**
KASI	**Kota Agung**	**4.04**	**138**	P	**Pn**	**22 51 50.3**	**-1.4**
PPBI	**Pangkal Pinang**	**4.38**	**86**	P	**Pn**	**22 51 54.3**	**-1.8**
TPRI	**Tanjung Pinang**	**4.39**	**39**	P	**Pn**	**22 51 54.7**	**-1.5**
MYKOM	**Kota Tinggi**	**4.76**	**26**	⇑P	**Pn**	**22 51 59.5**	**-1.6**
MYKOM	**Kota Tinggi**	**4.76**	**26**	*e*Pn	**Pn**	**22 51 59.3**	**-1.8**
KGM	**Kluang**	**4.76**	**19**	⇓P	**Pn**	**22 52 00.2**	**-1.0**
GSI	**Gunungsitoli**	**5.65**	**312**	P	**Pn**	**22 52 10.7**	**-2.2**
	113nm,0.5s,3μm1.5nm						
GSI	**Gunungsitoli**	**5.65**	**312**	*e*Pn	**Pn**	**22 52 10.2**	**-2.7**
FRIM	**Kepong**	**5.71**	**359**	⇑P	**Pn**	**22 52 12.7**	**-1.1**
PSI	**Prapat**	**6.00**	**332**	*e*P	**Pn**	**22 52 14.7**	**-3.0**
PSI	**Prapat**	**6.00**	**332**	*e*Pn	**Pn**	**22 52 14.7**	**-3.0**
IPM	**Ipoh**	**6.99**	**354**	*e*Pn	**Pn**	**22 52 29.5**	**-1.2**
KCSI	**Kotacane, Aceh**	**7.20**	**326**	P	**Pn**	**22 52 32.1**	**-1.6**
	42nm,0.4s,3μm0.5nm						
KULM	**Kulim**	**7.83**	**352**	*e*Pn	**Pn**	**22 52 39.9**	**-2.2**
MLSI	**Meulaboh, Aceh**	**8.61**	**321**	P	**Pn**	**22 52 50.4**	**-2.0**
	172nm,0.5s,5μm1.3nm						
LHMI	**Lhok Sumawe**	**9.07**	**328**	*e*Pn	**Pn**	**22 52 56.0**	**-2.6**
KSM	**Kuching**	**9.41**	**65**	*e*Pn	**Pn**	**22 53 02.7**	**-0.5**
SBUM	**Sibu**	**11.56**	**65**	*e*Pn	**Pn**	**22 53 31.0**	**-0.4**
JAGI	**Jajag, Banyuwa**	**13.67**	**116**	*e*Pn	**Pn**	**22 53 58.4**	**-0.3**
SRAK	**Srakaew**	**16.42**	**1**	P	**P**	**22 54 36.6**	**+3.7**
	64nm,0.7s						
KAPI	**Kappang**	**18.12**	**98**	P	**Pn**	**22 54 52.6**	**-0.6**
	5.8nm,0.3s,baz=310,slow=6.7,SNR=18						
KAPI	**Kappang**	**18.12**	**98**	*e*P	**Pn**	**22 54 52.7**	**-0.6**
	27nm,0.6s						
CHAI	**Chaiyaphum**	**18.30**	**1**	P	**Pn**	**22 54 55.6**	**+0.3**
	6.6nm,0.8s						
MYLDM	**Lahad Datu**	**18.38**	**65**	*e*P	**P**	**22 54 54.1**	**-0.3**
	27nm,1.1s						
UTTA	**Uttaradit**	**20.17**	**357**	P	**P**	**22 55 14.1**	**+0.4**
	2.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.02**	**353**	P	**P**	**22 55 22.6**	**-0.3**
	4.1nm,0.5s,baz=182,slow=8.7,SNR=21						
CMAR				PcP	**PcP**	**22 59 25.8**	**+1.8**
	1.0nm,0.6s,baz=219,slow=4.1,SNR=4.1						
CMAR				ScP	**ScP**	**23 02 49.0**	**+2.1**
	0.9nm,0.6s,baz=217,slow=4.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**21.02**	**353**	*c*e*c*P	**P**	**22 55 22.8**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CHTO	**Chiang Mai**	**21.38**	**353**	*e*P	**P**	**22 55 24.9**	**-1.7**
CHTO	**Chiang Mai**	**21.38**	**353**	*e*P	**P**	**22 55 24.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**28.07**	**125**	P	**P**	**22 56 27.5**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=328,slow=8.2,SNR=9.7						
GYA	**Guiyang**	**29.19**	**9**	*e*P	**P**	**22 56 40.6**	**+2.2**
SSLB	**Suanglung**	**32.13**	**34**	*e*P	**P**	**22 57 04.5**	**+0.2**
	comp=Z,9.9nm,1.2s						
CD2	**Chengdu**	**33.29**	**3**	*e*P	**P**	**22 57 16.0**	**+1.7**
ENH	**Enshi**	**33.43**	**12**	*e*P	**P**	**22 57 15.7**	**+0.2**
	comp=Z,37nm,0.5s						
LSA	**Lhasa**	**33.60**	**343**	*e*P	**P**	**22 57 16.3**	**-1.2**
LSA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LSA	**Lhasa**	**33.60**	**343**	*e*P	**P**	**22 57 16.3**	**-1.2**
	comp=Z,4.9nm,1.0s						
PKIN	**Phulchoki**	**33.82**	**333**	*e*P	**P**	**22 57 18.2**	**-1.0**
	comp=Z,6.7nm,0.4s						
GUN	**Gumba**	**33.89**	**334**	*e*P	**P**	**22 57 19.7**	**-0.2**
	comp=Z,66nm,0.4s						
KKN	**Kakani**	**34.05**	**333**	*e*P	**P**	**22 57 20.6**	**-0.5**
	comp=Z,38nm,0.7s						
GKN	**Gorkha**	**34.53**	**333**	*e*P	**P**	**22 57 24.9**	**-0.3**
	comp=Z,16nm,0.3s						
KOLN	**Koldanda**	**34.82**	**331**	*e*P	**P**	**22 57 27.7**	**0.0**
	comp=Z,17nm,0.4s						
PYUN	**Piuthan**	**35.39**	**331**	*e*P	**P**	**22 57 33.0**	**+0.4**
	comp=Z,13nm,0.3s						
WRA	**Warramunga Arr**	**36.22**	**121**	P	**P**	**22 57 38.1**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=320,slow=11,SNR=35						
WRA	**Warramunga Arr**	**36.22**	**121**	*i* P	**P**	**22 57 39.5**	**-0.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRAB	**Tennant Creek**	**36.22**	**121**	⇑*e*P	**P**	**22 57 39.0**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.3s						
WRAB	**Tennant Creek**	**36.22**	**121**	*e*P	**P**	**22 57 38.9**	**-0.6**
	comp=Z,13nm,1.2s						
XAN	**Xi'an**	**36.98**	**10**	P	**P**	**22 57 45.8**	**0.0**
XAN				pmax	pmax		
	comp=Z,41nm,0.7s						
XAN				pmax	pmax		
	comp=Z,84nm,3.2s						
AS31	**Alice Springs**	**37.53**	**127**	*e*P	**P**	**22 57 50.6**	**-0.1**
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**37.53**	**127**	P	**P**	**22 57 50.0**	**-0.6**
	comp=Z,4.3nm,0.4s,baz=300,slow=7.7,SNR=62						
ASAR				S	**S**	**23 03 27.1**	**-1.7**
	comp=Z,0.9nm,1.0s,baz=299,slow=16,SNR=4.5						
ASAR				ScP	**ScP**	**23 03 41.4**	**+2.1**
	comp=Z,1.8nm,0.6s,baz=304,slow=3.6,SNR=19						
AS01	**Alice Springs**	**37.57**	**127**	*e*P	**P**	**22 57 51.3**	**+0.4**
LZH	**Lanzhou**	**38.45**	**3**	*e*P	**P**	**22 57 58.9**	**+0.6**
LZH				pP	pP	22 58 29.3	-1.7
LZH				sP	sP	22 58 45.3	-2.8
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,76nm,4.0s						
GTA	**Gaotai**	**41.76**	**358**	*e*P	**P**	**22 58 21.5**	**-4.0**
GTA				pP	pP	22 58 26.3	-32
GTA				sP	sP	22 58 29.3	-46
HHC	**Hu-ho-hao-te**	**44.08**	**11**	*e*P	**P**	**22 58 47.9**	**+3.8**
HHC				sP	sP	22 59 29.0	-5.4
HHC				S	S	23 05 14.8	+9.5
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,50nm,5.8s						
BJT	**Baijiatuao**	**44.34**	**16**	*e*P	**P**	**22 58 45.7**	**-0.3**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.4s						
BJT	**Baijiatuao**	**44.34**	**16**	*e*P	**P**	**22 58 45.7**	**-0.3**
	comp=Z,8.3nm,0.4s						
BJI	**Beijing**	**44.36**	**16**	P	**P**	**22 58 47.5**	**+1.3**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSAR	**Wonju Array Be**	**46.56**	**29**	P	**P**	**22 59 04.7**	**+1.1**
KSAR	**Wonju Array Be**	**46.56**	**29**	P	**P**	**22 59 04.7**	**+1.1**
KSRS	**Korea Array**	**46.59**	**29**	P	**P**	**22 59 04.7**	**+0.9**
	comp=Z,5.1nm,1.1s,baz=218,slow=8.3,SNR=19						
SARN	**Sarigan**	**47.46**	**65**	*e*P	**P**	**22 59 11.6**	**+0.7**
STKA	**Stephens Creek**	**47.50**	**132**	P	**P**	**22 59 11.4**	**+0.5**
	comp=Z,7.5nm,0.7s,baz=308,slow=7.8,SNR=19						
STKA	**Stephens Creek**	**47.50**	**132**	*e*P	**P**	**22 59 11.5**	**+0.5**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**47.50**	**132**	*e*P	**P**	**22 59 11.5**	**+0.6**
	comp=Z,1.9nm,0.8s						
WMQ	**Urumqi**	**47.83**	**346**	P	**P**	**22 59 14.3**	**+0.9**
WMQ				pP	pP	22 59 43.5	-3.8
WMQ				sP	sP	22 59 58.9	-5.1
WMQ				pmax	pmax		
	comp=Z,15nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,61nm,4.8s						
KBL	**Kabul**	**47.99**	**323**	*e*P	**P**	**22 59 15.6**	**+0.6**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KBL	**Kabul**	**47.99**	**323**	*e*P	**P**	**22 59 15.6**	**+0.6**
	comp=Z,4.6nm,0.6s						
KSH	**Kashi**	**48.07**	**333**	P	**P**	**22 59 14.5**	**-0.9**
KSH				pP	pP	22 59 44.4	-5.0
KSH				PcP	**PcP**	**23 00 39.9**	**-1.0**
KSH				PP	**PP**	**23 01 07.1**	**-2.0**
KSH				S	**S**	**23 05 59.3**	**-3.3**
KSH				ScS	**ScS**	**23 08 52.0**	**-1.3**
KSH	**Kashi**	**48.07**	**333**	SS	SS	23 09 27.9	-5.9
KSH				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,33nm,1.2s						
KSH				LR	LR		
	comp=N,100nm,5.8s						
KSH				LR	LR		
	comp=E,120nm,5.8s						
SONM	**Songino Array**	**50.30**	**4**	P	**P**	**22 59 33.3**	**+1.1**
	comp=E,11nm,0.7s,baz=186,slow=9.8,SNR=57						
SONM				PcP	**PcP**	**23 00 49.5**	**+0.7**
	comp=E,1.1nm,0.3s,baz=192,slow=3.7,SNR=5.9						
SONA1	**Songino Array**	**50.32**	**4**	*e*P	**P**	**22 59 33.3**	**+1.0**
ULN	**Ulaanbaatar**	**50.38**	**5**	*d i*P	**P**	**22 59 33.7**	**+0.9**
ULN				pmax	pmax		
	comp=Z,12nm,2.5s						
ULN	**Ulaanbaatar**	**50.38**	**5**	*e*P	**P**	**22 59 33.9**	**+1.0**
	comp=Z,3.3nm,0.6s						
CN2	**Changchun**	**50.77**	**22**	*e*P	**P**	**22 59 35.5**	**-0.1**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
TKM2	**Tokmak 2**	**51.02**	**335**	*i* P	**P**	**22 59 38.0**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,36nm,0.7s						
TKM2	**Tokmak 2**	**51.02**	**335**	*e*P	**P**	**22 59 38.4**	**+0.6**
	comp=Z,36nm,0.7s						
AAK	**Ala-Archa**	**51.25**	**334**	⇓*e*P	**P**	**22 59 40.0**	**+0.6**
AAK				pmax	pmax		
	comp=Z,15nm,0.7s						
AAK	**Ala-Archa**	**51.25**	**334**	*e*P	**P**	**22 59 39.8**	**+0.3**
	comp=Z,38nm,0.7s						
FRU	**Bishkek**	**51.36**	**335**	*e*P	**P**	**22 59 40.0**	**-0.1**
MAJO	**Matsushiro**	**51.58**	**38**	⇓*e*P	**P**	**22 59 38.9**	**-2.9**
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s						
MJAR	**Matsushiro Arr**	**51.58**	**38**	P	**P**	**22 59 41.9**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=213,slow=7.3,SNR=13						
EKS2	**Erkin-Say**	**51.59**	**334**	*e*P	**P**	**22 59 42.9**	**+1.0**
EKS2				pmax	pmax		
	comp=Z,44nm,0.6s						
EKS2	**Erkin-Say**	**51.59**	**334**	*e*P	**P**	**22 59 42.9**	**+1.0**
	comp=Z,44nm,0.6s						
MK01	**Makanchi Array**	**51.99**	**343**	*e*P	**P**	**22 59 44.4**	**-0.3**
MK31	**Makanchi Array**	**52.01**	**343**	*e*P	**P**	**22 59 45.0**	**+0.1**
MK31	**Makanchi Array**	**52.01**	**343**	*e*P	**P**	**22 59 45.0**	**+0.1**
MKAR	**Makanchi Array**	**52.01**	**343**	P	**P**	**22 59 44.8**	**-0.1**
	comp=Z,8.3nm,0.5s,baz=151,slow=8.7,SNR=121						
MKAR	**Makanchi Array**	**52.01**	**343**	*c i*P	P	22 59 39.4	-5.5
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MKAR	**Makanchi Array**	**52.01**	**343**	*e*P	**P**	**22 59 45.0**	**+0.1**
MNAS	**Manas**	**52.02**	**333**	*i* P	**P**	**22 59 46.0**	**+0.9**
MNAS				pmax	pmax		
	comp=Z,29nm,0.5s						
MAKZ	**Makanchi**	**52.12**	**343**	*e*P	**P**	**22 59 45.7**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,11nm,1.3s						
MAKZ	**Makanchi**	**52.12**	**343**	*e*P	**P**	**22 59 45.7**	**+0.1**
	comp=Z,11nm,1.3s						
ZAK	**Zakamensk**	**52.71**	**1**	*e*P	**P**	**22 59 48.8**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KK31	**Karatay Array**	**53.43**	**332**	*e*P	**P**	**22 59 54.9**	**-0.4**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KKAR	**Karatay Array**	**53.43**	**332**	*e*P	**P**	**22 59 54.6**	**-0.7**
KKAR	**Karatay Array**	**53.43**	**332**	*e*P	**P**	**22 59 54.6**	**-0.7**
USRK	**Ussuriysk Ar.**	**53.80**	**27**	P	**P**	**22 59 59.1**	**+1.1**
	comp=Z,19nm,0.7s,baz=224,slow=5.9,SNR=48						
KURK	**Kurchatov**	**56.61**	**343**	*e*P	**P**	**23 00 17.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,81nm,0.7s						
KURK	**Kurchatov**	**56.61**	**343**	*e*P	**P**	**23 00 17.4**	**-0.6**
	comp=Z,81nm,0.7s						
OTUK	**Ortayu**	**56.69**	**337**	*i* P	**P**	**23 00 18.7**	**+0.1**
OTUK				pmax	pmax		
	comp=Z,17nm,0.5s						
GEYT	**Alibeck**	**56.98**	**319**	P	**P**	**23 00 21.3**	**+0.4**
	comp=Z,3.3nm,0.5s,baz=165,slow=6.2,SNR=9.9						
KLR	**Kul'dur**	**57.70**	**23**	P	**P**	**23 00 26.3**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=232,slow=6.3,SNR=23						
ZAA0	**Zalesovo Array**	**58.01**	**348**	*e*P	**P**	**23 00 27.4**	**-0.3**
ZALV	**Zalesovo Beam**	**58.01**	**348**	P	**P**	**23 00 27.5**	**-0.2**
	comp=Z,15nm,0.5s,baz=177,slow=6.0,SNR=94						
ASAJ	**Asahikawa**	**59.05**	**33**	P	**P**	**23 00 36.0**	**+0.8**
	comp=Z,3.0nm,0.4s,baz=262,slow=19						
NVS	**Novosibirsk**	**59.18**	**348**	*e*P	**P**	**23 00 34.6**	**-1.1**
YSS	**Yuzh-Sakhalins**	**61.00**	**31**	*e*P	**P**	**23 00 49.4**	**+1.1**
CHKZ	**Chkalovo**	**61.73**	**340**	*i* P	**P**	**23 00 53.1**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,18nm,0.5s						
AB31	**Akbulak array**	**62.94**	**331**	*e*P	**P**	**23 01 01.2**	**-0.1**
AB31				pmax	pmax		
	comp=Z,19nm,0.5s						
ABKAR	**Akbulak array**	**62.94**	**331**	*e*P	**P**	**23 01 01.1**	**-0.2**
KMBO	**Kilima Mbogo**	**64.49**	**270**	*c*e*c*P	**P**	**23 01 14.3**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GNI	**Garni**	**67.12**	**316**	*d*e*d*P	**P**	**23 01 29.4**	**+0.7**
GNI				pmax	pmax		
	comp=Z,35nm,1.2s						
YAK	**Yakutsk**	**67.81**	**14**	*e*P	**P**	**23 01 31.2**	**-1.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SVE	**Sverdlovsk**	**67.83**	**337**	*c i*P	**P**	**23 01 32.9**	**+0.3**
SVE				pmax	pmax		
	comp=Z,16nm,0.4s						
ARU	**Arti**	**68.39**	**336**	*d i*P	**P**	**23 01 35.8**	**-0.2**
ARU						23 01 56.6	
ARU						23 04 07.9	
ARU				S	**S**	**23 10 29.8**	**+4.6**
ARU				SS	**SS**	**23 14 54.9**	**+3.0**
ARU				pmax	pmax		
	comp=Z,16nm,1.0s						
ARU	**Arti**	**68.39**	**336**	*e*P	**P**	**23 01 36.0**	**-0.1**
	comp=Z,19nm,1.1s						
KBZ	**Khabaz**	**69.85**	**319**	P	**P**	**23 01 46.6**	**+1.3**
	comp=Z,5.9nm,0.7s,baz=202,slow=24,SNR=13						
NRIK	**Noril'sk**	**72.36**	**355**	P	**P**	**23 01 59.8**	**-0.2**
	comp=Z,5.6nm,0.5s,baz=144,slow=7.1,SNR=12						
PETK	**Petropavlovsk-**	**72.39**	**32**	P	**P**	**23 02 00.7**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=261,slow=1.7,SNR=4.6						
VRH	**Novokhopyorsk**	**73.74**	**325**	*e*P	**P**	**23 02 08.1**	**-0.3**
VRH				pmax	pmax		
	comp=Z,30nm,1.0s						
CSS	**Mathiatis**	**73.93**	**307**	*e*P	**P**	**23 02 10.2**	**+0.3**
	comp=Z,1.8nm,0.7s						
BRTR	**Keskin Array B**	**74.97**	**312**	P	**P**	**23 02 16.1**	**+0.1**
	comp=Z,6.6nm,0.6s,baz=137,slow=7.3,SNR=58						
BR131	**Keskin Array S**	**74.97**	**312**	*e*P	**P**	**23 02 16.3**	**+0.3**
VSR	**Storozhevoye**	**75.21**	**325**	*e*P	**P**	**23 02 16.7**	**-0.2**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SEY	**Seymchan**	**75.45**	**21**	P	**P**	**23 02 19.1**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=246,slow=18,SNR=5.2						
BR231	**Keskin MP Arra**	**75.64**	**312**	*e*P	**P**	**23 02 16.6**	**-3.1**
LPSR	**Galich'ya Gora**	**75.90**	**326**	*e*P	**P**	**23 02 20.8**	**0.0**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TIXI	**Tiksi**	**76.09**	**9**	P	**P**	**23 02 20.7**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=224,slow=2.7,SNR=6.1						
TIXI	**Tiksi**	**76.09**	**9**	⇓*e*P	**P**	**23 02 20.5**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
TIXI	**Tiksi**	**76.09**	**9**	*e*P	**P**	**23 02 20.2**	**-1.3**
	comp=Z,2.5nm,0.7s						
BOSA	**Boshof**	**76.96**	**241**	P	**P**	**23 02 27.0**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=124,slow=10.0,SNR=4.0						
OBN	**Obninsk**	**78.16**	**328**	*e*P	**P**	**23 02 33.7**	**+0.4**
OBN				pmax	pmax		
	comp=Z,12nm,1.0s						
KLMR	**Klimovskoe**	**79.06**	**334**	*e*P	**P**	**23 02 35.7**	**-2.5**
KLMR				*e*		23 02 43.7	
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TIRR	**Tirgusor**	**79.95**	**316**	⇑*i*P	**P**	**23 02 43.8**	**+0.5**
TIRR	**Tirgusor**	**79.95**	**316**	⇑P	**P**	**23 02 43.8**	**+0.5**
TIRR	**Tirgusor**	**79.95**	**316**	*e*P	**P**	**23 02 43.5**	**+0.2**
	comp=Z,5.7nm,0.8s						
CFR	**Carcaliu**	**80.31**	**316**	⇓*i*P	**P**	**23 02 46.2**	**+1.0**
CFR	**Carcaliu**	**80.31**	**316**	⇓P	**P**	**23 02 46.2**	**+1.0**
SORM	**Soroca**	**80.87**	**319**	⇑*i*P	**P**	**23 02 48.8**	**+0.6**
SORM	**Soroca**	**80.87**	**319**	⇑P	**P**	**23 02 48.8**	**+0.6**
AKASG	**Malin Array Be**	**80.97**	**322**	P	**P**	**23 02 48.9**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=86,slow=5.0,SNR=8.6						
VRI	**Vrincioaia**	**81.43**	**317**	⇑*i*P	**P**	**23 02 53.1**	**+1.9**
VRI	**Vrincioaia**	**81.43**	**317**	⇑P	**P**	**23 02 53.1**	**+1.9**
PLOR	**Plostina**	**81.48**	**317**	⇑*i*P	**P**	**23 02 53.2**	**+1.7**
PLOR	**Plostina**	**81.48**	**317**	⇑P	**P**	**23 02 53.2**	**+1.7**
TESR	**Tescani**	**81.62**	**318**	⇓*i*P	**P**	**23 02 53.4**	**+1.2**
MLR	**Muntele Rosu**	**81.88**	**316**	⇓*i*P	**P**	**23 02 55.2**	**+1.4**
MLR	**Muntele Rosu**	**81.88**	**316**	⇓P	**P**	**23 02 55.2**	**+1.4**
MLR	**Muntele Rosu**	**81.88**	**316**	*e*P	**P**	**23 02 54.9**	**+1.2**
	comp=Z,7.2nm,1.0s						
**

	baz=336,SNR=8.7							
X38A	**Whitesboro**	144.47	24	P		PKPdf	23 10 09.5	-0.4
	baz=331,SNR=14							
Y36A	**Durant**	144.51	26	P		PKPbc	23 10 09.2	+0.3
	baz=328							
W40A	**Ferguson Farm,**	144.69	21	P		PKPbc	23 10 09.5	+0.1
	baz=334,SNR=6.7							
V42A	**Cord**	144.70	19	P		PKPbc	23 10 09.4	0.0
	baz=337,SNR=12							
134A	**White-Moore Ra**	144.76	30	P		PKPab	23 10 09.1	-0.6
	baz=324							
233A	**Rising Star**	144.79	31	P		PKPbc	23 10 10.0	+0.1
	baz=322,SNR=5.6							
WHAR	**Wooly Hollow**	144.87	20	*e*PKPbc		PKPdf	23 10 10.2	-0.4
X39A	**Fountain Ranch**	144.90	23	P		PKPdf	23 10 10.7	0.0
	baz=332,SNR=14							
CPUP	**Villa Florida**	144.92	214	PKP		PKPdf	23 10 12.6	+1.7
	comp=Z,3.8nm,0.6s,baz=88,slow=2.3,SNR=13							
W41B	**Gary Mavity, V**	144.99	20	P		PKPdf	23 10 10.8	0.0
	baz=335							
MIAR	**Mount Ida**	145.07	22	P		PKPdf	23 10 11.6	+0.7
	baz=333,SNR=19							
MIAR	**Mount Ida**	145.07	22	*e*PKIKP		PKPdf	23 10 11.7	+0.7
MIAR	**Mount Ida**	145.07	22	*e*PKPbc		PKPdf	23 10 11.7	+0.7
135A	**Vickery Place,**	145.11	29	P		PKPdf	23 10 11.4	+0.3
	baz=325							
234A	**Clairette**	145.19	30	P		PKPab	23 10 11.9	+0.5
	baz=324,SNR=5.6							
333A	**Richland Sprin**	145.29	32	P		PKPab	23 10 12.3	+0.5
	baz=322,SNR=11							
X40A	**Basin Creek Fa**	145.40	22	P		PKPab	23 10 11.9	-0.2
	baz=334							
Y39A	**Lockesburg**	145.41	24	P		PKPab	23 10 12.0	-0.1
	baz=331							
334A	**Lometa**	145.68	31	P		PKPab	23 10 13.3	+0.1
	baz=323,SNR=5.6							
433A	**Art**	145.68	33	P		PKPab	23 10 13.2	0.0
	baz=321,SNR=5.3							
TZTN	**Tazewell**	145.78	8	*e*PKPdf		PKPab	23 10 13.2	-0.2
Y41A	**Eaglette Beard**	146.03	22	P		PKPab	23 10 14.0	-0.3
	baz=334							
434A	**Burnet**	146.07	32	P		PKPab	23 10 14.4	-0.4
	baz=322,SNR=5.8							
335A	**Moody**	146.13	30	P		PKPab	23 10 15.0	+0.1
	baz=324							
533A	**Kerrville**	146.23	34	P		PKPab	23 10 15.2	-0.2
	baz=320							
Z40A	**Long Farm, Mag**	146.28	23	P		PKPab	23 10 15.2	-0.2
	baz=332							
TKL	**Tuckaleechee C**	146.62	8	PKPbc		PKPbc	23 10 15.4	+0.1
	comp=Z,2.3nm,0.6s,baz=168,slow=5.1,SNR=5.7							
SWET	**Sewanee**	146.69	12	*e*PKPdf		PKPbc	23 10 15.3	-0.3
CPCT	**Cooper Cave**	146.71	9	*e*PKPdf		PKPbc	23 10 15.9	+0.3

ISCJB ***18*** *22:54:41.6±0.2, 16°.99N±0°.02×99°.42W±0°.02, h30km, mb4.7/144, MS4.1/19, Error ellipse: s-maj=3.5km s-min=2.5km az=4.1*

IDC ***18*** *22:54:43.8±0.8, 17°.11N×99°.23W, h26km±4km, mb4.3/16, mb1 4.5/18, mb1mx4.2/45, mbtmp4.4/18, ML3.4/2, MS4.1/23, Ms1 4.1/23, ms1mx4.0/29, Error ellipse: s-maj=26.5km s-min=10.9km az=59.0*

NEIC ***18*** *22:54:44.0, 16°.92N×99°.60W, h26km, mb4.8/163, MW4.8, MD5.2(MEX), Moment Tensor Solution. s17 Moment tensor: Scale 10^{16}Nm; M_{rr}2.25; $M_{\theta\theta}$-1.80; $M_{\phi\phi}$-0.45; $M_{r\theta}$-0.97; $M_{\theta\phi}$-0.20; $M_{\phi r}$0.19; Best double couple: M_o2.30000×10^{16} NP1:ϕ_s77.00000°, δ33.00000°, λ80.00000°. NP2:ϕ_s269.00000°, δ58.00000°, λ97.00000°. Principal axes: T 2.4900, Plg76.0000°, Azm199.0000°; N -0.4500, Plg6.0000°, Azm86.0000°; P -2.0400, Plg12.0000°, Azm354.0000°; After MEX.*

NEIC Felt [III] at Acapulco and [II] at Mexico. Also felt at Chilapa, Chilpancingo, Ixtapaluca, Tierra Colorada and Tlalnepantla.

MEX ***18*** *22:54:44.2±1.3, 16°.90N×99°.61W, h29km±7km, MD5.2*

ISC 18 22:54:42.5±0.4, 16°.94N±0°.03×99°.56W±0°.03, h23km±2km, h23km:pP-P, n659, σ1§29/687, mb4.8/145, MS4.1/19, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	0.32	258	*e*P	**Pb**	22 54 49.7	0.0
ACP2				*e*S	**Sb**	22 54 55.1	+0.4
CAIG	**El Cayaco**	0.69	279	*e*P	**Pb**	22 54 54.6	-1.2
CAIG				*e*S	**Sb**	22 55 04.0	-0.9
MEIG	**Mezcala**	0.98	356	*e*P	**Pb**	22 54 59.7	-1.2
MEIG				*e*S	**Sb**	22 55 12.8	-0.7
TLIG	**Tlapa**	1.13	57	*e*P	**Pb**	22 55 02.9	-0.1
TLIG				*e*S	**Sb**	22 55 17.6	-0.2
TLIG	**Tlapa**	1.13	57	*e*Pn	**Pn**	22 55 02.3	-0.7
TLIG				*e*Sn	**Pb**	22 55 03.1	-0.4
HMTT	**Tlapaneco**	1.28	48	*e*P	**Pn**	22 55 05.1	+0.1
HMTT				*e*S	**Sn**	22 55 21.0	-0.5
PLIG	**Platanillo**	1.45	2	*e*P	**Pn**	22 55 06.9	-0.4
PLIG				*e*S	**Sn**	22 55 25.4	-0.2
PNIG	**Pinotepa**	1.47	111	*e*P	**Pn**	22 55 06.9	-0.7
PNIG				*e*S	**Sn**	22 55 25.2	-1.0
ARIG	**Puente Sto Nin**	1.53	331	*e*P	**Pn**	22 55 07.6	-0.8
ARIG				*e*S	**Sn**	22 55 26.8	-0.9
ZIIG	**Zihuatanejo**	1.94	290	*e*P	**Pn**	22 55 13.0	-0.9
ZIIG				*e*S	**Sn**	22 55 35.8	-1.8
YAIG	**Yautepec**	1.97	14	*e*P	**Pn**	22 55 13.7	-0.9
YAIG				*e*S	**Sn**	22 55 38.9	+0.3
MAVM	**Malinalco, Edo**	2.01	2	*e*P	**Pn**	22 55 16.0	+0.8
MAVM				*e*S	**Sb**	22 55 43.5	+0.4
MZVM		2.26	8	*e*P	**Pn**	22 55 19.1	+0.7
MZVM				*e*S	**Sb**	22 55 52.8	+2.7
PPM	**Popocatepetl**	2.29	23	*e*P	**Pn**	22 55 18.6	-0.7
PPM				*e*S	**Sb**	22 55 55.2	+3.7
TOVM	**TOLUCA**	2.33	357	*e*P	**Pn**	22 55 21.0	+1.3
TOVM				*e*S	**Sb**	22 55 55.0	+2.4
UNM	**Universidad Na**	2.40	9	*e*Pn	**Pn**	22 55 20.1	-0.6
VCVM	**Valle de Chalc**	2.41	14	*e*P	**Pn**	22 55 20.5	-0.3
VCVM				*e*S	**Sb**	22 55 54.5	-0.4
TPIG	**Tehuac#an**	2.56	55	*e*P	**Pn**	22 55 22.5	-0.2
TPIG				*e*S	**Sn**	22 55 56.1	+2.9
AZVM	**Cuida Lopez Ma**	2.64	6	*e*P	**Pn**	22 55 24.6	+0.7
AZVM				*e*S	**Sb**	22 56 01.9	+0.4
VHO	**Vista Hermosa**	2.71	87	*e*P	**Pn**	22 55 26.2	+1.5
VHO				*e*S	**Sn**	22 55 56.7	-0.1
OXBJ	**Oaxaca**	2.71	87	*e*P	**Pn**	22 55 27.4	+2.6
ZUVM	**ZUMPANGO**	2.91	9	*e*P	**Pn**	22 55 27.7	+0.1
ZUVM				*e*S	**Sb**	22 56 13.7	+4.6
VTVM	**Tizayuca**	2.91	15	*e*P	**Pn**	22 55 27.2	-0.4
VTVM				*e*S	**Sb**	22 56 13.0	+3.8
MOIG	**Morelia**	3.13	331	*e*P	**Pn**	22 55 30.7	0.0
MOIG				*e*S	**Sn**	22 56 04.6	-2.9
MOIG	**Morelia**	3.13	331	*e*Pn	**Pn**	22 55 30.4	-0.2
DEIG	**Demacu**	3.38	8	*e*P	**Pn**	22 55 33.5	-0.5
DEIG				*e*S	**Sb**	22 56 21.1	-1.5
IGIG	**Irapuato, Guan**	4.15	336	*e*P	Pn	22 55 39.4	-5.1
IGIG				*e*S	**Sn**	22 56 33.0	+0.6
EZ5V		4.60	304	*e*P	**Pn**	22 55 53.4	+2.6
EZ5V				*e*S	**Sb**	22 56 57.9	+0.1
R15V		4.76	298	*e*P	**Pn**	22 55 54.5	+1.6
R15V				*i*S	**Sn**	22 56 53.5	+6.1
PCIG		6.21	101	*e*P	**Pn**	22 56 13.4	+0.7
PCIG				*e*S	**Sn**	22 57 18.7	-4.3
ANIG	**Ahuacatlan**	6.23	312	*e*P	Pn	22 56 21.4	+8.3
ANIG				*i*S	**Sn**	22 57 23.3	-0.3
ZAIG	**Zacatecas**	6.45	334	*e*Pn	**Pn**	22 56 16.2	-0.1
CCIG	**Comitan**	7.14	94	*e*Pn	**Pn**	22 56 28.9	+3.2
035A	**Encino**	10.04	7	P	**Pn**	22 57 04.0	-1.3
	baz=188						
034A	**Hebbronville**	10.11	4	P	Pn	22 57 11.3	+5.1
	baz=185						
933A	**Laredo**	10.63	1	P	**Pn**	22 57 16.4	+3.1
	baz=182						
934A	**Benavides**	10.65	5	P	**Pn**	22 57 14.0	+0.3
	baz=186						
TEIG	**Tepich**	11.18	71	Pn	**Pn**	22 57 20.4	-0.6
	0.4nm,0.3s,baz=270,slow=20,SNR=3.3						
TEIG				Sn	**Sn**	22 59 20.5	-4.8
	baz=0.0,slow=20,SNR=3.7						
TEIG				LR	LR	23 02 34.4	
	comp=Z,466nm,21.5s,baz=268,slow=43						
TEIG	**Tepich**	11.18	71	*e*Pn	**Pn**	22 57 21.4	+0.5
TEIG				Sn	**Sn**	22 59 20.5	-4.8
832A	**Faith Ranch, C**	11.30	358	P	**Pn**	22 57 24.9	+2.4
	baz=178						
833A	**Chaparral WMA,**	11.33	1	P	**Pn**	22 57 24.3	+1.4
	baz=181						
HPIG		11.45	331	*e*Pn	**Pn**	22 57 25.6	+0.9
733A	**Divot King Ran**	11.73	1	P	**Pn**	22 57 30.0	+1.6
	baz=181						
734A	**La Parita Cree**	11.89	4	P	**Pn**	22 57 31.9	+1.3
	baz=185						
735A	**Kenedy**	11.97	7	P	**Pn**	22 57 33.0	+1.4
	baz=188						
736A	**Circle Diamond**	12.18	10	P	**Pn**	22 57 33.6	-0.9
	baz=192						
TGUH	**Tegucigalpa,Un**	12.18	102	*e*Pn	**Pn**	22 57 36.9	+2.3
LPIG	**La Paz**	12.33	307	LR	LR	23 01 51.4	
	comp=Z,535nm,19.4s,baz=106,slow=34						
633A	**Saathoff Ranch**	12.47	2	P	**Pn**	22 57 39.7	+1.2
	baz=182						
636A	**Smothers Creek**	12.69	10	P	**Pn**	22 57 41.7	+0.2
	baz=191						
TX31	**Lajitas Ar. Si**	12.90	344	*e*Pn	**Pn**	22 57 45.0	+0.5
TXAR	**Lajitas Array**	12.90	344	Pn	**Pn**	22 57 46.4	+1.8
	0.0nm,0.3s,baz=160,slow=15,SNR=11						
TXAR				Lg	Lg	23 01 34.3	
	0.1nm,0.3s,baz=150,slow=26,SNR=3.7						
TXAR				LR	LR	23 03 31.2	
	comp=Z,496nm,19.3s,baz=0.0,slow=41						
534A	**Blanco**	13.07	4	P	**Pn**	22 57 45.7	-1.1
	baz=185						
533A	**Kerrville**	13.08	2	P	**Pn**	22 57 47.5	+0.6
	baz=182						
535A	**Dale**	13.16	8	P	**Pn**	22 57 49.1	+1.1
	baz=188						
537A	**Green Hill Far**	13.41	12	P	**Pn**	22 57 51.1	-0.3
	baz=194						
433A	**Art**	13.76	2	P	**Pn**	22 57 56.4	+0.2
	baz=182						
434A	**Burnet**	13.86	5	P	**Pn**	22 57 59.0	+1.4
	baz=185						
435B	**Jarl**	13.90	7	P	**Pn**	22 57 59.8	+1.8
	baz=188						
333A	**Richland Sprin**	14.33	2	P	**Pn**	22 58 03.3	-0.7
	baz=182,SNR=8.7						
334A	**Lometa**	14.38	5	P	**Pn**	22 58 04.9	+0.2
	baz=185,SNR=12						
335A	**Moody**	14.41	7	P	**Pn**	22 58 05.6	+0.5
	baz=188						
439A	**Center Grove,**	14.47	17	P	**Pn**	22 58 05.4	-0.4
	baz=199						
336A	**Riesel**	14.59	9	P	**Pn**	22 58 07.8	+0.3
	baz=190,SNR=6.7						
542A	**Morse**	14.61	25	P	**Pn**	22 58 07.5	-0.2
	baz=208						
440A	**Kirbyville**	14.66	19	P	**Pn**	22 58 07.9	-0.6
	baz=202						
337A	**Centerville**	14.70	12	P	**P**	22 58 13.3	-1.6
	baz=194,SNR=7.3						
338A	**Crockett**	14.86	14	P	**Pn**	22 58 11.1	-0.1
	baz=196						
233A	**Rising Star**	15.02	2	P	**Pn**	22 58 12.4	-1.0
	baz=183,SNR=19						
339A	**Huntington**	15.04	17	P	**Pn**	22 58 11.6	-1.9
	baz=199						
234A	**Clairette**	15.05	5	P	**Pn**	22 58 14.1	+0.3
	baz=185,SNR=13						
WHTX	**Lake Whitney,**	15.11	7	P	**P**	22 58 19.3	-0.2
	baz=188						
236A	**Katherine and**	15.24	10	P	**Pn**	22 58 18.6	+2.4
	baz=191,SNR=12						
340A	**Bronson**	15.31	19	P	**Pn**	22 58 16.3	-0.8
	baz=201						
237A	**Washetta, Mont**	15.38	12	P	**P**	22 58 22.0	-0.4
	baz=194,SNR=10						
NATX	**Nacogdoches**	15.41	16	P	**Pn**	22 58 18.8	+0.4
	baz=198						
NATX	**Nacogdoches**	15.41	16	*e*Pn	**Pn**	22 58 16.3	-2.1
	199nm,1.4s						
341A	**Kurthwood**	15.46	21	P	**Pn**	22 58 17.9	-1.2
	baz=204						
238A	**Jacksonville**	15.53	14	P	**P**	22 58 22.8	-1.4
	baz=196,SNR=5.6						
133A	**Hamilton Ranch**	15.61	2	P	**P**	22 58 24.4	-0.7
	baz=182,SNR=18						
ABTX	**Abilene, Hawle**	15.62	360	P	**Pn**	22 58 23.2	+2.0
	baz=180						
ABTX	**Abilene, Hawle**	15.62	360	*e*Pn	**Pn**	22 58 19.6	-1.5
	66nm,1.1s						
MNTX	**Cornudas Mount**	15.62	341	P	**Pn**	22 58 22.0	+0.8
	baz=159,SNR=16						
MNTX	**Cornudas Mount**	15.62	341	*e*Pn	**Pn**	22 58 20.1	-1.0
	35nm,1.1s						
134A	**White-Moore Ra**	15.62	5	P	**Pn**	22 58 20.3	-0.9
	baz=185,SNR=13						
135A	**Vickery Place,**	15.67	7	P	**Pn**	22 58 22.1	+0.3
	baz=188,SNR=13						
239A	**Gary**	15.71	16	P	**Pn**	22 58 22.6	+0.4
	baz=198						
136A	**Ennis**	15.71	9	P	**Pn**	22 58 23.8	+1.5
	baz=191						
342A	**Flagon Creek P**	15.80	23	P	**Pn**	22 58 23.2	-0.4
	baz=206,SNR=9.4						
444A	**Pine Grove**	15.89	29	P	**P**	22 58 26.7	-1.5
	baz=212						
240A	**Hunter Patters**	15.93	18	P	**Pn**	22 58 24.0	-1.1
	baz=201						
137A	**Heron Place, G**	15.96	12	P	**Pn**	22 58 27.0	+1.4
	baz=193						
546A	**Slidell**	16.00	32	P	**Pn**	22 58 26.9	+0.9
	baz=216						
445A	**Amite**	16.10	30	P	**P**	22 58 30.0	-0.5
	baz=214,SNR=5.7						
138A	**Matatall Enter**	16.17	14	P	**P**	22 58 30.9	-0.3
	baz=196						
Z33A	**Whitaker Ranch**	16.29	2	P	**P**	22 58 32.3	-0.3
	baz=183,SNR=15						
139A	**Bunkhouse Ranc**	16.35	16	P	**P**	22 58 32.9	-0.4
	baz=198						
Z34A	**Collier Ranch,**	16.43	5	P	**P**	22 58 34.0	-0.2
	baz=186						
Z35A	**Perchaven, San**	16.45	7	P	**P**	22 58 34.3	-0.1
	baz=188						
242A	**Grayson**	16.48	23	P	**Pn**	22 58 33.1	+0.8
	baz=206						
Z36A	**Blue Ridge**	16.50	9	P	**P**	22 58 34.2	-0.7
	baz=191,SNR=7.2						
HDC	**Heredia**	16.52	113	*e*Pn	**P**	22 58 37.3	+1.9
	79nm,1.0s						
344A	**Westbrook Farm**	16.53	27	P	**P**	22 58 34.7	-0.5
	baz=211,SNR=6.0						
140A	**Cam and Jess,**	16.54	18	P	**Pn**	22 58 31.5	-1.5
	baz=200						
Z37A	**Pogue Cattle C**	16.57	12	P	**Pn**	22 58 32.8	-0.6
	baz=193						
243A	**Waterproof**	16.58	25	P	**Pn**	22 58 34.8	+1.3
	baz=208						
446A	**Poplarville**	16.63	32	P	**Pn**	22 58 35.3	+1.2
	baz=216						
141A	**Papa Simpson,**	16.72	20	P	**Pn**	22 58 35.4	+0.2
	baz=203,SNR=5.7						
345A	**Thompson Farm,**	16.73	29	P	**Pn**	22 58 36.2	+0.9
	baz=208						
Z38A	**Mt. Pleasant**	16.76	13	P	**Pn**	22 58 36.4	+0.8
	baz=195						
319A	**Douglas**	16.88	330	*e*Pn	**Pn**	22 58 37.4	+0.1
	99nm,1.4s						
Z39A	**Irene McRaven,**	16.94	16	P	**Pn**	22 58 38.5	+0.5
	baz=198						
142A	**Monroe**	17.00	22	P	**Pn**	22 58 39.8	+1.1
	baz=206						
Y33A	**Hilltop Ranch,**	17.02	3	P	**P**	22 58 40.2	-0.5
	baz=183,SNR=20						
Y34A	**Reagan Ranch,**	17.02	5	P	**P**	22 58 40.4	-0.3
	baz=186,SNR=14						
Y35A	**Marietta**	17.05	7	P	**P**	22 58 40.9	0.0
	baz=188						
244A	**Avery, Jackson**	17.05	27	P	**Pn**	22 58 38.7	-0.7
	baz=210,SNR=6.6						
346A	**Big Creek Wild**	17.06	31	P	**Pn**	22 58 40.4	+0.8
	baz=215						
Y36A	**Durant**	17.14	9	P	**P**	22 58 42.2	+0.2
	baz=191						
Z40A	**Long Farm, Mag**	17.17	18	P	**P**	22 58 42.0	-0.3
	baz=200,SNR=8.0						
MSTX	**Muleshoe**	17.20	351	P	**Pn**	22 58 39.6	-1.8
	baz=170						
MSTX	**Muleshoe**	17.20	351	*e*Pn	**Pn**	22 58 40.0	-1.4
	40nm,0.9s						
121A	**Cookes Peak, D**	17.22	336	P	**P**	22 58 43.4	+0.3
	baz=153						
Y37A	**Hugo**	17.33	11	P	**Pn**	22 58 43.2	+0.3
	baz=193,SNR=6.7						
143A	**Socs Landing,**	17.34	24	P	**P**	22 58 43.9	-0.3
	baz=207						
Z41A	**Richland Creek**	17.35	19	P	**Pn**	22 58 43.5	+0.4
	baz=202,SNR=13						
245A	**Little AP, Sta**	17.39	28	P	**P**	22 58 44.5	-0.3
	baz=212						
X32A	**Elmer**	17.41	1	P	**Pn**	22 58 43.2	-0.7
	baz=181						
Y38A	**Idabel**	17.46	13	P	**Pn**	22 58 43.1	-1.4
	baz=196,SNR=7.3						
448A	**Bay Minette**	17.54	35	P	**Pn**	22 58 44.1	-1.3
	baz=220						
347A	**Saraland**	17.54	33	P	**Pn**	22 58 43.3	-2.1
	baz=217,SNR=8.7						
X35A	**Drake**	17.54	7	P	**Pn**	22 58 45.5	0.0
	baz=188						
X33A	**Lawton**	17.55	3	P	**Pn**	22 58 45.5	-0.2
	baz=184,SNR=5.9						
Y39A	**Lockesburg**	17.62	15	P	**Pn**	22 58 44.9	-1.6
	baz=198,SNR=6.3						
Z42A	**Norrel Spur, H**	17.65	21	P	**Pn**	22 58 44.8	-2.1
	baz=205						
WLAR	**White Oak Lake**	17.66	18	*e*Pn	**Pn**	22 58 45.4	-1.5
	313nm,1.2s						
X34A	**Smith Ranch, M**	17.66	5	P	**Pn**	22 58 46.3	-0.6
	baz=186						
144A	**Alexander Plac**	17.67	26	P	**Pn**	22 58 47.4	+0.3
	baz=210						
WMOK	**Wichita Mounta**	17.74	2	P	**Pn**	22 58 47.5	-0.4
	baz=183						
WMOK	**Wichita Mounta**	17.74	2	*e*Pn	**Pn**	22 58 47.2	-0.8
	34nm,1.0s						
X36A	**Centrahoma**	17.79	9	P	**P**	22 58 49.2	0.0
	baz=190,SNR=12						
145A	**Houston Renfro**	17.86	27	P	**Pn**	22 58 49.7	+0.2
	baz=211						
348A	**Jackson**	17.89	34	P	**Pn**	22 58 48.2	-1.6
	baz=219						
Y40A	**Okolona**	17.91	17	P	**Pn**	22 58 48.5	-1.5
	baz=200,SNR=7.9						
AMTX	**Amarillo**	17.97	354	P	**Pn**	22 58 51.0	+0.1
	baz=174						
AMTX	**Amarillo**	17.97	354	*e*Pn	**Pn**	22 58 48.8	-2.1
	38nm,0.8s						
X37A	**Clayton**	17.97	11	P	**Pn**	22 58 50.8	0.0
	baz=193,SNR=12						
Y41A	**Eaglette Beard**	17.99	19	P	**Pn**	22 58 49.7	-1.2
	baz=202,SNR=10						
247A	**Quitman**	18.02	31	P	**Pn**	22 58 51.0	-0.5
	baz=216,SNR=7.5						
W32A	**Sentinel**	18.11	1	P	**Pn**	22 58 51.4	-1.2
	baz=181,SNR=12						
X38A	**Whitesboro**	18.16	13	P	**Pn**	22 58 53.0	0.0
	baz=195,SNR=18						
W33A	**Caddo, Fort Co**	18.16	3	P	**Pn**	22 58 52.9	-0.3
	baz=184						
X39A	**Fountain Ranch**	18.16	15	P	**Pn**	22 58 51.4	-1.8
	baz=197,SNR=13						
BRAL	**Brewton**	18.17	37	*e*Pn	**Pn**	22 58 50.8	-2.4
	134nm,1.6s						
Y42A	**Garnett, Star**	18.22	21	P	**Pn**	22 58 53.0	-0.8
	baz=204						
Z44A	**Pea Ridge, Bel**	18.23	25	P	**Pn**	22 58 52.5	-1.4
	baz=209						
BNM	**Barren Site**	18.28	341	*e*Pn	**P**	22 58 56.2	+1.3
146A	**Union**	18.29	29	P	**Pn**	22 58 53.7	-1.0
	baz=214						
W34A	**Bridge Creek,**	18.29	5	P	**Pn**	22 58 54.3	-0.3
	baz=186						
W34A	**Bridge Creek,**	18.29	5	*e*Pn	**Pn**	22 58 54.4	-0.3
	48nm,1.0s						
CCAR	**Cane Creek**	18.30	21	*e*Pn	**P**	22 58 53.3	-1.5
	50nm,0.8s						
W35A	**Tecumseh**	18.30	7	P	**P**	22 58 54.3	-0.5
	baz=188,SNR=6.8						
Y22D	**IRIS PASSCAL I**	18.30	340	P	**P**	22 58 56.7	+1.8
	baz=157						
Y22D	**IRIS PASSCAL I**	18.30	340	*e*Pn	**Pn**	22 58 54.5	-0.5
	67nm,1.0s						
MIAR	**Mount Ida**	18.33	16	P	**P**	22 58 53.5	-1.7
	baz=198,SNR=19						
MIAR	**Mount Ida**	18.33	16	*e*Pn	**P**	22 58 53.2	-1.9
	53nm,1.1s						
W36A	**Wetumka**	18.37	9	P	**P**	22 58 55.0	-0.6
	baz=190,SNR=6.3						
TUC	**Tucson**	18.37	328	P	**Pn**	22 58 57.0	+1.2
	baz=144						
TUC	**Tucson**	18.37	328	*e*P	**Pn**	22 58 57.1	+1.3
	23nm,1.2s						
LPM	**Los Pinos Moun**	18.43	341	*e*P	**P**	22 58 56.4	-0.1
X40A	**Basin Creek Fa**	18.48	18	P	**P**	22 58 55.0	-1.8
	baz=201						
W37B	**Quinton**	18.50	11	P	**P**	22 58 56.4	-0.6
	baz=193,SNR=10						
248A	**Dixon Mills**	18.50	33	P	**P**	22 58 55.9	-1.1
	baz=218,SNR=6.2						
X41A	**Kaden, Bauxite**	18.59	19	P	**P**	22 58 56.7	-1.3
	baz=202,SNR=7.6						
Y43A	**Makayla and Ka**	18.59	23	P	**P**	22 58 58.2	+0.2
	baz=207						
W38A	**Poteau**	18.61	13	P	**P**	22 58 57.4	-0.8
	baz=195,SNR=13						
Z45A	**Winona**	18.62	27	P	**P**	22 58 57.4	-0.9
	baz=211						
LAZ	**Ladron**	18.67	340	*e*P	**P**	22 58 58.4	-0.7
147A	**Livingston**	18.70	31	P	**P**	22 58 58.3	-0.8
	baz=216						
V32A	**Arapaho**	18.71	1	P	**P**	22 58 58.7	-0.6
	baz=182						
Z46A	**Louisville**	18.80	29	P	**P**	22 58 59.8	-0.6
	baz=213						
V33A	**Lossen

	baz=212,SNR=28									
U33A	**Lingo Farm, Me**	19.46	3	P	P	22 59 06.2	-1.4			
	baz=184									
U34A	**Anderson Ranch**	19.50	5	P	P	22 59 06.8	-1.2			
	baz=186									
U34A	**Anderson Ranch**	19.50	5	eP	P	22 59 06.7	-1.3			
	28nm,0.7s									
U35A	**Pawnee**	19.52	7	P	P	22 59 06.9	-1.3			
	baz=188,SNR=15									
V39A	**Pettigrew**	19.55	14	P	P	22 59 07.4	-1.1			
	baz=197,SNR=28									
Z48A	**Northport**	19.61	31	P	P	22 59 07.9	-1.4			
	baz=216,SNR=18									
X45A	**UM Field Stati**	19.65	26	P	P	22 59 08.1	-1.5			
	baz=210									
U36A	**Oologah**	19.67	9	P	P	22 59 08.8	-1.0			
	baz=191									
OXF	**Oxford**	19.72	26	eP	P	22 59 08.3	-2.1			
	56nm,0.9s									
U37A	**Salina**	19.79	11	P	P	22 59 09.4	-1.7			
	baz=193,SNR=16									
X18A	**Snowflake**	19.84	334	eP	Pn	22 59 13.5	0.0			
	56nm,1.2s									
V41A	**Mountainview**	19.89	18	P	P	22 59 11.3	-1.0			
	baz=201,SNR=18									
Y47A	**UCPARC, Winfie**	19.90	30	P	P	22 59 10.9	-1.4			
	baz=215,SNR=9.9									
HHAR	**Hobbs**	19.90	13	eP	P	22 59 10.8	-1.6			
	59nm,1.3s									
U38A	**Gravette**	19.96	12	P	P	22 59 11.2	-1.7			
	baz=195,SNR=22									
DWPF	**Disney Wildern**	20.07	53	eP	P	22 59 13.6	-0.7			
	145nm,1.5s									
T35A	**Sooner Cattle**	20.08	7	P	P	22 59 12.7	-1.6			
	baz=189,SNR=23									
T33A	**Patterson Ranc**	20.10	3	P	P	22 59 13.4	-1.1			
	baz=184,SNR=6.2									
U39A	**Green Forest**	20.10	14	P	P	22 59 12.7	-1.9			
	baz=197,SNR=38									
T34A	**McClaskey Farm**	20.11	6	P	P	22 59 13.1	-1.5			
	baz=187									
V42A	**Cord**	20.15	20	P	P	22 59 13.5	-1.5			
	baz=203,SNR=9.4									
HBAR	**Harrisburg**	20.16	21	eP	P	22 59 14.1	-1.1			
T32A	**Huddler Ranch,**	20.17	1	P	P	22 59 14.2	-1.1			
	baz=182,SNR=10									
U40A	**Yellville**	20.23	16	P	P	22 59 14.7	-1.3			
	baz=199,SNR=23									
W18A	**Petrified Fore**	20.26	335	P	P	22 59 17.5	+1.0			
	baz=151									
W18A	**Petrified Fore**	20.26	335	eP	P	22 59 16.3	-0.2			
	34nm,1.1s									
T36A	**Boggs Farm, Ca**	20.30	9	P	P	22 59 15.3	-1.5			
	baz=190,SNR=6.8									
113A	**Mohawk Valley,**	20.33	323	eP	Pn	22 59 18.6	-0.5			
	72nm,1.8s									
W45A	**Hickory Valley**	20.37	25	P	P	22 59 15.6	-1.9			
	baz=210									
X16A	**Lo Mia Camp, P**	20.41	331	eP	Pn	22 59 19.6	-0.6			
	31nm,1.1s									
TIGA	**Tifton**	20.47	42	P	P	22 59 17.5	-1.0			
	baz=229									
TIGA	**Tifton**	20.47	42	eP	P	22 59 17.7	-0.9			
	77nm,1.4s									
T37A	**Cheneyville 18**	20.52	11	P	P	22 59 17.2	-1.8			
	baz=193,SNR=16									
T38A	**Diamond**	20.55	12	P	P	22 59 17.8	-1.6			
	baz=194,SNR=8.3									
T25A	**Trinidad**	20.57	349	P	P	22 59 20.3	+0.4			
	baz=167,SNR=13									
T25A	**Trinidad**	20.57	349	eP	P	22 59 20.1	+0.2			
	19nm,0.9s									
S33A	**Kaszmaul Farm,**	20.62	4	P	P	22 59 19.5	-0.7			
	baz=184									
V44A	**Blytheville**	20.68	23	P	Pn	22 59 23.4	+0.1			
	baz=207									
S32A	**Newby Ranch, P**	20.69	1	P	Pn	22 59 23.9	+0.6			
	baz=182									
PLAL	**Pickwick Lake**	20.69	28	eP	P	22 59 18.7	-2.3			
	52nm,1.2s									
PLAL				ePcP	PcP	23 03 33.0	+2.5			
T39A	**Clever**	20.74	14	P	P	22 59 19.6	-1.8			
	baz=197,SNR=7.3									
GNAR	**Gosnell**	20.76	22	eP	P	22 59 20.0	-1.7			
S34A	**Willow Spring**	20.79	5	P	P	22 59 20.2	-1.8			
	baz=187									
Y14A	**Wickenburg**	20.80	327	eP	P	22 59 23.1	+0.9			
	133nm,1.4s									
S35A	**Otter Creek Ra**	20.86	7	P	P	22 59 21.0	-1.7			
	baz=189,SNR=14									
HALT	**Halls**	20.97	24	eP	P	22 59 23.0	-0.9			
S36A	**Lake Cedric, C**	21.00	9	P	P	22 59 22.4	-1.8			
	baz=191,SNR=17									
MTDJ	**Mount Denham**	21.03	83	eP	P	22 59 24.9	0.0			
	122nm,1.3s									
T40A	**Mansfield**	21.07	16	P	P	22 59 23.6	-1.5			
	baz=199									
GLA	**Glamis**	21.14	322	P	P	22 59 27.3	+1.4			
	baz=136									
GLA	**Glamis**	21.14	322	eP	P	22 59 27.1	+1.2			
	38nm,1.1s									
S37A	**Fort Scott**	21.16	10	P	P	22 59 24.4	-1.6			
	baz=193,SNR=20									
T41A	**Mountain View**	21.18	17	P	P	22 59 24.5	-1.7			
	baz=201,SNR=29									
S38A	**Stockton**	21.20	12	P	P	22 59 24.2	-2.3			
	baz=195,SNR=12									
WUAZ	**Wupatki**	21.29	333	P	P	22 59 28.7	+1.1			
	baz=148,SNR=17									
WUAZ	**Wupatki**	21.29	333	eP	P	22 59 28.7	+1.1			
	44nm,1.0s									
GLAT	**Glass**	21.30	23	eP	P	22 59 28.9	+1.4			
R33A	**Olander Ranch,**	21.33	3	P	P	22 59 26.5	-1.4			
	baz=184									
PBMO	**Poplar Bluff**	21.35	20	eP	P	22 59 26.2	-1.8			
	73nm,1.1s									
R34A	**Isabella, Hill**	21.38	5	P	P	22 59 27.0	-1.3			
	baz=186,SNR=8.0									
SDCO	**Great Sand Dun**	21.38	347	P	P	22 59 27.6	-1.0			
	baz=164									
SDCO	**Great Sand Dun**	21.38	347	eP	P	22 59 27.4	-1.2			
	16nm,0.9s									
S39A	**Bolivar**	21.39	14	P	P	22 59 26.4	-2.0			
	baz=197,SNR=5.4									
R32A	**Long Quarter,**	21.41	2	P	P	22 59 27.5	-1.2			
	baz=182									
Y12C	**Blythe**	21.48	324	P	P	22 59 30.2	+0.8			
	baz=138									
Y12C	**Blythe**	21.48	324	eP	P	22 59 31.0	+1.6			
	36nm,1.4s									
PARMO	**Parma**	21.48	22	eP	P	22 59 28.9	-0.5			
S40A	**Lebanon**	21.50	15	P	P	22 59 27.9	-1.8			
	baz=199,SNR=12									
R35A	**Emporia Munici**	21.51	7	P	P	22 59 27.9	-1.8			
	baz=189									
UTMT	**University of**	21.53	24	eP	P	22 59 30.3	+0.3			
	441nm,1.4s									
R36A	**Gordon, Harris**	21.60	9	P	P	22 59 29.0	-1.7			
	baz=191,SNR=24									
IKP	**In-Ko-Pah, Jac**	21.64	319	P	P	22 59 32.0	+0.6			
	baz=133									
SWSC	**Sam W. Stewart**	21.65	320	P	P	22 59 32.9	+1.6			
	baz=134,SNR=5.2									
PDMCI	**Parker Dam,Lak**	21.68	326	P	P	22 59 33.3	+1.8			
	baz=140									
MVCO	**Mesa Verde**	21.68	340	P	P	22 59 31.4	-0.5			
	baz=156,SNR=14									
MVCO	**Mesa Verde**	21.68	340	eP	P	22 59 31.6	-0.2			
	51nm,1.1s									
R37A	**Teagarden Farm**	21.69	10	P	P	22 59 30.2	-1.5			
	baz=192,SNR=8.5									
S22A	**4UR Ranch, Cre**	21.69	344	P	P	22 59 31.8	-0.2			
	baz=161,SNR=12									
S22A	**4UR Ranch, Cre**	21.69	344	eP	P	22 59 28.8	-3.3			
	45nm,1.3s									
R38A	**Fenwick Farm,**	21.74	12	P	P	22 59 30.9	-1.3			
	baz=195,SNR=34									
WVT	**Waverly**	21.77	26	eP	P	22 59 30.2	-2.3			
	33nm,0.8s									
CBKS	**Cedar Bluff**	21.79	360	P	P	22 59 32.5	-0.3			
	baz=180									
CBKS	**Cedar Bluff**	21.79	360	eP	P	22 59 30.2	-2.6			
	66nm,1.0s									
GOGA	**Godfrey**	21.88	38	eP	P	22 59 32.0	-1.8			
	24nm,1.0s									
SWET	**Sewanee**	21.89	31	eP	P	22 59 31.6	-2.3			
	13nm,0.8s									
BC3	**Big Chuckawall**	21.94	322	P	P	22 59 36.2	+1.7			
	baz=136									
Q32A	**Meitler Ranch,**	21.99	2	P	P	22 59 34.4	-0.5			
	baz=183									
MONP2	**Monument Peak**	22.00	319	P	P	22 59 36.7	+1.4			
	baz=132									
BAR	**Barrett**	22.02	319	eP	P	22 59 36.7	+1.4			
	26nm,1.3s									
Q34A	**Chapman**	22.02	5	P	P	22 59 33.7	-1.5			
	baz=187									
Q33A	**Connelly Farm,**	22.03	4	P	P	22 59 34.7	-0.7			
	baz=184,SNR=8.3									
R39A	**Chumby, Stover**	22.05	14	P	P	22 59 33.6	-1.9			
	baz=197									
Q35A	**Mercer Eighty,**	22.05	7	P	P	22 59 34.3	-1.3			
	baz=189,SNR=10									
IRM	**Iron Mountain**	22.13	324	P	P	22 59 37.8	+1.4			
	baz=137,SNR=22									
W13A	**Hualapai Mount**	22.15	327	eP	P	22 59 38.2	+1.3			
	14nm,1.0s									
KSCO	**Kaye Shedlock'**	22.15	354	eP	P	22 59 34.8	-2.0			
	69nm,1.1s									
S43A	**Fulton Ridge,**	22.19	20	P	P	22 59 37.5	+0.5			
	baz=205,SNR=7.6									
R40A	**Maddies Statio**	22.21	15	P	P	22 59 35.5	-1.7			
	baz=199									
KSU1	**Kansas State U**	22.23	6	P	P	22 59 36.3	-1.2			
	baz=188									
KSU1	**Kansas State U**	22.23	6	eP	P	22 59 36.4	-1.1			
	49nm,0.9s									
Q36A	**Arnold C. Orve**	22.23	8	P	P	22 59 36.1	-1.4			
	baz=190,SNR=5.8									
Q37A	**Longview Farm,**	22.31	11	P	P	22 59 37.2	-1.1			
	baz=193									
U15A	**North Rim**	22.46	332	eP	P	22 59 40.0	-0.3			
	31nm,1.2s									
P33A	**Williams Farm,**	22.47	4	P	P	22 59 40.1	0.0			
	baz=185									
Q24A	**Divide**	22.48	349	P	P	22 59 40.7	+0.2			
	baz=166									
Q24A	**Divide**	22.48	349	eP	P	22 59 39.2	-1.3			
	16nm,1.3s									
TPFO	**Pinon Flats**	22.50	321	P	P	22 59 41.8	+1.2			
	baz=134,SNR=6.0									
BELC	**Belle Mtn. Jos**	22.51	322	P	P	22 59 42.2	+1.5			
	baz=135,SNR=6.6									
PFO	**Pinyon Flats O**	22.51	321	P	P	22 59 42.1	+1.4			
	6.4nm,1.0s,baz=131,slow=12,SNR=7.1									
PFO					LR	LR	23 08 36.1			
	comp=Z,460nm,19.4s,baz=146,slow=37									
PFO	**Pinyon Flats O**	22.51	321	P	P	22 59 41.2	+0.5			
	baz=134									
PFO	**Pinyon Flats O**	22.51	321	eP	P	22 59 42.0	+1.3			
	14nm,1.1s									
Q38A	**Cocks Store, C**	22.55	12	P	P	22 59 40.5	-0.4			
	baz=195									
PV01	**Paradox Valley**	22.55	341	eP	P	22 59 40.5	-0.7			
PV01				eScP	ScP	23 07 06.6	-4.1			
S44A	**Carbondale**	22.58	22	P	P	22 59 41.1	-0.1			
	baz=206,SNR=9.8									
SIUC	**Southern Illin**	22.61	22	eP	P	22 59 39.5	-2.0			
	49nm,1.0s									
P32A	**Huiting Farm,**	22.62	2	P	P	22 59 41.4	-0.3			
	baz=182									
P34A	**Walnut Farm, R**	22.65	5	P	P	22 59 41.9	-0.1			
	baz=187									
PV05	**Paradox Valley**	22.67	340	eP	P	22 59 40.6	-1.8			
P35A	**Duane Minner,**	22.72	7	P	P	22 59 41.2	-1.5			
	baz=189,SNR=9.3									
Q39A	**Willow Grove F**	22.76	13	P	P	22 59 41.4	-1.8			
	baz=196									
LDFC	**Landfair**	22.79	325	eP	P	22 59 45.8	+2.3			
	72nm,1.2s									
CPCT	**Cooper Cave**	22.79	33	eP	P	22 59 41.0	-2.4			
	34nm,1.0s									
S45A	**Carrier Mills**	22.81	23	P	P	22 59 41.9	-1.7			
	baz=208,SNR=10									
GMRC	**Granite Mounta**	22.87	324	P	P	22 59 44.4	-0.1			
	baz=137									
P36A	**Good Intent, A**	22.91	9	P	P	22 59 43.4	-1.3			
	baz=191									
PV10	**Paradox Valley**	22.92	341	eP	P	22 59 45.3	+0.2			
PV10				eSn	Sn	23 04 21.2	+11			
Q40A	**Laux Farm, Aux**	22.93	15	P	P	22 59 43.1	-1.7			
	baz=199									
MURC	**Murrieta**	22.95	320	P	P	22 59 46.4	+1.1			
	baz=132									
P37A	**Lathrop**	23.02	10	P	P	22 59 44.2	-1.6			
	baz=193									
PV09	**Paradox Valley**	23.06	341	eP	P	22 59 46.5	-0.1			
SMCO	**Snowmass**	23.08	345	eP	P	22 59 46.6	-0.3			
	31nm,1.3s									
SLM	**Saint Louis**	23.11	19	eP	P	22 59 45.3	-1.4			
	48nm,1.2s									
O33A	**Hebron**	23.12	4	P	P	22 59 45.2	-1.6			
	baz=185									
R44A	**Waltonville**	23.13	21	P	P	22 59 45.0	-2.0			
	baz=206,SNR=5.1									
KNB	**Kanab**	23.18	332	eP	P	22 59 48.5	+0.8			
	46nm,1.3s									
P38A	**Dawn**	23.20	12	P	P	22 59 45.8	-1.9			
	baz=195									
P39B	**Salisbury**	23.24	13	P	P	22 59 46.2	-1.8			
	baz=197									
O32A	**Brockman Farm,**	23.27	2	P	P	22 59 46.3	-2.0			
	baz=183									
Q42A	**Golden Eagle**	23.27	18	P	P	22 59 46.6	-1.7			
	baz=202									
HEC	**Hector,Ludlow**	23.29	323	P	P	22 59 50.3	+1.6			
	baz=136,SNR=14									
O34A	**Beatrice**	23.29	6	P	P	22 59 47.2	-1.4			
	baz=187,SNR=7.2									
PKCU	**Pink Cliffs**	23.32	334	eP	P	22 59 49.7	+0.5			
	27nm,1.2s									
TKL	**Tuckaleechee C**	23.34	34	P	P	22 59 47.0	-2.2			
	31nm,1.0s,baz=204,slow=10,SNR=21									
TKL	**Tuckaleechee C**	23.34	34	eP	P	22 59 47.0	-2.2			
	78nm,1.3s									
LCMT	**Little Creek M**	23.37	331	eP	P	22 59 50.7	+1.2			
	20nm,1.5s									
LCMT				eScP	ScP	23 07 08.3	-4.5			
GTBY	**Guantanamo Bay**	23.38	79	eP	P	22 59 50.4	+0.9			
	144nm,1.5s									
ISCO	**Idaho Springs**	23.38	348	P	P	22 59 50.6	+0.8			
	baz=165,SNR=7.4									
ISCO	**Idaho Springs**	23.38	348	eP	P	22 59 48.8	-1.0			
	64nm,1.8s									
USIN	**University of**	23.41	24	eP	P	22 59 48.2	-1.5			
	40nm,0.9s									
SCI2	**San Clemente I**	23.42	317	P	P	22 59 50.6	+0.7			
	baz=129									
P40A	**Paris**	23.44	15	P	P	22 59 47.8	-2.2			
	baz=198,SNR=9.3									
O36A	**Bolckow**	23.45	9	P	P	22 59 48.0	-2.2			
	baz=191									
O35A	**Humboldt**	23.46	7	P	P	22 59 48.9	-1.3			
	baz=189									
TUQ	**Turquoise Moun**	23.50	325	P	P	22 59 52.6	+1.8			
	baz=138									
Q43A	**New Douglas**	23.55	20	P	P	22 59 48.7	-2.5			
	baz=204,SNR=6.1									
O37A	**Wolven Farm, M**	23.62	10	P	P	22 59 50.5	-1.2			
	baz=193									
RGRS	**Roger Stewart**	23.62	44	eP	P	22 59 51.3	-0.6			
	431nm,0.8s									
BFSC	**Mount Baldy Ra**	23.67	320	P	P	22 59 52.6	+0.2			
	baz=132									
Q44A	**Meyer Farm, Va**	23.75	21	P	P	22 59 51.3	-1.6			
	baz=206									
CSU	**Charleston Sou**	23.75	44	eP	P	22 59 52.6	-0.5			
NHSC	**New Hope**	23.75	44	eP	P	22 59 52.2	-0.9			
	235nm,1.1s									
MTPU	**Mount Pierson**	23.77	335	eP	P	22 59 54.5	+0.8			
	69nm,1.5s									
N33A	**J Bar K, Exete**	23.79	4	P	P	22 59 51.7	-1.7			
	baz=185									
JSC	**Jenkinsville**	23.82	40	eP	P	22 59 53.2	-0.5			
	68nm,1.4s									
P41A	**Barry, Barry**	23.83	16	P	P	22 59 51.0	-2.8			
	baz=200									
CCUT	**Cedar City**	23.87	332	eP	P	22 59 55.9	+1.5			
	28nm,1.7s									
GSC	**Goldstone, Bar**	23.90	323	P	P	22 59 55.4	+0.8			
	baz=136,SNR=7.3									
GSC	**Goldstone, Bar**	23.90	323	eP	P	22 59 55.6	+1.0			
	17nm,1.2s									
SHPR	**Sheep Range**	23.90	328	eP	P	22 59 55.6	+1.0			
	38nm,1.9s									
MWC	**Mount Wilson**	23.90	320	eP	P	22 59 55.6	+0.8			
	55nm,1.5s									
OLIL	**Olney**	23.92	23	eP	P	22 59 54.0	-0.6			
	28nm,1.0s									
PASC	**Pasadena Art C**	23.95	319	eP	P	22 59 55.5	+0.5			
	76nm,1.8s									
N34A	**Lincoln**	23.96	6	P	P	22 59 53.7	-1.4			
	baz=187,SNR=6.1									
O39A	**Kirksville**	24.02	13	P	P	22 59 54.7	-0.9			
	baz=197									
OGNE	**Ogallala**	24.02	355	P	P	22 59 55.7	0.0			
	baz=174									
SHOC	**Shoshone, Teco**	24.03	325	P	P	22 59 56.6	+0.8			
	baz=138									
O40A	**La Belle**	24.04	15	P	P	22 59 54.2	-1.6			
	baz=198,SNR=5.7									
N35A	**Tabor**	24.08	7	P	P	22 59 54.7	-1.4			
	baz=189,SNR=12									
SRU	**San Rafael Swe**	24.08	339	eP	P	22 59 56.9	+0.5			
	24nm,1.1s									
TZTN	**Tazewell**	24.13	33	eP	P	22 59 55.0	-1.7			
	90nm,1.3s									
MSU	**Marysvale**	24.17	335	eP	P	22 59 58.4	+1.2			
N37A	**Lee Faris, Mou**	24.18	10	P	P	22 59 56.2	-0.9			
	baz=193									
WCI	**Wyandotte Cave**	24.20	26	eP	P	22 59 54.9	-2.3			
	40nm,1.0s									
SNCC	**San Nicolas Is**	24.23	316	eP	P	22 59 58.5	+0.8			
	40nm,1.0s									
O41A	**Passleys Farm,**	24.29	16	P	P	22 59 56.7	-1.4			
	baz=201									
EDW2	**Edwards Air Fo**	24.30	321	P	P	22 59 58.6	+0.3			
	baz=133									
O20A	**White River Ci**	24.31	344	P	P	22 59 59.1	+0.6			
	baz=160,SNR=7.5									
O20A	**White River Ci**	24.31	344	eP	P	22 59 59.4	+0.8			
	34nm,1.0s									
M31A	**Lambtecht Ranc**	24.33	1	P	P	22 59 57.9	-0.5			
	baz=181									
KMSC	**Kings Mountain**	24.35	38	P	P	22 59 57.5	-1.2			
	baz=226,SNR=14									
KMSC	**Kings Mountain**	24.35	38	eP	P	22 59 57.4	-1.3			
	58nm,1.0s									
N38A	**Joes South For**	24.39	12	P	P	22 59 58.2	-0.8			
	baz=195									
BGNE	**Belgrade**	24.41	3	P	P	22 59 59.2	0.0			
	baz=183									
BGNE	**Belgrade**	24.41	3	eP	P	22 59 58.4	-0.9			
	86nm,1.2s									
P18A	**Preston Nutter**	24.45	340	eP	P	23 00 00.9	+1.0			
	51nm,1.1s									
BLG	**Laguna Peak, P**	24.46	318	P	P	23 00 00.9	+1.1			
	baz=130									
P17A	**Butcher Ranch,**	24.48	339	eP	P	23 00 00.0	0.0			
	20nm,1.1s									
TMUT	**Trail Mountain**	24.48	338	eP	P	22 59 59.4	-0.8			
	19nm,1.0s									
N23A	**Red Feather La**	24.50	348	P	P	22 59 59.8	-0.5			
	baz=165,SNR=5.7									
N23A	**Red Feather La**	24.50	348	eP	P	23 00 00.3	0.0			
	20nm,1.0s									
OSI	**Osito Audit: C**	24.57	319	P	P	23 00 01.1	+0.3			
	baz=131									
OSI	**Osito Audit: C**	24.57	319	eP	P	23 00 01.7	+0.9			
	45nm,1.4s									
M34A	**Aspy Farms, Fr**	24.61	5	P	P	23 00 00.4	-0.6			
	baz=187									
N39A	**Derby Farms, D**	24.62	13	P	P	22 59 59.7	-1.4			
	baz=196,SNR=13									
M33A	**Taylor Creek F**	24.63	4	P	P	23 00 00.5	-0.7			
	baz=186									
M35A	**Neola**	24.67	7	P	P	23 00 00.8	-0.7			
	baz=189									
SCZ2	**Santa Cruz Isl**	24.76	317	P	P	23 00 04.5	+2.0			
	baz=129									
FURC	**Furnace Creek,**	24.77	325	P	P	23 00 03.5	+1.1			
	baz=137									
M36A	**Felix, Anita**	24.77	9	P	P	23 00 01.7	-0.7			
	baz=191									
TPNV	**Topopah Spring**	24.80	327	P	P	23 00 04.7	+1.7			
	baz=139,SNR=15									
TPNV	**Topopah Spring**	24.80	327	eP	P	23 00 04.6	+1.7			
	37nm,1.4s									
PHWY	**Pilot Hill**	24.80	349	eP	P	23 00 02.4	-0.7			
	30nm,1.5s									
MPMC	**Manual Prospec**	24.82	324	P	P	23 00 04.2	+1.0			
	baz=136,SNR=13									
M37A	**Trindle Farm,**	24.84	10	P	P	23 00 02.3	-0.7			
	baz=193,SNR=7.6									
PSUT	**Pine Spring**	24.89	333	eP	P	23 00 04.1	+0.3			
	11nm,1.1s									
BLO	**Bloomington**	24.90	25	eP	P	23 00 02.3	-1.3			
	22nm,0.9s									
ARVC	**Arvin**	24.98	320	P	P	23 00 06.1	+1.7			
	baz=132									
M38A	**Pleasantville**	25.00	11	P	P	23 00 03.0	-1.5			
	baz=195									
L32A	**Elgin**	25.02	3	P	P	23 00 04.1	-0.6			
	baz=184									
L34A	**Svendsen Farm,**	25.09	6	P	P	23 00 04.8	-0.5			
	baz=187									
ISA	**Isabella, Lake**	25.12	322	P	P	23 00 06.3	+0.6			
	baz=133									
HDIL	**Hopedale**	25.16	19	P	P	23 00 05.0	-0.9			
	baz=204,SNR=7.0									
HDIL	**Hopedale**	25.16	19	eP	P	23 00 04.7	-1.2			
	60nm,1.2s									
L31A	**Butterfield Fa**	25.16	1	P	P	23 00 06.8	+0.8			
	baz=182	

baz=200
K37A **Belmond** 26.23 10 P P 23 00 14.0 -1.7
baz=193,SNR=6.9
K38A **Parkersburg** 26.27 11 P P 23 00 16.7 +0.7
baz=195
K22A **Casper** 26.31 348 P P 23 00 16.7 +0.1
baz=165
K22A **Casper** 26.31 348 eP P 23 00 16.5 0.0
18nm,1.0s
K22A eScP ScP 23 07 22.5 +1.6
BLA **Blacksburg** 26.32 36 eP P 23 00 16.1 -0.5
79nm,0.8s
J32A **Parkston** 26.39 3 P P 23 00 17.7 +0.6
baz=184
K39A **Oelwein** 26.50 13 P P 23 00 15.9 -2.2
baz=197,SNR=8.0
BGU **Big Grassy Mou** 26.58 337 eP P 23 00 19.8 +0.8
10nm,1.3s
OTAV **Otavalo** 26.60 126 eP P 23 00 21.7 +1.9
45nm,1.8s
K40A **Colesburg** 26.66 14 P P 23 00 17.0 -2.5
baz=198,SNR=5.8
HWUT **Hardware Ranch** 26.66 340 eP P 23 00 20.1 +0.3
12nm,0.9s
J36A **Seneca 1, Swea** 26.68 8 P P 23 00 17.8 -1.9
baz=191
MLAC **Mammoth, Mammo** 26.70 324 P P 23 00 22.5 +2.3
baz=136
SPUT **South Promonto** 26.70 338 eP P 23 00 21.2 +1.0
8.3nm,1.1s
J37A **Redenius Farm,** 26.78 10 P P 23 00 19.0 -1.6
baz=193
ECSD **EROS Data Cent** 26.82 5 P P 23 00 20.0 -1.0
baz=186
ECSD **EROS Data Cent** 26.82 5 eP P 23 00 19.7 -1.3
26nm,1.3s
J38A **Wedel Dairy, R** 26.98 11 P P 23 00 20.2 -2.2
baz=195
JFWS **Jewell Farm** 27.08 15 eP P 23 00 23.7 +0.4
20nm,0.9s
BW06 **Boulder Array** 27.12 344 P P 23 00 23.8 -0.2
baz=159,SNR=15
BW06 **Boulder Array** 27.12 344 eP P 23 00 23.9 0.0
PD31 **Pinedale Array** 27.12 344 eP P 23 00 24.0 0.0
PDAR **Pinedale Array** 27.12 344 P P 23 00 23.9 -0.1
8.2nm,1.0s,baz=142,slow=7.5,SNR=35
PDAR LR LR 23 12 29.8
comp=Z,2µm,19.8s,baz=170,slow=39
J39A **Decorah** 27.14 13 P P 23 00 22.3 -1.6
baz=197
HVU **Hansel Valley** 27.23 338 eP P 23 00 25.6 +0.6
9.0nm,1.0s
ACSO **Alum Creek Sta** 27.30 28 eP P 23 00 23.9 -1.4
28nm,0.9s
ELK **Elko** 27.32 333 eP P 23 00 26.9 +1.1
ELK epP sP 23 00 39.1 +3.4
RSSD **Black Hills** 27.36 353 P P 23 00 26.0 0.0
baz=171
RSSD **Black Hills** 27.36 353 eP P 23 00 26.1 0.0
14nm,1.3s
I37A **Lemond, Waseca** 27.49 10 P P 23 00 25.5 -1.5
baz=193
H32A **Carlson Farm,** 27.54 3 P P 23 00 26.3 -1.1
baz=184
I38A **Scanlan Farm,** 27.70 11 P P 23 00 27.1 -1.7
baz=195,SNR=5.9
H33A **Prehn Over Nor** 27.76 4 P P 23 00 28.7 -0.6
baz=186
H25A **Fruitdale** 27.81 354 P P 23 00 30.1 +0.2
baz=172
H34A **Spellman Lake,** 27.82 6 P P 23 00 29.3 -0.6
baz=188
H35A **Sunnyside Ranc** 27.96 7 P P 23 00 30.8 -0.4
baz=190
REDW **Red Top Meadow** 28.03 342 eP P 23 00 32.4 +0.2
20nm,1.4s
SNOW **Snow King Moun** 28.10 343 eP P 23 00 32.3 +0.5
9.5nm,0.8s
H37A **Dierke Farm, C** 28.12 10 P P 23 00 31.5 -1.1
baz=194
TPAW **Teton Pass** 28.18 342 eP P 23 00 34.5 +1.0
14nm,0.9s
LOHW **Long Hollow** 28.19 343 eP P 23 00 33.2 -0.3
10nm,1.0s
URVA **University of** 28.25 39 eP P 23 00 33.5 -0.3
G32A **Webster** 28.28 3 P P 23 00 34.8 +0.8
baz=184
FXWY **Fox Creek** 28.34 342 eP P 23 00 34.5 -0.3
7.6nm,1.0s
MOOW **Moose Ponds** 28.36 343 eP P 23 00 36.8 +1.8
37nm,1.9s
MCWV **Mont Chateau** 28.40 33 eP P 23 00 34.6 -0.5
18nm,0.9s
G34A **Benson** 28.41 6 P P 23 00 33.9 -1.3
baz=188
IMW **Indian Meadow** 28.55 343 eP P 23 00 36.5 -0.3
5.4nm,0.8s
AAM **Ann Arbor** 28.71 25 eP P 23 00 36.7 -1.1
27nm,1.0s
SPMN **Marine on St.** 28.76 10 P P 23 00 37.3 -1.0
baz=194
CBN **Corbin Frederi** 28.77 38 eP P 23 00 38.3 -0.1
58nm,1.3s
F26A **Lodgepole** 28.94 356 P P 23 00 39.9 -0.1
baz=174
RLMT **Red Lodge** 29.26 346 P P 23 00 43.2 +0.2
baz=161,SNR=8.1
RLMT **Red Lodge** 29.26 346 eP P 23 00 43.0 0.0
24nm,1.3s
F36A **Milaca** 29.27 9 P P 23 00 42.4 -0.5
baz=192
SDV **Santo Domingo** 29.27 102 P P 23 00 42.9 -0.5
2.9nm,0.3s,baz=276,slow=2.8,SNR=5.8
SDV LR LR 23 13 15.9
comp=Z,300nm,21.2s,baz=356,slow=38
N54A **Moraine State** 29.29 31 P P 23 00 41.1 -2.0
baz=221
HLID **Hailey** 29.38 338 P P 23 00 44.6 +0.5
baz=150,SNR=5.8
HLID **Hailey** 29.38 338 eP P 23 00 44.6 +0.5
3.6nm,0.9s
O56A **Blue Knob Stat** 29.52 34 P P 23 00 44.4 -0.7
baz=224,SNR=14
MFID **Camas Ranch** 29.79 336 eP P 23 00 48.4 +0.8
14nm,1.3s
E35A **Pequot Lakes** 29.84 7 P P 23 00 46.7 -1.2
baz=190
M54A **Oil Creek Stat** 29.87 31 P P 23 00 46.8 -1.4
baz=221
SDMD **Soldier's Deli** 29.88 37 eP P 23 00 48.3 0.0
SDMD epP pP 23 00 56.2 +1.0
E36A **McGregor** 29.95 9 P P 23 00 47.7 -1.1
baz=192
MCMT **McKenzie Canyo** 29.97 341 eP P 23 00 50.6 +1.3
MCMT epP sP 23 00 58.9 -0.3
GCMT **Greycliff** 29.98 346 eP P 23 00 49.4 +0.1
D30A **Buchanan** 30.09 1 P P 23 00 49.7 -0.3
baz=182
D26A **Manning** 30.10 356 P P 23 00 49.6 -0.6
baz=175
SSPA **Standing Stone** 30.14 34 eP P 23 00 49.5 -1.1
64nm,1.3s
D28A **Regan** 30.18 359 P P 23 00 49.9 -1.0
baz=178
WVOR **Wild Horse Val** 30.19 331 eP P 23 00 51.9 +0.7
20nm,1.5s
O03D **Paynes Creek** 30.21 325 P P 23 00 52.3 +1.0
baz=134
BOZ **Bozeman (W)** 30.35 343 P P 23 00 52.7 +0.2
baz=157,SNR=9.3
BOZ **Bozeman (W)** 30.35 343 eP P 23 00 52.9 +0.3
9.3nm,1.1s
DLMT **Dillon** 30.37 342 eP P 23 00 53.6 +0.9
9.9nm,1.0s
MVL **Millersville** 30.55 37 eP P 23 00 54.4 +0.2
MVL epP sP 23 01 02.8 -1.3
MOD **Modoc Plateau** 30.59 329 eP P 23 00 55.8 +1.1
9.4nm,1.0s
D36A **Goodland** 30.61 9 P P 23 00 54.6 -0.1
baz=192
C30A **Mose, Pekin** 30.69 1 P P 23 00 53.3 -2.1
baz=182
C28A **Hausauer Farms** 30.70 359 P P 23 00 54.1 -1.3
baz=178
LRM **Limekiln Ridge** 30.75 342 eP P 23 00 56.6 +0.4
C31A **Landman Farms,** 30.80 2 P P 23 00 55.6 -0.7
baz=184
C35A **Jirik Farms, M** 31.02 7 P P 23 00 57.1 -1.2
baz=190
C36A **Pine Crest Far** 31.23 9 P P 23 00 58.0 -2.1
baz=192
M04C **Macdoel** 31.28 327 P P 23 01 00.6 -0.2
baz=136
AGMN **Agassiz Nation** 31.42 5 P P 23 01 00.9 -0.8
baz=187,SNR=5.8
AGMN **Agassiz Nation** 31.42 5 eP P 23 01 00.5 -1.2
13nm,0.8s
B29A **Wagenman Farm,** 31.44 0 P P 23 01 01.4 -0.5
baz=180
B30A **Myrvik Farm, E** 31.44 2 P P 23 01 01.8 -0.2
baz=182,SNR=5.2
B32A **Ashes, Strandq** 31.47 4 P P 23 01 01.7 -0.5
baz=186
N59A **State Game Lan** 31.50 36 P P 23 01 01.5 -1.0
baz=228,SNR=6.1
LUPA **Lehigh Univers** 31.51 37 eP P 23 01 02.6 -0.1
43nm,1.1s
BMO **Blue Mountains** 31.58 336 eP P 23 01 03.2 -0.1
4.8nm,1.0s
DGMT **Dagmar** 31.68 354 P P 23 01 03.2 -0.9
baz=172
DGMT **Dagmar** 31.68 354 eP P 23 01 04.1 0.0
84nm,1.5s
B35A **Bob, Littlefor** 31.70 7 P P 23 01 02.8 -1.4
baz=191
B34A **Aery, Baudette** 31.72 6 P P 23 01 02.8 -1.6
baz=189
ATAH **Atahualpa** 31.78 137 P P 23 01 08.4 +2.6
10nm,0.7s,baz=13,slow=5.4,SNR=5.4
ATAH LR LR 23 11 18.9
comp=Z,422nm,20.0s,baz=313,slow=31
SJG **San Juan** 31.85 83 LR LR 23 12 56.5
comp=Z,37nm,18.9s,baz=241,slow=35
A29A **Manning Farm,** 31.90 0 P P 23 01 05.0 -1.0
baz=181
A30A **Hoffart Farm,** 31.93 2 P P 23 01 05.1 -1.2
baz=182
A26A **Wade Farm, Ken** 31.94 357 P P 23 01 05.7 -0.6
baz=176
CHMT **Chamberlain Mo** 31.97 342 eP P 23 01 06.9 0.0
BRNJ **Basking Ridge** 32.03 37 eP P 23 01 07.3 +0.1
52nm,1.0s
A25A **Svangstu Ranch** 32.05 356 P P 23 01 07.1 -0.2
baz=174
J05D **Fort Rock, OR** 32.07 329 P P 23 01 08.9 +1.1
baz=138
A33A **Warroad** 32.09 5 P P 23 01 06.7 -0.9
baz=188
MSO **Missoula** 32.10 341 P P 23 01 07.9 0.0
baz=154,SNR=6.3
MSO **Missoula** 32.10 341 eP P 23 01 07.6 -0.3
9.3nm,1.1s
EGMT **Eagleton** 32.11 347 P P 23 01 08.3 +0.3
baz=162,SNR=5.4
BINY **Binghamton** 32.26 34 eP P 23 01 08.8 -0.5
48nm,1.1s
ODNJ **Ogdensburg** 32.27 37 eP P 23 01 08.9 -0.4
17nm,1.1s
ODNJ epP sP 23 01 17.6 -1.6
F10A **Beach Ranch, E** 32.48 337 eP P 23 01 11.4 +0.2
19nm,1.1s
L02D **Cave Junction,** 32.48 326 P P 23 01 12.0 +0.8
baz=134
G08A **Pilot Rock** 32.61 334 eP P 23 01 12.8 +0.4
7.6nm,0.8s
PAL **Palisades** 32.62 37 eP P 23 01 12.1 -0.2
32nm,0.8s
PAL epP pP 23 01 20.1 +0.7
SADO **Sadowa** 32.63 27 P P 23 01 10.1 -2.4
5.4nm,0.6s,baz=240,slow=8.3,SNR=11
SWMT **Swartz Lake** 32.73 342 eP P 23 01 13.4 0.0
YBMT **Yellow Bay** 33.05 342 eP P 23 01 16.5 +0.2
ULM **Lac du Bonnet** 33.36 4 P P 23 01 18.0 -0.8
6.8nm,1.0s,baz=180,slow=9.9,SNR=5.0
ULM LR LR 23 15 42.8
comp=Z,356nm,20.3s,baz=176,slow=38
ULM **Lac du Bonnet** 33.36 4 eP P 23 01 17.0 -1.7
ULM epP pP 23 01 25.2 -0.6
I03D **Drain, OR** 33.43 328 P P 23 01 19.9 +0.5
baz=136
WALA **Waterton Lakes** 34.10 343 eP P 23 01 25.8 +0.4
17nm,1.2s
ACCN **Adirondack Com** 34.31 34 eP P 23 01 26.3 -0.8
35nm,1.3s
ACCN epP sP 23 01 39.3 +2.2
NEW **Newport** 34.39 339 P P 23 01 27.6 -0.2
baz=149
G03D **McMinnville, O** 34.48 330 P P 23 01 29.0 +0.5
baz=137
HRV **Adam Dziewonsk** 34.93 37 eP P 23 01 32.6 +0.1
73nm,1.4s
LON **Longmire** 34.98 333 eP P 23 01 33.8 +0.8
16nm,1.6s
LON epP sP 23 01 46.1 +3.2
MDV **Middlebury** 34.98 34 eP P 23 01 32.0 -0.9
PTGA **Pitinga** 42.79 110 P P 23 02 38.2 -0.5
1.0nm,0.3s,baz=304,slow=7.7,SNR=6.2
SAML **Samuel** 44.22 123 eP P 23 02 48.3 -1.9
7.4nm,0.8s
LPAZ **La Paz** 45.28 135 P P 23 02 59.1 -0.2
4.2nm,0.8s,baz=332,slow=8.6,SNR=20
LPAZ LR LR 23 20 32.8
comp=Z,252nm,19.0s,baz=263,slow=34
LPAZ **La Paz** 45.28 135 eP P 23 02 59.6 +0.3
8.2nm,1.0s
SCHQ **Schefferville** 45.41 26 P P 23 02 58.2 -0.9
5.2nm,0.5s,baz=244,slow=5.8,SNR=15
SCHQ LR LR 23 24 24.7
comp=Z,200nm,19.0s,baz=254,slow=40
SCHQ **Schefferville** 45.41 26 eP P 23 02 58.2 -0.9
29nm,1.3s
SCHQ epP pP 23 03 05.3 -1.0
YKA **Yellowknife Ar** 46.71 350 P P 23 03 07.9 -1.4
7.7nm,0.9s,baz=160,slow=7.5,SNR=46
YKA LR LR 23 24 21.5
comp=Z,61nm,20.3s,baz=180,slow=38
YKR3 **Yellowknife Ar** 46.75 350 P P 23 03 08.1 -1.5
YKW3 **Yellowknife Ar** 46.78 350 P P 23 03 09.0 -0.8
DLBC **Dease Lake** 47.14 339 P P 23 03 14.6 +1.7
9.1nm,1.0s,baz=136,slow=5.8,SNR=12
DLBC **Dease Lake** 47.14 339 P P 23 03 14.0 +1.2
DLBC **Dease Lake** 47.14 339 eP P 23 03 14.7 +1.9
30nm,1.0s
TAOE **Nuku Hiva Isla** 47.62 241 eLR LR 23 16 34.2
554nm,25.3s
TAOE **Nuku Hiva Isla** 47.62 241 eT T 23 53 46.1
62nm,0.2s
LVC **Limon Verde** 49.44 142 P P 23 03 32.4 +1.1
34nm,1.0s,baz=315,slow=2.5,SNR=6.3
RKT **Rikitea** 52.77 222 eLR LR 23 19 23.8
587nm,26.5s
RKT **Rikitea** 52.77 222 eT T 00 00 19.6
20nm,0.3s
BALM **Baldy** 53.50 336 eP P 23 04 02.5 +1.5
22nm,1.3s
KLU **Klutina** 55.18 335 eP P 23 04 14.5 +1.3
11nm,1.1s
EGAK **Eagle** 55.37 340 eP P 23 04 14.4 +0.1
9.3nm,1.0s
INK **Inuvik** 55.67 345 P P 23 04 16.2 -0.2
6.6nm,0.8s,baz=150,slow=9.1,SNR=6.5
INK pP sP 23 04 25.3 -1.3
18nm,0.9s,baz=131,slow=7.0,SNR=11
INK **Inuvik** 55.67 345 P sP 23 04 25.7 -0.9
DOT **Dot Lake** 55.68 338 eP P 23 04 18.1 +1.4
42nm,1.2s
PAX **Paxson** 55.82 337 eP P 23 04 17.6 -0.1
15nm,1.2s
PAX epP sP 23 04 27.0 -0.9
SUA **Susitna One** 57.17 334 eP P 23 04 28.1 +0.7
5.1nm,0.8s
IL1 **Eielson Array** 57.34 338 eP P 23 04 27.9 -0.5
ILAR **Eielson Array** 57.34 338 P P 23 04 28.2 -0.2
2.8nm,1.0s,baz=142,slow=4.9,SNR=20
ILAR pP sP 23 04 37.4 -1.2
5.4nm,1.1s,baz=139,slow=5.0,SNR=15
ILAR LR LR 23 31 59.3
comp=Z,398nm,18.3s,baz=138,slow=39
ILB **Eielson Array** 57.34 338 eP P 23 04 28.9 +0.6
RND **Reindeer** 57.35 336 eP P 23 04 28.7 +0.1
20nm,1.2s
SPU **Mount Spurr** 57.61 333 eP P 23 04 30.9 +0.4
SPU epP sP 23 04 39.7 -0.9
TRF **Thorofare Moun** 57.93 336 eP P 23 04 33.1 +0.3
23nm,1.0s
BWN **Browne** 57.97 337 eP P 23 04 33.4 +0.6
45nm,1.0s
KTH **Kantishna Hill** 58.23 336 eP P 23 04 34.7 -0.1
7.0nm,1.0s
PPLA **Purkeypile** 58.43 335 eP P 23 04 36.7 +0.4
15nm,1.2s
PPLA epP sP 23 04 45.4 -1.1
BPAW **Bear Paw Mtn.** 58.52 336 eP P 23 04 36.4 -0.3
0.5nm,1.1s
MLY **Manley** 58.88 337 eP P 23 04 39.5 +0.3
9.9nm,1.1s
SFJD **Kangerlussuaq** 59.11 20 iP P 23 04 49.7 +9.0
36nm,1.4s
SVW2 **Sparrevohn** 59.14 332 eP P 23 04 40.5 -0.5
SVW2 epP pP 23 04 49.1 +0.7
CPUP **Villa Florida** 59.45 136 P P 23 04 42.2 -1.4
5.8nm,0.9s,baz=332,slow=8.2,SNR=12
CPUP pP pP 23 04 51.6 +0.6
6.7nm,1.0s,baz=338,slow=10,SNR=7.7
CPUP LR LR 23 30 04.4
comp=Z,130nm,18.1s,baz=328,slow=36
CPUP **Villa Florida** 59.45 136 eP P 23 04 42.7 -1.0
CPUP epP sP 23 04 51.9 -2.0
COLD **Coldfoot** 59.80 340 eP P 23 04 46.3 +0.8
5.5nm,1.1s
PPT **Papeete** 60.01 238 LR LR 23 23 28.1
comp=Z,170nm,21.8s,baz=70,slow=29
PPT2 **Papeete2** 60.02 238 eLR LR 23 22 19.0
447nm,27.0s
TT01 **Tatalina** 60.03 334 eP P 23 04 46.2 -0.9
TT01 epP pP 23 04 54.4 -0.1
TBI **Tubuai** 63.10 232 eLR LR 23 23 57.3
345nm,26.8s
TBI **Tubuai** 63.10 232 eT T 00 13 08.9
22nm,0.3s
SUMG **Summit** 65.45 17 iP P 23 05 23.3 -0.3
10.0nm,1.0s
SUMG **Summit** 65.45 17 eP P 23 05 23.5 -0.1
22nm,1.0s
RAR **Rarotonga** 70.16 239 LR LR 23 32 04.7
comp=Z,249nm,18.2s,baz=102,slow=32
DAG **Danmarks Havn** 71.54 14 iP P 23 05 59.2 -1.9
12nm,1.5s
BILL **Bilibino** 75.99 337 eP P 23 06 27.5 +0.2
12nm,1.3s
BILL epP sP 23 06 36.4 -1.3
ESDC **Sonseca Array** 83.56 51 P P 23 07 08.8 -0.3
0.8nm,0.9s,baz=298,slow=5.2,SNR=4.0
ESDC LR LR 23 45 22.7
comp=Z,50nm,18.1s,baz=295,slow=36
ES19 **SONSECA Array** 83.60 51 eP P 23 07 09.4 +0.2
NB2 **NORSAR Subarra** 84.97 27 P P 23 07 16.1 +0.4
comp=Z,7.3nm,1.2s,baz=303,slow=5.6
GERES **GERESS Array B** 91.85 37 LR LR 23 52 54.7
comp=Z,82nm,18.0s,baz=292,slow=38
DBIC **Dimbokro** 92.55 82 LR LR 23 43 25.4
comp=Z,53nm,21.6s,baz=265,slow=32
KEST **Kesra** 94.81 51 LR LR 23 46 52.1
comp=Z,55nm,21.9s,baz=313,slow=33
LANS **Liptovska Anna** 94.96 35 eP P 23 08 04.9 +1.7
VYHS **Vyhne** 94.96 36 eP P 23 08 02.7 -0.4
URZ **Urewera** 95.23 232 LR LR 23 41 12.5
comp=Z,122nm,20.7s,baz=32,slow=29
TORD **Torodi Ar. Bea** 96.69 74 LR LR 23 50 59.6
comp=Z,56nm,18.9s,baz=205,slow=35
DZM **Mont Dzumac** 99.79 250 eLR LR 23 41 21.0
comp=Z,211nm,27.4s
CD2 **Chengdu** 127.41 335 PKP PKPdf 23 13 46.0 0.0
MAW **Mawson** 128.11 172 PKP PKPdf 23 13 46.3 +0.2
comp=Z,2.4nm,0.9s,baz=333,slow=2.3,SNR=3.7
WRA **Warramunga Arr** 128.96 258 PKP PKPdf 23 13 52.6 +3.4
comp=Z,1.2nm,1.0s,baz=94,slow=1.2,SNR=3.2

IDC 18 22:56:56.9±3.3, 6.50S×147.91E, h0km, mb3.0/1, mb1 3.5/3, mb1mx3.3/40, mbtmp3.3/3, ML0.9/1, Error ellipse: s-maj=105.9km s-min=38.8km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	2.98	194	Pn	Pn	22 57 44.6	-0.9
	1.5nm,0.3s,baz=300,slow=14,SNR=2.5						
PMG				Sn	Sb	22 58 26.3	-1.7
	4.8nm,0.3s,baz=133,slow=11,SNR=6.9						
WRA	**Warramunga Arr**	18.77	223	P	Pn	23 01 18.3	+0.1
	0.3nm,0.3s,baz=48,slow=11,SNR=13						
ASAR	**Alice Springs**	21.74	217	P	P	23 01 50.8	+0.6
	0.4nm,0.5s,baz=49,slow=9.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	146.09	284	PKPbc	PKPdf	23 16 39.0	-0.2
	0.4nm,0.6s,baz=68,slow=3.9,SNR=12						

*IDC **18** 22:57:59.9±0.6, 19.94N×146.69E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.1/48, mbtmp4.2/22, ML4.1/2, MS3.6/10, Ms1 3.7/10, ms1mx3.4/41, Error ellipse: s-maj=19.8km s-min=14.7km az=88.0*

*ISCJB **18** 22:58:07.8±0.3, 20.61N±0.04×146.74E±0.04, h34km, mb4.6/70, MS3.7/9, Error ellipse: s-maj=6.1km s-min=5.2km az=152.6*

*BJI **18** 22:58:11.5, 20.62N×146.51E, h64km, mb4.6/37, mB4.9/22, Ms4.3/15, Ms7 4.1/14*

*MOS **18** 22:58:19.9±1.2, 20.73N×146.53E, h144km, mb4.4/19, Error ellipse: s-maj=15.4km s-min=7.4km az=116.5*

*NEIC **18** 22:58:22.5±0.6, 20.64N×146.57E, h157km±6km, mb4.6/49, Error ellipse: s-maj=5.3km s-min=4.1km az=87.0*

ISC 18 22:58:09.4±0.4, 20.61N±0.05×146.70E±0.06, h34km, n154, σ2s 00/149, mb4.7/70, MS3.8/9, 8C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	3.99	193	eP	Pb	22 59 23.0	+3.9
ANA2	**Anatahan**	4.35	193	eP	Pb	22 59 27.9	+2.6
GUMO	**Guam**	7.20	194	Pn	Pn	22 59 41.8	-11
	23nm,0.3s,baz=149,slow=8.8,SNR=7.1						
GUMO				Sn	Sn	23 00 56.7	-16
	13nm,0.3s,baz=319,slow=20,SNR=2.6						
GUMO				LR	LR	23 01 49.0	
	comp=Z,458nm,20.7s,baz=342,slow=35						
GUMO	**Guam**	7.20	194	ePn	Pb	23 00 04.4	-9.3
GUMO				Sn	Sn	23 00 56.7	-16
CBIJ	**Chichi jima**	7.66	328	ePn	Pb	23 00 10.2	-11
CBIJ				Sn	**Sn**	**23 01 28.4**	**+4.1**
JCJ	**Chichijima**	7.66	328	Pn	**Pn**	**23 00 00.7**	**+2.1**
	6.2nm,0.3s,baz=127,slow=20,SNR=4.0						
JCJ				Sn	**Sn**	**23 01 28.4**	**+4.1**
	baz=308,slow=19						
JHJ2	**Mitsune**	13.88	335	ePn	**P**	**23 01 33.0**	**+1.5**
INU	**Inuyama**	16.97	332	ePn	**P**	**23 02 10.3**	**+4.5**
	23nm,1.2s						
MJAR	**Matsushiro Arr**	17.52	337	P	**P**	**23 02 13.1**	**+1.2**
	0.2nm,0.3s,baz=157,slow=11,SNR=13						
MAJO	**Matsushiro**	17.52	337	ceP	**P**	**23 02 12.5**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,29nm,0.9s						
MAJO	**Matsushiro**	17.52	337	ePn	**P**	**23 02 14.8**	**+2.8**
	comp=Z,13nm,0.8s						
MJB9	**Matsu-Tunnel**	17.53	337	ePn	**P**	**23 02 15.5**	**+3.5**
	comp=Z,3.2nm,0.8s						
JOW	**Kunigami**	17.96	294	eP	**P**	**23 02 20.7**	**+3.9**
	comp=Z,25nm,1.0s						
JNU	**Nakatsue**	18.80	315	P	**Pn**	**23 02 29.2**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=117,slow=5.9,SNR=8.5						
JNU				LR	LR	23 08 53.2	
	comp=Z,147nm,19.8s,baz=123,slow=34						
JNU	**Nakatsue**	18.80	315	eP	**Pn**	**23 02 29.6**	**+2.8**
	comp=Z,49nm,1.0s						
H11S3	**WAKE ISLAND Hy**	18.95	93	T	T	23 21 58.4	
	baz=279,slow=74,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	18.96	93	T	T	23 21 58.2	
	baz=279,slow=74,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	18.97	93	T	T	23 21 55.8	
	baz=279,slow=74,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	18.98	89	T	T	23 22 03.0	
	baz=274,slow=74,SNR=14						
H11N2	**WAKE ISLAND Hy**	18.98	89	T	T	23 21 58.4	
	baz=274,slow=74,SNR=17						
H11N3	**WAKE ISLAND Hy**	18.99	89	T	T	23 21 59.2	
	baz=274,slow=74,SNR=16						
MANU	**Manus Island**	22.53	178	eP	**P**	**23 03 09.8**	**+3.4**
	comp=Z,228nm,2.0s						
TJN	**Taejon**	23.07	317	ceP	**P**	**23 03 10.7**	**-1.3**
KSRS	**Korea Array**	23.40	320	P	**P**	**23 03 15.1**	**-0.2**
	comp=Z,3.9nm,0.6s,baz=148,slow=9.1,SNR=22						

KS15	Wonju Array Si	23.42 320	eP		P	23 03 15.6	+0.1
KSAR	Wonju Array Be	23.42 320	P		P	23 03 15.1	-0.4
KSAR	Wonju Array Be	23.42 320	P		P	23 03 15.1	-0.4
KS01	Wonju Array Si	23.44 320	eP		P	23 03 16.5	+0.9
ASAJ	Asahikawa	23.69 353	eP		P	23 03 20.5	+2.5
	comp=Z,16nm,1.1s						
YULB	Yu-li	23.71 281	eP		P	23 03 20.3	+1.9
	comp=Z,26nm,1.8s						
YHNB	Yeheng	23.71 285	eP		P	23 03 19.8	+1.3
	comp=Z,42nm,1.5s						
TWG	Pinlang	23.90 280	eP		P	23 03 20.7	+0.5
	comp=Z,88nm,1.3s						
INCN	Inchon	24.21 318	eP		P	23 03 24.2	+1.2
	comp=Z,19nm,0.9s						
TPUB	Ta-pu	24.32 281	eP		P	23 03 25.7	+1.6
	comp=Z,82nm,2.0s						
DAV	Davao City (W)	24.49 240	LR		LR	23 11 15.7	
	comp=Z,254nm,20.4s,baz=53,slow=33						
YSS	Yuzh-Sakhalins	26.47 354	eP		P	23 03 45.5	+2.2
YSS			pmax	pmax			
	comp=Z,13nm,1.2s						
YSS	Yuzh-Sakhalins	26.47 354	eP		P	23 03 45.5	+2.2
	comp=Z,13nm,1.2s						
USRK	Ussuriysk Ar.	26.51 336	P		P	23 03 44.6	+0.9
	comp=Z,1.6nm,0.8s,baz=138,slow=13,SNR=3.4						
PMG	Port Moresby	29.83 179	LR		LR	23 17 36.8	
	comp=Z,108nm,18.1s,baz=90,slow=40						
KLR	Kul'dur	30.95 341	P		P	23 04 24.5	+1.3
	comp=Z,2.7nm,0.7s,baz=138,slow=6.9,SNR=7.1						
MIDW	Midway	33.49 70	eP		P	23 04 47.8	+2.1
	comp=Z,238nm,1.8s						
PEA0	Petropavlovsk-	33.53 12	eP		P	23 04 46.5	+0.7
PETK	Petropavlovsk-	33.53 12	LR		LR	23 17 00.8	
	comp=Z,83nm,20.1s,baz=195,slow=33						
PET	Petropavlovsk	33.64 13	eP		P	23 04 47.8	+1.1
PET			pmax	pmax			
	comp=Z,36nm,1.2s						
PET	Petropavlovsk	33.64 13	eP		P	23 04 47.8	+1.1
	comp=Z,36nm,1.2s						
HHC	Hu-ho-hao-te	35.99 312	eP		P	23 05 09.0	+1.7
HHC			S		S	23 10 41.8	-2.0
HHC			PMZ				
	comp=Z,12nm,1.0s						
HHC			PMZ				
	comp=Z,86nm,6.7s						
HHC			LN				
	comp=Z,120nm,16.9s						
HHC			LE				
	comp=Z,140nm,14.7s						
HHC			LZ				
	comp=Z,120nm,14.7s						
MTN	Manton Dam	36.60 206	eP		P	23 05 12.9	+0.4
	comp=Z,71nm,1.4s						
GYA	Guiyang	37.06 287	eP		P	23 05 17.3	+0.7
GYA			PMZ				
	comp=Z,10.0nm,0.8s						
SOEI	Soe	37.38 218	eP		P	23 05 20.2	+0.8
	comp=Z,48nm,1.3s						
SBUM	Sibu	38.16 246	eP		P	23 05 27.4	+1.6
	comp=Z,8.3nm,0.8s						
CD2	Chengdu	39.80 294	eP		P	23 05 38.8	-0.7
CD2			pP	sP		23 05 55.3	+1.7
CD2			sP	pP		23 06 03.1	+14
CD2			PcS	PcS		23 11 34.5	-1.1
CD2			S	S		23 11 38.3	-3.4
CD2			sS	sS		23 12 06.6	+8.4
CD2			PMZ				
	comp=Z,20nm,0.5s						
CD2			PMZ				
	comp=Z,160nm,5.2s						
KSM	Kuching	40.29 247	eP		P	23 05 44.1	+0.4
	comp=Z,50nm,1.9s						
LZH	Lanzhou	40.41 302	eP		P	23 05 54.3	+10
LZH			pP	sP		23 06 10.5	+12
LZH			sP	pP		23 06 20.4	+26
LZH			pmax	pmax			
	comp=Z,19nm,1.0s						
CTAO	Charters Tower	40.45 181	eP		P	23 05 45.9	+1.0
CTAO			pmax	pmax			
	comp=Z,14nm,1.3s						
CTAO	Charters Tower	40.45 181	eP		P	23 05 45.9	+1.0
	comp=Z,14nm,1.3s						
KMI	Kunming	40.62 285	P		P	23 05 50.8	+4.2
KMI			pP	sP		23 06 04.3	+3.6
KMI			sP	pP		23 06 11.4	+15
KMI			PMZ				
	comp=Z,4.0nm,1.1s						
KMI			PMZ				
	comp=Z,91nm,4.5s						
KMI			LN				
	comp=Z,87nm,14.8s						
KMI			LE				
	comp=Z,160nm,16.3s						
KMI			LZ				
	comp=Z,94nm,17.3s						
JOHN	Johnston Islan	41.55 88	eP		P	23 05 55.6	+1.6
	comp=Z,192nm,0.9s						
ULN	Ulaanbaatar	41.89 320⇑	eP		P	23 05 56.0	-0.6
ULN			pmax	pmax			
	comp=Z,3.0nm,1.0s						
ULN	Ulaanbaatar	41.89 320	eP		P	23 05 56.3	-0.4
	comp=Z,4.9nm,1.1s						
WRAB	Tennant Creek	42.07 197⇑	eP		P	23 05 59.5	+1.3
WRAB			pmax	pmax			
	comp=Z,16nm,1.0s						
WRAB	Tennant Creek	42.07 197	eP		P	23 05 58.5	+0.3
	comp=Z,17nm,1.3s						
WB2	Warramunga Arr	42.08 197	eP		P	23 05 59.4	+1.1
	comp=Z,17nm,1.3s						
WRA	Warramunga Arr	42.08 197	P		P	23 05 47.5	-11
	comp=Z,1.5nm,0.8s,baz=24,slow=8.9,SNR=12						
WRA			PcP		PcP	23 07 46.9	-5.8
	comp=Z,1.1nm,0.7s,baz=15,slow=3.7,SNR=5.2						
WRA	Warramunga Arr	42.08 197	*i* P		P	23 06 00.2	+1.9
WRA			pmax	pmax			
	comp=Z,4.0nm,1.0s						
SONA1	Songino Array	42.27 320	eP		P	23 05 58.9	-0.9
SONM	Songino Array	42.27 320	P		P	23 05 59.1	-0.6
	comp=Z,1.6nm,0.7s,baz=122,slow=9.7,SNR=7.4						
SONM			PcP		PcP	23 07 50.3	-2.9
	comp=Z,0.4nm,0.4s,baz=145,slow=5.3,SNR=3.1						
FUNA	Funafuti	43.12 129	eP		P	23 06 08.1	+1.3
	comp=Z,136nm,1.1s						
FITZ	Fitzroy Crossi	43.67 210	eP		P	23 06 11.5	+0.4
	comp=Z,15nm,1.2s						
CHTO	Chiang Mai	44.87 276	eP		P	23 06 20.8	-0.1
CHTO			pmax	pmax			
	comp=Z,22nm,1.9s						
CHTO	Chiang Mai	44.87 276	eP		P	23 06 20.8	-0.1
	comp=Z,22nm,1.9s						
CM01	Chiang Mai Arr	44.93 276	eP		P	23 06 20.3	-1.0
CMAR	Chiang Mai Arr	44.94 276	P		P	23 06 18.7	-2.7
	comp=Z,0.4nm,0.3s,baz=61,slow=6.5,SNR=3.1						
CMAR			LR		LR	23 25 60.0	
	comp=Z,64nm,18.4s,baz=215,slow=37						
ZAK	Zakamensk	45.22 322	eP		P	23 06 20.3	-3.0
ZAK			pmax	pmax			
	comp=Z,3.0nm,0.9s						
TLY	Talaya	45.57 323	eP		P	23 06 29.5	+3.5
TLY			eS		S	23 13 05.3	-0.7
TLY			pmax	pmax			
	comp=Z,5.0nm,1.3s						
TLY			MLR	MLR			
	comp=Z,128nm,20.0s						
TLY	Talaya	45.57 323	eP		P	23 06 26.5	+0.5
	comp=Z,4.1nm,1.0s						
AS01	Alice Springs	45.73 196	eP		P	23 06 28.7	+1.2
AS31	Alice Springs	45.74 196	eP		P	23 06 28.2	+0.6
	comp=Z,1.2nm,0.8s						
ASAR	Alice Springs	45.74 196	P		P	23 06 17.4	-10
	comp=Z,0.7nm,0.7s,baz=17,slow=7.0,SNR=8.8						
ASAR			PcP		PcP	23 07 59.7	-5.4
	comp=Z,1.0nm,0.8s,baz=27,slow=4.4,SNR=4.2						
BILL	Bilibino	48.98 10	eP		P	23 06 52.5	+0.2
BILL			pmax	pmax			
	comp=Z,10.0nm,1.0s						
BILL	Bilibino	48.98 10	eP		P	23 06 53.7	+1.5
	comp=Z,8.5nm,1.0s						
LSA	Lhasa	50.69 292	eP		P	23 07 05.7	-0.7
LSA			pmax	pmax			
	comp=Z,19nm,1.0s						
LSA	Lhasa	50.69 292	eP		P	23 07 05.7	-0.7
	comp=Z,19nm,1.0s						
GSI	Gunungsitoli	51.63 255	eP		P	23 07 12.9	-0.2
	comp=Z,79nm,2.0s						
TIXI	Tiksi	52.09 353	P		P	23 07 15.5	-0.2
	comp=Z,1.3nm,0.3s,baz=141,slow=0.7,SNR=3.0						
TIXI	Tiksi	52.09 353⇑	eP		P	23 07 15.2	-0.5
TIXI			pmax	pmax			
	comp=Z,2.0nm,1.1s						
TIXI	Tiksi	52.09 353	eP		P	23 07 15.8	+0.1
	comp=Z,16nm,1.5s						
SDPT	Sand Point	52.37 35	eP		P	23 07 18.7	+0.8
	comp=Z,88nm,1.4s						
WMQ	Urumqi	53.80 310	P		P	23 07 31.0	+2.2
WMQ			pP	sP		23 07 46.6	+3.5
WMQ			sP	pP		23 07 53.6	+14
WMQ			PMZ				
	comp=Z,7.0nm,0.8s						
WMQ			PMZ				
	comp=Z,68nm,4.4s						
WMQ			LN				
	comp=Z,27nm,18.6s						
WMQ			LE				
	comp=Z,27nm,19.8s						
GUN	Gumba	55.45 290	eP		P	23 07 38.3	-3.1
PKIN	Phulchoki	55.91 290	eP		P	23 07 41.4	-3.3
	comp=Z,10nm,0.7s						
KKN	Kakani	55.99 290	eP		P	23 07 41.9	-3.3
	comp=Z,26nm,0.8s						
GKN	Gorkha	56.53 291	eP		P	23 07 46.0	-2.9
	comp=Z,76nm,1.0s						
ZAA0	Zalesovo Array	57.09 322	eP		P	23 07 50.5	-1.8
ZALV	Zalesovo Beam	57.09 322	P		P	23 07 50.7	-1.6
	comp=Z,1.4nm,0.5s,baz=106,slow=7.3,SNR=7.5						
ZALV			LR		LR	23 33 34.0	
	comp=Z,82nm,20.2s,baz=68,slow=37						
KOLN	Koldanda	57.47 290	eP		P	23 07 52.8	-2.8
	comp=Z,15nm,0.8s						
MK01	Makanchi Array	57.83 313	eP		P	23 07 57.1	-0.5
MK31	Makanchi Array	57.84 313	eP		P	23 07 57.6	-0.1
MK31	Makanchi Array	57.84 313	eP		P	23 07 57.6	-0.1
MKAR	Makanchi Array	57.84 313	P		P	23 07 57.3	-0.4
	comp=Z,2.5nm,0.8s,baz=90,slow=9.7,SNR=12						
MKAR	Makanchi Array	57.84 313	*c* eP		P	23 07 59.4	+1.7
MKAR			pmax	pmax			
	comp=Z,3.0nm,0.8s						
MKAR	Makanchi Array	57.84 313	eP		P	23 07 57.5	-0.3
PYUN	Piuthan	57.96 291	eP		P	23 07 56.5	-2.6
MAKZ	Makanchi	58.06 313	eP		P	23 07 57.1	-2.2
MAKZ			pmax	pmax			
	comp=Z,6.0nm,0.9s						
MAKZ	Makanchi	58.06 313	eP		P	23 07 57.0	-2.2
	comp=Z,5.7nm,0.9s						
NVS	Novosibirsk	58.16 322	eP		P	23 08 01.2	+1.5
HOM	Homer	58.17 32	eP		P	23 07 59.5	-0.3
	comp=Z,79nm,0.9s						
CNPM	China Poot	58.34 32	eP		P	23 08 01.4	+0.4
	comp=Z,14nm,1.2s						
KTH	Kantishna Hill	59.51 27	eP		P	23 08 09.5	+0.4
	comp=Z,13nm,1.2s						
BPAW	Bear Paw Mtn.	59.63 27	eP		P	23 08 10.7	+0.8
	comp=Z,7.3nm,0.8s						
TRF	Thorofare Moun	59.76 28	eP		P	23 08 10.9	0.0
	comp=Z,8.6nm,0.9s						
MLY	Manley	59.99 26	eP		P	23 08 13.4	+1.0
	comp=Z,9.9nm,1.3s						
NRIK	Noril'sk	60.15 339	P		P	23 08 13.3	0.0
	comp=Z,4.4nm,0.7s,baz=117,slow=7.7,SNR=10						
KURK	Kurchatov	60.50 317	eP		P	23 08 15.8	-0.2
KURK			pmax	pmax			
	comp=Z,25nm,1.3s						
MDM	Murphy Dome	61.00 26	eP		P	23 08 20.1	+0.9
	comp=Z,3.6nm,0.8s						
IL1	Eielson Array	61.52 27	eP		P	23 08 21.1	-1.6
ILAR	Eielson Array	61.52 27	P		P	23 08 21.6	-1.1
	comp=Z,3.2nm,0.8s,baz=259,slow=5.5,SNR=27						
ILB	Eielson Array	61.52 27	eP		P	23 08 21.9	-0.8
DOT	Dot Lake	62.52 28	eP		P	23 08 29.2	-0.3
	comp=Z,12nm,0.8s						
KSH	Kashi	62.55 305	eP		P	23 08 31.8	+1.6
KSH			pP	sP		23 08 49.3	+4.6
KSH			PcP	PcP		23 09 08.8	-0.4
KSH			PP	PP		23 10 51.4	+3.5
KSH			ScS	ScS		23 18 14.5	-5.9
KSH			SS	SS		23 21 00.3	+0.1
KSH			PMZ				
	comp=Z,2.0nm,0.4s						
KSH			PMZ				
	comp=Z,84nm,4.5s						
KSH			LN				
	comp=Z,62nm,5.2s						
KSH			LE				
	comp=Z,69nm,4.8s						
TKM2	Tokmak 2	62.59 308	eP		P	23 08 30.2	-0.4
TKM2			pmax	pmax			
	comp=Z,9.0nm,1.3s						
TKM2	Tokmak 2	62.59 308	eP		P	23 08 30.2	-0.4
	comp=Z,9.4nm,1.3s						
AAK	Ala-Archa	63.42 308⇑	eP		P	23 08 36.7	+0.7
AAK			pmax	pmax			
	comp=Z,5.0nm,1.0s						
KKAR	Karatay Array	66.29 309	eP		P	23 08 54.8	+0.3
KKAR	Karatay Array	66.29 309	eP		P	23 08 54.8	+0.3
INK	Inuvik	67.25 23	P		P	23 09 00.2	+0.1
	comp=Z,7.7nm,1.1s,baz=254,slow=5.9,SNR=4.5						
KBL	Kabul	68.73 300	eP		P	23 09 08.0	-2.3
KBL			pmax	pmax			
	comp=Z,13nm,1.0s						
KBL	Kabul	68.73 300	eP		P	23 09 08.0	-2.3
	comp=Z,13nm,1.0s						
DLBC	Dease Lake	69.18 34	P		P	23 09 13.3	+0.8
	comp=Z,5.1nm,0.9s,baz=235,slow=9.0,SNR=9.2						
DLBC	Dease Lake	69.18 34	eP		P	23 09 13.4	+0.9
	comp=Z,14nm,1.3s						
ARU	Arti	72.07 324	*c* *i* P		P	23 09 27.8	-2.2
ARU			SS	SS		23 23 18.4	-7.9
ARU			pmax	pmax			
	comp=Z,4.0nm,1.7s						
ABKAR	Akbulak array	72.60 317	eP		P	23 09 32.7	-0.6
PPT	Papeete	73.11 117	LR		LR	23 38 50.0	
	comp=Z,46nm,18.9s,baz=318,slow=34						
E03A	Lebam	75.15 46	eP		P	23 09 47.7	-0.6
	comp=Z,71nm,1.5s						
YKA	Yellowknife Ar	75.86 28	P		P	23 09 51.1	-0.9
	comp=Z,3.3nm,0.6s,baz=288,slow=5.6,SNR=31						
GEYT	Alibeck	76.55 306	P		P	23 09 54.9	-1.7
	comp=Z,0.8nm,0.6s,baz=145,slow=5.3,SNR=2.9						
K05A	Summer Lake	78.02 49	eP		P	23 10 04.7	-0.2
	comp=Z,22nm,1.5s						
MOD	Modoc Plateau	78.68 49	eP		P	23 10 08.4	-0.1
	comp=Z,2.4nm,0.8s						
BSMT	Bassoo Peak	80.48 42	eP		P	23 10 18.0	-0.3
ARCES	ARCESS Array B	80.97 342	P		P	23 10 19.1	-1.0
	comp=Z,1.2nm,0.5s,baz=60,slow=7.2,SNR=8.4						
R11A	Troy Canyon, C	83.26 52	eP		P	23 10 32.0	-1.0
	comp=Z,1.5nm,1.0s						
OBN	Obninsk	84.19 327	*i* P		P	23 10 35.5	-1.6
OBN			pmax	pmax			
	comp=Z,10.0nm,0.9s						
TCUT	Toone Canyon	85.21 48	eP		P	23 10 43.9	+0.9
	comp=Z,83nm,1.3s						
FINES	FINESS Array B	85.55 335	P		P	23 10 41.5	-2.3
	comp=Z,2.4nm,0.7s,baz=78,slow=4.8,SNR=12						
FINES	FINESS Array B	85.55 335	*i* P		P	23 10 44.2	+0.3
FINES			pmax	pmax			
	comp=Z,2.0nm,0.7s						
PDAR	Pinedale Array	85.82 46	P		P	23 10 44.1	-1.8
	comp=Z,0.4nm,0.4s,baz=22,slow=1.0,SNR=3.1						
ULM	Lac du Bonnet	90.49 35	LR		LR	23 49 21.1	
	comp=Z,34nm,18.8s,baz=288,slow=34						
BRTR	Keskin Array B	93.45 315	P		P	23 11 18.6	-3.4
	comp=Z,0.4nm,0.7s,baz=289,slow=3.8,SNR=3.6						
BRTR	Keskin Array B	93.45 315	*i* P		P	23 11 19.5	-2.4
BRTR			pmax	pmax			
	comp=Z,1.0nm,0.9s						
VNDA	Vanda	98.33 177	LR		LR	23 49 39.4	
	comp=Z,30nm,20.9s,baz=100,slow=32						
BBSR	BB Station	119.35 30	ePKPdf		PKPdf	23 16 54.6	-1.1
TORD	Torodi Ar. Bea	131.95 311	PKP		PKPdf	23 17 17.1	-3.2
	comp=Z,0.5nm,0.9s,baz=25,slow=2.6,SNR=2.7						
LPAZ	La Paz	146.72 88	PKPbc		PKPbc	23 17 44.6	-4.8
	comp=Z,3.4nm,0.8s,baz=263,slow=1.4,SNR=12						
PTGA	Pitinga	147.29 56	ePKPdf		PKPdf	23 17 47.6	-0.4
SAML	Samuel	148.93 73	ePKPbc		PKPbc	23 17 51.7	-2.9

PGC 18 23:02:03.3±0.0, 59°.82N×121°.47W, h1^{km}, ML2.8/4, 132km northeast of Fort Nelson, Bc British Columbia, Canada, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNBB	Fort Nelson	1.22	221	P	Pg	23 02 24.8	-1.8
FNBB				S	Sg	23 02 41.2	-1.2

*ISCJB **18** 23:18:05.7±0.7, 8°.7S±0°.1×159°.0E±0°.1, h150^{km}, mb3.6/7, Error ellipse: s-maj=19.8km s-min=11.6km az=39.1*
*IDC **18** 23:18:07.0±1.1, 8°.65S×158°.94E, h145^{km}±15^{km}, mb3.4/7, mb1 3.6/7, mb1mx3.4/27, mbtmp3.8/7, Error ellipse: s-maj=29.2km s-min=19.0km az=107.0*
ISC 18 23:18:07.2±0.8, 8°.7S±0°.1×159°.0E±0°.1, h150^{km}, n10, σ1^{s}02/12, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.19	130	P	Pn	23 18 34.6	+0.9
	159nm,0.3s,baz=222,slow=6.8,SNR=90						
HNR				S	Sn	23 18 54.1	+0.2
	120nm,0.3s,baz=191,slow=24,SNR=25						
HNR	Honiara	1.19	130	eP	Pn	23 18 34.0	+0.3
HNR				eS	Sn	23 18 52.0	-1.9
JAY	Jayapura	19.22	287	P	Pn	23 22 22.9	+0.3
	0.1nm,0.3s,baz=98,slow=23,SNR=6.9						
WRA	Warramunga Arr	26.37	242	P	P	23 23 29.5	-0.3
	1.0nm,0.5s,baz=66,slow=9.0,SNR=5.7						
ASAR	Alice Springs	28.29	235	P	P	23 23 46.0	-0.9
	0.4nm,0.4s,baz=62,slow=10,SNR=8.2						
MJAR	Matsushiro Arr	49.04	338	P	P	23 26 37.6	-1.4
	0.7nm,0.4s,baz=166,slow=8.9,SNR=5.9						
KSRS	Korea Array	54.33	330	P	P	23 27 18.0	-0.3
	1.1nm,0.8s,baz=355,slow=38,SNR=5.1						
VNDA	Vanda	68.84	179	P	P	23 28 55.6	+0.7
	1.1nm,0.8s,baz=331,slow=7.4,SNR=6.6						
SONM	Songino Array	72.92	326	P	P	23 29 21.3	+1.1
	0.5nm,0.5s,baz=139,slow=6.5,SNR=3.1						
ILAR	Eielson Array	83.50	20	P	P	23 30 17.9	0.0
	0.4nm,0.4s,baz=240,slow=4.8,SNR=9.6						

*UPP **18** 23:23:03.8, 67°.85N×20°.20E, h0^{km}, ML1.5, Mining explosion.*
*CSEM **18** 23:23:03.7±0.2, 67°.80N×20°.33E, h2^{km}, ML1.5, Error ellipse: s-maj=5.7km s-min=4.2km az=9.0, Mining explosion.*
*NAO **18** 23:23:04.3±3.0, 67°.82N×20°.35E, ML2.3*
*BER **18** 23:23:06.9±4.8, 67°.97N×20°.43E, h0^{km}, ML1.7, ML2.3(NAO), Suspected explosion*
HEL 18 23:23:04.5±0.1, 67°.85N×20°.18E, h0^{km}, ML1.9, ML1.5(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.12	30	*i* P	Pg	23 23 06.2	-0.5
KUA				*i* S	Sg	23 23 08.0	-0.2
KUA	Kurravaara	0.12	30	P	Pg	23 23 10.6	+3.9
KUA				S	Sg	23 23 12.5	+4.2
KUA	Kurravaara	0.12	30	P	Pg	23 23 06.2	-0.5
KUA				S	Sg	23 23 08.0	-0.3
NIKU	Nikkaluokta	0.43	272	*i* P	Pg	23 23 12.3	-0.4
NIKU	Nikkaluokta	0.43	272	P	Pb	23 23 16.5	+1.5
NIKU	Nikkaluokta	0.43	272	P	Pg	23 23 12.4	-0.4
LANU	Lannavaara	0.71	73	eP	Pg	23 23 17.0	-1.0
	baz=259						
LANU				eS	Sg	23 23 26.5	-0.7
LANU	Lannavaara	0.71	73	Pg	Sg	23 23 17.0	-1.1
LANU				Sg	Sg	23 23 26.5	-0.8
SALU	Saltoluokta	0.80	234	*i* P	Pg	23 23 18.9	-0.8
SALU	Saltoluokta	0.80	234	P	Pn	23 23 23.0	0.0
SALU	Saltoluokta	0.80	234	P	Pg	23 23 18.9	-0.8
MASU	Masugnsbyn	0.80	119	*i* P	Pg	23 23 18.8	-1.0
MASU	Masugnsbyn	0.80	119	P	Pn	23 23 22.8	-0.2
MASU	Masugnsbyn	0.80	119	P	Pg	23 23 18.8	-1.0
KIF	Kilpisjarvi	1.18	11	ePB	Pg	23 23 27.0	-0.1
KIF				eS	Sg	23 23 42.2	-0.1
KIF	Kilpisjarvi	1.18	11	Pn	Pg	23 23 27.0	-0.1
KIF				Sg	Sg	23 23 42.2	-0.1
PAJU	Pajala	1.41	125	eP	Pn	23 23 29.3	-2.0
PAJU	Pajala	1.41	125	P	Pn	23 23 29.3	-2.0
HEF	Hetta	1.42	65	eP	Pn	23 23 29.7	-1.8
HEF				MSG		23 23 47.9	
	comp=Z,12nm,0.2s						
HEF				eSN	Sn	23 23 51.6	+0.7
HEF	Hetta	1.42	65	Pg	Pn	23 23 29.6	-1.9
HEF				Sn	Sn	23 23 51.6	+0.7
ERTU	Ertsjaerv	1.52	148	eP	Pn	23 23 31.4	-1.6
ERTU	Ertsjaerv	1.52	148	P	Pn	23 23 31.4	-1.5
TRO	Tromso	1.85	346	eP	Pn	23 23 37.2	-0.1
TRO				eS	Sn	23 24 01.6	+0.2
TRO				IAML		23 24 08.9	
	comp=Z,14nm,0.4s						
TRO	Tromso	1.85	346	eP	Pn	23 23 37.2	-0.1
	SNR=50						
TRO				eS	Sn	23 24 01.6	+0.3
	SNR=50						
TOF	Tornio	2.41	136	eP	Pn	23 23 45.8	+0.6
TOF				eSB	Sb	23 24 17.7	-1.3
TOF	Tornio	2.41	136	Pg	Pn	23 23 45.7	+0.6
TOF	Tornio	2.41	136	Sg	Sb	23 24 17.7	-1.3
SGF	Sodankyl	2.46	97	ePG	Pb	23 23 49.3	-0.2
SGF				eSG	Sb	23 24 19.6	-0.7
SGF	Sodankyl	2.46	97	Pg	Pb	23 23 49.3	-0.2
SGF				Sg	Sb	23 24 19.6	-0.7
LOF	Lofoten	2.52	279	eP	Pn	23 23 48.1	+1.6
LOF				eS	Sn	23 24 18.1	+0.2
LOF	Lofoten	2.52	279	eP	Pn	23 23 48.1	+1.5
	SNR=50						
LOF				eS	Sn	23 24 18.0	+0.1
	SNR=50						
ARA0	ARCESS Array S	2.58	47	Pn	Pn	23 23 47.1	-0.3
	baz=231,slow=14						
ARA0				Sn	Sn	23 24 20.9	+1.4
	baz=230,slow=22						
ARA0	ARCESS Array S	2.58	47	Pn	Pn	23 23 47.1	-0.3
	baz=231,slow=14						
ARA0				Sn	Sn	23 24 20.9	+1.4
	baz=230,slow=22						
ARA0	ARCESS Array S	2.58	47	Pn	Pn	23 23 47.1	-0.3
	SNR=50						
ARA0				Sn	Sn	23 24 20.9	+1.5
	SNR=50						
ARE0	ARCESS Array S	2.58	47	eP	Pn	23 23 47.1	-0.3
	baz=228						
ARE0				eSB	Sb	23 24 22.4	-1.3
ARE0	ARCESS Array S	2.58	47	Pb	Pn	23 23 47.1	-0.3
ARE0				Sg	Sb	23 24 22.4	-1.3
RNF	Rovaniemi	2.59	116	ePB	Pn	23 23 48.8	+1.2
RNF				eSB	Sb	23 24 22.5	-1.6
RNF	Rovaniemi	2.59	116	Pb	Pn	23 23 48.7	+1.1
RNF				Sb	Sb	23 24 22.5	-1.6
HAMF	Hammerfest	3.07	22	eSg	Sn	23 24 32.3	+0.8
HAMF	Hammerfest	3.07	22	eSg	Sn	23 24 32.3	+0.8
	SNR=90						
KEV	Kevo	3.13	49	ePB	Pb	23 23 58.9	-2.0
KEV				eS	Sn	23 24 33.2	+0.2
KEV				M

FIA0	**FINESS Array S** baz=344,slow=22	**6.91**	**156**	Sn	Sn	23 26 03.9	-2.2
FIA0	baz=344,slow=28			Lg	Lg	23 26 39.8	
FIA0	**FINESS Array S** baz=344,slow=22	**6.91**	**156**	Sn	Sn	23 26 03.9	-2.2
FIA0	baz=344,slow=28			Lg	Lg	23 26 39.8	
FIA0	**FINESS Array S** SNR=50	**6.91**	**156**	Sn	Sn	23 26 03.9	-2.2

BJI ***18*** *23:25:34.8, 3°.89N×96°.59E, h49km, mb4.4/16, mB4.7/14, Ms4.4/5, Ms7 4.2/4*

ISCJB ***18*** *23:25:36.0±0.3, 4°.38N±0°.03×96°.44E±0°.04, h33km, mb4.4/36, MS3.4/2, Error ellipse: s-maj=5.8km s-min=4.2km az=148.8*

DJA ***18*** *23:25:36.5±0.6, 4°.N±3°×9°.6E±°, h18km±6km, M4.6/12, mb4.3/1, MLv4.7/12*

KLM ***18*** *23:25:38.6, 4°.44N×96°.52E, h42km, mb4.6, ML4.3*

NEIC ***18*** *23:25:38.4±0.7, 4°.44N×96°.54E, h38km±6km, mb4.7/21, Error ellipse: s-maj=7.8km s-min=4.7km az=53.0*

IDC ***18*** *23:25:43.5±9.0, 4°.59N×96°.69E, h75km±83km, mb3.8/17, mb1 3.9/17, mb1mx3.7/41, mbtmp4.1/17, MS3.4/2, Ms1 3.3/2, ms1mx2.9/35, Error ellipse: s-maj=23.8km s-min=13.0km az=51.0*

ISC 18 23:25:38.2±0.4, 4°.38N±0°.04×96°.48E±0°.04, h33km, n84, σ1§61/88, mb4.4/36, 2C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.13**	**214**	P	**Pn**	**23 25 41.3**	**-1.5**
LHMI	**Lhok Sumawe**	**0.97**	**29**	P	**Pn**	**23 25 53.9**	**-1.5**
LHMI				S	**Sb**	**23 26 07.7**	**-1.3**
LHMI	**Lhok Sumawe**	**0.97**	**29**	*e*Pn	**Pn**	**23 25 54.0**	**-1.5**
TPTI		**1.31**	**148**	P	**Pn**	**23 25 58.6**	**-1.6**
KCSI	**Kotacane, Aceh**	**1.54**	**123**	P	**Pn**	**23 26 02.9**	**-0.5**
TSI	**Tuntungan**	**2.26**	**113**	P	**Pn**	**23 26 14.1**	**+0.9**
PSI	**Prapat**	**2.90**	**123**	*e*Pn	**Pn**	**23 26 23.7**	**+1.5**
GSI	**Gunungsitoli**	**3.24**	**160**	P	**Pn**	**23 26 27.6**	**+0.8**
GSI	**Gunungsitoli**	**3.24**	**160**	*e*Pn	**Pn**	**23 26 27.3**	**+0.5**
KULM	**Kulim**	**4.26**	**78**	||P	**Pn**	**23 26 39.8**	**-0.9**
KULM	**Kulim**	**4.26**	**78**	*e*Pn	**Pn**	**23 26 39.9**	**-0.9**
IPM	**Ipoh**	**4.54**	**89**	||P	**Pn**	**23 26 44.9**	**+0.3**
IPM	**Ipoh**	**4.54**	**89**	*e*Pn	**Pn**	**23 26 43.5**	**-1.1**
TRTT	**Trang**	**4.69**	**43**	P	Pn	23 26 51.4	+4.7
MNSI	**Mandailing Nat**	**4.72**	**139**	P	**Pn**	**23 26 47.9**	**+0.8**
SKLT	**Songkhla**	**4.97**	**56**	P	**Sn**	**23 27 48.8**	**+1.9**
SKLT	**Songkhla**	**4.97**	**56**	P	**Pn**	**23 26 52.6**	**+2.1**
FRIM	**Kepong**	**5.26**	**102**	||P	**Pn**	**23 26 53.9**	**-0.6**
SURA	**Surathani** 49nm,0.7s,10μm0.3nm	**5.70**	**33**	P	**Pn**	**23 27 02.7**	**+2.2**
KTGM	**Kuala Trenggan**	**6.70**	**82**	||P	**Pn**	**23 27 13.6**	**-0.8**
PBKT	**Sadao Pong**	**12.90**	**20**	P	**Pn**	**23 28 42.8**	**+3.6**
LOEI	**Loei** 129nm,0.8s	**13.87**	**19**	P	P	23 29 06.0	+5.6
UTTA	**Uttaradit** 3.5nm,0.7s	**13.87**	**16**	P	**P**	**23 29 04.9**	**+4.5**
CM01	**Chiang Mai Arr**	**14.17**	**10**	*e*Pn	**Pn**	**23 28 55.7**	**-1.0**
CM31	**Chiang Mai Arr**	**14.20**	**10**	*e*Pn	**Pn**	**23 28 56.3**	**-0.8**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=199,slow=11,SNR=34	**14.20**	**10**	P	**P**	**23 29 05.7**	**+1.6**
CHTO	**Chiang Mai**	**14.55**	**9**	*e*Pn	**Pn**	**23 29 01.9**	**0.0**
SBUM	**Sibu** 20nm,1.5s	**15.83**	**96**	*e*Pn	**Pn**	**23 29 18.8**	**+0.1**
PALK	**Pallekele** 32nm,1.2s	**15.95**	**281**	*e*Pn	**Pn**	**23 29 19.8**	**-0.6**
KMI	**Kunming**	**21.49**	**16**	P	**P**	**23 30 27.8**	**+3.4**
KMI				pP	sP	23 30 37.9	+0.4
KMI				sP	pP	23 30 42.8	+10
KMI	210nm,14.3s			LZ			
GYA	**Guiyang**	**24.03**	**23**	*e*P	**P**	**23 30 50.6**	**+0.2**
GYA	10.0nm,0.8s			PMZ			
KAPI	**Kappang** 7.1nm,0.6s,baz=342,slow=8.4,SNR=5.3	**25.05**	**112**	P	**P**	**23 31 00.6**	**+0.9**
KAPI	**Kappang** 20nm,1.1s	**25.05**	**112**	*e*P	**P**	**23 30 58.4**	**-1.3**
LSA	**Lhasa** 5.6nm,0.4s	**25.69**	**349**	*e*P	**P**	**23 31 05.3**	**-0.5**
CD2	**Chengdu**	**27.27**	**14**	*e*P	**P**	**23 31 18.8**	**-0.9**
CD2				pP	sP	23 31 31.3	-1.9
CD2				sP	pP	23 31 37.3	+8.1
CD2				S	**S**	**23 35 56.3**	**-0.7**
CD2				sS	sS	23 36 17.8	+5.1
CD2	20nm,0.5s			PMZ			
CD2	220nm,5.2s			PMZ			
MMRI	**Maumere** 80nm,1.3s	**28.76**	**117**	*e*P	**P**	**23 31 32.7**	**-0.3**
SOEI	**Soe** 59nm,1.4s	**31.04**	**117**	*e*P	**P**	**23 31 52.9**	**-0.6**
NACB	**Ninganchiao** 15nm,0.8s	**31.19**	**48**	*e*P	**P**	**23 31 53.7**	**-0.8**
YOJ	**Yonaguni jima** 113nm,1.1s	**32.42**	**49**	*e*P	**P**	**23 32 04.3**	**-1.0**
FITZ	**Fitzroy Crossi** 8.1nm,0.8s	**36.41**	**129**	*e*P	**P**	**23 32 38.8**	**-1.2**
HHC	**Hu-ho-hao-te**	**38.77**	**18**	*e*P	**P**	**23 33 00.0**	**+0.3**
HHC				pP	sP	23 33 12.1	-1.3
HHC				S	**S**	**23 38 54.0**	**-1.0**
HHC	24nm,0.9s			PMZ			
HHC	85nm,5.7s			PMZ			
HHC	110nm,14.5s			LN			
HHC	130nm,11.9s			LE			
KBL	**Kabul** 7.7nm,1.4s	**39.35**	**323**	*e*P	**P**	**23 33 03.9**	**-0.9**
KSH	**Kashi**	**39.60**	**335**	*e*P	**P**	**23 33 10.9**	**+4.1**
KSH				pP	sP	23 33 23.3	+2.8
KSH				PP	**PnPn**	**23 34 45.1**	**+3.8**
KSH				PcP	**PcP**	**23 35 16.1**	**+2.5**
KSH				S	**S**	**23 39 10.3**	**+2.6**
KSH				SS	**SS**	**23 41 59.8**	**-3.8**
KSH	4.0nm,0.4s			PMZ			
KSH	79nm,7.0s			PMZ			
KSH	120nm,6.1s			LN			
KSH	160nm,5.4s			LE			
KSH				LZ			
WMQ	**Urumqi**	**40.04**	**350**	P	**P**	**23 33 10.0**	**-0.3**
WMQ				pP	sP	23 33 22.3	-1.7
WMQ				sP	pP	23 33 27.8	+7.8
WMQ	3.0nm,0.6s			PMZ			
WMQ	39nm,4.4s			PMZ			
WSAR	**Wadi Sarin** 4.5nm,0.8s,baz=153,slow=4.5,SNR=3.9	**41.06**	**301**	P	**P**	**23 33 21.1**	**+2.2**
AAK	**Ala-Archa** 2.8nm,0.9s	**42.82**	**336**	*e*P	**P**	**23 33 32.3**	**-1.0**
EKS2	**Erkin-Say** 9.2nm,1.4s	**43.14**	**335**	*e*P	**P**	**23 33 34.4**	**-1.3**
KSAR	**Wonju Array Be**	**43.68**	**37**	P	**P**	**23 33 40.3**	**+0.3**
KS01	**Wonju Array Si**	**43.71**	**37**	*e*P	**P**	**23 33 39.6**	**-0.7**
KSRS	**Korea Array** 0.8nm,0.7s,baz=223,slow=8.7,SNR=4.6	**43.71**	**37**	P	**P**	**23 33 40.3**	**+0.1**
MK01	**Makanchi Array**	**43.98**	**346**	*e*P	**P**	**23 33 41.2**	**-1.1**
MK31	**Makanchi Array**	**44.01**	**346**	*e*P	**P**	**23 33 41.2**	**-1.4**
MKAR	**Makanchi Array** 1.6nm,0.6s,baz=155,slow=8.9,SNR=16	**44.01**	**346**	P	**P**	**23 33 41.8**	**-0.7**
MKAR	**Makanchi Array**	**44.01**	**346**	*e*P	**P**	**23 33 41.0**	**-1.5**
SONM	**Songino Array** 1.2nm,0.8s,baz=198,slow=8.8,SNR=4.5	**44.13**	**10**	P	**P**	**23 33 44.3**	**+0.6**
SONA1	**Songino Array**	**44.14**	**10**	*e*P	**P**	**23 33 42.8**	**-0.9**
ULN	**Ulaanbaatar** 12nm,2.0s	**44.27**	**10**	*e*P	**P**	**23 33 43.5**	**-1.3**
WRA	**Warramunga Arr** 16nm,0.5s,baz=302,slow=9.2,SNR=130	**44.37**	**124**	P	**P**	**23 33 45.8**	**0.0**
WRAB	**Tennant Creek** 26nm,0.6s	**44.37**	**124**	*e*P	**P**	**23 33 44.7**	**-1.1**
WB2	**Warramunga Arr** 21nm,0.6s	**44.38**	**124**	*e*P	**P**	**23 33 42.8**	**-3.1**
KKAR	**Karatay Array**	**44.91**	**333**	*e*P	**P**	**23 33 47.9**	**-2.0**
AS31	**Alice Springs** 2.0nm,0.6s	**45.91**	**129**	*e*P	**P**	**23 33 57.9**	**-0.2**
ASAR	**Alice Springs** 4.2nm,0.5s,baz=299,slow=8.3,SNR=56	**45.91**	**129**	P	**P**	**23 33 58.1**	**+0.1**
AS01	**Alice Springs**	**45.95**	**129**	*e*P	**P**	**23 33 57.8**	**-0.6**
GEYT	**Alibeck** 1.2nm,0.6s,baz=127,slow=9.6,SNR=4.0	**48.34**	**319**	P	**P**	**23 34 16.4**	**-0.4**
KURK	**Kurchatov** 16nm,1.4s	**48.56**	**345**	*e*P	**P**	**23 34 17.7**	**-0.5**
GUMO	**Guam** comp=Z,27nm,21.3s,baz=104,slow=36	**48.58**	**76**	LR	LR	23 54 24.0	
SARN	**Sarigan**	**49.85**	**72**	*e*P	**P**	**23 34 27.2**	**-1.5**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=152,slow=6.7,SNR=4.0	**50.33**	**351**	P	**P**	**23 34 30.1**	**-1.5**
PMG	**Port Moresby** 26nm,1.2s	**52.33**	**105**	*e*P	**P**	**23 34 46.2**	**-1.1**
ABKAR	**Akbulak array**	**54.40**	**331**	*e*P	**P**	**23 35 00.8**	**-1.1**
STKA	**Stephens Creek** 3.6nm,0.7s,baz=318,slow=8.8,SNR=6.0	**56.03**	**133**	P	**P**	**23 35 14.2**	**+0.2**
ASAJ	**Asahikawa** 16nm,1.5s	**56.61**	**38**	*e*P	**P**	**23 35 17.3**	**-0.6**
FURI	**Furi** 29nm,1.2s	**57.54**	**278**	*e*P	**P**	**23 35 23.4**	**-2.1**
KMBO	**Kilima Mbogo** 0.6nm,0.3s,baz=49,slow=9.1,SNR=6.5	**59.43**	**266**	P	**P**	**23 35 42.5**	**+3.9**
ARU	**Arti** 1.9nm,0.8s	**60.00**	**337**	*e*P	**P**	**23 35 40.2**	**-1.2**
BRTR	**Keskin Array B** 0.9nm,0.6s,baz=136,slow=7.5,SNR=9.0	**66.47**	**312**	P	**P**	**23 36 24.1**	**-0.7**
BOSA	**Boshof** 1.6nm,0.5s,baz=90,slow=3.6,SNR=6.8	**75.75**	**239**	P	**P**	**23 37 23.8**	**+2.6**
BOSA	comp=Z,30nm,18.3s,baz=236,slow=34			LR	LR	00 09 09.0	
FINES	**FINESS Array B** 1.0nm,0.7s,baz=150,slow=17,SNR=4.5	**76.87**	**332**	P	**P**	**23 37 25.8**	**-0.9**
ARCES	**ARCESS Array B** 1.0nm,0.7s,baz=101,slow=6.3,SNR=7.8	**79.32**	**340**	P	**P**	**23 37 39.8**	**-0.4**
GERES	**GERESS Array B** 0.4nm,0.5s,baz=116,slow=6.1,SNR=7.2	**81.97**	**319**	P	**P**	**23 37 55.5**	**+0.5**
KEST	**Kesra** 1.7nm,0.6s,baz=343,slow=1.6,SNR=4.5	**85.14**	**305**	P	**P**	**23 38 11.8**	**+0.2**
TORD	**Torodi Ar. Bea** 0.9nm,0.6s,baz=85,slow=4.8,SNR=6.8	**93.66**	**283**	P	**P**	**23 38 53.6**	**+1.5**
CPUP	**Villa Florida** 2.4nm,1.0s,baz=211,slow=6.8,SNR=5.0	**146.76**	**226**	PKPbc	**PKPbc**	**23 45 18.1**	**+0.6**

IDC 18 23:35:26.4±2.4, 3°.63S×130°.87E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.4/38, mbtmp3.5/5, ML3.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/23, Error ellipse: s-maj=137.0km s-min=24.6km az=76.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=8.1,slow=14,SNR=2.8	**15.27**	**199**	Pn	Pn	23 39 02.2	-1.1
FITZ	0.0nm,0.3s,baz=126,slow=14,SNR=2.1			Sn	Sn	23 41 46.8	-6.5
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=353,slow=13,SNR=3.2	**16.56**	**168**	Pn	Pn	23 39 18.2	-2.0
ASAR	**Alice Springs** 0.6nm,0.3s,baz=349,slow=11,SNR=9.6	**20.13**	**172**	P	Pn	23 40 03.5	-0.5
JCJ	**Chichijima** comp=Z,18nm,18.8s,baz=96,slow=36	**32.44**	**19**	LR	LR	23 54 51.1	
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=108,slow=7.7,SNR=2.9	**65.92**	**326**	P	P	23 46 14.6	+0.4
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=128,slow=5.3,SNR=5.6	**70.13**	**328**	P	P	23 46 40.2	-0.4

IDC ***18*** *23:46:23.1±0.6, 3°.63S×130°.75E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.2/33, mbtmp4.3/14, ML4.3/8.1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/28, Error ellipse: s-maj=37.9km s-min=10.4km az=73.0*

ISCJB ***18*** *23:46:24.8±0.3, 3°.38S±0°.03×131°.54E±0°.04, h24km, mb4.8/34, MS3.6/2, Error ellipse: s-maj=6.4km s-min=4.6km az=173.3*

BJI ***18*** *23:46:26.3, 3°.44S×131°.71E, h33km, mb4.5/22, mB4.9/14, Ms4.6/6, Ms7 4.4/5*

NEIC ***18*** *23:46:28.4±0.9, 3°.31S×131°.64E, h36km±10km, mb4.6/27, Error ellipse: s-maj=7.2km s-min=5.6km az=224.0*

DJA ***18*** *23:46:28.7±0.3, 3°S±3°×13°1E±°, h80km±11km, M4.8/6, mB5.4/2, mb4.8/4, MLv4.8/6, Mw(mB)4.8/2*

ISC 18 23:46:26.7±0.4, 3°.46S±0°.04×131°.62E±0°.06, h24km, n86, σ2§23/83, mb4.6/34, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.02**	**238**	P	**Pn**	**23 46 56.9**	**-2.4**
MSAI	**Masohi**	**2.69**	**272**	P	Pn	23 47 02.8	-5.8
RKPI	**Ransiki, Papua**	**3.20**	**53**	P	**Pb**	**23 47 22.5**	**-0.4**
SAUI	**Saumlaki**	**4.51**	**184**	P	**Pn**	**23 47 34.7**	**+1.1**
SAUI				S	**Sn**	**23 48 26.2**	**+0.9**
SAUI	**Saumlaki**	**4.51**	**184**	*e*Pn	**Pn**	**23 47 35.8**	**+2.2**
NLAI	**Namlea**	**4.52**	**273**	P	Pn	23 47 29.4	-4.4
NLAI				S	Sn	23 48 15.2	-10
LBMI	**Labuha**	**4.98**	**304**	P	Pn	23 47 34.5	-5.6
SANI	**Sanana**	**5.80**	**284**	P	Pn	23 47 43.4	-7.9
SANI				S	Sn	23 48 40.9	-16
MTN	**Manton Dam**	**9.34**	**183**	*e*Pn	**Pn**	**23 48 41.0**	**+1.0**
SOEI	**Soe**	**9.62**	**229**	P	Pn	23 48 39.6	-4.3
SOEI	**Soe**	**9.62**	**229**	*e*Pn	**Pn**	**23 48 45.7**	**+1.8**
MMRI	**Maumere**	**10.66**	**241**	*e*Pn	**Pn**	**23 49 00.1**	**+2.1**
EDFI	**Ende, Flores**	**11.19**	**242**	P	Pn	23 49 17.3	+12
KAPI	**Kappang** 0.5nm,0.3s,baz=176,slow=16,SNR=3.2	**11.94**	**262**	Pn	Pn	23 49 10.3	-5.3
KAPI	comp=Z,215nm,20.8s,baz=101,slow=37			LR	LR	23 53 13.6	
KAPI	**Kappang**	**11.94**	**262**	*e*Pn	**Pn**	**23 49 17.5**	**+1.9**
DAV	**Davao City (W)** comp=Z,77nm,21.4s,baz=119,slow=34	**12.07**	**330**	LR	LR	23 53 07.4	
MYLDM	**Lahad Datu** 79nm,1.7s	**15.67**	**303**	*e*Pn	**Pn**	**23 50 07.4**	**+1.2**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=28,slow=8.5,SNR=43	**15.69**	**202**	Pn	Pn	23 49 58.5	-7.9
FITZ	0.7nm,0.3s,baz=24,slow=20,SNR=2.9			Sn	Sn	23 52 44.1	-16
FITZ	**Fitzroy Crossi** 9.4nm,0.9s	**15.69**	**202**	*e*Pn	**Pn**	**23 50 09.2**	**+2.8**
FITZ				Sn	Sn	23 52 44.1	-16
MANU	**Manus Island** 81nm,1.6s	**15.79**	**85**	*e*Pn	**Pn**	**23 50 07.1**	**-0.6**
PMG	**Port Moresby** 29nm,1.1s	**16.53**	**112**	*e*Pn	**Pn**	**23 50 18.0**	**+0.9**
WRAB	**Tennant Creek** 25nm,0.9s	**16.59**	**171**	*e*Pn	**P**	**23 50 20.3**	**0.0**
WRA	**Warramunga Arr** 1.3nm,0.3s,baz=348,slow=14,SNR=27	**16.60**	**171**	Pn	**Pn**	**23 50 14.5**	**-3.6**
WRA	2.5nm,0.3s,baz=354,slow=24,SNR=5.7			Sn	**Sn**	**23 53 14.4**	**-7.4**
WB2	**Warramunga Arr** 24nm,0.8s	**16.60**	**171**	*e*Pn	**P**	**23 50 20.0**	**-0.4**
WB2				*e*Sn	**Sn**	**23 53 14.7**	**-7.2**
BLJI	**Banyuglugur** 13nm,0.8s	**18.44**	**256**	P	**P**	**23 50 37.4**	**-3.3**
AS31	**Alice Springs** 13nm,0.6s	**20.21**	**174**	*e*P	**P**	**23 51 01.3**	**+1.2**
ASAR	**Alice Springs** 2.4nm,0.5s,baz=4.5,slow=11,SNR=13	**20.21**	**174**	P	**P**	**23 50 57.2**	**-3.0**
ASAR	1.7nm,0.6s,baz=356,slow=27,SNR=4.6			S	**S**	**23 54 47.0**	**+0.9**
AS01	**Alice Springs**	**20.22**	**174**	*e*P	**P**	**23 51 01.0**	**+0.8**
SBUM	**Sibu** 32nm,1.7s	**20.26**	**287**	*e*P	**P**	**23 51 00.7**	**0.0**
CTA	**Charters Tower** 4.2nm,0.5s,baz=299,slow=12,SNR=3.0	**21.84**	**140**	P	**P**	**23 51 23.0**	**+5.3**
CTAO	**Charters Tower** 9.3nm,0.8s	**21.84**	**140**	*e*P	**P**	**23 51 19.5**	**+1.8**
KSM	**Kuching** 13nm,0.8s	**21.86**	**283**	*e*P	**P**	**23 51 13.3**	**-4.7**
XMIS	**Christmas Isla** 338nm,1.6s	**26.69**	**254**	*e*P	**P**	**23 52 05.3**	**+0.9**
TWG	**Pinlang** 242nm,2.0s	**28.07**	**339**	*e*P	**P**	**23 52 15.6**	**-1.0**
STKA	**Stephens Creek** 1.9nm,0.4s,baz=344,slow=8.3,SNR=10.0	**29.79**	**163**	P	**P**	**23 52 33.6**	**+1.8**
STKA	2.3nm,0.7s,baz=333,slow=4.5,SNR=2.5			PcP	**PcP**	**23 55 34.5**	**-0.7**
IPM	**Ipoh** 17nm,1.2s	**31.57**	**284**	*e*P	**P**	**23 52 48.0**	**+0.2**
CBIJ	**Chichi jima** 101nm,1.3s	**32.04**	**18**	*e*P	**P**	**23 52 50.0**	**-1.7**
PSI	**Prapat** 26nm,1.6s	**33.27**	**280**	*e*P	**P**	**23 53 02.7**	**-0.1**
GSI	**Gunungsitoli** 14nm,1.1s	**34.36**	**277**	*e*P	**P**	**23 53 11.7**	**-0.5**
COCO	**West Island** 1μm,1.9s	**35.50**	**254**	*e*P	**P**	**23 53 23.7**	**+1.7**
CAN	**Canberra** 92nm,1.7s	**35.56**	**155**	*e*P	**P**	**23 53 24.7**	**+2.4**
KWAJ	**Kwajalein Atol** 941nm,1.4s	**37.89**	**71**	*e*P	**P**	**23 53 40.7**	**-1.7**
GYA	**Guiyang** 10.0nm,0.8s	**38.30**	**322**	*e*P	**P**	**23 53 47.0**	**+1.2**
GYA				PMZ			
CM01	**Chiang Mai Arr**	**38.83**	**305**	*e*P	**P**	**23 53 47.9**	**-2.3**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=128,slow=7.1,SNR=6.2	**38.86**	**305**	P	P	23 53 45.5	-4.9
INU	**Inuyama** 35nm,1.8s	**38.93**	**7**	*e*P	**P**	**23 53 48.9**	**-1.8**
CHTO	**Chiang Mai** 3.2nm,0.9s	**39.04**	**306**	*e*P	**P**	**23 53 51.6**	**-0.4**
CHTO				*e*		23 54 04.3	
KMI	**Kunming** 5.0nm,1.0s	**39.91**	**317**	P	**P**	**23 54 00.5**	**+1.1**
KMI				PMZ			
MAJO	**Matsushiro** 24nm,1.6s	**40.26**	**8**	*e*P	**P**	**23 54 01.3**	**-0.6**
MJB9	**Matsu-Tunnel** 5.8nm,1.6s	**40.27**	**8**	*e*P	**P**	**23 54 01.0**	**-1.0**
KS15	**Wonju Array Si**	**40.84**	**355**	*e*P	**P**	**23 54 06.3**	**-0.2**
KSAR	**Wonju Array Be**	**40.84**	**355**	P	**P**	**23 54 07.5**	**+0.9**
KSRS	**Korea Array** 1.0nm,0.7s,baz=179,slow=9.3,SNR=6.7	**40.84**	**355**	P	**P**	**23 54 07.5**	**+0.8**
KSRS	comp=Z,94nm,18.9s,baz=129,slow=37			LR	LR	00 11 39.0	
KS01	**Wonju Array Si**	**40.87**	**355**	*e*P	**P**	**23 54 06.9**	**0.0**
CD2	**Chengdu**	**43.29**	**324**	*e*P	**P**	**23 54 27.0**	**+0.2**
CD2				pP	sP	23 54 36.5	-0.6
CD2				sP	pP	23 54 40.6	+6.4
CD2				PcS	**PcS**	**00 00 08.1**	**-0.2**
CD2				S	**S**	**00 00 53.0**	**-0.1**
CD2				sS	sS	00 01 09.3	+4.2
CD2	10.0nm,0.5s			PMZ			
CD2	120nm,5.0s			PMZ			
BJI	**Beijing** 8.0nm,1.1s	**45.55**	**343**	P	**P**	**23 54 44.4**	**-0.2**
BJI				PMZ			
LZH	**Lanzhou**	**47.14**	**329**	*e*P	P	23 55 02.6	+5.2
LZH				pP	sP	23 55 13.3	+5.6
LZH				sP	pP	23 55 17.3	+12
LZH	10.0nm,1.0s			PMZ			
HHC	**Hu-ho-hao-te** 18nm,1.0s	**47.76**	**339**	*e*P	**P**	**23 55 04.0**	**+1.9**
HHC				sP	sP	23 55 15.8	+3.4
HHC				S	**S**	**00 01 59.1**	**+1.8**
HHC				sS	sS	00 02 18.0	+8.5
HHC	100nm,4.9s			PMZ			
HHC	100nm,15.9s			LN			
HHC	94nm,14.3s			LE			
YSS	**Yuzh-Sakhalins** 6.0nm,0.7s	**51.15**	**10**	*e*P	**P**	**23 55 27.3**	**-0.4**
DCZ	**Deep Cove** 295nm,2.0s	**52.11**	**149**	*e*P	**P**	**23 55 36.4**	**+1.4**
ULN	**Ulaanbaatar** 4.5nm,1.1s	**55.46**	**340**	*e*P	**P**	**23 55 59.1**	**-0.5**
SONM	**Songino Array** 0.7nm,0.5s,baz=180,slow=5.9,SNR=6.2	**55.66**	**340**	P	**P**	**23 55 59.0**	**-2.1**
SONA1	**Songino Array**	**55.66**	**340**	*e*P	**P**	**23 56 00.3**	**-0.8**
MIDW	**Midway** 330nm,2.0s	**58.26**	**54**	*e*P	**P**	**23 56 18.6**	**-1.0**
DGAR	**Diego Garcia** 379nm,1.1s	**59.00**	**263**	*e*P	**P**	**23 56 24.7**	**-0.4**
TLY	**Talaya** comp=Z,31nm,18.3s,baz=141,slow=40	**59.87**	**340**	LR	LR	00 25 50.9	
TLY	**Talaya** 3.1nm,0.7s	**59.87**	**340**	*e*P	**P**	**23 56 29.8**	**-0.6**
WMQ	**Urumqi**	**61.38**	**325**	P	**P**	**23 56 41.8**	**+0.9**
WMQ				pP	sP	23 56 51.8	+0.4
WMQ				sP	pP	23 56 55.8	+7.3
WMQ	3.0nm,0.6s			PMZ			
WMQ	26nm,3.6s			PMZ			
MK01	**Makanchi Array**	**66.19**	**325**	*e*P	**P**	**23 57 10.7**	**-1.9**
MK31	**Makanchi Array**	**66.21**	**325**	*e*P	**P**	**23 57 11.2**	**-1.5**
MKAR	**Makanchi Array** 2.4nm,0.8s,baz=125,slow=8.5,SNR=16	**66.21**	**325**	P	**P**	**23 57 10.9**	**-1.8**
KSH	**Kashi**	**66.56**	**316**	*e*P	P	23 57 20.8	+5.6
KSH				pP	sP	23 57 30.4	+4.6
KSH				PP	PP	23 59 49.8	+7.7
KSH				S	**S**	**00 06 10.0**	**+4.9**
KSH				SS	**SS**	**00 10 28.8**	**+6.1**
KSH	4.0nm,0.4s			PMZ			
KSH	62nm,4.8s			PMZ			
KSH	85nm,4.9s			LN			
KSH	110nm,6.4s			LE			
KSH	120nm,7.9s			LZ			
SEY	**Seymchan** 1.1nm,0.5s,baz=2.3,slow=22,SNR=4.1	**68.05**	**10**	P	**P**	**23 57 26.1**	**+2.1**
TKM2	**Tokmak 2** 1.0nm,0.5s	**68.34**	**319**	*e*P	**P**	**23 57 24.9**	**-1.6**
ZAA0	**Zalesovo Array**	**69.17**	**333**	*e*P	**P**	**23 57 28.8**	**-2.4**
ZALV	**Zalesovo Beam** 1.7nm,0.6s,baz=116,slow=3.4,SNR=7.8	**69.17**	**333**	P	**P**	**23 57 28.9**	**-2.2**
KURBB	**Kurchatov Arra** 2.5nm,0.5s,baz=126,slow=5.6,SNR=39	**70.39**	**327**	P	**P**	**23 57 37.0**	**-1.8**
KURK	**Kurchatov** 20nm,0.9s	**70.39**	**327**	*e*P	**P**	**23 57 37.0**	**-1.7**
VNDA	**Vanda** 0.9nm,0.5s,baz=318,slow=8.1,SNR=13	**75.76**	**174**	P	**P**	**23 58 10.8**	**+0.7**
VNDA	**Vanda** 4.5nm,1.1s	**75.76**	**174**	*e*P	**P**	**23 58 13.0**	**+2.9**
GEYT	**Alibeck** 1.9nm,0.8s,baz=151,slow=4.6,SNR=6.4	**79.19**	**309**	P	**P**	**23 58 28.4**	**-1.8**
TT01	**Tatalina**	**85.11**	**26**	*e*P	**P**	**23 59 01.7**	**+1.2**
SYO	**Syowa Base**	**87.53**	**201**	||*e*PcP	**PcP**	**23 59 15.8**	**+1.6**
CCB	**Clear Creek Bu**	**89.06**	**25**	*e*P	**P**	**23 59 21.2**	**+1.6**
ARCES	**ARCESS Array B** 3.2nm,1.0s,baz=77,slow=5.7,SNR=3.8	**98.83**	**340**	P	**P**	**00 00 02.3**	**-2.1**
TORD	**Torodi Ar. Bea** 0.7nm,0.7s,baz=97,slow=2.1,SNR=7.9	**129.62**	**284**	PKP	**PKPdf**	**00 05 33.9**	**-1.0**

ISCJB ***18*** *23:46:58.0±0.6, 6°.84N±0°.04×73°.08W±0°.05, h153km±5km, Error ellipse: s-maj=10.1km s-min=4.3km az=38.8*

FUNV ***18*** *23:46:58.7, 6°.85N×73°.12W, h171km, MW3.1*

RSNC ***18*** *23:47:00.4±0.6, 6°.81N×73°.14W, h140km±4km, ML2.5*

ISC 18 23:46:57.6±1.4, 6°.84N±0°.05×73°.07W±0°.05, h158km±7km, n23, σ1§28/41, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa

CAPV	**Capacho**	**1.27**	**36**	⇓*iP*	**Pn**	**23 47 27.2**	**+1.5**
CAPV				*eS*	**Sn**	**23 47 48.8**	**+1.5**
OCAC	**Ocana**	**1.41**	**350**	*eP*	**Pn**	**23 47 27.9**	**+0.9**
OCAC				*eS*	**Sn**	**23 47 48.9**	**-0.8**
OCAC				*i*		23 47 52.7	
	comp=Z,50nm,0.4s						
NORC	**Norcasia**	**2.19**	**235**	*eP*	**Pn**	**23 47 35.8**	**+0.4**
NORC				*eS*	**Sn**	**23 48 03.4**	**-1.3**
CHIC	**Chingaza**	**2.29**	**197**	*eP*	**Pn**	**23 47 38.0**	**+1.0**
CHIC				*eS*	**Sn**	**23 48 07.7**	**+0.2**
CHIC				*i*		23 48 12.3	
	comp=Z,8.1nm,0.4s						
HELC	**Santa Helena**	**2.52**	**255**	*eP*	**Pn**	**23 47 40.7**	**+1.0**
HELC				*eS*	**Sn**	**23 48 12.0**	**-0.3**
HELC				*i*		23 48 17.6	
	comp=Z,18nm,0.3s						
VIGV	**El Vigia**	**2.61**	**40**	*eP*	**Pn**	**23 47 41.8**	**+1.3**
VIGV				*eS*	**Sn**	**23 48 13.7**	**0.0**
SOCV	**Socops**	**2.62**	**57**	*eP*	**Pn**	**23 47 41.7**	**+1.1**
SOCV				*eS*	**Sn**	**23 48 13.2**	**-0.7**
TOLC	**Tolima**	**3.17**	**225**	*eP*	**Pn**	**23 47 49.5**	**+1.8**
PRAC	**Prado**	**3.59**	**210**	*eP*	**Pn**	**23 47 53.9**	**+1.0**
PRAC				*eS*	**Sn**	**23 48 35.2**	**-0.6**
SJAC	**San Juan de Ar**	**3.65**	**194**	*eP*	**Pn**	**23 47 54.6**	**+0.9**
SJAC				*i*		23 48 46.4	
	comp=Z,18nm,0.4s						
VIRV	**Villa del Rosa**	**3.70**	**10**	*eP*	**Pn**	**23 47 54.5**	**+0.3**
VIRV				*eS*	**Sn**	**23 48 35.3**	**-3.0**
SANV	**Sanarito**	**4.39**	**53**	*eP*	**Pn**	**23 48 03.5**	**+0.3**
CURV	**Curarigua**	**4.41**	**44**	*eP*	**Pn**	**23 48 04.1**	**+0.7**
CURV				*eS*	**Sn**	**23 48 52.0**	**-2.8**
BAUV	**El Baul**	**5.40**	**67**	*eP*	**Pn**	**23 48 16.3**	**-0.2**
MAPV	**Macapo**	**5.45**	**57**	*eP*	**Pn**	**23 48 17.1**	**+0.1**

IDC 18 23:59:19.6±1.6, 14°17N×88°13W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/29, mbtmp3.5/4, Error ellipse: s-maj=81.9km s-min=25.4km az=54.0, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**20.84**	**319**	P	P	00 04 02.5	-0.7
	0.7nm,0.6s,baz=145,slow=11,SNR=13						
LPAZ	**La Paz**	**36.14**	**146**	P	P	00 06 24.5	0.0
	0.7nm,0.4s,baz=3.9,slow=3.2,SNR=6.2						
YKA	**Yellowknife Ar**	**51.79**	**345**	P	P	00 08 29.4	+0.5
	0.2nm,0.5s,baz=137,slow=7.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**86.68**	**77**	P	P	00 12 05.8	-0.3
	0.6nm,1.0s,baz=296,slow=4.6,SNR=3.1						

IDC 19 00:13:55.5±2.2, 6°90S×129°19E, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.4/35, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=122.3km s-min=32.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.90**	**159**	Pn	Pn	00 17 12.6	-1.3
	0.4nm,0.3s,baz=338,slow=14,SNR=12						
WRA				Sn	Sn	00 19 36.9	-12
	0.7nm,0.3s,baz=337,slow=22,SNR=8.0						
ASAR	**Alice Springs**	**17.28**	**165**	P	P	00 17 59.3	-0.6
	0.5nm,0.3s,baz=347,slow=11,SNR=22						
ASAR				S	Sn	00 20 59.4	-12
	0.1nm,0.3s,baz=323,slow=20,SNR=2.9						
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	00 24 54.7	0.0
	0.4nm,0.5s,baz=127,slow=6.3,SNR=3.9						

*SOME **19** 00:17:03.3, 47°.62N×84°.68E, h0km*
*NNC **19** 00:17:04.1±3.3, 47°.80N×85°.04E, h22km±24km, mb3.9, mpv3.5, Error ellipse: s-maj=31.7km s-min=15.0km az=89.0*

ISC 19 00:17:01.5±2.7, 47°.55N±0°.07×84°.8E±0°.1, h10km, n10, σ2§21/20, 6C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.29**	**250**	⇑*iP*	**Pb**	**00 17 09.4**	**+0.6**
	104nm,0.2s						
ZSN				*eS*	**Sb**	**00 17 13.4**	**-0.3**
	921nm,0.3s						
MK31	**Makanchi Array**	**1.88**	**247**	⇑Pn	**Pg**	**00 17 38.2**	**+0.8**
	27nm,0.5s,baz=78,slow=16,SNR=562						
MK31				Sn	**Sg**	**00 18 04.2**	**+2.5**
	94nm,0.5s,baz=76,slow=27,SNR=13						
MAKZ	**Makanchi**	**2.07**	**250**	⇑Pn	**Pg**	**00 17 41.4**	**+0.3**
	47nm,0.8s						
MAKZ				⇑Sn	**Sg**	**00 18 09.8**	**+1.9**
	46nm,0.3s						
KAPS	**Kapalarasan**	**4.40**	**241**	*eP*	**Pb**	**00 18 22.4**	**+3.6**
	3.7nm,0.3s						
KAPS				*eS*	**Sg**	**00 19 20.0**	**-2.6**
	19nm,0.6s						
DJR	**Jarkent**	**4.75**	**229**	*eP*	**Pg**	**00 18 30.9**	**-1.6**
	4.9nm,0.2s						
DJR				*eS*	**Sg**	**00 19 34.8**	**+0.7**
	17nm,0.5s						
KURBB	**Kurchatov Arra**	**5.14**	**309**	⇓Pn	**Pn**	**00 18 19.6**	**+1.1**
	0.8nm,0.3s						
KURBB				⇓Pg	**Pg**	**00 18 37.1**	**-2.8**
	3.0nm,0.4s						
KURBB				⇓Lg	Lg	00 19 45.4	
	79nm,0.6s						
KURK	**Kurchatov**	**5.15**	**310**	⇑Pn	**Pn**	**00 18 18.9**	**+0.4**
	4.0nm,0.7s						
KURK				⇓Sn	**Sn**	**00 19 18.2**	**+0.2**
	30nm,0.5s						
KURK				⇑Lg	Lg	00 19 45.8	
	228nm,0.6s						
MNBS	**Baschi**	**5.67**	**235**	*eP*	**Pg**	**00 18 47.3**	**-2.6**
	0.2nm,0.2s						
MNBS				*eS*	**Sg**	**00 20 01.0**	**-2.2**
	16nm,0.5s						
ARXS	**Arharly**	**5.91**	**238**	*eP*	**Pg**	**00 18 51.7**	**-2.8**
	3.5nm,0.4s						
ARXS				*eS*	**Sg**	**00 20 09.3**	**-1.6**
	14nm,0.3s						
CHKK	**Chushkaly**	**6.59**	**239**	*eP*	**Pg**	**00 19 04.3**	**-3.2**
	1.5nm,0.2s						
CHKK				*eS*	**Sg**	**00 20 30.2**	**-2.6**
	6.3nm,0.3s						

*IDC **19** 00:19:04.9±1.3, 1°.32N×98°.90E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/49, mbtmp3.8/11, ML3.4/1, MS3.8/6, Ms1 3.8/6, ms1mx3.4/36, Error ellipse: s-maj=47.3km s-min=24.4km az=47.0*
*ISCJB **19** 00:19:08.7±0.4, 1°.78N±0°.04×99°.14E±0°.04, h10km, mb3.9/14, MS3.8/5, Error ellipse: s-maj=7.1km s-min=4.5km az=143.1*
*DJA **19** 00:19:09.6±0.2, 2°N±2°×9°9E±°, h10km, M4.2/8, MLv4.2/8*
*NEIC **19** 00:19:11.8±0.8, 1°.32N×99°.00E, h53km±9km, mb4.1/5, Error ellipse: s-maj=9.6km s-min=8.6km az=88.0*

ISC 19 00:19:09.1±0.6, 1°.72N±0°.04×99°.07E±0°.04, h10km, n41, σ1§70/39, mb3.9/14, MS3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.05**	**151**	P	**Sn**	**00 19 44.5**	**0.0**
MNSI				S	**Sn**	**00 19 43.0**	**-1.5**
GSI	**Gunungsitoli**	**1.55**	**255**	P	**Pn**	**00 19 36.6**	**-0.2**
GSI				S	**Sn**	**00 19 59.6**	**+2.6**
GSI	**Gunungsitoli**	**1.55**	**255**	*e*Pn	**Pn**	**00 19 36.2**	**-0.6**
TSI	**Tuntungan**	**1.84**	**344**	P	**Pn**	**00 19 41.7**	**+0.9**
KCSI	**Kotacane, Aceh**	**2.21**	**324**	P	**Pb**	**00 19 49.3**	**+0.1**
BKNI	**Bangkinang**	**2.40**	**125**	P	**Pn**	**00 19 50.1**	**+1.6**
BKNI				S	**Sb**	**00 20 23.0**	**+0.9**
TPTI		**2.44**	**309**	P	**Pn**	**00 19 49.8**	**+0.9**
TPTI				S	**Sn**	**00 20 20.0**	**+1.2**
PPI	**Padang Panjang**	**2.53**	**148**	P	**Pn**	**00 19 51.9**	**+1.6**
PDSI	**Padang**	**2.96**	**152**	P	**Pn**	**00 19 57.6**	**+1.5**
MLSI	**Meulaboh, Aceh**	**3.68**	**314**	P	**Pn**	**00 20 08.3**	**+2.3**
RGRI	**Rengat**	**3.85**	**122**	P	**Pn**	**00 20 09.7**	**+1.3**
KULM	**Kulim**	**3.88**	**24**	*e*Pn	**Pn**	**00 20 07.6**	**-1.2**
KULM				*e*Sn	**Sb**	**00 21 03.6**	**-1.2**
LHMI	**Lhok Sumawe**	**4.08**	**329**	P	**Pn**	**00 20 13.7**	**+2.1**
PPSI	**Pulau Pagai**	**4.55**	**168**	P	**Pn**	**00 20 19.4**	**+1.4**
TPRI	**Tanjung Pinang**	**5.51**	**98**	P	**Pg**	**00 20 57.3**	**+2.6**
SKLT	**Songkhla**	**5.63**	**16**	P	**Pn**	**00 20 28.8**	**-4.1**
SKLT				S	**Sb**	**00 21 58.4**	**+3.2**
TRTT	**Trang**	**6.11**	**6**	P	**Pn**	**00 20 40.9**	**+1.4**
KSM	**Kuching**	**11.23**	**91**	*e*Pn	**Pn**	**00 21 50.5**	**+0.7**
COCO	**West Island**	**13.99**	**189**	*e*Pn	Pn	00 22 21.6	-5.9
CMAR	**Chiang Mai Arr**	**16.64**	**360**	P	**P**	**00 23 05.7**	**+0.7**
	0.1nm,0.3s,baz=197,slow=11,SNR=12						
CMAR				LR	LR	00 30 30.8	
	comp=Z,120nm,18.3s,baz=187,slow=40						
CHTO	**Chiang Mai**	**16.99**	**360**	*e*Pn	**P**	**00 23 10.4**	**+1.5**
	8.7nm,1.1s						
KAPI	**Kappang**	**21.71**	**108**	LR	LR	00 32 18.6	
	comp=Z,221nm,18.6s,baz=297,slow=36						
H08S2	**Diego Garcia H**	**28.10**	**250**	T	T	00 52 24.4	
	baz=76,slow=74						
H08S3	**Diego Garcia H**	**28.10**	**250**	T	T	00 52 27.8	
	baz=76,slow=74						
H08S1	**Diego Carcia H**	**28.12**	**250**	T	T	00 52 36.3	
	baz=76						
YHNB	**Yeheng**	**31.38**	**42**	P	**P**	**00 25 31.5**	**+1.1**
	4.4nm,0.7s						
WRA	**Warramunga Arr**	**40.74**	**124**	P	**P**	**00 26 47.2**	**-3.3**
	1.2nm,0.8s,baz=301,slow=9.7,SNR=2.5						
WRA				LR	LR	00 45 14.8	
	comp=Z,106nm,20.7s,baz=215,slow=39						
KSRS	**Korea Array**	**44.38**	**33**	LR	LR	00 47 14.7	
	comp=Z,118nm,18.5s,baz=232,slow=38						
SONM	**Songino Array**	**46.37**	**7**	P	**P**	**00 27 36.1**	**+0.4**
	0.3nm,0.5s,baz=198,slow=9.1,SNR=2.9						
SONM				PcP	**PcP**	**00 29 09.9**	**-0.8**
	0.4nm,0.6s,baz=207,slow=2.9,SNR=4.0						
SONM				LR	LR	00 47 31.2	
	comp=Z,87nm,18.2s,baz=248,slow=36						
MKAR	**Makanchi Array**	**47.22**	**344**	P	**P**	**00 27 40.8**	**-1.4**
	1.1nm,0.8s,baz=174,slow=8.8,SNR=6.6						
GEYT	**Alibeck**	**52.04**	**319**	P	**P**	**00 28 19.7**	**+0.6**
	1.1nm,0.8s,baz=181,slow=8.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**53.37**	**350**	P	**P**	**00 28 28.5**	**-0.1**
	0.7nm,0.4s,baz=182,slow=9.0,SNR=5.4						
KBZ	**Khabaz**	**64.92**	**318**	P	**P**	**00 29 47.9**	**-1.0**
	1.7nm,0.8s,baz=180,slow=20,SNR=3.0						
NRIK	**Noril'sk**	**67.95**	**356**	P	**P**	**00 30 08.0**	**+0.2**
	2.7nm,1.0s,baz=211,slow=4.0,SNR=4.8						
CASY	**Casey**	**68.34**	**175**	*e*P	P	00 30 03.8	-6.4
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**70.16**	**312**	P	**P**	**00 30 19.8**	**-2.5**
	0.4nm,0.8s,baz=116,slow=7.8,SNR=3.8						
LSZ	**Lusaka**	**72.06**	**253**	P	P	00 30 29.9	-4.3
	2.1nm,1.0s						
TIXI	**Tiksi**	**72.36**	**10**	*e*P	**P**	**00 30 35.2**	**+0.4**
	9.1nm,1.1s						
AKASG	**Malin Array Be**	**76.00**	**322**	P	**P**	**00 30 54.2**	**-2.2**
	0.2nm,0.3s,baz=80,slow=4.1,SNR=4.4						
FINES	**FINESS Array B**	**80.41**	**332**	P	**P**	**00 31 20.2**	**-0.5**
	0.5nm,0.6s,baz=132,slow=8.0,SNR=4.7						
AFI	**Afiamalu**	**89.58**	**104**	LR	LR	01 14 07.0	
	comp=Z,110nm,18.7s,baz=66,slow=37						

*IDC **19** 00:20:01.6±0.5, 5°.83S×81°.03W, h0km, mb4.5/28, mb1 4.6/31, mb1mx4.6/45, mbtmp4.5/31, ML4.1/3, MS5.1/24, Ms1 5.2/24, ms1mx5.0/31, Error ellipse: s-maj=12.7km s-min=9.0km az=42.0*
*GCMT **19** 00:20:03.8±0.1, 6°.12S×81°.22W, h20km, MW5.6/120, Moment Tensor Solution. s107,c187; s120,c274; Duration: 1s5 Moment tensor: Scale 10¹⁷Nm; Mrr1.96±.03; Mθθ-0.19±.02; Mφφ-1.77±.03; Mrθ0.47±.04; Mθφ0.43±.02; Mφr-2.42±.08; Best double couple: M₀3.12500×10¹⁷ NP1:φs168.00000°, δ71.00000°, λ92.00000°. NP2:φs343.00000°, δ19.00000°, λ86.00000°. Principal axes: T 3.1670, Plg64.0000°, Azm81.0000°; N -0.0840, Plg1.0000°, Azm348.0000°; P -3.0830, Plg26.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **19** 00:20:03.8±0.2, 5°.96S×80°.98W, h10km, mb5.0/136, MS5.0/148, MW5.5 Error ellipse: s-maj=6.7km s-min=4.3km az=56.0, Moment Tensor Solution. s47 Moment tensor: Scale 10¹⁷Nm; Mrr1.03; Mθθ0.19; Mφφ-1.21; Mrθ0.31; Mθφ0.35; Mφr-1.59; Best double couple: M₀2.00000×10¹⁷ NP1:φs169.00000°, δ72.00000°, λ92.00000°. NP2:φs344.00000°, δ18.00000°, λ85.00000°. Principal axes: T 1.8600, Plg63.0000°, Azm81.0000°; N 0.2700, Plg1.0000°, Azm348.0000°; P -2.1300, Plg27.0000°, Azm257.0000°;*
NEIC Felt [III] at Piura and Sechura. Also felt at Cajamarca, Chiclayo, Paita and Talara.
*ISCJB **19** 00:20:04.4±0.2, 5°.93S×80°.03×80°.92W±0°.03, h28km, mb4.9/150, MS5.1/169 Error ellipse: s-maj=5.2km s-min=3.6km az=143.9*
*BJI **19** 00:20:07.3, 6°.00S×80°.90W, h30km, mB5.4/15, Ms5.4/21, Ms7 5.2/21*

ISC 19 00:20:06.2±0.3, 6°.07S±0°.04×81°.10W±0°.05, h30km, n825, σ1§41/719, mb5.0/150, MS5.1/170, 3C-1D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.89**	**112**	Pn	**Pn**	**00 20 53.1**	**+2.5**
	59nm,0.3s,baz=270,slow=3.8,SNR=78						
ATAH				Lg	Lg	00 21 38.0	
	550nm,0.3s,baz=14,slow=22,SNR=6.7						
ATAH				LR	LR	00 21 59.4	
	comp=Z,41μm,19.6s,baz=258,slow=40						
OTAV	**Otavalo**	**6.80**	**23**	*e*P	**Pn**	**00 21 41.8**	**-2.6**
OTAV	**Otavalo**	**6.80**	**23**	*e*Pn	**Pn**	**00 21 42.7**	**-1.7**
NNA	**Nana**	**7.23**	**145**	Pn	**Pn**	**00 21 50.9**	**+1.0**
	5.7nm,0.3s,baz=335,slow=12,SNR=7.6						
NNA				Sn	**Sn**	**00 23 09.7**	**-1.4**
	11nm,0.3s,baz=335,slow=19,SNR=3.1						
NNA				LR	LR	00 24 25.4	
	comp=Z,7μm,20.7s,baz=208,slow=36						
GRGC	**Isla de Gorgon**	**9.48**	**18**	*e*P	**Pn**	**00 22 16.9**	**-3.9**
POPC	**Popayan, Colom**	**9.63**	**27**	*e*P	Pn	00 22 17.4	-5.6
PAYG	**Puerto Ayora**	**10.62**	**300**	*e*Pn	**Pn**	**00 22 36.9**	**+0.5**
PRAC	**Prado**	**11.53**	**33**	*e*P	Pn	00 22 57.5	+8.6
PRAC	**Prado**	**11.53**	**33**	*e*Pn	**Pn**	**00 22 47.6**	**-1.3**
ROSC	**El Rosal**	**12.78**	**32**	Lg	Lg	00 26 42.3	
	0.8nm,0.3s,baz=30,slow=20,SNR=3.3						
ROSC				LR	LR	00 29 09.6	
	comp=Z,8μm,20.6s,baz=204,slow=44						
ROSC	**El Rosal**	**12.78**	**32**	*e*P	P	00 23 29.2	+12
ROSC	**El Rosal**	**12.78**	**32**	*e*Pn	**Pn**	**00 23 05.2**	**-1.1**
HELC	**Santa Helena**	**13.39**	**25**	*e*Pn	**Pn**	**00 23 13.8**	**-0.8**
DBBC	**Dabeiba**	**13.89**	**21**	*e*P	**Pn**	**00 23 19.6**	**-1.6**
RUSC	**La Rusia**	**14.33**	**34**	*e*P	**Pn**	**00 23 28.6**	**+1.1**
BARC	**Barichara**	**14.85**	**32**	*e*P	P	00 23 45.0	+5.1
BCIP	**Isla Barro Col**	**15.19**	**5**	*e*P	**Pn**	**00 23 36.5**	**-2.2**
BCIP	**Isla Barro Col**	**15.19**	**5**	*e*Pn	**Pn**	**00 23 40.3**	**+1.6**
	157nm,1.4s						
HDC	**Heredia**	**16.25**	**349**	*e*Pn	**P**	**00 23 54.9**	**-0.4**
	189nm,1.4s						
LPAZ	**La Paz**	**16.27**	**130**	Pn	**Pn**	**00 23 54.5**	**+1.3**
	0.6nm,0.3s,baz=304,slow=8.3,SNR=17						
LPAZ				Sn	**S**	**00 27 02.6**	**-2.8**
	0.2nm,0.3s,baz=238,slow=19,SNR=3.1						
LPAZ				Lg	Lg	00 28 45.7	
	0.3nm,0.3s,baz=100,slow=13,SNR=2.8						
LPAZ				LR	LR	00 31 03.4	
	comp=Z,8μm,19.1s,baz=296,slow=40						
LPAZ	**La Paz**	**16.27**	**130**	*e*Pn	**Pn**	**00 23 54.2**	**+1.0**
	189nm,1.7s						
LPAZ				Sn	**S**	**00 27 02.6**	**-2.8**
PB11	**IPOC Station P**	**17.58**	**142**	*e*Pn	**P**	**00 24 11.2**	**+1.1**
	84nm,1.2s						
SDV	**Santo Domingo**	**18.16**	**35**	P	**Pn**	**00 24 14.3**	**-2.1**
	2.7nm,0.3s,baz=220,slow=9.4,SNR=8.7						
SDV				S	**S**	**00 27 43.3**	**+0.1**
	1.3nm,0.3s,baz=329,slow=15,SNR=1.6						
SDV				Lg	Lg	00 29 46.5	
	1.1nm,0.3s,baz=30,slow=16,SNR=2.5						
SDV				LR	LR	00 32 14.8	
	comp=Z,10μm,19.2s,baz=222,slow=41						
SDV	**Santo Domingo**	**18.16**	**35**	*e*Pn	**P**	**00 24 16.4**	**-0.1**
	48nm,0.8s						
SDV				S	**S**	**00 27 43.3**	**+0.1**
PB01	**IPOC Station P**	**18.66**	**144**	*e*P	**Pn**	**00 24 24.1**	**+1.7**
	31nm,1.0s						
PB10	**IPOC Station P**	**20.10**	**151**	*e*P	Pn	00 24 38.8	-0.7
	40nm,1.0s						
LVC	**Limon Verde**	**20.22**	**146**	P	Pn	00 24 42.0	+0.7
	56nm,1.1s,baz=339,slow=8.1,SNR=12						
LVC				LR	LR	00 32 05.3	
	comp=Z,20μm,20.8s,baz=308,slow=36						
LVC	**Limon Verde**	**20.22**	**146**	*e*P	**P**	**00 24 40.3**	**+1.0**
	51nm,1.0s						
LVC				LR	LR		
	comp=Z,5μm,21.0s						
TGUH	**Tegucigalpa,Un**	**20.91**	**343**	*e*P	Pn	00 24 47.7	-1.4
	comp=Z,64nm,0.9s						
PTGA	**Pitinga**	**21.75**	**77**	P	**P**	**00 24 54.0**	**-1.4**
	comp=Z,11nm,0.6s,baz=257,slow=11,SNR=25						
PTGA				S	**S**	**00 28 53.2**	**-1.5**
	comp=Z,18nm,0.8s,baz=17,slow=19,SNR=3.7						
PTGA				Lg	Lg	00 31 31.1	
	comp=Z,90nm,0.9s,baz=346,slow=20,SNR=2.1						
PTGA				LR	LR	00 34 18.5	
	comp=Z,19μm,20.4s,baz=263,slow=40						
PTGA	**Pitinga**	**21.75**	**77**	*e*P	**P**	**00 24 53.9**	**-1.5**
	comp=Z,77nm,0.9s						
PTGA				S	**S**	**00 28 53.2**	**-1.5**
PTGA				LR	LR		
	comp=Z,25μm,20.0s						
SIV	**San Ignacio**	**21.97**	**118**	P	**P**	**00 24 58.0**	**+0.1**
	comp=Z,14nm,0.7s,baz=303,slow=12,SNR=30						
SIV				S	**S**	**00 29 04.0**	**+5.0**
	comp=Z,5.7nm,0.8s,baz=36,slow=22,SNR=1.8						
SIV				LR	LR	00 34 26.9	
	comp=Z,13μm,18.0s,baz=306,slow=39						
PCRV	**Puerto La Cruz**	**23.01**	**46**	P	**P**	**00 25 07.1**	**-1.7**
	comp=Z,19nm,0.4s,baz=230,slow=11,SNR=14						
PCRV				S	**S**	**00 29 19.2**	**+1.5**
	comp=Z,7.8nm,0.9s,baz=22,slow=6.2,SNR=1.8						
PCRV				Lg	Lg	00 32 00.3	
	comp=Z,22nm,1.0s,baz=278,slow=14,SNR=2.3						
PCRV				LR	LR	00 35 06.1	
	comp=Z,11μm,19.5s,baz=214,slow=40						
CRUV	**Carupano**	**24.35**	**47**	*e*P	**P**	**00 25 18.6**	**-3.2**
MTDJ	**Mount Denham**	**24.40**	**8**	*e*P	**P**	**00 25 22.6**	**+0.4**
	comp=Z,371nm,1.7s						
MTDJ				LR	LR		
	comp=Z,2μm,20.0s						
CCIG	**Comitan**	**24.75**	**334**	*e*P	**P**	**00 25 27.0**	**+1.5**
	comp=Z,69nm,1.6s						
LCO	**Las Campanas**	**24.85**	**158**	PFAKE		00 25 40.0	+14
LCO				LR	LR		
	comp=Z,4μm,19.0s						
GRGR	**Grenville**	**26.48**	**47**	PFAKE		00 25 50.0	+9.0
GRGR				LR	LR		
	comp=Z,5μm,19.0s						
GTBY	**Guantanamo Bay**	**26.50**	**13**	*e*P	**P**	**00 25 41.8**	**+0.7**
	comp=Z,183nm,1.4s						
GTBY				LR	LR		
	comp=Z,2μm,20.0s						
SDDR	**Presa de Saban**	**26.71**	**21**	*e*P	**P**	**00 25 42.5**	**-0.6**
SDDR				LR	LR		
	comp=Z,3μm,19.0s						
TEIG	**Tepich**	**27.07**	**345**	P	**P**	**00 25 44.5**	**-1.8**
	comp=Z,1.9nm,0.5s,baz=24,slow=20,SNR=3.2						
TEIG				LR	LR	00 35 06.7	
	comp=Z,522nm,20.2s,baz=202,slow=34						
TEIG	**Tepich**	**27.07**	**345**	P	**P**	**00 25 44.5**	**-1.8**
TEIG				LR	LR		
	comp=Z,520nm,20.0s						
MPR	**Mayaguez**	**27.78**	**29**	*e*P	**P**	**00 25 52.1**	**-0.6**
	comp=Z,58nm,1.2s						
CELP	**Cerrillos**	**27.95**	**31**	*e*P	**P**	**00 25 53.7**	**-0.5**
LRS	**Lares**	**28.00**	**30**	*e*P	**P**	**00 25 54.6**	**-0.1**
SJG	**San Juan**	**28.20**	**31**	P	**P**	**00 25 53.6**	**-2.8**
	comp=Z,34nm,0.6s,baz=182,slow=9.4,SNR=15						
SJG	**San Juan**	**28.20**	**31**	*e*P	**P**	**00 25 54.4**	**-1.9**
	comp=Z,84nm,0.9s						
SJG				LR	LR		
	comp=Z,4μm,20.0s						
HUMP	**Col San Antoni**	**28.38**	**32**	*e*P	**P**	**00 25 57.4**	**-0.6**
HUMP				*e*pP	**pP**	**00 26 01.6**	**-5.1**
CBYP	**Canovanas**	**28.48**	**32**	*e*P	**P**	**00 25 58.3**	**-0.7**
	comp=Z,67nm,0.9s						
FDF	**Fort de France**	**28.61**	**44**	PFAKE		00 26 10.0	+10
FDF				LR	LR		
	comp=Z,4μm,19.0s						
BBGH	**Gun Hill**	**28.68**	**48**	PFAKE		00 26 10.0	+9.3
BBGH				LR	LR		
	comp=Z,7μm,22.0s						
STVI	**Saint Thomas**	**29.03**	**33**	*e*P	**P**	**00 26 03.1**	**-0.7**
	comp=Z,38nm,1.2s						
GRTK	**Grand Turk**	**29.10**	**19**	*e*P	**P**	**00 26 04.3**	**-0.1**
	comp=Z,480nm,1.9s						
GRTK				LR	LR		
	comp=Z,2μm,22.0s						
GDHS	**Morne Mazeau,**	**29.31**	**41**	*e*P	**P**	**00 26 05.4**	**-0.9**
	comp=Z,197nm,1.5s						
SABA	**Saba**	**29.41**	**37**	*e*P	**P**	**00 26 06.4**	**-0.8**
	comp=Z,101nm,1.0s						
SEUS	**St. Eustatius**	**29.47**	**37**	*e*P	**P**	**00 26 06.7**	**-1.0**
	comp=Z,183nm,1.0s						
SKI	**Saint Kitts**	**29.49**	**38**	*e*P	**P**	**00 26 07.0**	**-1.0**
	comp=Z,134nm,1.2s						
ABVI	**Anegada Island**	**29.67**	**34**	*e*P	**P**	**00 26 08.2**	**-1.2**
	comp=Z,434nm,1.6s						
SMRT	**St. Maarten**	**29.85**	**36**	*e*P	**P**	**00 26 10.9**	**-0.2**
	comp=Z,48nm,0.9s						
CPUP	**Villa Florida**	**30.33**	**134**	P	**P**	**00 26 16.1**	**+0.8**
	comp=Z,3.7nm,0.9s,baz=314,slow=7.6,SNR=8.4						
CPUP				LR	LR	00 39 57.1	
	comp=Z,3μm,19.8s,baz=312,slow=39						
ANWB	**Willy Bob**	**30.34**	**39**	PFAKE		00 26 30.0	+15
ANWB				LR	LR		
	comp=Z,3μm,22.0s						
RPN	**Rapa Nui**	**34.05**	**229**	PFAKE		00 27 00.0	+12
RPN				LR	LR		
	comp=Z,2μm,21.0s						
ZAIG	**Zacatecas**	**35.53**	**324**	*e*P	**P**	**00 27 02.8**	**+1.7

baz=162
736A Circle Diamond 38.07 337 P P 00 27 23.2 +1.0
baz=154
346A Big Creek Wild 38.09 348 P P 00 27 23.1 +0.7
baz=166
540A Vidor 38.13 342 P P 00 27 23.7 +0.9
baz=159
345A Thompson Farm, 38.13 348 P P 00 27 23.5 +0.7
baz=165
637A Eagle Lake 38.22 338 P P 00 27 24.6 +1.1
baz=155
735A Kenedy 38.27 336 P P 00 27 25.1 +1.2
baz=152
539A Cross D Ranch, 38.27 341 P P 00 27 24.9 +1.0
baz=158
441A DeRidder 38.40 343 P P 00 27 26.1 +1.2
baz=160
344A Westbrook Farm 38.43 347 P P 00 27 26.1 +0.9
baz=164
248A Dixon Mills 38.48 351 P P 00 27 26.7 +1.1
baz=169
833A Chaparral WMA, 38.48 334 P P 00 27 26.5 +0.8
baz=150
343A Vidalia 38.48 345 P P 00 27 26.4 +0.8
baz=163
636A Smothers Creek 38.53 337 P P 00 27 26.8 +0.7
baz=154
734A La Parita Cree 38.57 335 P P 00 27 27.7 +1.2
baz=151
247A Quitman 38.58 350 P P 00 27 27.1 +0.6
baz=168
832A Faith Ranch, C 38.70 333 P P 00 27 28.6 +0.9
baz=149
635A Leesville 38.73 336 P P 00 27 28.9 +1.1
baz=153
342A Flagon Creek P 38.75 345 P P 00 27 28.9 +1.0
baz=162
733A Divot King Ran 38.78 334 P P 00 27 29.3 +1.1
baz=150
537A Green Hill Far 38.80 339 P P 00 27 29.3 +1.0
baz=155
245A Little AP, Sta 38.81 348 P P 00 27 29.1 +0.8
baz=166
341A Kurthwood 38.94 343 P P 00 27 30.7 +1.2
baz=160
634A China Grove, S 38.96 336 P P 00 27 31.1 +1.4
baz=152
NHSC New Hope 38.97 1 eP P 00 27 30.0 +0.3
comp=Z,71nm,1.1s
NHSC LR LR
comp=Z,2µm,22.0s
244A Avery, Jackson 38.99 347 P P 00 27 30.8 +0.9
baz=165
243A Waterproof 39.02 346 P P 00 27 31.4 +1.2
baz=163
147A Livingston 39.13 350 P P 00 27 32.3 +1.2
baz=168
535A Dale 39.22 337 P P 00 27 33.0 +1.1
baz=153
340A Bronson 39.23 343 P P 00 27 32.9 +1.0
baz=160
146A Union 39.23 349 P P 00 27 33.0 +1.0
baz=167
GOGA Godfrey 39.33 357 eP P 00 27 31.9 -0.8
comp=Z,16nm,1.0s
GOGA LR LR
comp=Z,3µm,20.0s
339A Huntington 39.35 342 P P 00 27 33.9 +0.9
baz=158
242A Grayson 39.36 345 P P 00 27 33.5 +0.6
baz=162
633A Seathoff Ranch 39.37 335 P P 00 27 34.4 +1.2
baz=151
241A Mo Tay, Goldon 39.52 344 P P 00 27 35.5 +1.1
baz=161
534A Blanco 39.58 336 P P 00 27 36.0 +1.0
baz=152
Z47A Carrollton 39.61 351 P P 00 27 34.3 -0.8
baz=169
338A Crockett 39.62 341 P P 00 27 36.3 +1.1
baz=157
Z48A Northport 39.70 352 P P 00 27 35.5 -0.4
baz=170
Z46A Louisville 39.75 350 P P 00 27 37.5 +1.3
baz=168
142A Monroe 39.77 346 P P 00 27 37.7 +1.4
baz=163
337A Centerville 39.77 340 P P 00 27 37.4 +1.0
baz=156
240A Hunter Patters 39.77 343 P P 00 27 37.3 +0.9
baz=160
NATX Nacogdoches 39.78 342 P P 00 27 38.0 +1.4
baz=158
NATX Nacogdoches 39.78 342 eP P 00 27 37.2 +0.7
comp=Z,23nm,1.0s
NATX LR LR
comp=Z,681nm,20.0s
143A Socs Landing, 39.78 346 P P 00 27 37.8 +1.3
baz=164
533A Kerrville 39.84 335 P P 00 27 38.1 +1.0
baz=151
435B Jarrell 39.90 338 P P 00 27 38.9 +1.4
baz=154
239A Gary 39.96 342 P P 00 27 39.2 +1.2
baz=159
Z45A Winona 40.06 349 P P 00 27 40.0 +1.2
baz=166
141A Papa Simpson, 40.07 344 P P 00 27 40.1 +1.2
baz=161
Z44A Pea Ridge, Bel 40.12 348 P P 00 27 39.2 -0.1
baz=165
JSC Jenkinsville 40.13 360 eP P 00 27 38.6 -0.8
238A Jacksonville 40.15 341 P P 00 27 41.0 +1.4
baz=158
336A Riesel 40.17 339 P P 00 27 41.3 +1.5
baz=155
434A Burnet 40.19 337 P P 00 27 41.0 +1.0
baz=153
Z43A Armstrong Fami 40.23 347 P P 00 27 40.8 +0.5
baz=164
Y47A UCPARC, Winfie 40.27 351 P P 00 27 39.2 -1.3
baz=169
140A Cam and Jess, 40.28 344 P P 00 27 41.8 +1.1
baz=160
335A Moody 40.29 338 P P 00 27 41.7 +1.0
baz=154
237A Washetta, Mont 40.37 341 P P 00 27 42.2 +0.8
baz=157
Y46A Houston 40.41 350 P P 00 27 40.7 -1.0
baz=168,SNR=6.7
433A Art 40.47 336 P P 00 27 42.5 +0.3
baz=152
Y45A Yeager Farm, C 40.52 349 P P 00 27 43.0 +0.4
baz=167
HPIG 40.53 325 eP P 00 27 43.8 +0.7
comp=Z,51nm,2.0s
139A Bunkhouse Ranc 40.56 343 P P 00 27 43.7 +0.7
baz=159
236A Katherine and 40.62 340 P P 00 27 44.4 +0.9
baz=156
334A Lometa 40.64 337 P P 00 27 44.9 +1.2
baz=153
Z41A Richland Creek 40.66 345 P P 00 27 45.3 +1.5
baz=162
138A Matatall Enter 40.75 342 P P 00 27 45.2 +0.6
baz=158
SLBS Sierra La Lagu 40.83 317 eP P 00 27 47.4 +1.9
comp=Z,18nm,0.9s
137A Heron Place, G 40.90 341 P P 00 27 46.7 +0.9
baz=157
WHTX Lake Whitney, 40.94 339 P P 00 27 47.3 +1.2
baz=155
Y42A Garnett, Star 40.96 346 P P 00 27 46.2 -0.1
baz=164
KMSC Kings Mountain 40.99 360 P P 00 27 45.9 -0.7
baz=180,SNR=5.2
KMSC Kings Mountain 40.99 360 eP P 00 27 45.9 -0.7
comp=Z,36nm,1.1s
Z39A Irene McRaven, 41.02 343 P P 00 27 47.0 +0.2
baz=160
X45A UM Field Stati 41.03 350 P P 00 27 48.2 +1.4
baz=167
CCAR Cane Creek 41.03 346 eP P 00 27 48.1 +1.2
comp=Z,46nm,1.1s
136A Ennis 41.05 340 P P 00 27 47.8 +0.8
baz=156
OXF Oxford 41.12 350 eP P 00 27 47.1 -0.4
WLAR White Oak Lake 41.15 345 eP P 00 27 49.8 +2.0
comp=Z,75nm,1.2s
234A Clairette 41.20 338 P P 00 27 48.5 +0.2
baz=154
Y41A Eaglette Beard 41.20 345 P P 00 27 49.2 +1.0
baz=162
X44A Crenshaw 41.25 349 P P 00 27 49.2 +0.6
baz=166
Z38A Mt. Pleasant 41.27 342 P P 00 27 49.5 +0.7
baz=159
BBSR BB Station 41.30 21 eP P 00 27 48.6 -0.5
comp=Z,18nm,1.0s
BBSR LR LR
comp=Z,711nm,20.0s
SWET Sewanee 41.32 354 eP P 00 27 47.5 -1.8
comp=Z,3.3nm,0.8s
TXAR Lajitas Array 41.35 330 P P 00 27 49.4 -0.3
comp=Z,0.7nm,0.8s,baz=146,slow=6.6,SNR=7.3
TXAR LR LR 00 43 23.1
comp=Z,1µm,18.4s,baz=0.0,slow=34
TX31 Lajitas Ar. Si 41.35 330 eP P 00 27 49.8 0.0
PLAL Pickwick Lake 41.36 351 eP P 00 27 48.4 -1.1
comp=Z,11nm,1.3s
X43A Marvell 41.41 348 P P 00 27 50.7 +0.7
baz=165
Z37A Pogue Cattle C 41.42 341 P P 00 27 51.1 +1.1
baz=158
CPCT Cooper Cave 41.42 356 eP P 00 27 48.0 -2.1
comp=Z,8.4nm,0.8s
135A Vickery Place, 41.43 339 P P 00 27 51.0 +0.8
baz=155
Y40A Okolona 41.50 345 P P 00 27 50.9 +0.2
baz=161
233A Rising Star 41.50 337 P P 00 27 51.7 +0.9
baz=153
TKL Tuckaleechee C 41.58 357 P P 00 27 49.2 -2.2
comp=Z,9.8nm,1.1s,baz=161,slow=11,SNR=7.2
TKL Tuckaleechee C 41.58 357 eP P 00 27 49.7 -1.7
comp=Z,27nm,1.1s
Y39A Lockesburg 41.65 344 P P 00 27 53.0 +1.1
baz=160
CHRN Cochrane 41.67 171 eP P 00 27 51.4 -0.5
comp=Z,11nm,1.2s
134A White-Moore Ra 41.69 338 P P 00 27 53.2 +1.0
baz=154
W45A Hickory Valley 41.71 350 P P 00 27 53.5 +1.1
baz=168
Z36A Blue Ridge 41.74 341 P P 00 27 53.7 +1.0
baz=157
X41A Kaden, Bauxite 41.76 346 P P 00 27 54.1 +1.2
baz=163
W44A Shelby Farms P 41.80 349 P P 00 27 54.2 +1.0
baz=167
Y38A Idabel 41.82 343 P P 00 27 53.8 +0.4
baz=159
X40A Basin Creek Fa 41.84 345 P P 00 27 53.8 +0.3
baz=162
UALR University of 41.99 346 eP P 00 27 54.0 -0.7
comp=Z,44nm,1.4s
133A Hamilton Ranch 42.03 337 P P 00 27 55.9 +0.8
baz=153
Z35A Perchaven, San 42.08 340 P P 00 27 56.2 +0.7
baz=156
MIAR Mount Ida 42.08 345 P P 00 27 55.2 -0.3
baz=161,SNR=6.5
MIAR Mount Ida 42.08 345 eP P 00 27 54.4 -1.0
comp=Z,17nm,0.9s
MIAR LR LR
comp=Z,779nm,22.0s
Y37A Hugo 42.14 342 P P 00 27 56.2 +0.3
baz=158,SNR=11
X39A Fountain Ranch 42.19 344 P P 00 27 56.5 +0.2
baz=160,SNR=14
V45A Humboldt 42.24 350 P P 00 27 56.6 -0.1
baz=168
Y36A Durant 42.27 341 P P 00 27 57.8 +0.7
baz=157
ABTX Abilene, Hawle 42.33 337 P P 00 27 57.0 -0.6
baz=152
ABTX Abilene, Hawle 42.33 337 eP P 00 27 58.0 +0.5
comp=Z,21nm,0.9s
W41B Gary Mavity, V 42.35 346 P P 00 27 57.0 -0.6
baz=163,SNR=6.6
X301 Greenbrier Sit 42.45 346 eP P 00 27 57.8 -0.6
comp=Z,24nm,1.2s
WVT Waverly 42.45 352 eP P 00 27 55.7 -2.7
comp=Z,6.0nm,0.8s
TZTN Tazewell 42.45 357 eP P 00 27 57.4 -1.1
comp=Z,21nm,1.1s
WHAR Wooly Hollow 42.47 346 eP P 00 27 57.9 -0.7
comp=Z,66nm,1.6s
X201 Greenbrier Sit 42.49 346 eP P 00 27 58.4 -0.4
comp=Z,56nm,1.7s
Y35A Marietta 42.53 340 P P 00 27 59.7 +0.6
baz=156
X38A Whitesboro 42.54 343 P P 00 27 59.3 +0.1
baz=159,SNR=9.1
W40A Ferguson Farm, 42.56 345 P P 00 27 59.4 +0.1
baz=162,SNR=6.8
Z33A Whitaker Ranch 42.58 338 P P 00 27 59.6 0.0
baz=153
X37A Clayton 42.63 343 P P 00 27 59.9 -0.1
baz=159,SNR=15
GNAR Gosnell 42.64 349 eP P 00 28 00.3 +0.4
W39A Magazine 42.75 345 P P 00 28 00.7 -0.2
baz=161,SNR=12
V42A Cord 42.76 348 P P 00 27 59.8 -1.2
baz=165
Y34A Reagan Ranch, 42.82 339 P P 00 28 01.6 +0.1
baz=155
W38A Poteau 42.83 344 P P 00 28 01.4 -0.2
baz=160
V41A Mountainview 42.91 347 P P 00 28 01.0 -1.2
baz=164,SNR=22
X36A Centrahoma 42.91 341 P P 00 28 01.4 -0.8
baz=157
X35A Drake 42.96 341 P P 00 28 01.9 -0.7
baz=156,SNR=8.5
BLA Blacksburg 43.06 1 eP P 00 28 02.6 -0.9
comp=Z,78nm,1.9s
BLA LR LR
comp=Z,1µm,21.0s
W37B Quinton 43.16 343 P P 00 28 03.8 -0.4
baz=159,SNR=13
Y33A Hilltop Ranch, 43.17 339 P P 00 28 04.1 -0.2
baz=154
PARMO Parma 43.27 350 eP P 00 28 05.5 +0.4
V39A Pettigrew 43.32 345 P P 00 28 04.8 -0.7
baz=162,SNR=7.3
W36A Wetumka 43.40 342 P P 00 28 05.4 -0.7
baz=158
X34A Smith Ranch, M 43.43 340 P P 00 28 06.2 -0.2
baz=155,SNR=10
PBMO Poplar Bluff 43.51 349 eP P 00 28 06.2 -0.8
comp=Z,42nm,1.8s
V38A Canehill 43.55 344 P P 00 28 06.5 -0.9
baz=160,SNR=18
X33A Lawton 43.61 339 P P 00 28 08.2 +0.3
baz=154
W35A Tecumseh 43.61 341 P P 00 28 07.9 0.0
baz=157
U40A Yellville 43.62 346 P P 00 28 07.2 -0.8
baz=163,SNR=14
V37A Hulbert 43.77 343 P P 00 28 08.0 -1.1
baz=159,SNR=9.1
X32A Elmer 43.79 338 P P 00 28 09.4 +0.1
baz=153
U39A Green Forest 43.80 346 P P 00 28 08.9 -0.5
baz=162,SNR=10
HHAR Hobbs 43.82 345 eP P 00 28 09.1 -0.5
comp=Z,29nm,1.2s
WMOK Wichita Mounta 43.89 339 P P 00 28 09.4 -0.7
baz=154
WMOK Wichita Mounta 43.89 339 eP P 00 28 10.3 +0.1
comp=Z,40nm,1.6s
WMOK LR LR
comp=Z,547nm,21.0s
V36A Jenks 43.91 343 P P 00 28 09.7 -0.6
baz=158
TUL1 Leonard 43.98 343 P P 00 28 10.2 -0.6
baz=159,SNR=9.6
TUL1 Leonard 43.98 343 eP P 00 28 10.2 -0.6
comp=Z,37nm,0.8s
W34A Bridge Creek, 43.98 340 P P 00 28 10.5 -0.4
baz=156
W34A Bridge Creek, 43.98 340 eP P 00 28 10.9 0.0
comp=Z,136nm,1.7s
T41A Mountain View 44.03 348 P P 00 28 09.7 -1.5
baz=164,SNR=7.6
S45A Carrier Mills 44.08 351 P P 00 28 10.3 -1.3
baz=169
U38A Gravette 44.08 345 P P 00 28 10.8 -0.9
baz=161,SNR=10
MNTX Cornudas Mount 44.13 330 P P 00 28 11.7 -0.4
baz=144,SNR=9.8
MNTX Cornudas Mount 44.13 330 eP P 00 28 13.0 +0.9
comp=Z,18nm,1.1s
MNTX LR LR
comp=Z,1µm,20.0s
W33A Caddo, Fort Co 44.15 339 P P 00 28 13.1 +0.9
baz=155
V35A Meyer Ranch, C 44.16 342 P P 00 28 11.0 -1.3
baz=157,SNR=6.1
CBN Corbin Frederi 44.18 4 eP P 00 28 12.1 -0.3
comp=Z,14nm,0.8s
CBN LR LR
comp=Z,1µm,19.0s
S44A Carbondale 44.20 351 P P 00 28 10.9 -1.6
baz=168
SIUC Southern Illin 44.21 351 eP P 00 28 12.4 -0.2
comp=Z,25nm,0.8s
S43A Fulton Ridge, 44.22 350 P P 00 28 10.6 -2.1
baz=167,SNR=5.4
USIN University of 44.23 353 eP P 00 28 12.7 -0.1
comp=Z,19nm,0.9s
U37A Salina 44.25 344 P P 00 28 12.4 -0.6
baz=160
T40A Mansfield 44.30 347 P P 00 28 12.2 -1.2
baz=164
T39A Clever 44.38 346 P P 00 28 12.5 -1.5
baz=162,SNR=14
W32A Sentinel 44.40 339 P P 00 28 13.4 -0.8
baz=154,SNR=14
U36A Oologah 44.41 343 P P 00 28 13.3 -0.9
baz=159,SNR=6.1
V34A Guthrie 44.45 341 P P 00 28 13.7 -0.9
baz=156
V34A Guthrie 44.45 341 eP P 00 28 12.8 -1.7
comp=Z,35nm,0.8s
T38A Diamond 44.62 345 P P 00 28 15.0 -0.9
baz=161
V33A Lossen Ranch, 44.69 340 P P 00 28 15.8 -0.8
baz=155,SNR=9.2
U35A Pawnee 44.69 342 P P 00 28 16.5 0.0
baz=158,SNR=5.3
R44A Waltonville 44.71 351 P P 00 28 15.0 -1.6
baz=168
S40A Lebanon 44.73 347 P P 00 28 16.0 -0.7
baz=164,SNR=5.8
MSTX Muleshoe 44.80 334 P P 00 28 17.6 0.0
baz=148,SNR=12
MSTX Muleshoe 44.80 334 eP P 00 28 17.5 0.0
comp=Z,25nm,0.9s
SRIG Santa Rosalia 44.82 319 eP P 00 28 18.0 +0.4
comp=Z,21nm,0.9s
V32A Arapaho 44.86 339 P P 00 28 17.7 -0.2
baz=154
T37A Cheneyville 18 44.87 344 P P 00 28 17.4 -0.5
baz=160,SNR=9.9
RCBR Riachuelo 44.95 92 PFAKE 00 28 30.0 +11
RCBR LR LR
comp=Z,4µm,20.0s
S39A Bolivar 45.00 346 P P 00 28 17.8 -1.2
baz=162,SNR=19
U34A Anderson Ranch 45.00 341 P P 00 28 18.4 -0.5
baz=156
U34A Anderson Ranch 45.00 341 eP P 00 28 18.5 -0.5
comp=Z,28nm,0.8s
OLIL Olney 45.05 352 eP P 00 28 18.6 -0.7
comp=Z,16nm,0.8s
T36A Boggs Farm, Ca 45.08 343 P P 00 28 18.8 -0.8
baz=159
S38A Stockton 45.09 346 P P 00 28 18.7 -0.9
baz=162,SNR=9.2
AMTX Amarillo 45.12 336 P P 00 28 20.2 +0.1
baz=150
AMTX Amarillo 45.12 336 eP P 00 28 20.7 +0.6
comp=Z,16nm,0.7s
T35A Sooner Cattle 45.13 343 P P 00 28 19.4 -0.6
baz=158
U33A Lingo Farm, Me 45.19 341 P P 00 28 20.1 -0.4
baz=156
BLO Bloomington 45.29 354 eP P 00 28 21.2 0.0
comp=Z,7.2nm,0.8s
R40A Maddies Statio 45.34 348 P P 00 28 20.4 -1.3
baz=164,SNR=6.9
Q44A Meyer Farm, Va 45.34 351 P P 00 28 19.5 -2.1
baz=169
SDMD Soldier's Deli 45.42 5 eP P 00 28 21.9 -0.3
comp=Z,8.7nm,1.3s
T34A McClaskey Farm 45.43 342 P P 00 28 21.8 -0.6
baz=157
U32A Winter Ranch, 45.44 340 P P 00 28 22.3 -0.2
baz=154
S37A Fort Scott 45.44 345 P P 00 28 21.9 -0.5
baz=160
Q43A New Douglas 45.49 351 P P 00 28 20.6 -2.2
baz=168
R39A Chumby, Stover 45.53 347 P P 00 28 21.9 -1.3
baz=163
Q42A Golden Eagle 45.60 350 P P 00 28 22.4 -1.3
baz=167
R38A Fenwick Farm, 45.61 346 P P 00 28 22.9 -0.9
baz=162,SNR=10.0
S36A Lake Cedric, C 45.62 344 P P 00 28 23.2 -0.6
baz=160,SNR=5.6
S35A Otter Creek Ra 45.78 343 P P 00 28 24.6 -0.6
baz=158
T33A Patterson Ranc 45.82 341 P P 00 28 26.4 +0.9
baz=156
319A Douglas 45.95 326 eP P 00 28 27.4 +0.7
comp=Z,24nm,0.9s
Q40A Laux Farm, Aux 45.98 348 P P 00 28 25.7 -1.0
baz=165,SNR=15
121A Cookes Peak, D 46.02 328 P P 00 28 28.2 +0.8
baz=142,SNR=5.1
121A Cookes Peak, D 46.02 328 eP P 00 28 28.6 +1.3
comp=Z,21nm,1.1s
S34A Willow Spring 46.03 342 P P 00 28 26.7 -0.5
baz=158
MVL Millersville 46.05 5 eP P 00 28 25.4 -1.7
comp=Z,39nm,1.7s
ACSO Alum Creek Sta 46.10 358 eP P 00 28 27.1 -0.6
comp=Z,30nm,1.3s
ACSO LR LR
comp=Z,2µm,20.0s
T32A Huddler Ranch, 46.14 340 P P 00 28 28.1 0.0
baz=155
R36A Gordon, Harris 46.15 344 P P 00 28 27.5 -0.6
baz=160
O56A Blue Knob Stat 46.17 3 P P 00 28 27.4 -0.8
baz=183
S33A Kaszmaul Farm, 46.21 341 P P 00 28 28.3 -0.3
baz=156
Q39A Willow Grove F 46.22 347 P P 00 28 28.1 -0.5
baz=163
Q38A Cooks Store, C 46.28 346 P P 00 28 27.8 -1.2
baz=162
R35A Emporia Munici 46.34 344 P P 00 28 29.1 -0.5
baz=159
Q37A Longview Farm, 46.40 346 P P 00 28 29.8 -0.2
baz=161
P41A Barry, Barry 46.44 349 P P 00 28 29.5 -0.8
baz=166
P40A Paris 46.49 348 P P 00 28 30.0 -0.6
baz=165
SFIN Lafayette 46.55 354 P P 00 28 28.9 -2.2
baz=172
SFIN Lafayette 46.55 354 eP P 00 28 29.0 -2.2
comp=Z,10nm,0.8s
SSPA Standing Stone 46.57 3 eP P 00 28 30.4 -0.8
comp=Z,44nm,1.8s
P39B Salisbury 46.59 348 P P 00 28 30.5 -1.0
baz=164
R34A Isabella, Hill 46.63 342 P P 00 28 31.3 -0.5
baz=158
BNM Barren Site 46.72 331 eP P 00 28 33.2 +0.3
LUPA Lehigh Univers 46.74 6 eP P 00 28 32.5 0.0
comp=Z,53nm,1.6s
Q36A Arnold C. Orve 46.74 345 P P 00 28 31.8 -0.8
baz=160
Q35A Mercer Eighty, 46.80 344 P P 00 28 32.1 -1.0
baz=159,SNR=10.0
N54A Moraine State 46.81 1 P P 00 28 31.8 -1.4
baz=181
O41A Passleys Farm, 46.83 350 P P 00 28 31.3 -2.1
baz=166

LPM	Los Pinos Moun	46.86	331	eP		P	00 28 34.4	+0.5
LPM				eP	P	pP	00 28 43.6	+0.7
R33A	Olander Ranch, baz=157	46.86	342	P		P	00 28 32.0	-1.6
P38A	Dawn baz=163	46.90	347	P		P	00 28 33.0	-0.9
BRNJ	Basking Ridge	46.91	7	eP		P	00 28 33.9	0.0
HDIL	Hopedale baz=169	47.01	351	P		P	00 28 32.6	-2.1
HDIL	Hopedale comp=Z,19nm,0.8s	47.01	351	eP		P	00 28 32.8	-1.9
HDIL				LR	LR			
	comp=Z,572nm,19.0s							
N59A	State Game Lan baz=187,SNR=9.3	47.01	6	P		P	00 28 33.7	-1.1
O40A	La Belle baz=165	47.02	349	P		P	00 28 33.2	-1.7
P37A	Lathrop baz=162	47.05	346	P		P	00 28 33.5	-1.6
Q34A	Chapman baz=158,SNR=8.5	47.11	343	P		P	00 28 34.8	-0.8
LAZ	Ladron	47.18	330	eP		P	00 28 39.2	+2.8
KSU1	Kansas State U baz=159,SNR=5.9	47.19	344	P		P	00 28 35.1	-1.1
KSU1	Kansas State U comp=Z,39nm,0.8s	47.19	344	eP		P	00 28 35.3	-0.8
KSU1				LR	LR			
	comp=Z,707nm,22.0s							
R32A	Long Quarter, baz=156	47.20	341	P		P	00 28 35.5	-0.8
ANMO	Albuquerque	47.29	331	P		P	00 28 36.3	-0.9
	comp=Z,7.8nm,0.9s,baz=158,slow=11,SNR=11							
ANMO	Albuquerque baz=144	47.29	331	P		P	00 28 37.4	+0.1
ANMO	Albuquerque comp=Z,16nm,0.9s	47.29	331	eP		P	00 28 37.2	0.0
ANMO				LR	LR			
	comp=Z,1μm,19.0s							
O39A	Kirksville baz=164,SNR=6.1	47.29	348	P		P	00 28 35.6	-1.3
P36A	Good Intent, A baz=161	47.30	345	P		P	00 28 35.7	-1.2
P35A	Duane Minner, baz=160	47.42	344	P		P	00 28 37.0	-1.0
Q33A	Connelly Farm, baz=157	47.45	342	P		P	00 28 37.7	-0.5
TUC	Tucson baz=138	47.49	325	P		P	00 28 38.1	-0.7
TUC	Tucson comp=Z,8.0nm,0.8s	47.49	325	eP		P	00 28 40.3	+1.6
TUC				LR	LR			
	comp=Z,2μm,20.0s							
O37A	Wolven Farm, M baz=162	47.55	346	P		P	00 28 40.3	+1.3
P34A	Walnut Farm, R baz=158	47.66	344	P		P	00 28 38.9	-0.9
Q32A	Meitler Ranch, baz=156,SNR=7.4	47.66	342	P		P	00 28 39.5	-0.4
O36A	Bolckow baz=161	47.72	346	P		P	00 28 39.7	-0.5
P33A	Williams Farm, baz=157	47.81	343	P		P	00 28 40.5	-0.5
N39A	Derby Farms, D baz=164,SNR=8.9	47.88	348	P		P	00 28 40.0	-1.4
CBKS	Cedar Bluff baz=154	47.89	340	P		P	00 28 42.1	+0.5
N38A	Joes South For baz=164	47.95	348	P		P	00 28 41.0	-1.1
O35A	Humboldt baz=160	48.08	345	P		P	00 28 43.7	+0.6
N37A	Lee Faris, Mou baz=162	48.13	347	P		P	00 28 44.1	+0.6
T25A	Trinidad baz=148	48.19	335	P		P	00 28 45.0	+0.7
T25A	Trinidad comp=Z,22nm,0.9s	48.19	335	eP		P	00 28 44.7	+0.5
AAM	Ann Arbor	48.20	357	PFAKE			00 29 00.0	+16
AAM				LR	LR			
	comp=Z,3μm,20.0s							
O34A	Beatrice baz=159,SNR=7.1	48.22	344	P		P	00 28 43.5	-0.6
P32A	Huiting Farm, baz=158	48.26	342	P		P	00 28 44.2	-0.3
BINY	Binghamton comp=Z,23nm,0.9s	48.26	5	eP		P	00 28 42.8	-1.7
BINY				LR	LR			
	comp=Z,1μm,20.0s							
O33A	Hebron baz=158,SNR=6.6	48.37	343	P		P	00 28 44.6	-0.7
214A	Organ Pipe Nat baz=136,SNR=9.2	48.41	323	P		P	00 28 45.9	+0.1
214A	Organ Pipe Nat comp=Z,76nm,1.1s	48.41	323	eP		P	00 28 46.0	+0.1
M38A	Pleasantville baz=164	48.54	348	P		P	00 28 46.2	-0.4
N35A	Tabor baz=160	48.58	345	P		P	00 28 45.5	-1.4
L41A	Preston baz=167,SNR=5.5	48.68	351	P		P	00 28 45.7	-1.9
M37A	Trindle Farm, baz=163	48.71	347	P		P	00 28 46.5	-1.4
O32A	Brockman Farm, baz=157,SNR=5.8	48.74	343	P		P	00 28 47.6	-0.7
N34A	Lincoln baz=159	48.77	344	P		P	00 28 47.3	-1.1
M36A	Felix, Anita baz=162	48.93	346	P		P	00 28 48.3	-1.3
N33A	J Bar K, Exete baz=158	48.94	344	P		P	00 28 48.4	-1.3
O31A	Woolen Ranch, baz=156	48.97	341	P		P	00 28 49.2	-0.8
L39A	Vinton baz=165	48.98	349	P		P	00 28 47.9	-2.1
SCIA	State Center comp=Z,28nm,0.8s	49.01	348	eP		P	00 28 49.1	-1.1
SCIA				LR	LR			
	comp=Z,620nm,19.0s							
TRY	Troy comp=Z,52nm,1.1s	49.04	7	eP		P	00 28 49.6	-0.7
W18A	Petrified Fore baz=141	49.05	329	P		P	00 28 50.0	-0.9
KSCO	Kaye Shedlock' baz=151	49.09	338	P		P	00 28 50.4	-0.6
M35A	Neola baz=160	49.16	346	P		P	00 28 50.2	-1.1
SDCO	Great Sand Dun baz=147,SNR=12	49.16	334	P		P	00 28 51.5	-0.3
SDCO	Great Sand Dun	49.16	334	PFAKE			00 29 00.0	+8.2
SDCO				LR	LR			
	comp=Z,649nm,22.0s							
L38A	Oak Wood Farm, baz=164,SNR=20	49.19	348	P		P	00 28 49.8	-1.7
N32A	Stulken Farm, baz=157	49.21	343	P		P	00 28 50.2	-1.6
EFI	East Falkland	49.30	161	PFAKE			00 29 10.0	+18
EFI				LR	LR			
	comp=Z,2μm,20.0s							
L37A	Phoenix Point, baz=163	49.34	348	P		P	00 28 50.8	-1.9
K40A	Colesburg baz=167,SNR=11	49.39	350	P		P	00 28 50.9	-2.2
M34A	Aspy Farms, Fr baz=159	49.42	345	P		P	00 28 51.7	-1.7
X16A	Lo Mia Camp, P comp=Z,9.2nm,0.8s	49.43	327	eP		P	00 28 57.2	+3.5
JFWS	Jewell Farm comp=Z,12nm,0.8s	49.46	351	eP		P	00 28 50.8	-2.8
JFWS				LR	LR			
	comp=Z,906nm,20.0s							
N31A	Bailey Ranch, baz=156	49.46	342	P		P	00 28 52.4	-1.4
L36A	Harm Buss Farm baz=162	49.51	347	P		P	00 28 52.3	-1.8
K39A	Oelwein baz=166,SNR=7.0	49.53	350	P		P	00 28 51.9	-2.2
113A	Mohawk Valley, comp=Z,34nm,1.8s	49.55	323	eP		P	00 28 56.6	+2.1
K38A	Parkersburg baz=165,SNR=5.1	49.64	349	P		P	00 28 53.3	-1.7
M33A	Taylor Creek F baz=159	49.65	344	P		P	00 28 55.7	+0.6
USHA	Ushuaia	49.68	170	P		P	00 28 56.4	+1.3
	comp=Z,38nm,0.9s,baz=325,slow=16,SNR=3.5							
L35A	Bielow Farm, R baz=161	49.73	346	P		P	00 28 53.8	-2.0
S22A	4UR Ranch, Cre baz=146	49.75	333	P		P	00 28 56.7	+0.5
BGNE	Belgrade	49.76	343	P		P	00 28 55.7	-0.3
	baz=157							
L34A	Svendsen Farm, baz=160	49.80	345	P		P	00 28 56.6	+0.3
K37A	Belmond baz=164,SNR=13	49.93	348	P		P	00 28 55.4	-1.8
M31A	Lambtecht Ranc baz=156	49.95	342	P		P	00 28 57.6	+0.2
Y14A	Wickenburg	49.95	325	eP		P	00 28 59.0	+1.5
K36A	Gilmore City baz=162	49.98	347	P		P	00 28 56.4	-1.1
Q24A	Divide baz=148	50.04	336	P		P	00 28 58.4	-0.2
FFD	Franklin Falls comp=Z,36nm,1.0s	50.05	9	eP		P	00 28 58.4	+0.3
MVCO	Mesa Verde baz=143	50.09	331	P		P	00 28 59.4	+0.6
MVCO	Mesa Verde	50.09	331	PFAKE			00 29 10.0	+11
MVCO				LR	LR			
	comp=Z,1μm,19.0s							
J39A	Decorah baz=166,SNR=19	50.10	350	P		P	00 28 56.4	-2.1
WUAZ	Wupatki baz=139	50.22	328	P		P	00 29 00.0	+0.3
WUAZ	Wupatki comp=Z,16nm,0.8s	50.22	328	eP		P	00 29 02.4	+2.7
WUAZ				LR	LR			
	comp=Z,3μm,19.0s							
L33A	Hoskins baz=159	50.22	344	P		P	00 28 59.9	+0.4
J38A	Wedel Dairy, R baz=165,SNR=5.8	50.23	349	P		P	00 28 57.2	-2.3
L32A	Elgin baz=158	50.27	344	P		P	00 28 58.9	-1.0
GLA	Glamis baz=134	50.39	323	P		P	00 29 01.3	+0.4
K34A	Le Mars baz=160	50.41	346	P		P	00 28 59.4	-1.4
J37A	Redenius Farm, baz=164,SNR=6.7	50.43	348	P		P	00 28 59.2	-1.8
OGNE	Ogallala baz=152	50.58	339	P		P	00 29 02.8	+0.5
OGNE	Ogallala	50.58	339	PFAKE			00 29 10.0	+7.7
OGNE				LR	LR			
	comp=Z,533nm,19.0s							
J36A	Seneca 1, Swea baz=163,SNR=17	50.61	348	P		P	00 29 01.1	-1.2
SADO	Sadowa	50.64	2	P		P	00 28 59.3	-3.2
	comp=Z,4.3nm,0.6s,baz=203,slow=9.4,SNR=7.7							
SADO	Sadowa comp=Z,49nm,1.9s	50.64	2	eP		P	00 29 00.0	-2.5
L31A	Butterfield Fa baz=157	50.67	343	P		P	00 29 03.3	+0.4
Y12C	Blythe baz=135	50.70	324	P		P	00 29 03.9	+0.8
Y12C	Blythe comp=Z,19nm,1.1s	50.70	324	eP		P	00 29 06.7	+3.5
LONY	Lake Ozonia comp=Z,36nm,1.6s	50.80	6	eP		P	00 29 02.3	-1.4
LONY				LR	LR			
	comp=Z,956nm,20.0s							
J35A	Milford baz=162	50.84	347	P		P	00 29 05.3	+1.2
PV01	Paradox Valley	50.86	332	eP		P	00 29 05.7	+1.1
PDMCI	Parker Dam,Lak baz=136	50.86	324	P		P	00 29 04.5	+0.1
K32A	Verdigre baz=158	50.87	344	P		P	00 29 04.4	+0.1
IKP	In-Ko-Pah, Jac baz=133	50.90	321	P		P	00 29 05.1	+0.3
I38A	Scanlan Farm, baz=165,SNR=7.8	50.90	350	P		P	00 29 02.5	-2.0
SWSC	Sam W. Stewart baz=133	50.90	322	P		P	00 29 05.2	+0.4
J34A	George baz=161	50.94	346	P		P	00 29 04.5	-0.3
ISCO	Idaho Springs baz=148	50.94	336	P		P	00 29 05.4	+0.1
ISCO	Idaho Springs comp=Z,10nm,0.9s	50.94	336	eP		P	00 29 05.0	-0.3
ISCO				LR	LR			
	comp=Z,1μm,21.0s							
SMCO	Snowmass comp=Z,26nm,1.5s	50.99	334	eP		P	00 29 06.8	+0.9
K31A	O'Neill baz=157	51.06	343	P		P	00 29 06.5	+0.7
PV05	Paradox Valley	51.06	332	eP		P	00 29 10.4	+4.2
I37A	Lemond, Waseca baz=164	51.08	349	P		P	00 29 05.5	-0.3
BC3	Big Chuckawall baz=134	51.18	323	P		P	00 29 07.1	+0.2
I36A	Fitzsimmons Fa baz=163	51.20	348	P		P	00 29 05.7	-1.1
MONP2	Monument Peak baz=132	51.25	321	P		P	00 29 08.1	+0.5
PV10	Paradox Valley	51.27	332	eP		P	00 29 11.3	+3.6
W13A	Hualapai Mount comp=Z,10nm,0.8s	51.29	325	eP		P	00 29 09.0	+1.1
IRM	Iron Mountain baz=134	51.35	324	P		P	00 29 08.7	+0.6
K30A	Basset baz=156	51.35	343	P		P	00 29 07.3	-0.7
U15A	North Rim comp=Z,8.6nm,1.1s	51.39	328	eP		P	00 29 11.6	+2.9
PV09	Paradox Valley	51.42	332	eP		P	00 29 11.9	+3.0
ECSD	EROS Data Cent baz=160,SNR=12	51.52	346	P		P	00 29 07.0	-2.2
ECSD	EROS Data Cent comp=Z,6.9nm,0.6s	51.52	346	eP		P	00 29 07.0	-2.2
ECSD				LR	LR			
	comp=Z,653nm,20.0s							
H37A	Dierke Farm, C baz=165	51.53	349	P		P	00 29 09.5	+0.3
I34A	Hadley baz=161	51.63	346	P		P	00 29 11.1	+1.1
109C	Camp Elliot, M baz=132	51.68	321	P		P	00 29 10.8	+0.2
H36A	Jessenland, He baz=164	51.72	348	P		P	00 29 10.1	-0.6
BELC	Belle Mtn. Jos baz=134	51.75	323	P		P	00 29 10.2	-1.1
TPFO	Pinon Flats baz=133	51.76	322	P		P	00 29 10.7	-0.6
PFO	Pinyon Flats O	51.76	322	P		P	00 29 10.6	-0.8
	comp=Z,2.5nm,0.8s,baz=264,slow=19,SNR=1.8							
PFO	Pinyon Flats O baz=133	51.76	322	P		P	00 29 10.9	-0.5
PFO	Pinyon Flats O comp=Z,4.3nm,0.8s	51.76	322	eP		P	00 29 12.7	+1.3
PFO				LR	LR			
	comp=Z,1μm,19.0s							
I33A	Coleman baz=160	51.86	346	P		P	00 29 10.0	-1.8
J30A	Dallas baz=156	51.91	343	P		P	00 29 11.2	-0.9
N23A	Red Feather La baz=148	52.00	336	P		P	00 29 13.7	+0.6
I32A	Karley and Nic baz=159	52.01	345	P		P	00 29 12.4	-0.5
H35A	Sunnyside Ranc baz=162,SNR=6.8	52.02	348	P		P	00 29 11.3	-1.6
GMRC	Granite Mounta baz=134	52.09	324	P		P	00 29 14.5	+0.7
KNB	Kanab comp=Z,11nm,1.1s	52.11	328	eP		P	00 29 16.9	+3.0
SPMN	Marine on St. baz=165,SNR=6.2	52.13	350	P		P	00 29 11.7	-2.0
PKME	Peaks-Kenny Pk	52.19	11	PFAKE			00 29 30.0	+16
PKME				LR	LR			
	comp=Z,906nm,20.0s							
H34A	Spellman Lake, baz=161,SNR=6.7	52.20	347	P		P	00 29 12.6	-1.6
MURC	Murrieta baz=132	52.21	322	P		P	00 29 15.0	+0.5
G36A	St. Michael baz=164	52.32	349	P		P	00 29 13.1	-2.0
O20A	White River Ci baz=145	52.34	334	P		P	00 29 16.6	+1.0
COWI	Conover	52.43	353	PFAKE			00 29 30.0	+14
COWI				LR	LR			
	comp=Z,1μm,22.0s							
H33A	Prehn Over Nor baz=160,SNR=5.7	52.44	346	P		P	00 29 14.4	-1.7
H32A	Carlson Farm, baz=159	52.45	345	P		P	00 29 14.6	-1.5
MTPU	Mount Pierson comp=Z,14nm,1.5s	52.56	329	eP		P	00 29 19.5	+2.1
SRU	San Rafael Swe comp=Z,10nm,1.0s	52.56	331	eP		P	00 29 18.2	+0.9
H31A	Wolsey baz=158	52.70	344	P		P	00 29 16.9	-1.0
TUQ	Turquoise Moun baz=134	52.70	324	P		P	00 29 19.4	+1.1
G34A	Benson baz=162	52.72	347	P		P	00 29 19.1	+1.0
SUSD	Miller baz=157	52.79	344	P		P	00 29 19.2	+0.5
CCUT	Cedar City comp=Z,17nm,1.1s	52.80	328	eP		P	00 29 21.2	+2.1
G33A	Ortonville baz=161,SNR=5.2	52.85	346	P		P	00 29 17.2	-1.9
F36A	Milaca baz=164,SNR=11	52.88	349	P		P	00 29 17.7	-1.5
MSU	Marysvale	52.91	329	eP		P	00 29 23.2	+3.3
BFSC	Mount Baldy Ra baz=132	52.92	322	P		P	00 29 19.4	-0.5
SHPR	Sheep Range comp=Z,20nm,1.5s	53.02	326	eP		P	00 29 23.9	+3.3
F35A	Swanville baz=163	53.08	348	P		P	00 29 19.2	-1.5
GSC	Goldstone, Bar baz=133	53.12	323	P		P	00 29 22.2	+0.8
GSC	Goldstone, Bar comp=Z,9.3nm,1.0s	53.12	323	eP		P	00 29 24.8	+3.5
F34A	Alexandria baz=162	53.16	348	P		P	00 29 19.7	-1.7
G32A	Webster baz=159	53.17	346	P		P	00 29 21.8	+0.4
SHOC	Shoshone, Teco baz=134	53.23	324	P		P	00 29 22.7	+0.7
E37A	Wrenshall baz=166	53.36	350	P		P	00 29 23.3	+0.6
F33A	5 Mile Ranch, baz=161	53.43	347	P		P	00 29 21.7	-1.6
SNCC	San Nicolas Is baz=130	53.45	320	P		P	00 29 24.5	+0.8
E36A	McGregor baz=165	53.46	350	P		P	00 29 22.3	-1.2
G30A	Faulkton baz=157	53.48	344	P		P	00 29 23.1	-0.6
EDW2	Edwards Air Fo baz=132	53.55	322	P		P	00 29 23.9	-0.6
BLG	Laguna Peak, P baz=131	53.71	321	P		P	00 29 26.3	+0.7
K22A	Casper baz=148	53.72	337	P		P	00 29 26.1	+0.4
K22A	Casper comp=Z,14nm,0.9s	53.72	337	eP		P	00 29 26.8	+1.1
LRMC	Laurel Mtn Rad baz=133	53.77	323	P		P	00 29 27.0	+0.9
E34A	Wadena baz=162	53.83	348	P		P	00 29 26.3	+0.1
F31A	Hecla baz=159	53.92	345	P		P	00 29 25.5	-1.4
D37A	Cotton baz=166,SNR=8.1	53.94	350	P		P	00 29 26.0	-1.0
TPNV	Topopah Spring baz=135	53.95	325	P		P	00 29 28.1	+0.7
TPNV	Topopah Spring comp=Z,16nm,1.2s	53.95	325	eP		P	00 29 30.9	+3.4
FURC	Furnace Creek, baz=134	53.96	324	P		P	00 29 27.9	+0.6
E33A	Westby DABS, E baz=161	54.00	347	P		P	00 29 26.0	-1.5
MPMC	Manual Prospec baz=133	54.05	324	P		P	00 29 28.4	+0.2
RSSD	Black Hills baz=151	54.08	340	P		P	00 29 27.8	-0.5
RSSD	Black Hills comp=Z,20nm,1.3s	54.08	340	eP		P	00 29 27.9	-0.5
D36A	Goodland baz=165	54.08	350	P		P	00 29 26.0	-2.0
D35A	Remer baz=164,SNR=9.5	54.15	349	P		P	00 29 26.4	-2.2
ARVC	Arvin baz=131	54.23	322	P		P	00 29 29.9	+0.5
C39A	Grand Marais baz=169	54.24	353	P		P	00 29 28.2	-1.0
C38A	Sawbill Land. baz=167	54.30	352	P		P	00 29 27.3	-2.4
F29A	Eureka baz=157	54.31	344	P		P	00 29 28.8	-1.0
H25A	Fruitdale baz=152	54.37	340	P		P	00 29 30.1	-0.2
ISA	Isabella, Lake baz=132	54.37	323	P		P	00 29 30.5	0.0
D34A	Park Rapids baz=162,SNR=10	54.38	348	P		P	00 29 28.4	-1.8
C37A	Embarrass baz=166,SNR=15	54.45	351	P		P	00 29 29.5	-1.3
E31A	Nome baz=159	54.48	346	P		P	00 29 30.2	-0.8
RKT	Rikitea comp=Z,2μm,26.8s	54.49	246	eS		S	00 37 08.2	-0.7
RKT				eSS		SS	00 40 51.6	-0.2
	comp=Z,378nm,26.8s							
RKT				eLR		LR	00 45 23.9	
	comp=Z,3μm,26.2s,baz=81							
RKT	Rikitea comp=Z,28nm,0.3s	54.49	246	eT		T	01 28 07.1	
DUG	Dugway, Tooele baz=140	54.52	330	P		P	00 29 31.9	+0.3
DUG	Dugway, Tooele comp=Z,13nm,0.9s	54.52	330	eP		P	00 29 34.8	+3.2
DUG				LR	LR			
	comp=Z,995nm,19.0s							
EYMN	Ely baz=167	54.56	351	P		P	00 29 30.8	-0.7
EYMN	Ely comp=Z,24nm,0.9s	54.56	351	eP		P	00 29 30.2	-1.3
EYMN				e			00 29 39.1	
EYMN				LR		LR		
	comp=Z,1μm,20.0s							
D33A	AnnSam, Waubun baz=162	54.57	348	P		P	00 29 30.2	-1.4
R11A	Troy Canyon, C baz=136	54.58	327	P		P	00 29 32.4	+0.4
C36A	Pine Cost Far baz=166,SNR=16	54.59	350	P		P	00 29 30.4	-1.3
GRAC	Grapevine Rang baz=134	54.62	324	P		P	00 29 33.0	+0.7
PKM	Mcpherson Peak baz=130	54.69	321	P		P	00 29 33.6	+0.7
E30A	Jud baz=158	54.69	345	P		P	00 29 31.5	-0.9
C35A	Jirik Farms, M baz=164	54.73	349	P		P	00 29 32.3	-0.5
D32A	Dogwood Acres, baz=160	54.82	347	P		P	00 29 32.0	-1.4
VES	Vestal, Richgr baz=132	54.86	322	P		P	00 29 33.5	-0.3
C34A	RKJ Ranch, Bem baz=163	54.86	349	P		P	00 29 32.4	-1.4
D31A	Mcclaflin, Tow baz=160,SNR=6.7	54.90	346	P		P	00 29 32.3	-1.7
E29A	Napoleon baz=157	54.94	344	P		P	00 29 35.1	+0.8
HWUT	Hardware Ranch comp=Z,24nm,0.8s	55.02	332	eP		P	00 29 34.6	-0.5
HWUT				LR	LR			
	comp=Z,2μm,19.0s							
BW06	Boulder Array baz=145	55.06	335	P		P	00 29 35.6	0.0
BW06	Boulder Array comp=Z,9.1nm,0.9s	55.06	335	eP		P	00 29 35.5	0.0
BW06				LR	LR			
	comp=Z,1μm,19.0s							
PD31	Pinedale Array	55.06	335	eP		P	00 29 35.9	+0.4
PDAR	Pinedale Array	55.06	335	P		P	00 29 34.4	-1.1
	comp=Z,2.7nm,0.9s,baz=153,slow=5.0,SNR=12							
PDAR				LR		LR	00 52 44.8	
	comp=Z,2μm,18.4s,baz=145,slow=36							
F26A	Lodgepole baz=153	55.16	342	P		P	00 29 37.1	+1.1
TIN	Tinemaha, Big baz=133	55.16	324	P		P	00 29 37.3	+1.1
SPUT	South Promonto comp=Z,12nm,1.0s	55.20	331	eP		P	00 29 38.2	+1.8
D30A	Buchanan baz=158,SNR=5.4	55.21	345	P		P	00 29 34.8	-1.4
RCTC	Rector, Farmer baz=132	55.26	323	P		P	00 29 38.0	+1.2
B35A	Bob, Littlefor baz=165,SNR=6.9	55.32	350	P		P	00 29 35.5	-1.6
C32A	Crookston baz=161	55.36	347	P		P	00 29 38.3	+1.0
D29A	Pettibone, Tap	55.38	345	P		P	00 29 37.7	+0.2

baz=157
F25A Bowman 55.48 341 P P 00 29 39.0 +0.7
baz=153
B33A Robert and Kas 55.59 348 P P 00 29 38.5 -0.5
baz=162
C31A Landman Farms, 55.60 346 P P 00 29 37.7 -1.4
baz=160,SNR=5.8
B34A Aery, Baudette 55.61 349 P P 00 29 37.9 -1.2
baz=164,SNR=12
E26A Carlson Angus 55.65 342 P P 00 29 38.7 -0.8
baz=154
AGMN Agassiz Nation 55.67 348 eP P 00 29 38.3 -1.2
baz=162,SNR=19
AGMN Agassiz Nation 55.67 348 eP P 00 29 38.0 -1.5
comp=Z,21nm,0.6s
AGMN LR LR
comp=Z,639nm,19.0s
C30A Mose, Pekin 55.70 346 P P 00 29 39.1 -0.7
baz=159
AHID Auburn Hatcher 55.73 334 PFAKE 00 29 50.0 +10
AHID LR LR
comp=Z,1µm,20.0s
D28A Regan 55.76 344 P P 00 29 40.1 -0.1
baz=156
B32A Ashes, Strandq 55.91 348 P P 00 29 40.2 -1.0
baz=161
MLAC Mammoth, Mammo 55.91 324 P P 00 29 42.0 +0.3
baz=133
REDW Red Top Meadow 56.10 334 eP P 00 29 43.5 +0.5
comp=Z,37nm,1.3s
MDND Maddock 56.11 345 P P 00 29 43.9 +1.2
baz=158
ELK Elko 56.15 329 eP P 00 29 46.3 +2.9
comp=Z,7.1nm,0.9s
B31A Greenbush Farm 56.18 347 P P 00 29 42.3 -0.8
baz=160
A33A Warroad 56.19 349 P P 00 29 41.9 -1.3
baz=163,SNR=11
LOHW Long Hollow 56.19 334 eP P 00 29 46.1 +2.5
comp=Z,9.9nm,1.1s
C28A Hausauer Farms 56.20 344 P P 00 29 42.7 -0.6
baz=157
TPAW Teton Pass 56.24 334 eP P 00 29 45.4 +1.3
comp=Z,23nm,1.2s
B30A Myrvik Farm, E 56.36 346 P P 00 29 43.6 -0.9
baz=159,SNR=5.5
MOOW Moose Ponds 56.36 334 eP P 00 29 47.2 +2.4
comp=Z,9.3nm,1.3s
A32A Rocking H Ranc 56.39 348 P P 00 29 44.1 -0.6
baz=161
FXWY Fox Creek 56.39 334 eP P 00 29 47.0 +1.9
comp=Z,5.8nm,0.9s
A31A Linda, St. Vin 56.55 347 P P 00 29 45.1 -0.7
baz=161
IMW Indian Meadow 56.56 334 eP P 00 29 47.8 +1.4
comp=Z,9.2nm,1.0s
FLWY Flagg Ranch 56.61 335 eP P 00 29 49.4 +2.7
comp=Z,30nm,1.5s
B29A Wagenman Farm, 56.62 346 P P 00 29 45.2 -1.1
baz=158
A30A Hoffart Farm, 56.81 347 P P 00 29 46.6 -1.0
baz=159,SNR=7.0
H17A Grant Village 56.81 335 P P 00 29 46.7 -1.3
baz=144
B28A Dugan Ranch, T 56.86 345 P P 00 29 48.4 +0.3
baz=157
RLMT Red Lodge 56.87 336 PFAKE 00 30 00.0 +12
RLMT LR LR
comp=Z,2µm,19.0s
LKWY Lake 56.88 335 PFAKE 00 30 00.0 +11
LKWY LR LR
comp=Z,2µm,19.0s
A29A Manning Farm, 57.02 346 P P 00 29 48.0 -1.2
baz=158,SNR=9.7
LAO LASA Array 57.07 340 P P 00 29 49.7 +0.1
baz=150
LAO LASA Array 57.07 340 eP P 00 29 50.8 +1.2
comp=Z,13nm,1.0s
LAO LR LR
comp=Z,792nm,19.0s
YHH Holmes Hill 57.24 335 eP P 00 29 54.6 +3.4
comp=Z,9.2nm,0.9s
B25A Knox Farm, Ray 57.48 343 P P 00 29 52.3 -0.2
baz=154
ULM Lac du Bonnet 57.54 349 P P 00 29 50.9 -1.8
comp=Z,7.9nm,0.6s,baz=160,slow=6.6,SNR=8.2
ULM Lac du Bonnet 57.54 349 eP P 00 29 50.9 -1.8
comp=Z,16nm,0.9s
PAHR Pah Rah Range 57.63 326 eP P 00 29 57.2 +3.3
comp=Z,11nm,1.3s
HLID Hailey 57.86 332 P P 00 29 55.5 +0.1
baz=140
HLID Hailey 57.86 332 eP P 00 29 55.4 0.0
comp=Z,15nm,1.0s
HLID LR LR
comp=Z,658nm,20.0s
DGMT Dagmar 57.97 342 PFAKE 00 30 10.0 +14
DGMT LR LR
comp=Z,893nm,21.0s
A25A Svangstu Ranch 58.07 343 P P 00 29 56.9 +0.3
baz=154
MCMT McKenzie Canyo 58.13 334 eP P 00 29 57.4 +0.1
BOZ Bozeman (W) 58.26 335 P P 00 29 57.5 -0.7
baz=144,SNR=6.2
BOZ Bozeman (W) 58.26 335 eP P 00 29 57.5 -0.7
comp=Z,24nm,1.1s
BOZ LR LR
comp=Z,1µm,21.0s
MFID Camas Ranch 58.42 331 eP P 00 29 59.0 -0.3
comp=Z,23nm,1.0s
DLMT Dillon 58.45 334 eP P 00 30 00.6 +1.2
comp=Z,22nm,1.2s
TAOE Nuku Hiva Isla 58.57 263 eS S 00 37 58.9 -4.4
comp=Z,3µm,25.9s
TAOE eLR LR 00 47 11.2
comp=Z,2µm,24.5s,baz=91
TAOE Nuku Hiva Isla 58.57 263 eT T 01 33 07.7
comp=Z,41nm,0.3s
LRM Limekiln Ridge 58.75 335 eP P 00 30 01.4 -0.3
WVOR Wild Horse Val 59.12 328 eP P 00 30 06.8 +2.6
comp=Z,14nm,1.0s
WVOR LR LR
comp=Z,2µm,20.0s
O03D Paynes Creek 59.40 325 P P 00 30 06.2 +0.1
baz=131
EGMT Eagleton 59.47 338 PFAKE 00 30 20.0 +14
EGMT LR LR
comp=Z,825nm,20.0s
MOD Modoc Plateau 59.64 327 eP P 00 30 09.8 +2.0
comp=Z,57nm,1.8s
CHMT Chamberlain Mo 59.95 335 eP P 00 30 12.0 +2.1
HOPE Hope Point 59.99 152 PFAKE 00 30 20.0 +10
HOPE LR LR
comp=Z,1µm,19.0s
MSO Missoula 60.18 335 P P 00 30 10.7 -0.6
baz=142,SNR=12
MSO Missoula 60.18 335 eP P 00 30 10.8 -0.6
comp=Z,40nm,1.4s
BMO Blue Mountains 60.20 331 PFAKE 00 30 20.0 +8.5
BMO LR LR
comp=Z,908nm,20.0s
N02D Trinity Center 60.37 325 P P 00 30 13.8 +1.1
baz=130
M04C Macdoel 60.41 326 P P 00 30 13.8 +0.8
baz=132
K05A Summer Lake 60.53 327 eP P 00 30 16.3 +2.4
comp=Z,22nm,0.9s
M02C Callahan 60.73 325 P P 00 30 16.1 +1.0
baz=130
YBH Yreka Blue Hor 60.87 325 eP P 00 30 17.2 +1.1
comp=Z,14nm,1.2s
F10A Beach Ranch, E 60.99 332 eP P 00 30 17.8 +0.9
comp=Z,134nm,2.0s
YBMT Yellow Bay 61.02 335 eP P 00 30 17.5 +0.5
J05D Fort Rock, OR 61.09 327 P P 00 30 18.5 +0.9
baz=133
G08A Pilot Rock 61.33 330 eP P 00 30 19.5 +0.3
comp=Z,14nm,0.9s
BSMT Bassoo Peak 61.34 335 eP P 00 30 19.8 +0.5
L02D Cave Junction, 61.65 325 P P 00 30 22.5 +1.2
baz=130
SCHQ Schefferville 61.84 9 P P 00 30 20.5 -1.8
comp=Z,3.7nm,0.7s,baz=224,slow=6.3,SNR=6.2
SCHQ LR LR 00 57 46.6
comp=Z,735nm,20.5s,baz=201,slow=37
I05D Terrebonne, OR 61.87 328 P P 00 30 23.8 +1.0
baz=133
WALA Waterton Lakes 61.92 336 eP P 00 30 24.3 +1.2
comp=Z,12nm,0.8s
I04A Tendick Farm, 62.06 327 P P 00 30 25.2 +1.1
baz=132
HAWA Hanford 62.40 331 PFAKE 00 30 40.0 +14
HAWA LR LR
comp=Z,1µm,20.0s
G05D Wamic, OR 62.47 329 P P 00 30 27.6 +0.8
baz=134
I03D Drain, OR 62.51 327 P P 00 30 28.1 +1.1
baz=131
NEW Newport 62.66 334 P P 00 30 27.4 -0.6
comp=Z,3.3nm,0.7s,baz=124,slow=12,SNR=3.4
NEW Newport 62.66 334 P P 00 30 28.8 +0.8
baz=139
NEW Newport 62.66 334 P P 00 30 27.4 -0.6
NEW LR LR
comp=Z,617nm,20.0s
G03D McMinnville, O 63.47 328 P P 00 30 34.3 +1.0
baz=132
NLWA Neilton Lookou 65.23 329 PFAKE 00 31 00.0 +15
NLWA LR LR
comp=Z,2µm,20.0s
ASCN Ascension 66.21 96 PFAKE 00 31 00.0 +8.1
ASCN LR LR
comp=Z,2µm,19.0s
CMLA Cha da Macela 67.57 45 PFAKE 00 31 10.0 +10
CMLA LR LR
comp=Z,1µm,22.0s
PPT Papeete 67.69 254 LR LR 00 53 28.1
comp=Z,2µm,18.1s,baz=122,slow=30
PPT2 Papeete2 67.69 254 eS S 00 39 57.4 0.0
comp=Z,2µm,25.0s
PPT2 Papeete2 67.69 254 eLR LR 00 51 35.9
comp=Z,3µm,25.2s,baz=91
TBI Tubuai 67.76 247 eS S 00 39 56.6 -1.3
comp=Z,2µm,30.2s
TBI Tubuai 67.76 247 eLR LR 00 51 28.2
comp=Z,1µm,26.8s
TBI Tubuai 67.76 247 eT T 01 44 42.6
comp=Z,35nm,0.3s
YKA Yellowknife Ar 73.02 344 P P 00 31 30.7 -2.1
comp=Z,1.1nm,0.6s,baz=146,slow=6.5,SNR=17
YKA LR LR 01 05 19.0
comp=Z,62nm,18.1s,baz=180,slow=37
SHEL Horse Pasture 74.30 105 PFAKE 00 31 50.0 +8.6
SHEL LR LR
comp=Z,2µm,19.0s
WRAK Wrangell Islan 75.01 333 PFAKE 00 32 00.0 +15
WRAK LR LR
comp=Z,817nm,19.0s
DLBC Dease Lake 75.27 336 P P 00 31 45.8 -0.4
comp=Z,4.5nm,0.6s,baz=151,slow=4.1,SNR=10
DLBC Dease Lake 75.27 336 eP P 00 31 46.2 +0.1
SFJD Kangerlussuaq 76.10 12 PFAKE 00 32 00.0 +9.4
SFJD LR LR
comp=Z,691nm,21.0s
DBIC Dimbokro 77.13 82 P P 00 31 56.6 -1.0
comp=Z,4.3nm,0.6s,baz=256,slow=5.8,SNR=5.6
DBIC LR LR 01 05 01.9
comp=Z,5µm,18.5s,baz=236,slow=35
POHA Pohakuloa 77.52 292 PFAKE 00 32 10.0 +10
POHA LR LR
comp=Z,1µm,19.0s
MORF Marmelete 79.88 51 eP P 00 32 11.6 -0.8
MORF AMS AMS 01 05 45.6
comp=Z,920nm,18.6s
LIS Lisbon 79.89 49 eP P 00 32 11.1 -1.2
LIS AMS AMS 01 06 00.7
comp=Z,1µm,20.9s
MESJ Messejana 80.35 50 eP P 00 32 13.8 -1.0
MESJ AMS AMS 01 08 01.6
comp=Z,1µm,20.5s
RTC Rabat Centre 80.45 54 PFAKE 00 32 30.0 +15
RTC LR LR
comp=Z,3µm,19.0s
SNAA Sanae 80.58 162 P P 00 32 15.1 -0.4
SNAA Sanae 80.58 162 eP P 00 32 15.2 -0.3
RES Resolute Bay 81.06 356 P P 00 32 17.4 -0.5
comp=Z,3.5nm,0.9s,baz=144,slow=4.9,SNR=2.3
MTE Manteigas 81.54 48 PFAKE 00 32 30.0 +8.8
MTE LR LR
comp=Z,1µm,21.0s
BALM Baldy 81.89 334 eP P 00 32 22.6 0.0
MDT Midelt 82.01 56 P P 00 32 24.0 +0.1
comp=Z,5.7nm,1.1s,baz=78,slow=8.7,SNR=4.6
INK Inuvik 82.65 343 P P 00 32 25.1 -1.2
comp=Z,4.7nm,0.9s,baz=106,slow=8.8,SNR=7.5
SUMG Summit 83.10 12⇑iP P 00 32 28.4 -0.7
SUMG Summit 83.10 12 eP P 00 32 28.2 -0.9
BORG Borgarnes 83.12 22 PFAKE 00 32 40.0 +11
BORG LR LR
comp=Z,859nm,22.0s
EGAK Eagle 83.24 338 eP P 00 32 28.7 -0.8
EGAK LR LR
comp=Z,820nm,20.0s
KLU Klutina 83.64 334 eP P 00 32 31.2 -0.5
PAB San Pablo 83.71 49 PFAKE 00 32 40.0 +7.4
PAB LR LR
comp=Z,1µm,20.0s
DOT Dot Lake 83.81 336 eP P 00 32 31.9 -0.6
QSPA South Pole Qui 84.02 180 eP P 00 32 34.5 +0.8
comp=Z,102nm,1.0s
QSPA LR LR
comp=Z,677nm,19.0s
ESDC Sonseca Array 84.03 49 P P 00 32 33.8 -0.4
comp=Z,1.4nm,0.6s,baz=263,slow=4.7,SNR=20
ESDC LR LR 01 07 59.9
comp=Z,772nm,19.3s,baz=250,slow=34
ES19 SONSECA Array 84.08 49 eP P 00 32 34.1 -0.3
PAX Paxson 84.08 336 eP P 00 32 33.3 -0.7
comp=Z,11nm,1.2s
TORD Torodi Ar. Bea 84.39 76 P P 00 32 35.7 -0.7
comp=Z,2.2nm,0.4s,baz=279,slow=4.9,SNR=46
TORD LR LR 01 09 37.3
comp=Z,4µm,18.7s,baz=260,slow=35
SML Sawmill 84.82 334 eP P 00 32 36.8 -0.8
comp=Z,4.4nm,1.1s
KDAK Kodiak Island 85.38 329 PFAKE 00 32 50.0 +10
KDAK LR LR
comp=Z,496nm,19.0s
IL1 Eielson Array 85.42 337 eP P 00 32 39.8 -0.7
ILAR Eielson Array 85.42 337 P P 00 32 39.4 -1.1
comp=Z,0.7nm,0.6s,baz=120,slow=5.5,SNR=7.9
ILAR LR LR 01 10 57.5
comp=Z,763nm,21.1s,baz=123,slow=36
RND Reindeer 85.66 335 eP P 00 32 42.2 +0.4
COLA College 85.84 337 PFAKE 00 32 50.0 +7.5
COLA LR LR
comp=Z,738nm,21.0s
MDM Murphy Dome 86.02 337 eP P 00 32 43.5 -0.1
KTH Kantishna Hill 86.58 335 eP P 00 32 45.5 -0.9
BPAW Bear Paw Mtn. 86.80 336 eP P 00 32 46.2 -1.2
PPLA Purkeypile 86.89 334 eP P 00 32 46.9 -1.1
MLY Manley 87.03 337 eP P 00 32 48.2 -0.3
COLD Coldfoot 87.63 339 eP P 00 32 52.5 +1.2
SVW2 Sparrevohn 87.85 332 eP P 00 32 52.4 -0.1
ESK Eskdalemuir 88.11 34 PFAKE 00 33 00.0 +6.2
ESK LR LR
comp=Z,865nm,22.0s
SBA Scott Base 88.67 191 PFAKE 00 33 10.0 +14
SBA LR LR
comp=Z,557nm,21.0s
TAM Tamanrasset 89.22 67 eP P 00 32 59.8 -0.2
TAM LR LR
comp=Z,3µm,22.0s
VNDA Vanda 89.76 191 P P 00 33 02.6 +1.3
comp=Z,0.8nm,0.7s,baz=146,slow=7.7,SNR=5.6
VNDA LR LR 01 05 14.5
comp=Z,515nm,21.7s,baz=123,slow=30
DAG Danmarks Havn 89.79 12⇑iP P 00 33 00.5 -0.8
comp=Z,5.4nm,0.7s
SSB Saint Sauveur 91.20 45 PFAKE 00 33 20.0 +11
SSB LR LR
comp=Z,604nm,21.0s
BNI Bardonecchia 92.68 45 PFAKE 00 33 30.0 +14
BNI LR LR
comp=Z,1µm,20.0s
WLF Walferdange 92.80 41 PFAKE 00 33 30.0 +14
WLF LR LR
comp=Z,801nm,20.0s
KEST Kesra 93.86 55 LR LR 01 15 01.3
comp=Z,746nm,20.4s,baz=186,slow=35
BFO Black Forest 94.11 42 PFAKE 00 33 30.0 +8.0
BFO LR LR
comp=Z,420nm,22.0s
VSL Villasalto 94.18 51 PFAKE 00 33 30.0 +7.5
VSL LR LR
comp=Z,527nm,19.0s
TUE Stuetta 94.66 44 PFAKE 00 33 40.0 +15
TUE LR LR
comp=Z,487nm,21.0s
SYO Syowa Base 94.87 162⇑eP P 00 33 25.0 0.0
VLC Villacollemand 95.25 46 PFAKE 00 33 40.0 +13
VLC LR LR
comp=Z,424nm,20.0s
URZ Urewera 95.46 231 LR LR 01 08 38.2
comp=Z,1µm,18.8s,baz=178,slow=30
KONO Kongsberg 95.55 31 PFAKE 00 33 40.0 +12
KONO LR LR
comp=Z,585nm,21.0s
TSUM Tsumeb 96.17 110 PFAKE 00 33 40.0 +7.8
TSUM LR LR
comp=Z,3µm,20.0s
KBS Kingsbay 96.50 11 PFAKE 00 33 40.0 +7.8
KBS LR LR
comp=Z,475nm,19.0s
SNZO South Karori 96.58 227 PFAKE 00 33 50.0 +17
SNZO LR LR
comp=Z,2µm,22.0s
SUR Sutherland 96.76 124 PFAKE 00 33 50.0 +15
SUR LR LR
comp=Z,3µm,19.0s
NKC Novy Kostel 96.89 40 AMS AMS 01 18 20.0
comp=Z,400nm,16.3s
CLTB Caltabellotta 97.08 53 PFAKE 00 33 50.0 +14
CLTB LR LR
comp=Z,607nm,19.0s
CLL Collm 97.26 39 eP P 00 33 30.0 -6.2
comp=Z,100nm,20.5s
CLL ePP PP 00 37 24.0 -8.9
comp=Z,100nm,20.9s
CLL eSKS SKSac 00 44 32.0 +21
CLL eS ScS 00 45 09.0 +11
comp=N,300nm,31.3s
CLL eSP SP 00 46 39.0 +20
CLL L L 01 16 00.0
comp=Z,400nm,20.3s
AQU L'Aquila 97.38 48 PFAKE 00 33 50.0 +13
AQU LR LR
comp=Z,508nm,19.0s
KHC Kasperske Hory 97.61 41 AMS AMS 01 18 30.0
comp=Z,400nm,15.8s
BRG Berggiesshubel 97.85 40 P Pdif 00 33 39.0 +0.1
BRG PP **PP 00 37 38.0 +0.5**
BRG SKS **SKSac 00 44 18.0 +3.6**
BRG S **ScS 00 45 08.0 +4.8**
BRG PS **PS 00 46 30.0 -0.1**
BRG SS **SS 00 51 51.0 +6.5**
comp=N,335nm,18.1s
comp=E,307nm,19.3s
comp=Z,561nm,21.2s
WDD Wied Dalam 98.07 55 PFAKE 00 33 50.0 +10
WDD LR LR
comp=Z,1µm,20.0s
PRU Pruhonice 98.24 40 AMS AMS 01 19 20.0
comp=Z,500nm,18.6s
PVCC Panska Ves 98.25 40 AMS AMS 01 19 50.0
comp=Z,300nm,16.8s
GOPC GO Pecny, Ondr 98.40 41 AMS AMS 01 22 20.0
comp=Z,400nm,17.8s
MSVF Nonsavu 98.43 251 PFAKE 00 33 50.0 +7.6
MSVF LR LR
comp=Z,1µm,19.0s
RPZ Rata Peaks 98.55 224 LR LR 01 08 47.7
comp=Z,644nm,20.6s,baz=32,slow=30
FUNA Funafuti 98.64 260 PFAKE 00 34 00.0 +17
FUNA LR LR
comp=Z,7µm,20.0s
TREC Trest 98.86 41 AMS AMS 01 19 00.0
comp=Z,500nm,18.8s
CUC Castrocucco 99.16 51 PFAKE 00 34 00.0 +15
CUC LR LR
comp=Z,336nm,20.0s
UPC Upice 99.18 40 AMS AMS 01 18 10.0
comp=Z,500nm,18.2s
CEL Celeste 99.21 52 PFAKE 00 34 00.0 +15
CEL LR LR
comp=Z,799nm,21.0s
DPC Dobruska-Polom 99.38 40 AMS AMS 01 18 40.0
comp=Z,600nm,17.6s
TIP Timpagrande 99.89 51 PFAKE 00 34 00.0 +12
TIP LR LR
comp=Z,715nm,20.0s
OKC Ostrava-Krasne 100.58 41 AMS AMS 01 17 30.0
comp=Z,300nm,16.5s
VYHS Vyhne 101.10 42 eP Pdif 00 33 52.9 -0.6
PSZ Piszkesteto 101.85 42 PFAKE 00 34 10.0 +13
PSZ LR LR
comp=Z,583nm,21.0s
KEV Kevo 101.89 20 PFAKE 00 34 10.0 +14
KEV LR LR
comp=Z,287nm,21.0s
TIR Tirane 102.21 49 PFAKE 00 34 10.0 +11
TIR LR LR
comp=Z,583nm,20.0s
BILL Bilibino 103.96 339 PFAKE 00 34 20.0 +14
BILL LR LR
comp=Z,264nm,20.0s
LVZ Lovozero 105.11 21 PFAKE 00 34 20.0 +9.1
LVZ LR LR
comp=Z,311nm,21.0s
LSZ Lusaka 106.83 108 PFAKE 00 38 40.0
LSZ LR LR
comp=Z,2µm,22.0s
SANT Santorini 106.90 54 PFAKE 00 38 40.0
SANT LR LR
comp=Z,577nm,20.0s
CASY Casey 107.34 185 PFAKE 00 38 40.0
CASY LR LR
comp=Z,131nm,19.0s
KIEV Kiev 107.49 39 PFAKE 00 38 40.0
KIEV LR LR
comp=Z,427nm,20.0s
DZM Mont Dzumac 108.25 245 eSP SP 00 48 13.6 -3.3
comp=Z,414nm,24.2s
DZM Mont Dzumac 108.25 245 eLR LR 01 10 18.1
comp=Z,817nm,30.8s
OBN Obninsk 110.57 33 PFAKE 00 38 50.0
OBN LR LR
comp=Z,495nm,20.0s
ISP Isparta 110.75 52 PFAKE 00 38 50.0
ISP LR LR
comp=Z,484nm,19.0s
MBAR Mbarara 111.64 93 PFAKE 00 38 50.0
MBAR LR LR
comp=Z,801nm,19.0s
TIXI Tiksi 111.87 350 PFAKE 00 38 50.0
TIXI LR LR
comp=Z,480nm,20.0s
H11N3 WAKE ISLAND Hyl 112.71 289 T T 02 40 54.9
baz=77,slow=72,SNR=136
H11N2 WAKE ISLAND Hyl 112.72 289 T T 02 40 57.4
baz=77,slow=72,SNR=119
PET Petropavlovsk 112.72 326 PFAKE 00 38 50.0
PET LR LR
comp=Z,276nm,19.0s
H11N1 WAKE ISLAND Hyl 112.73 289 T T 02 40 57.9
baz=77,slow=72,SNR=102
H11S2 WAKE ISLAND Hyl 112.93 287 T T 02 41 09.4
baz=89,slow=75,SNR=250
H11S1 WAKE ISLAND Hyl 112.94 287 T T 02 41 12.3
baz=89,slow=75,SNR=174
H11S3 WAKE ISLAND Hyl 112.95 287 T T 02 41 12.2
baz=89,slow=75,SNR=172
CSS Mathiatis 113.44 55 PFAKE 00 38 50.0
CSS LR LR
comp=Z,129nm,22.0s
MA2 Magadan 113.76 334 PFAKE 00 38 50.0
MA2 LR LR
comp=Z,602nm,20.0s
HNR Honiara 117.25 256 PFAKE 00 39 00.0 +10
HNR LR LR
comp=Z,509nm,20.0s
CAN Canberra 117.46 225 PFAKE 00 39 00.0 +10
CAN LR LR
comp=Z,674nm,19.0s
KMBO Kilima Mbogo 118.04 95 PFAKE 00 39 00.0 +8.4
KMBO LR LR
comp=Z,2µm,20.0s
KIV Kislovodsk 118.17 43 PFAKE 00 39 00.0 +9.3
KIV LR LR
comp=Z,306nm,22.0s

YAK	**Yakutsk**	**119.70**	**344**	PFAKE			00 39 10.0	+17
YAK				LR	LR				
	comp=Z,407nm,20.0s								
ARU	**Arti**	**120.56**	**25**	PFAKE			00 39 10.0	+15
ARU				LR	LR				
	comp=Z,399nm,20.0s								
GNI	**Garni**	**120.92**	**46**	PFAKE			00 39 10.0	+14
GNI				LR	LR				
	comp=Z,561nm,22.0s								
ABPO	**Ambohimpanom**	**123.33**	**117**	PFAKE			00 39 10.0	+8.5
ABPO				LR	LR				
	comp=Z,1μm,19.0s								
YSS	**Yuzh-Sakhalins**	**124.59**	**325**	PFAKE			00 39 20.0	+17
YSS				LR	LR				
	comp=Z,148nm,20.0s								
CTAO	**Charters Tower**	**126.68**	**240**	PFAKE			00 39 20.0	+12
CTAO				LR	LR				
	comp=Z,1μm,20.0s								
ERM	**Erimo**	**126.93**	**319**	PFAKE			00 39 20.0	+13
ERM				LR	LR				
	comp=Z,277nm,20.0s								
PMG	**Port Moresby**	**129.51**	**253**	PFAKE			00 39 30.0	+17
PMG				LR	LR				
	comp=Z,671nm,20.0s								
ZALV	**Zalesovo Beam**	**130.91**	**11**	PKP	**PKPdf**		**00 39 13.2**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=275,slow=3.0,SNR=6.1								
GEYT	**Alibeck**	**131.28**	**43**	PKP	**PKPdf**		**00 39 15.8**	**-0.2**
	comp=Z,1.7nm,1.1s,baz=331,slow=12,SNR=3.9								
USRK	**Ussuriysk Ar.**	**132.24**	**328**	PKP	**PKPdf**		**00 39 18.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=92,slow=14,SNR=2.7								
KURK	**Kurchatov**	**132.38**	**17**	*e*PKPdf	**PKPdf**		**00 39 17.9**	**+0.3**
KURK				LR	LR				
	comp=Z,775nm,22.0s								
MAJO	**Matsushiro**	**133.00**	**316**	PFAKE			00 39 30.0	+11
MAJO				LR	LR				
	comp=Z,446nm,22.0s								
MDJ	**Mudanjiang**	**133.18**	**330**	PFAKE			00 39 30.0	+11
MDJ				LR	LR				
	comp=Z,434nm,22.0s								
HIA	**Hailar**	**133.49**	**341**	PFAKE			00 39 30.0	+10
HIA				LR	LR				
	comp=Z,421nm,19.0s								
TLY	**Talaya**	**134.37**	**356**	PFAKE			00 39 30.0	+8.7
TLY				LR	LR				
	comp=Z,440nm,22.0s								
ASAR	**Alice Springs**	**134.82**	**228**	PKP	**PKPdf**		**00 39 22.1**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=90,slow=1.9,SNR=7.6								
CN2	**Changchun**	**135.77**	**332**	*e*PKP	**PKPdf**		**00 39 20.3**	**-3.9**
CN2				PPMZ					
	comp=Z,200nm,6.0s								
CN2				LN					
	comp=Z,300nm,21.0s								
CN2				LE					
	comp=Z,200nm,21.0s								
CN2				LZ					
	comp=Z,300nm,23.0s								
WRAB	**Tennant Creek**	**136.60**	**233**	PFAKE			00 39 40.0	+14
WRAB				LR	LR				
	comp=Z,997nm,21.0s								
WRA	**Warramunga Arr**	**136.60**	**233**	PKP	**PKPdf**		**00 39 25.7**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=116,slow=2.1,SNR=13								
MKAR	**Makanchi Array**	**136.98**	**17**	PKP	**PKPdf**		**00 39 24.9**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=328,slow=2.5,SNR=5.8								
EKS2	**Erkin-Say**	**137.31**	**28**	PFAKE			00 39 40.0	+13
EKS2				LR	LR				
	comp=Z,359nm,20.0s								
AAK	**Ala-Archa**	**137.66**	**27**	PFAKE			00 39 40.0	+12
AAK				LR	LR				
	comp=Z,374nm,21.0s								
ULN	**Ulaanbaatar**	**137.78**	**352**	PFAKE			00 39 40.0	+12
ULN				LR	LR				
	comp=Z,342nm,21.0s								
SONM	**Songino Array**	**137.90**	**352**	PKhKP	PKPpre		00 39 22.7		
	comp=Z,0.5nm,0.5s,baz=86,slow=5.3,SNR=3.1								
TKM2	**Tokmak 2**	**137.92**	**26**	PFAKE			00 39 40.0	+12
TKM2				LR	LR				
	comp=Z,594nm,22.0s								
KSRS	**Korea Array**	**139.08**	**324**	PKP	**PKPdf**		**00 39 29.6**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=9.8,slow=1.7,SNR=6.9								
KSAR	**Wonju Array Be**	**139.11**	**324**	PKP	**PKPdf**		**00 39 29.6**	**-0.9**
INCN	**Inchon**	**139.81**	**325**	PFAKE			00 39 40.0	+8.2
INCN				LR	LR				
	comp=Z,571nm,22.0s								
KSH	**Kashi**	**140.81**	**28**	PKP	**PKPdf**		**00 39 33.8**	**+0.1**
KSH				sPKP			00 39 48.1		
KSH				PP	**PP**		**00 42 36.8**	**+3.7**
KSH				PKS	**PKSdf**		**00 43 08.5**	**-1.3**
KSH				SKS	**SKSdf**		**00 46 39.9**	**-2.3**
KSH				SKKS	**SKKSac**		**00 49 23.4**	**-2.3**
KSH				SS	**SS**		**01 00 57.9**	**+0.5**
KSH				PPMZ					
	comp=Z,170nm,5.7s								
KSH				LN					
	comp=Z,130nm,5.1s								
KSH				LE					
	comp=Z,110nm,4.8s								
KSH				LZ					
	comp=Z,310nm,17.1s								
WMQ	**Urumqi**	**141.13**	**13**	PKP	**PKPdf**		**00 39 32.9**	**-1.2**
WMQ				PP	**PP**		**00 42 38.0**	**+3.4**
WMQ				PKS	**PKSdf**		**00 43 07.3**	**-2.7**
WMQ				SS	SS		01 01 00.0	-0.2
WMQ				PPMZ					
	comp=Z,120nm,5.0s								
WMQ				LN					
	comp=Z,140nm,22.2s								
WMQ				LE					
	comp=Z,94nm,17.4s								
WMQ				LZ					
	comp=Z,160nm,20.6s								
BJI	**Beijing**	**142.78**	**338**	PKP	**PKPdf**		**00 39 35.0**	**-2.0**
BJI				SS	SS		01 01 20.0	+0.4
BJI				LN					
	comp=Z,400nm,21.5s								
BJI				LE					
	comp=Z,140nm,26.0s								
BJI				LZ					
	comp=Z,360nm,20.6s								
BJT	**Baijiatuan**	**142.80**	**338**	PFAKE			00 39 50.0	+13
BJT				LR	LR				
	comp=Z,481nm,20.0s								
HHC	**Hu-ho-hao-te**	**143.56**	**344**	*e*PKP	**PKPdf**		**00 39 39.1**	**+0.5**
HHC				pPKP	pPKPdf		00 39 48.8	+0.3
HHC				PP	**PP**		**00 42 49.6**	**+0.2**
HHC				SKKS			00 49 40.8		
HHC				SS	**SS**		**01 01 35.6**	**+7.0**
HHC				PPMZ					
	comp=Z,100nm,10.6s								
HHC				LN					
	comp=Z,360nm,20.8s								
HHC				LE					
	comp=Z,190nm,22.0s								
HHC				LZ					
	comp=Z,540nm,19.5s								
TIA	**Tai'an**	**145.66**	**333**	⇓PKPbc	**PKPdf**		**00 39 41.6**	**-0.6**
GTA	**Gaotai**	**146.80**	**359**	*e*PKPbc	**PKPdf**		**00 39 44.5**	**+0.3**
GTA				pPKP	pPKPdf		00 39 54.8	+0.6
GTA				sPKP			00 39 59.1		
GTA				PP	**PP**		**00 43 13.8**	**+5.3**
GTA				SKKS			00 49 57.0		
GTA				SS	**SS**		**01 02 05.0**	**-0.3**
GTA				PPMZ					
	comp=Z,240nm,9.7s								
GTA				LN					
	comp=Z,260nm,22.3s								
GTA				LE					
	comp=Z,230nm,18.3s								
GTA				LZ					
	comp=Z,380nm,18.1s								
LZH	**Lanzhou**	**149.78**	**352**	*e*PKPbc	**PKPdf**		**00 39 51.1**	**+1.9**
LZH				pPKP	pPKPdf		00 40 01.1	+1.9
LZH				sPKP			00 40 06.0		
LZH				PP	**PP**		**00 43 32.0**	**+6.0**
LZH				*e*SKKS			00 50 16.3		
LZH				PPMZ					
	comp=Z,170nm,13.2s								
XAN	**Xi'an**	**150.66**	**343**	PKPbc	**PKPbc**		**00 39 55.8**	**-0.2**
XAN				PKPab	**PKPab**		**00 40 07.8**	**+5.1**
XAN				PP	**PP**		**00 43 37.0**	**+5.9**
XAN				SKKS			00 50 21.3		
XAN				LN					
	comp=Z,280nm,22.4s								
XAN				LE					
	comp=Z,230nm,19.0s								
XAN				LZ					
	comp=Z,360nm,21.0s								
TATO	**Taipei**	**151.33**	**313**	PFAKE			00 40 00.0	+2.3
TATO				LR	LR				
	comp=Z,480nm,20.0s								
YHNB	**Yeheng**	**151.60**	**313**	PFAKE			00 40 00.0	+1.5
YHNB				LR	LR				
	comp=Z,569nm,19.0s								
WHN	**Wuhan**	**151.65**	**331**	PKPbc	**PKPab**		**00 40 05.0**	**-1.9**
DAV	**Davao City (W)**	**153.48**	**274**	PFAKE			00 40 10.0	-5.2
DAV				LR	LR				
	comp=Z,519nm,20.0s								
ENH	**Enshi**	**153.94**	**339**	PFAKE			00 40 10.0	+6.5
ENH				LR	LR				
	comp=Z,511nm,19.0s								
CD2	**Chengdu**	**154.87**	**350**	PKPbc	**PKPdf**		**00 39 55.0**	**-1.8**
LSA	**Lhasa**	**155.38**	**16**	PFAKE			00 40 10.0	+12
LSA				LR	LR				
	comp=Z,964nm,20.0s								
KAPI	**Kappang**	**156.45**	**243**	PFAKE			00 40 10.0	+11
KAPI				LR	LR				
	comp=Z,431nm,21.0s								
GYA	**Guiyang**	**158.41**	**341**	PKP	**PKPdf**		**00 40 00.3**	**-1.3**
GYA				PKPab	**PKPab**		**00 40 37.0**	**+1.1**
GYA				PKS	**PKSdf**		**00 43 32.4**	**-3.1**
GYA				PPMZ					
	comp=Z,120nm,8.0s								
QIZ	**Qiongzhong**	**163.28**	**321**	PKP	**PKPdf**		**00 40 07.0**	**+0.2**
QIZ				PP	**PP**		**00 44 42.3**	**+0.8**
QIZ				SS	SS		01 05 06.3	+0.9
QIZ				LN					
	comp=Z,350nm,19.4s								
QIZ				LZ					
	comp=Z,520nm,21.9s								
QIZ	**Qiongzhong**	**163.28**	**321**	PFAKE			00 40 20.0	+13
QIZ				LR	LR				
	comp=Z,474nm,19.0s								
CHTO	**Chiang Mai**	**167.33**	**360**	PFAKE			00 40 20.0	+10
CHTO				LR	LR				
	comp=Z,571nm,21.0s								
CMAR	**Chiang Mai Arr**	**167.69**	**360**	PKP	**PKPdf**		**00 40 10.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=306,slow=2.6,SNR=3.5								
CMAR				PKPab	**PKPab**		**00 41 14.1**	**-2.3**
	comp=Z,1.4nm,0.6s,baz=338,slow=5.2,SNR=4.3								
KSM	**Kuching**	**167.74**	**249**	PFAKE			00 40 20.0	+9.3
KSM				LR	LR				
	comp=Z,870nm,19.0s								
KULM	**Kulim**	**178.09**	**246**	PFAKE			00 40 30.0	+15
KULM				LR	LR				
	comp=Z,901nm,20.0s								

*ISCJB **19** 00:20:13.2±1.2, 35°.40N±0°.06×27°.74E±0°.05, h11km±9km, Error ellipse: s-maj=10.1km s-min=6.1km az=162.6*
*ATH **19** 00:20:13.8, 35°.45N×27°.71E, h30km±2km, ML2.3/3, Error ellipse: s-maj=6.0km s-min=1.7km az=332.0*
*CSEM **19** 00:20:14.0±0.3, 35°.41N×27°.69E, h15km, ML2.3, Error ellipse: s-maj=8.3km s-min=3.8km az=165.0*
*DDA **19** 00:20:22.7, 36°.20N×28°.16E, h7km, Md2.7*

ISC 19 00:20:14.3±1.6, **35°.48N**±0°.06×**27°.68E**±0°.04, **h13**km±12km, **n29**, σ0$89/42, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.43**	**279**	P	**Pg**	**00 20 22.8**	**0.0**
KARP				S	**Sb**	**00 20 30.4**	**+0.3**
KARP	**Karpathos**	**0.43**	**279**	P	**Pg**	**00 20 22.8**	**0.0**
KARP				S	**Sb**	**00 20 30.4**	**+0.3**
KARP				AML	AML	00 20 32.9	
	comp=N,1682μm,0.2s						
KARP				AML	AML	00 20 34.2	
	comp=E,1298μm,0.2s						
ARG	**Arkhangelos**	**0.82**	**26**	P	**Pn**	**00 20 31.3**	**-0.2**
ARG				S	**Sn**	**00 20 43.4**	**-0.1**
ZKR	**Zakros**	**1.25**	**254**	P	**Pn**	**00 20 36.7**	**-0.7**
ZKR	**Zakros**	**1.25**	**254**	P	**Pn**	**00 20 36.7**	**-0.7**
TURN	**Turunc**	**1.58**	**28**	*i* P	**Pn**	**00 20 40.5**	**-1.5**
TURN				*i* S	**Sn**	**00 20 59.1**	**-3.1**
BDRM	**Kayabasi**	**1.59**	**353**	P	**Pn**	**00 20 41.9**	**-0.3**
BDRM				S	**Sb**	**00 21 04.3**	**+0.6**
BDRM	**Kayabasi**	**1.59**	**353**	*i* P	**Pn**	**00 20 41.9**	**-0.3**
BDRM				*i* S	**Sb**	**00 21 04.3**	**+0.6**
KSL	**Kastellorizon**	**1.69**	**66**	P	**Pn**	**00 20 42.2**	**-1.3**
KSL				S	**Sn**	**00 21 04.1**	**-0.8**
KSL				AML	AML	00 21 08.8	
	comp=N,53μm,0.5s						
KSL				AML	AML	00 21 09.3	
	comp=E,97μm,0.7s						
NPS	**Neapolis**	**1.70**	**263**	P	**Pb**	**00 20 45.6**	**+0.1**
AKAS	**Kas**	**1.74**	**64**	P	**Pn**	**00 20 43.9**	**-0.3**
AKAS				S	**Sn**	**00 21 06.3**	**0.0**
AKAS	**Kas**	**1.74**	**64**	*i* P	**Pn**	**00 20 43.9**	**-0.3**
AKAS				*i* S	**Sn**	**00 21 06.3**	**0.0**
LAST	**Lasithi**	**1.83**	**261**	P	**Pb**	**00 20 47.1**	**-0.5**
IDI	**Anoyia**	**2.29**	**266**	P	**Pn**	**00 20 52.9**	**+1.1**
IDI	**Anoyia**	**2.29**	**266**	P	**Pn**	**00 20 52.9**	**+1.1**
GOLH	**Golhisar**	**2.32**	**40**	P	**Pn**	**00 20 53.2**	**+0.9**
GOLH	**Golhisar**	**2.32**	**40**	*i* P	**Pn**	**00 20 53.2**	**+0.9**
SMG	**Samos**	**2.33**	**343**	P	**Pn**	**00 20 52.0**	**-0.3**
SMG	**Samos**	**2.33**	**343**	P	**Pn**	**00 20 52.0**	**-0.3**
APE	**Apeiranthos**	**2.35**	**313**	P	**Pn**	**00 20 52.1**	**-0.6**
APE	**Apeiranthos**	**2.35**	**313**	P	**Pn**	**00 20 52.1**	**-0.6**
APE				AML	AML	00 21 23.9	
	comp=E,63μm,0.3s						
APE				AML	AML	00 21 24.0	
	comp=N,58μm,0.3s						
SIVA	**Sivas**	**2.39**	**260**	P	**Pn**	**00 20 52.1**	**-1.1**
SIVA	**Sivas**	**2.39**	**260**	P	**Pn**	**00 20 52.1**	**-1.1**
KORT	**Korkueli**	**2.64**	**54**	P	**Pn**	**00 20 57.0**	**+0.3**
KORT				S	**Sn**	**00 21 29.6**	**+1.0**
KORT	**Korkueli**	**2.64**	**54**	*i* P	**Pn**	**00 20 57.0**	**+0.3**
KORT				*i* S	**Sn**	**00 21 29.6**	**+1.0**
VLI	**Veliai**	**4.04**	**289**	P	**Pn**	**00 21 16.9**	**+1.2**
VLI	**Veliai**	**4.04**	**289**	P	**Pn**	**00 21 16.9**	**+1.2**
ERMK	**Ermenek**	**4.39**	**73**	P	**Pn**	**00 21 20.8**	**-0.1**
ERMK				S	**Sn**	**00 22 12.6**	**+0.5**
ERMK	**Ermenek**	**4.39**	**73**	*i* P	**Pn**	**00 21 20.8**	**-0.1**
ERMK				*i* S	**Sn**	**00 22 12.6**	**+0.5**

*CSEM **19** 00:20:39.7, 34°.83N×24°.19E, h20km, ML1.8/1*

ATH 19 00:20:39.7, 34°.83N×24°.19E, h20km±1km, **ML1.8**/1, **Error ellipse: s-maj=7.8km s-min=1.9km az=285.0, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.08**	**274**	P	Pb	00 20 43.5	-0.1
GVD				S	Sb	00 20 46.7	+0.5
GVD	**Gavdhos**	**0.08**	**274**	P	Pb	00 20 43.5	-0.1
GVD				S	Sb	00 20 46.7	+0.5
GVD				AML	AML	00 20 46.8	
	comp=E,1051μm,0.1s						
GVD				AML	AML	00 20 47.1	
	comp=N,738μm,0.2s						
VAM	**Vamos**	**0.57**	**1**	P	Pb	00 20 51.3	+0.2
VAM				S	Sb	00 20 59.8	+0.9
IMMV	**Iera Moni Meta**	**0.65**	**345**	P	Pb	00 20 51.5	-0.9
IMMV				S	Sb	00 21 02.2	+1.2
IMMV	**Iera Moni Meta**	**0.65**	**345**	P	Pb	00 20 51.5	-0.9
IMMV				S	Sb	00 21 02.2	+1.1

IDC 19 00:20:56.2±6.5, **14°.27N**×**88°.68W, h0**km, **mb3.7**/4, **mb1 4.1**/4, **mb1mx3.7**/49, **mbtmp3.8**/4, **Error ellipse: s-maj=220.2km s-min=36.3km az=33.0, Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**20.42**	**320**	P	P	00 25 35.1	0.0
	0.9nm,0.7s,baz=144,slow=11,SNR=13						
YKA	**Yellowknife Ar**	**51.55**	**345**	P	P	00 30 03.8	+0.1
	0.5nm,0.8s,baz=146,slow=7.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**87.18**	**77**	P	P	00 33 45.4	+0.2
	2.4nm,0.8s,baz=268,slow=3.7,SNR=2.0						
GERES	**GERESS Array B**	**87.33**	**40**	P	P	00 33 44.9	-0.4
	0.8nm,0.9s,baz=260,slow=5.9,SNR=3.4						

*ISCJB **19** 00:23:01.7±0.6, 10°.50N±0°.04×73°.10W±0°.03, h117km±8km, Error ellipse: s-maj=6.6km s-min=4.1km az=146.7*
*FUNV **19** 00:23:03.9, 10°.54N×73°.16W, h108km, MW3.5*
*RSNC **19** 00:23:05.3±0.3, 10°.46N×73°.14W, h56km±26km, ML3.0*

ISC 19 00:23:01.6±1.6, **10°.51N**±0°.05×**73°.11W**±0°.05, **h124**km±13km, **n28**, σ1$50/46, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIRV	**Villa del Rosa**	**0.69**	**91**	*e*P	**Pn**	**00 23 21.8**	**+0.6**
VIRV				*e*S	**Sn**	**00 23 35.7**	**-0.5**
URIC	**Uribia, Colomb**	**1.61**	**43**	*e*P	**Pn**	**00 23 31.4**	**+0.8**
URIC				*e*S	**Sn**	**00 23 52.3**	**-0.4**
URIC				*i*		00 23 57.6	
	comp=Z,75nm,0.4s						
SJCC	**San Jacinto, C**	**2.12**	**253**	*e*P	**Pn**	**00 23 37.4**	**+0.6**
SJCC				*e*S	**Sn**	**00 24 02.2**	**-1.6**
SJCC				*i*		00 24 13.8	
	comp=Z,80nm,0.7s						
OCAC	**Ocana**	**2.27**	**185**	*e*P	**Pn**	**00 23 39.4**	**+0.7**
OCAC				*e*S	**Sn**	**00 24 05.5**	**-1.8**
OCAC				*i*		00 24 12.4	
	comp=Z,140nm,0.4s						
VIGV	**El Vigia**	**2.39**	**134**	*e*P	**Pn**	**00 23 41.4**	**+1.2**
VIGV				*e*S	**Sn**	**00 24 10.0**	**+0.2**
DABV	**Dabajuro**	**2.47**	**80**	*e*P	**Pn**	**00 23 42.6**	**+1.5**
QARV	**Quebrada Arrib**	**2.56**	**97**	*e*P	**Pn**	**00 23 43.9**	**+1.5**
CAPV	**Capacho**	**2.74**	**163**	*e*P	**Pn**	**00 23 46.7**	**+1.8**
CAPV				*e*S	**Sn**	**00 24 18.1**	**-0.1**
GRMC	**Gramalote, San**	**2.79**	**174**	*e*P	**Pn**	**00 23 44.1**	**-1.4**
GRMC				*e*S	**Sn**	**00 24 14.4**	**-4.8**
GRMC				*i*		00 24 18.7	
	comp=Z,122nm,0.3s						
CBRI	**Barrientos, No**	**2.79**	**174**	*e*P	**Pn**	**00 23 46.6**	**+1.1**
CBRI				*i*		00 24 25.3	
	comp=Z,121nm,0.7s						
SDV	**Santo Domingo**	**2.93**	**123**	*e*P	**Pn**	**00 23 48.7**	**+1.5**
SDV				*e*S	**Sn**	**00 24 23.0**	**+0.6**
SDV				*i*		00 24 26.4	
	comp=Z,54nm,0.3s						
MOTC	**Monteria, Cord**	**3.05**	**236**	*e*P	**Pn**	**00 23 49.7**	**+1.1**
MOTC				*i*		00 24 18.2	
	comp=Z,12nm,0.8s						
MOTC				*e*S	**Sn**	**00 24 24.3**	**-0.7**
SOCV	**Socops**	**3.14**	**135**	*e*P	**Pn**	**00 23 51.1**	**+1.3**
CURV	**Curarigua**	**3.14**	**99**	*e*P	**Pn**	**00 23 51.4**	**+1.5**
CURV				*e*S	**Sn**	**00 24 26.4**	**-0.7**
PAMC	**Pamplona, Colo**	**3.18**	**173**	*e*P	**Pn**	**00 23 52.3**	**+1.5**
PAMC				*e*S	**Sn**	**00 24 28.4**	**-0.3**
SIQV	**Siquisique**	**3.25**	**87**	*e*P	**Pn**	**00 23 52.1**	**+0.8**
MONV	**Montecano**	**3.40**	**65**	*e*P	**Pn**	**00 23 54.1**	**+0.9**
MONV				*e*S	**Sn**	**00 24 32.2**	**-1.0**
BRRC	**Barranca, Sant**	**3.43**	**190**	*e*P	**Pn**	**00 23 55.1**	**+1.4**
BRRC				*i*		00 23 55.7	
	comp=Z,37nm,0.2s						
BRRC				*e*S	**Sn**	**00 24 34.0**	**0.0**
SANV	**Sanarito**	**3.66**	**106**	*e*P	**Pn**	**00 23 58.5**	**+1.7**
SANV				*e*S	**Sn**	**00 24 38.9**	**-0.7**
BARC	**Barichara**	**3.89**	**181**	*e*S	**Sn**	**00 24 45.7**	**+0.4**
TEPV	**Terepaima**	**3.90**	**98**	*e*P	**Pn**	**00 24 10.8**	**+0.9**
TEPV				*e*S	**Sn**	**00 24 43.1**	**-2.0**
CAPC	**Capurgana**	**4.58**	**246**	*e*P	**Pn**	**00 24 10.4**	**+1.5**
CAPC				*i*		00 24 57.7	
	comp=Z,13nm,0.6s						
MAPV	**Macapo**	**4.63**	**98**	*e*P	**Pn**	**00 24 10.8**	**+1.1**
MAPV				*e*S	**Sn**	**00 25 00.7**	**-1.9**
TURV	**Turiamo**	**5.18**	**90**	*e*P	**Pn**	**00 24 18.1**	**+1.0**
TURV				*e*S	**Sn**	**00 25 13.2**	**-2.7**
BAUV	**El Baul**	**5.24**	**107**	*e*P	**Pn**	**00 24 18.2**	**+0.5**
BAUV				*e*S	**Sn**	**00 25 13.9**	**-3.2**
BIRV	**Birongo**	**6.73**	**90**	*e*P	**Pn**	**00 24 38.6**	**+0.7**
CUPV	**Cœpira**	**7.22**	**93**	*e*P	**Pn**	**00 24 45.2**	**+0.6**
PCRV	**Puerto La Cruz**	**8.35**	**92**	*e*P	**Pn**	**00 25 00.7**	**+0.9**

*IDC **19** 00:24:20.5±2.2, 35°.39N×27°.74E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/51, mbtmp3.1/3, ML2.4/1, Error ellipse: s-maj=66.7km s-min=23.7km az=143.0*
*ATH **19** 00:24:24.8, 35°.46N×27°.72E, h31km±1km, ML2.6/3, Error ellipse: s-maj=4.2km s-min=1.5km az=333.0*
*ISCJB **19** 00:24:26.0±0.9, 35°.47N±0°.06×27°.71E±0°.04, h30km±6km, mb3.1/2, Error ellipse: s-maj=10.4km s-min=4.3km az=160.0*
*CSEM **19** 00:24:25.4±0.4, 35°.44N×27°.73E, h15km, ML2.6, Error ellipse: s-maj=12.7km s-min=5.2km az=162.0*
*DDA **19** 00:24:30.1, 35°.78N×27°.94E, h54km, Ml3.0*

ISC 19 00:24:23.0±1.4, **35°.40N**±0°.05×**27°.77E**±0°.03, **h14**km±11km, **n47**, σ1$57/61, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.52**	**287**	P	**Pb**	**00 24 33.8**	**-0.2**
KARP				S	**Sb**	**00 24 42.6**	**+1.2**
KARP	**Karpathos**	**0.52**	**287**	P	**Pb**	**00 24 33.9**	**-0.2**
KARP				S	**Sb**	**00 24 42.6**	**+1.2**
KARP				AML	AML	00 24 43.7	
	comp=N,2821μm,0.3s						
KARP				AML	AML	00 24 45.0	
	comp=E,2485μm,0.3s						
ARG	**Arkhangelos**	**0.86**	**19**	P	**Pn**	**00 24 42.3**	**+1.5**
ARG				S	**Sb**	**00 24 53.1**	**+1.8**
ZKR	**Zakros**	**1.30**	**258**	P	**Pn**	**00 24 47.2**	**+0.3**
ZKR	**Zakros**	**1.30**	**258**	P	**Pn**	**00 24 47.1**	**+0.3**
ZKR				AML	AML	00 25 15.8	
	comp=N,558μm,0.6s						
ZKR				AML	AML	00 25 17.5	
	comp=E,470μm,1.2s						
TURN	**Turunc**	**1.62**	**24**	*i* P	**Pn**	**00 24 50.6**	**-0.6**
TURN				*i* S	**Sn**	**00 25 08.7**	**-3.1**
KSL	**Kastellorizon**	**1.65**	**63**	P	**Pn**	**00 24 52.9**	**+1.3**
KSL				S	**Sb**	**00 25 15.5**	**+1.6**
KSL				AML	AML	00 25 17.2	
	comp=E,198μm,0.7s						
KSL				AML	AML	00 25 19.2	
	comp=N,130μm,0.6s						
BDRM	**Kayabasi**	**1.68**	**351**	P	**Pn**	**00 24 53.1**	**+1.0**
BDRM	**Kayabasi**	**1.68**	**351**	*i* P	**Pn**	**00 24 53.1**	**+1.0**
AKAS	**Kas**	**1.71**	**60**	P	**Pb**	**00 24 54.4**	**+0.2**
AKAS				S	**Sb**	**00 25 16.6**	**+1.0**
AKAS	**Kas**	**1.71**	**60**	*i* P	**Pb**	**00 24 54.4**	**+0.2**
AKAS				*i* S	**Sb**	**00 25 16.6**	**+1.0**
NPS	**Neapolis**	**1.77**	**266**	P	**Pg**	**00 24 56.7**	**-0.4**
NPS	**Neapolis**	**1.77**	**266**	P	**Pg**	**00 24 56.7**	**-0.4**
LAST	**Lasithi**	**1.89**	**263**	P	**Pb**	**00 24 57.5**	**+0.1**
LAST	**Lasithi**	**1.89**	**263**	P	**Pb**	**00

TORD	**Torodi Ar. Bea**	**32.31**	**233**	P		**P**	**00 30 51.2**	**-0.5**
	comp=N,0.3nm,0.5s,baz=36,slow=8.6,SNR=6.6							

DJA 19 00:26:16.9±1.1, 8°S±6′×10°7′E±°, h20km±7km, M3.9/6, MLv3.9/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CISI	**Cisompet, Garu**	**0.60**	**34**	P	Pn		00 26 29.8	-0.6
CISI				S	Sn		00 26 38.8	-0.8
CNJI	**Cibinong**	**0.82**	**335**	P	Pb		00 26 32.8	+0.3
CNJI				S	Sn		00 26 44.6	-0.3
CMJI	**Cimerak**	**1.00**	**74**	P	Pb		00 26 35.5	0.0
LEM	**Lembang**	**1.23**	**6**	P	Pb		00 26 45.4	+5.8
SKJI	**Sukabumi**	**1.39**	**319**	P	Pn		00 26 41.5	+0.3
SKJI				S	Sn		00 26 58.4	-0.6
KPJI	**Karang Pucung**	**1.61**	**63**	P	Pn		00 26 44.4	+0.2
CGJI	**Cibinong**	**2.28**	**309**	P	Pn		00 26 53.2	-0.3
UGM	**Wanagama**	**3.02**	**87**	P	Pn		00 27 03.1	-0.5
PCJI	**Pacitan**	**3.66**	**92**	P	Pn		00 27 12.7	+0.2
PWJI	**Pagerwojo**	**4.28**	**90**	P	Pn		00 27 20.8	-0.2

ATH 19 00:27:56.9, 35°.38N×27°.72E, h28km±3km, ML2.2/3, Error ellipse: s-maj=7.5km s-min=1.5km az=334.0
CSEM 19 00:27:58.4±0.4, 35°.51N×27°.69E, h15km, ML2.2, Error ellipse: s-maj=13.1km s-min=5.1km az=157.0
DDA 19 00:28:32.0, 36°.15N×28°.10E, h14km, Md2.6
ISC 19 00:27:55.9±1.4, 35°.54N±0°.05×27°.72E±0°.03, h1km±13km, n21, σ0°83/32, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KARP	**Karpathos**	**0.45**	**271**	P	**Pb**		**00 28 07.0**	**+0.3**
KARP				S	**Sb**		**00 28 13.5**	**-0.5**
KARP	**Karpathos**	**0.45**	**271**	P	**Pb**		**00 28 07.0**	**+0.3**
KARP				S	**Sb**		**00 28 13.5**	**-0.5**
KARP				AML	AML		00 28 15.6	
	comp=E,1015μm,0.4s							
KARP				AML	AML		00 28 16.6	
	comp=N,968μm,0.2s							
ARG	**Arkhangelos**	**0.75**	**26**	P	**Pn**		**00 28 14.8**	**+1.1**
ARG				S	**Sn**		**00 28 27.9**	**+2.1**
ZKR	**Zakros**	**1.30**	**251**	P	**Pg**		**00 28 21.5**	**+0.8**
ZKR				S	**Sb**		**00 28 36.5**	**-1.7**
ZKR	**Zakros**	**1.30**	**251**	P	**Pg**		**00 28 21.5**	**+0.8**
ZKR				S	**Sb**		**00 28 36.5**	**-1.7**
ZKR				AML	AML		00 28 47.9	
	comp=N,264μm,0.9s							
ZKR				AML	AML		00 28 50.0	
	comp=E,206μm,1.2s							
TURN	**Turunc**	**1.51**	**28**	*i* P	**Pn**		**00 28 23.6**	**-0.6**
TURN				*i* S	**Sg**		**00 28 44.4**	**-0.1**
BDRM	**Kayabasi**	**1.54**	**352**	P	**Pg**		**00 28 25.7**	**+0.3**
BDRM				S	**Sg**		**00 28 45.5**	**+0.1**
BDRM	**Kayabasi**	**1.54**	**352**	*i* P	**Pg**		**00 28 25.7**	**+0.3**
BDRM				*i* S	**Sg**		**00 28 45.5**	**+0.1**
KSL	**Kastellorizon**	**1.64**	**68**	P	**Pn**		**00 28 25.4**	**-0.4**
KSL				AML	AML		00 28 48.5	
	comp=N,59μm,1.4s							
KSL				S	**Sg**		**00 28 49.3**	**+0.9**
KSL				AML	AML		00 28 49.7	
	comp=E,103μm,0.7s							
AKAS	**Kas**	**1.68**	**65**	P	**Pb**		**00 28 27.6**	**-0.2**
AKAS				S	**Sg**		**00 28 50.0**	**0.0**
AKAS	**Kas**	**1.68**	**65**	*i* P	**Pb**		**00 28 27.6**	**-0.2**
AKAS				*i* S	**Sg**		**00 28 50.0**	**0.0**
NPS	**Neapolis**	**1.74**	**262**	P	**Pg**		**00 28 29.1**	**-0.1**
NPS	**Neapolis**	**1.74**	**262**	P	**Pg**		**00 28 29.1**	**-0.1**
LAST	**Lasithi**	**1.87**	**259**	P	**Pb**		**00 28 30.3**	**-0.6**
LAST	**Lasithi**	**1.87**	**259**	P	**Pb**		**00 28 30.3**	**-0.6**
GOLH	**Golhisar**	**2.26**	**41**	P	**Pb**		**00 28 36.4**	**-1.1**
GOLH	**Golhisar**	**2.26**	**41**	*i* P	**Pb**		**00 28 36.4**	**-1.1**
IDI	**Anoyia**	**2.32**	**265**	P	**Pn**		**00 28 35.9**	**+0.6**
IDI	**Anoyia**	**2.32**	**265**	P	**Pn**		**00 28 35.9**	**+0.6**
APE	**Apeiranthos**	**2.33**	**312**	P	**Pn**		**00 28 35.0**	**-0.5**
APE	**Apeiranthos**	**2.33**	**312**	P	**Pn**		**00 28 35.0**	**-0.5**

IDC 19 00:29:14.8±7.4, 17°.45S×178°.98W, h527km±78km, mb3.3/5, mb1 3.6/5, mb1mx3.1/36, mbtmp4.2/5, Error ellipse: s-maj=82.0km s-min=32.8km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**38.38**	**240**	P	P		00 35 50.3	-0.5
	3.5nm,0.5s,baz=80,slow=6.2,SNR=6.6							
WRA	**Warramunga Arr**	**44.18**	**259**	P	P		00 36 36.7	-0.4
	2.2nm,0.6s,baz=96,slow=7.6,SNR=24							
WRA				PcP	PcP		00 38 09.9	-0.6
	1.3nm,0.8s,baz=96,slow=3.3,SNR=3.4							
ASAR	**Alice Springs**	**44.40**	**254**	P	P		00 36 39.1	+0.4
	21nm,0.5s,baz=88,slow=8.1,SNR=383							
ASAR				PcP	PcP		00 38 10.8	-0.5
	0.8nm,0.4s,baz=104,slow=3.8,SNR=6.1							
ILAR	**Eielson Array**	**85.56**	**13**	P	P		00 40 56.0	-0.7
	0.2nm,0.5s,baz=245,slow=3.9,SNR=4.1							
TXAR	**Lajitas Array**	**86.21**	**58**	P	P		00 41 01.0	+0.2
	0.4nm,0.8s,baz=211,slow=5.7,SNR=5.4							
BRTR	**Keskin Array B**	**144.08**	**315**	PKP	PKPbc		00 47 50.1	0.0
	1.6nm,0.9s,baz=117,slow=3.2,SNR=9.7							
GERES	**GERESS Array B**	**147.03**	**345**	PKPbc	PKPbc		00 47 58.0	-0.3
	0.8nm,0.5s,baz=1.0,slow=8.0,SNR=6.1							

NIED 19 00:39:00, 39°.90N×143°.50E, h17km, Mw3.6 Best double couple: M0 2.90000×10^14 NP1:φs184.00000°, δ19.00000°, λ63.00000°. NP2:φs33.00000°, δ74.00000°, λ99.00000°.
IDC 19 00:39:36.2±7.0, 39°.52N×144°.33E, h0km, mb3.8/3, mb1 3.7/7, mb1mx3.4/41, mbtmp3.7/7, ML3.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/44, Error ellipse: s-maj=113.8km s-min=37.9km az=116.0
ISCJB 19 00:39:41.3±0.9, 39°.76N±0°.06×143°.54E±0°.09, h6km, mb4.1/11, Error ellipse: s-maj=11.6km s-min=5.9km az=38.6
JMA 19 00:39:43.1±0.3, 39°.88N×143°.47E, h15km±5km, M3.7
NEIC 19 00:39:51.8±1.0, 40°.10N×142°.55E, h35km, mb4.3/8, Error ellipse: s-maj=22.6km s-min=9.8km az=123.0
ISC 19 00:39:42.7±1.3, 39°.84N±0°.07×143°.42E±0°.08, h6km, n35, σ1°62/28, mb4.1/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
JTH	**Tanohata**	**1.20**	**275**	P	**Pg**		**00 40 05.5**	**-0.3**
JTH				S	**Sg**		**00 40 21.9**	**+0.6**
MIYJ	**Miyakonagasawa**	**1.26**	**259**	P	**Pn**		**00 40 06.7**	**-0.2**
JANG	**Nango**	**1.56**	**291**	P	**Pn**		**00 40 10.6**	**-0.3**
JOM	**Ohasama**	**1.68**	**258**	P	**Pn**		**00 40 13.4**	**+0.7**
JOM				S	**Sn**		**00 40 34.8**	**+0.3**
JTM	**Tenmabayashi**	**2.03**	**299**	P	**Pn**		**00 40 18.2**	**+0.7**
JIO	**Ouri**	**2.12**	**230**	P	**Pn**		**00 40 18.5**	**-0.2**
JAH	**Hinai**	**2.17**	**280**	P	**Pn**		**00 40 20.5**	**+1.2**
ERM	**Erimo**	**2.19**	**355**	*e*Pn	**Pb**		**00 40 21.4**	**-1.2**
JEM	**Erimo**	**2.19**	**355**	P	**Pb**		**00 40 21.4**	**-1.3**
JOT	**Ohata**	**2.38**	**311**	P	**Pn**		**00 40 23.3**	**+1.1**
JKB	**Kayabe**	**2.73**	**319**	P	**Pb**		**00 40 29.7**	**-2.3**
JCH	**Churui**	**2.78**	**359**	P	**Pn**		**00 40 28.7**	**+1.0**
JCH				*e*S	**Sn**		**00 41 01.0**	**-0.5**
ASAJ	**Asahikawa**	**4.32**	**352**	Pn	**Pn**		**00 40 51.1**	**+2.1**
	baz=107,slow=20							
MAJO	**Matsushiro**	**5.26**	**233**	*e*Pn	**Pn**		**00 41 02.8**	**+0.9**
MJAR	**Matsushiro Arr**	**5.26**	**233**	Pn	**Pn**		**00 41 02.6**	**+0.7**
	1.1nm,0.3s,baz=34,slow=13,SNR=11							
MJAR				LR	LR		00 43 09.7	
	comp=Z,170nm,19.5s,baz=20,slow=38							
USRK	**Ussuriysk Ar.**	**9.56**	**301**	Pn	Pn		00 42 05.7	+4.9
	0.5nm,0.3s,baz=94,slow=16,SNR=4.1							
KSRS	**Korea Array**	**12.35**	**264**	Pn	**Pn**		**00 42 43.5**	**+4.5**
	0.1nm,0.3s,baz=67,slow=13,SNR=2.6							
KSAR	**Wonju Array Be**	**12.38**	**264**	Pn	**Pn**		**00 42 43.5**	**+4.0**
YAK	**Yakutsk**	**23.75**	**344**	*e*P	**P**		**00 44 54.6**	**-0.8**
	9.3nm,0.5s							
SONM	**Songino Array**	**27.66**	**299**	P	**P**		**00 45 30.8**	**-0.6**
	0.3nm,0.3s,baz=79,slow=8.8,SNR=3.8							
H11N2	**WAKE ISLAND Hy**	**28.43**	**128**	T	T		01 13 18.5	
	baz=316,slow=76,SNR=16							
H11N1	**WAKE ISLAND Hy**	**28.44**	**128**	T	T		01 13 19.2	
	baz=316,slow=76,SNR=20							
H11N3	**WAKE ISLAND Hy**	**28.45**	**128**	T	T		01 13 19.9	
	baz=316,slow=76,SNR=16							

ENH	**Enshi**	**29.22**	**262**	*e*P	**P**		**00 45 45.2**	**-0.1**
	3.4nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**29.25**	**130**	T	T		01 14 22.7	
	baz=318,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**29.25**	**130**	T	T		01 14 21.0	
	baz=318,slow=76,SNR=17							
H11S2	**WAKE ISLAND Hy**	**29.27**	**130**	T	T		01 14 17.3	
	baz=318,slow=76,SNR=14							
ZALV	**Zalesovo Beam**	**41.25**	**310**	P	**P**		**00 47 28.9**	**+0.5**
	1.3nm,0.4s,baz=89,slow=8.2,SNR=5.3							
MKAR	**Makanchi Array**	**44.02**	**300**	P	**P**		**00 47 51.7**	**+0.7**
	0.6nm,0.8s,baz=84,slow=11,SNR=3.7							
KURK	**Kurchatov**	**45.50**	**306**	*e*P	**P**		**00 48 01.8**	**-0.8**
	8.8nm,0.5s							
SML	**Sawmill**	**45.81**	**38**	*e*P	P		00 48 11.8	+6.7
	1.0nm,0.5s							
AAK	**Ala-Archa**	**50.59**	**297**	P	**P**		**00 48 39.7**	**-2.7**
	1.4nm,0.4s							
EKS2	**Erkin-Say**	**51.07**	**297**	*e*P	**P**		**00 48 45.8**	**-0.1**
	1.1nm,0.6s							
MSVF	**Nonsavu**	**65.75**	**144**	P	P		00 50 41.4	+13
	9.4nm,0.6s							
ELK	**Elko**	**72.56**	**51**	P	P		00 51 18.5	+7.5
	0.6nm,0.6s							

TRN 19 00:45:16.6, 10°.49N×62°.18W, h1km, MD3.6
ISCJB 19 00:45:18.0±0.4, 10°.41N±0°.05×62°.38W±0°.02, h24km±5km, Error ellipse: s-maj=8.7km s-min=3.6km az=168.2
FUNV 19 00:45:17.0, 10°.29N×62°.26W, h5km, MW3.2
ISC 19 00:45:15.9±1.3, 10°.37N±0°.04×62°.30W±0°.03, h14km±11km, n20, σ1°76/37, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
GUIV	**Guiria**	**0.28**	**16**	*i* P	**Pn**		**00 45 24.2**	**-1.5**
GUIV				*e*S	**Sb**		**00 45 29.2**	**+1.8**
TCE	**Chacachacare**	**0.63**	**59**	*e*P	**Pn**		**00 45 29.8**	**-0.6**
TCE				*e*S	**Sn**		**00 45 38.6**	**-1.7**
GUNV	**Guanoco**	**0.67**	**252**	*e*P	**Pg**		**00 45 29.3**	**+0.4**
GUNV				*e*S	**Sb**		**00 45 39.5**	**+1.0**
TPP	**Pointe-a-Pierr**	**0.84**	**94**	*e*P	**Pn**		**00 45 35.1**	**+1.8**
TPP				*e*S	**Sn**		**00 45 48.7**	**+3.2**
TRN	**Trinidad (W)**	**0.92**	**73**	*e*P	**Pn**		**00 45 34.9**	**+0.4**
TRN				*e*S	**Sn**		**00 45 50.1**	**+2.5**
CRUV	**Carupano**	**0.97**	**288**	*e*P	**Pb**		**00 45 34.5**	**0.0**
CRUV				*e*S	**Sb**		**00 45 48.1**	**+1.0**
TBH	**Brigand Hill**	**1.22**	**85**	*e*P	**Pg**		**00 45 41.7**	**+2.3**
ORIV	**Oritupano**	**1.69**	**220**	*e*P	**Pb**		**00 45 46.7**	**-0.2**
ORIV				*e*S	**Sb**		**00 46 08.3**	**+0.2**
BOT	**Bacolet**	**1.74**	**63**	*e*P	**Pg**		**00 45 49.4**	**0.0**
TOSP	**Speyside**	**1.96**	**62**	*e*P	**Pg**		**00 45 51.3**	**-2.3**
TOSP				*e*S	**Sg**		**00 46 17.2**	**-1.9**
PCRV	**Puerto La Cruz**	**2.31**	**265**	*e*P	**Pn**		**00 45 55.0**	**+1.4**
PCRV				*e*S	**Sn**		**00 46 22.9**	**+1.1**
RIOV	**Rio Grande**	**2.34**	**168**	*e*P	**Pn**		**00 45 54.4**	**+0.3**
PRGV	**PARIAGUAN**	**2.81**	**235**	*e*P	**Pn**		**00 46 01.1**	**+0.6**
PRGV				*e*S	**Sn**		**00 46 35.1**	**+0.8**
CUPV	**Cœpira**	**3.45**	**265**	*e*P	**Pn**		**00 46 11.0**	**+1.7**
CUPV				*e*S	**Sn**		**00 46 50.9**	**+0.8**
BIRV	**Birongo**	**3.91**	**272**	*e*P	**Pn**		**00 46 16.7**	**+1.1**
BIRV				*e*S	**Sn**		**00 47 01.4**	**+0.2**
MERV	**Las Mercedes**	**4.09**	**255**	*e*P	**Pn**		**00 46 19.5**	**+1.3**
MERV				*e*S	**Sn**		**00 47 05.7**	**-0.2**
LUEV	**Luepa**	**4.58**	**169**	*e*P	**Pn**		**00 46 23.7**	**-1.3**
LUEV				*e*S	**Sn**		**00 47 14.2**	**-3.9**
TURV	**Turiamo**	**5.45**	**271**	*e*P	**Pn**		**00 46 38.1**	**+1.3**
TURV				*e*S	**Sn**		**00 47 37.5**	**-1.8**
BAUV	**El Baul**	**5.84**	**256**	*e*P	**Pn**		**00 46 42.3**	**+0.2**
BAUV				*e*S	**Sn**		**00 47 45.9**	**-3.0**
TEPV	**Terepaima**	**6.80**	**267**	*e*P	**Pn**		**00 46 55.7**	**+0.3**
TEPV				*e*S	**Sn**		**00 48 08.8**	**-3.8**

IDC 19 00:47:31.2±1.9, 0°.02N×125°.65E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/29, mbtmp3.6/3, Error ellipse: s-maj=185.6km s-min=25.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**157**	P	P		00 52 22.0	-0.7
	0.7nm,0.4s,baz=335,slow=11,SNR=7.4							
ASAR	**Alice Springs**	**24.87**	**162**	P	P		00 52 56.3	+0.5
	0.6nm,0.5s,baz=345,slow=9.0,SNR=8.7							
MKAR	**Makanchi Array**	**60.01**	**327**	P	P		00 57 39.7	-0.1
	0.5nm,0.5s,baz=126,slow=8.1,SNR=8.5							

NEIC 19 00:48:22.1, 36°.85S×178°.67W, h79km, ML4.4(WEL), After WEL.
WEL 19 00:48:49.5±0.5, 37°.57S×179°.00E, h33km, ML3.3/6, 1C-2D, Error ellipse: s-maj=4.7km s-min=3.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WMGZ	**Waiomatatini S**	**0.53**	**241**	PN	Pb		00 48 59.8	-0.7
WMGZ				SN	Sb		00 49 07.9	-0.2
WMGZ	**Waiomatatini S**	**0.53**	**241**	Pn	Pb		00 48 59.8	-0.7
MXZ	**Matakaoa Point**	**0.55**	**270**	⇑PN	Pb		00 49 00.1	-0.7
MXZ				SN	Sb		00 49 08.4	-0.2
MXZ				AML	AML		00 49 09.3	
MXZ				AML	AML		00 49 11.7	
MXZ	**Matakaoa Point**	**0.55**	**270**	Pn	Pb		00 49 00.1	-0.7
PUZ	**Puketiti**	**0.77**	**229**	⇓PN	Pn		00 49 03.3	-0.8
PUZ				SN	Sn		00 49 14.1	-0.6
PUZ				AML	AML		00 49 14.9	
PUZ	**Puketiti**	**0.77**	**229**	Pn	Pn		00 49 03.3	-0.8
HAZ	**Te Kaha**	**0.98**	**259**	⇓PN	Pn		00 49 06.9	0.0
HAZ				SN	Sn		00 49 19.9	+0.2
TWGZ	**Tauwhareparae**	**1.01**	**233**	PN	Pn		00 49 07.0	-0.3
TWGZ	**Tauwhareparae**	**1.01**	**233**	Pn	Pn		00 49 07.0	-0.3
TKGZ	**Te Karaka**	**1.26**	**226**	PN	Pn		00 49 10.1	-0.7
TKGZ	**Te Karaka**	**1.26**	**226**	Pn	Pn		00 49 10.1	-0.7
MWZ	**Matawai**	**1.39**	**236**	PN	Pn		00 49 12.1	-0.6
MWZ				AML	AML		00 49 35.6	
MWZ				AML	AML		00 49 49.9	
MWZ	**Matawai**	**1.39**	**236**	Pn	Pn		00 49 12.1	-0.6
URZ	**Urewera**	**1.65**	**245**	PN	Pn		00 49 16.5	+0.5
URZ	**Urewera**	**1.65**	**245**	Pn	Pn		00 49 16.5	+0.5
SNGZ	**Shannon Statio**	**1.78**	**227**	PN	Pn		00 49 17.0	-1.0
SNGZ	**Shannon Statio**	**1.78**	**227**	Pn	Pn		00 49 17.0	-1.0
KNZ	**Kokohu**	**1.79**	**215**	PN	Pn		00 49 17.1	-0.9
KNZ	**Kokohu**	**1.79**	**215**	Pn	Pn		00 49 17.1	-0.9
ARHZ	**Aropaoanui**	**2.31**	**222**	PN	Pn		00 49 24.6	-0.7
ARHZ	**Aropaoanui**	**2.31**	**222**	Pn	Pn		00 49 24.6	-0.7
BKZ	**Black Stump Fm**	**2.54**	**230**	PN	Pn		00 49 27.7	-0.7
BKZ	**Black Stump Fm**	**2.54**	**230**	Pn	Pn		00 49 27.7	-0.7
MCHZ	**McNeill Hill**	**2.60**	**223**	PN	Pn		00 49 28.2	-1.0
MCHZ	**McNeill Hill**	**2.60**	**223**	Pn	Pn		00 49 28.2	-1.0
KWHZ	**Kaweka Forest**	**2.74**	**227**	PN	Pn		00 49 30.0	-1.2
KUZ	**Kuaotunu**	**2.74**	**286**	PN	Pn		00 49 31.3	+0.2
KUZ	**Kuaotunu**	**2.74**	**286**	Pn	Pn		00 49 31.3	+0.2
BFZ	**Birch Farm**	**3.77**	**214**	PN	Pn		00 49 42.0	-3.4
BFZ	**Birch Farm**	**3.77**	**214**	Pn	Pn		00 49 42.0	-3.4
MRZ	**Mangatainoka R**	**4.08**	**220**	PN	Pn		00 49 46.4	-3.1
MRZ	**Mangatainoka R**	**4.08**	**220**	Pn	Pn		00 49 46.4	-3.1

NSSC 19 00:49:50.8±2.5, 32°.96N×35°.59E, h31km±12km, ML1.4
ISCJB 19 00:49:52.5±0.7, 32°.93N±0°.03×35°.69E±0°.06, h28km±5km, Error ellipse: s-maj=8.8km s-min=5.3km az=166.2
JSO 19 00:49:52.8±1.1, 32°.93N×35°.68E, h20km±35km, MD2.2
CSEM 19 00:49:52.4±0.1, 32°.93N×35°.68E, h17km±1km, ML2.2, Error ellipse: s-maj=7.6km s-min=1.1km az=94.0
GRAL 19 00:49:53.5±0.3, 32°.94N×35°.74E, h9km±3km, MD2.7
ISC 19 00:49:52.5±1.1, 32°.94N±0°.03×35°.71E±0°.06, h26km±9km, n15, σ0°69/22, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
SHMJ	**Saham**	**0.21**	**168**	*e*P	**Pb**		**00 49 58.3**	**-0.1**
SHMJ				*e*S	**Sb**		**00 50 02.3**	**-0.2**
TCHB	**Talchebab**	**0.34**	**141**	*e*P	**Pb**		**00 50 00.5**	**+0.2**
TCHB				*e*S	**Sb**		**00 50 06.1**	**+0.5**
TCHB				AML	AML		00 50 06.8	
	comp=N,56nm,0.3s							
TCHB				AML	AML		00 50 09.9	
	comp=E,22nm,0.2s							
RCY	**Rachaya**	**0.57**	**11**	*e*P	**Pb**		**00 50 03.8**	**-0.3**
RCY				*e*S	**Sb**		**00 50 11.3**	**-0.5**
AJLJ	**Ajlon**	**0.61**	**179**	*e*P	**Pb**		**00 50 04.3**	**-0.3**
QRNJ	**Al-Qirein**	**0.61**	**191**	*e*P	**Pb**		**00 50 04.2**	**-0.4**
TOTH	**TOTAH**	**0.74**	**55**	*e*P	**Pn**		**00 50 07.4**	**0.0**
TOTH				*e*S	**Sb**		**00 50 16.7**	**+0.2**
TOTH				AML	AML		00 50 19.2	
	comp=N,16nm,0.3s							
TOTH				AML	AML		00 50 19.6	
	comp=E,35nm,0.3s							
DQRL	**Deir Qamar**	**0.78**	**351**	*e*P	**Pb**		**00 50 07.6**	**+0.1**
DQRL				*e*S	**Sb**		**00 50 18.0**	**+0.3**
DQRL	**Deir Qamar**	**0.78**	**351**	*e*P	**Pb**		**00 50 07.6**	**+0.1**
DQRL				*e*S	**Sb**		**00 50 18.0**	**+0.3**
SALA	**Sala**	**0.89**	**104**	*e*P	**Pn**		**00 50 10.7**	**+1.1**
SALA				*e*S	**Sn**		**00 50 23.2**	**+1.4**
SALA				AML	AML		00 50 26.4	
	comp=E,1.0nm,0.2s							
SALA				AML	AML		00 50 26.5	
	comp=N,9.5nm,0.3s							
BHL	**Bhannes**	**0.96**	**357**	*e*P	**Pn**		**00 50 10.7**	**+0.1**
BHL	**Bhannes**	**0.96**	**357**	*e*P	**Pn**		**00 50 10.6**	**+0.1**
HWQ	**Hawqa**	**1.35**	**8**	*e*P	**Pb**		**00 50 17.0**	**-0.3**
HWQ	**Hawqa**	**1.35**	**8**	*e*P	**Pb**		**00 50 17.0**	**-0.3**
ZALF	**Zalf**	**1.37**	**90**	*e*P	**Pn**		**00 50 14.2**	**-1.8**
ZALF				*e*S	**Sn**		**00 50 32.5**	**-0.8**
ZALF				AML	AML		00 50 34.8	
	comp=N,9.1nm,0.3s							
ZALF				AML	AML		00 50 34.9	
	comp=E,17nm,0.6s							
KARJ		**1.81**	**182**	*e*P	Pn		00 50 11.1	-11

ISK 19 00:56:03.7, 39°.09N×29°.03E, h5km, MD3.0
DDA 19 00:56:04.6, 39°.12N×29°.03E, h7km, Md3.0
CSEM 19 00:56:04.9±0.1, 39°.10N×29°.04E, h0km±1km, MD3.0, Error ellipse: s-maj=3.0km s-min=1.9km az=174.0
ISC 19 00:56:05.0±1.0, 39°.11N±0°.02×29°.04E±0°.02, h8km±8km, n77, σ0°75/94, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DEMI	**Demirci**	**0.26**	**256**	P	**Pg**		**00 56 10.2**	**0.0**
DEMI				S	**Sg**		**00 56 14.0**	**+0.3**
DEMI	**Demirci**	**0.26**	**256**	*i* P	**Pg**		**00 56 10.2**	**0.0**
DEMI				*i* S	**Sg**		**00 56 14.0**	**+0.3**
GEDZ	**Gediz**	**0.30**	**102**	*e*PG	**Pg**		**00 56 10.9**	**0.0**
GEDZ				*e*SG	**Sb**		**00 56 16.4**	**-1.3**
GEDZ	**Gediz**	**0.30**	**102**	*e*Pg	**Pg**		**00 56 10.9**	**0.0**
GEDZ				*e*Sg	**Sb**		**00 56 16.4**	**-1.3**
GDZ	**Gediz**	**0.34**	**93**	P	**Pg**		**00 56 11.6**	**-0.3**
GDZ				S	**Sg**		**00 56 16.5**	**+0.1**
GDZ	**Gediz**	**0.34**	**93**	*i* P	**Pg**		**00 56 11.6**	**-0.3**
GDZ				*i* S	**Sg**		**00 56 16.5**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**44**	*e*PG	**Pg**		**00 56 13.7**	**-0.6**
TVSB	**Tavsanli**	**0.47**	**44**	*e*Pg	**Pg**		**00 56 13.7**	**-0.6**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG	**Pg**		**00 56 17.4**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg	**Pg**		**00 56 17.4**	**-0.4**
KHL	**Karahalli**	**0.87**	**154**	*e*PG	**Pg**		**00 56 21.2**	**-0.6**
KHL	**Karahalli**	**0.87**	**154**	*e*Pg	**Pg**		**00 56 21.2**	**-0.6**
AKS	**Akhisar**	**0.98**	**257**	*e*PG	**Pg**		**00 56 23.6**	**-0.3**
AKS	**Akhisar**	**0.98**	**257**	*e*Pg	**Pg**		**00 56 23.6**	**-0.3**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pg**		**00 56 24.9**	**-0.1**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pg**		**00 56 25.0**	**-0.1**
IGD	**Bursa**	**1.16**	**6**	*i* P	**Pg**		**00 56 25.6**	**-1.7**
IGD				*i* S	**Sn**		**00 56 43.2**	**-0.4**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN	**Pg**		**00 56 29.2**	**+0.1**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*Pn	**Pg**		**00 56 29.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pg**		**00 56 29.5**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn	**Pg**		**00 56 29.5**	**+0.2**
BALY	**Balya**	**1.27**	**300**	P	**Pn**		**00 56 28.9**	**-0.1**
BALY	**Balya**	**1.27**	**300**	*i* P	**Pn**		**00

comp=Z,23nm,0.6s
QARV Quebrada Arrib 1.85 29 *e*S **Sn 01 24 02.7 -0.3**
QARV Quebrada Arrib 1.85 29 *e*P **Pb 01 23 41.7 +0.4**
QARV *e*S **Sg 01 24 06.7 +0.1**
OCAC Ocana 1.91 260 *e*P **Pb 01 23 41.9 -0.3**
OCAC *e*S **Sb 01 24 06.2 0.0**
OCAC *i* 01 24 09.6
comp=Z,42nm,0.5s
CURV Curarigua 2.04 45 *e*P **Pb 01 23 43.9 -0.4**
CURV *e*S **Sg 01 24 12.0 -0.4**
SANV Sanarito 2.08 63 *e*S **Sn 01 24 08.4 -0.4**
SANV Sanarito 2.08 63 *e*P **Pn 01 23 44.1 +1.7**
SANV *e*S **Sb 01 24 12.7 +1.3**
VIRV Villa del Rosa 2.15 333 *e*P **Pn 01 23 42.9 -0.4**
VIRV *e*S **Sn 01 24 09.7 -0.7**
VIRV Villa del Rosa 2.15 333 *e*P **Pn 01 23 42.7 -0.6**
VIRV *e*S **Sn 01 24 10.1 -0.3**
GIRC Giron, Santand 2.29 230 *e*P **Pb 01 23 47.6 -1.3**
DABV Dabajuro 2.46 18 *e*P **Pn 01 23 48.5 +0.9**
DABV *e*S **Sn 01 24 20.4 +2.3**
ELOV Elorza 2.47 129 *e*P **Pn 01 23 46.8 -1.0**
ELOV *e*S **Sn 01 24 17.2 -1.1**
TEPV Terepaima 2.60 58 *e*P **Pn 01 23 50.5 +1.0**
TEPV *e*S **Sb 01 24 24.9 -1.4**
SIQV Siquisique 2.61 37 *e*P **Pn 01 23 51.2 +1.5**
SIQV *e*S **Sb 01 24 25.1 -1.4**
BAUV El Baul 3.36 83 *e*S **Sn 01 24 38.3 -2.0**
BAUV El Baul 3.36 83 *e*P **Pn 01 24 00.6 +0.6**
BAUV *e*S **Sn 01 24 41.3 +1.0**
MONV Montecano 3.66 23 *e*P **Pn 01 24 02.4 -1.7**
MONV *e*S **Sn 01 24 44.8 -2.7**
MONV Montecano 3.66 23 *e*P **Pn 01 24 04.7 +0.7**
SJCC San Jacinto, C 3.94 290 *e*P **Pn 01 24 10.1 +2.1**
SJCC *i* 01 24 26.2
comp=Z,2.6nm,0.6s
SJCC *e*S **Sn 01 24 56.8 +2.3**
MOTC Monteria, Cord 4.20 273 *e*P **Pn 01 24 13.4 +1.9**
MOTC *i* 01 25 08.3
comp=Z,1.1nm,0.7s

IDC 19 01:30:16.0±3.4, 35°.21S×178°.36E, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.8/29, mbtmp4.0/3, ML3.5/1, MS4.0/5, Ms1 4.0/5, ms1mx3.6/21, Error ellipse: s-maj=72.8km s-min=33.6km az=85.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**3.21**	**198**	Pn	Pn	01 31 06.6	-1.1
	5.1nm,0.3s,baz=252,slow=4.4,SNR=12						
URZ				Sn	Sn	01 31 48.2	+1.7
	4.8nm,0.3s,baz=105,slow=5.8,SNR=3.5						
URZ				T	T	01 34 13.9	
	2.6nm,0.3s,baz=112,slow=20,SNR=3.8						
PMG	**Port Moresby**	**38.34**	**305**	LR	LR	01 51 46.2	
	comp=Z,184nm,18.0s,baz=122,slow=34						
ASAR	**Alice Springs**	**40.09**	**274**	P	P	01 37 54.0	+0.6
	2.4nm,0.8s,baz=117,slow=7.4,SNR=9.6						
ASAR				LR	LR	01 53 42.1	
	comp=Z,209nm,18.6s,baz=182,slow=35						
WRA	**Warramunga Arr**	**41.54**	**280**	P	P	01 38 04.3	-1.1
	2.2nm,1.0s,baz=114,slow=7.8,SNR=4.6						
VNDA	**Vanda**	**43.03**	**185**	LR	LR	01 53 12.3	
	comp=Z,104nm,18.6s,baz=140,slow=32						
NWAO	**Narrogin (SRO)**	**49.98**	**254**	LR	LR	01 57 42.2	
	comp=Z,229nm,18.5s,slow=33						
PLCA	**Paso Flores**	**81.42**	**134**	LR	LR	02 09 57.0	
	comp=Z,58nm,19.4s,baz=181,slow=29						
BRTR	**Keskin Array B**	**151.76**	**290**	PKPbc	PKPbc	01 50 12.9	+0.2
	0.4nm,0.6s,baz=140,slow=4.7,SNR=3.6						

IDC 19 01:41:22.8±0.9, 19°.99N×146°.79E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.6/48, mbtmp3.9/10, ML4.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/35, Error ellipse: s-maj=33.0km s-min=19.4km az=91.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**8.24**	**330**	Pn	Pn	01 43 23.6	0.0
	4.9nm,0.3s,baz=288,slow=20,SNR=2.3						
JCJ				Sn	Sn	01 44 51.6	-5.8
	4.6nm,0.3s,baz=112,slow=23,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**18.85**	**91**	T	T	02 05 24.9	
	baz=280,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**18.86**	**91**	T	T	02 05 21.6	
	baz=280						
H11S2	**WAKE ISLAND Hy**	**18.87**	**91**	T	T	02 05 21.6	
	baz=280						
H11N1	**WAKE ISLAND Hy**	**18.91**	**87**	T	T	02 05 32.7	
	baz=274,slow=74,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**18.92**	**87**	T	T	02 05 16.1	
	baz=274,slow=74,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**18.93**	**87**	T	T	02 05 27.1	
	baz=274,slow=74,SNR=6.6						
KSRS	**Korea Array**	**23.93**	**321**	P	P	01 46 39.3	+0.8
	1.5nm,0.5s,baz=160,slow=10,SNR=10						
TGY	**Tagaytay City**	**25.38**	**261**	LR	LR	01 55 31.2	
	comp=Z,197nm,19.8s,baz=238,slow=33						
WRA	**Warramunga Arr**	**41.52**	**198**	P	P	01 49 12.2	+0.2
	0.4nm,0.7s,baz=28,slow=8.6,SNR=3.1						
SONM	**Songino Array**	**42.80**	**320**	P	P	01 49 22.9	+0.5
	0.5nm,0.4s,baz=130,slow=6.1,SNR=3.8						
ASAR	**Alice Springs**	**45.17**	**197**	P	P	01 49 41.3	-0.3
	0.2nm,0.6s,baz=17,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**58.32**	**313**	P	P	01 51 19.5	-0.2
	0.6nm,0.6s,baz=80,slow=8.8,SNR=4.2						
ILAR	**Eielson Array**	**62.04**	**26**	P	P	01 51 44.7	-0.1
	1.6nm,0.9s,baz=258,slow=5.9,SNR=9.6						
BVAR	**Borovoye Array**	**66.15**	**320**	P	P	01 52 09.7	-2.3
	1.0nm,0.6s,baz=46,slow=11,SNR=4.7						
YKA	**Yellowknife Ar**	**76.37**	**28**	P	P	01 53 14.3	+0.7
	0.9nm,0.6s,baz=287,slow=5.6,SNR=12						
ARCES	**ARCESS Array B**	**81.58**	**342**	P	P	01 53 41.2	-1.0
	1.6nm,0.8s,baz=68,slow=8.0,SNR=3.9						
FINES	**FINESS Array B**	**86.14**	**336**	P	P	01 54 04.5	-1.1
	1.3nm,0.8s,baz=57,slow=5.1,SNR=5.4						

*IDC **19** 01:42:48.6±0.8, 38°.44N×144°.92E, h0km, mb3.8/8, mb1 4.0/12, mb1mx3.7/47, mbtmp3.9/12, ML3.5/3, Error ellipse: s-maj=24.0km s-min=16.2km az=114.0*
*ISCJB **19** 01:42:50.9±0.5, 38°.60N±0°.04×144°.71E±0°.05, h29km, mb4.0/15, Error ellipse: s-maj=6.5km s-min=5.2km az=142.2*
*JMA **19** 01:42:51.6±0.2, 38°.61N×144°.69E, h45km, M3.9*
*NEIC **19** 01:42:53.8±0.5, 38°.53N×144°.75E, h35km, mb4.2/5, Error ellipse: s-maj=12.3km s-min=8.6km az=114.0*
ISC 19 01:42:52.5±0.8, 38°.57N±0°.06×144°.80E±0°.07, h29km, n41, σ2§15/43, mb4.1/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.50**	**283**	P	Pn	01 43 29.9	-1.3
MIYJ	**Miyakonagasawa**	**2.53**	**294**	P	Pn	01 43 30.1	-1.5
MIYJ				*e*S	Sn	01 43 58.5	-3.0
JMK	**Ichinoseki**	**2.83**	**279**	P	Pn	01 43 34.7	-1.0
JMK				S	Sn	01 44 06.8	-2.0
JOM	**Ohasama**	**2.88**	**289**	P	Pn	01 43 35.3	-1.1
JOM				*e*S	Sn	01 44 08.1	-2.0
JANG	**Nango**	**3.12**	**306**	P	Pn	01 43 38.0	-1.7
JYK	**Kaneyama**	**3.49**	**277**	P	Pn	01 43 44.1	-0.7
ERM	**Erimo**	**3.67**	**340**	*e*Pn	Pn	01 43 46.6	-0.7
ERM				*e*Sn	Sn	01 44 25.8	-3.6
JFT	**Otama**	**3.68**	**255**	P	Pn	01 43 47.0	-0.4
JFT				S	Sn	01 44 27.7	-2.1
JCH	**Churui**	**4.19**	**345**	P	Pn	01 43 52.8	-1.6
JKB	**Kayabe**	**4.40**	**320**	P	Pn	01 43 57.5	+0.3
NEM2	**Nemuro 2**	**4.85**	**8**	P	Pn	01 44 00.1	-3.3
JRY	**Ryogami san**	**5.35**	**243**	P	Pn	01 44 08.9	-1.5
JOSM	**Okushiri--Mats**	**5.38**	**312**	P	Pn	01 44 10.3	-0.4
JTKR	**Abashiri--Toko**	**5.44**	**353**	P	Pn	01 44 09.6	-2.0
JTKR				S	Sn	01 45 08.9	-4.3
MJAR	**Matsushiro Arr**	**5.62**	**251**	Pn	Pn	01 44 13.8	-0.3
	3.2nm,0.3s,baz=81,slow=17,SNR=9.8						
MJAR				Sn	Sn	01 45 18.3	+0.7
	1.9nm,0.3s,baz=73,slow=24,SNR=6.4						
MAJO	**Matsushiro**	**5.62**	**251**	*e*Pn	Pn	01 44 13.7	-0.3
	24nm,0.5s						
ASAJ	**Asahikawa**	**5.79**	**344**	Pn	Pn	01 44 16.2	-0.2
ASAJ	**Asahikawa**	**5.79**	**344**	*e*Pn	Pn	01 44 16.7	+0.4
	3.1nm,0.6s						
ASAJ				*e*Sn	Sn	01 45 19.4	-2.4
JHJ	**Hachijo jima 2**	**6.79**	**218**	Pn	Pn	01 44 28.3	-1.9
	9.5nm,0.3s,baz=127,slow=23,SNR=6.5						
JHJ				Sn	Sn	01 45 38.0	-8.6
	19nm,0.3s,baz=84,slow=22,SNR=7.6						
USRK	**Ussuriysk Ar.**	**11.15**	**304**	Pn	Pn	01 45 31.2	+1.4
	0.4nm,0.3s,baz=108,slow=13,SNR=21						
SEY	**Seymchan**	**24.83**	**8**	P	P	01 48 13.8	+1.9
	2.0nm,0.7s,baz=190,slow=12,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**26.80**	**128**	T	T	02 16 17.4	
	baz=323,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.81**	**128**	T	T	02 16 23.1	
	baz=323,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.82**	**128**	T	T	02 16 25.2	
	baz=323,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.61**	**130**	T	T	02 17 23.9	
	baz=326						
H11S3	**WAKE ISLAND Hy**	**27.61**	**130**	T	T	02 17 25.2	
	baz=326						
H11S2	**WAKE ISLAND Hy**	**27.63**	**130**	T	T	02 17 23.7	
	baz=326						
ZALV	**Zalesovo Beam**	**42.90**	**311**	P	P	01 50 59.6	+11
	1.8nm,0.5s,baz=93,slow=8.1,SNR=7.9						
MKAR	**Makanchi Array**	**45.60**	**301**	P	**P**	**01 51 11.8**	**+1.9**
	0.2nm,0.3s,baz=81,slow=9.2,SNR=3.4						
ILAR	**Eielson Array**	**46.76**	**33**	P	**P**	**01 51 19.1**	**+0.4**
	0.6nm,0.7s,baz=260,slow=6.9,SNR=8.6						
KURK	**Kurchatov**	**47.12**	**307**	*e*P	**P**	**01 51 21.5**	**-0.2**
	20nm,0.7s						
TKM2	**Tokmak 2**	**51.27**	**298**	*e*P	**P**	**01 51 54.7**	**+0.8**
	1.5nm,0.6s						
KKAR	**Karatay Array**	**54.68**	**300**	*e*P	**P**	**01 52 19.3**	**+0.5**
	0.9nm,0.6s						
ARU	**Arti**	**56.99**	**319**	*e*P	**P**	**01 52 36.4**	**+1.3**
	1.9nm,0.7s						
WRAB	**Tennant Creek**	**59.01**	**191**	*e*P	**P**	**01 52 49.1**	**-0.5**
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**59.02**	**191**	P	**P**	**01 52 49.1**	**-0.6**
	2.2nm,0.7s,baz=12,slow=7.2,SNR=7.3						
YKA	**Yellowknife Ar**	**61.12**	**31**	P	**P**	**01 53 03.9**	**+0.3**
	0.2nm,0.6s,baz=296,slow=6.2,SNR=3.8						
ASAR	**Alice Springs**	**62.74**	**191**	P	**P**	**01 53 15.1**	**+0.2**
	1.3nm,0.7s,baz=12,slow=7.1,SNR=10						
FINES	**FINESS Array B**	**68.69**	**333**	P	**P**	**01 53 54.8**	**+1.9**
	1.5nm,0.7s,baz=45,slow=8.4,SNR=8.5						
SUMG	**Summit**	**69.13**	**1**	*e*P	**P**	**01 53 56.6**	**+0.7**
	1.7nm,0.6s						
TXAR	**Lajitas Array**	**87.05**	**54**	P	**P**	**01 55 36.9**	**+1.3**
	0.3nm,0.7s,baz=279,slow=2.9,SNR=4.2						

*ISCJB **19** 01:49:20.2±0.5, 37°.72N±0°.03×27°.48E±0°.04, h8km±6km, Error ellipse: s-maj=5.8km s-min=4.4km az=38.9*
*CSEM **19** 01:49:20.4±0.1, 37°.74N×27°.45E, h5km, MD2.7, Error ellipse: s-maj=4.3km s-min=3.3km az=95.0*
*DDA **19** 01:49:20.6, 37°.69N×27°.42E, h8km, Md2.6*
*ISK **19** 01:49:20.3, 37°.76N×27°.47E, h8km, MD2.7*
ISC 19 01:49:20.1±0.9, 37°.73N±0°.03×27°.46E±0°.03, h14km±8km, n21, σ0§58/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.18**	**262**	P	**Pg**	**01 49 24.3**	**0.0**
GCAM				S	**Sg**	**01 49 26.9**	**-0.2**
GCAM	**G?zelcaml?**	**0.18**	**262**	*i* P	**Pg**	**01 49 24.3**	**0.0**
GCAM				*i* S	**Sg**	**01 49 26.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.41**	**57**	*e*PG	**Pg**	**01 49 28.3**	**-0.1**
AYDB				*e*SG	**Sg**	**01 49 34.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.41**	**57**	*e*Pg	**Pg**	**01 49 28.3**	**-0.1**
AYDB				*e*Sg	**Sg**	**01 49 34.1**	**+0.1**
DGB	**˜zmir**	**0.56**	**306**	*i* P	**Pb**	**01 49 31.6**	**-0.1**
DGB				*i* S	**Sb**	**01 49 39.5**	**-0.1**
BDRM	**Kayabasi**	**0.66**	**181**	P	**Pg**	**01 49 32.4**	**-0.6**
BDRM				S	**Sg**	**01 49 42.4**	**+0.7**
BDRM	**Kayabasi**	**0.66**	**181**	*i* P	**Pg**	**01 49 32.4**	**-0.6**
BDRM				*i* S	**Sg**	**01 49 42.4**	**+0.7**
BODT	**Bodrum**	**0.67**	**190**	*e*PG	**Pb**	**01 49 34.4**	**+0.7**
BODT	**Bodrum**	**0.67**	**190**	*e*Pg	**Pb**	**01 49 34.4**	**+0.7**
IZM	**Izmir**	**0.69**	**347**	*e*PG	**Pg**	**01 49 33.5**	**-0.1**
IZM	**Izmir**	**0.69**	**347**	*e*Pg	**Pg**	**01 49 33.5**	**-0.1**
YER	**Yerkesik**	**0.89**	**132**	*e*PG	**Pg**	**01 49 37.8**	**+0.5**
YER	**Yerkesik**	**0.89**	**132**	*e*Pg	**Pg**	**01 49 37.8**	**+0.5**
ZEY	**˜zmir**	**0.91**	**305**	*i* P	**Pb**	**01 49 38.7**	**+0.9**
ZEY				*i* S	**Sb**	**01 49 50.4**	**+0.7**
KULA	**Kula-Manisa**	**1.23**	**50**	*e*PN	**Pg**	**01 49 44.1**	**+0.1**
KULA	**Kula-Manisa**	**1.23**	**50**	*e*Pn	**Pg**	**01 49 44.1**	**+0.1**
TURN	**Turunc**	**1.25**	**133**	*i* P	**Pn**	**01 49 42.5**	**-0.8**
TURN				*i* S	**Sb**	**01 49 57.8**	**-1.7**
CHOS	**Chios island**	**1.29**	**301**	*e*PN	**Pg**	**01 49 45.0**	**0.0**
CHOS	**Chios island**	**1.29**	**301**	*e*Pn	**Pg**	**01 49 45.0**	**0.0**
DALY	**Dalyan (Mu˘la**	**1.32**	**133**	*e*PN	**Pg**	**01 49 46.0**	**+0.5**
DALY	**Dalyan (Mu˘la**	**1.32**	**133**	*e*Pn	**Pg**	**01 49 46.0**	**+0.5**

JMA 19 02:06:40.4±0.2, 38°.08N×144°.17E, h22km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.20**	**298**	P	Pn	02 07 16.7	+1.1
OFUJ				*e*S	Sn	02 07 43.6	+1.5
JIO	**Ouri**	**2.25**	**280**	P	Pn	02 07 17.4	+1.1
JIO				*e*S	Sn	02 07 44.5	+1.1
JMK	**Ichinoseki**	**2.47**	**292**	P	Pn	02 07 21.0	+1.7
JMK				*e*S	Sn	02 07 50.7	+1.9
JOU	**Okura**	**2.78**	**277**	P	Pn	02 07 25.4	+1.9
JOU				*e*S	Sn	02 07 58.5	+2.1
JANG	**Nango**	**3.08**	**319**	S	Sn	02 08 05.1	+1.2
JFT	**Otama**	**3.09**	**261**	*e*S	Sn	02 08 05.3	+1.2
JYK	**Kaneyama**	**3.10**	**287**	P	Pn	02 07 30.2	+2.1
JYK				*e*S	Sn	02 08 07.3	+2.8
JAG	**Ashikaga**	**4.11**	**248**	P	Pn	02 07 42.3	+0.4
JRY	**Ryogami san**	**4.69**	**246**	P	Pn	02 07 49.9	0.0
JRY				*e*S	Sn	02 08 41.7	-1.9
NEM2	**Nemuro 2**	**5.41**	**12**	P	Pn	02 07 57.0	-2.7
NEM2				*e*S	Sn	02 08 54.7	-6.6

*SKHL **19** 02:28:23.6±0.2, 47°.25N×147°.53E, h377km±12km, mb4.7/1, msh4.4/3*
*ISCJB **19** 02:28:23.1±0.1, 47°.43N±0°.03×147°.46E±0°.03, h375km, mb4.2/134, Error ellipse: s-maj=4.1km s-min=2.5km az=150.1*
*JMA **19** 02:28:23.3±0.6, 46°.78N×147°.96E, h417km, M4.0*
*MOS **19** 02:28:23.5±0.9, 47°.50N×147°.45E, h383km, mb4.1/53, Error ellipse: s-maj=7.9km s-min=5.8km az=84.3*
*IDC **19** 02:28:24.5±1.1, 47°.48N×147°.58E, h380km±11km, mb3.7/21, mb1 3.8/28, mb1mx3.6/44, mbtmp4.4/28, Error ellipse: s-maj=11.5km s-min=8.7km az=149.0*
*NEIC **19** 02:28:24.6±0.4, 47°.52N×147°.44E, h376km±5km, mb4.3/101, Error ellipse: s-maj=6.3km s-min=3.5km az=162.0*
ISC 19 02:28:23.2±0.3, 47°.27N±0°.04×147°.55E±0°.04, h375km, n301, σ1§46/334, mb4.2/134, 14C-7D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.05**	**174**	*c i* Pn	**Pn**	**02 29 18.7**	**+1.5**
KUR				*i* S	**S**	**02 30 01.5**	**+0.8**
KUR				pmax	pmax		
	comp=Z,133nm,0.5s						
KUR				pmax	pmax		
	comp=N,47nm,0.4s						
KUR				pmax	pmax		
	comp=E,31nm,0.5s						
KUR				pmax	pmax		
	comp=Z,324nm,1.9s						
KUR				smax	smax		
	comp=E,1μm,4.2s						
KUR				smax	smax		
	comp=N,357nm,2.1s						
KUR				smax	smax		
	comp=N,49nm,1.5s						
KUR				smax	smax		
	comp=E,67nm,1.5s						
KUR	**Kuril'sk**	**2.05**	**174**	*e*P	**Pn**	**02 29 18.7**	**+1.5**
KUR				AMB	AMB	02 29 19.5	
	comp=E,324nm,2.0s						
KUR				AMB	AMB	02 29 19.5	
	comp=E,47nm,0.5s						
KUR				AMB	AMB	02 29 19.5	
	comp=E,31nm,0.5s						
KUR				AMB	AMB	02 29 19.5	
	comp=E,133nm,0.5s						
KUR				*e*S	**S**	**02 30 01.5**	**+0.8**
KUR				A	A	02 30 03.4	
	comp=E,357nm,3.0s						
KUR				A	A	02 30 03.4	
	comp=E,1μm,3.0s						
KUR				A	A	02 30 04.0	
	comp=E,49nm,1.0s						
KUR				A	A	02 30 04.0	
	comp=E,67nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.29**	**266**	⇑ *i* PN	**Pn**	**02 29 29.6**	**+2.7**
YSS				*i* S	**S**	**02 30 20.5**	**+2.0**
YSS				pmax	pmax		
	comp=Z,270nm,0.4s						
YSS				smax	smax		
	comp=E,80nm,1.4s						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
YSS	**Yuzh-Sakhalins**	**3.29**	**266**	*e*P	**Pn**	**02 29 29.1**	**+2.2**
YSS				AMB	AMB	02 29 30.0	
	comp=Z,300nm,0.4s						
YSS				*e*S	**S**	**02 30 20.5**	**+2.0**
YSS				A	A	02 30 21.5	
	comp=Z,80nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.29**	**266**	*e*Pn	**Pn**	**02 29 29.6**	**+2.7**
SHO	**Shikotan**	**3.44**	**189**	⇑ *i* PN	Pn	02 29 34.7	+6.3
SHO				*i* S	**S**	**02 30 24.6**	**+3.5**
SHO	**Shikotan**	**3.44**	**189**	*e*P	**Pn**	**02 29 27.0**	**-1.4**
SHO				AMB	AMB	02 29 27.9	
	comp=Z,200nm,0.4s						
SHO				*e*S	**S**	**02 30 16.6**	**-4.5**
SHO				A	A	02 30 20.3	
	comp=Z,900nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.45**	**201**	*c i* PN	**Pn**	**02 29 28.8**	**+0.3**
YUK				*i* S	**S**	**02 30 21.0**	**-0.2**
YUK				pmax	pmax		
	comp=N,68nm,0.2s						
YUK				pmax	pmax		
	comp=Z,375nm,0.2s						
YUK				pmax	pmax		
	comp=E,73nm,0.1s						
YUK				smax	smax		
	comp=E,561nm,0.3s						
YUK				smax	smax		
	comp=N,356nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.45**	**201**	*e*P	**Pn**	**02 29 28.9**	**+0.4**
YUK				AMB	AMB	02 29 31.4	
	comp=N,68nm,0.3s						
YUK				AMB	AMB	02 29 31.4	
	comp=N,73nm,0.3s						
YUK				AMB	AMB	02 29 31.4	
	comp=N,400nm,0.3s						
YUK				*e*S	**S**	**02 30 21.2**	**0.0**
YUK				A	A	02 30 28.5	
	comp=N,356nm,0.3s						
YUK				A	A	02 30 28.5	
	comp=N,560nm,0.3s						
JRA	**Rausu**	**3.75**	**208**	P	**Pn**	**02 29 32.3**	**+1.0**
UGL	**Uglegorsk**	**4.09**	**298**	*e*PN	**Pn**	**02 29 34.0**	**-0.4**
UGL				*e*S	**S**	**02 30 31.2**	**-1.0**
UGL	**Uglegorsk**	**4.09**	**298**	*e*S	**S**	**02 30 32.5**	**+0.3**
UGL				A	A	02 30 34.0	
	comp=N,500nm,3.0s						
UGL				A	A	02 30 34.0	
	comp=N,800nm,3.0s						
NEM2	**Nemuro 2**	**4.11**	**199**	P	**Pn**	**02 29 33.5**	**-1.4**
NEM2				*e*S	**S**	**02 30 29.5**	**-3.3**
JSE	**Soyaes**	**4.16**	**238**	P	**Pn**	**02 29 38.0**	**+2.7**
JSE				*e*S	**S**	**02 30 36.4**	**+2.8**
JTKR	**Abashiri--Toko**	**4.18**	**219**	P	**Pn**	**02 29 37.0**	**+1.5**
JTKR				*e*S	**S**	**02 30 35.7**	**+1.8**
JWK2	**Keihoku**	**4.38**	**246**	P	**Pn**	**02 29 41.0**	**+3.5**
JWK2				*e*S	**S**	**02 30 42.2**	**+4.6**
JKA	**Kamikawa-asahi**	**4.69**	**229**	*e*P	**Pn**	**02 29 43.5**	**+2.8**
ASAJ	**Asahikawa**	**4.69**	**229**	P	**Pn**	**02 29 43.5**	**+2.7**
	baz=72,slow=7.7						
ASAJ	**Asahikawa**	**4.69**	**229**	*e*Pn	**Pn**	**02 29 43.2**	**+2.5**
JAK	**Akkeshi**	**4.73**	**206**	P	**Pn**	**02 29 40.3**	**-0.9**
JAK				*e*S	**S**	**02 30 41.4**	**-2.9**
JAR	**Ashorobuto**	**4.79**	**215**	P	**Pn**	**02 29 42.7**	**+0.9**
JKK2	**Kamakawa 2**	**4.79**	**226**	P	**Pn**	**02 29 43.6**	**+1.8**
TYV	**Tymovskoe**	**4.82**	**320**	*e*PN	**Pn**	**02 29 42.0**	**+0.1**
TYV				*e*S	**S**	**02 30 46.0**	**+0.2**
TYV				pmax	pmax		
	comp=Z,32nm,0.6s						
TYV				smax	smax		
	comp=E,249nm,1.4s						
TYV	**Tymovskoe**	**4.82**	**320**	*e*P	**Pn**	**02 29 42.7**	**+0.8**
TYV				AMB	AMB	02 29 43.4	
	comp=E,45nm,0.4s						
TYV				*e*S	**S**	**02 30 45.8**	**0.0**
TYV				A	A	02 30 48.0	
	comp=E,249nm,1.0s						
JCH	**Churui**	**5.53**	**214**	P	**Pn**	**02 29 49.4**	**-0.3**
JCH				*e*S	**S**	**02 30 56.0**	**-3.9**
ERM	**Erimo**	**6.12**	**212**	*ce*PN	**Pn**	**02 29 56.8**	**+0.5**
ERM				pmax	pmax		
	comp=Z,68nm,0.4s						
ERM	**Erimo**	**6.12**	**212**	*e*Pn	**Pn**	**02 29 56.9**	**+0.7**
ERM				*e*S	**S**	**02 31 04.7**	**-7.2**
SKR	**Severo-Kuril's**	**6.59**	**56**	*e*PN	**Pn**	**02 30 00.8**	**-0.5**
SKR	**Severo-Kuril's**	**6.59**	**56**	*e*P	**Pn**	**02 30 01.3**	**0.0**
SKR				AMB	AMB	02 30 02.4	
	comp=Z,100nm,0.7s						
SKR				*e*rx	rx	02 31 18.2	
SKR				A	A	02 31 19.4	
	comp=Z,70nm,0.2s						
JKB	**Kayabe**	**7.12**	**223**	P	**Pn**	**02 30 06.9**	**-0.6**
JKB				*e*S	**S**	**02 31 27.4**	**-5.2**
JOT	**Ohata**	**7.51**	**221**	P	**Pn**	**02 30 11.0**	**-1.1**
JOT				*e*S	**S**	**02 31 35.2**	**-5.8**
JOSM	**Okushiri--Mats**	**7.75**	**231**	P	**P**	**02 30 16.4**	**+0.7**
TEY	**Ternei**	**7.92**	**258**	*e*P	**P**	**02 30 18.0**	**+0.4**
TEY				AMB	AMB	02 30 20.8	
	comp=Z,31nm,0.9s						
TEY				AMB	AMB	02 30 20.8	
	comp=Z,56nm,0.9s						
GRNR	**Gornyy**	**8.11**	**300**	*e*P	**P**	**02 30 19.8**	**-0.6**
GRNR				AMB	AMB	02 30 20.4	
	comp=Z,63nm,1.0s						

comp=Z,10.0nm,0.5s
BMKR AMB AMB 02 31 26.5
comp=Z,20nm,0.5s
ZEA Zeya 14.42 304 *e*P **P 02 31 30.5 +0.4**
ZEA AMB AMB 02 31 31.4
comp=Z,26nm,1.0s
KROS Kirovskiy 14.81 307 *e*P **P 02 31 35.5 +1.2**
KROS AMB AMB 02 31 36.6
comp=Z,34nm,0.9s
KROS AMB AMB 02 31 36.6
comp=Z,56nm,0.9s
KROS AMB AMB 02 31 36.6
comp=Z,80nm,0.9s
CN2 Changchun 15.86 265 ⇑P **P 02 31 46.1 +0.2**
CN2 *es*P sP 02 33 22.6 -3.4
CN2 *e*S **S 02 34 29.4 -4.4**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
SEY Seymchan 15.93 8 P **P 02 31 46.3 0.0**
comp=Z,0.7nm,0.3s,baz=180,slow=8.4,SNR=17
SEY Seymchan 15.93 8‖ *e*P **P 02 31 45.6 -0.7**
SEY Seymchan 15.93 8 *e*P **P 02 31 45.6 -0.7**
CLNS Chul'man 16.83 313 *e*P **P 02 31 54.8 -1.3**
CLNS pmax pmax
comp=Z,44nm,0.8s
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,34nm,1.0s
CLNS Chul'man 16.83 313 *e*P **P 02 31 54.8 -1.3**
KSRS Korea Array 17.47 243 P **Pn 02 32 06.0 -1.3**
comp=E,0.9nm,0.3s,baz=46,slow=11,SNR=52
KSRS Korea Array 17.47 243 P **Pn 02 32 06.0 -1.3**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KS01 Wonju Array Si 17.47 243 *e*P **P 02 32 04.8 +1.7**
YAK Yakutsk 17.94 332 *e*P **P 02 32 06.2 -1.6**
YAK *e*S **S 02 35 07.8 -6.1**
YAK pmax pmax
comp=E,19nm,1.2s
YAK pmax pmax
comp=Z,70nm,1.0s
YAK pmax pmax
comp=N,17nm,1.0s
YAK smax smax
comp=E,113nm,1.9s
YAK smax smax
comp=N,70nm,1.3s
YAK Yakutsk 17.94 332 *e*P **P 02 32 06.8 -1.0**
YAK Yakutsk 17.94 332 *e*P **P 02 32 06.4 -1.4**
comp=N,77nm,0.8s
TJN Taejon 18.52 241 *ce*P **P 02 32 18.4 +4.1**
HIA Hailar 18.58 286 *de*P **P 02 32 14.6 -0.3**
HIA Hailar 18.58 286 *e*P **P 02 32 14.6 -0.3**
JNU Nakatsue 18.97 228 *e*P **P 02 32 20.5 +1.3**
BILL Bilibino 22.91 18‖ *e*P **P 02 32 55.0 -0.3**
BILL pmax pmax
comp=Z,7.0nm,1.7s
BILL Bilibino 22.91 18 *e*P **P 02 32 55.0 -0.3**
TIXI Tiksi 25.98 347 P **P 02 33 21.7 -1.0**
comp=Z,1.1nm,0.3s,baz=148,slow=8.5,SNR=3.8
TIXI Tiksi 25.98 347⇑ *e*P **P 02 33 21.2 -1.6**
TIXI pmax pmax
comp=Z,1.0nm,0.7s
HHC Hu-ho-hao-te 26.47 269 *e*P **P 02 33 28.3 +0.6**
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,110nm,6.0s
ULN Ulaanbaatar 27.11 286⇑ *e*P **P 02 33 33.1 -0.2**
ULN pmax pmax
comp=Z,7.0nm,1.3s
ULN Ulaanbaatar 27.11 286 *e*P **P 02 33 33.1 -0.2**
ULN Ulaanbaatar 27.11 286 *e*P **P 02 33 34.2 +0.9**
comp=Z,14nm,1.0s
SONA1 Songino Array 27.54 287 *e*P **P 02 33 37.9 +0.8**
SONM Songino Array 27.55 287 P **P 02 33 37.9 +0.8**
comp=Z,1.6nm,0.5s,baz=69,slow=8.5,SNR=11
SONM ScP **ScP 02 39 48.2 +0.4**
comp=Z,1.7nm,0.8s,baz=104,slow=2.8,SNR=7.7
TLY Talaya 28.53 295 *e*P **P 02 33 46.1 +0.5**
TLY pmax pmax
comp=Z,10.0nm,1.6s
TLY Talaya 28.53 295 *e*P **P 02 33 46.1 +0.5**
TLY Talaya 28.53 295 *e*P **P 02 33 45.9 +0.2**
comp=Z,3.4nm,0.7s
ZAK Zakamensk 28.98 293 *e*P **P 02 33 48.7 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
LZH Lanzhou 34.09 267 *e*P **P 02 34 37.3 +3.2**
LZH pP pP 02 35 48.8 +4.4
LZH sP sP 02 36 30.1 +2.4
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.3s
TT01 Tatalina 34.57 42 *e*P **P 02 34 37.9 +0.3**
TTA Tatalina 34.57 42 *e*P **P 02 34 38.4 +0.7**
TTA pmax pmax
comp=Z,8.0nm,0.9s
TTA Tatalina 34.57 42 *e*P **P 02 34 38.4 +0.7**
comp=Z,7.6nm,0.9s
SVW2 Sparrevohn 34.82 45 *e*P **P 02 34 40.9 +1.1**
comp=Z,8.2nm,0.8s
GTA Gaotai 35.13 275 *e*P **P 02 34 44.8 +2.0**
GTA pP pP 02 34 49.4 -64
GTA sP sP 02 34 52.5 -104
GTA pmax pmax
comp=Z,15nm,1.1s
PPLA Purkeypile 36.32 42 *e*P **P 02 34 53.0 +0.4**
comp=Z,13nm,1.0s
OHAK Old Harbor 36.45 52 *e*P **P 02 34 52.4 -1.1**
comp=Z,20nm,0.8s
SPU Mount Spurr 36.52 45 *e*P **P 02 34 55.3 +1.2**
KDAK Kodiak Island 36.73 51 *i*P **P 02 34 55.6 -0.2**
KDAK Kodiak Island 36.73 51 *e*P **P 02 34 55.6 -0.2**
KDAK Kodiak Island 36.73 51 *e*P **P 02 34 55.6 -0.2**
comp=Z,13nm,0.8s
KTH Kantishna Hill 36.85 41 *e*P **P 02 34 57.5 +0.6**
comp=Z,22nm,1.2s
MLY Manley 36.86 39 *e*P **P 02 34 57.3 +0.3**
comp=Z,5.7nm,1.1s
COLD Coldfoot 37.06 35 *e*P **P 02 34 58.2 -0.2**
comp=Z,3.2nm,0.8s
TRF Thorofare Moun 37.15 41 *e*P **P 02 34 59.1 -0.3**
comp=Z,4.5nm,1.0s
MCK McKinley 37.72 41 *e*P **P 02 35 03.4 -0.6**
MCK pmax pmax
comp=Z,10.0nm,0.8s
MCK McKinley 37.72 41 *e*P **P 02 35 03.4 -0.6**
MCK McKinley 37.72 41 *e*P **P 02 35 03.4 -0.6**
comp=Z,9.8nm,0.8s
RND Reindeer 37.79 41 *e*P **P 02 35 04.1 -0.6**
RND pmax pmax
comp=Z,9.0nm,0.9s
RND Reindeer 37.79 41 *e*P **P 02 35 04.1 -0.6**
comp=Z,8.5nm,0.9s
PMR Palmer 37.87 44 *e*P **P 02 35 05.0 -0.2**
PMR pmax pmax
comp=Z,6.0nm,0.8s
PMR Palmer 37.87 44 *e*P **P 02 35 05.0 -0.2**
PMR Palmer 37.87 44 *e*P **P 02 35 05.0 -0.2**
comp=Z,6.2nm,0.8s
COLA College 38.10 39 *c i*P **P 02 35 07.0 -0.1**
COLA pmax pmax
comp=Z,15nm,0.8s
COLA College 38.10 39 *e*P **P 02 35 07.0 -0.1**
COLA College 38.10 39 *e*P **P 02 35 06.9 -0.1**
comp=Z,17nm,0.8s
CCB Clear Creek Bu 38.14 39 *e*P **P 02 35 07.0 -0.4**
comp=Z,23nm,1.9s
SML Sawmill 38.22 44 *e*P **P 02 35 08.6 +0.4**
SML pmax pmax
comp=Z,30nm,0.9s
SML Sawmill 38.22 44 *e*P **P 02 35 08.6 +0.4**
comp=Z,30nm,0.9s
IL1 Eielson Array 38.52 39 *e*P **P 02 35 09.7 -0.9**
ILAR Eielson Array 38.52 39 P **P 02 35 09.7 -0.8**
comp=Z,8.6nm,0.8s,baz=272,slow=7.6,SNR=100
ILB Eielson Array 38.52 39 *e*P **P 02 35 09.9 -0.7**
SCM Sheep Creek Mo 38.69 44 *e*P **P 02 35 13.1 +1.0**
SCM pmax pmax
comp=Z,13nm,0.9s
SCM Sheep Creek Mo 38.69 44 *e*P **P 02 35 13.1 +1.0**
comp=Z,13nm,0.9s
ZAA0 Zalesovo Array 39.18 304 *e*P **P 02 35 15.6 -0.5**
ZALV Zalesovo Beam 39.18 304 P **P 02 35 15.5 -0.7**
comp=Z,1.5nm,0.4s,baz=89,slow=6.1,SNR=6.4
ZALV ScP **ScP 02 40 27.9 -0.5**
comp=Z,0.4nm,0.4s,baz=57,slow=5.5,SNR=3.6
KLU Klutina 39.41 44 *e*P **P 02 35 18.4 +0.4**
comp=Z,14nm,1.0s
DIV Divide 39.54 44 *e*P **P 02 35 19.8 +0.7**
comp=Z,21nm,1.1s
DOT Dot Lake 39.89 40 *e*P **P 02 35 20.8 -1.0**
comp=Z,13nm,0.8s
BMRM Bremner River 40.13 44 *e*P **P 02 35 24.7 +0.9**
comp=Z,13nm,1.0s
RAGM Ragged Mountai 40.22 45 *e*P **P 02 35 25.8 +1.2**
comp=Z,9.2nm,0.8s
CRQM Cirque 40.88 45 *e*P **P 02 35 31.0 +1.0**
comp=Z,25nm,1.0s
EGAK Eagle 40.95 38 *e*P **P 02 35 29.6 -0.7**
comp=Z,15nm,0.9s
WMQ Urumqi 41.16 288 P **P 02 35 33.8 +1.4**
BALM Baldy 41.19 44 *e*P **P 02 35 33.3 +0.8**
BALM pmax pmax
comp=Z,16nm,1.0s
BALM Baldy 41.19 44 *e*P **P 02 35 33.3 +0.8**
comp=Z,16nm,1.0s
DAWY Dawson 41.84 39 *e*P **P 02 35 37.4 -0.1**
comp=Z,1.8nm,0.7s
INK Inuvik 43.24 32 P **P 02 35 48.0 -0.5**
comp=Z,2.1nm,0.3s,baz=290,slow=8.3,SNR=33
INK Inuvik 43.24 32 *e*P **P 02 35 47.5 -1.0**
INK Inuvik 43.24 32 *e*P **P 02 35 47.5 -1.0**
INK Inuvik 43.24 32 *e*P **P 02 35 47.5 -1.0**
MK31 Makanchi Array 43.29 294 *i*P **P 02 35 49.4 +0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 43.29 294 *e*P **P 02 35 49.1 -0.1**
MKAR Makanchi Array 43.29 294 P **P 02 35 49.6 +0.3**
comp=Z,7.2nm,0.8s,baz=69,slow=7.7,SNR=49
MKAR Makanchi Array 43.29 294 *e*P **P 02 35 49.1 -0.1**
MK01 Makanchi Array 43.29 294 *e*P **P 02 35 49.4 +0.1**
MAKZ Makanchi 43.48 295 *e*P **P 02 35 51.2 +0.4**
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
MAKZ Makanchi 43.48 295 *e*P **P 02 35 51.2 +0.4**
comp=Z,5.5nm,0.6s
KURK Kurchatov 43.87 301 *e*P **P 02 35 53.3 -0.4**
KURK pmax pmax
comp=Z,63nm,0.9s
KURK Kurchatov 43.87 301 *e*P **P 02 35 53.4 -0.4**
KURK Kurchatov 43.87 301 *e*P **P 02 35 53.3 -0.4**
comp=Z,63nm,0.9s
KURBB Kurchatov Arra 43.96 301 P **P 02 35 54.1 -0.3**
comp=Z,14nm,0.8s,baz=70,slow=8.7,SNR=84
KURBB ScP **ScP 02 40 46.6 -1.0**
comp=Z,0.4nm,0.7s,baz=71,slow=3.2,SNR=4.8
CHKZ Chkalovo 47.14 308 P **P 02 36 18.0 -1.0**
CHKZ pmax pmax
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 47.54 307 P **P 02 36 21.9 -0.2**
comp=Z,3.5nm,0.7s,baz=54,slow=9.8,SNR=19
DLBC Dease Lake 47.93 45 *e*P **P 02 36 26.9 +1.8**
comp=Z,8.3nm,1.0s
ZRNK Zerenda 48.33 307 P **P 02 36 27.3 -0.7**
ZRNK pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 49.32 293 P **P 02 36 36.7 +0.8**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 49.32 293 *e*P **P 02 36 37.0 +1.1**
comp=Z,3.9nm,0.8s
AAK Ala-Archa 50.16 293 *c i*P **P 02 36 43.0 +0.9**
AAK *i* *PP **PcP 02 37 56.8 +1.6**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 50.16 293 *e*P **P 02 36 43.0 +0.9**
AAK Ala-Archa 50.16 293 *e*P **P 02 36 43.2 +1.2**
comp=Z,6.8nm,0.8s
EKS2 Erkin-Say 50.59 294 *e*P **P 02 36 45.8 +0.6**
EKS2 pmax pmax
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 50.59 294 *e*P **P 02 36 45.8 +0.6**
comp=Z,9.7nm,0.7s
SVE Sverdlovsk 50.81 315 *e*P **P 02 36 46.4 0.0**
SVE pmax pmax
comp=Z,15nm,0.7s
SVE Sverdlovsk 50.81 315 *e*P **P 02 36 46.4 0.0**
KSH Kashi 50.91 289 *e*P **P 02 36 47.6 0.0**
KSH PcP **PcP 02 37 56.9 -1.1**
KSH pP pP 02 38 01.3 -2.8
KSH PP **PP 02 38 50.3 +2.2**
KSH S **S 02 43 32.8 -1.9**
KSH ScS **ScS 02 45 52.5 -5.3**
KSH Kashi 50.91 289 SS **SS 02 47 12.3 -2.3**
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,120nm,5.0s
KSH LR LR
comp=N,97nm,7.2s
KSH LR LR
comp=E,120nm,6.0s
KSH LR LR
comp=Z,180nm,6.0s
MNAS Manas 51.48 294 P **P 02 36 52.7 +0.9**
MNAS pmax pmax
comp=Z,6.0nm,0.7s
RES Resolute Bay 51.52 18 *e*P **P 02 36 49.7 -1.6**
RES pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 51.52 18 *e*P **P 02 36 49.7 -1.6**
comp=Z,5.5nm,0.9s
ARU Arti 52.00 315 *d i*P **P 02 36 54.5 -0.7**
ARU 02 38 01.4
ARU *PP **pP 02 38 12.1 0.0**
ARU 02 38 54.4
ARU pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 52.00 315 *e*P **P 02 36 54.4 -0.7**
ARU Arti 52.00 315 *e*P **P 02 36 54.5 -0.7**
comp=Z,11nm,0.7s
KK31 Karatay Array 52.38 296 *i*P **P 02 36 58.4 +0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 52.38 296 *e*P **P 02 36 58.6 +0.4**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 52.38 296 *e*P **P 02 36 58.6 +0.4**
comp=Z,7.3nm,0.7s
YKA Yellowknife Ar 52.74 35 P **P 02 36 59.4 -1.1**
comp=Z,1.8nm,0.5s,baz=303,slow=6.9,SNR=27
YKA PcP **PcP 02 38 04.3 0.0**
comp=Z,0.9nm,0.8s,baz=313,slow=4.1,SNR=7.0
YKA Yellowknife Ar 52.74 35 *e*P **P 02 36 59.9 -0.5**
AB31 Akbulak array 55.12 307 *i*P **P 02 37 17.4 -0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 55.12 307 *e*P **P 02 37 17.6 0.0**
ARCES ARCESS Array B 56.05 339 P **P 02 37 22.9 -1.0**
comp=Z,3.8nm,1.0s,baz=32,slow=7.1,SNR=6.0
KLMR Klimovskoe 57.63 327 *e*P **P 02 37 33.2 -1.7**
KLMR pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 59.83 50 *e*P **P 02 37 51.2 +1.0**
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 59.83 50 *e*P **P 02 37 51.2 +1.0**
NEW Newport 59.83 50 *e*P **P 02 37 51.2 +1.0**
comp=Z,8.3nm,0.8s
SUMG Summit 60.38 2 *e*P **P 02 37 53.6 -0.3**
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 60.38 2 *e*P **P 02 37 53.6 -0.3**
comp=Z,5.3nm,1.0s
WALA Waterton Lakes 60.98 48 *e*P **P 02 37 58.7 +0.7**
comp=Z,10nm,0.9s
COEN Coen 61.08 185 *e*P **P 02 38 00.9 +2.1**
comp=Z,6.4nm,0.8s
F10A Beach Ranch, E 61.21 52 *e*P **P 02 38 00.8 +1.3**
comp=Z,5.0nm,0.8s
K05A Summer Lake 61.22 57 *e*P **P 02 38 01.8 +2.0**
comp=Z,13nm,1.0s
BSMT Bassoo Peak 61.30 50 *e*P **P 02 38 01.8 +1.5**
BLMT Blacktail Moun 61.42 49 *e*P **P 02 38 02.5 +1.4**
FIA1 FINESS Array S 61.87 332 *e*P **P 02 38 01.7 -1.8**
FINES FINESS Array B 61.87 332 P **P 02 38 02.5 -1.0**
comp=Z,6.1nm,0.6s,baz=34,slow=8.0,SNR=69
BMO Blue Mountains 61.88 53 *e*P **P 02 38 05.4 +1.4**
comp=Z,6.4nm,1.1s
SWMT Swartz Lake 61.93 49 *e*P **P 02 38 05.6 +1.3**
MSO Missoula 62.40 50 *e*P **P 02 38 08.5 +1.0**
comp=Z,16nm,1.1s
WVOR Wild Horse Val 62.69 56 *e*P **P 02 38 10.6 +1.2**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 62.69 56 *e*P **P 02 38 10.6 +1.2**
comp=Z,6.2nm,0.9s
CHMT Chamberlain Mo 62.71 50 *e*P **P 02 38 10.0 +0.5**
GEYT Alibeck 63.02 297 P **P 02 38 12.8 +1.3**
comp=Z,5.7nm,0.4s,baz=27,slow=3.6,SNR=13
MFID Camas Ranch 63.62 54 *e*P **P 02 38 16.5 +1.1**
comp=Z,13nm,1.5s
LRM Limekiln Ridge 63.84 50 *e*P **P 02 38 17.8 +0.8**
DLMT Dillon 64.07 51 *e*P **P 02 38 19.6 +1.2**
comp=Z,12nm,1.0s
MCMT McKenzie Canyo 64.30 51 *e*P **P 02 38 20.7 +0.8**
HLID Hailey 64.30 53 *e*P **P 02 38 21.0 +1.1**
comp=Z,6.1nm,1.2s
BOZ Bozeman (W) 64.39 50 *e*P **P 02 38 21.0 +0.6**
BOZ pmax pmax
comp=Z,11nm,0.9s
BOZ Bozeman (W) 64.39 50 *e*P **P 02 38 21.0 +0.6**
BOZ Bozeman (W) 64.39 50 *e*P **P 02 38 21.0 +0.6**
comp=Z,11nm,0.9s
YHH Holmes Hill 65.38 50 *e*P **P 02 38 27.7 +0.8**
comp=Z,7.3nm,1.0s
H17A Grant Village 65.79 50 *e*P **P 02 38 31.6 +2.2**
comp=Z,15nm,1.1s
FLWY Flagg Ranch 65.94 51 *e*P **P 02 38 31.3 +1.0**
IMW Indian Meadow 65.94 51 *e*P **P 02 38 32.0 +1.6**
comp=Z,8.6nm,1.2s
RLMT Red Lodge 65.97 49 *e*P **P 02 38 31.4 +0.9**
comp=Z,12nm,1.3s
FXWY Fox Creek 66.07 51 *e*P **P 02 38 32.4 +1.3**
comp=Z,6.9nm,1.1s
MOOW Moose Ponds 66.14 51 *e*P **P 02 38 33.1 +1.5**
comp=Z,7.2nm,1.0s
TPAW Teton Pass 66.21 51 *e*P **P 02 38 32.9 +0.8**
comp=Z,13nm,1.0s
LOHW Long Hollow 66.31 51 *e*P **P 02 38 34.4 +1.7**
comp=Z,8.6nm,1.2s
REDW Red Top Meadow 66.35 51 *e*P **P 02 38 34.6 +1.7**
comp=Z,10nm,1.2s
LAO LASA Array 66.41 46 *e*P **P 02 38 34.3 +1.2**
comp=Z,11nm,1.0s
NB2 NORSAR Subarra 66.42 338 P **P 02 38 31.9 -0.9**
comp=Z,3.2nm,0.6s,baz=31,slow=6.5
NOA NORSAR Array B 66.42 338 P **P 02 38 32.2 -0.6**
comp=Z,3.4nm,0.7s,baz=31,slow=6.2,SNR=15
HWUT Hardware Ranch 67.17 53 *e*P **P 02 38 38.9 +0.9**
comp=Z,7.4nm,1.0s
BW06 Boulder Array 67.44 51 *e*P **P 02 38 40.3 +0.6**
comp=Z,9.5nm,1.1s
PD31 Pinedale Array 67.44 51 *e*P **P 02 38 40.4 +0.6**
PDAR Pinedale Array 67.44 51 P **P 02 38 40.2 +0.4**
comp=Z,3.2nm,0.6s,baz=318,slow=2.0,SNR=28
DUG Dugway, Tooele 67.45 55 *e*P **P 02 38 40.9 +1.2**
DUG pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway, Tooele 67.45 55 *e*P **P 02 38 40.9 +1.2**
DUG Dugway, Tooele 67.45 55 *e*P **P 02 38 40.9 +1.2**
comp=Z,6.6nm,1.0s
KIV Kislovodsk 67.64 311 *e*P **P 02 38 42.3 +1.5**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 67.64 311 *e*P **P 02 38 41.5 +0.8**
comp=Z,7.2nm,0.7s
KBZ Khabaz 67.69 311 P **P 02 38 42.2 +1.3**
comp=Z,1.9nm,0.6s,baz=0.6,slow=24,SNR=4.0
TPNV Topopah Spring 67.70 59 *e*P **P 02 38 42.1 +0.7**
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 67.70 59 *e*P **P 02 38 42.0 +0.7**
comp=Z,6.9nm,1.0s
WRA Warramunga Arr 67.95 193 P **P 02 38 44.1 +1.4**
comp=Z,2.4nm,0.5s,baz=9.0,slow=6.7,SNR=38
WRA Warramunga Arr 67.95 193 *i*P **P 02 38 44.0 +1.2**
WRA pmax pmax
comp=Z,2.0nm,0.5s
ULM Lac du Bonnet 68.54 38 P **P 02 38 45.5 -0.5**
comp=Z,2.7nm,0.6s,baz=327,slow=5.1,SNR=3.5
ULM Lac du Bonnet 68.54 38 P **P 02 38 45.5 -0.5**
ULM pmax pmax
comp=Z,1.0nm,0.3s
SHPR Sheep Range 68.64 59 *e*P **P 02 38 48.3 +1.2**
comp=Z,4.4nm,1.0s
MDND Maddock 68.70 42 *e*P **P 02 38 48.0 +0.8**
comp=Z,19nm,0.9s
AKASG Malin Array Be 68.92 323 P **P 02 38 47.6 -0.7**
comp=Z,2.4nm,0.4s,baz=35,slow=6.2,SNR=11
AKASG Malin Array Be 68.92 323 *ce*P **P 02 38 47.5 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
KIEV Kiev 68.93 323⇑ *e*P **P 02 38 47.7 -0.7**
KIEV pmax pmax
comp=Z,2.0nm,0.7s
KIEV Kiev 68.93 323 *e*P **P 02 38 47.7 -0.7**
KIEV Kiev 68.93 323 *e*P **P 02 38 47.1 -1.3**
comp=Z,4.2nm,0.6s
CCUT Cedar City 68.96 57 *e*P **P 02 38 50.5 +1.4**
comp=Z,9.7nm,1.6s
TMUT Trail Mountain 68.97 55 *e*P **P 02 38 50.5 +1.2**
comp=Z,6.5nm,1.0s
MSU Marysvale 68.97 56 *e*P **P 02 38 51.0 +1.8**
MSU Marysvale 68.97 56 *e*P **P 02 38 51.0 +1.8**
P17A Butcher Ranch, 69.10 54 *e*P **P 02 38 51.5 +1.5**
comp=Z,67nm,0.6s
P18A Preston Nutter 69.27 54 *e*P **P 02 38 52.5 +1.4**
comp=Z,12nm,1.3s
MTPU Mount Pierson 69.29 56 *e*P **P 02 38 52.3 +0.9**
comp=Z,4.2nm,1.0s
RSSD Black Hills 69.32 47 *e*P **P 02 38 51.1 -0.1**
RSSD pmax pmax
comp=Z,14nm,1.3s
RSSD Black Hills 69.32 47 *e*P **P 02 38 51.1 -0.1**
comp=Z,14nm,1.3s
LCMT Little Creek M 69.41 58 *e*P **P 02 38 52.4 +0.7**
comp=Z,7.2nm,1.1s
SRU San Rafael Swe 69.47 54 *e*P **P 02 38 53.3 +1.1**
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 69.47 54 *e*P **P 02 38 53.2 +1.1**
comp=Z,8.5nm,0.8s
KNB Kanab 69.64 57 *e*P **P 02 38 55.1 +1.8**
KNB pmax pmax
comp=Z,7.0nm,1.1s
KNB Kanab 69.64 57 *e*P **P 02 38 55.1 +1.8**
comp=Z,7.1nm,1.1s
U15A North Rim 70.36 57 *e*P **P 02 38 59.4 +1.6**
comp=Z,6.6nm,0.9s
W13A Hualapai Mount 70.36 59 *e*P **P 02 38 58.8 +1.1**
comp=Z,5.0nm,1.2s
PV09 Paradox Valley 70.67 54 *e*P **P 02 39 01.3 +1.7**
PV10 Paradox Valley 70.81 54 *e*P **P 02 39 01.8 +1.4**
PV05 Paradox Valley 70.99 54 *e*P **P 02 39 02.3 +0.9**
PV01 Paradox Valley 71.25 54 *e*P **P 02 39 03.8 +0.9**
SMCO Snowmass 71.37 52 *e*P **P 02 39 04.0 +0.3**
comp=Z,4.1nm,0.9s
WUAZ Wupatki 71.53 58 *e*P **P 02 39 06.1 +1.6**
comp=Z,7.1nm,1.0s
ISCO Idaho Springs 71.64 51 *e*P **P 02 39 06.5 +1.2**
ISCO pmax pmax
comp=Z,7.0nm,1.3s
ISCO Idaho Springs 71.64 51 *e*P **P 02 39 06.5 +1.2**
comp=Z,6.6nm,1.3s
ASAR Alice Springs 71.67 193 P **P 02 39 07.4 +2.3**
comp=Z,1.1nm,0.3s,baz=9.4,slow=5.7,SNR=36
Y14A Wickenburg 71.70 60 *e*P **P 02 39 06.3 +1.0**
comp=Z,33nm,1.3s
MVCO Mesa Verde 71.95 55 *e*P **P 02 39 08.1 +1.0**
comp=Z,6.3nm,1.0s
X16A Lo Mia Camp, P 72.27 58 *e*P **P 02 39 10.3 +1.4**
comp=Z,5.5nm,0.9s
ECSD EROS Data Cent 73.18 43 *e*P **P 02 39 13.6 -0.2**
comp=Z,5.9nm,0.8s
T25A Trinidad 74.23 52 *e*P **P 02 39 21.0 +0.7**
comp=Z,4.2nm,0.9s
CLL Collm 74.32 332 *i*P **P 02 39 19.7 -0.5**
CLL Collm 74.32 332 *i*P **P 02 39 19.7 -0.5**
CLL Collm 74.32 332 *e*P **P 02 39 19.7 -0.5**
ANMO Albuquerque 74.72 55‖ *e*P **P 02 39 24.4 +1.3**
ANMO pmax pmax
comp=Z,3.0nm,1.2s

ANMO	**Albuquerque**	**74.72**	**55**	*e*P		**P**	**02 39 24.4**	**+1.3**
	comp=Z,5.2nm,1.3s							
LAZ	**Ladron**	**74.74**	**56**	*e*P		**P**	**02 39 25.0**	**+1.8**
BRTR	**Keskin Array B**	**75.33**	**313**	P		**P**	**02 39 26.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=85,slow=4.9,SNR=4.0							
BRTR	**Keskin Array B**	**75.33**	**313**	*ce*P		**P**	**02 39 26.8**	**+0.5**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
319A	**Douglas**	**75.72**	**59**	*e*P		**P**	**02 39 30.1**	**+1.4**
	comp=Z,11nm,0.8s							
MNTX	**Cornudas Mount**	**77.73**	**57**	*e*P		**P**	**02 39 40.5**	**+0.9**
	comp=Z,4.8nm,1.0s							
U34A	**Anderson Ranch**	**78.36**	**48**	*e*P		**P**	**02 39 43.6**	**+0.6**
	comp=Z,15nm,0.9s							
WMOK	**Wichita Mounta**	**79.03**	**50**	*e*P		**P**	**02 39 47.1**	**+0.4**
WMOK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WMOK	**Wichita Mounta**	**79.03**	**50**	*e*P		**P**	**02 39 47.1**	**+0.4**
	comp=Z,2.3nm,0.8s							
TRQ	**Mont Tremblant**	**79.84**	**28**	*e*P		**P**	**02 39 50.4**	**-0.4**
HHAR	**Hobbs**	**80.28**	**46**	*e*P		**P**	**02 39 53.2**	**-0.1**
	comp=Z,6.0nm,1.0s							
TX31	**Lajitas Ar. Si**	**80.47**	**57**	*e*P		**P**	**02 39 55.4**	**+0.9**
TXAR	**Lajitas Array**	**80.47**	**57**	P		**P**	**02 39 55.2**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=291,slow=3.8,SNR=44							
SIUC	**Southern Illin**	**81.36**	**42**	*e*P		**P**	**02 39 59.2**	**+0.3**
	comp=Z,9.9nm,0.8s							
X201	**Greenbrier Sit**	**81.84**	**46**	*e*P		**P**	**02 40 00.3**	**-1.1**
	comp=Z,10nm,1.1s							
WHAR	**Wooly Hollow**	**81.88**	**46**	*e*P		**P**	**02 40 01.7**	**+0.2**
	comp=Z,12nm,0.9s							
ACSO	**Alum Creek Sta**	**81.97**	**37**	*e*P		**P**	**02 40 02.1**	**+0.2**
	comp=Z,9.0nm,0.9s							
WCI	**Wyandotte Cave**	**82.25**	**40**	*e*P		**P**	**02 40 03.7**	**+0.2**
WCI				pmax	pmax			
	comp=Z,10.0nm,1.0s							
WCI	**Wyandotte Cave**	**82.25**	**40**	*e*P		**P**	**02 40 03.7**	**+0.2**
	comp=Z,10nm,1.0s							
WVT	**Waverly**	**83.30**	**42**	*e*P		**P**	**02 40 09.2**	**+0.4**
WVT				pmax	pmax			
	comp=Z,4.0nm,0.8s							
WVT	**Waverly**	**83.30**	**42**	*e*P		**P**	**02 40 09.2**	**+0.4**
	comp=Z,4.1nm,0.8s							
SWET	**Sewanee**	**84.92**	**41**	*e*P		**P**	**02 40 16.9**	**0.0**
	comp=Z,2.6nm,0.9s							
SAML	**Samuel**	**133.75**	**44**	*e*PKPdf		**PKPdf**	**02 46 56.8**	**+0.6**
LCO	**Las Campanas**	**145.26**	**72**	*e*PKPbc		**PKPab**	**02 47 18.6**	**+0.4**
CPUP	**Villa Florida**	**151.34**	**52**	PKPbc		**PKPbc**	**02 47 32.8**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=40,slow=2.6,SNR=7.1							
CPUP				PKPab		**PKPab**	**02 47 42.9**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=318,slow=4.8,SNR=3.1							
SNAA	**Sanae**	**151.89**	**199**	*e*PKIKP		**PKPbc**	**02 47 33.5**	**+0.7**
SNAA	**Sanae**	**151.89**	**199**	*e*PKPbc		**PKPbc**	**02 47 33.5**	**+0.7**

*ISCJB **19** 02:37:27.0±0.6, 41°.69N±0°.02×23°.89E±0°.03, h4km±4km, Error ellipse: s-maj=4.0km s-min=3.0km az=165.9*
*CSEM **19** 02:37:28.3±0.1, 41°.65N×23°.88E, h10km, ML2.5, Error ellipse: s-maj=3.8km s-min=2.7km az=90.0*
*THE **19** 02:37:28.7, 41°.64N×23°.90E, h5km±1km, ML2.6/10, Error ellipse: s-maj=1.7km s-min=0.8km az=187.0*
*ATH **19** 02:37:28.3, 41°.61N×23°.89E, h24km±1km, ML2.5/8, Error ellipse: s-maj=3.3km s-min=1.4km az=175.0*
*SKO **19** 02:37:28.9, 41°.69N×23°.84E, h8km*

ISC 19 02:37:26.8±1.1, 41°.66N±0°.02×23°.90E±0°.02, h1km±10km, n96, σ0s96/136, 12C-8D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVR	**Nevrokopi**	**0.31**	**185**	P	**Pb**	**02 37 34.4**	**-0.8**
NVR				S	**Sb**	**02 37 39.2**	**-1.6**
NVR	**Nevrokopi**	**0.31**	**185**	P	**Pb**	**02 37 34.4**	**-0.8**
NVR				S	**Sb**	**02 37 39.2**	**-1.6**
SRS	**Serrai**	**0.59**	**203**	P	**Pb**	**02 37 39.7**	**-0.2**
SRS				S	**Sb**	**02 37 48.1**	**-0.7**
SRS	**Serrai**	**0.59**	**203**	P	**Pb**	**02 37 39.7**	**-0.2**
SRS				S	**Sb**	**02 37 48.1**	**-0.7**
SRS	**Serrai**	**0.59**	**203**	P	**Pb**	**02 37 40.1**	**+0.2**
SRS				S	**Sg**	**02 37 46.4**	**+0.7**
SRS				AML	AML	02 37 49.8	
	comp=E,1042μm,0.3s						
SRS				AML	AML	02 37 50.9	
	comp=N,1070μm,0.4s						
KAVA	**Kavala**	**0.81**	**145**	P	**Pb**	**02 37 43.2**	**-0.4**
KAVA				S	**Sb**	**02 37 55.0**	**0.0**
KAVA	**Kavala**	**0.81**	**145**	P	**Pb**	**02 37 43.2**	**-0.4**
KAVA				S	**Sb**	**02 37 54.7**	**-0.3**
KAVA	**Kavala**	**0.81**	**145**	P	**Pb**	**02 37 42.7**	**-0.9**
SOH	**Sokhos**	**0.93**	**206**	P	**Pb**	**02 37 45.8**	**+0.1**
SOH				S	**Sb**	**02 37 58.4**	**-0.3**
SOH	**Sokhos**	**0.93**	**206**	P	**Pb**	**02 37 45.9**	**+0.1**
SOH				S	**Sb**	**02 37 58.4**	**-0.3**
SOH	**Sokhos**	**0.93**	**206**	P	**Pb**	**02 37 45.9**	**+0.1**
SOH				S	**Sg**	**02 37 58.1**	**+1.4**
SOH				AML	AML	02 38 01.8	
	comp=N,797μm,0.3s						
SOH				AML	AML	02 38 03.2	
	comp=E,566μm,0.3s						
VAY	**Valandovo**	**1.05**	**252**	P	**Pb**	**02 37 48.1**	**+0.2**
VAY	**Valandovo**	**1.05**	**252**	*i* Pg	**Pg**	**02 37 47.0**	**-0.1**
VAY				*i* Sg	**Sg**	**02 38 01.4**	**+0.7**
VAY	**Valandovo**	**1.05**	**252**	*e*Pg	**Pn**	**02 37 49.2**	**+0.5**
VAY				*e*Sg	**Sb**	**02 38 02.7**	**+0.5**
VAY	**Valandovo**	**1.05**	**252**	*i* Pg	**Pg**	**02 37 46.9**	**-0.1**
VAY	**Valandovo**	**1.05**	**252**	P	**Pb**	**02 37 48.1**	**+0.2**
VAY				*i* Sg	**Sg**	**02 38 01.3**	**+0.7**
HORT	**Hortiatis**	**1.22**	**210**	P	**Pn**	**02 37 51.1**	**0.0**
HORT				S	**Sn**	**02 38 09.1**	**+0.8**
HORT	**Hortiatis**	**1.22**	**210**	P	**Pn**	**02 37 51.4**	**+0.3**
HORT				S	**Sb**	**02 38 08.0**	**+1.0**
HORT	**Hortiatis**	**1.22**	**210**	P	**Pn**	**02 37 51.4**	**+0.3**
HORT				S	**Sb**	**02 38 08.0**	**+1.0**
HORT				AML	AML	02 38 10.2	
	comp=E,314μm,0.3s						
HORT				AML	AML	02 38 11.3	
	comp=N,430μm,0.5s						
THE	**Thessaloniki**	**1.25**	**215**	P	**Pn**	**02 37 52.1**	**+0.8**
THE				S	**Sg**	**02 38 06.2**	**-0.6**
THE	**Thessaloniki**	**1.25**	**215**	P	**Pn**	**02 37 52.1**	**+0.8**
THE				S	**Sg**	**02 38 06.2**	**-0.6**
THE				AML	AML	02 38 09.1	
	comp=E,320μm,0.6s						
THE				AML	AML	02 38 09.3	
	comp=N,329μm,0.4s						
OUR	**Ouranopolis**	**1.32**	**177**	P	**Pb**	**02 37 52.4**	**0.0**
OUR	**Ouranopolis**	**1.32**	**177**	P	**Pb**	**02 37 52.4**	**0.0**
OUR				S	**Sb**	**02 38 10.4**	**+0.5**
OUR	**Ouranopolis**	**1.32**	**177**	P	**Pg**	**02 37 52.0**	**-0.1**
OUR				S	**Sb**	**02 38 10.4**	**+0.5**
OUR				AML	AML	02 38 13.4	
	comp=N,2341μm,0.3s						
OUR				AML	AML	02 38 13.6	
	comp=E,1175μm,0.4s						
PLG	**Polygyros**	**1.33**	**195**	P	**Pb**	**02 37 53.2**	**+0.6**
PLG				S	**Sn**	**02 38 11.7**	**+0.7**
PLG	**Polygyros**	**1.33**	**195**	P	**Pb**	**02 37 53.2**	**+0.6**
PLG				S	**Sn**	**02 38 11.6**	**+0.7**
PLG	**Polygyros**	**1.33**	**195**	P	**Pb**	**02 37 53.7**	**+1.1**
PLG				S	**Sn**	**02 38 11.6**	**+0.7**
PLG				AML	AML	02 38 14.3	
	comp=N,481μm,0.3s						
PLG				AML	AML	02 38 15.1	
	comp=E,492μm,0.6s						
GRG	**Griva**	**1.33**	**239**	P	**Pb**	**02 37 53.4**	**+0.8**
GRG				S	**Sn**	**02 38 11.6**	**+0.7**
GRG	**Griva**	**1.33**	**239**	P	**Pb**	**02 37 53.4**	**+0.8**
GRG				S	**Sn**	**02 38 11.6**	**+0.7**
GRG	**Griva**	**1.33**	**239**	P	**Pg**	**02 37 51.2**	**-1.1**
GRG				S	**Sn**	**02 38 12.0**	**+1.0**
GRG				AML	AML	02 38 12.3	
	comp=N,298μm,0.5s						
GRG				AML	AML	02 38 12.4	
	comp=E,197μm,0.2s						
SMTH	**Samothraki Isl**	**1.71**	**133**	P	**Pn**	**02 37 58.0**	**+0.2**
SMTH				S	**Sb**	**02 38 20.9**	**-0.1**
SMTH	**Samothraki Isl**	**1.71**	**133**	P	**Pn**	**02 37 58.0**	**+0.2**
SMTH				S	**Sb**	**02 38 20.9**	**-0.1**
SMTH	**Samothraki Isl**	**1.71**	**133**	P	**Pg**	**02 38 00.0**	**+0.5**
SMTH				S	**Sb**	**02 38 21.0**	**-0.1**
SMTH				AML	AML	02 38 26.1	
	comp=N,119μm,0.6s						
SMTH				AML	AML	02 38 26.7	
	comp=E,63μm,0.2s						
ALN	**Alexandroupoli**	**1.79**	**114**	P	**Pb**	**02 37 59.1**	**-1.2**
ALN				S	**Sg**	**02 38 24.4**	**+0.2**
ALN	**Alexandroupoli**	**1.79**	**114**	P	**Pb**	**02 37 59.1**	**-1.2**
ALN				S	**Sg**	**02 38 24.4**	**+0.2**
ALN	**Alexandroupoli**	**1.79**	**114**	P	**Pg**	**02 38 01.0**	**0.0**
ZAPS	**Zavoj**	**1.87**	**330**	*e*Pn	**Pb**	**02 38 00.8**	**-0.9**
ZAPS				*e*Sn	**Sb**	**02 38 24.5**	**-1.1**
LIT	**Litokhoron**	**1.89**	**215**	P	**Pb**	**02 38 01.4**	**-0.7**
LIT	**Litokhoron**	**1.89**	**215**	P	**Pb**	**02 38 01.4**	**-0.7**
BARS	**Barje**	**1.93**	**307**	*e*Pn	**Pb**	**02 38 01.7**	**-1.2**
BARS				*e*Sn	**Sb**	**02 38 26.6**	**-0.9**
BARS	**Barje**	**1.93**	**307**	*e*Pn	**Pb**	**02 38 01.7**	**-1.2**
BARS				*e*Sn	**Sb**	**02 38 26.6**	**-0.9**
LIA	**Limnos Island**	**2.01**	**151**	P	**Pn**	**02 38 01.6**	**-0.3**
LIA				S	**Sn**	**02 38 27.6**	**0.0**
LIA	**Limnos Island**	**2.01**	**151**	P	**Pn**	**02 38 01.6**	**-0.3**
LIA				S	**Sn**	**02 38 27.6**	**0.0**
FNA	**Florina**	**2.10**	**246**	P	**Pn**	**02 38 03.8**	**+0.7**
FNA	**Florina**	**2.10**	**246**	P	**Pn**	**02 38 03.8**	**+0.7**
XOR	**Xorichti**	**2.35**	**194**	P	**Pn**	**02 38 06.2**	**-0.5**
XOR	**Xorichti**	**2.35**	**194**	P	**Pn**	**02 38 06.2**	**-0.5**
NEO	**Neokhori**	**2.41**	**193**	P	**Pn**	**02 38 06.3**	**-1.1**
NEO	**Neokhori**	**2.41**	**193**	P	**Pn**	**02 38 06.3**	**-1.1**
AOS	**Alonnisos**	**2.49**	**180**	P	**Pn**	**02 38 07.4**	**-1.0**
AOS	**Alonnisos**	**2.49**	**180**	P	**Pn**	**02 38 07.4**	**-1.0**
BOVS	**Bovan**	**2.55**	**321**	*e*Pn	**Pn**	**02 38 09.6**	**+0.2**
BOVS	**Bovan**	**2.55**	**321**	*e*Pn	**Pn**	**02 38 09.6**	**+0.2**
SELS	**Selova**	**2.58**	**308**	*e*Pn	**Pn**	**02 38 09.8**	**0.0**
AGG	**Agios Georgios**	**2.89**	**205**	P	**Pn**	**02 38 13.8**	**-0.3**
AGG	**Agios Georgios**	**2.89**	**205**	P	**Pn**	**02 38 13.8**	**-0.3**
KUBS	**Kucevo**	**3.20**	**330**	*e*Pn	**Pn**	**02 38 17.8**	**-0.5**
KUBS	**Kucevo**	**3.20**	**330**	*e*Pn	**Pn**	**02 38 17.8**	**-0.5**
GRUS	**Gruza**	**3.23**	**315**	*e*Pn	**Pn**	**02 38 18.5**	**-0.2**
GRUS				*e*Sn	**Sn**	**02 38 57.1**	**-0.8**
GRUS	**Gruza**	**3.23**	**315**	*e*Pn	**Pn**	**02 38 18.5**	**-0.2**
GRUS				*e*Sn	**Sn**	**02 38 57.1**	**-0.8**
IVAS	**Ivanjica**	**3.37**	**306**	*e*Pn	**Pn**	**02 38 20.4**	**-0.2**
IVAS	**Ivanjica**	**3.37**	**306**	*e*Pn	**Pn**	**02 38 20.4**	**-0.2**
SULR		**3.48**	**29**	⇑*i*P	**Pn**	**02 38 22.5**	**+0.5**
SULR		**3.48**	**29**	S	**Sg**	**02 39 20.1**	**+1.7**
SULR		**3.48**	**29**	⇑*i*P	**Pn**	**02 38 22.5**	**+0.5**
MDVR	**Moldovita**	**3.51**	**334**	⇑*i*P	**Pn**	**02 38 22.8**	**+0.3**
MDVR	**Moldovita**	**3.51**	**334**	S	**Sg**	**02 39 18.3**	**-1.2**
MDVR	**Moldovita**	**3.51**	**334**	⇑*i*P	**Pn**	**02 38 22.8**	**+0.3**
ARR	**Arges**	**3.75**	**8**	⇓*i*P	**Pn**	**02 38 29.1**	**+3.3**
ARR	**Arges**	**3.75**	**8**	S	**Sg**	**02 39 27.2**	**+0.1**
ARR	**Arges**	**3.75**	**8**	⇓*i*P	**Pn**	**02 38 29.1**	**+3.3**
DIVS	**Divibare**	**3.77**	**312**	*e*Pn	**Pn**	**02 38 25.9**	**-0.2**
DIVS				*e*Sn	**Sn**	**02 39 10.8**	**-0.4**
DIVS	**Divibare**	**3.77**	**312**	*e*Pn	**Pn**	**02 38 25.9**	**-0.2**
DIVS				*e*Sn	**Sn**	**02 39 10.8**	**-0.4**
VOIR		**3.87**	**12**	⇑*i*P	**Pn**	**02 38 29.7**	**+2.2**
VOIR		**3.87**	**12**	S	**Sg**	**02 39 31.9**	**+0.8**
VOIR		**3.87**	**12**	⇑*i*P	**Pn**	**02 38 29.7**	**+2.2**
ISR	**Istrita**	**3.96**	**28**	⇑*i*P	**Pn**	**02 38 29.7**	**+1.0**
ISR	**Istrita**	**3.96**	**28**	S	**Sg**	**02 39 35.2**	**+1.3**
ISR	**Istrita**	**3.96**	**28**	⇑*i*P	**Pn**	**02 38 29.7**	**+1.0**
BBLS	**Lazići**	**3.98**	**305**	*e*Pn	**Pn**	**02 38 29.3**	**+0.3**
BBLS	**Lazići**	**3.98**	**305**	*e*Pn	**Pn**	**02 38 29.3**	**+0.3**
MLR	**Muntele Rosu**	**4.11**	**20**	⇓*i*P	**Pn**	**02 38 32.2**	**+1.3**
MLR	**Muntele Rosu**	**4.11**	**20**	S	**Sg**	**02 39 39.7**	**+0.9**
MLR	**Muntele Rosu**	**4.11**	**20**	⇓*i*P	**Pn**	**02 38 32.2**	**+1.3**
BZS	**Buzias**	**4.29**	**338**	⇑*i*P	**Pn**	**02 38 32.9**	**-0.3**
BZS	**Buzias**	**4.29**	**338**	S	**Sg**	**02 39 43.9**	**-0.7**
BZS	**Buzias**	**4.29**	**338**	⇑*i*P	**Pn**	**02 38 32.9**	**-0.3**
TIRR	**Tirgusor**	**4.33**	**48**	⇓*i*P	**Pn**	**02 38 31.9**	**-1.9**
TIRR	**Tirgusor**	**4.33**	**48**	S	**Sg**	**02 39 44.2**	**-1.7**
TIRR	**Tirgusor**	**4.33**	**48**	⇓*i*P	**Pn**	**02 38 31.9**	**-1.9**
CFR	**Carcaliu**	**4.68**	**40**	⇑*i*P	**Pn**	**02 38 38.9**	**+0.4**
CFR	**Carcaliu**	**4.68**	**40**	S	**Sb**	**02 39 47.6**	**+1.2**
CFR	**Carcaliu**	**4.68**	**40**	⇑*i*P	**Pn**	**02 38 38.9**	**+0.4**
VRI	**Vrincioaia**	**4.68**	**25**	⇓*i*P	**Pn**	**02 38 40.5**	**+1.9**
VRI	**Vrincioaia**	**4.68**	**25**	S	**Sg**	**02 40 00.7**	**+3.7**
VRI	**Vrincioaia**	**4.68**	**25**	⇓*i*P	**Pn**	**02 38 40.5**	**+1.9**

*CSEM **19** 02:39:19.4±0.8, 49°.74N×18°.57E, h1km, Error ellipse: s-maj=35.6km s-min=7.4km az=31.0*

PRU 19 02:39:18.6, 49°.83N×18°.63E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.31**	**272**	*e*PG	Pg	02 39 25.5	+0.9
OKC				*e*SG	Sg	02 39 28.7	+0.1
	4.6nm,0.3s						
OKC	**Ostrava-Krasne**	**0.31**	**272**	*e*P	Pg	02 39 25.5	+0.9
OKC				*e*	Sg	02 39 28.7	+0.1
OKC	**Ostrava-Krasne**	**0.31**	**272**	Pg	Pg	02 39 25.5	+0.9
OKC				Sg	Sg	02 39 28.7	+0.1
	4.6nm,0.3s						
MORC	**Moravsky Berou**	**0.71**	**266**	*e*Pg	Pg	02 39 32.3	+0.2
MORC				*e*Sg	Sg	02 39 41.1	-0.2
LANS	**Liptovska Anna**	**0.87**	**141**	*e*Sg	Sg	02 39 45.9	-0.7
LANS	**Liptovska Anna**	**0.87**	**141**	*e*SG	Sg	02 39 45.9	-0.7
DPC	**Dobruska-Polom**	**1.57**	**290**	*e*SG	Sn	02 40 08.4	-0.6
DPC	**Dobruska-Polom**	**1.57**	**290**	Sg	Sn	02 40 08.4	-0.6

*ISCJB **19** 03:01:29.5±1.2, 7°.0S±0°.2×116°.9E±0°.3, h500km, mb3.2/6, Error ellipse: s-maj=41.3km s-min=12.3km az=150.6*
*IDC **19** 03:01:31.8±2.3, 6°.96S×117°.02E, h509km±21km, mb2.8/6, mb1 2.9/8, mb1mx2.7/36, mbtmp3.6/8, Error ellipse: s-maj=53.9km s-min=12.5km az=59.0*

ISC 19 03:01:31.0±1.5, 7°.0S±0°.2×117°.0E±0°.3, h500km, n8, σ0s69/9, mb3.3/6, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**3.41**	**55**	P	**P**	**03 02 45.0**	**+0.1**
	3.6nm,0.3s,baz=245,slow=7.5,SNR=6.0						
FITZ	**Fitzroy Crossi**	**13.92**	**143**	P	**P**	**03 04 30.1**	**+0.2**
	0.1nm,0.3s,baz=343,slow=8.6,SNR=6.8						
WRA	**Warramunga Arr**	**21.23**	**129**	P	**P**	**03 05 41.4**	**+0.5**
	0.5nm,0.7s,baz=312,slow=9.3,SNR=5.9						
ASAR	**Alice Springs**	**23.24**	**137**	P	**P**	**03 05 59.6**	**+0.7**
	0.6nm,1.0s,baz=315,slow=8.3,SNR=5.1						
ASAR				S	**S**	**03 09 34.1**	**-1.1**
	0.3nm,0.4s,baz=307,slow=15,SNR=4.1						
MJAR	**Matsushiro Arr**	**47.67**	**23**	P	**P**	**03 09 21.4**	**-0.2**
	0.5nm,0.4s,baz=178,slow=8.0,SNR=5.7						
SONM	**Songino Array**	**55.38**	**351**	P	**P**	**03 10 17.7**	**+0.4**
	0.7nm,0.7s,baz=170,slow=9.0,SNR=4.4						
MKAR	**Makanchi Array**	**61.76**	**334**	P	**P**	**03 11 00.3**	**0.0**
	0.3nm,0.3s,baz=143,slow=6.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**66.46**	**340**	P	**P**	**03 11 29.2**	**-0.8**
	0.7nm,0.4s,baz=155,slow=7.1,SNR=3.8						

*ISCJB **19** 03:16:33.6±0.8, 32°.31N±0°.05×115°.28W±0°.06, h22km±6km, Error ellipse: s-maj=9.1km s-min=8.0km az=163.8*
*MEX **19** 03:16:34.7±0.8, 32°.42N×115°.12W, h24km±6km, MD3.4*
*ECX **19** 03:16:35.1±0.4, 32°.28N×115°.35W, h5km, MD2.2, ML2.4*

ISC 19 03:16:33.8±1.1, 32°.28N±0°.04×115°.33W±0°.04, h18km±3km, n13, σ0s28/20, 2C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.14**	**11**	*e*P	**Pg**	**03 16 37.8**	**-0.1**
CPBX				*e*S	**Sg**	**03 16 40.6**	**-0.1**
CPBX				⇑*e*		03 16 43.2	
CPBX				IAML		03 16 43.2	
	comp=N,5μm,0.2s						
MBIG	**Mexicali**	**0.17**	**43**	*e*P	**Pg**	**03 16 38.8**	**+0.5**
MBIG				*e*S	**Sb**	**03 16 40.4**	**+0.1**
RMX	**La Rumorosa**	**0.70**	**297**	*e*P	**Pb**	**03 16 47.1**	**-0.5**
ZAX	**El Zacaton**	**1.11**	**226**	*e*P	**Pb**	**03 16 54.1**	**-0.4**
ZAX				*e*S	**Sb**	**03 17 08.9**	**+0.3**
CBX	**Cerro Bola**	**1.13**	**272**	*i* P	**Pn**	**03 16 54.8**	**+0.1**
CBX				*e*S	**Sg**	**03 17 10.4**	**0.0**
CBX	**Cerro Bola**	**1.13**	**272**	*e*P	**Pn**	**03 16 54.8**	**+0.1**
CBX				*e*S	**Sb**	**03 17 09.4**	**+0.3**
CBX				IAML		03 17 10.6	
	comp=E,77nm,0.2s						
CBX				⇑*e*		03 17 10.6	
TJIG	**Tijuana**	**1.14**	**278**	*e*P	**Pn**	**03 16 54.7**	**-0.2**
TJIG				*e*S	**Sn**	**03 17 10.6**	**+0.4**
TJIG	**Tijuana**	**1.14**	**278**	*e*P	**Pn**	**03 16 54.8**	**-0.2**
BAR	**Barrett**	**1.20**	**290**	*e*P	**Pn**	**03 16 55.6**	**-0.1**
SPIG	**San Pedro Mart**	**1.24**	**185**	*e*P	**Pn**	**03 16 56.4**	**-0.2**
SPIG				*e*S	**Sn**	**03 17 13.0**	**+0.1**
SPIG	**San Pedro Mart**	**1.24**	**185**	*e*P	**Pn**	**03 16 56.3**	**-0.2**
ECNX	**Esteban Cantu**	**1.24**	**240**	*e*P	**Pn**	**03 16 56.5**	**+0.2**
SDRC	**San Diego Road**	**1.43**	**289**	*e*P	**Pb**	**03 16 59.7**	**-0.2**

*NEIC **19** 03:16:37.1, 44°.53S×168°.37E, h5km, ML4.5(WEL), After WEL.*
NEIC Felt in the Queenstown area.

WEL 19 03:16:37.2±0.1, 44°.53S×168°.39E, h5km, ML4.5/19, 3C-4D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, reported intensity MM 5., South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.36**	**247**	⇓PG	Pb	03 16 45.2	-0.9
MSZ				SG	Sg	03 16 50.3	+1.4
WKZ	**Wanaka**	**0.54**	**124**	PG	Pg	03 16 48.1	+0.6
WKZ				SG	Sg	03 16 55.4	+0.9
WKZ				AML	AML	03 16 56.2	
WKZ				AML	AML	03 16 56.3	
WKZ				AML	AML	03 16 56.4	
WKZ	**Wanaka**	**0.54**	**124**	Pg	Pg	03 16 48.1	+0.6
WKZ				Sg	Sg	03 16 55.4	+0.9
JCZ	**Jackson Bay**	**0.54**	**32**	PG	Pg	03 16 47.9	+0.3
JCZ				SG	Sg	03 16 55.6	+1.0
JCZ				AML	AML	03 16 58.4	
JCZ	**Jackson Bay**	**0.54**	**32**	Pg	Pg	03 16 47.9	+0.3
JCZ				Sg	Sg	03 16 55.6	+1.0
MLZ	**Mavora Lakes**	**0.86**	**193**	⇓P*	Pg	03 16 53.6	-0.1
MLZ				AML	AML	03 17 09.0	
MLZ				AML	AML	03 17 09.3	
MLZ	**Mavora Lakes**	**0.86**	**193**	P*	Pg	03 16 53.6	-0.1
EAZ	**Earnscleugh**	**0.96**	**137**	⇑P*	Pg	03 16 55.4	-0.2
EAZ				AML	AML	03 17 12.2	
EAZ				AML	AML	03 17 12.3	
EAZ				AML	AML	03 17 14.3	
EAZ				AML	AML	03 17 14.3	
EAZ	**Earnscleugh**	**0.96**	**137**	P*	Pg	03 16 55.4	-0.2
DCZ	**Deep Cove**	**1.28**	**223**	⇓P*	Pn	03 17 00.7	-1.1
DCZ				S*	Sg	03 17 17.6	-0.8
DCZ				AML	AML	03 17 19.3	
DCZ				AML	AML	03 17 20.3	
DCZ				AML	AML	03 17 20.4	
DCZ	**Deep Cove**	**1.28**	**223**	P*	Pn	03 17 00.7	-1.1
DCZ				S*	Sg	03 17 17.6	-0.8
LBZ	**Lake Benmore**	**1.29**	**84**	⇑P*	Pg	03 17 02.0	0.0
LBZ				AML	AML	03 17 21.5	
LBZ				AML	AML	03 17 21.6	
LBZ				AML	AML	03 17 22.4	
LBZ				AML	AML	03 17 22.4	
LBZ	**Lake Benmore**	**1.29**	**84**	P*	Pg	03 17 02.0	0.0
WHZ	**Wether Hill Ro**	**1.40**	**193**	⇓PN	Pn	03 17 02.7	-0.7
WHZ				AML	AML	03 17 22.0	
WHZ				AML	AML	03 17 28.6	
WHZ	**Wether Hill Ro**	**1.40**	**193**	Pn	Pn	03 17 02.7	-0.7
FOZ	**Fox Glacier**	**1.43**	**46**	PN	Pn	03 17 03.5	-0.3
FOZ				AML	AML	03 17 29.5	
FOZ				AML	AML	03 17 29.5	
FOZ				AML	AML	03 17 29.5	
FOZ				AML	AML	03 17 29.6	
FOZ	**Fox Glacier**	**1.43**	**46**	Pn	Pn	03 17 03.5	-0.3
TUZ	**Tuapeka**	**1.67**	**149**	⇑PN	Pn	03 17 07.2	+0.1
TUZ				AML	AML	03 17 31.0	
TUZ				AML	AML	03 17 31.0	
TUZ				AML	AML	03 17 31.1	
TUZ				AML	AML	03 17 31.1	
TUZ	**Tuapeka**	**1.67**	**149**	Pn	Pn	03 17 07.2	+0.1
ODZ	**Otahua Downs**	**1.68**	**108**	PN	Pn	03 17 07.5	+0.1
ODZ				AML	AML	03 17 33.0	
ODZ				AML	AML	03 17 33.5	
ODZ				AML

MAT	**Matsushiro**	**2.13 256**	P		Pb	03 32 00.2	-1.3
MAT			S		Sb	03 32 28.0	-0.1

*ISCJB **19** 03:39:51.9±0.3,51˚48N±0˚02×16˚24E±0˚03,h0km, mb3.2/1,Error ellipse: s-maj=2.5km s-min=2.2km az=141.9*
*CSEM **19** 03:39:54.2±0.1,51˚48N×16˚20E,h2km,ML3.4/12,Error ellipse: s-maj=3.2km s-min=2.6km az=77.0*
*WAR **19** 03:39:55.7,51˚44N×16˚20E,h1km,Mw2.7*
*IDC **19** 03:39:55.4±0.6,51˚44N×16˚15E,h0km, mb2.9/1, mb1 3.3/8,mb1mx3.1/41,mbtmp3.1/8,ML2.9/7,Error ellipse: s-maj=13.5km s-min=6.9km az=103.0*
*VIE **19** 03:39:56.7±0.5,51˚33N×16˚09E,h0km, mb2.4/5,ML2.9/7, Error ellipse: s-maj=5.0km s-min=3.9km az=43.0, Suspected Mining induced.*
*UPP **19** 03:39:58.6±3.1,51˚72N×15˚83E,h0km,ML2.0,Suspected explosion*

ISC 19 03:39:53.5±0.6,51˚54N±0˚03×16˚21E±0˚02,h0km,n67, σ1§08/118,7D,Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**175**	*i*	Pg		**Pg**	**03 40 07.0**	**+0.2**
KSP				*i*	Sg		**Sg**	**03 40 15.0**	**-0.8**
KSP	**Ksiaz**	**0.70**	**175**	⇓*i*	Pg		**Pg**	**03 40 07.0**	**+0.2**
KSP				*i*	Sg		**Sg**	**03 40 15.0**	**-0.8**
KSP	**Ksiaz**	**0.70**	**175**	*i*	Pgd		**Pg**	**03 40 07.0**	**+0.2**
KSP				*i*	Sg		**Sg**	**03 40 15.0**	**-0.8**
UPC	**Upice**	**1.04**	**187**	⇓*e*	PG		**Pg**	**03 40 13.3**	**0.0**
UPC					eSG		**Sg**	**03 40 26.1**	**-0.7**
	113nm,0.3s								
UPC	**Upice**	**1.04**	**187**		Pg		**Pg**	**03 40 13.3**	**0.0**
UPC					Sg		**Sg**	**03 40 26.1**	**-0.7**
	113nm,0.3s								
DPC	**Dobruska-Polom**	**1.19**	**176**	*i*	PG		**Pg**	**03 40 15.9**	**-0.4**
DPC					eSG		**Sg**	**03 40 30.2**	**-1.5**
	45nm,0.4s								
DPC	**Dobruska-Polom**	**1.19**	**176**		Pg		**Pg**	**03 40 15.9**	**-0.4**
DPC					Sg		**Sg**	**03 40 30.2**	**-1.5**
	45nm,0.4s								
PVCC	**Panska Ves**	**1.45**	**226**	⇓*e*	PG		**Pb**	**03 40 21.2**	**0.0**
PVCC					eSG		**Sb**	**03 40 40.3**	**+0.2**
	176nm,0.3s								
PVCC	**Panska Ves**	**1.45**	**226**		Pg		**Pb**	**03 40 21.2**	**0.0**
PVCC					Sg		**Sb**	**03 40 40.3**	**+0.2**
	176nm,0.3s								
BRG	**Berggiesshubel**	**1.57**	**246**		PN		**Pn**	**03 40 22.6**	**+0.1**
BRG					PG		**Pg**	**03 40 24.1**	**+0.6**
BRG					SG		**Sg**	**03 40 44.7**	**+0.8**
	42nm,0.4s								
GOPC	**GO Pecny, Ondr**	**1.86**	**210**	*e*	PN		**Pn**	**03 40 27.2**	**+0.6**
GOPC				*e*	PG		**Pb**	**03 40 28.4**	**+0.1**
GOPC				*e*	SG		**Sb**	**03 40 51.5**	**-0.6**
	26nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.86**	**210**		Pn		**Pn**	**03 40 27.2**	**+0.6**
PRU	**Pruhonice**	**1.88**	**215**	⇓*e*	PN		**Pn**	**03 40 26.6**	**-0.2**
PRU				*e*	PG		**Pb**	**03 40 28.7**	**+0.1**
PRU				*e*	SG		**Sb**	**03 40 52.0**	**-0.6**
	24nm,0.2s								
PRU	**Pruhonice**	**1.88**	**215**		Pn		**Pn**	**03 40 26.6**	**-0.2**
RAC	**Raciborz**	**1.93**	**138**	*e*	Pg		**Pg**	**03 40 30.3**	**-0.1**
RAC				*e*	Sg		**Sg**	**03 40 54.7**	**-0.6**
MORC	**Moravsky Berou**	**1.96**	**154**	*e*	Pn		**Pn**	**03 40 27.8**	**-0.1**
MORC				*e*	Sg		**Sn**	**03 40 53.9**	**+0.7**
CLL	**Collm**	**2.02**	**265**	*i*	Pn		**Pn**	**03 40 29.4**	**+0.7**
CLL				*i*	Pg		**Pg**	**03 40 32.1**	**0.0**
CLL				*i*				03 40 35.6	
CLL				*e*	Sg		**Sg**	**03 40 59.0**	**+0.8**
	comp=Z,17nm,0.6s								
OKC	**Ostrava-Krasne**	**2.10**	**143**	⇓*e*	PN		**Pn**	**03 40 29.6**	**-0.3**
OKC				*e*	PG		**Pg**	**03 40 33.1**	**-0.6**
OKC				*e*	SG		**Sb**	**03 40 58.7**	**-0.4**
OKC	**Ostrava-Krasne**	**2.10**	**143**		Pn		**Pn**	**03 40 29.6**	**-0.3**
VRAC	**Vranov**	**2.25**	**174**		Pn		**Pn**	**03 40 32.2**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=336,slow=18,SNR=18								
VRAC					Lg		Lg	03 41 02.3	
	comp=Z,4.6nm,0.3s,baz=267,slow=23,SNR=9.0								
TREC	**Trest**	**2.29**	**192**	⇓*e*	PN		**Pn**	**03 40 32.8**	**+0.3**
TREC				*e*	PG		**Pb**	**03 40 35.9**	**+0.2**
TREC				*e*	SG		**Sb**	**03 41 04.7**	**+0.2**
	comp=Z,19nm,0.2s								
TREC	**Trest**	**2.29**	**192**		Pn		**Pn**	**03 40 32.8**	**+0.3**
OJC	**Ojcow**	**2.63**	**119**	*e*	Pg		**Pg**	**03 40 44.0**	**+0.1**
OJC				*e*	Sg		**Sg**	**03 41 18.3**	**+0.4**
OJC	**Ojcow**	**2.63**	**119**	*e*	Pg		**Pg**	**03 40 44.0**	**+0.1**
OJC				*e*	Sg		**Sg**	**03 41 18.3**	**+0.4**
OJC	**Ojcow**	**2.63**	**119**	*e*	Pg		**Pg**	**03 40 44.0**	**+0.1**
OJC				*e*	Sg		**Sg**	**03 41 18.3**	**+0.4**
NKC	**Novy Kostel**	**2.71**	**243**	⇓*e*	PN		**Pn**	**03 40 39.2**	**+0.9**
NKC				*e*	PG		**Pg**	**03 40 45.0**	**-0.4**
NKC				*e*	SN		**Sn**	**03 41 12.4**	**+0.5**
NKC				*e*	SG		**Sg**	**03 41 21.2**	**+0.6**
	comp=Z,28nm,0.3s								
NKC	**Novy Kostel**	**2.71**	**243**		Pn		**Pn**	**03 40 39.2**	**+0.9**
NKC	**Novy Kostel**	**2.71**	**243**		Pg		**Pg**	**03 40 45.0**	**-0.4**
NKC					Sn		**Sn**	**03 41 12.4**	**+0.5**
NKC					Sg		**Sg**	**03 41 21.2**	**+0.6**
	comp=Z,28nm,0.3s								
KHC	**Kasperske Hory**	**2.94**	**216**	*e*	PN		**Pn**	**03 40 41.9**	**+0.5**
KHC				*e*	PG		**Pb**	**03 40 47.8**	**+1.1**
KHC				*e*	SN		**Sn**	**03 41 16.5**	**-0.9**
KHC				*e*	SG		**Sb**	**03 41 24.9**	**+1.7**
	comp=Z,13nm,0.3s								
KHC	**Kasperske Hory**	**2.94**	**216**		Pn		**Pn**	**03 40 41.9**	**+0.5**
SMOL	**Smolenice**	**3.13**	**165**	*e*	Pg		**Pg**	**03 40 53.7**	**+0.3**
SMOL				*e*	Sg		**Sg**	**03 41 33.4**	**-0.5**
SMOL	**Smolenice**	**3.13**	**165**	*e*	PG		**Pg**	**03 40 53.7**	**+0.3**
SMOL				*e*	SG		**Sg**	**03 41 33.4**	**-0.5**
GERES	**GERESS Array B**	**3.14**	**212**		Pn		**Pn**	**03 40 44.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=34,slow=13,SNR=15								
GERES					Pg		**Pb**	**03 40 50.9**	**+0.8**
	comp=Z,4.4nm,0.3s,baz=31,slow=17,SNR=60								
GERES					Lg		Lg	03 41 30.6	
	comp=Z,4.9nm,0.3s,baz=29,slow=28,SNR=10								
LANS	**Liptovska Anna**	**3.17**	**138**	*e*	Pg		**Pg**	**03 40 52.8**	**-1.5**
LANS				*e*	Sg		**Sg**	**03 41 35.1**	**-0.3**
LANS	**Liptovska Anna**	**3.17**	**138**	*e*	PG		**Pg**	**03 40 52.8**	**-1.5**
LANS				*e*	SG		**Sg**	**03 41 35.0**	**-0.3**
VYHS	**Vyhne**	**3.49**	**150**	*e*	Pg		**Pg**	**03 41 40.6**	**+0.3**
VYHS				*e*	Sg		**Sg**	**03 41 43.4**	**-2.0**
VYHS	**Vyhne**	**3.49**	**150**	*e*	PG		**Pg**	**03 41 00.6**	**+0.3**
VYHS				*e*	SG		**Sg**	**03 41 43.4**	**-2.0**
VYHS				*e*	LG		Lg	03 41 56.9	
VYHS				*e*				03 56 32.2	
CONA	**Conrad Observa**	**3.62**	**184**		Pn		**Pn**	**03 40 51.6**	**+0.8**
CONA					Sg		**Sg**	**03 41 49.6**	**-0.1**
	comp=Z,11nm,0.3s								
BSD	**Bornholm Skovb**	**3.67**	**348**	*i*	P		**Pn**	**03 40 52.4**	**+1.1**
BSD				*i*	S		**Sn**	**03 41 33.9**	**-1.3**
BSD	**Bornholm Skovb**	**3.67**	**348**	*i*	P		**Pn**	**03 40 52.4**	**+1.1**
BSD				*i*	S		**Sn**	**03 41 33.9**	**-1.3**
MOA	**Molln**	**3.90**	**200**		Pn		**Pn**	**03 40 55.0**	**+0.4**
	comp=Z,1.0nm,0.2s								
MOA					Sg		**Sg**	**03 41 58.7**	**0.0**
	comp=Z,8.1nm,0.4s								
KECS	**Kecovo**	**4.12**	**136**	*e*	Sg		**Sg**	**03 42 06.0**	**+0.3**
KECS	**Kecovo**	**4.12**	**136**	*e*	SG		**Sg**	**03 42 06.0**	**+0.3**
KECS				*e*	LG		Lg	03 42 10.3	
ARSA	**Arzberg**	**4.31**	**186**		Sg		**Sg**	**03 42 11.7**	**-0.3**
	comp=Z,2.8nm,0.3s								
KOLS	**Kolonicke sedl**	**4.69**	**121**	*e*	Pg		**Pg**	**03 41 26.0**	**+2.8**
KOLS				*e*	Sg		**Sg**	**03 42 27.1**	**+3.2**
KOLS	**Kolonicke sedl**	**4.69**	**121**	*e*	PG		**Pg**	**03 41 26.0**	**+2.8**
KOLS				*e*	SG		**Sg**	**03 42 27.1**	**+3.2**
KOLS				*e*				03 56 49.2	
BLEU	**Blekinge**	**4.78**	**357**		P		**Pn**	**03 41 08.2**	**+1.5**
BLEU					S		**Sn**	**03 42 01.1**	**-1.6**
BLEU	**Blekinge**	**4.78**	**357**		P		**Pn**	**03 41 08.2**	**+1.5**
BLEU					S		**Sn**	**03 42 01.1**	**-1.6**
KBA	**Koelnbreinsper**	**4.84**	**204**		Sg		**Sg**	**03 42 29.4**	**+0.6**
	comp=Z,0.7nm,0.0s								
BJUU	**Bjuv**	**4.92**	**339**		P		**Pn**	**03 41 09.1**	**+0.5**
BJUU					S		**Sn**	**03 42 04.1**	**-2.1**
BJUU	**Bjuv**	**4.92**	**339**		P		**Pn**	**03 41 09.1**	**+0.5**
BJUU					S		**Sn**	**03 42 04.1**	**-2.1**
DEL	**Delary**	**5.13**	**345**		P		**Pn**	**03 41 12.6**	**+1.1**
DEL	**Delary**	**5.13**	**345**		P		**Pn**	**03 41 12.6**	**+1.1**
WTTA	**Wattenberg**	**5.21**	**217**		Sg		**Sg**	**03 42 43.1**	**+2.2**
	comp=Z,0.5nm,0.2s								
BYXU	**Byxelkrok**	**5.78**	**4**		P		**Pn**	**03 41 22.3**	**+1.9**
BYXU	**Byxelkrok**	**5.78**	**4**		P		**Pn**	**03 41 22.3**	**+1.9**
FABU	**Falkenberg**	**5.84**	**341**		P		**Pn**	**03 41 22.0**	**+0.8**
FABU	**Falkenberg**	**5.84**	**341**		P		**Pn**	**03 41 22.0**	**+0.8**
GNOU	**Gnosjoe**	**5.94**	**347**		P		**Pn**	**03 41 23.7**	**+1.1**
GNOU	**Gnosjoe**	**5.94**	**347**		P		**Pn**	**03 41 23.7**	**+1.1**
AKASG	**Malin Array Be**	**8.24**	**91**		Pn		**Pn**	**03 41 53.0**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=284,slow=11,SNR=8.8								
HFS	**Hagfors**	**8.73**	**352**		Pn		**Pn**	**03 42 01.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=6.5								
NOA	**NORSAR Array B**	**9.92**	**346**		Pn		**Pn**	**03 42 17.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=2.8								
FINES	**FINESS Array B**	**11.31**	**25**		Pn		**Pn**	**03 42 35.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=8.6								
EKA	**Eskdalemuir Ar**	**12.15**	**296**		Pn		**Pn**	**03 42 45.9**	**-1.7**
	baz=104,slow=14,SNR=3.2								
ARCES	**ARCESS Array B**	**18.59**	**190**		Pn		**P**	**03 44 09.2**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=194,slow=12,SNR=7.7								
YKA	**Yellowknife Ar**	**59.86**	**336**		P		**P**	**03 50 02.4**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=23,slow=7.3,SNR=3.1								

*GUC **19** 03:46:43.6±0.4,34˚73S×71˚83W,h41km±1km, ML3.6*

ISC 19 03:46:43.0±1.6,34˚71S±0˚05×71˚81W±0˚06,h11km±14km, n16,σ1§97/28,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.36**	**334**	*e*	P		**Pb**	**03 46 52.1**	**+0.8**
CHPI				*e*	S		**Sb**	**03 46 58.9**	**+2.0**
NICH	**Los Niches**	**0.56**	**121**	*e*	P		**Pg**	**03 46 54.6**	**+0.7**
NICH				*e*	S		**Sb**	**03 47 03.3**	**+0.4**
TALC	**Talca**	**0.70**	**168**	*e*	P		**Pg**	**03 46 56.4**	**-0.2**
TALC				*e*	S		**Sb**	**03 47 06.6**	**-0.3**
CLCH	**Cerro Calan**	**1.69**	**39**	*e*	P		**Pn**	**03 47 11.4**	**-1.1**
CLCH				*e*	S		**Sn**	**03 47 32.6**	**-1.5**
CLCH					IAML			03 47 36.5	
	comp=E,958nm,0.4s								
PEL	**Peldehue**	**1.82**	**31**	*e*	P		**Pn**	**03 47 13.3**	**-1.1**
PEL				*e*	S		**Sn**	**03 47 36.0**	**-1.5**
PEL					IAML			03 47 42.4	
	comp=N,673nm,0.3s								
ROC1	**El Roble**	**1.85**	**21**	*i*	P		Pn	03 47 10.0	-4.9
ROC1				*i*	S		**Sn**	**03 47 40.1**	**+1.6**
ROC1				*i*	S		**Sb**	**03 47 40.8**	**+0.5**
ROCH	**El Roble**	**1.86**	**21**	*e*	P		**Pn**	**03 47 14.0**	**-1.0**
ROCH				*e*	S		**Sn**	**03 47 37.6**	**-1.0**
ROCH					IAML			03 47 44.3	
	comp=N,868nm,0.4s								
AAGR	**Agrelo**	**2.97**	**58**	*i*	P		**Pn**	**03 47 29.5**	**-0.7**
ARCO	**CERRO ARCO**	**3.04**	**53**	*i*	P		**Pn**	**03 47 30.1**	**-1.1**
ARCO				*i*	S		**Sb**	**03 48 15.8**	**+1.4**
ARCO					IAML			03 48 21.0	
	comp=Z,53nm,0.4s								
AUSP	**Uspallata**	**3.21**	**40**	*i*	P		**Pn**	**03 47 31.7**	**-1.9**
AUSP				*i*	S		**Sb**	**03 48 18.5**	**-0.8**
ASAL	**Salagasta**	**3.26**	**50**	*i*	P		**Pn**	**03 47 33.0**	**-1.2**
ASAL				*i*	S		**Sb**	**03 48 20.4**	**+0.2**
RTLS	**Leoncito**	**3.59**	**37**	*i*	P		**Pn**	**03 47 36.7**	**-2.1**
RTLS				*i*	S		**Sb**	**03 48 27.4**	**-3.0**
RTLL	**Cerro Villicun**	**4.39**	**41**	*i*	P		**Pn**	**03 47 47.9**	**-1.7**
RTLL				*i*	S		**Sn**	**03 48 46.7**	**+6.0**
AVFE	**Valle Fertil**	**5.46**	**43**		IAML			03 48 50.6	
	comp=Z,11nm,0.4s								
AGUA	**GUANDACOL**	**5.92**	**29**	*i*	P		**Pn**	**03 48 07.3**	**-3.5**
AGUA				*i*	S		**Sn**	**03 49 20.4**	**+1.7**
TCA	**Tanti**	**6.93**	**63**	*i*	P		**Pn**	**03 48 24.3**	**-0.3**
TCA					IAML			03 50 01.8	
	comp=Z,4.8nm,0.5s								

WEL 19 03:51:50.1±0.2,42˚41S×174˚65E,h33km,ML3.6/32, 19C-3D,Error ellipse: s-maj=1.8km s-min=1.6km az=0.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.74**	**334**		P*		Pb	03 52 04.4	-0.2
CMWZ					S*		Sb	03 52 14.8	+0.3
CMWZ					AML		AML	03 52 17.4	
KHZ	**Kahutara**	**0.82**	**269**		P*		Pn	03 52 04.5	-0.9
BSWZ	**Blackbirch Sta**	**0.91**	**320**	⇑	P*		Pn	03 52 06.4	-0.1
BSWZ					S*		Sn	03 52 18.0	-0.4
BSWZ					AML		AML	03 52 19.9	
PLWZ	**Palliser**	**0.96**	**28**		P*		Pn	03 52 07.0	-0.3
BHW	**Baring Head**	**1.02**	**9**	⇑	P*		Pn	03 52 07.9	-0.2
BHW					AML		AML	03 52 20.8	
BHW					AML		AML	03 52 21.5	
MSWZ	**Moikau Station**	**1.09**	**24**	⇑	P*		Pn	03 52 08.7	-0.4
MSWZ					S*		Sn	03 52 21.5	-1.6
MSWZ					AML		AML	03 52 22.4	
TUWZ	**Tuamarina**	**1.11**	**332**	⇑	P*		Pn	03 52 09.1	-0.3
TUWZ					AML		AML	03 52 23.9	
TUWZ					AML		AML	03 52 25.2	
WEL	**Wellington**	**1.13**	**5**	⇑	P*		Pn	03 52 09.5	-0.1
WEL					AML		AML	03 52 10.7	
WEL					AML		AML	03 52 23.7	
PAWZ	**Paruwai Farm**	**1.18**	**30**	⇑	P*		Pn	03 52 09.9	-0.5
PAWZ					AML		AML	03 52 24.7	
PAWZ					AML		AML	03 52 24.8	
TCW	**Tory Channel**	**1.23**	**347**	⇑	P*		Pn	03 52 10.9	-0.2
TCW					AML		AML	03 52 26.4	
TCW					AML		AML	03 52 26.4	
TRWZ	**Traveller**	**1.28**	**38**		P*		Pn	03 52 11.1	-0.5
TRWZ					AML		AML	03 52 27.0	
TRWZ					AML		AML	03 52 27.5	
CAW	**Cannon Point**	**1.34**	**14**	⇑	PN		Pn	03 52 12.5	-0.1
CAW					AML		AML	03 52 28.2	
CAW					AML		AML	03 52 28.6	
MTW	**Mount Morrison**	**1.41**	**27**	⇑	PN		Pn	03 52 12.9	-0.6
MTW					AML		AML	03 52 29.5	
MTW					AML		AML	03 52 30.1	
THZ	**Tophouse**	**1.45**	**296**	⇑	PN		Pn	03 52 13.9	-0.2
THZ					AML		AML	03 52 36.5	
THZ					AML		AML	03 52 37.0	
NNZ	**Nelson**	**1.53**	**321**	⇑	PN		Pn	03 52 14.4	-0.6
NNZ					AML		AML	03 52 53.8	
KIW	**Kapiti Island**	**1.56**	**7**		PN		Pn	03 52 15.7	+0.1
KIW					AML		AML	03 52 34.0	
KIW					AML		AML	03 52 34.7	
TMWZ	**Te Maipa**	**1.60**	**36**		PN		Pn	03 52 15.1	-1.1
OGWZ	**Otaki Gorge**	**1.64**	**14**	⇑	PN		Pn	03 52 16.6	-0.1
HOWZ	**Holdsworth Sta**	**1.65**	**23**		PN		Pn	03 52 15.5	-1.3
DUWZ	**D'Urville Isla**	**1.70**	**341**		PN		Pn	03 52 18.0	+0.5
LTZ	**Lake Taylor**	**1.79**	**257**		PN		Pn	03 52 18.2	-0.6
LTZ					AML		AML	03 52 40.8	
LTZ					AML		AML	03 52 40.9	
TIWZ	**Tintock**	**1.88**	**30**		PN		Pn	03 52 19.4	-0.6
TIWZ					AML		AML	03 52 42.5	
TIWZ					AML		AML	03 52 43.0	
MRZ	**Mangatainoka R**	**1.89**	**22**	⇑	PN		Pn	03 52 19.6	-0.5
MQZ	**McQueen's Vall**	**1.95**	**228**		AML		AML	03 52 41.5	
MQZ					AML		AML	03 52 41.6	
BFZ	**Birch Farm**	**2.10**	**35**		PN		Pn	03 52 21.9	-1.1
BFZ					AML		AML	03 52 46.5	
BFZ					AML		AML	03 52 46.5	
BFZ					AML		AML	03 52 46.9	
BFZ					AML		AML	03 52 46.9	
PRWZ	**Pori Road**	**2.11**	**29**		PN		Pn	03 52 22.6	-0.5
POWZ	**Post Office Ro**	**2.19**	**23**		PN		Pn	03 52 24.0	-0.2
DSZ	**Denniston Nort**	**2.22**	**287**	⇓	PN		Pn	03 52 25.1	+0.4
DSZ					AML		AML	03 52 46.3	
DSZ					AML		AML	03 52 46.4	
DSZ					AML		AML	03 52 51.4	
DSZ					AML		AML	03 52 51.4	
QRZ	**Quartz Range**	**2.25**	**314**	⇓	PN		Pn	03 52 25.2	+0.2
QRZ					AML		AML	03 52 52.0	
QRZ					AML		AML	03 52 52.6	
ANWZ	**Angora Road**	**2.39**	**36**		PN		Pn	03 52 26.1	-0.8
INZ	**Inchbonnie**	**2.39**	**261**		PN		Pn	03 52 27.1	+0.2
DVHZ	**Dannevirke**	**2.40**	**29**	⇑	PN		Pn	03 52 26.2	-1.0
TSZ	**Takapari Road**	**2.55**	**23**		PN		Pn	03 52 28.9	-0.4
TSZ					AML		AML	03 53 58.5	
TSZ					AML		AML	03 53 00.4	
PRHZ	**Porangahau**	**2.62**	**36**		PN		Pn	03 52 29.1	-1.0
WAZ	**Wanganui**	**2.67**	**6**	⇑	PN		Pn	03 52 32.6	+1.7
WAZ					AML		AML	03 53 14.8	
WPHZ	**Waipukurau**	**2.71**	**31**		PN		Pn	03 52 30.6	-0.8
PNHZ	**Pukenui**	**2.76**	**26**	⇓	PN		Pn	03 52 31.4	-0.7
PXZ	**Pawanui**	**2.91**	**36**		PN		Pn	03 52 32.8	-1.3
RPZ	**Rata Peaks**	**2.94**	**243**	⇑	PN		Pn	03 52 33.5	-1.1
RPZ					AML		AML	03 53 06.2	
RPZ					AML		AML	03 53 49.6	
LREZ	**Lake Rotokare**	**2.96**	**356**		PN		Pn	03 52 36.6	+1.9
WVZ	**Waitaha Valley**	**2.96**	**256**		PN		Pn	03 52 34.9	+0.2
KRHZ	**Kereru**	**3.06**	**26**		PN		Pn	03 52 35.1	-1.1
MTVZ	**Mangateitei**	**3.09**	**12**	⇑	PN		Pn	03 52 37.8	+1.2
MTVZ					AML		AML	03 53 16.8	
MTVZ					AML		AML	03 53 17.2	
PREZ	**Palmer Road**	**3.09**	**353**		PN		Pn	03 52 38.8	+2.2
KAHZ	**Kahuranaki**	**3.11**	**33**		PN		Pn	03 52 35.6	-1.4
MOVZ	**Moawhango**	**3.12**	**16**		PN		Pn	03 52 37.0	0.0
MOVZ					AML		AML	03 53 14.3	
KHEZ	**Kahui Hut**	**3.15**	**351**		PN		Pn	03 52 39.3	+1.8
PKVZ	**Pokaka**	**3.17**	**10**		PN		Pn	03 52 38.7	+1.0
PKVZ					AML		AML	03 55 10.7	
WNVZ	**Wahianoa**	**3.17**	**13**	⇑	PN		Pn	03 52 38.4	+0.6
NEZ	**North Egmont**	**3.17**	**352**		PN		Pn	03 52 39.8	+2.0
TRVZ	**Turoa**	**3.19**	**13**		PN		Pn	03 52 38.9	+0.8
TRVZ					AML		AML	03 53 18.1	
TRVZ					AML		AML	03 53 18.1	
WHVZ	**Whangaehu Hut**	**3.21**	**13**		PN		Pn	03 52 39.2	+0.7
FWVZ	**Far West T-bar**	**3.23**	**13**		PN		Pn	03 52 39.5	+0.8
FWVZ					AML		AML	03 53 18.0	
FWVZ					AML		AML	03 53 22.1	
TUVZ	**Tukino**	**3.23**	**14**		PN		Pn	03 52 39.4	+0.7
PKE	**Pukeiti**	**3.25**	**351**		PN		Pn	03 52 40.7	+1.8
KWHZ	**Kaweka Forest**	**3.27**	**25**		PN		Pn	03 52 38.3	-0.9
VRZ	**Vera Road**	**3.29**	**1**		PN		Pn	03 52 40.7	+1.4
VRZ					AML		AML	03 52 52.7	
VRZ					AML		AML	03 53 09.5	
NGZ	**Ngauruhoe**	**3.31**	**13**		PN		Pn	03 52 40.7	+0.8
MHEZ	**Mangahewa**	**3.34**	**356**		PN		Pn	03 52 42.3	+2.2
MCHZ	**McNeill Hill**	**3.35**	**28**		PN		Pn	03 52 38.9	-1.2
WTVZ	**West Tongariro**	**3.37**	**13**		PN		Pn	03 52 41.5	+0.9
WTVZ					AML		AML	03 53 23.3	
WTVZ					AML		AML	03 53 24.1	
KRVZ	**Karewarewa**	**3.40**	**13**		PN		Pn	03 52 41.9	+0.9
BKZ	**Black Stump Fm**	**3.53**	**24**		PN		Pn	03 52 41.8	-1.0
ARHZ	**Aropaoanui**	**3.62**	**30**		PN		Pn	03 52 42.6	-1.2
FOZ	**Fox Glacier**	**3.72**	**251**		PN		Pn	03 52 45.5	+0.3
LBZ	**Lake Benmore**	**3.80**	**237**		PN		Pn	03 52 45.8	-0.6
MRHZ	**Matea Rd**	**3.82**	**21**		PN		Pn	03 52 45.6	-1.1
HIZ	**Hauiti**	**3.90**	**2**	⇑	PN		Pn	03 52 49.1	+1.4
HIZ					AML		AML	03 57 30.5	
HIZ					AML		AML	04 00 47.8	
ODZ	**Otahua Downs**	**3.92**	**226**		PN		Pn	03 52 47.2	-0.8
URZ	**Urewera**	**4.56**	**25**		PN		Pn	03 52 54.7	-2.1
MWZ	**Matawai**	**4.63**	**29**		PN		Pn	03 52 55.2	-2.6
TOZ	**Tahuroa Road**	**4.72**	**8**		PN		Pn	03 52 59.3	+0.2
EAZ	**Earnscleugh**	**4.78**	**232**		PN		Pn	03 52 58.8	-1.0
TUZ	**Tuapeka**	**5.05**	**224**		PN		Pn	03 53 02.9	-0.7
TUZ					AML		AML	03 55 33.7	
TUZ					AML		AML	03 55 33.7	
HAZ	**Te Kaha**	**5.24**	**28**		PN		Pn	03 53 03.9	-2.2
MKAZ	**Moumakai**	**5.32**	**4**		PN		Pn	03 53 07.4	+0.

OJC				*e*Pg	**Pg**	**03 56 27.9**	**+0.7**	
OJC				*e*Sg	**Sg**	**03 57 04.1**	**+1.9**	
KHC	**Kasperske Hory**	**2.95**	**214**	*e*PN	**Pn**	**03 56 23.6**	**+0.1**	
KHC				*e*PG	**Pb**	**03 56 30.1**	**+1.2**	
KHC				*e*SN	**Sn**	**03 56 58.5**	**-1.1**	
KHC				*e*SG	**Sg**	**03 57 08.8**	**-1.3**	
	comp=Z,22nm,0.5s							
KHC	**Kasperske Hory**	**2.95**	**214**	Pn	**Pn**	**03 56 23.6**	**+0.1**	
KHC	**Kasperske Hory**	**2.95**	**214**	Pg	**Pb**	**03 56 30.1**	**+1.2**	
KHC				Sn	**Sn**	**03 56 58.5**	**-1.1**	
KHC				Sg	**Sg**	**03 57 08.8**	**-1.3**	
	comp=Z,22nm,0.5s							
GERES	**GERESS Array B**	**3.15**	**210**	Pn	**Pn**	**03 56 27.4**	**+1.0**	
	comp=Z,1.9nm,0.3s,baz=29,slow=12,SNR=47							
GERES				Pg	**Pb**	**03 56 33.8**	**+1.4**	
	comp=Z,3.6nm,0.3s,baz=31,slow=19,SNR=27							
GERES				Lg	Lg	03 57 13.9		
	comp=Z,6.6nm,0.3s,baz=32,slow=28,SNR=10							
SMOL	**Smolenice**	**3.19**	**164**	*e*Pg	**Pg**	**03 56 36.6**	**0.0**	
SMOL				*e*Sg	**Sg**	**03 57 17.9**	**0.0**	
SMOL	**Smolenice**	**3.19**	**164**	*e*PG	**Pg**	**03 56 36.6**	**0.0**	
SMOL				*e*SG	**Sg**	**03 57 17.9**	**0.0**	
LANS	**Liptovska Anna**	**3.25**	**137**	*e*Pg	**Pg**	**03 56 38.3**	**+0.6**	
LANS				*e*Sg	**Sg**	**03 57 17.7**	**-2.0**	
LANS	**Liptovska Anna**	**3.25**	**137**	*e*PG	**Pg**	**03 56 38.3**	**+0.6**	
LANS				*e*SG	**Sg**	**03 57 17.7**	**-2.0**	
NIE	**Niedzica**	**3.44**	**128**	*e*Pn	**Pn**	**03 56 31.7**	**+1.4**	
NIE				*e*		03 56 41.6		
NIE				*e*S	**Sg**	**03 57 26.9**	**+1.0**	
NIE	**Niedzica**	**3.44**	**128**	*e*Pn	**Pn**	**03 56 31.7**	**+1.4**	
NIE	**Niedzica**	**3.44**	**128**	*e*Pn	**Pn**	**03 56 31.7**	**+1.4**	
NIE				*e*		03 56 41.6		
NIE				*e*S	**Sg**	**03 57 26.9**	**+1.0**	
VYHS	**Vyhne**	**3.56**	**149**	*e*Pg	**Pg**	**03 56 43.7**	**+0.1**	
VYHS				*e*Sg	**Sg**	**03 57 28.6**	**-1.1**	
VYHS	**Vyhne**	**3.56**	**149**	*e*PG	**Pg**	**03 56 43.7**	**+0.1**	
VYHS				*e*SG	**Sg**	**03 57 28.6**	**-1.1**	
VYHS				*e*LG	Lg	03 57 44.1		
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**03 56 34.4**	**+1.9**	
BSD				*i* S	**Sn**	**03 57 15.1**	**-0.6**	
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**03 56 34.4**	**+1.9**	
BSD				*i* S	**Sn**	**03 57 15.1**	**-0.6**	
CONA	**Conrad Observa**	**3.67**	**183**	Pn	**Pn**	**03 56 34.4**	**+0.9**	
	comp=Z,0.5nm,0.2s							
CONA				Sg	**Sg**	**03 57 32.4**	**-0.8**	
	comp=Z,16nm,0.4s							
STHS	**Stebnicka Huta**	**3.93**	**122**	*e*Pg	**Pg**	**03 56 51.5**	**+0.8**	
STHS				*e*Sg	**Sg**	**03 57 46.8**	**+5.3**	
STHS	**Stebnicka Huta**	**3.93**	**122**	*e*	**Pn**	**03 56 38.4**	**+1.4**	
STHS	**Stebnicka Huta**	**3.93**	**122**	*e*PG	**Pg**	**03 56 51.5**	**+0.8**	
STHS				*e*SG	**Sg**	**03 57 46.8**	**+5.3**	
STHS				*e*LG	Lg	03 57 58.2		
MOA	**Molln**	**3.93**	**199**	Pn	**Pn**	**03 56 37.9**	**+0.9**	
	comp=Z,4.6nm,0.3s							
MOA				Sg	**Sg**	**03 57 42.6**	**+1.0**	
	comp=Z,15nm,0.4s							
KECS	**Kecovo**	**4.19**	**136**	*e*Pg	**Pg**	**03 56 54.8**	**-0.9**	
KECS				*e*Sg	**Sg**	**03 57 50.8**	**+0.7**	
KECS	**Kecovo**	**4.19**	**136**	*e*PG	**Pg**	**03 56 54.8**	**-0.9**	
KECS				*e*SG	**Sg**	**03 57 50.8**	**+0.7**	
KECS				*e*LG	Lg	03 58 03.2		
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*Pg	**Pg**	**03 56 59.7**	**+0.8**	
CRVS				*e*Sg	**Sg**	**03 57 54.8**	**-0.5**	
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*PG	**Pg**	**03 56 59.7**	**+0.8**	
CRVS				*e*SG	**Sg**	**03 57 54.8**	**-0.5**	
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*SG	**Sg**	**03 57 55.1**	**-0.2**	
ARSA	**Arzberg**	**4.36**	**185**	Pn	**Pn**	**03 56 43.8**	**+0.9**	
	comp=Z,1.4nm,0.3s							
ARSA				Sg	**Sg**	**03 57 56.3**	**+0.9**	
	comp=Z,13nm,0.5s							
BLEU	**Blekinge**	**4.73**	**358**	P	**Pn**	**03 56 49.8**	**+1.9**	
BLEU				S	**Sn**	**03 57 40.7**	**-2.7**	
BLEU	**Blekinge**	**4.73**	**358**	P	**Pn**	**03 56 49.8**	**+1.9**	
KOLS	**Kolonicke sedl**	**4.76**	**122**	*e*Pg	**Pg**	**03 57 07.7**	**+1.1**	
KOLS	**Kolonicke sedl**	**4.76**	**122**	*e*PG	**Pg**	**03 57 07.6**	**+1.0**	
BJUU	**Bjuv**	**4.85**	**339**	P	**Pn**	**03 56 50.5**	**+0.9**	
BJUU				S	**Sn**	**03 57 44.1**	**-2.4**	
BJUU	**Bjuv**	**4.85**	**339**	P	**Pn**	**03 56 50.5**	**+0.9**	
BJUU				S	**Sn**	**03 57 44.1**	**-2.4**	
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**03 56 53.7**	**+1.1**	
DEL				S	**Sn**	**03 57 49.8**	**-1.9**	
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**03 56 53.7**	**+1.1**	
DEL				S	**Sn**	**03 57 49.8**	**-1.9**	
WTTA	**Wattenberg**	**5.22**	**216**	Sg	**Sg**	**03 58 24.1**	**+1.0**	
	comp=Z,0.9nm,0.2s							
VXJU	**Vaexsjoe**	**5.39**	**353**	P	**Pn**	**03 56 58.8**	**+1.8**	
VXJU	**Vaexsjoe**	**5.39**	**353**	P	**Pn**	**03 56 58.8**	**+1.8**	
FABU	**Falkenberg**	**5.78**	**341**	P	**Pn**	**03 57 03.2**	**+0.9**	
FABU	**Falkenberg**	**5.78**	**341**	P	**Pn**	**03 57 03.2**	**+0.9**	
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**03 57 35.2**	**-1.6**	
	comp=Z,0.6nm,0.3s,baz=280,slow=12,SNR=4.9							
HFS	**Hagfors**	**8.67**	**352**	Pn	**Pn**	**03 57 43.0**	**+1.0**	
	comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=4.9							
FINES	**FINESS Array B**	**11.29**	**25**	Pn	**Pn**	**03 58 18.5**	**+0.7**	
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=7.5							
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn	**Pn**	**03 56 26.8**	**-1.8**	
	baz=105,slow=13,SNR=2.9							
ARCES	**ARCESS Array B**	**18.55**	**10**	Pn	**P**	**03 59 51.4**	**-1.9**	
	comp=Z,0.1nm,0.3s,baz=195,slow=13,SNR=4.2							

*TIF **19** 03:59:15.9, 41°.27N×43°.81E, h16km±1km*
*DDA **19** 03:59:15.8, 41°.24N×43°.77E, h7km, Ml2.6*
*ISCJB **19** 03:59:16.2±0.6, 41°.22N±0°.03×43°.78E±0°.04, h5km±6km, Error ellipse: s-maj=5.1km s-min=4.1km az=146.0*
*CSEM **19** 03:59:16.4±0.1, 41°.23N×43°.75E, h5km, ML2.0, Error ellipse: s-maj=3.5km s-min=2.3km az=141.0*

ISC 19 03:59:16.3±0.9, 41°.24N±0°.03×43°.77E±0°.02, h11km±6km, n25, σ0.8 s43/43, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BGD	**Bogdanovka**	**0.13**	**281**	P		**Pg**	**Pg**	**03 59 19.7**	**0.0**
BGD				S		**Sg**	**Sg**	**03 59 22.2**	**+0.1**
BGD	**Bogdanovka**	**0.13**	**281**	P		**Pg**	**Pg**	**03 59 19.7**	**0.0**
BGD				S		**Sg**	**Sg**	**03 59 22.2**	**+0.1**
AKH	**Akhalkalaki**	**0.27**	**309**	P		**Pg**	**Pg**	**03 59 21.9**	**-0.1**
AKH				S		**Sg**	**Sg**	**03 59 25.9**	**+0.1**
AKH	**Akhalkalaki**	**0.27**	**309**	P		**Pg**	**Pg**	**03 59 21.9**	**-0.1**
AKH				S		**Sg**	**Sg**	**03 59 25.8**	**+0.1**
KZR	**Kazreti**	**0.51**	**74**	P		**Pg**	**Pg**	**03 59 25.9**	**-0.4**
KZR				S		**Sg**	**Sg**	**03 59 32.7**	**-0.2**
KZR	**Kazreti**	**0.51**	**74**	P		**Pg**	**Pg**	**03 59 26.2**	**0.0**
KZR				S		**Sg**	**Sg**	**03 59 32.7**	**-0.2**
EAK	**Akyaka**	**0.57**	**193**	P		**Pg**	**Pg**	**03 59 26.8**	**-0.6**
EAK				S		**Sg**	**Sg**	**03 59 35.0**	**+0.1**
EAK	**Akyaka**	**0.57**	**193**	*i* P		**Pg**	**Pg**	**03 59 26.8**	**-0.6**
EAK				*i* S		**Sg**	**Sg**	**03 59 35.0**	**+0.1**
EPOS	**Posof**	**0.83**	**289**	P		**Pg**	**Pg**	**03 59 32.1**	**-0.2**
EPOS				S		**Sb**	**Sb**	**03 59 43.3**	**-0.7**
EPOS	**Posof**	**0.83**	**289**	*i* P		**Pg**	**Pg**	**03 59 32.1**	**-0.2**
EPOS				*i* S		**Sb**	**Sb**	**03 59 43.3**	**-0.7**
DIGO	**Kars**	**0.88**	**200**	P		**Pg**	**Pg**	**03 59 33.2**	**-0.1**
DIGO				S		**Sb**	**Sb**	**03 59 45.7**	**+0.2**
DIGO	**Kars**	**0.88**	**200**	*i* P		**Pg**	**Pg**	**03 59 33.2**	**-0.1**
DIGO				*i* S		**Sb**	**Sb**	**03 59 45.7**	**+0.2**
TBLG	**Delisi**	**0.88**	**56**	P		**Pg**	**Pg**	**03 59 32.5**	**-0.8**
TBLG				S		**Sg**	**Sg**	**03 59 44.8**	**+0.1**
TBLG	**Delisi**	**0.88**	**56**	P		**Pb**	**Pb**	**03 59 33.5**	**-0.1**
TBLG				S		**Sb**	**Sb**	**03 59 44.9**	**-0.4**
DUS	**Dusheti**	**1.10**	**39**	P		**Pn**	**Pn**	**03 59 37.9**	**+0.2**
DUS				S		**Sn**	**Sn**	**03 59 53.5**	**+0.6**
DUS	**Dusheti**	**1.10**	**39**	P		**Pn**	**Pn**	**03 59 39.1**	**+1.4**
DUS				S		**Sn**	**Sn**	**03 59 53.9**	**+0.9**
GUDG	**Gudauri**	**1.33**	**23**	P		**Pn**	**Pn**	**03 59 41.1**	**0.0**
GUDG				S		**Sg**	**Sg**	**03 59 58.9**	**-0.4**
GUDG	**Gudauri**	**1.33**	**23**	P		**Pn**	**Pn**	**03 59 41.1**	**0.0**
GUDG				S		**Sn**	**Sn**	**03 59 59.7**	**+0.8**
ARTV	**Artvin**	**1.39**	**268**	P		**Pn**	**Pn**	**03 59 42.0**	**+0.2**
ARTV	**Artvin**	**1.39**	**268**	*i* P		**Pn**	**Pn**	**03 59 42.0**	**+0.2**
DAGI	**Agillar**	**1.41**	**264**	*i* P		**Pg**	**Pg**	**03 59 43.1**	**-0.3**
DBAD	**Bademkaya**	**1.58**	**263**	P		**Pb**	**Pb**	**03 59 45.3**	**-0.3**
DBAD	**Bademkaya**	**1.58**	**263**	*i* P		**Pb**	**Pb**	**03 59 45.3**	**-0.3**
DBOC	**Borcka**	**1.59**	**275**	P		**Pb**	**Pb**	**03 59 45.4**	**-0.3**
DBOC	**Borcka**	**1.59**	**275**	*i* P		**Pb**	**Pb**	**03 59 45.4**	**-0.3**

*IDC **19** 04:02:03.7±1.0, 31°.07S×179°.17W, h0km, mb3.9/3, mb1 4.2/5, mb1mx3.9/29, mbtmp4.0/5, ML4.2/2, MS3.5/2, Ms1 3.5/2, ms1mx3.1/29, Error ellipse: s-maj=33.7km s-min=19.4km az=118.0*
*ISCJB **19** 04:02:07.0±0.7, 31°.15S±0°.08×179°.1W±0°.2, h33km, mb4.5/6, MS3.6/1, Error ellipse: s-maj=21.0km s-min=7.0km az=26.4*
*NEIC **19** 04:02:09.2±0.7, 31°.03S×179°.13W, h35km, mb4.2/1, Error ellipse: s-maj=20.3km s-min=14.8km az=121.0*

ISC 19 04:02:08.7±0.7, 31°.1S±0°.1×179°.2W±0°.2, h35km, n13, σ1.1 s43/14, mb4.1/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RAO	**Raoul Island**	**2.12**	**30**	Pn		**Pn**	**Pn**	**04 02 40.9**	**-0.8**
	177nm,0.3s,baz=165,slow=17,SNR=3.9								
RAO				Sn		**Sn**	**Sn**	**04 03 07.4**	**+0.5**
	232nm,0.3s,baz=45,slow=23,SNR=3.1								
URZ	**Urewera**	**7.78**	**202**	Pn		**Pn**	**Pn**	**04 03 57.2**	**-2.3**
	1.3nm,0.3s,baz=196,slow=1.9,SNR=5.1								
URZ				Sn		**Sn**	**Sn**	**04 05 27.2**	**+0.9**
	0.4nm,0.3s,baz=133,slow=22,SNR=3.5								
DZM	**Mont Dzumac**	**15.70**	**301**	LR		LR	LR	04 10 01.9	
	comp=Z,140nm,20.7s,baz=169,slow=30								
STKA	**Stephens Creek**	**33.36**	**258**	LR		LR	LR	04 20 35.9	
	comp=Z,106nm,18.7s,baz=175,slow=33								
ASAR	**Alice Springs**	**42.09**	**268**	P		**P**	**P**	**04 09 56.6**	**-1.0**
	0.9nm,0.6s,baz=109,slow=7.1,SNR=11								
WRAB	**Tennant Creek**	**43.14**	**274**	*e*P		**P**	**P**	**04 10 07.2**	**+1.1**
	3.4nm,0.8s								
WRA	**Warramunga Arr**	**43.14**	**274**	P		**P**	**P**	**04 10 07.4**	**+1.3**
	3.2nm,0.8s,baz=113,slow=7.8,SNR=6.8								
VNDA	**Vanda**	**47.31**	**186**	P		**P**	**P**	**04 10 39.8**	**+1.4**
	0.9nm,0.9s,baz=30,slow=9.0,SNR=3.6								
QSPA	**South Pole Qui**	**59.02**	**180**	*e*P		**P**	**P**	**04 12 05.6**	**+0.8**
	37nm,0.9s								
SNAA	**Sanae**	**77.48**	**179**	*e*P		**P**	**P**	**04 14 00.0**	**-0.2**
	132nm,0.9s								
FINES	**FINESS Array B**	**145.45**	**339**	PKPbc		**PKPdf**	**PKPdf**	**04 21 40.0**	**-2.3**
	1.7nm,0.8s,baz=48,slow=2.1,SNR=7.0								
AKASG	**Malin Array Be**	**151.24**	**321**	PKPbc		**PKPbc**	**PKPbc**	**04 21 59.1**	**+1.1**
	0.3nm,0.4s,baz=41,slow=3.0,SNR=4.3								
TORD	**Torodi Ar. Bea**	**162.12**	**183**	PKP		**PKPdf**	**PKPdf**	**04 22 08.7**	**+1.6**
	0.6nm,0.9s,baz=352,slow=4.4,SNR=3.4								
TORD				PKPab		**PKPab**	**PKPab**	**04 22 53.0**	**-0.6**
	2.0nm,0.9s,baz=168,slow=4.3,SNR=8.5								

*NIED **19** 04:09:00, 37°.30N×142°.20E, h35km, Mw3.7 Best double couple: M0 3.88000×10^14 NP1:φs196.00000°, δ19.00000°, λ153.00000°. NP2:φs311.00000°, δ81.00000°, λ73.00000°.*
*JMA **19** 04:09:22.0±0.2, 37°.26N×142°.23E, h23km±4km, M3.6*
*IDC **19** 04:09:26.5±3.3, 36°.90N×142°.36E, h75km±32km, mb3.3/3, mb1 3.6/6, mb1mx3.2/52, mbtmp3.8/6, MS2.6/2, Ms1 2.6/2, ms1mx2.2/29, Error ellipse: s-maj=33.3km s-min=18.9km az=84.0*

ISC 19 04:09:18.8±2.0, 37°.21N±0°.05×142°.35E±0°.07, h5km±12km, n24, σ1.9 s97/28, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JFK	**Kawauchi**	**1.19**	**278**	P		**Pg**	**Pg**	**04 09 41.7**	**+0.1**
JFK				*e*S		**Sg**	**Sg**	**04 09 56.0**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.25**	**265**	P		**Pg**	**Pg**	**04 09 42.4**	**-0.3**
JMM	**Marumori**	**1.40**	**298**	P		**Pn**	**Pn**	**04 09 44.7**	**-0.3**
JMM				*e*S		**Sb**	**Sb**	**04 10 01.1**	**-2.5**
JIO	**Ouri**	**1.47**	**328**	P		**Pn**	**Pn**	**04 09 45.8**	**-0.2**
JIO				*e*S		**Sn**	**Sn**	**04 10 03.8**	**-1.8**
JFT	**Otama**	**1.64**	**281**	P		**Pn**	**Pn**	**04 09 49.2**	**+1.0**
JFT				S		**Sn**	**Sn**	**04 10 07.9**	**-1.8**
JOU	**Okura**	**1.77**	**311**	P		**Pn**	**Pn**	**04 09 51.0**	**+1.0**
JOU				S		**Sn**	**Sn**	**04 10 11.8**	**-1.1**
JMK	**Ichinoseki**	**1.95**	**333**	P		**Pn**	**Pn**	**04 09 53.7**	**+1.1**
JYS	**Shirataka**	**2.08**	**300**	P		**Pn**	**Pn**	**04 09 56.2**	**+1.9**
JFY	**Yanaizu**	**2.12**	**276**	P		**Pn**	**Pn**	**04 09 56.4**	**+1.5**
JFY				S		**Sn**	**Sn**	**04 10 21.1**	**-0.5**
JYK	**Kaneyama**	**2.32**	**318**	P		**Pn**	**Pn**	**04 09 58.1**	**+0.5**
JYK				*e*S		**Sn**	**Sn**	**04 10 26.1**	**-0.4**
MJAR	**Matsushiro Arr**	**3.39**	**260**	P		**Pn**	**Pn**	**04 10 14.4**	**+2.0**
	2.4nm,0.3s,baz=90,slow=15,SNR=26								
MJAR				S		**Sn**	**Sn**	**04 10 57.8**	**+4.9**
	1.8nm,0.3s,baz=93,slow=14,SNR=5.2								
MJAR				LR		LR	LR	04 11 46.4	
	comp=Z,102nm,19.5s,baz=85,slow=42								
MAT	**Matsushiro**	**3.39**	**260**	P		**Pn**	**Pn**	**04 10 14.3**	**+1.9**
MAT				*e*S		**Sn**	**Sn**	**04 10 52.5**	**-0.5**
JHJ	**Hachijo jima 2**	**4.59**	**208**	P		**Pn**	**Pn**	**04 10 29.8**	**+0.9**
	16nm,0.3s,baz=341,slow=16,SNR=11								
JHJ				S		**Sn**	**Sn**	**04 11 20.6**	**-2.0**
	18nm,0.3s,baz=301,slow=24,SNR=6.3								
JHJ				LR		LR	LR	04 12 26.4	
	comp=Z,60nm,18.3s,baz=3.0,slow=42								
ASAJ	**Asahikawa**	**6.90**	**1**	P		**Pn**	**Pn**	**04 11 01.8**	**+1.2**
	0.5nm,0.3s,baz=215,slow=9.6,SNR=3.9								
JCJ	**Chichijima**	**10.09**	**181**	P		**Pn**	**Pn**	**04 11 43.6**	**-0.7**
	1.6nm,0.3s,baz=277,slow=22,SNR=1.2								
JCJ				S		**Sn**	**Sn**	**04 13 33.0**	**-4.9**
	2.7nm,0.3s,baz=57,slow=22,SNR=1.6								
H11N2	**WAKE ISLAND Hy**	**27.60**	**122**	T		T	T	04 44 02.5	
	baz=315,slow=75,SNR=37								
H11N1	**WAKE ISLAND Hy**	**27.61**	**122**	T		T	T	04 44 04.4	
	baz=315,slow=75,SNR=26								
H11N3	**WAKE ISLAND Hy**	**27.62**	**122**	T		T	T	04 44 06.8	
	baz=315,slow=75,SNR=25								
SONM	**Songino Array**	**28.31**	**303**	P		**P**	**P**	**04 15 15.1**	**+1.7**
	0.2nm,0.3s,baz=93,slow=9.1,SNR=2.0								
H11S1	**WAKE ISLAND Hy**	**28.33**	**124**	T		T	T	04 44 55.1	
	baz=317,slow=76,SNR=18								
H11S3	**WAKE ISLAND Hy**	**28.33**	**125**	T		T	T	04 45 16.6	
	baz=317,slow=76,SNR=19								
H11S2	**WAKE ISLAND Hy**	**28.35**	**125**	T		T	T	04 44 58.6	
	baz=317,slow=76,SNR=19								
ILAR	**Eielson Array**	**48.94**	**32**	P		**P**	**P**	**04 18 07.2**	**+1.6**
	0.4nm,0.7s,baz=265,slow=6.5,SNR=5.8								
WRA	**Warramunga Arr**	**57.35**	**189**	P		P	P	04 19 04.0	-3.9
	1.4nm,0.9s,baz=4.4,slow=7.0,SNR=4.6								

*BJI **19** 04:15:54.2, 3°.45S×101°.28E, h48km, mb5.5/89, mB5.3/62, Ms5.1/90, Ms7 5.0/83*
*MOS **19** 04:15:54.9±0.9, 3°.11S×101°.45E, h33km, mb5.9/110, MS4.6/41, Error ellipse: s-maj=7.0km s-min=3.9km az=116.0*
*ISCJB **19** 04:15:57.5±0.3, 3°.21S±0°.02×101°.36E±0°.02, h56km±2km, mb5.7/230, MS4.6/66, Error ellipse: s-maj=3.8km s-min=2.2km az=40.7*
*IDC **19** 04:15:58.5±0.3, 3°.10S×101°.37E, h48km±1km, mb5.3/64, mb1 5.3/65, mb1mx5.3/68, mbtmp5.6/65, MS4.5/37, Ms1 4.5/37, ms1mx4.3/50, Error ellipse: s-maj=7.7km s-min=5.5km az=44.0*
*DJA **19** 04:15:58.5±0.2, 3°.S±2°×101°.E±°, h48km±3km, M5.5/49, mb5.6/49, mB5.8/36, MLv6.0/23, Mw(mB)5.4/36, Mwp5.5/1*
*NEIC **19** 04:15:59.0±0.5, 3°.25S×101°.36E, h57km±3km, mb5.6/114, Error ellipse: s-maj=4.3km s-min=2.6km az=222.0*
*KLM **19** 04:15:58.7, 3°.48S×101°.20E, h38km, mb5.7, ML5.7, MS6.5*
*GCMT **19** 04:15:59.0±0.1, 3°.44S×101°.12E, h46km, MW5.4/107, Moment Tensor Solution. s107,c175; s99,c187; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr1.16±.03; Mθθ-0.67±.02; Mφφ-0.49±.02; Mrθ0.74±.02; Mθφ0.68±.02; Mφr-0.50±.02; Best double couple: M0 1.50800×10^17 NP1:φs127.00000°, δ63.00000°, λ86.00000°. NP2:φs316.00000°, δ27.00000°, λ98.00000°. Principal axes: T 1.4580, Plg71.0000°, Azm27.0000°; N 0.1000, Plg4.0000°, Azm129.0000°; P -1.5570, Plg18.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 19 04:15:57.6±0.2, 3°.24S±0°.03×101°.36E±0°.03, h48km±1km, h48km:pP-P, n1561, σ1.945/1774, mb5.7/256, MS4.6/72, 111C-31D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KSI	**Kapahiang**	**1.30**	**108**	P		**Pn**	**Pn**	**04 16 21.2**	**+1.8**
PPSI	**Pulau Pagai**	**1.43**	**289**	P		**Pn**	**Pn**	**04 16 20.8**	**-0.3**
PPSI				S		**Sn**	**Sn**	**04 16 37.0**	**-1.7**
MNAI	**Manna**	**1.95**	**125**	P		**Pn**	**Pn**	**04 16 31.7**	**+3.5**
MNAI	**Manna**	**1.95**	**125**	*e*Pn		**Pn**	**Pn**	**04 16 29.2**	**+1.0**
MNAI				*e*Sn		**Sn**	**Sn**	**04 16 53.1**	**+1.6**
PDSI	**Padang**	**2.48**	**339**	P		**Pn**	**Pn**	**04 16 37.4**	**+1.9**
PDSI				S		**Sn**	**Sn**	**04 17 08.7**	**+4.1**
JMBI	**JAMBI**	**2.79**	**55**	P		**Pn**	**Pn**	**04 16 43.4**	**+3.7**
PPI	**Padang Panjang**	**2.92**	**341**	P		**Pn**	**Pn**	**04 16 43.7**	**+2.1**
RGRI	**Rengat**	**3.03**	**19**	P		**Pn**	**Pn**	**04 16 46.9**	**+3.8**
LWLI	**Liwa**	**3.22**	**123**	P		**Pn**	**Pn**	**04 16 49.4**	**+3.6**
BKNI	**Bangkinang**	**3.56**	**355**	P		**Pn**	**Pn**	**04 16 52.9**	**+2.6**
BKNI	**Bangkinang**	**3.56**	**355**	*e*Pn		**Pn**	**Pn**	**04 16 53.1**	**+2.8**
KASI	**Kota Agung**	**3.87**	**126**	P		**Pn**	**Pn**	**04 16 57.7**	**+3.1**
KASI				S		**Sn**	**Sn**	**04 17 41.6**	**+2.8**
MNSI	**Mandailing Nat**	**4.38**	**336**	P		**Pn**	**Pn**	**04 17 03.6**	**+1.9**
BLSI	**Bandar Lampung**	**4.42**	**119**	P		**Pn**	**Pn**	**04 17 05.7**	**+3.6**
PPBI	**Pangkal Pinang**	**4.89**	**77**	P		**Pn**	**Pn**	**04 17 11.8**	**+3.1**
	333nm,1.0s								
TPRI	**Tanjung Pinang**	**5.20**	**38**	P		**Pn**	**Pn**	**04 17 17.1**	**+4.1**
	3μm,1.0s,30μm10nm								
CGJI	**Cibinong**	**5.47**	**128**	P		**Pn**	**Pn**	**04 17 17.9**	**+1.3**
	840nm,1.1s,10μm7.3nm								
SBJI	**Serang**	**5.55**	**121**	P		**Pn**	**Pn**	**04 17 20.5**	**+2.8**
	1μm,1.2s,13μm8.5nm								
KGM	**Kluang**	**5.58**	**21**	⇓P		**Pn**	**Pn**	**04 17 21.9**	**+3.9**
MYKOM	**Kota Tinggi**	**5.58**	**27**	⇓P		**Pn**	**Pn**	**04 17 22.3**	**+4.1**
MYKOM	**Kota Tinggi**	**5.58**	**27**	*e*Pn		**Pn**	**Pn**	**04 17 21.2**	**+3.0**
GSI	**Gunungsitoli**	**5.88**	**320**	P		**Pn**	**Pn**	**04 17 23.2**	**+0.9**
	1μm,0.8s,11μm13nm								
GSI	**Gunungsitoli**	**5.88**	**320**	*e*Pn		**Pn**	**Pn**	**04 17 21.9**	**-0.4**
GSI				*e*Sn		**Sn**	**Sn**	**04 18 30.0**	**+1.5**
TNG	**Tangerang**	**6.02**	**119**	P		Pn	**Pn**	04 17 34.5	+10
TNG				P		Pn	**Pn**	04 17 34.9	+11
SKJI	**Sukabumi**	**6.39**	**126**	P		**Pn**	**Pn**	**04 17 32.1**	**+2.9**
	1μm,0.9s,13μm8.7nm								
FRIM	**Kepong**	**6.44**	**2**	⇓P		**Pn**	**Pn**	**04 17 33.1**	**+3.2**
PSI	**Prapat**	**6.47**	**338**	*e*P		**Pn**	**Pn**	**04 17 29.8**	**-0.7**
PSI	**Prapat**	**6.47**	**338**	*e*Pn		**Pn**	**Pn**	**04 17 29.8**	**-0.7**
CNJI	**Cibinong**	**7.03**	**125**	P		**Pn**	**Pn**	**04 17 39.0**	**+1.0**
	637nm,1.0s,7μm4.5nm								
LEM	**Lembang**	**7.18**	**120**	P		Pn	**Pn**	04 17 46.8	+6.5
TSI	**Tuntungan**	**7.25**	**337**	P		**Pn**	**Pn**	**04 17 44.8**	**+3.7**
JCJI	**Jatiwangi**	**7.61**	**115**	P		Pn	**Pn**	04 17 53.2	+7.3
KCSI	**Kotacane, Aceh**	**7.61**	**332**	P		**Pn**	**Pn**	**04 17 47.0**	**+1.0**
	172nm,0.6s,4μm5.4nm								
IPM	**Ipoh**	**7.67**	**358**	⇓P		**Pn**	**Pn**	**04 17 51.3**	**+4.5**
IPM	**Ipoh**	**7.67**	**358**	*e*Pn		**Pn**	**Pn**	**04 17 50.5**	**+3.6**
TPTI	

CM31	**Chiang Mai Arr**	**21.69**	**354**	*e*P		**P**	**04 20 46.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**21.69**	**354**	P		**P**	**04 20 42.5**	**-2.1**
	comp=Z,65nm,0.8s,baz=185,slow=10,SNR=53							
CMAR				S		**S**	**04 24 41.4**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=339,slow=29,SNR=1.4							
CMAR				PcP		**PcP**	**04 24 46.0**	**+1.4**
	comp=Z,12nm,0.8s,baz=211,slow=2.7,SNR=9.5							
CMAR				ScP		**ScP**	**04 28 17.9**	**0.0**
	comp=Z,5.9nm,0.9s,baz=219,slow=2.9,SNR=8.4							
CMAR				LR		LR	04 29 50.6	
	comp=Z,2μm,18.9s,baz=175,slow=39							
LAMP	**Lampang**	**21.69**	**356**	P		**P**	**04 20 43.3**	**-1.3**
	comp=Z,42nm,1.0s,comp=Z,340nm							
CHTO	**Chiang Mai**	**22.04**	**354**	P		**P**	**04 20 46.8**	**-1.5**
	comp=Z,279nm,0.9s,comp=Z,3μm							
CHTO	**Chiang Mai**	**22.04**	**354**	*e*P		**P**	**04 20 45.9**	**-2.4**
CHTO				pmax		pmax		
	comp=Z,43nm,0.8s							
CHTO	**Chiang Mai**	**22.04**	**354**	*e*P		**P**	**04 20 45.9**	**-2.4**
	comp=Z,43nm,0.8s							
PALK	**Pallekele**	**23.11**	**297**	P		**P**	**04 21 02.3**	**+2.6**
	comp=Z,23nm,0.9s,baz=116,slow=11,SNR=4.1							
PALK				LR		LR	04 28 51.1	
	comp=Z,2μm,20.7s,baz=115,slow=34							
PALK	**Pallekele**	**23.11**	**297**	*e*P		**P**	**04 20 59.4**	**-0.3**
	comp=Z,71nm,1.0s							
QIZ	**Qiongzhong**	**23.65**	**20**	P		**P**	**04 21 06.3**	**+1.5**
QIZ				pP		**pP**	**04 21 18.3**	**+1.4**
QIZ				sP		**sP**	**04 21 23.6**	**+0.9**
QIZ				S		**S**	**04 25 20.8**	**+4.6**
QIZ				PMZ				
	comp=Z,110nm,1.4s							
QIZ				PMZ				
	comp=Z,610nm,7.3s							
QIZ				LN				
	comp=Z,2μm,21.3s							
QIZ				LZ				
	comp=Z,2μm,23.3s							
QIZ	**Qiongzhong**	**23.65**	**20**	*e*P		**P**	**04 21 05.9**	**+1.1**
	comp=Z,183nm,1.3s							
SOEI	**Soe**	**23.66**	**107**	P		**P**	**04 21 04.6**	**-0.4**
SOEI	**Soe**	**23.66**	**107**	*e*P		**P**	**04 21 04.0**	**-1.0**
	comp=Z,187nm,1.0s							
SOEI				*e*S		**S**	**04 25 08.3**	**-8.4**
BUSP	**Coron**	**24.09**	**51**	*e*P		**P**	**04 21 10.9**	**+2.1**
SANI	**Sanana**	**24.63**	**88**	P		**P**	**04 21 15.5**	**+1.6**
	comp=Z,107nm,0.9s,comp=Z,2μm							
LUBP	**Lubang**	**25.21**	**48**	*e*P		**P**	**04 21 19.8**	**+0.7**
MBWA	**Marble Bar**	**25.24**	**136**	*e*P		**P**	**04 21 21.0**	**+1.7**
	comp=Z,479nm,1.2s							
RCP	**Roxas**	**25.86**	**55**⇑	*e*P		**P**	**04 21 27.0**	**+2.1**
TGY	**Tagaytay City**	**25.96**	**48**	P		**P**	**04 21 27.8**	**+1.9**
	comp=Z,990nm,0.8s,baz=211,slow=5.8,SNR=12							
TGY				LR		LR	04 33 04.5	
	comp=Z,2μm,19.4s,baz=254,slow=40							
BOAC	**Boac**	**26.24**	**50**	*e*P		**P**	**04 21 29.0**	**+0.6**
DAV	**Davao City (W)**	**26.26**	**67**	P		**P**	**04 21 29.0**	**+0.4**
	comp=Z,140nm,0.5s,baz=33,slow=20,SNR=2.1							
DAV				LR		LR	04 32 42.8	
	comp=Z,1μm,21.8s,baz=246,slow=38							
LQP	**Lukban**	**26.41**	**49**⇑	*e*P		**P**	**04 21 30.9**	**+0.7**
MDRS	**Chennai**	**26.49**	**308**	*e*P		**P**	**04 21 32.8**	**+2.1**
MDRS				IAmb		IAmb	04 21 34.0	
	comp=Z,83nm,0.7s							
VIS	**Vishakhapatnam**	**27.38**	**320**	*e*P		**P**	**04 21 39.9**	**+1.2**
VIS				IAmb		IAmb	04 21 41.8	
	comp=Z,138nm,1.5s							
CHLP	**Challavanipeta**	**27.52**	**322**	*e*P		**P**	**04 21 40.8**	**+1.0**
CHLP				IAmb		IAmb	04 21 44.5	
	comp=Z,107nm,1.0s							
CHLP				*e*S		**S**	**04 26 17.4**	**-0.3**
CHLP				IVMs_BB		IVMs_BB	04 32 26.4	
	comp=Z,648nm,26.6s							
BWNR	**Bhubaneshwar**	**27.93**	**328**	*e*P		**P**	**04 21 44.9**	**+1.4**
BWNR				IAmb		IAmb	04 21 48.1	
	comp=Z,1μm,1.9s							
FITZ	**Fitzroy Crossi**	**28.00**	**124**	P		**P**	**04 21 44.8**	**+0.5**
	comp=Z,57nm,0.8s,baz=324,slow=7.7,SNR=56							
FITZ				LR		LR	04 34 17.9	
	comp=Z,976nm,20.8s,baz=0.0,slow=39							
FITZ	**Fitzroy Crossi**	**28.00**	**124**	P		**P**	**04 21 44.5**	**+0.2**
	baz=28,SNR=30							
PVM	**Polavaram**	**28.17**	**317**	*e*P		**P**	**04 21 46.3**	**+0.5**
PVM				IAmb		IAmb	04 21 47.6	
	comp=Z,34nm,0.8s							
PVM				*e*S		**S**	**04 26 29.8**	**+1.7**
PVM				IVMs_BB		IVMs_BB	04 30 19.2	
	comp=Z,485nm,18.2s							
KMI	**Kunming**	**28.22**	**3**	P		**P**	**04 21 47.4**	**+1.0**
KMI				pP		pP	04 21 59.1	+0.2
KMI				sP		sP	04 22 05.3	+0.7
KMI				PcP		**PcP**	**04 25 00.3**	**+1.1**
KMI				S		**S**	**04 26 33.3**	**+4.1**
KMI				sS		sS	04 26 54.8	+4.5
KMI				PMZ				
	comp=Z,40nm,1.0s							
KMI				PMZ				
	comp=Z,130nm,3.1s							
KMI				LN				
	comp=Z,2μm,20.4s							
KMI				LE				
	comp=Z,1μm,8.8s							
KMI				LZ				
	comp=Z,2μm,19.4s							
CAUP	**Cauayan**	**28.47**	**45**	*e*P		**P**	**04 21 48.8**	**+0.4**
APYP	**Conner**	**28.71**	**42**	*e*P		**P**	**04 21 50.4**	**-0.1**
RCLA	**Racherla**	**28.93**	**311**	*e*P		**P**	**04 21 52.7**	**+0.3**
RCLA				IAmb		IAmb	04 21 54.2	
	comp=Z,74nm,0.8s							
RCLA				*e*S		**S**	**04 26 39.2**	**-0.8**
RCLA				IVMs_BB		IVMs_BB	04 33 04.4	
	comp=Z,711nm,4.7s							
H08S2	**Diego Garcia H**	**29.06**	**260**	T		T	04 51 21.1	
	baz=83,slow=76,SNR=787							
H08S3	**Diego Garcia H**	**29.06**	**260**	T		T	04 51 25.6	
	baz=83,slow=76,SNR=1190							
H08S1	**Diego Garcia H**	**29.07**	**260**	T		T	04 51 28.4	
	baz=83,slow=76,SNR=636							
NJS	**Nagarjunasagar**	**29.35**	**313**	*e*P		**P**	**04 21 57.0**	**+0.8**
NJS				IAmb		IAmb	04 21 57.7	
	comp=Z,31nm,0.8s							
NJS				IVMs_BB		IVMs_BB	04 33 21.4	
	comp=Z,784nm,4.8s							
SRLM	**Srisailam**	**29.37**	**312**	*e*P		**P**	**04 21 57.2**	**+0.8**
SRLM				IAmb		IAmb	04 21 58.1	
	comp=Z,56nm,0.8s							
SRLM				*e*S		**S**	**04 26 48.6**	**+1.5**
SRLM				IVMs_BB		IVMs_BB	04 32 33.0	
	comp=Z,885nm,4.5s							
GYA	**Guiyang**	**29.96**	**10**⇑	*i*P		**P**	**04 22 01.8**	**+0.1**
GYA				pP		sP	04 22 18.0	-1.9
GYA				PP		**PP**	**04 23 06.4**	**-3.7**
GYA				PcP		**PcP**	**04 25 03.8**	**+0.4**
GYA				S		**S**	**04 26 57.8**	**+1.5**
GYA				sS		sS	04 27 22.0	+4.6
GYA				ScS		**ScS**	**04 32 37.3**	**-0.1**
GYA				PMZ				
	comp=Z,90nm,0.8s							
GYA				PMZ				
	comp=Z,140nm,6.2s							
GYA				LN				
	comp=Z,2μm,20.0s							
GYA				LE				
	comp=Z,2μm,17.7s							
GYA				LZ				
	comp=Z,2μm,19.9s							
SHL	**Shillong**	**30.07**	**343**	*e*P		**P**	**04 22 02.1**	**-0.6**
SHL				IAmb		IAmb	04 22 03.6	
	comp=Z,93nm,0.8s							
SHL				*ex*		x	04 28 40.0	
H08N1	**Diego Garcia H**	**30.39**	**263**	T		T	04 53 47.5	
	baz=141,slow=74,SNR=17							
H08N2	**Diego Garcia H**	**30.40**	**263**	T		T	04 53 43.4	
	baz=141,slow=74,SNR=21							
H08N3	**Diego Garcia H**	**30.41**	**263**	T		T	04 53 52.5	
	baz=141,slow=74,SNR=18							
HYB	**Hyderabad**	**30.45**	**313**	*i* P		**P**	**04 22 06.0**	**0.0**
HYB				*e*S		**S**	**04 27 08.0**	**+3.9**
HYB	**Hyderabad**	**30.45**	**313**	*e*P		**P**	**04 22 06.9**	**+0.9**
HYB				IAmb		IAmb	04 22 08.0	
	comp=Z,32nm,0.9s							
HYBB	**Hyderabad (bro**	**30.46**	**313**	*e*P		**P**	**04 22 06.9**	**+0.8**
BOK	**Bokaro**	**30.81**	**332**	*e*P		**P**	**04 22 11.4**	**+2.4**
RPR	**Rampur**	**30.88**	**316**	*e*P		**P**	**04 22 10.2**	**+0.4**
RPR				IAmb		IAmb	04 22 11.5	
	comp=Z,36nm,0.7s							
RPR				*e*S		**S**	**04 27 11.4**	**+0.7**
RPR				IVMs_BB		IVMs_BB	04 31 54.3	
	comp=Z,638nm,4.2s							
MTN	**Manton Dam**	**30.95**	**110**	P		**P**	**04 22 09.3**	**-1.1**
	baz=31,SNR=11							
MTN	**Manton Dam**	**30.95**	**110**	*e*P		**P**	**04 22 09.3**	**-1.1**
	comp=Z,110nm,1.5s							
SRSP	**Sriramsagar**	**31.59**	**315**	*e*P		**P**	**04 22 16.2**	**+0.2**
SRSP				IAmb		IAmb	04 22 17.7	
	comp=Z,44nm,0.8s							
SRSP				*e*S		S	04 27 33.1	+11
SRSP				IVMs_BB		IVMs_BB	04 29 27.7	
	comp=Z,664nm,4.6s							
KLBR	**Kellerberrin**	**32.16**	**153**	P		**P**	**04 22 22.1**	**+1.3**
	baz=32,SNR=6.2							
KDU	**Kakadu**	**32.18**	**109**	P		**P**	**04 22 20.1**	**-1.2**
	baz=32,SNR=5.2							
TWG	**Pinlang**	**32.27**	**36**	*e*P		**P**	**04 22 24.0**	**+2.1**
	comp=Z,147nm,0.9s							
KLRI	**Killari**	**32.31**	**312**	*e*P		**P**	**04 22 22.6**	**+0.3**
KLRI				IAmb		IAmb	04 22 24.1	
	comp=Z,89nm,0.8s							
KLRI				*e*S		**S**	**04 27 32.0**	**-1.0**
KLRI				IVMs_BB		IVMs_BB	04 34 57.3	
	comp=Z,1μm,5.7s							
TPUB	**Ta-pu**	**32.39**	**35**	*e*P		**P**	**04 22 24.6**	**+1.6**
	comp=Z,136nm,1.2s							
QZH	**Quanzhou**	**32.63**	**30**⇑	*i*P		P	04 22 18.6	-6.4
QZH				pP		pP	04 22 31.9	-5.7
QZH				sP		sP	04 22 36.4	-6.9
QZH				S		**S**	**04 27 30.0**	**-7.8**
QZH				pmax		pmax		
	comp=Z,160nm,1.1s							
QZH				LR		LR		
	comp=N,720nm,11.8s							
QZH				LR		LR		
	comp=E,2μm,17.3s							
QZH				LR		LR		
	comp=Z,4μm,26.7s							
YULB	**Yu-li**	**32.84**	**35**	*e*P		**P**	**04 22 28.0**	**+1.1**
	comp=Z,31nm,0.7s							
SSLB	**Suanglung**	**32.95**	**34**	*e*P		**P**	**04 22 29.3**	**+1.4**
	comp=Z,35nm,0.8s							
NWAO	**Narrogin (SRO)**	**33.07**	**155**	P		**P**	**04 22 31.1**	**+2.3**
	comp=Z,16nm,0.8s,baz=201,slow=8.6,SNR=6.0							
NWAO				LR		LR	04 34 14.5	
	comp=Z,2μm,21.4s,baz=198,slow=33							
NWAO	**Narrogin (SRO)**	**33.07**	**155**	P		**P**	**04 22 30.2**	**+1.4**
	baz=33,SNR=4.7							
NWAO	**Narrogin (SRO)**	**33.07**	**155**	*e*P		**P**	**04 22 30.0**	**+1.2**
NWAO				pmax		pmax		
	comp=Z,501nm,1.4s							
NWAO	**Narrogin (SRO)**	**33.07**	**155**	*e*P		**P**	**04 22 30.0**	**+1.2**
	comp=Z,501nm,1.4s							
RAMN	**Ramite**	**33.22**	**335**	*e*P		**P**	**04 22 32.2**	**+1.7**
	comp=Z,300nm,0.6s							
NACB	**Ninganchiao**	**33.62**	**35**	*e*P		**P**	**04 22 35.1**	**+1.5**
	comp=Z,72nm,0.8s							
H01W3	**Cape Leeuwin H**	**33.65**	**161**	T		T	04 57 00.6	
	SNR=29							
H01W2	**Cape Leeuwin H**	**33.66**	**161**	T		T	04 57 02.1	
	baz=337,slow=74,SNR=18							
H01W1	**Cape Leeuwin H**	**33.67**	**161**	T		T	04 57 05.1	
	baz=166,slow=74,SNR=36							
WRKA	**Warakurna**	**33.80**	**132**	P		**P**	**04 22 36.7**	**+1.4**
	baz=34,SNR=7.0							
YHNB	**Yeheng**	**33.88**	**34**	*e*P		**P**	**04 22 37.5**	**+1.5**
	comp=Z,82nm,1.1s							
KMBL	**Kambalda**	**34.02**	**148**	P		**P**	**04 22 38.6**	**+1.5**
	baz=34,SNR=7.8							
CD2	**Chengdu**	**34.03**	**4**	⇑P		**P**	**04 22 36.8**	**-0.5**
CD2				pP		pP	04 22 51.8	+1.9
CD2				sP		sP	04 22 59.0	+3.4
CD2				PP		**PP**	**04 23 54.9**	**-0.2**
CD2				S		**S**	**04 27 57.3**	**-2.2**
CD2				sS		sS	04 28 25.4	+4.6
CD2				PMZ				
	comp=Z,120nm,0.7s							
CD2				PMZ				
	comp=Z,300nm,4.4s							
CD2				LN				
	comp=Z,3μm,22.4s							
CD2				LE				
	comp=Z,3μm,18.9s							
CD2				LZ				
	comp=Z,4μm,20.9s							
LSA	**Lhasa**	**34.18**	**344**	*e*P		**P**	**04 22 39.5**	**+0.5**
LSA				pmax		pmax		
	comp=Z,133nm,0.9s							
LSA	**Lhasa**	**34.18**	**344**	*e*P		**P**	**04 22 39.5**	**+0.5**
	comp=Z,133nm,0.9s							
TATO	**Taipei**	**34.19**	**34**	*e*P		**P**	**04 22 39.4**	**+0.8**
	comp=Z,42nm,0.8s							
ENH	**Enshi**	**34.22**	**13**	*e*P		**P**	**04 22 38.4**	**-0.5**
	comp=Z,122nm,0.8s							
PKIN	**Phulchoki**	**34.28**	**334**	*e*P		**P**	**04 22 40.8**	**+1.1**
	comp=Z,30nm,0.2s							
GUN	**Gumba**	**34.37**	**335**	*e*P		**P**	**04 22 42.2**	**+1.6**
	comp=Z,824nm,0.5s							
DMN	**Daman**	**34.44**	**334**	*e*P		**P**	**04 22 42.3**	**+1.2**
	comp=Z,543nm,1.0s							
KKN	**Kakani**	**34.52**	**334**	*e*P		**P**	**04 22 43.0**	**+1.3**
	comp=Z,545nm,0.7s							
YOJ	**Yonaguni jima**	**34.66**	**36**	*e*P		**P**	**04 22 43.5**	**+0.8**
YOJ				pmax		pmax		
	comp=Z,114nm,1.1s							
YOJ	**Yonaguni jima**	**34.66**	**36**	*e*P		**P**	**04 22 43.5**	**+0.8**
	comp=Z,114nm,1.1s							
GKN	**Gorkha**	**34.98**	**334**	*e*P		**P**	**04 22 47.0**	**+1.3**
	comp=Z,1μm,1.0s							
BHPL	**Bhopal**	**35.17**	**320**	*e*P		**P**	**04 22 47.9**	**+0.7**
BHPL				IAmb		IAmb	04 22 51.3	
	comp=Z,120nm,1.4s							
KOLN	**Koldanda**	**35.26**	**332**	*e*P		**P**	**04 22 49.7**	**+1.6**
	comp=Z,902nm,0.7s							
WHN	**Wuhan**	**35.81**	**19**⇑	*i*P		**P**	**04 22 53.5**	**+1.0**
WHN				pP		**pP**	**04 23 06.1**	**+0.9**
WHN				sP		**sP**	**04 23 10.9**	**0.0**
WHN				PP		**PP**	**04 24 19.8**	**+5.1**
WHN				S		**S**	**04 28 27.6**	**+0.8**
WHN				PMZ				
	comp=Z,120nm,0.9s							
WHN				PMZ				
	comp=Z,610nm,4.3s							
WHN				LN				
	comp=Z,460nm,10.2s							
WHN				LE				
	comp=Z,2μm,12.2s							
WHN				LZ				
	comp=Z,3μm,15.8s							
PYUN	**Piuthan**	**35.82**	**332**	*e*P		**P**	**04 22 54.5**	**+1.6**
	comp=Z,965nm,0.8s							
WRA	**Warramunga Arr**	**36.20**	**120**	P		**P**	**04 22 56.3**	**+0.2**
	comp=Z,58nm,0.5s,baz=305,slow=8.6,SNR=289							
WRA				PcP		**PcP**	**04 25 21.7**	**+0.8**
	comp=Z,11nm,0.7s,baz=308,slow=2.0,SNR=4.8							
WRA				S		**S**	**04 28 29.8**	**-3.5**
	comp=Z,15nm,0.9s,baz=293,slow=16,SNR=10							
WRA				LR		LR	04 39 40.9	
	comp=Z,683nm,21.6s,baz=290,slow=39							
WRA				P3KPbc			04 53 34.2	
	comp=Z,0.9nm,0.9s,baz=101,slow=4.5,SNR=9.4							
WRAB	**Tennant Creek**	**36.21**	**120**	*e*P		**P**	**04 22 56.4**	**+0.3**
WRAB				*e*S		**S**	**04 28 31.3**	**-2.0**
WRAB				pmax		pmax		
	comp=Z,140nm,0.9s							
WRAB	**Tennant Creek**	**36.21**	**120**	*e*P		**P**	**04 22 56.4**	**+0.3**
	comp=Z,139nm,0.9s							
WRAB				*e*S		**S**	**04 28 31.3**	**-2.0**
WRAB				LR		LR		
	comp=Z,1μm,20.0s							
WB2	**Warramunga Arr**	**36.21**	**120**	*e*P		**P**	**04 22 56.4**	**+0.2**
	comp=Z,128nm,0.8s							
WB2				*e*S		**S**	**04 28 31.3**	**-2.1**
ASAR	**Alice Springs**	**37.43**	**126**	P		**P**	**04 23 07.3**	**+0.8**
	comp=Z,73nm,0.6s,baz=301,slow=8.1,SNR=679							
ASAR				PcP		**PcP**	**04 25 25.4**	**+0.8**
	comp=Z,19nm,0.9s,baz=324,slow=3.0,SNR=8.2							
ASAR				S		**S**	**04 28 48.5**	**-3.4**
	comp=Z,9.3nm,0.8s,baz=299,slow=13,SNR=12							
ASAR				ScP		**ScP**	**04 29 08.5**	**+0.4**
	comp=Z,16nm,1.0s,baz=291,slow=14,SNR=5.0							
ASAR				LR		LR	04 39 40.9	
	comp=Z,944nm,21.1s,baz=302,slow=38							
ASAR				P3KPbc			04 53 28.0	
	comp=Z,0.4nm,0.7s,baz=116,slow=4.2,SNR=4.7							
ASAR	**Alice Springs**	**37.43**	**126**	P		**P**	**04 23 07.4**	**+0.8**
ASAR							04 25 25.4	
ASAR				S		**S**	**04 28 48.5**	**-3.4**
ASAR							04 29 08.5	
ASAR				pmax		pmax		
	comp=Z,70nm,0.6s							
ASAR				pmax		pmax		
	comp=Z,19nm,0.9s							
ASAR				smax		smax		
	comp=N,9.0nm,0.8s							
ASAR				pmax		pmax		
	comp=N,17nm,1.0s							
ASAR				MLR		MLR		
	comp=Z,944nm,21.1s							
AS31	**Alice Springs**	**37.43**	**126**	*e*P		**P**	**04 23 06.2**	**-0.4**
	comp=Z,35nm,0.8s							
AS31				*e*S		**S**	**04 28 52.6**	**+0.7**
AS01	**Alice Springs**	**37.47**	**126**	*e*P		**P**	**04 23 07.3**	**+0.5**
XAN	**Xi'an**	**37.76**	**10**	P		**P**	**04 23 09.1**	**0.0**
XAN				pP		pP	04 23 21.3	-0.6
XAN				sP		sP	04 23 26.8	-0.7
XAN				PP		**PnPn**	**04 24 38.1**	**+0.5**
XAN				S		**S**	**04 28 54.5**	**-2.0**
XAN				PMZ				
	comp=Z,130nm,0.8s							
XAN				PMZ				
	comp=Z,240nm,6.4s							
XAN				LN				
	comp=Z,2μm,17.9s							
XAN				LE				
	comp=Z,2μm,22.7s							
XAN				LZ				
	comp=Z,2μm,17.9s							
LGTI	**Lohaghat**	**38.28**	**330**	*e*P		**P**	**04 23 14.8**	**+1.3**
PTH	**Pithoragarh**	**38.38**	**330**	*e*P		**P**	**04 23 15.5**	**+0.9**
GENI	**Genyem**	**38.77**	**90**	P		**P**	**04 23 17.8**	**-0.1**
NJ2	**Nanjing**	**38.83**	**24**	*e*P		**P**	**04 23 19.3**	**+1.2**
NJ2				pP		**pP**	**04 23 31.4**	**+0.5**
NJ2				sP		**sP**	**04 23 36.8**	**+0.3**
NJ2				S		**S**	**04 29 14.1**	**+1.4**
NJ2				PMZ				
	comp=Z,34nm,0.8s							
NJ2				LN				
	comp=Z,2μm,19.0s							
NJ2				LE				
	comp=Z,1μm,17.9s							
NJ2				LZ				
	comp=Z,2μm,18.4s							
SSE	**Sheshan**	**39.03**	**28**	P		**P**	**04 23 22.3**	**+2.6**
SSE				sP		**sP**	**04 23 41.4**	**+3.2**
SSE				S		**S**	**04 29 21.4**	**+5.8**
SSE				PMZ				
	comp=Z,79nm,0.8s							
SSE				PMZ				
	comp=Z,220nm,5.3s							
SSE				LN				
	comp=Z,850nm,25.6s							
SSE				LE				
	comp=Z,570nm,25.6s							
SSE				LZ				
	comp=Z,1μm,27.8s							
LZH	**Lanzhou**	**39.19**	**3**	⇑P		**P**	**04 23 21.8**	**+0.6**
LZH				pP		pP	04 23 34.5	+0.5
LZH				sP		sP	04 23 39.3	-0.4
LZH				PP		**PnPn**	**04 24 56.4**	**+1.6**
LZH				PcP		**PcP**	**04 25 31.1**	**+1.2**
LZH				*e*S		**S**	**04 29 21.0**	**+2.7**
LZH				sS		sS	04 29 38.4	-1.3
LZH				SS		**SS**	**04 32 07.0**	**-5.9**
LZH				PMZ				
	comp=Z,150nm,1.0s							
LZH				PMZ				
	comp=Z,460nm,5.3s							
LZH				LN				
	comp=Z,3μm,17.0s							
LZH				LE				
	comp=Z,2μm,17.3s							
LZH				LZ				
	comp=Z,4μm,18.9s							
JAY	**Jayapura**	**39.30**	**90**	P		**P**	**04 23 20.6**	**-1.7**
	comp=Z,1.8nm,0.4s,baz=262,slow=23,SNR=22							
JAY				S		**S**	**04 29 15.8**	**-4.6**
	comp=Z,0.7nm,0.4s,baz=267,slow=23,SNR=4.6							
JAY	**Jayapura**	**39.30**	**90**	P		**P**	**04 23 21.1**	**-1.3**
JAY	**Jayapura**	**39.30**	**90**	P		**P**	**04 23 20.7**	**-1.7**
JAY				S		**S**	**04 29 15.8**	**-4.6**
JAY				pmax		pmax		
	comp=Z,3.0nm,0.5s							
JAY				smax		smax		
	comp=N,1.0nm,0.4s							
JOW	**Kunigami**	**39.62**	**39**	*e*P		**P**	**04 23 26.9**	**+2.2**
	comp=N,56nm,0.8s							
DDI	**Dehra Dun**	**40.12**	**328**	*e*P		**P**	**04 23 30.1**	**+1.2**
DDI				IAmb		IAmb	04 23 31.2	
	comp=Z,924nm,1.0s							
QIS	**Mount Isa**	**41.03**	**118**	P		**P**	**04 23 37.1**	**+0.5**
	baz=41,SNR=77							
SMLA	**Simla**	**41.22**	**328**	*e*P		**P**	**04 23 38.8**	**+0.9**
SMLA				IAmb		IAmb	04 23 39.5	
	comp=Z,885nm,0.2s							
BHK	**Bhakra**	**41.85**	**327**	*e*P		**P**	**04 23 43.0**	**-0.1**
TIA	**Tai'an**	**41.92**	**19**	⇑P		**P**	**04 23 43.8**	**+0.2**
TIA				PMZ				
	comp=Z,50nm,1.0s							
TIA				PMZ				
	comp=Z,330nm,8.0s							
TIA				LN				
	comp=Z,2μm,15.0s							
TIA				LE				
	comp=Z,1μm,15.0s							
TIA				LZ				
	comp=Z,3μm,15.5s							
TIY	**Taiyuan**	**42.02**	**13**	*e*P		**P**	**04 23 45.3**	**+0.8**
TIY				S		**S**	**04 29 53.9**	**-6.4**
TIY				PMZ				
	comp=Z,48nm,0.5s							
TIY				PMZ				
	comp=Z,300nm,3.5s							
TIY				LN				
	comp=Z,2μm,15.0s							
TIY				LE				
	comp=Z,560nm,12.4s							
TIY				LZ				
	comp=Z,2μm,18.5s							
GTA	**Gaotai**	**42.46**	**358**	P		**P**	**04 23 48.4**	**+0.3**
GTA				pP		pP	04 24 00.5	-0.5
GTA				sP		sP	04 24 05.6	-1.0
GTA				PcP		**PcP**	**04 25 41.1**	**+0.7**
GTA				S		**S**	**04 30 06.9**	**+0.1**
GTA				sS		sS	04 30 27.1	-1.4
GTA				SS		**SS**	**04 33 11.4**	**-6.3**
GTA				ScS		**ScS**	**04 33 43.3**	**-2.6**
GTA				PMZ				
	comp=Z,20nm,0.9s							
GTA				PMZ				
	comp=Z,330nm,6.4s							
GTA				LN				
	comp=Z,2μm,17.3s							
GTA				LE				
	comp=Z,990nm,18.3s							
GTA				LZ				
	comp=Z,3μm,18.5s			

BJT pmax pmax
comp=Z,115nm,1.1s
BJT Baijiatuau 45.14 16 *e*P **P 04 24 10.1 +0.6**
comp=Z,115nm,1.1s
BJI Beijing 45.17 16 P **P 04 24 10.6 +1.0**
BJI PP **PP 04 25 57.0 +1.0**
BJI S **S 04 30 45.4 -0.5**
BJI PMZ
comp=Z,28nm,0.6s
BJI PMZ
comp=Z,510nm,3.3s
BJI LN
comp=Z,2µm,19.5s
BJI LE
comp=Z,580nm,15.6s
BJI LZ
comp=Z,2µm,19.5s
JNU Nakatsue 45.69 35 P **P 04 24 14.7 +0.7**
comp=Z,87nm,0.9s,baz=201,slow=2.0,SNR=19
JNU Nakatsue 45.69 35 *e*P **P 04 24 14.9 +0.9**
comp=Z,322nm,1.3s
PMG Port Moresby 45.90 100 P **P 04 24 15.3 -0.7**
comp=Z,33nm,0.8s,baz=268,slow=5.6,SNR=7.0
PMG Port Moresby 45.90 100 *de*P **P 04 24 15.2 -0.7**
PMG pmax pmax
comp=Z,112nm,0.8s
PMG MLR MLR
comp=Z,4µm,25.0s
PMG Port Moresby 45.90 100 *e*P **P 04 24 15.7 -0.2**
comp=Z,40nm,0.9s
PMG LR LR
comp=Z,520nm,22.0s
DL2 Dalian 45.92 22⇑ *i*P **P 04 24 16.4 +0.8**
DL2 S **S 04 30 58.6 +1.8**
DL2 PMZ
comp=Z,77nm,1.5s
DL2 PMZ
comp=Z,330nm,5.2s
DL2 LN
comp=Z,1µm,20.3s
DL2 LE
comp=Z,810nm,20.9s
DL2 LZ
comp=Z,1µm,18.5s
MANU Manus Island 45.97 90 *e*P **P 04 24 16.7 +0.2**
comp=Z,57nm,0.8s
HTT Hallett 46.16 135 P **P 04 24 19.4 +1.6**
baz=46,SNR=14
TJN Taejon 46.29 29*c i*P **P 04 24 18.7 +0.1**
GUMO Guam 46.29 68 P **P 04 24 17.0 -2.0**
comp=Z,100nm,0.5s,baz=95,slow=3.2,SNR=9.3
GUMO LR LR 04 44 31.7
comp=Z,150nm,21.7s,baz=254,slow=37
GUMO Guam 46.29 68 P **P 04 24 17.0 -2.0**
GUMO pmax pmax
comp=Z,100nm,0.5s
GUMO MLR MLR
comp=Z,150nm,21.7s
CTA Charters Tower 46.85 115 P **P 04 24 24.0 +0.7**
comp=Z,188nm,0.7s,baz=292,slow=11,SNR=196
CTAO Charters Tower 46.85 115 *e*P **P 04 24 24.0 +0.7**
CTAO pmax pmax
comp=Z,240nm,0.9s
CTAO Charters Tower 46.85 115 *e*P **P 04 24 24.0 +0.7**
comp=Z,236nm,0.8s
QLP Quilpie 47.14 124 P **P 04 24 27.0 +1.5**
baz=47,SNR=18
STKA Stephens Creek 47.32 132 P **P 04 24 28.0 +1.2**
comp=Z,26nm,0.7s,baz=308,slow=7.5,SNR=47
STKA LR LR 04 44 40.4
comp=Z,984nm,21.8s,baz=293,slow=36
STKA Stephens Creek 47.32 132 P **P 04 24 27.9 +1.2**
baz=47,SNR=38
STKA Stephens Creek 47.32 132 *e*P **P 04 24 28.0 +1.2**
STKA pmax pmax
comp=Z,21nm,0.9s
STKA Stephens Creek 47.32 132 *e*P **P 04 24 28.0 +1.2**
comp=Z,21nm,0.8s
KS15 Wonju Array Si 47.39 29 *e*P **P 04 24 28.2 +1.1**
KSAR Wonju Array Be 47.39 29 P **P 04 24 28.0 +0.8**
KSAR *PP **pP 04 24 40.8 +0.6**
KSAR Wonju Array Be 47.39 29 P **P 04 24 27.9 +0.8**
KSAR pP **pP 04 24 40.8 +0.6**
KSAR ScP **ScP 04 29 47.0 -0.6**
KSRS Korea Array 47.41 29 P **P 04 24 27.9 +0.6**
comp=Z,46nm,1.1s,baz=220,slow=7.9,SNR=90
KSRS pP **pP 04 24 40.8 +0.4**
comp=Z,20nm,0.8s,baz=229,slow=8.4,SNR=8.8
KSRS ScP **ScP 04 29 47.0 -0.7**
comp=Z,2.3nm,0.9s,baz=220,slow=3.6,SNR=5.1
KSRS LR LR 04 46 18.4
comp=Z,351nm,18.8s,baz=238,slow=38
KS01 Wonju Array Si 47.42 29 *e*P **P 04 24 27.4 0.0**
KS01 *e*ScP **ScP 04 29 46.5 -1.2**
KBL Kabul 48.33 324 *e*P **P 04 24 35.1 +0.3**
KBL pmax pmax
comp=Z,130nm,1.4s
KBL Kabul 48.33 324 *e*P **P 04 24 35.1 +0.3**
comp=Z,128nm,1.4s
WMQ Urumqi 48.43 347 P **P 04 24 36.6 +1.4**
WMQ pP pP 04 24 49.0 +0.7
WMQ sP sP 04 24 54.3 +0.4
WMQ S **S 04 31 34.0 +1.3**
WMQ sS sS 04 31 55.1 +0.5
WMQ ScS **ScS 04 34 23.0 -1.0**
WMQ PMZ
comp=Z,510nm,0.8s
WMQ PMZ
comp=Z,950nm,4.0s
WMQ LN
comp=Z,270nm,22.6s
WMQ LE
comp=Z,330nm,19.8s
WMQ LZ
comp=Z,310nm,22.6s
KSH Kashi 48.53 334 P **P 04 24 35.8 -0.4**
KSH pP pP 04 24 48.3 -1.0
KSH PcP **PcP 04 26 00.8 -0.7**
KSH PP **PP 04 26 27.3 -2.1**
KSH S **S 04 31 28.8 -5.6**
KSH ScS **ScS 04 34 16.8 -8.2**
KSH PMZ
comp=Z,190nm,0.8s
KSH LN
comp=Z,340nm,13.2s
KSH LE
comp=Z,220nm,9.1s
KSH LZ
comp=Z,770nm,21.5s
SNY Shenyang 49.19 22⇑ P **P 04 24 40.6 -0.4**
SNY pP **pP 04 24 53.3 -0.8**
SNY PP **PP 04 26 37.3 +2.1**
SNY S **S 04 31 40.0 -3.3**
SNY PMZ
comp=Z,38nm,1.2s
SNY PMZ
comp=Z,390nm,4.1s
SNY LN
comp=Z,1µm,19.4s
SNY LE
comp=Z,860nm,18.2s
SNY LZ
comp=Z,1µm,15.3s
WSAR Wadi Sarin 49.26 305 P **P 04 24 43.3 +1.5**
comp=Z,16nm,0.9s,baz=149,slow=6.3,SNR=6.2
CBIJ Chichi jima 49.60 50 *e*P **P 04 24 40.6 -3.8**
comp=Z,26nm,0.6s
JCJ Chichijima 49.60 50 P **P 04 24 43.2 -1.2**
comp=Z,52nm,0.4s,baz=282,slow=23,SNR=9.0
ARPS Mount Arapiles 49.97 137 P **P 04 24 49.0 +2.0**
baz=50,SNR=8.4
SHLS Shalkode 50.08 340 *i* P **P 04 24 46.9 -1.2**
comp=Z,2µm,0.4s
CMSA Cobar Meteorol 50.28 129 P **P 04 24 50.7 +1.2**
baz=50,SNR=97
UZB Uzynbulak 50.38 339 *i* P **P 04 24 48.9 -1.3**
comp=Z,2µm,0.7s
UZB *e*S **S 04 32 00.0 -0.1**
SATY Saty 50.53 338 *i* P **P 04 24 49.6 -1.7**
comp=Z,3µm,0.9s
SATY *e*S **S 04 32 01.4 -0.8**
SATY LR LR 04 46 12.7
comp=Z,103nm,15.6s
ZHN Zhinishke 50.61 338 *i* P **P 04 24 51.3 -0.6**
comp=Z,874nm,0.7s
KPKS Kokpek 50.78 339 *i* P **P 04 24 51.4 -1.8**
comp=Z,3µm,0.9s
KPKS *e*S **S 04 32 05.1 -0.5**
RMQ Roma 50.91 122 P **P 04 24 55.8 +1.4**
baz=51,SNR=13
ARQ Araqi 51.05 304 P **P 04 24 57.0 +1.6**
SNR=7.6
SONM Songino Array 51.05 4 P **P 04 24 56.4 +1.3**
comp=Z,108nm,0.9s,baz=185,slow=8.6,SNR=300
SONM pP **pP 04 25 09.0 +0.6**
comp=Z,60nm,0.7s,baz=186,slow=9.6,SNR=15
SONM sP **sP 04 25 14.0 +0.1**
comp=Z,58nm,0.8s,baz=189,slow=8.7,SNR=6.4
SONM PcP **PcP 04 26 10.8 +0.3**
comp=Z,36nm,0.7s,baz=190,slow=4.7,SNR=13
SONM ScP **ScP 04 30 02.9 -0.3**
comp=Z,4.1nm,1.0s,baz=206,slow=4.7,SNR=5.1
SONM LR LR 04 49 48.2
comp=Z,2µm,18.7s,baz=188,slow=40
SONA1 Songino Array 51.06 4 *e*P **P 04 24 55.0 -0.2**
MDOK Medeo 51.13 337 *i* P **P 04 24 54.4 -1.5**
comp=Z,955nm,1.1s
MDOK *i* S **S 04 32 10.5 -0.1**
MDOK LR LR 04 45 50.6
comp=Z,140nm,18.6s
ULN Ulaanbaatar 51.13 5*c i*P **P 04 24 56.9 +1.1**
ULN pmax pmax
comp=Z,105nm,1.2s
ULN MLR MLR
comp=Z,1µm,20.0s
ULN Ulaanbaatar 51.13 5 P **P 04 24 57.3 +1.5**
SNR=38
ULN Ulaanbaatar 51.13 5 P **P 04 24 57.3 +1.5**
SNR=38
ULN P **P 04 24 57.3 +1.5**
SNR=38
ULN Ulaanbaatar 51.13 5 *e*P **P 04 24 56.8 +1.0**
comp=Z,74nm,1.0s
JHJ Hachijo jima 2 51.25 42 P **P 04 24 58.0 +1.2**
comp=Z,32nm,0.6s,baz=149,slow=22,SNR=2.8
AAA Alma-Ata 51.26 337 *i* P **P 04 24 57.7 +1.0**
AAA *e*S **S 04 32 12.8 +0.6**
AAA pmax pmax
comp=Z,800nm,2.5s
AAA smax smax
comp=E,600nm,5.7s
AAA MLR MLR
comp=Z,300nm,16.0s
AAA Alma-Ata 51.26 337 *e*P **P 04 24 57.2 +0.5**
comp=Z,2µm,0.9s
AAA LR LR 04 47 40.9
comp=Z,112nm,17.0s
TKM2 Tokmak 2 51.50 336 *e*P **P 04 24 59.2 +0.5**
TKM2 pmax pmax
comp=Z,187nm,0.8s
TKM2 Tokmak 2 51.50 336 *e*P **P 04 24 59.2 +0.5**
comp=Z,187nm,0.8s
CN2 Changchun 51.59 22⇑ P **P 04 24 59.1 0.0**
CN2 *e*pP pP 04 25 11.8 -0.5
CN2 *e*S **S 04 32 16.5 -0.1**
CN2 PMZ
comp=Z,100nm,1.1s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,1µm,16.0s
CN2 LE
comp=Z,700nm,16.0s
CN2 LZ
comp=Z,900nm,18.0s
AAK Ala-Archa 51.73 335 P **P 04 25 01.5 +1.2**
comp=Z,58nm,0.9s,baz=138,slow=5.7,SNR=63
AAK pP **pP 04 25 14.0 +0.4**
comp=Z,46nm,0.9s,baz=148,slow=10,SNR=6.6
AAK sP **sP 04 25 19.6 +0.5**
comp=Z,15nm,0.6s,baz=295,slow=6.1,SNR=5.0
AAK S **S 04 32 20.1 +1.3**
comp=Z,1.4nm,0.3s,baz=347,slow=18,SNR=2.3
AAK Ala-Archa 51.73 335*c i*P **P 04 25 01.0 +0.7**
AAK pmax pmax
comp=Z,134nm,0.9s
AAK MLR MLR
comp=Z,2µm,23.0s
AAK Ala-Archa 51.73 335 P **P 04 25 01.1 +0.7**
SNR=33
AAK Ala-Archa 51.73 335 P **P 04 25 01.1 +0.7**
SNR=33
AAK P **P 04 25 01.1 +0.7**
SNR=33
AAK Ala-Archa 51.73 335 *e*P **P 04 25 01.6 +1.2**
comp=Z,76nm,1.0s
AAK pP **pP 04 25 14.0 +0.4**
AAK sP **sP 04 25 19.6 +0.5**
AAK S **S 04 32 20.1 +1.3**
FRU Bishkek 51.84 335 *i* P **P 04 25 00.0 -1.0**
FRU *i* 04 25 13.0
FRU *e*S **S 04 32 18.0 -2.1**
FRU pmax pmax
comp=Z,270nm,1.4s
UOSS Minazif 52.00 305 *e*P **P 04 25 03.2 +0.7**
comp=Z,2.1nm,0.9s
ASHO Ashiyiah 52.01 305 *i* P **P 04 25 03.7 +1.1**
SNR=11
HATD Hatta, Dubai 52.01 305 *i* P **P 04 25 04.0 +1.5**
SNR=8.5
HATD Hatta, Dubai 52.01 305 P **P 04 25 05.0 +2.4**
SNR=5.2
HATD Hatta, Dubai 52.01 305 P **P 04 25 05.0 +2.4**
SNR=5.2
KUU Kurty 52.02 337 *i* P **P 04 25 01.0 -1.4**
comp=Z,3µm,0.9s
KUU *e*S **S 04 32 22.3 -0.3**
EKS2 Erkin-Say 52.05 334 *e*P **P 04 25 04.0 +1.3**
EKS2 pmax pmax
comp=Z,300nm,0.8s
EKS2 Erkin-Say 52.05 334 *e*P **P 04 25 04.0 +1.3**
comp=Z,300nm,0.8s
MAJO Matsushiro 52.40 38*c i*P **P 04 25 04.9 -0.4**
MAJO pmax pmax
comp=Z,317nm,1.0s
MAT Matsushiro 52.40 38 P **P 04 25 04.7 -0.6**
MAT S S 04 32 44.0 +16
MJAR Matsushiro Arr 52.40 38 P **P 04 25 05.4 +0.1**
comp=Z,39nm,0.8s,baz=220,slow=8.0,SNR=24
MJAR pP **pP 04 25 17.3 -1.2**
comp=Z,36nm,0.9s,baz=219,slow=7.4,SNR=4.6
MJAR sP **sP 04 25 22.8 -1.3**
comp=Z,30nm,0.9s,baz=214,slow=8.5,SNR=3.4
MJAR ScP **ScP 04 30 08.3 -0.8**
comp=Z,6.2nm,0.9s,baz=220,slow=4.9,SNR=12
MJAR LR LR 04 47 40.9
comp=Z,324nm,21.8s,baz=260,slow=36
FAQ Al Faqa, Dubai 52.41 305 *i* P **P 04 25 06.8 +1.2**
SNR=11
FAQ Al Faqa, Dubai 52.41 305 P **P 04 25 08.0 +2.4**
SNR=6.4
FAQ Al Faqa, Dubai 52.41 305 P **P 04 25 08.0 +2.4**
SNR=6.4
FAQ P **P 04 25 08.0 +2.4**
SNR=6.4
MNAS Manas 52.48 333 P **P 04 25 06.0 +0.1**
MNAS pmax pmax
comp=Z,173nm,0.8s
MK01 Makanchi Array 52.56 344 *e*P **P 04 25 06.5 +0.2**
EIDS Eidsvold 52.57 120 P **P 04 25 07.4 +0.7**
baz=53,SNR=17
EIDS Eidsvold 52.57 120 *e*P **P 04 25 07.2 +0.4**
comp=Z,59nm,0.8s
MK31 Makanchi Array 52.59 344 *e*P **P 04 25 06.4 -0.1**
MK31 pmax pmax
comp=Z,39nm,0.5s
MK31 Makanchi Array 52.59 344 *e*P **P 04 25 07.0 +0.5**
MKAR Makanchi Array 52.59 344 P **P 04 25 06.9 +0.5**
comp=Z,110nm,0.6s,baz=156,slow=8.9,SNR=257
MKAR pP **pP 04 25 20.0 +0.2**
comp=Z,52nm,0.7s,baz=143,slow=8.3,SNR=7.9
MKAR sP **sP 04 25 25.1 -0.2**
comp=Z,46nm,0.7s,baz=148,slow=7.1,SNR=4.9
MKAR S **S 04 32 29.1 -1.1**
comp=Z,1.0nm,0.9s,baz=131,slow=53,SNR=2.4
MKAR LR LR 04 52 22.8
comp=Z,473nm,20.7s,baz=148,slow=42
ZSN Zaisan 52.63 346 *i* P **P 04 25 04.6 -2.2**
comp=Z,5µm,0.9s
ZSN *e*S **S 04 32 29.8 -0.9**
MAKZ Makanchi 52.69 343 P **P 04 25 05.5 -1.7**
MAKZ pmax pmax
comp=Z,139nm,1.2s
MAKZ Makanchi 52.69 343 *e*P **P 04 25 07.4 +0.2**
comp=Z,78nm,0.6s
MSHR Mys Shultsa 52.98 27*c i*P **P 04 25 10.1 +0.7**
IUG Iuzhnay 53.36 331 *i* P **P 04 25 10.3 -2.1**
comp=Z,2µm,1.1s
IUG *e*S **S 04 32 40.2 -0.9**
IUG LR LR 04 49 08.7
comp=Z,92nm,16.1s
ZAK Zakamensk 53.44 2 *e*P **P 04 25 12.8 0.0**
ZAK pmax pmax
comp=Z,47nm,1.0s
YNG Young 53.50 131 P **P 04 25 14.7 +1.2**
baz=54,SNR=9.1
VLA Vladivostok 53.74 27*c i*P **P 04 25 15.6 +0.7**
VLA pmax pmax
comp=Z,91nm,0.9s
KK31 Karatay Array 53.87 332 P **P 04 25 15.2 -0.8**
KK31 pmax pmax
comp=Z,11nm,0.5s
KKAR Karatay Array 53.87 332 *e*P **P 04 25 15.9 -0.1**
KKAR Karatay Array 53.87 332 *e*P **P 04 25 15.9 -0.1**
comp=Z,16nm,0.5s
MDJ Mudanjiang 53.92 25 P **P 04 25 17.1 +0.8**
MDJ pP pP 04 25 28.6 -1.0
MDJ sP sP 04 25 33.6 -1.5
MDJ PcP **PcP 04 26 22.0 +0.8**
MDJ S **S 04 32 49.9 +1.6**
MDJ sS sS 04 33 10.0 -0.5
MDJ SS **SS 04 36 32.8 +2.6**
MDJ PMZ
comp=Z,78nm,0.9s
MDJ PMZ
comp=Z,210nm,7.0s
MDJ LN
comp=Z,770nm,24.4s
MDJ LE
comp=Z,1µm,22.3s
MDJ LZ
comp=Z,1µm,25.2s
MDJ Mudanjiang 53.92 25 *e*P **P 04 25 16.7 +0.4**
comp=Z,66nm,0.8s
MDJ LR LR
comp=Z,1µm,22.0s
BRLS Borolday 54.02 331 *i* P **P 04 25 14.8 -2.3**
comp=Z,210nm,0.8s
BRLS *i* S **S 04 32 48.7 -1.0**
CAN Canberra 54.38 132 *e*P **P 04 25 20.4 +0.5**
CAN pmax pmax
comp=Z,77nm,1.0s
CAN Canberra 54.38 132 *e*P **P 04 25 20.4 +0.5**
comp=Z,77nm,1.0s
ARMA Armidale 54.59 125 P **P 04 25 23.6 +2.0**
baz=55,SNR=8.6
ARMA Armidale 54.59 125 *e*P **P 04 25 23.2 +1.6**
comp=Z,53nm,0.9s
USRK Ussuriysk Ar. 54.62 27 P **P 04 25 22.3 +0.9**
comp=Z,332nm,0.8s,baz=224,slow=6.2,SNR=469
USRK pP **pP 04 25 34.7 0.0**
comp=Z,60nm,0.6s,baz=202,slow=2.2,SNR=6.9
USRK LR LR 04 50 09.1
comp=Z,511nm,18.8s,baz=211,slow=38
HIA Hailar 54.67 15 *e*P **P 04 25 21.6 -0.1**
HIA pmax pmax
comp=Z,45nm,0.8s
HIA MLR MLR
comp=Z,850nm,20.0s
HIA Hailar 54.67 15 *e*P **P 04 25 21.6 -0.1**
comp=Z,45nm,0.8s
HIA LR LR
comp=Z,850nm,20.0s
MOY Mondy 54.70 360 *e*P **P 04 25 22.9 +1.0**
MOY pmax pmax
comp=Z,141nm,2.7s
TLY Talaya 54.74 2 P **P 04 25 23.8 +1.7**
comp=Z,81nm,0.7s,baz=199,slow=6.9,SNR=99
TLY pP **pP 04 25 36.4 +0.9**
comp=Z,22nm,0.7s,baz=173,slow=15,SNR=4.7
TLY S **S 04 33 00.3 +1.1**
comp=Z,2.3nm,0.4s,baz=241,slow=20,SNR=2.5
TLY Talaya 54.74 2*c i*P **P 04 25 23.5 +1.3**
TLY *e* 04 27 33.5
TLY *e*S **S 04 33 00.4 +1.1**
TLY *e* 04 35 08.1
TLY pmax pmax
comp=Z,131nm,0.9s
TLY MLR MLR
comp=Z,2µm,20.0s
TLY Talaya 54.74 2 *e*P **P 04 25 23.9 +1.7**
comp=Z,129nm,0.9s
TLY pP **pP 04 25 36.4 +0.9**
TLY S **S 04 33 00.3 +1.1**
MGCD Mangrove Creek 55.15 129 P **P 04 25 27.0 +1.5**
baz=55,SNR=7.7
IRK Irkutsk 55.33 2 *e*P **P 04 25 27.0 +0.6**
IRK pmax pmax
comp=Z,197nm,2.1s
CIT Chita 56.02 9 *e*P **P 04 25 32.8 +1.4**
CIT *e* 04 25 39.2
CIT pmax pmax
comp=Z,191nm,1.2s
SEM Semipalatinsk 56.44 344 *i* P **P 04 25 33.6 -0.7**
comp=Z,2µm,0.6s
SEM LR LR 04 49 02.0
comp=Z,140nm,20.5s
MOO Moorlands 56.45 140 P **P 04 25 34.8 +0.2**
baz=56,SNR=3.3
KURBB Kurchatov Arra 57.12 343 P **P 04 25 39.3 +0.1**
comp=Z,94nm,0.7s,baz=161,slow=6.8,SNR=260
KURBB pP **pP 04 25 51.8 -0.7**
comp=Z,131nm,0.8s,baz=165,slow=7.2,SNR=16
KURBB sP **sP 04 25 57.2 -0.8**
comp=Z,54nm,0.8s,baz=165,slow=6.2,SNR=4.3
KURBB PcP **PcP 04 26 34.0 +0.6**
comp=Z,22nm,0.8s,baz=160,slow=3.6,SNR=4.1
KURBB S **S 04 33 29.2 -1.5**
comp=Z,0.4nm,0.2s,baz=136,slow=17,SNR=4.5
KURBB PKP2bc 04 55 41.9
comp=Z,0.8nm,0.7s,baz=332,slow=2.4,SNR=5.7
KURBB PKP2ab 04 55 58.6
comp=Z,0.3nm,0.2s,baz=323,slow=2.6,SNR=4.7
KURK Kurchatov 57.17 343 *e*P **P 04 25 39.7 +0.2**
KURK *PP **pP 04 25 51.8 -1.1**
KURK 04 26 34.0
KURK *e*S **S 04 33 32.1 +0.7**
KURK pmax pmax
comp=Z,793nm,0.8s
KURK Kurchatov 57.17 343 *e*P **P 04 25 39.7 +0.2**
comp=Z,793nm,0.8s
KURK pP **pP 04 25 51.8 -1.1**
KURK sP **sP 04 25 57.2 -1.2**
KURK PcP **PcP 04 26 34.0 +0.3**
KURK *e*S **S 04 33 32.1 +0.7**
KURK ⇑*e* 04 55 41.9
KURK P'P'ab **P'P'ab 04 55 58.6 +2.1**
OTUK Ortayu 57.19 337 P **P 04 25 38.9 -0.8**
OTUK pmax pmax
comp=Z,106nm,0.8s
GEYT Alibeck 57.26 320 P **P 04 25 40.8 +0.3**
comp=Z,61nm,0.9s,baz=155,slow=8.2,SNR=86
GEYT pP **pP 04 25 54.2 +0.3**
comp=Z,36nm,0.9s,baz=170,slow=9.0,SNR=7.2
GEYT LR LR 04 52 35.9
comp=Z,414nm,22.0s,baz=90,slow=38
HNR Honiara 58.50 99 P **P 04 25 49.0 -0.5**
comp=Z,99nm,0.5s,baz=205,slow=5.0,SNR=8.6
HNR LR LR 04 53 31.4
comp=Z,179nm,20.9s,baz=260,slow=38
HNR Honiara 58.50 99 *e*P **P 04 25 48.0 -1.5**
KLR Kul'dur 58.52 23 P **P 04 25 49.7 +0.7**
comp=Z,148nm,0.8s,baz=232,slow=5.9,SNR=487
KLR pP **pP 04 26 02.3 -0.1**
comp=Z,29nm,0.8s,baz=237,slow=7.5,SNR=3.1
KLR sP **sP 04 26 07.6 -0.4**
comp=Z,53nm,0.9s,baz=246,slow=5.2,SNR=4.5
KLR Kul'dur 58.52 23 P **P 04 25 49.7 +0.7**
KLR *PP **pP 04 26 02.3 -0.1**
KLR pmax pmax
comp=Z,148nm,0.8s
KLR pmax pmax
comp=Z,23nm,0.7s
KLR pmax pmax
comp=Z,53nm,0.9s
ZAA0 Zalesovo Array 58.63 349 *e*P **P 04 25 50.0 +0.3**
ZALV Zalesovo Beam 58.63 349 P **P 04 25 50.0 +0.3**
comp=Z,470nm,0.9s,baz=168,slow=5.4,SNR=596
ZALV pP **pP 04 26 02.4 -0.7**

comp=Z,338nm,0.8s,baz=168,slow=6.1,SNR=15
ZALV sP **sP** **04 26 07.6 -1.1**
comp=Z,333nm,1.0s,baz=158,slow=4.8,SNR=6.9
ZALV S **S** **04 33 48.7 -1.8**
comp=Z,4.5nm,0.8s,baz=159,slow=13,SNR=6.0
ZALV LR LR 04 54 24.2
comp=Z,722nm,20.6s,baz=136,slow=39
ZALV PKPPKP **P'P'df** **04 55 27.9 +2.6**
comp=Z,0.8nm,0.5s,baz=305,slow=5.2,SNR=4.8
ZALV PKP2bc 04 55 37.7
comp=Z,0.9nm,0.5s,baz=296,slow=4.8,SNR=4.0
ERM **Erimo** **58.85** **35***d* *i*P **P** **04 25 52.0 +0.6**
ERM pmax pmax
comp=Z,37nm,0.8s
ERM **Erimo** **58.85** **35** *e*P **P** **04 25 52.3 +0.8**
comp=Z,58nm,0.9s
HABR **Khabarovsk** **59.27** **25** *e*P **P** **04 25 52.5 -1.7**
HABR *e**PP **pP** **04 26 02.6 -5.1**
HABR *e**SP **sP** **04 26 06.8 -6.4**
HABR *e* 04 26 40.2
HABR *e* 04 28 03.7
HABR *e*PPP PPP 04 29 24.8
HABR *e*S **S** **04 33 59.1 +0.2**
HABR *e**SS **sS** **04 34 16.3 -5.1**
HABR *e* 04 35 40.2
HABR *e*SS **SS** **04 37 55.3 +0.9**
HABR pmax pmax
comp=E,23nm,1.1s
HABR pmax pmax
comp=Z,111nm,1.1s
HABR pmax pmax
comp=N,8.0nm,0.5s
HABR pmax pmax
comp=Z,157nm,1.1s
HABR MLR MLR
comp=Z,504nm,20.0s
NVS **Novosibirsk** **59.79** **348**⇑ *i*P **P** **04 25 57.5 -0.2**
NVS *i* 04 26 10.1
NVS *e*S **S** **04 34 03.1 -2.3**
NVS pmax pmax
comp=Z,154nm,1.2s
NVS pmax pmax
comp=N,106nm,1.4s
NVS pmax pmax
comp=E,62nm,1.3s
NVS smax smax
comp=E,74nm,1.8s
ASAJ **Asahikawa** **59.88** **33** P **P** **04 25 59.3 +0.8**
comp=E,66nm,0.7s,baz=249,slow=10.0,SNR=81
ASAJ **Asahikawa** **59.88** **33** *e*P **P** **04 25 58.3 -0.2**
comp=E,75nm,0.7s
ATD **Arta Tunnel** **60.00** **285** P **P** **04 26 01.2 +1.3**
comp=E,39nm,0.8s
ATD LR LR 04 47 23.6
comp=E,294nm,21.1s,baz=88,slow=31
BOD **Bodaibo** **61.71** **8**⇓ *i*P **P** **04 26 11.1 +0.4**
BOD pmax pmax
comp=Z,150nm,0.9s
BVA0 **Borovoye Array** **61.81** **339** *i*P **P** **04 26 10.6 -0.9**
BVA0 pmax pmax
comp=Z,71nm,0.8s
BVAR **Borovoye Array** **61.81** **339** P **P** **04 26 11.1 -0.4**
comp=Z,94nm,0.8s,baz=139,slow=7.9,SNR=270
BVAR pP **pP** **04 26 24.4 -0.6**
comp=Z,66nm,0.8s,baz=147,slow=8.3,SNR=13
BVAR sP **sP** **04 26 28.5 -2.0**
comp=Z,24nm,0.7s,baz=134,slow=8.5,SNR=3.7
BVAR PcP **PcP** **04 26 52.7 +0.5**
comp=Z,22nm,0.7s,baz=139,slow=5.5,SNR=4.4
BVAR S **S** **04 34 30.0 -1.3**
comp=Z,0.5nm,0.3s,baz=224,slow=43,SNR=3.2
BVAR PKP2bc 04 55 30.7
comp=Z,0.4nm,0.3s,baz=346,slow=0.6,SNR=6.1
BVAR LR LR 04 56 57.9
comp=Z,240nm,19.3s,baz=138,slow=40
BVAR **Borovoye Array** **61.81** **339** P **P** **04 26 11.1 -0.4**
BVAR *PP **pP** **04 26 24.4 -0.6**
BVAR 04 26 52.7
BVAR S **S** **04 34 30.0 -1.3**
BVAR pmax pmax
comp=Z,95nm,0.8s
BVAR pmax pmax
comp=Z,66nm,0.8s
BVAR pmax pmax
comp=Z,24nm,0.7s
BVAR pmax pmax
comp=Z,22nm,0.7s
BVAR smax smax
comp=N,1.0nm,0.4s
BVAR MLR MLR
comp=Z,240nm,19.3s
YSS **Yuzh-Sakhalins** **61.82** **31**⇑ *i*P **P** **04 26 12.5 +0.9**
YSS *e* 04 26 25.0
YSS pmax pmax
comp=Z,320nm,0.8s
YSS **Yuzh-Sakhalins** **61.82** **31** *e*P **P** **04 26 12.6 +0.9**
comp=Z,326nm,0.9s
ZRNK **Zerenda** **62.25** **339** P **P** **04 26 13.0 -1.4**
ZRNK pmax pmax
comp=Z,86nm,1.0s
CHKZ **Chkalovo** **62.26** **340** P **P** **04 26 13.6 -0.8**
CHKZ pmax pmax
comp=Z,173nm,0.9s
CLNS **Chul'man** **62.86** **14** *e*P **P** **04 26 19.0 +0.6**
CLNS pmax pmax
comp=Z,120nm,0.9s
CLNS pmax pmax
comp=N,66nm,0.9s
CLNS pmax pmax
comp=E,48nm,0.9s
CASY **Casey** **63.25** **176** *e*P **P** **04 26 20.4 -0.5**
comp=E,34nm,1.1s
CASY LR LR
comp=Z,157nm,19.0s
AB31 **Akbulak array** **63.37** **331** P **P** **04 26 20.5 -1.4**
AB31 pmax pmax
comp=Z,178nm,0.8s
ABKAR **Akbulak array** **63.37** **331** *e*P **P** **04 26 21.9 0.0**
comp=Z,248nm,0.8s
MIR **Mirnyy** **63.47** **184** *e*P **pP** **04 26 37.0 +1.2**
MIR pmax pmax
comp=Z,4.0nm,1.8s
KUR **Kuril'sk** **63.52** **35***c* *i*P **P** **04 26 23.9 +0.9**
KUR pmax pmax
comp=Z,155nm,1.1s
KUR pmax pmax
comp=Z,319nm,4.0s
KUR pmax pmax
comp=N,576nm,29.0s
KUR MLR MLR
comp=Z,216nm,18.0s
KMBO **Kilima Mbogo** **64.08** **270** P **P** **04 26 29.0 +1.3**
comp=Z,5.9nm,0.9s,baz=57,slow=8.0,SNR=19
KMBO pP **pP** **04 26 43.8 +2.5**
comp=Z,12nm,0.9s,baz=46,slow=8.3,SNR=9.7
KMBO LR LR 04 48 53.6
comp=Z,531nm,21.5s,baz=86,slow=31
KMBO **Kilima Mbogo** **64.08** **270** *e*P **P** **04 26 28.0 +0.4**
comp=Z,26nm,1.1s
KMBO pP **pP** **04 26 43.8 +2.5**
TYV **Tymovskoe** **64.41** **28** *e*P **P** **04 26 30.5 +1.8**
TYV pmax pmax
comp=Z,96nm,1.2s
AKTO **Aktyubinsk** **65.09** **331** P **P** **04 26 32.9 -0.3**
comp=Z,15nm,0.2s,baz=130,slow=6.7,SNR=96
AKTO pP **pP** **04 26 46.1 -0.7**
comp=Z,36nm,0.7s,baz=171,slow=6.3,SNR=8.5
AKTO sP **sP** **04 26 50.7 -1.6**
comp=Z,30nm,0.7s,baz=114,slow=7.7,SNR=4.4
AKTO S **S** **04 35 08.4 -3.8**
comp=Z,1.1nm,0.6s,baz=316,slow=20,SNR=5.6
AKTO LR LR 04 58 31.5
comp=Z,403nm,21.4s,baz=131,slow=39
NKL **Nikolayevsk** **65.14** **25** *i*P **P** **04 26 34.0 +0.6**
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=Z,210nm,1.0s
NKL pmax pmax
comp=Z,450nm,5.0s
NKL MLR MLR
comp=N,800nm,17.0s
NKL MLR MLR
comp=E,450nm,17.0s
NKL MLR MLR
comp=Z,800nm,17.0s
DZM **Mont Dzumac** **65.73** **113** *e*P **P** **04 26 37.0 -1.0**
comp=Z,109nm,1.2s
DZM **Mont Dzumac** **65.73** **113** *e*LR LR 04 46 42.1
comp=Z,764nm,23.0s
DZM **Mont Dzumac** **65.73** **113** P **P** **04 26 38.8 +0.8**
comp=Z,22nm,0.8s,baz=304,slow=4.5,SNR=5.2
DZM **Mont Dzumac** **65.73** **113** *e*P **P** **04 26 37.6 -0.4**
comp=Z,85nm,1.4s
GNI **Garni** **67.35** **316** P **P** **04 26 49.1 +1.0**
comp=Z,27nm,0.8s,baz=187,slow=2.2,SNR=14
GNI **Garni** **67.35** **316** *i*P **P** **04 26 49.3 +1.2**
SNR=5.8
GNI **Garni** **67.35** **316***c* *i*P **P** **04 26 48.9 +0.8**
GNI pmax pmax
comp=Z,90nm,0.8s
GNI **Garni** **67.35** **316** P **P** **04 26 49.5 +1.4**
SNR=8.8
GNI **Garni** **67.35** **316** P **P** **04 26 49.5 +1.4**
SNR=8.8
GNI **Garni** **67.35** **316** *e*P **P** **04 26 49.2 +1.2**
comp=Z,58nm,0.9s
GNI LR LR
comp=Z,230nm,20.0s
VMUR **Van-Muradiye** **67.69** **315** *i*P **P** **04 26 51.7 +1.4**
TBLG **Delisi** **68.04** **318** P **P** **04 26 53.4 +1.2**
TBLG **Delisi** **68.04** **318** P **P** **04 26 53.4 +1.2**
KZR **Kazreti** **68.11** **317** P P 04 26 46.2 -6.6
H11N1 **WAKE ISLAND Hy** **68.24** **67** P **P** **04 26 53.1 -0.5**
baz=259,slow=8.4,SNR=10
H11N2 **WAKE ISLAND Hy** **68.25** **67** P **P** **04 26 53.2 -0.5**
baz=259,slow=8.4,SNR=8.3
H11N3 **WAKE ISLAND Hy** **68.26** **67** P **P** **04 26 53.3 -0.4**
baz=259,slow=8.4,SNR=9.6
SVE **Sverdlovsk** **68.34** **337***d* *i*P **P** **04 26 54.0 +0.3**
SVE pmax pmax
comp=Z,202nm,1.0s
EAK **Akyaka** **68.36** **316** *i*P **P** **04 26 56.1 +1.6**
TUTA **Tutak** **68.39** **315** *i*P **P** **04 26 55.6 +0.8**
DIGO **Kars** **68.41** **316** *i*P **P** **04 26 55.8 +0.9**
GUDG **Gudauri** **68.53** **318** P **P** **04 26 56.8 +1.2**
YAK **Yakutsk** **68.60** **14** P **P** **04 26 54.7 -0.5**
comp=Z,14nm,0.5s,baz=34,slow=19,SNR=39
YAK pP **pP** **04 27 07.8 -1.1**
comp=Z,2.8nm,0.4s,baz=75,slow=23,SNR=2.1
YAK **Yakutsk** **68.60** **14***c* *i*P **P** **04 26 54.7 -0.5**
YAK *e**PP **pP** **04 27 07.8 -1.1**
YAK *e* 04 27 16.5
YAK *e*S **S** **04 35 55.1 +1.0**
YAK *e**SS **sS** **04 36 15.8 -1.2**
YAK *e* 04 36 52.1
YAK pmax pmax
comp=Z,416nm,0.8s
YAK pmax pmax
comp=E,83nm,1.2s
YAK pmax pmax
comp=N,133nm,1.2s
YAK pmax pmax
comp=Z,100nm,3.5s
YAK pmax pmax
comp=E,48nm,1.7s
YAK pmax pmax
comp=N,144nm,5.2s
YAK smax smax
comp=N,154nm,3.3s
YAK MLR MLR
comp=N,568nm,17.0s
YAK MLR MLR
comp=Z,1μm,18.0s
YAK MLR MLR
comp=E,763nm,22.0s
YAK **Yakutsk** **68.60** **14** *e*P **P** **04 26 54.9 -0.4**
comp=E,455nm,0.8s
YAK pP **pP** **04 27 07.8 -1.1**
ARU **Arti** **68.88** **336** P **P** **04 26 56.9 -0.2**
comp=E,62nm,0.9s,baz=125,slow=4.0,SNR=96
ARU pP **pP** **04 27 11.1 +0.2**
comp=E,37nm,0.9s,baz=114,slow=5.5,SNR=6.1
ARU LR LR 04 59 41.7
comp=E,480nm,22.0s,baz=161,slow=38
ARU **Arti** **68.88** **336***c* *i*P **P** **04 26 56.8 -0.3**
ARU 04 27 23.4
ARU 04 29 26.9
ARU PPP PPP 04 31 11.1
ARU S **S** **04 36 00.7 +3.1**
ARU 04 36 56.6
ARU pmax pmax
comp=Z,148nm,1.2s
ARU MLR MLR
comp=Z,576nm,26.0s
ARU **Arti** **68.88** **336** *e*P **P** **04 26 56.9 -0.3**
comp=Z,127nm,1.1s
ARU pP **pP** **04 27 11.1 +0.2**
BTMN **Batman** **68.92** **313** *i*P **P** **04 26 59.1 +1.2**
ZEI **Tsey** **69.06** **318** *e*P **P** **04 26 57.5 -1.3**
ZEI *e*S **S** **04 36 00.7 -0.1**
ZEI pmax pmax
comp=Z,179nm,0.6s
ZEI pmax pmax
comp=E,204nm,0.8s
ZEI pmax pmax
comp=N,157nm,0.9s
MARD **Mardin** **69.07** **312** *i*P **P** **04 26 59.9 +1.0**
EPOS **Posof** **69.31** **317** *i*P **P** **04 27 01.4 +1.1**
MAW **Mawson** **69.43** **195** P **P** **04 27 02.8 +2.4**
comp=N,11nm,0.9s,baz=20,slow=7.5,SNR=14
MAW pP **pP** **04 27 14.7 +0.6**
comp=N,57nm,1.2s,baz=38,slow=8.9,SNR=19
MAW LR LR 04 50 57.9
comp=N,1μm,21.8s,baz=56,slow=30
MAW PKP2ab 04 55 07.4
comp=N,5.9nm,1.0s,baz=212,slow=4.4,SNR=6.4
MAW **Mawson** **69.43** **195** P **P** **04 27 02.8 +2.4**
baz=70,SNR=10
MAW **Mawson** **69.43** **195** *e*P **P** **04 27 00.9 +0.6**
MAW pmax pmax
comp=Z,22nm,1.3s
MAW **Mawson** **69.43** **195** *e*P **P** **04 27 00.9 +0.6**
comp=Z,22nm,1.4s
MAW pP **pP** **04 27 14.7 +0.6**
MAW P'P'ab **P'P'ab** **04 55 07.4 -1.3**
NCK **Nalchik** **69.57** **319**⇑ *e*P **P** **04 27 02.3 +0.6**
NCK pmax pmax
comp=Z,88nm,0.7s
ERZM **Erzurum** **69.62** **315** *i*P **P** **04 27 04.4 +2.0**
DAGI **Agillar** **69.69** **316** *i*P **P** **04 27 03.6 +0.9**
ARTV **Artvin** **69.73** **316** *i*P **P** **04 27 03.7 +0.7**
BGOL **Bingol** **69.77** **314** *i*P **P** **04 27 04.4 +1.3**
DBAD **Bademkaya** **69.82** **316** *i*P **P** **04 27 04.4 +1.0**
DBOC **Borcka** **69.97** **316** *i*P **P** **04 27 05.0 +0.8**
NEY **Neytrino** **70.04** **318***c* *i*P **P** **04 27 05.9 +1.1**
NEY pmax pmax
comp=Z,12nm,0.8s
KBZ **Khabaz** **70.12** **319** P **P** **04 27 06.0 +0.9**
comp=Z,84nm,0.8s,baz=183,slow=24,SNR=154
KBZ PKP2bc 04 55 07.2
comp=Z,0.9nm,0.5s,baz=349,slow=24,SNR=4.3
KBZ LR LR 05 01 56.4
comp=Z,135nm,20.6s,baz=261,slow=39
KBZ **Khabaz** **70.12** **319** P **P** **04 27 06.0 +0.9**
KBZ pmax pmax
comp=Z,84nm,0.8s
KBZ MLR MLR
comp=Z,135nm,20.6s
CHVG **Ch'k'valeri** **70.24** **318** P **P** **04 27 09.4 +3.6**
KOPT **Kop Dagi** **70.28** **315** *i*P **P** **04 27 08.2 +1.7**
KVAR **Kislovodsk Arr** **70.35** **319** P **P** **04 27 07.2 +0.6**
comp=Z,77nm,0.9s,baz=223,slow=0.4,SNR=30
KVAR pP **pP** **04 27 20.8 +0.4**
comp=Z,63nm,0.9s,baz=248,slow=2.2,SNR=7.0
KVAR S **S** **04 36 14.7 -1.0**
comp=Z,3.3nm,0.7s,baz=237,slow=23,SNR=7.1
KVAR LR LR 05 01 49.5
comp=Z,150nm,20.6s,baz=88,slow=39
KIV **Kislovodsk** **70.36** **319** *i*P **P** **04 27 07.5 +0.8**
SNR=16
KIV **Kislovodsk** **70.36** **319** *e*P **P** **04 27 07.0 +0.3**
KIV *e* 04 27 23.1
KIV *e*S **S** **04 36 17.2 +1.4**
KIV *e*SS **SS** **04 40 49.4 +2.1**
KIV pmax pmax
comp=Z,118nm,1.1s
KIV pmax pmax
comp=Z,90nm,3.8s
KIV MLR MLR
comp=Z,133nm,17.0s
KIV **Kislovodsk** **70.36** **319** P **P** **04 27 07.7 +1.0**
SNR=17
KIV **Kislovodsk** **70.36** **319** P **P** **04 27 07.7 +1.0**
SNR=17
KIV **Kislovodsk** **70.36** **319** *e*P **P** **04 27 07.4 +0.8**
comp=Z,110nm,1.0s
ASF **Jabal al Asfar** **70.41** **306** P **P** **04 27 09.0 +1.8**
comp=Z,34nm,0.9s,baz=64,slow=3.9,SNR=45
ASF **Jabal al Asfar** **70.41** **306** P **P** **04 27 09.0 +1.8**
ASF pmax pmax
comp=Z,35nm,0.9s
GOF **Gofitskoye** **70.60** **320**⇑ *e*P **P** **04 27 08.1 +0.1**
GOF *e*S **S** **04 36 16.2 -2.1**
GOF pmax pmax
comp=Z,111nm,1.0s
ELZG **Elazig** **70.82** **313** *i*P **P** **04 27 11.0 +1.3**
ATAB **Bozova** **70.98** **311** *i*P **P** **04 27 11.5 +1.0**
SKR **Severo-Kuril's** **71.14** **33** *e*P **P** **04 27 11.1 0.0**
SKR pmax pmax
comp=Z,500nm,1.2s
SKR pmax pmax
comp=Z,374nm,0.9s
KELT **Kelkit** **71.21** **314** *i*P **P** **04 27 13.0 +1.0**
EIL **Elat** **71.33** **303** P **P** **04 27 14.0 +1.3**
comp=Z,66nm,0.8s,baz=121,slow=2.8,SNR=46
GZT **Gaziantep** **71.49** **311** *i*P **P** **04 27 15.3 +1.5**
MMAI **Mount Meron Ar** **71.86** **306** P **P** **04 27 17.7 +1.8**
comp=Z,30nm,0.7s,baz=100,slow=7.7,SNR=43
HCB **Kahramanmara˜** **71.98** **311** *i*P **P** **04 27 17.4 +0.8**
SUSE **Susehri** **71.99** **314** *i*P **P** **04 27 17.8 +1.1**
KAMA **Osmaniye** **72.11** **311** *i*P **P** **04 27 18.3 +0.9**
SOC **Sochi** **72.18** **318** *e*P **P** **04 27 16.4 -1.1**
SOC *e**PP **pP** **04 27 25.7 -5.6**
SOC *e**SP **PcP** **04 27 29.4 -6.2**
SOC *e* 04 27 33.0
SOC *e* 04 29 57.1
SOC *e*PPP PPP 04 31 44.6
SOC *e*S **S** **04 36 37.9 +1.3**
SOC *e* 04 37 22.8
SOC pmax pmax
comp=Z,122nm,0.9s
YAYL **Yayladag** **72.18** **309** *i*P **P** **04 27 17.3 -0.6**
GRSN **GIRESUNGRSN** **72.19** **315** *i*P **P** **04 27 18.2 +0.5**
CUKAN **kangal_SIVAS** **72.21** **313** *i*P **P** **04 27 18.9 +0.9**
CUALT **Altinyayla-SIV** **72.72** **313** *i*P **P** **04 27 21.9 +0.8**
YURE **YUREGIR** **72.79** **310** *i*P **P** **04 27 23.3 +1.9**
LSZ **Lusaka** **72.92** **255** *e*P **P** **04 27 23.2 +0.6**
LSZ pmax pmax
comp=Z,44nm,1.1s
LSZ **Lusaka** **72.92** **255** *e*P **P** **04 27 23.2 +0.6**
comp=Z,44nm,1.1s
NRIK **Noril'sk** **73.04** **355** P **P** **04 27 21.9 -0.3**
comp=Z,29nm,0.3s,baz=156,slow=5.1,SNR=97
NRIK pP **pP** **04 27 35.5 -0.5**
comp=Z,74nm,0.8s,baz=151,slow=4.9,SNR=9.3
NRIK LR LR 05 03 15.1
comp=Z,918nm,18.4s,baz=166,slow=39
AKO **Adana** **73.12** **311** *i*P **P** **04 27 23.9 +0.6**
CUSAR **Sarkisla-SIVAS** **73.14** **313** *i*P **P** **04 27 24.3 +0.7**
RPZ **Rata Peaks** **73.15** **135** P **P** **04 27 24.3 +1.0**
comp=Z,20nm,0.6s
ERBA **Erbaa** **73.19** **314** *i*P **P** **04 27 24.5 +0.8**
PEA0 **Petropavlovsk-** **73.21** **32** *e*P **P** **04 27 23.4 0.0**
PEA0B **Petropavlovsk-** **73.21** **32** *e*P **P** **04 27 24.0 +0.5**
comp=Z,61nm,0.8s
PETK **Petropavlovsk-** **73.21** **32** P **P** **04 27 23.5 0.0**
comp=Z,50nm,0.8s,baz=201,slow=3.5,SNR=38
PETK pP **pP** **04 27 38.0 +0.8**
comp=Z,26nm,0.7s,baz=174,slow=3.0,SNR=6.3
PETK LR LR 05 00 38.8
comp=Z,134nm,19.9s,baz=260,slow=37
PETK **Petropavlovsk-** **73.21** **32** P **P** **04 27 23.5 0.0**
PETK *PP **pP** **04 27 38.1 +0.8**
PETK pmax pmax
comp=Z,54nm,0.8s
PETK pmax pmax
comp=Z,26nm,0.7s
PETK MLR MLR
comp=Z,135nm,19.9s
DED **Mersin** **73.47** **310** *i*P **P** **04 27 25.5 +0.1**
MA2 **Magadan** **73.60** **24** P **P** **04 27 26.5 +0.9**
comp=Z,129nm,0.8s,baz=244,slow=5.4,SNR=31
MA2 **Magadan** **73.60** **24** *e*P **P** **04 27 26.0 +0.4**
MA2 pmax pmax
comp=Z,521nm,0.9s
MA2 **Magadan** **73.60** **24** *e*P **P** **04 27 26.0 +0.4**
comp=Z,521nm,0.9s
PET **Petropavlovsk** **73.67** **32***c* *i*P **P** **04 27 26.4 +0.3**
PET *e* 04 27 43.7
PET *e* 04 30 12.7
PET *e*S **S** **04 36 54.8 +1.7**
PET pmax pmax
comp=Z,219nm,0.7s
PET pmax pmax
comp=Z,200nm,18.4s
PET pmax pmax
comp=Z,100nm,18.1s
PET MLR MLR
comp=Z,400nm,21.0s
PET MLR MLR
comp=Z,300nm,21.0s
PET **Petropavlovsk** **73.67** **32** *e*P **P** **04 27 26.4 +0.3**
comp=Z,146nm,0.8s
OXZ **Oxford** **73.78** **134** *e*P **P** **04 27 28.3 +1.2**
comp=Z,50nm,0.7s
SAMS **Samsun-Alacam** **73.82** **315** *i*P **P** **04 27 28.2 +0.9**
KIZK **Mersin** **73.83** **309** *i*P **P** **04 27 27.5 +0.1**
CSS **Mathiatis** **74.05** **308** P **P** **04 27 29.6 +0.8**
CSS **Mathiatis** **74.05** **308** *e*P **P** **04 27 29.7 +0.8**
comp=Z,24nm,1.0s
HAVZ **Havza** **74.06** **314** *i*P **P** **04 27 30.4 +1.6**
VRH **Novokhopyorsk** **74.10** **326** *e*P **P** **04 27 28.8 +0.1**
VRH *e*S **SKiKP** **04 36 52.5 -0.3**
VRH pmax pmax
comp=Z,450nm,0.6s
VRH pmax pmax
comp=Z,350nm,0.6s
VRH smax smax
comp=N,110nm,1.5s
VRH MLR MLR
comp=Z,370nm,27.0s
KERG **Konya-Eregli** **74.11** **310** *i*P **P** **04 27 29.3 0.0**
ANN **Anapa** **74.15** **318** *e*P **P** **04 27 26.0 -3.1**
ANN *e*S **SKiKP** **04 36 54.7 +1.6**
ANN pmax pmax
comp=Z,63nm,1.2s
COAL **Corum-Alaca** **74.33** **313** *i*P **P** **04 27 31.0 +0.6**
AKSY **AKSARAY - Alti** **74.75** **311** *i*P **P** **04 27 33.5 +0.6**
BOYT **Boyabat** **74.75** **314** *i*P **P** **04 27 33.6 +0.8**
ERMK **Ermenek** **74.83** **309** *i*P **P** **04 27 34.4 +0.8**
BR131 **Keskin Array S** **75.15** **312** *e*P **P** **04 27 35.1 -0.2**
BRTR **Keskin Array B** **75.15** **312** P **P** **04 27 35.0 -0.3**
comp=Z,45nm,0.7s,baz=134,slow=7.2,SNR=270
BRTR pP **PcP** **04 27 48.5 -0.2**
comp=Z,25nm,0.9s,baz=118,slow=7.1,SNR=7.9
BRTR LR LR 05 02 28.8
comp=Z,84nm,21.3s,baz=105,slow=37
GAZI **Gazipasa** **75.18** **309** *i*P **P** **04 27 35.3 -0.1**
BBAL **Bala** **75.48** **312** *i*P **P** **04 27 37.2 +0.1**
ILGA **Ilgaz** **75.49** **314** *i*P **P** **04 27 37.7 +0.5**
KKUL **Konya-Kulu** **75.53** **312** *i*P **P** **04 27 37.6 +0.2**
ELDT **Eldivan** **75.53** **313** *i*P **P** **04 27 37.5 +0.1**
VSR **Storozhevoye** **75.56** **325** *e*P **P** **04 27 36.7 -0.4**
VSR *e*S **S** **04 37 09.0 -5.4**
VSR pmax pmax
comp=Z,300nm,0.6s
VSR pmax pmax
comp=Z,210nm,0.6s
VSR smax smax
comp=N,70nm,1.5s
VSR MLR MLR
comp=Z,290nm,27.0s
VORR **Voronezh** **75.72** **325** *e*P **P** **04 27 37.0 -1.1**
VORR pmax pmax
comp=Z,300nm,1.2s
LBTB **Lobatse** **75.73** **245** *e*P **P** **04 27 40.4 +1.5**
LBTB pmax pmax
comp=Z,22nm,1.0s
LBTB **Lobatse** **75.73** **245** *e*P **P** **04 27 40.4 +1.5**
comp=Z,22nm,1.0s
ANTO **Ankara** **75.82** **312** *e*P **P** **04 27 39.1 +0.1**
ANTO pmax pmax
comp=Z,66nm,0.9s
ANTO **Ankara** **75.82** **312** *e*P **P** **04 27 39.1 +0.1**
comp=Z,66nm,0.9s

BR231 Keskin MP Arra 75.82 312 *e*P **P 04 27 39.5 +0.5**
KDHN Kadinhani 75.95 311 *i* P **P 04 27 38.9 -1.0**
BOSA Boshof 76.25 241 P **P 04 27 42.8 +1.0**
comp=Z,6.6nm,0.6s,baz=88,slow=3.4,SNR=17
BOSA LR LR 04 55 08.7
comp=Z,385nm,18.5s,baz=82,slow=31
BOSA Boshof 76.25 241 *e*P **P 04 27 42.8 +1.0**
BOSA pmax pmax
comp=Z,28nm,0.9s
BOSA Boshof 76.25 241 *e*P **P 04 27 42.8 +1.0**
comp=Z,28nm,0.9s
LPSR Galich'ya Gora 76.27 326 *e*P **P 04 27 41.3 +0.2**
LPSR *e*S **S 04 37 16.1 -6.0**
LPSR pmax pmax
comp=Z,190nm,0.9s
LPSR pmax pmax
comp=Z,160nm,0.9s
LPSR smax smax
comp=N,160nm,3.9s
SEY Seymchan 76.27 21 P **P 04 27 41.6 +0.7**
comp=N,64nm,0.9s,baz=232,slow=5.7,SNR=67
MSVF Nonsavu 76.35 107 *e*P **P 04 27 43.5 +1.1**
MSVF pmax pmax
comp=Z,49nm,1.0s
MSVF Nonsavu 76.35 107 *e*P **P 04 27 43.5 +1.1**
comp=Z,49nm,1.0s
SIM Simferopol' 76.42 318*c* *i*P **P 04 27 41.3 -0.9**
SIM *e* 04 27 54.0
SIM *e* 04 30 30.0
SIM *e*S **S 04 37 22.0 -2.1**
SIM pmax pmax
comp=Z,103nm,0.8s
SIM pmax pmax
comp=Z,10.0nm,8.5s
BKZ Black Stump Fm 76.44 129 *e*P **P 04 27 43.2 +0.6**
comp=Z,79nm,0.9s
BFZ Birch Farm 76.45 131 *e*P **P 04 27 42.9 +0.4**
comp=Z,83nm,0.7s
BCAM Yenicaga 76.62 313 *i*P **P 04 27 43.5 -0.1**
URZ Urewera 76.82 128 P **P 04 27 44.9 +0.3**
comp=Z,4.6nm,0.3s,baz=260,slow=3.8,SNR=11
TIXI Tiksi 76.86 9 P **P 04 27 43.3 -0.8**
comp=Z,25nm,0.5s,baz=175,slow=3.2,SNR=73
TIXI pP **pP 04 27 56.7 -1.3**
comp=Z,56nm,1.0s,baz=157,slow=4.4,SNR=6.6
TIXI Tiksi 76.86 9*c* *i*P **P 04 27 43.2 -0.9**
TIXI pmax pmax
comp=Z,57nm,1.1s
TIXI MLR MLR
comp=Z,1μm,19.0s
TIXI Tiksi 76.86 9 *e*P **P 04 27 43.2 -0.9**
comp=Z,84nm,1.1s
TIXI pP **pP 04 27 56.7 -1.3**
BOLV Bolvadin 76.88 311 *i*P **P 04 27 45.3 +0.1**
KORT Korkueli 76.91 309 *i*P **P 04 27 45.8 +0.5**
ISP Isparta 76.98 310 *e*P **P 04 27 46.9 +1.2**
ISP pmax pmax
comp=Z,25nm,0.8s
ISP Isparta 76.98 310 *e*P **P 04 27 46.9 +1.2**
comp=Z,25nm,0.8s
SYO Syowa Base 77.14 199‖ *e*P **P 04 27 46.7 +0.9**
SYO Syowa Base 77.14 199‖ *e*PcP **PcP 04 27 57.2 +0.8**
ESKT Eskisehir 77.17 312 *i*P **P 04 27 46.9 +0.2**
AKAS Kas 77.31 308 *i*P **P 04 27 47.1 -0.5**
SAHE Sakarya_HENDEK 77.51 313 *i*P **P 04 27 47.8 -0.7**
BORA Eskisehir 77.55 312 *i*P **P 04 27 48.7 -0.1**
GOLH Golhisar 77.58 309 *i*P **P 04 27 48.8 -0.2**
GDZ Gediz 78.08 311 *i*P **P 04 27 51.8 -0.1**
TURN Turunc 78.24 309 *i*P **P 04 27 54.9 +2.4**
MOS Moscow 78.25 329 *e*P **P 04 27 49.5 -2.7**
MOS *e* 04 27 59.1
MOS *e* 04 28 06.3
MOS *e* 04 30 48.1
MOS *e*S **S 04 37 39.2 -4.3**
MOS *e* 04 38 04.4
MOS *e* 04 38 05.3
MOS pmax pmax
comp=Z,400nm,0.9s
MOS pmax pmax
comp=E,100nm,1.2s
MOS pmax pmax
comp=N,100nm,0.8s
MOS pmax pmax
comp=Z,294nm,0.9s
MOS pmax pmax
comp=E,94nm,1.0s
MOS pmax pmax
comp=N,55nm,0.8s
MOS smax smax
comp=N,300nm,3.0s
MOS smax smax
comp=E,100nm,1.5s
ARG Arkhangelos 78.47 308 P **P 04 27 54.1 +0.3**
ARG Arkhangelos 78.47 308 P **P 04 27 54.1 +0.3**
ARG Arkhangelos 78.47 308 P **P 04 27 54.1 +0.3**
OBN Obninsk 78.56 328 P **P 04 27 54.4 +0.5**
comp=E,188nm,0.7s,baz=86,slow=1.2,SNR=63
OBN pP **pP 04 28 07.9 +0.1**
comp=E,89nm,0.9s,baz=40,slow=7.0,SNR=3.3
OBN S **S 04 37 44.5 -2.2**
comp=E,6.3nm,0.4s,baz=313,slow=23,SNR=7.2
OBN Obninsk 78.56 328*c* *i*P **P 04 27 54.2 +0.4**
OBN *e* 04 30 52.9
OBN *i*S **S 04 37 44.2 -2.5**
OBN *e*SS **SS 04 42 55.1 +3.9**
OBN pmax pmax
comp=Z,268nm,0.8s
OBN MLR MLR
comp=Z,428nm,24.0s
OBN Obninsk 78.56 328 *e*P **P 04 27 54.0 +0.2**
comp=Z,246nm,0.8s
OBN pP **pP 04 28 07.9 +0.1**
OBN S **S 04 37 44.5 -2.2**
IGD Bursa 78.58 312 *i*P **P 04 27 53.7 -0.7**
DEMI Demirci 78.65 311 *i*P **P 04 27 55.1 +0.2**
BUY Buyukada 78.78 313 *i*P **P 04 27 55.4 0.0**
KARP Karpathos 79.09 307 P **P 04 27 58.2 +0.9**
KARP Karpathos 79.09 307 *e*P **P 04 27 58.4 +1.1**
comp=Z,75nm,0.4s
ELBA Catalca 79.36 313 *i*P **P 04 27 58.6 -0.1**
GCAM G?zelcami? 79.48 309 *i*P **P 04 28 00.6 +1.2**
KLMR Klimovskoe 79.53 334*c* *i*P **P 04 27 59.2 +0.1**
KLMR *e* 04 31 00.2
KLMR pmax pmax
comp=Z,129nm,1.3s
BALY Balya 79.64 311 *i*P **P 04 28 00.6 +0.4**
DGB ˙zmir 79.83 309 *i*P **P 04 28 02.3 +1.1**
MANR Mangalia 79.90 315‖ *i*P **P 04 28 02.4 +0.9**
TLCR 80.09 317‖ *i*P **P 04 28 03.3 +0.9**
TLCR 80.09 317 ‖P **P 04 28 03.3 +0.9**
URLA Izmir 80.12 310 *i*P **P 04 28 03.7 +0.9**
PSN Preselentsi 80.15 315 *i*P **P 04 28 03.4 +0.6**
ZEY ˙zmir 80.16 310 *i*P **P 04 28 04.0 +1.0**
SART Tekirdag 80.18 312 *i*P **P 04 28 03.2 0.0**
TIRR Tirgusor 80.18 316⇑ *i*P **P 04 28 03.3 +0.3**
TIRR Tirgusor 80.18 316⇑P **P 04 28 03.3 +0.3**
TIRR Tirgusor 80.18 316 *e*P **P 04 28 02.6 -0.3**
comp=Z,73nm,0.8s
SUR Sutherland 80.29 238 *e*P **P 04 28 05.0 +0.9**
comp=Z,103nm,1.0s
LAST Lasithi 80.36 306 P **P 04 28 05.2 +0.9**
LAST Lasithi 80.36 306 *e*P **P 04 28 05.0 +0.7**
comp=Z,68nm,0.9s
CHOS Chios island 80.54 310 P **P 04 28 06.2 +1.0**
CHOS Chios island 80.54 310 P **P 04 28 06.2 +1.0**
CFR Carcaliu 80.55 317⇑ *i*P **P 04 28 05.3 +0.4**
CFR Carcaliu 80.55 317⇑P **P 04 28 05.4 +0.5**
PRK Paraskevi 80.55 310 P **P 04 28 05.6 +0.5**
PRK Paraskevi 80.55 310 P **P 04 28 05.6 +0.5**
PRK Paraskevi 80.55 310 P **P 04 28 05.6 +0.5**
KIS Kishinev 80.55 319⇑ *i*P **P 04 28 06.0 +1.1**
comp=Z,400nm,1.0s
KIS LRM MLR 05 09 36.0
comp=Z,300nm,20.0s
KIS Kishinev 80.55 319⇑ *i*P **P 04 28 05.1 +0.2**
KIS Kishinev 80.55 319α *i*P **P 04 28 06.0 +1.1**
KIS *e* 04 38 06.0
KIS pmax pmax
comp=Z,400nm,1.0s
KIS pmax pmax
comp=Z,400nm,1.0s
KIS pmax pmax
comp=Z,300nm,20.0s
HARR Harsova 80.57 316⇑ *i*P **P 04 28 05.8 +0.7**
HARR Harsova 80.57 316⇑P **P 04 28 05.8 +0.7**
KESN Edirne-Kesan 80.58 312 *i*P **P 04 28 06.2 +0.5**
PRD Provadia 80.59 315 *i*P **P 04 28 05.6 +0.4**
APE Apeiranthos 80.68 308*c* *i*P **P 04 28 05.5 -0.4**
APE pmax pmax
comp=Z,30nm,0.9s
VNDA Vanda 80.69 169 P **P 04 28 06.7 +1.6**
comp=Z,3.9nm,0.7s,baz=315,slow=5.4,SNR=25
VNDA PKKPbc **PKKPbc 04 46 45.1 -2.9**
comp=Z,1.0nm,0.8s,baz=84,slow=1.1,SNR=5.8
VNDA PKPPKP **P'P'df 04 54 49.0 +0.1**
comp=Z,1.3nm,1.1s,baz=110,slow=13,SNR=3.6
VNDA LR LR 04 58 48.0
comp=Z,360nm,21.3s,baz=310,slow=32
VNDA Vanda 80.69 169 *e*P **P 04 28 06.5 +1.4**
VNDA pmax pmax
comp=Z,28nm,0.9s
VNDA Vanda 80.69 169 *e*P **P 04 28 06.5 +1.4**
comp=Z,28nm,0.9s
VNDA PKKPbc **PKKPbc 04 46 45.1 -2.9**
VNDA P'P' 04 54 49.0
LEOM Leova 80.80 318‖ *i*P **P 04 28 07.0 +0.8**
LEOM Leova 80.80 318 ‖P **P 04 28 07.0 +0.8**
BOZC Bozcaada 80.84 311 *i*P **P 04 28 07.0 +0.4**
IDI Anoyia 80.86 306 P **P 04 28 07.8 +0.9**
comp=Z,48nm,0.8s,baz=89,slow=7.8,SNR=28
IDI pP **pP 04 28 23.4 +2.4**
comp=Z,32nm,0.9s,baz=63,slow=8.1,SNR=3.6
IDI Anoyia 80.86 306 P **P 04 28 07.5 +0.6**
IDI Anoyia 80.86 306 *e*P **P 04 28 07.1 +0.2**
comp=Z,60nm,0.8s
IDI pP **pP 04 28 23.4 +2.4**
SIGR SIGRI 80.86 310 P **P 04 28 07.1 +0.4**
SIGR SIGRI 80.86 310 P **P 04 28 07.1 +0.4**
GADA Gvkgeada 81.03 311 P **P 04 28 08.0 +0.4**
GADA Gvkgeada 81.03 311 P **P 04 28 08.0 +0.4**
ALN Alexandroupoli 81.06 312 P **P 04 28 08.1 +0.3**
ALN Alexandroupoli 81.06 312 P **P 04 28 08.1 +0.3**
ALN Alexandroupoli 81.06 312 P **P 04 28 08.1 +0.3**
SORM Soroca 81.15 320⇑ *i*P **P 04 28 08.4 +0.3**
SORM Soroca 81.15 320⇑P **P 04 28 08.4 +0.3**
AKASG Malin Array Be 81.29 322 P **P 04 28 08.6 -0.2**
comp=Z,49nm,0.8s,baz=84,slow=5.2,SNR=197
AKASG pP **pP 04 28 22.6 -0.1**
comp=Z,19nm,0.8s,baz=87,slow=5.3,SNR=5.4
AKASG PP **PP 04 31 14.1 -0.8**
comp=Z,4.2nm,0.7s,baz=88,slow=6.7,SNR=7.4
AKASG S **S 04 38 11.6 -4.2**
comp=Z,0.1nm,0.2s,baz=86,slow=13,SNR=2.7
AKASG LR LR 05 09 58.7
comp=Z,101nm,19.5s,baz=90,slow=40
AKBB Malin Array Si 81.29 322 *e*P **P 04 28 08.6 -0.1**
AKBB *e**PP **pP 04 28 22.9 +0.1**
AKBB pmax pmax
comp=Z,61nm,0.9s
AKBB Malin Array Si 81.29 322 *e*P **P 04 28 08.6 -0.1**
comp=Z,61nm,0.8s
AKBB *e*pP **pP 04 28 22.9 +0.1**
KIEV Kiev 81.29 322*c* *i*P **P 04 28 08.1 -0.7**
KIEV pmax pmax
comp=Z,58nm,0.9s
KIEV Kiev 81.29 322 *e*P **P 04 28 08.5 -0.3**
comp=Z,56nm,0.8s
AK11 Malin Array Si 81.31 322 *e*P **P 04 28 08.4 -0.4**
SMTH Samothraki Isl 81.36 312 P **P 04 28 09.4 0.0**
SMTH Samothraki Isl 81.36 312 P **P 04 28 09.4 0.0**
ODBI Odobesti 81.43 317⇑ *i*P **P 04 28 11.8 +2.2**
IAS Iasi 81.43 319‖ *i*P **P 04 28 10.6 +1.0**
IAS Iasi 81.43 319 ‖P **P 04 28 10.6 +1.0**
VAM Vamos 81.44 306 P **P 04 28 11.2 +1.3**
VAM Vamos 81.44 306 P **P 04 28 11.2 +1.3**
VAM Vamos 81.44 306 P **P 04 28 11.2 +1.3**
LIA Limnos Island 81.50 311 P **P 04 28 10.4 +0.3**
LIA Limnos Island 81.50 311 P **P 04 28 10.4 +0.3**
IMMV Iera Moni Meta 81.62 306 P **P 04 28 12.0 +1.1**
ISR Istrita 81.63 316⇑ *i*P **P 04 28 12.5 +1.7**
ISR Istrita 81.63 316⇑P **P 04 28 12.5 +1.7**
SZH Strazhica 81.65 314 *i*P **P 04 28 11.0 +0.1**
VRI Vrincioaia 81.67 317⇑ *i*P **P 04 28 12.3 +1.3**
VRI Vrincioaia 81.67 317⇑P **P 04 28 12.3 +1.3**
DIM Dimitrovgrad 81.68 313 *i*P **P** 04 28 04.2 -6.8
KDZ Kurdzhali 81.68 313 *i*P **P 04 28 11.4 +0.3**
PLOR Plostina 81.72 317‖ *i*P **P 04 28 12.4 +1.1**
PLOR Plostina 81.72 317 ‖P **P 04 28 12.4 +1.1**
SULR 81.73 316⇑ *i*P **P 04 28 12.4 +1.2**
SBA Scott Base 81.79 169 *e*P **P 04 28 13.3 +2.4**
SBA pmax pmax
comp=Z,30nm,0.9s
SBA Scott Base 81.79 169 *e*P **P 04 28 13.3 +2.4**
comp=Z,30nm,0.8s
TESR Tescani 81.88 318⇑ *i*P **P 04 28 12.9 +0.9**
SECR 81.94 316‖ *i*P **P 04 28 14.1 +1.7**
PVL Pavlikeni 82.07 314 *i*P **P 04 28 14.3 +1.3**
MLR Muntele Rosu 82.12 317 P **P 04 28 14.5 +1.0**
comp=Z,16nm,0.9s,baz=118,slow=1.5,SNR=138
MLR pP **pP 04 28 28.0 +0.5**
comp=Z,16nm,1.0s,baz=164,slow=1.3,SNR=8.4
MLR S **S 04 38 22.2 -2.7**
comp=Z,0.1nm,0.3s,baz=300,slow=15,SNR=2.0
MLR Muntele Rosu 82.12 317⇑ *i*P **P 04 28 14.5 +1.0**
MLR Muntele Rosu 82.12 317 *e*P **P 04 28 14.4 +1.0**
comp=Z,116nm,1.0s
MLR pP **pP 04 28 28.0 +0.5**
MLR S **S 04 38 22.2 -2.7**
ZIMR 82.14 315⇑ *i*P **P 04 28 13.2 -0.2**
ZIMR 82.14 315⇑P **P 04 28 13.2 -0.2**
PTL Penteli 82.17 309 P **P 04 28 13.7 0.0**
PTL Penteli 82.17 309 P **P 04 28 13.7 0.0**
VLY Voula,Athens 82.19 309 P **P 04 28 13.4 -0.4**
VLY Voula,Athens 82.19 309 P **P 04 28 13.4 -0.4**
RZN Rozhen 82.21 313 *i*P **P 04 28 14.4 +0.3**
ATHU Athens Univers 82.22 309 P **P 04 28 13.7 -0.3**
ATHU Athens Univers 82.22 309 P **P 04 28 13.7 -0.3**
KAVA Kavala 82.22 312 P **P 04 28 14.2 +0.3**
KAVA Kavala 82.22 312 P **P 04 28 14.2 +0.3**
ANKY Antikythira Is 82.23 307 P **P 04 28 15.5 +1.4**
ANKY Antikythira Is 82.23 307 P **P 04 28 15.5 +1.4**
PLD Plovdiv 82.30 313 *i*P **P 04 28 14.4 +0.1**
PRAR RASCA 82.35 318⇑ *i*P **P 04 28 15.5 +1.0**
OUR Ouranopolis 82.49 311 P **P 04 28 15.7 +0.4**
OUR Ouranopolis 82.49 311 P **P 04 28 15.7 +0.4**
OUR Ouranopolis 82.49 311 P **P 04 28 15.7 +0.4**
DID Didima 82.56 308 P **P 04 28 15.1 -0.7**
DID Didima 82.56 308 P **P 04 28 15.1 -0.7**
HUMR Humele 82.59 315⇑ *i*P **P 04 28 16.1 +0.4**
DOPR Dopca 82.61 317⇑ *i*P **P 04 28 16.5 +0.6**
KRND KRANIDI 82.61 308 P **P 04 28 15.5 -0.5**
VILL Villia 82.62 309 P **P 04 28 15.4 -0.7**
VLI Veliai 82.67 307 P **P 04 28 15.7 -0.6**
VLI Veliai 82.67 307 P **P 04 28 15.7 -0.6**
MTUR Matau 82.67 316‖ *i*P **P 04 28 17.5 +1.2**
MTUR Matau 82.67 316 ‖P **P 04 28 17.5 +1.2**
VOIR 82.73 316⇑ *i*P **P 04 28 16.6 0.0**
VOIR 82.73 316⇑P **P 04 28 16.6 0.0**
NVR Nevrokopi 82.77 312 P **P 04 28 16.8 0.0**
NVR Nevrokopi 82.77 312 P **P 04 28 16.8 0.0**
PGB Panagyurishte 82.77 313 *i*P **P 04 28 17.0 +0.1**
LTK Loutraki 82.86 309 P **P 04 28 16.4 -0.9**
LTK Loutraki 82.86 309 P **P 04 28 16.4 -0.9**
PLG Polygyros 82.90 311 P **P 04 28 17.4 -0.1**
PLG Polygyros 82.90 311 P **P 04 28 17.4 -0.1**
PLG Polygyros 82.90 311 P **P 04 28 17.4 -0.1**
MMB Musomiste 82.91 312 *i*P **P 04 28 17.4 -0.2**
SRS Serrai 82.93 312 P **P 04 28 17.4 -0.2**
SRS Serrai 82.93 312 P **P 04 28 17.4 -0.2**
SRS Serrai 82.93 312 P **P 04 28 17.4 -0.2**
ATAL Atalanti 82.93 309 P **P 04 28 17.0 -0.7**
ATAL Atalanti 82.93 309 P **P 04 28 17.0 -0.7**
LKR Lokris 82.94 309 P **P 04 28 16.9 -0.8**
LKR Lokris 82.94 309 P **P 04 28 16.9 -0.8**
ARR Arges 83.00 316⇑ *i*P **P 04 28 18.3 +0.3**
TSUM Tsumeb 83.07 251 *e*P **P 04 28 19.6 +0.6**
comp=Z,28nm,1.3s
BURAR Bucovina Array 83.08 319⇑ *i*P **P 04 28 20.0 +1.6**
BURAR Bucovina Array 83.08 319⇑P **P 04 28 20.0 +1.6**
BUR08 Bucovina Ar. S 83.10 319 *e*P **P 04 28 20.1 +1.6**
MICGM Minsk 83.10 326‖ *e*P **P 04 28 17.0 -1.2**
MICGM PM 04 28 18.0
comp=Z,0.6nm,1.0s
MNK Minsk 83.10 326‖ *e*P **P 04 28 17.0 -1.2**
MNK pmax pmax
comp=Z,550nm,1.0s
VLX Vlachokerasia 83.21 308 P **P 04 28 19.4 +0.1**
VLX Vlachokerasia 83.21 308 P **P 04 28 19.4 +0.1**
MPEP Malo Peshtene 83.23 314 *i*P **P 04 28 19.8 +0.7**
THE Thessaloniki 83.31 311 P **P 04 28 19.0 -0.5**
THE Thessaloniki 83.31 311 P **P 04 28 19.0 -0.5**
THE Thessaloniki 83.31 311 P **P 04 28 19.0 -0.5**
KKB Krupnik 83.44 313 *i*P **P 04 28 20.1 -0.1**
KLV Kalavryta, Ach 83.50 309 P **P 04 28 20.5 -0.2**
KLV Kalavryta, Ach 83.50 309 P **P 04 28 20.5 -0.2**
AGG Agios Georgios 83.52 310 P **P 04 28 20.0 -0.7**
AGG Agios Georgios 83.52 310 *e*P **P 04 28 20.2 -0.6**
AGG pmax pmax
comp=Z,83nm,1.0s
AGG Agios Georgios 83.52 310 *e*P **P 04 28 20.2 -0.6**
comp=Z,82nm,1.0s
ITM Ithomi 83.54 308 P **P 04 28 21.1 +0.2**
ITM Ithomi 83.54 308 P **P 04 28 21.1 +0.2**
ARCR ARCALIA 83.54 318‖ *i*P **P 04 28 22.3 +1.7**
KALE Kalithea 83.56 309 P **P 04 28 20.7 -0.3**
KALE Kalithea 83.56 309 P **P 04 28 20.7 -0.3**
LIT Litokhoron 83.58 311 P **P 04 28 20.7 -0.3**
LIT Litokhoron 83.58 311 P **P 04 28 20.7 -0.3**
LIT Litokhoron 83.58 311 P **P 04 28 20.7 -0.3**
SERG Sergoula 83.63 309 P **P 04 28 21.4 +0.1**
PYL PYLOS 83.64 307 P **P 04 28 21.1 -0.3**
PYL PYLOS 83.64 307 P **P 04 28 21.1 -0.3**
LAKA Lakka 83.67 309 P **P 04 28 21.6 +0.1**
LAKA Lakka 83.67 309 P **P 04 28 21.6 +0.1**
VAY Valandovo 83.72 312 *i*P **P 04 28 21.5 -0.1**
ANX Ano Chora 83.77 309 P **P 04 28 22.1 0.0**
GRG Griva 83.79 312 P **P 04 28 21.9 -0.2**
GRG Griva 83.79 312 P **P 04 28 21.9 -0.2**
GRG Griva 83.79 312 P **P 04 28 21.9 -0.2**
NACGM Naroch 83.82 326 *e*P **P 04 28 22.0 +0.1**
NACGM PM 04 28 24.0
comp=Z,0.7nm,0.7s
DRO Drossia 83.83 309 P **P 04 28 23.3 +1.0**
BILL Bilibino 83.84 20 *e*P **P 04 28 21.2 -0.5**
BILL pmax pmax
comp=Z,34nm,1.0s
BILL Bilibino 83.84 20 *e*P **P 04 28 21.2 -0.5**
comp=Z,34nm,1.0s
EVR Evrytania 83.90 310 P **P 04 28 22.9 +0.1**
EVR Evrytania 83.90 310 P **P 04 28 22.9 +0.1**
IDID Didziasalis 83.95 326 *e*P **P 04 28 23.6 +1.1**
IDID IAmb IAmb 04 28 25.1
comp=Z,102nm,0.8s
CJR Cluj-Napoca 83.97 317⇑ *i*P **P 04 28 24.5 +1.6**
CJR Cluj-Napoca 83.97 317⇑P **P 04 28 24.5 +1.6**
RLS Riolos of Patr 84.03 309 P **P 04 28 24.4 +1.1**
RLS Riolos of Patr 84.03 309 P **P 04 28 24.4 +1.1**
PVO Paravola 84.08 309 P **P 04 28 25.7 +2.2**
AXS Araxos 84.13 309 P **P 04 28 24.7 +0.9**
BMR Baia Mare 84.23 318⇑ *i*P **P 04 28 25.6 +1.5**
BMR Baia Mare 84.23 318⇑P **P 04 28 25.6 +1.5**
DEV Deva 84.29 317‖ *i*P **P 04 28 26.0 +1.5**
DEV Deva 84.29 317 ‖P **P 04 28 26.0 +1.5**
LVV L'vov 84.31 321 *e*P **P 04 28 24.0 -0.5**
LVV *e*S **S 04 38 44.0 -2.6**
IZAR Zarasai 84.33 327 *e*P **P 04 28 25.5 +1.1**
IZAR IAmb IAmb 04 28 26.8
comp=Z,56nm,0.9s
PDO Prodromos 84.34 309 P **P 04 28 25.5 +0.6**
ISAL Salakas 84.35 327 *e*P **P 04 28 25.7 +1.1**
ISAL IAmb IAmb 04 28 27.0
comp=Z,64nm,0.8s
KPRO Kipourio 84.41 310 P **P 04 28 24.6 -0.7**
LVZ Lovozero 84.41 340*c* *i*P **P 04 28 24.1 -0.5**
LVZ pmax pmax
comp=Z,54nm,0.7s
LVZ Lovozero 84.41 340 *e*P **P 04 28 24.6 0.0**
comp=Z,57nm,0.7s
DSL Palaion Diasel 84.48 310 P **P 04 28 26.8 +1.1**
DSL Palaion Diasel 84.48 310 P **P 04 28 26.8 +1.1**
DRGR 84.59 317⇑ *i*P **P 04 28 27.0 +0.9**
DRGR 84.59 317⇑P **P 04 28 27.0 +0.9**
SKO Skopje 84.67 312 *i*P **P 04 28 26.0 -0.5**
APA Apatity 84.72 339⇑ *i*P **P 04 28 25.5 -0.6**
APA *i*S **S 04 38 46.0 -4.0**
APA pmax pmax
comp=Z,30nm,1.0s
APA MLR MLR
comp=Z,700nm,18.0s
VLS Valsamata 84.74 309 P **P 04 28 27.1 +0.2**
VLS Valsamata 84.74 309 P **P 04 28 27.1 +0.2**
VLS Valsamata 84.74 309 P **P 04 28 27.1 +0.2**
MDVR Moldovita 84.93 315⇑ *i*P **P 04 28 28.5 +0.7**
TRPA Tarpa 84.95 319⇑ *e*P **P 04 28 28.8 +1.1**
OHR Ohrid 85.01 312 *i*P **P 04 28 27.8 -0.5**
KWP Kalwaria Pacla 85.11 320 *e*P **P 04 28 29.6 +1.0**
KWP LMZ LR 05 07 59.5
comp=Z,300nm,26.4s
KWP Kalwaria Pacla 85.11 320⇑ *i*P **P 04 28 29.4 +0.8**
KWP Kalwaria Pacla 85.11 320⇑P **P 04 28 29.4 +0.8**
BZS Buzias 85.13 316⇑ *i*P **P 04 28 29.4 +0.7**
BZS Buzias 85.13 316⇑P **P 04 28 29.4 +0.7**
UZH Uzhgorod 85.20 319‖ *i*P **P 04 28 29.3 +0.3**
UZH *e* 04 28 39.1
UZH *e* 04 31 49.5
UZH *e*S **S 04 38 55.9 +0.5**
UZH MLR MLR
comp=N,2μm,22.0s
UZH MLR MLR
comp=Z,500nm,22.0s
SIRR Siria 85.21 317‖ *i*P **P 04 28 30.2 +1.1**
SGD Sagiada 85.22 310 P **P 04 28 29.9 +0.6**
KOLS Kolonicke sedl 85.27 319 *e*P **P 04 28 31.0 +1.7**
KOLS pmax pmax
comp=Z,173nm,0.9s
KOLS Kolonicke sedl 85.27 319 *e*P **P 04 28 31.0 +1.7**
KOLS *e*PP **PP 04 31 49.3 +1.7**
KOLS *e*L L 05 03 54.2
TIM Timisoara 85.43 316⇑ *i*P **P 04 28 32.1 +1.9**
TIM Timisoara 85.43 316⇑P **P 04 28 32.1 +1.9**
KEK Kerkira 85.56 310 P **P 04 28 31.6 +0.6**
KEK Kerkira 85.56 310 P **P 04 28 31.6 +0.6**
SUW Suwalki 85.67 325 *e*P **P 04 28 31.7 +0.5**
SUW *e*pP **pP 04 28 46.1 +0.8**
SUW LMZ LR 05 05 55.5
comp=Z,200nm,26.9s
SUW Suwalki 85.67 325 *e*P **P 04 28 31.7 +0.5**
SUW *e**PP **pP 04 28 46.1 +0.8**
SUW MLR MLR
comp=Z,200nm,26.9s
TIR Tirane 85.74 312 *e*P **P 04 28 33.4 +1.5**
TIR pmax pmax
comp=Z,42nm,1.1s
TIR Tirane 85.74 312 *e*P **P 04 28 33.4 +1.5**
comp=Z,42nm,1.1s
CRVS Cervenica-Dubn 85.79 319 *e*P **P 04 28 33.1 +1.2**
CRVS *e* 04 31 55.1
CRVS Cervenica-Dubn 85.79 319 *e*P **P 04 28 33.1 +1.2**
CRVS *e*PP **PP 04 31 55.1 +3.3**
FIA1 FINESS Array S 85.83 332 *e*P **P 04 28 32.4 +0.6**
comp=Z,75nm,1.1s
FINES FINESS Array B 85.83 332 P **P 04 28 32.4 +0.6**
comp=Z,30nm,0.9s,baz=105,slow=5.9,SNR=72
FINES pP **pP 04 28 46.1 +0.2**
comp=Z,22nm,0.9s,baz=126,slow=12,SNR=8.3
FINES S S 04 38 51.1 -10
comp=Z,0.4nm,0.7s,baz=341,slow=29,SNR=2.3
FINES PKKPbc **PKKPbc 04 46 34.1 -1.7**
comp=Z,1.2nm,0.8s,baz=329,slow=2.2,SNR=5.7
FINES LR LR 05 10 39.8
comp=Z,420nm,21.7s,baz=106,slow=38
STHS Stebnicka Huta 86.02 320 *e*P **P 04 28 34.4 +1.3**
STHS pmax pmax
comp=Z,51nm,0.8s
STHS Stebnicka Huta 86.02 320 *e*P **P 04 28 34.4 +1.3**
DIVS Divibare 86.04 314 P **P 04 28 34.1 +0.7**
AFI Afiamalu 86.19 104 P **P 04 28 36.8 +2.1**
comp=Z,70nm,0.9s,baz=226,slow=6.3,SNR=4.9
AFI Afiamalu 86.19 104 *e*P **P 04 28 35.7 +1.0**
AFI pmax pmax
comp=Z,110nm,1.0s
AFI Afiamalu 86.19 104 *e*P **P 04 28 35.7 +1.0**
comp=Z,111nm,1.0s
ULC Ulcinj 86.28 312⇑ *i*P **P 04 28 32.3 -2.3**
TTG Podgorica 86.34 313⇑ *i*P **P 04 28 33.3 -1.5**
DRME Dracevica, Mon 86.36 312⇑ *i*P **P 04 28 33.1 -1.8**
KECS Kecovo 86.36 319 *e*P **P 04 28 35.9 +1.2**
KECS pmax pmax
comp=Z,20nm,0.8s

KECS	**Kecovo**	**86.36**	**319**	*e*P		**P**	**04 28 35.9**	**+1.2**
PLE	**Plјevlja**	**86.36**	**314**⇑	*i*P		**P**	**04 28 32.5**	**-2.5**
NKY	**Niksic**	**86.58**	**313**	*e*P		**P**	**04 28 34.0**	**-2.1**
CEME	**Cevo**	**86.60**	**313**	*e*P		**P**	**04 28 34.0**	**-2.2**
NKME	**Niksic**	**86.60**	**313**	*e*P		**P**	**04 28 34.3**	**-1.8**
NIE	**Niedzica**	**86.62**	**320**	*e*P		**P**	**04 28 37.4**	**+1.3**
NIE				LMZ	LR		05 03 16.0	
	comp=Z,100nm,32.4s							
NIE	**Niedzica**	**86.62**	**320**	*e*P		**P**	**04 28 37.4**	**+1.3**
PSZ	**Piszkesteto**	**86.66**	**318**⇑	*i*P		**P**	**04 28 36.7**	**+0.3**
PSZ	**Piszkesteto**	**86.66**	**318**⇑	*e*P		**P**	**04 28 37.1**	**+0.7**
PSZ	**Piszkesteto**	**86.66**	**318**	*e*P		**P**	**04 28 36.7**	**+0.3**
PSZ				pmax	pmax			
	comp=Z,39nm,0.9s							
PSZ	**Piszkesteto**	**86.66**	**318**	*e*P		**P**	**04 28 36.7**	**+0.3**
	comp=Z,39nm,0.9s							
UPM	**Unac-Piva**	**86.70**	**313**⇑	*i*P		**P**	**04 28 34.5**	**-2.3**
BEL	**Belsk**	**86.70**	**322**	*e*P		**P**	**04 28 37.5**	**+1.2**
BEL				*e*PP		**PP**	**04 28 51.5**	**+1.1**
BEL				LMZ	LR		05 13 51.7	
	comp=Z,300nm,22.7s							
BEL	**Belsk**	**86.70**	**322**	*e*P		**P**	**04 28 37.5**	**+1.2**
BEL				*e*PP		**PP**	**04 28 51.5**	**+1.1**
QSPA	**South Pole Qui**	**86.73**	**180**	*e*P		**P**	**04 28 37.9**	**+1.5**
HCY	**Herceg Novi**	**86.90**	**313**⇑	*i*P		**P**	**04 28 35.8**	**-1.7**
BRY	**Bratogost**	**86.92**	**313**⇑	*i*P		**P**	**04 28 35.3**	**-2.5**
OJC	**Ojcow**	**87.07**	**320**	*e*P		**P**	**04 28 38.9**	**+0.7**
OJC				LMZ	LR		05 16 41.0	
	comp=Z,300nm,21.6s							
OJC	**Ojcow**	**87.07**	**320**	*e*P		**P**	**04 28 38.9**	**+0.7**
OJC				pmax	pmax			
	comp=Z,44nm,1.0s							
OJC	**Ojcow**	**87.07**	**320**	*e*P		**P**	**04 28 38.9**	**+0.7**
	comp=Z,44nm,1.0s							
LANS	**Liptovska Anna**	**87.12**	**319**	*e*P		**P**	**04 28 39.7**	**+1.2**
LANS	**Liptovska Anna**	**87.12**	**319**	*e*P		**P**	**04 28 39.7**	**+1.2**
BUD	**Budapest**	**87.18**	**318**⇑	*e*P		**P**	**04 28 39.4**	**+0.6**
VYHS	**Vyhne**	**87.45**	**319**	*e*P		**P**	**04 28 40.8**	**+0.7**
VYHS				pmax	pmax			
	comp=Z,24nm,1.3s							
VYHS	**Vyhne**	**87.45**	**319**	*e*P		**P**	**04 28 40.8**	**+0.7**
VYHS				*e*PP		**PP**	**04 32 06.2**	**+1.0**
KEV	**Kevo**	**87.64**	**340**	*e*P		**P**	**04 28 40.9**	**+0.4**
KEV				pmax	pmax			
	comp=Z,58nm,0.9s							
KEV	**Kevo**	**87.64**	**340**	*e*P		**P**	**04 28 40.9**	**+0.4**
	comp=Z,58nm,0.8s							
TIP	**Timpagrande**	**87.84**	**309**	*e*P		**P**	**04 28 43.8**	**+1.5**
	comp=Z,25nm,0.9s							
OKC	**Ostrava-Krasne**	**88.07**	**320**	*e*P		**P**	**04 28 44.3**	**+1.3**
OKC				*e*pP		**pP**	**04 28 58.3**	**+1.2**
OKC				*ex*		x	04 29 02.6	
OKC				*eS*		**S**	**04 39 24.9**	**+1.6**
OKC				AMS	AMS		05 17 30.0	
	comp=Z,400nm,18.5s							
OKC	**Ostrava-Krasne**	**88.07**	**320**	*e*P		**P**	**04 28 44.3**	**+1.3**
OKC				*e**PP		**pP**	**04 28 58.3**	**+1.2**
OKC				*eS*		**S**	**04 39 24.9**	**+1.6**
OKC				MLR	MLR			
	comp=Z,400nm,18.5s							
ARA0	**ARCESS Array S**	**88.09**	**340**	*e*P		**P**	**04 28 42.5**	**-0.2**
ARCES	**ARCESS Array B**	**88.09**	**340**	P		**P**	**04 28 43.2**	**+0.5**
	comp=Z,57nm,0.8s,baz=100,slow=5.0,SNR=137							
ARCES				pP		**pP**	**04 28 57.3**	**+0.4**
	comp=Z,43nm,0.9s,baz=119,slow=4.3,SNR=12							
ARCES				PP		**PP**	**04 32 13.4**	**+3.6**
	comp=Z,15nm,1.0s,baz=108,slow=7.8,SNR=6.6							
ARCES				LR	LR		05 12 09.9	
	comp=Z,351nm,20.4s,baz=110,slow=38							
ARE0	**ARCESS Array S**	**88.09**	**340**⇑	*i*P		**P**	**04 28 43.2**	**+0.5**
ARE0	**ARCESS Array S**	**88.09**	**340**	*e*P		**P**	**04 28 43.3**	**+0.5**
	comp=Z,71nm,0.8s							
SMOL	**Smolenice**	**88.38**	**319**	*e*P		**P**	**04 28 45.5**	**+1.0**
SMOL	**Smolenice**	**88.38**	**319**	*e*P		**P**	**04 28 45.5**	**+1.0**
CEL	**Celeste**	**88.42**	**308**	*e*P		**P**	**04 28 46.6**	**+1.6**
	comp=Z,92nm,1.0s							
MORC	**Moravsky Berou**	**88.45**	**320**⇑	*i*P		**P**	**04 28 45.9**	**+1.0**
MORC	**Moravsky Berou**	**88.45**	**320**⇑	P		**P**	**04 28 45.9**	**+1.0**
MORC	**Moravsky Berou**	**88.45**	**320**	*e*P		**P**	**04 28 46.1**	**+1.2**
	comp=Z,232nm,0.9s							
BEHE	**Becsehely**	**88.59**	**317**⇑	*e*P		**P**	**04 28 47.1**	**+1.6**
CUC	**Castrocucco**	**88.64**	**310**	*e*P		**P**	**04 28 46.3**	**+0.3**
	comp=Z,27nm,0.9s							
SOP	**Sopron**	**88.86**	**318**⇑	*e*P		**P**	**04 28 47.5**	**+0.7**
HAMF	**Hammerfest**	**88.96**	**341**⇑	*i*P		**P**	**04 28 47.1**	**+0.4**
VRAC	**Vranov**	**89.01**	**319**	P		**P**	**04 28 48.4**	**+0.9**
	comp=Z,12nm,0.9s,baz=106,slow=4.6,SNR=18							
VRAC				pP		**pP**	**04 29 03.2**	**+1.6**
	comp=Z,6.2nm,0.8s,baz=100,slow=11,SNR=4.9							
VRAC				PP		**PP**	**04 32 21.5**	**+3.7**
	comp=Z,2.3nm,0.8s,baz=64,slow=5.3,SNR=4.4							
VRAC	**Vranov**	**89.01**	**319**⇑	*i*P		**P**	**04 28 48.4**	**+0.9**
UDBI	**Udbina**	**89.10**	**315**	P		**P**	**04 28 48.5**	**+0.5**
DPC	**Dobruska-Polom**	**89.30**	**320**	*e*P		**P**	**04 28 50.5**	**+1.7**
DPC				*ex*		x	04 28 53.3	
DPC				*ex*		x	04 29 00.5	
DPC				*e*pP		**pP**	**04 29 04.6**	**+1.6**
DPC				*e*PP		PP	04 32 11.7	-8.3
DPC				*eS*		**S**	**04 39 33.9**	**-1.0**
DPC	**Dobruska-Polom**	**89.30**	**320**	*e*P		**P**	**04 28 50.5**	**+1.7**
DPC				*e*			04 29 00.5	
DPC				*e**PP		**pP**	**04 29 04.6**	**+1.6**
DPC				*eS*		**S**	**04 39 33.9**	**-1.0**
CONA	**Conrad Observa**	**89.36**	**318**	*e*P		**P**	**04 28 49.9**	**+0.6**
	comp=Z,23nm,1.0s,SNR=7.3							
KSP	**Ksiaz**	**89.36**	**321**	*e*P		**P**	**04 28 50.6**	**+1.6**
KSP				*e*pP		**pP**	**04 29 04.6**	**+1.4**
KSP				LMZ	LR		05 14 17.6	
	comp=Z,300nm,24.0s							
KSP	**Ksiaz**	**89.36**	**321**	*e*P		**P**	**04 28 50.6**	**+1.6**
KSP				*e**PP		**pP**	**04 29 04.6**	**+1.4**
UPC	**Upice**	**89.51**	**320**	*e*P		**P**	**04 28 51.3**	**+1.5**
UPC				*e*pP		**pP**	**04 29 05.2**	**+1.3**
UPC				*eS*		**S**	**04 39 35.6**	**-1.2**
UPC				AMS	AMS		05 14 10.0	
	comp=Z,300nm,23.9s							
UPC	**Upice**	**89.51**	**320**	*e*P		**P**	**04 28 51.3**	**+1.5**
UPC				*e**PP		**pP**	**04 29 05.2**	**+1.3**
UPC				*eS*		**S**	**04 39 35.6**	**-1.2**
UPC				MLR	MLR			
	comp=Z,300nm,23.9s							
ARSA	**Arzberg**	**89.52**	**317**	*i* PcP		**P**	**04 28 50.8**	**+0.9**
	comp=Z,48nm,0.9s,SNR=17							
VAE	**Valguarnera**	**89.52**	**307**	P		**P**	**04 28 52.6**	**+2.4**
	comp=Z,33nm,1.0s,baz=96,slow=2.1,SNR=11							
BOJS	**Bojanci**	**89.55**	**315**	*i* P		**P**	**04 28 51.1**	**+1.0**
TREC	**Trest**	**89.73**	**319**	*e*P		**P**	**04 28 52.1**	**+1.3**
TREC				*e*pP		**pP**	**04 29 06.1**	**+1.1**
TREC				AMS	AMS		05 18 30.0	
	comp=Z,300nm,18.3s							
TREC	**Trest**	**89.73**	**319**	*e*P		**P**	**04 28 52.1**	**+1.3**
TREC				*e**PP		**pP**	**04 29 06.1**	**+1.1**
TREC				MLR	MLR			
	comp=Z,300nm,18.3s							
NVLJ	**Novalja**	**89.74**	**314**	P		**P**	**04 28 51.2**	**+0.3**
SOKA	**Soboth**	**89.81**	**317**	*i* PcP		**P**	**04 28 52.4**	**+1.1**
	comp=Z,87nm,1.0s,SNR=22							
VISS	**Visnje**	**89.87**	**316**	*i* P		**P**	**04 28 52.5**	**+1.0**
OBKA	**Obir**	**90.12**	**316**	*i* P		**P**	**04 28 53.4**	**+0.5**
	comp=Z,33nm,1.0s,SNR=5.5							
GOPC	**GO Pecny, Ondr**	**90.24**	**320**	*e*P		**P**	**04 28 54.6**	**+1.4**
GOPC				*e*pP		**pP**	**04 29 08.5**	**+1.1**
GOPC				*ex*		x	04 29 11.1	
GOPC				*eS*		**S**	**04 39 43.7**	**0.0**
GOPC				AMS	AMS		05 18 20.0	
	comp=Z,300nm,22.2s							
GOPC	**GO Pecny, Ondr**	**90.24**	**320**	*e*P		**P**	**04 28 54.6**	**+1.4**
GOPC				*e**PP		**pP**	**04 29 08.5**	**+1.1**
GOPC				*eS*		**S**	**04 39 43.7**	**0.0**
GOPC				MLR	MLR			
	comp=Z,300nm,22.2s							
TRO	**Tromso**	**90.37**	**340**⇑	*i*P		**P**	**04 28 53.3**	**0.0**
TRO				IAmb	IAmb		04 28 54.1	
	comp=Z,36nm,0.9s							
TRO				*e*pP		**pP**	**04 29 07.5**	**0.0**
PRU	**Pruhonice**	**90.40**	**320**	*e*P		**P**	**04 28 55.1**	**+1.2**
PRU				*ex*		x	04 29 06.0	
PRU				*e*pP		**pP**	**04 29 09.2**	**+1.1**
PRU				*e*PP		**PP**	**04 32 25.7**	**-3.0**
PRU				*eS*		**S**	**04 39 43.7**	**-1.4**
PRU				AMS	AMS		05 18 20.0	
PRU	**Pruhonice**	**90.40**	**320**	*e*P		**P**	**04 28 55.1**	**+1.2**
PRU				*e*			04 29 06.0	
PRU				*e**PP		**pP**	**04 29 09.2**	**+1.1**
PRU				*e*			04 32 25.7	
PRU				*eS*		**S**	**04 39 43.7**	**-1.4**
JAVS	**Javornik**	**90.41**	**316**	*i* P		**P**	**04 28 54.8**	**+0.6**
MOA	**Molln**	**90.42**	**318**	*i* P		**P**	**04 28 54.7**	**+0.6**
	comp=Z,26nm,0.8s,SNR=8.8							
PVCC	**Panska Ves**	**90.43**	**320**	*e*P		**P**	**04 28 55.5**	**+1.5**
PVCC				*e*pP		**pP**	**04 29 10.4**	**+2.2**
PVCC				AMS	AMS		05 16 30.0	
	comp=Z,300nm,19.7s							
PVCC	**Panska Ves**	**90.43**	**320**	*e*P		**P**	**04 28 55.5**	**+1.5**
PVCC				*e**PP		**pP**	**04 29 10.4**	**+2.2**
PVCC				MLR	MLR			
	comp=Z,300nm,19.7s							
CLTB	**Caltabellotta**	**90.48**	**307**	*e*P		**P**	**04 28 55.6**	**+0.9**
	comp=Z,35nm,0.8s							
GORS	**Gorjuse**	**90.49**	**316**	*i* P		**P**	**04 28 55.4**	**+0.9**
BSD	**Bornholm Skovb**	**90.59**	**325**	*i* P		**P**	**04 28 55.0**	**+0.4**
BSD				pmax	pmax			
	comp=Z,60nm,1.0s							
BSD	**Bornholm Skovb**	**90.59**	**325**	*i* P		**P**	**04 28 55.0**	**+0.4**
	comp=Z,60nm,1.0s							
AQU	**L'Aquila**	**90.64**	**312**	*e*P		**P**	**04 28 56.3**	**+1.0**
AQU				pmax	pmax			
	comp=Z,96nm,1.0s							
AQU	**L'Aquila**	**90.64**	**312**	*e*P		**P**	**04 28 56.3**	**+1.0**
	comp=Z,96nm,1.0s							
BRG	**Berggiesshubel**	**90.85**	**321**	*i* P		**P**	**04 28 57.2**	**+1.2**
	comp=Z,49nm,0.9s							
BRG				*e*pP		**pP**	**04 29 11.1**	**+0.9**
	comp=Z,26nm,1.3s							
BRG				PP	PP		**04 32 30.0**	**-2.3**
BRG				S	S		**04 39 48.0**	**-1.2**
BRG	**Berggiesshubel**	**90.85**	**321**	*i* P		**P**	**04 28 57.2**	**+1.2**
BRG				*e**PP		**pP**	**04 29 11.1**	**+0.9**
BRG							04 32 30.0	
BRG				S	S		**04 39 48.0**	**-1.2**
BRG				pmax	pmax			
	comp=Z,49nm,0.9s							
GEA0	**GERESS Array S**	**90.87**	**319**	*e*P		**P**	**04 28 56.5**	**+0.3**
GEC2	**GERESS Array S**	**90.87**	**319**	*e*P		**P**	**04 28 57.4**	**+1.2**
GEC2	**GERESS Array S**	**90.87**	**319**	*e*P		**P**	**04 28 57.4**	**+1.2**
GERES	**GERESS Array B**	**90.87**	**319**	P		**P**	**04 28 57.2**	**+1.0**
	comp=Z,22nm,0.8s,baz=84,slow=5.5,SNR=153							
GERES				pP		**pP**	**04 29 11.9**	**+1.4**
	comp=Z,15nm,1.0s,baz=93,slow=5.5,SNR=8.7							
KHC	**Kasperske Hory**	**90.97**	**319**	*e*P		**P**	**04 28 57.6**	**+1.0**
KHC				*e*pP		**pP**	**04 29 11.6**	**+0.8**
KHC				*e*PP		**PP**	**04 32 30.2**	**-3.1**
KHC				*eS*		**S**	**04 39 45.9**	**-4.5**
KHC				AMS	AMS		05 19 10.0	
	comp=Z,300nm,16.1s							
KHC	**Kasperske Hory**	**90.97**	**319**	*e*P		**P**	**04 28 57.6**	**+1.0**
KHC				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KHC	**Kasperske Hory**	**90.97**	**319**	*e*P		**P**	**04 28 57.6**	**+1.0**
	comp=Z,6.8nm,0.9s							
KBA	**Koehnbreinsper**	**90.99**	**317**	*i* P		**P**	**04 28 57.1**	**+0.1**
	comp=Z,32nm,1.6s,SNR=6.5							
SNAA	**Sanae**	**91.39**	**198**	P		**P**	**04 28 60.0**	**+1.8**
SNAA	**Sanae**	**91.39**	**198***ce*	P		**P**	**04 28 59.6**	**+1.4**
SNAA				pmax	pmax			
	comp=Z,293nm,1.1s							
SNAA	**Sanae**	**91.39**	**198**	*e*P		**P**	**04 28 58.9**	**+0.7**
	comp=Z,24nm,1.1s							
CLL	**Collm**	**91.47**	**321**⇑	*i*P		**P**	**04 28 59.5**	**+0.7**
	comp=Z,32nm,1.1s							
CLL				*i*			04 29 13.9	
CLL				*e*PP		**PP**	**04 32 35.0**	**-2.1**
CLL				*eS*		**S**	**04 39 53.0**	**-1.8**
CLL	**Collm**	**91.47**	**321**⇑	*i*P		**P**	**04 28 59.5**	**+0.7**
CLL				*eS*		**S**	**04 39 53.0**	**-1.8**
CLL				pmax	pmax			
	comp=Z,32nm,1.1s							
CLL	**Collm**	**91.47**	**321**	*e*P		**P**	**04 28 59.6**	**+0.7**
	comp=Z,28nm,1.0s							
STEI	**Steigen**	**91.51**	**338**	*e*P		**P**	**04 28 58.8**	**+0.2**
STEI				IAmb	IAmb		04 28 59.9	
	comp=Z,98nm,0.8s							
ABTA	**Abfaltersbach**	**91.54**	**317**	*i* P		**P**	**04 28 59.6**	**+0.2**
	comp=Z,23nm,0.9s,SNR=6.9							
HFS	**Hagfors**	**91.61**	**330**	P		**P**	**04 28 59.8**	**+0.5**
	comp=Z,49nm,0.8s,baz=114,slow=3.7,SNR=76							
HFS				pP		**pP**	**04 29 14.1**	**+0.6**
	comp=Z,17nm,0.8s,baz=95,slow=3.3,SNR=6.3							
HFS				PP		**PP**	**04 32 40.6**	**+2.6**
	comp=Z,12nm,0.8s,baz=93,slow=9.4,SNR=6.0							
NKC	**Novy Kostel**	**91.77**	**320**	*e*P		**P**	**04 29 01.3**	**+1.0**
NKC				*e*pP		**pP**	**04 29 13.2**	**-1.3**
NKC				AMS	AMS		05 19 30.0	
	comp=Z,300nm,16.4s							
NKC	**Novy Kostel**	**91.77**	**320**	*e*P		**P**	**04 29 01.3**	**+1.0**
NKC				*e*			04 29 13.2	
NKC				MLR	MLR			
	comp=Z,300nm,16.4s							
SPA0	**Spitsbergen Ar**	**92.11**	**348**⇑	*i*P		**P**	**04 29 00.7**	**-0.7**
SPA0				*e*pP		**pP**	**04 29 14.9**	**-0.7**
SPA0	**Spitsbergen Ar**	**92.11**	**348**	*e*P		**P**	**04 29 01.1**	**-0.2**
SPITS	**Spitsbergen Ar**	**92.11**	**348**	P		**P**	**04 29 00.8**	**-0.6**
	comp=Z,24nm,0.7s,baz=132,slow=8.3,SNR=34							
SPITS				pP		**pP**	**04 29 14.4**	**-1.2**
	comp=Z,41nm,1.0s,baz=93,slow=5.0,SNR=6.8							
WTTA	**Wattenberg**	**92.16**	**317**	*i* PcP		**P**	**04 29 02.9**	**+0.5**
	comp=Z,36nm,0.9s,SNR=8.4							
WATA	**Walderalm**	**92.21**	**317**	*i* P		**P**	**04 29 02.6**	**+0.1**
	comp=Z,34nm,1.0s,SNR=13							
MOTA	**Moosalm**	**92.53**	**317**	*i* P		**P**	**04 29 03.7**	**-0.4**
	comp=Z,33nm,0.8s,SNR=28							
GRFO	**Grafenberg**	**92.53**	**319**	*e*P		**P**	**04 29 05.0**	**+1.2**
GRFO				pmax	pmax			
	comp=Z,20nm,0.8s							
GRFO	**Grafenberg**	**92.53**	**319**	*e*P		**P**	**04 29 05.0**	**+1.2**
	comp=Z,20nm,0.8s							
NSS	**Namsos**	**92.64**	**334**	*e*P		**P**	**04 29 04.3**	**+0.4**
NC405	**NORSAR Array S**	**92.64**	**331**	*e*P		**P**	**04 29 04.7**	**+0.7**
NC602	**NORSAR Array S**	**92.71**	**331**	*e*P		**P**	**04 29 04.5**	**+0.2**
RETA	**Reutte**	**92.77**	**317**	*i* P		**P**	**04 29 05.3**	**+0.3**
	comp=Z,37nm,0.8s,SNR=9.5							
FETA	**Feichten**	**92.77**	**317**	*i* PcP		**P**	**04 29 05.6**	**+0.4**
	comp=Z,29nm,0.9s,SNR=8.4							
NC303	**NORSAR Array S**	**92.81**	**331**	*e*P		**P**	**04 29 05.4**	**+0.6**
NB201	**NORSAR Array S**	**92.84**	**331**	*e*P		**P**	**04 29 05.4**	**+0.4**
NB2	**NORSAR Subarra**	**92.88**	**331**	P		**P**	**04 29 04.9**	**-0.3**
	comp=Z,26nm,0.9s,baz=93,slow=4.6							
NB2	**NORSAR Subarra**	**92.88**	**331**	P		**P**	**04 29 04.9**	**-0.3**
	baz=93,slow=4.6							
NOA	**NORSAR Array B**	**92.88**	**331**	P		**P**	**04 29 05.2**	**0.0**
	comp=Z,16nm,0.9s,baz=95,slow=5.0,SNR=43							
NOA				pP		**pP**	**04 29 19.8**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=100,slow=4.4,SNR=8.2							
NOA				LR	LR		05 15 25.3	
	comp=Z,236nm,21.9s,baz=105,slow=38							
NOA	**NORSAR Array B**	**92.88**	**331**	P		**P**	**04 29 05.2**	**0.0**
NOA				**PP		**pP**	**04 29 19.8**	**+0.4**
NOA				pmax	pmax			
	comp=Z,17nm,0.9s							
NOA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
NAO01	**NORSAR Array S**	**93.03**	**331**	*e*P		**P**	**04 29 06.4**	**+0.5**
KBS	**Kingsbay**	**93.04**	**349**	*e*P		**P**	**04 29 03.0**	**-2.6**
KBS	**Kingsbay**	**93.04**	**349**	*e*P		**P**	**04 29 05.1**	**-0.5**
KBS				pmax	pmax			
	comp=Z,28nm,1.2s							
KBS	**Kingsbay**	**93.04**	**349**	*e*P		**P**	**04 29 05.1**	**-0.5**
	comp=Z,28nm,1.3s							
NBO02	**NORSAR Array S**	**93.05**	**331**	*e*P		**P**	**04 29 06.3**	**+0.3**
NBO02				*e*pP		**pP**	**04 29 20.8**	**+0.6**
FUORN	**Ofenpass-Fuorn**	**93.08**	**316**	*e*P		**P**	**04 29 07.9**	**+1.1**
	comp=Z,37nm,0.8s							
NBO00	**NORSAR Array S**	**93.09**	**331**	*e*P		**P**	**04 29 06.3**	**+0.2**
OSL	**Oslo**	**93.10**	**330**	*e*P		**P**	**04 29 06.9**	**+0.8**
NC204	**NORSAR Array S**	**93.10**	**331**	*e*P		**P**	**04 29 06.9**	**+0.7**
DAVOX	**Davos/Dischmat**	**93.35**	**317**	P		**P**	**04 29 08.8**	**+0.9**
	comp=Z,20nm,0.7s,baz=120,slow=3.3,SNR=27							
DAVA	**Damuels**	**93.36**	**317**	*i* PcP		**P**	**04 29 08.7**	**+0.8**
	comp=Z,51nm,0.9s,SNR=16							
VNA1	**Neumayer--Stat**	**93.37**	**198**	P		pP	04 29 24.7	+3.3
KEST	**Kesra**	**93.50**	**305**	P		**P**	**04 29 11.1**	**+2.3**
	comp=Z,29nm,0.9s,baz=275,slow=1.7,SNR=26							
KEST				LR	LR		05 15 53.3	
	comp=Z,112nm,18.9s,baz=346,slow=38							
KEST	**Kesra**	**93.50**	**305**	*e*P		**P**	**04 29 10.8**	**+2.1**
	comp=Z,40nm,1.0s							
KONO	**Kongsberg**	**93.66**	**329**	*e*P		**P**	**04 29 08.8**	**0.0**
KONO	**Kongsberg**	**93.66**	**329**	*e*P		**P**	**04 29 09.6**	**+0.8**
KONO				pmax	pmax			
	comp=Z,29nm,0.9s							
KONO	**Kongsberg**	**93.66**	**329**	*e*P		**P**	**04 29 09.6**	**+0.8**
	comp=Z,29nm,0.8s							
STU	**Stuttgart**	**93.84**	**319**	*e*P		**P**	**04 29 10.7**	**+0.8**
STU				pmax	pmax			
	comp=Z,15nm,0.9s							
STU	**Stuttgart**	**93.84**	**319**	*e*P		**P**	**04 29 10.7**	**+0.8**
	comp=Z,15nm,0.9s							
MUD	**Monsted U'grnd**	**93.89**	**326**	*i* P		**P**	**04 29 10.1**	**+0.3**
MUD	**Monsted U'grnd**	**93.89**	**326**	*i* P		**P**	**04 29 10.1**	**+0.3**
BFO	**Black Forest**	**94.41**	**318**	*i* P		**P**	**04 29 13.2**	**+0.7**
BFO	**Black Forest**	**94.41**	**318**	*e*P		**P**	**04 29 12.9**	**+0.3**
MOL	**Molde**	**94.61**	**332**	*e*P		**P**	**04 29 14.4**	**+1.4**
AKN	**Aaknes**	**94.89**	**332**	*e*P		**P**	**04 29 15.1**	**+0.7**
AKN				IAmb	IAmb		04 29 16.2	
	comp=Z,22nm,0.9s							
SENIN	**Lac Senin/Sane**	**95.13**	**316**	*e*P		**P**	**04 29 17.0**	**+0.9**
	comp=Z,9.9nm,0.9s							
WLF	**Walferdange**	**95.83**	**319**	*e*P		**P**	**04 29 18.9**	**0.0**
WLF				pmax	pmax			
	comp=Z,14nm,1.0s							
WLF	**Walferdange**	**95.83**	**319**	*e*P		**P**	**04 29 18.9**	**0.0**
	comp=Z,14nm,1.0s							
TAM	**Tamanrasset**	**96.62**	**292**	*e*P		**P**	**04 29 23.3**	**-0.1**
TAM	**Tamanrasset**	**96.62**	**292**	*e*P		**P**	**04 29 23.2**	**-0.1**
TT01	**Tatalina**	**98.61**	**27**	*e*P		Pdif	04 29 31.6	+0.4
JMIC	**Jan Mayen**	**99.45**	**342**	P		**Pdif**	**04 29 41.6**	**+6.8**
	comp=Z,28nm,0.6s,baz=115,slow=2.5,SNR=1.7							
DAG	**Danmarks Havn**	**99.77**	**348**⇑	*i*P		**Pdif**	**04 29 34.8**	**-1.3**
DAG				*i*			04 29 47.4	
DAG	**Danmarks Havn**	**99.77**	**348**⇑	*i*P		**Pdif**	**04 29 34.8**	**-1.3**
DAG				*i*			04 29 47.4	
COLD	**Coldfoot**	**100.06**	**22**	*e*Pdif		**Pdif**	**04 29 38.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**100.13**	**283**	P		**Pdif**	**04 29 39.8**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=88,slow=5.4,SNR=8.8							
TORD				PP		**PP**	**04 33 48.5**	**+3.2**
	comp=Z,0.8nm,0.9s,baz=92,slow=6.4,SNR=3.7							
TORD				PKiKP		**PKiKP**	**04 34 07.1**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=69,slow=2.0,SNR=8.6							
TORD				PKKPbc		**PKKPbc**	**04 45 57.9**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=309,slow=3.0,SNR=8.0							
MLY	**Manley**	**100.43**	**24**	*e*Pdif		**Pdif**	**04 29 39.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**100.57**	**25**	*e*Pdif		**Pdif**	**04 29 39.9**	**0.0**
EKA	**Eskdalemuir Ar**	**100.90**	**326**	P		**Pdif**	**04 29 42.1**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=88,slow=6.8,SNR=5.4							
EKA				PP		**PP**	**04 33 54.0**	**+4.2**
	comp=Z,6.2nm,0.9s,baz=83,slow=7.0,SNR=5.1							
TRF	**Thorofare Moun**	**101.04**	**26**	*e*Pdif		**Pdif**	**04 29 41.9**	**-0.4**
	comp=Z,3.0nm,0.9s							
MCK	**McKinley**	**101.54**	**25**	*e*P		**Pdif**	**04 29 44.2**	**-0.1**
MCK	**McKinley**	**101.54**	**25**	*e*Pdif		**Pdif**	**04 29 44.1**	**-0.1**
ILAR	**Eielson Array**	**102.08**	**24**	P		**Pdif**	**04 29 44.7**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=299,slow=3.8,SNR=5.7							
ILAR				PP		**PP**	**04 33 50.7**	**-7.7**
	comp=Z,4.4nm,1.1s,baz=299,slow=6.0,SNR=5.5							
ILAR				S		**SKS

A25A	**Svangstu Ranch** baz=327	**129.90**	**21**	P		**PKPdf**	**04 35 02.9**	**+0.8**
RCTC	**Rector, Farmer** baz=302	**130.20**	**43**	P		**PKPdf**	**04 35 03.8**	**+0.8**
ELK	**Elko**	**130.21**	**36**	*e*PKIKP		**PKPdf**	**04 35 04.4**	**+1.2**
ELK	**Elko**	**130.21**	**36**	*e*PKPdf		**PKPdf**	**04 35 04.4**	**+1.2**
ELK				*e*SKPbc		**SKPab**	**04 38 21.4**	**-0.9**
ELK				*e*SKPdf		**SKPdf**	**04 38 35.2**	**+0.5**
H17A	**Grant Village** baz=316	**130.28**	**30**	P		**PKPdf**	**04 35 04.3**	**+1.1**
H17A	**Grant Village**	**130.28**	**30**	*e*PKPdf		**PKPdf**	**04 35 04.7**	**+1.4**
H17A				*e*SKPbc		**SKPbc**	**04 38 23.9**	**+1.3**
A26A	**Wade Farm, Ken** baz=329	**130.31**	**20**	P		**PKPdf**	**04 35 04.1**	**+1.3**
RLMT	**Red Lodge** baz=318	**130.38**	**28**	P		**PKPdf**	**04 35 04.3**	**+0.9**
RLMT	**Red Lodge**	**130.38**	**28**	*e*PKPdf		**PKPdf**	**04 35 03.7**	**+0.3**
RLMT				*e*SKPbc		**SKPab**	**04 38 22.7**	**-0.1**
B25A	**Knox Farm, Ray** baz=327	**130.44**	**21**	P		**PKPdf**	**04 35 04.5**	**+1.4**
PKM	**Mcpherson Peak** baz=300	**130.53**	**45**	P		**PKPdf**	**04 35 04.8**	**+0.8**
A27A	**Ledoux Ranch,** baz=330	**130.53**	**19**	P		**PKPdf**	**04 35 04.6**	**+1.4**
LAO	**LASA Array** baz=323	**130.53**	**25**	P		**PKPdf**	**04 35 04.8**	**+1.4**
LAO	**LASA Array**	**130.53**	**25**	*e*PKPdf		**PKPdf**	**04 35 04.2**	**+0.7**
LAO				*e*SKPbc		**SKPab**	**04 38 22.4**	**-0.7**
VES	**Vestal, Richgr** baz=302	**130.55**	**44**	P		**PKPdf**	**04 35 04.5**	**+0.8**
MOOW	**Moose Ponds**	**130.66**	**31**	*e*PKPdf		**PKPdf**	**04 35 04.0**	**0.0**
MOOW				*e*SKPbc		**SKPab**	**04 38 24.4**	**+0.4**
B26A	**Jensen Ranch,** baz=328	**130.68**	**21**	P		**PKPdf**	**04 35 04.4**	**+0.8**
TPAW	**Teton Pass**	**130.74**	**31**	*e*PKPdf		**PKPdf**	**04 35 04.5**	**+0.3**
TPAW				*e*SKPbc		**SKPab**	**04 38 24.5**	**0.0**
SBC	**Santa Barbara** baz=300	**130.82**	**46**	P		**PKPdf**	**04 35 04.1**	**-0.1**
LOHW	**Long Hollow**	**130.83**	**31**	*e*PKPdf		**PKPdf**	**04 35 04.9**	**+0.7**
LOHW				*e*SKPbc		**SKPab**	**04 38 24.9**	**+0.2**
SNOW	**Snow King Moun**	**130.86**	**31**	*e*PKPdf		**PKPdf**	**04 35 05.3**	**+1.0**
C25A	**Freed Ranch, W** baz=327	**130.87**	**22**	P		**PKPdf**	**04 35 04.7**	**+0.7**
REDW	**Red Top Meadow**	**130.88**	**31**	*e*PKPdf		**PKPdf**	**04 35 04.7**	**+0.3**
REDW				*e*PP		**PP**	**04 37 19.2**	**-1.0**
A28A	**Rude Farm, Bot** baz=331	**130.88**	**19**	P		**PKPdf**	**04 35 04.4**	**+0.5**
CWC	**Cottonwood Cre** baz=303	**130.92**	**43**	P		**PKPdf**	**04 35 04.6**	**+0.1**
ULM	**Lac du Bonnet** comp=Z,22nm,0.7s,baz=350,slow=2.7,SNR=23	**130.94**	**15**	PKP		**PKPdf**	**04 35 03.5**	**-0.5**
ULM	comp=Z,4.9nm,0.7s,baz=324,slow=3.7,SNR=4.0			SKPbc		**SKPbc**	**04 38 22.7**	**-1.7**
ISA	**Isabella, Lake** baz=302	**131.07**	**44**	P		**PKPdf**	**04 35 04.9**	**+0.1**
GRAC	**Grapevine Rang** baz=304	**131.09**	**42**	P		**PKPdf**	**04 35 04.9**	**+0.1**
ARVC	**Arvin** baz=301	**131.10**	**45**	P		**PKPdf**	**04 35 04.8**	**+0.1**
A29A	**Manning Farm,** baz=332	**131.20**	**18**	P		**PKPdf**	**04 35 04.2**	**-0.3**
B28A	**Dugan Ranch, T** baz=331	**131.25**	**19**	P		**PKPdf**	**04 35 04.8**	**+0.1**
OSI	**Osito Audit: C** baz=301	**131.44**	**45**	P		**PKPdf**	**04 35 05.8**	**+0.4**
BLG	**Laguna Peak, P** baz=300	**131.45**	**46**	P		**PKPdf**	**04 35 06.4**	**+0.9**
R11A	**Troy Canyon, C** baz=307	**131.46**	**39**	P		**PKPdf**	**04 35 05.3**	**-0.2**
R11A	**Troy Canyon, C**	**131.46**	**39**	*e*PKPdf		**PKPdf**	**04 35 06.6**	**+1.0**
R11A				*e*SKPbc		**SKPab**	**04 38 27.6**	**0.0**
A30A	**Hoffart Farm,** baz=333	**131.46**	**17**	P		**PKPdf**	**04 35 05.0**	**0.0**
MPMC	**Manual Prospec** baz=303	**131.53**	**43**	P		**PKPdf**	**04 35 06.3**	**+0.5**
SNCC	**San Nicolas Is** baz=299	**131.54**	**47**	P		**PKPdf**	**04 35 06.5**	**+0.9**
B29A	**Wagenman Farm,** baz=332	**131.56**	**18**	P		**PKPdf**	**04 35 05.2**	**0.0**
HWUT	**Hardware Ranch**	**131.73**	**33**	*e*PKPdf		**PKPdf**	**04 35 06.4**	**+0.4**
HWUT				*e*SKPbc		**SKPab**	**04 38 28.6**	**+0.1**
D26A	**Manning** baz=327	**131.75**	**22**	P		**PKPdf**	**04 35 06.9**	**+1.2**
EDW2	**Edwards Air Fo** baz=302	**131.81**	**44**	P		**PKPdf**	**04 35 06.3**	**+0.1**
TPNV	**Topopah Spring** baz=305	**131.85**	**41**	P		**PKPdf**	**04 35 06.6**	**+0.3**
C28A	**Hausauer Farms** baz=330	**131.88**	**20**	P		**PKPdf**	**04 35 06.4**	**+0.5**
B30A	**Myrvik Farm, E** baz=333	**131.89**	**18**	P		**PKPdf**	**04 35 05.7**	**-0.1**
DECC	**Green Verdugo** baz=301	**131.90**	**45**	P		**PKPdf**	**04 35 06.6**	**+0.3**
BW06	**Boulder Array** baz=316	**131.97**	**31**	P		**PKPdf**	**04 35 06.6**	**+0.1**
BW06	**Boulder Array**	**131.97**	**31**	*e*PKPdf		**PKPdf**	**04 35 06.5**	**+0.1**
BW06				*e*SKPbc		**SKPbc**	**04 38 28.2**	**-0.6**
PDAR	**Pinedale Array** comp=Z,3.2nm,0.6s,baz=211,slow=1.2,SNR=19	**131.97**	**31**	PKP		**PKPdf**	**04 35 05.8**	**-0.6**
PDAR	comp=Z,0.8nm,0.6s,baz=327,slow=2.5,SNR=3.9			PP		**PP**	**04 37 29.9**	**+2.7**
PDAR	comp=Z,3.3nm,0.7s,baz=276,slow=0.1,SNR=8.1			SKPab		**SKPbc**	**04 38 28.5**	**-0.3**
DUG	**Dugway, Tooele** baz=311	**131.98**	**35**	P		**PKPdf**	**04 35 07.4**	**+1.0**
DUG	**Dugway, Tooele**	**131.98**	**35**	*e*PKIKP		**PKPdf**	**04 35 07.3**	**+0.8**
DUG	**Dugway, Tooele**	**131.98**	**35**	*e*PKPdf		**PKPdf**	**04 35 07.3**	**+0.8**
DUG				*e*SKPbc		**SKPbc**	**04 38 29.1**	**+0.3**
A32A	**Rocking H Ranc** baz=336,SNR=6.5	**132.00**	**16**	P		**PKPdf**	**04 35 06.0**	**0.0**
MDND	**Maddock** baz=331	**132.03**	**19**	P		**PKPdf**	**04 35 06.3**	**+0.2**
MDND	**Maddock**	**132.03**	**19**	*e*PKPdf		**PKPdf**	**04 35 05.8**	**-0.3**
B31A	**Greenbush Farm** baz=334	**132.12**	**17**	P		**PKPdf**	**04 35 06.2**	**0.0**
E26A	**Carlson Angus** baz=327	**132.21**	**22**	P		**PKPdf**	**04 35 06.8**	**+0.3**
A33A	**Warroad** baz=337,SNR=9.3	**132.27**	**15**	P		**PKPdf**	**04 35 06.2**	**-0.3**
D28A	**Regan** baz=330	**132.28**	**20**	P		**PKPdf**	**04 35 07.1**	**+0.5**
F25A	**Bowman** baz=326	**132.28**	**23**	P		**PKPdf**	**04 35 05.5**	**-1.3**
BFSC	**Mount Baldy Ra** baz=302	**132.38**	**45**	P		**PKPdf**	**04 35 06.9**	**-0.5**
GSC	**Goldstone, Bar** baz=303	**132.41**	**43**	P		**PKPdf**	**04 35 08.7**	**+1.4**
B32A	**Ashes, Strandq** baz=336,SNR=8.3	**132.46**	**16**	P		**PKPdf**	**04 35 06.3**	**-0.6**
RRX	**Edison Barstow** baz=303	**132.51**	**44**	P		**PKPdf**	**04 35 08.2**	**+0.8**
C30A	**Mose, Pekin** baz=333	**132.51**	**18**	P		**PKPdf**	**04 35 07.0**	**0.0**
F26A	**Lodgepole** baz=326	**132.65**	**23**	P		**PKPdf**	**04 35 07.8**	**+0.4**
C31A	**Landman Farms,** baz=334	**132.66**	**17**	P		**PKPdf**	**04 35 07.1**	**-0.2**
D29A	**Pettibone, Tap** baz=331	**132.72**	**19**	P		**PKPdf**	**04 35 07.7**	**+0.3**
AGMN	**Agassiz Nation** baz=336,SNR=7.9	**132.73**	**16**	P		**PKPdf**	**04 35 06.8**	**-0.6**
AGMN	**Agassiz Nation**	**132.73**	**16**	*e*PKPdf		**PKPdf**	**04 35 06.5**	**-0.9**
AGMN				*e*PP		**PP**	**04 37 27.5**	**-3.8**
AGMN				*e*SKPbc		**SKPbc**	**04 38 30.5**	**-0.4**
B33A	**Robert and Kas** baz=337,SNR=5.4	**132.83**	**15**	P		**PKPdf**	**04 35 07.2**	**-0.4**
B34A	**Aery, Baudette** baz=338,SNR=12	**132.87**	**14**	P		**PKPdf**	**04 35 07.9**	**+0.2**
D30A	**Buchanan** baz=332	**132.95**	**19**	P		**PKPdf**	**04 35 08.0**	**+0.1**
MURC	**Murrieta** baz=302	**133.05**	**45**	P		**PKPdf**	**04 35 08.1**	**-0.4**
B35A	**Bob, Littlefor** baz=339	**133.22**	**14**	P		**PKPdf**	**04 35 08.5**	**+0.2**
C33A	**Trail** baz=336,SNR=8.7	**133.25**	**16**	P		**PKPdf**	**04 35 08.1**	**-0.3**
H25A	**Fruitdale** baz=325	**133.29**	**24**	P		**PKPdf**	**04 35 07.9**	**-0.8**
D31A	**Mcclaflin, Tow** baz=333	**133.33**	**18**	P		**PKPdf**	**04 35 08.6**	**0.0**
D32A	**Dogwood Acres,** baz=334	**133.46**	**17**	P		**PKPdf**	**04 35 08.5**	**-0.3**
GMRC	**Granite Mounta** baz=304	**133.47**	**43**	P		**PKPdf**	**04 35 09.6**	**+0.1**
RSSD	**Black Hills** baz=324	**133.51**	**25**	P		**PKPdf**	**04 35 09.5**	**+0.2**
RSSD	**Black Hills**	**133.51**	**25**	*e*PKHKP		PKPpre	04 34 59.9	
RSSD				*e*			04 35 09.0	
RSSD	**Black Hills**	**133.51**	**25**	*e*PKPpre		PKPpre	04 34 59.9	
RSSD				*e*PKPdf		**PKPdf**	**04 35 09.0**	**-0.3**
RSSD				*e*SKPbc		**SKPbc**	**04 38 33.8**	**-0.3**
K22A	**Casper** baz=320	**133.55**	**28**	P		**PKPdf**	**04 35 08.9**	**-0.4**
K22A	**Casper**	**133.55**	**28**	*e*PKPdf		**PKPdf**	**04 35 09.1**	**-0.3**
K22A				*e*SKPbc		**SKPbc**	**04 38 35.0**	**+0.8**
PFO	**Pinyon Flats O** comp=Z,10nm,0.8s,baz=236,slow=1.3,SNR=15	**133.56**	**45**	PKP		**PKPdf**	**04 35 11.1**	**+1.5**
PFO	comp=Z,14nm,1.0s,baz=296,slow=3.6,SNR=8.1			SKPab		**SKPab**	**04 38 35.8**	**-0.8**
PFO	**Pinyon Flats O** baz=302	**133.56**	**45**	P		**PKPdf**	**04 35 09.5**	**-0.1**
PFO	**Pinyon Flats O**	**133.56**	**45**	*e*PKPdf		**PKPdf**	**04 35 10.7**	**+1.1**
PFO				*e*SKPbc		**SKPbc**	**04 38 35.3**	**+0.8**
TPFO	**Pinon Flats** baz=302	**133.57**	**45**	P		**PKPdf**	**04 35 10.0**	**+0.4**
C34A	**RKJ Ranch, Bem** baz=337	**133.58**	**15**	P		**PKPdf**	**04 35 08.9**	**-0.1**
BELC	**Belle Mtn. Jos** baz=303	**133.68**	**44**	P		**PKPdf**	**04 35 10.9**	**+1.1**
E31A	**Nome** baz=333	**133.72**	**18**	P		**PKPdf**	**04 35 09.5**	**+0.1**
C35A	**Jirik Farms, M** baz=339,SNR=7.8	**133.77**	**14**	P		**PKPdf**	**04 35 08.6**	**-0.8**
D33A	**AnnSam, Waubun** baz=336,SNR=10.0	**133.80**	**16**	P		**PKPdf**	**04 35 09.1**	**-0.4**
MONP2	**Monument Peak** baz=302	**133.97**	**46**	P		**PKPdf**	**04 35 10.5**	**0.0**
F30A	**Leola** baz=331	**133.98**	**20**	P		**PKPdf**	**04 35 10.1**	**+0.2**
C36A	**Pine Crest Far** baz=340	**133.99**	**13**	P		**PKPdf**	**04 35 09.4**	**-0.4**
D34A	**Park Rapids** baz=337,SNR=9.4	**134.03**	**16**	P		**PKPdf**	**04 35 09.9**	**0.0**
EYMN	**Ely** baz=342	**134.10**	**12**	P		**PKPdf**	**04 35 09.9**	**-0.1**
EYMN	**Ely**	**134.10**	**12**	*e*PKPdf		**PKPdf**	**04 35 09.9**	**-0.1**
EYMN				*e*PP		**PP**	**04 37 37.8**	**-2.1**
C37A	**Embarrass** baz=341	**134.16**	**13**	P		**PKPdf**	**04 35 10.5**	**+0.4**
IRM	**Iron Mountain** baz=304	**134.18**	**43**	P		**PKPdf**	**04 35 11.3**	**+0.7**
F31A	**Hecla** baz=332	**134.22**	**19**	P		**PKPdf**	**04 35 11.2**	**+0.9**
G29A	**Hoven** baz=330	**134.23**	**21**	P		**PKPdf**	**04 35 11.5**	**+1.1**
BC3	**Big Chuckawall** baz=304	**134.24**	**44**	P		**PKPdf**	**04 35 12.0**	**+1.1**
IKP	**In-Ko-Pah, Jac** baz=302	**134.32**	**46**	P		**PKPdf**	**04 35 11.4**	**+0.4**
D35A	**Remer** baz=338	**134.33**	**15**	P		**PKPdf**	**04 35 11.1**	**+0.6**
E33A	**Westby DABS, E** baz=335,SNR=8.1	**134.33**	**17**	P		**PKPdf**	**04 35 10.5**	**0.0**
C38A	**Sawbill Land.** baz=342	**134.37**	**12**	P		**PKPdf**	**04 35 11.4**	**+0.9**
SWSC	**Sam W. Stewart** baz=303	**134.38**	**45**	P		**PKPdf**	**04 35 12.1**	**+1.1**
D36A	**Goodland** baz=340	**134.46**	**14**	P		**PKPdf**	**04 35 11.7**	**+1.0**
C39A	**Grand Marais** baz=344	**134.50**	**11**	P		**PKPdf**	**04 35 11.2**	**+0.4**
O20A	**White River Ci** baz=316	**134.56**	**32**	P		**PKPdf**	**04 35 12.1**	**+0.7**
O20A	**White River Ci**	**134.56**	**32**	*e*PKPdf		**PKPdf**	**04 35 11.4**	**+0.1**
E34A	**Wadena** baz=337	**134.56**	**16**	P		**PKPdf**	**04 35 10.9**	**0.0**
G30A	**Faulkton** baz=331	**134.56**	**20**	P		**PKPdf**	**04 35 11.2**	**+0.2**
H29A	**Onida** baz=329	**134.61**	**22**	P		**PKPdf**	**04 35 11.3**	**+0.2**
D37A	**Cotton** baz=340	**134.65**	**13**	P		**PKPdf**	**04 35 11.2**	**+0.2**
E35A	**Pequot Lakes** baz=338,SNR=8.2	**134.72**	**15**	P		**PKPdf**	**04 35 11.1**	**-0.1**
PDMCI	**Parker Dam,Lak** baz=305	**134.78**	**43**	P		**PKPdf**	**04 35 11.8**	**+0.1**
Y12C	**Blythe** baz=304	**134.83**	**44**	P		**PKPdf**	**04 35 12.4**	**+0.6**
F33A	**5 Mile Ranch,** baz=335	**134.85**	**17**	P		**PKPdf**	**04 35 11.7**	**+0.2**
G32A	**Webster** baz=333	**135.00**	**19**	P		**PKPdf**	**04 35 12.1**	**+0.3**
GLA	**Glamis** baz=304	**135.01**	**45**	P		**PKPdf**	**04 35 12.6**	**+0.4**
E36A	**McGregor** baz=339,SNR=15	**135.05**	**14**	P		**PKPdf**	**04 35 12.1**	**+0.2**
PHWY	**Pilot Hill**	**135.09**	**29**	*e*PKPdf		**PKPdf**	**04 35 12.2**	**-0.2**
I29A	**Vivian Onida** baz=329	**135.09**	**22**	P		**PKPdf**	**04 35 12.7**	**+0.6**
N23A	**Red Feather La** baz=320	**135.17**	**30**	P		**PKPdf**	**04 35 13.2**	**+0.6**
E37A	**Wrenshall** baz=340	**135.21**	**13**	P		**PKPdf**	**04 35 12.7**	**+0.6**
SUSD	**Miller** baz=331	**135.22**	**21**	P		**PKPdf**	**04 35 12.6**	**+0.3**
F35A	**Swanville** baz=337,SNR=7.9	**135.32**	**16**	P		**PKPdf**	**04 35 12.6**	**+0.2**
H31A	**Wolsey** baz=331	**135.36**	**20**	P		**PKPdf**	**04 35 12.9**	**+0.4**
G33A	**Ortonville** baz=334	**135.39**	**18**	P		**PKPdf**	**04 35 12.6**	**+0.1**
PV04	**Paradox Valley**	**135.43**	**34**	*e*PKPdf		**PKPdf**	**04 35 14.0**	**+1.0**
I30A	**Oacoma** baz=330	**135.51**	**21**	P		**PKPdf**	**04 35 13.4**	**+0.6**
G34A	**Benson** baz=335	**135.59**	**17**	P		**PKPdf**	**04 35 13.2**	**+0.3**
F36A	**Milaca** baz=339,SNR=15	**135.60**	**15**	P		**PKPdf**	**04 35 12.6**	**-0.3**
PLCA	**Paso Flores** comp=Z,5.0nm,1.0s,baz=62,slow=0.9,SNR=3.2	**135.62**	**189**	PKP		**PKPdf**	**04 35 16.0**	**+2.8**
PLCA	**Paso Flores**	**135.62**	**189**	PKIKP		**PKPdf**	**04 35 16.0**	**+2.8**
PLCA	comp=Z,5.0nm,1.0s			pmax		pmax		
I31A	**Royce, Wessing** baz=331	**135.73**	**21**	P		**PKPdf**	**04 35 13.8**	**+0.6**
H33A	**Prehn Over Nor** baz=334	**135.75**	**19**	P		**PKPdf**	**04 35 13.6**	**+0.4**
PV01	**Paradox Valley**	**135.80**	**34**	*e*PKPdf		**PKPdf**	**04 35 14.9**	**+1.1**
PV01				*e*SKPbc		**SKPbc**	**04 38 42.1**	**+0.5**
WUAZ	**Wupatki** baz=309	**135.86**	**39**	P		**PKPdf**	**04 35 13.5**	**-0.4**
WUAZ	**Wupatki**	**135.86**	**39**	*e*PKPdf		**PKPdf**	**04 35 15.3**	**+1.4**
G35A	**Watkins** baz=337,SNR=10	**135.94**	**16**	P		**PKPdf**	**04 35 14.2**	**+0.7**
J30A	**Dallas** baz=329	**136.00**	**22**	P		**PKPdf**	**04 35 14.1**	**+0.4**
H34A	**Spellman Lake,** baz=335,SNR=6.5	**136.06**	**18**	P		**PKPdf**	**04 35 14.4**	**+0.6**
I32A	**Karley and Nic** baz=332	**136.10**	**20**	P		**PKPdf**	**04 35 14.4**	**+0.5**
TRQA	**Tornquist**	**136.10**	**199**	*e*PKPdf		**PKPdf**	**04 35 15.0**	**+0.9**
G36A	**St. Michael** baz=338	**136.12**	**15**	P		**PKPdf**	**04 35 14.3**	**+0.4**
ISCO	**Idaho Springs** baz=319	**136.16**	**30**	P		**PKPdf**	**04 35 14.5**	**0.0**
ISCO	**Idaho Springs**	**136.16**	**30**	*e*PKIKP		**PKPdf**	**04 35 13.7**	**-0.8**
ISCO	**Idaho Springs**	**136.16**	**30**	*e*PKPdf		**PKPdf**	**04 35 13.7**	**-0.8**
J31A	**Geddes** baz=330	**136.30**	**21**	P		**PKPdf**	**04 35 14.2**	**-0.1**
I33A	**Coleman** baz=333	**136.30**	**19**	P		**PKPdf**	**04 35 14.4**	**+0.1**
H35A	**Sunnyside Ranc** baz=336,SNR=16	**136.31**	**17**	P		**PKPdf**	**04 35 14.6**	**+0.4**
COWI	**Conover**	**136.34**	**11**	*e*PKPdf		**PKPdf**	**04 35 13.9**	**-0.4**
SPMN	**Marine on St.** baz=339	**136.37**	**15**	P		**PKPdf**	**04 35 15.0**	**+0.7**
SPMN	**Marine on St.**	**136.37**	**15**	*e*PKPdf		**PKPdf**	**04 35 15.6**	**+1.3**
SPMN				*e*PP		**PP**	**04 37 52.5**	**-1.8**
MVCO	**Mesa Verde** baz=314	**136.48**	**35**	P		**PKPdf**	**04 35 15.8**	**+0.7**
MVCO	**Mesa Verde**	**136.48**	**35**	*e*PKPdf		**PKPdf**	**04 35 16.3**	**+1.2**
K30A	**Basset** baz=329	**136.51**	**23**	P		**PKPdf**	**04 35 15.1**	**+0.4**
J32A	**Parkston** baz=332	**136.55**	**20**	P		**PKPdf**	**04 35 15.0**	**+0.3**
I34A	**Hadley** baz=335,SNR=10.0	**136.61**	**18**	P		**PKPdf**	**04 35 15.1**	**+0.2**
ECSD	**EROS Data Cent** baz=333	**136.64**	**19**	P		**PKPdf**	**04 35 14.7**	**-0.2**
ECSD	**EROS Data Cent**	**136.64**	**19**	*e*PKPpre		PKPpre	04 35 03.3	
ECSD				*e*PKPdf		**PKPdf**	**04 35 14.7**	**-0.2**
ECSD				*e*PP		**PP**	**04 37 54.5**	**-1.7**
ECSD				*e*SKPbc		**SKPbc**	**04 38 45.5**	**+1.8**
H36A	**Jessenland, He**	**136.68**	**16**	P		**PKPdf**	**04 35 15.7**	**+0.8**
K31A	**O'Neill** baz=330	**136.87**	**22**	P		**PKPdf**	**04 35 15.9**	**+0.5**
J33A	**Davis** baz=333	**136.90**	**20**	P		**PKPdf**	**04 35 15.3**	**0.0**
H37A	**Dierke Farm, C** baz=339	**136.94**	**15**	P		**PKPdf**	**04 35 15.2**	**-0.2**
OGNE	**Ogallala** baz=325	**136.95**	**26**	P		**PKPdf**	**04 35 15.5**	**-0.2**
Q24A	**Divide** baz=319	**137.03**	**31**	P		**PKPdf**	**04 35 16.6**	**+0.5**
214A	**Organ Pipe Nat** baz=305	**137.03**	**44**	P		**PKPdf**	**04 35 17.3**	**+1.3**
214A	**Organ Pipe Nat**	**137.03**	**44**	*e*PKPdf		**PKPdf**	**04 35 16.6**	**+0.6**
214A				*e*SKPbc		**SKPbc**	**04 38 46.4**	**+1.1**
214A				*e*SKPab		**SKPab**	**04 38 52.9**	**+1.1**
S22A	**4UR Ranch, Cre** baz=316	**137.04**	**33**	P		**PKPdf**	**04 35 17.5**	**+1.3**
I35A	**Creekview Farm** baz=336	**137.04**	**17**	P		**PKPdf**	**04 35 15.2**	**-0.4**
K32A	**Verdigre** baz=331	**137.13**	**21**	P		**PKPdf**	**04 35 16.4**	**+0.6**
W18A	**Petrified Fore** baz=311	**137.14**	**38**	P		**PKPdf**	**04 35 17.2**	**+1.0**
W18A	**Petrified Fore**	**137.14**	**38**	*e*PKPdf		**PKPdf**	**04 35 17.3**	**+1.0**
I36A	**Fitzsimmons Fa** baz=337	**137.17**	**16**	P		**PKPdf**	**04 35 17.2**	**+1.3**
L31A	**Butterfield Fa** baz=330	**137.23**	**22**	P		**PKPdf**	**04 35 16.8**	**+0.8**
J34A	**George** baz=334	**137.26**	**19**	P		**PKPdf**	**04 35 16.4**	**+0.4**
I37A	**Lemond, Waseca** baz=338,SNR=11	**137.34**	**16**	P		**PKPdf**	**04 35 16.3**	**+0.2**
J35A	**Milford** baz=335	**137.42**	**18**	P		**PKPdf**	**04 35 16.3**	**-0.1**
I38A	**Scanlan Farm,** baz=340	**137.60**	**15**	P		**PKPdf**	**04 35 17.2**	**+0.5**
J36A	**Seneca 1, Swea** baz=336,SNR=14	**137.71**	**17**	P		**PKPdf**	**04 35 16.9**	**0.0**
K34A	**Le Mars** baz=334	**137.75**	**19**	P		**PKPdf**	**04 35 17.1**	**+0.2**
SDCO	**Great Sand Dun** baz=318	**137.76**	**32**	P		**PKPdf**	**04 35 17.5**	**-0.1**
SDCO	**Great Sand Dun**	**137.76**	**32**	*e*PKPpre		PKPpre	04 35 07.7	
SDCO				*e*PKPdf		**PKPdf**	**04 35 17.3**	**-0.3**
SDCO				*e*PP		**PP**	**04 38 01.3**	**-2.6**
L33A	**Hoskins** baz=332	**137.81**	**21**	P		**PKPdf**	**04 35 17.4**	**+0.3**
M31A	**Lambtecht Ranc** baz=329	**137.89**	**23**	P		**PKPdf**	**04 35 16.3**	**-1.0**
J37A	**Redenius Farm,** baz=338,SNR=6.0	**137.95**	**16**	P		**PKPdf**	**04 35 16.9**	**-0.4**
K35A	**Storm Lake** baz=335	**137.99**	**18**	P		**PKPdf**	**04 35 17.0**	**-0.4**
BGNE	**Belgrade** baz=330	**138.15**	**22**	P		**PKPdf**	**04 35 17.1**	**-0.7**
BGNE	**Belgrade**	**138.15**	**22**	*e*PKPdf		**PKPdf**	**04 35 17.9**	**+0.1**
TUC	**Tucson** baz=307	**138.22**	**43**	P		**PKPdf**	**04 35 18.6**	**+0.4**
TUC	**Tucson**	**138.22**	**43**	*e*PKHKP		PKPpre	04 35 11.9	
TUC				*e*			04 35 19.3	
TUC	**Tucson**	**138.22**	**43**	*e*PKPpre		PKPpre	04 35 11.9	
TUC				*e*PKPdf		**PKPdf**	**04 35 19.2**	**+1.0**
TUC				*e*SKPbc		**SKPbc**	**04 38 49.5**	**+0.7**
KSCO	**Kaye Shedlock'** baz=323	**138.23**	**28**	P		**PKPdf**	**04 35 18.7**	**+0.5**
J38A	**Wedel Dairy, R** baz=339	**138.24**	**15**	P		**PKPdf**	**04 35 17.5**	**-0.4**
L34A	**Svendsen Farm,** baz=333	**138.30**	**20**	P		**PKPdf**	**04 35 18.2**	**+0.2**
K36A	**Gilmore City** baz=336,SNR=6.3	**138.31**	**18**	P		**PKPdf**	**04 35 18.5**	**+0.5**
N31A	**Bailey Ranch,** baz=329	**138.34**	**23**	P		**PKPdf**	**04 35 18.2**	**+0.1**
M33A	**Taylor Creek F** baz=332	**138.36**	**21**	P		**PKPdf**	**04 35 18.0**	**-0.1**
J39A	**Decorah** baz=340	**138.42**	**14**	P		**PKPdf**	**04 35 17.1**	**-1.0**
K37A	**Belmond** baz=337,SNR=9.9	**138.43**	**17**	P		**PKPdf**	**04 35 17.3**	**-0.9**
L35A	**Bielow Farm, R** baz=334,SNR=10	**138.44**	**19**	P		**PKPdf**	**04 35 17.9**	**-0.4**
M34A	**Aspy Farms, Fr** baz=332	**138.64**	**20**	P		**PKPdf**	**04 35 17.8**	**-0.8**
SADO	**Sadowa**	**138.64**	**1**	*e*PKPdf		**PKPdf**	**04 35 17.3**	**-1.2**
SADO				*e*PP		**PP**	**04 38 06.3**	**-2.0**
N32A	**Stulken Farm,** baz=330	**138.65**	**23**	P		**PKPdf**	**04 35 18.5**	**-0.2**
L36A	**Harm Buss Farm** baz=335	**138.73**	**18**	P		**PKPdf**	**04 35 19.0**	**+0.2**
O31A	**Woolen Ranch,** baz=328	**138.76**	**24**	P		**PKPdf**	**04 35 19.5**	**+0.6**
K38A	**Parkersburg** baz=338	**138.78**	**16**	P		**PKPdf**	**04 35 18.8**	**0.0**
T25A	**Trinidad** baz=319	**138.79**	**32**	P		**PKPdf**	**04 35 19.8**	**+0.5**
K39A	**Oelwein** baz=340	**138.96**	**15**	P		**PKPdf**	**04 35 18.2**	**-1.0**
M35A	**Neola** baz=334	**138.97**	**20**	P		**PKPdf**	**04 35 19.0**	**-0.3**
L37A	**Phoenix Point,** baz=337	**138.99**	**17**	P		**PKPdf**	**04 35 18.4**	**-0.8**
O32A	**Brockman Farm,** baz=329	**139.09**	**23**	P		**PKPdf**	**04 35 19.6**	**+0.1**
K40A	**Colesburg** baz=341	**139.16**	**14**	P		**PKPdf**	**04 35 18.2**	**-1.3**
JFWS	**Jewell Farm**	**139.16**	**13**	*e*PKHKP		PKPpre	04 35 11.0	
JFWS				*e*			04 35 19.1	
JFWS				*e*			04 38 09.6	
JFWS	**Jewell Farm**	**139.16**	**13**	*e*PKPpre		PKPpre	04 35 11.0	
JFWS				*e*PKPdf		**PKPdf**	**04 35 19.1**	**-0.4**
JFWS				*e*PP		**PP**	**04 38 09.6**	**-2.1**
L38A	**Oak Wood Farm,** baz=338	**139.20**	**16**	P		**PKPdf**	**04 35 19.8**	**+0.2**
ANMO	**Albuquerque** baz=315	**139.24**	**36**	P		**PKPdf**	**04 35 19.4**	**-0.8**
ANMO	**Albuquerque**	**139.24**	**36**	*i* PKIKP		**PKPdf**	**04 35 21.1**	**+0.9**
ANMO	**Albuquerque**	**139.24**	**36**	*e*PKPpre		PKPpre	04 35 12.1

	baz=328							
N39A	**Derby Farms, D**	140.50	17	P		PKPpre	04 35 14.7	
	baz=338							
P35A	**Duane Minner,**	140.58	21	P		PKPpre	04 35 16.6	
	baz=332,SNR=7.4							
O37A	**Wolven Farm, M**	140.65	19	P		**PKPdf**	**04 35 19.3**	**-3.0**
	baz=335							
KSU1	**Kansas State U**	140.74	22	P		**PKPdf**	**04 35 19.6**	**-3.0**
	baz=331							
KSU1	**Kansas State U**	140.74	22	*e*PKPdf		**PKPdf**	**04 35 22.7**	**+0.2**
KSU1				*e*PP		**PP**	**04 38 20.2**	**-1.4**
Q34A	**Chapman**	140.77	23	P		**PKPdf**	**04 35 22.4**	**-0.2**
	baz=330							
P36A	**Good Intent, A**	140.79	20	P		**PKPdf**	**04 35 22.8**	**+0.2**
	baz=333							
R33A	**Olander Ranch,**	140.88	24	P		PKPpre	04 35 17.6	
	baz=328							
O38A	**Galt**	140.91	18	P		**PKPdf**	**04 35 22.5**	**-0.2**
	baz=336							
S32A	**Newby Ranch, P**	140.98	26	P		**PKPdf**	**04 35 24.1**	**+1.0**
	baz=327							
O39A	**Kirksville**	141.06	17	P		**PKPdf**	**04 35 22.3**	**-0.7**
	baz=338							
P37A	**Lathrop**	141.11	19	P		PKPpre	04 35 17.6	
	baz=335							
BINY	**Binghamton**	141.14	357	*e*PKPpre		PKPpre	04 35 16.0	
BINY				*e*PKPdf		**PKPdf**	**04 35 23.5**	**+0.3**
BINY				*e*PP		**PP**	**04 38 21.9**	**-1.8**
Q35A	**Mercer Eighty,**	141.16	22	P		**PKPdf**	**04 35 18.2**	**-5.1**
	baz=332							
R34A	**Isabella, Hill**	141.18	24	P		PKPpre	04 35 18.0	
	baz=330,SNR=5.2							
Q36A	**Arnold C. Orve**	141.28	21	P		PKPpre	04 35 17.3	
	baz=333							
P38A	**Dawn**	141.34	19	P		PKPpre	04 35 18.0	
	baz=336							
O40A	**La Belle**	141.38	16	P		**PKPdf**	**04 35 21.7**	**-1.9**
	baz=339							
T32A	**Huddler Ranch,**	141.42	26	P		PKPpre	04 35 18.6	
	baz=326							
S33A	**Kaszmaul Farm,**	141.47	25	P		PKPpre	04 35 18.4	
	baz=328							
R35A	**Emporia Munici**	141.57	22	P		PKPpre	04 35 20.2	
	baz=331							
HDIL	**Hopedale**	141.62	13	P		PKPpre	04 35 17.8	
	baz=343							
HDIL	**Hopedale**	141.62	13	*e*PKPpre		PKPpre	04 35 17.5	
O41A	**Passleys Farm,**	141.65	15	P		PKPpre	04 35 18.0	
	baz=340							
P39B	**Salisbury**	141.71	18	P		PKPpre	04 35 18.0	
	baz=337							
Q37A	**Longview Farm,**	141.71	20	P		PKPpre	04 35 18.8	
	baz=334							
S34A	**Willow Spring**	141.75	24	P		PKPpre	04 35 18.8	
	baz=329							
T33A	**Patterson Ranc**	141.80	26	P		PKPpre	04 35 19.1	
	baz=327							
R36A	**Gordon, Harris**	141.83	22	P		PKPpre	04 35 19.4	
	baz=332							
P40A	**Paris**	141.88	17	P		PKPpre	04 35 20.9	
	baz=338							
M54A	**Oil Creek Stat**	141.89	1	P		PKPpre	04 35 18.3	
	baz=358							
Q38A	**Cooks Store, C**	141.92	19	P		PKPpre	04 35 19.5	
	baz=335							
AMTX	**Amarillo**	141.93	31	P		PKPpre	04 35 19.4	
	baz=321							
AMTX	**Amarillo**	141.93	31	*e*PKPdf		**PKPdf**	**04 35 23.3**	**-1.6**
P41A	**Barry, Barry**	142.02	16	P		PKPpre	04 35 19.0	
	baz=340							
MSTX	**Muleshoe**	142.04	34	P		PKPpre	04 35 20.4	
	baz=318							
MSTX	**Muleshoe**	142.04	34	*e*PKPdf		**PKPdf**	**04 35 25.1**	**0.0**
Q39A	**Willow Grove F**	142.04	18	P		PKPpre	04 35 19.2	
	baz=336							
U32A	**Winter Ranch,**	142.05	27	P		PKPpre	04 35 19.6	
	baz=326							
S35A	**Otter Creek Ra**	142.08	23	P		PKPpre	04 35 21.0	
	baz=330,SNR=7.7							
R37A	**Teagarden Farm**	142.09	21	P		PKPpre	04 35 20.0	
	baz=333,SNR=7.9							
MNTX	**Cornudas Mount**	142.13	39	P		PKPpre	04 35 21.0	
	baz=313							
MNTX	**Cornudas Mount**	142.13	39	*e*PKPpre		PKPpre	04 35 21.1	
MNTX				*e*PKPdf		**PKPdf**	**04 35 26.0**	**+0.8**
MNTX				*e*SKPdf		**SKPbc**	**04 38 58.1**	**-1.0**
SFIN	**Lafayette**	142.25	11	P		PKPpre	04 35 19.8	
	baz=346							
SFIN	**Lafayette**	142.25	11	*e*PKPpre		PKPpre	04 35 18.8	
SFIN				*e*PP		**PP**	**04 38 28.3**	**-2.1**
T34A	**McClaskey Farm**	142.30	25	P		PKPpre	04 35 20.9	
	baz=329,SNR=8.3							
S36A	**Lake Cedric, C**	142.33	22	P		PKPpre	04 35 20.6	
	baz=332							
Q40A	**Laux Farm, Aux**	142.37	17	P		PKPpre	04 35 20.2	
	baz=338							
N59A	**State Game Lan**	142.40	356	P		PKPpre	04 35 20.3	
	baz=4.7							
U33A	**Lingo Farm, Me**	142.40	26	P		PKPpre	04 35 20.7	
	baz=327							
N54A	**Moraine State**	142.43	2	P		PKPpre	04 35 20.2	
	baz=358							
MRA	**San Martin**	142.48	198	*i* P		PKPpre	04 35 22.4	
R38A	**Fenwick Farm,**	142.52	20	P		PKPpre	04 35 20.4	
	baz=334							
V32A	**Arapaho**	142.57	28	P		PKPpre	04 35 22.1	
	baz=325							
S37A	**Fort Scott**	142.58	21	P		PKPpre	04 35 20.8	
	baz=333,SNR=5.0							
U34A	**Anderson Ranch**	142.65	25	P		PKPpre	04 35 21.6	
	baz=328							
U34A	**Anderson Ranch**	142.65	25	*e*PKPpre		PKPpre	04 35 21.6	
T35A	**Sooner Cattle**	142.67	24	P		PKPpre	04 35 21.9	
	baz=330,SNR=5.8							
R39A	**Chumby, Stover**	142.69	19	P		PKPpre	04 35 21.7	
	baz=336							
AAGR	**Agrelo**	142.70	194	*e*P		PKPpre	04 35 22.8	
SSPA	**Standing Stone**	142.76	359	*e*PKPpre		PKPpre	04 35 21.4	
SSPA				*e*PKPdf		**PKPdf**	**04 35 26.3**	**+0.2**
SSPA				*e*PP		**PP**	**04 38 28.4**	**-5.1**
T36A	**Boggs Farm, Ca**	142.80	23	P		PKPpre	04 35 22.4	
	baz=331,SNR=18							
V33A	**Lossen Ranch,**	142.84	27	P		PKPpre	04 35 22.1	
	baz=326							
Q42A	**Golden Eagle**	142.88	15	P		PKPpre	04 35 21.8	
	baz=340							
ARCO	**CERRO ARCO**	142.96	194	*e*P		**PKPdf**	**04 35 24.2**	**-2.7**
R40A	**Maddies Statio**	142.96	18	P		PKPpre	04 35 22.4	
	baz=337							
W32A	**Sentinel**	142.96	29	P		PKPpre	04 35 22.7	
	baz=324							
ACSO	**Alum Creek Sta**	142.97	6	*e*PKPpre		PKPpre	04 35 21.8	
ACSO				*e*PKPdf		**PKPdf**	**04 35 26.4**	**0.0**
ACSO				*e*PP		**PP**	**04 38 30.6**	**-4.2**
S38A	**Stockton**	143.02	20	P		PKPab	04 35 22.4	+0.5
	baz=334							
U35A	**Pawnee**	143.05	25	P		PKPbc	04 35 22.9	-0.6
	baz=329,SNR=12							
Q43A	**New Douglas**	143.06	14	P		PKPbc	04 35 22.9	-0.7
	baz=342							
LPIG	**La Paz**	143.07	53	PKhKP		PKPpre	04 35 24.6	
	comp=Z,10nm,0.3s,baz=252,slow=3.2,SNR=2.4							
LPIG				SKPbc		**SKPbc**	**04 39 02.0**	**+0.4**
	comp=Z,20nm,0.6s,baz=130,slow=3.6,SNR=3.4							
TCA	**Tanti**	143.10	200	*i* P		PKPbc	04 35 24.7	+0.7
T37A	**Cheneyville 18**	143.11	22	P		PKPbc	04 35 23.3	-0.5
	baz=332,SNR=16							
O56A	**Blue Knob Stat**	143.14	360	P		PKPab	04 35 22.4	0.0
	baz=0.1							
S39A	**Bolivar**	143.16	20	P		PKPab	04 35 23.0	+0.5
	baz=335							
V34A	**Guthrie**	143.17	26	P		PKPbc	04 35 24.0	0.0
	baz=328							
V34A	**Guthrie**	143.17	26	*e*PKPdf		PKPbc	04 35 24.1	+0.2
ASAL	**Salagasta**	143.17	194	*i* P		PKPbc	04 35 25.0	+0.9
Q44A	**Meyer Farm, Va**	143.26	14	P		PKPab	04 35 23.4	+0.5
	baz=343							
W33A	**Caddo, Fort Co**	143.30	28	P		PKPab	04 35 22.9	-0.3
	baz=326							
T38A	**Diamond**	143.41	21	P		PKPab	04 35 23.8	+0.3
	baz=333,SNR=14							
U36A	**Oologah**	143.43	23	P		PKPbc	04 35 24.4	-0.2
	baz=331,SNR=10.0							
WMOK	**Wichita Mounta**	143.50	28	P		PKPbc	04 35 24.5	-0.4
	baz=325							
WMOK	**Wichita Mounta**	143.50	28	*e*PKHKP		PKPab	04 35 24.3	+0.4
WMOK	**Wichita Mounta**	143.50	28	*e*PKPdf		PKPab	04 35 24.3	+0.3
X32A	**Elmer**	143.51	29	P		PKPab	04 35 24.0	0.0
	baz=324							
S40A	**Lebanon**	143.52	19	P		PKPab	04 35 23.7	-0.2
	baz=336							
V35A	**Meyer Ranch, C**	143.52	25	P		PKPbc	04 35 24.5	-0.4
	baz=328,SNR=9.9							
W34A	**Bridge Creek,**	143.55	27	P		PKPbc	04 35 25.4	+0.3
	baz=327							
W34A	**Bridge Creek,**	143.55	27	*e*PKPdf		PKPbc	04 35 25.3	+0.2
AUSP	**Uspallata**	143.65	193	*i* P		**PKPdf**	**04 35 27.2**	**-1.1**
U37A	**Salina**	143.66	23	P		PKPbc	04 35 25.0	-0.3
	baz=332,SNR=19							
T39A	**Clever**	143.75	20	P		PKPbc	04 35 25.2	-0.3
	baz=335							
X33A	**Lawton**	143.79	28	P		PKPbc	04 35 25.5	-0.2
	baz=325							
RTCV	**Cerro Valdivia**	143.80	195	*i* P		**PKPdf**	**04 35 27.6**	**-0.7**
TUL1	**Leonard**	143.83	24	P		PKPbc	04 35 25.7	-0.1
	baz=330,SNR=20							
TUL1	**Leonard**	143.83	24	*e*PKPdf		PKPab	04 35 25.3	+0.1
R44A	**Waltonville**	143.87	14	P		PKPab	04 35 25.4	+0.3
	baz=342							
V36A	**Jenks**	143.87	24	P		PKPab	04 35 25.6	+0.3
	baz=330,SNR=22							
U38A	**Gravette**	143.91	22	P		PKPab	04 35 25.6	+0.2
	baz=333,SNR=26							
T40A	**Mansfield**	143.92	19	P		PKPab	04 35 25.2	-0.2
	baz=336							
W35A	**Tecumseh**	144.02	26	P		PKPbc	04 35 26.5	+0.1
	baz=328,SNR=18							
RTLS	**Leoncito**	144.04	194	*i* P		**PKPdf**	**04 35 28.2**	**-0.8**
X34A	**Smith Ranch, M**	144.05	28	P		PKPbc	04 35 26.8	+0.2
	baz=326,SNR=12							
CPUP	**Villa Florida**	144.09	214	*e*P		PKPbc	04 35 27.8	+0.9
CPUP	**Villa Florida**	144.09	214	PKP		**PKPdf**	**04 35 27.9**	**-1.0**
	comp=Z,12nm,0.7s,baz=132,slow=2.5,SNR=30							
V37A	**Hulbert**	144.11	23	P		PKPbc	04 35 26.8	+0.1
	baz=331,SNR=60							
Y33A	**Hilltop Ranch,**	144.16	29	P		PKPbc	04 35 27.0	+0.1
	baz=324							
S43A	**Fulton Ridge,**	144.26	16	P		**PKPab**	**04 35 26.6**	**0.0**
	baz=340							
T41A	**Mountain View**	144.26	18	P		**PKPab**	**04 35 26.9**	**+0.1**
	baz=337							
RTLL	**Cerro Villicun**	144.29	195	*i* P		**PKPdf**	**04 35 28.6**	**-0.6**
U39A	**Green Forest**	144.29	21	P		**PKPab**	**04 35 26.8**	**-0.1**
	baz=334							
W36A	**Wetumka**	144.31	25	P		PKPbc	04 35 27.3	0.0
	baz=329,SNR=9.9							
S44A	**Carbondale**	144.35	15	P		PKPbc	04 35 27.6	+0.2
	baz=342							
V38A	**Canehill**	144.41	22	P		**PKPab**	**04 35 27.5**	**+0.2**
	baz=332,SNR=90							
WCI	**Wyandotte Cave**	144.48	10	*e*PKIKP		**PKPab**	**04 35 27.2**	**-0.3**
WCI				*e*			04 38 38.2	
WCI	**Wyandotte Cave**	144.48	10	*e*PKPdf		**PKPab**	**04 35 27.2**	**-0.3**
WCI				*e*PP		**PP**	**04 38 38.2**	**-5.7**
U40A	**Yellville**	144.53	20	P		**PKPab**	**04 35 27.8**	**+0.1**
	baz=335							
S45A	**Carrier Mills**	144.53	14	P		PKPbc	04 35 28.1	+0.2
	baz=343							
X35A	**Drake**	144.61	27	P		**PKPab**	**04 35 27.5**	**-0.6**
	baz=327,SNR=73							
Y34A	**Reagan Ranch,**	144.62	28	P		PKPbc	04 35 28.4	+0.1
	baz=326,SNR=8.6							
W37B	**Quinton**	144.64	24	P		PKPbc	04 35 28.5	+0.2
	baz=330,SNR=49							
AMOG	**MOA**	144.66	195	*e*P		**PKPdf**	**04 35 29.9**	**+0.1**
Z33A	**Whitaker Ranch**	144.68	30	P		PKPbc	04 35 28.5	0.0
	baz=324							
V39A	**Pettigrew**	144.72	21	P		**PKPab**	**04 35 28.4**	**-0.1**
	baz=334							
X36A	**Centrahoma**	144.74	26	P		PKPbc	04 35 28.7	0.0
	baz=328,SNR=54							
ABTX	**Abilene, Hawle**	144.75	32	P		PKPbc	04 35 29.3	+0.4
	baz=322							
ABTX	**Abilene, Hawle**	144.75	32	*e*PKPdf		**PKPab**	**04 35 28.7**	**-0.1**
TXAR	**Lajitas Array**	144.82	40	PKP		**PKPdf**	**04 35 30.0**	**-0.1**
	comp=Z,45nm,0.7s,baz=292,slow=1.2,SNR=604							
TXAR				SKPbc		**SKPbc**	**04 39 03.8**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=292,slow=3.6,SNR=4.4							
Y35A	**Marietta**	145.00	27	P		**PKPab**	**04 35 29.4**	**-0.2**
	baz=327,SNR=24							
Z34A	**Collier Ranch,**	145.02	29	P		**PKPbc**	**04 35 29.7**	**0.0**
	baz=325,SNR=7.4							
W38A	**Poteau**	145.07	23	P		**PKPbc**	**04 35 29.6**	**-0.1**
	baz=332,SNR=44							
133A	**Hamilton Ranch**	145.14	31	P		**PKPdf**	**04 35 30.4**	**-0.1**
	baz=323							
X37A	**Clayton**	145.14	25	P		**PKPbc**	**04 35 29.9**	**-0.1**
	baz=330,SNR=46							
CBN	**Corbin Frederi**	145.18	358	*e*PKPbc		**PKPbc**	**04 35 29.6**	**-0.3**
CBN				*e*PP		**PP**	**04 38 46.6**	**-1.4**
W39A	**Magazine**	145.24	22	P		**PKPbc**	**04 35 30.2**	**-0.1**
	baz=333							
V41A	**Mountainview**	145.28	19	P		**PKPbc**	**04 35 30.3**	**-0.1**
	baz=336							
X38A	**Whitesboro**	145.29	24	P		**PKPdf**	**04 35 30.9**	**+0.2**
	baz=331,SNR=119							
Y36A	**Durant**	145.34	26	P		**PKPbc**	**04 35 30.6**	**0.0**
	baz=328,SNR=57							
Z35A	**Perchaven, San**	145.37	28	P		**PKPbc**	**04 35 30.6**	**-0.2**
	baz=326,SNR=46							
W40A	**Ferguson Farm,**	145.50	21	P		**PKPbc**	**04 35 31.2**	**+0.1**
	baz=334							
V42A	**Cord**	145.51	18	P		**PKPdf**	**04 35 31.0**	**0.0**
	baz=337							
Y37A	**Hugo**	145.56	25	P		**PKPbc**	**04 35 31.3**	**0.0**
	baz=329,SNR=10							
134A	**White-Moore Ra**	145.59	30	P		**PKPab**	**04 35 31.7**	**0.0**
	baz=324,SNR=22							
233A	**Rising Star**	145.62	31	P		**PKPab**	**04 35 32.3**	**+0.4**
	baz=322							
X39A	**Fountain Ranch**	145.72	23	P		**PKPab**	**04 35 32.2**	**+0.1**
	baz=332							
Z36A	**Blue Ridge**	145.80	27	P		**PKPdf**	**04 35 31.5**	**-0.1**
	baz=327,SNR=16							
W41B	**Gary Mavity, V**	145.81	20	P		**PKPbc**	**04 35 32.0**	**0.0**
	baz=335							
MIAR	**Mount Ida**	145.89	22	P		**PKPab**	**04 35 32.7**	**-0.1**
	baz=333							
MIAR	**Mount Ida**	145.89	22	*e*PKIKP		**PKPbc**	**04 35 32.4**	**+0.1**
MIAR	**Mount Ida**	145.89	22	*e*PKPbc		**PKPbc**	**04 35 32.4**	**+0.1**
135A	**Vickery Place,**	145.93	29	P		**PKPbc**	**04 35 32.4**	**-0.1**
	baz=325,SNR=18							
V44A	**Blytheville**	145.94	16	P		**PKPbc**	**04 35 32.5**	**+0.1**
	baz=340							
Y38A	**Idabel**	145.98	24	P		**PKPbc**	**04 35 32.5**	**-0.1**
	baz=330,SNR=24							
234A	**Clairette**	146.02	30	P		**PKPbc**	**04 35 32.9**	**+0.1**
	baz=324,SNR=40							
AGUA	**GUANDACOL**	146.04	196	*i* P		**PKPab**	**04 35 33.7**	**+0.1**
333A	**Richland Sprin**	146.12	32	P		**PKPbc**	**04 35 33.3**	**+0.2**
	baz=322							
BLA	**Blacksburg**	146.15	3	*e*PKIKP		**PKPdf**	**04 35 32.4**	**+0.3**
BLA				*e*			04 38 48.3	
BLA	**Blacksburg**	146.15	3	*e*PKPbc		**PKPdf**	**04 35 32.4**	**+0.3**
BLA				*e*PP		**PP**	**04 38 48.3**	**-5.5**
CYA	**Choya**	146.17	201	*i* P		**PKPab**	**04 35 33.8**	**-0.3**
X40A	**Basin Creek Fa**	146.22	21	P		**PKPbc**	**04 35 33.3**	**0.0**
	baz=334							
Z37A	**Pogue Cattle C**	146.22	26	P		**PKPbc**	**04 35 33.1**	**-0.3**
	baz=328,SNR=8.1							
Y39A	**Lockesburg**	146.23	23	P		**PKPbc**	**04 35 33.1**	**-0.2**
	baz=332							
V45A	**Humboldt**	146.28	15	P		**PKPbc**	**04 35 33.2**	**-0.2**
	baz=341							
X41A	**Kaden, Bauxite**	146.33	21	P		**PKPbc**	**04 35 33.2**	**-0.4**
	baz=334							
WHTX	**Lake Whitney,**	146.37	30	P		**PKPbc**	**04 35 33.4**	**-0.4**
	baz=325							
WHTX	**Lake Whitney,**	146.37	30	*e*PKPbc		**PKPdf**	**04 35 33.0**	**+0.4**
136A	**Ennis**	146.42	28	P		**PKPab**	**04 35 34.7**	**-0.2**
	baz=326,SNR=7.9							
Z38A	**Mt. Pleasant**	146.46	25	P		**PKPbc**	**04 35 33.7**	**-0.4**
	baz=330,SNR=10.0							
Y40A	**Okolona**	146.48	22	P		**PKPdf**	**04 35 33.3**	**+0.6**
	baz=333							
433A	**Art**	146.50	33	P		**PKPdf**	**04 35 33.5**	**+0.6**
	baz=321,SNR=70							
334A	**Lometa**	146.50	31	P		**PKPdf**	**04 35 33.3**	**+0.4**
	baz=323,SNR=65							
TZTN	**Tazewell**	146.55	7	*e*PKPbc		**PKPdf**	**04 35 33.0**	**+0.2**
W44A	**Shelby Farms P**	146.61	17	P		**PKPdf**	**04 35 33.5**	**+0.6**
	baz=340							
VCA	**Vinchina**	146.66	197	*i* P		**PKPbc**	**04 35 35.4**	**+0.4**
VCA				*i* P		**PKPab**	**04 35 36.3**	**+0.2**
137A	**Heron Place, G**	146.67	27	P		**PKPbc**	**04 35 34.4**	**-0.3**
	baz=328,SNR=12							
W45A	**Hickory Valley**	146.77	16	P		**PKPdf**	**04 35 33.7**	**+0.5**
	baz=341							
Z39A	**Irene McRaven,**	146.80	24	P		**PKPbc**	**04 35 35.3**	**+0.2**
	baz=331							
236A	**Katherine and**	146.81	28	P		**PKPbc**	**04 35 35.4**	**+0.3**
	baz=326,SNR=17							
Y41A	**Eaglette Beard**	146.84	22	P		**PKPbc**	**04 35 34.5**	**-0.7**
	baz=334							
X43A	**Marvell**	146.86	19	P		**PKPbc**	**04 35 35.1**	**-0.1**
	baz=337							
434A	**Burnet**	146.90	32	P		**PKPdf**	**04 35 33.9**	**+0.4**
	baz=322,SNR=81							
138A	**Matatall Enter**	146.92	26	P		**PKPab**	**04 35 36.5**	**-0.3**
	baz=329,SNR=8.1							
335A	**Moody**	146.96	30	P		**PKPbc**	**04 35 35.7**	**+0.1**
	baz=324,SNR=102							
LCO	**Las Campanas**	147.04	193	*e*PKPbc		**PKPbc**	**04 35 35.8**	**-0.4**
533A	**Kerrville**	147.06	34	P		**PKPdf**	**04 35 34.6**	**+0.7**
	baz=320,SNR=39							
Z40A	**Long Farm, Mag**	147.10	23	P		**PKPbc**	**04 35 35.9**	**0.0**
	baz=332							
X44A	**Crenshaw**	147.10	18	P		**PKPbc**	**04 35 36.1**	**+0.2**
	baz=339							
237A	**Washetta, Mont**	147.15	28	P		**PKPbc**	**04 35 36.4**	**+0.3**
	baz=327,SNR=14							
336A	**Riesel**	147.16	30	P		**PKPbc**	**04 35 36.5**	**+0.4**
	baz=325,SNR=38							
Y42A	**Garnett, Star**	147.18	20	P		**PKPbc**	**04 35 36.6**	**+0.5**
	baz=335							
139A	**Bunkhouse Ranc**	147.20	25	P		**PKPbc**	**04 35 36.7**	**+0.5**
	baz=330							
435B	**Jarrell**	147.28	31	P		**PKPbc**	**04 35 37.0**	**+0.5**
	baz=323,SNR=16							
OXF	**Oxford**	147.31	17	*e*PKP2		**PKPbc**	**04 35 35.5**	**-1.0**
OXF	**Oxford**	147.31	17	*e*PKPbc		**PKPbc**	**04 35 35.5**	**-1.0**
Z41A	**Richland Creek**	147.33	22	P		**PKPbc**	**04 35 36.7**	**+0.2**
	baz=333							
X45A	**UM Field Stati**	147.40	17	P		**PKPbc**	**04 35 36.6**	**-0.1**
	baz=340							
534A	**Blanco**	147.40	33	P		**PKPdf**	**04 35 34.9**	**+0.4**
	baz=321,SNR=48							
Y43A	**Makayla and Ka**	147.40	19	P		**PKPbc**	**04 35 37.3**	**+0.6**
	baz=337							
633A	**Saathoff Ranch**	147.44	35	P		**PKPdf**	**04 35 35.5**	**+1.0**
	baz=320,SNR=44							
238A	**Jacksonville**	147.46	27	P		**PKPdf**	**04 35 35.5**	**+1.1**
	baz=328,SNR=6.4							
AHML	**Horco Molle**	147.50	203	*i* P		**PKPdf**	**04 35 35.1**	**+0.4**
140A	**Cam and Jess,**	147.57	24	P		**PKPbc**	**04 35 37.6**	**+0.3**
	baz=331							
Y44A	**Strider, Charl**	147.58	18	P		**PKPbc**	**04 35 37.6**	**+0.4**
	baz=338							
Z42A	**Norrel Spur, H**	147.63	21	P		**PKPbc**	**04 35 38.0**	**+0.7**
	baz=335							
337A	**Centerville**	147.69	28	P		**PKPbc**	**04 35 36.7**	**-0.9**
	baz=326,SNR=9.5							
436A	**Wall Ranch, Ga**	147.69	30	P		**PKPbc**	**04 35 38.1**	**+0.5**
	baz=324,SNR=14							
239A	**Gary**	147.74	26	P		**PKPdf**	**04 35 36.2**	**+1.3**
	baz=329							
832A	**Faith Ranch, C**	147.85	37	P		**PKPdf**	**04 35 36.6**	**+1.4**
	baz=317,SNR=87							
141A	**Papa Simpson,**	147.87	23	P		**PKPbc**	**04 35 38.7**	**+0.7**
	baz=333							
NATX	**Nacogdoches**	147.87	26	P		**PKPdf**	**04 35 36.1**	**+1.0**
	baz=329							
NATX	**Nacogdoches**	147.87	26	*e*PKPdf		**PKPdf**	**04 35 35.9**	**+0.8**
NATX				*e*PKPbc		**PKPbc**	**04 35 38.3**	**+0.2**
Y45A	**Yeager Farm, C**	147.88	17	P		**PKPdf**	**04 35 36.1**	**+1.1**
	baz=339							
535A	**Dale**	147.88	32	P		**PKPdf**	**04 35 36.3**	**+1.1**
	baz=323,SNR=13							
338A	**Crockett**	147.92	28	P		**PKPdf**	**04 35 36.6**	**+1.4**
	baz=328,SNR=11							
733A	**Divot King Ran**	147.93	36	P		**PKPbc**	**04 35 36.9**	**-1.4**
	baz=319,SNR=14							
Z43A	**Armstrong Fami**	147.94	20	P		**PKPbc**	**04 35 38.4**	**+0.3**
	baz=336							
437A	**Phantom Ranch,**	147.97	29	P		**PKPbc**	**04 35 39.3**	**+1.0**
	baz=326,SNR=14							
634A	**China Grove, S**	147.97	34	P		**PKPbc**	**04 35 39.2**	**+0.8**
	baz=321							
240A	**Hunter Patters**	148.02	25	P		**PKPdf**	**04 35 36.9**	**+1.5**
	baz=331							
Y46A	**Houston**	148.06	16	P		**PKPdf**	**04 35 35.6**	**+0.2**
	baz=340							
536A	**Bastrop**	148.11	31	P		**PKPbc**	**04 35 37.7**	**-1.1**
	baz=323,SNR=15							
Z44A	**Pea Ridge, Bel**	148.15	19	P		**PKPbc**	**04 35 39.1**	**+0.4**

147A	**Livingston** baz=341	**149.36**	**16**	P		**PKPbc**	**04 35 42.3 +0.4**
441A	**DeRidder** baz=331	**149.38**	**25**	P		**PKPbc**	**04 35 43.1 +1.2**
638A	**Rosharon** baz=326	**149.46**	**30**	P		**PKPbc**	**04 35 44.5 +2.3**
245A	**Little AP, Sta** baz=338	**149.47**	**19**	P		**PKPbc**	**04 35 43.0 +0.8**
737A	**Port Lavaca** baz=323	**149.49**	**32**	P		**PKPbc**	**04 35 43.5 +1.2**
540A	**Vidor** baz=329	**149.50**	**27**	P		**PKPbc**	**04 35 44.6 +2.3**
034A	**Hebbronville** baz=318,SNR=11	**149.52**	**37**	P		**PKPbc**	**04 35 44.3 +1.8**
343A	**Vidalia** baz=334	**149.54**	**22**	P		**PKPbc**	**04 35 43.7 +1.3**
GOGA	**Godfrey**	**149.65**	**8**	*e*PKIKP		**PKPdf**	**04 35 38.5 +0.5**
GOGA				*e*			04 35 47.2
GOGA	**Godfrey**	**149.65**	**8**	*e*PKPdf		**PKPdf**	**04 35 38.5 +0.5**
GOGA				*e*PKPbc		**PKPbc**	**04 35 42.7 +0.2**
GOGA				*e*PKPab		**PKPab**	**04 35 47.2 -0.4**
AZAP	**Zapla**	**149.67**	**205**	*i* P		**PKPbc**	**04 35 43.6 +0.4**
344A	**Westbrook Farm** baz=336	**149.71**	**21**	P		**PKPbc**	**04 35 43.7 +1.0**
246A	**Jackson Lee, B** baz=339	**149.72**	**18**	P		**PKPbc**	**04 35 43.8 +1.0**
442A	**Mamou** baz=332	**149.73**	**24**	P		**PKPbc**	**04 35 44.4 +1.6**
247A	**Quitman** baz=340	**149.84**	**17**	P		**PKPbc**	**04 35 44.2 +1.1**
443A	**Delano Plantat** baz=333	**149.94**	**23**	P		**PKPbc**	**04 35 44.7 +1.3**
035A	**Encino** baz=318,SNR=10	**149.96**	**36**	P		**PKPbc**	**04 35 45.5 +2.0**
541A	**Lake Charles** baz=330	**149.98**	**26**	P		**PKPbc**	**04 35 45.0 +1.6**
248A	**Dixon Mills** baz=342	**150.05**	**16**	P		**PKPbc**	**04 35 44.4 +0.8**
936A	**North Padre Is** baz=320	**150.06**	**35**	P		**PKPbc**	**04 35 44.3 +0.6**
345A	**Thompson Farm,** baz=337	**150.09**	**20**	P		**PKPbc**	**04 35 44.4 +0.7**
542A	**Morse** baz=331	**150.19**	**25**	P		**PKPbc**	**04 35 44.9 +0.9**
346A	**Big Creek Wild** baz=338	**150.20**	**19**	P		**PKPbc**	**04 35 44.9 +0.9**
NHSC	**New Hope**	**150.25**	**3**	*e*PKPbc		**PKPbc**	**04 35 44.1 +0.1**
035Z	**Hargill** baz=318,SNR=16	**150.33**	**37**	P		**PKPbc**	**04 35 46.4 +2.0**
444A	**Pine Grove** baz=335	**150.37**	**21**	P		**PKPbc**	**04 35 45.2 +0.8**
347A	**Saraland** baz=340	**150.47**	**17**	P		**PKPbc**	**04 35 45.6 +1.0**
445A	**Amite** baz=336	**150.51**	**21**	P		**PKPbc**	**04 35 45.4 +0.7**
543A	**St. Martinvill** baz=332	**150.51**	**24**	P		**PKPbc**	**04 35 46.0 +1.3**
348A	**Jackson** baz=341	**150.65**	**16**	P		**PKPbc**	**04 35 45.8 +0.7**
544A	**White Castle** baz=334	**150.76**	**23**	P		**PKPbc**	**04 35 46.6 +1.3**
446A	**Poplarville** baz=338	**150.78**	**19**	P		**PKPbc**	**04 35 46.2 +0.8**
447A	**Lucedale** baz=339	**151.00**	**18**	P		**PKPbc**	**04 35 47.1 +1.2**
BRAL	**Brewton**	**151.11**	**15**	*e*PKPdf		**PKPdf**	**04 35 41.3 +1.1**
BRAL				*e*PKPbc		**PKiKP**	**04 35 47.2 +0.5**
448A	**Bay Minette** baz=341	**151.11**	**17**	P		**PKPbc**	**04 35 47.5 +1.3**
TIGA	**Tifton**	**151.56**	**9**	*e*PKPdf		**PKPdf**	**04 35 41.9 +0.9**
TIGA				*e*PKPbc		**PKPbc**	**04 35 47.2 0.0**
TIGA				*e*PKPab		**PKPab**	**04 35 55.6 0.0**
LVC	**Limon Verde**	**152.61**	**200**	*e*PKPbc		**PKPbc**	**04 35 51.6 +1.4**
DWPF	**Disney Wildern**	**155.12**	**6**	*e*PKPbc		PKPbc	04 35 55.2
DWPF				*e*PKPab		**PKPab**	**04 36 10.5 -0.1**
SAML	**Samuel**	**160.40**	**232**	*e*PKPdf		**PKPdf**	**04 35 53.5 +0.4**
SAML				*e*PKPab		**PKPab**	**04 36 34.0 0.0**
CBRI	**Barrientos, No**	**172.68**	**308**	*e*P		**PKPdf**	**04 36 02.6 -0.2**
OCAC	**Ocana**	**172.74**	**313**	*e*P		**PKPdf**	**04 36 03.2 +0.5**
BARC	**Barichara**	**173.62**	**302**	*e*P		**PKPdf**	**04 36 02.6 -0.6**
MOTC	**Monteria, Cord**	**173.75**	**332**	*e*P		**PKPdf**	**04 36 02.9 0.0**
RUSC	**La Rusia**	**173.86**	**296**	*e*P		**PKPdf**	**04 36 02.8 -0.8**
BCIP	**Isla Barro Col**	**173.99**	**11**	*e*PKPdf		**PKPdf**	**04 36 01.9 -1.1**
CHIC	**Chingaza**	**174.91**	**286**	*e*P		**PKPdf**	**04 36 02.6 -1.2**
ROSC	**El Rosal** comp=Z,7.3nm,0.8s,baz=106,slow=12,SNR=7.9	**175.40**	**290**	PKP		**PKPdf**	**04 36 04.2 +0.2**
ROSC	comp=Z,2.6nm,0.4s,baz=158,slow=13,SNR=3.2			PKPab		**PKPab**	**04 37 41.4 +0.4**
ROSC	**El Rosal**	**175.40**	**290**	*e*P		**PKPdf**	**04 36 04.5 +0.5**
HELC	**Santa Helena**	**175.73**	**313**	*e*P		**PKPdf**	**04 36 02.9 -1.2**
OTAV	**Otavalo**	**177.01**	**184**	*e*P		**PKPdf**	**04 36 04.4 0.0**
OTAV	**Otavalo**	**177.01**	**184**	*e*PKPdf		**PKPdf**	**04 36 04.7 +0.2**

MAN 19 04:21:00,13°.49N×123°.04E, *h*45km, mb3.8, ML2.5, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.71**	**305**	*e*P	Pn	04 21 14.6	+0.9
GQP				*e*S	Sn	04 21 21.3	-2.3
PVCP	**Virac**	**1.09**	**84**	*e*P	Pn	04 21 19.5	+0.7
PVCP				*e*S	Sn	04 21 34.2	+1.5
OTRP	**Odiongan**	**1.50**	**222**	*e*P	Pn	04 21 25.4	+0.9
OTRP				*e*S	Sn	04 21 40.0	-2.9
POLP	**Polilio Island**	**1.63**	**319**	*e*P	Pn	04 21 29.6	+3.4
POLP				*e*S	Sn	04 21 47.6	+1.6
BALP	**Baler**	**2.65**	**328**	*e*P	Pn	04 21 40.6	+0.4
BALP				*e*S	Sn	04 21 54.3	-17

JMA 19 04:23:50.1,36°.85N×140°.70E, *h*10km±1km, M3.6, 4C-2D Broadband fault plane solution: P waves. NP1: ϕ_s159.00000°, δ49.00000°, λ-112.00000°. **NP2:** ϕ_s12.00000°, δ45.00000°, λ-66.00000°. **Principal axes:** T Plg2.0000°, Azm265.0000°; N Plg17.0000°, Azm174.0000°; P Plg73.0000°, Azm2.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.26**	**204**	↑P	Pg	04 23 55.4	0.0
JHO				S	Sg	04 23 58.9	0.0
ONAJ	**Iwakimizuishiy**	**0.26**	**17**	↑P	Pg	04 23 55.5	0.0
ONAJ				S	Sg	04 23 59.1	0.0
JFK	**Kawauchi**	**0.53**	**15**	↓P	Pg	04 24 00.2	-0.3
JFK				S	Sg	04 24 07.5	-0.1
JSB	**Shiboa**	**0.64**	**281**	↑P	Pb	04 24 02.9	-0.4
JSB				S	Sb	04 24 12.2	-0.1
JFT	**Otama**	**0.73**	**337**	↓P	Pb	04 24 04.7	-0.2
JFT				S	Sg	04 24 13.7	0.0
JYT	**Yasato**	**0.74**	**213**	↑P	Pg	04 24 03.9	-0.5
JYT				S	Sg	04 24 14.5	+0.4
MAT	**Matsushiro**	**2.03**	**262**	P	Pn	04 24 25.1	+0.8
MAT				S	Sb	04 24 52.4	+0.1

IDC 19 04:25:34.7±4.3, 38°.02N×57°.22E, *h*0km, mb4.3/6, mb1 4.4/6, mb1mx3.7/58, mbtmp4.3/6, MS2.9/2, Ms1 2.9/2, ms1mx2.4/42 Error ellipse: s-maj=89.3km s-min=39.8km az=171.0, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar** comp=Z,57nm,18.6s,baz=130,slow=40	**18.44**	**261**	LR	LR	04 37 49.2	
MLR	**Muntele Rosu** comp=Z,14nm,18.3s,baz=111,slow=42	**24.38**	**298**	LR	LR	04 42 32.2	
FINES	**FINESS Array B** 4.2nm,0.7s,baz=113,slow=11,SNR=4.7	**30.38**	**331**	P	P	04 31 48.7	+0.7
HFS	**Hagfors** 4.9nm,0.7s,baz=99,slow=8.9,SNR=3.3	**35.15**	**323**	P	P	04 32 30.3	+0.5
ARCES	**ARCESS Array B** 9.8nm,0.9s,baz=114,slow=11,SNR=4.7	**35.86**	**342**	P	P	04 32 34.5	-1.3
EKA	**Eskdalemuir Ar** 2.3nm,0.8s,baz=92,slow=8.3,SNR=4.1	**43.41**	**314**	P	P	04 33 39.0	+0.1
ESDC	**Sonseca Array** 1.1nm,0.8s,baz=72,slow=7.0,SNR=4.9	**46.85**	**292**	P	P	04 34 06.0	-0.6
SEY	**Seymchan** 0.9nm,0.3s,baz=273,slow=21,SNR=4.7	**59.14**	**32**	P	P	04 35 37.0	+0.2

MAN 19 04:26:25,15°.52N×119°.92E, *h*32km, mb3.8, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.25**	**357**	*e*P	Pn	04 26 33.6	+1.0
SCZP				*e*S	Sn	04 26 39.3	+1.9
BOLP	**Bolinao**	**0.85**	**359**	*e*P	Pb	04 26 41.9	+0.5
BOLP				*e*S	Sb	04 26 53.3	+0.7
PCPH	**Palayan**	**1.13**	**88**	↑*e*P	Pn	04 26 44.6	0.0
PCPH				*e*S	Sn	04 26 59.2	+0.2
BALP	**Baler**	**1.61**	**82**	*e*P	Pn	04 26 52.4	+1.2
BALP				*e*S	Sn	04 27 12.0	+1.2

*MDD **19** 04:35:50.3±0.6, 30°.59N×9°.14W, h0km, mb4.4/3, Error ellipse: s-maj=10.9km s-min=4.4km az=116.0, PRXIMO*
*CSEM **19** 04:35:50.0±0.2, 30°.57N×9°.11W, h10km, MD3.4, Error ellipse: s-maj=5.9km s-min=3.7km az=118.0*
*CNRM **19** 04:35:51.3, 30°.63N×9°.41W, h30km, MD3.4*
*INMG **19** 04:36:22.6±0.9, 32°.81N×8°.29W, h15km, ML2.4, Error ellipse: s-maj=12.6km s-min=4.2km az=82.0*

ISC 19 04:35:48.6±0.9, 30°.65N±0°.04×9°.25W±0°.05, *h*10km, n61, σ2s26/98, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YBT	**Youssef Ben Ta**	**0.83**	**195**	P	**Pg**	**04 36 05.0**	**+0.4**
YBT				S	**Sb**	**04 36 16.0**	**-0.3**
YBT	**Youssef Ben Ta**	**0.83**	**195**	*i* P	**Pg**	**04 36 05.0**	**+0.4**
YBT				*i* S	**Sb**	**04 36 16.0**	**-0.3**
CIA	**Chichaoua**	**1.00**	**25**	P	**Pn**	**04 36 09.0**	**+0.2**
CIA				S	**Sn**	**04 36 24.0**	**+1.0**
CIA	**Chichaoua**	**1.00**	**25**	*i* P	**Pn**	**04 36 09.0**	**+0.2**
CIA				*e*S	**Sn**	**04 36 24.0**	**+1.0**
OUK	**Oukaimeden**	**1.31**	**65**	P	**Pn**	**04 36 13.0**	**-0.3**
OUK				S	**Sb**	**04 36 31.0**	**+0.5**
OUK	**Oukaimeden**	**1.31**	**65**	*i* P	**Pn**	**04 36 13.0**	**-0.3**
OUK				*i* S	**Sb**	**04 36 31.0**	**+0.5**
TZC	**Tazercounte**	**2.79**	**57**	P	**Pn**	**04 37 07.0**	**-0.4**
TZC				S	**Sn**	**04 36 35.0**	**+1.5**
TZC	**Tazercounte**	**2.79**	**57**	*i* P	**Pn**	**04 36 35.0**	**+1.5**
TZC				*e*S	**Sn**	**04 37 07.0**	**-0.4**
KIB	**El Ksiba**	**3.35**	**54**	P	**Pn**	**04 36 42.0**	**+1.0**
KIB				S	**Sn**	**04 37 21.0**	**+0.1**
KIB	**El Ksiba**	**3.35**	**54**	*e*P	**Pn**	**04 36 42.0**	**+1.0**
KIB				*i* S	**Sn**	**04 37 21.0**	**+0.1**
CZD	**Col de Zad**	**4.30**	**55**	P	**Pn**	**04 36 55.0**	**+0.7**
CZD				S	**Sn**	**04 37 44.0**	**-0.6**
CZD	**Col de Zad**	**4.30**	**55**	*e*P	**Pn**	**04 36 55.0**	**+0.7**
CZD				*i* S	**Sn**	**04 37 44.0**	**-0.6**
EOSO	**Osorio** 0.7nm,0.1s,SNR=4.0	**6.07**	**247**	P	**Pn**	**04 37 17.0**	**-1.4**
PFVI	**Vila Bisbo**	**6.48**	**3**	*e*Pn	**Pn**	**04 37 26.8**	**+2.9**
PFVI	**Vila Bisbo** 5.8nm,0.2s,SNR=7.9	**6.48**	**3**	P	**Pn**	**04 37 26.8**	**+2.9**
PFVI	**Vila Bisbo** 5.8nm,0.2s,SNR=7.9	**6.48**	**3**	P	**Pn**	**04 37 26.8**	**+2.9**
PBDV	**Barranco-do-Ve** 3.1nm,0.7s	**6.67**	**9**	*e*Pn	**Pn**	**04 37 29.0**	**+2.4**
PBDV				*e*Sg	**Sn**	**04 38 41.6**	**-1.0**
PBDV				A	A	04 38 48.3	
PBDV	**Barranco-do-Ve** 3.1nm,0.7s	**6.67**	**9**	P	**Pn**	**04 37 29.0**	**+2.4**
PBDV				S	**Sn**	**04 38 41.6**	**-1.0**
PBDV	**Barranco-do-Ve** 3.1nm,0.7s	**6.67**	**9**	P	**Pn**	**04 37 29.0**	**+2.4**
PBDV				*e*Sg	**Sn**	**04 38 41.6**	**-1.0**
PVAQ	**Vaqueiros** 1.6nm,0.1s	**6.86**	**10**	*e*Pn	**Pn**	**04 37 31.2**	**+2.1**
PVAQ				*e*Sg	**Sn**	**04 38 43.6**	**-3.6**
PVAQ				A	A	04 38 48.6	
PVAQ	**Vaqueiros** 1.6nm,0.1s	**6.86**	**10**	P	**Pn**	**04 37 31.2**	**+2.1**
PVAQ				S	**Sn**	**04 38 43.6**	**-3.6**
PVAQ	**Vaqueiros** 1.6nm,0.1s	**6.86**	**10**	P	**Pn**	**04 37 31.2**	**+2.1**
PVAQ				*e*Sg	**Sn**	**04 38 43.6**	**-3.6**
PTEO	**Sao Teotonio** 4.9nm,0.4s	**6.89**	**3**	*e*Pn	**Pn**	**04 37 32.9**	**+3.3**
PTEO				*e*Sg	**Sn**	**04 38 47.3**	**-0.8**
PTEO				A	A	04 38 50.9	
PTEO	**Sao Teotonio** 2.5nm,0.4s	**6.89**	**3**	P	**Pn**	**04 37 32.9**	**+3.3**
PTEO				S	**Sn**	**04 38 47.3**	**-0.8**
PTEO	**Sao Teotonio** 4.9nm,0.4s	**6.89**	**3**	P	**Pn**	**04 37 32.9**	**+3.3**
PTEO				*e*Sg	**Sn**	**04 38 47.3**	**-0.8**
EMIJ	**Mijas** 1.2nm,0.3s,SNR=4.0	**6.98**	**31**	P	**Pn**	**04 37 32.7**	**+1.8**
EMIJ				S	**Sn**	**04 38 46.8**	**-3.6**
EMIJ	**Mijas** 1.2nm,0.3s,SNR=4.0	**6.98**	**31**	P	**Pn**	**04 37 32.7**	**+1.8**
EGRO	**El Granado** 0.3nm,0.1s,SNR=5.0	**7.02**	**12**	P	**Pn**	**04 37 33.3**	**+1.9**
EGRO				S	**Sn**	**04 38 48.1**	**-3.2**
EGRO	**El Granado** 3.0nm,0.2s,SNR=7.9	**7.02**	**12**	P	**Pn**	**04 37 33.3**	**+1.9**
PCVE	**Castro Verde** 1.6nm,0.1s	**7.04**	**8**	*e*Pn	**Pn**	**04 37 34.2**	**+2.6**
PCVE				*e*Sg	**Sn**	**04 38 50.0**	**-1.7**
PCVE				A	A	04 38 52.8	
PCVE	**Castro Verde** 1.6nm,0.1s	**7.04**	**8**	P	**Pn**	**04 37 34.2**	**+2.6**
PCVE				S	**Sn**	**04 38 50.0**	**-1.7**
PCVE	**Castro Verde** 1.6nm,0.1s	**7.04**	**8**	P	**Pn**	**04 37 34.2**	**+2.6**
PCVE				*e*Sg	**Sn**	**04 38 50.0**	**-1.7**
MESJ	**Messejana** 2.4nm,0.2s	**7.22**	**7**	*e*Pn	**Pn**	**04 37 36.6**	**+2.4**
MESJ				*e*Sg	**Sn**	**04 38 56.3**	**0.0**
MESJ				A	A	04 38 57.8	
MESJ	**Messejana** 2.4nm,0.2s	**7.22**	**7**	P	**Pn**	**04 37 36.6**	**+2.4**
MESJ				S	**Sn**	**04 38 56.3**	**0.0**
MESJ	**Messejana** 2.4nm,0.2s	**7.22**	**7**	P	**Pn**	**04 37 36.6**	**+2.4**
MESJ				*e*Sg	**Sn**	**04 38 56.3**	**0.0**
EMIN	**Mina Concepcio** 0.3nm,0.2s,SNR=6.5	**7.41**	**16**	P	**Pn**	**04 37 38.7**	**+1.9**
EMIN				S	**Sn**	**04 38 56.9**	**-4.1**
EMIN	**Mina Concepcio** 0.9nm,0.1s,SNR=7.9	**7.41**	**16**	P	**Pn**	**04 37 38.7**	**+1.9**
PNCL	**Nicolau / Gran** 0.3nm,0.2s,SNR=6.5	**7.47**	**4**	*e*Pn	**Pn**	**04 37 40.0**	**+2.5**
PNCL				*e*Sg	**Sn**	**04 39 00.7**	**-1.6**
PNCL				A	A	04 39 04.2	
PNCL	**Nicolau / Gran** 2.1nm,0.5s	**7.47**	**4**	*e*Pn	**Pn**	**04 37 40.0**	**+2.5**
PNCL				*e*Sg	**Sn**	**04 39 00.7**	**-1.6**
EGOR	**Sierra Gorda,** 2.1nm,0.5s	**7.73**	**32**	P	**Pn**	**04 37 43.7**	**+2.4**
EGOR				S	**Sn**	**04 39 09.5**	**+0.5**
EGOR	**Sierra Gorda,** 1.5nm,0.3s,SNR=4.0	**7.73**	**32**	P	**Pn**	**04 37 43.7**	**+2.4**
EGOR				S	**Sn**	**04 39 09.5**	**+0.5**
ECAB	**El Cabril** 0.2nm,0.2s,SNR=7.9	**8.05**	**22**	P	**Pn**	**04 37 46.3**	**+0.7**
ECAB				S	**Sn**	**04 39 13.5**	**-3.3**
ECAB	**El Cabril** 1.4nm,0.4s,SNR=7.9	**8.05**	**22**	P	**Pn**	**04 37 46.3**	**+0.7**
PMAFR	**Mafra** 0.4nm,0.1s,SNR=11	**8.29**	**360**	P	**Pn**	**04 37 51.8**	**+3.0**
PMAFR				S	**Sn**	**04 39 19.0**	**-3.4**
PMAFR	**Mafra** 3.7nm,0.3s,SNR=7.9	**8.29**	**360**	P	**Pn**	**04 37 51.8**	**+3.0**
EBAD	**Badajoz** 5.4nm,0.2s,SNR=7.9	**8.29**	**12**	P	**Pn**	**04 37 50.9**	**+2.0**
EBAD				S	Sn	04 39 08.7	-14
EBAD	**Badajoz** 1.8nm,0.1s,SNR=7.9	**8.29**	**12**	P	**Pn**	**04 37 50.9**	**+2.0**
PESTR	**Estremoz** 0.2nm,0.1s,SNR=7.9	**8.31**	**9**	*e*Sg	**Sn**	**04 39 24.2**	**+1.1**
PESTR				A	A	04 39 28.2	
PESTR	**Estremoz** 1.8nm,0.5s	**8.31**	**9**	*e*Sg	**Sn**	**04 39 24.2**	**+1.1**
EADA	**Adamuz** 1.6nm,0.1s,SNR=7.9	**8.43**	**26**	S	**Sn**	**04 39 20.4**	**-5.8**
PMRV	**Marv??o**	**8.89**	**9**	*e*Pn	**Pn**	**04 37 59.2**	**+2.1**
PMRV	**Marv??o**	**8.89**	**9**	P	**Pn**	**04 37 59.2**	**+2.1**
PMRV	**Marv??o**	**8.89**	**9**	P	**Pn**	**04 37 59.2**	**+2.1**
PTOM	**Tomar**	**8.97**	**4**	*e*Pn	**Pn**	**04 38 01.1**	**+2.9**
PTOM	**Tomar**	**8.97**	**4**	P	**Pn**	**04 38 01.1**	**+2.9**
PTOM	**Tomar**	**8.97**	**4**	P	**Pn**	**04 38 01.1**	**+2.9**
ESDC	**Sonseca Array** 0.5nm,0.2s,baz=206,slow=23,SNR=5.1	**9.99**	**24**	S	**Sn**	**04 39 57.4**	**-6.9**
MVO	**Moncorvo** 0.1nm,0.1s,SNR=7.9	**10.64**	**9**	P	**Pn**	**04 38 22.6**	**+1.4**
MVO	0.9nm,0.3s,SNR=7.9			S	**Sn**	**04 40 16.4**	**-4.0**
MVO	**Moncorvo** 0.1nm,0.1s,SNR=7.9	**10.64**	**9**	P	**Pn**	**04 38 22.6**	**+1.4**
ELOB	**Lobios** 0.5nm,0.2s,SNR=4.0	**11.23**	**5**	P	**Pn**	**04 38 31.7**	**+2.5**
ELOB	**Lobios** 0.5nm,0.2s,SNR=4.0	**11.23**	**5**	P	**Pn**	**04 38 31.7**	**+2.5**

*GUC **19** 04:48:30.2±0.4, 34°.30S×72°.32W, h23km±3km, ML3.3*

ISC 19 04:48:26.2±2.9, 34°.32S±0°.04×72°.5W±0°.1, *h*10km±14km, n16, σ2s25/30, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.45**	**99**	*e*P	**Pb**	**04 48 35.9**	**-0.3**
CHPI				*e*S	**Sg**	**04 48 40.6**	**-0.4**
NICH	**Los Niches**	**1.27**	**123**	*e*P	**Pn**	**04 48 49.4**	**-0.6**
NICH				*e*S	**Sb**	**04 49 04.1**	**-2.7**
TALC	**Talca**	**1.31**	**146**	*e*P	**Pb**	**04 48 51.1**	**+0.3**
TALC				*e*S	**Sb**	**04 49 06.9**	**-0.7**
ROC1	**El Roble**	**1.85**	**44**	*i* P	**Pn**	**04 48 57.5**	**-0.7**
ROC1				*i* P	**Pb**	**04 48 57.6**	**-2.6**
ROC1				*i* S	**Sg**	**04 49 27.2**	**+1.6**
ROC1				*i* S	**Sg**	**04 49 27.2**	**+1.6**
ROCH	**El Roble**	**1.85**	**44**	*e*P	**Pn**	**04 48 59.1**	**+0.9**
ROCH				*e*S	**Sn**	**04 49 21.0**	**-0.8**
ROCH	comp=N,618nm,0.6s			IAML		04 49 33.6	
CLCH	**Cerro Calan**	**1.91**	**62**	*e*P	**Pn**	**04 48 58.9**	**+0.1**
CLCH				*e*S	**Sn**	**04 49 20.8**	**-2.0**
CLCH	comp=N,555nm,0.8s			IAML		04 49 32.9	
PEL	**Peldehue**	**1.94**	**53**	*e*P	**Pn**	**04 48 59.4**	**+0.2**
PEL				*e*S	**Sn**	**04 49 22.3**	**-1.4**
PEL	comp=N,464nm,0.8s			IAML		04 49 30.9	
AAGR	**Agrelo**	**3.33**	**69**	*i* P	**Pn**	**04 49 21.5**	**+3.0**
ARCO	**CERRO ARCO**	**3.35**	**65**	*i* P	**Pn**	**04 49 21.1**	**+2.3**
ARCO				*i* S	**Sb**	**04 50 08.7**	**+2.0**
ARCO	comp=Z,39nm,0.5s			IAML		04 50 15.5	
AUSP	**Uspallata**	**3.37**	**52**	*i* P	**Pn**	**04 49 20.2**	**+1.1**
AUSP				*i* S	**Sb**	**04 50 06.8**	**-0.5**
ASAL	**Salagasta**	**3.54**	**62**	*i* P	**Pn**	**04 49 23.4**	**+2.1**
ASAL				*i* S	**Sb**	**04 50 12.5**	**+0.3**
RTLS	**Leoncito**	**3.71**	**48**	*i* P	**Pn**	**04 49 24.5**	**+0.7**
RTLS				*i* S	**Sb**	**04 50 14.2**	**-2.8**
RTLL	**Cerro Villicun**	**4.54**	**50**	*i* P	**Pn**	**04 49 35.9**	**-0.8**
RTLL				*i* S	**Sn**	**04 50 34.1**	**+6.2**
AMOG	**MOGNA**	**4.80**	**46**	*i* P	**Pn**	**04 49 38.9**	**+0.3**
ACAN	**Cantantal**	**4.92**	**67**	*i* P	**Pn**	**04 49 43.3**	**+3.0**
ACAN				*i* S	**Sb**	**04 50 47.0**	**-4.8**
AVFE	**Valle Fertil** comp=Z,18nm,0.5s	**5.64**	**51**	IAML		04 50 40.4	

*CSEM **19** 05:00:22.7±0.6, 38°.06N×20°.21E, h2km, ML2.5, Error ellipse: s-maj=10.1km s-min=6.5km az=56.0*
*ATH **19** 05:00:23.6, 38°.10N×20°.29E, h8km±2km, ML2.5/3, Error ellipse: s-maj=4.1km s-min=1.8km az=65.0*
*THE **19** 05:00:23.9, 38°.07N×20°.26E, h2km±3km, ML2.5/5, Error ellipse: s-maj=4.1km s-min=1.5km az=78.0*

ISC 19 05:00:23.3±1.7, 38°.06N±0°.03×20°.27E±0°.06, *h*2km±10km, n45, σ0s68/62, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.28**	**65**	P	**Pg**	**05 00 29.2**	**+0.5**
VLS				S	**Sg**	**05 00 32.6**	**+0.2**
VLS	**Valsamata**	**0.28**	**65**	P	**Pg**	**05 00 29.2**	**+0.5**
VLS				S	**Sg**	**05 00 32.6**	**+0.2**
KFL	**Anninata**	**0.41**	**83**	P	**Pg**	**05 00 31.4**	**+0.1**
KFL				S	**Sg**	**05 00 36.8**	**+0.1**
KFL	**Anninata**	**0.41**	**83**	P	**Pg**	**05 00 31.4**	**+0.1**
KFL				S	**Sg**	**05 00 36.8**	**+0.1**
KFL	**Anninata**	**0.41**	**83**	P	**Pg**	**05 00 31.3**	**0.0**
KFL				S	**Sg**	**05 00 36.1**	**-0.6**
ZKS	**Zakynthos**	**0.55**	**131**	P	**Pg**	**05 00 34.3**	**+0.5**
ZKS				S	**Sb**	**05 00 43.1**	**-0.8**
ZKS	**Zakynthos**	**0.55**	**131**	P	**Pg**	**05 00 34.2**	**+0.5**
ZKS				S	**Sb**	**05 00 43.1**	**-0.8**
ZKS	**Zakynthos**	**0.55**	**131**	P	**Pg**	**05 00 34.2**	**+0.4**
ZKS				S	**Sb**	**05 00 43.6**	**-0.3**
ZKS	comp=E,1169μm,0.2s			AML	AML	05 00 45.9	
ZKS	comp=N,1334μm,0.2s			AML	AML	05 00 46.1	
LKD2	**Lefkada island**	**0.79**	**23**	P	**Pg**	**05 00 38.7**	**+0.2**
LKD2	**Lefkada island**	**0.79**	**23**	P	**Pg**	**05 00 38.7**	**+0.2**
LKD2	**Lefkada island**	**0.79**	**23**	P	**Pb**	**05 00 39.5**	**-0.3**
AXS	**Araxos**	**0.89**	**81**	P	**Pg**	**05 00 40.5**	**+0.2**
AXS	**Araxos**	**0.89**	**81**	P	**Pg**	**05 00 40.5**	**+0.2**
PDO	**Prodromos**	**0.90**	**53**	P	**Pg**	**05 00 39.9**	**-0.7**
PDO				S	**Sb**	**05 00 54.6**	**+0.5**
PDO	**Prodromos**	**0.90**	**53**	P	**Pg**	**05 00 39.9**	**-0.7**
PDO				S	**Sb**	**05 00 54.6**	**+0.5**
PDO	**Prodromos**	**0.90**	**53**	P	**Pg**	**05 00 39.8**	**-0.7**
PDO	comp=E,422μm,0.5s			AML	AML	05 00 58.5	
PDO	comp=N,492μm,0.4s			AML	AML	05 01 00.6	
PVO	**Paravola**	**1.14**	**60**	P	**Pg**	**05 00 44.5**	**-0.6**
PVO				S	**Sn**	**05 01 02.4**	**+0.1**
PVO	**Paravola**	**1.14**	**60**	P	**Pg**	**05 00 44.5**	**-0.6**
PVO				S	**Sn**	**05 01 02.4**	**+0.1**
PVO	**Paravola**	**1.14**	**60**	P	**Pg**	**05 00 44.0**	**-1.1**
DRO	**Drossia**	**1.15**	**95**	P	**Pb**	**05 00 46.4**	**+0.6**
DRO				S	**Sb**	**05 01 02.1**	**+1.0**
DRO	**Drossia**	**1.15**	**95**	P	**Pb**	**05 00 46.4

ellipse: s-maj=1.5km s-min=1.0km az=179.0

ISC 19 05:03:04.4±1.0, 39°11'N±0'.03×29°03'E±0'.02, h7km±9km, n52, σ0s36/62, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**254**	P	**Pg**	**05 03 09.4**	**-0.1**
DEMI				S	**Sg**	**05 03 12.8**	**0.0**
DEMI	**Demirci**	**0.25**	**254**	*i* P	**Pg**	**05 03 09.3**	**-0.1**
DEMI				*i* S	**Sg**	**05 03 12.8**	**0.0**
GEDZ	**Gediz**	**0.31**	**103**	*e*PG	**Pg**	**05 03 10.4**	**-0.1**
GEDZ				*e*SG	**Sg**	**05 03 15.2**	**+0.6**
GEDZ	**Gediz**	**0.31**	**103**	*e*Pg	**Pg**	**05 03 10.4**	**-0.1**
GEDZ				*e*Sg	**Sg**	**05 03 15.2**	**+0.6**
GDZ	**Gediz**	**0.36**	**94**	P	**Pg**	**05 03 11.3**	**-0.2**
GDZ				S	**Sg**	**05 03 16.4**	**+0.2**
GDZ	**Gediz**	**0.36**	**94**	*i* P	**Pg**	**05 03 11.3**	**-0.2**
GDZ				*i* S	**Sg**	**05 03 16.4**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**45**	*e*PG	**Pg**	**05 03 13.3**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**45**	*e*Pg	**Pg**	**05 03 13.3**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**05 03 16.8**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**05 03 16.8**	**-0.4**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pg**	**05 03 21.5**	**+0.1**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pg**	**05 03 21.5**	**+0.1**
AKS	**Akhisar**	**0.97**	**256**	*e*PG	**Pg**	**05 03 22.8**	**-0.3**
AKS				*e*SG	**Sb**	**05 03 36.8**	**+0.1**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg	**Pg**	**05 03 22.8**	**-0.3**
AKS	**Akhisar**	**0.97**	**256**	*e*Sg	**Sb**	**05 03 36.8**	**+0.2**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pg**	**05 03 24.1**	**-0.2**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pg**	**05 03 24.1**	**-0.2**
IGD	**Bursa**	**1.16**	**7**	*i* P	**Pb**	**05 03 25.6**	**-1.1**
IGD				*i* S	**Sb**	**05 03 42.2**	**+0.3**
BALY	**Balya**	**1.25**	**300**	P	**Pb**	**05 03 28.2**	**-0.2**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pb**	**05 03 28.2**	**-0.2**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pb**	**05 03 28.4**	**-0.1**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pb**	**05 03 28.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pg**	**05 03 28.5**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pg**	**05 03 28.5**	**-0.1**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pg**	**05 03 28.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pg**	**05 03 28.6**	**0.0**
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pg**	**05 03 28.7**	**-0.1**
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pg**	**05 03 28.7**	**-0.1**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pn**	**05 03 29.5**	**-0.2**
BORA				S	**Sn**	**05 03 47.5**	**-0.3**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**05 03 29.5**	**-0.2**
BORA				*i* S	**Sn**	**05 03 47.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*PN	**Pb**	**05 03 30.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*Pn	**Pb**	**05 03 30.7**	**0.0**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pb**	**05 03 31.1**	**-0.2**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pb**	**05 03 31.1**	**-0.2**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pb**	**05 03 31.5**	**-0.3**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pb**	**05 03 31.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**218**	*e*PN	**Pb**	**05 03 31.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**218**	*e*Pn	**Pb**	**05 03 31.7**	**-0.4**
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN	**Pb**	**05 03 31.7**	**-0.5**
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn	**Pb**	**05 03 31.7**	**-0.5**
EDC	**Edincik**	**1.52**	**324**	*e*PN	**Pn**	**05 03 32.0**	**-0.1**
EDC	**Edincik**	**1.52**	**324**	*e*Pn	**Pn**	**05 03 32.0**	**-0.1**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pn**	**05 03 35.5**	**+0.3**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pn**	**05 03 35.5**	**+0.3**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*PN	**Pn**	**05 03 36.9**	**+0.5**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*Pn	**Pn**	**05 03 36.9**	**+0.5**
MRMT	**Marmara Adasi**	**1.85**	**324**	*e*PN	**Pn**	**05 03 37.1**	**+0.5**
MRMT	**Marmara Adasi**	**1.85**	**324**	*e*Pn	**Pn**	**05 03 37.1**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*PN	**Pn**	**05 03 38.7**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*Pn	**Pn**	**05 03 38.7**	**+0.5**
KLYT	**Kilyos**	**2.14**	**0**	*e*PN	**Pn**	**05 03 41.1**	**+0.7**
KLYT	**Kilyos**	**2.14**	**0**	*e*Pn	**Pn**	**05 03 41.2**	**+0.7**

JMA 19 05:07:33.0±0.2, 37°91N×142°15E, h37km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.83**	**311**	P	Pn	05 07 48.5	+0.3
JIO				S	Sn	05 07 59.2	-0.1
JMM	**Marumori**	**1.07**	**268**	P	Pn	05 07 51.9	+0.4
JMM				S	Sn	05 08 05.2	+0.1
JFK	**Kawauchi**	**1.15**	**242**	P	Pn	05 07 52.6	+0.1
JFK				*e*S	Sn	05 08 06.6	-0.4
JOU	**Okura**	**1.26**	**292**	P	Pn	05 07 55.2	+1.2
JOU				*e*S	Sn	05 08 11.2	+1.5
JMK	**Ichinoseki**	**1.27**	**325**	P	Pn	05 07 55.1	+0.9
JMK				*e*S	Sn	05 08 10.8	+0.8
JFT	**Otama**	**1.49**	**255**	P	Pn	05 07 58.7	+1.5
JFT				*e*S	Sn	05 08 17.0	+1.6
JYS	**Shirataka**	**1.67**	**281**	P	Pn	05 08 01.3	+1.6
JYS				S	Sn	05 08 22.4	+2.4
JOM	**Ohasama**	**1.70**	**337**	P	Pn	05 08 01.0	+0.9
JOM				*e*S	Sn	05 08 22.1	+1.6
JRG	**Rokugo**	**1.90**	**322**	P	Pn	05 08 04.9	+2.1
JFY	**Yanaizu**	**2.00**	**256**	P	Pn	05 08 05.8	+1.5

IDC 19 05:19:16.0±2.7, 3°24N×95°35E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.6/48, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=117.1km s-min=19.5km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.53**	**13**	Pn	Pn	05 22 57.8	+1.3
	0.4nm,0.3s,baz=199,slow=11,SNR=5.0						
FITZ	**Fitzroy Crossi**	**36.61**	**126**	P	P	05 26 23.6	-0.7
	2.7nm,1.0s,baz=322,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**44.68**	**123**	P	P	05 27 30.6	-0.5
	2.9nm,0.6s,baz=300,slow=9.1,SNR=33						
MKAR	**Makanchi Array**	**44.84**	**347**	P	P	05 27 32.0	0.0
	0.2nm,0.4s,baz=160,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**46.09**	**128**	P	P	05 27 43.1	+0.9
	1.4nm,0.4s,baz=303,slow=7.7,SNR=39						
KURBB	**Kurchatov Arra**	**49.31**	**346**	P	P	05 28 06.3	-0.5
	0.2nm,0.6s,baz=155,slow=7.1,SNR=2.7						

*ISCJB **19** 05:26:48.4±0.3, 43°91N±0°.03×11°99E±0°.04, h14km±4km, Error ellipse: s-maj=5.7km s-min=3.8km az=37.5*
*ROM **19** 05:26:48.7±0.1, 43°88N×12°00E, h8km±1km, Md2.6/13, Ml2.3/14, Error ellipse: s-maj=1.8km s-min=1.2km az=163.0*
*CSEM **19** 05:26:49.1±0.2, 43°88N×11°97E, h10km, ML2.7/10, Error ellipse: s-maj=4.7km s-min=3.2km az=62.0*

ISC 19 05:26:48.5±0.8, 43°89N±0°.03×11°99E±0°.02, h12km±5km, n48, σ0s74/71, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.10**	**279**	Pg	**Pg**	**05 26 51.6**	**+0.1**
SFI				Sg	**Sg**	**05 26 53.9**	**+0.2**
	1μm,0.3s						
SFI	**Santa Sofia**	**0.10**	**279**	Pg	**Pg**	**05 26 51.6**	**+0.1**
SFI				Sg	**Sg**	**05 26 53.9**	**+0.2**
	1μm,0.3s						
T0502	**Localit˜ San**	**0.11**	**83**	Pg	**Pg**	**05 26 51.4**	**-0.1**
T0502				Sg	**Sg**	**05 26 53.6**	**-0.1**
	44μm,4.5s						
ASQU	**Asqua**	**0.17**	**238**	Pg	**Pg**	**05 26 52.9**	**+0.4**
ASQU				Sg	**Sb**	**05 26 56.2**	**+1.0**
	1μm,0.3s						
ASQU	**Asqua**	**0.17**	**238**	Pg	**Pg**	**05 26 52.9**	**+0.4**
ASQU				Sg	**Sb**	**05 26 56.2**	**+1.0**
	1μm,0.3s						
CPGN	**Carpegna, Ital**	**0.26**	**110**	Pg	**Pb**	**05 26 54.9**	**-0.2**
	853nm,1.0s						
CPGN	**Carpegna, Ital**	**0.26**	**110**	Pg	**Pb**	**05 26 54.9**	**-0.2**
	853nm,1.0s						
CRE	**Caprese Michel**	**0.27**	**186**	Pg	**Pg**	**05 26 54.6**	**+0.4**
CRE				Sg	**Sb**	**05 26 59.6**	**-0.3**
	477nm,0.5s						
CRE	**Caprese Michel**	**0.27**	**186**	Pg	**Pg**	**05 26 54.6**	**+0.4**
CRE				Sg	**Sb**	**05 26 59.6**	**-0.3**
	477nm,0.5s						
BADI	**Badiali**	**0.42**	**154**	Pg	**Pg**	**05 26 57.0**	**+0.2**
BADI				Sg	**Sb**	**05 27 04.1**	**0.0**
	189nm,0.5s						
BADI	**Badiali**	**0.42**	**154**	Pg	**Pg**	**05 26 57.0**	**+0.2**
BADI				Sg	**Sb**	**05 27 04.1**	**0.0**
	189nm,0.5s						
ATMC	**Monte Cedrone**	**0.47**	**161**	Pg	**Pg**	**05 26 57.8**	**+0.1**
	249nm,0.7s						
ATMC	**Monte Cedrone**	**0.47**	**161**	Pg	**Pg**	**05 26 57.8**	**+0.1**
	249nm,0.7s						
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	**Pg**	**05 26 59.3**	**+0.4**
ATPC				Sg	**Sb**	**05 27 07.9**	**+0.6**
	198nm,0.5s						
ATPC	**Poggio Castell**	**0.53**	**140**	Pg	**Pg**	**05 26 59.3**	**+0.4**
ATPC				Sg	**Sb**	**05 27 07.9**	**+0.6**
	198nm,0.5s						
PIEI	**Pieia**	**0.53**	**131**	Pg	**Pg**	**05 26 58.8**	**-0.1**
PIEI				Sg	**Sb**	**05 27 07.5**	**+0.2**
	115nm,1.0s						
PIEI	**Pieia**	**0.53**	**131**	Pg	**Pg**	**05 26 58.8**	**-0.1**
PIEI				Sg	**Sb**	**05 27 07.5**	**+0.2**
	115nm,1.0s						
CAFI	**Castiglion Fio**	**0.56**	**182**	Pg	**Pg**	**05 26 59.8**	**+0.4**
CAFI				Sg	**Sb**	**05 27 08.6**	**+0.5**
	126nm,0.5s						
CAFI	**Castiglion Fio**	**0.56**	**182**	Pg	**Pg**	**05 26 59.8**	**+0.4**
CAFI				Sg	**Sb**	**05 27 08.6**	**+0.5**
	126nm,0.5s						
FSSB	**Fossombrone**	**0.60**	**109**	Pg	**Pg**	**05 27 00.3**	**0.0**
FSSB				Sg	**Sb**	**05 27 09.8**	**+0.4**
FSSB	**Fossombrone**	**0.60**	**109**	Pg	**Pg**	**05 27 00.3**	**0.0**
FSSB				Sg	**Sb**	**05 27 09.8**	**+0.4**
MTRZ	**Monterenzio**	**0.62**	**323**	Pg	**Pb**	**05 27 01.6**	**+0.4**
	226nm,0.5s						
MTRZ	**Monterenzio**	**0.62**	**323**	Pg	**Pb**	**05 27 01.6**	**+0.4**
	226nm,0.5s						
SSFR	**Montelago di S**	**0.73**	**128**	Pg	**Pg**	**05 27 02.7**	**0.0**
	85nm,0.3s						
SSFR	**Montelago di S**	**0.73**	**128**	Pg	**Pg**	**05 27 02.7**	**0.0**
	85nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.74**	**159**	Pg	**Pg**	**05 27 02.9**	**+0.1**
	108nm,0.4s						
ATTE	**AVT- Monte Tez**	**0.74**	**159**	Pg	**Pg**	**05 27 02.9**	**+0.1**
	108nm,0.4s						
FROS	**Frosini**	**0.91**	**222**	Pg	**Pn**	**05 27 06.8**	**-0.2**
	291nm,1.3s						
FROS	**Frosini**	**0.91**	**222**	Pg	**Pn**	**05 27 06.8**	**-0.2**
	291nm,1.3s						
NVLJ	**Novalja**	**2.18**	**71**	*e*Pn	**Pb**	**05 27 26.9**	**-0.9**
NVLJ				Sn	**Sn**	**05 27 51.6**	**+0.2**
NVLJ	**Novalja**	**2.18**	**71**	*e*Pn	**Pb**	**05 27 26.9**	**-0.9**
NVLJ				Sn	**Sn**	**05 27 51.5**	**+0.2**
UDBI	**Udbina**	**2.79**	**75**	*e*Pn	**Pb**	**05 27 36.9**	**-1.4**
UDBI	**Udbina**	**2.79**	**75**	*e*Pn	**Pb**	**05 27 36.8**	**-1.4**
ABTA	**Abfaltersbach**	**2.88**	**7**	*e*Pn	**Pn**	**05 27 34.5**	**+0.2**
	0.4nm,0.1s						
ABTA	**Abfaltersbach**	**2.88**	**7**	Pn	**Pn**	**05 27 34.5**	**+0.2**
	0.4nm,0.1s						
FETA	**Feichten**	**3.26**	**345**	*i* Pn	**Pn**	**05 27 39.4**	**-0.1**
	0.4nm,0.1s						
FETA				*i* Sn	**Sn**	**05 28 17.5**	**-0.7**
FETA	**Feichten**	**3.26**	**345**	Pn	**Pn**	**05 27 39.4**	**-0.1**
	0.4nm,0.1s						
FETA				Sn	**Sn**	**05 28 17.5**	**-0.7**
WTTA	**Wattenberg**	**3.38**	**356**	*e*Sn	**Sn**	**05 28 21.5**	**+0.1**
	4.7nm,0.7s						
WTTA	**Wattenberg**	**3.38**	**356**	Sn	**Sn**	**05 28 21.5**	**+0.1**
	4.7nm,0.7s						
WATA	**Walderalm**	**3.46**	**355**	*i* Pn	**Pn**	**05 27 44.4**	**+2.1**
	0.3nm,0.0s						
WATA	**Walderalm**	**3.46**	**355**	Pn	**Pn**	**05 27 44.4**	**+2.1**
	0.3nm,0.0s						
MOTA	**Moosalm**	**3.51**	**350**	*i* Pn	**Pn**	**05 27 44.7**	**+1.7**
	2.2nm,0.5s						
MOTA	**Moosalm**	**3.51**	**350**	Pn	**Pn**	**05 27 44.7**	**+1.7**
	2.2nm,0.5s						
RETA	**Reutte**	**3.70**	**347**	*i* Sn	**Sn**	**05 28 29.2**	**+0.2**
	2.2nm,0.6s						
RETA	**Reutte**	**3.70**	**347**	Sn	**Sn**	**05 28 29.2**	**+0.2**
	2.2nm,0.6s						
DAVA	**Damuels**	**3.71**	**337**	*i* Pn	**Pb**	**05 27 51.9**	**-2.1**
	0.5nm,0.2s						
DAVA				*i* Sn	**Sn**	**05 28 29.7**	**+0.4**
	6.2nm,0.5s						
DAVA	**Damuels**	**3.71**	**337**	Pn	**Pb**	**05 27 51.9**	**-2.1**
	0.5nm,0.2s						
DAVA				Sn	**Sn**	**05 28 29.7**	**+0.4**
	6.2nm,0.5s						
KHC	**Kasperske Hory**	**5.36**	**11**	*e*SN	**Sn**	**05 29 10.0**	**+0.2**

JMA 19 05:31:57.7±0.1, 36°41N×140°56E, h54km±1km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.20**	**2**	P	Pn	05 32 06.4	-0.1
JYT	**Yasato**	**0.35**	**238**	P	Pn	05 32 07.8	+0.2
JYT				S	Sn	05 32 14.7	0.0
JAG	**Ashikaga**	**0.89**	**271**	P	Pn	05 32 14.4	+0.3
JAG				S	Sn	05 32 26.0	-0.2
JKT	**Katashina**	**1.11**	**289**	P	Pn	05 32 17.7	+0.6
JKT				S	Sn	05 32 32.0	+0.5
JRY	**Ryogami san**	**1.40**	**254**	P	Pn	05 32 21.3	+0.4
JRY				S	Sn	05 32 38.0	-0.3
MAT	**Matsushiro**	**1.90**	**275**	P	Pn	05 32 28.9	+1.2

*NIED **19** 05:31:00, 36°50N×142°50E, h11km, Mw4.0 Best double couple: Mo9.65000×10^14 NP1:ϕs234.00000°, δ24.00000°, λ144.00000°. NP2:ϕs357.00000°, δ76.00000°, λ70.00000°.*
*ISCJB **19** 05:31:57.7±0.7, 36°48N±0°.04×142°48E±0°.07, h15km, mb3.5/7, Error ellipse: s-maj=8.2km s-min=5.7km az=8.4*
*JMA **19** 05:31:58.5±0.3, 36°51N×142°46E, h21km, M3.9*
*IDC **19** 05:32:03.3±4.2, 36°43N×142°35E, h38km±35km, mb3.3/7, mb1 3.5/11, mb1mx3.4/42, mbtmp3.6/11, ML3.4/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/26, Error ellipse: s-maj=33.9km s-min=18.4km az=81.0*

ISC 19 05:31:59.7±1.0, 36°48N±0°.05×142°47E±0°.09, h15km, n26, σ1s19/21, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.48**	**295**	*e*S	**Sn**	**05 32 42.8**	**-2.1**
BSO1	**Boso 1**	**2.19**	**214**	P	**Pn**	**05 32 34.7**	**-0.3**
BSO1				*e*X		05 33 03.7	
JMK	**Ichinoseki**	**2.66**	**339**	*e*S	**Sn**	**05 33 12.1**	**-1.9**
JYK	**Kaneyama**	**2.95**	**326**	P	**Pn**	**05 32 45.1**	**-0.9**
JOD2	**Odawara 2**	**3.00**	**247**	*e*S	**Sn**	**05 33 22.3**	**-0.1**
JOM	**Ohasama**	**3.13**	**343**	*e*S	**Sn**	**05 33 23.9**	**-1.7**
JYN	**Shimob**	**3.33**	**254**	*e*S	**Sn**	**05 33 30.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.43**	**272**	Pn	**Pn**	**05 32 53.6**	**+1.0**
	8.6nm,0.3s,baz=96,slow=8.2,SNR=30						
MJAR				LR	LR	05 34 27.2	
	comp=Z,173nm,18.0s,baz=125,slow=44						
MAT	**Matsushiro**	**3.43**	**272**	P	**Pn**	**05 32 53.4**	**+0.8**
MAT	**Matsushiro**	**3.43**	**272**	S	**Pn**	**05 32 53.2**	**+0.6**
JHJ	**Hachijo jima 2**	**4.01**	**214**	Pn	**Pn**	**05 32 59.5**	**-1.2**
	18nm,0.3s,baz=3.6,slow=23,SNR=12						
JHJ				Sn	**Sn**	**05 33 45.0**	**-2.4**
	31nm,0.3s,baz=303,slow=21,SNR=7.1						
USRK	**Ussuriysk Ar.**	**11.10**	**317**	Pn	**Pn**	**05 34 39.7**	**+1.9**
	0.1nm,0.3s,baz=138,slow=15,SNR=2.8						
KSRS	**Korea Array**	**11.68**	**279**	Pn	**Pn**	**05 34 46.0**	**+0.3**
	0.1nm,0.3s,baz=89,slow=14,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**27.14**	**121**	T	T	06 06 13.1	
	baz=313,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**27.15**	**121**	T	T	06 06 21.6	
	baz=313,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.16**	**121**	T	T	06 06 13.5	
	baz=313,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.85**	**124**	T	T	06 07 10.2	
	baz=312,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.85**	**124**	T	T	06 07 05.7	
	baz=312,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.86**	**124**	T	T	06 07 11.4	
	baz=312						
SONM	**Songino Array**	**28.80**	**305**	P	**P**	**05 37 57.3**	**+0.2**
	2.5nm,0.8s,baz=108,slow=8.5,SNR=7.6						
ZALV	**Zalesovo Beam**	**42.91**	**313**	P	**P**	**05 39 57.8**	**+0.3**
	0.7nm,0.6s,baz=125,slow=7.4,SNR=3.5						
MKAR	**Makanchi Array**	**45.13**	**303**	P	**P**	**05 40 14.8**	**-0.7**
	0.5nm,0.6s,baz=89,slow=10,SNR=6.0						
ILAR	**Eielson Array**	**49.51**	**32**	P	**P**	**05 40 50.1**	**+0.8**
	0.4nm,1.0s,baz=285,slow=7.1,SNR=3.3						
WRA	**Warramunga Arr**	**56.64**	**189**	P	**P**	**05 41 42.3**	**+0.1**
	0.5nm,0.7s,baz=6.2,slow=7.2,SNR=6.5						
ASAR	**Alice Springs**	**60.36**	**189**	P	**P**	**05 42 08.3**	**+0.1**
	0.2nm,0.7s,baz=360,slow=6.0,SNR=4.3						
AKASG	**Malin Array Be**	**75.25**	**323**	P	**P**	**05 43 41.6**	**-0.1**
	0.1nm,0.3s,baz=47,slow=5.9,SNR=2.9						

DHMR 19 05:32:39.4±0.6, 13°05N×42°12E, h16km±8km, ML4.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**2.02**	**63**	*i* P	Pb	05 33 14.5	-1.4
UDYN				*i* S	Sg	05 33 42.6	-1.7
DHBB	**Dhamar BB**	**2.67**	**55**	*i* P	Pb	05 33 25.3	-1.9
DHBB				*i* S	Sb	05 34 00.5	+0.6
BDHA	**Al Bayda'**	**3.48**	**74**	*i* P	Pn	05 33 36.0	+2.8
BDHA				*i* S	Sb	05 34 19.8	-3.2
BDHA					AML	AML	05 34 49.5	
	comp=N,667nm,0.6s						

TRN 19 05:46:56.2, 18°37N×62°32W, h1km, MD4.0, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**0.78**	**246**	*e*P	Pn	05 47 15.1	+0.6
SMRT				*e*S	Sn	05 47 28.9	+2.1
ANWB	**Willy Bob**	**0.86**	**144**	*e*P	Pn	05 47 17.2	+1.7
ANWB				*e*S	Sn	05 47 32.1	+3.3
SEUS	**St. Eustatius**	**1.07**	**216**	*e*P	Pn	05 47 20.9	+2.4
SEUS				*e*S	Sn	05 47 39.3	+5.3
SKI	**Saint Kitts**	**1.10**	**201**	*e*P	Pn	05 47 21.5	+2.7
SKI				*e*S	Sn	05 47 40.5	+5.7
SABA	**Saba**	**1.15**	**230**	*e*P	Pn	05 47 21.9	+2.3
SABA				*e*S	Sn	05 47 41.3	+5.3
BPA	**Boggy Peak**	**1.39**	**161**	*e*P	Pb	05 47 25.5	+2.5
BPA				*e*S	Sn	05 47 46.3	+4.5
MLYT	**Lee's Yard**	**1.64**	**176**	*e*P	Pg	05 47 29.6	+1.9
MLYT				*e*S	Sg	05 47 53.3	+4.3
SEG	**Port Louis**	**2.10**	**158**	*e*P	Pb	05 47 34.9	-0.3
TBG	**Guadaloupe-3**	**2.58**	**165**	*e*P	Pb	05 47 41.8	-1.6
TBG				*e*S	Sb	05 48 15.4	-0.2

DHMR 19 05:47:23.0±1.7, 13°27N×42°32E, h7km±40km, ML4.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**1.75**	**66**	*i* P	Pb	05 47 54.9	-0.6
UDYN				*i* S	Sg	05 48 19.6	+0.4
DHBB	**Dhamar BB**	**2.39**	**57**	*i* P	Pb	05 48 05.8	-0.8
DHBB				*i* S	Sb	05 48 37.1	+0.7
BDHA	**Al Bayda'**	**3.23**	**77**	*i* P	Pn	05 48 16.1	+1.7
BDHA				*i* S	Sb	05 48 59.9	-0.8
BDHA					AML	AML	05 49 28.3	
	comp=N,686nm,0.8s						

*ISCJB **19** 05:48:08.7±0.7, 16°85N±0°.04×100°09W±0°.03, h23km±4km, mb3.8/4, Error ellipse: s-maj=7.7km s-min=4.8km az=19.3*
*NEIC **19** 05:48:10.6, 16°88N×100°08W, h3km, MD4.3(MEX), After MEX.*
*MEX **19** 05:48:10.6±0.5, 16°88N×100°08W, h3km±2km, MD4.3*
*IDC **19** 05:48:18.7±10.0, 17°32N×99°66W, h75km±58km, mb3.5/4, mb1 3.7/6, mb1mx3.5/34, mbtmp3.7/6, ML3.0/2, Error ellipse: s-maj=123.7km s-min=36.6km az=18.0*

ISC 19 05:48:09.3±2.8, 16°90N±0°.04×100°07W±0°.03, h14km±20km, n31, σ1s29/57, mb4.0/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.18**	**98**	*e*P	**Pb**	**05 48 14.1**	**-0.4**
ACP2				*e*S	**Sb**	**05 48 17.4**	**-0.4**
CAIG	**El Cayaco**	**0.24**	**308**	*e*P	**Pb**	**05 48 14.9**	**-0.6**
CAIG				*i* S	**Sb**	**05 48 19.0**	**-0.6**
CAIG	**El Cayaco**	**0.24**	**308**	*e*P	**Pb**	**05 48 14.9**	**-0.6**
CAIG				*i* S	**Sb**	**05 48 19.0**	**-0.6**
MEIG	**Mezcala**	**1.11**	**23**	*e*P	**Pb**	**05 48 29.5**	**-0.8**
MEIG				*e*S	**Sb**	**05 48 44.6**	**-0.1**
MEIG	**Mezcala**	**1.11**	**23**	*e*P	**Pb**	**05 48 29.5**	**-0.8**
MEIG				*e*S	**Sb**	**05 48 44.6**	**-0.1**
ARIG	**Puente Sto Nin**	**1.40**	**349**	*e*P	**Pn**	**05 48 34.0**	**-0.5**
ARIG				*e*S	**Sn**	**05 48 51.7**	**-1.1**
ZIIG	**Zihuatanejo**	**1.51**	**298**	*e*P	**Pn**	**05 48 35.6**	**-0.3**
ZIIG				*e*S	**Sn**	**05 48 53.7**	**-1.6**
ZIIG	**Zihuatanejo**	**1.51**	**298**	*e

h396km△3km,**h397**km:**pP-P**,**n316**,σ1♀**01**/369,**mb4.6**/135,
23C-16D,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
MSVF	**Nonsavu**	**4.40**	**298**	*eP*		**Pn**	**06 05 05.6**	**+0.7**
MSVF	**Nonsavu**	**4.40**	**298**	*ePn*		**Pn**	**06 05 05.6**	**+0.7**
AFI	**Afiamalu**	**8.29**	**46**	P		Pn	06 05 41.1	-6.4
	28nm,0.3s,baz=177,slow=0.4,SNR=22							
AFI				S		S	06 07 10.4	-14
	29nm,0.3s,baz=35,slow=22,SNR=8.3							
AFI	**Afiamalu**	**8.29**	**46**	*eP*		Pn	06 05 41.3	-6.2
RAO	**Raoul Island**	**9.37**	**180**	S		**S**	**06 07 43.8**	**-3.0**
	154nm,0.3s,baz=262,slow=23,SNR=4.8							
FUNA	**Funafuti**	**11.61**	**345**	*eP*		**P**	**06 06 24.5**	**-0.1**
DZM	**Mont Dzumac**	**14.82**	**259**	P		**Pn**	**06 07 02.7**	**+0.1**
	0.8nm,0.3s,baz=80,slow=22,SNR=8.4							
URZ	**Urewera**	**18.86**	**192**	P		**P**	**06 07 40.7**	**-2.0**
	10nm,0.3s,baz=346,slow=2.5,SNR=44							
URZ				S		**S**	**06 10 55.3**	**+0.6**
	3.0nm,0.3s,baz=145,slow=19,SNR=11							
URZ	**Urewera**	**18.86**	**192**	*eP*		**P**	**06 07 41.7**	**-0.9**
	210nm,1.8s							
URZ				S		**S**	**06 10 55.3**	**+0.6**
BKZ	**Black Stump Fm**	**19.86**	**193**	*eP*		**P**	**06 07 51.0**	**-1.3**
	67nm,1.6s							
HNR	**Honiara**	**23.80**	**293**	P		**P**	**06 08 28.5**	**+0.2**
	36nm,0.4s,baz=304,slow=4.7,SNR=3.8							
LTZ	**Lake Taylor**	**24.33**	**198**	*eP*		**P**	**06 08 33.2**	**+0.3**
	163nm,1.8s							
OXZ	**Oxford**	**24.90**	**198**	*eP*		**P**	**06 08 36.4**	**-1.5**
	36nm,0.6s							
RPZ	**Rata Peaks**	**25.55**	**199**	P		**P**	**06 08 44.0**	**+0.3**
	16nm,0.6s,baz=21,slow=3.5,SNR=14							
WHZ	**Wether Hill Ro**	**28.49**	**201**	*eP*		**P**	**06 09 09.7**	**+0.1**
	350nm,1.9s							
EIDS	**Eidsvold**	**29.15**	**253**	*eP*		**P**	**06 09 16.0**	**+0.3**
	7.7nm,0.7s							
CTA	**Charters Tower**	**33.68**	**263**	P		**P**	**06 09 55.8**	**+0.8**
	16nm,0.6s,baz=100,slow=12,SNR=10							
CTAO	**Charters Tower**	**33.68**	**263**	*eP*		**P**	**06 09 55.5**	**+0.5**
CTAO					pmax	pmax		
	comp=Z,18nm,0.8s							
CTAO	**Charters Tower**	**33.68**	**263**	*eP*		**P**	**06 09 55.5**	**+0.5**
	comp=Z,18nm,0.8s							
PMG	**Port Moresby**	**35.32**	**282**	P		**P**	**06 10 09.1**	**+0.2**
	comp=Z,37nm,0.9s,baz=56,slow=2.9,SNR=7.7							
PMG	**Port Moresby**	**35.32**	**282**	*c iP*		**P**	**06 10 09.2**	**+0.3**
PMG					pmax	pmax		
	comp=Z,144nm,1.2s							
STKA	**Stephens Creek**	**38.19**	**243**	P		**P**	**06 10 33.5**	**+0.9**
	comp=Z,13nm,0.5s,baz=90,slow=10,SNR=27							
STKA	**Stephens Creek**	**38.19**	**243**	*eP*		**P**	**06 10 33.5**	**+0.9**
STKA					pmax	pmax		
	comp=Z,6.0nm,1.0s							
STKA	**Stephens Creek**	**38.19**	**243**	*eP*		**P**	**06 10 33.5**	**+0.9**
	comp=Z,5.6nm,1.0s							
BBOO	**Buckleboo**	**42.95**	**243**	*eP*		**P**	**06 11 11.3**	**+0.3**
	comp=Z,56nm,1.0s							
JAY	**Jayapura**	**43.96**	**288**	P		**P**	**06 11 19.9**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=119,slow=23,SNR=3.7							
AS01	**Alice Springs**	**44.75**	**256**	*eP*		**P**	**06 11 25.1**	**-0.2**
AS31	**Alice Springs**	**44.79**	**256**	*eP*		**P**	**06 11 25.3**	**-0.4**
	comp=Z,6.6nm,0.7s							
ASAR	**Alice Springs**	**44.79**	**256**	P		**P**	**06 11 25.7**	**0.0**
	comp=Z,20nm,0.6s,baz=95,slow=8.1,SNR=310							
ASAR					ScP	**ScP**	**06 16 16.4**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=100,slow=4.3,SNR=4.1							
ASAR				S		**S**	**06 17 32.5**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=95,slow=17,SNR=11							
WB2	**Warramunga Arr**	**44.81**	**261**	*eP*		**P**	**06 11 25.5**	**-0.3**
	comp=Z,17nm,0.9s							
WRAB	**Tennant Creek**	**44.81**	**261**	*d iP*		**P**	**06 11 25.3**	**-0.5**
WRAB					pmax	pmax		
	comp=Z,18nm,0.8s							
WRAB	**Tennant Creek**	**44.81**	**261**	*eP*		**P**	**06 11 25.4**	**-0.5**
	comp=Z,14nm,0.9s							
WRA	**Warramunga Arr**	**44.82**	**261**	P		**P**	**06 11 25.1**	**-0.8**
	comp=Z,5.7nm,0.4s,baz=97,slow=7.3,SNR=155							
WRA				S		**S**	**06 17 31.5**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=99,slow=13,SNR=4.4							
FITZ	**Fitzroy Crossi**	**53.24**	**262**	P		**P**	**06 12 29.1**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=91,slow=4.8,SNR=15							
SOEI	**Soe**	**56.61**	**271**	*eP*		**P**	**06 12 52.7**	**-0.2**
	comp=Z,34nm,0.9s							
MBWA	**Marble Bar**	**58.12**	**257**	*eP*		**P**	**06 13 02.9**	**-0.2**
	comp=Z,74nm,0.7s							
SBA	**Scott Base**	**58.53**	**184**	*eP*		**P**	**06 13 07.7**	**+2.7**
SBA					pmax	pmax		
	comp=Z,44nm,1.0s							
SBA	**Scott Base**	**58.53**	**184**	*eP*		**P**	**06 13 07.7**	**+2.7**
	comp=Z,44nm,1.0s							
VNDA	**Vanda**	**58.57**	**185**	P		**P**	**06 13 07.0**	**+1.7**
	comp=Z,9.4nm,0.9s,baz=358,slow=7.7,SNR=50							
VNDA	**Vanda**	**58.57**	**185**	*eP*		**P**	**06 13 07.0**	**+1.7**
VNDA					pmax	pmax		
	comp=Z,33nm,1.4s							
VNDA	**Vanda**	**58.57**	**185**	*eP*		**P**	**06 13 07.0**	**+1.7**
	comp=Z,33nm,1.4s							
CBIJ	**Chichi jima**	**60.63**	**319**	P		**P**	**06 13 19.8**	**-0.1**
JCJ	**Chichijima**	**60.63**	**319**	P		**P**	**06 13 19.8**	**-0.1**
	comp=Z,39nm,0.8s,baz=260,slow=15,SNR=3.2							
DAV	**Davao City (W)**	**61.73**	**290**	P		**P**	**06 13 26.8**	**-0.6**
	comp=Z,208nm,0.4s,baz=15,slow=15,SNR=3.1							
CASY	**Casey**	**64.61**	**205**	*eP*		**P**	**06 13 45.5**	**+0.3**
	comp=Z,13nm,0.8s							
MJAR	**Matsushiro Arr**	**69.76**	**323**	P		**P**	**06 14 16.8**	**-0.9**
	comp=Z,9.6nm,0.6s,baz=158,slow=6.0,SNR=47							
MAJO	**Matsushiro**	**69.76**	**323**	*⇓ iP*		**P**	**06 14 16.8**	**-0.9**
MAJO					pmax	pmax		
	comp=Z,56nm,1.0s							
MAT	**Matsushiro**	**69.76**	**323**	P		**P**	**06 14 16.9**	**-0.8**
MAT				S		**S**	**06 22 55.8**	**+1.7**
MJB9	**Matsu-Tunnel**	**69.76**	**323**	*eP*		**P**	**06 14 17.1**	**-0.6**
	comp=Z,3.2nm,0.6s							
QSPA	**South Pole Qui**	**70.22**	**180**	*eP*		**P**	**06 14 20.7**	**+0.6**
	comp=Z,195nm,0.8s							
ERM	**Erimo**	**71.32**	**330**	*⇑ iP*		**P**	**06 14 28.3**	**+1.5**
ERM					pmax	pmax		
	comp=Z,16nm,1.0s							
KUR	**Kuril'sk**	**71.89**	**335**	*i* P		**P**	**06 14 31.3**	**+1.2**
ASAJ	**Asahikawa**	**73.21**	**331**	P		**P**	**06 14 39.0**	**+1.2**
	comp=Z,16nm,0.9s,baz=212,slow=8.9,SNR=14							
ASAJ	**Asahikawa**	**73.21**	**331**	*eP*		**P**	**06 14 38.8**	**+0.9**
	comp=Z,9.7nm,1.0s							
TPUB	**Ta-pu**	**73.73**	**303**	*eP*		**P**	**06 14 40.4**	**-1.0**
	comp=Z,24nm,0.8s							
UNV	**Unalaska Valle**	**74.04**	**7**	*eP*		**P**	**06 14 40.2**	**-2.1**
	comp=Z,113nm,1.8s							
YSS	**Yuzh-Sakhalins**	**75.37**	**333**	*⇑ iP*		**P**	**06 14 50.9**	**+0.8**
YSS					pmax	pmax		
	comp=Z,30nm,1.1s							
YSS	**Yuzh-Sakhalins**	**75.37**	**333**	*eP*		**P**	**06 14 50.9**	**+0.8**
	comp=Z,34nm,1.1s							
PEA0	**Petropavlovsk-**	**75.67**	**345**	*eP*		**P**	**06 14 51.8**	**+0.1**
PETK	**Petropavlovsk-**	**75.67**	**345**	P		**P**	**06 14 52.1**	**+0.4**
	comp=Z,20nm,0.6s,baz=127,slow=7.4,SNR=12							
TJN	**Taejon**	**76.17**	**317**	*⇑eP*		**P**	**06 14 56.4**	**+1.6**
KSRS	**Korea Array**	**76.48**	**318**	P		**P**	**06 14 57.1**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=127,slow=5.7,SNR=12							
KSAR	**Wonju Array Be**	**76.50**	**318**	P		**P**	**06 14 57.1**	**+0.5**
KSAR	**Wonju Array Be**	**76.50**	**318**	*eP*		**P**	**06 14 57.1**	**+0.5**
KS01	**Wonju Array Si**	**76.51**	**318**	*eP*		**P**	**06 14 57.0**	**+0.3**
CHGN	**Chignik**	**77.51**	**11**	*eP*		**P**	**06 15 01.9**	**-0.3**
VLA	**Vladivostok**	**77.82**	**325**	*⇓P*		**P**	**06 15 05.7**	**+2.0**
VLA					pmax	pmax		
	comp=Z,20nm,0.9s							
MSHR	**Mys Shultsa**	**77.86**	**324**	*⇑eP*		**P**	**06 15 04.6**	**+0.6**
MWC	**Mount Wilson**	**78.27**	**47**	*eP*		**P**	**06 15 06.0**	**-0.6**
MWC					pmax	pmax		
	comp=Z,13nm,0.6s							
MWC	**Mount Wilson**	**78.27**	**47**	*eP*		**P**	**06 15 06.0**	**-0.6**
	comp=Z,13nm,0.6s							
USRK	**Ussuriysk Ar.**	**78.50**	**326**	P		**P**	**06 15 08.2**	**+0.9**
	comp=Z,7.3nm,0.8s,baz=120,slow=3.1,SNR=12							
CMB	**Columbia Colle**	**78.90**	**43**	*eP*		**P**	**06 15 09.3**	**-0.5**
CMB					pmax	pmax		
	comp=Z,9.0nm,0.8s							
CMB	**Columbia Colle**	**78.90**	**43**	*eP*		**P**	**06 15 09.3**	**-0.5**
	comp=Z,8.9nm,0.8s							
AFDM	**Forest Hills D**	**79.07**	**42**	*eP*		**P**	**06 15 12.1**	**+1.4**
	comp=Z,8.4nm,1.0s							
OHAK	**Old Harbor**	**79.49**	**13**	*eP*		**P**	**06 15 11.6**	**-0.7**
	comp=Z,22nm,0.9s							
YBH	**Yreka Blue Hor**	**79.70**	**39**	*eP*		**P**	**06 15 14.6**	**+0.6**
YBH					pmax	pmax		
	comp=Z,16nm,0.6s							
YBH	**Yreka Blue Hor**	**79.70**	**39**	*eP*		**P**	**06 15 14.6**	**+0.6**
	comp=Z,16nm,0.6s							
WAKR	**Walker**	**79.78**	**43**	*eP*		**P**	**06 15 14.9**	**+0.3**
	comp=Z,11nm,0.7s							
HABR	**Khabarovsk**	**79.94**	**330**	*eP*		**P**	**06 15 14.5**	**-0.5**
HABR				*e*			06 15 20.2	
HABR				*e*PP*		**pP**	**06 16 44.4**	**0.0**
HABR				*e*SP*		**sP**	**06 17 26.6**	**+0.7**
HABR				*e*			06 18 22.5	
HABR				*ePPP*		PPP	06 20 13.9	
HABR				*eS*		**S**	**06 24 44.8**	**0.0**
HABR				*e*			06 25 01.3	
HABR				*eSS*		**SS**	**06 30 05.5**	**0.0**
HABR				*eSSS*		SSS	06 33 34.0	
HABR					pmax	pmax		
	comp=E,13nm,1.1s							
HABR					pmax	pmax		
	comp=N,10.0nm,1.1s							
HABR					pmax	pmax		
	comp=Z,23nm,1.1s							
HABR					MLR	MLR		
	comp=Z,48nm,21.0s							
MDJ	**Mudanjiang**	**80.06**	**325**	P		**P**	**06 15 16.4**	**+0.7**
MDJ					pP	pP	06 16 44.5	-0.6
MDJ					sP	sP	06 17 23.8	-2.9
MDJ					PP	**PP**	**06 18 20.0**	**-4.6**
MDJ					S	**S**	**06 24 44.8**	**-1.5**
HUMO	**Hull Mountain**	**80.10**	**38**	*eP*		**P**	**06 15 17.9**	**+1.8**
	comp=Z,32nm,1.8s							
KDAK	**Kodiak Island**	**80.15**	**13**	*i* P		**P**	**06 15 15.6**	**-0.3**
KDAK	**Kodiak Island**	**80.15**	**13**	*eP*		**P**	**06 15 15.1**	**-0.7**
	comp=Z,14nm,1.0s							
KDAK					*e*pP	**pP**	**06 16 45.7**	**+0.4**
Y12C	**Blythe**	**80.49**	**49**	*eP*		**P**	**06 15 18.7**	**+0.4**
	comp=Z,8.0nm,0.7s							
PAHR	**Pah Rah Range**	**80.51**	**42**	*eP*		**P**	**06 15 18.0**	**-0.5**
	comp=Z,7.7nm,0.7s							
113A	**Mohawk Valley,**	**80.52**	**50**	*eP*		**P**	**06 15 18.8**	**+0.4**
	comp=Z,4.3nm,0.8s							
LDFC	**Landfair**	**80.77**	**48**	*eP*		**P**	**06 15 20.3**	**+0.4**
	comp=Z,18nm,0.8s							
TPNV	**Topopah Spring**	**81.00**	**46**	*eP*		**P**	**06 15 21.3**	**+0.2**
TPNV				*e*PP*		**pP**	**06 16 50.6**	**-0.1**
TPNV					pmax	pmax		
	comp=Z,4.0nm,0.8s							
TPNV	**Topopah Spring**	**81.00**	**46**	*eP*		**P**	**06 15 21.3**	**+0.2**
	comp=Z,4.3nm,0.8s							
TPNV					*e*pP	**pP**	**06 16 50.6**	**-0.1**
MOD	**Modoc Plateau**	**81.24**	**40**	*eP*		**P**	**06 15 22.3**	**+0.1**
	comp=Z,14nm,0.7s							
K05A	**Summer Lake**	**81.38**	**39**	*eP*		**P**	**06 15 23.3**	**+0.3**
	comp=Z,25nm,1.0s							
K05A					*e*pP	**pP**	**06 16 51.5**	**-1.2**
SHPR	**Sheep Range**	**81.50**	**46**	*eP*		**P**	**06 15 24.3**	**+0.6**
	comp=Z,3.3nm,1.0s							
SHPR					*e*pP	**pP**	**06 16 52.4**	**-1.1**
Y14A	**Wickenburg**	**81.67**	**50**	*eP*		**P**	**06 15 24.5**	**0.0**
	comp=Z,20nm,0.8s							
CN2	**Changchun**	**81.86**	**322**	*⇓P*		**P**	**06 15 25.3**	**+0.2**
CN2					pmax	pmax		
	comp=Z,20nm,0.7s							
R11A	**Troy Canyon, C**	**82.20**	**45**	*eP*		**P**	**06 15 27.1**	**-0.2**
	comp=Z,3.3nm,0.9s							
MAW	**Mawson**	**82.22**	**200**	P		**P**	**06 15 27.2**	**+0.6**
	comp=Z,5.0nm,0.5s,baz=143,slow=6.0,SNR=21							
MAW	**Mawson**	**82.22**	**200**	*eP*		**P**	**06 15 27.0**	**+0.3**
MAW					pmax	pmax		
	comp=Z,1.0nm,0.6s							
MAW	**Mawson**	**82.22**	**200**	*eP*		**P**	**06 15 27.0**	**+0.3**
	comp=Z,1.2nm,0.6s							
WVOR	**Wild Horse Val**	**82.55**	**40**	*eP*		**P**	**06 15 28.8**	**-0.1**
WVOR					pmax	pmax		
	comp=Z,14nm,1.0s							
WVOR	**Wild Horse Val**	**82.55**	**40**	*eP*		**P**	**06 15 28.8**	**-0.1**
	comp=Z,14nm,1.0s							
NLWA	**Neilton Lookou**	**82.62**	**34**	*eP*		**P**	**06 15 28.4**	**-0.6**
	comp=Z,16nm,0.9s							
SVW2	**Sparrevohn**	**82.63**	**11**	*eP*		**P**	**06 15 27.6**	**-1.1**
	comp=Z,4.9nm,0.9s							
OSR	**Olympics--Salm**	**82.65**	**34**	P		**P**	**06 15 30.9**	**+1.7**
TDL	**Tradedollar La**	**82.85**	**35**	P		**P**	**06 15 32.0**	**+1.7**
X16A	**Lo Mia Camp, P**	**83.03**	**50**	*eP*		**P**	**06 15 32.6**	**+1.0**
	comp=Z,7.3nm,0.8s							
LCMT	**Little Creek M**	**83.07**	**47**	*eP*		**P**	**06 15 31.8**	**+0.1**
	comp=Z,7.7nm,0.8s							
319A	**Douglas**	**83.16**	**53**	*eP*		**P**	**06 15 33.3**	**+1.1**
	comp=Z,17nm,0.8s							
MA2	**Magadan**	**83.19**	**345**	*i* P		**P**	**06 15 31.3**	**-0.2**
CCUT	**Cedar City**	**83.27**	**46**	*eP*		**P**	**06 15 32.5**	**-0.3**
	comp=Z,6.0nm,0.8s							
KNB	**Kanab**	**83.36**	**47**	*eP*		**P**	**06 15 33.1**	**-0.1**
KNB					pmax	pmax		
	comp=Z,7.0nm,0.8s							
KNB	**Kanab**	**83.36**	**47**	*eP*		**P**	**06 15 33.1**	**-0.1**
	comp=Z,7.4nm,0.8s							
SPU	**Mount Spurr**	**83.37**	**12**	*eP*		**P**	**06 15 31.8**	**-0.7**
SPU					*e*pP	**pP**	**06 17 01.5**	**-1.3**
U15A	**North Rim**	**83.43**	**48**	*eP*		**P**	**06 15 34.3**	**+0.6**
	comp=Z,13nm,0.6s							
D05A	**Enumclaw**	**83.49**	**35**	*eP*		**P**	**06 15 32.4**	**-1.0**
	comp=Z,18nm,0.9s							
D05A					*e*pP	**pP**	**06 17 02.3**	**-1.3**
ELK	**Elko**	**83.72**	**43**	*eP*		**P**	**06 15 34.5**	**-0.5**
ELK					pmax	pmax		
	comp=Z,5.0nm,0.9s							
ELK	**Elko**	**83.72**	**43**	*eP*		**P**	**06 15 34.5**	**-0.5**
	comp=Z,5.2nm,0.9s							
RC01	**Rabbit Creek A**	**83.77**	**13**	*eP*		**P**	**06 15 33.1**	**-1.4**
	comp=Z,37nm,1.4s							
SUA	**Susitna One**	**83.90**	**13**	*eP*		**P**	**06 15 33.7**	**-1.5**
	comp=Z,18nm,0.7s							
G08A	**Pilot Rock**	**84.02**	**37**	*eP*		**P**	**06 15 36.1**	**-0.1**
	comp=Z,9.1nm,0.7s							
X18A	**Snowflake**	**84.16**	**50**	*eP*		**P**	**06 15 37.3**	**0.0**
	comp=Z,3.7nm,0.7s							
EYAK	**Cordova Ski Ar**	**84.22**	**15**	*eP*		**P**	**06 15 35.7**	**-1.0**
	comp=Z,7.7nm,0.7s							
TT01	**Tatalina**	**84.26**	**10**	*eP*		**P**	**06 15 36.3**	**-0.5**
TT01					*e*pP	**pP**	**06 17 07.5**	**+0.2**
TTA	**Tatalina**	**84.28**	**10**	*eP*		**P**	**06 15 36.7**	**-0.3**
TTA					pmax	pmax		
	comp=Z,8.0nm,1.1s							
TTA	**Tatalina**	**84.28**	**10**	*eP*		**P**	**06 15 36.7**	**-0.3**
	comp=Z,8.3nm,1.1s							
MTPU	**Mount Pierson**	**84.32**	**46**	*eP*		**P**	**06 15 38.0**	**-0.2**
	comp=Z,5.7nm,0.7s							
PMR	**Palmer**	**84.36**	**13**	*eP*		**P**	**06 15 36.2**	**-1.1**
PMR					pmax	pmax		
	comp=Z,19nm,1.4s							
PMR	**Palmer**	**84.36**	**13**	*eP*		**P**	**06 15 36.2**	**-1.1**
	comp=Z,19nm,1.4s							
RPW	**Rockport**	**84.52**	**34**	P		**P**	**06 15 39.1**	**+0.6**
MBW	**Mount Baker**	**84.53**	**33**	P		**P**	**06 15 38.2**	**-0.5**
MSU	**Marysvale**	**84.56**	**46**	*eP*		**P**	**06 15 41.6**	**+2.3**
MSU	**Marysvale**	**84.56**	**46**	*eP*		**P**	**06 15 41.6**	**+2.3**
DIV	**Divide**	**84.72**	**15**	*eP*		**P**	**06 15 38.4**	**-0.9**
	comp=Z,16nm,0.8s							
SML	**Sawmill**	**84.72**	**14**	*eP*		**P**	**06 15 40.0**	**+0.8**
SML					pmax	pmax		
	comp=Z,10.0nm,0.8s							
SML	**Sawmill**	**84.72**	**14**	*eP*		**P**	**06 15 40.0**	**+0.8**
	comp=Z,9.9nm,0.8s							
BMO	**Blue Mountains**	**84.73**	**38**	*eP*		**P**	**06 15 39.6**	**-0.1**
BMO				*e*PP*		**pP**	**06 17 08.8**	**-1.5**
BMO					pmax	pmax		
	comp=Z,5.0nm,0.8s							
BMO	**Blue Mountains**	**84.73**	**38**	*eP*		**P**	**06 15 39.6**	**-0.1**
	comp=Z,5.2nm,0.8s							
BMO					*e*pP	**pP**	**06 17 08.8**	**-1.5**
BMRM	**Bremner River**	**84.87**	**16**	*eP*		**P**	**06 15 38.7**	**-1.3**
	comp=Z,15nm,0.7s							
WRAK	**Wrangell Islan**	**85.07**	**23**	*eP*		**P**	**06 15 40.3**	**-0.7**
	comp=Z,7.4nm,0.8s							
CRQM	**Cirque**	**85.07**	**16**	*eP*		**P**	**06 15 40.5**	**-0.6**
	comp=Z,15nm,1.0s							
TMUT	**Trail Mountain**	**85.61**	**46**	*eP*		**P**	**06 15 44.5**	**0.0**
	comp=Z,6.9nm,0.6s							
HLID	**Hailey**	**85.75**	**41**	*eP*		**P**	**06 15 46.0**	**+1.1**
	comp=Z,4.9nm,0.8s							
SEY	**Seymchan**	**85.77**	**347**	P		**P**	**06 15 43.4**	**-0.9**
	comp=Z,6.2nm,0.4s,baz=155,slow=6.2,SNR=28							
SEY	**Seymchan**	**85.77**	**347**	*⇑ iP*		**P**	**06 15 44.8**	**+0.6**
ENH	**Enshi**	**85.78**	**304**	*eP*		**P**	**06 15 45.9**	**+0.8**
	comp=Z,26nm,1.3s							
TRF	**Thorofare Moun**	**85.79**	**12**	*eP*		**P**	**06 15 43.1**	**-1.5**
	comp=Z,12nm,0.7s							
SRU	**San Rafael Swe**	**85.98**	**46**	*eP*		**P**	**06 15 45.7**	**-0.4**
SRU					pmax	pmax		
	comp=Z,7.0nm,0.7s							
SRU	**San Rafael Swe**	**85.98**	**46**	*eP*		**P**	**06 15 45.7**	**-0.4**
	comp=Z,6.5nm,0.7s							
RND	**Reindeer**	**86.03**	**13**	*eP*		**P**	**06 15 44.7**	**-0.9**
RND				*e*PP*		**pP**	**06 17 16.2**	**-0.3**
RND					pmax	pmax		
	comp=Z,40nm,1.4s							
RND	**Reindeer**	**86.03**	**13**	*eP*		**P**	**06 15 44.7**	**-0.9**
	comp=Z,40nm,1.4s							
RND					*e*pP	**pP**	**06 17 16.2**	**-0.3**
MNTX	**Cornudas Mount**	**86.27**	**55**	*eP*		**P**	**06 15 47.8**	**+0.3**
	comp=Z,6.0nm,0.9s							
MCK	**McKinley**	**86.31**	**12**	*eP*		**P**	**06 15 46.7**	**-0.2**
MCK				*e*PP*		**pP**	**06 17 16.9**	**-0.9**
MCK					pmax	pmax		
	comp=Z,10.0nm,0.8s							
MCK	**McKinley**	**86.31**	**12**	*eP*		**P**	**06 15 46.7**	**-0.2**
	comp=Z,10nm,0.8s							
MCK					*e*pP	**pP**	**06 17 16.9**	**-0.9**
PAX	**Paxson**	**86.39**	**14**	*eP*		**P**	**06 15 46.9**	**-0.5**
PAX					pmax	pmax		
	comp=Z,3.0nm,0.8s							
PAX	**Paxson**	**86.39**	**14**	*eP*		**P**	**06 15 46.9**	**-0.5**
	comp=Z,2.8nm,0.8s							
BNM	**Barren Site**	**86.42**	**52**	*eP*		**P**	**06 15 47.7**	**-0.7**
BWN	**Browne**	**86.60**	**12**	*eP*		**P**	**06 15 48.6**	**+0.4**
	comp=Z,39nm,1.4s							
TX31	**Lajitas Ar. Si**	**86.60**	**57**	*eP*		**P**	**06 15 49.5**	**+0.3**
TX31					*e*pP	**pP**	**06 17 25.2**	**+5.0**
TXAR	**Lajitas Array**	**86.60**	**57**	P		**P**	**06 15 49.6**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=221,slow=6.2,SNR=32							
TXAR					pP	**pP**	**06 17 22.8**	**+2.6**
	comp=Z,1.5nm,1.0s,baz=227,slow=5.0,SNR=5.2							
PV09	**Paradox Valley**	**86.64**	**47**	*eP*		**P**	**06 15 49.2**	**-0.2**
PV10	**Paradox Valley**	**86.64**	**47**	*eP*		**P**	**06 15 49.4**	**0.0**
PV04	**Paradox Valley**	**86.74**	**47**	P		**P**	**06 15 51.4**	**+1.6**
MENT	**Mentasta**	**86.78**	**15**	*eP*		**P**	**06 15 48.2**	**-0.9**
MENT					*e*pP	**pP**	**06 17 20.1**	**-0.1**
PV01	**Paradox Valley**	**86.85**	**48**	*eP*		**P**	**06 15 49.7**	**-0.6**
ANMO	**Albuquerque**	**86.90**	**51**	*⇓ iP*		**P**	**06 15 51.2**	**+0.6**
ANMO					pmax	pmax		
	comp=Z,4.0nm,0.8s							
ANMO	**Albuquerque**	**86.90**	**51**	*eP*		**P**	**06 15 50.5**	**-0.1**
	comp=Z,3.9nm,0.8s							
MLY	**Manley**	**87.13**	**11**	*eP*		**P**	**06 15 49.1**	**-1.7**
	comp=Z,5.0nm,1.0s							
MLY					*e*pP	**pP**	**06 17 21.3**	**-0.7**
WRH	**Wood River Hil**	**87.14**	**12**	*eP*		**P**	**06 15 49.6**	**-1.2**
	comp=Z,10nm,1.0s							
WRH					*e*pP	**pP**	**06 17 21.4**	**-0.6**
DOT	**Dot Lake**	**87.30**	**14**	*eP*		**P**	**06 15 50.9**	**-0.7**
DOT					*e*pP	**pP**	**06 17 22.2**	**-0.6**
CCB	**Clear Creek Bu**	**87.35**	**12**	*eP*		**P**	**06 15 50.1**	**-1.7**
	comp=Z,9.3nm,0.7s							
CCB					*e*pP	**pP**	**06 17 22.0**	**-1.0**
MCMT	**McKenzie Canyo**	**87.38**	**40**	P		**P**	**06 15 52.9**	**+0.2**
SYO	**Syowa Base**	**87.39**	**193**	*⇓eP*		**P**	**06 15 50.0**	**-2.0**
DLBC	**Dease Lake**	**87.40**	**23**	P		**P**	**06 15 52.1**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=223,slow=6.8,SNR=11							
DLBC					pP	**pP**	**06 17 23.3**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=98,slow=27,SNR=1.6							
DLBC	**Dease Lake**	**87.40**	**23**	*eP*		**P**	**06 15 52.0**	**-0.3**

LZH					pP	pP	06 17 58.6	+10
LZH					pmax	pmax		
	comp=Z,18nm,1.0s							
RSSD	**Black Hills**	**92.60**	**44**	*e*P	**P**		**06 16 16.0**	**-0.9**
RSSD					pmax	pmax		
	comp=Z,6.0nm,1.0s							
RSSD	**Black Hills**	**92.60**	**44**	*e*P	**P**		**06 16 16.0**	**-0.9**
	comp=Z,6.3nm,1.0s							
INK	**Inuvik**	**93.61**	**15**	P	**P**		**06 16 20.1**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=200,slow=5.1,SNR=7.9							
INK					pP	**pP**	**06 17 53.0**	**+0.4**
	comp=Z,3.0nm,1.1s,baz=297,slow=4.8,SNR=3.0							
INK	**Inuvik**	**93.61**	**15**	*e*P	**P**		**06 16 19.8**	**-0.9**
INK				**PP	**pP**		**06 17 53.0**	**+0.4**
DGMT	**Dagmar**	**94.34**	**40**	*e*P	**P**		**06 16 22.7**	**-1.9**
	comp=Z,19nm,1.0s							
ULN	**Ulaanbaatar**	**94.95**	**319**⇑	*e*P	**P**		**06 16 27.3**	**-0.2**
ULN					pmax	pmax		
	comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**95.34**	**319**	P	**P**		**06 16 28.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=130,slow=4.5,SNR=2.0							
YKA	**Yellowknife Ar**	**95.87**	**25**	P	**P**		**06 16 30.4**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=242,slow=4.4,SNR=19							
YKA					pP	**pP**	**06 18 06.1**	**+3.0**
	comp=Z,0.3nm,0.8s,baz=243,slow=4.1,SNR=3.1							
YKA					PKKPbc	**PKKPbc**	**06 33 17.6**	**-3.3**
	comp=Z,0.1nm,0.4s,baz=41,slow=2.4,SNR=7.5							
ARCES	**ARCESS Array B**	**128.30**	**350**	PKP	**PKPdf**		**06 22 07.8**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=349,slow=0.6,SNR=6.6							
FINES	**FINESS Array B**	**135.18**	**344**	PKhKP	PKPpre		06 22 16.6	
	comp=Z,0.7nm,0.7s,baz=116,slow=4.4,SNR=3.8							
FINES					SKPbc	**SKPbc**	**06 25 16.1**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=35,slow=7.0,SNR=3.7							
OBN	**Obninsk**	**136.24**	**332**⇓	*i*PKIKP	**PKPdf**		**06 22 24.4**	**+0.7**
OBN				*i*			06 25 09.3	
OBN					pmax	pmax		
	comp=Z,9.0nm,0.5s							
NCK	**Nalchik**	**138.14**	**314**⇑	*e*PKIKP	**PKPdf**		**06 22 27.7**	**0.0**
GNI	**Garni**	**138.40**	**309**	*e*PKIKP	**PKPdf**		**06 22 27.3**	**-1.1**
KMBO	**Kilima Mbogo**	**139.75**	**243**	SKPbc	**SKPbc**		**06 25 33.0**	**+3.5**
	comp=Z,0.7nm,0.3s,baz=134,slow=7.3,SNR=3.9							
AKASG	**Malin Array Be**	**142.50**	**332**	PKhKP	PKPpre		06 22 30.2	
	comp=Z,2.5nm,0.5s,baz=42,slow=4.3,SNR=18							
KIEV	**Kiev**	**142.51**	**332**	*e*PKHKP	PKPpre		06 22 30.3	
KIEV	**Kiev**	**142.51**	**332**	*e*PKPpre	PKPpre		06 22 30.3	
AK11	**Malin Array Si**	**142.54**	**332**	*e*PKPpre	PKPpre		06 22 30.4	
SHEL	**Horse Pasture**	**143.59**	**167**	*i* PKIKP	**PKPdf**		**06 22 38.5**	**+0.2**
SHEL	**Horse Pasture**	**143.59**	**167**	*e*PKPdf	**PKPdf**		**06 22 37.5**	**-0.8**
MBAR	**Mbarara**	**145.37**	**237**	*e*PKP2	**PKPbc**		**06 22 42.2**	**-0.2**
MBAR	**Mbarara**	**145.37**	**237**	*e*PKPdf	**PKPbc**		**06 22 42.2**	**-0.2**
BR131	**Keskin Array S**	**146.49**	**313**	*e*PKPbc	**PKPbc**		**06 22 44.1**	**-0.7**
BRTR	**Keskin Array B**	**146.49**	**313**	PKPbc	**PKPbc**		**06 22 44.3**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=131,slow=4.2,SNR=8.5							
BUR08	**Bucovina Ar. S**	**146.54**	**331**	*e*PKPbc	**PKPbc**		**06 22 44.7**	**+0.1**
BURAR	**Bucovina Array**	**146.55**	**331**	*i* P	**PKPbc**		**06 22 44.5**	**-0.2**
BURAR	**Bucovina Array**	**146.55**	**331**	⇓PKP2	**PKPbc**		**06 22 44.5**	**-0.2**
STHS	**Stebnicka Huta**	**146.76**	**337**	*e*PKP2	**PKPab**		**06 22 47.2**	**-0.2**
STHS	**Stebnicka Huta**	**146.76**	**337**	*e*PKP	**PKPab**		**06 22 47.2**	**-0.2**
KOLS	**Kolonicke sedl**	**146.77**	**336**	*e*PKP2	**PKPab**		**06 22 46.9**	**-0.5**
KOLS	**Kolonicke sedl**	**146.77**	**336**	*e*PKP	**PKPab**		**06 22 46.9**	**-0.5**
UZH	**Uzhgorod**	**147.01**	**335**	*e*PKIKP	**PKPbc**		**06 22 44.7**	**-1.0**
BR231	**Keskin MP Arra**	**147.02**	**314**	*e*PKPbc	**PKPbc**		**06 22 45.1**	**-1.2**
CRVS	**Cervenica-Dubn**	**147.11**	**336**	*e*PKP2	**PKPab**		**06 22 49.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**147.11**	**336**	*e*PKP	**PKPab**		**06 22 49.1**	**+0.3**
PLOR	**Plostina**	**147.13**	**328**⇑	*i*P	**PKPab**		**06 22 49.0**	**0.0**
PLOR	**Plostina**	**147.13**	**328**	⇑PKP2	**PKPab**		**06 22 49.0**	**0.0**
CLL	**Collm**	**147.46**	**347**	*i* PKPdf	**PKPbc**		**06 22 46.4**	**-0.4**
	comp=Z,8.0nm,0.9s							
CLL				*i* PKPbc	**PKPab**		**06 22 49.4**	**-0.6**
	comp=Z,13nm,1.1s							
CLL				*i* PKPab	**PKiKP**		**06 22 51.7**	**+3.1**
	comp=Z,5.0nm,0.9s							
CLL	**Collm**	**147.46**	**347**	*i* PKP2	**PKPbc**		**06 22 46.4**	**-0.4**
CLL					pmax	pmax		
	comp=Z,13nm,1.1s							
CLL	**Collm**	**147.46**	**347**	*e*PKPbc	**PKPbc**		**06 22 46.6**	**-0.2**
UPC	**Upice**	**147.48**	**343**⇑	*e*PKP	**PKPbc**		**06 22 47.9**	**+0.9**
UPC	**Upice**	**147.48**	**343**	*e*PKP2	**PKPbc**		**06 22 47.9**	**+0.9**
DPC	**Dobruska-Polom**	**147.54**	**343**⇑	*e*PKP	**PKPbc**		**06 22 48.3**	**+1.1**
DPC				*e*PKPAB	**PKPab**		**06 22 51.3**	**+0.8**
DPC	**Dobruska-Polom**	**147.54**	**343**	*e*PKP2	**PKPbc**		**06 22 48.3**	**+1.1**
LANS	**Liptovska Anna**	**147.62**	**339**	*e*PKP2	**PKPab**		**06 22 50.3**	**-0.6**
LANS	**Liptovska Anna**	**147.62**	**339**	*e*PKP	**PKPab**		**06 22 50.3**	**-0.6**
BRG	**Berggiesshubel**	**147.66**	**346**	*e*PKP	**PKPbc**		**06 22 47.9**	**+0.5**
	comp=Z,8.2nm,1.0s							
BRG	**Berggiesshubel**	**147.66**	**346**	*e*PKP2	**PKPbc**		**06 22 47.9**	**+0.5**
BRG					pmax	pmax		
	comp=Z,8.0nm,1.0s							
DOPR	**Dopca**	**147.68**	**329**⇓	*i*P	**PKPbc**		**06 22 48.1**	**+0.4**
ISR	**Istrita**	**147.69**	**327**⇑	*i*P	**PKPab**		**06 22 52.7**	**+1.4**
ISR	**Istrita**	**147.69**	**327**	⇑PKP2	**PKPab**		**06 22 52.7**	**+1.4**
MORC	**Moravsky Berou**	**147.70**	**341**⇓	*i*P	**PKPbc**		**06 22 48.9**	**+1.3**
MORC	**Moravsky Berou**	**147.70**	**341**	⇓PKP2	**PKPbc**		**06 22 48.9**	**+1.3**
MLR	**Muntele Rosu**	**147.74**	**328**⇓	*i*P	**PKPbc**		**06 22 48.1**	**+0.1**
MLR	**Muntele Rosu**	**147.74**	**328**	⇓PKP2	**PKPbc**		**06 22 48.1**	**+0.1**
MLR	**Muntele Rosu**	**147.74**	**328**	*e*PKPbc	**PKPbc**		**06 22 48.4**	**+0.4**
KECS	**Kecovo**	**147.82**	**337**	*e*PKP2	**PKPab**		**06 22 52.0**	**+0.4**
KECS	**Kecovo**	**147.82**	**337**	*e*PKP	**PKPab**		**06 22 52.0**	**+0.4**
PVCC	**Panska Ves**	**147.83**	**345**⇑	*e*PKP	**PKPbc**		**06 22 48.3**	**+0.4**
PVCC	**Panska Ves**	**147.83**	**345**	*e*PKP2	**PKPbc**		**06 22 48.3**	**+0.4**
DRGR		**148.29**	**333**⇑	*i*P	**PKPbc**		**06 22 49.2**	**-0.1**
DRGR		**148.29**	**333**	⇑PKP2	**PKPbc**		**06 22 49.2**	**-0.1**
PRU	**Pruhonice**	**148.34**	**345**⇑	*e*PKP	**PKPbc**		**06 22 49.3**	**+0.1**
PRU				*e*PKPAB	**PKPab**		**06 22 53.6**	**-0.1**
PRU	**Pruhonice**	**148.34**	**345**	*e*PKP2	**PKPbc**		**06 22 49.3**	**+0.1**
VYHS	**Vyhne**	**148.40**	**339**	*e*PKP2	**PKPbc**		**06 22 49.5**	**+0.1**
VYHS	**Vyhne**	**148.40**	**339**	*e*PKP	**PKPbc**		**06 22 49.5**	**+0.1**
VYHS				*e*			06 22 53.6	
ARR	**Arges**	**148.47**	**329**⇓	*i*P	**PKPbc**		**06 22 50.8**	**+1.0**
NKC	**Novy Kostel**	**148.59**	**347**	*e*PKPAB	**PKPab**		**06 22 54.4**	**-0.3**
NKC	**Novy Kostel**	**148.59**	**347**	*e*PKP2	**PKPab**		**06 22 54.4**	**-0.3**
KHC	**Kasperske Hory**	**149.37**	**345**⇑	*e*PKP	**PKPbc**		**06 22 51.9**	**+0.1**
KHC				*e*PKPAB	**PKPab**		**06 22 58.6**	**+0.6**
KHC	**Kasperske Hory**	**149.37**	**345**	*e*PKP2	**PKPbc**		**06 22 52.0**	**+0.1**
KHC	**Kasperske Hory**	**149.37**	**345**	*e*PKPbc	**PKPbc**		**06 22 52.0**	**+0.1**
KHC				*e*PKPab	**PKPab**		**06 22 57.7**	**-0.3**
GEC2	**GERESS Array S**	**149.60**	**345**	*e*PKP2	**PKPbc**		**06 22 52.9**	**+0.4**
GEC2	**GERESS Array S**	**149.60**	**345**	*e*PKPbc	**PKPbc**		**06 22 52.9**	**+0.4**
GEC2				*e*PKPab	**PKPab**		**06 22 59.7**	**+0.6**
GERES	**GERESS Array B**	**149.60**	**345**	PKPbc	**PKPbc**		**06 22 52.3**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=29,slow=3.0,SNR=18							
GEA0	**GERESS Array S**	**149.61**	**345**	*e*PKPbc	**PKPbc**		**06 22 52.0**	**-0.5**
GEA0				*e*PKPab	**PKPab**		**06 23 00.2**	**+1.2**
BZS	**Buzias**	**149.68**	**332**⇑	*i*P	**PKPbc**		**06 22 52.2**	**-0.4**
BZS	**Buzias**	**149.68**	**332**	⇑PKHKP	**PKPbc**		**06 22 52.2**	**-0.4**
CONA	**Conrad Observa**	**149.85**	**341**	*i* PKiKP	**PKPbc**		**06 22 52.9**	**-0.1**
	comp=Z,2.3nm,0.5s							
MDVR	**Moldovita**	**150.29**	**331**⇑	*i*P	**PKPbc**		**06 22 54.5**	**+0.3**
ARSA	**Arzberg**	**150.56**	**341**	*i* PKiKP	**PKiKP**		**06 22 56.2**	**+0.9**
	comp=Z,0.3nm,0.2s							
WATA	**Walderalm**	**151.52**	**346**	*i* PKiKP	**PKiKP**		**06 22 57.2**	**-0.2**
	comp=Z,1.6nm,0.4s							
WTTA	**Wattenberg**	**151.57**	**346**	*i* PKiKP	**PKPbc**		**06 22 57.1**	**-0.1**
	comp=Z,0.1nm,0.1s							
MOTA	**Moosalm**	**151.61**	**347**	*i* PKiKP	**PKiKP**		**06 22 57.4**	**-0.1**
	comp=Z,2.0nm,0.5s							
PDKS	**Podkum**	**151.79**	**341**	*i* PKPdf	**PKPbc**		**06 22 57.3**	**-0.2**
ABTA	**Abfaltersbach**	**151.85**	**345**	*i* PKPbc	**PKPbc**		**06 22 57.0**	**-0.8**
	comp=Z,4.0nm,0.5s							
DAVA	**Damuels**	**151.91**	**349**	*i* PKiKP	**PKiKP**		**06 22 59.5**	**+1.3**
	comp=Z,2.5nm,0.6s							
FETA	**Feichten**	**152.00**	**347**	*i* PKPbc	**PKPbc**		**06 22 57.1**	**-1.1**
	comp=Z,2.5nm,0.6s							
VISS	**Visnje**	**152.07**	**341**	*e*PKPdf	**PKPbc**		**06 22 57.7**	**-0.4**
BOJS	**Bojanci**	**152.21**	**340**	*i* PKPdf	**PKPbc**		**06 22 58.9**	**+0.5**
FUORN	**Ofenpass-Fuorn**	**152.47**	**348**	*e*PKPbc	**PKPbc**		**06 22 59.8**	**+0.4**
ES19	**SONSECA Array**	**159.54**	**13**	*e*PKPab	**PKPab**		**06 23 40.9**	**-0.8**
ESDC	**Sonseca Array**	**159.55**	**14**	PKPab	**PKPab**		**06 23 41.7**	**0.0**
	comp=Z,0.5nm,0.6s,baz=332,slow=5.0,SNR=5.2							
DBIC	**Dimbokro**	**165.25**	**152**	PKPab	**PKPab**		**06 24 08.7**	**+1.4**
	comp=Z,4.8nm,0.8s,baz=228,slow=6.9,SNR=4.0							
TOA0	**Torodi Ar. Sit**	**173.33**	**176**	*e*PKPdf	**PKPdf**		**06 23 10.7**	**-1.6**
TOA0				*e*PKPab	**PKPab**		**06 24 42.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**173.33**	**176**	PKP	**PKPdf**		**06 23 11.1**	**-1.2**
	comp=Z,3.2nm,1.0s,baz=338,slow=0.7,SNR=14							
TORD				PKPab	**PKPab**		**06 24 42.5**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=179,slow=3.8,SNR=13							
TORD				PP	**PP**		**06 28 33.2**	**-0.4**
	comp=Z,2.2nm,1.1s,baz=195,slow=4.8,SNR=5.5							

*ATH **19** 06:06:07.9, 36°.89N×22°.80E, h19km±1km, ML2.0/11, Error ellipse: s-maj=1.5km s-min=0.6km az=137.0*

*ISCJB **19** 06:06:08.3±0.5, 36°.88N±0°.02×22°.77E±0°.03, h10km±4km, Error ellipse: s-maj=4.3km s-min=3.2km az=158.5*
*THE **19** 06:06:08.8, 36°.88N×22°.76E, h2km±3km, ML2.0/5, Error ellipse: s-maj=3.9km s-min=0.5km az=188.0*
*CSEM **19** 06:06:08.3±0.1, 36°.88N×22°.80E, h10km, ML2.0, Error ellipse: s-maj=3.3km s-min=2.4km az=63.0*

ISC 19 06:06:08.4±0.9, **36°.89N**±0°.02×**22°.79E**±0°.02, **h12**km±7km, **n59**, σ0**°50/93, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLI	**Veliai**	**0.21**	**144**	P	**Pg**	**06 06 12.9**	**+0.1**
VLI				S	**Sg**	**06 06 16.3**	**+0.4**
VLI	**Veliai**	**0.21**	**144**	P	**Pg**	**06 06 13.0**	**+0.1**
VLI				S	**Sg**	**06 06 16.3**	**+0.4**
VLI	**Veliai**	**0.21**	**144**	P	**Pg**	**06 06 13.0**	**+0.1**
VLI				S	**Sg**	**06 06 15.8**	**-0.1**
VLI				AML	AML	06 06 16.5	
	comp=N,1597μm,0.2s						
VLI				AML	AML	06 06 16.6	
	comp=E,2484μm,0.3s						
KRND	**KRANIDI**	**0.58**	**30**	P	**Pg**	**06 06 19.8**	**+0.1**
KRND				S	**Sb**	**06 06 28.5**	**-0.1**
KRND	**KRANIDI**	**0.58**	**30**	P	**Pg**	**06 06 19.8**	**+0.1**
KRND				S	**Sb**	**06 06 28.5**	**-0.1**
KRND	**KRANIDI**	**0.58**	**30**	P	**Pb**	**06 06 20.4**	**-0.1**
VLX	**Vlachokerasia**	**0.58**	**326**	P	**Pg**	**06 06 20.0**	**+0.2**
VLX				S	**Sg**	**06 06 27.8**	**+0.3**
VLX	**Vlachokerasia**	**0.58**	**326**	P	**Pg**	**06 06 20.0**	**+0.2**
VLX				S	**Sg**	**06 06 27.8**	**+0.3**
VLX	**Vlachokerasia**	**0.58**	**326**	P	**Pb**	**06 06 20.6**	**-0.1**
KYTH	**Kithira**	**0.65**	**161**	P	**Pg**	**06 06 20.9**	**-0.2**
KYTH				S	**Sb**	**06 06 30.8**	**-0.1**
KYTH	**Kithira**	**0.65**	**161**	P	**Pg**	**06 06 20.9**	**-0.2**
KYTH				S	**Sg**	**06 06 29.8**	**+0.1**
KYTH	**Kithira**	**0.65**	**161**	P	**Pg**	**06 06 21.2**	**+0.1**
DID	**Didima**	**0.72**	**30**	P	**Pg**	**06 06 22.2**	**-0.1**
DID				S	**Sb**	**06 06 33.2**	**+0.4**
DID	**Didima**	**0.72**	**30**	P	**Pb**	**06 06 22.6**	**-0.3**
DID				S	**Sg**	**06 06 31.4**	**-0.4**
DID	**Didima**	**0.72**	**30**	P	**Pb**	**06 06 22.6**	**-0.3**
DID				S	**Sg**	**06 06 31.4**	**-0.4**
DID				AML	AML	06 06 35.2	
	comp=N,182μm,0.4s						
DID				AML	AML	06 06 35.9	
	comp=E,221μm,0.3s						
ITM	**Ithomi**	**0.75**	**293**	P	**Pg**	**06 06 22.8**	**-0.1**
ITM	**Ithomi**	**0.75**	**293**	P	**Pg**	**06 06 22.8**	**-0.1**
ITM				S	**Sg**	**06 06 31.6**	**-1.1**
ITM	**Ithomi**	**0.75**	**293**	P	**Pg**	**06 06 23.2**	**+0.3**
ITM				S	**Sg**	**06 06 31.6**	**-1.1**
ITM				AML	AML	06 06 37.6	
	comp=E,96μm,0.3s						
ITM				AML	AML	06 06 37.8	
	comp=N,198μm,0.3s						
PYL	**PYLOS**	**0.84**	**271**	P	**Pg**	**06 06 24.2**	**-0.4**
PYL				S	**Sg**	**06 06 35.3**	**-0.2**
PYL	**PYLOS**	**0.84**	**271**	P	**Pg**	**06 06 24.2**	**-0.4**
PYL				S	**Sg**	**06 06 35.3**	**-0.2**
PYL	**PYLOS**	**0.84**	**271**	P	**Pg**	**06 06 24.2**	**-0.4**
PYL				S	**Sg**	**06 06 34.9**	**-0.6**
PYL				AML	AML	06 06 40.8	
	comp=E,215μm,0.4s						
PYL				AML	AML	06 06 41.0	
	comp=N,100μm,0.6s						
ANKY	**Antikythira Is**	**1.10**	**158**	P	**Pb**	**06 06 28.9**	**-0.5**
ANKY				S	**Sb**	**06 06 43.7**	**0.0**
ANKY	**Antikythira Is**	**1.10**	**158**	P	**Pb**	**06 06 28.9**	**-0.5**
ANKY				S	**Sb**	**06 06 43.7**	**0.0**
ANKY				AML	AML	06 06 48.4	
	comp=E,231μm,0.9s						
ANKY				AML	AML	06 06 48.4	
	comp=N,250μm,0.8s						
LTK	**Loutraki**	**1.15**	**7**	P	**Pb**	**06 06 29.0**	**-1.2**
LTK				S	**Sb**	**06 06 45.2**	**+0.2**
LTK	**Loutraki**	**1.15**	**7**	P	**Pb**	**06 06 29.0**	**-1.2**
LTK				S	**Sb**	**06 06 45.2**	**+0.2**
LTK				AML	AML	06 06 49.4	
	comp=E,150μm,0.4s						
LTK				AML	AML	06 06 51.0	
	comp=N,160μm,0.3s						
THAL	**Thalero**	**1.15**	**355**	P	**Pb**	**06 06 29.9**	**-0.4**
THAL				S	**Sb**	**06 06 45.2**	**-0.1**
THAL	**Thalero**	**1.15**	**355**	P	**Pb**	**06 06 29.9**	**-0.4**
THAL				S	**Sb**	**06 06 45.2**	**-0.1**
THAL				AML	AML	06 06 51.1	
	comp=N,304μm,0.5s						
THAL				AML	AML	06 06 51.8	
	comp=E,284μm,0.4s						
VLY	**Voula,Athens**	**1.26**	**39**	P	**Pn**	**06 06 30.9**	**-1.0**
VLY				S	**Sb**	**06 06 48.1**	**-0.1**
VLY	**Voula,Athens**	**1.26**	**39**	P	**Pn**	**06 06 30.9**	**-1.0**
VLY				S	**Sb**	**06 06 48.1**	**-0.1**
VLY				AML	AML	06 06 53.0	
	comp=E,80μm,0.4s						
VLY				AML	AML	06 06 55.3	
	comp=N,83μm,0.3s						
KLV	**Kalavryta, Ach**	**1.26**	**337**	P	**Pn**	**06 06 31.9**	**-0.1**
KLV				S	**Sn**	**06 06 49.7**	**+0.8**
KLV	**Kalavryta, Ach**	**1.26**	**337**	P	**Pn**	**06 06 31.9**	**-0.1**
KLV				S	**Sn**	**06 06 49.7**	**+0.8**
KLV	**Kalavryta, Ach**	**1.26**	**337**	P	**Pn**	**06 06 31.6**	**-0.4**
KLV				S	**Sn**	**06 06 49.9**	**+1.0**
KLV				AML	AML	06 06 53.2	
	comp=E,50μm,0.3s						
KLV				AML	AML	06 06 54.4	
	comp=N,40μm,0.5s						
MHLO	**Agia Marina, M**	**1.31**	**98**	P	**Pn**	**06 06 31.3**	**-1.3**
MHLO	**Agia Marina, M**	**1.31**	**98**	P	**Pn**	**06 06 31.3**	**-1.3**
VILL	**Villia**	**1.34**	**18**	P	**Pn**	**06 06 32.3**	**-0.8**
VILL				S	**Sb**	**06 06 50.9**	**+0.1**
DRO	**Drossia**	**1.37**	**322**	P	**Pg**	**06 06 34.7**	**0.0**
DRO	**Drossia**	**1.37**	**322**	P	**Pg**	**06 06 34.7**	**0.0**
VIL2	**Platees**	**1.38**	**16**	P	**Pn**	**06 06 32.3**	**-1.3**
VIL2				S	**Sb**	**06 06 50.9**	**-0.8**
VIL2				AML	AML	06 06 59.0	
	comp=N,77μm,0.3s						
VIL2				AML	AML	06 06 60.0	
	comp=E,55μm,0.4s						
SERI	**Serifos**	**1.39**	**78**	P	**Pn**	**06 06 33.8**	**+0.1**
SERI				S	**Sg**	**06 06 53.6**	**+0.5**
SERI	**Serifos**	**1.39**	**78**	P	**Pn**	**06 06 33.8**	**+0.1**
SERI				S	**Sg**	**06 06 53.6**	**+0.5**
PTL	**Penteli**	**1.44**	**36**	P	**Pn**	**06 06 34.7**	**+0.2**
PTL	**Penteli**	**1.44**	**36**	P	**Pn**	**06 06 34.7**	**+0.2**
LAKA	**Lakka**	**1.50**	**335**	P	**Pb**	**06 06 36.5**	**+0.3**
LAKA	**Lakka**	**1.50**	**335**	P	**Pb**	**06 06 36.5**	**+0.3**
DSF	**Desfina**	**1.54**	**352**	P	**Pb**	**06 06 36.9**	**0.0**
DSF	**Desfina**	**1.54**	**352**	P	**Pn**	**06 06 36.0**	**+0.2**
DSF	**Desfina**	**1.54**	**352**	P	**Pn**	**06 06 36.0**	**+0.2**
TRIZ	**Trizonia**	**1.58**	**339**	P	**Pb**	**06 06 37.7**	**+0.1**
TRIZ	**Trizonia**	**1.58**	**339**	P	**Pb**	**06 06 37.7**	**+0.1**
KALE	**Kalithea**	**1.59**	**341**	P	**Pn**	**06 06 36.4**	**-0.1**
KALE				S	**Sb**	**06 06 58.2**	**+0.3**
KALE	**Kalithea**	**1.59**	**341**	P	**Pn**	**06 06 36.4**	**-0.1**
KALE				S	**Sb**	**06 06 58.2**	**+0.3**
KALE				AML	AML	06 07 01.6	
	comp=E,47μm,0.4s						
KALE				AML	AML	06 07 04.6	
	comp=N,48μm,0.3s						
EFP	**Efpalio**	**1.69**	**336**	P	**Pn**	**06 06 38.0**	**+0.2**
EFP	**Efpalio**	**1.69**	**336**	P	**Pn**	**06 06 38.0**	**+0.2**
IMMV	**Iera Moni Meta**	**1.72**	**145**	P	**Pn**	**06 06 38.6**	**+0.4**
IMMV	**Iera Moni Meta**	**1.72**	**145**	P	**Pn**	**06 06 38.6**	**+0.4**
ANX	**Ano Chora**	**1.84**	**338**	P	**Pn**	**06 06 40.8**	**+0.9**
ANX	**Ano Chora**	**1.84**	**338**	P	**Pn**	**06 06 40.8**	**+0.9**
IDI	**Anoyia**	**2.33**	**132**	P	**Pn**	**06 06 46.9**	**+0.2**
IDI	**Anoyia**	**2.33**	**132**	P	**Pn**	**06 06 46.9**	**+0.2**

*NIED **19** 06:41:00, 37°.40N×141°.40E, h47km, Mw3.7 Best double couple: M0 3.47000×10^14 NP1:φs306.00000°, δ68.00000°, λ-163.00000°. NP2:φs209.00000°, δ74.00000°, λ-23.00000°.*

JMA 19 06:41:04.8±0.1, **37°.39N**×**141°.43E, h34**km±2km, **M3.9, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.44**	**267**	P	Pb	06 41 14.3	-0.3
JFK				S	Sb	06 41 20.5	-0.9
ONAJ	**Iwakimizuishiy**	**0.58**	**240**	P	Pn	06 41 16.2	-0.4
ONAJ				S	Sb	06 41 24.4	-0.6
JMM	**Marumori**	**0.69**	**313**	P	Pn	06 41 17.9	-0.3
JMM				S	Sn	06 41 26.8	-1.0
JFT	**Otama**	**0.88**	**279**	P	Pb	06 41 21.5	-0.2
JFT				S	Sb	06 41 32.9	-0.3
JHO	**Hitachi**	**1.04**	**222**	P	Pn	06 41 22.3	-0.7
JHO				S	Sn	06 41 35.1	-1.2
JIO	**Ouri**	**1.06**	**357**	P	Pn	06 41 23.1	-0.2
JIO				S	Sn	06 41 35.9	-1.0
JOU	**Okura**	**1.15**	**328**	P	Pn	06 41 25.1	+0.6
JOU				S	Sb	06 41 40.1	-0.7
JYS	**Shirataka**	**1.36**	**308**	P	Pb	06 41 28.6	-1.2
JYS				S	Sb	06 41 46.9	0.0
JFY	**Yanaizu**	**1.37**	**271**	P	Pb	06 41 28.8	-1.2
MAT	**Matsushiro**	**2.72**	**253**	P	Pn	06 41 48.2	+2.2
MAT				S	Sb	06 42 23.1	-2.5

*ISCJB **19** 06:42:46.5±0.5, 43°.91N±0°.02×7°.71E±0°.03, h12km±3km, Error ellipse: s-maj=4.0km s-min=3.6km az=139.1*
*CSEM **19** 06:42:46.8±0.2, 43°.90N×7°.75E, h8km, ML2.5/14, Error ellipse: s-maj=3.4km s-min=3.1km az=83.0*
*LDG **19** 06:42:46.9±0.2, 43°.87N×7°.80E, h2km, Ml2.1/2, Ml2.5/10, Error ellipse: s-maj=4.6km s-min=3.4km az=54.0*
*ROM **19** 06:42:46.6±0.1, 43°.94N×7°.69E, h3km±2km, Md1.8/6, Ml1.9/6, Error ellipse: s-maj=2.6km s-min=1.4km az=59.0*
*GEN **19** 06:42:47.0, 43°.91N×7°.71E, h8km, ML1.7*

ISC 19 06:42:46.7±0.8, **43°.89N**±0°.02×**7°.75E**±0°.02, **h14**km±4km, **n37**, σ0**°62/72, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEGI	**Seborga**	**0.06**	**220**	Pg	**Pg**	**06 42 49.1**	**-0.3**
NEGI				Sg	**Sg**	**06 42 50.3**	**-0.9**
	1μm,0.1s						
NEGI	**Seborga**	**0.06**	**220**	P	**Pg**	**06 42 49.1**	**-0.3**
NEGI				Sg	**Sg**	**06 42 50.3**	**-0.9**
	1μm,0.1s						
IMI	**Imperia**	**0.10**	**79**	Pg	**Pg**	**06 42 50.2**	**+0.3**
IMI				Sg	**Sg**	**06 42 52.4**	**+0.3**
	402nm,0.2s						
IMI	**Imperia**	**0.10**	**79**	P	**Pg**	**06 42 50.2**	**+0.3**
IMI				S	**Sg**	**06 42 52.4**	**+0.3**
SBF	**Sospel**	**0.23**	**263**	*e*Pg	**Pg**	**06 42 51.5**	**-0.3**
SBF				*e*Sg	**Sg**	**06 42 55.6**	**+0.4**
	139nm,0.2s						
SBF	**Sospel**	**

MJAR				Sn		**Sn**	**06 53 12.3**	**+2.6**	
	0.9nm,0.3s,baz=94,slow=28,SNR=8.3								
MAT	**Matsushiro**	**5.19**	**263**	P		**Pn**	**06 52 12.8**	**+1.7**	
MAT				*e*S		**Sn**	**06 53 09.7**	**0.0**	
JCH	**Churui**	**5.34**	**350**	P		**Pn**	**06 52 12.5**	**-0.5**	
JCH				*e*S		**Sn**	**06 53 09.4**	**-3.8**	
JHJ	**Hachijo jima 2**	**5.79**	**224**	Pn		**Pn**	**06 52 18.2**	**-1.0**	
	7.1nm,0.3s,baz=35,slow=21,SNR=7.3								
ASAJ	**Asahikawa**	**6.92**	**348**	Pn		**Pn**	**06 52 35.2**	**+0.5**	
ASAJ				Sn		**Sn**	**06 53 55.0**	**+2.8**	
	0.4nm,0.3s,baz=278,slow=34,SNR=2.9								
H11N2	**WAKE ISLAND Hy**	**26.19**	**126**	T		T	07 23 35.5		
	baz=333								
H11N1	**WAKE ISLAND Hy**	**26.20**	**126**	T		T	07 23 36.3		
	baz=333								
H11N3	**WAKE ISLAND Hy**	**26.21**	**126**	T		T	07 23 36.6		
	baz=333								
H11S1	**WAKE ISLAND Hy**	**26.96**	**128**	T		T	07 24 39.8		
	baz=321								
H11S3	**WAKE ISLAND Hy**	**26.97**	**128**	T		T	07 24 36.5		
	baz=321								
H11S2	**WAKE ISLAND Hy**	**26.98**	**128**	T		T	07 24 38.4		
	baz=321								
WRA	**Warramunga Arr**	**57.81**	**191**	P		**P**	**07 00 43.8**	**+0.1**	
	0.9nm,0.6s,baz=12,slow=7.3,SNR=6.0								
ASAR	**Alice Springs**	**61.53**	**191**	P		**P**	**07 01 09.7**	**+0.4**	
	0.3nm,0.8s,baz=12,slow=13,SNR=3.4								

NIED ***19*** *06:52:00, 35˚.50N× 141˚.10E, h38km, Mw4.8 Best double couple: M₀1.58000×10¹⁶ NP1:φs53.00000°, δ56.00000°, λ35.00000°. NP2:φs301.00000°, δ61.00000°, λ140.00000°.*

BJI ***19*** *06:52:37.8, 35˚.22N× 141˚.28E, h10km, mb4.7/50, mB4.7/36, Ms4.2/39, Ms7 4.0/31*

IDC ***19*** *06:52:42.0±0.5, 35˚.43N× 140˚.82E, h0km, mb4.4/27, mb1 4.6/30, mb1mx4.5/38, mbtmp4.5/30, ML4.5/2, MS3.9/28, Ms1 3.9/28, ms1mx3.8/44, Error ellipse: s-maj=16.9km s-min=11.2km az=100.0*

MOS ***19*** *06:52:44.6±1.3, 35˚.48N× 141˚.03E, h33km, mb4.8/53, Error ellipse: s-maj=8.7km s-min=4.9km az=110.9*

ISCJB ***19*** *06:52:45.7±0.5, 35˚.37N±0˚.03× 140˚.96E±0˚.04, h43km±3km, mb4.6/78, MS3.9/25, Error ellipse: s-maj=5.3km s-min=4.3km az=171.2*

JMA ***19*** *06:52:46.1±0.1, 35˚.52N× 141˚.02E, h38km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs75.00000°, δ57.00000°, λ78.00000°. NP2:φs277.00000°, δ35.00000°, λ108.00000°. Principal axes: T Plg75.0000°, Azm311.0000°; N Plg10.0000°, Azm82.0000°; P Plg11.0000°, Azm174.0000°;*

JMA Felt II J1.

NEIC ***19*** *06:52:47.1±0.2, 35˚.43N× 140˚.87E, h35km, mb4.8/26 Error ellipse: s-maj=6.2km s-min=5.0km az=116.0*

NEIC Recorded [2 JMA] in Chiba and Ibaraki.

ISC 19 06:52:45.6±0.7, 35˚.40N±0˚.03× 141˚.00E±0˚.04, h27km±4km, n216, σ1§77/236, mb4.7/78, MS3.9/26, 10C-13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.32**	**340**	⇓P		**Pb**	**06 52 53.3**	**+0.2**
CHOJ				S		**Sb**	**06 52 58.3**	**+0.2**
KTR	**Katsuura**	**0.61**	**246**	⇓P		**Pn**	**06 52 59.2**	**+0.6**
JCN	**Nagara**	**0.65**	**272**	P		**Pn**	**06 53 00.1**	**+1.0**
JCN				*e*S		**Sn**	**06 53 09.6**	**+1.1**
BSO4	**Boso 4**	**0.68**	**233**	⇓P		**Pn**	**06 53 00.6**	**+1.2**
BSO3	**Boso 3**	**0.72**	**214**	⇓P		**Pn**	**06 53 01.1**	**+1.3**
BSO1	**Boso 1**	**0.75**	**181**	⇓P		**Pn**	**06 53 01.2**	**+1.5**
JYT	**Yasato**	**1.05**	**322**	⇓P		**Pn**	**06 53 03.6**	**-1.0**
JHJ2	**Mitsune**	**2.49**	**203**	*e*Pn		**Pn**	**06 53 23.7**	**-0.7**
JHJ	**Hachijo jima 2**	**2.49**	**204**	Pn		Pn	06 53 20.3	-4.2
	33nm,0.3s,baz=300,slow=23,SNR=8.8							
JHJ				Sn		**Sn**	**06 53 52.0**	**-1.9**
	158nm,0.3s,baz=92,slow=24,SNR=4.6							
JHJ				LR		LR	06 54 33.1	
	comp=Z,2μm,21.9s,baz=26,slow=45							
MJAR	**Matsushiro Arr**	**2.53**	**297**	Pn		**Pn**	**06 53 25.8**	**+0.8**
	39nm,0.3s,baz=101,slow=11,SNR=130							
MJAR				LR		LR	06 54 30.3	
	comp=Z,1μm,18.4s,baz=115,slow=46							
MAJO	**Matsushiro**	**2.53**	**297**	*c i*P		**Pn**	**06 53 26.8**	**+1.8**
MAJO	**Matsushiro**	**2.53**	**297**	*e*Pn		**Pn**	**06 53 25.9**	**+0.9**
MAT	**Matsushiro**	**2.53**	**297**	P		**Pn**	**06 53 26.9**	**+1.9**
MAT				*e*S		**Sn**	**06 53 54.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**2.54**	**298**	*e*Pn		**Pn**	**06 53 26.8**	**+1.7**
INU	**Inuyama**	**3.25**	**270**	*e*Pn		**Pn**	**06 53 37.0**	**+2.1**
ERM	**Erimo**	**6.81**	**14**	*c i*P		**Pn**	**06 54 21.8**	**-2.0**
ERM	**Erimo**	**6.81**	**14**	*e*Pn		**Pn**	**06 54 21.5**	**-2.3**
ERM				*e*Sn		**Sn**	**06 55 39.8**	**-0.7**
CBIJ	**Chichi jima**	**8.34**	**173**	*e*Pn		**Pn**	**06 54 44.7**	**-0.2**
CBIJ				*e*Sn		**Sn**	**06 56 15.8**	**-2.4**
JCJ	**Chichijima**	**8.34**	**173**	Pn		**Pn**	**06 54 44.1**	**-0.8**
	44nm,0.3s,baz=270,slow=22,SNR=28							
JCJ				Sn		**Sn**	**06 56 16.6**	**-1.7**
	7.0nm,0.3s,baz=314,slow=22,SNR=3.9							
JNU	**Nakatsue**	**8.68**	**258**	Pn		**Pn**	**06 54 53.3**	**+3.8**
	1.2nm,0.3s,baz=86,slow=11,SNR=5.9							
JNU				LR		LR	06 58 44.3	
	comp=Z,2μm,18.2s,baz=123,slow=42							
JNU	**Nakatsue**	**8.68**	**258**	*e*Pn		**Pn**	**06 54 47.8**	**-1.7**
ASAJ	**Asahikawa**	**8.79**	**8**	Pn		**Pn**	**06 54 48.2**	**-2.7**
ASAJ	**Asahikawa**	**8.79**	**8**	*e*Pn		**Pn**	**06 54 48.1**	**-2.8**
KSRS	**Korea Array**	**10.73**	**285**	Pn		**Pn**	**06 55 21.3**	**+3.8**
	0.7nm,0.3s,baz=101,slow=14,SNR=48							
KS01	**Wonju Array Si**	**10.76**	**285**	*e*Pn		**Pn**	**06 55 21.2**	**+3.3**
KS15	**Wonju Array Si**	**10.76**	**285**	*e*Pn		**Pn**	**06 55 22.3**	**+4.3**
KSAR	**Wonju Array Be**	**10.76**	**285**	P		**Pn**	**06 55 21.3**	**+3.4**
KSAR	**Wonju Array Be**	**10.76**	**285**	Pn		**Pn**	**06 55 21.3**	**+3.4**
KUR	**Kuril'sk**	**11.13**	**26**	*e*P		**Pn**	**06 55 20.8**	**-2.1**
KUR				*e*S		Sn	06 57 17.7	-8.6
KUR				pmax		pmax		
	comp=Z,15nm,0.9s							
KUR				smax		smax		
	comp=N,22nm,0.5s							
USRK	**Ussuriysk Ar.**	**11.18**	**324**	Pn		**Pn**	**06 55 24.3**	**+0.6**
	comp=N,0.3nm,0.3s,baz=143,slow=13,SNR=12							
USRK				LR		LR	06 59 28.7	
	comp=N,657nm,19.9s,baz=125,slow=37							
YSS	**Yuzh-Sakhalins**	**11.62**	**6**	*e*P		**Pn**	**06 55 27.2**	**-2.4**
YSS				pmax		pmax		
	comp=Z,60nm,0.7s							
YSS				MLR		MLR		
	comp=Z,500nm,18.0s							
YSS	**Yuzh-Sakhalins**	**11.62**	**6**	*e*Pn		**Pn**	**06 55 26.7**	**-2.9**
MDJ	**Mudanjiang**	**12.68**	**320**	P		**Pn**	**06 55 43.9**	**-0.3**
MDJ				S		**Sn**	**06 58 05.8**	**+1.4**
MDJ				PcP		**PcP**	**07 01 19.4**	**-1.0**
MDJ				ScP		**ScP**	**07 04 55.1**	**+3.4**
MDJ				ScS		**ScS**	**07 08 30.8**	**+3.0**
MDJ				PMZ				
	comp=Z,9.0nm,0.7s							
MDJ				PMZ				
	comp=Z,85nm,5.1s							
MDJ				LN				
	comp=Z,420nm,19.0s							
MDJ				LE				
	comp=Z,340nm,16.6s							
HABR	**Khabarovsk**	**13.78**	**343**	*e*P		Pn	06 55 55.4	-3.7
HABR				*e*S		**Sn**	**06 58 25.6**	**-5.6**
HABR				MLR		MLR		
	comp=Z,311nm,16.0s							
CN2	**Changchun**	**14.61**	**310**	*e*P		**Pn**	**06 56 11.9**	**+1.4**
CN2				*e*sP		P	06 56 19.0	+2.4
CN2				*e*S		**Sn**	**06 58 54.8**	**+3.3**
CN2				PMZ				
	comp=Z,10.0nm,0.6s							
CN2				PMZ				
	comp=Z,100nm,3.0s							
CN2				LN				
	comp=Z,500nm,13.0s							
CN2				LE				
	comp=Z,700nm,13.0s							
CN2				LZ				
	comp=Z,600nm,15.0s							
KLR	**Kul'dur**	**15.40**	**337**	Pn		**Pn**	**06 56 19.0**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=130,slow=3.1,SNR=5.7							
KLR				LR		LR	07 02 11.6	
	comp=Z,701nm,19.4s,baz=143,slow=37							
TYV	**Tymovskoe**	**15.50**	**4**	*e*P		**Pn**	**06 56 19.2**	**-3.1**
TYV				pmax		pmax		
	comp=Z,24nm,0.8s							
TYV				MLR		MLR		
	comp=N,1μm,16.0s							
TYV				MLR		MLR		
	comp=Z,2μm,16.0s							
DL2	**Dalian**	**15.83**	**288**	P		**P**	**06 56 30.0**	**-0.2**
DL2				S		**Sn**	**06 59 26.5**	**+5.3**
DL2				PMZ				
	comp=Z,36nm,0.6s							
DL2				LN				
	comp=Z,720nm,20.5s							
DL2				LE				
	comp=Z,260nm,27.4s							
DL2				LZ				
	comp=Z,460nm,18.0s							
TIA	**Tai'an**	**19.37**	**279**	⇓P		**P**	**06 57 07.5**	**-1.8**
TIA				S		**S**	**07 00 37.3**	**-10**
TIA				PMZ				
	comp=Z,20nm,1.2s							
TIA				LN				
	comp=Z,300nm,16.0s							
TIA				LE				
	comp=Z,400nm,24.0s							
TIA				LZ				
	comp=Z,400nm,20.0s							
BJI	**Beijing**	**20.15**	**291**	P		**P**	**06 57 15.3**	**-2.4**
BJI				S		**S**	**07 00 58.6**	**-4.0**
BJI				PMZ				
	comp=Z,10.0nm,1.6s							
BJI				PMZ				
	comp=Z,120nm,5.3s							
BJI				LN				
	comp=Z,460nm,22.6s							
BJI				LE				
	comp=Z,150nm,17.8s							
BJT	**Baijiatuan**	**20.15**	**291**	*e*P		**P**	**06 57 15.2**	**-2.6**
BJT				pmax		pmax		
	comp=Z,19nm,0.8s							
BJT	**Baijiatuan**	**20.15**	**291**	*e*P		**P**	**06 57 15.2**	**-2.6**
	comp=Z,19nm,0.8s							
PETK	**Petropavlovsk-**	**21.27**	**29**	P		**P**	**06 57 30.2**	**+0.4**
	comp=Z,16nm,1.1s,baz=235,slow=5.2,SNR=5.3							
PETK				LR		LR	07 05 31.8	
	comp=Z,226nm,21.5s,baz=218,slow=36							
PET	**Petropavlovsk**	**21.59**	**30**	*e*P		**P**	**06 57 34.0**	**+0.9**
PET				*e*S		S	07 01 18.1	-13
PET				pmax		pmax		
	comp=Z,100nm,13.2s							
PET				MLR		MLR		
	comp=Z,400nm,20.0s							
PET				MLR		MLR		
	comp=Z,500nm,21.0s							
WHN	**Wuhan**	**22.84**	**265**	*i*P		**P**	**06 57 45.3**	**-1.5**
WHN				S		**S**	**07 01 52.5**	**-2.1**
WHN				PMZ				
	comp=Z,50nm,0.9s							
WHN				LN				
	comp=Z,280nm,10.8s							
WHN				LE				
	comp=Z,640nm,11.2s							
WHN				LZ				
	comp=Z,1μm,20.6s							
HHC	**Hu-ho-hao-te**	**23.72**	**292**	*e*P		**P**	**06 57 54.8**	**-0.8**
HHC				PP		**PnPn**	**06 58 28.9**	**+5.5**
HHC				S		**S**	**07 02 08.3**	**-0.9**
HHC				PMZ				
	comp=Z,17nm,1.0s							
HHC				PMZ				
	comp=Z,79nm,5.3s							
MA2	**Magadan**	**25.02**	**12**	P		**P**	**06 58 08.7**	**+1.6**
	comp=Z,9.3nm,0.6s,baz=206,slow=14,SNR=3.8							
XAN	**Xi'an**	**26.34**	**276**	P		**P**	**06 58 17.8**	**-1.7**
XAN				pP		pP	06 58 22.1	-5.1
XAN				sP		sP	06 58 24.8	-5.7
XAN				PMZ				
	comp=Z,11nm,0.6s							
XAN				PMZ				
	comp=Z,76nm,5.7s							
XAN				LN				
	comp=Z,230nm,19.0s							
XAN				LE				
	comp=Z,270nm,22.6s							
XAN				LZ				
	comp=Z,210nm,22.6s							
ENH	**Enshi**	**26.90**	**268**	*e*P		**P**	**06 58 22.7**	**-1.8**
	comp=Z,45nm,1.0s							
YAK	**Yakutsk**	**27.59**	**348**	*e*P		**P**	**06 58 30.6**	**+0.3**
YAK				pmax		pmax		
	comp=Z,26nm,1.3s							
YAK				pmax		pmax		
	comp=E,8.0nm,1.3s							
YAK				pmax		pmax		
	comp=N,21nm,1.3s							
H11N2	**WAKE ISLAND Hy**	**27.65**	**118**	T		T	07 27 37.3		
	baz=310,slow=75,SNR=432								
H11N1	**WAKE ISLAND Hy**	**27.66**	**118**	T		T	07 27 33.0		
	baz=310,slow=75,SNR=448								
H11N3	**WAKE ISLAND Hy**	**27.67**	**118**	T		T	07 27 38.6		
	baz=310,slow=75,SNR=453								
TGY	**Tagaytay City**	**27.85**	**225**	P		**P**	**06 58 32.9**	**-0.2**
	comp=N,101nm,0.3s,baz=134,slow=9.3,SNR=4.0								
ULN	**Ulaanbaatar**	**28.02**	**307**	*c i*P		**P**	**06 58 34.8**	**+0.2**
ULN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**28.02**	**307**	*e*P		**P**	**06 58 33.8**	**-0.8**
	comp=Z,4.1nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**28.30**	**120**	T		T	07 28 29.9		
	baz=312,slow=75,SNR=2588								
H11S3	**WAKE ISLAND Hy**	**28.30**	**120**	T		T	07 28 18.8		
	baz=312,slow=75,SNR=2049								
H11S2	**WAKE ISLAND Hy**	**28.32**	**120**	T		T	07 28 17.2		
	baz=312,slow=75,SNR=1517								
SONA1	**Songino Array**	**28.45**	**307**	*e*P		**P**	**06 58 37.3**	**-1.0**	
SONM	**Songino Array**	**28.45**	**307**	P		**P**	**06 58 37.0**	**-1.3**	
	comp=Z,3.4nm,0.6s,baz=109,slow=8.8,SNR=13								
SONM				LR		LR	07 10 00.1		
	comp=Z,232nm,20.8s,baz=76,slow=37								
SONM	**Songino Array**	**28.45**	**307**	P		**P**	**06 58 37.0**	**-1.3**	
SONM				pmax		pmax			
	comp=Z,4.0nm,0.6s								
SONM				MLR		MLR			
	comp=Z,232nm,20.8s								
SEY	**Seymchan**	**28.45**	**11**	P		**P**	**06 58 39.6**	**+1.6**	
	comp=Z,5.5nm,0.8s,baz=218,slow=7.4,SNR=11								
LZH	**Lanzhou**	**30.05**	**282**	*e*P		**P**	**06 58 52.9**	**+0.2**	
LZH				pP		pP	06 58 58.6	-1.9	
LZH				sP		sP	06 59 01.8	-2.0	
LZH				PMZ					
	comp=Z,39nm,1.2s								
LZH				PMZ					
	comp=Z,100nm,4.0s								
LZH				LN					
	comp=Z,560nm,18.8s								
LZH				LE					
	comp=Z,350nm,18.3s								
LZH				LZ					
	comp=Z,390nm,19.9s								
GYA	**Guiyang**	**30.65**	**263**	⇓*i*P		**P**	**06 58 55.0**	**-3.0**	
GYA				PP		**PnPn**	**06 59 58.8**	**+1.0**	
GYA				PcP		**PcP**	**07 01 57.4**	**+1.5**	
GYA				S		**S**	**07 03 58.0**	**-0.9**	
GYA				SS		**SnSn**	**07 05 39.3**	**+2.1**	
GYA				ScS		**ScS**	**07 09 32.3**	**-1.0**	
GYA				PMZ					
	comp=Z,20nm,0.8s								
GYA				PMZ					
	comp=Z,120nm,5.2s								
GYA				LN					
	comp=Z,500nm,16.8s								
GYA				LE					
	comp=Z,460nm,17.0s								
GYA				LZ					
	comp=Z,420nm,17.2s								
ZAK	**Zakamensk**	**31.04**	**311**	*e*P		**P**	**06 58 59.2**	**-2.0**	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.8s								
TLY	**Talaya**	**31.17**	**313**	LR		LR	07 11 32.7		
	comp=Z,135nm,19.9s,baz=106,slow=36								
TLY	**Talaya**	**31.17**	**313**	*i* P		**P**	**06 59 01.9**	**-0.3**	
TLY				pmax		pmax			
	comp=Z,9.0nm,0.7s								
CD2	**Chengdu**	**31.37**	**273**	*e*P		**P**	**06 59 03.0**	**-1.3**	
CD2				pP		pP	06 59 08.1	-4.0	
CD2				sP		sP	06 59 10.3	-5.1	
CD2				S		**S**	**07 04 09.6**	**-0.5**	
CD2				sS		sS	07 04 18.3	-4.8	
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.4s								
QIZ	**Qiongzhong**	**31.97**	**248**	P		**P**	**06 59 09.1**	**-0.5**	
QIZ				S		**S**	**07 04 22.0**	**+2.5**	
GTA	**Gaotai**	**32.75**	**289**	*e*P		**P**	**06 59 14.8**	**-1.6**	
GTA				pP		pP	06 59 18.9	-5.4	
GTA				sP		sP	06 59 22.8	-4.7	
GTA				PcP		**PcP**	**07 02 02.3**	**+0.9**	
GTA				S		**S**	**07 04 29.4**	**-2.3**	
GTA				SS		**SnSn**	**07 06 27.3**	**-0.9**	
GTA				PMZ					
	comp=Z,3.0nm,0.7s								
GTA				PMZ					
	comp=Z,53nm,6.2s								
GTA				LN					
	comp=Z,220nm,20.0s								
GTA				LE					
	comp=Z,260nm,24.2s								
GTA				LZ					
	comp=Z,190nm,21.1s								
BILL	**Bilibino**	**35.68**	**16**	⇑*i*P		**P**	**06 59 42.2**	**+0.9**	
BILL				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BILL				MLR		MLR			
	comp=Z,159nm,17.0s								
TIXI	**Tiksi**	**36.87**	**354**	P		**P**	**06 59 51.1**	**-0.3**	
	comp=Z,3.1nm,0.7s,baz=133,slow=7.5,SNR=6.4								
TIXI	**Tiksi**	**36.87**	**354**	*e*P		**P**	**06 59 51.7**	**+0.4**	
TIXI				pmax		pmax			
	comp=Z,4.0nm,0.8s								
TIXI	**Tiksi**	**36.87**	**354**	*e*P		**P**	**06 59 51.7**	**+0.4**	
	comp=Z,3.6nm,0.8s								
CMAR	**Chiang Mai Arr**	**40.78**	**257**	P		**P**	**07 00 23.9**	**-0.9**	
	comp=Z,1.4nm,0.4s,baz=46,slow=8.1,SNR=6.6								
CMAR				LR		LR	07 17 55.4		
	comp=Z,174nm,20.4s,baz=68,slow=37								
WMQ	**Urumqi**	**41.30**	**298**	P		**P**	**07 00 29.3**	**+0.5**	
WMQ				pP		pP	07 00 34.9	-1.9	
WMQ				sP		sP	07 00 37.1	-3.0	
WMQ				PMZ					
	comp=Z,11nm,0.6s								
WMQ				PMZ					
	comp=Z,51nm,3.8s								
WMQ				LN					
	comp=Z,150nm,21.2s								
WMQ				LE					
	comp=Z,57nm,20.6s								
ZAA0	**Zalesovo Array**	**42.78**	**314**	*e*P		**P**	**07 00 40.3**	**-0.4**	
ZALV	**Zalesovo Beam**	**42.78**	**314**	P		**P**	**07 00 40.4**	**-0.3**	
	comp=Z,8.2nm,0.5s,baz=94,slow=7.1,SNR=31								
ZALV	**Zalesovo Beam**	**42.78**	**314**	*i* P		**P**	**07 00 40.5**	**-0.2**	
ZALV				pmax		pmax			
	comp=Z,8.0nm,0.5s								
NVS	**Novosibirsk**	**43.73**	**315**	*e*P		**P**	**07 00 47.7**	**-0.7**	
NVS				*e*			07 07 14.6		
NVS				pmax		pmax			
	comp=Z,14nm,0.9s								
NVS				pmax		pmax			
	comp=E,11nm,0.9s								
NRIK	**Noril'sk**	**44.61**	**336**	P		**P**	**07 00 55.0**	**-0.2**	
	comp=E,2.8nm,0.6s,baz=115,slow=8.3,SNR=9.8								
NRIK				LR		LR	07 20 36.8		
	comp=E,220nm,18.1s,baz=118,slow=38								
MK01	**Makanchi Array**	**44.71**	**303**	*e*P		**P**	**07 00 55.9**	**-0.6**	
MK31	**Makanchi Array**	**44.72**	**303**	*i* P		**P**	**07 00 54.7**	**-1.7**	
MK31				pmax		pmax			
	comp=Z,7.0nm,0.7s								
MK31	**Makanchi Array**	**44.72**	**303**	*e*P		**P**	**07 00 55.9**	**-0.5**	
MKAR	**Makanchi Array**	**44.72**	**303**	P		**P**	**07 00 56.1**	**-0.3**	
	comp=Z,5.5nm,0.6s,baz=84,slow=9.4,SNR=55								
MKAR				PcP		**PcP**	**07 02 38.5**	**0.0**	
	comp=Z,1.2nm,0.7s,baz=70,slow=6.4,SNR=2.7								
MKAR				LR		LR	07 20 15.7		
	comp=Z,156nm,19.4s,baz=84,slow=37								
KAPI	**Kappang**	**44.89**	**211**	P		**P**	**07 00 58.4**	**+0.4**	
	comp=Z,4.4nm,0.5s,baz=306,slow=3.8,SNR=3.3								
MAKZ	**Makanchi**	**44.93**	**304**	P		**P**	**07 00 57.1**	**-1.0**	
MAKZ	**Makanchi**	**44.93**	**304**	*e*P		**P**	**07 00 57.7**	**-0.4**	
	comp=Z,11nm,1.1s								
PMG	**Port Moresby**	**44.95**	**171**	⇓*e*P		**P**	**07 00 56.8**	**-1.6**	
PMG				pmax		pmax			
	comp=Z,101nm,1.8s								
KURK	**Kurchatov**	**46.69**	**309**	*e*P		**P**	**07 01 11.0**	**-0.9**	
KURK	**Kurchatov**	**46.69**	**309**	*e*P		**P**	**07 01 11.0**	**-0.9**	
	comp=Z,89nm,0.6s								
RAMN	**Ramite**	**46.80**	**275**	*e*P		**P**	**07 01 12.8**	**-0.6**	
	comp=Z,84nm,0.8s								
GUN	**Gumba**	**47.00**	**277**	*e*P		**P**	**07 01 14.7**	**-0.4**	
	comp=Z,57nm,0.8s								
KKN	**Kakani**	**47.53**	**277**	*e*P		**P**	**07 01 18.6**	**-0.5**	
	comp=Z,46nm,0.9s								
SOEI	**Soe**	**47.62**	**203**	*e*P		**P**	**07 01 19.1**	**-0.5**	
	comp=Z,42nm,0.9s								
GKN	**Gorkha**	**47.97**	**278**	*e*P		**P**	**07 01 21.8**	**-0.6**	
	comp=Z,80nm,0.9s								
KOLN	**Koldanda**	**48.90**	**278**	*e*P		**P**	**07 01 29.2**	**-0.4**	
	comp=Z,35nm,1.1s								
PYUN	**Piuthan**	**49.26**	**279**	*e*P		**P**	**07 01 32.0**	**-0.4**	
	comp=Z,146nm,0.9s								
MLY	**Manley**	**49.41**	**31**	*e*P		**P**	**07 01 34.2**	**+1.4**	
	comp=Z,4.1nm,0.9s								
RC01	**Rabbit Creek A**	**49.86**	**36**	*e*P		**P**	**07 01 38.4**	**+2.1**	
	comp=Z,8.8nm,0.7s								
BWN	**Browne**	**49.94**	**32**	*e*P		**P**	**07 01 39.4**	**+2.5**	
	comp=Z,19nm,0.8s								
TKM2	**Tokmak 2**	**50.12**	**300**	P		**P**	**07 01 38.6**	**-0.2**	
TKM2				pmax		pmax			
	comp=Z,7.0nm,0.6s								
TKM2	**Tokmak 2**	**50.12**	**300**	*e*P		**P**	**07 01 39.1**	**+0.4**	
	comp=Z,10.0nm,0.6s								
MDM	**Murphy Dome**	**50.48**	**31**	*e*P		**P**	**07 01 42.7**	**+1.8**	
	comp=Z,6.1nm,0.8s								
KSH	**Kashi**	**50.78**	**295**	*e*P		P	07 01 50.0	+6.3	
KSH				pP		sP	07 01 54.8	-0.2	
KSH				PP		PP	07 03 48.0	+8.3	
KSH				S		S	07 09 06.8	+9.0	
KSH				ScS		**ScS**	**07 11 38.3**	**+5.5**	
KSH				SS		**SS**	**07 12 37.9**	**+5.7**	
KSH				PMZ					
	comp=Z,4.0nm,0.4s								
KSH				PMZ					
	comp=Z,85nm,5.0s								
KSH				LN					
	comp=Z,130nm,7.4s								
KSH				LE					
	comp=Z,120nm,8.4s								
KSH				LZ					
	comp=Z,160nm,5.7s								
AAK	**Ala-Archa**	**50.98**	**299**	P		**P**	**07 01 45.2**	**0.0**	
AAK				p

KK31	**Karatay Array**	**53.66**	**301**	P	**P**	**07 02 04.4**	**-0.5**
KK31				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KKAR	**Karatay Array**	**53.66**	**301**	*e*P	**P**	**07 02 04.8**	**-0.1**
KKAR	**Karatay Array**	**53.66**	**301**	*e*P	**P**	**07 02 04.8**	**-0.1**
WRAB	**Tennant Creek**	**55.39**	**188**	⇓*i*P	**P**	**07 02 17.8**	**+0.2**
WRAB				pmax	pmax			
	comp=Z,54nm,1.2s							
WRAB	**Tennant Creek**	**55.39**	**188**	*e*P	**P**	**07 02 17.4**	**-0.1**
	comp=Z,17nm,0.8s							
WB2	**Warramunga Arr**	**55.40**	**188**	*e*P	**P**	**07 02 17.8**	**+0.2**
	comp=Z,22nm,0.8s							
WRA	**Warramunga Arr**	**55.40**	**188**	P	**P**	**07 02 17.8**	**+0.2**
	comp=Z,16nm,0.7s,baz=5.9,slow=7.7,SNR=120							
WRA	**Warramunga Arr**	**55.40**	**188**	P	**P**	**07 02 17.8**	**+0.2**
WRA				pmax	pmax			
	comp=Z,15nm,0.7s							
INK	**Inuvik**	**55.99**	**27**	P	**P**	**07 02 22.6**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=297,slow=8.8,SNR=5.5							
INK				LR	LR	07 26 40.9		
	comp=Z,61nm,22.0s,baz=250,slow=36							
SVE	**Sverdlovsk**	**56.15**	**319**⇓*e*P		**P**	**07 02 22.7**	**0.0**
SVE				pmax	pmax			
	comp=Z,18nm,0.9s							
ARU	**Arti**	**57.36**	**319***c i*P		**P**	**07 02 30.8**	**-0.5**
ARU						07 03 22.6		
ARU						07 04 34.9		
ARU				S	**S**	**07 10 26.9**	**+0.9**
ARU				SS	**SS**	**07 14 17.1**	**+2.0**
ARU				pmax	pmax			
	comp=Z,21nm,1.0s							
ARU	**Arti**	**57.36**	**319**	*e*P	**P**	**07 02 30.6**	**-0.6**
	comp=Z,15nm,0.7s							
HYB	**Hyderabad**	**57.83**	**269**	*i* P	**P**	**07 02 35.0**	**-0.2**
AB31	**Akbulak array**	**58.74**	**311**	*i* P	**P**	**07 02 39.9**	**-1.1**
AB31				pmax	pmax			
	comp=Z,5.0nm,0.5s							
ABKAR	**Akbulak array**	**58.74**	**311**	*e*P	**P**	**07 02 40.7**	**-0.3**
AS01	**Alice Springs**	**59.12**	**188**	*e*P	**P**	**07 02 44.0**	**+0.1**
AS31	**Alice Springs**	**59.13**	**188**	*e*P	**P**	**07 02 44.3**	**+0.3**
	comp=Z,1.4nm,0.6s							
ASAR	**Alice Springs**	**59.13**	**188**	P	**P**	**07 02 44.2**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=17,slow=14,SNR=24							
ASAR				PcP	**PcP**	**07 03 33.9**	**+1.5**
	comp=Z,2.2nm,0.8s,baz=14,slow=5.1,SNR=4.5							
AKTO	**Aktyubinsk**	**59.52**	**313**	P	**P**	**07 02 45.3**	**-1.1**
AKTO				pmax	pmax			
	comp=Z,5.0nm,0.7s							
RES	**Resolute Bay**	**64.26**	**14**	*e*P	**P**	**07 03 18.6**	**+0.7**
RES	**Resolute Bay**	**64.26**	**14**	*e*P	**P**	**07 03 18.6**	**+0.7**
GEYT	**Alibeck**	**64.33**	**299**	P	**P**	**07 03 19.1**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=60,slow=3.6,SNR=6.6							
GEYT				LR	LR	07 31 47.8		
	comp=Z,80nm,21.1s,baz=50,slow=36							
KLMR	**Klimovskoe**	**64.95**	**328**	*e*P	**P**	**07 03 20.6**	**-2.0**
KLMR				pmax	pmax			
	comp=Z,11nm,1.4s							
YKA	**Yellowknife Ar**	**65.39**	**30**	P	**P**	**07 03 25.7**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=299,slow=6.5,SNR=7.9							
ARCES	**ARCESS Array B**	**65.40**	**340**	P	**P**	**07 03 25.3**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=53,slow=7.1,SNR=17							
ARCES				LR	LR	07 35 02.0		
	comp=Z,177nm,21.1s,baz=53,slow=39							
STKA	**Stephens Creek**	**66.93**	**179**	P	**P**	**07 03 36.5**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=310,slow=3.2,SNR=3.2							
STKA				LR	LR	07 33 53.1		
	comp=Z,71nm,20.5s,baz=20,slow=37							
STKA	**Stephens Creek**	**66.93**	**179**	P	**P**	**07 03 36.5**	**+0.9**
STKA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
STKA				MLR	MLR			
	comp=Z,71nm,20.5s							
VRH	**Novokhopyorsk**	**68.56**	**318**	*e*P	**P**	**07 03 43.7**	**-2.1**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
OBN	**Obninsk**	**69.20**	**323**	LR	LR	07 36 22.5		
	comp=Z,85nm,18.3s,baz=89,slow=38							
OBN	**Obninsk**	**69.20**	**323**	⇑P	**P**	**07 03 49.1**	**-0.5**
OBN				*i*		07 06 24.8		
OBN				pmax	pmax			
	comp=Z,7.0nm,1.2s							
OBN				MLR	MLR			
	comp=Z,74nm,17.0s							
LPSR	**Galich'ya Gora**	**69.34**	**320**	*e*P	**P**	**07 03 49.5**	**-1.1**
LPSR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
VSR	**Storozhevoye**	**69.94**	**319**	*e*P	**P**	**07 03 53.2**	**-1.1**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
FIA1	**FINESS Array S**	**70.10**	**332**	*e*P	**P**	**07 03 55.0**	**0.0**
FINES	**FINESS Array B**	**70.10**	**332**	P	**P**	**07 03 54.8**	**-0.3**
	comp=Z,3.7nm,0.4s,baz=57,slow=6.4,SNR=50							
FINES				LR	LR	07 36 05.6		
	comp=Z,127nm,19.7s,baz=26,slow=37							
NCK	**Nalchik**	**71.40**	**310**⇑*e*P		**P**	**07 04 02.9**	**-0.5**
NCK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ZEI	**Tsey**	**71.57**	**310**	*e*P	**P**	**07 04 02.7**	**-2.0**
ZEI				pmax	pmax			
	comp=Z,18nm,0.4s							
KBZ	**Khabaz**	**71.71**	**311**	P	**P**	**07 04 05.5**	**+0.3**
	comp=Z,9.8nm,0.8s,baz=358,slow=24,SNR=18							
KBZ				LR	LR	07 37 05.6		
	comp=Z,72nm,19.7s,baz=88,slow=37							
KIV	**Kislovodsk**	**71.72**	**311**	*e*P	**P**	**07 04 06.5**	**+1.1**
KIV				pmax	pmax			
	comp=Z,24nm,1.1s							
KIV	**Kislovodsk**	**71.72**	**311**	*e*P	**P**	**07 04 05.7**	**+0.3**
	comp=Z,17nm,0.7s							
SUMG	**Summit**	**72.31**	**360**	*e*P	**P**	**07 04 10.1**	**+1.3**
SUMG				pmax	pmax			
	comp=Z,8.0nm,1.1s							
SUMG	**Summit**	**72.31**	**360**	*e*P	**P**	**07 04 10.1**	**+1.3**
	comp=Z,8.2nm,1.1s							
GNI	**Garni**	**72.41**	**307**⇓*e*P		**P**	**07 04 08.6**	**-1.1**
GNI				pmax	pmax			
	comp=Z,39nm,0.8s							
NC405	**NORSAR Array S**	**75.34**	**337**	*e*P	**P**	**07 04 28.4**	**+2.2**
AKASG	**Malin Array Be**	**75.38**	**322**	P	**P**	**07 04 26.1**	**-0.6**
	comp=Z,6.0nm,0.5s,baz=47,slow=6.0,SNR=37							
AKASG				LR	LR	07 40 27.9		
	comp=Z,156nm,19.1s,baz=50,slow=38							
KIEV	**Kiev**	**75.39**	**322***c i*P		**P**	**07 04 26.0**	**-0.7**
KIEV				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KIEV	**Kiev**	**75.39**	**322**	*e*P	**P**	**07 04 25.8**	**-0.9**
	comp=Z,7.4nm,0.7s							
AK11	**Malin Array Si**	**75.42**	**322**	*e*P	**P**	**07 04 26.2**	**-0.7**
NC204	**NORSAR Array S**	**75.52**	**338**	*e*P	**P**	**07 04 27.9**	**+0.5**
NB201	**NORSAR Array S**	**75.52**	**337**	*e*P	**P**	**07 04 27.6**	**+0.2**
LRM	**Limekiln Ridge**	**75.55**	**44**	*e*P	**P**	**07 04 29.2**	**+1.1**
NB2	**NORSAR Subarra**	**75.56**	**337**	P	**P**	**07 04 27.4**	**-0.1**
	comp=Z,7.4nm,0.7s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**75.56**	**337**	P	**P**	**07 04 27.4**	**-0.1**
	comp=Z,6.4nm,0.7s,baz=40,slow=5.7,SNR=31							
NOA				LR	LR	07 40 34.5		
	comp=Z,155nm,20.1s,baz=30,slow=38							
NBO02	**NORSAR Array S**	**75.66**	**337**	*e*P	**P**	**07 04 28.0**	**-0.2**
BW06	**Boulder Array**	**79.05**	**45**	*e*P	**P**	**07 04 48.5**	**+0.7**
PDAR	**Pinedale Array**	**79.05**	**45**	P	**P**	**07 04 48.6**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=278,slow=4.3,SNR=5.7							
BUR08	**Bucovina Ar. S**	**79.37**	**322**	*e*P	**P**	**07 04 49.2**	**0.0**
BR131	**Keskin Array S**	**79.68**	**312**	*e*P	**P**	**07 04 51.2**	**+0.1**
BRTR	**Keskin Array B**	**79.68**	**312**	P	**P**	**07 04 51.2**	**+0.1**
	comp=Z,3.7nm,1.0s,baz=92,slow=4.1,SNR=14							
BRTR				LR	LR	07 42 44.0		
	comp=Z,31nm,20.6s,baz=42,slow=38							
KOLS	**Kolonicke sedl**	**79.94**	**324**	*e*P	**P**	**07 04 53.0**	**+0.8**
KOLS	**Kolonicke sedl**	**79.94**	**324**	*e*P	**P**	**07 04 53.0**	**+0.8**
BR231	**Keskin MP Arra**	**80.13**	**312**	*e*P	**P**	**07 04 51.7**	**-1.8**
OJC	**Ojcow**	**80.20**	**326**	*e*P	**P**	**07 04 53.6**	**+0.1**
OJC				pmax	pmax			
	comp=Z,6.0nm,0.8s							
OJC	**Ojcow**	**80.20**	**326**	*e*P	**P**	**07 04 53.6**	**+0.1**
	comp=Z,6.2nm,0.8s							
CRVS	**Cervenica-Dubn**	**80.35**	**324**	*e*P	**P**	**07 04 53.0**	**-1.4**
CRVS	**Cervenica-Dubn**	**80.35**	**324**	*e*P	**P**	**07 04 53.0**	**-1.4**
KECS	**Kecovo**	**81.11**	**325**	*e*P	**P**	**07 04 58.1**	**-0.4**
KECS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KECS	**Kecovo**	**81.11**	**325**	*e*P	**P**	**07 04 58.0**	**-0.4**
LANS	**Liptovska Anna**	**81.11**	**325**	*e*P	**P**	**07 04 59.4**	**+0.9**
LANS	**Liptovska Anna**	**81.11**	**325**	*e*P	**P**	**07 04 59.4**	**+0.9**
DPC	**Dobruska-Polom**	**81.66**	**328**	*e*P	**P**	**07 05 01.6**	**+0.2**
DPC	**Dobruska-Polom**	**81.66**	**328**	*e*P	**P**	**07 05 01.6**	**+0.2**
VYHS	**Vyhne**	**81.87**	**325**	*e*P	**P**	**07 05 02.8**	**+0.3**
VYHS				pmax	pmax			
	comp=Z,2.0nm,1.2s							
VYHS	**Vyhne**	**81.87**	**325**	*e*P	**P**	**07 05 02.8**	**+0.3**
PV10	**Paradox Valley**	**82.11**	**48**	*e*P	**P**	**07 05 06.5**	**+2.2**
BRG	**Berggiesshubel**	**82.28**	**329**	*e*P	**P**	**07 05 04.6**	**+0.1**
	comp=Z,4.4nm,0.9s							
BRG	**Berggiesshubel**	**82.28**	**329**	*e*P	**P**	**07 05 04.6**	**+0.1**
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
CLL	**Collm**	**82.34**	**330**	*i* P	**P**	**07 05 04.6**	**-0.2**
	comp=Z,9.0nm,0.8s							
CLL				L	L	07 44 00.0		
	comp=Z,100nm,19.6s							
CLL	**Collm**	**82.34**	**330**	*i* P	**P**	**07 05 04.6**	**-0.2**
CLL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CLL	**Collm**	**82.34**	**330**	*e*P	**P**	**07 05 04.7**	**-0.2**
	comp=Z,9.7nm,0.9s							
KHC	**Kasperske Hory**	**83.75**	**328**	*e*P	**P**	**07 05 12.5**	**+0.2**
KHC				*e*pP	**sP**	**07 05 26.1**	**+2.2**
KHC	**Kasperske Hory**	**83.75**	**328**	*e*P	**P**	**07 05 12.5**	**+0.2**
KHC				*e*		07 05 26.1		
GERES	**GERESS Array B**	**83.92**	**328**	P	**P**	**07 05 12.6**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=33,slow=5.1,SNR=8.1							
GERES				LR	LR	07 46 29.9		
	comp=Z,83nm,19.3s,baz=40,slow=38							
ANMO	**Albuquerque**	**85.90**	**50***c i*P		**P**	**07 05 26.0**	**+2.4**
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.7s							
BFO	**Black Forest**	**86.56**	**331***ce*P		**P**	**07 05 27.2**	**+0.9**
BFO	**Black Forest**	**86.56**	**331**	*e*P	**P**	**07 05 26.2**	**-0.2**
	comp=Z,7.0nm,0.9s							
SCHQ	**Schefferville**	**86.99**	**16**	P	**P**	**07 05 28.8**	**+0.5**
	comp=Z,4.5nm,1.0s,baz=311,slow=6.9,SNR=2.4							
LPIG	**La Paz**	**90.29**	**60**	LR	LR	07 44 55.0		
	comp=Z,36nm,18.3s,baz=210,slow=35							
TX31	**Lajitas Ar. Si**	**91.38**	**52**	*e*P	**P**	**07 05 50.8**	**+1.2**
TXAR	**Lajitas Array**	**91.38**	**52**	P	**P**	**07 05 51.1**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=301,slow=3.2,SNR=7.0							
TXAR				LR	LR	07 43 47.8		
	comp=Z,61nm,19.6s,baz=0.0,slow=34							
SADO	**Sadowa**	**92.30**	**27**	LR	LR	07 51 07.2		
	comp=Z,32nm,19.2s,baz=12,slow=38							
KEST	**Kesra**	**96.11**	**322**	LR	LR	07 53 52.5		
	comp=Z,71nm,18.0s,baz=236,slow=38							
ESDC	**Sonseca Array**	**98.60**	**333**	LR	LR	07 53 49.4		
	comp=Z,79nm,20.9s,baz=330,slow=37							
TORD	**Torodi Ar. Bea**	**118.23**	**314**	PKP	**PKPdf**	**07 11 30.6**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=56,slow=1.0,SNR=6.3							
SNAA	**Sanae**	**139.09**	**197**	PKP	**PKPdf**	**07 12 02.4**	**-6.5**

CSEM ***19*** *06:56:16.5±0.8, 36˚.05N×29˚.67E, h2km, MD2.7, Error ellipse: s-maj=14.5km s-min=7.5km az=167.0*
ISK ***19*** *06:56:18.1, 36˚.18N×29˚.66E, h5km, MD2.7*

ISC 19 06:56:16.6±2.9, 36˚.1N±0˚.1×29˚.67E±0˚.04, h2km±11km**, n17, σ1§02/25, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**0.13**	**337**	P	**Pg**	**06 56 19.6**	**+0.4**
AKAS				S	**Sg**	**06 56 20.9**	**-0.1**
AKAS	**Kas**	**0.13**	**337**	*i* P	**Pg**	**06 56 19.6**	**+0.4**
AKAS				*i* S	**Sg**	**06 56 20.9**	**-0.1**
ELL	**Elmali**	**0.67**	**17**	*e*PG	**Pg**	**06 56 30.1**	**+0.8**
ELL				*e*SG	**Sb**	**06 56 39.1**	**-1.7**
ELL	**Elmali**	**0.67**	**17**	*e*Pg	**Pg**	**06 56 30.1**	**+0.8**
ELL				*e*Sg	**Sb**	**06 56 39.1**	**-1.7**
FETY	**Fethiye**	**0.71**	**318**	*e*PG	**Pb**	**06 56 31.2**	**-0.5**
FETY				*e*SG	**Sb**	**06 56 40.6**	**-1.2**
FETY	**Fethiye**	**0.71**	**318**	*e*Pg	**Pb**	**06 56 31.2**	**-0.5**
FETY				*e*Sg	**Sb**	**06 56 40.6**	**-1.2**
KORT	**Korkueli**	**1.04**	**31**	P	**Pb**	**06 56 37.4**	**-0.1**
KORT				S	**Sn**	**06 56 53.9**	**+0.2**
KORT	**Korkueli**	**1.04**	**31**	*i* P	**Pb**	**06 56 37.4**	**-0.1**
KORT				*i* S	**Sn**	**06 56 53.9**	**+0.2**
GLHS	**Gihisar (BURDU**	**1.05**	**353**	*e*PG	**Pb**	**06 56 37.5**	**-0.1**
GLHS	**Gihisar (BURDU**	**1.05**	**353**	*e*Pg	**Pb**	**06 56 37.5**	**-0.1**
DALY	**Dalyan (Mu˘la**	**1.08**	**311**	*e*PG	**Pb**	**06 56 38.2**	**+0.2**
DALY	**Dalyan (Mu˘la**	**1.08**	**311**	*e*Pg	**Pb**	**06 56 38.2**	**+0.2**
GOLH	**Golhisar**	**1.13**	**356**	*i* P	Pg	06 56 33.4	-4.8
GOLH				*i* S	**Sn**	**06 56 59.0**	**+3.3**
YER	**Yerkesik**	**1.51**	**313**	*e*PN	**Pg**	**06 56 45.8**	**+0.2**
YER	**Yerkesik**	**1.51**	**313**	*e*Pn	**Pg**	**06 56 45.8**	**+0.2**
SUTC	**Sutluce-Ispart**	**1.73**	**38**	*e*PN	**Pb**	**06 56 49.0**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.73**	**38**	*e*Pn	**Pb**	**06 56 49.0**	**-0.2**

DDA ***19*** *06:56:28.1, 42˚.25N×43˚.72E, h8km, Md2.6*
CSEM ***19*** *06:56:28.9±0.6, 42˚.55N×43˚.45E, h2km, ML2.5, Error ellipse: s-maj=11.9km s-min=6.0km az=163.0*
TIF ***19*** *06:56:28.3, 42˚.56N×43˚.49E, h12km±2km*

ISC 19 06:56:29.2±1.9, 42˚.52N±0˚.07×43˚.51E±0˚.04, h8km±13km**, n15, σ0§45/29, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUDG	**Gudauri**	**0.72**	**94**	P	**Pg**	**06 56 43.2**	**+0.1**
GUDG				S	**Sb**	**06 56 53.6**	**-0.6**
GUDG	**Gudauri**	**0.72**	**94**	P	**Pg**	**06 56 43.2**	**+0.1**
GUDG				S	**Sb**	**06 56 53.6**	**-0.6**
AKH	**Akhalkalaki**	**1.11**	**181**	P	**Pg**	**06 56 50.0**	**-0.5**
AKH				S	**Sb**	**06 57 06.0**	**+0.6**
AKH	**Akhalkalaki**	**1.11**	**181**	P	**Pg**	**06 56 50.0**	**-0.5**
AKH				S	**Sb**	**06 57 06.0**	**+0.6**
TBLG	**Delisi**	**1.21**	**130**	P	**Pg**	**06 56 53.5**	**+1.1**
TBLG				S	**Sn**	**06 57 09.3**	**+0.4**
BGD	**Bogdanovka**	**1.25**	**177**	P	**Pn**	**06 56 52.9**	**-0.3**
BGD				S	**Sn**	**06 57 10.3**	**-0.1**
BGD	**Bogdanovka**	**1.25**	**177**	P	**Pn**	**06 56 52.9**	**-0.3**
BGD				S	**Sn**	**06 57 10.3**	**-0.1**
DGRG	**David-gareji**	**1.75**	**127**	P	**Pg**	**06 57 02.3**	**-0.5**
ARTV	**Artvin**	**1.78**	**222**	P	**Pn**	**06 57 00.6**	**+0.1**
ARTV				S	**Sb**	**06 57 24.4**	**-0.4**
ARTV	**Artvin**	**1.78**	**222**	*i* P	**Pn**	**06 57 00.6**	**+0.1**
ARTV				*i* S	**Sb**	**06 57 24.4**	**-0.4**
DBOC	**Borcka**	**1.81**	**230**	P	**Pn**	**06 57 00.8**	**+0.1**
DBOC				S	**Sn**	**06 57 23.8**	**0.0**
DBOC	**Borcka**	**1.81**	**230**	*i* P	**Pn**	**06 57 00.8**	**+0.1**
DBOC				*i* S	**Sn**	**06 57 23.8**	**0.0**
DAGI	**Agillar**	**1.87**	**220**	*i* P	**Pn**	**06 57 02.0**	**+0.4**
DAGI				*i* S	**Sb**	**06 57 26.9**	**-0.3**
DBAD	**Bademkaya**	**2.02**	**223**	P	**Pn**	**06 57 04.2**	**+0.5**
DBAD				S	**Sb**	**06 57 31.8**	**+0.1**
DBAD	**Bademkaya**	**2.02**	**223**	*i* P	**Pn**	**06 57 04.2**	**+0.5**
DBAD				*i* S	**Sb**	**06 57 31.8**	**+0.1**

TIF 19 06:56:58.8, 42˚.58N×43˚.46E, h18km±2km**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUDG	**Gudauri**	**0.76**	**98**	P	Pg	06 57 14.0	+0.2
GUDG				S	Sg	06 57 24.4	+0.5
AKH	**Akhalkalaki**	**1.17**	**179**	P	Pb	06 57 21.0	+0.4
AKH				S	Sg	06 57 36.7	+0.1
TBLG	**Delisi**	**1.27**	**131**	P	Pg	06 57 23.0	-0.4
TBLG				S	Sg	06 57 40.3	+0.3
BGD	**Bogdanovka**	**1.31**	**175**	P	Pg	06 57 23.9	-0.3
BGD				S	Sg	06 57 41.1	-0.3
DGRG	**David-gareji**	**1.82**	**128**	P	Pn	06 57 27.2	-2.0
DGRG				S	Sg	06 57 57.5	+0.1
DGRG	**David-gareji**	**1.82**	**128**	S	Pn	06 57 27.1	-2.1

NIED ***19*** *07:17:00, 39˚.20N×144˚.60E, h5km, Mw3.6 Best double couple: M0 2.98000×1014 NP1:φs=359.00000°, δ34.00000°, λ=-106.00000°. NP2:φs=199.00000°, δ57.00000°, λ=-79.00000°.*
IDC ***19*** *07:17:17.8±1.1, 38˚.89N×144˚.89E, h0km, mb3.5/6, mb1 3.8/9, mb1mx3.5/51, mbtmp3.6/9, ML3.2/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/33, Error ellipse: s-maj=29.8km s-min=18.6km az=138.0*
ISCJB ***19*** *07:17:20.6±0.8, 39˚.14N±0˚.06×144˚.62E±0˚.06, h19km, mb3.5/6, Error ellipse: s-maj=9.6km s-min=6.2km az=163.1*
JMA ***19*** *07:17:22.8±0.2, 39˚.15N×144˚.55E, h39km, M3.8*

ISC 19 07:17:20.5±0.9, 39˚.01N±0˚.06×144˚.74E±0˚.08, h19km**, n22, σ1§86/31, mb3.7/6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.33**	**285**	P	**Pn**	**07 17 57.7**	**-0.2**
MIYJ				*e*S	**Sn**	**07 18 22.8**	**-3.2**
OFUJ	**Ofunato**	**2.39**	**273**	P	**Pn**	**07 17 58.7**	**0.0**
OFUJ				S	**Sn**	**07 18 25.2**	**-2.2**
JTH	**Tanohata**	**2.41**	**294**	P	**Pn**	**07 17 58.4**	**-0.5**
JTH				*e*S	**Sn**	**07 18 24.7**	**-3.2**
JOM	**Ohasama**	**2.71**	**281**	P	**Pn**	**07 18 03.6**	**+0.5**
JOM				*e*S	**Sn**	**07 18 33.5**	**-1.9**
JMK	**Ichinoseki**	**2.74**	**270**	P	**Pn**	**07 18 04.0**	**+0.5**
JMK				S	**Sn**	**07 18 35.3**	**-0.8**
JANG	**Nango**	**2.83**	**300**	P	**Pn**	**07 18 03.4**	**-1.4**
JRG	**Rokugo**	**3.21**	**278**	P	**Pn**	**07 18 10.7**	**+0.7**
JOU	**Okura**	**3.25**	**260**	P	**Pn**	**07 18 11.5**	**+1.0**
JTM	**Tenmabayashi**	**3.33**	**303**	P	**Pn**	**07 18 11.5**	**-0.1**
JTM				*e*S	**Sn**	**07 18 47.5**	**-3.2**
JYK	**Kaneyama**	**3.42**	**270**	P	**Pn**	**07 18 13.6**	**+0.8**
JOT	**Ohata**	**3.69**	**311**	P	**Pn**	**07 18 16.9**	**+0.4**
MJAR	**Matsushiro Arr**	**5.73**	**247**	Pn	**Pn**	**07 18 46.7**	**+2.1**
	1.7nm,0.3s,baz=66,slow=12,SNR=45						
MJAR				Sn	**Sn**	**07 19 52.2**	**+2.4**
	0.2nm,0.3s,baz=70,slow=22,SNR=2.5						
MJAR				LR	LR	07 21 14.5	
	comp=Z,59nm,18.0s,baz=90,slow=41						
MAT	**Matsushiro**	**5.73**	**247**	P	**Pn**	**07 18 46.9**	**+2.3**
MAT				*e*S	**Sn**	**07 19 50.5**	**+0.7**
JHJ	**Hachijo jima 2**	**7.12**	**216**	Pn	**Pn**	**07 19 00.5**	**-3.1**
	2.6nm,0.3s,baz=89,slow=23,SNR=3.0						
JHJ				Sn	**Sn**	**07 20 20.1**	**-3.9**
	4.9nm,0.3s,baz=80,slow=22,SNR=2.8						
USRK	**Ussuriysk Ar.**	**10.86**	**303**	Pn	**Pn**	**07 19 57.3**	**+2.5**
	0.4nm,0.3s,baz=102,slow=14,SNR=5.5						
KLR	**Kul'dur**	**13.81**	**322**	Pn	**P**	**07 20 43.1**	**-0.4**
	0.1nm,0.3s,baz=120,slow=18,SNR=2.7						
MKAR	**Makanchi Array**	**45.32**	**301**	P	**P**	**07 25 38.3**	**+1.2**
	0.3nm,0.5s,baz=76,slow=10,SNR=3.5						
ILAR	**Eielson Array**	**46.41**	**33**	P	**P**	**07 25 45.8**	**+0.3**
	0.5nm,0.6s,baz=82,slow=6.5,SNR=9.6						
KURBB	**Kurchatov Arra**	**46.88**	**307**	P	**P**	**07 25 50.1**	**+0.8**
	0.5nm,0.6s,baz=82,slow=8.4,SNR=5.1						
INK	**Inuvik**	**51.42**	**28**	P	**P**	**07 26 24.9**	**+1.2**
	0.6nm,0.6s,baz=356,slow=3.9,SNR=4.5						
WRA	**Warramunga Arr**	**59.45**	**191**	P	**P**	**07 27 22.1**	**0.0**
	0.5nm,0.6s,baz=15,slow=7.5,SNR=4.9						
YKA	**Yellowknife Ar**	**60.77**	**32**	P	**P**	**07 27 30.8**	**+0.2**
	0.1nm,0.6s,baz=308,slow=6.4,SNR=3.2						

NNC ***19*** *07:17:39.4±1.1, 43˚.08N×77˚.44E, h3km, 9km, mb3.4, mpv3.1, Error ellipse: s-maj=20.7km s-min=4.3km az=169.0*
SOME ***19*** *07:17:39.9, 43˚.10N×77˚.42E, h15km*
KRNET ***19*** *07:17:40.5±0.1, 43˚.07N×77˚.37E, h17km, mb3.1*

ISC 19 07:17:39.9±0.9, 43˚.10N±0˚.02×77˚.42E±0˚.01, h16km±7km**, n43, σ0§96/81, 37C-20D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOTS	**Kotyrbulak**	**0.26**	**300**	*e*P	**Pg**	**07 17 46.0**	**+0.2**
	467nm,0.1s						
KOTS				*e*S	**Sb**	**07 17 50.7**	**0.0**
	523nm,0.2s						
MDOK	**Medeo**	**0.28**	**283**⇓*i*P		**Pg**	**07 17 46.0**	**-0.1**
	356nm,0.1s						
MDOK				⇑*i*S	**Sg**	**07 17 50.2**	**-0.1**
	275nm,0.4s						
KNDC	**Almaty**	**0.35**	**289**	⇓P	**Pg**	**07 17 47.2**	**0.0**
KNDC				⇓S	**Sg**	**07 17 52.6**	**+0.4**
TNSS	**Tian-Shan**	**0.35**	**261**⇑*i*P		**Pg**	**07 17 47.5**	**+0.1**
	180nm,0.3s						
TNSS				⇓*i*S	**Sb**	**07 17 53.1**	**-0.4**
	324nm,0.3s						
ANVS	**Anan'yevo**	**0.37**	**150**⇑*e*P		**Pb**	**07 17 47.8**	**-0.3**
	baz=143						
ANVS				⇑*e*S	**Sb**	**07 17 53.2**

KZA	**Kyzart**	**1.90**	**238**	⇑*i*P	**Pb**	**07 18 14.7**	**+0.3**
	baz=238							
KZA				⇑*i*S	**Sg**	**07 18 39.7**	**-1.5**
	baz=238							
CHMS	**Chumysh**	**1.96**	**268**	⇑*i*P	**Pb**	**07 18 15.2**	**0.0**
	baz=269							
CHMS				⇑*i*S	**Sg**	**07 18 41.3**	**-1.7**
	baz=269							
TDK	**Taldyqorghan**	**2.03**	**20**	*e*P	**Pb**	**07 18 16.3**	**-0.1**
	62nm,0.2s							
TDK				*e*S	**Sb**	**07 18 42.4**	**+0.9**
	230nm,0.4s							
FRU1	**Bishkek**	**2.07**	**263**	⇑*e*P	**Pb**	**07 18 16.9**	**-0.2**
	baz=264							
FRU1				⇑*e*S	**Sb**	**07 18 43.6**	**+1.0**
	baz=264							
DJR	**Jarkent**	**2.11**	**54**	*e*P	**Pb**	**07 18 17.1**	**-0.7**
	41nm,0.2s							
DJR				*e*S	**Sb**	**07 18 44.1**	**+0.3**
	110nm,0.5s							
USP	**Ospenovka**	**2.14**	**275**	⇓*i*P	**Pb**	**07 18 18.3**	**0.0**
	baz=276							
USP				⇓*i*S	**Sb**	**07 18 46.2**	**+1.5**
	baz=276							
KTMS	**Ketmen**	**2.17**	**80**	*e*P	**Pb**	**07 18 18.2**	**-0.6**
	19nm,0.2s							
KTMS				*e*S	**Sb**	**07 18 46.2**	**+0.7**
	71nm,0.2s							
AAK	**Ala-Archa**	**2.20**	**259**	⇑*i*P	**Pb**	**07 18 19.5**	**+0.1**
	baz=259							
AAK				⇑*i*S	**Sb**	**07 18 48.0**	**+1.5**
	baz=259							
AAK	**Ala-Archa**	**2.20**	**259**	⇑Pg	**Pb**	**07 18 19.6**	**+0.2**
	14nm,0.4s							
AAK				⇑Lg	Lg	07 18 50.0		
	24nm,0.6s							
KAPS	**Kapalarasan**	**2.59**	**32**	⇓*i*P	**Pb**	**07 18 25.6**	**-0.3**
	7.8nm,0.3s							
KAPS				⇓*i*S	**Sb**	**07 18 59.5**	**+2.0**
	211nm,0.5s							
ARLS	**Aral**	**2.61**	**243**	⇑*e*P	**Pb**	**07 18 24.1**	**-2.2**
	baz=243							
ARLS				⇑*e*S	**Sb**	**07 18 56.9**	**-1.2**
	baz=243							
MRKS	**Merke**	**3.10**	**265**	*e*P	**Pb**	**07 18 35.8**	**+1.1**
	20nm,0.3s							
MRKS				⇓*i*S	**Sb**	**07 19 15.8**	**+3.5**
	35nm,0.3s							
MNAS	**Manas**	**3.67**	**262**	⇓Pg	**Pb**	**07 18 45.2**	**+0.8**
	1.7nm,0.6s							
MNAS				⇑Lg	Lg	07 19 33.9		
	3.6nm,0.4s							
MK31	**Makanchi Array**	**5.06**	**41**	⇑Pn	**Pn**	**07 18 57.6**	**+2.6**
	0.1nm,0.2s,baz=220,slow=16,SNR=6.0							
MK31				⇓Sn	**Sn**	**07 19 53.5**	**+0.5**
	0.9nm,0.3s,baz=218,slow=25,SNR=5.0							
MK31				⇑Lg	Lg	07 20 16.6		
	3.0nm,0.6s,baz=220,slow=28,SNR=10							
KK31	**Karatay Array**	**5.06**	**272**	⇑Pg	**Pg**	**07 19 12.9**	**-3.8**
	1.4nm,0.5s							
KK31				⇓Lg	Lg	07 20 17.5		
	4.1nm,0.5s							
OTUK	**Ortayu**	**6.25**	**327**	⇑Lg	Lg	07 20 55.2		
	7.2nm,0.4s							

*NEIC **19** 07:17:47.1, 43.61S×172.40E, h8km, ML4.2(WEL), After WEL.*
NEIC Felt at Christchurch.
WEL 19 07:17:47.1±0.1, 43.61S×172.40E, h9km, ML4.2/31, 4C-2D, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.21**	**118**	⇓PG	Pg	07 17 51.3	0.0
MQZ				SG	Sg	07 17 54.5	+0.2
MQZ				AML	AML	07 17 54.9	
MQZ	**McQueen's Vall**	**0.21**	**118**	Pg	Pg	07 17 51.3	0.0
MQZ				Sg	Sg	07 17 54.5	+0.2
OXZ	**Oxford**	**0.39**	**317**	⇓PG	Pg	07 17 54.4	-0.3
OXZ	**Oxford**	**0.39**	**317**	Pg	Pg	07 17 54.4	-0.3
LTZ	**Lake Taylor**	**0.83**	**353**	⇑P*	Pg	07 18 03.0	-0.2
LTZ				AML	AML	07 18 15.0	
LTZ				AML	AML	07 18 15.2	
LTZ	**Lake Taylor**	**0.83**	**353**	P*	Pg	07 18 03.0	-0.2
RPZ	**Rata Peaks**	**0.98**	**263**	P*	Pg	07 18 05.4	-0.6
RPZ				AML	AML	07 18 21.9	
RPZ				AML	AML	07 18 27.9	
RPZ	**Rata Peaks**	**0.98**	**263**	P*	Pg	07 18 05.4	-0.6
INZ	**Inchbonnie**	**1.13**	**321**	P*	Pg	07 18 07.2	-1.6
WVZ	**Waitaha Valley**	**1.33**	**293**	PN	Pn	07 18 10.6	-1.2
WVZ				AML	AML	07 18 33.9	
WVZ				AML	AML	07 18 34.7	
WVZ	**Waitaha Valley**	**1.33**	**293**	Pn	Pn	07 18 10.6	-1.2
KHZ	**Kahutara**	**1.46**	**35**	⇑PN	Pn	07 18 11.5	-2.1
KHZ	**Kahutara**	**1.46**	**35**	Pn	Pn	07 18 11.5	-2.1
LBZ	**Lake Benmore**	**1.78**	**243**	PN	Pn	07 18 16.8	-1.3
LBZ				AML	AML	07 18 50.1	
LBZ				AML	AML	07 18 50.1	
LBZ				AML	AML	07 18 50.4	
LBZ				AML	AML	07 18 50.4	
LBZ	**Lake Benmore**	**1.78**	**243**	Pn	Pn	07 18 16.8	-1.3
FOZ	**Fox Glacier**	**1.88**	**271**	PN	Pn	07 18 19.6	+0.2
FOZ				AML	AML	07 18 52.7	
FOZ				AML	AML	07 18 53.1	
FOZ				AML	AML	07 18 56.9	
FOZ				AML	AML	07 18 56.9	
FOZ	**Fox Glacier**	**1.88**	**271**	Pn	Pn	07 18 19.6	+0.2
THZ	**Tophouse**	**1.88**	**12**	⇑PN	Pn	07 18 17.8	-1.8
THZ				AML	AML	07 18 56.3	
THZ				AML	AML	07 18 58.4	
THZ	**Tophouse**	**1.88**	**12**	Pn	Pn	07 18 17.8	-1.8
ODZ	**Otahua Downs**	**1.91**	**221**	PN	Pn	07 18 18.1	-1.8
ODZ				AML	AML	07 18 54.2	
ODZ				AML	AML	07 18 54.2	
ODZ				AML	AML	07 18 57.9	
ODZ				AML	AML	07 18 57.9	
ODZ	**Otahua Downs**	**1.91**	**221**	Pn	Pn	07 18 18.1	-1.8
DSZ	**Denniston Nort**	**1.92**	**347**	AML	AML	07 18 51.1	
DSZ				AML	AML	07 18 51.2	
DSZ				AML	AML	07 18 52.0	
DSZ				AML	AML	07 18 52.0	
BSWZ	**Blackbirch Sta**	**2.18**	**30**	AML	AML	07 19 09.7	
BSWZ				AML	AML	07 19 16.3	
TUWZ	**Tuamarina**	**2.46**	**28**	AML	AML	07 19 17.3	
TUWZ				AML	AML	07 19 18.0	
NNZ	**Nelson**	**2.50**	**17**	AML	AML	07 19 15.0	
NNZ				AML	AML	07 19 17.3	
WKZ	**Wanaka**	**2.72**	**242**	AML	AML	07 19 21.7	
WKZ				AML	AML	07 19 21.7	
WKZ				AML	AML	07 19 22.8	
WKZ				AML	AML	07 19 22.9	
EAZ	**Earnscleugh**	**2.75**	**233**	⇑PN	Pn	07 18 29.7	-1.7
EAZ				AML	AML	07 19 26.4	
EAZ				AML	AML	07 19 26.5	
EAZ				AML	AML	07 19 33.6	
EAZ				AML	AML	07 19 33.7	
EAZ	**Earnscleugh**	**2.75**	**233**	Pn	Pn	07 18 29.7	-1.7
TCW	**Tory Channel**	**2.77**	**31**	AML	AML	07 19 04.3	
TCW				AML	AML	07 19 15.7	
QRZ	**Quartz Range**	**2.78**	**2**	AML	AML	07 19 19.1	
QRZ				AML	AML	07 19 19.1	
QRZ				AML	AML	07 19 22.7	
QRZ				AML	AML	07 19 22.7	
BHW	**Baring Head**	**2.86**	**41**	AML	AML	07 19 39.4	
DUWZ	**D'Urville Isla**	**3.02**	**22**	PN	Pn	07 18 34.6	-0.6
DUWZ	**D'Urville Isla**	**3.02**	**22**	Pn	Pn	07 18 34.6	-0.6
MSWZ	**Moikau Station**	**3.04**	**45**	AML	AML	07 19 10.6	
MSWZ				AML	AML	07 19 14.0	
TUZ	**Tuapeka**	**3.06**	**219**	AML	AML	07 19 30.7	
TUZ				AML	AML	07 19 30.7	
TUZ				AML	AML	07 19 31.3	
TUZ				AML	AML	07 19 31.4	
CAW	**Cannon Point**	**3.19**	**39**	AML	AML	07 19 12.4	
CAW				AML	AML	07 19 12.6	
TRWZ	**Traveller**	**3.29**	**49**	PN	Pn	07 18 36.0	-2.8
TRWZ				AML	AML	07 19 17.1	
TRWZ				AML	AML	07 19 17.4	
TRWZ	**Traveller**	**3.29**	**49**	Pn	Pn	07 18 36.0	-2.8
KIW	**Kapiti Island**	**3.32**	**35**	AML	AML	07 19 47.9	
KIW				AML	AML	07 19 54.4	
MTW	**Mount Morrison**	**3.36**	**44**	AML	AML	07 19 20.3	
MTW				AML	AML	07 19 25.7	
MLZ	**Mavora Lakes**	**3.53**	**239**	AML	AML	07 19 49.2	
MLZ				AML	AML	07 19 50.9	
TMWZ	**Te Maipa**	**3.60**	**47**	PN	Pn	07 18 41.3	-1.8
TMWZ	**Te Maipa**	**3.60**	**47**	Pn	Pn	07 18 41.3	-1.8
SYZ	**Scrubby Hill**	**3.73**	**217**	AML	AML	07 19 54.5	
SYZ				AML	AML	07 20 00.1	
WHZ	**Wether Hill Ro**	**3.91**	**233**	AML	AML	07 19 57.6	
WHZ				AML	AML	07 20 01.2	
DCZ	**Deep Cove**	**4.18**	**242**	AML	AML	07 19 06.1	
DCZ				AML	AML	07 20 12.1	
WAZ	**Wanganui**	**4.31**	**28**	AML	AML	07 20 20.6	
WAZ	**Wanganui**	**4.31**	**28**	Pn	Pn	07 18 53.8	+0.9
DVHZ	**Dannevirke**	**4.34**	**42**	Pn	Pn	07 18 50.6	-2.7
PREZ	**Palmer Road**	**4.46**	**18**	Pn	Pn	07 18 55.7	+0.6
APZ	**The Paps**	**4.48**	**223**	AML	AML	07 20 24.5	
DREZ	**Durham Road**	**4.62**	**18**	Pn	Pn	07 18 56.6	-0.5
PNHZ	**Pukenui**	**4.66**	**39**	Pn	Pn	07 18 56.2	-1.5
VRZ	**Vera Road**	**4.82**	**22**	AML	AML	07 20 05.1	
VRZ				AML	AML	07 20 50.8	
KAHZ	**Kahuranaki**	**5.08**	**43**	Pn	Pn	07 19 01.5	-1.9
HIZ	**Hauiti**	**5.42**	**21**	AML	AML	07 20 14.4	
HIZ				AML	AML	07 20 52.3	
HIZ	**Hauiti**	**5.42**	**21**	Pn	Pn	07 19 06.8	-1.3
MWZ	**Matawai**	**6.54**	**38**	Pn	Pn	07 19 20.0	-3.5

*CSEM **19** 07:18:00.7, 37.30N×23.60W, h10km, ML2.7*
PDA 19 07:18:00.7±1.3, 37.30N×23.60W, h10km, MD3.5, ML2.7, Error ellipse: s-maj=13.1km s-min=9.2km az=67.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**1.21**	**256**	*e*P	Pn	07 18 19.0	-4.7
PSMN				*e*S	Sb	07 18 32.6	-6.8
PSMN				A	A	07 18 39.4	
	29nm,0.3s						
PSMN	**Pico do Norte,**	**1.21**	**256**	*e*P	Pn	07 18 19.0	-4.7
PSMN				*e*S	Sb	07 18 32.6	-6.8
PSMA	**Santa Maria**	**1.26**	**256**	*e*P	Pn	07 18 19.9	-4.5
BART	**Pico Bartolome**	**1.34**	**291**	*e*P	Pn	07 18 20.4	-5.1
BART				*e*S	Sb	07 18 35.4	-7.7
BART				A	A	07 18 37.5	
	45nm,0.2s						
BART	**Pico Bartolome**	**1.34**	**291**	*e*P	Pn	07 18 20.4	-5.1
BART				*e*S	Sb	07 18 35.4	-7.7
CMLA	**Cha da Macela**	**1.60**	**287**	*e*P	Pn	07 18 24.6	-4.5
CMLA				*e*S	Sn	07 18 42.4	-7.4
CMLA	**Cha da Macela**	**1.60**	**287**	*e*P	Pn	07 18 24.6	-4.5
CMLA				*e*S	Sn	07 18 42.4	-7.4
PDA	**Ponta Delgada**	**1.70**	**286**	*e*P	Pn	07 18 26.1	-4.3
PDA				*e*S	Sn	07 18 45.3	-6.9
PDA				A	A	07 18 47.1	
	38nm,0.2s						
PDA	**Ponta Delgada**	**1.70**	**286**	*e*P	Pn	07 18 26.1	-4.3
PDA				*e*S	Sn	07 18 45.3	-6.9

*ISCJB **19** 07:27:52.6±0.7, 24.54N±0.06×122.62E±0.02, h81km±7km, Error ellipse: s-maj=10.3km s-min=3.2km az=177.1*
*JMA **19** 07:27:52.2±0.1, 24.43N×122.61E, h88km±2km, M2.3*
*TAP **19** 07:27:53.0, 24.56N×122.54E, h91km, ML3.3, C*
ISC 19 07:27:52.7±1.6, 24.55N±0.08×122.62E±0.03, h84km±11km, n27, σ0.68/48, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.32**	**108**	P	**Pn**	**07 28 05.7**	**+0.3**
JYNG				S	**Sn**	**07 28 15.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.37**	**103**	P	**Pn**	**07 28 05.9**	**+0.1**
YOJ				*e*S	**Sn**	**07 28 15.3**	**-0.2**
EGS		**0.69**	**296**	*e*P	**Pn**	**07 28 08.3**	**-0.2**
	baz=289						
TWC	**Suao**	**0.70**	**275**	*i* P	**Pn**	**07 28 08.7**	**+0.1**
	baz=276						
TWC				S	**Sn**	**07 28 19.6**	**-0.8**
	baz=276						
ENA	**Nanau**	**0.81**	**262**	P	**Pn**	**07 28 09.9**	**+0.2**
	baz=255						
ENA				*e*S	**Sn**	**07 28 22.8**	**+0.4**
	baz=255						
TWE	**Neicheng**	**0.88**	**282**	*i* P	**Pn**	**07 28 10.8**	**+0.3**
	baz=281						
TWE				*e*S	**Sn**	**07 28 23.7**	**-0.2**
	baz=281						
ENTT	**Nioudou**	**0.96**	**276**	P	**Pn**	**07 28 12.2**	**+0.7**
	baz=274						
IRIF	**Iriomote-Funau**	**1.04**	**102**	P	**Pn**	**07 28 12.2**	**-0.2**
IRIF				S	**Sn**	**07 28 27.1**	**0.0**
TWD	**Chiawan**	**1.04**	**244**	*e*P	**Pn**	**07 28 12.1**	**-0.3**
	baz=235						
TWD				S	**Sn**	**07 28 26.8**	**-0.4**
	baz=235						
HWA	**Hwalien**	**1.08**	**239**	*e*P	**Pn**	**07 28 14.6**	**+1.7**
	baz=235						
NNS	**Nan Shan**	**1.14**	**265**	*e*P	**Pn**	**07 28 13.3**	**-0.4**
	baz=257						
NNS				*e*S	**Sn**	**07 28 29.0**	**-0.5**
	baz=257						
NSK	**Sanguang**	**1.15**	**277**	*e*P	**Pn**	**07 28 14.1**	**+0.3**
	baz=276						
NSK				*e*S	**Sn**	**07 28 29.6**	**-0.1**
	baz=276						
HATJ	**Hateruma jima**	**1.19**	**114**	S	**Sn**	**07 28 30.9**	**+0.5**
WHF	**Hehuan Shan**	**1.29**	**252**	P	**Pn**	**07 28 15.7**	**-0.2**
	baz=250						
WHF				S	**Sn**	**07 28 32.6**	**-0.9**
	baz=250						
JKRS	**Kuro-shima**	**1.31**	**103**	P	**Pn**	**07 28 15.8**	**+0.1**
JKRS				*e*S	**Sn**	**07 28 33.6**	**+0.6**
TWT	**Tachien**	**1.34**	**258**	*e*P	**Pn**	**07 28 17.0**	**+0.7**
	baz=256						
TWT				*e*S	**Sn**	**07 28 34.2**	**+0.1**
	baz=256						
JIJ	**Ishigaki jima**	**1.40**	**97**	P	**Pn**	**07 28 16.6**	**-0.3**
JIJ				S	**Sn**	**07 28 34.6**	**-0.6**
NSTT	**Nanjuang**	**1.47**	**274**	P	**Pn**	**07 28 17.7**	**-0.1**
	baz=273						
NSTT				S	**Sn**	**07 28 36.5**	**-0.2**
	baz=273						
JISG	**Ishigakijimahi**	**1.54**	**88**	P	**Pn**	**07 28 18.2**	**-0.5**
WDT	**Danda**	**1.57**	**240**	P	**Pn**	**07 28 19.3**	**0.0**
	baz=231						
WDT				*e*S	**Sn**	**07 28 37.9**	**-1.5**
	baz=231						
TWF1	**Yuli**	**1.69**	**226**	*e*P	**Pn**	**07 28 20.2**	**-0.5**
	baz=231						
SMLT	**Sun Moon Lake**	**1.70**	**247**	*e*P	**Pn**	**07 28 21.3**	**+0.5**
	baz=240						
SMLT				*e*S	**Sn**	**07 28 43.0**	**+0.8**
	baz=240						
TYC	**Yuchr**	**1.73**	**249**	*e*P	**Pn**	**07 28 21.9**	**+0.9**
	baz=241						
TYC				*e*S	**Sn**	**07 28 43.0**	**+0.3**
	baz=241						
CHKT	**Chengkung**	**1.84**	**219**	*e*P	**Pn**	**07 28 23.4**	**+0.9**
	baz=211						
CHKT				*e*S	**Sn**	**07 28 43.2**	**-2.1**
	baz=211						
YUS	**Yu-Shan**	**1.85**	**236**	*e*P	**Pn**	**07 28 23.2**	**0.0**
	baz=229						
YUS				*e*S	**Sn**	**07 28 45.3**	**-1.0**
	baz=229						
JTJ	**Tarama**	**1.90**	**87**	P	**Pn**	**07 28 23.3**	**0.0**
JTJ				S	**Sn**	**07 28 47.1**	**+0.4**
CHN5	**Tsauling**	**2.01**	**242**	*e*P	**Pn**	**07 28 25.9**	**+1.0**
	baz=234						
CHN5				*e*S	**Sn**	**07 28 50.4**	**+1.0**
	baz=234						

MEX 19 07:33:42.3±0.5, 14.50N×92.83W, h16km±28km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.26**	**342**	*e*P	Pn	07 34 01.3	-3.9
PCIG				*e*S	Sb	07 34 16.4	-5.2
CCIG	**Comitan**	**1.89**	**20**	*e*P	Pn	07 34 11.6	-2.6
CCIG				*e*S	Sn	07 34 33.3	-4.4

*NIED **19** 08:18:00, 22.10N×121.70E, h5km, Mw4.3 Best double couple: M0 3.38000×10^15 NP1: φs 157.00000°, δ 25.00000°, λ -23.00000°. NP2: φs 267.00000°, δ 81.00000°, λ -113.00000°.*
*IDC **19** 08:18:35.6±0.7, 21.83N×121.54E, h0km, mb3.9/15, mb1 4.0/16, mb1mx3.8/50, mbtmp3.9/16, ML3.4/1, Error ellipse: s-maj=28.9km s-min=13.2km az=68.0*
*TAP **19** 08:18:37.7, 21.96N×121.44E, h7km, ML3.9, C*
*JMA **19** 08:18:37.4±0.4, 22.11N×121.67E, h2km, M3.8*
ISC 19 08:18:38.2±0.9, 21.98N±0.04×121.55E±0.03, h17km±5km, n85, σ1.922/104, mb3.8/14, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.06**	**3**	⇓*i*P	**Pb**	**08 18 41.4**	**-0.1**
	baz=51						
TSEB	**Hengchuen, Pin**	**0.60**	**263**	*e*P	**Pn**	**08 18 51.1**	**-0.8**
	baz=267						
TSEB				S	**Sn**	**08 19 00.4**	**-0.9**
	baz=267						
TWK1	**Hengchun**	**0.69**	**267**	*e*P	**Pn**	**08 18 50.9**	**-2.2**
	baz=271						
TAW	**Tawu**	**0.71**	**302**	⇑P	**Pb**	**08 18 51.4**	**-0.7**
	baz=312						
TAW				*e*S	**Sb**	**08 19 01.0**	**-0.6**
	baz=312						
HEN	**Hengchun**	**0.75**	**272**	*e*P	**Pn**	**08 18 52.6**	**-1.4**
	baz=276						
HEN				*e*S	**Sn**	**08 19 02.8**	**-2.1**
	baz=276						
EAST	**Anshuo**	**0.76**	**302**	*e*P	**Pb**	**08 18 52.2**	**-0.8**
	baz=311						
EAST				*e*S	**Sn**	**08 19 02.6**	**-2.7**
	baz=311						
TTN	**Taitung**	**0.86**	**335**	*e*P	**Pn**	**08 18 54.8**	**-0.6**
	baz=358						
SCZT	**Fangliau**	**0.94**	**295**	*e*P	**Pg**	**08 18 55.0**	**-1.6**
	baz=316						
TWG	**Pinlang**	**0.95**	**332**	*e*P	**Pb**	**08 18 55.4**	**-0.7**
	baz=325						
TWG				*e*S	**Sg**	**08 19 08.0**	**-1.1**
	baz=325						
CHKT	**Chengkung**	**1.13**	**351**	*e*P	**Pn**	**08 18 57.2**	**-2.0**
	baz=11						
CHKT				*e*S	**Sb**	**08 19 12.2**	**-1.5**
	baz=11						
SSD	**Sandimen**	**1.14**	**312**	*e*P	**Pg**	**08 19 00.6**	**+0.3**
	baz=332						
TWP	**Hsiaoliuchiu**	**1.16**	**289**	*e*P	**Pg**	**08 19 01.6**	**+1.0**
	baz=313						
SGLT	**Jiouru**	**1.23**	**308**	*e*P	**Pg**	**08 19 02.6**	**+0.7**
	baz=324						
ELDTW	**Lidau**	**1.30**	**338**	*e*P	**Pn**	**08 19 00.9**	**-0.8**
	baz=347						
TWM1	**Shoushan**	**1.34**	**309**	*e*P	**Pg**	**08 19 04.1**	**+0.1**
	baz=330						
STYT	**Tauyuan**	**1.39**	**328**	*e*P	**Pn**	**08 19 03.3**	**-0.4**
	baz=349						
TWF1	**Yuli**	**1.39**	**350**	*e*P	**Pn**	**08 19 02.6**	**-0.2**
	baz=9.0						
SGST	**Jiashian**	**1.42**	**321**	*e*P	**Pg**	**08 19 04.6**	**-0.9**
	baz=343						
CHN1	**Nanshi**	**1.53**	**322**	*e*P	**Pg**	**08 19 06.7**	**-1.0**
	baz=332						
CHN1				*e*S	**Sg**	**08 19 27.5**	**0.0**
	baz=332						
WTP	**Ta-pu**	**1.53**	**326**	*e*P	**Pg**	**08 19 06.6**	**-1.1**
	baz=349						
WTP				*e*S	**Sg**	**08 19 28.2**	**+0.6**
	baz=349						
EHY	**Hungye**	**1.54**	**352**	*e*P	**Pn**	**08 19 04.2**	**-0.5**
	baz=8.0						
CHN3	**Shinhua**	**1.55**	**315**	*e*P	**Pg**	**08 19 08.1**	**+0.2**
	baz=325						
YUS	**Yu-Shan**	**1.60**	**340**	*e*P	**Pb**	**08 19 06.4**	**-1.2**
	baz=348						
TWK	**Hsinying**	**1.61**	**323**	*e*P	**Pg**	**08 19 07.6**	**-1.7**
	baz=333						
CHN4	**Tsaushan**	**1.63**	**327**	*e*P	**Pb**	**08 19 07.4**	**-0.3**
	baz=349						
CHN4				*e*S	**Sg**	**08 19 31.0**	**+0.3**
	baz=349						
ALS	**Alishan**	**1.67**	**336**	*e*P	**Pg**	**08 19 08.8**	**-1.6**
	baz=345						
ALS				*e*S	**Sg**	**08 19 32.3**	**0.0**
	baz=345						
CHN5	**Tsauling**	**1.80**	**334**	*e*P	**Pb**	**08 19 10.7**	**0.0**
	baz=342						
CHN5				*e*S	**Sg**	**08 19 35.1**	**-1.2**
	baz=342						
WDT	**Danda**	**1.81**	**348**	*e*P	**Pb**	**08 19 09.8**	**-1.3**
	baz=10.0						
ESL	**Shilin**	**1.83**	**357**	*e*P	**Pb**	**08 19 10.1**	**-1.1**
	baz=12						
CHY	**Chiayi**	**1.83**	**326**	*e*P	**Pb**	**08 19 10.4**	**-0.8**
	baz=336						
CHN2	**Minshiung**	**1.84**	**328**	*e*P	**Pb**	**08 19 11.3**	**0.0**
	baz=338						
WGK	**Gukeng**	**1.93**	**332**	*e*P	**Pb**	**08 19 11.9**	**-0.9**
	baz=342						
SMLT	**Sun Moon Lake**	**1.99**	**343**	*e*P	**Pb**	**08 19 13.4**	**-0.5**
	baz=3.0						
SMLT				*e*S	**Sb**	**08 19 39.8**	**+1.3**
	baz=3.0						
TYC	**Yuchr**	**2.02**	**342**	*e*P	**Pb**	**08 19 14.2**	**-0.2**
	baz=353						
TYC				*e*S	**Sg**	**08 19 40.8**	**-2.5**
	baz=353						
WNT	**Mingjian**	**2.05**	**337**	*e*P	**Pb**	**08 19 15.1**	**+0.1**
	baz=348						
WNT				*e*S	**Sb**	**08 19 41.5**	**+1.3**
	baz=348						
TWD	**Chiawan**	**2.10**	**1**	*e*P	**Pn**	**08 19 12.2**	**-0.2**
	baz=18						
WDGT	**Dungji**	**2.16**	**307**	*e*P	**Pn**	**08 19 13.0**	**-0.4**
	baz=316						
WDGT				*e*S	**Sn**	**08 19 39.1**	**-0.6**
	baz=316						
WHF	**Hehuan Shan**	**2.17**	**353**	*e*P	**Pb**	**08 19 15.8**	**-1.5**
	baz=12						
TWT	**Tachien**	**2.29**	**351**	*e*P	**Pb**	**08 19 17.9**	**-1.3**
	baz=10.0						
TCU	**Taichung**	**2.31**	**340**	*e*P	**Pb**	**08 19 18.1**	**-1.2**
	baz=333						
PNG	**Penghu**	**2.43**	**311**	*e*P	**Pn**	**08 19 15.6**	**-1.3**
	baz=322						
PNG				*e*S	**Sn**	**08 19 45.4**	**-0.8**
	baz=322						
NNS	**Nan Shan**	**2.46**	**356**	*e*P	**Pb**	**08 19 21.4**	**-0.6**
	baz=12						
TWQ1	**Liyutan**	**2.47**	**343**	*e*P	**Pb**	**08 19 19.9**	**-2.2**
	baz=354						
TWQ1				*e*S	**Sb**	**08 19 51.6**	**-0.5**
	baz=354						
NSY	**Sanyi**	**2.53**	**344**	*e*P	**Pn**	**08 19 19.3**	**+0.8**
	baz=353						
TWC	**Suao**	**2.64**	**6**	*e*P	**Pn**	**08 19 22.2**	**+2.3**
	baz=13						
ENTT	**Nioudou**	**2.65**	**0**	*e*P	**Pn**	**08 19 21.8**	**+1.7**
	baz=8.0						
NSTT	**Nanjuang**	**2.69**	**349**	*e*P	**Pb**	**08 19 23.9**	**-2.0**
	baz=343						
NSK	**Sanguang**	**2.69**	**356**	*e*P	**Pn**	**08 19 22.4**	**+1.6**
	baz=15					

JTJ				*e*S		**Sn**	**08 20 22.1**	**-1.3**	
JIRB	**Irabujima**	**4.38**	**49**	P		**Pn**	**08 19 44.0**	**+0.2**	
JIRB				S		**Sn**	**08 20 33.4**	**-1.0**	
JIKM	**Ikemajima**	**4.49**	**48**	S		**Sn**	**08 20 35.5**	**-1.7**	
KSRS	**Korea Array**	**16.38**	**18**	Pn		**Pn**	**08 22 28.6**	**+1.3**	
	0.1nm,0.3s,baz=203,slow=15,SNR=7.0								
MJAR	**Matsushiro Arr**	**20.50**	**41**	P		Pn	08 23 17.9	+0.4	
	1.7nm,0.9s,baz=239,slow=7.5,SNR=6.9								
CMAR	**Chiang Mai Arr**	**21.49**	**265**	P		**P**	**08 23 27.1**	**+0.9**	
	1.2nm,0.5s,baz=69,slow=7.5,SNR=4.8								
FITZ	**Fitzroy Crossi**	**40.03**	**174**	P		**P**	**08 26 11.1**	**-1.3**	
	2.2nm,0.7s,baz=12,slow=7.3,SNR=7.2								
MKAR	**Makanchi Array**	**40.17**	**318**	P		**P**	**08 26 14.8**	**+1.4**	
	2.0nm,0.9s,baz=110,slow=11,SNR=12								
ZALV	**Zalesovo Beam**	**42.28**	**328**	P		**P**	**08 26 31.1**	**+0.5**	
	3.6nm,1.1s,baz=103,slow=6.7,SNR=5.5								
H11N1	**WAKE ISLAND Hy**	**42.32**	**84**	T		T	09 11 38.4		
	baz=282,slow=75,SNR=13								
H11N2	**WAKE ISLAND Hy**	**42.32**	**84**	T		T	09 11 40.8		
	baz=282,slow=75,SNR=21								
H11N3	**WAKE ISLAND Hy**	**42.34**	**84**	T		T	09 11 40.6		
	baz=282,slow=75,SNR=14								
H11S3	**WAKE ISLAND Hy**	**42.38**	**86**	T		T	09 11 41.3		
	baz=283,slow=75,SNR=44								
H11S1	**WAKE ISLAND Hy**	**42.39**	**86**	T		T	09 11 42.1		
	baz=283,slow=75,SNR=34								
H11S2	**WAKE ISLAND Hy**	**42.40**	**86**	T		T	09 11 43.9		
	baz=283,slow=75,SNR=30								
WRA	**Warramunga Arr**	**43.50**	**162**	P		**P**	**08 26 38.8**	**-2.0**	
	0.9nm,0.6s,baz=343,slow=8.9,SNR=10								
KURBB	**Kurchatov Arra**	**44.02**	**321**	P		**P**	**08 26 44.3**	**-0.3**	
	1.6nm,0.9s,baz=119,slow=7.3,SNR=8.5								
ASAR	**Alice Springs**	**46.93**	**164**	P		**P**	**08 27 06.8**	**-1.3**	
	0.9nm,0.7s,baz=347,slow=8.3,SNR=16								
ASAR				PcP		**PcP**	**08 28 40.2**	**-0.4**	
	0.8nm,0.9s,baz=330,slow=3.2,SNR=4.8								
BVAR	**Borovoye Array**	**49.60**	**322**	P		**P**	**08 27 28.9**	**+0.6**	
	0.4nm,0.5s,baz=72,slow=4.7,SNR=2.4								
NRIK	**Noril'sk**	**51.61**	**345**	P		**P**	**08 27 44.8**	**+1.5**	
	1.4nm,0.3s,baz=142,slow=7.1,SNR=3.2								
STKA	**Stephens Creek**	**56.89**	**160**	P		**P**	**08 28 22.5**	**+0.4**	
	2.1nm,0.6s,baz=339,slow=3.1,SNR=5.8								
FINES	**FINESS Array B**	**73.51**	**330**	P		**P**	**08 30 11.7**	**+2.0**	
	1.1nm,0.7s,baz=35,slow=7.0,SNR=5.2								
AKASG	**Malin Array Be**	**74.74**	**319**	P		**P**	**08 30 18.2**	**+1.2**	
	0.2nm,0.4s,baz=59,slow=6.4,SNR=5.4								
BRTR	**Keskin Array B**	**74.75**	**307**	P		**P**	**08 30 19.9**	**+2.3**	
	0.8nm,0.8s,baz=46,slow=7.1,SNR=4.0								
NOA	**NORSAR Array B**	**80.33**	**332**	P		**P**	**08 30 47.5**	**-0.6**	
	0.8nm,0.9s,baz=55,slow=6.7,SNR=3.0								

*ISCJB **19** 08:19:26.0± 1.1, 21˚.87N± 0˚.05 × 121˚.63E± 0˚.04, h12km± 7km, mb3.5/5, MS3.5/1, Error ellipse: s-maj=8.1km s-min=6.7km az=167.4*

*IDC **19** 08:19:25.0± 1.2, 21˚.76N × 121˚.81E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/50, mbtmp3.6/6, MS3.4/1, Ms1 3.4/1, ms1mx2.8/36, Error ellipse: s-maj=71.2km s-min=19.6km az=66.0*

*TAP **19** 08:19:26.7, 21˚.89N × 121˚.58E, h6km, ML3.7, D*

ISC 19 08:19:25.7± 1.8, 21˚.84N± 0˚.06 × 121˚.55E± 0˚.06, h7km± 10km, n31, σ1°18/38, mb3.8/5, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.20**	**0**	⇓*i*P	**Pg**	**08 19 29.6**	**0.0**
	baz=350						
TSEB	**Hengchuen, Pin**	**0.61**	**275**	*e*P	**Pn**	**08 19 39.8**	**-1.0**
	baz=270						
TSEB				*e*S	**Sn**	**08 19 49.2**	**-1.6**
	baz=270						
TWK1	**Hengchun**	**0.70**	**278**	*e*P	**Pn**	**08 19 40.4**	**-1.7**
	baz=273						
TWK1				*e*S	**Sb**	**08 19 50.5**	**+0.4**
	baz=273						
HEN	**Hengchun**	**0.77**	**282**	*e*P	**Pn**	**08 19 41.9**	**-1.2**
	baz=278						
HEN				*e*S	**Sb**	**08 19 51.7**	**-0.4**
	baz=278						
ECL	**Taimali**	**0.93**	**324**	*e*P	**Pg**	**08 19 43.0**	**-0.7**
	baz=320						
SCZT	**Fangliau**	**1.01**	**302**	P	**Pb**	**08 19 45.1**	**-0.4**
	baz=298						
SCZT				*e*S	**Sg**	**08 19 59.4**	**+1.1**
	baz=298						
TWG	**Pinlang**	**1.07**	**336**	*e*P	**Pb**	**08 19 45.3**	**-1.3**
	baz=333						
TWG				*e*S	**Sb**	**08 19 57.7**	**-3.1**
	baz=333						
SSD	**Sandimen**	**1.24**	**317**	*e*P	**Pn**	**08 19 48.9**	**-0.6**
	baz=314						
SSD				*e*S	**Sb**	**08 20 04.0**	**-1.6**
	baz=314						
CHKT	**Chengkung**	**1.26**	**352**	*e*P	**Pn**	**08 19 47.9**	**-1.9**
	baz=350						
SGLT	**Jiouru**	**1.32**	**312**	*e*P	**Pg**	**08 19 51.7**	**+0.7**
	baz=309						
ELDTW	**Lidau**	**1.43**	**340**	*e*P	**Pb**	**08 19 53.0**	**+0.2**
	baz=338						
TWM1	**Shoushan**	**1.43**	**313**	*e*P	**Pg**	**08 19 53.5**	**+0.3**
	baz=310						
STYT	**Tauyuan**	**1.50**	**331**	*e*P	**Pb**	**08 19 53.3**	**-0.8**
	baz=329						
TWF1	**Yuli**	**1.52**	**351**	*e*P	**Pn**	**08 19 52.6**	**-0.8**
	baz=349						
SGST	**Jiashian**	**1.52**	**324**	*e*P	**Pb**	**08 19 54.6**	**+0.3**
	baz=322						
CHN1	**Nanshi**	**1.64**	**325**	*e*P	**Pb**	**08 19 56.1**	**-0.2**
	baz=322						
CHN1				*e*S	**Sn**	**08 20 16.2**	**-0.2**
	baz=322						
WTP	**Ta-pu**	**1.64**	**328**	*e*P	**Pn**	**08 19 54.8**	**-0.3**
	baz=326						
EHY	**Hungye**	**1.67**	**353**	*e*P	**Pn**	**08 19 53.8**	**-1.6**
	baz=351						
YUS	**Yu-Shan**	**1.73**	**342**	*e*P	**Pn**	**08 19 56.5**	**-0.2**
	baz=340						
CHN4	**Tsaushan**	**1.74**	**330**	*e*P	**Pb**	**08 19 58.3**	**+0.2**
	baz=327						
ALS	**Alishan**	**1.80**	**338**	*e*P	**Pn**	**08 19 57.9**	**+0.4**
	baz=336						
CHN5	**Tsauling**	**1.92**	**335**	*e*P	**Pn**	**08 19 59.5**	**+0.4**
	baz=333						
CHN5				*e*S	**Sn**	**08 20 23.3**	**-0.3**
	baz=333						
SMLT	**Sun Moon Lake**	**2.12**	**344**	*e*P	**Pn**	**08 20 02.8**	**+1.0**
	baz=342						
TYC	**Yuchr**	**2.15**	**343**	*e*P	**Pn**	**08 20 02.9**	**+0.8**
	baz=341						
KSRS	**Korea Array**	**16.51**	**18**	Pn		**Pn**	**08 23 17.7**	**-0.1**
	baz=196,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**40.27**	**318**	P		**P**	**08 27 05.8**	**+2.4**
	0.2nm,0.5s,baz=108,slow=9.4,SNR=2.5								
WRA	**Warramunga Arr**	**43.37**	**162**	P		**P**	**08 27 27.6**	**-1.4**
	0.9nm,0.5s,baz=344,slow=9.0,SNR=8.4								
KURBB	**Kurchatov Arra**	**44.12**	**321**	P		**P**	**08 27 36.5**	**+1.7**
	0.2nm,0.4s,baz=123,slow=6.8,SNR=3.0								
ASAR	**Alice Springs**	**46.81**	**164**	P		**P**	**08 27 55.9**	**-0.5**
	0.5nm,0.4s,baz=343,slow=7.2,SNR=10								
WSAR	**Wadi Sarin**	**57.71**	**284**	LR		LR	09 00 30.4		
	comp=Z,32nm,18.8s,baz=170,slow=42								
FINES	**FINESS Array B**	**73.63**	**330**	P		**P**	**08 31 01.0**	**+1.4**	
	0.9nm,0.7s,baz=38,slow=7.2,SNR=3.7								

*ISCJB **19** 08:20:48.2± 0.7, 8.˚19N± 0˚.05 × 73˚.60W± 0˚.05, h108km± 7km, Error ellipse: s-maj=10.3km s-min=4.7km az=41.8*

*FUNV **19** 08:20:48.0, 8.˚19N × 73˚.69W, h10km, MW2.8*

*RSNC **19** 08:20:50.9± 0.8, 8.˚14N × 73˚.67W, h88km± 8km, ML2.2*

ISC 19 08:20:49.0± 1.4, 8.˚18N± 0˚.05 × 73˚.63W± 0˚.06, h101km± 9km, n19, σ0°75/34, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.31**	**80**	*e*P	**Pn**	**08 21 04.2**	**+0.4**
OCAC				*e*S	**Sn**	**08 21 14.3**	**-0.7**
OCAC				*i*		08 21 16.8	
	comp=Z,85nm,0.2s						
GRMC	**Gramalote, San**	**0.94**	**120**	*e*P	**Pn**	**08 21 08.8**	**-0.1**
GRMC				*e*S	**Sn**	**08 21 23.5**	**-0.5**
CBRI	**Barrientos, No**	**0.94**	**119**	*e*P	**Pn**	**08 21 09.6**	**+0.5**
CBRI				*e*S	**Sn**	**08 21 24.6**	**+0.5**
CBRI				*i*		08 21 26.4	
	comp=Z,40nm,0.2s						
BRRC	**Barranca, Sant**	**1.07**	**184**	*e*P	**Pn**	**08 21 10.1**	**-0.2**
BRRC				*e*S	**Sn**	**08 21 25.7**	**-0.6**
BRRC				*i*		08 21 27.5	
	comp=Z,41nm,0.2s						
CAPV	**Capacho**	**1.34**	**104**	*e*P	**Pn**	**08 21 13.9**	**+0.4**
CAPV				*e*S	**Sn**	**08 21 32.6**	**+0.5**
BARC	**Barichara**	**1.64**	**164**	*e*P	**Pn**	**08 21 17.4**	**+0.1**
BARC				*e*S	**Sn**	**08 21 38.1**	**-0.7**
BARC				*i*		08 21 40.1	
	comp=Z,21nm,0.2s						
VIGV	**El Vigia**	**2.33**	**74**	*e*P	**Pn**	**08 21 27.1**	**+1.1**
VIGV				*e*S	**Sn**	**08 21 55.0**	**+0.8**
RUSC	**La Rusia**	**2.34**	**167**	*e*P	**Pn**	**08 21 27.4**	**+0.9**
RUSC				*i*		08 22 01.4	
	comp=Z,5.5nm,0.2s						
VIRV	**Villa del Rosa**	**2.60**	**28**	*e*P	**Pn**	**08 21 29.8**	**+0.3**
VIRV				*e*S	**Sn**	**08 22 00.9**	**+0.3**
HELC	**Santa Helena**	**2.74**	**224**	*e*P	**Pn**	**08 21 32.8**	**+1.2**
HELC				*i*		08 22 14.8	
	comp=Z,12nm,0.3s						
SOCV	**Socops**	**2.75**	**88**	*e*P	**Pn**	**08 21 32.1**	**+0.8**
SOCV				*e*S	**Sn**	**08 22 04.3**	**+0.2**
NORC	**Norcasia**	**2.88**	**205**	*e*P	**Pn**	**08 21 33.6**	**+0.4**
NORC				*e*S	**Sn**	**08 22 06.2**	**-1.1**
QARV	**Quebrada Arrib**	**3.66**	**56**	*e*S	**Sn**	**08 22 25.9**	**-0.2**
SANV	**Sanarito**	**4.25**	**72**	*e*P	**Pn**	**08 21 51.8**	**+0.2**
SANV				*e*S	**Sn**	**08 22 40.1**	**-0.2**
SIQV	**Siquisique**	**4.49**	**57**	*e*P	**Pn**	**08 21 55.3**	**+0.4**
SIQV				*e*S	**Sn**	**08 22 45.4**	**-0.8**
TEPV	**Terepaima**	**4.72**	**68**	*e*P	**Pn**	**08 21 58.6**	**+0.6**
TEPV				*e*S	**Sn**	**08 22 50.6**	**-1.1**
MONV	**Montecano**	**5.20**	**44**	*e*P	**Pn**	**08 22 04.5**	**+0.1**
MONV				*e*S	**Sn**	**08 23 01.6**	**-1.5**
MAPV	**Macapo**	**5.36**	**72**	*e*P	**Pn**	**08 22 07.3**	**+0.6**
MAPV				*e*S	**Sn**	**08 23 05.5**	**-1.7**
BAUV	**El Baul**	**5.58**	**82**	*e*P	**Pn**	**08 22 09.1**	**-0.4**

*IDC **19** 08:29:08.5± 0.6, 6.˚59N × 127˚.00E, h99km± 4km, mb4.3/39, mb1 4.3/40, mb1mx4.2/55, mbtmp4.6/40, MS3.5/1, Ms1 3.7/1, ms1mx2.7/37, Error ellipse: s-maj=9.2km s-min=7.7km az=45.0*

*MOS **19** 08:29:09.2± 0.8, 6.˚63N × 126.˚88E, h115km, mb4.8/17, Error ellipse: s-maj=15.0km s-min=6.5km az=115.0*

*ISCJB **19** 08:29:09.2± 0.5, 6.˚59N± 0˚.03 × 126.˚93E± 0˚.04, h118km± 3km, mb4.5/83, Error ellipse: s-maj=6.7km s-min=4.7km az=176.8*

*NEIC **19** 08:29:11.4± 0.6, 6.˚55N × 126.˚86E, h124km± 5km, mb4.6/22, Error ellipse: s-maj=5.9km s-min=3.5km az=74.0*

*KLM **19** 08:29:12.8, 7.˚00N × 126.˚78E, h140km, mb4.7, MS5.9*

*DJA **19** 08:29:17.6± 1.2, 6.˚N± 5˚ × 12˚6E± 1˚2, h91km± 6km, M5.2/8, mb5.0/8, mB6.0/5, MLv5.1/4, Mw(mB)5.6/5*

ISC 19 08:29:10.1± 0.5, 6.˚60N± 0˚.04 × 126.˚92E± 0˚.05, h110km± 3km, h110km:pP-P, n189, σ1°56/226, mb4.6/82, 17C-18D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.75**	**298**	*e*P	**Pn**	**08 29 28.7**	**-0.1**
MATI				*e*S	**Sn**	**08 29 41.5**	**-1.5**
DAV	**Davao City (W)**	**1.42**	**289**	P	**Pn**	**08 29 36.4**	**+0.5**
	2μm,0.3s,baz=204,slow=0.7,SNR=120						
DAV				S	**Sn**	**08 29 55.0**	**-0.5**
	816nm,0.3s,baz=75,slow=23,SNR=20						
DAV	**Davao City (W)**	**1.42**	**289**	*e*Pn	**Pn**	**08 29 37.3**	**+1.4**
DAV				*e*Sn	**Sn**	**08 29 56.4**	**+0.9**
DMPH	**Davao City--Mi**	**1.49**	**289**	⇓*e*P	**Pn**	**08 29 38.1**	**+1.3**
DMPH				*e*S	**Sn**	**08 29 58.3**	**+1.3**
BIPH	**Bislig**	**1.67**	**341**	⇑*e*P	Pn	08 29 45.1	+6.2
BIPH				*i* S	**Sn**	**08 30 01.0**	**0.0**
KCP	**Kidapawan**	**1.87**	**283**	⇓*i*P	**Pn**	**08 29 41.3**	**-0.1**
KCP				*i* S	**Sn**	**08 30 04.4**	**-1.0**
BUKP	**Musuan**	**2.24**	**305**	*e*P	**Pn**	**08 29 47.1**	**+0.9**
BUKP				*e*S	**Sn**	**08 30 14.1**	**+0.1**
CTBH	**Cotabato--PC H**	**2.73**	**283**	*e*P	**Pn**	**08 29 52.2**	**-0.3**
CTBH				*i* S	**Sn**	**08 30 21.7**	**-3.4**
CGP	**Cagayan de Oro**	**2.88**	**310**	⇓*e*P	**Pn**	**08 29 56.4**	**+1.9**
CGP				*e*S	**Sn**	**08 30 28.2**	**-0.5**
SGSI	**Sangihe**	**3.21**	**206**	P	**Pn**	**08 30 02.1**	**+3.2**
SGSI				S	**Sn**	**08 30 32.8**	**-3.8**
DCPH	**Dipolog City**	**4.05**	**299**	⇑*e*P	**Pn**	**08 30 10.7**	**+0.5**
IPIL	**Ipil**	**4.48**	**286**	*e*P	**Pn**	**08 30 17.8**	**+1.9**
IPIL				*e*S	**Sn**	**08 31 09.5**	**+2.5**
LLP	**Lapu-Lapu**	**4.71**	**322**	⇓*e*P	**Pn**	**08 30 21.0**	**+2.0**
LLP				*e*S	**Sn**	**08 31 13.8**	**+1.1**
PLP	**Palo**	**4.93**	**337**	⇓*e*P	**Pn**	**08 30 23.5**	**+1.5**
BESP	**Borongan**	**5.18**	**344**	*e*P	Pn	08 30 35.2	+10
BESP				*e*S	**Sn**	**08 31 20.4**	**-3.6**
RCP	**Roxas**	**6.43**	**320**	⇑*e*P	**Pn**	**08 30 45.3**	**+3.1**
MRSI	**Marisa**	**7.85**	**219**	P	**Pn**	**08 31 01.1**	**-0.5**
	448nm,0.6s,4μm1.4nm						
MYLDM	**Lahad Datu**	**8.50**	**261**	⇑P	**Pn**	**08 31 12.7**	**+2.3**
MYLDM	**Lahad Datu**	**8.50**	**261**	*e*Pn	**Pn**	**08 31 11.8**	**+1.4**
MYLDM				*e*Sn	**Sn**	**08 32 45.0**	**+0.5**
TSM	**Tawau**	**9.30**	**256**	⇓P	**Pn**	**08 31 22.3**	**+1.1**
SDKM	**Sandakan**	**9.72**	**265**	⇓P	**Pn**	**08 31 27.4**	**+0.4**
KDI	**Kendari**	**11.33**	**202**	P	**Pn**	**08 31 52.9**	**+4.2**
	5μm,0.9s,61μm						
KAPI	**Kappang**	**13.58**	**212**	P	**Pn**	**08 32 16.4**	**-1.9**
	baz=6.8,slow=2.2,SNR=5.3						
MTKI	**Muara Teweh, K**	**14.15**	**238**	P	**Pn**	**08 32 25.0**	**-0.7**
	232nm,0.5s,7μm						
SBUM	**Sibu**	**15.22**	**255**	⇓P	**Pn**	**08 32 40.4**	**+1.1**
SBUM	**Sibu**	**15.22**	**255**	*e*Pn	**Pn**	**08 32 39.8**	**+0.5**
	82nm,0.8s						
BBKI	**Banjar Baru**	**15.66**	**231**	P	**Pn**	**08 32 45.6**	**+0.8**
	53nm,0.7s						
EDFI	**Ende, Flores**	**16.11**	**199**	P	**P**	**08 32 52.1**	**+0.4**
	22nm,0.7s						
STKI	**Sintang**	**16.72**	**248**	P	**P**	**08 33 00.1**	**+1.8**
KSM	**Kuching**	**17.33**	**254**	⇑P	**P**	**08 33 05.1**	**0.0**
KSM	**Kuching**	**17.33**	**254**	*e*P	**P**	**08 33 04.9**	**-0.1**
	34nm,0.8s						
MTN	**Manton Dam**	**19.76**	**168**	*e*P	**P**	**08 33 31.8**	**+0.2**
	39nm,1.3s						
NGJI	**Ngawi**	**20.75**	**228**	P	Pn	08 33 48.4	+2.8
CBJI	**Citeko**	**23.84**	**238**	P	P	08 34 23.9	+11
FITZ	**Fitzroy Crossi**	**24.58**	**183**	P	**P**	**08 34 18.8**	**-1.1**
	8.1nm,0.5s,baz=7.2,slow=11,SNR=30						
FITZ	**Fitzroy Crossi**	**24.58**	**183**	*e*P	**P**	**08 34 19.9**	**-0.1**
	11nm,0.8s						
SKNT	**Sakolnakorn**	**24.68**	**297**	P	**P**	**08 34 21.5**	**+0.5**
	29nm,0.9s,5μm						
CBIJ	**Chichi jima**	**25.02**	**34**	P	**P**	**08 34 23.9**	**-0.1**
JCJ	**Chichijima**	**25.02**	**34**	P	**P**	**08 34 23.9**	**-0.1**
	37nm,0.4s,baz=270,slow=12,SNR=9.7						
KHON	**Khomkaen**	**25.50**	**294**	P	**P**	**08 34 29.3**	**+0.9**
	16nm,0.8s						
LHSI	**Lahat**	**25.55**	**247**	P	**P**	**08 34 33.4**	**+4.5**
NONG	**Nongkai**	**25.84**	**298**	P	**P**	**08 34 32.3**	**+0.9**
	38nm,0.7s						
CHAI	**Chaiyaphum**	**26.12**	**293**	P	**P**	**08 34 34.4**	**+0.4**
	5.7nm,0.6s						
PBKT	**Sadao Pong**	**27.25**	**294**	P	**P**	**08 34 44.9**	**+0.7**
	26nm,0.8s						
LOEI	**Loei**	**27.30**	**296**	P	**P**	**08 34 42.1**	**-2.5**
	19nm,0.8s						
WRAB	**Tennant Creek**	**27.36**	**165**	⇓*i*P	**P**	**08 34 44.7**	**-0.4**
WRAB	**Tennant Creek**	**27.36**	**165**	*e*P	**P**	**08 34 44.9**	**-0.2**
	13nm,1.0s						
WRA	**Warramunga Arr**	**27.36**	**165**	P	**P**	**08 34 44.0**	**-1.1**
	3.1nm,0.6s,baz=347,slow=10,SNR=22						
WRA				PcP	**PcP**	**08 38 02.0**	**+0.2**
	1.1nm,0.6s,baz=323,slow=2.2,SNR=3.6						
WRA				ScP	**ScP**	**08 41 32.0**	**-0.3**
	1.0nm,0.5s,baz=344,slow=3.0,SNR=8.7						
WRA	**Warramunga Arr**	**27.36**	**165**	*i* P	**P**	**08 34 47.5**	**+2.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WB2	**Warramunga Arr**	**27.37**	**165**	*e*P	**P**	**08 34 44.9**	**-0.2**
	comp=Z,9.1nm,0.6s						
GYA	**Guiyang**	**27.62**	**318**	*e*P	**P**	**08 34 48.8**	**+1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
UTTA	**Uttaradit**	**28.01**	**296**	P	**P**	**08 34 52.2**	**+1.3**
	comp=Z,3.4nm,0.9s						
MBWA	**Marble Bar**	**28.47**	**194**	*e*P	**P**	**08 34 54.0**	**-1.0**
	comp=Z,34nm,0.6s						
ENH	**Enshi**	**28.69**	**327**	*e*P	**P**	**08 34 57.2**	**+0.3**
	comp=Z,24nm,1.2s						
CMAR	**Chiang Mai Arr**	**29.70**	**296**	P	**P**	**08 35 04.8**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=111,slow=7.2,SNR=10						
CMAR				PcP	**PcP**	**08 38 09.1**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=125,slow=1.3,SNR=7.3						
CMAR				LR	LR	08 48 53.7	
	comp=Z,81nm,18.3s,baz=161,slow=40						
KSAR	**Wonju Array Be**	**30.71**	**1**	P	**P**	**08 35 14.4**	**-0.2**
KSAR				*PP	**pP**	**08 35 35.1**	**-3.9**
KSAR	**Wonju Array Be**	**30.71**	**1**	P	**P**	**08 35 14.3**	**-0.2**
KSAR				pP	**pP**	**08 35 35.0**	**-3.9**
KSAR				ScP	**ScP**	**08 41 43.9**	**+1.2**
KSRS	**Korea Array**	**30.73**	**2**	P	**P**	**08 35 14.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=186,slow=9.5,SNR=4.4						
KSRS				pP	**pP**	**08 35 35.0**	**-4.0**
	comp=Z,1.0nm,0.8s,baz=176,slow=11,SNR=2.7						
KSRS				ScP	**ScP**	**08 41 43.9**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=168,slow=4.1,SNR=5.7						
AS31	**Alice Springs**	**30.84**	**167**	*e*P	**P**	**08 35 15.7**	**-0.2**
	comp=Z,1.6nm,0.6s						
ASAR	**Alice Springs**	**30.84**	**167**	P	**P**	**08 35 15.4**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=340,slow=7.1,SNR=39						
ASAR				PcP	**PcP**	**08 38 10.7**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=352,slow=2.3,SNR=10						
ASAR				ScP	**ScP**	**08 41 43.0**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=309,slow=2.2,SNR=7.2						
MJAR	**Matsushiro Arr**	**31.54**	**18**	P	**P**	**08 35 21.9**	**0.0**
	comp=Z,0.9nm,0.5s,baz=213,slow=7.1,SNR=6.8						
MJAR				pP	**pP**	**08 35 42.9**	**-3.4**
	comp=Z,1.0nm,0.7s,baz=198,slow=9.0,SNR=2.9						
CD2	**Chengdu**	**32.50**	**321**	*e*P	**P**	**08 35 30.8**	**+0.3**
BJI	**Beijing**	**34.67**	**345**	P	**P**	**08 35 49.3**	**+0.3**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LZH	**Lanzhou**	**36.17**	**327**	*e*P	**P**	**08 36 03.8**	**+1.6**
LZH				pP	pP	08 36 29.3	+2.3
LZH				sP	sP	08 36 46.1	+6.5
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**	**36.77**	**340**	*e*P	**P**	**08 36 09.8**	**+2.7**
HHC				pmax	pmax		
	comp=Z,23nm,1.0s						
HHC				pmax	pmax		
	comp=Z,91nm,6.0s						
CN2	**Changchun**	**37.08**	**358**	*e*P	**P**	**08 36 11.3**	**+1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**37.72**	**6**	P	**P**	**08 36 15.0**	**0.0**
	comp=Z,2.9nm,0.7s,baz=160,slow=6.1,SNR=8.7						
USRK				pP	**pP**	**08 36 36.3**	**-3.5**
	comp=Z,2.8nm,0.7s,baz=192,slow=6.7,SNR=4.7						
MDJ	**Mudanjiang**	**37.94**	**3**	P	**P**	**08 36 18.1**	**+1.3**
MDJ				pP	pP	08 36 44.8	+3.0
MDJ				sP	sP	08 36 59.0	+4.6
MDJ				PP	**PnPn**	**08 37 47.5**	**-0.8**
MDJ				S	**S**	**08 42 02.4**	**+1.9**
MDJ				sS	sS	08 42 47.4	+3.7
MDJ				SS	**SS**	**08 44 52.6**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,57nm,7.3s						
SHL	**Shillong**	**38.40**	**303**	*i* P	**P**	**08 36 20.0**	**-1.2**
NWAO	**Narrogin (SRO)**	**40.37**	**193**	P	**P**	**08 36 36.9**	**-0.3**
	comp=Z,32nm,0.5s,baz=253,slow=8.3,SNR=35						
NWAO	**Narrogin (SRO)**	**40.37**	**193**	*e*P	**P**	**08 36 37.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**40.37**	**193**	*e*P	**P**	**08 36 37.4**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**40.47**	**69**	T	T	09 21 08.9	
	baz=257,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**40.49**	**69**	T	T	09 21 07.7	
	baz=257,slow=75,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**40.49**	**69**	T	T	09 21 00.3	
	baz=257,slow=75,SNR=8.4						
STKA	**Stephens Creek**	**40.74**	**161**	P	**P**	**08 36 40.5**	**+0.2**
	comp=Z,3.0nm,0.4s,baz=322,slow=7.2,SNR=12						
LSA	**Lhasa**	**40.75**	**309**	*e*P	**P**	**08 36 41.2**	**+0.2**
LSA				*e*		08 38 41.7	
LSA	**Lhasa**	**40.75**	**309**	*e*P	**P**	**08 36 41.2**	**+0.2**
LSA				*e*PcP	**PcP**	**08 38 41.7**	**+1.2**
HABR	**Khabarovsk**	**42.30**	**8**	*e*P	**P**	**08 36 51.4**	**-1.

BJI ***19*** *08:37:44.1,56.′00S×27.′40W,h120km,mB5.2/20*
MOS ***19*** *08:37:44.4±1.0,56.′07S×27.′60W,h123km,mb5.2/8, Error ellipse: s-maj=20.1km s-min=10.9km az=98.5*
NEIC ***19*** *08:37:44.7±0.1,56.′05S×27.′42W, mb5.5/42, Error ellipse: s-maj=6.4km s-min=4.6km az=219.0*
ISCJB ***19*** *08:37:44.3±1.4,56.′04S±0.′05×27.′64W±0.′09, h126km±12km, mb5.4/56, Error ellipse: s-maj=9.6km s-min=5.3km az=137.5*
GCMT ***19*** *08:37:44.7±0.1,56.′16S×27.′21W,h133km±1km, MW5.2/112, Moment Tensor Solution. s87,c111; s112,c164; Duration: 1s0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.89±.01; Mθθ-0.55±.02; Mϕϕ-0.33±.02; Mrθ-0.24±.02; Mθϕ0.34±.02; Mϕr0.15±.02; Best double couple: M₀0.88900×10¹⁷ NP1:ϕs305.00000°, δ54.00000°, λ89.00000°. NP2:ϕs127.00000°, δ36.00000°, λ91.00000°. Principal axes: T 0.9360, Plg81.0000°, Azm211.0000°; N -0.0930, Plg1.0000°, Azm306.0000°; P -0.8420, Plg9.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***19*** *08:37:45.5±0.5,56.′12S×27.′58W,h126km±3km, mb4.9/18, mb1 5.0/19,mb1mx5.0/22, mbtmp5.3/19,MS4.1/10, Ms1 4.1/10,ms1mx3.9/18 Error ellipse: s-maj=11.2km s-min=10.3km az=38.0*

ISC 19 08:37:45.6±0.4,56.′07S±0.′05×27.′53W±0.′05, h128km±3km, h128km:pP-P,n595,σ1s16/688,mb5.4/63,8C-10D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.44**	**286**	*e*Pn		**Pn**	**08 39 05.9**	**+1.5**
HOPE				*e*Sn		**Sn**	**08 40 02.9**	**-3.0**
VNA1	**Neumayer--Stat**	**16.84**	**158**	P		**Pn**	**08 41 34.4**	**+1.1**
EFI	**East Falkland**	**18.45**	**271**	ǁP		**P**	**08 41 51.3**	**+0.3**
EFI				pmax	pmax			
	comp=Z,140nm,1.3s							
SNAA	**Sanae**	**18.80**	**156**	P		**Pn**	**08 41 55.7**	**-1.0**
SNAA				S		**S**	**08 45 20.7**	**-0.9**
SNAA	**Sanae**	**18.80**	**156**	*e* i P		**P**	**08 41 55.6**	**+0.8**
SNAA				pmax	pmax			
	comp=Z,9μm,0.9s							
SNAA	**Sanae**	**18.80**	**156**	*e*P		**Pn**	**08 41 55.8**	**-1.0**
	comp=Z,120nm,0.8s							
SNAA				*e*ScP		**ScP**	**08 49 39.1**	**-0.2**
PMSA	**Palmer Station**	**19.74**	**229**	P		**P**	**08 42 05.5**	**+0.6**
	comp=Z,26nm,0.3s,baz=69,slow=7.1,SNR=60							
PMSA	**Palmer Station**	**19.74**	**229**	*e*P		**Pn**	**08 42 07.5**	**-0.1**
	comp=Z,198nm,0.6s							
NVL	**N'lazarevskaya**	**22.35**	**146**	⇑i P		**P**	**08 42 34.8**	**+2.3**
NVL				*e*			08 43 15.3	
NVL				*i* S		**S**	**08 46 30.5**	**+1.9**
NVL				*e*			08 47 14.3	
USHA	**Ushuaia**	**23.00**	**256**	P		**P**	**08 42 39.2**	**+0.3**
	comp=Z,84nm,0.9s,baz=75,slow=11,SNR=12							
CHRN	**Cochrane**	**28.84**	**269**	*e*P		**P**	**08 43 32.2**	**+0.6**
	comp=Z,16nm,0.7s							
TRQA	**Tornquist**	**29.16**	**294**	*e*P		**P**	**08 43 34.8**	**+0.3**
	comp=Z,38nm,0.6s							
TRQA				*e*PcP		**PcP**	**08 46 39.0**	**+0.3**
SYO	**Syowa Base**	**31.68**	**141**	ǁ i P		**P**	**08 43 55.4**	**-0.9**
PLCA	**Paso Flores**	**31.82**	**280**	P		**P**	**08 43 57.1**	**-0.9**
	comp=Z,15nm,0.9s,baz=163,slow=11,SNR=9.4							
PLCA				PcP		**PcP**	**08 46 46.4**	**+0.7**
	comp=Z,15nm,1.0s,baz=192,slow=2.7,SNR=6.4							
PLCA				ScP		**ScP**	**08 50 15.0**	**-1.9**
	comp=Z,4.6nm,0.7s,baz=162,slow=3.2,SNR=4.1							
PLCA				LR	LR		08 56 13.3	
	comp=Z,166nm,19.3s,baz=128,slow=35							
PLCA	**Paso Flores**	**31.82**	**280**	*e*P		**P**	**08 43 57.3**	**-0.7**
	comp=Z,27nm,1.0s							
PLCA				PcP		**PcP**	**08 46 46.4**	**+0.7**
PLCA				ScP		**ScP**	**08 50 15.0**	**-1.9**
QSPA	**South Pole Qui**	**34.18**	**180**	*e*P		**P**	**08 44 19.6**	**+1.2**
MRA	**San Martin**	**35.46**	**296**	*e*P		**P**	**08 44 29.0**	**-0.6**
MRA				IAmb		IAmb	08 44 30.2	
	comp=Z,38nm,0.7s							
SPB	**Sao Paulo**	**35.59**	**328**	*e*P		**P**	**08 44 32.9**	**+2.3**
	comp=Z,135nm,1.2s							
TCA	**Tanti**	**35.77**	**298**	*e*P		**P**	**08 44 32.0**	**-0.2**
TCA				IAmb		IAmb	08 44 32.6	
	comp=Z,221nm,1.4s							
ACAN	**Cantantal**	**36.33**	**294**	*e*P		**P**	**08 44 35.4**	**-1.5**
AAGR	**Agrelo**	**36.53**	**291**	*e*P		**P**	**08 44 38.4**	**-0.3**
CPUP	**Villa Florida**	**36.69**	**312**	ǁ *e*P		**P**	**08 44 40.0**	**0.0**
CPUP	**Villa Florida**	**36.69**	**312**	P		**P**	**08 44 40.3**	**+0.4**
	comp=Z,66nm,0.9s,baz=150,slow=7.3,SNR=132							
CPUP				PcP		**PcP**	**08 47 00.2**	**+0.4**
	comp=Z,31nm,0.8s,baz=153,slow=1.1,SNR=15							
CPUP				ScP		**ScP**	**08 50 33.9**	**-0.4**
	comp=Z,9.7nm,1.1s,baz=171,slow=9.3,SNR=4.2							
CPUP	**Villa Florida**	**36.69**	**312**	*e*P		**P**	**08 44 40.2**	**+0.3**
CPUP				PcP		**PcP**	**08 47 00.2**	**+0.4**
CPUP				*e*ScP		**ScP**	**08 50 32.8**	**-1.5**
ARCO	**CERRO ARCO**	**36.78**	**292**	*e*P		**P**	**08 44 41.1**	**+0.2**
ARCO				IAmb		IAmb	08 47 00.7	
	comp=Z,41nm,0.7s							
ASAL	**Salagasta**	**36.92**	**292**	*e*P		**P**	**08 44 41.1**	**-0.9**
RTCV	**Cerro Valdivia**	**37.35**	**293**	*e*P		**P**	**08 44 45.2**	**-0.3**
AUSP	**Uspallata**	**37.50**	**292**	*e*P		**P**	**08 44 47.4**	**-0.8**
SJA	**San Juan**	**37.62**	**293**	*e*P		**P**	**08 44 47.5**	**-0.4**
SJA				IAmb		IAmb	08 44 47.8	
	comp=Z,198nm,0.5s							
RTLL	**Cerro Villicun**	**37.74**	**294**	*e*P		**P**	**08 44 48.3**	**-0.6**
AVFE	**Valle Fertil**	**37.75**	**295**	IAmb		IAmb	08 44 19.2	
	comp=Z,240nm,1.0s							
ROC1	**El Roble**	**37.77**	**289**	*e*P		**P**	**08 44 49.2**	**-0.2**
	comp=Z,109nm,0.7s							
RTLS	**Leoncito**	**37.79**	**292**	*e*P		**P**	**08 44 49.8**	**+0.2**
AMOG	**MOGNA**	**38.06**	**294**	*e*P		**P**	**08 44 51.6**	**+0.1**
CYA	**Choya**	**38.74**	**299**	*e*P		**P**	**08 44 55.8**	**-1.5**
CYA				IAmb		IAmb	08 44 56.7	
	comp=Z,154nm,0.9s							
AGUA	**GUANDACOL**	**39.23**	**295**	*e*P		**P**	**08 45 01.9**	**+0.5**
VCA	**Vinchina**	**39.69**	**296**	*e*P		**P**	**08 45 05.6**	**+0.3**
VCA				IAmb		IAmb	08 45 06.9	
	comp=Z,242nm,1.5s							
AHML	**Horco Molle**	**39.90**	**301**	*e*P		**P**	**08 45 05.2**	**-1.7**
AHML				IAmb		IAmb	08 45 06.6	
	comp=Z,132nm,0.9s							
MAW	**Mawson**	**40.24**	**144**	P		**P**	**08 45 10.1**	**+1.0**
	comp=Z,35nm,0.6s,baz=233,slow=8.1,SNR=95							
MAW				PcP		**PcP**	**08 47 11.3**	**+1.1**
	comp=Z,20nm,0.6s,baz=261,slow=7.4,SNR=6.9							
MAW				ScP		**ScP**	**08 50 46.4**	**-0.8**
	comp=Z,8.8nm,0.9s,baz=250,slow=8.1,SNR=7.2							
MAW	**Mawson**	**40.24**	**144**	*e*P		**P**	**08 45 09.9**	**+0.8**
MAW				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MAW	**Mawson**	**40.24**	**144**	*e*P		**P**	**08 45 09.9**	**+0.8**
	comp=Z,9.9nm,0.8s							
MAW				PcP		**PcP**	**08 47 11.3**	**+1.1**
MAW				*e*ScP		**ScP**	**08 50 47.1**	**-0.1**
LCO	**Las Campanas**	**40.74**	**293**	*e*P		**P**	**08 45 13.6**	**-0.4**
	comp=Z,108nm,1.1s							
FSA	**Cafayete**	**40.78**	**301**	*e*P		**P**	**08 45 13.2**	**-1.1**
FSA				IAmb		IAmb	08 45 14.7	
	comp=Z,43nm,1.0s							
SUR	**Sutherland**	**40.83**	**75**	PcP		**PcP**	**08 47 14.0**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=248,slow=1.4,SNR=4.0							
LVC	**Limon Verde**	**45.15**	**300**	P		**P**	**08 45 51.0**	**+1.3**
	comp=Z,557nm,0.5s,baz=148,slow=4.4,SNR=317							
LVC				PcP		**PcP**	**08 47 29.0**	**+1.1**
	comp=Z,138nm,0.7s,baz=140,slow=2.5,SNR=3.9							
LVC	**Limon Verde**	**45.15**	**300**	*e*P		**P**	**08 45 50.8**	**+1.1**
	comp=Z,216nm,0.9s							
LVC				*e*PcP		**PcP**	**08 47 28.9**	**+1.1**
LVC				*e*ScP		**ScP**	**08 51 07.2**	**-1.0**
PB10	**IPOC Station P**	**45.19**	**298**	*e*P		**P**	**08 45 50.0**	**+0.4**
	comp=Z,118nm,1.0s							
PB04	**IPOC Station P**	**45.98**	**299**	*e*P		**P**	**08 45 56.5**	**+0.4**
	comp=Z,411nm,1.1s							
SBA	**Scott Base**	**46.04**	**184**	*e*P		**P**	**08 45 57.3**	**+1.7**
SBA				pmax	pmax			
	comp=Z,75nm,1.0s							
SBA	**Scott Base**	**46.04**	**184**	*e*P		**P**	**08 45 57.3**	**+1.7**
	comp=Z,75nm,1.0s							
BOSA	**Boshof**	**46.16**	**76**	P		**P**	**08 45 58.0**	**+0.7**
	comp=Z,12nm,0.9s,baz=206,slow=6.4,SNR=12							
BOSA				pP		**pP**	**08 46 25.9**	**-0.6**
	comp=Z,19nm,0.9s,baz=204,slow=10,SNR=5.2							
BOSA				PcP		**PcP**	**08 47 32.2**	**+1.1**
	comp=Z,16nm,0.9s,baz=240,slow=3.2,SNR=5.5							
BOSA				ScP		**ScP**	**08 51 12.5**	**+0.5**
	comp=Z,5.7nm,1.0s,baz=185,slow=4.2,SNR=3.5							
BOSA				LR	LR		09 02 19.5	
	comp=Z,586nm,18.9s,baz=218,slow=32							
VNDA	**Vanda**	**46.54**	**183**	P		**P**	**08 46 00.8**	**+1.3**
	comp=Z,60nm,0.8s,baz=185,slow=7.7,SNR=167							
VNDA				PcP		**PcP**	**08 47 32.6**	**+1.2**
	comp=Z,13nm,0.8s,baz=170,slow=4.9,SNR=3.9							
VNDA	**Vanda**	**46.54**	**183**	*e*P		**P**	**08 46 01.0**	**+1.5**
	comp=Z,59nm,0.8s							
VNDA				PcP		**PcP**	**08 47 32.6**	**+1.2**
PB01	**IPOC Station P**	**46.76**	**301**	*e*P		**P**	**08 46 02.5**	**+0.5**
	comp=Z,324nm,0.8s							
H10S2	**ASCENSION HYDR**	**48.08**	**17**	T		T	09 39 09.5	
	baz=189,slow=75,SNR=100							
H10S3	**ASCENSION HYDR**	**48.08**	**17**	T		T	09 39 09.8	
	baz=189,slow=75,SNR=91							
H10S1	**ASCENSION HYDR**	**48.09**	**17**	T		T	09 39 12.1	
	baz=189,slow=75,SNR=113							
H10N1	**ASCENSION HYDR**	**49.20**	**17**	T		T	09 40 34.9	
	SNR=34							
LBTB	**Lobatse**	**49.20**	**73**	ScP		**ScP**	**08 51 25.0**	**+0.1**
	comp=Z,6.3nm,1.0s,baz=335,slow=6.5,SNR=4.2							
LBTB	**Lobatse**	**49.20**	**73**	*e*P		**P**	**08 46 21.2**	**+0.5**
LBTB				*e**PP		**pP**	**08 46 49.3**	**-1.0**
LBTB	**Lobatse**	**49.20**	**73**	*e*P		**P**	**08 46 21.2**	**+0.5**
LBTB				*e*pP		**pP**	**08 46 49.2**	**-1.0**
LBTB				ScP		**ScP**	**08 51 25.0**	**+0.1**
H10N3	**ASCENSION HYDR**	**49.20**	**17**	T		T	09 40 43.4	
	SNR=143							
H10N2	**ASCENSION HYDR**	**49.21**	**17**	T		T	09 40 43.6	
	SNR=86							
MIR	**Mirnyy**	**49.85**	**153**	*i* P		**P**	**08 46 25.0**	**0.0**
MIR				pmax	pmax			
	comp=Z,10.0nm,1.2s							
TSUM	**Tsumeb**	**49.86**	**61**	*e*P		**P**	**08 46 26.2**	**+0.4**
	comp=Z,14nm,0.9s							
CASY	**Casey**	**53.95**	**160**	*e*P		**P**	**08 46 56.6**	**+1.2**
	comp=Z,116nm,1.1s							
SAML	**Samuel**	**54.69**	**315**	*e*P		**P**	**08 47 01.5**	**+0.2**
	comp=Z,115nm,1.0s							
NNA	**Nana**	**58.09**	**299**	*ce*P		**P**	**08 47 26.5**	**+1.0**
NNA	**Nana**	**58.09**	**299**	*e*P		**P**	**08 47 26.1**	**+0.6**
	comp=Z,471nm,1.0s							
LSZ	**Lusaka**	**58.56**	**69**	*e*P		**P**	**08 47 28.2**	**-0.7**
LSZ				pmax	pmax			
	comp=Z,40nm,1.2s							
LSZ	**Lusaka**	**58.56**	**69**	*e*P		**P**	**08 47 28.2**	**-0.7**
	comp=Z,40nm,1.2s							
PTGA	**Pitinga**	**61.08**	**322**	*e*P		**P**	**08 47 45.6**	**-0.3**
	comp=Z,36nm,0.9s							
LIC	**Lamto**	**64.80**	**25**	*e*P		**P**	**08 48 11.2**	**+0.8**
	comp=Z,103nm,0.9s							
KIC	**Kosan Boka**	**65.00**	**25**	*e*P		**P**	**08 48 12.4**	**+0.7**
	comp=Z,115nm,0.9s							
TIC	**Toumodi**	**65.20**	**25**	*e*P		**P**	**08 48 13.7**	**+0.6**
DBIC	**Dimbokro**	**65.27**	**25**	P		**P**	**08 48 14.3**	**+0.9**
	comp=Z,23nm,0.5s,baz=170,slow=7.1,SNR=50							
DBIC				LR	LR		09 11 04.1	
	comp=Z,198nm,19.7s,baz=162,slow=31							
OTAV	**Otavalo**	**69.51**	**304**	*e*P		**P**	**08 48 41.6**	**+0.8**
OTAV	**Otavalo**	**69.51**	**304**	*e*P		**P**	**08 48 42.0**	**+1.2**
	comp=Z,97nm,1.0s							
CRUC	**La Cruz**	**70.00**	**306**	*e*P		**P**	**08 48 44.8**	**+1.2**
SJAC	**San Juan de Ar**	**70.19**	**310**	*e*P		**P**	**08 48 44.5**	**-0.1**
MRIV	**Mauritius Mete**	**70.66**	**98**	*e*P		**P**	**08 48 45.5**	**-1.7**
POPC	**Popayan, Colom**	**70.73**	**307**	*e*P		**P**	**08 48 48.5**	**+0.6**
PRAC	**Prado**	**70.99**	**309**	*e*P		**P**	**08 48 48.5**	**-0.7**
PRAC	**Prado**	**70.99**	**309**	*e*P		**P**	**08 48 49.7**	**+0.4**
	comp=Z,99nm,0.7s							
CHIC	**Chingaza**	**71.31**	**311**	*e*P		**P**	**08 48 53.1**	**+1.4**
ROSC	**El Rosal**	**71.75**	**310**	P		**P**	**08 48 54.8**	**+0.5**
	comp=Z,30nm,0.7s,baz=140,slow=4.1,SNR=38							
ROSC				LR	LR		09 23 11.8	
	comp=Z,73nm,19.7s,baz=202,slow=38							
ROSC	**El Rosal**	**71.75**	**310**	*e*P		**P**	**08 48 54.5**	**+0.2**
	comp=Z,45nm,1.1s							
GRGC	**Isla de Gorgon**	**71.82**	**306**	*e*P		**P**	**08 48 53.5**	**-0.7**
RUSC	**La Rusia**	**72.17**	**312**	*e*P		**P**	**08 48 54.3**	**-2.6**
MBAR	**Mbarara**	**72.33**	**63**	*e*P		**P**	**08 48 59.5**	**+2.1**
MBAR	**Mbarara**	**72.33**	**63**	*e*P		**P**	**08 48 59.6**	**+2.1**
	comp=Z,84nm,0.2s							
MALC	**Bahia Malaga**	**72.34**	**307**	*e*P		**P**	**08 49 00.2**	**+2.9**
NORC	**Norcasia**	**72.64**	**310**	*e*P		**P**	**08 48 56.8**	**-2.4**
BARC	**Barichara**	**72.85**	**312**	*e*P		**P**	**08 48 59.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**73.17**	**30**	P		**P**	**08 49 03.1**	**+1.0**
	comp=Z,76nm,0.7s,baz=200,slow=6.3,SNR=300							
TORD				pP		**pP**	**08 49 32.5**	**-1.3**
	comp=Z,14nm,0.6s,baz=191,slow=7.2,SNR=1.7							
TORD				LR	LR		09 16 53.8	
	comp=Z,111nm,19.2s,baz=200,slow=32							
BTLC	**Betulia, Santa**	**73.18**	**312**	*e*P		**P**	**08 49 00.5**	**-2.0**
HELC	**Santa Helena**	**73.48**	**310**	*e*P		**P**	**08 49 00.9**	**-3.6**
HELC	**Santa Lena**	**73.48**	**310**	*e*P		**P**	**08 49 02.2**	**-2.3**
	comp=Z,70nm,1.0s							
BRRC	**Barranca, Sant**	**73.53**	**312**	*e*P		**P**	**08 49 02.5**	**-1.8**
CBRI	**Barrientos, No**	**73.70**	**313**	*e*P		**P**	**08 49 04.7**	**-0.8**
GRMC	**Gramalote, San**	**73.71**	**313**	*e*P		**P**	**08 49 05.0**	**-0.5**
SDV	**Santo Domingo**	**73.89**	**315**	*e*P		**P**	**08 49 07.0**	**+0.4**
SDV	**Santo Domingo**	**73.89**	**315**	*e*P		**P**	**08 49 07.2**	**+0.6**
	comp=Z,105nm,0.9s							
OCAC	**Ocana**	**74.39**	**313**	*e*P		**P**	**08 49 09.1**	**-0.4**
PAYG	**Puerto Ayora**	**74.56**	**293**	*e*P		**P**	**08 49 12.4**	**+2.1**
	comp=Z,9.9nm,0.4s							
KMBO	**Kilima Mbogo**	**75.22**	**69**	P		**P**	**08 49 16.6**	**+2.1**
	comp=Z,4.4nm,0.9s,baz=207,slow=5.1,SNR=7.8							
KMBO				LR	LR		09 20 32.0	
	comp=Z,156nm,18.5s,baz=240,slow=34							
KMBO	**Kilima Mbogo**	**75.22**	**69**	*e*P		P	08 49 19.2	+4.7
	comp=Z,13nm,1.2s							
KMBO				*e*pP		sP	08 49 53.2	-6.8
MOTC	**Monteria, Cord**	**75.86**	**311**	*e*P		**P**	**08 49 14.8**	**-2.9**
GDHS	**Morne Mazeau,**	**77.61**	**326**	*e*P		**P**	**08 49 28.8**	**+1.3**
	comp=Z,466nm,1.2s							
BCIP	**Isla Barro Col**	**78.03**	**307**	*e*P		**P**	**08 49 28.4**	**-1.4**
BCIP	**Isla Barro Col**	**78.03**	**307**	*e*P		**P**	**08 49 30.5**	**+0.6**
	comp=Z,42nm,0.8s							
SABA	**Saba**	**79.34**	**325**	*e*P		**P**	**08 49 36.1**	**-0.8**
	comp=Z,136nm,0.9s							
RPZ	**Rata Peaks**	**79.35**	**194**	P		**P**	**08 49 36.6**	**-0.2**
	comp=Z,27nm,0.8s,baz=201,slow=2.4,SNR=9.0							
LTZ	**Lake Taylor**	**80.10**	**195**	*e*P		**P**	**08 49 40.9**	**0.0**
	comp=Z,55nm,1.0s							
STVI	**Saint Thomas**	**80.57**	**324**	*e*P		**P**	**08 49 43.4**	**-0.1**
	comp=Z,105nm,1.1s							
HUMP	**Col San Antoni**	**80.67**	**323**	*e*P		**P**	**08 49 44.4**	**+0.4**
	comp=Z,29nm,0.9s							
HDC	**Heredia**	**80.72**	**304**	*e*P		**P**	**08 49 46.2**	**+1.6**
	comp=Z,409nm,1.8s							
SJG	**San Juan**	**80.75**	**323**	*e*P		**P**	**08 49 44.0**	**-0.4**
SJG				pmax	pmax			
	comp=Z,38nm,1.1s							
SJG	**San Juan**	**80.75**	**323**	*e*P		**P**	**08 49 44.0**	**-0.4**
	comp=Z,38nm,1.1s							
CBYP	**Canovanas**	**80.80**	**323**	*e*P		**P**	**08 49 44.5**	**-0.3**
	comp=Z,72nm,1.0s							
THZ	**Tophouse**	**81.01**	**195**	*e*P		**P**	**08 49 46.1**	**+0.3**
	comp=Z,60nm,0.7s							
TAU	**Tasmania Unive**	**81.29**	**176**	*e*P		**P**	**08 49 47.0**	**-0.2**
TAU				pmax	pmax			
	comp=Z,130nm,1.0s							
TAU	**Tasmania Unive**	**81.29**	**176**	*e*P		**P**	**08 49 47.0**	**-0.2**
	comp=Z,128nm,1.0s							
SDDR	**Presa de Saban**	**83.37**	**319**	*e*P		**P**	**08 49 58.8**	**+0.6**
	comp=Z,74nm,1.3s							
TAM	**Tamanrasset**	**83.41**	**30**	*e*P		**P**	**08 50 01.0**	**+2.5**
TAM	**Tamanrasset**	**83.41**	**30**	*e*P		**P**	**08 50 01.0**	**+2.5**
TAM				*e*pP		**pP**	**08 50 31.7**	**+0.9**
URZ	**Urewera**	**83.72**	**199**	P		**P**	**08 49 58.6**	**-1.3**
	comp=Z,28nm,1.0s,baz=217,slow=9.8,SNR=3.7							
TGUH	**Tegucigalpa,Un**	**85.74**	**303**	*e*P		**P**	**08 50 10.3**	**+0.2**
	comp=Z,129nm,1.4s							
NWAO	**Narrogin (SRO)**	**86.40**	**151**	P		**P**	**08 50 11.7**	**-1.7**
	comp=Z,24nm,0.8s,baz=339,slow=0.6,SNR=7.8							
CAN	**Canberra**	**88.92**	**177**	*e*P		**P**	**08 50 25.7**	**+0.3**
CAN	**Canberra**	**88.92**	**177**	*e*P		**P**	**08 50 25.7**	**+0.3**
CCIG	**Comitan**	**89.99**	**300**	*e*P		**P**	**08 50 30.2**	**-0.4**
BBOO	**Buckleboo**	**90.37**	**166**	*e*P		**P**	**08 50 32.3**	**+0.1**
MDT	**Midelt**	**90.67**	**19**	P		**P**	**08 50 35.2**	**+1.9**
	comp=Z,25nm,0.8s,baz=201,slow=3.8,SNR=47							
TEIG	**Tepich**	**91.56**	**305**	*e*P		**P**	**08 50 38.7**	**+1.1**
STKA	**Stephens Creek**	**91.91**	**171**	P		**P**	**08 50 39.4**	**+0.1**
	comp=Z,13nm,0.7s,baz=162,slow=6.5,SNR=29							
STKA				PP		**PP**	**08 54 18.0**	**-1.2**
	comp=Z,5.7nm,0.9s,baz=166,slow=12,SNR=4.5							
STKA				LR	LR		09 30 25.1	

comp=Z,135nm,19.5s,baz=204,slow=34
TLIG Tlapa 94.28 295 *e*P P **08 50 51.5 +1.2**
KEST Kesra 96.69 29 P P **08 51 02.7 +1.9**
comp=Z,4.7nm,0.8s,baz=253,slow=2.0,SNR=4.5
KEST LR LR 09 31 41.6
comp=Z,107nm,19.9s,baz=250,slow=34
ESDC Sonseca Array 97.46 18 P Pdif 08 51 05.5 +1.3
comp=Z,2.0nm,0.8s,baz=184,slow=4.7,SNR=11
ESDC LR LR 09 31 52.7
comp=Z,46nm,19.8s,baz=170,slow=33
ES19 SONSECA Array 97.50 18 *e*P Pdif 08 51 06.5 +2.1
EIDS Eidsvold 98.88 179 *e*P **P 08 51 10.3 -0.8**
ASAR Alice Springs 99.02 163 P **Pdif 08 51 11.3 -0.5**
comp=Z,17nm,0.9s,baz=184,slow=4.0,SNR=106
ASAR PP **PP 08 55 11.5 -2.9**
comp=Z,5.5nm,1.0s,baz=195,slow=6.1,SNR=8.3
ASAR PKiKP **PKiKP 08 55 43.4 +1.7**
comp=Z,0.2nm,0.3s,baz=176,slow=1.2,SNR=4.9
ASAR PKKPbc **PKKPdf 09 07 36.2 -0.4**
comp=Z,1.7nm,0.6s,baz=21,slow=2.3,SNR=20
ASAR LR LR 09 33 20.7
comp=Z,90nm,20.0s,baz=195,slow=34
AS31 Alice Springs 99.03 163 *e*P **Pdif 08 51 11.6 -0.2**
AS01 Alice Springs 99.03 163 *e*P **Pdif 08 51 10.4 -1.4**
TIGA Tifton 99.33 314 P **Pdif 08 51 13.5 +0.9**
baz=152
447A Lucedale 100.89 310 P **Pdif 08 51 20.6 +1.0**
baz=150
347A Saraland 101.36 310 P **Pdif 08 51 22.8 +1.1**
baz=150
346A Big Creek Wild 101.75 310 P **Pdif 08 51 24.3 +0.9**
baz=150
034A Hebbronville 102.31 300 P **Pdif 08 51 26.3 +0.3**
baz=147
FITZ Fitzroy Crossi 102.72 154 P **Pdif 08 51 29.2 +1.0**
comp=Z,2.6nm,0.7s,baz=220,slow=6.5,SNR=6.3
WRA Warramunga Arr 102.74 163 P **Pdif 08 51 27.9 -0.4**
comp=Z,3.3nm,0.7s,baz=195,slow=4.3,SNR=30
WRA PP **PP 08 55 42.3 -0.1**
comp=Z,7.6nm,1.0s,baz=190,slow=6.6,SNR=10
WRA PKKPbc **PKKPbc 09 07 26.0 +2.1**
comp=Z,1.6nm,0.3s,baz=359,slow=2.9,SNR=74
933A Laredo 103.06 300 P **Pdif 08 51 30.6 +1.3**
baz=147
834A Tilden 103.14 301 P **Pdif 08 51 30.3 +0.7**
baz=147
636A Smothers Creek 103.56 303 P **Pdif 08 51 33.1 +1.6**
baz=147
633A Saathoff Ranch 104.55 301 P **Pdif 08 51 36.6 +0.7**
baz=147
534A Blanco 104.69 302 P **Pdif 08 51 37.2 +0.6**
baz=147
Z40A Long Farm, Mag 105.06 308 P **PKiKP 08 55 52.5 +0.5**
baz=148
237A Washetta, Mont 105.09 305 P **PKiKP 08 55 52.7 +0.6**
baz=147
W41B Gary Mavity, V 106.18 310 P **PKiKP 08 55 54.8 +0.8**
baz=148
Y38A Idabel 106.22 307 P **PKiKP 08 55 55.0 +0.9**
baz=148
MIAR Mount Ida 106.23 308 P **PKiKP 08 55 55.0 +0.8**
baz=148
N54A Moraine State 106.38 321 P **PKiKP 08 55 55.1 +0.9**
baz=152
X39A Fountain Ranch 106.44 308 P **PKiKP 08 55 54.7 +0.2**
baz=148
Z36A Blue Ridge 106.44 305 P **PKiKP 08 55 56.0 +1.4**
baz=147
233A Rising Star 106.54 303 P **PKiKP 08 55 55.4 +0.5**
baz=146
W40A Ferguson Farm, 106.55 309 P **PKiKP 08 55 55.5 +0.8**
baz=148
134A White-Moore Ra 106.62 304 P **PKiKP 08 55 56.4 +1.5**
baz=147
TXAR Lajitas Array 106.64 298 Pdiff **Pdif 08 51 45.4 0.0**
comp=Z,1.0nm,1.0s,baz=132,slow=5.6,SNR=6.2
TXAR PKiKP **PKiKP 08 55 54.1 -1.0**
comp=Z,1.6nm,0.8s,baz=158,slow=3.0,SNR=11
TXAR PKKPbc **PKKPbc 09 07 13.2 +0.4**
comp=Z,0.7nm,0.9s,baz=238,slow=2.1,SNR=5.8
Y37A Hugo 106.67 306 P **PKiKP 08 55 56.7 +1.7**
baz=147
W39A Magazine 106.87 308 P **PKiKP 08 55 54.2 -1.1**
baz=148
X38A Whitesboro 106.89 307 P **PKiKP 08 55 54.4 -0.9**
baz=147
Y36A Durant 106.90 306 P **PKiKP 08 55 54.8 -0.6**
baz=147
133A Hamilton Ranch 107.04 303 P **PKiKP 08 55 55.1 -0.7**
baz=146
S44A Carbondale 107.07 313 P **PKiKP 08 55 55.3 -0.2**
baz=149
W38A Poteau 107.09 308 P **PKiKP 08 55 55.1 -0.6**
baz=147
V39A Pettigrew 107.35 309 P **PKiKP 08 55 55.5 -0.8**
baz=148
U40A Yellville 107.44 310 P **PKiKP 08 55 56.0 -0.3**
baz=148
X36A Centrahoma 107.49 306 P **PKiKP 08 55 56.4 -0.1**
baz=147
T41A Mountain View 107.56 311 P **PKiKP 08 55 56.3 -0.3**
baz=148
Y34A Reagan Ranch, 107.62 305 P **PKiKP 08 55 56.7 0.0**
baz=146
V38A Canehill 107.70 308 P **PKiKP 08 55 57.1 +0.3**
baz=147
U39A Green Forest 107.74 309 P **PKiKP 08 55 58.3 +1.4**
baz=148
W36A Wetumka 107.91 307 P **PKiKP 08 55 58.0 +0.8**
baz=147
T40A Mansfield 107.97 310 P **PKiKP 08 55 58.8 +1.5**
baz=148
Q44A Meyer Farm, Va 108.00 314 P **PKiKP 08 55 58.9 +1.7**
baz=149
V37A Hulbert 108.05 308 P **PKiKP 08 55 58.5 +1.0**
baz=147
Y33A Hilltop Ranch, 108.06 304 P **PKiKP 08 55 59.0 +1.4**
baz=146
X34A Smith Ranch, M 108.19 305 P **PKiKP 08 55 58.5 +0.7**
baz=146
W35A Tecumseh 108.21 306 P **PKiKP 08 55 58.6 +0.8**
baz=146
V36A Jenks 108.32 307 P **PKiKP 08 55 59.0 +1.0**
baz=147
S40A Lebanon 108.34 311 P **PKiKP 08 55 58.8 +0.8**
baz=148
TUL1 Leonard 108.36 307 P **PKiKP 08 55 58.4 +0.4**
baz=147
SFIN Lafayette 108.50 316 P **PKiKP 08 55 58.9 +0.8**
baz=149
BRTR Keskin Array B 108.57 45 Pdiff **Pdif 08 51 59.0 +5.2**
comp=Z,0.5nm,0.8s,baz=193,slow=2.3,SNR=3.1
BRTR PKKPbc **PKKPbc 09 07 06.5 -0.7**
comp=Z,0.7nm,0.8s,baz=90,slow=1.2,SNR=3.8
BRTR Keskin Array B 108.57 45 P **Pdif 08 51 59.0 +5.2**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
Q42A Golden Eagle 108.63 313 P **PKiKP 08 55 59.9 +1.5**
baz=148
T38A Diamond 108.64 309 P **PKiKP 08 55 57.7 -0.9**
baz=147
V35A Meyer Ranch, C 108.70 307 P **PKiKP 08 55 58.4 -0.3**
baz=146
WMOK Wichita Mounta 108.74 305 P **PKiKP 08 55 58.3 -0.6**
baz=146
S39A Bolivar 108.77 310 P **PKiKP 08 55 57.8 -0.9**
baz=147
R40A Maddies Statio 108.83 311 P **PKiKP 08 55 58.2 -0.6**
baz=148
W33A Caddo, Fort Co 108.94 305 P **PKiKP 08 55 59.6 +0.4**
baz=146
T37A Cheneyville 18 108.98 309 P **PKiKP 08 55 58.4 -0.8**
baz=147
V34A Guthrie 109.07 306 P **PKiKP 08 56 00.1 +0.7**
baz=146
R39A Chumby, Stover 109.17 311 P **PKiKP 08 55 58.6 -0.9**
baz=147
Q40A Laux Farm, Aux 109.34 312 P **PKiKP 08 55 59.4 -0.4**
baz=148
T36A Boggs Farm, Ca 109.35 308 P **PKiKP 08 55 59.3 -0.6**
baz=146
V33A Lossen Ranch, 109.41 306 P **PKiKP 08 55 59.9 -0.2**
baz=146
MNTX Cornudas Mount 109.42 298 P **PKiKP 08 55 59.3 -0.9**
baz=145
R38A Fenwick Farm, 109.44 310 P **PKiKP 08 55 58.9 -1.1**
baz=147
S37A Fort Scott 109.48 309 P **PKiKP 08 55 59.6 -0.5**
baz=147
P40A Paris 109.78 312 P **PKiKP 08 56 00.0 -0.6**
baz=148
S36A Lake Cedric, C 109.78 309 P **PKiKP 08 56 00.1 -0.6**
baz=146
T34A McClaskey Farm 109.91 307 P **PKiKP 08 56 00.6 -0.4**
baz=146
R37A Tegarden Farm 109.94 309 P **PKiKP 08 55 59.9 -1.1**
baz=147
Q38A Cooks Store, C 109.96 311 P **PKiKP 08 56 00.1 -0.9**
baz=147
MSTX Muleshoe 109.99 301 P **PKiKP 08 56 00.9 -0.4**
baz=145
MSTX Muleshoe 109.99 301 *e*PKPdf **PKiKP 08 56 00.9 -0.4**
GERES GERESS Array B 110.06 28 PKiKP **PKiKP 08 55 59.6 -1.4**
comp=Z,1.4nm,1.0s,baz=172,slow=3.9,SNR=4.2
KHC Kasperske Hory 110.29 27 AMS AMS 09 38 20.0
comp=Z,100nm,20.3s
P38A Dawn 110.48 311 P **PKiKP 08 56 01.4 -0.5**
baz=147
R34A Isabella, Hill 110.99 308 P **PKiKP 08 56 02.8 -0.2**
baz=146
121A Cookes Peak, D 111.29 297 P **PKiKP 08 56 04.4 +0.5**
baz=144
L41A Preston 111.29 315 P **PKiKP 08 56 02.8 -0.6**
baz=148
R33A Olander Ranch, 111.32 307 P **PKiKP 08 56 03.1 -0.5**
baz=146
PRU Pruhonice 111.33 28 AMS AMS 09 39 20.0
Q33A Connelly Farm, 111.82 308 P **PKiKP 08 56 04.3 -0.2**
baz=145
P34A Walnut Farm, R 111.83 309 P **PKiKP 08 56 04.4 -0.1**
baz=146
O34A Beatrice 112.30 309 P **PKiKP 08 56 04.8 -0.6**
baz=146
L38A Oak Wood Farm, 112.34 313 P **PKiKP 08 56 05.1 -0.3**
baz=147
K39A Oelwein 112.38 314 P **PKiKP 08 56 04.6 -0.9**
baz=147
N35A Tabor 112.40 310 P **PKiKP 08 56 05.4 -0.1**
baz=146
CBKS Cedar Bluff 112.52 306 P **PKiKP 08 56 06.2 +0.3**
baz=145
ANMO Albuquerque 112.56 299 P **PKiKP 08 56 06.0 -0.3**
baz=144
ANMO Albuquerque 112.56 299 ⇓ *i*PKIKP 08 56 06.5
ANMO pmax pmax
comp=Z,6.0nm,2.5s
ANMO Albuquerque 112.56 299 *e*PKPdf **PKiKP 08 56 06.2 -0.1**
TUC Tucson 112.63 294 P **PKiKP 08 56 06.9 +0.6**
baz=143
L37A Phoenix Point, 112.66 312 P **PKiKP 08 56 05.7 -0.3**
baz=146
P32A Huiting Farm, 112.67 308 P **PKiKP 08 56 06.0 -0.1**
baz=145
J39A Decorah 112.83 315 P **PKiKP 08 56 05.9 -0.3**
baz=147
J38A Wedel Dairy, R 113.13 314 P **PKiKP 08 56 06.0 -0.8**
baz=146
K37A Belmond 113.14 313 P **PKiKP 08 56 06.5 -0.4**
baz=146
T25A Trinidad 113.33 302 P **PKiKP 08 56 08.2 +0.5**
baz=144
K36A Gilmore City 113.37 312 P **PKiKP 08 56 07.2 -0.1**
baz=146
214A Organ Pipe Nat 113.39 293 P **PKiKP 08 56 08.1 +0.3**
baz=143
L35A Bielow Farm, R 113.39 311 P **PKiKP 08 56 07.4 0.0**
baz=146
J37A Redenius Farm, 113.56 313 P **PKiKP 08 56 07.0 -0.6**
baz=146
L34A Svendsen Farm, 113.62 311 P **PKiKP 08 56 07.3 -0.6**
baz=145
I38A Scanlan Farm, 113.67 315 P **PKiKP 08 56 07.2 -0.7**
baz=146
K35A Storm Lake 113.76 312 P **PKiKP 08 56 07.5 -0.6**
baz=146
J36A Seneca 1, Swea 113.89 313 P **PKiKP 08 56 07.9 -0.4**
baz=146
KSCO Kaye Shedlock' 114.00 304 P PKPdf 08 56 08.8 -0.1
baz=144
I37A Lemond, Waseca 114.08 314 P PKPdf 08 56 08.6 0.0
baz=146
J35A Milford 114.28 312 P PKPdf 08 56 08.5 -0.5
baz=145
SDCO Great Sand Dun 114.34 302 P PKPdf 08 56 10.0 +0.3
baz=143
SDCO Great Sand Dun 114.34 302 *e*PKPdf PKPdf 08 56 09.7 0.0
H36A Jessenland, He 114.76 314 P PKPdf 08 56 10.2 +0.3
baz=146
SPMN Marine on St. 114.84 315 P PKPdf 08 56 09.4 -0.6
baz=146
L31A Hittinfield Fa 114.86 309 P PKPdf 08 56 09.7 -0.5
baz=144
S22A 4UR Ranch, Cre 114.98 301 P PKPdf 08 56 11.6 +0.6
baz=143
SCHQ Schefferville 115.11 336 PKP **PKPdf 08 56 09.2 -1.1**
comp=Z,2.7nm,0.5s,baz=113,slow=2.2,SNR=6.6
ECSD EROS Data Cent 115.17 312 P **PKPdf 08 56 10.3 -0.5**
baz=145
ECSD EROS Data Cent 115.17 312 *e*PKPdf **PKPdf 08 56 10.0 -0.8**
ECSD *e*PP **PP 08 57 13.3 -0.3**
H35A Sunnyside Ranc 115.22 313 P **PKPdf 08 56 10.3 -0.5**
baz=145
MVCO Mesa Verde 115.36 299 P **PKPdf 08 56 12.0 +0.4**
baz=142
MVCO Mesa Verde 115.36 299 *e*PKPdf **PKPdf 08 56 11.7 +0.1**
J32A Parkston 115.40 311 P **PKPdf 08 56 10.7 -0.5**
baz=144
WUAZ Wupatki 115.46 296 P **PKPdf 08 56 12.2 +0.5**
baz=142
G35A Watkins 115.51 314 P **PKPdf 08 56 11.2 -0.2**
baz=145
MTKI Muara Teweh, K 115.52 137 PKP PKPdf 08 56 03.6 -8.8
H34A Spellman Lake, 115.58 313 P **PKPdf 08 56 11.2 -0.3**
baz=145
K30A Basset 115.60 309 P **PKPdf 08 56 11.4 -0.3**
baz=144
IKP In-Ko-Pah, Jac 115.65 291 P **PKPdf 08 56 13.0 +0.8**
baz=142
F36A Milaca 115.65 315 P **PKPdf 08 56 10.6 -1.0**
baz=145
Y12C Blythe 115.68 293 P **PKPdf 08 56 12.6 +0.6**
baz=142
KBZ Khabaz 115.73 49 PKP **PKPdf 08 56 11.7 -0.1**
comp=Z,2.7nm,0.8s,baz=152,slow=24,SNR=5.4
KIV Kislovodsk 115.83 49 *e*PKIKP **PKPdf 08 56 11.9 -0.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
PDMCI Parker Dam,Lak 115.92 293 P **PKPdf 08 56 13.0 +0.5**
baz=142
G34A Benson 116.00 313 P **PKPdf 08 56 11.8 -0.5**
baz=145
H33A Prehn Over Nor 116.00 312 P **PKPdf 08 56 12.1 -0.2**
baz=144
ISCO Idaho Springs 116.02 303 P **PKPdf 08 56 13.6 +0.7**
baz=142
ISCO Idaho Springs 116.02 303 *e*PKIKP **PKPdf 08 56 13.4 +0.4**
ISCO Idaho Springs 116.02 303 *e*PKPdf **PKPdf 08 56 13.3 +0.4**
J30A Dallas 116.07 309 P **PKPdf 08 56 12.0 -0.5**
baz=144
F35A Swanville 116.07 314 P **PKPdf 08 56 12.2 -0.2**
baz=145
E36A McGregor 116.09 315 P **PKPdf 08 56 11.8 -0.7**
baz=145
BC3 Big Chuckawall 116.09 292 P **PKPdf 08 56 13.5 +0.5**
baz=142
H32A Carlson Farm, 116.14 312 P **PKPdf 08 56 12.3 -0.3**
baz=144
I31A Royce, Wessing 116.22 311 P **PKPdf 08 56 12.5 -0.3**
baz=144
D37A Cotton 116.29 316 P **PKPdf 08 56 12.4 -0.3**
baz=146
F34A Alexandria 116.29 314 P **PKPdf 08 56 12.5 -0.3**
baz=145
KIEV Kiev 116.32 36 *c i*PKIKP **PKPdf 08 56 11.9 -0.8**
IRM Iron Mountain 116.32 292 P **PKPdf 08 56 13.8 +0.5**
baz=141
AKASG Malin Array Be 116.33 36 PKP **PKPdf 08 56 11.9 -0.8**
comp=Z,3.7nm,0.7s,baz=242,slow=1.5,SNR=12
109C Camp Elliot, M 116.36 290 P **PKPdf 08 56 14.1 +0.8**
baz=141
PV04 Paradox Valley 116.49 300 *e*PKPdf **PKPdf 08 56 13.5 -0.2**
H31A Wolsey 116.56 311 P **PKPdf 08 56 13.3 -0.1**
baz=144
EYMN Ely 116.58 318 P **PKPdf 08 56 12.5 -0.8**
baz=146
PFO Pinyon Flats O 116.58 291 PKP **PKPdf 08 56 13.3 -0.7**
comp=Z,3.8nm,0.8s,baz=273,slow=2.8,SNR=4.4
D36A Goodland 116.59 316 P **PKPdf 08 56 12.4 -1.0**
baz=145
BELC Belle Mtn. Jos 116.64 292 P **PKPdf 08 56 14.9 +0.8**
baz=141,SNR=10.0
G32A Webster 116.78 312 P **PKPdf 08 56 13.9 +0.1**
baz=144
E34A Wadena 116.84 314 P **PKPdf 08 56 13.2 -0.6**
baz=144
D35A Remer 116.86 315 P **PKPdf 08 56 13.0 -0.8**
baz=145
C36A Pine Crest Far 116.94 317 P **PKPdf 08 56 13.8 -0.2**
baz=145
N23A Red Feather La 117.04 304 P **PKPdf 08 56 15.0 +0.2**
baz=142
GMRC Granite Mounta 117.08 292 P **PKPdf 08 56 15.4 +0.5**
baz=141,SNR=13
PHWY Pilot Hill 117.14 304 *e*PKPdf **PKPdf 08 56 14.1 -0.9**
E33A Westby DABS, E 117.17 314 P **PKPdf 08 56 13.7 -0.8**
baz=144
D34A Park Rapids 117.32 315 P **PKPdf 08 56 13.8 -0.9**
baz=144
C35A Jirik Farms, M 117.34 316 P **PKPdf 08 56 13.5 -1.3**
baz=145
G30A Faulkton 117.37 311 P **PKPdf 08 56 14.6 -0.4**
baz=143
HEC Hector,Ludlow 117.46 292 P **PKPdf 08 56 16.6 +1.1**
baz=141
O20A White River Ci 117.53 301 P **PKPdf 08 56 15.5 -0.2**
baz=141
O20A White River Ci 117.53 301 *e*PKPdf **PKPdf 08 56 15.1 -0.6**
F31A Hecla 117.58 312 P **PKPdf 08 56 14.9 -0.4**
baz=143
D33A AnnSam, Waubun 117.62 314 P **PKPdf 08 56 15.2 -0.2**
baz=144
BFSC Mount Baldy Ra 117.70 291 P **PKPdf 08 56 16.5 +0.4**
baz=141,SNR=6.7
B35A Bob, Littlefor 117.78 316 P **PKPdf 08 56 14.6 -1.0**
baz=145,SNR=5.4
E31A Nome 117.98 313 P **PKPdf 08 56 15.4 -0.7**
baz=143
GSC Goldstone, Bar 118.07 292 P **PKPdf 08 56 17.1 +0.3**
baz=141,SNR=7.8
C33A Trail 118.09 315 P **PKPdf 08 56 15.3 -0.9**
baz=144,SNR=6.2
B34A Aery, Baudette 118.24 316 P **PKPdf 08 56 15.8 -0.7**
baz=144,SNR=6.5
GEYT Alibeck 118.24 64 PKP **PKPdf 08 56 16.6 -0.2**
comp=Z,1.1nm,0.3s,baz=251,slow=9.2,SNR=3.6
SHOC Shoshone, Teco 118.26 293 P **PKPdf 08 56 17.2 +0.2**
baz=141,SNR=7.7
D31A Mcclaflin, Tow 118.31 313 P **PKPdf 08 56 16.0 -0.6**
baz=143
EDW2 Edwards Air Fo 118.37 291 P **PKPdf 08 56 17.9 +0.6**
baz=140,SNR=11
OSI Osito Audit: C 118.55 290 P **PKPdf 08 56 18.3 +0.7**
baz=140
AGMN Agassiz Nation 118.56 315 P **PKPdf 08 56 16.3 -0.8**
baz=144,SNR=7.9
AGMN Agassiz Nation 118.56 315 *e*PKPdf **PKPdf 08 56 16.1 -1.0**
K22A Casper 118.69 304 P **PKPdf 08 56 17.4 -0.4**
baz=141
K22A Casper 118.69 304 *e*PKPdf **PKPdf 08 56 17.0 -0.8**
RSSD Black Hills 118.70 307 P **PKPdf 08 56 17.3 -0.5**
baz=142
RSSD Black Hills 118.70 307 *e*PKIKP **PKPdf 08 56 17.0 -0.8**
RSSD Black Hills 118.70 307 *e*PKPdf **PKPdf 08 56 16.9 -0.8**
D30A Buchanan 118.78 312 P **PKPdf 08 56 17.5 -0.1**
baz=143,SNR=7.5
H25A Fruitdale 118.90 308 P **PKPdf 08 56 17.8 -0.2**
baz=142
C31A Landman Farms, 118.91 314 P **PKPdf 08 56 16.8 -1.0**
baz=143,SNR=5.9
ARVC Arvin 119.00 290 P **PKPdf 08 56 18.8 +0.4**
baz=140
FURC Furnace Creek, 119.00 293 P **PKPdf 08 56 19.4 +1.1**
baz=140,SNR=7.2
MPMC Manual Prospec 119.01 292 P **PKPdf 08 56 19.3 +0.7**
baz=140,SNR=15
TPNV Topopah Spring 119.05 294 P **PKPdf 08 56 19.4 +0.8**
baz=140,SNR=24
C30A Mose, Pekin 119.14 313 P **PKPdf 08 56 17.6 -0.6**
baz=143,SNR=8.2
ISA Isabella, Lake 119.22 291 P **PKPdf 08 56 19.7 +0.8**
baz=140,SNR=6.6
A32A Rocking H Ranc 119.31 315 P **PKPdf 08 56 17.7 -0.8**
baz=143,SNR=7.3
PKM Mcpherson Peak 119.33 290 P **PKPdf 08 56 20.4 +1.1**
baz=140
B31A Greenbush Farm 119.38 314 P **PKPdf 08 56 17.7 -0.9**
baz=143,SNR=6.3
F26A Lodgepole 119.45 309 P **PKPdf 08 56 18.4 -0.6**
baz=142
CWC Cottonwood Cre 119.61 292 P **PKPdf 08 56 20.6 +0.9**
baz=140
B30A Myrvik Farm, E 119.67 314 P **PKPdf 08 56 18.4 -0.9**
baz=142,SNR=22
VES Vestal, Richgr 119.67 291 P **PKPdf 08 56 20.0 +0.3**
baz=140
R11A Troy Canyon, C 119.78 295 P **PKPdf 08 56 20.2 +0.2**
baz=140,SNR=12
R11A Troy Canyon, C 119.78 295 *e*PKPdf **PKPdf 08 56 20.4 +0.3**
R11A *e*SKPdf **SKPdf 08 59 39.4 -3.9**
DUG Dugway, Tooele 119.80 298 P **PKPdf 08 56 20.3 +0.3**
baz=140,SNR=21
DUG Dugway, Tooele 119.80 298 *e*PKIKP **PKPdf 08 56 20.3 +0.3**
DUG Dugway, Tooele 119.80 298 *e*PKPdf **PKPdf 08 56 20.3 +0.3**
E26A Carlson Angus 119.85 310 P **PKPdf 08 56 19.2 -0.5**
baz=141,SNR=15
F25A Bowman 119.85 309 P **PKPdf 08 56 19.4 -0.3**
baz=141
C28A Hausauer Farms 119.94 312 P **PKPdf 08 56 19.5 -0.3**
baz=142,SNR=7.1
A30A Hoffart Farm, 120.05 314 P **PKPdf 08 56 19.5 -0.5**
baz=142,SNR=6.6
B29A Wagenman Farm, 120.10 313 P **PKPdf 08 56 19.8 -0.3**
baz=142
RCTC Rector, Farmer 120.11 291 P **PKPdf 08 56 20.0 -0.5**
baz=140
ULM Lac du Bonnet 120.14 316 PKP **PKPdf 08 56 18.9 -1.2**
comp=Z,10nm,0.5s,baz=293,slow=1.0,SNR=14
ULM PP **PP 08 57 44.4 -3.5**
comp=Z,8.6nm,0.9s,baz=158,slow=6.9,SNR=6.1
PDAR Pinedale Array 120.19 302 PKP **PKPdf 08 56 19.8 -1.0**
comp=Z,1.9nm,0.3s,baz=99,slow=4.8,SNR=24
PDAR PKKPbc **PKKPab 09 06 28.4 +0.2**
comp=Z,1.2nm,0.9s,baz=288,slow=1.4,SNR=5.0
BW06 Boulder Array 120.20 302 P **PKPdf 08 56 19.8 -1.0**
baz=140,SNR=8.6
BW06 Boulder Array 120.20 302 *e*PKPdf **PKPdf 08 56 19.7 -1.0**
BW06 *e*PP **PP 08 57 49.0 +0.3**
HWUT Hardware Ranch 120.27 300 *e*PKPdf **PKPdf 08 56 20.7 -0.2**
D26A Manning 120.27 310 P **PKPdf 08 56 20.1 -0.4**
baz=141
VSR Storozhevoye 120.28 42 *e*PKIKP **PKPdf 08 56 19.8 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
A29A Manning Farm, 120.42 313 P **PKPdf 08 56 19.6 -1.1**
baz=142,SNR=9.5
B28A Dugan Ranch, T 120.51 312 P **PKPdf 08 56 20.8 0.0**
baz=142
NB2 NORSAR Subarra 120.69 21 PKPdf **PKPdf 08 56 20.4 -0.5**
comp=Z,2.8nm,0.7s,baz=202,slow=1.9
NOA NORSAR Array B 120.69 21 PKP **PKPdf 08 56 20.6 -0.2**
comp=Z,5.0nm,0.9s,baz=196,slow=1.7,SNR=14
NOA pPKP **pPKPdf 08 56 53.3 -1.8**
comp=Z,2.0nm,0.8s,baz=205,slow=1.9,SNR=4.3
NOA PKKPbc **PKKPbc 09 06 26.4 +0.6**
comp=Z,2.6nm,0.7s,baz=26,slow=3.2,SNR=12
NOA NORSAR Array B 120.69 21 PKIKP **PKPdf 08 56 20.7 -0.2**
NOA 08 56 53.3
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.8s
A28A Rude Farm, Bot 120.83 313 P **PKPdf 08 56 21.2 -0.3**
baz=141,SNR=5.3
AHID Auburn Hatcher 120.93 301 *e*PKPdf **PKPdf 08 56 22.0 -0.1**
C25A Freed Ranch, W 121.15 310 P **PKPdf 08 56 22.0 -0.1**
baz=141
B26A Jensen Ranch, 121.23 311 P **PKPdf 08 56 21.8 -0.5**
baz=141
VRH Novokhopyorsk 121.24 43 *e*PKIKP **PKPdf 08 56 18.9 -3.2**
VRH pmax pmax
comp=Z,10.0nm,0.9s
REDW Red Top Meadow 121.26 302 *e*PKPdf **PKPdf 08 56 22.5 -0.3**
SNOW Snow King Moun 121.29 302 *e*PKPdf **PKPdf 08 56 22.9 0.0**

LOHW **Long Hollow** 121.33 302 *e*PKPdf **PKPdf** 08 56 22.9 -0.1
LOHW *ep*PKPdf **pPKPdf** 08 56 57.0 -0.2
LOHW *e*SKPdf **SKiKP** 08 59 46.5 -0.1
TPAW Teton Pass 121.41 302 *e*PKPdf **PKPdf** 08 56 23.3 +0.2
TPAW *e*SKPdf **SKiKP** 08 59 46.6 -0.2
ELK Elko 121.42 297 *e*PKIKP **PKPdf** 08 56 23.6 +0.4
ELK *e* 08 57 56.9
ELK Elko 121.42 297 *e*PKPdf **PKPdf** 08 56 23.6 +0.4
ELK *e*PP **PP** 08 57 56.9 -0.2
MOOW Moose Ponds 121.50 302 *e*PKPdf **PKPdf** 08 56 23.1 -0.1
B25A Knox Farm, Ray 121.55 311 P **PKPdf** 08 56 22.4 -0.5
baz=140
A26A Wade Farm, Ken 121.55 312 P **PKPdf** 08 56 22.8 -0.1
baz=141
LAO LASA Array 121.66 308 P **PKPdf** 08 56 23.5 +0.2
baz=140,SNR=17
LAO LASA Array 121.66 308 *e*PKPdf **PKPdf** 08 56 23.1 -0.1
IMW Indian Meadow 121.71 302 *e*PKPdf **PKPdf** 08 56 23.9 +0.2
IMW *e*SKPdf **SKiKP** 08 59 48.2 +0.8
FLWY Flagg Ranch 121.74 303 *e*PKPdf **PKPdf** 08 56 24.1 +0.4
RLMT Red Lodge 121.85 304 P **PKPdf** 08 56 23.9 +0.1
baz=139,SNR=8.8
RLMT Red Lodge 121.85 304 *e*PKPdf **PKPdf** 08 56 23.6 -0.2
RLMT *e*PP **PP** 08 57 59.5 -0.5
H17A Grant Village 121.91 303 P **PKPdf** 08 56 25.0 +0.9
baz=139
H17A Grant Village 121.91 303 *e*PKPdf **PKPdf** 08 56 25.2 +1.1
CMB Columbia Colle 122.01 292 *e*PKIKP **PKPdf** 08 56 24.9 +0.7
CMB Columbia Colle 122.01 292 *e*PKPdf **PKPdf** 08 56 24.9 +0.7
A25A Svangstu Ranch 122.04 311 P **PKPdf** 08 56 24.1 +0.3
baz=140
DGMT Dagmar 122.14 310 P **PKPdf** 08 56 24.0 -0.1
baz=140,SNR=6.5
DGMT Dagmar 122.14 310 *e*PKPdf **PKPdf** 08 56 23.9 -0.1
DGMT *ep*PKPdf **pPKPdf** 08 56 57.6 -0.7
DGMT *e*PP **PP** 08 58 01.5 -0.1
OBN Obninsk 122.48 38*d* *i*PKIKP **PKPdf** 08 56 24.2 -0.1
OBN pmax pmax
comp=Z,18nm,1.1s
HLID Hailey 123.12 300 P **PKPdf** 08 56 26.7 +0.4
baz=138
HLID Hailey 123.12 300 *e*PKPdf **PKPdf** 08 56 26.6 +0.4
HLID *e*PP **PP** 08 58 10.6 +2.0
BOZ Bozeman (W) 123.35 303 P **PKPdf** 08 56 26.9 +0.3
baz=138
BOZ Bozeman (W) 123.35 303 *e*PKIKP **PKPdf** 08 56 26.9 +0.3
BOZ Bozeman (W) 123.35 303 *e*PKPdf **PKPdf** 08 56 26.9 +0.3
DLMT Dillon 123.59 303 *e*PKPdf **PKPdf** 08 56 27.7 +0.7
DLMT *ep*PKPdf **pPKPdf** 08 57 00.4 -1.0
FRB Frobisher Bay 123.61 339 PKP **PKPdf** 08 56 25.9 -0.3
comp=Z,11nm,0.5s,baz=160,slow=5.1,SNR=12
FRB Frobisher Bay 123.61 339 PKIKP **PKPdf** 08 56 26.0 -0.3
FRB pmax pmax
comp=Z,11nm,0.5s
MFID Camas Ranch 123.71 299 *e*PKPdf **PKPdf** 08 56 27.8 +0.5
SFJD Kangerlussuaq 123.96 349 *i* PKIKP **PKPdf** 08 56 26.6 -0.3
SFJD pmax pmax
comp=Z,12nm,0.7s
SFJD Kangerlussuaq 123.96 349 *i* P **PKPdf** 08 56 26.6 -0.3
comp=Z,12nm,0.7s
PYUN Piuthan 124.17 90 *e*P **PKPdf** 08 56 28.3 -0.5
comp=Z,85nm,0.9s
KOLN Koldanda 124.25 90 *e*P **PKPdf** 08 56 28.4 -0.6
comp=Z,47nm,0.7s
WVOR Wild Horse Val 124.38 296 *e*PKIKP **PKPdf** 08 56 29.3 +0.6
WVOR Wild Horse Val 124.38 296 *e*PKPdf **PKPdf** 08 56 29.3 +0.6
WVOR *e*SKPdf **SKPdf** 08 59 52.1 +0.3
O03D Paynes Creek 124.43 292 P **PKPdf** 08 56 29.2 +0.4
baz=137
FINES FINESS Array B 124.49 28 PKP **PKPdf** 08 56 27.8 -0.3
comp=Z,20nm,0.7s,baz=178,slow=1.7,SNR=112
FINES pPKP **pPKPdf** 08 57 01.2 -1.1
comp=Z,5.7nm,0.8s,baz=158,slow=2.1,SNR=3.2
FINES PKKPbc **PKKPbc** 09 06 10.7 -0.3
comp=Z,1.1nm,0.6s,baz=90,slow=1.9,SNR=5.6
MOD Modoc Plateau 124.83 295 *e*PKPdf **PKPdf** 08 56 30.5 +0.9
MOD *e*PP **PP** 08 58 19.6 -0.3
MOD *e*SKPdf **SKiKP** 08 59 53.9 +0.4
DMN Daman 124.97 92 *e*P **PKPdf** 08 56 30.1 -0.3
comp=Z,64nm,1.0s
GKN Gorkha 125.01 91 *e*P **PKPdf** 08 56 29.7 -0.7
comp=Z,90nm,1.0s
KKN Kakani 125.21 92 *e*P **PKPdf** 08 56 30.4 -0.4
comp=Z,15nm,0.4s
CMAR Chiang Mai Arr 125.23 111 PKP **PKPdf** 08 56 31.1 +0.3
comp=Z,20nm,0.8s,baz=234,slow=3.8,SNR=44
RAMN Ramite 125.30 93 *e*P **PKPdf** 08 56 30.9 -0.2
comp=Z,72nm,0.6s
MSO Missoula 125.30 303 P **PKPdf** 08 56 30.8 +0.6
baz=137
N02D Trinity Center 125.39 292 P **PKPdf** 08 56 31.4 +0.8
baz=137,SNR=20
BMO Blue Mountains 125.48 299 *e*PKIKP **PKPdf** 08 56 30.8 +0.1
BMO Blue Mountains 125.48 299 *e*PKPdf **PKPdf** 08 56 30.8 +0.1
BMO *e*SKPdf **SKPdf** 08 59 53.9 +0.1
CHTO Chiang Mai 125.53 111 PKP **PKPdf** 08 56 31.6 +0.2
CHTO Chiang Mai 125.53 111 *e*PKIKP **PKPdf** 08 56 31.0 -0.4
CHTO Chiang Mai 125.53 111 *e*PKPdf **PKPdf** 08 56 31.0 -0.4
M04C Macdoel 125.53 294 P **PKPdf** 08 56 31.8 +0.9
baz=137
GUN Gumba 125.64 92 *e*P **PKPdf** 08 56 31.4 -0.4
comp=Z,102nm,1.0s
K05A Summer Lake 125.73 295 P **PKPdf** 08 56 32.4 +1.0
M02C Callahan 125.77 293 P **PKPdf** 08 56 32.5 +1.2
baz=137
HOG Hogback Mounta 125.80 294 P **PKPdf** 08 56 32.5 +1.0
K04D Chiloquin, OR 126.10 294 P **PKPdf** 08 56 32.4 +0.4
baz=136
J05D Fort Rock, OR 126.31 295 P **PKPdf** 08 56 33.0 +0.6
baz=136
SCO Scoresbysund 126.32 2 *i* PKIKP **PKPdf** 08 56 31.8 +0.5
SCO pmax pmax
comp=Z,10.0nm,1.1s
SCO Scoresbysund 126.32 2 *i* P **PKPdf** 08 56 31.8 +0.5
comp=Z,10nm,1.1s
KTRM Thompson Ridge 126.42 293 P **PKPdf** 08 56 33.6 +1.0
SKNT Sakolnakorn 126.57 117 PKP **PKPdf** 08 56 33.6 +0.1
HUMO Hull Mountain 126.70 294 *e*PKPdf **PKPdf** 08 56 33.8 +0.8
L02D Cave Junction, 126.71 293 P **PKPdf** 08 56 33.5 +0.5
baz=136,SNR=8.0
WALA Waterton Lakes 126.90 305 *e*PKPdf **PKPdf** 08 56 33.1 -0.1
NONG Nongkai 127.07 115 PKP **PKPdf** 08 56 34.9 +0.5
I05D Terrebonne, OR 127.12 296 P **PKPdf** 08 56 34.7 +0.9
baz=136,SNR=16
SHL Shillong 127.16 99 *e*P **PKPdf** 08 56 35.0 +0.4
I04A Tendick Farm, 127.27 295 P **PKPdf** 08 56 34.1 +0.1
baz=135,SNR=5.2
VTHM Trough 127.33 297 P **PKPdf** 08 56 35.3 +1.1
AKTO Aktyubinsk 127.50 53 PKIKP **PKPdf** 08 56 33.1 -1.1
AKTO pmax pmax
comp=Z,39nm,1.2s
AB31 Akbulak array 127.54 56 *i* PKIKP **PKPdf** 08 56 33.6 -0.7
AB31 pmax pmax
comp=Z,29nm,1.0s
ABKAR Akbulak array 127.54 56 *e*PKPdf **PKPdf** 08 56 34.2 -0.1
HAWA Hanford 127.68 299 *e*PKPdf **PKPdf** 08 56 34.5 -0.1
I03D Drain, OR 127.68 294 P **PKPdf** 08 56 35.4 +0.6
baz=135
G05D Wamic, OR 127.75 297 P **PKPdf** 08 56 35.6 +0.7
baz=135
NEW Newport 127.83 302 PKP **PKPdf** 08 56 35.0 0.0
comp=Z,4.9nm,0.6s,baz=51,slow=5.0,SNR=5.9
NEW Newport 127.83 302 P **PKPdf** 08 56 35.3 +0.4
baz=135
NEW Newport 127.83 302 *e*PKPdf **PKPdf** 08 56 35.0 0.0
KLMR Klimovskoe 127.95 35*c* *i*PKIKP **PKPdf** 08 56 34.1 -0.6
KLMR *e* 08 58 37.7
KLMR pmax pmax
comp=Z,47nm,1.2s
KK31 Karatay Array 128.40 68 PKIKP **PKPdf** 08 56 35.6 -0.6
KK31 pmax pmax
comp=Z,18nm,0.9s
KKAR Karatay Array 128.40 68 *e*PKIKP **PKPdf** 08 56 36.1 -0.1
KKAR Karatay Array 128.40 68 *e*PKPdf **PKPdf** 08 56 36.1 -0.1
NAC Naches 128.55 299 P **PKPdf** 08 56 37.3 +0.9
SUMG Summit 128.59 356 *i* PKIKP **PKPdf** 08 56 36.3 +0.2
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 128.59 356 *i* P **PKPdf** 08 56 36.3 +0.2
comp=Z,13nm,0.9s
SUMG Summit 128.59 356 *e*PKPdf **PKPdf** 08 56 36.6 +0.5
G03D McMinnville, O 128.71 296 P **PKPdf** 08 56 37.1 +0.5
baz=134
KSH Kashi 128.76 75 PKP **PKPdf** 08 56 35.5 -1.6

KSH PP **PP** 08 58 46.1 +0.3
KSH PKS **PKSdf** 09 00 11.3 -2.4
KSH SKS **SKSdf** 09 03 29.3 -7.3
KSH SKKS **SKKSac** 09 05 22.3 -7.2
KSH PPMZ
comp=Z,100nm,5.9s
KSH LN
comp=Z,110nm,6.8s
KSH LE
comp=Z,100nm,5.0s
MNAS Manas 129.01 70 PKIKP **PKPdf** 08 56 36.1 -1.4
MNAS pmax pmax
comp=Z,18nm,1.0s
LON Longmire 129.05 298 PKIKP **PKPdf** 08 56 37.3 0.0
LON Longmire 129.05 298 P **PKPdf** 08 56 37.3 0.0
F04D Rainier, OR 129.19 297 P **PKPdf** 08 56 38.8 +1.3
baz=134
NLW Nelson Butte 129.25 300 P **PKPdf** 08 56 38.4 +0.6
PNT Penticton 129.75 302 PKIKP **PKPdf** 08 56 39.1 +0.6
PNT Penticton 129.75 302 P **PKPdf** 08 56 39.1 +0.6
EKS2 Erkin-Say 129.80 70 *e*PKIKP **PKPdf** 08 56 39.3 +0.3
EKS2 Erkin-Say 129.80 70 *e*PKPdf **PKPdf** 08 56 39.3 +0.3
LSA Lhasa 129.96 95 *e*PKIKP **PKPdf** 08 56 40.8 +0.6
LSA Lhasa 129.96 95 *e*PKPdf **PKPdf** 08 56 40.8 +0.6
AAK Ala-Archa 130.16 71*c* *i*PKIKP **PKPdf** 08 56 40.1 +0.3
AAK Ala-Archa 130.16 71 *e*PKPdf **PKPdf** 08 56 40.0 +0.3
B05A Bryant 130.23 299 P **PKPdf** 08 56 40.3 +0.9
baz=133
FRU Bishkek 130.37 71⇓ *e*PKIKP **PKPdf** 08 56 38.0 -2.0
FRU *e* 08 57 08.0
FRU pmax pmax
comp=Z,70nm,1.9s
NLWA Neilton Lookou 130.51 297 *e*PKPdf **PKPdf** 08 56 40.9 +0.8
TKM2 Tokmak 2 130.95 71 PKIKP **PKPdf** 08 56 39.6 -1.7
TKM2 pmax pmax
comp=Z,10.0nm,1.0s
TKM2 Tokmak 2 130.95 71 *e*PKPdf **PKPdf** 08 56 40.8 -0.5
TKM2 *e*SKPbc **SKPbc** 08 59 52.7 -0.9
ARCES ARCESS Array B 131.03 22 PKhKP PKPpre 08 56 26.3
comp=Z,2.7nm,0.9s,baz=238,slow=3.7,SNR=5.0
ARCES PKP **PKPdf** 08 56 39.2 -1.2
comp=Z,13nm,0.7s,baz=217,slow=2.8,SNR=10
ARCES pPKP pPKPdf 08 57 13.4 -1.2
comp=Z,11nm,0.9s,baz=222,slow=1.6,SNR=5.1
ARCES PP **PP** 08 58 59.2 -0.8
comp=Z,4.1nm,0.9s,baz=222,slow=6.5,SNR=4.4
ARU Arti 131.85 48 *i* PKIKP **PKPdf** 08 56 42.5 +0.3
ARU Arti 131.85 48 *e*PKPdf **PKPdf** 08 56 42.3 +0.1
ARU Arti 131.85 48 *e*SKPbc **SKPbc** 08 59 55.4 -0.7
DAG Danmarks Havn 132.70 3 *i* PKIKP **PKPdf** 08 56 42.1 -1.2
DAG pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 132.70 3 *i* P **PKPdf** 08 56 42.1 -1.2
comp=Z,8.8nm,0.8s
OTUK Ortayu 132.85 64 PKIKP **PKPdf** 08 56 44.3 -0.2
OTUK pmax pmax
comp=Z,20nm,0.8s
SVE Sverdlovsk 132.98 49*d* *e*PKIKP **PKPdf** 08 56 44.9 +0.5
SVE pmax pmax
comp=Z,48nm,1.2s
ZRNK Zerenda 134.25 57 PKIKP **PKPdf** 08 56 46.2 -0.7
ZRNK pmax pmax
comp=Z,15nm,1.1s
BVA0 Borovoye Array 134.95 58 *i* PKIKP **PKPdf** 08 56 48.0 -0.2
BVA0 pmax pmax
comp=Z,21nm,0.9s
VOSK Vostochnaya 135.05 58 PKIKP **PKPdf** 08 56 45.8 -2.6
VOSK pmax pmax
comp=Z,10.0nm,0.8s
CHKZ Chkalovo 135.46 57 PKIKP **PKPdf** 08 56 47.8 -1.3
CHKZ pmax pmax
comp=Z,23nm,1.0s
BBB Bella Bella 135.72 300 PKP **PKPdf** 08 56 49.5 -0.1
comp=Z,6.6nm,0.9s,baz=265,slow=3.0,SNR=4.2
GYA Guiyang 135.83 113 PKP **PKPdf** 08 56 51.0 +0.1
GYA sPKP 08 57 40.4
GYA PP **PP** 08 59 35.8 +4.9
GYA PPMZ
comp=Z,140nm,8.2s
GYA Guiyang 135.83 113 PKP **PKPdf** 08 56 51.0 +0.1
GYA sPKP 08 57 40.4
GYA PP **PP** 08 59 35.8 +4.9
GYA AMB AMB
comp=Z,140nm,8.2s
YKA Yellowknife Ar 136.06 318 PKhKP PKPpre 08 56 37.0
comp=Z,1.1nm,0.6s,baz=118,slow=3.7,SNR=16
YKA PKP **PKPdf** 08 56 49.5 -0.4
comp=Z,20nm,0.8s,baz=126,slow=2.4,SNR=48
YKA PP **PP** 08 59 30.5 -1.6
comp=Z,4.1nm,0.8s,baz=117,slow=6.8,SNR=12
YKA SKPbc **SKPbc** 09 00 07.0 -2.6
comp=Z,4.1nm,0.8s,baz=129,slow=3.5,SNR=9.3
YKA SKKPbc **SKKPbc** 09 09 11.3 +2.2
comp=Z,0.6nm,1.0s,baz=299,slow=3.7,SNR=3.6
SPITS Spitsbergen Ar 136.63 12 PKP **PKPdf** 08 56 50.9 +0.2
comp=Z,11nm,0.8s,baz=164,slow=16,SNR=8.1
KBS Kingsbay 136.78 10 *e*PKIKP **PKPdf** 08 56 49.9 -1.0
KBS Kingsbay 136.78 10 *e*PKPdf **PKPdf** 08 56 49.9 -1.0
MAKZ Makanchi 136.92 71 PKIKP **PKPdf** 08 56 49.3 -2.8
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 137.07 72 *i* PKIKP **PKPdf** 08 56 51.1 -1.3
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 137.07 72 PKhKP PKPpre 08 56 41.4
comp=Z,0.7nm,0.3s,baz=203,slow=1.5,SNR=8.6
MKAR PKP **PKPdf** 08 56 51.9 -0.6
comp=Z,5.4nm,0.5s,baz=171,slow=0.9,SNR=8.5
MKAR SKPbc **SKPbc** 09 00 10.8 -2.6
comp=Z,1.8nm,0.8s,baz=222,slow=1.6,SNR=4.9
RES Resolute Bay 137.81 339 PKhKP PKPpre 08 56 44.0
comp=Z,4.0nm,0.8s,baz=121,slow=10,SNR=5.5
RES PKP **PKPdf** 08 56 53.4 +0.5
comp=Z,22nm,1.0s,baz=161,slow=0.8,SNR=18
RES SKPbc **SKPbc** 09 00 14.1 -0.4
comp=Z,6.2nm,1.0s,baz=36,slow=2.9,SNR=4.6
CD2 Chengdu 137.84 106 PKP **PKPdf** 08 56 55.5 +1.1
CD2 sPKP 08 57 43.4
CD2 PP **PP** 08 59 44.8 +1.4
CD2 SKS **SKSdf** 09 03 53.3 +0.4
CD2 SKKS **SKKSac** 09 06 25.1 +0.2
CD2 SS **SS** 09 17 46.3 +3.4
CD2 PPMZ
comp=Z,320nm,8.4s
WMQ Urumqi 138.09 79 PKP **PKPdf** 08 56 55.8 +1.4
WMQ LN
comp=Z,44nm,26.0s
WMQ LE
comp=Z,39nm,18.6s
WMQ LZ
comp=Z,27nm,23.4s
DLBC Dease Lake 140.18 307 PKhKP PKPpre 08 56 49.6
comp=Z,6.2nm,0.8s,baz=359,slow=1.4,SNR=7.4
DLBC SKPbc **SKPbc** 09 00 20.7 -1.0
comp=Z,3.4nm,0.8s,baz=150,slow=5.1,SNR=4.9
DLBC Dease Lake 140.18 307 *e*PKPpre PKPpre 08 56 49.0
DLBC SKPbc **SKPbc** 09 00 20.7 -1.0
WRAK Wrangell Islan 140.18 303 *e*PKPdf **PKPdf** 08 56 58.5 +0.8
ENH Enshi 140.37 112 *e*PKPdf **PKPdf** 08 57 00.1 +1.2
LZH Lanzhou 141.79 101 *e*PKP **PKPdf** 08 56 56.8 -4.7
GTA Gaotai 141.91 93 *e*PKP **PKPdf** 08 56 56.6 -5.0
GTA PP **PP** 09 00 07.4 -1.2
GTA SKKS 09 06 45.8
GTA SS **SS** 09 18 29.3 -1.6
GTA PPMZ
comp=Z,86nm,5.2s
NVS Novosibirsk 142.22 62⇓ *i*PKIKP **PKPdf** 08 56 57.7 -3.7
NVS *e* 08 57 32.7
NVS *e* 09 00 09.6
NVS pmax pmax
comp=Z,48nm,1.0s
NVS pmax pmax
comp=N,18nm,1.3s
NVS pmax pmax
comp=E,12nm,1.3s
ZALV Zalesovo Beam 142.55 64 PKhKP PKPpre 08 56 57.7
comp=E,7.7nm,0.4s,baz=250,slow=4.1,SNR=32
ZALV SKPbc **SKPbc** 09 00 28.6 +0.8
comp=E,4.9nm,1.1s,baz=259,slow=3.0,SNR=4.0
XAN Xi'an 143.02 108 PKP PKPbc 08 57 00.9 0.0
WHN Wuhan 143.06 118 PKP PKPbc 08 57 00.3 -0.7
SKAG Skagway 143.08 306 *e*PKPdf PKPbc 08 57 00.1 -0.1
MIDW Midway 144.81 230 *e*PKPbc **PKPab** 08 57 06.1 0.0
MIDW *ep*PKPdf **pPKPdf** 08 57 38.6 -2.6
INK Inuvik 145.70 321 PKPbc **PKPdf** 08 57 07.2 +0.1
comp=E,156nm,0.8s,baz=91,slow=2.9,SNR=215
INK pPKPbc pPKPbc 08 57 41.5 -0.1
comp=E,33nm,0.8s,baz=150,slow=2.5,SNR=2.0
INK Inuvik 145.70 321 *e*PKPbc **PKPdf** 08 57 07.4 +0.3
INK *ep*PKPdf **pPKPdf** 08 57 41.4 0.0
JOW Kunigami 145.97 139 *e*PKPbc **PKPab** 08 57 10.2 -0.4
NJ2 Nanjing 146.49 122 *e*PKPbc **PKPbc** 08 57 11.6 +0.4
DAWY Dawson 146.67 312 *e*PKPbc **PKPbc** 08 57 10.9 +0.1
EGAK Eagle 147.61 313 *e*PKPbc **PKPbc** 08 57 13.2 -0.2
EGAK *e*PKPab **PKPab** 08 57 16.0 0.0
TIY Taiyuan 147.65 108 *e*PKPbc **PKPbc** 08 57 14.3 -0.1
BMRM Bremner River 147.92 305 *e*PKPdf **PKPdf** 08 57 09.6 -1.6
BMRM *e*PKPbc **PKPbc** 08 57 14.9 +0.6
DIV Divide 148.51 305 *e*PKPbc **PKPbc** 08 57 16.6 +0.7
DIV *e*PKPab **PKPab** 08 57 20.8 +1.0
DOT Dot Lake 148.51 310 *e*PKPbc **PKPbc** 08 57 16.6 +0.8
PAX Paxson 148.94 309 *e*PKP2 **PKPbc** 08 57 17.1 +0.2
PAX Paxson 148.94 309 *e*PKPbc **PKPbc** 08 57 17.1 +0.2
PAX *e*PKPab **PKPab** 08 57 21.7 +0.2
TIA Tai'an 148.97 115 ⇓PKPbc **PKPdf** 08 57 13.3 -0.3
NRIK Noril'sk 149.14 39 PKP **PKPdf** 08 57 11.9 -0.9
comp=E,19nm,0.9s,baz=240,slow=1.4,SNR=3.9
NRIK PKPbc **PKPbc** 08 57 17.2 0.0
comp=E,32nm,0.8s,baz=161,slow=0.5,SNR=43
NRIK pPKPbc **pPKPbc** 08 57 49.9 -1.4
comp=E,10nm,0.9s,baz=256,slow=5.6,SNR=1.8
NRIK PKKP **PKKPdf** 09 06 10.1 +5.7
comp=E,2.6nm,0.6s,baz=142,slow=5.0,SNR=4.2
NRIK Noril'sk 149.14 39 PKIKP **PKPdf** 08 57 11.9 -0.9
NRIK 08 57 49.9
NRIK pmax pmax
comp=Z,1.0nm,0.4s
NRIK pmax pmax
comp=Z,3.0nm,0.6s
HHC Hu-ho-hao-te 149.42 102 *e*PKPbc **PKPbc** 08 57 19.0 +0.1
HHC pPKP pPKPdf 08 57 47.6 -1.1
HHC PP **PP** **09 00 55.3 +2.3**
HHC PPMZ
comp=Z,38nm,10.6s
SML Sawmill 149.89 306 *e*PKP2 **PKPbc** 08 57 19.8 +0.5
SML Sawmill 149.89 306 *e*PKPbc **PKPbc** 08 57 19.8 +0.5
SML *e*PKPab **PKPab** 08 57 26.1 +0.6
SEW Seward 149.90 302 *e*PKPbc **PKPbc** 08 57 19.7 +0.5
SEW *e*PKPab **PKPab** 08 57 25.9 +0.6
MOY Mondy 149.92 76 *e*PKIKP **PKPdf** 08 57 14.4 -0.3
MOY pmax pmax
comp=Z,146nm,2.7s
ILAR Eielson Array 149.99 312 PKP **PKPdf** 08 57 11.3 -3.0
comp=Z,5.8nm,0.9s,baz=319,slow=1.4,SNR=51
ILAR PKPbc **PKPbc** 08 57 19.3 -0.1
comp=Z,192nm,0.8s,baz=132,slow=1.8,SNR=456
ILAR pPKPbc **pPKPbc** 08 57 51.9 -1.6
comp=Z,28nm,0.8s,baz=124,slow=1.0,SNR=2.2
CBIJ Chichi jima 150.11 161 *e*PKPbc **PKPbc** 08 57 19.7 -1.1
PMR Palmer 150.19 305 *e*PKIKP **PKPbc** 08 57 20.4 +0.5
PMR Palmer 150.19 305 *e*PKPbc **PKPbc** 08 57 20.4 +0.5
RC01 Rabbit Creek A 150.33 304 *e*PKPbc **PKPbc** 08 57 20.9 +0.6
RC01 *e*PKPab **PKPab** 08 57 28.4 +1.2
COLA College 150.41 312 *e*PKIKP **PKPbc** 08 57 20.3 0.0
COLA College 150.41 312 *e*PKPbc **PKPbc** 08 57 20.3 0.0
COLA *e*PKPab **PKPab** 08 57 28.2 +0.8
ZAK Zakamensk 150.54 80 *e*PKIKP **PKPdf** 08 57 14.8 -0.9
ZAK pmax pmax
comp=Z,192nm,1.4s
MCK McKinley 150.64 309 *e*PKIKP **PKPbc** 08 57 21.6 +0.6
MCK McKinley 150.64 309 *e*PKPbc **PKPbc** 08 57 21.6 +0.6
KDAK Kodiak Island 150.66 297*c* *i*PKIKP **PKPbc** 08 57 22.2 +1.1
OHAK Old Harbor 150.81 295 *e*PKPbc **PKPbc** 08 57 22.1 +0.6
OHAK *e*PKPab **PKPab** 08 57 30.4 +1.2
SONM Songino Array 150.92 87 PKP **PKPdf** 08 57 15.8 -0.6
comp=Z,5.3nm,0.9s,baz=223,slow=2.0,SNR=18
SONM PKPbc **PKPbc** 08 57 22.1 -0.1
comp=Z,105nm,0.6s,baz=224,slow=2.9,SNR=180
SONM pPKPbc **pPKPbc** 08 57 55.4 -1.0
comp=Z,12nm,0.7s,baz=243,slow=3.1,SNR=2.2
TRF Thorofare Moun 151.17 308 *e*PKPbc **PKPbc** 08 57 22.7 +0.3
TRF *e*PKPab **PKPab** 08 57 31.1 +0.3
ULN Ulaanbaatar 151.30 87 *e*PKIKP **PKPdf** 08 57 16.6 -0.4
ULN Ulaanbaatar 151.30 87 *e*PKPdf **PKPdf** 08 57 16.6 -0.4
ULN *e*PKPbc **PKPbc** 08 57 22.9 -0.3
BJT Baijiatuau 151.32 109 *e*PKIKP **PKPdf** 08 57 18.1 +1.0
BJT Baijiatuau 151.32 109 *e*PKPdf **PKPdf** 08 57 18.1 +1.0
BJT *e*PKPbc **PKiKP** 08 57 23.4 -0.3
TLY Talaya 151.37 78 PKP **PKPdf** 08 57 16.7 -0.2
comp=Z,2.0nm,0.5s,baz=221,slow=2.7,SNR=5.9
TLY PKPbc **PKiKP** 08 57 23.5 0.0
comp=Z,22nm,0.3s,baz=242,slow=4.1,SNR=58
TLY Talaya 151.37 78 *i* PKIKP **PKPdf** 08 57 16.6 -0.2
TLY pmax pmax
comp=Z,81nm,1.1s
KTH Kantishna Hill 151.47 308 *e*PKPbc **PKPbc** 08 57 23.2 +0.2
BPAW Bear Paw Mtn. 151.60 310 *e*PKPbc **PKPbc** 08 57 23.3 +0.1
BPAW *e*PKPab **PKPab** 08 57 32.6 +0.1
COLD Coldfoot 151.71 316 *e*PKPbc **PKPbc** 08 57 24.3 +1.0
PPLA Purkeypile 151.90 307 *e*PKPbc **PKPbc** 08 57 24.3 +0.3
IRK Irkutsk 151.98 77 *e*PKIKP **PKPdf** 08 57 16.9 -0.8
IRK pmax pmax
comp=Z,117nm,0.8s
JNU Nakatsue 152.60 138 PKPbc **PKPbc** 08 57 26.4 -0.1
comp=Z,33nm,0.7s,baz=150,slow=3.4,SNR=15
CHGN Chignik 153.13 291 *e*PKPbc **PKPbc** 08 57 26.6 -0.1
SDPT Sand Point 153.88 288 *e*PKPbc **PKPbc** 08 57 28.2 -0.2
SDPT *e*PKPab **PKPab** 08 57 42.6 +0.3
TJN Taejon 153.99 129*c* *i*PKIKP **PKPbc** 08 57 29.5 +0.2
KSAR Wonju Array Be 155.10 128 PKIKP **PKPdf** 08 57 22.2 -0.5
KSAR 08 57 31.2
KSAR 08 57 47.8
KSAR Wonju Array Be 155.10 128 PKP **PKPdf** 08 57 22.2 -0.5
KSAR PKPbc PKPbc 08 57 31.1
KSAR PKPab **PKPab** 08 57 47.8 -0.1
KSRS Korea Array 155.13 128 PKP **PKPdf** 08 57 22.2 -0.5
comp=Z,2.4nm,0.8s,baz=204,slow=1.4,SNR=15
KSRS PKPbc PKPbc 08 57 31.1
comp=Z,3.5nm,0.9s,baz=217,slow=1.3,SNR=10
KSRS PKPab **PKPab** 08 57 47.8 -0.2
comp=Z,5.2nm,0.8s,baz=235,slow=3.5,SNR=10.0
UNV Unalaska Valle 156.59 282 *e*PKPdf **PKPdf** 08 57 24.4 +0.4
UNV *e*PKPab **PKPab** 08 57 54.2 +0.3
MAJO Matsushiro 158.20 148 *e*PKIKP **PKPdf** 08 57 26.2 -0.5
MAJO *e* 08 58 01.2
MAJO Matsushiro 158.20 148 *e*PKPdf **PKPdf** 08 57 26.2 -0.5
MAJO *e*PKPab **PKPab** 08 58 01.2 -0.1
MAT Matsushiro 158.20 148 PKP **PKPdf** 08 57 25.4 -1.3
MJAR Matsushiro Arr 158.20 148 PKP **PKPdf** 08 57 26.3 -0.4
comp=Z,3.6nm,1.1s,baz=219,slow=1.2,SNR=16
MJAR PKPab **PKPab** 08 58 00.4 -0.9
comp=Z,9.9nm,0.9s,baz=192,slow=5.2,SNR=19
MJAR PP **PP** 09 01 42.0 +0.4
comp=Z,1.5nm,1.0s,baz=196,slow=5.7,SNR=4.1
MJAR Matsushiro Arr 158.20 148 PKIKP **PKPdf** 08 57 26.3 -0.4
MJAR 08 58 00.4
MJAR 09 01 42.0
MJAR pmax pmax
comp=Z,3.0nm,1.1s
MJAR pmax pmax
comp=Z,10.0nm,0.9s
MJAR pmax pmax
comp=Z,2.0nm,1.0s
CN2 Changchun 158.87 114 *e*PKP **PKPdf** 08 57 23.9 -3.3
CN2 *ep*PKP pPKPdf 08 57 55.9 -5.8
CN2 PP **PP** **09 01 45.5 -0.1**
CN2 *e*SS SS 09 21 34.0 -4.3
CN2 PPMZ
comp=Z,200nm,6.0s
CN2 LN
comp=Z,600nm,21.0s
CN2 LE
comp=Z,500nm,21.0s
CN2 LZ
comp=Z,500nm,23.0s
TIXI Tiksi 161.46 24 PKP **PKPdf** 08 57 27.7 -1.6
comp=Z,0.7nm,0.3s,baz=122,slow=5.5,SNR=4.9
TIXI PKPab **PKPab** 08 58 14.0 -0.6
comp=Z,11nm,0.7s,baz=352,slow=3.3,SNR=17
TIXI PP **PP** **09 02 00.2 +1.2**
comp=Z,1.3nm,0.3s,baz=355,slow=4.2,SNR=6.2
USRK Ussuriysk Ar. 162.37 124 PKP **PKPdf** 08 57 30.1 -1.0
comp=Z,1.9nm,0.8s,baz=304,slow=3.4,SNR=5.9
USRK PKPab **PKPab** 08 58 18.6 -0.7
comp=Z,10.0nm,1.0s,baz=242,slow=4.1,SNR=13
KLR Kul'dur 165.71 110 PKP **PKPdf** 08 57 32.9 -1.0
comp=Z,5.4nm,1.0s,baz=307,slow=3.4,SNR=12
KLR PKPab **PKPab** 08 58 32.2 -1.7
comp=Z,11nm,1.0s,baz=265,slow=5.0,SNR=12

BILL	**Bilibino**	**166.41**	**338**	*e*PKIKP	**PKPdf**	08 57 29.6	**-4.3**
BILL				*e*		09 02 25.0	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ASAJ	**Asahikawa**	**166.47**	**148**	*e*PKPdf	**PKPdf**	08 57 34.9	**+0.2**
YAK	**Yakutsk**	**166.89**	**54**	*e*PKP2	**PKPab**	08 58 39.9	**+1.2**
YAK				pmax	pmax		
	comp=Z,23nm,1.3s						
YSS	**Yuzh-Sakhalins**	**169.06**	**142**	*e*PKIKP	**PKPdf**	08 57 36.5	**+0.2**
YSS	**Yuzh-Sakhalins**	**169.06**	**142**	*e*PKPdf	**PKPdf**	08 57 36.5	**+0.2**
TYV	**Tymovskoe**	**172.16**	**128**	*e*PKP2	**PKPab**	08 59 03.0	**+0.6**
TYV				pmax	pmax		
	comp=Z,13nm,0.8s						
SEY	**Seymchan**	**173.12**	**0**	PKP	**PKPdf**	08 57 35.4	**-2.5**
	comp=Z,9.2nm,1.1s,baz=284,slow=2.3,SNR=9.3						
SEY				PKPab	**PKPab**	08 59 06.5	**+0.2**
	comp=Z,6.0nm,1.0s,baz=310,slow=7.1,SNR=4.2						
PETK	**Petropavlovsk-**	**175.75**	**228**	PKP	**PKPdf**	08 57 36.4	**-2.7**
	comp=Z,19nm,0.9s,baz=100,slow=3.6,SNR=12						
PETK				PKPab	**PKPab**	08 59 17.1	**-1.2**
	comp=Z,14nm,0.8s,baz=106,slow=8.1,SNR=11						

NIED ***19*** *08:46:00,39.60N×142.10E,h56km,Mw3.7 Best double couple: M0 3.92000×10^14 NP1:φs194.00000°,δ22.00000°, λ72.00000°. NP2:φs33.00000°,δ69.00000°,λ97.00000°.*
ISCJB ***19*** *08:46:41.5±0.8,39.62N±0.03×142.11E±0.09,h51km±5km, mb3.6/4, Error ellipse: s-maj=11.4km s-min=5.1km az=13.3*
JMA ***19*** *08:46:41.9,39.60N×142.11E,h48km±1km,M3.7*
JMA Felt II J1.
IDC ***19*** *08:46:44.6±3.0,39.71N×142.06E,h61km±22km,mb3.4/4, mb1 3.5/8,mb1mx3.3/59,mbtmp3.7/8,ML3.0/3,Error ellipse: s-maj=35.4km s-min=15.9km az=124.0*

ISC 19 08:46:42.6±1.2,39.61N±0.04×142.11E±0.08,h44km±8km, n20,σ1s07/31,mb3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.23**	**262**	P	**Pn**	**08 46 50.2**	**-0.4**
MIYJ				S	**Sn**	**08 46 55.9**	**-0.3**
JTH	**Tanohata**	**0.38**	**330**	P	**Pn**	**08 46 51.6**	**-0.5**
JTH				S	**Sn**	**08 46 58.6**	**-0.2**
OFUJ	**Ofunato**	**0.63**	**213**	P	**Pn**	**08 46 54.4**	**-0.8**
OFUJ				*e*S	**Sn**	**08 47 03.2**	**-1.0**
JOM	**Ohasama**	**0.65**	**258**	P	**Pn**	**08 46 55.1**	**-0.4**
JOM				S	**Sn**	**08 47 04.5**	**-0.2**
JKZ	**Kuzumaki**	**0.71**	**302**	P	**Pn**	**08 46 55.9**	**-0.4**
JKZ				S	**Sn**	**08 47 05.5**	**-0.8**
JANG	**Nango**	**0.89**	**329**	P	**Pn**	**08 46 57.9**	**-0.9**
JANG				*e*S	**Sn**	**08 47 09.2**	**-1.4**
JMK	**Ichinoseki**	**0.95**	**227**	P	**Pn**	**08 46 58.9**	**-0.7**
JMK				S	**Sn**	**08 47 11.2**	**-0.8**
JRG	**Rokugo**	**1.16**	**260**	P	**Pn**	**08 47 01.9**	**-0.5**
JRG				*e*S	**Sn**	**08 47 16.4**	**-0.8**
JAH	**Hinai**	**1.28**	**297**	P	**Pn**	**08 47 03.6**	**-0.4**
JIO	**Ouri**	**1.30**	**208**	P	**Pn**	**08 47 03.5**	**-0.7**
JTM	**Tenmabayashi**	**1.42**	**326**	P	**Pn**	**08 47 05.4**	**-0.6**
JTM				*e*S	**Sn**	**08 47 22.9**	**-0.6**
MAT	**Matsushiro**	**4.34**	**226**	P	**Pn**	**08 47 48.4**	**+2.3**
MAT				*e*S	**Sn**	**08 48 34.8**	**-0.7**
MJAR	**Matsushiro Arr**	**4.34**	**226**	P	**Pn**	**08 47 48.7**	**+2.6**
	1.5nm,0.3s,baz=32,slow=14,SNR=43						
ASAJ	**Asahikawa**	**4.52**	**4**	P	**Pn**	**08 47 48.4**	**-0.1**
	baz=254,slow=7.4						
ASAJ				S	**Sn**	**08 48 40.1**	**+0.4**
	baz=68,slow=11						
USRK	**Ussuriysk Ar.**	**8.83**	**305**	P	**Pn**	**08 48 48.5**	**+0.9**
	0.3nm,0.3s,baz=118,slow=14,SNR=8.9						
KSRS	**Korea Array**	**11.32**	**264**	P	**Pn**	**08 49 23.6**	**+2.0**
	0.3nm,0.3s,baz=72,slow=14,SNR=5.2						
SONM	**Songino Array**	**26.90**	**300**	P	**P**	**08 52 20.5**	**+1.1**
	0.8nm,0.6s,baz=81,slow=12,SNR=2.6						
ZALV	**Zalesovo Beam**	**40.63**	**310**	P	**P**	**08 54 16.7**	**-1.2**
	1.3nm,0.4s,baz=89,slow=7.9,SNR=5.8						
MKAR	**Makanchi Array**	**43.27**	**300**	P	**P**	**08 54 38.4**	**-1.2**
	0.7nm,0.6s,baz=89,slow=9.0,SNR=6.2						
ILAR	**Eielson Array**	**47.04**	**34**	P	**P**	**08 55 09.2**	**0.0**
	0.3nm,0.7s,baz=273,slow=6.8,SNR=4.3						

DJA 19 08:46:53.6±0.8,1°S±10°×100°E±°,h12km±11km,M3.5/5, MLv3.5/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.84**	**95**	P	Pg	08 47 10.0	0.0
PDSI				S	Sn	08 47 22.9	-0.8
MNSI	**Mandailing Nat**	**1.62**	**359**	P	Pn	08 47 20.9	-1.2
MNSI				S	Sn	08 47 43.3	+0.4
BKNI	**Bangkinang**	**1.83**	**51**	P	Pn	08 47 21.9	-3.0
BKNI				S	Sb	08 47 49.6	-0.4
GSI	**Gunungsitoli**	**2.95**	**316**	P	Pn	08 47 41.1	+0.7
GSI				S	Sg	08 48 32.0	+3.5

DJA 19 08:48:37.7±1.0,9°S±4°×117°3E±°,h15km±9km,M4.0/15, MLv4.0/15,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.28**	**25**	P	Pn	08 49 00.1	-0.9
GMJI				S	Sg	08 49 19.0	0.0
JAGI	**Jajag, Banyuwa**	**1.57**	**52**	P	Pn	08 49 04.4	-0.6
JAGI				S	Sb	08 49 26.7	+0.6
PWJI	**Pagerwojo**	**1.78**	**322**	P	Pn	08 49 06.7	-1.2
PWJI				S	Sn	08 49 29.3	-0.9
BLJI	**Banyuglugur**	**1.82**	**22**	P	Pn	08 49 06.2	-2.3
BLJI				S	Sb	08 49 33.3	0.0
ABJI	**Asem Bagus**	**2.10**	**39**	P	Pb	08 49 14.9	-0.6
ABJI	**Asem Bagus**	**2.10**	**39**	P	Pb	08 49 14.4	-1.1
PCJI	**Pacitan**	**2.10**	**306**	P	Pn	08 49 11.3	-1.1
PCJI				S	Sn	08 49 37.4	-0.9
DNP	**Denpasar**	**2.40**	**72**	P	Pn	08 49 15.7	-0.8
DNP	**Denpasar**	**2.40**	**72**	P	Pb	08 49 19.3	-1.4
NGJI	**Ngawi**	**2.50**	**325**	P	Pn	08 49 17.9	0.0
NGJI	**Ngawi**	**2.50**	**325**	P	Pb	08 49 20.7	-1.7
GRJI	**Gresik**	**2.54**	**351**	P	Pn	08 49 16.7	-1.8
SRBI	**Singaraja**	**2.65**	**60**	P	Pn	08 49 18.5	-1.5
UGM	**Wanagama**	**2.80**	**303**	P	Pn	08 49 23.5	+1.5
TBJI	**Tambak Boyo**	**2.81**	**338**	P	Pn	08 49 21.1	-1.0
BWJI	**Bawean**	**3.57**	**356**	P	Pn	08 49 30.2	-2.4
TWSI	**Taliwang, Sumb**	**3.99**	**80**	P	Pn	08 49 39.4	+1.0
KPJI	**Karang Pucung**	**4.45**	**298**	P	Pn	08 49 46.6	+1.9
PLAI	**Plampang**	**4.85**	**83**	P	Pn	08 49 50.0	-0.3
WSI	**Waingapu**	**7.30**	**92**	P	Pg	08 51 01.7	+4.2

ISCJB ***19*** *08:49:52.9±0.4,60.15N±0.03×153.09W±0.07, h140km±4km,mb3.0/1,Error ellipse: s-maj=6.2km s-min=3.6km az=27.1*
NEIC ***19*** *08:49:54.9,60.14N×153.11W,h133km,MG2.9(AEIC), After AEIC.*
IDC ***19*** *08:49:56.0±7.5,60.11N×151.97W,h90km±80km,mb2.9/1, mb1 3.5/4,mb1mx3.1/46,mbtmp3.5/4,ML3.3/3,Error ellipse: s-maj=85.9km s-min=56.9km az=107.0*

ISC 19 08:49:53.5±1.0,60.17N±0.03×153.07W±0.04, h141km±6km,n78,σ1s43/92,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIM	**Iliamna**	**0.10**	**147**	P	**Pn**	**08 50 12.3**	**-0.4**
ILW	**Iliamna West**	**0.11**	**196**	P	**Pn**	**08 50 12.5**	**-0.3**
ILW				S	**Sn**	**08 50 26.7**	**-0.7**
RDWB	**Redoubt West**	**0.34**	**20**	P	**Pn**	**08 50 13.1**	**-0.3**
RDWB				S	**Sn**	**08 50 27.1**	**-1.3**
NCT	**North Crescent**	**0.40**	**10**	P	**Pn**	**08 50 13.6**	**+0.1**
RDJH	**Redoubt Jeurge**	**0.45**	**17**	P	**Pn**	**08 50 13.7**	**0.0**
OPT	**Oil Point**	**0.52**	**189**	P	**Pn**	**08 50 13.9**	**-0.1**
BGRM	**Barrier Glacie**	**0.68**	**28**	P	**Pn**	**08 50 15.0**	**+0.1**
AUL	**Augustine Lava**	**0.81**	**193**	P	**Pn**	**08 50 15.8**	**-0.1**
AUL				S	**Sn**	**08 50 31.9**	**-0.9**
AUE	**Augustine Isla**	**0.82**	**191**	P	**Pn**	**08 50 15.7**	**-0.3**
AUSE	**Augustine SEas**	**0.84**	**191**	P	**Pn**	**08 50 15.9**	**-0.2**
AUI	**Augustine Isla**	**0.85**	**192**	P	**Pn**	**08 50 16.0**	**-0.2**
HOM	**Homer**	**0.88**	**125**	P	**Pn**	**08 50 16.9**	**+0.5**
NKA	**Nikishka**	**1.08**	**57**	P	**Pn**	**08 50 20.2**	**+2.2**
CKL	**Chakachamna La**	**1.09**	**19**	P	**Pn**	**08 50 19.0**	**+0.7**
SPCR	**Spurr Chakacha**	**1.12**	**22**	P	**Pn**	**08 50 19.0**	**+0.4**
SPCR				S	**Sn**	**08 50 37.3**	**-0.4**

CNPM	**China Poot**	**1.13**	**124**	P	**Pn**	**08 50 18.8**	**+0.1**
CNPM				S	**Sn**	**08 50 37.0**	**-0.7**
SPWE	**Spurr West**	**1.14**	**13**	P	**Pn**	**08 50 19.6**	**+0.8**
MCNL	**McNeil River**	**1.18**	**214**	P	**Pn**	**08 50 18.7**	**-0.4**
CDD	**Cape Douglas**	**1.27**	**193**	P	**Pn**	**08 50 19.6**	**-0.4**
FOSS	**Fourpeaked Sta**	**1.41**	**193**	P	**Pn**	**08 50 21.0**	**-0.4**
FOPK	**Fourpeaked Vol**	**1.43**	**188**	P	**Pn**	**08 50 20.8**	**-0.9**
SLKM	**Skilak Lake**	**1.46**	**75**	P	**Pn**	**08 50 22.4**	**+0.4**
STLK	**Strandline Lak**	**1.47**	**24**	P	**Pn**	**08 50 22.7**	**+0.6**
VOGL	**Vogel Lake**	**1.55**	**56**	P	**Pn**	**08 50 24.7**	**+1.9**
SVW2	**Sparrevohn**	**1.55**	**308**	P	**Pn**	**08 50 22.6**	**-0.2**
SVW2				S	**Sn**	**08 50 44.0**	**-1.4**
SUA	**Susitna One**	**1.73**	**40**	P	**Pn**	**08 50 25.8**	**+0.7**
SUA				S	**Sn**	**08 50 49.9**	**+0.7**
FIB	**Fire Island**	**1.74**	**54**	P	**Pn**	**08 50 26.4**	**+1.4**
SEW	**Seward**	**1.81**	**90**	P	**Pn**	**08 50 26.2**	**+0.3**
KAHC	**Katmai Hardscr**	**1.82**	**214**	P	**Pn**	**08 50 25.6**	**-0.4**
KARR	**Katmai Rainbow**	**1.87**	**207**	P	**Pn**	**08 50 26.6**	**0.0**
RC01	**Rabbit Creek A**	**1.89**	**59**	P	**Pn**	**08 50 26.9**	**+0.2**
RC01				*e*Sn	**Sn**	**08 50 51.5**	**-0.6**
KAWH	**Katmai**	**2.00**	**207**	P	**Pn**	**08 50 27.7**	**-0.4**
KVTA	**Katmai Vly 10**	**2.12**	**213**	P	**Pn**	**08 50 29.4**	**-0.1**
KAKN	**Katmai Knife C**	**2.14**	**209**	P	**Pn**	**08 50 29.5**	**-0.3**
KELA	**Mount Kelaz**	**2.21**	**219**	P	**Pn**	**08 50 30.0**	**-0.7**
KABR	**Katmai Barrier**	**2.26**	**206**	P	**Pn**	**08 50 31.0**	**-0.3**
PMR	**Palmer**	**2.40**	**52**	P	**Pn**	**08 50 32.3**	**-0.5**
KDAK	**Kodiak Island**	**2.41**	**174**	P	**Pn**	**08 50 31.6**	**-1.4**
KDAK				S	**Sn**	**08 51 00.9**	**-2.4**
KNK	**Knik Glacier**	**2.59**	**59**	P	**Pn**	**08 50 35.0**	**-0.2**
CUT	**Chulitna**	**2.62**	**30**	P	**Pn**	**08 50 36.3**	**+0.7**
PPLA	**Purkeypile**	**2.77**	**8**	P	**Pn**	**08 50 39.1**	**+1.5**
SML	**Sawmill**	**2.84**	**52**	*e*Pn	**Pn**	**08 50 33.9**	**-4.5**
SML				*e*Sn	**Sn**	**08 51 07.7**	**-5.3**
OHAK	**Old Harbor**	**2.96**	**182**	P	**Pn**	**08 50 38.0**	**-1.9**
PLK3	**Peulik 3**	**2.99**	**215**	P	**Pn**	**08 50 40.6**	**+0.2**
PLK1	**Peulik 1**	**3.00**	**219**	P	**Pn**	**08 50 40.7**	**+0.3**
TT01	**Tatalina**	**3.09**	**334**	P	**Pn**	**08 50 41.8**	**+0.2**
TTA	**Tatalina**	**3.11**	**334**	P	**Pn**	**08 50 42.4**	**+0.5**
SCM	**Sheep Creek Mo**	**3.26**	**57**	P	**Pn**	**08 50 43.7**	**-0.1**
HIN	**Hinchinbrook I**	**3.28**	**83**	P	**Pn**	**08 50 44.6**	**+0.5**
KTH	**Kantishna Hill**	**3.55**	**16**	P	**Pn**	**08 50 48.0**	**+0.4**
TRF	**Thorofare Moun**	**3.55**	**21**	P	**Pn**	**08 50 48.2**	**+0.5**
KLU	**Klutina**	**3.75**	**66**	P	**Pn**	**08 50 49.9**	**-0.3**
RND	**Reindeer**	**3.82**	**30**	P	**Pn**	**08 50 51.6**	**+0.5**
BPAW	**Bear Paw Mtn.**	**4.07**	**13**	P	**Pn**	**08 50 54.4**	**+0.1**
MCK	**McKinley**	**4.08**	**27**	P	**Pn**	**08 50 55.3**	**+0.9**
MCK				*e*Sn	**Sn**	**08 51 35.1**	**-6.7**
BMRM	**Bremner River**	**4.26**	**75**	P	**Pn**	**08 50 57.3**	**+0.4**
BWN	**Browne**	**4.36**	**21**	P	**Pn**	**08 50 59.4**	**+1.2**
PAX	**Paxson**	**4.59**	**49**	P	**Pn**	**08 51 01.9**	**+0.5**
PAX				*e*Sn	**Sn**	**08 51 51.2**	**-2.9**
VRDI	**Verde Repeater**	**4.85**	**73**	P	**Pn**	**08 51 05.5**	**+0.7**
WRH	**Wood River Hil**	**4.90**	**26**	P	**Pn**	**08 51 05.5**	**+0.2**
MLY	**Manley**	**5.00**	**11**	P	**Pn**	**08 51 07.2**	**+0.5**
CCB	**Clear Creek Bu**	**5.12**	**26**	P	**Pn**	**08 51 08.2**	**0.0**
HDA	**Harding Lake**	**5.13**	**31**	P	**Pn**	**08 51 08.6**	**+0.3**
BARK	**Barkley Ridge**	**5.27**	**83**	P	**Pn**	**08 51 11.7**	**+1.3**
MDM	**Murphy Dome**	**5.30**	**23**	P	**Pn**	**08 51 11.0**	**+0.3**
COLA	**College**	**5.30**	**25**	P	**Pn**	**08 51 11.0**	**+0.3**
ISLE	**Juniper Island**	**5.34**	**81**	P	**Pn**	**08 51 11.9**	**+0.6**
KIAG	**Kiagna River**	**5.34**	**77**	P	**Pn**	**08 51 12.1**	**+0.7**
ILAR	**Eielson Array**	**5.44**	**29**	P	**Pn**	**08 51 12.4**	**0.0**
	3.2nm,0.3s,baz=215,slow=13,SNR=218						
ILAR				S	**Sn**	**08 52 09.6**	**-4.4**
	0.5nm,0.3s,baz=209,slow=15,SNR=4.4						
ILB	**Eielson Array**	**5.44**	**29**	P	**Pn**	**08 51 12.7**	**+0.2**
IL1	**Eielson Array**	**5.44**	**29**	P	**Pn**	**08 51 12.6**	**+0.1**
DOT	**Dot Lake**	**5.51**	**47**	*e*Pn	**Pn**	**08 51 13.9**	**+0.6**
	9.8nm,0.6s						
DOT				*e*Sn	**Sn**	**08 52 15.4**	**-0.3**
EGAK	**Eagle**	**7.20**	**45**	*e*Pn	**Pn**	**08 51 34.8**	**-1.1**
	1.4nm,0.4s						
COLD	**Coldfoot**	**7.20**	**9**	*e*Pn	**Pn**	**08 51 36.4**	**+0.4**
	6.0nm,0.5s						
INK	**Imuvik**	**11.73**	**38**	P	**Pn**	**08 52 36.6**	**+0.5**
	0.0nm,0.3s,baz=230,slow=7.9,SNR=2.4						
YKA	**Yellowknife Ar**	**18.42**	**66**	P	**Pn**	**08 53 59.0**	**-0.3**
	0.1nm,0.3s,baz=278,slow=10.0,SNR=14						
YKA	**Yellowknife Ar**	**18.42**	**66**	P	**Pn**	**08 53 59.0**	**-0.3**
TXAR	**Lajitas Array**	**45.08**	**111**	P	**P**	**08 57 58.5**	**+3.2**
	0.2nm,0.6s,baz=318,slow=2.6,SNR=3.5						

CSEM ***19*** *08:55:48.8,24.79N×55.85E,h0km,ML1.0*
DSN 19 08:55:48.9±0.4,24.79N×55.85E,h0km,ML1.0,Error ellipse: s-maj=3.7km s-min=2.8km az=38.0,Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASHO	**Ashiyiah**	**0.21**	**119**	*e*P	Pg	08 55 52.8	-0.1
	SNR=14						
ASHO				S	Sg	08 55 56.1	+0.3
ASHO	**Ashiyiah**	**0.21**	**119**	P	Pg	08 55 52.8	-0.2
	SNR=14						
ASHO				S	Sg	08 55 56.1	+0.4
HATD	**Hatta, Dubai**	**0.26**	**82**	*e*P	Pg	08 55 54.0	+0.2
	SNR=11						
HATD	**Hatta, Dubai**	**0.26**	**82**	P	Pg	08 55 54.0	+0.2
	SNR=11						
UOSS	**Minazif**	**0.36**	**64**	P	Pg	08 55 55.6	-0.1

ISK ***19*** *08:57:14.4,39.11N×29.15E,h9km,MD2.5*
CSEM ***19*** *08:57:14.9±0.1,39.11N×29.13E,h8km,MD2.5,Error ellipse: s-maj=3.0km s-min=1.7km az=136.0*
ISCJB ***19*** *08:57:15.1±0.7,39.12N±0.05×29.12E±0.05,h9km,Error ellipse: s-maj=7.9km s-min=4.5km az=154.0*
DDA ***19*** *08:57:15.2,39.07N×29.12E,h7km,Md2.7*

ISC 19 08:57:15.4±1.0,39.13N±0.05×29.12E±0.03,h9km,n14, σ0s42/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.29**	**98**	P	**Pg**	**08 57 21.1**	**-0.1**
GDZ				S	**Sg**	**08 57 25.4**	**+0.4**
GDZ	**Gediz**	**0.29**	**98**	*i* P	**Pg**	**08 57 21.1**	**-0.1**
GDZ				*i* S	**Sg**	**08 57 25.4**	**+0.4**
DEMI	**Demirci**	**0.32**	**254**	P	**Pg**	**08 57 21.6**	**-0.2**
DEMI				S	**Sg**	**08 57 26.9**	**+0.7**
DEMI	**Demirci**	**0.32**	**254**	*i* P	**Pg**	**08 57 21.6**	**-0.2**
DEMI				*i* S	**Sg**	**08 57 26.9**	**+0.7**
TVSB	**Tavsanli**	**0.42**	**40**	*e*Pg	**Pg**	**08 57 23.1**	**-0.5**
TVSB				*e*SG	**Sg**	**08 57 29.2**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**40**	*e*Pg	**Pg**	**08 57 23.1**	**-0.5**
TVSB				*e*Sg	**Sg**	**08 57 29.2**	**+0.1**
KULA	**Kula-Manisa**	**0.71**	**210**	*e*PG	**Pg**	**08 57 28.4**	**-0.7**
KULA	**Kula-Manisa**	**0.71**	**210**	*e*Pg	**Pg**	**08 57 28.4**	**-0.7**
CAVI	**Cavuskoy**	**1.21**	**27**	*e*PN	**Pb**	**08 57 38.3**	**-0.2**
CAVI				*e*SN	**Sn**	**08 57 55.4**	**+0.4**
CAVI	**Cavuskoy**	**1.21**	**27**	*e*Pn	**Pb**	**08 57 38.3**	**-0.2**
CAVI				*e*Sn	**Sn**	**08 57 55.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*PN	**Pn**	**08 57 39.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn	**Pn**	**08 57 39.4**	**-0.1**
ARMT	**Armutlu**	**1.45**	**352**	*e*PN	**Pn**	**08 57 41.9**	**+0.1**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn	**Pn**	**08 57 41.9**	**+0.1**

ISCJB ***19*** *08:59:32.1±0.9,32.24N±0.04×115.27W±0.07, h21km±11km,Error ellipse: s-maj=10.9km s-min=5.9km az=151.9*
ECX ***19*** *08:59:33.6±0.6,32.21N×115.28W,h5km,MD2.0,ML2.3*
MEX ***19*** *08:59:34.2±0.7,32.27N×115.19W,h20km,MD3.2*

ISC 19 08:59:31.0±1.3,32.28N±0.07×115.17W±0.08,h29km±9km, n8,σ0s59/15,2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.13**	**347**	*e*P	**Pn**	**08 59 37.2**	**+0.2**
MBIG				*e*S	**Sb**	**08 59 39.7**	**-0.3**
CPBX	**Cerro Prieto**	**0.18**	**318**	*e*P	**Pn**	**08 59 37.3**	**-0.5**
CPBX				*e*S	**Sb**	**08 59 40.9**	**+0.1**
CPBX				IAML		08 59 44.5	
	comp=E,2μm,0.2s						
CPBX				*e*		08 59 44.5	
CPBX				IAML		08 59 45.2	
	comp=N,1μm,0.2s						
CPBX				*e*		08 59 45.2	
ECBX	**El Chinero**	**0.82**	**173**	*e*P	**Pb**	**08 59 47.1**	**+0.5**
ECBX				*e*S	**Sn**	**08 59 57.7**	**+0.1**
ECBX				IAML		08 59 58.5	
	comp=E,133nm,0.2s						
ECBX				*e*		08 59 58.5	
SPIG	**San Pedro Mart**	**1.26**	**192**	*e*P	**Pb**	**08 59 53.8**	**-0.6**
SPIG				*e*S	**Sn**	**09 00 08.6**	**-0.5**
CBX	**Cerro Bola**	**1.27**	**272**	*e*P	**Pn**	**08 59 53.8**	**+0.9**
CBX				*e*S	**Sn**	**09 00 08.1**	**-1.0**
CBX	**Cerro Bola**	**1.27**	**272**	*e*P	**Pb**	**08 59 54.2**	**-0.1**
CBX				*e*S	**Sn**	**09 00 09.8**	**+0.8**
CBX				*e*		09 00 10.6	
CBX				IAML		09 00 10.6	
	comp=N,61nm,0.5s						
TJIG	**Tijuana**	**1.29**	**277**	*e*P	**Pn**	**08 59 53.0**	**0.0**
TJIG				*e*S	**Sn**	**09 00 09.1**	**-0.2**
BAR	**Barrett**	**1.33**	**288**	*e*P	**Pb**	**08 59 55.7**	**+0.4**

DDA ***19*** *09:03:22.9,36.94N×27.63E,h7km,Md2.6*
ISK ***19*** *09:03:22.6,36.88N×27.48E,h19km,MD2.5*
ISCJB ***19*** *09:03:23.4±0.9,36.88N±0.06×27.43E±0.07,h16km±12km, Error ellipse: s-maj=10.6km s-min=7.7km az=44.2*
CSEM ***19*** *09:03:23.0±0.3,36.88N×27.47E,h15km,MD2.5,Error ellipse: s-maj=7.0km s-min=5.6km az=25.0*

ISC 19 09:03:22.8±1.1,36.87N±0.05×27.48E±0.05,h14km±8km, n14,σ0s34/22,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.20**	**353**	P	**Pg**	**09 03 26.9**	**-0.4**
BDRM				S	**Sg**	**09 03 30.8**	**+0.4**
BDRM	**Kayabasi**	**0.20**	**353**	*i* P	**Pg**	**09 03 26.9**	**-0.4**
BDRM				*i* S	**Sg**	**09 03 30.8**	**+0.4**
BODT	**Bodrum**	**0.23**	**326**	*e*PG	**Pg**	**09 03 28.1**	**+0.2**
BODT				*e*SG	**Sb**	**09 03 32.6**	**-0.3**
BODT	**Bodrum**	**0.23**	**326**	*e*Pg	**Pg**	**09 03 28.1**	**+0.2**
BODT				*e*Sg	**Sb**	**09 03 32.6**	**-0.3**
NIS1	**Nisyros Isl.**	**0.36**	**222**	*e*PG	**Pb**	**09 03 30.8**	**-0.1**
NIS1	**Nisyros Isl.**	**0.36**	**222**	*e*Pg	**Pb**	**09 03 30.8**	**-0.1**
YER	**Yerkesik**	**0.70**	**67**	*e*PG	**Pb**	**09 03 36.9**	**+0.1**
YER	**Yerkesik**	**0.70**	**67**	*e*Pg	**Pb**	**09 03 36.9**	**+0.1**
GCAM	**G?zelcaml?**	**0.85**	**347**	P	**Pg**	**09 03 39.7**	**+0.4**
GCAM				S	**Sg**	**09 03 51.0**	**+0.5**
GCAM	**G?zelcaml?**	**0.85**	**347**	*i* P	**Pg**	**09 03 39.7**	**+0.4**
GCAM				*i* S	**Sg**	**09 03 51.0**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.95**	**93**	*e*PG	**Pn**	**09 03 41.5**	**-0.1**
DALY				*e*SG	**Sn**	**09 03 55.1**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.95**	**93**	*e*Pg	**Pn**	**09 03 41.5**	**-0.1**
DALY				*e*Sg	**Sn**	**09 03 55.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**17**	*e*PN	**Pb**	**09 03 43.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**17**	*e*Pn	**Pb**	**09 03 43.7**	**-0.4**

ISK ***19*** *09:05:08.9,39.16N×29.07E,h5km,MD2.7*
ISCJB ***19*** *09:05:09.3±0.5,39.13N±0.04×29.08E±0.04,h9km,Error ellipse: s-maj=6.2km s-min=4.0km az=151.6*
CSEM ***19*** *09:05:09.4±0.1,39.14N×29.07E,h8km,MD2.7,Error ellipse: s-maj=2.7km s-min=2.0km az=131.0*
DDA ***19*** *09:05:09.3,39.08N×29.09E,h7km,Md2.8*

ISC 19 09:05:09.5±0.9,39.14N±0.03×29.08E±0.03,h9km,n26, σ0s27/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.30**	**250**	P	**Pg**	**09 05 15.4**	**-0.1**
DEMI				S	**Sg**	**09 05 19.7**	**+0.2**
DEMI	**Demirci**	**0.30**	**250**	*i* P	**Pg**	**09 05 15.4**	**-0.1**
DEMI				*i* S	**Sg**	**09 05 19.7**	**+0.2**
GDZ	**Gediz**	**0.32**	**100**	P	**Pg**	**09 05 15.9**	**-0.1**
GDZ				S	**Sg**	**09 05 20.3**	**0.0**
GDZ	**Gediz**	**0.32**	**100**	*i* P	**Pg**	**09 05 15.9**	**-0.1**
GDZ				*i* S	**Sg**	**09 05 20.3**	**0.0**
TVSB	**Tavsanli**	**0.43**	**44**	*e*PG	**Pg**	**09 05 17.7**	**-0.3**

λ-77.00000°. NP2:φs183.00000°, δ50.00000°, λ-101.00000°.

IDC ***19*** *09:35:47.1±3.0, 39°.33N×143°.79E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/36, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=70.1km s-min=39.5km az=63.0*

JMA ***19*** *09:35:51.7±0.2, 39°.27N×143°.13E, h16km±2km, M3.6*

ISCJB ***19*** *09:35:52.6±1.6, 39°.30N±0°.05×143°.2E±0°.1, h34km±16km, mb3.4/2, Error ellipse: s-maj=14.7km s-min=8.5km az=170.1*

ISC 19 09:35:54.7±1.9**, 39°.30N**±0°.06×**143°.1E**±0°.3**, h36**km±5km**, n14,** σ1**9**65/21**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.06**	**286**	P	**Pn**	**09 36 11.1**	**-1.9**
MIYJ				*e*S	**Sn**	**09 36 25.1**	**-1.4**
OFUJ	**Ofunato**	**1.16**	**260**	P	**Pn**	**09 36 12.7**	**-1.7**
JTH	**Tanohata**	**1.18**	**304**	*e*S	**Sn**	**09 36 28.6**	**-0.8**
JOM	**Ohasama**	**1.44**	**278**	*e*S	**Sn**	**09 36 36.3**	**+0.3**
JMK	**Ichinoseki**	**1.53**	**258**	P	**Pn**	**09 36 18.1**	**-1.4**
JIO	**Ouri**	**1.63**	**240**	P	**Pn**	**09 36 19.7**	**-1.2**
JIO				*e*S	**Sn**	**09 36 39.9**	**-0.7**
JANG	**Nango**	**1.65**	**311**	P	**Pn**	**09 36 20.3**	**-0.9**
JANG				*e*S	**Sn**	**09 36 41.0**	**-0.1**
JAH	**Hinai**	**2.13**	**296**	P	**Pn**	**09 36 28.4**	**+0.7**
JAH				*e*S	**Sn**	**09 36 55.4**	**+2.6**
JOU	**Okura**	**2.15**	**245**	P	**Pn**	**09 36 28.9**	**+0.9**
JOU				*e*S	**Sn**	**09 36 55.3**	**+2.0**
JTM	**Tenmabayashi**	**2.18**	**314**	P	**Pn**	**09 36 28.3**	**-0.1**
JTM				*e*S	**Sn**	**09 36 55.1**	**+1.0**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=42,slow=12,SNR=22	**4.77**	**236**	Pn	**Pn**	**09 37 06.3**	**+2.2**
MAT	**Matsushiro**	**4.77**	**236**	P	**Pn**	**09 37 06.3**	**+2.2**
MAT				*e*S	**Sn**	**09 37 55.5**	**-2.6**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=79,slow=9.3,SNR=4.3	**44.11**	**300**	P	**P**	**09 44 00.3**	**+1.0**
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=7.4,slow=7.0,SNR=2.7	**59.50**	**190**	P	**P**	**09 45 52.9**	**-1.3**

DDA ***19*** *09:55:32.9, 37°.23N×28°.25E, h7km, Md2.7*

CSEM ***19*** *09:55:33.5±0.2, 37°.27N×28°.18E, h5km, MD2.7, Error ellipse: s-maj=5.5km s-min=4.0km az=175.0*

ISK ***19*** *09:55:33.4, 37°.23N×28°.14E, h6km, MD2.7*

ISC 19 09:55:33.4±1.2**, 37°.23N**±0°.03×**28°.20E**±0°.03**, h5**km±12km**, n23,** σ0**8**35/30**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**143**	*e*PG	**Pg**	**09 55 36.0**	**+0.1**
YER	**Yerkesik**	**0.12**	**143**	*e*Pg	**Pg**	**09 55 36.0**	**+0.1**
TURN	**Turunc**	**0.48**	**137**	*i* P	**Pg**	**09 55 41.8**	**-0.9**
TURN				*i* S	**Sg**	**09 55 48.9**	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.55**	**138**	*e*PG	**Pb**	**09 55 45.2**	**-0.3**
DALY				*e*SG	**Sb**	**09 55 54.0**	**+0.2**
DALY	**Dalyan (Mu˘la**	**0.55**	**138**	*e*Pg	**Pb**	**09 55 45.2**	**-0.3**
DALY				*e*Sg	**Sb**	**09 55 54.0**	**+0.2**
BDRM	**Kayabasi**	**0.62**	**255**	P	**Pg**	**09 55 45.7**	**+0.3**
BDRM				S	**Sb**	**09 55 55.7**	**-0.1**
BDRM	**Kayabasi**	**0.62**	**255**	*i* P	**Pg**	**09 55 45.7**	**+0.3**
BDRM				*i* S	**Sb**	**09 55 55.7**	**-0.1**
BODT	**Bodrum**	**0.73**	**257**	*e*PG	**Pg**	**09 55 47.0**	**-0.4**
BODT	**Bodrum**	**0.73**	**257**	*e*Pg	**Pg**	**09 55 47.0**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**341**	*e*PG	**Pg**	**09 55 48.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**341**	*e*Pg	**Pg**	**09 55 48.1**	**+0.1**
DNZL	**Cakiroluk**	**0.82**	**56**	P	**Pg**	**09 55 48.8**	**-0.4**
DNZL				S	**Sg**	**09 55 59.6**	**-0.2**
DNZL	**Cakiroluk**	**0.82**	**56**	*i* P	**Pg**	**09 55 48.8**	**-0.4**
DNZL				*i* S	**Sg**	**09 55 59.6**	**-0.2**
FETY	**Fethiye**	**0.93**	**130**	*e*PG	**Pb**	**09 55 52.4**	**+0.4**
FETY	**Fethiye**	**0.93**	**130**	*e*Pg	**Pb**	**09 55 52.4**	**+0.4**
NIS1	**Nisyros Isl.**	**1.03**	**233**	*e*PG	**Pg**	**09 55 52.8**	**-0.3**
NIS1	**Nisyros Isl.**	**1.03**	**233**	*e*Pg	**Pg**	**09 55 52.8**	**-0.3**
GLHS	**Glhisar (BURDU**	**1.04**	**94**	*e*PN	**Pn**	**09 55 54.8**	**0.0**
GLHS	**Glhisar (BURDU**	**1.04**	**94**	*e*Pn	**Pn**	**09 55 54.8**	**0.0**
ELL	**Elmali**	**1.45**	**109**	*e*PN	**Pg**	**09 56 01.6**	**+0.4**
ELL	**Elmali**	**1.45**	**109**	*e*Pn	**Pg**	**09 56 01.7**	**+0.4**
KARP	**Karpathos**	**1.87**	**207**	*e*PN	**Pn**	**09 56 06.5**	**+0.3**
KARP	**Karpathos**	**1.87**	**207**	*e*Pn	**Pn**	**09 56 06.5**	**+0.3**

IDC ***19*** *10:00:24.8±2.1, 9°.58S×123°.50E, h0km, mb3.9/1, mb1 3.9/3, mb1mx3.6/22, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=211.8km s-min=31.7km az=54.0*

ISCJB ***19*** *10:00:31.0±0.8, 9°.72S±0°.08×124°.01E±0°.06, h66km, mb3.7/1, Error ellipse: s-maj=13.2km s-min=6.2km az=34.9*

DJA ***19*** *10:00:35.0±0.4, 10°.5±5°×12°.4E±°, h57km±7km, M4.0/6, mb4.1/3, MLv4.0/6*

ISC 19 10:00:32.6±0.9**, 9°.75S**±0°.08×**123°.96E**±0°.06**, h66**km**, n11,** σ2**8**60/15**, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.31**	**91**	P	Pn	10 00 48.7	+5.1
SOEI				S	**Sn**	**10 00 55.8**	**+4.2**
MMRI	**Maumere**	**2.03**	**303**	P	**Pn**	**10 01 05.5**	**+0.9**
MMRI				S	**Sn**	**10 01 28.7**	**-0.2**
EDFI	**Ende, Flores**	**2.45**	**294**	P	**Pn**	**10 01 12.0**	**+1.6**
EDFI				S	**Sn**	**10 01 38.4**	**-0.9**
BASI	**Baing, Sumba**	**3.36**	**262**	S	**Sn**	**10 02 02.2**	**+0.8**
WSI	**Waingapu**	**3.61**	**271**	P	**Pn**	**10 01 27.9**	**+1.8**
KDI	**Kendari** 18nm,1.0s,0.1nm	**5.91**	**347**	P	**Pn**	**10 01 57.0**	**-0.6**
PLAI	**Plampang**	**6.17**	**278**	P	**Pn**	**10 02 02.1**	**+1.0**
TWSI	**Taliwang, Sumb**	**7.05**	**278**	P	**Pn**	**10 02 12.2**	**-1.1**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=318,slow=14,SNR=11	**14.25**	**136**	Pn	**Pn**	**10 03 52.0**	**+0.8**
WRA					**Sn**	**10 06 22.6**	**-5.4**
	1.1nm,0.3s,baz=311,slow=24,SNR=8.3						
ASAR	**Alice Springs** 0.2nm,0.3s,baz=317,slow=12,SNR=24	**16.79**	**147**	P	**P**	**10 04 27.6**	**+2.8**
ASAR				S	**Sn**	**10 07 25.8**	**-3.7**
	0.5nm,0.3s,baz=313,slow=20,SNR=9.5						
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=134,slow=7.3,SNR=7.3	**67.44**	**330**	P	**P**	**10 11 20.1**	**-1.2**

IDC ***19*** *10:13:23.6±0.7, 19°.21N×64°.77W, h0km, mb3.8/9, mb1 4.1/12, mb1mx3.9/44, mbtmp4.0/12, ML3.3/3, MS3.3/14, Ms1 3.3/14, ms1mx3.2/32, Error ellipse: s-maj=18.4km s-min=14.5km az=62.0*

TRN ***19*** *10:13:26.7, 19°.10N×64°.92W, h13km*

NEIC ***19*** *10:13:29.5, 19°.23N×64°.81W, h12km, mb4.5/11, MW4.1, MD4.1(RSPR), Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁵Nm; Mrr 1.47; Mθθ -1.71; Mφφ 0.24; Mrθ 0.09; Mθφ 0.90; Mφr -0.14; Best double couple: M₀1.80000×10¹⁵ NP1:φs117.00000°, δ47.00000°, λ98.00000°. NP2:φs285.00000°, δ43.00000°, λ81.00000°. Principal axes: T 1.4800, Plg84.0000°, Azm92.0000°; N 0.5800, Plg6.0000°, Azm292.0000°; P -2.0700, Plg2.0000°, Azm202.0000°; After RSPR.*

NEIC Felt [IV] at Vega Alta, Puerto Rico.

RSPR ***19*** *10:13:29.5, 19°.23N×64°.81W, h12km±2km, MD4.1/11*

ISC 19 10:13:27.2±1.6**, 19°.19N**±0°.05×**64°.80W**±0°.03**, h19**km±6km**, n129,** σ1**9**38/146**, mb4.3**/14**, MS3.3**/12**, 14C-33D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.64**	**136**	*i* Pu	**Pn**	**10 13 41.5**	**+0.2**
ABVI				*e*S	**Sn**	**10 13 51.1**	**+0.2**
ABV	**Anegada**	**0.64**	**136**	⇑*i*P	**Pn**	**10 13 41.5**	**+0.2**
ABV	**Anegada**	**0.64**	**136**	⇑*i*P	**Pn**	**10 13 41.5**	**+0.2**
ABV				*e*S	**Sn**	**10 13 51.1**	**+0.2**
STVI	**Saint Thomas**	**0.85**	**190**	⇑*e*P	**Pn**	**10 13 44.3**	**+0.2**
STVI	**Saint Thomas**	**0.85**	**190**	⇑*e*P	**Pn**	**10 13 44.5**	**+0.4**
STVI				*e*S	**Sn**	**10 13 56.4**	**+0.3**
STVI	**Saint Thomas**	**0.85**	**190**	⇑*e*P	**Pn**	**10 13 44.3**	**+0.2**
STVI				*e*S	**Sn**	**10 13 56.3**	**+0.3**
STVI	**Saint Thomas**	**0.85**	**190**	⇑*e*P	**Pn**	**10 13 44.3**	**+0.2**
CBYP	**Canovanas**	**1.35**	**228**	⇓*e*P	**Pn**	**10 13 51.2**	**+0.1**
CBYP	**Canovanas**	**1.35**	**228**	⇓*e*P	**Pn**	**10 13 51.2**	**+0.1**
CBYP	**Canovanas**	**1.35**	**228**	⇓*e*P	**Pn**	**10 13 51.2**	**+0.1**
CBYP	**Canovanas**	**1.35**	**228**	⇓*e*P	**Pn**	**10 13 51.2**	**+0.1**
CDVI	**St. Croix**	**1.44**	**179**	*e*Pn	**Pb**	**10 13 54.4**	**+1.0**
CDVI				*e*Sn	**Sb**	**10 14 13.5**	**+2.3**
HUMP	**Col San Antoni**	**1.44**	**224**	⇓*e*P	**Pn**	**10 13 52.8**	**+0.5**
HUMP				*e*S	**Sn**	**10 14 10.8**	**+0.1**
HUMP	**Col San Antoni**	**1.44**	**224**	⇓*i*P	**Pn**	**10 13 52.7**	**+0.4**
HUMP	**Col San Antoni**	**1.44**	**224**	⇓*i*P	**Pn**	**10 13 52.7**	**+0.4**
HUMP				*e*S	**Sn**	**10 14 10.8**	**+0.1**
HUMP	**Col San Antoni**	**1.44**	**224**	⇓*i*P	**Pn**	**10 13 52.7**	**+0.4**
HUMP				*e*S	**Sn**	**10 14 11.1**	**+0.4**
SJG	**San Juan**	**1.67**	**230**	⇓*e*P	**Pn**	**10 13 55.6**	**+0.2**
SJG				*e*S	**Sn**	**10 14 16.2**	**-0.2**
SJG	**San Juan** 44nm,0.3s,baz=253,slow=23,SNR=152	**1.67**	**230**	Pn	**Pn**	**10 13 55.6**	**+0.2**
SJG				S	**Sn**	**10 14 16.4**	**+0.1**
	365nm,0.3s,baz=23,slow=13,SNR=26						
SJG				LR	LR	10 14 47.0	
	comp=Z,1μm,18.9s,baz=9.0,slow=49						
SJG	**San Juan**	**1.67**	**230**	⇓*e*P	**Pn**	**10 13 55.6**	**+0.2**
SJG				*e*S	**Sn**	**10 14 16.2**	**-0.2**
SMRT	**St. Maarten**	**2.00**	**124**	*e*P	**Pb**	**10 14 02.1**	**-0.8**
SMRT				*e*S	**Sb**	**10 14 26.6**	**-0.8**
SMRT	**St. Maarten**	**2.00**	**124**	*e*Pn	**Pn**	**10 14 01.3**	**+1.4**
CELP	**Cerrillos**	**2.02**	**237**	⇓*e*P	**Pn**	**10 14 00.9**	**+0.6**
CELP	**Cerrillos**	**2.02**	**237**	⇓*e*P	**Pn**	**10 14 00.9**	**+0.6**
CELP	**Cerrillos**	**2.02**	**237**	⇓*e*P	**Pn**	**10 14 00.9**	**+0.6**
AOPR	**Arecibo Observ**	**2.03**	**246**	⇓*e*P	**Pn**	**10 14 00.7**	**+0.3**
AOPR	**Arecibo Observ**	**2.03**	**246**	⇓*e*P	**Pn**	**10 14 01.3**	**+0.8**
AOPR	**Arecibo Observ**	**2.03**	**246**	*e*S	**Sn**	**10 14 25.4**	**+0.1**
AOPR	**Arecibo Observ**	**2.03**	**246**	⇓*e*P	**Pn**	**10 14 00.7**	**+0.3**
AOPR				*e*S	**Sn**	**10 14 25.4**	**+0.1**
AOPR	**Arecibo Observ**	**2.03**	**246**	⇓*e*P	**Pn**	**10 14 00.7**	**+0.3**
AOPR				*e*S	**Sn**	**10 14 25.4**	**+0.1**
OBIP	**Obispado Ponce**	**2.06**	**236**	⇓*i*P	**Pn**	**10 14 01.4**	**+0.7**
OBIP	**Obispado Ponce**	**2.06**	**236**	*e*S	**Sn**	**10 14 25.6**	**-0.3**
OBIP	**Obispado Ponce**	**2.06**	**236**	⇓*i*P	**Pn**	**10 14 01.4**	**+0.7**
OBIP				*e*S	**Sn**	**10 14 25.6**	**-0.3**
OBIP	**Obispado Ponce**	**2.06**	**236**	⇓*i*P	**Pn**	**10 14 01.4**	**+0.7**
OBIP				*e*S	**Sn**	**10 14 25.6**	**-0.3**
LRS	**Lares**	**2.13**	**245**	⇓*e*P	**Pn**	**10 14 02.8**	**+1.0**
LRS	**Lares**	**2.13**	**245**	⇓*e*P	**Pn**	**10 14 02.8**	**+1.0**
LRS	**Lares**	**2.13**	**245**	⇓*e*P	**Pn**	**10 14 02.8**	**+1.0**
SABA	**Saba**	**2.16**	**136**	⇑*e*P	**Pn**	**10 14 02.8**	**+0.6**
SABA	**Saba**	**2.16**	**136**	*e*S	**Sn**	**10 14 29.8**	**+1.4**
SABA	**Saba**	**2.16**	**136**	*e*P	**Pb**	**10 14 04.7**	**-0.9**
SABA				*e*S	**Sb**	**10 14 32.7**	**+0.7**
SABA	**Saba**	**2.16**	**136**	⇑*e*P	**Pn**	**10 14 02.8**	**+0.6**
SABA				*e*S	**Sn**	**10 14 29.8**	**+1.4**
AGPR	**Aguadilla, PR**	**2.30**	**252**	*e*S	**Sn**	**10 14 32.2**	**+0.3**
AGPR	**Aguadilla, PR**	**2.30**	**252**	⇓*e*P	**Pn**	**10 14 04.1**	**0.0**
AGPR	**Aguadilla, PR**	**2.30**	**252**	⇓*e*P	**Pn**	**10 14 04.1**	**0.0**
AGPR				*e*S	**Sn**	**10 14 32.2**	**+0.3**
AGPR	**Aguadilla, PR**	**2.30**	**252**	⇓*e*P	**Pn**	**10 14 04.1**	**0.0**
AGPR				*e*S	**Sn**	**10 14 32.2**	**+0.3**
GBPR	**Guanica, Bosqu**	**2.31**	**239**	*e*S	**Sn**	**10 14 32.7**	**+0.5**
GBPR	**Guanica, Bosqu**	**2.31**	**239**	⇑*e*P	**Pn**	**10 14 05.3**	**+1.1**
GBPR	**Guanica, Bosqu**	**2.31**	**239**	*e*S	**Sn**	**10 14 32.7**	**+0.5**
GBPR	**Guanica, Bosqu**	**2.31**	**239**	⇑*e*P	**Pn**	**10 14 05.3**	**+1.1**
GBPR				*e*S	**Sn**	**10 14 32.7**	**+0.5**
AGP	**Aguadilla**	**2.35**	**251**	*e*Pn	**Pn**	**10 14 04.1**	**-0.7**
LSP	**Las Mesas**	**2.39**	**245**	⇓*e*P	**Pn**	**10 14 06.2**	**+0.8**
LSP	**Las Mesas**	**2.39**	**245**	⇓*e*P	**Pn**	**10 14 06.2**	**+0.8**
LSP	**Las Mesas**	**2.39**	**245**	⇓*e*P	**Pn**	**10 14 06.2**	**+0.8**
MPR	**Mayaguez**	**2.42**	**247**	*e*Pn	**Pn**	**10 14 06.0**	**+0.3**
SEUS	**St. Eustatius**	**2.42**	**134**	*e*P	**Pn**	**10 14 07.7**	**+1.9**
SEUS				*e*S	**Sb**	**10 14 39.1**	**-0.5**
CRPR	**Cabo Rojo, PR**	**2.48**	**242**	*e*S	**Sn**	**10 14 36.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.48**	**242**	⇑*e*P	**Pn**	**10 14 07.3**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.48**	**242**	⇑*e*P	**Pn**	**10 14 07.3**	**+0.6**
CRPR				*e*S	**Sn**	**10 14 36.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.48**	**242**	⇑*e*P	**Pn**	**10 14 07.3**	**+0.6**
CRPR				*e*S	**Sn**	**10 14 36.3**	**-0.1**
IDE	**Isla Desecheo**	**2.65**	**253**	⇓*e*P	**Pn**	**10 14 09.2**	**+0.2**
IDE	**Isla Desecheo**	**2.65**	**253**	⇓*e*P	**Pn**	**10 14 09.2**	**+0.2**
IDE	**Isla Desecheo**	**2.65**	**253**	⇓*e*P	**Pn**	**10 14 09.2**	**+0.2**
ANWB	**Willy Bob**	**3.24**	**117**	*e*P	**Pn**	**10 14 20.4**	**+3.4**
ANWB				*e*S	**Sb**	**10 15 00.2**	**-3.1**
MLYT	**Lee's Yard**	**3.50**	**134**	*e*P	**Pn**	**10 14 23.4**	**+2.8**
BPA	**Boggy Peak**	**3.52**	**127**	*e*P	**Pn**	**10 14 23.5**	**+2.5**
GDHS	**Morne Mazeau,**	**4.10**	**135**	*e*Pn	**Pb**	**10 14 34.8**	**-4.1**
SEG	**Port Louis**	**4.19**	**131**	*e*P	**Pn**	**10 14 31.4**	**+0.8**
DR12	**Loma Pena Alta**	**4.35**	**265**	⇑*e*P	**Pn**	**10 14 32.4**	**0.0**
DR12	**Loma Pena Alta**	**4.35**	**265**	⇑*e*P	**Pn**	**10 14 32.4**	**0.0**
DOG	**Dongo Capester**	**4.37**	**135**	*e*P	**Pn**	**10 14 35.4**	**+2.7**
TBG	**Guadaloupe-3**	**4.49**	**137**	*e*P	**Pn**	**10 14 36.8**	**+2.6**
TBG	**Guadaloupe-3**	**4.49**	**137**	*e*S	**Sn**	**10 15 28.3**	**+2.5**
H05N1	**Guadeloupe/Mar**	**4.58**	**128**	Pn	**Pn**	**10 14 35.1**	**-0.3**
H05N1					**Sn**	**10 15 26.2**	**-2.0**
	SNR=12						
MGG	**Marie-Galante**	**4.66**	**134**	*e*P	**Pn**	**10 14 40.8**	**+4.3**
BBL	**Barber's Block**	**4.84**	**138**	*e*P	**Pn**	**10 14 41.4**	**+2.3**
SDDR	**Presa de Saban**	**6.13**	**269**	*e*Pn	**Pn**	**10 14 58.1**	**+1.2**
PCRV	**Puerto La Cruz** 2.3nm,0.3s,baz=22,slow=2.6,SNR=13	**8.97**	**179**	Pn	**Pn**	**10 15 36.2**	**+0.4**
PCRV					**Sn**	**10 17 14.5**	**-1.8**
	0.8nm,0.3s,baz=334,slow=15,SNR=3.3						
SDV	**Santo Domingo** 1.3nm,0.3s,baz=225,slow=19,SNR=2.3	**11.70**	**210**	Pn	**Pn**	**10 16 14.1**	**+0.7**
SDV				LR	LR	10 21 08.8	
	comp=Z,266nm,19.0s,baz=58,slow=40						
SDV	**Santo Domingo**	**11.70**	**210**	*e*P	**Pn**	**10 16 17.4**	**+3.9**
SDV	**Santo Domingo** 22nm,0.8s	**11.70**	**210**	*e*P	**Pn**	**10 16 17.9**	**+4.5**
OCAC	**Ocana**	**13.67**	**218**	*e*P	**Pn**	**10 16 40.1**	**-0.2**
CBRI	**Barrientos, No**	**13.80**	**215**	*e*P	**Pn**	**10 16 39.7**	**-2.4**
GRMC	**Gramalote, San**	**13.80**	**215**	*e*P	**Pn**	**10 16 40.9**	**-1.2**
PAMC	**Pamplona, Colo**	**14.06**	**214**	*e*P	**Pn**	**10 16 46.5**	**+0.6**
BTLC	**Betulia, Santa**	**14.72**	**215**	*e*P	**P**	**10 17 00.3**	**-0.5**
MOTC	**Monteria, Cord**	**14.77**	**227**	*e*P	**P**	**10 17 00.9**	**-0.1**
BARC	**Barichara**	**14.95**	**214**	*e*P	**Pn**	**10 16 58.0**	**+0.3**
RUSC	**La Rusia**	**15.49**	**212**	*e*P	**Pn**	**10 17 05.5**	**+0.3**
HELC	**Santa Helena**	**16.61**	**220**	*e*P	**Pn**	**10 17 19.8**	**+0.3**
HELC	**Santa Helena** 29nm,0.6s	**16.61**	**220**	*e*Pn	**Pn**	**10 17 20.0**	**+0.4**
NORC	**Norcasia**	**16.73**	**217**	*e*P	**P**	**10 17 22.3**	**-0.6**
CHIC	**Chingaza**	**16.89**	**212**	*e*P	**Pn**	**10 17 22.7**	**-0.4**
ROSC	**El Rosal** 0.9nm,0.3s,baz=135,slow=6.3,SNR=14	**17.02**	**214**	P	**Pn**	**10 17 25.0**	**+0.3**
ROSC				LR	LR	10 24 37.1	
	comp=Z,184nm,19.1s,baz=38,slow=40						
ROSC	**El Rosal** 15nm,0.8s	**17.02**	**214**	*e*Pn	**P**	**10 17 27.1**	**+0.7**
SJAC	**San Juan de Ar**	**18.18**	**211**	*e*P	**Pn**	**10 17 38.3**	**-0.4**
PRAC	**Prado**	**18.27**	**214**	*e*P	**Pn**	**10 17 35.9**	**-4.0**
PRAC	**Prado** 8.8nm,0.7s	**18.27**	**214**	*e*Pn	**Pn**	**10 17 39.3**	**-0.6**
NHSC	**New Hope** 129nm,1.6s	**19.52**	**318**	*e*P	**Pn**	**10 17 59.4**	**+4.6**
PTGA	**Pitinga** 2.6nm,0.3s,baz=343,slow=12,SNR=11	**20.36**	**166**	P	**P**	**10 18 01.2**	**-1.6**
PTGA				LR	LR	10 25 31.7	
	comp=Z,58nm,20.2s,baz=348,slow=36						
TIGA	**Tifton** 27nm,0.9s	**20.87**	**309**	P	Pn	10 18 13.9	+3.2
CRUC	**La Cruz**	**21.18**	**216**	*e*P	**P**	**10 18 12.2**	**+0.2**
OTAV	**Otavalo**	**23.11**	**217**	*e*P	**P**	**10 18 30.5**	**-2.2**
OTAV	**Otavalo** 8.8nm,0.9s	**23.11**	**217**	*e*P	**P**	**10 18 33.0**	**+0.3**
TKL	**Tuckaleechee C** 6.8nm,0.5s,baz=131,slow=12,SNR=24	**23.43**	**318**	P	P	10 18 51.5	+16
TKL				S	**S**	**10 22 49.0**	**+1.1**
	2.2nm,0.4s,baz=90,slow=12,SNR=4.3						
CCIG	**Comitan** 11nm,1.0s	**26.18**	**268**	*e*P	**P**	**10 19 01.3**	**+0.3**
SAML	**Samuel** 6.4nm,0.9s	**28.01**	**177**	*e*P	**P**	**10 19 17.2**	**0.0**
SADO	**Sadowa** comp=Z,80nm,20.4s,baz=216,slow=34	**28.16**	**338**	LR	LR	10 29 10.1	
ATAH	**Atahualpa** comp=Z,148nm,19.4s,baz=359,slow=40	**29.39**	**208**	LR	LR	10 33 06.1	
SIV	**San Ignacio** 2.4nm,0.5s,baz=24,slow=12,SNR=9.0	**35.16**	**174**	P	**P**	**10 20 18.5**	**-1.5**
SCHQ	**Schefferville** comp=Z,35nm,21.2s,baz=336,slow=32	**35.61**	**358**	LR	LR	10 32 28.6	
TX31	**Lajitas Ar. Si**	**36.69**	**294**	*e*P	**P**	**10 20 37.9**	**+4.7**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=112,slow=9.9,SNR=7.2	**36.69**	**294**	P	**P**	**10 20 33.5**	**+0.2**
TXAR				PcP	**PcP**	**10 22 55.9**	**+0.1**
	0.7nm,1.0s,baz=102,slow=4.1,SNR=3.8						
RCBR	**Riachuelo** 8.6nm,0.9s,baz=50,slow=7.9,SNR=3.2	**37.80**	**128**	P	**P**	**10 20 43.5**	**+0.9**
RCBR	**Riachuelo** 65nm,1.5s	**37.80**	**128**	*e*P	**P**	**10 20 44.5**	**+1.8**
HPIG	7.2nm,0.6s	**38.25**	**289**	*e*P	P	10 20 52.0	+5.4
ULM	**Lac du Bonnet** comp=Z,52nm,18.1s,baz=282,slow=40	**39.62**	**329**	LR	LR	10 39 35.3	
SDCO	**Great Sand Dun** 2.6nm,0.8s	**39.89**	**306**	*e*P	**P**	**10 21 00.6**	**+0.3**
PDAR	**Pinedale Array** 0.6nm,0.5s,baz=98,slow=9.1,SNR=7.4	**44.33**	**312**	P	**P**	**10 21 36.2**	**-0.2**
CPUP	**Villa Florida** 2.9nm,0.7s,baz=347,slow=7.8,SNR=10	**45.83**	**171**	P	**P**	**10 21 45.7**	**-2.4**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=102,slow=7.2,SNR=3.7	**55.06**	**334**	P	**P**	**10 22 56.5**	**-1.0**
YKA				LR	LR	10 48 29.0	
	comp=Z,5.8nm,18.2s,baz=180,slow=38						
DBIC	**Dimbokro** comp=Z,22nm,19.2s,baz=152,slow=34	**59.48**	**94**	LR	LR	10 46 53.4	
TORD	**Torodi Ar. Bea** 0.5nm,0.9s,baz=312,slow=7.1,SNR=2.5	**63.83**	**84**	P	**P**	**10 23 58.0**	**-0.8**
TORD				LR	LR	10 50 04.9	
	comp=Z,28nm,18.6s,baz=90,slow=34						
NOA	**NORSAR Array B** comp=Z,19nm,20.1s,baz=240,slow=32	**66.63**	**31**	LR	LR	10 49 21.2	
GERES	**GERESS Array B** comp=Z,18nm,19.2s,baz=298,slow=34	**68.30**	**44**	LR	LR	10 51 46.7	
ILAR	**Eielson Array** 0.2nm,0.7s,baz=75,slow=4.2,SNR=3.7	**69.45**	**333**	P	**P**	**10 24 32.5**	**-1.3**
FINES	**FINESS Array B** comp=Z,22nm,19.8s,baz=200,slow=33	**73.76**	**30**	LR	LR	10 54 24.9	
AKASG	**Malin Array Be** comp=Z,27nm,21.7s,baz=55,slow=33	**77.88**	**40**	LR	LR	10 55 38.8	
ASAR	**Alice Springs** 0.9nm,1.0s,baz=114,slow=5.3,SNR=4.4	**162.03**	**252**	PKPab	**PKPab**	**10 34 13.8**	**-0.6**

NIED ***19*** *10:18:00, 24°.70N×121°.80E, h59km, Mw4.3 Best double couple: M₀3.36000×10¹⁵ NP1:φs170.00000°, δ64.00000°, λ19.00000°. NP2:φs71.00000°, δ73.00000°, λ153.00000°.*

IDC ***19*** *10:18:54.8±0.8, 24°.69N×121°.96E, h89km±6km, mb3.5/13, mb1 3.6/14, mb1mx3.5/43, mbtmp3.8/14, MS3.2/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=20.9km s-min=13.0km az=71.0*

JMA ***19*** *10:18:54.2±0.2, 24°.66N×121°.83E, h82km±2km, M4.1*

ISCJB ***19*** *10:18:54.2±0.1, 24°.73N±0°.02×121°.88E±0°.01, h86km±1km, mb4.1/31, Error ellipse: s-maj=2.9km s-min=1.8km az=152.7*

TAP ***19*** *10:18:55.4, 24°.69N×121°.84E, h75km, ML4.8, B*

NEIC ***19*** *10:18:55.1±0.3, 24°.71N×121°.84E, h78km±3km, mb4.5/19, Error ellipse: s-maj=6.5km s-min=4.8km az=105.0*

NEIC Felt [II] at Taipei. Recorded [4 TAP] in Yilan; [2 TAP] in Hualien, Miaoli and Taoyuan; [1 TAP] in Changhua, Hsinchu, Nantou and Yunlin.

BJI ***19*** *10:18:55.5, 24°.78N×121°.58E, h88km, mb4.3/31, mB4.4/16, Ms3.7/11, Ms7 3.4/6*

ISC 19 10:18:55.3±0.5**, 24°.71N**±0°.03×**121°.87E**±0°.02**, h80**km±3km**, n173,** σ1**9**15/255**, mb4.2**/31**, 8C-40D, Taiwan**

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

baz=101
YOJ Yonaguni jima 1.07 103 *e*Pn **Pn** 10 19 14.7 -0.4
YOJ eSn **Sn** 10 19 31.2 +1.2
WDT Danda 1.17 215⇓*i*P **Pn** 10 19 16.1 -0.6
baz=214
SMLT Sun Moon Lake 1.21 227⇓*i*P **Pn** 10 19 17.5 +0.4
baz=234
SMLT S **Sn** 10 19 34.7 +1.3
baz=234
TCU Taichung 1.23 243⇓*e*P **Pn** 10 19 17.3 +0.1
baz=250
TCU eS **Sn** 10 19 31.9 -1.7
baz=250
TYC Yuchr 1.23 229⇓*i*P **Pn** 10 19 17.4 +0.3
baz=235
TYC S **Sn** 10 19 34.3 +0.8
baz=235
SSLB Suanglung 1.25 222 *e*Pn **Pn** 10 19 17.7 +0.3
SSLB eSn **Sn** 10 19 34.9 +0.9
EHY Hungye 1.30 203 ⇓P **Pn** 10 19 16.2 -1.9
baz=201
WNT Mingjian 1.36 233⇓*i*P **Pn** 10 19 19.3 +0.4
baz=241
WNT eS **Sn** 10 19 36.5 -0.2
baz=241
YULB Yu-li 1.42 202 *e*Pn **Pn** 10 19 19.1 -0.4
YULB eSn **Sn** 10 19 41.4 +3.5
TWF1 Yuli 1.45 201⇓*e*P **Pn** 10 19 18.2 -1.9
baz=199
YUS Yu-Shan 1.48 215⇓*i*P **Pn** 10 19 21.2 +0.3
baz=206
YUS S **Sn** 10 19 41.2 +1.1
baz=206
ALS Alishan 1.54 219⇓*e*P **Pn** 10 19 22.0 +0.5
baz=227
ALS eS **Sn** 10 19 41.9 +0.6
baz=227
CHN5 Tsauling 1.56 225 ⇓P **Pn** 10 19 21.7 +0.2
baz=233
WGK Gukeng 1.57 230 ⇓P **Pn** 10 19 21.8 +0.3
baz=238
WGK eS **Sn** 10 19 42.2 +0.8
baz=238
CHKT Chengkung 1.67 196 *e*P **Pn** 10 19 21.8 -1.1
baz=185
WTCT Ta-ch'eng 1.68 240⇓*e*P **Pn** 10 19 22.6 -0.3
baz=238
WTCT eS **Sn** 10 19 42.9 -1.0
baz=238
ELDTW Lidau 1.71 207 *e*P **Pn** 10 19 23.1 -0.3
baz=199
CHN2 Minshiung 1.73 228 ⇓P **Pn** 10 19 24.0 +0.3
baz=235
CHN2 eS **Sn** 10 19 46.2 +0.9
baz=235
IRIF Iriomote-Funau 1.73 102 P **Pn** 10 19 23.2 -0.5
IRIF S **Sn** 10 19 44.3 -0.9
CHN4 Tsaushan 1.79 221 *e*P **Pn** 10 19 24.6 +0.2
baz=219
CHN4 eS **Sn** 10 19 48.8 +2.2
baz=219
CHY Chiayi 1.79 228⇓*i*P **Pn** 10 19 24.7 +0.2
baz=234
CHY eS **Sn** 10 19 46.3 -0.3
baz=234
TPUB Ta-pu 1.81 219 *e*Pn **Pn** 10 19 24.7 0.0
TPUB eSn **Sn** 10 19 48.9 +1.9
WSF Szhu 1.85 235 *e*P **Pn** 10 19 24.9 -0.3
baz=233
WSF eS **Sn** 10 19 47.6 -0.2
baz=233
STYT Tauyuan 1.85 214⇓*i*P **Pn** 10 19 26.0 +0.7
baz=222
STYT eS **Sn** 10 19 50.4 +2.4
baz=222
WTP Ta-pu 1.86 218⇓*i*P **Pn** 10 19 25.6 +0.2
baz=226
WTP eS **Sn** 10 19 49.5 +1.3
baz=226
HATJ Hateruma jima 1.88 110 P **Pn** 10 19 25.4 -0.2
HATJ S **Sn** 10 19 49.4 +0.7
TWK Hsinying 1.92 222 *e*P **Pn** 10 19 25.9 -0.3
baz=220
CHN1 Nanshi 1.96 219⇓*e*P **Pn** 10 19 26.6 0.0
baz=229
JKRS Kuro-shima 2.00 103 P **Pn** 10 19 27.2 -0.1
JKRS S **Sn** 10 19 51.6 0.0
SGST Jiashian 2.01 216 *e*P **Pn** 10 19 27.9 +0.5
baz=223
SGST eS **Sn** 10 19 53.5 +1.8
baz=223
TWG Pinlang 2.02 201 *e*P **Pn** 10 19 25.6 -1.9
baz=190
TWG Pinlang 2.02 201 *e*Pn **Pn** 10 19 26.1 -1.5
CHN8 Yiju 2.04 228 *e*P **Pn** 10 19 27.4 -0.3
baz=236
CHN8 eS **Sn** 10 19 52.5 0.0
baz=236
TTN Taitung 2.06 199 *e*P **Pn** 10 19 26.3 -1.7
baz=189
JIJ Ishigaki jima 2.10 99 P **Pn** 10 19 27.9 -0.6
JIJ S **Sn** 10 19 52.5 -1.4
CHN3 Shinhua 2.13 221 *e*P **Pn** 10 19 29.5 +0.5
baz=219
SCLT Jiali 2.17 225 *e*P **Pn** 10 19 29.3 -0.1
baz=223
SCLT eS **Sn** 10 19 55.7 +0.2
baz=223
JISG Ishigakijimahi 2.22 93 P **Pn** 10 19 30.0 -0.2
JISG S **Sn** 10 19 56.6 -0.2
TAI1 Yung-k'ang 2.24 222 *e*P **Pn** 10 19 30.6 +0.2
baz=231
SSD Sandimen 2.26 210 *e*P **Pn** 10 19 31.5 +0.7
baz=208
SSD eS **Sn** 10 19 59.5 +1.7
baz=208
ECL Taimali 2.27 202 *e*P **Pn** 10 19 29.6 -1.2
baz=193
TWM1 Shoushan 2.30 215⇓*e*P **Pn** 10 19 32.2 +0.9
baz=223
SGLT Jiouru 2.35 213 *e*P **Pn** 10 19 32.7 +0.8
baz=222
PNG Penghu 2.40 242 ⇓P **Pn** 10 19 31.4 -1.2
baz=240
PNG eS **Sn** 10 19 57.5 -3.6
baz=240
WDGT Dungji 2.49 235 *e*P **Pn** 10 19 32.3 -1.4
baz=234
EAST Anshuo 2.50 202⇓*e*P **Pn** 10 19 33.0 -1.0
baz=193
TAW Tawu 2.51 201 *e*P **Pn** 10 19 34.7 +0.6
baz=192
JTJ Tarama 2.58 91 P **Pn** 10 19 35.4 +0.5
JTJ eS **Sn** 10 20 05.9 +0.6
SCZT Fangliau 2.60 206⇓*e*P **Pn** 10 19 36.0 +0.7
baz=217
LAY Lan-yu 2.68 186 *e*P **Pn** 10 19 35.1 -1.3
baz=179
TWP Hsiaoliuchiu 2.73 211 *e*P **Pn** 10 19 37.0 -0.1
baz=221
HEN Hengchun 2.89 201 *e*P **Pn** 10 19 38.0 -1.2
baz=199
TWK1 Hengchun 2.93 200 *e*P **Pn** 10 19 38.1 -1.5
baz=197
TSEB Hengchuen, Pin 2.94 198 *e*P **Pn** 10 19 39.9 +0.1
baz=196
QZH Quanzhou 2.99 275⇓*i*Pn Pn 10 19 32.1 -8.4
QZH Sn Sn 10 20 04.0 -11
QZH smax smax
comp=N,2μm,0.8s
QZH smax smax
comp=E,1μm,0.7s
JIRB Irabujima 3.00 87 P **Pn** 10 19 41.1 +0.4
JIRB eS **Sn** 10 20 16.4 +0.7
JIKM Ikemajima 3.08 85 P **Pn** 10 19 42.1 +0.4
JIKM S **Sn** 10 20 18.9 +1.5
JMJ Miyako jima 2 3.11 87 P **Pn** 10 19 43.0 +0.8
JMJ eS **Sn** 10 20 18.5 +0.2
JMJ Miyako jima 2 3.11 87 *e*P **Pn** 10 19 43.7 +1.5
baz=88
KNM Kinmen 3.14 265 ⇑P **Pn** 10 19 43.3 +0.7
baz=264
JOGS Gusukube 3.21 88 P **Pn** 10 19 44.5 +0.9
JOGS eS **Sn** 10 20 22.1 +1.3
JKE Kume jima 2 4.72 69 P **Pn** 10 20 05.6 +1.5
JKE S **Sn** 10 21 00.3 +2.7
JAGN Aguni-jima 5.20 68 P **Pn** 10 20 11.6 +1.1

JAGN S **Sn** 10 21 10.5 +1.4
JJT2 Tamagusuku 2 5.50 74 P **Pn** 10 20 15.3 +0.6
JJT2 S **Sn** 10 21 17.7 +1.1
JNTH Nagotoyohara 5.84 71 P **Pn** 10 20 19.3 0.0
JNTH S **Sn** 10 21 22.4 -2.4
JIH Iheya 5.96 66 P **Pn** 10 20 21.6 +0.7
JIH S **Sn** 10 21 27.2 -0.6
JOW Kunigami 6.15 69 P **Pn** 10 20 23.3 -0.2
JOW S **Sn** 10 21 30.4 -2.0
JOW Kunigami 6.15 69 *e*P **Pn** 10 20 23.3 -0.2
baz=72
JOW Kunigami 6.15 69 *e*Pn **Pn** 10 20 23.8 +0.3
JOW eSn **Sn** 10 21 30.7 -1.7
JOKE Okinoerabujima 6.58 65 P **Pn** 10 20 28.8 -0.6
JOKE S **Sn** 10 21 43.0 0.0
JTK Tokunoshima 7.05 63 P **Pn** 10 20 34.9 -1.0
JTK S **Sn** 10 21 53.1 -1.5
JAMN Amaminishikomi 7.43 60 P **Pn** 10 20 40.0 -1.0
NJ2 Nanjing 7.78 341 *e*P **Pn** 10 20 46.0 +0.3
NJ2 S **Sn** 10 22 10.3 -1.9
NJ2 PMZ
comp=E,22nm,0.7s
NJ2 SMN
comp=E,130nm,1.0s
NJ2 SME
comp=E,72nm,0.7s
NJ2 LN
comp=E,530nm,12.4s
NJ2 LE
comp=E,860nm,12.2s
NJ2 LZ
comp=E,290nm,10.3s
JAM Amami Oshima 7.84 60 P **Pn** 10 20 45.9 -0.7
GZH Guangzhou 7.97 260 P **Pn** 10 20 44.0 -4.4
QIZ Qiongzhong 12.51 245 P **Pn** 10 21 50.3 -0.1
QIZ S **Sn** 10 24 09.3 +1.4
KS15 Wonju Array Si 13.69 21 *e*Pn **P** 10 22 11.7 -0.1
KSRS Korea Array 13.71 21 P **Pn** 10 22 08.3 +2.2
comp=E,0.9nm,0.3s,baz=201,slow=12,SNR=30
KS01 Wonju Array Si 13.72 21 *e*Pn **Pn** 10 22 06.6 +0.3
GYA Guiyang 13.83 280 *e*P **Pn** 10 22 08.0 0.0
GYA pP P 10 22 19.0 +5.3
GYA S **Sn** 10 24 40.4 +0.3
GYA sS S 10 24 58.6 +1.3
GYA PMZ
comp=E,10.0nm,0.6s
XAN Xi'an 14.61 312 P **P** 10 22 20.3 -1.9
XAN PMZ
comp=E,9.0nm,0.7s
CD2 Chengdu 17.16 295 *e*P **Pn** 10 22 49.0 -1.0
CD2 pP pP 10 23 05.1 -1.2
CD2 sP sP 10 23 15.3 -1.2
CD2 S **Sn** 10 26 00.0 -0.5
CD2 PMZ
comp=E,20nm,0.5s
CD2 PMZ
comp=E,220nm,5.4s
HHC Hu-ho-hao-te 18.25 334 *e*P **Pn** 10 23 03.4 +0.2
HHC sP sP 10 23 29.0 +0.5
HHC S **S** 10 26 22.8 -3.5
HHC sS sS 10 26 42.9 -10
HHC PMZ
comp=E,19nm,0.9s
HHC PMZ
comp=E,98nm,5.4s
MJAR Matsushiro Arr 18.32 46 P **P** 10 23 02.0 -1.1
comp=E,0.2nm,0.3s,baz=230,slow=7.8,SNR=5.5
MJAR pP **pP** 10 23 20.1 +1.1
comp=E,0.3nm,0.3s,baz=246,slow=11,SNR=4.5
LZH Lanzhou 19.21 310 *e*P **Pn** 10 23 17.3 +2.6
LZH pP pP 10 23 33.3 +4.3
LZH sP sP 10 23 42.9 +3.8
LZH PMZ
comp=E,15nm,1.0s
CN2 Changchun 19.27 8 *e*P **Pn** 10 23 15.1 -0.1
CN2 PMZ
comp=E,10.0nm,0.6s
KKM Kota Kinabalu 19.34 197 *e*P **Pn** 10 23 15.7 -0.7
comp=E,27nm,1.2s
MDJ Mudanjiang 20.83 16 P **P** 10 23 31.5 +1.2
MDJ pP pP 10 23 46.1 -0.3
MDJ S **S** 10 27 20.3 +2.2
MDJ sS sS 10 27 43.6 -1.2
MDJ ScS **ScS** 10 34 49.8 +0.9
MDJ PMZ
comp=E,5.0nm,0.5s
MDJ PMZ
comp=E,22nm,5.5s
CMAR Chiang Mai Arr 22.20 258 P **P** 10 23 44.5 -0.6
comp=E,1.2nm,0.6s,baz=67,slow=8.9,SNR=5.8
CMAR LR LR 10 32 54.1
comp=E,33nm,18.1s,baz=235,slow=38
GTA Gaotai 23.67 314 *e*P **P** 10 24 00.8 +1.1
GTA pP pP 10 24 18.3 +1.0
GTA sP sP 10 24 27.9 +0.7
GTA PMZ
comp=E,6.0nm,0.9s
SBUM Sibu 24.01 204 *e*P **P** 10 24 02.5 -0.3
comp=E,8.7nm,0.8s
KSM Kuching 25.66 208 *e*P **P** 10 24 16.8 -1.0
comp=E,26nm,1.7s
KLR Kul'dur 25.67 15 P **P** 10 24 17.4 -0.1
comp=E,1.3nm,0.5s,baz=191,slow=8.3,SNR=5.6
ULN Ulaanbaatar 25.92 337 *e*P **P** 10 24 20.1 0.0
comp=E,6.6nm,0.8s
SONM Songino Array 26.13 336 P **P** 10 24 21.9 0.0
comp=E,2.5nm,0.9s,baz=158,slow=8.9,SNR=14
SONM pP **pP** 10 24 42.3 +1.9
comp=E,8.6nm,0.9s,baz=151,slow=9.3,SNR=13
SONA1 Songino Array 26.14 336 *e*P **P** 10 24 22.2 +0.2
TLY Talaya 30.32 337 pP pP 10 25 19.4 +1.7
comp=E,4.3nm,0.7s,baz=25,slow=14,SNR=4.5
WMQ Urumqi 33.75 313 P **P** 10 25 30.9 +1.7
WMQ pP pP 10 25 48.9 +0.8
WMQ sP sP 10 25 57.9 +0.5
WMQ PMZ
comp=E,3.0nm,0.6s
WMQ PMZ
comp=E,34nm,3.8s
MK01 Makanchi Array 38.38 315 *e*P **P** 10 26 08.8 +0.1
MK31 Makanchi Array 38.40 315 *e*P **P** 10 26 08.6 -0.2
MKAR Makanchi Array 38.40 315 P **P** 10 26 08.9 0.0
comp=E,0.6nm,0.4s,baz=99,slow=11,SNR=7.6
MKAR Makanchi Array 38.40 315 *e*P **P** 10 26 09.1 +0.2
MAKZ Makanchi 38.61 315 *e*P **P** 10 26 11.2 +0.7
ZAA0 Zalesovo Array 40.15 326 *e*P **P** 10 26 22.6 -0.7
ZALV Zalesovo Beam 40.15 326 P **P** 10 26 22.0 -1.2
comp=E,1.3nm,0.4s,baz=115,slow=8.6,SNR=5.6
ZALV pP **pP** 10 26 41.7 -0.7
comp=E,4.2nm,0.7s,baz=112,slow=7.9,SNR=7.8
KSH Kashi 41.14 302 *e*P **P** 10 26 34.9 +3.1
KSH pP pP 10 26 53.1 +2.0
KSH PP **PnPn** 10 28 15.5 +2.3
KSH PcP **PcP** 10 28 33.5 +3.7
KSH S **S** 10 32 42.9 +3.6
KSH SS **SS** 10 35 44.6 -0.1
KSH ScS **ScS** 10 36 27.8 -0.6
KSH PMZ
comp=E,3.0nm,0.4s
KURBB Kurchatov Arra 42.11 319 P **P** 10 26 38.5 -0.9
comp=E,0.5nm,0.5s,baz=111,slow=9.7,SNR=6.7
KURBB pP **pP** 10 26 58.9 +0.1
comp=E,0.4nm,0.6s,baz=101,slow=9.2,SNR=3.2
AAK Ala-Archa 42.69 307 LR LR 10 45 57.1
comp=E,40nm,18.5s,baz=89,slow=38
COEN Coen 43.70 149 *e*P **P** 10 26 53.1 +0.6
comp=E,19nm,1.4s
WRAB Tennant Creek 46.01 164 *e*P **P** 10 27 10.1 -0.7
comp=E,19nm,1.5s
WRA Warramunga Arr 46.02 164 P **P** 10 27 08.9 -2.0
comp=E,0.7nm,0.4s,baz=346,slow=8.5,SNR=7.6
WB2 Warramunga Arr 46.02 164 *e*P **P** 10 27 10.6 -0.4
comp=E,26nm,1.7s
TIXI Tiksi 47.13 3 P **P** 10 27 17.9 -1.2
comp=E,1.7nm,0.3s,baz=172,slow=2.7,SNR=3.9
AS31 Alice Springs 49.49 165 *e*P **P** 10 27 39.0 +1.3
comp=E,2.7nm,1.4s
ASAR Alice Springs 49.49 165 P **P** 10 27 36.0 -1.7
comp=E,1.0nm,0.7s,baz=349,slow=7.0,SNR=14
ASAR pP **pP** 10 27 58.4 +0.8
comp=E,1.3nm,0.8s,baz=337,slow=6.0,SNR=5.7
ABKAR Akbulak array 53.52 314 *e*P **P** 10 28 07.7 +0.1
GEYT Alibeck 55.07 300 pP pP 10 28 40.3 +1.1
comp=E,1.5nm,0.4s,baz=137,slow=6.7,SNR=2.0
TT01 Tatalina 64.74 30 *e*P **P** 10 29 25.1 +0.3

TTA Tatalina 64.74 30 *e*P **P** 10 29 25.4 +0.5
comp=E,10nm,1.8s
PPLA Purkeypile 66.48 30 *e*P **P** 10 29 37.5 +1.3
comp=E,12nm,1.4s
SPU Mount Spurr 66.81 32 *e*P **P** 10 29 38.2 0.0
MDM Murphy Dome 67.86 27 *e*P **P** 10 29 45.4 +0.6
comp=E,14nm,2.0s
RND Reindeer 67.89 29 *e*P **P** 10 29 44.8 -0.2
comp=E,4.7nm,1.2s
WRH Wood River Hil 68.01 28 *e*P **P** 10 29 46.0 +0.4
comp=E,11nm,1.9s
PMR Palmer 68.11 31 *e*P **P** 10 29 45.8 -0.5
comp=E,16nm,1.8s
ILAR Eielson Array 68.46 27 P **P** 10 29 45.0 -3.5
comp=E,0.2nm,0.5s,baz=276,slow=4.3,SNR=4.9
SCM Sheep Creek Mo 68.90 31 *e*P **P** 10 29 51.8 +0.3
comp=E,6.0nm,1.0s
SPB5 Spitsbergen Ar 69.10 348 *e*P **P** 10 29 53.2 +0.9
SPA3 Spitsbergen Ar 69.10 348 *e*P **P** 10 29 52.4 +0.1
EYAK Cordova Ski Ar 69.95 32 *e*P **P** 10 29 58.0 +0.2
comp=E,13nm,1.6s
RAGM Ragged Mountai 70.51 32 *e*P **P** 10 30 01.6 +0.4
comp=E,12nm,1.4s
FIA1 FINESS Array S 71.31 330 *e*P **P** 10 30 05.1 -0.9
FINES FINESS Array B 71.31 330 P **P** 10 30 03.8 -2.1
comp=E,0.6nm,0.3s,baz=38,slow=4.0,SNR=6.8
DAWY Dawson 71.78 27 *e*P **P** 10 30 08.3 -0.5
comp=E,14nm,2.0s
INK Inuvik 72.50 22 *e*P **P** 10 30 11.7 -1.3
comp=E,2.9nm,1.0s
BRTR Keskin Array B 73.36 306 P **P** 10 30 17.9 -1.0
comp=E,1.0nm,0.9s,baz=147,slow=7.1,SNR=5.2
BRTR pP **pP** 10 30 40.5 +0.6
comp=E,1.2nm,0.8s,baz=116,slow=5.6,SNR=4.0
BR231 Keskin MP Arra 73.96 307 *e*P **P** 10 30 19.4 -2.9
YKA Yellowknife Ar 82.24 23 P **P** 10 31 06.2 -1.3
comp=E,0.4nm,0.5s,baz=311,slow=5.1,SNR=9.3
HOPE Hope Point 146.35 203 *e*PKPdf **PKPdf** 10 38 25.6 +0.5

KRSC 19 10:37:36.1±1.1, 51.66N×158.44E, h105km±16km, ML3.7, FELT [II] at lighthouse Krugliy., Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.77**	**3**	*e*P		Pn	10 37 56.0	+1.4
RUS				eS		Sn	10 38 09.6	+1.1
ASAK	**Asacha**	**0.79**	**335**	*e*P		Pn	10 37 56.5	+1.6
ASAK				eS		Sn	10 38 10.6	+1.6
PAU	**Pauzhetka**	**1.04**	**260**	*e*P		Pn	10 37 58.5	+1.3
PAU				eS		Sn	10 38 14.2	+1.0
KRMR	**Karymshinskiy**	**1.18**	**351**	*e*P		Pn	10 38 00.5	+1.7
KRMR				eS		Sn	10 38 17.8	+1.8
PET	**Petropavlovsk**	**1.37**	**5**	*e*P		Pn	10 38 02.7	+1.7
PET				eS		Sn	10 38 21.2	+1.4
DALK	**Dalny**	**1.38**	**8**	*e*P		Pn	10 38 02.8	+1.7
DALK				eS		Sn	10 38 21.4	+1.3
UGLR	**Uglovaya**	**1.56**	**8**	*e*P		Pn	10 38 05.7	+2.2
UGLR				eS		Sn	10 38 26.4	+2.1
NLC	**Nalytchevo**	**1.61**	**20**	*e*P		Pn	10 38 04.9	+1.0
NLC				eS		Sn	10 38 24.8	-0.2
AVH	**Avacha**	**1.61**	**6**	*e*P		Pn	10 38 06.6	+2.5
AVH				eS		Sn	10 38 27.9	+2.6
SMAR	**Somma**	**1.62**	**8**	*e*P		Pn	10 38 06.1	+1.9
SMAR				eS		Sn	10 38 26.7	+1.1
KOK	**Koryaka**	**1.64**	**4**	*e*P		Pn	10 38 06.4	+2.1
KOK				eS		Sn	10 38 27.7	+1.9
SDLR	**Sedlovina**	**1.64**	**9**	*e*P		Pn	10 38 06.1	+1.7
SDLR				eS		Sn	10 38 26.8	+0.9
KRX	**Arik**	**1.70**	**4**	*e*P		Pn	10 38 06.8	+1.6
KRX				eS		Sn	10 38 28.4	+1.0
SKR	**Severo-Kuril's**	**1.76**	**237**	*e*P		Pn	10 38 07.0	+1.2
SKR				eS		Sn	10 38 28.8	+0.4
GNL	**Ganaly**	**2.06**	**352**	*e*P		Pn	10 38 11.1	+1.4
GNL				eS		Sn	10 38 35.7	+0.4
MKZ	**Mys Kozlova**	**3.51**	**33**	*e*P		Pn	10 38 30.5	+1.8
MKZ				eS		Sn	10 39 09.3	0.0

*GUC **19** 10:39:09.7±0.4, 29.37S×71.00W, h64km±5km, ML3.2*
*SJA **19** 10:39:28.2±0.6, 30.37S×69.43W, h140km±5km, ML3.0, MW3.1*

ISC 19 10:39:12.2±1.6, 29.34S±0.04×71.0W±0.1, h35km, n16, σ2.831/15, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.39**	**33**	*e*P		Pn	**10 39 21.7**	**0.0**
LCO				eS		Sn	**10 39 31.1**	**+3.0**
LCO				IAML			10 39 32.4	
comp=N,4μm,0.3s								
VACH	**Vallenar**	**0.78**	**12**	*e*P		Pn	**10 39 25.6**	**-1.2**
VACH				eS		Sn	**10 39 37.9**	**+0.6**
TLL	**Tololo Astrono**	**0.83**	**171**	*e*P		Pn	**10 39 26.5**	**-1.3**
TLL				eS		Sn	**10 39 38.9**	**-0.1**
TLL				IAML			10 39 41.7	
comp=E,1μm,0.4s								
CPCH	**Copiapo**	**2.04**	**15**	*e*P		Pn	**10 39 42.9**	**-1.3**
AGUA	**GUANDACOL**	**2.15**	**94**	*i* S		Sn	**10 40 14.4**	**+3.2**
VCA	**Vinchina**	**2.48**	**77**	*i* S		Sn	10 40 28.6	+9.3
VCA				IAML			10 40 30.1	
comp=Z,173nm,0.3s								
RTLS	**Leoncito**	**2.83**	**150**	*i* P		Pn	**10 39 57.6**	**+2.3**
RTLL	**Cerro Villicun**	**2.92**	**133**	*i* P		Pn	**10 39 55.3**	**-0.9**
SJA	**San Juan**	**3.00**	**137**	*i* P		Pn	**10 39 56.8**	**-0.5**
SJA				*i* S		Sn	10 40 17.3	-15
AUSP	**Uspallata**	**3.17**	**155**	*i* P		Pn	**10 40 02.1**	**+2.2**
RTCV	**Cerro Valdivia**	**3.26**	**141**	*i* P		Pn	**10 39 58.8**	**-1.1**
RTCV				*i* S		Sn	10 40 22.8	-16
AVFE	**Valle Fertil**	**3.30**	**114**	IAML			10 40 15.8	
comp=Z,77nm,0.4s								
ARCO	**CERRO ARCO**	**3.89**	**154**	IAML			10 40 30.8	
comp=Z,22nm,0.4s								
ACAN	**Cantantal**	**4.36**	**133**	*i* P		Pn	**10 40 12.3**	**-3.8**
ACAN				*i* S		Sn	10 40 44.8	-21
MRA	**San Martin**	**5.44**	**126**	IAML			10 41 08.2	
comp=Z,27nm,0.4s								
TCA	**Tanti**	**5.84**	**111**	*i* P		Pn	**10 40 33.0**	**-3.5**

*DDA **19** 10:49:40.8, 39.16N×28.98E, h7km, Md2.8*
*ISK **19** 10:49:40.9, 39.10N×29.06E, h10km, MD2.7*
*ISCJB **19** 10:49:41.3±0.5, 39.11N±0.04×29.01E±0.04, h9km, Error ellipse: s-maj=6.7km s-min=3.8km az=147.1*
*CSEM **19** 10:49:41.3±0.1, 39.11N×29.02E, h8km, MD2.7, Error ellipse: s-maj=3.4km s-min=2.3km az=144.0*

ISC 19 10:49:40.9±0.8, 39.10N±0.03×29.03E±0.03, h9km, n22, σ0.942/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**257**	P		**Pg**	**10 49 46.3**	**+0.3**
DEMI				S		**Sg**	**10 49 49.5**	**+0.2**
DEMI	**Demirci**	**0.25**	**257**	*i* P		**Pg**	**10 49 46.3**	**+0.3**
DEMI				*i* S		**Sg**	**10 49 49.5**	**+0.2**
GEDZ	**Gediz**	**0.30**	**100**	*e*PG		**Pg**	**10 49 47.0**	**0.0**
GEDZ	**Gediz**	**0.30**	**100**	*e*Pg		**Pg**	**10 49 47.0**	**0.0**
GDZ	**Gediz**	**0.35**	**92**	P		**Pb**	**10 49 49.1**	**-0.4**
GDZ				S		**Sb**	**10 49 54.4**	**-0.8**
GDZ	**Gediz**	**0.35**	**92**	*i* P		**Pb**	**10 49 49.1**	**-0.4**
GDZ				*i* S		**Sb**	**10 49 54.4**	**-0.8**
TVSB	**Tavsanli**	**0.49**	**44**	*e*PG		**Pg**	**10 49 51.0**	**+0.6**
TVSB				*e*SG		**Sg**	**10 49 57.4**	**+0.6**
TVSB	**Tavsanli**	**0.49**	**44**	*e*Pg		**Pg**	**10 49 51.0**	**+0.6**
TVSB				*e*Sg		**Sg**	**10 49 57.4**	**+0.6**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG		**Pg**	**10 49 54.0**	**+0.5**
KULA				*e*SG		**Sb**	**10 50 03.7**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg		**Pg**	**10 49 54.0**	**+0.5**
KULA				*e*Sg		**Sb**	**10 50 03.7**	**0.0**
AKS	**Akhisar**	**0.97**	**257**	*e*PG		**Pn**	**10 50 00.4**	**-0.3**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg		**Pn**	**10 50 00.4**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN		**Pb**	**10 50 05.1**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn		**Pb**	**10 50 05.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN		**Pg**	**10 50 05.3**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn		**Pg**	**10 50 05.3**	**-0.1**
IZI	**Iznik**	**1.28**	**15**	*e*PN		**Pg**	**10 50 05.6**	**0.0**
IZI	**Iznik**	**1.28**	**15**	*e*Pn		**Pg**	**10 50 05.6**	**0.0**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN		**Pb**	**10 50 08.0**	**-0.4**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn		**Pb**	**10 50 08.0**	**-0.4**
GULT	**Gulveren**	**1.76**	**40**	*e*PN		**Pn**	**10 50 12.1**	**+0.5**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn		**Pn**	**10 50 12.1**	**+0.5**

WEL 19 11:00:57.6±0.3, 43.58S×172.82E, h8km±1km, ML3.5/14, 2C-1D, Error ellipse: s-maj=3.2km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.17**	**222**	⇓P	Pg	11 01 01.6	+0.4
MQZ				SG	Sg	11 01 04.6	+1.0
MQZ				AML	AML	11 01 04.9	
OXZ	**Oxford**	**0.62**	**294**	P*	Pg	11 01 09.4	-0.1
OXZ				S*	Sb	11 01 19.1	-0.5
LTZ	**Lake Taylor**	**0.89**	**333**	⇑P*	Pg	11 01 14.8	+0.1
LTZ				S*	Sb	11 01 27.0	-0.4
LTZ				AML	AML	11 01 28.0	
KHZ	**Kahutara**	**1.27**	**25**	P*	Pn	11 01 19.9	-1.9
RPZ	**Rata Peaks**	**1.29**	**263**	P*	Pn	11 01 20.8	-1.1
RPZ				AML	AML	11 01 43.1	
RPZ				AML	AML	11 01 46.7	
INZ	**Inchbonnie**	**1.32**	**310**	P*	Pn	11 01 21.2	-1.1
WVZ	**Waitaha Valley**	**1.60**	**288**	PN	Pn	11 01 25.8	-0.4
WVZ				AML	AML	11 01 47.0	
THZ	**Tophouse**	**1.81**	**2**	⇑PN	Pn	11 01 27.7	-1.5
THZ				AML	AML	11 02 03.2	
THZ				AML	AML	11 02 05.0	
DSZ	**Denniston Nort**	**1.98**	**337**	PN	Pn	11 01 31.2	-0.2
DSZ				AML	AML	11 02 04.7	
DSZ				AML	AML	11 02 04.8	
DSZ				AML	AML	11 02 07.0	
DSZ				AML	AML	11 02 07.1	
LBZ	**Lake Benmore**	**2.06**	**246**	AML	AML	11 02 08.0	
LBZ				AML	AML	11 02 08.7	
ODZ	**Otahua Downs**	**2.14**	**226**	AML	AML	11 02 07.0	
ODZ				AML	AML	11 02 14.7	
FOZ	**Fox Glacier**	**2.18**	**270**	AML	AML	11 02 02.8	
FOZ				AML	AML	11 02 15.3	
TUWZ	**Tuamarina**	**2.30**	**22**	PN	Pn	11 01 34.3	-1.6
QRZ	**Quartz Range**	**2.76**	**355**	PN	Pn	11 01 41.2	-1.0
QRZ				AML	AML	11 02 41.8	
QRZ				AML	AML	11 02 53.7	
WKZ	**Wanaka**	**3.00**	**244**	PN	Pn	11 01 45.4	-0.2
WKZ				AML	AML	11 02 40.4	
WKZ				AML	AML	11 02 47.4	
EAZ	**Earnscleugh**	**3.01**	**235**	AML	AML	11 02 36.0	
EAZ				AML	AML	11 02 45.0	
TUZ	**Tuapeka**	**3.29**	**223**	AML	AML	11 02 54.5	
TUZ				AML	AML	11 04 20.5	
SYZ	**Scrubby Hill**	**3.94**	**220**	AML	AML	11 03 16.4	

*GUC **19** 11:01:28.2±0.4, 34.09S×72.28W, h30km±2km, ML3.3*

ISC 19 11:01:27.5±2.2, 34.06S±0.04×72.4W±0.1, h32km±14km, n19, σ2s49/32, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.47**	**136**	*e*P	**Pb**	**11 01 36.9**	**-0.6**
CHPI				*e*S	**Sn**	**11 01 43.5**	**-1.6**
NICH	**Los Niches**	**1.35**	**135**	*e*P	**Pb**	**11 01 51.0**	**-1.1**
NICH				*e*S	**Sb**	**11 02 08.7**	**-0.4**
RCDM	**Rinconada Maip**	**1.44**	**67**	*e*P	**Pb**	**11 01 52.9**	**-0.8**
RCDM				*e*S	**Sb**	**11 02 11.4**	**-0.3**
TALC	**Talca**	**1.48**	**155**	⇓*e*P	**Pb**	**11 01 53.5**	**-0.9**
TALC				*e*S	**Sb**	**11 02 12.6**	**-0.2**
ANTU	**Antumapu**	**1.54**	**72**	*e*P	**Pb**	**11 01 54.5**	**-1.0**
ANTU				*e*S	**Sb**	**11 02 14.4**	**-0.3**
ANTU				IAML		11 02 18.9	
	comp=N,862nm,0.3s						
ROC1	**El Roble**	**1.58**	**47**	*i* P	**Pb**	**11 01 56.1**	**0.0**
ROC1				*i* S	**Sb**	**11 02 20.7**	**+4.9**
ROCH	**El Roble**	**1.58**	**47**	*e*P	**Pb**	**11 01 56.0**	**-0.2**
ROCH				*e*S	**Sb**	**11 02 17.1**	**+1.2**
ROCH				IAML		11 02 27.5	
	comp=N,428nm,0.5s						
CLCH	**Cerro Calan**	**1.68**	**68**	*e*P	**Pb**	**11 01 57.0**	**-0.8**
CLCH				*e*S	**Sb**	**11 02 18.6**	**-0.1**
CLCH				IAML		11 02 24.8	
	comp=E,630nm,0.6s						
PEL	**Peldehue**	**1.69**	**58**	*e*P	**Pb**	**11 01 57.2**	**-0.8**
PEL				*e*S	**Sb**	**11 02 18.8**	**-0.1**
PEL				IAML		11 02 27.2	
	comp=N,603nm,0.5s						
AUSP	**Uspallata**	**3.11**	**55**	*i* P	**Pb**	**11 02 18.6**	**-3.8**
AUSP				*i* S	**Sb**	**11 03 00.6**	**+0.5**
AAGR	**Agrelo**	**3.13**	**73**	*i* P	**Pb**	**11 02 21.3**	**-1.2**
ARCO	**CERRO ARCO**	**3.14**	**68**	*i* P	**Pb**	**11 02 20.9**	**-1.8**
ARCO				*i* S	**Sb**	**11 03 04.1**	**+3.5**
ARCO				IAML		11 03 10.7	
	comp=Z,35nm,0.4s						
ASAL	**Salagasta**	**3.32**	**65**	*i* P	**Pb**	**11 02 22.6**	**-3.1**
ASAL				*i* S	**Sb**	**11 03 07.8**	**+2.1**
RTLS	**Leoncito**	**3.44**	**50**	*i* P	**Pn**	**11 02 22.0**	**+2.8**
RTLS				*i* S	**Sb**	**11 03 06.9**	**-2.5**
RTCV	**Cerro Valdivia**	**3.91**	**57**	*i* P	**Pn**	**11 02 29.5**	**+4.1**
RTLL	**Cerro Villicun**	**4.28**	**52**	*i* P	**Pn**	**11 02 33.4**	**+2.9**
RTLL				*i* S	**Sb**	**11 03 26.1**	**-7.1**
AMOG	**MOGNA**	**4.53**	**48**	*i* P	**Pn**	**11 02 35.8**	**+1.8**
AVFE	**Valle Fertil**	**5.38**	**52**	IAML		11 03 39.3	
	comp=Z,12nm,0.7s						
AGUA	**GUANDACOL**	**5.64**	**37**	*i* P	**Pn**	**11 02 48.6**	**-0.6**

IDC 19 11:01:49.7±6.0, 14.66S×177.62W, h464km±68km, mb3.2/8, mb1 3.5/9, mb1mx3.2/31, mbtmp4.1/9, Error ellipse: s-maj=70.8km s-min=24.8km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.82**	**242**	P	P	11 05 19.6	-0.4
	0.5nm,0.3s,baz=84,slow=19,SNR=4.8						
CTA	**Charters Tower**	**34.85**	**256**	P	P	11 08 02.5	+1.6
	2.7nm,0.4s,baz=90,slow=9.1,SNR=5.3						
STKA	**Stephens Creek**	**40.92**	**238**	P	P	11 08 50.8	+0.1
	1.6nm,0.9s,baz=94,slow=12,SNR=5.5						
WRA	**Warramunga Arr**	**46.05**	**256**	P	P	11 09 30.1	-0.9
	0.7nm,0.4s,baz=91,slow=7.3,SNR=22						
ASAR	**Alice Springs**	**46.48**	**251**	P	P	11 09 33.6	-0.6
	5.3nm,0.3s,baz=85,slow=8.3,SNR=276						
ILAR	**Eielson Array**	**82.56**	**13**	P	P	11 13 22.8	+0.1
	1.1nm,0.6s,baz=226,slow=6.4,SNR=15						
TXAR	**Lajitas Array**	**83.62**	**58**	P	P	11 13 29.0	0.0
	0.8nm,0.7s,baz=221,slow=6.2,SNR=11						
PDAR	**Pinedale Array**	**84.48**	**43**	P	P	11 13 33.0	-0.2
	0.5nm,0.7s,baz=214,slow=1.6,SNR=4.1						
YKA	**Yellowknife Ar**	**91.08**	**24**	P	P	11 14 02.8	-0.6
	0.1nm,0.4s,baz=238,slow=4.6,SNR=5.1						
BRTR	**Keskin Array B**	**142.95**	**318**	PKP	PKPdf	11 20 29.2	-1.1
	0.4nm,0.5s,baz=90,slow=3.6,SNR=3.3						
GERES	**GERESS Array B**	**144.66**	**347**	PKP	PKPab	11 20 33.6	+0.3
	0.2nm,0.3s,baz=58,slow=2.4,SNR=3.3						

*ISCJB **19** 11:05:27.8±0.4, 55.07S±0.07×129.0W±0.2, h14km, mb4.6/15, MS4.8/136, Error ellipse: s-maj=13.6km s-min=9.4km az=179.8*

*IDC **19** 11:05:28.7±0.7, 54.54S×130.09W, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.3/25, mbtmp4.3/6, MS4.8/10, Ms1 4.8/10, ms1mx4.6/16, Error ellipse: s-maj=30.0km s-min=23.4km az=134.0*

*NEIC **19** 11:05:29.6±0.4, 54.89S×129.49W, h10km, mb4.9/10, MS4.9/126, Error ellipse: s-maj=22.2km s-min=13.3km az=139.0*

*GCMT **19** 11:05:29.6±0.1, 55.33S×128.73W, h18km, MW5.5/126, Moment Tensor Solution. s110,c206; s126,c241; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr=0.33±.02; Mθθ 1.43±.03; Mϕϕ -1.09±.02; Mrθ-0.07±.05; Mθϕ 1.80±.02; Mϕr0.24±.05; Best double couple: M₀2.21500×10^17 NP1:ϕs198.00000°, δ85.00000°, λ-173.00000°. NP2:ϕs107.00000°, δ84.00000°, λ-5.00000°. Principal axes: T 2.3680, Plg1.0000°, Azm332.0000°; N -0.3000, Plg82.0000°, Azm235.0000°; P -2.0620, Plg8.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **19** 11:05:29.0, 55.20S×128.60W, h10km, mB5.1/6, Ms5.2/9, Ms7 4.9/8*

ISC 19 11:05:30.1±0.4, 55.02S±0.08×128.89W±0.10, h14km, n199, σ2s07/60, mb4.6/15, MS4.9/135, 1C-1D,

Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**31.60**	**201**	*e*P	**P**	**11 11 50.6**	**-1.1**
	30nm,1.4s						
SBA					LR	LR	
	comp=Z,942nm,21.0s						
RKT	**Rikitea**	**32.18**	**349**	*e*S	**S**	**11 17 07.8**	**-1.7**
	comp=Z,541nm,29.5s						
RKT				*e*LQ	LQ	11 18 58.8	
	comp=Z,1μm,35.5s						
RKT				*e*LR	LR	11 20 24.4	
	comp=Z,6μm,29.2s,baz=172						
RKT	**Rikitea**	**32.18**	**349**	*e*T	T	11 45 40.3	
	comp=Z,23nm,0.3s						
PMSA	**Palmer Station**	**32.48**	**134**	PFAKE		11 12 10.0	+10
PMSA					LR	LR	
	comp=Z,2μm,20.0s						
VNDA	**Vanda**	**32.62**	**202**	P	**P**	**11 12 01.8**	**+1.1**
	comp=Z,3.5nm,0.9s,baz=97,slow=8.6,SNR=12						
VNDA					LR	LR	11 20 48.6
	comp=Z,888nm,21.7s,baz=82,slow=28						
VNDA	**Vanda**	**32.62**	**202**	*e*P	**P**	**11 12 00.3**	**-0.3**
	comp=Z,9.5nm,1.2s						
TBI	**Tubuai**	**35.14**	**326**	*e*S	**S**	**11 17 54.4**	**-1.0**
	comp=Z,469nm,30.5s						
TBI				*e*LR	LR	11 21 38.3	
	comp=Z,6μm,29.5s,baz=163						
TBI	**Tubuai**	**35.14**	**326**	*e*T	T	11 49 31.0	
	comp=Z,143nm,0.3s						
QSPA	**South Pole Qui**	**35.16**	**180**	PFAKE		11 12 40.0	+17
QSPA					LR	LR	
	comp=Z,3μm,19.0s						
SNZO	**South Karori**	**38.95**	**267**	PFAKE		11 13 00.0	+4.7
SNZO					LR	LR	
	comp=Z,2μm,20.0s						
PLCA	**Paso Flores**	**40.44**	**94**	LR	LR	11 25 38.0	
	comp=Z,651nm,19.2s,baz=250,slow=29						
PPT2	**Papeete2**	**40.58**	**329**	*e*S	**S**	**11 19 18.3**	**+0.2**
	comp=Z,879nm,26.0s						
PPT2				*e*LR	LR	11 24 14.8	
	comp=Z,7μm,26.5s,baz=166						
PPT	**Papeete**	**40.60**	**329**	LR	LR	11 25 50.0	
	comp=Z,2μm,19.3s,baz=147,slow=31						
VAH	**Vaihoa**	**42.27**	**333**	*e*T	T	11 58 27.0	
	comp=Z,192nm,0.2s						
TAOE	**Nuku Hiva Isla**	**46.90**	**345**	*e*S	**S**	**11 20 49.0**	**-1.5**
	comp=Z,823nm,25.4s						
TAOE				*e*LR	LR	11 27 18.0	
	comp=Z,5μm,25.7s						
TRQA	**Tornquist**	**47.15**	**98**	PFAKE		11 14 20.0	+18
TRQA					LR	LR	
	comp=Z,700nm,20.0s						
VNA1	**Neumayer--Stat**	**47.70**	**157**	P	**P**	**11 14 06.0**	**+0.4**
SNAA	**Sanae**	**48.07**	**160**	P	**P**	**11 14 04.7**	**-3.8**
SNAA	**Sanae**	**48.07**	**160**	*e*P	**P**	**11 14 04.5**	**-4.0**
	comp=Z,5.3nm,1.0s						
HOPE	**Hope Point**	**49.60**	**130**	PFAKE		11 14 40.0	+20
HOPE					LR	LR	
	comp=Z,734nm,22.0s						
CASY	**Casey**	**51.02**	**207**	*e*P	**P**	**11 14 30.2**	**-0.7**
	comp=Z,13nm,1.0s						
SYO	**Syowa Base**	**56.00**	**175**	⇑*e*P	**P**	**11 15 06.2**	**-1.2**
SYO	**Syowa Base**	**56.00**	**175**	⇓*e*pP	pP	11 15 11.2	-0.6
MAW	**Mawson**	**57.38**	**185**	P	P	11 15 22.7	+5.5
	comp=Z,4.0nm,0.9s,baz=185,slow=11,SNR=7.1						
MAW					LR	LR	11 37 36.8
	comp=Z,578nm,20.6s,baz=168,slow=33						
CAN	**Canberra**	**57.64**	**254**	PFAKE		11 15 30.0	+10
CAN					LR	LR	
	comp=Z,1μm,20.0s						
DZM	**Mont Dzumac**	**57.72**	**277**	*e*S	**S**	**11 23 21.7**	**+3.0**
	comp=Z,165nm,23.8s						
DZM				*e*LQ	LQ	11 29 47.1	
	comp=Z,2μm,26.3s						
DZM				*e*LR	LR	11 32 15.8	
	comp=Z,2μm,29.4s						
NNA	**Nana**	**58.98**	**64**	PFAKE		11 15 40.0	+11
NNA					LR	LR	
	comp=Z,611nm,20.0s						
STKA	**Stephens Creek**	**64.29**	**251**	P	**P**	**11 16 02.8**	**-2.0**
	comp=Z,3.1nm,1.0s,baz=198,slow=8.2,SNR=3.3						
STKA					LR	LR	11 38 15.9
	comp=Z,1μm,21.7s,baz=148,slow=31						
SPB	**Sao Paulo**	**66.18**	**97**	*e*P	**P**	**11 16 16.8**	**-0.3**
	comp=Z,13nm,0.3s						
SPB					LR	LR	
	comp=Z,391nm,19.0s						
OTAV	**Otavalo**	**68.69**	**56**	*e*P	**P**	**11 16 34.5**	**+0.9**
	comp=Z,17nm,1.4s						
OTAV					LR	LR	
	comp=Z,176nm,22.0s						
SAML	**Samuel**	**68.87**	**75**	*e*P	**P**	**11 16 32.1**	**-2.1**
	comp=Z,5.5nm,0.9s						
SAML					LR	LR	
	comp=Z,342nm,21.0s						
CTAO	**Charters Tower**	**70.87**	**262**	PFAKE		11 17 00.0	+13
CTAO					LR	LR	
	comp=Z,1μm,20.0s						
HNR	**Honiara**	**71.54**	**280**	PFAKE		11 17 00.0	+9.4
HNR					LR	LR	
	comp=Z,309nm,20.0s						
ROSC	**El Rosal**	**74.68**	**57**	LR	LR	11 44 12.2	
	comp=Z,301nm,18.9s,baz=233,slow=31						
AS01	**Alice Springs**	**74.90**	**250**	*e*P	**P**	**11 17 08.5**	**-1.9**
AS31	**Alice Springs**	**74.93**	**250**	*e*P	**P**	**11 17 10.0**	**-0.6**
	comp=Z,2.1nm,0.9s						
ASAR	**Alice Springs**	**74.93**	**250**	P	**P**	**11 17 08.7**	**-1.9**
	comp=Z,3.7nm,0.8s,baz=145,slow=6.7,SNR=35						
ASAR					LR	LR	11 45 52.7
	comp=Z,1μm,19.5s,baz=150,slow=33						
H01W1	**Cape Leeuwin H**	**75.47**	**229**	T	T	12 40 48.2	
	baz=147,slow=76,SNR=164						
H01W2	**Cape Leeuwin H**	**75.47**	**229**	T	T	12 40 45.7	
	baz=147,slow=76,SNR=182						
H01W3	**Cape Leeuwin H**	**75.48**	**229**	T	T	12 40 49.4	
	baz=147,slow=76,SNR=214						
BCIP	**Isla Barro Col**	**75.92**	**50**	PFAKE		11 17 30.0	+14
BCIP					LR	LR	
	comp=Z,542nm,19.0s						
WB2	**Warramunga Arr**	**77.68**	**253**	*e*P	**P**	**11 17 28.0**	**+1.8**
	comp=Z,17nm,1.3s						
WRA	**Warramunga Arr**	**77.68**	**253**	P	**P**	**11 17 24.3**	**-2.0**
	comp=Z,3.8nm,0.9s,baz=139,slow=5.2,SNR=8.3						
WRA					LR	LR	11 47 51.6
	comp=Z,788nm,20.1s,baz=145,slow=33						
WRAB	**Tennant Creek**	**77.69**	**253**	*e*P	**P**	**11 17 25.6**	**-0.7**
WRAB					LR	LR	
	comp=Z,1μm,20.0s						
POHA	**Pohakuloa**	**77.87**	**334**	PFAKE		11 17 40.0	+13
POHA					LR	LR	
	comp=Z,1μm,20.0s						
PMG	**Port Moresby**	**78.89**	**270**	PFAKE		11 17 40.0	+7.1
PMG					LR	LR	
	comp=Z,641nm,20.0s						
SDV	**Santo Domingo**	**79.98**	**59**	PFAKE		11 17 50.0	+11
SDV					LR	LR	
	comp=Z,291nm,20.0s						
KIP	**Kipapa**	**80.10**	**333**	PFAKE		11 17 50.0	+11
KIP					LR	LR	
	comp=Z,2μm,19.0s						
TEIG	**Tepich**	**82.55**	**38**	PFAKE		11 18 00.0	+7.8
TEIG					LR	LR	
	comp=Z,120nm,19.0s						
FITZ	**Fitzroy Crossi**	**83.89**	**247**	*e*P	**P**	**11 18 00.7**	**+1.3**
MTDJ	**Mount Denham**	**84.97**	**48**	PFAKE		11 18 20.0	+15
MTDJ					LR	LR	
	comp=Z,416nm,21.0s						
TX31	**Lajitas Ar. Si**	**86.76**	**22**	*e*P	**P**	**11 18 13.7**	**+0.2**
TXAR	**Lajitas Array**	**86.76**	**22**	P	**P**	**11 18 13.6**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=195,slow=9.1,SNR=5.1						
RCBR	**Riachuelo**	**86.99**	**96**	PFAKE		11 18 30.0	+15
RCBR					LR	LR	
	comp=Z,409nm,22.0s						
GRGR	**Grenville**	**87.29**	**65**	PFAKE		11 18 30.0	+14
GRGR					LR	LR	
	comp=Z,214nm,21.0s						
TUC	**Tucson**	**88.36**	**15**	PFAKE		11 18 30.0	+9.0
TUC					LR	LR	
	comp=Z,418nm,21.0s						
SDDR	**Presa de Saban**	**88.41**	**53**	PFAKE		11 18 30.0	+8.5
SDDR					LR	LR	
	comp=Z,199nm,21.0s						
MNTX	**Cornudas Mount**	**88.70**	**20**	PFAKE		11 18 30.0	+7.5
MNTX					LR	LR	
	comp=Z,334nm,22.0s						
PFO	**Pinyon Flats O**	**88.92**	**10**	PFAKE			
PFO					LR	LR	
	comp=Z,652nm,20.0s						
FDF	**Fort de France**	**89.74**	**64**	PFAKE		11 18 40.0	+12
FDF					LR	LR	
	comp=Z,580nm,19.0s						
SJG	**San Juan**	**90.10**	**58**	PFAKE		11 18 40.0	+11
SJG					LR	LR	
	comp=Z,192nm,22.0s						
NATX	**Nacogdoches**	**91.29**	**29**	PFAKE		11 18 50.0	+15
NATX					LR	LR	
	comp=Z,257nm,22.0s						
WUAZ	**Wupatki**	**91.42**	**14**	PFAKE		11 18 50.0	+15
WUAZ					LR	LR	
	comp=Z,505nm,21.0s						
ANMO	**Albuquerque**	**91.65**	**18**	PFAKE		11 18 50.0	+14
ANMO					LR	LR	
	comp=Z,331nm,22.0s						
ANWB	**Willy Bob**	**91.89**	**61**	PFAKE		11 18 50.0	+12
ANWB					LR	LR	
	comp=Z,447nm,22.0s						
H11N3	**WAKE ISLAND Hy**	**92.18**	**302**	T	T	13 00 59.9	
	baz=148,slow=76,SNR=38						
H11N1	**WAKE ISLAND Hy**	**92.19**	**302**	T	T	13 00 56.0	
	baz=148,slow=76,SNR=51						
H11N2	**WAKE ISLAND Hy**	**92.20**	**302**	T	T	13 01 01.3	
	baz=148,slow=76,SNR=39						
WMOK	**Wichita Mounta**	**93.06**	**24**	PFAKE		11 18 50.0	+7.2
WMOK					LR	LR	
	comp=Z,202nm,19.0s						
MVCO	**Mesa Verde**	**93.51**	**16**	PFAKE		11 19 00.0	+15
MVCO					LR	LR	
	comp=Z,359nm,20.0s						
R11A	**Troy Canyon, C**	**93.69**	**10**	*e*P	**P**	**11 18 43.9**	**-1.9**
	comp=Z,11nm,1.4s						
BOSA	**Boshof**	**93.80**	**157**	LR	LR	11 57 54.4	
	comp=Z,488nm,18.9s,baz=192,slow=33						
MIAR	**Mount Ida**	**94.22**	**29**	PFAKE		11 19 00.0	+12
MIAR					LR	LR	
	comp=Z,135nm,19.0s						
SDCO	**Great Sand Dun**	**94.55**	**18**	PFAKE		11 19 00.0	+10
SDCO					LR	LR	
	comp=Z,271nm,21.0s						
PV10	**Paradox Valley**	**94.57**	**16**	*e*P	**P**	**11 18 49.9**	**0.0**
DUG	**Dugway, Tooele**	**95.83**	**12**	PFAKE		11 19 10.0	+15
DUG					LR	LR	
	comp=Z,374nm,20.0s						
GOGA	**Godfrey**	**96.31**	**37**	PFAKE		11 19 10.0	+12
GOGA					LR	LR	
	comp=Z,124nm,20.0s						
ISCO	**Idaho Springs**	**96.52**	**18**	PFAKE		11 19 10.0	+11
ISCO					LR	LR	
	comp=Z,430nm,20.0s						
CBKS	**Cedar Bluff**	**96.74**	**23**	PFAKE		11 19 10.0	+10
CBKS					LR	LR	
	comp=Z,204nm,19.0s						
ASCN	**Ascension**	**97.17**	**115**	PFAKE		11 19 20.0	+18
ASCN					LR	LR	
	comp=Z,1μm,22.0s						
NHSC	**New Hope**	**97.21**	**39**	PFAKE		11 19 10.0	+8.2
NHSC					LR	LR	
	comp=Z,156nm,22.0s						
HWUT	**Hardware Ranch**	**97.38**	**13**	PFAKE		11 19 10.0	+7.4
HWUT					LR	LR	
	comp=Z,415nm,20.0s						
WVOR	**Wild Horse Val**	**97.47**	**8**	PFAKE		11 19 10.0	+7.1
WVOR					LR	LR	
	comp=Z,529nm,22.0s						
KSU1	**Kansas State U**	**97.74**	**25**	PFAKE		11 19 20.0	+16
KSU1					LR	LR	
	comp=Z,162nm,20.0s						
KAPI	**Kappang**	**97.93**	**250**	PFAKE		11 19 20.0	+14
KAPI					LR	LR	
	comp=Z,574nm,21.0s						
OGNE	**Ogallala**	**98.31**	**20**	PFAKE		11 19 20.0	+13
OGNE					LR	LR	
	comp=Z,299nm,20.0s						
AHID	**Auburn Hatcher**	**98.58**	**13**	PFAKE		11 19 20.0	+12
AHID					LR	LR	
	comp=Z,473nm,21.0s						
BW06	**Boulder Array**	**98.79**	**14**	PFAKE		11 19 20.0	+11
BW06					LR	LR	
	comp=Z,634nm,20.0s						
PDAR	**Pinedale Array**	**98.79**	**14**	LR	LR	11 55 36.8	
	comp=Z,505nm,19.9s,baz=206,slow=30						
HLID	**Hailey**	**98.98**	**11**	PFAKE		11 19 20.0	+10
HLID					LR	LR	
	comp=Z,258nm,20.0s						
BMO	**Blue Mountains**	**99.98**	**8**	PFAKE		11 19 30.0	+16
BMO					LR	LR	
	comp=Z,386nm,21.0s						
LKWY	**Lake**	**100.44**	**13**	PFAKE		11 19 30.0	+14
LKWY					LR	LR	
	comp=Z,517nm,19.0s						
TSUM	**Tsumeb**	**100.75**	**148**	PFAKE		11 19 30.0	+12
TSUM					LR	LR	
	comp=Z,792nm,19.0s						
BLA	**Blacksburg**	**100.80**	**37**	PFAKE		11 19 30.0	+12
BLA					LR	LR	
	comp=Z,207nm,19.0s						
RLMT	**Red Lodge**	**101.14**	**14**	PFAKE		11 19 30.0	+11
RLMT					LR	LR	
	comp=Z,617nm,20.0s						
SCIA	**State Center**	**101.23**	**26**	PFAKE		11 19 30.0	+11
SCIA					LR	LR	
	comp=Z,154nm,19.0s						
HAWA	**Hanford**	**101.34**	**7**	PFAKE		11 19 30.0	+10
HAWA					LR	LR	
	comp=Z,420nm,20.0s						
BOZ	**Bozeman (W)**	**101.35**	**12**	PFAKE		11 19 30.0	+10
BOZ					LR	LR	
	comp=Z,324nm,20.0s						
NLWA	**Neilton Lookou**	**102.12**	**3**	PFAKE		11 19 30.0	+6.7
NLWA					LR	LR	
	comp=Z,385nm,20.0s						
ECSD	**EROS Data Cent**	**102.13**	**23**	PFAKE		11 19 40.0	+17
ECSD					LR	LR	
	comp=Z,245nm,20.0s						
ACSO	**Alum Creek Sta**	**102.66**	**34**	PFAKE		11 19 40.0	+14
ACSO					LR	LR	
	comp=Z,173nm,22.0s						
CBN	**Corbin Frederi**	**102.78**	**39**	PFAKE		11 19 40.0	+14
CBN					LR	LR	
	comp=Z,168nm,20.0s						
BBSR	**BB Station**	**102.91**	**51**	PFAKE		11 19 40.0	+13
BBSR					LR	LR	
	comp=Z,436nm,22.0s						
JFWS	**Jewell Farm**	**102.95**	**28**	PFAKE		11 19 40.0	+13
JFWS					LR	LR	
	comp=Z,139nm,19.0s						
LAO	**LASA Array**	**103.13**	**16**	PFAKE		11 19 40.0	+12
LAO					LR	LR	
	comp=Z,250nm,20.0s						
NEW	**Newport**	**103.38**	**8**	PFAKE		11 19 40.0	+11
NEW					LR	LR	
	comp=Z,495nm,19.0s						
EGMT	**Eagleton**	**103.92**	**13**	PFAKE		11 19 40.0	+8.6
EGMT					LR	LR	
	comp=Z,304nm,20.0s						
AAM	**Ann Arbor**	**104.32**	**33**	PFAKE		11 19 50.0	+17
AAM					LR	LR	
	comp=Z,173nm,19.0s						
DAV	**Davao City (W)**	**104.66**	**261**	PFAKE		11 19 50.0	+15
DAV					LR	LR	
	comp=Z,293nm,20.0s						
DGMT	**Dagmar**	**105.19**	**17**	PFAKE		11 24 00.0	

comp=Z,550nm,20.0s
KSM Kuching 108.40 245 PFAKE 11 24 10.0
KSM LR LR
comp=Z,167nm,20.0s
KKM Kota Kinabalu 109.06 253 PFAKE 11 24 10.0
KKM LR LR
comp=Z,380nm,20.0s
WRAK Wrangell Islan 111.11 358 PFAKE 11 24 10.0
WRAK LR LR
comp=Z,637nm,20.0s
KDAK Kodiak Island 114.07 346 PFAKE 11 24 20.0 +13
KDAK LR LR
comp=Z,982nm,20.0s
KULM Kulim 116.55 238 *e*PKPdf **PKPdf 11 24 14.6 +1.0**
KULM LR LR
comp=Z,322nm,19.0s
EGAK Eagle 119.83 354 PFAKE 11 24 30.0 +12
EGAK LR LR
comp=Z,607nm,20.0s
ILAR Eielson Array 120.25 351 PKP **PKPdf 11 24 18.5 -0.6**
comp=Z,0.6nm,0.7s,baz=206,slow=2.1,SNR=8.5
ILB Eielson Array 120.25 351 *e*PKPdf **PKPdf 11 24 19.7 +0.6**
IL1 Eielson Array 120.26 351 *e*PKPdf **PKPdf 11 24 20.1 +1.1**
COLA College 120.44 351 PFAKE 11 24 30.0 +11
COLA LR LR
comp=Z,686nm,22.0s
MAJO Matsushiro 120.54 291 PFAKE 11 24 30.0 +9.4
MAJO LR LR
comp=Z,247nm,21.0s
YHNB Yeheng 121.08 269 PFAKE 11 24 30.0 +8.0
YHNB LR LR
comp=Z,210nm,19.0s
TATO Taipei 121.25 270 PFAKE 11 24 30.0 +7.8
TATO LR LR
comp=Z,234nm,20.0s
ERM Erimo 121.99 299 PFAKE 11 24 30.0 +6.9
ERM LR LR
comp=Z,328nm,20.0s
KMBO Kilima Mbogo 122.89 163 PFAKE 11 24 40.0 +14
KMBO LR LR
comp=Z,273nm,20.0s
PET Petropavlovsk 123.14 317 PFAKE 11 24 40.0 +15
PET LR LR
comp=Z,469nm,22.0s
QIZ Qiongzhong 123.21 255 PKP **PKPdf 11 24 26.0 -0.2**
QIZ PP **PP 11 26 07.3 +0.9**
QIZ LN
comp=Z,160nm,19.7s
QIZ LZ
comp=Z,220nm,21.9s
QIZ Qiongzhong 123.21 255 PFAKE 11 24 40.0 +14
QIZ LR LR
comp=Z,232nm,21.0s
TORD Torodi Ar. Bea 123.35 118 PKP **PKPdf 11 24 29.7 +3.1**
comp=Z,0.4nm,0.8s,baz=256,slow=1.4,SNR=3.3
YSS Yuzh-Sakhalins 125.75 302 PFAKE 11 24 40.0 +10
YSS LR LR
comp=Z,118nm,20.0s
INCN Inchon 127.58 284 PFAKE 11 24 50.0 +16
INCN LR LR
comp=Z,211nm,22.0s
CHTO Chiang Mai 128.92 244 PFAKE 11 24 50.0 +13
CHTO LR LR
comp=Z,242nm,20.0s
MDJ Mudanjiang 130.87 292 PFAKE 11 24 50.0 +10
MDJ LR LR
comp=Z,142nm,21.0s
MA2 Magadan 130.88 318 PFAKE 11 24 50.0 +10
MA2 LR LR
comp=Z,225nm,19.0s
BILL Bilibino 131.71 333 PFAKE 11 24 50.0 +9.1
BILL LR LR
comp=Z,329nm,22.0s
ENH Enshi 132.17 264 PFAKE 11 24 50.0 +7.0
ENH LR LR
comp=Z,188nm,21.0s
CN2 Changchun 132.56 289 *e*PKP **PKPdf 11 24 46.1 +2.9**
TAM Tamanrasset 133.38 115 PFAKE 11 25 00.0 +14
TAM LR LR
comp=Z,242nm,19.0s
SFJD Kangerlussuaq 134.88 33 PFAKE 11 25 00.0 +13
SFJD LR LR
comp=Z,188nm,21.0s
RTC Rabat Centre 135.13 93 PFAKE 11 25 00.0 +12
RTC LR LR
comp=Z,821nm,22.0s
BJT Baijiatuau 135.24 279 PFAKE 11 25 00.0 +12
BJT LR LR
comp=Z,165nm,20.0s
CD2 Chengdu 135.91 259 PKP **PKPdf 11 24 49.0 -1.0**
HHC Hu-ho-hao-te 138.43 276 *e*PKP **PKPdf 11 24 56.3 +1.9**
HHC PP **PP 11 27 50.1 +5.0**
HHC PPMZ
comp=Z,76nm,9.3s
HHC LN
comp=Z,150nm,19.8s
HHC LE
comp=Z,130nm,18.2s
HHC LZ
comp=Z,180nm,20.2s
HIA Hailar 139.04 291 PFAKE 11 25 10.0 +15
HIA LR LR
comp=Z,175nm,20.0s
LZH Lanzhou 139.63 264 *e*PKP **PKPdf 11 25 02.9 +6.0**
YAK Yakutsk 140.78 313 PFAKE 11 25 10.0 +12
YAK LR LR
comp=Z,260nm,22.0s
LSA Lhasa 141.87 245 PFAKE 11 25 10.0 +8.5
LSA LR LR
comp=Z,196nm,22.0s
GTA Gaotai 144.23 265 *e*PKP **PKPab 11 25 01.1 -1.7**
TIXI Tiksi 144.50 328 PKP **PKPab 11 25 00.9 -1.7**
comp=Z,19nm,0.9s,baz=107,slow=3.7,SNR=24
TIXI Tiksi 144.50 328 *e*PKPdf PKPbc 11 25 02.7 -0.1
TIXI LR LR
comp=Z,349nm,22.0s
ULN Ulaanbaatar 145.24 282 *e*PKPdf **PKPbc 11 25 06.2 +0.1**
ULN LR LR
comp=Z,173nm,20.0s
KEST Kesra 145.57 107 PKPbc **PKPab 11 25 09.1 +1.3**
comp=Z,7.8nm,0.9s,baz=338,slow=11,SNR=3.6
SONM Songino Array 145.60 281 PKP **PKPdf 11 25 04.5 -2.5**
comp=Z,4.0nm,0.6s,baz=159,slow=4.3,SNR=12
SONA1 Songino Array 145.60 281 *e*PKPdf **PKPdf 11 25 06.5 -0.5**
WDD Wied Dalam 148.48 112 PFAKE 11 25 20.0 +1.0
WDD LR LR
comp=Z,244nm,20.0s
CLTB Caltabellotta 149.04 108 PFAKE 11 25 30.0 +8.6
CLTB LR LR
comp=Z,108nm,20.0s
TLY Talaya 149.07 286 PFAKE 11 25 20.0 -1.1
TLY LR LR
comp=Z,165nm,19.0s
ESK Eskdalemuir 149.63 67 PFAKE 11 25 30.0 +6.8
ESK LR LR
comp=Z,298nm,21.0s
CEL Celeste 150.99 111 PFAKE 11 25 30.0 +0.6
CEL LR LR
comp=Z,204nm,20.0s
VLC Villacollemand 151.85 96 PFAKE 11 25 30.0 -2.8
VLC LR LR
comp=Z,335nm,21.0s
TIP Timpagrande 152.12 110 PFAKE 11 25 30.0 -4.1
TIP LR LR
comp=Z,192nm,22.0s
CUC Castrocucco 152.19 108 PFAKE 11 25 30.0 -4.3
CUC LR LR
comp=Z,186nm,20.0s
WLF Walferdange 152.40 82 PFAKE 11 25 30.0 -4.9
WLF LR LR
comp=Z,198nm,20.0s
AQU L'Aquila 152.43 102 PFAKE 11 25 30.0 +5.0
AQU LR LR
comp=Z,395nm,20.0s
TUE Stuetta 152.59 91 PFAKE 11 25 30.0 +4.6
TUE LR LR
comp=Z,242nm,19.0s
KBS Kingsbay 152.67 15 PFAKE 11 25 30.0 -5.2
KBS LR LR
comp=Z,383nm,22.0s
BFO Black Forest 152.99 86 PFAKE 11 25 30.0 +4.0
BFO LR LR
comp=Z,248nm,21.0s
WMQ Urumqi 154.00 260 PKPbc **PKPdf 11 25 19.6 -0.7**
WMQ LN
comp=Z,91nm,23.8s
WMQ LE
comp=Z,84nm,26.4s
WMQ LZ
comp=Z,97nm,21.6s
SANT Santorini 154.38 126 PFAKE 11 25 30.0 +0.6
SANT LR LR
comp=Z,220nm,21.0s
TIR Tirane 155.33 111 PFAKE 11 25 30.0 +7.9
TIR LR LR
comp=Z,315nm,22.0s
GERES GERESS Array B 156.34 90 PKP **PKPdf 11 25 23.8 +0.4**
comp=Z,0.9nm,0.9s,baz=190,slow=4.7,SNR=5.2
CSS Mathiatis 156.46 141 PFAKE 11 25 40.0 -13
CSS LR LR
comp=Z,47nm,20.0s
KSH Kashi 157.26 237 PKP **PKPdf 11 25 25.8 +0.9**
KSH PKS **PKSdf 11 28 58.9 +0.2**
KSH SKS **SKSdf 11 32 31.3 +1.1**
KSH SKKS **SKKSac 11 36 26.8 +3.2**
KSH SS **SS 11 49 28.5 -1.2**
KSH PPMZ
comp=Z,77nm,5.0s
KSH LN
comp=Z,130nm,4.7s
KSH LE
comp=Z,91nm,5.7s
ISP Isparta 157.84 132 PFAKE 11 25 40.0 +14
ISP LR LR
comp=Z,222nm,21.0s
NRIK Noril'sk 158.23 325 PKPab **PKPab 11 25 56.5 -2.7**
comp=Z,4.3nm,0.7s,baz=153,slow=6.8,SNR=3.1
NOA NORSAR Array B 158.31 58 PKPab **PKPab 11 26 03.2 +3.3**
comp=Z,0.7nm,0.9s,baz=266,slow=4.5,SNR=2.5
MKAR Makanchi Array 158.83 260 PKPab **PKPab 11 25 59.8 -2.7**
comp=Z,0.7nm,0.7s,baz=107,slow=6.6,SNR=4.8
VYHS Vyhne 159.12 95 *e*PKP **PKPdf 11 25 29.9 +3.2**
PSZ Piszkesteto 159.43 97 PFAKE 11 25 40.0 +13
PSZ LR LR
comp=Z,235nm,20.0s
TKM2 Tokmak 2 160.00 243 PFAKE 11 25 40.0 +12
TKM2 LR LR
comp=Z,284nm,21.0s
KECS Kecovo 160.06 96 *e*PKP **PKPdf 11 25 27.2 -0.6**
AAK Ala-Archa 160.35 241 PFAKE 11 25 40.0 +11
AAK LR LR
comp=Z,196nm,21.0s
ZALV Zalesovo Beam 160.49 281 PKPab **PKPab 11 26 07.7 -1.8**
comp=Z,2.4nm,0.8s,baz=117,slow=4.1,SNR=8.6
EKS2 Erkin-Say 160.73 239 PFAKE 11 25 40.0 +11
EKS2 LR LR
comp=Z,230nm,19.0s
BRTR Keskin Array B 160.75 135 PKPab **PKPab 11 26 14.4 +3.3**
comp=Z,0.7nm,0.6s,baz=193,slow=5.4,SNR=3.0
KEV Kevo 161.69 27 PFAKE 11 25 40.0 +11
KEV LR LR
comp=Z,258nm,21.0s
KURK Kurchatov 162.90 267 PFAKE 11 25 40.0 +9.4
KURK LR LR
comp=Z,633nm,22.0s
GNI Garni 164.53 161 PFAKE 11 25 40.0 +7.2
GNI LR LR
comp=Z,408nm,20.0s
LVZ Lovozero 164.96 24 PFAKE 11 25 40.0 +7.9
LVZ LR LR
comp=Z,292nm,19.0s
KIEV Kiev 166.10 99 PFAKE 11 25 40.0 +6.6
KIEV LR LR
comp=Z,473nm,22.0s
KIV Kislovodsk 167.66 150 PFAKE 11 25 50.0 +15
KIV LR LR
comp=Z,163nm,20.0s
OBN Obninsk 171.65 83 PFAKE 11 25 50.0 +13
OBN LR LR
comp=Z,399nm,21.0s
ARU Arti 175.56 292 PFAKE 11 25 50.0 +12
ARU LR LR
comp=Z,346nm,22.0s

*KRNET **19** 11:18:04.0±0.1, 41°.98N×72°.19E, h12km, mb2.4*
*SOME **19** 11:18:04.3, 41°.97N×72°.22E, h10km*
*NNC **19** 11:18:05.0±1.4, 42°.07N×72°.18E, h6km±10km, mb3.0, mpv2.5, Error ellipse: s-maj=13.4km s-min=7.3km az=42.0*
ISC 19 11:18:04.3±1.1, 41°.97N±0°.03×72°.18E±0°.02, h6km±10km, n20, σ0s56/38, 21C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.24**	**223**	⇓*i*P		**Pg**		**11 18 09.0**	**-0.1**
	baz=219								
ARK				⇓*i*S		**Sg**		**11 18 12.5**	**+0.2**
	baz=219								
TOKL	**Toktogul**	**0.51**	**93**	⇑*i*P		**Pg**		**11 18 14.7**	**+0.5**
	baz=94								
TOKL				⇑*i*S		**Sg**		**11 18 21.4**	**+0.4**
	baz=94								
MNAS	**Manas**	**0.57**	**25**	⇑*i*P		**Pg**		**11 18 15.0**	**-0.3**
	baz=25								
MNAS				⇑*i*S		**Sg**		**11 18 22.9**	**+0.2**
	baz=25								
MNAS	**Manas**	**0.57**	**25**	⇓P		**Pg**		**11 18 15.2**	**-0.1**
	2.3nm,0.3s								
MNAS				⇓S		**Sg**		**11 18 22.6**	**-0.1**
	16nm,0.3s								
ARSB	**Arslanbob**	**0.88**	**137**	⇓*i*P		**Pg**		**11 18 20.7**	**-0.6**
	baz=137								
ARSB				⇓*i*S		**Sb**		**11 18 33.9**	**-0.3**
	baz=137								
MRKS	**Merke**	**1.09**	**45**	*e*P		**Pg**		**11 18 24.8**	**-0.5**
	9.3nm,0.3s								
MRKS				*e*S		**Sg**		**11 18 39.1**	**-0.3**
	32nm,0.4s								
OHH	**Osh**	**1.52**	**162**	⇑*i*P		**Pb**		**11 18 32.7**	**-0.2**
	baz=163								
OHH				⇑*i*S		**Sg**		**11 18 53.4**	**+0.3**
	baz=163								
ARLS	**Aral**	**1.60**	**93**	⇑*i*P		**Pb**		**11 18 34.6**	**+0.2**
	baz=93								
ARLS				⇑*i*S		**Sg**		**11 18 56.0**	**+0.2**
	baz=93								
IUG	**luzhnay**	**1.61**	**277**	*e*P		**Pb**		**11 18 34.1**	**-0.4**
	21nm,0.3s								
IUG				*e*S		**Sb**		**11 18 55.3**	**+0.1**
	47nm,0.4s								
KK31	**Karatay Array**	**1.67**	**313**	P		**Pn**		**11 18 34.4**	**+0.2**
	0.7nm,0.3s,baz=122,slow=17,SNR=21								
KK31				⇑S		**Sn**		**11 18 55.1**	**-0.8**
	4.0nm,0.3s,baz=128,slow=29,SNR=9.8								
UCH	**Uchtor**	**1.75**	**81**	⇑*i*P		**Pb**		**11 18 37.1**	**0.0**
	baz=81								
UCH				⇑*i*S		**Sg**		**11 19 00.1**	**-0.6**
	baz=81								
AAK	**Ala-Archa**	**1.84**	**68**	⇑*i*P		**Pb**		**11 18 38.3**	**-0.1**
	baz=68								
AAK				⇑*i*S		**Sg**		**11 19 03.0**	**-0.4**
	baz=68								
AAK	**Ala-Archa**	**1.84**	**68**	Pg		**Pb**		**11 18 38.1**	**-0.3**
	4.0nm,0.5s								
AAK				Lg		Lg		11 19 04.4	
	1.4nm,0.5s								
BRLS	**Boroldav**	**2.02**	**295**	*e*P		**Pb**		**11 18 41.9**	**+0.4**
	0.6nm,0.2s								
BRLS				*e*S		**Sb**		**11 19 07.8**	**+0.8**
	3.3nm,0.3s								
USP	**Ospenovka**	**2.14**	**52**	⇑*i*P		**Pb**		**11 18 43.0**	**-0.6**
	baz=52								
USP				⇑*i*S		**Sb**		**11 19 11.3**	**+0.9**
	baz=52								
CHMS	**Chumysh**	**2.16**	**61**	⇑*i*P		**Pb**		**11 18 43.2**	**-0.6**
	baz=61								
CHMS				⇑*i*S		**Sb**		**11 19 11.6**	**+0.8**
	baz=61								
KBK	**Karagaybulak**	**2.16**	**71**	⇑*i*P		**Pb**		**11 18 43.3**	**-0.6**
	baz=71								
KBK				⇑*i*S		**Sb**		**11 19 11.8**	**+0.8**
	baz=71								
KZA	**Kyzart**	**2.29**	**86**	⇑*i*P		**Pb**		**11 18 45.8**	**-0.4**
	baz=86								
KZA				⇑*i*S		**Sb**		**11 19 15.1**	**+0.2**
	baz=86								
TKM2	**Tokmak 2**	**2.70**	**68**	⇓Pg		**Pb**		**11 18 52.4**	**-0.7**
	2.8nm,0.5s								
TKM2				⇓Lg		Lg		11 19 29.4	
	4.2nm,0.5s								
KST	**Kastek**	**2.99**	**68**	*e*P		**Pb**		**11 18 58.2**	**+0.1**
	2.2nm,0.5s								
KST				*e*S		**Sb**		**11 19 36.5**	**+1.7**
	2.8nm,0.6s								

*IDC **19** 11:49:02.2±0.8, 53°.43N×87°.41E, h0km, mb3.8/8, mb1 3.9/13, mb1mx3.6/71, mbtmp3.9/13, ML3.7/5, MS3.8/2, Ms1 3.9/2, ms1mx2.8/49, Error ellipse: s-maj=11.7km s-min=9.0km az=139.0*
*ISCJB **19** 11:49:04.9±0.6, 53°.38N±0°.04×87°.16E±0°.09, h33km, mb3.8/9, MS3.7/2, Error ellipse: s-maj=7.8km s-min=5.9km az=25.8*
*NNC **19** 11:49:09.5±2.5, 53°.31N×86°.66E, h22km±14km, mb4.4, mpv4.4, Error ellipse: s-maj=18.1km s-min=8.4km az=65.0*
ISC 19 11:49:07.0±0.8, 53°.44N±0°.07×87°.19E±0°.07, h35km, n25, σ1s66/28, mb3.8/9, 9C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.50**	**291**	Pg		**Pn**		**11 49 31.3**	**0.0**
	18nm,0.3s,baz=111,slow=15,SNR=173								
ZALV				Lg		Lg		11 49 53.2	
	12nm,0.3s,baz=121,slow=26,SNR=16								
KURBB	**Kurchatov Arra**	**6.04**	**246**	Pn		**Pn**		**11 50 35.3**	**+1.5**
	1.4nm,0.3s,baz=64,slow=15,SNR=235								
KURBB				Sn		**Sn**		**11 51 44.7**	**+3.0**
	0.3nm,0.3s,baz=59,slow=26,SNR=3.9								
KURBB				Lg		Lg		11 52 17.4	
	0.5nm,0.3s,baz=62,slow=29,SNR=7.3								
MK31	**Makanchi Array**	**7.36**	**207**	⇑Pn		**Pn**		**11 50 52.4**	**+0.5**
	22nm,0.7s,baz=27,slow=12,SNR=254								
MK31				⇓Sn		**Sn**		**11 52 13.8**	**-0.3**
	3.8nm,0.6s,baz=30,slow=22,SNR=3.9								
MK31				⇑Lg		Lg		11 52 53.5	
	13nm,0.7s,baz=34,slow=32,SNR=6.1								
MKAR	**Makanchi Array**	**7.36**	**207**	Pn		**Pn**		**11 50 52.9**	**+1.0**
	4.1nm,0.3s,baz=26,slow=12,SNR=316								
MKAR				Sn		**Sn**		**11 52 15.5**	**+1.4**
	0.5nm,0.3s,baz=23,slow=27,SNR=3.6								
MKAR				Lg		Lg		11 52 56.1	
	0.9nm,0.3s,baz=32,slow=33,SNR=8.0								
MAKZ	**Makanchi**	**7.43**	**209**	⇑Pn		**Pn**		**11 50 53.2**	**+0.2**
	15nm,0.7s								
MAKZ				⇑Sn		**Sn**		**11 52 13.8**	**-2.2**
	3.7nm,0.6s								
MAKZ				⇑Lg		Lg		11 52 54.6	
	19nm,0.8s								
CHKZ	**Chkalovo**	**9.87**	**278**	⇑Pn		**Pn**		**11 51 26.0**	**-0.2**
	3.8nm,0.8s								
CHKZ				⇑Sn		**Sn**		**11 53 11.6**	**-4.0**
	6.9nm,0.9s								
CHKZ				⇓Lg		Lg		11 54 16.1	
	5.7nm,0.8s								
BVA0	**Borovoye Array**	**10.08**	**274**	Pn		**Pn**		**11 51 28.8**	**-0.4**
	5.5nm,0.9s,baz=81,slow=13,SNR=30								
BVA0				⇑Sn		**Sn**		**11 53 19.7**	**-1.3**
	6.1nm,0.9s,baz=80,slow=26,SNR=5.9								
BVAR	**Borovoye Array**	**10.08**	**274**	Pn		**Pn**		**11 51 28.6**	**-0.6**
	0.8nm,0.3s,baz=78,slow=15,SNR=14								
BVAR				Sn		**Sn**		**11 53 20.5**	**-0.5**
	0.6nm,0.3s,baz=80,slow=21,SNR=6.3								
TLY	**Talaya**	**10.18**	**93**	Lg		Lg		11 54 15.9	
	0.0nm,0.3s,baz=200,slow=20,SNR=3.6								
OTUK	**Ortayu**	**10.73**	**247**	⇓Pn		**Pn**		**11 51 36.0**	**-2.1**
	4.1nm,0.7s								
OTUK				⇓Sn		**Sn**		**11 53 33.8**	**-3.0**
	4.1nm,0.6s								
OTUK				⇑Lg		Lg		11 54 41.0	
	4.3nm,0.8s								
TKM2	**Tokmak 2**	**13.04**	**221**	⇓Lg		Lg		11 55 57.1	
	10nm,1.4s								
SONM	**Songino Array**	**13.40**	**107**	Pn		**Pn**		**11 52 13.9**	**-0.7**
	0.1nm,0.3s,baz=289,slow=14,SNR=4.3								
MNAS	**Manas**	**14.69**	**228**	⇓Lg		Lg		11 56 49.5	
	4.4nm,1.2s								
AKTO	**Aktyubinsk**	**18.18**	**272**	P		**P**		**11 53 16.8**	**+0.5**
	0.2nm,0.3s,baz=69,slow=11,SNR=4.5								
GEYT	**Alibeck**	**25.32**	**244**	P		**P**		**11 54 31.1**	**+0.9**
	1.9nm,0.7s,baz=51,slow=12,SNR=3.6								
TIXI	**Tiksi**	**25.63**	**29**	P		**P**		**11 54 32.6**	**-0.1**
	5.0nm,0.8s,baz=263,slow=6.2,SNR=14								
USRK	**Ussuriysk Ar.**	**30.45**	**89**	LR		LR		12 09 05.9	
	comp=Z,143nm,21.7s,baz=120,slow=40								
FINES	**FINESS Array B**	**32.69**	**309**	P		**P**		**11 55 37.5**	**+2.1**
	1.4nm,0.9s,baz=79,slow=17,SNR=3.7								
CMAR	**Chiang Mai Arr**	**36.09**	**161**	LR		LR		12 13 32.8	
	comp=Z,204nm,21.6s,baz=150,slow=41								
BRTR	**Keskin Array B**	**38.35**	**271**	P		**P**		**11 56 25.6**	**+1.1**
	0.9nm,0.8s,baz=82,slow=8.9,SNR=4.6								
HFS	**Hagfors**	**38.85**	**310**	P		**P**		**11 56 30.6**	**+2.3**
	4.5nm,0.8s,baz=61,slow=12,SNR=6.0								
NOA	**NORSAR Array B**	**39.59**	**312**	P		**P**		**11 56 36.2**	**+1.7**
	0.6nm,0.6s,baz=63,slow=7.9,SNR=4.4								
CLL	**Collm**	**43.44**	**299**	*i* P		**P**		**11 57 07.2**	**+1.1**
	comp=Z,5.0nm,0.9s								
ILAR	**Eielson Array**	**55.00**	**25**	P		**P**		**11 58 33.9**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=316,slow=4.0,SNR=7.7								
YKA	**Yellowknife Ar**	**63.14**	**11**	P		**P**		**11 59 29.3**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=334,slow=6.9,SNR=3.9								

IDC 19 11:49:23.0±1.9, 47°.14N×156°.47E, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/67, mbtmp3.4/7, ML2.3/1, Error ellipse: s-maj=50.2km s-min=25.5km az=161.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.03**	**7**	Pn		Pn		11 50 52.9	-0.4
	0.4nm,0.3s,baz=184,slow=12,SNR=4.1								
KSRS	**Korea Array**	**23.11**	**256**	P		P		11 54 30.9	+0.5
	0.7nm,0.9s,baz=41,slow=12,SNR=4.4								
MKAR	**Makanchi Array**	**48.79**	**299**	P		P		11 58 09.0	-0.6
	0.2nm,0.5s,baz=74,slow=6.2,SNR=3.2								
YKA	**Yellowknife Ar**	**49.22**	**38**	P		P		11 58 12.5	-0.1
	0.2nm,0.4s,baz=294,slow=7.2,SNR=4.3								
BVAR	**Borovoye Array**	**52.37**	**310**	P		P		11 58 36.2	-0.3
	0.5nm,0.5s,baz=73,slow=6.0,SNR=4.2								
FINES	**FINESS Array B**	**64.64**	**336**	P		P		12 00 02.7	+0.8
	0.7nm,0.7s,baz=56,slow=11,SNR=3.8								
TXAR	**Lajitas Array**	**75.28**	**63**	P		P		12 01 07.9	-0.1
	0.4nm,0.9s,baz=305,slow=4.4,SNR=4.0								

IDC 19 11:49:32.1±1.3, 51°.32S×138°.95E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/33, mbtmp3.9/4, ML3.4/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/22, Error ellipse: s-maj=109.0km s-min=23.4km az=84.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.52**	**7**	P		Pn		11 54 01.8	-0.3
	0.1nm,0.3s,baz=155,slow=16,SNR=3.6								
STKA				LR		LR		12 00 38.1	
	comp=Z,384nm,18.0s,baz=191,slow=34								
RPZ	**Rata Peaks**	**22.84**	**83**	LR		LR		12 01 43.1	
	comp=Z,117nm,20.2s,baz=262,slow=32								
H01W1	**Cape Leeuwin H**	**24.26**	**303**	T		T		12 20 22.2	
	baz=139,slow=75,SNR=8.5								
H01W2	**Cape Leeuwin H**	**24.27**	**303**	T		T		12 20 21.6	
	baz=139,slow=75,SNR=9.8								
H01W3	**Cape Leeuwin H**	**24.28**	**303**	T		T		12 20 24.7	
	baz=139,slow=75,SNR=8.3								
NWAO	**Narrogin (SRO)**	**24.28**	**311**	LR		LR		12 02 49.3	
	comp=Z,163nm,18.4s,baz=6.5,slow=33								
VNDA	**Vanda**	**27.66**	**169**	P		P		11 55 20.9	-0.2
	0.4nm,0.8s,baz=317,slow=13,SNR=2.9								
VNDA				LR		LR		12 04 40.2	
	comp=Z,188nm,20.5s,baz=324,slow=33								
ASAR	**Alice Springs**	**27.88**	**350**	P		P		11 55 23.6	0.0
	1.2nm,1.0s,baz=164,slow=9.9,SNR=7.0								
ASAR				LR		LR		12 05 17.4	
	comp=Z,227nm,22.0s,baz=192,slow=34								
WRA	**Warramunga Arr**	**31.52**	**352**	P		P		11 55 54.9	-0.9
	5.8nm,1.2s,baz=181,slow=7.9,SNR=4.9								
WRA				LR		LR		12 07 42.1	
	comp=Z,186nm,20.9s,baz=110,slow=35								
MAW	**Mawson**	**39.01**	**216**	LR		LR		12 11 14.1	
	comp=Z,221nm,18.1s,baz=62,slow=33								
GUMO	**Guam**	**64.84**	**6**	LR		LR		12 29 35.6	
	comp=Z,59nm,18.1s,baz=158,slow=37								
CMAR	**Chiang Mai Arr**	**77.81**	**321**	LR		LR		12 37 10.1	
	comp=Z,60nm,18.4s,baz=172,slow=37								
JCJ	**Chichijima**	**78.12**	**3**	LR		LR		12 33 35.6	
	comp=Z,70nm,21.5s,baz=122,slow=34								
ARCES	**ARCESS Array B**	**144.75**	**326**	PKP		PKPdf		12 09 09.4	+0.1
	0.5nm,0.5s,baz=45,slow=3.6,SNR=4.7								
GERES	**GERESS Array B**	**145.46**	**288**	PKPbc		PKPdf		12 09 10.7	-0.6

1.3nm,0.9s,baz=199,slow=2.8,SNR=6.5

*ISCJB **19** 11:50:32.3±0.7,51°46'N±0'03"×16°15'E±0'03,h0km, Error ellipse: s-maj=5.2km s-min=2.9km az=15.2*
*CSEM **19** 11:50:33.9±0.4,51°47'N×16°16'E,h2km,ML3.2/9, Error ellipse: s-maj=7.0km s-min=3.8km az=2.0*
*WAR **19** 11:50:34.2,51°50'N×16°13'E,h1km,Mw2.4*
*PRU **19** 11:50:35.0,51°46'N×16°13'E,h0km*
*VIE **19** 11:50:37.9±1.0,51°22'N×16°55'E,h0km,mb2.2/3,ML2.5/3, Error ellipse: s-maj=6.0km s-min=4.6km az=61.0, Suspected Mining induced.*
ISC 19 11:50:34.2±1.1,51°50'N±0°05"×16°09'E±0°02,h0km,n34, σ0s88/66,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**11 50 46.7**	**-0.3**
KSP				*e*Sg	**Sg**	**11 50 55.8**	**+0.1**
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**11 50 46.7**	**-0.3**
KSP				*e*Sg	**Sg**	**11 50 55.8**	**+0.1**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**11 50 52.9**	**-0.3**
UPC				*e*SG	**Sg**	**11 51 06.0**	**-0.1**
	37nm,0.2s						
UPC	**Upice**	**0.99**	**183**	Pg	**Pg**	**11 50 52.9**	**-0.3**
UPC				Sg	**Sg**	**11 51 06.0**	**-0.1**
	37nm,0.2s						
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**11 50 55.7**	**-0.7**
DPC				*e*SG	**Sg**	**11 51 11.1**	**-0.3**
	16nm,0.3s						
DPC	**Dobruska-Polom**	**1.16**	**173**	Pg	**Pg**	**11 50 55.7**	**-0.7**
DPC				Sg	**Sg**	**11 51 11.1**	**-0.3**
	16nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pg**	**11 51 00.3**	**-0.1**
PVCC				*e*SG	**Sn**	**11 51 19.3**	**0.0**
	50nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**225**	Pg	**Pg**	**11 51 00.3**	**-0.1**
PVCC				Sg	**Sn**	**11 51 19.3**	**0.0**
	50nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**246**	PG	**Pn**	**11 51 02.2**	**0.0**
BRG				SG	**Sn**	**11 51 23.0**	**+0.7**
	21nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.79**	**208**	*e*PG	**Pb**	**11 51 07.7**	**-0.2**
GOPC				*e*SG	**Sb**	**11 51 30.4**	**-0.5**
	7.1nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.79**	**208**	Pg	**Pb**	**11 51 07.7**	**-0.2**
GOPC				Sg	**Sb**	**11 51 30.4**	**-0.5**
	7.1nm,0.2s						
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**11 51 06.5**	**-0.1**
PRU				*e*PG	**Pg**	**11 51 09.2**	**+0.4**
PRU				*e*SG	**Sb**	**11 51 31.3**	**+0.1**
	21nm,0.3s						
PRU	**Pruhonice**	**1.80**	**214**	Pn	**Pn**	**11 51 06.5**	**-0.1**
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**11 51 07.0**	**-1.5**
CLL				*i* Pg	**Pb**	**11 51 10.3**	**-0.2**
CLL				*i*		11 51 14.5	
CLL				*e*Sg	**Sg**	**11 51 37.0**	**+0.4**
	comp=Z,6.0nm,0.6s						
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**11 51 07.3**	**-1.4**
MORC				*e*Sg	**Sn**	**11 51 34.1**	**+0.1**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pb**	**11 51 13.3**	**-0.1**
OKC				*e*SG	**Sb**	**11 51 39.3**	**-0.9**
	comp=Z,7.4nm,0.3s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	Pg	**Pb**	**11 51 13.3**	**-0.1**
OKC				Sg	**Sb**	**11 51 39.3**	**-0.9**
	comp=Z,7.4nm,0.3s						
VRAC	**Vranov**	**2.22**	**171**	*e*Pn	**Pn**	**11 51 11.7**	**-0.5**
VRAC				*e*Sg	**Sb**	**11 51 43.6**	**+0.5**
TREC	**Trest**	**2.24**	**190**	*e*SG	**Sg**	**11 51 45.3**	**-0.8**
	comp=Z,13nm,0.2s						
TREC	**Trest**	**2.24**	**190**	Sg	**Sg**	**11 51 45.3**	**-0.8**
	comp=Z,13nm,0.2s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*PG	**Pg**	**11 51 25.3**	**+0.7**
NKC				*e*SG	**Sg**	**11 51 58.6**	**-0.1**
	comp=Z,14nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**243**	Pg	**Pg**	**11 51 25.3**	**+0.7**
NKC				Sg	**Sg**	**11 51 58.6**	**-0.1**
	comp=Z,14nm,0.3s						
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pb**	**11 51 23.8**	**+0.8**
OJC				*e*Sg	**Sg**	**11 51 59.2**	**-1.0**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pb**	**11 51 23.8**	**+0.8**
OJC				*e*Sg	**Sg**	**11 51 59.2**	**-1.0**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pb**	**11 51 23.8**	**+0.8**
OJC				*e*Sg	**Sg**	**11 51 59.2**	**-1.0**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**11 51 21.8**	**+0.6**
KHC				*e*PG	**Pb**	**11 51 26.8**	**+0.6**
KHC				*e*SN	**Sn**	**11 51 55.5**	**-0.9**
KHC				*e*SG	**Sg**	**11 52 05.0**	**-1.2**
KHC	**Kasperske Hory**	**2.87**	**215**	Pn	**Pn**	**11 51 21.8**	**+0.6**
SMOL	**Smolenice**	**3.11**	**163**	*e*Pg	**Pg**	**11 51 35.8**	**+2.0**
SMOL				*e*Sg	**Sg**	**11 52 14.8**	**+0.7**
SMOL	**Smolenice**	**3.11**	**163**	*e*PG	**Pg**	**11 51 35.8**	**+2.0**
SMOL				*e*SG	**Sg**	**11 52 14.8**	**+0.7**
LANS	**Liptovska Anna**	**3.19**	**136**	*e*Pg	**Pb**	**11 51 33.2**	**+1.3**
LANS				*e*Sg	**Sg**	**11 52 14.9**	**-1.9**
LANS	**Liptovska Anna**	**3.19**	**136**	*e*PG	**Pb**	**11 51 33.2**	**+1.3**
LANS				*e*SG	**Sg**	**11 52 14.9**	**-1.9**
VYHS	**Vyhne**	**3.49**	**148**	*e*Sg	**Sb**	**11 52 21.3**	**+1.5**
VYHS	**Vyhne**	**3.49**	**148**	*e*SG	**Sb**	**11 52 21.3**	**+1.5**
CONA	**Conrad Observa**	**3.58**	**182**	Pn	**Pn**	**11 51 31.1**	**+0.1**
	comp=Z,0.6nm,0.2s						
CONA				Sg	**Sg**	**11 52 27.0**	**-2.1**
	comp=Z,2.2nm,0.2s						

*GUC **19** 11:58:28.4±0.3,32°58S×71°43W,h33km±1km,ML2.5*
*SJA **19** 11:58:30.0±0.4,32°58S×71°28W,h2km±5km,ML2.5, MW2.7*
ISC 19 11:58:27.6±3.2,32°55S±0°06×71°5W±0°2,h18km±11km, n14,σ0s67/18,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.57**	**138**	⇓*e*P	**Pb**	**11 58 40.3**	**+1.0**
ROCH				*e*S	**Sn**	**11 58 49.3**	**-1.0**
ROCH				IAML		11 58 50.2	
	comp=N,347nm,0.5s						
ROC1	**El Roble**	**0.57**	**139**	*i* P	**Pb**	**11 58 40.1**	**+0.8**
ROC1				*i* S	**Sb**	**11 58 47.8**	**+0.5**
PEL	**Peldehue**	**0.89**	**132**	*e*P	**Pg**	**11 58 44.8**	**-0.1**
PEL				*e*S	**Sn**	**11 58 57.2**	**-0.6**
PEL				IAML		11 58 59.6	
	comp=N,438nm,0.2s						
CLCH	**Cerro Calan**	**1.16**	**138**	*e*P	**Pb**	**11 58 48.9**	**-0.2**
CLCH				*e*S	**Sg**	**11 59 04.7**	**-0.4**
CLCH				IAML		11 59 05.4	
	comp=N,340nm,0.3s						
ANTU	**Antumapu**	**1.24**	**146**	*e*P	**Pn**	**11 58 50.3**	**+0.2**
ANTU				*e*S	**Sg**	**11 59 06.8**	**-1.0**
FCH	**Farellones**	**1.26**	**129**	*e*P	**Pb**	**11 58 51.3**	**+0.2**
FCH				*e*S	**Sg**	**11 59 08.7**	**+0.2**
AUSP	**Uspallata**	**1.79**	**80**	*i* P	**Pg**	**11 59 02.1**	**0.0**
RTLS	**Leoncito**	**1.99**	**69**	*i* P	**Pg**	**11 59 06.0**	**+0.2**
ARCO	**CERRO ARCO**	**2.16**	**99**	*i* P	**Pb**	**11 59 07.4**	**+1.1**
ARCO				IAML		11 59 19.6	
	comp=Z,31nm,0.4s						
AAGR	**Agrelo**	**2.29**	**104**	*i* P	**Pb**	**11 59 09.0**	**+0.6**
RTCV	**Cerro Valdivia**	**2.57**	**75**	*i* P	**Pb**	**11 59 13.2**	**-0.1**
RTLL	**Cerro Villicun**	**2.82**	**65**	*i* P	**Pb**	**11 59 17.2**	**-0.3**
AVFE	**Valle Fertil**	**3.91**	**62**	IAML		12 00 01.5	
	comp=Z,6.1nm,0.4s						
MRA	**San Martin**	**4.86**	**90**	IAML		12 00 48.9	
	comp=Z,5.3nm,0.8s						

*CNRM **19** 11:58:34.6,34°33N×9°04W,h10km,MD3.1*
*CSEM **19** 11:58:37.9±0.4,34°23N×8°94W,h30km,ML2.8/8, Error ellipse: s-maj=13.1km s-min=4.7km az=82.0*
*MDD **19** 11:58:38.3±1.6,34°19N×9°08W,h30km±24km,mb3.7/7, Error ellipse: s-maj=17.4km s-min=5.4km az=80.0, PRXIMO*
*INMG **19** 11:58:41.0±1.0,34°26N×9°07W,h31km,ML2.0, Error ellipse: s-maj=8.5km s-min=5.3km az=89.0*
ISC 19 11:58:39.2±4.0,34°5N±0°2×8°97W±0°10,h10km,n52, σ0s89/77,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.64**	**3**	*e*Sn	**Sn**	**11 59 54.0**	**+0.1**
PFVI				A	A	11 59 59.5	
	4.3nm,0.2s						
PFVI	**Vila Bisbo**	**2.64**	**3**	P	**Pn**	**11 59 21.7**	**-0.1**
	0.5nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**11 59 54.0**	**+0.1**
	3.7nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.64**	**3**	P	**Pn**	**11 59 21.7**	**-0.1**
	0.5nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**11 59 54.0**	**+0.1**
	3.7nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.87**	**17**	*e*Pn	**Pn**	**11 59 26.9**	**+1.8**
PBDV				*e*Sn	**Sn**	**12 00 00.2**	**+0.4**
PBDV				A	A	12 00 04.4	
	1.7nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.87**	**17**	Pn	**Pn**	**11 59 26.9**	**+1.8**
PBDV				Sn	**Sn**	**12 00 00.2**	**+0.4**
	1.7nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.87**	**17**	Pn	**Pn**	**11 59 26.9**	**+1.8**
PBDV				*e*Sn	**Sn**	**12 00 00.2**	**+0.4**
	1.7nm,0.1s						
CIA	**Chichaoua**	**2.92**	**176**	P	Pn	11 59 17.0	-8.8
CIA				S	Sn	11 59 49.0	-12
CIA	**Chichaoua**	**2.92**	**176**	P	Pn	11 59 17.0	-8.8
CIA				S	Sn	11 59 49.0	-12
PTEO	**Sao Teotonio**	**3.06**	**4**	*e*Pn	**Pn**	**11 59 28.9**	**+1.3**
PTEO				*e*Sn	**Sn**	**12 00 04.1**	**-0.1**
PTEO				A	A	12 00 04.8	
	6.1nm,1.0s						
PTEO	**Sao Teotonio**	**3.06**	**4**	Pn	**Pn**	**11 59 28.9**	**+1.3**
PTEO				Sn	**Sn**	**12 00 04.1**	**-0.1**
	3.1nm,1.0s						
PTEO	**Sao Teotonio**	**3.06**	**4**	Pn	**Pn**	**11 59 28.9**	**+1.3**
PTEO				*e*Sn	**Sn**	**12 00 04.1**	**-0.1**
	6.1nm,1.0s						
PVAQ	**Vaqueiros**	**3.08**	**19**	*e*Pn	**Pn**	**11 59 28.8**	**+0.9**
PVAQ				*e*Sn	**Sn**	**12 00 05.2**	**+0.4**
PVAQ				A	A	12 00 08.6	
	2.9nm,0.3s						
PVAQ	**Vaqueiros**	**3.08**	**19**	Pn	**Pn**	**11 59 28.8**	**+0.9**
PVAQ				Sn	**Sn**	**12 00 05.2**	**+0.4**
	2.9nm,0.3s						
PVAQ	**Vaqueiros**	**3.08**	**19**	Pn	**Pn**	**11 59 28.8**	**+0.9**
PVAQ				*e*Sn	**Sn**	**12 00 05.2**	**+0.4**
	2.9nm,0.3s						
KIB	**El Ksiba**	**3.11**	**127**	P	Pn	11 59 22.5	-5.9
KIB				S	Sn	11 59 56.0	-10
KIB	**El Ksiba**	**3.11**	**127**	P	Pn	11 59 22.5	-5.9
KIB				S	Sn	11 59 56.0	-10
TZC	**Tazercounte**	**3.13**	**138**	P	Pn	11 59 22.0	-6.7
TZC				S	Sn	11 59 55.0	-11
TZC	**Tazercounte**	**3.13**	**138**	P	Pn	11 59 22.0	-6.7
TZC				S	Sn	11 59 55.0	-11
PCVE	**Castro Verde**	**3.23**	**13**	*e*Pn	**Pn**	**11 59 30.7**	**+0.8**
PCVE				*e*Sn	**Sn**	**12 00 08.4**	**0.0**
PCVE				A	A	12 00 12.3	
	3.0nm,0.5s						
PCVE	**Castro Verde**	**3.23**	**13**	Pn	**Pn**	**11 59 30.7**	**+0.8**
PCVE				Sn	**Sn**	**12 00 08.4**	**0.0**
	3.0nm,0.5s						
PCVE	**Castro Verde**	**3.23**	**13**	Pn	**Pn**	**11 59 30.7**	**+0.8**
PCVE				*e*Sn	**Sn**	**12 00 08.4**	**0.0**
	3.0nm,0.5s						
EGRO	**El Granado**	**3.27**	**21**	P	Pn	**11 59 31.1**	**+0.6**
	0.7nm,0.1s,SNR=4.8						
EGRO				S	**Sn**	**12 00 09.8**	**+0.4**
	2.2nm,0.1s,SNR=6.2						
EGRO	**El Granado**	**3.27**	**21**	P	**Pn**	**11 59 31.1**	**+0.6**
	0.7nm,0.1s,SNR=4.8						
EGRO				S	**Sn**	**12 00 09.8**	**+0.4**
	2.2nm,0.1s,SNR=6.2						
MESJ	**Messejana**	**3.40**	**10**	*e*Pn	**Pn**	**11 59 33.5**	**+1.2**
MESJ				*e*Sn	**Sn**	**12 00 12.9**	**+0.3**
MESJ				A	A	12 00 14.1	
	2.3nm,0.2s						
MESJ	**Messejana**	**3.40**	**10**	Pn	**Pn**	**11 59 33.5**	**+1.2**
MESJ				Sn	**Sn**	**12 00 12.9**	**+0.3**
	2.3nm,0.2s						
MESJ	**Messejana**	**3.40**	**10**	Pn	**Pn**	**11 59 33.5**	**+1.2**
MESJ				*e*Sn	**Sn**	**12 00 12.9**	**+0.3**
	2.3nm,0.2s						
OUK	**Oukaimeden**	**3.40**	**164**	P	Pn	11 59 26.0	-6.6
OUK				S	Sn	12 00 03.0	-10
OUK	**Oukaimeden**	**3.40**	**164**	P	Pn	11 59 26.0	-6.6
OUK				S	Sn	12 00 03.0	-10
CZD	**Col de Zad**	**3.58**	**113**	P	Pn	11 59 27.0	-8.1
CZD				S	Sn	12 00 11.0	-6.6
CZD	**Col de Zad**	**3.58**	**113**	*e*P	Pn	11 59 27.0	-8.1
CZD				S	Sn	12 00 11.0	-6.6
PNCL	**Nicolau / Gran**	**3.63**	**6**	*e*Pn	**Pn**	**11 59 36.5**	**+1.0**
PNCL				*e*Sn	**Sn**	**12 00 17.7**	**-0.7**
PNCL				A	A	12 00 21.7	
	1.6nm,0.2s						
PNCL	**Nicolau / Gran**	**3.63**	**6**	*e*Pn	**Pn**	**11 59 36.5**	**+1.0**
PNCL				*e*Sn	**Sn**	**12 00 17.7**	**-0.7**
	1.6nm,0.2s						
EMIN	**Mina Concepcio**	**3.76**	**29**	P	**Pn**	**11 59 38.0**	**+0.7**
	0.2nm,0.1s,SNR=7.5						
EMIN				S	**Sn**	**12 00 21.3**	**-0.4**
	0.8nm,0.1s,SNR=5.9						
EMIN	**Mina Concepcio**	**3.76**	**29**	P	**Pn**	**11 59 38.0**	**+0.7**
	0.2nm,0.1s,SNR=7.5						
EMIN				S	**Sn**	**12 00 21.3**	**-0.4**
	0.8nm,0.1s,SNR=5.9						
EVO	**Evora**	**4.11**	**11**	*e*Sn	**Sn**	**12 00 29.6**	**-0.5**
EVO				A	A	12 00 30.8	
	1.9nm,0.1s						
EVO	**Evora**	**4.11**	**11**	Sn	**Sn**	**12 00 29.6**	**-0.5**
	1.9nm,0.1s						
EVO	**Evora**	**4.11**	**11**	*e*Sn	**Sn**	**12 00 29.6**	**-0.5**
	1.9nm,0.1s						
PMAFR	**Mafra**	**4.46**	**357**	*e*Pn	**Pn**	**11 59 46.5**	**-0.4**
PMAFR				*e*Sn	**Sn**	**12 00 38.7**	**-0.2**
PMAFR	**Mafra**	**4.46**	**357**	P	**Pn**	**11 59 46.2**	**-0.7**
	1.5nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**12 00 36.7**	**-2.3**
	4.1nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**4.46**	**357**	P	**Pn**	**11 59 46.2**	**-0.7**
	1.5nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**4.46**	**357**	*e*Pn	**Pn**	**11 59 46.5**	**-0.4**
PMAFR				*e*Sn	**Sn**	**12 00 38.7**	**-0.2**
PESTR	**Estremoz**	**4.51**	**14**	*e*Sn	**Sn**	**12 00 39.5**	**-0.5**
PESTR				A	A	12 00 40.7	
	1.4nm,0.7s						
PESTR	**Estremoz**	**4.51**	**14**	*e*Sn	**Sn**	**12 00 39.5**	**-0.5**
	1.4nm,0.7s						
EBAD	**Badajoz**	**4.54**	**20**	P	**Pn**	**11 59 48.7**	**+0.7**
	0.4nm,0.1s,SNR=6.9						
EBAD				S	**Sn**	**12 00 39.9**	**-0.9**
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.54**	**20**	P	**Pn**	**11 59 48.7**	**+0.7**
	0.4nm,0.1s,SNR=6.9						
EBAD				S	**Sn**	**12 00 39.9**	**-0.9**
	0.7nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.59**	**38**	P	**Pn**	**11 59 49.1**	**+0.4**
	0.1nm,0.1s,SNR=7.2						
ECAB				S	**Sn**	**12 00 40.5**	**-1.5**
	0.3nm,0.1s,SNR=6.7						
ECAB	**El Cabril**	**4.59**	**38**	P	**Pn**	**11 59 49.1**	**+0.4**
	0.1nm,0.1s,SNR=7.2						
ECAB				S	**Sn**	**12 00 40.5**	**-1.5**
	0.3nm,0.1s,SNR=6.7						
PMRV	**Marv??o**	**5.09**	**14**	*e*Pn	**Pn**	**11 59 55.5**	**0.0**
PMRV				*e*Sn	**Sn**	**12 00 53.1**	**-1.3**
PMRV	**Marv??o**	**5.09**	**14**	Pn	**Pn**	**11 59 55.5**	**0.0**
PMRV				Sn	**Sn**	**12 00 53.1**	**-1.3**
PMRV	**Marv??o**	**5.09**	**14**	Pn	**Pn**	**11 59 55.5**	**0.0**
PMRV				Sn	**Sn**	**12 00 53.1**	**-1.3**
EADA	**Adamuz**	**5.10**	**43**	P	**Pn**	**11 59 56.6**	**+0.8**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**12 00 53.0**	**-1.8**
	1.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.10**	**43**	P	**Pn**	**11 59 56.6**	**+0.8**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**12 00 53.0**	**-1.8**
	1.7nm,0.1s,SNR=7.9						

IDC 19 12:26:42.5±3.5,5°85S×150°97E,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.3/37,mbtmp3.6/2,MS2.6/1,Ms1 2.6/1, ms1mx2.5/21,Error ellipse: s-maj=139.6km s-min=46.4km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.25**	**343**	LR	LR	12 39 22.0	
	comp=Z,18nm,18.5s,baz=113,slow=38						
WRA	**Warramunga Arr**	**21.39**	**228**	P	P	12 31 32.2	+0.3
	0.8nm,0.5s,baz=53,slow=10,SNR=11						
ASAR	**Alice Springs**	**24.15**	**221**	P	P	12 32 00.9	+0.3
	1.9nm,0.9s,baz=59,slow=9.8,SNR=18						
TORD	**Torodi Ar. Bea**	**148.87**	**286**	PKPbc	PKPbc	12 46 32.4	-1.0
	0.3nm,0.6s,baz=79,slow=3.1,SNR=2.7						

*IDC **19** 12:39:01.2±2.0,9°47S×112°83E,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.6/40,mbtmp3.8/6,ML3.5/1,Error ellipse: s-maj=71.4km s-min=20.8km az=53.0*
*DJA **19** 12:39:09.0±0.9,9°S±4'×111°3E±°,h17km±8km,M4.4/12, mB5.5/1,mb4.8/1,MLv4.2/12,Mw(mB)4.9/1*
ISC 19 12:39:05.9±1.9,9°57S±0°09×112°98E±0°06,h31km±14km, n20,σ1s99/26,mb4.0/5,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.37**	**20**	P	**Pb**	**12 39 30.6**	**-0.2**
GMJI				S	**Sb**	**12 39 46.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**1.59**	**47**	P	**Pb**	**12 39 35.0**	**+0.4**
JAGI				S	**Sb**	**12 39 55.7**	**+1.3**
BLJI	**Banyuglugur**	**1.91**	**19**	P	**Pb**	**12 39 40.6**	**+0.5**
BLJI				S	**Sb**	**12 40 06.5**	**+2.9**
PWJI	**Pagerwojo**	**1.93**	**323**	P	**Pn**	**12 39 36.7**	**+0.1**
PWJI				S	**Sn**	**12 39 57.8**	**-2.0**
ABJI	**Asem Bagus**	**2.15**	**35**	P	**Pb**	**12 39 45.0**	**+0.8**
PCJI	**Pacitan**	**2.25**	**307**	P	**Pn**	**12 39 41.6**	**+0.7**
PCJI				S	**Sn**	**12 40 06.8**	**-0.8**
DNP	**Denpasar**	**2.37**	**68**	P	**Pb**	**12 39 48.5**	**+0.6**
NGJI	**Ngawi**	**2.66**	**325**	P	**Pb**	**12 39 50.8**	**-1.9**
NGJI				S	**Sb**	**12 40 25.3**	**+0.4**
GRJI	**Gresik**	**2.68**	**349**	P	**Pb**	**12 39 51.0**	**-2.3**
UGM	**Wanagama**	**2.94**	**304**	P	**Pn**	**12 39 50.6**	**+0.1**
TWSI	**Taliwang, Sumb**	**3.94**	**78**	P	**Pb**	**12 40 10.1**	**-4.5**
KPJI	**Karang Pucung**	**4.58**	**299**	P	**Pn**	**12 40 15.6**	**+2.5**
KPJI				S	**Sn**	**12 41 09.0**	**+3.7**
PLAI	**Plampang**	**4.79**	**82**	P	Pb	12 40 23.1	-6.0
CISI	**Cisompet, Garu**	**5.49**	**291**	P	**Pn**	**12 40 28.4**	**+2.8**
FITZ	**Fitzroy Crossi**	**14.93**	**126**	Pn	**Pn**	**12 42 34.9**	**+0.2**
	0.2nm,0.3s,baz=304,slow=9.6,SNR=11						
WRA	**Warramunga Arr**	**23.05**	**119**	P	**P**	**12 44 10.0**	**+1.1**
	1.5nm,0.9s,baz=290,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**24.41**	**128**	P	**P**	**12 44 24.2**	**+2.4**
	2.2nm,0.7s,baz=305,slow=9.0,SNR=35						
MJAR	**Matsushiro Ar**	**51.64**	**26**	P	**P**	**12 48 08.0**	**-1.7**
	0.9nm,0.5s,baz=206,slow=8.0,SNR=6.4						
SONM	**Songino Array**	**57.45**	**355**	P	**P**	**12 48 52.2**	**+0.3**
	1.2nm,0.8s,baz=158,slow=4.7,SNR=3.1						
MKAR	**Makanchi Array**	**62.44**	**337**	P	**P**	**12 49 25.0**	**-1.1**
	0.5nm,0.4s,baz=150,slow=7.3,SNR=7.0						

*NEIC **19** 13:03:50.1,43°66S×172°86E,h8km,ML4.2(WEL),After WEL.*
NEIC Felt on the Banks Peninsula and at Christchurch.
WEL 19 13:03:50.5±0.2,43°65S×172°84E,h7km,ML4.2/33,3C-1D, Error ellipse: s-maj=1.8km s-min=0.9km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.14**	**248**	⇑PG	Pg	13 03 53.9	+0.4
MQZ				SG	Sg	13 03 56.2	+0.7
MQZ				AML	AML	13 03 56.4	
MQZ	**McQueen's Vall**	**0.14**	**248**	Pg	Pg	13 03 53.9	+0.4
MQZ				Sg	Sg	13 03 56.2	+0.7
OXZ	**Oxford**	**0.67**	**299**	P*	Pg	13 04 03.3	-0.1
OXZ				S*	Sg	13 04 12.4	+0.3
OXZ	**Oxford**	**0.67**	**299**	P*	Pg	13 04 03.3	-0.1
OXZ				S*	Sg	13 04 12.4	+0.4
LTZ	**Lake Taylor**	**0.96**	**334**	P*	Pg	13 04 08.7	-0.3
LTZ				AML	AML	13 04 22.7	
LTZ				AML	AML	13 04 22.7	
LTZ	**Lake Taylor**	**0.96**	**334**	P*	Pg	13 04 08.7	-0.3
RPZ	**Rata Peaks**	**1.30**	**267**	P*	Pn	13 04 13.8	-1.3
RPZ				AML	AML	13 04 33.3	
RPZ				AML	AML	13 04 34.2	
RPZ	**Rata Peaks**	**1.30**	**267**	Pn	Pn	13 04 13.8	-1.3
KHZ	**Kahutara**	**1.34**	**23**	PN	Pn	13 04 14.1	-1.6
KHZ	**Kahutara**	**1.34**	**23**	Pn	Pn	13 04 14.1	-1.6
INZ	**Inchbonnie**	**1.38**	**312**	PN	Pn	13 04 14.9	-1.2
WVZ	**Waitaha Valley**	**1.64**	**290**	⇓PN	Pn	13 04 19.2	-0.6
WVZ				AML	AML	13 04 41.8	
WVZ				AML	AML	13 04 43.4	
WVZ	**Waitaha Valley**	**1.64**	**290**	Pn	Pn	13 04 19.2	-0.6
THZ	**Tophouse**	**1.89**	**2**	PN	Pn	13 04 21.7	-1.6
THZ				AML	AML	13 05 01.9	
THZ				AML	AML	13 05 01.9	
THZ	**Tophouse**	**1.89**	**2**	Pn	Pn	13 04 21.7	-1.6
LBZ	**Lake Benmore**	**2.05**	**248**	PN	Pn	13 04 24.7	-0.7
LBZ				AML	AML	13 05 00.6	
LBZ				AML	AML	13 05 00.7	
LBZ				AML	AML	13 05 03.8	
LBZ				AML	AML	13 05 03.8	
LBZ	**Lake Benmore**	**2.05**	**248**	Pn	Pn	13 04 24.7	-0.7
DSZ	**Denniston Nort**	**2.

TUZ					AML	AML	13 05 54.2	
TUZ	**Tuapeka**	**3.24**	**224**		Pn	Pn	13 04 40.8	-0.9
OGWZ	**Otaki Gorge**	**3.32**	**32**		PN	Pn	13 04 42.2	-0.7
OGWZ	**Otaki Gorge**	**3.32**	**32**		Pn	Pn	13 04 42.2	-0.7
HOWZ	**Holdsworth Sta**	**3.40**	**37**		PN	Pn	13 04 43.5	-0.5
HOWZ	**Holdsworth Sta**	**3.40**	**37**		Pn	Pn	13 04 43.5	-0.5
TIWZ	**Tintock**	**3.66**	**39**		PN	Pn	13 04 46.8	-0.8
TIWZ					AML	AML	13 05 29.6	
TIWZ					AML	AML	13 05 29.8	
TIWZ	**Tintock**	**3.66**	**39**		Pn	Pn	13 04 46.8	-0.8
MSZ	**Milford Sound**	**3.68**	**252**		AML	AML	13 05 50.2	
MSZ					AML	AML	13 05 58.2	
MLZ	**Mavora Lakes**	**3.79**	**241**		AML	AML	13 05 58.9	
MLZ					AML	AML	13 06 05.4	
SYZ	**Scrubby Hill**	**3.90**	**221**	⇑	PN	Pn	13 04 50.3	-0.4
SYZ					AML	AML	13 06 07.4	
SYZ					AML	AML	13 06 10.6	
SYZ	**Scrubby Hill**	**3.90**	**221**		Pn	Pn	13 04 50.3	-0.4
BFZ	**Birch Farm**	**3.90**	**42**		AML	AML	13 05 36.5	
WHZ	**Wether Hill Ro**	**4.14**	**236**		AML	AML	13 06 14.7	
WHZ					AML	AML	13 06 17.4	
WAZ	**Wanganui**	**4.21**	**23**		AML	AML	13 02 28.7	
KHEZ	**Kahui Hut**	**4.44**	**12**	*e*	PN	Pn	13 05 00.2	+1.8
KHEZ	**Kahui Hut**	**4.44**	**12**	*e*	Pn	Pn	13 05 00.2	+1.8
DCZ	**Deep Cove**	**4.45**	**244**		AML	AML	13 06 23.9	
DCZ					AML	AML	13 06 29.1	
NEZ	**North Egmont**	**4.48**	**13**		PN	Pn	13 05 00.9	+2.0
NEZ	**North Egmont**	**4.48**	**13**		Pn	Pn	13 05 00.9	+2.0
PNHZ	**Pukenui**	**4.50**	**35**		PN	Pn	13 04 57.8	-1.4
PNHZ	**Pukenui**	**4.50**	**35**		Pn	Pn	13 04 57.8	-1.4
DREZ	**Durham Road**	**4.58**	**13**		PN	Pn	13 05 01.7	+1.6
DREZ	**Durham Road**	**4.58**	**13**		Pn	Pn	13 05 01.7	+1.6
APZ	**The Paps**	**4.67**	**225**		AML	AML	13 12 57.9	
VRZ	**Vera Road**	**4.75**	**18**		AML	AML	13 06 02.6	
VRZ					AML	AML	13 06 05.9	
WNVZ	**Wahianoa**	**4.79**	**27**		PN	Pn	13 05 03.3	0.0
WNVZ	**Wahianoa**	**4.79**	**27**		Pn	Pn	13 05 03.3	0.0
BKZ	**Black Stump Fm**	**5.26**	**33**		PN	Pn	13 05 07.3	-2.3
BKZ	**Black Stump Fm**	**5.26**	**33**		Pn	Pn	13 05 07.3	-2.3
HIZ	**Hauiti**	**5.36**	**17**		PN	Pn	13 05 10.1	-0.8
HIZ					AML	AML	13 05 48.1	
HIZ					AML	AML	13 06 44.2	
HIZ	**Hauiti**	**5.36**	**17**		Pn	Pn	13 05 10.1	-0.8
TOZ	**Tahuroa Road**	**6.25**	**20**		PN	Pn	13 05 23.8	+0.6
TOZ	**Tahuroa Road**	**6.25**	**20**		Pn	Pn	13 05 23.8	+0.6

WEL 19 13:10:25.9±0.1, 43°.60S×172°.73E, h10km, ML3.5/12, 2C-2D, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.12**	**206**	⇑ PG	Pg	13 10 29.0	+0.2
MQZ				SG	Sg	13 10 31.2	+0.5
MQZ				AML	AML	13 10 31.3	
OXZ	**Oxford**	**0.57**	**298**	⇓ P*	Pg	13 10 36.8	-0.1
OXZ				S*	Sg	13 10 44.9	+0.6
LTZ	**Lake Taylor**	**0.88**	**338**	P*	Pg	13 10 42.5	-0.3
LTZ				AML	AML	13 10 55.2	
LTZ				AML	AML	13 10 55.3	
RPZ	**Rata Peaks**	**1.22**	**264**	⇓ P*	Pn	13 10 47.7	-1.4
RPZ				AML	AML	13 11 15.5	
RPZ				AML	AML	13 11 15.8	
INZ	**Inchbonnie**	**1.28**	**312**	P*	Pn	13 10 49.3	-0.5
KHZ	**Kahutara**	**1.32**	**27**	⇑ PN	Pn	13 10 48.5	-1.9
WVZ	**Waitaha Valley**	**1.54**	**289**	PN	Pn	13 10 52.9	-0.6
THZ	**Tophouse**	**1.84**	**4**	PN	Pn	13 10 56.1	-1.5
THZ				AML	AML	13 11 29.8	
THZ				AML	AML	13 11 30.5	
DSZ	**Denniston Nort**	**1.97**	**339**	PN	Pn	13 10 59.2	-0.2
DSZ				AML	AML	13 11 33.7	
DSZ				AML	AML	13 11 43.8	
LBZ	**Lake Benmore**	**2.00**	**246**	PN	Pn	13 10 59.1	-0.6
LBZ				AML	AML	13 11 37.0	
LBZ				AML	AML	13 11 41.7	
ODZ	**Otahua Downs**	**2.08**	**225**	PN	Pn	13 10 59.5	-1.4
ODZ				AML	AML	13 11 32.1	
ODZ				AML	AML	13 11 32.6	
ODZ				AML	AML	13 11 34.3	
ODZ				AML	AML	13 11 38.5	
FOZ	**Fox Glacier**	**2.12**	**271**	PN	Pn	13 11 01.8	+0.5
TUWZ	**Tuamarina**	**2.34**	**23**	PN	Pn	13 11 02.6	-1.9
QRZ	**Quartz Range**	**2.77**	**357**	PN	Pn	13 11 09.8	-0.5
QRZ				AML	AML	13 11 45.8	
WKZ	**Wanaka**	**2.94**	**244**	AML	AML	13 12 18.9	
EAZ	**Earnscleugh**	**2.95**	**235**	AML	AML	13 12 07.6	
TUZ	**Tuapeka**	**3.23**	**222**	AML	AML	13 13 47.5	
TUZ				AML	AML	13 13 47.5	
BFZ	**Birch Farm**	**3.91**	**43**	AML	AML	13 11 33.7	
BFZ				AML	AML	13 14 12.9	

JMA 19 13:12:08.3, 37°.00N×140°.68E, h10km±1km, M1.3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.10**	**77**	P	Pg	13 12 11.0	+0.1
ONAJ				S	Sg	13 12 12.7	-0.1
JFK	**Kawauchi**	**0.33**	**28**	S	Sg	13 12 19.3	+0.1
JHO	**Hitachi**	**0.48**	**191**	P	Pg	13 12 17.6	0.0
JHO				S	Sg	13 12 23.8	-0.1
JFT	**Otama**	**0.52**	**328**	S	Sg	13 12 25.5	+0.3
JMM	**Marumori**	**0.79**	**7**	P	Pg	13 12 23.4	-0.1
JMM				S	Sg	13 12 33.9	0.0

JMA 19 13:12:34.9, 37°.00N×138°.62E, h10km±1km, M1.4, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.38**	**286**	P	Pg	13 12 42.5	+0.1
JHK	**Hiroka**	**0.40**	**52**	P	Pg	13 12 42.7	-0.1
JHK				S	Sg	13 12 48.5	+0.3
JGK	**Kuni**	**0.44**	**178**	S	Sg	13 12 50.0	+0.7
JIZZ	**Izumozaki**	**0.54**	**8**	P	Pb	13 12 46.1	-0.3
JKT	**Katashina**	**0.56**	**115**	P	Pg	13 12 45.7	0.0
JKT				S	Sg	13 12 53.2	+0.2
MAT	**Matsushiro**	**0.56**	**216**	P	Pg	13 12 45.6	-0.3
MAT				S	Sg	13 12 52.8	-0.5
MAT	**Matsushiro**	**0.56**	**216**	P	Pg	13 12 45.6	-0.3
MAT				S	Sg	13 12 52.9	-0.4
JNG	**Nsakai**	**0.72**	**215**	P	Pg	13 12 48.5	-0.4
JNG				S	Sg	13 12 57.7	-0.7
JAG	**Ashikaga**	**0.88**	**130**	P	Pg	13 12 51.9	0.0
JAG				S	Sg	13 13 03.4	0.0

IDC 19 13:16:29.1±1.4, 26°.25N×140°.11E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/35, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=50.5km s-min=24.3km az=127.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.04**	**65**	Pn	Pn	13 17 05.5	+0.9
	30nm,0.3s,baz=76,slow=24,SNR=53						
JCJ				Sn	Sn	13 17 29.8	-0.9
	101nm,0.3s,baz=123,slow=22,SNR=20						
WRA	**Warramunga Arr**	**46.26**	**188**	P	P	13 24 56.2	-0.2
	0.7nm,0.5s,baz=8.4,slow=8.6,SNR=7.0						
ILAR	**Eielson Array**	**59.34**	**28**	P	P	13 26 32.6	0.0
	0.3nm,0.8s,baz=258,slow=4.5,SNR=3.2						
YKA	**Yellowknife Ar**	**73.75**	**28**	P	P	13 28 04.7	-0.1
	0.2nm,0.7s,baz=301,slow=6.2,SNR=2.8						

*NIED **19** 13:23:00, 38°.00N×144°.10E, h5km, Mw3.6 Best double couple: M₀3.33000×10¹⁴ NP1:φs334.00000°, δ39.00000°, λ-107.00000°. NP2:φs175.00000°, δ53.00000°, λ-77.00000°.*

*IDC **19** 13:23:03.9±1.1, 37°.77N×144°.22E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.7/36, mbtmp3.9/7, ML3.8/2, MS2.7/2, Ms1 2.7/2, ms1mx2.2/42, Error ellipse: s-maj=27.3km s-min=19.5km az=95.0*

*NEIC **19** 13:23:04.7±0.7, 37°.82N×144°.36E, h10km, mb4.5/1, Error ellipse: s-maj=15.5km s-min=9.0km az=94.0*

*ISCJB **19** 13:23:06.2±0.6, 37°.88N±0°.04×144°.22E±0°.05, h33km, mb4.1/6, Error ellipse: s-maj=5.5km s-min=5.2km az=42.5*

*JMA **19** 13:23:07.2±0.2, 37°.97N×144°.12E, h33km, M4.2*

ISC 19 13:23:08.1±0.8, 37°.89N±0°.05×144°.22E±0°.08, h35km, n34, σ1s66/47, mb4.0/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.33**	**301**	P	Pn	13 23 43.1	-0.8
OFUJ				S	Sn	13 24 10.0	-1.3
JIO	**Ouri**	**2.33**	**285**	P	Pn	13 23 43.3	-0.6
JIO				S	Sn	13 24 09.7	-1.6
JMK	**Ichinoseki**	**2.58**	**295**	P	Pn	13 23 47.3	-0.1
JOM	**Ohasama**	**2.78**	**305**	P	Pn	13 23 49.7	-0.5
JOM				*e*S	Sn	13 24 21.9	-0.6
JOU	**Okura**	**2.84**	**281**	P	Pn	13 23 51.2	+0.2
JOU				S	Sn	13 24 23.5	-0.5
JFT	**Otama**	**3.10**	**264**	P	Pn	13 23 55.1	+0.5
JFT				*e*S	Sn	13 24 30.1	-0.3
JRG	**Rokugo**	**3.18**	**299**	P	Pn	13 23 55.8	+0.1
JRG				S	Sn	13 24 33.0	+0.6
JYK	**Kaneyama**	**3.20**	**290**	P	Pn	13 23 56.0	+0.1
JYK				S	Sn	13 24 33.1	+0.3
JANG	**Nango**	**3.25**	**321**	P	Pn	13 23 55.7	-0.9
JANG				S	Sn	13 24 32.2	-1.8
JTM	**Tenmabayashi**	**3.79**	**321**	P	Pn	13 24 03.9	0.0
JTM				S	Sn	13 24 44.3	-2.9
JAG	**Ashikaga**	**4.08**	**250**	P	Pn	13 24 08.1	+0.1
JAG				S	Sn	13 24 54.5	0.0
ERM	**Erimo**	**4.20**	**349**	*e*Pn	Pn	13 24 08.9	-0.7
JOT	**Ohata**	**4.26**	**326**	P	Pn	13 24 10.7	+0.3
JRY	**Ryogami san**	**4.65**	**248**	P	Pn	13 24 15.5	-0.4
JRY				S	Sn	13 25 06.4	-2.3
JKB	**Kayabe**	**4.68**	**329**	P	Pn	13 24 16.9	+0.6
JCH	**Churui**	**4.76**	**352**	P	Pn	13 24 16.0	-1.4
JCH				S	Sn	13 25 06.6	-4.7
MJAR	**Matsushiro Arr**	**4.98**	**256**	Pn	Pn	13 24 21.3	+0.8
	2.5nm,0.3s,baz=189,slow=15,SNR=40						
MJAR				Sn	Sn	13 25 18.3	+1.5
	2.2nm,0.3s,baz=91,slow=25,SNR=7.5						
MJAR				LR	LR	13 26 24.6	
	comp=Z,62nm,21.7s,baz=60,slow=41						
MAJO	**Matsushiro**	**4.98**	**256**	*e*Pn	Pn	13 24 21.9	+1.4
	15nm,0.6s						
MAT	**Matsushiro**	**4.98**	**256**	P	Pn	13 24 21.9	+1.4
MAT				S	Sn	13 25 18.0	+1.1
JHJ	**Hachijo jima 2**	**5.98**	**219**	Pn	Pn	13 24 32.3	-1.8
	10nm,0.3s,baz=316,slow=20,SNR=15						
JHJ				Sn	Sn	13 25 35.1	-6.3
	33nm,0.3s,baz=247,slow=23,SNR=11						
ASAJ	**Asahikawa**	**6.34**	**349**	Pn	Pn	13 24 38.9	-0.1
	baz=225,slow=0.0						
ASAJ	**Asahikawa**	**6.34**	**349**	*e*Pn	Pn	13 24 38.4	-0.6
	2.6nm,0.4s						
CBIJ	**Chichi jima**	**10.90**	**190**	*e*Pn	Pn	13 25 38.7	-3.0
CBIJ				Sn	Sn	13 27 30.8	-12
JCJ	**Chichijima**	**10.90**	**190**	Pn	Pn	13 25 36.6	-5.0
	3.2nm,0.3s,baz=274,slow=19,SNR=3.6						
JCJ				Sn	Sn	13 27 30.8	-12
	4.0nm,0.3s,baz=287,slow=20,SNR=5.0						
JNU	**Nakatsue**	**11.87**	**250**	LR	LR	13 30 47.1	
	comp=Z,52nm,19.5s,baz=118,slow=39						
MKAR	**Makanchi Array**	**45.56**	**302**	P	P	13 31 25.9	+1.5
	0.9nm,0.7s,baz=82,slow=11,SNR=7.1						
KURK	**Kurchatov**	**47.16**	**308**	*e*P	P	13 31 37.9	+1.0
KURBB	**Kurchatov Arra**	**47.24**	**308**	P	P	13 31 38.5	+1.0
	1.4nm,0.5s,baz=81,slow=8.7,SNR=11						
ILAR	**Eielson Array**	**47.57**	**33**	P	P	13 31 42.4	+2.4
	0.5nm,0.8s,baz=270,slow=6.7,SNR=5.9						
WRAB	**Tennant Creek**	**58.26**	**191**	*e*P	P	13 32 59.1	0.0
	4.6nm,0.9s						
WRA	**Warramunga Arr**	**58.27**	**191**	P	P	13 32 59.0	-0.3
	2.9nm,0.6s,baz=12,slow=7.3,SNR=15						
ABKAR	**Akbulak array**	**59.09**	**311**	*e*P	P	13 33 05.9	+1.2
ASAR	**Alice Springs**	**61.99**	**191**	P	P	13 33 25.1	+0.3
	0.4nm,0.5s,baz=6.4,slow=7.1,SNR=19						
MBWA	**Marble Bar**	**63.09**	**206**	*e*P	P	13 33 32.1	+0.1

*CSEM **19** 13:25:26.4, 42°.27N×13°.42E, h11km, MD1.9/3*

ROM 19 13:25:26.4±0.6, 42°.27N×13°.42E, h11km±3km, Md1.9/3, Ml1.5/3, Error ellipse: s-maj=12.1km s-min=2.6km az=17.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	**Fagnano**	**0.12**	**94**	Pg	Pg	13 25 30.0	+0.5
FAGN				Sg	Sg	13 25 32.4	+0.7
	492nm,0.5s						
FAGN	**Fagnano**	**0.12**	**94**	Pg	Pg	13 25 30.0	+0.5
FAGN				Sg	Sg	13 25 32.4	+0.7
	492nm,0.5s						
RM33	**Pellescritta (**	**0.28**	**327**	Pg	Pg	13 25 32.8	+0.6
RM33				Sg	Sb	13 25 37.8	-0.5
	3μm,8.1s						
RM33	**Pellescritta (**	**0.28**	**327**	Pg	Pg	13 25 32.8	+0.6
RM33				Sg	Sb	13 25 37.8	-0.5
	3μm,8.1s						
RM32	**Poggio Cancell**	**0.31**	**342**	Pg	Pg	13 25 32.9	+0.1
RM32				Sg	Sg	13 25 37.6	+0.6
	2μm,5.5s						
RM32	**Poggio Cancell**	**0.31**	**342**	Pg	Pg	13 25 32.9	+0.1
RM32				Sg	Sg	13 25 37.6	+0.6
	2μm,5.5s						
VCEL	**Villa Celiera**	**0.33**	**69**	Pg	Pg	13 25 33.1	0.0
VCEL				Sg	Sb	13 25 39.1	-0.8
VCEL	**Villa Celiera**	**0.33**	**69**	Pg	Pg	13 25 33.1	0.0
VCEL				Sg	Sb	13 25 39.1	-0.8

*NEIC **19** 13:33:36.4, 37°.95S×176°.34E, h161km, MG4.0(WEL), After WEL.*

WEL 19 13:33:36.2±0.2, 37°.97S×176°.37E, h164km±2km, ML4.0/20, 24C-4D, Error ellipse: s-maj=1.6km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.25**	**340**	⇑ PN	Pn	13 33 58.4	+0.1
TGRZ				SN	Sn	13 34 16.0	+0.8
TGRZ	**Tauranga**	**0.25**	**340**	Pn	Pn	13 33 58.4	+0.1
WPRZ	**Whakapapatarin**	**0.57**	**196**	PN	Pn	13 33 59.7	+0.2
WPRZ	**Whakapapatarin**	**0.57**	**196**	Pn	Pn	13 33 59.7	+0.2
MUGZ	**Murupara**	**0.60**	**148**	⇑ PN	Pn	13 33 59.4	-0.2
MUGZ				SN	Sn	13 34 17.1	-0.6
URZ	**Urewera**	**0.65**	**117**	⇑ PN	Pn	13 33 59.5	-0.4
URZ				SN	Sn	13 34 16.9	-1.2
URZ				AML	AML	13 34 17.6	
URZ	**Urewera**	**0.65**	**117**	Pn	Pn	13 33 59.5	-0.4
URZ				SN	Sn	13 34 16.9	-1.2
TOZ	**Tahuroa Road**	**0.72**	**289**	⇑ PN	Pn	13 34 00.7	+0.4
TOZ	**Tahuroa Road**	**0.72**	**289**	Pn	Pn	13 34 00.3	0.0
RTZ	**Ruatahuna**	**0.81**	**144**	⇑ PN	Pn	13 34 00.9	-0.1
RTZ				SN	Sn	13 34 19.6	-0.5
MRHZ	**Matea Rd**	**0.87**	**177**	⇑ PN	Pn	13 34 01.3	-0.1
MRHZ				SN	Sn	13 34 20.8	0.0
RAGZ	**Rawiri**	**0.98**	**123**	⇑ PN	Pn	13 34 02.4	+0.2
RAGZ				SN	Sn	13 34 21.9	-0.3
RAGZ	**Rawiri**	**0.98**	**123**	Pn	Pn	13 34 02.4	+0.2
RAGZ				Sn	Sn	13 34 21.9	-0.3
MWZ	**Matawai**	**0.98**	**112**	PN	Pn	13 34 02.1	-0.1
MWZ				AML	AML	13 34 22.3	
MWZ				AML	AML	13 34 24.0	
MWZ	**Matawai**	**0.98**	**112**	Pn	Pn	13 34 02.1	-0.1
RATZ	**Rangitukua**	**1.01**	**207**	⇑ PN	Pn	13 34 02.5	+0.1
RATZ	**Rangitukua**	**1.01**	**207**	Pn	Pn	13 34 02.5	+0.1
RAHZ	**Arahi**	**1.10**	**149**	PN	Pn	13 34 03.5	+0.4
RAHZ				SN	Sn	13 34 24.1	0.0
RAHZ	**Arahi**	**1.10**	**149**	Pn	Pn	13 34 03.5	+0.4
RAHZ				Sn	Sn	13 34 24.1	0.0
SNGZ	**Shannon Statio**	**1.12**	**137**	⇑ PN	Pn	13 34 03.6	+0.3
SNGZ				SN	Sn	13 34 23.7	-0.5
SNGZ	**Shannon Statio**	**1.12**	**137**	Pn	Pn	13 34 03.6	+0.3
SNGZ				Sn	Sn	13 34 23.7	-0.5
HAZ	**Te Kaha**	**1.14**	**80**	⇓ PN	Pn	13 34 02.5	-0.9
NMHZ	**Naumai**	**1.18**	**163**	⇑ PN	Pn	13 34 04.5	+0.6
NMHZ	**Naumai**	**1.18**	**163**	Pn	Pn	13 34 04.5	+0.6
BKZ	**Black Stump Fm**	**1.20**	**175**	PN	Pn	13 34 03.7	-0.4
BKZ				SN	Sn	13 34 24.6	-1.0
BKZ				AML	AML	13 34 25.1	
BKZ	**Black Stump Fm**	**1.20**	**175**	Pn	Pn	13 34 03.7	-0.4
BKZ				Sn	Sn	13 34 24.6	-1.0
TKGZ	**Te Karaka**	**1.26**	**112**	PN	Pn	13 34 04.7	+0.2
TKGZ				SN	Sn	13 34 25.7	-0.6
TKGZ	**Te Karaka**	**1.26**	**112**	Pn	Pn	13 34 04.7	+0.2
TKGZ				Sn	Sn	13 34 25.7	-0.6
TWGZ	**Tauwhareparae**	**1.29**	**100**	PN	Pn	13 34 05.1	+0.3
TWGZ				SN	Sn	13 34 27.0	+0.1
TWGZ	**Tauwhareparae**	**1.29**	**100**	Pn	Pn	13 34 05.1	+0.3
TWGZ				Sn	Sn	13 34 27.0	+0.1
WHNZ	**Waihua**	**1.30**	**149**	PN	Pn	13 34 05.2	+0.3
WHNZ				SN	Sn	13 34 26.7	-0.4
OTVZ	**Oturere**	**1.31**	**205**	⇑ PN	Pn	13 34 05.4	+0.2
OTVZ				SN	Sn	13 34 27.5	-0.2
OTVZ	**Oturere**	**1.31**	**205**	Pn	Pn	13 34 05.4	+0.2
OTVZ				Sn	Sn	13 34 27.5	-0.2
RIGZ	**Rimuhau**	**1.32**	**124**	PN	Pn	13 34 05.3	+0.2
RIGZ				SN	Sn	13 34 27.1	-0.3
ARHZ	**Aropaoanui**	**1.38**	**159**	⇑ PN	Pn	13 34 06.0	+0.3
ARHZ				SN	Sn	13 34 28.3	-0.2
ARHZ	**Aropaoanui**	**1.38**	**159**	Pn	Pn	13 34 06.0	+0.3
ARHZ				Sn	Sn	13 34 28.3	-0.2
FWVZ	**Far West T-bar**	**1.44**	**206**	PN	Pn	13 34 06.0	-0.4
FWVZ	**Far West T-bar**	**1.44**	**206**	Pn	Pn	13 34 06.0	-0.4
KWHZ	**Kaweka Forest**	**1.46**	**178**	PN	Pn	13 34 06.4	0.0
KNZ	**Kokohu**	**1.47**	**136**	⇑ PN	Pn	13 34 06.4	-0.1
KNZ				AML	AML	13 34 30.8	
KNZ				AML	AML	13 34 30.9	
KNZ	**Kokohu**	**1.47**	**136**	Pn	Pn	13 34 06.4	-0.1
WNVZ	**Wahianoa**	**1.49**	**204**	⇑ PN	Pn	13 34 06.6	-0.3
WNVZ	**Wahianoa**	**1.49**	**204**	Pn	Pn	13 34 06.6	-0.3
PUZ	**Puketiti**	**1.50**	**95**	PN	Pn	13 34 06.4	-0.4
PUZ				AML	AML	13 34 35.3	
PUZ				AML	AML	13 34 35.5	
PUZ	**Puketiti**	**1.50**	**95**	Pn	Pn	13 34 06.4	-0.4
MCHZ	**McNeill Hill**	**1.50**	**170**	⇑ PN	Pn	13 34 07.1	+0.4
MCHZ	**McNeill Hill**	**1.50**	**170**	Pn	Pn	13 34 07.2	+0.4
MOVZ	**Moawhango**	**1.52**	**198**	PN	Pn	13 34 06.4	-0.7
MOVZ	**Moawhango**	**1.52**	**198**	Pn	Pn	13 34 06.4	-0.7
PRGZ	**Paritu Road**	**1.52**	**129**	PN	Pn	13 34 07.1	0.0
PRGZ	**Paritu Road**	**1.52**	**129**	Pn	Pn	13 34 07.1	0.0
CNGZ	**Carnagh Statio**	**1.54**	**110**	PN	Pn	13 34 07.8	+0.6
CNGZ	**Carnagh Statio**	**1.54**	**110**	Pn	Pn	13 34 07.8	+0.6
MTVZ	**Mangateitei**	**1.58**	**206**	PN	Pn	13 34 07.5	-0.2
MTVZ	**Mangateitei**	**1.58**	**206**	Pn	Pn	13 34 07.5	-0.2
MXZ	**Matakaoa Point**	**1.59**	**76**	PN	Pn	13 34 07.8	+0.1
MXZ				AML	AML	13 34 32.2	
MXZ				AML	AML	13 34 34.8	
MXZ	**Matakaoa Point**	**1.59**	**76**	Pn	Pn	13 34 07.8	+0.1
WMGZ	**Waiomatatini S**	**1.63**	**85**	⇓ PN	Pn	13 34 07.9	-0.2
WMGZ				SN	Sn	13 34 31.4	-1.3
WMGZ	**Waiomatatini S**	**1.63**	**85**	Pn	Pn	13 34 07.9	-0.2
WMGZ				Sn	Sn	13 34 31.4	-1.3
KRHZ	**Kereru**	**1.67**	**180**	PN	Pn	13 34 08.2	-0.5
MHGZ	**Mahia Peninsul**	**1.69**	**135**	⇑ PN	Pn	13 34 09.0	+0.2
MHGZ	**Mahia Peninsul**	**1.69**	**135**	Pn	Pn	13 34 09.0	+0.2
CKHZ	**Cape Kidnapper**	**1.78**	**162**	⇑ PN	Pn	13 34 09.7	+0.1
CKHZ				SN	Sn	13 34 34.6	-1.1
CKHZ	**Cape Kidnapper**	**1.78**	**162**	Pn	Pn	13 34 09.8	+0.1
CKHZ				Sn	Sn	13 34 34.6	-1.1
KAHZ	**Kahuranaki**	**1.87**	**168**	⇑ PN	Pn	13 34 10.6	-0.1
KAHZ	**Kahuranaki**	**1.87**	**168**	Pn	Pn	13 34 10.6	-0.1
PNHZ	**Pukenui**	**1.95**	**184**	PN	Pn	13 34 10.8	-0.8
PNHZ				SN	Sn	13 34 37.1	-2.0
PNHZ	**Pukenui**	**1.95**	**184**	Pn	Pn	13 34 10.8	-0.8
PNHZ				Sn	Sn	13 34 37.1	-2.0
WAZ	**Wanganui**	**2.09**	**211**	⇑ PN	Pn	13 34 12.6	-0.5
WAZ	**Wanganui**	**2.09**	**211**	Pn	Pn	13 34 12.6	-0.5
WPHZ	**Waipukurau**	**2.10**	**178**	PN	Pn	13 34 12.4	-0.8
WPHZ	**Waipukurau**	**2.10**	**178**	Pn	Pn	13 34 12.4	-0.8
PXZ	**Pawanui**	**2.10**	**170**	⇑ PN	Pn	13 34 12.6	-0.6
PXZ				AML	AML	13 34 42.7	
PXZ				AML	AML	13 34 43.5	
PXZ	**Pawanui**	**2.10**	**170**	Pn	Pn	13 34 12.6	-0.6
TSZ	**Takapari Road**	**2.11**	**189**	⇑ PN	Pn	13 34 12.4	-1.0
TSZ				AML	AML	13 34 42.2	
TSZ				AML	AML	13 34 43.2	
TSZ	**Takapari Road**	**2.11**	**189**	Pn	Pn	13 34 12.4	-1.0
PRHZ	**Porangahau**	**2.31**	**175**	PN	Pn	13 34 14.6	-1.0
PRHZ	**Porangahau**	**2.31**	**175**	Pn	Pn	13 34 14.7	-1.0
DVHZ	**Dannevirke**	**2.33**	**184**	⇑ PN	Pn	13 34 14.6	-1.4
DVHZ	**Dannevirke**	**2.33**	**184**	Pn	Pn	13 34 14.6	-1.4
POWZ	**Post Office Ro**	**2.47**	**191**	PN	Pn	13 34 16.2	-1.3
POWZ	**Post Office Ro

BJI ***19*** *13:44:29.1,3˚.82S,-99˚.65E,h10km,mb4.8/59,mB5.0/45, Ms4.7/46,Ms7 4.4/42*

ISCJB ***19*** *13:44:33.8±0.9,3˚.35S±0˚.03,-99˚.52E±0˚.03,h20km±6km, mb4.6/76,MS3.9/23,Error ellipse: s-maj=5.7km s-min=3.7km az=139.0*

NEIC ***19*** *13:44:33.9±2.4,3˚.34S,-99˚.52E,h9km±14km,mb4.9/29, Error ellipse: s-maj=7.8km s-min=4.0km az=55.0*

KLM ***19*** *13:44:35.4,3˚.25S,-99˚.40E,h13km,mb5.0,ML4.8,MS5.5*

DJA ***19*** *13:44:36.7±0.6,3˚.5S±2˚×10˚0E±˚,h23km±5km,M5.0/21, mb5.0/21,mB5.5/6,MLv5.1/18,Mw(mB)4.9/6*

MOS ***19*** *13:44:36.6±1.0,3˚.30S,-99˚.56E,h40km,mb5.0/33,Error ellipse: s-maj=11.4km s-min=5.7km az=105.1*

IDC ***19*** *13:44:38.2±0.7,3˚.34S,-99˚.43E,h35km±4km,mb4.3/31, mb1 4.4/31,mb1mx4.3/48,mbtmp4.5/31,MS3.9/22, Ms1 3.9/22,ms1mx3.8/34,Error ellipse: s-maj=14.7km s-min=9.2km az=56.0*

ISC 19 13:44:36.4±0.5,3˚.39S±0˚.04,-99˚.50E±0˚.05, h25km±2km, h25km:pP-P,n236,σ1s54/262,mb4.7/77,MS3.9/23,6C-18D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.81**	**39**	P	**Pb**	**13 44 50.9**	**-0.9**
PDSI	**Padang**	**2.65**	**21**	P	**Pn**	**13 45 15.7**	**-1.8**
PDSI				S	**Sn**	**13 45 46.3**	**-2.6**
PPI	**Padang Panjang**	**3.05**	**17**	P	**Pn**	**13 45 21.4**	**-1.7**
PPI				S	**Sn**	**13 45 55.6**	**-3.2**
KSI	**Kapahiang**	**3.10**	**95**	P	**Pn**	**13 45 23.4**	**-0.4**
KSI				S	**Sn**	**13 45 58.9**	**-1.2**
MNAI	**Manna**	**3.58**	**106**	P	**Pn**	**13 45 29.7**	**-0.7**
MNAI				S	**Sn**	**13 46 09.9**	**-2.0**
MNAI	**Manna**	**3.58**	**106**	*e*Pn	**Pn**	**13 45 29.6**	**-0.7**
BKNI	**Bangkinang**	**4.00**	**23**	P	**Pn**	**13 45 35.1**	**-1.1**
BKNI	**Bangkinang**	**4.00**	**23**	*e*Pn	**Pn**	**13 45 34.3**	**-1.9**
LHSI	**Lahat**	**4.04**	**96**	P	**Pn**	**13 45 37.2**	**+0.5**
LHSI				S	**Sn**	**13 46 22.2**	**-1.0**
RGRI	**Rengat**	**4.14**	**43**	P	**Pn**	**13 45 37.7**	**-0.4**
MNSI	**Mandailing Nat**	**4.16**	**1**	P	**Pn**	**13 45 38.4**	**0.0**
JMBI	**JAMBI**	**4.49**	**67**	P	**Pn**	**13 45 42.8**	**-0.1**
LWLI	**Liwa**	**4.83**	**110**	P	**Pn**	**13 45 47.2**	**-0.4**
LWLI				S	**Sn**	**13 46 41.8**	**-1.0**
SBSI	**Sibolga**	**4.95**	**353**	P	**Pn**	**13 45 44.5**	**-4.7**
GSI	**Gunungsitoli**	**5.05**	**338**	P	**Pn**	**13 45 48.0**	**-2.5**
GSI	**Gunungsitoli**	**5.05**	**338**	*e*Pn	**Pn**	**13 45 47.7**	**-2.9**
KASI	**Kota Agung**	**5.41**	**113**	P	**Pn**	**13 45 54.5**	**-1.1**
BLSI	**Bandar Lampung**	**6.05**	**109**	P	**Pn**	**13 46 05.0**	**+0.6**
PSI	**Prapat**	**6.18**	**355**	*e*P	**Pn**	**13 46 04.3**	**-1.9**
PSI	**Prapat**	**6.18**	**355**	*e*Pn	**Pn**	**13 46 04.3**	**-1.9**
KGM	**Kluang**	**6.59**	**35**	⇓P	**Pn**	**13 46 11.4**	**-0.4**
TPRI	**Tanjung Pinang**	**6.60**	**50**	P	**Pn**	**13 46 11.5**	**-0.4**
MYKOM	**Kota Tinggi**	**6.74**	**40**	⇓P	**Pn**	**13 46 14.2**	**+0.4**
MYKOM	**Kota Tinggi**	**6.74**	**40**	*e*Pn	**Pn**	**13 46 12.1**	**-1.7**
TSI	**Tuntungan** 73nm,0.7s,0.7nm	**6.91**	**352**	P	**Pn**	**13 46 16.7**	**+0.5**
FRIM	**Kepong**	**6.92**	**18**	⇓P	**Pn**	**13 46 15.6**	**-0.7**
CGJI	**Cibinong**	**6.95**	**118**	P	**Pn**	**13 46 14.8**	**-1.9**
TPTI		**7.00**	**341**	P	**Pn**	**13 46 16.2**	**-1.2**
SBJI	**Serang**	**7.14**	**113**	P	**Pb**	**13 46 35.7**	**-4.0**
SKJI	**Sukabumi**	**7.89**	**117**	P	**Pn**	**13 46 32.4**	**+2.8**
CBJI	**Citeko** 1μm,0.8s,16μm4.6nm	**7.92**	**113**	P	**Pn**	**13 46 32.5**	**+2.5**
IPM	**Ipoh**	**7.97**	**11**	*e*Pn	**Pn**	**13 46 30.3**	**-0.4**
MLSI	**Meulaboh, Aceh**	**8.21**	**338**	P	**Pn**	**13 46 38.3**	**+4.2**
CNJI	**Cibinong**	**8.53**	**117**	P	**Pn**	**13 46 35.9**	**-2.6**
KULM	**Kulim**	**8.70**	**8**	⇓P	**Pn**	**13 46 39.0**	**-1.7**
KULM	**Kulim**	**8.70**	**8**	*e*Pn	**Pn**	**13 46 37.9**	**-2.8**
LEM	**Lembang**	**8.78**	**113**	P	Pn	13 46 48.0	+6.1
CISI	**Cisompet, Garu**	**9.25**	**117**	P	**Pn**	**13 46 45.8**	**-2.5**
CISI	**Cisompet, Garu**	**9.25**	**117**	*e*Pn	**Pn**	**13 46 45.9**	**-2.5**
XMIS	**Christmas Isla**	**9.32**	**139**	*e*Pn	Pn	13 46 43.3	-5.9
CMJI	**Cimerak**	**9.92**	**116**	P	**Pn**	**13 46 54.4**	**-3.0**
KPJI	**Karang Pucung**	**10.17**	**113**	P	**Pn**	**13 47 01.3**	**+0.4**
STKI	**Sintang**	**12.45**	**74**	P	**Pn**	**13 47 35.0**	**+2.8**
NGJI	**Ngawi**	**12.54**	**109**	P	**P**	**13 47 45.0**	**+0.2**
SBUM	**Sibu**	**13.98**	**66**	*e*Pn	**Pn**	**13 47 52.9**	**-0.1**
BBKI	**Banjar Baru**	**15.31**	**91**	P	**P**	**13 48 17.9**	**+2.2**
SRAK	**Srakaew** 49nm,0.7s	**17.48**	**8**	P	**P**	**13 48 40.4**	**+0.8**
KKM	**Kota Kinabalu**	**19.14**	**61**	⇓P	**Pn**	**13 48 59.5**	**+0.4**
CHAI	**Chaiyaphum**	**19.33**	**7**	P	**Pn**	**13 49 05.9**	**+4.7**
SDKM	**Sandakan**	**19.82**	**63**	⇓P	**Pn**	**13 49 06.5**	**-0.7**
KHON	**Khomkaen**	**19.88**	**9**	P	**Pn**	**13 49 10.8**	**+3.1**
TSM	**Tawau**	**19.88**	**68**	⇓P	**P**	**13 49 06.4**	**+0.3**
PBKT	**Sadao Pong** 19nm,0.7s,1μm	**19.89**	**4**	P	**Pn**	**13 49 07.2**	**-0.6**
KDM	**Kudat**	**20.11**	**59**	⇑P	**P**	**13 49 08.9**	**+0.4**
SPSI	**Sidrap Palu**	**20.24**	**92**	P	Pn	13 49 19.6	+7.6
KAPI	**Kappang** 22nm,0.9s,baz=315,slow=3.7,SNR=4.7	**20.26**	**95**	P	**P**	**13 49 11.2**	**+1.0**
KAPI				LR	LR	13 58 00.7	
	comp=Z,444nm,18.1s,baz=289,slow=40						
KAPI	**Kappang** 89nm,1.3s	**20.26**	**95**	*e*P	**P**	**13 49 10.7**	**+0.5**
SKNT	**Sakolnakorn** 26nm,0.9s	**20.72**	**12**	P	Pn	13 49 17.5	0.0
SUKH	**Sukhothai** 15nm,0.8s,106nm	**20.74**	**0**	P	**P**	**13 49 16.2**	**+0.8**
MYLDM	**Lahad Datu**	**20.80**	**66**	⇓P	**P**	**13 49 17.0**	**+0.9**
MYLDM	**Lahad Datu** 66nm,1.1s	**20.80**	**66**	*e*P	**P**	**13 49 14.9**	**-1.2**
LOEI	**Loei** 17nm,0.8s	**20.84**	**5**	P	**P**	**13 49 17.1**	**+0.6**
UTTA	**Uttaradit** 11nm,0.8s,86nm	**21.03**	**3**	P	**P**	**13 49 19.6**	**+1.1**
PALK	**Pallekele** comp=Z,277nm,19.4s,baz=116,slow=32	**21.55**	**299**	LR	LR	13 55 57.0	
PALK	**Pallekele**	**21.55**	**299**	*e*P	**P**	**13 49 23.9**	**-0.3**
PALK	**Pallekele**	**21.55**	**299**	*e*P	**P**	**13 49 23.9**	**-0.3**
NONG	**Nongkai** 67nm,1.2s	**21.62**	**9**	P	**P**	**13 49 23.2**	**-1.6**
CM01	**Chiang Mai Arr**	**21.68**	**359**	*e*P	**P**	**13 49 25.3**	**-0.2**
CM31	**Chiang Mai Arr**	**21.72**	**359**	*e*P	**P**	**13 49 25.1**	**-0.8**
CMAR	**Chiang Mai Arr** 24nm,0.8s,baz=187,slow=10.0,SNR=114	**21.72**	**359**	P	**P**	**13 49 25.8**	**-0.1**
CMAR				LR	LR	13 58 22.2	
	comp=Z,359nm,19.9s,baz=176,slow=38						
CMAR	**Chiang Mai Arr**	**21.72**	**359**	*i* P	**P**	**13 49 25.7**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,25nm,0.8s						
LAMP	**Lampang** comp=Z,20nm,1.0s,comp=Z,178nm	**21.78**	**0**	P	**P**	**13 49 27.2**	**+0.7**
CHTO	**Chiang Mai** comp=Z,84nm,0.9s	**22.07**	**359**	P	**P**	**13 49 29.8**	**+0.1**
CHTO	**Chiang Mai**	**22.07**	**359**	*e*P	**P**	**13 49 28.4**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,28nm,1.0s						
CHTO	**Chiang Mai** comp=Z,28nm,1.0s	**22.07**	**359**	*e*P	**P**	**13 49 28.4**	**-1.3**
MRSI	**Marisa**	**22.76**	**81**	P	**P**	**13 49 39.2**	**+2.1**
QIZ	**Qiongzhong**	**24.50**	**24**	P	**P**	**13 49 54.1**	**+0.2**
QIZ				S	**S**	**13 54 15.8**	**+2.8**
QIZ				PMZ			
	comp=Z,72nm,1.0s						
QIZ				LE			
	comp=Z,860nm,12.8s						
QIZ				LZ			
	comp=Z,430nm,17.4s						
QIZ	**Qiongzhong** comp=Z,64nm,0.9s	**24.50**	**24**	*e*P	**P**	**13 49 53.2**	**-0.6**
H08S2	**Diego Garcia H** baz=81,slow=75,SNR=57	**27.20**	**260**	T	T	14 19 37.9	
H08S3	**Diego Garcia H** baz=81,slow=75,SNR=55	**27.21**	**260**	T	T	14 20 00.2	
H08S1	**Diego Garcia H** baz=81,slow=75,SNR=62	**27.22**	**260**	T	T	14 19 39.3	
DAV	**Davao City (W)** comp=Z,291nm,20.7s,baz=276,slow=39	**28.03**	**68**	LR	LR	14 02 44.3	
KMI	**Kunming**	**28.52**	**6**	P	**P**	**13 50 31.8**	**+1.5**
KMI				PMZ			
	comp=Z,13nm,0.6s						
KMI				LN			
	comp=Z,380nm,11.3s						
KMI				LE			
	comp=Z,360nm,10.2s						
KMI				LZ			
	comp=Z,470nm,11.0s						
FITZ	**Fitzroy Crossi** comp=Z,8.9nm,0.9s,baz=213,slow=5.3,SNR=11	**29.48**	**122**	P	**P**	**13 50 39.1**	**+0.4**
FITZ				LR	LR	14 04 33.6	
	comp=Z,203nm,19.5s,baz=323,slow=40						
FITZ	**Fitzroy Crossi**	**29.48**	**122**	*e*P	**P**	**13 50 38.6**	**-0.1**
	comp=Z,11nm,0.9s						
GYA	**Guiyang**	**30.48**	**13**	⇑*i* P	**P**	**13 50 47.1**	**-0.4**
GYA				PP	**PnPn**	**13 51 50.4**	**+3.6**
GYA				PcP	**PcP**	**13 53 47.6**	**+0.9**
GYA				S	**S**	**13 55 50.8**	**+3.3**
GYA				SS	**ScP**	**13 57 31.0**	**+3.2**
GYA				ScS	**ScS**	**14 01 23.8**	**-0.3**
GYA				PMZ			
	comp=Z,20nm,0.9s						
GYA				PMZ			
	comp=Z,120nm,5.0s						
GYA				LN			
	comp=Z,500nm,16.8s						
GYA				LE			
	comp=Z,460nm,17.0s						
GYA				LZ			
	comp=Z,420nm,17.2s						
NWAO	**Narrogin (SRO)** comp=Z,15nm,0.7s,baz=193,slow=9.4,SNR=5.7	**33.75**	**153**	P	**P**	**13 51 16.9**	**+0.8**
LSA	**Lhasa**	**33.86**	**347**	*e*P	**P**	**13 51 18.2**	**+0.5**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s						
LSA	**Lhasa** comp=Z,15nm,0.8s	**33.86**	**347**	*e*P	**P**	**13 51 18.2**	**+0.5**
H01W3	**Cape Leeuwin H** baz=336,slow=76,SNR=40	**34.15**	**158**	T	T	14 28 01.1	
SSLB	**Suanglung** comp=Z,11nm,0.9s	**34.16**	**37**	*e*P	**P**	**13 51 18.7**	**-1.1**
H01W2	**Cape Leeuwin H** baz=336,slow=76,SNR=30	**34.17**	**158**	T	T	14 28 06.4	
H01W1	**Cape Leeuwin H** baz=336,slow=76,SNR=44	**34.17**	**158**	T	T	14 28 02.7	
CD2	**Chengdu**	**34.35**	**6**	*e*P	**P**	**13 51 21.8**	**+0.4**
CD2				sP	pP	13 51 27.9	-1.0
CD2				PP	**PP**	**13 52 40.0**	**+0.5**
CD2				S	**S**	**13 56 50.8**	**+3.1**
CD2				sS	sS	13 56 58.1	-1.9
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
ENH	**Enshi** comp=Z,18nm,0.8s	**34.81**	**15**	*e*P	**P**	**13 51 24.0**	**-1.3**
WHN	**Wuhan**	**36.61**	**22**	⇓P	**P**	**13 51 41.8**	**+1.1**
WHN				S	**S**	**13 57 22.4**	**+0.2**
WHN				PMZ			
	comp=Z,52nm,1.0s						
WHN				LN			
	comp=Z,2μm,17.0s						
WHN				LE			
	comp=Z,880nm,13.2s						
WHN				LZ			
	comp=Z,2μm,16.1s						
WRA	**Warramunga Arr** comp=Z,6.0nm,0.8s,baz=292,slow=9.2,SNR=17	**37.74**	**119**	P	**P**	**13 51 50.8**	**+0.2**
WRAB	**Tennant Creek**	**37.75**	**119**	⇓*i* P	**P**	**13 51 50.9**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,27nm,0.9s						
WRAB	**Tennant Creek** comp=Z,11nm,0.8s	**37.75**	**119**	*e*P	**P**	**13 51 50.1**	**-0.5**
WB2	**Warramunga Arr** comp=Z,9.9nm,0.8s	**37.76**	**119**	*e*P	**P**	**13 51 50.7**	**0.0**
XAN	**Xi'an**	**38.28**	**13**	P	**P**	**13 51 54.1**	**-0.8**
XAN				pP	pP	13 51 58.6	-3.8
XAN				sP	sP	13 52 01.1	-4.4
XAN				PP	**PnPn**	**13 53 24.3**	**-0.2**
XAN				S	**S**	**13 57 46.3**	**-1.4**
XAN				PMZ			
	comp=Z,25nm,0.8s						
XAN				PMZ			
	comp=Z,65nm,6.4s						
XAN				LN			
	comp=Z,420nm,13.7s						
XAN				LE			
	comp=Z,370nm,12.0s						
XAN				LZ			
	comp=Z,530nm,15.4s						
AS31	**Alice Springs** comp=Z,2.2nm,0.7s	**38.86**	**124**	*e*P	**P**	**13 51 59.9**	**-0.1**
ASAR	**Alice Springs** comp=Z,7.4nm,0.8s,baz=293,slow=8.1,SNR=45	**38.86**	**124**	P	**P**	**13 52 00.1**	**+0.1**
ASAR				S	**S**	**13 58 02.7**	**+5.8**
	comp=Z,3.1nm,1.1s,baz=295,slow=16,SNR=9.6						
ASAR				LR	LR	14 09 52.6	
	comp=Z,69nm,19.6s,baz=308,slow=39						
AS01	**Alice Springs**	**38.90**	**124**	*e*P	**P**	**13 52 00.5**	**+0.2**
LZH	**Lanzhou**	**39.48**	**6**	*e*P	**P**	**13 52 05.9**	**+0.8**
LZH				pP	pP	13 52 10.4	-2.3
LZH				sP	sP	13 52 12.0	-3.7
LZH				PMZ			
	comp=Z,30nm,1.1s						
LZH				PMZ			
	comp=Z,80nm,4.6s						
LZH				LN			
	comp=Z,540nm,17.8s						
LZH				LE			
	comp=Z,520nm,13.0s						
LZH				LZ			
	comp=Z,450nm,15.8s						
GTA	**Gaotai**	**42.59**	**0**	*e*P	**P**	**13 52 30.8**	**+0.2**
GTA				pP	pP	13 52 35.4	-2.8
GTA				sP	sP	13 52 38.3	-3.0
GTA				PMZ			
	comp=Z,3.0nm,0.8s						
TIA	**Tai'an**	**42.70**	**21**	*e*P	**P**	**13 52 31.3**	**-0.1**
TIA				PMZ			
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**45.39**	**13**	*e*P	**P**	**13 52 54.8**	**+1.7**
HHC				sP	sP	13 53 03.4	-0.3
HHC				S	**S**	**13 59 37.8**	**+5.0**
HHC				sS	sS	13 59 41.8	-3.6
HHC				PMZ			
	comp=Z,19nm,1.1s						
HHC				PMZ			
	comp=Z,120nm,5.4s						
HHC				LN			
	comp=Z,380nm,13.3s						
HHC				LE			
	comp=Z,430nm,14.1s						
HHC				LZ			
	comp=Z,260nm,15.5s						
BJT	**Baijiatuau**	**45.83**	**18**	*e*P	**P**	**13 52 56.4**	**0.0**
BJT				pmax	pmax		
	comp=Z,36nm,1.1s						
BJT	**Baijiatuau** comp=Z,36nm,1.1s	**45.83**	**18**	*e*P	**P**	**13 52 56.4**	**0.0**
BJI	**Beijing**	**45.85**	**18**	P	**P**	**13 52 57.3**	**+0.7**
BJI				S	**S**	**13 59 40.1**	**+0.8**
BJI				PMZ			
	comp=Z,20nm,0.9s						
BJI				PMZ			
	comp=Z,180nm,4.6s						
BJI				LN			
	comp=Z,360nm,18.8s						
BJI				LE			
	comp=Z,260nm,15.0s						
JNU	**Nakatsue** comp=Z,30nm,1.0s,baz=183,slow=2.3,SNR=9.9	**46.90**	**37**	P	**P**	**13 53 05.1**	**+0.1**
JNU	**Nakatsue** comp=Z,42nm,1.0s	**46.90**	**37**	*e*P	**P**	**13 53 04.6**	**-0.4**
TJN	**Taejon**	**47.35**	**31**	⇑*i* P	**P**	**13 53 09.0**	**+0.6**
KSH	**Kashi**	**47.88**	**335**	*e*P	**P**	**13 53 12.8**	**+0.2**
KSH				pP	pP	13 53 16.9	-3.4
KSH				PcP	**PcP**	**13 54 40.8**	**-0.2**
KSH				PP	**PP**	**13 55 02.1**	**-2.6**
KSH				S	**S**	**14 00 07.0**	**-1.5**
KSH				ScS	**ScS**	**14 03 02.1**	**-2.6**
KSH				SS	**SS**	**14 03 31.3**	**-6.2**
KSH				PMZ			
	comp=Z,5.0nm,0.5s						
KSH				PMZ			
	comp=Z,78nm,3.6s						
KSH				LN			
	comp=Z,570nm,9.9s						
KSH				LE			
	comp=Z,370nm,10.0s						
WMQ	**Urumqi**	**48.19**	**349**	P	**P**	**13 53 15.1**	**+0.3**
WMQ				pP	pP	13 53 20.1	-2.4
WMQ				sP	sP	13 53 22.1	-3.4
WMQ				S	**S**	**14 00 12.3**	**-0.3**
WMQ				PMZ			
	comp=Z,25nm,1.2s						
WMQ				PMZ			
	comp=Z,64nm,4.4s						
WMQ				LN			
	comp=Z,49nm,18.8s						
WMQ				LE			
	comp=Z,51nm,20.6s						
WMQ				LZ			
	comp=Z,52nm,22.4s						
KS15	**Wonju Array Si**	**48.44**	**30**	*e*P	**P**	**13 53 16.7**	**-0.1**
KSAR	**Wonju Array Be**	**48.44**	**30**	P	**P**	**13 53 17.0**	**+0.2**
KSAR				*PP	**sP**	**13 53 28.0**	**+0.5**
KSAR	**Wonju Array Be**	**48.44**	**30**	P	**P**	**13 53 16.9**	**+0.2**
KSAR				pP	**sP**	**13 53 27.9**	**+0.5**
KSRS	**Korea Array** comp=Z,12nm,0.9s,baz=224,slow=8.4,SNR=66	**48.47**	**30**	P	**P**	**13 53 16.9**	**0.0**
KSRS				pP	**sP**	**13 53 27.9**	**+0.3**
	comp=Z,5.5nm,0.7s,baz=225,slow=8.0,SNR=8.7						
KSRS				LR	LR	14 14 20.4	
	comp=Z,105nm,18.3s,baz=224,slow=37						
KS01	**Wonju Array Si**	**48.47**	**30**	*e*P	**P**	**13 53 16.4**	**-0.6**
CTA	**Charters Tower** comp=Z,5.4nm,0.9s,baz=298,slow=13,SNR=4.7	**48.48**	**114**	P	**P**	**13 53 17.2**	**-0.3**
CTAO	**Charters Tower**	**48.48**	**114**	*e*P	**P**	**13 53 17.4**	**0.0**
CTAO				pmax	pmax		
	comp=Z,21nm,1.4s						
CTAO	**Charters Tower** comp=Z,21nm,1.4s	**48.48**	**114**	*e*P	**P**	**13 53 17.4**	**0.0**
STKA	**Stephens Creek** comp=Z,16nm,0.8s,baz=302,slow=8.7,SNR=26	**48.62**	**131**	P	**P**	**13 53 18.9**	**+0.6**
STKA				LR	LR	14 14 17.1	
	comp=Z,113nm,21.0s,baz=289,slow=36						
STKA	**Stephens Creek**	**48.62**	**131**	*e*P	**P**	**13 53 19.1**	**+0.8**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek** comp=Z,3.9nm,0.8s	**48.62**	**131**	*e*P	**P**	**13 53 19.1**	**+0.8**
PDGK	**Podgornoye**	**49.89**	**341**	P	**P**	**13 53 26.6**	**-1.2**
PDGK				pmax	pmax		
	comp=Z,40nm,1.2s						
TKM2	**Tokmak 2**	**50.91**	**337**	P	**P**	**13 53 37.2**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,26nm,1.0s						
TKM2	**Tokmak 2** comp=Z,19nm,0.8s	**50.91**	**337**	*e*P	**P**	**13 53 36.0**	**+0.2**
AAK	**Ala-Archa**	**51.10**	**336**	⇓P	**P**	**13 53 39.6**	**+2.4**
AAK	**Ala-Archa** comp=Z,17nm,1.4s	**51.10**	**336**	*e*P	**P**	**13 53 34.6**	**-2.6**
FRU	**Bishkek**	**51.22**	**337**	*e*P	**P**	**13 53 39.0**	**+1.1**
FRU				*e*		13 53 57.0	
SONM	**Songino Array** comp=Z,5.8nm,0.8s,baz=191,slow=7.8,SNR=18	**51.37**	**6**	P	**P**	**13 53 39.4**	**+0.4**
SONM				pP	**sP**	**13 53 50.7**	**+0.9**
	comp=Z,9.8nm,0.8s,baz=188,slow=9.5,SNR=12						
SONM				LR	LR	14 17 02.2	
	comp=Z,128nm,18.2s,baz=203,slow=38						
SONA1	**Songino Array**	**51.38**	**6**	*e*P	**P**	**13 53 39.4**	**+0.2**
EKS2	**Erkin-Say**	**51.41**	**336**	*e*P	**P**	**13 53 40.2**	**+0.7**
EKS2				pmax	pmax		
	comp=Z,23nm,0.8s						
EKS2	**Erkin-Say** comp=Z,23nm,0.8s	**51.41**	**336**	*e*P	**P**	**13 53 40.2**	**+0.7**
ULN	**Ulaanbaatar**	**51.47**	**6**	*d i* P	**P**	**13 53 40.8**	**+0.9**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	**Ulaanbaatar** comp=Z,12nm,0.9s	**51.47**	**6**	*e*P	**P**	**13 53 39.7**	**-0.2**
MNAS	**Manas**	**51.80**	**335**	P	**P**	**13 53 44.7**	**+2.3**
MNAS				pmax	pmax		
	comp=Z,21nm,0.9s						
MK01	**Makanchi Array**	**52.21**	**345**	*e*P	**P**	**13 53 45.1**	**-0.1**
MK31	**Makanchi Array**	**52.23**	**345**	P	**P**	**13 53 45.6**	**+0.2**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	**Makanchi Array**	**52.23**	**345**	*e*P	**P**	**13 53 45.8**	**+0.4**
MKAR	**Makanchi Array** comp=Z,7.6nm,0.7s,baz=155,slow=9.2,SNR=38	**52.23**	**345**	P	**P**	**13 53 45.8**	**+0.4**
MKAR				LR	LR	14 21 22.8	
	comp=Z,67nm,19.1s,baz=154,slow=42						
CN2	**Changchun**	**52.45**	**24**	*e*P	**P**	**13 53 46.6**	**-0.5**
CN2				*es*P	pP	13 53 53.1	-1.7
CN2				*e*S	**S**	**14 01 11.8**	**-0.1**
CN2				PMZ			
	comp=Z,20nm,1.1s						
CN2				PMZ			
	comp=Z,100nm,4.0s						
CN2				LN			
	comp=Z,300nm,13.0s						
CN2				LE			
	comp=Z,200nm,13.0s						
CN2				LZ			
	comp=Z,200nm,15.0s						
KK31	**Karatay Array**	**53.16**	**334**	*i* P	P	13 54 02.2	+10
KK31				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KKAR	**Karatay Array**	**53.16**	**334**	*e*P	**P**	**13 53 51.9**	**-0.5**
KKAR	**Karatay Array**	**53.16**	**334**	*e*P	**P**	**13 53 51.9**	**-0.5**
ZAK	**Zakamensk**	**53.66**	**3**	*e*P	**P**	**13 53 56.0**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MAJO	**Matsushiro**	**53.67**	**39**	*d i* P	**P**	**13 53 55.5**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,67nm,1.1s						
MAJO	**Matsushiro** comp=Z,13nm,1.0s	**53.67**	**39**	*e*P	**P**	**13 53 54.0**	**-2.2**
MAT	**Matsushiro**	**53.67**	**39**	P	**P**	**13 53 54.9**	**-1.3**
MJB9	**Matsu-Tunnel** comp=Z,3.1nm,1.0s	**53.67**	**39**	*e*P	**P**	**13 53 54.0**	**-2.2**
MJAR	**Matsushiro Arr** comp=Z,9.0nm,0.9s,baz=220,slow=7.6,SNR=36	**53.67**	**39**	P	**P**	**13 53 55.4**	**-0.8**
MDJ	**Mudanjiang**	**54.85**	**26**	P	**P**	**13 54 05.1**	**+0.5**
MDJ				pP	pP	13 54 08.3	-4.1
MDJ				sP	sP	13 54 09.6	-5.8
MDJ				PcP	**PcP**	**13 55 06.8**	**+0.2**
MDJ				PP	**PP**	**13 56 03.8**	**-3.9**
MDJ				S	**S**	**14 01 44.3**	**-0.1**
MDJ				ScS	**ScS**	**14 03 52.6**	**+0.3**
MDJ				SS	**SS**	**14 05 32.1**	**+4.0**
MDJ				PMZ			
	comp=Z,7.0nm,1.0s						
MDJ				PMZ			
	comp=Z,55nm,6.1s						
MDJ				LN			
	comp=Z,290nm,17.1s						
MDJ				LE			
	comp=Z,290nm,16.5s						
MDJ				LZ			
	comp=Z,340nm,16.5s						
TLY	**Talaya**	**54.98**	**3**	*e*P	**P**	**13 54 05.1**	**-0.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,180nm,14.0s						
USRK	**Ussuriysk Ar.** comp=Z,14nm,0.9s,baz=224,slow=5.3,SNR=16	**55.61**	**28**	P	**P**	**13 54 10.5**	**+0.4**
USRK				LR	LR	14 21 25.4	
	comp=Z,137nm,18.1s,baz=216,slow=40						
GEYT	**Alibeck** comp=Z,0.8nm,0.4s,baz=126,slow=4.4,SNR=4.1	**56.20**	**321**	P	**P**	**13 54 16.1**	**+1.6**
GEYT				LR	LR	14 19 14.6	
	comp=Z,80nm,18.5s,baz=110,slow=37						
KURBB	**Kurchatov Arra** comp=Z,

YUK	**Yuzh-Kuril'sk**	**62.86**	**36**	*i* P		**P**	**13 54 57.9**	**-2.4**
YSS	**Yuzh-Sakhalins**	**62.92**	**32**	*e*P		**P**	**13 55 00.3**	**-0.3**
YSS				pmax	pmax			
	comp=Z,21nm,0.8s							
YSS	**Yuzh-Sakhalins**	**62.92**	**32**	*e*P		**P**	**13 55 00.3**	**-0.3**
	comp=Z,21nm,0.8s							
CASY	**Casey**	**63.25**	**175**	*e*P		**P**	**13 55 03.1**	**+0.6**
	comp=Z,1.9nm,1.3s							
AKTO	**Aktyubinsk**	**64.34**	**332**	P		**P**	**13 55 10.1**	**+0.2**
AKTO				pmax	pmax			
	comp=Z,12nm,1.4s							
SVE	**Sverdlovsk**	**67.78**	**338**	*e*P		**P**	**13 55 32.4**	**+0.5**
SVE				pmax	pmax			
	comp=Z,23nm,1.4s							
ARU	**Arti**	**68.28**	**337**	*c i*P		**P**	**13 55 34.5**	**-0.6**
ARU							13 56 01.0	
ARU							13 58 04.8	
ARU				S		**S**	**14 04 35.5**	**+1.3**
ARU				SS		**SS**	**14 09 01.4**	**+3.6**
ARU				pmax	pmax			
	comp=Z,10.0nm,2.5s							
ARU	**Arti**	**68.28**	**337**	*e*P		**P**	**13 55 33.5**	**-1.6**
	comp=Z,7.4nm,1.0s							
MAW	**Mawson**	**68.82**	**194**	P		**P**	**13 55 39.1**	**+0.9**
	comp=Z,5.3nm,0.8s,baz=32,slow=8.9,SNR=9.3							
MAW				LR		LR	14 18 06.3	
	comp=Z,76nm,19.6s,baz=60,slow=29							
MAW	**Mawson**	**68.82**	**194**	*e*P		**P**	**13 55 38.8**	**+0.6**
MAW				pmax	pmax			
	comp=Z,1.0nm,0.9s							
MAW	**Mawson**	**68.82**	**194**	*e*P		**P**	**13 55 38.8**	**+0.6**
	comp=Z,1.4nm,0.9s							
KBZ	**Khabaz**	**69.03**	**320**	P		**P**	**13 55 40.2**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=154,slow=24,SNR=4.8							
YAK	**Yakutsk**	**69.21**	**15**	*e*P		**P**	**13 55 40.0**	**-0.7**
YAK				pmax	pmax			
	comp=Z,24nm,0.8s							
YAK				pmax	pmax			
	comp=N,15nm,1.5s							
YAK				pmax	pmax			
	comp=E,17nm,1.6s							
KIV	**Kislovodsk**	**69.27**	**320**	*e*P		**P**	**13 55 40.0**	**-1.6**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
NRIK	**Noril'sk**	**73.04**	**356**	P		**P**	**13 56 02.5**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=152,slow=6.7,SNR=6.3							
NRIK				LR		LR	14 32 14.7	
	comp=Z,104nm,18.7s,baz=236,slow=39							
VRH	**Novokhopyorsk**	**73.19**	**326**	*e*P		**P**	**13 56 01.9**	**-3.2**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
BR131	**Keskin Array S**	**73.89**	**313**	*e*P		**P**	**13 56 08.6**	**-1.1**
BRTR	**Keskin Array B**	**73.89**	**313**	P		**P**	**13 56 08.8**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=136,slow=6.7,SNR=8.5							
BRTR				LR		LR	14 30 23.1	
	comp=Z,42nm,19.2s,baz=92,slow=37							
PETK	**Petropavlovsk-**	**74.32**	**32**	P		**P**	**13 56 11.3**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=259,slow=7.3,SNR=3.3							
BOSA	**Boshof**	**74.55**	**241**	P		**P**	**13 56 13.6**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=108,slow=5.2,SNR=5.2							
BOSA				LR		LR	14 24 07.2	
	comp=Z,100nm,20.6s,baz=50,slow=32							
VSR	**Storozhevoye**	**74.63**	**325**	*e*P		**P**	**13 56 13.0**	**-0.5**
VSR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
LPSR	**Galich'ya Gora**	**75.37**	**327**	*e*P		**P**	**13 56 15.8**	**-1.9**
LPSR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
SYO	**Syowa Base**	**76.40**	**199**⇓	*e*P		**P**	**13 56 22.4**	**-0.9**
SYO	**Syowa Base**	**76.40**	**199**⇓	*e*pP		pP	13 56 28.6	-2.7
SEY	**Seymchan**	**77.10**	**22**	P		**P**	**13 56 26.9**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=191,slow=9.2,SNR=5.3							
SEY	**Seymchan**	**77.10**	**22**	*i*P		**P**	**13 56 27.6**	**+0.3**
SEY				*i* *PP		**pP**	**13 56 36.4**	**+1.0**
TIXI	**Tiksi**	**77.30**	**9**	*i*P		**P**	**13 56 28.4**	**+0.1**
TIXI				*i* *PP		**pP**	**13 56 36.3**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,14nm,2.6s							
TIXI	**Tiksi**	**77.30**	**9**	*e*P		**P**	**13 56 26.6**	**-1.7**
	comp=Z,24nm,1.5s							
OBN	**Obninsk**	**77.71**	**328**⇓	*e*P		**P**	**13 56 30.5**	**-0.4**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KLMR	**Klimovskoe**	**78.86**	**334**	*e*P		**P**	**13 56 35.5**	**-1.7**
KLMR				pmax	pmax			
	comp=Z,12nm,1.3s							
AKASG	**Malin Array Be**	**80.28**	**323**	P		**P**	**13 56 44.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=93,slow=4.6,SNR=3.5							
AKASG				pP		**pP**	**13 56 54.6**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=84,slow=5.2,SNR=2.5							
KIEV	**Kiev**	**80.28**	**323**⇑	*e*P		**P**	**13 56 44.7**	**-0.4**
KIEV				pmax	pmax			
	comp=Z,1.0nm,0.7s							
VNDA	**Vanda**	**80.90**	**169**	*e*P		**P**	**13 56 47.8**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=290,slow=5.5,SNR=8.9							
VNDA				LR		LR	14 26 46.1	
	comp=Z,56nm,21.7s,baz=306,slow=31							
VNDA	**Vanda**	**80.90**	**169**	*e*P		**P**	**13 56 47.8**	**-0.2**
VNDA				pmax	pmax			
	comp=Z,6.0nm,1.3s							
VNDA	**Vanda**	**80.90**	**169**	*e*P		**P**	**13 56 47.8**	**-0.2**
	comp=Z,6.3nm,1.3s							
TSUM	**Tsumeb**	**81.26**	**251**	LR		LR	14 27 34.0	
	comp=Z,132nm,20.5s,baz=140,slow=32							
BUR08	**Bucovina Ar. S**	**81.99**	**319**	*e*P		**P**	**13 56 54.8**	**+0.4**
KOLS	**Kolonicke sedl**	**84.18**	**320**	*e*P		**P**	**13 57 07.9**	**+2.3**
KOLS				pmax	pmax			
	comp=Z,24nm,1.9s							
KOLS	**Kolonicke sedl**	**84.18**	**320**	*e*P		**P**	**13 57 07.9**	**+2.3**
BILL	**Bilibino**	**84.63**	**20**	*e*P		**P**	**13 57 06.7**	**-0.8**
BILL				pmax	pmax			
	comp=Z,1.0nm,1.1s							
CRVS	**Cervenica-Dubn**	**84.70**	**320**	*e*P		**P**	**13 57 09.7**	**+1.4**
CRVS	**Cervenica-Dubn**	**84.70**	**320**	*e*P		**P**	**13 57 09.7**	**+1.4**
STHS	**Stebnicka Huta**	**84.94**	**320**	*e*P		**P**	**13 57 10.0**	**+0.5**
STHS				pmax	pmax			
	comp=Z,4.0nm,1.6s							
STHS	**Stebnicka Huta**	**84.94**	**320**	*e*P		**P**	**13 57 10.0**	**+0.5**
FINES	**FINESS Array B**	**85.11**	**332**	P		**P**	**13 57 10.2**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=102,slow=5.6,SNR=12							
FINES				pP		**sP**	**13 57 21.5**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=109,slow=5.0,SNR=4.0							
QSPA	**South Pole Qui**	**86.58**	**180**	*e*P		**P**	**13 57 18.0**	**+0.6**
	comp=Z,47nm,1.2s							
ARCES	**ARCESS Array B**	**87.61**	**340**	P		**P**	**13 57 22.2**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=188,slow=5.8,SNR=5.3							
ARCES				pP		**sP**	**13 57 33.9**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=134,slow=3.5,SNR=5.2							
ARCES				LR		LR	14 41 44.5	
	comp=Z,69nm,18.6s,baz=88,slow=39							
GEA0	**GERESS Array S**	**89.76**	**319**	*e*P		**P**	**13 57 32.2**	**-0.6**
GERES	**GERESS Array B**	**89.76**	**319**	P		**P**	**13 57 34.4**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=79,slow=2.9,SNR=4.1							
SNAA	**Sanae**	**90.67**	**198**	P		**P**	**13 57 38.1**	**+1.5**
SNAA	**Sanae**	**90.67**	**198**⇓	*e*P		**P**	**13 57 38.1**	**+1.5**
KEST	**Kesra**	**92.08**	**305**	P		**P**	**13 57 45.4**	**+1.5**
	comp=Z,7.0nm,1.0s,baz=349,slow=7.2,SNR=3.8							
TORD	**Torodi Ar. Bea**	**98.36**	**283**	LR		LR	14 40 59.2	
	comp=Z,29nm,19.0s,baz=140,slow=34							
JMIC	**Jan Mayen**	**99.01**	**342**	LR		LR	14 46 38.4	
	comp=Z,40nm,20.5s,baz=74,slow=38							
WMOK	**Wichita Mounta**	**144.49**	**26**	*e*PKIKP		**PKPab**	**14 04 09.2**	**-0.3**
WMOK	**Wichita Mounta**	**144.49**	**26**	*e*PKPdf		**PKPab**	**14 04 09.2**	**-0.3**
HHAR	**Hobbs**	**145.00**	**19**	*e*PKPbc		**PKPbc**	**14 04 11.7**	**+0.3**
TX31	**Lajitas Ar. Si**	**146.10**	**38**	*e*PKPdf		**PKPbc**	**14 04 15.3**	**+0.1**
TXAR	**Lajitas Array**	**146.10**	**38**	PKPbc		**PKPab**	**14 04 16.0**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=288,slow=1.3,SNR=18							
TXAR	**Lajitas Array**	**146.10**	**38**	PKP2		**PKPab**	**14 04 16.0**	**+0.2**
HPIG		**146.42**	**43**	*e*PKPdf		**PKPdf**	**14 04 12.1**	**-2.9**
MIAR	**Mount Ida**	**146.70**	**20**	*e*PKP2		**PKPbc**	**14 04 16.7**	**+0.1**
MIAR	**Mount Ida**	**146.70**	**20**	*e*PKPbc		**PKPbc**	**14 04 16.7**	**+0.1**

NIED ***19*** *13:46:00,37.°00N×141.°20E,h8km,Mw3.6 Best double couple: M₀3.16000×10¹⁴ NP1:φ₀198.00000°, δ43.00000°, λ-115.00000°. NP2:φ₀51.00000°, δ52.00000°, λ-69.00000°.*

ISCJB ***19*** *13:46:21.1±1.3,37.°02N±0.°04×141.°41E±0.°07,h16km±9km, mb3.6/5, MS4.2/1, Error ellipse: s-maj=10.0km s-min=6.2km az=18.4*

JMA ***19*** *13:46:23.3±0.1,37.°03N×141.°25E,h23km±1km,M3.6*

IDC ***19*** *13:46:24.6±3.5,36.°99N×141.°57E,h36km±31km, mb3.5/5, mb1 3.6/10,mb1mx3.4/47,mbtmp3.6/10, ML2.5/4, MS2.4/2, Ms1 2.4/2,ms1mx2.2/30, Error ellipse: s-maj=27.5km s-min=23.7km az=132.0*

ISC 19 13:46:21.0±1.9,37.°02N±0.°05×141.°40E±0.°07,h8km±10km, n26,σ1°45/28,mb3.7/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**280**	P	**Pg**	**13 46 31.0**	**+0.4**
ONAJ				S	**Sg**	**13 46 36.4**	**-0.6**
JFK	**Kawauchi**	**0.55**	**309**	P	**Pg**	**13 46 32.3**	**+0.7**
JFK				S	**Sg**	**13 46 38.4**	**-0.4**
JHO	**Hitachi**	**0.79**	**239**	P	**Pg**	**13 46 36.1**	**0.0**
JHO				S	**Sg**	**13 46 45.4**	**-1.0**
JMM	**Marumori**	**0.97**	**330**	P	**Pg**	**13 46 39.6**	**-0.1**
JMM				S	**Sg**	**13 46 51.8**	**-0.6**
JFT	**Otama**	**0.98**	**301**	P	**Pg**	**13 46 40.0**	**0.0**
JFT				S	**Sg**	**13 46 51.7**	**-1.1**
JSB	**Shiboa**	**1.19**	**268**	P	**Pb**	**13 46 43.3**	**-0.5**
JSB				S	**Sb**	**13 46 57.8**	**-1.6**
JFY	**Yanaizu**	**1.41**	**286**	P	**Pn**	**13 46 46.6**	**-0.4**
JFY				S	**Sb**	**13 47 03.6**	**-2.2**
MJAR	**Matsushiro Arr**	**2.61**	**260**	Pn	**Pn**	**13 47 04.0**	**+0.4**
	1.3nm,0.3s,baz=86,slow=16,SNR=22						
MJAR				Sn	**Sb**	**13 47 39.0**	**-1.3**
	2.9nm,0.3s,baz=165,slow=31,SNR=6.2						
MJAR				LR	LR	13 48 29.8	
	comp=Z,28nm,19.7s,baz=90,slow=46						
MAT	**Matsushiro**	**2.61**	**260**	P	**Pn**	**13 47 04.3**	**+0.8**
MAT				*e*S	**Sn**	**13 47 34.9**	**-0.5**
JHJ	**Hachijo jima 2**	**4.11**	**199**	Pn	**Pn**	**13 47 25.3**	**+1.1**
	1.7nm,0.3s,baz=252,slow=20,SNR=4.1						
JHJ				Sn	**Sn**	**13 48 12.8**	**+0.3**
	7.3nm,0.3s,baz=252,slow=19,SNR=3.8						
ASAJ	**Asahikawa**	**7.14**	**7**	Pn	**Pn**	**13 48 06.5**	**+0.7**
	baz=221,slow=10						
USRK	**Ussuriysk Ar.**	**10.13**	**318**	Pn	**Pn**	**13 48 50.2**	**+3.6**
	0.1nm,0.3s,baz=142,slow=14,SNR=5.4						
KSRS	**Korea Array**	**10.76**	**276**	Pn	**Pn**	**13 48 59.6**	**+4.3**
	0.0nm,0.3s,baz=95,slow=14,SNR=6.1						
KLR	**Kul'dur**	**14.07**	**333**	LR	LR	13 55 18.5	
	comp=Z,33nm,18.7s,baz=284,slow=38						
SONM	**Songino Array**	**27.79**	**304**	P	**P**	**13 52 11.4**	**+0.9**
	0.7nm,0.5s,baz=95,slow=10,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	14 21 43.5	
	baz=313,slow=75,SNR=109						
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	14 21 49.1	
	baz=313,slow=75,SNR=154						
H11N3	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	14 21 50.5	
	baz=313,slow=75,SNR=124						
H11S1	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	14 22 37.2	
	baz=315,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	14 22 43.1	
	baz=315,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	14 22 42.5	
	baz=315,slow=76,SNR=24						
TGY	**Tagaytay City**	**29.23**	**224**	LR	LR	14 02 56.0	
	comp=Z,588nm,21.1s,baz=58,slow=34						
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**13 54 12.0**	**+0.2**
	1.1nm,0.6s,baz=98,slow=7.6,SNR=5.3						
ILAR	**Eielson Array**	**49.51**	**32**	P	**P**	**13 55 10.4**	**-1.2**
	0.4nm,0.7s,baz=258,slow=6.7,SNR=5.7						
AKASG	**Malin Array Be**	**74.30**	**322**	P	**P**	**13 57 58.4**	**-0.3**
	0.6nm,0.5s,baz=47,slow=5.9,SNR=5.0						
TXAR	**Lajitas Array**	**90.14**	**52**	P	**P**	**13 59 21.4**	**-0.8**
	0.2nm,0.7s,baz=311,slow=5.5,SNR=2.3						

DDA ***19*** *13:51:27.7,39.°12N×29.°04E,h7km,Md2.7*

CSEM ***19*** *13:51:27.1±0.2,38.°98N×29.°12E,h5km,MD2.7, Error ellipse: s-maj=7.2km s-min=2.9km az=162.0*

ISCJB ***19*** *13:51:28.5±0.7,39.°09N±0.°06×29.°04E±0.°05,h9km, Error ellipse: s-maj=9.4km s-min=4.3km az=155.0*

ISK ***19*** *13:51:28.3,39.°06N×29.°17E,h10km,MD2.7*

ISC 19 13:51:28.1±0.9,39.°05N±0.°04×29.°10E±0.°03,h9km,n18, σ0°56/25,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.30**	**269**	P	**Pg**	**13 51 34.0**	**-0.1**
DEMI				S	**Sg**	**13 51 37.3**	**-0.8**
DEMI	**Demirci**	**0.30**	**269**	*i* P	**Pg**	**13 51 34.0**	**-0.1**
DEMI				*i* S	**Sg**	**13 51 37.3**	**-0.8**
GDZ	**Gediz**	**0.30**	**82**	P	**Pg**	**13 51 33.2**	**-1.0**
GDZ	**Gediz**	**0.30**	**82**	*i* P	**Pg**	**13 51 33.1**	**-1.0**
GDZ				*i* S	**Sb**	**13 51 41.7**	**+0.8**
TVSB	**Tavsanli**	**0.49**	**35**	*e*PG	**Pg**	**13 51 37.6**	**-0.1**
TVSB				*e*SG	**Sg**	**13 51 44.5**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**35**	*e*Pg	**Pg**	**13 51 37.6**	**-0.1**
TVSB				*e*Sg	**Sg**	**13 51 44.5**	**+0.3**
KULA	**Kula-Manisa**	**0.63**	**213**	*e*PG	**Pb**	**13 51 41.8**	**+0.4**
KULA	**Kula-Manisa**	**0.63**	**213**	*e*Pg	**Pb**	**13 51 41.8**	**+0.4**
CAVI	**Cavuskoy**	**1.29**	**26**	*e*PN	**Pg**	**13 51 52.5**	**-0.4**
CAVI	**Cavuskoy**	**1.29**	**26**	*e*Pn	**Pg**	**13 51 52.5**	**-0.4**
IZI	**Iznik**	**1.32**	**13**	*e*PN	**Pg**	**13 51 53.1**	**-0.3**
IZI	**Iznik**	**1.32**	**13**	*e*Pn	**Pg**	**13 51 53.2**	**-0.3**
BORA	**Eskisehir**	**1.34**	**51**	P	**Pn**	**13 51 52.7**	**-0.4**
BORA				S	**Sn**	**13 52 11.9**	**+0.9**
BORA	**Eskisehir**	**1.34**	**51**	*i* P	**Pn**	**13 51 52.6**	**-0.4**
BORA				*i* S	**Sn**	**13 52 11.9**	**+0.9**
ARMT	**Armutlu**	**1.53**	**353**	*e*PN	**Pb**	**13 51 56.2**	**-0.4**
ARMT	**Armutlu**	**1.53**	**353**	*e*Pn	**Pb**	**13 51 56.2**	**-0.4**
GULT	**Gulveren**	**1.76**	**38**	*e*PN	**Pn**	**13 51 59.0**	**+0.1**
GULT	**Gulveren**	**1.76**	**38**	*e*Pn	**Pn**	**13 51 59.0**	**+0.1**

MAN 19 13:59:50,10.°39N×125.°22E,h18km,mb4.5,ML3.4,MS3.2, Leyte

ISK ***19*** *14:16:45.6,39.°10N×29.°16E,h8km,MD2.6*

ISCJB ***19*** *14:16:46.2±0.7,39.°10N±0.°05×29.°12E±0.°05,h10km, Error ellipse: s-maj=7.6km s-min=4.9km az=163.5*

DDA ***19*** *14:16:46.5,39.°06N×29.°11E,h7km,Md2.8*

CSEM ***19*** *14:16:46.1±0.1,39.°09N×29.°14E,h10km,MD2.6, Error ellipse: s-maj=3.6km s-min=3.2km az=121.0*

ISC 19 14:16:46.0±0.9,39.°09N±0.°04×29.°16E±0.°03,h10km,n16, σ0°26/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.25**	**90**	P	**Pb**	**14 16 52.7**	**-0.1**
GDZ				S	**Sb**	**14 16 56.9**	**-0.4**
GDZ	**Gediz**	**0.25**	**90**	*i* P	**Pb**	**14 16 52.7**	**-0.1**
GDZ				*i* S	**Sb**	**14 16 56.9**	**-0.4**
DEMI	**Demirci**	**0.35**	**263**	P	**Pg**	**14 16 53.1**	**+0.1**
DEMI				S	**Sg**	**14 16 57.4**	**-0.2**
DEMI	**Demirci**	**0.35**	**263**	*i* P	**Pg**	**14 16 53.1**	**+0.1**
DEMI				*i* S	**Sg**	**14 16 57.4**	**-0.2**
TVSB	**Tavsanli**	**0.43**	**33**	*e*PG	**Pg**	**14 16 54.4**	**-0.1**
TVSB				*e*SG	**Sg**	**14 17 00.8**	**+0.5**
TVSB	**Tavsanli**	**0.43**	**33**	*e*Pg	**Pg**	**14 16 54.4**	**-0.1**
TVSB				*e*Sg	**Sg**	**14 17 00.8**	**+0.5**
KHL	**Karahalli**	**0.81**	**159**	*e*PG	**Pg**	**14 17 01.9**	**+0.1**
KHL	**Karahalli**	**0.81**	**159**	*e*Pg	**Pg**	**14 17 01.9**	**+0.1**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*PN	**Pn**	**14 17 09.3**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**25**	*e*Pn	**Pn**	**14 17 09.3**	**0.0**
IZI	**Iznik**	**1.27**	**11**	*e*PN	**Pn**	**14 17 10.0**	**+0.1**
IZI	**Iznik**	**1.27**	**11**	*e*Pn	**Pn**	**14 17 10.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.33**	**333**	*e*PN	**Pb**	**14 17 10.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.33**	**333**	*e*Pn	**Pb**	**14 17 10.9**	**-0.2**
ARMT	**Armutlu**	**1.49**	**351**	*e*PN	**Pn**	**14 17 13.3**	**+0.4**
ARMT	**Armutlu**	**1.49**	**351**	*e*Pn	**Pn**	**14 17 13.3**	**+0.4**

IDC ***19*** *14:22:03.7±2.4,9.°60S×112.°64E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.7/34,mbtmp3.9/5,ML4.0/1,MS3.5/3, Ms1 3.5/3,ms1mx2.9/41,Error ellipse: s-maj=127.0km s-min=20.4km az=48.0*

ISCJB ***19*** *14:22:08.9±0.6,9.°71S±0.°05×112.°81E±0.°04,h33km, mb3.8/4,MS3.8/2, Error ellipse: s-maj=7.6km s-min=5.1km az=1.8*

DJA ***19*** *14:22:11.0±1.1,10.°3S±5.°1×11.°3E±.°,h21km±12km,M4.3/15, mb4.6/1,MLv4.2/15*

ISC 19 14:22:09.6±1.0,9.71S±0.°09×112.°84E±0.°05,h35km,n25, σ1°61/26,mb3.9/4,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.55**	**23**	P	**Pn**	**14 22 33.1**	**-1.6**
GMJI				S	**Sn**	**14 22 52.1**	**-1.4**
JAGI	**Jajag, Banyuwa**	**1.79**	**47**	P	**Pn**	**14 22 37.5**	**-0.5**
JAGI				S	**Sn**	**14 23 01.0**	**+1.5**
BLJI	**Banyuglugur**	**2.09**	**21**	P	**Pn**	**14 22 42.9**	**+0.7**
BLJI				S	**Sn**	**14 23 06.5**	**-0.5**
PCJI	**Pacitan**	**2.23**	**312**	P	**Pn**	**14 22 43.7**	**-0.4**
PCJI				S	**Sn**	**14 23 10.2**	**-0.2**
ABJI	**Asem Bagus**	**2.35**	**36**	P	**Pn**	**14 22 47.3**	**+1.6**
WOJI	**Wonogiri, Jawa**	**2.66**	**314**	P	**Pn**	**14 22 49.7**	**-0.3**
NGJI	**Ngawi**	**2.70**	**329**	P	**Pn**	**14 22 53.8**	**+3.3**
GRJI	**Gresik**	**2.80**	**353**	P	**Pn**	**14 22 53.9**	**+1.9**
SRBI	**Singaraja**	**2.84**	**56**	P	**Pn**	**14 22 53.8**	**+1.2**
UGM	**Wanagama**	**2.90**	**308**	P	**Pn**	**14 22 53.2**	**-0.2**
TWSI	**Taliwang, Sumb**	**4.10**	**77**	P	**Pn**	**14 23 12.7**	**+2.8**
KPJI	**Karang Pucung**	**4.53**	**301**	P	**Pn**	**14 23 18.1**	**+2.3**
CMJI	**Cimerak**	**4.75**	**293**	P	**Pn**	**14 23 19.4**	**+0.7**
PLAI	**Plampang**	**4.95**	**80**	P	**Pn**	**14 23 23.8**	**+2.3**
CISI	**Cisompet, Garu**	**5.41**	**293**	P	**Pn**	**14 23 29.6**	**+1.7**
CGJI	**Cibinong**	**7.72**	**293**	P	**Pn**	**14 24 01.2**	**+1.6**
KAPI	**Kappang**	**8.29**	**56**	LR	LR	14 27 41.9	
	comp=Z,117nm,19.9s,baz=277,slow=40						
KSI	**Kapahiang**	**11.82**	**300**	P	**Pn**	**14 24 55.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**14.96**	**125**	Pn	**Pn**	**14 25 37.6**	**-0.9**
	0.5nm,0.3s,baz=323,slow=9.8,SNR=12						
FITZ				Sn	Sn	14 28 13.4	-10
	0.5nm,0.3s,baz=142,slow=23,SNR=5.7						
WRA	**Warramunga Arr**	**23.11**	**119**	P	**P**	**14 27 13.3**	**+0.6**
	1.9nm,0.9s,baz=293,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.44**	**127**	P	**P**	**14 27 26.8**	**+1.5**
	1.7nm,0.7s,baz=304,slow=8.9,SNR=28						
MKAR	**Makanchi Array**	**62.51**	**337**	P	**P**	**14 32 27.6**	**-2.2**
	0.6nm,0.5s,baz=153,slow=7.1,SNR=10						
ZALV	**Zalesovo Beam**	**67.71**	**343**	P	**P**	**14 33 02.2**	**-1.0**
	0.6nm,0.3s,baz=156,slow=7.4,SNR=3.0						
BVAR	**Borovoye Array**	**72.19**	**335**	LR	LR	15 07 37.2	
	comp=Z,69nm,20.4s,baz=72,slow=38						
KVAR	**Kislovodsk Ar**	**82.77**	**317**	LR	LR	15 16 47.8	
	comp=Z,32nm,18.3s,baz=33,slow=40						

GEN ***19*** *14:35:33.7,44.°19N×10.°85E,h17km,ML3.8*

ISCJB ***19*** *14:35:34.4±0.2,44.°17N±0.°02×10.°80E±0.°02,h23km±2km, mb3.9/6,MS3.5/1, Error ellipse: s-maj=2.8km s-min=1.9km az=7.3*

CSEM ***19*** *14:35:34.5±0.1,44.°14N×10.°81E,h10km,ML3.8/38, Error ellipse: s-maj=2.4km s-min=1.8km az=11.0*

ROM ***19*** *14:35:34.1±0.1,44.°15N×10.°82E,h6km±1km,Ml3.6/34, Error ellipse: s-maj=1.7km s-min=1.3km az=174.0*

PRU ***19*** *14:35:35.9,44.°13N×10.°97E,h15km*

LDG ***19*** *14:35:35.8±0.1,44.°15N×11.°01E,h15km,Ml3.6/25, Error ellipse: s-maj=3.0km s-min=2.3km az=8.0*

IDC ***19*** *14:35:36.4±5.2,44.°21N×10.°84E,h18km±35km,mb3.7/6, mb1 3.7/12,mb1mx3.5/45,mbtmp3.7/12,ML3.5/6,MS3.0/4, Ms1 3.0/4,ms1mx2.6/50, Error ellipse: s-maj=20.7km s-min=13.8km az=105.0*

BEO ***19*** *14:35:58.4±1.0,44.°87N×13.°30E,h0km,M3.4/5*

ISC 19 14:35:34.9±0.7,44.°15N±0.°02×10.°81E±0.°01,h14km±4km, n227,σ1°54/333,mb3.9/6,1C,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POPM	**Popiglio**	**0.11**	**198**⇑	*i*Pg	**Pg**	**14 35 38.0**	**-0.2**
POPM				S	**Sg**	**14 35 40.9**	**+0.5**
POPM	**Popiglio**	**0.11**	**198**	P	**Pg**	**14 35 38.0**	**-0.2**
POPM				S	**Sg**	**14 35 40.8**	**+0.4**
BDI	**Bagni Di Lucca**	**0.17**	**239**	Pg	**Pg**	**14 35 38.8**	**-0.3**
BDI				Sg	**Sg**	**14 35 42.3**	**+0.4**
	32μm,0.3s						
BDI	**Bagni Di Lucca**	**0.17**	**239**	Pg	**Pg**	**14 35 38.8**	**-0.3**
BDI				Sg	**Sg**	**14 35 42.3**	**+0.4**
	32μm,0.3s						
FNVD	**Fontana Vidola**	**0.23**	**86**	Pg	**Pg**	**14

3µm,0.7s
FROS Frosini 0.98 165 Pg **Pb** 14 35 53.2 -0.4
3µm,0.9s
FROS Frosini 0.98 165 Pg **Pb** 14 35 53.2 -0.4
3µm,0.9s
GROG Isola di Gorgo 0.98 223 Pg **Pb** 14 35 53.4 -0.3
2µm,0.9s
GROG Isola di Gorgo 0.98 223 Pg **Pb** 14 35 53.4 -0.3
2µm,0.9s
CRE Caprese Michel 0.99 122 Pg **Pg** 14 35 53.3 -0.7
1µm,0.3s
CRE Caprese Michel 0.99 122 Pg **Pg** 14 35 53.3 -0.7
1µm,0.3s
T0502 Localit˙ San 0.99 104 Pg **Pb** 14 35 53.5 -0.4
2µm,1.1s
TRIF Trifonti 1.04 176 Pg **Pg** 14 35 54.4 -0.6
2µm,1.0s
TRIF Trifonti 1.04 176 Pg **Pg** 14 35 54.4 -0.6
2µm,1.0s
BOB Bobbio (Coli) 1.15 303 Pg **Pb** 14 35 56.6 0.0
4µm,1.1s
BOB Bobbio (Coli) 1.15 303 Pg **Pb** 14 35 56.6 0.0
4µm,1.1s
CPGN Carpegna, Ital 1.15 107 Pg **Pg** 14 35 56.9 -0.2
138µm,9.0s
CPGN Carpegna, Ital 1.15 107 Pg **Pg** 14 35 56.9 -0.2
138µm,9.0s
PARC Parchiule 1.15 115 Pg **Pb** 14 35 56.0 -0.6
894nm,0.9s
PARC Parchiule 1.15 115 Pg **Pb** 14 35 56.0 -0.6
894nm,0.9s
CAFI Castiglion Fio 1.18 134 Pg **Pb** 14 35 56.0 -1.1
2µm,1.3s
CAFI Castiglion Fio 1.18 134 Pg **Pb** 14 35 56.0 -1.1
2µm,1.3s
ATMC Monte Cedrone 1.23 125 Pg **Pn** 14 35 56.3 -1.4
2µm,1.0s
ATMC Monte Cedrone 1.23 125 Pg **Pn** 14 35 56.3 -1.4
2µm,1.0s
CASP Castiglione de 1.36 178 Pg **Pn** 14 35 58.2 -1.4
1µm,1.3s
CASP Castiglione de 1.36 178 Pg **Pn** 14 35 58.2 -1.4
1µm,1.3s
ATTE AVT- Monte Tez 1.48 130 Pg **Pn** 14 35 59.8 -1.4
1µm,1.2s
SALO Salr 1.48 352 Pg **Pn** 14 36 01.7 +0.5
2µm,0.7s
SALO Salr 1.48 352 Pg **Pn** 14 36 01.7 +0.5
2µm,0.7s
ROVR Rover˙¤ Verone 1.50 7 Pg **Pn** 14 36 00.5 -1.1
639nm,0.4s
MGAB Montegabbione 1.56 142 Pg **Pn** 14 36 01.5 -0.8
805nm,1.1s
PCP Piancastagn 1.67 284 Pg **Pn** 14 36 03.4 -0.4
978nm,1.5s
PGF Pioggiola 2.08 220 *e*Pn **Pn** 14 36 08.8 -0.6
SNR=1.0
PGF *e*Sn **Sn** 14 36 34.8 -0.4
38nm,0.3s
PGF Pioggiola 2.08 220 *e*Pn **Pn** 14 36 08.8 -0.6
SNR=1.0
PGF *e*Sn **Sn** 14 36 34.8 -0.4
19nm,0.3s
SBF Sospel 2.45 264 *e*Pn **Pn** 14 36 13.2 -1.3
SBF Sospel 2.45 264 *e*P **Pb** 14 36 17.7 -1.1
SNR=1.0
SBF *e*Sn **Sn** 14 36 43.9 -0.4
190nm,0.4s,SNR=1.0
SBF Sospel 2.45 264 *e*Pn **Pn** 14 36 13.2 -1.3
SBF Sospel 2.45 264 *e*P **Pb** 14 36 17.7 -1.1
SNR=1.0
SBF *e*Sn **Sn** 14 36 43.9 -0.4
95nm,0.4s,SNR=1.0
DAVOX Davos/Dischmat 2.71 346 Pn **Pn** 14 36 19.6 +1.4
4.5nm,0.3s,baz=188,slow=5.5,SNR=33
DAVOX Sn **Sn** 14 36 52.2 +1.3
5.0nm,0.3s,baz=42,slow=18,SNR=6.0
DAVOX LR LR 14 37 23.8
comp=Z,91nm,20.6s,baz=266,slow=40
ABTA Abfaltersbach 2.86 24 Pn **Pn** 14 36 21.0 +0.8
8.1nm,0.3s
ABTA Sn **Sn** 14 36 55.9 +1.5
228nm,0.9s
ABTA Abfaltersbach 2.86 24 Pn **Pn** 14 36 21.0 +0.8
8.1nm,0.3s
ABTA Sn **Sn** 14 36 55.9 +1.5
228nm,0.9s
FETA Feichten 2.87 359 Pn **Pn** 14 36 23.9 +3.5
6.9nm,0.3s,SNR=9.0
FETA Sn **Sn** 14 36 57.0 +2.2
37nm,0.6s
FETA Feichten 2.87 359 Pn **Pn** 14 36 23.9 +3.5
6.9nm,0.3s,SNR=9.0
FETA Sn **Sn** 14 36 57.0 +2.2
37nm,0.6s
MBDF Montbardon 2.94 283 *e*Pn **Pn** 14 36 22.5 +1.1
SNR=1.0
MBDF *e*Sn **Sn** 14 36 57.1 +0.4
178nm,0.8s
MBDF Montbardon 2.94 283 *e*Pn **Pn** 14 36 22.5 +1.1
SNR=1.0
MBDF *e*Sn **Sn** 14 36 57.1 +0.4
89nm,0.8s
NVLJ Novalja 2.94 81 *e*Pn **Pn** 14 36 21.6 +0.3
NVLJ Sn **Sn** 14 36 52.7 -3.8
NVLJ Novalja 2.94 81 *e*Pn **Pn** 14 36 21.5 +0.3
NVLJ Sn **Sn** 14 36 52.6 -3.8
CEY Cerknica 3.02 57 *e*Pn **Pn** 14 36 20.7 -1.7
FRF La Foret Royal 3.06 260 *e*Pn **Pn** 14 36 21.6 -1.3
FRF La Foret Royal 3.06 260 *e*P **Pb** 14 36 26.4 -2.8
SNR=1.0
FRF *e*Sn **Sn** 14 36 58.6 -0.8
77nm,0.4s
FRF La Foret Royal 3.06 260 *e*Pn **Pn** 14 36 21.6 -1.3
FRF La Foret Royal 3.06 260 *e*P **Pb** 14 36 26.4 -2.8
SNR=1.0
FRF *e*Sn **Sn** 14 36 58.6 -0.8
38nm,0.4s
WTTA Wattenberg 3.17 10 *e*Pn **Pn** 14 36 26.2 +1.7
14nm,0.3s,SNR=5.9
WTTA *e*Sn **Sn** 14 37 05.9 +3.8
61nm,0.7s
WTTA Wattenberg 3.17 10 Pn **Pn** 14 36 26.2 +1.7
14nm,0.3s,SNR=5.9
WTTA Sn **Sn** 14 37 05.9 +3.8
61nm,0.7s
LPG La Plagne 3.18 296 *e*Pn **Pn** 14 36 25.4 +0.6
SNR=1.0
LPG *e*Sn **Sn** 14 37 02.9 +0.2
112nm,0.7s
LPG La Plagne 3.18 296 *e*Pn **Pn** 14 36 25.4 +0.6
SNR=1.0
LPG *e*Sn **Sn** 14 37 02.9 +0.2
56nm,0.7s
MOTA Moosalm 3.20 4 *e*Pn **Pn** 14 36 26.6 +1.7
6.4nm,0.2s,SNR=24
MOTA Moosalm 3.20 4 Pn **Pn** 14 36 26.6 +1.7
6.4nm,0.2s,SNR=24
DAVA Damuels 3.20 349 *e*Pn **Pn** 14 36 25.8 +0.9
15nm,0.2s
DAVA *e*Sn **Sn** 14 37 05.6 +2.7
134nm,0.5s
DAVA Damuels 3.20 349 Pn **Pn** 14 36 25.8 +0.9
15nm,0.2s
DAVA Sn **Sn** 14 37 05.6 +2.7
134nm,0.5s
LPL La Plagne 3.20 297 *e*Pn **Pn** 14 36 25.9 +0.9
SNR=1.0
LPL *e*Sn **Sn** 14 37 03.2 +0.1
62nm,0.5s
LPL La Plagne 3.20 297 *e*Pn **Pn** 14 36 25.9 +0.9
SNR=1.0
LPL *e*Sn **Sn** 14 37 03.2 +0.1
31nm,0.5s
LMR La Mourre 3.22 257 *e*Pn **Pn** 14 36 24.3 -0.7
LMR La Mourre 3.22 257 *e*P **Pn** 14 36 28.5 +3.5
SNR=1.0
LMR *e*Sn **Sn** 14 37 02.0 -1.2
111nm,0.4s
LMR La Mourre 3.22 257 *e*Pn **Pn** 14 36 24.3 -0.7
LMR La Mourre 3.22 257 *e*P **Pn** 14 36 28.5 +3.5
SNR=1.0
LMR *e*Sn **Sn** 14 37 02.0 -1.2
56nm,0.4s
WATA Walderalm 3.23 9 *e*Pn **Pn** 14 36 26.7 +1.4
14nm,0.2s,SNR=27
WATA Walderalm 3.23 9 Pn **Pn** 14 36 26.7 +1.4
14nm,0.2s,SNR=27

LJU Ljubljana 3.24 53 *e*Pn **Pn** 14 36 24.8 -0.6
RETA Reutte 3.33 360 *e*Pn **Pn** 14 36 27.7 +1.0
7.7nm,0.3s
RETA *e*Sn **Sn** 14 37 08.9 +2.8
84nm,0.8s
RETA Reutte 3.33 360 Pn **Pn** 14 36 27.7 +1.0
7.7nm,0.3s
RETA Sn **Sn** 14 37 08.9 +2.8
84nm,0.8s
KBA Koelnbreinsper 3.42 30 *i* Pn **Pn** 14 36 29.7 +1.6
2.8nm,0.1s
KBA *e*Sn **Sn** 14 37 10.5 +2.0
29nm,0.4s
KBA Koelnbreinsper 3.42 30 Pn **Pn** 14 36 29.7 +1.6
2.8nm,0.1s
KBA Sn **Sn** 14 37 10.5 +2.0
29nm,0.4s
OBKA Obir 3.54 47 *i* Pn **Pn** 14 36 30.7 +1.2
OBKA *e*Sn **Sn** 14 37 13.1 +1.9
115nm,0.7s
OBKA Obir 3.54 47 Pn **Pn** 14 36 30.7 +1.2
OBKA Sn **Sn** 14 37 13.1 +1.9
115nm,0.7s
UDBI Udbina 3.58 82 *e*Pn **Pn** 14 36 31.4 +1.4
UDBI Sn **Sn** 14 37 11.5 -0.7
UDBI Udbina 3.58 82 *e*Pn **Pn** 14 36 31.4 +1.4
UDBI Sn **Sn** 14 37 11.4 -0.7
ORIF Oris-en-Rattie 3.60 284 *e*Pn **Pn** 14 36 32.2 +1.8
SNR=1.0
ORIF *e*Sn **Sn** 14 37 12.9 +0.1
51nm,0.5s
ORIF Oris-en-Rattie 3.60 284 *e*Pn **Pn** 14 36 32.2 +1.8
SNR=1.0
ORIF *e*Sn **Sn** 14 37 12.9 +0.1
25nm,0.5s
CRES Cresnjev 3.70 62 *e*Pn **Pn** 14 36 31.0 -0.7
SMRF Simiane la Rot 3.77 269 *e*Pn **Pn** 14 36 33.9 +1.2
SNR=1.0
SMRF *e*Sn **Sn** 14 37 16.1 -0.9
25nm,0.4s,SNR=1.0
SMRF Simiane la Rot 3.77 269 *e*Pn **Pn** 14 36 33.9 +1.2
SNR=1.0
SMRF *e*Sn **Sn** 14 37 16.1 -0.9
12nm,0.4s,SNR=1.0
SOKA Soboth 3.90 48 *e*Pn **Pn** 14 36 34.7 +0.2
1.5nm,0.2s
SOKA Soboth 3.90 48 Pn **Pn** 14 36 34.7 +0.2
1.5nm,0.2s
CABF La Chapelle 4.13 308 *e*Pn **Pn** 14 36 39.0 +1.3
SNR=1.0
CABF *e*Sn **Sn** 14 37 25.1 -0.8
48nm,0.6s,SNR=1.0
CABF La Chapelle 4.13 308 *e*Pn **Pn** 14 36 39.0 +1.3
SNR=1.0
CABF *e*Sn **Sn** 14 37 25.1 -0.8
24nm,0.6s,SNR=1.0
MOA Molln 4.41 32 *e*Pn **Pn** 14 36 42.1 +0.6
4.8nm,0.2s,SNR=7.8
MOA *e*Sn **Sn** 14 37 34.4 +1.7
36nm,0.7s
MOA Molln 4.41 32 Pn **Pn** 14 36 42.1 +0.6
4.8nm,0.2s,SNR=7.8
MOA Sn **Sn** 14 37 34.4 +1.7
36nm,0.7s
VIVF Saint-Julien-l 4.44 281 *e*Pn **Pn** 14 36 42.3 +0.4
SNR=1.0
VIVF *e*Sn **Sn** 14 37 33.0 -0.4
17nm,0.5s,SNR=1.0
VIVF Saint-Julien-l 4.44 281 *e*Pn **Pn** 14 36 42.3 +0.4
SNR=1.0
VIVF *e*Sn **Sn** 14 37 33.0 -0.4
8.3nm,0.5s,SNR=1.0
HINF Hinteralfeld 4.58 324 *e*Pn **Pn** 14 36 43.9 +0.1
SNR=1.0
HINF *e*Sn **Sn** 14 37 35.7 -1.2
69nm,0.5s,SNR=1.0
HINF Hinteralfeld 4.58 324 *e*Pn **Pn** 14 36 43.9 +0.1
SNR=1.0
HINF *e*Sn **Sn** 14 37 35.7 -1.2
35nm,0.5s,SNR=1.0
BLY Banja Luka 4.61 80 *e*Pn **Pn** 14 36 45.0 +0.9
BEHE Becsehely 4.81 59 *e*Pn **Pn** 14 36 44.9 -2.0
CDF Champ du Feu 4.91 331 *e*Pn **Pn** 14 36 48.2 -0.2
SNR=1.0
CDF *e*Sn **Sn** 14 37 42.4 -2.6
30nm,0.4s,SNR=1.0
CDF Champ du Feu 4.91 331 *e*Pn **Pn** 14 36 48.2 -0.2
SNR=1.0
CDF *e*Sn **Sn** 14 37 42.4 -2.6
15nm,0.4s,SNR=1.0
HAU Haudompre 4.95 323 *e*Pn **Pn** 14 36 49.0 +0.2
SNR=1.0
HAU *e*Sn **Sn** 14 37 44.3 -1.5
140nm,0.4s
HAU Haudompre 4.95 323 *e*Pn **Pn** 14 36 49.0 +0.2
SNR=1.0
HAU *e*Sn **Sn** 14 37 44.3 -1.5
70nm,0.4s
LASF Ste Croix 5.00 272 *e*Pn **Pn** 14 36 49.6 0.0
SNR=1.0
LASF *e*Sn **Sn** 14 37 44.5 -2.7
4.6nm,0.3s
LASF Ste Croix 5.00 272 *e*Pn **Pn** 14 36 49.6 0.0
SNR=1.0
LASF *e*Sn **Sn** 14 37 44.5 -2.7
2.3nm,0.3s
GERES GERESS Array B 5.10 22 Pn **Pn** 14 36 50.4 -0.6
1.9nm,0.3s,baz=198,slow=13,SNR=39
GERES Sn **Sn** 14 37 47.8 -2.0
2.8nm,0.3s,baz=200,slow=15,SNR=9.2
GERES LR LR 14 39 12.5
comp=Z,190nm,19.7s,baz=274,slow=43
KHC Kasperske Hory 5.33 20 *e*PN **Pn** 14 36 53.2 -0.9
KHC *e*PG **Pg** 14 37 16.8 -0.2
KHC *e*SN **Sn** 14 37 52.1 -3.2
KHC *ex* x 14 38 14.1
KHC *e*SG **Sg** 14 38 25.6 -0.4
76nm,1.4s
KHC AMS AMS 14 39 10.0
500nm,7.2s
KHC Kasperske Hory 5.33 20 Pn **Pn** 14 36 53.2 -0.9
KHC Sn **Sn** 14 37 52.1 -3.2
KHC Sg **Sg** 14 38 25.6 -0.4
76nm,1.4s
SMF Signal de Mont 5.50 299 *e*Pn **Pn** 14 36 57.0 +0.6
SNR=1.0
SMF *e*Sn **Sn** 14 37 56.7 -2.7
21nm,0.5s,SNR=1.0
SMF Signal de Mont 5.50 299 *e*Pn **Pn** 14 36 57.0 +0.6
SNR=1.0
PAGF Fort de Pagny 5.63 323 *e*Pn **Pn** 14 36 58.4 +0.2
PAGF *e*Sn **Sn** 14 37 59.7 -3.0
6.7nm,0.5s
PAGF Fort de Pagny 5.63 323 *e*Pn **Pn** 14 36 58.4 +0.2
TREB Trebinje 5.68 102 *e*Pn **Pn** 14 36 59.6 +0.7
SFTF Sexfontaines 5.70 317 *e*Pn **Pn** 14 36 59.6 +0.5
baz=133
SFTF Sexfontaines 5.70 317 *e*Pn **Pn** 14 36 59.6 +0.5
BRY Bratogost 5.76 100 *e*Pn **Pn** 14 37 00.3 +0.2
LOR Lormes 5.78 305 *e*Pn **Pn** 14 37 00.6 +0.4
baz=118,SNR=1.0
LOR *e*Sn **Sn** 14 38 05.0 -1.2
25nm,0.3s,SNR=1.0
LOR Lormes 5.78 305 *e*Pn **Pn** 14 37 00.6 +0.4
SNR=1.0
LOR *e*Sn **Sn** 14 38 05.0 -1.2
13nm,0.3s,SNR=1.0
AVF Avril sur Loir 5.87 299 *e*Pn **Pn** 14 37 01.5 +0.1
SNR=1.0
AVF *e*Sn **Sn** 14 38 05.8 -2.6
8.7nm,0.4s
AVF Avril sur Loir 5.87 299 *e*Pn **Pn** 14 37 01.5 +0.1
SNR=1.0
SSF Saint Saulge 5.89 302 *e*Pn **Pn** 14 37 02.1 +0.4
SSF *e*Sn **Sn** 14 38 07.3 -1.7
14nm,0.5s,SNR=1.0
SSF Saint Saulge 5.89 302 *e*Pn **Pn** 14 37 02.1 +0.4
SSF *e*Sn **Sn** 14 38 07.3 -1.7
6.9nm,0.5s,SNR=1.0
MEZF Maizieres J'vi 5.90 320 *e*Pn **Pn** 14 37 02.5 +0.7
baz=138,SNR=1.0
MEZF *e*Sn **Sn** 14 38 06.7 -2.5
20nm,0.5s,SNR=1.0
MEZF Maizieres J'vi 5.90 320 *e*Pn **Pn** 14 37 02.5 +0.7
SNR=1.0
UPM Unac-Piva 5.95 96 *e*Pn **Pn** 14 37 02.7 -0.1
TREC Trest 6.07 30 *e*SN **Sn** 14 38 10.0 -3.4

TREC AMS AMS 14 39 40.0
400nm,11.1s
BGF Bois d'Agland 6.10 296 *e*Pn **Pn** 14 37 05.5 +0.9
SNR=1.0
BGF *e*Sn **Sn** 14 38 12.1 -2.1
24nm,0.4s,SNR=1.0
BGF Bois d'Agland 6.10 296 *e*Pn **Pn** 14 37 05.5 +0.9
SNR=1.0
BGF *e*Sn **Sn** 14 38 12.1 -2.1
12nm,0.4s,SNR=1.0
NKC Novy Kostel 6.18 10 *e*PN **Pn** 14 37 05.4 -0.4
NKC *e*SN **Sn** 14 38 11.2 -5.1
NKC AMS AMS 14 39 50.0
NKC Novy Kostel 6.18 10 Pn **Pn** 14 37 05.4 -0.4
BBLS Lazići 6.21 90 *e*Pn **Pn** 14 37 07.5 +1.2
BBLS *e*Sn Sn 14 37 58.5 -19
BBLS Lazići 6.21 90 *e*Pn **Pn** 14 37 07.4 +1.2
TEKS Tekeris 6.27 83 *e*Pn **Pn** 14 37 07.7 +0.7
TEKS Tekeris 6.27 83 *e*Pn **Pn** 14 37 05.4 -1.6
MTLF Montolieu 6.27 266 *e*Pn **Pn** 14 37 06.6 -0.4
SNR=1.0
MTLF *e*Sn **Sn** 14 38 16.3 -2.2
4.7nm,0.5s,SNR=1.0
MTLF Montolieu 6.27 266 *e*Pn **Pn** 14 37 06.6 -0.4
SNR=1.0
MTLF *e*Sn **Sn** 14 38 16.3 -2.2
2.3nm,0.5s,SNR=1.0
CAF Calviac 6.29 280 *e*Pn **Pn** 14 37 08.4 +1.1
SNR=1.0
CAF Calviac 6.29 280 *e*Pn **Pn** 14 37 08.4 +1.1
SNR=1.0
PRU Pruhonice 6.37 22 *e*PN **Pn** 14 37 08.2 -0.1
PRU *e*SN **Sn** 14 38 14.4 -6.4
PRU *e*SG **Sg** 14 38 58.7 -0.5
58nm,1.4s
PRU *ex* x 14 39 13.5
PRU AMS AMS 14 40 00.0
400nm,13.1s
PRU Pruhonice 6.37 22 Pn **Pn** 14 37 08.2 -0.1
PRU Sg **Sg** 14 38 58.7 -0.5
58nm,1.4s
GOPC GO Pecny, Ondr 6.37 24 *e*PN **Pn** 14 37 07.7 -0.7
GOPC *e*SN **Sn** 14 38 16.8 -4.1
GOPC *ex* x 14 38 35.9
GOPC *ex* x 14 38 56.6
34nm,1.1s
GOPC AMS AMS 14 39 50.0
500nm,10.7s
GOPC GO Pecny, Ondr 6.37 24 Pn **Pn** 14 37 07.7 -0.7
PDG Podgorica 6.40 103 *e*Pn Pn 14 37 13.9 +5.1
PDG *e*Sn Sn 14 38 10.7 -11
TCF Toulx Ste Croi 6.43 292 *e*Pn **Pn** 14 37 10.2 +0.9
TCF *e*Sn **Sn** 14 38 20.5 -2.0
9.2nm,0.6s
TCF Toulx Ste Croi 6.43 292 *e*Pn **Pn** 14 37 10.2 +0.9
TCF *e*Sn **Sn** 14 38 20.5 -2.0
4.6nm,0.6s
DRME Dracevica, Mon 6.43 105 *e*Pn **Pn** 14 37 09.6 +0.4
VRAC Vranov 6.51 36 Sn **Sn** 14 38 22.8 -1.6
0.4nm,0.3s,baz=318,slow=23,SNR=6.5
DIVS Divibare 6.61 87 *e*Pn **Pn** 14 37 13.0 +1.2
DIVS Divibare 6.61 87 *e*Pn **Pn** 14 37 13.0 +1.2
RJF Les Rejaudoux 6.72 283 *e*Pn **Pn** 14 37 14.4 +1.3
RJF Les Rejaudoux 6.72 283 *e*Pn **Pn** 14 37 14.4 +1.3
IVAS Ivanjica 6.78 92 *e*Pn **Pn** 14 37 15.4 +1.3
IVAS *e*Sn Sn 14 38 13.3 -18
IVAS Ivanjica 6.78 92 *e*Pn **Pn** 14 37 15.4 +1.3
PVCC Panska Ves 6.87 21 *e*PN **Pn** 14 37 16.2 +1.0
PVCC *e*SN **Sn** 14 38 31.8 -1.3
PVCC AMS AMS 14 40 10.0
400nm,11.4s
PVCC Panska Ves 6.87 21 Pn **Pn** 14 37 16.2 +1.0
PVCC Sn **Sn** 14 38 31.8 -1.3
BRG Berggiesshubel 7.05 16 PG **Pn** 14 37 16.5 -1.2
BRG SN **Sn** 14 38 33.0 -4.5
VYHS Vyhne 7.05 49 *e*Pn **Pn** 14 37 16.1 -1.6
VYHS Vyhne 7.05 49 *e*PN **Pn** 14 37 16.1 -1.6
VYHS *e*SN **Sn** 14 38 31.5 -6.2
DPC Dobruska-Polom 7.25 29 *e*PN **Pn** 14 37 18.7 -1.7
DPC *e*SN **Sn** 14 38 37.7 -4.7
DPC *ex* x 14 38 51.1
DPC *ex* x 14 39 25.1
42nm,1.5s
DPC AMS AMS 14 40 20.0
300nm,10.4s
DPC Dobruska-Polom 7.25 29 Pn **Pn** 14 37 18.7 -1.7
DPC Sg **Sg** 14 39 25.1 -2.2
42nm,1.5s
UPC Upice 7.27 27 *e*PN **Pn** 14 37 19.5 -1.2
UPC *e*SN **Sn** 14 38 39.5 -3.6
UPC *ex* x 14 38 50.7
UPC AMS AMS 14 40 30.0
500nm,11.8s
UPC Upice 7.27 27 Pn **Pn** 14 37 19.5 -1.2
CLL Collm 7.31 11 *e*Pn **Pn** 14 37 24.0 +2.8
comp=Z,8.0nm,1.0s
CLL *e*Sg **Sb** 14 39 05.0 -3.5
BAIF Baives 7.42 325 *e*Pn **Pn** 14 37 21.6 -1.2
SNR=1.0
BAIF *e*Sn **Sn** 14 38 44.9 -1.8
comp=Z,11nm,0.7s,SNR=1.0
BAIF Baives 7.42 325 *e*Pn **Pn** 14 37 21.6 -1.2
SNR=1.0
BAIF *e*Sn **Sn** 14 38 44.9 -1.8
comp=Z,5.3nm,0.7s,SNR=1.0
SELS Selova 7.54 94 *e*Pn **Pn** 14 37 24.7 +0.3
SELS Selova 7.54 94 *e*Pn **Pn** 14 37 24.7 +0.3
OKC Ostrava-Krasne 7.58 39 *e*SN **Sn** 14 38 46.1 -4.5
OKC AMS AMS 14 41 20.0
comp=Z,300nm,9.1s
EPF Esparros 7.68 265 *e*Pn **Pn** 14 37 27.5 +1.1
EPF Esparros 7.68 265 *e*Pn **Pn** 14 37 27.5 +1.1
KECS Kecovo 7.98 54 *e*Pn **Pn** 14 37 32.2 +1.8
KECS Kecovo 7.98 54 *e*PN **Pn** 14 37 32.2 +1.8
MFF Saint Martin d 8.09 291 *e*Pn **Pn** 14 37 32.8 +0.9
MFF Saint Martin d 8.09 291 *e*Pn **Pn** 14 37 32.8 +0.9
BARS Barje 8.12 96 *e*Sn Sn 14 38 46.8 -17
ETSF Etsaut 8.35 265 *e*P Pn 14 37 41.6 +6.0
ZAPS Zavoj 8.62 92 *e*Pn **Pn** 14 37 40.0 +0.8
ZAPS *e*Sn Sn 14 38 56.1 -20
STHS Stebnicka Huta 8.88 50 *e*Pn **Pn** 14 37 43.0 +0.2
STHS *e*Sn **Sn** 14 39 20.9 -1.8
STHS Stebnicka Huta 8.88 50 *e*PN **Pn** 14 37 43.0 +0.2
STHS *e*SN **Sn** 14 39 20.9 -1.8
ESDC Sonseca Array 11.88 253 Pn **Pn** 14 38 27.4 +3.6
comp=Z,0.4nm,0.3s,baz=57,slow=13,SNR=11
EKA Eskdalemuir Ar 14.34 326 Pn **Pn** 14 38 57.9 +0.5
baz=138,slow=15,SNR=2.9
BRTR Keskin Array B 17.54 97 Pn **P** 14 39 42.4 +2.3
comp=Z,0.1nm,0.3s,baz=290,slow=7.8,SNR=5.1
FINES FINESS Array B 19.53 22 Pn **P** 14 40 02.9 +1.2
comp=Z,0.1nm,0.3s,baz=188,slow=8.4,SNR=4.0
OBN Obninsk 19.85 47 LR LR 14 49 11.8
comp=Z,51nm,20.2s,baz=265,slow=41
TORD Torodi Ar. Bea 31.87 197 P **P** 14 41 59.6 0.0
comp=Z,1.3nm,0.9s,baz=7.7,slow=12,SNR=4.7
ZALV Zalesovo Beam 47.38 51 P **P** 14 44 08.6 +0.3
comp=Z,0.4nm,0.3s,baz=288,slow=10,SNR=2.9
MKAR Makanchi Array 48.59 60 P **P** 14 44 18.3 +0.5
comp=Z,1.3nm,0.7s,baz=285,slow=6.3,SNR=9.2
TLY Talaya 58.60 47 LR LR 15 14 06.4
comp=Z,33nm,19.9s,baz=202,slow=40
SONM Songino Array 62.24 49 P **P** 14 45 57.3 +1.1
comp=Z,0.3nm,0.3s,baz=287,slow=10,SNR=3.1
YKA Yellowknife Ar 65.09 335 P **P** 14 46 14.8 +0.2
comp=Z,0.5nm,0.7s,baz=41,slow=6.2,SNR=9.2
CMAR Chiang Mai Arr 76.08 78 P **P** 14 47 22.5 +0.3
comp=Z,1.1nm,0.9s,baz=312,slow=7.0,SNR=5.8

IDC ***19*** *14:38:10.6±2.1,9˚.60S×112˚.63E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.6/37,mbtmp3.8/5,ML3.8/1,MS3.5/3, Ms1 3.6/3,ms1mx2.8/43,Error ellipse: s-maj=115.6km s-min=23.3km az=49.0*
DJA ***19*** *14:38:17.1±1.2, 10˚S±7˚×11˚3E±˚, h16km±12km,M4.2/9, MLv4.2/9*
ISC 19 14:38:13.1±2.1,**9˚.60S**±0˚.07×**112˚.73E**±0˚.05,**h10**km±14km, **n19**,σ1°**28**/21,**mb3.8**/5,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.49**	**28**	P	**Pb**	**14 38 40.3**	**-0.6**
JAGI	**Jajag, Banyuwa**	**1.79**	**51**	P	**Pb**	**14 38 44.7**	**-1.3**
JAGI				S	**Sn**	**14 39 05.4**	**-1.5**

PWJI	**Pagerwojo**	**1.82**	**330**	P		**Pb**	**14 38 46.6**	**+0.2**
PWJI				S		**Sb**	**14 39 08.8**	**-0.4**
BLJI	**Banyuglugur**	**2.03**	**25**	P		**Pb**	**14 38 50.5**	**+0.5**
BLJI				S		**Sb**	**14 39 14.9**	**-0.5**
PCJI	**Pacitan**	**2.08**	**312**	P		**Pb**	**14 38 51.7**	**+0.8**
ABJI	**Asem Bagus**	**2.33**	**40**	P		**Pb**	**14 38 54.7**	**-0.4**
NGJI	**Ngawi**	**2.55**	**330**	P		**Pg**	**14 39 01.8**	**-0.2**
NGJI				S		**Sg**	**14 39 35.1**	**0.0**
GRJI	**Gresik**	**2.68**	**355**	P		**Pb**	**14 39 01.0**	**-0.1**
UGM	**Wanagama**	**2.75**	**307**	P		**Pb**	**14 39 00.4**	**-2.0**
UGM				S		**Sb**	**14 39 35.9**	**-0.4**
PLAI	**Plampang**	**5.04**	**82**	P		**Pn**	**14 39 31.8**	**+3.1**
KAPI	**Kappang**	**8.32**	**57**	LR		LR	14 43 50.3	
	comp=Z,194nm,18.3s,baz=263,slow=40							
FITZ	**Fitzroy Crossi**	**15.11**	**125**	Pn		**Pn**	**14 41 44.9**	**-1.7**
	0.3nm,0.3s,baz=307,slow=9.2,SNR=6.3							
FITZ				Sn		Sn	14 44 21.0	-13
	0.4nm,0.3s,baz=207,slow=14,SNR=6.2							
WRA	**Warramunga Arr**	**23.25**	**119**	P		**P**	**14 43 20.0**	**-0.9**
	1.2nm,0.7s,baz=291,slow=11,SNR=7.0							
NWAO	**Narrogin (SRO)**	**23.58**	**171**	LR		LR	14 53 30.2	
	comp=Z,105nm,18.3s,baz=189,slow=39							
ASAR	**Alice Springs**	**24.59**	**127**	P		**P**	**14 43 34.0**	**+0.4**
	2.4nm,0.7s,baz=304,slow=9.0,SNR=28							
CMAR	**Chiang Mai Arr**	**31.02**	**334**	P		**P**	**14 44 32.6**	**+1.4**
	0.9nm,0.9s,baz=141,slow=5.8,SNR=4.3							
STKA	**Stephens Creek**	**34.73**	**134**	P		**P**	**14 45 03.8**	**+0.4**
	1.9nm,0.7s,baz=310,slow=13,SNR=3.2							
MKAR	**Makanchi Array**	**62.37**	**337**	P		**P**	**14 48 34.6**	**-1.3**
	0.3nm,0.5s,baz=145,slow=7.0,SNR=7.8							
VNDA	**Vanda**	**72.42**	**170**	LR		LR	15 19 50.6	
	comp=Z,69nm,18.8s,baz=289,slow=34							

*ISCJB **19** 14:47:34.2±0.5, 49.°84N×0.°04×18.°47E±0.°03, h0km, Error ellipse: s-maj=5.4km s-min=2.5km az=11.6*
*IPEC **19** 14:47:35.5±0.2, 49.°83N×18.°58E, h0km, ML1.6/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*CSEM **19** 14:47:35.3±0.3, 49.°82N×18.°51E, h1km, ML2.7/7, Error ellipse: s-maj=7.7km s-min=3.5km az=8.0*
*PRU **19** 14:47:36.2, 49.°83N×18.°50E, h0km*

ISC 19 14:47:35.3±0.8, 49.°81N±0.°03×18.°55E±0.°02, h0km, n29, σ0.°85/46, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.26**	**277**	*e*Pg	**Pg**	**14 47 41.4**	**+1.1**
OKC				*e*Sg	**Sg**	**14 47 45.2**	**+1.5**
	33nm,0.4s						
OKC	**Ostrava-Krasne**	**0.26**	**277**	Pg	**Pg**	**14 47 41.4**	**+1.1**
OKC				Sg	**Sg**	**14 47 45.2**	**+1.5**
	33nm,0.4s						
MORC	**Moravsky Berou**	**0.65**	**268**	*e*Pg	**Pg**	**14 47 48.5**	**+0.7**
MORC				*e*Sg	**Sg**	**14 47 56.3**	**0.0**
LANS	**Liptovska Anna**	**0.89**	**137**	*e*Pg	**Pg**	**14 47 52.8**	**+0.5**
LANS	**Liptovska Anna**	**0.89**	**137**	*e*PG	**Pg**	**14 47 52.8**	**+0.5**
LANS				*e*SG	**Sb**	**14 48 05.5**	**-0.6**
OJC	**Ojcow**	**0.91**	**62**	*e*Pg	**Pg**	**14 47 52.3**	**-0.3**
OJC				*e*Sg	**Sg**	**14 48 04.3**	**-0.1**
OJC	**Ojcow**	**0.91**	**62**	*e*Pg	**Pg**	**14 47 52.3**	**-0.3**
OJC				*e*Sg	**Sg**	**14 48 04.3**	**-0.1**
NIE	**Niedzica**	**1.20**	**108**	*e*Pg	**Pg**	**14 47 58.6**	**+0.3**
NIE				*e*Sg	**Sn**	**14 48 17.0**	**+0.5**
NIE	**Niedzica**	**1.20**	**108**	*e*Pg	**Pg**	**14 47 58.6**	**+0.3**
NIE				*e*Sg	**Sn**	**14 48 17.0**	**+0.5**
VYHS	**Vyhne**	**1.33**	**172**	*e*Pn	**Pg**	**14 48 00.5**	**-0.2**
VYHS				*e*Sn	**Sg**	**14 48 18.1**	**+0.2**
VYHS	**Vyhne**	**1.33**	**172**	*e*PN	**Pg**	**14 48 00.5**	**-0.2**
VYHS				*e*SN	**Sg**	**14 48 18.1**	**+0.2**
VYHS				eLG	Lg	14 48 27.0	
VRAC	**Vranov**	**1.37**	**249**	*e*Pg	**Pg**	**14 48 01.3**	**-0.2**
VRAC				*e*Sg	**Sg**	**14 48 19.0**	**-0.2**
	11nm,0.3s						
DPC	**Dobruska-Polom**	**1.53**	**292**	*e*PG	**Pn**	**14 48 03.5**	**-0.5**
DPC				*e*SG	**Sg**	**14 48 23.6**	**-1.0**
	6.4nm,0.3s						
DPC	**Dobruska-Polom**	**1.53**	**292**	Pg	**Pn**	**14 48 03.5**	**-0.5**
DPC				Sg	**Sg**	**14 48 23.6**	**-1.0**
	6.4nm,0.3s						
KRUC	**Moravsky**	**1.59**	**243**	*e*Pg	**Pn**	**14 48 04.8**	**+0.1**
KRUC				*e*Sg	**Sb**	**14 48 26.2**	**0.0**
	6.2nm,0.2s						
UPC	**Upice**	**1.78**	**294**	*e*PG	**Pb**	**14 48 08.0**	**-0.7**
UPC				*e*SG	**Sg**	**14 48 31.8**	**-0.5**
	4.5nm,0.3s						
UPC	**Upice**	**1.78**	**294**	Pg	**Pb**	**14 48 08.0**	**-0.7**
UPC				Sg	**Sg**	**14 48 31.8**	**-0.5**
	4.5nm,0.3s						
STHS	**Stebnicka Huta**	**1.79**	**102**	*e*Pn	**Pg**	**14 48 10.1**	**+0.4**
STHS	**Stebnicka Huta**	**1.79**	**102**	*e*PN	**Pg**	**14 48 10.1**	**+0.4**
STHS				*e*SN	**Sg**	**14 48 34.4**	**+1.5**
STHS				eLG	Lg	14 48 37.5	
KECS	**Kecovo**	**1.84**	**135**	*e*Sn	**Sn**	**14 48 32.5**	**+0.5**
KECS	**Kecovo**	**1.84**	**135**	*e*SN	**Sn**	**14 48 32.5**	**+0.5**
GOPC	**GO Pecny, Ondr**	**2.44**	**274**	*e*SG	**Sb**	**14 48 51.7**	**+1.1**
GOPC	**GO Pecny, Ondr**	**2.44**	**274**	Sg	**Sb**	**14 48 51.7**	**+1.1**
PRU	**Pruhonice**	**2.60**	**276**	*e*SG	**Sb**	**14 48 56.2**	**+1.0**
	2.8nm,0.5s						
PRU	**Pruhonice**	**2.60**	**276**	Sg	**Sb**	**14 48 56.2**	**+1.0**
	2.8nm,0.5s						
PVCC	**Panska Ves**	**2.66**	**287**	*e*SG	**Sg**	**14 49 00.3**	**-0.4**
	5.9nm,0.2s						
PVCC	**Panska Ves**	**2.66**	**287**	Sg	**Sg**	**14 49 00.3**	**-0.4**
	5.9nm,0.2s						
KHC	**Kasperske Hory**	**3.31**	**260**	*e*SG	**Sg**	**14 49 19.4**	**-2.3**
	1.8nm,0.4s						
KHC	**Kasperske Hory**	**3.31**	**260**	Sg	**Sg**	**14 49 19.4**	**-2.3**
	1.8nm,0.4s						

*IDC **19** 15:01:07.3±1.9, 40.°42N×73.°41E, h0km, mb3.8/4, mb1 3.8/9, mb1mx3.5/47, mbtmp3.7/9, ML3.2/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/47, Error ellipse: s-maj=32.1km s-min=12.3km az=138.0*
*NNC **19** 15:01:09.7±1.3, 40.°55N×73.°41E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=10.3km s-min=5.9km az=15.0*
*KRNET **19** 15:01:10.0±0.1, 40.°58N×73.°30E, mb4.0*
*SOME **19** 15:01:11.5, 40.°62N×73.°32E, h5km, MS3.3*

ISC 19 15:01:09.0±1.2, 40.°56N±0.°03×73.°43E±0.°02, h2km±9km, n66, σ1.°953/115, mb3.8/4, 55C-25D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.49**	**266**	⇑*e*P	**Pg**	**15 01 19.7**	**+1.3**
	baz=260						
ARSB	**Arslanbob**	**0.84**	**336**	⇓*e*P	**Pg**	**15 01 25.6**	**+0.5**
	baz=341						
ARSB				⇓*e*S	**Sg**	**15 01 37.1**	**+1.2**
	baz=341						
ARLS	**Aral**	**1.47**	**27**	⇑*e*P	**Pb**	**15 01 38.7**	**+1.6**
	baz=31						
ARLS				⇑*e*S	**Sn**	**15 01 58.7**	**+2.2**
	baz=31						
DRK	**Karamyk**	**1.65**	**230**	⇑*e*P	**Pn**	**15 01 40.7**	**+1.4**
	baz=226						
DRK				⇑*e*S	**Sn**	**15 02 02.6**	**+1.4**
	baz=226						
ARK	**Arkit**	**1.66**	**319**	⇑*e*P	**Pn**	**15 01 40.1**	**+0.8**
	baz=320						
ARK				⇑*e*S	**Sn**	**15 02 01.4**	**+0.2**
	baz=320						
UCH	**Uchtor**	**1.86**	**26**	⇑*i*P	**Pg**	**15 01 45.1**	**+0.5**
	baz=29						
UCH				⇑*i*S	**Sg**	**15 02 09.6**	**+0.9**
	baz=29						
UCH	**Uchtor**	**1.86**	**26**	⇑*i*P	**Pg**	**15 01 45.2**	**+0.6**
	baz=29						
UCH				⇑*i*S	**Sg**	**15 02 10.6**	**+1.9**
	baz=29						
KZA	**Kyzart**	**2.05**	**41**	⇓*i*P	**Pb**	**15 01 48.4**	**+1.3**
	baz=44						
KZA				⇓*i*S	**Sg**	**15 02 15.6**	**+0.8**
	baz=44						
KZA	**Kyzart**	**2.05**	**41**	⇑*i*P	**Pb**	**15 01 48.3**	**+1.2**
	baz=44						
KZA				⇑*i*S	**Sg**	**15 02 16.9**	**+2.1**
	baz=44						
MNAS	**Manas**	**2.05**	**341**	⇓*i*P	**Pb**	**15 01 46.6**	**-0.4**
	baz=343						
MNAS				⇓*i*S	**Sb**	**15 02 12.6**	**-0.4**
	baz=343						
MNAS	**Manas**	**2.05**	**341**	⇑P	**Pn**	**15 01 46.1**	**+1.4**
	72nm,0.4s						
MNAS				⇑S	**Sb**	**15 02 13.6**	**+0.6**
	467nm,0.4s						
BTK	**Batken**	**2.06**	**257**	⇑*e*P	**Pn**	**15 01 45.4**	**+0.7**
	baz=255						
BTK				⇑*e*S	**Sb**	**15 02 13.5**	**+0.3**
	baz=255						
EKS2	**Erkin-Say**	**2.12**	**7**	⇑*i*P	**Pb**	**15 01 48.6**	**+0.4**
	baz=10.0						
EKS2				⇑*i*S	**Sb**	**15 02 16.0**	**+1.0**
	baz=10.0						
EKS2	**Erkin-Say**	**2.12**	**7**	⇑*i*P	**Pb**	**15 01 48.7**	**+0.5**
	baz=10.0						
EKS2				⇑*i*S	**Sg**	**15 02 17.6**	**+0.5**
	baz=10.0						
MRKS	**Merke**	**2.19**	**356**	*e*P	**Pb**	**15 01 50.2**	**+0.8**
	180nm,0.2s						
MRKS				*e*S	**Sb**	**15 02 18.4**	**+1.4**
	378nm,0.2s						
KSH	**Kashi**	**2.21**	**117**	Pn	**Pg**	**15 01 52.1**	**+0.7**
KSH				Sn	**Sb**	**15 02 19.8**	**+2.1**
KSH				smax	smax		
	comp=N,1μm,0.9s						
KSH				smax	smax		
	comp=E,580nm,0.5s						
AAK	**Ala-Archa**	**2.22**	**21**	Pn	**Pb**	**15 01 50.8**	**+0.8**
AAK				Pg	**Pg**	**15 01 52.3**	**+0.7**
	comp=E,97nm,0.3s,baz=192,slow=10,SNR=217						
AAK				Lg	Lg	15 02 20.8	
	comp=E,70nm,0.3s,baz=303,slow=19,SNR=18						
AAK				LR	LR	15 02 54.4	
	comp=E,146nm,18.4s,baz=214,slow=45						
AAK	**Ala-Archa**	**2.22**	**21**	⇑*i*P	**Pb**	**15 01 50.5**	**+0.5**
	baz=23						
AAK				⇑*i*S	**Sb**	**15 02 19.4**	**+1.4**
	baz=23						
AAK	**Ala-Archa**	**2.22**	**21**	⇑*i*P	**Pb**	**15 01 50.7**	**+0.7**
	baz=23						
AAK				⇑*i*S	**Sg**	**15 02 20.6**	**+0.2**
	baz=23						
AAK	**Ala-Archa**	**2.22**	**21**	⇑Pg	**Pb**	**15 01 50.1**	**+0.1**
	comp=E,244nm,0.6s						
AAK				⇑Lg	Lg	15 02 20.6	
KBK	**Karagaybulak**	**2.39**	**28**	⇑*i*P	**Pb**	**15 01 53.1**	**+0.3**
	baz=30						
KBK				⇑*i*S	**Sb**	**15 02 23.9**	**+1.1**
	baz=30						
KBK	**Karagaybulak**	**2.39**	**28**	⇑*i*P	**Pb**	**15 01 53.4**	**+0.6**
	baz=30						
KBK				⇑*i*S	**Sg**	**15 02 26.3**	**+0.6**
	baz=30						
FRU1	**Bishkek**	**2.42**	**21**	⇑*e*P	**Pb**	**15 01 53.3**	**-0.1**
	baz=24						
FRU1				⇑*e*S	**Sb**	**15 02 24.0**	**+0.3**
	baz=24						
CHMS	**Chumysh**	**2.63**	**22**	⇑*i*P	**Pb**	**15 01 56.2**	**-0.7**
	baz=24						
CHMS				⇑*i*S	**Sb**	**15 02 30.5**	**+0.8**
	baz=24						
CHMS	**Chumysh**	**2.63**	**22**	⇓*i*P	**Pb**	**15 01 56.4**	**-0.5**
	baz=24						
CHMS				⇓*i*S	**Sb**	**15 02 31.1**	**+1.4**
	baz=24						
BOOM	**Boomskoye usch**	**2.70**	**43**	⇓*e*P	**Pb**	**15 01 57.6**	**-0.5**
	baz=45						
BOOM				⇓*e*S	**Sb**	**15 02 31.0**	**-0.7**
	baz=45						
ULHL	**Ulahol**	**2.71**	**51**	⇓*i*P	**Pb**	**15 01 57.5**	**-0.8**
	baz=53						
ULHL				⇓*i*S	**Sb**	**15 02 33.3**	**+1.3**
	baz=53						
ULHL	**Ulahol**	**2.71**	**51**	⇓*i*P	**Pb**	**15 01 57.5**	**-0.8**
	baz=52						
ULHL				⇓*i*S	**Sb**	**15 02 34.0**	**+2.0**
	baz=52						
DZA	**Taraz**	**2.81**	**327**	⇑*i*P	**Pb**	**15 02 01.8**	**+1.8**
	comp=E,295nm,0.5s						
DZA				⇑*i*S	**Sg**	**15 02 38.1**	**-1.2**
	comp=E,1μm,0.5s						
USP	**Ospenovka**	**2.82**	**16**	⇑*i*P	**Pn**	**15 01 58.3**	**+3.1**
	baz=18						
USP				⇑*i*S	**Sb**	**15 02 34.8**	**-0.4**
	baz=18						
USP	**Ospenovka**	**2.82**	**16**	⇓*i*P	**Pn**	**15 01 58.4**	**+3.2**
	baz=18						
USP				⇓*i*S	**Sb**	**15 02 35.4**	**+0.2**
	baz=18						
TKM2	**Tokmak 2**	**2.87**	**34**	⇑*i*P	**Pb**	**15 01 59.7**	**-1.3**
	baz=36						
TKM2				⇑*i*S	**Sb**	**15 02 37.0**	**+0.4**
	baz=36						
TKM2	**Tokmak 2**	**2.87**	**34**	⇓*i*P	**Pb**	**15 01 59.7**	**-1.3**
	baz=36						
TKM2				⇓*i*S	**Sb**	**15 02 38.3**	**+1.7**
	baz=36						
TKM2	**Tokmak 2**	**2.87**	**34**	⇑Pg	**Pb**	**15 02 00.9**	**-0.1**
TKM2				⇑Lg	Lg	15 02 40.4	
	comp=E,265nm,0.5s						
IUG	**Iuzhnay**	**3.01**	**303**	*e*P	**Pb**	**15 02 04.4**	**+1.0**
	comp=E,126nm,0.3s						
IUG				*e*S	**Sb**	**15 02 41.7**	**+1.1**
	comp=E,398nm,0.4s						
KST	**Kastek**	**3.12**	**37**	*e*P	**Pg**	**15 02 08.7**	**-0.1**
	comp=E,6.6nm,0.3s						
KST				*e*S	**Sg**	**15 02 49.8**	**+0.4**
	comp=E,155nm,0.3s						
DGS	**Degeres**	**3.20**	**32**	*e*P	**Pg**	**15 02 10.2**	**-0.2**
	comp=E,67nm,0.4s						
DGS				*e*S	**Sg**	**15 02 52.5**	**+0.6**
	comp=E,306nm,0.6s						
KK31	**Karatay Array**	**3.35**	**320**	⇓Pn	**Pn**	**15 02 03.2**	**+0.8**
	comp=E,1.2nm,0.3s,baz=128,slow=13,SNR=274						
KK31				Pg	**Pb**	**15 02 10.0**	**+0.9**
	comp=E,12nm,0.3s,baz=144,slow=17,SNR=53						
KK31				⇑Lg	Lg	15 02 55.5	
	comp=E,21nm,0.3s,baz=136,slow=30,SNR=3.5						
IZV	**Izvestkoviy**	**3.44**	**43**	*e*P	**Pg**	**15 02 14.1**	**-0.7**
	comp=E,74nm,0.2s						
IZV				*e*S	**Sg**	**15 02 59.3**	**-0.1**
	comp=E,211nm,0.2s						
BRLS	**Borolday**	**3.58**	**310**	*e*P	**Pb**	**15 02 15.0**	**+2.0**
	comp=E,29nm,0.3s						
BRLS				*e*S	**Sb**	**15 03 00.4**	**+3.4**
	comp=E,40nm,0.7s						
TNSS	**Tian-Shan**	**3.62**	**45**	*e*P	**Pg**	**15 02 18.7**	**+0.4**
	comp=E,41nm,0.4s						
TNSS				⇓*i*S	**Sg**	**15 03 06.8**	**+1.7**
	comp=E,285nm,0.7s						
KNDC	**Almaty**	**3.75**	**44**	⇓Pg	**Pg**	**15 02 20.4**	**-0.4**
	comp=E,32nm,0.4s						
KNDC				⇑Lg	Lg	15 03 10.7	
	comp=E,449nm,0.8s						
MDOK	**Medeo**	**3.75**	**45**	*e*P	**Pg**	**15 02 20.4**	**-0.5**
	comp=E,50nm,0.6s						
MDOK				*e*S	**Sg**	**15 03 09.5**	**-0.1**
	comp=E,178nm,0.5s						
AAA	**Alma-Ata**	**3.77**	**43**	*e*P	**Pg**	**15 02 20.1**	**-1.2**
	comp=E,44nm,0.4s						
AAA				*e*S	**Sg**	**15 03 09.1**	**-1.2**
	comp=E,398nm,0.6s						
KOTS	**Kotyrbulak**	**3.84**	**45**	*e*P	**Pg**	**15 02 21.2**	**-1.3**
	comp=E,68nm,0.3s						
KOTS				*e*S	**Sg**	**15 03 12.2**	**0.0**
	comp=E,221nm,0.4s						
ANVS	**Anan'yevo**	**3.88**	**54**	⇑*e*P	**Pn**	**15 02 13.2**	**+3.4**
	baz=55						
ANVS				⇑*e*S	**Sn**	**15 03 00.1**	**+4.1**
	baz=55						
KUU	**Kurty**	**3.97**	**32**	*e*P	**Pg**	**15 02 23.7**	**-1.4**
	comp=E,34nm,0.3s						
KUU				*e*S	**Sg**	**15 03 15.5**	**-1.1**
	comp=E,347nm,0.7s						
KTBS	**Karatobe**	**3.97**	**36**	*e*P	**Pg**	**15 02 24.0**	**-1.2**
	comp=E,33nm,0.6s						
KTBS				*e*S	**Sg**	**15 03 15.9**	**-0.8**
	comp=E,88nm,0.4s						
PRZ	**Przheval'sk**	**4.20**	**61**	⇑*e*P	**Pn**	**15 02 18.9**	**+4.7**
	baz=62						
PRZ				⇑*e*S	**Sn**	**15 03 08.2**	**+4.3**
	baz=62						
CHKK	**Chushkaly**	**4.24**	**38**	*e*P	**Pg**	**15 02 29.1**	**-1.2**
	comp=E,17nm,0.5s						
CHKK				*e*S	**Sg**	**15 03 25.1**	**-0.2**
	comp=E,162nm,0.4s						
KURS	**Kuram**	**4.59**	**49**	*e*P	**Pg**	**15 02 35.6**	**-1.3**
KURS				*e*S	**Sg**	**15 03 36.2**	**-0.1**
ARXS	**Arharly**	**4.89**	**40**	*e*P	**Pg**	**15 02 40.0**	**-2.7**
	comp=E,20nm,0.4s						
ARXS				*e*S	**Sg**	**15 03 43.9**	**-2.3**
	comp=E,115nm,0.3s						
PDGK	**Podgornoye**	**5.30**	**57**	⇑Pn	**Pn**	**15 02 29.9**	**+0.8**
	comp=E,9.2nm,0.6s						
PDGK				⇑Pg	**Pg**	**15 02 47.4**	**-3.0**
	comp=E,12nm,0.6s						
PDGK				⇓Lg	Lg	15 03 57.9	
	comp=E,61nm,0.6s						
OTUK	**Ortayu**	**7.72**	**355**	⇑Pn	**Pn**	**15 03 04.8**	**+2.3**
	comp=E,1.4nm,0.6s						
OTUK				⇑Lg	Lg	15 05 13.7	
	comp=E,16nm,0.7s						
MK31	**Makanchi Array**	**8.95**	**43**	Pn	**Pn**	**15 03 22.1**	**+2.9**
	comp=E,0.5nm,0.5s,baz=220,slow=14,SNR=6.8						
MK31				⇓Lg	Lg	15 05 55.3	
	comp=E,12nm,1.1s,baz=229,slow=29,SNR=4.9						
MKAR	**Makanchi Array**	**8.95**	**43**	Pn	**Pn**	**15 03 20.6**	**+1.4**
	comp=E,0.2nm,0.3s,baz=223,slow=14,SNR=4.9						
MKAR				Pg	Pg	15 03 47.0	-13
	comp=E,0.4nm,0.3s,baz=229,slow=14,SNR=8.2						
MKAR				Lg	Lg	15 05 52.1	
	comp=E,0.6nm,0.3s,baz=232,slow=29,SNR=3.8						
KURBB	**Kurchatov Arra**	**10.68**	**18**	Pn	**Pn**	**15 03 42.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=4.2						
KURBB				Lg	Lg	15 06 45.2	
	comp=E,0.1nm,0.3s,baz=208,slow=29,SNR=12						
GEYT	**Alibeck**	**12.16**	**262**	Pn	**Pn**	**15 03 59.8**	**-3.5**
	comp=E,0.3nm,0.3s,baz=80,slow=11,SNR=3.7						
BVA0	**Borovoye Array**	**12.64**	**352**	⇓Pn	**Pn**	**15 04 07.8**	**-2.0**
	comp=E,2.1nm,0.8s,baz=163,slow=12,SNR=9.6						
BVA0				⇑Lg	Lg	15 07 49.4	
	comp=E,13nm,1.1s						
ZRNK	**Zerenda**	**12.76**	**348**	⇓Pn	**Pn**	**15 04 11.5**	**+0.1**
	comp=E,0.8nm,0.6s						
ZRNK				⇑Lg	Lg	15 07 56.2	
	comp=E,8.0nm,0.9s						
AKTO	**Aktyubinsk**	**14.61**	**318**	Pn	**Pn**	**15 04 35.0**	**-1.6**
	comp=E,0.2nm,0.3s,baz=119,slow=15,SNR=3.9						
ZALV	**Zalesovo Beam**	**15.44**	**26**	Pn	**P**	**15 04 51.3**	**-1.0**
	comp=E,0.1nm,0.3s,baz=224,slow=12,SNR=5.5						
FINES	**FINESS Array B**	**35.31**	**322**	P	**P**	**15 08 04.0**	**-1.1**
	comp=E,1.2nm,0.8s,baz=106,slow=10,SNR=4.6						
ARCES	**ARCESS Array B**	**38.20**	**335**	P	**P**	**15 08 30.2**	**+0.5**
	comp=E,1.7nm,0.8s,baz=108,slow=8.6,SNR=3.0						
GERES	**GERESS Array B**	**42.27**	**302**	P	**P**	**15 09 03.4**	**-0.3**
	comp=E,0.4nm,0.5s,baz=79,slow=8.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**67.73**	**268**	P	**P**	**15 12 05.9**	**-2.3**
	comp=E,0.6nm,0.6s,baz=47,slow=4.5,SNR=5.6						

*KRSC **19** 15:43:18.5±0.9, 54.°84N×162.°37E, h43km±14km, ML4.1*
*ISCJB **19** 15:43:19.1±0.9, 54.°86N±0.°02×162.°36E±0.°06, h22km±7km, Error ellipse: s-maj=5.8km s-min=3.1km az=19.7*
*MOS **19** 15:43:20.1±1.0, 54.°89N×162.°31E, h46km, mb4.2/1, Error ellipse: s-maj=11.0km s-min=6.1km az=78.4*

ISC 19 15:43:18.5±1.3, 54.°91N±0.°02×162.°31E±0.°03, h11km±10km, n52, σ1.°913/100, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.49**	**224**	PN	**Pb**	**15 43 29.7**	**+0.7**
MKZ				S	**Sb**	**15 43 36.9**	**+0.8**
MKZ	**Mys Kozlova**	**0.49**	**224**	*e*P	**Pb**	**15 43 29.7**	**+0.7**
MKZ				*e*S	**Sb**	**15 43 36.9**	**+0.8**
TUMD	**Tumrok D**	**1.14**	**286**	*e*P	**Pb**	**15 43 39.5**	**-0.6**
TUMD				*e*S	**Sg**	**15 43 53.7**	**-1.4**
TUMR	**Tumrok**	**1.30**	**288**	PN	**Pn**	**15 43 39.5**	**-3.1**
TUMR				S	**Sb**	**15 43 53.7**	**-5.9**
KBG	**Krutoberegovo**	**1.37**	**9**	PN	**Pg**	**15 43 44.3**	**-0.4**
KBG				S	**Sg**	**15 44 03.5**	**+1.0**
KBG	**Krutoberegovo**	**1.37**	**9**	*e*P	**Pg**	**15 43 44.3**	**-0.4**
KBG				*e*S	**Sg**	**15 44 03.5**	**+1.0**
ZLN	**Zelenaya**	**1.41**	**323**	PN	**Pn**	**15 43 44.3**	**+0.3**
ZLN				S	**Sb**	**15 44 03.8**	**+1.2**
ZLN	**Zelenaya**	**1.41**	**323**	*e*P	**Pn**	**15 43 44.3**	**+0.3**
ZLN				*e*S	**Sb**	**15 44 03.8**	**+1.2**
LGNR	**Loginova**	**1.50**	**323**	PN	**Pn**	**15 43 46.1**	**+0.6**
LGNR				S	**Sg**	**15 44 07.0**	**+0.4**
LGNR	**Loginova**	**1.50**	**323**	*e*P	**Pn**	**15 43 46.1**	**+0.6**
LGNR				*e*S	**Sg**	**15 44 07.0**	**+0.4**
CIRR	**Tsirk**	**1.50**	**324**	PN	**Pn**	**15 43 45.6**	**+0.2**
CIRR				S	**Sn**	**15 44 06.0**	**+1.0**
CIRR	**Tsirk**	**1.50**	**324**	*e*P	**Pn**	**15 43 45.6**	**+0.2**
CIRR				*e*S	**Sn**	**15 44 06.0**	**+1.0**
KRSR	**Krestovskiy**	**1.65**	**324**	PN	**Pn**	**15 43 47.4**	**+0.1**
KRSR				S	**Sn**	**15 44 08.1**	**-0.4**
KRSR	**Krestovskiy**	**1.65**	**324**	*e*P	**Pn**	**15 43 47.4**	**+0.1**
KRSR				*e*S	**Sn**	**15 44 08.1**	**-0.4**
KLY	**Klyuchi**	**1.69**	**327**	PN	**Pn**	**15 43 47.5**	**-0.4**
KLY				S	**Sn**	**15 44 08.9**	**-0.6**
KLY	**Klyuchi**	**1.69**	**327**	*e*P	**Pn**	**15 43 47.5**	**-0.4**
KLY				*e*S	**Sn**	**15 44 08.9**	**-0.6**
SMKR	**Semkarok**	**1.75**	**345**	PN	**Pn**	**15 43 49.2**	**+0.5**
SMKR				S	**Sb**	**15 44 12.4**	**0.0**
SMKR	**Semkarok**	**1.75**	**345

RUS	**Russkaya**	**3.35**	**224**	*e*P	**Pn**	**15 44 10.8**	**+0.1**
RUS				*e*S	**Sn**	**15 44 49.1**	**-1.3**
ASAK	**Asacha**	**3.64**	**228**	PN	**Pn**	**15 44 16.5**	**+1.7**
ASAK	**Asacha**	**3.64**	**228**	*e*P	**Pn**	**15 44 16.5**	**+1.7**

NIED **19** *15:49:00,38˚.50N×141˚.90E,h53km,Mw4.0 Best double couple: M₀1.29000×10²⁵ NP1:φs97.00000°,δ57.00000°, λ28.00000°. NP2:φs350.00000°,δ67.00000°,λ144.00000°.*
ISCJB **19** *15:49:22.3±0.6,38˚.49N±0˚.03×142˚.08E±0˚.06,h46km±4km, mb4.2/26,MS3.3/2,Error ellipse: s-maj=7.6km s-min=4.8km az=16.5*
MOS **19** *15:49:23.3±0.8,38˚.53N×142˚.08E,h55km,mb4.4/13,Error ellipse: s-maj=10.9km s-min=7.9km az=97.0*
JMA **19** *15:49:24.3±0.1,38˚.52N×141˚.92E,h44km±1km,M4.1*
JMA Felt II J1.
NEIC **19** *15:49:24.4±0.7,38˚.46N×142˚.19E,h56km±6km,mb4.3/4, Error ellipse: s-maj=9.9km s-min=6.1km az=113.0*
NEIC Felt at Ichinoseki. Recorded [2 JMA] in Iwate and Miyagi.
IDC **19** *15:49:25.2±2.4,38˚.51N×141˚.93E,h51km±20km,mb3.8/15, mb1 4.0/19,mb1mx3.7/52,mbtmp4.1/19,ML4.0/3,MS3.1/6, Ms1 3.1/6,ms1mx2.8/37,Error ellipse: s-maj=27.1km s-min=14.9km az=84.0*

ISC 19 15:49:24.0±0.7,38˚.49N±0˚.05×142˚.08E±0˚.05,h44km±6km, n87,σ1ᵒ53/94,mb4.2/26,3C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JIO	**Ouri**	**0.57**	**266**	P			**Pn**	**15 49 34.6**	**-1.3**
JIO				S			**Sn**	**15 49 41.5**	**-2.8**
OFUJ	**Ofunato**	**0.67**	**331**	P			**Pn**	**15 49 36.4**	**-0.7**
OFUJ				S			**Sn**	**15 49 44.7**	**-1.8**
JMK	**Ichinoseki**	**0.81**	**304**	P			**Pn**	**15 49 37.9**	**-1.2**
JMK				S			**Sn**	**15 49 47.6**	**-2.4**
JOU	**Okura**	**1.12**	**264**	P			**Pn**	**15 49 42.0**	**-1.3**
JOU				S			**Sn**	**15 49 54.9**	**-2.6**
JOM	**Ohasama**	**1.15**	**328**	P			**Pn**	**15 49 43.1**	**-0.6**
JOM				S			**Sn**	**15 49 57.3**	**-1.0**
JMM	**Marumori**	**1.19**	**239**	P			**Pn**	**15 49 42.9**	**-1.3**
JMM				S			**Sn**	**15 49 56.5**	**-2.7**
JYK	**Kaneyama**	**1.41**	**288**	P			**Pn**	**15 49 46.2**	**-1.0**
JYK				S			**Sn**	**15 50 02.5**	**-2.1**
JRG	**Rokugo**	**1.44**	**309**	P			**Pn**	**15 49 46.8**	**-0.9**
JFK	**Kawauchi**	**1.48**	**221**	P			**Pn**	**15 49 47.2**	**-1.0**
ERM	**Erimo**	**3.61**	**13**	*ce*P			**Pn**	**15 50 18.7**	**+1.3**
ERM	comp=Z,56nm,0.5s			pmax	pmax				
ERM	**Erimo**	**3.61**	**13**	*e*Pn			**Pn**	**15 50 17.9**	**+0.5**
MAJO	**Matsushiro**	**3.64**	**239**	*d* iP			**Pn**	**15 50 18.7**	**+0.8**
MAJO	**Matsushiro**	**3.64**	**239**	*e*Pn			**Pn**	**15 50 18.7**	**+0.8**
MAT	**Matsushiro**	**3.64**	**239**	P			**Pn**	**15 50 18.4**	**+0.5**
MAT				*e*S			**Sn**	**15 51 00.9**	**+1.2**
MJAR	**Matsushiro Arr**	**3.64**	**239**	P			**Pn**	**15 50 18.3**	**+0.4**
MJAR	comp=Z,11nm,0.3s,baz=35,slow=13,SNR=160			LR			LR	15 52 01.5	
MJB9	**Matsu-Tunnel**	**3.64**	**239**	*e*Pn			**Pn**	**15 50 18.8**	**+0.8**
INU	**Inuyama**	**5.13**	**234**	*e*Pn			**Pn**	**15 50 40.0**	**+1.7**
ASAJ	**Asahikawa**	**5.63**	**4**	P			**Pn**	**15 50 46.1**	**+1.0**
ASAJ	comp=Z,2.7nm,0.3s,baz=208,slow=13,SNR=45			S			**Sn**	**15 51 45.4**	**-3.1**
JHJ2	**Mitsune**	**5.68**	**200**	*e*Pn			**Pn**	**15 50 45.4**	**-0.4**
JHJ	**Hachijo jima 2**	**5.68**	**200**	P			**Pn**	**15 50 45.7**	**-0.1**
JHJ	comp=Z,58nm,0.3s,baz=262,slow=20,SNR=26			S			**Sn**	**15 51 47.2**	**-2.6**
KUR	**Kuril'sk**	**8.00**	**31**	*e*P			**Pn**	**15 51 17.4**	**-0.2**
KUR				*e*S			**Sn**	**15 52 42.9**	**-3.7**
KUR	comp=Z,30nm,0.7s			pmax	pmax				
KUR	comp=N,10.0nm,0.3s			pmax	pmax				
KUR	comp=E,42nm,0.3s			smax	smax				
KUR	comp=N,34nm,0.2s			smax	smax				
YSS	**Yuzh-Sakhalins**	**8.47**	**3**	*e*P			**Pn**	**15 51 25.5**	**+1.5**
YSS	comp=Z,3.0nm,0.4s			pmax	pmax				
YSS	**Yuzh-Sakhalins**	**8.47**	**3**	*e*Pn			**Pn**	**15 51 25.5**	**+1.5**
USRK	**Ussuriysk Ar.**	**9.49**	**310**	P			**Pn**	**15 51 38.0**	**+0.1**
JNU	**Nakatsue**	**10.55**	**243**	P			**Pn**	**15 51 55.5**	**+2.7**
JNU	comp=Z,0.7nm,0.3s,baz=193,slow=20,SNR=3.5			LR			LR	15 56 01.7	
KSRS	**Korea Array**	**11.22**	**269**	P			**Pn**	**15 52 05.0**	**+3.3**
KSRS	comp=Z,0.2nm,0.3s,baz=82,slow=14,SNR=6.0			LR			LR	15 55 57.8	
KSAR	**Wonju Array Be**	**11.26**	**269**	P			**Pn**	**15 52 05.0**	**+2.8**
KSAR	**Wonju Array Be**	**11.26**	**269**	P			**Pn**	**15 52 05.0**	**+2.8**
CBIJ	**Chichi jima**	**11.37**	**180**	*e*Pn			**Pn**	**15 52 02.5**	**-1.3**
KLR	**Kul'dur**	**13.05**	**329**	LR			LR	15 57 02.6	
KLR	**Kul'dur**	**13.05**	**329**	*e*P			**Pn**	**15 52 30.9**	**+4.2**
CN2	**Changchun**	**13.60**	**298**	*e*P			**Pn**	**15 52 36.9**	**+2.7**
CN2	comp=Z,10.0nm,0.5s			pmax	pmax				
MA2	**Magadan**	**21.82**	**12**	LR			LR	16 01 52.9	
HHC	**Hu-ho-hao-te**	**23.55**	**285**	*e*P			**P**	**15 54 31.3**	**+0.8**
HHC				pP			sP	15 54 47.9	+0.8
HHC				S			**S**	**15 58 41.0**	**-0.4**
HHC	comp=Z,15nm,0.9s			pmax	pmax				
HHC	comp=Z,60nm,5.3s			pmax	pmax				
YAK	**Yakutsk**	**24.77**	**346**	*e*P			**P**	**15 54 39.8**	**-1.5**
YAK	comp=Z,7.0nm,0.6s			pmax	pmax				
YAK	**Yakutsk**	**24.77**	**346**	*e*P			**P**	**15 54 39.8**	**-1.5**
ULN	**Ulaanbaatar**	**27.00**	**302**	⇑P			**P**	**15 55 01.7**	**-0.2**
ULN	comp=Z,2.0nm,0.9s			pmax	pmax				
ULN	**Ulaanbaatar**	**27.00**	**302**	*e*P			**P**	**15 55 01.7**	**-0.2**
ENH	**Enshi**	**28.01**	**263**	*e*P			**P**	**15 55 09.7**	**-1.2**
H11N2	comp=Z,5.0nm,0.6s **WAKE ISLAND Hy**	**28.48**	**124**	T			T	16 25 33.0	
H11N1	baz=316,slow=75,SNR=642 **WAKE ISLAND Hy**	**28.49**	**124**	T			T	16 25 34.2	
H11N3	baz=316,slow=75,SNR=588 **WAKE ISLAND Hy**	**28.50**	**124**	T			T	16 25 34.9	
H11S1	baz=316,slow=75,SNR=495 **WAKE ISLAND Hy**	**29.25**	**126**	T			T	16 26 29.4	
H11S3	baz=318,slow=76,SNR=66 **WAKE ISLAND Hy**	**29.25**	**126**	T			T	16 26 28.7	
H11S2	baz=318,slow=76,SNR=98 **WAKE ISLAND Hy**	**29.27**	**126**	T			T	16 26 30.7	
TLY	baz=318,slow=76,SNR=90 **Talaya**	**29.80**	**309**	P			**P**	**15 55 26.4**	**-0.1**
TLY	comp=Z,3.9nm,0.8s,baz=136,slow=3.3,SNR=3.9			pmax	pmax				
TLY	**Talaya**	**29.80**	**309**	*e*P			**P**	**15 55 27.1**	**+0.5**
TLY	comp=Z,4.0nm,0.8s **Talaya**	**29.80**	**309**	*e*P			**P**	**15 55 26.5**	**-0.1**
ZAK	comp=Z,3.3nm,0.7s **Zakamensk**	**29.81**	**306**	*e*P			**P**	**15 55 25.3**	**-1.4**
ZAK	comp=Z,2.0nm,1.1s			pmax	pmax				
LZH	**Lanzhou**	**30.37**	**277**	*e*P			**P**	**15 55 36.5**	**+4.6**
LZH				sP			sP	15 55 59.8	+11
LZH	comp=Z,22nm,1.0s			pmax	pmax				
LZH	comp=Z,110nm,5.0s			pmax	pmax				
WMQ	**Urumqi**	**40.67**	**295**	P			**P**	**15 57 00.0**	**0.0**
ZAA0	**Zalesovo Array**	**41.34**	**311**	*e*P			**P**	**15 57 04.5**	**-0.8**
ZALV	**Zalesovo Beam**	**41.34**	**311**	P			**P**	**15 57 05.0**	**-0.2**
NRIK	comp=Z,2.8nm,0.4s,baz=90,slow=6.3,SNR=10 **Noril'sk**	**42.17**	**334**	P			**P**	**15 57 11.6**	**-0.3**
MK01	comp=Z,1.5nm,0.3s,baz=101,slow=2.3,SNR=4.0 **Makanchi Array**	**43.80**	**301**	*e*P			**P**	**15 57 24.8**	**-0.7**
MK31	**Makanchi Array**	**43.81**	**301**	*e*P			**P**	**15 57 25.3**	**-0.2**
MK31	**Makanchi Array**	**43.81**	**301**	*e*P			**P**	**15 57 25.2**	**-0.2**
MKAR	**Makanchi Array**	**43.81**	**301**	P			**P**	**15 57 25.0**	**-0.4**
MKAR	comp=Z,2.1nm,0.7s,baz=81,slow=10,SNR=24 **Makanchi Array**	**43.81**	**301**	*e*P			**P**	**15 57 25.3**	**-0.2**
MKAR	**Makanchi Array**	**43.81**	**301**	*e*P			**P**	**15 57 25.2**	**-0.2**

KURK	**Kurchatov**	**45.46**	**307**	P		**P**	**15 57 38.6**	**+0.1**
KURK	comp=Z,9.0nm,0.4s			pmax	pmax			
KURK	**Kurchatov**	**45.46**	**307**	P		**P**	**15 57 38.6**	**+0.1**
KURBB	**Kurchatov Arra**	**45.53**	**307**	P		**P**	**15 57 38.6**	**-0.5**
ILAR	comp=Z,8.8nm,0.4s,baz=81,slow=9.1,SNR=80 **Eielson Array**	**47.98**	**33**	P		**P**	**15 57 59.4**	**+1.3**
TKM2	comp=Z,0.3nm,0.8s,baz=254,slow=6.8,SNR=4.2 **Tokmak 2**	**49.41**	**298**	*e*P		**P**	**15 58 09.5**	**-0.1**
TKM2	**Tokmak 2**	**49.41**	**298**	*e*P		**P**	**15 58 09.5**	**-0.1**
BVAR	comp=Z,3.3nm,0.6s **Borovoye Array**	**49.99**	**312**	P		**P**	**15 58 13.0**	**-0.6**
BVAR	comp=Z,1.5nm,0.6s,baz=78,slow=8.1,SNR=12			PcP		**PcP**	**15 59 33.5**	**+0.4**
KIP	comp=Z,0.9nm,0.4s,baz=90,slow=3.6,SNR=5.9 **Kipapa**	**53.72**	**90**	*e*P		**P**	**15 58 43.1**	**+1.3**
ARU	**Arti**	**55.62**	**318**	*c* iP		**P**	**15 58 54.5**	**-0.6**
ARU							16 00 57.3	
ARU				S		**S**	**16 06 38.7**	**+1.0**
ARU				SS		**SS**	**16 10 21.5**	**-1.1**
ARU	comp=Z,5.0nm,1.0s			pmax	pmax			
ABKAR	**Akbulak array**	**57.41**	**310**	*e*P		**P**	**15 59 07.2**	**-0.7**
WRA	**Warramunga Arr**	**58.58**	**189**	P		**P**	**15 59 16.6**	**+0.3**
WRA	comp=Z,0.5nm,0.4s,baz=6.1,slow=7.3,SNR=6.1 **Warramunga Arr**	**58.58**	**189**	*i* P		**P**	**15 59 16.7**	**+0.4**
WRA	comp=Z,1.0nm,0.4s			pmax	pmax			
ASAR	**Alice Springs**	**62.31**	**188**	P		**P**	**15 59 42.3**	**+0.6**
ARCES	comp=Z,0.1nm,0.5s,baz=15,slow=3.8,SNR=3.0 **ARCESS Array B**	**62.82**	**339**	P		**P**	**15 59 44.6**	**0.0**
FINES	comp=Z,1.0nm,0.8s,baz=74,slow=8.9,SNR=4.2 **FINESS Array B**	**67.77**	**332**	P		**P**	**16 00 16.6**	**-0.1**
KIV	comp=Z,2.3nm,0.7s,baz=15,slow=9.8,SNR=8.6 **Kislovodsk**	**70.35**	**311**	*e*P		**P**	**16 00 34.5**	**+1.3**
KIV	comp=Z,11nm,1.1s			pmax	pmax			
KBZ	**Khabaz**	**70.35**	**311**	P		**P**	**16 00 33.7**	**+0.6**
KBZ	comp=Z,2.3nm,0.8s,baz=332,slow=24,SNR=4.5 **Khabaz**	**70.35**	**311**	P		**P**	**16 00 33.7**	**+0.6**
KBZ	comp=Z,1.0nm,0.5s			pmax	pmax			
NB2	**NORSAR Subarra**	**73.05**	**337**	P		**P**	**16 00 49.0**	**-0.1**
NOA	comp=Z,2.5nm,0.8s,baz=40,slow=6.5 **NORSAR Array B**	**73.05**	**337**	P		**P**	**16 00 49.1**	**+0.1**
MCMT	comp=Z,1.6nm,0.6s,baz=40,slow=6.0,SNR=7.7 **McKenzie Canyo**	**73.12**	**46**	*e*P		**P**	**16 00 48.6**	**-1.5**
AKASG	**Malin Array Be**	**73.47**	**322**	P		**P**	**16 00 51.0**	**-0.7**
AKASG	comp=Z,0.9nm,0.5s,baz=47,slow=5.8,SNR=12 **Malin Array Be**	**73.47**	**322**	P		**P**	**16 00 51.0**	**-0.7**
AKASG	comp=Z,1.0nm,0.5s			pmax	pmax			
KIEV	**Kiev**	**73.48**	**322**	⇓*i* P		**P**	**16 00 50.7**	**-1.0**
KIEV				*e**PP		**sP**	**16 01 09.5**	**-0.1**
KIEV	comp=Z,4.0nm,0.8s			pmax	pmax			
PV01	**Paradox Valley**	**79.85**	**49**	*e*P		**P**	**16 01 24.9**	**-3.4**
GERES	**GERESS Array B**	**81.75**	**328**	P		**P**	**16 01 37.9**	**-0.1**
RPZ	comp=Z,0.3nm,0.4s,baz=72,slow=4.3,SNR=3.4 **Rata Peaks**	**85.93**	**159**	LR		LR	16 40 46.2	
	comp=Z,59nm,18.9s,baz=270,slow=36							

IDC 19 15:52:33.3±1.9,2˚.21N×123˚.29E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.4/38,mbtmp3.7/4,MS3.3/1,Ms1 3.3/1, ms1mx2.6/31,Error ellipse: s-maj=310.1km s-min=26.0km az=62.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
WRA	**Warramunga Arr**	**24.54**	**154**	P			P	15 57 55.5	+0.6
ASAR	1.4nm,0.7s,baz=336,slow=9.3,SNR=5.5 **Alice Springs**	**27.72**	**159**	P			P	15 58 22.4	-1.2
STKA	1.0nm,0.8s,baz=334,slow=9.2,SNR=10 **Stephens Creek**	**38.09**	**154**	P			P	15 59 54.6	+0.6
USRK	1.6nm,0.6s,baz=318,slow=8.7,SNR=4.2 **Ussuriysk Ar.**	**42.52**	**9**	LR			LR	16 18 51.9	
MKAR	comp=Z,33nm,18.5s,baz=116,slow=37 **Makanchi Array**	**56.91**	**327**	P			P	16 02 20.2	0.0
	0.3nm,0.7s,baz=115,slow=9.4,SNR=4.3								

MEX **19** *16:10:06.3±0.3,32˚.93N×115˚.27W,h18km,MD3.6*
ISCJB **19** *16:10:07.2±0.3,32˚.75N±0˚.02×115˚.44W±0˚.02,h17km±4km, Error ellipse: s-maj=3.7km s-min=3.0km az=44.5*
ECX **19** *16:10:08.1±0.8,32˚.77N×115˚.46W,h12km,MD2.4,ML2.6*

ISC 19 16:10:06.1±0.9,32˚.73N±0˚.02×115˚.42W±0˚.02,h21km±4km, n36,σ1ᵒ00/54,8C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DREC	**Desert Rsrch C**	**0.08**	**342**	⇓*e*P			**Pb**	**16 10 09.7**	**-0.2**
DREC				*e*S			**Sb**	**16 10 12.3**	**-0.2**
SNR	**Schaffner Ranc**	**0.13**	**353**	⇓*i*P			**Pb**	**16 10 10.3**	**-1.8**
ERPC	**Ernies Place**	**0.21**	**273**	⇑*i*P			**Pb**	**16 10 12.3**	**+0.4**
WESC	**Westside Schoo**	**0.27**	**276**	*e*P			**Pb**	**16 10 12.9**	**+0.6**
COA	**Coachella**	**0.28**	**62**	⇑*i*P			**Pn**	**16 10 13.7**	**-1.4**
COK	**Cook Ranch**	**0.29**	**294**	*i* P			**Pb**	**16 10 13.2**	**+0.6**
BTCC	**Bruns Corner**	**0.33**	**31**	⇓*i*P			**Pn**	**16 10 13.7**	**-1.9**
CPBX	**Cerro Prieto**	**0.33**	**163**	*e*P			**Pn**	**16 10 15.1**	**-0.6**
CPBX				*e*S			**Sn**	**16 10 22.1**	**+0.3**
CPBX				⇑*e*				16 10 26.4	
CPBX	comp=E,2μm,0.3s			IAML				16 10 26.4	
MBIG	**Mexicali**	**0.37**	**150**	*e*P			**Pb**	**16 10 14.5**	**+0.6**
MBIG				*e*S			**Sn**	**16 10 22.2**	**-0.7**
SWSC	**Sam W. Stewart**	**0.39**	**304**	P			**Pb**	**16 10 14.3**	**+0.2**
SWSC	baz=120,SNR=51 **Sam W. Stewart**	**0.39**	**304**	⇑*i*P			**Pb**	**16 10 14.4**	**+0.2**
YUH	**Yuha Desert**	**0.43**	**259**	⇑*i*P			**Pb**	**16 10 15.5**	**+0.6**
CRR	**Carrizo Plain**	**0.49**	**289**	⇑*i*P			**Pb**	**16 10 16.2**	**+0.3**
RMX	**La Rumorosa**	**0.57**	**257**	*e*P			**Pb**	**16 10 17.6**	**0.0**
RMX				*e*S			**Sb**	**16 10 25.1**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.59**	**262**	P			**Pn**	**16 10 18.3**	**-1.0**
IKP	baz=78,SNR=29			S			**Sb**	**16 10 26.1**	**+0.3**
IKP	baz=78 **In-Ko-Pah, Jac**	**0.59**	**262**	⇑*e*P			**Pn**	**16 10 18.3**	**-1.0**
GLA	**Glamis**	**0.59**	**57**	P			**Pn**	**16 10 18.3**	**-1.0**
GLA	baz=242,SNR=13			S			**Sb**	**16 10 26.0**	**+0.2**
MONP2	baz=242 **Monument Peak**	**0.86**	**281**	P			**Pn**	**16 10 22.6**	**-0.6**
MONP2	baz=98,SNR=19			S			**Sb**	**16 10 33.6**	**0.0**
BC3	baz=98 **Big Chuckawall**	**0.92**	**358**	P			**Pn**	**16 10 23.2**	**-0.7**
BC3	baz=180,SNR=53			S			**Sn**	**16 10 35.2**	**-1.4**
BAR	baz=180 **Barrett**	**1.06**	**268**	*e*P			**Pb**	**16 10 25.6**	**-0.1**
TJIG	**Tijuana**	**1.10**	**255**	*e*P			**Pb**	**16 10 26.8**	**+0.3**
TJIG				*e*S			**Sb**	**16 10 41.1**	**+0.8**
TJIG	**Tijuana**	**1.10**	**255**	*e*P			**Pb**	**16 10 26.2**	**-0.2**
CBX	**Cerro Bola**	**1.13**	**249**	*e*P			**Pn**	**16 10 26.4**	**-0.5**
CBX				*e*S			**Sb**	**16 10 42.5**	**+1.2**
CBX	**Cerro Bola**	**1.13**	**249**	*e*P			**Pb**	**16 10 27.8**	**+0.8**
CBX				*e*S			**Sb**	**16 10 42.3**	**+1.0**
CBX				⇑*e*				16 10 45.8	
CBX	comp=N,154nm,0.6s			IAML				16 10 45.8	
TPFO	**Pinon Flats**	**1.23**	**315**	S			**Sb**	**16 10 45.1**	**+0.9**
PFO	baz=134 **Pinyon Flats O**	**1.24**	**315**	S			**Sb**	**16 10 45.2**	**+0.8**
Y12C	baz=134 **Blythe**	**1.26**	**36**	P			**Pb**	**16 10 30.7**	**+1.5**
Y12C	baz=218,SNR=7.5			S			**Sb**	**16 10 45.6**	**+0.6**
BELC	baz=218 **Belle Mtn. Jos**	**1.35**	**339**	P			**Pb**	**16 10 30.8**	**-0.1**
ZAX	baz=159,SNR=12 **El Zacaton**	**1.42**	**211**	*e*P			**Pb**	**16 10 32.5**	**+0.7**
ZAX				*e*S			**Sb**	**16 10 51.7**	**+2.3**
ZAX	comp=N,119nm,0.8s			IAML				16 10 53.3	
ZAX				*e*				16 10 53.3	
ZAX	comp=E,90nm,0.6s			IAML				16 10 56.0	
ZAX				*e*				16 10 56.0	
109C	**Camp Elliot, M**	**1.43**	**277**	P			**Pb**	**16 10 32.4**	**+0.4**
IRM	baz=94,SNR=9.5 **Iron Mountain**	**1.44**	**9**	P			**Pb**	**16 10 32.4**	**+0.1**
IRM	baz=190,SNR=36			S			**Sb**	**16 10 51.5**	**+1.4**

ECNX	**Esteban Cantu**	**1.47**	**223**	*e*P		**Pb**	**16 10 33.4**	**+0.7**
SPIG	**San Pedro Mart**	**1.68**	**181**	*e*P		**Pb**	**16 10 35.9**	**-0.6**
SPIG				*e*S		**Sb**	**16 10 57.6**	**+0.3**
MURC	**Murrieta**	**1.72**	**301**	P		**Pb**	**16 10 36.3**	**-0.7**
MURC	baz=119			Sb		**Sb**	**16 11 00.2**	**+1.9**
PDMCI	baz=119 **Parker Dam,Lak**	**1.90**	**34**	Pb		**Pb**	**16 10 41.3**	**+1.3**
PDMCI	baz=216			Sb		**Sb**	**16 11 05.2**	**+2.0**
GMRC	baz=216 **Granite Mounta**	**2.06**	**354**	Pb		**Pb**	**16 10 42.9**	**+0.1**
GMRC	baz=175,SNR=9.4			Sb		**Sb**	**16 11 10.3**	**+2.3**
	baz=175							

ISCJB **19** *16:16:11.7±0.4,38˚.47N±0˚.02×26˚.77E±0˚.03,h6km±5km, Error ellipse: s-maj=4.0km s-min=3.6km az=19.6*
DDA **19** *16:16:11.6,38˚.45N×26˚.79E,h7km,Md2.4*
ISK **19** *16:16:11.6,38˚.50N×26˚.78E,h9km,MD2.8*
CSEM **19** *16:16:12.0±0.1,38˚.47N×26˚.76E,h10km,MD2.8,Error ellipse: s-maj=2.7km s-min=2.2km az=39.0*
THE **19** *16:16:13.3,38˚.43N×26˚.69E,h27km±4km,ML2.4/3,Error ellipse: s-maj=5.0km s-min=0.9km az=249.0*

ISC 19 16:16:11.8±1.0,38˚.47N±0˚.02×26˚.79E±0˚.02,h8km±9km, n36,σ0ᵒ44/56,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
URLA	**Izmir**	**0.19**	**234**	P			**Pg**	**16 16 15.6**	**-0.1**
URLA				S			**Sg**	**16 16 18.1**	**-0.2**
URLA	**Izmir**	**0.19**	**234**	*i* P			**Pg**	**16 16 15.6**	**-0.1**
URLA				*i* S			**Sg**	**16 16 18.1**	**-0.2**
ZEY	**˜zmir**	**0.32**	**224**	*i* P			**Pg**	**16 16 17.8**	**-0.4**
ZEY				*i* S			**Sg**	**16 16 22.9**	**+0.4**
IZM	**Izmir**	**0.38**	**101**	*e*PG			**Pg**	**16 16 19.8**	**+0.6**
IZM				*e*SG			**Sb**	**16 16 26.0**	**-0.9**
IZM	**Izmir**	**0.38**	**101**	*e*Pg			**Pg**	**16 16 19.8**	**+0.6**
IZM				*e*Sg			**Sb**	**16 16 26.0**	**-0.9**
DGB	**˜zmir**	**0.43**	**170**	*i* P			**Pg**	**16 16 19.6**	**-0.5**
DGB				*i* S			**Sg**	**16 16 24.8**	**-0.9**
CHOS	**Chios island**	**0.58**	**262**	*e*PG			**Pg**	**16 16 23.3**	**+0.2**
CHOS	**Chios island**	**0.58**	**262**	P			**Pg**	**16 16 23.0**	**-0.1**
CHOS				S			**Sg**	**16 16 31.4**	**+0.7**
CHOS	**Chios island**	**0.58**	**262**	P			**Pg**	**16 16 23.0**	**-0.1**
CHOS	**Chios island**	**0.58**	**262**	*e*Pg			**Pg**	**16 16 23.3**	**+0.2**
CHOS				S			**Sg**	**16 16 31.4**	**+0.7**
DKL	**Dikili**	**0.60**	**9**	*e*PG			**Pg**	**16 16 23.3**	**-0.2**
DKL	**Dikili**	**0.60**	**9**	*e*Pg			**Pg**	**16 16 23.3**	**-0.2**
SMG	**Samos**	**0.76**	**177**	P			**Pg**	**16 16 26.5**	**0.0**
SMG				S			**Sb**	**16 16 37.5**	**-0.4**
SMG	**Samos**	**0.76**	**177**	P			**Pg**	**16 16 26.5**	**0.0**
SMG				S			**Sb**	**16 16 37.5**	**-0.4**
AYVA	**Ayvalik**	**0.84**	**355**	S			**Sb**	**16 16 40.8**	**+0.7**
AYVA	**Ayvalik**	**0.84**	**355**	*i* S			**Sb**	**16 16 40.8**	**+0.7**
GCAM	**G?zelcaml?**	**0.85**	**155**	P			**Pg**	**16 16 27.8**	**-0.3**
GCAM				S			**Sb**	**16 16 40.9**	**+0.7**
GCAM	**G?zelcaml?**	**0.85**	**155**	*i* P			**Pg**	**16 16 27.8**	**-0.3**
GCAM				*i* S			**Sb**	**16 16 40.9**	**+0.7**
PRK	**Paraskevi**	**0.87**	**333**	P			**Pb**	**16 16 29.4**	**+0.2**
PRK				S			**Sb**	**16 16 40.6**	**-0.4**
PRK	**Paraskevi**	**0.87**	**333**	P			**Pb**	**16 16 29.4**	**+0.2**
PRK				S			**Sb**	**16 16 40.6**	**-0.4**
AKS	**Akhisar**	**0.90**	**63**	*e*PG			**Pg**	**16 16 29.3**	**+0.2**
AKS				*e*SG			**Sb**	**16 16 42.1**	**+0.3**
AKS	**Akhisar**	**0.90**	**63**	*e*Pg			**Pg**	**16 16 29.3**	**+0.2**
AKS				*e*Sg			**Sb**	**16 16 42.1**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**121**	*e*PG			**Pb**	**16 16 32.0**	**+0.3**
AYDB				*e*SG			**Sn**	**16 16 46.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**121**	*e*Pg			**Pb**	**16 16 32.0**	**+0.3**
AYDB				*e*Sg			**Sn**	**16 16 46.7**	**-0.2**
SIGR	**SIGRI**	**1.04**	**316**	*e*PG			**Pg**	**16 16 31.7**	**0.0**
SIGR	**SIGRI**	**1.04**	**316**	P			**Pg**	**16 16 31.2**	**-0.5**
SIGR				S			**Sg**	**16 16 44.5**	**-0.7**
SIGR	**SIGRI**	**1.04**	**316**	P			**Pg**	**16 16 31.2**	**-0.5**
SIGR	**SIGRI**	**1.04**	**316**	*e*Pg			**Pg**	**16 16 31.7**	**0.0**
SIGR				S			**Sg**	**16 16 44.5**	**-0.7**
BALB	**Balikesir**	**1.44**	**36**	*e*PN			**Pn**	**16 16 38.4**	**+0.2**
BALB	**Balikesir**	**1.44**	**36**	*e*Pn			**Pn**	**16 16 38.4**	**+0.2**
KULA	**Kula-Manisa**	**1.47**	**88**	*e*PN			**Pb**	**16 16 39.2**	**-0.2**
KULA	**Kula-Manisa**	**1.47**	**88**	*e*Pn			**Pb**	**16 16 39.2**	**-0.2**
APE	**Apeiranthos**	**1.72**	**216**	*e*PN			**Pn**	**16 16 42.5**	**+0.4**
APE	**Apeiranthos**	**1.72**	**216**	*e*Pn			**Pn**	**16 16 42.5**	**+0.4**
KCTX	**Karacabey (Bur**	**2.16**	**34**	*e*PN			**Pn**	**16 16 48.1**	**-0.1**
KCTX	**Karacabey (Bur**	**2.16**	**34**	*e*Pn			**Pn**	**16 16 48.1**	**-0.1**

**IDC 19 16:27:28.5±2.5,7˚.25S×130˚.67

JYS	**Shirataka**	**1.26**	**306**	P	Pb	16 31 43.3	-0.2
JYS				S	Sb	16 31 59.8	+0.4
JFY	**Yanaizu**	**1.33**	**267**	P	Pb	16 31 43.8	-0.8
JFY				S	Sb	16 32 01.1	-0.1
MAT	**Matsushiro**	**2.70**	**250**	P	Pn	16 32 03.6	+1.7
MAT				*e*S	Sn	16 32 36.2	+2.5

*IDC **19** 16:32:45.5±4.1,9.°52S×112.°62E,h0km,mb3.2/3, mb1 3.5/4,mb1mx3.3/44,mbtmp3.4/4,ML3.3/1,Error ellipse: s-maj=245.1km s-min=24.9km az=47.0*
*DJA **19** 16:32:55.4±0.5,10.°S±4.°×11.°3E±.°,h37km,M3.7/2, MLv3.7/2*

ISC 19 16:32:49.0±2.2,9.°43S±0.°10×112.°70E±0.°05,h16km±15km, n15,σ1°70/21,mb3.3/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.36**	**33**	P	**Pg**	**16 33 15.9**	**+0.6**
GMJI				S	**Sg**	**16 33 35.3**	**+2.2**
PWJI	**Pagerwojo**	**1.65**	**328**	P	**Pg**	**16 33 21.3**	**+0.5**
PWJI				S	**Sg**	**16 33 44.4**	**+2.1**
JAGI	**Jajag, Banyuwa**	**1.72**	**57**	P	**Pb**	**16 33 19.7**	**-0.6**
JAGI				S	**Sb**	**16 33 41.9**	**+0.1**
BLJI	**Banyuglugur**	**1.89**	**28**	P	**Pg**	**16 33 24.7**	**-0.7**
BLJI				S	**Sg**	**16 33 49.5**	**-0.5**
PCJI	**Pacitan**	**1.94**	**309**	P	Pg	16 33 29.6	+3.3
PCJI				S	Sg	16 33 57.3	+5.8
ABJI	**Asem Bagus**	**2.22**	**43**	P	**Pb**	**16 33 27.5**	**-1.3**
NGJI	**Ngawi**	**2.39**	**329**	P	**Pg**	**16 33 35.5**	**+0.7**
NGJI				S	**Sg**	**16 34 07.6**	**+1.8**
GRJI	**Gresik**	**2.51**	**355**	P	**Pg**	**16 33 35.6**	**-1.5**
GRJI				S	**Sg**	**16 34 07.8**	**-1.9**
DNP	**Denpasar**	**2.59**	**73**	P	**Pb**	**16 33 32.9**	**-2.2**
DNP				S	**Sn**	**16 34 03.9**	**+2.4**
TBJI	**Tambak Boyo**	**2.73**	**342**	S	**Sg**	**16 34 14.5**	**-2.2**
TWSI	**Taliwang, Sumb**	**4.19**	**81**	P	**Pn**	**16 33 55.1**	**+2.8**
FITZ	**Fitzroy Crossi**	**15.23**	**126**	Pn	**Pn**	**16 36 22.4**	**-1.2**
	0.1nm,0.3s,baz=312,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**23.37**	**119**	P	**P**	**16 37 56.3**	**-0.8**
	0.5nm,0.9s,baz=291,slow=9.1,SNR=3.1						
ASAR	**Alice Springs**	**24.72**	**128**	P	**P**	**16 38 08.8**	**-1.1**
	0.5nm,0.7s,baz=306,slow=8.8,SNR=6.0						
MKAR	**Makanchi Array**	**62.20**	**337**	P	**P**	**16 43 09.3**	**-0.5**
	0.2nm,0.4s,baz=152,slow=7.6,SNR=3.8						

WEL 19 16:33:17.8±0.1,39.°12S×175.°52E,h105km±1km,ML3.7/16, 18C-21D,Error ellipse: s-maj=0.8km s-min=0.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.06**	**82**	⇓PN	Pn	16 33 31.9	-0.6
NGZ	**Ngauruhoe**	**0.09**	**128**	PN	Pn	16 33 32.0	-0.5
NGZ				SN	Sn	16 33 43.0	-0.5
KRVZ	**Karewarewa**	**0.10**	**74**	PN	Pn	16 33 32.0	-0.5
KRVZ				SN	Sn	16 33 42.9	-0.6
OTVZ	**Oturere**	**0.12**	**109**	PN	Pn	16 33 32.1	-0.4
FWVZ	**Far West T-bar**	**0.14**	**167**	⇓PN	Pn	16 33 32.3	-0.4
DRZ	**Dome Shelter**	**0.16**	**166**	PN	Pn	16 33 32.6	-0.2
DRZ				SN	Sn	16 33 43.9	-0.2
WHVZ	**Whangaehu Hut**	**0.17**	**160**	⇓PN	Pn	16 33 32.5	-0.3
TRVZ	**Turoa**	**0.18**	**172**	⇓PN	Pn	16 33 32.5	-0.3
TRVZ				SN	Sn	16 33 43.2	-0.8
TUVZ	**Tukino**	**0.18**	**143**	⇓PN	Pn	16 33 32.5	-0.2
KATZ	**Kakaramea**	**0.20**	**43**	⇓PN	Pn	16 33 32.2	-0.5
PKVZ	**Pokaka**	**0.21**	**218**	PN	Pn	16 33 32.3	-0.4
WNVZ	**Wahianoa**	**0.21**	**163**	PN	Pn	16 33 32.4	-0.4
MTVZ	**Mangateitei**	**0.26**	**189**	⇓PN	Pn	16 33 32.6	-0.3
RITZ	**Rihia Road**	**0.30**	**61**	⇑PN	Pn	16 33 33.0	0.0
RATZ	**Rangitukua**	**0.33**	**38**	⇓PN	Pn	16 33 32.7	-0.4
MOVZ	**Moawhango**	**0.34**	**147**	⇓PN	Pn	16 33 32.7	-0.5
WATZ	**Wairara**	**0.45**	**22**	⇓PN	Pn	16 33 33.7	-0.1
WHTZ	**Whakaora**	**0.57**	**37**	PN	Pn	16 33 34.9	+0.2
VRZ	**Vera Road**	**0.59**	**270**	PN	Pn	16 33 34.3	-0.4
KUTZ	**Kaahu Road**	**0.68**	**21**	⇓PN	Pn	16 33 35.5	+0.1
WAZ	**Wanganui**	**0.75**	**213**	PN	Pn	16 33 36.0	-0.1
MRHZ	**Matea Rd**	**0.76**	**68**	⇓PN	Pn	16 33 35.7	-0.5
BKZ	**Black Stump Fm**	**0.76**	**93**	PN	Pn	16 33 35.5	-0.8
BKZ				AML	AML	16 33 36.2	
BKZ				AML	AML	16 33 50.1	
KWHZ	**Kaweka Forest**	**0.77**	**113**	PN	Pn	16 33 36.3	0.0
WPRZ	**Whakapapataran**	**0.79**	**40**	⇓PN	Pn	16 33 36.3	-0.1
TLZ	**Tolley Road**	**0.79**	**1**	⇓PN	Pn	16 33 36.4	-0.2
KRHZ	**Kereru**	**0.84**	**128**	PN	Pn	16 33 36.9	-0.1
LREZ	**Lake Rotokare**	**0.93**	**248**	⇑PN	Pn	16 33 37.7	0.0
MHZ	**Mangahewa**	**0.93**	**273**	PN	Pn	16 33 37.4	+0.1
HRRZ	**Handcock Road**	**0.95**	**40**	⇓PN	Pn	16 33 38.3	+0.2
PNHZ	**Pukenui**	**0.95**	**146**	PN	Pn	16 33 38.0	0.0
MCHZ	**McNeill Hill**	**0.97**	**110**	⇑PN	Pn	16 33 39.3	+1.1
TSZ	**Takapari Road**	**0.99**	**160**	⇓PN	Pn	16 33 38.6	+0.1
TSZ				AML	AML	16 33 54.4	
TSZ				AML	AML	16 33 55.6	
NMHZ	**Naumai**	**1.00**	**89**	PN	Pn	16 33 39.2	+0.6
DREZ	**Durham Road**	**1.02**	**266**	PN	Pn	16 33 38.8	0.0
PREZ	**Palmer Road**	**1.08**	**258**	PN	Pn	16 33 39.7	+0.3
OHWZ	**Ohakea**	**1.09**	**188**	PN	Pn	16 33 40.0	+0.5
RRRZ	**Republican Roa**	**1.11**	**45**	⇓PN	Pn	16 33 39.7	-0.1
NEZ	**North Egmont**	**1.11**	**262**	⇑PN	Pn	16 33 40.0	+0.1
ARHZ	**Aropaoanui**	**1.16**	**97**	PN	Pn	16 33 41.2	+0.9
MUGZ	**Murupara**	**1.17**	**57**	PN	Pn	16 33 40.0	-0.5
KHEZ	**Kahui Hut**	**1.18**	**261**	PN	Pn	16 33 40.7	+0.1
WPHZ	**Waipukurau**	**1.18**	**143**	PN	Pn	16 33 40.4	-0.1
PKE	**Pukeiti**	**1.19**	**266**	PN	Pn	16 33 40.5	-0.2
RAHZ	**Arahi**	**1.24**	**81**	PN	Pn	16 33 41.9	+0.6
RAHZ				SN	Sn	16 33 59.4	+0.4
KAHZ	**Kahuranaki**	**1.25**	**123**	PN	Pn	16 33 41.6	+0.3
RTZ	**Ruatahuna**	**1.25**	**67**	PN	Pn	16 33 41.1	-0.3
DVHZ	**Dannevirke**	**1.28**	**157**	PN	Pn	16 33 41.3	-0.4
POWZ	**Post Office Ro**	**1.28**	**171**	PN	Pn	16 33 41.3	-0.4
NMEZ	**Namu Road**	**1.30**	**257**	PN	Pn	16 33 41.7	-0.2
KMRZ	**Kaimai**	**1.32**	**15**	PN	Pn	16 33 42.5	+0.3
CKHZ	**Cape Kidnapper**	**1.32**	**114**	PN	Pn	16 33 42.6	+0.5
WHHZ	**Waihua**	**1.34**	**89**	PN	Pn	16 33 42.7	+0.4
PXZ	**Pawanui**	**1.38**	**131**	⇓PN	Pn	16 33 42.7	-0.1
PXZ				AML	AML	16 34 03.7	
PXZ				AML	AML	16 34 03.8	
PXZ				AML	AML	16 34 03.8	
TOZ	**Tahuroa Road**	**1.39**	**360**	⇑PN	Pn	16 33 43.0	0.0
PRHZ	**Porangahau**	**1.43**	**143**	PN	Pn	16 33 43.4	-0.1
SNGZ	**Shannon Statio**	**1.46**	**77**	PN	Pn	16 33 43.6	-0.2
PRWZ	**Pori Road**	**1.47**	**166**	PN	Pn	16 33 43.7	-0.2
OPRZ	**Ohinepanea**	**1.52**	**33**	PN	Pn	16 33 44.5	0.0
URZ	**Urewera**	**1.52**	**56**	⇑PN	Pn	16 33 43.9	-0.6
URZ				AML	AML	16 34 03.8	
URZ				AML	AML	16 34 05.5	
ANWZ	**Angora Road**	**1.53**	**151**	PN	Pn	16 33 44.5	-0.1
MRZ	**Mangatainoka R**	**1.54**	**178**	PN	Pn	16 33 43.9	-0.8
RAGZ	**Rawiri**	**1.61**	**68**	PN	Pn	16 33 45.5	-0.2
BFZ	**Birch Farm**	**1.66**	**160**	⇑PN	Pn	16 33 45.6	-0.6
BFZ				AML	AML	16 34 07.3	
BFZ				AML	AML	16 34 07.3	
BFZ				AML	AML	16 34 08.2	
BFZ				AML	AML	16 34 09.9	
TIWZ	**Tintock**	**1.68**	**170**	⇑PN	Pn	16 33 45.8	-0.7
TIWZ				AML	AML	16 34 06.5	
TIWZ				AML	AML	16 34 06.6	
KNZ	**Kokohu**	**1.68**	**87**	PN	Pn	16 33 46.2	-0.3
OGWZ	**Otaki Gorge**	**1.71**	**189**	⇑PN	Pn	16 33 46.2	-0.7
MWZ	**Matawai**	**1.76**	**64**	⇓PN	Pn	16 33 47.1	-0.4
MWZ				AML	AML	16 34 13.9	
MWZ				AML	AML	16 34 17.1	
MWZ				AML	AML	16 34 17.5	
MWZ				AML	AML	16 34 28.4	
HOWZ	**Holdsworth Sta**	**1.77**	**180**	⇑PN	Pn	16 33 46.5	-1.1
KIW	**Kapiti Island**	**1.80**	**195**	PN	Pn	16 33 46.8	-1.2
KIW				AML	AML	16 33 47.5	
KIW				AML	AML	16 34 09.6	
RIGZ	**Rimuhau**	**1.80**	**77**	PN	Pn	16 33 48.1	0.0
PRGZ	**Paritu Road**	**1.85**	**85**	⇓PN	Pn	16 33 48.5	-0.2
CPWZ	**Castlepoint**	**1.86**	**164**	PN	Pn	16 33 48.4	-0.3
MHGZ	**Mahia Peninsul**	**1.86**	**92**	PN	Pn	16 33 48.7	-0.1
TKGZ	**Te Karaka**	**1.95**	**70**	⇑PN	Pn	16 33 49.7	-0.1
TMWZ	**Te Maipa**	**2.00**	**172**	⇑PN	Pn	16 33 49.4	-1.1
CAW	**Cannon Point**	**2.01**	**190**	PN	Pn	16 33 49.3	-1.4
CAW				AML	AML	16 34 15.4	
CAW				AML	AML	16 34 17.2	
MTW	**Mount Morrison**	**2.03**	**180**	⇑PN	Pn	16 33 49.5	-1.5
MTW				AML	AML	16 34 13.9	
MTW				AML	AML	16 34 14.0	
DUWZ	**D'Urville Isla**	**2.08**	**216**	PN	Pn	16 33 49.9	-1.6
TWGZ	**Tauwhareparae**	**2.15**	**65**	PN	Pn	16 33 52.4	-0.1
CNGZ	**Carnagh Statio**	**2.20**	**74**	PN	Pn	16 33 52.8	-0.3
WEL	**Wellington**	**2.23**	**195**	PN	Pn	16 33 51.7	-1.8
HAZ	**Te Kaha**	**2.24**	**53**	PN	Pn	16 33 52.5	-1.1
PAWZ	**Paruwai Farm**	**2.26**	**182**	⇑PN	Pn	16 33 52.1	-1.8
PAWZ				AML	AML	16 34 19.2	
PAWZ				AML	AML	16 34 19.8	
TRWZ	**Traveller**	**2.28**	**177**	PN	Pn	16 33 52.4	-1.7
TRWZ				AML	AML	16 34 18.7	
TRWZ				AML	AML	16 34 18.8	
TCW	**Tory Channel**	**2.29**	**204**	PN	Pn	16 33 52.5	-1.8
TCW				AML	AML	16 34 20.4	
TCW				AML	AML	16 34 20.7	
MSWZ	**Moikau Station**	**2.30**	**185**	⇑PN	Pn	16 33 52.6	-1.8
MSWZ				AML	AML	16 34 20.3	
MSWZ				AML	AML	16 34 20.5	
BHW	**Baring Head**	**2.33**	**192**	⇑PN	Pn	16 33 52.9	-2.0
BHW				AML	AML	16 34 21.3	
BHW				AML	AML	16 34 21.7	
PUZ	**Puketiti**	**2.39**	**65**	PN	Pn	16 33 54.7	-0.9
PLWZ	**Palliser**	**2.45**	**185**	PN	Pn	16 33 54.3	-2.1
TUWZ	**Tuamarina**	**2.60**	**207**	PN	Pn	16 33 56.0	-2.3
TUWZ				AML	AML	16 34 26.8	
TUWZ				AML	AML	16 34 28.8	
WMGZ	**Waiomatatini S**	**2.62**	**61**	PN	Pn	16 33 57.8	-0.8
NNZ	**Nelson**	**2.66**	**217**	PN	Pn	16 33 56.9	-2.1
QRZ	**Quartz Range**	**2.86**	**233**	⇑PN	Pn	16 33 59.8	-1.9
BSWZ	**Blackbird Sta**	**2.88**	**205**	PN	Pn	16 33 59.5	-2.4
THZ	**Tophouse**	**3.30**	**216**	⇓PN	Pn	16 34 05.2	-2.6
KHZ	**Kahutara**	**3.62**	**204**	⇑PN	Pn	16 34 08.9	-2.8
DSZ	**Denniston Nort**	**3.86**	**226**	PN	Pn	16 34 12.2	-2.9
LTZ	**Lake Taylor**	**4.40**	**213**	PN	Pn	16 34 17.6	-4.9
INZ	**Inchbonnie**	**4.74**	**219**	PN	Pn	16 34 24.0	-2.9
OXZ	**Oxford**	**4.95**	**211**	PN	Pn	16 34 24.5	-5.3

*IDC **19** 16:34:38.9±0.6,7.°25N×82.°31W,h0km,mb4.5/19, mb1 4.8/22,mb1mx4.7/35,mbtmp4.6/22,ML3.5/2,MS4.0/23, Ms1 4.0/23,ms1mx4.0/30,Error ellipse: s-maj=20.5km s-min=14.0km az=54.0*
*MOS **19** 16:34:40.8±1.1,7.°54N×82.°17W,h10km,mb5.2/47,Error ellipse: s-maj=11.0km s-min=5.4km az=112.8*
*ISCJB **19** 16:34:42.6±0.2,7.°60N±0.°04×82.°17W±0.°02,h21km, mb4.9/223,MS4.1/20,Error ellipse: s-maj=5.7km s-min=2.2km az=21.4*
*NEIC **19** 16:34:43.0±0.7,7.°32N×82.°20W,h21km±5km,mb5.0/195, Error ellipse: s-maj=5.8km s-min=3.3km az=207.0*
NEIC Felt at Horconcito. Also felt at Laurel, Rio Claro and San Vito, Costa Rica.
*BJI **19** 16:34:43.2,7.°40N×82.°20W,h20km,mB5.4/8,Ms5.2/10, Ms7 4.9/8*
*GCMT **19** 16:34:43.0±0.2,7.°23N×82.°33W,h23km±1km,MW5.1/106, Moment Tensor Solution. s50,c68; s106,c165; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.12±.18; Mθθ1.30±.13; Mϕϕ-1.42±.18; Mrθ0.34±.20; Mrϕ6.12±.14; Mθϕ-0.11±.23; Best double couple: M◎6.27900×10¹⁶ NP1:ϕ◎276.00000°,δ89.00000°,λ-3.00000°. NP2: ϕ◎6.00000°,δ87.00000°,λ-179.00000°. Principal axes: T 6.2160, Plg2.0000°, Azm321.0000°; N 0.1280, Plg87.0000°, Azm87.0000°; P -6.3430, Plg3.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 19 16:34:42.3±0.7,7.°28N±0.°05×82.°34W±0.°04,h20km±3km, n908,σ1°30/923,mb5.0/223,MS4.1/19,11C-10D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**1.59**	**329**	⇑*i*P	**Pn**	**16 35 07.2**	**-2.3**
AZU	**Azuero**	**2.11**	**76**	⇓*i*P	**Pn**	**16 35 15.2**	**-1.3**
AZU				*e*S	**Sn**	**16 35 42.0**	**-0.1**
PNME	**Penonome**	**2.32**	**59**	⇓*i*P	**Pn**	**16 35 19.2**	**-0.3**
PNME				*e*S	**Sn**	**16 35 47.6**	**+0.1**
BUS	**Buena Vista**	**2.66**	**328**	⇑*i*P	**Pn**	**16 35 23.7**	**-0.9**
BUS				*e*S	**Sn**	**16 35 57.8**	**+1.2**
QCR	**Quepos**	**2.80**	**320**	⇑*i*P	**Pn**	**16 35 24.4**	**-1.6**
URSC	**Urasca**	**2.91**	**331**	⇑*i*P	**Pn**	**16 35 27.2**	**-0.6**
URSC				*e*S	**Sn**	**16 36 03.7**	**+1.3**
ZANG	**Zanguenga, Cho**	**2.96**	**56**	*i* P	**Pn**	**16 35 28.1**	**-0.1**
ZANG				*e*S	**Sn**	**16 36 03.3**	**+0.1**
BCIP	**Isla Barro Col**	**3.10**	**53**	⇓*i*P	**Pn**	**16 35 29.9**	**-0.4**
BCIP				*e*S	**Sn**	**16 36 06.6**	**-0.2**
BCIP	**Isla Barro Col**	**3.10**	**53**	*e*P	**Pn**	**16 35 29.8**	**-0.4**
BCIP	**Isla Barro Col**	**3.10**	**53**	*e*Pn	**Pn**	**16 35 29.8**	**-0.4**
HDC	**Heredia**	**3.23**	**327**	⇑*i*P	**Pn**	**16 35 31.9**	**-0.1**
HDC				*e*S	**Sn**	**16 36 11.4**	**+1.4**
HDC	**Heredia**	**3.23**	**327**	*e*Pn	**Pn**	**16 35 32.0**	**-0.1**
CGA2	**Cerro Gallo 2**	**3.44**	**322**	⇑*i*P	**Pn**	**16 35 32.7**	**-1.1**
JCR	**Jicaral**	**3.75**	**313**	*e*P	**Pn**	**16 35 36.7**	**-2.5**
UPD2	**Meteti**	**4.46**	**73**	*e*P	**Pn**	**16 35 47.7**	**-1.3**
UPD2				*e*S	**Sn**	**16 36 40.5**	**+0.1**
CAPC	**Capurgana**	**5.12**	**74**	*e*P	**Pn**	**16 35 58.0**	**+0.1**
GRGC	**Isla de Gorgon**	**5.94**	**135**	*e*P	**Pn**	**16 36 05.8**	**-3.5**
MALC	**Bahia Malaga**	**5.94**	**123**	*e*P	**Pn**	**16 36 07.1**	**-2.2**
DBBC	**Dabeiba**	**6.08**	**92**	*e*P	**Pn**	**16 36 10.8**	**-0.5**
MGAN	**Managua**	**6.18**	**322**	*e*P	**Pn**	**16 36 12.1**	**-0.5**
MGAN				AML	AML	16 37 55.7	
	comp=E,21nm,0.6s						
MGAN				*e*S	**Sg**	**16 37 56.0**	**-5.0**
COPN	**Copaltepe**	**6.43**	**320**	*e*P	**Pn**	**16 36 15.6**	**-0.4**
CNGN	**Cerro Negro**	**6.74**	**321**	*e*P	**Pn**	**16 36 18.6**	**-1.7**
MOTC	**Monteria, Cord**	**6.77**	**77**	*e*P	**Pn**	**16 36 19.4**	**-1.3**
MOTC				*e*P	**Pn**	**16 36 20.2**	**-0.5**
HELC	**Santa Helena**	**6.85**	**99**	*e*P	**Pn**	**16 36 21.0**	**-1.6**
HELC	**Santa Helena**	**6.85**	**99**	*e*Pn	**Pn**	**16 36 21.4**	**-0.6**
GUYC	**Guyana, Colomb**	**7.20**	**106**	*e*P	**Pn**	**16 36 26.4**	**-0.6**
POPC	**Popayan, Colom**	**7.34**	**130**	*e*P	**Pn**	**16 36 24.7**	**-4.1**
NORC	**Norcasia**	**7.61**	**103**	*e*P	**Pn**	**16 36 31.7**	**-0.6**
CRUC	**La Cruz**	**7.81**	**136**	*e*P	**Pn**	**16 36 35.2**	**-0.1**
OTAV	**Otavalo**	**8.00**	**151**	*e*P	**Pn**	**16 36 37.0**	**-0.9**
OTAV	**Otavalo**	**8.00**	**151**	*e*Pn	**Pn**	**16 36 36.8**	**-1.2**
CNCH	**Conchagua**	**8.05**	**318**	*e*P	**Pn**	**16 36 36.1**	**-2.3**
PRAC	**Prado**	**8.22**	**115**	*e*P	**Pn**	**16 36 41.1**	**+0.5**
PRAC	**Prado**	**8.22**	**115**	*e*Pn	**Pn**	**16 36 39.9**	**-0.7**
TGUH	**Tegucigalpa,Un**	**8.30**	**325**	*e*Pn	**Pn**	**16 36 42.2**	**+0.6**
ROSC	**El Rosal**	**8.33**	**106**	Pn	**Pn**	**16 36 45.4**	**+2.9**
	comp=E,2.3nm,0.3s,baz=141,slow=19,SNR=6.7						
ROSC				Sn	**Sn**	**16 38 20.3**	**+4.1**
	comp=E,2.1nm,0.3s,baz=162,slow=20,SNR=4.1						
ROSC				LR	LR	16 39 30.6	
	comp=E,2μm,21.8s,baz=314,slow=35						
ROSC	**El Rosal**	**8.33**	**106**	*e*P	Pn	16 36 50.6	+8.1
VSM	**San Miguel**	**8.45**	**317**	*e*P	**Pn**	**16 36 43.1**	**-0.9**
LCY	**Lacayo**	**8.46**	**317**	*e*P	**Pn**	**16 36 43.3**	**-0.7**
PACA	**Pacayal**	**8.52**	**317**	*e*P	**Pn**	**16 36 43.2**	**-1.6**
PACA				*e*S	**Sn**	**16 38 18.0**	**-2.4**
BRRC	**Barranca, Sant**	**8.56**	**91**	*e*P	**Pn**	**16 36 43.6**	**-1.6**
CHIC	**Chingaza**	**8.95**	**107**	*e*P	**Pn**	**16 36 52.7**	**+1.6**
OCAC	**Ocana**	**8.98**	**83**	*e*P	**Pn**	**16 36 52.4**	**+1.2**
BARC	**Barichara**	**9.11**	**94**	*e*P	**Pn**	**16 36 53.5**	**+0.4**
LFRS	**El Faro**	**9.14**	**314**	*e*P	**Pn**	**16 36 53.2**	**0.0**
LFRS				*e*S	**Sn**	**16 38 34.4**	**-1.2**
LBRS	**Las Brisas**	**9.20**	**315**	*e*P	**Pn**	**16 36 53.8**	**-0.3**
SJAC	**San Juan de Ar**	**9.25**	**115**	*e*P	**Pn**	**16 36 55.6**	**+0.8**
LFU	**La Fuente**	**9.26**	**315**	*e*P	**Pn**	**16 36 53.7**	**-1.2**
RUSC	**La Rusia**	**9.29**	**98**	*e*P	**Pn**	**16 36 55.5**	**-0.2**
BOQS	**Boqueron**	**9.37**	**314**	*e*P	**Pn**	**16 36 56.7**	**+0.2**
GRMC	**Gramalote, San**	**9.46**	**87**	*e*P	**Pn**	**16 36 59.0**	**+1.2**
CBRI	**Barrientos, No**	**9.47**	**87**	*e*P	**Pn**	**16 36 57.0**	**-0.9**
SBLS	**San Blas**	**9.68**	**313**	*e*P	**Pn**	**16 37 01.7**	**+0.8**
MONT	**Ecomontaæa**	**9.71**	**313**	*e*P	**Pn**	**16 37 01.4**	**+0.1**
SDV	**Santo Domingo**	**11.70**	**81**	Pn	**Pn**	**16 37 27.8**	**-0.6**
	comp=E,0.8nm,0.3s,baz=255,slow=9.0,SNR=11						
SDV				Sn	**Sn**	**16 39 33.4**	**-5.2**
	comp=E,9.3nm,0.3s,baz=57,slow=20,SNR=9.6						
SDV				LR	LR	16 43 16.4	
	comp=E,2μm,18.2s,baz=258,slow=44						
SDV	**Santo Domingo**	**11.70**	**81**	*e*P	**Pn**	**16 37 28.4**	**0.0**
SDV	**Santo Domingo**	**11.70**	**81**	*e*Pn	**Pn**	**16 37 26.6**	**-1.8**
SDV				Sn	**Sn**	**16 39 33.4**	**-5.2**
MTDJ	**Mount Denham**	**11.84**	**23**	*e*Pn	**Pn**	**16 37 29.8**	**-0.6**
CCIG	**Comitan**	**13.11**	**314**	*e*Pn	**Pn**	**16 37 47.7**	**-0.1**
TEIG	**Tepich**	**14.10**	**336**	Pn	**P**	**16 38 09.0**	**+0.3**
	comp=E,2.0nm,0.3s,baz=90,slow=23,SNR=24						
TEIG				LR	LR	16 43 42.2	
	comp=E,692nm,18.1s,baz=186,slow=38						
TEIG	**Tepich**	**14.10**	**336**	*e*P	**P**	**16 38 09.4**	**+0.8**
	comp=E,20nm,0.8s						
ATAH	**Atahualpa**	**14.85**	**165**	Pn	**Pn**	**16 38 12.7**	**+1.0**
	comp=E,0.1nm,0.3s,baz=3.3,slow=23,SNR=4.4						
ATAH				LR	LR	16 43 03.0	
	comp=E,1μm,20.2s,baz=345,slow=34						
SDDR	**Presa de Saban**	**15.83**	**42**	*e*Pn	**Pn**	**16 38 23.6**	**-0.7**
	comp=E,102nm,1.0s						
PCRV	**Puerto La Cruz**	**17.73**	**79**	P	**Pn**	**16 38 47.2**	**-1.1**
	comp=E,0.7nm,0.3s,baz=214,slow=1.4,SNR=6.8						
PCRV				LR	LR	16 47 06.2	
	comp=E,1μm,21.8s,baz=270,slow=42						
MPR	**Mayaguez**	**18.36**	**52**	*e*P	**Pn**	**16 38 56.4**	**+0.5**
	comp=E,39nm,0.7s						
CELP	**Cerrillos**	**18.73**	**54**	*e*P	**P**	**16 38 59.3**	**-0.7**
TLIG	**Tlapa**	**18.84**	**304**	*e*P	**Pn**	**16 39 02.8**	**+0.9**
	comp=E,73nm,1.0s						
SJG	**San Juan**	**19.09**	**54**	P	**Pn**	**16 39 04.5**	**-0.3**
	comp=E,7.5nm,0.3s,baz=251,slow=7.5,SNR=36						
SJG				LR	LR	16 46 52.9	
	comp=E,254nm,18.2s,baz=233,slow=38						
SJG	**San Juan**	**19.09**	**54**	*e*P	**P**	**16 39 03.8**	**-0.2**
SJG				pmax	pmax		
	comp=Z,161nm,1.1s						
SJG	**San Juan**	**19.09**	**54**	*e*P	**P**	**16 39 03.8**	**-0.2**
	comp=Z,161nm,1.1s						
HUMP	**Col San Antoni**	**19.35**	**55**	*e*P	**P**	**16 39 06.5**	**-0.3**
	comp=Z,65nm,0.8s						
CBYP	**Canovanas**	**19.41**	**54**	*e*P	**P**	**16 39 07.1**	**-0.5**
	comp=Z,49nm,0.8s						
NNA	**Nana**	**19.91**	**164**	LR	LR	16 46 04.8	
	comp=Z,398nm,20.6s,baz=318,slow=34						
CDVI	**St. Croix**	**20.04**	**57**	*e*P	**P**	**16 39 14.0**	**-0.3**
	comp=Z,277nm,0.8s						
STVI	**Saint Thomas**	**20.18**	**55**	*e*P	**P**	**16 39 15.4**	**-0.5**
	comp=Z,114nm,0.8s						
DWPF	**Disney Wildern**	**20.74**	**2**	*e*P	Pn	16 39 24.1	-0.1
	comp=Z,240nm,1.2s						
SVB	**Belmont**	**21.57**	**72**	*e*P	**P**	**16 39 31.5**	**+0.5**
MCLT	**Moule a Chique**	**21.97**	**71**	*e*P	**P**	**16 39 34.3**	**-1.0**
GDHS	**Morne Mazeau,**	**22.01**	**64**	*e*P	**P**	**16 39 34.7**	**-1.0**
	comp=Z,236nm,1.0s						
PCM	**Pelee Case Pet**	**22.03**	**68**	*e*P	**P**	**16 39 36.2**	**+0.3**
PCM	**Pelee Case Pet**	**22.03**	**68**	*e*P	**P**	**16 39 36.5**	**+0.6**
PML	**Morne Lenard**	**22.04**	**68**	*e*P	**P**	**16 39 36.1**	**+0.1**
FDF	**Fort de France**	**22.06**	**69**	*e*P	**P**	**16 39 36.4**	**+0.2**
FDF	**Fort de France**	**22.06**	**69**	*e*P	**P**	**16 39 35.7**	**-0.6**
FDF				pmax	pmax		
	comp=Z,229nm,0.8s						
FDF	**Fort de France**	**22.06**

634A **China Grove, S** 26.66 328 P P 16 40 20.3 +0.2
baz=142,SNR=6.4
733A **Divot King Ran** 26.67 325 P P 16 40 20.7 +0.6
baz=140,SNR=18
832A **Faith Ranch, C** 26.73 324 P P 16 40 21.1 +0.4
baz=138,SNR=15
535A **Dale** 26.78 330 P P 16 40 21.5 +0.4
baz=144,SNR=11
240A **Hunter Patters** 26.84 338 P P 16 40 22.1 +0.5
baz=154
Z45A **Winona** 26.84 346 P P 16 40 22.4 +0.8
baz=163
338A **Crockett** 26.85 335 P P 16 40 22.4 +0.7
baz=150,SNR=11
NATX **Nacogdoches** 26.93 336 P P 16 40 23.1 +0.6
baz=152
NATX **Nacogdoches** 26.93 336 eP P 16 40 23.1 +0.6
comp=Z,32nm,0.9s
Z44A **Pea Ridge, Bel** 26.94 345 P P 16 40 23.0 +0.5
baz=162
Y47A **UCPARC, Winfie** 26.98 350 P P 16 40 23.3 +0.4
baz=168,SNR=14
436A **Wall Ranch, Ga** 27.01 332 P P 16 40 23.2 0.0
baz=147
141A **Papa Simpson,** 27.05 340 P P 16 40 23.7 +0.3
baz=156
337A **Centerville** 27.06 334 P P 16 40 24.4 +0.8
baz=149
239A **Gary** 27.09 337 P P 16 40 23.9 +0.1
baz=153
Z43A **Armstrong Fami** 27.09 343 P P 16 40 24.0 +0.1
baz=160
Y46A **Houston** 27.15 348 P P 16 40 24.8 +0.4
baz=166,SNR=14
633A **Saathoff Ranch** 27.17 326 P P 16 40 24.6 -0.1
baz=141,SNR=19
534A **Blanco** 27.24 328 P P 16 40 24.6 -0.7
baz=143,SNR=19
Y45A **Yeager Farm, C** 27.28 347 P P 16 40 25.5 -0.1
baz=164
140A **Cam and Jess,** 27.31 339 P P 16 40 25.2 -0.7
baz=155
238A **Jacksonville** 27.33 336 P P 16 40 25.3 -0.8
baz=151
435B **Jarrell** 27.40 331 P P 16 40 26.8 +0.1
baz=145,SNR=13
336A **Riesel** 27.55 332 P P 16 40 26.9 -1.2
baz=147
533A **Kerrville** 27.57 327 P P 16 40 28.3 +0.1
baz=142,SNR=20
Z41A **Richland Creek** 27.61 341 P P 16 40 28.5 0.0
baz=157
237A **Washetta, Mont** 27.62 335 P P 16 40 29.6 +1.0
baz=150
139A **Bunkhouse Ranc** 27.65 338 P P 16 40 28.8 -0.1
baz=153
335A **Moody** 27.74 331 P P 16 40 29.6 -0.1
baz=146,SNR=13
KMSC **Kings Mountain** 27.75 2 P P 16 40 29.2 -0.6
baz=182
KMSC **Kings Mountain** 27.75 2 eP P 16 40 30.3 +0.6
comp=Z,9.3nm,0.8s
434A **Burnet** 27.76 330 P P 16 40 29.5 -0.5
baz=144,SNR=12
X45A **UM Field Stati** 27.79 347 P P 16 40 29.5 -0.6
baz=165
Z40A **Long Farm, Mag** 27.81 340 P P 16 40 30.6 +0.3
baz=156
138A **Matatall Enter** 27.90 337 P P 16 40 31.5 +0.4
baz=152,SNR=7.0
236A **Katherine and** 27.93 334 P P 16 40 32.0 +0.6
baz=148
SWET **Sewanee** 28.00 354 eP P 16 40 31.3 -0.7
comp=Z,3.2nm,0.7s
PLAL **Pickwick Lake** 28.07 350 eP P 16 40 31.8 -0.8
comp=Z,8.3nm,0.9s
WLAR **White Oak Lake** 28.11 341 eP P 16 40 31.7 -1.2
comp=Z,58nm,1.1s
CPCT **Cooper Cave** 28.11 356 eP P 16 40 31.4 -1.6
comp=Z,11nm,1.5s
137A **Heron Place, G** 28.11 335 P P 16 40 33.1 +0.1
baz=151
Y41A **Eaglette Beard** 28.12 342 P P 16 40 31.7 -1.4
baz=158
433A **Art** 28.14 328 P P 16 40 32.8 -0.5
baz=142,SNR=26
334A **Lometa** 28.17 330 P P 16 40 33.0 -0.6
baz=145,SNR=10.0
TKL **Tuckaleechee C** 28.27 358 P P 16 40 36.1 +1.6
comp=Z,1.7nm,0.6s,baz=165,slow=16,SNR=4.1
TKL LR LR 16 52 26.1
comp=Z,393nm,18.0s,baz=180,slow=38
136A **Ennis** 28.33 334 P P 16 40 34.8 -0.2
baz=149
WHTX **Lake Whitney,** 28.34 332 P P 16 40 35.1 0.0
baz=147
Z38A **Mt. Pleasant** 28.38 337 P P 16 40 35.8 +0.4
baz=153
W45A **Hickory Valley** 28.45 348 P P 16 40 36.2 +0.2
baz=165
Y40A **Okolona** 28.46 341 P P 16 40 36.3 +0.2
baz=156
333A **Richland Sprin** 28.54 329 P P 16 40 36.8 -0.1
baz=143,SNR=13
Y39A **Lockesburg** 28.67 339 P P 16 40 38.3 +0.3
baz=155
234A **Clairette** 28.67 331 P P 16 40 37.5 -0.6
baz=146,SNR=5.4
X40A **Basin Creek Fa** 28.75 342 P P 16 40 38.7 0.0
baz=158
135A **Vickery Place,** 28.79 333 P P 16 40 38.7 -0.4
baz=147
UALR **University of** 28.87 343 eP P 16 40 37.6 -2.2
comp=Z,19nm,0.8s
Y38A **Idabel** 28.89 338 P P 16 40 39.9 0.0
baz=154
Z36A **Blue Ridge** 28.98 335 P P 16 40 39.6 -1.1
baz=150
MIAR **Mount Ida** 29.05 341 P P 16 40 40.7 -0.6
baz=156,SNR=13
MIAR **Mount Ida** 29.05 341 eP P 16 40 40.5 -0.8
MIAR pmax pmax
comp=Z,15nm,0.8s
MIAR **Mount Ida** 29.05 341 eP P 16 40 40.5 -0.8
comp=Z,15nm,0.8s
233A **Rising Star** 29.05 330 P P 16 40 41.0 -0.5
baz=144,SNR=7.9
134A **White-Moore Ra** 29.11 332 P P 16 40 41.6 -0.4
baz=146,SNR=6.6
WVT **Waverly** 29.15 351 eP P 16 40 39.5 -2.7
WVT pmax pmax
comp=Z,18nm,0.9s
WVT **Waverly** 29.15 351 eP P 16 40 39.5 -2.7
comp=Z,18nm,0.9s
X39A **Fountain Ranch** 29.20 340 P P 16 40 42.5 -0.1
baz=155,SNR=9.3
W41B **Gary Mavity, V** 29.22 343 P P 16 40 42.4 -0.4
baz=159,SNR=12
Y37A **Hugo** 29.27 337 P P 16 40 43.3 0.0
baz=152,SNR=10
X301 **Greenbrier Sit** 29.32 343 eP P 16 40 42.3 -1.4
comp=Z,20nm,0.8s
WHAR **Wooly Hollow** 29.34 343 eP P 16 40 43.1 -0.8
comp=Z,30nm,0.8s
Z35A **Perchaven, San** 29.38 334 P P 16 40 44.2 -0.1
baz=148
W40A **Ferguson Farm,** 29.48 342 P P 16 40 45.1 0.0
baz=158
133A **Hamilton Ranch** 29.54 331 P P 16 40 45.4 -0.4
baz=145,SNR=7.3
HPIG 29.55 314 eP P 16 40 47.5 +1.4
comp=Z,14nm,0.8s
V42A **Cord** 29.58 345 P P 16 40 45.3 -0.7
baz=161,SNR=9.3
X38A **Whitesboro** 29.59 339 P P 16 40 46.1 0.0
baz=154,SNR=8.3
Z34A **Collier Ranch,** 29.71 333 P P 16 40 47.1 -0.1
baz=147
W39A **Magazine** 29.71 341 P P 16 40 47.2 0.0
baz=156,SNR=17
X37A **Clayton** 29.71 338 P P 16 40 47.2 -0.1
baz=153
TXAR **Lajitas Array** 29.75 320 P P 16 40 49.0 +1.3
comp=Z,6.8nm,0.9s,baz=144,slow=9.3,SNR=53
TXAR PcP PcP 16 43 52.7 +1.2
comp=Z,0.8nm,0.9s,baz=142,slow=4.6,SNR=3.3
TXAR LR LR 16 55 30.6
comp=Z,219nm,19.8s,baz=0.0,slow=42

TX31 **Lajitas Ar. Si** 29.75 320 eP P 16 40 48.6 +0.8
V41A **Mountainview** 29.77 344 P P 16 40 47.4 -0.4
baz=160,SNR=17
Y35A **Marietta** 29.78 335 P P 16 40 48.2 +0.3
baz=149,SNR=14
W38A **Poteau** 29.84 340 P P 16 40 48.5 +0.1
baz=155
BLA **Blacksburg** 29.84 3 eP P 16 40 49.6 +1.2
BLA pmax pmax
comp=Z,16nm,0.9s
BLA **Blacksburg** 29.84 3 eP P 16 40 49.6 +1.2
comp=Z,16nm,0.9s
ABTX **Abilene, Hawle** 29.91 330 P P 16 40 48.9 -0.2
baz=144
ABTX **Abilene, Hawle** 29.91 330 eP P 16 40 48.2 -0.8
comp=Z,21nm,1.1s
PARMO **Parma** 30.02 348 eP P 16 40 49.4 -0.5
Z33A **Whitaker Ranch** 30.03 332 P P 16 40 50.1 0.0
baz=148,SNR=6.7
X36A **Centrahoma** 30.07 336 P P 16 40 50.1 -0.4
baz=151
Y34A **Reagan Ranch,** 30.13 334 P P 16 40 50.5 -0.5
baz=148,SNR=12
X35A **Drake** 30.18 335 P P 16 40 51.1 -0.3
baz=150,SNR=6.6
W37B **Quinton** 30.23 338 P P 16 40 51.5 -0.3
baz=153
V39A **Pettigrew** 30.25 342 P P 16 40 51.8 -0.3
baz=157,SNR=10
PBMO **Poplar Bluff** 30.28 347 eP P 16 40 51.6 -0.6
comp=Z,12nm,0.8s
U40A **Yellville** 30.50 343 P P 16 40 53.9 -0.2
baz=159,SNR=19
V38A **Canehill** 30.52 340 P P 16 40 53.7 -0.7
baz=156,SNR=9.4
W36A **Wetumka** 30.53 337 P P 16 40 53.8 -0.7
baz=152
Y33A **Hilltop Ranch,** 30.56 333 P P 16 40 54.5 -0.3
baz=147,SNR=7.9
U39A **Green Forest** 30.71 342 P P 16 40 55.9 -0.1
baz=158
X34A **Smith Ranch, M** 30.71 334 P P 16 40 56.1 0.0
baz=149,SNR=6.7
S45A **Carrier Mills** 30.79 350 P P 16 40 55.9 -0.8
baz=168
V37A **Hulbert** 30.79 339 P P 16 40 55.9 -0.9
baz=154,SNR=5.9
W35A **Tecumseh** 30.79 336 P P 16 40 55.9 -0.9
baz=151
T41A **Mountain View** 30.85 345 P P 16 40 56.6 -0.7
baz=161,SNR=14
S44A **Carbondale** 30.92 349 P P 16 40 57.5 -0.3
baz=166,SNR=7.0
USIN **University of** 30.93 352 eP P 16 40 56.9 -1.0
comp=Z,31nm,0.7s
SIUC **Southern Illin** 30.93 349 eP P 16 40 57.3 -0.7
comp=Z,18nm,0.6s
X33A **Lawton** 30.95 333 P P 16 40 57.9 -0.4
baz=147,SNR=9.7
S43A **Fulton Ridge,** 30.96 348 P P 16 40 57.5 -0.7
baz=165,SNR=15
V36A **Jenks** 30.99 338 P P 16 40 57.9 -0.6
baz=153
WCI **Wyandotte Cave** 31.02 354 eP P 16 40 58.5 -0.3
WCI **Wyandotte Cave** 31.02 354 eP P 16 40 58.5 -0.3
U38A **Grette** 31.04 341 P P 16 40 58.4 -0.6
baz=156,SNR=6.3
TUL1 **Leonard** 31.05 339 P P 16 40 58.4 -0.6
baz=153
TUL1 **Leonard** 31.05 339 eP P 16 40 57.8 -1.3
comp=Z,16nm,0.8s
SLBS **Sierra La Lagu** 31.11 305 eP P 16 41 02.8 +3.0
comp=Z,31nm,1.1s
T40A **Mansfield** 31.15 344 P P 16 40 59.4 -0.5
baz=160,SNR=20
X32A **Elmer** 31.21 332 P P 16 40 59.6 -0.9
baz=146
W34A **Bridge Creek,** 31.23 335 P P 16 41 01.0 +0.3
baz=149,SNR=6.0
W34A **Bridge Creek,** 31.23 335 eP P 16 40 59.6 -1.1
comp=Z,32nm,0.9s
WMOK **Wichita Mounta** 31.24 333 P P 16 40 59.9 -0.9
baz=147
WMOK **Wichita Mounta** 31.24 333 eP P 16 40 59.5 -1.3
WMOK pmax pmax
comp=Z,12nm,0.9s
WMOK **Wichita Mounta** 31.24 333 eP P 16 40 59.5 -1.3
comp=Z,12nm,0.9s
U37A **Salina** 31.25 340 P P 16 41 00.1 -0.8
baz=155,SNR=6.1
T39A **Clever** 31.27 343 P P 16 41 00.5 -0.5
baz=158,SNR=7.2
V35A **Meyer Ranch, C** 31.31 337 P P 16 41 00.2 -1.1
baz=151
R44A **Waltonville** 31.43 350 P P 16 41 02.1 -0.2
baz=167,SNR=8.7
W33A **Caddo, Fort Co** 31.45 334 P P 16 41 02.7 0.0
baz=148
U36A **Oologah** 31.46 339 P P 16 41 02.0 -0.6
baz=154
T38A **Diamond** 31.56 342 P P 16 41 03.0 -0.5
baz=157,SNR=7.8
S40A **Lebanon** 31.56 344 P P 16 41 03.0 -0.6
baz=160,SNR=12
V34A **Guthrie** 31.64 336 P P 16 41 03.2 -1.1
baz=150
V34A **Guthrie** 31.64 336 eP P 16 41 02.6 -1.7
comp=Z,16nm,0.8s
OLIL **Olney** 31.74 351 eP P 16 41 03.7 -1.4
comp=Z,59nm,1.1s
W32A **Sentinel** 31.77 333 P P 16 41 05.0 -0.5
baz=147,SNR=11
U35A **Pawnee** 31.80 338 P P 16 41 05.1 -0.6
baz=152
T37A **Cheneyville 18** 31.84 341 P P 16 41 05.5 -0.4
baz=156,SNR=9.1
S39A **Bolivar** 31.88 343 P P 16 41 05.6 -0.7
baz=159,SNR=20
V33A **Lossen Ranch,** 31.95 335 P P 16 41 06.7 -0.3
baz=149
BLO **Bloomington** 31.98 354 eP P 16 41 06.2 -1.0
BLO pmax pmax
comp=Z,20nm,0.6s
BLO **Bloomington** 31.98 354 eP P 16 41 06.2 -1.0
comp=Z,20nm,0.6s
S38A **Stockton** 31.99 343 P P 16 41 07.1 -0.2
baz=158
SLM **Saint Louis** 32.02 348 eP P 16 41 06.2 -1.4
SLM pmax pmax
comp=Z,34nm,0.7s
SLM **Saint Louis** 32.02 348 eP P 16 41 06.2 -1.4
comp=Z,34nm,0.7s
Q44A **Meyer Farm, Va** 32.06 350 P P 16 41 07.6 -0.2
baz=167
T36A **Boggs Farm, Ca** 32.11 339 P P 16 41 08.0 -0.3
baz=154,SNR=12
R40A **Maddies Statio** 32.16 345 P P 16 41 08.2 -0.5
baz=161,SNR=6.2
U34A **Anderson Ranch** 32.17 337 P P 16 41 07.7 -1.2
baz=151
U34A **Anderson Ranch** 32.17 337 eP P 16 41 07.2 -1.7
comp=Z,32nm,1.1s
V32A **Arapaho** 32.18 334 P P 16 41 08.4 -0.7
baz=148
T35A **Sooner Cattle** 32.20 338 P P 16 41 08.6 -0.7
baz=153,SNR=12
Q43A **New Douglas** 32.21 349 P P 16 41 08.9 -0.3
baz=166,SNR=6.7
Q42A **Golden Eagle** 32.35 348 P P 16 41 10.0 -0.4
baz=164,SNR=9.6
R39A **Chumby, Stover** 32.38 344 P P 16 41 10.4 -0.3
baz=160
S37A **Fort Scott** 32.39 341 P P 16 41 10.3 -0.6
baz=156,SNR=9.1
U33A **Lingo Farm, Me** 32.40 336 P P 16 41 09.5 -1.4
baz=150
MNTX **Cornudas Mount** 32.44 322 P P 16 41 12.1 +0.7
baz=134,SNR=54
MNTX **Cornudas Mount** 32.44 322 eP P 16 41 12.0 +0.7
comp=Z,34nm,0.9s
LVC **Limon Verde** 32.48 156 P P 16 41 12.6 +0.4
comp=Z,17nm,1.0s,baz=344,slow=9.9,SNR=2.5
R38A **Fenwick Farm,** 32.50 343 P P 16 41 11.0 -0.8
baz=158,SNR=11
T34A **McClaskey Farm** 32.55 338 P P 16 41 11.5 -0.7
baz=152,SNR=6.5
MSTX **Muleshoe** 32.59 327 P P 16 41 12.7 0.0
baz=140,SNR=10

MSTX **Muleshoe** 32.59 327 eP P 16 41 10.4 -2.4
comp=Z,35nm,0.9s
S36A **Lake Cedric, C** 32.61 340 P P 16 41 12.1 -0.7
baz=155,SNR=18
U32A **Winter Ranch,** 32.72 335 P P 16 41 13.4 -0.4
baz=148
AMTX **Amarillo** 32.73 330 P P 16 41 13.7 -0.3
baz=142
AMTX **Amarillo** 32.73 330 eP P 16 41 13.4 -0.6
comp=Z,74nm,1.9s
Q40A **Laux Farm, Aux** 32.77 346 P P 16 41 13.4 -0.8
baz=162,SNR=15
ACSO **Alum Creek Sta** 32.82 359 eP P 16 41 14.6 +0.1
comp=Z,18nm,0.8s
S35A **Otter Creek Ra** 32.82 339 P P 16 41 14.0 -0.6
baz=154,SNR=9.8
R37A **Teagarden Farm** 32.90 342 P P 16 41 14.5 -0.8
baz=157,SNR=9.8
T33A **Patterson Ranc** 33.01 336 P P 16 41 15.5 -0.8
baz=150
MVL **Millersville** 33.02 8 eP P 16 41 17.5 +1.3
comp=Z,8.8nm,0.9s
O56A **Blue Knob Stat** 33.02 5 P P 16 41 16.4 +0.1
baz=187
Q39A **Willow Grove F** 33.05 345 P P 16 41 15.8 -0.8
baz=160,SNR=7.7
S34A **Willow Spring** 33.12 338 P P 16 41 16.7 -0.5
baz=152
R36A **Gordon, Harris** 33.12 341 P P 16 41 17.0 -0.2
baz=155,SNR=6.3
Q38A **Cooks Store, C** 33.14 344 P P 16 41 16.8 -0.6
baz=159,SNR=8.4
P41A **Barry, Barry** 33.19 348 P P 16 41 16.9 -0.9
baz=164
SFIN **Lafayette** 33.23 353 P P 16 41 17.2 -0.9
baz=171
SFIN **Lafayette** 33.23 353 eP P 16 41 17.0 -1.1
comp=Z,18nm,0.9s
P40A **Paris** 33.28 346 P P 16 41 17.5 -1.0
baz=162,SNR=14
Q37A **Longview Farm,** 33.30 343 P P 16 41 18.1 -0.7
baz=158,SNR=7.1
R35A **Emporia Munici** 33.35 340 P P 16 41 18.5 -0.7
baz=154
T32A **Huddler Ranch,** 33.37 336 P P 16 41 18.8 -0.7
baz=149
P39B **Salisbury** 33.41 345 P P 16 41 18.8 -0.9
baz=161,SNR=40
SSPA **Standing Stone** 33.45 6 eP P 16 41 21.4 +1.4
comp=Z,12nm,1.1s
O42A **Bath** 33.50 349 P P 16 41 19.6 -0.8
baz=166
O41A **Passleys Farm,** 33.58 348 P P 16 41 20.2 -1.0
baz=150,SNR=15
N54A **Moraine State** 33.60 3 P P 16 41 21.4 0.0
baz=184
Q36A **Arnold C. Orve** 33.69 341 P P 16 41 21.7 -0.5
baz=156
R34A **Isabella, Hill** 33.70 339 P P 16 41 22.4 +0.1
baz=152,SNR=14
HDIL **Hopedale** 33.71 350 P P 16 41 21.7 -0.6
baz=167
HDIL **Hopedale** 33.71 350 eP P 16 41 21.4 -0.9
comp=Z,31nm,0.6s
P38A **Dawn** 33.74 344 P P 16 41 22.0 -0.5
baz=160,SNR=8.1
LUPA **Lehigh Univers** 33.76 10 eP P 16 41 22.0 -0.7
comp=Z,16nm,0.9s
Q35A **Mercer Eighty,** 33.78 341 P P 16 41 22.6 -0.4
baz=155,SNR=8.5
O40A **La Belle** 33.80 347 P P 16 41 22.6 -0.4
baz=163
P37A **Lathrop** 33.93 343 P P 16 41 23.9 -0.3
baz=158,SNR=10
R33A **Olander Ranch,** 33.98 338 P P 16 41 24.5 -0.2
baz=151,SNR=15
N59A **State Game Lan** 34.00 9 P P 16 41 25.0 +0.1
baz=191
O39A **Kirksville** 34.08 346 P P 16 41 25.3 -0.2
baz=162,SNR=7.2
Q34A **Chapman** 34.15 339 P P 16 41 25.6 -0.5
baz=153,SNR=6.0
M54A **Oil Creek Stat** 34.17 4 P P 16 41 26.2 -0.1
baz=184
O38A **Galt** 34.19 345 P P 16 41 25.7 -0.8
baz=160
KSU1 **Kansas State U** 34.19 340 P P 16 41 25.8 -0.7
baz=154,SNR=5.6
KSU1 **Kansas State U** 34.19 340 eP P 16 41 26.1 -0.5
comp=Z,24nm,0.9s
P36A **Good Intent, A** 34.21 342 P P 16 41 26.3 -0.4
baz=157,SNR=21
R32A **Long Quarter,** 34.36 337 P P 16 41 27.8 -0.2
baz=150,SNR=8.9
P35A **Duane Minner,** 34.38 341 P P 16 41 28.2 0.0
baz=155
O37A **Wolven Farm, M** 34.41 344 P P 16 41 28.1 -0.3
baz=159
121A **Cookes Peak, D** 34.51 320 P P 16 41 32.2 +2.6
baz=131,SNR=45
121A **Cookes Peak, D** 34.51 320 eP P 16 41 31.7 +2.1
comp=Z,76nm,1.0s
Q33A **Connelly Farm,** 34.53 338 P P 16 41 29.3 -0.2
baz=152,SNR=7.8
O36A **Bolckow** 34.61 343 P P 16 41 29.5 -0.7
baz=157
SRIG **Santa Rosalia** 34.66 309 eP P 16 41 32.5 +1.8
comp=Z,42nm,1.0s
N39A **Derby Farms, D** 34.66 346 P P 16 41 29.7 -0.9
baz=162,SNR=11
P34A **Walnut Farm, R** 34.67 340 P P 16 41 30.3 -0.4
baz=154,SNR=7.0
319A **Douglas** 34.75 317 eP P 16 41 34.1 +2.5
comp=Z,74nm,0.8s
N38A **Joes South For** 34.76 345 P P 16 41 31.1 -0.3
baz=161,SNR=7.3
Q32A **Meitler Ranch,** 34.80 338 P P 16 41 31.3 -0.4
baz=151
P33A **Williams Farm,** 34.87 339 P P 16 41 32.5 0.0
baz=152
BNM **Barren Site** 34.89 323 eP P 16 41 34.1 +1.2
N37A **Lee Faris, Mou** 34.98 344 P P 16 41 33.1 -0.2
baz=159
LPM **Los Pinos Moun** 35.01 324 eP P 16 41 34.9 +0.9
O35A **Humboldt** 35.02 342 P P 16 41 32.7 -1.0
baz=156
CBKS **Cedar Bluff** 35.10 336 P P 16 41 34.8 +0.3
baz=149
CBKS **Cedar Bluff** 35.10 336 eP P 16 41 35.0 +0.5
CBKS pmax pmax
comp=Z,31nm,0.9s
CBKS **Cedar Bluff** 35.10 336 eP P 16 41 35.0 +0.5
comp=Z,31nm,0.9s
M39A **Webster** 35.16 347 P P 16 41 33.5 -1.3
baz=163
O34A **Beatrice** 35.20 341 P P 16 41 34.7 -0.5
baz=155,SNR=22
N36A **Muff Farm, Cla** 35.24 343 P P 16 41 35.2 -0.4
baz=158
M38A **Pleasantville** 35.34 346 P P 16 41 35.5 -0.9
baz=161,SNR=7.4
ANMO **Albuquerque** 35.36 325 P P 16 41 38.4 +1.5
baz=135
ANMO **Albuquerque** 35.36 325 c iP P 16 41 38.4 +1.5
ANMO pmax pmax
comp=Z,30nm,0.9s
ANMO **Albuquerque** 35.36 325 eP P 16 41 37.6 +0.7
comp=Z,27nm,0.8s
P32A **Huiting Farm,** 35.36 338 P P 16 41 36.4 -0.3
baz=151,SNR=6.4
LAZ **Ladron** 35.37 323 eP P 16 41 37.9 +0.8
L41A **Preston** 35.40 349 P P 16 41 36.0 -0.9
baz=166
O33A **Hebron** 35.40 340 P P 16 41 36.4 -0.6
baz=153,SNR=10
N35A **Tabor** 35.48 342 P P 16 41 37.1 -0.6
baz=157
M37A **Trindle Farm,** 35.54 345 P P 16 41 37.5 -0.7
baz=160,SNR=9.7
N34A **Lincoln** 35.73 341 P P 16 41 39.0 -0.8
baz=155
L39A **Vinton** 35.74 348 P P 16 41 38.4 -1.4
baz=163,SNR=5.8
M36A **Felix, Anita** 35.79 344 P P 16 41 40.0 -0.4
baz=158,SNR=8.6
O32A **Brockman Farm,** 35.81 339 P P 16 41 40.2 -0.3
baz=152,SNR=5.5
T25A **Trinidad** 35.87 329 P P 16 41 41.9 +0.6

baz=140,SNR=22
T25A **Trinidad** 35.87 329 *e*P P 16 41 41.8 +0.5
comp=Z,29nm,0.9s
N33A **J Bar K, Exete** 35.95 340 P P 16 41 40.9 -0.8
baz=154
L38A **Oak Wood Farm,** 35.97 346 P P 16 41 40.9 -0.9
baz=162
M35A **Neola** 36.06 343 P P 16 41 42.4 -0.2
baz=157,SNR=7.7
O31A **Woolen Ranch,** 36.10 338 P P 16 41 41.7 -1.3
baz=150
K40A **Colesburg** 36.12 349 P P 16 41 42.0 -1.1
baz=165,SNR=11
TRY **Troy** 36.13 11 *e*P P 16 41 45.1 +1.9
comp=Z,26nm,1.0s
L37A **Phoenix Point,** 36.15 346 P P 16 41 42.4 -0.9
baz=160,SNR=7.5
JFWS **Jewell Farm** 36.17 350 *e*P P 16 41 42.3 -1.2
JFWS pmax pmax
comp=Z,16nm,0.8s
JFWS **Jewell Farm** 36.17 350 *e*P P 16 41 42.2 -1.2
comp=Z,16nm,0.8s
K39A **Oelwein** 36.27 348 P P 16 41 43.1 -1.3
baz=164,SNR=12
TUC **Tucson** 36.34 317 P P 16 41 47.4 +2.2
baz=127
TUC **Tucson** 36.34 317 *e*P P 16 41 46.9 +1.7
TUC pmax pmax
comp=Z,31nm,1.2s
TUC **Tucson** 36.34 317 *e*P P 16 41 46.9 +1.7
comp=Z,31nm,1.2s
L36A **Harm Buss Farm** 36.36 344 P P 16 41 44.7 -0.4
baz=159
K38A **Parkersburg** 36.41 347 P P 16 41 44.5 -1.1
baz=162,SNR=6.2
KSCO **Kaye Shedlock'** 36.50 333 P P 16 41 46.3 -0.3
baz=145,SNR=12
KSCO **Kaye Shedlock'** 36.50 333 *e*P P 16 41 46.0 -0.6
comp=Z,34nm,0.6s
J41A **Loganville** 36.57 351 P P 16 41 45.5 -1.5
baz=167
L35A **Bielow Farm, R** 36.61 343 P P 16 41 46.5 -0.8
baz=158,SNR=8.8
M33A **Taylor Creek F** 36.61 341 P P 16 41 46.8 -0.5
baz=155
J40A **Soldiers Grove** 36.72 350 P P 16 41 46.8 -1.5
baz=166
K37A **Belmond** 36.72 346 P P 16 41 46.6 -1.7
baz=161,SNR=15
BGNE **Belgrade** 36.78 340 P P 16 41 48.6 -0.3
baz=153
K36A **Gilmore City** 36.80 345 P P 16 41 48.5 -0.5
baz=160
J39A **Decorah** 36.84 349 P P 16 41 47.4 -1.8
baz=164,SNR=6.4
SDCO **Great Sand Dun** 36.90 329 P P 16 41 51.2 +1.1
baz=139,SNR=27
SDCO **Great Sand Dun** 36.90 329 *e*P P 16 41 51.3 +1.1
comp=Z,35nm,1.3s
J38A **Wedel Dairy, R** 36.99 348 P P 16 41 48.9 -1.6
baz=163
M31A **Lambtecht Ranc** 37.01 339 P P 16 41 50.8 0.0
baz=152
K35A **Storm Lake** 37.09 344 P P 16 41 50.5 -0.8
baz=158,SNR=10.0
L33A **Hoskins** 37.17 342 P P 16 41 51.3 -0.8
baz=155
X18A **Snowflake** 37.18 321 *e*P P 16 41 54.5 +2.0
comp=Z,58nm,0.9s
J37A **Redenius Farm,** 37.22 346 P P 16 41 51.2 -1.2
baz=161,SNR=6.7
L32A **Elgin** 37.27 341 P P 16 41 52.8 -0.1
baz=154
K34A **Le Mars** 37.30 343 P P 16 41 52.1 -1.1
baz=157,SNR=7.1
J36A **Seneca 1, Swea** 37.42 346 P P 16 41 53.0 -1.2
baz=160,SNR=34
W18A **Petrified Fore** 37.43 322 P P 16 41 57.3 +2.7
baz=131,SNR=16
W18A **Petrified Fore** 37.43 322 *e*P P 16 41 57.1 +2.5
comp=Z,169nm,1.1s
K33A **Hardington** 37.49 342 P P 16 41 54.4 -0.4
baz=156
214A **Organ Pipe Nat** 37.53 315 P P 16 41 57.8 +2.5
baz=124,SNR=29
214A **Organ Pipe Nat** 37.53 315 *e*P P 16 41 57.4 +2.1
comp=Z,230nm,1.0s
S22A **4UR Ranch, Cre** 37.59 327 P P 16 41 57.3 +1.2
baz=138,SNR=11
S22A **4UR Ranch, Cre** 37.59 327 *e*P P 16 41 57.0 +0.9
comp=Z,14nm,0.8s
I38A **Scanlan Farm,** 37.65 348 P P 16 41 54.7 -1.4
baz=164,SNR=5.9
Q24A **Divide** 37.65 330 P P 16 41 57.2 +0.6
baz=141,SNR=13
Q24A **Divide** 37.65 330 *e*P P 16 41 56.9 +0.3
comp=Z,25nm,1.1s
J35A **Milford** 37.68 345 P P 16 41 55.6 -0.8
baz=159,SNR=5.2
L31A **Butterfield Fa** 37.70 340 P P 16 41 56.3 -0.3
baz=152,SNR=5.4
J34A **George** 37.81 344 P P 16 41 56.9 -0.6
baz=157
K32A **Verdigre** 37.84 341 P P 16 41 56.9 -0.9
baz=154,SNR=5.1
OGNE **Ogallala** 37.84 335 P P 16 41 58.2 +0.3
baz=147,SNR=8.8
OGNE **Ogallala** 37.84 335 *e*P P 16 41 58.4 +0.5
comp=Z,75nm,0.8s
I37A **Lemond, Waseca** 37.85 347 P P 16 41 56.4 -1.4
baz=162
I36A **Fitzsimmons Fa** 38.00 346 P P 16 41 57.6 -1.4
baz=161
X16A **Lo Mia Camp, P** 38.06 319 *e*P P 16 42 02.4 +2.4
comp=Z,38nm,0.8s
K31A **O'Neill** 38.07 340 P P 16 41 59.6 -0.1
baz=153,SNR=5.2
I35A **Creekview Farm** 38.08 345 P P 16 41 58.9 -0.9
baz=159,SNR=26
MVCO **Mesa Verde** 38.12 325 P P 16 42 01.8 +1.3
baz=135,SNR=20
MVCO **Mesa Verde** 38.12 325 *e*P P 16 42 01.8 +1.3
comp=Z,29nm,0.9s
J33A **Davis** 38.13 343 P P 16 41 59.0 -1.2
baz=156,SNR=6.3
H37A **Dierke Farm, C** 38.29 348 P P 16 42 00.4 -1.1
baz=163
ECSD **EROS Data Cent** 38.41 343 P P 16 42 01.0 -1.5
baz=157,SNR=13
ECSD **EROS Data Cent** 38.41 343 *e*P P 16 42 01.0 -1.5
comp=Z,12nm,0.9s
K30A **Basset** 38.41 339 P P 16 42 02.4 -0.2
baz=152,SNR=8.7
J32A **Parkston** 38.45 342 P P 16 42 01.7 -1.2
baz=155
I34A **Hadley** 38.48 344 P P 16 42 02.5 -0.6
baz=158,SNR=5.9
H36A **Jessenland, He** 38.50 347 P P 16 42 02.5 -0.8
baz=161,SNR=5.7
ISCO **Idaho Springs** 38.53 331 P P 16 42 04.7 +0.8
baz=141,SNR=22
ISCO **Idaho Springs** 38.53 331 *e*P P 16 42 04.8 +0.8
ISCO pmax pmax
comp=Z,11nm,0.6s
ISCO **Idaho Springs** 38.53 331 *e*P P 16 42 04.8 +0.8
comp=Z,11nm,0.6s
113A **Mohawk Valley,** 38.65 315 *e*P P 16 42 06.5 +1.8
comp=Z,36nm,1.0s
J31A **Geddes** 38.66 341 P P 16 42 04.0 -0.6
baz=153
WUAZ **Wupatki** 38.71 321 P P 16 42 07.9 +2.6
baz=130,SNR=26
WUAZ **Wupatki** 38.71 321 *e*P P 16 42 07.9 +2.6
comp=Z,82nm,0.8s
SMCO **Snowmass** 38.73 329 *e*P P 16 42 06.7 +0.9
comp=Z,17nm,0.8s
I33A **Coleman** 38.75 343 P P 16 42 04.4 -1.0
baz=156
Y14A **Wickenburg** 38.80 317 *e*P P 16 42 08.0 +2.0
comp=Z,133nm,0.8s
PV01 **Paradox Valley** 38.82 326 *e*P P 16 42 07.7 +1.4
H35A **Sunnyside Ranc** 38.83 346 P P 16 42 04.8 -1.3
baz=160,SNR=8.1
SPMN **Marine on St.** 38.88 348 P P 16 42 05.1 -1.3
baz=163
SPMN **Marine on St.** 38.88 348 *e*P P 16 42 04.6 -1.8
comp=Z,38nm,0.9s
I32A **Karley and Nic** 38.92 343 P P 16 42 05.8 -1.0
baz=156
J30A **Dallas** 38.94 340 P P 16 42 06.3 -0.7
baz=152
H34A **Spellman Lake,** 39.04 345 P P 16 42 06.5 -1.3
baz=158,SNR=9.4
PV05 **Paradox Valley** 39.07 326 *e*P P 16 42 09.5 +1.0
G36A **St. Michael** 39.09 347 P P 16 42 06.8 -1.4
baz=162
COWI **Conover** 39.12 352 *e*P P 16 42 07.3 -1.2
comp=Z,7.6nm,0.9s
G35A **Watkins** 39.24 346 P P 16 42 07.9 -1.6
baz=161
PV10 **Paradox Valley** 39.25 326 *e*P P 16 42 07.1 -2.9
I31A **Royce, Wessing** 39.25 341 P P 16 42 08.3 -1.3
baz=154
H33A **Prehn Over Nor** 39.32 344 P P 16 42 09.2 -0.9
baz=157,SNR=15
H32A **Carlson Farm,** 39.35 343 P P 16 42 09.4 -1.0
baz=156,SNR=18
PV09 **Paradox Valley** 39.39 326 *e*P P 16 42 10.9 -0.3
I30A **Oacoma** 39.44 340 P P 16 42 10.3 -0.9
baz=153
N23A **Red Feather La** 39.54 332 P P 16 42 13.4 +1.1
baz=141,SNR=9.1
N23A **Red Feather La** 39.54 332 *e*P P 16 42 11.5 -0.9
comp=Z,12nm,0.9s
G34A **Benson** 39.54 345 P P 16 42 10.5 -1.5
baz=159,SNR=6.3
GLA **Glamis** 39.55 315 P P 16 42 15.1 +2.8
baz=123,SNR=15
GLA **Glamis** 39.55 315 *e*P P 16 42 14.7 +2.4
GLA pmax pmax
comp=Z,67nm,0.9s
GLA **Glamis** 39.55 315 *e*P P 16 42 14.7 +2.4
comp=Z,67nm,0.9s
PHWY **Pilot Hill** 39.63 332 *e*P P 16 42 13.3 +0.2
comp=Z,9.3nm,0.6s
F36A **Milaca** 39.64 348 P P 16 42 10.9 -1.8
baz=162,SNR=17
H31A **Wolsey** 39.64 342 P P 16 42 11.7 -1.2
baz=154
G33A **Ortonville** 39.71 344 P P 16 42 12.1 -1.3
baz=158,SNR=6.0
Y12C **Blythe** 39.72 316 P P 16 42 16.2 +2.5
baz=124,SNR=14
Y12C **Blythe** 39.72 316 *e*P P 16 42 15.6 +1.9
comp=Z,31nm,0.9s
SUSD **Miller** 39.76 341 P P 16 42 12.6 -1.2
baz=154
PDMCI **Parker Dam,Lak** 39.78 317 P P 16 42 16.4 +2.3
baz=125,SNR=20
I29A **Vivian Onida** 39.83 340 P P 16 42 13.5 -0.9
baz=151
U15A **North Rim** 39.86 321 *e*P P 16 42 17.3 +2.2
comp=Z,83nm,1.4s
F35A **Swanville** 39.86 347 P P 16 42 13.1 -1.6
baz=161,SNR=8.5
F34A **Alexandria** 39.97 346 P P 16 42 14.1 -1.4
baz=160,SNR=7.3
G32A **Webster** 40.05 343 P P 16 42 15.3 -1.0
baz=156,SNR=12
W13A **Hualapai Mount** 40.07 318 *e*P P 16 42 19.1 +2.3
comp=Z,32nm,1.0s
E37A **Wrenshall** 40.09 349 P P 16 42 15.6 -0.9
baz=164
O20A **White River Ci** 40.10 329 P P 16 42 18.3 +1.3
baz=138,SNR=18
O20A **White River Ci** 40.10 329 *e*P P 16 42 17.7 +0.7
comp=Z,19nm,0.7s
SWSC **Sam W. Stewart** 40.18 314 P P 16 42 19.9 +2.4
baz=122,SNR=12
E36A **McGregor** 40.21 348 P P 16 42 16.1 -1.4
baz=163,SNR=6.7
G31A **Conde** 40.23 343 P P 16 42 16.5 -1.2
baz=155
IKP **In-Ko-Pah, Jac** 40.25 313 P P 16 42 20.7 +2.5
baz=121,SNR=5.5
F33A **5 Mile Ranch,** 40.27 345 P P 16 42 16.4 -1.6
baz=158,SNR=27
BC3 **Big Chuckawall** 40.32 315 P P 16 42 21.0 +2.2
baz=123,SNR=15
IRM **Iron Mountain** 40.38 316 P P 16 42 21.4 +2.3
baz=124,SNR=13
MMU **Miners Mountai** 40.41 324 *e*P P 16 42 21.3 +1.7
G30A **Faulkton** 40.43 342 P P 16 42 18.0 -1.4
baz=154,SNR=9.0
E35A **Pequot Lakes** 40.49 347 P P 16 42 18.3 -1.6
baz=161
KNB **Kanab** 40.56 321 *e*P P 16 42 22.9 +2.1
KNB pmax pmax
comp=Z,48nm,1.0s
KNB **Kanab** 40.56 321 *e*P P 16 42 22.9 +2.1
comp=Z,48nm,1.0s
SRU **San Rafael Swe** 40.59 326 *e*P P 16 42 22.0 +0.9
SRU pmax pmax
comp=Z,50nm,0.7s
SRU **San Rafael Swe** 40.59 326 *e*P P 16 42 22.0 +0.9
comp=Z,50nm,0.7s
MONP2 **Monument Peak** 40.60 314 P P 16 42 21.6 +0.4
baz=121,SNR=8.8
E34A **Wadena** 40.62 346 P P 16 42 20.1 -0.8
baz=160
D37A **Conn** 40.66 349 P P 16 42 20.4 -0.9
baz=164,SNR=7.5
BAR **Barrett** 40.67 313 *e*P P 16 42 24.1 +2.5
comp=Z,24nm,1.3s
P18A **Preston Nutter** 40.80 326 *e*P P 16 42 23.8 +0.9
comp=Z,30nm,0.3s
LCMT **Little Creek M** 40.82 321 *e*P P 16 42 24.9 +2.0
comp=Z,44nm,1.2s
D36A **Goodland** 40.82 349 P P 16 42 21.1 -1.5
baz=163
F31A **Hecla** 40.82 343 P P 16 42 21.2 -1.4
baz=155,SNR=5.1
MTPU **Mount Pierson** 40.83 323 *e*P P 16 42 24.9 +1.7
comp=Z,48nm,1.7s
BELC **Belle Mtn. Jos** 40.88 315 P P 16 42 25.9 +2.4
baz=123,SNR=28
D35A **Remer** 40.91 348 P P 16 42 21.5 -1.8
baz=162,SNR=6.9
BDFB **Brasilia** 40.92 124 LR LR 16 59 20.0
comp=Z,16µm,18.9s,baz=208,slow=36
P17A **Butcher Ranch,** 40.96 326 *e*P P 16 42 25.3 +1.2
comp=Z,20nm,1.0s
TPFO **Pinon Flats** 40.99 314 P P 16 42 26.9 +2.5
baz=122,SNR=12
PFO **Pinyon Flats O** 41.00 314 P P 16 42 27.0 +2.6
baz=122,SNR=14
PFO **Pinyon Flats O** 41.00 314 *e*P P 16 42 26.3 +1.9
PFO pmax pmax
comp=Z,30nm,1.0s
PFO **Pinyon Flats O** 41.00 314 *e*P P 16 42 26.3 +1.9
comp=Z,30nm,1.0s
F30A **Leola** 41.03 342 P P 16 42 23.3 -1.0
baz=154,SNR=7.4
GMRC **Granite Mounta** 41.08 317 P P 16 42 27.6 +2.5
baz=124,SNR=18
109C **Camp Elliot, M** 41.09 313 P P 16 42 27.3 +2.3
baz=120,SNR=7.4
MSU **Marysvale** 41.14 324 *e*P P 16 42 27.1 +1.5
MSU **Marysvale** 41.14 324 *e*P P 16 42 27.1 +1.5
D34A **Park Rapids** 41.16 347 P P 16 42 23.7 -1.7
baz=160,SNR=5.3
E32A **Braaten, Kindr** 41.17 345 P P 16 42 23.9 -1.5
baz=157
C37A **Embarrass** 41.17 350 P P 16 42 24.6 -0.9
baz=165
K22A **Casper** 41.18 333 P P 16 42 26.6 +0.7
baz=142,SNR=16
K22A **Casper** 41.18 333 *e*P P 16 42 26.3 +0.4
comp=Z,24nm,0.6s
CCUT **Cedar City** 41.23 322 *e*P P 16 42 28.6 +2.2
comp=Z,26nm,1.1s
EYMN **Ely** 41.27 351 P P 16 42 25.2 -1.0
baz=166
F29A **Eureka** 41.28 341 P P 16 42 25.1 -1.3
baz=153,SNR=12
CPUP **Villa Florida** 41.30 145 P P 16 42 25.0 -1.7
comp=Z,2.1nm,0.8s,baz=315,slow=8.6,SNR=3.2
CPUP LR LR 17 00 26.6
comp=Z,304nm,21.4s,baz=331,slow=38
LMN **Caledonia Moun** 41.31 19 *e*P P 16 42 27.1 +0.5
comp=Z,43nm,0.8s
RSSD **Black Hills** 41.31 336 P P 16 42 27.5 +0.6
baz=146
RSSD **Black Hills** 41.31 336 *e*P P 16 42 27.3 +0.4
RSSD pmax pmax
comp=Z,20nm,0.8s
RSSD **Black Hills** 41.31 336 *e*P P 16 42 27.2 +0.4
comp=Z,20nm,0.8s
C36A **Pine Crest Far** 41.32 349 P P 16 42 25.7 -0.9
baz=164,SNR=8.2
E31A **Nome** 41.36 344 P P 16 42 25.6 -1.4
baz=156,SNR=12
D33A **AnnSam, Waubun** 41.37 346 P P 16 42 25.7 -1.4
baz=159,SNR=12
LMQ **La Malbaie** 41.41 12 *e*P P 16 42 27.3 -0.2
C35A **Jirik Farms, M** 41.48 348 P P 16 42 26.4 -1.6
baz=162,SNR=8.2
MURC **Murrieta** 41.52 314 P P 16 42 31.2 +2.6
baz=121,SNR=12
H25A **Fruitdale** 41.55 337 P P 16 42 29.4 +0.6
baz=147,SNR=6.2
HEC **Hector,Ludlow** 41.57 316 P P 16 42 32.1 +3.1
baz=123,SNR=9.8
E30A **Jud** 41.60 343 P P 16 42 28.1 -0.9
baz=155,SNR=9.0
TUQ **Turquoise Moun** 41.63 317 P P 16 42 31.6 +2.0
baz=124,SNR=24
C34A **RKJ Ranch, Bem** 41.63 347 P P 16 42 27.6 -1.6
baz=161
D32A **Dogwood Acres,** 41.66 345 P P 16 42 27.9 -1.5
baz=158
FLU **Fool Peak** 41.71 325 *e*P P 16 42 32.2 +1.9
SHPR **Sheep Range** 41.73 319 *e*P P 16 42 33.1 +2.6
comp=Z,58nm,1.1s
D31A **Mcclaflin, Tow** 41.76 344 P P 16 42 28.9 -1.4
baz=157,SNR=29
E29A **Napoleon** 41.88 342 P P 16 42 30.8 -0.5
baz=154
C33A **Trail** 41.93 346 P P 16 42 32.2 +0.5
baz=160
RRX **Edison Barstow** 42.05 316 P P 16 42 35.8 +2.9
baz=122
B35A **Bob, Littlefor** 42.06 349 P P 16 42 31.8 -0.9
baz=163
D30A **Buchanan** 42.10 343 P P 16 42 32.4 -0.7
baz=155,SNR=10
SHOC **Shoshone, Teco** 42.12 317 P P 16 42 36.0 +2.5
baz=124
JLU **Jordanelle** 42.14 326 *e*P P 16 42 34.2 +0.4
comp=Z,11nm,0.7s
GSC **Goldstone, Bar** 42.15 316 P P 16 42 36.2 +2.5
baz=123,SNR=24
GSC **Goldstone, Bar** 42.15 316 *e*P P 16 42 35.8 +2.0
GSC pmax pmax
comp=Z,30nm,0.9s
GSC **Goldstone, Bar** 42.15 316 *e*P P 16 42 35.8 +2.0
comp=Z,30nm,0.9s
PSUT **Pine Spring** 42.15 322 *e*P P 16 42 35.8 +1.8
comp=Z,44nm,1.0s
C32A **Crookston** 42.17 346 P P 16 42 33.7 0.0
baz=159
BFSC **Mount Baldy Ra** 42.18 314 P P 16 42 36.2 +2.2
baz=121,SNR=8.6
SCI2 **San Clemente I** 42.19 312 P P 16 42 35.8 +1.8
baz=119
F26A **Lodgepole** 42.25 339 P P 16 42 34.5 +0.1
baz=149
D29A **Pettibone, Tap** 42.31 342 P P 16 42 34.1 -0.7
baz=154
CTU **Camp Tracy** 42.37 326 *e*P P 16 42 36.5 +0.9
comp=Z,53nm,0.8s
B34A **Aery, Baudette** 42.37 348 P P 16 42 33.9 -1.4
baz=162,SNR=14
C31A **Landman Farms,** 42.45 345 P P 16 42 34.7 -1.2
baz=157,SNR=43
MWC **Mount Wilson** 42.45 314 *e*P P 16 42 37.8 +1.4
MWC pmax pmax
comp=Z,23nm,1.0s
MWC **Mount Wilson** 42.45 314 *e*P P 16 42 37.8 +1.4
comp=Z,22nm,1.0s
AGMN **Agassiz Nation** 42.46 347 P P 16 42 34.6 -1.4
baz=160,SNR=12
AGMN **Agassiz Nation** 42.46 347 *e*P P 16 42 34.5 -1.4
comp=Z,26nm,0.9s
TCUT **Toone Canyon** 42.48 327 *e*P P 16 42 37.5 +1.0
comp=Z,36nm,0.7s
PASC **Pasadena Art C** 42.52 314 *e*P P 16 42 38.2 +1.5
comp=Z,19nm,0.9s
C30A **Mose, Pekin** 42.57 344 P P 16 42 36.4 -0.5
baz=156,SNR=5.1
DUG **Dugway, Tooele** 42.62 325 P P 16 42 39.3 +1.6
baz=132,SNR=16
DUG **Dugway, Tooele** 42.62 325 *e*P P 16 42 39.4 +1.8
DUG pmax pmax
comp=Z,15nm,1.0s
DUG **Dugway, Tooele** 42.62 325 *e*P P 16 42 39.4 +1.8
comp=Z,15nm,1.0s
FSU **Fish Springs** 42.64 324 *e*P P 16 42 40.2 +2.4
DECC **Green Verdugo** 42.66 314 P P 16 42 40.0 +2.1
baz=121
TPNV **Topopah Spring** 42.70 319 P P 16 42 41.8 +3.4
baz=125,SNR=7.8
TPNV **Topopah Spring** 42.70 319 *e*P P 16 42 40.2 +1.8
TPNV pmax pmax
comp=Z,59nm,1.4s
TPNV **Topopah Spring** 42.70 319 *e*P P 16 42 40.2 +1.8
comp=Z,59nm,1.4s
B32A **Ashes, Strandq** 42.71 346 P P 16 42 37.1 -0.9
baz=159,SNR=34
BW06 **Boulder Array** 42.71 330 P P 16 42 38.6 +0.1
baz=138,SNR=21
BW06 **Boulder Array** 42.71 330 *e*P P 16 42 38.4 0.0
comp=Z,0.7nm,1.3s
PD31 **Pinedale Array** 42.71 330 *e*P P 16 42 38.1 -0.3
PDAR **Pinedale Array** 42.71 330 P P 16 42 38.5 +0.1
comp=Z,4.2nm,0.5s,baz=129,slow=8.6,SNR=36
PDAR LR LR 17 02 38.5
comp=Z,181nm,20.2s,baz=132,slow=39
E26A **Carlson Angus** 42.71 339 P P 16 42 37.7 -0.4
baz=150
D28A **Regan** 42.72 342 P P 16 42 37.8 -0.3
baz=153,SNR=5.1
EDW2 **Edwards Air Fo** 42.75 315 P P 16 42 40.7 +2.1
baz=122,SNR=20
MCU **Monte Cristo P** 42.77 327 *e*P P 16 42 40.0 +1.0
FURC **Furnace Creek,** 42.84 318 P P 16 42 41.9 +2.8
baz=124,SNR=9.5
RSUT **Red Spur Mount** 42.84 328 *e*P P 16 42 40.4 +0.8
LRMC **Laurel Mtn Rad** 42.85 316 P P 16 42 41.8 +2.3
baz=122,SNR=20
HWUT **Hardware Ranch** 42.90 327 *e*P P 16 42 40.5 +0.6
comp=Z,24nm,0.7s
A33A **Warroad** 42.96 347 P P 16 42 38.7 -1.2
baz=161,SNR=24
BMUT **Black Mountain** 42.98 328 *e*P P 16 42 41.2 +0.6
B31A **Greenbush Farm** 43.01 345 P P 16 42 39.5 -0.9
baz=157,SNR=11
MDND **Maddock** 43.02 343 P P 16 42 40.1 -0.4
baz=154,SNR=13
MDND **Maddock** 43.02 343 *e*P P 16 42 39.9 -0.7
comp=Z,88nm,0.9s
MPMC **Manual Prospec** 43.03 317 P P 16 42 43.1 +2.1
baz=123,SNR=19
R11A **Troy Canyon, C** 43.11 321 P P 16 42 44.1 +2.5
baz=127,SNR=62
R11A **Troy Canyon, C** 43.11 321 *e*P P 16 42 43.8 +2.2
comp=Z,40nm,1.0s
BLG **Laguna Peak, P** 43.12 313 P P 16 42 41.6 0.0
baz=120
OSI **Osito Audit: C** 43.13 314 P P 16 42 44.0 +2.3
baz=120
OSI **Osito Audit: C** 43.13 314 *e*P P 16 42 44.2 +2.6
comp=Z,51nm,1.4s
HDU **Hyde Park** 43.15 328 *e*P P 16 42 42.6 +0.7
A32A **Rocking H Ranc** 43.19 346 P P 16 42 40.5 -1.3
baz=159,SNR=14
D26A **Manning** 43.19 340 P P 16 42 41.4 -0.5
baz=150,SNR=7.1
B30A **Myrvik Farm, E** 43.21 344 P P 16 42 40.9 -1.1
baz=156,SNR=29
BGU **Big Grassy Mou** 43.24 326 *e*P P 16 42 43.8 +1.2
comp=Z,29nm,1.2s
ARVC **Arvin** 43.46 315 P P 16 42 47.1 +2.8
baz=121,SNR=9.8
GRAC **Grapevine Rang** 43.47 318 P P 16 42 47.3 +2.9
baz=124,SNR=8.8
AHID **Auburn Hatcher** 43.48 329 *e*P P 16 42 44.5 -0.1
comp=Z,11nm,0.8s
ISA **Isabella, Lake** 43.49 316 P P 16 42 46.7 +2.0
baz=122
ISA **Isabella, Lake** 43.49 316 *e*P P 16 42 46.7 +2.0
ISA pmax pmax
comp=Z,20nm,1.0s
ISA **Isabella, Lake** 43.49 316 *e*P P 16 42 46.7 +2.0

B29A **Wagenman Farm,** 43.51 344 P P 16 42 44.0 -0.5
baz=155,SNR=23
CWC **Cottonwood Cre** 43.64 317 P P 16 42 47.9 +2.0
baz=123
A30A **Hoffart Farm,** 43.65 345 P P 16 42 44.8 -0.9
baz=157,SNR=13
HVU **Hansel Valley** 43.67 327 eP P 16 42 47.1 +1.0
HVU pmax pmax
comp=Z,18nm,0.6s
HVU **Hansel Valley** 43.67 327 eP P 16 42 47.1 +1.0
comp=Z,18nm,0.6s
B28A **Dugan Ranch, T** 43.78 343 P P 16 42 46.3 -0.4
baz=154
REDW **Red Top Meadow** 43.79 330 eP P 16 42 47.7 +0.6
comp=Z,26nm,0.8s
SNOW **Snow King Moun** 43.82 330 eP P 16 42 47.8 +0.5
comp=Z,23nm,0.6s
LOHW **Long Hollow** 43.85 330 eP P 16 42 47.9 +0.3
comp=Z,16nm,0.6s
A29A **Manning Farm,** 43.89 344 P P 16 42 46.8 -0.8
baz=155,SNR=18
TPAW **Teton Pass** 43.93 330 eP P 16 42 48.7 +0.3
comp=Z,19nm,0.8s
VES **Vestal, Richgr** 44.01 316 P P 16 42 51.6 +2.9
baz=121,SNR=16
MOOW **Moose Ponds** 44.02 330 eP P 16 42 49.1 +0.2
comp=Z,15nm,0.8s
PKM **Mcpherson Peak** 44.04 314 P P 16 42 52.0 +2.8
baz=120,SNR=7.8
C25A **Freed Ranch, W** 44.06 340 P P 16 42 48.8 -0.2
baz=149
A28A **Rude Farm, Bot** 44.17 343 P P 16 42 49.1 -0.7
baz=154
IMW **Indian Meadow** 44.23 330 eP P 16 42 51.2 +0.6
comp=Z,20nm,0.6s
FLWY **Flagg Ranch** 44.24 331 eP P 16 42 51.5 +0.7
comp=Z,26nm,0.7s
LAO **LASA Array** 44.30 336 P P 16 42 51.3 +0.4
baz=145
LAO **LASA Array** 44.30 336 eP P 16 42 51.3 +0.4
comp=Z,34nm,0.9s
ULM **Lac du Bonnet** 44.30 348 P P 16 42 49.1 -1.7
comp=Z,42nm,0.8s,baz=158,slow=7.5,SNR=53
ULM **Lac du Bonnet** 44.30 348 eP P 16 42 48.8 -2.0
ULM pmax pmax
comp=Z,47nm,0.8s
ULM **Lac du Bonnet** 44.30 348 eP P 16 42 48.8 -2.0
comp=Z,47nm,0.8s
RLMT **Red Lodge** 44.35 333 P P 16 42 51.9 +0.3
baz=140,SNR=23
RLMT **Red Lodge** 44.35 333 eP P 16 42 51.8 +0.2
comp=Z,28nm,0.7s
RCTC **Rector, Farmer** 44.36 316 P P 16 42 53.7 +2.2
baz=122,SNR=6.4
SMMC **Simmler** 44.38 314 P P 16 42 54.0 +2.3
baz=120
ELK **Elko** 44.38 324 eP P 16 42 53.2 +1.3
ELK pmax pmax
comp=Z,23nm,1.0s
ELK **Elko** 44.38 324 eP P 16 42 53.2 +1.3
comp=Z,23nm,1.0s
H17A **Grant Village** 44.41 331 P P 16 42 54.0 +1.9
baz=138
A27A **Ledoux Ranch,** 44.49 342 P P 16 42 52.4 0.0
baz=153
B25A **Knox Farm, Ray** 44.51 340 P P 16 42 53.0 +0.4
baz=150
MCID **Moose Creek** 44.56 330 eP P 16 42 54.5 +1.3
A26A **Wade Farm, Ken** 44.69 342 P P 16 42 53.9 -0.1
baz=152
YMR **Madison River** 44.80 331 eP P 16 42 56.9 +1.7
comp=Z,20nm,0.7s
YHH **Holmes Hill** 44.84 331 eP P 16 42 56.5 +0.9
comp=Z,10nm,1.0s
DGMT **Dagmar** 45.03 339 P P 16 42 57.1 +0.4
baz=148,SNR=8.0
DGMT **Dagmar** 45.03 339 eP P 16 42 57.3 +0.6
comp=Z,56nm,0.8s
GCMT **Greycliff** 45.04 333 eP P 16 42 57.2 +0.2
A25A **Svangstu Ranch** 45.07 341 P P 16 42 57.1 +0.1
baz=150
QLMT **Earthquake Lak** 45.15 331 eP P 16 42 59.1 +1.1
WAKR **Walker** 45.67 319 eP P 16 43 03.7 +1.6
comp=Z,35nm,0.9s
HLID **Hailey** 45.77 327 P P 16 43 04.0 +1.1
baz=133,SNR=36
HLID **Hailey** 45.77 327 eP P 16 43 04.0 +1.1
comp=Z,17nm,0.7s
BOZ **Bozeman (W)** 45.84 331 P P 16 43 03.9 +0.6
baz=137,SNR=27
BOZ **Bozeman (W)** 45.84 331 eP P 16 43 04.0 +0.6
BOZ pmax pmax
comp=Z,16nm,0.6s
BOZ **Bozeman (W)** 45.84 331 eP P 16 43 04.0 +0.6
comp=Z,16nm,0.6s
MCMT **McKenzie Canyo** 45.84 330 eP P 16 43 04.9 +1.4
CMB **Columbia Colle** 46.04 317 eP P 16 43 07.4 +2.5
CMB pmax pmax
comp=Z,8.0nm,0.8s
CMB **Columbia Colle** 46.04 317 eP P 16 43 07.4 +2.5
comp=Z,7.7nm,0.8s
DLMT **Dillon** 46.10 330 eP P 16 43 05.8 +0.4
comp=Z,9.3nm,0.9s
LRM **Limekiln Ridge** 46.36 331 eP P 16 43 08.2 +0.6
MFID **Camas Ranch** 46.44 326 eP P 16 43 08.7 +0.6
comp=Z,30nm,1.4s
HRY **Holter Researc** 46.73 332 eP P 16 43 10.8 +0.6
DRLN **Deer Lake** 46.77 22 eP P 16 43 11.0 +0.7
comp=Z,68nm,0.9s
EGMT **Eagleton** 46.81 335 P P 16 43 11.1 +0.3
baz=141
AFDM **Forest Hills D** 46.92 318 eP P 16 43 12.5 +0.8
comp=Z,5.7nm,0.8s
WVOR **Wild Horse Val** 47.43 323 eP P 16 43 16.8 +1.0
WVOR pmax pmax
comp=Z,141nm,1.2s
WVOR **Wild Horse Val** 47.43 323 eP P 16 43 16.8 +1.0
comp=Z,141nm,1.2s
CHMT **Chamberlain Mo** 47.54 331 eP P 16 43 16.6 -0.1
ORV **Oroville** 47.59 319 eP P 16 43 19.3 +2.4
ORV pmax pmax
comp=Z,39nm,1.0s
ORV **Oroville** 47.59 319 eP P 16 43 19.3 +2.4
comp=Z,39nm,1.0s
MSO **Missoula** 47.81 331 P P 16 43 19.0 +0.4
baz=135,SNR=13
MSO **Missoula** 47.81 331 eP P 16 43 19.1 +0.4
comp=Z,11nm,0.8s
MOD **Modoc Plateau** 48.12 322 eP P 16 43 21.0 -0.2
comp=Z,21nm,1.0s
O03D **Paynes Creek** 48.17 319 P P 16 43 22.7 +1.2
baz=122,SNR=8.7
BMO **Blue Mountains** 48.19 327 eP P 16 43 21.7 +0.1
comp=Z,9.2nm,1.0s
SWMT **Swartz Lake** 48.32 332 eP P 16 43 22.8 +0.2
YBMT **Yellow Bay** 48.58 332 eP P 16 43 25.0 +0.3
JTMT **Jette** 48.62 332 eP P 16 43 25.2 +0.2
WDC **Whiskeytown Da** 48.80 319 eP P 16 43 25.7 -0.6
WDC pmax pmax
comp=Z,7.0nm,0.8s
WDC **Whiskeytown Da** 48.80 319 eP P 16 43 25.7 -0.6
comp=Z,6.7nm,0.8s
BLMT **Blacktail Moun** 48.85 332 eP P 16 43 27.9 +1.1
F10A **Beach Ranch, E** 48.88 328 eP P 16 43 26.8 -0.1
comp=Z,13nm,0.8s
BSMT **Bassoo Peak** 48.94 331 eP P 16 43 27.8 +0.3
K05A **Summer Lake** 48.95 322 eP P 16 43 27.8 +0.1
comp=Z,23nm,1.0s
PLCA **Paso Flores** 48.99 168 P P 16 43 26.9 -0.8
comp=Z,3.4nm,0.7s,baz=352,slow=11,SNR=4.6
M04C **Macdoel** 49.00 321 P P 16 43 29.4 +1.4
baz=123,SNR=15
SCHQ **Schefferville** 49.02 12 P P 16 43 26.4 -1.4
comp=Z,6.2nm,0.8s,baz=193,slow=6.9,SNR=4.8
SCHQ LR LR 17 04 11.6
comp=Z,262nm,21.9s,baz=166,slow=36
N02D **Trinity Center** 49.12 320 P P 16 43 28.6 -0.2
baz=122
HOG **Hogback Mounta** 49.17 322 P P 16 43 30.4 +1.0
G08A **Pilot Rock** 49.37 326 eP P 16 43 31.5 +0.8
comp=Z,13nm,0.9s
KMRM **Mail Ridge** 49.38 318 eP P 16 43 33.5 +2.7
comp=Z,53nm,1.0s
WALA **Waterton Lakes** 49.40 333 eP P 16 43 30.8 -0.1
comp=Z,7.4nm,0.8s
K04D **Chiloquin, OR** 49.41 322 P P 16 43 31.7 +0.6
baz=124
M02C **Callahan** 49.43 320 P P 16 43 31.6 +0.4
baz=122
J05D **Fort Rock, OR** 49.47 323 P P 16 43 32.9 +1.3
baz=125,SNR=7.3
YBH **Yreka Blue Hor** 49.52 320 eP P 16 43 31.6 -0.3
YBH pmax pmax
comp=Z,16nm,0.8s
YBH **Yreka Blue Hor** 49.52 320 eP P 16 43 31.6 -0.3
comp=Z,16nm,0.8s
BUOR **Burton Butte** 49.53 321 P P 16 43 33.2 +1.2
E09A **Wood Farm, Sta** 49.71 328 eP P 16 43 33.7 +0.5
comp=Z,19nm,0.8s
KHMM **Horse Mountain** 49.73 319 eP P 16 43 34.9 +1.3
comp=Z,52nm,0.9s
I05D **Terrebonne, OR** 50.14 324 P P 16 43 38.2 +1.7
baz=126,SNR=10
G06A **Carlson Farm,** 50.27 325 eP P 16 43 38.8 +1.3
comp=Z,26nm,1.0s
L02D **Cave Junction,** 50.31 320 P P 16 43 39.0 +1.2
baz=122
CROR **Criterion Ridg** 50.32 325 P P 16 43 40.3 +2.4
NEW **Newport** 50.35 330 P P 16 43 38.6 +0.5
baz=133
NEW **Newport** 50.35 330 eP P 16 43 38.6 +0.5
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW **Newport** 50.35 330 eP P 16 43 38.6 +0.5
comp=Z,6.2nm,0.8s
I04A **Tendick Farm,** 50.47 323 P P 16 43 39.6 +0.6
baz=124,SNR=17
D08A **Wollman Farm,** 50.47 328 eP P 16 43 40.1 +1.2
comp=Z,12nm,0.8s
BPO **Bald Peter** 50.53 324 P P 16 43 41.8 +2.1
C09A **Chrisman Ranch** 50.62 329 eP P 16 43 41.3 +1.3
comp=Z,11nm,0.6s
G05D **Wamic, OR** 50.66 325 P P 16 43 42.3 +1.9
baz=135,SNR=11
TDH **Tom, Dick, Har** 50.96 325 P P 16 43 44.8 +2.0
I03D **Drain, OR** 50.98 322 P P 16 43 43.7 +0.9
baz=123
VLMM **Larch Mountain** 51.25 325 P P 16 43 44.8 -0.1
G03D **McMinnville, O** 51.77 324 P P 16 43 50.6 +1.9
baz=124
LON **Longmire** 51.83 326 eP P 16 43 49.9 +0.7
LON pmax pmax
comp=Z,19nm,0.8s
LON **Longmire** 51.83 326 eP P 16 43 49.9 +0.7
comp=Z,18nm,0.8s
F04D **Rainier, OR** 52.12 325 P P 16 43 51.9 +0.7
baz=125
FCC **Fort Churchill** 52.15 352 eP P 16 43 52.4 +1.2
FCC pmax pmax
comp=Z,13nm,0.9s
FCC **Fort Churchill** 52.15 352 eP P 16 43 52.4 +1.2
comp=Z,13nm,0.9s
E03A **Lebam** 52.70 325 eP P 16 43 57.2 +1.7
comp=Z,52nm,0.9s
B05A **Brynt** 52.90 328 P P 16 43 56.9 -0.1
baz=127
NLWA **Neilton Lookou** 53.35 326 eP P 16 44 02.5 +2.1
comp=Z,45nm,0.9s
OSD **Olympics--Snow** 53.51 326 P P 16 44 03.8 +2.1
YKA **Yellowknife Ar** 59.94 343 P P 16 44 46.3 -0.6
comp=Z,6.8nm,0.6s,baz=137,slow=6.9,SNR=82
DLBC **Dease Lake** 62.72 334 eP P 16 45 06.9 +0.9
comp=Z,18nm,0.9s
SFJD **Kangerlussuaq** 63.42 13 eP pP 16 45 16.7 0.0
SFJD **Kangerlussuaq** 63.42 13 epP pP 16 45 16.7 0.0
SKAG **Skagway** 65.60 333 eP P 16 45 24.7 0.0
RES **Resolute Bay** 67.75 356 eP P 16 45 37.2 -0.9
RES pmax pmax
comp=Z,6.0nm,0.9s
RES **Resolute Bay** 67.75 356 eP P 16 45 37.2 -0.9
comp=Z,6.0nm,0.9s
BALM **Baldy** 69.43 333 eP P 16 45 49.7 +0.6
BALM pmax pmax
comp=Z,16nm,1.3s
BALM **Baldy** 69.43 333 eP P 16 45 49.7 +0.6
comp=Z,16nm,1.3s
DAWY **Dawson** 69.50 337 eP P 16 45 49.5 +0.2
comp=Z,6.8nm,0.8s
INK **Inuvik** 69.63 342 eP P 16 45 50.2 +0.2
INK pmax pmax
comp=Z,18nm,0.9s
INK **Inuvik** 69.63 342 eP P 16 45 50.2 +0.2
comp=Z,18nm,0.9s
SUMG **Summit** 70.40 13 ⇓iP P 16 45 54.2 -1.0
SUMG pmax pmax
comp=Z,22nm,0.9s
SUMG **Summit** 70.40 13 ⇓iP P 16 45 54.2 -1.0
comp=Z,22nm,0.9s
SUMG **Summit** 70.40 13 eP P 16 45 54.2 -1.0
comp=Z,22nm,0.9s
BMRM **Bremner River** 70.42 333 eP P 16 45 54.5 -0.7
comp=Z,69nm,1.9s
EGAK **Eagle** 70.50 337 eP P 16 45 56.2 +0.8
comp=Z,12nm,0.9s
MENT **Mentasta** 70.78 335 eP P 16 45 57.0 -0.2
comp=Z,7.4nm,0.8s
PPT **Papeete** 70.83 249 LR LR 17 10 08.4
comp=Z,140nm,20.1s,baz=101,slow=30
DOT **Dot Lake** 71.19 335 eP P 16 46 00.7 +1.0
comp=Z,37nm,0.7s
KLU **Klutina** 71.20 333 eP P 16 45 59.9 0.0
comp=Z,8.7nm,0.9s
PAX **Paxson** 71.53 335 eP P 16 46 02.9 +1.0
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX **Paxson** 71.53 335 eP P 16 46 02.9 +1.0
comp=Z,5.8nm,1.0s
SML **Sawmill** 72.40 333 eP P 16 46 08.6 +1.6
SML pmax pmax
comp=Z,13nm,1.0s
SML **Sawmill** 72.40 333 eP P 16 46 08.6 +1.6
comp=Z,13nm,1.0s
SEW **Seward** 72.41 331 eP P 16 46 08.2 +1.2
comp=Z,18nm,1.2s
MORF **Marmelete** 72.65 53 eP P 16 46 09.2 +0.1
MORF **Marmelete** 72.65 53 eP P 16 46 09.9 +0.9
HDA **Harding Lake** 72.66 336 eP P 16 46 08.8 +0.4
comp=Z,12nm,0.6s
IL1 **Eielson Array** 72.76 336 eP P 16 46 09.2 +0.2
ILAR **Eielson Array** 72.76 336 P P 16 46 09.5 +0.5
comp=Z,4.6nm,0.6s,baz=110,slow=4.5,SNR=42
ILAR LR LR 17 22 48.6
comp=Z,96nm,18.0s,baz=112,slow=40
ILB **Eielson Array** 72.76 336 eP P 16 46 09.0 0.0
FYU **Fort Yukon** 72.77 338 eP P 16 46 10.5 +1.5
PNCL **Nicolau / Gran** 72.81 52 eP P 16 46 11.2 +1.4
comp=Z,33nm,2.1s
PCAS **Casmilo, Conde** 72.98 50 eP P 16 46 11.4 +0.5
comp=Z,36nm,1.7s
BRLK **Bradley Lake** 73.01 330 eP P 16 46 10.1 -0.6
comp=Z,14nm,1.0s
CCB **Clear Creek Bu** 73.08 336 eP P 16 46 11.2 +0.3
comp=Z,7.1nm,1.3s
RND **Reindeer** 73.12 334 eP P 16 46 12.1 +0.8
RND pmax pmax
comp=Z,27nm,1.1s
RND **Reindeer** 73.12 334 eP P 16 46 12.1 +0.8
comp=Z,27nm,1.1s
WRH **Wood River Hil** 73.14 336 eP P 16 46 11.3 0.0
comp=Z,5.5nm,1.0s
PCVE **Castro Verde** 73.16 53 eP P 16 46 12.5 +0.5
comp=Z,27nm,1.7s
COLA **College** 73.18 336 ⇑iP P 16 46 12.1 +0.6
COLA e*PP pP 16 46 15.2 -2.7
COLA pmax pmax
comp=Z,5.0nm,0.9s
COLA **College** 73.18 336 eP P 16 46 11.8 +0.3
comp=Z,5.6nm,0.8s
EVO **Evora** 73.24 52 eP P 16 46 12.9 +0.5
comp=Z,14nm,1.6s
MCK **McKinley** 73.26 335 eP P 16 46 13.3 +1.2
MCK pmax pmax
comp=Z,9.0nm,0.9s
MCK **McKinley** 73.26 335 eP P 16 46 13.2 +1.2
comp=Z,8.9nm,0.9s
PBEJ **Beja** 73.32 53 eP P 16 46 13.3 +0.4
comp=Z,17nm,1.5s
MDM **Murphy Dome** 73.36 336 eP P 16 46 12.4 -0.2
comp=Z,7.7nm,1.0s
SUA **Susitna One** 73.40 332 eP P 16 46 14.2 +1.2
comp=Z,7.6nm,0.8s
PVIS **Viseu** 73.50 50 eP P 16 46 14.8 +0.8
comp=Z,26nm,2.5s
PESTR **Estremoz** 73.59 52 eP P 16 46 15.1 +0.6
comp=Z,28nm,1.3s
BWN **Browne** 73.62 335 eP P 16 46 14.7 +0.5
comp=Z,42nm,1.1s
POLO **Lamas de Olo** 73.63 49 eP P 16 46 14.8 0.0
comp=Z,14nm,1.5s
PVRL **Vila Real** 73.68 49 eP P 16 46 15.6 +0.6
comp=Z,24nm,2.0s
PCBR **Castelo Branco** 73.75 51 eP P 16 46 16.0 +0.6
comp=Z,23nm,1.6s
TRF **Thorofare Moun** 73.75 334 eP P 16 46 15.5 +0.3
comp=Z,16nm,1.0s
PMRV **Marv??o** 73.79 51 eP P 16 46 16.0 +0.4
comp=Z,19nm,1.5s
SPU **Mount Spurr** 73.94 332 eP P 16 46 16.5 +0.4
KTH **Kantishna Hill** 74.05 334 eP P 16 46 16.8 0.0
comp=Z,12nm,1.0s
RSO **Redoubt South** 74.09 331 eP P 16 46 17.5 +0.2
MVO **Moncorvo** 74.19 49 eP P 16 46 17.7 -0.3
comp=Z,30nm,2.0s
BPAW **Bear Paw Mtn.** 74.23 335 eP P 16 46 18.0 +0.2
comp=Z,8.2nm,0.8s
MLY **Manley** 74.40 336 eP P 16 46 18.6 -0.1
comp=Z,9.3nm,0.8s
PPLA **Purkeypile** 74.43 333 eP P 16 46 19.0 0.0
comp=Z,41nm,1.7s
PBRG **Braganca** 74.45 49 eP P 16 46 19.9 +0.4
COLD **Coldfoot** 74.84 338 eP P 16 46 22.2 +1.0
comp=Z,8.3nm,0.9s
SVW2 **Sparrevohn** 75.58 331 eP P 16 46 25.1 -0.6
comp=Z,10.0nm,1.1s
MDT **Midelt** 75.78 58 P P 16 46 28.1 +0.6
comp=Z,5.8nm,1.0s,baz=305,slow=8.4
TT01 **Tatalina** 76.14 333 eP P 16 46 28.5 -0.2
TTA **Tatalina** 76.14 333 eP P 16 46 28.4 -0.5
TTA pmax pmax
comp=Z,5.0nm,0.9s
TTA **Tatalina** 76.14 333 eP P 16 46 28.4 -0.5
comp=Z,4.9nm,0.9s
CHGN **Chignik** 76.26 326 eP P 16 46 29.3 -0.2
ESDC **Sonseca Array** 76.45 51 P P 16 46 30.8 -0.2
comp=Z,6.3nm,0.7s,baz=274,slow=5.6,SNR=32
ESDC LR LR 17 14 09.8
comp=Z,68nm,21.1s,baz=15,slow=31
ESLA **Sonseca Array** 76.45 51 eP P 16 46 31.8 +0.8
comp=Z,8.5nm,0.8s
ES19 **SONSECA Array** 76.50 51 eP P 16 46 31.0 -0.3
DBIC **Dimbokro** 76.81 85 P P 16 46 37.1 +3.6
comp=Z,8.1nm,0.9s,baz=298,slow=5.6,SNR=4.3
DBIC LR LR 17 17 32.4
comp=Z,107nm,21.4s,baz=256,slow=34
DAG **Danmarks Havn** 77.07 12 ⇓iP P 16 46 31.9 -1.8
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG **Danmarks Havn** 77.07 12 ⇓iP P 16 46 31.9 -1.8
comp=Z,6.0nm,0.9s
SDPT **Sand Point** 77.31 325 eP P 16 46 36.4 +0.9
EKA **Eskdalemuir Ar** 77.89 35 P P 16 46 38.0 -0.7
baz=249,slow=5.2
TOA0 **Torodi Ar. Sit** 82.59 78 eP P 16 47 04.1 -0.8
TORD **Torodi Ar. Bea** 82.59 78 P P 16 47 04.2 -0.7
comp=Z,2.0nm,0.6s,baz=277,slow=4.9,SNR=8.0
WLF **Walferdange** 83.53 41 eP P 16 47 11.2 +2.2
WLF **Walferdange** 83.53 41 eP P 16 47 11.2 +2.2
BFO **Black Forest** 85.06 42 iP P 16 47 17.5 +0.6
BFO **Black Forest** 85.06 42 eP P 16 47 19.6 +2.7
TAM **Tamanrasset** 85.26 68 eP P 16 47 19.9 +1.3
TAM **Tamanrasset** 85.26 68 eP P 16 47 19.9 +1.3
NB2 **NORSAR Subarra** 85.41 29 P P 16 47 17.9 -0.5
comp=Z,12nm,1.2s,baz=275,slow=5.1
NOA **NORSAR Array B** 85.41 29 P P 16 47 17.6 -0.8
comp=Z,3.2nm,0.9s,baz=276,slow=4.7,SNR=6.1
NOA LR LR 17 23 26.5
comp=Z,40nm,20.0s,baz=270,slow=34
TUE **Stuetta** 85.94 44 eP P 16 47 24.3 +2.7
DAVOX **Davos/Dischmat** 86.27 43 P P 16 47 23.9 +0.7
comp=Z,6.1nm,0.9s,baz=300,slow=11,SNR=6.9
FUORN **Ofenpass-Fuorn** 86.55 44 eP P 16 47 25.2 +0.6
KEST **Kesra** 87.16 55 LR LR 17 21 56.7
comp=Z,44nm,18.7s,baz=233,slow=33
NKC **Novy Kostel** 87.51 40 eP P 16 47 29.3 +0.4
NKC epP sP 16 47 38.4 +0.6
NKC **Novy Kostel** 87.51 40 eP P 16 47 29.3 +0.4
NKC e 16 47 38.4
CLL **Collm** 87.70 39 iP P 16 47 30.0 +0.2
comp=Z,13nm,1.5s
CLL i 16 47 33.0
CLL i 16 47 37.9
CLL **Collm** 87.70 39 iP P 16 47 30.0 +0.2
CLL pmax pmax
comp=Z,13nm,1.5s
KHC **Kasperske Hory** 88.41 41 eP P 16 47 33.4 +0.2
KHC epP sP 16 47 42.6 +0.5
KHC AMS AMS 17 30 20.0
comp=Z,100nm,17.4s
KHC **Kasperske Hory** 88.41 41 eP P 16 47 33.4 +0.2
KHC e 16 47 42.6
KHC MLR MLR
comp=Z,100nm,17.4s
GERES **GERESS Array B** 88.53 41 P P 16 47 33.6 -0.3
comp=Z,1.0nm,0.8s,baz=18,slow=0.4,SNR=7.5
GERES LR LR 17 25 01.5
comp=Z,60nm,18.2s,baz=271,slow=34
GEA0 **GERESS Array S** 88.53 41 eP P 16 47 32.9 -1.0
PRU **Pruhonice** 88.88 40 AMS AMS 17 30 30.0
comp=Z,200nm,18.3s
GOPC **GO Pecny, Ondr** 89.05 40 AMS AMS 17 30 40.0
comp=Z,200nm,18.3s
ARCES **ARCESS Array B** 89.37 20 P P 16 47 36.6 -0.7
comp=Z,2.7nm,0.8s,baz=246,slow=5.2,SNR=5.3
ARCES LR LR 17 26 34.9
comp=Z,49nm,19.3s,baz=289,slow=35
DPC **Dobruska-Polom** 89.94 39 eP P 16 47 40.5 +0.1
DPC epP PcP 16 47 44.1 +2.4
DPC esP sP 16 47 49.5 +0.2
DPC **Dobruska-Polom** 89.94 39 eP P 16 47 40.5 +0.1
DPC e 16 47 44.1
DPC e 16 47 49.5
VRAC **Vranov** 90.32 40 P P 16 47 42.6 +0.4
comp=Z,1.2nm,0.4s,baz=292,slow=11,SNR=3.4
BILL **Bilibino** 91.12 339 ⇓iP P 16 47 47.1 +1.7
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,148nm,21.0s
BILL **Bilibino** 91.12 339 eP P 16 47 46.2 +0.8
comp=Z,4.0nm,0.8s
VYHS **Vyhne** 91.94 41 eP P 16 47 50.1 +0.4
VYHS pmax pmax
comp=Z,12nm,2.2s
VYHS **Vyhne** 91.94 41 eP P 16 47 50.1 +0.4
FINES **FINESS Array B** 92.30 27 LR LR 17 24 45.7
comp=Z,92nm,21.8s,baz=259,slow=33
SNAA **Sanae** 93.57 162 P P 16 47 57.4 +0.7
AKASG **Malin Array Be** 97.74 37 LR LR 17 28 30.6
comp=Z,70nm,21.9s,baz=285,slow=33
KLMR **Klimovskoe** 98.43 25 P P 16 48 16.3 -2.7
KLMR e 16 52 15.9
KLMR pmax pmax
comp=Z,5.0nm,1.1s
TIXI **Tiksi** 98.59 350 ⇓iP P 16 48 18.7 -0.8
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI **Tiksi** 98.59 350 eP P 16 48 18.5 -1.0
KUR **Kuril'sk** 111.08 324 ePKIKP PKiKP 16 53 16.1 +1.4
ZALV **Zalesovo Beam** 118.05 9 PKP PKPdf 16 53 28.5 +0.6
comp=Z,0.4nm,0.3s,baz=302,slow=2.7,SNR=3.5
CN2 **Changchun** 123.28 336 ePKP PKPdf 16 53 35.8 -2.4
CN2 PP PP 16 55 19.6 +2.0
CN2 PPMZ
comp=Z,100nm,6.0s
CN2 LN
comp=Z,300nm,21.0s
CN2 LE
comp=Z,200nm,21.0s
CN2 LZ
comp=Z,300nm,23.0s
MKAR **Makanchi Array** 124.45 13 PKP PKPdf 16 53 39.0 -1.5
comp=Z,0.5nm,0.8s,baz=343,slow=1.5,SNR=3.0
MKAR **Makanchi Array** 124.45 13 PKIKP PKPdf 16 53 39.0 -1.5
ULN **Ulaanbaatar** 124.47 352 ⇑iPKIKP PKPdf 16 53 43.3 +2.7
SONM **Songino Array** 124.58 353 PKP PKPdf 16 53 39.5 -1.3
comp=Z,0.6nm,0.4s,baz=36,slow=2.7,SNR=2.6
AAK **Ala-Archa** 126.02 21 ⇓iPKIKP PKPdf 16 53 45.8 +2.0
KSRS **Korea Array** 127.28 330 PKP PKPdf 16 53 44.0 -2.1
comp=Z,1.4nm,0.8s,baz=106,slow=1.6,SNR=8.3

KSAR	Wonju Array Be	127.31	330		PKIKP	PKPdf	16 53 44.0	-2.1
KSAR	Wonju Array Be	127.31	330		PKP	PKPdf	16 53 44.0	-2.1
WMQ	Urumqi	128.34	9		PKP	PKPdf	16 53 48.4	+0.4
WMQ					LN			
	comp=Z,48nm,24.0s							
WMQ					LE			
	comp=Z,77nm,22.6s							
WMQ					LZ			
	comp=Z,55nm,21.2s							
TJN	Taejon	128.40	329	i	PKIKP	PKPdf	16 53 48.6	+0.4
TJN				*i*			16 53 52.0	
KSH	Kashi	129.29	22		PKP	PKPdf	16 53 49.9	-0.2
KSH					sPKP		16 54 03.8	
KSH					PP	PP	16 56 02.1	+4.5
KSH					PKS	PKSdf	16 57 24.8	-1.9
KSH					SKS	SKSdf	17 00 54.8	-6.3
KSH					SKKS	SKKSac	17 02 49.0	-6.2
KSH					SS	SS	17 13 17.1	0.0
KSH					PPMZ			
	comp=Z,61nm,3.0s							
KSH					LN			
	comp=Z,200nm,8.8s							
KSH					LE			
	comp=Z,100nm,4.3s							
HHC	Hu-ho-hao-te	130.43	346	*e*	PKP	PKPdf	16 53 54.3	+2.1
LZH	Lanzhou	136.47	353	*e*	PKP	PKPdf	16 54 05.3	+1.6
LZH					sPKP		16 54 10.6	
CD2	Chengdu	141.58	352		PKP	PKPdf	16 54 12.0	-1.1
ASAR	Alice Springs	141.62	241		PKhKP	PKPpre	16 54 07.9	
	comp=Z,1.5nm,0.7s,baz=115,slow=3.3,SNR=10.0							
ASAR					PKP	PKPdf	16 54 11.7	-1.6
	comp=Z,1.8nm,0.9s,baz=117,slow=3.3,SNR=12							
WRAB	Tennant Creek	142.29	247	i	PKIKP	PKPdf	16 54 14.2	-0.3
WRAB				*i*			16 54 18.5	
WRAB					pmax	pmax		
	comp=Z,20nm,1.2s							
WRA	Warramunga Arr	142.30	247		PKhKP	PKPpre	16 54 09.6	
	comp=Z,1.3nm,0.7s,baz=95,slow=2.5,SNR=5.4							
WRA					PKP	PKPdf	16 54 13.9	-0.6
	comp=Z,2.7nm,0.9s,baz=107,slow=1.3,SNR=8.6							
GYA	Guiyang	145.34	346	*e*	PKPbc	PKPbc	16 54 19.3	-0.3
GYA					PP	PP	16 57 41.4	+3.7
GYA					PPMZ			
	comp=Z,120nm,8.2s							
H01W1	Cape Leeuwin H	148.61	207		T	T	19 41 31.9	
	baz=144,slow=76,SNR=20							
H01W2	Cape Leeuwin H	148.61	207		T	T	19 41 31.8	
	baz=144,slow=76,SNR=29							
H01W3	Cape Leeuwin H	148.62	207		T	T	19 41 31.4	
	baz=144,slow=76,SNR=20							
FITZ	Fitzroy Crossi	150.71	246		PKPbc	PKPbc	16 54 33.1	-1.1
	comp=Z,5.4nm,0.9s,baz=95,slow=2.0,SNR=6.6							
QIZ	Qiongzhong	151.23	336		PKPbc	PKPdf	16 54 28.3	-1.2
QIZ					PP	PP	16 58 13.6	+1.4
QIZ					SS	SS	17 17 39.8	+5.8
QIZ					LE			
	comp=Z,270nm,14.2s							
QIZ					LZ			
	comp=Z,280nm,15.6s							
CHTO	Chiang Mai	154.04	357	*e*	PKP2	PKPab	16 54 54.0	-0.9
CHTO	Chiang Mai	154.04	357	*e*	PKPab	PKPab	16 54 54.0	-0.9
CMAR	Chiang Mai Arr	154.40	357		PKP	PKPdf	16 54 34.2	+0.1
	comp=Z,1.1nm,1.0s,baz=300,slow=3.3,SNR=5.1							
CMAR					PKPbc	PKiKP	16 54 44.8	+2.3
	comp=Z,2.2nm,0.8s,baz=322,slow=2.9,SNR=8.8							

ISCJB ***19*** *16:35:43.0±0.5, 9.°82S±0.°05×112.°74E±0.°04, h33km, mb4.0/12, MS3.3/2, Error ellipse: s-maj=6.8km s-min=5.2km az=28.4*

DJA ***19*** *16:35:43.8±1.0, 10.°5S±5.°×11.°3E±.°, h10km±9km, M4.5/15, mB5.2/1, mb4.8/3, MLv4.3/15, Mw(mB)4.5/1*

IDC ***19*** *16:35:43.5±4.5, 9.°34S×112.°97E, h22km±30km, mb3.8/10, mb1 3.9/11, mb1mx3.7/48, mbtmp4.0/11, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/33, Error ellipse: s-maj=55.4km s-min=14.2km az=52.0*

NEIC ***19*** *16:35:45.9±1.2, 9.°50S×112.°84E, h49km±12km, mb4.3/2, Error ellipse: s-maj=17.2km s-min=9.0km az=222.0*

ISC 19 16:35:43.5±0.7,**9.°86S**±0.°07×**112.°75E**±0.°06,**h35**km,**n37,** σ**2s74/41,mb4.1/12,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	1.72	24	P		P	Pn	16 36 08.9	-2.0
JAGI	Jajag, Banyuwa	1.96	45	P		P	Pn	16 36 13.3	-1.0
JAGI				S		S	Sn	16 36 38.7	+1.1
JAGI	Jajag, Banyuwa	1.96	45	*e*Pn		P	Pn	16 36 13.2	-1.0
PWJI	Pagerwojo	2.05	333	P		P	Pn	16 36 15.0	-0.5
PWJI				S		S	Sn	16 36 38.6	-1.3
BLJI	Banyuglugur	2.26	22	P		P	Pn	16 36 18.7	+0.3
BLJI				S		S	Sn	16 36 45.7	+0.6
PCJI	Pacitan	2.27	317	P		P	Pn	16 36 19.1	+0.6
ABJI	Asem Bagus	2.52	36	P		P	Pn	16 36 23.1	+1.1
DNP	Denpasar	2.70	64	P		P	Pn	16 36 24.7	+0.3
WOJI	Wonogiri, Jawa	2.70	318	P		P	Pn	16 36 25.5	+1.1
NGJI	Ngawi	2.78	333	P		P	Pn	16 36 29.8	+4.2
GRJI	Gresik	2.94	355	P		P	Pn	16 36 29.1	+1.4
GRJI				S		S	Sn	16 37 08.7	+6.9
SRBI	Singaraja	3.00	54	P		P	Pn	16 36 29.3	+0.6
UWJI	Ujung Watu	3.85	332	P		P	Pn	16 36 41.0	+0.7
TWSI	Taliwang, Sumb	4.23	75	P		P	Pn	16 36 47.3	+1.8
KPJI	Karang Pucung	4.53	303	P		P	Pn	16 36 55.9	+6.2
CMJI	Cimerak	4.72	296	P		P	Pn	16 36 55.4	+3.1
PLAI	Plampang	5.07	79	P		P	Pn	16 37 00.8	+3.8
CISI	Cisompet, Garu	5.39	295	P		P	Pn	16 37 05.5	+4.0
CISI	Cisompet, Garu	5.39	295	*e*Pn		P	Pn	16 37 03.0	+1.5
	61nm,0.4s								
KAPI	Kappang	8.45	56	LR		LR		16 40 57.6	
	comp=Z,97nm,21.0s,baz=264,slow=39								
EDFI	Ende, Flores	8.89	84	P		P	Pn	16 37 50.9	+1.2
MBWA	Marble Bar	13.09	150	*e*Pn		P	Pn	16 38 47.7	+0.6
FITZ	Fitzroy Crossi	14.95	125	Pn		P	Pn	16 39 13.5	+1.1
	0.3nm,0.3s,baz=304,slow=12,SNR=7.5								
FITZ				Sn		P	Sn	16 41 49.1	-7.7
	0.5nm,0.3s,baz=6.8,slow=23,SNR=6.2								
WRA	Warramunga Arr	23.12	118	P		P	P	16 40 49.2	+2.5
	0.5nm,0.3s,baz=282,slow=12,SNR=12								
WRA				S		P	S	16 45 00.7	+4.8
	0.4nm,0.9s,baz=302,slow=16,SNR=2.9								
WRAB	Tennant Creek	23.13	118	*e*P		P	P	16 40 50.8	+4.0
ASAR	Alice Springs	24.42	127	P		P	P	16 41 02.6	+3.5
	1.4nm,0.7s,baz=300,slow=8.9,SNR=19								
ASAR				LR		LR		16 50 58.3	
	comp=Z,67nm,19.0s,baz=233,slow=37								
CMAR	Chiang Mai Arr	31.26	334	P		P	P	16 41 59.5	-0.7
	0.5nm,0.3s,baz=167,slow=8.3,SNR=5.8								
STKA	Stephens Creek	34.54	134	P		P	P	16 42 31.7	+2.9
	2.0nm,0.8s,baz=296,slow=11,SNR=3.2								
STKA				LR		LR		16 57 37.8	
	comp=Z,74nm,19.8s,baz=205,slow=38								
KSAR	Wonju Array Be	49.15	16	P		P	P	16 44 26.4	-1.5
KSRS	Korea Array	49.17	16	P		P	P	16 44 26.4	-1.6
	0.7nm,0.6s,baz=209,slow=7.8,SNR=5.1								
MAJO	Matsushiro	52.00	26	*e*P		P	P	16 44 47.4	-2.1
	1.7nm,0.5s								
MJAR	Matsushiro Arr	52.00	26	P		P	P	16 44 46.8	-2.8
	1.1nm,0.5s,baz=202,slow=8.4,SNR=6.3								
SONM	Songino Array	57.71	355	P		P	P	16 45 29.7	-1.1
	1.3nm,0.6s,baz=161,slow=9.4,SNR=4.5								
MKAR	Makanchi Array	62.61	337	P		P	P	16 46 03.3	-1.0
	1.1nm,0.4s,baz=149,slow=7.5,SNR=22								
ZALV	Zalesovo Beam	67.83	343	P		P	P	16 46 36.4	-1.5
	0.8nm,0.5s,baz=173,slow=5.8,SNR=2.1								
PETK	Petropavlovsk-	73.46	26	P		P	P	16 47 09.5	-2.7
	8.3nm,1.1s,baz=195,slow=4.6,SNR=4.2								
ABKAR	Akbulak array	74.82	327	*e*P		P	P	16 47 19.5	-0.8
	1.9nm,0.5s								

ISCJB ***19*** *16:42:59.6±0.7, 17.°5S±0.°1×178.°5W±0.°1, h547km, mb4.0/13, Error ellipse: s-maj=21.3km s-min=11.6km az=153.5*

IDC ***19*** *16:43:01.3±1.7, 17.°57S×178.°45W, h559km±20km, mb3.4/11, mb1 3.6/13, mb1mx3.3/35, mbtmp4.4/13, Error ellipse: s-maj=20.5km s-min=12.7km az=148.0*

ISC 19 16:43:00.3±0.7,**17.°6S**±0.°2×**178.°5W**±0.°1,**h547**km,**n40,** σ**0.°71/41,mb3.9/13,8C-4D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.39	62	P		P	P	16 44 53.1	+1.0
	8.7nm,0.3s,baz=24,slow=2.8,SNR=12								
DZM	Mont Dzumac	14.89	250	P		P	P	16 46 09.0	+0.1
	1.4nm,0.3s,baz=104,slow=8.0,SNR=8.6								
PMG	Port Moresby	34.34	279	P		P		16 49 02.6	+0.5
	36nm,0.8s,baz=88,slow=6.0,SNR=9.0								
STKA	Stephens Creek	38.75	241	P		P		16 49 38.9	+0.7
	8.8nm,0.5s,baz=91,slow=10,SNR=53								
JAY	Jayapura	42.75	286	P		P		16 50 10.7	+0.4
	1.6nm,0.7s,baz=99,slow=22,SNR=5.1								
WRA	Warramunga Arr	44.64	259	P		P		16 50 24.4	-0.5
	10nm,0.7s,baz=93,slow=6.8,SNR=189								
WRA				PcP		PcP		16 51 55.1	-0.6
	1.2nm,0.7s,baz=94,slow=3.5,SNR=4.4								
ASAR	Alice Springs	44.83	254	P		P		16 50 26.1	-0.1
	71nm,0.6s,baz=89,slow=7.9,SNR=1891								
ASAR				PcP		PcP		16 51 55.5	-0.9
	1.6nm,0.6s,baz=97,slow=4.1,SNR=4.5								
FITZ	Fitzroy Crossi	53.03	260	P		P		16 51 27.1	+0.2
	2.0nm,0.3s,baz=94,slow=2.7,SNR=28								
VNDA	Vanda	60.80	185	P		P		16 52 19.1	+0.1
	0.4nm,0.8s,baz=334,slow=6.5,SNR=5.3								
MJAR	Matsushiro Arr	67.59	323	P		P		16 53 02.4	-0.4
	2.2nm,0.7s,baz=160,slow=6.2,SNR=12								
MAT	Matsushiro	67.59	323	P		P		16 53 02.2	-0.6
ASAJ	Asahikawa	70.94	331	P		P		16 53 23.9	+1.3
	5.0nm,0.8s,baz=183,slow=6.0,SNR=9.6								
ILAR	Eielson Array	85.55	13	P		P		16 54 38.8	-1.7
	0.4nm,0.4s,baz=229,slow=5.6,SNR=6.5								
TXAR	Lajitas Array	85.85	58	P		P		16 54 43.3	+0.5
	0.5nm,0.7s,baz=215,slow=8.5,SNR=7.5								
XAN	Xi'an	86.00	307	P		P		16 54 43.9	+0.6
XAN				pmax		pmax			
	comp=Z,4.0nm,0.8s								
XAN				pmax		pmax			
	comp=Z,18nm,2.6s								
PDAR	Pinedale Array	87.13	43	P		P		16 54 48.9	+0.2
	comp=Z,0.2nm,0.4s,baz=289,slow=2.8,SNR=2.5								
MKAR	Makanchi Array	108.84	314	PKIKP		PKiKP		17 00 25.7	-2.0
	comp=Z,0.2nm,0.5s,baz=79,slow=1.2,SNR=4.3								
BURAR	Bucovina Array	144.27	332	i	P	PKPab		17 01 34.5	0.0
TESR	Tescani	144.42	330	i	P	PKPbc		17 01 33.8	-0.7
BRTR	Keskin Array B	144.49	315	PKP		PKPdf		17 01 34.1	-1.0
	comp=Z,3.3nm,0.9s,baz=128,slow=3.2,SNR=15								
CFR	Carcaliu	144.60	327	i	P	PKPab		17 01 37.0	+1.3
TIRR	Tirgusor	144.94	326	i	P	PKPdf		17 01 35.6	+0.1
HARR	Harsova	145.04	326	i	P	PKPdf		17 01 35.3	-0.3
CLL	Collm	145.10	347	*i*	(P)	PKPbc		17 01 36.3	-0.1
	comp=Z,5.0nm,0.7s								
OKC	Ostrava-Krasne	145.12	341	*e*PKP		PKPbc		17 01 36.5	0.0
UPC	Upice	145.13	344	*e*PKP		PKPbc		17 01 36.8	+0.3
DPC	Dobruska-Polom	145.19	343	*e*PKP		PKPab		17 01 37.3	-0.5
BRG	Berggiesshubel	145.31	346	*e*P		PKPbc		17 01 37.0	0.0
	comp=Z,8.5nm,1.3s								
MORC	Moravsky Berou	145.35	342	i	P	PKPbc		17 01 37.5	+0.2
DOPR	Dopca	145.42	330	i	P	PKPab		17 01 38.2	-0.7
CJR	Cluj-Napoca	145.67	333	i	P	PKPbc		17 01 38.9	+0.6
MMAI	Mount Meron Ar	145.90	303	PKPbc		PKPbc		17 01 39.3	-0.1
	comp=Z,2.3nm,0.4s,baz=69,slow=4.6,SNR=7.0								
VOIR		145.97	330	i	P	PKPbc		17 01 39.2	0.0
PRU	Pruhonice	145.99	345	*e*PKP		PKPbc		17 01 39.2	+0.2
DRGR		145.99	334	i	P	PKPbc		17 01 38.9	-0.3
ARR	Arges	146.22	330	i	P	PKPbc		17 01 40.9	+1.0
KHC	Kasperske Hory	147.02	345	*e*PKP		PKPbc		17 01 41.9	0.0
GERES	GERESS Array B	147.25	345	PKPbc		PKPbc		17 01 42.0	-0.7
	comp=Z,1.7nm,0.6s,baz=18,slow=2.7,SNR=14								
BZS	Buzias	147.39	333	i	P	PKPbc		17 01 42.5	-0.4
DAVOX	Davos/Dischmat	150.04	348	PKPbc		PKPbc		17 01 49.1	-0.6
	comp=Z,3.9nm,0.6s,baz=157,slow=2.7,SNR=8.1								

GEN ***19*** *16:49:01.3, 44.°19N×10.°84E, h18km, ML3.5*

LDG ***19*** *16:49:02.9±0.1, 44.°08N×10.°88E, h10km, Ml3.4/20, Error ellipse: s-maj=2.4km s-min=1.6km az=167.0*

CSEM ***19*** *16:49:02.3±0.1, 44.°12N×10.°80E, h15km, ML3.4/28, Error ellipse: s-maj=2.6km s-min=2.3km az=3.0*

IDC ***19*** *16:49:02.6±1.4, 44.°33N×10.°92E, h0km, mb3.7/2, mb1 3.6/7, mb1mx3.4/45, mbtmp3.5/7, ML3.4/5, MS2.8/3, Ms1 2.8/3, ms1mx2.3/45, Error ellipse: s-maj=25.5km s-min=15.5km az=105.0*

ISCJB ***19*** *16:49:02.1±0.2, 44.°14N±0.°02×10.°75E±0.°02, h25km±2km, mb3.7/2, MS4.1/2, Error ellipse: s-maj=3.1km s-min=2.2km az=172.9*

ROM ***19*** *16:49:02.2±0.1, 44.°14N×10.°81E, h9km±1km, Ml3.2/27, Error ellipse: s-maj=2.1km s-min=1.5km az=179.0*

PRU ***19*** *16:49:03.8, 44.°23N×11.°06E, h1km*

STR ***19*** *16:49:10.6±0.2, 44.°43N×10.°06E, h10km, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 19 16:49:02.2±0.7,**44.°16N**±0.°01×**10.°77E**±0.°01,**h18**km±4km, **n204,**σ**1s63/292,3C,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
POPM	Popiglio	0.11	185	P		Pg	Pg	16 49 05.8	-0.2
POPM				Sg		Sg	Sg	16 49 08.6	+0.1
POPM	Popiglio	0.11	185	P		Pg	Pg	16 49 05.8	-0.2
POPM				S		Sg	Sg	16 49 08.6	+0.1
BDI	Bagni Di Lucca	0.16	233	Pg		Pg	Pg	16 49 06.5	0.0
BDI				Sg		Sg	Sg	16 49 10.0	+0.5
	21μm,0.3s								
BDI	Bagni Di Lucca	0.16	233	Pg		Pg	Pg	16 49 06.5	0.0
BDI				Sg		Sg	Sg	16 49 10.0	+0.5
	21μm,0.3s								
FNVD	Fontana Vidola	0.25	88	Pg		Pg	Pg	16 49 06.8	-1.1
FNVD				Sg		Sg	Sg	16 49 10.5	-1.4
	7μm,0.5s								
FNVD	Fontana Vidola	0.25	88	Pg		Pg	Pg	16 49 06.8	-1.1
FNVD				Sg		Sg	Sg	16 49 10.5	-1.4
	7μm,0.5s								
SARO	Sassorosso	0.27	276	P		Pg	Pg	16 49 08.1	-0.1
SARO				S		Sg	Sb	16 49 12.7	-0.1
VLC	Villacollemand	0.28	270	Pg		Pg	Pg	16 49 08.4	+0.1
VLC				Sg		Sg	Sb	16 49 13.5	+0.5
	2μm,0.3s								
VLC	Villacollemand	0.28	270	Pg		Pg	Pg	16 49 08.4	+0.1
VLC				Sg		Sg	Sb	16 49 13.5	+0.5
	2μm,0.3s								
PTF	Prato	0.29	133	Pg		Pg	Pg	16 49 08.0	-0.6
PTF				Sg		Sg	Sg	16 49 12.8	-0.1
PTF	Prato	0.29	133	Pg		Pg	Pg	16 49 08.0	-0.6
PTF				Sg		Sg	Sg	16 49 12.8	-0.1
MAIM	Mastiano	0.32	220	Pg		Pg	Pg	16 49 08.8	-0.2
MAIM				Sg		Sg	Sb	16 49 14.7	+0.6
	3μm,0.4s								
MAIM	Mastiano	0.32	220	P		Pg	Pg	16 49 08.8	-0.2
MAIM				S		Sg	Sb	16 49 14.0	-0.1
MAIM				Sg		Sg	Sb	16 49 14.7	+0.6
	3μm,0.4s								
ERBM	Eremo	0.37	315	Pg		Pg	Pg	16 49 10.2	+0.3
	3μm,1.4s								
ERBM	Eremo	0.37	315	Pg		Pg	Pg	16 49 10.2	+0.3
	3μm,1.4s								
CRMI	Carmignano	0.40	159	Pg		Pg	Pg	16 49 10.0	-0.3
CRMI				Sg		Sg	Sb	16 49 16.4	0.0
	2μm,0.4s								
CRMI	Carmignano	0.40	159	Pg		Pg	Pg	16 49 10.0	-0.3
CRMI				Sg		Sg	Sb	16 49 16.4	0.0
	2μm,0.4s								
SEI	Scarperia	0.43	104	Pg		Pg	Pg	16 49 09.8	-1.2
SEI	Scarperia	0.43	104	Pg		Pg	Pg	16 49 09.8	-1.2
FIR	Firenze	0.52	138	Pg		Pg	Pb	16 49 13.6	+0.9
	3μm,0.6s								
FIR	Firenze	0.52	138	Pg		Pg	Pb	16 49 13.6	+0.9
	3μm,0.6s								
MTRZ	Monterenzio	0.54	66	Pg		Pg	Pg	16 49 12.5	-0.6
	2μm,0.5s								
MTRZ	Monterenzio	0.54	66	Pg		Pg	Pg	16 49 12.5	-0.6
	2μm,0.5s								
VMG	Vicchio	0.59	109	Pg		Pg	Pb	16 49 12.7	-1.3
VMG	Vicchio	0.59	109	Pg		Pg	Pb	16 49 12.7	-1.3
NOVE	Novellara	0.64	356	Pg		Pg	Pg	16 49 15.9	+1.1
	7μm,0.6s								
NOVE	Novellara	0.64	356	Pg		Pg	Pg	16 49 15.9	+1.1
	7μm,0.6s								
RAVA	Ravarino	0.65	22	Pg		Pg	Pn	16 49 16.3	-0.2
	7μm,0.7s								
RAVA	Ravarino	0.65	22	Pg		Pg	Pn	16 49 16.3	-0.2
	7μm,0.7s								
PLMA	Palmaria, Port	0.67	261	Pg		Pg	Pb	16 49 15.4	0.0
	737nm,0.6s								
PLMA	Palmaria, Port	0.67	261	Pg		Pg	Pb	16 49 15.4	0.0
	737nm,0.6s								
PRMA	PARMA	0.69	332	Pg		Pg	Pn	16 49 16.9	-0.1
	2μm,0.8s								
PRMA	PARMA	0.69	332	Pg		Pg	Pn	16 49 16.9	-0.1
	2μm,0.8s								
FIU	Minerbio Fiu	0.70	47	Pg		Pn		16 49 17.6	+0.3
	2μm,0.8s								
FIU	Minerbio Fiu	0.70	47	Pg		Pn		16 49 17.6	+0.3
	2μm,0.8s								
SFI	Santa Sofia	0.82	108	Pg		Pb		16 49 17.4	-0.4
	393nm,0.7s								
SFI	Santa Sofia	0.82	108	Pg		Pb		16 49 17.4	-0.4
	393nm,0.7s								
ASQU	Asqua	0.82	116	Pg		Pb		16 49 17.3	-0.6
	405nm,0.7s								
ASQU	Asqua	0.82	116	Pg		Pb		16 49 17.3	-0.6
	405nm,0.7s								
SBPO	S.Benedetto Po	0.90	7	Pg		Pn		16 49 21.8	+1.9
	4μm,0.8s								
SBPO	S.Benedetto Po	0.90	7	Pg		Pn		16 49 21.8	+1.9
	4μm,0.8s								
SASS	Sassa	0.90	184	Pg		Pg		16 49 19.6	-0.1
	503nm,0.3s								
SASS	Sassa	0.90	184	Pg		Pg		16 49 19.6	-0.1
	503nm,0.3s								
MSSA	Maissana	0.92	280	Pg		Pb		16 49 19.9	+0.3
	779nm,0.5s								
MSSA	Maissana	0.92	280	Pg		Pb		16 49 19.9	+0.3
	779nm,0.5s								
SC2M	Scurtabo	0.92	286	Pg		Pb		16 49 20.0	+0.3
	1μm,0.4s								
SC2M	Scurtabo	0.92	286	Pg		Pb		16 49 20.0	+0.3
	1μm,0.4s								
FROS	Frosini	0.99	164	Pg		Pb		16 49 20.8	0.0
	921nm,0.7s								
FROS	Frosini	0.99	164	Pg		Pb		16 49 20.8	0.0
	921nm,0.7s								
CRE	Caprese Michel	1.01	122	Pg		Pb		16 49 21.1	-0.1
	412nm,0.5s								
CRE	Caprese Michel	1.01	122	Pg		Pb		16 49 21.1	-0.1
	412nm,0.5s								
T0502	Localit San	1.02	104	Pg		Pg		16 49 21.5	+0.2
	587μm,29.0s								
TRIF	Trifonti	1.05	175	Pg		Pn		16 49 22.2	+0.2
	264nm,0.3s								
TRIF	Trifonti	1.05	175	Pg		Pn		16 49 22.2	+0.2
	264nm,0.3s								
BOB	Bobbio (Coli)	1.13	303	Pg		Pg		16 49 24.3	+0.3
	1μm,1.2s								
BOB	Bobbio (Coli)	1.13	303	Pg		Pg		16 49 24.3	+0.3
	1μm,1.2s								
PARC	Parchiule	1.18	115	Pg		Pn		16 49 23.6	-0.2
	211nm,0.7s								
PARC	Parchiule	1.18	115	Pg		Pn		16 49 23.6	-0.2
	211nm,0.7s								
CAFI	Castiglion Fio	1.20	133	Pg		Pn		16 49 23.8	-0.3
	286nm,0.9s								
CAFI	Castiglion Fio	1.20	133	Pg		Pn		16 49 23.8	-0.3
	286nm,0.9s								
TEOL	Teolo	1.36	28	i	*e*Pg	Pn		16 49 26.3	0.0
TEOL					*e*Sg	Sg		16 49 46.9	+0.7
TEOL	Teolo	1.36	28	*e*Pg		Pn		16 49 26.3	0.0
TEOL					*e*Sg	Sg		16 49 46.9	+0.7
CASP	Castiglione de	1.37	177	Pg		Pn		16 49 26.2	-0.2
	131nm,0.7s								
CASP	Castiglione de	1.37	177	Pg		Pn		16 49 26.2	-0.2
	131nm,0.7s								
ARCI	Arcidosso	1.40	158	Pg		Pn		16 49 26.6	-0.4
ARCI	Arcidosso	1.40	158	Pg		Pn		16 49 26.6	-0.4
MARN	Marana (Italy)	1.51	12	i	*e*Pg	Pn		16 49 28.4	+0.1
MARN	Marana (Italy)	1.51	12	*e*Pg		Pn		16 49 28.5	+0.1
BALD	Monte Baldo	1.52	1	*e*Pg		Pb		16 49 30.6	+0.6
BALD					*e*Sg	Sg		16 49 52.3	+0.8
BALD	Monte Baldo	1.52	1	*e*Pg		Pb		16 49 30.6	+0.6
BALD					*e*Sg	Sg		16 49 52.3	+0.8
RNI	Roncone	1.82	357	*e*Pn		Pb		16 49 34.4	-0.8
RNI	Roncone	1.82	357	*e*Pn		Pb		16 49 34.4	-0.8
CGRP	Cima Grappa	1.87	23	i	*e*Pn	Pn		16 49 33.2	-0.2
CGRP	Cima Grappa	1.87	23	*e*Pn		Pn		16 49 33.2	-0.2
PGF	Pioggiola	2.06	219	*e*Pn		Pn		16 49 36.5	+0.4
	SNR=1.0								
PGF					*e*Sn	Sn		16 50 00.2	-1.2
	42nm,0.4s								
PGF	Pioggiola	2.06	219	*e*Pn		Pn		16 49 36

DAVA	**Damuels**	**3.19**	**349**	Pn	**Pn**	**16 49 54.4**	**+2.8**
	1.5nm,0.1s							
DAVA				Sn	**Sb**	**16 50 34.0**	**-3.0**
	29nm,0.4s							
MOTA	**Moosalm**	**3.19**	**4**	*e*Pn	**Pn**	**16 49 54.6**	**+2.9**
	7.7nm,0.4s							
MOTA	**Moosalm**	**3.19**	**4**	Pn	**Pn**	**16 49 54.6**	**+2.9**
	7.7nm,0.4s							
LMR	**La Mourre**	**3.20**	**257**	*e*Pn	**Pn**	**16 49 51.5**	**0.0**
LMR	**La Mourre**	**3.20**	**257**	*e*P	**Pn**	**16 49 54.8**	**+3.3**
	SNR=1.0							
LMR				*e*Sn	**Sn**	**16 50 28.5**	**-0.7**
	53nm,0.4s,SNR=1.0							
LMR	**La Mourre**	**3.20**	**257**	*e*Pn	**Pn**	**16 49 51.5**	**0.0**
LMR	**La Mourre**	**3.20**	**257**	*e*P	**Pn**	**16 49 54.8**	**+3.3**
	SNR=1.0							
LMR				*e*Sn	**Sn**	**16 50 28.5**	**-0.7**
	27nm,0.4s,SNR=1.0							
WATA	**Walderalm**	**3.23**	**10**	*i* Pn	**Pn**	**16 49 54.1**	**+2.0**
WATA	**Walderalm**	**3.23**	**10**	Pn	**Pn**	**16 49 54.1**	**+2.0**
RETA	**Reutte**	**3.33**	**360**	*e*Pn	**Pn**	**16 49 55.8**	**+2.4**
	2.1nm,0.2s							
RETA				*e*Sn	**Sb**	**16 50 37.4**	**-3.5**
	21nm,0.5s							
RETA	**Reutte**	**3.33**	**360**	Pn	**Pn**	**16 49 55.8**	**+2.4**
	2.1nm,0.2s							
RETA				Sn	**Sb**	**16 50 37.4**	**-3.5**
	21nm,0.5s							
KBA	**Koelnbreinsper**	**3.43**	**31**	*e*Pn	**Pn**	**16 49 56.5**	**+1.6**
	1.7nm,0.2s							
KBA				*e*Sn	**Sn**	**16 50 35.9**	**+0.6**
	9.9nm,0.3s							
KBA	**Koelnbreinsper**	**3.43**	**31**	Pn	**Pn**	**16 49 56.5**	**+1.6**
	1.7nm,0.2s							
KBA				Sn	**Sn**	**16 50 35.9**	**+0.6**
	9.9nm,0.3s							
OBKA	**Obir**	**3.55**	**47**	*e*Pn	**Pn**	**16 49 58.0**	**+1.5**
	3.6nm,0.3s							
OBKA				*e*Sn	**Sn**	**16 50 39.0**	**+0.9**
	49nm,0.7s							
OBKA	**Obir**	**3.55**	**47**	Pn	**Pn**	**16 49 58.0**	**+1.5**
	3.6nm,0.3s							
OBKA				Sn	**Sn**	**16 50 39.0**	**+0.9**
	49nm,0.7s							
ORIF	**Oris-en-Rattie**	**3.58**	**284**	*e*P	**Pn**	**16 50 00.0**	**+3.1**
	SNR=1.0							
ORIF				*e*Sn	**Sn**	**16 50 38.2**	**-0.6**
	36nm,0.6s							
ORIF	**Oris-en-Rattie**	**3.58**	**284**	*e*P	**Pn**	**16 50 00.0**	**+3.1**
	SNR=1.0							
ORIF				*e*Sn	**Sn**	**16 50 38.2**	**-0.6**
	18nm,0.6s							
UDBI	**Udbina**	**3.60**	**82**	*e*Pn	**Pn**	**16 49 59.1**	**+2.0**
UDBI				Sn	**Sn**	**16 50 39.3**	**0.0**
UDBI	**Udbina**	**3.60**	**82**	*e*Pn	**Pn**	**16 49 59.1**	**+2.0**
UDBI				Sn	**Sn**	**16 50 39.2**	**0.0**
SMRF	**Simiane la Rot**	**3.75**	**269**	*e*Pn	**Pn**	**16 50 01.1**	**+1.9**
SMRF	**Simiane la Rot**	**3.75**	**269**	*e*P	**Pn**	**16 50 03.6**	**+4.4**
	SNR=1.0							
SMRF				*e*Sn	**Sn**	**16 50 42.2**	**-0.7**
	9.4nm,0.5s							
SOKA	**Soboth**	**3.92**	**48**	*e*Pn	**Pn**	**16 50 02.0**	**+0.5**
	0.7nm,0.2s							
SOKA				*e*Sn	**Sn**	**16 50 48.8**	**+1.7**
	5.0nm,0.4s							
SOKA	**Soboth**	**3.92**	**48**	Pn	**Pn**	**16 50 02.0**	**+0.5**
	0.7nm,0.2s							
SOKA				Sn	**Sn**	**16 50 48.8**	**+1.7**
	5.0nm,0.4s							
BBS	**Basel-Blauen**	**4.02**	**327**	Pn	**Pn**	**16 50 04.0**	**+1.2**
CABF	**La Chapelle**	**4.11**	**308**	*e*Pn	**Pn**	**16 50 06.5**	**+2.3**
	SNR=1.0							
CABF				*e*Sn	**Sn**	**16 50 50.9**	**-1.0**
	19nm,0.6s							
CABF	**La Chapelle**	**4.11**	**308**	*e*Pn	**Pn**	**16 50 06.5**	**+2.3**
	SNR=1.0							
CABF				*e*Sn	**Sn**	**16 50 50.9**	**-1.0**
	9.6nm,0.6s							
FELD	**Feldberg im Sc**	**4.19**	**334**	Pn	**Pn**	**16 50 06.2**	**+0.9**
LOMF	**Lomont**	**4.22**	**321**	Pn	**Pn**	**16 50 06.1**	**+0.4**
LOMF				Sg	**Sb**	**16 51 11.1**	**+4.6**
VIVF	**Saint-Julien-l**	**4.42**	**281**	*e*Pn	**Pn**	**16 50 09.4**	**+1.0**
	SNR=1.0							
VIVF				*e*Sn	**Sn**	**16 50 59.0**	**-0.4**
	4.9nm,0.4s,SNR=1.0							
VIVF	**Saint-Julien-l**	**4.42**	**281**	*e*Pn	**Pn**	**16 50 09.4**	**+1.0**
	SNR=1.0							
VIVF				*e*Sn	**Sn**	**16 50 59.0**	**-0.4**
	2.5nm,0.4s,SNR=1.0							
MOA	**Molln**	**4.42**	**32**	*e*Pn	**Pn**	**16 50 09.9**	**+1.5**
	6.9nm,0.3s							
MOA				*i* Sn	**Sn**	**16 51 01.4**	**+2.0**
	14nm,0.5s							
MOA	**Molln**	**4.42**	**32**	Pn	**Pn**	**16 50 09.9**	**+1.5**
	6.9nm,0.3s							
MOA				Sn	**Sn**	**16 51 01.4**	**+2.0**
	14nm,0.5s							
MOF	**Molkenrain**	**4.48**	**327**	Pn	**Pn**	**16 50 10.2**	**+1.0**
MOF				Sg	**Sg**	**16 51 20.8**	**-5.1**
HINF	**Hinteralfeld**	**4.56**	**325**	*e*Pn	**Pn**	**16 50 11.4**	**+1.0**
	SNR=1.0							
HINF				*e*Sn	**Sn**	**16 51 03.2**	**+0.2**
	38nm,0.5s,SNR=1.0							
HINF	**Hinteralfeld**	**4.56**	**325**	*e*Pn	**Pn**	**16 50 11.4**	**+1.0**
	SNR=1.0							
HINF				*e*Sn	**Sn**	**16 51 03.2**	**+0.2**
	19nm,0.5s,SNR=1.0							
ECH	**Echery**	**4.77**	**330**	Pn	**Pn**	**16 50 14.0**	**+0.8**
ECH				Sg	**Sg**	**16 51 30.3**	**-4.9**
CDF	**Champ du Feu**	**4.90**	**332**	*e*Pn	**Pn**	**16 50 15.9**	**+0.9**
	SNR=1.0							
CDF				*e*Sn	**Sn**	**16 51 10.5**	**-0.7**
	17nm,0.4s							
HAU	**Haudompre**	**4.93**	**323**	*e*Pn	**Pn**	**16 50 16.4**	**+1.1**
	SNR=1.0							
HAU				*e*Sn	**Sn**	**16 51 11.7**	**-0.2**
	73nm,0.4s,SNR=1.0							
HAU	**Haudompre**	**4.93**	**323**	*e*Pn	**Pn**	**16 50 16.4**	**+1.1**
	SNR=1.0							
HAU				*e*Sn	**Sn**	**16 51 11.7**	**-0.2**
	36nm,0.4s,SNR=1.0							
LASF	**Ste Croix**	**4.98**	**271**	*e*Pn	**Pn**	**16 50 16.4**	**+0.3**
	SNR=1.0							
LASF	**Ste Croix**	**4.98**	**271**	*e*Pn	**Pn**	**16 50 16.4**	**+0.3**
	SNR=1.0							
GERES	**GERESS Array B**	**5.11**	**22**	Pn	**Pn**	**16 50 18.4**	**+0.6**
	1.6nm,0.3s,baz=197,slow=14,SNR=42							
GERES				Sn	**Sn**	**16 51 14.2**	**-2.1**
	1.7nm,0.3s,baz=203,slow=23,SNR=6.8							
GERES				LR	LR	16 52 39.5		
	comp=Z,43nm,20.7s,baz=296,slow=44							
CONA	**Conrad Observa**	**5.17**	**41**	*e*Pn	**Pn**	**16 50 18.9**	**+0.1**
	1.5nm,0.2s							
CONA				*e*Sn	**Sn**	**16 51 19.1**	**+1.1**
	5.9nm,0.3s							
CONA	**Conrad Observa**	**5.17**	**41**	Pn	**Pn**	**16 50 18.9**	**+0.1**
	1.5nm,0.2s							
CONA				Sn	**Sn**	**16 51 19.1**	**+1.1**
	5.9nm,0.3s							
LANF	**Langenberg**	**5.24**	**338**	Pn	**Pn**	**16 50 20.8**	**+1.2**
LANF				Sg	**Sg**	**16 51 47.2**	**-3.0**
LANF	**Langenberg**	**5.24**	**338**	Pn	**Pn**	**16 50 20.8**	**+1.2**
LANF				Sg	**Sg**	**16 51 47.2**	**-3.0**
KHC	**Kasperske Hory**	**5.33**	**20**	*e*PN	**Pn**	**16 50 21.3**	**+0.3**
KHC				*e*SN	**Sn**	**16 51 19.7**	**-2.3**
KHC				*e*SG	**Sg**	**16 51 53.4**	**+0.1**
KHC	**Kasperske Hory**	**5.33**	**20**	Pn	**Pn**	**16 50 21.3**	**+0.3**
KHC				Sn	**Sn**	**16 51 19.7**	**-2.3**
SMF	**Signal de Mont**	**5.48**	**299**	*e*Pn	**Pn**	**16 50 24.4**	**+1.5**
	SNR=1.0							
SMF				*e*Sn	**Sn**	**16 51 24.7**	**-0.7**
	14nm,0.5s							
SMF	**Signal de Mont**	**5.48**	**299**	*e*Pn	**Pn**	**16 50 24.4**	**+1.5**
	SNR=1.0							
SMF				*e*Sn	**Sn**	**16 51 24.7**	**-0.7**
	6.8nm,0.5s							
PAGF	**Fort de Pagny**	**5.62**	**323**	*e*Pn	**Pn**	**16 50 26.2**	**+1.4**
PAGF				*e*Sn	**Sn**	**16 51 27.8**	**-1.0**
	3.4nm,0.5s							
PAGF	**Fort de Pagny**	**5.62**	**323**	*e*Pn	**Pn**	**16 50 26.2**	**+1.4**
SFTF	**Sexfontaines**	**5.68**	**317**	*e*Pn	**Pn**	**16 50 27.0**	**+1.4**
	baz=131							
SFTF	**Sexfontaines**	**5.68**	**317**	*e*Pn	**Pn**	**16 50 27.0**	**+1.4**
LOR	**Lormes**	**5.75**	**305**	*e*Pn	**Pn**	**16 50 28.0**	**+1.3**
	baz=123,SNR=1.0							
LOR				*e*Sn	**Sn**	**16 51 31.2**	**-1.0**
	14nm,0.3s,SNR=1.0							
LOR	**Lormes**	**5.75**	**305**	*e*Pn	**Pn**	**16 50 28.0**	**+1.3**
	SNR=1.0							
AVF	**Avril sur Loir**	**5.84**	**299**	*e*Pn	**Pn**	**16 50 28.0**	**+0.1**
	SNR=1.0							
AVF				*e*Sn	**Sn**	**16 51 33.1**	**-1.3**
	5.4nm,0.4s							
AVF	**Avril sur Loir**	**5.84**	**299**	*e*Pn	**Pn**	**16 50 28.0**	**+0.1**
	SNR=1.0							
SSF	**Saint Saulge**	**5.87**	**302**	*e*Pn	**Pn**	**16 50 29.6**	**+1.4**
	SNR=1.0							
SSF				*e*Sn	**Sn**	**16 51 33.3**	**-1.7**
	7.0nm,0.5s,SNR=1.0							
SSF	**Saint Saulge**	**5.87**	**302**	*e*Pn	**Pn**	**16 50 29.6**	**+1.4**
	SNR=1.0							
MEZF	**Maizieres J'vi**	**5.88**	**320**	*e*Pn	**Pn**	**16 50 30.0**	**+1.7**
	baz=140,SNR=1.0							
MEZF	**Maizieres J'vi**	**5.88**	**320**	*e*Pn	**Pn**	**16 50 30.0**	**+1.7**
	SNR=1.0							
BGF	**Bois d'Agland**	**6.08**	**296**	*e*Pn	**Pn**	**16 50 32.0**	**+0.9**
BGF	**Bois d'Agland**	**6.08**	**296**	*e*Pn	**Pn**	**16 50 32.0**	**+0.9**
NKC	**Novy Kostel**	**6.18**	**10**	*e*SN	**Sn**	**16 51 39.8**	**-3.0**
MTLF	**Montolieu**	**6.25**	**265**	*e*Pn	**Pn**	**16 50 33.9**	**+0.4**
MTLF	**Montolieu**	**6.25**	**265**	*e*P	**Pn**	**16 50 38.2**	**+4.7**
	SNR=1.0							
MTLF				*e*Sn	**Sn**	**16 51 43.3**	**-1.2**
	1.8nm,0.4s,SNR=1.0							
MTLF	**Montolieu**	**6.25**	**265**	*e*Pn	**Pn**	**16 50 33.9**	**+0.4**
MTLF				*e*Sn	**Sn**	**16 51 43.3**	**-1.2**
	0.9nm,0.4s,SNR=1.0							
CAF	**Calviac**	**6.27**	**280**	*e*Pn	**Pn**	**16 50 34.7**	**+0.9**
	SNR=1.0							
CAF	**Calviac**	**6.27**	**280**	*e*Pn	**Pn**	**16 50 34.7**	**+0.9**
	SNR=1.0							
PRU	**Pruhonice**	**6.37**	**22**	*e*PN	**Pn**	**16 50 36.1**	**+0.9**
PRU				*e*SN	**Sn**	**16 51 44.3**	**-3.1**
PRU				*ex*	x	16 51 57.9		
PRU	**Pruhonice**	**6.37**	**22**	Pn	**Pn**	**16 50 36.1**	**+0.9**
GOPC	**GO Pecny, Ondr**	**6.38**	**24**	*e*PN	**Pn**	**16 50 35.6**	**+0.4**
GOPC				*e*SN	**Sn**	**16 51 45.3**	**-2.3**
GOPC				*ex*	x	16 52 00.2		
GOPC				*e*SG	**Sg**	**16 52 25.6**	**-1.1**
GOPC	**GO Pecny, Ondr**	**6.38**	**24**	Pn	**Pn**	**16 50 35.6**	**+0.4**
TCF	**Toulx Ste Croi**	**6.41**	**292**	*e*Pn	**Pn**	**16 50 36.5**	**+0.8**
	SNR=1.0							
TCF	**Toulx Ste Croi**	**6.41**	**292**	*e*Pn	**Pn**	**16 50 36.5**	**+0.8**
	SNR=1.0							
VRAC	**Vranoy**	**6.52**	**36**	LR	LR	16 52 52.0		
	comp=Z,20nm,19.1s,baz=342,slow=36							
VYHS	**Vyhne**	**7.07**	**49**	*e*Pn	**Pn**	**16 50 44.5**	**-0.2**
VYHS	**Vyhne**	**7.07**	**49**	*e*PN	**Pn**	**16 50 44.5**	**-0.2**
VYHS				*e*SN	**Sn**	**16 51 59.0**	**-5.5**
DPC	**Dobruska-Polom**	**7.25**	**29**	*e*SN	**Sn**	**16 52 04.6**	**-4.5**
DPC				*ex*	x	16 52 18.4		
UPC	**Upice**	**7.28**	**27**	*e*PN	**Pn**	**16 50 47.0**	**-0.6**
UPC	**Upice**	**7.28**	**27**	Pn	**Pn**	**16 50 47.0**	**-0.6**
CLL	**Collm**	**7.31**	**11**	*e*Pn	**Pn**	**16 50 48.0**	**0.0**
CLL				*e*Sn	**Sn**	**16 52 19.0**	**+8.6**
EPF	**Esparros**	**7.66**	**265**	*e*Pn	**Pn**	**16 50 53.7**	**+0.8**
EPF	**Esparros**	**7.66**	**265**	*e*Pn	**Pn**	**16 50 53.7**	**+0.8**
KEST	**Kesra**	**8.49**	**188**	Pn	Pn	16 51 09.4	+5.1
	0.2nm,0.3s,baz=1.2,slow=18,SNR=2.2							
ESDC	**Sonseca Array**	**11.85**	**253**	Pn	Pn	16 51 56.0	+5.6
	0.4nm,0.3s,baz=56,slow=14,SNR=5.8							
FINES	**FINESS Array B**	**19.54**	**22**	P	**Pn**	**16 53 30.7**	**+0.9**
	0.1nm,0.3s,baz=196,slow=13,SNR=2.2							
MKAR	**Makanchi Array**	**48.61**	**60**	P	**P**	**16 57 45.7**	**+1.1**
	0.8nm,0.6s,baz=276,slow=6.5,SNR=6.4							
YKA	**Yellowknife Ar**	**65.08**	**335**	P	**P**	**16 59 42.5**	**+1.5**
	0.3nm,0.5s,baz=42,slow=6.1,SNR=5.3							
BOSA	**Boshof**	**73.62**	**167**	LR	LR	17 35 48.8		
	comp=Z,172nm,18.0s,baz=248,slow=38							
MJAR	**Matsushiro Arr**	**86.61**	**40**	LR	LR	17 41 59.0		
	comp=Z,39nm,18.6s,baz=55,slow=37							

CSEM ***19*** *16:49:39.6±0.1, 44.20°N×10.82°E, h10km, ML3.0/4, Error ellipse: s-maj=3.2km s-min=1.9km az=12.0*
GEN ***19*** *16:49:39.2, 44.16°N×10.81°E, h19km, ML2.9*
ROM 19 16:49:39.1±0.1, 44.17°N×10.82°E, h9km, Ml2.6/5, Error ellipse: s-maj=1.2km s-min=0.7km az=171.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POPM	**Popiglio**	**0.13**	**199**	Pg	Pg	16 49 43.2	+1.1
POPM				Sg	Sg	16 49 46.2	+2.0
POPM	**Popiglio**	**0.13**	**199**	P	Pg	16 49 43.2	+1.1
POPM				Sg	Sg	16 49 46.2	+2.0
BDI	**Bagni Di Lucca**	**0.19**	**236**	Pg	Pg	16 49 44.0	+0.9
BDI				Sg	Sg	16 49 47.5	+1.6
BDI	**Bagni Di Lucca**	**0.19**	**236**	Pg	Pg	16 49 44.0	+0.9
BDI				Sg	Sg	16 49 47.5	+1.6
FNVD	**Fontana Vidola**	**0.22**	**91**	Pg	Pg	16 49 44.3	+0.7
FNVD				Sg	Sg	16 49 48.1	+1.4
	2µm,0.5s						
FNVD	**Fontana Vidola**	**0.22**	**91**	Pg	Pg	16 49 44.3	+0.7
FNVD				Sg	Sg	16 49 48.1	+1.4
	2µm,0.5s						
PTF	**Prato**	**0.28**	**139**	Pg	Pb	16 49 45.7	-0.6
PTF				Sg	Sb	16 49 50.4	-0.7
PTF	**Prato**	**0.28**	**139**	Pg	Pb	16 49 45.7	-0.6
PTF				Sg	Sb	16 49 50.4	-0.7
SARO	**Sassorosso**	**0.30**	**273**	P	Pg	16 49 45.6	+0.5
SARO				S	Sg	16 49 50.0	+0.9
VLC	**Villacollemand**	**0.31**	**268**	Pg	Pg	16 49 46.0	+0.7
VLC				Sg	Sb	16 49 50.9	-1.2
	570nm,0.3s						
VLC	**Villacollemand**	**0.31**	**268**	Pg	Pg	16 49 46.0	+0.7
VLC				Sg	Sb	16 49 50.9	-1.2
	570nm,0.3s						
MAIM	**Mastiano**	**0.35**	**223**	Pg	Pb	16 49 46.9	-0.6
MAIM				Sg	Sb	16 49 52.3	-0.8
	581nm,0.4s						
MAIM	**Mastiano**	**0.35**	**223**	Pg	Pb	16 49 46.9	-0.6
MAIM				Sg	Sb	16 49 52.3	-0.8
	581nm,0.4s						
ERBM	**Eremo**	**0.38**	**311**	Pg	Pb	16 49 47.6	-0.5
	807nm,1.4s						
ERBM	**Eremo**	**0.38**	**311**	Pg	Pb	16 49 47.6	-0.5
	807nm,1.4s						
CRMI	**Carmignano**	**0.40**	**164**	Pg	Pb	16 49 47.9	-0.4
CRMI				Sg	Sb	16 49 54.0	-0.5
	383nm,0.4s						
CRMI	**Carmignano**	**0.40**	**164**	Pg	Pb	16 49 47.9	-0.4
CRMI				Sg	Sb	16 49 54.0	-0.5
	383nm,0.4s						
SEI	**Scarperia**	**0.41**	**107**	Pg	Pg	16 49 47.7	+0.7
SEI	**Scarperia**	**0.41**	**107**	Pg	Pg	16 49 47.7	+0.7

ISCJB ***19*** *16:53:12.0±0.6, 22.12°N±0.03°×143.37°E±0.03, h198km±5km, mb4.5/196, Error ellipse: s-maj=4.9km s-min=4.0km az=164.8*
MOS ***19*** *16:53:12.8±1.1, 22.12°N×143.33°E, h207km, mb4.8/47, Error ellipse: s-maj=8.3km s-min=4.7km az=107.2*
IDC ***19*** *16:53:13.0±0.7, 22.10°N×143.46°E, h198km±5km, mb4.3/37, mb1 4.4/40, mb1mx4.3/51, mbtmp4.8/40, MS2.7/2, Ms1 2.7/2, ms1mx2.5/35, Error ellipse: s-maj=11.3km s-min=7.0km az=81.0*
NEIC ***19*** *16:53:13.3±0.1, 22.07°N×143.39°E, mb4.6/129, Error ellipse: s-maj=3.8km s-min=3.4km az=165.0*
JMA ***19*** *16:53:14.6±0.3, 22.38°N×143.54°E, h185km*
ISC 19 16:53:13.1±0.5, 22.10N±0.04°×143.49E±0.06°, h199km±4km, h198km:pP-P, n515, s1913/552, mb4.6/195, 16C-5D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.11**	**347**	P	**Pn**	**16 54 27.3**	**-1.5**
CBIJ				S	**Sn**	**16 55 23.9**	**-4.8**
CBIJ	**Chichi jima**	**5.11**	**347**	*e*Pn	**Pn**	**16 54 27.5**	**-1.3**
CBIJ				S	**Sn**	**16 55 24.6**	**-4.1**
JCJ	**Chichijima**	**5.11**	**347**	P	**Pn**	**16 54 27.5**	**-1.4**
	40nm,0.3s,baz=271,slow=22,SNR=58						
JCJ				S	**Sn**	**16 55 24.6**	**-4.1**
	baz=285,slow=20						
JCJ				LR	LR	16 55 27.8	
	comp=Z,46nm,20.7s,baz=16,slow=26						

ANA2	**Anatahan**	**6.10**	**159**	*e*Pn	**Pn**	**16 54 41.7**	**0.0**
JHJ	**Hachijo jima 2**	**11.46**	**344**	P	**P**	**16 55 56.9**	**+0.3**
	19nm,0.3s,baz=71,slow=19,SNR=15							
JHJ				S	**Sn**	**16 57 56.4**	**-2.2**
	5.7nm,0.3s,baz=90,slow=20,SNR=2.4							
BSO1	**Boso 1**	**12.70**	**351**	P	**Pn**	**16 56 07.0**	**+0.8**
BSO3	**Boso 3**	**12.92**	**349**	P	**Pn**	**16 56 10.1**	**+0.8**
BSO3				*e*S	**S**	**16 58 38.4**	**+5.0**
JWZ	**Kozaga**	**13.29**	**331**	P	**P**	**16 56 18.0**	**+0.9**
JKN2	**Miekihoku**	**13.66**	**334**	P	**Pn**	**16 56 18.8**	**+0.1**
JOD2	**Odawara 2**	**13.67**	**345**	P	**Pn**	**16 56 16.3**	**-2.6**
HMMJ	**Hamamatsu 2**	**13.68**	**340**	P	**Pn**	**16 56 18.2**	**-0.8**
JNY	**Yasuok**	**14.10**	**341**	P	**Pn**	**16 56 24.1**	**-0.1**
INU	**Inuyama**	**14.36**	**338**	*e*Pn	**P**	**16 56 28.4**	**-0.5**
JOW	**Kunigami**	**14.63**	**292**	*e*Pn	**P**	**16 56 33.4**	**+1.5**
MJAR	**Matsushiro Arr**	**15.10**	**343**	P	**Pn**	**16 56 36.1**	**-0.4**
	4.1nm,0.3s,baz=169,slow=11,SNR=25							
MJAR				S	**S**	**16 59 22.1**	**-2.3**
	0.2nm,0.3s,baz=163,slow=14,SNR=4.4							
MAJO	**Matsushiro**	**15.11**	**343**	⇑*i*P	**Pn**	**16 56 36.8**	**+0.2**
MAJO	**Matsushiro**	**15.11**	**343**	*e*Pn	**P**	**16 56 36.9**	**-0.2**
	17nm,0.5s							
MAJO				*e*S	**Sn**	**16 59 25.5**	**-0.2**
MJB9	**Matsu-Tunnel**	**15.11**	**343**	*e*Pn	**P**	**16 56 37.0**	**-0.2**
	4.4nm,0.5s							
MJB9				*e*S	**Sn**	**16 59 26.3**	**+0.5**
JNU	**Nakatsue**	**15.65**	**317**	P	**Pn**	**16 56 44.2**	**+0.9**
	3.0nm,0.3s,baz=88,slow=8.3,SNR=12							
JNU	**Nakatsue**	**15.65**	**317**	*e*P	**Pn**	**16 56 45.8**	**+2.6**
	13nm,0.8s							
JHS	**Saijyo**	**15.74**	**327**	P	**Pn**	**16 56 45.6**	**+1.3**
TJN	**Taejon**	**19.97**	**319**	⇑*i*P	**P**	**16 57 28.5**	**-1.6**
KSRS	**Korea Array**	**20.37**	**322**	P	**P**	**16 57 34.0**	**-0.3**
	33nm,0.6s,baz=145,slow=8.6,SNR=56							
KSRS				S	**S**	**17 01 13.9**	**+2.5**
	2.3nm,1.0s,baz=149,slow=16,SNR=5.0							
KSRS				LR	LR	17 05 48.9		
	comp=Z,40nm,19.5s,baz=190,slow=37							
KS15	**Wonju Array Si**	**20.38**	**322**	*e*P	**P**	**16 57 34.3**	**-0.2**
KSAR	**Wonju Array Be**	**20.38**	**322**	P	**P**	**16 57 34.0**	**-0.5**
KSAR				S	**S**	**17 01 14.0**	**+2.3**
KSAR	**Wonju Array Be**	**20.38**	**322**	P	**P**	**16 57 34.0**	**-0.5**
KSAR				S	**S**	**17 01 13.9**	**+2.3**
KS01	**Wonju Array Si**	**20.40**	**322**	*e*P	**P**	**16 57 33.8**	**-0.9**
YHNB	**Yeheng**	**20.45**	**281**	*e*P	**P**	**16 57 35.2**	**-0.4**
	19nm,0.5s							
YULB	**Yu-li**	**20.50**	**278**	*e*P	**P**	**16 57 36.1**	**+0.1**
	9.0nm,0.5s							
SSLB	**Suanglung**	**20.82**	**279**	*e*P	**P**	**16 57 39.8**	**+0.4**
	41nm,0.9s							
INCN	**Inchon**	**21.14**	**320**	*e*P	**P**	**16 57 43.4**	**+0.8**
	24nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**21.96**	**5**	*i* P	**P**	**16 57 52.6**	**+1.7**
ASAJ	**Asahikawa**	**21.97**	**358**	P	**P**	**16 57 52.5**	**+1.6**
	8.0nm,0.4s,baz=191,slow=5.2							
ASAJ	**Asahikawa**	**21.97**	**358**	*e*P	**P**	**16 57 52.6**	**+1.6**
	15nm,1.0s							
H11N1	**WAKE ISLAND Hy**	**21.99**	**92**	T	T	17 21 47.2		
	baz=282							
H11N2	**WAKE ISLAND Hy**	**21.99**	**92**	T	T	17 22 29.3		
	baz=282							
H11N3	**WAKE ISLAND Hy**	**22.01**	**92**	T	T	17 21 24.5		
	baz=282							
H11S3	**WAKE ISLAND Hy**	**22.05**	**95**	T	T	17 21 18.5		
	baz=284,slow=75,SNR=4.0							
H11S1	**WAKE ISLAND Hy**	**22.06**	**95**	T	T	17 21 18.6		
	baz=284,slow=75,SNR=2.0							
H11S2	**WAKE ISLAND Hy**	**22.07**	**95**	T	T	17 21 13.0		
	baz=284,slow=75,SNR=3.0							
MSHR	**Mys Shultsa**	**22.88**	**336**	*c i*P	**P**	**16 58 00.7**	**+1.4**
VLA	**Vladivostok**	**23.08**	**338**	⇓*i*P	**P**	**16 57 57.8**	**-3.3**
KUR	**Kuril'sk**	**23.35**	**8**	*e*P	**P**	**16 58 05.1**	**+1.6**
KUR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**24.00**	**339**	P	**P**	**16 58 10.1**	**+0.6**
	comp=Z,5.2nm,0.5s,baz=166,slow=6.2,SNR=9.6							
NJ2	**Nanjing**	**24.02**	**300**	*e*P	**P**	**16 58 09.3**	**-0.5**
NJ2				pmax	pmax			
	comp=Z,41nm,1.0s							
YSS	**Yuzh-Sakhalins**	**24.80**	**359**	⇑*i*P	**P**	**16 58 17.4**	**+0.7**
YSS	**Yuzh-Sakhalins**	**24.80**	**359**	*e*P	**P**	**16 58 17.2**	**+0.5**
MDJ	**Mudanjiang**	**25.21**	**336**	P	**P**	**16 58 19.5**	**-0.9**
MDJ				pP	pP	16 58 58.8	-1.0
M

comp=Z,6.8nm,1.0s
ULN Ulaanbaatar 38.83 320*c i*P P 17 00 19.4 +0.4
ULN pmax pmax
comp=Z,15nm,1.2s
ULN Ulaanbaatar 38.83 320 *e*P **P 17 00 19.1 +0.2**
comp=Z,7.6nm,0.9s
SONM Songino Array 39.21 320 P **P 17 00 22.3 +0.3**
comp=Z,5.6nm,0.4s,baz=128,slow=7.2,SNR=23
SONM PcP **PcP 17 02 26.4 -0.6**
comp=Z,2.8nm,0.7s,baz=139,slow=3.8,SNR=5.3
SONA1 Songino Array 39.21 320 *e*P **P 17 00 22.1 +0.1**
SONA1 *e*PcP **PcP 17 02 27.2 +0.1**
CHAI Chaiyaphum 39.63 268 P **P 17 00 28.1 +2.4**
comp=Z,3.9nm,0.9s
UTTA Uttaradit 40.50 272 P **P 17 00 34.3 +1.4**
comp=Z,4.7nm,1.0s,comp=Z,46nm
GTA Gaotai 40.87 305 P **P 17 00 36.3 +0.5**
GTA pP pP 17 00 58.0 -20
GTA sP sP 17 01 09.0 -32
GTA PcP **PcP 17 02 33.0 +0.4**
GTA pmax pmax
comp=Z,29nm,0.8s
YAK Yakutsk 41.02 350 P **P 17 00 36.0 -0.4**
comp=Z,4.1nm,0.5s,baz=349,slow=23,SNR=10
YAK Yakutsk 41.02 350 *e*P **P 17 00 36.0 -0.4**
YAK pmax pmax
comp=Z,35nm,0.7s
YAK Yakutsk 41.02 350 *e*P **P 17 00 36.0 -0.4**
comp=Z,56nm,0.7s
SEY Seymchan 41.26 6 P **P 17 00 39.2 +0.8**
comp=Z,6.9nm,0.6s,baz=182,slow=8.2,SNR=24
SEY Seymchan 41.26 6*c e*P **P 17 00 40.5 +2.1**
CHTO Chiang Mai 41.75 274 P **P 17 00 44.1 +1.0**
comp=Z,36nm,1.1s
CHTO Chiang Mai 41.75 274 *e*P **P 17 00 39.0 -4.1**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 41.75 274 *e*P **P 17 00 39.0 -4.1**
comp=Z,7.7nm,1.0s
CM01 Chiang Mai Arr 41.82 273 *e*P **P 17 00 43.5 -0.1**
CM31 Chiang Mai Arr 41.83 273 *e*P **P 17 00 43.2 -0.6**
CMAR Chiang Mai Arr 41.83 273 P **P 17 00 44.1 +0.4**
comp=Z,2.9nm,0.7s,baz=64,slow=7.1,SNR=18
CMAR PcP **PcP 17 02 35.8 -0.1**
comp=Z,0.8nm,0.7s,baz=100,slow=2.0,SNR=4.2
CTAO Charters Tower 42.02 176 *e*P **P 17 00 44.9 -0.2**
CTAO pmax pmax
comp=Z,7.0nm,0.8s
CTAO Charters Tower 42.02 176 *e*P **P 17 00 44.9 -0.2**
comp=Z,7.3nm,0.8s
ZAK Zakamensk 42.20 322 *e*P **P 17 00 45.9 -0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
TLY Talaya 42.60 324 P **P 17 00 50.8 +1.3**
comp=Z,3.3nm,0.5s
TLY Talaya 42.60 324 *e*P **P 17 00 50.1 +0.6**
TLY pmax pmax
comp=Z,11nm,1.5s
WRAB Tennant Creek 42.72 193 *e*P **P 17 00 50.9 +0.1**
WRAB pmax pmax
comp=Z,19nm,0.3s
WRAB Tennant Creek 42.72 193 *e*P **P 17 00 50.9 +0.1**
comp=Z,19nm,0.3s
WB2 Warramunga Arr 42.73 193 *e*P **P 17 00 50.4 -0.4**
comp=Z,31nm,0.3s
WRA Warramunga Arr 42.73 193 P **P 17 00 50.2 -0.7**
comp=Z,10nm,0.3s,baz=17,slow=9.1,SNR=266
WRA PcP **PcP 17 02 38.9 +0.1**
comp=Z,6.9nm,0.8s,baz=5.5,slow=3.5,SNR=12
WRA ScP **ScP 17 06 11.3 +0.6**
comp=Z,3.4nm,0.9s,baz=8.7,slow=4.0,SNR=11
PWJI Pagerwojo 43.14 230 P **P 17 00 54.0 -0.2**
FITZ Fitzroy Crossi 43.60 205 *e*P **P 17 00 57.0 -0.8**
comp=Z,10nm,0.8s
MOY Mondy 44.07 323 *e*P **P 17 01 01.4 +0.1**
KPJI Karang Pucung 44.75 233 P **P 17 01 06.5 -0.5**
AS01 Alice Springs 46.43 192 *e*P **P 17 01 19.5 -0.5**
AS01 *e*PcP **PcP 17 02 50.9 -0.5**
AS31 Alice Springs 46.44 192 *e*P **P 17 01 19.8 -0.3**
comp=Z,2.9nm,0.6s
ASAR Alice Springs 46.44 192 P **P 17 01 19.9 -0.3**
comp=Z,2.2nm,0.4s,baz=8.6,slow=7.3,SNR=123
ASAR pP **pP 17 02 04.0 +0.5**
comp=Z,1.6nm,0.7s,baz=11,slow=8.5,SNR=2.0
ASAR PcP **PcP 17 02 51.5 +0.1**
comp=Z,3.3nm,0.9s,baz=9.6,slow=3.6,SNR=11
ASAR ScP **ScP 17 06 26.2 +0.2**
comp=Z,1.1nm,0.9s,baz=4.4,slow=4.9,SNR=5.5
PSI Prapat 47.30 252 *e*P **P 17 01 25.4 -1.8**
PSI pmax pmax
comp=Z,16nm,1.0s
PSI Prapat 47.30 252 *e*P **P 17 01 25.4 -1.8**
comp=Z,16nm,1.0s
LSA Lhasa 47.36 291 *e*P **P 17 01 26.9 -0.9**
LSA pmax pmax
comp=Z,24nm,0.6s
LSA Lhasa 47.36 291 *e*P **P 17 01 26.9 -0.9**
comp=Z,24nm,0.6s
BILL Bilibino 48.07 11*d i*P **P 17 01 31.8 -0.4**
BILL pmax pmax
comp=Z,17nm,1.7s
BILL Bilibino 48.07 11 *e*P **P 17 01 33.0 +0.8**
comp=Z,13nm,1.2s
GSI Gunungsitoli 49.19 252 *e*P **P 17 01 40.9 -0.5**
comp=Z,28nm,0.5s
TIXI Tiksi 50.28 354 P **P 17 01 48.8 0.0**
TIXI Tiksi 50.28 354*c i*P **P 17 01 48.6 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 50.28 354 *e*P **P 17 01 48.5 -0.3**
comp=Z,12nm,1.2s
WMQ Urumqi 50.54 309 P **P 17 01 52.0 +0.7**
WMQ pP pP 17 02 37.3 +2.0
WMQ sP sP 17 03 00.0 +2.6
WMQ pmax pmax
comp=Z,14nm,1.0s
WMQ pmax pmax
comp=Z,96nm,4.6s
WMQ LR LR
comp=N,29nm,18.6s
WMQ LR LR
comp=E,22nm,22.0s
WMQ LR LR
comp=Z,17nm,18.6s
GUN Gumba 52.13 289 *e*P **P 17 02 04.0 +0.3**
comp=Z,47nm,0.6s
PKIN Phulchoki 52.60 288 *e*P **P 17 02 07.1 0.0**
comp=Z,12nm,0.5s
KKN Kakani 52.67 289 *e*P **P 17 02 07.5 0.0**
comp=Z,8.8nm,0.2s
DMN Daman 52.85 289 *e*P **P 17 02 08.8 -0.1**
comp=Z,22nm,0.6s
SDPT Sand Point 52.92 36 *e*P **P 17 02 08.4 -0.1**
comp=Z,24nm,0.9s
GKN Gorkha 53.21 289 *e*P **P 17 02 11.5 +0.1**
comp=Z,42nm,0.7s
STKA Stephens Creek 53.70 182 P **P 17 02 14.1 -0.5**
comp=Z,2.2nm,0.4s,baz=9.7,slow=7.5,SNR=16
KIP Kipapa 54.03 79⇑ *i*P **P 17 02 17.0 -0.2**
KIP pmax pmax
comp=Z,290nm,1.0s
ZAA0 Zalesovo Array 54.07 321 *e*P **P 17 02 16.4 -0.6**
ZALV Zalesovo Beam 54.07 321 P **P 17 02 16.6 -0.4**
comp=Z,14nm,0.5s,baz=111,slow=8.1,SNR=85
ZALV PcP **PcP 17 03 18.4 -0.8**
comp=Z,7.5nm,0.5s,baz=118,slow=4.0,SNR=11
KOLN Koldanda 54.15 289 *e*P **P 17 02 18.4 +0.1**
comp=Z,14nm,0.4s
CHGN Chignik 54.29 36 *e*P **P 17 02 18.2 -0.3**
MK01 Makanchi Array 54.62 312 *e*P **P 17 02 21.4 +0.2**
MK31 Makanchi Array 54.63 312 P **P 17 02 22.6 +1.4**
MK31 pmax pmax
comp=Z,1.0nm,0.4s
MK31 Makanchi Array 54.63 312 *e*P **P 17 02 21.5 +0.3**
MKAR Makanchi Array 54.63 312 P **P 17 02 21.6 +0.4**
comp=Z,9.2nm,0.5s,baz=90,slow=8.5,SNR=155
MKAR PcP **PcP 17 03 21.2 -0.4**
comp=Z,6.1nm,0.6s,baz=79,slow=6.3,SNR=9.6
PYUN Piuthan 54.64 289 *e*P **P 17 02 21.9 +0.1**
comp=Z,58nm,0.6s
MAKZ Makanchi 54.85 312 *e*P **P 17 02 23.2 +0.4**
MAKZ pmax pmax
comp=Z,38nm,1.1s
MAKZ Makanchi 54.85 312 *e*P **P 17 02 23.2 +0.4**
comp=Z,38nm,1.1s
NVS Novosibirsk 55.16 322 *i*P **P 17 02 24.6 -0.2**

PDGK Podgornoye 56.47 308 P **P 17 02 34.2 -0.1**
PDGK pmax pmax
comp=Z,35nm,0.8s
SVW2 Sparrevohn 56.92 30 *e*P **P 17 02 38.4 +1.2**
comp=Z,6.5nm,0.6s
KDAK Kodiak Island 57.71 35 *i*P **P 17 02 43.0 +0.3**
NRIK Noril'sk 57.72 340 P **P 17 02 42.5 -0.1**
comp=Z,19nm,0.6s,baz=114,slow=8.8,SNR=21
CNPM China Post 58.70 33 *e*P **P 17 02 49.4 -0.3**
comp=Z,9.7nm,0.8s
PPLA Purkeypile 58.90 29 *e*P **P 17 02 51.7 +0.6**
comp=Z,5.4nm,0.7s
BRLK Bradley Lake 58.92 33 *e*P **P 17 02 50.5 -0.6**
comp=Z,8.6nm,0.7s
KSH Kashi 59.24 304 P **P 17 02 57.5 +3.7**
KSH PcP **PcP 17 03 42.0 +2.0**
KSH pP pP 17 03 44.1 +4.9
KSH PP **PP 17 05 11.8 +4.9**
KSH S **S 17 10 45.8 -0.4**
KSH ScS **ScS 17 12 21.5 -2.8**
KSH Kashi 59.24 304 SS SS 17 14 45.8 +1.9
KSH pmax pmax
comp=Z,33nm,0.7s
KSH pmax pmax
comp=Z,43nm,0.7s
KSH LR LR
comp=N,320nm,8.4s
KSH LR LR
comp=E,260nm,8.2s
TKM2 Tokmak 2 59.32 308 P **P 17 02 55.1 +0.7**
TKM2 pmax pmax
comp=Z,20nm,0.7s
TKM2 Tokmak 2 59.32 308 *e*P **P 17 02 55.2 +0.8**
comp=Z,23nm,0.8s
KTH Kantishna Hill 59.60 28 *e*P **P 17 02 56.7 +0.9**
comp=Z,10nm,1.2s
BPAW Bear Paw Mtn. 59.68 28 *e*P **P 17 02 57.1 +0.9**
comp=Z,8.8nm,0.6s
SEW Seward 59.68 32 *e*P **P 17 02 55.9 -0.4**
comp=Z,9.3nm,0.8s
RC01 Rabbit Creek A 59.69 31 *e*P **P 17 02 56.4 +0.1**
comp=Z,8.1nm,0.7s
TRF Thorofare Moun 59.86 28 *e*P **P 17 02 57.7 0.0**
comp=Z,11nm,0.8s
MLY Manley 59.99 27 *e*P **P 17 02 58.8 +0.5**
comp=Z,7.3nm,0.8s
PMR Palmer 60.06 31 *e*P **P 17 02 58.5 -0.3**
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 60.06 31 *e*P **P 17 02 58.5 -0.3**
comp=Z,8.3nm,0.8s
AAK Ala-Archa 60.15 307⇑ *i*P **P 17 03 00.6 +0.5**
AAK *i* *PP **PcP 17 03 43.4 -0.2**
AAK pmax pmax
comp=Z,11nm,0.6s
AAK Ala-Archa 60.15 307 *e*P **P 17 03 00.5 +0.5**
comp=Z,12nm,0.7s
SML Sawmill 60.47 30 *e*P **P 17 03 01.9 +0.2**
SML pmax pmax
comp=Z,19nm,0.9s
SML Sawmill 60.47 30 *e*P **P 17 03 01.9 +0.2**
comp=Z,19nm,0.9s
RND Reindeer 60.48 29 *e*P **P 17 03 01.4 -0.4**
RND pmax pmax
comp=Z,3.0nm,0.6s
RND Reindeer 60.48 29 *e*P **P 17 03 01.4 -0.4**
comp=Z,3.4nm,0.6s
MCK McKinley 60.50 28 *e*P **P 17 03 02.1 +0.2**
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 60.50 28 *e*P **P 17 03 02.0 +0.2**
comp=Z,7.9nm,1.0s
EKS2 Erkin-Say 60.67 307 *e*P **P 17 03 04.0 +0.5**
EKS2 pmax pmax
comp=Z,17nm,1.0s
EKS2 Erkin-Say 60.67 307 *e*P **P 17 03 04.0 +0.5**
comp=Z,17nm,1.0s
COLD Coldfoot 60.69 24 *e*P **P 17 03 04.3 +1.3**
HYB Hyderabad 60.90 278 *i*P **P 17 03 05.0 -0.3**
SCM Sheep Creek Mo 60.95 30 *e*P **P 17 03 05.5 +0.6**
SCM pmax pmax
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 60.95 30 *e*P **P 17 03 05.5 +0.6**
comp=Z,16nm,0.8s
WRH Wood River Hil 60.99 27 *e*P **P 17 03 04.8 -0.4**
comp=Z,7.1nm,1.2s
CCB Clear Creek Bu 61.15 27 *e*P **P 17 03 05.9 -0.2**
comp=Z,2.9nm,0.8s
COLA College 61.16 27⇓ *i*P **P 17 03 09.4 +3.2**
COLA pmax pmax
comp=Z,2.0nm,0.6s
OTUK Ortayu 61.41 314 P **P 17 03 06.7 -1.6**
OTUK pmax pmax
comp=Z,15nm,0.7s
HDA Harding Lake 61.47 28 *e*P **P 17 03 07.7 -0.6**
comp=Z,6.0nm,0.9s
ILAR Eielson Array 61.55 27 P **P 17 03 08.3 -0.6**
comp=Z,6.1nm,0.8s,baz=258,slow=5.6,SNR=70
ILAR PcP **PcP 17 03 49.3 +0.7**
comp=Z,3.8nm,0.7s,baz=266,slow=6.7,SNR=4.1
ILAR pP **pP 17 03 54.6 0.0**
comp=Z,4.0nm,0.7s,baz=261,slow=5.9,SNR=6.1
ILB Eielson Array 61.55 27 *e*P **P 17 03 08.2 -0.7**
IL1 Eielson Array 61.55 27 *e*P **P 17 03 08.1 -0.8**
KLU Klutina 61.57 31 *e*P **P 17 03 09.7 +0.5**
comp=Z,9.7nm,0.6s
DIV Divide 61.61 31 *e*P **P 17 03 09.8 +0.4**
comp=Z,5.0nm,0.6s
MNAS Manas 61.62 307 P **P 17 03 10.2 +0.3**
MNAS pmax pmax
comp=Z,7.0nm,0.9s
PAX Paxson 61.94 29 *e*P **P 17 03 12.0 +0.4**
PAX pmax pmax
comp=Z,4.0nm,0.8s
PAX Paxson 61.94 29 *e*P **P 17 03 12.0 +0.4**
comp=Z,3.8nm,0.8s
BMRM Bremner River 62.16 32 *e*P **P 17 03 13.7 +0.6**
comp=Z,13nm,0.6s
VOSK Vostochnaya 62.20 319 P **P 17 03 12.0 -1.4**
VOSK pmax pmax
comp=Z,11nm,0.8s
VOSK Vostochnaya 62.20 319 *e*P **P 17 03 12.9 -0.5**
comp=Z,10nm,0.8s
CHKZ Chkalovo 62.41 320 *i*P **P 17 03 13.3 -1.4**
CHKZ pmax pmax
comp=Z,27nm,1.0s
FYU Fort Yukon 62.49 25 *e*P **P 17 03 16.4 +1.4**
comp=Z,11nm,0.9s
BVA0 Borovoye Array 62.55 319 *i*P **P 17 03 15.4 -0.3**
BVA0 pmax pmax
comp=Z,37nm,0.8s
DOT Dot Lake 62.64 29 *e*P **P 17 03 16.2 0.0**
comp=Z,20nm,1.0s
MENT Mentasta 62.73 29 *e*P **P 17 03 17.5 +0.7**
comp=Z,2.9nm,0.7s
CRQM Cirque 62.86 32 *e*P **P 17 03 19.0 +1.2**
comp=Z,11nm,0.7s
KK31 Karatay Array 63.03 308 P **P 17 03 18.9 -0.2**
KKAR Karatay Array 63.03 308 *e*P **P 17 03 19.4 +0.3**
KKAR Karatay Array 63.03 308 *e*P **P 17 03 19.4 +0.3**
BALM Baldy 63.26 32 *e*P **P 17 03 20.6 +0.2**
BALM pmax pmax
comp=Z,8.0nm,0.7s
BALM Baldy 63.26 32 *e*P **P 17 03 20.6 +0.2**
comp=Z,7.7nm,0.7s
ZRNK Zerenda 63.39 319 P **P 17 03 20.7 -0.5**
ZRNK pmax pmax
comp=Z,36nm,1.1s
ZRNK Zerenda 63.39 319 *e*P **P 17 03 20.9 -0.3**
comp=Z,38nm,1.1s
EGAK Eagle 64.00 27 *e*P **P 17 03 24.6 -0.3**
comp=Z,4.3nm,0.8s
DAWY Dawson 64.73 28 *e*P **P 17 03 30.3 +0.5**
comp=Z,6.5nm,0.9s
KBL Kabul 65.39 299 *e*P **P 17 03 33.7 -1.1**
KBL pmax pmax
comp=Z,52nm,1.1s
KBL Kabul 65.39 299 *e*P **P 17 03 33.7 -1.1**
comp=Z,52nm,1.1s
INK Inuvik 67.09 24 P **P 17 03 45.4 +0.7**
comp=Z,8.3nm,0.6s,baz=270,slow=4.4
INK pP **pP 17 04 32.4 +1.3**
comp=Z,3.8nm,0.5s,baz=253,slow=6.8,SNR=3.3
INK Inuvik 67.09 24 *e*P **P 17 03 44.8 +0.1**
INK *PP **pP 17 04 32.4 +1.3**
INK pmax pmax
comp=Z,19nm,1.2s
INK Inuvik 67.09 24 *e*P **P 17 03 44.8 +0.1**
comp=Z,19nm,1.2s
INK pP **pP 17 04 32.4 +1.3**
SVE Sverdlovsk 67.92 324 *e*P **P 17 03 50.2 +0.1**
SVE pmax pmax
comp=Z,21nm,1.2s
WRAK Wrangell Islan 68.69 36 *e*P **P 17 03 55.1 +0.3**
comp=Z,5.2nm,0.8s
ARU Arti 69.11 324 *e*P **P 17 03 57.0 -0.5**
ARU pmax pmax
comp=Z,16nm,0.8s
ARU Arti 69.11 324 *e*P **P 17 03 57.0 -0.5**
comp=Z,16nm,0.8s
AB31 Akbulak array 69.46 316 P **P 17 03 59.0 -0.7**
AB31 pmax pmax
comp=Z,22nm,0.5s
ABKAR Akbulak array 69.46 316 *e*P **P 17 03 59.4 -0.3**
DLBC Dease Lake 69.63 34 *e*P **P 17 04 02.2 +1.5**
comp=Z,8.2nm,0.8s
AKTO Aktyubinsk 70.46 317 P **P 17 04 05.2 -0.7**
AKTO pmax pmax
comp=Z,8.0nm,0.9s
GEYT Alibeck 73.25 305 P **P 17 04 23.7 +1.0**
comp=Z,22nm,0.9s,baz=90,slow=3.0,SNR=41
KBS Kingsbay 75.64 351 P **P 17 04 35.8 +0.1**
KBS pmax pmax
comp=Z,5.0nm,0.7s
KBS Kingsbay 75.64 351 P **P 17 04 35.8 +0.1**
comp=Z,5.1nm,0.7s
YKA Yellowknife Ar 75.97 28 P **P 17 04 38.3 +0.5**
comp=Z,11nm,0.4s,baz=292,slow=5.8,SNR=122
YKA pP **pP 17 05 25.5 +0.2**
comp=Z,2.9nm,0.7s,baz=292,slow=5.5,SNR=3.7
RES Resolute Bay 76.62 13 *e*P **P 17 04 41.7 +0.4**
RES pmax pmax
comp=Z,16nm,0.8s
RES Resolute Bay 76.62 13 *e*P **P 17 04 41.7 +0.4**
comp=Z,16nm,0.8s
B05A Bryant 76.67 43 P **P 17 04 43.2 +1.2**
baz=288
I03D Drain, OR 77.27 48 P **P 17 04 47.0 +1.6**
baz=288
KLMR Klimovskoe 77.49 331 *e*P **P 17 04 43.8 -2.5**
KLMR pmax pmax
comp=Z,12nm,0.7s
L02D Cave Junction, 77.58 49 P **P 17 04 48.7 +1.4**
baz=289
I04A Tendick Farm, 77.88 48 P **P 17 04 49.7 +0.7**
baz=289
HUMO Hull Mountain 77.89 49 *e*P **P 17 04 50.6 +1.6**
comp=Z,20nm,0.7s
M02C Callahan 78.36 50 P **P 17 04 53.0 +1.3**
baz=289
B08A Colville Reser 78.38 42 *e*P **P 17 04 52.4 +0.8**
comp=Z,13nm,0.7s
N02D Trinity Center 78.60 50 P **P 17 04 54.6 +1.6**
baz=289
ARA0 ARCESS Array S 78.63 342 *e*P **P 17 04 52.4 -0.1**
ARCES ARCESS Array B 78.63 342 P **P 17 04 52.4 -0.1**
comp=Z,15nm,0.6s,baz=74,slow=7.8,SNR=111
ARE0 ARCESS Array S 78.63 342 *e*P **P 17 04 52.2 -0.3**
comp=Z,18nm,0.6s
UOSS Minazif 78.65 292 *e*P **P 17 04 53.6 +0.1**
comp=Z,0.9nm,0.8s
HATD Hatta, Dubai 78.75 292 *i*P **P 17 04 54.4 +0.3**
SNR=7.6
WDC Whiskeytown Da 78.85 51 *e*P **P 17 04 54.9 +0.7**
WDC pmax pmax
comp=Z,12nm,1.3s
WDC Whiskeytown Da 78.85 51 *e*P **P 17 04 54.9 +0.7**
comp=Z,12nm,1.3s
J05D Fort Rock, OR 78.86 48 P **P 17 04 55.6 +1.1**
baz=290
ASHO Ashiyiah 78.86 292 *i*P **P 17 04 54.8 +0.1**
SNR=7.5
M04C Macdoel 78.94 49 P **P 17 04 56.2 +1.3**
baz=290
C09A Chrisman Ranch 79.24 43 *e*P **P 17 04 56.0 -0.2**
comp=Z,11nm,0.6s
O03D Paynes Creek 79.47 51 P **P 17 04 58.5 +0.7**
baz=290
NEW Newport 79.80 42 P **P 17 05 00.2 +0.9**
baz=292
NEW Newport 79.80 42 *e*P **P 17 05 00.4 +1.1**
NEW pmax pmax
comp=Z,16nm,1.0s
NEW Newport 79.80 42 *e*P **P 17 05 00.4 +1.1**
comp=Z,16nm,1.0s
VRH Novokhopyorsk 80.11 321 *e*P **P 17 05 00.7 -0.1**
VRH pmax pmax
comp=Z,40nm,0.8s
F10A Beach Ranch, E 80.58 44 *e*P **P 17 05 04.9 +1.4**
comp=Z,5.8nm,0.6s
DAG Danmarks Havn 80.75 356 *i*P **P 17 05 02.8 -1.0**
DAG pmax pmax
comp=Z,2.0nm,0.8s
DAG Danmarks Havn 80.75 356 *i*P **P 17 05 02.8 -1.0**
comp=Z,2.3nm,0.8s
BMO Blue Mountains 80.95 45 *e*P **P 17 05 06.6 +1.1**
BMO pmax pmax
comp=Z,11nm,0.5s
BMO Blue Mountains 80.95 45 *e*P **P 17 05 06.6 +1.1**
comp=Z,12nm,0.5s
WVOR Wild Horse Val 80.95 48 *e*P **P 17 05 06.5 +0.9**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 80.95 48 *e*P **P 17 05 06.5 +0.9**
comp=Z,7.6nm,1.0s
LPSR Galich'ya Gora 81.13 323 *e*P **P 17 05 06.4 +0.2**
LPSR pmax pmax
comp=Z,20nm,0.7s
CMB Columbia Colle 81.30 53 *e*P **P 17 05 08.2 +0.7**
CMB pmax pmax
comp=Z,14nm,0.6s
CMB Columbia Colle 81.30 53 *e*P **P 17 05 08.2 +0.7**
comp=Z,14nm,0.6s
OBN Obninsk 81.31 326 P **P 17 05 06.1 -1.0**
comp=Z,12nm,0.5s,baz=156,slow=17,SNR=4.9
OBN Obninsk 81.31 326⇑ *i*P **P 17 05 05.7 -1.3**
OBN *i* *PP **pP 17 05 56.1 +0.9**
OBN pmax pmax
comp=Z,11nm,0.7s
BSMT Bassoo Peak 81.40 42 P **P 17 05 09.3 +1.3**
PAHR Pah Rah Range 81.42 51 *e*P **P 17 05 09.4 +1.2**
comp=Z,5.3nm,0.9s
WALA Waterton Lakes 81.45 40 *e*P **P 17 05 09.4 +1.3**
comp=Z,13nm,0.7s
VSR Storozhevoye 81.57 322 *e*P **P 17 05 08.7 +0.2**
VSR pmax pmax
comp=Z,40nm,0.8s
BLMT Blacktail Moun 81.60 42 *e*P **P 17 05 10.1 +1.1**
GUDG Gudauri 81.71 312 P **P 17 05 14.5 +4.7**
JTMT Jette 81.75 42 *e*P **P 17 05 10.6 +0.8**
WAKR Walker 81.82 52 *e*P **P 17 05 11.5 +1.1**
comp=Z,6.5nm,0.8s
YBMT Yellow Bay 81.87 42 *e*P **P 17 05 10.9 +0.5**
NCK Nalchik 81.92 314⇓ *i*P **P 17 05 11.8 +1.2**
NCK pmax pmax
comp=Z,20nm,0.9s
ZEI Tsey 81.98 313 *e*P **P 17 05 09.6 -1.6**
ZEI pmax pmax
comp=Z,104nm,1.5s
SWMT Swartz Lake 82.03 42 *e*P **P 17 05 12.0 +0.9**
KBZ Khabaz 82.29 314 P **P 17 05 13.1 +0.6**
comp=Z,31nm,0.8s,baz=341,slow=24,SNR=60
KVAR Kislovodsk Arr 82.34 314 P **P 17 05 13.1 +0.3**
comp=Z,17nm,0.8s,baz=231,slow=3.7,SNR=12
MSO Missoula 82.34 43 P **P 17 05 13.1 +0.3**
baz=294
KIV Kislovodsk 82.34 314 *i*P **P 17 05 13.3 +0.4**
SNR=8.5
KIV Kislovodsk 82.34 314 *e*P **P 17 05 13.5 +0.6**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,56nm,19.0s
KIV Kislovodsk 82.34 314 *e*P **P 17 05 13.1 +0.2**
comp=Z,37nm,1.0s
GNI Garni 82.41 310 P **P 17 05 13.9 +0.5**
comp=Z,5.4nm,0.4s,baz=204,slow=7.8,SNR=7.6
GNI Garni 82.41 310⇑ *e*P **P 17 05 14.6 +1.2**
GNI pmax pmax
comp=Z,65nm,1.4s
MFID Camas Ranch 82.48 46 *e*P **P 17 05 14.7 +1.1**
comp=Z,9.1nm,0.7s
NEY Neytrino 82.60 314⇑ *i*P **P 17 05 15.8 +1.5**

NEY pmax pmax
comp=Z,3.0nm,0.6s
CHMT Chamberlain Mo 82.73 42 *e*P **P 17 05 15.4 +0.4**
BGD Bogdanovka 82.78 312 P **P 17 05 16.7 +1.4**
RCTC Rector, Farmer 82.78 54 P **P 17 05 16.3 +1.1**
baz=292
AKH Akhalkalaki 82.80 312 P **P 17 05 16.6 +1.2**
AKH Akhalkalaki 82.80 312 P **P 17 05 16.6 +1.2**
PKM Mcpherson Peak 82.88 55 P **P 17 05 16.1 +0.2**
baz=292
FIA1 FINESS Array S 82.94 335 *e*P **P 17 05 14.1 -1.4**
FINES FINESS Array B 82.94 335 P **P 17 05 14.2 -1.2**
comp=Z,21nm,0.6s,baz=67,slow=4.9,SNR=200
VES Vestal, Richgr 83.07 54 P **P 17 05 16.9 +0.3**
baz=292
HLID Hailey 83.36 46 P **P 17 05 18.9 +0.7**
baz=294
HLID Hailey 83.36 46 *e*P **P 17 05 19.4 +1.1**
comp=Z,3.7nm,0.7s
LRM Limekiln Ridge 83.70 43 *e*P **P 17 05 20.7 +0.8**
HRY Holter Researc 83.70 42 *e*P **P 17 05 21.0 +1.2**
DLMT Dillon 83.80 43 *e*P **P 17 05 21.5 +1.1**
comp=Z,6.5nm,0.6s
ELK Elko 83.95 49 *e*P **P 17 05 22.3 +0.9**
ELK pmax pmax
comp=Z,6.0nm,0.6s
ELK Elko 83.95 49 *e*P **P 17 05 22.2 +0.9**
comp=Z,5.8nm,0.6s
MPMC Manual Prospec 84.19 54 P **P 17 05 22.3 -0.3**
baz=293,SNR=14
EDW2 Edwards Air Fo 84.26 55 P **P 17 05 21.5 -1.3**
baz=293
LRMC Laurel Mtn Rad 84.27 54 P **P 17 05 24.0 +1.1**
baz=293,SNR=9.1
BOZ Bozeman (W) 84.29 43 P **P 17 05 23.8 +1.0**
baz=296
BOZ Bozeman (W) 84.29 43 *e*P **P 17 05 23.9 +1.0**
BOZ pmax pmax
comp=Z,9.0nm,0.7s
BOZ Bozeman (W) 84.29 43 *e*P **P 17 05 23.9 +1.0**
comp=Z,9.4nm,0.7s
VSU Vasula 84.33 332 *c i*P **P 17 05 21.7 -0.8**
VSU pmax pmax
comp=Z,42nm,0.8s
EGMT Eagleton 84.39 40 P **P 17 05 23.6 +0.4**
baz=297
FURC Furnace Creek, 84.49 53 P **P 17 05 25.0 +1.3**
baz=293
SCI2 San Clemente I 84.57 57 P **P 17 05 25.0 +0.7**
baz=293
R11A Troy Canyon, C 84.67 51 P **P 17 05 25.9 +0.9**
baz=294,SNR=14
R11A Troy Canyon, C 84.67 51 *e*P **P 17 05 25.9 +0.9**
comp=Z,12nm,1.1s
TPNV Topopah Spring 84.75 52 P **P 17 05 26.5 +1.2**
baz=294
BFSC Mount Baldy Ra 84.77 55 P **P 17 05 26.2 +0.8**
baz=293
QLMT Earthquake Lak 84.77 44 *e*P **P 17 05 26.7 +1.3**
GSC Goldstone, Bar 84.99 54 P **P 17 05 27.2 +0.6**
baz=294,SNR=5.8
GSC Goldstone, Bar 84.99 54 *e*P **P 17 05 27.1 +0.6**
GSC pmax pmax
comp=Z,6.0nm,0.6s
GSC Goldstone, Bar 84.99 54 *e*P **P 17 05 27.1 +0.6**
comp=Z,6.3nm,0.6s
YHH Holmes Hill 85.16 43 *e*P **P 17 05 28.8 +1.4**
comp=Z,7.5nm,0.6s
MURC Murrieta 85.37 56 P **P 17 05 28.9 +0.6**
baz=294
GCMT Greycliff 85.46 42 *e*P **P 17 05 29.7 +1.0**
IMW Indian Meadow 85.50 44 *e*P **P 17 05 29.9 +0.9**
comp=Z,14nm,0.8s
H17A Grant Village 85.51 44 P **P 17 05 32.0 +2.9**
baz=297
H17A Grant Village 85.51 44 *e*P **P 17 05 32.3 +3.2**
comp=Z,9.5nm,0.8s
HEC Hector,Ludlow 85.54 54 P **P 17 05 30.2 +1.0**
baz=294
SUMG Summit 85.56 1 *e*P **P 17 05 29.6 +0.7**
SUMG pmax pmax
comp=Z,12nm,0.7s
SUMG Summit 85.56 1 ⇑ *i*P **P 17 05 29.6 +0.7**
comp=Z,11nm,0.6s
SUMG Summit 85.56 1 *e*P **P 17 05 29.6 +0.7**
comp=Z,12nm,0.7s
FLWY Flagg Ranch 85.57 44 *e*P **P 17 05 31.7 +2.4**
comp=Z,19nm,0.8s
TUQ Turquoise Moun 85.60 54 P **P 17 05 30.7 +1.1**
baz=294
TPAW Teton Pass 85.67 45 *e*P **P 17 05 31.3 +1.4**
comp=Z,7.1nm,0.8s
MOOW Moose Ponds 85.69 44 *e*P **P 17 05 30.9 +0.9**
comp=Z,6.2nm,0.8s
SHPR Sheep Range 85.73 52 *e*P **P 17 05 31.5 +1.3**
comp=Z,8.8nm,0.8s
REDW Red Top Meadow 85.80 45 *e*P **P 17 05 31.5 +1.0**
comp=Z,4.1nm,0.8s
PSUT Pine Spring 85.83 50 *e*P **P 17 05 31.2 +0.4**
comp=Z,17nm,1.0s
LOHW Long Hollow 85.84 44 *e*P **P 17 05 31.4 +0.6**
comp=Z,4.1nm,0.8s
DUG Dugway, Tooele 85.86 48 P **P 17 05 31.9 +1.2**
baz=296
DUG Dugway, Tooele 85.86 48 *e*P **P 17 05 31.6 +0.9**
DUG pmax pmax
comp=Z,19nm,0.6s
DUG Dugway, Tooele 85.86 48 *e*P **P 17 05 31.6 +0.9**
comp=Z,19nm,0.6s
PFO Pinyon Flats O 85.93 55 P **P 17 05 32.5 +1.3**
baz=294
PFO Pinyon Flats O 85.93 55 *e*P **P 17 05 31.4 +0.2**
PFO pmax pmax
comp=Z,8.0nm,0.9s
PFO Pinyon Flats O 85.93 55 *e*P **P 17 05 31.4 +0.2**
comp=Z,8.2nm,0.9s
TPFO Pinon Flats 85.94 55 P **P 17 05 31.9 +0.7**
baz=294
RLMT Red Lodge 86.02 43 P **P 17 05 33.1 +1.6**
baz=298
RLMT Red Lodge 86.02 43 *e*P **P 17 05 33.0 +1.6**
comp=Z,28nm,0.6s
GMRC Granite Mounta 86.06 54 P **P 17 05 32.1 +0.3**
baz=294
HWUT Hardware Ranch 86.10 47 *e*P **P 17 05 32.6 +0.6**
comp=Z,16nm,0.8s
BELC Belle Mtn. Jos 86.12 55 P **P 17 05 32.7 +0.5**
baz=294,SNR=5.9
RSUT Red Spur Mount 86.19 46 *e*P **P 17 05 33.5 +1.0**
MONP2 Monument Peak 86.25 56 P **P 17 05 33.7 +0.9**
baz=294
RBU Red Butte Cany 86.30 47 *e*P **P 17 05 33.5 +0.6**
CTU Camp Tracy 86.37 47 *e*P **P 17 05 34.1 +0.8**
comp=Z,39nm,0.9s
TCUT Toone Canyon 86.42 47 *e*P **P 17 05 34.3 +0.7**
comp=Z,19nm,0.7s
FCC Fort Churchill 86.56 26 *e*P **P 17 05 33.0 -0.5**
FCC pmax pmax
comp=Z,15nm,0.8s
FCC Fort Churchill 86.56 26 *e*P **P 17 05 33.0 -0.5**
comp=Z,15nm,0.8s
IKP In-Ko-Pah, Jac 86.59 56 P **P 17 05 35.8 +1.4**
baz=294
CCUT Cedar City 86.60 51 *e*P **P 17 05 35.4 +0.9**
comp=Z,4.7nm,0.7s
JLU Jordanelle 86.62 47 *e*P **P 17 05 35.2 +0.7**
comp=Z,14nm,0.8s
BC3 Big Chuckawall 86.68 55 P **P 17 05 35.6 +0.8**
baz=294,SNR=9.1
SWSC Sam W. Stewart 86.70 56 P **P 17 05 35.1 +0.3**
baz=294
IRM Iron Mountain 86.71 55 P **P 17 05 35.8 +1.0**
baz=294,SNR=5.4
NEE2 Needles Airpor 86.85 54 P **P 17 05 36.5 +1.0**
baz=295
BW06 Boulder Array 86.91 45 P **P 17 05 36.8 +0.8**
baz=298
BW06 Boulder Array 86.91 45 *e*P **P 17 05 35.8 -0.1**
comp=Z,1.9nm,0.8s
PD31 Pinedale Array 86.91 45 *e*P **P 17 05 36.5 +0.6**
PDAR Pinedale Array 86.91 45 P **P 17 05 36.0 +0.1**
comp=Z,1.6nm,0.6s,baz=256,slow=4.1,SNR=9.7
LCMT Little Creek M 86.92 51 *e*P **P 17 05 33.3 -2.6**
comp=Z,8.9nm,0.8s
MSU Marysvale 87.03 50 *e*P **P 17 05 37.9 +1.3**
MSU Marysvale 87.03 50 *e*P **P 17 05 37.9 +1.3**
LAO LASA Array 87.14 40 P **P 17 05 37.6 +0.8**
baz=300
LAO LASA Array 87.14 40 *e*P **P 17 05 38.6 +1.9**
comp=Z,24nm,0.8s
KNB Kanab 87.22 51 *e*P **P 17 05 38.6 +1.2**
KNB pmax pmax
comp=Z,28nm,0.8s
KNB Kanab 87.22 51 *e*P **P 17 05 38.6 +1.2**
comp=Z,28nm,0.8s
MTPU Mount Pierson 87.23 50 *e*P **P 17 05 38.7 +1.0**
comp=Z,3.3nm,0.8s
W13A Hualapai Mount 87.26 53 *e*P **P 17 05 38.4 +0.7**
comp=Z,6.3nm,0.8s
AKASG Malin Array Be 87.34 325 P **P 17 05 36.0 -1.5**
comp=Z,10nm,0.5s,baz=52,slow=5.0,SNR=70
AKBB Malin Array Si 87.34 325 *e*P **P 17 05 35.6 -1.9**
AKBB pmax pmax
comp=Z,16nm,0.6s
AKBB Malin Array Si 87.34 325 *e*P **P 17 05 35.6 -1.9**
comp=Z,16nm,0.6s
Y12C Blythe 87.34 55 P **P 17 05 39.0 +1.1**
baz=295
KIEV Kiev 87.36 325 *c i*P **P 17 05 36.2 -1.4**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 87.36 325 *e*P **P 17 05 36.1 -1.4**
comp=Z,16nm,0.6s
AK11 Malin Array Si 87.39 325 *e*P **P 17 05 36.2 -1.5**
PDMCI Parker Dam,Lak 87.40 54 P **P 17 05 38.9 +0.8**
baz=295
GLA Glamis 87.41 55 P **P 17 05 39.0 +0.8**
baz=295
GLA Glamis 87.41 55 *e*P **P 17 05 39.7 +1.5**
GLA pmax pmax
comp=Z,15nm,0.7s
GLA Glamis 87.41 55 *e*P **P 17 05 39.7 +1.5**
comp=Z,15nm,0.7s
DGMT Dagmar 87.43 38 P **P 17 05 38.7 +0.7**
baz=301
A25A Svangstu Ranch 87.80 37 P **P 17 05 38.3 -1.4**
baz=302
U15A North Rim 87.86 51 *e*P **P 17 05 41.4 +0.8**
comp=Z,8.1nm,0.8s
B25A Knox Farm, Ray 88.12 38 P **P 17 05 39.9 -1.5**
baz=302
113A Mohawk Valley, 88.33 55 *e*P **P 17 05 39.6 -2.9**
comp=Z,5.8nm,0.6s
Y14A Wickenburg 88.41 54 *e*P **P 17 05 43.2 +0.2**
comp=Z,61nm,0.9s
NC405 NORSAR Array S 88.45 339 *e*P **P 17 05 40.9 -1.6**
SUW Suwalki 88.52 329 *e*P **P 17 05 41.9 -1.1**
SUW Suwalki 88.52 329 *e*P **P 17 05 41.9 -1.1**
NC204 NORSAR Array S 88.65 339 *e*P **P 17 05 42.0 -1.6**
NB2 NORSAR Subarra 88.67 339 P **P 17 05 41.9 -1.7**
comp=Z,5.6nm,0.7s,baz=49,slow=4.6
NB2 NORSAR Subarra 88.67 339 P **P 17 05 41.9 -1.7**
baz=49,slow=4.6
NOA NORSAR Array B 88.67 339 P **P 17 05 41.9 -1.7**
comp=Z,4.0nm,0.7s,baz=45,slow=4.4,SNR=23
WUAZ Wupatki 88.93 52 P **P 17 05 46.4 +0.9**
baz=297
K22A Casper 88.93 44 P **P 17 05 46.1 +0.7**
baz=300
O20A White River Ci 89.01 47 P **P 17 05 46.6 +0.7**
baz=298
O20A White River Ci 89.01 47 *e*P **P 17 05 46.3 +0.4**
comp=Z,7.7nm,0.6s
PV09 Paradox Valley 89.17 48 *e*P **P 17 05 47.6 +0.8**
214A Organ Pipe Nat 89.41 56 P **P 17 05 48.8 +1.1**
baz=296
E26A Carlson Angus 89.48 39 P **P 17 05 48.9 +1.2**
baz=302
KLNR Kaliningrad 89.53 331 *i* P **P 17 05 47.9 +0.2**
B28A Dugan Ranch, T 89.60 37 P **P 17 05 49.1 +0.9**
baz=304
F26A Lodgepole 89.69 40 P **P 17 05 49.8 +1.1**
baz=302
RSSD Black Hills 89.76 42 P **P 17 05 49.6 +0.3**
baz=301
RSSD Black Hills 89.76 42 *e*P **P 17 05 49.4 +0.1**
RSSD pmax pmax
comp=Z,7.0nm,0.6s
RSSD Black Hills 89.76 42 *e*P **P 17 05 49.4 +0.1**
comp=Z,6.9nm,0.6s
H25A Fruitdale 89.77 41 P **P 17 05 50.3 +1.1**
baz=302
A29A Manning Farm, 89.96 36 P **P 17 05 50.7 +0.9**
baz=305
C28A Hanssauer Farms 89.99 37 P **P 17 05 51.2 +1.2**
baz=304
B29A Wagenman Farm, 90.15 36 P **P 17 05 51.4 +0.6**
baz=304
N23A Red Feather La 90.18 45 P **P 17 05 51.7 +0.3**
baz=300
N23A Red Feather La 90.18 45 *e*P **P 17 05 52.4 +1.0**
comp=Z,10nm,0.8s
D28A Regan 90.18 38 P **P 17 05 52.1 +1.1**
baz=304
MVCO Mesa Verde 90.22 49 P **P 17 05 52.0 +0.4**
baz=298
BR131 Keskin Array S 90.27 313 *e*P **P 17 05 50.4 -1.3**
BRTR Keskin Array B 90.27 313 P **P 17 05 50.1 -1.5**
comp=Z,4.3nm,0.8s,baz=96,slow=3.5,SNR=25
SMCO Snowmass 90.33 47 *e*P **P 17 05 52.1 -0.2**
comp=Z,9.9nm,0.8s
A30A Hoffart Farm, 90.45 36 P **P 17 05 53.2 +1.0**
baz=305
B30A Myrvik Farm, E 90.72 36 P **P 17 05 54.1 +0.8**
baz=305
BR231 Keskin MP Arra 90.79 314 *e*P **P 17 05 50.8 -3.3**
TUC Tucson 90.80 55 P **P 17 05 55.1 +0.9**
baz=297
D29A Pettibone, Tap 90.81 38 P **P 17 05 54.4 +0.5**
baz=304
ISCO Idaho Springs 90.94 46 P **P 17 05 55.8 +0.8**
baz=300
ISCO Idaho Springs 90.94 46 *e*P **P 17 05 55.9 +0.9**
ISCO pmax pmax
comp=Z,7.0nm,0.8s
ISCO Idaho Springs 90.94 46 *e*P **P 17 05 55.9 +0.9**
comp=Z,6.8nm,0.8s
ULM Lac du Bonnet 90.95 34 P **P 17 05 54.2 -0.2**
comp=Z,2.2nm,0.6s,baz=344,slow=6.9,SNR=3.9
BEL Belsk 91.00 329 *e*P **P 17 05 54.2 -0.3**
BEL Belsk 91.00 329 *e*P **P 17 05 54.3 -0.3**
C30A Mose, Pekin 91.07 37 P **P 17 05 55.8 +0.7**
baz=305
S22A 4UR Ranch, Cre 91.12 48 P **P 17 05 56.3 +0.4**
baz=299
BUR08 Bucovina Ar. S 91.24 323 *e*P **P 17 05 54.5 -1.4**
D30A Buchanan 91.25 37 P **P 17 05 56.4 +0.5**
baz=305
F29A Eureka 91.36 39 P **P 17 05 57.0 +0.5**
baz=304
KWP Kalwaria Pacla 91.40 326 *e*P **P 17 05 56.0 -0.5**
KWP Kalwaria Pacla 91.40 326 *e*P **P 17 05 56.0 -0.5**
C31A Landman Farms, 91.42 36 P **P 17 05 56.8 +0.2**
ASF Jabal al Asfar 91.51 306 P **P 17 05 57.4 -0.1**
E30A Jud 91.51 38 P **P 17 05 57.0 -0.1**
baz=305
Q24A Divide 91.67 47 P **P 17 05 59.0 +0.6**
baz=300
Q24A Divide 91.67 47 *e*P **P 17 05 59.6 +1.2**
comp=Z,6.6nm,0.7s
F30A Leola 91.82 38 P **P 17 05 59.0 +0.4**
baz=305
D31A Mcclaflin, Tow 91.86 37 P **P 17 05 59.2 +0.5**
baz=306
A33A Warroad 92.00 34 P **P 17 05 59.8 +0.5**
baz=308
SDCO Great Sand Dun 92.04 48 P **P 17 05 57.8 -2.3**
baz=300
KOLS Kolonicke sedl 92.05 326 *e*P **P 17 05 59.3 -0.2**
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 92.05 326 *e*P **P 17 05 59.3 -0.2**
MLR Muntele Rosu 92.05 321 P **P 17 05 58.9 -0.9**
comp=Z,0.3nm,0.3s,baz=140,slow=6.6,SNR=3.5
E31A Nome 92.06 37 P **P 17 05 59.5 -0.1**
baz=306
C32A Crookston 92.06 36 P **P 17 06 00.1 +0.5**
baz=307
G30A Faulkton 92.16 39 P **P 17 06 00.3 +0.2**
baz=305
MMAI Mount Meron Ar 92.24 307 P **P 17 06 00.6 -0.2**
comp=Z,1.1nm,0.5s
F31A Hecla 92.25 38 P **P 17 06 00.8 +0.3**
baz=305
STHS Stebnicka Huta 92.28 326 *e*P **P 17 06 00.5 -0.1**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 92.28 326 *e*P **P 17 06 00.5 -0.1**
319A Douglas 92.36 55 *e*P **P 17 06 00.0 -1.5**
comp=Z,21nm,1.0s
CRVS Cervenica-Dubn 92.49 326 *e*P **P 17 06 00.8 -0.8**
CRVS Cervenica-Dubn 92.49 326 *e*P **P 17 06 00.8 -0.8**
OJC Ojcow 92.51 328 *e*P **P 17 05 59.2 -2.4**
OJC Ojcow 92.51 328 *e*P **P 17 05 59.2 -2.4**
OJC Ojcow 92.51 328 *e*P **P 17 06 00.6 -1.0**
comp=Z,19nm,1.5s
B34A Aery, Baudette 92.66 34 P **P 17 06 02.5 +0.1**
baz=308
OGNE Ogallala 92.69 44 P **P 17 06 03.3 +0.5**
baz=302
ANMO Albuquerque 92.75 51 P **P 17 06 03.0 -0.3**
baz=299
ANMO Albuquerque 92.75 51 ⇑ *i*P **P 17 06 05.2 +1.9**
ANMO pmax pmax
comp=Z,2.0nm,1.2s
ANMO Albuquerque 92.75 51 *e*P **P 17 06 01.4 -1.9**
comp=Z,3.0nm,1.0s
NIE Niedzica 92.77 327 *e*P **P 17 06 02.9 0.0**
NIE Niedzica 92.77 327 *e*P **P 17 06 02.9 0.0**
D34A Park Rapids 93.23 36 P **P 17 06 04.4 -0.6**
baz=308
KSCO Kaye Shedlock' 93.33 46 P **P 17 06 06.0 +0.2**
baz=302
F33A 5 Mile Ranch, 93.37 37 P **P 17 06 06.1 +0.4**
baz=307
H32A Carlson Farm, 93.51 39 P **P 17 06 06.7 +0.3**
baz=306
KSP Ksiaz 93.79 330 *e*P **P 17 06 07.0 -0.5**
KSP Ksiaz 93.79 330 *e*P **P 17 06 07.0 -0.5**
C36A Pine Crest Far 94.07 34 P **P 17 06 07.8 -1.0**
baz=310
VYHS Vyhne 94.10 327 *e*P **P 17 06 08.2 -0.8**
VYHS pmax pmax
comp=Z,5.0nm,1.5s
VYHS Vyhne 94.10 327 *e*P **P 17 06 08.2 -0.8**
EIL Elat 94.15 304 P **P 17 06 07.9 -1.7**
comp=Z,2.9nm,0.7s,baz=48,slow=12,SNR=3.0
ECSD EROS Data Cent 94.44 39 P **P 17 06 10.3 -0.4**
baz=306
F36A Milaca 94.89 36 P **P 17 06 11.1 -1.6**
baz=309
MNTX Cornudas Mount 95.13 53 P **P 17 06 13.7 -0.4**
baz=300
I35A Creekview Farm 95.31 38 P **P 17 06 14.7 +0.1**
baz=308
CBKS Cedar Bluff 95.33 44 P **P 17 06 13.5 -1.4**
baz=304
L35A Bielow Farm, R 96.04 40 P **P 17 06 17.3 -0.7**
baz=307
I37A Lemond, Waseca 96.12 37 P **P 17 06 17.4 -0.8**
baz=309
GERES GERESS Array B 96.39 329 P **P 17 06 17.5 -2.0**
comp=Z,8.8nm,0.6s,baz=38,slow=5.0,SNR=9.2
J37A Redenius Farm, 96.47 38 P **P 17 06 19.1 -0.7**
baz=309
I38A Scanlan Farm, 96.70 37 P **P 17 06 20.8 0.0**
baz=310
K37A Belmond 96.76 39 P **P 17 06 21.2 0.0**
baz=308
P34A Walnut Farm, R 96.77 43 P **P 17 06 20.2 -1.1**
baz=306
TX31 Lajitas Ar. Si 97.59 54 *e*P Pdif 17 06 25.5 +0.1
TXAR Lajitas Array 97.59 54 P Pdif 17 06 25.7 +0.3
comp=Z,0.7nm,0.5s,baz=300,slow=3.4,SNR=15
BOSA Boshof 124.33 250 PKP **PKPdf 17 11 48.4 -0.6**
comp=Z,4.1nm,0.7s,baz=49,slow=1.3,SNR=6.0
SNAA Sanae 126.80 193 *e*PKIKP **PKPdf 17 11 51.5 -0.8**
SNAA Sanae 126.80 193 *e*PKPdf **PKPdf 17 11 51.5 -0.8**
TOA0 Torodi Ar. Sit 128.71 309 *e*PKPdf **PKPdf 17 11 56.4 -1.1**
TORD Torodi Ar. Bea 128.71 309 PKP **PKPdf 17 11 56.6 -0.9**
comp=Z,2.9nm,0.5s,baz=31,slow=1.4,SNR=22
DBIC Dimbokro 137.81 309 PKP **PKPdf 17 12 15.4 +0.8**
comp=Z,6.2nm,0.8s,baz=336,slow=3.1,SNR=5.8
PLCA Paso Flores 145.81 131 PKPbc **PKPab 17 12 29.6 -0.2**
comp=Z,12nm,0.6s,baz=263,slow=3.7,SNR=32
PLCA Paso Flores 145.81 131 *e*PKPdf **PKPbc 17 12 29.5 +0.4**
EFI East Falkland 146.08 156 *e*PKP2 **PKPbc 17 12 29.5 +0.1**
EFI East Falkland 146.08 156 *e*PKPbc **PKPbc 17 12 29.5 +0.1**
PTGA Pitinga 148.81 50 *e*PKPbc **PKPbc 17 12 37.9 -0.1**
AUSP Uspallata 149.17 116 *i* P **PKPbc 17 12 39.6 +0.9**
RTLS Leoncito 149.32 115 *i* P **PKPbc 17 12 39.8 +0.6**
PB01 IPOC Station P 149.35 94 *e*PKPbc **PKPbc 17 12 39.5 +0.3**
AAGR Agrelo 149.46 118 *i* P **PKPbc 17 12 39.8 +0.6**
ASAL Salagasta 149.56 117 *i* P **PKPbc 17 12 39.8 +0.4**
RTCV Cerro Valdivia 149.94 116 *i* P **PKPbc 17 12 40.6 +0.2**
LVC Limon Verde 150.06 97 *e*PKPbc **PKPbc 17 12 41.9 +0.7**
RTLL Cerro Villicun 150.09 115 *i* P **PKPbc 17 12 40.8 0.0**
AMOG MOGNA 150.15 114 *i* P **PKPbc 17 12 41.4 +0.6**
AGUA GUANDACOL 150.35 111 *i* P **PKPbc 17 12 42.4 +1.0**
VCA Vinchina 150.68 110 *i* P **PKPbc 17 12 43.2 +0.9**
ACAN Cantantal 150.98 117 *i* P **PKPbc 17 12 43.2 +0.4**
SAML Samuel 151.23 67 *e*PKPdf **PKPdf 17 12 37.2 -0.4**
SAML *e*PKPbc **PKPbc 17 12 43.5 -0.3**
SAML *e*PKPab **PKPab 17 12 51.2 -1.2**
MRA San Martin 152.16 118 *i* P **PKPbc 17 12 45.5 -0.1**
CYA Choya 152.81 109 *i* P **PKPbc 17 12 46.8 -0.2**
CPUP Villa Florida 160.56 107 PKPab **PKPab 17 13 32.2 0.0**
comp=Z,1.5nm,0.7s,baz=258,slow=4.1,SNR=3.3

NIED ***19*** *17:00:00, 37.40N×141.30E, h53km, Mw3.8 Best double couple: M0=4.98000×10^14 NP1:φ=122.00000°, δ=27.00000°, λ=-35.00000°. NP2:φ=244.00000°, δ=75.00000°, λ=-112.00000°.*

IDC ***19*** *17:00:02.0±3.2, 37.37N×141.50E, h39km±27km, mb3.5/6, mb1 3.6/9, mb1mx3.3/48, mbtmp3.7/9, ML3.3/3, Error ellipse: s-maj=33.9km s-min=17.5km az=89.0*

JMA ***19*** *17:00:02.3±0.1, 37.37N×141.30E, h35km±1km, M3.7*

JMA Felt I J1.

ISC 19 16:59:58.8±1.7, 37.35N±0.04×141.48E±0.07, h14km±9km, n25, σ1.9 03/32, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**273**	P		**Pn**		**17 00 10.5**	**-0.8**
JFK				S		**Sg**		**17 00 16.0**	**+1.1**
ONAJ	**Iwakimizuishiy**	**0.60**	**246**	P		**Pn**		**17 00 12.5**	**-0.4**
ONAJ				S		**Sg**		**17 00 19.4**	**+0.9**
JMM	**Marumori**	**0.76**	**314**	P		**Pn**		**17 00 14.5**	**-0.5**
JMM				S		**Sg**		**17 00 23.3**	**-0.1**
JFT	**Otama**	**0.93**	**281**	P		**Pn**		**17 00 17.5**	**+0.1**
JFT				S		**Sg**		**17 00 28.0**	**-0.9**
JHO	**Hitachi**	**1.04**	**225**	P		**Pn**		**17 00 18.9**	**0.0**
JHO				S		**Sg**		**17 00 30.7**	**-1.6**
JIO	**Ouri**	**1.11**	**355**	P		**Pn**		**17 00 20.9**	**+1.0**
JIO				S		**Sb**		**17 00 33.9**	**-0.2**
JOU	**Okura**	**1.21**	**328**	P		**Pg**		**17 00 22.1**	**0.0**
JOU				S		**Sb**		**17 00 36.9**	**0.0**
JFY	**Yanaizu**	**1.42**	**273**	P		**Pn**		**17 00 24.6**	**+0.4**
JFY				S		**Sn**		**17 00 41.4**	**-1.2**
JYS	**Shirataka**	**1.42**	**308**	P		**Pb**		**17 00 25.0**	**-0.1**
JYS				S		**Sn**		**17 00 42.3**	**-0.5**
MJAR	**Matsushiro Arr**	**2.74**	**254**	Pn		**Pn**		**17 00 43.4**	**+1.0**
	3.3nm,0.3s,baz=80,slow=16,SNR=20								
MJAR					Sn	**Sn**		**17 01 17.8**	**+2.5**
	6.0nm,0.3s,baz=70,slow=22,SNR=8.2								
MAT	**Matsushiro**	**2.74**	**254**	P		**Pn**		**17 00 43.8**	**+1.4**
MAT				S		**Sn**		**17 01 17.4**	**+2.0**
JHJ	**Hachijo jima 2**	**4.44**	**199**	Pn		**Pn**		**17 01 07.1**	**+1.4**
	9.2nm,0.3s,baz=38,slow=19,SNR=9.8								
JHJ					Sn	**Sn**		**17 01 56.5**	**-0.7**
	8.1nm,0.3s,baz=75,slow=20,SNR=3.6								
ASAJ	**Asahikawa**	**6.82**	**7**	Pn		**Pn**		**17 01 38.8**	**+0.5**
	0.5nm,0.3s,baz=209,slow=12,SNR=7.1								
ASAJ					Sn	**Sn**		**17 02 57.1**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**28.26**	**121**	T		T		17 35 22.8	
	baz=314,SNR=64								
H11N1	**WAKE ISLAND Hy**	**28.27**	**121**	T		T		17 35 38.0	
	baz=314,slow=74,SNR=34								
H11N3	**WAKE ISLAND Hy**	**28.28**	**121**	T		T		17 35 36.8	
	baz=314,slow=74,SNR=55								
H11S1	**WAKE ISLAND Hy**	**28.98**	**123**	T		T		17 36 34.8	
	baz=316,slow=76,SNR=23								
H11S3	**WAKE ISLAND Hy**	**28.98**	**123**	T		T		17 36 28.6	
	baz=316,slow=76,SNR=20								

H11S2	**WAKE ISLAND Hy**	**29.00**	**123**	T	T	17 36 27.5	
	baz=316,slow=76,SNR=25						
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	**P**	**17 07 47.2**	**-0.1**
	0.8nm,0.4s,baz=101,slow=6.3,SNR=4.4						
MKAR	**Makanchi Array**	**44.00**	**302**	P	**P**	**17 08 05.3**	**-0.4**
	0.8nm,0.7s,baz=90,slow=9.7,SNR=4.7						
KURBB	**Kurchatov Arra**	**45.85**	**308**	P	**P**	**17 08 19.2**	**-1.1**
	0.4nm,0.5s,baz=81,slow=9.3,SNR=5.5						
WRA	**Warramunga Arr**	**57.38**	**188**	P	**P**	**17 09 46.1**	**-0.6**
	0.3nm,0.7s,baz=7.6,slow=7.3,SNR=3.6						
ASAR	**Alice Springs**	**61.10**	**188**	P	**P**	**17 10 12.9**	**+0.5**
	0.3nm,0.8s,baz=7.7,slow=8.8,SNR=4.0						
FINES	**FINESS Array B**	**68.56**	**332**	P	**P**	**17 11 00.3**	**-0.3**
	1.6nm,0.9s,baz=75,slow=7.4,SNR=3.8						

*NNC **19** 17:21:28.1±1.4, 42°.32N×71°.11E, h9km±23km, mb3.6, mpv3.1, Error ellipse: s-maj=12.7km s-min=4.7km az=23.0*
*SOME **19** 17:21:30.3, 42°.35N×71°.18E, h5km*
*KRNET **19** 17:21:30.3±0.1, 42°.34N×71°.27E, h17km, mb3.1*

ISC 19 17:21:28.3±1.2, 42°.41N±0°.03×71°.25E±0°.02, h1km±11km, n33,σ1°51/64, 37C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZA	**Taraz**	**0.48**	**7**	⇑*i*P	**Pn**	**17 21 41.7**	**-0.7**
	169nm,0.4s						
DZA				⇓*i*S	**Sb**	**17 21 49.8**	**+2.7**
	1µm,0.2s						
ARK	**Arkit**	**0.81**	**139**	⇓*e*P	**Pb**	**17 21 45.3**	**0.0**
	baz=136						
ARK				⇓*e*S	**Sb**	**17 21 57.2**	**+0.4**
	baz=136						
KK31	**Karatay Array**	**0.88**	**322**	⇓P	**Pn**	**17 21 46.4**	**-1.4**
	7.5nm,0.3s,baz=160,slow=17,SNR=893						
KK31				S	**Sb**	**17 21 58.1**	**-0.4**
	35nm,0.3s,baz=150,slow=30,SNR=20						
MNAS	**Manas**	**0.93**	**85**	⇑*i*P	**Pn**	**17 21 48.5**	**-0.2**
	baz=80						
MNAS				⇑*i*S	**Sn**	**17 22 01.1**	**-1.6**
	baz=80						
MNAS	**Manas**	**0.93**	**85**	⇓P	**Pn**	**17 21 48.5**	**-0.2**
	5.4nm,0.3s						
MNAS				⇑S	**Sn**	**17 22 02.2**	**-0.5**
	28nm,0.3s						
IUG	**Iuzhnay**	**0.94**	**254**	⇓*i*P	**Pg**	**17 21 46.5**	**+0.2**
	108nm,0.2s						
IUG				*e*S	**Sg**	**17 21 58.5**	**0.0**
	568nm,0.2s						
BRLS	**Borolday**	**1.21**	**288**	⇑*i*P	**Pn**	**17 21 51.7**	**-0.7**
	14nm,0.2s						
BRLS				*e*S	**Sb**	**17 22 07.5**	**-0.7**
	50nm,0.3s						
MRKS	**Merke**	**1.50**	**77**	⇑*i*P	**Pg**	**17 21 59.2**	**+2.3**
	37nm,0.2s						
MRKS				⇑*i*S	**Sg**	**17 22 20.4**	**+4.0**
	118nm,0.1s						
ARSB	**Arslanbob**	**1.69**	**129**	⇓*e*P	**Pg**	**17 22 00.7**	**0.0**
	baz=128						
ARSB				⇓*e*S	**Sg**	**17 22 24.0**	**+1.4**
	baz=128						
EKS2	**Erkin-Say**	**1.89**	**82**	⇑*i*P	**Pg**	**17 22 05.7**	**+1.3**
	baz=79						
EKS2				⇑*i*S	**Sg**	**17 22 31.0**	**+2.2**
	baz=79						
OHH	**Osh**	**2.21**	**148**	⇑*e*P	**Pb**	**17 22 09.0**	**-0.1**
	baz=147						
OHH				⇑*e*S	**Sb**	**17 22 38.2**	**+1.2**
	baz=147						
ARLS	**Aral**	**2.35**	**103**	⇑*e*P	**Pb**	**17 22 12.2**	**+0.7**
	baz=101						
ARLS				⇑*e*S	**Sg**	**17 22 43.0**	**-0.8**
	baz=101						
BTK	**Batken**	**2.38**	**188**	⇑*e*P	**Pb**	**17 22 11.6**	**-0.3**
	baz=189						
BTK				⇑*e*S	**Sb**	**17 22 41.8**	**+0.1**
	baz=189						
AAK	**Ala-Archa**	**2.41**	**84**	⇑*i*P	**Pg**	**17 22 13.5**	**-0.9**
	baz=82						
AAK				⇑*i*S	**Sg**	**17 22 44.2**	**-1.5**
	baz=82						
AAK	**Ala-Archa**	**2.41**	**84**	Pg	**Pg**	**17 22 14.4**	**0.0**
	5.3nm,0.3s						
AAK				Lg	Lg	17 22 48.6	
	21nm,0.6s						
UCH	**Uchtor**	**2.43**	**93**	⇑*i*P	**Pb**	**17 22 13.5**	**+0.5**
	baz=92						
UCH				⇑*i*S	**Sb**	**17 22 44.2**	**+0.6**
	baz=92						
FRU1	**Bishkek**	**2.53**	**80**	⇑*e*P	**Pb**	**17 22 14.0**	**-0.5**
	baz=78						
FRU1				⇑*e*S	**Sb**	**17 22 47.2**	**+1.1**
	baz=78						
USP	**Ospenovka**	**2.54**	**69**	⇑*i*P	**Pg**	**17 22 15.9**	**-1.0**
	baz=68						
USP				⇑*i*S	**Sg**	**17 22 48.4**	**-1.4**
	baz=68						
CHMS	**Chumysh**	**2.65**	**76**	⇑*i*P	**Pb**	**17 22 16.9**	**+0.4**
	baz=74						
CHMS				⇑*i*S	**Sb**	**17 22 50.5**	**+1.0**
	baz=74						
KBK	**Karagaybulak**	**2.75**	**84**	⇑*i*P	**Pb**	**17 22 18.2**	**0.0**
	baz=82						
KBK				⇑*i*S	**Sb**	**17 22 52.2**	**-0.2**
	baz=82						
DRK	**Karamyk**	**2.96**	**172**	⇑*e*P	**Pb**	**17 22 19.9**	**-2.1**
	baz=172						
DRK				⇑*e*S	**Sn**	**17 22 55.4**	**+2.4**
	baz=172						
KZA	**Kyzart**	**2.99**	**95**	⇑*i*P	**Pb**	**17 22 21.5**	**-1.0**
	baz=94						
KZA				⇑*i*S	**Sb**	**17 22 57.5**	**-2.2**
	baz=94						
TKM2	**Tokmak 2**	**3.25**	**80**	⇑*i*P	**Pb**	**17 22 25.2**	**-1.6**
	baz=78						
TKM2				⇑*i*S	**Sb**	**17 23 04.6**	**-2.3**
	baz=78						
TKM2	**Tokmak 2**	**3.25**	**80**	⇓Pg	**Pg**	**17 22 29.3**	**-1.1**
	2.4nm,0.3s						
TKM2				⇓Lg	Lg	17 23 13.8	
	13nm,0.4s						
DGS	**Degeres**	**3.43**	**75**	*e*P	**Pg**	**17 22 33.4**	**-0.5**
	10.0nm,0.4s						
DGS				*e*S	**Sg**	**17 23 18.2**	**-0.2**
	40nm,0.2s						
BOOM	**Boomskoye usch**	**3.47**	**87**	⇑*e*P	**Pb**	**17 22 27.0**	**-3.6**
	baz=86						
BOOM				⇑*e*S	**Sb**	**17 23 10.1**	**-3.3**
	baz=86						
KST	**Kastek**	**3.53**	**78**	*e*P	**Pg**	**17 22 35.2**	**-0.7**
	1.7nm,0.3s						
KST				*e*S	**Sg**	**17 23 21.3**	**-0.3**
	38nm,0.6s						
IZV	**Izvestkoviy**	**4.00**	**79**	*e*P	**Pg**	**17 22 44.5**	**-0.4**
	20nm,0.2s						
IZV				*e*S	**Sg**	**17 23 37.4**	**+0.7**
	42nm,0.3s						
KUU	**Kurty**	**4.01**	**67**	⇓*i*P	**Pg**	**17 22 44.3**	**-0.8**
	11nm,0.3s						
KUU				⇑*i*S	**Sg**	**17 23 37.6**	**+0.7**
	22nm,0.5s						
TNSS	**Tian-Shan**	**4.24**	**80**	*e*P	**Pg**	**17 22 48.3**	**-1.2**
	8.5nm,0.4s						
TNSS				*e*S	**Sg**	**17 23 44.8**	**+0.3**
	21nm,0.5s						
KOTS	**Kotyrbulak**	**4.39**	**77**	*e*P	**Pg**	**17 22 53.4**	**+1.0**
	8.7nm,0.2s						
KOTS				*e*S	**Sg**	**17 23 52.0**	**+2.8**
	14nm,0.5s						
ARXS	**Arharly**	**5.13**	**67**	*e*P	**Pg**	**17 23 04.6**	**-1.9**
	3.5nm,0.3s						
ARXS				*e*S	**Sg**	**17 24 11.7**	**-1.2**
	16nm,0.4s						
OTUK	**Ortayu**	**5.88**	**7**	⇓Pn	**Pn**	**17 23 00.3**	**+3.8**
	1.0nm,0.5s						
OTUK				⇑Sn	**Sn**	**17 24 05.4**	**+0.8**
	1.5nm,0.3s						
OTUK				⇓Lg	Lg	17 24 41.4	
	16nm,0.8s						

*DDA **19** 17:34:31.2, 38°.82N×26°.81E, h24km, Ml3.4*
*ATH **19** 17:34:31.5, 38°.77N×26°.80E, h33km±2km, ML2.5/7, Error ellipse: s-maj=2.6km s-min=0.9km az=259.0*
*ISCJB **19** 17:34:31.8±0.5, 38°.81N±0°.01×26°.76E±0°.02, h12km±3km, Error ellipse: s-maj=3.2km s-min=2.4km az=178.4*
*ISK **19** 17:34:31.7, 38°.82N×26°.76E, h14km, MD3.1*

*CSEM **19** 17:34:32.4±0.1, 38°.79N×26°.76E, h15km, MD3.1, Error ellipse: s-maj=2.0km s-min=1.8km az=68.0*
*THE **19** 17:34:33.4, 38°.80N×26°.75E, h19km±2km, ML2.4/6, Error ellipse: s-maj=2.9km s-min=1.0km az=244.0*

ISC 19 17:34:31.7±0.9, 38.78N±0°.01×26.73E±0°.02, h14km±7km, n131,σ0°71/186, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKL	**Dikili**	**0.33**	**25**	PG	**Pg**	**17 34 38.0**	**-0.3**
DKL				*e*SG	**Sg**	**17 34 42.6**	**-0.3**
DKL	**Dikili**	**0.33**	**25**	*i* Pg	**Pg**	**17 34 38.1**	**-0.3**
DKL				*e*Sg	**Sg**	**17 34 42.6**	**-0.3**
URLA	**Izmir**	**0.43**	**194**	P	**Pb**	**17 34 41.3**	**+0.2**
URLA				S	**Sn**	**17 34 50.0**	**-1.2**
URLA	**Izmir**	**0.43**	**194**	*i* P	**Pb**	**17 34 41.3**	**+0.2**
URLA				*i* S	**Sn**	**17 34 50.0**	**-1.2**
AYVA	**Ayvalik**	**0.53**	**357**	P	**Pb**	**17 34 42.7**	**-0.1**
AYVA				S	**Sg**	**17 34 50.0**	**+0.7**
AYVA	**Ayvalik**	**0.53**	**357**	*i* P	**Pb**	**17 34 42.7**	**-0.1**
AYVA				*i* S	**Sg**	**17 34 50.0**	**+0.7**
IZM	**Izmir**	**0.56**	**132**	*e*PG	**Pg**	**17 34 42.8**	**0.0**
IZM	**Izmir**	**0.56**	**132**	*e*Pg	**Pg**	**17 34 42.8**	**0.0**
ZEY	**¯zmir**	**0.56**	**198**	*i* P	**Pb**	**17 34 43.6**	**+0.2**
ZEY				*i* S	**Sn**	**17 34 54.4**	**-0.1**
PRK	**Paraskevi**	**0.59**	**323**	P	**Pb**	**17 34 44.1**	**+0.3**
PRK				S	**Sb**	**17 34 52.9**	**+0.9**
PRK	**Paraskevi**	**0.59**	**323**	P	**Pb**	**17 34 43.9**	**+0.1**
PRK				S	**Sb**	**17 34 52.6**	**+0.6**
PRK	**Paraskevi**	**0.59**	**323**	P	**Pb**	**17 34 43.9**	**+0.1**
PRK				S	**Sb**	**17 34 52.6**	**+0.6**
PRK				AML	AML	17 34 54.8	
	comp=E,2026µm,0.5s						
PRK				AML	AML	17 34 56.6	
	comp=N,1299µm,0.5s						
CHOS	**Chios island**	**0.66**	**234**	*e*PG	**Pn**	**17 34 45.9**	**-0.7**
CHOS	**Chios island**	**0.66**	**234**	P	**Pn**	**17 34 45.9**	**-0.7**
CHOS				S	**Sn**	**17 34 56.3**	**-0.5**
CHOS	**Chios island**	**0.66**	**234**	*e*Pg	**Pn**	**17 34 45.9**	**-0.7**
CHOS				S	**Sn**	**17 34 55.7**	**-1.1**
CHOS	**Chios island**	**0.66**	**234**	P	**Pn**	**17 34 46.1**	**-0.9**
CHOS				S	**Sn**	**17 34 55.7**	**-1.1**
CHOS				AML	AML	17 34 58.6	
	comp=E,4332µm,0.3s						
CHOS				AML	AML	17 34 58.7	
	comp=N,3518µm,0.3s						
DGB	**¯zmir**	**0.73**	**170**	*i* P	**Pg**	**17 34 46.1**	**+0.2**
DGB				*i* S	**Sb**	**17 34 56.3**	**+0.1**
SIGR	**SIGRI**	**0.81**	**303**	*e*PG	**Pb**	**17 34 47.9**	**+0.4**
SIGR	**SIGRI**	**0.81**	**303**	P	**Pn**	**17 34 48.3**	**-0.4**
SIGR				S	**Sn**	**17 35 00.7**	**+0.3**
SIGR	**SIGRI**	**0.81**	**303**	*e*Pg	**Pb**	**17 34 47.9**	**+0.4**
SIGR	**SIGRI**	**0.81**	**303**	P	**Pn**	**17 34 48.3**	**-0.4**
SIGR				S	**Sn**	**17 35 00.0**	**-0.4**
SIGR	**SIGRI**	**0.81**	**303**	P	**Pn**	**17 34 48.5**	**-0.1**
SIGR				S	**Sn**	**17 35 00.0**	**-0.4**
SIGR				AML	AML	17 35 01.1	
	comp=N,572µm,0.5s						
SIGR				AML	AML	17 35 03.5	
	comp=E,640µm,0.4s						
AKS	**Akhisar**	**0.85**	**83**	*e*PG	**Pb**	**17 34 48.2**	**-0.1**
AKS	**Akhisar**	**0.85**	**83**	*e*Pg	**Pb**	**17 34 48.2**	**-0.1**
SMG	**Samos**	**1.07**	**175**	P	**Pb**	**17 34 52.1**	**+0.1**
SMG				S	**Sn**	**17 35 07.6**	**+0.6**
SMG	**Samos**	**1.07**	**175**	P	**Pb**	**17 34 52.1**	**+0.1**
SMG				S	**Sn**	**17 35 07.6**	**+0.6**
SMG	**Samos**	**1.07**	**175**	P	**Pb**	**17 34 51.9**	**-0.2**
SMG				S	**Sg**	**17 35 06.3**	**0.0**
SMG				AML	AML	17 35 09.7	
	comp=E,1194µm,0.6s						
SMG				AML	AML	17 35 11.5	
	comp=N,1510µm,0.3s						
EZN	**Ezine**	**1.09**	**344**	*e*PG	**Pb**	**17 34 52.2**	**-0.2**
EZN	**Ezine**	**1.09**	**344**	P	**Pb**	**17 34 52.1**	**-0.3**
EZN				S	**Sg**	**17 35 07.0**	**0.0**
EZN	**Ezine**	**1.09**	**344**	*e*Pg	**Pb**	**17 34 52.2**	**-0.2**
EZN				S	**Sg**	**17 35 07.0**	**0.0**
GCAM	**G?zelcaml?**	**1.15**	**160**	P	**Pg**	**17 34 54.1**	**+0.3**
GCAM				S	**Sg**	**17 35 08.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.15**	**160**	*i* P	**Pg**	**17 34 54.1**	**+0.3**
GCAM				*i* S	**Sg**	**17 35 08.9**	**+0.2**
BALY	**Balya**	**1.19**	**35**	P	**Pn**	**17 34 53.5**	**-0.4**
BALY				S	**Sb**	**17 35 09.5**	**+0.3**
BALY	**Balya**	**1.19**	**35**	*i* P	**Pn**	**17 34 53.5**	**-0.4**
BALY				*i* S	**Sb**	**17 35 09.5**	**+0.3**
BOZC	**Bozcaada**	**1.19**	**334**	*i* P	**Pb**	**17 34 54.0**	**0.0**
BOZC				*i* S	**Sn**	**17 35 09.6**	**-0.2**
BALB	**Balikesir**	**1.24**	**46**	*e*PN	**Pn**	**17 34 54.3**	**-0.4**
BALB	**Balikesir**	**1.24**	**46**	*e*Pn	**Pn**	**17 34 54.3**	**-0.4**
GONE	**Gonen-Balikesi**	**1.47**	**30**	*e*PN	**Pn**	**17 34 57.4**	**-0.4**
GONE	**Gonen-Balikesi**	**1.47**	**30**	*e*Pn	**Pn**	**17 34 57.4**	**-0.4**
KULA	**Kula-Manisa**	**1.54**	**99**	*e*PN	**Pn**	**17 34 59.3**	**+0.5**
KULA	**Kula-Manisa**	**1.54**	**99**	P	**Pn**	**17 34 58.6**	**-0.2**
KULA				S	**Sn**	**17 35 18.4**	**-0.2**
KULA	**Kula-Manisa**	**1.54**	**99**	P	**Pn**	**17 34 58.6**	**-0.2**
KULA	**Kula-Manisa**	**1.54**	**99**	*e*Pn	**Pn**	**17 34 59.3**	**+0.5**
KULA				S	**Sn**	**17 35 18.4**	**-0.2**
GADA	**Gvkgeada**	**1.55**	**336**	*e*PN	**Pn**	**17 34 59.2**	**+0.3**
GADA	**Gvkgeada**	**1.55**	**336**	P	**Pn**	**17 34 59.0**	**+0.1**
GADA				S	**Sn**	**17 35 18.8**	**-0.2**
GADA	**Gvkgeada**	**1.55**	**336**	*e*Pn	**Pn**	**17 34 59.2**	**+0.3**
GADA				S	**Sn**	**17 35 18.6**	**-0.2**
DEMI	**Demirci**	**1.57**	**80**	P	**Pn**	**17 34 59.8**	**+0.5**
DEMI				S	**Sn**	**17 35 18.4**	**-1.1**
DEMI	**Demirci**	**1.57**	**80**	*i* P	**Pn**	**17 34 59.8**	**+0.5**
DEMI				*i* S	**Sn**	**17 35 18.4**	**-1.1**
LPK	**Lapseki**	**1.59**	**1**	*e*PN	**Pn**	**17 34 59.8**	**+0.3**
LPK	**Lapseki**	**1.59**	**1**	*e*Pn	**Pn**	**17 34 59.8**	**+0.3**
KNL	**Bal¯–kesir**	**1.61**	**22**	*i* P	**Pn**	**17 34 58.5**	**-1.3**
KNL				*i* S	**Sn**	**17 35 19.0**	**-1.4**
GELI	**Tayfur-Gelibol**	**1.63**	**353**	*e*PN	**Pn**	**17 35 00.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.63**	**353**	*e*Pn	**Pn**	**17 35 00.1**	**+0.1**
LIA	**Limnos Island**	**1.64**	**314**	P	**Pn**	**17 35 00.9**	**+0.8**
LIA				S	**Sb**	**17 35 21.9**	**-0.3**
LIA	**Limnos Island**	**1.64**	**314**	P	**Pn**	**17 35 00.9**	**+0.8**
LIA				S	**Sb**	**17 35 21.9**	**-0.3**
KRBG	**Karabiga-Canak**	**1.67**	**15**	*e*PN	**Pn**	**17 35 00.5**	**-0.1**
KRBG	**Karabiga-Canak**	**1.67**	**15**	*e*Pn	**Pn**	**17 35 00.5**	**-0.1**
BODT	**Bodrum**	**1.77**	**165**	*e*PN	**Pb**	**17 35 03.3**	**-0.7**
BODT	**Bodrum**	**1.77**	**165**	*e*Pn	**Pb**	**17 35 03.3**	**-0.7**
EDC	**Edincik**	**1.80**	**29**	*e*PN	**Pn**	**17 35 02.1**	**-0.2**
EDC	**Edincik**	**1.80**	**29**	*e*Pn	**Pn**	**17 35 02.1**	**-0.2**
ERIK	**Erikli-Kesan**	**1.90**	**355**	*e*PN	**Pn**	**17 35 04.0**	**+0.3**
ERIK	**Erikli-Kesan**	**1.90**	**355**	*e*Pn	**Pn**	**17 35 04.0**	**+0.3**
SMTH	**Samothraki Isl**	**1.93**	**332**	P	**Pn**	**17 35 04.4**	**+0.3**
SMTH				S	**Sn**	**17 35 27.7**	**-0.5**
SMTH	**Samothraki Isl**	**1.93**	**332**	P	**Pn**	**17 35 04.6**	**+0.5**
SMTH				S	**Sn**	**17 35 28.6**	**+0.5**
SMTH	**Samothraki Isl**	**1.93**	**332**	P	**Pn**	**17 35 04.5**	**+0.5**
SMTH				S	**Sn**	**17 35 28.6**	**+0.5**
SMTH				AML	AML	17 35 35.0	
	comp=E,68µm,0.3s						
SMTH				AML	AML	17 35 35.1	
	comp=N,93µm,0.3s						
SART	**Tekirdag**	**1.94**	**10**	P	**Pn**	**17 35 04.0**	**-0.4**
SART				S	**Sn**	**17 35 27.9**	**-0.7**
SART	**Tekirdag**	**1.94**	**10**	*i* P	**Pn**	**17 35 04.0**	**-0.4**
SART				*i* S	**Sn**	**17 35 27.9**	**-0.7**
MRMT	**Marmara Adasi**	**1.94**	**20**	*e*PN	**Pn**	**17 35 04.7**	**+0.3**
MRMT	**Marmara Adasi**	**1.94**	**20**	*e*Pn	**Pn**	**17 35 04.7**	**+0.3**
KCTX	**Karacabey (Bur**	**1.95**	**40**	*e*PN	**Pn**	**17 35 04.7**	**+0.3**
KCTX	**Karacabey (Bur**	**1.95**	**40**	*e*Pn	**Pn**	**17 35 04.7**	**+0.3**
APE	**Apeiranthos**	**1.95**	**209**	*e*PN	**Pb**	**17 35 05.9**	**-1.1**
APE	**Apeiranthos**	**1.95**	**209**	*e*Pn	**Pb**	**17 35 05.9**	**-1.1**
APE				S	**Sn**	**17 35 28.2**	**-0.6**
APE	**Apeiranthos**	**1.95**	**209**	P	**Pn**	**17 35 03.9**	**-0.5**
APE				S	**Sn**	**17 35 28.2**	**-0.6**
APE				AML	AML	17 35 40.6	
	comp=E,76µm,0.3s						
APE				AML	AML	17 35 45.8	
	comp=N,89µm,0.3s						
KESN	**Edirne-Kesan**	**2.05**	**359**	P	**Pn**	**17 35 07.1**	**+1.1**
KESN				S	**Sb**	**17 35 33.1**	**-1.2**
KESN	**Edirne-Kesan**	**2.05**	**359**	*i* P	**Pn**	**17 35 07.1**	**+1.1**
KESN				*i* S	**Sb**	**17 35 33.1**	**-1.2**
DNZL	**Cakiroluk**	**2.12**	**120**	P	**Pn**	**17 35 06.7**	**-0.3**
DNZL				S	**Sb**	**17 35 37.7**	**+1.3**
DNZL	**Cakiroluk**	**2.12**	**120**	*i* P	**Pn**	**17 35 06.7**	**-0.3**
DNZL				*i* S	**Sb**	**17 35 37.7**	**+1.3**
GDZ	**Gediz**	**2.17**	**81**	P	**Pg**	**17 35 12.3**	**-1.0**
GDZ	**Gediz**	**2.17**	**81**	*i* P	**Pg**	**17 35 12.3**	**-1.0**
GDZ				*i* S	**Sb**	**17 35 39.5**	**+1.8**
ALN	**Alexandroupoli**	**2.18**	**346**	*e*PN	**Pn**	**17 35 08.1**	**+0.5**
ALN	**Alexandroupoli**	**2.18**	**346**	P	**Pn**	**17 35 08.0**	**+0.4**
ALN				S	**Sn**	**17 35 33.8**	**-0.6**
ALN	**Alexandroupoli**	**2.18**	**346**	P	**Pn**	**17 35 07.8**	**+0.2**
ALN	**Alexandroupoli**	**2.18**	**346**	*e*Pn	**Pn**	**17 35 08.1**	**+0.5**
ALN				S	**Sn**	**17 35 34.1**	**-0.3**
ALN	**Alexandroupoli**	**2.18**	**346**	P	**Pn**	**17 35 07.8**	**+0.2**
ALN				S	**Sn**	**17 35 34.1**	**-0.3**
ALN				AML	AML	17 35 46.2	
	comp=N,67µm,0.5s						
ALN				AML	AML	17 35 46.5	
	comp=E,46µm,0.7s						
TVSB	**Tavsanli**	**2.23**	**72**	*e*PN	**Pn**	**17 35 09.0**	**+0.6**
TVSB	**Tavsanli**	**2.23**	**72**	*e*Pn	**Pn**	**17 35 09.0**	**+0.6**
AOS	**Alonnisos**	**2.25**	**281**	P	**Pn**	**17 35 09.9**	**+1.3**
AOS	**Alonnisos**	**2.25**	**281**	P	**Pn**	**17 35 09.9**	**+1.3**
TKR	**Tekirdag**	**2.30**	**15**	*e*PN	**Pn**	**17 35 10.0**	**+0.8**
TKR	**Tekirdag**	**2.30**	**15**	*e*Pn	**Pn**	**17 35 10.0**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.30**	**46**	*e*PN	**Pn**	**17 35 10.0**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.30**	**46**	*e*Pn	**Pn**	**17 35 10.0**	**+0.8**
SERI	**Serifos**	**2.40**	**228**	P	**Pn**	**17 35 10.0**	**-0.5**
SERI				S	**Sn**	**17 35 40.5**	**+0.8**
SERI	**Serifos**	**2.40**	**228**	P	**Pn**	**17 35 10.0**	**-0.5**
SERI				S	**Sn**	**17 35 40.5**	**+0.8**
ARMT	**Armutlu**	**2.43**	**42**	*e*PN	**Pn**	**17 35 11.9**	**+0.9**
ARMT	**Armutlu**	**2.43**	**42**	*e*Pn	**Pn**	**17 35 11.9**	**+0.9**
SKIA	**Skiathos**	**2.57**	**280**	P	**Pn**	**17 35 13.6**	**+0.7**
SKIA	**Skiathos**	**2.57**	**280**	P	**Pn**	**17 35 13.7**	**+0.7**
OUR	**Ouranopolis**	**2.63**	**307**	P	**Pn**	**17 35 14.5**	**+0.8**
OUR	**Ouranopolis**	**2.63**	**307**	P	**Pn**	**17 35 14.5**	**+0.8**
IZI	**Iznik**	**2.63**	**53**	*e*PN	**Pn**	**17 35 14.6**	**+0.7**
IZI	**Iznik**	**2.63**	**53**	*e*Pn	**Pn**	**17 35 14.6**	**+0.7**
KAVA	**Kavala**	**2.80**	**323**	P	**Pn**	**17 35 16.6**	**+0.6**
KAVA				S	**Sn**	**17 35 47.8**	**-1.7**
KAVA	**Kavala**	**2.80**	**323**	P	**Pn**	**17 35 16.6**	**+0.6**
KAVA				S	**Sn**	**17 35 47.8**	**-1.7**
KAVA	**Kavala**	**2.80**	**323**	P	**Pn**	**17 35 16.6**	**+0.6**
CAVI	**Cavuskoy**	**2.80**	**58**	*e*PN	**Pn**	**17 35 17.0**	**+0.9**
CAVI	**Cavuskoy**	**2.80**	**58**	*e*Pn	**Pn**	**17 35 17.0**	**+0.9**
CTKS	**Kestanelik-??a**	**2.81**	**29**	*e*PN	**Pn**	**17 35 17.3**	**+1.1**
CTKS	**Kestanelik-??a**	**2.81**	**29**	*e*Pn	**Pn**	**17 35 17.3**	**+1.1**
BGKT	**Bogazkoy**	**2.87**	**33**	*e*PN	**Pn**	**17 35 18.0**	**+1.0**
BGKT	**Bogazkoy**	**2.87**	**33**	*e*Pn	**Pn**	**17 35 18.0**	**+1.0**
ISK	**Istanbul-Kandi**	**2.91**	**37**	*e*PN	**Pn**	**17 35 18.7**	**+1.2**
ISK	**Istanbul-Kandi**	**2.91**	**37**	*e*Pn	**Pn**	**17 35 18.7**	**+1.2**
KLYT	**Kilyos**	**3.04**	**35**	*e*PN	**Pn**	**17 35 20.6**	**+1.2**
KLYT	**Kilyos**	**3.04**	**35**	*e*Pn	**Pn**	**17 35 20.6**	**+1.2**
EDRB	**Edirne**	**3.07**	**0**	*e*PN	**Pn**	**17 35 20.8**	**+1.0**
EDRB	**Edirne**	**3.07**	**0**	*e*Pn	**Pn**	**17 35 20.8**	**+1.0**
SOH	**Sokhos**	**3.31**	**309**	P	**Pn**	**17 35 23.8**	**+0.7**
SOH	**Sokhos**	**3.31**	**309**	P	**Pn**	**17 35 23.8**	**+0.7**
HORT	**Hortiatis**	**3.34**	**304**	P	**Pn**	**17 35 24.4**	**+0.8**
HORT	**Hortiatis**	**3.34**	**304**	P	**Pn**	**17 35 24.4**	**+0.8**
SRS	**Serrai**	**3.36**	**315**	P	**Pn**	**17 35 24.8**	**+1.0**
SRS	**Serrai**	**3.36**	**315**	P	**Pn**	**17 35 24.8**	**+1.0**
NVR	**Nevrokopi**	**3.38**	**320**	P	**Pn**	**17 35 24.9**	**+0.8**
KNT	**Kendrikon**	**3.79**	**310**	P	**Pn**	**17 35 31.1**	**+1.5**
KNT	**Kendrikon**	**3.79**	**310**	P	**Pn**	**17 35 31.1**	**+1.5**
BARS	**Barje**	**5.49**	**319**	*e*Pn	**Pn**	**17 35 52.9**	**-0.2**
BOVS	**Bovan**	**6.16**	**324**	*e*Pn	**Pn**	**17 36 03.7**	**+1.5**
KUBS	**Kucevo**	**6.78**	**328**	*e*Pn	**Pn**	**17 36 10.9**	**+0.1**

*ISK **19** 17:43:34.4, 40°.04N×41°.83E, h5km, ML3.4*
*CSEM **19** 17:43:35.9±0.2, 40°.05N×41°.83E, h2km, ML3.5, Error ellipse: s-maj=3.8km s-min=3.3km az=149.0*
*DDA **19** 17:43:35.5, 40°.04N×41°.83E, h10km, Ml3.5*
*IASPEI **19** 17:43:36.1±0.9, 40°.05N±0°.02×41°.86E±0°.02

BGD	**Bogdanovka**	**1.81**	**47**	P	**Pb**	**17 44 09.2**	**-0.6**
BGD				S	**Sg**	**17 44 34.7**	**+0.2**
MACK	**Trabzon**	**1.82**	**300**	P	**Pb**	**17 44 10.0**	**+0.1**
MACK	**Trabzon**	**1.82**	**300**	*i* P	**Pb**	**17 44 10.0**	**+0.1**
MACK				*i* S	**Sg**	**17 44 35.5**	**+0.7**
CLDR	**Caldiran**	**1.84**	**118**	*e*PN	**Pn**	**17 44 08.6**	**+0.3**
CLDR	**Caldiran**	**1.84**	**118**	*e*Pn	**Pn**	**17 44 08.6**	**+0.3**
KTUT	**Trabzon**	**1.84**	**302**	*e*PN	**Pn**	**17 44 08.5**	**+0.3**
KTUT	**Trabzon**	**1.84**	**302**	*e*Pn	**Pn**	**17 44 08.5**	**+0.3**
GUMT	**Gumushane**	**1.86**	**284**	*e*PN	**Pn**	**17 44 08.7**	**+0.2**
GUMT	**Gumushane**	**1.86**	**284**	*e*Pn	**Pn**	**17 44 08.7**	**+0.2**
AKH	**Akhalkalaki**	**1.86**	**42**	P	**Pb**	**17 44 09.7**	**-0.8**
AKH				S	**Sg**	**17 44 37.2**	**+1.2**
EZC	**Erzincan**	**1.94**	**262**	*e*Pn	**Pn**	**17 44 06.5**	**-3.1**
TVAN	**Van**	**1.94**	**141**	P	**Pb**	**17 44 12.4**	**+0.5**
TVAN				S	**Sb**	**17 44 37.2**	**+0.9**
TVAN	**Van**	**1.94**	**141**	*i* P	**Pb**	**17 44 12.4**	**+0.5**
TVAN				*i* S	**Sb**	**17 44 37.2**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.95**	**195**	*e*PN	**Pn**	**17 44 09.7**	**0.0**
SVAN	**Silvan-Diyarba**	**1.95**	**195**	*e*Pn	**Pn**	**17 44 09.7**	**0.0**
GEVA	**Gevas**	**1.97**	**151**	P	**Pb**	**17 44 11.9**	**-0.5**
GEVA	**Gevas**	**1.97**	**151**	*i* P	**Pb**	**17 44 11.9**	**-0.5**
GEVA				*i* S	**Sg**	**17 44 39.8**	**+0.3**
KELT	**Kelkit**	**1.99**	**274**	P	**Pb**	**17 44 12.9**	**+0.1**
KELT	**Kelkit**	**1.99**	**274**	*i* P	**Pb**	**17 44 12.9**	**+0.1**
KELT				*i* S	**Sg**	**17 44 40.5**	**+0.4**
TNCL	**Tunceli-Merkez**	**2.00**	**243**	P	**Pb**	**17 44 12.3**	**-0.7**
TNCL	**Tunceli-Merkez**	**2.00**	**243**	*i* P	**Pb**	**17 44 12.3**	**-0.7**
TNCL				*i* S	**Sg**	**17 44 39.4**	**-1.3**
BTMN	**Batman**	**2.19**	**192**	P	**Pn**	**17 44 13.5**	**+0.5**
BTMN	**Batman**	**2.19**	**192**	*i* P	**Pn**	**17 44 13.5**	**+0.5**
BTMN				*i* S	**Sg**	**17 44 46.7**	**+0.1**
PTK	**Pertek**	**2.21**	**240**	*e*PN	**Pn**	**17 44 13.5**	**0.0**
PTK	**Pertek**	**2.21**	**240**	*e*Pn	**Pn**	**17 44 13.5**	**0.0**
ESPY	**Espiye-Giresun**	**2.53**	**291**	*e*PN	**Pn**	**17 44 18.1**	**+0.4**
ESPY	**Espiye-Giresun**	**2.53**	**291**	*e*Pn	**Pn**	**17 44 18.1**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.58**	**231**	*e*PN	**Pn**	**17 44 18.7**	**+0.3**
SVRC	**Sivrice-ELAZID**	**2.58**	**231**	*e*Pn	**Pn**	**17 44 18.7**	**+0.3**
SIRT	**Sirnak**	**2.58**	**169**	*e*PN	**Pn**	**17 44 18.7**	**+0.3**
SIRT	**Sirnak**	**2.58**	**169**	*e*Pn	**Pn**	**17 44 18.7**	**+0.3**
CHVG	**Ch'k'valeri**	**2.68**	**4**	P	**Pg**	**17 44 27.8**	**+0.1**
CHVG				S	**Sg**	**17 45 04.2**	**+1.8**
MAZI	**Mazidag**	**2.80**	**203**	*e*PN	**Pn**	**17 44 22.1**	**+0.7**
MAZI	**Mazidag**	**2.80**	**203**	*e*Pn	**Pn**	**17 44 22.1**	**+0.7**
ONI	**Oni**	**2.82**	**25**	P	**Pb**	**17 44 27.4**	**+0.5**
ONI				S	**Sg**	**17 45 08.4**	**+1.5**
GUDG	**Gudauri**	**3.13**	**38**	P	**Pn**	**17 44 27.8**	**+1.7**
DARE	**Darende-Malaty**	**3.69**	**248**	*e*PN	**Pn**	**17 44 34.7**	**+1.1**
DARE	**Darende-Malaty**	**3.69**	**248**	*e*Pn	**Pn**	**17 44 34.7**	**+1.1**
SARI	**SarD1z-Kayseri**	**4.52**	**251**	*e*PN	**Pn**	**17 44 46.5**	**+1.4**

NIED ***19*** *17:56:00, 39°.50N×142°.60E, h17km, Mw3.4 Best double couple: M0 1.64000×10^14 NP1:φs=261.00000°, δ=36.00000°, λ=-173.00000°. NP2:φs=166.00000°, δ=86.00000°, λ=-54.00000°.*

JMA 19 17:56:51.5±0.1, 39°.49N×142°.58E, h27km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.59**	**279**	P	Pb	17 57 03.2	-0.2
MIYJ				*e*S	Sb	17 57 11.3	-0.1
JTH	**Tanohata**	**0.71**	**309**	P	Pb	17 57 04.9	-0.4
OFUJ	**Ofunato**	**0.82**	**240**	P	Pb	17 57 06.7	-0.4
OFUJ				*e*S	Sb	17 57 17.4	-0.3
JOM	**Ohasama**	**1.00**	**269**	P	Pn	17 57 09.8	+0.1
JOM				*e*S	Sn	17 57 22.9	0.0
JKZ	**Kuzumaki**	**1.08**	**298**	P	Pn	17 57 11.0	+0.1
JKZ				*e*S	Sn	17 57 25.0	-0.1
JMK	**Ichinoseki**	**1.19**	**243**	P	Pn	17 57 12.6	+0.3
JMK				*e*S	Sn	17 57 27.5	0.0
JANG	**Nango**	**1.20**	**317**	P	Pn	17 57 12.6	0.0
JIO	**Ouri**	**1.41**	**223**	P	Pn	17 57 15.3	-0.1
JIO				*e*S	Sn	17 57 33.0	-0.1
JRG	**Rokugo**	**1.51**	**267**	P	Pb	17 57 18.5	-0.3
JAH	**Hinai**	**1.65**	**296**	P	Pb	17 57 20.4	-0.8
JAH				*e*S	Sb	17 57 41.3	-0.3
MAT	**Matsushiro**	**4.54**	**231**	P	Pn	17 58 01.0	+2.6
MAT				*e*S	Sn	17 58 52.1	+1.8

NIED ***19*** *18:13:00, 36°.80N×141°.30E, h5km, Mw4.6 Best double couple: M0 1.03000×10^16 NP1:φs=190.00000°, δ=38.00000°, λ=-102.00000°. NP2:φs=25.00000°, δ=53.00000°, λ=-81.00000°.*

JMA ***19*** *18:13:01.7±0.1, 36°.77N×141°.29E, h30km±2km, M4.7*
JMA Felt II J1.

ISCJB ***19*** *18:13:03.6±0.6, 36°.82N±0°.03×141°.18E±0°.03, h27km±3km, mb4.5/70, MS4.0/27, Error ellipse: s-maj=4.8km s-min=3.4km az=141.8*

MOS ***19*** *18:13:04.5±1.4, 36°.86N×141°.20E, h33km, mb4.6/39, Error ellipse: s-maj=8.1km s-min=5.3km az=94.8*

IDC ***19*** *18:13:05.7±2.4, 36°.79N×141°.19E, h38km±20km, mb3.9/24, mb1 4.1/31, mb1mx4.0/42, mbtmp4.1/31, ML3.8/5, MS3.9/28, Ms1 3.9/28, ms1mx3.7/46, Error ellipse: s-maj=15.7km s-min=11.2km az=105.0*

BJI ***19*** *18:13:05.3, 36°.58N×141°.05E, h43km, mb4.5/35, mB4.8/29, Ms4.4/33, Ms7 4.2/29*

NEIC ***19*** *18:13:06.8±0.8, 36°.88N×140°.99E, h37km±7km, mb4.7/33, Error ellipse: s-maj=9.4km s-min=4.9km az=142.0*

NEIC Felt at Hitachinaka and Yokohama. Recorded [2 JMA] in Fukushima and Ibaraki.

ISC 19 18:13:04.8±0.7, 36°.77N±0°.03×141°.16E±0°.04, h28km±4km, n204, σ2s00/219, mb4.5/70, MS4.0/29, 9C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.44**	**319**	P	**Pb**	**18 13 12.0**	**-2.2**
ONAJ				*e*S	**Sb**	**18 13 19.6**	**-1.1**
JHO	**Hitachi**	**0.50**	**252**	P	**Pb**	**18 13 13.6**	**-1.6**
JHO				S	**Sb**	**18 13 22.3**	**+0.1**
JFK	**Kawauchi**	**0.64**	**339**	P	**Pn**	**18 13 14.7**	**-3.3**
JFK				S	**Sb**	**18 13 23.7**	**-2.4**
JFT	**Otama**	**0.99**	**319**	P	**Pn**	**18 13 21.4**	**-1.5**
JFT				S	**Sn**	**18 13 35.1**	**-0.9**
JMM	**Marumori**	**1.13**	**345**	P	**Pn**	**18 13 22.2**	**-2.6**
JMM				S	**Sn**	**18 13 37.4**	**-2.0**
JFY	**Yanaizu**	**1.32**	**299**	P	**Pn**	**18 13 26.9**	**-0.6**
JFY				*e*S	**Sn**	**18 13 45.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.38**	**265**	Pn	**Pn**	**18 13 42.2**	**+0.2**
	15nm,0.3s,baz=92,slow=10.0,SNR=163						
MJAR					**Sn**	**18 14 11.9**	**+1.6**
	30nm,0.3s,baz=84,slow=25,SNR=8.0						
MJAR				LR	LR	18 14 54.3	
	comp=Z,3μm,22.0s,baz=85,slow=46						
MAJO	**Matsushiro**	**2.38**	**265**	⫴P	**Pn**	**18 13 43.2**	**+1.2**
MAJO	**Matsushiro**	**2.38**	**265**	*e*Pn	**Pn**	**18 13 43.0**	**+1.0**
MAJO				*e*Sn	**Sn**	**18 14 07.5**	**-2.8**
MAT	**Matsushiro**	**2.38**	**265**	P	**Pn**	**18 13 42.5**	**+0.5**
MAT				S	**Sn**	**18 14 12.5**	**+2.2**
MJB9	**Matsu-Tunnel**	**2.39**	**265**	*e*Pn	**Pn**	**18 13 43.0**	**+0.9**
INU	**Inuyama**	**3.64**	**248**	*e*Pn	**Pn**	**18 14 00.7**	**+1.3**
JHJ	**Hachijo jima 2**	**3.81**	**198**	Pn	**Pn**	**18 14 00.8**	**-0.8**
	44nm,0.3s,baz=242,slow=16,SNR=14						
JHJ					**Sn**	**18 14 48.3**	**+2.8**
	60nm,0.3s,baz=53,slow=22,SNR=6.9						
JHJ				LR	LR	18 15 44.4	
	comp=Z,846nm,19.0s,baz=344,slow=41						
ERM	**Erimo**	**5.46**	**16**	⫴*i*P	**Pn**	**18 14 22.7**	**-1.6**
ERM	**Erimo**	**5.46**	**16**	*e*Pn	**Pn**	**18 14 22.2**	**-2.1**
ERM				*e*Sn	**Sn**	**18 15 26.6**	**+0.5**
ASAJ	**Asahikawa**	**7.42**	**8**	Pn	**Pn**	**18 14 49.4**	**-1.8**
	1.9nm,0.3s,baz=204,slow=11,SNR=34						
ASAJ	**Asahikawa**	**7.42**	**8**	*e*Pn	**Pn**	**18 14 49.2**	**-1.9**
ASAJ				*e*Sn	**Sn**	**18 16 15.0**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**8.09**	**25**	*i* P	**Pn**	**18 15 00.7**	**+0.3**
JNU	**Nakatsue**	**9.19**	**250**	Pn	**Pn**	**18 15 16.6**	**+1.1**
	1.0nm,0.3s,baz=60,slow=11,SNR=5.6						
JNU				LR	LR	18 19 30.1	
	comp=Z,506nm,20.0s,baz=117,slow=42						
CBIJ	**Chichi jima**	**9.69**	**175**	*e*Pn	**Pn**	**18 15 18.6**	**-3.7**
CBIJ				Sn	**Sn**	**18 17 05.4**	**-4.7**
JCJ	**Chichijima**	**9.69**	**175**	Pn	**Pn**	**18 15 18.7**	**-3.6**
	8.4nm,0.3s,baz=285,slow=22,SNR=13						
JCJ					**Sn**	**18 17 05.4**	**-4.8**
	9.0nm,0.3s,baz=117,slow=23,SNR=5.1						
JCJ				LR	LR	18 19 06.1	
	comp=Z,493nm,21.8s,baz=348,slow=37						
KUR	**Kuril'sk**	**9.85**	**29**	*e*P	**Pn**	**18 15 25.0**	**+0.5**
KUR				*i* S	**Sn**	**18 17 06.3**	**-7.8**
KUR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KUR				smax	smax		
	comp=N,24nm,0.6s						
KUR				smax	smax		
	comp=E,21nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.19**	**320**	Pn	**Pn**	**18 15 30.9**	**+1.8**
	comp=E,0.4nm,0.3s,baz=144,slow=12,SNR=8.4						
USRK				LR	LR	18 19 05.0	
	comp=E,1μm,19.6s,baz=129,slow=35						
YSS	**Yuzh-Sakhalins**	**10.24**	**6**	*e*P	**Pn**	**18 15 30.7**	**+0.8**
YSS				*e*S	**Sn**	**18 17 20.8**	**-2.9**
YSS				MLR	MLR		
	comp=Z,700nm,14.0s						
YSS	**Yuzh-Sakhalins**	**10.24**	**6**	Pn	**Pn**	**18 15 28.3**	**-1.6**
KSRS	**Korea Array**	**10.59**	**278**	Pn	**Pn**	**18 15 38.0**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=92,slow=14,SNR=13						
KSRS				LR	LR	18 19 42.4	
	comp=Z,757nm,18.1s,baz=95,slow=37						
KS01	**Wonju Array Si**	**10.62**	**278**	*e*Pn	Pn	18 15 44.4	+9.4
KSAR	**Wonju Array Be**	**10.62**	**278**	P	**Pn**	**18 15 38.0**	**+2.9**
KSAR	**Wonju Array Be**	**10.62**	**278**	Pn	**Pn**	**18 15 38.0**	**+2.9**
TJN	**Taejon**	**11.10**	**272**	*i* P	**Pn**	**18 15 45.9**	**+4.3**
MDJ	**Mudanjiang**	**11.76**	**315**	P	**Pn**	**18 15 54.8**	**+4.2**
MDJ				PMZ			
	comp=Z,11nm,1.7s						
MDJ				PMZ			
	comp=Z,130nm,5.8s						
HABR	**Khabarovsk**	**12.52**	**341**	*ce*P	**Pn**	**18 16 00.7**	**-0.3**
HABR				*e*S	**Sn**	**18 18 20.6**	**+1.1**
HABR				pmax	pmax		
	comp=N,20nm,1.5s						
HABR				pmax	pmax		
	comp=E,13nm,1.5s						
HABR				pmax	pmax		
	comp=Z,32nm,1.5s						
HABR				MLR	MLR		
	comp=Z,131nm,11.0s						
CN2	**Changchun**	**13.88**	**305**	*e*P	**Pn**	**18 16 20.6**	**+1.0**
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
TYV	**Tymovskoe**	**14.13**	**4**	*e*P	**Pn**	**18 16 23.0**	**+0.1**
TYV				pmax	pmax		
	comp=Z,56nm,1.2s						
TYV				MLR	MLR		
	comp=E,2μm,13.0s						
TYV				MLR	MLR		
	comp=Z,2μm,13.0s						
KLR	**Kul'dur**	**14.21**	**334**	Pn	**Pn**	**18 16 25.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=188,slow=11,SNR=2.8						
KLR				LR	LR	18 21 32.4	
	comp=Z,660nm,19.7s,baz=162,slow=36						
DL2	**Dalian**	**15.58**	**284**	P	**Pn**	**18 16 44.9**	**+2.5**
DL2				pP	**pP**	**18 16 52.9**	**-1.0**
DL2				S	**Sn**	**18 19 37.0**	**+3.0**
DL2				PMZ			
	comp=Z,190nm,6.7s						
DL2				LE			
	comp=Z,800nm,15.9s						
DL2				LZ			
	comp=Z,1μm,16.9s						
NJ2	**Nanjing**	**18.98**	**262**	*e*P	**P**	**18 17 21.3**	**-2.7**
NJ2				S	**Sn**	**18 20 53.6**	**-3.0**
NJ2				PMZ			
	comp=Z,12nm,0.5s						
NJ2				LN			
	comp=Z,440nm,15.2s						
NJ2				LE			
	comp=Z,670nm,17.9s						
NJ2				LZ			
	comp=Z,650nm,16.8s						
BJI	**Beijing**	**19.83**	**287**	P	**P**	**18 17 31.3**	**-1.9**
BJI				S	**S**	**18 21 08.8**	**-6.3**
BJI				PMZ			
	comp=Z,3.0nm,0.5s						
BJI				LN			
	comp=Z,330nm,12.6s						
BJI				LE			
	comp=Z,220nm,11.7s						
BJI				LZ			
	comp=Z,270nm,22.9s						
PETK	**Petropavlovsk-**	**20.02**	**30**	P	**P**	**18 17 35.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=224,slow=12,SNR=3.6						
PETK				LR	LR	18 24 39.0	
	comp=Z,91nm,21.7s,baz=211,slow=35						
PET	**Petropavlovsk**	**20.35**	**31**	*e*P	Pn	18 17 48.5	+7.6
PET				*e*S	**S**	**18 21 27.2**	**+2.0**
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
CLNS	**Chul'man**	**22.84**	**337**	*e*P	**P**	**18 18 01.4**	**-4.1**
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,14nm,1.3s						
CLNS				MLR	MLR		
	comp=Z,493nm,16.0s						
CLNS				MLR	MLR		
	comp=N,265nm,14.0s						
CLNS				MLR	MLR		
	comp=E,239nm,13.0s						
WHN	**Wuhan**	**23.12**	**262**	*e*P	**P**	**18 18 15.4**	**+6.8**
WHN				S	Sn	18 22 30.1	-5.9
WHN				LR	LR		
	comp=N,400nm,10.4s						
WHN				LR	LR		
	comp=E,2μm,15.1s						
WHN				LR	LR		
	comp=Z,2μm,15.5s						
HHC	**Hu-ho-hao-te**	**23.36**	**289**	*e*P	**P**	**18 18 09.5**	**-1.6**
HHC				pP	sP	18 18 23.3	+0.8
HHC				S	**S**	**18 22 15.1**	**-7.1**
HHC				sS	sS	18 22 31.4	-4.4
HHC				PMZ			
	comp=Z,18nm,0.9s						
HHC				PMZ			
	comp=Z,92nm,5.3s						
HHC				LN			
	comp=Z,350nm,11.6s						
HHC				LE			
	comp=Z,210nm,13.3s						
HHC				LZ			
	comp=Z,180nm,12.9s						
MA2	**Magadan**	**23.65**	**12**	P	**P**	**18 18 12.5**	**-1.0**
	comp=Z,5.9nm,0.7s,baz=176,slow=15,SNR=3.2						
MA2				LR	LR	18 28 25.0	
	comp=Z,151nm,18.4s,baz=181,slow=39						
CIT	**Chita**	**24.73**	**317**	*e*P	**P**	**18 18 24.0**	**+0.4**
CIT				*e*		18 18 57.4	
YAK	**Yakutsk**	**26.28**	**348**	LR	LR	18 28 45.3	
	comp=Z,88nm,18.1s,baz=156,slow=36						
YAK	**Yakutsk**	**26.28**	**348**	*e*P	**P**	**18 18 36.9**	**-0.6**
YAK				pmax	pmax		
	comp=Z,28nm,1.4s						
YAK				pmax	pmax		
	comp=N,16nm,1.5s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.4s						
SEY	**Seymchan**	**27.09**	**11**	P	**P**	**18 18 44.4**	**-0.3**
	comp=E,8.2nm,1.1s,baz=212,slow=9.1,SNR=7.5						
SEY	**Seymchan**	**27.09**	**11**	⫴*i*P	**P**	**18 18 47.1**	**+2.3**
ENH	**Enshi**	**27.11**	**265**	*e*P	**P**	**18 18 44.8**	**-0.6**
	comp=E,7.3nm,0.7s						
ULN	**Ulaanbaatar**	**27.33**	**305**	*ce*P	**P**	**18 18 49.4**	**+2.0**
ULN				*e**PP	**pP**	**18 18 57.0**	**+1.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,2.5s						
SONA1	**Songino Array**	**27.76**	**304**	*e*P	**P**	**18 18 50.2**	**-1.0**
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**18 18 50.6**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=103,slow=9.1,SNR=12						
SONM				LR	LR	18 30 14.2	
	comp=Z,278nm,19.2s,baz=103,slow=37						
SONM	**Songino Array**	**27.76**	**304**	*e*P	**P**	**18 18 51.7**	**+0.5**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.19**	**120**	T	T	18 48 19.8	
	baz=313,slow=75,SNR=7338						
H11N1	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	18 48 23.9	
	baz=313,slow=75,SNR=4976						
H11N3	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	18 48 24.6	
	baz=313,slow=75,SNR=5246						
H11S1	**WAKE ISLAND Hy**	**28.89**	**122**	T	T	18 49 11.4	
	baz=315,slow=76,SNR=1012						
H11S3	**WAKE ISLAND Hy**	**28.89**	**122**	T	T	18 49 11.6	
	baz=315,slow=76,SNR=1044						
H11S2	**WAKE ISLAND Hy**	**28.91**	**122**	T	T	18 49 15.4	
	baz=315,slow=76,SNR=570						
GYA	**Guiyang**	**30.98**	**261**	*e*P	**P**	**18 19 21.3**	**+1.4**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**31.47**	**270**	*e*P	**P**	**18 19 23.4**	**-0.7**
CD2				pP	pP	18 19 35.1	+2.7
CD2				sP	sP	18 19 40.8	+5.0
CD2				S	**S**	**18 24 27.3**	**-3.1**
CD2				sS	sS	18 24 47.6	+3.5
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.4s						
BILL	**Bilibino**	**34.34**	**16**	⫴*i*P	**P**	**18 19 52.3**	**+3.7**
BILL				*e*S	**S**	**18 25 17.4**	**+3.3**
BILL				*e*SS	**SnSn**	**18 27 23.2**	**-1.4**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s						
BILL				MLR	MLR		
	comp=Z,136nm,16.0s						
TIXI	**Tiksi**	**35.53**	**353**	P	**P**	**18 19 57.4**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=134,slow=10,SNR=7.1						
TIXI	**Tiksi**	**35.53**	**353**	⫴*i*P	**P**	**18 19 58.5**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TIXI	**Tiksi**	**35.53**	**353**	*e*P	**P**	**18 19 57.8**	**-1.0**
	comp=Z,19nm,1.8s						
WMQ	**Urumqi**	**40.78**	**297**	P	**P**	**18 20 44.1**	**+0.6**
WMQ				pP	sP	18 20 56.8	+1.4
WMQ				sP	pP	18 21 02.3	+10
WMQ				S	**S**	**18 26 49.6**	**-2.9**
WMQ				PMZ			
	comp=Z,5.0nm,1.0s						
WMQ				PMZ			
	comp=Z,57nm,4.6s						
WMQ				LN			
	comp=Z,150nm,19.8s						
WMQ				LE			
	comp=Z,100nm,18.8s						
WMQ				LZ			
	comp=Z,110nm,22.2s						
CMAR	**Chiang Mai Arr**	**41.23**	**255**	P	**P**	**18 20 46.6**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=47,slow=6.1,SNR=4.3						
CMAR				LR	LR	18 40 19.8	
	comp=Z,194nm,19.2s,baz=66,slow=40						
CMAR	**Chiang Mai Arr**	**41.23**	**255**	*e*P	**P**	**18 20 50.5**	**+3.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZAA0	**Zalesovo Array**	**41.94**	**313**	*e*P	**P**	**18 20 52.1**	**-0.8**
ZALV	**Zalesovo Beam**	**41.94**	**313**	P	**P**	**18 20 52.6**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=91,slow=6.2,SNR=13						
ZALV				LR	LR	18 39 03.6	
	comp=Z,193nm,18.5s,baz=72,slow=37						
NVS	**Novosibirsk**	**42.87**	**314**	*e*P	P	18 20 55.4	-5.0
NRIK	**Noril'sk**	**43.42**	**335**	P	**P**	**18 21 03.8**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=107,slow=6.3,SNR=5.9						
NRIK				LR	LR	18 39 58.1	
	comp=Z,206nm,18.4s,baz=122,slow=37						
MK01	**Makanchi Array**	**44.08**	**302**	*e*P	**P**	**18 21 09.5**	**-0.8**
MK31	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**18 21 10.2**	**-0.2**
MK31	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**18 21 10.2**	**-0.2**
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**18 21 09.6**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=87,slow=9.7,SNR=17						
MKAR				LR	LR	18 39 38.9	
	comp=Z,201nm,21.6s,baz=90,slow=36						
MKAR	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**18 21 10.1**	**-0.3**
MKAR	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**18 21 10.1**	**-0.3**
KSM	**Kuching**	**45.22**	**226**	*e*P	**P**	**18 21 20.7**	**+1.0**
	comp=Z,9.9nm,0.8s						
TT01	**Tatalina**	**45.75**	**35**	*e*P	**P**	**18 21 24.9**	**+1.6**
SVW2	**Sparrevohn**	**45.85**	**37**	*e*P	**P**	**18 21 25.6**	**+1.4**
	comp=Z,1.3nm,1.3s						
KURK	**Kurchatov**	**45.93**	**308**	*e*P	**P**	**18 21 21.8**	**-3.1**
KURK				pmax	pmax		
	comp=Z,81nm,1.0s						
KURK	**Kurchatov**	**45.93**	**308**	*e*P	**P**	**18 21 21.8**	**-3.1**
	comp=Z,81nm,1.0s						
PPLA	**Purkeypile**	**47.50**	**35**	*e*P	**P**	**18 21 39.0**	**+1.8**
	comp=Z,12nm,1.2s						
SPU	**Mount Spurr**	**47.57**	**37**	*e*P	**P**	**18 21 38.6**	**+1.0**
BPAW	**Bear Paw Mtn.**	**48.06**	**33**	*e*P	**P**	**18 21 42.3**	**+0.9**
	comp=Z,7.1nm,1.3s						
KTH	**Kantishna Hill**	**48.08**	**34**	*e*P	**P**	**18 21 43.7**	**+2.1**
	comp=Z,9.9nm,1.0s						
MLY	**Manley**	**48.18**	**32**	*e*P	**P**	**18 21 43.5**	**+1.2**
	comp=Z,5.4nm,0.9s						
TRF	**Thorofare Moun**	**48.37**	**34**	*e*P	**P**	**18 21 45.0**	**+1.1**
	comp=Z,4.1nm,0.9s						
COLD	**Coldfoot**	**48.48**	**29**	*e*P	**P**	**18 21 44.9**	**+0.4**
	comp=Z,13nm,1.8s						
RC01	**Rabbit Creek A**	**48.69**	**37**	*e*P	**P**	**18 21 45.8**	**-0.5**
	comp=Z,15nm,1.1s						
BWN	**Browne**	**48.72**	**33**	*e*P	**P**	**18 21 48.6**	**+2.1**
	comp=Z,50nm,1.4s						
PMR	**Palmer**	**48.96**	**36**	*e*P	**P**	**18 21 48.3**	**0.0**
PMR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PMR	**Palmer**	**48.96**	**36**	*e*P	**P**	**18 21 48.3**	**0.0**
	comp=Z,9.2nm,1.2s						
MCK	**McKinley**	**48.97**	**34**	*e*P	**P**	**18 21 49.7**	**+1.4**
MCK				pmax	pmax		
	comp=Z,16nm,1.4s						
MCK	**McKinley**	**48.97**	**34**	*e*P	**P**	**18 21 49.7**	**+1.4**
	comp=Z,16nm,1.4s						
RND	**Reindeer**	**49.01**	**34**	*e*P	**P**	**18 21 48.9**	**+0.2**
RND				pmax	pmax		
	comp=Z,13nm,1.3s						
RND	**Reindeer**	**49.01**	**34**	*e*P	**P**	**18

DIV	**Divide**	**50.61**	**37**	*eP*	**P**	**18 22 02.4 +1.4**			
	comp=Z,19nm,1.3s								
DOT	**Dot Lake**	**51.14**	**34**	*eP*	**P**	**18 22 05.4 +0.6**			
	comp=Z,13nm,1.1s								
BMRM	**Bremner River**	**51.19**	**37**	*eP*	**P**	**18 22 06.9 +1.6**			
	comp=Z,13nm,1.2s								
MENT	**Mentasta**	**51.37**	**34**	*eP*	**P**	**18 22 08.6 +2.0**			
	comp=Z,12nm,1.4s								
CRQM	**Cirque**	**51.93**	**37**	*eP*	**P**	**18 22 12.7 +1.7**			
	comp=Z,18nm,1.4s								
EGAK	**Eagle**	**52.27**	**32**	*eP*	**P**	**18 22 14.6 +1.3**			
	comp=Z,8.0nm,1.5s								
KKAR	**Karatay Array**	**53.08**	**300**	*eP*	**P**	**18 22 18.2 -1.4**			
KKAR	**Karatay Array**	**53.08**	**300**	*eP*	**P**	**18 22 18.2 -1.4**			
INK	**Inuvik**	**54.71**	**27**	P	**P**	**18 22 31.1 0.0**			
	comp=Z,2.7nm,0.8s,baz=279,slow=14,SNR=4.1								
INK	**Inuvik**	**54.71**	**27**	*eP*	**P**	**18 22 32.4 +1.4**			
INK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
INK	**Inuvik**	**54.71**	**27**	*eP*	**P**	**18 22 32.4 +1.4**			
	comp=Z,4.6nm,0.9s								
SVE	**Sverdlovsk**	**55.21**	**319**	*eP*	**P**	**18 22 35.2 +0.4**			
SVE				pmax	pmax				
	comp=Z,16nm,1.6s								
ARU	**Arti**	**56.42**	**319**	*d iP*	**P**	**18 22 43.1 -0.4**			
ARU						18 23 34.6			
ARU				S	**S**	**18 30 33.1 +0.8**			
ARU				SS	**SS**	**18 34 17.3 -1.7**			
ARU				pmax	pmax				
	comp=Z,18nm,1.7s								
ARU	**Arti**	**56.42**	**319**	*eP*	**P**	**18 22 42.4 -1.2**			
	comp=Z,9.5nm,1.0s								
WRA	**Warramunga Arr**	**56.77**	**188**	P	**P**	**18 22 46.2 -0.1**			
	comp=Z,3.1nm,0.5s,baz=6.0,slow=7.4,SNR=56								
WRA	**Warramunga Arr**	**56.77**	**188**	*eP*	**P**	**18 22 46.2 -0.1**			
WRA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
ABKAR	**Akbulak array**	**57.95**	**310**	*eP*	**P**	**18 22 54.0 -0.4**			
DLBC	**Dease Lake**	**58.96**	**38**	*eP*	**P**	**18 23 02.3 +0.9**			
	comp=Z,15nm,1.6s								
AS01	**Alice Springs**	**60.49**	**188**	*eP*	**P**	**18 23 11.6 -0.6**			
ASAR	**Alice Springs**	**60.50**	**188**	P	**P**	**18 23 12.1 -0.2**			
	comp=Z,3.1nm,0.8s,baz=9.5,slow=5.6,SNR=25								
RES	**Resolute Bay**	**62.91**	**14**	*eP*	**P**	**18 23 28.3 +0.4**			
RES	**Resolute Bay**	**62.91**	**14**	*eP*	**P**	**18 23 28.3 +0.4**			
GEYT	**Alibeck**	**63.78**	**299**	P	**P**	**18 23 34.1 -0.3**			
	comp=Z,1.5nm,0.7s,baz=53,slow=5.7,SNR=3.6								
GEYT				LR	LR	18 52 40.2			
	comp=Z,97nm,19.6s,baz=60,slow=37								
KLMR	**Klimovskoe**	**63.87**	**328**	*eP*	**P**	**18 23 32.2 -2.2**			
KLMR				pmax	pmax				
	comp=Z,14nm,1.5s								
YKA	**Yellowknife Ar**	**64.14**	**30**	P	**P**	**18 23 36.6 +0.4**			
	comp=Z,1.0nm,0.8s,baz=296,slow=6.0,SNR=7.5								
ARCES	**ARCESS Array B**	**64.17**	**339**	P	**P**	**18 23 35.9 -0.4**			
	comp=Z,3.1nm,0.9s,baz=35,slow=8.1,SNR=6.9								
ARCES				LR	LR	18 54 54.2			
	comp=Z,87nm,18.2s,baz=45,slow=39								
VRH	**Novokhopyorsk**	**67.64**	**318**	*eP*	**P**	**18 23 58.7 -0.2**			
VRH				pmax	pmax				
	comp=Z,10.0nm,1.0s								
OBN	**Obninsk**	**68.18**	**323**	*i iP*	**P**	**18 24 02.6 +0.4**			
OBN				*i* *PP	**pP**	**18 24 12.1 +1.0**			
OBN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
OBN				MLR	MLR				
	comp=Z,96nm,17.0s								
STKA	**Stephens Creek**	**68.29**	**180**	P	**P**	**18 24 02.4 -0.7**			
	comp=Z,3.7nm,1.0s,baz=316,slow=5.2,SNR=4.7								
LPSR	**Galich'ya Gora**	**68.37**	**320**	*eP*	**P**	**18 24 07.5 +4.0**			
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
FIA1	**FINESS Array S**	**68.95**	**332**	*eP*	**P**	**18 24 04.5 -2.5**			
FINES	**FINESS Array B**	**68.95**	**332**	P	**P**	**18 24 06.4 -0.6**			
	comp=Z,2.4nm,0.7s,baz=34,slow=6.4,SNR=7.5								
FINES				LR	LR	18 56 26.3			
	comp=Z,172nm,18.2s,baz=52,slow=38								
FINES	**FINESS Array B**	**68.95**	**332**	*eP*	**P**	**18 24 09.8 +2.9**			
FINES				pmax	pmax				
	comp=Z,4.0nm,0.7s								
VSR	**Storozhevoye**	**68.99**	**319**	*eP*	**P**	**18 24 07.3 -0.1**			
VSR				pmax	pmax				
	comp=Z,7.0nm,0.7s								
KBZ	**Khabaz**	**70.92**	**311**	P	**P**	**18 24 19.1 -0.3**			
	comp=Z,3.5nm,0.8s,baz=141,slow=24,SNR=6.4								
KIV	**Kislovodsk**	**70.92**	**311**	*eP*	**P**	**18 24 20.7 +1.2**			
KIV				pmax	pmax				
	comp=Z,11nm,1.0s								
KIV				MLR	MLR				
	comp=Z,114nm,17.0s								
NB2	**NORSAR Subarra**	**74.35**	**337**	P	**P**	**18 24 39.2 -0.3**			
	comp=Z,8.0nm,1.1s,baz=41,slow=6.2								
NOA	**NORSAR Array B**	**74.35**	**337**	P	**P**	**18 24 38.7 -0.8**			
	comp=Z,1.6nm,0.8s,baz=39,slow=5.8,SNR=6.2								
NOA				LR	LR	18 59 57.1			
	comp=Z,74nm,18.4s,baz=45,slow=38								
AKASG	**Malin Array Be**	**74.38**	**322**	P	**P**	**18 24 39.4 -0.4**			
AKASG				LR	LR	18 59 12.3			
	comp=Z,131nm,21.2s,baz=65,slow=37								
AKASG	**Malin Array Be**	**74.38**	**322**	*eP*	**P**	**18 24 40.7 +0.9**			
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KIEV	**Kiev**	**74.39**	**322**	*i iP*	**P**	**18 24 39.9 0.0**			
LRM	**Limekiln Ridge**	**74.48**	**44**	*eP*	**P**	**18 24 42.4 +1.6**			
DLMT	**Dillon**	**74.67**	**45**	*eP*	**P**	**18 24 43.3 +1.5**			
BOZ	**Bozeman (W)**	**75.04**	**44**	*eP*	**P**	**18 24 45.6 +1.6**			
BOZ	**Bozeman (W)**	**75.04**	**44**	*eP*	**P**	**18 24 45.6 +1.6**			
FXWY	**Fox Creek**	**76.61**	**45**	*eP*	**P**	**18 24 56.2 +3.1**			
R11A	**Troy Canyon, C**	**77.08**	**52**	*eP*	**P**	**18 24 57.2 +1.5**			
PDAR	**Pinedale Array**	**78.00**	**45**	P	**P**	**18 24 58.3 -2.5**			
	comp=Z,0.2nm,0.5s,baz=236,slow=3.1,SNR=3.1								
PDAR				LR	LR	18 55 25.1			
	comp=Z,23nm,21.2s,baz=316,slow=33								
BRTR	**Keskin Array B**	**78.87**	**311**	P	**P**	**18 25 06.0 +0.4**			
	comp=Z,1.8nm,1.2s,baz=57,slow=4.6,SNR=5.9								
BRTR				LR	LR	19 03 55.0			
	comp=Z,37nm,18.2s,baz=56,slow=39								
KOLS	**Kolonicke sedl**	**78.91**	**324**	*eP*	**P**	**18 25 04.9 -0.6**			
KOLS	**Kolonicke sedl**	**78.91**	**324**	*eP*	**P**	**18 25 04.9 -0.6**			
STHS	**Stebnicka Huta**	**79.06**	**325**	*eP*	**P**	**18 25 08.9 +2.6**			
STHS				pmax	pmax				
	comp=Z,3.0nm,1.2s								
STHS	**Stebnicka Huta**	**79.06**	**325**	*eP*	**P**	**18 25 08.9 +2.6**			
OJC	**Ojcow**	**79.14**	**326**	*eP*	**P**	**18 25 08.3 +1.6**			
OJC	**Ojcow**	**79.14**	**326**	*eP*	**P**	**18 25 08.2 +1.6**			
BR231	**Keskin MP Arra**	**79.32**	**312**	*eP*	**P**	**18 25 08.3 +0.3**			
CRVS	**Cervenica-Dubn**	**79.32**	**324**	*eP*	**P**	**18 25 08.8 +1.1**			
CRVS	**Cervenica-Dubn**	**79.32**	**324**	*eP*	**P**	**18 25 08.8 +1.1**			
LCMT	**Little Creek M**	**79.37**	**52**	*eP*	**P**	**18 25 10.5 +2.1**			
KNB	**Kanab**	**79.63**	**51**	*eP*	**P**	**18 25 13.2 +3.4**			
KNB	**Kanab**	**79.63**	**51**	*eP*	**P**	**18 25 13.2 +3.4**			
OKC	**Ostrava-Krasne**	**80.16**	**327**	AMS	AMS	19 04 00.0			
	comp=Z,200nm,17.2s								
DPC	**Dobruska-Polom**	**80.57**	**328**	*eP*	**P**	**18 25 16.2 +1.7**			
DPC	**Dobruska-Polom**	**80.57**	**328**	*eP*	**P**	**18 25 16.2 +1.7**			
VYHS	**Vyhne**	**80.83**	**325**	*eP*	**P**	**18 25 15.3 -0.6**			
VYHS	**Vyhne**	**80.83**	**325**	*eP*	**P**	**18 25 15.3 -0.6**			
CLL	**Collm**	**81.22**	**330**	*i* P	**P**	**18 25 18.8 +0.9**			
	comp=Z,6.0nm,1.0s								
CLL				L	L	19 06 00.0			
	comp=Z,100nm,18.7s								
CLL	**Collm**	**81.22**	**330**	*i* P	**P**	**18 25 18.8 +0.9**			
CLL				pmax	pmax				
	comp=Z,6.0nm,1.0s								
GOPC	**GO Pecny, Ondr**	**81.55**	**328**	AMS	AMS	19 04 40.0			
	comp=Z,200nm,19.0s								
PRU	**Pruhonice**	**81.60**	**328**	*eP*	**P**	**18 25 22.1 +2.2**			
PRU				AMS	AMS	19 04 40.0			
PRU	**Pruhonice**	**81.60**	**328**	*eP*	**P**	**18 25 22.1 +2.2**			
NKC	**Novy Kostel**	**82.28**	**330**	AMS	AMS	19 05 30.0			
	comp=Z,200nm,11.9s								
KHC	**Kasperske Hory**	**82.66**	**328**	*eP*	**P**	**18 25 25.2 -0.3**			
KHC				AMS	AMS	19 07 40.0			
	comp=Z,200nm,14.9s								
KHC	**Kasperske Hory**	**82.66**	**328**	*eP*	**P**	**18 25 25.2 -0.3**			
KHC				MLR	MLR				
	comp=Z,200nm,14.9s								
GERES	**GERESS Array B**	**82.83**	**328**	P	**P**	**18 25 25.7 -0.8**			
	comp=Z,0.8nm,0.7s,baz=45,slow=5.8,SNR=5.5								
GERES				LR	LR	19 05 35.0			
	comp=Z,116nm,18.7s,baz=20,slow=38								
GERES	**GERESS Array B**	**82.83**	**328**	*eP*	**P**	**18 25 27.8 +1.3**			
GERES				pmax	pmax				
	comp=Z,1.0nm,0.7s								

PPT	**Papeete**	**84.70**	**116**	LR	LR	18 53 51.2			
	comp=Z,74nm,21.3s,baz=322,slow=29								
PPT2	**Papeete2**	**84.71**	**116**	*e*LR	LR	18 52 02.8			
	comp=Z,208nm,25.0s								
ANMO	**Albuquerque**	**84.91**	**50**	*ce*P	**P**	**18 25 39.2 +1.6**			
ANMO				pmax	pmax				
	comp=Z,4.0nm,1.7s								
TBI	**Tubuai**	**88.57**	**121**	*e*LR	LR	18 53 55.3			
	comp=Z,194nm,25.5s								
TBI	**Tubuai**	**88.57**	**121**	*e*T	T	20 03 46.7			
	comp=Z,50nm,0.3s								
TXAR	**Lajitas Array**	**90.44**	**52**	P	**P**	**18 26 04.6 +0.5**			
	comp=Z,0.4nm,0.5s,baz=331,slow=3.3,SNR=5.5								
TXAR				LR	LR	19 00 39.4			
	comp=Z,36nm,21.5s,baz=0.0,slow=32								
TXAR	**Lajitas Array**	**90.44**	**52**	P	**P**	**18 26 04.6 +0.5**			
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
TXAR				MLR	MLR				
	comp=Z,36nm,21.5s								
KEST	**Kesra**	**95.11**	**322**	LR	LR	19 12 49.4			
	comp=Z,70nm,19.7s,baz=272,slow=38								
ESDC	**Sonseca Array**	**97.43**	**334**	LR	LR	19 15 05.9			
	comp=Z,86nm,18.6s,baz=75,slow=38								
RKT	**Rikitea**	**98.84**	**112**	*e*LR	LR	18 58 40.4			
	comp=Z,156nm,27.5s								

*ISCJB **19** 18:30:50.7±0.4, 24°.41N±0°.03×122°.09E±0°.02, h16km±6km, Error ellipse: s-maj=4.5km s-min=3.0km az=160.5*
*JMA **19** 18:30:50.3, 24°.31N×122°.04E, h25km±3km, M2.2*
*TAP **19** 18:30:51.8, 24°.40N×122°.00E, h13km, ML2.9, D*

ISC 19 18:30:50.2±1.0, 24°.38N±0°.03×122°.06E±0°.02, h19km±3km, n40, σ0°44/59, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.29**	**280**	*i* P	**Pg**	**18 30 56.5**	**-0.2**
	baz=275						
ENA				S	**Sb**	**18 31 00.7**	**-0.5**
	baz=275						
TWC	**Suao**	**0.30**	**321**	*i* P	**Pg**	**18 30 56.8**	**-0.1**
	baz=328						
TWC				*i* S	**Sg**	**18 31 00.6**	**-0.8**
	baz=328						
EGS		**0.48**	**346**	P	**Pb**	**18 31 00.6**	**+0.5**
	baz=353						
EGS				S	**Sg**	**18 31 06.6**	**0.0**
	baz=353						
TWE	**Neicheng**	**0.49**	**314**	P	**Pb**	**18 31 00.1**	**-0.1**
	baz=317						
TWE				*e*S	**Sg**	**18 31 06.3**	**-0.7**
	baz=317						
TWD	**Chiawan**	**0.51**	**235**	*e*P	**Pg**	**18 31 00.8**	**+0.1**
	baz=227						
TWD				*e*S	**Sn**	**18 31 10.6**	**-0.2**
	baz=227						
ENTT	**Nioudou**	**0.52**	**300**	P	**Pb**	**18 31 00.5**	**-0.1**
	baz=301						
ENTT				*e*S	**Sb**	**18 31 07.1**	**-0.7**
	baz=301						
NNS	**Nan Shan**	**0.62**	**276**	P	**Pb**	**18 31 02.5**	**-0.1**
	baz=273						
NNS				S	**Sb**	**18 31 10.4**	**-0.5**
	baz=273						
TWB1	**Santiao Chiao**	**0.63**	**354**	*e*P	**Pg**	**18 31 03.5**	**+0.7**
TWB1				*e*S	**Sb**	**18 31 10.9**	**0.0**
NSK	**Sanguang**	**0.70**	**295**	P	**Pb**	**18 31 03.9**	**0.0**
	baz=295						
NSK				S	**Sb**	**18 31 12.5**	**-0.6**
	baz=295						
NWF	**Wu-fen Shan**	**0.73**	**340**	*e*P	**Pn**	**18 31 05.5**	**-0.2**
	baz=343						
NWF				S	**Sg**	**18 31 14.6**	**0.0**
	baz=343						
TWA	**Mucha**	**0.74**	**324**	*e*P	**Pn**	**18 31 05.7**	**0.0**
	baz=327						
TWA				*e*S	**Sb**	**18 31 14.5**	**+0.4**
	baz=327						
ESL	**Shilin**	**0.80**	**225**	*e*P	**Pg**	**18 31 06.0**	**0.0**
	baz=220						
TWT	**Tachien**	**0.81**	**261**	P	**Pn**	**18 31 07.1**	**+0.3**
	baz=258						
TWT				*e*S	**Sg**	**18 31 16.8**	**-0.3**
	baz=258						
JYNG	**Yonagunijimaku**	**0.81**	**85**	P	**Pb**	**18 31 06.0**	**+0.2**
JYNG				*e*S	**Sg**	**18 31 17.0**	**0.0**
YOJ	**Yonaguni jima**	**0.88**	**84**	P	**Pb**	**18 31 06.7**	**-0.1**
YOJ				*e*S	**Sg**	**18 31 18.8**	**-0.2**
NSTT	**Nanjuang**	**0.99**	**285**	*e*P	**Pg**	**18 31 10.2**	**+0.6**
	baz=284						
NSTT				*e*S	**Sb**	**18 31 22.1**	**+0.6**
	baz=284						
EHY	**Hungye**	**1.10**	**218**	*e*P	**Pn**	**18 31 10.6**	**0.0**
	baz=214						
SMLT	**Sun Moon Lake**	**1.17**	**245**	*e*P	**Pg**	**18 31 12.4**	**-0.5**
	baz=242						
SMLT				*e*S	**Sg**	**18 31 28.0**	**-0.2**
	baz=242						
TWQ1	**Liyutan**	**1.17**	**269**	*e*P	**Pg**	**18 31 13.8**	**+0.9**
	baz=267						
TYC	**Yuchr**	**1.19**	**247**	*e*P	**Pb**	**18 31 12.7**	**+0.5**
	baz=244						
TWF1	**Yuli**	**1.23**	**214**	*e*P	**Pb**	**18 31 13.1**	**+0.1**
	baz=211						
TCU	**Taichung**	**1.28**	**260**	*e*P	**Pg**	**18 31 15.2**	**+0.2**
	baz=257						
YUS	**Yu-Shan**	**1.34**	**229**	*e*P	**Pb**	**18 31 15.4**	**+0.3**
	baz=226						
WNT	**Mingjian**	**1.35**	**249**	*e*P	**Pg**	**18 31 16.7**	**+0.4**
	baz=246						
ALS	**Alishan**	**1.43**	**233**	*e*P	**Pb**	**18 31 17.1**	**+0.6**
	baz=230						
CHN5	**Tsauling**	**1.48**	**239**	*e*P	**Pb**	**18 31 18.0**	**+0.8**
	baz=236						
ELDTW	**Lidau**	**1.52**	**219**	*e*P	**Pn**	**18 31 17.0**	**+0.5**
	baz=216						
IRIF	**Iriomote-Funau**	**1.53**	**91**	P	**Pn**	**18 31 16.1**	**-0.4**
WGK	**Gukeng**	**1.53**	**244**	*e*P	**Pb**	**18 31 18.9**	**+0.9**
	baz=241						
CHN4	**Tsaushan**	**1.69**	**233**	*e*P	**Pb**	**18 31 21.2**	**+0.6**
	baz=230						
STYT	**Tauyuan**	**1.70**	**225**	*e*P	**Pn**	**18 31 20.8**	**0.0**
	baz=222						
WTP	**Ta-pu**	**1.74**	**230**	*e*P	**Pb**	**18 31 22.0**	**+0.5**
	baz=227						
JKRS	**Kuro-shima**	**1.79**	**94**	P	**Pn**	**18 31 20.4**	**+0.3**
JKRS				*e*S	**Sn**	**18 31 42.7**	**+0.5**
TWK	**Hsinying**	**1.81**	**233**	*e*P	**Pb**	**18 31 23.2**	**+0.4**
	baz=230						
CHN1	**Nanshi**	**1.84**	**230**	*e*P	**Pb**	**18 31 23.1**	**-0.1**
	baz=227						
SGST	**Jiashian**	**1.87**	**227**	*e*P	**Pb**	**18 31 24.0**	**+0.2**
	baz=224						
JIJ	**Ishigaki jima**	**1.90**	**90**	P	**Pn**	**18 31 22.0**	**+0.3**
JIJ				*e*S	**Sn**	**18 31 44.2**	**-0.9**
JISG	**Ishigakijimahi**	**2.06**	**84**	P	**Pn**	**18 31 23.4**	**-0.5**
JISG				S	**Sn**	**18 31 48.7**	**-0.4**
SSD	**Sandimen**	**2.08**	**219**	*e*P	**Pb**	**18 31 27.3**	**-0.1**
	baz=216						
JTJ	**Tarama**	**2.42**	**83**	S	**Sn**	**18 31 58.2**	**+0.2**

IDC 19 18:31:39.5±0.9, 18°.91N×145°.72E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.4/48, mbtmp3.6/6, Error ellipse: s-maj=48.8km s-min=19.3km az=107.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.20**	**197**	P	P	18 39 18.4	+0.5
	2.0nm,0.5s,baz=22,slow=9.0,SNR=31						
FITZ	**Fitzroy Crossi**	**41.74**	**209**	P	P	18 39 30.3	-0.4
	1.4nm,0.6s,baz=13,slow=8.4,SNR=4.9						
ASAR	**Alice Springs**	**43.86**	**196**	P	P	18 39 47.3	-0.6
	0.3nm,0.7s,baz=21,slow=7.2,SNR=6.5						
MKAR	**Makanchi Array**	**58.33**	**314**	P	P	18 41 36.1	-0.4
	0.4nm,0.7s,baz=91,slow=8.6,SNR=2.8						
ILAR	**Eielson Array**	**63.45**	**26**	P	P	18 42 11.3	+0.3
	0.3nm,0.7s,baz=258,slow=4.2,SNR=3.6						
YKA	**Yellowknife Ar**	**77.79**	**28**	P	P	18 43 38.3	-0.1
	0.4nm,0.6s,baz=293,slow=5.3,SNR=3.0						

IDC 19 18:31:57.0±1.2, 44°.74S×36°.47E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/42, mbtmp3.6/4, ML3.0/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/27, Error ellipse: s-maj=48.3km s-min=28.6km az=54.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.34**	**310**	P	Pn	18 35 59.2	-1.4
	0.0nm,0.3s,baz=135,slow=2.9,SNR=3.3						
SUR				LR	LR	18 41 55.1	
	comp=Z,6.1nm,19.1s,baz=136,slow=34						
BOSA	**Boshof**	**18.40**	**327**	P	P	18 36 14.8	+1.0
	0.1nm,0.3s,baz=149,slow=15,SNR=2.4						
BOSA				LR	LR	18 42 49.9	
	comp=Z,63nm,19.1s,baz=104,slow=36						
LBTB	**Lobatse**	**21.56**	**332**	LR	LR	18 44 16.2	
	comp=Z,113nm,20.0s,baz=148,slow=34						
MATP	**Matopo**	**25.13**	**342**	LR	LR	18 45 14.2	
	comp=Z,128nm,18.6s,baz=136,slow=32						
VNDA	**Vanda**	**53.50**	**167**	LR	LR	19 02 38.4	
	comp=Z,76nm,18.5s,baz=276,slow=34						
PMSA	**Palmer Station**	**54.69**	**211**	P	P	18 41 26.6	-0.8
	33nm,1.0s,baz=135,slow=10.0,SNR=4.0						
H10S2	**ASCENSION HYDR**	**56.59**	**293**	T	T	19 42 32.6	
	baz=140,slow=75,SNR=12						
H10S1	**ASCENSION HYDR**	**56.61**	**293**	T	T	19 42 34.0	
	baz=140,slow=75,SNR=12						
H10S3	**ASCENSION HYDR**	**56.61**	**293**	T	T	19 42 34.0	
	baz=140,slow=75,SNR=12						
TORD	**Torodi Ar. Bea**	**65.69**	**322**	P	P	18 42 42.6	-0.7
	0.7nm,0.6s,baz=156,slow=6.0,SNR=4.9						
ASAR	**Alice Springs**	**78.73**	**112**	P	P	18 44 01.4	-0.1
	0.3nm,0.8s,baz=223,slow=5.7,SNR=4.9						
TXAR	**Lajitas Array**	**145.04**	**258**	PKPbc	PKPdf	18 51 37.0	+0.6
	0.3nm,0.8s,baz=142,slow=6.3,SNR=4.0						

CASC 19 18:32:39.6±1.1, 11°.29N×86°.26W, h38km±6km, MD3.9, ML3.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TISN	**Laguna Tiscapa**	**0.85**	**359**	*eP*	Pn	18 32 55.4	+0.3
MGAN	**Managua**	**0.86**	**1**	*eP*	Pn	18 32 55.4	+0.2
XAVN	**Gruta Xavier**	**0.86**	**356**	*eP*	Pn	18 32 55.4	+0.2
APYN	**Apoyeque**	**0.95**	**355**	*eP*	Pn	18 32 56.5	+0.1
COPN	**Copaltepe**	**0.95**	**340**	*eP*	Pn	18 32 56.2	-0.1
MOMN	**Momotombo**	**1.15**	**346**	*eP*	Pn	18 32 58.9	-0.3
CNGN	**Cerro Negro**	**1.28**	**340**	*eP*	Pn	18 33 00.9	-0.1
CNGN				*eS*	Sn	18 33 17.9	+0.9
CNGN				AML	AML	18 33 25.0	
	comp=N,236nm,0.1s						
BOAB	**BOACO BROADBAN**	**1.29**	**27**	*eP*	Pn	18 33 01.3	+0.1
JCR	**Jicaral**	**1.82**	**142**	*eP*	Pn	18 33 08.0	-0.5
CGA2	**Cerro Gallo 2**	**2.17**	**125**	*eP*	Pn	18 33 14.6	+1.3
CGA2				*eS*	Sn	18 33 39.7	+0.7
URSC	**Urasca**	**2.83**	**120**	*eP*	Pn	18 33 23.7	+1.2

*ISCJB **19** 18:39:01.3±1.4, 27°.27N±0°.08×15°.72W±0°.06, h10km, Error ellipse: s-maj=11.7km s-min=7.1km az=178.8*
*CSEM **19** 18:39:06.7, 27°.39N×15°.66W, h47km, mb4.0/3*
*MDD **19** 18:39:06.7±0.7, 27°.39N×15°.66W, h47km±18km, mb4.0/3, Error ellipse: s-maj=11.3km s-min=1.8km az=177.0, PRXIMO TT-MODEL: CANARY*

ISC 19 18:39:01.3±1.9, 27°.3N±0°.1×15°.65W±0°.04, h10km, n14, σ2°17/26, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOSO	**Osorio**	**0.78**	**6**	P	**Pg**	**18 39 19.4**	**+3.0**
	0.9nm,0.1s,SNR=7.9						
EOSO				S	**Sg**	**18 39 28.1**	**+1.4**
	2.7nm,0.1s,SNR=6.7						
EOSO	**Osorio**	**0.78**	**6**	P	**Pg**	**18 39 19.4**	**+3.0**
	0.9nm,0.1s,SNR=7.9						
EOSO				S	**Sg**	**18 39 28.1**	**+1.4**
	2.7nm,0.1s,SNR=6.7						
CCAN	**Las Canadas**	**1.26**	**318**	P	**Pb**	**18 39 26.3**	**+1.0**
	2.2nm,0.1s,SNR=7.9						
CCAN				S	**Sg**	**18 39 40.0**	**-1.9**
	1.8nm,0.3s,SNR=7.9						
CCAN	**Las Canadas**	**1.26**	**318**	P	**Pb**	**18 39 26.3**	**+1.0**
	2.2nm,0.1s,SNR=7.9						
CCAN				S	**Sg**	**18 39 40.0**	**-1.9**
	1.8nm,0.3s,SNR=7.9						
EBAJ	**Bajamar**	**1.39**	**334**	P	**Pn**	**18 39 27.7**	**+1.0**
	3.9nm,0.1s,SNR=13						
EBAJ				S	**Sb**	**18 39 42.9**	**-2.3**
	2.5nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**1.39**	**334**	P	**Pn**	**18 39 27.7**	**+1.0**
	3.9nm,0.1s,SNR=13						
EBAJ				S	**Sb**	**18 39 42.9**	**-2.3**
	2.5nm,0.2s,SNR=7.9						
EGOM	**La Gomera**	**1.63**	**302**	P	**Pn**	**18 39 31.1**	**+1.0**
	0.5nm,0.1s,SNR=7.9						
EGOM				S	**Sn**	**18 39 48.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.28**	**318**	⇓P	**Pb**	**18 54 37.1**	**+0.1**
CHOJ				S	**Sb**	**18 54 41.7**	**-0.3**
KTR	**Katsuura**	**0.72**	**241**	P	**Pb**	**18 54 43.9**	**+0.2**
JCN	**Nagara**	**0.72**	**264**	⇓P	**Pb**	**18 54 44.6**	**+0.8**
BSO4	**Boso 4**	**0.79**	**231**	⇓P	**Pb**	**18 54 45.2**	**+0.3**
BSO3	**Boso 3**	**0.84**	**214**	⇓P	**Pb**	**18 54 45.8**	**+0.2**
BSO1	**Boso 1**	**0.85**	**186**	P	**Pb**	**18 54 45.9**	**+0.4**
JYT	**Yasato**	**1.03**	**315**	⇓P	**Pn**	**18 54 47.1**	**-0.5**
MJAR	**Matsushiro Arr** 9.9nm,0.3s,baz=98,slow=7.8,SNR=101	**2.55**	**295**	P	**Pn**	**18 55 10.4**	**+1.7**
MAT	**Matsushiro**	**2.56**	**295**	P	**Pn**	**18 55 10.1**	**+1.4**
MAT				eS	**Sb**	**18 55 40.7**	**-5.0**
JHJ	**Hachijo jima 2** 22nm,0.3s,baz=149,slow=23,SNR=15	**2.61**	**205**	P	**Pn**	**18 55 11.4**	**+2.0**
JHJ				S	**Sn**	**18 55 39.1**	**-0.8**
JCJ	**Chichijima** 5.4nm,0.3s,baz=94,slow=23,SNR=7.6	**8.43**	**173**	P	**Pn**	**18 56 30.1**	**+0.7**
JCJ				S	**Sn**	**18 57 58.2**	**-5.2**
ASAJ	**Asahikawa** baz=270,slow=20	**8.69**	**7**	P	**Pn**	**18 56 31.4**	**-1.5**
KSRS	**Korea Array** 0.1nm,0.3s,baz=98,slow=14,SNR=2.7	**10.78**	**284**	P	**Pn**	**18 57 04.0**	**+2.5**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=140,slow=11,SNR=3.8	**11.15**	**324**	P	**Pn**	**18 57 08.3**	**+1.7**
H11N2	**WAKE ISLAND Hy** baz=311,slow=75,SNR=32	**27.63**	**118**	T	T	19 29 19.7	
H11N1	**WAKE ISLAND Hy** baz=311,slow=75,SNR=27	**27.64**	**118**	T	T	19 29 20.5	
H11N3	**WAKE ISLAND Hy** baz=311,slow=75,SNR=35	**27.65**	**118**	T	T	19 29 21.3	
H11S1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=267	**28.29**	**120**	T	T	19 30 05.2	
H11S3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=234	**28.29**	**120**	T	T	19 30 05.1	
H11S2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=166	**28.30**	**120**	T	T	19 30 06.6	
SONM	**Songino Array** 0.6nm,0.6s,baz=95,slow=9.0,SNR=4.8	**28.45**	**306**	P	**P**	**19 00 21.8**	**+0.3**
TIXI	**Tiksi** 1.0nm,0.3s,baz=226,slow=1.1,SNR=6.7	**36.78**	**354**	P	**P**	**19 01 32.9**	**-0.8**
ZALV	**Zalesovo Beam** 1.2nm,0.5s,baz=91,slow=7.3,SNR=5.7	**42.77**	**314**	P	**P**	**19 02 23.9**	**+0.2**
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=86,slow=8.6,SNR=8.3	**44.72**	**303**	P	**P**	**19 02 39.1**	**-0.5**
KURBB	**Kurchatov Arra** 1.4nm,0.6s,baz=84,slow=8.0,SNR=20	**46.75**	**309**	P	**P**	**19 02 55.3**	**-0.1**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=255,slow=6.7,SNR=4.7	**50.94**	**32**	P	**P**	**19 03 28.9**	**+1.6**
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=4.8,slow=7.8,SNR=10	**55.51**	**188**	P	**P**	**19 04 01.9**	**+0.4**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=9.7,slow=8.5,SNR=8.3	**59.23**	**188**	P	**P**	**19 04 28.7**	**+1.0**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=354,slow=4.4,SNR=3.0	**65.27**	**30**	P	**P**	**19 05 08.2**	**+0.6**
FINES	**FINESS Array B** 0.6nm,0.4s,baz=57,slow=5.2,SNR=4.5	**70.05**	**332**	P	**P**	**19 05 37.8**	**0.0**
KBZ	**Khabaz** 1.8nm,0.8s,baz=180,slow=20,SNR=3.3	**71.70**	**311**	P	**P**	**19 05 47.2**	**-0.9**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=49,slow=5.8,SNR=4.8	**75.35**	**322**	P	**P**	**19 06 09.0**	**-0.5**
NOA	**NORSAR Array B** 0.8nm,0.9s,baz=40,slow=5.9,SNR=3.7	**75.50**	**337**	P	**P**	**19 06 10.6**	**+0.4**
BRTR	**Keskin Array B** 0.6nm,0.9s,baz=140,slow=6.0,SNR=3.6	**79.67**	**312**	P	**P**	**19 06 34.9**	**+0.8**
GERES	**GERESS Array B** 0.1nm,0.4s,baz=192,slow=12,SNR=7.3	**83.87**	**328**	P	**P**	**19 06 54.3**	**-1.6**

NIED ***19*** *18:58:00,36˚.90N×141˚.50E,h32km,Mw4.2 Best double couple: M0 2.27000×10^15 NP1:φs=136.00000°,δ26.00000°, λ=-167.00000°. NP2:φs=35.00000°,δ85.00000°, λ=-65.00000°.*

ISCJB ***19*** *18:58:32.6±0.7,36˚.92N±0˚.03×141˚.49E±0˚.04,h32km±4km, mb4.4/56,MS3.5/13,Error ellipse: s-maj=5.1km s-min=3.8km az=32.5*

MOS ***19*** *18:58:33.0±1.0,36˚.98N×141˚.46E,h33km,mb4.7/38,Error ellipse: s-maj=8.7km s-min=6.1km az=94.4*

JMA ***19*** *18:58:33.8±0.2,36˚.92N×141˚.39E,h46km±2km,M4.3*

JMA Felt III J1.

BJI ***19*** *18:58:34.9,37˚.03N×141˚.06E,h39km,mb4.6/24,mB4.8/15, Ms3.8/9,Ms7 3.8/8*

NEIC ***19*** *18:58:36.6±0.7,37˚.00N×141˚.31E,h49km±6km,mb4.6/19, Error ellipse: s-maj=8.7km s-min=5.3km az=137.0*

NEIC Recorded [3 JMA] in Fukushima.

IDC ***19*** *18:58:36.9±1.7,36˚.91N×141˚.37E,h53km±15km,mb4.1/28, mb1 4.2/34,mb1mx4.1/54,mbtmp4.4/34,ML3.7/5,MS3.5/16, Ms1 3.5/16,ms1mx3.3/37,Error ellipse: s-maj=12.3km s-min=9.3km az=93.0*

ISC 19 18:58:33.3±0.6, 36˚.92N±0˚.04×141˚.48E±0˚.04, h25km±3km, h25km:pP-P,n154,σ1§49/174, mb4.5/56, MS3.6/13, 6C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.57**	**288**	P	**Pb**	**18 58 44.8**	**0.0**
ONAJ				S	**Sb**	**18 58 52.4**	**-0.2**
JFK	**Kawauchi**	**0.66**	**313**	P	**Pb**	**18 58 46.0**	**-0.1**
JFK				S	**Sb**	**18 58 54.0**	**-0.9**
JHO	**Hitachi**	**0.80**	**247**	P	**Pb**	**18 58 47.5**	**-1.0**
JHO				S	**Sb**	**18 58 57.5**	**-1.3**
JFT	**Otama**	**1.09**	**303**	P	**Pb**	**18 58 53.3**	**-0.1**
JFT				S	**Sb**	**18 59 06.6**	**-0.6**
JMM	**Marumori**	**1.09**	**330**	P	**Pn**	**18 58 52.3**	**-0.6**
JMM				S	**Sb**	**18 59 05.3**	**-1.9**
JFY	**Yanaizu**	**1.50**	**289**	P	**Pn**	**18 58 58.7**	**+0.2**
JFY				S	**Sn**	**18 59 17.2**	**-0.1**
JIO	**Ouri**	**1.53**	**356**	P	**Pn**	**18 58 58.4**	**-0.6**
JIO				S	**Sn**	**18 59 15.7**	**-2.3**
JOU	**Okura**	**1.58**	**336**	P	**Pn**	**18 58 59.4**	**-0.3**
JOU				S	**Sn**	**18 59 19.3**	**0.0**
JAG	**Ashikaga**	**1.70**	**254**	P	**Pn**	**18 59 01.0**	**-0.4**
JAG				S	**Sn**	**18 59 20.9**	**-1.4**
JYS	**Shirataka**	**1.71**	**319**	P	**Pn**	**18 59 02.0**	**+0.5**
JYS				S	**Sn**	**18 59 23.3**	**+0.7**
MJA0	**Matsu Arr-Jizo**	**2.62**	**263**	*e*P	**Pn**	**18 59 15.3**	**+1.2**
MJA0	comp=Z,28nm,0.3s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,28nm,0.3s,baz=88,slow=15,SNR=106	**2.66**	**263**	P	**Pn**	**18 59 15.4**	**+0.9**
MJAR				S	**Sn**	**18 59 46.6**	**+0.7**
	comp=Z,46nm,0.3s,baz=232,slow=10.0,SNR=5.3						
MJAR				LR	LR	19 00 34.2	
	comp=Z,607nm,19.6s,baz=90,slow=46						
MAJO	**Matsushiro**	**2.66**	**263**	*c i*P	**Pn**	**18 59 15.8**	**+1.3**
MAJO	**Matsushiro**	**2.66**	**263**	*e*Pn	**Pn**	**18 59 15.7**	**+1.3**
MAT	**Matsushiro**	**2.66**	**263**	P	**Pn**	**18 59 15.6**	**+1.1**
MAT				S	**Sn**	**18 59 45.8**	**-0.1**
MJB9	**Matsu-Tunnel**	**2.66**	**263**	*e*Pn	**Pn**	**18 59 15.7**	**+1.2**
INU	**Inuyama**	**3.94**	**248**	*e*Pn	**Pn**	**18 59 33.3**	**+1.2**
JHJ2	**Mitsune**	**4.04**	**200**	*e*Pn	**Pn**	**18 59 34.4**	**+0.9**
JHJ	**Hachijo jima 2** comp=Z,55nm,0.3s,baz=304,slow=13,SNR=30	**4.04**	**201**	P	**Pn**	**18 59 34.8**	**+1.2**
JHJ				S	**Sn**	**19 00 20.0**	**0.0**
	comp=Z,91nm,0.3s,baz=252,slow=23,SNR=9.2						
ERM	**Erimo**	**5.25**	**14**	⇓*i*P	**Pn**	**18 59 50.7**	**+0.7**
ERM	**Erimo**	**5.25**	**14**	*e*Pn	**Pn**	**18 59 50.7**	**+0.7**
ASAJ	**Asahikawa**	**7.24**	**6**	P	**Pn**	**19 00 17.0**	**-0.4**
ASAJ				S	**Sn**	**19 01 39.7**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=114,slow=20,SNR=4.1						
ASAJ	**Asahikawa**	**7.24**	**6**	*e*Pn	**Pn**	**19 00 16.4**	**-1.0**
ASAJ				S	**Sn**	**19 01 39.7**	**+1.0**
JNU	**Nakatsue** comp=Z,0.7nm,0.3s,baz=36,slow=6.9,SNR=9.8	**9.48**	**250**	P	**Pn**	**19 00 51.1**	**+2.8**
JNU	**Nakatsue**	**9.48**	**250**	*e*Pn	**Pn**	**19 00 50.7**	**+2.4**
KUR	**Kuril'sk**	**9.60**	**28**	*e*P	**Pn**	**19 00 48.9**	**-0.8**
KUR				*i* S	**Sn**	**19 02 30.4**	**-6.2**
KUR	comp=Z,6.0nm,0.7s			pmax	pmax		
KUR	comp=N,19nm,0.6s			smax	smax		
KUR	comp=E,9.0nm,0.3s			smax	smax		
CBIJ	**Chichi jima**	**9.82**	**176**	*e*Pn	**Pn**	**19 00 50.9**	**-1.9**
CBIJ				S	Sn	19 02 32.1	-10
JCJ	**Chichijima** comp=E,8.2nm,0.3s,baz=94,slow=22,SNR=11	**9.82**	**176**	P	**Pn**	**19 00 50.3**	**-2.5**
JCJ				S	Sn	19 02 32.1	-10
	comp=E,8.9nm,0.3s,baz=292,slow=22,SNR=4.0						
YSS	**Yuzh-Sakhalins**	**10.07**	**5**	*e*P	**Pn**	**19 00 56.0**	**-0.1**
USRK	**Ussuriysk Ar.** comp=E,0.3nm,0.3s,baz=136,slow=13,SNR=16	**10.24**	**318**	P	**Pn**	**19 01 01.9**	**+3.4**
USRK				LR	LR	19 04 41.7	
	comp=E,289nm,19.4s,baz=145,slow=36						
KSRS	**Korea Array** comp=E,0.3nm,0.3s,baz=93,slow=13,SNR=17	**10.83**	**277**	P	**Pn**	**19 01 09.7**	**+3.1**
KSRS				LR	LR	19 05 03.2	
	comp=E,264nm,19.1s,baz=87,slow=36						
KSRS	**Korea Array**	**10.83**	**277**	*e*P	Pn	19 01 11.8	+5.2
KSAR	**Wonju Array Be**	**10.86**	**277**	P	**Pn**	**19 01 09.7**	**+2.7**
KSAR	**Wonju Array Be**	**10.86**	**277**	P	**Pn**	**19 01 09.7**	**+2.7**
TJN	**Taejon**	**11.36**	**271**	P	**Pn**	**19 01 14.3**	**+0.5**
MDJ	**Mudanjiang**	**11.83**	**314**	*e*Pn	Pn	19 01 15.0	-5.3
TYV	**Tymovskoe**	**13.96**	**3**	*e*P	**P**	**19 01 57.8**	**+0.7**
TYV	comp=Z,24nm,0.8s			pmax	pmax		
KLR	**Kul'dur** comp=Z,0.2nm,0.3s,baz=126,slow=12,SNR=13	**14.19**	**333**	P	**P**	**19 01 58.8**	**-0.9**
KLR				LR	LR	19 07 08.5	
	comp=Z,159nm,20.2s,baz=137,slow=36						
PETK	**Petropavlovsk-** comp=Z,0.2nm,0.3s,baz=210,slow=9.4,SNR=3.8	**19.75**	**30**	P	**Pn**	**19 03 03.1**	**+0.4**
PETK				LR	LR	19 09 52.7	
	comp=Z,31nm,21.6s,baz=220,slow=34						
MA2	**Magadan** comp=Z,18nm,0.8s,baz=189,slow=4.9,SNR=7.8	**23.45**	**12**	P	**P**	**19 03 40.9**	**+0.5**
MA2				LR	LR	19 12 28.6	
	comp=Z,33nm,21.7s,baz=158,slow=35						
YAK	**Yakutsk** comp=Z,1.8nm,0.3s,baz=333,slow=23,SNR=8.0	**26.19**	**347**	P	**P**	**19 04 05.5**	**0.0**
YAK				LR	LR	19 14 47.2	
	comp=Z,98nm,18.5s,baz=169,slow=37						
YAK	**Yakutsk**	**26.19**	**347**	*i* P	**P**	**19 04 05.4**	**0.0**
YAK	comp=Z,66nm,1.0s			pmax	pmax		
YAK	**Yakutsk** comp=Z,51nm,0.8s	**26.19**	**347**	*e*P	**P**	**19 04 05.3**	**-0.2**
SEY	**Seymchan** comp=Z,6.6nm,0.7s,baz=182,slow=7.9,SNR=20	**26.89**	**11**	P	**P**	**19 04 12.7**	**+0.9**
SEY	**Seymchan**	**26.89**	**11**	⇑*i*P	**P**	**19 04 14.4**	**+2.6**
ENH	**Enshi** comp=Z,20nm,0.8s	**27.38**	**265**	*e*P	**P**	**19 04 14.4**	**-2.2**
ULN	**Ulaanbaatar**	**27.46**	**304**	⇓*i*P	**P**	**19 04 17.2**	**-0.1**
ULN	comp=Z,13nm,1.2s			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,7.5nm,0.8s	**27.46**	**304**	*e*P	**P**	**19 04 16.4**	**-1.0**
SONA1	**Songino Array**	**27.89**	**304**	*e*P	**P**	**19 04 20.1**	**-1.0**
SONM	**Songino Array** comp=Z,7.4nm,0.8s,baz=105,slow=8.5,SNR=26	**27.89**	**304**	P	**P**	**19 04 20.8**	**-0.4**
SONM				LR	LR	19 15 41.1	
	comp=Z,75nm,18.7s,baz=128,slow=37						
H11N2	**WAKE ISLAND Hy** baz=313,slow=75,SNR=371	**28.05**	**121**	T	T	19 33 53.6	
H11N1	**WAKE ISLAND Hy** baz=313,slow=75,SNR=699	**28.05**	**121**	T	T	19 33 56.5	
H11N3	**WAKE ISLAND Hy** baz=313,slow=75,SNR=366	**28.06**	**121**	T	T	19 33 55.9	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=242	**28.75**	**123**	T	T	19 34 50.4	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=161	**28.76**	**123**	T	T	19 34 45.2	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=210	**28.77**	**123**	T	T	19 34 49.3	
ZAK	**Zakamensk** comp=Z,2.0nm,0.9s	**30.38**	**308**	*e*P	**P**	**19 04 41.3**	**-1.9**
ZAK				pmax	pmax		
TLY	**Talaya** comp=Z,3.4nm,0.6s,baz=357,slow=0.5,SNR=6.3	**30.44**	**311**	P	**P**	**19 04 43.3**	**-0.4**
TLY				LR	LR	19 17 32.2	
	comp=Z,115nm,19.1s,baz=126,slow=37						
TLY	**Talaya**	**30.44**	**311**	*e*P	**P**	**19 04 44.1**	**+0.5**
TLY	comp=Z,3.0nm,0.6s			pmax	pmax		
TLY	comp=Z,88nm,14.0s			MLR	MLR		
GYA	**Guiyang**	**31.25**	**261**	⇑*i*P	**P**	**19 04 50.0**	**-1.1**
GYA	comp=Z,20nm,0.8s			PMZ			
GTA	**Gaotai**	**32.65**	**287**	*e*P	**P**	**19 05 03.1**	**-0.2**
GTA	comp=Z,4.0nm,0.6s			PMZ			
BILL	**Bilibino**	**34.12**	**16**	*d i*P	**P**	**19 05 16.6**	**+1.0**
BILL	comp=Z,7.0nm,2.5s			pmax	pmax		
BILL	comp=Z,36nm,15.0s			MLR	MLR		
TIXI	**Tiksi** comp=Z,4.6nm,0.8s,baz=143,slow=7.7,SNR=8.5	**35.40**	**353**	P	**P**	**19 05 26.6**	**-0.1**
TIXI	**Tiksi**	**35.40**	**353**	⇑*i*P	**P**	**19 05 26.8**	**+0.2**
TIXI	comp=Z,5.0nm,1.0s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.6s,baz=46,slow=5.8,SNR=7.3	**41.52**	**255**	P	**P**	**19 06 19.1**	**+0.4**
CMAR				LR	LR	19 25 21.8	
	comp=Z,44nm,18.8s,baz=200,slow=39						
ZAA0	**Zalesovo Array**	**42.03**	**312**	*e*P	**P**	**19 06 19.8**	**-2.5**
ZALV	**Zalesovo Beam** comp=Z,3.2nm,0.4s,baz=97,slow=7.6,SNR=24	**42.03**	**312**	P	**P**	**19 06 22.5**	**+0.1**
ZALV				PcP	**PcP**	**19 08 16.3**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=80,slow=2.7,SNR=4.5						
ZALV				LR	LR	19 24 31.4	
	comp=Z,74nm,19.5s,baz=68,slow=37						
NVS	**Novosibirsk** comp=Z,2.9nm,0.5s,baz=134,slow=6.0,SNR=5.2	**42.95**	**314**	*e*P	**P**	**19 06 30.1**	**+0.2**
NRIK	**Noril'sk**	**43.39**	**335**	P	**P**	**19 06 33.1**	**-0.1**
MKAR	**Makanchi Array** comp=Z,4.9nm,0.6s,baz=90,slow=9.6,SNR=2.4	**44.22**	**302**	P	**P**	**19 06 40.4**	**+0.1**
KURK	**Kurchatov**	**46.04**	**308**	P	**P**	**19 06 53.6**	**-1.0**
KURK	comp=Z,19nm,0.7s			pmax	pmax		
KURK	**Kurchatov**	**46.04**	**308**	P	**P**	**19 06 53.6**	**-1.0**
KURBB	**Kurchatov Arra** comp=Z,19nm,0.7s,baz=84,slow=8.9,SNR=30	**46.11**	**308**	P	**P**	**19 06 53.6**	**-1.5**
KKN	**Kakani** comp=Z,24nm,0.8s	**47.75**	**276**	*e*P	**P**	**19 07 08.9**	**+0.4**
PKIN	**Phulchoki** comp=Z,2.2nm,1.0s	**47.75**	**276**	*e*P	**P**	**19 07 08.9**	**+0.3**
KTH	**Kantishna Hill** comp=Z,3.6nm,0.9s	**47.81**	**34**	*e*P	**P**	**19 07 10.1**	**+1.7**
GKN	**Gorkha** comp=Z,57nm,0.8s	**48.17**	**277**	*e*P	**P**	**19 07 12.0**	**+0.3**
COLD	**Coldfoot** comp=Z,12nm,2.0s	**48.22**	**29**	*e*P	**P**	**19 07 13.1**	**+1.7**
RND	**Reindeer**	**48.74**	**34**	*e*P	**P**	**19 07 16.2**	**+0.7**
RND	comp=Z,3.0nm,0.6s			pmax	pmax		
RND	**Reindeer** comp=Z,3.3nm,0.6s	**48.74**	**34**	*e*P	**P**	**19 07 16.2**	**+0.7**
MDM	**Murphy Dome** comp=Z,5.9nm,1.0s	**48.98**	**32**	*e*P	**P**	**19 07 19.1**	**+1.9**
SML	**Sawmill**	**49.05**	**36**	*e*P	**P**	**19 07 18.0**	**+0.1**
SML	comp=Z,19nm,1.5s			pmax	pmax		
SML	**Sawmill** comp=Z,19nm,1.5s	**49.05**	**36**	*e*P	**P**	**19 07 18.0**	**+0.1**
WRH	**Wood River Hil** comp=Z,2.2nm,0.7s	**49.05**	**33**	*e*P	**P**	**19 07 18.2**	**+0.4**
KOLN	**Koldanda**	**49.10**	**277**	*e*P	**P**	**19 07 19.3**	**+0.4**
CCB	**Clear Creek Bu** comp=Z,2.2nm,0.6s	**49.17**	**32**	*e*P	**P**	**19 07 20.6**	**+1.9**
PYUN	**Piuthan** comp=Z,70nm,1.0s	**49.44**	**278**	*e*P	**P**	**19 07 21.9**	**+0.4**
HDA	**Harding Lake** comp=Z,3.7nm,0.7s	**49.55**	**33**	*e*P	**P**	**19 07 23.1**	**+1.5**
IL1	**Eielson Array**	**49.56**	**32**	*e*P	**P**	**19 07 22.6**	**+1.0**
ILAR	**Eielson Array** comp=Z,3.2nm,0.6s,baz=267,slow=6.2,SNR=50	**49.56**	**32**	P	**P**	**19 07 22.8**	**+1.1**
ILB	**Eielson Array**	**49.56**	**32**	*e*P	**P**	**19 07 21.1**	**-0.6**
KSH	**Kashi**	**50.50**	**294**	P	**P**	**19 07 32.8**	**+3.5**
KSH				PcP	**PcP**	**19 08 47.4**	**+0.2**
KSH				PP	**PP**	**19 09 31.8**	**+6.8**
KSH				S	**S**	**19 14 34.8**	**-7.1**
KSH				SS	**SS**	**19 18 10.8**	**-4.9**
KSH	comp=Z,3.0nm,0.5s			PMZ			
KSH	comp=Z,96nm,4.6s			PMZ			
KSH	comp=Z,97nm,6.2s			LN			
KSH	comp=Z,89nm,4.4s			LE			
DOT	**Dot Lake** comp=Z,6.2nm,0.8s	**50.87**	**34**	*e*P	**P**	**19 07 33.0**	**+1.4**
EGAK	**Eagle** comp=Z,2.1nm,0.6s	**52.00**	**32**	*e*P	**P**	**19 07 41.4**	**+1.3**
INK	**Inuvik** comp=Z,3.0nm,0.6s,baz=279,slow=5.8,SNR=7.7	**54.46**	**27**	P	**P**	**19 07 59.0**	**+1.0**
INK	**Inuvik**	**54.46**	**27**	*e*P	**P**	**19 07 59.2**	**+1.1**
INK	comp=Z,4.0nm,0.7s			pmax	pmax		
INK	**Inuvik** comp=Z,4.4nm,0.7s	**54.46**	**27**	*e*P	**P**	**19 07 59.2**	**+1.1**
SVE	**Sverdlovsk**	**55.27**	**319**	⇑*e*P	**P**	**19 08 04.3**	**+0.2**
SVE	comp=Z,13nm,0.9s			pmax	pmax		
ARU	**Arti**	**56.48**	**319**	*d i*P	**P**	**19 08 12.3**	**-0.5**
ARU				*PP	**sP**	**19 08 22.2**	**-1.5**
ARU						19 09 08.7	
ARU						19 10 13.4	
ARU				S	**S**	**19 16 02.6**	**+0.4**
ARU				SS	**SS**	**19 19 46.9**	**-2.1**
ARU	comp=Z,15nm,1.0s			pmax	pmax		
ARU	**Arti** comp=Z,14nm,1.0s	**56.48**	**319**	*e*P	**P**	**19 08 12.0**	**-0.8**
FITZ	**Fitzroy Crossi** comp=Z,2.5nm,0.6s,baz=10,slow=8.9,SNR=6.0	**56.73**	**198**	P	**P**	**19 08 15.6**	**+0.6**
WRAB	**Tennant Creek**	**56.95**	**188**	⇓P	**P**	**19 08 16.0**	**-0.4**
WRAB				*PP	**sP**	**19 08 27.0**	**-0.3**
WRAB	comp=Z,10.0nm,1.2s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,1.5nm,0.6s,baz=5.5,slow=7.5,SNR=22	**56.96**	**188**	P	**P**	**19 08 16.4**	**-0.2**
WRA	**Warramunga Arr**	**56.96**	**188**	*e*P	**P**	**19 08 16.7**	**+0.2**
WRA	comp=Z,2.0nm,0.6s			pmax	pmax		
ABKAR	**Akbulak array**	**58.05**	**310**	*e*P	**P**	**19 08 23.2**	**-0.8**
ASAR	**Alice Springs** comp=Z,0.5nm,0.5s,baz=18,slow=12,SNR=26	**60.69**	**188**	P	**P**	**19 08 43.0**	**+0.6**
RES	**Resolute Bay** comp=Z,4.5nm,0.6s,baz=308,slow=6.1,SNR=22	**62.69**	**14**	P	**P**	**19 08 55.8**	**+0.5**
RES	**Resolute Bay**	**62.69**	**14**	*e*P	**P**	**19 08 55.2**	**-0.1**
RES	comp=Z,5.0nm,0.8s			pmax	pmax		
RES	**Resolute Bay** comp=Z,5.0nm,0.8s	**62.69**	**14**	*e*P	**P**	**19 08 55.2**	**-0.1**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.6s,baz=263,slow=5.6,SNR=5.9	**63.88**	**30**	P	**P**	**19 09 04.3**	**+1.0**
KLMR	**Klimovskoe**	**63.88**	**328**	*e*P	**P**	**19 09 03.1**	**-0.2**
KLMR	comp=Z,4.0nm,0.7s			pmax	pmax		
GEYT	**Alibeck** comp=Z,4.1nm,0.9s,baz=29,slow=3.4,SNR=8.9	**63.93**	**299**	P	**P**	**19 09 04.3**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,2.2nm,0.6s,baz=58,slow=7.3,SNR=13	**64.12**	**339**	P	**P**	**19 09 04.5**	**-0.3**
ARCES				LR	LR	19 39 27.4	
	comp=Z,41nm,21.0s,baz=73,slow=38						
ARCES	**ARCESS Array B**	**64.12**	**339**	*e*P	**P**	**19 09 05.2**	**+0.4**
ARCES	comp=Z,2.0nm,0.6s			pmax	pmax		
DAG	**Danmarks Havn** comp=Z,4.0nm,0.8s	**65.89**	**355**	*i* P	**P**	**19 09 16.2**	**0.0**
DAG				pmax	pmax		
DAG	**Danmarks Havn** comp=Z,4.9nm,0.8s	**65.89**	**355**	*i* P	**P**	**19 09 16.2**	**0.0**
OBN	**Obninsk**	**68.22**	**323**	⇓*e*P	**P**	**19 09 31.1**	**-0.2**
OBN	comp=Z,4.0nm,0.6s			pmax	pmax		
OBN	comp=Z,37nm,17.0s			MLR	MLR		
FINES	**FINESS Array B** comp=Z,4.9nm,0.6s,baz=48,slow=8.2,SNR=21	**68.94**	**332**	P	**P**	**19 09 35.1**	**-0.6**
FINES	comp=Z,63nm,18.8s,baz=90,slow=38			LR	LR	19 42 02.9	
FINES	**FINESS Array B**	**68.94**	**332**	*e*P	**P**	**19 09 35.7**	**0.0**
FINES	comp=Z,5.0nm,0.6s			pmax	pmax		
SUMG	**Summit**	**70.79**	**360**	*i* P	**P**	**19 09 48.5**	**+1.0**
SUMG	comp=Z,4.0nm,0.8s			pmax	pmax		
SUMG	**Summit** comp=Z,4.2nm,0.8s	**70.79**	**360**	*i* P	**P**	**19 09 48.5**	**+1.0**
SUMG	**Summit** comp=Z,14nm,1.3s	**70.79**	**360**	*e*P	**P**	**19 09 45.0**	**-2.5**
KBZ	**Khabaz** comp=Z,3.3nm,0.8s,baz=35,slow=24,SNR=6.4	**71.01**	**311**	P	**P**	**19 09 48.2**	**-0.5**
KIV	**Kislovodsk**	**71.02**	**311**	*e*P	**P**	**19 09 49.9**	**+0.9**
KIV	comp=Z,11nm,0.9s			pmax	pmax		
KIV	**Kislovodsk** comp=Z,9.7nm,0.8s	**71.02**	**311**	*e*P	**P**	**19 09 47.1**	**-1.9**
NC204	**NORSAR Array S**	**74.26**	**338**	*e*P	**P**	**19 10 06.9**	**-1.0**
NB2	**NORSAR Subarra** comp=Z,4.3nm,0.7s,baz=41,slow=6.2	**74.31**	**337**	P	**P**	**19 10 07.9**	**-0.2**
NOA	**NORSAR Array B** comp=Z,3.1nm,0.6s,baz=40,slow=5.9,SNR=21	**74.31**	**337**	P	**P**	**19 10 08.2**	**+0.1**
NOA				LR	LR	19 46 08.8	
	comp=Z,36nm,19.0s,baz=140,slow=38						
AKASG	**Malin Array Be** comp=Z,2.8nm,0.4s,baz=46,slow=6.1,SNR=28	**74.42**	**322**	P	**P**	**19 10 08.5**	**-0.4**
AKASG				LR	LR	19 45 43.7	
	comp=Z,51nm,18.6s,baz=85,slow=38						
KIEV	**Kiev**	**74.43**	**322**	*d i*P	**P**	**19 10 08.5**	**-0.4**
KIEV				*e*PP	**sP**	**19 10 19.6**	**-0.4**
KIEV	comp=Z,4.0nm,0.9s			pmax	pmax		
KIEV	**Kiev** comp=Z,4.7nm,0.5s	**74.43**	**322**	*e*P	**P**	**19 10 07.2**	**-1.7**
AK11	**Malin Array Si**	**74.46**	**322**	*e*P	**P**	**19 10 07.8**	**-1.3**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.5s,baz=359,slow=3.7,SNR=2.9	**77.70**	**45**	P	**P**	**19 10 29.0**	**+0.9**
BUR08	**Bucovina Ar. S**	**78.42**	**322**	*e*P	**P**	**19 10 30.9**	**-0.9**
KOLS	**Kolonicke sedl** comp=Z,2.0nm,1.1s	**78.94**	**324**	*e*P	**P**	**19 10 35.0**	**+0.5**
KOLS				pmax	pmax		
KOLS	**Kolonicke sedl**	**78.94**	**324**	*e*P	**P**	**19 10 35.0**	**+0.5**

	573nm,0.1s						
SHLS				*e*S	**Sb**	**19 03 17.7**	**+0.9**
	3µm,0.2s						
PDGK	**Podgornoye**	**0.89**	**350**	⇓*i*P	**Pg**	**19 03 07.5**	**-0.3**
	baz=351						
PDGK				⇓*i*S	**Sb**	**19 03 21.6**	**+0.2**
	baz=351						
PDGK	**Podgornoye**	**0.89**	**350**	⇑P	**Pg**	**19 03 07.3**	**-0.4**
	12nm,0.3s						
PDGK				⇓S	**Sb**	**19 03 21.9**	**+0.5**
	201nm,0.5s						
PRZ	**Przheval'sk**	**0.96**	**272**	⇑*i*P	**Pg**	**19 03 07.3**	**-1.8**
	baz=276						
PRZ				⇑*i*S	**Sg**	**19 03 21.5**	**0.0**
	baz=276						
KTMS	**Ketmen**	**1.11**	**26**	*e*P	**Pg**	**19 03 10.0**	**-1.9**
	274nm,0.2s						
KTMS				*e*S	**Sg**	**19 03 26.7**	**+0.5**
	900nm,0.2s						
SATY	**Saty**	**1.13**	**303**	*e*P	**Pg**	**19 03 11.2**	**-1.2**
	233nm,0.1s						
SATY				*e*S	**Sg**	**19 03 28.6**	**+1.7**
	294nm,0.1s						
ZHN	**Zhinishke**	**1.17**	**308**	*e*P	**Pg**	**19 03 12.2**	**-1.0**
	134nm,0.1s						
ZHN				*e*S	**Sb**	**19 03 30.2**	**+0.5**
	589nm,0.1s						
KPKS	**Kokpek**	**1.26**	**324**	*e*P	**Pn**	**19 03 14.0**	**-1.6**
	510nm,0.1s						
KPKS				*e*S	**Sb**	**19 03 32.9**	**+0.8**
	924nm,0.2s						
KURS	**Kuram**	**1.53**	**313**	*e*P	**Pn**	**19 03 18.5**	**-0.8**
	86nm,0.5s						
KURS				*e*S	**Sg**	**19 03 41.1**	**+1.3**
	182nm,0.5s						
ANVS	**Anan'yevo**	**1.53**	**283**	⇑*i*P	**Pn**	**19 03 18.1**	**-1.4**
	baz=286						
ANVS				⇑*i*S	**Sn**	**19 03 40.3**	**+0.1**
	baz=286						
DJR	**Jarkent**	**1.88**	**2**	*e*P	**Pb**	**19 03 25.1**	**-0.9**
	130nm,0.3s						
DJR				*e*S	**Sg**	**19 03 52.4**	**+1.3**
	2µm,0.3s						
MNBS	**Baschi**	**1.88**	**330**	*e*P	**Pn**	**19 03 23.1**	**-1.1**
MNBS				*e*S	**Sn**	**19 03 48.8**	**0.0**
KOTS	**Kotyrbulak**	**2.06**	**293**	*e*P	**Pn**	**19 03 27.4**	**+0.8**
	261nm,0.2s						
KOTS				*e*S	**Sb**	**19 03 55.6**	**+0.5**
	144nm,0.4s						
TNSS	**Tian-Shan**	**2.11**	**287**	*e*P	**Pn**	**19 03 28.1**	**+0.5**
	160nm,0.4s						
TNSS				*e*S	**Sb**	**19 03 57.1**	**+0.1**
	137nm,0.5s						
KNDC	**Almaty**	**2.15**	**292**	⇑P	**Pn**	**19 03 28.7**	**+0.8**
KNDC				⇑S	**Sb**	**19 03 59.0**	**+1.3**
ARXS	**Arharly**	**2.23**	**323**	*e*P	**Pn**	**19 03 30.1**	**+1.2**
	192nm,0.2s						
ARXS				*e*S	**Sb**	**19 04 01.0**	**+0.9**
	878nm,0.3s						
IZV	**Izvestkoviy**	**2.34**	**285**	*e*P	**Pn**	**19 03 31.6**	**+1.0**
	118nm,0.2s						
IZV				*e*S	**Sb**	**19 04 03.8**	**+0.3**
	205nm,0.2s						
CHKK	**Chushkaly**	**2.43**	**307**	*e*P	**Pb**	**19 03 34.2**	**-1.1**
	90nm,0.3s						
CHKK				*e*S	**Sb**	**19 04 07.4**	**+1.7**
	555nm,0.3s						
KTBS	**Karatobe**	**2.54**	**301**	*e*P	**Pb**	**19 03 35.3**	**-1.9**
	79nm,0.5s						
KTBS				*e*S	**Sb**	**19 04 09.9**	**+0.8**
	51nm,0.3s						
ULHL	**Ulahol**	**2.57**	**267**	⇑*i*P	**Pn**	**19 03 33.6**	**-0.1**
	baz=268						
ULHL				⇑*i*S	**Sn**	**19 04 07.1**	**+1.3**
	baz=268						
BOOM	**Boomskoye usch**	**2.78**	**272**	⇑*i*P	**Pn**	**19 03 36.2**	**-0.4**
	baz=274						
BOOM				⇑*i*S	**Sn**	**19 04 12.0**	**+1.1**
	baz=274						
KAPS	**Kapalarasan**	**2.84**	**355**	*e*P	**Pb**	**19 03 41.7**	**-0.7**
	22nm,0.3s						
KAPS				*e*S	**Sb**	**19 04 20.3**	**+2.6**
	370nm,0.3s						
DGS	**Degeres**	**2.99**	**287**	*e*P	**Pb**	**19 03 42.9**	**-2.0**
	67nm,0.4s						
DGS				*e*S	**Sb**	**19 04 22.4**	**+0.3**
	168nm,0.4s						
TKM2	**Tokmak 2**	**3.06**	**280**	⇑*i*P	**Pn**	**19 03 41.0**	**+0.5**
	baz=282						
TKM2				⇑*i*S	**Sn**	**19 04 18.8**	**+0.9**
	baz=282						
TKM2	**Tokmak 2**	**3.06**	**280**	⇑Pg	**Pb**	**19 03 43.6**	**-2.5**
	23nm,0.5s						
TKM2				⇑Lg	Lg	19 04 25.8	
	80nm,0.5s						
KZA	**Kyzart**	**3.32**	**265**	⇓*i*P	**Pn**	**19 03 44.0**	**-0.3**
	baz=266						
KZA				⇓*i*S	**Sn**	**19 04 24.5**	**-0.1**
	baz=266						
KBK	**Karagaybulak**	**3.51**	**275**	⇓*i*P	**Pn**	**19 03 46.7**	**0.0**
	baz=276						
KBK				⇓*i*S	**Sn**	**19 04 28.9**	**-0.1**
	baz=276						
CHMS	**Chumysh**	**3.68**	**280**	⇑*i*P	**Pn**	**19 03 49.2**	**+0.3**
	baz=281						
CHMS				⇑*i*S	**Sn**	**19 04 32.8**	**-0.2**
	baz=281						
FRU1	**Bishkek**	**3.75**	**277**	⇑*e*P	**Pn**	**19 03 50.0**	**+0.1**
	baz=278						
FRU1				⇑*e*S	**Sn**	**19 04 35.2**	**+0.4**
	baz=278						
AAK	**Ala-Archa**	**3.85**	**274**	⇑*i*P	**Pn**	**19 03 51.3**	**0.0**
	baz=276						
AAK				⇑*i*S	**Sn**	**19 04 37.0**	**-0.3**
	baz=276						
AAK	**Ala-Archa**	**3.85**	**274**	⇓Pn	**Pn**	**19 03 51.1**	**-0.2**
	2.8nm,0.3s						
AAK				⇑Pg	**Pb**	**19 03 59.1**	**-0.5**
	18nm,0.5s						
AAK				⇑Lg	Lg	19 04 51.6	
	49nm,0.6s						
UCH	**Uchtor**	**3.85**	**268**	⇓*i*P	**Pn**	**19 03 51.4**	**-0.2**
	baz=270						
UCH				⇓*i*S	**Sn**	**19 04 37.1**	**-0.6**
	baz=270						
USP	**Ospenovka**	**3.91**	**284**	⇓*i*P	**Pn**	**19 03 51.9**	**-0.1**
	baz=285						
USP				⇓*i*S	**Sn**	**19 04 38.6**	**+0.1**
	baz=285						
ARLS	**Aral**	**4.04**	**263**	⇑*e*P	**Pn**	**19 03 53.5**	**-0.4**
	baz=265						
ARLS				⇑*e*S	**Sn**	**19 04 41.4**	**-0.5**
	baz=265						
KSH	**Kashi**	**4.07**	**225**	Pn	**Pg**	**19 04 06.6**	**-2.0**
KSH				Sn	**Sg**	**19 05 07.5**	**+6.2**
KSH				smax	smax		
	comp=N,50nm,0.7s						
KSH				smax	smax		
	comp=E,38nm,0.7s						
EKS2	**Erkin-Say**	**4.38**	**275**	⇑*i*P	**Pn**	**19 03 58.6**	**+0.1**
	baz=276						
EKS2				⇑*i*S	**Sn**	**19 04 49.3**	**-1.0**
	baz=276						
MK31	**Makanchi Array**	**4.72**	**22**	Pn	**Pn**	**19 04 03.0**	**-0.1**
	comp=E,3.3nm,0.2s,baz=203,slow=13,SNR=7.18						
MK31				⇑Sn	**Sn**	**19 04 58.9**	**+0.3**
	comp=E,3.3nm,0.2s,baz=0.0,slow=0.1,SNR=5.1						
MK31				⇑Lg	Lg	19 05 19.6	
	comp=E,9.7nm,0.5s,baz=195,slow=31,SNR=5.5						
ARSB	**Arslanbob**	**5.14**	**260**	⇑*e*P	**Pn**	**19 04 09.0**	**0.0**
	baz=261						
ARSB				⇑*e*S	**Sn**	**19 05 07.8**	**-1.2**
	baz=261						
MNAS	**Manas**	**5.32**	**273**	⇑Pg	**Pb**	**19 04 23.5**	**-1.1**
	comp=E,4.7nm,0.6s						
MNAS				⇑Lg	Lg	19 05 36.6	
	comp=E,33nm,1.1s						
OHH	**Osh**	**5.54**	**252**	⇑*i*P	**Pn**	**19 04 14.1**	**-0.3**
	baz=253						
OHH				⇑*e*S	**Sn**	**19 05 16.4**	**-2.4**
	baz=253						
KK31	**Karatay Array**	**6.79**	**279**	⇓Pg	**Pb**	**19 04 52.5**	**+3.0**
	comp=E,2.4nm,0.6s,baz=89,slow=15,SNR=8.7						
KK31				⇑Lg	Lg	19 06 23.5	
	comp=E,6.5nm,0.6s,baz=89,slow=26,SNR=4.4						
OTUK	**Ortayu**	**7.77**	**321**	⇑Pn	**Pn**	**19 04 43.2**	**-1.8**
	comp=E,5.1nm,1.0s						
OTUK				⇓Sn	**Sn**	**19 06 14.3**	**+0.7**
OTUK				⇓Lg	Lg	19 06 57.3	
	comp=E,17nm,0.7s						

*ISCJB **19** 19:05:37.7±0.3, 44°.16N±0°.03×10°.78E±0°.03, h23km±3km, Error ellipse: s-maj=4.2km s-min=3.1km az=178.2*
*ROM **19** 19:05:37.6±0.1, 44°.17N×10°.81E, h9km±1km, Ml2.4/8, Error ellipse: s-maj=1.5km s-min=0.9km az=180.0*
*GEN **19** 19:05:37.2, 44°.19N×10°.84E, h19km, ML2.7*
*CSEM **19** 19:05:38.0±0.1, 44°.18N×10°.81E, h12km, ML2.7/12, Error ellipse: s-maj=3.9km s-min=3.3km az=169.0*
*LDG **19** 19:05:38.8±0.5, 44°.07N×10°.86E, h10km, Ml2.6/7, Error ellipse: s-maj=11.1km s-min=4.4km az=103.0*

ISC 19 19:05:37.9±0.9, 44°.16N±0°.02×10°.80E±0°.02, h18km±3km, n84, σ1s45/122, 1C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
POPM	**Popiglio**	**0.12**	**195**	⇑*i*Pg		**Pg**	**19 05 41.7**	**-0.1**
POPM				Sg		**Sg**	**19 05 44.7**	**+0.2**
POPM	**Popiglio**	**0.12**	**195**	P		**Pg**	**19 05 41.7**	**-0.1**
POPM				S		**Sg**	**19 05 44.5**	**0.0**
BDI	**Bagni Di Lucca**	**0.18**	**236**	Pg		**Pg**	**19 05 42.4**	**-0.2**
BDI				Sg		**Sg**	**19 05 45.8**	**0.0**
	3µm,0.2s							
BDI	**Bagni Di Lucca**	**0.18**	**236**	Pg		**Pg**	**19 05 42.4**	**-0.2**
BDI				Sg		**Sg**	**19 05 45.8**	**0.0**
	3µm,0.2s							
FNVD	**Fontana Vidola**	**0.23**	**89**	Pg		**Pg**	**19 05 42.8**	**-0.6**
FNVD				Sg		**Sg**	**19 05 46.8**	**-0.3**
	820nm,0.6s							
FNVD	**Fontana Vidola**	**0.23**	**89**	Pg		**Pg**	**19 05 42.8**	**-0.6**
FNVD				Sg		**Sg**	**19 05 46.8**	**-0.3**
	820nm,0.6s							
PTF	**Prato**	**0.28**	**137**	Pg		**Pg**	**19 05 43.9**	**-0.2**
PTF				Sg		**Sb**	**19 05 48.8**	**+0.2**
PTF	**Prato**	**0.28**	**137**	Pg		**Pg**	**19 05 43.9**	**-0.2**
PTF				Sg		**Sb**	**19 05 48.8**	**+0.2**
SARO	**Sassorosso**	**0.29**	**274**	P		**Pg**	**19 05 44.0**	**-0.3**
SARO				S		**Sg**	**19 05 48.5**	**-0.2**
VLC	**Villacollemand**	**0.30**	**269**	Pg		**Pg**	**19 05 44.3**	**-0.1**
VLC				Sg		**Sg**	**19 05 49.1**	**+0.2**
	213nm,0.4s							
VLC	**Villacollemand**	**0.30**	**269**	Pg		**Pg**	**19 05 44.3**	**-0.1**
VLC				Sg		**Sg**	**19 05 49.1**	**+0.2**
	213nm,0.4s							
MAIM	**Mastiano**	**0.34**	**222**	Pg		**Pg**	**19 05 44.8**	**-0.2**
MAIM				Sg		**Sg**	**19 05 50.7**	**+0.8**
	317nm,0.3s							
MAIM	**Mastiano**	**0.34**	**222**	Pg		**Pg**	**19 05 44.8**	**-0.2**
MAIM				S		**Sg**	**19 05 49.8**	**-0.1**
				Sg		**Sg**	**19 05 50.7**	**+0.8**
	317nm,0.3s							
ERBM	**Eremo**	**0.38**	**312**	Pg		**Pg**	**19 05 46.1**	**+0.3**
ERBM				Sg		**Sb**	**19 05 52.1**	**+0.4**
	212nm,0.4s							
ERBM	**Eremo**	**0.38**	**312**	Pg		**Pg**	**19 05 46.1**	**+0.3**
ERBM				Sg		**Sb**	**19 05 52.1**	**+0.4**
	212nm,0.4s							
CRMI	**Carmignano**	**0.39**	**162**	Pg		**Pg**	**19 05 45.9**	**-0.1**
CRMI				Sg		**Sb**	**19 05 52.5**	**+0.4**
	230nm,0.4s							
CRMI	**Carmignano**	**0.39**	**162**	Pg		**Pg**	**19 05 45.9**	**-0.1**
CRMI				Sg		**Sb**	**19 05 52.5**	**+0.4**
	230nm,0.4s							
SEI	**Scarperia**	**0.41**	**105**	Pg		**Pg**	**19 05 46.0**	**-0.4**
SEI				Sg		**Sb**	**19 05 52.7**	**0.0**
SEI	**Scarperia**	**0.41**	**105**	Pg		**Pg**	**19 05 46.0**	**-0.4**
SEI				Sg		**Sb**	**19 05 52.7**	**0.0**
VMG	**Vicchio**	**0.57**	**110**	Pg		**Pb**	**19 05 49.3**	**0.0**
VMG	**Vicchio**	**0.57**	**110**	Pg		**Pb**	**19 05 49.3**	**0.0**
GRAM	**Graiana**	**0.62**	**302**	P		**Pg**	**19 05 49.7**	**-0.5**
GRAM				S		**Sg**	**19 05 57.9**	**-0.7**
SFI	**Santa Sofia**	**0.80**	**109**	Pg		**Pb**	**19 05 53.5**	**+0.3**
	98nm,1.0s							
SFI	**Santa Sofia**	**0.80**	**109**	Pg		**Pb**	**19 05 53.5**	**+0.3**
	98nm,1.0s							
SASS	**Sassa**	**0.91**	**185**	Pg		**Pg**	**19 05 55.6**	**0.0**
	134nm,0.8s							
SASS	**Sassa**	**0.91**	**185**	Pg		**Pg**	**19 05 55.6**	**0.0**
	134nm,0.8s							
TEOL	**Teolo**	**1.35**	**27**	⇓*e*Pg		**Pn**	**19 06 01.6**	**-0.1**
TEOL				*e*Sg		**Sn**	**19 06 20.3**	**+1.1**
TEOL	**Teolo**	**1.35**	**27**	*e*Pg		**Pn**	**19 06 01.6**	**-0.1**
TEOL				*e*Sg		**Sn**	**19 06 20.3**	**+1.1**
MARN	**Marana (Italy)**	**1.50**	**11**	*e*Pg		**Pn**	**19 06 04.7**	**+0.8**
CGRP	**Cima Grappa**	**1.86**	**22**	*e*Pn		**Pn**	**19 06 09.0**	**+0.1**
CGRP	**Cima Grappa**	**1.86**	**22**	*e*Pn		**Pn**	**19 06 09.0**	**+0.1**
PGF	**Pioggiola**	**2.08**	**220**	*e*Pn		**Pn**	**19 06 12.0**	**+0.1**
PGF				*e*Sn		**Sn**	**19 06 35.9**	**-1.6**
	5.3nm,0.3s							
PGF	**Pioggiola**	**2.08**	**220**	*e*Pn		**Pn**	**19 06 12.0**	**+0.1**
PGF				*e*Sn		**Sn**	**19 06 35.9**	**-1.6**
	2.7nm,0.3s							
SBF	**Sospel**	**2.45**	**264**	*e*Pn		**Pn**	**19 06 17.4**	**+0.5**
SBF				*e*Sn		**Sn**	**19 06 46.2**	**-0.2**
	5.7nm,0.3s							
SBF	**Sospel**	**2.45**	**264**	*e*Pn		**Pn**	**19 06 17.4**	**+0.5**
SBF				*e*Sn		**Sn**	**19 06 46.2**	**-0.2**
	2.8nm,0.3s							
SABO	**M.te Sabotino**	**2.69**	**47**	*e*Pn		**Pn**	**19 06 20.3**	**+0.1**
SABO	**M.te Sabotino**	**2.69**	**47**	*e*Pn		**Pn**	**19 06 20.3**	**+0.1**
VINO	**Villanova**	**2.73**	**39**	*e*Pn		**Pn**	**19 06 20.7**	**-0.1**
VINO	**Villanova**	**2.73**	**39**	*e*Pn		**Pn**	**19 06 20.7**	**-0.1**
DRE	**Drenchia**	**2.84**	**44**	*e*Pn		**Pn**	**19 06 21.7**	**-0.6**
DRE	**Drenchia**	**2.84**	**44**	*e*Pn		**Pn**	**19 06 21.7**	**-0.6**
FETA	**Feichten**	**2.86**	**359**	*i* Pn		**Pn**	**19 06 25.5**	**+2.8**
	1.1nm,0.4s							
FETA	**Feichten**	**2.86**	**359**	Pn		**Pn**	**19 06 25.5**	**+2.8**
	1.1nm,0.4s							
MBDF	**Montbardon**	**2.94**	**282**	*e*Pn		**Pn**	**19 06 24.3**	**+0.5**
MBDF	**Montbardon**	**2.94**	**282**	*e*Pn		**Pn**	**19 06 24.3**	**+0.5**
FRF	**La Foret Royal**	**3.07**	**260**	*e*Pn		**Pn**	**19 06 25.2**	**-0.2**
FRF	**La Foret Royal**	**3.07**	**260**	*e*P		**Pn**	**19 06 28.9**	**+3.5**
FRF				*e*Sn		**Sn**	**19 07 00.1**	**-1.4**
	1.0nm,0.2s							
FRF	**La Foret Royal**	**3.07**	**260**	*e*Pn		**Pn**	**19 06 25.2**	**-0.2**
FRF	**La Foret Royal**	**3.07**	**260**	*e*P		**Pn**	**19 06 28.9**	**+3.5**
FRF				*e*Sn		**Sn**	**19 07 00.1**	**-1.4**
	0.5nm,0.2s							
WTTA	**Wattenberg**	**3.15**	**10**	*i* Pn		**Pn**	**19 06 26.9**	**+0.2**
	0.8nm,0.2s							
WTTA	**Wattenberg**	**3.15**	**10**	Pn		**Pn**	**19 06 26.9**	**+0.2**
	0.8nm,0.2s							
LPG	**La Plagne**	**3.18**	**296**	*e*Pn		**Pn**	**19 06 31.4**	**+4.3**
LPG	**La Plagne**	**3.18**	**296**	*e*Pn		**Pn**	**19 06 31.4**	**+4.3**
LPL	**La Plagne**	**3.19**	**296**	*e*Pn		**Pn**	**19 06 28.2**	**+0.8**
LPL	**La Plagne**	**3.19**	**296**	*e*P		**Pb**	**19 06 31.8**	**-2.4**
LPL	**La Plagne**	**3.19**	**296**	*e*P		**Pb**	**19 06 31.8**	**-2.4**
WATA	**Walderalm**	**3.22**	**9**	*i* Pn		**Pn**	**19 06 30.4**	**+2.8**
	0.4nm,0.1s							
WATA	**Walderalm**	**3.22**	**9**	Pn		**Pn**	**19 06 30.4**	**+2.8**
	0.4nm,0.1s							
LMR	**La Mourre**	**3.22**	**257**	*e*Pn		**Pn**	**19 06 27.1**	**-0.4**
LMR	**La Mourre**	**3.22**	**257**	*e*P		**Pn**	**19 06 30.5**	**+3.0**
LMR				*e*Sn		**Sn**	**19 07 03.9**	**-1.4**
	1.4nm,0.2s							
LMR	**La Mourre**	**3.22**	**257**	*e*Pn		**Pn**	**19 06 27.1**	**-0.4**
LMR	**La Mourre**	**3.22**	**257**	*e*P		**Pn**	**19 06 30.5**	**+3.0**
LMR				*e*Sn		**Sn**	**19 07 03.9**	**-1.4**
	0.7nm,0.2s							
ORIF	**Oris-en-Rattie**	**3.60**	**284**	*e*P		**Pn**	**19 06 35.4**	**+2.6**
ORIF	**Oris-en-Rattie**	**3.60**	**284**	*e*P		**Pn**	**19 06 35.4**	**+2.6**
SMRF	**Simiane la Rot**	**3.77**	**269**	*e*Pn		**Pn**	**19 06 36.6**	**+1.5**
SMRF	**Simiane la Rot**	**3.77**	**269**	*e*P		**Pn**	**19 06 39.3**	**+4.2**
SMRF	**Simiane la Rot**	**3.77**	**269**	*e*Pn		**Pn**	**19 06 36.6**	**+1.5**
SMRF	**Simiane la Rot**	**3.77**	**269**	*e*P		**Pn**	**19 06 39.3**	**+4.2**
SOKA	**Soboth**	**3.90**	**48**	*i* Pn		**Pn**	**19 06 39.5**	**+2.6**
	0.9nm,0.4s							
SOKA	**Soboth**	**3.90**	**48**	Pn		**Pn**	**19 06 39.5**	**+2.6**
	0.9nm,0.4s							
CABF	**La Chapelle**	**4.12**	**308**	*e*Pn		**Pn**	**19 06 42.3**	**+2.3**
MOA	**Molln**	**4.41**	**32**	*i* Pn		**Pn**	**19 06 45.7**	**+1.9**
	1.3nm,0.2s							
MOA	**Molln**	**4.41**	**32**	Pn		**Pn**	**19 06 45.7**	**+1.9**
	1.3nm,0.2s							
ARSA	**Arzberg**	**4.52**	**45**	*i* P		**Pn**	**19 06 46.9**	**+1.5**
	1.3nm,0.3s							
ARSA	**Arzberg**	**4.52**	**45**	P		**Pn**	**19 06 46.9**	**+1.5**
	1.3nm,0.3s							
HINF	**Hinteralfeld**	**4.57**	**324**	*e*Pn		**Pn**	**19 06 47.3**	**+1.2**
HINF				*e*Sn		**Sn**	**19 07 38.7**	**-0.1**
	4.4nm,0.5s							
CDF	**Champ du Feu**	**4.90**	**331**	*e*Pn		**Pn**	**19 06 51.6**	**+0.9**
CDF				*e*Sn		**Sn**	**19 07 46.2**	**-0.7**
	1.5nm,0.3s							
HAU	**Haudompre**	**4.94**	**323**	*e*Pn		**Pn**	**19 06 51.7**	**+0.6**
HAU				*e*Sn		**Sn**	**19 07 47.4**	**-0.3**
	4.6nm,0.3s							
HAU	**Haudompre**	**4.94**	**323**	*e*Pn		**Pn**	**19 06 51.7**	**+0.6**
HAU				*e*Sn		**Sn**	**19 07 47.4**	**-0.3**
	2.3nm,0.3s							
CONA	**Conrad Observa**	**5.15**	**41**	*i* Pn		**Pn**	**19 06 55.0**	**+0.8**
	0.8nm,0.3s							
CONA	**Conrad Observa**	**5.15**	**41**	Pn		**Pn**	**19 06 55.0**	**+0.8**
	0.8nm,0.3s							
KHC	**Kasperske Hory**	**5.32**	**20**	*e*PN		**Pn**	**19 06 57.7**	**+1.3**
KHC				*e*SN		**Sn**	**19 07 55.1**	**-2.1**
KHC	**Kasperske Hory**	**5.32**	**20**	Pn		**Pn**	**19 06 57.7**	**+1.3**
KHC				Sn		**Sn**	**19 07 55.1**	**-2.1**

*IDC **19** 19:34:42.8±2.0, 26°.40N×142°.73E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/30, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=60.2km s-min=15.8km az=71.0*
*ISCJB **19** 19:34:44.7±1.3, 26°.4N±0°.1×143°.0E±0°.2, h31km, mb3.5/4, Error ellipse: s-maj=34.8km s-min=11.2km az=152.0*

ISC 19 19:34:47.3±1.6, 26°.4N±0°.1×142°.7E±0°.3, h31km, n6, σ0s86/7, mb3.6/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.85**	**325**	Pn		**Pn**	**19 35 01.8**	**-1.3**
	15nm,0.3s,baz=270,slow=20,SNR=29							
JCJ				Sn		**Sb**	**19 35 15.0**	**+0.4**
	68nm,0.3s,baz=291,slow=23,SNR=21							
MJAR	**Matsushiro Arr**	**10.82**	**340**	Pn		**Pn**	**19 37 20.5**	**+0.4**
	0.2nm,0.3s,baz=154,slow=12,SNR=4.8							
CMAR	**Chiang Mai Arr**	**41.08**	**268**	P		**P**	**19 42 29.0**	**+0.5**
	0.3nm,0.7s,baz=62,slow=6.3,SNR=3.2							
WRA	**Warramunga Arr**	**46.78**	**191**	P		**P**	**19 43 14.1**	**0.0**
	1.1nm,0.5s,baz=12,slow=8.5,SNR=12							
ASAR	**Alice Springs**	**50.50**	**191**	P		**P**	**19 43 42.0**	**-0.6**
	0.2nm,0.5s,baz=5.2,slow=6.3,SNR=5.5							
FINES	**FINESS Array B**	**78.78**	**334**	P		**P**	**19 46 47.2**	**+0.5**
	1.3nm,0.9s,baz=81,slow=4.4,SNR=3.0							

CASC 19 19:42:04.8±2.8, 7°.27N×82°.23W, h17km±42km, MD4.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TBS2		**1.58**	**344**	*e*P		Pn	**19 42 32.3**	**+0.1**
TBS2				*e*S		Sb	**19 42 53.1**	**-0.3**
AZU	**Azuero**	**2.01**	**75**	*e*P		Pn	**19 42 39.2**	**+1.3**
AZU				*e*S		Sn	**19 43 02.4**	**-0.3**
QCR	**Quepos**	**2.88**	**318**	*e*P		Pn	**19 42 48.9**	**-1.1**
QCR				*e*S		Sb	**19 43 27.7**	**-3.0**
URSC	**Urasca**	**2.98**	**329**	*e*P		Pn	**19 42 51.9**	**+0.4**
URSC				*e*S		Sn	**19 43 27.9**	**+0.9**
CGA2	**Cerro Gallo 2**	**3.52**	**321**	*e*P		Pn	**19 42 58.5**	**-0.4**
CGA2				*e*S		Sn	**19 43 39.4**	**-0.8**
JCR	**Jicaral**	**3.84**	**312**	*e*P		Pn	**19 43 02.0**	**-1.2**

*NNC **19** 19:43:39.4±2.8, 42°.40N×70°.59E, h21km±20km, mb2.8, mpv2.3, Error ellipse: s-maj=16.7km s-min=9.8km az=14.0*
*SOME **19** 19:43:40.7, 42°.38N×70°.67E, h10km*
*KRNET **19** 19:43:41.1±0.1, 42°.43N×70°.86E, h20km, mb2.3*

ISC 19 19:43:39.7±1.2, 42°.44N±0°.05×70°.68E±0°.03, h23km±16km, n17, σ1s78/31, 26C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**0.56**	**239**	*e*P		**Pb**	**19 43 50.9**	**0.0**
	18nm,0.2s							
IUG				*e*S		**Sb**	**19 43 58.6**	**-0.1**
	137nm,0.2s							
KK31	**Karatay Array**	**0.68**	**349**	⇑P		**Pn**	**19 43 54.1**	**+0.2**
	1.5nm,0.3s,baz=174,slow=18,SNR=241							
KK31				⇑S		**Sn**	**19 44 03.9**	**+0.1**
	5.1nm,0.3s,baz=178,slow=31,SNR=5.7							
BRLS	**Borolday**	**0.82**	**296**	*e*P		**Pn**	**19 43 55.9**	**+0.1**
	0.6nm,0.3s							
BRLS				*e*S		**Sn**	**19 44 06.9**	**-0.3**
	5.7nm,0.2s							
ARK	**Arkit**	**1.15**	**123**	⇑*e*P		**Pb**	**19 44 01.5**	**+0.6**
	baz=127							
ARK				⇑*i*S		**Sn**	**19 44 17.2**	**+1.7**
	baz=127							
MNAS	**Manas**	**1.35**	**87**	⇑*i*P		**Pb**	**19 44 05.5**	**+1.1**
	baz=86							
MNAS				⇑*i*S		**Sb**	**19 44 22.1**	**+0.9**
	baz=86							
MNAS	**Manas**	**1.35**	**87**	⇑P		**Pb**	**19 44 04.6**	**+0.3**
	0.7nm,0.3s							
MNAS				⇓S		**Sb**	**19 44

Ms1 3.1/4,ms1mx2.7/32, Error ellipse: s-maj=27.9km s-min=14.7km az=81.0

ISC 19 19:50:57.3±1.0, 36°92N±0°03×140°47E±0°03, h9km±7km, n46,σ1♀21/51, mb3.9/16, 7C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.32**	**55**	⇑P	**Pg**	**19 51 03.8**	**+0.2**
ONAJ				S	**Sg**	**19 51 08.3**	**+0.4**
JHO	**Hitachi**	**0.32**	**166**	⇑P	**Pg**	**19 51 04.0**	**+0.3**
JHO				S	**Sb**	**19 51 09.0**	**-1.5**
JFK	**Kawauchi**	**0.55**	**36**	⇓P	**Pg**	**19 51 08.0**	**0.0**
JFK				*e*S	**Sg**	**19 51 15.1**	**-0.1**
JFT	**Otama**	**0.60**	**350**	⇑P	**Pg**	**19 51 09.3**	**+0.2**
JFT				S	**Sg**	**19 51 17.1**	**+0.1**
JFY	**Yanaizu**	**0.78**	**308**	⇑P	**Pg**	**19 51 12.6**	**+0.2**
JFY				S	**Sg**	**19 51 22.8**	**+0.2**
JAG	**Ashikaga**	**0.96**	**239**	⇑P	**Pg**	**19 51 15.5**	**-0.3**
JAG				S	**Sb**	**19 51 29.0**	**+0.1**
JMM	**Marumori**	**0.97**	**15**	⇓P	**Pg**	**19 51 15.5**	**-0.6**
JMM				S	**Sg**	**19 51 27.9**	**-0.9**
JKT	**Katashina**	**0.99**	**261**	⇑P	**Pb**	**19 51 16.6**	**-0.2**
JKT				*e*S	**Sb**	**19 51 29.9**	**-0.1**
JNS	**Sasagawa**	**1.28**	**314**	⇑P	**Pn**	**19 51 21.0**	**-0.4**
JNS				S	**Sb**	**19 51 38.0**	**-0.7**
JRY	**Ryogami san**	**1.56**	**235**	P	**Pb**	**19 51 25.7**	**-0.6**
JRY				*e*S	**Sb**	**19 51 46.5**	**+0.4**
MJAR	**Matsushiro Arr**	**1.86**	**259**	Pg	**Pb**	**19 51 30.8**	**-0.7**
	20nm,0.3s,baz=80,slow=19,SNR=170						
MJAR				Lg	Lg	19 51 54.8	
	49nm,0.3s,baz=79,slow=32,SNR=15						
MJAR				LR	LR	19 52 30.4	
	comp=Z,153nm,18.7s,baz=75,slow=52						
MAJO	**Matsushiro**	**1.86**	**259**	*e*Pn	**Pb**	**19 51 31.0**	**-0.5**
MAJO				*e*Sn	**Sn**	**19 51 51.2**	**-1.8**
MAT	**Matsushiro**	**1.86**	**259**	P	**Pb**	**19 51 30.8**	**-0.7**
MAT				S	**Sb**	**19 51 55.2**	**+0.3**
JOD2	**Odawara 2**	**2.00**	**215**	P	**Pb**	**19 51 33.0**	**-0.9**
JOD2				*e*S	**Sb**	**19 51 58.0**	**-0.9**
BSO1	**Boso 1**	**2.30**	**170**	P	**Pb**	**19 51 38.0**	**-0.7**
JHJ	**Hachijo jima 2**	**3.84**	**189**	Pn	**Pn**	**19 51 59.7**	**+3.2**
	6.4nm,0.3s,baz=233,slow=18,SNR=2.9						
JHJ				Sn	**Sn**	**19 52 45.4**	**+3.6**
	14nm,0.3s,baz=90,slow=20,SNR=3.0						
ASAJ	**Asahikawa**	**7.37**	**12**	*e*Pn	**Pn**	**19 52 46.1**	**+1.1**
	1.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**9.72**	**321**	Pn	Pn	19 53 22.8	+5.5
	0.3nm,0.3s,baz=140,slow=11,SNR=8.8						
USRK				LR	LR	19 56 53.5	
	comp=Z,78nm,18.6s,baz=173,slow=37						
CBIJ	**Chichi jima**	**9.90**	**171**	Pn	**Pn**	**19 53 18.1**	**-1.8**
CBIJ				Sn	Sn	19 54 59.8	-11
JCJ	**Chichijima**	**9.90**	**171**	Pn	**Pn**	**19 53 18.1**	**-1.8**
	1.7nm,0.3s,baz=282,slow=23,SNR=2.6						
JCJ				Sn	Sn	19 54 59.8	-11
	1.7nm,0.3s,baz=243,slow=23,SNR=3.2						
KSRS	**Korea Array**	**10.03**	**277**	Pn	Pn	19 53 28.1	+6.6
	0.1nm,0.3s,baz=97,slow=14,SNR=6.0						
KSRS				LR	LR	19 56 58.6	
	comp=Z,65nm,20.8s,baz=109,slow=36						
KSAR	**Wonju Array Be**	**10.06**	**277**	Pn	Pn	19 53 28.1	+6.1
KLR	**Kul'dur**	**13.84**	**335**	Pn	**Pn**	**19 54 15.9**	**+2.4**
	0.0nm,0.3s,baz=124,slow=11,SNR=2.8						
KLR				LR	LR	19 59 24.4	
	comp=Z,60nm,18.1s,baz=94,slow=37						
SONM	**Songino Array**	**27.23**	**304**	P	**P**	**19 56 40.9**	**-0.6**
	1.8nm,0.7s,baz=106,slow=8.9,SNR=10						
H11N2	**WAKE ISLAND Hy 28.74**	**119**		T	T	20 26 44.5	
	baz=313,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy 28.75**	**119**		T	T	20 26 45.0	
	baz=313,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy 28.76**	**119**		T	T	20 26 46.7	
	baz=313,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy 29.44**	**121**		T	T	20 27 34.4	
	baz=314,slow=75,SNR=58						
H11S3	**WAKE ISLAND Hy 29.44**	**121**		T	T	20 27 34.5	
	baz=314,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy 29.45**	**121**		T	T	20 27 38.7	
	baz=314,slow=75,SNR=33						
ZALV	**Zalesovo Beam**	**41.43**	**312**	P	**P**	**19 58 43.3**	**-0.7**
	0.9nm,0.5s,baz=83,slow=7.5,SNR=4.8						
MKAR	**Makanchi Array**	**43.54**	**302**	P	**P**	**19 59 01.8**	**+0.6**
	0.4nm,0.5s,baz=83,slow=11,SNR=5.3						
KURK	**Kurchatov**	**45.41**	**308**	*e*P	**P**	**19 59 15.8**	**-0.3**
TKM2	**Tokmak 2**	**49.02**	**298**	P	**P**	**19 59 41.1**	**-3.5**
	2.1nm,0.6s						
ILAR	**Eielson Array**	**49.99**	**32**	P	**P**	**19 59 51.9**	**+0.4**
	0.3nm,0.7s,baz=272,slow=7.0,SNR=5.5						
FITZ	**Fitzroy Crossi**	**56.49**	**197**	P	**P**	**20 00 40.9**	**+1.2**
	2.6nm,1.0s,baz=49,slow=9.3,SNR=4.1						
WRA	**Warramunga Arr**	**56.85**	**187**	P	**P**	**20 00 42.3**	**0.0**
	1.7nm,0.7s,baz=5.2,slow=7.6,SNR=19						
ABKAR	**Akbulak array**	**57.44**	**310**	*e*P	**P**	**20 00 45.3**	**-0.9**
	2.4nm,0.6s						
ASAR	**Alice Springs**	**60.58**	**187**	P	**P**	**20 01 08.2**	**0.0**
	0.9nm,0.7s,baz=19,slow=6.8,SNR=8.9						
ARCES	**ARCESS Array B**	**63.83**	**339**	P	**P**	**20 01 29.2**	**-0.3**
	2.0nm,0.8s,baz=43,slow=9.1,SNR=7.4						
FINES	**FINESS Array B**	**68.56**	**332**	P	**P**	**20 01 59.2**	**-0.7**
	1.8nm,0.8s,baz=28,slow=8.6,SNR=8.8						
AKASG	**Malin Array Be**	**73.92**	**322**	P	**P**	**20 02 31.7**	**-0.9**
	0.4nm,0.3s,baz=46,slow=5.8,SNR=5.0						
AKASG				LR	LR	20 36 41.6	
	comp=Z,24nm,18.9s,baz=255,slow=37						
NOA	**NORSAR Array B**	**74.00**	**337**	P	**P**	**20 02 32.5**	**-0.4**
	0.8nm,0.7s,baz=39,slow=5.8,SNR=4.5						
BRTR	**Keskin Array B**	**78.36**	**311**	P	**P**	**20 02 59.2**	**+0.9**
	0.4nm,0.7s,baz=29,slow=3.3,SNR=2.7						
GERES	**GERESS Array B**	**82.41**	**328**	P	**P**	**20 03 19.7**	**-0.1**
	0.3nm,0.4s,baz=52,slow=6.4,SNR=3.8						
TXAR	**Lajitas Array**	**90.78**	**52**	P	**P**	**20 04 02.5**	**+1.3**
	0.3nm,0.5s,baz=296,slow=3.0,SNR=7.2						

*NIED **19** 20:10:00,38°.20N×144°.20E,h5km,Mw3.4 Best double couple: M₀1.66000×10¹⁴ NP1:φ₈62.00000°,δ27.00000°, λ-54.00000°. NP2:φ₈203.00000°,δ68.00000°, λ-107.00000°.*

JMA 19 20:10:53.3±0.2, 38°15N×144°24E, h2km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.22**	**296**	P	Pn	20 11 31.9	+0.8
OFUJ				S	Sn	20 12 00.4	+1.3
JIO	**Ouri**	**2.29**	**278**	P	Pn	20 11 33.0	+0.9
JIO				S	Sn	20 12 01.7	+0.7
MIYJ	**Miyakonagasawa**	**2.37**	**308**	P	Pn	20 11 34.1	+1.0
MIYJ				*e*S	Sn	20 12 03.5	+0.8
JMK	**Ichinoseki**	**2.50**	**290**	P	Pn	20 11 36.4	+1.4
JMK				*e*S	Sn	20 12 08.0	+2.0
JOM	**Ohasama**	**2.66**	**301**	P	Pn	20 11 38.4	+1.3
JOM				S	Sn	20 12 12.0	+2.1
JOU	**Okura**	**2.82**	**275**	P	Pn	20 11 40.8	+1.4
JOU				*e*S	Sn	20 12 15.4	+1.3
JANG	**Nango**	**3.07**	**317**	P	Pn	20 11 43.5	+0.7
JANG				*e*S	Sn	20 12 20.8	+0.8
JRG	**Rokugo**	**3.08**	**295**	P	Pn	20 11 44.8	+1.8
JRG				*e*S	Sn	20 12 23.5	+3.1
JYK	**Kaneyama**	**3.14**	**285**	P	Pn	20 11 45.9	+2.1
JYK				*e*S	Sn	20 12 24.0	+2.2
JFT	**Otama**	**3.15**	**260**	S	Sn	20 12 22.9	+0.7
JTM	**Tenmabayashi**	**3.60**	**318**	S	Sn	20 12 32.9	-0.3
JKB	**Kayabe**	**4.47**	**328**	P	Pn	20 12 03.8	+1.7
JCH	**Churui**	**4.51**	**352**	P	Pn	20 12 00.9	-1.7
JCH				S	Sn	20 12 51.7	-3.9
JRY	**Ryogami san**	**4.77**	**245**	P	Pn	20 12 05.4	-0.8
NEM2	**Nemuro 2**	**5.33**	**12**	P	Pn	20 12 08.6	-5.3
JTKR	**Abashiri--Toko**	**5.82**	**358**	P	Pn	20 12 18.2	-2.4
JTKR				S	Sn	20 13 22.9	-5.0

*NIED **19** 20:24:00,39°.80N×142°.20E,h38km,Mw3.5 Best double couple: M₀2.25000×10¹⁴ NP1:φ₈208.00000°,δ38.00000°, λ-150.00000°. NP2:φ₈94.00000°,δ72.00000°, λ-56.00000°.*

*ISCJB **19** 20:24:18.1±1.0,39°.85N±0°.04×142°.31E±0°.07, h27km±5km, mb3.5/5, Error ellipse: s-maj=9.3km s-min=6.4km az=6.6*

*JMA **19** 20:24:19.3±0.1,39°.84N×142°.23E, h30km±1km,M3.9*

JMA Felt I J1.

*IDC **19** 20:24:22.6±3.0,39°.85N×142°.21E, h55km±28km, mb3.3/5, mb1 3.5/7, mb1mx3.2/42, mbtmp3.6/7, ML3.5/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/25, Error ellipse: s-maj=39.1km s-min=20.4km az=105.0*

ISC 19 20:24:20.3±1.2, 39°83N±0°04×142°16E±0°07, h29km±7km, n24,σ1♀58/28, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.25**	**295**	P	**Pb**	**20 24 26.8**	**-0.1**
JTH				S	**Sb**	**20 24 31.8**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.36**	**226**	P	**Pb**	**20 24 28.0**	**-0.5**
MIYJ				S	**Sb**	**20 24 33.9**	**-0.2**
JKZ	**Kuzumaki**	**0.65**	**284**	P	**Pb**	**20 24 32.8**	**-0.4**
JKZ				S	**Sb**	**20 24 42.2**	**+0.2**
JANG	**Nango**	**0.73**	**318**	P	**Pb**	**20 24 33.0**	**-1.5**
JANG				S	**Sb**	**20 24 42.9**	**-1.3**
JOM	**Ohasama**	**0.76**	**242**	P	**Pb**	**20 24 34.4**	**-0.5**
JOM				S	**Sb**	**20 24 45.1**	**+0.2**
OFUJ	**Ofunato**	**0.84**	**207**	P	**Pn**	**20 24 35.0**	**-1.1**
JMK	**Ichinoseki**	**1.14**	**220**	P	**Pn**	**20 24 39.9**	**-0.3**
JAH	**Hinai**	**1.22**	**287**	P	**Pn**	**20 24 41.7**	**+0.3**
JAH				S	**Sb**	**20 24 58.4**	**+0.3**
JRG	**Rokugo**	**1.25**	**250**	P	**Pb**	**20 24 42.7**	**-0.6**
JRG				S	**Sb**	**20 25 00.6**	**+1.6**
JTM	**Tenmabayashi**	**1.27**	**319**	P	**Pn**	**20 24 41.7**	**-0.3**
JTM				S	**Sn**	**20 24 58.0**	**0.0**
ASAJ	**Asahikawa**	**4.29**	**4**	P	**Pn**	**20 25 24.2**	**+0.6**
	3.5nm,0.3s,baz=203,slow=16,SNR=37						
ASAJ				S	**Sn**	**20 26 18.2**	**+5.5**
MAT	**Matsushiro**	**4.52**	**225**	P	**Pn**	**20 25 29.7**	**+2.9**
MAT				*e*S	**Sn**	**20 26 18.8**	**+0.4**
MJAR	**Matsushiro Arr**	**4.52**	**225**	P	**Pn**	**20 25 29.9**	**+3.1**
	0.8nm,0.3s,baz=32,slow=12,SNR=15						
MJAR				LR	LR	20 27 23.8	
	comp=Z,55nm,18.3s,baz=75,slow=40						
H11N2	**WAKE ISLAND Hy 29.20**	**126**		T	T	21 00 48.6	
	baz=319,slow=75,SNR=284						
H11N1	**WAKE ISLAND Hy 29.21**	**126**		T	T	21 00 56.1	
	baz=319,slow=75,SNR=208						
H11N3	**WAKE ISLAND Hy 29.22**	**126**		T	T	21 00 56.9	
	baz=319,slow=75,SNR=163						
H11S1	**WAKE ISLAND Hy 30.01**	**128**		T	T	21 01 53.8	
	baz=321,slow=76,SNR=63						
H11S3	**WAKE ISLAND Hy 30.01**	**128**		T	T	21 02 07.1	
	baz=321,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy 30.02**	**128**		T	T	21 02 05.6	
	baz=321,slow=76,SNR=49						
MKAR	**Makanchi Array**	**43.18**	**300**	P	**P**	**20 32 18.0**	**-0.4**
	0.3nm,0.6s,baz=76,slow=10,SNR=3.6						
ILAR	**Eielson Array**	**46.83**	**34**	P	**P**	**20 32 46.7**	**-0.4**
	0.4nm,0.7s,baz=254,slow=6.2,SNR=6.7						
WRA	**Warramunga Arr**	**59.91**	**189**	P	**P**	**20 34 22.6**	**-0.9**
	0.3nm,0.5s,baz=6.8,slow=6.8,SNR=3.0						
FINES	**FINESS Array B**	**66.62**	**332**	P	**P**	**20 35 06.8**	**-0.8**
	0.6nm,0.7s,baz=9.9,slow=4.5,SNR=3.6						
NOA	**NORSAR Array B**	**71.83**	**337**	P	**P**	**20 35 39.4**	**-0.5**
	0.8nm,0.7s,baz=37,slow=6.0,SNR=3.9						

*IDC **19** 20:26:33.8±1.6,0°.35S×132°.99E, h0km,mb3.8/3, mb1 4.0/5,mb1mx3.5/36,mbtmp3.8/5,ML3.8/2,MS3.1/1, Ms1 3.1/1,ms1mx2.4/37, Error ellipse: s-maj=30.6km s-min=22.4km az=59.0*

*ISCJB **19** 20:26:35.8±1.4,0°.4S±0°.1×133°.13E±0°.09, h32km,mb3.7/3, Error ellipse: s-maj=21.6km s-min=12.6km az=10.3*

ISC 19 20:26:38.5±1.6, 0°.4S±0°.2×132°.9E±0°.1, h32km, n7,σ0♀45/7, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.73**	**254**	Pn	**Pn**	**20 27 05.8**	**-0.6**
	20nm,0.3s,baz=270,slow=24,SNR=18						
SIJI				Sn	**Sb**	**20 27 31.6**	**+0.5**
	baz=91,slow=23,SNR=14						
PMG	**Port Moresby**	**16.75**	**123**	LR	LR	20 38 00.5	
	comp=Z,69nm,21.5s,baz=253,slow=41						
FITZ	**Fitzroy Crossi**	**19.00**	**202**	P	**P**	**20 30 57.5**	**-0.2**
	0.2nm,0.3s,baz=31,slow=9.0,SNR=7.1						
WRA	**Warramunga Arr**	**19.48**	**176**	P	**P**	**20 31 02.8**	**-0.1**
	0.3nm,0.3s,baz=354,slow=11,SNR=15						
ASAR	**Alice Springs**	**23.16**	**178**	P	**P**	**20 31 42.7**	**+0.4**
	3.3nm,0.7s,baz=356,slow=11,SNR=32						
STKA	**Stephens Creek**	**32.37**	**166**	P	**P**	**20 33 05.2**	**0.0**
	1.2nm,0.5s,baz=358,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**64.48**	**324**	P	**P**	**20 37 12.3**	**+0.2**
	0.2nm,0.5s,baz=117,slow=8.8,SNR=3.3						

*NIED **19** 20:28:00,38°.10N×143°.00E,h8km,Mw3.5 Best double couple: M₀2.28000×10¹⁴ NP1:φ₈346.00000°,δ33.00000°, λ-113.00000°. NP2:φ₈193.00000°,δ60.00000°, λ-76.00000°.*

*IDC **19** 20:28:56.4±1.9,38°.04N×143°.30E, h0km,mb3.6/2, mb1 3.6/5,mb1mx3.3/42,mbtmp3.5/5,ML3.3/2,MS2.9/2, Ms1 2.9/2,ms1mx2.3/36, Error ellipse: s-maj=52.0km s-min=31.0km az=96.0*

*ISCJB **19** 20:28:57.2±0.9,38°.10N±0°.05×143°.07E±0°.08, h18km, mb3.7/2,MS3.4/1, Error ellipse: s-maj=8.7km s-min=6.5km az=166.0*

*JMA **19** 20:28:57.3±0.2,38°.13N×143°.02E, h14km±3km,M3.7*

ISC 19 20:28:58.7±1.6, 38°12N±0°05×143°0E±0°1, h18km, n21, σ1♀14/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.36**	**285**	P	**Pn**	**20 29 21.6**	**-1.2**
JIO				*e*S	**Sn**	**20 29 39.4**	**-1.0**
OFUJ	**Ofunato**	**1.43**	**313**	P	**Pn**	**20 29 22.7**	**-1.1**
OFUJ				*e*S	**Sn**	**20 29 41.3**	**-0.9**
JMK	**Ichinoseki**	**1.64**	**301**	P	**Pn**	**20 29 25.7**	**-0.9**
JMK				*e*S	**Sn**	**20 29 47.6**	**+0.3**
JMM	**Marumori**	**1.78**	**263**	P	**Pn**	**20 29 27.8**	**-0.8**
JFK	**Kawauchi**	**1.86**	**247**	P	**Pn**	**20 29 28.8**	**-0.9**
JFK				*e*S	**Sn**	**20 29 52.0**	**-0.8**
JOU	**Okura**	**1.88**	**278**	P	**Pn**	**20 29 30.0**	**+0.1**
JOM	**Ohasama**	**1.92**	**315**	P	**Pn**	**20 29 30.4**	**0.0**
JOM				*e*S	**Sn**	**20 29 54.1**	**0.0**
JFT	**Otama**	**2.21**	**255**	P	**Pn**	**20 29 35.2**	**+0.7**
JYK	**Kaneyama**	**2.24**	**292**	P	**Pn**	**20 29 35.4**	**+0.5**
MJAR	**Matsushiro Arr**	**4.15**	**249**	Pn	**Pn**	**20 30 03.1**	**+2.0**
	1.0nm,0.3s,baz=62,slow=13,SNR=11						
MAT	**Matsushiro**	**4.15**	**249**	P	**Pn**	**20 30 02.8**	**+1.7**
MAT				*e*S	**Sn**	**20 30 50.2**	**+1.0**
JHJ	**Hachijo jima 2**	**5.64**	**209**	Pn	**Pn**	**20 30 22.1**	**+0.5**
	4.4nm,0.3s,baz=102,slow=21,SNR=5.1						
JHJ				Sn	**Sn**	**20 31 23.5**	**-2.5**
	8.7nm,0.3s,baz=77,slow=22,SNR=2.8						
ASAJ	**Asahikawa**	**6.00**	**357**	Pn	**Pn**	**20 30 28.0**	**+1.4**
	baz=225,slow=15						
USRK	**Ussuriysk Ar.**	**10.30**	**310**	Pn	Pn	20 31 32.8	+7.3
	0.1nm,0.3s,baz=102,slow=16,SNR=4.7						
KSRS	**Korea Array**	**11.97**	**271**	LR	LR	20 36 12.6	
	comp=Z,20nm,18.6s,baz=165,slow=36						
H11N2	**WAKE ISLAND Hy 27.66**	**125**		T	T	21 03 40.6	
	baz=317,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy 27.66**	**125**		T	T	21 03 38.3	
	baz=317,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy 27.67**	**125**		T	T	21 03 37.7	
	baz=317,slow=76,SNR=21						
WRA	**Warramunga Arr**	**58.33**	**190**	P	**P**	**20 38 52.4**	**-0.2**
	0.6nm,0.5s,baz=8.3,slow=7.2,SNR=6.3						
ASAR	**Alice Springs**	**62.05**	**189**	P	**P**	**20 39 18.8**	**+0.7**
	0.4nm,0.9s,baz=6.6,slow=6.4,SNR=3.3						
AKASG	**Malin Array Be**	**74.22**	**323**	LR	LR	21 13 59.1	
	comp=Z,18nm,18.9s,baz=345,slow=36						

IDC 19 20:31:56.2±2.0, 56°05N×35°73W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/38, mbtmp3.4/3, MS2.6/1, Ms1 2.7/1, ms1mx2.4/27, Error ellipse: s-maj=78.2km s-min=34.6km az=50.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOA	**NORSAR Array B**	**24.55**	**59**	LR	LR	20 45 49.6	
	comp=Z,12nm,18.1s,baz=35,slow=34						
ILAR	**Eielson Array**	**48.61**	**328**	P	P	20 40 40.5	-0.5
	0.4nm,0.7s,baz=336,slow=6.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**51.60**	**131**	P	P	20 41 03.8	-0.4
	0.6nm,0.8s,baz=336,slow=6.8,SNR=3.7						
MKAR	**Makanchi Array**	**65.14**	**42**	P	P	20 42 38.4	-0.1
	0.1nm,0.5s,baz=304,slow=6.8,SNR=4.5						
ASAR	**Alice Springs**	**146.76**	**18**	PKPbc	PKPbc	20 51 39.6	-0.2
	0.7nm,1.0s,baz=304,slow=40,SNR=3.3						

*IDC **19** 20:51:15.6±2.0, 37°.06N×141°.86E, h0km,mb3.2/2, mb1 3.2/4,mb1mx3.1/38,mbtmp3.1/4,ML2.9/2, Error ellipse: s-maj=45.8km s-min=29.8km az=82.0*

*ISCJB **19** 20:51:17.7±1.5, 37°.19N±0°.06×141°.62E±0°.08, h17km±9km, mb3.1/2, Error ellipse: s-maj=12.1km s-min=8.1km az=32.5*

*JMA **19** 20:51:19.9±0.1, 37°.18N×141°.48E, h28km±1km, M3.4*

ISC 19 20:51:17.0±2.3, 37°17N±0°06×141°61E±0°09, h6km±12km, n17,σ0♀96/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.62**	**288**	P	**Pb**	**20 51 30.4**	**+0.2**
JFK				S	**Sg**	**20 51 37.4**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.66**	**264**	P	**Pb**	**20 51 30.9**	**+0.1**
ONAJ				S	**Sg**	**20 51 38.4**	**+0.2**
JMM	**Marumori**	**0.95**	**317**	P	**Pn**	**20 51 35.7**	**-1.1**
JMM				*e*S	**Sg**	**20 51 46.9**	**-0.7**
JHO	**Hitachi**	**1.01**	**236**	P	**Pn**	**20 51 36.5**	**-1.1**
JHO				S	**Sg**	**20 51 48.9**	**-0.5**
JFT	**Otama**	**1.07**	**289**	P	**Pn**	**20 51 38.1**	**-0.5**
JFT				S	**Sg**	**20 51 50.7**	**-0.9**
JSB	**Shiboa**	**1.37**	**262**	P	**Pg**	**20 51 43.4**	**+0.1**
JSB				S	**Sn**	**20 51 59.7**	**-1.4**
MJAR	**Matsushiro Arr**	**2.80**	**258**	Pn	**Pn**	**20 52 03.6**	**+1.2**
	1.0nm,0.3s,baz=87,slow=14,SNR=11						
MJAR				Sn	**Sn**	**20 52 37.1**	**+0.7**
	3.0nm,0.3s,baz=91,slow=26,SNR=6.9						
MAT	**Matsushiro**	**2.80**	**258**	P	**Pn**	**20 52 03.8**	**+1.5**
MAT				*e*S	**Sn**	**20 52 36.2**	**-0.3**
ASAJ	**Asahikawa**	**6.98**	**6**	Pn	**Pn**	**20 53 00.1**	**+0.5**
	0.2nm,0.3s,baz=258,slow=14,SNR=3.2						
H11N2	**WAKE ISLAND Hy 28.08**	**121**		T	T	21 26 49.8	
	baz=314,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy 28.09**	**121**		T	T	21 26 39.5	
	baz=314,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy 28.10**	**121**		T	T	21 26 43.7	
	baz=314,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy 28.80**	**123**		T	T	21 27 33.9	
	baz=316,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy 28.80**	**123**		T	T	21 27 34.7	
	baz=316,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy 28.82**	**123**		T	T	21 27 36.2	
	baz=316,slow=76,SNR=19						
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**20 59 27.9**	**+1.4**
	0.1nm,0.5s,baz=83,slow=9.5,SNR=2.9						
WRA	**Warramunga Arr**	**57.22**	**188**	P	**P**	**21 01 04.0**	**-1.1**
	0.3nm,0.7s,baz=6.6,slow=7.5,SNR=2.5						

*ISCJB **19** 20:53:13.9±1.0, 46°.78S±0°.10×165°.70E±0°.07, h15km, mb3.7/3, Error ellipse: s-maj=13.7km s-min=7.3km az=178.6*

*IDC **19** 20:53:13.3±1.8, 46°.48S×165°.71E, h0km, mb3.7/2, mb1 4.0/3,mb1mx3.7/30,mbtmp3.8/3,ML4.0/1, Error ellipse: s-maj=61.1km s-min=28.3km az=171.0*

*WEL **19** 20:53:15.5±0.8, 46°.82S×165°.75E, h12km, ML4.4/13, Error ellipse: s-maj=7.8km s-min=4.3km az=90.0*

*NEIC **19** 20:53:16.3, 46°.81S×165°.90E, h12km, ML4.4(WEL), After WEL.*

ISC 19 20:53:15.2±1.0, 46°79S±0°08×165°76E±0°07, h15km, n41, σ1♀06/44, mb3.7/3, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.89**	**46**	P*	**Pb**	**20 53 32.1**	**-0.2**
PYZ	**Puysegur Point**	**0.89**	**46**	P*	**Pb**	**20 53 32.1**	**-0.2**
APZ	**The Paps**	**1.53**	**93**	PN	**Pn**	**20 53 41.6**	**-0.4**
APZ				AML	AML	20 54 02.9	
APZ				AML	AML	20 54 03.2	
APZ	**The Paps**	**1.53**	**93**	Pn	**Pn**	**20 53 41.6**	**-0.4**
DCZ	**Deep Cove**	**1.64**	**37**	PN	**Pn**	**20 53 41.9**	**-1.5**
DCZ				AML	AML	20 54 18.2	
DCZ				AML	AML	20 54 20.1	
DCZ	**Deep Cove**	**1.64**	**37**	Pn	**Pn**	**20 53 42.0**	**-1.5**
WHZ	**Wether Hill Ro**	**1.76**	**60**	PN	**Pn**	**20 53 44.9**	**-0.2**
WHZ				AML	AML	20 54 21.2	
WHZ				AML	AML	20 54 21.4	
WHZ	**Wether Hill Ro**	**1.76**	**60**	Pn	**Pn**	**20 53 44.9**	**-0.2**
MLZ	**Mavora Lakes**	**2.17**	**50**	PN	**Pn**	**20 53 51.5**	**+0.7**
MLZ				AML	AML	20 54 38.6	
MLZ				AML	AML	20 54 42.2	
MLZ	**Mavora Lakes**	**2.17**	**50**	Pn	**Pn**	**20 53 51.5**	**+0.7**
**S

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.12**	**238**	Pn	Pb	21 03 32.1	+0.3
	11nm,0.3s,baz=8.1,slow=23,SNR=14						
JCJ				Sn	Sn	21 03 48.7	+0.1
	52nm,0.3s,baz=290,slow=24,SNR=18						
WRA	**Warramunga Arr**	**48.14**	**191**	P	P	21 11 52.1	+0.6
	0.7nm,0.7s,baz=15,slow=8.9,SNR=5.9						
MKAR	**Makanchi Array**	**50.82**	**309**	P	P	21 12 13.8	+1.9
	0.5nm,0.8s,baz=89,slow=8.8,SNR=3.6						
FINES	**FINESS Array B**	**77.82**	**334**	P	P	21 15 07.3	-1.2
	1.0nm,0.9s,baz=94,slow=7.7,SNR=3.5						

MEX 19 21:05:03.4±0.7, 16.88N×99.62W, h30km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.23**	**267**	*e*P	Pn	21 05 12.3	+1.5
ACX				*e*S	Sb	21 05 17.1	+2.6
ACP2	**Acapulco**	**0.26**	**268**	*e*P	Pb	21 05 09.3	-1.0
ACP2				*e*S	Sb	21 05 13.8	-1.2
CAIG	**El Cayaco**	**0.64**	**285**	*e*P	Pb	21 05 14.1	-2.1
CAIG				*e*S	Sb	21 05 21.5	-3.4
MEIG	**Mezcala**	**1.04**	**360**	*e*P	Pn	21 05 19.3	-2.7
MEIG				*e*S	Sn	21 05 32.7	-2.9
TLIG	**Tlapa**	**1.21**	**56**	*e*P	Pn	21 05 22.4	-2.1
TLIG				*e*S	Sn	21 05 36.5	-3.4
PLIG	**Platanillo**	**1.51**	**4**	*e*P	Pn	21 05 26.6	-1.9
PLIG				*e*S	Sn	21 05 44.3	-2.8
ARIG	**Puente Sto Nin**	**1.56**	**334**	*e*P	Pn	21 05 27.4	-1.6
ARIG				*e*S	Sn	21 05 46.0	-2.3
ZIIG	**Zihuatanejo**	**1.91**	**292**	*e*P	Pb	21 05 42.4	+4.9
ZIIG				*e*S	Sb	21 06 03.2	+2.3

*ISCJB **19** 21:08:33.6±0.7, 26.83S±0.03×26.72E±0.03, h0km±6km, Error ellipse: s-maj=5.9km s-min=3.5km az=42.7*
*PRE **19** 21:08:33.6±1.5, 26.83S×26.73E, h2km, ML2.6*
ISC 19 21:08:33.2±0.9, 26.81S±0.04×26.71E±0.03, h7km±7km, n15, σ1§40/30, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFSD	**Buffelsfontein**	**0.08**	**129**	*e*P	**Pg**	**21 08 35.5**	**+0.2**
BFSD				*e*S	**Sg**	**21 08 35.9**	**-0.8**
BFSD				AML	AML	21 08 36.0	
	comp=Z,37μm,0.2s						
TLEK	**Tau Lekoa**	**0.15**	**195**	*e*P	**Pg**	**21 08 37.2**	**+0.8**
TLEK				*e*S	**Sg**	**21 08 38.6**	**0.0**
TLEK				AML	AML	21 08 38.9	
	comp=Z,993nm,0.3s						
MOAB	**Moab Khotsong**	**0.19**	**156**	*e*P	**Pg**	**21 08 37.0**	**0.0**
MOAB				*e*S	**Sg**	**21 08 38.9**	**-0.8**
MOAB				AML	AML	21 08 39.0	
	comp=Z,2μm,0.2s						
PRYS	**Parys**	**0.59**	**101**	*e*P	**Pg**	**21 08 45.3**	**+0.8**
PRYS				*e*S	**Sg**	**21 08 51.3**	**-1.0**
PRYS				AML	AML	21 08 59.3	
	comp=Z,90nm,0.2s						
WDLM	**Western Deep L**	**0.74**	**59**	*e*P	**Pb**	**21 08 48.5**	**0.0**
WDLM				*e*S	**Sg**	**21 08 57.5**	**+0.3**
WDLM				AML	AML	21 08 58.7	
	comp=Z,124nm,0.3s						
KLOF	**Kloof**	**0.93**	**60**	*e*P	**Pb**	**21 08 51.9**	**+0.2**
KLOF				*e*S	**Sg**	**21 09 03.7**	**+0.7**
KLOF				AML	AML	21 09 08.6	
	comp=Z,354nm,0.1s						
KSR	**Koster**	**0.97**	**10**	*e*P	**Pb**	**21 08 53.1**	**+0.7**
KSR				*e*S	**Sb**	**21 09 06.2**	**+0.6**
KSR				AML	AML	21 09 12.7	
	comp=Z,32nm,0.2s						
SWZ	**Schweizer**	**1.29**	**253**	*e*P	**Pg**	**21 08 58.2**	**+0.3**
SWZ				*e*S	**Sb**	**21 09 16.1**	**+1.5**
SWZ				AML	AML	21 09 17.8	
	comp=Z,118nm,0.3s						
OBSV	**Observatory**	**1.37**	**63**	*e*P	**Pb**	**21 09 00.6**	**+1.4**
OBSV				*e*S	**Sn**	**21 09 18.6**	**+1.1**
OBSV				AML	AML	21 09 20.4	
	comp=Z,315nm,0.2s						
ERPM	**east rand prop**	**1.45**	**71**	*e*P	**Pb**	**21 09 01.8**	**+1.3**
ERPM				*e*S	**Sn**	**21 09 21.4**	**+2.1**
ERPM				AML	AML	21 09 22.6	
	comp=Z,35nm,0.2s						
SEK	**Senekal**	**1.71**	**152**	*e*P	**Pb**	**21 09 05.3**	**+0.3**
SEK				*e*S	**Sn**	**21 09 26.4**	**+0.6**
SEK				AML	AML	21 09 28.5	
	comp=Z,100nm,0.2s						
BOSA	**Boshof**	**2.21**	**215**	*i* P	**Pb**	**21 09 12.9**	**-0.7**
BOSA				*i*		21 09 13.0	
	baz=27,slow=16						
BOSA				*i* S	**Sn**	**21 09 38.4**	**+0.2**
CNG	**Changalane**	**4.93**	**85**	*e*P	**Pn**	**21 09 47.3**	**-0.4**
CNG				*e*S	**Sn**	**21 10 40.6**	**-4.4**
CNG				AML	AML	21 10 47.1	
	comp=Z,4.2nm,0.4s						
UPI	**Upington**	**5.09**	**251**	*e*P	**Pn**	**21 09 51.2**	**+1.3**
UPI				*e*S	**Sn**	**21 10 48.2**	**-0.8**
UPI				AML	AML	21 10 54.2	
	comp=Z,18nm,0.7s						
MATP	**Matopo**	**6.56**	**15**	*i* P	**Pb**	**21 10 27.1**	**-0.7**
MATP				*i*		21 10 27.2	
	baz=108,slow=22						
MATP				*i* S	**Sb**	**21 11 43.2**	**-3.3**

*NIED **19** 21:17:00, 37.10N×140.90E, h8km, Mw3.5 Best couple: M0 2.30000×10^14 NP1:φs45.00000°, δ22.00000°, λ-104.00000°. NP2:φs240.00000°, δ68.00000°, λ-84.00000°.*
*ISCJB **19** 21:17:08.0±1.0, 37.09N±0.03×140.97E±0.07, h8km±4km, mb3.6/3, MS3.5/2, Error ellipse: s-maj=9.2km s-min=5.2km az=15.5*
*IDC **19** 21:17:07.9±2.2, 37.09N×140.99E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/46, mbtmp3.5/4, ML3.2/1, MS3.5/2, Ms1 3.5/2, ms1mx2.5/50, Error ellipse: s-maj=46.9km s-min=28.5km az=36.0*
*JMA **19** 21:17:09.4, 37.11N×140.86E, h7km, M3.7*
JMA Felt III J1.
ISC 19 21:17:09.1±1.5, 37.10N±0.04×140.92E±0.07, h4km±9km, n19, σ0§50/19, mb3.7/3, 4C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.10**	**270**	ǁP	**Pg**	**21 17 11.0**	**-0.1**
ONAJ				S	**Sg**	**21 17 12.0**	**-0.5**
JFK	**Kawauchi**	**0.27**	**352**	⇑P	**Pg**	**21 17 14.6**	**+0.3**
JFK				S	**Sg**	**21 17 18.5**	**+0.7**
JHO	**Hitachi**	**0.56**	**210**	ǁP	**Pg**	**21 17 20.1**	**+0.2**
JHO				S	**Sg**	**21 17 27.5**	**+0.2**
JFT	**Otama**	**0.62**	**312**	⇑P	**Pg**	**21 17 20.9**	**-0.2**
JFT				S	**Sg**	**21 17 29.1**	**-0.1**
JMM	**Marumori**	**0.77**	**352**	⇑P	**Pg**	**21 17 23.6**	**-0.3**
JMM				S	**Sg**	**21 17 33.9**	**0.0**
JSB	**Shiboa**	**0.81**	**261**	⇑P	**Pg**	**21 17 24.7**	**+0.1**
JSB				S	**Sg**	**21 17 35.4**	**+0.2**
MJAR	**Matsushiro Arr**	**2.25**	**256**	Pn	**Pn**	**21 17 47.2**	**+0.2**
	6.1nm,0.3s,baz=72,slow=9.5,SNR=47						
MJAR				Sn	**Sn**	**21 18 16.2**	**+1.0**
	10nm,0.3s,baz=86,slow=28,SNR=7.0						
MAT	**Matsushiro**	**2.25**	**256**	P	**Pn**	**21 17 47.6**	**+0.6**
MAT				S	**Sn**	**21 18 15.2**	**0.0**
YAK	**Yakutsk**	**25.92**	**348**	LR	LR	21 32 11.9	
	comp=Z,20nm,19.3s,baz=240,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	21 52 49.7	
	baz=313,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	21 52 50.3	
	baz=313,slow=75,SNR=56						
H11N3	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	21 52 50.4	
	baz=313,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	21 53 42.8	
	baz=314,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	21 53 48.4	
	baz=314,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**29.24**	**122**	T	T	21 53 49.3	
	baz=314,slow=76,SNR=31						
MKAR	**Makanchi Array**	**43.75**	**302**	P	**P**	**21 25 15.2**	**-0.2**
	0.4nm,0.6s,baz=88,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**57.08**	**187**	P	**P**	**21 26 55.3**	**-1.1**
	0.7nm,0.6s,baz=3.9,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**60.80**	**187**	P	**P**	**21 27 22.3**	**0.0**
	0.5nm,0.8s,baz=19,slow=5.9,SNR=3.7						
AFI	**Afiamalu**	**67.48**	**129**	LR	LR	21 51 05.4	
	comp=Z,159nm,19.8s,baz=39,slow=30						

IDC 19 21:22:50.1±1.0, 0.36S×124.75E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/41, mbtmp3.7/6, Error ellipse: s-maj=91.6km s-min=18.1km az=70.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.61**	**155**	P	P	21 27 41.1	-0.9
	0.5nm,0.5s,baz=335,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.82**	**160**	P	P	21 28 14.4	+0.2
	0.3nm,0.5s,baz=340,slow=7.5,SNR=5.5						
ASAR				PcP	PcP	21 31 50.1	-0.8
	0.3nm,0.5s,baz=350,slow=1.8,SNR=4.9						
STKA	**Stephens Creek**	**35.16**	**155**	P	P	21 29 46.6	+0.8
	2.2nm,0.9s,baz=343,slow=14,SNR=3.8						
KSRS	**Korea Array**	**37.74**	**4**	P	P	21 30 07.2	-0.4
	0.5nm,0.4s,baz=172,slow=10,SNR=5.2						
SONM	**Songino Array**	**50.59**	**344**	P	P	21 31 51.4	+0.6
	0.6nm,0.5s,baz=150,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**59.84**	**328**	P	P	21 32 57.3	-0.2
	1.1nm,0.4s,baz=127,slow=8.0,SNR=12						

*IDC **19** 21:26:39.7±0.8, 15.02S×178.07W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/36, mbtmp4.3/14, MS4.8/25, Ms1 4.8/25, ms1mx4.7/28, Error ellipse: s-maj=26.4km s-min=17.2km az=143.0*
*BJI **19** 21:26:42.4, 14.75S×178.20W, h6km, mb4.7/26, mB5.2/25, Ms5.1/29, Ms7 4.9/27*
*ISCJB **19** 21:26:44.5±0.2, 15.11S±0.04×178.19W±0.04, h35km, mb5.0/140, MS4.7/24, Error ellipse: s-maj=6.5km s-min=3.9km az=44.3*
*MOS **19** 21:26:45.2±1.7, 15.07S×178.25W, h37km, mb5.2/33, Error ellipse: s-maj=12.0km s-min=7.5km az=135.4*
*NEIC **19** 21:26:46.2±0.2, 15.02S×178.25W, h35km, mb5.0/124, Error ellipse: s-maj=9.6km s-min=4.9km az=127.0*
NEIC Felt at Lambasa, Nausori and Suva. Also felt at Sigave, Wallis and Futuna.
*GCMT **19** 21:26:49.8±0.1, 15.01S×177.94W, h12km, MW5.4/121, Moment Tensor Solution. s89,c155; s121,c220; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr-0.16±.02; Mθθ-0.39±.02; Mφφ0.54±.02; Mrθ-0.18±.04; Mθφ1.30±.01; Mφr-0.09±.04; Best double couple: M0 1.39600×10^17 NP1:φs260.00000°, δ89.00000°, λ8.00000°. NP2:φs170.00000°, δ82.00000°, λ179.00000°. Principal axes: T 1.4790, Plg6.0000°, Azm125.0000°; N -0.1670, Plg82.0000°, Azm268.0000°; P -1.3120, Plg5.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 19 21:26:46.5±0.3, 15.22S±0.05×178.06W±0.05, h35km, n351, σ1§92/330, mb5.0/140, MS4.7/25, 7C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.49**	**236**	*e*P	**Pn**	**21 27 51.8**	**-0.4**
MSVF	**Nonsavu**	**4.49**	**236**	*e*Pn	**Pn**	**21 27 51.8**	**-0.4**
AFI	**Afiamalu**	**6.22**	**79**	Pn	Pn	21 28 08.8	-7.1
	4.8nm,0.3s,baz=264,slow=15,SNR=11						
NIUE	**Niue**	**8.67**	**117**	P	Pn	21 28 45.8	-3.6
	baz=8.7,SNR=3.9						
RAO	**Raoul Island**	**13.96**	**179**	LR	LR	21 34 47.7	
	comp=Z,2μm,21.1s,baz=316,slow=34						
DZM	**Mont Dzumac**	**16.18**	**243**	*e*P	**P**	**21 30 33.9**	**-0.4**
	88nm,1.4s						
DZM				*e*LR	LR	21 34 18.3	
	7μm,24.2s						
DZM	**Mont Dzumac**	**16.18**	**243**	LR	LR	21 35 41.3	
	comp=Z,5μm,20.8s,baz=70,slow=33						
DZM	**Mont Dzumac**	**16.18**	**243**	*e*Pn	**P**	**21 30 31.8**	**-2.4**
	72nm,1.3s						
RAR	**Rarotonga**	**18.36**	**112**	LR	LR	21 36 21.0	
	comp=Z,4μm,19.2s,baz=269,slow=32						
OUZ	**Omahuta**	**21.28**	**199**	*e*P	**P**	**21 31 30.7**	**+0.8**
	286nm,1.8s						
HNR	**Honiara**	**22.23**	**282**	P	**P**	**21 31 39.4**	**-1.0**
	33nm,0.3s,baz=195,slow=3.7,SNR=5.0						
HNR				LR	LR	21 38 55.2	
	comp=Z,8μm,20.7s,baz=123,slow=33						
HNR	**Honiara**	**22.23**	**282**	*e*P	**P**	**21 31 40.0**	**-0.4**
HNR	**Honiara**	**22.23**	**282**	*e*P	**P**	**21 31 40.9**	**+0.5**
HNR	**Honiara**	**22.23**	**282**	*e*P	**P**	**21 31 40.9**	**+0.5**
URZ	**Urewera**	**23.34**	**190**	P	**P**	**21 31 48.3**	**-3.4**
	24nm,0.8s,baz=17,slow=7.4,SNR=7.5						
URZ	**Urewera**	**23.34**	**190**	*e*P	**P**	**21 31 48.8**	**-2.9**
BKZ	**Black Stump Fm**	**24.33**	**190**	*e*P	**P**	**21 32 02.8**	**+1.7**
	58nm,1.4s						
BFZ	**Birch Farm**	**25.85**	**190**	*e*P	**P**	**21 32 16.1**	**+1.4**
	144nm,1.4s						
LHI	**Lord Howe Isla**	**26.45**	**228**	*e*P	**P**	**21 32 22.2**	**+1.9**
	155nm,1.3s						
SNZO	**South Karori**	**26.74**	**192**	*e*P	**P**	**21 32 24.4**	**+1.7**
	163nm,1.3s						
PPT	**Papeete**	**27.41**	**99**	LR	LR	21 40 27.5	
	comp=Z,1μm,20.8s,baz=268,slow=30						
PPT	**Papeete**	**27.41**	**99**	*e*P	**P**	**21 32 28.6**	**-0.6**
PPT	**Papeete**	**27.41**	**99**	*e*P	**P**	**21 32 28.6**	**-0.6**
PPT2	**Papeete2**	**27.41**	**99**	*e*LQ	LQ	21 38 06.0	
	7μm,27.8s						
PPT2				*e*LR	LR	21 39 22.6	
	5μm,26.5s,baz=264						
THZ	**Tophouse**	**27.58**	**195**	*e*P	**P**	**21 32 31.6**	**+1.3**
	182nm,1.6s						
KHZ	**Kahutara**	**28.05**	**193**	*e*P	**P**	**21 32 35.2**	**+0.8**
	104nm,1.2s						
TBI	**Tubuai**	**28.14**	**111**	*e*S	**S**	**21 37 17.3**	**-1.3**
	666nm,25.5s						
TBI				*e*LQ	LQ	21 38 33.9	
	5μm,27.0s						
TBI				*e*LR	LR	21 39 50.6	
	9μm,27.2s,baz=286						
OXZ	**Oxford**	**29.27**	**195**	*e*P	**P**	**21 32 45.9**	**+0.6**
	39nm,0.8s						
MQZ	**McQueen's Vall**	**29.48**	**194**	*e*P	**P**	**21 32 48.5**	**+1.4**
	66nm,0.9s						
RPZ	**Rata Peaks**	**29.88**	**196**	LR	LR	21 43 51.3	
	comp=Z,2μm,20.9s,baz=22,slow=34						
EIDS	**Eidsvold**	**30.59**	**246**	*e*P	**P**	**21 32 58.2**	**+1.0**
	20nm,1.3s						
LBZ	**Lake Benmore**	**30.74**	**197**	*e*P	**P**	**21 32 59.3**	**+1.0**
	76nm,1.4s						
ARMA	**Armidale**	**31.64**	**236**	P	**P**	**21 33 06.3**	**-0.3**
	baz=32						
ARMA	**Armidale**	**31.64**	**236**	*e*P	**P**	**21 33 06.7**	**+0.1**
	61nm,1.6s						
MLZ	**Mavora Lakes**	**32.23**	**198**	*e*P	**P**	**21 33 10.0**	**-1.5**
	56nm,1.1s						
DCZ	**Deep Cove**	**32.62**	**199**	*e*P	**P**	**21 33 15.4**	**+0.5**
	76nm,1.3s						
WHZ	**Wether Hill Ro**	**32.76**	**198**	*e*P	**P**	**21 33 17.3**	**+1.2**
	204nm,1.8s						
JOHN	**Johnston Islan**	**32.85**	**15**	*e*P	**P**	**21 33 17.0**	**-0.1**
	299nm,1.3s						
RMQ	**Roma**	**32.88**	**245**	P	**P**	**21 33 16.8**	**-0.6**
	baz=33,SNR=5.0						
CTA	**Charters Tower**	**34.30**	**257**	P	**P**	**21 33 28.6**	**-1.3**
	8.1nm,0.8s,baz=87,slow=11,SNR=8.3						
CTA				LR	LR	21 46 34.6	
	comp=Z,1μm,19.7s,baz=84,slow=35						
CTA	**Charters Tower**	**34.30**	**257**	P	**P**	**21 33 28.0**	**-1.9**
	baz=34						
CTAO	**Charters Tower**	**34.30**	**257**	*e*P	**P**	**21 33 28.6**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,31nm,1.4s						
CTAO	**Charters Tower**	**34.30**	**257**	*e*P	**P**	**21 33 28.6**	**-1.3**
	comp=Z,31nm,1.4s						
PMG	**Port Moresby**	**34.44**	**276**	LR	LR	21 45 44.2	
	comp=Z,1μm,19.4s,baz=94,slow=33						
PMG	**Port Moresby**	**34.44**	**276**	ǁ *i*P	**P**	**21 33 30.9**	**-0.2**
PMG				pmax	pmax		
	comp=Z,121nm,1.1s						
PMG	**Port Moresby**	**34.44**	**276**	*e*P	**P**	**21 33 32.9**	**+1.8**
	comp=Z,27nm,1.0s						
MTSU	**Mount Surprise**	**36.12**	**260**	P	**P**	**21 33 44.1**	**-1.5**
	baz=36,SNR=5.4						
MANU	**Manus Island**	**36.52**	**288**	*e*P	**P**	**21 33 51.6**	**+2.5**
	comp=Z,114nm,1.7s						
H11S2	**WAKE ISLAND Hy**	**36.71**	**335**	T	T	22 12 31.3	
	baz=154,slow=76,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**36.72**	**335**	T	T	22 12 39.2	
	baz=154,slow=76,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**36.73**	**335**	T	T	22 12 35.4	
	baz=154,slow=76,SNR=6.4						
CMSA	**Cobar Meteorol**	**36.82**	**237**	P	**P**	**21 33 50.5**	**-0.9**
	baz=37,SNR=10						
QLP	**Quilpie**	**36.86**	**246**	P	**P**	**21 33 50.2**	**-1.6**
	baz=37,SNR=3.7						
TAOE	**Nuku Hiva Isla**	**37.57**	**85**	*e*LR	LR	21 43 51.4	
	comp=Z,1μm,24.9s						
H11N3	**WAKE ISLAND Hy**	**37.74**	**336**	T	T	22 14 15.1	
	baz=159						
H11N1	**WAKE ISLAND Hy**	**37.74**	**336**	T	T	22 13 50.8	
	baz=159,slow=74						
H11N2	**WAKE ISLAND Hy**	**37.75**	**336**	T	T	22 14 01.7	
	baz=159,slow=74						
STKA	**Stephens Creek**	**40.26**	**238**	P	**P**	**21 34 19.8**	**-0.5**
	comp=Z,24nm,1.1s,baz=45,slow=7.1,SNR=11						
STKA				LR	LR	21 49 19.7	
	comp=Z,3μm,20.6s,baz=72,slow=34						
STKA	**Stephens Creek**	**40.26**	**238**	P	**P**	**21 34 19.6**	**-0.7**
	baz=40,SNR=8.3						
STKA	**Stephens Creek**	**40.26**	**238**	*e*P	**P**	**21 34 19.8**	**-0.5**
	comp=Z,8.8nm,1.0s						
POHA	**Pohakuloa**	**41.22**	**33**	*e*P	**P**	**21 34 28.3**	**-0.2**
	comp=Z,196nm,1.2s						
RKT	**Rikitea**	**41.33**	**108**	*e*S	**S**	**21 40 41.7**	**+0.2**
	comp=Z,467nm,29.8s						
RKT				*e*LQ	LQ	21 44 06.0	
	comp=Z,1μm,26.2s						
RKT				*e*LR	LR	21 45 54.3	
	comp=Z,4μm,26.5s,baz=276						
KIP	**Kipapa**	**41.39**	**29**	ǁ *e*P	**P**	**21 34 28.5**	**-1.1**
KIP	**Kipapa**	**41.39**	**29**	*e*P	**P**	**21 34 28.9**	**-0.6**
	comp=Z,148nm,1.4s						
OPA	**Opana**	**41.62**	**29**	*e*P	**P**	**21 34 31.8**	**+0.3**
OPA				pmax	pmax		
	comp=Z,219nm,1.4s						
OPA	**Opana**	**41.62**	**29**	*e*P	**P**	**21 34 31.8**	**+0.3**
	comp=Z,218nm,1.4s						
HLK	**Haleakala**	**41.68**	**32**	*e*P	**P**	**21 34 31.9**	**-0.4**
	comp=Z,250nm,1.3s						
JAY	**Jayapura**	**42.55**	**283**	LR	LR	21 50 58.5	
	comp=Z,40nm,20.6s,baz=8.0,slow=34						
MCQ	**Macquarie Isla**	**43.09**	**199**	*e*P	**P**	**21 34 44.4**	**+1.4**
MCQ				pmax	pmax		
	comp=Z,143nm,1.0s						
MCQ	**Macquarie Isla**	**43.09**	**199**	*e*P	**P**	**21 34 44.4**	**+1.4**
	comp=Z,143nm,1.0s						
WR0	**Warramunga Arr**	**45.32**	**257**	P	**P**	**21 34 59.8**	**-1.6**
	baz=46						
WB2	**Warramunga Arr**	**45.49**	**257**	*e*P	**P**	**21 35 00.5**	**-2.4**
	comp=Z,17nm,1.3s						
WRAB	**Tennant Creek**	**45.50**	**257**	P	**P**	**21 35 02.3**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,23nm,1.1s						
WRAB	**Tennant Creek**	**45.50**	**257**	*e*P	P	21 34 51.8	-11
	comp=Z,22nm,1.4s						
WR1	**Warramunga Arr**	**45.51**	**257**	*e*P	**P**	**21 35 00.3**	**-2.7**
	comp=Z,62nm,1.8s						
WRA	**Warramunga Arr**	**45.51**	**257**	P	**P**	**21 35 00.3**	**-2.7**
	comp=Z,8.3nm,1.2s,baz=91,slow=8.7,SNR=13						
WRA				LR	LR	21 54 33.7	
	comp=Z,834nm,18.4s,baz=65,slow=37						
AS01	**Alice Springs**	**45.85**	**252**	*e*P	**P**	**21 35 02.0**	**-3.7**
PTCN	**Pitcairn Islan**	**45.88**	**110**	*e*P	**P**	**21 35 07.8**	**+2.0**
	comp=Z,1μm,1.6s						
AS31	**Alice Springs**	**45.89**	**252**	*e*P	**P**	**21 35 03.6**	**-2.4**
	comp=Z,3.1nm,0.7s						
ASAR	**Alice Springs**	**45.89**	**252**	P	**P**	**21 35 03.6**	**-2.4**
	comp=Z,2.5nm,0.6s,baz=83,slow=8.5,SNR=41						
ASAR				LR	LR	21 52 44.7	
	comp=Z,926nm,19.9s,baz=91,slow=34						
MTN	**Manton Dam**	**49.26**	**266**	P	**P**	**21 35 30.7**	**-1.5**
	baz=49,SNR=3.8						
MTN	**Manton Dam**	**49.26**	**266**	*e*P	**P**	**21 35 30.9**	**-1.3**
	comp=Z,57nm,1.1s						
WRKA	**Warakurna**	**51.03**	**250**	P	**P**	**21 35 43.5**	**-2.1**
	baz=51,SNR=11						
SOEI	**Soe**	**56.44**	**268**	*e*P	**P**	**21 36 26.6**	**+1.2**
	comp=Z,125nm,1.0s						
SBA	**Scott Base**	**63.11**	**184**	*e*P	**P**	**21 37 11.2**	**+1.1**
SBA				pmax	pmax		
	comp=Z,46nm,1.4s						
SBA	**Scott Base**	**63.11**	**184**	*e*P	**P**	**21 37 11.2**	**+1.1**
	comp=Z,46nm,1.4s						
VNDA	**Vanda**	**63.13**	**185**	P	**P**	**21 37 10.8**	**+0.5**
	comp=Z,7.8nm,1.2s,baz=47,slow=6.4,SNR=11						
VNDA				LR	LR	21 59 46.3	
	comp=Z,368nm,21.3s,baz=25,slow=31						
VNDA	**Vanda**	**63.13**	**185**	*e*P	**P**	**21 37 10.8**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,36nm,1.7s						
VNDA	**Vanda**	**63.13**	**185**	*e*P	**P**	**21 37 10.8**	**+0.5**
	comp=Z,36nm,1.7s						
MJAR	**Matsushiro Arr**	**65.98**	**322**	P	**P**	**21 37 27.4**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=166,slow=6.6,SNR=4.5						
MJAR				LR	LR	22 00 27.4	
	comp=Z,383nm,21.8s,baz=145,slow=31						
CASY	**Casey**	**68.71**	**204**	*e*P	**P**	**21 37 49.6**	**+3.4**
	comp=Z,13nm,0.9s						
PET	**Petropavlovsk**	**70.87**	**345**	*e*P	P	21 38 04.2	+4.6
PET				*e*S	**S**	**21 47 15.6**	**+3.3**
PET				*e*SS	**SS**	**21 51 44.2**	**-1.6**
PET				MLR	MLR		
	comp=Z,400nm,19.0s						
PETK	**Petropavlovsk-**	**71.18**	**345**	LR	LR	22 02 31.4	
	comp=Z,392nm,21.8s,baz=167,slow=30						
YSS	**Yuzh-Sakhalins**	**71.19**	**333**	*i* P	**P**	**21 38 00.6**	**-1.1**
YSS				pmax	pmax		
	comp=Z,17nm,1.3s						
KSRS	**Korea Array**	**72.94**	**318**	P	**P**	**21 38 11.3**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=128,slow=6.5,SNR=6.9						
KSRS				LR	LR	22 04 36.0	
	comp=Z,779nm,21.6s,baz=123,slow=31						
KS15	**Wonju Array Si**	**72.96**	**318**	*e*P	**P**	**21 38 11.3**	**-1.3**
KSAR	**Wonju Array Be**	**72.96**	**318**	P	**P**	**

MDJ sP PcP 21 38 36.5 -6.6
MDJ PcP **sP** **21 38 43.5 -2.7**
MDJ PP **PP** **21 41 22.3 -0.6**
MDJ S **S** **21 48 16.8 +3.8**
MDJ SS **SS** **21 53 07.0 -0.5**
MDJ PMZ
comp=Z,6.0nm,0.7s
MDJ PMZ
comp=Z,72nm,4.3s
MDJ LN
comp=Z,300nm,22.6s
MDJ LE
comp=Z,280nm,19.2s
MDJ LZ
comp=Z,500nm,19.7s
YBH Yreka Blue Hor 76.24 39 *e*P **P** **21 38 31.9 +0.3**
YBH pmax pmax
comp=Z,42nm,1.2s
YBH Yreka Blue Hor 76.24 39 *e*P **P** **21 38 31.9 +0.3**
comp=Z,42nm,1.2s
NJ2 Nanjing 76.51 309 *e*P **P** **21 38 31.3 -1.9**
NJ2 PMZ
comp=Z,7.0nm,0.6s
WAKR Walker 76.55 44 *e*P **P** **21 38 37.1 +3.5**
comp=Z,42nm,1.6s
HUMO Hull Mountain 76.60 38 *e*P **P** **21 38 37.2 +3.6**
comp=Z,25nm,1.4s
MPMC Manual Prospec 76.62 47 P **P** **21 38 33.3 -0.8**
baz=240
BELC Belle Mtn. Jos 76.67 49 P **P** **21 38 33.6 -0.8**
baz=241
GSC Goldstone, Bar 76.72 47 P **P** **21 38 33.5 -1.0**
baz=240
GSC Goldstone, Bar 76.72 47 *e*P **P** **21 38 33.0 -1.5**
GSC pmax pmax
comp=Z,21nm,1.4s
GSC Goldstone, Bar 76.72 47 *e*P **P** **21 38 33.0 -1.5**
comp=Z,21nm,1.4s
PNTR Pine Nut 76.75 43 *e*P **P** **21 38 35.6 +0.8**
comp=Z,25nm,1.1s
M04C Macdoel 76.81 40 P **P** **21 38 34.2 -0.7**
baz=236
HEC Hector,Ludlow 76.83 48 P **P** **21 38 33.5 -1.6**
baz=241
TVH3 East Aurora ar 76.88 44 *e*P **P** **21 38 38.9 +3.3**
comp=Z,7.3nm,0.8s
BC3 Big Chuckawall 76.91 49 P **P** **21 38 34.3 -1.3**
baz=242
YERR Yerington 76.94 43 *e*P **P** **21 38 37.0 +1.3**
comp=Z,24nm,1.3s
TVH2 Borealis Mine 76.94 44 *e*P **P** **21 38 39.1 +3.2**
comp=Z,14nm,1.4s
TVH1 TV Hill, Hawth 76.97 44 *e*P **P** **21 38 39.4 +3.2**
comp=Z,31nm,1.4s
PAHR Pah Rah Range 77.22 43 *e*P **P** **21 38 38.3 +1.0**
comp=Z,23nm,1.3s
FURC Furnace Creek, 77.26 46 P **P** **21 38 36.4 -0.9**
baz=240
GMRC Granite Mounta 77.29 48 P **P** **21 38 36.8 -1.0**
baz=241
IRM Iron Mountain 77.37 49 P **P** **21 38 37.0 -1.1**
baz=242
Y12C Blythe 77.63 50 *e*P **P** **21 38 43.1 +3.6**
comp=Z,10nm,1.0s
113A Mohawk Valley, 77.75 51 *e*P **P** **21 38 39.5 -0.7**
comp=Z,9.7nm,1.0s
MOD Modoc Plateau 77.83 40 *e*P **P** **21 38 43.5 +2.9**
comp=Z,14nm,1.0s
BRLK Bradley Lake 77.90 14 *e*P **P** **21 38 42.5 +2.0**
comp=Z,17nm,1.0s
K05A Summer Lake 77.92 39 *e*P **P** **21 38 41.3 +0.1**
comp=Z,93nm,1.7s
TPNV Topopah Spring 77.93 46 P **P** **21 38 39.7 -1.6**
baz=240
TPNV Topopah Spring 77.93 46 *e*P **P** **21 38 40.1 -1.2**
TPNV pmax pmax
comp=Z,16nm,1.3s
TPNV Topopah Spring 77.93 46 *e*P **P** **21 38 40.1 -1.2**
comp=Z,16nm,1.3s
J05D Fort Rock, OR 78.02 39 P **P** **21 38 40.9 -0.8**
baz=236
214A Organ Pipe Nat 78.10 52 P **P** **21 38 41.3 -1.0**
baz=244
CN2 Changchun 78.12 322 *e*P **P** **21 38 41.8 -0.2**
CN2 *es*P PcP 21 38 48.0 -3.5
CN2 *e*S **S** **21 48 34.0 +0.2**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,100nm,3.0s
CN2 LN
comp=Z,400nm,17.0s
CN2 LE
comp=Z,500nm,17.0s
CN2 LZ
comp=Z,600nm,18.0s
SHPR Sheep Range 78.47 47 *e*P **P** **21 38 43.8 -0.6**
comp=Z,18nm,1.3s
SEW Seward 78.54 14 *e*P **P** **21 38 44.9 +1.0**
comp=Z,14nm,0.9s
QIZ Qiongzhong 78.69 293 P **P** **21 38 45.4 -0.3**
QIZ S **S** **21 48 43.8 +2.9**
QIZ SS **SS** **21 53 44.5 -1.4**
QIZ LN
comp=Z,250nm,22.1s
QIZ LE
comp=Z,490nm,20.3s
QIZ LZ
comp=Z,730nm,24.0s
W13A Hualapai Mount 78.73 49 *e*P **P** **21 38 49.2 +3.3**
comp=Z,11nm,1.1s
Y14A Wickenburg 78.84 50 *e*P **P** **21 38 45.6 -0.7**
comp=Z,45nm,1.2s
R11A Troy Canyon, C 79.07 45 P **P** **21 38 46.3 -1.3**
baz=241
R11A Troy Canyon, C 79.07 45 *e*P **P** **21 38 46.2 -1.4**
comp=Z,20nm,1.5s
WVOR Wild Horse Val 79.16 40 *e*P **P** **21 38 51.0 +3.1**
WVOR pmax pmax
comp=Z,14nm,1.1s
WVOR Wild Horse Val 79.16 40 *e*P **P** **21 38 51.0 +3.1**
comp=Z,14nm,1.1s
WHN Wuhan 79.31 306 *e*P P 21 38 53.6 +4.8
WHN S S 21 48 54.9 +7.8
WHN LN
comp=Z,850nm,16.3s
WHN LE
comp=Z,500nm,12.8s
WHN LZ
comp=Z,1μm,20.1s
TT01 Tatalina 79.76 10 *e*P **P** **21 38 48.3 -2.3**
TTA Tatalina 79.78 10 *e*P **P** **21 38 49.1 -1.7**
TTA pmax pmax
comp=Z,24nm,1.3s
TTA Tatalina 79.78 10 *e*P **P** **21 38 49.1 -1.7**
comp=Z,24nm,1.3s
TUC Tucson 79.81 53 P **P** **21 38 51.2 -0.4**
baz=245
TUC Tucson 79.81 53 *e*P **P** **21 38 51.4 -0.2**
TUC pmax pmax
comp=Z,27nm,1.5s
TUC Tucson 79.81 53 *e*P **P** **21 38 51.4 -0.2**
comp=Z,27nm,1.5s
PMR Palmer 79.93 14 *e*P **P** **21 38 49.1 -2.4**
PMR pmax pmax
comp=Z,14nm,1.4s
PMR Palmer 79.93 14 *e*P **P** **21 38 49.1 -2.4**
comp=Z,14nm,1.4s
X16A Lo Mia Camp, P 80.22 50 *e*P **P** **21 38 53.6 -0.3**
comp=Z,14nm,1.3s
CCUT Cedar City 80.24 47 *e*P **P** **21 38 53.3 -0.7**
comp=Z,14nm,1.2s
DIV Divide 80.33 15 *e*P **P** **21 38 51.9 -1.9**
comp=Z,13nm,1.1s
KNB Kanab 80.37 47 *e*P **P** **21 38 58.3 +3.6**
KNB pmax pmax
comp=Z,15nm,1.2s
KNB Kanab 80.37 47 *e*P **P** **21 38 58.3 +3.6**
comp=Z,15nm,1.2s
B05A Bryant 80.39 34 P **P** **21 38 54.3 +0.1**
baz=234
SZCU Shurtz Canyon 80.45 47 *e*P **P** **21 38 58.8 +3.6**
comp=Z,23nm,1.3s
ELK Elko 80.48 43 *e*P **P** **21 38 58.0 +2.7**
ELK pmax pmax
comp=Z,9.0nm,1.2s
ELK Elko 80.48 43 *e*P **P** **21 38 58.0 +2.7**
comp=Z,8.7nm,1.2s
U15A North Rim 80.49 48 *e*P **P** **21 38 57.1 +1.7**
comp=Z,24nm,1.2s
G08A Pilot Rock 80.49 38 *e*P **P** **21 38 58.1 +3.1**
comp=Z,30nm,1.5s
BMRM Bremner River 80.50 16 *e*P **P** **21 38 52.5 -2.2**
comp=Z,24nm,1.5s
SCM Sheep Creek Mo 80.56 14 *e*P **P** **21 38 56.4 +1.4**
SCM pmax pmax
comp=Z,15nm,0.6s
SCM Sheep Creek Mo 80.56 14 *e*P **P** **21 38 56.4 +1.4**
comp=Z,15nm,0.6s
CRQM Cirque 80.71 17 *e*P **P** **21 38 58.2 +2.2**
comp=Z,12nm,1.1s
BALM Baldy 81.16 17 *e*P **P** **21 38 56.8 -1.5**
BALM pmax pmax
comp=Z,16nm,1.5s
BALM Baldy 81.16 17 *e*P **P** **21 38 56.8 -1.5**
comp=Z,16nm,1.5s
SEY Seymchan 81.25 347⇑ *i*P **P** **21 38 57.1 -1.4**
BMO Blue Mountains 81.25 39 *e*P **P** **21 38 58.5 -0.7**
comp=Z,18nm,1.4s
MTPU Mount Pierson 81.29 47 *e*P **P** **21 39 01.9 +2.1**
comp=Z,56nm,1.8s
KTH Kantishna Hill 81.29 12 *e*P **P** **21 38 56.5 -2.4**
comp=Z,13nm,1.3s
TRF Thorofare Moun 81.33 12 *e*P **P** **21 38 58.7 -0.5**
comp=Z,18nm,1.3s
MFID Camas Ranch 81.43 41 *e*P **P** **21 39 03.2 +3.0**
comp=Z,18nm,1.4s
RND Reindeer 81.59 13 *e*P **P** **21 38 58.1 -2.4**
RND pmax pmax
comp=Z,16nm,1.0s
RND Reindeer 81.59 13 *e*P **P** **21 38 58.1 -2.4**
comp=Z,16nm,1.0s
BPAW Bear Paw Mtn. 81.77 12 *e*P **P** **21 39 00.8 -0.6**
comp=Z,11nm,1.6s
DUG Dugway, Tooele 81.84 45 P **P** **21 39 02.0 -0.5**
baz=242
DUG Dugway, Tooele 81.84 45 *e*P **P** **21 39 04.1 +1.7**
DUG pmax pmax
comp=Z,15nm,1.3s
DUG Dugway, Tooele 81.84 45 *e*P **P** **21 39 04.1 +1.7**
comp=Z,16nm,1.3s
MCK McKinley 81.86 13 *e*P **P** **21 39 02.8 +1.0**
MCK pmax pmax
comp=Z,17nm,1.1s
MCK McKinley 81.86 13 *e*P **P** **21 39 02.8 +1.0**
comp=Z,17nm,1.1s
F10A Beach Ranch, E 81.89 38 *e*P **P** **21 39 01.5 -1.0**
comp=Z,34nm,1.6s
BJI Beijing 82.12 315 P **P** **21 39 03.4 -0.3**
BJI S **S** **21 49 18.3 +2.2**
BJI PMZ
comp=Z,8.0nm,1.1s
BJI PMZ
comp=Z,97nm,4.6s
BJI LN
comp=Z,280nm,24.2s
BJI LE
comp=Z,430nm,21.6s
BWN Browne 82.14 12 *e*P **P** **21 39 01.4 -1.8**
comp=Z,44nm,1.2s
COCO West Island 82.23 259*ce*P **P** **21 39 02.0 -2.8**
COCO West Island 82.23 259 *e*P P 21 38 59.8 -4.9
comp=Z,416nm,0.8s
HLID Hailey 82.39 41 P **P** **21 39 04.3 -1.0**
baz=241
HLID Hailey 82.39 41 *e*P **P** **21 39 04.2 -1.0**
comp=Z,16nm,1.2s
TMUT Trail Mountain 82.54 46 *e*P **P** **21 39 06.2 -0.1**
comp=Z,26nm,1.1s
MPU Maple Canyon 82.56 45 *e*P **P** **21 39 09.1 +2.8**
comp=Z,21nm,1.5s
HVU Hansel Valley 82.61 43 *e*P **P** **21 39 07.8 +1.4**
HVU pmax pmax
comp=Z,18nm,1.2s
HVU Hansel Valley 82.61 43 *e*P **P** **21 39 07.8 +1.4**
comp=Z,18nm,1.2s
MLY Manley 82.66 11 *e*P **P** **21 39 03.2 -2.7**
comp=Z,7.8nm,1.1s
WRH Wood River Hil 82.69 13 *e*P **P** **21 39 03.0 -3.1**
comp=Z,16nm,1.3s
CTU Camp Tracy 82.79 45 *e*P **P** **21 39 08.7 +1.3**
comp=Z,66nm,1.4s
CCB Clear Creek Bu 82.90 13 *e*P **P** **21 39 04.4 -2.8**
comp=Z,14nm,1.2s
SRU San Rafael Swe 82.93 46 *e*P **P** **21 39 09.5 +1.3**
SRU pmax pmax
comp=Z,16nm,1.1s
SRU San Rafael Swe 82.93 46 *e*P **P** **21 39 09.4 +1.3**
comp=Z,16nm,1.1s
JLU Jordanelle 82.95 45 *e*P **P** **21 39 11.7 +3.3**
comp=Z,35nm,1.7s
MDM Murphy Dome 83.09 12 *e*P **P** **21 39 05.4 -2.8**
comp=Z,21nm,1.4s
COLA College 83.09 12⇑ *i*P **P** **21 39 06.3 -1.8**
COLA pmax pmax
comp=Z,39nm,4.5s
ILAR Eielson Array 83.21 13 P **P** **21 39 05.4 -3.4**
comp=Z,3.6nm,1.1s,baz=229,slow=5.3,SNR=19
ILAR LR LR 22 11 01.0
comp=Z,321nm,19.8s,baz=219,slow=32
ILB Eielson Array 83.21 13 *e*P **P** **21 39 05.4 -3.4**
IL1 Eielson Array 83.21 13 *e*P **P** **21 39 04.9 -3.8**
TCUT Toone Canyon 83.22 44 *e*P **P** **21 39 10.6 +0.9**
comp=Z,48nm,1.1s
DLBC Dease Lake 83.24 23 *e*P **P** **21 39 09.9 +0.8**
comp=Z,19nm,1.8s
HWUT Hardware Ranch 83.33 44 *e*P **P** **21 39 11.7 +1.5**
comp=Z,38nm,1.6s
LAZ Ladron 83.44 52 *e*P **P** **21 39 15.0 +4.1**
BNM Barren Site 83.73 52 *e*P **P** **21 39 16.4 +3.9**
MNTX Cornudas Mount 83.77 55 P **P** **21 39 11.4 -1.0**
baz=248
MNTX Cornudas Mount 83.77 55 *e*P **P** **21 39 11.5 -0.9**
comp=Z,9.5nm,1.1s
LPM Los Pinos Moun 83.79 52 *e*P **P** **21 39 16.4 +3.6**
BILL Bilibino 83.81 354⇓ *i*P **P** **21 39 09.6 -2.2**
BILL *e* 21 42 23.9
BILL *i*S **S** **21 49 38.5 +6.4**
BILL *i*SS **SS** **21 55 05.2 +4.8**
BILL pmax pmax
comp=Z,15nm,2.5s
BILL Bilibino 83.81 354 *e*P **P** **21 39 14.6 +2.8**
comp=Z,24nm,1.8s
PV01 Paradox Valley 83.90 48 *e*P **P** **21 39 12.3 -0.9**
MCMT McKenzie Canyo 83.99 41 *e*P **P** **21 39 15.6 +2.0**
GYA Guiyang 84.01 299 *e*P **P** **21 39 15.0 +1.1**
GYA PP **PP** **21 42 30.6 +2.3**
GYA SKS **SKSac** **21 49 34.0 -1.0**
GYA S **SKKSac** **21 49 38.5 -1.6**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.4s
ANMO Albuquerque 84.17 52 P **P** **21 39 13.4 -1.3**
baz=247
ANMO Albuquerque 84.17 52⇑ *i*P **P** **21 39 13.5 -1.2**
ANMO pmax pmax
comp=Z,16nm,1.7s
ANMO Albuquerque 84.17 52 *e*P **P** **21 39 13.5 -1.2**
comp=Z,13nm,1.2s
MSO Missoula 84.28 38 P **P** **21 39 14.1 -0.7**
baz=241
MSO Missoula 84.28 38 *e*P **P** **21 39 17.3 +2.5**
comp=Z,13nm,1.4s
TX31 Lajitas Ar. Si 84.28 58 *e*P **P** **21 39 14.6 -0.6**
LTX Lajitas 84.28 58 *e*P **P** **21 39 14.1 -1.1**
LTX Lajitas 84.28 58 *e*P **P** **21 39 14.1 -1.1**
TXAR Lajitas Array 84.28 58 P **P** **21 39 14.1 -1.1**
comp=Z,3.8nm,0.8s,baz=224,slow=6.5,SNR=38
TXAR LR LR 22 09 57.6
comp=Z,811nm,19.1s,baz=0.0,slow=31
DLMT Dillon 84.40 40 *e*P **P** **21 39 18.4 +2.9**
comp=Z,15nm,1.1s
DAWY Dawson 84.43 16 *e*P **P** **21 39 13.2 -1.9**
comp=Z,9.2nm,1.1s
EGAK Eagle 84.55 15 *e*P **P** **21 39 13.5 -2.1**
comp=Z,10nm,1.0s
REDW Red Top Meadow 84.59 42 *e*P **P** **21 39 19.3 +2.6**
comp=Z,38nm,1.4s
FXWY Fox Creek 84.60 42 *e*P **P** **21 39 20.2 +3.5**
comp=Z,38nm,1.7s
COLD Coldfoot 84.73 11 *e*P **P** **21 39 14.9 -1.6**
comp=Z,14nm,1.1s
IMW Indian Meadow 84.78 42 *e*P **P** **21 39 21.2 +3.6**
comp=Z,44nm,1.7s
MOOW Moose Ponds 84.83 42 *e*P **P** **21 39 21.2 +3.4**
comp=Z,13nm,1.4s
XAN Xi'an 84.91 307 P **P** **21 39 16.6 -1.6**
XAN pP PcP 21 39 20.6 -0.9
XAN sP pP 21 39 23.0 -6.3
XAN PP **PP** **21 42 35.3 -0.1**
XAN SKS **SKSac** **21 49 37.6 -2.7**
XAN S **SKKSac** **21 49 47.3 +0.9**
XAN PMZ
comp=Z,4.0nm,1.4s
XAN PMZ
comp=Z,93nm,5.0s
XAN LN
comp=Z,220nm,21.2s
XAN LE
comp=Z,250nm,22.0s
XAN LZ
comp=Z,300nm,23.7s
S22A 4UR Ranch, Cre 85.00 49 P **P** **21 39 17.7 -1.3**
baz=247
S22A 4UR Ranch, Cre 85.00 49 *e*P **P** **21 39 19.9 +0.9**
comp=Z,32nm,1.5s
BOZ Bozeman (W) 85.13 40 *e*P **P** **21 39 19.8 +0.6**
BOZ pmax pmax
comp=Z,24nm,1.5s
BOZ Bozeman (W) 85.13 40 *e*P **P** **21 39 19.8 +0.6**
comp=Z,24nm,1.5s
BW06 Boulder Array 85.18 43 *e*P **P** **21 39 21.0 +1.4**
PD31 Pinedale Array 85.18 43 *e*P **P** **21 39 17.8 -1.9**
PDAR Pinedale Array 85.18 43 P **P** **21 39 17.8 -1.9**
comp=Z,9.4nm,1.1s,baz=226,slow=4.8,SNR=3.4
PDAR LR LR 22 10 00.4
comp=Z,572nm,21.0s,baz=256,slow=31
YHH Holmes Hill 85.23 41 *e*P P 21 39 25.6 +5.7
comp=Z,28nm,1.5s
HHC Hu-ho-hao-te 85.64 314 *e*P **P** **21 39 20.8 -1.0**
HHC sP pP 21 39 31.8 -1.1
HHC S **S** **21 49 55.4 +3.6**
HHC sS sS 21 50 05.3 -4.8
HHC PMZ
comp=Z,18nm,0.9s
HHC PMZ
comp=Z,81nm,4.4s
HHC LN
comp=Z,280nm,17.8s
HHC LE
comp=Z,450nm,19.2s
HHC LZ
comp=Z,640nm,21.0s
MAW Mawson 86.49 200 LR LR 22 13 11.4
comp=Z,654nm,21.6s,baz=85,slow=32
MAW Mawson 86.49 200 *e*P **P** **21 39 28.3 +2.9**
MAW pmax pmax
comp=Z,7.0nm,1.6s
MAW Mawson 86.49 200 *e*P **P** **21 39 28.3 +2.9**
comp=Z,7.1nm,1.6s
KMI Kunming 86.92 297 P P 21 39 21.4 -7.2
KMI Kunming 86.92 297 SKS **SKSac** **21 49 53.3 -0.3**
KMI Kunming 86.92 297 S **S** **21 50 07.0 +1.9**
KMI Kunming 86.92 297 SS SS 21 56 00.3 +12
KMI pmax pmax
comp=Z,6.0nm,0.7s
KMI LR LR
comp=N,300nm,16.6s
KMI LR LR
comp=E,340nm,22.8s
KMI LR LR
comp=Z,850nm,21.7s
832A Faith Ranch, C 86.97 60 P **P** **21 39 27.5 -1.1**
baz=251
CD2 Chengdu 87.91 303 *e*P **P** **21 39 32.5 -0.5**
CD2 pP PcP 21 39 35.8 +1.0
CD2 PP **PP** **21 42 58.4 -1.3**
CD2 SKS **SKSac** **21 50 00.3 +1.3**
CD2 S **ScS** **21 50 16.3 -4.0**
CD2 sS sS 21 50 21.9 -10
CD2 SS **SS** **21 56 04.8 +2.5**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
CMAR Chiang Mai Arr 88.30 290 LR LR 22 15 52.5
comp=Z,419nm,20.3s,baz=116,slow=34
LZH Lanzhou 89.53 308 *e*P P 21 39 46.0 +5.3
LZH pP pP 21 39 52.1 +0.3
LZH sP sP 21 39 54.8 -1.0
LZH *e*S **S** **21 50 34.1 +4.8**
LZH sS sS 21 50 44.0 -3.7
LZH PMZ
comp=Z,14nm,1.0s
LZH PMZ
comp=Z,54nm,4.0s
ULN Ulaanbaatar 91.34 319 *i*P **P** **21 39 48.5 -0.3**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 91.34 319 *e*P **P** **21 39 48.6 -0.2**
comp=Z,24nm,1.8s
SONA1 Songino Array 91.74 319 *e*P **P** **21 39 49.8 -0.9**
SONA0 Songino Array 91.75 319 *e*P **P** **21 39 50.2 -0.5**
comp=Z,11nm,1.6s
SONM Songino Array 91.75 319 P **P** **21 39 50.2 -0.5**
comp=Z,0.9nm,0.8s,baz=117,slow=0.7,SNR=3.6
SONM LR LR 22 20 56.0
comp=Z,255nm,18.4s,baz=112,slow=36
YKA Yellowknife Ar 91.76 25 P **P** **21 39 47.7 -2.5**
comp=Z,0.1nm,0.4s,baz=256,slow=4.3,SNR=3.1
YKA LR LR 22 16 28.2
comp=Z,135nm,18.9s,baz=180,slow=33
YKB5 Yellowknife Ar 91.76 25 *e*P **P** **21 39 47.7 -2.5**
SYO Syowa Base 91.83 193⇓ *e*pP pP 21 40 10.8 +9.1
PLCA Paso Flores 92.93 133 LR LR 22 13 04.8
comp=Z,466nm,21.2s,baz=273,slow=30
SNAA Sanae 93.26 178 P **P** **21 39 58.0 +0.8**
SNAA Sanae 93.26 178⇑ *i*P **P** **21 39 58.6 +1.3**
SNAA *e*'PP **pP** **21 40 10.3 +1.9**
SNAA Sanae 93.26 178 *e*P **P** **21 39 59.0 +1.7**
comp=Z,19nm,1.8s
TIXI Tiksi 93.66 345⇑ *i*P **P** **21 39 56.8 -2.0**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 93.66 345 *e*P **P** **21 39 56.1 -2.6**
comp=Z,16nm,1.8s
VNA1 Neumayer--Stat 94.05 177 P **P** **21 39 59.8 -1.0**
ECSD EROS Data Cent 94.34 46 *e*P **P** **21 39 59.8 -2.8**
comp=Z,8.2nm,1.1s
ULM Lac du Bonnet 96.65 40 LR LR 22 16 52.2
comp=Z,637nm,21.6s,baz=252,slow=31
KSH Kashi 111.76 307 PKP **PKiKP** **21 45 20.0 +1.9**
KSH PP PP 21 46 09.3 +8.4
KSH PKS **PKSdf** **21 48 56.1 +1.3**
KSH SKS **SKSdf** **21 52 31.6 +3.8**
KSH SKKS **SKKSac** **21 53 02.9 +2.0**
KSH LN
comp=Z,67nm,5.0s
KSH LE
comp=Z,78nm,5.9s
KSH LZ
comp=Z,170nm,4.7s
KIV Kislovodsk 135.13 318 *i* PKIKP **PKPdf** **21 46 02.6 +0.1**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIS Kishinev 141.22 330 *e* 21 49 52.0
KIS LRM MLR 22 46 08.0
comp=Z,400nm,24.0s
UPC Upice 143.01 345 AMS AMS 22 59 20.0
comp=Z,300nm,19.5s
OKC Ostrava-Krasne 143.04 343 AMS AMS 22 52 50.0
comp=Z,300nm,22.7s
DPC Dobruska-Polom 143.07 345 AMS AMS 22 49 40.0
comp=Z,300nm,21.0s
BR101 Keskin Array S 143.09 318 *e*PKPpre PKPpre 21 46 13.1
BR131 Keskin Array S 143.09 318 *e*PKPdf **PKPdf** **21 46 17.4 +0.1**
BRTR Keskin Array B 143.09 318 PKP **PKPdf** **21 46 13.1 -4.2**
comp=Z,1.0nm,0.8s,baz=84,slow=2.2,SNR=5.5
BR231 Keskin MP Arra 143.58 318 *e*PKPpre PKPpre 21 46 14.0
MLR Muntele Rosu 143.69 331 *e*PKIKP **PKPdf** **21 46 18.3 +0.2**
MLR Muntele Rosu 143.69 331 *e*PKPdf **PKPdf** **21 46 18.3 +0.2**
PRU Pruhonice 143.84 346 AMS AMS 22 52 50.0
comp=Z,500nm,20.3s
GOPC GO Pecny, Ondr 143.85 346 AMS AMS 22 52 50.0
comp=Z,400nm,17.9s
VYHS Vyhne 144.02 341 *e*PKIKP PKPab 21 46 14.4 -1.5
VYHS *e* 21 46 20.0
VYHS Vyhne 144.02 341 *e*PKP PKPab 21 46 14.4 -1.5

VYHS				*e*			21 46 20.0	
TREC	**Trest**	**144.26**	**345**	AMS	AMS		22 52 00.0	
	comp=Z,400nm,20.9s							
KHC	**Kasperske Hory**	**144.86**	**347**	*e*PKP	PKPbc		21 46 18.3	-0.7
KHC				*ex*	x		21 46 22.9	
KHC				AMS	AMS		22 53 10.0	
	comp=Z,400nm,20.8s							
KHC	**Kasperske Hory**	**144.86**	**347**	*e*PKIKP	**PKPdf**		**21 46 20.0**	**0.0**
KHC	**Kasperske Hory**	**144.86**	**347**	*e*PKPdf	**PKPdf**		**21 46 19.9**	**0.0**
MMAI	**Mount Meron Ar**	**144.90**	**306**	PKP	PKPbc		21 46 18.8	-1.0
	comp=Z,4.0nm,0.7s,baz=60,slow=4.9,SNR=6.3							
GEC2	**GERESS Array S**	**145.10**	**346**	*e*PKIKP	**PKPdf**		**21 46 19.7**	**-0.8**
GEC2	**GERESS Array S**	**145.10**	**346**	*e*PKPdf	**PKPdf**		**21 46 19.6**	**-0.8**
GERES	**GERESS Array B**	**145.10**	**346**	PKP	**PKPab**		**21 46 17.5**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=35,slow=4.9,SNR=7.9							
GEA0	**GERESS Array S**	**145.11**	**346**	*e*PKPdf	**PKPab**		**21 46 17.5**	**-2.4**
CONA	**Conrad Observa**	**145.41**	**343**	*i* PKPdf	**PKPdf**		**21 46 20.6**	**-0.4**
	comp=Z,33nm,1.5s							
WLF	**Walferdange**	**145.48**	**355**	PKP	**PKPbc**		**21 46 19.8**	**-1.2**
WLF	**Walferdange**	**145.48**	**355**	*e*PKIKP	**PKPdf**		**21 46 20.3**	**-0.6**
WLF	**Walferdange**	**145.48**	**355**	*e*PKPbc	**PKPdf**		**21 46 20.3**	**-0.6**
MOA	**Molln**	**145.90**	**345**	*i* PKPdf	**PKPdf**		**21 46 20.1**	**-1.6**
	comp=Z,40nm,1.6s							
ARSA	**Arzberg**	**146.12**	**343**	*i* PKPab	**PKPbc**		**21 46 22.2**	**-0.9**
	comp=Z,22nm,2.1s							
BFO	**Black Forest**	**146.57**	**352**	*e*PKP2	**PKPab**		**21 46 24.0**	**-1.3**
BFO	**Black Forest**	**146.57**	**352**	*e*PKPdf	**PKPab**		**21 46 24.0**	**-1.3**
SOKA	**Soboth**	**146.78**	**343**	*i* PKPab	**PKPbc**		**21 46 24.0**	**-1.1**
	comp=Z,14nm,1.3s							
KBA	**Koelnbreinsper**	**146.85**	**346**	*i* PKPbc	**PKPdf**		**21 46 23.5**	**-0.1**
	comp=Z,9.5nm,1.1s							
WATA	**Walderalm**	**146.99**	**348**	*i* PKPbc	**PKPdf**		**21 46 23.1**	**-0.7**
	comp=Z,3.4nm,0.7s							
RETA	**Reutte**	**147.00**	**349**	*i* PKPab	**PKPbc**		**21 46 25.3**	**-0.4**
	comp=Z,14nm,1.2s							
WTTA	**Wattenberg**	**147.05**	**348**	*i* PKPbc	**PKPdf**		**21 46 24.0**	**+0.1**
	comp=Z,11nm,1.2s							
MOTA	**Moosalm**	**147.08**	**349**	*i* PKPab	**PKPbc**		**21 46 25.2**	**-0.8**
	comp=Z,5.0nm,0.8s							
ABTA	**Abfaltersbach**	**147.35**	**346**	*i* PKPab	**PKPbc**		**21 46 25.5**	**-1.1**
	comp=Z,8.4nm,0.9s							
DAVA	**Damuels**	**147.35**	**350**	*i* PKPbc	**PKPbc**		**21 46 25.6**	**-1.2**
	comp=Z,17nm,1.5s							
FETA	**Feichten**	**147.46**	**349**	*i* PKPab	**PKPbc**		**21 46 26.8**	**-0.3**
	comp=Z,11nm,1.3s							
MBAR	**Mbarara**	**147.48**	**244**	*e*PKP2	**PKPab**		**21 46 28.8**	**-1.4**
MBAR	**Mbarara**	**147.48**	**244**	*e*PKPbc	**PKPab**		**21 46 28.8**	**-1.4**
VISS	**Visnje**	**147.64**	**343**	*i* PKPab	**PKPab**		**21 46 33.0**	**+3.4**
JAVS	**Javornik**	**147.77**	**344**	*i* PKPab	**PKPab**		**21 46 33.4**	**+3.1**
BOJS	**Bojanci**	**147.79**	**342**	*i* PKPbc	**PKPab**		**21 46 29.2**	**-1.0**
CEY	**Cerknica**	**147.81**	**343**	*i* PKPbc	**PKPab**		**21 46 28.6**	**-1.7**
FUORN	**Ofenpass-Fuorn**	**147.93**	**349**	*e*PKPdf	**PKPbc**		**21 46 27.0**	**-1.5**
SENIN	**Lac Senin/Sane**	**148.63**	**353**	*e*PKPab	**PKPab**		**21 46 33.7**	**-0.1**
PGAV	**Gavieira, Arco**	**151.93**	**16**	eLR	LR		22 39 25.2	
	comp=Z,594nm,20.0s							
POLO	**Lamas de Olo**	**152.61**	**16**	*e*PKPbc	**PKPbc**		**21 46 38.6**	**-1.2**
PVRL	**Vila Real**	**152.72**	**16**	*e*PKPdf	**PKPdf**		**21 46 32.2**	**-0.7**
MVO	**Moncorvo**	**153.00**	**15**	*e*PKPbc	**PKPbc**		**21 46 40.0**	**-0.6**
MVO	**Moncorvo**	**153.00**	**15**	eLR	LR		22 39 50.4	
	comp=Z,481nm,20.0s							
MTE	**Manteigas**	**153.59**	**16**	eLR	LR		22 40 06.0	
	comp=Z,474nm,20.0s							
PMRV	**Marv??o**	**154.53**	**17**	eLR	LR		22 39 18.2	
	comp=Z,426nm,20.0s							
PVAQ	**Vaqueiros**	**156.30**	**19**	eLR	LR		22 39 42.8	
	comp=Z,793nm,20.0s							
TOA0	**Torodi Ar. Sit**	**177.93**	**173**	*e*PKPdf	**PKPdf**		**21 46 56.3**	**+2.0**

*IDC **19** 21:39:55.8±3.0, 9.°87S×112.°19E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/50, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=164.5km s-min=24.0km az=46.0*
*DJA **19** 21:40:03.6±0.8, 9.°5±4.°×11.°3E±.°, h8km±6km, M4.2/13, mb4.4/3, MLv4.1/13*

ISC 19 21:40:02.6±2.0, 9.°51S±0.°09×112.°86E±0.°05, h27km±16km, n20, σ1°73/23, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.36**	**25**	P	**Pn**	**21 40 26.2**	**+0.4**
GMJI				S	**Sn**	**21 40 42.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**1.64**	**51**	P	**Pn**	**21 40 30.7**	**+1.0**
JAGI				S	**Sn**	**21 40 47.9**	**-2.1**
PWJI	**Pagerwojo**	**1.81**	**325**	P	**Pn**	**21 40 32.3**	**+0.2**
PWJI				S	**Sn**	**21 40 54.8**	**+0.6**
PCJI	**Pacitan**	**2.12**	**308**	P	**Pn**	**21 40 37.0**	**+0.7**
PCJI				S	**Sn**	**21 41 03.3**	**+1.6**
ABJI	**Asem Bagus**	**2.18**	**39**	P	**Pb**	**21 40 40.6**	**-0.8**
WOJI	**Wonogiri, Jawa**	**2.54**	**311**	P	**Pn**	**21 40 43.7**	**+1.6**
NGJI	**Ngawi**	**2.54**	**327**	P	**Pb**	**21 40 46.1**	**-1.5**
NGJI				S	**Sb**	**21 41 19.4**	**+1.0**
GRJI	**Gresik**	**2.61**	**352**	P	**Pn**	**21 40 45.8**	**+2.8**
SRBI	**Singaraja**	**2.72**	**59**	P	**Pn**	**21 40 46.9**	**+2.3**
UWJI	**Ujung Watu**	**3.61**	**328**	P	Pn	21 40 50.5	-6.3
TWSI	**Taliwang, Sumb**	**4.04**	**79**	P	**Pn**	**21 41 04.7**	**+1.9**
KPJI	**Karang Pucung**	**4.45**	**299**	P	Pn	21 41 13.8	+5.4
PLAI	**Plampang**	**4.90**	**82**	P	**Pn**	**21 41 17.4**	**+2.9**
CNJI	**Cibinong**	**6.08**	**291**	P	**Pn**	**21 41 32.5**	**+1.7**
CGJI	**Cibinong**	**7.66**	**292**	P	**Pn**	**21 41 53.5**	**+1.0**
EDFI	**Ende, Flores**	**8.75**	**86**	P	**Pn**	**21 42 10.0**	**+2.4**
FITZ	**Fitzroy Crossi**	**15.05**	**126**	Pn	**Pn**	**21 43 32.5**	**-1.2**
	0.1nm,0.3s,baz=318,slow=9.8,SNR=4.9						
FITZ				Sn	Sn	21 46 06.5	-13
	0.2nm,0.3s,baz=9.3,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**23.18**	**119**	P	**P**	**21 45 08.1**	**+0.7**
	0.5nm,0.6s,baz=288,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**24.54**	**128**	P	**P**	**21 45 21.0**	**+0.7**
	0.8nm,0.7s,baz=306,slow=9.1,SNR=9.1						
MKAR	**Makanchi Array**	**62.34**	**337**	P	**P**	**21 50 20.6**	**-2.0**
	0.5nm,0.5s,baz=150,slow=7.1,SNR=9.8						

*IDC **19** 21:40:03.0±6.5, 36.°30N×70.°38E, h71km±56km, mb3.9/1, mb1 3.4/6, mb1mx3.0/53, mbtmp3.7/6, ML3.4/5, Error ellipse: s-maj=80.6km s-min=25.9km az=149.0*
*NNC **19** 21:40:07.6±4.5, 36.°79N×70.°07E, h268km±213km, mb2.4, mpv3.6, Error ellipse: s-maj=92.4km s-min=32.8km az=168.0*

ISC 19 21:40:05.1±2.3, 36°4N±0.°2×70°1E±0.°1, h100km, n10, σ1°43/16, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**6.33**	**16**	⇑P	**Pn**	**21 41 36.4**	**+0.4**
	1.4nm,0.4s						
MNAS				⇑S	**Sn**	**21 42 46.9**	**0.0**
	6.6nm,0.5s						
KK31	**Karatay Array**	**6.68**	**2**	P	**Pn**	**21 41 41.0**	**+0.4**
	5.9nm,0.7s,baz=196,slow=16,SNR=40						
KK31				⇓S	**Sn**	**21 42 54.4**	**-0.8**
	5.4nm,0.6s,baz=188,slow=25,SNR=5.1						
AAK	**Ala-Archa**	**7.06**	**27**	P	**Pn**	**21 41 45.4**	**-0.6**
	1.7nm,0.3s,baz=200,slow=5.8,SNR=6.3						
AAK				S	**Sn**	**21 43 02.5**	**-2.3**
	0.7nm,0.3s,baz=327,slow=20,SNR=10						
AAK	**Ala-Archa**	**7.06**	**27**	⇑P	**Pn**	**21 41 44.7**	**-1.3**
	5.1nm,0.8s						
AAK				⇓S	**Sn**	**21 43 06.4**	**+1.6**
	3.7nm,0.5s						
TKM2	**Tokmak 2**	**7.74**	**31**	⇓P	**Pn**	**21 41 53.8**	**-1.4**
	1.3nm,0.4s						
TKM2				⇑S	**Sn**	**21 43 20.2**	**-1.1**
	2.5nm,0.8s						
GEYT	**Alibeck**	**9.70**	**283**	P	**Pn**	**21 42 21.9**	**+0.1**
	0.4nm,0.3s,baz=110,slow=9.4,SNR=6.1						
GEYT				S	**Sn**	**21 44 06.6**	**-2.2**
	0.4nm,0.3s,baz=104,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**13.78**	**37**	P	**Pn**	**21 43 16.3**	**+0.3**
	0.1nm,0.3s,baz=222,slow=16,SNR=3.4						
AKTO	**Aktyubinsk**	**16.51**	**332**	P	**P**	**21 43 53.7**	**+2.3**
	0.1nm,0.3s,baz=149,slow=12,SNR=5.1						
BVAR	**Borovoye Array**	**16.61**	**1**	P	**P**	**21 43 53.9**	**+1.5**
	0.2nm,0.3s,baz=172,slow=7.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**20.29**	**26**	P	**P**	**21 44 32.3**	**-0.3**
	6.2nm,0.5s,baz=219,slow=11,SNR=32						

WEL 19 21:41:51.2±0.5, 37°53S×179°50W, h12km, ML3.6/4, 1D, Error ellipse: s-maj=5.2km s-min=4.4km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.68**	**259**	PN	Pn	21 42 19.5	-0.9
WMGZ				SN	Sn	21 42 41.5	-0.3
PUZ	**Puketiti**	**1.86**	**252**	⇓PN	Pn	21 42 21.9	-1.0
PUZ				SN	Sn	21 42 45.0	-1.3
PUZ				AML	AML	21 42 47.7	
CNGZ	**Carnagh Statio**	**2.05**	**241**	*e*PN	Pn	21 42 24.8	-0.6
TWGZ	**Tauwhareparae**	**2.10**	**251**	PN	Pn	21 42 25.5	-0.7
HAZ	**Te Kaha**	**2.17**	**263**	*e*PN	Pn	21 42 26.8	-0.3
HAZ				SN	Sn	21 42 52.5	-1.4
RIGZ	**Rimuhau**	**2.46**	**241**	PN	Pn	21 42 30.6	-0.6
RIGZ				SN	Sn	21 43 00.2	-1.0
MWZ	**Matawai**	**2.49**	**250**	PN	Pn	21 42 30.3	-1.2
MWZ				AML	AML	21 43 01.0	
MHGZ	**Mahia Peninsul**	**2.61**	**231**	*e*PN	Pn	21 42 32.3	-0.9
KNZ	**Kokohu**	**2.68**	**235**	PN	Pn	21 42 33.2	-0.9
URZ	**Urewera**	**2.78**	**254**	PN	Pn	21 42 35.3	-0.2
URZ				AML	AML	21 43 08.5	
URZ				AML	AML	21 43 09.1	
MCHZ	**McNeill Hill**	**3.55**	**236**	*e*PN	Pn	21 42 45.7	-0.4
BKZ	**Black Stump Fm**	**3.55**	**241**	AML	AML	21 43 29.2	
KWHZ	**Kaweka Forest**	**3.72**	**238**	*e*PN	Pn	21 42 47.7	-0.8
MRZ	**Mangatainoka R**	**4.95**	**229**	*e*PN	Pn	21 43 02.8	-2.5
MRZ				*e*SN	Sn	21 43 57.5	-5.0

IDC 19 21:47:09.6±2.3, 16.°90S×177.°35W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.7/27, mbtmp3.8/4, MS3.2/2, Ms1 3.2/2, ms1mx3.0/22, Error ellipse: s-maj=146.4km s-min=34.3km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**17.16**	**107**	LR	LR	21 56 02.8	
	comp=Z,55nm,20.9s,baz=286,slow=31						
PPT	**Papeete**	**26.53**	**96**	LR	LR	22 01 03.6	
	comp=Z,76nm,18.9s,baz=310,slow=31						
ASAR	**Alice Springs**	**46.05**	**253**	P	P	21 55 35.3	-0.2
	0.4nm,0.6s,baz=80,slow=8.3,SNR=5.2						
TXAR	**Lajitas Array**	**84.60**	**57**	P	P	21 59 45.0	-0.5
	0.3nm,0.7s,baz=208,slow=5.1,SNR=3.5						
ILAR	**Eielson Array**	**84.68**	**13**	P	P	21 59 44.9	0.0
	0.7nm,1.1s,baz=218,slow=5.7,SNR=4.0						
PDAR	**Pinedale Array**	**85.92**	**43**	P	P	21 59 52.4	+0.4
	0.6nm,0.7s,baz=225,slow=5.2,SNR=5.4						

*IDC **19** 21:55:30.8±2.4, 36.°91N×141.°03E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, ML3.1/1, MS3.9/4, Ms1 4.0/4, ms1mx3.5/16, Error ellipse: s-maj=41.9km s-min=28.3km az=57.0*
*ISCJB **19** 21:55:31.7±1.0, 37.°10N±0.°03×140.°90E±0.°07, h8km±4km, mb3.4/2, MS4.0/4, Error ellipse: s-maj=9.5km s-min=5.1km az=17.3*
*JMA **19** 21:55:32.6, 37.°12N×140.°83E, h8km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs=229.00000°, δ53.00000°, λ-95.00000°. NP2:ϕs=58.00000°, δ37.00000°, λ-83.00000°. Principal axes: T Plg8.0000°, Azm323.0000°; N Plg4.0000°, Azm232.0000°; P Plg81.0000°, Azm116.0000°;*
JMA Felt III J1.

ISC 19 21:55:30.6±1.6, 37.°07N±0.°05×140.°93E±0.°07, h7km±8km, n15, σ0°98/20, MS4.0/4, 5C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.11**	**285**	⇓P	**Pg**	**21 55 33.9**	**+0.7**
ONAJ				S	**Sg**	**21 55 34.9**	**0.0**
JFK	**Kawauchi**	**0.30**	**351**	⇑P	**Pb**	**21 55 37.6**	**-0.7**
JFK				S	**Sb**	**21 55 41.8**	**-1.6**
JHO	**Hitachi**	**0.55**	**213**	⇑P	**Pn**	**21 55 43.0**	**-1.7**
JHO				S	**Sb**	**21 55 50.4**	**-0.1**
JFT	**Otama**	**0.65**	**313**	⇑P	**Pb**	**21 55 43.8**	**-0.5**
JFT				S	**Sg**	**21 55 51.9**	**+0.2**
JMM	**Marumori**	**0.80**	**352**	⇑P	**Pb**	**21 55 46.6**	**-0.2**
JMM				S	**Sb**	**21 55 57.3**	**-0.5**
JSB	**Shiboa**	**0.82**	**263**	P	**Pn**	**21 55 47.6**	**-0.9**
JSB				S	**Sb**	**21 55 58.1**	**-0.3**
JFY	**Yanaizu**	**1.04**	**289**	⇑P	**Pb**	**21 55 50.7**	**-0.2**
JFY				S	**Sg**	**21 56 03.3**	**-0.7**
MJAR	**Matsushiro Arr**	**2.25**	**257**	Pn	**Pb**	**21 56 10.2**	**-1.4**
	5.4nm,0.3s,baz=80,slow=16,SNR=44						
MJAR				Sn	**Sb**	**21 56 39.9**	**+0.3**
	10.0nm,0.3s,baz=83,slow=28,SNR=14						
MAT	**Matsushiro**	**2.25**	**257**	P	**Pb**	**21 56 10.7**	**-0.9**
MAT				*e*S	**Sn**	**21 56 36.5**	**+0.3**
NRIK	**Noril'sk**	**43.07**	**335**	LR	LR	22 20 43.7	
	comp=Z,58nm,18.9s,baz=106,slow=35						
MKAR	**Makanchi Array**	**43.77**	**302**	P	**P**	**22 03 38.5**	**+1.8**
	0.3nm,0.8s,baz=94,slow=11,SNR=2.6						
PMG	**Port Moresby**	**46.60**	**172**	LR	LR	22 25 08.5	
	comp=Z,52nm,18.1s,baz=256,slow=38						
WRA	**Warramunga Arr**	**57.05**	**187**	P	**P**	**22 05 18.0**	**+0.7**
	0.6nm,0.3s,baz=3.8,slow=7.3,SNR=5.6						
ARCES	**ARCESS Array B**	**63.83**	**339**	LR	LR	22 36 35.9	
	comp=Z,286nm,22.0s,baz=36,slow=38						
AKASG	**Malin Array Be**	**74.03**	**322**	LR	LR	22 43 54.5	
	comp=Z,197nm,20.8s,baz=35,slow=39						

*ISK **19** 21:56:41.2, 37.°07N×28.°59E, h5km, MD2.6*
*ISCJB **19** 21:56:42.3±0.6, 37.°04N±0.°04×28.°53E±0.°05, h5km±12km, Error ellipse: s-maj=7.6km s-min=4.8km az=44.8*
*DDA **19** 21:56:42.4, 37.°05N×28.°49E, h7km, Md2.3*
*CSEM **19** 21:56:42.2±0.2, 37.°06N×28.°56E, h5km, MD2.6, Error ellipse: s-maj=6.4km s-min=3.6km az=39.0*

ISC 19 21:56:43.1±1.0, 37.°06N±0.°04×28.°55E±0.°03, h15km±8km, n17, σ1°53/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.20**	**167**	*i* P	**Pg**	**21 56 48.4**	**+0.8**
TURN				*i* S	**Sg**	**21 56 54.3**	**+3.6**
YER	**Yerkesik**	**0.22**	**289**	*e*PG	**Pg**	**21 56 46.8**	**-1.3**
YER				*e*SG	**Sg**	**21 56 50.9**	**-0.7**
YER	**Yerkesik**	**0.22**	**289**	*e*Pg	**Pg**	**21 56 46.8**	**-1.3**
YER				*e*Sg	**Sg**	**21 56 50.9**	**-0.7**
DALY	**Dalyan (Mu˘la**	**0.26**	**161**	*e*PG	**Pg**	**21 56 46.9**	**-1.8**
DALY	**Dalyan (Mu˘la**	**0.26**	**161**	*e*Pg	**Pg**	**21 56 46.9**	**-1.8**
FETY	**Fethiye**	**0.61**	**135**	*e*PG	**Pg**	**21 56 52.9**	**-2.1**
FETY				*e*SG	**Sg**	**21 57 01.7**	**-1.4**
FETY	**Fethiye**	**0.61**	**135**	*e*Pg	**Pg**	**21 56 52.9**	**-2.1**
FETY				*e*Sg	**Sg**	**21 57 01.7**	**-1.4**
DNZL	**Cakiroluk**	**0.74**	**32**	P	**Pg**	**21 56 56.8**	**-0.8**
DNZL				S	**Sb**	**21 57 09.4**	**+1.5**
DNZL	**Cakiroluk**	**0.74**	**32**	*i* P	**Pg**	**21 56 56.8**	**-0.8**
DNZL				*i* S	**Sb**	**21 57 09.4**	**+1.5**
BDRM	**Kayabasi**	**0.88**	**270**	P	**Pg**	**21 56 59.3**	**-0.9**
BDRM	**Kayabasi**	**0.88**	**270**	*i* P	**Pg**	**21 56 59.3**	**-0.9**
BODT	**Bodrum**	**0.99**	**270**	*e*PG	**Pg**	**21 57 01.4**	**-0.8**
BODT	**Bodrum**	**0.99**	**270**	*e*Pg	**Pg**	**21 57 01.4**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**330**	*e*PG	**Pg**	**21 57 01.7**	**-1.3**
AYDB				*e*SG	**Sb**	**21 57 16.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**330**	*e*Pg	**Pg**	**21 57 01.7**	**-1.3**
AYDB				*e*Sg	**Sb**	**21 57 16.4**	**+0.4**
AKAS	**Kas**	**1.19**	**134**	P	**Pn**	**21 57 06.2**	**+0.9**
AKAS	**Kas**	**1.19**	**134**	*i* P	**Pn**	**21 57 06.2**	**+0.9**

*ISK **19** 22:20:43.3, 39.°42N×26.°14E, h10km, MD2.9*
*CSEM **19** 22:20:43.6±0.1, 39.°42N×26.°16E, h3km±1km, ML1.8, Error ellipse: s-maj=2.7km s-min=1.7km az=80.0*
*DDA **19** 22:20:43.1, 39.°40N×26.°16E, h7km, Md2.7*
*ISCJB **19** 22:20:43.5±0.4, 39.°41N±0.°02×26.°15E±0.°03, h4km±4km, Error ellipse: s-maj=4.3km s-min=2.7km az=174.3*
*THE **19** 22:20:43.6, 39.°41N×26.°14E, h4km±3km, ML2.0/4, Error ellipse: s-maj=3.5km s-min=0.5km az=131.0*
*ATH **19** 22:20:43.6, 39.°42N×26.°16E, h8km±3km, ML1.8/4, Error ellipse: s-maj=3.0km s-min=0.9km az=251.0*

ISC 19 22:20:43.7±0.9, 39.°42N±0.°01×26.°15E±0.°02, h10km±7km, n69, σ0°47/100, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.19**	**151**	P	**Pg**	**22 20 47.5**	**-0.3**
PRK				S	**Sg**	**22 20 50.5**	**-0.1**
PRK	**Paraskevi**	**0.19**	**151**	P	**Pg**	**22 20 47.5**	**-0.3**
PRK				S	**Sg**	**22 20 50.5**	**-0.1**
PRK	**Paraskevi**	**0.19**	**151**	P	**Pg**	**22 20 47.5**	**-0.3**
PRK				AML	AML	22 20 50.7	
	comp=E,1723μm,0.3s						
PRK				S	**Sg**	**22 20 51.1**	**+0.5**
PRK				AML	AML	22 20 52.2	
	comp=N,1254μm,0.3s						
SIGR	**SIGRI**	**0.30**	**228**	PG	**Pg**	**22 20 49.6**	**-0.2**
SIGR				*e*SG	**Sg**	**22 20 55.0**	**+1.1**
SIGR	**SIGRI**	**0.30**	**228**	P	**Pg**	**22 20 49.6**	**-0.2**
SIGR				S	**Sg**	**22 20 54.0**	**+0.1**
SIGR	**SIGRI**	**0.30**	**228**	P	**Pg**	**22 20 49.6**	**-0.2**
SIGR				S	**Sg**	**22 20 53.6**	**-0.3**
SIGR				*e*Sg	**Sg**	**22 20 55.0**	**+1.1**
SIGR	**SIGRI**	**0.30**	**228**	P	**Pg**	**22 20 49.3**	**-0.5**
SIGR				S	**Sg**	**22 20 53.6**	**-0.3**
SIGR				AML	AML	22 20 54.2	
	comp=E,263μm,0.2s						
SIGR				AML	AML	22 20 54.4	
	comp=N,257μm,0.2s						
EZN	**Ezine**	**0.43**	**18**	PG	**Pg**	**22 20 52.3**	**0.0**
EZN	**Ezine**	**0.43**	**18**	P	**Pg**	**22 20 52.2**	**0.0**
EZN				S	**Sb**	**22 20 59.0**	**-0.9**
EZN	**Ezine**	**0.43**	**18**	P	**Pg**	**22 20 52.2**	**0.0**
EZN				S	**Sb**	**22 20 59.0**	**-0.9**
AYVA	**Ayvalik**	**0.43**	**104**	P	**Pg**	**22 20 51.9**	**-0.3**
AYVA				S	**Sg**	**22 20 58.4**	**+0.5**
AYVA	**Ayvalik**	**0.43**	**104**	*i* P	**Pg**	**22 20 51.9**	**-0.3**
AYVA				*i* S	**Sg**	**22 20 58.4**	**+0.5**
BOZC	**Bozcaada**	**0.43**	**350**	*i* P	**Pg**	**22 20 52.4**	**+0.1**
BOZC				*i* S	**Sb**	**22 20 59.0**	**-0.9**
DKL	**Dikili**	**0.68**	**120**	*e*PG	**Pg**	**22 20 56.8**	**-0.1**
DKL	**Dikili**	**0.68**	**120**	*e*Pg	**Pg**	**22 20 56.8**	**-0.1**
GADA	**Gvkgeada**	**0.80**	**346**	*e*PG	**Pg**	**22 20 58.7**	**-0.4**
GADA	**Gvkgeada**	**0.80**	**346**	P	**Pg**	**22 20 58.9**	**-0.2**
GADA				S	**Sg**	**22 21 09.8**	**+0.3**
GADA	**Gvkgeada**	**0.80**	**346**	P	**Pg**	**22 20 58.9**	**-0.2**
GADA				S	**Sg**	**22 21 09.8**	**+0.3**
LIA	**Limnos Island**	**0.89**	**303**	P	**Pg**	**22 21 00.8**	**0.0**
LIA				S	**Sb**	**22 21 13.5**	**+0.5**
LIA	**Limnos Island**	**0.89**	**303**	P	**Pg**	**22 21 00.8**	**0.0**
LIA				S	**Sb**	**22 21 13.5**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.01**	**14**	*e*PG	**Pg**	**22 21 03.3**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.01**	**14**	*e*Pg	**Pg**	**22 21 03.3**	**+0.1**
CHOS	**Chios island**	**1.03**	**184**	*e*PG	**Pb**	**22 21 03.7**	**+0.1**
CHOS	**Chios island**	**1.03**	**184**	P	**Pg**	**22 21 02.9**	**-0.6**
CHOS				S	**Sg**	**22 21 17.1**	**+0.2**
CHOS	**Chios island**	**1.03**	**184**	P	**Pg**	**22 21 02.9**	**-0.6**
CHOS	**Chios island**	**1.03**	**184**	*e*Pg	**Pg**	**22 21 03.7**	**+0.1**
CHOS				S	**Sg**	**22 21 17.1**	**+0.2**
CHOS	**Chios island**	**1.03**	**184**	P	**Pg**	**22 21 02.5**	**-0.9**
CHOS				S	**Sn**	**22 21 18.7**	**0.0**
CHOS				AML	AML	22 21 21.2	
	comp=E,196μm,0.4s						
CHOS				AML	AML	22 21 21.6	
	comp=N,174μm,0.5s						
LPK	**Lapseki**	**1.07**	**26**	*e*PG	**Pb**	**22 21 03.9**	**-0.3**
LPK	**Lapseki**	**1.07**	**26**	*e*Pg	**Pb**	**22 21 03.9**	**-0.3**
URLA	**Izmir**	**1.11**	**162**	P	**Pb**	**22 21 04.4**	**-0.6**
URLA				S	**Sb**	**22 21 19.3**	**-0.1**
URLA	**Izmir**	**1.11**	**162**	*i* P	**Pb**	**22 21 04.4**	**-0.6**
URLA				*i* S	**Sb**	**22 21 19.3**	**-0.1**
SMTH	**Samothraki Isl**	**1.16**	**336**	P	**Pb**	**22 21 05.4**	**-0.3**
SMTH				S	**Sg**	**22 21 21.3**	**+0.3**
SMTH	**Samothraki Isl**	**1.16**	**336**	P	**Pb**	**22 21 05.5**	**-0.3**
SMTH				S	**Sb**	**22 21 20.7**	**-0.1**
SMTH	**Samothraki Isl**	**1.16**	**336**	P	**Pb**	**22 21 05.5**	**-0.3**
SMTH				S	**Sb**	**22 21 20.7**	**-0.1**
SMTH				AML	AML	22 21 23.7	
	comp=N,39μm,0.3s						
SMTH				AML	AML	22 21 23.9	
	comp=E,42μm,0.3s						
BALY	**Balya**	**1.18**	**74**	P	**Pb**	**

TVSB eSg Sg 22 29 29.0 +1.0
KULA Kula-Manisa 0.67 206 ePG Pg 22 29 24.8 -0.7
KULA Kula-Manisa 0.67 206 ePg Pg 22 29 24.8 -0.7
KHL Karahalli 0.88 154 ePG Pb 22 29 30.2 0.0
KHL Karahalli 0.88 154 ePg Pb 22 29 30.2 0.0
AKS Akhisar 0.98 257 ePG Pb 22 29 32.0 0.0
AKS Akhisar 0.98 257 ePg Pb 22 29 32.0 0.0
BALB Balikesir 1.04 301 ePG Pb 22 29 32.6 -0.4
BALB eSG Sn 22 29 47.7 -0.7
BALB Balikesir 1.04 301 ePg Pb 22 29 32.6 -0.4
BALB eSg Sn 22 29 47.7 -0.7
IGD Bursa 1.16 6 iP Pg 22 29 34.0 -0.8
CAVI Cavuskoy 1.25 29 ePN Pg 22 29 36.3 -0.4
CAVI eSN Sn 22 29 54.2 +0.5
CAVI Cavuskoy 1.25 29 ePn Pg 22 29 36.3 -0.4
CAVI eSn Sn 22 29 54.2 +0.5
MDNY Mudanya-Bursa 1.26 355 ePN Pn 22 29 36.6 0.0
MDNY Mudanya-Bursa 1.26 355 ePn Pn 22 29 36.6 0.0
KCTX Karacabey (Bur 1.27 336 ePN Pn 22 29 36.9 +0.1
KCTX eSN Sn 22 29 55.1 +1.1
KCTX Karacabey (Bur 1.27 336 ePn Pn 22 29 36.9 +0.1
KCTX eSn Sn 22 29 55.1 +1.1
IZI Iznik 1.27 15 ePN Pn 22 29 36.9 +0.1
IZI Iznik 1.27 15 ePn Pn 22 29 36.9 +0.1
BORA Eskisehir 1.34 55 P Pg 22 29 38.0 -0.3
BORA Eskisehir 1.34 55 iP Pg 22 29 38.0 -0.3
GONE Gonen-Balikesi 1.40 312 ePN Pg 22 29 39.3 -0.2
GONE Gonen-Balikesi 1.40 312 ePn Pg 22 29 39.3 -0.2
ADVT Abdulvahap 1.43 22 ePN Pb 22 29 39.3 -0.2
ADVT Abdulvahap 1.43 22 ePn Pb 22 29 39.3 -0.2
ARMT Armutlu 1.46 355 ePN Pg 22 29 40.1 -0.5
ARMT Armutlu 1.46 355 ePn Pg 22 29 40.1 -0.5
ESKT Eskisehir 1.46 73 ePN Pg 22 29 40.7 0.0
ESKT Eskisehir 1.46 73 ePn Pg 22 29 40.7 0.0
AYDB Zeytinkoy-Aydi 1.47 218 ePN Pg 22 29 40.6 -0.2
AYDB Zeytinkoy-Aydi 1.47 218 ePn Pg 22 29 40.6 -0.2
EDC Edincik 1.53 324 ePN Pb 22 29 41.0 -0.3
EDC Edincik 1.53 324 ePn Pb 22 29 41.0 -0.3
GULT Gulveren 1.74 40 ePN Pb 22 29 44.1 -0.9
GULT Gulveren 1.74 40 ePn Pb 22 29 44.1 -0.9
MRMT Marmara Adasi 1.86 324 ePN Pn 22 29 45.7 +0.8
MRMT Marmara Adasi 1.86 324 ePn Pn 22 29 45.7 +0.8
SVRH Sivrihisar-ESK 1.96 79 ePN Pn 22 29 47.1 +0.8
SVRH Sivrihisar-ESK 1.96 79 ePn Pn 22 29 47.1 +0.8
GELI Tayfur-Gelibol 2.36 304 ePN Pn 22 29 53.0 +1.3
GELI Tayfur-Gelibol 2.36 304 ePn Pn 22 29 53.0 +1.3
SIGR SIGRI 2.48 273 ePN Pn 22 29 54.8 +1.5
SIGR SIGRI 2.48 273 ePn Pn 22 29 54.8 +1.5

ISCJB ***19*** *22:32:45.6±0.2,53.˙83N±0.˙03×167.˙09W±0.˙03, h116km±1km, mb4.5/81, Error ellipse: s-maj=5.3km s-min=2.9km az=163.9*
MOS ***19*** *22:32:45.3±1.1,53.˙91N×167.˙20W, h109km, mb4.4/22, Error ellipse: s-maj=11.8km s-min=6.4km az=77.9*
NEIC ***19*** *22:32:46.8±0.3,53.˙91N×167.˙18W, h109km±2km, mb4.8/49, Error ellipse: s-maj=6.4km s-min=3.2km az=157.0*
IDC ***19*** *22:32:48.1±0.8,54.˙02N×167.˙19W, h120km±5km, mb3.8/28, mb1 4.0/29,mb1mx3.9/42,mbtmp4.2/29,MS3.5/4, Ms1 3.5/4,ms1mx2.9/37,Error ellipse: s-maj=16.7km s-min=9.6km az=168.0*

ISC 19 22:32:46.5±0.5,53.˙76N±0.˙06×167.˙03W±0.˙04, h112km±3km,h111km;pP-P,n432,σ1§19/467,mb4.5/81, 3C-3D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSOM	Makushin Julie	0.07	41	ePn		Pn	22 33 00.7	-1.2
MSOM	Makushin Julie	0.07	41	ePn		Pn	22 33 00.7	-1.2
MGOD	Makushin Gods	0.10	71	ePn		Pn	22 33 00.8	-1.2
MTBL	Makushin Table	0.29	45	ePn		Pn	22 33 01.7	-0.9
UNV	Unalaska Valle	0.32	75	ePn		Pn	22 33 01.3	-1.3
UNV				eSn		Sn	22 33 12.7	-1.9
AKRB	Akutan Reef Bi	0.67	57	P		Pn	22 33 04.5	-0.3
AKRB				S		Sn	22 33 18.5	-0.2
OKER	Okmok East Rim	0.69	243	P		Pn	22 33 04.4	-0.6
LVA	Lava Point	0.71	55	P		Pn	22 33 04.9	-0.3
OKTU	Okmok Mt. Tuli	0.71	238	P		Pn	22 33 04.7	-0.6
OKRE	Okmok R'deer P	0.72	251	P		Pn	22 33 04.6	-0.6
AKGG	Akutan Green G	0.75	54	P		Pn	22 33 05.1	-0.3
AKGG				S		Sn	22 33 19.1	-0.7
OKAK	Okmok	0.81	257	ePn		Pn	22 33 06.0	0.0
AKUT	Akutan	0.83	63	ePn		Pn	22 33 05.5	-0.6
AKUT				eSn		Sn	22 33 20.2	-0.8
AKSA	Akutan Strait	0.87	64	ePn		Pn	22 33 05.9	-0.7
NIKH	Nikolski High	1.35	235	ePn		Pn	22 33 10.9	-0.8
NIKH				eSn		Sn	22 33 29.6	-1.2
WESP	Westdahl Peak	1.54	61	P		Pn	22 33 14.4	+0.5
WESP				S		Sn	22 33 35.0	+0.1
WEBT	Westdahl Beart	1.57	57	P		Pn	22 33 14.8	+0.5
WESN	West Dahl Nort	1.65	60	ePn		Pn	22 33 15.5	+0.3
SSLW	Shishaldin Wes	1.98	58	P		Pn	22 33 19.4	+0.1
SSLS	Shishaldin Sou	2.02	61	P		Pn	22 33 20.1	+0.3
SSLS				S		Sn	22 33 46.7	+1.4
SSLN	Shishaldin Nor	2.06	58	P		Pn	22 33 20.9	+0.6
ISLZ	Isanotski Laza	2.17	62	P		Pn	22 33 22.2	+0.5
BALA	Baldy Mountain	2.86	58	ePn		Pn	22 33 31.9	+1.2
DTU	Dutton Round H	3.08	62	ePn		Pn	22 33 34.1	+0.6
DTNA	Dutton South F	3.11	62	ePn		Pn	22 33 35.0	+1.0
DOL	Dolgoi Island	3.32	63	P		Pn	22 33 37.7	+0.9
PS4A	Pavlof South-4	3.40	60	P		Pn	22 33 39.8	+1.9
SPIA	Saint Paul Isl	3.88	333	ePn		Pn	22 33 44.9	+0.7
SDPT	Sand Point	4.13	65	ePn		Pn	22 33 47.9	+0.4
SDPT				eSn		Sn	22 34 34.5	-0.4
CHGN	Chignik	5.57	59	ePn		Pn	22 34 07.0	+0.1
CHGN				eSn		Sn	22 35 09.5	0.0
GSMY	Great Sitkin M	5.73	256	ePn		Pn	22 34 09.9	+0.8
GSTD	Great Sitkin T	5.78	256	ePn		Pn	22 34 10.5	+0.6
ANNW	Aniakchak Nort	5.96	54	P		Pn	22 34 13.6	+1.3
ANNE	Aniakchak Nort	6.01	55	P		Pn	22 34 14.4	+1.4
KIKV	Kanaga Island	6.43	257	ePn		Pn	22 34 21.2	+2.6
TAPA	Tanaga Point A	6.83	258	ePn		Pn	22 34 26.2	+2.2
KVTA	Katmai Vly 10	8.03	50	P		Pn	22 34 41.0	+0.8
OHAK	Old Harbor	8.53	61	ePn		Pn	22 34 45.0	-2.0
KDAK	Kodiak Island	9.08	58	eP		Pn	22 34 59.4	+5.0
KDAK				e			22 36 28.1	
KDAK	Kodiak Island	9.08	58	ePn		Pn	22 34 59.4	+5.0
KDAK				eSn		Sn	22 36 28.1	-6.5
SVW2	Sparrevohn	9.59	35	ePn		Pn	22 35 02.9	+1.7
RSO	Redoubt South	10.24	43	ePn		Pn	22 35 12.5	+2.1
GAMB	Gambell	10.33	348	ePn		Pn	22 35 13.3	+2.1
CNPM	China Poot	10.42	50	ePn		Pn	22 35 11.5	-1.1
BRLK	Bradley Lake	10.69	49	ePn		Pn	22 35 16.4	+0.2
TT01	Tatalina	10.82	28	ePn		Pn	22 35 17.9	0.0
TTA	Tatalina	10.84	28	eP		Pn	22 35 18.9	+0.6
TTA	Tatalina	10.84	28	ePn		Pn	22 35 18.9	+0.6
SPU	Mount Spurr	10.94	41	ePn		Pn	22 35 21.7	+2.1
SEW	Seward	11.49	49	ePn		Pn	22 35 25.4	-1.5
SUA	Susitna One	11.62	42	ePn		Pn	22 35 29.1	+0.4
RC01	Rabbit Creek A	11.83	45	ePn		Pn	22 35 30.2	-1.2
PPLA	Purkeypile	11.99	34	ePn		Pn	22 35 36.5	+2.9
PMR	Palmer	12.34	43	eP		Pn	22 35 38.9	+0.8
PMR	Palmer	12.34	43	ePn		Pn	22 35 38.9	+0.8
MID	Middleton Isla	12.70	55	eP		Pn	22 35 40.9	-1.9
MID	Middleton Isla	12.70	55	ePn		Pn	22 35 40.9	-1.9
SML	Sawmill	12.78	43	eP		Pn	22 35 42.5	-1.4
SML	Sawmill	12.78	43	ePn		Pn	22 35 42.5	-1.4
KTH	Kantishna Hill	12.86	34	ePn		Pn	22 35 47.3	+2.3
TRF	Thorofare Moun	13.01	35	ePn		Pn	22 35 48.1	+1.2
SCM	Sheep Creek Mo	13.21	44	eP		Pn	22 35 47.4	-2.1
SCM	Sheep Creek Mo	13.21	44	ePn		Pn	22 35 47.4	-2.1
BPAW	Bear Paw Mtn.	13.21	32	ePn		Pn	22 35 50.7	+1.2
EYAK	Cordova Ski Ar	13.36	51	ePn		Pn	22 35 48.9	-2.5
RND	Reindeer	13.48	37	eP		P	22 35 56.2	-2.1
RND	Reindeer	13.48	37	ePn		P	22 35 56.2	-2.1
DIV	Divide	13.56	49	ePn		Pn	22 35 51.9	-2.2
DIV				eSn		Sn	22 38 21.6	-1.8
KLU	Klutina	13.65	47	ePn		Pn	22 35 52.7	-2.5
KLU				eSn		Sn	22 38 20.4	-5.0
MCK	McKinley	13.65	36	eP		Pn	22 35 56.0	+0.8
MCK	McKinley	13.65	36	ePn		Pn	22 35 56.0	+0.8
RAGM	Ragged Mountai	13.80	52	ePn		Pn	22 35 54.8	-2.4
MLY	Manley	13.95	30	ePn		P	22 36 01.2	-2.3
BMRM	Bremner River	14.03	50	ePn		Pn	22 35 58.4	-1.7
WRH	Wood River Hil	14.41	34	ePn		Pn	22 36 03.8	-1.1
CCB	Clear Creek Bu	14.61	34	ePn		Pn	22 36 05.7	-1.7
CRQM	Cirque	14.64	52	ePn		Pn	22 36 06.1	-1.8
MDM	Murphy Dome	14.68	33	ePn		Pn	22 36 07.4	-0.9
COLA	College	14.74	33	iP		Pn	22 36 07.7	-1.4
COLA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
COLA	College	14.74	33	ePn		Pn	22 36 07.6	-1.4
HDA	Harding Lake	14.76	36	ePn		P	22 36 10.7	-1.7
HDA				eSn		Sn	22 38 41.5	-10
IL1	Eielson Array	15.00	35	ePn		Pn	22 36 10.3	-2.0
ILAR	Eielson Array	15.00	35	P		Pn	22 36 09.9	-2.4
	comp=Z,0.8nm,0.3s,baz=243,slow=9.5,SNR=25							
ILAR				S		Sn	22 38 58.0	+0.2
	comp=Z,0.1nm,0.3s,baz=188,slow=9.3,SNR=2.0							
ILAR				PcP		PcP	22 41 13.2	+0.4
	comp=Z,0.1nm,0.3s,baz=244,slow=3.1,SNR=6.1							
ILAR	Eielson Array	15.00	35	eP		P	22 36 13.6	-1.4
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ILB	Eielson Array	15.00	35	ePn		Pn	22 36 09.9	-2.4
ILB				eSn		Sn	22 38 58.0	+0.2
ILB				ePcP		PcP	22 41 13.2	+0.4
BALM	Baldy	15.09	51	eP		Pn	22 36 12.2	-1.4
BALM				pmax		pmax		
	comp=Z,12nm,0.7s							
BALM	Baldy	15.09	51	ePn		Pn	22 36 12.2	-1.4
	comp=Z,12nm,0.7s							
MENT	Mentasta	15.21	44	ePn		Pn	22 36 15.5	+0.4
	comp=Z,10nm,0.6s							
DOT	Dot Lake	15.41	41	ePn		Pn	22 36 15.5	-2.0
	comp=Z,18nm,0.5s							
COLD	Coldfoot	15.75	25	ePn		P	22 36 23.8	+0.5
	comp=Z,20nm,1.0s							
FYU	Fort Yukon	16.66	31	ePn		P	22 36 33.7	+0.3
	comp=Z,12nm,0.7s							
DHAK	Deception Hill	16.72	60	ePn		P	22 36 35.4	+1.3
	comp=Z,31nm,0.8s							
EGAK	Eagle	17.06	40	ePn		Pn	22 36 36.2	-1.6
	comp=Z,10nm,0.7s							
DAWY	Dawson	17.45	43	eP		Pn	22 36 42.5	0.0
	comp=Z,7.5nm,0.5s							
SKAG	Skagway	18.23	59	eP		Pn	22 36 53.3	+1.5
	comp=Z,54nm,1.1s							
BILL	Bilibino	19.07	329	iP		Pn	22 37 01.0	-0.8
BILL				pmax		pmax		
	comp=Z,15nm,1.1s							
PEA1	Petropavlovsk-	20.90	283	eP		P	22 37 19.8	+0.2
PEA1				epP		pP	22 37 41.9	+1.4
PETK	Petropavlovsk-	20.90	283	P		P	22 37 19.8	+0.1
	comp=Z,4.0nm,0.5s,baz=79,slow=13,SNR=6.6							
PETK				pP		pP	22 37 41.9	+1.4
	comp=Z,6.3nm,0.7s,baz=81,slow=14,SNR=4.7							
DLBC	Dease Lake	20.97	62	P		Pn	22 37 23.8	-0.3
	comp=Z,17nm,0.6s,baz=276,slow=9.8,SNR=46							
DLBC				PcP		PcP	22 41 21.6	-1.4
	comp=Z,1.8nm,0.6s,baz=250,slow=14,SNR=3.1							
INK	Inuvik	21.40	34	P		P	22 37 23.6	-1.2
	comp=Z,23nm,0.5s,baz=188,slow=11,SNR=48							
SEY	Seymchan	22.81	310	P		P	22 37 39.6	+0.2
	comp=Z,4.1nm,0.8s,baz=86,slow=13,SNR=8.1							
SEY				PcP		PcP	22 41 26.6	+0.2
	comp=Z,2.4nm,0.5s,baz=180,slow=4.6,SNR=4.8							
SEY	Seymchan	22.81	310	iP		P	22 37 38.3	-1.1
MA2	Madan	23.58	301	LR		LR	22 47 34.6	
	comp=Z,41nm,18.1s,baz=20,slow=38							
YKA	Yellowknife Ar	28.26	51	P		P	22 38 28.8	+0.2
	comp=Z,4.5nm,0.4s,baz=273,slow=8.1,SNR=95							
YKA				PcP		PcP	22 41 39.5	+0.7
	comp=Z,1.5nm,0.6s,baz=287,slow=2.4,SNR=11							
YKB5	Yellowknife Ar	28.26	51	eP		P	22 38 28.8	+0.2
YKB5				ePcP		PcP	22 41 39.5	+0.7
B08A	Colville Reser	29.99	81	eP		P	22 38 47.0	+2.9
	comp=Z,7.8nm,0.6s							
NEW	Newport	31.33	79	P		P	22 38 58.3	+2.3
	baz=300							
NEW	Newport	31.33	79	eP		P	22 38 58.7	+2.7
NEW				pmax		pmax		
	comp=Z,8.0nm,0.6s							
NEW	Newport	31.33	79	eP		P	22 38 58.7	+2.7
	comp=Z,8.5nm,0.6s							
J05D	Fort Rock, OR	31.57	90	P		P	22 39 00.0	+1.8
	baz=306							
M04C	Macdoel	32.10	93	P		P	22 39 03.2	+0.2
	baz=308							
TIXI	Tiksi	32.29	328	PcP		PcP	22 41 49.0	-0.2
	comp=Z,4.6nm,0.5s,baz=86,slow=2.5,SNR=11							
KCPM	Cahto Peak	32.39	98	eP		P	22 39 05.6	+0.2
KCPM				epP		pP	22 39 28.4	-1.8
BSMT	Bassoo Peak	32.90	79	eP		P	22 39 12.5	+2.6
BLMT	Blacktail Moun	33.06	78	eP		P	22 39 13.9	+2.5
YAK	Yakutsk	33.34	310	LR		LR	22 52 30.9	
	comp=Z,50nm,20.4s,baz=332,slow=36							
YBMT	Yellow Bay	33.34	78	eP		P	22 39 16.1	+2.5
MSO	Missoula	33.91	80	P		P	22 39 20.2	+1.5
	baz=302							
MSO	Missoula	33.91	80	eP		P	22 39 20.8	+2.1
	comp=Z,2.6nm,0.9s							
CHMT	Chamberlain Mo	34.27	79	eP		P	22 39 23.7	+1.9
HLID	Hailey	35.45	85	P		P	22 39 33.6	+1.6
	baz=306							
HLID	Hailey	35.45	85	eP		P	22 39 34.6	+2.7
	comp=Z,10nm,1.8s							
MCMT	McKenzie Canyo	35.65	82	eP		P	22 39 35.8	+2.1
EGMT	Eagleton	35.72	75	P		P	22 39 34.9	+0.8
	baz=302							
BOZ	Bozeman (W)	35.90	80	P		P	22 39 37.9	+2.1
	baz=304							
BOZ	Bozeman (W)	35.90	80	eP		P	22 39 38.3	+2.6
BOZ				pmax		pmax		
	comp=Z,5.0nm,0.6s							
BOZ	Bozeman (W)	35.90	80	eP		P	22 39 38.3	+2.6
	comp=Z,5.3nm,0.6s							
YHH	Holmes Hill	36.84	81	eP		P	22 39 46.3	+2.4
	comp=Z,8.3nm,0.6s							
H17A	Grat Village	37.23	81	P		P	22 39 48.2	+1.1
	baz=306							
KLR	Kul'dur	37.34	289	P		P	22 39 46.1	-1.6
	comp=Z,0.4nm,0.3s,baz=93,slow=9.4,SNR=2.9							
KLR				PcP		PcP	22 42 04.3	0.0
	comp=Z,1.2nm,0.4s,baz=52,slow=3.9,SNR=7.7							
RLMT	Red Lodge	37.58	79	P		P	22 39 50.4	+0.4
	baz=305							
RLMT	Red Lodge	37.58	79	eP		P	22 39 52.7	+2.6
	comp=Z,3.6nm,0.8s							
R11A	Troy Canyon, C	37.98	93	P		P	22 39 56.3	+2.8
	baz=311							
R11A	Troy Canyon, C	37.98	93	eP		P	22 39 56.3	+2.8
	comp=Z,2.2nm,1.0s							
MPMC	Manual Prospec	38.39	97	P		P	22 39 59.7	+2.7
	baz=314							
DUG	Dugway, Tooele	38.44	88	P		P	22 39 59.8	+2.6
	baz=310							
LAO	LASA Array	38.46	75	P		P	22 39 59.5	+2.3
	baz=304							
FURC	Furnace Creek,	38.48	96	P		P	22 40 00.6	+3.2
	baz=313							
TPNV	Topopah Spring	38.52	95	P		P	22 40 00.2	+2.3
	baz=313							
BW06	Boulder Array	38.78	82	P		P	22 40 01.4	+1.3
	baz=307							
BW06	Boulder Array	38.78	82	eP		P	22 40 01.9	+1.8
PD31	Pinedale Array	38.78	82	eP		P	22 40 01.4	+1.3
PDAR	Pinedale Array	38.78	82	P		P	22 40 01.5	+1.3
	comp=Z,0.9nm,0.5s,baz=289,slow=6.8,SNR=5.9							
FCC	Fort Churchill	38.96	52	eP		P	22 40 02.2	+1.1
FCC				pmax		pmax		
	comp=Z,19nm,0.8s							
FCC	Fort Churchill	38.96	52	eP		P	22 40 02.2	+1.1
	comp=Z,19nm,0.8s							
A25A	Svangstu Ranch	39.00	70	P		P	22 40 02.3	+0.6
	baz=302							
GSC	Goldstone, Bar	39.32	97	eP		P	22 40 07.1	+2.6
GSC				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GSC	Goldstone, Bar	39.32	97	eP		P	22 40 07.1	+2.6
	comp=Z,4.7nm,1.0s							
H11N2	WAKE ISLAND Hy	39.43	221	T		T	23 21 43.9	
	baz=24,slow=76,SNR=133							
H11N3	WAKE ISLAND Hy	39.44	221	T		T	23 21 47.9	
	baz=24,slow=76,SNR=190							
H11N1	WAKE ISLAND Hy	39.45	221	T		T	23 21 47.2	
	baz=24,slow=76,SNR=75							
USRK	Usuriysk Ar.	39.99	282	PcP		PcP	22 42 13.2	+0.5
	comp=Z,2.2nm,0.7s,baz=45,slow=2.7,SNR=6.0							
GMRC	Granite Mounta	40.35	97	P		P	22 40 13.3	+0.2
	baz=315							
A28A	Rude Farm, Bot	40.60	69	P		P	22 40 16.2	+1.3
	baz=303,SNR=5.7							
H11S1	WAKE ISLAND Hy	40.62	220	T		T	23 23 21.1	
	baz=24,slow=76,SNR=73							
H11S2	WAKE ISLAND Hy	40.63	220	T		T	23 23 17.4	
	baz=24,slow=76,SNR=54							
K22A	Casper	40.63	80	P		P	22 40 17.1	+1.7
	baz=308							
H11S3	WAKE ISLAND Hy	40.63	220	T		T	23 23 30.0	
	baz=24,slow=76,SNR=33							
E26A	Carlson Angus	40.73	73	P		P	22 40 16.5	+0.5
	baz=305							
B28A	Dugan Ranch, T	40.80	69	P		P	22 40 17.6	+1.1
	baz=304							
IRM	Iron Mountain	41.09	97	P		P	22 40 19.9	+0.8
	baz=315							
H25A	Fruitdale	41.15	76	P		P	22 40 20.6	+1.1
	baz=307							
MJAR	Matsushiro Arr	41.16	268	PcP		PcP	22 42 17.1	+0.5
	comp=Z,1.0nm,0.5s,baz=66,slow=3.6,SNR=6.8							
A29A	Manning Farm,	41.16	68	P		P	22 40 20.6	+1.1
	baz=304							
O20A	White River Ci	41.19	85	P		P	22 40 21.1	+1.1
	baz=310							
O20A	White River Ci	41.19	85	eP		P	22 40 22.2	+2.1
	comp=Z,9.1nm,0.9s							
RSSD	Black Hills	41.20	77	P		P	22 40 20.3	+0.2
	baz=307							
RSSD	Black Hills	41.20	77	eP		P	22 40 21.5	+1.4
RSSD				pmax		pmax		
	comp=Z,5.0nm,0.6s							
RSSD	Black Hills	41.20	77	eP		P	22 40 21.5	+1.4
	comp=Z,5.0nm,0.6s							
D28A	Regan	41.39	71	P		P	22 40 22.6	+1.3
	baz=305							
B30A	Myrvik Farm, E	41.92	68	P		P	22 40 26.7	+1.0
	baz=304,SNR=7.9							
N23A	Red Feather La	42.06	82	P		P	22 40 27.6	+0.4
	baz=310							
ULM	Lac du Bonnet	42.26	65	P		P	22 40 28.8	+0.5
	comp=Z,6.0nm,0.7s,baz=318,slow=8.2,SNR=7.4							
ULM	Lac du Bonnet	42.26	65	eP		P	22 40 29.4	+1.1
	comp=Z,6.4nm,0.8s							
B31A	Greenbush Farm	42.31	68	P		P	22 40 30.2	+1.4
	baz=305,SNR=5.8							
D30A	Buchanan	42.45	70	P		P	22 40 30.2	+0.3
	baz=306							
F29A	Eureka	42.59	72	P		P	22 40 31.5	+0.4
	baz=306							
C31A	Landman Farms,	42.63	69	P		P	22 40 31.6	+0.3
	baz=305,SNR=5.2							
A32A	Rocking H Ranc	42.67	67	P		P	22 40 32.3	+0.6
	baz=305							
B32A	Ashes, Strandq	42.94	67	P		P	22 40 34.6	+0.7
	baz=305							
F30A	Leola	43.04	72	P		P	22 40 35.7	+0.9
	baz=307							
D31A	Mcclafflin, Tow	43.06	70	P		P	22 40 35.7	+0.8
	baz=306,SNR=6.8							
A33A	Warroad	43.26	66	P		P	22 40 37.4	+1.0
	baz=305							
E31A	Nome	43.26	70	P		P	22 40 36.5	0.0
	baz=306							
AGMN	Agassiz Nation	43.37	67	P		P	22 40 38.1	+0.7
	baz=305,SNR=7.3							
AGMN	Agassiz Nation	43.37	67	eP		P	22 40 37.8	+0.5
	comp=Z,9.9nm,0.8s							
B34A	Aery, Baudette	43.92	66	P		P	22 40 42.4	+0.7
	baz=306,SNR=11							
D33A	AnnSam, Waubun	44.05	68	P		P	22 40 43.3	+0.5
	baz=306							
C34A	RKJ Ranch, Bem	44.26	67	P		P	22 40 45.0	+0.5
	baz=306							
J30A	Dallas	44.30	75	P		P	22 40 44.9	0.0
	baz=309							
E33A	Westby DABS, E	44.34	69	P		P	22 40 45.5	+0.4
	baz=307							
SDCO	Great Sand Dun	44.36	85	P		P	22 40 45.7	-0.1
	baz=312							
D34A	Park Rapids	44.44	68	P		P	22 40 46.8	+0.8
	baz=307,SNR=14							
B35A	Bob, Littlefor	44.49	66	P		P	22 40 46.9	+0.6
	baz=306,SNR=8.6							
F33A	5 Mile Ranch,	44.57	70	P		P	22 40 47.2	+0.2
	baz=307							
C35A	Jirik Farms, M	44.74	67	P		P	22 40 48.7	+0.4
	baz=306,SNR=5.3							
H32A	Carlson Farm,	44.74	72	P		P	22 40 48.7	+0.3
	baz=308							
J31A	Geddes	44.75	74	P		P	22 40 49.5	+1.0
	baz=309							
I32A	Karley and Nic	45.02	73	P		P	22 40 50.1	-0.5
	baz=308							
H33A	Prehn Over Nor	45.02	72	P		P	22 40 51.0	+0.3
	baz=308							
D35A	Remer	45.07	67	P		P	22 40 51.8	+0.8
	baz=307,SNR=14							
F34A	Alexandria	45.18	70	P		P	22 40 52.5	+0.7
	baz=308							
E35A	Pequot Lakes	45.19	68	P		P	22 40 52.8	+1.0
	baz=307							
G34A	Benson	45.30	70	P		P	22 40 53.2	+0.4
	baz=308							
C36A	Pine Crest Far	45.33	66	P		P	22 40 53.4	+0.5
	baz=307							
T25A	Trinidad	45.41	85	P		P	22 40 56.

	baz=309						
I37A	**Lemond, Waseca**	47.32	70	P	P	22 41 09.2	+0.7
	baz=310						
O33A	**Hebron**	47.47	77	P	P	22 41 10.4	+0.7
	baz=311						
N34A	**Lincoln**	47.60	76	P	P	22 41 11.2	+0.4
	baz=311						
J37A	**Redenius Farm,**	47.68	71	P	P	22 41 11.8	+0.5
	baz=310,SNR=11						
I38A	**Scanlan Farm,**	47.90	70	P	P	22 41 13.9	+0.9
	baz=310,SNR=6.5						
O34A	**Beatrice**	47.91	76	P	P	22 41 13.5	+0.3
	baz=311						
K37A	**Belmond**	47.98	72	P	P	22 41 13.6	0.0
	baz=310,SNR=7.5						
Q33A	**Connelly Farm,**	48.04	78	P	P	22 41 13.7	-0.5
	baz=312						
N35A	**Tabor**	48.07	75	P	P	22 41 15.4	+1.0
	baz=311						
DAG	**Danmarks Havn**	48.19	9	*i* P	P	22 41 13.8	-1.0
DAG				*i*		22 41 40.7	
DAG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DAG	**Danmarks Havn**	48.19	9	*i* P	P	22 41 13.8	-1.0
	comp=Z,6.6nm,0.6s						
DAG				*i*		22 41 40.7	
J38A	**Wedel Dairy, R**	48.28	70	P	P	22 41 16.3	+0.3
	baz=310,SNR=5.7						
L37A	**Phoenix Point,**	48.33	73	P	P	22 41 16.9	+0.5
	baz=311						
Q34A	**Chapman**	48.60	78	P	P	22 41 19.1	+0.6
	baz=312						
M37A	**Trindle Farm,**	48.62	73	P	P	22 41 19.6	+1.0
	baz=311						
J39A	**Decorah**	48.70	70	P	P	22 41 19.4	+0.3
	baz=310,SNR=24						
L38A	**Oak Wood Farm,**	48.77	72	P	P	22 41 19.8	+0.1
	baz=311,SNR=5.6						
K39A	**Oelwein**	49.00	71	P	P	22 41 21.5	0.0
	baz=311,SNR=7.7						
SUMG	**Summit**	49.02	18	*i* P	P	22 41 21.9	+0.2
SUMG				pmax	pmax		
	comp=Z,18nm,0.6s						
SUMG	**Summit**	49.02	18	*i* P	P	22 41 21.9	+0.2
	comp=Z,18nm,0.6s						
SUMG	**Summit**	49.02	18	*e*P	P	22 41 22.0	+0.2
	comp=Z,17nm,0.6s						
M38A	**Pleasantville**	49.10	73	P	P	22 41 22.7	+0.4
	baz=311						
L39A	**Vinton**	49.32	71	P	P	22 41 24.0	+0.1
	baz=311,SNR=5.1						
K40A	**Colesburg**	49.42	70	P	P	22 41 24.9	+0.2
	baz=311						
T34A	**McClaskey Farm**	49.74	80	P	P	22 41 27.4	+0.2
	baz=313						
S35A	**Otter Creek Ra**	49.80	79	P	P	22 41 28.2	+0.6
	baz=313						
N39A	**Derby Farms, D**	49.85	73	P	P	22 41 28.3	+0.3
	baz=312						
P38A	**Dawn**	50.10	75	P	P	22 41 29.5	-0.3
	baz=312						
L41A	**Preston**	50.19	70	P	P	22 41 30.4	-0.1
	baz=312,SNR=6.9						
S36A	**Lake Cedric, C**	50.20	78	P	P	22 41 30.6	0.0
	baz=313						
Q38A	**Cooks Store, C**	50.50	76	P	P	22 41 32.8	-0.1
	baz=313						
S37A	**Fort Scott**	50.61	78	P	P	22 41 34.0	+0.2
	baz=313,SNR=8.6						
P39B	**Salisbury**	50.64	74	P	P	22 41 34.2	+0.3
	baz=313,SNR=8.2						
TLY	**Talaya**	50.65	306	P	P	22 41 32.8	-1.1
	comp=Z,2.1nm,0.5s,baz=36,slow=8.7,SNR=3.2						
O40A	**La Belle**	50.72	73	P	P	22 41 34.7	+0.2
	baz=312,SNR=18						
Q39A	**Willow Grove F**	50.81	75	P	P	22 41 35.3	+0.1
	baz=313						
R38A	**Fenwick Farm,**	50.86	76	P	P	22 41 35.0	-0.5
	baz=313						
T37A	**Cheneyville 18**	51.00	78	P	P	22 41 36.8	+0.2
	baz=314						
P40A	**Paris**	51.01	74	P	P	22 41 37.0	+0.3
	baz=313,SNR=18						
S38A	**Stockton**	51.23	77	P	P	22 41 38.0	-0.4
	baz=314						
O41A	**Passleys Farm,**	51.28	73	P	P	22 41 38.8	+0.1
	baz=313,SNR=9.2						
TX31	**Lajitas Ar. Si**	51.34	92	*e*P	P	22 41 40.8	+1.3
LTX	**Lajitas**	51.34	92	*e*P	P	22 41 41.0	+1.6
LTX	**Lajitas**	51.34	92	*e*P	P	22 41 41.0	+1.6
TXAR	**Lajitas Array**	51.34	92	P	P	22 41 41.0	+1.6
	comp=Z,2.3nm,0.5s,baz=304,slow=5.5,SNR=39						
TXAR	**Lajitas Array**	51.34	92	P	P	22 41 41.0	+1.6
Q40A	**Laux Farm, Aux**	51.36	74	P	P	22 41 39.4	+0.1
	baz=313,SNR=10.0						
U37A	**Salina**	51.37	79	P	P	22 41 39.7	+0.2
	baz=314						
T38A	**Diamond**	51.42	78	P	P	22 41 39.8	0.0
	baz=314						
P41A	**Barry, Barry**	51.48	73	P	P	22 41 40.3	+0.1
	baz=313,SNR=5.0						
S39A	**Bolivar**	51.53	77	P	P	22 41 40.0	-0.6
	baz=314						
R40A	**Maddies Statio**	51.73	75	P	P	22 41 41.6	-0.5
	baz=314,SNR=7.7						
U38A	**Gravette**	51.78	78	P	P	22 41 42.0	-0.5
	baz=314						
SONA0	**Songino Array**	51.79	301	*e*P	P	22 41 42.5	0.0
SONA0				*e*PcP	PcP	22 42 54.2	+0.1
SONM	**Songino Array**	51.79	301	P	P	22 41 42.5	0.0
	comp=Z,0.6nm,0.6s,baz=47,slow=6.7,SNR=4.6						
SONM				PcP	PcP	22 42 54.2	+0.1
	comp=Z,2.5nm,0.7s,baz=50,slow=1.3,SNR=9.4						
SONM	**Songino Array**	51.79	301	*e*P	P	22 41 43.2	+0.6
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
133A	**Hamilton Ranch**	51.80	85	P	P	22 41 42.9	+0.2
	baz=316						
HDIL	**Hopedale**	51.88	71	P	P	22 41 42.8	-0.4
	baz=313,SNR=7.3						
HDIL	**Hopedale**	51.88	71	*e*P	P	22 41 43.4	+0.2
	comp=Z,26nm,0.8s						
T39A	**Clever**	51.96	77	P	P	22 41 43.3	-0.5
	baz=314						
S40A	**Lebanon**	52.07	76	P	P	22 41 45.3	+0.7
	baz=314						
V38A	**Canehill**	52.16	79	P	P	22 41 45.9	+0.6
	baz=314						
233A	**Rising Star**	52.23	86	P	P	22 41 46.5	+0.6
	baz=316						
Q42A	**Golden Eagle**	52.30	73	P	P	22 41 46.6	+0.3
	baz=314,SNR=5.3						
U39A	**Green Forest**	52.34	78	P	P	22 41 46.2	-0.4
	baz=314						
T40A	**Mansfield**	52.37	76	P	P	22 41 46.8	-0.1
	baz=314						
Y36A	**Durant**	52.44	82	P	P	22 41 47.2	-0.2
	baz=315						
X37A	**Clayton**	52.49	81	P	P	22 41 47.7	-0.1
	baz=315						
V39A	**Pettigrew**	52.62	78	P	P	22 41 49.3	+0.5
	baz=315						
W38A	**Poteau**	52.65	80	P	P	22 41 49.2	+0.2
	baz=315						
333A	**Richland Sprin**	52.68	86	P	P	22 41 49.8	+0.6
	baz=316						
234A	**Clairette**	52.69	85	P	P	22 41 49.4	+0.1
	baz=316						
U40A	**Yellville**	52.72	77	P	P	22 41 49.1	-0.4
	baz=314						
Q43A	**New Douglas**	52.75	73	P	P	22 41 50.3	+0.7
	baz=314,SNR=7.4						
W39A	**Magazine**	52.99	79	P	P	22 41 52.2	+0.8
	baz=315						
433A	**Art**	53.03	87	P	P	22 41 52.9	+1.1
	baz=317						
WHTX	**Lake Whitney,**	53.10	85	P	P	22 41 52.5	+0.3
	baz=316						
334A	**Lometa**	53.12	86	P	P	22 41 53.3	+0.9
	baz=317						
Q44A	**Meyer Farm, Va**	53.16	72	P	P	22 41 52.6	0.0
	baz=314						
SFIN	**Lafayette**	53.23	70	P	P	22 41 53.5	+0.4
	baz=314,SNR=6.9						
SFIN	**Lafayette**	53.23	70	*e*P	P	22 41 53.3	+0.2
	comp=Z,16nm,0.8s						
X39A	**Fountain Ranch**	53.28	80	P	P	22 41 53.9	+0.3
	baz=315						

SCHQ	**Schefferville**	53.45	45	P	P	22 41 54.3	-0.2
	comp=Z,6.7nm,0.7s,baz=333,slow=5.9,SNR=7.7						
SCHQ				PcP	PcP	22 43 00.7	+0.7
	comp=Z,3.1nm,0.6s,baz=16,slow=7.4,SNR=3.6						
SCHQ	**Schefferville**	53.45	45	*e*P	P	22 41 54.3	-0.2
	comp=Z,9.4nm,0.9s						
SCHQ				*e*PcP	PcP	22 43 00.7	+0.7
434A	**Burnet**	53.47	86	P	P	22 41 56.4	+1.4
	baz=317						
S43A	**Fulton Ridge,**	53.48	74	P	P	22 41 54.9	0.0
	baz=314,SNR=9.4						
V41A	**Mountainview**	53.53	77	P	P	22 41 54.8	-0.5
	baz=315						
SCO	**Scoresbysund**	53.54	14	*i* P	P	22 41 54.7	-0.2
SCO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SCO	**Scoresbysund**	53.54	14	*i* P	P	22 41 54.4	-0.5
	comp=Z,4.9nm,0.7s						
SCO	**Scoresbysund**	53.54	14	*i* P	P	22 41 54.7	-0.2
	comp=Z,4.9nm,0.7s						
MIAR	**Mount Ida**	53.57	80	P	P	22 41 55.9	+0.2
	baz=315						
R44A	**Waltonville**	53.58	73	P	P	22 41 55.5	-0.2
	baz=314						
HHC	**Hu-ho-hao-te**	53.73	292	*e*P	P	22 41 59.1	+2.2
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				AMB	AMB		
	comp=Z,67nm,7.3s						
OLIL	**Olney**	53.80	72	*e*P	P	22 41 57.6	+0.4
	comp=Z,9.8nm,0.8s						
S45A	**Carrier Mills**	54.26	73	P	P	22 42 00.5	-0.1
	baz=315						
832A	**Faith Ranch, C**	54.30	90	P	P	22 42 01.2	+0.1
	baz=318						
BLO	**Bloomington**	54.38	71	*e*P	P	22 42 01.6	+0.1
BLO				pmax	pmax		
	comp=Z,11nm,0.5s						
BLO	**Bloomington**	54.38	71	*e*P	P	22 42 01.6	+0.1
	comp=Z,11nm,0.5s						
SADO	**Sadowa**	54.52	61	*e*P	P	22 42 02.6	+0.2
	comp=Z,14nm,0.8s						
USIN	**University of**	54.58	72	*e*P	P	22 42 03.3	+0.4
	comp=Z,26nm,0.6s						
TRQ	**Mont Tremblant**	55.85	57	*e*P	P	22 42 11.7	-0.4
ALLY	**Alegheny Colle**	56.15	64	*e*P	P	22 42 14.8	+0.6
	comp=Z,23nm,0.7s						
ARA0	**ARCESS Array S**	56.67	355	*e*P	P	22 42 16.4	-1.0
ARA0				*e*PcP	PcP	22 43 11.8	-0.5
ARCES	**ARCESS Array B**	56.67	355	P	P	22 42 16.4	-1.0
	comp=Z,1.3nm,0.6s,baz=20,slow=6.8,SNR=8.4						
ARCES				PcP	PcP	22 43 11.8	-0.5
	comp=Z,4.2nm,0.6s,baz=5.5,slow=3.3,SNR=10						
ARCES	**ARCESS Array B**	56.67	355	*e*P	P	22 42 19.3	+1.9
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
N54A	**Moraine State**	56.72	65	P	P	22 42 18.3	+0.1
	baz=315						
LONY	**Lake Ozonia**	56.96	58	*e*P	P	22 42 19.5	-0.3
	comp=Z,8.6nm,0.8s						
FRNY	**Flat Rock**	57.31	58	*e*P	P	22 42 21.7	-0.6
	comp=Z,9.9nm,1.0s						
ZAA1	**Zalesovo Array**	57.33	318	*e*P	P	22 42 21.2	-1.0
ZAA1				*e*PcP	PcP	22 43 14.8	-0.3
ZALV	**Zalesovo Beam**	57.34	318	P	P	22 42 21.2	-1.1
	comp=Z,1.6nm,0.3s,baz=42,slow=6.2,SNR=7.4						
ZALV				PcP	PcP	22 43 14.8	-0.3
	comp=Z,1.4nm,0.5s,baz=42,slow=2.7,SNR=5.1						
ZALV	**Zalesovo Beam**	57.34	318	*e*P	P	22 42 21.8	-0.5
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
Y47A	**UCPARC, Winfie**	57.35	76	P	P	22 42 22.5	-0.3
	baz=316						
Z48A	**Northport**	57.90	76	P	P	22 42 26.1	-0.4
	baz=317						
BINY	**Binghamton**	57.96	61	*e*P	P	22 42 28.1	+1.1
	comp=Z,18nm,0.7s						
O56A	**Blue Knob Stat**	57.97	64	P	P	22 42 26.2	-0.8
	baz=316						
SSPA	**Standing Stone**	58.07	64	*e*P	P	22 42 28.0	+0.3
	comp=Z,19nm,0.6s						
N59A	**State Game Lan**	58.99	62	P	P	22 42 34.5	+0.4
	baz=316						
LUPA	**Lehigh Univers**	59.43	62	*e*P	P	22 42 38.2	+1.1
	comp=Z,20nm,0.5s						
ODNJ	**Ogdensburg**	59.48	61	*e*P	P	22 42 38.1	+0.7
	comp=Z,11nm,0.6s						
BRNJ	**Basking Ridge**	59.79	62	*e*P	P	22 42 40.6	+1.1
	comp=Z,19nm,0.6s						
PAL	**Palisades**	59.90	61	*e*P	P	22 42 41.0	+0.7
PAL				pmax	pmax		
	comp=Z,17nm,0.8s						
PAL	**Palisades**	59.90	61	*e*P	P	22 42 41.0	+0.7
	comp=Z,17nm,0.8s						
WES	**Weston**	60.22	58	*e*P	P	22 42 42.4	0.0
WES				pmax	pmax		
	comp=Z,25nm,0.7s						
WES	**Weston**	60.22	58	*e*P	P	22 42 42.4	0.0
	comp=Z,25nm,0.7s						
KURK	**Kurchatov**	62.26	319	*e*P	P	22 42 55.5	-0.5
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURK	**Kurchatov**	62.26	319	*e*P	P	22 42 55.5	-0.5
	comp=Z,7.8nm,0.9s						
KLMR	**Klimovskoe**	63.79	346	*e*P	P	22 43 03.3	-2.7
KLMR				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MK32	**Makanchi Array**	63.86	314	*e*P	P	22 43 04.9	-1.8
MK32				*e*pP	pP	22 43 35.0	+0.8
MKAR	**Makanchi Array**	63.86	314	P	P	22 43 04.9	-1.8
	comp=Z,0.7nm,0.5s,baz=43,slow=5.6,SNR=13						
MKAR				pP	pP	22 43 35.0	+0.8
	comp=Z,0.9nm,0.8s,baz=31,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	63.86	314	*e*P	P	22 43 05.2	-1.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	64.01	334	*d i*P	P	22 43 07.6	+0.1
ARU				*P	pP	22 43 36.6	+1.6
ARU						22 45 27.6	
ARU				S	S	22 51 33.7	-0.7
ARU				SS	SS	22 55 45.2	+1.3
ARU				pmax	pmax		
	comp=Z,15nm,5.0s						
FIA0	**FINESS Array S**	64.67	353	*e*P	P	22 43 10.5	-1.2
FIA0				*e*PP	pP	22 43 40.3	+1.1
FIA0	**FINESS Array S**	64.67	353	*e*P	P	22 43 10.5	-1.2
FIA0				*e*pP	pP	22 43 40.3	+1.1
FINES	**FINESS Array B**	64.67	353	P	P	22 43 10.5	-1.2
	comp=Z,2.0nm,0.5s,baz=21,slow=7.6,SNR=29						
FINES				pP	pP	22 43 40.3	+1.1
	comp=Z,2.3nm,0.6s,baz=10,slow=8.5,SNR=4.4						
FINES	**FINESS Array B**	64.67	353	*e*P	P	22 43 10.7	-1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	65.53	1	P	P	22 43 16.7	-0.7
	comp=Z,0.7nm,0.5s,baz=359,slow=6.2						
NB200	**NORSAR Array S**	65.53	1	*e*P	P	22 43 16.2	-1.2
NB200				*e*pP	pP	22 43 45.9	+0.9
NOA	**NORSAR Array B**	65.53	1	P	P	22 43 16.2	-1.2
	comp=Z,0.6nm,0.5s,baz=0.8,slow=7.0,SNR=3.3						
NOA				pP	pP	22 43 45.9	+0.9
	comp=Z,1.2nm,0.8s,baz=358,slow=6.7,SNR=4.7						
NOA	**NORSAR Array B**	65.53	1	*e*P	P	22 43 16.7	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
OBN	**Obninsk**	69.75	346	*e*P	P	22 43 44.5	+0.6
OBN				*e*		22 44 10.2	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ABKAR	**Akbulak array**	69.97	329	*e*P	P	22 43 45.1	-0.3
AAK	**Ala-Archa**	70.48	317	P	P	22 43 48.4	-0.4
	comp=Z,1.2nm,0.3s,baz=14,slow=9.0						
KKAR	**Karatay Array**	71.67	319	*e*P	P	22 43 55.3	-0.5
KKAR	**Karatay Array**	71.67	319	*e*P	P	22 43 55.3	-0.5
AKASG	**Malin Array Be**	75.02	349	P	P	22 44 13.4	-1.8
	comp=Z,1.9nm,0.4s,baz=13,slow=6.0,SNR=8.2						
AKASG				pP	pP	22 44 44.0	+0.5
	comp=Z,2.4nm,0.6s,baz=12,slow=5.6,SNR=5.2						
AKASG	**Malin Array Be**	75.02	349	*e*P	P	22 44 13.8	-1.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	**Malin Array Si**	75.02	349	*e*P	P	22 44 13.4	-1.8
AKBB				*e*PP	pP	22 44 44.0	+0.5
AKBB	**Malin Array Si**	75.02	349	*e*P	P	22 44 13.4	-1.8
AKBB				*e*pP	pP	22 44 44.0	+0.5
KIEV	**Kiev**	75.02	349	P	P	22 44 13.6	-1.6

DPC	**Dobruska-Polom**	76.22	358	*e*P	P	22 44 21.9	-0.3
DPC	**Dobruska-Polom**	76.22	358	*e*P	P	22 44 21.9	-0.3
NKC	**Novy Kostel**	76.38	0	*e*P	P	22 44 22.8	-0.2
NKC	**Novy Kostel**	76.38	0	*e*P	P	22 44 22.8	-0.2
STHS	**Stebnicka Huta**	76.96	354	*e*P	P	22 44 27.0	+0.7
STHS				pmax	pmax		
	comp=Z,6.0nm,1.6s						
STHS	**Stebnicka Huta**	76.96	354	*e*P	P	22 44 27.0	+0.7
KOLS	**Kolonicke sedl**	77.38	354	*e*P	P	22 44 28.5	-0.1
KOLS				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KOLS	**Kolonicke sedl**	77.38	354	*e*P	P	22 44 28.5	-0.1
KHC	**Kasperske Hory**	77.48	360	*e*P	P	22 44 29.2	0.0
KHC	**Kasperske Hory**	77.48	360	*e*P	P	22 44 29.2	0.0
CM31	**Chiang Mai Arr**	77.67	284	*e*P	P	22 44 29.8	-0.9
CMAR	**Chiang Mai Arr**	77.67	284	P	P	22 44 29.8	-0.9
	comp=Z,1.5nm,0.8s,baz=20,slow=6.5,SNR=6.3						
CMAR	**Chiang Mai Arr**	77.67	284	*e*P	P	22 44 31.1	+0.4
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CM01	**Chiang Mai Arr**	77.69	284	*e*P	P	22 44 30.5	-0.3
GERES	**GERESS Array B**	77.76	360	P	P	22 44 30.2	-0.7
	comp=Z,0.6nm,0.6s,baz=346,slow=4.5,SNR=4.7						
GERES	**GERESS Array B**	77.76	360	*e*P	P	22 44 31.2	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
VYHS	**Vyhne**	78.00	356	*e*P	P	22 44 31.8	-0.3
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.9s						
VYHS	**Vyhne**	78.00	356	*e*P	P	22 44 31.8	-0.3
CONA	**Conrad Observa**	78.65	358	*i* P	P	22 44 35.9	+0.1
	comp=Z,0.9nm,0.4s						
MOA	**Molln**	78.76	359	*i* P	P	22 44 31.6	-4.7
	comp=Z,0.8nm,0.5s						
MOTA	**Moosalm**	79.25	1	*i* P	P	22 44 38.1	-1.1
	comp=Z,1.8nm,0.5s						
DAVA	**Damuels**	79.29	2	*i* PcP	PcP	22 44 44.7	-2.5
	comp=Z,2.6nm,0.6s						
ARSA	**Arzberg**	79.34	358	*i* P	P	22 44 39.3	-0.1
	comp=Z,0.6nm,0.3s						
KIV	**Kislovodsk**	79.39	339	*e*P	P	22 44 39.0	-0.9
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBZ	**Khabaz**	79.56	338	P	P	22 44 40.3	-0.3
	comp=Z,2.6nm,0.8s,baz=185,slow=24,SNR=5.3						
FETA	**Feichten**	79.57	2	*i* P	P	22 44 41.3	+0.4
	comp=Z,1.0nm,0.4s						
SOKA	**Soboth**	79.92	359	*i* P	P	22 44 42.9	+0.2
	comp=Z,0.9nm,0.4s						
OBKA	**Obir**	80.09	359	*i* P	P	22 44 43.9	+0.2
	comp=Z,2.3nm,0.3s						
GEYT	**Alibeck**	80.71	325	P	P	22 44 46.0	-1.0
	comp=Z,1.4nm,0.6s,baz=350,slow=7.8,SNR=4.5						
GEYT				LR	LR	23 25 04.8	
	comp=Z,75nm,19.2s,baz=150,slow=39						
KAPI	**Kappang**	84.21	253	P	P	22 45 06.6	+1.3
	comp=Z,3.5nm,0.4s,baz=86,slow=14,SNR=3.4						
KAPI	**Kappang**	84.21	253	*e*P	P	22 45 06.6	+1.3
	comp=Z,14nm,1.1s						
BR101	**Keskin Array S**	85.19	344	*e*P	P	22 45 09.8	-0.5
BRTR	**Keskin Array B**	85.19	344	P	P	22 45 09.8	-0.5
	comp=Z,2.6nm,0.8s,baz=16,slow=2.9,SNR=21						
BRTR	**Keskin Array B**	85.19	344	*e*P	P	22 45 10.2	0.0
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ES19	**SONSECA Array**	85.78	13	*e*P	P	22 45 12.3	-0.7
ESDC	**Sonseca Array**	85.79	13	P	P	22 45 12.4	-0.8
	comp=Z,1.2nm,0.5s,baz=345,slow=4.3,SNR=21						
WR1	**Warramunga Arr**	88.98	233	*e*P	P	22 45 28.3	-0.1
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	88.98	233	P	P	22 45 28.3	-0.1
	comp=Z,0.5nm,0.5s,baz=33,slow=5.9,SNR=5.2						
WRA	**Warramunga Arr**	88.98	233	*e*P	P	22 45 29.4	+1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	92.37	232	*e*P	P	22 45 45.2	+1.1
	comp=Z,1.7nm,1.0s						
ASAR	**Alice Springs**	92.37	232	P	P	22 45 45.2	+1.1
	comp=Z,0.5nm,0.6s,baz=37,slow=4.8,SNR=5.3						
TOA1	**Torodi Ar. Sit**	112.66	12	*e*PKiKP	PKiKP	22 51 09.2	-0.6
TORD	**Torodi Ar. Bea**	112.66	12	PKiKP	PKiKP	22 51 09.2	-0.7
	comp=Z,0.5nm,0.4s,baz=345,slow=2.2,SNR=13						
KMBO	**Kilima Mbogo**	123.83	330	*i* PKiKP	PKPdf	22 51 32.2	+0.6
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.2s						
MAW	**Mawson**	152.85	220	PKPbc	PKPbc	22 52 29.2	+0.5
	comp=Z,1.1nm,0.4s,baz=135,slow=2.9,SNR=5.8						
BOSA	**Boshof**	153.31	335	PKPbc	PKPbc	22 52 31.2	+0.1
	comp=Z,2.4nm,0.3s,baz=0.7,slow=3.0,SNR=23						

NIED ***19*** *23:05:00,36.40N×140.90E,h35km,Mw3.6 Best double couple: M₀2.67000×10¹⁴ NP1:φ₀=223.00000°,δ21.00000°, λ112.00000°. NP2:φ₀19.00000°,δ71.00000°,λ82.00000°.*

JMA 19 23:05:00.1±0.1,36.35N×140.91E,h40km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	0.38	314	P	Pn	23 05 08.9	-0.4
JHO				S	Sn	23 05 14.4	-1.3
JYT	**Yasato**	0.59	258	P	Pn	23 05 11.9	-0.2
JYT				S	Sn	23 05 19.9	-0.6
ONAJ	**Iwakimizuishiy**	0.76	353	P	Pn	23 05 13.2	-1.2
ONAJ				S	Sn	23 05 23.3	-1.4
JFK	**Kawauchi**	1.01	358	P	Pn	23 05 17.4	-0.5
JFK				S	Sn	23 05 29.4	-1.6
JAG	**Ashikaga**	1.18	274	P	Pn	23 05 20.4	+0.3
JAG				S	Sn	23 05 35.0	+0.1
JFT	**Otama**	1.25	339	P	Pn	23 05 22.4	+1.2
JFT				S	Sn	23 05 37.9	+1.1
JKT	**Katashina**	1.40	288	P	Pn	23 05 24.3	+1.1
JKT				S	Sn	23 05 41.8	+1.2
MAT	**Matsushi

SGF	**Sodankyl**	**2.46**	**96**	*e*PG	Pn	23 33 39.1	-3.4
SGF				*e*SG	Sn	23 34 13.6	+0.4
SGF	**Sodankyl**	**2.46**	**96**	Sg	Sn	23 34 13.5	+0.4
SGF	**Sodankyl**	**2.46**	**96**	Pg	Pn	23 33 39.1	-3.4
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	23 33 39.2	-4.9
RNF				*e*SG	Sn	23 34 14.1	-2.1
RNF	**Rovaniemi**	**2.58**	**116**	Pb	Pn	23 33 39.2	-5.0
RNF				Sg	Sn	23 34 14.1	-2.1
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*P	Pn	23 33 38.4	-5.9
ARE0				*e*SG	Sn	23 34 14.0	-2.4
ARE0	**ARCESS Array S**	**2.59**	**46**	Pb	Pn	23 33 38.4	-5.9
KEV	**Kevo**	**3.14**	**49**	*e*S	Sn	23 34 24.6	-5.3
KEV				MSG		23 34 26.5	
	comp=Z,3.0nm,0.2s						
KEV	**Kevo**	**3.14**	**49**	Sn	Sn	23 34 24.6	-5.3
OUL	**Oulu**	**3.59**	**138**	*e*PG	Pn	23 33 59.9	+1.9
OUL	**Oulu**	**3.59**	**138**	Pg	Pn	23 33 59.9	+1.9
OUFX	**Oulainen**	**3.94**	**150**	*e*PG	Pn	23 34 05.7	+2.9
OUFX	**Oulainen**	**3.94**	**150**	Pg	Pn	23 34 05.7	+2.9
MSF	**Maaselka**	**3.99**	**115**	*e*P	Pn	23 33 58.2	-5.3
MSF	**Maaselka**	**3.99**	**115**	Pn	Pn	23 33 58.2	-5.3
KU6	**Riekki**	**4.23**	**111**	*e*PG	Pn	23 34 10.3	+3.5
KU6	**Riekki**	**4.23**	**111**	Pg	Pn	23 34 10.3	+3.5

*ISK **19** 23:36:34.9, 36°.97N×28°.31E, h18km, MD2.6*
*DDA **19** 23:36:37.0, 36°.92N×28°.22E, h7km, Md2.4*
*CSEM **19** 23:36:36.2±0.4, 36°.94N×28°.27E, h2km, MD2.4, Error ellipse: s-maj=8.6km s-min=6.2km az=8.0*

ISC 19 23:36:36.0±1.1, 36°.95N±0°.04×28°.29E±0°.03, h5km±12km, n13, σ0§63/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.19**	**360**	PG	**Pg**	**23 36 39.7**	**0.0**
YER				*e*SG	**Sg**	**23 36 42.8**	**+0.5**
YER	**Yerkesik**	**0.19**	**360**	*i* Pg	**Pg**	**23 36 39.7**	**0.0**
YER				*e*Sg	**Sg**	**23 36 42.8**	**+0.5**
TURN	**Turunc**	**0.27**	**106**	*i* P	**Pg**	**23 36 40.3**	**-0.8**
TURN				*i* S	**Sg**	**23 36 44.0**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.32**	**113**	*e*PG	**Pg**	**23 36 41.9**	**-0.3**
DALY				*e*SG	**Sg**	**23 36 47.2**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.32**	**113**	*e*Pg	**Pg**	**23 36 41.9**	**-0.3**
DALY				*e*Sg	**Sg**	**23 36 47.3**	**+0.9**
BDRM	**Kayabasi**	**0.68**	**280**	P	**Pb**	**23 36 50.1**	**-0.3**
BDRM				S	**Sg**	**23 36 58.4**	**+0.5**
BDRM	**Kayabasi**	**0.68**	**280**	*i* P	**Pb**	**23 36 50.1**	**-0.3**
BDRM				*i* S	**Sg**	**23 36 58.4**	**+0.5**
BODT	**Bodrum**	**0.79**	**279**	*e*PG	**Pg**	**23 36 51.0**	**-0.1**
BODT	**Bodrum**	**0.79**	**279**	*e*Pg	**Pg**	**23 36 51.0**	**-0.1**
DNZL	**Cakiroluk**	**0.96**	**39**	P	**Pn**	**23 36 56.2**	**-0.1**
DNZL				S	**Sb**	**23 37 09.2**	**+0.9**
DNZL	**Cakiroluk**	**0.96**	**39**	*i* P	**Pn**	**23 36 56.2**	**-0.1**
DNZL				*i* S	**Sb**	**23 37 09.2**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**343**	*e*PG	**Pg**	**23 36 55.0**	**-1.1**
AYDB				*e*SG	**Sg**	**23 37 09.8**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**343**	*e*Pg	**Pg**	**23 36 55.0**	**-1.1**
AYDB				*e*Sg	**Sg**	**23 37 09.8**	**+0.1**

*ISK **19** 23:37:11.5, 37°.57N×32°.20E, h5km, ML3.4*
*CSEM **19** 23:37:12.7±0.1, 37°.55N×32°.23E, h10km, ML3.4, Error ellipse: s-maj=4.1km s-min=3.7km az=165.0*
*NIC **19** 23:37:13.8±0.4, 37°.59N×31°.89E, h25km, mb4.2, ML3.8*
*DDA **19** 23:37:14.1, 37°.04N×31°.53E, h5km, Md2.9*

ISC 19 23:37:11.0±1.2, 37°.51N±0°.02×32°.25E±0°.02, h9km±12km, n98, σ1§62/106, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KONT	**Konya--Tatoy**	**0.44**	**12**	PG	**Pb**	**23 37 20.0**	**-1.0**
KONT				*e*SG	**Sb**	**23 37 25.9**	**-1.8**
KONT	**Konya--Tatoy**	**0.44**	**12**	*i* Pg	**Pb**	**23 37 20.0**	**-1.0**
KONT				*e*Sg	**Sb**	**23 37 25.9**	**-1.8**
LADK	**Ladik-KONYA**	**0.69**	**8**	*e*PG	**Pb**	**23 37 24.2**	**-1.1**
LADK	**Ladik-KONYA**	**0.69**	**8**	*e*Pg	**Pb**	**23 37 24.2**	**-1.1**
SUTC	**Sutluce-Ispart**	**0.99**	**268**	*e*PG	**Pg**	**23 37 29.7**	**-0.4**
SUTC	**Sutluce-Ispart**	**0.99**	**268**	*e*Pg	**Pg**	**23 37 29.7**	**-0.4**
CHBY	**Cihanbeyli**	**1.18**	**25**	*e*PN	**Pn**	**23 37 34.9**	**+1.0**
CHBY	**Cihanbeyli**	**1.18**	**25**	*e*Pn	**Pn**	**23 37 34.9**	**+1.0**
YESY	**Yesilyurt**	**1.22**	**77**	*e*PN	**Pg**	**23 37 35.9**	**+1.5**
YESY	**Yesilyurt**	**1.22**	**77**	*e*Pn	**Pg**	**23 37 35.9**	**+1.5**
GAZI	**Gazipasa**	**1.28**	**178**	P	**Pn**	**23 37 34.7**	**-0.4**
GAZI				S	**Sb**	**23 37 49.5**	**-2.3**
GAZI	**Gazipasa**	**1.28**	**178**	*i* P	**Pn**	**23 37 34.7**	**-0.4**
GAZI				*i* S	**Sb**	**23 37 49.5**	**-2.3**
BCK	**Bucak**	**1.32**	**268**	*e*PN	**Pb**	**23 37 35.8**	**-0.2**
BCK	**Bucak**	**1.32**	**268**	*e*Pn	**Pb**	**23 37 35.8**	**-0.2**
KIZT	**Kizilcal**	**1.39**	**348**	*e*PN	**Pg**	**23 37 37.2**	**-0.6**
KIZT	**Kizilcal**	**1.39**	**348**	*e*Pn	**Pg**	**23 37 37.2**	**-0.6**
ISP	**Isparta**	**1.40**	**283**	*e*PN	**Pg**	**23 37 37.8**	**-0.2**
ISP	**Isparta**	**1.40**	**283**	*e*Pn	**Pg**	**23 37 37.8**	**-0.2**
ANTB	**Antalya**	**1.41**	**245**	*e*PN	**Pg**	**23 37 38.5**	**+0.4**
ANTB	**Antalya**	**1.41**	**245**	*e*Pn	**Pg**	**23 37 38.5**	**+0.4**
KORT	**Korkueli**	**1.60**	**252**	P	**Pg**	**23 37 41.4**	**-0.3**
KORT				S	**Sg**	**23 38 03.7**	**+1.3**
KORT	**Korkueli**	**1.60**	**252**	*i* P	**Pg**	**23 37 41.4**	**-0.3**
KORT				*i* S	**Sg**	**23 38 03.7**	**+1.3**
IKL	**Isikli**	**1.72**	**137**	*e*PN	**Pg**	**23 37 43.8**	**-0.2**
IKL	**Isikli**	**1.72**	**137**	*e*Pn	**Pg**	**23 37 43.8**	**-0.1**
SERE	**Sereflikochisa**	**1.77**	**36**	*e*PN	**Pb**	**23 37 42.9**	**-0.7**
SERE	**Sereflikochisa**	**1.77**	**36**	*e*Pn	**Pb**	**23 37 42.9**	**-0.7**
GULA	**Gulagac**	**1.78**	**62**	*e*PN	**Pb**	**23 37 43.4**	**-0.4**
GULA	**Gulagac**	**1.78**	**62**	*e*Pn	**Pb**	**23 37 43.4**	**-0.4**
MERS	**Mersin**	**1.93**	**109**	*e*PN	**Pb**	**23 37 46.5**	**+0.1**
MERS	**Mersin**	**1.93**	**109**	*e*Pn	**Pb**	**23 37 46.5**	**+0.1**
NIG	**Nigde**	**1.96**	**72**	*e*PN	**Pb**	**23 37 46.4**	**-0.7**
NIG	**Nigde**	**1.96**	**72**	*e*Pn	**Pb**	**23 37 46.4**	**-0.7**
SVRH	**Sivrihisar-ESK**	**2.01**	**344**	*e*PN	**Pb**	**23 37 45.9**	**-1.9**
SVRH	**Sivrihisar-ESK**	**2.01**	**344**	*e*Pn	**Pb**	**23 37 45.9**	**-1.9**
ELL	**Elmali**	**2.02**	**248**	*e*PN	**Pb**	**23 37 46.8**	**-1.2**
ELL	**Elmali**	**2.02**	**248**	*e*Pn	**Pb**	**23 37 46.8**	**-1.2**
AFSR	**Af¨ar-Bala (A**	**2.04**	**18**	*e*PN	**Pb**	**23 37 46.8**	**-1.4**
AFSR	**Af¨ar-Bala (A**	**2.04**	**18**	*e*Pn	**Pb**	**23 37 46.8**	**-1.4**
GOLH	**Golhisar**	**2.16**	**263**	P	**Pb**	**23 37 50.8**	**+0.5**
GOLH	**Golhisar**	**2.16**	**263**	*i* P	**Pb**	**23 37 50.8**	**+0.5**
KAMT	**Kaman**	**2.18**	**31**	*e*PN	**Pb**	**23 37 49.1**	**-1.6**
KAMT	**Kaman**	**2.18**	**31**	*e*Pn	**Pb**	**23 37 49.1**	**-1.6**
GLHS	**Glhisar (BURDU**	**2.22**	**262**	*e*PN	**Pb**	**23 37 49.7**	**-1.7**
GLHS	**Glhisar (BURDU**	**2.22**	**262**	*e*Pn	**Pb**	**23 37 49.7**	**-1.7**
ESKT	**Eskisehir**	**2.28**	**332**	*e*PN	**Pb**	**23 37 50.2**	**-2.3**
ESKT	**Eskisehir**	**2.28**	**332**	*e*Pn	**Pb**	**23 37 50.2**	**-2.3**
KHL	**Karahalli**	**2.30**	**291**	*e*PN	**Pn**	**23 37 50.5**	**+1.3**
KHL	**Karahalli**	**2.30**	**291**	*e*Pn	**Pn**	**23 37 50.5**	**+1.3**
ALFC	**Alefka**	**2.37**	**173**	P	**Pn**	**23 37 51.2**	**+1.1**
	baz=346						
ALFC				S	**Sn**	**23 38 20.9**	**+1.6**
ALFC	**Alefka**	**2.37**	**173**	P	**Pn**	**23 37 51.2**	**+1.1**
LOD	**Lodumlu**	**2.41**	**10**	*e*PN	**Pn**	**23 37 51.8**	**+1.1**
LOD	**Lodumlu**	**2.41**	**10**	*e*Pn	**Pn**	**23 37 51.8**	**+1.1**
LFK	**Lefkose**	**2.46**	**155**	*e*PN	**Pn**	**23 37 53.0**	**+1.6**
LFK	**Lefkose**	**2.46**	**155**	*e*Pn	**Pn**	**23 37 53.0**	**+1.6**
MAMC	**Mammari**	**2.47**	**161**	P	**Pb**	**23 37 54.1**	**-1.4**
	baz=336						
MAMC	**Mammari**	**2.47**	**161**	P	**Pb**	**23 37 54.1**	**-1.4**
AKAS	**Kas**	**2.48**	**240**	P	**Pb**	**23 37 56.4**	**+0.7**
AKAS	**Kas**	**2.48**	**240**	*i* P	**Pb**	**23 37 56.4**	**+0.7**
AKAS				*i* S	**Sg**	**23 38 31.2**	**+0.7**
AKMC	**Akamas**	**2.48**	**178**	P	**Pn**	**23 37 52.9**	**+1.3**
	baz=352						
AKMC	**Akamas**	**2.48**	**178**	P	**Pn**	**23 37 52.9**	**+1.3**
DNZL	**Cakiroluk**	**2.55**	**275**	P	**Pb**	**23 37 55.0**	**-2.0**
DNZL	**Cakiroluk**	**2.55**	**275**	*i* P	**Pb**	**23 37 55.0**	**-2.0**
KRTS	**Karatas**	**2.67**	**110**	*e*PN	**Pb**	**23 37 57.1**	**-1.9**
KRTS	**Karatas**	**2.67**	**110**	*e*Pn	**Pb**	**23 37 57.1**	**-1.9**
FETY	**Fethiye**	**2.68**	**252**	*e*PN	**Pb**	**23 37 56.6**	**-2.5**
FETY	**Fethiye**	**2.68**	**252**	*e*Pn	**Pb**	**23 37 56.6**	**-2.5**
CSS	**Mathiatis**	**2.69**	**161**	P	**Pn**	**23 37 56.2**	**+1.7**
	baz=336						
CSS	**Mathiatis**	**2.69**	**161**	P	**Pn**	**23 37 56.2**	**+1.7**
GEDZ	**Gediz**	**2.71**	**305**	*e*PN	**Pn**	**23 37 56.2**	**+1.4**
GEDZ	**Gediz**	**2.71**	**305**	*e*Pn	**Pn**	**23 37 56.2**	**+1.4**
CEYT	**Ceyhan**	**2.84**	**99**	*e*PN	**Pb**	**23 38 00.0**	**-1.8**
CEYT	**Ceyhan**	**2.84**	**99**	*e*Pn	**Pb**	**23 38 00.0**	**-1.8**
KOZT	**Kozan**	**2.85**	**90**	*e*PN	**Pb**	**23 37 59.5**	**-2.5**
KOZT	**Kozan**	**2.85**	**90**	*e*Pn	**Pb**	**23 37 59.5**	**-2.5**
TVSB	**Tavsanli**	**2.92**	**312**	*e*PN	**Pn**	**23 37 59.3**	**+1.6**
TVSB	**Tavsanli**	**2.92**	**312**	*e*Pn	**Pn**	**23 37 59.3**	**+1.6**
DALY	**Dalyan (Mu¨la**	**2.95**	**257**	*e*PN	**Pn**	**23 38 00.3**	**+2.2**
DALY	**Dalyan (Mu¨la**	**2.95**	**257**	*e*Pn	**Pn**	**23 38 00.3**	**+2.2**
KULA	**Kula-Manisa**	**3.00**	**291**	*e*PN	**Pn**	**23 38 00.3**	**+1.4**
KULA	**Kula-Manisa**	**3.00**	**291**	*e*Pn	**Pn**	**23 38 00.3**	**+1.4**
DEMI	**Demirci**	**3.17**	**300**	P	**Pn**	**23 38 02.6**	**+1.4**
DEMI	**Demirci**	**3.17**	**300**	*i* P	**Pn**	**23 38 02.6**	**+1.4**
YER	**Yerkesik**	**3.18**	**264**	*e*PN	**Pn**	**23 38 03.7**	**+2.4**
YER	**Yerkesik**	**3.18**	**264**	*e*Pn	**Pn**	**23 38 03.7**	**+2.4**
GULT	**Gulveren**	**3.21**	**336**	*e*PN	**Pn**	**23 38 03.5**	**+1.8**
GULT	**Gulveren**	**3.21**	**336**	*e*Pn	**Pn**	**23 38 03.5**	**+1.8**
CORM	**Corum**	**3.25**	**34**	*e*PN	**Pn**	**23 38 04.1**	**+1.9**
CORM	**Corum**	**3.25**	**34**	*e*Pn	**Pn**	**23 38 04.1**	**+1.9**
CANT	**Cankiri**	**3.27**	**19**	*e*PN	**Pn**	**23 38 04.3**	**+1.8**
TAHT	**Tahtakopru-Hat**	**3.35**	**109**	*e*PN	**Pb**	**23 38 06.7**	**-3.9**
TAHT	**Tahtakopru-Hat**	**3.35**	**109**	*e*Pn	**Pb**	**23 38 06.7**	**-3.9**
SARI	**SarD1r-Kayseri**	**3.42**	**74**	*e*PN	**Pn**	**23 38 07.5**	**+2.8**
AYDB	**Zeytinkoy-Aydi**	**3.48**	**278**	*e*PN	**Pn**	**23 38 07.5**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**3.48**	**278**	*e*Pn	**Pn**	**23 38 07.5**	**+2.0**
ADVT	**Abdulvahap**	**3.51**	**327**	*e*PN	**Pn**	**23 38 07.6**	**+1.9**
ADVT	**Abdulvahap**	**3.51**	**327**	*e*Pn	**Pn**	**23 38 07.6**	**+1.9**
TOS	**Tosya**	**3.78**	**21**	*e*PN	**Pn**	**23 38 11.4**	**+1.9**
TOS	**Tosya**	**3.78**	**21**	*e*Pn	**Pn**	**23 38 11.4**	**+1.9**

*IDC **19** 23:46:30.7±1.2, 33°.51N×138°.45E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/34, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=31.6km s-min=17.2km az=34.0*
*ISCJB **19** 23:46:32.6±0.7, 34°.28N±0°.04×140°.35E±0°.07, h81km±6km, mb3.7/3, Error ellipse: s-maj=10.2km s-min=5.6km az=165.4*
*JMA **19** 23:46:33.7±0.2, 34°.30N×140°.34E, h65km±3km, M3.2*

ISC 19 23:46:33.4±1.0, 34°.28N±0°.04×140°.35E±0°.07, h72km±9km, n18, σ0§71/28, mb3.7/3, 3C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.54**	**14**	⇓P	**Pn**	**23 46 46.6**	**+0.1**
BSO3				X		23 46 56.3	
BSO1	**Boso 1**	**0.64**	**54**	⇓P	**Pn**	**23 46 47.4**	**+0.2**
BSO1				X		23 46 58.2	
BSO4	**Boso 4**	**0.71**	**359**	⇓P	**Pn**	**23 46 48.8**	**+0.3**
BSO4				X		23 46 59.4	
TATJ	**Tateyama 2**	**0.84**	**333**	⇑P	**Pn**	**23 46 50.5**	**+0.4**
TATJ				S	**Sn**	**23 47 03.4**	**+1.0**
JIM2	**Oshima 3**	**0.88**	**300**	P	**Pn**	**23 46 50.1**	**-0.4**
JIM2				S	**Sn**	**23 47 02.4**	**-0.8**
JKO	**Kozu shima**	**1.01**	**265**	P	**Pn**	**23 46 52.3**	**+0.2**
KTJJ	**Kamata 2**	**1.24**	**302**	⇑P	**Pn**	**23 46 54.7**	**-0.3**
KTJJ				S	**Sn**	**23 47 10.5**	**-0.8**
JHJ2	**Mitsune**	**1.25**	**201**	P	**Pn**	**23 46 55.8**	**+0.7**
JHJ2				S	**Sn**	**23 47 11.7**	**+0.3**
JHJ	**Hachijo jima 2**	**1.25**	**202**	Pn	**Pn**	**23 46 55.8**	**+0.6**
	47nm,0.3s,baz=27,slow=23,SNR=60						
JHJ				Sn	**Sn**	**23 47 12.0**	**+0.5**
	162nm,0.3s,baz=123,slow=22,SNR=24						
JIZS	**Izushimoda**	**1.29**	**290**	⇑P	**Pn**	**23 46 55.9**	**+0.2**
JIZS				*e*S	**Sn**	**23 47 12.6**	**+0.2**
JOD2	**Odawara 2**	**1.43**	**314**	P	**Pn**	**23 46 57.2**	**-0.3**
JOD2				S	**Sn**	**23 47 15.3**	**-0.4**
JYN	**Shimob**	**1.92**	**310**	P	**Pn**	**23 47 04.7**	**+0.6**
JYN				S	**Sn**	**23 47 28.8**	**+1.4**
SHZ3	**Shizuoka 3**	**1.93**	**295**	P	**Pn**	**23 47 05.2**	**+1.0**
MJAR	**Matsushiro Arr**	**2.85**	**323**	Pn	**Pn**	**23 47 17.8**	**+1.1**
	5.9nm,0.3s,baz=152,slow=12,SNR=28						
MJAR				Sn	**Sn**	**23 47 49.7**	**-0.3**
	9.7nm,0.3s,baz=203,slow=17,SNR=14						
MAT	**Matsushiro**	**2.86**	**323**	P	**Pn**	**23 47 18.0**	**+1.3**
MAT				S	**Sn**	**23 47 50.4**	**+0.4**
SONM	**Songino Array**	**28.71**	**308**	P	**P**	**23 52 23.9**	**+0.1**
	0.4nm,0.4s,baz=111,slow=7.9,SNR=3.5						
MKAR	**Makanchi Array**	**44.90**	**304**	P	**P**	**23 54 40.5**	**-0.2**
	0.7nm,0.6s,baz=90,slow=7.8,SNR=4.4						
WRA	**Warramunga Arr**	**54.22**	**187**	P	**P**	**23 55 50.8**	**-1.0**
	1.0nm,0.4s,baz=3.4,slow=7.9,SNR=28						

IDC 20 00:10:13.5±3.7, 5°.68S×150°.84E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/32, mbtmp3.6/2, Error ellipse: s-maj=148.5km s-min=48.2km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.41**	**227**	P	P	00 15 03.3	+0.2
	1.1nm,0.6s,baz=53,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.20**	**221**	P	P	00 15 32.0	0.0
	1.1nm,0.7s,baz=57,slow=9.2,SNR=11						
TORD	**Torodi Ar. Bea**	**146.70**	**286**	PKPbc	PKPbc	00 30 03.1	-0.7
	0.4nm,0.6s,baz=73,slow=2.1,SNR=6.4						

*ISCJB **20** 00:10:41.4±0.6, 12°.95N×0°.07×88°.94W±0°.05, h73km±6km, mb3.6/5, Error ellipse: s-maj=12.7km s-min=4.1km az=32.9*
*IDC **20** 00:10:41.5±9.3, 12°.74N×88°.59W, h76km±62km, mb3.4/5, mb1 3.7/6, mb1mx3.4/32, mbtmp3.7/6, ML3.8/1, MS3.3/3, Ms1 3.4/3, ms1mx2.8/19, Error ellipse: s-maj=91.4km s-min=37.2km az=23.0*
*CASC **20** 00:10:42.4±2.2, 12°.92N×88°.94W, h36km±879km, MD4.5, ML3.7, mb4.0(NEIC)*

ISC 20 00:10:41.8±1.2, 12°.93N±0°.08×88°.96W±0°.06, h65km±10km, n39, σ1§40/48, mb3.5/5, 1C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNVI	**San Vicente**	**0.69**	**9**	*i* P	**Pn**	**00 10 56.3**	**-0.2**
LFRS	**El Faro**	**0.70**	**351**	||*i*P	**Pn**	**00 10 55.9**	**-0.6**
SNET	**Serv Nac Est T**	**0.80**	**340**	||*i*P	**Pn**	**00 10 57.3**	**-0.4**
SNET				*e*S	**Sn**	**00 11 08.5**	**-0.8**
SNET				AML	AML	00 11 10.5	
	comp=Z,7μm,0.3s						
COLS	**Colinas**	**0.81**	**335**	*i* P	**Pn**	**00 10 57.5**	**-0.2**
COLS				*e*S	**Sn**	**00 11 08.5**	**-1.0**
LBRS	**Las Brisas**	**0.81**	**354**	||*e*P	**Pn**	**00 10 57.8**	**0.0**
LCY	**Lacayo**	**0.81**	**52**	||*e*P	**Pn**	**00 10 57.8**	**0.0**
PACA	**Pacayal**	**0.82**	**49**	||*i*P	**Pn**	**00 10 58.1**	**+0.2**
VSM	**San Miguel**	**0.83**	**53**	||*i*P	**Pn**	**00 10 58.4**	**+0.2**
LFU	**La Fuente**	**0.83**	**349**	||*i*P	**Pn**	**00 10 57.9**	**-0.2**
BOQS	**Boqueron**	**0.86**	**338**	*i* P	**Pn**	**00 10 58.6**	**+0.1**
BOQS				*e*S	**Sn**	**00 11 10.9**	**-0.1**
BLLM	**Bellamira**	**0.86**	**54**	*e*P	**Pn**	**00 10 58.7**	**+0.3**
CAHU	**Cacacuatique**	**1.11**	**41**	*e*P	**Pn**	**00 11 02.4**	**+0.7**
CAHU				*e*S	**Sn**	**00 11 17.1**	**+0.7**
SBLS	**San Blas**	**1.11**	**324**	*i* P	**Pn**	**00 11 02.6**	**+0.8**
SNJE	**San Jose**	**1.13**	**326**	*e*P	**Pn**	**00 11 02.4**	**+0.5**
MONT	**Ecomontaæa**	**1.14**	**324**	*e*P	**Pn**	**00 11 02.8**	**+0.6**
CNCH	**Conchagua**	**1.15**	**72**	*i* P	**Pn**	**00 11 02.8**	**+0.3**
CNCH				*e*S	**Sn**	**00 11 18.1**	**+0.9**
CUS1	**Cusmapa**	**1.37**	**316**	*i* P	**Pn**	**00 11 05.6**	**+0.6**
CUS1				*e*S	**Sn**	**00 11 22.1**	**-0.4**
RBDL	**Robledal**	**1.38**	**329**	*e*P	**Pn**	**00 11 05.9**	**+0.7**
CNGN	**Cerro Negro**	**2.24**	**101**	*e*P	**Pn**	**00 11 16.8**	**+0.1**
CNGN				*e*S	**Sn**	**00 11 43.4**	**0.0**
MOMN	**Momotombo**	**2.41**	**102**	*e*P	**Pn**	**00 11 18.7**	**-0.3**
COPN	**Copaltepe**	**2.42**	**108**	*e*P	**Pn**	**00 11 18.8**	**-0.4**
ESTN	**Estel**	**2.53**	**86**	*e*P	**Pn**	**00 11 21.2**	**+0.7**
APYN	**Apoyeque**	**2.63**	**105**	*e*P	**Pn**	**00 11 22.1**	**+0.1**
XAVN	**Gruta Xavier**	**2.68**	**107**	*e*P	**Pn**	**00 11 22.4**	**-0.2**
TISN	**Laguna Tiscapa**	**2.74**	**106**	*e*P	**Pn**	**00 11 23.6**	**+0.2**
MGAN	**Managua**	**2.75**	**106**	*e*P	**Pn**	**00 11 23.6**	**-0.1**
MGAN				*e*S	**Sn**	**00 11 54.4**	**-1.4**
MGAN				AML	AML	00 11 56.2	
	comp=E,189nm,0.4s						
JCR	**Jicaral**	**4.85**	**129**	*e*P	**Pn**	**00 11 54.7**	**+2.3**
CGA2	**Cerro Gallo 2**	**5.27**	**123**	*e*P	**Pn**	**00 12 02.1**	**+4.0**
CGA2				*e*S	**Sn**	**00 12 58.3**	**+0.7**
QCR	**Quepos**	**5.85**	**126**	||*e*P	**Pn**	**00 12 09.3**	**+3.4**
QCR				*e*S	**Sn**	**00 13 08.4**	**-3.3**
URSC	**Urasca**	**5.93**	**121**	*e*P	**Pn**	**00 12 10.8**	**+3.5**
TEIG	**Tepich**	**7.29**	**5**	P	**Pn**	**00 12 27.4**	**+1.8**
	comp=E,1.7nm,0.3s,baz=268,slow=23,SNR=11						
TXAR	**Lajitas Array**	**21.29**	**322**	P	**P**	**00 15 25.8**	**+2.7**
	comp=E,0.7nm,0.5s,baz=138,slow=11,SNR=15						
SJG	**San Juan**	**22.56**	**74**	LR	LR	00 25 08.4	
	comp=E,54nm,19.5s,baz=272,slow=39						
SADO	**Sadowa**	**32.82**	**13**	P	**P**	**00 17 09.0**	**0.0**
	comp=E,1.6nm,0.6s,baz=225,slow=11,SNR=4.0						
SADO				LR	LR	00 29 34.2	
	comp=E,44nm,19.4s,baz=108,slow=34						
YKA	**Yellowknife Ar**	**52.77**	**345**	P	**P**	**00 19 50.3**	**+0.4**
	comp=E,2.0nm,0.8s,baz=141,slow=7.8,SNR=21						
YKA	**Yellowknife Ar**	**52.77**	**345**	P	**P**	**00 19 50.4**	**+0.4**
YKA	**Yellowknife Ar**	**52.77**	**345**	P	**P**	**00 19 50.4**	**+0.4**
ILAR	**Eielson Array**	**65.00**	**336**	P	**P**	**00 21 15.0**	**+0.3**
	comp=E,0.3nm,0.9s,baz=105,slow=5.1,SNR=4.1						
ILAR				LR	LR	00 52 33.1	
	comp=E,43nm,18.5s,baz=245,slow=38						
TORD	**Torodi Ar. Bea**	**87.74**	**77**	P	**P**	**00 23 21.1**	**-3.1**
	comp=E,0.3nm,0.9s,baz=299,slow=5.0,SNR=2.3						

*KRSC **20** 00:12:51.8±0.4, 60°.71N×165°.60E, h6km±3km, ML4.7, FELT [II-III] at Tilichiki; [II] at Korf.*
*MOS **20** 00:12:52.1±1.7, 60°.72N×165°.66E, h7km, mb3.9/5, Error ellipse: s-maj=20.3km s-min=10.6km az=85.6*
MOS Felt (II) at Tilichiki, Korf.
*ISCJB **20** 00:12:53.7±0.4, 60°.70N±0°.04×165°.58E±0°.08, h15km, mb3.8/10, MS3.2/7, Error ellipse: s-maj=6.0km s-min=5.2km az=146.4*
*IDC **20** 00:12:54.2±1.4, 60°.84N×165°.62E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/50, mbtmp3.7/9, ML5.1/1, MS3.1/11, Ms1 3.1/11, ms1mx3.0/33, Error ellipse: s-maj=38.3km s-min=12.7km az=168.0*
*NEIC **20** 00:12:58.9±0.9, 60°.83N×165°.57E, h35km, mb4.0/6, Error ellipse: s-maj=24.1km s-min=8.7km az=169.0*
NEIC Felt [II] at Korf and Tilichiki.

ISC 20 00:12:55.2±0.6, 60°.66N±0°.04×165°.71E±0°.05, h15km, n31, σ1§83/32, mb3.7/10, MS3.0/7, 1C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TILK	**Tilichiki**	**0.30**	**134**	PN	**Pg**	**00 13 00.1**	**-1.4**
TILK				S	**Sg**	**00 13 06.3**	**+0.5**
TILK	**Tilichiki**	**0.30**	**134**	*i* P	**Pg**	**00 13 00.1**	**-1.4**
TILK				*i* S	**Sg**	**00 13 06.3**	**+0.5**
KMSK	**Kamenskaya**	**1.83**	**7**	PN	**Pn**	**00 13 24.5**	**-1.6**
KMSK				S	**Sb**	**00 13 47.3**	**-3.8**
KMSK	**Kamenskaya**	**1.83**	**7**	*i* P	**Pn**	**00 13 24.5**	**-1.6**
KMSK				*e*S	**Sb**	**00 13 47.3**	**-3.8**
OSSR	**Ossora**	**1.94**	**225**	PN	**Pn**	**00 13 26.4**	**-1.1**
OSSR				S	**Sn**	**00 13 51.4**	**-0

JOU	**Okura**	**1.00 275**	P	**Pn**	**00 41 56.6**	**-0.3**
JOU			S	**Sn**	**00 42 08.5**	**-1.3**
JFK	**Kawauchi**	**1.25 223**	P	**Pn**	**00 42 00.1**	**-0.2**
JFK			*e*S	**Sn**	**00 42 14.6**	**-1.3**
JOM	**Ohasama**	**1.28 337**	P	**Pn**	**00 42 01.4**	**+0.6**
JOM			*e*S	**Sn**	**00 42 16.7**	**-0.1**
JYK	**Kaneyama**	**1.39 297**	P	**Pn**	**00 42 01.9**	**-0.3**
JYK			*e*S	**Sn**	**00 42 18.7**	**-0.5**
JFT	**Otama**	**1.48 239**	P	**Pn**	**00 42 03.8**	**+0.3**
JFT			*e*S	**Sn**	**00 42 21.1**	**-0.5**
JRG	**Rokugo**	**1.50 318**	P	**Pn**	**00 42 04.5**	**+0.7**
JRG			*e*S	**Sn**	**00 42 22.9**	**+0.8**
MJAR	**Matsushiro Arr**	**3.44 241**	Pn	**Pn**	**00 42 31.5**	**+1.1**
	2.9nm,0.3s,baz=48,slow=10,SNR=27					
MJAR			Sn	**Sn**	**00 43 15.1**	**+5.1**
	2.4nm,0.3s,baz=78,slow=22,SNR=4.7					
MJAR			LR	LR	00 44 07.1	
	comp=Z,128nm,20.2s,baz=45,slow=44					
MAT	**Matsushiro**	**3.44 241**	P	**Pn**	**00 42 33.2**	**+2.7**
MAT			*e*S	**Sn**	**00 43 11.8**	**+1.8**
JHJ	**Hachijo jima 2**	**5.45 199**	Pn	**Pn**	**00 42 58.4**	**+0.4**
	8.9nm,0.3s,baz=303,slow=23,SNR=6.6					
JHJ			Sn	**Sn**	**00 43 58.9**	**-0.5**
	11nm,0.3s,baz=72,slow=21,SNR=6.2					
USRK	**Ussuriysk Ar.**	**9.53 311**	Pn	**Pn**	**00 43 53.7**	**-0.3**
	0.3nm,0.3s,baz=125,slow=15,SNR=3.3					
JNU	**Nakatsue**	**10.36 243**	LR	LR	00 48 27.4	
	comp=Z,82nm,18.2s,baz=312,slow=40					
KSRS	**Korea Array**	**11.11 270**	LR	LR	00 48 04.2	
	comp=Z,65nm,20.2s,baz=176,slow=35					
PETK	**Petropavlovsk-**	**18.40 31**	LR	LR	00 54 02.0	
	comp=Z,24nm,18.0s,baz=268,slow=41					
SONM	**Songino Array**	**27.45 302**	P	**P**	**00 47 22.7**	**+1.0**
	0.3nm,0.4s,baz=90,slow=8.6,SNR=4.1					
H11N2	**WAKE ISLAND Hy 28.46 123**		T	T	01 17 46.1	
	baz=316,slow=75,SNR=146					
H11N1	**WAKE ISLAND Hy 28.47 124**		T	T	01 17 50.2	
	baz=316,slow=75,SNR=452					
H11N3	**WAKE ISLAND Hy 28.48 123**		T	T	01 17 51.7	
	baz=316,slow=75,SNR=313					
H11S1	**WAKE ISLAND Hy 29.22 125**		T	T	01 18 39.2	
	baz=318,slow=76,SNR=117					
H11S3	**WAKE ISLAND Hy 29.22 126**		T	T	01 18 39.4	
	baz=318,slow=76,SNR=196					
H11S2	**WAKE ISLAND Hy 29.24 126**		T	T	01 18 44.5	
	baz=318,slow=76,SNR=132					
ZALV	**Zalesovo Beam**	**41.39 311**	P	**P**	**00 49 21.2**	**-0.3**
	0.4nm,0.3s,baz=86,slow=7.4,SNR=3.6					
MKAR	**Makanchi Array**	**43.81 301**	P	**P**	**00 49 40.2**	**-1.2**
	0.2nm,0.4s,baz=76,slow=7.8,SNR=4.9					
ILAR	**Eielson Array**	**48.22 33**	P	**P**	**00 50 16.2**	**+0.4**
	0.2nm,0.7s,baz=273,slow=6.0,SNR=4.2					
WRA	**Warramunga Arr**	**58.36 188**	P	**P**	**00 51 29.8**	**-0.8**
	0.6nm,0.6s,baz=6.2,slow=7.1,SNR=11					
ASAR	**Alice Springs**	**62.09 188**	P	**P**	**00 51 56.0**	**-0.2**
	0.8nm,0.8s,baz=6.9,slow=6.6,SNR=4.9					

NIED ***20*** *00:50:00,39.30N×142.50E,h32km,Mw3.6 Best double couple: M₀2.87000×10¹⁴ NP1:φs130.00000°,δ27.00000°, λ-52.00000°. NP2:φs269.00000°,δ69.00000°, λ-107.00000°.*

JMA ***20*** *00:50:56.2±0.1,39.27N×142.49E,h33km±1km,M4.0*

JMA Felt I J1.

IDC ***20*** *00:51:01.1±4.2,39.20N×142.53E,h82km±37km,mb3.1/3, mb1 3.4/5,mb1mx3.1/33,mbtmp3.4/5,MS2.9/2,Ms1 2.9/2, ms1mx2.5/18,Error ellipse: s-maj=41.8km s-min=24.2km az=90.0*

ISC 20 00:50:52.7±2.1,**39°32N**±0°04×**142°59E**±0°08,**h7**km±11km, **n16**,σ1§**82**/22,**mb3.1**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.65**	**293**	P	**Pn**	**00 51 08.1**	**-0.1**
MIYJ				*e*S	**Sb**	**00 51 16.4**	**+0.9**
OFUJ	**Ofunato**	**0.75**	**252**	P	**Pn**	**00 51 09.1**	**-0.6**
OFUJ				*e*S	**Sb**	**00 51 18.0**	**-0.5**
JTH	**Tanohata**	**0.83**	**318**	P	**Pn**	**00 51 11.3**	**+0.5**
JTH				*e*S	**Sn**	**00 51 22.2**	**-1.1**
JOM	**Ohasama**	**1.01**	**279**	P	**Pn**	**00 51 13.5**	**+0.2**
JOM				*e*S	**Sb**	**00 51 26.0**	**-0.1**
JMK	**Ichinoseki**	**1.13**	**251**	P	**Pn**	**00 51 14.6**	**-0.2**
JMK				*e*S	**Sb**	**00 51 27.9**	**-1.4**
JKZ	**Kuzumaki**	**1.18**	**305**	P	**Pg**	**00 51 16.7**	**+1.5**
JKZ				*e*S	**Sn**	**00 51 31.3**	**-0.5**
JIO	**Ouri**	**1.30**	**229**	P	**Pg**	**00 51 16.7**	**-0.9**
JIO				*e*S	**Sb**	**00 51 31.5**	**-2.7**
JANG	**Nango**	**1.34**	**322**	P	**Pg**	**00 51 18.7**	**+0.4**
JRG	**Rokugo**	**1.52**	**273**	*e*S	**Sg**	**00 51 40.5**	**-0.9**
MJAR	**Matsushiro Arr**	**4.44**	**233**	P	**Pn**	**00 52 03.7**	**+3.3**
	1.7nm,0.3s,baz=42,slow=10,SNR=25						
MJAR				LR	LR	00 53 52.0	
	comp=Z,48nm,19.4s,baz=100,slow=40						
MAT	**Matsushiro**	**4.44**	**233**	P	**Pn**	**00 52 03.8**	**+3.4**
MAT				*e*S	**Sn**	**00 52 56.5**	**+4.2**
USRK	**Ussuriysk Ar.**	**9.30**	**305**	P	Pn	00 53 13.6	+6.6
	0.1nm,0.3s,baz=104,slow=15,SNR=3.9						
TIXI	**Tiksi**	**33.14**	**352**	LR	LR	01 14 12.6	
	comp=Z,49nm,18.3s,baz=176,slow=42						
MKAR	**Makanchi Array**	**43.73**	**300**	P	**P**	**00 58 57.9**	**-0.5**
	0.2nm,0.5s,baz=86,slow=8.8,SNR=2.5						
ILAR	**Eielson Array**	**47.07**	**33**	P	**P**	**00 59 24.9**	**+0.3**
	0.1nm,0.5s,baz=265,slow=6.2,SNR=2.9						
WRA	**Warramunga Arr**	**59.46**	**189**	P	**P**	**01 00 54.5**	**-1.6**
	1.1nm,0.5s,baz=6.4,slow=7.1,SNR=27						

NIED ***20*** *01:06:00,22.50N×121.60E,h5km,Mw4.1 Best double couple: M₀1.63000×10¹⁵ NP1:φs241.00000°,δ54.00000°, λ148.00000°. NP2:φs351.00000°,δ65.00000°,λ40.00000°.*

IDC ***20*** *01:06:31.6±0.7,22.19N×121.36E,h0km,mb4.0/16, mb1 4.1/17,mb1mx3.9/51,mbtmp4.0/17,ML3.5/1,MS3.2/5, Ms1 3.2/5,ms1mx2.9/45,Error ellipse: s-maj=28.9km s-min=14.3km az=69.0*

ISCJB ***20*** *01:06:33.1±0.4,22.35N±0.02×121.54E±0.02,h20km±3km, mb4.0/21,MS3.2/4,Error ellipse: s-maj=3.4km s-min=2.9km az=145.9*

JMA ***20*** *01:06:33.7±0.1,22.53N×121.56E,h1km±2km,M4.5*

BJI ***20*** *01:06:34.6,22.50N×121.32E,h5km,mb3.8/2,ML3.5/3, Ms3.8/3,Ms7 3.7/4*

NEIC ***20*** *01:06:34.3,22.42N×121.38E,h14km,mb4.4/5, ML4.6(TAP),After TAP.*

NEIC Recorded [2 TAP] in Taitung.

TAP ***20*** *01:06:35.1,22.44N×121.39E,h30km,ML4.5,B*

ISC 20 01:06:32.3±1.2,**22°41N**±0°02×**121°51E**±0°03,**h4**km±8km, **n120**,σ1§**16**/157,**mb4.1**/21,**MS3.4**/4,**18C-4D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.37**	**174**	⇑*i*P	**Pn**	**01 06 43.7**	**-0.7**
	baz=152						
TTN	**Taitung**	**0.48**	**316**	P	**Pb**	**01 06 44.3**	**+1.0**
	baz=329						
ECL	**Taimali**	**0.55**	**290**	*i* P	**Pb**	**01 06 44.0**	**-0.5**
	baz=292						
TAW	**Tawu**	**0.57**	**265**	⇑*i*P	**Pb**	**01 06 44.5**	**-0.3**
	baz=259						
TAW				*e*S	**Sg**	**01 06 50.2**	**-0.5**
	baz=259						
TWG	**Pinlang**	**0.58**	**316**	⇑*i*P	**Pb**	**01 06 45.0**	**+0.1**
	baz=312						
TWG				*e*S	**Sg**	**01 06 51.4**	**+0.5**
	baz=312						
TWG	**Pinlang**	**0.58**	**316**	*e*Pn	**Pb**	**01 06 44.6**	**-0.3**
TWG				*e*S	**Sb**	**01 06 51.9**	**-1.6**
EAST	**Anshuo**	**0.61**	**268**	⇑*i*P	**Pb**	**01 06 45.2**	**-0.4**
	baz=271						
CHKT	**Chengkung**	**0.70**	**349**	⇓*i*P	**Pb**	**01 06 47.1**	**+0.1**
	baz=5.0						
CHKT				S	**Sb**	**01 06 56.7**	**-0.4**
	baz=5.0						
TSEB	**Hengchuen, Pin**	**0.76**	**228**	⇓*i*P	**Pb**	**01 06 48.7**	**+0.7**
	baz=228						
TSEB				*e*S	**Sb**	**01 06 58.8**	**+0.1**
	baz=228						
TWK1	**Hengchun**	**0.80**	**235**	⇓*i*P	**Pb**	**01 06 48.7**	**-0.1**
	baz=227						
TWK1				*e*S	**Sg**	**01 06 57.8**	**-0.1**
	baz=227						
HEN	**Hengchun**	**0.82**	**241**	⇓*i*P	**Pb**	**01 06 49.2**	**+0.2**
	baz=229						
HEN				*e*S	**Sg**	**01 06 58.5**	**-0.1**
	baz=229						
SCZT	**Fangliau**	**0.82**	**268**	⇑*i*P	**Pg**	**01 06 48.5**	**+0.5**
	baz=264						
SSD	**Sandimen**	**0.88**	**293**	⇑*i*P	**Pg**	**01 06 49.2**	**+0.1**
	baz=298						
ELDTW	**Leidu**	**0.90**	**330**	*e*P	**Pg**	**01 06 49.7**	**+0.1**
	baz=336						
TWF1	**Yuli**	**0.96**	**348**	*e*P	**Pg**	**01 06 51.2**	**+0.5**
	baz=344						
SGLT	**Jiouru**	**0.99**	**289**	*e*P	**Pg**	**01 06 50.1**	**-1.2**
	baz=289						
YULB	**Yu-li**	**1.00**	**349**	*e*Pn	**Pg**	**01 06 51.2**	**-0.3**
YULB				*e*S	**Sg**	**01 07 03.2**	**-1.2**
STYT	**Tauyuan**	**1.02**	**317**	⇑*i*P	**Pg**	**01 06 52.0**	**+0.1**
	baz=326						
TWP	**Hsiaoliuchiu**	**1.06**	**267**	⇑*e*P	**Pn**	**01 06 55.5**	**+1.6**
	baz=251						
TWM1	**Shoushan**	**1.09**	**293**	*e*P	**Pn**	**01 06 54.4**	**+0.1**
	baz=288						
SGST	**Jiashian**	**1.09**	**308**	⇑P	**Pn**	**01 06 54.0**	**-0.3**
	baz=311						
SGST				*e*S	**Sb**	**01 07 08.3**	**+0.1**
	baz=311						
EHY	**Hungye**	**1.11**	**351**	*e*P	**Pg**	**01 06 53.3**	**-0.2**
	baz=347						
KAU	**Kaohsiung**	**1.12**	**278**	*e*P	**Pn**	**01 06 56.1**	**+1.4**
	baz=277						
WTP	**Ta-pu**	**1.18**	**315**	⇑*i*P	**Pn**	**01 06 55.4**	**-0.1**
	baz=319						
WTP				*e*S	**Sn**	**01 07 11.6**	**-0.4**
	baz=319						
CHN1	**Nanshi**	**1.19**	**311**	⇑*i*P	**Pn**	**01 06 56.0**	**+0.3**
	baz=322						
CHN1				*e*S	**Sn**	**01 07 12.8**	**+0.3**
	baz=322						
YUS	**Yu-Shan**	**1.19**	**335**	⇑P	**Pg**	**01 06 55.1**	**-0.1**
	baz=339						
TPUB	**Ta-pu**	**1.20**	**318**	*e*Pn	**Pb**	**01 06 55.5**	**-0.1**
TPUB				*e*S	**Sg**	**01 07 10.5**	**-0.5**
CHN3	**Shinhua**	**1.25**	**302**	*e*P	**Pn**	**01 06 58.1**	**+1.6**
	baz=304						
CHN3				*e*S	**Sn**	**01 07 15.7**	**+1.9**
	baz=304						
CHN4	**Tsaushan**	**1.26**	**318**	⇑*i*P	**Pg**	**01 06 57.0**	**+0.5**
	baz=322						
CHN4				*e*S	**Sn**	**01 07 14.7**	**+0.6**
	baz=322						
TWK	**Hsinying**	**1.27**	**312**	*e*P	**Pg**	**01 06 57.2**	**+0.5**
	baz=316						
TWK				*e*S	**Sn**	**01 07 14.1**	**-0.4**
	baz=316						
ALS	**Alishan**	**1.28**	**330**	⇑*i*P	**Pg**	**01 06 56.8**	**0.0**
	baz=333						
TAI1	**Yung-k'ang**	**1.34**	**298**	*e*P	**Pb**	**01 06 57.8**	**-0.1**
	baz=299						
WDT	**Danda**	**1.39**	**346**	*e*P	**Pn**	**01 06 58.0**	**-0.7**
	baz=360						
ESL	**Shilin**	**1.40**	**357**	*e*P	**Pn**	**01 06 58.9**	**+0.2**
	baz=352						
CHN5	**Tsauling**	**1.41**	**327**	⇑P	**Pb**	**01 06 59.3**	**+0.1**
	baz=330						
SCLT	**Jiali**	**1.43**	**302**	*e*P	**Pg**	**01 06 59.7**	**0.0**
	baz=304						
SCLT				*e*S	**Sb**	**01 07 17.5**	**-0.7**
	baz=304						
SSLB	**Suanglung**	**1.47**	**340**	*e*Pn	**Pn**	**01 06 59.3**	**-0.2**
SSLB				*e*S	**Sn**	**01 07 17.4**	**-1.8**
CHN2	**Minshiung**	**1.47**	**320**	P	**Pg**	**01 07 00.7**	**+0.2**
	baz=323						
CHN2				*e*S	**Sg**	**01 07 19.7**	**+0.1**
	baz=323						
CHY	**Chiayi**	**1.48**	**318**	*e*P	**Pn**	**01 06 59.7**	**+0.1**
	baz=321						
CHY				*e*S	**Sg**	**01 07 19.8**	**+0.1**
	baz=321						
CHN8	**Yiju**	**1.52**	**308**	*e*P	**Pn**	**01 06 57.0**	**-3.2**
	baz=310						
WGK	**Gukeng**	**1.54**	**326**	*e*P	**Pg**	**01 07 01.8**	**-0.1**
	baz=329						
WGK				*e*S	**Sg**	**01 07 22.1**	**+0.1**
	baz=329						
HWA	**Hwalien**	**1.56**	**3**	*e*P	**Pb**	**01 07 02.1**	**+0.3**
	baz=18						
SMLT	**Sun Moon Lake**	**1.57**	**339**	*e*P	**Pb**	**01 07 01.8**	**-0.2**
	baz=349						
SMLT				*e*S	**Sg**	**01 07 23.0**	**+0.1**
	baz=349						
TYC	**Yuchr**	**1.61**	**338**	⇑P	**Pb**	**01 07 02.8**	**+0.3**
	baz=342						
WNT	**Mingjian**	**1.65**	**333**	⇑P	**Pg**	**01 07 03.8**	**-0.1**
	baz=320						
WNT				*e*S	**Sb**	**01 07 24.2**	**-0.2**
	baz=320						
TWD	**Chiawan**	**1.67**	**3**	*e*P	**Pn**	**01 07 01.7**	**-0.5**
	baz=357						
WSF	**Szhu**	**1.71**	**316**	*e*P	**Pn**	**01 07 03.2**	**+0.4**
	baz=319						
WSF				*e*S	**Sn**	**01 07 24.7**	**-0.3**
	baz=319						
WHF	**Hehuan Shan**	**1.74**	**353**	*e*P	**Pn**	**01 07 03.6**	**-0.1**
	5.0						
NACB	**Ninganchiao**	**1.76**	**3**	*e*Pn	**Pn**	**01 07 02.9**	**-0.6**
WTCT	**Ta-ch'eng**	**1.84**	**322**	*e*P	**Pn**	**01 07 05.1**	**+0.5**
	baz=324						
TWT	**Tachien**	**1.86**	**351**	*e*P	**Pn**	**01 07 05.8**	**+0.6**
	baz=3.0						
TCU	**Taichung**	**1.89**	**336**	*e*P	**Pb**	**01 07 06.6**	**-0.8**
	baz=325						
TCU				*e*S	**Sn**	**01 07 30.1**	**+0.4**
	baz=325						
WDGT	**Dungji**	**1.91**	**297**	⇑P	**Pn**	**01 07 04.6**	**-0.9**
	baz=298						
WDGT				*e*S	**Sn**	**01 07 25.1**	**-4.9**
	baz=298						
ENA	**Nanau**	**2.02**	**6**	*e*P	**Pn**	**01 07 06.7**	**-0.4**
	baz=358						
NNS	**Nan Shan**	**2.03**	**356**	*e*P	**Pb**	**01 07 09.1**	**-0.7**
	baz=12						
TWQ1	**Liyutan**	**2.05**	**341**	*e*P	**Pb**	**01 07 09.3**	**-0.8**
	baz=328						
TWQ1				*e*S	**Sb**	**01 07 35.1**	**-0.8**
	baz=328						
NSY	**Sanyi**	**2.12**	**341**	*e*P	**Pb**	**01 07 10.6**	**-0.6**
	baz=344						
NSY				*e*S	**Sb**	**01 07 37.5**	**-0.4**
	baz=344						
PNG	**Penghu**	**2.14**	**303**	*e*P	**Pn**	**01 07 07.9**	**-0.8**
	baz=303						
TWC	**Suao**	**2.21**	**8**	*e*P	**Pn**	**01 07 10.4**	**+0.6**
	baz=359						
TWC				*e*S	**Sn**	**01 07 37.9**	**+0.3**
	baz=359						
ENTT	**Nioudou**	**2.22**	**1**	*e*P	**Pn**	**01 07 10.1**	**+0.2**
	baz=5.0						
YHNB	**Yeheng**	**2.26**	**357**	*e*Pn	**Pn**	**01 07 11.6**	**+1.2**
YHNB				*e*S	**Sn**	**01 07 39.5**	**+0.7**
NSTT	**Nanjuang**	**2.26**	**348**	*e*P	**Pb**	**01 07 12.9**	**-0.8**
	baz=336						
NSK	**Sanguang**	**2.26**	**357**	*e*P	**Pn**	**01 07 11.3**	**+0.8**
	baz=11						
TWE	**Neicheng**	**2.31**	**4**	*e*P	**Pn**	**01 07 12.2**	**+1.2**
	baz=7.0						
JYNG	**Yonagunijimaku**	**2.42**	**33**	P	**Pn**	**01 07 14.1**	**+1.4**
JYNG				S	**Sn**	**01 07 41.6**	**-1.2**
EGS		**2.46**	**9**	*e*P	**Pb**	**01 07 15.8**	**-1.2**
	baz=1.0						
YOJ	**Yonaguni jima**	**2.47**	**34**	P	**Pn**	**01 07 14.7**	**+1.4**
YOJ				*e*S	**Sn**	**01 07 43.3**	**-0.6**
YOJ	**Yonaguni jima**	**2.47**	**34**	*e*P	**Pn**	**01 07 14.8**	**+1.6**
	baz=46						
YOJ				*e*S	**Sn**	**01 07 43.0**	**-0.9**
	baz=46						
YOJ	**Yonaguni jima**	**2.47**	**34**	*e*Pn	**Pn**	**01 07 14.1**	**+0.8**
YOJ				*e*S	**Sn**	**01 07 39.1**	**-4.8**
TATO	**Taipei**	**2.56**	**360**	*e*Pn	**Pn**	**01 07 15.1**	**+0.6**
TATO				*e*S	**Sn**	**01 07 45.1**	**-0.9**
TWA	**Mucha**	**2.56**	**2**	*e*P	**Pn**	**01 07 15.9**	**+1.3**
	baz=4.0						
TWB1	**Santiao Chiao**	**2.63**	**10**	*e*P	**Pn**	**01 07 16.2**	**+0.7**
	baz=2.0						
NWF	**Wu-fen Shan**	**2.66**	**5**	*e*P	**Pn**	**01 07 18.3**	**+2.3**
	baz=360						
NWF				*e*S	**Sn**	**01 07 50.4**	**+1.5**
	baz=360						
HATJ	**Hateruma jima**	**2.67**	**52**	P	**Pn**	**01 07 17.7**	**+1.6**
HATJ				S	**Sn**	**01 07 48.0**	**-1.0**
TWS1	**Kuangyinshan**	**2.68**	**358**	*e*P	**Pb**	**01 07 20.0**	**-0.9**
	baz=12						
IRIF	**Iriomote-Funau**	**2.80**	**46**	P	**Pn**	**01 07 19.6**	**+1.7**
IRIF				*e*S	**Sn**	**01 07 52.7**	**+0.6**
TWY	**Chenhua**	**2.86**	**2**	*e*P	**Pb**	**01 07 22.9**	**-1.0**
	baz=5.0						
JKRS	**Kuro-shima**	**2.93**	**51**	P	**Pn**	**01 07 21.6**	**+1.9**
JKRS				S	**Sn**	**01 07 54.3**	**-1.0**
JIJ	**Ishigaki jima**	**3.11**	**51**	P	**Pn**	**01 07 23.4**	**+1.3**
JIJ				*e*S	**Sn**	**01 07 57.9**	**-1.7**
JISG	**Ishigakijimahi**	**3.37**	**49**	P	**Pn**	**01 07 26.6**	**+1.0**
JISG				S	**Sn**	**01 08 05.3**	**-0.7**
KNM	**Kinmen**	**3.46**	**306**	*e*P	**Pn**	**01 07 27.5**	**+0.6**
	baz=303						
JTJ	**Tarama**	**3.68**	**52**	P	**Pn**	**01 07 31.5**	**+1.6**
JTJ				*e*S	**Sn**	**01 08 13.0**	**-0.8**
JIRB	**Irabujima**	**4.13**	**54**	P	**Pn**	**01 07 37.7**	**+1.5**
JIRB				S	**Sn**	**01 08 23.6**	**-1.4**
JIKM	**Ikemajima**	**4.25**	**53**	P	**Pn**	**01 07 39.4**	**+1.7**
JIKM				S	**Sn**	**01 08 27.9**	**+0.2**
JOGS	**Gusukube**	**4.27**	**56**	S	**Sn**	**01 08 28.9**	**+0.4**
JOW	**Kunigami**	**7.57**	**53**	*e*Pn	**Pn**	**01 08 23.0**	**-0.4**
JOW				*e*Sn	**Sn**	**01 09 45.8**	**-4.0**
KSAR	**Wonju Array Be**	**15.96**	**19**	Pn	**P**	**01 10 21.2**	**-0.2**
KSRS	**Korea Array**	**15.98**	**19**	Pn	**P**	**01 10 21.2**	**-0.4**
	0.2nm,0.3s,baz=203,slow=15,SNR=18						
KSRS				LR	LR	01 17 26.0	
	comp=Z,31nm,18.1s,baz=238,slow=40						
MJAR	**Matsushiro Arr**	**20.20**	**42**	P	Pn	01 11 11.0	+1.1
	1.9nm,0.3s,baz=232,slow=7.1,SNR=12						
MJAR				LR	LR	01 19 07.2	
	comp=Z,42nm,20.9s,baz=250,slow=37						
CMAR	**Chiang Mai Arr**	**21.50**	**264**	P	**P**	**01 11 23.4**	**+1.1**
	1.3nm,0.3s,baz=70,slow=7.8,SNR=6.4						
USRK	**Ussuriysk Ar.**	**23.39**	**19**	P	**P**	**01 11 45.4**	**+3.3**
	2.1nm,0.7s,baz=194,slow=10,SNR=4.2						
SONM	**Songino Array**	**28.12**	**338**	P	**P**	**01 12 25.0**	**-0.4**
	1.0nm,0.6s,baz=141,slow=9.3,SNR=6.3						
SONM				LR	LR	01 23 60.0	
	comp=Z,102nm,18.8s,baz=148,slow=37						
MK01	**Makanchi Array**	**39.81**	**317**	*e*P	**P**	**01 14 07.0**	**+0.4**
MK31	**Makanchi Array**	**39.83**	**317**	*e*P	**P**	**01 14 08.4**	**+1.6**
MKAR	**Makanchi Array**	**39.83**	**317**	P	**P**	**01 14 07.5**	**+0.8**
	3.4nm,0.7s,baz=112,slow=8.8,SNR=21						
MAKZ	**Makanchi**	**40.03**	**317**	*e*P	**P**	**01 14 07.6**	**-0.8**
	4.1nm,0.8s						
ZAA0	**Zalesovo Array**	**41.90**	**328**	*e*P	**P**	**01 14 23.7**	**+0.1**
ZALV	**Zalesovo Beam**	**41.90**	**328**	P	**P**	**01 14 24.1**	**+0.4**
	2.7nm,0.6s,baz=116,slow=7.6,SNR=12						
ZALV				LR	LR	01 33 53.0	
	comp=Z,41nm,19.2s,baz=78,slow=39						
H11N1	**WAKE ISLAND Hy 42.32**	**85**		T	T	01 59 56.7	
	baz=282,slow=74,SNR=123						
H11N2	**WAKE ISLAND Hy 42.32**	**85**		T	T	01 59 58.1	
	baz=282,slow=74,SNR=179						
H11N3	**WAKE ISLAND Hy 42.33**	**85**		T	T	01 59 58.7	
	baz=282,slow=74,SNR=112						
H11S3	**WAKE ISLAND Hy 42.39**	**87**		T	T	01 59 48.4	
	baz=284,slow=74,SNR=667						
H11S1	**WAKE ISLAND Hy 42.40**	**87**		T	T	02 00 02.9	
	baz=284,slow=74,SNR=509						
H11S2	**WAKE ISLAND Hy 42.41**	**87**		T	T	01 59 49.9	
	baz=284,slow=74,SNR=302						
KURK	**Kurchatov**	**43.65**	**321**	*e*P	**P**	**01 14 37.5**	**-0.4**
	15nm,1.2s						
KURBB	**Kurchatov Arra**	**43.66**	**321**	P	**P**	**01 14 38.8**	**+0.7**
	1.3nm,0.8s,baz=107,slow=10,SNR=10						
WRAB	**Tennant Creek**	**43.91**	**162**	*e*P	**P**	**01 14 38.3**	**-2.0**
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**43.92**	**162**	P	**P**	**01 14 38.2**	**-2.2**
	2.2nm,0.5s,baz=345,slow=8.8,SNR=28						
AS31	**Alice Springs**	**47.36**	**164**	*e*P	**P**	**01 15 06.6**	**-1.0**
	2.2nm,0.3s						
ASAR	**Alice Springs**	**47.36**	**164**	P	**P**	**01 15 06.4**	**-1.1**
	1.9nm,0.3s,baz=343,slow=7.2,SNR=38						
BVAR	**Borovoye Array**	**49.24**	**322**	P	**P**	**01 15 22.9**	**+1.1**
	0.7nm,0.4s,baz=109,slow=7.7,SNR=6.3						
NRIK	**Noril'sk**	**51.19**	**345**	P	**P**	**01 15 37.6**	**+1.3**
	2.2nm,0.5s,baz=136,slow=7.0,SNR=4.0						
NRIK				LR	LR	01 38 54.6	
	comp=Z,37nm,19.1s,baz=133,slow=38						
STKA	**Stephens Creek**	**57.30**	**160**	P	**P**	**01 16 20.4**	**-0.8**
	2.9nm,0.7s,baz=332,slow=6.3,SNR=4.0						
RND	**Reindeer**	**70.06**	**29**	*e*P	**P**	**01 17 44.5**	**-0.8**
	2.6nm,0.8s						
ARCES	**ARCESS Array B**	**71.29**	**338**	P	**P**	**01 17 54.0**	**+1.4**
	1.9nm,0.9s,baz=79,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**73.12**	**330**	P	**P**	**01 18 03.7**	**+0.1**
	1.2nm,0.8s,baz=48,slow=5.7,SNR=4.7						
BRTR	**Keskin Array B**	**74.47**	**307**	P	**P**	**01 18 12.8**	**+0.6**
	0.4nm,0.5s,baz=116,slow=6.6,SNR=5.2						
BR231	**Keskin MP Arra**	**75.07**	**307**	*e*P	**P**	**01 18 13.4**	**-2.2**
GERES	**GERESS Array B**	**84.40**	**321**	P	**P**	**01 19 06.7**	**+0.6**
	0.8nm,0.9s,baz=46,slow=2.8,SNR=3.3						
YKA	**Yellowknife Ar**	**84.48**	**23**	P	**P**	**01 19 07.3**	**+1.2**
	0.3nm,0.7s,baz=308,slow=4.6,SNR=3.7						

**JMA 20 01:15:15.7,34.43N×136.37E,h42km,M2.8,5C-3D Broadband fault plane solution: P

*BJI **20** 01:34:50.0, 35°.30N×141°.00E, h35km, mb4.4/6, mB4.9/4, Ms4.5/3, Ms7 4.4/3*
*NEIC **20** 01:34:51.5±0.3, 35°.36N×141°.02E, h35km, mb4.6/34, Error ellipse: s-maj=7.1km s-min=5.9km az=140.0*
NEIC Recorded [1 JMA] in Chiba and Ibaraki.
*JMA **20** 01:34:51.2±0.2, 35°.52N×140°.97E, h42km±2km, M4.4*
JMA Felt I J1.
*IDC **20** 01:34:53.5±1.8, 35°.44N×140°.87E, h53km±18km, mb3.8/18, mb1 4.0/22, mb1mx3.8/57, mbtmp4.0/22, ML3.8/3, MS3.5/7, Ms1 3.5/7, ms1mx3.2/41, Error ellipse: s-maj=18.8km s-min=10.6km az=91.0*

ISC 20 01:34:49.6±1.1, 35°.38N±0°.04×141°.16E±0°.05, h24km±7km, n101, σ1§74/107, mb4.4/53, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.41**	**323**	⇑P			**Pb**	**01 34 58.6**	**+0.3**
CHOJ				S			**Sb**	**01 35 04.0**	**-0.2**
KTR	**Katsuura**	**0.73**	**252**	P			**Pb**	**01 35 04.0**	**+0.4**
BSO1	**Boso 1**	**0.74**	**192**	⇓P			**Pn**	**01 35 06.6**	**+2.7**
BSO4	**Boso 4**	**0.78**	**241**	P			**Pn**	**01 35 05.4**	**+0.5**
JCN	**Nagara**	**0.79**	**273**	⇓P			**Pb**	**01 35 04.8**	**+0.2**
JYT	**Yasato**	**1.16**	**317**	⇑P			**Pn**	**01 35 08.5**	**-1.7**
JHJ	**Hachijo jima 2**	**2.52**	**207**	P			**Pn**	**01 35 31.1**	**+2.1**
	145nm,0.3s,baz=328,slow=17,SNR=46								
JHJ				LR			LR	01 36 00.3	
	comp=Z,161nm,21.8s,baz=70,slow=27								
JHJ				S			**Sn**	**01 36 01.3**	**+2.3**
	134nm,0.3s,baz=205,slow=24,SNR=8.3								
MJAR	**Matsushiro Arr**	**2.67**	**297**	P			**Pn**	**01 35 30.3**	**-0.7**
	15nm,0.3s,baz=96,slow=14,SNR=43								
MAJO	**Matsushiro**	**2.67**	**297**	*e*Pn			**Pn**	**01 35 30.8**	**-0.2**
MAJO				*e*S			**Sn**	**01 36 04.3**	**+1.8**
MAT	**Matsushiro**	**2.67**	**297**	P			**Pn**	**01 35 30.9**	**-0.1**
MAT				*e*S			**Sn**	**01 35 59.4**	**-3.2**
MJB9	**Matsu-Tunnel**	**2.67**	**297**	*e*Pn			**Pn**	**01 35 31.4**	**+0.3**
MJB9				*e*Sn			**Sn**	**01 36 04.2**	**+1.5**
INU	**Inuyama**	**3.39**	**271**	*e*Pn			**Pn**	**01 35 41.5**	**+0.6**
INU				*e*Sn			**Sn**	**01 36 19.0**	**-1.3**
ERM	**Erimo**	**6.81**	**13**	*e*Pn			**Pn**	**01 36 25.8**	**-2.1**
ERM				*e*S			**Sn**	**01 37 40.1**	**-4.5**
CBIJ	**Chichi jima**	**8.30**	**174**	*e*Pn			**Pn**	**01 36 48.5**	**+0.1**
CBIJ				*e*S			**Sn**	**01 38 16.9**	**-4.5**
JCJ	**Chichijima**	**8.30**	**174**	P			**Pn**	**01 36 48.8**	**+0.4**
	30nm,0.3s,baz=120,slow=22,SNR=25								
JCJ				S			**Sn**	**01 38 16.6**	**-4.7**
	11nm,0.3s,baz=274,slow=23,SNR=5.5								
ASAJ	**Asahikawa**	**8.80**	**7**	*e*Pn			**Pn**	**01 36 53.2**	**-2.0**
ASAJ				*e*S			**Sn**	**01 38 33.0**	**-0.5**
JNU	**Nakatsue**	**8.81**	**258**	LR			LR	01 40 48.3	
	comp=Z,1μm,18.1s,baz=123,slow=41								
KSRS	**Korea Array**	**10.87**	**285**	P			**Pn**	**01 37 25.5**	**+2.0**
	0.1nm,0.3s,baz=102,slow=14,SNR=10								
KSRS				LR			LR	01 41 35.3	
	comp=Z,356nm,20.9s,baz=93,slow=38								
KSAR	**Wonju Array Be**	**10.90**	**285**	P			**Pn**	**01 37 25.5**	**+1.6**
USRK	**Ussuriysk Ar.**	**11.28**	**324**	P			**Pn**	**01 37 28.3**	**-0.8**
	0.1nm,0.3s,baz=123,slow=10,SNR=2.8								
USRK				LR			LR	01 41 25.0	
	comp=Z,144nm,20.1s,baz=136,slow=35								
YSS	**Yuzh-Sakhalins**	**11.63**	**5**	*e*Pn			**Pn**	**01 37 31.6**	**-2.3**
KLR	**Kul'dur**	**15.48**	**336**	P			**Pn**	**01 38 25.5**	**-0.6**
	0.3nm,0.3s,baz=153,slow=16,SNR=4.6								
KLR				LR			LR	01 43 58.6	
	comp=Z,180nm,20.4s,baz=160,slow=36								
PEA0	**Petropavlovsk-**	**21.23**	**28**	*e*P			**P**	**01 39 35.0**	**+1.5**
PETK	**Petropavlovsk-**	**21.23**	**28**	P			**P**	**01 39 34.3**	**+0.8**
	5.8nm,0.9s,baz=232,slow=9.2,SNR=3.8								
PETK				LR			LR	01 47 25.1	
	comp=Z,151nm,21.9s,baz=229,slow=35								
HHC	**Hu-ho-hao-te**	**23.86**	**292**	*e*P			**P**	**01 40 01.3**	**+0.2**
HHC				S			**S**	**01 44 16.5**	**+0.8**
HHC				PMZ					
	19nm,0.9s								
HHC				PMZ					
	120nm,6.2s								
H11N2	**WAKE ISLAND Hy**	**27.52**	**118**	T			T	02 09 42.4	
	baz=310,slow=75,SNR=74								
H11N1	**WAKE ISLAND Hy**	**27.52**	**118**	T			T	02 09 52.6	
	baz=310,slow=75,SNR=83								
H11N3	**WAKE ISLAND Hy**	**27.53**	**118**	T			T	02 09 46.6	
	baz=310,slow=75,SNR=77								
H11S3	**WAKE ISLAND Hy**	**28.17**	**120**	T			T	02 10 28.0	
	baz=312,slow=76,SNR=148								
H11S1	**WAKE ISLAND Hy**	**28.17**	**120**	T			T	02 10 26.4	
	baz=312,slow=76,SNR=234								
H11S2	**WAKE ISLAND Hy**	**28.18**	**120**	T			T	02 10 33.8	
	baz=312,slow=76,SNR=156								
SEY	**Seymchan**	**28.45**	**11**	P			**P**	**01 40 43.3**	**+1.1**
	0.9nm,0.4s,baz=271,slow=5.7,SNR=3.9								
SONA1	**Songino Array**	**28.57**	**307**	*e*P			**P**	**01 40 42.6**	**-1.0**
SONM	**Songino Array**	**28.58**	**307**	P			**P**	**01 40 41.2**	**-2.5**
	0.9nm,0.6s,baz=112,slow=9.3,SNR=3.8								
DAV	**Davao City (W)**	**31.60**	**211**	LR			LR	01 51 34.7	
	comp=Z,124nm,21.8s,baz=356,slow=32								
PATS	**Pohnpei**	**32.48**	**147**	*e*P			**P**	**01 41 16.8**	**-1.4**
	301nm,1.4s								
KKM	**Kota Kinabalu**	**37.14**	**224**	*e*P			**P**	**01 41 56.6**	**-2.0**
	16nm,1.2s								
SPIA	**Saint Paul Isl**	**38.95**	**41**	*e*P			**P**	**01 42 12.5**	**-0.7**
	113nm,1.2s								
ZAA0	**Zalesovo Array**	**42.90**	**314**	*e*P			**P**	**01 42 44.8**	**-1.0**
ZALV	**Zalesovo Beam**	**42.90**	**314**	P			**P**	**01 42 44.7**	**-1.2**
	0.7nm,0.4s,baz=73,slow=5.9,SNR=4.0								
MK01	**Makanchi Array**	**44.84**	**303**	*e*P			**P**	**01 43 00.8**	**-0.9**
MK31	**Makanchi Array**	**44.84**	**303**	*e*P			**P**	**01 43 01.9**	**+0.2**
MKAR	**Makanchi Array**	**44.84**	**303**	P			**P**	**01 43 00.9**	**-0.8**
	1.6nm,0.7s,baz=89,slow=9.2,SNR=9.6								
MAKZ	**Makanchi**	**45.06**	**304**	*e*P			**P**	**01 43 04.5**	**+1.1**
	4.3nm,1.0s								
KURK	**Kurchatov**	**46.81**	**309**	*e*P			**P**	**01 43 17.4**	**+0.3**
	64nm,0.8s								
KURBB	**Kurchatov Arra**	**46.88**	**309**	P			**P**	**01 43 17.0**	**-0.6**
	2.9nm,0.4s,baz=83,slow=9.4,SNR=9.5								
TT01	**Tatalina**	**46.90**	**34**	*e*P			**P**	**01 43 18.9**	**+1.3**
SOEI	**Soe**	**47.64**	**203**	*e*P			**P**	**01 43 24.8**	**+0.7**
	29nm,0.9s								
IPM	**Ipoh**	**48.12**	**240**	*e*P			**P**	**01 43 25.2**	**-2.5**
	40nm,1.6s								
KDAK	**Kodiak Island**	**48.47**	**41**	*e*P			**P**	**01 43 30.0**	**+0.2**
	71nm,1.8s								
MTN	**Manton Dam**	**48.89**	**193**	*e*P			**P**	**01 43 34.4**	**+0.9**
	74nm,1.8s								
KTH	**Kantishna Hill**	**49.24**	**33**	*e*P			**P**	**01 43 37.4**	**+1.6**
	3.8nm,1.1s								
SUA	**Susitna One**	**49.31**	**36**	*e*P			**P**	**01 43 37.8**	**+1.4**
	9.5nm,1.4s								
MLY	**Manley**	**49.36**	**31**	*e*P			**P**	**01 43 39.5**	**+2.9**
	3.2nm,0.7s								
PMR	**Palmer**	**50.08**	**36**	*e*P			**P**	**01 43 43.0**	**+0.9**
	3.8nm,1.0s								
RND	**Reindeer**	**50.17**	**33**	*e*P			**P**	**01 43 43.5**	**+0.7**
	24nm,2.0s								
TKM2	**Tokmak 2**	**50.26**	**300**	*e*P			**P**	**01 43 46.0**	**+2.0**
	3.7nm,0.6s								
MDM	**Murphy Dome**	**50.43**	**31**	*e*P			**P**	**01 43 47.1**	**+2.3**
	8.1nm,0.8s								
SML	**Sawmill**	**50.45**	**35**	*e*P			**P**	**01 43 46.8**	**+1.8**
	13nm,0.8s								
WRH	**Wood River Hil**	**50.49**	**32**	*e*P			**P**	**01 43 46.7**	**+1.5**
	12nm,1.9s								
COLA	**College**	**50.59**	**31**	*e*P			**P**	**01 43 47.8**	**+1.9**
	4.7nm,0.8s								
CCB	**Clear Creek Bu**	**50.61**	**32**	*e*P			**P**	**01 43 47.6**	**+1.5**
	6.6nm,1.7s								
KSH	**Kashi**	**50.91**	**295**	*e*P			P	01 43 55.4	+6.5
KSH				PcP			**PcP**	**01 45 11.0**	**+5.9**
KSH				PP			PP	01 45 54.9	+10
KSH				S			**S**	**01 51 04.3**	**+0.2**
KSH				ScS			**ScS**	**01 53 35.8**	**-2.4**
KSH				SS			**SS**	**01 54 40.0**	**+1.2**
KSH				PMZ					
	5.0nm,0.4s								
KSH				PMZ					
	94nm,6.2s								
KSH				LN					
	85nm,5.0s								
KSH				LE					
	84nm,4.5s								
KSH				LZ					
	140nm,7.8s								
SCM	**Sheep Creek Mo**	**50.93**	**35**	*e*P			**P**	**01 43 50.2**	**+1.6**
	36nm,0.8s								
HDA	**Harding Lake**	**50.99**	**32**	*e*P			**P**	**01 43 49.9**	**+0.9**
	3.6nm,0.8s								
IL1	**Eielson Array**	**51.01**	**32**	*e*P			**P**	**01 43 49.4**	**+0.4**
ILAR	**Eielson Array**	**51.01**	**32**	P			**P**	**01 43 50.3**	**+1.2**
	3.4nm,0.7s,baz=268,slow=6.2,SNR=41								
ILB	**Eielson Array**	**51.01**	**32**	*e*P			**P**	**01 43 50.5**	**+1.5**
KLU	**Klutina**	**51.62**	**36**	*e*P			**P**	**01 43 55.7**	**+1.9**
	24nm,0.9s								
DOT	**Dot Lake**	**52.30**	**33**	*e*P			**P**	**01 44 00.2**	**+1.5**
	7.8nm,1.0s								
BMRM	**Bremner River**	**52.31**	**36**	*e*P			**P**	**01 44 01.4**	**+2.5**
	8.4nm,1.0s								
MENT	**Mentasta**	**52.52**	**34**	*e*P			**P**	**01 44 02.6**	**+2.2**
	3.3nm,0.7s								
EGAK	**Eagle**	**53.45**	**31**	*e*P			**P**	**01 44 08.8**	**+1.6**
	3.8nm,1.3s								
KKAR	**Karatay Array**	**53.79**	**301**	*e*P			**P**	**01 44 11.8**	**+1.7**
	2.4nm,0.8s								
DAWY	**Dawson**	**54.31**	**32**	*e*P			**P**	**01 44 15.5**	**+1.9**
	0.8nm,0.7s								
FITZ	**Fitzroy Crossi**	**55.19**	**198**	P			**P**	**01 44 18.1**	**-2.2**
	4.0nm,0.8s,baz=37,slow=9.2,SNR=6.6								
FITZ	**Fitzroy Crossi**	**55.19**	**198**	P			**P**	**01 44 18.1**	**-2.2**
	29nm,1.6s								
WRAB	**Tennant Creek**	**55.38**	**188**	*e*P			**P**	**01 44 22.4**	**+0.7**
	9.4nm,0.9s								
WB2	**Warramunga Arr**	**55.39**	**188**	*e*P			**P**	**01 44 22.5**	**+0.7**
	43nm,1.8s								
WRA	**Warramunga Arr**	**55.39**	**188**	P			**P**	**01 44 22.0**	**+0.2**
	5.6nm,0.9s,baz=1.9,slow=7.6,SNR=25								
INK	**Inuvik**	**55.95**	**27**	P			**P**	**01 44 26.3**	**+1.1**
	2.2nm,0.7s,baz=280,slow=6.1,SNR=4.5								
INK	**Inuvik**	**55.95**	**27**	*e*P			**P**	**01 44 26.9**	**+1.6**
	2.0nm,0.5s								
ARU	**Arti**	**57.47**	**319**	*e*P			**P**	**01 44 35.8**	**-0.5**
	6.3nm,1.0s								
ABKAR	**Akbulak array**	**58.86**	**311**	*e*P			**P**	**01 44 47.3**	**+1.3**
	1.0nm,0.4s								
ASAR	**Alice Springs**	**59.12**	**188**	P			**P**	**01 44 47.8**	**-0.3**
	1.0nm,0.8s,baz=9.2,slow=7.5,SNR=7.3								
RES	**Resolute Bay**	**64.25**	**14**	P			**P**	**01 45 22.1**	**+0.1**
	3.4nm,1.1s,baz=294,slow=4.7,SNR=4.7								
YKA	**Yellowknife Ar**	**65.34**	**30**	P			**P**	**01 45 30.2**	**+0.9**
	1.0nm,0.8s,baz=300,slow=6.5,SNR=10.0								
ARCES	**ARCESS Array B**	**65.48**	**340**	P			**P**	**01 45 30.1**	**0.0**
	1.3nm,0.7s,baz=55,slow=9.2,SNR=4.7								
FINES	**FINESS Array B**	**70.19**	**332**	P			**P**	**01 45 59.0**	**-0.9**
	1.6nm,0.7s,baz=61,slow=7.4,SNR=7.4								
FINES	**FINESS Array B**	**70.19**	**332**	P			**P**	**01 45 59.0**	**-0.9**
HRY	**Holter Researc**	**75.30**	**43**	*e*P			**P**	**01 46 33.4**	**+2.7**
LRM	**Limekiln Ridge**	**75.48**	**44**	*e*P			**P**	**01 46 34.3**	**+2.4**
AKASG	**Malin Array Be**	**75.48**	**322**	P			**P**	**01 46 30.6**	**-0.9**
	0.4nm,0.4s,baz=46,slow=6.3,SNR=7.0								
NB2	**NORSAR Subarra**	**75.64**	**337**	P			**P**	**01 46 31.4**	**-0.8**
	comp=Z,3.6nm,1.0s,baz=41,slow=6.2								
NOA	**NORSAR Array B**	**75.64**	**337**	P			**P**	**01 46 31.4**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=40,slow=5.8,SNR=7.3								
BOZ	**Bozman (W)**	**76.04**	**44**	*e*P			**P**	**01 46 37.2**	**+2.2**
	comp=Z,1.9nm,0.8s								
BW06	**Boulder Array**	**78.97**	**45**	*e*P			**P**	**01 46 52.3**	**+0.8**
PDAR	**Pinedale Array**	**78.97**	**45**	P			**P**	**01 46 53.0**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=308,slow=4.4,SNR=7.0								
BR231	**Keskin MP Arra**	**80.25**	**312**	*e*P			**P**	**01 46 57.2**	**-1.2**
TXAR	**Lajitas Array**	**91.29**	**52**	P			**P**	**01 47 54.7**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=305,slow=3.3,SNR=6.4								
TORD	**Torodi Ar. Bea**	**118.34**	**314**	PKP			**PKPdf**	**01 53 35.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=22,slow=2.4,SNR=3.4								

*NIED **20** 01:42:00, 35°.50N×140°.90E, h41km, Mw4.0 Best double couple: M₀1.33000×10¹⁵ NP1:φs208.00000°, δ19.00000°, λ141.00000°. NP2:φs335.00000°, δ78.00000°, λ75.00000°.*
*JMA **20** 01:42:43.5±0.2, 35°.52N×140°.94E, h38km±1km, M3.5*
JMA Felt I J1.
*IDC **20** 01:42:46.1±2.6, 35°.42N×140°.73E, h62km±22km, mb3.6/9, mb1 3.7/11, mb1mx3.4/49, mbtmp3.8/11, ML3.6/2, Error ellipse: s-maj=30.7km s-min=12.6km az=81.0*

ISC 20 01:42:42.2±0.8, 35°.48N±0°.04×140°.95E±0°.08, h33km, n25, σ2§31/23, mb3.9/9, 2C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.23**	**342**	⇑P			**Pb**	**01 42 50.5**	**+1.3**
CHOJ				S			**Sb**	**01 42 55.3**	**+1.4**
JCN	**Nagara**	**0.61**	**264**	⇓P			**Pb**	**01 42 56.6**	**+2.0**
BSO4	**Boso 4**	**0.70**	**226**	⇓P			**Pb**	**01 42 57.2**	**+1.2**
BSO4				X				01 43 07.2	
BSO3	**Boso 3**	**0.77**	**208**	P			**Pb**	**01 42 57.8**	**+0.8**
JYT	**Yasato**	**0.96**	**321**	⇑P			**Pb**	**01 43 00.3**	**-0.2**
JYT				S			**Sb**	**01 43 13.4**	**+0.5**
MJAR	**Matsushiro Arr**	**2.46**	**296**	P			**Pb**	**01 43 22.5**	**-3.3**
	8.4nm,0.3s,baz=193,slow=22,SNR=18								
MAT	**Matsushiro**	**2.46**	**296**	P			**Pb**	**01 43 23.1**	**-2.7**
MAT				*e*S			**Sn**	**01 43 49.1**	**+0.1**
JHJ	**Hachijo jima 2**	**2.55**	**203**	P			**Pn**	**01 43 22.9**	**+1.7**
	50nm,0.3s,baz=348,slow=22,SNR=11								
JHJ				S			**Sn**	**01 43 52.3**	**+1.2**
	49nm,0.3s,baz=73,slow=20,SNR=4.7								
JCJ	**Chichijima**	**8.43**	**172**	P			**Pn**	**01 44 41.1**	**-0.9**
	baz=359,slow=14								
JCJ				S			**Sn**	**01 46 07.8**	**-8.3**
	baz=288,slow=19								
KSRS	**Korea Array**	**10.67**	**284**	P			Pn	01 45 18.1	+5.4
	0.2nm,0.3s,baz=103,slow=14,SNR=5.9								
H11N2	**WAKE ISLAND Hy**	**27.72**	**118**	T			T	02 17 47.8	
	baz=310,slow=75,SNR=19								
H11N1	**WAKE ISLAND Hy**	**27.73**	**118**	T			T	02 17 35.2	
	baz=310,slow=75,SNR=20								
H11N3	**WAKE ISLAND Hy**	**27.74**	**118**	T			T	02 17 34.6	
	baz=310,slow=75,SNR=18								
SONM	**Songino Array**	**28.37**	**306**	P			**P**	**01 48 33.7**	**+0.3**
	0.3nm,0.5s,baz=92,slow=8.7,SNR=2.4								
H11S3	**WAKE ISLAND Hy**	**28.38**	**120**	T			T	02 18 26.9	
	baz=312,slow=75,SNR=69								
H11S1	**WAKE ISLAND Hy**	**28.38**	**120**	T			T	02 18 27.5	
	baz=312,slow=75,SNR=70								
H11S2	**WAKE ISLAND Hy**	**28.39**	**120**	T			T	02 18 28.2	
	baz=312,slow=75,SNR=72								
ZALV	**Zalesovo Beam**	**42.70**	**314**	P			**P**	**01 50 35.3**	**-0.5**
	0.7nm,0.4s,baz=64,slow=6.6,SNR=4.9								
MKAR	**Makanchi Array**	**44.64**	**303**	P			**P**	**01 50 51.2**	**-0.3**
	0.4nm,0.5s,baz=87,slow=9.7,SNR=5.0								
KURBB	**Kurchatov Arra**	**46.67**	**309**	P			**P**	**01 51 07.3**	**-0.2**
	0.7nm,0.4s,baz=82,slow=7.9,SNR=6.0								
ILAR	**Eielson Array**	**51.01**	**32**	P			**P**	**01 51 42.4**	**+1.8**
	0.8nm,0.7s,baz=263,slow=6.3,SNR=12								
FITZ	**Fitzroy Crossi**	**55.23**	**198**	P			**P**	**01 52 12.7**	**+0.6**
	3.1nm,1.0s,baz=23,slow=7.7,SNR=4.4								
WRA	**Warramunga Arr**	**55.48**	**188**	P			**P**	**01 52 13.7**	**-0.2**
	2.1nm,0.8s,baz=1.7,slow=7.6,SNR=17								
ARCES	**ARCESS Array B**	**65.31**	**340**	P			**P**	**01 53 20.7**	**+0.2**
	1.1nm,0.8s,baz=39,slow=5.8,SNR=3.7								
FINES	**FINESS Array B**	**70.01**	**332**	P			**P**	**01 53 50.7**	**+0.5**
	0.7nm,0.7s,baz=53,slow=7.1,SNR=8.0								

IDC 20 01:43:28.2±7.8, 16°.31S×173°.17W, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.6/43, mbtmp3.9/3, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=318.9km s-min=29.3km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.74**	**30**	Pn			Pn	01 44 12.4	-1.1
	4.8nm,0.3s,baz=225,slow=7.1,SNR=7.6								
AFI				Sn			Sn	01 44 40.6	-6.8
	20nm,0.3s,baz=222,slow=21,SNR=8.7								
AFI				T			T	01 46 43.0	
	18nm,0.3s,baz=224,slow=23,SNR=5.4								
PPT	**Papeete**	**22.61**	**97**	LR			LR	01 54 59.6	
	comp=Z,88nm,18.4s,baz=227,slow=31								
WRA	**Warramunga Arr**	**49.85**	**257**	P			P	01 52 23.2	-0.4
	0.4nm,0.5s,baz=96,slow=6.1,SNR=14								
ASAR	**Alice Springs**	**50.04**	**253**	P			P	01 52 24.6	-0.4
	2.4nm,0.6s,baz=89,slow=8.4,SNR=31								
BRTR	**Keskin Array B**	**146.99**	**320**	PKPbc			PKPbc	02 03 13.9	+0.5
	1.0nm,0.8s,baz=66,slow=3.5,SNR=5.5								

*NIED **20** 01:46:00, 35°.50N×141°.00E, h44km, Mw4.8 Best double couple: M₀1.69000×10¹⁶ NP1:φs176.00000°, δ22.00000°, λ106.00000°. NP2:φs339.00000°, δ69.00000°, λ84.00000°.*
*BJI **20** 01:46:32.8, 35°.30N×140°.94E, h38km, mb4.8/56, mB4.9/35, Ms4.3/45, Ms7 4.1/44*
*ISCJB **20** 01:46:34.1±0.2, 35°.36N±0°.03×140°.87E±0°.03, h33km, mb4.7/107, MS3.9/21, Error ellipse: s-maj=3.9km s-min=3.3km az=152.7*
*JMA **20** 01:46:35.9±0.1, 35°.52N×140°.94E, h40km±1km, M4.6*
JMA Felt III J1.
*MOS **20** 01:46:37.9±1.0, 35°.42N×140°.77E, h67km, mb4.8/52, Error ellipse: s-maj=8.4km s-min=5.8km az=115.9*
*IDC **20** 01:46:38.7±1.5, 35°.44N×140°.73E, h59km±14km, mb4.2/28, mb1 4.4/32, mb1mx4.3/48, mbtmp4.5/32, MS3.9/23, Ms1 3.9/23, ms1mx3.7/44, Error ellipse: s-maj=14.5km s-min=8.4km az=90.0*
*NEIC **20** 01:46:38.5±0.6, 35°.43N×140°.72E, h56km±5km, mb4.7/68, Error ellipse: s-maj=4.3km s-min=3.1km az=125.0*
NEIC Felt at Chiba and Tokyo. Recorded [3 JMA] in Chiba and Ibaraki.

ISC 20 01:46:35.9±0.3, 35°.45N±0°.03×140°.91E±0°.04, h33km, n289, σ1§77/304, mb4.7/107, MS3.9/22, 17C-13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.25**	**351**	⇑P			**Pb**	**01 46 43.1**	**+0.1**
CHOJ				S			**Sb**	**01 46 48.1**	**+0.2**
KTR	**Katsuura**	**0.57**	**238**	P			**Pn**	**01 46 48.4**	**+0.8**
JCN	**Nagara**	**0.58**	**267**	⇓P			**Pn**	**01 46 49.1**	**+1.4**
BSO4	**Boso 4**	**0.66**	**225**	⇓P			**Pb**	**01 46 49.8**	**+0.9**
BSO3	**Boso 3**	**0.73**	**207**	⇓P			**Pb**	**01 46 50.5**	**+0.5**
BSO1	**Boso 1**	**0.80**	**176**	⇑P			**Pn**	**01 46 51.2**	**+0.9**
JYT	**Yasato**	**0.96**	**323**	P			**Pn**	**01 46 52.9**	**-0.2**
MJAR	**Matsushiro Arr**	**2.44**	**297**	P			**Pn**	**01 47 14.8**	**+1.4**
	64nm,0.3s,baz=104,slow=8.1,SNR=107								
MJAR				LR			LR	01 48 19.6	
	comp=Z,2μm,19.6s,baz=120,slow=44								
MAJO	**Matsushiro**	**2.44**	**297**	*d*P			**Pn**	**01 47 15.5**	**+2.0**
MAJO	**Matsushiro**	**2.44**	**297**	*e*Pn			**Pn**	**01 47 15.5**	**+2.0**
MAJO				*e*S			**Sb**	**01 47 45.2**	**-3.6**
MAT	**Matsushiro**	**2.44**	**297**	P			**Pn**	**01 47 15.3**	**+1.8**
MAT				*e*S			**Sb**	**01 47 48.6**	**-0.3**
MJB9	**Matsu-Tunnel**	**2.45**	**297**	*e*Pn			**Pn**	**01 47 15.5**	**+2.0**
JHJ	**Hachijo jima 2**	**2.51**	**202**	P			**Pn**	**01 47 15.2**	**+0.9**
	354nm,0.3s,baz=350,slow=13,SNR=44								
JHJ				S			**Sn**	**01 47 45.4**	**+1.7**
	314nm,0.3s,baz=237,slow=21,SNR=6.8								
JHJ				LR			LR	01 48 22.4	
	comp=Z,2μm,21.6s,baz=289,slow=42								
INU	**Inuyama**	**3.18**	**269**	*e*Pn			**Pn**	**01 47 24.3**	**+0.8**
ERM	**Erimo**	**6.78**	**14**	*d*P			**Pn**	**01 48 10.8**	**-2.2**
ERM				pmax			pmax		
	comp=Z,63nm,0.6s								
ERM	**Erimo**	**6.78**	**14**	*e*Pn			**Pn**	**01 48 10.4**	**-2.6**
ERM				*e*S			**Sn**	**01 49 25.6**	**-3.5**
CBIJ	**Chichi jima**	**8.40**	**172**	*e*Pn			**Pn**	**01 48 33.1**	**-2.2**
CBIJ				*e*S			**Sn**	**01 50 03.8**	**-5.3**
JCJ	**Chichijima**	**8.40**	**172**	P			**Pn**	**01 48 33.2**	**-2.1**
	comp=Z,30nm,0.3s,baz=328,slow=9.5,SNR=31								
JCJ				S			**Sn**	**01 50 01.6**	**-7.5**
	comp=Z,12nm,0.3s,baz=294,slow=20,SNR=2.4								
JNU	**Nakatsue**	**8.62**	**257**	P			**Pn**	**01 48 40.5**	**+2.2**
	comp=Z,1.7nm,0.3s,baz=76,slow=8.3,SNR=4.6								
JNU				LR			LR	01 52 22.4	
	comp=Z,2μm,21.4s,baz=121,slow=41								
JNU	**N

BJT	Baijiatuau	20.07	290	eP		P	01 51 03.2	-3.1	
	comp=Z,30nm,0.9s								
SSLB	Suanglung	20.84	241	eP		P	01 51 12.8	-2.1	
	comp=Z,14nm,0.8s								
YULB	Yu-li	20.84	240	eP		P	01 51 14.3	-0.5	
	comp=Z,4.2nm,0.5s								
PEA0	Petropavlovsk-	21.26	29	eP		P	01 51 20.4	+1.3	
PETK	Petropavlovsk-	21.26	29	P		P	01 51 20.4	+1.2	
	comp=Z,6.3nm,0.6s,baz=223,slow=9.9,SNR=15								
PETK				LR		LR	01 59 22.1		
	comp=Z,239nm,21.9s,baz=225,slow=36								
TWG	Pinlang	21.37	239	eP		P	01 51 20.4	-0.1	
	comp=Z,70nm,0.7s								
TPUB	Ta-pu	21.37	241	eP		P	01 51 20.0	-0.6	
	comp=Z,20nm,1.0s								
PET	Petropavlovsk	21.58	30	eP		P	01 51 24.0	+1.5	
PET				pmax		pmax			
	comp=Z,50nm,1.3s								
PET	Petropavlovsk	21.58	30	eP		P	01 51 24.0	+1.5	
	comp=Z,50nm,1.3s								
GUMO	Guam	22.06	170	LR		LR	01 58 38.6		
	comp=Z,196nm,21.9s,baz=34,slow=33								
WHN	Wuhan	22.77	265	P		P	01 51 33.6	-1.9	
WHN				LN					
	comp=Z,430nm,8.4s								
WHN				LE					
	comp=Z,2µm,18.1s								
WHN				LZ					
	comp=Z,2µm,18.2s								
HHC	Hu-ho-hao-te	23.63	292	eP		P	01 51 42.0	-2.1	
HHC				sP		sP	01 51 55.3	-2.2	
HHC				S		S	01 55 53.4	-3.2	
HHC				PMZ					
	comp=Z,18nm,1.1s								
HHC				PMZ					
	comp=Z,120nm,8.5s								
HHC				LN					
	comp=Z,170nm,9.6s								
HHC				LE					
	comp=Z,140nm,8.4s								
HHC				LZ					
	comp=Z,150nm,14.3s								
MA2	Magadan	24.98	12	P		P	01 51 57.5	+1.4	
	comp=Z,6.9nm,0.4s,baz=217,slow=16,SNR=5.1								
MA2				LR		LR	02 01 57.2		
	comp=Z,248nm,21.5s,baz=158,slow=37								
XAN	Xi'an	26.26	276	P		P	01 52 06.1	-2.0	
XAN				pP		pP	01 52 15.1	-2.5	
XAN				sP		sP	01 52 19.1	-2.5	
XAN				PMZ					
	comp=Z,13nm,1.2s								
XAN				PMZ					
	comp=Z,69nm,12.4s								
XAN				LN					
	comp=Z,430nm,18.8s								
XAN				LE					
	comp=Z,470nm,18.8s								
XAN				LZ					
	comp=Z,460nm,18.8s								
ENH	Enshi	26.83	268	eP		P	01 52 11.3	-1.9	
	comp=Z,31nm,0.8s								
YAK	Yakutsk	27.53	349	LR		LR	02 03 28.0		
	comp=Z,297nm,20.5s,baz=163,slow=37								
YAK	Yakutsk	27.53	349	eP		P	01 52 30.7	+12	
YAK				e			01 53 20.8		
YAK				e			01 55 31.1		
YAK				eSS		SS	01 58 40.7	-14	
YAK				pmax		pmax			
	comp=Z,23nm,1.0s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.0s								
YAK				pmax		pmax			
	comp=N,8.0nm,0.9s								
YAK				pmax		pmax			
	comp=Z,25nm,1.0s								
YAK				pmax		pmax			
	comp=E,16nm,1.1s								
YAK				pmax		pmax			
	comp=N,11nm,1.0s								
YAK				MLR		MLR			
	comp=Z,321nm,22.0s								
YAK				MLR		MLR			
	comp=N,198nm,20.0s								
YAK				MLR		MLR			
	comp=E,153nm,20.0s								
YAK	Yakutsk	27.53	349	eP		P	01 52 20.5	+1.4	
	comp=E,32nm,0.9s								
H11N2	WAKE ISLAND Hy	27.74	118	T		T	02 21 32.8		
	baz=310,slow=75,SNR=126								
H11N1	WAKE ISLAND Hy	27.75	118	T		T	02 21 29.3		
	baz=310,slow=75,SNR=151								
H11N3	WAKE ISLAND Hy	27.76	118	T		T	02 21 30.1		
	baz=310,slow=75,SNR=177								
ULN	Ulaanbaatar	27.94	307	ceP		P	01 52 23.2	0.0	
ULN				pmax		pmax			
	comp=Z,11nm,1.7s								
ULN	Ulaanbaatar	27.94	307	eP		P	01 52 23.9	+0.7	
	comp=Z,7.9nm,1.2s								
SONA1	Songino Array	28.36	307	eP		P	01 52 25.9	-1.0	
SONM	Songino Array	28.36	307	P		P	01 52 25.6	-1.3	
	comp=Z,1.7nm,0.6s,baz=108,slow=9.4,SNR=13								
SONM				LR		LR	02 04 25.6		
	comp=Z,152nm,18.2s,baz=108,slow=38								
H11S1	WAKE ISLAND Hy	28.39	120	T		T	02 22 20.0		
	baz=312,slow=75,SNR=716								
H11S3	WAKE ISLAND Hy	28.39	120	T		T	02 22 17.8		
	baz=312,slow=75,SNR=507								
H11S2	WAKE ISLAND Hy	28.41	120	T		T	02 22 11.2		
	baz=312,slow=75,SNR=443								
SEY	Seymchan	28.42	11	P		P	01 52 28.3	+1.2	
	comp=Z,3.0nm,0.4s,baz=231,slow=14,SNR=11								
SEY	Seymchan	28.42	11⇑	iP		P	01 52 28.8	+1.7	
BOD	Bodaibo	28.66	330	eP		P	01 52 28.3	-1.0	
BOD				pmax		pmax			
	comp=Z,7.0nm,1.0s								
SMY	Shemya	29.09	43	eP		P	01 52 34.4	+1.3	
SMY				pmax		pmax			
	comp=Z,90nm,1.2s								
SMY	Shemya	29.09	43	eP		P	01 52 34.4	+1.3	
	comp=Z,90nm,1.2s								
LZH	Lanzhou	29.96	282	eP		P	01 52 40.8	-0.5	
LZH				pP		pP	01 52 49.8	-1.0	
LZH				sP		sP	01 52 53.9	-0.9	
LZH				PP		PnPn	01 53 41.0	+2.7	
LZH				eS		S	01 57 35.8	-1.2	
LZH				sS		sS	01 57 55.3	+2.6	
LZH				PMZ					
	comp=Z,18nm,1.0s								
LZH				PMZ					
	comp=Z,140nm,4.4s								
LZH				LN					
	comp=Z,560nm,12.0s								
LZH				LE					
	comp=Z,660nm,14.4s								
LZH				LZ					
	comp=Z,860nm,15.0s								
GYA	Guiyang	30.58	263⇓	iP		P	01 52 44.3	-2.5	
GYA				pP		pP	01 52 56.4	+0.1	
GYA				PP		PnPn	01 53 48.6	+2.0	
GYA				PcP		PcP	01 55 47.0	+2.1	
GYA				S		S	01 57 45.8	-0.9	
GYA				sS		sS	01 58 01.3	-1.2	
GYA				SS		ScP	01 59 27.3	+2.3	
GYA				PMZ					
	comp=Z,20nm,1.0s								
GYA				PMZ					
	comp=Z,120nm,5.3s								
GYA				LN					
	comp=Z,510nm,16.9s								
GYA				LE					
	comp=Z,480nm,17.2s								
GYA				LZ					
	comp=Z,460nm,17.4s								
TLY	Talaya	31.08	313	eP		P	01 52 52.4	+1.6	
TLY				pmax		pmax			
	comp=Z,9.0nm,0.6s								
TLY				MLR		MLR			
	comp=Z,117nm,15.0s								
CD2	Chengdu	31.30	272	eP		P	01 52 52.5	-0.5	
CD2				pP		pP	01 53 01.5	-1.0	
CD2				sP		sP	01 53 05.5	-1.0	
CD2				S		S	01 57 57.4	-0.4	
CD2				sS		sS	01 58 12.9	-0.6	
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
QIZ	Qiongzhong	31.92	247	P		P	01 52 58.8	+0.3	
QIZ				S		S	01 58 07.4	-0.2	
QIZ				LN					
	comp=Z,280nm,22.0s								
QIZ				LZ					
	comp=Z,210nm,21.0s								
KMI	Kunming	34.34	263	P		P	01 53 19.9	0.0	
KMI				PMZ					
	comp=Z,14nm,0.7s								
KMI				LN					
	comp=Z,280nm,13.7s								
KMI				LE					
	comp=Z,400nm,16.3s								
KMI				LZ					
	comp=Z,420nm,14.8s								
BILL	Bilibino	35.66	16⇑	eP		P	01 53 34.0	+3.6	
BILL				e			01 53 53.6		
BILL				e			01 54 01.6		
BILL				pmax		pmax			
	comp=Z,6.0nm,1.0s								
BILL				MLR		MLR			
	comp=Z,224nm,22.0s								
BILL	Bilibino	35.66	16	eP		P	01 53 29.2	-1.2	
	comp=Z,4.3nm,0.8s								
MIDW	Midway	35.97	90	eP		P	01 53 34.5	+0.9	
	comp=Z,300nm,1.9s								
MYLDM	Lahad Datu	36.53	220	eP		P	01 53 38.0	-0.5	
	comp=Z,26nm,1.4s								
TIXI	Tiksi	36.81	354	LR		LR	02 10 35.3		
	comp=Z,181nm,19.6s,baz=166,slow=39								
TIXI	Tiksi	36.81	354⇑	iP		P	01 53 40.5	+0.3	
TIXI				pmax		pmax			
	comp=Z,11nm,2.5s								
TIXI	Tiksi	36.81	354	eP		P	01 53 39.6	-0.6	
	comp=Z,4.9nm,0.8s								
CHTO	Chiang Mai	40.52	257	eP		P	01 54 11.7	-0.3	
CHTO				pmax		pmax			
	comp=Z,5.0nm,1.0s								
CHTO	Chiang Mai	40.52	257	eP		P	01 54 11.7	-0.3	
	comp=Z,5.2nm,1.0s								
CMAR	Chiang Mai Arr	40.72	257	P		P	01 54 12.5	-1.1	
	comp=Z,1.7nm,0.4s,baz=47,slow=7.5,SNR=4.5								
CMAR				LR		LR	02 12 54.4		
	comp=Z,346nm,18.9s,baz=60,slow=39								
WMQ	Urumqi	41.21	298	P		P	01 54 19.1	+1.6	
WMQ				pP		sP	01 54 29.1	-2.1	
WMQ				sP		pP	01 54 33.1	+5.9	
WMQ				PMZ					
	comp=Z,8.0nm,1.0s								
WMQ				PMZ					
	comp=Z,44nm,3.6s								
WMQ				LN					
	comp=Z,160nm,17.2s								
WMQ				LE					
	comp=Z,240nm,19.6s								
WMQ				LZ					
	comp=Z,260nm,18.0s								
LSA	Lhasa	41.96	277	eP		P	01 54 24.8	+0.5	
LSA				pmax		pmax			
	comp=Z,8.0nm,0.5s								
LSA	Lhasa	41.96	277	eP		P	01 54 24.8	+0.5	
	comp=Z,8.1nm,0.5s								
ZAA0	Zalesovo Array	42.69	314	eP		P	01 54 28.9	-0.5	
ZALV	Zalesovo Beam	42.69	314	P		P	01 54 28.6	-0.7	
	comp=Z,4.3nm,0.4s,baz=96,slow=7.4,SNR=18								
NVS	Novosibirsk	43.65	315	eP		P	01 54 36.5	-0.5	
NVS				pmax		pmax			
	comp=Z,5.0nm,0.4s								
NVS				pmax		pmax			
	comp=N,1.0nm,0.2s								
NVS				pmax		pmax			
	comp=E,2.0nm,0.3s								
NRIK	Noril'sk	44.53	336	P		P	01 54 43.5	-0.5	
	comp=E,4.6nm,0.7s,baz=132,slow=6.5,SNR=8.1								
NRIK				LR		LR	02 15 04.8		
	comp=E,114nm,20.5s,baz=128,slow=38								
MK01	Makanchi Array	44.62	303	eP		P	01 54 44.5	-0.5	
MK31	Makanchi Array	44.63	303	eP		P	01 54 44.7	-0.4	
MK31	Makanchi Array	44.63	303	eP		P	01 54 44.7	-0.4	
MKAR	Makanchi Array	44.63	303	P		P	01 54 44.1	-0.9	
	comp=E,3.3nm,0.5s,baz=85,slow=9.9,SNR=30								
MKAR				LR		LR	02 13 54.4		
	comp=E,104nm,18.6s,baz=90,slow=37								
MAKZ	Makanchi	44.84	303	eP		P	01 54 46.4	-0.4	
MAKZ				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MAKZ	Makanchi	44.84	303	eP		P	01 54 46.4	-0.4	
	comp=Z,10nm,0.9s								
KAPI	Kappang	44.90	211	P		P	01 54 46.8	-0.6	
	comp=Z,8.5nm,0.4s,baz=5.2,slow=8.8,SNR=4.6								
KAPI	Kappang	44.90	211	eP		P	01 54 47.1	-0.3	
PMG	Port Moresby	45.01	171	eP		P	01 54 49.0	+0.7	
PMG				pmax		pmax			
	comp=Z,39nm,1.2s								
PMG	Port Moresby	45.01	171	eP		P	01 54 49.0	+0.7	
	comp=Z,39nm,1.2s								
TARA	Tarawa	45.12	132	eP		P	01 54 49.2	-0.1	
	comp=Z,178nm,1.4s								
KURK	Kurchatov	46.60	309	eP		P	01 54 59.6	-0.9	
KURK	Kurchatov	46.60	309	eP		P	01 54 59.6	-0.9	
	comp=Z,115nm,0.7s								
TT01	Tatalina	46.95	34	eP		P	01 55 04.7	+1.5	
SVW2	Sparrevohn	47.03	36	eP		P	01 55 05.7	+1.9	
	comp=Z,4.6nm,0.9s								
PKIN	Phulchoki	47.45	277	eP		P	01 55 07.4	-0.4	
	comp=Z,8.7nm,0.5s								
KKN	Kakani	47.45	277	eP		P	01 55 07.3	-0.5	
	comp=Z,34nm,0.8s								
SOEI	Soe	47.63	202	eP		P	01 55 07.9	-1.1	
	comp=Z,51nm,0.9s								
GKN	Gorkha	47.89	278	eP		P	01 55 10.4	-0.7	
	comp=Z,102nm,1.0s								
KDAK	Kodiak Island	48.55	41	iP		P	01 55 16.1	+0.5	
PPLA	Purkeypile	48.70	34	eP		P	01 55 18.0	+1.2	
	comp=Z,33nm,1.9s								
SPU	Mount Spurr	48.74	36	eP		P	01 55 18.5	+1.5	
CAST	Castle Rocks	48.76	33	eP		P	01 55 18.1	+0.9	
	comp=Z,19nm,0.8s								
KOLN	Koldanda	48.82	278	eP		P	01 55 18.3	-0.1	
	comp=Z,20nm,0.8s								
PYUN	Piuthan	49.18	278	eP		P	01 55 20.7	-0.4	
	comp=Z,122nm,0.9s								
COEN	Coen	49.19	177	eP		P	01 55 21.4	+0.5	
	comp=Z,14nm,0.9s								
BPAW	Bear Paw Mtn.	49.27	33	eP		P	01 55 22.8	+1.7	
	comp=Z,3.0nm,0.6s								
BRLK	Bradley Lake	49.35	38	eP		P	01 55 22.8	+1.0	
	comp=Z,12nm,1.0s								
COLD	Coldfoot	49.73	28	eP		P	01 55 25.9	+1.4	
	comp=Z,0.5nm,0.6s								
RC01	Rabbit Creek A	49.87	36	eP		P	01 55 26.3	+0.7	
	comp=Z,9.5nm,1.1s								
TKM2	Tokmak 2	50.03	299	eP		P	01 55 27.7	+0.3	
TKM2				pmax		pmax			
	comp=Z,12nm,0.8s								
TKM2	Tokmak 2	50.03	299	eP		P	01 55 27.7	+0.3	
	comp=Z,12nm,0.8s								
PMR	Palmer	50.14	36	eP		P	01 55 28.5	+0.9	
PMR	Palmer	50.14	36	eP		P	01 55 28.5	+0.9	
MDM	Murphy Dome	50.47	31	eP		P	01 55 31.8	+1.7	
	comp=Z,8.4nm,0.6s								
SML	Sawmill	50.51	36	eP		P	01 55 31.7	+1.2	
SML				pmax		pmax			
	comp=Z,7.0nm,0.7s								
SML	Sawmill	50.51	36	eP		P	01 55 31.7	+1.2	
	comp=Z,7.2nm,0.7s								
WRH	Wood River Hil	50.54	32	eP		P	01 55 31.9	+1.2	
	comp=Z,6.8nm,1.0s								
COLA	College	50.63	32	eP		P	01 55 32.5	+1.2	
COLA				pmax		pmax			
	comp=Z,9.0nm,0.7s								
COLA	College	50.63	32	eP		P	01 55 32.5	+1.2	
	comp=Z,8.9nm,0.7s								
PSI	Prapat	50.64	240	eP		P	01 55 32.4	+0.2	
PSI				pmax		pmax			
	comp=Z,7.0nm,0.7s								
PSI	Prapat	50.64	240	eP		P	01 55 32.4	+0.2	
	comp=Z,7.3nm,0.7s								
CCB	Clear Creek Bu	50.66	32	eP		P	01 55 32.2	+0.7	
	comp=Z,12nm,1.8s								
KSH	Kashi	50.69	295	eP		P	01 55 38.4	+6.1	
KSH				pP		sP	01 55 47.8	+1.6	
KSH				PcP		PcP	01 56 52.3	+3.0	
KSH				PP		PP	01 57 33.6	+5.3	
KSH				S		S	02 02 52.3	+6.9	
KSH				SS		SS	02 06 25.5	+5.8	
KSH				PMZ					
	comp=Z,97nm,7.3s								
KSH				LN					
	comp=Z,80nm,6.2s								
KSH				LE					
	comp=Z,86nm,4.8s								
KSH				LZ					
	comp=Z,160nm,11.7s								
FRU	Bishkek	50.75	300	eP		P	01 55 30.0	-2.7	
AAK	Ala-Archa	50.89	299⇑	iP		P	01 55 34.1	+0.2	
AAK				pmax		pmax			
	comp=Z,14nm,0.8s								
AAK	Ala-Archa	50.89	299	eP		P	01 55 33.8	-0.1	
	comp=Z,7.8nm,0.8s								
SCM	Sheep Creek Mo	50.98	35	eP		P	01 55 35.6	+1.4	
SCM				pmax		pmax			
	comp=Z,5.0nm,0.7s								
SCM	Sheep Creek Mo	50.98	35	eP		P	01 55 35.6	+1.4	
	comp=Z,5.4nm,0.7s								
HDA	Harding Lake	51.03	32	eP		P	01 55 35.1	+0.7	
	comp=Z,5.7nm,0.5s								
IL1	Eielson Array	51.05	32	eP		P	01 55 34.7	+0.2	
ILAR	Eielson Array	51.05	32	P		P	01 55 35.0	+0.5	
	comp=Z,3.7nm,0.5s,baz=264,slow=5.7,SNR=63								
ILAR				LR		LR	02 18 09.5		
	comp=Z,60nm,21.9s,baz=282,slow=37								
ILAR	Eielson Array	51.05	32	P		P	01 55 35.0	+0.5	
ILAR				pmax		pmax			
	comp=Z,4.0nm,0.5s								
ILAR				MLR		MLR			
	comp=Z,60nm,21.9s								
EKS2	Erkin-Say	51.39	300	eP		P	01 55 37.1	-0.5	
EKS2				pmax		pmax			
	comp=Z,4.0nm,0.9s								
EKS2	Erkin-Say	51.39	300	eP		P	01 55 37.1	-0.5	
	comp=Z,4.2nm,0.9s								
KLU	Klutina	51.68	36	eP		P	01 55 41.0	+1.6	
	comp=Z,5.5nm,0.9s								
PAX	Paxson	51.77	34	eP		P	01 55 41.1	+1.1	
PAX				pmax		pmax			
	comp=Z,3.0nm,1.0s								
PAX	Paxson	51.77	34	eP		P	01 55 41.1	+1.1	
	comp=Z,2.9nm,1.0s								
DIV	Divide	51.79	36	eP		P	01 55 41.3	+1.1	
	comp=Z,7.5nm,0.9s								
DOT	Dot Lake	52.35	33	eP		P	01 55 44.7	+0.5	
	comp=Z,7.8nm,0.5s								
GSI	Gunungsitoli	52.64	240	eP		P	01 55 45.9	-1.2	
	comp=Z,82nm,1.4s								
KKAR	Karatay Array	53.57	301	eP		P	01 55 53.2	-0.4	
KKAR	Karatay Array	53.57	301	eP		P	01 55 53.2	-0.4	
FITZ	Fitzroy Crossi	55.20	198	P		P	01 56 05.5	0.0	
	comp=Z,5.8nm,0.5s,baz=25,slow=8.9,SNR=22								
FITZ	Fitzroy Crossi	55.20	198	eP		P	01 56 05.2	-0.2	
	comp=Z,4.5nm,0.7s								
WRAB	Tennant Creek	55.43	187⇑	iP		P	01 56 06.7	-0.5	
WRAB	Tennant Creek	55.43	187	eP		P	01 56 06.3	-0.8	
	comp=Z,28nm,1.0s								
WB2	Warramunga Arr	55.44	187	eP		P	01 56 06.7	-0.6	
	comp=Z,26nm,0.9s								
WRA	Warramunga Arr	55.44	188	P		P	01 56 06.4	-0.8	
	comp=Z,23nm,0.9s,baz=4.5,slow=7.5,SNR=64								
WRA	Warramunga Arr	55.44	188	P		P	01 56 06.4	-0.8	
WRA				pmax		pmax			
	comp=Z,22nm,0.9s								
INK	Inuvik	55.98	27	P		P	01 56 10.9	+0.4	
	comp=Z,1.9nm,0.5s,baz=0.3,slow=3.0,SNR=9.3								
INK	Inuvik	55.98	27	eP		P	01 56 11.6	+1.0	
INK				pmax		pmax			
	comp=Z,3.0nm,0.8s								
INK	Inuvik	55.98	27	eP		P	01 56 11.6	+1.0	
	comp=Z,3.0nm,0.8s								
ARU	Arti	57.28	319	ciP		P	01 56 19.3	-0.6	
ARU							01 58 25.0		
ARU				S		S	02 04 12.6	-1.0	
ARU				SS		SS	02 07 59.1	-3.4	
ARU				pmax		pmax			
	comp=Z,16nm,1.0s								
ARU				MLR		MLR			
	comp=Z,128nm,18.0s								
ARU	Arti	57.28	319	eP		P	01 56 19.4	-0.6	
	comp=Z,18nm,1.0s								
ABKAR	Akbulak array	58.65	311	eP		P	01 56 29.1	-0.6	
	comp=Z,4.2nm,0.3s								
AS01	Alice Springs	59.16	187	eP		P	01 56 32.6	-0.8	
AS31	Alice Springs	59.17	187	eP		P	01 56 34.1	+0.6	
	comp=Z,2.1nm,0.8s								
ASAR	Alice Springs	59.17	187	P		P	01 56 32.5	-1.0	
	comp=Z,3.9nm,0.9s,baz=8.0,slow=6.7,SNR=21								
ASAR				LR		LR	02 21 56.8		
	comp=Z,156nm,19.1s,baz=336,slow=36								
MBWA	Marble Bar	59.78	203	eP		P	01 56 37.4	-0.3	
	comp=Z,176nm,1.3s								
DZM	Mont Dzumac	62.12	153	P		P	01 56 55.2	+1.5	
	comp=Z,13nm,1.0s,baz=0.0,slow=9.1,SNR=5.0								
DZM	Mont Dzumac	62.12	153	eP		P	01 56 54.1	+0.4	
	comp=Z,57nm,1.7s								
RES	Resolute Bay	64.23	14	eP		P	01 57 06.9	-0.1	
RES	Resolute Bay	64.23	14	eP		P	01 57 06.9	-0.1	
GEYT	Alibeck	64.25	299	P		P	01 57 07.3	-0.4	
	comp=Z,3.1nm,0.9s,baz=53,slow=0.7,SNR=7.3								
KLMR	Klimovskoe	64.87	328	eP		P	01 57 09.6	-1.8	
KLMR				e			01 57 44.0		
KLMR				pmax		pmax			
	comp=Z,8.0nm,1.0s								
ARCES	ARCESS Array B	65.33	340	P		P	01 57 13.6	-0.7	
	comp=Z,1.5nm,0.4s,baz=58,slow=7.5,SNR=26								
ARCES				LR		LR	02 29 04.3		
	comp=Z,102nm,21.2s,baz=44,slow=39								
YKA	Yellowknife Ar	65.38	30	P		P	01 57 14.4	-0.2	
	comp=Z,1.2nm,0.9s,baz=298,slow=6.3,SNR=7.1								
AFI	Afiamalu	66.45	129	LR		LR	02 21 12.9		
	comp=Z,57nm,21.4s,baz=3.5,slow=31								
STKA	Stephens Creek	66.98	179	P		P	01 57 25.1	0.0	
	comp=Z,3.3nm,0.7s,baz=336,slow=12,SNR=2.6								
VRH	Novokhopyorsk	68.48	318	eP		P	01 57 33.0	-1.5	
VRH				pmax		pmax			
	comp=Z,9.0nm,0.6s								
OBN	Obninsk	69.12	323⇓	iP		P	01 57 38.1	-0.3	
OBN				*SP		sP	01 57 53.0	+0.5	
OBN				e			01 57 59.6		
OBN				eS		S	02 06 33.6	-7.8	
OBN				eSS		SS	02 11 05.6	-1.4	
OBN				pmax		pmax			
	comp=Z,5.0nm,0.5s								
OBN				MLR		MLR			
	comp=Z,67nm,16.0s								
LPSR	Galich'ya Gora	69.25	320	eP		P	01 57 37.8	-1.5	
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VSR	Storozhevoye	69.85	319	eP		P	01 57 41.8	-1.3	
VSR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
FIA1	FINESS Array S	70.02	332	eP		P	01 57 43.3	-0.6	
FINES	FINESS Array B	70.02	332	P		P	01 57 43.3	-0.6	
	comp=Z,4.4nm,0.5s,baz=55,slow=6.2,SNR=70								
FINES	FINESS Array B	70.02	332	iP		P	01 57 43.5	-0.4	
FINES				pmax		pmax			
	comp=Z,4.0nm,0.5s								
KBZ	Khabaz	71.62	311	P		P	01 57 53.3	-0.6	
	comp=Z,6.9nm,0.8s,baz=348,slow=23,SNR=13								
KVAR	Kislov

NB2	**NORSAR Subarra**	**75.48**	**337**	P		**P**	**01 58 16.1**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**75.48**	**337**	P		**P**	**01 58 15.9**	**-0.5**
	comp=Z,6.7nm,0.8s,baz=40,slow=5.7,SNR=29							
NOA				LR		LR	02 34 34.5	
	comp=Z,79nm,21.1s,baz=20,slow=38							
LRM	**Limekiln Ridge**	**75.56**	**44**	*eP*		**P**	**01 58 18.9**	**+1.5**
NBO02	**NORSAR Array S**	**75.59**	**337**	*eP*		**P**	**01 58 17.1**	**+0.1**
NBO00	**NORSAR Array S**	**75.63**	**337**	*eP*		**P**	**01 58 17.0**	**-0.2**
NAO01	**NORSAR Array S**	**75.73**	**337**	*eP*		**P**	**01 58 17.5**	**-0.3**
DLMT	**Dillon**	**75.75**	**44**	*eP*		**P**	**01 58 19.8**	**+1.4**
	comp=Z,6.0nm,1.0s							
BOZ	**Bozeman (W)**	**76.13**	**44**	*eP*		**P**	**01 58 21.8**	**+1.2**
BOZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BOZ	**Bozeman (W)**	**76.13**	**44**	*eP*		**P**	**01 58 21.8**	**+1.2**
	comp=Z,2.8nm,0.8s							
SIM	**Simferopol'**	**76.17**	**316**	*eP*		**P**	**01 58 21.2**	**+0.6**
SIM				*e*			01 58 31.0	
SIM				pmax	pmax			
	comp=Z,6.0nm,0.6s							
H17A	**Grant Village**	**77.48**	**44**	*eP*		**P**	**01 58 31.6**	**+3.3**
	comp=Z,7.5nm,0.9s							
TPNV	**Topopah Spring**	**78.45**	**53**	*eP*		**P**	**01 58 36.5**	**+2.8**
TPNV				pmax	pmax			
	comp=Z,5.0nm,0.8s							
TPNV	**Topopah Spring**	**78.45**	**53**	*eP*		**P**	**01 58 36.5**	**+2.8**
	comp=Z,4.6nm,0.8s							
HWUT	**Hardware Ranch**	**78.60**	**47**	*eP*		**P**	**01 58 38.9**	**+4.4**
	comp=Z,4.2nm,1.1s							
BW06	**Boulder Array**	**79.07**	**45**	*eP*		**P**	**01 58 37.0**	**-0.1**
PDAR	**Pinedale Array**	**79.07**	**45**	P		**P**	**01 58 37.7**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=278,slow=1.9,SNR=10.0							
KWP	**Kalwaria Pacla**	**79.17**	**324**	*eP*		**P**	**01 58 38.0**	**+0.8**
KWP	**Kalwaria Pacla**	**79.17**	**324**	⇓*iP*		**P**	**01 58 37.8**	**+0.6**
KWP	**Kalwaria Pacla**	**79.17**	**324**	⇓P		**P**	**01 58 37.8**	**+0.6**
BUR08	**Bucovina Ar. S**	**79.28**	**322**	*eP*		**P**	**01 58 38.0**	**0.0**
BURAR	**Bucovina Array**	**79.29**	**322**	⇓*iP*		**P**	**01 58 37.9**	**-0.2**
BURAR	**Bucovina Array**	**79.29**	**322**	⇓P		**P**	**01 58 37.9**	**-0.2**
BR131	**Keskin Array S**	**79.59**	**312**	*eP*		**P**	**01 58 39.8**	**-0.2**
BRTR	**Keskin Array B**	**79.59**	**312**	P		**P**	**01 58 39.6**	**-0.2**
	comp=Z,3.6nm,0.9s,baz=122,slow=4.1,SNR=17							
BRTR	**Keskin Array B**	**79.59**	**312**	*iP*		**P**	**01 58 39.5**	**-0.4**
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KOLS	**Kolonicke sedl**	**79.86**	**324**	*eP*		**P**	**01 58 40.8**	**-0.2**
KOLS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KOLS	**Kolonicke sedl**	**79.86**	**324**	*eP*		**P**	**01 58 40.8**	**-0.2**
KOLS				*e*PP		**PP**	**02 01 40.0**	**-2.0**
STHS	**Stebnicka Huta**	**80.01**	**325**	*eP*		**P**	**01 58 42.8**	**+1.0**
STHS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
STHS	**Stebnicka Huta**	**80.01**	**325**	*eP*		**P**	**01 58 42.8**	**+1.0**
BR231	**Keskin MP Arra**	**80.04**	**312**	*eP*		**P**	**01 58 40.5**	**-1.8**
OJC	**Ojcow**	**80.12**	**326**	*eP*		**P**	**01 58 42.8**	**+0.4**
OJC	**Ojcow**	**80.12**	**326**	*eP*		**P**	**01 58 42.7**	**+0.4**
OJC				pmax	pmax			
	comp=Z,9.0nm,1.1s							
OJC	**Ojcow**	**80.12**	**326**	*eP*		**P**	**01 58 42.7**	**+0.4**
	comp=Z,8.8nm,1.1s							
CRVS	**Cervenica-Dubn**	**80.27**	**324**	*eP*		**P**	**01 58 42.9**	**-0.3**
CRVS	**Cervenica-Dubn**	**80.27**	**324**	*eP*		**P**	**01 58 42.9**	**-0.3**
CRVS				*e*			01 58 54.6	
MLR	**Muntele Rosu**	**80.32**	**320**	⇑*iP*		P	01 58 49.9	+6.2
MLR	**Muntele Rosu**	**80.32**	**320**	⇑P		P	01 58 49.9	+6.2
LCMT	**Little Creek M**	**80.35**	**51**	*eP*		**P**	**01 58 48.5**	**+4.5**
	comp=Z,3.1nm,1.0s							
KNB	**Kanab**	**80.61**	**51**	*eP*		**P**	**01 58 50.2**	**+4.7**
KNB				pmax	pmax			
	comp=Z,16nm,1.7s							
KNB	**Kanab**	**80.61**	**51**	*eP*		**P**	**01 58 50.2**	**+4.7**
	comp=Z,16nm,1.7s							
KECS	**Kecovo**	**81.02**	**324**	*eP*		**P**	**01 58 45.8**	**-1.4**
KECS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KECS	**Kecovo**	**81.02**	**324**	*eP*		**P**	**01 58 45.8**	**-1.4**
ULM	**Lac du Bonnet**	**81.05**	**33**	LR		LR	02 35 41.3	
	comp=Z,59nm,20.6s,baz=330,slow=36							
ARR	**Arges**	**81.09**	**320**	⇑*iP*		**P**	**01 58 48.8**	**+1.0**
DPC	**Dobruska-Polom**	**81.57**	**328**	*eP*		**P**	**01 58 50.5**	**+0.3**
DPC				*e*PCP		**PcP**	**01 58 56.2**	**+0.1**
DPC				*ex*		x	01 59 02.0	
DPC	**Dobruska-Polom**	**81.57**	**328**	*eP*		**P**	**01 58 50.5**	**+0.3**
VYHS	**Vyhne**	**81.79**	**325**	*eP*		**P**	**01 58 51.0**	**-0.3**
VYHS				pmax	pmax			
	comp=Z,3.0nm,1.2s							
VYHS	**Vyhne**	**81.79**	**325**	*eP*		**P**	**01 58 51.0**	**-0.3**
PV10	**Paradox Valley**	**82.13**	**48**	*eP*		**P**	**01 58 56.0**	**+2.3**
BRG	**Berggiesshubel**	**82.20**	**329**	*eP*		**P**	**01 58 53.0**	**-0.4**
	comp=Z,6.7nm,1.1s							
BRG	**Berggiesshubel**	**82.20**	**329**	*eP*		**P**	**01 58 53.0**	**-0.4**
BRG				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CLL	**Collm**	**82.26**	**330**	*iP*		**P**	**01 58 52.7**	**-1.0**
	comp=Z,8.0nm,0.9s							
CLL				L		L	02 39 00.0	
	comp=Z,100nm,18.8s							
CLL	**Collm**	**82.26**	**330**	*iP*		**P**	**01 58 52.7**	**-1.0**
CLL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
CLL	**Collm**	**82.26**	**330**	*eP*		**P**	**01 58 53.1**	**-0.6**
	comp=Z,6.0nm,0.8s							
BZS	**Buzias**	**82.47**	**322**	⇑*iP*		**P**	**01 58 54.6**	**-0.3**
BZS	**Buzias**	**82.47**	**322**	⇑P		**P**	**01 58 54.6**	**-0.3**
PV01	**Paradox Valley**	**82.57**	**48**	*eP*		**P**	**01 58 57.9**	**+2.0**
	comp=Z,318nm,0.9s							
PRU	**Pruhonice**	**82.61**	**328**	*eP*		**P**	**01 58 54.9**	**-0.7**
PRU	**Pruhonice**	**82.61**	**328**	*eP*		**P**	**01 58 54.9**	**-0.7**
KHC	**Kasperske Hory**	**83.67**	**328**	*eP*		**P**	**01 59 01.1**	**0.0**
KHC				*e*PCP		**PcP**	**01 59 06.9**	**+1.6**
KHC	**Kasperske Hory**	**83.67**	**328**	*eP*		**P**	**01 59 01.1**	**0.0**
KHC	**Kasperske Hory**	**83.67**	**328**	*eP*		**P**	**01 59 01.1**	**0.0**
	comp=Z,4.7nm,1.6s							
GERES	**GERESS Array B**	**83.83**	**328**	P		**P**	**01 59 01.2**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=38,slow=6.8,SNR=8.9							
GERES				LR		LR	02 38 48.8	
	comp=Z,44nm,20.0s,baz=24,slow=37							
GEA0	**GERESS Array S**	**83.84**	**328**	*eP*		**P**	**01 59 01.4**	**-0.7**
S22A	**4UR Ranch, Cre**	**83.87**	**48**	*eP*		**P**	**01 59 05.4**	**+2.7**
	comp=Z,2.8nm,1.0s							
PPT2	**Papeete2**	**84.32**	**116**	*e*LR		LR	02 25 40.7	
	comp=Z,196nm,25.8s							
ECSD	**EROS Data Cent**	**85.41**	**38**	*eP*		**P**	**01 59 10.4**	**+0.4**
	comp=Z,3.2nm,0.8s							
ANMO	**Albuquerque**	**85.92**	**49**	⇑*iP*		**P**	**01 59 14.3**	**+1.4**
ANMO				pmax	pmax			
	comp=Z,8.0nm,3.0s							
ANMO	**Albuquerque**	**85.92**	**49**	*eP*		**P**	**01 59 14.6**	**+1.7**
	comp=Z,2.6nm,0.9s							
BFO	**Black Forest**	**86.48**	**331**	*ce*P		**P**	**01 59 16.0**	**+0.8**
TBI	**Tubuai**	**88.08**	**120**	*e*LR		LR	02 27 13.5	
	comp=Z,119nm,32.2s							
TBI	**Tubuai**	**88.08**	**120**	*e*T		T	03 36 42.3	
	comp=Z,7.0nm,0.3s							
TX31	**Lajitas Ar. Si**	**91.41**	**52**	*eP*		**P**	**01 59 40.0**	**+1.0**
TXAR	**Lajitas Array**	**91.41**	**52**	P		**P**	**01 59 40.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=298,slow=3.4,SNR=10.0							
TXAR	**Lajitas Array**	**91.41**	**52**	P		**P**	**01 59 40.0**	**+1.0**
RKT	**Rikitea**	**98.54**	**112**	*e*LR		LR	02 32 14.8	
	comp=Z,153nm,23.0s							
TORD	**Torodi Ar. Bea**	**118.14**	**314**	PKP		**PKPdf**	**02 05 19.1**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=33,slow=1.9,SNR=14							
SAML	**Samuel**	**145.65**	**46**	*e*PKPdf		**PKPdf**	**02 06 11.3**	**-0.1**

*ISCJB **20** 01:46:51.2±0.4, 12°.49N±0°.07×86°.70W±0°.05, h189km±4km, mb3.8/7, Error ellipse: s-maj=14.2km s-min=4.0km az=33.6*

*CASC **20** 01:46:52.3±2.0, 12°.31N×86°.87W, h174km±8km, MD4.1, ML3.8*

*IDC **20** 01:46:55.3±5.2, 12°.23N×86°.80W, h247km±55km, mb3.5/8, mb1 3.7/8, mb1mx3.4/34, mbtmp4.1/8, MS2.8/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=26.5km s-min=17.1km az=50.0*

ISC 20 01:46:51.0±0.8, 12°.43N±0°.08×86°.74W±0°.06, h187km±6km, n37, σ1$42/51, mb4.0/7, 6C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CNGN	**Cerro Negro**	**0.08**	**31**	*eP*		**Pn**	**01 47 15.9**	**+0.3**
CNGN				⇑*eP*		**Pn**	**01 47 16.0**	**+0.3**
COPN	**Copaltepe**	**0.29**	**150**	*eP*		**Pn**	**01 47 15.9**	**-0.1**
COPN				*e*S		**Sn**	**01 47 36.1**	**+0.9**
COPN				AML		AML	01 47 36.8	
	comp=Z,1μm,0.2s							
APYN	**Apoyeque**	**0.43**	**117**	*eP*		**Pn**	**01 47 16.5**	**+0.1**
XAVN	**Gruta Xavier**	**0.49**	**125**	*eP*		**Pn**	**01 47 17.0**	**+0.4**
MGAN	**Managua**	**0.56**	**120**	*eP*		**Pn**	**01 47 17.2**	**+0.4**
MGAN				*e*S		**Sn**	**01 47 38.3**	**+1.5**
ESTN	**Estel**	**0.76**	**28**	⇑*eP*		**Pn**	**01 47 18.6**	**+0.6**
ESTN				*e*S		**Sn**	**01 47 39.1**	**+0.1**
BOAB	**BOACO BROADBAN**	**1.05**	**89**	*eP*		**Pn**	**01 47 20.5**	**+0.7**
CNCH	**Conchagua**	**1.36**	**308**	*eP*		**Pn**	**01 47 22.8**	**+0.4**
VSM	**San Miguel**	**1.79**	**304**	⇑*eP*		**Pn**	**01 47 27.5**	**+0.8**
VSM				*e*S		**Sn**	**01 47 53.9**	**-0.6**
LCY	**Lacayo**	**1.81**	**303**	⇑*eP*		**Pn**	**01 47 27.8**	**+0.9**
LCY				*e*S		**Sn**	**01 47 53.7**	**-0.7**
PACA	**Pacayal**	**1.86**	**304**	⇑*eP*		**Pn**	**01 47 28.0**	**+0.8**
CAHU	**Cacacuatique**	**1.96**	**313**	*eP*		**Pn**	**01 47 29.5**	**+1.2**
SNVI	**San Vicente**	**2.36**	**300**	*eP*		**Pn**	**01 47 33.3**	**+0.7**
SNVI				*e*S		**Sn**	**01 48 04.9**	**-0.2**
LFRS	**El Faro**	**2.55**	**298**	*eP*		**Pn**	**01 47 35.4**	**+0.6**
LFRS				*e*S		**Sn**	**01 48 08.8**	**-0.2**
LBRS	**Las Brisas**	**2.59**	**300**	*eP*		**Pn**	**01 47 36.6**	**+1.4**
LFU	**La Fuente**	**2.66**	**300**	*eP*		**Pn**	**01 47 36.9**	**+0.9**
SNET	**Serv Nac Est T**	**2.73**	**298**	AML		AML	01 48 16.6	
	comp=Z,473nm,0.2s							
BOQS	**Boqueron**	**2.79**	**298**	*eP*		**Pn**	**01 47 38.7**	**+1.0**
BOQS				*e*S		**Sn**	**01 48 15.2**	**+1.0**
JCR	**Jicaral**	**3.02**	**148**	⇑*eP*		**Pn**	**01 47 42.1**	**+1.8**
JCR				*e*S		**Sn**	**01 48 17.3**	**-1.5**
SBLS	**San Blas**	**3.14**	**297**	*eP*		**Pn**	**01 47 43.9**	**+2.0**
SBLS				*e*S		**Sn**	**01 48 22.9**	**+1.3**
MONT	**Ecomontaæa**	**3.17**	**297**	*eP*		**Pn**	**01 47 44.4**	**+2.1**
MONT				*e*S		**Sn**	**01 48 23.8**	**+1.5**
RTR	**El Retiro**	**3.18**	**298**	*eP*		**Pn**	**01 47 44.0**	**+1.6**
RTR				*e*S		**Sn**	**01 48 23.2**	**+0.7**
CGA2	**Cerro Gallo 2**	**3.28**	**137**	*eP*		**Pn**	**01 47 45.5**	**+2.0**
CGA2				*e*S		**Sn**	**01 48 23.6**	**-0.9**
RBDL	**Robledal**	**3.32**	**301**	*eP*		**Pn**	**01 47 45.6**	**+1.6**
CUS1	**Cusmapa**	**3.45**	**296**	*eP*		**Pn**	**01 47 46.7**	**+1.1**
CUS1				*e*S		**Sn**	**01 48 28.6**	**+0.4**
URSC	**Urasca**	**3.89**	**131**	*eP*		**Pn**	**01 47 54.4**	**+3.3**
URSC				*e*S		**Sn**	**01 48 40.9**	**+2.7**
QCR	**Quepos**	**3.91**	**139**	*eP*		**Pn**	**01 47 54.0**	**+2.7**
QCR				*e*S		**Sn**	**01 48 36.0**	**-2.5**
SJG	**San Juan**	**20.64**	**72**	P		**P**	**01 51 18.3**	**+2.0**
	comp=Z,13nm,0.8s,baz=52,slow=3.6,SNR=4.4							
TXAR	**Lajitas Array**	**23.04**	**319**	P		**P**	**01 51 40.8**	**+0.9**
	comp=Z,2.8nm,0.6s,baz=140,slow=9.3,SNR=38							
TKL	**Tuckaleechee C**	**23.28**	**6**	P		**P**	**01 51 43.0**	**+1.1**
	comp=Z,3.9nm,0.4s,baz=175,slow=9.6,SNR=12							
TKL				LR		LR	02 01 45.1	
	comp=Z,23nm,21.5s,baz=345,slow=38							
NNA	**Nana**	**26.17**	**158**	P		**P**	**01 52 05.5**	**-2.9**
	comp=Z,10.0nm,0.6s,baz=228,slow=23,SNR=4.2							
SCHQ	**Schefferville**	**45.10**	**16**	P		**P**	**01 54 47.6**	**-0.8**
	comp=Z,3.4nm,0.4s,baz=223,slow=5.9,SNR=16							
YKA	**Yellowknife Ar**	**53.82**	**344**	P		**P**	**01 55 53.1**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=140,slow=7.6,SNR=5.5							
ESDC	**Sonseca Array**	**76.66**	**52**	P		**P**	**01 58 21.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=283,slow=5.5,SNR=5.6							
TORD	**Torodi Ar. Bea**	**85.74**	**78**	P		**P**	**01 59 08.2**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=289,slow=5.1,SNR=3.9							
ASAR	**Alice Springs**	**139.90**	**248**	PKhKP		PKPpre	02 05 51.5	
	comp=Z,0.3nm,0.4s,baz=110,slow=3.5,SNR=3.8							
WRA	**Warramunga Arr**	**139.93**	**254**	PKhKP		PKPpre	02 05 51.4	
	comp=Z,0.2nm,0.3s,baz=89,slow=3.4,SNR=11							

IDC 20 01:59:59.3±2.9, 51°.53N×171°.12E, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.4/45, mbtmp3.6/4, ML3.4/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/35, Error ellipse: s-maj=80.8km s-min=35.0km az=178.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PETK	**Petropavlovsk-**	**8.38**	**286**	Pn		Pn	02 02 01.9	0.0
	2.3nm,0.3s,baz=99,slow=19,SNR=19							
PETK				Sn		Sn	02 03 28.3	-8.8
	0.5nm,0.3s,baz=146,slow=26,SNR=3.0							
ILAR	**Eielson Array**	**25.24**	**42**	P		P	02 05 26.4	-0.1
	1.0nm,0.7s,baz=248,slow=8.3,SNR=16							
YKA	**Yellowknife Ar**	**39.63**	**44**	P		P	02 07 32.0	-0.1
	0.5nm,0.7s,baz=290,slow=8.1,SNR=5.2							
YKA				LR		LR	02 26 55.2	
	comp=Z,5.2nm,18.2s,baz=0.0,slow=41							
AKTO	**Aktyubinsk**	**63.67**	**319**	LR		LR	02 38 14.8	
	comp=Z,21nm,20.8s,slow=36							
TXAR	**Lajitas Array**	**64.78**	**74**	P		P	02 10 39.7	+0.1
	0.2nm,0.8s,baz=292,slow=4.8,SNR=2.4							
TXAR				LR		LR	02 35 39.7	
	comp=Z,77nm,20.6s,baz=0.0,slow=33							

*ISCJB **20** 02:03:38.4±0.9, 36°.39N±0°.07×140°.63E±0°.08, h58km±5km, mb3.4/3, MS3.8/1, Error ellipse: s-maj=13.6km s-min=6.8km az=136.4*

*JMA **20** 02:03:39.4±0.1, 36°.42N×140°.57E, h54km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs17.00000°, δ68.00000°, λ125.00000°. NP2: φs135.00000°, δ41.00000°, λ35.00000°. Principal axes: T Plg53.0000°, Azm330.0000°; N Plg32.0000°, Azm183.0000°; P Plg16.0000°, Azm82.0000°;*

JMA Felt I J1.

*IDC **20** 02:03:41.0±4.8, 36°.38N×140°.48E, h66km±45km, mb3.1/3, mb1 3.4/3, mb1mx3.0/41, mbtmp3.4/3, MS3.8/1, Ms1 4.0/1, ms1mx2.6/19 Error ellipse: s-maj=49.2km s-min=27.4km az=99.0*

ISC 20 02:03:39.3±1.1, 36°.41N±0°.07×140°.60E±0°.07, h53km±7km, n14, σ2$14/22, mb3.5/3, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JHO	**Hitachi**	**0.20**	**354**	⇑P		**Pn**	**02 03 48.2**	**+0.2**
JHO				S		**Sn**	**02 03 54.0**	**-0.1**
JYT	**Yasato**	**0.37**	**240**	⇓P		**Pn**	**02 03 49.6**	**+0.2**
JYT				S		**Sn**	**02 03 56.5**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.71**	**13**	P		**Pn**	**02 03 53.1**	**-0.2**
ONAJ				S		**Sn**	**02 04 02.9**	**-0.6**
JAG	**Ashikaga**	**0.92**	**271**	⇓P		**Pn**	**02 03 56.2**	**+0.1**
JAG				S		**Sn**	**02 04 07.8**	**-0.6**
JFK	**Kawauchi**	**0.98**	**13**	P		**Pn**	**02 03 56.6**	**-0.3**
JFT	**Otama**	**1.12**	**349**	P		**Pn**	**02 03 59.4**	**+0.6**
JFT				S		**Sn**	**02 04 13.2**	**0.0**
JKT	**Katashina**	**1.14**	**288**	P		**Pn**	**02 03 59.7**	**+0.6**
JKT				S		**Sn**	**02 04 14.1**	**+0.4**
JRY	**Ryogami san**	**1.43**	**254**	⇓P		**Pn**	**02 04 03.0**	**+0.1**
JRY				S		**Sn**	**02 04 20.3**	**-0.3**
MJAR	**Matsushiro Arr**	**1.93**	**275**	P		**Pn**	**02 04 09.9**	**+0.1**
	22nm,0.3s,baz=100,slow=9.0,SNR=94							
MJAR				S		**Sn**	**02 04 25.2**	**-7.6**
	21nm,0.3s,baz=104,slow=8.8,SNR=25							
MAT	**Matsushiro**	**1.93**	**275**	P		**Pn**	**02 04 10.8**	**+1.0**
MAT				S		**Sn**	**02 04 37.4**	**+4.5**
CMAR	**Chiang Mai Arr**	**40.70**	**255**	LR		LR	02 29 45.8	
	comp=Z,117nm,18.0s,baz=190,slow=38							
ZALV	**Zalesovo Beam**	**41.85**	**313**	P		**P**	**02 11 23.9**	**-0.1**
	0.3nm,0.3s,baz=111,slow=8.1,SNR=3.8							
ILAR	**Eielson Array**	**50.37**	**32**	P		**P**	**02 12 31.2**	**+0.5**
	0.2nm,0.7s,baz=272,slow=7.1,SNR=3.2							
WRA	**Warramunga Arr**	**56.36**	**187**	P		**P**	**02 13 15.0**	**-0.2**
	0.2nm,0.4s,baz=1.9,slow=7.5,SNR=7.1							

SGS 20 02:15:38.7, 25°.25N×37°.79E, h8km, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LNY12	**LNY12**	**0.03**	**332**	S		Sg	02 15 41.4	0.0
LNY12				P		Pg	02 15 40.6	+0.3
LNY12	**LNY12**	**0.03**	**332**	S		Sg	02 15 41.4	0.0
LNY12				P		Pg	02 15 40.6	+0.4
LNY06	**LNY06**	**0.04**	**189**	S		Sg	02 15 42.0	+0.4
LNY06				P		Pg	02 15 40.8	+0.5
LNY11	**LNY11**	**0.07**	**351**	S		Sg	02 15 42.3	+0.2
LNY11				P		Pg	02 15 41.2	+0.5
LNY11	**LNY11**	**0.07**	**351**	S		Sg	02 15 42.4	+0.2
LNY11				P		Pg	02 15 41.2	+0.5
LNY10	**LNY10**	**0.07**	**73**	S		Sg	02 15 42.6	+0.5
LNY10				P		Pg	02 15 41.2	+0.5
LNY10	**LNY10**	**0.07**	**73**	S		Sg	02 15 42.4	+0.3
LNY10				P		Pg	02 15 41.2	+0.5
LNY04	**LNY04**	**0.13**	**280**	S		Sg	02 15 43.9	+0.4
LNY04				P		Pg	02 15 42.1	+0.6
LNY04	**LNY04**	**0.13**	**280**	S		Sg	02 15 43.9	+0.5
LNY04				P		Pg	02 15 42.1	+0.6
LNY02	**LNY02**	**0.13**	**148**	S		Sg	02 15 44.1	+0.5
LNY02				P		Pg	02 15 42.1	+0.5
LNY03	**LNY03**	**0.14**	**26**	S		Sg	02 15 44.4	+0.4
LNY03				P		Pg	02 15 42.4	+0.6
LNY01	**LNY01**	**0.16**	**100**	S		Sg	02 15 44.9	+0.5
LNY01				P		Pg	02 15 42.6	+0.6
LNY09	**LNY09**	**0.19**	**324**	S		Sg	02 15 45.8	+0.6
LNY09				P		Pg	02 15 43.3	+0.7
LNY08	**LNY08**	**0.22**	**165**	S		Sg	02 15 47.2	+0.9
LNY08				P		Pg	02 15 43.7	+0.5
LNY07	**LNY07**	**0.23**	**239**	S		Sg	02 15 47.0	+0.7
LNY07				P		Pg	02 15 43.9	+0.6

*IDC **20** 02:15:54.6±3.6, 35°.71N×141°.58E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/35, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=108.2km s-min=28.3km az=58.0*

*JMA **20** 02:16:02.4±0.1, 35°.53N×140°.94E, h39km±1km, M2.9*

ISC 20 02:16:00.1±1.5, 35°.55N±0°.07×141°.2E±0°.1, h25km, n11, σ0$86/14, mb3.1/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CHOJ	**Chosi**	**0.30**	**300**	P		**Pn**	**02 16 09.6**	**+0.7**
CHOJ				*e*S		**Sn**	**02 16 14.7**	**+0.1**
JCN	**Nagara**	**0.81**	**261**	P		**Pb**	**02 16 15.7**	**+0.2**
BSO4	**Boso 4**	**0.89**	**231**	P		**Pn**	**02 16 16.4**	**-0.5**
BSO1	**Boso 1**	**0.91**	**190**	P		**Pb**	**02 16 17.7**	**+0.8**
BSO3	**Boso 3**	**0.93**	**216**	P		**Pn**	**02 16 17.0**	**-0.3**
BSO3				X			02 16 27.1	
JYT	**Yasato**	**1.05**	**310**	P		**Pb**	**02 16 19.0**	**-0.5**
JYT				*e*S		**Sb**	**02 16 31.9**	**-0.9**
MJAR	**Matsushiro Arr**	**2.60**	**293**	Pn		**Pn**	**02 16 41.3**	**+0.7**
	2.5nm,0.3s,baz=94,slow=14,SNR=12							
MAT	**Matsushiro**	**2.60**	**293**	P		**Pn**	**02 16 42.5**	**+1.9**
MAT				*e*S		**Sn**	**02 17 12.1**	**+0.7**
SONM	**Songino Array**	**28.48**	**306**	P		**P**	**02 21 52.4**	**-0.9**
	0.2nm,0.5s,baz=108,slow=11,SNR=2.5							
MKAR	**Makanchi Array**	**44.76**	**303**	P		**P**	**02 24 11.6**	**+0.2**
	0.1nm,0.3s,baz=91,slow=7.8,SNR=3.0							
WRA	**Warramunga Arr**	**55.57**	**188**	P		**P**	**02 25 33.3**	**-0.2**
	0.5nm,0.7s,baz=5.6,slow=7.8,SNR=5.1							

JMA 20 02:26:50.1±0.1, 38°.16N×144°.23E, h0km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
OFUJ	**Ofunato**	**2.21**	**295**	P		Pn	02 27 28.9	+0.9
OFUJ				*e*S		Sb	02 27 57.4	-1.3
JIO	**Ouri**	**2.29**	**278**	P		Pn	02 27 30.2	+1.1
JIO				S		Sn	02 27 58.6	+0.7
MIYJ	**Miyakonagasawa**	**2.35**	**308**	P		Pn	02 27 30.6	+0.6
MIYJ				*e*S		Sn	02 28 00.9	+1.3
JMK	**Ichinoseki**	**2.49**	**289**	P		Pn	02 27 33.0	+1.1
JOM	**Ohasama**	**2.64**	**301**	P		Pn	02 27 35.3	+1.3
JOU	**Okura**	**2.81**	**275**	P		Pn	02 27 37.9	+1.5
JOU				*e*S		Sn	02 28 12.6	+1.6
JANG	**Nango**	**3.05**	**317**	P		Pn	02 27

NOA	**NORSAR Array B**	**148.67**	**49**	PKPbc	**PKPbc**	**02 47 01.9**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=262,slow=2.3,SNR=5.3						
ULN	**Ulaanbaatar**	**152.30**	**282**	*e*PKPdf	**PKPdf**	**02 47 05.0**	**+0.7**
ULN				*e*PKPbc	**PKiKP**	**02 47 11.3**	**-0.1**
ULN				*e*PKPab	**PKPab**	**02 47 19.6**	**-1.5**
SONM	**Songino Array**	**152.70**	**282**	PKPbc	**PKPbc**	**02 47 12.5**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=146,slow=2.6,SNR=12						
BRTR	**Keskin Array B**	**155.93**	**103**	PKPab	**PKPab**	**02 47 38.4**	**+1.5**
	comp=Z,3.0nm,0.9s,baz=201,slow=3.5,SNR=11						
ZALV	**Zalesovo Beam**	**166.92**	**296**	PKPab	**PKPab**	**02 48 23.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=90,slow=7.2,SNR=4.3						
MKAR	**Makanchi Array**	**167.84**	**262**	PKPab	**PKPab**	**02 48 29.4**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=121,slow=5.6,SNR=3.5						

IDC ***20*** *02:32:38.5±2.3,28.47N×69.52E,h0km,mb3.5/8, mb1 3.7/8,mb1mx3.4/59,mbtmp3.5/8,MS3.7/1,Ms1 3.7/1, ms1mx2.6/49,Error ellipse: s-maj=55.3km s-min=27.3km az=143.0*

ISCJB ***20*** *02:32:41.8±2.1,28.5N±0.3×69.6E±0.3,h33km,mb3.6/7, MS3.7/1,Error ellipse: s-maj=46.2km s-min=24.5km az=146.7*

ISC 20 02:32:44.1±2.3,28.6N±0.3×69.5E±0.2,h35km,n9,σ1$38/8, mb3.7/7,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**20.79**	**25**	P	**P**	**02 37 20.8**	**-1.4**
	0.6nm,0.7s,baz=214,slow=12,SNR=4.5						
KURBB	**Kurchatov Arra**	**23.09**	**15**	P	**P**	**02 37 45.0**	**-1.6**
	0.3nm,0.4s,baz=212,slow=8.2,SNR=2.2						
AKTO	**Aktyubinsk**	**23.54**	**341**	P	**P**	**02 37 52.7**	**+1.7**
	1.4nm,0.8s,baz=184,slow=11,SNR=2.5						
BVAR	**Borovoye Array**	**24.46**	**1**	P	**P**	**02 37 58.8**	**-0.8**
	0.7nm,0.7s,baz=171,slow=11,SNR=4.9						
SONM	**Songino Array**	**34.38**	**46**	P	**P**	**02 39 28.8**	**+0.9**
	0.5nm,0.5s,baz=264,slow=10.0,SNR=4.1						
ARCES	**ARCESS Array B**	**48.12**	**341**	P	**P**	**02 41 20.2**	**0.0**
	1.0nm,0.6s,baz=140,slow=7.7,SNR=6.1						
KSRS	**Korea Array**	**49.12**	**64**	LR	LR	03 02 40.7	
	comp=Z,70nm,18.9s,baz=188,slow=37						
TORD	**Torodi Ar. Bea**	**64.46**	**272**	P	**P**	**02 43 16.9**	**-0.7**
	0.5nm,0.8s,baz=49,slow=6.5,SNR=3.2						
YKA	**Yellowknife Ar**	**89.22**	**2**	P	**P**	**02 45 36.6**	**+0.5**
	0.5nm,0.7s,baz=344,slow=4.7,SNR=7.1						

JMA 20 02:35:11.3±0.1,35.51N×140.92E,h37km±1km,M2.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.20**	**345**	P	Pn	02 35 18.1	-2.6
CHOJ				S	Sn	02 35 23.3	-6.6
BSO4	**Boso 4**	**0.70**	**223**	P	Pn	02 35 25.0	+0.3
BSO3	**Boso 3**	**0.78**	**206**	P	Pn	02 35 25.9	+0.4
BSO1	**Boso 1**	**0.86**	**177**	P	Pn	02 35 26.8	+0.5
MAT	**Matsushiro**	**2.43**	**296**	P	Pn	02 35 51.1	+2.7

NIED ***20*** *02:35:00,37.40N×141.70E,h32km,Mw3.8 Best double couple: M0 6.16000×10^14 NP1:φ=124.00000°,δ=29.00000°, λ=92.00000°. NP2:φ=301.00000°,δ=61.00000°,λ=89.00000°.*

ISCJB ***20*** *02:35:30.8±0.8,37.35N±0.04×141.82E±0.06,h42km±6km, mb4.0/20,Error ellipse: s-maj=8.4km s-min=5.9km az=7.8*

JMA ***20*** *02:35:32.6±0.1,37.42N×141.70E,h39km±3km,M3.8*

JMA Felt I J1.

IDC ***20*** *02:35:33.0±0.8,37.36N×141.68E,h41km±5km,mb3.7/17, mb1 3.9/21,mb1mx3.8/48,mbtmp4.0/21,ML4.1/3,MS2.9/3, Ms1 2.9/3,ms1mx2.6/41,Error ellipse: s-maj=16.5km s-min=14.2km az=81.0*

NEIC ***20*** *02:35:33.7±1.0,37.36N×141.85E,h51km±9km,mb4.3/3, Error ellipse: s-maj=11.0km s-min=9.2km az=90.0*

NEIC Recorded [1 JMA] in Fukushima.

ISC 20 02:35:31.0±0.6,37.38N±0.04×141.82E±0.05,h27km±3km, h27km:pP-P,n49,σ1$53/58,mb4.0/20,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.75**	**269**	P	**Pb**	**02 35 45.6**	**0.0**
JFK				S	**Sb**	**02 35 54.5**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.86**	**252**	P	**Pb**	**02 35 47.2**	**-0.2**
ONAJ				S	**Sb**	**02 35 57.4**	**-1.2**
JMM	**Marumori**	**0.95**	**301**	P	**Pb**	**02 35 48.2**	**-0.7**
JMM				S	**Sb**	**02 35 58.8**	**-2.3**
JIO	**Ouri**	**1.14**	**341**	P	**Pn**	**02 35 51.0**	**-0.2**
JIO				S	**Sb**	**02 36 03.8**	**-2.6**
JFT	**Otama**	**1.19**	**277**	P	**Pn**	**02 35 52.4**	**+0.5**
JFT				S	**Sn**	**02 36 04.7**	**-2.5**
JHO	**Hitachi**	**1.26**	**233**	P	**Pn**	**02 35 53.0**	**+0.1**
JOU	**Okura**	**1.35**	**317**	P	**Pn**	**02 35 54.4**	**+0.3**
JYS	**Shirataka**	**1.63**	**302**	P	**Pb**	**02 35 59.2**	**-1.1**
JMK	**Ichinoseki**	**1.64**	**343**	P	**Pn**	**02 35 58.7**	**+0.6**
JFY	**Yanaizu**	**1.69**	**272**	P	**Pn**	**02 35 59.3**	**+0.6**
JFY				S	**Sn**	**02 36 19.2**	**-0.3**
MJAR	**Matsushiro Arr**	**3.01**	**255**	P	**Pn**	**02 36 18.3**	**+1.3**
	5.0nm,0.3s,baz=70,slow=16,SNR=5.1						
MJAR				LR	LR	02 37 41.6	
	comp=Z,179nm,20.1s,baz=75,slow=45						
MAJO	**Matsushiro**	**3.01**	**255**	Pn	**Pb**	**02 36 21.1**	**-2.8**
MAT	**Matsushiro**	**3.01**	**255**	P	**Pb**	**02 36 21.0**	**-3.0**
MAT				S	**Sn**	**02 36 55.2**	**+3.0**
JHJ	**Hachijo jima 2**	**4.56**	**202**	P	**Pn**	**02 36 39.6**	**+1.4**
	42nm,0.3s,baz=338,slow=22,SNR=8.8						
JHJ				S	**Sn**	**02 37 28.5**	**-2.0**
	36nm,0.3s,baz=232,slow=19,SNR=4.3						
ERM	**Erimo**	**4.75**	**12**	*e*Pn	**Pn**	**02 36 41.7**	**+1.0**
ERM				*e*S	**Sn**	**02 37 33.3**	**-1.5**
JNU	**Nakatsue**	**9.90**	**248**	LR	LR	02 42 03.8	
	comp=Z,82nm,21.4s,baz=120,slow=40						
USRK	**Ussuriysk Ar.**	**10.10**	**316**	P	**Pn**	**02 37 54.8**	**+0.7**
	0.2nm,0.3s,baz=124,slow=12,SNR=3.0						
USRK				LR	LR	02 42 05.6	
	comp=Z,54nm,18.8s,baz=159,slow=39						
CBIJ	**Chichi jima**	**10.26**	**178**	*e*Pn	**Pn**	**02 37 56.2**	**-0.3**
CBIJ				*e*S	**Sn**	**02 39 46.6**	**-4.0**
JCJ	**Chichijima**	**10.26**	**178**	P	**Pn**	**02 37 56.1**	**-0.4**
	4.0nm,0.3s,baz=266,slow=23,SNR=5.0						
JCJ				S	Sn	02 39 42.2	-8.3
	2.8nm,0.3s,baz=253,slow=19,SNR=3.3						
KSRS	**Korea Array**	**11.06**	**275**	P	**Pn**	**02 38 12.0**	**+4.7**
	0.3nm,0.3s,baz=86,slow=13,SNR=7.8						
KSAR	**Wonju Array Be**	**11.09**	**275**	P	**Pn**	**02 38 12.0**	**+4.2**
SONM	**Songino Array**	**27.87**	**303**	P	**P**	**02 41 18.4**	**0.0**
	1.2nm,0.5s,baz=107,slow=9.6,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	03 10 54.4	
	baz=315,slow=75,SNR=82						
H11N1	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	03 10 55.0	
	baz=315,slow=75,SNR=70						
H11N3	**WAKE ISLAND Hy**	**28.07**	**122**	T	T	03 10 58.1	
	baz=315,slow=75,SNR=81						
H11S1	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	03 11 53.0	
	baz=316,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy**	**28.78**	**124**	T	T	03 11 46.5	
	baz=316,slow=76,SNR=59						
H11S2	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	03 11 52.0	
	baz=316,slow=76,SNR=32						
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**02 43 18.5**	**-0.5**
	0.7nm,0.4s,baz=77,slow=7.8,SNR=3.8						
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**02 43 37.4**	**-0.3**
	2.2nm,0.7s,baz=87,slow=10,SNR=21						
MKAR				pP	**sP**	**02 43 48.5**	**-0.6**
	1.2nm,0.7s,baz=88,slow=11,SNR=5.7						
KURK	**Kurchatov**	**45.98**	**308**	P	**P**	**02 43 51.6**	**0.0**
KURK				pP	**sP**	**02 44 03.6**	**+0.5**
KURBB	**Kurchatov Arra**	**46.05**	**308**	P	**P**	**02 43 51.6**	**-0.6**
	3.6nm,0.6s,baz=80,slow=9.3,SNR=12						
KURBB				pP	**sP**	**02 44 03.6**	**0.0**
	3.0nm,0.8s,baz=81,slow=9.2,SNR=5.1						
ILAR	**Eielson Array**	**49.03**	**33**	P	**P**	**02 44 16.2**	**+1.1**
	0.5nm,0.6s,baz=264,slow=6.7,SNR=7.2						
TKM2	**Tokmak 2**	**49.75**	**298**	*e*P	**P**	**02 44 21.1**	**-0.2**
	2.4nm,0.5s						
BVAR	**Borovoye Array**	**50.58**	**312**	P	**P**	**02 44 26.6**	**-0.5**
	1.0nm,0.5s,baz=73,slow=7.1,SNR=5.2						
ARU	**Arti**	**56.32**	**318**	P	**P**	**02 45 08.6**	**-0.6**
	3.4nm,0.3s,baz=106,slow=7.0,SNR=5.1						
ARU	**Arti**	**56.32**	**318**	*e*P	**P**	**02 45 08.9**	**-0.3**
WRAB	**Tennant Creek**	**57.44**	**188**	*e*P	**P**	**02 45 17.4**	**0.0**
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**57.45**	**188**	P	**P**	**02 45 17.3**	**-0.2**
	2.1nm,0.4s,baz=6.4,slow=7.4,SNR=47						
ABKAR	**Akbulak array**	**57.97**	**310**	*e*P	**P**	**02 45 20.3**	**-0.6**
	0.6nm,0.4s						
AKTO	**Aktyubinsk**	**58.69**	**312**	P	**P**	**02 45 25.6**	**-0.4**
	0.7nm,0.6s,baz=66,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**61.17**	**188**	P	**P**	**02 45 43.0**	**-0.3**
	0.7nm,0.7s,baz=11,slow=11,SNR=7.1						
YKA	**Yellowknife Ar**	**63.35**	**30**	P	**P**	**02 45 58.2**	**+0.9**
	0.2nm,0.6s,baz=306,slow=6.8,SNR=3.1						
YKA				pP	**sP**	**02 46 10.4**	**+1.4**
	0.4nm,0.7s,baz=304,slow=6.6,SNR=4.1						
ARCES	**ARCESS Array B**	**63.79**	**339**	P	**P**	**02 46 00.1**	**-0.1**
	3.4nm,1.1s,baz=47,slow=6.8,SNR=4.3						
FINES	**FINESS Array B**	**68.66**	**332**	P	**P**	**02 46 31.1**	**-0.4**
	1.4nm,0.7s,baz=48,slow=11,SNR=4.8						
FINES				pP	**sP**	**02 46 42.8**	**-0.4**
	0.9nm,0.7s,baz=38,slow=9.6,SNR=1.6						
AKASG	**Malin Array Be**	**74.22**	**322**	P	**P**	**02 47 04.8**	**-0.5**
	0.3nm,0.4s,baz=44,slow=6.2,SNR=5.7						
AKASG				pP	**sP**	**02 47 17.5**	**+0.5**
	0.5nm,0.3s,baz=46,slow=6.1,SNR=4.0						
PDAR	**Pinedale Array**	**77.19**	**46**	P	**P**	**02 47 23.6**	**+0.8**
	0.3nm,0.4s,baz=270,slow=3.6,SNR=3.5						
BRTR	**Keskin Array B**	**78.87**	**312**	P	**P**	**02 47 31.9**	**0.0**
	2.1nm,1.1s,baz=190,slow=6.2,SNR=7.4						
TXAR	**Lajitas Array**	**89.65**	**53**	P	**P**	**02 48 27.9**	**+1.0**
	0.3nm,0.5s,baz=299,slow=3.9,SNR=7.6						

IDC ***20*** *02:35:39.9±0.9,37.93N×21.05E,h0km,mb4.0/14, mb1 3.8/20,mb1mx3.7/53,mbtmp3.8/20,ML3.5/6,Error ellipse: s-maj=16.8km s-min=15.4km az=24.0*

CSEM ***20*** *02:35:40.9±0.2,37.88N×21.07E,h2km,ML3.6,Error ellipse: s-maj=3.9km s-min=2.6km az=18.0*

ISCJB ***20*** *02:35:40.8±0.4,37.89N±0.02×21.01E±0.01,h13km±2km, mb3.9/14,Error ellipse: s-maj=2.8km s-min=2.0km az=10.7*

NEIC ***20*** *02:35:40.7,37.85N×21.14E,h2km,ML3.8(THE), ML3.6(ATH),After ATH.*

NEIC Felt at Gastouni.

ATH ***20*** *02:35:40.7,37.85N×21.14E,h2km±1km,ML3.6/29,Error ellipse: s-maj=1.7km s-min=0.7km az=261.0*

THE ***20*** *02:35:41.4,37.87N×21.17E,h0km±1km,ML3.8/24,Error ellipse: s-maj=1.2km s-min=0.4km az=254.0*

BEO ***20*** *02:35:53.6±0.9,38.83N×21.00E,h0km,M3.2/3*

TIR ***20*** *02:36:07.2±0.3,39.19N×20.47E,h7km,ML3.6*

ISC 20 02:35:41.0±0.7,37.86N±0.01×21.13E±0.01,h11km±4km, n288,σ1$53/384,mb4.0/14,3C-3D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.08**	**40**	P	**Pg**	**02 35 43.6**	**+0.2**
VTN				S	**Sg**	**02 35 45.0**	**-0.2**
VTN	**Vitineika**	**0.08**	**40**	P	**Pg**	**02 35 43.6**	**+0.2**
VTN				S	**Sg**	**02 35 45.0**	**-0.2**
ZKS	**Zakynthos**	**0.31**	**239**	P	**Pg**	**02 35 48.0**	**+0.7**
ZKS				S	**Sb**	**02 35 53.9**	**+0.1**
ZKS	**Zakynthos**	**0.31**	**239**	P	**Pg**	**02 35 47.7**	**+0.3**
ZKS				S	**Sg**	**02 35 51.8**	**+0.2**
ZKS	**Zakynthos**	**0.31**	**239**	P	**Pg**	**02 35 47.7**	**+0.3**
ZKS				S	**Sg**	**02 35 51.8**	**+0.2**
ZKS				AML	AML	02 35 57.2	
	comp=N,78014μm,0.4s						
ZKS				AML	AML	02 35 58.6	
RLS	**Riolos of Patr**	**0.34**	**54**	P	**Pg**	**02 35 47.0**	**-0.8**
RLS				S	**Sg**	**02 35 51.4**	**-0.9**
RLS	**Riolos of Patr**	**0.34**	**54**	P	**Pg**	**02 35 47.0**	**-0.8**
RLS				S	**Sg**	**02 35 51.4**	**-0.9**
RLS	**Riolos of Patr**	**0.34**	**54**	S	**Sb**	**02 35 54.0**	**-0.4**
RLS				AML	AML	02 35 57.0	
	comp=E,26262μm,0.3s						
RLS				AML	AML	02 36 00.1	
	comp=N,43806μm,0.3s						
KFL	**Anninata**	**0.37**	**313**	P	**Pg**	**02 35 48.5**	**+0.2**
KFL				S	**Sb**	**02 35 54.8**	**-0.5**
KFL	**Anninata**	**0.37**	**313**	P	**Pg**	**02 35 48.5**	**+0.2**
KFL				S	**Sg**	**02 35 54.1**	**+0.9**
KFL	**Anninata**	**0.37**	**313**	P	**Pg**	**02 35 48.7**	**+0.4**
KFL				S	**Sg**	**02 35 54.1**	**+0.9**
AXS	**Araxos**	**0.39**	**30**	P	**Pg**	**02 35 48.3**	**-0.5**
AXS				S	**Sg**	**02 35 53.9**	**-0.1**
AXS	**Araxos**	**0.39**	**30**	P	**Pg**	**02 35 48.6**	**-0.2**
AXS				S	**Sg**	**02 35 53.9**	**-0.1**
AXS	**Araxos**	**0.39**	**30**	P	**Pg**	**02 35 48.6**	**-0.2**
AXS				S	**Sb**	**02 35 56.2**	**+0.1**
DRO	**Drossia**	**0.47**	**78**	P	**Pg**	**02 35 49.2**	**-1.1**
DRO				S	**Sg**	**02 35 56.0**	**-0.6**
DRO	**Drossia**	**0.47**	**78**	P	**Pg**	**02 35 49.2**	**-1.1**
DRO				S	**Sg**	**02 35 55.5**	**-1.1**
DRO	**Drossia**	**0.47**	**78**	P	**Pg**	**02 35 48.7**	**-1.6**
DRO				S	**Sg**	**02 35 55.5**	**-1.1**
DRO				AML	AML	02 36 02.0	
	comp=N,53832μm,0.4s						
DRO				AML	AML	02 36 03.6	
	comp=E,42700μm,0.3s						
VLS	**Valsamata**	**0.53**	**307**	P	**Pg**	**02 35 51.3**	**-0.1**
VLS				S	**Sb**	**02 36 00.1**	**+0.1**
VLS	**Valsamata**	**0.53**	**307**	P	**Pg**	**02 35 51.2**	**-0.1**
VLS				S	**Sb**	**02 35 59.9**	**-0.1**
UPR	**University Cam**	**0.67**	**51**	P	**Pg**	**02 35 53.8**	**-0.3**
UPR				S	**Sg**	**02 36 02.9**	**0.0**
UPR	**University Cam**	**0.67**	**51**	P	**Pg**	**02 35 53.8**	**-0.3**
UPR				S	**Sb**	**02 36 05.2**	**+1.0**
UPR	**University Cam**	**0.67**	**51**	P	**Pb**	**02 35 55.0**	**+0.3**
UPR				S	**Sb**	**02 36 05.2**	**+1.0**
PDO	**Prodromos**	**0.74**	**4**	P	**Pg**	**02 35 55.4**	**0.0**
PDO				S	**Sb**	**02 36 06.6**	**+0.5**
PDO	**Prodromos**	**0.74**	**4**	P	**Pg**	**02 35 55.4**	**0.0**
PDO				S	**Sg**	**02 36 04.4**	**-0.7**
PDO	**Prodromos**	**0.74**	**4**	P	**Pb**	**02 35 55.7**	**-0.3**
PDO				S	**Sg**	**02 36 04.4**	**-0.7**
PDO				AML	AML	02 36 11.7	
	comp=E,20960μm,0.5s						
PDO				AML	AML	02 36 13.1	
	comp=N,29614μm,0.3s						
LAKA	**Lakka**	**0.77**	**60**	P	**Pg**	**02 35 55.1**	**-0.9**
LAKA				S	**Sb**	**02 36 06.9**	**-0.2**
LAKA	**Lakka**	**0.77**	**60**	P	**Pg**	**02 35 55.1**	**-0.9**
LAKA				S	**Sb**	**02 36 06.9**	**-0.2**
LAKA	**Lakka**	**0.77**	**60**	P	**Pg**	**02 35 54.4**	**-1.6**
LAKA				S	**Sb**	**02 36 07.5**	**+0.4**
LAKA				AML	AML	02 36 10.3	
	comp=E,6062μm,0.6s						
LAKA				AML	AML	02 36 14.3	
	comp=N,5332μm,0.6s						
PVO	**Paravola**	**0.82**	**23**	P	**Pg**	**02 35 56.8**	**-0.1**
PVO				S	**Sg**	**02 36 07.9**	**+0.3**
PVO	**Paravola**	**0.82**	**23**	P	**Pg**	**02 35 56.8**	**-0.1**
PVO				S	**Sb**	**02 36 09.2**	**+0.8**
PVO	**Paravola**	**0.82**	**23**	P	**Pn**	**02 35 58.1**	**-0.5**
PVO				S	**Sb**	**02 36 09.2**	**+0.8**
PVO				AML	AML	02 36 14.2	
	comp=N,12401μm,0.4s						
PVO				AML	AML	02 36 15.2	
	comp=E,7112μm,0.3s						
KLV	**Kalavryta, Ach**	**0.83**	**77**	P	**Pg**	**02 35 56.5**	**-0.6**
KLV				S	**Sg**	**02 36 08.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.83**	**77**	P	**Pg**	**02 35 56.5**	**-0.6**
KLV				S	**Sg**	**02 36 08.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.83**	**77**	P	**Pg**	**02 35 55.4**	**-1.7**
KLV				S	**Sg**	**02 36 07.9**	**-0.1**
KLV				AML	AML	02 36 14.2	
	comp=N,5165μm,0.4s						
KLV				AML	AML	02 36 19.1	
	comp=E,4496μm,0.5s						
EFP	**Efpalio**	**0.84**	**47**	P	**Pg**	**02 35 56.3**	**-0.9**
EFP				S	**Sg**	**02 36 08.5**	**+0.4**
EFP	**Efpalio**	**0.84**	**47**	P	**Pg**	**02 35 57.5**	**-0.1**
EFP				S	**Sg**	**02 36 08.5**	**+0.4**
EFP	**Efpalio**	**0.84**	**47**	P	**Pb**	**02 35 57.5**	**-0.1**
EFP				S	**Sb**	**02 36 09.2**	**+0.3**
EFP				AML	AML	02 36 14.9	
	comp=E,11756μm,0.7s						
EFP				AML	AML	02 36 15.4	
	comp=N,12496μm,0.6s						
TRIZ	**Trizonia**	**0.90**	**56**	P	**Pg**	**02 35 56.6**	**-1.8**
TRIZ				S	**Sg**	**02 36 09.6**	**-0.6**
TRIZ	**Trizonia**	**0.90**	**56**	S	**Sg**	**02 36 09.6**	**-0.6**
SERG	**Sergoula**	**0.92**	**53**	P	**Pg**	**02 35 57.6**	**-1.2**
SERG				S	**Sb**	**02 36 11.2**	**-0.1**
SERG	**Sergoula**	**0.92**	**53**	P	**Pg**	**02 35 57.9**	**-0.9**
SERG				S	**Sg**	**02 36 11.0**	**+0.2**
ITM	**Ithomi**	**0.93**	**136**	P	**Pg**	**02 35 58.7**	**-0.2**
ITM				S	**Sb**	**02 36 12.6**	**+1.1**
ITM	**Ithomi**	**0.93**	**136**	P	**Pg**	**02 35 58.7**	**-0.2**
ITM				S	**Sg**	**02 36 09.9**	**-1.2**
ITM	**Ithomi**	**0.93**	**136**	P	**Pg**	**02 35 59.1**	**+0.2**
ITM				S	**Sg**	**02 36 09.9**	**-1.2**
ITM				AML	AML	02 36 19.4	
	comp=E,2971μm,0.4s						
ITM				AML	AML	02 36 20.6	
	comp=N,3449μm,0.5s						
KALE	**Kalithea**	**0.96**	**56**	P	**Pg**	**02 35 58.1**	**-1.4**
KALE				S	**Sb**	**02 36 12.6**	**+0.1**
KALE	**Kalithea**	**0.96**	**56**	P	**Pg**	**02 35 58.6**	**-0.9**
KALE				S	**Sb**	**02 36 12.6**	**+0.1**
KALE	**Kalithea**	**0.96**	**56**	P	**Pg**	**02 35 58.6**	**-0.9**
KALE				S	**Sb**	**02 36 12.9**	**+0.4**
KALE				AML	AML	02 36 19.4	
	comp=E,6048μm,0.4s						
KALE				AML	AML	02 36 22.4	
	comp=N,6661μm,0.3s						
ANX	**Ano Chora**	**0.96**	**40**	P	**Pg**	**02 35 58.8**	**-0.8**
ANX				S	**Sb**	**02 36 12.7**	**0.0**
ANX	**Ano Chora**	**0.96**	**40**	P	**Pg**	**02 35 58.8**	**-0.8**
ANX				S	**Sb**	**02 36 12.7**	**0.0**
LKD2	**Lefkada island**	**1.00**	**339**	P	**Pg**	**02 35 59.6**	**-0.7**
LKD2				S	**Sb**	**02 36 14.3**	**+0.7**
LKD2	**Lefkada island**	**1.00**	**339**	P	**Pg**	**02 35 59.6**	**-0.7**
LKD2				S	**Sg**	**02 36 13.0**	**-0.3**
LKD2	**Lefkada island**	**1.00**	**339**	P	**Pg**	**02 35 59.4**	**-0.9**
LKD2				S	**Sg**	**02 36 13.0**	**-0.3**
LKD2				AML	AML	02 36 23.4	
	comp=N,19203μm,0.6s						
LKD2				AML	AML	02 36 24.2	
	comp=E,21989μm,0.4s						
PYL	**PYLOS**	**1.08**	**153**	P	**Pb**	**02 36 01.1**	**-0.6**
PYL				S	**Sn**	**02 36 18.2**	**+1.1**
PYL	**PYLOS**	**1.08**	**153**	P	**Pb**	**02 36 01.1**	**-0.6**
PYL				S	**Sg**	**02 36 18.2**	**+0.6**
PYL	**PYLOS**	**1.08**	**153**	P	**Pb**	**02 36 00.2**	**-1.5**
PYL				S	**Sg**	**02 36 16.4**	**+0.6**
VLX	**Vlachokerasia**	**1.11**	**116**	P	**Pb**	**02 36 01.8**	**-0.5**
VLX				S	**Sg**	**02 36 17.1**	**+0.3**
VLX	**Vlachokerasia**	**1.11**	**116**	P	**Pn**	**02 36 03.0**	**+0.4**
VLX				S	**Sg**	**02 36 17.1**	**+0.3**
VLX	**Vlachokerasia**	**1.11**	**116**	P	**Pn**	**02 36 03.0**	**+0.4**
VLX				AML	AML	02 36 30.2	
	comp=N,3751μm,0.5s						
VLX				AML	AML	02 36 31.9	
	comp=E,3606μm,0.4s						
EVR	**Evrytania**	**1.19**	**27**	P	**Pb**	**02 36 03.3**	**-0.3**
EVR				S	**Sn**	**02 36 20.4**	**+0.5**
EVR	**Evrytania**	**1.19**	**27**	P	**Pb**	**02 36 03.5**	**-0.1**
EVR				S	**Sn**	**02 36 20.4**	**+0.5**
EVR	**Evrytania**	**1.19**	**27**	P	**Pb**	**02 36 03.5**	**-0.1**
EVR				S	**Sn**	**02 36 20.9**	**+1.0**
EVR				AML	AML	02 36 30.1	
	comp=N,4961μm,0.5s						
THAL	**Thalero**	**1.23**	**81**	P	**Pn**	**02 36 03.3**	**-0.8**
THAL				S	**Sn**	**02 36 21.5**	**+0.7**
THAL	**Thalero**	**1.23**	**81**	P	**Pn**	**02 36 03.3**	**-0.8**
THAL				S	**Sb**	**02 36 20.5**	**+0.4**
THAL	**Thalero**	**1.23**	**81**	P	**Pn**	**02 36 03.1**	**-1.1**
THAL				S	**Sb**	**02 36 20.5**	**+0.4**
THAL				AML	AML	02 36 35.1	
	comp=E,13004μm,0.5s						
THAL				AML	AML	02 36 35.9	
	comp=N,10669μm,0.7s						
DSF	**Desfina**	**1.24**	**63**	P	**Pn**	**02 36 03.6**	**-0.7**
DSF				S	**Sn**	**02 36 21.3**	**+0.3**
DSF	**Desfina**	**1.24**	**63**	P	**Pn**	**02 36 03.6**	**-0.7**
DSF				S	**Sn**	**02 36 21.3**	**+0.3**
DSF	**Desfina**	**1.24**	**63**	P	**Pn**	**02 36 02.4**	**-1.9**
DSF				S	**Sn**	**02 36 21.5**	**+0.5**
DSF				AML	AML	02 36 30.3	
	comp=E,3214μm,0.5s						
DSF				AML	AML	02 36 35.6	
	comp=N,2012μm,0.4s						
DSL	**Palaion Diasel**	**1.27**	**359**	P	**Pn**	**02 36 04.3**	**-0.5**
DSL				S	**Sg**	**02 36 24.0**	**+1.9**
DSL	**Palaion Diasel**	**1.27**	**359**	P	**Pn**	**02 36 04.3**	**-0.5**
DSL				S	**Sg**	**02 36 23.9**	**+1.9**
DSL	**Palaion Diasel**	**1.27**	**359**	P	**Pn**	**02 36 04.1**	**-0.7**
DSL				S	**Sg**	**02 36 23.9**	**+1.8**
DSL				AML	AML	02 36 31.1	
	comp=E,7021μm,0.5s						
DSL				AML	AML	02 36 33.1	
	comp=N,8145μm,0.5s						
PROD	**Prodromos**	**1.46**	**74**	P	**Pg**	**02 36 09.4**	**+0.4**
PROD				S	**Sb**	**02 36 27.3**	**+0.5**
PROD	**Prodromos**	**

THL	Klokotos Trika	1.84	22	P		Pn	02 36 13.5	+0.9	
SGD	Sagiada	1.89	339	P		Pb	02 36 14.7	-0.8	
SGD	Sagiada	1.89	339	P		Pb	02 36 14.7	-0.8	
FYTO	Fytoko, Volos	2.10	42	P		Pb	02 36 17.9	-1.2	
FYTO	Fytoko, Volos	2.10	42	P		Pb	02 36 17.9	-1.2	
FYTO				S		Sg	02 36 47.1	-1.4	
FYTO				AML	AML		02 36 52.4		
	comp=E,352µm,1.0s								
FYTO				AML	AML		02 36 55.4		
	comp=N,448µm,0.5s								
KPRO	Kipourio	2.10	5	P		Pb	02 36 20.1	+0.9	
ATHU	Athens Univers	2.11	86	P		Pb	02 36 18.8	-0.4	
ATHU	Athens Univers	2.11	86	P		Pb	02 36 18.8	-0.4	
ATHU				S		Sg	02 36 49.0	+0.3	
ATHU				AML	AML		02 36 56.2		
	comp=E,322µm,0.5s								
ATHU				AML	AML		02 37 00.8		
	comp=N,536µm,0.6s								
VLY	Voula,Athens	2.11	89	P		Pb	02 36 19.2	-0.2	
VLY	Voula,Athens	2.11	89	P		Pb	02 36 19.2	-0.2	
VLY				S		Sg	02 36 48.5	-0.5	
VLY				AML	AML		02 36 58.0		
	comp=N,1297µm,0.8s								
VLY				AML	AML		02 36 58.7		
	comp=E,1568µm,0.4s								
KEK	Kerkira	2.12	331	P		Pn	02 36 17.7	+1.3	
KEK	Kerkira	2.12	331	P		Pn	02 36 17.7	+1.3	
PTL	Penteli	2.17	84	P		Pb	02 36 19.4	-1.0	
PTL	Penteli	2.17	84	P		Pb	02 36 19.4	-1.0	
KYTH	Kithira	2.21	135	P		Pg	02 36 23.9	+0.5	
SKIA	Skiathos	2.25	54	P		Pb	02 36 20.6	-1.1	
SKIA				S		Sb	02 36 50.3	+0.6	
SKIA	Skiathos	2.25	54	P		Pb	02 36 20.6	-1.1	
SKIA				S		Sb	02 36 50.3	+0.6	
SKIA				AML	AML		02 37 01.5		
	comp=E,583µm,0.6s								
SKIA				AML	AML		02 37 04.1		
	comp=N,844µm,0.8s								
EREA	Eretria	2.28	75	P		Pb	02 36 21.4	-0.9	
EREA	Eretria	2.28	75	P		Pb	02 36 21.4	-0.9	
PENT	Pentalofos	2.33	0	P		Pb	02 36 22.8	-0.4	
PENT	Pentalofos	2.33	0	P		Pb	02 36 22.8	-0.4	
LIT	Litokhoron	2.48	25	P		Pn	02 36 23.0	+1.6	
LIT	Litokhoron	2.48	25	P		Pn	02 36 23.0	+1.6	
LIT				S		Sb	02 36 58.1	+1.9	
LIT				AML	AML		02 37 15.3		
	comp=N,924µm,0.6s								
LIT				AML	AML		02 37 16.5		
	comp=E,664µm,0.5s								
KZN	Kozani	2.50	11	P		Pb	02 36 24.1	-1.8	
AOS	Alonnisos	2.53	58	*e*P		Pn	02 36 23.8	+1.8	
AOS	Alonnisos	2.53	58	P		Pn	02 36 22.7	+0.7	
AOS	Alonnisos	2.53	58	P		Pn	02 36 22.7	+0.7	
AOS	Alonnisos	2.53	58	P		Pn	02 36 23.6	+1.6	
HORT	Hortiatis	3.14	29	*e*P		Pn	02 36 32.6	+2.1	
HORT	Hortiatis	3.14	29	*e*P		Pn	02 36 32.6	+2.1	
GRG	Griva	3.25	17	*e*P		Pn	02 36 33.7	+1.7	
GRG	Griva	3.25	17	*e*P		Pn	02 36 33.7	+1.7	
OHR	Ohrid	3.26	356	*i* Pn		Pn	02 36 34.4	+2.2	
OHR	Ohrid	3.26	356	*i* Pn		Pn	02 36 34.3	+2.2	
OUR	Ouranopolis	3.33	41	*e*P		Pn	02 36 34.8	+1.9	
OUR	Ouranopolis	3.33	41	*e*P		Pn	02 36 34.8	+1.9	
KNT	Kendrikon	3.57	22	*e*P		Pn	02 36 38.8	+2.4	
KNT	Kendrikon	3.57	22	*e*P		Pn	02 36 38.8	+2.4	
APE	Apeiranthos	3.59	101	*e*P		Pb	02 36 40.9	-3.7	
APE	Apeiranthos	3.59	101	*e*P		Pb	02 36 40.9	-3.7	
TIR	Tirane	3.62	345	*i* PG		Pn	02 36 30.1	-6.9	
TIR	Tirane	3.62	345	*i* Pg		Pn	02 36 30.1	-6.9	
	SNR=90								
TIR	Tirane	3.62	345	*e*Pn		Pn	02 36 38.6	+1.6	
TIR	Tirane	3.62	345	*e*Pn		Pn	02 36 38.6	+1.6	
VAY	Valandovo	3.63	17	*i* Pn		Pn	02 36 40.5	+3.3	
VAY	Valandovo	3.63	17	*e*Pn		Pn	02 36 39.3	+2.1	
VAY	Valandovo	3.63	17	*e*Pn		Pn	02 36 39.3	+2.1	
TIP	Timpagrande	3.67	292	*e*Pn		Pn	02 36 38.3	+0.5	
TIP				*e*S		Sn	02 37 19.3	-1.8	
TIP	Timpagrande	3.67	292	*e*Pn		Pn	02 36 38.3	+0.5	
TIP				*e*S		Sn	02 37 19.3	-1.8	
LIA	Limnos Island	3.77	56	P		Pn	02 36 40.0	+1.0	
LIA	Limnos Island	3.77	56	P		Pn	02 36 40.0	+1.0	
SANT	Santorini	3.77	112	*e*Pn		Pn	02 36 41.2	+2.1	
SANT				*e*S		Sn	02 37 24.8	+1.3	
SANT	Santorini	3.77	112	*e*Pn		Pn	02 36 41.2	+2.1	
SANT				*e*S		Sn	02 37 24.8	+1.3	
CHOS	Chios island	3.92	81	*e*P		Pn	02 36 44.2	+2.9	
CHOS	Chios island	3.92	81	*e*P		Pn	02 36 44.2	+2.9	
CHOS	Chios island	3.92	81	P		Pn	02 36 45.7	+4.4	
SIGR	SIGRI	3.95	69	*e*P		Pn	02 36 44.0	+2.5	
SIGR	SIGRI	3.95	69	*e*P		Pn	02 36 44.0	+2.5	
IDI	Anoyia	3.97	129	Pn		Pn	02 36 45.0	+3.1	
	comp=E,0.6nm,0.3s,baz=311,slow=11,SNR=4.3								
IDI				Sn		Sn	02 37 32.1	+3.6	
	comp=E,3.2nm,0.3s,baz=338,slow=19,SNR=5.5								
TAR1	Taranto	4.00	313	*e*Pn		Pn	02 36 43.8	+1.6	
SKO	Skopje	4.12	3	*i* Pn		Pn	02 36 46.0	+2.2	
SKO	Skopje	4.12	3	*i* Pn		Pn	02 36 46.0	+2.2	
CEL	Celeste	4.15	277	*e*Pn		Pn	02 36 44.0	-0.4	
CEL				*e*S		Sn	02 37 31.2	-1.7	
CEL	Celeste	4.15	277	*e*Pn		Pn	02 36 44.0	-0.4	
CEL				*e*S		Sn	02 37 31.2	-1.7	
MMB	Musomiste	4.23	27	P		Pn	02 36 47.7	+2.2	
KKB	Krupnik	4.28	20	P		Pn	02 36 48.8	+2.7	
GADA	Gvkgeada	4.39	56	*e*P		Pn	02 36 49.8	+2.3	
GADA	Gvkgeada	4.39	56	*e*P		Pn	02 36 49.8	+2.3	
EZN	Ezine	4.51	63	*e*P		Pn	02 36 51.5	+2.3	
EZN	Ezine	4.51	63	*e*P		Pn	02 36 51.5	+2.3	
SG1	Sgolgore (BA)	4.55	312	*e*Pn		Pn	02 36 50.6	+0.7	
DRME	Dracevica, Mon	4.57	342	*e*Pn		Pn	02 36 50.7	+0.6	
BAI	Bari	4.62	316	*e*Pn		Pn	02 36 51.7	+1.0	
CUC	Castrocucco	4.66	299	*e*Pn		Pn	02 36 53.8	+2.5	
CUC				*e*S		Sn	02 37 43.9	-1.5	
CUC	Castrocucco	4.66	299	*e*Pn		Pn	02 36 53.8	+2.5	
CUC				*e*S		Sn	02 37 43.9	-1.5	
DKL	Dikili	4.70	73	*e*P		Pn	02 36 54.9	+3.1	
DKL	Dikili	4.70	73	*e*P		Pn	02 36 54.9	+3.1	
RZN	Rozhen	4.72	35	P		Pn	02 36 55.3	+3.0	
PDG	Podgorica	4.79	343	*e*Pn		Pn	02 36 53.3	+0.3	
IZM	Izmir	4.87	82	*e*P		Pn	02 36 58.0	+3.7	
IZM	Izmir	4.87	82	*e*P		Pn	02 36 58.0	+3.7	
GELI	Tayfur-Gelibol	4.87	57	*e*P		Pn	02 36 56.9	+2.7	
GELI	Tayfur-Gelibol	4.87	57	*e*P		Pn	02 36 56.9	+2.7	
ALN	Alexandroupoli	4.87	50	*e*P		Pn	02 36 57.0	+2.8	
ALN	Alexandroupoli	4.87	50	*e*P		Pn	02 36 57.0	+2.8	
CDT	Castel del Mon	4.94	312	*e*Pn		Pn	02 36 56.1	+0.8	
BARS	Barje	4.98	6	*e*Sn		Sn	02 37 43.2	-10	
BODT	Bodrum	4.99	97	*e*P		Pn	02 37 00.5	+4.7	
BODT	Bodrum	4.99	97	*e*P		Pn	02 37 00.5	+4.7	
HCY	Herceg Novi	5.01	337	*e*Pn		Pn	02 36 55.5	-0.6	
KDZ	Kurdzhali	5.03	40	P		Pn	02 36 58.2	+1.8	
ERIK	Erikli-Kesan	5.04	54	*e*P		Pn	02 36 59.1	+2.6	
ERIK	Erikli-Kesan	5.04	54	*e*P		Pn	02 36 59.1	+2.6	
LPK	Lapseki	5.05	58	*e*P		Pn	02 36 59.4	+2.7	
LPK	Lapseki	5.05	58	*e*P		Pn	02 36 59.4	+2.7	
TREB	Trebinje	5.30	337	*e*Pn		Pn	02 36 59.1	-1.0	
VAE	Valguarnera	5.34	268	Pn		Pn	02 37 03.3	+2.6	
	comp=E,0.6nm,0.3s,baz=191,slow=19,SNR=2.7								
VAE				Sn		Sn	02 38 03.0	+0.8	
	comp=E,2.4nm,0.3s,baz=302,slow=13,SNR=3.1								
AYDB	Zeytinkoy-Aydi	5.35	87	*e*P		Pn	02 37 05.0	+4.0	
AYDB	Zeytinkoy-Aydi	5.35	87	*e*P		Pn	02 37 05.0	+4.0	
SELS	Selova	5.36	360	*e*Pn		Pn	02 37 01.3	+0.4	
KARP	Karpathos	5.37	114	*e*P		Pn	02 37 07.5	+6.3	
BRY	Bratogost	5.41	339	*e*Pn		Pn	02 37 01.5	-0.3	
KRBG	Karabiga-Canak	5.43	60	*e*P		Pn	02 37 04.2	+2.4	
KRBG	Karabiga-Canak	5.43	60	*e*P		Pn	02 37 04.2	+2.4	
ZAPS	Zavoj	5.53	12	*e*Pn		Pn	02 37 05.1	+1.8	
ZAPS				*e*Sn		Sn	02 37 57.4	-10	
UPM	Unac-Piva	5.60	343	*e*Pn		Pn	02 37 05.4	+1.0	
WDD	Wied Dalam	5.65	251	*e*Pn		Pn	02 37 05.7	+0.7	
WDD				*e*S		Sn	02 38 09.1	-0.8	
WDD	Wied Dalam	5.65	251	*e*Pn		Pn	02 37 05.7	+0.7	
WDD				*e*S		Sn	02 38 09.1	-0.8	
MRMT	Marmara Adasi	5.72	59	*e*P		Pn	02 37 08.7	+2.7	
MRMT	Marmara Adasi	5.72	59	*e*P		Pn	02 37 08.7	+2.7	
YER	Yerkesik	5.74	95	*e*P		Pn	02 37 11.2	+5.0	
IVAS	Ivanjica	5.76	353	*e*Pn		Pn	02 37 06.5	0.0	
IVAS	Ivanjica	5.76	353	*e*Pn		Pn	02 37 06.5	0.0	
BOVS	Bovan	5.79	4	*e*Pn		Pn	02 37 05.7	-1.1	
BOVS	Bovan	5.79	4	*e*Pn		Pn	02 37 05.7	-1.1	
MPEP	Malo Peshtene	5.84	19	P		Pn	02 37 10.9	+3.4	
EDRB	Edirne	5.88	46	*e*P		Pn	02 37 10.9	+2.9	
EDRB	Edirne	5.88	46	*e*P		Pn	02 37 10.9	+2.9	
GRUS	Gruza	6.03	357	*e*Pn		Pn	02 37 10.7	+0.5	
GRUS	Gruza	6.03	357	*e*Pn		Pn	02 37 10.7	+0.5	
DALY	Dalyan (Mu˘la	6.09	98	*e*P		Pn	02 37 16.0	+5.1	
KCTX	Karacabey (Bur	6.12	65	*e*P		Pn	02 37 14.9	+3.5	
KCTX	Karacabey (Bur	6.12	65	*e*P		Pn	02 37 14.9	+3.5	
BBLS	Lazići	6.14	348	*e*Pn		Pn	02 37 12.9	+1.2	
BBLS	Lazići	6.14	348	*e*Pn		Pn	02 37 12.9	+1.2	
CLTB	Caltabellotta	6.28	270	*e*Pn		Pn	02 37 17.8	+4.1	
CLTB				*e*S		Sn	02 38 25.1	-0.3	
DIVS	Divibare	6.29	353	*e*Pn		Pn	02 37 13.0	-0.8	
DIVS				*e*Sn		Sn	02 38 14.6	-11	
DIVS	Divibare	6.29	353	*e*Pn		Pn	02 37 13.0	-0.8	
TRUS	Trudelj	6.38	355	*e*Pn		Pn	02 37 15.2	+0.2	
TRUS				*e*Sn		Sn	02 38 15.3	-13	
TRUS	Trudelj	6.38	355	*e*Pn		Pn	02 37 15.2	+0.2	
FETY	Fethiye	6.46	98	*e*P		Pn	02 37 21.6	+5.5	
KUBS	Kucevo	6.56	3	*e*Pn		Pn	02 37 16.5	-0.9	
KUBS	Kucevo	6.56	3	*e*Pn		Pn	02 37 16.5	-0.9	
ARMT	Armutlu	6.59	63	*e*P		Pn	02 37 21.9	+4.1	
TVSB	Tavsanli	6.71	74	*e*P		Pn	02 37 23.3	+3.6	
TVSB	Tavsanli	6.71	74	*e*P		Pn	02 37 23.3	+3.6	
TEKS	Tekeris	6.79	350	*e*Pn		Pn	02 37 20.6	0.0	
TEKS	Tekeris	6.79	350	*e*Pn		Pn	02 37 20.6	0.0	
FGSL	Fruska Gora	7.36	353	*e*Pn		Pn	02 37 27.4	-1.0	
FRGS	Fruska Gora	7.36	353	*e*Pn		Pn	02 37 27.4	-1.0	
SILT	Sile	7.36	61	*e*P		Pn	02 37 32.0	+3.6	
SILT	Sile	7.36	61	*e*P		Pn	02 37 32.0	+3.6	
BLY	Banja Luka	7.50	338	*e*Pn		Pn	02 37 30.0	-0.2	
UDBI	Udbina	7.79	330	*i* Pn		Pn	02 37 35.5	+1.1	
UDBI					Sn	Sn	02 39 02.6	0.0	
UDBI	Udbina	7.79	330	*i* Pn		Pn	02 37 35.4	+1.1	
UDBI					Sn	Sn	02 39 02.6	0.0	
ARR	Arges	7.95	18⇑	*i*P		Pn	02 37 36.8	+0.3	
ARR	Arges	7.95	18⇑	*i*P		Pn	02 37 36.8	+0.3	
VOIR		8.12	20⇓	*i*P		Pn	02 37 44.8	+5.9	
NVLJ	Novalja	8.19	327	*e*Pn		Pn	02 37 40.1	+0.3	
NVLJ	Novalja	8.19	327	*e*Pn		Pn	02 37 40.0	+0.3	
MLR	Muntele Rosu	8.43	24	Pn		Pn	02 37 46.4	+3.2	
	comp=E,0.1nm,0.3s,baz=148,slow=17,SNR=2.4								
MLR	Muntele Rosu	8.43	24⇓	*i*P		Pn	02 37 49.4	+6.1	
KIZT	Kizilcal	8.51	80	*e*P		Pn	02 37 47.5	+3.2	
KIZT	Kizilcal	8.51	80	*e*P		Pn	02 37 47.5	+3.2	
PLOR	Plostina	8.98	26⇑	*i*P		Pn	02 37 56.0	+5.3	
CRES	Cresnjev	9.01	334	*e*Pn		Pn	02 37 50.6	-0.5	
VRI	Vrincioaia	9.03	26⇓	*i*P		Pn	02 37 55.4	+4.2	
CEY	Cerknica	9.32	330	*e*Pn		Pn	02 37 55.5	+0.1	
LJU	Ljubljana	9.54	331	*e*Pn		Pn	02 37 57.3	-1.0	
JAVS	Javornik	9.60	329	*i* Pn		Pn	02 37 59.8	+0.6	
JAVS				*i* Sn		Sn	02 39 44.0	-3.0	
JAVS	Javornik	9.60	329	Pn		Pn	02 37 59.8	+0.6	
SOKA	Soboth	9.90	335	*i* Pn		Pn	02 38 02.5	-0.8	
SOKA	Soboth	9.90	335	Pn		Pn	02 38 02.5	-0.8	
BRTR	Keskin Array B	9.95	75	Pn		Pn	02 38 08.7	+4.7	
	comp=E,0.3nm,0.3s,baz=259,slow=14,SNR=11								
ARSA	Arzberg	10.25	338	*i* Pn		Pn	02 38 17.9	+10	
	comp=E,2.4nm,0.5s								
MOA	Molln	11.18	335	*i* Pn		Pn	02 38 20.4	-0.3	
	comp=E,4.5nm,0.8s								
MOA	Molln	11.18	335	Pn		Pn	02 38 20.4	-0.3	
	comp=E,4.5nm,0.8s								
MOTA	Moosalm	12.01	325	*i* Pn		Pn	02 38 33.0	+0.8	
	comp=E,3.6nm,0.7s								
MOTA	Moosalm	12.01	325	Pn		Pn	02 38 33.0	+0.8	
	comp=E,3.6nm,0.7s								
DAVOX	Davos/Dischmat	12.19	321	Sn		Sn	02 40 48.8	-1.7	
	comp=E,0.2nm,0.3s,baz=131,slow=19,SNR=2.3								
GERES	GERESS Array B	12.23	336	Pn		Pn	02 38 34.2	-1.0	
	comp=E,0.2nm,0.3s,baz=148,slow=15,SNR=3.7								
KHC	Kasperske Hory	12.52	337	*e*P		P	02 38 47.7	-3.1	
KHC				*ex*		x	02 38 51.3		
AKASG	Malin Array Be	14.08	22	Pn		Pn	02 39 00.2	0.0	
	comp=E,0.3nm,0.3s,baz=212,slow=12,SNR=3.7								
ESDC	Sonseca Array	19.63	283	P		P	02 40 09.6	0.0	
	comp=E,0.1nm,0.3s,baz=76,slow=11,SNR=4.5								
HFS	Hagfors	22.79	350	P		P	02 40 42.8	-0.6	
	comp=E,5.2nm,0.6s,baz=148,slow=12,SNR=31								
FINES	FINESS Array B	23.81	6	P		P	02 40 53.1	-0.5	
	comp=E,2.1nm,0.4s,baz=180,slow=11,SNR=22								
EKA	Eskdalemuir Ar	23.96	325	P		P	02 40 55.8	+0.6	
	comp=E,1.3nm,0.6s,baz=128,slow=10,SNR=7.5								
NB2	NORSAR Subarra	24.03	348	P		P	02 40 55.6	-0.2	
	comp=Z,1.6nm,0.8s,baz=156,slow=9.3								
NB2	NORSAR Subarra	24.03	348	P		P	02 40 55.6	-0.2	
	comp=Z,1.6nm,0.8s,SNR=8.9								
NOA	NORSAR Array B	24.03	348	P		P	02 40 55.4	-0.4	
	comp=E,1.4nm,0.5s,baz=157,slow=8.9,SNR=10								
AKTO	Aktyubinsk	29.00	52	P		P	02 41 40.3	-0.3	
	comp=E,1.1nm,0.5s,baz=245,slow=6.9,SNR=6.6								
TORD	Torodi Ar. Bea	30.09	220	P		P	02 41 51.4	+0.9	
	comp=Z,1.5nm,0.7s,baz=30,slow=8.0,SNR=17								
ARCES	ARCESS Array B	31.82	3	P		P	02 42 05.0	-0.4	
	comp=Z,1.8nm,0.5s,baz=191,slow=10,SNR=18								
BVAR	Borovoye Array	36.96	50	P		P	02 42 50.2	+0.2	
	comp=Z,0.6nm,0.6s,baz=267,slow=7.4,SNR=5.5								
SPITS	Spitsbergen Ar	40.48	358	P		P	02 43 19.2	-0.1	
	comp=Z,1.4nm,0.6s,baz=134,slow=15,SNR=6.0								
KURBB	Kurtov Array	42.04	53	P		P	02 43 32.5	+0.2	
	comp=Z,2.2nm,0.6s,baz=282,slow=8.9,SNR=22								
KURK	Kurchatov	42.09	53	P		P	02 43 32.5	-0.2	
KURK	Kurchatov	42.09	53	P		P	02 43 32.5	-0.2	
MKAR	Makanchi Array	45.06	58	P		P	02 43 57.6	+0.7	
	comp=Z,1.4nm,0.5s,baz=275,slow=7.0,SNR=18								
ZALV	Zalesovo Beam	45.55	48	P		P	02 44 00.3	-0.3	
	comp=Z,3.0nm,0.6s,baz=274,slow=8.6,SNR=8.3								
KLR	Kul˘dur	73.81	40	P		P	02 47 14.9	-0.5	
	comp=Z,0.9nm,0.7s,baz=312,slow=4.4,SNR=3.8								
YKA	Yellowknife Ar	73.85	340	P		P	02 47 16.1	+0.7	
	comp=Z,0.2nm,0.6s,baz=33,slow=5.6,SNR=3.4								

IDC ***20*** *02:38:21.6±1.1,34˚.95N×75˚.42E,h0km,mb3.7/9, mb1 3.8/11,mb1mx3.6/47,mbtmp3.7/11,ML3.9/1,MS4.1/3, Ms1 4.1/3,ms1mx2.9/57,Error ellipse: s-maj=26.0km s-min=24.8km az=162.0*

ISCJB ***20*** *02:38:25.4±0.7,35˚.09N±0˚.06×75˚.4E±0˚.1,h33km,mb3.5/7, MS4.2/3,Error ellipse: s-maj=17.5km s-min=7.5km az=161.9*

NNC ***20*** *02:38:27.2±5.2,35˚.20N×75˚.01E,h0km,mb3.5,mpv3.8, Error ellipse: s-maj=152.5km s-min=40.9km az=70.0*

ISC 20 02:38:27.9±0.7,35˚.10N±0˚.06×75˚.5E±0˚.1, h35km, n19, σ1s71/19, mb3.5/7, MS4.1/3, 1C-3D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.67**	**175**	*e*P		**Pn**		**02 39 06.6**	**-1.8**
THN				*e*S		**Sn**		**02 39 44.0**	**+4.5**
MNAS	**Manas**	**7.73**	**344**	⇓P		**Pn**		**02 40 20.2**	**+2.1**
	2.6nm,0.7s								
MNAS				⇓S		**Sn**		**02 41 46.2**	**+1.8**
	3.7nm,0.8s								
KK31	**Karatay Array**	**8.87**	**336**	⇓P		**Pn**		**02 40 33.2**	**-0.3**
	2.3nm,0.5s,baz=153,slow=10,SNR=7.3								
KK31				⇑S		**Sn**		**02 42 12.4**	**+0.2**
	3.2nm,0.5s,baz=160,slow=22,SNR=18								
MKAR	**Makanchi Array**	**12.77**	**22**	Pn		**Pn**		**02 41 26.8**	**-0.1**
	baz=204,slow=10,SNR=2.3								
GEYT	**Alibeck**	**14.23**	**287**	LR		LR		02 48 43.4	
	comp=Z,37nm,18.3s,baz=60,slow=44								
KURBB	**Kurtachov Arra**	**15.68**	**7**	Pn		**P**		**02 42 09.2**	**-0.5**
	0.3nm,0.3s,baz=199,slow=11,SNR=40								
BVA0	**Borovoye Array**	**18.28**	**350**	P		**P**		**02 42 37.2**	**-1.2**
	0.1nm,0.9s,baz=162,slow=14,SNR=8.4								
BVAR	**Borovoye Array**	**18.28**	**350**	P		**P**		**02 42 37.2**	**-1.3**
	0.4nm,0.3s,baz=158,slow=9.4,SNR=9.5								
AKTO	**Aktyubinsk**	**19.89**	**326**	P		**P**		**02 42 56.2**	**+0.1**
	1.6nm,0.4s,baz=116,slow=10,SNR=7.7								
ZALV	**Zalesovo Beam**	**19.96**	**16**	P		**P**		**02 42 55.6**	**-1.2**
	3.2nm,0.3s,baz=206,slow=10,SNR=14								
SONM	**Songino Array**	**26.25**	**52**	P		**P**		**02 44 01.5**	**+1.6**
	0.7nm,0.5s,baz=242,slow=10,SNR=6.0								
FINES	**FINESS Array B**	**40.67**	**326**	P		**P**		**02 46 05.0**	**+0.5**
	2.1nm,0.9s,baz=123,slow=9.8,SNR=3.6								
ARCES	**ARCESS Array B**	**43.83**	**337**	P		**P**		**02 46 31.8**	**+1.6**
	2.0nm,0.9s,baz=116,slow=8.2,SNR=4.6								
JCJ	**Chichijima**	**56.76**	**78**	LR		LR		03 13 05.4	
	comp=Z,102nm,21.7s,baz=61,slow=37								
TORD	**Torodi Ar. Bea**	**69.34**	**272**	P		**P**		**02 49 30.9**	**-1.5**
	0.5nm,0.4s,baz=50,slow=5.5,SNR=24								
ILAR	**Eielson Array**	**75.08**	**17**	P		**P**		**02 50 04.4**	**-1.4**
	0.2nm,0.6s,baz=334,slow=6.0,SNR=4.3								
ILAR				LR		LR		03 25 56.5	
	comp=Z,91nm,18.6s,baz=206,slow=38								
WRA	**Warramunga Arr**	**78.20**	**125**	P		**P**		**02 50 23.0**	**-1.0**
	0.3nm,0.7s,baz=311,slow=7.3,SNR=4.8								
YKA	**Yellowknife Ar**	**82.41**	**5**	P		**P**		**02 50 46.0**	**-0.1**
	0.2nm,0.5s,baz=345,slow=5.2,SNR=3.8								
CTA	**Charters Tower**	**86.67**	**117**	LR		LR		03 34 52.4	
	comp=Z,201nm,19.5s,baz=174,slow=39								

IDC ***20*** *02:59:06.6±2.9,37˚.19N×71˚.85E,h117km±23km,mb3.5/11, mb1 3.6/18,mb1mx3.4/49,mbtmp3.9/18,Error ellipse: s-maj=23.2km s-min=14.3km az=167.0*

ISCJB ***20*** *02:59:07.2±0.4,37˚.24N±0˚.03×72˚.08E±0˚.06,h150km, mb3.6/11,Error ellipse: s-maj=7.5km s-min=3.3km az=156.0*

NNC ***20*** *02:59:14.8±1.8,37˚.79N×71˚.71E,h168km±21km,mb3.4, mpv4.2,Error ellipse: s-maj=16.4km s-min=11.6km az=25.0*

ISC 20 02:59:07.2±0.5,37˚.23N±0˚.05×71˚.93E±0˚.05,h150km,n41, σ3s60/60,mb3.6/11,3C-10D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.27**	**5**	⇓P		**Pn**		**03 00 25.2**	**+0.9**
	25nm,0.3s								
MNAS				⇓S		**Sn**		**03 01 20.8**	**-3.7**
	116nm,0.9s								
THN	**Thein Dam**	**5.71**	**146**	*e*P		**Pn**		**03 00 27.5**	**-2.5**
THN				*e*S		**Sn**		**03 01 30.2**	**-4.4**
AAK	**Ala-Archa**	**5.75**	**19**	P		**Pn**		**03 00 32.4**	**+1.7**
	8.9nm,0.3s,baz=191,slow=7.5,SNR=30								
AAK				S		**Sn**		**03 01 35.2**	**-0.7**
	7.2nm,0.3s,baz=335,slow=20,SNR=14								
AAK	**Ala-Archa**	**5.75**	**19**	⇓P		**Pn**		**03 00 31.8**	**+1.1**
	13nm,0.5s								
AAK				⇑S		**Sn**		**03 01 34.0**	**-2.0**
	104nm,1.1s								
KK31	**Karatay Array**	**5.97**	**350**	P		**Pn**		**03 00 34.3**	**+0.8**
	34nm,0.5s,baz=

ROM 20 03:15:06.9±0.1, 42°.53N×13°.24E, h12km, Md1.5/3, Ml1.3/1, Error ellipse: s-maj=5.5km s-min=1.2km az=60.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.03**	**224**	Pg	Pg	03 15 09.5	+0.3
RM33	139nm,0.2s			Sg	Sg	03 15 11.1	+0.2
RM29	**Verrico (Monte**	**0.04**	**316**	Pg	Pg	03 15 09.5	+0.1
RM29	117nm,0.2s			Sg	Sg	03 15 11.3	+0.2
LNSS	**Leonessa**	**0.17**	**296**	Pg	Pg	03 15 11.2	+0.4
LNSS	54nm,0.1s			Sg	Sg	03 15 14.4	+0.8

*IDC **20** 03:15:09.7±1.5, 37°.28N×142°.06E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.2/40, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=53.6km s-min=25.8km az=125.0*
*JMA **20** 03:15:14.3±0.1, 37°.42N×141°.71E, h40km±2km, M3.5*

ISC 20 03:15:10.6±1.7, 37°.39N±0°.04×141°.84E±0°.07, h13km±10km, n19, σ1°32/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.77**	**269**	P	**Pn**	**03 15 27.3**	**+0.1**
JFK				S	**Sg**	**03 15 36.5**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.88**	**251**	P	**Pn**	**03 15 29.0**	**+0.2**
ONAJ				S	**Sg**	**03 15 39.6**	**+0.5**
JMM	**Marumori**	**0.96**	**300**	P	**Pn**	**03 15 30.0**	**+0.2**
JMM				S	**Sb**	**03 15 40.9**	**-0.8**
JIO	**Ouri**	**1.13**	**340**	P	**Pg**	**03 15 32.9**	**+0.5**
JIO				S	**Sb**	**03 15 45.7**	**-1.0**
JFT	**Otama**	**1.20**	**277**	P	**Pg**	**03 15 33.9**	**+0.2**
JFT				S	**Sb**	**03 15 48.2**	**-0.5**
JHO	**Hitachi**	**1.28**	**233**	P	**Pg**	**03 15 34.6**	**-0.6**
JHO				S	**Sb**	**03 15 49.3**	**-1.6**
JOU	**Okura**	**1.35**	**317**	P	**Pg**	**03 15 36.2**	**-0.3**
JOU				S	**Sn**	**03 15 52.1**	**-0.9**
JMK	**Ichinoseki**	**1.64**	**343**	P	**Pg**	**03 15 40.9**	**-1.1**
MJAR	**Matsushiro Arr**	**3.03**	**255**	Pn	**Pn**	**03 16 00.3**	**+2.1**
	0.9nm,0.3s,baz=86,slow=15,SNR=5.2						
MAT	**Matsushiro**	**3.03**	**255**	P	**Pb**	**03 16 03.3**	**-1.1**
MAT				eS	**Sn**	**03 16 36.8**	**+2.3**
JHJ	**Hachijo jima 2**	**4.58**	**202**	Pn	**Pn**	**03 16 21.4**	**+1.7**
	6.2nm,0.3s,baz=243,slow=17,SNR=4.3						
JHJ				Sn	**Sn**	**03 17 10.0**	**-2.7**
	6.8nm,0.3s,baz=49,slow=19,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**28.04**	**122**	T	T	03 49 27.9	
	baz=315,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**28.05**	**122**	T	T	03 49 30.9	
	baz=315,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	03 49 30.2	
	baz=315,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	03 50 24.3	
	baz=317,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**28.77**	**124**	T	T	03 50 24.6	
	baz=317,slow=76,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**28.79**	**124**	T	T	03 50 25.1	
	baz=317,slow=76,SNR=8.3						
ILAR	**Eielson Array**	**49.01**	**33**	P	**P**	**03 23 58.0**	**+1.2**
	0.2nm,0.7s,baz=272,slow=6.0,SNR=3.4						
WRA	**Warramunga Arr**	**57.46**	**188**	P	**P**	**03 24 59.2**	**-0.2**
	0.2nm,0.5s,baz=6.0,slow=7.1,SNR=5.1						

IDC 20 03:26:19.2±1.8, 5°.45S×151°.43E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/38, mbtmp4.1/5, ML1.7/1, Error ellipse: s-maj=105.6km s-min=23.0km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.78**	**227**	Pn	Pn	03 27 45.3	-0.9
	1.5nm,0.3s,baz=332,slow=17,SNR=2.3						
PMG				Sn	Sn	03 28 52.0	-1.3
	2.4nm,0.3s,baz=143,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**22.00**	**228**	P	P	03 31 16.0	+0.8
	1.9nm,0.7s,baz=53,slow=10,SNR=18						
ASAR	**Alice Springs**	**24.76**	**221**	P	P	03 31 42.2	-0.6
	2.8nm,0.8s,baz=55,slow=8.7,SNR=19						
FITZ	**Fitzroy Crossi**	**28.15**	**241**	P	P	03 32 13.6	+0.2
	2.6nm,0.5s,baz=51,slow=6.2,SNR=11						
ILAR	**Eielson Array**	**83.27**	**22**	P	P	03 38 47.4	-0.1
	1.7nm,0.7s,baz=247,slow=5.3,SNR=23						
TORD	**Torodi Ar. Bea**	**149.19**	**287**	PKPbc	PKPbc	03 46 10.4	-0.4
	0.7nm,0.6s,baz=84,slow=2.3,SNR=10						

*IDC **20** 03:27:18.0±0.6, 15°.14S×173°.53W, h0km, mb4.3/14, mb1 4.6/14, mb1mx4.3/34, mbtmp4.3/14, MS4.4/25, Ms1 4.4/25, ms1mx4.4/33, Error ellipse: s-maj=25.3km s-min=16.4km az=135.0*
*ISCJB **20** 03:27:29.6±0.2, 15°.16S±0°.05×173°.65W±0°.05, h100km, mb4.8/110, Error ellipse: s-maj=7.5km s-min=5.1km az=140.4*
*MOS **20** 03:27:32.3±1.5, 15°.15S×173°.72W, h121km, mb4.6/22, MS4.6/5, Error ellipse: s-maj=12.3km s-min=8.2km az=59.3*
*GCMT **20** 03:27:33.1±0.3, 15°.52S×173°.36W, h82km±3km, MW5.2/66, Moment Tensor Solution. s17,c17; s66,c90; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.65±.04; $M_{\theta\theta}$0.55±.03; $M_{\theta\phi}$0.09±.03; $M_{r\theta}$0.29±.04; $M_{r\phi}$0.52±.02; $M_{\phi\phi}$-0.19±.02; Best double couple: M0.86700×10^{17} NP1:ϕ_s262.00000°, δ56.00000°, λ-56.00000°. NP2: ϕ_s31.00000°, δ47.00000°, λ-130.00000°. Principal axes: T 0.9050, Plg5.0000°, Azm328.0000°; N -0.0750, Plg28.0000°, Azm61.0000°; P -0.8300, Plg62.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 03:27:33.1±1.1, 15°.21S×173°.61W, h119km±10km, mb4.7/84 Error ellipse: s-maj=6.6km s-min=4.9km az=145.0*

ISC 20 03:27:31.5±0.3, 15°.22S±0°.06×173°.59W±0°.06, h100km, n322, σ1°48/282, mb4.7/110, 27C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**54**	Pn	Pn	03 27 47.1	-19
	120nm,0.3s,baz=203,slow=1.3,SNR=118						
AFI				Sn	Sn	03 28 06.1	-27
	952nm,0.3s,baz=108,slow=16,SNR=18						
AFI	**Afiamalu**	**2.19**	**54**	ePn	Pn	03 27 46.2	-20
AFI				eS	Sn	03 28 06.4	-27
MSVF	**Nonsavu**	**8.40**	**252**	‖iP	**Pn**	**03 29 31.2**	**+0.6**
MSVF	**Nonsavu**	**8.40**	**252**	ePn	**Pn**	**03 29 32.0**	**+1.4**
RAR	**Rarotonga**	**14.41**	**116**	Pn	Pn	03 30 38.0	-13
	3.0nm,0.3s,baz=90,slow=19,SNR=3.3						
RAR				LR	LR	03 34 38.1	
	comp=Z,2μm,21.6s,baz=296,slow=31						
RAR	**Rarotonga**	**14.41**	**116**	ePn	**Pn**	**03 30 53.2**	**+2.5**
RAO	**Raoul Island**	**14.52**	**195**	eP	**Pn**	**03 30 52.8**	**+0.7**
RAO	**Raoul Island**	**14.52**	**195**	ePn	**Pn**	**03 30 52.8**	**+0.7**
DZM	**Mont Dzumac**	**20.10**	**247**	eP	**P**	**03 31 57.9**	**+0.5**
	167nm,1.6s						
DZM				eLR	LR	03 36 51.4	
	4μm,26.1s						
DZM	**Mont Dzumac**	**20.10**	**247**	P	**P**	**03 31 56.4**	**-1.0**
	3.8nm,0.8s,baz=77,slow=16,SNR=2.3						
DZM				LR	LR	03 38 29.8	
	comp=Z,2μm,20.1s,baz=78,slow=33						
DZM	**Mont Dzumac**	**20.10**	**247**	eP	**P**	**03 31 58.5**	**+1.1**
	133nm,1.5s						
OUZ	**Omahuta**	**23.00**	**208**	eP	**P**	**03 32 26.9**	**-0.8**
	92nm,1.6s						
PAE	**Paea**	**23.15**	**99**	eT	T	03 56 00.8	
	5.9nm,0.3s						
PPT	**Papeete**	**23.15**	**99**	LR	LR	03 38 46.5	
	comp=Z,926nm,21.3s,baz=268,slow=30						
PPT	**Papeete**	**23.15**	**99**	eP	**P**	**03 32 28.6**	**-0.8**
PPT	**Papeete**	**23.15**	**99**	eP	**P**	**03 32 28.6**	**-0.8**
PPT2	**Papeete2**	**23.15**	**99**	eLQ	LQ	03 36 52.0	
	4μm,28.5s						
PPT2				eLR	LR	03 37 54.3	
	3μm,25.2s,baz=270						
PPT2	**Papeete2**	**23.15**	**99**	eT	T	03 55 57.3	
	7.8nm,0.3s						
MXZ	**Matakaoa Point**	**23.38**	**196**	eP	**P**	**03 32 31.3**	**0.0**
	242nm,1.7s						
TBI	**Tubuai**	**24.14**	**113**	eLQ	LQ	03 37 21.2	
	3μm,28.8s						
TBI				eLR	LR	03 38 16.7	
	3μm,26.2s,baz=288						
TBI	**Tubuai**	**24.14**	**113**	eT	T	03 57 20.6	
	18nm,0.3s						
URZ	**Urewera**	**24.37**	**198**	P	**P**	**03 32 42.3**	**+2.1**
	4.5nm,0.4s,baz=41,slow=5.2,SNR=4.0						
URZ				LR	LR	03 41 24.7	
	comp=Z,2μm,20.4s,baz=18,slow=35						
URZ	**Urewera**	**24.37**	**198**	eP	**P**	**03 32 39.7**	**-0.5**
	90nm,1.9s						
HNR	**Honiara**	**26.47**	**279**	LR	LR	03 41 47.7	
	comp=Z,1μm,18.4s,baz=126,slow=33						
KWAJ	**Kwajalein Atol**	**30.28**	**321**	eP	**P**	**03 33 33.6**	**+0.2**
KWAJ	**Kwajalein Atol**	**30.28**	**321**	eP	**P**	**03 33 33.6**	**+0.2**
	410nm,1.1s						
OXZ	**Oxford**	**30.59**	**201**	eP	**P**	**03 33 35.8**	**0.0**
	140nm,1.8s						
JOHN	**Johnston Islan**	**32.01**	**7**	eP	**P**	**03 33 49.4**	**+0.9**
	194nm,1.0s						
ODZ	**Otahua Downs**	**32.58**	**201**	eP	**P**	**03 33 52.9**	**-0.4**
	74nm,1.5s						
TAOE	**Nuku Hiva Isla**	**33.28**	**83**	eLR	LR	03 42 27.6	
	2μm,26.3s						
RKT	**Rikitea**	**37.22**	**108**	eLQ	LQ	03 42 58.3	
	801nm,26.5s						
RKT				eLR	LR	03 44 29.8	
	1μm,23.8s,baz=283						
RKT	**Rikitea**	**37.22**	**108**	eT	T	04 13 39.9	
	7.0nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.72**	**329**	T	T	04 15 47.3	
	baz=138,SNR=34						
H11S3	**WAKE ISLAND Hy**	**38.73**	**329**	T	T	04 15 47.8	
	baz=138,slow=74,SNR=18						
H11S1	**WAKE ISLAND Hy**	**38.74**	**329**	T	T	04 15 46.0	
	baz=138,slow=74,SNR=46						
PMG	**Port Moresby**	**38.74**	**274**	LR	LR	03 48 10.3	
	comp=Z,571nm,21.8s,baz=82,slow=32						
UWE	**Uwekahuna**	**38.85**	**28**	eP	**P**	**03 34 47.1**	**-0.2**
	790nm,1.0s						
KEKH	**Kekaha**	**39.40**	**21**	eP	**P**	**03 34 52.5**	**+0.9**
	388nm,1.4s						
KIP	**Kipapa**	**39.50**	**23**	eP	**P**	**03 34 53.1**	**+0.6**
KIP	**Kipapa**	**39.50**	**23**	eP	**P**	**03 34 53.1**	**+0.6**
	240nm,1.5s						
H11N3	**WAKE ISLAND Hy**	**39.67**	**330**	T	T	04 16 49.7	
	baz=149,slow=76,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**39.67**	**330**	T	T	04 16 49.7	
	baz=149,slow=76,SNR=24						
H11N2	**WAKE ISLAND Hy**	**39.69**	**330**	T	T	04 16 50.8	
	baz=149,slow=76,SNR=9.2						
OPA	**Opana**	**39.74**	**23**	eP	**P**	**03 34 55.1**	**+0.6**
OPA				pmax	pmax		
	comp=Z,127nm,1.1s						
OPA	**Opana**	**39.74**	**23**	eP	**P**	**03 34 55.1**	**+0.6**
	comp=Z,127nm,1.1s						
MANU	**Manus Island**	**40.67**	**285**	eP	**P**	**03 35 02.9**	**+0.5**
	comp=Z,22nm,0.9s						
COEN	**Coen**	**41.81**	**266**	eP	**P**	**03 35 11.4**	**-0.3**
	comp=Z,28nm,1.4s						
PTCN	**Pitcairn Islan**	**41.83**	**111**	eP	**P**	**03 35 11.6**	**-0.2**
	comp=Z,258nm,0.5s						
MIDW	**Midway**	**43.34**	**355**	eP	**P**	**03 35 24.0**	**+0.3**
	comp=Z,355nm,1.9s						
STKA	**Stephens Creek**	**43.97**	**240**	P	**P**	**03 35 26.7**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=125,slow=12,SNR=2.4						
STKA				LR	LR	03 51 29.4	
	comp=Z,473nm,20.2s,baz=66,slow=33						
JAY	**Jayapura**	**46.78**	**281**	LR	LR	03 53 37.2	
	comp=Z,28nm,22.0s,baz=170,slow=34						
WB2	**Warramunga Arr**	**49.70**	**257**	eP	**P**	**03 36 12.3**	**-1.4**
	comp=Z,30nm,1.5s						
WRAB	**Tennant Creek**	**49.70**	**257**	⇑iP	**P**	**03 36 11.4**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,52nm,1.7s						
WRAB	**Tennant Creek**	**49.70**	**257**	eP	**P**	**03 36 12.0**	**-1.8**
	comp=Z,18nm,1.3s						
WRA	**Warramunga Arr**	**49.71**	**257**	P	**P**	**03 36 11.6**	**-2.2**
	comp=Z,4.5nm,0.5s,baz=90,slow=7.0,SNR=59						
WRA				LR	LR	03 54 59.8	
	comp=Z,399nm,20.8s,baz=105,slow=33						
WRA	**Warramunga Arr**	**49.71**	**257**	ceP	P	03 36 10.3	-3.5
WRA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ASAR	**Alice Springs**	**49.99**	**252**	P	**P**	**03 36 13.9**	**-2.0**
	comp=Z,27nm,0.8s,baz=87,slow=7.9,SNR=178						
ASAR				LR	LR	03 55 31.5	
	comp=Z,1μm,21.0s,baz=94,slow=34						
ASAR	**Alice Springs**	**49.99**	**252**	P	**P**	**03 36 14.0**	**-2.0**
SARN	**Sarigan**	**51.13**	**307**	eP	**P**	**03 36 24.1**	**-0.5**
VNDA	**Vanda**	**63.53**	**186**	P	**P**	**03 37 50.2**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=87,slow=18,SNR=7.5						
VNDA				LR	LR	04 05 28.9	
	comp=Z,153nm,18.1s,baz=14,slow=36						
VNDA	**Vanda**	**63.53**	**186**	eP	**P**	**03 37 50.2**	**-0.6**
VNDA				pmax	pmax		
	comp=Z,21nm,2.0s						
VNDA	**Vanda**	**63.53**	**186**	eP	**P**	**03 37 50.2**	**-0.6**
	comp=Z,20nm,2.0s						
DAV	**Davao City (W)**	**64.21**	**286**	P	**P**	**03 37 55.7**	**-0.6**
	comp=Z,209nm,0.4s,baz=338,slow=15,SNR=3.5						
DAV				LR	LR	04 04 25.6	
	comp=Z,313nm,18.4s,baz=96,slow=35						
KAPI	**Kappang**	**66.19**	**271**	LR	LR	04 05 52.3	
	comp=Z,135nm,19.6s,baz=118,slow=35						
MJAR	**Matsushiro Arr**	**68.69**	**320**	P	**P**	**03 38 23.4**	**-1.0**
	comp=Z,3.4nm,1.0s,baz=155,slow=4.5,SNR=8.6						
MJAR				LR	LR	04 02 53.4	
	comp=Z,418nm,21.8s,baz=125,slow=31						
MAJO	**Matsushiro**	**68.69**	**320**	⇑iP	**P**	**03 38 23.0**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,54nm,1.3s						
MAT	**Matsushiro**	**68.69**	**320**	P	**P**	**03 38 22.6**	**-1.8**
MAT				S	**S**	**03 47 23.4**	**+3.7**
JNU	**Nakatsue**	**71.55**	**313**	LR	LR	04 03 29.6	
	comp=Z,217nm,21.4s,baz=114,slow=30						
PET	**Petropavlovsk**	**72.06**	**343**	eP	P	03 38 55.8	+11
PET				eS	**S**	**03 48 03.9**	**+5.8**
PET				pmax	pmax		
	comp=Z,100nm,12.0s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
PETK	**Petropavlovsk-**	**72.41**	**342**	P	**P**	**03 38 44.7**	**-1.9**
	comp=Z,5.0nm,0.7s,baz=132,slow=12,SNR=3.8						
PETK				LR	LR	04 06 55.3	
	comp=Z,111nm,19.4s,baz=161,slow=33						
YSS	**Yuzh-Sakhalins**	**73.24**	**330**	eP	**P**	**03 38 49.8**	**-1.8**
YSS				pmax	pmax		
	comp=Z,300nm,5.0s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
YBH	**Yreka Blue Hor**	**73.57**	**37**	eP	**P**	**03 38 53.6**	**-0.3**
YBH				pmax	pmax		
	comp=Z,63nm,1.8s						
YBH	**Yreka Blue Hor**	**73.57**	**37**	eP	**P**	**03 38 53.6**	**-0.3**
	comp=Z,63nm,1.8s						
GSC	**Goldstone, Bar**	**73.59**	**46**	eP	**P**	**03 38 53.9**	**-0.2**
GSC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GSC	**Goldstone, Bar**	**73.59**	**46**	eP	**P**	**03 38 53.9**	**-0.2**
	comp=Z,5.4nm,1.1s						
WAKR	**Walker**	**73.63**	**42**	eP	**P**	**03 38 54.0**	**-0.5**
	comp=Z,19nm,1.5s						
PAHR	**Pah Rah Range**	**74.36**	**41**	eP	**P**	**03 38 57.9**	**-0.7**
	comp=Z,21nm,1.8s						
QSPA	**South Pole Qui**	**74.82**	**180**	eP	**P**	**03 39 01.3**	**+0.5**
	comp=Z,50nm,1.2s						
TPNV	**Topopah Spring**	**74.86**	**44**	eP	**P**	**03 39 01.0**	**-0.5**
TPNV				pmax	pmax		
	comp=Z,21nm,1.8s						
TPNV	**Topopah Spring**	**74.86**	**44**	eP	**P**	**03 39 01.0**	**-0.5**
	comp=Z,21nm,1.8s						
SHPR	**Sheep Range**	**75.36**	**45**	eP	**P**	**03 39 03.9**	**-0.5**
	comp=Z,12nm,1.5s						
Y14A	**Wickenburg**	**75.57**	**48**	eP	**P**	**03 39 04.9**	**-0.7**
KSRS	**Korea Array**	**75.91**	**316**	P	**P**	**03 39 07.6**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=128,slow=7.1,SNR=5.7						
KSRS				LR	LR	04 06 17.5	
	comp=Z,175nm,21.5s,baz=114,slow=31						
KSAR	**Wonju Array Be**	**75.93**	**316**	P	**P**	**03 39 07.6**	**+0.2**
KSAR	**Wonju Array Be**	**75.93**	**316**	P	**P**	**03 39 07.6**	**+0.2**
KS01	**Wonju Array Si**	**75.94**	**316**	eP	**P**	**03 39 07.0**	**-0.5**
R11A	**Troy Canyon, C**	**76.06**	**43**	eP	**P**	**03 39 06.6**	**-1.8**
	comp=Z,6.5nm,1.3s						
WVOR	**Wild Horse Val**	**76.41**	**39**	eP	**P**	**03 39 08.6**	**-1.6**
WVOR				pmax	pmax		
	comp=Z,26nm,1.5s						
WVOR	**Wild Horse Val**	**76.41**	**39**	eP	**P**	**03 39 08.6**	**-1.6**
	comp=Z,26nm,1.5s						
TUC	**Tucson**	**76.42**	**51**	eP	**P**	**03 39 09.7**	**-0.7**
TUC				pmax	pmax		
	comp=Z,33nm,1.9s						
TUC	**Tucson**	**76.42**	**51**	eP	**P**	**03 39 09.7**	**-0.7**
	comp=Z,33nm,1.9s						
X16A	**Lo Mia Camp, P**	**76.94**	**49**	eP	**P**	**03 39 12.5**	**-1.0**
LCMT	**Little Creek M**	**76.94**	**46**	eP	**P**	**03 39 13.2**	**-0.2**
	comp=Z,9.9nm,1.6s						
USRK	**Ussuriysk Ar.**	**77.14**	**323**	P	**P**	**03 39 14.2**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=122,slow=7.1,SNR=6.3						
USRK				LR	LR	04 06 55.3	
	comp=Z,430nm,21.8s,baz=140,slow=31						
CCUT	**Cedar City**	**77.14**	**45**	eP	**P**	**03 39 14.6**	**0.0**
	comp=Z,8.2nm,1.2s						
KNB	**Kanab**	**77.24**	**46**	eP	**P**	**03 39 14.9**	**-0.2**
KNB				pmax	pmax		
	comp=Z,31nm,1.8s						
KNB	**Kanab**	**77.24**	**46**	eP	**P**	**03 39 14.9**	**-0.2**
	comp=Z,31nm,1.8s						
U15A	**North Rim**	**77.31**	**46**	eP	**P**	**03 39 15.4**	**-0.2**
D05A	**Enumclaw**	**77.40**	**33**	eP	**P**	**03 39 16.7**	**+1.2**
	comp=Z,49nm,1.6s						
ELK	**Elko**	**77.57**	**41**	eP	**P**	**03 39 15.5**	**-1.4**
ELK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ELK	**Elko**	**77.57**	**41**	eP	**P**	**03 39 15.5**	**-1.4**
	comp=Z,7.8nm,1.3s						
G08A	**Pilot Rock**	**77.90**	**36**	eP	**P**	**03 39 18.4**	**-0.1**
	comp=Z,16nm,1.3s						
HPIG		**78.09**	**58**	eP	**P**	**03 39 20.1**	**+0.1**
	comp=Z,14nm,1.4s						
MTPU	**Mount Pierson**	**78.19**	**45**	eP	**P**	**03 39 20.5**	**-0.1**
	comp=Z,16nm,1.4s						
MSU	**Marysvale**	**78.43**	**45**	eP	**P**	**03 39 22.1**	**+0.4**
MSU	**Marysvale**	**78.43**	**45**	eP	**P**	**03 39 22.1**	**+0.4**
BMO	**Blue Mountains**	**78.59**	**37**	eP	**P**	**03 39 20.7**	**-1.7**
	comp=Z,15nm,1.4s						
MFID	**Camas Ranch**	**78.67**	**39**	eP	**P**	**03 39 21.0**	**-1.7**
	comp=Z,13nm,1.3s						
DUG	**Dugway, Tooele**	**78.86**	**43**	eP	**P**	**03 39 23.8**	**-0.1**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DUG	**Dugway, Tooele**	**78.86**	**43**	eP	**P**	**03 39 23.8**	**-0.1**
	comp=Z,5.0nm,0.9s						
PMR	**Palmer**	**78.99**	**12**	eP	**P**	**03 39 22.6**	**-1.3**
PMR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PMR	**Palmer**	**78.99**	**12**	eP	**P**	**03 39 22.6**	**-1.3**
	comp=Z,8.9nm,1.2s						
TT01	**Tatalina**	**79.08**	**8**	eP	**P**	**03 39 24.8**	**+0.4**
ZAIG	**Zacatecas**	**79.08**	**63**	eP	**P**	**03 39 24.6**	**-1.1**
	comp=Z,18nm,1.5s						
TTA	**Tatalina**	**79.11**	**8**	eP	**P**	**03 39 25.6**	**+0.9**
TTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TTA	**Tatalina**	**79.11**	**8**	eP	**P**	**03 39 25.6**	**+0.9**
	comp=Z,9.3nm,1.2s						
BMRM	**Bremner River**	**79.39**	**14**	eP	**P**	**03 39 25.1**	**-1.1**
	comp=Z,36nm,1.6s						
CRQM	**Cirque**	**79.56**	**15**	eP	**P**	**03 39 27.6**	**+0.3**
	comp=Z,8.7nm,0.5s						
HLID	**Hailey**	**79.61**	**39**	eP	**P**	**03 39 26.8**	**-1.1**
	comp=Z,12nm,1.1s						
SRU	**San Rafael Swe**	**79.85**	**45**	eP	**P**	**03 39 29.7**	**+0.3**
SRU				pmax	pmax		
	comp=Z,15nm,1.3s						
SRU	**San Rafael Swe**	**79.85**	**45**	eP	**P**	**03 39 29.7**	**+0.3**
	comp=Z,15nm,1.3s						
P17A	**Butcher Ranch,**	**79.88**	**44**	eP	**P**	**03 39 30.4**	**+0.9**
	comp=Z,19nm,1.4s						
LAZ	**Ladron**	**80.09**	**50**	eP	**P**	**03 39 30.3**	**-0.5**
TCUT	**Toone Canyon**	**80.24**	**43**	eP	**P**	**03 39 31.9**	**+0.3**
	comp=Z,48nm,1.2s						
MNTX	**Cornudas Mount**	**80.27**	**53**	eP	**P**	**03 39 30.3**	**-1.3**
	comp=Z,16nm,1.4s						
PV05	**Paradox Valley**	**80.34**	**46**	eP	**P**	**03 39 31.6**	**-0.5**
HWUT	**Hardware Ranch**	**80.39**	**42**	eP	**P**	**03 39 31.0**	**-1.2**
	comp=Z,12nm,1.4s						
LPM	**Los Pinos Moun**	**80.42**	**51**	eP	**P**	**03 39 33.4**	**+0.8**
KTH	**Kantishna Hill**	**80.47**	**10**	eP	**P**	**03 39 31.6**	**-0.4**
	comp=Z,17nm,1.4s						
TRF	**Thorofare Moun**	**80.49**	**10**	eP	**P**	**03 39 30.7**	**-1.5**
	comp=Z,12nm,1.2s						
PV09	**Paradox Valley**	**80.51**	**46**	eP	**P**	**03 39 33.7**	**+0.6**
TX31	**Lajitas Ar. Si**	**80.67**	**56**	eP	**P**	**03 39 33.0**	**-0.9**
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**03 39 33.0**	**-0.9**
	comp=Z,4.7nm,1.2s,baz=224,slow=5.2,SNR=23						
TXAR				LR	LR	04 07 18.9	
	comp=Z,337nm,21.2s,baz=0.0,slow=30						
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**03 39 33.0**	**-0.9**
RND	**Reindeer**	**80.70**	**11**	eP	**P**	**03 39 33.0**	**-0.3**
RND				pmax	pmax		
	comp=Z,19nm,1.3s						
RND	**Reindeer**	**80.70**	**11**	eP	**P**	**03 39 33.0**	**-0.3**
	comp=Z,19nm,1.3s						
PV01	**Paradox Valley**	**80.73**	**46**	eP	**P**	**03 39 33.4**	**-0.8**
ANMO	**Albuquerque**	**80.83**	**50**	ceP	**P**	**03 39 34.4**	**-0.3**
ANMO				pmax	pmax		
	comp=Z,11nm,1.7s						
ANMO	**Albuquerque**	**80.83**	**50**	eP	**P**	**03 39 33.6**	**-1.1**
	comp=Z,10nm,1.2s						
CN2	**Changchun**	**80.84**	**320**	eP	**P**	**03 39 36.9**	**+2.6**
BPAW	**Bear Paw Mtn.**	**80.97**	**10**	eP	**P**	**03 39 33.9**	**-0.7**
	comp=Z,5.5nm,1.3s			

PDAR	**Pinedale Array**	**82.26**	**42**	P		**P**		**03 39 40.1**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=209,slow=2.7,SNR=11								
PDAR				LR		LR		04 10 03.4	
	comp=Z,287nm,20.1s,baz=248,slow=31								
SEY	**Seymchan**	**82.30**	**345**	⇑*iP*		**P**		**03 39 40.8**	**-0.8**
YMR	**Madison River**	**82.30**	**40**	*eP*		**P**		**03 39 43.5**	**+1.1**
	comp=Z,34nm,1.5s								
IL1	**Eielson Array**	**82.31**	**11**	*eP*		**P**		**03 39 39.2**	**-2.4**
ILAR	**Eielson Array**	**82.31**	**11**	P		**P**		**03 39 39.9**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=212,slow=5.1,SNR=4.6								
ILAR				LR		LR		04 15 06.5	
	comp=Z,113nm,18.1s,baz=209,slow=35								
ILB	**Eielson Array**	**82.31**	**11**	*eP*		**P**		**03 39 41.0**	**-0.6**
SMCO	**Snowmass**	**82.32**	**46**	*eP*		**P**		**03 39 41.8**	**-1.0**
	comp=Z,24nm,1.4s								
BOZ	**Bozeman (W)**	**82.39**	**39**	*eP*		**P**		**03 39 41.2**	**-1.5**
BOZ				pmax		pmax			
	comp=Z,16nm,1.4s								
BOZ	**Bozeman (W)**	**82.39**	**39**	*eP*		**P**		**03 39 41.2**	**-1.5**
	comp=Z,16nm,1.4s								
YHH	**Holmes Hill**	**82.43**	**40**	*eP*		**P**		**03 39 44.2**	**+1.1**
QIZ	**Qiongzhong**	**82.67**	**292**	P		**P**		**03 39 44.8**	**+0.3**
QIZ				sP		**sP**		**03 40 23.6**	**+2.4**
QIZ	**Qiongzhong**	**82.67**	**292**	S		**S**		**03 49 59.1**	**+4.7**
QIZ	**Qiongzhong**	**82.67**	**292**	SS		SS		03 55 06.1	-13
QIZ				pmax		pmax			
	comp=Z,160nm,8.5s								
QIZ				LR		LR			
	comp=E,230nm,19.9s								
QIZ				LR		LR			
	comp=Z,230nm,24.8s								
SDCO	**Great Sand Dun**	**82.73**	**48**	*eP*		**P**		**03 39 43.4**	**-1.4**
	comp=Z,20nm,1.6s								
WALA	**Waterton Lakes**	**82.87**	**35**	*eP*		**P**		**03 39 44.0**	**-1.1**
MSTX	**Muleshoe**	**83.19**	**52**	*eP*		**P**		**03 39 45.1**	**-2.0**
	comp=Z,44nm,1.4s								
T25A	**Trinidad**	**83.26**	**49**	*eP*		**P**		**03 39 46.8**	**-0.7**
	comp=Z,16nm,1.4s								
DAWY	**Dawson**	**83.30**	**14**	*eP*		**P**		**03 39 45.6**	**-1.1**
EGAK	**Eagle**	**83.49**	**13**	*eP*		**P**		**03 39 46.5**	**-1.2**
	comp=Z,10nm,1.4s								
RLMT	**Red Lodge**	**83.58**	**40**	*eP*		**P**		**03 39 47.7**	**-1.2**
	comp=Z,18nm,1.4s								
N23A	**Red Feather La**	**83.79**	**45**	*eP*		**P**		**03 39 49.2**	**-0.9**
	comp=Z,17nm,1.2s								
COLD	**Coldfoot**	**84.00**	**9**	*eP*		**P**		**03 39 49.8**	**-0.4**
K22A	**Casper**	**84.18**	**43**	*eP*		**P**		**03 39 51.1**	**-0.9**
PHWY	**Pilot Hill**	**84.30**	**45**	*eP*		**P**		**03 39 51.2**	**-1.6**
	comp=Z,18nm,1.4s								
BILL	**Bilibino**	**84.31**	**353**	⇓*iP*		**P**		**03 39 50.7**	**-1.1**
BILL				*e*S		S		03 49 55.7	-13
BILL				pmax		pmax			
	comp=Z,8.0nm,1.2s								
ABTX	**Abilene, Hawle**	**85.11**	**54**	*eP*		**P**		**03 39 55.4**	**-1.3**
BJI	**Beijing**	**85.22**	**314**	P		**P**		**03 39 56.8**	**-0.2**
BJI	**Beijing**	**85.22**	**314**	S		**S**		**03 50 20.8**	**+1.8**
BJI	**Beijing**	**85.22**	**314**	SS		SS		03 55 56.8	+1.1
BJI				pmax		pmax			
	comp=Z,12nm,2.4s								
BJI				pmax		pmax			
	comp=Z,280nm,4.6s								
BJI				LR		LR			
	comp=N,180nm,23.0s								
LAO	**LASA Array**	**86.19**	**40**	*eP*		**P**		**03 40 01.2**	**-0.5**
	comp=N,27nm,1.2s								
RSSD	**Black Hills**	**86.45**	**43**	*eP*		**P**		**03 40 01.1**	**-2.2**
RSSD				pmax		pmax			
	comp=Z,21nm,1.4s								
RSSD	**Black Hills**	**86.45**	**43**	*eP*		**P**		**03 40 01.1**	**-2.2**
	comp=Z,21nm,1.4s								
GYA	**Guiyang**	**87.80**	**298**	*eP*		**P**		**03 40 10.4**	**+0.3**
GYA				pP		pP		03 40 41.3	+4.9
GYA				sP		sP		03 40 54.5	+7.5
GYA				PP		PP		**03 43 40.0**	**+2.6**
GYA	**Guiyang**	**87.80**	**298**	SKS		**SKSac**		**03 50 25.6**	**-4.1**
GYA	**Guiyang**	**87.80**	**298**	S		**S**		**03 50 41.9**	**-3.0**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
MAW	**Mawson**	**87.90**	**199**	P		**P**		**03 40 11.3**	**+1.7**
	comp=Z,4.0nm,0.7s,baz=167,slow=5.7,SNR=11								
MAW				LR		LR		04 17 04.7	
	comp=Z,362nm,20.4s,baz=68,slow=34								
U34A	**Anderson Ranch**	**88.09**	**52**	*eP*		**P**		**03 40 12.2**	**+1.1**
INK	**Inuvik**	**88.14**	**14**	*eP*		**P**		**03 40 09.9**	**-0.6**
INK	**Inuvik**	**88.14**	**14**	*eP*		**P**		**03 40 09.9**	**-0.6**
XAN	**Xi'an**	**88.38**	**306**	P		P		03 40 19.6	+7.0
XAN				pmax		pmax			
	comp=Z,7.0nm,1.1s								
XAN				pmax		pmax			
	comp=Z,82nm,7.5s								
HHC	**Hu-ho-hao-te**	**88.78**	**313**	*eP*		**P**		**03 40 13.6**	**-0.7**
HHC				pP		pP		03 40 45.6	+4.9
HHC				sP		sP		03 40 56.8	+5.5
HHC	**Hu-ho-hao-te**	**88.78**	**313**	S		**S**		**03 50 49.1**	**-4.4**
HHC	**Hu-ho-hao-te**	**88.78**	**313**	sS		sS		03 51 39.6	+0.9
HHC				pmax		pmax			
	comp=Z,21nm,1.0s								
HHC				pmax		pmax			
	comp=Z,230nm,6.5s								
YKA	**Yellowknife Ar**	**90.01**	**23**	P		**P**		**03 40 17.7**	**-1.7**
	comp=Z,1.6nm,1.0s,baz=234,slow=4.3,SNR=14								
YKA				LR		LR		04 12 58.7	
	comp=Z,8.8nm,19.9s,baz=180,slow=30								
CD2	**Chengdu**	**91.56**	**301**	*eP*		**P**		**03 40 26.5**	**-1.0**
X301	**Greenbrier Sit**	**91.65**	**54**	*eP*		**P**		**03 40 28.9**	**+1.2**
X201	**Greenbrier Sit**	**91.70**	**54**	*eP*		**P**		**03 40 28.1**	**+0.1**
WHAR	**Wooly Hollow**	**91.75**	**54**	*eP*		**P**		**03 40 28.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**92.39**	**288**	LR		LR		04 16 34.5	
	comp=Z,130nm,21.6s,baz=126,slow=32								
AGMN	**Agassiz Nation**	**93.28**	**41**	*eP*		**P**		**03 40 34.0**	**-1.0**
PBMO	**Poplar Bluff**	**93.62**	**53**	*eP*		**P**		**03 40 36.5**	**-0.3**
ULM	**Lac du Bonnet**	**93.91**	**39**	LR		LR		04 17 31.0	
	comp=Z,332nm,19.7s,baz=262,slow=32								
SONM	**Songino Array**	**94.59**	**318**	LR		LR		04 18 11.0	
	comp=Z,176nm,21.8s,baz=148,slow=32								
TIXI	**Tiksi**	**94.79**	**344**	P		**P**		**03 40 41.1**	**-0.2**
TIXI				pmax		pmax			
	comp=Z,2.0nm,1.1s								
PLAL	**Pickwick Lake**	**94.99**	**55**	*eP*		**P**		**03 40 42.4**	**-0.7**
JFWS	**Jewell Farm**	**95.44**	**47**	*eP*		**P**		**03 40 44.3**	**-0.7**
JFWS	**Jewell Farm**	**95.44**	**47**	*eP*		**P**		**03 40 44.2**	**-0.7**
TLY	**Talaya**	**97.39**	**321**	LR		LR		04 21 50.3	
	comp=Z,214nm,19.7s,baz=110,slow=34								
KSH	**Kashi**	**115.22**	**307**	*eP*		**PKPdf**		**03 46 03.5**	**+1.8**
KSH				pmax		pmax			
	comp=Z,2.0nm,0.3s								
ARU	**Arti**	**123.10**	**328**	*i* PKIKP		**PKPdf**		**03 46 16.0**	**-0.1**
ARU								03 47 53.6	
ARU								03 53 16.3	
ARCES	**ARCESS Array B**	**124.41**	**352**	PKP		**PKPdf**		**03 46 18.1**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=349,slow=1.2,SNR=6.1								
KLMR	**Klimovskoe**	**128.57**	**340**	*e*PKIKP		**PKPdf**		**03 46 24.8**	**-1.6**
KLMR				pmax		pmax			
	comp=Z,11nm,1.4s								
FINES	**FINESS Array B**	**131.73**	**347**	PKP		**PKPdf**		**03 46 33.7**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=7.6,slow=4.2,SNR=3.8								
KONO	**Kongsberg**	**135.58**	**358**	⇑*e*PKIKP		**PKPdf**		**03 46 38.7**	**-1.0**
KIV	**Kislovodsk**	**137.95**	**320**	*i* PKIKP		**PKPdf**		**03 46 41.8**	**-2.9**
KIV				pmax		pmax			
	comp=Z,7.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,123nm,21.0s								
NEY	**Neytrino**	**138.29**	**319**	⇑*i*PKIKP		**PKPdf**		**03 46 43.0**	**-2.5**
AKASG	**Malin Array Be**	**140.11**	**337**	PKP		**PKPdf**		**03 46 48.5**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=28,slow=2.6,SNR=4.1								
SORM	**Soroca**	**142.52**	**336**	⇑*iP*		**PKPdf**		**03 46 49.1**	**-3.6**
SORM	**Soroca**	**142.52**	**336**	⇑PKIKP		**PKPdf**		**03 46 49.1**	**-3.6**
CLL	**Collm**	**143.62**	**353**	*e*PKPdf		PKPab		03 46 52.0	+0.7
CLL				L		L		04 47 00.0	
	comp=Z,100nm,21.9s								
CLL	**Collm**	**143.62**	**353**	*e*PKIKP		PKPab		03 46 52.0	+0.7
STHS	**Stebnicka Huta**	**143.81**	**344**	*e*PKIKP		PKPab		03 46 52.8	+0.7
STHS	**Stebnicka Huta**	**143.81**	**344**	*e*PKP		PKPab		03 46 52.8	+0.7
KOLS	**Kolonicke sedl**	**143.95**	**342**	*e*PKIKP		**PKPdf**		**03 46 58.6**	**+3.3**
KOLS	**Kolonicke sedl**	**143.95**	**342**	*e*		**PKPdf**		**03 46 58.6**	**+3.3**
UPC	**Upice**	**143.96**	**350**	AMS		AMS		04 48 40.0	
	comp=Z,200nm,20.0s								
DPC	**Dobruska-Polom**	**144.06**	**349**	*e*PKP		PKPbc		03 46 56.1	+2.5
DPC				AMS		AMS		04 49 30.0	
	comp=Z,200nm,21.1s								
DPC	**Dobruska-Polom**	**144.06**	**349**	*e*PKIKP		PKPbc		03 46 56.1	+2.5
DPC				MLR		MLR			
	comp=Z,200nm,21.1s								
BURAR	**Bucovina Array**	**144.14**	**338**	⇑*iP*		**PKPdf**		**03 46 57.6**	**+1.9**
BURAR	**Bucovina Array**	**144.14**	**338**	⇑PKIKP		**PKPdf**		**03 46 57.6**	**+1.9**
PVCC	**Panska Ves**	**144.17**	**351**	AMS		AMS		04 47 40.0	
	comp=Z,200nm,20.0s								
OKC	**Ostrava-Krasne**	**144.18**	**347**	AMS		AMS		04 49 20.0	
CRVS	**Cervenica-Dubn**	**144.22**	**343**	*e*PKIKP		**PKPab**		**03 46 54.7**	**+1.0**
CRVS	**Cervenica-Dubn**	**144.22**	**343**	*e*PKP		**PKPab**		**03 46 54.7**	**+1.0**
PRU	**Pruhonice**	**144.70**	**351**	AMS		AMS		04 50 30.0	
	comp=Z,200nm,19.5s								
GOPC	**GO Pecny, Ondr**	**144.74**	**351**	AMS		AMS		04 50 00.0	
	comp=Z,200nm,20.5s								
KECS	**Kecovo**	**144.87**	**344**	*e*PKIKP		**PKPab**		**03 46 54.5**	**-1.6**
KECS	**Kecovo**	**144.87**	**344**	*e*PKP		**PKPab**		**03 46 54.5**	**-1.6**
VRI	**Vrincioaia**	**145.01**	**335**	⇑*iP*		**PKPdf**		**03 47 00.3**	**+3.1**
VRI	**Vrincioaia**	**145.01**	**335**	⇑PKIKP		**PKPdf**		**03 47 00.3**	**+3.1**
TREC	**Trest**	**145.22**	**350**	AMS		AMS		04 49 10.0	
	comp=Z,200nm,23.4s								
VYHS	**Vyhne**	**145.28**	**345**	*e*PKIKP		**PKPbc**		**03 46 57.6**	**+0.1**
VYHS	**Vyhne**	**145.28**	**345**	*e*PKP		**PKPbc**		**03 46 57.6**	**+0.1**
KMBO	**Kilima Mbogo**	**145.45**	**245**	PKPbc		**PKPdf**		**03 46 57.5**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=138,slow=6.9,SNR=3.4								
KMBO	**Kilima Mbogo**	**145.45**	**245***c*	*i* PKP2		**PKPdf**		**03 46 59.5**	**+0.3**
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KMBO	**Kilima Mbogo**	**145.45**	**245**	*e*PKPdf		**PKPdf**		**03 46 59.2**	**0.0**
DOPR	**Dopca**	**145.46**	**336**	⇑*iP*		**PKPdf**		**03 46 58.6**	**+0.6**
PSZ	**Piszkesteto**	**145.54**	**344**	*e*PKPbc		**PKPdf**		**03 46 58.9**	**+0.8**
MLR	**Muntele Rosu**	**145.63**	**335**	⇑*iP*		**PKPdf**		**03 46 59.2**	**+0.8**
MLR	**Muntele Rosu**	**145.63**	**335**	⇑PKP2		**PKPdf**		**03 46 59.2**	**+0.8**
WLF	**Walferdange**	**145.65**	**0**	PKP		**PKPab**		**03 47 00.5**	**+1.5**
WLF	**Walferdange**	**145.65**	**0**	*e*PKP2		**PKPdf**		**03 46 57.4**	**-0.7**
WLF	**Walferdange**	**145.65**	**0**	*e*PKPdf		**PKPdf**		**03 46 57.4**	**-0.7**
KHC	**Kasperske Hory**	**145.68**	**352**	*e*PKP		**PKPdf**		**03 46 58.9**	**+0.6**
KHC				*ex*		x		03 47 07.2	
KHC				*ex*		x		03 47 13.4	
KHC				*ep*PKP		**pPKPdf**		**03 47 30.3**	**+4.5**
KHC				AMS		AMS		04 50 00.0	
	comp=Z,300nm,20.9s								
KHC	**Kasperske Hory**	**145.68**	**352**	*e*PKP2		**PKPdf**		**03 46 58.9**	**+0.6**
KHC				MLR		MLR			
	comp=Z,300nm,20.9s								
KHC	**Kasperske Hory**	**145.68**	**352**	*e*PKPdf		**PKPdf**		**03 46 58.2**	**-0.1**
DRGR		**145.71**	**340**	⇑*iP*		**PKPdf**		**03 46 59.1**	**+0.7**
DRGR		**145.71**	**340**	⇑PKP2		**PKPdf**		**03 46 59.1**	**+0.7**
BRTR	**Keskin Array B**	**145.91**	**321**	PKPbc		**PKPdf**		**03 47 00.2**	**+1.1**
	comp=Z,9.7nm,1.0s,baz=111,slow=1.7,SNR=31								
GERES	**GERESS Array B**	**145.94**	**351**	PKPbc		**PKPdf**		**03 46 59.5**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=42,slow=2.2,SNR=15								
VOIR		**146.03**	**336**	⇑*iP*		**PKPdf**		**03 47 01.0**	**+2.0**
VOIR		**146.03**	**336**	⇑PKP2		**PKPdf**		**03 47 01.1**	**+2.1**
ARR	**Arges**	**146.25**	**337**	⇓*iP*		**PKPdf**		**03 47 02.1**	**+1.5**
LANF	**Langenberg**	**146.32**	**358**	PKP		**PKPdf**		**03 47 01.3**	**+2.0**
CONA	**Conrad Observa**	**146.47**	**348**	*i* PKPab		**PKPdf**		**03 47 01.2**	**+1.5**
	comp=Z,19nm,1.8s								
LOT	**Lotru**	**146.51**	**338**	⇑*iP*		**PKPdf**		**03 47 01.5**	**+1.6**
SIRR	**Siria**	**146.52**	**341**	⇑*iP*		**PKPbc**		**03 47 02.4**	**+1.1**
SOP	**Sopron**	**146.56**	**348**	*e*PKPdf		**PKPbc**		**03 47 02.4**	**+1.0**
MOA	**Molln**	**146.82**	**350**	*i* PKPab		**PKPdf**		**03 47 02.1**	**+1.9**
	comp=Z,6.1nm,1.0s								
BFO	**Black Forest**	**146.95**	**358***c*	*i* PKP2		**PKPbc**		**03 47 03.9**	**+1.4**
BFO	**Black Forest**	**146.95**	**358**	*e*PKPbc		**PKPdf**		**03 47 02.3**	**+1.9**
ECH	**Echery**	**147.10**	**359**	PKP		**PKPdf**		**03 47 02.3**	**+1.6**
BZS	**Buzias**	**147.11**	**340**	⇑*iP*		**PKPdf**		**03 47 02.5**	**+1.8**
BZS	**Buzias**	**147.11**	**340**	⇑PKP2		**PKPdf**		**03 47 02.5**	**+1.8**
ARSA	**Arzberg**	**147.18**	**349**	*e*PKPab		**PKPdf**		**03 47 02.9**	**+2.0**
	comp=Z,8.9nm,1.1s								
MOF	**Molkenrain**	**147.46**	**359**	PKP		**PKPdf**		**03 47 03.0**	**+1.6**
RETA	**Reutte**	**147.63**	**354**	*i* PKiKP		**PKPbc**		**03 47 06.4**	**+1.9**
	comp=Z,25nm,1.4s								
KBA	**Koelnbreinsper**	**147.72**	**351**	*i* PKiKP		**PKPbc**		**03 47 07.0**	**+2.2**
	comp=Z,19nm,1.6s								
MOTA	**Moosalm**	**147.74**	**354**	*e*PKPab		**PKPbc**		**03 47 06.2**	**+1.4**
	comp=Z,12nm,1.0s								
WTTA	**Wattenberg**	**147.76**	**353**	*e*PKPab		**PKPbc**		**03 47 05.9**	**+0.9**
	comp=Z,16nm,1.4s								
MDVR	**Moldovita**	**147.81**	**339**	⇑*iP*		**PKPdf**		**03 47 03.0**	**+1.0**
SOKA	**Soboth**	**147.82**	**349**	*i* PKiKP		**PKPbc**		**03 47 05.4**	**+0.3**
	comp=Z,13nm,1.2s								
DAVA	**Damuels**	**147.90**	**356**	*e*PKPab		**PKPbc**		**03 47 06.2**	**+0.9**
	comp=Z,26nm,1.4s								
LOMF	**Lomont**	**147.97**	**359**	PKP		**PKPdf**		**03 47 03.6**	**+1.4**
FETA	**Feichten**	**148.09**	**354**	*e*PKPab		**PKPbc**		**03 47 06.7**	**+0.9**
ABTA	**Abfaltersbach**	**148.16**	**352**	*i* PKPab		**PKPbc**		**03 47 07.1**	**+1.2**
	comp=Z,18nm,1.1s								
VISS	**Visnje**	**148.70**	**349**	*i* PKPdf		**PKPab**		**03 47 11.1**	**0.0**
TUE	**Stuetta**	**148.75**	**356**	*e*PKPbc		**PKPbc**		**03 47 09.1**	**+1.5**
JAVS	**Javornik**	**148.76**	**350**	*i* PKPdf		**PKPab**		**03 47 12.0**	**+0.6**
BOJS	**Bojanci**	**148.91**	**348**	*i* PKPdf		**PKPbc**		**03 47 10.8**	**+3.0**
PLDF	**La Plantade**	**149.26**	**4**	PKP		**PKPdf**		**03 47 05.7**	**+1.3**
PYM	**Petit Puy Mans**	**149.43**	**5**	PKP		**PKPdf**		**03 47 05.7**	**+1.1**
LBL	**Lubilhac**	**149.97**	**4**	PKP		**PKPdf**		**03 47 07.2**	**+1.7**
SSB	**Saint Sauveur**	**150.00**	**3**	*e*PKP2		**PKPbc**		**03 47 11.6**	**+1.1**
SSB	**Saint Sauveur**	**150.00**	**3**	*e*PKPbc		**PKPbc**		**03 47 11.6**	**+1.1**
PBRG	**Braganca**	**151.18**	**21**	*e*PKPbc		**PKPbc**		**03 47 13.1**	**-0.3**
MVO	**Moncorvo**	**151.64**	**22**	*e*PKPbc		**PKPbc**		**03 47 15.8**	**+1.3**
PMRV	**Marv??o**	**153.02**	**24**	*e*PKPbc		**PKPdf**		**03 47 15.0**	**+4.8**
ESDC	**Sonseca Array**	**154.00**	**18**	PKPab		**PKPab**		**03 47 33.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=319,slow=3.7,SNR=6.1								
PFVI	**Vila Bisbo**	**154.32**	**29**	*e*PKPdf		**PKPdf**		**03 47 08.4**	**-3.7**
TORD	**Torodi Ar. Bea**	**174.98**	**114**	PKP		**PKPdf**		**03 47 31.4**	**+0.8**
	comp=Z,3.6nm,1.4s,baz=250,slow=0.8,SNR=3.4								

*IDC **20** 03:32:46.8±3.5, 1°.59N×98°.94E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.5/49, mbtmp3.8/5, ML4.6/1, MS3.1/1, Ms1 3.3/1, ms1mx2.7/44, Error ellipse: s-maj=157.2km s-min=26.0km az=56.0*
*ISCJB **20** 03:32:50.4±1.4, 1°.85N±0°.04×99°.10E±0°.04, h8km±10km, mb3.7/6, Error ellipse: s-maj=8.0km s-min=6.6km az=40.0*
*DJA **20** 03:32:51.6±0.3, 2°.N±3°×9°.9E±°, h10km, MA.2/7, MLv4.2/7*
*NEIC **20** 03:32:54.0±0.8, 1°.89N×98°.96E, h35km, mb3.8/2, Error ellipse: s-maj=14.3km s-min=13.1km az=91.0*
NEIC Felt [III] at Sibolga and Tarutung.
*KLM **20** 03:33:00.7, 2°.03N×99°.61E, h52km, mb4.5, ML4.1*

ISC 20 03:32:48.7±1.4, 1°.87N±0°.03×99°.13E±0°.03, h1km±11km, n24, σ1°67/31, mb3.8/6, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.40**	**218**	P		**Pb**	**03 32 58.6**	**0.0**
SBSI				S		**Sb**	**03 33 09.2**	**+4.1**
MNSI	**Mandailing Nat**	**1.15**	**157**	P		**Pg**	**03 33 11.0**	**+0.1**
GSI	**Gunungsitoli**	**1.65**	**250**	P		**Pb**	**03 33 19.8**	**-0.2**
GSI				S		**Sg**	**03 33 42.0**	**+0.1**
GSI	**Gunungsitoli**	**1.65**	**250**	*e*Pn		**Pn**	**03 33 18.4**	**-0.5**
GSI				*e*S		**Sb**	**03 33 40.9**	**-0.5**
KCSI	**Kotacane, Aceh**	**2.13**	**320**	P		**Pb**	**03 33 27.7**	**-0.5**
KCSI				S		**Sb**	**03 33 56.0**	**+0.8**
TPTI		**2.39**	**305**	P		**Pn**	**03 33 28.9**	**-0.1**
BKNI	**Bangkinang**	**2.44**	**129**	P		**Pb**	**03 33 32.3**	**-1.2**
BKNI	**Bangkinang**	**2.44**	**129**	*e*Pn		**Pg**	**03 33 35.3**	**-0.3**
BKNI				*e*S		**Sb**	**03 34 04.0**	**-0.1**
PPI	**Padang Panjang**	**2.63**	**151**	P		**Pb**	**03 33 34.7**	**-2.0**
PDSI	**Padang**	**3.06**	**154**	P		**Pn**	**03 33 40.1**	**+1.8**
IPM	**Ipoh**	**3.21**	**36**	⇑P		**Pb**	**03 33 43.9**	**-2.7**
IPM	**Ipoh**	**3.21**	**36**	*e*Pn		**Pn**	**03 33 43.2**	**+2.8**
IPM				*e*S		**Sg**	**03 34 33.2**	**+1.2**
KULM	**Kulim**	**3.72**	**24**	⇓P		**Pn**	**03 33 50.8**	**+3.4**
KULM	**Kulim**	**3.72**	**24**	*e*Pn		**Pn**	**03 33 49.5**	**+2.2**
KULM				*e*S		**Sg**	**03 34 47.6**	**-0.9**
KTGM	**Kuala Trenggan**	**5.27**	**49**	⇑P		**Pn**	**03 34 11.7**	**+3.1**
CMAR	**Chiang Mai Arr**	**16.49**	**359**	Pn		**P**	**03 36 44.7**	**+0.5**
	0.7nm,0.3s,baz=186,slow=14,SNR=4.1							
CMAR				LR		LR	03 43 20.3	
	comp=Z,64nm,19.7s,baz=175,slow=38							
WRA	**Warramunga Arr**	**40.77**	**124**	P		**P**	**03 40 30.1**	**-1.7**
	1.4nm,0.9s,baz=306,slow=9.1,SNR=3.7							
WRAB	**Tennant Creek**	**40.78**	**124**	*e*P		**P**	**03 40 31.8**	**-0.1**
	1.7nm,0.9s							
MKAR	**Makanchi Array**	**47.10**	**344**	P		**P**	**03 41 21.9**	**-0.4**
	0.5nm,0.7s,baz=147,slow=8.6,SNR=4.5							
KURBB	**Kurchatov Arra**	**51.62**	**343**	P		**P**	**03 41 56.5**	**-0.3**
	0.4nm,0.4s,baz=155,slow=7.0,SNR=4.5							
KURK	**Kurchatov**	**51.68**	**344**	P		**P**	**03 41 56.5**	**-0.7**
KURK	**Kurchatov**	**51.68**	**344**	P		**P**	**03 41 56.5**	**-0.7**
ZALV	**Zalesovo Beam**	**53.23**	**349**	P		**P**	**03 42 08.4**	**-0.3**
	0.7nm,0.4s,baz=177,slow=8.4,SNR=5.7							
ABKAR	**Akbulak array**	**57.86**	**331**	*e*P		**P**	**03 42 41.3**	**-0.7**
	0.6nm,0.5s							

*NIED **20** 03:40:00, 37°.50N×142°.60E, h20km, Mw3.8 Best double couple: M0 5.89000×10^14 NP1:φs168.00000°, δ19.00000°, λ38.00000°. NP2:φs41.00000°, δ78.00000°, λ105.00000°.*
*JMA **20** 03:40:49.9±0.3, 37°.48N×142°.58E, h13km±4km, M4.0*
*ISCJB **20** 03:40:50.1±0.7, 37°.46N±0°.05×142°.68E±0°.07, h21km, mb3.9/11, Error ellipse: s-maj=8.2km s-min=7.5km az=43.0*
*IDC **20** 03:40:54.4±3.2, 37°.44N×142°.61E, h38km±27km, mb3.7/11, mb1 3.8/15, mb1mx3.6/48, mbtmp3.9/15, ML3.6/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/37, Error ellipse: s-maj=25.7km s-min=16.6km az=93.0*

ISC 20 03:40:51.9±0.9, 37.44N±0°.06×142°.66E±0°.09, h21km, n29, σ1°57/29, mb3.9/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.42**	**267**	P		**Pn**	**03 41 14.6**	**-2.0**
JFK				S		**Sn**	**03 41 32.4**	**-2.3**
JIO	**Ouri**	**1.45**	**315**	P		**Pn**	**03 41 14.9**	**-1.9**
JIO				S		**Sn**	**03 41 33.0**	**-2.2**
JMM	**Marumori**	**1.54**	**286**	P		**Pn**	**03 41 15.9**	**-2.2**
JOU	**Okura**	**1.83**	**301**	P		**Pn**	**03 41 20.8**	**-1.3**
JFT	**Otama**	**1.85**	**273**	P		**Pn**	**03 41 21.5**	**-0.9**
JMK	**Ichinoseki**	**1.89**	**323**	P		**Pn**	**03 41 22.0**	**-0.9**
JYS	**Shirataka**	**2.19**	**291**	P		**Pn**	**03 41 26.2**	**-1.0**
JOM	**Ohasama**	**2.29**	**333**	P		**Pn**	**03 41 27.6**	**-0.9**
JYK	**Kaneyama**	**2.33**	**310**	P		**Pn**	**03 41 28.4**	**-0.7**
MJAR	**Matsushiro Arr**	**3.67**	**257**	Pn		**Pn**	**03 41 48.5**	**+0.9**
	3.0nm,0.3s,baz=82,slow=15,SNR=15							
MJAR				LR		LR	03 43 23.7	
	comp=Z,144nm,18.6s,baz=75,slow=41							
MAT	**Matsushiro**	**3.68**	**257**	P		**Pn**	**03 41 48.7**	**+1.2**
MAT				*e*S

JMK	**Ichinoseki**	**0.79 293**	P	Pn	04 15 07.8	+0.1
JMK			S	Sn	04 15 18.0	-0.3
JOM	**Obasama**	**1.06 321**	P	Pn	04 15 11.8	+0.4
JOU	**Okura**	**1.21 257**	P	Pn	04 15 13.8	+0.4
JOU			S	Sn	04 15 29.5	+1.0
JMM	**Marumori**	**1.33 234**	P	Pn	04 15 14.7	-0.3
JMM			S	Sn	04 15 31.1	-0.4
MAT	**Matsushiro**	**3.78 237**	P	Pn	04 15 53.3	+4.6
MAT			*eS*	Sn	04 16 31.0	-0.9

NIED ***20*** *04:16:00, 38.20N×144.10E, h5km, Mw3.9 Best double couple: M0 7.31000×10^14 NP1:φs355.00000°, δ25.00000°, λ-91.00000°. NP2:φs176.00000°, δ65.00000°, λ-89.00000°.*

IDC ***20*** *04:16:45.3±2.0, 37.96N×144.82E, h0km, mb3.8/5, mb1 4.0/9, mb1mx3.7/52, mbtmp4.0/9, ML3.8/4, MS3.0/3, Ms1 3.0/3, ms1mx2.7/38, Error ellipse: s-maj=47.3km s-min=21.9km az=68.0*

ISCJB ***20*** *04:16:51.0±0.8, 38.10N±0.05×144.23E±0.07, h33km, mb3.7/5, Error ellipse: s-maj=8.0km s-min=6.5km az=172.0*

JMA ***20*** *04:16:51.9±0.2, 38.20N×144.11E, h32km, M4.1*

ISC 20 04:16:51.9±1.2, 38.14N±0.04×144.33E±0.09, h35km, n26, σ2§41/36, mb3.9/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.29**	**295**	P	**Pn**	**04 17 26.2**	**-0.9**
OFUJ				S	**Sn**	**04 17 51.9**	**-2.2**
JIO	**Ouri**	**2.37**	**279**	P	**Pn**	**04 17 27.4**	**-0.8**
JIO				S	**Sn**	**04 17 53.3**	**-2.7**
JMK	**Ichinoseki**	**2.57**	**289**	P	**Pn**	**04 17 30.4**	**-0.6**
JMK				S	**Sn**	**04 17 58.9**	**-2.1**
JOM	**Ohasama**	**2.72**	**300**	P	**Pn**	**04 17 33.0**	**-0.1**
JOM				*eS*	**Sn**	**04 18 02.5**	**-2.3**
JANG	**Nango**	**3.12**	**316**	P	**Pn**	**04 17 38.8**	**+0.2**
JYK	**Kaneyama**	**3.21**	**285**	P	**Pn**	**04 17 39.8**	**0.0**
JYK				S	**Sn**	**04 18 16.2**	**-0.6**
JFT	**Otama**	**3.22**	**260**	P	**Pn**	**04 17 40.1**	**+0.1**
JFT				S	**Sn**	**04 18 15.8**	**-1.4**
JNS	**Sasagawa**	**3.98**	**267**	P	**Pn**	**04 17 51.0**	**+0.7**
JAW	**Awa shima**	**4.01**	**276**	P	**Pn**	**04 17 51.2**	**+0.4**
JOT	**Ohata**	**4.11**	**323**	S	**Sn**	**04 18 34.7**	**-4.3**
BSO1	**Boso 1**	**4.41**	**219**	P	**Pn**	**04 17 54.8**	**-0.9**
BSO1				S	**Sn**	**04 18 44.6**	**-0.9**
JKB	**Kayabe**	**4.52**	**327**	P	**Pn**	**04 17 58.1**	**+0.3**
JKB				S	**Sn**	**04 18 45.2**	**-3.9**
JCH	**Churui**	**4.53**	**351**	P	**Pn**	**04 17 57.6**	**-0.3**
JCH				*eS*	**Sn**	**04 18 44.5**	**-4.9**
JRY	**Ryogami san**	**4.83**	**246**	P	**Pn**	**04 18 01.7**	**-0.4**
JRY				S	**Sn**	**04 18 52.8**	**-4.0**
MJAR	**Matsushiro Arr**	**5.13**	**254**	Pn	**Pn**	**04 18 07.4**	**+1.1**
	4.0nm,0.3s,baz=69,slow=9.6,SNR=18						
MJAR				LR	LR	04 20 22.5	
	comp=Z,69nm,21.9s,baz=190,slow=40						
MAT	**Matsushiro**	**5.13**	**254**	P	**Pn**	**04 18 07.3**	**+1.0**
MAT				*eS*	**Sn**	**04 19 07.0**	**+2.7**
JHJ	**Hachijo jima 2**	**6.23**	**218**	Pn	**Pn**	**04 18 20.6**	**-0.7**
	10nm,0.3s,baz=132,slow=23,SNR=7.7						
JHJ				Sn	**Sn**	**04 19 24.3**	**-6.9**
	12nm,0.3s,baz=102,slow=20,SNR=2.7						
USRK	**Ussuriysk Ar.**	**11.09**	**307**	LR	LR	04 23 56.3	
	comp=Z,108nm,18.4s,baz=164,slow=37						
JCJ	**Chichijima**	**11.16**	**190**	Pn	Pn	04 19 24.0	-4.9
	2.0nm,0.3s,baz=261,slow=18,SNR=4.5						
KSRS	**Korea Array**	**13.00**	**272**	Pn	**Pn**	**04 19 56.9**	**+2.9**
	0.1nm,0.3s,baz=91,slow=14,SNR=12						
KSRS				LR	LR	04 25 07.8	
	comp=Z,121nm,18.2s,baz=166,slow=37						
SONM	**Songino Array**	**29.14**	**302**	P	**P**	**04 22 52.0**	**+2.5**
	0.5nm,0.8s,baz=89,slow=8.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.90**	**312**	PcP	**PcP**	**04 26 38.3**	**+1.3**
	0.7nm,0.5s,baz=101,slow=3.6,SNR=3.7						
MKAR	**Makanchi Array**	**45.50**	**302**	P	**P**	**04 25 09.7**	**+1.9**
	0.2nm,0.5s,baz=82,slow=10,SNR=4.3						
KURBB	**Kurchatov Arra**	**47.16**	**308**	P	**P**	**04 25 22.1**	**+1.5**
	0.4nm,0.3s,baz=80,slow=7.8,SNR=6.5						
WRA	**Warramunga Arr**	**58.53**	**191**	P	**P**	**04 26 41.7**	**-3.1**
	1.3nm,0.5s,baz=15,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**62.25**	**191**	P	**P**	**04 27 09.8**	**-0.5**
	0.5nm,0.6s,baz=12,slow=9.5,SNR=4.3						

IDC 20 04:18:17.9±9.9, 5.81S×128.21E, h385km±137km, mb3.0/4, mb1 3.2/7, mb1mx2.9/45, mbtmp3.9/7, Error ellipse: s-maj=68.1km s-min=35.2km az=117.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.47**	**191**	P	P	04 21 02.2	-1.1
	0.1nm,0.3s,baz=8.1,slow=7.1,SNR=3.1						
WRA	**Warramunga Arr**	**15.26**	**158**	P	P	04 21 34.5	+0.7
	0.7nm,0.3s,baz=335,slow=11,SNR=59						
ASAR	**Alice Springs**	**18.58**	**163**	P	P	04 22 09.6	+0.2
	0.4nm,0.3s,baz=344,slow=12,SNR=18						
MJAR	**Matsushiro Arr**	**43.16**	**12**	P	P	04 25 41.2	-1.1
	0.9nm,0.5s,baz=192,slow=9.9,SNR=3.5						
SONM	**Songino Array**	**56.77**	**343**	P	P	04 27 24.8	+1.5
	0.4nm,0.6s,baz=163,slow=5.9,SNR=3.3						
MKAR	**Makanchi Array**	**66.26**	**327**	P	P	04 28 25.8	-0.2
	0.5nm,0.4s,baz=114,slow=8.6,SNR=6.7						
KURBB	**Kurchatov Arra**	**70.57**	**329**	P	P	04 28 51.6	-0.7
	0.5nm,0.4s,baz=133,slow=5.2,SNR=5.7						

NEIC ***20*** *04:20:20.2, 16.64N×94.37W, h61km, MD4.2(MEX), After MEX.*

MEX 20 04:20:20.2±0.7, 16.64N×94.37W, h61km±36km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGBT	**Tuxtla Gutierr**	**1.24**	**83**	*eP*	Pn	04 20 40.1	-1.3
TGBT				*eS*	Sn	04 20 55.6	-1.7
TUIG	**Tuzandepetl**	**1.39**	**358**	*eP*	Pn	04 20 42.0	-1.5
TUIG				*eS*	Sn	04 20 58.7	-2.2
TUIG	**Tuzandepetl**	**1.39**	**358**	*eP*	Pn	04 20 42.0	-1.5
TUIG				*eS*	Sn	04 20 58.7	-2.2
PCIG		**1.45**	**130**	*eP*	Pn	04 20 43.5	-0.7
PCIG				*eS*	Sn	04 21 00.2	-2.0
PCIG		**1.45**	**130**	*eP*	Pn	04 20 43.5	-0.7
PCIG				*eS*	Sn	04 21 00.2	-2.0
HUIG	**Huatulco**	**1.88**	**243**	*eP*	Pn	04 20 47.9	-2.1
HUIG				*eS*	Sn	04 21 10.5	-2.1
HUIG	**Huatulco**	**1.88**	**243**	*eP*	Pn	04 20 47.9	-2.1
HUIG				*eS*	Sn	04 21 10.5	-2.1
CCIG	**Comitan**	**2.17**	**99**	*eP*	Pn	04 20 52.4	-1.8
CCIG				*eS*	Sn	04 21 18.8	-1.4
CCIG	**Comitan**	**2.17**	**99**	*eP*	Pn	04 20 52.4	-1.8
CCIG				*eS*	Sn	04 21 18.8	-1.4
PANG	**Puerto Angel**	**2.24**	**245**	*eP*	Pn	04 20 51.9	-3.0
PANG				*eS*	Sn	04 21 17.9	-3.5
OXBJ	**Oaxaca**	**2.29**	**281**	*eP*	Pn	04 20 54.2	-1.7
OXBJ				*i S*	Sn	04 21 21.1	-1.9
VHO	**Vista Hermosa**	**2.30**	**281**	*eP*	Pn	04 20 55.4	-0.6
VHO				*eS*	Sn	04 21 22.1	-1.1
VHO	**Vista Hermosa**	**2.30**	**281**	*eP*	Pn	04 20 55.4	-0.6
VHO				*eS*	Sn	04 21 22.1	-1.1
PNIG	**Pinotepa**	**3.61**	**267**	*eP*	Pn	04 21 11.0	-2.7
PNIG				*eS*	Sn	04 21 52.9	-2.2
PNIG	**Pinotepa**	**3.61**	**267**	*eP*	Pn	04 21 11.0	-2.7
PNIG				*eS*	Sn	04 21 52.9	-2.2
TEIG	**Tepich**	**6.80**	**57**	*eP*	Pn	04 21 50.5	-6.8
TEIG				*eS*	Sn	04 23 04.9	-8.5

IDC ***20*** *04:22:09.7±0.8, 49.48S×115.59W, h0km, mb3.9/7, mb1 4.1/7, mb1mx4.0/23, mbtmp3.9/7, MS4.2/1, Ms1 4.2/1, ms1mx3.7/15, Error ellipse: s-maj=35.3km s-min=20.9km az=130.0*

ISCJB ***20*** *04:22:10.0±0.8, 49.5S±0.1×115.4W±0.3, h10km, mb4.3/10, MS4.2/1, Error ellipse: s-maj=29.2km s-min=16.1km az=34.2*

NEIC ***20*** *04:22:10.8±0.6, 49.43S×115.60W, h10km, mb4.3/2, Error ellipse: s-maj=25.7km s-min=16.0km az=125.0*

ISC 20 04:22:11.2±0.6, 49.6S±0.1×115.4W±0.2, h10km, n34, σ1§84/20, mb4.3/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**30.59**	**323**	*e*LR	LR	04 36 23.8	
	959nm,27.0s						
RKT	**Rikitea**	**30.59**	**323**	*e*T	T	05 00 25.8	
	2.3nm,0.3s						
TBI	**Tubuai**	**37.38**	**302**	*e*LR	LR	04 39 37.4	
	344nm,25.8s						
QSPA	**South Pole Qui**	**40.60**	**180**	*e*P	**P**	**04 29 52.1**	**+1.3**
	7.8nm,1.0s						
VNDA	**Vanda**	**40.62**	**199**	P	**P**	**04 29 52.2**	**+1.5**
	0.5nm,0.8s,baz=90,slow=3.0,SNR=2.4						
PPT2	**Papeete2**	**42.14**	**307**	*e*LR	LR	04 41 49.0	
	505nm,24.5s						
LVC	**Limon Verde**	**45.23**	**71**	P	**P**	**04 30 30.2**	**+1.2**
	28nm,1.0s,baz=236,slow=9.4,SNR=5.6						
LVC	**Limon Verde**	**45.23**	**71**	*e*P	**P**	**04 30 28.6**	**-0.4**
	2.9nm,1.0s						
TAOE	**Nuku Hiva Isla**	**45.57**	**325**	*e*LR	LR	04 43 24.4	
	640nm,27.3s						
NNA	**Nana**	**49.11**	**54**	LR	LR	04 46 26.1	
	comp=Z,250nm,18.9s,baz=259,slow=30						
CPUP	**Villa Florida**	**49.92**	**84**	P	**P**	**04 31 04.7**	**-0.3**
	4.5nm,1.1s,baz=256,slow=11,SNR=4.8						
SIV	**San Ignacio**	**55.05**	**72**	P	**P**	**04 31 43.2**	**+0.1**
	5.2nm,1.0s,baz=249,slow=7.8,SNR=6.9						
MAW	**Mawson**	**63.12**	**179**	P	**P**	**04 32 39.7**	**+1.4**
	1.0nm,0.5s,baz=238,slow=9.5,SNR=2.8						
DZM	**Mont Dzumac**	**65.95**	**264**	*e*LR	LR	04 52 36.2	
	329nm,24.2s						
TRIS	**Tristan da Cun**	**70.24**	**124**	*e*P	**P**	**04 33 19.8**	**-4.5**
	973nm,0.4s						
TXAR	**Lajitas Array**	**79.27**	**10**	P	**P**	**04 34 17.5**	**+0.9**
	0.5nm,0.9s,baz=160,slow=4.0,SNR=4.1						
ASAR	**Alice Springs**	**84.71**	**239**	P	**P**	**04 34 43.6**	**-1.9**
	0.8nm,0.8s,baz=142,slow=4.7,SNR=4.9						
H01W1	**Cape Leeuwin H**	**85.10**	**219**	T	T	06 09 43.7	
	baz=150,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**85.11**	**219**	T	T	06 09 46.1	
	baz=150,slow=76,SNR=14						
H01W3	**Cape Leeuwin H**	**85.12**	**219**	T	T	06 09 46.0	
	baz=150,slow=76,SNR=17						
PDAR	**Pinedale Array**	**92.12**	**4**	P	**P**	**04 35 20.4**	**-0.1**
	0.2nm,0.4s,baz=222,slow=1.2,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	**96.31**	**291**	T	T	06 22 45.9	
	baz=141,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**96.33**	**291**	T	T	06 22 54.7	
	baz=141,slow=76,SNR=44						
H11S1	**WAKE ISLAND Hy**	**96.33**	**291**	T	T	06 22 46.6	
	baz=141,slow=76,SNR=51						
H11N3	**WAKE ISLAND Hy**	**97.13**	**292**	T	T	06 23 48.7	
	baz=142,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**97.14**	**292**	T	T	06 23 53.9	
	baz=142,slow=76,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**97.15**	**292**	T	T	06 23 51.2	
	baz=142,slow=76,SNR=10						
TIXI	**Tiksi**	**144.07**	**331**	PKP	**PKPab**	**04 41 43.9**	**+0.9**
	3.3nm,0.8s,baz=117,slow=4.5,SNR=6.4						
TIXI	**Tiksi**	**144.07**	**331**	*e*PKPdf	**PKPab**	**04 41 42.8**	**-0.3**
GERES	**GERESS Array B**	**147.26**	**71**	PKPbc	**PKPdf**	**04 41 53.1**	**+1.3**
	1.1nm,0.8s,baz=241,slow=2.7,SNR=6.1						
NB2	**NORSAR Subarra1**	**148.45**	**48**	PKPdf	**PKPab**	**04 42 04.0**	**+3.7**
	comp=Z,1.2nm,0.8s,baz=268,slow=1.7						
NOA	**NORSAR Array B**	**148.45**	**48**	PKPbc	**PKPbc**	**04 41 56.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=267,slow=2.3,SNR=3.1						
ULN	**Ulaanbaatar**	**152.22**	**283**	*e*PKPdf	**PKPdf**	**04 41 57.9**	**-1.8**
ULN				*e*PKPbc	**PKPbc**	**04 42 06.6**	**+0.2**
ULN				*e*PKPab	**PKPab**	**04 42 14.1**	**-2.3**
BRTR	**Keskin Array B**	**156.01**	**102**	PKPab	**PKPab**	**04 42 33.2**	**+0.5**
	comp=Z,2.9nm,1.0s,baz=186,slow=3.7,SNR=10						

IDC ***20*** *04:25:15.7±0.9, 50.00S×115.52W, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.1/24, mbtmp4.3/6, MS4.5/13, Ms1 4.4/13, ms1mx4.4/15, Error ellipse: s-maj=48.7km s-min=27.0km az=169.0*

ISCJB ***20*** *04:25:16.3±0.7, 49.8S±0.2×115.5W±0.2, h10km, mb4.4/9, MS4.5/13, Error ellipse: s-maj=28.4km s-min=16.2km az=145.4*

NEIC ***20*** *04:25:17.5±0.5, 49.73S×115.57W, h10km, mb4.7/3, Error ellipse: s-maj=25.2km s-min=15.6km az=149.0*

GCMT ***20*** *04:25:17.5±0.2, 49.77S×115.27W, h18km±1km, MW5.1/90, Moment Tensor Solution. s38,c42; s90,c127; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.82±.17; Mθθ3.75±.18; Mφφ-2.94±.15; Mrθ3.41±.55; Mθφ3.09±.12; Mφr2.16±.45; Best double couple: M0 5.71800×10^16 NP1:φs26.00000°, δ86.00000°, λ145.00000°. NP2: φs119.00000°, δ55.00000°, λ5.00000°. Principal axes: T 6.9850, Plg27.0000°, Azm337.0000°; N -2.5430, Plg55.0000°, Azm201.0000°; P -4.4500, Plg21.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 04:25:17.9±0.6, 49.7S±0.2×115.7W±0.1, h10km, n50, σ1§89/26, mb4.5/9, MS4.4/13, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**28.90**	**118**	LR	LR	04 39 48.3	
	comp=Z,3μm,18.2s,baz=204,slow=30						
RKT	**Rikitea**	**30.58**	**323**	*e*LR	LR	04 39 20.1	
	2μm,27.5s,baz=156						
RKT	**Rikitea**	**30.58**	**323**	*e*T	T	05 03 27.1	
	3.3nm,0.3s						
PMSA	**Palmer Station**	**30.68**	**139**	LR	LR	04 40 26.3	
	comp=Z,1μm,18.6s,baz=262,slow=30						
PLCA	**Paso Flores**	**32.59**	**91**	LR	LR	04 41 33.4	
	comp=Z,603nm,20.5s,baz=258,slow=30						
TBI	**Tubuai**	**37.30**	**302**	*e*LR	LR	04 42 32.7	
	668nm,24.8s,baz=155						
VNDA	**Vanda**	**40.45**	**199**	LR	LR	04 46 08.3	
	comp=Z,482nm,19.3s,baz=100,slow=31						
QSPA	**South Pole Qui**	**40.48**	**180**	*e*P	**P**	**04 32 57.6**	**+1.1**
	79nm,1.8s						
PPT2	**Papeete2**	**42.08**	**307**	*e*LQ	LQ	04 42 53.8	
PPT2	1μm,26.5s						
	1μm,26.2s,baz=145			*e*LR	LR	04 44 42.6	
PPT	**Papeete**	**42.09**	**307**	LR	LR	04 46 25.8	
	comp=Z,418nm,19.1s,baz=136,slow=30						
LVC	**Limon Verde**	**45.44**	**71**	P	**P**	**04 33 36.6**	**-0.7**
	30nm,1.1s,baz=216,slow=7.2,SNR=4.1						
LVC	**Limon Verde**	**45.44**	**71**	*e*P	**P**	**04 33 36.4**	**-0.9**
	12nm,1.3s						
TAOE	**Nuku Hiva Isla**	**45.57**	**325**	*e*LR	LR	04 46 20.6	
	1μm,26.6s						
RPZ	**Rata Peaks**	**48.76**	**247**	*e*P	**P**	**04 34 02.4**	**-0.2**
	6.6nm,0.8s						
CPUP	**Villa Florida**	**50.11**	**85**	P	**P**	**04 34 11.1**	**-2.0**
	4.5nm,1.1s,baz=265,slow=9.8,SNR=3.3						
CPUP				LR	LR	04 51 40.1	
	comp=Z,528nm,21.9s,baz=231,slow=32						
SIV	**San Ignacio**	**55.25**	**73**	P	**P**	**04 34 50.7**	**-0.7**
	4.9nm,1.1s,baz=232,slow=9.2,SNR=6.4						
OTAV	**Otavalo**	**59.09**	**45**	*e*P	**P**	**04 35 18.5**	**-0.4**
	13nm,1.7s						
SYO	**Syowa Base**	**60.18**	**170**	⋔*e*X	P	04 35 31.0	+5.8
MAW	**Mawson**	**62.99**	**179**	LR	LR	05 01 44.0	
	comp=Z,728nm,18.4s,baz=202,slow=35						
ROSC	**El Rosal**	**65.05**	**47**	LR	LR	04 58 22.7	
	comp=Z,193nm,19.9s,baz=212,slow=30						
DZM	**Mont Dzumac**	**65.76**	**264**	*e*LR	LR	04 55 44.7	
	640nm,23.6s						
STKA	**Stephens Creek**	**73.86**	**240**	LR	LR	05 03 53.6	
	comp=Z,177nm,18.3s,baz=195,slow=31						
TXAR	**Lajitas Array**	**79.42**	**11**	P	**P**	**04 37 25.9**	**+1.8**
	1.1nm,1.1s,baz=160,slow=5.5,SNR=3.3						
TXAR				LR	LR	05 05 38.4	
	comp=Z,113nm,21.4s,baz=0.0,slow=30						
ASAR	**Alice Springs**	**84.50**	**240**	P	**P**	**04 37 50.4**	**-0.7**
	1.6nm,1.0s,baz=141,slow=6.0,SNR=4.8						
ASAR				LR	LR	05 08 07.4	
	comp=Z,202nm,20.4s,baz=156,slow=30						
H01W1	**Cape Leeuwin H**	**84.89**	**219**	T	T	06 12 48.9	
	baz=150,slow=76,SNR=43						
H01W2	**Cape Leeuwin H**	**84.90**	**219**	T	T	06 12 49.1	
	baz=150,slow=76,SNR=33						
H01W3	**Cape Leeuwin H**	**84.91**	**219**	T	T	06 12 50.1	
	baz=150,slow=76,SNR=34						
PDAR	**Pinedale Array**	**92.26**	**4**	P	**P**	**04 38 27.8**	**0.0**
	0.3nm,0.6s,baz=212,slow=5.0,SNR=4.0						
PDAR				LR	LR	05 12 58.8	
	comp=Z,144nm,19.5s,baz=212,slow=31						
BOSA	**Boshof**	**94.62**	**146**	LR	LR	05 12 38.5	
	comp=Z,185nm,21.3s,baz=206,slow=30						
H11S2	**WAKE ISLAND Hy**	**96.19**	**291**	T	T	06 26 01.7	
	baz=141,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**96.21**	**291**	T	T	06 25 59.9	
	baz=141,slow=76,SNR=72						
H11S1	**WAKE ISLAND Hy**	**96.21**	**291**	T	T	06 25 57.9	
	baz=141,slow=76,SNR=62						
H11N3	**WAKE ISLAND Hy**	**97.01**	**292**	T	T	06 26 59.9	
	baz=142,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**97.02**	**292**	T	T	06 27 06.5	
	baz=142,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**97.03**	**292**	T	T	06 27 01.5	
	baz=142,slow=75,SNR=22						
ILAR	**Eielson Array**	**116.71**	**346**	PKP	**PKPdf**	**04 44 01.2**	**+0.3**
	0.3nm,0.8s,baz=163,slow=3.7,SNR=2.9						
TIXI	**Tiksi**	**144.10**	**331**	PKP	PKPbc	04 44 50.1	-0.2
	3.2nm,0.9s,baz=118,slow=5.3,SNR=5.3						
NKC	**Novy Kostel**	**147.18**	**69**	*e*PKP	**PKPab**	**04 45 07.4**	**+5.2**
GERES	**GERESS Array B**	**147.47**	**72**	PKPbc	**PKPdf**	**04 44 58.9**	**+0.1**
	0.8nm,0.8s,baz=270,slow=2.7,SNR=3.4						
KHC	**Kasperske Hory**	**147.49**	**71**	*e*PKP	**PKPab**	**04 45 06.7**	**+3.2**
KHC				*ex*		04 45 15.6	
CLL	**Collm**	**147.86**	**67**	*i* P	**PKPab**	**04 45 08.0**	**+3.2**
	comp=Z,13nm,1.4s						
BRG	**Berggiesshubel**	**148.29**	**68**	*e*P	**PKPab**	**04 45 09.2**	**+2.7**
	comp=Z,7.7nm,1.1s						
NB2	**NORSAR Subarra1**	**148.67**	**48**	PKP	**PKPbc**	**04 45 04.9**	**+0.8**
	comp=Z,5.9nm,1.0s,baz=272,slow=2.5						
NOA	**NORSAR Array B**	**148.67**	**48**	PKPbc	**PKPbc**	**04 45 02.9**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=274,slow=2.1,SNR=3.1						
DPC	**Dobruska-Polom**	**149.58**	**70**	*e*PKP	**PKPab**	**04 45 13.7**	**+1.9**
VYHS	**Vyhne**	**150.53**	**75**	*e*PKP	**PKPbc**	**04 45 10.0**	**+1.0**
VYHS				*e*		04 45 15.0	
LANS	**Liptovska Anna**	**151.14**	**74**	*e*	**PKPab**	**04 45 18.4**	**0.0**
ULN	**Ulaanbaatar**	**152.07**	**283**	*e*PKPdf	**PKPdf**	**04 45 05.5**	**-0.7**
ULN				*e*PKPbc	**PKPbc**	**04 45 12.8**	**0.0**
ULN				*e*PKPab	**PKPab**	**04 45 19.5**	**-3.0**
SONM	**Songino Array**	**152.48**	**282**	PKPbc	**PKPbc**	**04 45 13.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=101,slow=1.5,SNR=3.7						
BRTR	**Keskin Array B**	**156.16**	**103**	PKPab	**PKPab**	**04 45 40.0**	**0.0**
	comp=Z,3.0nm,1.1s,baz=204,slow=4.9,SNR=7.5						

IDC ***20*** *04:34:56.0±1.1, 26.81N×144.18E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/53, mbtmp3.8/12, ML3.7/2, Error ellipse: s-maj=25.8km s-min=24.4km az=62.0*

ISCJB ***20*** *04:34:59.1±1.0, 26.8N±0.2×144.2E±0.1, h33km, mb3.9/10, Error ellipse: s-maj=22.2km s-min=18.2km az=15.1*

ISC 20 04:35:01.7±1.1, 26.9N±0.1×144.1E±0.1, h35km, n13, σ1§20/13, mb4.0/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.68**	**277**	Pn	**Pn**	**04 35 27.9**	**-0.6**
	8.4nm,0.3s,baz=294,slow=22,SNR=17						
MJAR	**Matsushiro Arr**	**10.81**	**334**	Pn	**Pn**	**04 37 31.7**	**-2.3**
	0.6nm,0.3s,baz=154,slow=9.9,SNR=5.7						
KSRS	**Korea Array**	**17.21**	**312**	P	**P**	**04 39 00.7**	**+0.2**
	0.3nm,0.3s,baz=119,slow=10,SNR=5.0						
SONM	**Songino Array**	**36.01**	**316**	P	**P**	**04 42 01.5**	**+2.0**
	0.6nm,0.7s,baz=122,slow=9.6,SNR=3.7						
WRA	**Warramunga Arr**	**47.52**	**192**	P	**P**	**04 43 32.5**	**-1.1**
	1.3nm,0.6s,baz=13,slow=8.4,SNR=12						
MKAR	**Makanchi Array**	**51.88**	**310**	P	**P**	**04 44 08.0**	**+1.3**
	1.2nm,0.7s,baz=86,slow=8.8,SNR=2.4						
KURBB	**Kurchatov Arra**	**54.36**	**314**	P	**P**	**04 44 24.9**	**+0.1**
	0.9nm,0.6s,baz=89,slow=8.3,SNR=6.0						
ILAR	**Eielson Array**	**57.08**	**28**	P	**P**	**04 44 43.5**	**-0.6**
	0.3nm,0.9s,baz=266,slow=3.6,SNR=3.0						
BVAR	**Borovoye Array**	**59.30**	**318**	P	**P**	**04 45 00.5**	**+0.7**
	1.6nm,0.7s,baz=79,slow=7.7,SNR=7.2						
AKTO	**Aktyubinsk**	**67.32**	**316**	P	**P**	**04 45 53.6**	**+0.7**
	1.1nm,0.6s,baz=85,slow=8.4,SNR=5.1						
YKA	**Yellowknife Ar**	**71.51**	**29**	P	**P**	**04 46 19.0**	**+0.4**
	0.6nm,0.9s,baz=289,slow=6.6,SNR=4.3						
KBZ	**Khabaz**	**79.35**	**314**	P	**P**	**04 47 03.7**	**-0.2**
	3.2nm,0.8s,baz=0.0,slow=20,SNR=4.8						
BRTR	**Keskin Array B**	**87.34**	**314**	P	**P**	**04 47 45.7**	**+0.3**
	0.5nm,0.7s,baz=111,slow=6.9,SNR=3.3						

IDC ***20*** *04:35:12.0±1.0, 26.90N×144.24E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.8/53, mbtmp3.9/11, ML3.8/2, Error ellipse: s-maj=26.0km s-min=19.7km az=85.0*

ISCJB ***20*** *04:35:15.2±0.8, 26.9N±0.1×144.14E±0.09, h33km, mb3.9/9, Error ellipse: s-maj=16.0km s-min=11.2km az=6.3*

ISC 20 04:35:17.6±1.0, 27.0N±0.1×144.1E±0.1, h35km, n12, σ1§06/13, mb4.2/9, Bonin Islands region

| Code | Station Name |

ENA	**Nanau** baz=14	**0.29**	**13**	P	Pg	04 40 55.0	+0.7
ENA	baz=14			S	Sb	04 40 59.6	-1.2
WHF	**Hehuan Shan** baz=269	**0.37**	**270**	*e*P	Pb	04 40 57.9	+0.5
WHF	baz=269			*e*S	Sb	04 41 02.2	-1.2
ENTT	**Nioudou** baz=350	**0.50**	**349**	*e*P	Pb	04 40 59.6	+0.2
ENTT	baz=350			*e*S	Sb	04 41 07.2	+0.4
WDT	**Danda** baz=230	**0.62**	**232**	*e*P	Pb	04 41 02.4	+0.7
WDT	baz=230			*e*S	Sb	04 41 10.9	+0.2

JMA 20 04:41:35.4±0.3, 24°.95N×123°.09E, h149km±4km, M2.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.49**	**188**	P	Pn	04 41 56.7	+0.1
YOJ				*e*S	Sn	04 42 12.9	+0.2
JYNG	**Yonagunijimaku**	**0.51**	**195**	P	Pn	04 41 56.8	+0.1
JYNG				S	Sn	04 42 13.6	+0.7
IRIF	**Iriomote-Funau**	**0.84**	**136**	P	Pn	04 41 58.9	+0.1
IRIF				S	Sn	04 42 16.2	-0.4
JKRS	**Kuro-shima**	**1.10**	**130**	P	Pn	04 42 01.5	+0.6
JKRS				S	Sn	04 42 20.6	+0.2
HATJ	**Hateruma jima**	**1.10**	**144**	P	Pn	04 42 01.6	+0.6
HATJ				S	Sn	04 42 20.9	+0.4
JIJ	**Ishigaki jima**	**1.12**	**121**	P	Pn	04 42 01.1	-0.1
JIJ				S	Sn	04 42 19.6	-1.2
JISG	**Ishigakijimahi**	**1.17**	**108**	P	Pn	04 42 01.5	0.0
JISG				S	Sn	04 42 21.3	-0.2
JTJ	**Tarama**	**1.50**	**102**	P	Pn	04 42 05.2	+0.4
JTJ				S	Sn	04 42 27.2	-0.1

IDC 20 05:10:55.5±4.0, 15°.03S×173°.16W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.6/29, mbtmp4.1/2, MS3.5/9, Ms1 3.5/9, ms1mx3.4/22, Error ellipse: s-maj=242.0km s-min=24.1km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 27nm,0.3s,baz=210,slow=2.4,SNR=24	**1.74**	**50**	Pn	Pn	05 11 26.4	-0.7
AFI	100nm,0.3s,baz=0.0,slow=20,SNR=16			Sn	Sn	05 11 44.7	-5.4
AFI	comp=Z,454nm,19.6s,baz=233,slow=36			LR	LR	05 11 57.3	
RAR	**Rarotonga** comp=Z,66nm,21.3s,baz=264,slow=32	**14.13**	**118**	LR	LR	05 18 24.9	
DZM	**Mont Dzumac** 388nm,25.4s	**20.55**	**247**	*e*LR	LR	05 21 02.4	
DZM	**Mont Dzumac** comp=Z,185nm,18.2s,baz=66,slow=31	**20.55**	**247**	LR	LR	05 21 35.6	
PPT	**Papeete** comp=Z,114nm,19.4s,baz=235,slow=30	**22.77**	**100**	LR	LR	05 22 26.4	
PPT2	**Papeete2** 428nm,29.8s	**22.78**	**100**	*e*LQ	LQ	05 20 21.9	
PPT2	199nm,26.2s			*e*LR	LR	05 21 20.4	
TBI	**Tubuai** 189nm,26.2s	**23.84**	**114**	*e*LR	LR	05 21 55.0	
HNR	**Honiara** comp=Z,155nm,19.0s,baz=117,slow=32	**26.85**	**279**	LR	LR	05 25 19.4	
H11S2	**WAKE ISLAND Hy** baz=148,slow=75,SNR=14	**38.77**	**329**	T	T	05 59 30.3	
H11S3	**WAKE ISLAND Hy** baz=148,slow=75,SNR=20	**38.78**	**329**	T	T	05 59 31.7	
H11S1	**WAKE ISLAND Hy** baz=148,slow=75,SNR=11	**38.78**	**329**	T	T	05 59 33.3	
H11N3	**WAKE ISLAND Hy** baz=150,slow=76,SNR=6.7	**39.71**	**330**	T	T	06 00 29.2	
H11N1	**WAKE ISLAND Hy** baz=150,slow=76,SNR=7.2	**39.71**	**330**	T	T	06 00 32.7	
H11N2	**WAKE ISLAND Hy** baz=150,slow=76,SNR=8.2	**39.73**	**330**	T	T	06 00 30.9	
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=90,slow=7.0,SNR=19	**50.15**	**256**	P	P	05 19 53.0	-0.2
ASAR	**Alice Springs** 3.0nm,0.6s,baz=86,slow=8.1,SNR=46	**50.44**	**252**	P	P	05 19 54.7	-0.7
ASAR	comp=Z,97nm,18.1s,baz=156,slow=36			LR	LR	05 40 58.2	
MJAR	**Matsushiro Arr** comp=Z,36nm,21.8s,baz=180,slow=31	**66.81**	**320**	LR	LR	05 46 33.8	
PETK	**Petropavlovsk-** comp=Z,20nm,20.6s,baz=128,slow=32	**72.35**	**342**	LR	LR	05 49 18.8	
TXAR	**Lajitas Array** comp=Z,34nm,21.6s,baz=0.0,slow=30	**80.22**	**56**	LR	LR	05 51 20.3	
ULM	**Lac du Bonnet** comp=Z,33nm,18.2s,baz=334,slow=32	**93.50**	**39**	LR	LR	06 01 12.9	
BRTR	**Keskin Array B** 1.0nm,0.7s,baz=71,slow=4.2,SNR=5.7	**146.01**	**322**	PKPbc	PKPab	05 30 38.4	+0.1

*DDA **20** 05:18:09.6, 39°.16N×29°.07E, h7km, Md3.1*
*ISK **20** 05:18:09.6, 39°.16N×29°.06E, h10km, MD2.5*
*ISCJB **20** 05:18:10.1±0.5, 39°.15N±0°.04×29°.06E±0°.03, h4km±7km, Error ellipse: s-maj=6.3km s-min=3.6km az=171.4*
*CSEM **20** 05:18:10.3±0.1, 39°.15N×29°.08E, h10km, MD2.5, Error ellipse: s-maj=3.1km s-min=2.4km az=1.0*

ISC 20 05:18:10.1±0.9, 39°.16N±0°.03×29°.07E±0°.02, h12km±8km, n25, σ0s40/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.29**	**114**	*e*PG	**Pb**	**05 18 16.7**	**-0.5**
GEDZ				*e*SG	**Sg**	**05 18 20.6**	**+0.6**
GEDZ	**Gediz**	**0.29**	**114**	*e*Pg	**Pb**	**05 18 16.7**	**-0.5**
GEDZ				*e*Sg	**Sg**	**05 18 20.6**	**+0.6**
DEMI	**Demirci**	**0.30**	**247**	P	**Pg**	**05 18 16.3**	**0.0**
DEMI				S	**Sg**	**05 18 20.4**	**0.0**
DEMI	**Demirci**	**0.30**	**247**	*i* P	**Pg**	**05 18 16.3**	**0.0**
DEMI				*i* S	**Sg**	**05 18 20.4**	**0.0**
GDZ	**Gediz**	**0.32**	**103**	P	**Pg**	**05 18 16.6**	**-0.1**
GDZ				S	**Sg**	**05 18 21.3**	**+0.2**
GDZ	**Gediz**	**0.32**	**103**	*i* P	**Pg**	**05 18 16.6**	**-0.1**
GDZ				*i* S	**Sg**	**05 18 21.3**	**+0.2**
TVSB	**Tavsanli**	**0.42**	**46**	*e*PG	**Pg**	**05 18 18.5**	**+0.1**
TVSB				*e*SG	**Sg**	**05 18 24.0**	**0.0**
TVSB	**Tavsanli**	**0.42**	**46**	*e*Pg	**Pg**	**05 18 18.5**	**+0.1**
TVSB				*e*Sg	**Sg**	**05 18 24.0**	**0.0**
KULA	**Kula-Manisa**	**0.72**	**207**	*e*PG	**Pb**	**05 18 24.0**	**-0.6**
KULA				*e*SG	**Sg**	**05 18 33.3**	**-0.2**
KULA	**Kula-Manisa**	**0.72**	**207**	*e*Pg	**Pb**	**05 18 24.0**	**-0.6**
KULA				*e*Sg	**Sg**	**05 18 33.3**	**-0.2**
KHL	**Karahalli**	**0.91**	**157**	*e*PG	**Pb**	**05 18 27.9**	**+0.1**
KHL	**Karahalli**	**0.91**	**157**	*e*Pg	**Pb**	**05 18 27.9**	**+0.1**
AKS	**Akhisar**	**1.02**	**254**	*e*PG	**Pn**	**05 18 30.4**	**+0.2**
AKS	**Akhisar**	**1.02**	**254**	*e*Pg	**Pn**	**05 18 30.4**	**+0.2**
BALB	**Balikesir**	**1.04**	**298**	*e*PG	**Pn**	**05 18 30.4**	**-0.1**
BALB				*e*SG	**Sn**	**05 18 45.1**	**+0.1**
BALB	**Balikesir**	**1.04**	**298**	*e*Pg	**Pn**	**05 18 30.4**	**-0.1**
BALB				*e*Sg	**Sn**	**05 18 45.1**	**+0.1**
IGD	**Bursa**	**1.11**	**5**	*i* P	**Pb**	**05 18 30.2**	**-0.9**
IGD				*i* S	**Sn**	**05 18 47.2**	**+0.6**
KCTX	**Karacabey (Bur**	**1.23**	**334**	*e*PN	**Pg**	**05 18 34.4**	**+0.6**
KCTX	**Karacabey (Bur**	**1.23**	**334**	*e*Pn	**Pg**	**05 18 34.4**	**+0.6**
BALY	**Balya**	**1.27**	**298**	P	**Pg**	**05 18 34.6**	**+0.2**
BALY				S	**Sn**	**05 18 51.2**	**+0.6**
BALY	**Balya**	**1.27**	**298**	*i* P	**Pg**	**05 18 34.6**	**+0.2**
BALY				*i* S	**Sn**	**05 18 51.2**	**+0.6**
BORA	**Eskisehir**	**1.29**	**56**	P	**Pg**	**05 18 34.4**	**-0.4**
BORA				S	**Sg**	**05 18 51.9**	**+0.4**
BORA	**Eskisehir**	**1.29**	**56**	*i* P	**Pg**	**05 18 34.4**	**-0.4**
BORA				*i* S	**Sg**	**05 18 51.9**	**+0.4**
GONE	**Gonen-Balikesi**	**1.39**	**310**	*e*PN	**Pn**	**05 18 34.8**	**-0.5**
GONE	**Gonen-Balikesi**	**1.39**	**310**	*e*Pn	**Pn**	**05 18 34.8**	**-0.5**

*ISK **20** 05:51:39.8, 39°.22N×28°.89E, h6km, MD2.0*
*CSEM **20** 05:51:40.9±0.5, 39°.26N×28°.97E, h5km, MD2.0, Error ellipse: s-maj=11.9km s-min=10.9km az=38.0*
*ISCJB **20** 05:51:41.3±0.7, 39°.23N±0°.05×29°.01E±0°.05, h9km, Error ellipse: s-maj=7.4km s-min=5.1km az=157.0*
*DDA **20** 05:51:42.4, 39°.12N×29°.07E, h7km, Md2.6*

ISC 20 05:51:40.5±0.9, 39°.26N±0°.04×28°.96E±0°.04, h9km, n14, σ0s48/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**222**	P	**Pb**	**05 51 48.4**	**+0.6**
DEMI				S	**Sb**	**05 51 52.5**	**-0.2**
DEMI	**Demirci**	**0.29**	**222**	*i* P	**Pb**	**05 51 48.4**	**+0.6**
DEMI				*i* S	**Sb**	**05 51 52.5**	**-0.2**
GEDZ	**Gediz**	**0.41**	**121**	*e*PG	**Pg**	**05 51 48.6**	**+0.1**
GEDZ	**Gediz**	**0.41**	**121**	*e*Pg	**Pg**	**05 51 48.6**	**+0.1**
TVSB	**Tavsanli**	**0.43**	**63**	*e*PG	**Pb**	**05 51 50.7**	**+0.4**
TVSB				*e*SG	**Sb**	**05 51 57.0**	**0.0**
TVSB	**Tavsanli**	**0.43**	**63**	*e*Pg	**Pb**	**05 51 50.7**	**+0.4**
TVSB				*e*Sg	**Sb**	**05 51 57.0**	**0.0**
GDZ	**Gediz**	**0.44**	**112**	P	**Pg**	**05 51 49.2**	**+0.2**
GDZ				S	**Sg**	**05 51 53.9**	**-0.9**
GDZ	**Gediz**	**0.44**	**112**	*i* P	**Pg**	**05 51 49.2**	**+0.2**
GDZ				*i* S	**Sg**	**05 51 53.9**	**-0.9**
KHL	**Karahalli**	**1.03**	**155**	*e*PG	**Pg**	**05 51 59.8**	**-0.5**
KHL	**Karahalli**	**1.03**	**155**	*e*Pg	**Pg**	**05 51 59.8**	**-0.5**
KCTX	**Karacabey (Bur**	**1.11**	**335**	*e*PN	**Pb**	**05 52 01.6**	**-0.3**
KCTX	**Karacabey (Bur**	**1.11**	**335**	*e*Pn	**Pb**	**05 52 01.6**	**-0.3**
ARMT	**Armutlu**	**1.31**	**357**	*e*PN	**Pn**	**05 52 05.5**	**+0.5**
ARMT	**Armutlu**	**1.31**	**357**	*e*Pn	**Pn**	**05 52 05.5**	**+0.5**

JMA 20 05:53:57.7±0.1, 39°.92N×142°.41E, h39km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.42**	**273**	P	Pn	05 54 07.3	+0.1
JTH				S	Sn	05 54 14.0	-0.1
MIYJ	**Miyakonagasawa**	**0.57**	**233**	P	Pn	05 54 09.1	-0.3
MIYJ				S	Sn	05 54 17.1	-0.5
JANG	**Nango**	**0.82**	**304**	P	Pn	05 54 12.3	-0.5
JANG				S	Sn	05 54 22.6	-1.2
JKZ	**Kuzumaki**	**0.83**	**275**	P	Pn	05 54 13.4	+0.4
JKZ				*e*S	Sn	05 54 24.4	+0.3
JOM	**Ohasama**	**0.97**	**243**	P	Pn	05 54 15.0	+0.2
JOM				*e*S	Sn	05 54 27.6	+0.2
OFUJ	**Ofunato**	**1.02**	**215**	P	Pn	05 54 15.6	+0.2
OFUJ				S	Sn	05 54 28.2	-0.3
JMK	**Ichinoseki**	**1.34**	**224**	P	Pn	05 54 20.3	+0.5
JMK				*e*S	Sn	05 54 36.6	+0.3
JTM	**Tenmabayashi**	**1.34**	**311**	P	Pn	05 54 20.6	+0.7
JTM				*e*S	Sn	05 54 37.1	+0.6
JAH	**Hinai**	**1.39**	**282**	P	Pn	05 54 21.3	+0.8
JAH				*e*S	Sn	05 54 38.5	+0.9

LJU 20 06:04:06.4, 45°.84N×15°.46E, h8km, ML0.4, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRES	**Cresnjev**	**0.02**	**190**	↑*i* Pg	Pg	06 04 08.0	+0.1
CRES				*i* Sg	Sg	06 04 09.1	+0.1
GCIS	**Gornji Cirnik**	**0.12**	**78**	*i* Pg	Pg	06 04 09.3	+0.2
GCIS	comp=Z,3.0nm,0.1s			*i* Sg	Sg	06 04 11.2	+0.2
LEGS	**Legarje**	**0.15**	**317**	*i* Pg	Pg	06 04 09.4	-0.1
LEGS				*i* Sg	Sg	06 04 12.1	+0.4

*IDC **20** 06:14:53.6±1.0, 26°.87N×144°.19E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/52, mbtmp3.7/11, ML3.8/2, Error ellipse: s-maj=24.9km s-min=18.9km az=88.0*
*NEIC **20** 06:14:55.4±0.5, 26°.90N×144°.13E, h10km, mb4.1/3, Error ellipse: s-maj=12.4km s-min=9.3km az=80.0*
*ISCJB **20** 06:14:56.8±0.7, 26°.86N±0°.09×144°.11E±0°.06, h33km, mb3.8/12, Error ellipse: s-maj=12.9km s-min=8.1km az=4.6*

ISC 20 06:14:59.3±1.0, 26°.9N±0°.1×144°.05E±0°.09, h35km, n17, σ0s85/19, mb3.9/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.67**	**276**	Pn	**Pn**	**06 15 25.7**	**-0.3**
CBIJ				Sn	**Sn**	**06 15 45.9**	**-0.4**
JCJ	**Chichijima** 13nm,0.3s,baz=299,slow=20,SNR=11	**1.67**	**276**	Pn	**Pn**	**06 15 25.7**	**-0.4**
JCJ	110nm,0.3s,baz=270,slow=20,SNR=19			Sn	**Sn**	**06 15 45.9**	**-0.5**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=153,slow=9.9,SNR=6.4	**10.79**	**334**	Pn	**Pn**	**06 17 29.1**	**-2.1**
KSRS	**Korea Array** 0.3nm,0.3s,baz=120,slow=12,SNR=3.6	**17.19**	**312**	P	**Pn**	**06 18 57.1**	**+0.5**
KSAR	**Wonju Array Be**	**17.21**	**311**	P	**Pn**	**06 18 57.1**	**+0.2**
KLR	**Kul'dur** 0.8nm,0.6s,baz=207,slow=2.3,SNR=3.5	**24.21**	**340**	P	**P**	**06 20 12.6**	**+0.1**
SONM	**Songino Array** 0.6nm,0.4s,baz=128,slow=6.7,SNR=3.6	**35.99**	**316**	P	**P**	**06 21 58.5**	**+1.6**
WRAB	**Tennant Creek** 3.2nm,0.8s	**47.53**	**192**	*e*P	**P**	**06 23 30.8**	**-0.5**
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=12,slow=8.3,SNR=15	**47.54**	**192**	P	**P**	**06 23 30.1**	**-1.2**
FITZ	**Fitzroy Crossi** 1.8nm,0.6s,baz=17,slow=7.8,SNR=6.3	**48.20**	**204**	P	**P**	**06 23 36.2**	**-0.3**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=101,slow=7.5,SNR=2.1	**50.70**	**319**	P	**P**	**06 23 55.4**	**+0.2**
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=90,slow=8.5,SNR=4.2	**51.86**	**310**	P	**P**	**06 24 05.3**	**+1.2**
KTH	**Kantishna Hill** 0.7nm,0.6s	**55.13**	**30**	*e*P	**P**	**06 24 28.1**	**+0.2**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=268,slow=6.3,SNR=3.4	**57.06**	**28**	P	**P**	**06 24 41.2**	**-0.3**
BVAR	**Borovoye Array** 0.9nm,0.6s,baz=130,slow=4.6,SNR=4.9	**59.29**	**318**	P	**P**	**06 24 57.4**	**+0.1**
ABKAR	**Akbulak array** 0.5nm,0.4s	**66.40**	**315**	*e*P	**P**	**06 25 45.2**	**+0.6**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=297,slow=6.4,SNR=3.6	**71.49**	**29**	P	**P**	**06 26 16.0**	**-0.1**

*KRNET **20** 06:17:56.3±0.1, 39°.79N×76°.88E, mb3.7*
*SOME **20** 06:17:59.2, 40°.08N×76°.90E, h10km*
*NNC **20** 06:18:01.3±3.4, 39°.93N×76°.53E, h0km±14km, mb3.5, mpv3.2, Error ellipse: s-maj=25.4km s-min=15.8km az=109.0*

ISC 20 06:18:01.1±1.9, 40°.02N±0°.10×76°.82E±0°.05, h10km, n30, σ1s55/55, 22C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol** baz=349	**2.27**	**349**	↑*i* P	**Pn**	**06 18 39.4**	**+0.6**
ULHL	baz=349			↑*i* S	**Sb**	**06 19 08.9**	**-1.5**
KZA	**Kyzart** baz=332	**2.38**	**331**	↑*i* P	**Pn**	**06 18 41.7**	**+1.2**
KZA	baz=332			↑*i* S	**Sb**	**06 19 13.6**	**-0.1**
BOOM	**Boomskoye usch** baz=346	**2.56**	**345**	↑*e*P	**Pn**	**06 18 44.0**	**+1.2**
BOOM	baz=346			↑*e*S	**Sb**	**06 19 19.8**	**+1.1**
ARLS	**Aral** baz=318	**2.64**	**315**	↑*e*P	**Pn**	**06 18 44.5**	**+0.6**
ARLS	baz=318			↑*e*S	**Sb**	**06 19 20.4**	**-0.7**
PRZ	**Przheval'sk** baz=23	**2.74**	**25**	↑*e*P	**Pn**	**06 18 45.2**	**0.0**
PRZ	baz=23			↑*e*S	**Sb**	**06 19 22.7**	**-1.2**
UCH	**Uchtor** baz=324	**2.81**	**322**	↑*i* P	**Pn**	**06 18 47.8**	**+1.3**
UCH	baz=324			↑*i* S	**Sb**	**06 19 25.0**	**-1.3**
ANVS	**Anan'yevo** baz=11	**2.83**	**13**	↑*e*P	**Pn**	**06 18 46.8**	**+0.2**
ANVS	baz=11			↑*e*S	**Sb**	**06 19 26.0**	**-0.7**
KBK	**Karagaybulak** baz=334	**2.99**	**332**	↓*i* P	**Pn**	**06 18 49.9**	**+1.2**
KBK	baz=334			↓*i* S	**Sn**	**06 19 27.7**	**+3.0**
IZV	**Izvestkoviy** 26nm,0.6s	**3.02**	**357**	*e*P	**Pb**	**06 18 54.2**	**-0.8**
IZV	97nm,0.6s			*e*S	**Sb**	**06 19 33.9**	**+1.8**
TNSS	**Tian-Shan** 47nm,0.3s	**3.02**	**2**	*e*P	**Pb**	**06 18 53.8**	**-1.5**
TNSS	166nm,0.5s			*e*S	**Sb**	**06 19 33.2**	**+0.9**
TKM2	**Tokmak 2** baz=343	**3.04**	**343**	↓*i* P	**Pn**	**06 18 50.3**	**+0.8**
TKM2	baz=343			↓*i* S	**Sn**	**06 19 28.4**	**+2.3**
TKM2	**Tokmak 2** 9.3nm,0.5s	**3.04**	**343**	↑Pn	**Pn**	**06 18 50.4**	**+0.8**
TKM2	36nm,0.6s			↓Sn	**Sb**	**06 19 29.9**	**-2.9**
AAK	**Ala-Archa** 1.5nm,0.3s	**3.14**	**327**	Pn	**Pn**	**06 18 52.2**	**+1.3**
AAK	23nm,0.7s			Pg	**Pg**	**06 18 59.0**	**-2.3**
AAK	101nm,0.8s			↓Lg	Lg	06 19 38.4	
MDOK	**Medeo** 17nm,0.7s	**3.15**	**3**	*e*P	**Pb**	**06 18 55.0**	**-2.2**
MDOK	148nm,0.6s			*e*S	**Sb**	**06 19 35.0**	**-0.7**
ARSB	**Arslanbob** baz=299	**3.20**	**295**	↑*e*P	**Pn**	**06 18 50.7**	**-0.8**
ARSB	baz=299			↑*e*S	**Sn**	**06 19 32.6**	**+2.8**
KNDC	**Almaty** 371nm,0.7s	**3.20**	**2**	↓Sn	**Sb**	**06 19 35.4**	**-1.6**
KOTS	**Kotyrbulak**	**3.22**	**4**	*e*P	**Pb**	**06 18 56.9**	**-1.6**
KOTS				*e*S	**Sb**	**06 19 38.5**	**+0.7**
FRU1	**Bishkek** baz=331	**3.24**	**330**	↑*e*P	**Pn**	**06 18 53.4**	**+1.4**
FRU1	baz=331			↑*e*S	**Sb**	**06 19 36.2**	**-2.0**
SATY	**Saty** 19nm,0.4s	**3.26**	**21**	*e*P	**Pb**	**06 18 56.9**	**-2.3**
SATY	66nm,0.5s			*e*S	**Sb**	**06 19 38.7**	**-0.3**
DGS	**Degeres** 6.9nm,0.5s	**3.31**	**347**	*e*P	**Pb**	**06 18 57.7**	**-2.4**
DGS	63nm,0.6s			*e*S	**Sb**	**06 19 40.1**	**-0.4**
ZHN	**Zhinishke** 8.9nm,0.2s	**3.37**	**21**	*e*P	**Pb**	**06 18 59.1**	**-2.0**
ZHN	39nm,0.3s			*e*S	**Sb**	**06 19 42.3**	**+0.1**
KTBS	**Karatobe**	**3.69**	**358**	*e*P	**Pb**	**06 19 04.8**	**-1.6**
KTBS				*e*S	**Sb**	**06 19 52.1**	**+0.8**
CHKK	**Chushkaly** 25nm,0.6s	**3.85**	**2**	*e*P	**Pb**	**06 19 07.5**	**-1.6**
CHKK	136nm,0.5s			*e*S	**Sb**	**06 19 56.6**	**+0.8**
MNAS	**Manas** 3.6nm,0.5s	**4.08**	**309**	↓Pn	**Pn**	**06 19 04.1**	**+0.4**
MNAS	18nm,0.8s			↑Lg	Lg	06 20 08.6	
MNBS	**Baschi**	**4.22**	**16**	*e*P	**Pb**	**06 19 13.2**	**-2.3**
MNBS				*e*S	**Sb**	**06 20 06.7**	**0.0**
ARXS	**Arharly** 20nm,0.6s	**4.26**	**10**	*e*P	**Pb**	**06 19 15.4**	**-0.7**
ARXS	60nm,0.7s			*e*S	**Sb**	**06 20 10.3**	**+2.8**
KTMS	**Ketmen** 8.3nm,0.5s	**4.33**	**37**	*e*P	**Pb**	**06 19 16.5**	**-0.8**
KTMS	34nm,0.7s			*e*S	**Sb**	**06 20 11.9**	**+2.3**
KK31	**Karatay Array** 0.7nm,0.7s,baz=120,slow=12,SNR=4.3	**5.65**	**305**	Pn	**Pn**	**06 19 24.2**	**-0.9**
KK31	1.0nm,0.5s,baz=129,slow=17,SNR=8.7			↓Pg	**Pb**	**06 19 40.4**	**+0.7**
KK31	4.7nm,0.7s,baz=121,slow=27,SNR=6.1			↑Lg	Lg	06 20 57.2	
MK31	**Makanchi Array** 2.3nm,0.7s	**7.85**	**29**	↑Lg	Lg	06 22 03.8	
AB31	**Akbulak array** 0.3nm,0.6s,baz=118,slow=11,SNR=4.3	**15.12**	**313**	P	**Pn**	**06 21 36.4**	**+1.7**

*IDC **20** 06:25:01.8±2.1, 31°.05S×177°.72W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/24, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=51.8km s-min=24.8km az=114.0*
*ISCJB **20** 06:25:04.3±3.0, 31°.0S±0°.1×177°.8W±0°.5, h27km, mb3.9/3, Error ellipse: s-maj=62.8km s-min=7.8km az=12.8*

ISC 20 06:25:05.9±2.1, 31°.0S±0°.1×177°.8W±0°.3, h27km, n7, σ0s89/9, mb4.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island** 49nm,0.3s,baz=73,slow=19,SNR=4.2	**1.71**	**355**	Pn	**Pn**	**06 25 34.9**	**+0.9**
RAO	206nm,0.3s,baz=43,slow=22,SNR=6.7			Sn	**Sn**	**06 25 53.3**	**-1.6**
URZ	**Urewera** 0.2nm,0.3s,baz=217,slow=20,SNR=3.6	**8.42**	**209**	Pn	**Pn**	**06 27 05.9**	**-0.2**
URZ	1.6nm,0.3s,baz=182,slow=22,SNR=11			Sn	**Sn**	**06 28 39.8**	**-0.4**
CTA	**Charters Tower** 2.6nm,0.6s,baz=91,slow=14,SNR=4.1	**34.11**	**280**	P	**P**	**06 31 49.4**	**+0.9**
ASAR	**Alice Springs** 0.6nm,0.5s,baz=104,slow=7.0,SNR=8.5	**43.30**	**267**	P	**P**	**06 33 05.5**	**-0.1**
WRA	**Warramunga Arr** 1.3nm,0.6s,baz=110,slow=8.0,SNR=11	**44.34**	**273**	P	**P**	**06 33 13.5**	**-0.4**
FINES	**FINESS Array B** 2.0nm,0.6s,baz=85,slow=4.0,SNR=6.2	**145.75**	**340**	PKPbc	**PKPab**	**06 44 41.8**	**-0.2**
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=43,slow=2.4,SNR=2.5	**151.88**	**322**	PKPbc	**PKPbc**	**06 44 57.7**	**-0.1**

*BJI **20** 06:27:14.6, 30°.38N×79°.19E, h8km, mb4.8/57, mB4.7/38, Ms4.3/44, Ms7 4.1/41*
*IDC **20** 06:27:15.6±0.4, 30°.50N×79°.33E, h0km, mb4.6/35, mb1 4.6/38, mb1mx4.6/51, mbtmp4.5/38, ML4.5/2, MS3.9/32, Ms1 3.9/32, ms1mx3.8/51, Error ellipse: s-maj=12.5km s-min=10.0km az=29.0*
*ISCJB **20** 06:27:18.2±0.5, 30°.57N±0°.02×79°.35E±0°.02, h25km±3km, mb4.7/130, MS3.9/32, Error ellipse: s-maj=4.0km s-min=2.4km az=25.6*
*NEIC **20** 06:27:18.4±1.9, 30°.61N×79°.34E, h14km±11km, mb4.9/61, Error ellipse: s-maj=5.1km s-min=4.2km az=200.0*
NEIC Felt [III] at Chandigarh, Dehra Dun and Gurgaon; [II] at Delhi and Noida. Also felt at Faridabad, Gopeshwar, New Delhi, Rishikesh, Shimla, Tehri and Tigri.
*NDI **20** 06:27:18.9±2.5, 30°.41N×79°.36E, h12km±6km, ML4.9, mb4.9(NEIC)*
*DMN **20** 06:27:19.6±0.3, 30°.50N×79°.12E, h10km, Ml5.2/5, Error ellipse: s-maj=21.7km s-min=5.9km az=30.0*
*MOS **20** 06:27:19.9±1.3, 30°.70N×79°.32E, h33km, mb4.9/50, Error ellipse: s-maj=7.9km s-min=4.2km az=108.9*
*NNC **20** 06:27:28.5±2.8, 31°.10N×78°.90E, h44km±23km, mb4.7, Error ellipse: s-maj=35.7km s-min=17.4km az=79.0*

ISC 20 06:27:19.9±0.5, 30°.55N±0°.03×79°.32E±0°.02, h27km±3km, h26km:pP-P, n340, σ2s32/388, mb4.8/132, MS3.9/32, 35C-13D, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSI	**Joshimath**	**0.21**	**89**	*e*P	**Pb**	**06 27 23.4**	**-2.6**
JOSI				*e*S	**Sb**	**06 27 26.7**	**-3.5**
JOSI	comp=E,110μm,0.5s			AML	AML	06 27 28.1	
JOSI	comp=N,146μm,0.5s			AML	AML	06 27 28.4	
DDI	**Dehra Dun**	**1.11**	**259**	*e*P	**Pb**	**06 27 40.1**	**-0.4**
DDI				*e*S	**Sn**	**06 27 54.3**	**0.0**
DDI	comp=N,91μm,0.5s			IAML		06 27 57.1	
DDI	comp=E,55μm,

JWA eS Sn 06 28 39.0 +1.4
PONG Pong 3.21 297 eP Pn 06 28 10.0 +1.5
PONG eS Sn 06 28 49.0 +3.2
KUDL Kundal 3.44 227 eP Pn 06 28 13.1 +1.3
KUDL ex x 06 28 52.9
KUDL AML AML 06 29 06.8
comp=E,4μm,0.6s
KUDL AML AML 06 29 08.5
comp=N,4μm,0.6s
THN Thein Dam 3.60 302 ex Pn 06 28 13.0 -1.0
THN eS Sn 06 28 56.4 +0.8
KHET Khetri 3.94 232 eP Pn 06 28 18.6 0.0
KHET ex x 06 28 59.5
PYUN Piuthan 4.03 126 ePn Pn 06 28 20.7 +0.7
PYUN eSn Sn 06 29 07.4 +0.9
KOLN Koldanda 4.66 125 ePn Pn 06 28 30.0 +1.3
KOLN eSn Sn 06 29 22.2 +0.2
comp=N,725nm,0.6s
GKN Gorkha 5.29 117 ePn Pn 06 28 38.5 +1.1
GKN eSn Sn 06 29 37.3 -0.3
comp=N,1μm,0.5s
DMN Daman 5.85 119 ePn Pn 06 28 46.5 +1.4
DMN eSn Sn 06 29 50.5 -1.0
comp=N,894nm,0.7s
SARP Sargodha 5.85 285 P Pn 06 28 46.1 +1.2
KKN Kakani 5.89 116 ePn Pn 06 28 47.2 +1.5
KKN eSn Sn 06 29 51.5 -1.0
comp=N,1μm,0.7s
CHCP Chirah Chowk 6.00 303 P Pn 06 28 48.8 +1.9
PKIN Phulchoki 6.09 118 ePn Pn 06 28 49.5 +1.1
PKIN eSn Sn 06 29 56.6 -0.8
comp=N,990nm,0.6s
GUN Gumba 6.31 113 ePn Pn 06 28 52.8 +1.3
THW Thamme Wali 6.83 291 P Pn 06 28 58.8 +0.4
CEP Cherat 7.08 299 P Pn 06 29 02.0 +0.2
CEP S Sn 06 30 21.0 -0.5
RAMN Ramite 7.33 118 ePn Pn 06 29 06.2 +0.8
RAMN eSn Sn 06 30 25.5 -2.4
BHPL Bhopal 7.47 194 eP Pn 06 29 05.2 -2.1
BHPL eS Sn 06 30 23.8 -7.4
BHPL IAML 06 31 18.9
comp=E,933nm,1.0s
BHPL IAML 06 31 19.1
comp=N,572nm,1.0s
BOK Bokaro 8.91 137 eP Pn 06 29 25.0 -2.0
BOK eS Sn 06 30 56.8 -10
KSH Kashi 9.36 344 P Pn 06 29 30.8 -2.3
KSH SMN
comp=N,440nm,0.8s
KSH SME
comp=N,610nm,0.5s
KBL Kabul 9.54 297 eP Pn 06 29 34.8 -0.9
KBL e 06 31 20.1
KBL Kabul 9.54 297 ePn Pn 06 29 34.8 -0.9
KBL eSn Sn 06 31 20.1 -2.1
LSA Lhasa 10.28 92 P Pn 06 29 48.3 +2.2
LSA PMZ
comp=N,92nm,1.1s
LSA LN
comp=N,640nm,11.2s
LSA LE
comp=N,870nm,14.0s
LSA LZ
comp=N,2μm,9.8s
LSA Lhasa 10.28 92 eP Pn 06 29 47.9 +1.8
LSA e 06 31 39.4
LSA Lhasa 10.28 92 ePn Pn 06 29 47.9 +1.8
LSA eSn Sn 06 31 39.4 -1.3
SRSP Sriramsagar 11.61 185 ePn Pn 06 29 59.7 -4.2
SRSP IAmb IAmb 06 30 06.5
comp=Z,44nm,0.7s
SRSP 06 32 03.7
SRSP IVMs_BB IVMs_BB 06 34 33.4
comp=Z,2μm,9.4s
RPR Rampur 11.64 180 ePn Pn 06 30 00.5 -3.9
RPR IAmb IAmb 06 30 11.6
comp=Z,35nm,0.5s
RPR 06 32 03.5
RPR IVMs_BB IVMs_BB 06 34 39.9
comp=Z,1μm,5.4s
SHL Shillong 12.15 111 eP Pn 06 30 10.0 -1.5
SHL eS Sn 06 32 14.0 -12
AAK Ala-Archa 12.66 344 Pn Pn 06 30 17.1 -1.2
comp=Z,4.1nm,0.3s,baz=152,slow=23,SNR=18
AAK Sn Sn 06 32 33.5 -5.0
comp=Z,2.8nm,0.3s,baz=5.6,slow=17,SNR=7.1
AAK LR LR 06 36 02.4
comp=Z,737nm,18.9s,baz=160,slow=41
AAK Ala-Archa 12.66 344 ⇑P Pn 06 30 18.0 -0.3
comp=Z,16nm,0.6s
AAK ⇑S Sn 06 32 31.9 -6.6
comp=Z,83nm,0.8s
AAK Ala-Archa 12.66 344 ePn Pn 06 30 18.3 -0.1
AAK eSn Sn 06 32 31.1 -7.4
KLRI Killari 12.67 192 ePn Pn 06 30 14.9 -3.5
KLRI IAmb IAmb 06 30 23.8
comp=Z,96nm,0.8s
KLRI 06 32 26.5
KLRI IVMs_BB IVMs_BB 06 35 07.5
comp=Z,2μm,10.6s
TKM2 Tokmak 2 12.70 347 ⇑P Pn 06 30 20.0 +1.1
comp=Z,12nm,0.6s
TKM2 Tokmak 2 12.70 347 eP Pn 06 30 19.1 +0.2
TKM2 e 06 32 31.4
TKM2 Tokmak 2 12.70 347 ePn Pn 06 30 19.1 +0.2
TKM2 eSn Sn 06 32 31.4 -8.1
CHLP Challavanipeta 12.74 159 eP Pn 06 30 15.5 -3.9
CHLP IAmb IAmb 06 30 23.8
comp=Z,29nm,0.8s
CHLP 06 32 34.7
CHLP IVMsBB 06 35 14.3
comp=Z,710nm,4.7s
FRU Bishkek 12.82 344 eP Pn 06 30 19.0 -1.4
FRU eS Sn 06 32 42.0 -0.2
FRU pmax pmax
comp=E,240nm,2.0s
FRU MLR MLR
comp=E,2μm,14.0s
EKS2 Erkin-Say 12.88 341 eP Pn 06 30 21.2 0.0
EKS2 Erkin-Say 12.88 341 ePn Pn 06 30 21.2 0.0
POO Poona 12.96 204 eP Pn 06 30 19.0 -3.4
POO eS Sn 06 32 32.0 -14
HYBB Hyderabad (bro 13.09 183 ePn Pn 06 30 20.1 -4.1
comp=Z,1μm,13.9s
HYBB IAmb IAmb 06 30 25.6
comp=Z,35nm,0.7s
HYBB 06 32 37.5
HYBB IVMs_BB IVMs_BB 06 35 22.6
comp=Z,1μm,13.9s
HYB Hyderabad 13.09 183 *i* P Pn 06 30 22.0 -2.2
HYB e 06 32 38.0
HYB eS Sn 06 32 52.0 +2.9
HYB Hyderabad 13.09 183 eP Pn 06 30 20.2 -4.1
HYB eS Sn 06 32 36.0 -13
HYB IAML 06 34 20.9
comp=N,105nm,0.6s
HYB IAML 06 34 21.1
comp=E,338nm,0.9s
MNAS Manas 13.11 337 ⇓P Pn 06 30 22.1 -2.3
comp=E,17nm,0.6s
MNAS ⇓S Sn 06 32 41.0 -8.3
comp=E,155nm,0.9s
MNAS Manas 13.11 337 P Pn 06 30 22.1 -2.3
PVM Polavaram 13.41 170 ePn Pn 06 30 23.9 -4.5
PVM IAmb IAmb 06 30 29.5
comp=Z,30nm,0.6s
PVM 06 32 44.7
PVM IVMs_BB IVMs_BB 06 35 32.2
comp=Z,846nm,13.8s
NJS Nagarjunasagar 13.93 180 ePn Pn 06 30 31.8 -3.8
NJS IAmb IAmb 06 30 39.1
comp=Z,36nm,0.9s
NJS 06 32 55.9
NJS IVMs_BB IVMs_BB 06 36 03.0
comp=Z,1μm,10.4s
KK31 Karatay Array 14.36 333 ⇓P Pn 06 30 38.3 -3.1
comp=Z,19nm,0.6s,baz=140,slow=12,SNR=191
KK31 S Sn 06 33 10.9 -8.9
comp=Z,64nm,0.6s,baz=147,slow=22,SNR=10
KK31 Karatay Array 14.36 333 P Pn 06 30 38.3 -3.1
KKAR Karatay Array 14.36 333 eP Pn 06 30 38.3 -3.1
KKAR e 06 33 11.4
KKAR Karatay Array 14.36 333 ePn Pn 06 30 38.3 -3.1
KKAR eSn Sn 06 33 11.4 -8.4

SRLM Srisailam 14.39 182 eP Pn 06 30 38.2 -3.7
SRLM IAmb IAmb 06 30 48.7
comp=Z,28nm,0.9s
SRLM 06 33 06.5
SRLM IVMs_BB IVMs_BB 06 36 37.6
comp=Z,1μm,5.0s
ADKI Addanki 14.65 178 ePn Pn 06 30 41.5 -4.0
ADKI IAmb IAmb 06 30 51.2
comp=Z,62nm,1.1s
ADKI e 06 33 31.1
ADKI IVMs_BB IVMs_BB 06 36 27.6
comp=Z,2μm,9.7s
WMQ Urumqi 14.82 24 P Pn 06 30 48.8 +1.1
WMQ pP P 06 30 52.8 -0.5
WMQ sP 06 30 54.8
WMQ PMZ
comp=Z,79nm,0.6s
WMQ PMZ
comp=Z,82nm,3.6s
WMQ LN
comp=Z,620nm,13.4s
WMQ LE
comp=Z,340nm,15.8s
WMQ LZ
comp=Z,360nm,17.4s
RCLA Racherla 15.03 181 ePn Pn 06 30 46.2 -4.3
RCLA IAmb IAmb 06 30 54.2
comp=Z,17nm,0.7s
RCLA 06 33 20.2
RCLA IVMs_BB IVMs_BB 06 36 33.0
comp=Z,2μm,6.8s
MK01 Makanchi Array 16.36 7 ePn Pn 06 31 06.5 -1.1
MK01 eSn Sn 06 33 57.6 -11
MAKZ Makanchi 16.36 6 eP Pn 06 31 04.6 -3.1
MAKZ e 06 33 57.5
MAKZ pmax pmax
comp=Z,76nm,1.5s
MAKZ Makanchi 16.36 6 ePn Pn 06 31 04.6 -3.1
comp=Z,76nm,1.5s
MAKZ eSn Sn 06 33 57.5 -11
MK31 Makanchi Array 16.38 7 ⇓P Pn 06 31 06.2 -1.7
comp=Z,51nm,0.8s,baz=187,slow=12,SNR=20
MK31 ⇓S Sn 06 34 01.0 -7.8
comp=Z,14nm,0.8s,baz=192,slow=25,SNR=7.0
MK31 Makanchi Array 16.38 7 eP Pn 06 31 06.0 -1.9
MK31 e 06 33 57.2
MK31 Makanchi Array 16.38 7 ePn Pn 06 31 06.0 -1.9
MK31 eSn Sn 06 33 57.2 -12
MK32 Makanchi Array 16.38 7 ePn Pn 06 31 05.8 -2.1
MK32 eSn Sn 06 33 58.7 -10
MKAR Makanchi Array 16.38 7 Pn Pn 06 31 05.8 -2.1
comp=Z,1.4nm,0.3s,baz=181,slow=13,SNR=43
MKAR Sn Sn 06 33 58.7 -10
comp=Z,0.7nm,0.3s,baz=182,slow=22,SNR=3.6
MKAR LR LR 06 38 23.6
comp=Z,580nm,18.8s,baz=191,slow=41
MKAR Makanchi Array 16.38 7 ePn Pn 06 31 06.2 -1.7
MKAR eSn Sn 06 33 57.2 -12
OTUK Ortayu 18.46 345 ⇓S Sn 06 34 51.8 -7.3
comp=Z,13nm,1.1s
GTA Gaotai 18.95 57 eP P 06 31 38.5 -0.5
GTA pP Pn 06 31 42.1 +2.3
GTA sP pP 06 31 45.8 -0.4
GTA S Sn 06 35 06.6 -4.6
GTA PMZ
comp=Z,14nm,1.4s
GTA PMZ
comp=Z,160nm,5.9s
GTA LN
comp=Z,250nm,13.1s
GTA LE
comp=Z,500nm,17.6s
GTA LZ
comp=Z,530nm,17.8s
GEYT Alibeck 18.99 298 P Pn 06 31 40.2 0.0
baz=125,slow=13,SNR=4.2
GEYT LR LR 06 40 05.5
comp=Z,324nm,18.2s,baz=115,slow=40
WSAR Wadi Sarin 19.82 253 P Pn 06 31 50.5 +0.3
comp=Z,0.9nm,0.3s,baz=107,slow=12,SNR=7.3
WSAR S S 06 35 18.6 -12
comp=Z,0.5nm,0.3s,baz=18,slow=9.0,SNR=4.6
WSAR LR LR 06 41 27.5
comp=Z,199nm,19.6s,baz=68,slow=43
KURBB Kurchatov Arra 20.06 359 P P 06 31 50.5 -0.4
comp=Z,21nm,0.7s,baz=184,slow=10,SNR=51
KURBB Kurchatov Arra 20.06 359 ⇑P P 06 31 51.5 +0.6
comp=Z,22nm,0.6s
KURK Kurchatov 20.15 359*ce*P P 06 31 51.6 -0.3
KURK pmax pmax
comp=Z,131nm,0.8s
KURK Kurchatov 20.15 359 eP P 06 31 51.4 -0.5
CD2 Chengdu 21.00 83 ⇓P P 06 32 01.8 +0.4
CD2 pP pP 06 32 05.5 -3.2
CD2 sP sP 06 32 07.3 -4.8
CD2 S S 06 35 55.8 +1.7
CD2 sS Sn 06 36 01.9 +1.1
CD2 PMZ
comp=Z,40nm,0.8s
CD2 PMZ
comp=Z,220nm,5.0s
CD2 LN
comp=Z,610nm,13.9s
CD2 LE
comp=Z,420nm,10.9s
CD2 LZ
comp=Z,410nm,10.4s
UOSS Minazif 21.19 260 eP P 06 32 04.3 +0.9
comp=Z,1.5nm,1.1s
LZH Lanzhou 21.20 68 eP P 06 32 04.8 +1.2
LZH pP pP 06 32 07.8 -3.1
LZH sP sP 06 32 10.5 -3.8
LZH PP PnPn 06 32 29.4 +6.1
LZH eS S 06 35 52.4 -5.7
LZH sS Sn 06 36 02.4 -3.2
LZH PMZ
comp=Z,70nm,1.0s
LZH PMZ
comp=Z,160nm,4.1s
LZH LN
comp=Z,420nm,11.2s
LZH LE
comp=Z,370nm,11.0s
LZH LZ
comp=Z,450nm,12.0s
CHTO Chiang Mai 21.28 119 P P 06 32 05.9 +1.5
comp=Z,84nm,0.8s
CHTO Chiang Mai 21.28 119 eP P 06 32 04.1 -0.3
CHTO pmax pmax
comp=Z,58nm,1.7s
CHTO Chiang Mai 21.28 119 eP P 06 32 04.1 -0.3
comp=Z,58nm,1.7s
KMI Kunming 21.39 99 P P 06 32 06.9 +1.1
KMI pP pP 06 32 09.9 -3.2
KMI PMZ
comp=Z,30nm,0.8s
CMAR Chiang Mai Arr 21.50 120 P P 06 32 07.5 +0.8
comp=Z,12nm,0.8s,baz=319,slow=12,SNR=34
CM01 Chiang Mai Arr 21.53 120 eP P 06 32 07.2 +0.2
LAMP Lampang 21.98 118 P P 06 32 15.5 +3.6
comp=Z,11nm,0.9s,comp=Z,107nm
SUKH Sukhothai 22.61 120 P P 06 32 25.5 +6.8
comp=Z,4.2nm,0.9s
UTTA Uttaradit 23.14 119 P P 06 32 25.6 +1.4
comp=Z,12nm,0.8s
PALK Pallekele 23.20 177 P P 06 32 24.7 -0.1
comp=Z,39nm,1.0s,baz=296,slow=7.3,SNR=7.0
PALK LR LR 06 41 30.3
comp=Z,399nm,19.9s,baz=296,slow=37
PALK Pallekele 23.20 177 *i* P P 06 32 27.3 +2.6
PALK Pallekele 23.20 177 eP P 06 32 25.8 +1.1
comp=Z,52nm,1.0s
BVA0 Borovoye Array 23.39 346 ⇑P P 06 32 26.9 +0.6
comp=Z,25nm,1.1s,baz=150,slow=9.0,SNR=102
BVA0 Borovoye Array 23.39 346 P P 06 32 26.9 +0.6
BVAR Borovoye Array 23.39 346 P P 06 32 26.1 -0.2
comp=Z,14nm,0.6s,baz=154,slow=12,SNR=72
BVAR LR LR 06 42 22.0
comp=Z,620nm,19.6s,baz=214,slow=39
ZAA0 Zalesovo Array 23.72 8 eP P 06 32 29.4 -0.1
ZALV Zalesovo Beam 23.72 8 P P 06 32 29.2 -0.3
comp=Z,42nm,0.8s,baz=205,slow=9.8,SNR=66
ZALV LR LR 06 42 57.7
comp=Z,364nm,19.5s,baz=244,slow=40
ZAA1 Zalesovo Array 23.72 8 eP P 06 32 29.2 -0.3
AB31 Akbulak array 23.75 327 ⇑P P 06 32 30.8 +0.9
comp=Z,7.5nm,0.6s,baz=124,slow=9.1,SNR=113
AB31 S S 06 36 41.8 -1.7
comp=Z,6.7nm,0.8s,baz=145,slow=22,SNR=5.1
AB31 Akbulak array 23.75 327 P P 06 32 30.8 +0.9
ABKAR Akbulak array 23.75 327 eP P 06 32 30.7 +0.8
LOEI Loei 23.82 118 P P 06 32 33.4 +2.5
comp=Z,19nm,0.8s
PBKT Sadao Pong 24.18 120 P P 06 32 35.6 +1.5
comp=Z,48nm,1.1s,comp=Z,1μm
GYA Guiyang 24.35 93 ⇓*i*P P 06 32 36.3 +0.5
GYA PP PnPn 06 33 10.6 +4.2
GYA PcP PcP 06 36 16.8 +1.8
GYA S S 06 36 51.9 -1.8
GYA SS SnSn 06 37 44.0 +6.2
GYA ScP ScP 06 39 53.5 +1.6
GYA PMZ
comp=Z,40nm,0.7s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,560nm,15.9s
GYA LE
comp=Z,520nm,16.2s
GYA LZ
comp=Z,500nm,16.4s
NVS Novosibirsk 24.44 5 ⇑*i*P P 06 32 35.6 -0.6
NVS eS S 06 36 57.7 +3.3
NVS pmax pmax
comp=Z,15nm,0.6s
NVS pmax pmax
comp=N,7.0nm,0.5s
NVS pmax pmax
comp=E,1.0nm,0.2s
NVS smax smax
comp=N,1.0nm,0.2s
NVS smax smax
comp=E,3.0nm,0.3s
XAN Xi'an 25.22 74 P P 06 32 43.6 0.0
XAN pP pP 06 32 47.6 -3.8
XAN sP sP 06 32 50.3 -4.4
XAN PP PnPn 06 33 22.6 +4.4
XAN S S 06 37 05.0 -2.5
XAN SS SnSn 06 38 11.6 +13
XAN PMZ
comp=E,68nm,0.9s
XAN PMZ
comp=E,27nm,2.9s
XAN LN
comp=E,190nm,14.4s
XAN LE
comp=E,280nm,16.8s
XAN LZ
comp=E,310nm,18.4s
AKTO Aktyubinsk 25.47 327 P P 06 32 45.7 +0.1
comp=E,12nm,0.6s,baz=127,slow=10,SNR=22
AKTO LR LR 06 43 50.0
comp=E,224nm,18.7s,baz=145,slow=39
AKTO Aktyubinsk 25.47 327 ⇑P P 06 32 46.0 +0.4
comp=E,17nm,0.8s
KHON Khomkaen 25.72 118 P P 06 32 51.4 +3.3
comp=E,21nm,0.8s
ENH Enshi 25.98 83 eP P 06 32 51.4 +0.8
comp=E,18nm,0.8s
MOY Mondy 26.49 31 eP P 06 32 58.8 +3.8
MOY pmax pmax
comp=Z,12nm,1.5s
ZAK Zakamensk 26.72 35 eP P 06 32 57.4 +0.4
ZAK pmax pmax
comp=Z,8.0nm,1.1s
SONA0 Songino Array 26.97 43 eP P 06 33 01.1 +1.8
comp=Z,14nm,1.0s
SONM Songino Array 26.97 43 P P 06 33 01.1 +1.8
comp=Z,5.2nm,0.7s,baz=236,slow=10,SNR=37
SONM LR LR 06 44 46.1
comp=Z,210nm,21.1s,baz=163,slow=39
SONA1 Songino Array 26.98 43 eP P 06 33 01.1 +1.7
ULN Ulaanbaatar 27.37 43*ce*P P 06 33 04.8 +1.8
ULN pmax pmax
comp=Z,19nm,1.2s
ULN Ulaanbaatar 27.37 43 eP P 06 33 02.3 -0.6
comp=Z,13nm,0.9s
HHC Hu-ho-hao-te 27.99 60 eP P 06 33 09.8 +1.3
HHC sP sP 06 33 19.6 -0.1
HHC S S 06 37 54.8 +3.6
HHC sS sS 06 37 59.5 -4.7
HHC PMZ
comp=Z,18nm,1.0s
HHC PMZ
comp=Z,120nm,5.6s
HHC LN
comp=Z,260nm,14.8s
HHC LE
comp=Z,350nm,13.3s
HHC LZ
comp=Z,490nm,14.7s
ARU Arti 29.69 337 P P 06 33 24.4 +1.1
comp=Z,4.6nm,0.4s,baz=149,slow=4.7,SNR=12
ARU LR LR 06 46 01.0
comp=Z,138nm,19.5s,baz=148,slow=38
ARU Arti 29.69 337*c i*P P 06 33 24.2 +0.9
ARU 06 34 20.0
ARU S S 06 38 19.9 +2.5
ARU SS SnSn 06 39 47.4 -0.1
ARU pmax pmax
comp=Z,8.0nm,0.7s
WHN Wuhan 30.10 81 ⇓*i*P P 06 33 28.3 +1.1
WHN PMZ
comp=Z,94nm,1.0s
KBZ Khabaz 31.61 305 P P 06 33 41.0 +0.6
comp=Z,1.8nm,0.6s,baz=241,slow=24,SNR=3.9
KIV Kislovodsk 31.81 305 eP P 06 33 40.7 -1.6
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,55nm,16.0s
GSI Gunungsitoli 33.85 146 eP P 06 33 59.5 -0.7
comp=Z,27nm,0.7s
VRH Novokhopyorsk 34.60 317 eP P 06 34 07.8 +1.4
VRH pmax pmax
comp=Z,80nm,0.7s
VSR Storozhevoye 36.11 317 eP P 06 34 20.5 +1.1
VSR pmax pmax
comp=Z,3.0nm,0.4s
LPSR Galich'ya Gora 36.72 319 eP P 06 34 22.9 -1.7
LPSR pmax pmax
comp=Z,10.0nm,0.9s
YULB Yu-li 37.92 90 eP P 06 34 36.5 +1.4
comp=Z,13nm,0.8s
BR101 Keskin Array S 38.11 297 eP P 06 34 37.2 +0.5
BR131 Keskin Array S 38.11 297 eP P 06 34 37.2 +0.4
BRTR Keskin Array B 38.11 297 P P 06 34 37.2 +0.4
comp=Z,2.1nm,0.7s,baz=110,slow=8.5,SNR=11
CN2 Changchun 38.58 57 eP P 06 34 40.8 +0.3
CN2 e*P*P pP 06 34 45.0 -3.4
CN2 PMZ
comp=Z,10.0nm,0.8s
BR231 Keskin MP Arra 38.78 297 eP P 06 34 38.1 -4.2
OBN Obninsk 38.93 322*ce*P P 06 34 44.3 +1.1
OBN *PP pP 06 34 52.1 +0.9
OBN *SP sP 06 34 57.0 +2.6
OBN 06 36 54.0
OBN eS S 06 40 39.3 -0.5
OBN e*S*SS SSS 06 43 59.0
OBN pmax pmax
comp=Z,26nm,1.0s
OBN MLR MLR
comp=Z,80nm,15.0s
NRIK Noril'sk 39.12 5 P P 06 34 45.5 +0.9
comp=Z,9.4nm,0.5s,baz=184,slow=6.9,SNR=28
NRIK LR LR 06 52 59.0
comp=Z,150nm,18.2s,baz=132,slow=39
KLMR Klimovskoe 40.05 331 eP P 06 34 49.8 -2.7
KLMR pmax pmax
comp=Z,18nm,0.9s
TJN Taejon 40.17 68*ce*P P 06 34 57.4 +3.6
KSRS Korea Array 40.52 67 P P 06 34 56.0 -0.7
comp=Z,2.2nm,0.6s,baz=272,slow=9.2,SNR=14
KSRS LR LR 06 54 04.1
comp=Z,130nm,19.2s,baz=262,slow=40
KSRS Korea Array 40.52 67 P P 06 34 56.0 -0.7
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KSRS MLR MLR
comp=Z,130nm,19.2s
AKASG Malin Array Be 42.08 313 P P 06 35 09.1 -0.2
comp=Z,1.6nm,0.6s,baz=80,slow=6.9,SNR=10

AKASG LR LR 06 56 12.3
comp=Z,57nm,18.0s,baz=95,slow=41
KIEV Kiev 42.08 313 *e*P **P 06 35 09.1 -0.2**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 42.08 313 *e*P **P 06 35 09.1 -0.2**
comp=Z,5.4nm,0.8s
AK11 Malin Array Si 42.11 313 *e*P **P 06 35 09.7 +0.2**
CFR Carcaliu 42.27 305⇑*i*P **P 06 35 15.5 +4.6**
CFR Carcaliu 42.27 305⇑⇑P **P 06 35 15.5 +4.6**
SORM Soroca 42.32 309⇑*i*P **P 06 35 09.9 -1.4**
SORM Soroca 42.32 309 ⇑⇑P **P 06 35 09.9 -1.4**
VLA Vladivostok 43.25 58⇓*e*P P 06 35 14.0 -4.9
VLA *e**PP pP 06 35 23.9 -3.0
VLA *e**SP sP 06 35 27.7 -2.5
VLA *e* 06 37 01.5
VLA *i* S **S 06 41 39.6 -4.7**
VLA pmax pmax
comp=Z,26nm,0.6s
VRI Vrincioaia 43.28 306⇓*i*P **P 06 35 20.2 +1.0**
VRI Vrincioaia 43.28 306 ⇓P **P 06 35 20.2 +1.0**
USRK Ussuriysk Ar. 43.31 56 P **P 06 35 19.3 -0.1**
comp=Z,5.7nm,0.8s,baz=266,slow=7.8,SNR=7.5
USRK LR LR 06 54 58.5
comp=Z,291nm,18.1s,baz=233,slow=38
PLOR Plostina 43.34 306⇑*i*P **P 06 35 21.5 +1.9**
PLOR Plostina 43.34 306 ⇑⇑P **P 06 35 21.5 +1.9**
TESR Tescani 43.36 307⇑*i*P **P 06 35 23.8 +4.0**
KLR Kul'dur 43.39 49 P **P 06 35 20.5 +0.6**
comp=Z,4.0nm,0.5s,baz=274,slow=7.7,SNR=18
KLR LR LR 06 54 53.7
comp=Z,325nm,19.2s,slow=38
JNU Nakatsue 43.52 73 P **P 06 35 21.1 -0.2**
comp=Z,13nm,0.9s,baz=186,slow=7.6,SNR=3.1
JNU LR LR 06 55 16.9
comp=Z,216nm,19.5s,baz=303,slow=39
JNU Nakatsue 43.52 73 *e*P **P 06 35 21.1 -0.2**
comp=Z,31nm,1.1s
MLR Muntele Rosu 43.82 305⇑*i*P **P 06 35 25.9 +2.2**
MLR Muntele Rosu 43.82 305 ⇑⇑P **P 06 35 25.9 +2.2**
MLR Muntele Rosu 43.82 305 *e*P **P 06 35 25.6 +1.9**
comp=Z,20nm,0.9s
DOPR Dopca 44.22 306⇑*i*P **P 06 35 29.1 +2.4**
BURAR Bucovina Array 44.38 308⇑*i*P **P 06 35 29.3 +1.2**
BURAR Bucovina Array 44.38 308 ⇑⇑P **P 06 35 29.3 +1.2**
BUR08 Bucovina Ar. S 44.40 308 *e*P **P 06 35 29.1 +0.9**
ARR Arges 44.74 305⇓*i*P **P 06 35 32.3 +1.3**
LAST Lasithi 45.01 291 *e*P **P 06 35 34.0 +0.7**
comp=Z,23nm,0.7s
VSU Vasula 45.11 324*ce*P **P 06 35 34.9 +1.3**
VSU pmax pmax
comp=Z,66nm,2.5s
YAK Yakutsk 45.13 31 LR LR 06 56 16.3
comp=Z,106nm,18.3s,baz=246,slow=38
YAK Yakutsk 45.13 31 *e*P **P 06 35 37.1 +3.4**
YAK pmax pmax
comp=Z,10.0nm,0.6s
FIA0 FINESS Array S 46.24 328 *e*P **P 06 35 43.1 +0.6**
FIA0 FINESS Array S 46.24 328 *e*P **P 06 35 43.0 +0.6**
FIA1 FINESS Array S 46.24 328 *e*P **P 06 35 42.9 +0.4**
comp=Z,13nm,0.6s
FINES FINESS Array B 46.24 328 P **P 06 35 43.0 +0.6**
comp=Z,10nm,0.5s,baz=114,slow=8.4,SNR=72
FINES LR LR 06 56 11.6
comp=Z,249nm,18.2s,baz=156,slow=38
SIRR Siria 46.81 306⇑*i*P P 06 35 40.4 -6.8
MDVR Moldovita 46.83 304⇑*i*P **P 06 35 48.1 +0.7**
BZS Buzias 46.86 306⇑*i*P P 06 35 54.7 +7.1
BZS Buzias 46.86 306 ⇑⇑P P 06 35 54.7 +7.1
AGG Agios Georgios 46.90 297 *e*P **P 06 35 48.0 -0.1**
AGG pmax pmax
comp=Z,33nm,0.9s
AGG Agios Georgios 46.90 297 *e*P **P 06 35 48.0 -0.1**
comp=Z,32nm,0.9s
MJAR Matsushiro Arr 48.79 66 P **P 06 36 01.8 -1.0**
comp=Z,1.8nm,0.7s,baz=282,slow=10.0,SNR=5.8
MJAR LR LR 06 58 29.6
comp=Z,61nm,19.3s,baz=105,slow=38
TIXI Tiksi 48.93 19*ce*P **P 06 36 03.3 +0.1**
TIXI pmax pmax
comp=Z,14nm,0.8s
TIXI Tiksi 48.93 19 *e*P **P 06 36 03.8 +0.6**
comp=Z,13nm,0.8s
ARA0 ARCESS Array S 49.26 338 *e*P **P 06 36 06.6 +0.8**
ARCES ARCESS Array B 49.26 338 P **P 06 36 06.7 +0.9**
comp=Z,17nm,0.8s,baz=126,slow=8.1,SNR=53
ARCES LR LR 06 58 35.3
comp=Z,87nm,19.3s,baz=96,slow=38
ARE0 ARCESS Array S 49.26 338 *e*P **P 06 36 06.7 +0.8**
comp=Z,16nm,0.8s
MORC Moravsky Berou 49.49 311⇑*i*P **P 06 36 07.3 -0.6**
MORC Moravsky Berou 49.49 311 ⇑⇑P **P 06 36 07.3 -0.6**
DPC Dobruska-Polom 50.26 312 *e*P **P 06 36 15.1 +1.3**
DPC Dobruska-Polom 50.26 312 *e*P **P 06 36 15.1 +1.3**
UPC Upice 50.45 312 *e*P **P 06 36 16.5 +1.3**
UPC AMS AMS 07 01 20.0
comp=Z,100nm,16.3s
UPC Upice 50.45 312 *e*P **P 06 36 16.5 +1.3**
UPC MLR MLR
comp=Z,100nm,16.3s
CONA Conrad Observa 50.69 309 *e*P **P 06 36 18.4 +1.3**
comp=Z,13nm,0.9s
KMBO Kilima Mbogo 50.92 240 P **P 06 36 20.1 +0.8**
comp=Z,2.0nm,0.7s,baz=38,slow=12,SNR=7.4
KMBO LR LR 06 56 57.3
comp=Z,120nm,21.2s,baz=5.0,slow=35
KMBO Kilima Mbogo 50.92 240 *e*P **P 06 36 20.1 +0.8**
comp=Z,6.6nm,1.0s
SOKA Soboth 51.35 307 *i* pP **P 06 36 23.5 +1.4**
comp=Z,8.0nm,1.0s
PRU Pruhonice 51.42 312 *e*P **P 06 36 23.7 +1.3**
PRU *ep*P **pP 06 36 29.0 -1.6**
PRU Pruhonice 51.42 312 *e*P **P 06 36 23.7 +1.3**
PRU *e* 06 36 29.0
OBKA Obir 51.70 307 *i* pP **P 06 36 26.2 +1.5**
comp=Z,7.4nm,0.9s
BRG Berggiesshubel 51.75 313 *e*P **P 06 36 26.0 +1.1**
comp=Z,9.7nm,0.7s
BRG Berggiesshubel 51.75 313 *e*P **P 06 36 26.0 +1.1**
BRG pmax pmax
comp=Z,10.0nm,0.7s
MOA Molln 51.76 309 *i* P **P 06 36 25.7 +0.6**
comp=Z,4.4nm,0.7s
GEA0 GERESS Array S 52.05 310 *e*P **P 06 36 26.5 -0.8**
GERES GERESS Array B 52.05 310 P **P 06 36 27.4 +0.1**
comp=Z,1.2nm,0.5s,baz=90,slow=6.7,SNR=11
KHC Kasperske Hory 52.11 311 *e*P **P 06 36 28.9 +1.3**
KHC *ep*P **pP 06 36 33.7 -2.1**
KHC *ex* x 06 36 45.7
KHC Kasperske Hory 52.11 311 *e*P **P 06 36 28.9 +1.3**
KHC *e* 06 36 45.7
CLL Collm 52.32 313 *e*(P) **P 06 36 28.0 -1.1**
CLL LmV 07 01 00.0
comp=Z,100nm,18.0s
CLL Collm 52.32 313 *e*P **P 06 36 28.0 -1.1**
NC405 NORSAR Array S 53.01 326 *e*P **P 06 36 34.3 +0.2**
NC303 NORSAR Array S 53.18 326 *e*P **P 06 36 35.8 +0.5**
NB201 NORSAR Array S 53.21 326 *e*P **P 06 36 35.5 -0.1**
NB2 NORSAR Subarra 53.24 326 P **P 06 36 35.5 -0.3**
comp=Z,7.0nm,0.7s,baz=94,slow=7.4
NB200 NORSAR Array S 53.24 326 *e*P **P 06 36 35.6 -0.3**
NOA NORSAR Array B 53.24 326 P **P 06 36 35.6 -0.3**
comp=Z,6.6nm,0.7s,baz=94,slow=7.2,SNR=26
NOA LR LR 07 00 30.7
comp=Z,113nm,19.0s,baz=95,slow=37
NC204 NORSAR Array S 53.47 326 *e*P **P 06 36 38.1 +0.6**
WTTA Wattenberg 53.60 308 *e*P **P 06 36 39.1 +0.3**
comp=Z,6.9nm,0.9s
MOTA Moosalm 53.95 309 *i* P **P 06 36 40.9 -0.5**
comp=Z,9.1nm,0.7s
FETA Feichten 54.24 308 *i* P **P 06 36 43.5 -0.1**
comp=Z,6.3nm,0.9s
JCJ Chichijima 54.56 77 LR LR 07 02 11.8
comp=Z,62nm,20.1s,baz=268,slow=38
DAVA Damuels 54.78 309 *i* P **P 06 36 47.2 -0.2**
comp=Z,23nm,0.8s
MA2 Magadan 54.90 36 LR LR 07 01 54.1
comp=Z,150nm,19.1s,baz=318,slow=38
MA2 Magadan 54.90 36 *e*P **P 06 36 49.6 +1.7**
TUE Stuetta 55.27 308 *e*P **P 06 36 51.2 +0.2**
comp=Z,6.6nm,0.8s
SEY Seymchan 55.62 32*ce*P **P 06 36 53.8 +0.8**
BFO Black Forest 55.65 310 *i* P **P 06 36 53.9 +0.3**
SENIN Lac Senin/Sane 56.68 308 *e*P **P 06 37 01.6 +0.4**
comp=Z,22nm,0.7s

MEM Membach 56.79 313 P **P 06 37 02.2 +0.6**
BCLA Clavier 57.27 313 P **P 06 37 05.8 +0.8**
KEST Kesra 57.70 295 P **P 06 37 07.8 -0.5**
comp=Z,4.6nm,0.7s,baz=209,slow=4.7,SNR=3.4
KEST Kesra 57.70 295 *e*P **P 06 37 07.8 -0.5**
comp=Z,15nm,0.9s
DOU Dourbes 57.77 313 P **P 06 37 09.3 +0.8**
SSB Saint Sauveur 58.80 307 *e*P **P 06 37 16.4 +0.6**
SSB pmax pmax
comp=Z,10.0nm,0.7s
SSB Saint Sauveur 58.80 307 *e*P **P 06 37 16.4 +0.6**
comp=Z,9.7nm,0.7s
PEA1 Petropavlovsk- 59.45 43 *e*P **P 06 37 19.5 -0.7**
PETK Petropavlovsk- 59.45 43 P **P 06 37 19.5 -0.7**
comp=Z,4.0nm,0.7s,baz=290,slow=4.3,SNR=4.2
PETK LR LR 07 06 38.1
comp=Z,62nm,18.1s,baz=245,slow=40
BILL Bilibino 60.93 25*c i*P **P 06 37 30.8 +0.8**
BILL *e**PP **sP 06 37 40.1 -1.4**
BILL *e**SP **pP 06 37 44.9 +6.5**
BILL pmax pmax
comp=Z,7.0nm,0.7s
BILL MLR MLR
comp=Z,109nm,15.0s
DAG Danmarks Havn 62.31 345 *i* P **P 06 37 39.3 +0.1**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 62.31 345 *i* P **P 06 37 39.3 +0.1**
comp=Z,6.4nm,0.8s
SCO Scoresbysund 65.18 339 *i* P **P 06 37 59.3 +1.1**
SCO pmax pmax
comp=Z,5.0nm,0.9s
SCO Scoresbysund 65.18 339 *i* P **P 06 37 59.3 +1.1**
comp=Z,4.5nm,0.9s
ES19 SONSECA Array 66.40 303 *e*P **P 06 38 07.1 +0.4**
ESDC Sonseca Array 66.45 303 P **P 06 38 07.6 +0.6**
comp=Z,4.2nm,0.8s,baz=63,slow=6.8,SNR=20
ESLA Sonseca Array 66.45 303 *e*P **P 06 38 07.8 +0.7**
comp=Z,5.8nm,0.8s
PAB San Pablo 66.78 303 *e*P **P 06 38 09.9 +0.7**
PAB pmax pmax
comp=Z,6.0nm,0.8s
PAB San Pablo 66.78 303 *e*P **P 06 38 09.8 +0.7**
comp=Z,6.3nm,0.8s
MVO Moncorvo 68.09 306 *e*P **P 06 38 18.1 +0.7**
comp=Z,14nm,1.3s
SUMG Summit 68.83 343 *i* P **P 06 38 22.3 +0.4**
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 68.83 343 *i* P **P 06 38 22.3 +0.4**
comp=Z,8.6nm,1.0s
SUMG Summit 68.83 343 *e*P **P 06 38 22.4 +0.6**
comp=Z,9.3nm,1.0s
PVIS Viseu 68.87 306 *e*P **P 06 38 21.5 -0.8**
comp=Z,14nm,1.8s
PTOM Tomar 69.66 305 *e*P **P 06 38 28.1 +1.0**
comp=Z,28nm,1.9s
EVO Evora 69.80 303 *e*P **P 06 38 28.3 +0.3**
comp=Z,17nm,1.2s
PVAQ Vaqueiro 70.04 302 *e*P **P 06 38 29.4 -0.1**
comp=Z,21nm,1.4s
PCVE Castro Verde 70.18 303 *e*P **P 06 38 31.1 +0.8**
comp=Z,21nm,1.8s
MESJ Messejana 70.23 303 *e*P **P 06 38 31.5 +0.9**
MESJ Messejana 70.23 303 *e*P **P 06 38 31.5 +0.9**
comp=Z,19nm,2.1s
PBDV Barranco-do-Ve 70.26 302 *e*P **P 06 38 32.1 +1.2**
comp=Z,20nm,1.1s
PNCL Nicolau / Gran 70.34 303 *e*P **P 06 38 31.9 +0.6**
comp=Z,26nm,1.3s
TOA1 Torodi Ar. Sit 72.88 275 *e*P **P 06 38 46.8 -0.1**
TORD Torodi Ar. Bea 72.88 275 P **P 06 38 46.8 -0.1**
comp=Z,2.6nm,0.6s,baz=59,slow=5.2,SNR=11
TORD LR LR 07 16 21.0
comp=Z,109nm,19.7s,baz=155,slow=40
WR1 Warramunga Arr 72.92 126 *e*P **P 06 38 46.9 -0.1**
comp=Z,14nm,1.1s
WRA Warramunga Arr 72.92 126 P **P 06 38 46.9 -0.1**
comp=Z,4.8nm,0.8s,baz=323,slow=5.8,SNR=32
WRAB Tennant Creek 72.92 126 *e*P **P 06 38 47.0 0.0**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 72.92 126 *e*P **P 06 38 47.0 0.0**
comp=Z,8.8nm,0.8s
WB2 Warramunga Arr 72.92 126 *e*P **P 06 38 47.0 0.0**
comp=Z,10.0nm,0.8s
ASAR Alice Springs 75.14 129 P **P 06 38 59.7 -0.2**
comp=Z,2.8nm,0.6s,baz=318,slow=5.7,SNR=12
AS01 Alice Springs 75.17 129 *e*P **P 06 38 59.7 -0.4**
COLD Coldfoot 75.65 18 *e*P **P 06 39 02.6 +0.4**
comp=Z,6.7nm,0.8s
SFJD Kangerlussuaq 75.68 342 *e*P **P 06 39 02.3 0.0**
SFJD pmax pmax
comp=Z,5.0nm,0.7s
SFJD Kangerlussuaq 75.68 342 *i* P **P 06 39 02.3 0.0**
comp=Z,5.4nm,0.7s
PMG Port Moresby 76.17 110 P **P 06 39 06.2 +0.2**
comp=Z,9.9nm,0.5s,baz=283,slow=14,SNR=3.2
TT01 Tatalina 77.00 23 *e*P **P 06 39 11.2 +1.2**
MLY Manley 77.12 20 *e*P **P 06 39 11.0 +0.3**
comp=Z,8.2nm,0.8s
BPAW Bear Paw Mtn. 77.74 20 *e*P **P 06 39 13.9 -0.2**
comp=Z,6.9nm,0.8s
MDM Murphy Dome 77.89 19 *e*P **P 06 39 15.0 +0.1**
comp=Z,11nm,0.8s
COLA College 78.06 19 *e*P **P 06 39 16.0 +0.2**
COLA pmax pmax
comp=Z,19nm,0.7s
COLA College 78.06 19 *e*P **P 06 39 16.0 +0.2**
comp=Z,19nm,0.7s
BOSA Boshof 78.22 227 P **P 06 39 16.3 -1.0**
comp=Z,5.2nm,0.7s,baz=59,slow=4.0,SNR=10
BOSA LR LR 07 11 59.3
comp=Z,58nm,19.5s,baz=33,slow=34
CCB Clear Creek Bu 78.24 19 *e*P **P 06 39 16.5 -0.3**
comp=Z,6.7nm,0.8s
PPLA Purkeypile 78.25 21 *e*P **P 06 39 17.1 0.0**
comp=Z,18nm,1.6s
WRH Wood River Hil 78.30 19 *e*P **P 06 39 16.7 -0.4**
comp=Z,6.7nm,0.8s
ILAR Eielson Array 78.40 18 P **P 06 39 17.1 -0.7**
comp=Z,5.2nm,0.7s,baz=316,slow=4.9,SNR=80
ILAR PP **PP 06 42 11.4 -3.0**
comp=Z,3.6nm,0.8s,baz=310,slow=7.6,SNR=13
ILAR LR LR 07 18 32.1
comp=Z,124nm,20.3s,baz=324,slow=39
ILB Eielson Array 78.40 18 *e*P **P 06 39 17.0 -0.7**
IL1 Eielson Array 78.40 18 *e*P **P 06 39 17.0 -0.7**
SVW2 Sparvohn 78.40 24 *e*P **P 06 39 19.2 +1.4**
comp=Z,4.8nm,0.7s
INK Inuvik 78.46 12 *e*P **P 06 39 17.8 -0.1**
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 78.46 12 *e*P **P 06 39 17.8 -0.1**
comp=Z,5.5nm,1.0s
MCK McKinley 78.62 20 *e*P **P 06 39 19.1 +0.1**
MCK pmax pmax
comp=Z,3.0nm,0.7s
MCK McKinley 78.62 20 *e*P **P 06 39 19.1 +0.1**
comp=Z,3.0nm,0.7s
RND Reindeer 78.89 20 *e*P **P 06 39 20.0 -0.6**
RND pmax pmax
comp=Z,5.0nm,0.7s
RND Reindeer 78.89 20 *e*P **P 06 39 19.9 -0.6**
comp=Z,4.6nm,0.7s
SUA Susitna One 79.76 22 *e*P **P 06 39 25.5 +0.1**
comp=Z,11nm,0.8s
DOT Dot Lake 80.05 18 *e*P **P 06 39 26.4 -0.4**
comp=Z,29nm,0.8s
PMR Palmer 80.18 21 *e*P **P 06 39 27.5 0.0**
PMR pmax pmax
comp=Z,7.0nm,0.8s
PMR Palmer 80.18 21 *e*P **P 06 39 27.5 0.0**
comp=Z,6.6nm,0.8s
PAX Paxson 80.20 19 *e*P **P 06 39 27.8 +0.1**
PAX pmax pmax
comp=Z,6.0nm,0.8s
PAX Paxson 80.20 19 *e*P **P 06 39 27.8 +0.1**
comp=Z,5.6nm,0.8s
SML Sawmill 80.26 21 *e*P **P 06 39 28.3 +0.3**
SML pmax pmax
comp=Z,20nm,0.8s
SML Sawmill 80.26 21 *e*P **P 06 39 28.3 +0.3**
comp=Z,20nm,0.8s
SCM Sheep Creek Mo 80.55 20 *e*P **P 06 39 29.9 +0.3**
SCM pmax pmax
comp=Z,11nm,0.8s

SCM Sheep Creek Mo 80.55 20 *e*P **P 06 39 29.9 +0.3**
comp=Z,11nm,0.8s
MENT Mentasta 80.71 18 *e*P **P 06 39 31.5 +1.1**
comp=Z,4.7nm,0.6s
DAWY Dawson 80.89 16 *e*P **P 06 39 31.1 -0.3**
comp=Z,5.2nm,0.8s
BRLK Bradley Lake 80.98 23 *e*P **P 06 39 31.9 +0.1**
comp=Z,8.6nm,0.8s
KLU Klutina 81.24 20 *e*P **P 06 39 33.6 +0.3**
comp=Z,4.7nm,0.8s
DIV Divide 81.57 20 *e*P **P 06 39 35.7 +0.7**
comp=Z,6.5nm,0.9s
DBIC Dimbokro 81.64 273 P **P 06 39 36.0 -0.1**
comp=Z,3.9nm,0.5s,baz=24,slow=6.7,SNR=6.4
DBIC LR LR 07 17 36.0
comp=Z,38nm,21.2s,baz=94,slow=37
DBIC Dimbokro 81.64 273 *e*P **P 06 39 36.5 +0.4**
DBIC pmax pmax
comp=Z,28nm,1.3s
DBIC Dimbokro 81.64 273 *e*P **P 06 39 36.5 +0.4**
comp=Z,28nm,1.3s
CTAO Charters Tower 81.66 119 *e*P **P 06 39 36.7 +0.7**
CTAO pmax pmax
comp=Z,30nm,1.0s
CTAO Charters Tower 81.66 119 *e*P **P 06 39 36.7 +0.7**
comp=Z,30nm,1.0s
KIC Kosan Boka 81.70 272 *e*PKIKP **P 06 39 36.8 +0.4**
comp=Z,78nm,1.4s
TIC Toumodi 81.80 273 *e*PKIKP **P 06 39 37.2 +0.2**
KDAK Kodiak Island 81.84 25 *i* P **P 06 39 36.5 +0.1**
KDAK Kodiak Island 81.84 25 *e*P **P 06 39 36.8 +0.4**
comp=Z,16nm,0.7s
OHAK Old Harbor 81.98 26 *e*P **P 06 39 37.5 +0.4**
comp=Z,9.8nm,0.8s
LIC Lamto 82.01 273 *e*PKIKP **P 06 39 37.3 -0.8**
comp=Z,91nm,2.2s
EYAK Cordova Ski Ar 82.03 21 *e*P **P 06 39 38.1 +0.7**
comp=Z,16nm,0.7s
BMRM Bremner River 82.04 20 *e*P **P 06 39 37.8 +0.3**
comp=Z,10nm,0.8s
BALM Baldy 82.64 19 *e*P **P 06 39 41.5 +0.8**
BALM pmax pmax
comp=Z,6.0nm,0.8s
BALM Baldy 82.64 19 *e*P **P 06 39 41.5 +0.8**
comp=Z,5.7nm,0.8s
CRQM Cirque 82.64 20 *e*P **P 06 39 38.2 -2.6**
comp=Z,7.5nm,0.7s
STKA Stephens Creek 85.66 131 P **P 06 39 54.2 -2.0**
comp=Z,5.0nm,0.9s,baz=310,slow=4.9,SNR=3.8
STKA Stephens Creek 85.66 131 *e*P **P 06 39 53.7 -2.6**
STKA pmax pmax
comp=Z,3.0nm,1.2s
STKA Stephens Creek 85.66 131 *e*P **P 06 39 53.7 -2.6**
comp=Z,3.4nm,1.2s
SKAG Skagway 85.85 17 *e*P **P 06 39 57.9 +1.1**
comp=Z,6.6nm,0.8s
YKA Yellowknife Ar 86.61 6 P **P 06 39 59.5 -1.0**
comp=Z,1.7nm,0.7s,baz=341,slow=5.2,SNR=22
YKA Yellowknife Ar 86.61 6 P **P 06 39 59.5 -1.0**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKB5 Yellowknife Ar 86.61 6 *e*P **P 06 39 59.5 -1.0**
SCHQ Schefferville 90.11 341 P **P 06 40 17.4 0.0**
comp=Z,1.8nm,0.6s,baz=339,slow=8.2,SNR=4.2
SCHQ LR LR 07 21 15.3
comp=Z,68nm,19.9s,baz=327,slow=36
SCHQ Schefferville 90.11 341 *e*P **P 06 40 16.9 -0.4**
comp=Z,52nm,1.7s
MAW Mawson 98.63 186 LR LR 07 18 45.2
comp=Z,101nm,19.5s,baz=60,slow=31
ULM Lac du Bonnet 99.44 357 LR LR 07 30 13.7
comp=Z,52nm,19.3s,baz=7.5,slow=38
LTX Lajitas 120.38 3 *e*PKIKP **PKPdf 06 46 09.6 +0.3**
LTX Lajitas 120.38 3 *e*PKPdf **PKPdf 06 46 09.6 +0.3**
TXAR Lajitas Array 120.38 3 PKP **PKPdf 06 46 09.6 +0.3**
comp=Z,0.1nm,0.4s,baz=157,slow=0.7,SNR=3.9
CPUP Villa Florida 141.82 265 PKP **PKPdf 06 46 51.4 +2.0**
comp=Z,1.2nm,0.7s,baz=71,slow=5.7,SNR=4.2

IDC 20 06:45:09.8±1.4, 15°.62S×173°.99W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.8/38, mbtmp4.2/5, ML4.6/1, Error ellipse: s-maj=50.7km s-min=25.7km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.73**	**52**	Pn	Pn	06 45 56.2	+1.2
	100nm,0.3s,baz=172,slow=1.6,SNR=145						
AFI				Sn	Sn	06 46 21.8	-7.0
	110nm,0.3s,baz=345,slow=8.4,SNR=10						
AFI	**Afiamalu**	**2.73**	**52**	PKIKP	Pn	06 45 56.2	+1.2
AFI				pmax	pmax		
	comp=Z,101nm,0.3s						
URZ	**Urewera**	**23.88**	**198**	P	P	06 50 24.8	-0.3
	comp=Z,3.4nm,0.5s,baz=0.0,slow=7.1,SNR=3.0						
STKA	**Stephens Creek**	**43.44**	**240**	P	P	06 53 15.9	+1.1
	comp=Z,3.1nm,0.8s,baz=66,slow=8.6,SNR=3.0						
WRA	**Warramunga Arr**	**49.24**	**257**	P	P	06 54 00.3	-0.2
	comp=Z,0.9nm,0.5s,baz=97,slow=6.7,SNR=34						
ASAR	**Alice Springs**	**49.51**	**252**	P	P	06 54 02.7	+0.1
	comp=Z,1.6nm,0.4s,baz=86,slow=7.8,SNR=28						
BRTR	**Keskin Array B**	**145.97**	**320**	PKPbc	PKPdf	07 04 49.4	-1.9
	comp=Z,0.8nm,0.7s,baz=121,slow=4.7,SNR=4.5						

*ISCJB **20** 06:50:37.3±1.0, 11°.5S±0°.1×166°.3E±0°.2, h59km, mb4.3/11, MS3.0/1, Error ellipse: s-maj=22.3km s-min=17.4km az=0.6*

*IDC **20** 06:50:41.2±6.7, 11°.54S×166°.34E, h82km±66km, mb3.9/7, mb1 4.0/8, mb1mx3.7/38, mbtmp4.1/8, ML3.7/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/25, Error ellipse: s-maj=59.0km s-min=30.6km az=148.0*

*NEIC **20** 06:50:41.5±3.0, 11°.58S×166°.38E, h87km±27km, mb4.4/3, Error ellipse: s-maj=25.2km s-min=17.1km az=165.0*

ISC 20 06:50:38.6±1.1, 11°.4S±0°.1×166°.4E±0°.2, h59km, n15, σ0s87/13, mb4.3/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.64**	**287**	LR	LR	06 55 09.9	
	comp=Z,152nm,20.1s,baz=144,slow=40						
DZM	**Mont Dzumac**	**10.57**	**180**	P	**Pn**	**06 53 08.1**	**+0.7**
	0.5nm,0.3s,baz=301,slow=19,SNR=7.2						
DZM				LR	LR	06 56 30.1	
	comp=Z,144nm,18.7s,baz=93,slow=33						
PMG	**Port Moresby**	**19.02**	**274**	LR	LR	07 01 14.2	
	comp=Z,121nm,21.0s,baz=144,slow=33						
CTA	**Charters Tower**	**21.18**	**244**	P	**P**	**06 55 20.3**	**+1.1**
	1.3nm,0.3s,baz=68,slow=14,SNR=3.7						
AFI	**Afiamalu**	**21.45**	**99**	LR	LR	07 01 25.9	
	comp=Z,63nm,20.9s,baz=28,slow=30						
STKA	**Stephens Creek**	**30.59**	**224**	P	**P**	**06 56 47.5**	**+0.5**
	3.9nm,0.6s,baz=66,slow=8.9,SNR=5.7						
WRAB	**Tennant Creek**	**31.93**	**251**	*e*P	**P**	**06 56 58.0**	**-0.9**
	2.9nm,0.9s						
WRA	**Warramunga Arr**	**31.94**	**251**	P	**P**	**06 56 58.4**	**-0.6**
	3.4nm,0.9s,baz=85,slow=9.2,SNR=16						
ASAR	**Alice Springs**	**33.18**	**244**	P	**P**	**06 57 08.7**	**-1.2**
	2.4nm,0.8s,baz=68,slow=9.7,SNR=28						
ASAR				PcP	**PcP**	**06 59 50.7**	**-1.0**
	0.7nm,0.9s,baz=97,slow=1.7,SNR=4.2						
FITZ	**Fitzroy Crossi**	**39.88**	**255**	*e*P	**P**	**06 58 06.8**	**-0.1**
	3.7nm,0.8s						
MBWA	**Marble Bar**	**45.66**	**252**	*e*P	**P**	**06 58 53.9**	**+0.1**
	32nm,0.7s						
CMAR	**Chiang Mai Arr**	**72.84**	**293**	P	**P**	**07 02 02.0**	**+0.3**
	1.9nm,0.4s,baz=104,slow=3.4,SNR=6.6						
QSPA	**South Pole Qui**	**78.56**	**180**	*e*P	**P**	**07 02 32.5**	**-1.2**
	10nm,0.9s						
ILAR	**Eielson Array**	**83.69**	**18**	P	**P**	**07 03 01.2**	**+0.6**
	0.3nm,0.7s,baz=233,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**94.24**	**317**	P	**P**	**07 03 51.6**	**+0.2**
	1.0nm,0.7s,baz=94,slow=5.6,SNR=9.4						

IDC 20 07:34:24.6±2.1, 26°.66N×143°.92E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/26, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=46.8km s-min=25.0km az=56.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.61**	**286**	Pn	Pb	07 34 55.0	-0.2
	9.7nm,0.3s,baz=196,slow=23,SNR=12						
JCJ				Sn	Sn	07 35 14.8	-1.0

57nm,0.3s,baz=288,slow=23,SNR=10.0
MJAR Matsushiro Arr 10.99 335 Pn Pn 07 37 02.9 -0.2
1.2nm,0.3s,baz=132,slow=13,SNR=4.1
SONM Songino Array 36.10 316 P P 07 41 28.5 +0.1
0.4nm,0.6s,baz=126,slow=7.3,SNR=3.5
WRA Warramunga Arr 47.24 192 P P 07 42 59.5 -0.1
0.2nm,0.4s,baz=18,slow=8.6,SNR=3.7
MKAR Makanchi Array 51.95 310 P P 07 43 34.9 -0.5
0.6nm,0.6s,baz=90,slow=10.0,SNR=5.3

IDC 20 07:54:34.8±3.5, 53.72N×88.41E, h0km, mb1 3.2/3, mb1mx3.0/43, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=35.6km s-min=20.2km az=83.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.14 278**	*i*			08 07 00.0	
	baz=94,slow=323,SNR=7.5						
ZALV	**Zalesovo Beam**	**2.14 277**		Pn	Pn	07 55 11.4	-0.3
	3.2nm,0.3s,baz=100,slow=16,SNR=40						
ZALV				Sn	Sn	07 55 39.8	+0.9
	5.1nm,0.3s,baz=96,slow=25,SNR=17						
KURBB	**Kurchatov Arra**	**6.82 247**		Pn	Pn	07 56 16.2	+0.2
	0.2nm,0.3s,baz=62,slow=14,SNR=17						
KURBB				Lg	Lg	07 58 11.4	
	0.0nm,0.3s,baz=60,slow=30,SNR=4.3						
MKAR	**Makanchi Array**	**7.96 212**		Pn	Pn	07 56 33.3	+1.5
	0.2nm,0.3s,baz=34,slow=16,SNR=6.5						
MKAR				Sn	Sn	07 58 01.8	-0.7
	0.1nm,0.3s,baz=32,slow=27,SNR=4.3						
MKAR				Lg	Lg	07 58 48.7	
	0.1nm,0.3s,baz=32,slow=32,SNR=3.9						

*ISCJB **20** 07:55:40.4±1.8, 36.78N±0.03×140.62E±0.06, h10km±14km, mb3.4/2, Error ellipse: s-maj=8.4km s-min=4.6km az=29.3*
*IDC **20** 07:55:40.4±2.3, 36.61N×140.58E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.2/44, mbtmp3.5/2, Error ellipse: s-maj=44.0km s-min=26.8km az=48.0*
*JMA **20** 07:55:41.6, 36.80N×140.54E, h8km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs178.00000°, δ55.00000°, λ-77.00000°. NP2: φs336.00000°, δ37.00000°, λ-108.00000°. Principal axes: T Plg9.0000°, Azm259.0000°; N Plg11.0000°, Azm351.0000°; P Plg76.0000°, Azm130.0000°;*
JMA Felt I J1.

ISC 20 07:55:41.0±1.1, 36.80N±0.04×140.59E±0.04, h10km±9km, n12, σ0↟90/21, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.19 186**		⇑P	**Pg**	**07 55 45.5**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.34 28**		⇑P	**Pb**	**07 55 48.7**	**-0.6**
ONAJ				S	**Sb**	**07 55 53.8**	**-1.0**
JSB	**Shiboa**	**0.56 288**		⇑P	**Pg**	**07 55 52.4**	**+0.4**
JSB				S	**Sg**	**07 55 59.9**	**+0.5**
JFK	**Kawauchi**	**0.61 22**		⇑P	**Pb**	**07 55 53.2**	**-0.6**
JFK				S	**Sb**	**07 56 01.5**	**-1.0**
JYT	**Yasato**	**0.65 210**		⇑P	**Pg**	**07 55 53.6**	**0.0**
JYT				S	**Sg**	**07 56 02.3**	**+0.1**
JFT	**Otama**	**0.75 344**		⇑P	**Pb**	**07 55 55.6**	**-0.5**
JFT				S	**Sb**	**07 56 05.7**	**-0.7**
JFY	**Yanaizu**	**0.93 311**		P	**Pb**	**07 55 58.4**	**-0.9**
JFY				*e*S	**Sg**	**07 56 10.4**	**-0.8**
JAG	**Ashikaga**	**0.99 248**		⇑P	**Pb**	**07 55 58.9**	**-1.3**
JAG				*e*S	**Sb**	**07 56 11.9**	**-1.4**
MJAR	**Matsushiro Arr**	**1.93 263**		Pn	**Pn**	**07 56 14.3**	**+0.4**
	24nm,0.3s,baz=87,slow=15,SNR=120						
MJAR				Sn	**Sn**	**07 56 39.2**	**+0.9**
	12nm,0.3s,baz=90,slow=16,SNR=4.6						
MAT	**Matsushiro**	**1.94 263**		P	**Pn**	**07 56 15.0**	**+1.0**
MAT				S	**Sb**	**07 56 40.3**	**-0.3**
SONM	**Songino Array**	**27.37 305**		P	**P**	**08 01 28.0**	**+1.5**
	0.3nm,0.4s,baz=99,slow=8.9,SNR=2.7						
WRA	**Warramunga Arr**	**56.74 187**		P	**P**	**08 05 24.6**	**-0.5**
	0.5nm,0.7s,baz=2.9,slow=7.5,SNR=9.8						

IDC 20 08:30:51.1±1.8, 17.81S×167.75E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/25, mbtmp4.0/5, ML3.6/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/25, Error ellipse: s-maj=57.8km s-min=27.1km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.42 196**		Pn	Pn	08 31 58.3	-1.1
	3.1nm,0.3s,baz=123,slow=11,SNR=18						
DZM				Sn	Sn	08 32 45.8	-5.9
	4.4nm,0.3s,baz=126,slow=21,SNR=7.1						
DZM				LR	LR	08 33 30.4	
	comp=Z,129nm,19.9s,baz=64,slow=36						
HNR	**Honiara**	**11.26 317**		LR	LR	08 37 43.1	
	comp=Z,102nm,19.2s,baz=166,slow=37						
WRA	**Warramunga Arr**	**31.65 261**		P	P	08 37 16.4	+0.1
	0.3nm,0.8s,baz=85,slow=8.2,SNR=4.6						
ASAR	**Alice Springs**	**32.13 254**		P	P	08 37 20.6	0.0
	1.2nm,0.6s,baz=81,slow=9.2,SNR=12						
ASAR				LR	LR	08 49 36.1	
	comp=Z,104nm,20.5s,baz=144,slow=35						
PETK	**Petropavlovsk-**	**71.15 354**		P	P	08 42 12.0	+0.6
	6.6nm,1.0s,baz=157,slow=7.8,SNR=3.9						
SONM	**Songino Array**	**85.23 324**		P	P	08 43 33.9	+4.2
	1.5nm,1.1s,baz=114,slow=3.7,SNR=5.9						
ILAR	**Eielson Array**	**89.30 18**		P	P	08 43 48.4	-0.4
	0.2nm,0.8s,baz=261,slow=3.6,SNR=2.9						

MAN 20 08:38:06, 8.28N×123.47E, h32km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.32 339**		⇑*e*P	Pn	08 38 15.5	+1.0
PAGZ	**Pagadian**	**0.44 191**		*e*P	Pn	08 38 17.4	+1.3
PAGZ				*e*S	Sn	08 38 23.8	+0.8
IPIL	**Ipil**	**1.01 241**		*e*P	Pb	08 38 25.4	+0.4
IPIL				*e*S	Sb	08 38 37.7	-0.4

*ISK **20** 08:42:26.4, 37.19N×28.20E, h16km, MD2.6*
*ISCJB **20** 08:42:27.2±0.6, 37.20N±0.06×28.20E±0.04, h11km±8km, Error ellipse: s-maj=10.2km s-min=5.0km az=14.5*
*CSEM **20** 08:42:27.2±0.2, 37.20N×28.21E, h12km, MD2.6, Error ellipse: s-maj=4.5km s-min=3.2km az=9.0*
*DDA **20** 08:42:27.4, 37.23N×28.19E, h7km, Md2.5*

ISC 20 08:42:27.3±0.9, 37.20N±0.05×28.21E±0.03, h13km±6km, n14, σ0↟33/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.09 136**		PG	**Pg**	**08 42 29.9**	**-0.3**
YER				SG	**Sg**	**08 42 32.5**	**+0.2**
YER	**Yerkesik**	**0.09 136**	*i*	Pg	**Pg**	**08 42 29.9**	**-0.3**
YER			*i*	Sg	**Sg**	**08 42 32.5**	**+0.2**
TURN	**Turunc**	**0.45 136**	*i*	P	**Pg**	**08 42 36.1**	**-0.2**
TURN			*i*	S	**Sb**	**08 42 43.5**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.52 137**	*e*	PG	**Pg**	**08 42 37.1**	**-0.4**
DALY			*e*	SG	**Sg**	**08 42 44.9**	**+0.5**
DALY	**Dalyan (Mu˘la**	**0.52 137**	*e*	Pg	**Pg**	**08 42 37.1**	**-0.4**
DALY			*e*	Sg	**Sg**	**08 42 44.9**	**+0.5**
BDRM	**Kayabasi**	**0.62 258**		P	**Pg**	**08 42 39.5**	**0.0**
BDRM				S	**Sb**	**08 42 49.0**	**+0.2**
BDRM	**Kayabasi**	**0.62 258**	*i*	P	**Pg**	**08 42 39.5**	**0.0**
BDRM			*i*	S	**Sb**	**08 42 49.0**	**+0.2**
BODT	**Bodrum**	**0.73 260**	*e*	PG	**Pg**	**08 42 41.0**	**-0.5**
BODT			*e*	SG	**Sb**	**08 42 51.5**	**-0.2**
BODT	**Bodrum**	**0.73 260**	*e*	Pg	**Pg**	**08 42 41.0**	**-0.5**
BODT			*e*	Sg	**Sb**	**08 42 51.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.79 341**	*e*	PG	**Pg**	**08 42 42.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.79 341**	*e*	Pg	**Pg**	**08 42 42.4**	**-0.3**
DNZL	**Cakiroluk**	**0.83 53**		P	**Pb**	**08 42 43.9**	**+0.2**
DNZL	**Cakiroluk**	**0.83 53**	*i*	P	**Pb**	**08 42 43.9**	**+0.2**
DGB	**˘zmir**	**1.35 309**	*i*	P	**Pn**	**08 42 52.0**	**+0.1**
DGB			*i*	S	**Sn**	**08 43 09.7**	**-0.1**

*ISCJB **20** 08:47:13.3±1.0, 21.69N±0.08×143.2E±0.3, h311km, mb3.4/7, Error ellipse: s-maj=42.3km s-min=10.7km az=176.0*

*IDC **20** 08:47:13.4±1.9, 21.66N×143.11E, h293km±18km, mb3.2/8, mb1 3.3/10, mb1mx3.1/35, mbtmp3.9/10, Error ellipse: s-maj=33.3km s-min=12.8km az=87.0*

ISC 20 08:47:15.0±1.0, 21.7N±0.1×143.1E±0.3, h311km, n11, σ1↟02/12, mb3.5/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.40 351**		P	**Pn**	**08 48 36.2**	**-1.2**
	11nm,0.3s,baz=97,slow=23,SNR=13						
JCJ				S	**S**	**08 49 42.6**	**-1.4**
	9.9nm,0.3s,baz=259,slow=23,SNR=9.7						
MJAR	**Matsushiro Arr**	**15.35 345**		P	**P**	**08 50 35.8**	**+0.5**
	0.9nm,0.3s,baz=168,slow=11,SNR=9.3						
KSRS	**Korea Array**	**20.44 323**		P	**P**	**08 51 31.1**	**+1.5**
	1.1nm,0.8s,baz=140,slow=9.2,SNR=4.4						
KLR	**Kul'dur**	**28.88 344**		P	**P**	**08 52 46.5**	**+1.0**
	2.3nm,0.6s,baz=162,slow=7.4,SNR=10						
WRA	**Warramunga Arr**	**42.31 192**		P	**P**	**08 54 38.3**	**-0.8**
	1.6nm,0.6s,baz=17,slow=9.0,SNR=30						
ASAR	**Alice Springs**	**46.02 192**		P	**P**	**08 55 07.5**	**-0.9**
	0.3nm,0.6s,baz=17,slow=11,SNR=9.0						
MKAR	**Makanchi Array**	**54.62 313**		P	**P**	**08 56 12.1**	**0.0**
	0.2nm,0.5s,baz=82,slow=10.0,SNR=2.0						
YKA	**Yellowknife Ar**	**76.45 28**		P	**P**	**08 58 31.0**	**+0.6**
	0.5nm,0.5s,baz=293,slow=6.0,SNR=6.9						
ARCES	**ARCESS Array B**	**78.86 341**		P	**P**	**08 58 44.2**	**+0.6**
	1.4nm,0.6s,baz=82,slow=7.4,SNR=5.0						
FINES	**FINESS Array B**	**83.11 334**		P	**P**	**08 59 05.8**	**-0.3**
	1.4nm,0.8s,baz=48,slow=2.8,SNR=8.4						
PLCA	**Paso Flores**	**145.83 131**		PKPbc	**PKPbc**	**09 06 18.6**	**+0.4**
	1.9nm,0.7s,baz=266,slow=4.3,SNR=3.1						

*SJA **20** 08:48:07.7±0.3, 33.73S×70.28W, h10km, ML3.3, MW3.4*
*ISCJB **20** 08:48:13.9±0.8, 33.45S±0.06×70.09W±0.03, h13km±5km, Error ellipse: s-maj=10.8km s-min=4.4km az=173.2*
*GUC **20** 08:48:13.3±0.5, 33.39S×70.08W, h12km±1km, ML2.4*

ISC 20 08:48:11.2±2.1, 33.64S±0.08×70.13W±0.04, h1km±13km, n21, σ1↟36/31, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.34 336**		*e*P	**Pg**	**08 48 18.0**	**+0.4**
FCH				*e*S	**Sg**	**08 48 22.1**	**0.0**
FCH				IAML		08 48 24.5	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**0.42 305**		*e*P	**Pb**	**08 48 21.6**	**+0.1**
CLCH				*e*S	**Sb**	**08 48 27.9**	**-0.5**
CLCH				IAML		08 48 34.4	
	comp=E,855nm,0.7s						
ANTU	**Antumapu**	**0.43 279**		*e*P	**Pn**	**08 48 23.3**	**-1.3**
ANTU				*e*S	**Sb**	**08 48 31.0**	**+2.4**
RCDM	**Rinconada Maip**	**0.59 284**		*e*P	**Pb**	**08 48 24.6**	**+0.3**
RCDM				*e*S	**Sn**	**08 48 34.6**	**-2.4**
RCDM				IAML		08 48 34.8	
	comp=N,338nm,0.4s						
PEL	**Peldehue**	**0.68 316**		*e*P	**Pg**	**08 48 24.6**	**+0.5**
PEL				*e*S	**Sg**	**08 48 32.9**	**0.0**
ROCH	**El Roble**	**0.99 312**		*e*P	**Pg**	**08 48 30.2**	**0.0**
ROCH				*e*S	**Sg**	**08 48 42.6**	**-0.5**
AAGR	**Agrelo**	**1.22 63**		*i* P	**Pn**	**08 48 33.7**	**-1.8**
ARCO	**CERRO ARCO**	**1.28 52**		*i* P	**Pn**	**08 48 34.5**	**-1.9**
ARCO				IAML		08 48 49.9	
	comp=Z,258nm,0.2s						
ASAL	**Salagasta**	**1.50 46**		*i* P	**Pn**	**08 48 38.7**	**-0.8**
RTLS	**Leoncito**	**1.96 21**		*i* P	**Pn**	**08 48 45.7**	**-0.2**
RTCV	**Cerro Valdivia**	**2.22 37**		*i* P	**Pn**	**08 48 49.0**	**-0.2**
RTCV				*i* S	**Sb**	**08 49 19.4**	**-0.7**
RTLL	**Cerro Villicun**	**2.69 32**		*i* P	**Pn**	**08 48 55.6**	**-0.1**
RTLL				*i* S	**Sb**	**08 49 31.1**	**-2.7**
ACAN	**Cantantal**	**2.82 62**		*i* P	**Pn**	**08 48 57.6**	**+0.1**
ACAN				*i* S	**Sb**	**08 49 34.6**	**-2.8**
AMOG	**MOGNA**	**3.02 28**		*i* P	**Pn**	**08 49 00.6**	**+0.2**
AMOG				*i* S	**Sn**	**08 49 39.4**	**+2.1**
AVFE	**Valle Fertil**	**3.73 38**		IAML		08 49 32.8	
	comp=Z,55nm,0.4s						
MRA	**San Martin**	**3.90 73**		*i* P	**Pn**	**08 49 13.1**	**+0.8**
MRA				*i* S	**Sn**	**08 50 01.2**	**+2.4**
MRA				IAML		08 50 19.8	
	comp=Z,48nm,0.5s						
AGUA	**GUANDACOL**	**4.37 19**		*i* P	**Pn**	**08 49 19.3**	**+0.5**
VCA	**Vinchina**	**5.15 19**		*i* P	**Pn**	**08 49 30.4**	**+0.7**
TCA	**Tanti**	**5.21 65**		*i* P	**Pn**	**08 49 31.4**	**+1.1**
CYA	**Choya**	**6.37 37**		*i* P	**Pn**	**08 49 46.9**	**+0.6**
CYA				IAML		08 51 36.4	
	comp=Z,7.7nm,0.5s						
FSA	**Cafayete**	**8.32 27**		*i* P	**Pn**	**08 50 13.4**	**+0.2**

*ISK **20** 08:49:31.5, 39.15N×27.60E, h3km, ML1.9*
*ISCJB **20** 08:49:32.0±0.5, 39.15N±0.03×27.61E±0.05, h0km, Error ellipse: s-maj=5.7km s-min=4.7km az=19.1*
*CSEM **20** 08:49:32.3±0.3, 39.14N×27.63E, h1km, ML1.9, Error ellipse: s-maj=8.9km s-min=7.5km az=95.0, Suspected Mining explosion.*
*DDA **20** 08:49:34.0, 39.12N×27.51E, h7km, Md2.6, Suspected Mining explosion.*

ISC 20 08:49:31.5±0.9, 39.15N±0.04×27.65E±0.04, h0km, n22, σ0↟34/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKL	**Dikili**	**0.59 263**		*e*PG	**Pg**	**08 49 43.1**	**+0.3**
DKL	**Dikili**	**0.59 263**		*e*Pg	**Pg**	**08 49 43.1**	**+0.3**
BALY	**Balya**	**0.59 357**		P	**Pn**	**08 49 46.5**	**-0.8**
BALY	**Balya**	**0.59 357**	*i*	P	**Pn**	**08 49 46.5**	**-0.8**
KULA	**Kula-Manisa**	**1.01 128**		*e*PG	**Pb**	**08 49 52.1**	**+0.2**
KULA				*e*SG	**Sn**	**08 50 07.5**	**-0.5**
KULA	**Kula-Manisa**	**1.01 128**		*e*Pg	**Pb**	**08 49 52.1**	**+0.2**
KULA				*e*Sg	**Sn**	**08 50 07.5**	**-0.5**
URLA	**Izmir**	**1.14 227**		P	**Pb**	**08 49 54.4**	**+0.3**
URLA				S	**Sb**	**08 50 09.4**	**-0.1**
URLA	**Izmir**	**1.14 227**	*i*	P	**Pb**	**08 49 54.4**	**+0.3**
URLA			*i*	S	**Sb**	**08 50 09.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.21 171**	*e*	PN	**Pb**	**08 49 55.5**	**+0.1**
AYDB			*e*	SN	**Sn**	**08 50 13.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.21 171**	*e*	Pn	**Pb**	**08 49 55.5**	**+0.1**
AYDB			*e*	Sn	**Sn**	**08 50 13.4**	**+0.4**
EDC	**Edincik**	**1.21 8**	*e*	PN	**Pn**	**08 49 55.8**	**+0.1**
EDC	**Edincik**	**1.21 8**	*e*	Pn	**Pn**	**08 49 55.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.24 26**	*e*	PN	**Pn**	**08 49 56.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.24 26**	*e*	Pn	**Pn**	**08 49 56.5**	**+0.3**
DGB	**˘zmir**	**1.25 209**	*i*	P	**Pb**	**08 49 56.1**	**+0.2**
DGB			*i*	S	**Sb**	**08 50 12.5**	**0.0**
ZEY	**˘zmir**	**1.28 225**	*i*	P	**Pg**	**08 49 55.7**	**-0.3**
LPK	**Lapseki**	**1.41 331**	*e*	PN	**Pn**	**08 49 58.2**	**-0.2**
LPK	**Lapseki**	**1.41 331**	*e*	Pn	**Pn**	**08 49 58.2**	**-0.2**
TVSB	**Tavsanli**	**1.44 77**	*e*	PN	**Pb**	**08 49 59.5**	**+0.3**
TVSB	**Tavsanli**	**1.44 77**	*e*	Pn	**Pb**	**08 49 59.5**	**+0.3**
MRMT	**Marmara Adasi**	**1.46 358**	*e*	PN	**Pg**	**08 49 59.5**	**0.0**
MRMT	**Marmara Adasi**	**1.46 358**	*e*	Pn	**Pg**	**08 49 59.5**	**0.0**

*ISK **20** 09:09:37.5, 39.37N×40.95E, h5km, ML2.4*
*ISCJB **20** 09:09:38.5±0.5, 39.36N±0.03×40.95E±0.07, h8km±6km, Error ellipse: s-maj=10.0km s-min=4.2km az=21.4*
*DDA **20** 09:09:38.4, 39.36N×40.94E, h7km, Md2.9*
*CSEM **20** 09:09:38.1±0.2, 39.35N×40.96E, h5km, MD2.9, Error ellipse: s-maj=5.1km s-min=2.9km az=118.0*

ISC 20 09:09:38.3±1.1, 39.34N±0.03×40.94E±0.04, h4km±13km, n25, σ1↟15/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAT	**Cat-ERZURUM**	**0.27 6**		P	**Pg**	**09 09 43.4**	**-0.2**
ECAT				S	**Sg**	**09 09 47.5**	**+0.3**
ECAT	**Cat-ERZURUM**	**0.27 6**	*i*	P	**Pg**	**09 09 43.4**	**-0.2**
ECAT			*i*	S	**Sg**	**09 09 47.5**	**+0.3**
BNGB	**Bing˘¶l**	**0.40 211**		PG	**Pg**	**09 09 46.4**	**+0.4**
BNGB				*e*SG	**Sg**	**09 09 53.0**	**+1.7**
BGOL	**Bingol**	**0.41 211**		P	**Pg**	**09 09 46.3**	**+0.2**
BGOL				S	**Sg**	**09 09 53.2**	**+1.7**
BGOL	**Bingol**	**0.41 211**	*i*	P	**Pg**	**09 09 46.3**	**+0.2**
BGOL			*i*	S	**Sg**	**09 09 53.2**	**+1.7**
BNGL	**BINGOL**	**0.42 157**	*i*	P	**Pb**	**09 09 47.7**	**-0.7**
BNGL			*i*	S	**Sb**	**09 09 57.0**	**+1.9**
BINT	**Bingol**	**0.58 217**	*i*	Pg	**Pg**	**09 09 46.4**	**-3.0**
BINT			*e*	Sg	**Sg**	**09 09 53.0**	**-4.0**
ERZM	**Erzurum**	**0.66 30**		P	**Pg**	**09 09 50.8**	**-0.1**
ERZM				S	**Sg**	**09 09 59.7**	**+0.2**

ERZM	**Erzurum**	**0.66 30**	*i*	P	**Pg**	**09 09 50.8**	**-0.1**
ERZM			*i*	S	**Sg**	**09 09 59.7**	**+0.2**
KOPT	**Kop Dagi**	**0.76 333**		P	**Pg**	**09 09 52.7**	**-0.2**
KOPT	**Kop Dagi**	**0.76 333**	*i*	P	**Pg**	**09 09 52.7**	**-0.2**
TNCL	**Tunceli-Merkez**	**1.11 259**		P	**Pg**	**09 09 59.6**	**+0.1**
TNCL	**Tunceli-Merkez**	**1.11 259**	*i*	P	**Pg**	**09 09 59.6**	**+0.1**
PTK	**Pertek**	**1.28 250**	*e*	PN	**Pg**	**09 10 02.9**	**0.0**
PTK	**Pertek**	**1.28 250**	*e*	Pn	**Pg**	**09 10 02.9**	**0.0**
DYBB	**Diyarbakir**	**1.52 205**	*e*	PN	**Pn**	**09 10 06.5**	**+0.2**
KELT	**Kelkit**	**1.53 302**		P	**Pg**	**09 10 07.5**	**-0.1**
KELT	**Kelkit**	**1.53 302**	*i*	P	**Pg**	**09 10 07.5**	**-0.1**
DIY	**Diyarbakir**	**1.54 201**	*e*	Pn	**Pn**	**09 10 06.5**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.59 234**	*e*	PN	**Pn**	**09 10 07.4**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.59 234**	*e*	Pn	**Pn**	**09 10 07.4**	**-0.1**
AGRB	**Hanur-Agry**	**1.61 81**	*e*	PN	**Pn**	**09 10 07.0**	**-0.6**
AGRB	**Hanur-Agry**	**1.61 81**	*e*	Pn	**Pn**	**09 10 07.0**	**-0.6**
MAZI	**Mazidag**	**1.92 192**	*e*	PN	**Pn**	**09 10 12.2**	**+0.4**
MAZI	**Mazidag**	**1.92 192**	*e*	Pn	**Pn**	**09 10 12.2**	**+0.4**

IDC 20 09:10:58.4±13.0, 0.39N×123.41E, h260km±138km, mb3.5/5, mb1 3.6/6, mb1mx3.1/43, mbtmp4.1/6, Error ellipse: s-maj=131.5km s-min=21.9km az=56.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.51 173**		P	P	09 14 55.9	-0.1
	0.9nm,0.3s,baz=5.4,slow=7.8,SNR=22						
WRA	**Warramunga Arr**	**22.87 153**		P	P	09 15 39.3	-0.4
	4.3nm,0.8s,baz=329,slow=10,SNR=79						
ASAR	**Alice Springs**	**26.00 158**		P	P	09 16 08.0	+0.1
	0.3nm,0.8s,baz=326,slow=8.7,SNR=12						
STKA	**Stephens Creek**	**36.42 153**		P	P	09 17 39.0	+0.5
	2.9nm,0.8s,baz=328,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**58.50 328**		P	P	09 20 27.7	0.0
	1.6nm,0.3s,baz=125,slow=7.9,SNR=21						
MKAR				PcP	PcP	09 21 14.7	-0.4
	0.1nm,0.4s,baz=128,slow=3.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**62.83 330**		P	P	09 20 56.6	-0.1
	1.4nm,0.8s,baz=130,slow=5.9,SNR=8.5						

*IDC **20** 09:29:48.9±1.7, 51.14N×178.14W, h0km, mb3.8/13, mb1 3.9/13, mb1mx3.7/41, mbtmp3.8/13, MS3.1/3, Ms1 3.1/3, ms1mx2.7/50, Error ellipse: s-maj=46.7km s-min=18.1km az=2.0*
*ISCJB **20** 09:29:51.0±0.6, 50.85N±0.06×178.18W±0.06, h34km, mb3.8/15, MS3.5/1, Error ellipse: s-maj=8.5km s-min=5.6km az=164.1*
*NEIC **20** 09:29:52.6, 50.99N×178.04W, h17km, mb3.9/4, ML3.8(AEIC), After AEIC.*

ISC 20 09:29:53.7±0.8, 51.04N±0.09×178.05W±0.05, h34km, n48, σ1↟09/43, mb4.0/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFL	**Tanaga Flats**	**0.72 8**		P	**Pn**	**09 30 07.6**	**+0.1**
TAFL				S	**Sb**	**09 30 19.0**	**+1.3**
TAPA	**Tanaga Point A**	**0.79 11**		P	**Pn**	**09 30 08.6**	**+0.1**
GALAA	**Gareloi Lava P**	**0.85 328**		P	**Pn**	**09 30 09.6**	**+0.3**
GAEA	**Gareloi East**	**0.86 330**		P	**Pn**	**09 30 09.7**	**+0.3**
TAFP	**Tanaga Falls P**	**0.86 3**		P	**Pn**	**09 30 09.7**	**+0.3**
TAFP				S	**Sb**	**09 30 23.3**	**+1.8**
GANE	**Gareloi Northe**	**0.90 330**		P	**Pn**	**09 30 10.2**	**+0.2**
KIKV	**Kanaga Island**	**1.00 33**		P	**Pn**	**09 30 11.5**	**+0.1**
KICM	**Kanaga Island**	**1.03 31**		P	**Pb**	**09 30 12.5**	**-0.6**
KIRH	**Kanaga Island**	**1.05 34**		P	**Pn**	**09 30 12.5**	**+0.5**
ADAG	**Mount Adagdak**	**1.31 43**		P	**Pn**	**09 30 16.2**	**+0.7**
ETKA	**Kagalaska Isla**	**1.32 51**		P	**Pn**	**09 30 15.5**	**-0.2**
GSCK	**Great Sitkin C**	**1.53 50**		P	**Pn**	**09 30 18.9**	**+0.3**
GSTD	**Great Sitkin T**	**1.57 49**		P	**Pn**	**09 30 19.5**	**+0.4**
GSTD				S	**Sb**	**09 30 40.8**	**-0.8**
GSMY	**Great Sitkin M**	**1.60 50**		P	**Pn**	**09 30 19.9**	**+0.3**
KOKL	**Mount Kliuchef**	**2.72 60**		P	**Pn**	**09 30 36.9**	**+1.9**
KOFP	**Korovin Flat P**	**2.76 62**		P	**Pn**	**09 30 37.8**	**+2.3**
KOKV	**Korovin Volcan**	**2.76 60**		P	**Pn**	**09 30 37.5**	**+2.0**
KOKV				S	**Sb**	**09 31 12.4**	**-3.3**
KOSE	**Korovin Southe**	**2.81 61**		P	**Pn**	**09 30 37.5**	**+1.3**
SMY	**Shemya**	**5.15 292**		P	**Pn**	**09 31 10.3**	**+2.0**
NIKH	**Nikolski High**	**6.00 68**		P	**Pn**	**09 31 21.9**	**+2.0**
PETK	**Petropavlovsk-**	**71.54 287**		LR	LR	09 40 08.0	
	comp=Z,42nm,18.7s,baz=102,slow=41						
KDAK	**Kodiak Island**	**16.22 56**		*e*Pn	**Pn**	**09 33 39.5**	**+0.9**
	4.6nm,0.5s						
KTH	**Kantishna Hill**	**19.09 39**		*e*P	**P**	**09 34 13.3**	**+0.1**
	4.7nm,0.8s						
TRF	**Thorofare Moun**	**19.29 39**		*e*P	**P**	**09 34 16.0**	**+0.5**
	7.5nm,0.9s						
MA2	**Magadan**	**19.53 308**		LR	LR	09 40 10.8	
	comp=Z,36nm,21.3s,ba

KURBB					Lg	Lg	09 46 57.1		
	0.2nm,0.3s,baz=63,slow=32,SNR=5.9								
KURBB	**Kurchatov Arra**	**6.27**	**245**	⇑Pn	**Pn**		**09 45 10.8**	**+0.3**	
	8.7nm,0.3s								
KURBB				⇑Sn	**Sn**		**09 46 19.8**	**-1.1**	
	7.1nm,0.5s								
KURBB				⇓Lg	Lg		09 46 57.7		
	31nm,0.7s								
MK31	**Makanchi Array**	**7.61**	**208**	⇓Pn	**Pn**		**09 45 28.2**	**-0.8**	
	0.8nm,0.4s,baz=29,slow=13,SNR=36								
MK31				⇓Sn	**Sn**		**09 46 54.1**	**+0.2**	
	5.2nm,1.1s,baz=34,slow=29,SNR=4.6								
MK31				⇑Lg	Lg		09 47 36.1		
	4.1nm,0.6s,baz=36,slow=30,SNR=7.4								
MKAR	**Makanchi Array**	**7.61**	**208**	Pn	**Pn**		**09 45 28.4**	**-0.6**	
	1.5nm,0.3s,baz=29,slow=14,SNR=42								
MKAR				Sn	**Sn**		**09 46 53.6**	**-0.3**	
	0.3nm,0.3s,baz=31,slow=25,SNR=9.1								
MKAR				Lg	Lg		09 47 32.7		
	0.7nm,0.3s,baz=36,slow=30,SNR=7.7								
MAKZ	**Makanchi**	**7.68**	**209**	⇓Pn	**Pn**		**09 45 29.4**	**-0.6**	
	1.1nm,0.3s								
MAKZ				⇑Sn	**Sn**		**09 46 55.6**	**-0.2**	
	3.4nm,0.7s								
MAKZ				⇑Lg	Lg		09 47 40.8		
	14nm,1.1s								
VOSK	**Vostochnaya**	**9.93**	**271**	⇓Pn	**Pn**		**09 46 00.6**	**-0.3**	
	0.9nm,0.6s								
VOSK				⇓Sn	**Sn**		**09 47 49.2**	**-1.8**	
	3.5nm,0.7s								
CHKZ	**Chkalovo**	**10.00**	**277**	⇑Pn	**Pn**		**09 46 01.4**	**-0.3**	
	0.5nm,0.4s								
CHKZ				⇑Sn	**Sn**		**09 47 50.0**	**-2.4**	
	1.8nm,0.7s								
BVA0	**Borovoye Array**	**10.23**	**273**	⇑Pn	**Pn**		**09 46 02.4**	**-2.4**	
	1.0nm,0.7s,baz=77,slow=16,SNR=6.0								
BVA0				⇑Sn	**Sn**		**09 47 56.9**	**-1.2**	
	3.1nm,0.7s								
BVAR	**Borovoye Array**	**10.23**	**273**	Pn	**Pn**		**09 46 04.7**	**-0.2**	
	0.5nm,0.3s,baz=74,slow=15,SNR=5.7								
BVAR				Sn	**Sn**		**09 47 58.7**	**+0.6**	
	0.4nm,0.3s,baz=81,slow=22,SNR=8.1								
SONM	**Songino Array**	**13.31**	**108**	Lg	Lg		09 50 35.9		
	0.1nm,0.3s,baz=304,slow=29,SNR=2.8								

*ATH **20** 09:54:59.0, 34.92N×24.39E, h32km±1km, ML2.8/5, Error ellipse: s-maj=2.6km s-min=1.2km az=357.0*
*CSEM **20** 09:54:59.9±0.3, 34.94N×24.39E, h15km, ML2.8, Error ellipse: s-maj=7.0km s-min=3.8km az=5.0*
*ISCJB **20** 09:55:00.6±0.7, 34.97N±0.05×24.40E±0.03, h11km±5km, Error ellipse: s-maj=7.7km s-min=4.4km az=1.7*
*THE **20** 09:55:00.3, 34.98N×24.42E, h0km±1km, ML2.9/9, Error ellipse: s-maj=1.6km s-min=0.6km az=205.0*

ISC 20 09:54:60.0±1.1, 34.97N±0.04×24.40E±0.02, h13km±9km, n28, σ0s75/51, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.29**	**244**	P	**Pb**	**09 55 06.3**	**-0.7**
GVD				S	**Sb**	**09 55 12.4**	**+0.7**
GVD	**Gavdhos**	**0.29**	**244**	P	**Pb**	**09 55 06.3**	**-0.7**
GVD				S	**Sb**	**09 55 12.4**	**+0.7**
GVD	**Gavdhos**	**0.29**	**244**	P	**Pb**	**09 55 06.3**	**-0.7**
GVD				S	**Sb**	**09 55 12.9**	**+1.3**
GVD				AML	AML	09 55 15.2	
	comp=E,11442μm,0.3s						
GVD				AML	AML	09 55 15.4	
	comp=N,15066μm,0.3s						
SIVA	**Sivas**	**0.34**	**81**	P	**Pg**	**09 55 07.3**	**+0.4**
SIVA				S	**Sb**	**09 55 12.8**	**-0.4**
SIVA	**Sivas**	**0.34**	**81**	P	**Pg**	**09 55 07.3**	**+0.4**
SIVA				S	**Sb**	**09 55 12.8**	**-0.4**
SIVA	**Sivas**	**0.34**	**81**	P	**Pg**	**09 55 07.1**	**+0.2**
SIVA				S	**Sb**	**09 55 13.4**	**+0.2**
SIVA				AML	AML	09 55 15.6	
	comp=E,20947μm,0.4s						
SIVA				AML	AML	09 55 17.4	
	comp=N,18088μm,0.5s						
VAM	**Vamos**	**0.47**	**339**	P	**Pg**	**09 55 08.8**	**-0.5**
VAM				S	**Sb**	**09 55 17.5**	**+0.5**
VAM	**Vamos**	**0.47**	**339**	P	**Pg**	**09 55 08.8**	**-0.5**
VAM				S	**Sb**	**09 55 17.5**	**+0.5**
IDI	**Anoyia**	**0.51**	**51**	P	**Pg**	**09 55 09.9**	**-0.2**
IDI				S	**Sg**	**09 55 17.7**	**+0.7**
IDI	**Anoyia**	**0.51**	**51**	P	**Pg**	**09 55 10.5**	**+0.4**
IDI				S	**Sg**	**09 55 17.7**	**+0.7**
IDI	**Anoyia**	**0.51**	**51**	P	**Pg**	**09 55 10.5**	**+0.4**
IDI				S	**Sb**	**09 55 19.1**	**+0.8**
IDI				AML	AML	09 55 23.0	
	comp=N,1231μm,0.3s						
IDI				AML	AML	09 55 25.0	
	comp=E,1118μm,0.3s						
IMMV	**Iera Moni Meta**	**0.60**	**325**	P	**Pg**	**09 55 12.2**	**+0.4**
IMMV				S	**Sb**	**09 55 22.0**	**+1.2**
IMMV	**Iera Moni Meta**	**0.60**	**325**	P	**Pg**	**09 55 12.1**	**+0.3**
IMMV				S	**Sb**	**09 55 22.0**	**+1.2**
IMMV	**Iera Moni Meta**	**0.60**	**325**	P	**Pg**	**09 55 12.1**	**+0.3**
IMMV				S	**Sn**	**09 55 23.6**	**-0.2**
IMMV				AML	AML	09 55 28.6	
	comp=N,1142μm,0.4s						
IMMV				AML	AML	09 55 29.7	
	comp=E,1350μm,0.3s						
IACM	**Heraklion**	**0.65**	**58**	P	**Pg**	**09 55 12.8**	**+0.2**
IACM				S	**Sb**	**09 55 22.5**	**+0.5**
IACM	**Heraklion**	**0.65**	**58**	P	**Pg**	**09 55 12.8**	**+0.2**
IACM				S	**Sb**	**09 55 22.5**	**+0.5**
LAST	**Lasithi**	**0.91**	**77**	P	**Pb**	**09 55 16.7**	**-0.9**
LAST				S	**Sn**	**09 55 31.8**	**+0.4**
LAST	**Lasithi**	**0.91**	**77**	P	**Pb**	**09 55 16.7**	**-0.9**
LAST				S	**Sn**	**09 55 31.7**	**+0.4**
LAST	**Lasithi**	**0.91**	**77**	P	**Pb**	**09 55 16.2**	**-1.4**
NPS	**Neapolis**	**1.04**	**73**	P	**Pb**	**09 55 19.4**	**-0.4**
NPS				S	**Sn**	**09 55 34.5**	**0.0**
NPS	**Neapolis**	**1.04**	**73**	P	**Pb**	**09 55 19.4**	**-0.4**
NPS				S	**Sn**	**09 55 34.5**	**0.0**
NPS	**Neapolis**	**1.04**	**73**	P	**Pb**	**09 55 19.3**	**-0.5**
NPS				S	**Sn**	**09 55 36.9**	**+2.4**
NPS				AML	AML	09 55 37.9	
	comp=E,547μm,0.6s						
NPS				AML	AML	09 55 41.8	
	comp=N,400μm,0.5s						
ANKY	**Antikythira Is**	**1.27**	**315**	P	**Pn**	**09 55 23.3**	**-0.1**
ANKY	**Antikythira Is**	**1.27**	**315**	P	**Pn**	**09 55 23.3**	**-0.1**
ANKY	**Antikythira Is**	**1.27**	**315**	P	**Pn**	**09 55 21.4**	**-2.0**
ZKR	**Zakros**	**1.50**	**84**	P	**Pb**	**09 55 27.4**	**-0.2**
ZKR				S	**Sg**	**09 55 47.7**	**-0.5**
ZKR	**Zakros**	**1.50**	**84**	P	**Pn**	**09 55 26.3**	**-0.2**
ZKR				S	**Sg**	**09 55 47.7**	**-0.5**
ZKR	**Zakros**	**1.50**	**84**	P	**Pn**	**09 55 26.3**	**-0.2**

IDC 20 09:59:52.9±46.0, 15.30S×172.69W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/31, mbtmp4.0/3, Error ellipse: s-maj=900.0km s-min=187.8km az=78.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.68**	**240**	P	P	10 08 07.2	-0.5
	1.4nm,0.5s,baz=100,slow=6.1,SNR=3.7						
WRA	**Warramunga Arr**	**50.53**	**257**	P	P	10 08 53.4	-0.1
	0.4nm,0.5s,baz=91,slow=7.0,SNR=9.7						
ASAR	**Alice Springs**	**50.79**	**252**	P	P	10 08 55.5	+0.1
	3.9nm,0.6s,baz=88,slow=8.2,SNR=74						

*NSSC **20** 10:00:08.5±2.5, 35.16N×35.17E, h7km±27km, ML1.9*
*GRAL **20** 10:00:12.1±0.3, 35.06N×35.34E, h8km±4km, MD3.1*

ISC 20 10:00:09.9±2.4, 35.13N±0.05×35.2E±0.1, h19km±6km, n8, σ0s89/16, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARNB	**Al Arnab**	**0.95**	**40**	*e*P	**Pb**	**10 00 27.3**	**-0.6**
ARNB				*e*S	**Sg**	**10 00 40.8**	**-0.4**
HWQ	**Hawqa**	**1.03**	**145**	*e*P	**Pb**	**10 00 28.7**	**-0.6**
HWQ				*e*S	**Sb**	**10 00 41.0**	**-1.5**
BHL	**Bhannes**	**1.27**	**164**	*e*P	**Pn**	**10 00 32.9**	**+0.2**
BHL				*e*S	**Sn**	**10 00 48.2**	**-1.1**
BTCH	**Batrach**	**1.36**	**48**	*e*P	**Pn**	**10 00 34.6**	**+0.7**
BTCH				*e*S	**Sn**	**10 00 50.3**	**-1.2**
BTCH				AML	AML	10 00 57.1	
	comp=N,64nm,0.2s						
MARH	**Ras Al Marh**	**1.51**	**136**	*e*P	**Pn**	**10 00 37.3**	**+1.1**
MARH				*e*S	**Sb**	**10 00 56.8**	**+0.4**
RCY	**Rachaya**	**1.70**	**163**	*e*P	**Pn**	**10 00 39.7**	**+1.0**
RCY				*e*S	**Sn**	**10 01 00.2**	**+0.1**
DRWC	**Darouich**	**1.90**	**38**	*e*P	**Pn**	**10 00 41.8**	**+0.4**
DRWC				*e*S	**Sn**	**10 01 05.1**	**+0.3**
DRWC				AML	AML	10 01 13.7	
	comp=E,20nm,0.7s						
DRWC				AML	AML	10 01 17.2	
	comp=N,7.0nm,0.3s						
ROOS	**tl_alroos**	**1.95**	**119**	*e*P	**Pn**	**10 00 42.0**	**-0.1**
ROOS				*e*S	**Sb**	**10 01 09.7**	**+0.8**

*ISK **20** 10:09:37.5, 39.13N×29.10E, h5km, ML2.2*
*DDA **20** 10:09:38.5, 39.15N×29.09E, h7km, Md2.6*
*CSEM **20** 10:09:38.3±0.1, 39.13N×29.09E, h5km, ML2.2, Error ellipse: s-maj=2.6km s-min=2.3km az=152.0*

ISC 20 10:09:38.7±1.1, 39.14N±0.03×29.09E±0.03, h5km±11km, n16, σ0s48/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.27**	**111**	*e*PG	**Pg**	**10 09 43.2**	**-0.8**
GEDZ	**Gediz**	**0.27**	**111**	*e*Pg	**Pg**	**10 09 43.2**	**-0.8**
DEMI	**Demirci**	**0.31**	**251**	P	**Pg**	**10 09 44.7**	**+0.1**
DEMI				S	**Sg**	**10 09 49.1**	**+0.5**
DEMI	**Demirci**	**0.31**	**251**	*i* P	**Pg**	**10 09 44.7**	**+0.1**
DEMI				*i* S	**Sg**	**10 09 49.1**	**+0.5**
GDZ	**Gediz**	**0.31**	**100**	P	**Pg**	**10 09 45.0**	**+0.3**
GDZ				S	**Sg**	**10 09 49.6**	**+0.7**
GDZ	**Gediz**	**0.31**	**100**	*i* P	**Pg**	**10 09 45.0**	**+0.3**
GDZ				*i* S	**Sg**	**10 09 49.6**	**+0.7**
TVSB	**Tavsanli**	**0.42**	**44**	*e*PG	**Pg**	**10 09 46.4**	**-0.4**
TVSB				*e*SG	**Sg**	**10 09 52.3**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**44**	*e*Pg	**Pg**	**10 09 46.4**	**-0.4**
TVSB				*e*Sg	**Sg**	**10 09 52.3**	**-0.1**
KULA	**Kula-Manisa**	**0.71**	**208**	*e*PG	**Pg**	**10 09 51.6**	**-0.7**
KULA				*e*SG	**Sg**	**10 10 01.8**	**+0.2**
KULA	**Kula-Manisa**	**0.71**	**208**	*e*Pg	**Pg**	**10 09 51.6**	**-0.7**
KULA				*e*Sg	**Sg**	**10 10 01.8**	**+0.2**
BALB	**Balikesir**	**1.06**	**298**	*e*PG	**Pg**	**10 09 58.4**	**-0.5**
BALB	**Balikesir**	**1.06**	**298**	*e*Pg	**Pg**	**10 09 58.4**	**-0.5**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*PN	**Pg**	**10 10 02.5**	**-0.2**
KCTX				*e*SN	**Sn**	**10 10 20.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*Pn	**Pg**	**10 10 02.5**	**-0.2**
KCTX				*e*Sn	**Sn**	**10 10 20.4**	**+0.2**
ARMT	**Armutlu**	**1.43**	**353**	*e*PN	**Pn**	**10 10 05.2**	**-0.1**
ARMT				*e*SN	**Sn**	**10 10 25.1**	**+0.5**
ARMT	**Armutlu**	**1.43**	**353**	*e*Pn	**Pn**	**10 10 05.2**	**-0.1**
ARMT				*e*Sn	**Sn**	**10 10 25.1**	**+0.5**

*IDC **20** 10:16:49.1±0.3, 25.01N×98.77E, h0km, mb5.0/40, mb1 5.1/40, mb1mx5.1/51, mbtmp5.0/40, ML4.4/1, MS4.4/39, Ms1 4.4/39, ms1mx4.2/55, Error ellipse: s-maj=10.4km s-min=8.6km az=67.0*
*BJI **20** 10:16:49.6, 25.05N×98.69E, h10km, mb5.0/70, mB5.2/52, ML5.4/12, Ms5.3/85, Ms7 5.0/75*
*ISCJB **20** 10:16:52.5±0.1, 25.06N±0.02×98.71E±0.02, h32km, mb5.2/214, MS4.5/64, Error ellipse: s-maj=2.8km s-min=2.3km az=19.0*
*MOS **20** 10:16:52.6±0.9, 25.04N×98.77E, h35km, mb5.5/98, MS4.5/36, Error ellipse: s-maj=5.9km s-min=3.5km az=117.2*
*BKK **20** 10:16:53.0±0.3, 25°N±4°×9°9E±°, h10km, M5.1/25, mB5.4/13, mb5.0/25, MLv5.7/7, Mw(mB)4.8/13, Mwp5.5/1*
*NEIC **20** 10:16:55.3±0.6, 25.08N×98.72E, h39km±5km, mb5.3/93, Error ellipse: s-maj=3.5km s-min=3.0km az=215.0*
NEIC Four people injured and moderate damage at Baoshan, China.
*GCMT **20** 10:16:55.3±0.2, 25.00N×98.80E, h16km, MW5.0/104, Moment Tensor Solution. s50,c65; s104,c178; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.90±.18; $M_{\theta\theta}$-5.45±.13; $M_{\phi\phi}$2.55±.12; $M_{r\theta}$0.17±.31; $M_{\theta\phi}$0.99±.10; $M_{\phi r}$-0.04±.43; Best double couple: $M_0$4.24100×10^{16} NP1:ϕs103.00000°, δ46.00000°, λ98.00000°. NP2: ϕs271.00000°, δ44.00000°, λ82.00000°. Principal axes: T 2.9060, Plg84.0000°, Azm86.0000°; N 2.6690, Plg6.0000°, Azm277.0000°; P -5.5750, Plg1.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 10:16:52.6±0.4, 25.05N±0.03×98.72E±0.03, h19km±1km, h19km:pP-P, n692, σ1s65/761, mb5.3/227, MS4.5/66, 83C-28D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.64**	**88**	Pn	**Pn**	**10 17 49.8**	**+1.6**
KMI				Pg	**Pg**	**10 17 59.9**	**-2.6**
KMI				Sn	**Sn**	**10 18 31.1**	**+0.3**
KMI				Sg	**Sg**	**10 18 47.6**	**-2.1**
KMI				SMN			
	6μm,1.1s						
KMI				SME			
	4μm,0.9s						
KMI				LN			
	19μm,5.3s						
KMI				LE			
	40μm,8.4s						
KMI				LZ			
	39μm,9.1s						
CHTO	**Chiang Mai**	**6.21**	**178**	P	**Pn**	**10 18 23.6**	**+0.3**
	321nm,1.0s,45μm37nm						
CHTO	**Chiang Mai**	**6.21**	**178**	*e*P	**Pn**	**10 18 23.8**	**+0.5**
CHTO	**Chiang Mai**	**6.21**	**178**	P	**Pn**	**10 18 24.0**	**+0.7**
	SNR=19						
CHTO	**Chiang Mai**	**6.21**	**178**	P	**Pn**	**10 18 24.0**	**+0.7**
	SNR=19						
CHTO	**Chiang Mai**	**6.21**	**178**	*e*Pn	**Pn**	**10 18 23.8**	**+0.5**
SHL	**Shillong**	**6.21**	**276**	*e*P	**Pn**	**10 18 23.3**	**-0.2**
SHL				*ex*	x	10 19 51.5	
LAMP	**Lampang**	**6.55**	**172**	P	**Pn**	**10 18 28.8**	**+0.8**
	31nm,1.0s,2μm1.7nm						
CM31	**Chiang Mai Arr**	**6.56**	**178**	*e*Pn	**Pn**	**10 18 29.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**6.56**	**178**	Pn	**Pn**	**10 18 28.5**	**+0.4**
	2.3nm,0.3s,baz=356,slow=14,SNR=41						
CMAR				Pg	Pg	10 18 52.6	-5.7
	10nm,0.3s,baz=350,slow=17,SNR=38						
CMAR				Lg	Lg	10 20 17.5	
	4.5nm,0.3s,baz=316,slow=36,SNR=2.9						
CMAR				LR	LR	10 21 03.2	
	comp=Z,4μm,21.8s,baz=2.5,slow=39						
GYA	**Guiyang**	**7.30**	**77**	*i*Pn	**Pn**	**10 18 39.3**	**+1.0**
GYA				Sn	**Sn**	**10 20 02.8**	**+2.1**
GYA				Sg	**Sg**	**10 20 41.3**	**-5.5**
GYA				SMN			
	340nm,1.4s						
GYA				SME			
	280nm,1.2s						
GYA				LN			
	9μm,7.1s						
GYA				LE			
	19μm,10.0s						
GYA				LZ			
	26μm,9.9s						
CD2	**Chengdu**	**7.34**	**36**	Pn	**Pn**	**10 18 39.8**	**+0.9**
CD2				Sn	**Sn**	**10 19 57.4**	**-4.4**
CD2				Sg	**Sg**	**10 20 42.8**	**-5.4**
CD2				SMN			
	1μm,1.9s						
CD2				SME			
	1μm,1.8s						
CD2				LN			
	12μm,6.8s						
CD2				LE			
	24μm,7.8s						
CD2				LZ			
	23μm,9.2s						
UTTA	**Uttaradit**	**7.46**	**166**	P	**Pn**	**10 18 41.2**	**+0.7**
	31nm,0.8s,691nm0.9nm						
SUKH	**Sukhothai**	**7.57**	**173**	P	**Pn**	**10 18 42.9**	**+0.9**
	25nm,0.8s,1μm0.9nm						
LOEI	**Loei**	**7.87**	**162**	P	**Pn**	**10 18 48.5**	**+2.4**
	93nm,0.8s,1μm1.7nm						
LSA	**Lhasa**	**8.17**	**306**	P	**Pn**	**10 18 51.8**	**+1.1**
LSA				pP	pP	10 18 58.1	
LSA				SS	Sb	10 20 41.8	-9.2
LSA				PMZ			
	43nm,1.0s						
LSA				PMZ			
	100nm,12.3s						
LSA				LN			
	5μm,15.8s						
LSA				LE			
	5μm,17.6s						
LSA				LZ			
	10μm,10.6s						
LSA	**Lhasa**	**8.17**	**306**	*e*P	**Pn**	**10 18 51.5**	**+0.8**
LSA				pmax	pmax		
	comp=Z,58nm,0.6s						
LSA	**Lhasa**	**8.17**	**306**	*e*Pn	**Pn**	**10 18 51.5**	**+0.8**
	comp=Z,58nm,0.6s						
PBKT	**Sadao Pong**	**8.69**	**166**	P	**Pn**	**10 18 59.4**	**+2.0**
	comp=Z,46nm,1.1s,comp=Z,2μmcomp=Z,0.8nm						
UMPA	**Umpang Tak**	**8.80**	**179**	P	Pn	10 19 05.7	+6.8
SKNT	**Sakolnakorn**	**9.41**	**148**	P	**Pn**	**10 19 10.2**	**+2.9**
	comp=Z,52nm,1.1s						
KHON	**Khomkaen**	**9.47**	**155**	P	**Pn**	**10 19 12.9**	**+4.8**
	comp=Z,22nm,0.8s,comp=Z,762nm						
SRDT	**SRDT**	**10.65**	**178**	P	Pn	10 19 30.9	+6.7
ENH	**Enshi**	**10.87**	**59**	*e*Pn	**Pn**	**10 19 25.9**	**-1.4**
	comp=Z,128nm,0.8s						
RAMN	**Ramite**	**11.07**	**282**	*e*P	**Pn**	**10 19 29.2**	**-1.0**
	comp=Z,87nm,0.6s						
BOK	**Bokaro**	**11.76**	**267**	*e*P	**Pn**	**10 19 39.6**	**+0.1**
BOK				IAmb	IAmb	10 19 40.1	
	comp=Z,107nm,0.2s						
LZH	**Lanzhou**	**11.85**	**21**	*e*P	**Pn**	**10 19 44.8**	**+4.0**
LZH				pP		10 19 49.1	
LZH				sP		10 19 51.8	
LZH				S	**Sn**	**10 21 58.0**	**+5.4**
LZH				sS		10 22 06.5	
LZH				PMZ			
	comp=Z,39nm,1.0s						
LZH				PMZ			
	comp=Z,510nm,4.1s						
LZH				LN			
	comp=Z,9μm,6.7s						
LZH				LE			
	comp=Z,5μm,6.8s						
LZH				LZ			
	comp=Z,9μm,9.4s						
GUN	**Gumba**	**11.85**	**287**	*e*P	**Pn**	**10 19 39.4**	**-1.6**
	comp=Z,244nm,1.0s						
QIZ	**Qiongzhong**	**11.92**	**118**	P	**Pn**	**10 19 41.9**	**+0.3**
QIZ				S	**Sn**	**10 22 01.3**	**+7.1**
QIZ				PMZ			
	comp=Z,20nm,1.3s						
QIZ				PMZ			
	comp=Z,150nm,6.4s						
QIZ				LE			
	comp=Z,3μm,9.1s						
QIZ				LZ			
	comp=Z,3μm,10.2s						
PHET	**Kaeng Krachan**	**12.10**	**176**	P	**P**	**10 19 52.5**	**-4.3**
PKIN	**Phulchoki**	**12.22**	**285**	*e*P	**Pn**	**10 19 44.4**	**-1.5**
	comp=Z,40nm,0.5s						
KKN	**Kakani**	**12.35**	**286**	*e*P	**Pn**	**10 19 45.5**	**-2.2**
	comp=Z,60nm,0.7s						
DMN	**Daman**	**12.48**	**285**	*e*P	**Pn**	**10 19 47.2**	**-2.3**
	comp=Z,120nm,1.1s						
XAN	**Xi'an**	**12.61**	**42**	P	**Pn**	**10 19 48.3**	**-2.7**
XAN				pP	P	10 19 55.3	-7.1
XAN				sP		10 20 00.3	
XAN				PMZ			
	comp=Z,26nm,1.0s						
XAN				PMZ			
	comp=Z,110nm,4.6s						
XAN				LN			
	comp=Z,12μm,12.7s						
XAN				LE			
	comp=Z,8μm,15.3s						
XAN				LZ			
	comp=Z,5μm,14.0s						
BWNR	**Bhubaneshwar**	**12.83**	**251**	*e*P	**Pn**	**10 19 54.7**	**+0.7**
BWNR				IAmb	IAmb	10 19 56.5	
	comp=Z,81nm,0.5s						
GKN	**Gorkha**	**12.95**	**286**	*e*P	**Pn**	**10 19 53.4**	**-2.5**
	comp=Z,111nm,0.8s						
KOLN	**Koldanda**	**13.82**	**285**	*e*P	**Pn**	**10 20 04.6**	**-3.2**
	comp=Z,43nm,0.8s						
GTA	**Gaotai**	**14.35**	**3**	*e*P	**Pn**	**10 20 14.3**	**-0.6**
GTA				pP	P	10 20 18.6	-3.3
GTA				sP		10 20 22.3	
GTA				S	**Sn**	**10 22 52.4**	**-1.2**
GTA				sS	S	10 23 06.5	-7.2
GTA				SS	**SnSn**	**10 23 11.4**	**+4.9**
GTA				PMZ			
	comp=Z,6.0nm,0.9s						
GTA				PMZ			
	comp=Z,220nm,5.9s						
GTA				LN			
	comp=Z,3μm,7.8s						
GTA				LE			
	comp=Z,7μm,12.8s						
GTA				LZ			
	comp=Z,2μm,9.7s						
PYUN	**Piuthan**	**14.40**	**286**	*e*P	**Pn**	**10 20 12.8**	**-3.0**
	comp=Z,252nm,1.2s						
WHN	**Wuhan**	**14.87**	**65**	⇓P	**Pn**	**10 20 19.1**	**-2.8**
WHN				S	**Sn**	**10 23 06.6**	**+0.5**
WHN				LN			
	comp=Z,20μm,10.0s						
WHN				LE			
	comp=Z,8μm,11.2s						
WHN				LZ			
	comp=Z,9μm,10.0s						
SURA	**Surathani**	**15.82**	**177**	P	**P**	**10 20 44.5**	**+6.4**
SURA	**Surathani**	**15.82**	**177**	P	**P**	**10 20 44.5**	**+6.4**
SURT	**Suratani**	**16.00**	**180**	P	**P**	**10 20 46.6**	**+6.5**
SURT	**Suratani**	**16.00**	**180**	P	**P**	**10 20 46.6**	**+6.5**
VIS	**Vishakhapatnam**	**16.08**	**246**	*e*P	**Pn**	**10 20 37.7**	**0.0**
TRTT	**Trang**	**17.14**	**177**	P	**P**	**10 20 57.6**	**+4.8**
TRTT	**Trang**	**17.14**	**177**	P	**P**	**10 20 57.6**	**+4.8**
TIY	**Taiyuan**	**17.19**	**39**	*e*P	**Pn**	**10 20 51.4**	**-0.4**
TIY				pP	**pP**	**10 20 58.6**	**-0.1**
TIY				sP	**sP**	**10 21 04.6**	**+3.4**
TIY				S	**S**	**10 24 11.3**	**-0.4**
TIY				PMZ			
	comp=Z,140nm,1.4s						
TIY				PMZ			
	comp=Z,340nm,3.8s						
TIY				LN			
	comp=Z,5μm,11.5s						
TIY				LZ			
	comp=Z,4μm,14.4s						
SKLT	**Songkhla**	**17.87**	**174**	P	P	10 21 08.1	+7.3
SKLT	**Songkhla**	**17.87**	**174**	P	P	10 21 08.1	+7.3
QZH	**Quanzhou**	**18.01**	**86**	P	Pn	10 20 53.1	-8.9
QZH				S	**S**	**10 24 32.3**	**+4.0**
QZH				pmax	pmax		
	comp=Z,320nm,0.8s						
QZH				pmax	pmax		
	comp=Z,2μm,4.7s						
QZH				LR	LR		
	comp=N,12μm,12.2s						
QZH				LR	LR		
	comp=E,1μm,5.8s						
QZH				LR	LR		
	comp=Z,14μm,14.5s						
BTO	**Baotou**	**18.16**	**29**	*e*P	**Pn**	**10 21 03.4**	**-0.4**
NJ2	**Nanjing**	**19.00**	**64**	*e*P	**Pn**	**10 21 14.8**	**+0.9**
NJ2				sP	**sP**	**10 21 20.4**	**-0.6**
NJ2				S	**S**	**10 24 52.6**	**+4.4**
N

HHC LE
comp=Z,2µm,9.1s
HHC LZ
comp=Z,3µm,8.6s
TIA Tai'an 19.32 51 ⇑P **Pn 10 21 17.3 -0.5**
TIA S **Sn 10 24 53.9 -0.1**
TIA PMZ
comp=Z,170nm,0.9s
TIA PMZ
comp=Z,2µm,6.1s
TIA LN
comp=Z,2µm,9.8s
TIA LE
comp=Z,6µm,11.9s
TIA LZ
comp=Z,8µm,11.0s
BHPL Bhopal 19.52 269 *e*P **P 10 21 19.4 +0.4**
BHPL IAmb IAmb 10 21 21.9
comp=Z,185nm,0.9s
KULM Kulim 19.73 174 ⇓P **Pn 10 21 24.1 +1.3**
KULM Kulim 19.73 174 *e*P **Pn 10 21 22.8 -0.1**
comp=Z,108nm,1.3s
SMLA Simla 19.95 293 *e*P **P 10 21 23.8 +0.3**
SMLA IAmb IAmb 10 21 24.9
comp=Z,372nm,1.4s
TPUB Ta-pu 20.06 90 *e*P Pn 10 21 26.6 -0.2
comp=Z,150nm,1.2s
HYB Hyderabad 20.26 252 *i* P **P 10 21 28.0 +0.9**
HYB Hyderabad 20.26 252 *e*P Pn 10 21 28.4 -0.7
HYB IAmb IAmb 10 21 30.9
comp=Z,396nm,1.9s
SSLB Suanglung 20.28 89 *e*P Pn 10 21 28.9 -0.4
comp=Z,163nm,1.6s
TWG Pinlang 20.55 92 *e*P Pn 10 21 32.9 +0.5
comp=Z,358nm,0.8s
YHNB Yeheng 20.56 86 *e*P Pn 10 21 31.9 -0.7
comp=Z,171nm,1.1s
IPM Ipoh 20.57 173 ⇓P Pn 10 21 32.9 +0.2
IPM Ipoh 20.57 173 *e*P Pn 10 21 31.6 -1.1
comp=Z,56nm,1.1s
YULB Yu-li 20.65 90 *e*P Pn 10 21 33.4 -0.3
comp=Z,186nm,1.2s
MLSI Meulaboh, Aceh 20.78 187 P **P 10 21 33.8 +1.1**
WMQ Urumqi 20.79 337 P Pn 10 21 33.9 -1.2
WMQ pP sP 10 21 43.3 +2.8
WMQ PP **PnPn 10 21 59.4 +8.4**
WMQ S **S 10 25 24.1 +0.2**
WMQ sS Sn 10 25 30.5 +1.2
WMQ PMZ
comp=Z,58nm,0.8s
WMQ PMZ
comp=Z,360nm,4.0s
WMQ LN
comp=Z,1µm,8.6s
WMQ LE
comp=Z,1µm,10.4s
NACB Ninganchiao 20.81 88 *e*P Pn 10 21 36.0 +0.5
comp=Z,179nm,1.0s
BJT Baijiatuau 20.90 40 *e*P **P 10 21 34.7 +0.8**
BJT pmax pmax
comp=Z,190nm,1.3s
BJT Baijiatuau 20.90 40 *e*P **P 10 21 34.6 +0.8**
comp=Z,190nm,1.3s
BJI Beijing 20.92 40 P Pn 10 21 35.3 -1.3
BJI S Sn 10 25 30.8 -1.6
BJI PMZ
comp=Z,120nm,1.2s
BJI PMZ
comp=Z,1µm,6.9s
BJI LN
comp=Z,8µm,16.2s
BJI LE
comp=Z,7µm,16.6s
PONG Pong 21.14 294 *e*P **P 10 21 36.0 -0.5**
THN Thein Dam 21.45 295 *ex* **P 10 21 37.0 -2.8**
THN *e*S **S 10 25 36.8 -0.2**
TPTI 21.71 184 P **P 10 21 41.2 -1.5**
FRIM Kepong 21.86 172 ⇑P **P 10 21 47.9 +3.6**
PSI Prapat 22.12 179 *e*P **P 10 21 50.5 +3.3**
PSI pmax pmax
comp=Z,44nm,0.9s
PSI Prapat 22.12 179 *e*P **P 10 21 50.5 +3.3**
comp=Z,44nm,0.9s
KGM Kluang 23.32 168 ⇓P **P 10 22 01.4 +1.6**
SONM Songino Array 23.54 13 P **P 10 22 01.5 -0.3**
comp=Z,28nm,0.9s,baz=195,slow=9.7,SNR=92
SONM S **S 10 26 19.8 +4.8**
comp=Z,0.5nm,0.4s,baz=161,slow=18,SNR=2.8
SONM Lg Lg 10 29 31.0
comp=Z,0.7nm,0.4s,baz=134,slow=34,SNR=2.8
SONA1 Songino Array 23.55 13 *e*P **P 10 22 02.1 +0.2**
GSI Gunungsitoli 23.63 183 *e*P **P 10 22 03.9 +1.1**
comp=Z,102nm,1.5s
MYKOM Kota Tinggi 23.64 167 *e*P **P 10 22 03.7 +0.8**
comp=Z,29nm,0.9s
ULN Ulaanbaatar 23.71 14*c i*P **P 10 22 03.5 0.0**
ULN pmax pmax
comp=Z,56nm,1.1s
ULN Ulaanbaatar 23.71 14 P **P 10 22 03.6 +0.2**
SNR=32
ULN P **P 10 22 03.6 +0.2**
SNR=32
ULN Ulaanbaatar 23.71 14 P **P 10 22 03.6 +0.2**
SNR=32
ULN Ulaanbaatar 23.71 14 *e*P **P 10 22 03.3 -0.2**
comp=Z,93nm,1.3s
DL2 Dalian 23.76 49 P **P 10 22 03.8 0.0**
DL2 S **S 10 26 16.4 -1.9**
DL2 PMZ
comp=Z,250nm,0.9s
DL2 PMZ
comp=Z,660nm,4.0s
DL2 LN
comp=Z,3µm,11.8s
DL2 LE
comp=Z,2µm,11.3s
DL2 LZ
comp=Z,2µm,12.8s
SHLS Shalkode 23.77 324 *e*P **P 10 22 02.2 -2.0**
comp=Z,421nm,1.4s
SHLS *e*S **S 10 26 16.8 -2.2**
SHLS LR LR 10 33 05.7
comp=Z,246nm,10.0s
KSH Kashi 23.95 313 P **P 10 22 07.0 +1.1**
KSH PP **PnPn 10 22 42.1 +7.6**
KSH PcP **PcP 10 25 50.4 +2.4**
KSH S **S 10 26 17.6 -4.1**
KSH SS **SnSn 10 27 11.5 +10**
KSH PMZ
comp=Z,95nm,1.2s
KSH PMZ
comp=Z,530nm,2.6s
KSH LN
comp=Z,1µm,13.3s
KSH LE
comp=Z,1µm,13.4s
KSH LZ
comp=Z,1µm,22.4s
POO Poona 23.97 259 *e*P **P 10 22 07.1 +1.0**
POO IAmb IAmb 10 22 08.1
comp=Z,394nm,2.1s
PDGK Podgornoye 24.10 324 *i* P **P 10 22 06.4 -0.6**
PDGK pmax pmax
comp=Z,81nm,1.5s
SATY Saty 24.51 322 *e*P **P 10 22 10.7 -0.3**
comp=Z,1µm,1.2s
SATY *e*S **S 10 26 30.5 -0.1**
KPKS Kokpek 24.63 323 *e*P **P 10 22 11.8 -0.2**
comp=Z,1µm,1.0s
KPKS *e*S **S 10 26 32.5 +0.1**
BKNI Bangkinang 24.68 174 *e*P **P 10 22 12.6 +0.1**
comp=Z,177nm,1.3s
PALK Pallekele 24.68 227 P **P 10 22 13.9 +1.3**
comp=Z,31nm,0.9s,baz=308,slow=0.3,SNR=6.4
PALK LR LR 10 33 44.7
comp=Z,548nm,19.8s,baz=116,slow=41
PALK Pallekele 24.68 227 *e*P **P 10 22 14.0 +1.4**
PALK pmax pmax
comp=Z,61nm,1.3s
PALK Pallekele 24.68 227 *e*P **P 10 22 14.0 +1.4**
comp=Z,62nm,1.3s
KDM Kudat 25.00 133 ⇑P **P 10 22 17.3 +1.8**
ZSN Zaisan 25.09 337 *i* P **P 10 22 14.4 -1.6**
comp=Z,1µm,1.0s
ZSN *e*S **S 10 26 38.2 -1.3**
ZSN LR LR 10 32 05.3
comp=Z,355nm,9.4s
KKM Kota Kinabalu 25.26 136 ⇓P **P 10 22 19.9 +2.1**
KKM Kota Kinabalu 25.26 136 *e*P **P 10 22 18.8 +0.9**
comp=Z,81nm,1.1s
MK01 Makanchi Array 25.33 333 *e*P **P 10 22 18.4 +0.2**
MDOK Medeo 25.35 321 *i* P **P 10 22 16.4 -2.2**
comp=Z,295nm,0.5s
MDOK *i* S **S 10 26 42.0 -2.0**
MDOK *i* SS **SnSn 10 27 36.5 +0.5**
MDOK LR LR 10 32 25.6
comp=Z,239nm,14.3s
MK31 Makanchi Array 25.36 333 *i* P **P 10 22 19.4 +1.0**
MK31 pmax pmax
comp=Z,96nm,0.8s
MK31 Makanchi Array 25.36 333 *e*P **P 10 22 19.6 +1.2**
MKAR Makanchi Array 25.36 333 P **P 10 22 19.5 +1.0**
comp=Z,96nm,0.9s,baz=142,slow=10.0,SNR=287
MKAR PcP **PcP 10 25 50.7 -0.1**
comp=Z,6.2nm,0.9s,baz=110,slow=11,SNR=4.0
MKAR LR LR 10 33 09.7
comp=Z,421nm,18.8s,baz=150,slow=39
AAA Alma-Ata 25.47 321 *i* P **P 10 22 22.7 +3.1**
AAA pmax pmax
comp=Z,700nm,2.7s
AAA Alma-Ata 25.47 321 *e*P **P 10 22 20.4 +0.8**
comp=Z,946nm,1.0s
AAA *e*S **S 10 26 46.3 +0.4**
AAA LR LR 10 32 36.5
comp=Z,386nm,14.0s
MAKZ Makanchi 25.50 333 *i* P **P 10 22 20.1 +0.4**
MAKZ pmax pmax
comp=Z,95nm,1.1s
MAKZ Makanchi 25.50 333 *e*P **P 10 22 20.6 +0.9**
comp=Z,107nm,1.2s
ZAK Zakamensk 25.54 7 *e*P **P 10 22 20.7 +0.6**
ZAK pmax pmax
comp=Z,75nm,1.2s
SBUM Sibu 25.96 148 ⇑P **P 10 22 25.8 +1.7**
SBUM Sibu 25.96 148 *e*P **P 10 22 25.1 +1.0**
comp=Z,15nm,1.1s
KSM Kuching 25.97 153 ⇑P **P 10 22 25.4 +1.2**
KSM Kuching 25.97 153 *e*P **P 10 22 24.8 +0.6**
comp=Z,40nm,1.0s
TKM2 Tokmak 2 26.05 319 *i* P **P 10 22 25.8 +0.8**
TKM2 pmax pmax
comp=Z,37nm,1.2s
TKM2 Tokmak 2 26.05 319 *e*P **P 10 22 26.1 +1.1**
comp=Z,51nm,1.4s
KUU Kurty 26.20 321 *i* P **P 10 22 24.3 -1.9**
comp=Z,363nm,1.3s
KUU *e*S **S 10 26 55.0 -2.3**
KUU LR LR 10 33 58.9
comp=Z,427nm,13.4s
SNY Shenyang 26.51 45 ⇑P **P 10 22 28.4 -0.5**
SNY S **S 10 27 06.0 +3.9**
SNY PMZ
comp=Z,52nm,0.8s
SNY LN
comp=Z,3µm,13.5s
SNY LE
comp=Z,2µm,12.9s
SNY LZ
comp=Z,3µm,12.4s
AAK Ala-Archa 26.55 317 P **P 10 22 29.5 0.0**
comp=Z,14nm,0.9s,baz=111,slow=7.2,SNR=17
AAK LR LR 10 34 14.3
comp=Z,627nm,18.5s,baz=115,slow=39
AAK Ala-Archa 26.55 317 *i* P **P 10 22 29.8 +0.3**
AAK pmax pmax
comp=Z,32nm,1.3s
AAK Ala-Archa 26.55 317 P **P 10 22 31.0 +1.5**
SNR=10
AAK Ala-Archa 26.55 317 P **P 10 22 31.0 +1.5**
SNR=10
AAK Ala-Archa 26.55 317 *e*P **P 10 22 31.0 +1.5**
comp=Z,24nm,1.0s
FRU Bishkek 26.59 318 ⇓*e*P **P 10 22 29.0 -0.7**
FRU pmax pmax
comp=Z,60nm,1.6s
FRU MLR MLR
comp=E,1µm,12.0s
JOW Kunigami 26.61 80 *e*P **P 10 22 30.8 +0.8**
comp=E,47nm,1.1s
MOY Mondy 26.64 3 *e*P **P 10 22 31.5 +1.4**
MOY pmax pmax
comp=Z,36nm,1.7s
INCN Inchon 26.78 56 *e*P **P 10 22 30.2 -1.2**
comp=Z,25nm,0.9s
TLY Talaya 26.86 7 P **P 10 22 30.8 -1.2**
comp=Z,6.8nm,0.7s,baz=211,slow=9.5,SNR=6.4
TLY S S 10 27 19.8 +12
comp=Z,2.5nm,0.5s,baz=232,slow=19,SNR=1.8
TLY Lg Lg 10 31 17.1
comp=Z,1.1nm,0.4s,baz=91,slow=18,SNR=1.8
TLY Talaya 26.86 7 *e*P **P 10 22 33.7 +1.8**
TLY *e* 10 23 16.8
TLY *e*PPP PPP 10 23 23.5
TLY *e*S **S 10 27 13.7 +6.2**
TLY pmax pmax
comp=Z,25nm,1.5s
TLY MLR MLR
comp=Z,988nm,17.0s
TLY Talaya 26.86 7 *e*P **P 10 22 33.8 +1.8**
comp=Z,24nm,1.2s
TLY S S 10 27 19.8 +12
TLY Lg Lg 10 31 17.1
TJN Taejon 26.99 58*c i*P **P 10 22 31.3 -2.0**
EKS2 Erkin-Say 27.01 317 *e*P **P 10 22 35.1 +1.5**
EKS2 pmax pmax
comp=Z,18nm,1.0s
EKS2 Erkin-Say 27.01 317 *e*P **P 10 22 35.1 +1.5**
comp=Z,18nm,1.0s
KBL Kabul 27.36 297 *e*P **P 10 22 37.0 +0.1**
KBL pmax pmax
comp=Z,64nm,1.2s
KBL Kabul 27.36 297 *e*P **P 10 22 37.0 +0.1**
comp=Z,64nm,1.2s
MYLDM Lahad Datu 27.39 133 *e*P **P 10 22 38.4 +1.4**
comp=Z,50nm,1.3s
IRK Irkutsk 27.48 7 *e*P **P 10 22 38.1 +0.5**
IRK pmax pmax
comp=Z,78nm,1.7s
KS15 Wonju Array Si 27.71 57 *e*P **P 10 22 38.2 -1.5**
KSAR Wonju Array Be 27.71 57 P **P 10 22 37.7 -2.0**
KSAR 10 25 55.9
KSAR Wonju Array Be 27.71 57 P **P 10 22 37.7 -2.0**
KSAR PcP **PcP 10 25 55.9 -0.5**
MNAS Manas 27.72 315 *i* P **P 10 22 40.3 +0.3**
MNAS pmax pmax
comp=Z,15nm,0.8s
KS01 Wonju Array Si 27.73 56 *e*P **P 10 22 37.4 -2.5**
KSRS Korea Array 27.74 57 P **P 10 22 37.7 -2.3**
comp=Z,6.8nm,0.8s,baz=242,slow=9.0,SNR=40
KSRS PcP **PcP 10 25 55.9 -0.5**
comp=Z,2.4nm,0.8s,baz=259,slow=3.3,SNR=5.8
KSRS LR LR 10 33 19.8
comp=Z,890nm,19.1s,baz=252,slow=36
CN2 Changchun 28.72 43 *e*P **P 10 22 47.4 -1.3**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,4µm,18.0s
CN2 LE
comp=Z,2µm,18.0s
CN2 LZ
comp=Z,2µm,18.0s
SEM Semipalatinsk 29.07 335 *e*P **P 10 22 51.1 -0.6**
comp=Z,338nm,1.0s
SEM LR LR 10 34 39.5
comp=Z,303nm,14.2s
JNU Nakatsue 29.14 67 P **P 10 22 51.0 -1.6**
comp=Z,24nm,0.9s,baz=96,slow=5.3,SNR=7.9
JNU LR LR 10 35 45.5
comp=Z,1µm,19.0s,baz=268,slow=39
JNU Nakatsue 29.14 67 *e*P **P 10 22 52.0 -0.6**
comp=Z,59nm,1.2s
HIA Hailar 29.22 29 *e*P **P 10 22 53.1 0.0**
HIA pmax pmax
comp=Z,17nm,0.6s
HIA Hailar 29.22 29 *e*P **P 10 22 53.1 0.0**
comp=Z,17nm,0.6s
KKAR Karatay Array 29.30 315 *e*P **P 10 22 53.7 -0.2**
KKAR Karatay Array 29.30 315 *e*P **P 10 22 53.7 -0.2**
BRLS Boroldaу 29.69 314 *e*P **P 10 22 56.5 -0.8**
comp=Z,36nm,1.0s
BRLS *e*S **S 10 27 52.1 -0.2**
BRLS LR LR 10 34 42.4
comp=Z,346nm,13.8s
KURBB Kurchatov Arra 29.91 334 P **P 10 22 59.6 +0.5**
comp=Z,9.3nm,0.7s,baz=133,slow=9.8,SNR=66
KURBB PcP **PcP 10 26 01.1 -0.5**
comp=Z,12nm,0.9s,baz=148,slow=2.1,SNR=15
KURK Kurchatov 29.95 334*c i*P **P 10 23 00.0 +0.5**
KURK pmax pmax
comp=Z,100nm,1.2s
KURK Kurchatov 29.95 334 *e*P **P 10 22 60.0 +0.5**
comp=Z,194nm,1.4s
KURK PcP **PcP 10 26 01.1 -0.6**
ZAA0 Zalesovo Array 30.68 344 *e*P **P 10 23 06.5 +0.6**
ZAA0 *e*P **P 10 23 06.6 +0.7**
ZALV Zalesovo Beam 30.68 344 P **P 10 23 06.5 +0.7**
comp=Z,43nm,0.7s,baz=161,slow=10,SNR=152
ZALV PcP **PcP 10 26 02.4 -1.1**
comp=Z,1.0nm,0.3s,baz=202,slow=2.7,SNR=3.5
ZALV Zalesovo Beam 30.68 344 P **P 10 23 06.6 +0.7**
ZALV 10 26 02.4
ZALV pmax pmax
comp=Z,42nm,0.7s
OTUK Ortayu 31.10 325 P **P 10 23 09.9 +0.2**
OTUK pmax pmax
comp=Z,36nm,1.0s
DAV Davao City (W) 31.28 120 LR LR 10 35 44.9
comp=Z,614nm,19.9s,baz=282,slow=36
MDJ Mudanjiang 31.71 44 P **P 10 23 13.3 -1.8**
MDJ pP pP 10 23 21.8 +0.9
MDJ S **S 10 28 21.1 -2.7**
MDJ sS sS 10 28 34.6 +1.2
MDJ ScP **ScP 10 29 46.8 -2.1**
MDJ PMZ
comp=Z,9.0nm,0.7s
MDJ PMZ
comp=Z,92nm,4.5s
MDJ LN
comp=Z,3µm,19.7s
MDJ LE
comp=Z,1µm,21.2s
MDJ LZ
comp=Z,1µm,10.9s
MSHR Mys Shultsa 31.87 49 *i* P **P 10 23 15.5 -1.0**
NVS Novosibirsk 31.89 343 ⇑*i*P **P 10 23 17.1 +0.6**
NVS *e* 10 26 05.6
NVS pmax pmax
comp=N,36nm,0.8s
NVS pmax pmax
comp=E,25nm,0.8s
NVS pmax pmax
comp=Z,50nm,0.8s
VLA Vladivostok 32.57 48*c i*P **P 10 23 22.1 -0.6**
VLA pmax pmax
comp=Z,94nm,1.0s
USRK Ussuriysk Ar. 33.07 46 P **P 10 23 26.4 -0.6**
comp=Z,42nm,0.7s,baz=246,slow=8.6,SNR=68
USRK LR LR 10 38 18.1
comp=Z,814nm,19.6s,baz=242,slow=39
INU Inuyama 34.47 64 *e*P **P 10 23 38.2 -1.1**
comp=Z,27nm,0.9s
BOD Bodaibo 34.52 14 *e*P **P 10 23 40.1 +0.6**
BOD pmax pmax
comp=Z,46nm,1.0s
BVA0 Borovoye Array 35.14 330 *i* P **P 10 23 45.2 +0.3**
BVA0 pmax pmax
comp=Z,30nm,0.8s
BVAR Borovoye Array 35.14 330 P **P 10 23 45.5 +0.7**
comp=Z,22nm,0.7s,baz=128,slow=9.6,SNR=77
BVAR PcP **PcP 10 26 15.7 -0.3**
comp=Z,9.5nm,0.7s,baz=116,slow=3.4,SNR=10
BVAR LR LR 10 38 14.0
comp=Z,410nm,19.2s,baz=118,slow=36
KLR Kul'dur 35.27 38 PP PP 10 25 11.7 +5.6
comp=Z,5.1nm,1.1s,baz=243,slow=8.5,SNR=3.7
KLR PcP **PcP 10 26 15.8 -0.6**
comp=Z,7.9nm,0.8s,baz=246,slow=4.0,SNR=9.1
KLR LR LR 10 38 27.7
comp=Z,821nm,21.0s,baz=235,slow=37
CHKZ Chkalovo 35.47 331 *i* P **P 10 23 47.9 +0.2**
CHKZ pmax pmax
comp=Z,33nm,0.7s
MJB9 Matsu-Tunnel 35.57 62 *e*P **P 10 23 48.0 -0.8**
comp=Z,3.7nm,0.9s
MAJO Matsushiro 35.57 62*c i*P **P 10 23 46.7 -2.2**
MAJO pmax pmax
comp=Z,70nm,0.9s
MAJO Matsushiro 35.57 62 *e*P **P 10 23 47.9 -0.9**
comp=Z,15nm,0.9s
MAT Matsushiro 35.57 62 P **P 10 23 47.3 -1.6**
MAT S **S 10 29 26.2 +2.3**
MJAR Matsushiro Arr 35.57 62 P **P 10 23 47.8 -1.1**
comp=Z,14nm,1.0s,baz=266,slow=9.8,SNR=40
MJAR PP **PP 10 25 15.4 +5.7**
comp=Z,1.4nm,0.9s,baz=272,slow=8.4,SNR=4.4
MJAR PcP **PcP 10 26 17.5 -0.1**
comp=Z,6.6nm,0.9s,baz=266,slow=2.1,SNR=12
MJAR LR LR 10 39 42.4
comp=Z,720nm,18.6s,baz=255,slow=39
ZRNK Zerenda 35.72 329 *i* P **P 10 23 49.9 0.0**
ZRNK pmax pmax
comp=Z,34nm,1.1s
JHJ Hachijo jima 2 36.59 68 LR LR 10 40 03.3
comp=Z,543nm,18.2s,baz=40,slow=38
GEYT Alibeck 36.65 300 P **P 10 23 58.9 +0.8**
comp=Z,16nm,0.8s,baz=115,slow=6.7,SNR=17
GEYT PcP **PcP 10 26 20.8 0.0**
comp=Z,9.2nm,0.7s,baz=174,slow=1.3,SNR=4.2
GEYT LR LR 10 40 30.4
comp=Z,485nm,19.5s,baz=140,slow=39
HABR Khabarovsk 36.82 41*c e*P **P 10 23 56.6 -2.7**
HABR *e**PP **sP 10 24 06.2 -1.3**
HABR *e**SP **pP 10 24 10.5 +5.3**
HABR *e* 10 25 20.7
HABR *e* 10 26 18.0
HABR *e*S **S 10 29 39.2 -3.3**
HABR *e**SS **sS 10 29 55.6 +3.4**
HABR *e*SS **SnSn 10 32 13.7 -0.8**
HABR *e* 10 34 09.3
HABR pmax pmax
comp=Z,94nm,2.0s
HABR pmax pmax
comp=E,59nm,2.0s
HABR pmax pmax
comp=N,20nm,2.0s
HABR MLR MLR
comp=Z,776nm,17.0s
CLNS Chul'man 36.95 24 *e*P **P 10 24 00.5 +0.1**
CLNS pmax pmax
comp=Z,48nm,0.8s
CLNS pmax pmax
comp=E,34nm,1.0s
CLNS pmax pmax
comp=N,33nm,0.9s
UOSS Minazif 38.42 279 *e*P **P 10 24 13.0 -0.2**
comp=N,1.2nm,1.3s
ASHO Ashiyiah 38.59 279 P **P 10 24 18.7 +4.0**
SNR=7.6
AB31 Akbulak array 38.62 319 *i* P **P 10 24 14.9 +0.4**
AB31 pmax pmax
comp=Z,20nm,0.7s
ABKAR Akbulak array 38.62 319 *e*P **P 10 24 14.9 +0.4**
JCJ Chichijima 38.95 77 LR LR 10 41 25.2
comp=Z,439nm,18.7s,baz=248,slow=38
ERM Erimo 40.23 54*d i*P **P 10 24 28.0 -0.1**
ERM pmax pmax
comp=Z,140nm,1.0s
ERM Erimo 40.23 54 *e*P **P 10 24 27.2 -0.9**
comp=Z,168nm,1.2s
ASAJ Asahikawa 40.27 51 *e*P **P 10 24 28.3 -0.1**
comp=Z,204nm,0.9s
YSS Yuzh-Sakhalins 41.11 46 *i* P **P 10 24 35.2 -0.1**
YSS *e* 10 26 19.0
YSS *e*S **S 10 30 46.0 -1.2**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,300nm,6.0s
YSS MLR MLR
comp=E,1µm,13.0s
YSS MLR MLR
comp=Z,2µm,13.0s
YSS MLR MLR
comp=N,800nm,14.0s
YSS Yuzh-Sakhalins 41.11 46 *e*P **P 10 24 35.3 +0.1**

comp=N,157nm,1.3s
SVE Sverdlovsk 41.91 329 *de* P **P 10 24 42.8 +1.1**
SVE pmax pmax
comp=Z,142nm,1.0s
NKL Nikolayevsk 42.07 37 *eP* **P 10 24 42.0 -1.0**
NKL *e* 10 31 05.0
NKL pmax pmax
comp=Z,43nm,1.0s
NKL pmax pmax
comp=Z,400nm,6.0s
NKL MLR MLR
comp=E,2μm,15.0s
NKL MLR MLR
comp=Z,3μm,15.0s
TYV Tymovskoe 42.30 41 *eP* **P 10 24 45.5 +0.6**
TYV pmax pmax
comp=Z,80nm,1.2s
TYV MLR MLR
comp=Z,2μm,15.0s
YAK Yakutsk 42.44 21 P **P 10 24 45.4 -0.5**
comp=Z,1.7nm,0.3s,baz=221,slow=22,SNR=6.2
YAK LR LR 10 43 52.8
comp=Z,580nm,21.9s,baz=230,slow=38
YAK Yakutsk 42.44 21 *eP* **P 10 24 45.3 -0.5**
YAK *e* 10 26 24.0
YAK *e* 10 26 37.8
YAK *eS* **S 10 31 04.7 -1.8**
YAK *e* 10 34 41.6
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=Z,26nm,1.5s
YAK pmax pmax
comp=N,27nm,1.2s
YAK pmax pmax
comp=E,11nm,1.2s
YAK smax smax
comp=E,60nm,3.6s
YAK smax smax
comp=N,53nm,3.2s
YAK MLR MLR
comp=Z,1μm,11.0s
YAK MLR MLR
comp=E,424nm,12.0s
YAK MLR MLR
comp=N,634nm,12.0s
YAK Yakutsk 42.44 21 *eP* **P 10 24 45.8 -0.1**
comp=N,37nm,0.8s
ARU Arti 42.68 328 *c i* P **P 10 24 48.5 +0.5**
ARU 10 26 27.3
ARU 10 26 39.0
ARU S **S 10 31 12.9 +2.7**
ARU 10 34 45.8
ARU pmax pmax
comp=Z,127nm,1.2s
ARU MLR MLR
comp=Z,533nm,21.0s
ARU Arti 42.68 328 *eP* **P 10 24 48.4 +0.5**
comp=Z,83nm,0.9s
KUR Kuril'sk 44.18 50 *i* P **P 10 24 58.0 -2.2**
NRIK Noril'sk 44.81 354 P **P 10 25 05.0 0.0**
comp=Z,20nm,0.9s,baz=158,slow=6.6,SNR=30
NRIK PcP **PcP 10 26 46.5 -0.1**
comp=Z,12nm,0.9s,baz=145,slow=3.5,SNR=5.0
NRIK LR LR 10 44 43.3
comp=Z,1μm,19.9s,baz=162,slow=37
GUMO Guam 44.82 96 LR LR 10 44 03.3
comp=Z,230nm,19.5s,baz=286,slow=36
GNI Garni 47.22 302 *i* P **P 10 25 25.9 +1.3**
SNR=7.1
GNI Garni 47.22 302 *c i* P **P 10 25 25.5 +0.9**
GNI pmax pmax
comp=Z,137nm,1.2s
GNI Garni 47.22 302 P **P 10 25 26.7 +2.2**
SNR=11
GNI P **P 10 25 26.7 +2.2**
SNR=11
GNI Garni 47.22 302 P **P 10 25 26.7 +2.2**
SNR=11
GNI Garni 47.22 302 *eP* **P 10 25 25.9 +1.3**
comp=Z,49nm,1.0s
GUDG Gudauri 47.52 305 P **P 10 25 28.5 +1.6**
ZEI Tsey 47.96 306 *eP* **P 10 25 27.9 -2.4**
ZEI pmax pmax
comp=Z,160nm,1.3s
BGD Bogdanovka 48.12 304 P **P 10 25 33.3 +1.7**
AKH Akhalkalaki 48.20 304 P **P 10 25 33.5 +1.3**
AKH Akhalkalaki 48.20 304 P **P 10 25 33.5 +1.3**
NCK Nalchik 48.23 307 ⇓ *i* P **P 10 25 32.2 0.0**
NCK pmax pmax
comp=Z,24nm,0.8s
ONI Oni 48.28 306 P **P 10 25 34.8 +2.2**
ONI Oni 48.28 306 P **P 10 25 34.8 +2.2**
GOF Gofitskoye 48.74 309 ⇑ *i* P **P 10 25 36.4 +0.3**
GOF pmax pmax
comp=Z,184nm,1.2s
KBZ Khabaz 48.75 307 P **P 10 25 35.9 -0.3**
comp=Z,8.1nm,1.0s,baz=167,slow=23,SNR=8.9
KBZ LR LR 10 49 06.0
comp=Z,356nm,19.9s,baz=280,slow=40
NEY Neytrino 48.85 306 *d i* P **P 10 25 38.9 +1.7**
NEY pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 48.92 307 *i* P **P 10 25 37.9 +0.3**
SNR=7.5
KIV Kislovodsk 48.92 307 *eP* **P 10 25 37.4 -0.1**
KIV *eS* **S 10 32 40.3 -0.3**
KIV pmax pmax
comp=Z,61nm,3.8s
KIV pmax pmax
comp=Z,84nm,1.0s
KIV MLR MLR
comp=Z,354nm,16.0s
KIV Kislovodsk 48.92 307 P **P 10 25 38.5 +0.9**
SNR=16
KIV P **P 10 25 38.5 +0.9**
SNR=16
KIV Kislovodsk 48.92 307 P **P 10 25 38.5 +0.9**
SNR=16
KIV Kislovodsk 48.92 307 *eP* **P 10 25 38.2 +0.7**
comp=Z,126nm,1.3s
JAY Jayapura 49.06 118 P **P 10 25 38.8 -0.2**
comp=Z,2.1nm,1.1s,baz=268,slow=23,SNR=3.6
TIXI Tiksi 49.62 12 P **P 10 25 41.8 -0.6**
comp=Z,11nm,0.6s,baz=201,slow=5.0,SNR=31
TIXI Tiksi 49.62 12 *c i* P **P 10 25 41.6 -0.8**
TIXI pmax pmax
comp=Z,58nm,1.7s
TIXI Tiksi 49.62 12 *eP* **P 10 25 41.8 -0.6**
comp=Z,120nm,1.8s
MA2 Magadan 49.73 32 P **P 10 25 43.3 -0.1**
comp=Z,59nm,0.9s,baz=270,slow=7.2,SNR=21
MA2 PcP **PcP 10 27 03.8 -0.5**
comp=Z,21nm,0.7s,baz=281,slow=0.4,SNR=6.9
MA2 LR LR 10 46 56.2
comp=Z,357nm,18.9s,baz=257,slow=36
FITZ Fitzroy Crossi 50.27 146 P **P 10 25 47.5 -0.4**
comp=Z,12nm,0.8s,baz=340,slow=6.1,SNR=7.1
FITZ LR LR 10 49 28.0
comp=Z,203nm,18.9s,baz=325,slow=39
FITZ Fitzroy Crossi 50.27 146 *eP* **P 10 25 47.4 -0.5**
comp=Z,43nm,1.5s
VRH Novokhopyorsk 50.35 317 *eP* **P 10 25 47.3 -0.9**
VRH pmax pmax
comp=Z,80nm,0.8s
SOC Sochi 51.05 307 *eP* **P 10 25 52.6 -1.0**
SOC *e* 10 27 57.6
SOC *eS* **S 10 33 10.2 0.0**
SOC *eSS* **SS 10 36 43.5 -1.6**
SOC pmax pmax
comp=Z,97nm,1.1s
SEY Seymchan 51.66 28 P **P 10 25 57.4 -0.5**
comp=Z,8.7nm,0.9s,baz=306,slow=6.4,SNR=14
SEY PcP **PcP 10 27 11.7 +0.4**
comp=Z,17nm,0.8s,baz=245,slow=5.6,SNR=11
SEY Seymchan 51.66 28 ⇑ *i* P **P 10 25 57.6 -0.3**
PEA0 Petropavlovsk- 51.85 41 *eP* **P 10 25 58.9 -0.6**
PEA0B Petropavlovsk- 51.85 41 *eP* **P 10 25 59.5 0.0**
comp=Z,42nm,1.3s
PETK Petropavlovsk- 51.85 41 P **P 10 25 58.8 -0.6**
comp=Z,13nm,1.0s,baz=132,slow=2.2,SNR=8.6
PETK LR LR 10 47 50.5
comp=Z,696nm,18.6s,baz=262,slow=36
VSR Storozhevoye 51.95 316 *eP* **P 10 25 59.0 -1.2**
VSR pmax pmax
comp=Z,70nm,1.4s
LPSR Galich'ya Gora 52.27 318 *eP* **P 10 26 02.4 -0.2**
LPSR pmax pmax
comp=Z,90nm,0.7s
PET Petropavlovsk 52.41 41 *eP* **P 10 26 03.5 -0.1**
PET *eS* **S 10 33 29.0 +0.5**
PET pmax pmax
comp=Z,100nm,11.2s
PET pmax pmax
comp=Z,32nm,0.9s
PET MLR MLR
comp=Z,800nm,16.0s
PET MLR MLR
comp=Z,800nm,15.0s
ANN Anapa 52.71 308 *eP* **P 10 26 05.0 -1.0**
ANN *eS* **S 10 33 33.7 +0.8**
ANN pmax pmax
comp=Z,79nm,1.7s
ANN MLR MLR
comp=Z,487nm,17.0s
MOS Moscow 53.48 322 *eP* **P 10 26 10.5 -0.9**
MOS *eS* **S 10 33 44.5 +1.5**
MOS pmax pmax
comp=Z,300nm,1.6s
MOS pmax pmax
comp=Z,158nm,1.1s
KLMR Klimovskoe 53.53 328 *eP* **P 10 26 09.0 -2.7**
KLMR *e* 10 27 17.0
KLMR pmax pmax
comp=Z,129nm,1.4s
OBN Obninsk 53.98 321 *ce* P **P 10 26 15.0 -0.1**
OBN *e* 10 26 25.0
OBN *e* 10 26 33.9
OBN *e* 10 27 20.1
OBN *eS* **S 10 33 52.0 +2.1**
OBN SS **SS 10 37 33.0 +2.0**
OBN pmax pmax
comp=Z,49nm,1.1s
OBN MLR MLR
comp=Z,290nm,16.0s
SIM Simferopol' 55.07 309 *c i* P **P 10 26 22.8 -0.4**
SIM pmax pmax
comp=Z,47nm,1.0s
SIM MLR MLR
comp=Z,520nm,22.2s
BR131 Keskin Array S 55.76 302 *eP* **P 10 26 28.1 -0.4**
BRTR Keskin Array B 55.76 302 P **P 10 26 27.3 -1.2**
comp=Z,14nm,1.0s,baz=108,slow=7.2,SNR=48
BRTR PcP **PcP 10 27 27.0 -0.6**
comp=Z,2.7nm,0.8s,baz=127,slow=5.4,SNR=3.8
BRTR PP **PP 10 28 36.1 +3.3**
comp=Z,3.9nm,1.1s,baz=109,slow=7.2,SNR=3.6
BRTR Keskin Array B 55.76 302 *i* P **P 10 26 27.7 -0.8**
BRTR pmax pmax
comp=Z,14nm,1.0s
ANTO Ankara 56.39 302 *eP* **P 10 26 32.9 0.0**
ANTO pmax pmax
comp=Z,98nm,1.4s
ANTO Ankara 56.39 302 *eP* **P 10 26 32.9 0.0**
comp=Z,98nm,1.4s
WRAB Tennant Creek 56.57 139 *c i* P **P 10 26 33.7 -0.5**
WRAB pmax pmax
comp=Z,140nm,1.2s
WRAB Tennant Creek 56.57 139 *eP* **P 10 26 33.9 -0.4**
comp=Z,43nm,1.0s
WRA Warramunga Arr 56.57 139 P **P 10 26 33.6 -0.6**
comp=Z,23nm,0.8s,baz=329,slow=7.6,SNR=44
WB2 Warramunga Arr 56.58 139 *eP* **P 10 26 33.9 -0.4**
CSS Mathiatis 56.61 297 *eP* **P 10 26 33.8 -0.7**
comp=Z,4.1nm,0.9s
LVZ Lovozero 57.33 336 *c i* P **P 10 26 38.8 -0.3**
LVZ pmax pmax
comp=Z,56nm,1.2s
LVZ Lovozero 57.33 336 *eP* **P 10 26 39.1 +0.1**
comp=Z,56nm,1.0s
APA Apatity 57.72 336 ⇓ *i* P **P 10 26 40.0 -1.7**
APA pmax pmax
comp=Z,23nm,0.8s
APA MLR MLR
comp=Z,600nm,14.0s
AKASG Malin Array Be 58.20 316 P **P 10 26 44.5 -0.9**
comp=Z,35nm,0.7s,baz=77,slow=6.7,SNR=115
AKASG LR LR 10 56 00.3
comp=Z,317nm,19.9s,baz=70,slow=40
AKBB Malin Array Si 58.20 316 *eP* **P 10 26 44.5 -0.9**
AKBB pmax pmax
comp=Z,50nm,0.8s
AKBB Malin Array Si 58.20 316 *eP* **P 10 26 44.5 -0.9**
comp=Z,50nm,0.8s
KIEV Kiev 58.21 315 *c i* P **P 10 26 44.5 -0.9**
KIEV pmax pmax
comp=Z,45nm,0.9s
KIEV Kiev 58.21 315 *eP* **P 10 26 44.6 -0.9**
comp=Z,49nm,0.8s
AK11 Malin Array Si 58.24 315 *eP* **P 10 26 44.6 -1.0**
PMG Port Moresby 58.30 120 P **P 10 26 44.8 -1.7**
comp=Z,30nm,0.9s,baz=332,slow=7.3,SNR=6.0
PMG Port Moresby 58.30 120 *c i* P **P 10 26 46.5 -0.1**
PMG pmax pmax
comp=Z,159nm,1.7s
PMG Port Moresby 58.30 120 *eP* **P 10 26 46.7 +0.1**
comp=Z,38nm,0.9s
ISP Isparta 58.41 300 *eP* **P 10 26 46.0 -1.3**
ISP pmax pmax
comp=Z,24nm,0.8s
BILL Bilibino 58.64 24 *c i* P **P 10 26 47.6 -0.6**
BILL *e* 10 27 43.0
BILL *e* 10 28 55.5
BILL pmax pmax
comp=Z,57nm,1.2s
BILL MLR MLR
comp=Z,540nm,14.0s
BILL Bilibino 58.64 24 *eP* **P 10 26 47.8 -0.4**
comp=Z,48nm,1.1s
KIS Kishinev 58.65 311 *eP* **P 10 26 47.0 -1.6**
comp=Z,300nm,1.0s
KIS LRM MLR 10 56 30.0
comp=Z,300nm,16.0s
KIS Kishinev 58.65 311 *eP* **P 10 26 47.0 -1.6**
KIS pmax pmax
comp=Z,300nm,1.0s
KIS MLR MLR
comp=Z,400nm,15.0s
KIS MLR MLR
comp=Z,300nm,16.0s
SORM Soroca 58.89 313 ⇑ *iP* **P 10 26 49.4 -0.8**
SORM Soroca 58.89 313 ⇑ *P* **P 10 26 49.4 -0.8**
TIRR Tirgusor 59.16 308 ⇑ *iP* **P 10 26 51.7 -0.5**
TIRR Tirgusor 59.16 308 ⇑ *P* **P 10 26 51.7 -0.5**
TIRR Tirgusor 59.16 308 *eP* **P 10 26 51.5 -0.7**
comp=Z,95nm,1.5s
ASAR Alice Springs 59.22 142 P **P 10 26 52.6 -0.3**
comp=Z,11nn,0.8s,baz=322,slow=6.4,SNR=31
ASAR LR LR 10 54 23.3
comp=Z,130nm,18.8s,baz=310,slow=38
ASAR PKP2bc 10 56 34.7
comp=Z,1.4nm,0.9s,baz=139,slow=2.6,SNR=6.8
AS01 Alice Springs 59.25 142 *eP* **P 10 26 51.9 -1.1**
CFR Carcaliu 59.28 309 ⇑ *iP* **P 10 26 52.5 -0.5**
CFR Carcaliu 59.28 309 ⇑ *P* **P 10 26 52.5 -0.5**
RABL Rabaul 59.45 112 *eP* **P 10 26 56.1 +1.5**
comp=Z,123nm,1.0s
HARR Harsova 59.47 309 ⇓ *iP* **P 10 26 53.5 -0.9**
HARR Harsova 59.47 309 ⇓ *P* **P 10 26 53.5 -0.9**
NACGM Naroch 59.59 320 *e* **P 10 26 54.0 -1.0**
IDID Didziasalis 59.62 321 *eP* **P 10 26 55.8 +0.7**
IDID IAmb IAmb 10 26 57.1
comp=Z,44nm,1.1s
VSU Vasula 59.63 325 *c i* P **P 10 26 54.9 -0.3**
VSU pmax pmax
comp=Z,160nm,1.0s
IZAR Zarasai 59.89 321 *eP* **P 10 26 57.6 +0.6**
IZAR IAmb IAmb 10 26 58.8
comp=Z,32nm,0.9s
ISAL Salakas 59.96 321 *eP* **P 10 26 58.1 +0.6**
ISAL IAmb IAmb 10 26 59.5
comp=Z,44nm,1.1s
PRD Provadia 60.03 307 P **P 10 26 57.4 -0.8**
FIA1 FINESS Array S 60.05 328 *eP* **P 10 26 58.0 0.0**
FIA1 *eP* **pP 10 26 58.2 -5.9**
FINES FINESS Array B 60.05 328 P **P 10 26 58.1 0.0**
comp=Z,26nm,0.8s,baz=101,slow=9.9,SNR=56
FINES LR LR 10 53 35.5
comp=Z,481nm,20.8s,baz=92,slow=37
FINES FINESS Array B 60.05 328 *i* P **P 10 26 58.0 0.0**
FINES pmax pmax
comp=Z,27nm,0.8s
TESR Tescani 60.18 311 ⇑ *iP* **P 10 26 58.9 -0.3**
VRI Vrincioaia 60.19 310 ⇑ *iP* **P 10 26 59.3 0.0**
VRI Vrincioaia 60.19 310 ⇑ *P* **P 10 26 59.4 +0.1**
PLOR Plostina 60.25 310 ⇑ *iP* **P 10 27 00.3 +0.6**
PLOR Plostina 60.25 310 ⇑ *P* **P 10 27 00.4 +0.7**
NWAO Narrogin (SRO) 60.29 162 LR LR 10 56 42.8
comp=Z,209nm,18.7s,baz=199,slow=40
ISR Istrita 60.41 309 ⇓ *iP* **P 10 27 00.3 -0.6**
ISR Istrita 60.41 309 ⇓ *P* **P 10 27 00.3 -0.6**
KEV Kevo 60.41 338 *eP* **P 10 27 00.9 +0.5**
KEV pmax pmax
comp=Z,63nm,0.9s
KEV Kevo 60.41 338 *eP* **P 10 27 00.9 +0.5**
comp=Z,63nm,0.9s
JMB Yambol 60.72 306 P **P 10 27 02.5 -0.5**
MLR Muntele Rosu 60.78 310 ⇓ *iP* **P 10 27 04.2 +0.7**
MLR Muntele Rosu 60.78 310 ⇓ *P* **P 10 27 04.2 +0.7**
MLR Muntele Rosu 60.78 310 *eP* **P 10 27 03.4 -0.1**
comp=Z,91nm,0.9s
ARA0 ARCESS Array S 60.91 337 *eP* **P 10 27 03.9 +0.1**
ARCES ARCESS Array B 60.91 337 P **P 10 27 03.5 -0.3**
comp=Z,24nm,0.8s,baz=90,slow=7.3,SNR=46
ARCES PcP **PcP 10 27 46.5 -0.6**
comp=Z,7.3nm,0.8s,baz=74,slow=4.3,SNR=4.3
ARCES LR LR 10 55 50.2
comp=Z,144nm,18.3s,baz=96,slow=38
ARE0 ARCESS Array S 60.91 337 *eP* **P 10 27 04.0 +0.2**
ARE0 ARCESS Array S 60.91 337 *eP* **P 10 27 04.0 +0.2**
comp=Z,43nm,1.0s
BURAR Bucovina Array 61.04 312 ⇓ *iP* **P 10 27 05.3 +0.1**
BURAR Bucovina Array 61.04 312 ⇓ *P* **P 10 27 05.3 +0.1**
BUR08 Bucovina Ar. S 61.04 312 *eP* **P 10 27 04.9 -0.3**
SZH Strazhica 61.08 307 P **P 10 27 04.6 -0.8**
DOPR Dopca 61.11 310 ⇑ *iP* **P 10 27 05.7 +0.1**
VOIR 61.41 310 ⇑ *iP* **P 10 27 06.9 -0.8**
VOIR 61.41 310 ⇑ *P* **P 10 27 06.9 -0.8**
KARP Karpathos 61.47 298 *eP* **P 10 27 07.5 -0.7**
comp=Z,32nm,0.8s
LVV L'vov 61.58 315 *eP* **P 10 27 07.9 -0.8**
KTK1 Kautokeino 61.66 337 *eP* **P 10 27 08.8 -0.1**
KTK1 IAmb IAmb 10 27 09.6
comp=Z,52nm,0.9s
KDZ Kurdzhali 61.70 305 P **P 10 27 09.2 -0.5**
ARR Arges 61.71 310 ⇓ *iP* **P 10 27 09.7 0.0**
SUW Suwalki 61.74 320 *eP* **P 10 27 09.1 -0.5**
SUW LMZ LR 10 53 55.2
comp=Z,500nm,24.9s
SUW Suwalki 61.74 320 *eP* **P 10 27 09.1 -0.5**
SUW MLR MLR
comp=Z,500nm,24.9s
RZN Rozhen 62.22 306 P **P 10 27 12.6 -0.7**
CJR Cluj-Napoca 62.24 311 ⇓ *iP* **P 10 27 14.1 +0.8**
CJR Cluj-Napoca 62.24 311 ⇓ *P* **P 10 27 14.1 +0.8**
APE Apeiranthos 62.45 300 *eP* **P 10 27 13.1 -1.7**
APE pmax pmax
comp=Z,14nm,0.9s
KWP Kalwaria Pacla 62.46 315 *eP* **P 10 27 14.8 +0.3**
KWP LMZ LR 10 54 06.2
comp=Z,600nm,24.8s
KWP Kalwaria Pacla 62.46 315 ⇑ *iP* **P 10 27 15.1 +0.5**
KWP Kalwaria Pacla 62.46 315 ⇑ *eP* **P 10 27 14.9 +0.3**
KWP MLR MLR
comp=Z,600nm,24.8s
PGB Panagyurishte 62.47 307 P **P 10 27 14.6 -0.3**
MPEP Malo Peshtene 62.65 308 P **P 10 27 16.0 0.0**
SANT Santorini 62.65 300 *eP* **P 10 27 13.3 -2.9**
comp=Z,56nm,0.8s
KOLS Kolonicke sedl 62.83 314 *eP* **P 10 27 16.9 -0.2**
KOLS pmax pmax
comp=Z,21nm,1.4s
KOLS Kolonicke sedl 62.83 314 *eP* **P 10 27 16.9 -0.2**
DRGR 62.84 311 ⇑ *iP* **P 10 27 17.6 +0.4**
DRGR 62.84 311 ⇑ *P* **P 10 27 17.6 +0.4**
UZH Uzhgorod 62.86 314 *eP* **P 10 27 16.8 -0.4**
UZH *e* 10 27 24.2
UZH *e* 10 27 30.6
UZH *eS* **S 10 35 40.6 -5.2**
LAST Lasithi 62.90 298 *eP* **P 10 27 17.3 -0.6**
comp=Z,28nm,1.0s
MMB Musomiste 62.96 306 P **P 10 27 16.9 -1.2**
TRO Tromso 63.22 337 *eP* **P 10 27 19.0 -0.2**
TRO IAmb IAmb 10 27 19.6
comp=Z,62nm,0.8s
CRVS Cervenica-Dubn 63.36 314 *eP* **P 10 27 21.1 +0.5**
CRVS Cervenica-Dubn 63.36 314 *eP* **P 10 27 21.1 +0.5**
KKB Krupnik 63.39 306 P **P 10 27 19.8 -1.1**
BEL Belsk 63.40 317 *eP* **P 10 27 20.9 +0.2**
BEL Belsk 63.40 317 *eP* **P 10 27 20.9 +0.2**
KLNR Kaliningrad 63.42 320 *eP* **P 10 27 20.7 -0.1**
KLNR pmax pmax
comp=Z,211nm,1.3s
STHS Stebnicka Huta 63.43 315 *eP* **P 10 27 20.9 -0.2**
STHS pmax pmax
comp=Z,21nm,1.4s
STHS Stebnicka Huta 63.43 315 *eP* **P 10 27 20.9 -0.2**
SIRR Siria 63.63 311 ⇓ *iP* **P 10 27 23.0 +0.5**
BZS Buzias 63.77 310 ⇑ *iP* **P 10 27 23.1 -0.3**
BZS Buzias 63.77 310 ⇑ *P* **P 10 27 23.1 -0.3**
MDVR Moldovita 63.85 309 ⇑ *iP* **P 10 27 24.0 0.0**
NIE Niedzica 64.04 315 *eP* **P 10 27 25.8 +0.7**
NIE LMZ LR 10 55 22.4
comp=Z,300nm,25.1s
NIE Niedzica 64.04 315 ⇑ *eP* **P 10 27 25.8 +0.7**
NIE MLR MLR
comp=Z,300nm,25.1s
KECS Kecovo 64.07 314 *eP* **P 10 27 25.4 +0.1**
KECS pmax pmax
comp=Z,20nm,1.5s
KECS Kecovo 64.07 314 *eP* **P 10 27 25.4 +0.1**
SPA0 Spitsbergen Ar 64.10 347 *eP* **P 10 27 24.8 -0.2**
SPA0 *eS* **S 10 36 03.0 +2.6**
SPA0 Spitsbergen Ar 64.10 347 *eP* **P 10 27 25.2 +0.2**
OJC Ojcow 64.24 316 *eP* **P 10 27 26.2 -0.1**
OJC LMZ LR 10 53 38.6
comp=Z,300nm,22.7s
OJC Ojcow 64.24 316 ⇑ *eP* **P 10 27 26.3 -0.1**
OJC Ojcow 64.24 316 *eP* **P 10 27 26.3 -0.1**
comp=Z,27nm,0.8s
HSPB Hornsund (broa 64.25 346 *eP* **P 10 27 25.9 -0.1**
CTA Charters Tower 64.41 130 P **P 10 27 27.2 -0.6**
comp=Z,16nm,1.0s,baz=331,slow=8.9,SNR=11
CTAO Charters Tower 64.41 130 *eP* **P 10 27 28.0 +0.2**
CTAO pmax pmax
comp=Z,25nm,1.1s
CTAO Charters Tower 64.41 130 *eP* **P 10 27 28.0 +0.2**
comp=Z,25nm,1.1s
AGG Agios Georgios 64.52 303 *eP* **P 10 27 26.6 -1.8**
AGG pmax pmax
comp=Z,96nm,1.1s
AGG Agios Georgios 64.52 303 *eP* **P 10 27 26.6 -1.8**
comp=Z,96nm,1.1s
PSZ Piszkesteto 64.55 313 ⇑ *iP* **P 10 27 28.3 -0.2**
PSZ Piszkesteto 64.55 313 ⇑ *eP* **P 10 27 28.1 -0.4**
PSZ Piszkesteto 64.55 313 ⇑ *P* **P 10 27 28.3 -0.2**
PSZ Piszkesteto 64.55 313 *eP* **P 10 27 28.0 -0.6**
comp=Z,29nm,1.0s
STEI Steigen 64.61 335 *eP* **P 10 27 27.1 -1.3**
STEI IAmb IAmb 10 27 28.7
comp=Z,40nm,0.9s
LANS Liptovska Anna 64.62 314 *eP* **P 10 27 29.1 +0.2**
LANS Liptovska Anna 64.62 314 *eP* **P 10 27 29.1 +0.2**
KMBO Kilima Mbogo 64.86 256 P **P 10 27 30.4 -0.9**
comp=Z,6.6nm,0.8s,baz=52,slow=11,SNR=15
KMBO Kilima Mbogo 64.86 256 *i* P **P 10 27 31.0 -0.2**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 64.86 256 P **P 10 27 31.4 +0.1**
SNR=5.5
KMBO P **P 10 27 31.4 +0.1**
SNR=5.5
KMBO Kilima Mbogo 64.86 256 P **P 10 27 31.4 +0.1**
SNR=5.5
KMBO Kilima Mbogo 64.86 256 *eP* **P 10 27 31.0 -0.2**
comp=Z,14nm,1.1s
KBS Kingsbay 64.98 348 *eP* **P 10 27 29.9 -0.9**
KBS pmax pmax
comp=Z,40nm,1.6s
KBS Kingsbay 64.98 348 *eP* **P 10 27 29.9 -0.9**
comp=Z,40nm,1.6s
VYHS Vyhne 65.15 314 *eP* **P 10 27 31.9 -0.4**

VYHS pmax pmax
comp=Z,23nm,1.3s
VYHS Vyhne 65.15 314 *e*P **P 10 27 31.9 -0.4**
OKC Ostrava-Krasne 65.35 315 *e*P **P 10 27 34.0 +0.4**
OKC AMS AMS 10 57 40.0
comp=Z,300nm,16.3s
OKC Ostrava-Krasne 65.35 315 *e*P **P 10 27 34.0 +0.4**
OKC MLR MLR
comp=Z,300nm,16.3s
MORC Moravsky Berou 65.75 315⇓ *i*P **P 10 27 37.0 +0.7**
MORC Moravsky Berou 65.75 315 ⇓P **P 10 27 37.0 +0.7**
MORC Moravsky Berou 65.75 315 *e*P **P 10 27 36.5 +0.3**
comp=Z,217nm,1.1s
NSS Namsos 66.31 332 *e*P **P 10 27 38.7 -0.7**
KSP Ksiaz 66.34 317 *e*P **P 10 27 40.4 +0.4**
KSP LMZ LR 11 00 07.8
comp=Z,300nm,20.6s
KSP Ksiaz 66.34 317⇑ *e*P **P 10 27 40.4 +0.4**
KSP MLR MLR
comp=Z,300nm,20.6s
DPC Dobruska-Polom 66.42 316 *e*P **P 10 27 41.1 +0.6**
DPC AMS AMS 10 58 10.0
comp=Z,300nm,18.7s
DPC Dobruska-Polom 66.42 316 *e*P **P 10 27 41.1 +0.6**
DPC MLR MLR
comp=Z,300nm,18.7s
ABPO Ambohimpanom 66.55 234 *e*P **P 10 27 41.4 -0.5**
ABPO pmax pmax
comp=Z,39nm,1.4s
ABPO Ambohimpanom 66.55 234 *e*P **P 10 27 41.4 -0.5**
comp=Z,39nm,1.4s
UPC Upice 66.58 316 *e*P **P 10 27 42.1 +0.6**
UPC *e*pP **sP 10 27 51.1 +1.1**
UPC AMS AMS 10 59 00.0
comp=Z,300nm,12.9s
UPC Upice 66.58 316 *e*P **P 10 27 42.1 +0.6**
UPC *e* 10 27 51.1
UPC MLR MLR
comp=Z,300nm,12.9s
SOP Sopron 66.80 313⇑ *e*P **P 10 27 42.4 -0.6**
NC405 NORSAR Array S 66.98 328 *e*P **P 10 27 43.7 -0.2**
NC303 NORSAR Array S 67.13 328 *e*P **P 10 27 44.5 -0.3**
NC602 NORSAR Array S 67.13 328 *e*P **P 10 27 43.4 -1.5**
NC602 NORSAR Array S 67.13 328 *e*P **P 10 27 44.3 -0.6**
TREC Trest 67.16 315 AMS AMS 11 01 20.0
comp=Z,300nm,16.2s
NB201 NORSAR Array S 67.19 328 *e*P **P 10 27 44.7 -0.5**
CONA Conrad Observa 67.21 314 *i*P **P 10 27 45.6 0.0**
comp=Z,84nm,1.5s,SNR=23
NB2 NORSAR Subarra 67.23 328 P **P 10 27 45.0 -0.5**
comp=Z,49nm,0.8s,baz=80,slow=6.5
NB2 NORSAR Subarra 67.23 328 P **P 10 27 45.0 -0.5**
baz=80,slow=6.5
NOA NORSAR Array B 67.23 328 P **P 10 27 45.1 -0.5**
comp=Z,30nm,0.7s,baz=81,slow=6.4,SNR=93
NOA PP **PP 10 30 05.9 -7.5**
comp=Z,1.7nm,0.8s,baz=84,slow=9.4,SNR=3.4
NOA LR LR 10 59 17.3
comp=Z,361nm,20.3s,baz=95,slow=38
TBLU Trondheim 67.27 331 *e*P **P 10 27 44.8 -0.8**
NBO02 NORSAR Array S 67.40 328 *e*P **P 10 27 46.0 -0.6**
NC204 NORSAR Array S 67.40 328 *e*P **P 10 27 45.6 -1.0**
NAO01 NORSAR Array S 67.43 328 *e*P **P 10 27 46.2 -0.5**
NBO00 NORSAR Array S 67.44 328 *e*P **P 10 27 46.5 -0.3**
GOPC GO Pecny, Ondr 67.47 316 *e*P **P 10 27 47.7 +0.5**
GOPC *e*pP **sP 10 27 57.7 +2.0**
GOPC *e*S **S 10 36 47.1 +4.6**
GOPC AMS AMS 10 59 40.0
comp=Z,300nm,13.4s
GOPC GO Pecny, Ondr 67.47 316 *e*P **P 10 27 47.7 +0.5**
GOPC *e* 10 27 57.7
GOPC *e*S **S 10 36 47.1 +4.6**
GOPC MLR MLR
comp=Z,300nm,13.4s
PVCC Panska Ves 67.48 317 *e*P **P 10 27 47.7 +0.5**
PVCC AMS AMS 11 01 20.0
PVCC Panska Ves 67.48 317 *e*P **P 10 27 47.7 +0.5**
ARSA Arzberg 67.58 313 *i*P **P 10 27 47.7 -0.3**
comp=Z,22nm,1.0s,SNR=10
PRU Pruhonice 67.61 316 *e*P **P 10 27 48.5 +0.4**
PRU *e*S **S 10 36 49.5 +5.4**
PRU AMS AMS 10 59 40.0
comp=Z,300nm,13.8s
PRU Pruhonice 67.61 316 *e*P **P 10 27 48.5 +0.4**
PRU *e*S **S 10 36 49.5 +5.4**
PRU MLR MLR
comp=Z,300nm,13.8s
OSL Oslo 67.69 327 *e*P **P 10 27 48.4 +0.1**
OSL IAmb IAmb 10 27 49.2
comp=Z,134nm,0.7s
BRG Berggiesshubel 67.79 317 *i*P **P 10 27 49.4 +0.2**
comp=Z,43nm,0.8s
BRG Berggiesshubel 67.79 317 *i*P **P 10 27 49.4 +0.2**
BRG pmax pmax
comp=Z,43nm,0.8s
BRG MLR MLR
comp=N,222nm,16.0s
BRG MLR MLR
comp=E,309nm,19.1s
BRG MLR MLR
comp=Z,399nm,14.8s
DOBS Dobrina 67.87 312 *e*P **P 10 27 49.3 -0.5**
SOKA Soboth 68.04 312 *i*P **P 10 27 50.7 -0.3**
comp=Z,28nm,0.9s,SNR=20
BOJS Bojanci 68.17 311 *i*P **P 10 27 51.5 -0.1**
CLL Collm 68.27 318 *i*P **P 10 27 52.0 -0.2**
comp=Z,45nm,1.0s
CLL LmV 10 56 00.0
comp=Z,200nm,21.7s
CLL Collm 68.27 318 *i*P **P 10 27 52.0 -0.2**
CLL pmax pmax
comp=Z,45nm,1.0s
CLL Collm 68.27 318 *e*P **P 10 27 52.0 -0.2**
comp=Z,46nm,1.1s
MOA Molln 68.27 314 *i*P **P 10 27 52.1 -0.2**
comp=Z,29nm,0.8s,SNR=16
KONO Kongsberg 68.30 327 *e*P **P 10 27 51.5 -0.7**
KONO IAmb IAmb 10 27 52.7
comp=Z,41nm,1.0s
KONO *e*S **S 10 36 48.3 -3.7**
KONO *e*SS **SS 10 41 17.3 +2.6**
KONO Kongsberg 68.30 327 *c i*P **P 10 27 51.5 -0.7**
KONO pmax pmax
comp=Z,189nm,0.9s
KONO Kongsberg 68.30 327 *e*P **P 10 27 52.0 -0.2**
comp=Z,43nm,1.0s
VISS Visnje 68.38 312 *i*P **P 10 27 52.8 -0.2**
GEC2 GERESS Array S 68.40 315 *e*P **P 10 27 53.5 +0.3**
GEC2 GERESS Array S 68.40 315 *e*P **P 10 27 53.5 +0.3**
GERES GERESS Array B 68.40 315 P **P 10 27 53.3 +0.1**
comp=Z,19nm,0.8s,baz=64,slow=6.1,SNR=91
GERES LR LR 10 59 47.7
comp=Z,254nm,18.3s,baz=78,slow=38
OBKA Obir 68.40 312 *i*P **P 10 27 52.8 -0.4**
comp=Z,32nm,1.2s,SNR=6.7
GEA0 GERESS Array S 68.41 315 *e*P **P 10 27 53.2 0.0**
KHC Kasperske Hory 68.42 315 *e*P **P 10 27 53.3 +0.1**
KHC *e*S **S 10 36 59.6 +5.8**
KHC AMS AMS 10 59 30.0
comp=Z,400nm,22.4s
KHC Kasperske Hory 68.42 315 *e*P **P 10 27 53.3 +0.1**
KHC *e*S **S 10 36 59.6 +5.8**
KHC MLR MLR
comp=Z,400nm,22.4s
KHC Kasperske Hory 68.42 315 *e*P **P 10 27 52.5 -0.7**
comp=Z,9.4nm,1.0s
LJU Ljubljana 68.53 312 *e*P **P 10 27 53.5 -0.4**
GBAS Gorenja Brezov 68.62 312 *i*P **P 10 27 54.1 -0.4**
MOL Molde 68.62 330 *e*P **P 10 27 53.8 -0.4**
CEY Cerknica 68.67 312 *i*P **P 10 27 54.5 -0.4**
TIP Timpagrande 68.69 304 *e*P **P 10 27 54.3 -0.8**
comp=Z,26nm,1.2s
HNR Honiara 68.76 112 LR LR 10 54 25.7
comp=Z,100nm,21.2s,baz=269,slow=33
NKC Novy Kostel 68.86 317 *e*P **P 10 27 56.3 +0.3**
NKC *e*pP **sP 10 28 07.7 +3.2**
NKC Novy Kostel 68.86 317 *e*P **P 10 27 56.3 +0.3**
NKC *e* 10 28 07.7
JAVS Javornik 68.88 312 *i*P **P 10 27 55.5 -0.7**
AKN Aaknes 68.96 330 *e*P **P 10 27 56.6 +0.3**
AKN IAmb IAmb 10 27 57.3
comp=Z,30nm,0.9s
MYKA Terra Mystica 68.98 313 *i*P **P 10 27 56.0 -0.8**
comp=Z,19nm,1.5s
KBA Koelnbreinsper 69.07 313 *i*P **P 10 27 56.8 -0.7**
comp=Z,35nm,1.1s,SNR=14
TRI Trieste 69.13 312 *e*P **P 10 27 56.6 -1.0**
TRI pmax pmax
comp=Z,76nm,1.0s
TRI Trieste 69.13 312 *e*P **P 10 27 56.6 -1.0**
comp=Z,76nm,1.0s
CUC Castrocucco 69.17 305 *e*P **P 10 27 56.3 -1.8**
comp=Z,21nm,1.0s
MUD Monsted U'grnd 69.26 324 *i*P **P 10 27 58.8 +0.6**
MUD pmax pmax
comp=Z,36nm,0.9s
MUD Monsted U'grnd 69.26 324 *i*P **P 10 27 58.8 +0.6**
comp=Z,36nm,0.9s
CEL Celeste 69.59 304 *e*P **P 10 28 00.3 -0.4**
comp=Z,36nm,0.9s
ODD1 Odda 69.70 328 *e*P **P 10 28 01.4 +0.4**
ODD1 IAmb IAmb 10 28 01.8
comp=Z,26nm,0.9s
ABTA Abfaltersbach 69.70 313 *i*P **P 10 27 59.9 -1.4**
comp=Z,35nm,1.2s,SNR=9.7
GRFO Grafenberg 69.77 316 *e*P **P 10 28 02.2 +0.7**
GRFO pmax pmax
comp=Z,72nm,1.3s
GRFO Grafenberg 69.77 316 *e*P **P 10 28 02.2 +0.7**
comp=Z,72nm,1.3s
SNART Snartemo 69.81 326 *e*P **P 10 28 01.9 +0.3**
SNART IAmb IAmb 10 28 02.4
comp=Z,29nm,0.9s
STKA Stephens Creek 69.86 142 P **P 10 28 01.9 -0.3**
comp=Z,10nm,0.9s,baz=168,slow=21,SNR=8.0
STKA LR LR 11 04 34.8
comp=Z,190nm,19.9s,baz=322,slow=41
STKA Stephens Creek 69.86 142 *e*P **P 10 28 02.2 0.0**
STKA pmax pmax
comp=Z,30nm,2.0s
STKA Stephens Creek 69.86 142 *e*P **P 10 28 02.2 0.0**
comp=Z,30nm,2.0s
BLS5 Blasjo 69.91 327 *e*P **P 10 28 02.1 -0.1**
BLS5 IAmb IAmb 10 28 03.3
comp=Z,36nm,0.9s
FOO Floro 70.00 329 *e*P **P 10 28 02.8 +0.1**
WTTA Wattenberg 70.14 314 *i*P **P 10 28 03.3 -0.8**
comp=Z,35nm,1.1s,SNR=11
WATA Walderalm 70.16 314 *i*P **P 10 28 03.1 -1.0**
comp=Z,22nm,0.9s,SNR=7.8
BER Bergen 70.20 328 *e*P **P 10 28 04.4 +0.5**
ASK Askoy 70.24 328 *e*P **P 10 28 04.2 +0.1**
ASK IAmb IAmb 10 28 04.9
comp=Z,43nm,1.3s
AQU L'Aquila 70.28 308 *e*P **P 10 28 04.4 -0.5**
AQU pmax pmax
comp=Z,42nm,1.0s
AQU L'Aquila 70.28 308 *e*P **P 10 28 04.4 -0.5**
comp=Z,42nm,1.0s
MBAR Mbarara 70.39 260 *e*P **P 10 28 04.9 -1.2**
MBAR pmax pmax
comp=Z,11nm,0.8s
MBAR Mbarara 70.39 260 *e*P **P 10 28 04.8 -1.2**
comp=Z,11nm,0.8s
MOTA Moosalm 70.47 314 *i*P **P 10 28 05.1 -0.9**
comp=Z,55nm,0.9s,SNR=31
KMY Karmoy 70.56 327 *e*P **P 10 28 06.3 +0.1**
RETA Reutte 70.65 314 *i*P **P 10 28 06.5 -0.6**
comp=Z,42nm,0.8s,SNR=20
FETA Feichten 70.81 314 *i*P **P 10 28 07.4 -0.7**
comp=Z,54nm,1.0s,SNR=24
FUORN Ofenpass-Fuorn 71.23 313 *e*P **P 10 28 10.7 -0.2**
comp=Z,17nm,0.8s
EIDS Eidvold 71.23 131 *e*P **P 10 28 11.2 +0.5**
comp=Z,37nm,1.4s
DAVA Damuels 71.28 314 *i*P **P 10 28 10.3 -0.7**
comp=Z,42nm,0.9s,SNR=16
STU Stuttgart 71.30 316 *e*P **P 10 28 10.9 0.0**
STU pmax pmax
comp=Z,70nm,0.8s
STU Stuttgart 71.30 316 *e*P **P 10 28 10.9 0.0**
comp=Z,70nm,0.8s
DAG Danmarks Havn 71.72 348⇑ *i*P **P 10 28 11.5 -1.4**
DAG pmax pmax
comp=Z,30nm,1.0s
DAG Danmarks Havn 71.72 348⇑ *i*P **P 10 28 11.5 -1.4**
comp=Z,30nm,1.0s
TUE Stuetta 71.87 313 *e*P **P 10 28 14.1 -0.6**
comp=Z,136nm,2.0s
BFO Black Forest 71.98 315 *i*P **P 10 28 15.0 0.0**
BFO Black Forest 71.98 315 *e*P **P 10 28 14.8 -0.3**
LANF Langenberg 72.11 316⇑ *e*P **P 10 28 16.0 +0.2**
MEM Membach 72.72 318 P **P 10 28 19.0 -0.3**
comp=Z,25nm,1.3s
ECH Echery 72.76 316⇑ *e*P **P 10 28 19.2 -0.5**
BEBN Eben Emael 72.86 318 P **P 10 28 20.6 +0.5**
MOF Molkenrain 72.89 315⇑ *e*P **P 10 28 20.3 -0.2**
WLF Walferdange 72.93 317 P **P 10 28 21.5 +0.9**
comp=Z,118nm,1.2s
WLF Walferdange 72.93 317 *e*P **P 10 28 21.5 +0.9**
WLF pmax pmax
comp=Z,147nm,0.9s
WLF Walferdange 72.93 317 *e*P **P 10 28 21.5 +0.9**
comp=Z,147nm,0.9s
BCLA Clavier 73.20 318 P **P 10 28 22.6 +0.4**
comp=Z,23nm,1.2s
LOMF Lomont 73.24 315 *e*P **P 10 28 22.2 -0.5**
SENIN Lac Senin/Sane 73.25 314 *e*P **P 10 28 22.6 -0.3**
OG01 Vacheresse 73.67 314⇑ *e*P **P 10 28 25.1 -0.1**
DOU Dourbes 73.74 318 P **P 10 28 25.8 +0.4**
comp=Z,13nm,1.6s
SNF Seneffe 73.79 318 P **P 10 28 25.9 +0.3**
GDM Grand'Maison 74.42 313⇑ *e*P **P 10 28 29.4 -0.3**
TT01 Tatalina 74.63 27 *e*P **P 10 28 29.9 -0.4**
GRN Grenoble 74.65 313⇑ *e*P **P 10 28 31.1 +0.1**
COLD Coldfoot 74.88 22 *e*P **P 10 28 31.6 -0.1**
ARMA Armidale 74.90 134 *e*P **P 10 28 34.1 +1.6**
comp=Z,19nm,1.1s
MCD Coleburn Disti 75.33 327 *e*P **P 10 28 34.2 -0.2**
KEST Kesra 75.36 303 P **P 10 28 34.9 -0.3**
comp=Z,25nm,1.1s,baz=202,slow=1.1,SNR=6.3
KEST LR LR 11 05 57.3
comp=Z,98nm,21.8s,baz=282,slow=39
KEST Kesra 75.36 303 *e*P **P 10 28 35.1 -0.1**
comp=Z,79nm,1.5s
SSB Saint Sauveur 75.44 313 *e*P **P 10 28 35.1 -0.3**
SSB Saint Sauveur 75.44 313 *e*P **P 10 28 35.2 -0.2**
SSB pmax pmax
comp=Z,29nm,1.1s
SSB Saint Sauveur 75.44 313 *e*P **P 10 28 35.2 -0.2**
comp=Z,29nm,1.1s
SVW2 Sparrevohn 75.59 29 *e*P **P 10 28 36.4 +0.4**
comp=Z,29nm,1.0s
EDU Dundee 75.62 326 *e*P **P 10 28 35.8 -0.3**
MLY Manley 75.75 24 *e*P **P 10 28 37.0 +0.1**
PLDF La Plantade 75.79 314⇑ *e*P **P 10 28 38.5 +1.0**
MDO Dochfour 75.93 327 *e*P **P 10 28 37.4 -0.6**
SCO Scoresbysund 76.05 343⇑ *i*P **P 10 28 38.9 +0.5**
SCO pmax pmax
comp=Z,30nm,1.2s
SCO Scoresbysund 76.05 343⇑ *i*P **P 10 28 38.9 +0.5**
comp=Z,30nm,1.2s
AGO Saint Agoulin 76.08 314⇑ *e*P **P 10 28 40.0 +1.0**
BPAW Bear Paw Mtn. 76.11 25 *e*P **P 10 28 38.7 -0.2**
comp=Z,25nm,0.8s
ESK Eskdalemuir 76.22 325 *e*P **P 10 28 39.6 0.0**
ESK AMB AMB 10 28 40.2
comp=Z,40nm,1.3s
ESK Eskdalemuir 76.22 325 *e*P **P 10 28 40.0 +0.4**
ESK pmax pmax
comp=Z,41nm,1.1s
ESK Eskdalemuir 76.22 325 *e*P **P 10 28 40.0 +0.4**
comp=Z,41nm,1.1s
ECK Cauldkaine Hil 76.23 325 *e*P **P 10 28 39.5 -0.2**
PYM Petit Puy Mans 76.27 314⇑ *e*P **P 10 28 41.1 +0.9**
LBL Lubilhac 76.31 314⇑ *e*P **P 10 28 41.6 +1.2**
BHH Howats Hill 76.31 325 *e*P **P 10 28 39.9 -0.2**
KTH Kantishna Hill 76.40 26 *e*P **P 10 28 40.8 +0.2**
comp=Z,38nm,1.8s
KESW Keswick, Cumbr 76.46 324 *e*P **P 10 28 40.9 -0.1**
KESW AMB AMB 10 28 41.8
comp=Z,51nm,1.2s
BBO1 Bothel 76.47 324 *e*P **P 10 28 41.3 +0.3**
BWH Wardlaw 76.51 325 *e*P **P 10 28 41.5 +0.3**
BWN Browne 76.65 25 *e*P **P 10 28 43.3 +1.3**
FRNF Fournols 76.70 314⇑ *e*P **P 10 28 43.1 +0.5**
TRF Thorofare Moun 76.70 26 *e*P **P 10 28 42.4 0.0**
comp=Z,8.2nm,0.8s
MDM Murphy Dome 76.71 24 *e*P **P 10 28 42.0 -0.3**
COLA College 76.89 24 *e*P **P 10 28 43.1 -0.1**
COLA pmax pmax
comp=Z,23nm,0.8s
COLA College 76.89 24 *e*P **P 10 28 43.1 -0.1**
comp=Z,23nm,0.8s
FYU Fort Yukon 76.90 22 *e*P **P 10 28 44.0 +0.8**
WRH Wood River Hil 77.02 24 *e*P **P 10 28 42.7 -1.2**
CCB Clear Creek Bu 77.03 24 *e*P **P 10 28 42.8 -1.2**
comp=Z,7.4nm,0.9s
MCK McKinley 77.08 25 *e*P **P 10 28 44.1 -0.2**
MCK McKinley 77.08 25 *e*P **P 10 28 44.1 -0.2**
SPU Mount Spurr 77.08 28 *e*P **P 10 28 44.3 -0.1**
RSO Redoubt South 77.12 29 *e*P **P 10 28 45.6 +0.7**
HLM1 Long Mynd 77.19 322 *e*P **P 10 28 45.2 +0.1**
HLM1 AMB AMB 10 28 46.0
comp=Z,46nm,1.6s
GAL1 Galloway 77.19 325 *e*P **P 10 28 45.3 +0.2**
FOEL Foel Wylfa 77.21 323 *e*P **P 10 28 45.4 +0.1**
FOEL AMB AMB 10 28 46.3
comp=Z,44nm,1.1s
RND Reindeer 77.28 25 *e*P **P 10 28 44.5 -1.1**
RND Reindeer 77.28 25 *e*P **P 10 28 44.5 -1.1**
IL1 Eielson Array 77.30 24 *e*P **P 10 28 43.0 -2.6**
ILAR Eielson Array 77.30 24 P **P 10 28 43.7 -1.9**
comp=Z,8.2nm,0.9s,baz=279,slow=5.5,SNR=58
ILAR PP **PP 10 31 36.9 -2.4**
comp=Z,1.6nm,1.0s,baz=304,slow=6.3,SNR=5.8
ILAR PKKPbc **PKKPbc 10 47 50.4 -2.0**
comp=Z,0.3nm,0.8s,baz=119,slow=1.1,SNR=4.2
ILAR LR LR 11 05 05.5
comp=Z,300nm,18.7s,baz=276,slow=38
ILB Eielson Array 77.30 24 *e*P **P 10 28 44.1 -1.4**
GMK Mull of Kintyr 77.44 325 *e*P **P 10 28 46.6 +0.1**
WPM1 Penmaenmawr 77.44 323 *e*P **P 10 28 46.6 +0.1**
MCH1 Michaelchurch 77.47 322 *e*P **P 10 28 46.9 +0.2**
MCH1 AMB AMB 10 28 47.5
comp=Z,34nm,1.1s
WIM Isle of Man 77.48 324 *e*P **P 10 28 47.5 +0.8**
SUA Susitna One 77.50 27 *e*P **P 10 28 46.5 -0.4**
LRDF Laroque-de-Fa 77.64 312⇑ *e*P **P 10 28 47.7 -0.2**
YRE Yr Eifl 77.84 323 *e*P **P 10 28 49.0 +0.2**
LPW Lampeter 78.02 322 *e*P **P 10 28 50.0 +0.3**
LPW AMB AMB 10 28 51.4
comp=Z,46nm,1.6s
PMR Palmer 78.10 27 *e*P **P 10 28 49.2 -0.8**
PMR Palmer 78.10 27 *e*P **P 10 28 49.2 -0.8**
GMM Mts of Mourne 78.11 325 *e*P **P 10 28 50.4 +0.1**
VALF Valcebollere 78.20 311⇑ *e*P **P 10 28 51.2 0.0**
BRLK Bradley Lake 78.28 29 *e*P **P 10 28 50.2 -0.9**
SML Sawmill 78.31 27 *e*P **P 10 28 50.9 -0.4**
SML Sawmill 78.31 27 *e*P **P 10 28 50.9 -0.4**
SUMG Summit 78.40 348⇑ *i*P **P 10 28 51.4 -0.7**
SUMG pmax pmax
comp=Z,68nm,1.0s
SUMG Summit 78.40 348⇑ *i*P **P 10 28 51.4 -0.7**
comp=Z,68nm,1.0s
SUMG Summit 78.40 348 *e*P **P 10 28 51.4 -0.7**
OHAK Old Harbor 78.41 32 *e*P **P 10 28 50.6 -1.2**
KDAK Kodiak Island 78.48 31 *i*P **P 10 28 51.5 -0.7**
SCM Sheep Creek Mo 78.70 26 *e*P **P 10 28 53.5 0.0**
SCM Sheep Creek Mo 78.70 26 *e*P **P 10 28 53.5 0.0**
SEW Seward 78.73 28 *e*P **P 10 28 52.5 -0.9**
HTL Hartland 78.74 321 *e*P **P 10 28 54.2 +0.4**
HTL AMB AMB 10 28 55.4
comp=Z,30nm,1.8s
DSB Dublin 78.78 324 *e*P **P 10 28 54.8 +0.9**
PAX Paxson 78.81 25 *e*P **P 10 28 53.7 -0.4**
PAX Paxson 78.81 25 *e*P **P 10 28 53.7 -0.4**
DOT Dot Lake 78.95 24 *e*P **P 10 28 53.9 -0.8**
RESF Ens 79.18 312⇑ *e*P **P 10 28 56.7 +0.1**
VIEF Viey 79.36 312⇑ *e*P **P 10 28 57.7 +0.2**
INK Inuvik 79.38 17 P **P 10 28 56.7 -0.2**
comp=Z,38nm,0.8s,baz=335,slow=6.3,SNR=80
INK Inuvik 79.38 17 *e*P **P 10 28 56.9 0.0**
INK Inuvik 79.38 17 *e*P **P 10 28 56.9 0.0**
KULLO Kullorsuaq 79.39 354⇑ *i*P **P 10 28 56.5 -0.4**
KULLO pmax pmax
comp=Z,95nm,0.9s
KULLO Kullorsuaq 79.39 354⇑ *i*P **P 10 28 56.5 -0.4**
comp=Z,95nm,0.9s
KLU Klutina 79.45 26 *e*P **P 10 28 57.6 0.0**
MENT Mentasta 79.49 24 *e*P **P 10 28 57.6 -0.1**
DIV Divide 79.71 26 *e*P **P 10 28 59.2 +0.2**
EYAK Cordova Ski Ar 80.05 27 *e*P **P 10 29 00.9 +0.2**
RES Resolute Bay 80.12 4 LR LR 11 05 54.9
comp=Z,183nm,21.2s,baz=22,slow=37
RES Resolute Bay 80.12 4 *e*P **P 10 29 01.2 +0.3**
RES Resolute Bay 80.12 4 *e*P **P 10 29 01.2 +0.3**
BMRM Bremner River 80.28 26 *e*P **P 10 29 02.0 +0.1**
DAWY Dawson 80.36 22 *e*P **P 10 29 02.0 -0.5**
RAGM Ragged Mountai 80.58 27 *e*P **P 10 29 03.9 +0.2**
CRQM Cirque 80.98 26 *e*P **P 10 29 06.2 +0.2**
BALM Baldy 81.13 26 *e*P **P 10 29 06.9 +0.2**
BALM Baldy 81.13 26 *e*P **P 10 29 06.9 +0.2**
TAM Tamanrasset 83.37 292 *e*P **P 10 29 19.8 +0.6**
TAM Tamanrasset 83.37 292 *e*P **P 10 29 19.8 +0.6**
ES19 SONSECA Array 83.40 311 *e*P **P 10 29 18.9 0.0**
ESDC Sonseca Array 83.46 311 P **P 10 29 19.0 -0.2**
comp=Z,2.0nm,0.5s,baz=53,slow=4.9,SNR=23
ESLA Sonseca Array 83.46 311 *e*P **P 10 29 19.4 +0.2**
ILULI Ilulissat 83.49 350⇑ *i*P **P 10 29 17.5 -1.2**
ILULI pmax pmax
comp=Z,34nm,1.1s
ILULI Ilulissat 83.49 350⇑ *i*P **P 10 29 17.5 -1.2**
comp=Z,34nm,1.1s
PAB San Pablo 83.78 311 *e*P **P 10 29 21.1 +0.2**
PAB San Pablo 83.78 311 *e*P **P 10 29 21.1 +0.2**
PBRG Braganca 84.33 314 *e*P **P 10 29 23.8 +0.1**
comp=Z,18nm,1.7s
MVO Moncorvo 84.83 313 *e*P **P 10 29 26.0 -0.2**
comp=Z,36nm,1.3s
MVO Moncorvo 84.83 313 *e*LR LR 11 03 31.2
comp=Z,112nm,20.0s
SKAG Skagway 84.83 25 *e*P **P 10 29 25.9 +0.2**
PCAB Cabril 85.22 314 *e*P **P 10 29 28.7 +0.6**
comp=Z,34nm,1.4s
POLO Lamas de Olo 85.23 314 *e*P **P 10 29 28.6 +0.3**
comp=Z,11nm,1.5s
PGAV Gavieira, Arco 85.25 314 *e*P **P 10 29 28.2 -0.1**
comp=Z,33nm,1.8s
PGAV Gavieira, Arco 85.25 314 *e*S **S 10 39 54.6 -3.3**
PGAV *e*SS **SS 10 45 21.4 -10**
PGAV Gavieira, Arco 85.25 314 *e*LR LR 11 02 41.8
comp=Z,149nm,22.0s
SFJD Kangerlussuaq 85.39 348 LR LR 11 11 48.4
comp=Z,304nm,19.0s,baz=20,slow=39
SFJD Kangerlussuaq 85.39 348⇑ *i*P **P 10 29 27.1 -1.2**
SFJD pmax pmax
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 85.39 348⇑ *i*P **P 10 29 27.1 -1.2**
comp=Z,28nm,0.9s
SFJD Kangerlussuaq 85.39 348 *e*P **P 10 29 27.6 -0.7**
PVIS Viseu 85.62 313 *e*P **P 10 29 30.7 +0.6**
comp=Z,31nm,1.4s
PCBR Castelo Branco 85.77 312 *e*P **P 10 29 31.2 +0.4**
comp=Z,25nm,1.6s
PMRV Marv??o 85.91 312 *e*P **P 10 29 31.4 -0.2**
comp=Z,26nm,1.4s
PMRV Marv??o 85.91 312 *e*LR LR 11 05 51.2
comp=Z,120nm,18.0s
LBTB Lobatse 86.46 240 *e*P **P 10 29 34.3 -0.2**
LBTB Lobatse 86.46 240 *e*P **P 10 29 34.2 -0.2**
PBEJ Beja 86.92 311 *e*P **P 10 29 36.9 +0.4**
comp=Z,23nm,1.4s
PVAQ Vaqueiros 87.12 310 *e*P **P 10 29 37.7 +0.2**
comp=Z,28nm,1.2s
PVAQ Vaqueiros 87.12 310 *e*SS SS 10 46 01.1 +2.2
PVAQ Vaqueiros 87.12 310 *e*LR LR 11 09 14.9
comp=Z,101nm,20.0s
MESJ Messejana 87.25 311 *e*P **P 10 29 38.5 +0.4**
comp=Z,26nm,1.6s
PNCL Nicolau / Gran 87.33 311 *e*P **P 10 29 38.6 +0.1**
comp=Z,32nm,1.4s
PBDV Barranco-do-Ve 87.35 310 *e*P **P 10 29 39.5 +0.8**
comp=Z,40nm,1.3s
DLBC Dease Lake 87.51 23 *e*P **P 10 29 40.2 +1.2**
PTEO Sao Teotonio 87.75 311 *e*P **P 10 29 41.4 +0.9**
comp=Z,53nm,1.3s
WRAK Wrangell Islan 88.09 26 *e*P **P 10 29 42.2 +0.5**
MSVF Nonsavu 88.13 110 *e*P **P 10 29 42.0 -0.7**
MSVF pmax pmax
comp=Z,17nm,1.1s
BOSA Boshof 88.49 237 P **P 10 29 42.9 -1.4**
comp=Z,9.4nm,0.9s,baz=70,slow=7.1,SNR=8.4
BOSA LR LR 11 08 53.1

	comp=Z,146nm,19.5s,baz=48,slow=35						
BOSA	**Boshof**	**88.49**	**237**	*e*P	**P**	**10 29 43.5**	**-0.7**
BOSA	**Boshof**	**88.49**	**237**	*e*P	**P**	**10 29 43.5**	**-0.7**
YKA	**Yellowknife Ar**	**88.80**	**15**	P	**P**	**10 29 44.1**	**-0.9**
	comp=Z,8.6nm,0.9s,baz=328,slow=4.6,SNR=71						
YKA				PP	**PP**	**10 33 14.1**	**+0.8**
	comp=Z,1.8nm,1.0s,baz=326,slow=7.6,SNR=6.9						
YKA				PKKPbc	**PKKPdf**	**10 47 22.3**	**+3.0**
	comp=Z,0.5nm,0.7s,baz=144,slow=2.3,SNR=5.1						
YKA				LR	LR	11 14 28.2	
	comp=Z,6.8nm,20.6s,baz=0.0,slow=39						
TORD	**Torodi Ar. Bea**	**90.74**	**285**	P	**P**	**10 29 54.2**	**-0.8**
	comp=Z,5.8nm,0.8s,baz=66,slow=4.1,SNR=35						
TORD				PP	**PP**	**10 33 28.1**	**-2.3**
	comp=Z,4.9nm,1.1s,baz=66,slow=5.9,SNR=9.0						
TORD				PKKPbc	**PKKPbc**	**10 47 20.8**	**+0.9**
	comp=Z,1.1nm,1.0s,baz=316,slow=4.1,SNR=4.0						
TORD				LR	LR	11 17 28.4	
	comp=Z,119nm,19.1s,baz=80,slow=40						
MAW	**Mawson**	**96.15**	**193**	P	**P**	**10 30 17.0**	**-1.5**
	comp=Z,5.5nm,1.0s,baz=56,slow=6.1,SNR=6.3						
MAW				LR	LR	11 07 56.0	
	comp=Z,155nm,21.3s,baz=60,slow=32						
MAW	**Mawson**	**96.15**	**193**	*e*P	**P**	**10 30 18.5**	**0.0**
MAW	**Mawson**	**96.15**	**193**	*e*P	**P**	**10 30 18.5**	**0.0**
DBIC	**Dimbokro**	**99.38**	**282**	LR	LR	11 21 14.4	
	comp=Z,148nm,19.5s,baz=44,slow=39						
SCHQ	**Scheffervill e**	**99.49**	**352**	LR	LR	11 17 01.6	
	comp=Z,164nm,21.3s,baz=12,slow=36						
SYO	**Syowa Base**	**103.01**	**199**	‖*e*pPdif	pPdif	10 31 02.4	+6.9
PDAR	**Pinedale Array**	**107.66**	**21**	PP	PP	10 35 40.5	+2.4
	comp=Z,0.2nm,0.3s,baz=348,slow=3.6,SNR=4.6						
TXAR	**Lajitas Array**	**121.81**	**23**	PKP	**PKPdf**	**10 35 45.4**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=140,slow=0.7,SNR=22						
SDV	**Santo Domingo**	**144.71**	**342**	*e*P	**PKPab**	**10 36 26.9**	**-1.1**
SJCC	**San Jacinto, C**	**144.76**	**350**	*e*P	PKPbc	10 36 28.1	+0.1
MOTC	**Monteria, Cord**	**145.94**	**350**	*e*P	**PKPdf**	**10 36 31.4**	**+0.2**
BCIP	**Isla Barro Col**	**145.97**	**357**	*e*P	**PKPdf**	**10 36 30.0**	**-1.2**
CCAC	**Ocana**	**146.02**	**346**	*e*P	**PKPdf**	**10 36 31.4**	**-0.1**
CAPC	**Capurgana**	**146.31**	**353**	*e*P	**PKPdf**	**10 36 31.7**	**-0.1**
CBRI	**Barrientos, No**	**146.40**	**345**	*e*P	**PKPdf**	**10 36 31.7**	**-0.5**
GRMC	**Gramalote, San**	**146.40**	**345**	*e*P	**PKPdf**	**10 36 31.4**	**-0.8**
PAMC	**Pamplona, Colo**	**146.74**	**344**	‖*e*P	**PKPdf**	**10 36 32.0**	**-1.1**
BRRC	**Barranca, Sant**	**147.20**	**346**	*e*P	**PKPdf**	**10 36 33.7**	**+0.4**
BTLC	**Betulia, Santa**	**147.28**	**345**	*e*P	**PKPdf**	**10 36 34.3**	**+0.6**
BARC	**Barichara**	**147.58**	**345**	*e*P	**PKPbc**	**10 36 35.8**	**-1.0**
DBBC	**Dabeiba**	**147.75**	**351**	*e*P	**PKPbc**	**10 36 37.7**	**+0.6**
RUSC	**La Rusia**	**148.23**	**344**	*e*P	**PKPdf**	**10 36 35.4**	**-0.2**
HELC	**Santa Helena**	**148.45**	**349**	*e*P	**PKPbc**	**10 36 38.3**	**-1.0**
NORC	**Norcasia**	**148.94**	**348**	*e*P	**PKPbc**	**10 36 39.4**	**-0.8**
GUYC	**Guyana, Colomb**	**149.37**	**348**	*e*P	**PKPbc**	**10 36 40.8**	**-1.0**
ROSC	**El Rosal**	**149.53**	**346**	PKPbc	**PKPbc**	**10 36 42.0**	**-0.1**
	comp=Z,42nm,0.7s,baz=156,slow=2.1,SNR=8.1						
CHIC	**Chingaza**	**149.60**	**345**	*e*P	**PKPbc**	**10 36 40.3**	**-2.0**
TOLC	**Tolima**	**149.98**	**348**	*e*P	**PKPab**	**10 36 48.4**	**-0.3**
VILC	**Villavicencio,**	**150.09**	**345**	*e*P	**PKPbc**	**10 36 41.7**	**-1.4**
PRAC	**Prado**	**150.75**	**347**	*e*P	**PKPbc**	**10 36 42.8**	**-1.8**
GUVC	**San Jose del G**	**151.32**	**342**	*e*P	**PKPbc**	**10 36 45.1**	**-0.8**
GRGC	**Isla de Gorgon**	**151.96**	**353**	‖*e*P	**PKPbc**	**10 36 46.8**	**-0.5**
OTAV	**Otavalo**	**154.72**	**353**	*e*P	**PKPdf**	**10 36 45.4**	**0.0**
CPUP	**Villa Florida**	**158.38**	**261**	PKP	**PKPdf**	**10 36 48.9**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=104,slow=4.2,SNR=4.1						
CPUP				PKPab	**PKPab**	**10 37 23.1**	**-0.6**
	comp=Z,4.3nm,0.9s,baz=159,slow=2.9,SNR=5.2						
LPAZ	**La Paz**	**164.93**	**303**	PKP	**PKPdf**	**10 36 55.8**	**-1.2**
	comp=Z,4.4nm,1.1s,baz=315,slow=4.3,SNR=9.1						
LPAZ				PKPab	**PKPab**	**10 37 51.5**	**-1.8**
	comp=Z,3.4nm,0.8s,baz=4.4,slow=6.4,SNR=6.9						

*CSEM **20** 10:25:35.2, 38.64N× 22.43E, h15km, ML1.9/7*
ATH 20 10:25:35.2, 38.64N±22.43E, h15km±5km, ML1.9/7, Error ellipse: s-maj=5.9km s-min=0.8km az=186.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.24**	**161**	P	Pg	10 25 40.2	-0.3
DSF				S	Sg	10 25 44.4	+0.2
DSF	**Desfina**	**0.24**	**161**	P	Pg	10 25 40.2	-0.3
DSF				S	Sg	10 25 44.4	+0.2
DSF				AML	AML	10 25 44.9	
	comp=E,1150μm,0.1s						
DSF				AML	AML	10 25 47.2	
	comp=N,844μm,0.2s						
KALE	**Kalithea**	**0.34**	**222**	P	Pg	10 25 41.7	-0.5
KALE				S	Sg	10 25 46.8	-0.1
KALE	**Kalithea**	**0.34**	**222**	P	Pg	10 25 41.7	-0.4
KALE				S	Sg	10 25 46.8	-0.1
KALE				AML	AML	10 25 48.1	
	comp=E,975μm,0.2s						
KALE				AML	AML	10 25 49.3	
	comp=N,1545μm,0.3s						
SERG	**Sergoula**	**0.37**	**232**	P	Pg	10 25 42.9	+0.2
SERG				S	Sg	10 25 47.9	+0.1
AGG	**Agios Georgios**	**0.39**	**349**	P	Pg	10 25 42.5	-0.5
AGG				S	Sg	10 25 48.6	+0.3
AGG	**Agios Georgios**	**0.39**	**349**	P	Pg	10 25 42.5	-0.5
AGG				S	Sg	10 25 48.6	+0.3
AGG				AML	AML	10 25 51.2	
	comp=E,410μm,0.4s						
AGG				AML	AML	10 25 51.3	
	comp=N,281μm,0.4s						
TRIZ	**Trizonia**	**0.39**	**225**	P	Pg	10 25 42.9	-0.2
TRIZ				S	Sb	10 25 49.5	-0.2
ANX	**Ano Chora**	**0.40**	**263**	P	Pg	10 25 43.6	+0.3
ANX				S	Sg	10 25 48.8	0.0
ANX	**Ano Chora**	**0.40**	**263**	P	Pg	10 25 43.6	+0.3
ANX				S	Sg	10 25 48.8	+0.1
ANX				AML	AML	10 25 50.4	
	comp=E,584μm,0.2s						
ANX				AML	AML	10 25 50.5	
	comp=N,374μm,0.2s						
LKR	**Lokris**	**0.45**	**89**	P	Pg	10 25 44.1	0.0
LKR				S	Sb	10 25 50.8	-0.5
LKR	**Lokris**	**0.45**	**89**	P	Pg	10 25 44.1	0.0
LKR				S	Sb	10 25 50.8	-0.5
LKR				AML	AML	10 25 53.5	
	comp=E,451μm,0.2s						
LKR				AML	AML	10 25 54.7	
	comp=N,249μm,0.2s						
EFP	**Efpalio**	**0.46**	**242**	P	Pg	10 25 44.5	+0.1
EFP				S	Sg	10 25 50.6	0.0
EFP	**Efpalio**	**0.46**	**242**	P	Pg	10 25 44.5	+0.1
EFP				S	Sg	10 25 50.6	0.0
EFP				AML	AML	10 25 53.7	
	comp=E,524μm,0.3s						
EFP				AML	AML	10 25 53.9	
	comp=N,402μm,0.3s						
ATAL	**Atalanti**	**0.47**	**84**	P	Pg	10 25 44.7	+0.2
ATAL				S	Sb	10 25 51.6	-0.3
ATAL	**Atalanti**	**0.47**	**84**	P	Pg	10 25 44.7	+0.2
ATAL				S	Sb	10 25 51.6	-0.3
ATAL				AML	AML	10 25 54.0	
	comp=N,90μm,0.4s						
ATAL				AML	AML	10 25 55.8	
	comp=E,51μm,0.2s						
PROD	**Prodromos**	**0.54**	**136**	P	Pg	10 25 45.3	-0.4
PROD	**Prodromos**	**0.54**	**136**	P	Pg	10 25 45.3	-0.4

*ISCJB **20** 10:32:15.6±1.2, 6.71S±0.07× 147.4E±0.2, h63km, mb3.8/5, Error ellipse: s-maj=30.2km s-min=10.2km az=0.9*
*IDC **20** 10:32:17.2±4.0, 6.79S× 147.57E, h66km±43km, mb3.5/5, mb1 3.7/7, mb1mx3.4/44, mbtmp3.8/7, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/28, Error ellipse: s-maj=45.6km s-min=26.7km az=119.0*
ISC 20 10:32:16.9±1.4, 6.73S±0.09× 147.6E±0.3, h63km, n9, σ1°17/9, mb3.9/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.69**	**188**	P	**Pn**	**10 32 58.7**	**+1.0**
	16nm,0.3s,baz=336,slow=6.5,SNR=30						
PMG				S	**Sn**	**10 33 28.9**	**-0.3**
	34nm,0.3s,baz=321,slow=19,SNR=14						
WRA	**Warramunga Ar**	**18.36**	**223**	P	**P**	**10 36 25.1**	**-1.5**
	0.5nm,0.3s,baz=52,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.35**	**216**	P	**P**	**10 36 58.7**	**-0.4**
	0.9nm,0.5s,baz=43,slow=8.8,SNR=24						
FITZ	**Fitzroy Crossi**	**24.17**	**240**	P	**P**	**10 37 26.1**	**-1.4**
	4.3nm,0.7s,baz=52,slow=7.9,SNR=24						
URZ	**Urewera**	**41.24**	**144**	LR	LR	10 57 38.7	
	comp=Z,55nm,18.0s,baz=182,slow=37						
KSRS	**Korea Array**	**47.63**	**339**	P	**P**	**10 40 46.4**	**-0.3**
	1.0nm,0.6s,baz=154,slow=10.0,SNR=5.6						
CMAR	**Chiang Mai Arr**	**54.09**	**298**	P	**P**	**10 41 37.1**	**+1.4**
	0.6nm,0.3s,baz=110,slow=4.9,SNR=4.0						
ILAR	**Eielson Array**	**85.93**	**23**	P	**P**	**10 44 49.2**	**-0.6**
	0.4nm,0.9s,baz=243,slow=4.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**145.81**	**283**	PKPbc	**PKPab**	**10 51 51.0**	**+0.4**
	1.2nm,0.5s,baz=78,slow=4.0,SNR=12						

*MOS **20** 10:33:35.4±0.6, 48.93N× 156.54E, h7km, mb4.2/1, Error ellipse: s-maj=34.3km s-min=6.1km az=79.9*
*ISCJB **20** 10:33:41.7±0.8, 49.27N±0.07× 156.3E±0.2, h50km, mb3.5/3, Error ellipse: s-maj=18.2km s-min=6.2km az=24.8*
*KRSC **20** 10:33:43.2±3.0, 49.52N× 157.20E, h7km±29km, ML4.2*
*IDC **20** 10:33:47.1±4.0, 49.62N× 155.67E, h102km±37km, mb3.2/3, mb1 3.4/5, mb1mx3.1/52, mbtmp3.6/5, Error ellipse: s-maj=54.1km s-min=23.7km az=150.0*
ISC 20 10:33:42.0±1.4, 49.2N±0.1× 156.4E±0.1, h50km, n41, σ1°76/44, mb3.5/3, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.49**	**353**	*i* P	**Pn**	**10 34 06.7**	**+0.4**
SKR				pmax	pmax		
	comp=Z,72nm,0.2s						
SKR	**Severo-Kuril's**	**1.49**	**353**	*i* P	**Pn**	**10 34 06.6**	**+0.3**
SKR				*i* S	**Sn**	**10 34 23.0**	**-1.5**
PAU	**Pauzhetka**	**2.28**	**7**	PN	**Pn**	**10 34 18.1**	**+1.0**
PAU	**Pauzhetka**	**2.28**	**7**	*i* P	**Pn**	**10 34 18.1**	**+1.0**
PAU				*i* S	**Sn**	**10 34 43.2**	**-0.7**
ASAK	**Asacha**	**3.32**	**16**	PN	**Pn**	**10 34 32.8**	**+1.3**
ASAK	**Asacha**	**3.32**	**16**	*e*P	**Pn**	**10 34 32.8**	**+1.3**
ASAK				S	**Sn**	**10 35 10.7**	**+1.0**
RUS	**Russkaya**	**3.50**	**22**	PN	**Pn**	**10 34 34.5**	**+0.7**
RUS	**Russkaya**	**3.50**	**22**	*e*P	**Pn**	**10 34 34.5**	**+0.7**
RUS				*e*S	**Sn**	**10 35 11.2**	**-2.7**
KRMR	**Karymshinskiy**	**3.79**	**16**	PN	**Pn**	**10 34 39.8**	**+2.0**
KRMR	**Karymshinskiy**	**3.79**	**16**	P	**Pn**	**10 34 39.8**	**+2.0**
KRMR				S	**Sn**	**10 35 22.9**	**+1.8**
PETK	**Petropavlovsk-**	**3.99**	**11**	P	**Pn**	**10 34 42.4**	**+1.8**
	comp=Z,8.4nm,0.3s,baz=184,slow=12,SNR=128						
PET	**Petropavlovsk**	**4.08**	**20**	PN	**Pn**	**10 34 43.0**	**+1.3**
PET	**Petropavlovsk**	**4.08**	**20**	*e*P	**Pn**	**10 34 43.0**	**+1.3**
PET				*e*S	**Sn**	**10 35 27.5**	**-0.7**
DALK	**Dalny**	**4.11**	**20**	PN	**Pn**	**10 34 43.6**	**+1.5**
DALK	**Dalny**	**4.11**	**20**	*e*P	**Pn**	**10 34 43.6**	**+1.5**
DALK				*e*S	**Sn**	**10 35 27.5**	**-1.4**
UGLR	**Uglovaya**	**4.29**	**20**	PN	**Pn**	**10 34 46.7**	**+1.9**
UGLR	**Uglovaya**	**4.29**	**20**	*e*P	**Pn**	**10 34 46.7**	**+1.9**
AVH	**Avacha**	**4.32**	**19**	PN	**Pn**	**10 34 47.4**	**+2.2**
AVH	**Avacha**	**4.32**	**19**	*e*P	**Pn**	**10 34 47.4**	**+2.2**
AVH				S	**Sn**	**10 35 33.1**	**-1.2**
KRER	**Koryakskii**	**4.36**	**19**	PN	**Pn**	**10 34 47.8**	**+2.0**
KRER	**Koryakskii**	**4.36**	**19**	*e*P	**Pn**	**10 34 47.8**	**+2.0**
KRER				S	**Sn**	**10 35 35.5**	**+0.1**
SDLR	**Sedlovina**	**4.37**	**20**	PN	**Pn**	**10 34 46.9**	**+1.1**
SDLR	**Sedlovina**	**4.37**	**20**	*e*P	**Pn**	**10 34 46.9**	**+1.1**
SDLR				*e*S	**Sn**	**10 35 31.1**	**-4.3**
NLC	**Nalytchevo**	**4.38**	**24**	PN	**Pn**	**10 34 45.5**	**-0.4**
NLC	**Nalytchevo**	**4.38**	**24**	*e*P	**Pn**	**10 34 45.5**	**-0.4**
NLC				*e*S	**Sn**	**10 35 31.7**	**-3.9**
KRX	**Arik**	**4.39**	**18**	PN	**Pn**	**10 34 48.5**	**+2.3**
KRX	**Arik**	**4.39**	**18**	*e*P	**Pn**	**10 34 48.5**	**+2.3**
KRX				S	**Sn**	**10 35 36.4**	**+0.3**
GNL	**Ganaly**	**4.60**	**12**	PN	**Pn**	**10 34 50.8**	**+1.8**
GNL	**Ganaly**	**4.60**	**12**	*e*P	**Pn**	**10 34 50.8**	**+1.8**
VLA	**Vladivostok**	**17.99**	**260**	‖*i*P	Pn	10 38 00.8	+13
VLA				pmax	pmax		
	comp=Z,30nm,1.3s						
MJAR	**Matsushiro Arr**	**18.32**	**233**	P	**P**	**10 37 51.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=24,slow=10,SNR=6.1						
KSRS	**Korea Array**	**23.66**	**251**	P	**P**	**10 38 46.9**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=44,slow=9.2,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**30.59**	**160**	T	T	11 12 51.7	
	baz=345,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**30.61**	**160**	T	T	11 12 53.4	
	baz=345,slow=76,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**30.61**	**160**	T	T	11 12 48.1	
	baz=345,slow=76,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**31.74**	**161**	T	T	11 14 18.9	
	baz=349						
H11S3	**WAKE ISLAND Hy**	**31.75**	**161**	T	T	11 14 19.6	
	baz=349,slow=74						
H11S2	**WAKE ISLAND Hy**	**31.75**	**161**	T	T	11 14 20.3	
	baz=349,slow=74						
MKAR	**Makanchi Array**	**47.78**	**297**	P	P	10 42 09.0	-5.0
	comp=Z,0.3nm,0.5s,baz=76,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**47.78**	**297**	P	**P**	10 42 09.0	-5.0
TXAR	**Lajitas Array**	**74.39**	**63**	P	**P**	**10 45 15.3**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=298,slow=4.0,SNR=4.4						

*ISK **20** 10:40:42.5, 37.22N× 35.46E, h8km, ML2.1*
*CSEM **20** 10:40:42.9±0.2, 37.20N× 35.46E, h15km, ML2.1, Error ellipse: s-maj=5.7km s-min=4.4km az=176.0*
*ISCJB **20** 10:40:43.2±0.5, 37.24N±0.03× 35.44E±0.03, h2km±8km, Error ellipse: s-maj=5.4km s-min=3.7km az=169.2*
*DDA **20** 10:40:43.5, 37.33N× 35.39E, h7km, Md2.5*
ISC 20 10:40:43.0±0.9, 37.24N±0.03× 35.44E±0.02, h9km±9km, n21, σ0°57/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKO	**Adana**	**0.22**	**2**	*i* P	**Pg**	**10 40 46.9**	**-0.7**
AKO				*i* S	**Sg**	**10 40 49.9**	**-0.7**
KARA	**Karaisali**	**0.31**	**274**	*e*PG	**Pg**	**10 40 49.4**	**+0.2**
KARA				*e*SG	**Sg**	**10 40 54.4**	**+1.2**
KARA	**Karaisali**	**0.31**	**274**	*e*Pg	**Pg**	**10 40 49.4**	**+0.2**
KARA				*e*Sg	**Sg**	**10 40 54.4**	**+1.2**
CEYT	**Ceyhan**	**0.34**	**133**	*e*PG	**Pg**	**10 40 49.1**	**-0.5**
CEYT				*e*SG	**Sg**	**10 40 54.1**	**-0.1**
CEYT	**Ceyhan**	**0.34**	**133**	*e*Pg	**Pg**	**10 40 49.2**	**-0.5**
CEYT				*e*Sg	**Sg**	**10 40 54.1**	**-0.1**
KOZT	**Kozan**	**0.39**	**52**	*e*PG	**Pg**	**10 40 50.7**	**0.0**
KOZT				*e*SG	**Sg**	**10 40 56.6**	**+0.7**
KOZT	**Kozan**	**0.39**	**52**	*e*Pg	**Pg**	**10 40 50.7**	**0.0**
KOZT				*e*Sg	**Sg**	**10 40 56.6**	**+0.7**
YURE	**YUREGIR**	**0.44**	**159**	P	**Pn**	**10 40 55.7**	**+0.1**
YURE	**YUREGIR**	**0.44**	**159**	*i* P	**Pn**	**10 40 55.6**	**+0.1**
GULE	**Gulek**	**0.53**	**275**	S	**Sb**	**10 41 02.4**	**0.0**
GULE	**Gulek**	**0.53**	**275**	*i* S	**Sb**	**10 41 02.4**	**0.0**
DED	**Mersin**	**0.58**	**242**	*i* P	**Pb**	**10 40 54.9**	**-0.5**
DED				*i* S	**Sb**	**10 41 03.5**	**-0.2**
KRTS	**Karatas**	**0.67**	**184**	*e*PG	**Pg**	**10 40 55.6**	**-0.3**
KRTS	**Karatas**	**0.67**	**184**	*e*Pg	**Pg**	**10 40 55.6**	**-0.3**
MERS	**Mersin**	**0.82**	**243**	*e*PG	**Pg**	**10 40 58.9**	**+0.1**
MERS				*e*SG	**Sb**	**10 41 10.7**	**0.0**
MERS	**Mersin**	**0.82**	**243**	*e*Pg	**Pg**	**10 40 58.9**	**+0.1**
MERS				*e*Sg	**Sb**	**10 41 10.7**	**0.0**
YAHY	**KAYSERI_Yahyal**	**0.85**	**356**	P	**Pn**	**10 41 01.5**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**0.85**	**356**	*i* P	**Pn**	**10 41 01.4**	**+0.1**
KAMA	**Osmaniye**	**0.98**	**93**	*i* P	**Pb**	**10 41 02.5**	**+0.2**
KAMA				*i* S	**Sn**	**10 41 17.5**	**+0.3**
KERG	**Konya-Eregli**	**1.06**	**280**	P	**Pg**	**10 41 02.1**	**-1.3**
KERG				S	**Sb**	**10 41 17.7**	**0.0**
KERG	**Konya-Eregli**	**1.06**	**280**	*i* P	**Pg**	**10 41 02.1**	**-1.3**
KERG				*i* S	**Sb**	**10 41 17.7**	**0.0**

*DDA **20** 10:49:21.9, 40.78N× 27.32E, h9km, Md2.6*
*ISK **20** 10:49:21.8, 40.75N× 27.33E, h12km, ML2.1*
*ISCJB **20** 10:49:22.1±0.5, 40.76N±0.03× 27.35E±0.03, h9km±5km, Error ellipse: s-maj=5.6km s-min=4.0km az=161.6*
*CSEM **20** 10:49:22.2±0.1, 40.75N× 27.34E, h10km, ML2.1, Error ellipse: s-maj=1.9km s-min=1.4km az=168.0*
ISC 20 10:49:22.0±0.9, 40.77N±0.03× 27.33E±0.02, h14km±6km, n29, σ0°66/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.14**	**235**	P	**Pg**	**10 49 25.7**	**+0.1**
SART				S	**Sg**	**10 49 28.3**	**+0.2**
SART	**Tekirdag**	**0.14**	**235**	*i* P	**Pg**	**10 49 25.7**	**+0.1**
SART				*i* S	**Sg**	**10 49 28.3**	**+0.2**
RKY	**Sarkoy-Tekirda**	**0.14**	**235**	*e*PG	**Pg**	**10 49 25.5**	**-0.1**
RKY				*e*SG	**Sg**	**10 49 28.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.14**	**235**	*e*Pg	**Pg**	**10 49 25.5**	**-0.1**
RKY				*e*Sg	**Sg**	**10 49 28.2**	**+0.1**
MRMT	**Marmara Adasi**	**0.26**	**129**	*e*PG	**Pg**	**10 49 27.2**	**-0.4**
MRMT				*e*SG	**Sg**	**10 49 30.7**	**-0.7**
MRMT	**Marmara Adasi**	**0.26**	**129**	*e*Pg	**Pg**	**10 49 27.2**	**-0.4**
MRMT				*e*Sg	**Sg**	**10 49 30.7**	**-0.7**
TKR	**Tekirdag**	**0.27**	**35**	*e*PG	**Pg**	**10 49 28.2**	**+0.4**
TKR				*e*SG	**Sb**	**10 49 32.8**	**-0.4**
TKR	**Tekirdag**	**0.27**	**35**	*e*Pg	**Pg**	**10 49 28.2**	**+0.4**
TKR				*e*Sg	**Sb**	**10 49 32.8**	**-0.4**
KRBG	**Karabiga-Canak**	**0.38**	**183**	*e*PG	**Pg**	**10 49 29.4**	**-0.1**
KRBG				*e*SG	**Sg**	**10 49 34.8**	**+0.2**
KRBG	**Karabiga-Canak**	**0.38**	**183**	*e*Pg	**Pg**	**10 49 29.4**	**-0.1**
KRBG				*e*Sg	**Sg**	**10 49 34.8**	**+0.2**
KESN	**Edirne-Kesan**	**0.49**	**277**	P	**Pg**	**10 49 29.4**	**-2.5**
KESN				S	**Sg**	**10 49 39.0**	**+0.5**
KESN	**Edirne-Kesan**	**0.49**	**277**	*i* P	**Pg**	**10 49 29.4**	**-2.5**
KESN				*i* S	**Sg**	**10 49 39.0**	**+0.5**
EDC	**Edincik**	**0.59**	**136**	*e*PG	**Pg**	**10 49 33.4**	**-0.1**
EDC	**Edincik**	**0.59**	**136**	*e*Pg	**Pg**	**10 49 33.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.75**	**241**	*e*PG	**Pg**	**10 49 36.6**	**+0.1**
GELI				*e*SG	**Sb**	**10 49 47.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**0.75**	**241**	*e*Pg	**Pg**	**10 49 36.6**	**+0.1**
GELI				*e*Sg	**Sb**	**10 49 47.4**	**+0.5**
KCTX	**Karacabey (Bur**	**0.93**	**122**	*e*PG	**Pb**	**10 49 39.8**	**-0.2**
KCTX	**Karacabey (Bur**	**0.93**	**122**	*e*Pg	**Pb**	**10 49 39.8**	**-0.2**
ALN	**Alexandroupoli**	**0.98**	**278**	*e*PG	**Pg**	**10 49 41.1**	**+0.2**
ALN	**Alexandroupoli**	**0.98**	**278**	*e*Pg	**Pg**	**10 49 41.1**	**+0.2**
CTKS	**Kestanelik-??a**	**1.01**	**62**	*e*PG	**Pn**	**10 49 41.9**	**+0.1**
CTKS	**Kestanelik-??a**	**1.01**	**62**	*e*Pg	**Pn**	**10 49 41.9**	**+0.1**
EDRB	**Edirne**	**1.16**	**338**	*e*PN	**Pg**	**10 49 44.6**	**+0.2**
EDRB	**Edirne**	**1.16**	**338**	*e*Pn	**Pg**	**10 49 44.6**	**+0.2**
BGKT	**Bogazkoy**	**1.17**	**69**	*e*PN	**Pg**	**10 49 44.6**	**+0.1**
BGKT	**Bogazkoy**	**1.17**	**69**	*e*Pn	**Pg**	**10 49 44.6**	**+0.1**
ARMT	**Armutlu**	**1.19**	**99**	*e*PN	**Pg**	**10 49 44.6**	**-0.2**
ARMT	**Armutlu**	**1.19**	**99**	*e*Pn	**Pg**	**10 49 44.6**	**-0.2**
BOZC	**Bozcaada**	**1.34**	**227**	*i* P	**Pb**	**10 49 46.9**	**-0.1**
BOZC				*i* S	**Sg**	**10 50 06.6**	**+1.3**

*ISCJB **20** 10:53:42.9±0.5, 16.1S±0.1× 176.5W±0.1, h382km, mb3.9/14, Error ellipse: s-maj=20.3km s-min=12.2km az=38.6*
*IDC **20** 10:53:42.7±2.0, 15.96S× 176.55W, h359km±21km, mb3.6/13, mb1 3.8/14, mb1mx3.5/31, mbtmp4.3/14, Error ellipse: s-maj=23.3km s-min=13.3km az=133.0*
ISC 20 10:53:44.3±0.6, 16.1S±0.1× 176.4W±0.1, h382km, n17, σ1°25/17, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.97**	**65**	P	**Pn**	**10 55 03.6**	**-1.6**
	8.8nm,0.3s,baz=23,slow=1.9,SNR=15						
URZ	**Urewera**	**22.84**	**193**	P	**P**	**10 58 12.7**	**-2.9**
	7.8nm,0.3s,baz=262,slow=3.1,SNR=26						
RPZ	**Rata Peaks**	**29.56**	**199**	P	**P**	**10 59 14.5**	**-0.8**
	8.3nm,0.8s,baz=31,slow=5.9,SNR=3.6						
STKA	**Stephens Creek**	**41.20**	**240**	P	**P**	**11 00 52.9**	**-0.6**
	3.9nm,0.8s,baz=76,slow=8.3,SNR=4.6						
WRA	**Warramunga Arr**	**46.87**	**258**	P	**P**	**11 01 37.6**	**-0.6**
	1.7nm,0.5s,baz=97,slow=7.8,SNR=87						
ASAR	**Alice Springs**	**47.15**	**252**	P	**P**	**11 01 40.1**	**-0.2**
	14nm,0.5s,baz=89,slow=7.6,SNR=460						
VNDA	**Vanda**	**62.45**	**185**	P	**P**	**11 03 29.7**	**+2.0**
	0

H10S3	**ASCENSION HYDR**	**53.23**	**115**	T	T	12 05 42.4	
	baz=299,slow=75,SNR=89						
H10S1	**ASCENSION HYDR**	**53.23**	**115**	T	T	12 05 42.9	
	baz=299,slow=75,SNR=80						
H10S2	**ASCENSION HYDR**	**53.25**	**115**	T	T	12 05 43.8	
	baz=299,slow=75,SNR=58						
DBIC	**Dimbokro**	**56.48**	**93**	P	**P**	**11 08 38.8**	**+1.4**
	1.4nm,0.4s,baz=266,slow=10.0,SNR=4.0						
YKA	**Yellowknife Ar**	**58.33**	**334**	P	**P**	**11 08 49.3**	**-0.2**
	0.3nm,0.4s,baz=104,slow=7.5,SNR=7.2						
TORD	**Torodi Ar. Bea**	**61.20**	**84**	P	**P**	**11 09 10.7**	**+0.6**
	1.2nm,0.9s,baz=286,slow=7.2,SNR=5.6						

FUNV 20 11:00:57.7, 10.06N×69.88W, h5km, MW1.7, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.09**	**239**	*e*P	Pg	11 00 59.8	+0.1
CURV				*e*S	Sg	11 01 01.3	+0.3
SIQV	**Siquisique**	**0.59**	**7**	*e*P	Pg	11 01 09.0	-0.1
SIQV				*e*S	Sg	11 01 17.6	+0.7
SANV	**Sanarito**	**0.65**	**148**	*e*P	Pg	11 01 10.6	+0.3
SANV				*e*S	Sg	11 01 19.1	+0.3
TEPV	**Terepaima**	**0.69**	**98**	*e*P	Pg	11 01 10.5	-0.5
TEPV				*e*S	Sb	11 01 21.1	-1.0
VIGV	**El Vigia**	**1.90**	**230**	*e*P	Pn	11 01 30.6	-0.2
VIGV				*e*S	Sn	11 01 53.9	-1.3
SOCV	**Socops**	**2.01**	**209**	*e*P	Pn	11 01 32.2	-0.1
SOCV				*e*S	Sn	11 01 56.7	-1.1

RSNC 20 11:00:57.6±0.9, 9.76N×73.42W, h0km±15km, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**1.52**	**176**	*e*P	Pn	11 01 23.7	-2.5
OCAC				*i*		11 01 25.1	
	comp=Z,18nm,0.1s						
OCAC				*e*S	Sg	11 01 44.6	-1.8
SJCC	**San Jacinto, C**	**1.74**	**275**	*e*P	Pn	11 01 27.9	-1.3
SJCC				*i*		11 01 30.2	
	comp=Z,8.8nm,0.1s						
GRMC	**Gramalote, San**	**2.12**	**163**	*e*P	Pn	11 01 30.4	-4.1
GRMC				*e*S	Sn	11 01 57.0	-4.7
GRMC				*i*		11 02 01.3	
	comp=Z,24nm,0.2s						
CBRI	**Barrientos, No**	**2.12**	**163**	*e*P	Pn	11 01 34.0	-0.6
CBRI				*e*S	Sn	11 02 01.7	0.0
URIC	**Uribia, Colomb**	**2.38**	**36**	*e*P	Pn	11 01 36.5	-1.4
URIC				*i*		11 01 42.3	
	comp=Z,5.3nm,0.1s						
MOTC	**Monteria, Cord**	**2.42**	**246**	*e*P	Pn	11 01 36.9	-1.6

BJI 20 11:03:54.0, 25.03N×98.67E, h10km, ML3.6/7, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.69**	**88**	Pg	Pg	11 05 03.8	-1.0
KMI				Sn	Sn	11 05 35.8	+0.7
KMI				Sg	Sg	11 05 53.3	+0.6
KMI				SMN			
	140nm,0.7s						
KMI				SME			
	160nm,0.9s						
WMQ	**Urumqi**	**20.78**	**337**	P	Pn	11 08 38.9	+1.2

*IDC **20** 11:16:49.7±4.8, 2.90S×104.58E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.3/3, Error ellipse: s-maj=267.7km s-min=30.3km az=52.0*
*ISCJB **20** 11:18:35.8±1.3, 9.50S±0.08×113.92E±0.07, h31km, mb2.9/2, Error ellipse: s-maj=13.1km s-min=7.3km az=42.9*
*DJA **20** 11:18:37.4±1.2, 9.6S±11.4E±*, h15km±8km, M3.5/5, MLv3.5/5*

ISC 20 11:18:36.8±1.8, 9.5S±0.1×113.90E±0.10, h31km, n6, σ1.9 36/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.00**	**15**	P	**Pn**	**11 18 54.6**	**-0.2**
JAGI				S	**Sn**	**11 19 07.0**	**-0.9**
GMJI	**Gumukmas**	**1.25**	**339**	P	**Pn**	**11 18 59.0**	**+0.8**
GMJI				S	**Sn**	**11 19 15.1**	**+1.1**
TWSI	**Taliwang, Sumb**	**3.03**	**77**	P	**Pn**	**11 19 23.3**	**+0.6**
TWSI				S	**Sn**	**11 19 56.9**	**-1.1**
PLAI	**Plampang**	**3.88**	**81**	P	**Pn**	**11 19 35.4**	**+1.0**
PLAI				S	**Sn**	**11 20 21.1**	**+2.2**
WRA	**Warramunga Arr**	**22.33**	**120**	P	**P**	**11 23 31.2**	**-1.1**
	0.3nm,0.8s,baz=295,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**23.78**	**129**	P	**P**	**11 23 45.6**	**-1.3**
	0.2nm,0.4s,baz=302,slow=9.2,SNR=6.0						

WEL 20 11:21:01.1±0.1, 43.55S×172.30E, h10km±1km, ML3.7/19, 3C-5D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.23**	**95**	⇓PG	Pg	11 21 05.8	0.0
CRLZ				SG	Sg	11 21 09.4	+0.3
CRLZ				AML	AML	11 21 09.7	
CRLZ				AML	AML	11 21 09.8	
CRLZ				AML	AML	11 21 09.8	
MQZ	**McQueen's Vall**	**0.30**	**121**	⇓PG	Pg	11 21 06.8	-0.2
MQZ				AML	AML	11 21 12.2	
MQZ				AML	AML	11 21 12.5	
OXZ	**Oxford**	**0.30**	**320**	⇓PG	Pg	11 21 06.8	-0.3
LTZ	**Lake Taylor**	**0.77**	**358**	⇑P*	Pg	11 21 15.9	0.0
LTZ				S*	Sg	11 21 26.5	+0.5
LTZ				AML	AML	11 21 27.2	
RPZ	**Rata Peaks**	**0.92**	**260**	P*	Pg	11 21 18.4	-0.4
RPZ				S*	Sg	11 21 31.0	+0.3
RPZ				AML	AML	11 21 36.4	
INZ	**Inchbonnie**	**1.04**	**323**	⇓P*	Pg	11 21 19.9	-1.2
WVZ	**Waitaha Valley**	**1.24**	**292**	P*	Pn	11 21 23.1	-1.4
WVZ				AML	AML	11 21 44.4	
WVZ				AML	AML	11 21 52.1	
KHZ	**Kahutara**	**1.46**	**39**	⇑PN	Pn	11 21 25.3	-2.1
LBZ	**Lake Benmore**	**1.74**	**241**	PN	Pn	11 21 30.2	-1.2
LBZ				AML	AML	11 21 57.5	
LBZ				AML	AML	11 21 59.1	
FOZ	**Fox Glacier**	**1.81**	**270**	⇓PN	Pn	11 21 32.3	0.0
FOZ				AML	AML	11 21 55.6	
FOZ				AML	AML	11 22 05.1	
DSZ	**Denniston Nort**	**1.84**	**348**	PN	Pn	11 21 31.4	-1.5
DSZ				AML	AML	11 22 02.5	
DSZ				AML	AML	11 22 02.6	
DSZ				AML	AML	11 22 05.4	
DSZ				AML	AML	11 22 05.4	
THZ	**Tophouse**	**1.84**	**14**	⇑PN	Pn	11 21 30.9	-2.0
THZ				AML	AML	11 21 40.1	
THZ				AML	AML	11 22 12.8	
ODZ	**Otahua Downs**	**1.91**	**218**	PN	Pn	11 21 31.9	-1.8
ODZ				AML	AML	11 22 02.2	
ODZ				AML	AML	11 22 02.5	
ODZ				AML	AML	11 22 02.8	
ODZ				AML	AML	11 22 07.5	
BSWZ	**Blackbirch Sta**	**2.17**	**33**	PN	Pn	11 21 35.7	-1.6
TUWZ	**Tuamarina**	**2.44**	**30**	PN	Pn	11 21 39.1	-2.0
NNZ	**Nelson**	**2.47**	**19**	PN	Pn	11 21 40.0	-1.3
NNZ				AML	AML	11 26 54.1	
JCZ	**Jackson Bay**	**2.60**	**257**	PN	Pn	11 21 42.5	-0.8
WKZ	**Wanaka**	**2.68**	**241**	PN	Pn	11 21 42.8	-1.6
WKZ				AML	AML	11 22 31.6	
WKZ				AML	AML	11 22 33.8	
EAZ	**Earnscleugh**	**2.72**	**231**	PN	Pn	11 21 43.3	-1.6
EAZ				AML	AML	11 22 32.3	
EAZ				AML	AML	11 22 35.8	
QRZ	**Quartz Range**	**2.73**	**4**	PN	Pn	11 21 43.8	-1.2
QRZ				AML	AML	11 21 53.4	
QRZ				AML	AML	11 24 04.1	
TCW	**Tory Channel**	**2.76**	**33**	PN	Pn	11 21 43.8	-1.7
TUZ	**Tuapeka**	**3.06**	**217**	PN	Pn	11 21 48.0	-1.5
TUZ				AML	AML	11 22 43.6	
TUZ				AML	AML	11 22 45.8	
CAW	**Cannon Point**	**3.19**	**41**	PN	Pn	11 21 48.6	-2.7
CAW				AML	AML	11 22 25.3	
MSZ	**Milford Sound**	**3.34**	**249**	PN	Pn	11 21 54.0	+0.6
MSZ				AML	AML	11 22 51.0	
MSZ				AML	AML	11 22 52.5	
MLZ	**Mavora Lakes**	**3.50**	**237**	PN	Pn	11 21 55.0	-0.6
SYZ	**Scrubby Hill**	**3.73**	**216**	PN	Pn	11 21 58.1	-0.6
SYZ				AML	AML	11 23 07.6	
MRZ	**Mangatainoka R**	**3.78**	**41**	PN	Pn	11 21 56.3	-3.2
WHZ	**Wether Hill Ro**	**3.89**	**231**	PN	Pn	11 21 58.8	-2.1
BFZ	**Birch Farm**	**4.10**	**47**	PN	Pn	11 22 01.2	-2.7
APZ	**The Paps**	**4.48**	**221**	PN	Pn	11 22 07.4	-1.6
VRZ	**Vera Road**	**4.80**	**24**	PN	Pn	11 22 12.8	-0.6
VRZ				AML	AML	11 23 30.6	

*IDC **20** 11:25:50.0±1.1, 4.68N×82.79W, h0km, mb3.8/7, mb1 4.2/9, mb1mx4.0/28, mbtmp4.0/9, ML4.2/2, MS3.8/24, Ms1 3.8/24, ms1mx3.8/30, Error ellipse: s-maj=35.6km s-min=19.4km az=53.0*
*NEIC **20** 11:25:52.6±0.4, 4.56N×82.62W, h10km, mb4.4/35, Error ellipse: s-maj=9.1km s-min=5.0km az=209.0*
*GCMT **20** 11:25:52.6±0.3, 4.69N×82.66W, h26km±1km, MW5.0/91, Moment Tensor Solution. s21,c23; s91,c124; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.11±.17; Mθθ0.63±.12; Mϕϕ-0.52±.15; Mrθ0.11±.23; Mϕθ3.33±.10; Mϕr0.86±.25; Best double couple: Mo3.48700×10^16 NP1:ϕs185.00000°, δ90.00000°, λ-166.00000°. NP2: ϕs95.00000°, δ76.00000°, λ0.00000°. Principal axes: T 3.5440, Plg10.0000°, Azm319.0000°; N -0.1130, Plg76.0000°, Azm186.0000°; P -3.4310, Plg10.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CASC **20** 11:25:54.8±2.4, 5.04N×82.87W, h153km±97km, MD4.6, mb4.4(NEIC)*

ISC 20 11:25:56.3±0.7, 4.71N±0.06×82.71W±0.06, h35km, n181, σ2.9 10/168, mb4.3/39, MS3.7/19, 4C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**3.91**	**38**	*i* P	**Pn**	**11 26 51.9**	**-1.9**
AZU				*e*S	**Sn**	**11 27 37.5**	**-1.0**
ACR	**Cerro Adams**	**3.95**	**353**	*e*P	Pn	11 26 49.6	-4.9
TBS2		**4.06**	**1**	*e*P	**Pn**	**11 26 53.7**	**-2.4**
TBS2				*e*S	**Sn**	**11 27 40.1**	**-2.5**
BRU	**Baru**	**4.08**	**2**	*e*P	**Pn**	**11 26 53.0**	**-3.6**
BRU				*e*S	**Sn**	**11 27 41.2**	**-2.1**
PNME	**Penonome**	**4.44**	**32**	*e*S	**Sn**	**11 27 48.8**	**-2.8**
QCR	**Quepos**	**4.90**	**343**	⇑*e*P	**Pn**	**11 27 03.2**	**-4.4**
QCR				*e*S	**Sn**	**11 27 54.8**	**-8.4**
BUS	**Buena Vista**	**4.93**	**348**	⇓*i* P	**Pn**	**11 27 05.2**	**-3.1**
BUS				*e*S	**Sn**	**11 28 00.8**	**-3.6**
ZANG	**Zanguenga, Cho**	**5.08**	**34**	⇑*i* P	**Pn**	**11 27 08.7**	**-1.3**
ZANG				*e*S	**Sn**	**11 28 05.0**	**-2.5**
URSC	**Urasca**	**5.20**	**348**	⇓*e*P	**Pn**	**11 27 08.8**	**-3.1**
URSC				*e*S	**Sn**	**11 28 09.4**	**-1.4**
BCIP	**Isla Barro Col**	**5.27**	**33**	*i* P	**Pn**	**11 27 10.7**	**-1.9**
BCIP				*e*S	**Sn**	**11 28 10.0**	**-2.2**
BCIP	**Isla Barro Col**	**5.27**	**33**	*e*P	**Pn**	**11 27 09.9**	**-2.7**
BCIP	**Isla Barro Col**	**5.27**	**33**	*e*Pn	**Pn**	**11 27 10.4**	**-2.2**
MALC	**Bahia Malaga**	**5.40**	**97**	*e*P	**Pn**	**11 27 11.1**	**-3.4**
HDC	**Heredia**	**5.44**	**345**	*e*P	**Pn**	**11 27 12.2**	**-3.0**
HDC				*e*S	**Sn**	**11 28 14.9**	**-1.7**
HDC	**Heredia**	**5.44**	**345**	*e*Pn	**Pn**	**11 27 12.0**	**-3.1**
HDC				*e*Sn	**Sn**	**11 28 15.9**	**-0.7**
CGA2	**Cerro Gallo 2**	**5.55**	**342**	*e*P	**Pn**	**11 27 13.2**	**-3.4**
CGA2				*e*S	**Sn**	**11 28 10.6**	**-8.8**
JCR	**Jicaral**	**5.64**	**335**	⇑*e*P	**Pn**	**11 27 13.3**	**-4.4**
JCR				*e*S	Sn	11 28 11.8	-10
UPD2	**Meteti**	**6.03**	**50**	*i* P	**Pn**	**11 27 22.9**	**-0.1**
OTAV	**Otavalo**	**6.15**	**136**	*e*P	Pn	11 27 18.4	-6.7
OTAV	**Otavalo**	**6.15**	**136**	*e*Pn	Pn	11 27 20.2	-4.9
CRUC	**La Cruz**	**6.54**	**118**	*e*P	**Pn**	**11 27 27.5**	**-2.9**
CAPC	**Capurgana**	**6.60**	**53**	*e*P	**Pn**	**11 27 29.8**	**-1.1**
DBBC	**Dabeiba**	**6.86**	**70**	*e*P	**Pn**	**11 27 34.3**	**-0.3**
HELC	**Santa Helena**	**7.30**	**78**	*e*Pn	**Pn**	**11 27 38.6**	**-2.3**
GUYC	**Guyana, Colomb**	**7.31**	**86**	*e*P	**Pn**	**11 27 39.9**	**-1.2**
TOLC	**Tolima**	**7.37**	**91**	*e*P	**Pn**	**11 27 39.9**	**-1.8**
NORC	**Norcasia**	**7.86**	**83**	*e*P	**Pn**	**11 27 47.3**	**-0.9**
PRAC	**Prado**	**7.87**	**97**	*e*P	**Pn**	**11 27 46.2**	**-2.2**
PRAC	**Prado**	**7.87**	**97**	*e*Pn	**Pn**	**11 27 46.6**	**-1.7**
MOTC	**Monteria, Cord**	**8.08**	**60**	*e*P	**Pn**	**11 27 51.3**	**0.0**
ROSC	**El Rosal**	**8.36**	**89**	Pn	**Pn**	**11 27 57.5**	**+2.0**
	3.3nm,0.3s,baz=124,slow=13,SNR=6.6						
ROSC				Sn	**Sn**	**11 29 30.4**	**+1.5**
	1.4nm,0.3s,baz=73,slow=19,SNR=2.1						
ROSC				LR	LR	11 30 58.9	
	comp=Z,327nm,18.2s,baz=8.5,slow=37						
ROSC	**El Rosal**	**8.36**	**89**	*e*Pn	**Pn**	**11 27 55.0**	**-0.5**
ROSC				Sn	**Sn**	**11 29 30.4**	**+1.5**
SJAC	**San Juan de Ar**	**8.85**	**99**	*e*P	**Pn**	**11 27 59.2**	**-2.8**
CHIC	**Chingaza**	**8.95**	**90**	*e*P	**Pn**	**11 28 03.1**	**-0.4**
VILC	**Villavicencio,**	**9.01**	**93**	*e*P	**Pn**	**11 28 04.8**	**+0.7**
SJCC	**San Jacinto, C**	**9.07**	**55**	*e*P	**Pn**	**11 28 04.3**	**-0.7**
BARC	**Barichara**	**9.66**	**78**	*e*P	**Pn**	**11 28 13.9**	**+0.7**
OCAC	**Ocana**	**9.97**	**69**	*e*P	**Pn**	**11 28 16.7**	**-0.6**
GUVC	**San Jose del G**	**10.29**	**102**	*e*P	**Pn**	**11 28 19.6**	**-2.0**
CBRI	**Barrientos, No**	**10.30**	**73**	*e*P	**Pn**	**11 28 25.8**	**+3.9**
TGUH	**Tegucigalpa,Un**	**10.32**	**334**	*e*Pn	**Pn**	**11 28 24.2**	**+2.2**
ATAH	**Atahualpa**	**12.53**	**160**	LR	LR	11 33 10.3	
	comp=Z,1μm,21.3s,baz=337,slow=35						
URIC	**Uribia, Colomb**	**12.68**	**56**	*e*P	**Pn**	**11 28 53.5**	**-0.7**
TEIG	**Tepich**	**16.35**	**341**	LR	LR	11 35 25.4	
	comp=Z,276nm,19.1s,baz=38,slow=35						
CMIG	**Matias Romero**	**17.14**	**317**	LR	LR	11 35 26.9	
	comp=Z,356nm,19.4s,baz=134,slow=34						
NNA	**Nana**	**17.58**	**161**	P	**Pn**	**11 29 56.8**	**-2.0**
	1.1nm,0.3s,baz=306,slow=8.7,SNR=2.9						
NNA				LR	LR	11 36 11.6	
	comp=Z,186nm,19.0s,baz=318,slow=35						
SDDR	**Presa de Saban**	**18.04**	**37**	*e*Pn	**P**	**11 30 06.3**	**+1.6**
	29nm,1.0s						
PCRV	**Puerto La Cruz**	**18.72**	**72**	P	**P**	**11 30 11.5**	**-0.7**
	0.6nm,0.3s,baz=308,slow=6.6,SNR=4.7						
PCRV				LR	LR	11 39 11.3	
	comp=Z,421nm,20.4s,baz=278,slow=42						
LRS	**Lares**	**20.56**	**48**	*e*P	**P**	**11 30 31.8**	**-0.5**
CELP	**Cerrillos**	**20.62**	**49**	*e*P	**P**	**11 30 32.5**	**-0.4**
SJG	**San Juan**	**20.97**	**49**	P	**P**	**11 30 35.2**	**-1.4**
	8.3nm,0.3s,baz=183,slow=4.6,SNR=5.2						
SJG				LR	LR	11 39 02.0	
	comp=Z,159nm,20.5s,baz=258,slow=38						
SJG	**San Juan**	**20.97**	**49**	*e*P	**P**	**11 30 35.7**	**-0.9**
	74nm,1.4s						
HUMP	**Col San Antoni**	**21.21**	**50**	*e*P	**P**	**11 30 38.6**	**-0.6**
	30nm,1.0s						
CBYP	**Canovanas**	**21.29**	**49**	*e*P	**P**	**11 30 39.5**	**-0.6**
	83nm,1.1s						
PTGA	**Pitinga**	**23.35**	**103**	LR	LR	11 39 35.0	
	comp=Z,242nm,21.0s,baz=284,slow=35						
PTGA	**Pitinga**	**23.35**	**103**	*e*P	**P**	**11 31 01.5**	**-0.4**
	35nm,1.9s						
SAML	**Samuel**	**23.73**	**125**	*e*P	**P**	**11 31 01.7**	**-3.7**
	12nm,1.3s						
LPAZ	**La Paz**	**25.36**	**146**	P	**P**	**11 31 19.4**	**-1.6**
	2.3nm,0.5s,baz=332,slow=4.4,SNR=16						
LPAZ				LR	LR	11 42 40.3	
	comp=Z,376nm,19.8s,baz=318,slow=40						
035A	**Encino**	**26.55**	**328**	P	**P**	**11 31 34.6**	**+3.6**
	baz=144						
034A	**Hebbronville**	**26.96**	**327**	P	**P**	**11 31 37.6**	**+2.9**
	baz=143,SNR=8.8						
934A	**Benavides**	**27.30**	**328**	P	**P**	**11 31 42.2**	**+4.4**
	baz=144						
933A	**Laredo**	**27.71**	**327**	P	**P**	**11 31 44.8**	**+3.4**
	baz=142						
832A	**Faith Ranch, C**	**28.62**	**327**	P	**P**	**11 31 53.7**	**+4.1**
	baz=142						
SIV	**San Ignacio**	**29.69**	**134**	LR	LR	11 44 10.8	
	comp=Z,853nm,18.2s,baz=354,slow=37						
433A	**Art**	**30.16**	**331**	P	**P**	**11 32 05.7**	**+2.5**
	baz=146						
LVC	**Limon Verde**	**30.32**	**154**	LR	LR	11 44 08.8	
	comp=Z,704nm,20.6s,baz=346,slow=36						
X43A	**Marvell**	**30.62**	**347**	P	**P**	**11 32 10.7**	**+3.5**
	baz=164						
TKL	**Tuckaleechee C**	**30.82**	**358**	LR	LR	11 43 44.7	
	comp=Z,122nm,19.0s,baz=181,slow=35						
TXAR	**Lajitas Array**	**31.52**	**323**	P	**P**	**11 32 14.8**	**-0.6**
	0.4nm,0.7s,baz=142,slow=9.4,SNR=4.9						
X38A	**Whitesboro**	**31.86**	**341**	P	**P**	**11 32 20.7**	**+2.5**
	baz=157						
Y35A	**Marietta**	**31.96**	**337**	P	**P**	**11 32 20.1**	**+1.0**
	baz=152						
X37A	**Clayton**	**31.97**	**340**	P	**P**	**11 32 22.4**	**+3.4**
	baz=156						
Z33A	**Whitaker Ranch**	**32.13**	**334**	P	**P**	**11 32 23.0**	**+2.4**
	baz=149						
LPIG	**La Paz**	**32.83**	**309**	LR	LR	11 43 11.3	
	comp=Z,143nm,21.4s,baz=190,slow=32						
T41A	**Mountain View**	**33.24**	**347**	P	**P**	**11 32 30.1**	**-0.1**
	baz=163						
S40A	**Lebanon**	**33.94**	**346**	P	**P**	**11 32 36.6**	**+0.2**
	baz=162						
S39A	**Bolivar**	**34.23**	**345**	P	**P**	**11 32 39.8**	**+0.9**
	baz=161						
MNTX	**Cornudas Mount**	**34.26**	**324**	P	**P**	**11 32 39.5**	**+0.3**
	baz=137						
MNTX	**Cornudas Mount**	**34.26**	**324**	*e*P	**P**	**11 32 39.4**	**+0.2**
	2.5nm,0.9s						
V32A	**Arapaho**	**34.34**	**336**	P	**P**	**11 32 41.0**	**+1.1**
	baz=150						
R34A	**Isabella, Hill**	**35.97**	**340**	P	**P**	**11 32 53.6**	**-0.2**
	baz=155						
Q35A	**Mercer Eighty,**	**36.09**	**342**	P	**P**	**11 32 54.8**	**0.0**
	baz=157						
P38A	**Dawn**	**36.11**	**346**	P	**P**	**11 32 55.4**	**+0.4**
	baz=162						
R33A	**Olander Ranch,**	**36.22**	**339**	P	**P**	**11 32 55.9**	**-0.1**
	baz=154						
121A	**Cookes Peak, D**	**36.27**	**323**	P	**P**	**11 32 58.5**	**+1.8**
	baz=135,SNR=10						
121A	**Cookes Peak, D**	**36.27**	**323**	*e*P	**P**	**11 32 58.1**	**+1.4**
	12nm,1.0s						
319A	**Douglas**	**36.42**	**320**	*e*P	**P**	**11 32 59.6**	**+1.7**
	9.0nm,1.1s						
BNM	**Barren Site**	**36.76**	**326**	*e*P	**P**	**11 33 02.7**	**+1.8**
Q33A	**Connelly Farm,**	**36.79**	**340**	P	**P**	**11 33 00.6**	**-0.2**
	baz=154						
ANMO	**Albuquerque**	**37.26**	**327**	P	**P**	**11 33 07.4**	**+2.3**
	baz=139						
ANMO	**Albuquerque**	**37.26**	**327**	*e*P	**P**	**11 33 06.6**	**+1.5**
	4.3nm,0.9s						
O34A	**Beatrice**	**37.50**	**342**	P	**P**	**11 33 06.2**	**-0.6**
	baz=157						
T25A	**Trinidad**	**37.91**	**331**	P	**P**	**11 33 11.5**	**+0.9**
	baz=143						
T25A	**Trinidad**	**37.91**	**331**	*e*P	**P**	**11 33 12.2**	**+1.7**
	13nm,1.4s						
TUC	**Tucson**	**38.00**	**320**	P	**P**	**11 33 11.8**	**+0.6**
	baz=130						
TUC	**Tucson**	**38.00**	**320**	*e*P	**P**	**11 33 12.5**	**+1.2**
	2.6nm,0.9s						
SDCO	**Great Sand Dun**	**38.91**	**331**	P	**P**	**11 33 20.2**	**+1.0**
	baz=142,SNR=16						
SDCO	**Great Sand Dun**	**38.91**	**331**	*e*P	**P**	**11 33 20.0**	**+0.9**
	8.7nm,1.1s						
SDCO	**Great Sand Dun**	**38.91**	**331**	*e*P	**P**	**11 33 20.1**	**+0.9**
X18A	**Snowflake**	**38.96**	**323**	*e*P	**P**	**11 33 21.2**	**+1.8**
214A	**Organ Pipe Nat**	**39.11**	**317**	P	**P**	**11 33 22.1**	**+1.5**
	baz=128						
W18A	**Petrified Fore**	**39.24**	**324**	*e*P	**P**	**11 33 23.1**	**+1.3**
CPUP	**Villa Florida**	**39.45**	**143**	LR	LR	11 51 10.8	
	comp=Z,228nm,18.8s,baz=346,slow=38						
S22A	**4UR Ranch, Cre**	**39.58**	**329**	P	**P**	**11 33 25.7**	**+1.0**
	baz=140,SNR=5.6						
S22A	**4UR Ranch, Cre**	**39.58**	**329**	*e*P	**P**	**11 33 26.9**	**+2.2**
	22nm,2.0s						
Q24A	**Divide**	**39.72**	**332**	P	**P**	**11 33 27.1**	**+1.3**
	baz=144						
X16A	**Lo Mia Camp, P**	**39.79**	**322**	*e*P	**P**	**11 33 28.1**	**+1.7**
MVCO	**Mesa Verde**	**40.04**	**327**	P	**P**	**11 33 29.4**	**+0.9**
	baz=138						
MVCO	**Mesa Verde**	**40.04**	**327**	*e*P	**P**	**11 33 29.9**	**+1.4**
	6.6nm,0.9s						
WUAZ	**Wupatki**	**40.48**	**323**	P	**P**	**11 33 33.1**	**+1.0**
	baz=133,SNR=12						
WUAZ	**Wupatki**	**40.48**	**323**	*e*P	**P**	**11 33 33.8**	**+1.7**
	15nm,1.0s						
ISCO	**Idaho Springs**	**40.60**	**333**	P	**P**	**11 33 34.4**	**+1.3**
	baz=144						
ISCO	**Idaho Springs**	**40.60**	**333**	*e*P	**P**	**11 33 34.0**	**+0.8**
	3.8nm,1.0s						
SMCO	**Snowmass**	**40.75**	**331**	*e*P	**P**	**11 33 36.0**	**+1.5**
	5.0nm,0.8s						
ECSD	**EROS Data Cent**	**40.76**	**345**	P	**P**	**11 33 33.0**	**-1.1**
	baz=158						
J30A	**Dallas**	**41.23**	**341**	P	**P**	**11 33 37.4**	**-0.5**
	baz=154						
U15A	**North Rim**	**41.65**	**323**	*e*P	**P**	**11 33 43.6**	**+1.8**
	8.1nm,1.0s						
H32A	**Carlson Farm,**	**41.70**	**344**	P	**P**	**11 33 40.9**	**-0.8**
	baz=158						
IKP	**In-Ko-Pah, Jac**	**41.78**	**316**	P	**P**	**11 33 43.5**	**+0.9**
	baz=125						
IRM	**Iron Mountain**	**42.00**	**318**	P	**P**	**11 33 46.2**	**+1.8**
	baz=127						
I29A	**Vivian Onida**	**42.11**	**341**	P	**P**	**11 33 48.5**	**+3.4**
	baz=153						
O20A	**White River Ci**	**42.11**	**330**	P	**P**	**11 33 47.4**	**+1.9**
	baz=140						
MONP2	**Monument Peak**	**42.13**	**316**	P	**P**	**11 33 46.5**	**+0.8**
	baz=125						
BELC	**Belle Mtn. Jos**	**42.48**	**318**	P	**P**	**11 33 48.8**	**+0.4**
	baz=126						
SRU	**San Rafael Swe**	**42.52**	**328**	*e*P	**P**	**11 33 49.9**	**+1.1**
	7.1nm,1.0s						
LCMT	**Little Creek M**	**42.61**	**323**	*e*P	**P**	**11 33 52.

	baz=140							
BOZ	**Bozeman (W)**	**47.93**	**333**	*e*P	**P**	**11 34 32.4**	**+0.8**	
	15nm,1.8s							
WVOR	**Wild Horse Val**	**49.29**	**325**	*e*P	**P**	**11 34 42.6**	**+0.6**	
	11nm,0.9s							
SCHQ	**Schefferville**	**51.60**	**12**	LR	LR	11 56 18.2		
	comp=Z,68nm,21.9s,baz=254,slow=35							
NEW	**Newport**	**52.41**	**332**	P	**P**	**11 35 08.2**	**+2.9**	
	baz=135							
RKT	**Rikitea**	**58.01**	**239**	*e*LR	LR	11 52 45.0		
	182nm,29.5s							
YKA	**Yellowknife Ar**	**62.28**	**344**	P	**P**	**11 36 13.5**	**-1.2**	
	0.6nm,0.7s,baz=142,slow=6.1,SNR=9.7							
YKA				LR	LR	12 04 23.2		
	comp=Z,5.3nm,18.7s,baz=180,slow=37							
DLBC	**Dease Lake**	**64.87**	**335**	*e*P	**P**	**11 36 34.0**	**+2.1**	
PPT2	**Papeete2**	**69.57**	**249**	*e*LR	LR	11 58 07.6		
	131nm,26.8s							
TBI	**Tubuai**	**70.77**	**243**	*e*LR	LR	11 58 46.3		
	310nm,28.0s							
SUMG	**Summit**	**72.97**	**13**	*e*P	**P**	**11 37 21.1**	**-1.3**	
	11nm,0.9s							
ILAR	**Eielson Array**	**74.95**	**336**	P	**P**	**11 37 32.5**	**-1.1**	
	0.9nm,1.0s,baz=135,slow=4.5,SNR=5.9							
ILAR				LR	LR	12 13 06.5		
	comp=Z,78nm,20.4s,baz=110,slow=38							
BPAW	**Bear Paw Mtn.**	**76.39**	**335**	*e*P	**P**	**11 37 42.1**	**+0.1**	
	0.5nm,0.9s							
DBIC	**Dimbokro**	**77.42**	**84**	LR	LR	12 08 31.3		
	comp=Z,50nm,19.4s,baz=95,slow=33							
ESDC	**Sonseca Array**	**78.35**	**51**	LR	LR	12 10 20.3		
	comp=Z,30nm,19.4s,baz=325,slow=34							
TORD	**Torodi Ar. Bea**	**83.51**	**77**	P	**P**	**11 38 22.8**	**+1.5**	
	0.3nm,0.7s,baz=295,slow=3.8,SNR=3.7							
TORD				LR	LR	12 15 40.3		
	comp=Z,83nm,18.3s,baz=285,slow=36							
NOA	**NORSAR Array B**	**87.82**	**29**	LR	LR	12 13 42.2		
	comp=Z,25nm,21.8s,baz=250,slow=33							
GERES	**GERESS Array B**	**90.71**	**41**	LR	LR	12 16 23.1		
	comp=Z,26nm,18.1s,baz=275,slow=33							
ARCES	**ARCESS Array B**	**91.91**	**20**	LR	LR	12 14 17.9		
	comp=Z,30nm,21.8s,baz=39,slow=32							
FINES	**FINESS Array B**	**94.75**	**27**	LR	LR	12 16 10.5		
	comp=Z,38nm,22.0s,baz=316,slow=32							
H11N3	**WAKE ISLAND Hy**	**107.44**	**292**	T	T	13 40 25.2		
	baz=79,slow=75,SNR=7.4							
H11N2	**WAKE ISLAND Hy**	**107.45**	**292**	T	T	13 40 24.4		
	baz=79,slow=75,SNR=19							
H11N1	**WAKE ISLAND Hy**	**107.45**	**292**	T	T	13 40 24.1		
	baz=79,slow=75,SNR=32							
ASAR	**Alice Springs**	**140.00**	**238**	PKhKP	PKPpre	11 45 16.8		
	0.2nm,0.8s,baz=78,slow=4.8,SNR=2.7							
WRA	**Warramunga Arr**	**140.90**	**244**	PKP	**PKPdf**	**11 45 23.5**	**-0.2**	
	0.5nm,0.8s,baz=116,slow=1.9,SNR=5.9							

NEIC ***20*** *11:28:12.2, 16°.56N×93°.52W, h164km, MD4.2(MEX), After MEX.*

MEX 20 11:28:12.2±0.8, 16°.56N×93°.52W, h164km±14km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.90**	**161**	*e*P	Pn	11 28 36.1	-1.5
PCIG				*e*S	Sn	11 28 54.8	-2.3
PCIG		**0.90**	**161**	*e*P	Pn	11 28 36.1	-1.5
PCIG				*e*S	Sn	11 28 54.8	-2.3
CCIG	**Comitan**	**1.36**	**102**	*e*P	Pn	11 28 40.2	-1.5
CCIG				*e*S	Sn	11 29 02.1	-2.2
CCIG	**Comitan**	**1.36**	**102**	*e*P	Pn	11 28 40.2	-1.5
CCIG				*e*S	Sn	11 29 02.1	-2.2
HUIG	**Huatulco**	**2.61**	**253**	*e*P	Pn	11 28 52.0	-3.3
HUIG	**Huatulco**	**2.61**	**253**	*e*P	Pn	11 28 52.0	-3.3
VHO	**Vista Hermosa**	**3.12**	**280**	*e*P	Pn	11 29 01.6	-0.2
VHO				*e*S	Sn	11 29 38.8	-1.5
VHO	**Vista Hermosa**	**3.12**	**280**	*e*P	Pn	11 29 01.6	-0.2
VHO				*e*S	Sn	11 29 38.8	-1.5

ISCJB ***20*** *11:31:49.0±0.6, 37°.54N±0°.03×35°.72E±0°.04, h10km±4km, Error ellipse: s-maj=5.6km s-min=4.9km az=40.9*
CSEM ***20*** *11:31:48.9±0.2, 37°.54N×35°.70E, h12km, ML2.3, Error ellipse: s-maj=4.7km s-min=3.3km az=72.0*
ISK ***20*** *11:31:48.1, 37°.57N×35°.68E, h7km, ML2.3*
DDA ***20*** *11:31:49.0, 37°.54N×35°.69E, h7km, Md2.6*

ISC 20 11:31:48.9±0.9, 37°.54N±0°.03×35°.70E±0°.03, h11km±6km, n21, σ0s54/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.12**	**121**	PG	**Pg**	**11 31 51.7**	**-0.3**
KOZT				SG	**Sg**	**11 31 54.2**	**0.0**
KOZT	**Kozan**	**0.12**	**121**	*i* Pg	**Pg**	**11 31 51.7**	**-0.3**
KOZT				*i* Sg	**Sg**	**11 31 54.2**	**0.0**
AKO	**Adana**	**0.21**	**248**	*i* P	**Pg**	**11 31 53.7**	**+0.2**
AKO				*i* S	**Sg**	**11 31 57.1**	**+0.6**
CEYT	**Ceyhan**	**0.53**	**175**	*e*PG	**Pg**	**11 31 59.4**	**+0.1**
CEYT				*e*SG	**Sb**	**11 32 07.8**	**-0.1**
CEYT	**Ceyhan**	**0.53**	**175**	*e*Pg	**Pg**	**11 31 59.4**	**+0.1**
CEYT				*e*Sg	**Sb**	**11 32 07.8**	**-0.1**
KARA	**Karaisali**	**0.58**	**241**	*e*PG	**Pg**	**11 31 59.9**	**-0.3**
KARA				*e*SG	**Sg**	**11 32 08.5**	**+0.5**
KARA	**Karaisali**	**0.58**	**241**	*e*Pg	**Pg**	**11 31 59.9**	**-0.3**
KARA				*e*Sg	**Sg**	**11 32 08.5**	**+0.5**
YAHY	**KAYSERI_Yahyal**	**0.61**	**335**	P	**Pg**	**11 32 01.3**	**+0.5**
YAHY				S	**Sb**	**11 32 10.2**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**0.61**	**335**	*i* P	**Pg**	**11 32 01.3**	**+0.5**
YAHY				*i* S	**Sb**	**11 32 10.2**	**-0.1**
YURE	**YUREGIR**	**0.72**	**184**	P	**Pg**	**11 32 03.1**	**+0.3**
YURE				S	**Sg**	**11 32 11.0**	**-1.2**
YURE	**YUREGIR**	**0.72**	**184**	*i* P	**Pg**	**11 32 03.1**	**+0.3**
YURE				*i* S	**Sg**	**11 32 11.0**	**-1.2**
GULE	**Gulek**	**0.78**	**251**	S	**Sn**	**11 32 17.8**	**+0.1**
GULE	**Gulek**	**0.78**	**251**	*i* S	**Sn**	**11 32 17.8**	**+0.1**
KAMA	**Osmaniye**	**0.85**	**114**	*i* P	**Pg**	**11 32 05.4**	**0.0**
DED	**Mersin**	**0.92**	**231**	*i* P	**Pg**	**11 32 06.3**	**-0.3**
DED				*i* S	**Sb**	**11 32 20.0**	**+0.9**
TAHT	**Tahtakopru-Hat**	**1.23**	**161**	*e*PN	**Pn**	**11 32 12.7**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.23**	**161**	*e*Pn	**Pn**	**11 32 12.7**	**+0.7**
KERG	**Konya-Eregli**	**1.25**	**265**	P	**Pg**	**11 32 12.1**	**-1.0**
KERG				S	**Sg**	**11 32 29.1**	**-0.3**
KERG	**Konya-Eregli**	**1.25**	**265**	*i* P	**Pg**	**11 32 12.1**	**-1.0**
KERG				*i* S	**Sg**	**11 32 29.1**	**-0.3**
BNN	**Bunyan**	**1.31**	**5**	*e*PN	**Pn**	**11 32 13.0**	**-0.3**
BNN	**Bunyan**	**1.31**	**5**	*e*Pn	**Pn**	**11 32 13.0**	**-0.3**

IDC ***20*** *11:44:17.3±1.6, 5°.22S×150°.40E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.8/31, mbtmp4.0/7, ML1.8/1, Error ellipse: s-maj=78.0km s-min=20.8km az=124.0*
ISCJB ***20*** *11:44:21.0±1.3, 5°.2S±0°.2×150°.3E±0°.4, h33km, mb3.8/6, Error ellipse: s-maj=63.6km s-min=10.7km az=31.9*

ISC 20 11:44:22.8±1.4, 5°.2S±0°.3×150°.3E±0°.4, h35km, n9, σ0s97/10, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**217**	Pn	**Pn**	**11 45 39.0**	**+0.7**
	2.3nm,0.3s,baz=52,slow=10,SNR=5.7						
PMG				Sn	**Sn**	**11 46 37.1**	**-0.3**
	1.8nm,0.3s,baz=259,slow=19,SNR=4.0						
WRA	**Warramunga Arr**	**21.36**	**225**	P	**P**	**11 49 06.5**	**-0.8**
	3.4nm,0.5s,baz=54,slow=11,SNR=75						
ASAR	**Alice Springs**	**24.23**	**219**	P	**P**	**11 49 34.8**	**-1.8**
	4.7nm,0.7s,baz=55,slow=8.8,SNR=126						
FITZ	**Fitzroy Crossi**	**27.31**	**240**	P	**P**	**11 50 05.5**	**+1.1**
	1.4nm,0.5s,baz=56,slow=9.0,SNR=8.1						
MKAR	**Makanchi Array**	**79.03**	**320**	P	**P**	**11 56 22.9**	**-0.5**
	0.4nm,0.5s,baz=128,slow=14,SNR=4.9						
ILAR	**Eielson Array**	**83.48**	**23**	P	**P**	**11 56 46.1**	**-0.4**
	0.6nm,0.7s,baz=255,slow=5.5,SNR=7.3						
YKA	**Yellowknife Ar**	**96.94**	**28**	P	**P**	**11 57 50.9**	**+0.5**
	0.2nm,0.5s,baz=271,slow=4.5,SNR=3.3						
GERES	**GERESS Array B**	**123.09**	**327**	PKP	**PKPdf**	**12 03 16.5**	**+0.6**
	0.3nm,0.4s,baz=16,slow=7.5,SNR=2.1						
TORD	**Torodi Ar. Bea**	**148.08**	**286**	PKPbc	**PKPbc**	**12 04 06.2**	**+0.4**
	1.4nm,0.6s,baz=36,slow=3.1,SNR=10						

BER 20 11:49:29.6±2.9, 77°.79N×8°.94E, h10km, MD1.6, ML0.9, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.29**	**27**	*e*P	Pn	11 49 51.2	-2.4
KBS				*e*S	Sb	11 50 06.9	-3.7
KBS				IAML		11 50 09.8	
	comp=Z,3.1nm,0.3s						
KBS	**Kingsbay**	**1.29**	**27**	*e*P	Pn	11 49 51.2	-2.4
KBS				*e*S	Sb	11 50 06.9	-3.7
KBS				IAML		11 50 09.9	
	comp=Z,3.1nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.60**	**72**	*e*P	Pn	11 49 58.4	+0.5
SPA0				*e*Sg	Sg	11 50 20.3	-0.8
SPA0				IAML		11 50 21.6	
	comp=Z,2.7nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.60**	**72**	*e*P	Pn	11 49 58.4	+0.5
SPA0				IAML		11 50 21.6	
	comp=Z,2.6nm,0.2s						
HSPB	**Hornsund (broa**	**1.65**	**116**	*e*P	Pn	11 49 57.5	-1.1
HSPB				*e*S	Sn	11 50 14.9	-4.8
HSPB				IAML		11 50 19.6	
	comp=Z,2.4nm,0.3s						
HSPB	**Hornsund (broa**	**1.65**	**116**	*e*P	Pn	11 49 57.5	-1.1
HSPB				*e*S	Sn	11 50 15.1	-4.6
HSPB				IAML		11 50 19.6	
	comp=Z,2.4nm,0.3s						
HOPEN	**Hopen**	**3.81**	**102**	*e*S	Sn	11 51 10.4	-2.4

ISCJB ***20*** *11:55:14.6±1.4, 36°.40N±0°.05×141°.05E±0°.07, h5km±7km, mb3.5/2, Error ellipse: s-maj=10.8km s-min=7.6km az=43.1*
IDC ***20*** *11:55:16.5±1.5, 36°.20N×140°.87E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/35, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=28.9km s-min=18.1km az=3.0*
JMA ***20*** *11:55:16.8±0.1, 36°.48N×140°.96E, h15km±1km, M3.3*

ISC 20 11:55:17.2±1.8, 36°.46N±0°.06×140°.93E±0°.08, h14km±9km, n10, σ1s13/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.32**	**297**	P	**Pg**	**11 55 23.6**	**-0.3**
JHO				S	**Sg**	**11 55 28.8**	**+0.4**
JYT	**Yasato**	**0.64**	**249**	P	**Pg**	**11 55 29.4**	**-0.2**
JYT				S	**Sg**	**11 55 38.9**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.65**	**351**	P	**Pg**	**11 55 29.2**	**-0.6**
ONAJ				S	**Sb**	**11 55 39.1**	**-0.1**
JFK	**Kawauchi**	**0.90**	**357**	P	**Pb**	**11 55 33.1**	**-1.6**
JSB	**Shiboa**	**0.95**	**302**	P	**Pb**	**11 55 35.3**	**-0.2**
JSB				*e*S	**Sn**	**11 55 49.5**	**-0.1**
MJAR	**Matsushiro Arr**	**2.19**	**273**	Pn	**Pn**	**11 55 53.8**	**+0.6**
	3.8nm,0.3s,baz=90,slow=9.0,SNR=31						
MJAR				Lg	Lg	11 56 24.9	
	5.2nm,0.3s,baz=335,slow=0.9,SNR=9.2						
MAT	**Matsushiro**	**2.19**	**273**	P	**Pn**	**11 55 53.9**	**+0.7**
MAT				S	**Sb**	**11 56 23.2**	**-0.5**
ASAJ	**Asahikawa**	**7.75**	**9**	Pn	**Pn**	**11 57 12.2**	**+2.7**
	baz=202,slow=11						
ILAR	**Eielson Array**	**50.19**	**32**	P	P	12 04 16.3	+4.2
	0.3nm,0.6s,baz=259,slow=5.7,SNR=4.3						
WRA	**Warramunga Arr**	**56.44**	**187**	P	**P**	**12 04 57.8**	**-0.7**
	0.2nm,0.4s,baz=4.4,slow=7.2,SNR=5.6						

MDD ***20*** *12:00:31.0±2.1, 37°.10N×12°.76W, h0km, mb3.6/10, Error ellipse: s-maj=19.6km s-min=16.1km az=45.0, PRXIMO*
INMG ***20*** *12:00:32.1±0.8, 36°.87N×13°.17W, h10km, ML2.1, Error ellipse: s-maj=5.7km s-min=4.8km az=2.0*
IGIL ***20*** *12:00:32.0, 37°.13N×12°.73W, h1km, ML1.4*
CSEM ***20*** *12:00:33.3±0.4, 37°.18N×12°.56W, h10km, ML2.7/4, Error ellipse: s-maj=7.0km s-min=5.6km az=38.0*

ISC 20 12:00:30.4±3.7, 37°.1N±0°.1×12°.7W±0°.2, h10km, n53, σ1s22/100, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.12**	**89**	*e*Pn	**Pn**	**12 01 20.5**	**+0.8**
PFVI				*e*Sn	**Sn**	**12 01 56.6**	**-0.5**
PFVI				A	A	12 01 57.3	
	4.8nm,0.6s						
PFVI	**Vila Bisbo**	**3.12**	**89**	P	**Pn**	**12 01 20.5**	**+0.8**
	0.4nm,0.1s,SNR=14						
PFVI				S	**Sn**	**12 01 56.3**	**-0.8**
	1.9nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.12**	**89**	P	**Pn**	**12 01 20.5**	**+0.8**
	0.4nm,0.1s,SNR=14						
PFVI				S	**Sn**	**12 01 56.3**	**-0.8**
	1.9nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**12 01 56.6**	**-0.5**
	4.8nm,0.6s						
PTEO	**Sao Teotonio**	**3.22**	**81**	*e*Pn	**Pn**	**12 01 22.2**	**+1.1**
PTEO				*e*Sn	**Sn**	**12 01 59.5**	**0.0**
PTEO				A	A	12 02 07.0	
	3.0nm,0.3s						
PTEO	**Sao Teotonio**	**3.22**	**81**	P	**Pn**	**12 01 22.2**	**+1.1**
PTEO				S	**Sn**	**12 01 59.5**	**0.0**
	1.5nm,0.3s						
PTEO	**Sao Teotonio**	**3.22**	**81**	P	**Pn**	**12 01 22.2**	**+1.1**
PTEO				S	**Sn**	**12 01 59.5**	**0.0**
	1.5nm,0.3s						
MORF	**Marmelete**	**3.27**	**86**	*e*P	**Pn**	**12 01 22.3**	**+0.6**
MORF	**Marmelete**	**3.27**	**86**	*e*Pn	**Pn**	**12 01 22.0**	**+0.3**
MORF				*e*Sn	**Sn**	**12 02 00.3**	**-0.4**
MORF				A	A	12 02 02.4	
	2.9nm,0.4s						
MORF	**Marmelete**	**3.27**	**86**	P	**Pn**	**12 01 22.0**	**+0.3**
MORF				S	**Sn**	**12 02 00.3**	**-0.4**
	2.9nm,0.4s						
MORF	**Marmelete**	**3.27**	**86**	P	**Pn**	**12 01 22.0**	**+0.3**
MORF				S	**Sn**	**12 02 00.3**	**-0.4**
	2.9nm,0.4s						
PMAFR	**Mafra**	**3.28**	**55**	*e*Pn	**Pn**	**12 01 23.2**	**+1.3**
PMAFR				*e*Sn	**Sn**	**12 02 02.1**	**+1.2**
PMAFR	**Mafra**	**3.28**	**55**	*e*Pn	**Pn**	**12 01 23.2**	**+1.3**
PMAFR				*e*Sn	**Sn**	**12 02 02.1**	**+1.2**
PNCL	**Nicolau / Gran**	**3.48**	**72**	*e*Pn	**Pn**	**12 01 25.7**	**+1.1**
PNCL				*e*Sn	**Sn**	**12 02 06.3**	**+0.4**
PNCL				A	A	12 02 12.4	
	2.9nm,0.4s						
PNCL	**Nicolau / Gran**	**3.48**	**72**	*e*Pn	**Pn**	**12 01 25.7**	**+1.1**
PNCL				*e*Sn	**Sn**	**12 02 06.3**	**+0.4**
	2.9nm,0.4s						
MESJ	**Messejana**	**3.66**	**77**	*e*P	**Pn**	**12 01 28.1**	**+1.0**
MESJ				*e*S	**Sn**	**12 02 08.7**	**-1.6**
MESJ				AML	AML	12 02 10.0	
	comp=N,1.0nm,0.1s						
MESJ	**Messejana**	**3.66**	**77**	*e*Pn	**Pn**	**12 01 28.2**	**+1.1**
MESJ				*e*Sn	**Sn**	**12 02 09.9**	**-0.4**
MESJ				A	A	12 02 14.8	
	comp=N,1.9nm,0.3s						
MESJ	**Messejana**	**3.66**	**77**	P	**Pn**	**12 01 28.2**	**+1.1**
MESJ				S	**Sn**	**12 02 09.9**	**-0.4**
	comp=N,1.9nm,0.3s						
MESJ	**Messejana**	**3.66**	**77**	P	**Pn**	**12 01 28.2**	**+1.1**
MESJ				S	**Sn**	**12 02 09.9**	**-0.4**
	comp=N,1.9nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.84**	**87**	*e*Pn	**Pn**	**12 01 30.4**	**+0.8**
PBDV				*e*Sn	**Sn**	**12 02 13.7**	**-1.1**
PBDV				A	A	12 02 20.0	
	comp=N,2.5nm,0.7s						
PBDV	**Barranco-do-Ve**	**3.84**	**87**	P	**Pn**	**12 01 30.4**	**+0.8**
PBDV				S	**Sn**	**12 02 13.7**	**-1.1**
	comp=N,2.5nm,0.7s						
PBDV	**Barranco-do-Ve**	**3.84**	**87**	P	**Pn**	**12 01 30.4**	**+0.8**
PBDV				S	**Sn**	**12 02 13.7**	**-1.1**
	comp=N,2.5nm,0.7s						
PVAQ	**Vaqueiros**	**4.01**	**85**	*e*Pn	**Pn**	**12 01 33.2**	**+1.3**
PVAQ				*e*Sn	**Sn**	**12 02 18.0**	**-1.0**
PVAQ				A	A	12 02 23.3	
	comp=N,1.8nm,0.2s						
PVAQ	**Vaqueiros**	**4.01**	**85**	P	**Pn**	**12 01 33.2**	**+1.3**
PVAQ				S	**Sn**	**12 02 18.0**	**-1.0**
	comp=N,1.8nm,0.2s						
PVAQ	**Vaqueiros**	**4.01**	**85**	P	**Pn**	**12 01 33.2**	**+1.3**
PVAQ				S	**Sn**	**12 02 18.0**	**-1.0**
	comp=N,1.8nm,0.2s						
EGRO	**El Granado**	**4.21**	**83**	P	**Pn**	**12 01 36.2**	**+1.6**
	comp=N,0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**12 02 23.5**	**-0.3**
	comp=N,0.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.21**	**83**	P	**Pn**	**12 01 36.2**	**+1.6**
	comp=N,0.4nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**12 02 23.5**	**-0.3**
	comp=N,0.7nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**4.21**	**53**	*e*Pn	**Pn**	**12 01 36.3**	**+1.7**
PTOM				*e*Sn	**Sn**	**12 02 24.5**	**+0.7**
PTOM				A	A	12 02 32.3	
	comp=N,3.4nm,0.2s						
PTOM	**Tomar**	**4.21**	**53**	P	**Pn**	**12 01 36.3**	**+1.7**
	comp=N,1.7nm,0.2s						
PTOM				S	**Sn**	**12 02 24.5**	**+0.7**
	comp=N,1.7nm,0.2s						
PTOM	**Tomar**	**4.21**	**53**	P	**Pn**	**12 01 36.3**	**+1.7**
PTOM				S	**Sn**	**12 02 24.5**	**+0.7**
	comp=N,1.7nm,0.2s						
PCAS	**Casmilo, Conde**	**4.42**	**47**	*e*Pn	**Pn**	**12 01 38.8**	**+1.3**
PCAS				*e*Sn	**Sn**	**12 02 29.7**	**+0.7**
PCAS				A	A	12 02 34.5	
	comp=N,2.3nm,0.5s						
PCAS	**Casmilo, Conde**	**4.42**	**47**	*e*Pn	**Pn**	**12 01 38.8**	**+1.3**
PCAS				*e*Sn	**Sn**	**12 02 29.7**	**+0.7**
	comp=N,2.3nm,0.5s						
PESTR	**Estremoz**	**4.42**	**65**	*e*Pn	**Pn**	**12 01 38.9**	**+1.4**
PESTR	**Estremoz**	**4.42**	**65**	*e*Pn	**Pn**	**12 01 38.9**	**+1.4**
PMRV	**Marv??o**	**4.79**	**60**	*e*Pn	**Pn**	**12 01 43.6**	**+1.0**
PMRV				*e*Sn	**Sn**	**12 02 38.2**	**0.0**
PMRV				A	A	12 02 40.6	
	comp=N,1.1nm,0.2s						
PMRV	**Marv??o**	**4.79**	**60**	P	**Pn**	**12 01 43.6**	**+1.0**
PMRV				Sn	**Sn**	**12 02 38.2**	**0.0**
	comp=N,1.1nm,0.2s						
PMRV	**Marv??o**	**4.79**	**60**	P	**Pn**	**12 01 43.6**	**+1.0**
PMRV				*e*Sn	**Sn**	**12 02 38.2**	**0.0**
	comp=N,1.1nm,0.2s						
EBAD	**Badajoz**	**4.81**	**69**	P	**Pn**	**12 01 44.0**	**+1.2**
	comp=N,0.6nm,0.1s,SNR=7.3						
EBAD				S	**Sn**	**12 02 36.9**	**-1.6**
	comp=N,1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.81**	**69**	P	**Pn**	**12 01 44.0**	**+1.2**
	comp=N,0.6nm,0.1s,SNR=7.3						
EBAD				S	**Sn**	**12 02 36.9**	**-1.6**
	comp=N,1.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.87**	**81**	P	**Pn**	**12 01 45.0**	**+1.3**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**12 02 38.8**	**-1.3**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.87**	**81**	P	**Pn**	**12 01 45.0**	**+1.3**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**12 02 38.8**	**-1.3**
	comp=N,0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.89**	**79**	P	**Pn**	**12 01 58.8**	**+1.1**
	comp=N,0.5nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**12 03 03.2**	**-2.0**
	comp=N,0.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**5.89**	**79**	P	**Pn**	**12 01 58.8**	**+1.1**
	comp=N,0.5nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**12 03 03.2**	**-2.0**
	comp=N,0.4nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.95**	**36**	P	**Pn**	**12 01 59.7**	**+1.0**
	comp=N,0.1nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**12 03 03.8**	**-3.1**
	comp=N,1.1nm,0.2s,SNR=5.0						
ELOB	**Lobios**	**5.95**	**36**	P	**Pn**	**12 01 59.7**	**+1.0**
	comp=N,0.1nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.98**	**59**	P	**Pn**	**12 02 00.1**	**+1.1**
	comp=N,0.7nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.98**	**59**	P	**Pn**	**12 02 00.1**	**+1.1**
	comp=N,0.7nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.99**	**46**	P	**Pn**	**12 01 59.7**	**+0.5**
	comp=N,0.3nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**12 03 05.8**	**-2.1**
	comp=N,0.8nm,0.1s,SNR=12						
MVO	**Moncorvo**	**5.99**	**46**	P	**Pn**	**12 01 59.7**	**+0.5**
	comp=N,0.3nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**12 03 05.8**	**-2.1**
	comp=N,0.8nm,0.1s,SNR=12						
EADA	**Adamuz**	**6.56**	**78**	P	**Pn**	**12 02 07.0**	**+0.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**12 03 19.6**	**-2.1**
	comp=N,0.5nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**6.56**	**78**	P	**Pn**	**12 02 07.0**	**+0.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**12 03 19.6**	**-2.1**
	comp=N,0.5nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**6.67**	**42**	P	**Pn**	**12 02 09.0**	**+0.4**
	comp=N,1.1nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**12 03 23.6**	**-1.1**
	comp=N,0.7nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**6.67**	**42**	P	**Pn**	**12 02 09.0**	**+0.4**
	comp=N,1.1nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**12 03 23.6**	**-1.1**
	comp=N,0.7nm,0.2s,SNR=4.0						
EAGO	**Agolada(Pontev**	**6.69**	**31**	S	**Sn**	**12 03 20.7**	**-4.4**
	comp=N,1.3nm,0.1s,SNR=7.9						

NIED ***20*** *12:01:00, 39°.60N×143°.60E, h29km, Mw3.6 Best double couple: M0.46000×10^14 NP1:φs200.00000°, δ22.00000°, λ76.00000°. NP2:

Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.69**	**303**	P	**Pb**	**12 04 40.5**	**-0.4**
MIYJ				*e*S	**Sb**	**12 04 49.1**	**-1.0**
OFUJ	**Ofunato**	**0.71**	**260**	P	**Pb**	**12 04 41.3**	**+0.1**
OFUJ				*e*S	**Sb**	**12 04 50.6**	**0.0**
JTH	**Tanohata**	**0.92**	**324**	P	**Pn**	**12 04 44.3**	**-0.6**
JTH				*e*S	**Sb**	**12 04 55.6**	**-0.9**
JOM	**Ohasama**	**1.03**	**286**	P	**Pn**	**12 04 46.1**	**-0.3**
JOM				*e*S	**Sn**	**12 04 59.0**	**-1.0**
JMK	**Ichinoseki**	**1.08**	**257**	P	**Pn**	**12 04 47.1**	**0.0**
JMK				*e*S	**Sn**	**12 05 01.2**	**-0.1**
JIO	**Ouri**	**1.21**	**232**	P	**Pn**	**12 04 48.9**	**0.0**
JIO				*e*S	**Sn**	**12 05 03.5**	**-1.0**
JKZ	**Kuzumaki**	**1.24**	**310**	P	**Pn**	**12 04 49.3**	**0.0**
JANG	**Nango**	**1.43**	**326**	P	**Pn**	**12 04 51.7**	**-0.2**
JRG	**Rokugo**	**1.52**	**278**	P	**Pn**	**12 04 54.5**	**+1.4**
MJAR	**Matsushiro Arr** 1.9nm,0.3s,baz=40,slow=11,SNR=18	**4.36**	**234**	P	**Pn**	**12 05 35.9**	**+3.8**
MAT	**Matsushiro**	**4.36**	**234**	P	**Pn**	**12 05 36.6**	**+4.4**
MAT				*e*S	**Sn**	**12 06 24.2**	**+2.0**
ASAJ	**Asahikawa** baz=193,slow=10	**4.91**	**0**	P	**Pn**	**12 05 41.2**	**+1.5**
ASAJ	baz=180,slow=0.0			S	**Sn**	**12 06 38.2**	**+2.5**
JHJ	**Hachijo jima 2** 3.7nm,0.3s,baz=47,slow=19,SNR=2.0	**6.47**	**201**	P	**Pn**	**12 06 01.9**	**+0.6**
JHJ	5.3nm,0.3s,baz=73,slow=19,SNR=2.2			S	**Sn**	**12 07 11.3**	**-3.0**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=112,slow=14,SNR=4.2	**9.36**	**306**	P	**Pn**	**12 06 44.8**	**+4.1**
SEY	**Seymchan** 1.0nm,0.6s,baz=166,slow=11,SNR=2.9	**24.49**	**11**	P	**P**	**12 09 44.1**	**-0.4**
H11N2	**WAKE ISLAND Hy** baz=318,slow=75,SNR=33	**28.57**	**126**	T	T	12 40 58.5	
H11N1	**WAKE ISLAND Hy** baz=318,slow=75,SNR=76	**28.58**	**126**	T	T	12 40 57.6	
H11N3	**WAKE ISLAND Hy** baz=318,slow=75,SNR=62	**28.59**	**126**	T	T	12 40 52.9	
H11S1	**WAKE ISLAND Hy** baz=319,slow=76,SNR=17	**29.36**	**128**	T	T	12 41 58.1	
H11S3	**WAKE ISLAND Hy** baz=319,slow=76,SNR=17	**29.37**	**128**	T	T	12 41 58.0	
H11S2	**WAKE ISLAND Hy** baz=319,slow=76,SNR=22	**29.38**	**128**	T	T	12 42 02.8	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=90,slow=9.6,SNR=2.3	**41.16**	**311**	P	**P**	**12 12 09.7**	**+0.1**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=89,slow=11,SNR=2.9	**43.78**	**300**	P	**P**	**12 12 31.3**	**+0.3**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=276,slow=6.2,SNR=4.4	**47.18**	**33**	P	**P**	**12 12 58.0**	**+0.3**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=80,slow=10,SNR=4.3	**49.81**	**311**	P	**P**	**12 13 15.6**	**-2.6**
WRA	**Warramunga Arr** 1.2nm,0.5s,baz=7.0,slow=7.1,SNR=24	**59.34**	**189**	P	**P**	**12 14 27.5**	**0.0**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=12,slow=8.7,SNR=7.9	**63.06**	**189**	P	**P**	**12 14 53.0**	**+0.3**

CASC 20 12:15:50.5±1.0, 9°.36N×83°.87W, h6km±8km, MD3.8, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.22**	**29**↓	*i*P	Pg	12 15 55.8	+0.8
BUS				*e*S	Sg	12 16 00.0	+2.1
QCR	**Quepos**	**0.30**	**281**↑	*i*P	Pg	12 15 56.6	+0.2
QCR				*e*S	Sg	12 16 01.2	+0.8
URSC	**Urasca**	**0.48**	**10**↓	*i*P	Pg	12 16 00.3	+0.5
URSC				*e*S	Sb	12 16 07.5	-1.3
HDC	**Heredia**	**0.68**	**339**	*e*P	Pb	12 16 04.8	-0.1
CGA2	**Cerro Gallo 2**	**0.88**	**318**	*e*P	Pg	12 16 07.1	-0.3
CGA2				*e*S	Sg	12 16 19.2	+0.4
JCR	**Jicaral**	**1.32**	**292**↓	*e*P	Pn	12 16 14.2	-1.4
TBS2		**1.32**	**115**	*e*P	Pn	12 16 14.5	-1.1
BRU	**Baru**	**1.40**	**113**	*e*P	Pn	12 16 15.9	-1.1

*IDC **20** 12:18:45.0±2.7, 5°.94N×127°.15E, h63km±25km, mb3.4/6, mb1 3.5/6, mb1mx3.2/40, mbtmp3.6/6, MS3.2/2, Ms1 3.2/2, ms1mx2.7/36, Error ellipse: s-maj=31.0km s-min=13.8km az=67.0*

*MAN **20** 12:18:46, 6°.40N×127°.13E, h1km, mb4.5, ML3.4, MS3.2*

ISC 20 12:18:37.6±2.1, 6°.11N±0°.09×127°.44E±0°.09, h7km±12km, n16, σ1°.46/19, mb3.9/7, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.44**	**305**	*e*P	**Pg**	**12 19 05.8**	**+0.6**
MATI				*e*S	**Sg**	**12 19 24.9**	**+0.9**
DAV	**Davao City (W)** 66nm,0.3s,baz=242,slow=12,SNR=3.3	**2.08**	**297**	P	**Pb**	**12 19 14.9**	**-0.8**
DAV	52nm,0.3s,baz=312,slow=23,SNR=15			S	**Sn**	**12 19 39.0**	**-0.2**
DAV	comp=Z,111nm,19.4s,baz=152,slow=38			LR	LR	12 19 57.6	
DMPH	**Davao City--Mi**	**2.15**	**297**↑	*e*P	**Pg**	**12 19 18.7**	**-0.1**
DMPH				*e*S	**Sb**	**12 19 45.1**	**+1.2**
BIPH	**Bislig**	**2.33**	**333**↑	*e*P	**Pg**	**12 19 21.7**	**-0.5**
BIPH				*i* S	**Sb**	**12 19 47.9**	**-1.0**
BUKP	**Musuan**	**2.94**	**307**	*e*P	**Pb**	**12 19 28.6**	**-1.9**
BUKP				*e*S	**Sn**	**12 20 00.7**	**+0.1**
FITZ	**Fitzroy Crossi** 0.7nm,0.6s,baz=0.0,slow=9.1,SNR=4.0	**24.12**	**184**	P	**P**	**12 23 54.3**	**+0.1**
PMG	**Port Moresby** comp=Z,76nm,19.3s,baz=224,slow=38	**24.97**	**128**	LR	LR	12 34 50.7	
JCJ	**Chichijima** 31nm,0.4s,baz=282,slow=19	**25.15**	**32**	P	**P**	**12 24 07.5**	**+3.9**
WRA	**Warramunga Arr** 1.3nm,0.4s,baz=344,slow=10,SNR=15	**26.76**	**165**	P	**P**	**12 24 17.6**	**-0.6**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=343,slow=7.0,SNR=8.3	**30.26**	**168**	P	**P**	**12 24 49.7**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,17nm,21.4s,baz=131,slow=34	**52.98**	**22**	LR	LR	12 49 21.5	
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=120,slow=8.1,SNR=5.7	**56.04**	**324**	P	**P**	**12 28 17.7**	**+0.5**
KURBB	**Kurchatov Arra** 0.9nm,0.7s,baz=126,slow=6.2,SNR=9.9	**60.15**	**326**	P	**P**	**12 28 45.9**	**0.0**
BVAR	**Borovoye Array** 0.5nm,0.6s,baz=108,slow=4.7,SNR=4.3	**65.74**	**326**	P	**P**	**12 29 23.4**	**+0.3**
TXAR	**Lajitas Array** 0.4nm,0.9s,baz=256,slow=1.9,SNR=3.3	**119.58**	**51**	PKP	**PKPdf**	**12 37 26.6**	**-2.5**
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=298,slow=3.1,SNR=3.0	**122.82**	**290**	PKP	**PKPdf**	**12 37 34.4**	**-1.1**

*NIED **20** 12:42:00, 37°.50N×141°.90E, h8km, Mw3.6 Best double couple: M0 2.74000×10^14 NP1:φs 194.00000°, δ41.00000°, λ-138.00000°. NP2:φs 70.00000°, δ64.00000°, λ-57.00000°.*

*ISCJB **20** 12:42:22.8±1.6, 37°.50N±0°.04×141°.98E±0°.04, h13km±11km, mb3.5/8, Error ellipse: s-maj=6.5km s-min=5.8km az=170.8*

*JMA **20** 12:42:24.3±0.2, 37°.51N×141°.90E, h25km±3km, M4.1*

*IDC **20** 12:42:28.3±2.9, 37°.44N×142°.01E, h41km±29km, mb3.3/8, mb1 3.6/12, mb1mx3.5/34, mbtmp3.6/12, ML3.6/3, Error ellipse: s-maj=20.8km s-min=18.2km az=97.0*

ISC 20 12:42:22.6±1.7, 37°.51N±0°.04×141°.95E±0°.06, h2km±10km, n29, σ1°.38/33, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.86**	**261**	P	**Pg**	**12 42 39.7**	**+0.5**
JFK				*e*S	**Sg**	**12 42 50.3**	**-0.1**
JMM	**Marumori**	**0.98**	**292**	P	**Pg**	**12 42 41.5**	**0.0**
JMM				*e*S	**Sg**	**12 42 53.8**	**-0.4**
ONAJ	**Iwakimizuishiy**	**1.00**	**247**	P	**Pg**	**12 42 41.7**	**-0.1**
ONAJ				*e*S	**Sg**	**12 42 54.2**	**-0.6**
JIO	**Ouri**	**1.06**	**334**	P	**Pg**	**12 42 42.9**	**0.0**
JIO				*e*S	**Sg**	**12 42 55.7**	**-1.0**
JFT	**Otama**	**1.28**	**271**	P	**Pn**	**12 42 46.7**	**-0.9**
JFT				*e*S	**Sb**	**12 43 02.9**	**-1.5**
JOU	**Okura**	**1.33**	**311**	P	**Pn**	**12 42 47.8**	**-0.5**
JOU				*e*S	**Sb**	**12 43 04.5**	**-1.3**
JMK	**Ichinoseki**	**1.55**	**339**	P	**Pn**	**12 42 50.5**	**-0.8**
JYS	**Shirataka**	**1.65**	**296**	P	**Pn**	**12 42 52.8**	**+0.1**
JYS				*e*S	**Sn**	**12 43 13.8**	**-0.7**
JFY	**Yanaizu**	**1.79**	**267**	P	**Pn**	**12 42 54.5**	**-0.1**
JFY				*e*S	**Sn**	**12 43 16.8**	**-1.1**
MJAR	**Matsushiro Arr** 1.7nm,0.3s,baz=85,slow=16,SNR=18	**3.14**	**253**	P	**Pn**	**12 43 14.1**	**+0.9**
MJAR	3.1nm,0.3s,baz=77,slow=14,SNR=6.3			S	**Sn**	**12 43 52.6**	**+1.2**
MAT	**Matsushiro**	**3.14**	**253**	P	**Pn**	**12 43 14.0**	**+0.8**
MAT				S	**Sn**	**12 43 53.4**	**+2.0**
JHJ	**Hachijo jima 2** 14nm,0.3s,baz=84,slow=20,SNR=9.8	**4.72**	**203**	P	**Pn**	**12 43 37.5**	**+2.6**
JHJ	11nm,0.3s,baz=253,slow=19,SNR=2.8			S	**Sn**	**12 44 26.5**	**-3.8**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=141,slow=12,SNR=2.5	**10.07**	**315**	P	**Pn**	**12 44 51.8**	**+3.5**
JCJ	**Chichijima** 1.3nm,0.3s,baz=285,slow=20,SNR=3.9	**10.38**	**179**	P	**Pn**	**12 44 52.5**	**-0.1**
KSRS	**Korea Array** 0.1nm,0.3s,baz=84,slow=14,SNR=2.6	**11.15**	**274**	P	Pn	12 45 09.1	+6.1
H11N2	**WAKE ISLAND Hy** baz=315,slow=75,SNR=66	**28.03**	**122**	T	T	13 17 39.1	
H11N1	**WAKE ISLAND Hy** baz=315,slow=75,SNR=66	**28.04**	**122**	T	T	13 17 39.1	
H11N3	**WAKE ISLAND Hy** baz=315,slow=75,SNR=50	**28.05**	**122**	T	T	13 17 39.1	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=56	**28.77**	**124**	T	T	13 18 34.2	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=53	**28.77**	**124**	T	T	13 18 34.9	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=71	**28.78**	**124**	T	T	13 18 34.2	
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=97,slow=10,SNR=2.4	**41.91**	**312**	P	**P**	**12 50 15.5**	**+1.1**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=91,slow=8.6,SNR=3.1	**44.23**	**302**	P	**P**	**12 50 32.6**	**-0.7**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=275,slow=6.1,SNR=6.1	**48.87**	**33**	P	**P**	**12 51 09.6**	**+0.2**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=6.1,slow=7.1,SNR=16	**57.59**	**188**	P	**P**	**12 52 13.5**	**-0.5**
ASAR	**Alice Springs** 0.4nm,0.9s,baz=6.9,slow=5.8,SNR=3.9	**61.31**	**188**	P	**P**	**12 52 39.1**	**-0.7**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=300,slow=5.8,SNR=2.6	**63.19**	**30**	P	**P**	**12 52 52.6**	**+0.7**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=216,slow=4.5,SNR=2.5	**77.03**	**46**	P	**P**	**12 54 16.1**	**-1.4**
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=328,slow=3.3,SNR=2.6	**89.50**	**53**	P	**P**	**12 55 22.7**	**+0.9**

IDC 20 13:06:56.8±6.0, 30°.19S×177°.82W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/25, mbtmp3.4/2, Error ellipse: s-maj=238.8km s-min=56.0km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.3nm,0.8s,baz=107,slow=7.5,SNR=6.4	**43.28**	**267**	P	P	13 15 00.9	+0.5
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=111,slow=8.0,SNR=12	**44.25**	**272**	P	P	13 15 07.3	-1.0
FINES	**FINESS Array B** 1.2nm,0.7s,baz=59,slow=5.4,SNR=3.0	**145.00**	**340**	PKPbc	PKPbc	13 26 34.1	-0.5

IDC 20 13:19:12.6±3.0, 54°.29N×87°.41E, h0km, mb1 3.1/2, mb1mx3.0/37, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=25.9km s-min=17.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=76,slow=316,SNR=5.5	**1.56**	**258**	*i*		13 27 50.0	
ZALV	**Zalesovo Beam** 1.4nm,0.3s,baz=74,slow=16,SNR=14	**1.56**	**258**	Pg	Pn	13 19 39.3	-2.4
ZALV	2.1nm,0.3s,baz=76,slow=27,SNR=10			Lg	Lg	13 20 03.5	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=56,slow=14,SNR=11	**6.55**	**240**	Pn	Pn	13 20 50.8	+0.7
KURBB	0.1nm,0.3s,baz=60,slow=32,SNR=7.2			Lg	Lg	13 22 40.8	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=27,slow=14,SNR=7.8	**8.18**	**206**	Pn	Pn	13 21 14.2	+1.6
MKAR	0.2nm,0.3s,baz=21,slow=20,SNR=3.9			Sn	Sn	13 22 43.9	-1.7

*CSEM **20** 13:24:59.0, 34°.83N×25°.27E, h24km, ML1.8/5*

ATH 20 13:24:59.0, 34°.83N×25°.27E, h24km±4km, ML1.8/4, Error ellipse: s-maj=5.9km s-min=1.4km az=359.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.38**	**27**	P	Pb	13 25 06.5	-0.7
LAST				S	Sb	13 25 13.6	+0.8
LAST	**Lasithi**	**0.38**	**27**	P	Pb	13 25 06.5	-0.7
SIVA	**Sivas**	**0.42**	**297**	P	Pb	13 25 07.9	0.0
SIVA				S	Sn	13 25 16.1	-0.5
SIVA	**Sivas**	**0.42**	**297**	P	Pb	13 25 07.9	0.0
SIVA				S	Sn	13 25 16.1	-0.5
SIVA				AML	AML	13 25 19.1	
SIVA	comp=E,1066μm,0.7s			AML	AML	13 25 20.9	
SIVA	comp=N,669μm,0.6s			AML	AML	13 25 20.9	
NPS	**Neapolis**	**0.52**	**33**	P	Pb	13 25 09.1	-0.4
NPS				S	Sb	13 25 17.7	+1.1
NPS	**Neapolis**	**0.52**	**33**	P	Pb	13 25 09.1	-0.4
NPS				S	Sb	13 25 17.7	+1.0
NPS				AML	AML	13 25 18.2	
NPS	comp=N,236μm,0.4s			AML	AML	13 25 19.3	
IDI	**Anoyia**	**0.56**	**326**	P	Pb	13 25 08.7	-1.5
IDI				S	Sn	13 25 18.9	-1.1
IDI	**Anoyia**	**0.56**	**326**	P	Pb	13 25 08.7	-1.5
IDI				S	Sn	13 25 18.9	-1.0
IDI				AML	AML	13 25 20.8	
IDI	comp=E,94μm,0.5s			AML	AML	13 25 25.3	
ZKR	**Zakros**	**0.83**	**69**	P	Pn	13 25 15.6	+0.5
ZKR				S	Sn	13 25 28.5	+1.9
ZKR	**Zakros**	**0.83**	**69**	P	Pn	13 25 15.7	+0.6
ZKR				S	Sn	13 25 28.4	+1.9
ZKR				AML	AML	13 25 31.6	
ZKR	comp=E,117μm,0.6s			AML	AML	13 25 32.7	
ZKR	comp=N,102μm,0.4s			AML	AML	13 25 32.7	
VAM	**Vamos**	**1.05**	**304**	P	Pn	13 25 18.1	-0.1
IMMV	**Iera Moni Meta**	**1.23**	**301**	P	Pb	13 25 23.6	+2.0
IMMV	**Iera Moni Meta**	**1.23**	**301**	P	Pb	13 25 23.6	+2.0

*ISCJB **20** 13:41:08.9±0.6, 34°.67N±0°.03×36°.39E±0°.07, h20km±7km, Error ellipse: s-maj=9.3km s-min=4.3km az=1.5*

*NSSC **20** 13:41:08.4±1.2, 34°.65N×36°.43E, h8km±5km, ML1.7*

*CSEM **20** 13:41:08.3±0.5, 34°.68N×36°.42E, h20km, ML3.0, Error ellipse: s-maj=20.0km s-min=4.5km az=104.0*

*GRAL **20** 13:41:10.3±0.3, 34°.68N×36°.34E, h20km±10km, MD3.0*

ISC 20 13:41:07.5±1.3, 34°.65N±0°.03×36°.46E±0°.05, h16km±12km, n15, σ0°.48/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.56**	**229**	*e*P	**Pb**	**13 41 19.8**	**+0.7**
HWQ				*e*S	**Sb**	**13 41 26.8**	**-0.1**
HWQ	**Hawqa**	**0.56**	**229**	*e*P	**Pb**	**13 41 19.8**	**+0.7**
HWQ				*e*S	**Sb**	**13 41 26.8**	**-0.1**
MARH	**Ras Al Marh**	**0.62**	**178**	*i* P	**Pn**	**13 41 21.3**	**-0.7**
MARH				*e*S	**Sb**	**13 41 29.2**	**+0.4**
MARH				AML	AML	13 41 33.8	
MARH	comp=N,62nm,0.5s			AML	AML	13 41 38.9	
ROOS	**tl_alroos**	**0.84**	**125**	*i* P	**Pn**	**13 41 25.7**	**+0.9**
WRDH	**Warideh**	**0.85**	**357**	*i* P	**Pn**	**13 41 25.1**	**+0.1**
WRDH				*e*S	**Sg**	**13 41 35.8**	**+0.4**
WRDH				AML	AML	13 41 39.6	
WRDH	comp=E,81nm,0.3s			AML	AML	13 41 40.5	
WRDH	comp=N,60nm,0.3s			AML	AML	13 41 40.5	
BHL	**Bhannes**	**1.00**	**222**	*e*P	**Pg**	**13 41 26.9**	**0.0**
BHL	**Bhannes**	**1.00**	**222**	*e*P	**Pg**	**13 41 26.9**	**0.0**
DQRL	**Deir Qamar**	**1.20**	**218**	*e*P	**Pg**	**13 41 30.3**	**-0.4**
DQRL				*e*S	**Sb**	**13 41 45.1**	**-0.1**
DQRL	**Deir Qamar**	**1.20**	**218**	*e*P	**Pg**	**13 41 30.3**	**-0.4**
DQRL				*e*S	**Sb**	**13 41 45.1**	**-0.1**
RCY	**Rachaya**	**1.26**	**204**	*e*P	**Pg**	**13 41 31.7**	**-0.2**
RCY				*e*S	**Sn**	**13 41 47.6**	**+0.3**
ARNB	**Al Arnab**	**1.27**	**342**	*i* P	**Pb**	**13 41 31.4**	**+0.3**
YAYL	**Yayladag**	**1.41**	**348**	P	**Pn**	**13 41 31.8**	**-0.8**
YAYL				S	**Sb**	**13 41 51.3**	**0.0**
YAYL	**Yayladag**	**1.41**	**348**	*i* P	**Pn**	**13 41 31.8**	**-0.8**
YAYL				*i* S	**Sb**	**13 41 51.3**	**+0.1**
ZALF	**Zalf**	**1.87**	**157**	*i* P	**Pb**	**13 41 41.1**	**-0.3**
ZALF				*e*S	**Sb**	**13 42 03.9**	**-0.7**
ZALF				AML	AML	13 42 07.6	
ZALF	comp=E,20nm,0.4s			AML	AML	13 42 08.4	
ZALF	comp=N,7.5nm,0.3s			AML	AML	13 42 08.4	
SALA	**Sala**	**1.95**	**173**	*i* P	**Pb**	**13 41 42.7**	**-0.1**
SALA				*e*S	**Sb**	**13 42 06.9**	**0.0**
SALA				AML	AML	13 42 12.2	
SALA	comp=E,1.6nm,0.4s			AML	AML	13 42 14.4	
SALA	comp=N,22nm,0.4s			AML	AML	13 42 14.4	

*CSEM **20** 13:52:09.8±0.2, 38°.86N×28°.80E, h20km, ML2.2, Error ellipse: s-maj=8.1km s-min=3.4km az=132.0*

*ISK **20** 13:52:09.5, 38°.85N×28°.82E, h21km, ML2.2*

*ISCJB **20** 13:52:10.2±0.9, 38°.84N±0°.05×28°.81E±0°.07, h23km±10km, Error ellipse: s-maj=11.6km s-min=5.8km az=41.7*

*DDA **20** 13:52:10.2, 38°.82N×28°.87E, h7km, Md2.5*

ISC 20 13:52:10.0±1.4, 38°.86N±0°.06×28°.81E±0°.08, h20km±3km, n12, σ0°.39/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.19**	**339**	P	**Pb**	**13 52 15.4**	**-0.2**
DEMI				S	**Sb**	**13 52 19.8**	**+0.2**
DEMI	**Demirci**	**0.19**	**339**	*i* P	**Pb**	**13 52 15.4**	**-0.2**
DEMI				*i* S	**Sb**	**13 52 19.8**	**+0.2**
KULA	**Kula-Manisa**	**0.37**	**198**	*e*PG	**Pb**	**13 52 17.6**	**-0.2**
KULA				*e*SG	**Sb**	**13 52 23.4**	**+0.4**
KULA	**Kula-Manisa**	**0.37**	**198**	*e*Pg	**Pb**	**13 52 17.6**	**-0.2**
KULA				*e*Sg	**Sb**	**13 52 23.4**	**+0.4**
GEDZ	**Gediz**	**0.51**	**69**	*e*PG	**Pb**	**13 52 20.3**	**+0.1**
GEDZ				*e*SG	**Sb**	**13 52 27.8**	**+0.6**
GEDZ	**Gediz**	**0.51**	**69**	*e*Pg	**Pb**	**13 52 20.3**	**+0.1**
GEDZ				*e*Sg	**Sb**	**13 52 27.8**	**+0.6**
GDZ	**Gediz**	**0.57**	**67**	P	**Pb**	**13 52 20.8**	**-0.7**
GDZ				S	**Sb**	**13 52 29.1**	**-0.2**
GDZ	**Gediz**	**0.57**	**67**	*i* P	**Pb**	**13 52 20.8**	**-0.7**
GDZ				*i* S	**Sb**	**13 52 29.1**	**-0.2**
TVSB	**Tavsanli**	**0.78**	**41**	*e*PG	**Pb**	**13 52 25.2**	**+0.4**
TVSB				*e*SG	**Sn**	**13 52 36.8**	**-0.2**
TVSB	**Tavsanli**	**0.78**	**41**	*e*Pg	**Pb**	**13 52 25.2**	**+0.4**
TVSB				*e*Sg	**Sn**	**13 52 36.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**218**	*e*PN	**Pn**	**13 52 31.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**218**	*e*Pn	**Pn**	**13 52 31.1**	**-0.1**

*ISCJB **20** 13:55:11.1±0.8, 13°.1N±0°.1×143°.7E±0°.1, h138km, mb3.5/6, Error ellipse: s-maj=19.4km s-min=12.9km az=141.2*

*IDC **20** 13:55:13.5±1.2, 13°.09N×143°.93E, h148km±13km, mb3.3/6, mb1 3.6/6, mb1mx3.3/33, mbtmp3.7/6, MS3.5/1, Ms1 3.5/1, ms1mx2.5/26, Error ellipse: s-maj=41.8km s-min=15.0km az=104.0*

ISC 20 13:55:12.8±0.9, 13°.1N±0°.2×143°.7E±0°.1, h138km, n12, σ0°.95/9, mb3.5/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.19**	**67**	P	**Pn**	**13 55 39.1**	**+0.9**
GUMO	25nm,0.3s,baz=176,slow=7.0,SNR=13			S	**Sn**	**13 55 57.6**	**-0.1**
H11S3	**WAKE ISLAND Hy** 16nm,0.3s,baz=141,slow=21,SNR=5.5	**22.71**	**73**	T	T	14 22 57.0	
H11S1	**WAKE ISLAND Hy** baz=254,slow=75,SNR=7.4	**22.72**	**73**	T	T	14 22 56.5	
H11S2	**WAKE ISLAND Hy** baz=254,slow=75,SNR=8.1	**22.72**	**73**	T	T	14 22 57.9	
MJAR	**Matsushiro Arr** 1.1nm,0.6s,baz=171,slow=8.6,SNR=5.5	**23.85**	**349**	P	**P**	**14 00 12.6**	**-0.8**
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=26,slow=8.4,SNR=15	**34.13**	**196**	P	**P**	**14 01 44.3**	**-0.4**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=18,slow=13,SNR=16	**37.80**	**195**	P	**P**	**14 02 15.6**	**-0.4**
YAK	**Yakutsk** comp=Z,41nm,18.1s,baz=208,slow=38	**49.88**	**351**	LR	LR	14 26 37.9	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=97,slow=7.8,SNR=3.6	**61.07**	**316**	P	**P**	**14 05 13.2**	**+1.0**
ILAR	**Eielson Array** 0.3nm,0.4s,baz=254,slow=5.9,SNR=10	**69.46**	**25**	P	**P**	**14 06 04.5**	**-1.4**
YKA	**Yellowknife Ar** 0.8nm,0.4s,baz=285,slow=5.1,SNR=10	**83.78**	**27**	P	**P**	**14 07 26.4**	**+0.1**
TORD	**Torodi Ar. Bea** 0.1nm,0.4s,baz=61,slow=2.5,SNR=2.7	**134.22**	**303**	PKP	**PKPdf**	**14 14 16.2**	**+1.0**

IDC 20 14:14:35.5±2.2, 6°.45S×129°.41E, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.5/36, mbtmp3.6/4, ML3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/10, Error ellipse: s-maj=88.3km s-min=28.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=2.1,slow=12,SNR=5.5	**12.15**	**197**	Pn	Pn	14 17 30.9	+0.8
FITZ	1.0nm,0.3s,baz=125,slow=21,SNR=9.4			Sn	Sn	14 19 34.2	-12
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=339,slow=13,SNR=20	**14.24**	**161**	Pn	Pn	14 17 57.6	-1.1
WRA	0.6nm,0.3s,baz=337,slow=22,SNR=7.9			Sn	Sn	14 20 22.8	-15
ASAR	**Alice Springs** 0.2nm,0.3s,baz=340,slow=9.0,SNR=26	**17.65**	**166**	P	Pn	14 18 43.1	0.0
ASAR	0.2nm,0.3s,baz=336,slow=23,SNR=5.9			S	Sn	14 21 47.1	-13
KSRS	**Korea Array** comp=Z,46nm,18.6s,baz=205,slow=39	**43.70**	**358**	LR	LR	14 43 12.1	
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=125,slow=7.9,SNR=4.1	**67.45**	**327**	P	P	14 25 33.2	0.0

KRSC 20 14:19:20.1±2.8, 48°.60N×153°.97E, h122km±43km, ML4.0, Kuril Islands

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

	comp=N,54nm,0.2s							
ELZG	**Elazig**	**1.30**	**1**	P		**Pg**	**14 24 23.4**	**-0.4**
ELZG				S		**Sn**	**14 24 42.2**	**+1.3**
ELZG	**Elazig**	**1.30**	**1**	*i* P		**Pg**	**14 24 23.4**	**-0.4**
ELZG				*i* S		**Sn**	**14 24 42.2**	**+1.3**
KSRV	**Kasrt alli**	**1.33**	**178**	*i* P		**Pg**	**14 24 24.6**	**+0.3**
KSRV				*e*S		**Sb**	**14 24 40.5**	**-0.4**
KSRV				AML		AML	14 24 46.0	
	comp=E,22nm,0.2s							
KSRV				AML		AML	14 24 46.2	
	comp=N,26nm,0.2s							
AKCD	**Akcadag**	**1.36**	**324**	P		**Pn**	**14 24 23.8**	**-0.3**
AKCD				S		**Sg**	**14 24 43.9**	**+1.2**
AKCD	**Akcadag**	**1.36**	**324**	*i* P		**Pn**	**14 24 23.8**	**-0.3**
AKCD				*i* S		**Sg**	**14 24 43.9**	**+1.2**
GAZ	**Gaziantep**	**1.38**	**270**	*e*PN		**Pg**	**14 24 25.5**	**+0.2**
GAZ	**Gaziantep**	**1.38**	**270**	*e*Pn		**Pg**	**14 24 25.5**	**+0.2**
MARD	**Mardin**	**1.47**	**85**	*i* P		**Pg**	**14 24 26.3**	**-0.7**
MARD				*i* S		**Sg**	**14 24 47.0**	**+0.9**
PTK	**Pertek**	**1.73**	**12**	*e*PN		**Pb**	**14 24 30.6**	**-0.2**
PTK	**Pertek**	**1.73**	**12**	*e*Pn		**Pb**	**14 24 30.6**	**-0.2**
SARI	**SarD1z-Kayseri**	**2.34**	**302**	*e*PN		**Pn**	**14 24 37.3**	**-0.2**
TAHT	**Tahtakopru-Hat**	**2.36**	**251**	*e*PN		**Pb**	**14 24 41.0**	**-0.4**
TAHT	**Tahtakopru-Hat**	**2.36**	**251**	*e*Pn		**Pb**	**14 24 41.0**	**-0.4**

JMA ***20*** *14:28:09.4±0.2, 21°.95N×121°.62E, h0km, M3.4*
IDC ***20*** *14:28:10.0±5.7, 22°.00N×121°.85E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.1/35, mbtmp3.3/3, Error ellipse: s-maj=434.7km s-min=28.6km az=60.0*
ISCJB ***20*** *14:28:10.9±0.7, 22°.00N±0°.03×121°.65E±0°.03, h4km±5km, mb3.4/3, Error ellipse: s-maj=5.9km s-min=3.9km az=17.3*
TAP ***20*** *14:28:13.5, 22°.05N×121°.53E, h10km±1km, ML3.3, B*

ISC 20 14:28:11.4±1.2, 22°.00N±0°.04×121°.63E±0°.03, h9km±7km, n42, σ1§19/78, mb3.4/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.09**	**301**	*i* P	**Pg**	**14 28 15.4**	**+1.6**
	baz=122						
TSEB	**Hengchuen, Pin**	**0.69**	**262**	*e*P	**Pb**	**14 28 25.9**	**+0.3**
	baz=256						
TSEB				S	**Sb**	**14 28 35.5**	**+0.4**
	baz=256						
TWK1	**Hengchun**	**0.77**	**266**	P	**Pg**	**14 28 26.0**	**-0.3**
	baz=260						
TWK1				S	**Sg**	**14 28 35.7**	**-0.5**
	baz=260						
TAW	**Tawu**	**0.77**	**298**	P	**Pg**	**14 28 25.7**	**-0.6**
	baz=297						
TAW				*e*S	**Sg**	**14 28 35.6**	**-0.7**
	baz=297						
EAST	**Anshuo**	**0.82**	**298**	P	**Pg**	**14 28 26.5**	**-0.8**
	baz=297						
EAST				S	**Sg**	**14 28 36.7**	**-1.3**
	baz=297						
HEN	**Hengchun**	**0.83**	**271**	*e*P	**Pg**	**14 28 26.6**	**-0.8**
	baz=266						
HEN				*e*S	**Sg**	**14 28 34.6**	**-3.6**
	baz=266						
ECL	**Taimali**	**0.87**	**314**	P	**Pg**	**14 28 27.4**	**-0.7**
	baz=315						
ECL				S	**Sg**	**14 28 38.0**	**-1.4**
	baz=315						
TTN	**Taitung**	**0.88**	**329**	*e*P	**Pg**	**14 28 28.6**	**+0.2**
	baz=333						
TTN				*e*S	**Sb**	**14 28 40.7**	**0.0**
	baz=333						
TWG	**Pinlang**	**0.97**	**328**	*e*P	**Pg**	**14 28 30.4**	**+0.3**
	baz=331						
TWG				*e*S	**Sg**	**14 28 42.9**	**+0.1**
	baz=331						
SCZT	**Fangliau**	**1.01**	**292**	*e*P	**Pg**	**14 28 31.0**	**+0.1**
	baz=290						
SCZT				*e*S	**Sg**	**14 28 43.3**	**-0.7**
	baz=290						
CHKT	**Chengkung**	**1.13**	**347**	*e*P	**Pg**	**14 28 32.7**	**-0.4**
	baz=352						
CHKT				S	**Sg**	**14 28 46.5**	**-1.3**
	baz=352						
SSD	**Sandimen**	**1.19**	**309**	*e*P	**Pn**	**14 28 35.1**	**+0.9**
	baz=309						
SSD				*e*S	**Sg**	**14 28 46.8**	**-2.9**
	baz=309						
ELDTW	**Lidau**	**1.32**	**335**	*e*P	**Pn**	**14 28 35.7**	**-0.4**
	baz=337						
ELDTW				*e*S	**Sb**	**14 28 49.6**	**-3.8**
	baz=337						
TWF1	**Yuli**	**1.39**	**347**	*e*P	**Pb**	**14 28 37.6**	**+0.1**
	baz=350						
TWF1				*e*S	**Sb**	**14 28 53.7**	**-1.6**
	baz=350						
TWM1	**Shoushan**	**1.39**	**307**	*e*P	**Pg**	**14 28 38.5**	**+0.4**
	baz=306						
TWM1				*e*S	**Sb**	**14 28 55.2**	**-0.2**
	baz=306						
STYT	**Tauyuan**	**1.42**	**325**	*e*P	**Pg**	**14 28 39.4**	**+0.7**
	baz=327						
STYT				*e*S	**Sb**	**14 28 56.6**	**+0.4**
	baz=327						
SGST	**Jiashian**	**1.45**	**318**	*e*P	**Pg**	**14 28 40.1**	**+0.8**
	baz=319						
SGST				*e*S	**Sn**	**14 28 57.4**	**+0.4**
	baz=319						
EHY	**Hungye**	**1.53**	**349**	*e*P	**Pn**	**14 28 39.1**	**+0.2**
	baz=352						
EHY				*e*S	**Sg**	**14 29 00.4**	**-0.3**
	baz=352						
WTP	**Ta-pu**	**1.56**	**323**	*e*P	**Pb**	**14 28 40.6**	**+0.1**
	baz=324						
WTP				*e*S	**Sn**	**14 29 00.5**	**+0.8**
	baz=324						
CHN1	**Nanshi**	**1.56**	**319**	*e*P	**Pb**	**14 28 41.1**	**+0.6**
	baz=320						
CHN1				*e*S	**Sn**	**14 29 00.7**	**+0.9**
	baz=320						
YUS	**Yu-Shan**	**1.61**	**337**	*e*P	**Pn**	**14 28 39.9**	**-0.6**
	baz=339						
YUS				*e*S	**Sn**	**14 29 00.3**	**-1.4**
	baz=339						
TWK	**Hsinying**	**1.65**	**320**	*e*P	**Pb**	**14 28 42.0**	**0.0**
	baz=321						
TWK				*e*S	**Sb**	**14 29 03.7**	**+0.7**
	baz=321						
ALS	**Alishan**	**1.69**	**333**	*e*P	**Pb**	**14 28 43.4**	**+0.6**
	baz=335						
ALS				*e*S	**Sb**	**14 29 05.1**	**+0.7**
	baz=335						
ESL	**Shilin**	**1.82**	**354**	*e*P	**Pn**	**14 28 43.2**	**+0.3**
	baz=357						
ESL				*e*S	**Sn**	**14 29 06.1**	**0.0**
	baz=357						
CHN5	**Tsauling**	**1.82**	**331**	*e*P	**Pb**	**14 28 45.4**	**+0.4**
	baz=332						
CHN5				*e*S	**Sb**	**14 29 08.0**	**+0.1**
	baz=332						
WGK	**Gukeng**	**1.95**	**330**	*e*P	**Pb**	**14 28 46.7**	**-0.4**
	baz=331						
WGK				*e*S	**Sn**	**14 29 10.6**	**+1.3**
	baz=331						
SMLT	**Sun Moon Lake**	**2.00**	**340**	*e*P	**Pn**	**14 28 46.8**	**+1.4**
	baz=342						
SMLT				*e*S	**Sn**	**14 29 11.9**	**+1.3**
	baz=342						
TYC	**Yuchr**	**2.03**	**340**	*e*P	**Pb**	**14 28 47.5**	**-1.0**
	baz=341						
TYC				*e*S	**Sn**	**14 29 12.8**	**+1.5**
	baz=341						
NNS	**Nan Shan**	**2.45**	**354**	*e*P	**Pb**	**14 28 54.6**	**-1.1**
	baz=356						
NNS				*e*S	**Sn**	**14 29 22.8**	**+1.0**
	baz=356						
TWQ1	**Liyutan**	**2.47**	**342**	*e*P	**Pn**	**14 28 53.3**	**+1.4**
	baz=343						
TWQ1				*e*S	**Sn**	**14 29 23.8**	**+1.6**
	baz=343						
ENTT	**Nioudou**	**2.63**	**359**	*e*P	**Pb**	**14 28 57.1**	**-1.6**
ENTT				*e*S	**Sn**	**14 29 28.6**	**+2.4**
NSK	**Sanguang**	**2.68**	**355**	*e*P	**Pb**	**14 28 59.1**	**-0.5**
	baz=356						
NSK				*e*S	**Sn**	**14 29 28.0**	**+0.5**
	baz=356						
JYNG	**Yonagunijimaku**	**2.73**	**26**	*e*S	**Sn**	**14 29 31.3**	**+2.8**
HATJ	**Hateruma jima**	**2.87**	**44**	*e*S	**Sn**	**14 29 33.0**	**+1.1**
IRIF	**Iriomote-Funau**	**3.03**	**39**	P	**Pn**	**14 29 00.4**	**+0.9**
IRIF				*e*S	**Sn**	**14 29 36.4**	**+0.6**
JKRS	**Kuro-shima**	**3.13**	**44**	P	**Pn**	**14 29 02.0**	**+1.1**
JKRS				*e*S	**Sn**	**14 29 37.9**	**-0.4**
JIJ	**Ishigaki jima**	**3.30**	**44**	P	**Pn**	**14 29 04.1**	**+0.8**
JIJ				*e*S	**Sn**	**14 29 41.3**	**-1.4**
JISG	**Ishigakijimahi**	**3.57**	**43**	P	**Pn**	**14 29 07.8**	**+0.9**
JISG				*e*S	**Sn**	**14 29 47.7**	**-1.5**
JTJ	**Tarama**	**3.86**	**46**	P	**Pn**	**14 29 12.1**	**+1.1**
JTJ				*e*S	**Sn**	**14 29 56.2**	**-0.3**
MKAR	**Makanchi Array**	**40.21**	**318**	P	**P**	**14 35 49.2**	**+0.9**
	0.7nm,0.9s,baz=113,slow=10.0,SNR=4.2						
WRA	**Warramunga Arr**	**43.49**	**163**	P	**P**	**14 36 14.2**	**-1.0**
	0.3nm,0.6s,baz=343,slow=9.0,SNR=4.2						
ASAR	**Alice Springs**	**46.93**	**165**	P	**P**	**14 36 42.8**	**+0.2**
	0.5nm,0.9s,baz=348,slow=8.5,SNR=4.0						

IDC 20 14:34:13.7±2.4, 4°.77S×130°.30E, h0km, mb3.6/1, mb1 3.8/3, mb1mx3.5/23, mbtmp3.6/3, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/26, Error ellipse: s-maj=155.7km s-min=29.6km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.59**	**166**	Pn	Pn	14 37 53.8	-1.2
	0.4nm,0.3s,baz=349,slow=13,SNR=21						
WRA				Sn	Sn	14 40 34.9	-14
	0.6nm,0.3s,baz=342,slow=21,SNR=8.1						
PMG	**Port Moresby**	**17.35**	**106**	LR	LR	14 47 02.1	
	comp=Z,54nm,21.9s,baz=230,slow=44						
ASAR	**Alice Springs**	**19.10**	**170**	P	Pn	14 38 38.8	-0.3
	0.3nm,0.3s,baz=348,slow=10,SNR=23						
ASAR				S	Sn	14 42 01.2	-13
	0.1nm,0.3s,baz=359,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**66.54**	**326**	P	P	14 45 05.6	0.0
	0.3nm,0.4s,baz=111,slow=8.2,SNR=6.3						

IDC 20 14:43:33.8±3.9, 5°.61S×151°.01E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/28, mbtmp3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/16, Error ellipse: s-maj=138.5km s-min=52.8km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.37**	**225**	Pn	Pn	14 44 59.1	+3.9
	0.7nm,0.3s,baz=60,slow=16,SNR=3.6						
PMG				Sn	Sn	14 46 00.8	+3.1
	0.8nm,0.3s,baz=36,slow=19,SNR=1.8						
WRA	**Warramunga Arr**	**21.58**	**227**	P	P	14 48 25.5	+0.1
	0.6nm,0.5s,baz=53,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.36**	**221**	P	P	14 48 53.9	0.0
	0.7nm,0.7s,baz=56,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**27.71**	**241**	LR	LR	14 59 23.2	
	comp=Z,76nm,20.4s,baz=320,slow=34						
TORD	**Torodi Ar. Bea**	**148.84**	**286**	PKPbc	PKPbc	15 03 23.8	-0.7
	0.2nm,0.6s,baz=85,slow=6.0,SNR=2.5						

JMA 20 14:50:22.9±0.1, 36°.79N×141°.30E, h29km±1km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.51**	**308**	P	Pb	14 50 33.1	-0.4
ONAJ				S	Sb	14 50 40.3	-0.4
JHO	**Hitachi**	**0.61**	**253**	P	Pb	14 50 34.9	-0.3
JHO				S	Sb	14 50 43.4	-0.1
JFK	**Kawauchi**	**0.67**	**330**	P	Pb	14 50 35.7	-0.4
JFK				S	Sb	14 50 44.7	-0.4
JFT	**Otama**	**1.06**	**314**	P	Pb	14 50 42.3	-0.3
JFT				S	Sb	14 50 56.1	0.0
JMM	**Marumori**	**1.15**	**340**	P	Pn	14 50 43.3	+0.3
JMM				S	Sn	14 50 58.0	+0.3
JFY	**Yanaizu**	**1.42**	**296**	P	Pb	14 50 47.9	-0.8
MAT	**Matsushiro**	**2.50**	**265**	P	Pn	14 51 03.9	+2.3
MAT				*e*S	Sb	14 51 35.7	-1.7

CASC 20 15:24:02.4±1.2, 8°.93N×82°.91W, h7km±13km, MD3.6, 2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBS2		**0.28**	**118**	*i* P	Pb	15 24 09.2	-0.7
TBS2				*e*S	Sb	15 24 14.1	-0.7
BRU	**Baru**	**0.36**	**109**	*i* P	Pb	15 24 10.9	-0.6
URSC	**Urasca**	**1.25**	**317**	*e*P	Pb	15 24 25.2	-1.2
URSC				*e*S	Sg	15 24 41.7	-0.9
QCR	**Quepos**	**1.33**	**292**	*i* P	Pn	15 24 26.0	-1.5
QCR				*e*S	Sb	15 24 44.4	-0.7
CGA2	**Cerro Gallo 2**	**1.88**	**305**	*e*P	Pn	15 24 34.9	-0.2
CGA2				*e*S	Sb	15 25 00.4	-0.5

IDC 20 15:40:15.1±5.4, 24°.17N×144°.21E, h145km±27km, mb3.1/4, mb1 3.2/5, mb1mx2.9/33, mbtmp3.6/5, Error ellipse: s-maj=142.1km s-min=22.1km az=73.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.44**	**328**	P	Pn	15 41 07.7	-0.2
	10nm,0.3s,baz=82,slow=17,SNR=28						
JCJ				S	Sn	15 41 49.4	+0.5
	19nm,0.3s,baz=93,slow=23,SNR=7.7						
WRA	**Warramunga Arr**	**44.89**	**193**	P	P	15 48 15.5	+0.2
	0.2nm,0.3s,baz=16,slow=9.3,SNR=15						
FITZ	**Fitzroy Crossi**	**45.76**	**205**	P	P	15 48 21.5	-0.7
	1.6nm,0.8s,baz=30,slow=7.7,SNR=3.9						
ASAR	**Alice Springs**	**48.59**	**193**	P	P	15 48 44.2	+0.1
	0.4nm,0.9s,baz=13,slow=6.8,SNR=4.4						
MKAR	**Makanchi Array**	**53.75**	**311**	P	P	15 49 22.3	-0.1
	0.6nm,0.9s,baz=108,slow=4.7,SNR=3.1						

MAN 20 15:41:52, 18°.94N×121°.11E, h1km, mb4.5, ML3.3, MS3.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.77**	**217**	*i* P	Pg	15 42 07.2	+0.4
PIP				*e*S	Sn	15 42 22.4	+0.1
APYP	**Conner**	**1.08**	**173**	*e*P	Pn	15 42 14.3	0.0
APYP				*e*S	Sn	15 42 33.0	+3.1
SGCP	**Mt. Cagua**	**1.13**	**128**	*e*P	Pb	15 42 14.4	+0.1
SGCP				*e*S	Sn	15 42 32.7	+1.6
ABRA	**Dolores**	**1.34**	**196**	*e*P	Pb	15 42 18.7	+0.8
ABRA				*e*S	Sn	15 42 39.7	+3.4
CVP	**Callao Caves**	**1.40**	**151**	*e*P	Pn	15 42 18.3	-0.4
CVP				*e*S	Sn	15 42 39.4	+1.5
CAUP	**Cauayan**	**2.10**	**161**	*e*P	Pg	15 42 32.6	+0.4

NIED ***20*** *15:54:00, 38°.00N×144°.30E, h5km, Mw3.5 Best double couple: M0 2.14000×10^14 NP1:φs=317.00000°, δ23.00000°, λ=-153.00000°. NP2:φs=201.00000°, δ80.00000°, λ=-69.00000°.*
IDC ***20*** *15:54:29.4±1.3, 37°.84N×144°.50E, h0km, mb3.3/3, mb1 3.7/7, mb1mx3.5/36, mbtmp3.7/7, ML3.7/5, MS2.3/1, Ms1 2.3/1, ms1mx2.1/19, Error ellipse: s-maj=35.8km s-min=22.0km az=112.0*
ISCJB ***20*** *15:54:31.5±0.7, 37°.94N±0°.05×144°.42E±0°.07, h33km, mb3.4/3, Error ellipse: s-maj=8.2km s-min=6.6km az=172.2*
JMA ***20*** *15:54:33.4±0.2, 38°.00N×144°.27E, h36km, M3.6*

ISC 20 15:54:33.2±1.0, 37°.91N±0°.05×144°.39E±0°.08, h35km, n25, σ1§43/30, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.44**	**300**	P	**Pn**	**15 55 10.5**	**0.0**
JIO	**Ouri**	**2.46**	**284**	P	**Pn**	**15 55 11.0**	**+0.2**
JIO				S	**Sn**	**15 55 38.8**	**-0.8**
MIYJ	**Miyakonagasawa**	**2.61**	**310**	P	**Pn**	**15 55 12.6**	**-0.3**
MIYJ				S	**Sn**	**15 55 41.8**	**-1.6**
JMK	**Ichinoseki**	**2.70**	**294**	P	**Pn**	**15 55 14.6**	**+0.5**
JOM	**Ohasama**	**2.89**	**304**	P	**Pn**	**15 55 17.1**	**+0.4**
JOU	**Okura**	**2.98**	**280**	P	**Pn**	**15 55 18.8**	**+0.9**
JFT	**Otama**	**3.24**	**264**	P	**Pn**	**15 55 22.8**	**+1.2**
JRG	**Rokugo**	**3.30**	**298**	P	**Pn**	**15 55 23.3**	**+1.0**
JYK	**Kaneyama**	**3.33**	**289**	P	**Pn**	**15 55 23.6**	**+0.9**
JANG	**Nango**	**3.33**	**319**	P	**Pn**	**15 55 22.8**	**+0.1**
JANG				S	**Sn**	**15 56 00.4**	**-0.6**
JTM	**Tenmabayashi**	**3.86**	**319**	S	**Sn**	**15 56 12.0**	**-2.2**
JOT	**Ohata**	**4.33**	**324**	P	**Pn**	**15 55 37.2**	**+0.8**
JKB	**Kayabe**	**4.74**	**328**	P	**Pn**	**15 55 43.4**	**+1.3**
JCH	**Churui**	**4.77**	**351**	P	**Pn**	**15 55 41.7**	**-0.8**
JRY	**Ryogami san**	**4.79**	**248**	P	**Pn**	**15 55 43.2**	**+0.4**
JRY				S	**Sn**	**15 56 35.1**	**-1.9**
MJAR	**Matsushiro Arr**	**5.12**	**256**	Pn	**Pn**	**15 55 48.9**	**+1.5**
	3.8nm,0.3s,baz=85,slow=14,SNR=33						
MJAR				LR	LR	15 58 21.7	
	comp=Z,30nm,18.5s,baz=190,slow=45						
NEM2	**Nemuro 2**	**5.55**	**10**	P	**Pn**	**15 55 50.4**	**-2.8**
JTKR	**Abashiri--Toko**	**6.07**	**357**	P	**Pn**	**15 55 59.2**	**-1.2**
JHJ	**Hachijo jima 2**	**6.08**	**220**	Pn	**Pn**	**15 55 59.6**	**-1.0**
	14nm,0.3s,baz=84,slow=15,SNR=5.7						
JHJ				Sn	**Sn**	**15 57 06.0**	**-2.9**
	8.6nm,0.3s,baz=264,slow=23,SNR=1.9						
ASAJ	**Asahikawa**	**6.35**	**348**	Pn	**Pn**	**15 56 04.2**	**-0.1**
	1.3nm,0.3s,baz=205,slow=14,SNR=21						
JCJ	**Chichijima**	**10.94**	**190**	Pn	**Pn**	**15 57 05.7**	**-1.6**
	1.2nm,0.3s,baz=306,slow=19,SNR=1.8						
JCJ				Sn	Sn	15 58 57.6	-11
	1.7nm,0.3s,baz=273,slow=16,SNR=2.3						
KSRS	**Korea Array**	**13.06**	**273**	Pn	**Pn**	**15 57 38.4**	**+2.3**
	0.1nm,0.3s,baz=92,slow=13,SNR=3.2						
ILAR	**Eielson Array**	**47.48**	**33**	P	**P**	**16 03 06.0**	**+1.6**
	0.2nm,0.5s,baz=287,slow=6.2,SNR=5.0						
WRA	**Warramunga Arr**	**58.31**	**191**	P	**P**	**16 04 25.4**	**+0.8**
	0.3nm,0.8s,baz=7.9,slow=7.2,SNR=3.4						
ASAR	**Alice Springs**	**62.03**	**191**	P	**P**	**16 04 51.9**	**+1.8**
	0.3nm,0.9s,baz=0.0,slow=7.6,SNR=2.8						

MAN 20 16:00:56, 10°.20N×125°.27E, h72km, mb4.1, ML2.9, MS2.6, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.00**	**344**	*i* eP	Pn	16 01 15.1	+0.5
PLP				*e*S	Sn	16 01 28.3	-0.2
OCLP	**Ormoc**	**1.06**	**323**	*e*P	Pn	16 01 15.9	+0.5
OCLP				*e*S	Sn	16 01 32.3	+2.4
LLP	**Lapu-Lapu**	**1.28**	**275**	*e*P	Pn	16 01 20.1	+1.9
LLP				*i* S	Sn	16 01 36.9	+2.0
BESP	**Borongan**	**1.40**	**7**	*e*P	Pn	16 01 22.6	+2.9
BESP				*e*S	Sn	16 01 42.4	+4.8

ISCJB ***20*** *16:01:05.3±0.6, 2°.5N±0°.1×31°.0W±0°.1, h10km, mb3.9/12, MS3.5/3, Error ellipse: s-maj=21.2km s-min=12.3km az=39.5*
IDC ***20*** *16:01:05.8±0.6, 2°.59N×31°.04W, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.0/40, mbtmp4.0/13, ML4.6/1, MS3.7/4, Ms1 3.6/4, ms1mx3.3/31, Error ellipse: s-maj=22.6km s-min=16.2km az=134.0*

ISC 20 16:01:06.9±0.6, 2°.4N±0°.1×31°.1W±0°.1, h10km, n23, σ1§72/16, mb3.9/12, MS3.5/3, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**9.51**	**210**	Pn	**Pn**	**16 03 24.5**	**+0.3**
	5.1nm,0.3s,baz=8.5,slow=15,SNR=50						
RCBR				Sn	**Sn**	**16 05 06.8**	**-4.4**
	2.6nm,0.3s,baz=268,slow=19,SNR=6.2						
RCBR				LR	LR	16 06 28.3	
	comp=Z,518nm,19.1s,baz=36,slow=33						
H10N3	**ASCENSION HYDR19.42**	**122**		T	T	16 25 44.1	
	baz=301,slow=75,SNR=802						
H10N2	**ASCENSION HYDR19.43**	**122**		T	T	16 25 44.5	
	baz=301,slow=75,SNR=786						
H10N1	**ASCENSION HYDR19.44**	**122**		T	T	16 25 45.6	
	baz=301,slow=75,SNR=832						
H10S3	**ASCENSION HYDR19.88**	**125**		T	T	16 26 21.6	
	baz=304,slow=75,SNR=735						
H10S1	**ASCENSION HYDR19.89**	**125**		T	T	16 26 22.0	
	baz=304,slow=75,SNR=616						
H10S2	**ASCENSION HYDR19.90**	**125**		T	T	16 26 22.9	
	baz=304,slow=75,SNR=593						
DBIC	**Dimbokro**	**26.46**	**80**	LR	LR	16 15 38.9	
	comp=Z,95nm,18.6s,baz=242,slow=33						
PTGA	**Pitinga**	**29.06**	**264**	LR	LR	16 17 24.8	
	comp=Z,115nm,21.7s,baz=105,slow=34						
TORD	**Torodi Ar. Bea**	**34.12**	**70**	P	**P**	**16 07 51.0**	**-1.3**
	1.6nm,0.9s,baz=248,slow=9.9,SNR=7.3						
TORD				LR	LR	16 19 43.4	
	comp=Z,153nm,19.7s,baz=215,slow=33						
CPUP	**Villa Florida**	**38.23**	**220**	P	**P**	**16 08 30.1**	**+2.8**
	1.9nm,0.7s,baz=68,slow=13,SNR=6.7						
MDT	**Midelt**	**39.12**	**36**	P	**P**	**16 08 35.3**	**+0.5**
	1.5nm,0.9s,baz=193,slow=6.4,SNR=3.3						
LPAZ	**La Paz**	**41.06**	**242**	P	**P**	**16 08 53.7**	**+1.9**
	2.0nm,0.7s,baz=43,slow=1.8,SNR=9.5						
ESDC	**Sonseca Array**	**44.51**	**30**	P	**P**	**16 09 19.1**	**+0.2**
	0.2nm,0.4s,baz=221,slow=8.7,SNR=4.1						
SCHQ	**Schefferville**	**59.78**	**337**	P	**P**	**16 11 11.5**	**-0.6**
	5.7nm,0.8s,baz=168,slow=6.4,SNR=4.2						
BOSA	**Boshof**	**62.16**	**124**	P	**P**	**16 11 30.1**	**+1.1**
	5.4nm,1.0s,baz=315,slow=5.7,SNR=2.8						
BRTR	**Keskin Array B**	**69.15**	**48**	P	**P**	**16 12 13.2**	**-0.7**
	0.2nm,0.4s,baz=298,slow=3.1,SNR=3.3						
AKASG	**Malin Array Be**	**69.68**	**36**	P	**P**	**16 12 17.1**	**+0.3**
	0.1nm,0.3s,baz=249,slow=6.6,SNR=2.5						
TXAR	**Lajitas Array**	**73.66**	**300**	P	**P**	**16 12 41.5**	**+0.2**
	0.5nm,0.7s,baz=94,slow=6.6,SNR=5.1						
YKA	**Yellowknife Ar**	**84.87**	**332**	P	**P**	**16 13 40.3**	**-1.4**
	2.5nm,0.8s,baz=96,slow=5.2,SNR=20						
ILAR	**Eielson Array**	**98.54**	**337**	P	**P**	**16 14 44.8**	**-0.9**
	0.6nm,0.9s,baz=52,slow=4.7,SNR=5.0						
ASAR	**Alice Springs**	**154.36**	**147**	PKPab	**PKPab**	**16 21 23.1**	**+0.6**
	0.8nm,0.8s,baz=200,slow=3.3,SNR=7.9						
WRA	**Warramunga Arr**	**157.50**	**142**	PKPab	**PKPab**	**16 21 35.9**	**-0.1**
	1.0nm,1.0s,baz=224,slow=4.0,SNR=5.1						

ISCJB ***20*** *16:26:32.0±1.0, 37°.59N±0°.06×143°.56E±0°.08, h33km, mb3.5/4, Error ellipse: s-maj=9.7km s-min=8.4km az=35.4*
JMA ***20*** *16:26:32.7±0.3, 37°.62

IDC 20 16:29:06.1±7.8, 30°36S×177°72W, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.3/31, mbtmp3.1/2, Error ellipse: s-maj=333.7km s-min=56.3km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ASAR	**Alice Springs**	**43.35**	**267**	P	P		16 37 10.1	-0.2
	0.1nm,0.4s,baz=104,slow=6.9,SNR=4.2							
WRA	**Warramunga Arr**	**44.34**	**272**	P	P		16 37 18.1	-0.2
	0.1nm,0.3s,baz=110,slow=8.1,SNR=7.4							
FINES	**FINESS Array B**	**145.19**	**340**	PKPbc	PKPbc		16 48 43.9	-0.7
	0.8nm,0.3s,baz=60,slow=4.9,SNR=10.0							

MAN 20 16:34:53, 19°14N×121°10E, h1km, mb4.4, ML3.2, MS3.1, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PIP	**Pasuquin**	**0.93**	**209**	‖ *iP*	Pb		16 35 11.5	-0.4
APYP	**Conner**	**1.28**	**174**	*eP*	Pg		16 35 17.6	+0.2
APYP				*eS*	Sn		16 35 36.4	+0.7
ABRA	**Dolores**	**1.52**	**194**	*eP*	Pg		16 35 22.6	+0.4
ABRA				*eS*	Sg		16 35 43.5	+1.5

SJA **20** *16:35:53.9±1.0, 21°.95S×68°.47W, h226km±46km, ML6.1*
SCB **20** *16:35:55.6±0.6, 21°.88S×68°.25W, h117km, Ml5.8/1, Error ellipse: s-maj=15.6km s-min=4.3km az=35.0*
ISCJB **20** *16:35:57.8±0.2, 21°.71S±0°.02×68°.40W±0°.02, h112km±2km, mb6.0/371, Error ellipse: s-maj=3.6km s-min=2.9km az=41.8*
BJI **20** *16:35:57.5, 21°.80S×68°.30W, h100km, mB6.3/58*
GUC **20** *16:35:59.0±0.7, 21°.87S×68°.67W, h129km±6km, ML6.4*
MOS **20** *16:36:00.7±1.2, 21°.61S×68°.50W, h129km, mb6.0/51, MS5.8/28, Error ellipse: s-maj=9.9km s-min=5.5km az=101.3*
IDC **20** *16:36:01.4±0.2, 21°.67S×68°.27W, h126km±1km, mb5.5/28, mb1 5.5/30, mb1mx5.5/30, mbtmp5.9/30, MS5.6/26, Ms1 5.6/26, ms1mx5.6/31, Error ellipse: s-maj=7.8km s-min=5.7km az=78.0*
GCMT **20** *16:36:01.2±0.1, 21°.89S×68°.63W, h131km, MW6.5/145, Moment Tensor Solution. s145,c350; s136,c502; Duration: 45 Moment tensor: Scale 10¹⁸Nm; Mrr-0.30±.04; Mθθ-0.35±.04; Mϕϕ0.65±.05; Mrθ-0.02±.03; Mθϕ1.50±.04; Mϕr-7.58±.03; Best double couple: M₀7.74200×10¹⁸ NP1:ϕs360.00000°, δ88.00000°, λ-101.00000°. NP2:ϕs261.00000°, δ11.00000°, λ-9.00000°. Principal axes: T 7.9220, Plg42.0000°, Azm100.0000°; N -0.3600, Plg11.0000°, Azm0.0000°; P -7.5610, Plg46.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC **20** *16:36:01.0±0.0, 21°.70S×68°.23W, h128km, Moment Tensor Solution. s14 Moment tensor: Scale 10¹⁸Nm; Mrr-0.20; Mθθ-0.37; Mϕϕ0.57; Mrθ-0.59; Mθϕ0.37; Mϕr-5.22; Best double couple: M₀5.30000×10¹⁸ NP1:ϕs6.00000°, δ88.00000°, λ-92.00000°. NP2:ϕs238.00000°, δ4.00000°, λ-38.00000°. Principal axes: T 5.5000, Plg42.0000°, Azm98.0000°; N -0.4400, Plg2.0000°, Azm6.0000°; P -5.0600, Plg47.0000°, Azm273.0000°;*
NEIC **20** *16:36:01.2±0.1, 21°.70S×68°.23W, h128km, mb6.0/278, ME6.4, MW6.4, MW6.5 Error ellipse: s-maj=3.8km s-min=2.9km az=63.0, Moment Tensor Solution. s38 Moment tensor: Scale 10¹⁸Nm; Mrr1.82; Mθθ-0.84; Mϕϕ-0.98; Mrθ-1.83; Mθϕ2.03; Mϕr-5.82; Best double couple: M₀6.60000×10¹⁸ NP1:ϕs188.00000°, δ84.00000°, λ109.00000°. NP2:ϕs295.00000°, δ19.00000°, λ18.00000°. Principal axes: T 7.2900, Plg48.0000°, Azm118.0000°; N -1.6800, Plg18.0000°, Azm6.0000°; P -5.6100, Plg37.0000°, Azm262.0000°; Broadband fault plane solution: P waves. NP1:ϕs298.00000°, δ16.00000°, λ19.00000°. NP2:ϕs190.00000°, δ85.00000°, λ105.00000°. Principal axes: T Plg48.0000°, Azm116.0000°; N Plg0.0000°, Azm0.0000°; P Plg38.0000°, Azm267.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [VI] at Alto Hospicio, Iquique and Pica; [V] at Calama, Huara, Pozo Almonte, Quillagua and Tocopilla; [IV] at Camina and Maria Elena; [III] at Antofagasta, Arica, Caldera, Chanaral, Codpa, Copiapo, Mejillones, Poconchile, San Pedro de Atacama, Taltal and Tierra Amarilla; [II] at Cuya, Los Loros and Putre. Also felt at Buin. Felt [IV] at Arequipa and [II] at Tacna, Peru. Also felt at Moquegua. Felt at Potosi, Bolivia.
CASC **20** *16:36:03.0±2.5, 21°.70S×68°.23W, h128km, mb6.0(NEIC)*

ISC 20 16:36:00.9±0.2, 21°.77S±0°.02×68°.38W±0°.03, h126km±1km, h126km:pP-P, n1806, σ2s06/2279, mb6.0/365, 54C-45D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PB09	**IPOC Station P**	**0.80**	**268**	⇑ *iP*	**Pn**		**16 36 19.0**	**-2.9**
PB09				*i* S	**Sn**		**16 36 33.9**	**-3.8**
PB09				IAML			16 36 40.4	
	comp=N,1069μm,0.5s							
LVC	**Limon Verde**	**0.97**	**210**	P	**Pn**		**16 36 19.7**	**-3.9**
	comp=N,509μm,0.3s,baz=29,slow=7.6							
LVC				S	**Sn**		**16 36 35.1**	**-5.6**
	comp=N,616μm,0.3s,baz=129,slow=8.1,SNR=20							
LVC				LR	LR		16 36 45.9	
	comp=N,775μm,18.2s,baz=52,slow=40							
PB01	**IPOC Station P**	**1.26**	**305**	*i* P	**Pn**		**16 36 23.6**	**-2.5**
PB01				*i* S	**Sn**		**16 36 42.2**	**-3.1**
PB01				IAML			16 36 45.4	
	comp=N,548μm,0.2s							
PB01	**IPOC Station P**	**1.26**	**305**	*e*Pn	**Pn**		**16 36 23.9**	**-2.2**
PB01				*e*Sn	**Sn**		**16 36 44.0**	**-1.3**
PB07	**IPOC Station P**	**1.40**	**272**	*i* P	**Pn**		**16 36 24.4**	**-3.3**
PB07				*i* S	**Sn**		**16 36 43.3**	**-4.8**
PB07				IAML			16 36 45.9	
	comp=N,814μm,0.6s							
PB06	**IPOC Station P**	**1.44**	**230**	*i* P	**Pn**		**16 36 24.2**	**-4.0**
PB06				*i* S	**Sn**		**16 36 43.2**	**-5.8**
PB06				IAML			16 36 45.8	
	comp=E,599μm,0.6s							
PB04	**IPOC Station P**	**1.73**	**251**	⇑ *iP*	**Pn**		**16 36 27.5**	**-4.1**
PB04				*i* S	**Sn**		**16 36 48.5**	**-6.5**
PB04				IAML			16 36 56.1	
	comp=N,312μm,0.5s							
PB04	**IPOC Station P**	**1.73**	**251**	*e*Pn	**Pn**		**16 36 27.4**	**-4.1**
PB04				*e*Sn	**Sn**		**16 36 49.5**	**-5.4**
PB08	**IPOC Station P**	**1.77**	**336**	*i* P	**Pn**		**16 36 32.0**	**-0.4**
PB08				*i* S	**Sn**		**16 36 56.5**	**+0.2**
PB08				IAML			16 36 59.1	
	comp=E,527μm,0.8s							
HMBC	**Humberstone**	**2.04**	**316**	⇑ *iP*	**Pn**		**16 36 33.1**	**-2.3**
HMBC				*e*S	**Sn**		**16 36 58.3**	**-3.4**
HMBC				IAML			16 37 02.2	
	comp=N,964μm,0.7s							
PB11	**IPOC Station P**	**2.33**	**329**	⇑ *eP*	**Pn**		**16 36 37.1**	**-1.8**
PB11				*e*S	**Sn**		**16 37 06.0**	**-2.0**
PB11	**IPOC Station P**	**2.33**	**329**	*e*Pn	**Pn**		**16 36 37.5**	**-1.4**
PB11				*e*Sn	**Sn**		**16 37 04.6**	**-3.5**
MOCB	**Mochara**	**2.61**	**79**	⇑ *e*Pn	**Pn**		**16 36 40.8**	**-1.9**
MOCB				*e*Sn	**Sn**		**16 37 12.9**	**-2.0**
PB10	**IPOC Station P**	**2.65**	**229**	*e*Pn	**Pn**		**16 36 40.4**	**-2.5**
AZAP	**Zapla**	**3.91**	**129**	*e*P	**Pn**		**16 36 58.4**	**-1.2**
SLA	**San Lorenzo**	**3.95**	**139**	*e*P	**Pn**		**16 37 00.1**	**0.0**
BBOJ	**La Paz, Jacaqu**	**4.77**	**2**	⇑ *e*Pn	**Pn**		**16 37 12.4**	**+1.0**
FSA	**Cafayete**	**4.85**	**153**	*e*P	**Pn**		**16 37 10.4**	**-1.7**
BBOE	**La Paz, Chanca**	**4.95**	**4**	⇑ *e*Pn	**Pn**		**16 37 14.5**	**+0.7**
BBOD	**La Paz, Gloria**	**5.11**	**358**	‖ *e*Pn	**Pn**		**16 37 17.2**	**+1.2**
LPAZ	**La Paz**	**5.46**	**3**	P	**Pn**		**16 37 21.6**	**+0.9**
	comp=N,139nm,0.3s,baz=193,slow=4.7,SNR=746							
LPAZ				S	**Sn**		**16 38 21.3**	**-1.5**
	comp=N,100nm,0.3s,baz=99,slow=4.7,SNR=4.7							
LPAZ				Lg	Lg		16 38 57.7	
	comp=N,61nm,0.3s,baz=10.0,slow=19,SNR=1.3							
LPAZ	**La Paz**	**5.46**	**3**	⇑ *iPn*	**Pn**		**16 37 21.5**	**+0.8**
LPAZ				*e*Sn	**Sn**		**16 38 24.5**	**+1.7**
	comp=N,4μm,0.7s							
BBOB	**La Paz, Bander**	**5.61**	**2**	‖ *e*Pn	**Pn**		**16 37 23.2**	**+0.6**
AHML	**Horco Molle**	**5.71**	**151**	*eP*	**Pn**		**16 37 21.5**	**-2.0**
	baz=332,slow=14							
AHML				*e*S	**Sn**		**16 38 25.8**	**-2.2**
VCA	**Vinchina**	**6.94**	**179**	*eP*	**Pn**		**16 37 36.9**	**-3.3**
	baz=356,slow=14							
VCA				*e*S	**Sn**		**16 38 52.3**	**-5.4**
VCA				IAML			16 38 58.3	
	comp=Z,2μm,0.4s							
CYA	**Choya**	**7.04**	**161**	*eP*	**Pn**		**16 37 36.9**	**-4.6**
LCO	**Las Campanas**	**7.51**	**196**	*e*Pn	**Pn**		16 37 39.9	-8.0
SIV	**San Ignacio**	**8.99**	**52**	P	**Pn**		**16 38 04.3**	**-3.5**
	comp=Z,223nm,0.3s,baz=243,slow=11,SNR=671							
SIV				S	**Sn**		**16 39 44.8**	**-2.7**
	comp=Z,44nm,0.3s,baz=296,slow=19,SNR=9.1							
SIV	**San Ignacio**	**8.99**	**52**	‖ *iP*	**Pn**		**16 38 03.4**	**-4.5**
RTLL	**Cerro Villicun**	**9.52**	**180**	*eP*	Pn		16 38 09.1	-5.7
SJA	**San Juan**	**9.72**	**181**	*eP*	**Pn**		**16 38 15.0**	**-2.5**
SJA				*e*S	Sn		16 39 53.1	-12
RTLS	**Leoncito**	**10.02**	**184**	*eP*	Pn		16 38 16.7	-5.1
RTCV	**Cerro Valdivia**	**10.05**	**181**	*eP*	Pn		16 38 16.0	-5.9
RTCV				*e*S	Sn		16 40 02.5	-11
TCA	**Tanti**	**10.11**	**161**	*eP*	Pn		16 38 16.7	-6.1
TCA				IAML			16 38 24.3	
	comp=Z,375nm,0.4s							
AUSP	**Uspallata**	**10.45**	**185**	*eP*	Pn		16 38 20.8	-6.8
ACAN	**Cantantal**	**10.52**	**174**	*eP*	Pn		16 38 22.3	-5.9
ASAL	**Salagasta**	**10.79**	**182**	*eP*	Pn		16 38 25.5	-6.4
MRA	**San Martin**	**10.87**	**168**	*eP*	Pn		16 38 25.7	-7.3
MRA				IAML			16 40 26.1	
	comp=Z,268nm,0.8s							
ARCO	**CERRO ARCO**	**11.04**	**182**	*eP*	**Pn**		**16 38 31.6**	**-3.7**
ARCO				IAML			16 40 36.5	
	comp=Z,313nm,0.6s							
CPUP	**Villa Florida**	**11.07**	**116**	P	**Pn**		**16 38 31.6**	**-4.0**
	comp=Z,6.6nm,0.3s,baz=296,slow=12,SNR=93							
CPUP				S	Sn		16 40 24.1	-14
	comp=Z,14nm,0.3s,baz=344,slow=7.6,SNR=2.0							
CPUP				LR	LR		16 42 42.2	
	comp=Z,69μm,19.8s,baz=298,slow=36							
CPUP	**Villa Florida**	**11.07**	**116**	P	**Pn**		**16 38 31.6**	**-4.0**
CPUP				pmax	pmax			
	comp=Z,7.0nm,0.3s							
CPUP				MLR	MLR			
	comp=Z,69μm,19.8s							
AAGR	**Agrelo**	**11.28**	**182**	*e*			16 36 47.2	
AAGR				*e*P	Pn		16 38 32.8	-5.7
ROC1	**El Roble**	**11.40**	**191**	*e*Pn	Pn		16 38 32.4	-7.8
SUCO	**SUCO**	**11.94**	**166**	*eP*	Pn		16 38 41.7	-5.4
SUCO				IAML			16 39 11.2	
	comp=Z,135nm,0.6s							
NNA	**Nana**	**12.65**	**319**	P	**Pn**		**16 38 54.3**	**-2.2**
	comp=Z,8.0nm,0.3s,baz=155,slow=11,SNR=22							
NNA				S	**Sn**		**16 41 07.8**	**-8.2**
	comp=Z,35nm,0.3s,baz=238,slow=13,SNR=4.1							
NNA				LR	LR		16 44 14.9	
	comp=Z,34μm,19.9s,baz=136,slow=39							
NNA	**Nana**	**12.65**	**319**	*e*Pn	**Pn**		**16 38 54.6**	**-1.9**
NNA				S	**Sn**		**16 41 07.8**	**-8.2**
SAML	**Samuel**	**13.70**	**22**	*e*Pn	**Pn**		**16 39 06.8**	**-3.1**
TRQA	**Tornquist**	**17.14**	**163**	*eP*	**P**		**16 39 48.8**	**-3.7**
	comp=Z,5μm,1.7s							
ATAH	**Atahualpa**	**17.47**	**325**	P	**Pn**		**16 39 57.7**	**+0.5**
	comp=Z,3.3nm,0.3s,baz=181,slow=8.0,SNR=53							
ATAH				S	**S**		**16 43 11.6**	**-0.7**
	baz=231,slow=14,SNR=1.6							
PLCA	**Paso Flores**	**18.99**	**185**	P	**P**		**16 40 10.4**	**-2.2**
	comp=Z,7.3nm,0.3s,baz=31,slow=11,SNR=36							
PLCA				sP	**sP**		**16 40 50.6**	**-0.7**
	comp=Z,7.8nm,0.3s,baz=5.6,slow=8.0,SNR=2.1							
PLCA				S	**S**		**16 43 41.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=78,slow=20,SNR=1.8							
PLCA				LR	LR		16 48 33.8	
	comp=Z,46μm,19.8s,baz=27,slow=39							
PLCA	**Paso Flores**	**18.99**	**185**	P	**P**		**16 40 10.5**	**-2.2**
PLCA				S	**S**		**16 43 41.4**	**-0.3**
PLCA				pmax	pmax			
	comp=Z,7.0nm,0.3s							
PLCA				pmax	pmax			
	comp=Z,8.0nm,0.3s							
PLCA				smax	smax			
	comp=N,1.0nm,0.3s							
PLCA				MLR	MLR			
	comp=Z,46μm,19.8s							
PLCA	**Paso Flores**	**18.99**	**185**	*eP*	**P**		**16 40 10.1**	**-2.6**
	comp=Z,510nm,1.1s							
PLCA				sP	**sP**		**16 40 50.6**	**-0.7**
PLCA				S	**S**		**16 43 41.4**	**-0.3**
SPB	**Sao Paulo**	**19.42**	**99**	*eP*	**P**		**16 40 15.5**	**-1.9**
	comp=Z,15μm,1.9s							
BDFB	**Brasilia**	**20.23**	**76**	S	**S**		**16 44 03.2**	**-3.3**
	comp=Z,2μm,0.4s,baz=13,slow=0.1,SNR=1.8							
PTGA	**Pitinga**	**22.46**	**23**	P	**P**		**16 40 47.0**	**-2.7**
	comp=Z,174nm,0.3s,baz=203,slow=20,SNR=245							
PTGA				S	**S**		**16 44 44.2**	**-3.2**
	comp=Z,2μm,1.1s,baz=205,slow=18,SNR=22							
OTAV	**Otavalo**	**23.98**	**335**	*eP*	**P**		**16 41 05.6**	**+1.2**
	comp=Z,558nm,1.0s							
GUVC	**San Jose del G**	**24.52**	**350**	*eP*	**P**		**16 41 08.8**	**+0.1**
CRUC	**La Cruz**	**24.66**	**339**	*eP*	**P**		**16 41 14.5**	**+4.1**
POPC	**Popayan, Colom**	**25.49**	**340**	*eP*	**P**		**16 41 20.7**	**+2.9**
CHRN	**Cochrane**	**25.64**	**187**	*eP*	**P**		**16 41 16.9**	**-1.7**
	comp=Z,150nm,0.9s							
PRAC	**Prado**	**26.12**	**345**	*eP*	**P**		**16 41 20.7**	**-2.5**
PRAC	**Prado**	**26.12**	**345**	*eP*	**P**		**16 41 23.3**	**0.0**
	comp=Z,3μm,2.0s							
VILC	**Villavicencio,**	**26.24**	**348**	*eP*	**P**		**16 41 24.1**	**-0.4**
CHIC	**Chingaza**	**26.75**	**348**	*eP*	**P**		**16 41 28.6**	**-0.8**
TOLC	**Tolima**	**27.06**	**345**	*eP*	**P**		**16 41 32.0**	**0.0**
ROSC	**El Rosal**	**27.08**	**347**	P	**P**		**16 41 33.3**	**+1.0**
	comp=Z,54nm,0.6s,baz=187,slow=4.6,SNR=48							
ROSC				pP	**pP**		**16 42 00.3**	**+0.9**
	comp=Z,87nm,0.6s,baz=190,slow=7.8,SNR=3.7							
ROSC				S	**S**		**16 46 03.7**	**+2.2**
	comp=Z,46nm,0.9s,baz=183,slow=15,SNR=2.0							
ROSC				LR	LR		16 53 38.6	
	comp=Z,46μm,18.1s,baz=198,slow=39							
ROSC	**El Rosal**	**27.08**	**347**	*eP*	**P**		**16 41 33.7**	**+1.4**
ROSC	**El Rosal**	**27.08**	**347**	*eP*	**P**		**16 41 33.0**	**+0.7**
	comp=Z,203nm,0.9s							
ROSC				pP	**pP**		**16 42 00.3**	**+0.9**
ROSC				S	**S**		**16 46 03.7**	**+2.2**
MALC	**Bahia Malaga**	**27.08**	**340**	*eP*	**P**		**16 41 32.6**	**+0.7**
GUYC	**Guyana, Colomb**	**27.69**	**345**	*eP*	**P**		**16 41 38.8**	**+1.0**
RUSC	**La Rusia**	**27.88**	**350**	*eP*	**P**		**16 41 39.4**	**-0.1**
NORC	**Norcasia**	**27.90**	**346**	*eP*	**P**		**16 41 39.9**	**+0.7**
BARC	**Barichara**	**28.58**	**350**	*eP*	**P**		**16 41 41.6**	**-3.8**
HELC	**Santa Helena**	**28.66**	**345**	*eP*	**P**		**16 41 43.9**	**-2.4**
HELC	**Santa Helena**	**28.66**	**345**	*eP*	**P**		**16 41 45.5**	**-0.8**
	comp=Z,655nm,0.7s							
BTLC	**Betulia, Santa**	**28.91**	**350**	*eP*	**P**		**16 41 48.3**	**-0.1**
GIRC	**Giron, Santand**	**29.06**	**350**	*eP*	**P**		**16 41 47.9**	**-1.7**
SOLC	**Bahia Solano**	**29.20**	**341**	*eP*	**P**		**16 41 51.8**	**+1.2**
PAMC	**Pamplona, Colo**	**29.24**	**351**	*eP*	**P**		**16 41 50.1**	**-1.4**
CBRI	**Barrientos, No**	**29.62**	**351**	*eP*	**P**		**16 41 53.0**	**-1.7**
DBBC	**Dabeiba**	**29.62**	**344**	*eP*	**P**		**16 41 52.4**	**-2.1**
GRMC	**Gramalote, San**	**29.62**	**351**	*eP*	**P**		**16 41 53.5**	**-1.1**
PAYG	**Puerto Ayora**	**29.92**	**312**	*eP*	**P**		**16 41 58.5**	**+1.3**
	comp=Z,1μm,2.0s							
OCAC	**Ocana**	**30.21**	**350**	*eP*	**P**		**16 41 57.5**	**-2.3**
SDV	**Santo Domingo**	**30.55**	**356**	P	**P**		**16 42 02.2**	**-0.6**
	comp=Z,101nm,0.7s,baz=191,slow=7.0,SNR=34							
SDV				pP	**pP**		**16 42 31.3**	**+1.2**
	comp=Z,87nm,0.6s,baz=184,slow=4.4,SNR=2.1							
SDV				S	**S**		**16 46 51.9**	**-3.7**
	comp=Z,22nm,0.4s,baz=294,slow=23,SNR=2.2							
EFI	**East Falkland**	**30.91**	**167**	*i* P	**P**		**16 42 02.9**	**-2.5**
EFI	**East Falkland**	**30.91**	**167**	*eP*	**P**		**16 42 03.1**	**-2.3**
	comp=Z,117nm,0.6s							
MOTC	**Monteria, Cord**	**31.19**	**346**	*eP*	**P**		**16 42 06.5**	**-1.7**
CAPC	**Capurgana**	**31.47**	**343**	*eP*	**P**		**16 42 11.1**	**+0.3**
PCRV	**Puerto La Cruz**	**31.96**	**7**	P	**P**		**16 42 14.9**	**-0.1**
	comp=Z,39nm,0.6s,baz=184,slow=2.2,SNR=36							
PCRV				pP	**pP**		**16 42 44.6**	**+2.1**
	comp=Z,220nm,1.0s,baz=186,slow=7.1,SNR=4.2							
PCRV				S	**S**		**16 47 16.2**	**-1.1**
	comp=Z,34nm,0.8s,baz=102,slow=23,SNR=3.2							
SJCC	**San Jacinto, C**	**32.17**	**347**	*eP*	**P**		**16 42 13.3**	**-3.6**
BUAY	**Buenos Aires**	**32.35**	**12**	*eP*	**P**		**16 42 23.2**	**+4.8**
ALNG	**Atlantic LNG**	**32.43**	**12**	*eP*	P		16 42 24.0	+5.0
ALNG	**Atlantic LNG**	**32.43**	**12**	*eP*	**S**		**16 47 27.4**	**+3.0**
TPP	**Pointe-a-Pierr**	**32.61**	**13**	*eP*	**P**		**16 42 22.7**	**+2.0**
BCIP	**Isla Barro Col**	**32.74**	**339**	*eP*	**P**		**16 42 23.0**	**+1.3**
	comp=Z,2μm,1.8s							
TBH	**Brigand Hill**	**32.85**	**13**	*eP*	**P**		**16 42 26.3**	**+3.5**
TRN	**Trinidad (W)**	**32.94**	**13**	*eP*	**P**		**16 42 25.2**	**+1.7**
USHA	**Ushuaia**	**33.01**	**180**	P	**P**		**16 42 23.7**	**-0.1**
	comp=Z,263nm,0.8s,baz=322,slow=4.4,SNR=15							
USHA				S	**S**		**16 47 31.0**	**-1.8**
	comp=Z,65nm,0.9s,baz=33,slow=20,SNR=2.5							
URIC	**Uribia, Colomb**	**33.45**	**354**	*eP*	**P**		**16 42 24.6**	**-3.4**
BOT	**Bacolet**	**33.59**	**14**	*eP*	**P**		**16 42 32.4**	**+3.2**
TOSP	**Speyside**	**33.75**	**14**	*eP*	**P**		**16 42 30.7**	**+0.1**
TOSP	**Speyside**	**33.75**	**14**	*eP*	**S**		**16 47 45.1**	**+0.1**
GRGR	**Grenville**	**34.33**	**12**	*eP*	sP		16 43 22.5	+4.7
GRW	**Mount Saint Ca**	**34.36**	**12**	*eP*	**P**		**16 42 35.0**	**-0.9**
GRW	**Mount Saint Ca**	**34.36**	**12**	*eP*	**S**		**16 47 52.1**	**-2.4**
GRHS	**Sauteurs**	**34.42**	**12**	*eP*	**S**		**16 47 55.5**	**+0.2**
GRSS	**Sisters**	**34.50**	**12**	*eP*	**S**		**16 42 36.6**	**-0.5**
BUS	**Buena Vista**	**34.60**	**333**	*eP*	P		16 42 29.8	-8.6
QCR	**Quepos**	**34.66**	**332**	*i* P	**P**		**16 42 40.1**	**+1.7**
URSC	**Urasca**	**34.85**	**333**	‖ *iP*	**P**		**16 42 42.5**	**+2.1**
HDC	**Heredia**	**35.15**	**332**	*eP*	**P**		**16 42 45.4**	**+2.6**
	comp=Z,1μm,1.3s							
RCBR	**Riachuelo**	**35.18**	**68**	P	**P**		**16 42 41.8**	**-1.3**
	comp=Z,1μm,0.9s,baz=230,slow=9.8,SNR=113							
RCBR				S	**S**		**16 48 03.1**	**-4.2**
	comp=Z,15nm,0.7s,baz=301,slow=9.4,SNR=1.9							
CGA2	**Cerro Gallo 2**	**35.31**	**332**	*eP*	**P**		**16 42 46.0**	**+1.8**
JCR	**Jicaral**	**35.45**	**331**	*eP*	**P**		**16 42 46.9**	**+1.5**
SVB	**Belmont**	**35.52**	**12**	*eP*	P		16 42 40.8	-5.0
SVB	**Belmont**	**35.52**	**12**	*eP*	**S**		**16 48 05.0**	**-7.1**
SVB	**Belmont**	**35.52**	**12**	*eP*	**P**		**16 42 45.8**	**0.0**
	comp=Z,348nm,0.8s							
SVV	**Soufriere Volc**	**35.57**	**12**	*eP*	**P**		**16 42 44.1**	**-2.1**
BBGH	**Gun Hill**	**35.76**	**15**	*eP*	**S**		**16 48 14.3**	**-1.5**
MCLT	**Moule a Chique**	**36.01**	**12**	*eP*	P		16 42 44.8	-5.2
MCLT	**Moule a Chique**	**36.01**	**12**	*e*	**S**		**16 48 14.3**	**-5.2**
BIM	**Bigot**	**36.77**	**12**	*eP*	**P**		**16 42 57.0**	**+0.6**
TRMF	**Trois Ilets**	**36.79**	**12**	*eP*	**P**		**16 42 57.5**	**+0.9**
ZAM	**Aeronautique**	**36.83**	**12**	*eP*	**P**		**16 42 56.4**	**-0.5**
FDF	**Fort de France**	**36.97**	**12**	*e*	**P**		**16 42 58.6**	**+0.5**
FDF	**Fort de France**	**36.97**	**12**	*eP*	**P**		**16 42 59.5**	**+1.4**
FDF	**Fort de France**	**36.97**	**12**	*e*	**S**		**16 48 27.6**	**-6.6**
FDF	**Fort de France**	**36.97**	**12**	*eP*	**P**		**16 42 58.3**	**+0.1**
FDF				pmax	pmax			
	comp=Z,533nm,0.7s							
FDF	**Fort de France**	**36.97**	**12**	*eP*	**P**		**16 42 58.2**	**+0.1**
	comp=Z,533nm,0.7s							
GBMF	**Grand Be**	**37.02**	**12**	*eP*	**P**		**16 43 01.0**	**+2.3**
PCM	**Pelee Case Pet**	**37.03**	**12**	*eP*	**P**		**16 43 01.2**	**+2.6**
CXM	**Morne La Croix**	**37.04**	**12**	*eP*	**P**		**16 43 01.4**	**+2.5**
BAMF	**Morne Balai**	**37.05**	**12**	*eP*	**P**		**16 43 00.8**	**+2.0**
RPN	**Rapa Nui**	**37.54**	**253**	*eP*	**P**		**16 43 03.6**	**+0.7**
RPN				pmax	pmax			
	comp=Z,2μm,1.0s							
RPN	**Rapa Nui**	**37.54**	**253**	*eP*	**P**		**16 43 03.6**	**+0.7**
	comp=Z,2μm,0.9s							
MLYT	**Lee's Yard**	**38.73**	**10**	*e*	P		16 42 59.1	-14
MLYT	**Lee's Yard**	**38.73**	**10**	*e*	S		16 48 44.9	-16
SEUS	**St. Eustatius**	**39.38**	**8**	*eP*	pP		16 43 43.4	-3.0
SEUS	**St. Eustatius**	**39.38**	**8**	*e*	**S**		**16 49 02.3**	**-8.2**
SABA	**Saba**	**39.47**	**8**	*eP*	**P**		**16 43 15.6**	**-3.5**
SABA	**Saba**	**39.47**	**8**	*e*	**S**		**16 49 03.8**	**-8.0**
SABA	**Saba**	**39.47**	**8**	*eP*	**P**		**16 43 17.7**	**-1.3**
	comp=Z,257nm,0.9s							
SABA				*e*			16 43 24.2	
CELP	**Cerrillos**	**39.64**	**3**	*eP*	**P**		**16 43 18.4**	**-2.1**
SJG	**San Juan**	**39.70**	**3**	P	**P**		**16 43 18.8**	**-2.0**
	comp=Z,178nm,0.7s,baz=155,slow=4.3,SNR=36							
SJG				pP	**pP**		**16 43 49.0**	**-0.1**
	comp=Z,470nm,0.7s,baz=198,slow=3.5,SNR=4.6							
SJG				S	**S**		**16 49 09.7**	**-5.5**
	comp=Z,108nm,0.9s,baz=4.7,slow=21,SNR=24							
SJG	**San Juan**	**39.70

comp=Z,446nm,1.8s
GOGA Godfrey 56.73 345 *e*P P 16 45 30.6 -0.9
comp=Z,446nm,1.8s
GOGA *e*pP pP 16 46 00.7 -0.7
247A Quitman 56.91 339 P P 16 45 32.3 -0.5
baz=157,SNR=20
JSC Jenkinsville 57.07 347 *e*P P 16 45 34.0 +0.1
JSC pmax pmax
comp=Z,220nm,1.0s
JSC Jenkinsville 57.07 347 *e*P P 16 45 34.0 +0.1
comp=Z,220nm,1.0s
934A Benavides 57.08 328 P P 16 45 34.2 +0.2
baz=146,SNR=9.3
344A Westbrook Farm 57.09 337 P P 16 45 34.1 0.0
baz=155,SNR=7.8
SACV Santiago Islan 57.11 54 *e*P P 16 45 33.4 -1.1
comp=Z,295nm,0.9s
835A Beeville 57.31 329 P P 16 45 36.4 +0.7
baz=147,SNR=8.6
245A Little AP, Sta 57.33 338 P P 16 45 35.2 -0.5
baz=156,SNR=12
147A Livingston 57.38 340 P P 16 45 35.3 -0.7
baz=158,SNR=16
CNNC Cliffs of the 57.41 351 *e*P P 16 45 36.6 +0.4
comp=Z,517nm,1.8s
933A Laredo 57.47 327 P P 16 45 37.0 +0.2
baz=146,SNR=24
736A Circle Diamond 57.52 330 P P 16 45 38.2 +1.2
baz=148,SNR=16
834A Tilden 57.53 328 P P 16 45 38.0 +0.8
baz=146,SNR=19
637A Eagle Lake 57.59 331 P P 16 45 38.3 +0.7
baz=149,SNR=8.2
146A Union 57.60 339 P P 16 45 37.0 -0.5
baz=157,SNR=7.2
244A Avery, Jackson 57.61 338 P P 16 45 37.3 -0.4
baz=155,SNR=6.2
342A Flagon Creek P 57.62 336 P P 16 45 38.2 +0.4
baz=153,SNR=22
440A Kirbyville 57.70 334 P P 16 45 38.8 +0.5
baz=152
243A Waterproof 57.75 337 P P 16 45 38.6 0.0
baz=154
735A Kenedy 57.78 329 P P 16 45 39.2 +0.3
baz=147
Z47A Carrollton 57.80 341 P P 16 45 38.2 -0.8
baz=158,SNR=6.9
Z48A Northport 57.81 341 P P 16 45 38.1 -0.9
baz=159,SNR=48
145A Houston Renfro 57.86 339 P P 16 45 39.0 -0.4
baz=156,SNR=12
538A Harpers Horsep 57.89 332 P P 16 45 40.8 +1.1
baz=150
341A Kurthwood 57.91 335 P P 16 45 40.0 +0.3
baz=152,SNR=7.5
KMSC Kings Mountain 57.92 347 P P 16 45 39.8 0.0
baz=166,SNR=41
KMSC Kings Mountain 57.92 347 *e*P P 16 45 39.8 0.0
comp=Z,279nm,1.2s
636A Smothers Creek 57.96 330 P P 16 45 41.0 +0.8
baz=148,SNR=24
144A Alexander Plac 58.05 338 P P 16 45 40.5 -0.2
baz=156
Z46A Louisville 58.07 340 P P 16 45 40.7 -0.2
baz=157,SNR=10.0
439A Center Grove, 58.08 333 P P 16 45 41.8 +0.9
baz=151,SNR=10
833A Chaparral WMA, 58.11 328 P P 16 45 41.3 0.0
baz=146,SNR=33
734A La Parita Cree 58.13 329 P P 16 45 41.6 +0.2
baz=147,SNR=22
537A Green Hill Far 58.13 331 P P 16 45 41.8 +0.4
baz=149,SNR=10.0
242A Grayson 58.16 336 P P 16 45 41.8 +0.3
baz=154,SNR=6.8
635A Leesville 58.21 330 P P 16 45 41.8 -0.2
baz=148,SNR=10.0
340A Bronson 58.27 334 P P 16 45 42.8 +0.5
baz=152,SNR=16
438A Sam Houston St 58.34 333 P P 16 45 43.6 +0.7
baz=150,SNR=6.7
832A Faith Ranch, C 58.37 327 P P 16 45 42.9 -0.2
baz=145,SNR=38
733A Divot King Ran 58.38 328 P P 16 45 43.1 -0.1
baz=146,SNR=21
Y47A UCPARC, Winfie 58.39 341 P P 16 45 42.2 -0.9
baz=159,SNR=46
241A Mo Tay, Goldon 58.42 336 P P 16 45 43.9 +0.5
baz=153,SNR=21
339A Huntington 58.46 334 P P 16 45 44.2 +0.6
baz=151
143A Socs Landing, 58.47 337 P P 16 45 43.3 -0.4
baz=155
536A Bastrop 58.47 331 P P 16 45 43.9 +0.2
baz=148,SNR=14
634A China Grove, S 58.48 329 P P 16 45 43.6 -0.2
baz=147
Z45A Winona 58.48 339 P P 16 45 43.6 -0.1
baz=157,SNR=13
142A Monroe 58.52 337 P P 16 45 44.1 +0.1
baz=154
Z44A Pea Ridge, Bel 58.65 338 P P 16 45 44.6 -0.3
baz=156,SNR=13
535A Dale 58.66 330 P P 16 45 44.9 -0.2
baz=148,SNR=17
Y46A Houston 58.68 340 P P 16 45 43.8 -1.3
baz=158,SNR=24
437A Phantom Ranch, 58.70 332 P P 16 45 45.4 +0.2
baz=150
240A Hunter Patters 58.76 335 P P 16 45 46.4 +0.7
baz=152,SNR=7.7
338A Crockett 58.80 333 P P 16 45 46.9 +0.9
baz=150,SNR=16
Z43A Armstrong Fami 58.87 338 P P 16 45 46.2 -0.2
baz=155
NATX Nacogdoches 58.88 334 P P 16 45 47.2 +0.6
baz=151,SNR=11
NATX Nacogdoches 58.88 334 *e*P P 16 45 47.0 +0.4
comp=Z,242nm,1.0s
Y45A Yeager Farm, C 58.88 339 P P 16 45 45.9 -0.6
baz=157,SNR=11
CPCT Cooper Cave 58.93 345 *e*P P 16 45 46.0 -0.8
CPCT *e*pP pP 16 46 16.6 -0.4
141A Papa Simpson, 58.93 336 P P 16 45 47.3 +0.4
baz=153,SNR=28
436A Wall Ranch, Ga 58.94 331 P P 16 45 47.3 +0.4
baz=149,SNR=6.0
633A Saathoff Ranch 58.94 329 P P 16 45 46.7 -0.3
baz=146,SNR=48
TKL Tuckaleechee C 58.95 345 LR LR 17 14 50.7
comp=Z,9µm,19.5s,baz=159,slow=40
TKL Tuckaleechee C 58.95 345 *e*P P 16 45 46.0 -0.9
TKL *e**PP pP 16 46 17.1 -0.1
TKL pmax pmax
comp=Z,235nm,0.8s
TKL Tuckaleechee C 58.95 345 *e*P P 16 45 46.0 -0.9
comp=Z,235nm,0.8s
TKL *e*pP pP 16 46 17.1 -0.1
337A Centerville 59.01 333 P P 16 45 48.4 +0.9
baz=150,SNR=8.4
239A Gary 59.03 334 P P 16 45 48.2 +0.6
baz=152,SNR=10
SWET Sewanee 59.07 343 *e*P P 16 45 46.8 -1.1
comp=Z,114nm,0.8s
SWET *e*pP pP 16 46 16.8 -1.2
534A Blanco 59.08 330 P P 16 45 47.2 -0.7
baz=147,SNR=28
Z42A Norrel Spur, H 59.18 337 P P 16 45 48.0 -0.5
baz=154
Y44A Strider, Charl 59.19 339 P P 16 45 47.7 -0.9
baz=156
SHEL Horse Pasture 59.22 96 *i* P P 16 45 50.1 +0.8
SHEL Horse Pasture 59.22 96 *e*P P 16 45 49.1 -0.2
comp=Z,2µm,0.8s
140A Cam and Jess, 59.22 335 P P 16 45 49.7 +0.8
baz=152,SNR=12
238A Jacksonville 59.28 334 P P 16 45 50.1 +0.8
baz=151,SNR=8.5
435B Jarrell 59.30 331 P P 16 45 49.5 0.0
baz=148,SNR=14
533A Kerrville 59.38 329 P P 16 45 49.8 -0.3
baz=146,SNR=24
Y43A Makayla and Ka 59.39 338 P P 16 45 49.7 -0.3
baz=155
OXF Oxford 59.44 340 *e*P P 16 45 49.2 -1.1
OXF pmax pmax
comp=Z,397nm,0.9s
OXF Oxford 59.44 340 *e*P P 16 45 49.2 -1.1
comp=Z,397nm,0.9s
PLAL Pickwick Lake 59.46 341 *e*P P 16 45 48.9 -1.6
comp=Z,137nm,1.0s
Z41A Richland Creek 59.48 336 P P 16 45 51.0 +0.4
baz=153,SNR=8.0
336A Riesel 59.48 332 P P 16 45 50.8 +0.1
baz=149,SNR=13
237A Washetta, Mont 59.57 333 P P 16 45 52.0 +0.7
baz=150,SNR=8.0
139A Bunkhouse Ranc 59.58 335 P P 16 45 51.8 +0.5
baz=152
Y42A Garnett, Star 59.62 337 P P 16 45 51.5 -0.1
baz=155,SNR=7.4
434A Burnet 59.64 330 P P 16 45 51.4 -0.4
baz=148,SNR=41
URVA University of 59.65 352 *e*P P 16 45 51.4 -0.3
335A Moody 59.65 331 P P 16 45 51.8 0.0
baz=148,SNR=30
X44A Crenshaw 59.66 339 P P 16 45 50.6 -1.2
baz=156
CCAR Cane Creek 59.69 338 *e*P P 16 45 52.2 +0.1
CCAR *e*pP pP 16 46 22.1 -0.3
Z40A Long Farm, Mag 59.70 336 P P 16 45 52.9 +0.8
baz=153,SNR=16
VWCC Virginia Weste 59.71 349 *e*P P 16 45 52.3 +0.2
VWCC *e*pP pP 16 46 22.9 +0.4
TZTN Tazewell 59.74 346 *e*P P 16 45 51.6 -0.8
TZTN *e*pP pP 16 46 22.3 -0.4
BLA Blacksburg 59.75 349 *e*P P 16 45 52.8 +0.3
BLA pmax pmax
comp=Z,290nm,0.8s
BLA Blacksburg 59.75 349 *e*P P 16 45 52.8 +0.3
comp=Z,290nm,0.8s
JSRW J. Sargeant Re 59.82 351 *e*P P 16 45 52.9 0.0
JSRW *e*pP pP 16 46 23.0 -0.1
138A Matatall Enter 59.84 334 P P 16 45 53.9 +0.8
baz=151,SNR=22
VNA1 Neumayer--Stat 59.87 160 P P 16 45 52.4 -0.4
236A Katherine and 59.87 332 P P 16 45 53.6 +0.2
baz=150,SNR=11
X43A Marvell 59.93 339 P P 16 45 53.4 -0.3
baz=156,SNR=13
W45A Hickory Valley 59.96 340 P P 16 45 53.3 -0.6
baz=158,SNR=9.2
Y41A Eaglette Beard 59.96 337 P P 16 45 53.9 0.0
baz=154,SNR=5.9
433A Art 59.98 329 P P 16 45 53.7 -0.4
baz=147,SNR=75
WLAR White Oak Lake 59.98 336 *e*P P 16 45 54.4 +0.4
comp=Z,545nm,0.8s
WLAR *e*pP pP 16 46 24.5 +0.2
Z39A Irene McRaven, 59.99 335 P P 16 45 54.6 +0.5
baz=152
137A Heron Place, G 60.06 333 P P 16 45 55.1 +0.5
baz=150,SNR=28
334A Lometa 60.06 331 P P 16 45 54.2 -0.5
baz=148,SNR=47
W44A Shelby Farms P 60.14 340 P P 16 45 53.9 -1.2
baz=157
CBN Corbin Frederi 60.25 352 *e*P P 16 45 56.8 +1.0
comp=Z,758nm,2.0s
WHTX Lake Whitney, 60.27 332 *e*P P 16 45 55.8 -0.2
comp=Z,264nm,1.0s
136A Ennis 60.28 333 P P 16 45 56.3 +0.1
baz=150,SNR=7.0
Z38A Mt. Pleasant 60.31 334 P P 16 45 56.8 +0.5
baz=151,SNR=9.3
Y40A Okolona 60.33 336 P P 16 45 56.5 +0.1
baz=153,SNR=7.9
HPIG 60.39 322 *e*P P 16 45 57.6 +0.3
comp=Z,197nm,1.3s
333A Richland Sprin 60.40 330 P P 16 45 56.4 -0.6
baz=147,SNR=50
V45A Humboldt 60.43 341 P P 16 45 55.8 -1.2
baz=158,SNR=9.9
WVT Waverly 60.45 342 *e*P P 16 45 55.7 -1.5
WVT pmax pmax
comp=Z,222nm,0.8s
WVT Waverly 60.45 342 *e*P P 16 45 55.7 -1.5
comp=Z,222nm,0.8s
X41A Kaden, Bauxite 60.48 337 P P 16 45 56.8 -0.6
baz=154
Z37A Pogue Cattle C 60.53 334 P P 16 45 58.0 +0.2
baz=151
Y39A Lockesburg 60.57 336 P P 16 45 57.7 -0.3
baz=152,SNR=17
234A Clairette 60.59 331 P P 16 45 57.9 -0.4
baz=148,SNR=80
X40A Basin Creek Fa 60.59 337 P P 16 45 57.5 -0.7
baz=154,SNR=20
SLBS Sierra La Lagu 60.64 316 *e*P P 16 45 59.9 +1.1
comp=Z,145nm,0.9s
UALR University of 60.67 337 *e*P P 16 45 57.7 -1.0
comp=Z,123nm,0.9s
135A Vickery Place, 60.73 332 P P 16 45 59.0 -0.3
baz=149,SNR=11
V44A Blytheville 60.80 340 P P 16 45 58.6 -1.0
baz=157
Y38A Idabel 60.81 335 P P 16 45 59.0 -0.7
baz=152
MIAR Mount Ida 60.91 336 P P 16 46 00.0 -0.4
baz=153,SNR=83
MIAR Mount Ida 60.91 336 *e*P P 16 45 59.7 -0.7
MIAR pmax pmax
comp=Z,126nm,0.8s
MIAR Mount Ida 60.91 336 *e*P P 16 45 59.7 -0.7
comp=Z,126nm,0.8s
Z36A Blue Ridge 60.93 333 P P 16 46 00.3 -0.1
baz=150,SNR=14
233A Rising Star 60.94 330 P P 16 46 00.4 -0.3
baz=147,SNR=32
UTMT University of 60.96 341 *e*P P 16 46 00.5 -0.1
comp=Z,576nm,0.9s
UTMT *e*pP pP 16 46 30.0 -1.0
W41B Gary Mavity, V 60.99 338 P P 16 46 00.2 -0.7
baz=154,SNR=44
GLAT Glass 61.02 341 *e*P P 16 46 00.7 -0.4
134A White-Moore Ra 61.04 331 P P 16 46 01.1 -0.2
baz=148,SNR=20
RKT Rikitea 61.05 255 *e*P P 16 46 03.1 +1.4
comp=Z,328nm,1.2s
RKT *e*S S 16 54 10.0 -0.9
comp=Z,18µm,26.0s
RKT *e*LQ LQ 17 01 38.3
comp=Z,16µm,29.2s
RKT *e*LR LR 17 04 04.0
comp=Z,30µm,40.2s,baz=103
X39A Fountain Ranch 61.08 336 P P 16 46 01.7 +0.2
baz=152,SNR=99
X301 Greenbrier Sit 61.10 338 *e*P P 16 46 01.1 -0.5
comp=Z,146nm,1.0s
WHAR Wooly Hollow 61.11 338 *e*P P 16 46 00.7 -1.0
comp=Z,100nm,0.9s
TXAR Lajitas Array 61.13 325 P P 16 46 01.8 -0.3
comp=Z,15nm,0.8s,baz=149,slow=7.4,SNR=121
TXAR pP pP 16 46 32.0 -0.5
comp=Z,37nm,0.9s,baz=145,slow=7.5,SNR=9.7
TXAR S S 16 54 13.4 +1.8
comp=Z,1.9nm,0.9s,baz=99,slow=6.7,SNR=2.7
TXAR LR LR 17 13 33.1
comp=Z,4µm,18.6s,baz=0.0,slow=37
TXAR PKPPKP P'P'df 17 15 17.0 +1.2
comp=Z,1.5nm,0.9s,baz=264,slow=1.3,SNR=5.2
TXAR PKP2bc 17 15 22.8
comp=Z,2.2nm,1.0s,baz=321,slow=0.8,SNR=5.2
TXAR PKP2ab 17 15 31.0
comp=Z,3.7nm,1.0s,baz=276,slow=2.4,SNR=9.9
TX31 Lajitas Ar. Si 61.13 325 *e*P P 16 46 01.5 -0.6
TX31 *e*pP pP 16 46 31.7 -0.8
X201 Greenbrier Sit 61.14 338 *e*P P 16 46 01.0 -0.9
comp=Z,133nm,1.0s
LPIG La Paz 61.17 316 P P 16 46 03.0 +0.7
comp=Z,111nm,0.8s,baz=46,slow=2.2,SNR=12
LPIG pP pP 16 46 32.0 -0.7
comp=Z,80nm,0.7s,baz=178,slow=6.1,SNR=1.5
LPIG sP sP 16 46 46.5 0.0
comp=Z,82nm,0.9s,baz=342,slow=4.8,SNR=1.3
V42A Cord 61.27 339 P P 16 46 01.8 -1.0
baz=155,SNR=14
PVMO Portageville 61.28 340 *e*P P 16 46 02.5 -0.2
comp=Z,696nm,0.8s
W40A Ferguson Farm, 61.30 337 P P 16 46 02.9 -0.1
baz=154,SNR=20
Z35A Perchaven, San 61.33 333 P P 16 46 03.3 +0.1
baz=149,SNR=16
SDMD Soldier's Deli 61.37 353 *e*P P 16 46 03.3 -0.1
comp=Z,52nm,1.0s
Y36A Durant 61.41 334 P P 16 46 03.6 -0.2
baz=150,SNR=5.2
133A Hamilton Ranch 61.45 331 P P 16 46 03.7 -0.4
baz=147,SNR=30
X38A Whitesboro 61.50 335 P P 16 46 04.3 0.0
baz=152,SNR=93
V41A Mountainview 61.51 338 P P 16 46 03.4 -1.0
baz=155,SNR=57
PARMO Parma 61.52 341 *e*P P 16 46 04.2 -0.2
W39A Magazine 61.57 336 P P 16 46 04.7 -0.1
baz=153,SNR=124
X37A Clayton 61.64 335 P P 16 46 05.4 +0.1
baz=151,SNR=68
Z34A Collier Ranch, 61.65 332 P P 16 46 05.1 -0.3
baz=149,SNR=31
Y35A Marietta 61.73 333 P P 16 46 05.9 0.0
baz=150,SNR=24
W38A Poteau 61.73 336 P P 16 46 05.9 0.0
baz=152,SNR=50
ABTX Abilene, Hawle 61.79 330 P P 16 46 06.1 -0.3
baz=147,SNR=28
ABTX Abilene, Hawle 61.79 330 *e*P P 16 46 06.0 -0.4
comp=Z,364nm,1.1s
ABTX *e*pP pP 16 46 35.8 -1.0
SNAA Sanae 61.87 161 P P 16 46 05.4 -1.1
SNAA Sanae 61.87 161 *c i*P P 16 46 05.6 -0.8
SNAA Sanae 61.87 161 *e*P P 16 46 05.2 -1.3
comp=Z,299nm,1.0s
MVL Millersville 61.90 353 *e*P P 16 46 07.3 +0.5
comp=Z,110nm,0.9s
Z33A Whitaker Ranch 61.95 331 P P 16 46 07.3 -0.1
baz=148,SNR=36
WCI Wyandotte Cave 62.01 344 *e*P P 16 46 06.2 -1.5
WCI *e**PP pP 16 46 37.0 -1.2
WCI Wyandotte Cave 62.01 344 *e*P P 16 46 06.2 -1.5
WCI *e*pP pP 16 46 37.0 -1.2
X36A Centrahoma 62.02 334 P P 16 46 07.1 -0.7
baz=150,SNR=20
MCWV Mont Chateau 62.04 350 *e*P P 16 46 08.2 +0.3
comp=Z,251nm,0.8s
Y34A Reagan Ranch, 62.08 333 P P 16 46 07.8 -0.5
baz=149,SNR=60
V39A Pettigrew 62.09 337 P P 16 46 07.7 -0.7
baz=153,SNR=163
S45A Carrier Mills 62.11 342 P P 16 46 07.3 -1.0
baz=159,SNR=49
USIN University of 62.12 343 *e*P P 16 46 07.1 -1.4
USIN *e*pP pP 16 46 37.7 -1.2
X35A Drake 62.13 333 P P 16 46 07.7 -0.9
baz=150,SNR=36
W37B Quinton 62.15 335 P P 16 46 08.5 -0.1
baz=151,SNR=34
U40A Yellville 62.27 338 P P 16 46 08.9 -0.6
baz=154,SNR=65
S44A Carbondale 62.33 341 P P 16 46 08.9 -0.9
baz=158,SNR=18
SIUC Southern Illin 62.33 341 *e*P P 16 46 09.2 -0.6
comp=Z,609nm,1.1s
LUPA Lehigh Univers 62.39 354 *e*P P 16 46 10.0 -0.1
comp=Z,60nm,0.9s
V38A Canehill 62.39 336 P P 16 46 09.8 -0.5
baz=152,SNR=77
O56A Blue Knob Stat 62.44 351 P P 16 46 11.3 +0.8
baz=169,SNR=37
CPNY Central Park 62.46 355 *e*P P 16 46 09.9 -0.6
comp=Z,97nm,0.9s
S43A Fulton Ridge, 62.46 341 P P 16 46 09.6 -1.0
baz=157,SNR=64
W36A Wetumka 62.46 334 P P 16 46 09.8 -0.9
baz=151,SNR=22
Y33A Hilltop Ranch, 62.50 332 P P 16 46 10.5 -0.5
baz=148,SNR=18
U39A Green Forest 62.52 337 P P 16 46 10.3 -0.8
baz=154,SNR=62
T41A Mountain View 62.52 339 P P 16 46 10.2 -0.9
baz=155,SNR=52
HHAR Hobbs 62.59 337 *e*P P 16 46 11.0 -0.6
HHAR *e*pP pP 16 46 41.0 -1.1
X34A Smith Ranch, M 62.66 333 P P 16 46 11.9 -0.2
baz=149,SNR=19
PAL Palisades 62.66 355 *e*P P 16 46 11.7 -0.2
PAL pmax pmax
comp=Z,122nm,0.8s
PAL Palisades 62.66 355 *e*P P 16 46 11.7 -0.2
comp=Z,122nm,0.8s
V37A Hulbert 62.69 336 P P 16 46 11.9 -0.4
baz=152,SNR=50
SSPA Spanish Stone 62.71 352 *e*P P 16 46 12.2 0.0
comp=Z,164nm,1.0s
W35A Tecumseh 62.74 334 P P 16 46 11.5 -1.1
baz=150,SNR=19
N59A State Game Lan 62.74 354 P P 16 46 13.3 +0.8
baz=172
R44A Waltonville 62.79 342 P P 16 46 11.8 -1.1
baz=158,SNR=43
T40A Mansfield 62.87 338 P P 16 46 12.7 -0.7
baz=155,SNR=42
U38A Gravette 62.90 337 P P 16 46 13.2 -0.5
baz=153,SNR=18
X33A Lawton 62.90 332 P P 16 46 12.8 -0.9
baz=148,SNR=6.5
YLE Yale 62.91 356 *e*P P 16 46 13.9 +0.3
comp=Z,236nm,0.9s
V36A Jenks 62.91 335 P P 16 46 13.3 -0.4
baz=151,SNR=42
BLO Bloomington 62.96 344 *e*P P 16 46 12.0 -2.0
BLO *e**PP pP 16 46 43.4 -1.1
BLO Bloomington 62.96 344 *e*P P 16 46 11.9 -2.0
BLO *e*pP pP 16 46 43.4 -1.1
OLIL Olney 62.96 343 *e*P P 16 46 12.2 -1.8
OLIL *e*pP pP 16 46 43.0 -1.6
TUL1 Leonard 62.96 335 P P 16 46 13.6 -0.5
baz=151,SNR=17
TUL1 Leonard 62.96 335 *e*P P 16 46 13.1 -1.0
comp=Z,424nm,1.4s
T39A Clever 63.05 338 P P 16 46 14.1 -0.5
baz=154,SNR=44
X32A Elmer 63.14 332 P P 16 46 14.9 -0.4
baz=148,SNR=22
U37A Salina 63.14 336 P P 16 46 14.9 -0.3
baz=152,SNR=40
ACSO Alum Creek Sta 63.17 348 *e*P P 16 46 14.4 -0.9
ACSO *e*pP pP 16 46 45.2 -0.6
W34A Bridge Creek, 63.18 333 P P 16 46 14.7 -0.8
baz=149,SNR=7.3
W34A Bridge Creek, 63.18 333 *e*P P 16 46 14.6 -0.9
comp=Z,94nm,0.8s
WMOK Wichita Mounta 63.19 332 P P 16 46 14.8 -0.8
baz=148,SNR=16
WMOK Wichita Mounta 63.19 332 *e*P P 16 46 14.5 -1.1
WMOK pmax pmax
comp=Z,43nm,0.9s
WMOK Wichita Mounta 63.19 332 *e*P P 16 46 14.4 -1.1
comp=Z,44nm,0.9s
V35A Meyer Ranch, C 63.25 334 P P 16 46 15.1 -0.9
baz=150,SNR=25
S40A Lebanon 63.27 339 P P 16 46 15.5 -0.6
baz=155,SNR=97
N54A Moraine State 63.34 350 P P 16 46 16.5 +0.1
baz=168,SNR=41
U36A Oologah 63.36 336 P P 16 46 16.3 -0.4
baz=151
Q44A Meyer Farm, Va 63.38 342 P P 16 46 15.4 -1.3
baz=158,SNR=36
T38A Diamond 63.39 337 P P 16 46 16.4 -0.4
baz=153,SNR=66
W33A Caddo, Fort Co 63.40 333 P P 16 46 17.0 0.0
baz=148,SNR=46
BRYW Bryant College 63.43 357 *e*P P 16 46 17.1 +0.1
comp=Z,564nm,0.8s
SLM Saint Louis 63.49 341 *e*P P 16 46 16.6 -0.8
SLM *e**PP pP 16 46 46.9 -1.2
SLM Saint Louis 63.49 341 *e*P P 16 46 16.6 -0.8
SLM *e*pP pP 16 46 46.9 -1.2
V34A Guthrie 63.59 334 P P 16 46 17.4 -0.8
baz=150,SNR=14
V34A Guthrie 63.59 334 *e*P P 16 46 17.1 -1.2
comp=Z,248nm,1.1s
Q43A New Douglas 63.61 342 P P 16 46 17.0 -1.3
baz=158,SNR=20
S39A Bolivar 63.63 338 P P 16 46 17.9 -0.6
baz=154,SNR=148
T37A Cheneyville 18 63.70 337 P P 16 46 18.4 -0.4
baz=152,SNR=47
W32A Sentinel 63.71 332 P P 16 46 18.6 -0.4
baz=148,SNR=72
U35A Pawnee 63.73 335 P P 16 46 18.9 -0.3

baz=150,SNR=18
S38A Stockton 63.78 338 P P 16 46 18.8 -0.7
baz=153,SNR=22
R40A Maddies Statio 63.82 339 P P 16 46 18.6 -1.0
baz=155,SNR=76
M54A Oil Creek Stat 63.82 351 P P 16 46 19.5 -0.1
baz=168,SNR=60
QUA2 Belchertown 63.83 357 *e*P P 16 46 19.1 -0.5
comp=Z,68nm,0.9s
Q42A Golden Eagle 63.83 341 P P 16 46 18.6 -1.1
baz=157,SNR=34
BCX Boston College 63.83 358 *e*P P 16 46 20.0 +0.4
comp=Z,93nm,0.8s
WES Weston 63.89 358 *e*P P 16 46 19.3 -0.7
WES *e**PP **pP** 16 46 51.2 +0.6
WES pmax pmax
comp=Z,114nm,0.9s
WES Weston 63.89 358 *e*P P 16 46 19.2 -0.7
comp=Z,114nm,0.9s
WES *e*pP **pP** 16 46 51.2 +0.6
V33A Lossen Ranch, 63.90 333 P P 16 46 19.9 -0.4
baz=149,SNR=18
MNTX Cornudas Mount 63.90 325 P P 16 46 19.5 -0.8
baz=141,SNR=84
MNTX Cornudas Mount 63.90 325 *e*P P 16 46 19.4 -1.0
comp=Z,289nm,1.4s
T36A Boggs Farm, Ca 64.00 336 P P 16 46 20.4 -0.5
baz=151,SNR=19
HRV Adam Dziewonsk 64.02 357 *e*P P 16 46 20.4 -0.4
HRV pmax pmax
comp=Z,137nm,0.9s
HRV Adam Dziewonsk 64.02 357 *e*P P 16 46 20.4 -0.4
comp=Z,137nm,0.9s
ALLY Alegheny Colle 64.03 350 *e*P P 16 46 20.8 -0.2
ALLY *e*pP **pP** 16 46 52.5 +0.9
BINY Binghamton 64.03 354 *e*P P 16 46 21.1 +0.1
comp=Z,309nm,0.8s
R39A Chumby, Stover 64.09 339 P P 16 46 20.8 -0.6
baz=154,SNR=64
U34A Anderson Ranch 64.11 334 P P 16 46 21.3 -0.3
baz=150,SNR=11
U34A Anderson Ranch 64.11 334 *e*P P 16 46 20.9 -0.7
comp=Z,1µm,1.8s
T35A Sooner Cattle 64.12 335 P P 16 46 21.5 -0.2
baz=151,SNR=8.5
V32A Arapaho 64.13 333 P P 16 46 21.7 -0.1
baz=148,SNR=11
S37A Fort Scott 64.23 337 P P 16 46 21.9 -0.5
baz=153,SNR=29
SFIN Lafayette 64.24 344 P P 16 46 20.6 -1.7
baz=161,SNR=18
SFIN Lafayette 64.24 344 *e*P P 16 46 20.5 -1.8
SFIN *e*pP **pP** 16 46 51.5 -1.6
R38A Fenwick Farm, 64.28 338 P P 16 46 22.0 -0.7
baz=154,SNR=67
U33A Lingo Farm, Me 64.35 334 P P 16 46 22.9 -0.3
baz=149,SNR=8.8
TRY Troy 64.36 356 *e*P P 16 46 23.4 +0.3
comp=Z,354nm,0.9s
MSTX Muleshoe 64.38 329 P P 16 46 23.1 -0.5
baz=144,SNR=55
MSTX Muleshoe 64.38 329 *e*P P 16 46 22.9 -0.6
comp=Z,475nm,1.0s
Q40A Laux Farm, Aux 64.39 340 P P 16 46 22.8 -0.6
baz=155,SNR=29
S36A Lake Cedric, C 64.48 336 P P 16 46 23.4 -0.6
baz=152,SNR=20
T34A McClaskey Farm 64.48 335 P P 16 46 23.8 -0.3
baz=150,SNR=17
AMTX Amarillo 64.61 330 P P 16 46 24.3 -0.7
baz=146
AMTX Amarillo 64.61 330 *e*P P 16 46 24.6 -0.4
comp=Z,109nm,0.8s
SRIG Santa Rosalia 64.66 317 *e*P P 16 46 25.6 +0.2
comp=Z,654nm,1.6s
U32A Winter Ranch, 64.67 333 P P 16 46 24.9 -0.4
baz=148,SNR=7.7
P41A Barry, Barry 64.69 341 P P 16 46 24.3 -1.0
baz=157,SNR=26
S35A Otter Creek Ra 64.72 336 P P 16 46 25.1 -0.4
baz=151,SNR=22
R37A Teagarden Farm 64.72 337 P P 16 46 24.9 -0.6
baz=153,SNR=35
Q39A Willow Grove F 64.73 339 P P 16 46 24.8 -0.8
baz=155,SNR=32
P40A Paris 64.87 340 P P 16 46 25.7 -0.8
baz=156,SNR=48
Q38A Cooks Store, C 64.87 338 P P 16 46 26.0 -0.5
baz=154,SNR=75
T33A Patterson Ranc 64.96 334 P P 16 46 26.8 -0.4
baz=149
R36A Gordon, Harris 64.98 337 P P 16 46 26.5 -0.7
baz=152,SNR=22
HDIL Hopedale 64.99 343 P P 16 46 26.0 -1.3
baz=158,SNR=12
HDIL Hopedale 64.99 343 *e*P P 16 46 26.1 -1.1
comp=Z,487nm,1.2s
ACCN Adirondack Com 65.01 356 *e*P P 16 46 27.8 +0.4
comp=Z,112nm,1.0s
S34A Willow Spring 65.04 335 P P 16 46 27.0 -0.6
baz=150,SNR=7.6
O41A Passleys Farm, 65.05 341 P P 16 46 26.5 -1.0
baz=157,SNR=24
P39B Salisbury 65.06 339 P P 16 46 26.9 -0.8
baz=155,SNR=42
HSIG 65.06 319 *e*P P 16 46 28.3 +0.3
comp=Z,235nm,1.2s
Q37A Longview Farm, 65.09 338 P P 16 46 27.0 -0.9
baz=153,SNR=6.8
BUF Buffalo 65.09 352 *e*P P 16 46 27.9 +0.1
R35A Emporia Munici 65.23 336 P P 16 46 28.5 -0.3
baz=151,SNR=9.4
HNH Hanover 65.25 357 *e*P P 16 46 29.4 +0.6
comp=Z,263nm,1.3s
AAM Ann Arbor 65.29 348 *e*P P 16 46 28.6 -0.5
AAM pmax pmax
comp=Z,551nm,1.7s
AAM Ann Arbor 65.29 348 *e*P P 16 46 28.6 -0.5
comp=Z,551nm,1.7s
S33A Kaszmaul Farm, 65.30 334 P P 16 46 29.2 -0.1
baz=150,SNR=8.2
T32A Huddler Ranch, 65.32 333 P P 16 46 29.4 -0.1
baz=149,SNR=11
O40A La Belle 65.35 340 P P 16 46 28.7 -0.8
baz=156,SNR=26
P38A Dawn 65.44 339 P P 16 46 29.4 -0.8
baz=154,SNR=33
Q36A Arnold C. Orve 65.52 337 P P 16 46 29.9 -0.8
baz=152,SNR=7.1
MDV Middlebury 65.59 356 *e*P P 16 46 31.1 +0.1
R34A Isabella, Hill 65.61 335 P P 16 46 31.0 -0.4
baz=150,SNR=15
Q35A Mercer Eighty, 65.64 337 P P 16 46 30.7 -0.8
baz=152,SNR=16
O39A Kirksville 65.69 340 P P 16 46 30.8 -1.0
baz=155,SNR=6.2
P37A Lathrop 65.69 338 P P 16 46 30.9 -0.8
baz=153,SNR=15
S32A Newby Ranch, P 65.77 334 P P 16 46 32.4 0.0
baz=149,SNR=9.3
319A Douglas 65.80 322 *e*P P 16 46 33.5 +0.7
comp=Z,293nm,1.0s
121A Cookes Peak, D 65.83 324 P P 16 46 34.2 +1.1
baz=140,SNR=63
121A Cookes Peak, D 65.83 324 *e*P P 16 46 33.7 +0.7
comp=Z,3µm,2.3s
121A *e*pP **pP** 16 47 03.9 0.0
O38A Galt 65.87 339 P P 16 46 32.1 -0.8
baz=154,SNR=23
R33A Olander Ranch, 65.91 335 P P 16 46 32.6 -0.6
baz=150
P36A Good Intent, A 66.02 338 P P 16 46 32.9 -0.9
baz=153,SNR=17
WVL Waterville 66.02 359 *e*P P 16 46 33.9 +0.2
comp=Z,410nm,1.6s
Q34A Chapman 66.04 336 P P 16 46 33.4 -0.6
baz=151,SNR=8.3
KSU1 Kansas State U 66.07 336 P P 16 46 33.3 -0.9
baz=151,SNR=6.1
KSU1 Kansas State U 66.07 336 *e*P P 16 46 33.8 -0.5
comp=Z,354nm,1.3s
O37A Wolven Farm, M 66.14 339 P P 16 46 33.8 -0.8
baz=154,SNR=11
EMMW East Machias 66.16 1 *e*P P 16 46 34.0 -0.7
comp=Z,92nm,0.9s
P35A Duane Minner, 66.23 337 P P 16 46 34.3 -0.9
baz=152,SNR=15
N39A Derby Farms, D 66.24 340 P P 16 46 34.4 -0.8
baz=155,SNR=19
R32A Long Quarter, 66.30 334 P P 16 46 35.7 0.0
baz=149,SNR=8.2
LONY Lake Ozonia 66.31 355 *e*P P 16 46 35.6 0.0
comp=Z,141nm,0.9s
O36A Bolckow 66.39 338 P P 16 46 35.0 -1.2
baz=153,SNR=10
N38A Joes South For 66.40 340 P P 16 46 35.7 -0.6
baz=155,SNR=11
NVL N'lazarevskaya 66.41 159⇑ *i*P P 16 46 37.7 +1.7
NVL *e**PP **PcP** 16 47 04.3 -0.4
NVL *e*S **S** 16 55 18.3 +2.6
NVL *e*SSS SSS 17 02 44.9
Q33A Connelly Farm, 66.45 335 P P 16 46 36.6 0.0
baz=150,SNR=8.0
FRNY Flat Rock 66.45 356 *e*P P 16 46 36.6 +0.1
comp=Z,97nm,0.9s
BNM Barren Site 66.46 326 *e*P P 16 46 37.7 +0.6
P34A Walnut Farm, R 66.54 336 P P 16 46 36.9 -0.3
baz=151,SNR=24
Y22D IRIS PASSCAL I 66.56 326 P P 16 46 38.7 +1.1
baz=141
Y22D IRIS PASSCAL I 66.56 326 *e*P P 16 46 37.1 -0.5
comp=Z,321nm,1.3s
LPM Los Pinos Moun 66.59 326 *e*P P 16 46 38.0 +0.2
N37A Lee Faris, Mou 66.69 339 P P 16 46 37.6 -0.5
baz=154,SNR=17
PKME Peaks-Kenny Pk 66.72 359 *e*P P 16 46 38.3 +0.2
comp=Z,150nm,0.9s
Q32A Meitler Ranch, 66.72 335 P P 16 46 38.0 -0.5
baz=149,SNR=9.7
L41A Preston 66.74 342 P P 16 46 37.4 -1.0
baz=158,SNR=26
P33A Williams Farm, 66.77 336 P P 16 46 38.4 -0.3
baz=150
O35A Humboldt 66.84 337 P P 16 46 37.6 -1.4
baz=152
LAZ Ladron 66.92 326 *e*P P 16 46 40.5 +0.5
SADO Sadowa 66.94 352 LR LR 17 18 25.0
comp=Z,11µm,20.1s,baz=182,slow=38
SADO Sadowa 66.94 352 *e*P P 16 46 38.9 -0.7
SADO *e*pP **pP** 16 47 10.2 -0.3
M38A Pleasantville 66.95 340 P P 16 46 39.1 -0.7
baz=155,SNR=26
ANMO Albuquerque 66.99 327 P P 16 46 41.2 +0.7
baz=141
ANMO Albuquerque 66.99 327 *d i*P P 16 46 40.8 +0.4
ANMO pmax pmax
comp=Z,364nm,1.7s
ANMO Albuquerque 66.99 327 *e*P P 16 46 40.8 +0.4
comp=Z,97nm,0.9s
N36A Muff Farm, Cla 66.99 338 P P 16 46 39.5 -0.5
baz=153,SNR=7.2
O34A Beatrice 67.05 337 P P 16 46 39.9 -0.5
baz=151,SNR=18
CBKS Cedar Bluff 67.05 334 P P 16 46 40.5 +0.1
baz=148,SNR=31
CBKS Cedar Bluff 67.05 334 *e*P P 16 46 40.6 +0.1
CBKS pmax pmax
comp=Z,424nm,1.0s
CBKS Cedar Bluff 67.05 334 *e*P P 16 46 40.6 +0.1
comp=Z,424nm,1.0s
M37A Trindle Farm, 67.22 339 P P 16 46 41.0 -0.4
baz=154,SNR=27
L39A Vinton 67.22 341 P P 16 46 40.8 -0.7
baz=156,SNR=32
N35A Tabor 67.27 338 P P 16 46 41.0 -0.8
baz=152,SNR=9.9
P32A Huiting Farm, 67.28 335 P P 16 46 41.6 -0.4
baz=149
O33A Hebron 67.29 336 P P 16 46 41.6 -0.3
baz=150
TUC Tucson 67.35 322 P P 16 46 43.4 +0.8
baz=137
TUC Tucson 67.35 322 *e*P P 16 46 43.2 +0.6
TUC pmax pmax
comp=Z,266nm,1.3s
TUC Tucson 67.35 322 *e*P P 16 46 43.1 +0.6
comp=Z,266nm,1.3s
LMN Caledonia Moun 67.38 3 *e*P P 16 46 42.1 -0.2
comp=Z,127nm,0.8s
SCIA State Center 67.40 340 *e*P P 16 46 42.3 -0.2
comp=Z,357nm,0.9s
JFWS Jewell Farm 67.44 343 *e*P P 16 46 41.9 -1.0
JFWS pmax pmax
comp=Z,214nm,0.8s
JFWS Jewell Farm 67.44 343 *e*P P 16 46 41.9 -1.0
comp=Z,214nm,0.8s
K40A Colesburg 67.50 342 P P 16 46 42.4 -0.8
baz=157,SNR=44
M36A Felix, Anita 67.51 339 P P 16 46 42.6 -0.7
baz=153,SNR=11
L38A Oak Wood Farm, 67.53 340 P P 16 46 42.6 -0.8
baz=155,SNR=26
N34A Lincoln 67.55 337 P P 16 46 42.9 -0.7
baz=152,SNR=20
O32A Brookman Farm, 67.71 336 P P 16 46 44.1 -0.5
baz=150,SNR=7.8
K39A Oelwein 67.72 341 P P 16 46 43.9 -0.7
baz=156,SNR=40
T25A Trinidad 67.72 329 P P 16 46 45.9 +0.9
baz=144,SNR=52
T25A Trinidad 67.72 329 *e*P P 16 46 45.3 +0.3
comp=Z,855nm,2.0s
L37A Phoenix Point, 67.77 340 P P 16 46 44.2 -0.7
baz=154,SNR=20
N33A J Bar K, Exete 67.81 337 P P 16 46 44.8 -0.4
baz=151
M35A Neola 67.82 338 P P 16 46 44.7 -0.6
baz=152
TRQ Mont Tremblant 67.90 355 *e*P P 16 46 45.6 -0.1
TRQ *e*pP **pP** 16 47 17.7 +1.0
K38A Parkersburg 67.93 341 P P 16 46 45.2 -0.7
baz=155,SNR=16
LIC Lamto 67.99 73 *e*P P 16 46 45.9 -1.0
comp=Z,1µm,1.4s
O31A Woolen Ranch, 68.03 335 P P 16 46 46.2 -0.4
baz=149,SNR=5.1
L36A Harm Buss Farm 68.04 339 P P 16 46 46.0 -0.7
baz=154,SNR=15
N32A Stulken Farm, 68.15 336 P P 16 46 46.8 -0.6
baz=150
M34A Aspy Farms, Fr 68.17 338 P P 16 46 46.8 -0.7
baz=152,SNR=5.8
TIC Toumodi 68.19 73 *e*P P 16 47 47.2 -1.0
J39A Decorah 68.25 342 P P 16 46 47.0 -0.9
baz=157,SNR=25
214A Organ Pipe Nat 68.28 320 P P 16 46 49.6 +1.2
baz=136,SNR=180
214A Organ Pipe Nat 68.28 320 *e*P P 16 46 49.1 +0.7
comp=Z,1µm,1.0s
KIC Kosan Boka 68.31 73 *e*P P 16 46 48.1 -0.8
comp=Z,2µm,1.0s
K37A Belmond 68.31 340 P P 16 46 47.2 -1.0
baz=155,SNR=25
DBIC Dimbokro 68.34 73 P P 16 46 48.3 -0.8
comp=Z,2µm,0.9s,baz=220,slow=6.4,SNR=299
DBIC pP **pP** 16 47 19.3 -0.8
comp=Z,238nm,1.0s,baz=216,slow=10.0,SNR=1.9
DBIC sP **sP** 16 47 34.2 +0.5
comp=Z,127nm,0.8s,baz=358,slow=12,SNR=0.8
DBIC S **S** 16 55 39.4 -1.2
comp=Z,56nm,1.1s,baz=96,slow=20,SNR=17
DBIC LR LR 17 15 22.2
comp=Z,9µm,21.3s,baz=236,slow=35
DBIC Dimbokro 68.34 73 P P 16 46 48.3 -0.8
DBIC *PP **pP** 16 47 19.3 -0.8
DBIC *SP **sP** 16 47 34.2 +0.5
DBIC S **S** 16 55 39.4 -1.2
DBIC pmax pmax
comp=Z,201nm,0.7s
DBIC pmax pmax
comp=Z,127nm,0.8s
DBIC smax smax
comp=N,56nm,1.1s
DBIC MLR MLR
comp=Z,9µm,21.3s
DBIC Dimbokro 68.34 73 *e*P P 16 46 48.3 -0.8
comp=Z,3µm,1.1s
DBIC pP **pP** 16 47 19.3 -0.8
DBIC sP **sP** 16 47 34.2 +0.5
DBIC S **S** 16 55 39.4 -1.2
L35A Bielow Farm, R 68.35 339 P P 16 46 47.7 -0.8
baz=153,SNR=13
KSCO Kaye Shedlock' 68.44 332 P P 16 46 49.7 +0.4
baz=146,SNR=15
KSCO Kaye Shedlock' 68.44 332 *e*P P 16 46 49.8 +0.4
comp=Z,655nm,1.4s
M33A Taylor Creek F 68.45 337 P P 16 46 48.5 -0.7
baz=151,SNR=9.7
J38A Wedel Dairy, R 68.45 341 P P 16 46 47.9 -1.2
baz=156,SNR=29
N31A Bailey Ranch, 68.46 335 P P 16 46 49.5 +0.2
baz=149
L34A Svendsen Farm, 68.50 338 P P 16 46 48.9 -0.7
baz=152,SNR=6.6
X18A Snowflake 68.52 324 *e*P P 16 46 50.8 +0.8
comp=Z,236nm,1.1s
BGNE Belgrade 68.66 336 P P 16 46 50.1 -0.4
baz=150,SNR=30
BGNE Belgrade 68.66 336 *e*P P 16 46 50.1 -0.4
comp=Z,1µm,1.0s
SDCO Great Sand Dun 68.73 329 P P 16 46 52.1 +0.8
baz=143,SNR=197
SDCO Great Sand Dun 68.73 329 *e*P P 16 46 51.8 +0.5
comp=Z,410nm,1.4s
J37A Redenius Farm, 68.78 341 P P 16 46 50.2 -0.9
baz=155,SNR=18
K35A Storm Lake 68.78 339 P P 16 46 50.9 -0.4
baz=153
W18A Petrified Fore 68.85 324 P P 16 46 53.1 +1.1
baz=139,SNR=49
W18A Petrified Fore 68.85 324 *e*P P 16 46 52.8 +0.8
comp=Z,304nm,1.0s
M31A Lambtecht Ranc 68.91 336 P P 16 46 52.1 0.0
baz=150,SNR=11
L33A Hoskins 69.00 337 P P 16 46 51.7 -0.9
baz=151
LMQ La Malbaie 69.02 359 *e*P P 16 46 52.6 0.0
J36A Seneca 1, Swea 69.04 340 P P 16 46 51.9 -0.9
baz=154,SNR=15
K34A Le Mars 69.04 338 P P 16 46 52.3 -0.5
baz=152
I38A Scanlan Farm, 69.07 342 P P 16 46 52.2 -0.8
baz=156,SNR=38
L32A Elgin 69.12 337 P P 16 46 52.7 -0.7
baz=150
X16A Lo Mia Camp, P 69.27 323 *e*P P 16 46 55.8 +1.1
comp=Z,214nm,0.9s
K33A Hardington 69.28 338 P P 16 46 54.0 -0.3
baz=152
J35A Milford 69.35 339 P P 16 46 53.9 -0.8
baz=153
I37A Lemond, Waseca 69.37 341 P P 16 46 54.2 -0.5
baz=155,SNR=22
S22A 4UR Ranch, Cre 69.37 328 P P 16 46 56.1 +0.8
baz=142,SNR=37
S22A 4UR Ranch, Cre 69.37 328 *e*P P 16 46 55.6 +0.3
comp=Z,493nm,2.0s
113A Mohawk Valley, 69.43 320 *e*P P 16 46 56.3 +0.9
comp=Z,104nm,1.0s
J34A George 69.53 339 P P 16 46 55.1 -0.7
baz=153
Q24A Divide 69.54 330 P P 16 46 56.8 +0.5
baz=144,SNR=120
Q24A Divide 69.54 330 *e*P P 16 46 56.9 +0.5
Q24A *e*pP **pP** 16 47 27.5 +0.1
I36A Fitzsimmons Fa 69.56 341 P P 16 46 54.9 -1.0
baz=154
L31A Butterfield Fa 69.58 336 P P 16 46 56.2 0.0
baz=150,SNR=14
K32A Verdigre 69.68 337 P P 16 46 55.9 -0.9
baz=151
I35A Creekview Farm 69.72 340 P P 16 46 56.1 -0.8
baz=154,SNR=24
H37A Dierke Farm, C 69.74 342 P P 16 46 56.4 -0.6
baz=156,SNR=7.8
MVCO Mesa Verde 69.79 327 P P 16 46 58.4 +0.6
baz=140,SNR=113
MVCO Mesa Verde 69.79 327 *e*P P 16 46 58.2 +0.3
comp=Z,1µm,1.9s
MVCO *e*pP **pP** 16 47 29.1 +0.1
OGNE Ogallala 69.79 333 P P 16 46 57.9 +0.3
baz=147
OGNE Ogallala 69.79 333 *e*P P 16 46 57.7 +0.1
comp=Z,194nm,0.8s
OGNE *e*PcP **PcP** 16 47 21.8 +2.4
Y14A Wickenburg 69.81 322 *e*P P 16 46 58.7 +0.8
comp=Z,654nm,0.9s
TAOE Nuku Hiva Isla 69.89 268 *e*P P 16 46 59.7 +0.9
comp=Z,810nm,1.2s
TAOE *e*S **S** 16 55 57.4 -1.6
comp=Z,7µm,24.9s
TAOE *e*LQ LQ 17 04 55.6
comp=Z,9µm,25.2s
TAOE *e*LR LR 17 07 47.7
comp=Z,15µm,31.2s
TAOE Nuku Hiva Isla 69.89 268 *e*P P 16 46 59.2 +0.4
comp=Z,413nm,1.2s
J33A Davis 69.90 338 P P 16 46 57.2 -0.9
baz=152,SNR=25
K31A O'Neill 69.93 337 P P 16 46 58.1 -0.2
baz=150,SNR=9.3
H36A Jessenland, He 70.04 341 P P 16 46 58.1 -0.8
baz=155,SNR=7.9
WUAZ Wupatki 70.04 324 P P 16 47 00.7 +1.3
baz=138,SNR=253
WUAZ Wupatki 70.04 324 *e*P P 16 47 00.3 +1.0
comp=Z,411nm,0.9s
WUAZ *e*pP **pP** 16 47 31.4 +1.0
H07S1 FLORES T-PHASE 70.06 30 *e*P P 16 47 01.0 +1.8
H07S1 *e*pP **pP** 16 47 32.7 +2.4
COWI Conover 70.12 345 *e*P P 16 46 58.7 -0.7
comp=Z,485nm,1.6s
ECSD EROS Data Cent 70.15 339 P P 16 46 59.1 -0.5
baz=152,SNR=54
ECSD EROS Data Cent 70.15 339 *e*P P 16 46 58.8 -0.8
comp=Z,330nm,1.4s
I34A Hadley 70.17 339 P P 16 46 59.0 -0.7
baz=153
J32A Parkston 70.26 338 P P 16 46 59.6 -0.6
baz=151,SNR=8.3
GLA Glamis 70.26 320 P P 16 47 01.6 +1.1
baz=134,SNR=44
GLA Glamis 70.26 320 *e*P P 16 47 01.3 +0.7
GLA pmax pmax
comp=Z,230nm,1.1s
GLA Glamis 70.26 320 *e*P P 16 47 01.2 +0.7
comp=Z,230nm,1.1s
SPMN Marine on St. 70.29 342 P P 16 46 59.5 -0.9
baz=156,SNR=6.4
SPMN Marine on St. 70.29 342 *e*P P 16 47 00.1 -0.3
comp=Z,737nm,1.8s
K30A Basset 70.30 336 P P 16 47 00.3 -0.3
baz=149,SNR=12
H07N1 FLORES T-PHASE 70.35 30 *e*P P 16 47 03.3 +2.4
ISCO Idaho Springs 70.42 330 P P 16 47 02.3 +0.6
baz=143,SNR=71
ISCO Idaho Springs 70.42 330 *e*P P 16 47 02.2 +0.4
ISCO *e**PP **pP** 16 47 33.2 +0.3
ISCO Idaho Springs 70.42 330 *e*P P 16 47 02.2 +0.4
ISCO *e*pP **pP** 16 47 33.1 +0.3
H35A Sunnyside Ranc 70.42 340 P P 16 47 00.2 -1.0
baz=154,SNR=28
I33A Coleman 70.49 339 P P 16 47 01.0 -0.6
baz=152,SNR=8.4
J31A Geddes 70.51 337 P P 16 47 01.0 -0.8
baz=150
PV01 Paradox Valley 70.54 327 *e*P P 16 47 03.0 +0.6
SMCO Snowmass 70.57 329 *e*P P 16 47 03.3 +0.5
comp=Z,478nm,1.8s
Y12C Blythe 70.57 320 P P 16 47 03.5 +1.2
baz=135,SNR=65
Y12C Blythe 70.57 320 *e*P P 16 47 03.4 +1.0
comp=Z,299nm,1.0s
G36A St. Michael 70.58 341 P P 16 47 01.5 -0.7
baz=155,SNR=7.9
PCAN Candelaria 70.65 32 *e*P P 16 47 04.5 +1.8
comp=Z,185nm,1.3s
PCAN *e*pP **pP** 16 47 34.9 +1.0
PCED Cedros 70.67 32 *e*P P 16 47 04.5 +1.7
comp=Z,184nm,1.1s
PCED *e*pP **pP** 16 47 35.8 +1.8
I32A Karley and Nic 70.70 338 P P 16 47 02.4 -0.5
baz=151,SNR=6.3
H34A Spellman Lake, 70.70 340 P P 16 47 02.2 -0.7
baz=153,SNR=10.0
PICO Pico 70.70 32 *e*P P 16 47 06.1 +2.9
comp=Z,273nm,1.4s
PICO *e*pP **pP** 16 47 35.1 +0.8
PDMCI Parker Dam,Lak 70.73 321 P P 16 47 04.3 +1.0
baz=135,SNR=38
PV05 Paradox Valley 70.76 327 *e*P P 16 47 04.0 +0.3
PV05 *e*pP **pP** 16 47 34.7 -0.2

IKP	**In-Ko-Pah, Jac**	70.76	319	P		P	16 47 05.0	+1.3
	baz=133,SNR=73							
PPNO	**Prainha do Nor**	70.76	32	*e*P		P	16 47 06.1	+2.6
	comp=Z,281nm,2.1s							
PPNO				*e*pP		pP	16 47 36.2	+1.5
SWSC	**Sam W. Stewart**	70.78	319	P		P	16 47 04.6	+1.0
	baz=134,SNR=18							
G35A	**Watkins**	70.79	341	P		P	16 47 02.6	-0.8
	baz=154							
J30A	**Dallas**	70.81	336	P		P	16 47 03.2	-0.5
	baz=149,SNR=18							
PV04	**Paradox Valley**	70.90	327	*e*P		P	16 47 04.9	+0.3
PV10	**Paradox Valley**	70.96	327	*e*P		P	16 47 05.9	+0.9
ROSA	**Rosais**	70.97	32	*e*P		P	16 47 04.0	-0.7
	comp=Z,280nm,1.1s							
ROSA				*e*pP		pP	16 47 36.4	+0.5
ROSA	**Rosais**	70.97	32	*e*P		P	16 47 05.9	+1.2
	comp=Z,204nm,1.0s							
PMAN	**Manadas**	70.97	32	*e*P		P	16 47 08.7	+4.0
	comp=Z,259nm,1.4s							
PMAN				*e*pP		pP	16 47 36.8	+0.9
H33A	**Prehn Over Nor**	71.03	339	P		P	16 47 04.4	-0.5
	baz=152,SNR=32							
BC3	**Big Chuckawall**	71.06	320	P		P	16 47 06.7	+1.2
	baz=134,SNR=66							
I31A	**Royce, Wessing**	71.07	337	P		P	16 47 04.7	-0.5
	baz=150							
F36A	**Milaca**	71.08	342	P		P	16 47 04.2	-1.0
	baz=155,SNR=36							
PV09	**Paradox Valley**	71.10	327	*e*P		P	16 47 06.5	+0.7
H32A	**Carlson Farm,**	71.11	338	P		P	16 47 04.7	-0.7
	baz=151,SNR=14							
MONP2	**Monument Peak**	71.12	319	P		P	16 47 07.1	+1.1
	baz=133,SNR=79							
BAR	**Barrett**	71.13	318	*e*P		P	16 47 06.5	+0.7
	comp=Z,207nm,0.9s							
W13A	**Hualapai Mount**	71.15	322	*e*P		P	16 47 07.3	+1.2
	comp=Z,124nm,0.8s							
G34A	**Benson**	71.17	340	P		P	16 47 04.9	-0.8
	baz=153							
U15A	**North Rim**	71.21	324	*e*P		P	16 47 08.0	+1.4
	comp=Z,297nm,0.9s							
IRM	**Iron Mountain**	71.22	320	P		P	16 47 07.5	+1.1
	baz=134,SNR=158							
PSMA	**Santa Maria**	71.27	35	*e*P		P	16 47 09.1	+2.6
	comp=Z,110nm,1.2s							
PSMA				*e*pP		pP	16 47 36.8	-0.9
I30A	**Oacoma**	71.30	337	P		P	16 47 05.9	-0.7
	baz=150							
PSMN	**Pico do Norte,**	71.31	35	*e*P		P	16 47 08.0	+1.2
	comp=Z,92nm,1.4s							
PSMN				*e*pP		pP	16 47 38.0	0.0
PGRA	**Graciosa**	71.33	32	*e*P		P	16 47 08.7	+1.8
	comp=Z,215nm,1.4s							
PGRA				*e*pP		pP	16 47 38.0	-0.1
NEE2	**Needles Airpor**	71.34	321	P		P	16 47 08.1	+1.1
	baz=135,SNR=19							
DRLN	**Deer Lake**	71.37	7	*e*P		P	16 47 06.6	-0.2
	comp=Z,196nm,0.9s							
G33A	**Ortonville**	71.38	339	P		P	16 47 05.8	-1.2
	baz=152							
F35A	**Swanville**	71.39	341	P		P	16 47 06.1	-0.9
	baz=154,SNR=9.3							
E37A	**Wrenshall**	71.41	343	P		P	16 47 06.1	-1.0
	baz=156							
ADH	**Angra Heroismo**	71.42	33	*e*P		P	16 47 11.3	+3.9
	comp=Z,137nm,0.9s							
H31A	**Wolsey**	71.44	338	P		P	16 47 06.5	-0.9
	baz=150							
N23A	**Red Feather La**	71.45	331	P		P	16 47 08.5	+0.7
	baz=143,SNR=69							
N23A	**Red Feather La**	71.45	331	*e*P		P	16 47 08.3	+0.4
	comp=Z,177nm,1.0s							
109C	**Camp Elliot, M**	71.54	318	P		P	16 47 09.1	+0.8
	baz=132,SNR=6.2							
F34A	**Alexandria**	71.54	341	P		P	16 47 07.5	-0.5
	baz=154							
PDA	**Ponta Delgada**	71.55	35	*e*P		P	16 47 10.7	+2.6
	comp=Z,263nm,1.6s							
PHWY	**Pilot Hill**	71.56	331	*e*P		P	16 47 08.7	+0.1
	comp=Z,404nm,1.6s							
PSET	**Sete Cidades**	71.57	34	*e*P		P	16 47 09.6	+1.2
	comp=Z,323nm,1.0s							
PSET				*e*pP		pP	16 47 41.1	+1.5
SUSD	**Miller**	71.58	337	P		P	16 47 07.7	-0.6
	baz=150							
E36A	**McGregor**	71.60	342	P		P	16 47 07.5	-0.8
	baz=156,SNR=34							
BELC	**Belle Mtn. Jos**	71.62	320	P		P	16 47 09.9	+1.1
	baz=134,SNR=86							
TPFO	**Pinon Flats**	71.63	319	P		P	16 47 10.0	+1.0
	baz=133,SNR=77							
CMLA	**Cha da Macela**	71.63	35	*i* P		P	16 47 11.3	+2.6
CMLA	**Cha da Macela**	71.63	35	*e*P		P	16 47 09.7	+1.0
	comp=Z,256nm,1.4s							
CMLA				*e*pP		pP	16 47 39.4	-0.5
CMLA	**Cha da Macela**	71.63	35	*e*P		P	16 47 09.7	+1.0
	comp=Z,93nm,0.8s							
PFO	**Pinyon Flats O**	71.63	319	LR		LR	17 16 43.9	
	comp=Z,2µm,19.7s,baz=129,slow=34							
PFO	**Pinyon Flats O**	71.63	319	P		P	16 47 10.0	+1.1
	baz=133,SNR=84							
PFO	**Pinyon Flats O**	71.63	319	*e*P		P	16 47 09.5	+0.6
PFO					pmax	pmax		
	comp=Z,126nm,1.0s							
PFO	**Pinyon Flats O**	71.63	319	*e*P		P	16 47 09.5	+0.6
	comp=Z,126nm,1.0s							
PCALD	**Caldeiras da R**	71.68	35	*e*P		P	16 47 11.1	+2.1
	comp=Z,175nm,0.9s							
PCALD				*e*pP		pP	16 47 41.9	+1.7
G32A	**Webster**	71.79	339	P		P	16 47 08.4	-1.1
	baz=152							
BART	**Pico Bartolome**	71.83	35	*e*P		P	16 47 11.9	+1.9
	comp=Z,225nm,1.0s							
LDFC	**Landfair**	71.84	321	*e*P		P	16 47 11.8	+1.7
	comp=Z,316nm,1.0s							
F33A	**5 Mile Ranch,**	71.91	340	P		P	16 47 09.4	-0.7
	baz=153,SNR=16							
O20A	**White River Ci**	71.92	329	P		P	16 47 11.7	+1.0
	baz=141,SNR=111							
O20A	**White River Ci**	71.92	329	*e*P		P	16 47 11.2	+0.6
	comp=Z,240nm,0.8s							
KNB	**Kanab**	71.93	324	*e*P		P	16 47 12.0	+1.3
KNB					pmax	pmax		
	comp=Z,595nm,1.0s							
KNB	**Kanab**	71.93	324	*e*P		P	16 47 12.0	+1.3
	comp=Z,595nm,1.0s							
D37A	**Cotton**	71.95	343	P		P	16 47 09.9	-0.5
	baz=156,SNR=24							
PKCU	**Pink Cliffs**	71.97	325	*e*P		P	16 47 11.9	+0.8
	comp=Z,460nm,1.7s							
E35A	**Pequot Lakes**	71.97	341	P		P	16 47 09.8	-0.7
	baz=154,SNR=7.5							
C39A	**Grand Marais**	71.97	345	P		P	16 47 09.6	-0.8
	baz=159,SNR=38							
G31A	**Conde**	72.00	338	P		P	16 47 09.4	-1.3
	baz=151							
MURC	**Murrieta**	72.07	319	P		P	16 47 12.5	+1.0
	baz=133,SNR=29							
E34A	**Wadena**	72.16	341	P		P	16 47 10.8	-0.8
	baz=154							
LCMT	**Little Creek M**	72.16	324	*e*P		P	16 47 13.2	+1.1
	comp=Z,185nm,0.9s							
C38A	**Sawbill Land.**	72.17	344	P		P	16 47 10.7	-1.0
	baz=158,SNR=22							
D36A	**Goodland**	72.17	343	P		P	16 47 10.8	-0.9
	baz=156,SNR=9.0							
H29A	**Onida**	72.19	337	P		P	16 47 11.4	-0.5
	baz=149							
F32A	**Veblen**	72.20	339	P		P	16 47 10.5	-1.4
	baz=152							
G30A	**Faulkton**	72.24	338	P		P	16 47 11.7	-0.4
	baz=150,SNR=24							
SRU	**San Rafael Swe**	72.27	327	*e*P		P	16 47 13.1	+0.4
SRU				*e**PP		pP	16 47 44.9	+0.9
SRU					pmax	pmax		
	comp=Z,299nm,0.8s							
SRU	**San Rafael Swe**	72.27	327	*e*P		P	16 47 13.1	+0.4
	comp=Z,299nm,0.8s							
SRU				*e*pP		pP	16 47 44.9	+0.9
MTPU	**Mount Pierson**	72.34	325	*e*P		P	16 47 14.2	+0.9
	comp=Z,155nm,0.8s							
MTPU				*e*pP		pP	16 47 45.7	+1.1
D35A	**Remer**	72.34	342	P		P	16 47 12.0	-0.7
	baz=155,SNR=11							
BBRC	**Big Bear Solar**	72.36	319	P		P	16 47 14.8	+1.4
	baz=133,SNR=8.5							
HEC	**Hector,Ludlow**	72.39	320	P		P	16 47 14.9	+1.5
	baz=134,SNR=74							
E33A	**Westby DABS, E**	72.41	340	P		P	16 47 12.2	-1.0
	baz=153							
C37A	**Embarrass**	72.41	343	P		P	16 47 12.2	-0.9
	baz=157,SNR=31							
EYMN	**Ely**	72.44	344	P		P	16 47 12.5	-0.8
	baz=157,SNR=22							
EYMN	**Ely**	72.44	344	*e*P		P	16 47 12.3	-0.9
	comp=Z,170nm,0.9s							
SCI2	**San Clemente I**	72.50	317	P		P	16 47 14.6	+0.7
	baz=132,SNR=15							
P18A	**Preston Nutter**	72.52	327	*e*P		P	16 47 15.4	+1.0
	comp=Z,275nm,0.8s							
TUQ	**Turquoise Moun**	72.57	321	P		P	16 47 15.6	+1.1
	baz=134,SNR=116							
F31A	**Hecla**	72.57	339	P		P	16 47 13.5	-0.6
	baz=151,SNR=20							
G29A	**Hoven**	72.58	337	P		P	16 47 13.6	-0.6
	baz=149							
CCUT	**Cedar City**	72.61	324	*e*P		P	16 47 16.3	+1.4
	comp=Z,412nm,0.9s							
C36A	**Pine Crest Far**	72.62	343	P		P	16 47 13.5	-0.8
	baz=156,SNR=55							
P17A	**Butcher Ranch,**	72.65	327	*e*P		P	16 47 15.6	+0.6
	comp=Z,330nm,0.9s							
MSU	**Marysvale**	72.68	325	*e*P		P	16 47 16.3	+1.1
MSU	**Marysvale**	72.68	325	*e*P		P	16 47 16.3	+1.1
D34A	**Park Rapids**	72.68	341	P		P	16 47 13.8	-0.9
	baz=154,SNR=11							
TMUT	**Trail Mountain**	72.76	326	*e*P		P	16 47 16.3	+0.5
	comp=Z,183nm,1.0s							
BFSC	**Mount Baldy Ra**	72.79	319	P		P	16 47 16.6	+0.8
	baz=132,SNR=49							
RRX	**Edison Barstow**	72.82	320	P		P	16 47 17.4	+1.6
	baz=133							
E32A	**Bradlee, Kindr**	72.83	340	P		P	16 47 15.0	-0.6
	baz=152							
FMP	**Fort Macarthur**	72.83	318	P		P	16 47 16.9	+1.1
	baz=132							
SHPR	**Sheep Range**	72.87	322	*e*P		P	16 47 17.6	+1.2
	comp=Z,149nm,0.9s							
C35A	**Jirik Farms, M**	72.88	342	P		P	16 47 15.1	-0.8
	baz=155,SNR=65							
D33A	**AnnSam, Waubun**	72.93	341	P		P	16 47 15.5	-0.7
	baz=153							
SNO	**Snow College**	72.94	326	*e*P		P	16 47 18.1	+1.3
GSC	**Goldstone, Bar**	73.00	320	P		P	16 47 18.2	+1.2
	baz=133,SNR=93							
GSC	**Goldstone, Bar**	73.00	320	*e*P		P	16 47 17.8	+0.8
GSC					pmax	pmax		
	comp=Z,120nm,0.9s							
GSC	**Goldstone, Bar**	73.00	320	*e*P		P	16 47 17.8	+0.8
	comp=Z,120nm,0.9s							
MWC	**Mount Wilson**	73.02	319	*e*P		P	16 47 17.7	+0.4
MWC				*e**PP		pP	16 47 49.3	+0.7
MWC					pmax	pmax		
	comp=Z,144nm,0.8s							
MWC	**Mount Wilson**	73.02	319	*e*P		P	16 47 17.7	+0.4
	comp=Z,144nm,0.8s							
MWC				*e*pP		pP	16 47 49.3	+0.7
PMOZ	**Porto Moniz, M**	73.04	43	*e*P		P	16 47 17.4	+0.1
	comp=Z,222nm,1.4s							
PMOZ				*e*pP		pP	16 47 51.2	+2.5
PMOZ	**Porto Moniz, M**	73.04	43	*e*PP		PP	16 49 59.3	-2.6
PMOZ				*e*S		SKiKP	16 56 36.8	-0.6
E31A	**Nome**	73.06	339	P		P	16 47 16.6	-0.4
	baz=151,SNR=14							
PASC	**Pasadena Art C**	73.07	319	*e*P		P	16 47 17.8	+0.5
	comp=Z,221nm,1.0s							
PASC				*e*pP		pP	16 47 49.6	+0.9
F29A	**Eureka**	73.09	338	P		P	16 47 16.7	-0.5
	baz=150,SNR=12							
SHOC	**Shoshone, Teco**	73.10	321	P		P	16 47 18.6	+1.1
	baz=134,SNR=8.1							
C34A	**RKJ Ranch, Bem**	73.11	342	P		P	16 47 16.5	-0.7
	baz=154							
K22A	**Casper**	73.12	332	P		P	16 47 18.3	+0.7
	baz=143,SNR=68							
K22A	**Casper**	73.12	332	*e*P		P	16 47 17.8	+0.2
	comp=Z,464nm,1.6s							
FUL	**Funchal**	73.12	44	*e*P		P	16 47 19.3	+1.7
	comp=Z,370nm,1.9s							
PMAR	**Madeira**	73.16	44	*e*P		P	16 47 18.9	+0.8
	comp=Z,424nm,1.7s							
PMAR				*e*pP		pP	16 47 52.2	+2.7
DECC	**Green Verdugo**	73.21	319	P		P	16 47 19.3	+1.1
	baz=132,SNR=14							
RSSD	**Black Hills**	73.25	334	P		P	16 47 18.9	+0.4
	baz=146							
RSSD	**Black Hills**	73.25	334	*e*P		P	16 47 18.6	+0.1
RSSD					pmax	pmax		
	comp=Z,123nm,1.0s							
RSSD	**Black Hills**	73.25	334	*e*P		P	16 47 18.6	+0.1
	comp=Z,123nm,1.0s							
D32A	**Dogwood Acres,**	73.29	340	P		P	16 47 17.8	-0.5
	baz=152,SNR=13							
SNCC	**San Nicolas Is**	73.29	317	P		P	16 47 19.5	+0.9
	baz=131,SNR=12							
SNCC	**San Nicolas Is**	73.29	317	*e*P		P	16 47 19.2	+0.6
	comp=Z,184nm,1.0s							
E30A	**Jud**	73.36	339	P		P	16 47 18.5	-0.2
	baz=150,SNR=5.8							
B35A	**Bob, Littlefor**	73.41	343	P		P	16 47 18.4	-0.6
	baz=155,SNR=43							
D31A	**Mcclaflin, Tow**	73.44	340	P		P	16 47 18.2	-1.0
	baz=152							
C33A	**Trail**	73.46	341	P		P	16 47 18.7	-0.6
	baz=153,SNR=5.5							
H25A	**Fruitdale**	73.49	335	P		P	16 47 20.1	+0.4
	baz=146,SNR=15							
MPU	**Maple Canyon**	73.51	327	*e*P		P	16 47 20.7	+0.6
	comp=Z,185nm,0.9s							
BLG	**Laguna Peak, P**	73.57	318	P		P	16 47 21.2	+0.9
	baz=131,SNR=33							
PSUT	**Pine Spring**	73.59	324	*e*P		P	16 47 15.0	-5.6
	comp=Z,232nm,0.9s							
LRMC	**Laurel Mtn Rad**	73.64	320	P		P	16 47 21.7	+0.9
	baz=133,SNR=114							
E29A	**Napoleon**	73.66	338	P		P	16 47 20.1	-0.5
	baz=150							
OSI	**Osito Audit: C**	73.69	319	P		P	16 47 21.8	+0.7
	baz=132							
C32A	**Crookston**	73.75	341	P		P	16 47 20.6	-0.4
	baz=153							
PMPS	**Porto Santo**	73.75	44	*e*P		P	16 47 23.6	+2.3
	comp=Z,743nm,1.7s							
PMPS				*e*pP		pP	16 47 55.6	+2.9
B34A	**Aery, Baudette**	73.78	342	P		P	16 47 20.7	-0.5
	baz=154,SNR=28							
TPNV	**Topopah Spring**	73.81	322	P		P	16 47 23.4	+1.6
	baz=134,SNR=267							
TPNV	**Topopah Spring**	73.81	322	*e*P		P	16 47 22.9	+1.1
TPNV					pmax	pmax		
	comp=Z,229nm,1.0s							
TPNV	**Topopah Spring**	73.81	322	*e*P		P	16 47 22.9	+1.1
	comp=Z,229nm,1.0s							
FURC	**Furnace Creek,**	73.83	321	P		P	16 47 23.1	+1.4
	baz=134,SNR=92							
D30A	**Buchanan**	73.83	339	P		P	16 47 21.2	-0.3
	baz=151,SNR=23							
SCZ2	**Santa Cruz Isl**	73.85	318	P		P	16 47 22.5	+0.6
	baz=131,SNR=36							
JLU	**Jlanelle**	73.86	327	*e*P		P	16 47 22.8	+0.7
	comp=Z,162nm,0.8s							
JLU				*e*pP		pP	16 47 54.6	+1.0
B33A	**Robert and Kas**	73.86	341	P		P	16 47 20.8	-0.8
	baz=154,SNR=15							
TBI	**Tubuai**	73.87	251	*e*P		P	16 47 24.2	+1.9
	comp=Z,472nm,1.2s							
TBI				*e*pP		pP	16 47 54.3	+0.6
	comp=Z,906nm,1.3s							
TBI				*e*S		S	16 56 43.3	-0.9
	comp=Z,11µm,23.5s							
TBI	**Tubuai**	73.87	251	*e*LR		LR	17 10 10.6	
	comp=Z,12µm,39.0s,baz=111							
MPMC	**Manual Prospec**	73.92	320	P		P	16 47 23.5	+1.0
	baz=133,SNR=72							
AGMN	**Agassiz Nation**	73.97	341	P		P	16 47 21.6	-0.6
	baz=153,SNR=32							
AGMN	**Agassiz Nation**	73.97	341	*e*P		P	16 47 21.7	-0.6
	comp=Z,219nm,1.1s							
D29A	**Pettibone, Tap**	74.07	338	P		P	16 47 22.8	-0.1
	baz=150							
CTU	**Camp Tracy**	74.08	327	*e*P		P	16 47 23.7	+0.4
	comp=Z,196nm,0.8s							
C31A	**Landman Farms,**	74.10	340	P		P	16 47 22.5	-0.5
	baz=152,SNR=20							
ARVC	**Arvin**	74.10	319	P		P	16 47 24.4	+1.1
	baz=132,SNR=5.4							
DAC	**Darwin (Calif)**	74.13	321	*e*P		P	16 47 24.2	+0.5
DAC					pmax	pmax		
	comp=Z,162nm,0.8s							
DAC	**Darwin (Calif)**	74.13	321	*e*P		P	16 47 24.1	+0.5
	comp=Z,162nm,0.8s							
F26A	**Lodgepole**	74.15	336	P		P	16 47 23.7	+0.2
	baz=147,SNR=41							
SBC	**Santa Barbara**	74.19	318	P		P	16 47 24.4	+0.6
	baz=131							
TCUT	**Toone Canyon**	74.23	328	*e*P		P	16 47 24.5	+0.3
	comp=Z,298nm,1.1s							
ISA	**Isabella, Lake**	74.24	320	P		P	16 47 25.6	+1.3
	baz=132,SNR=73							
ISA	**Isabella, Lake**	74.24	320	*e*P		P	16 47 25.1	+0.9
ISA					pmax	pmax		
	comp=Z,208nm,0.8s							
ISA	**Isabella, Lake**	74.24	320	*e*P		P	16 47 25.1	+0.9
	comp=Z,208nm,0.8s							
DUG	**Dugway, Tooele**	74.25	326	P		P	16 47 25.6	+1.3
	baz=137,SNR=141							
DUG	**Dugway, Tooele**	74.25	326	*e*P		P	16 47 25.0	+0.7
DUG					pmax	pmax		
	comp=Z,163nm,1.0s							
DUG	**Dugway, Tooele**	74.25	326	*e*P		P	16 47 25.0	+0.7
	comp=Z,163nm,1.0s							
B32A	**Ashes, Strandq**	74.26	341	P		P	16 47 23.2	-0.7
	baz=153,SNR=21							
C30A	**Mose, Pekin**	74.26	339	P		P	16 47 23.9	-0.1
	baz=151,SNR=13							
MEH	**Mehetia**	74.27	257	*e*P		P	16 47 26.5	+1.7
	comp=Z,64nm,1.1s							
MEH				*e*pP		pP	16 47 55.3	-0.9
	comp=Z,83nm,1.2s							
A33A	**Warroad**	74.40	342	P		P	16 47 24.2	-0.6
	baz=154,SNR=26							
R11A	**Troy Canyon, C**	74.41	323	P		P	16 47 26.4	+1.1
	baz=135,SNR=205							
R11A	**Troy Canyon, C**	74.41	323	*e*P		P	16 47 26.3	+1.0
	comp=Z,164nm,1.2s							
R11A				*e*pP		pP	16 47 58.1	+1.3
GRAC	**Grapevine Rang**	74.49	321	P		P	16 47 27.0	+1.4
	baz=133,SNR=83							
F25A	**Bowman**	74.52	335	P		P	16 47 26.0	+0.4
	baz=146,SNR=20							
D28A	**Regan**	74.53	338	P		P	16 47 25.6	+0.1
	baz=149,SNR=6.5							
CWC	**Cottonwood Cre**	74.53	320	P		P	16 47 27.0	+1.0
	baz=133							
BW06	**Boulder Array**	74.59	330	P		P	16 47 26.5	+0.3
	baz=140,SNR=95							
BW06	**Boulder Array**	74.59	330	*e*P		P	16 47 25.9	-0.4
	comp=Z,95nm,1.0s							
PD31	**Pinedale Array**	74.59	330	*e*P		P	16 47 25.9	-0.4
PDAR	**Pinedale Array**	74.59	330	P		P	16 47 26.0	-0.3
	comp=Z,27nm,0.7s,baz=121,slow=6.5,SNR=102							
PDAR				pP		pP	16 47 56.5	-1.2
	comp=Z,22nm,0.8s,baz=134,slow=4.3,SNR=3.7							
PDAR				sP		sP	16 48 12.3	+1.1
	comp=Z,27nm,0.8s,baz=188,slow=5.2,SNR=3.2							
PDAR				S		S	16 56 53.7	+2.0
	comp=Z,0.8nm,0.6s,baz=243,slow=0.3,SNR=2.2							
PDAR				PKPPKP		P'P'df	17 14 56.9	+4.1
	comp=Z,0.4nm,0.6s,baz=248,slow=1.6,SNR=4.9							
PDAR				LR		LR	17 21 40.9	
	comp=Z,2µm,21.7s,baz=142,slow=37							
E26A	**Carlson Angus**	74.60	336	P		P	16 47 26.1	+0.1
	baz=147,SNR=12							
B31A	**Greenbush Farm**	74.63	340	P		P	16 47 25.3	-0.7
	baz=152							
HWUT	**Hardware Ranch**	74.67	328	*e*P		P	16 47 26.6	-0.1
	comp=Z,279nm,1.0s							
VAH	**Vaihoa**	74.71	259	*e*P		P	16 47 29.1	+1.8
	comp=Z,338nm,1.0s							
A32A	**Rocking H Ranc**	74.71	341	P		P	16 47 25.8	-0.7
	baz=153,SNR=7.1							
VES	**Vestal, Richgr**	74.73	319	P		P	16 47 27.6	+0.6
	baz=132,SNR=49							
MDND	**Maddock**	74.76	339	P		P	16 47 26.9	0.0
	baz=150,SNR=27							
MDND	**Maddock**	74.76	339	*e*P		P	16 47 26.9	0.0
	comp=Z,1µm,1.1s							
B30A	**Myrwik Farm, E**	74.87	340	P		P	16 47 27.3	-0.2
	baz=151,SNR=25							
SPUT	**South Promonto**	74.89	327	*e*P		P	16 47 28.2	+0.3
	comp=Z,208nm,1.0s							
SPUT				*e*pP		pP	16 48 00.1	+0.7
BGU	**Big Grassy Mou**	74.90	327	*e*P		P	16 47 28.3	+0.3
	comp=Z,141nm,1.1s							
C28A	**Hausauer Farms**	74.91	338	P		P	16 47 27.7	0.0
	baz=149							
A31A	**Linda, St. Vin**	74.93	341	P		P	16 47 26.3	-1.5
	baz=152							
SMMC	**Simmler**	74.94	318	P		P	16 47 29.4	+1.2
	baz=131,SNR=80							
TIN	**Tinemaha, Big**	75.03	321	P		P	16 47 30.3	+1.4
	baz=133,SNR=16							
D26A	**Manning**	75.06	337	P		P	16 47 29.0	+0.4
	baz=147,SNR=7.9							
RCTC	**Rector, Farmer**	75.13	320	P		P	16 47 29.5	+0.3
	baz=132,SNR=15							
B29A	**Wagenman Farm,**	75.21	339	P		P	16 47 29.3	-0.1
	baz=150,SNR=22							
AHID	**Auburn Hatcher**	75.32	329	*e*P		P	16 47 30.7	+0.2
	comp=Z,274nm,0.8s							
TVO	**Taravao**	75.38	256	*e*P		P	16 47 33.1	+1.9
	comp=Z,90nm,1.2s							
TVO				*e*pP		pP	16 48 02.2	-0.5
	comp=Z,166nm,1.3s							
TIAR	**Tiarei**	75.53	257	*e*P		P	16 47 33.6	+1.6
	comp=Z,48nm,1.1s							
TIAR				*e*pP		pP	16 48 04.0	+0.4
	comp=Z,40nm,1.0s							
B28A	**Dugan Ranch, T**	75.53	339	P		P	16 47 31.3	0.0
	baz=149,SNR=17					

PPT2 eS S 16 57 05.1 0.0
comp=Z,22µm,25.0s
PPT2 Papeete2 75.73 257 eLQ LQ 17 07 48.4
comp=Z,14µm,28.2s
PPT2 eLR LR 17 11 01.3
comp=Z,40µm,41.8s,baz=104
PPT Papeete 75.74 257 P **P 16 47 32.6 -0.6**
comp=Z,250nm,1.0s,baz=95,slow=14,SNR=6.9
PPT pP **pP 16 48 05.2 +0.5**
comp=Z,296nm,1.0s,baz=110,slow=7.1,SNR=5.8
PPT LR LR 17 14 22.9
comp=Z,3µm,20.2s,baz=106,slow=30
MLAC Mammoth, Mammo 75.78 321 P **P 16 47 34.1 +0.9**
baz=132,SNR=16
TPAW Teton Pass 75.80 329 eP **P 16 47 33.5 +0.3**
comp=Z,138nm,0.8s
MOOW Moose Ponds 75.90 330 eP **P 16 47 34.2 +0.5**
comp=Z,128nm,1.1s
A28A Rude Farm, Bot 75.90 339 P **P 16 47 33.0 -0.4**
baz=150,SNR=11
ELK Elko 75.92 325 eP **P 16 47 34.2 +0.2**
ELK pmax pmax
comp=Z,87nm,0.9s
ELK Elko 75.92 325 eP **P 16 47 34.2 +0.2**
comp=Z,87nm,0.9s
C25A Freed Ranch, W 75.93 337 P **P 16 47 34.2 +0.6**
baz=147,SNR=6.4
SYO Syowa Base 76.08 159 ⇓*i*P **P 16 47 32.0 -2.1**
IMW Indian Meadow 76.10 330 eP **P 16 47 35.5 +0.6**
comp=Z,138nm,0.8s
B26A Jensen Ranch, 76.12 338 P **P 16 47 34.9 +0.3**
baz=148
FLWY Flagg Ranch 76.13 330 eP **P 16 47 35.8 +0.8**
comp=Z,1µm,1.8s
LAO LASA Array 76.24 334 P **P 16 47 35.9 +0.5**
baz=144,SNR=34
LAO LASA Array 76.24 334 eP **P 16 47 35.5 +0.1**
comp=Z,310nm,1.1s
A27A Ledoux Ranch, 76.27 338 P **P 16 47 35.6 +0.2**
baz=149
RLMT Red Lodge 76.28 332 P **P 16 47 36.8 +0.9**
baz=141,SNR=110
RLMT Red Lodge 76.28 332 eP **P 16 47 36.2 +0.3**
comp=Z,455nm,1.4s
SCHQ Schefferville 76.30 1 P **P 16 47 35.4 -0.1**
comp=Z,26nm,0.7s,baz=185,slow=3.7,SNR=10
SCHQ pP **pP 16 48 07.4 +0.3**
comp=Z,77nm,0.8s,baz=189,slow=4.0,SNR=5.3
SCHQ S **S 16 57 09.2 -0.4**
comp=Z,3.8nm,0.7s,baz=92,slow=19,SNR=8.8
SCHQ LR LR 17 22 21.8
comp=Z,2µm,21.3s,baz=180,slow=36
SCHQ Schefferville 76.30 1 eP **P 16 47 35.1 -0.4**
comp=Z,163nm,1.0s
SCHQ pP **pP 16 48 07.4 +0.3**
SCHQ S **S 16 57 09.2 -0.4**
H17A Grant Village 76.31 330 P **P 16 47 37.9 +1.7**
baz=140,SNR=27
H17A Grant Village 76.31 330 eP **P 16 47 37.1 +1.0**
comp=Z,67nm,0.8s
LKWY Lake 76.36 331 eP **P 16 47 37.8 +1.4**
LKWY pmax pmax
comp=Z,1µm,1.9s
LKWY Lake 76.36 331 eP **P 16 47 37.8 +1.4**
comp=Z,1µm,1.9s
B25A Knox Farm, Ray 76.37 337 P **P 16 47 37.0 +0.9**
baz=147,SNR=9.1
YFT Old Faithful 76.48 330 eP **P 16 47 38.6 +1.6**
comp=Z,111nm,0.9s
A26A Wade Farm, Ken 76.50 338 P **P 16 47 37.0 +0.3**
baz=148,SNR=25
VNDA Vanda 76.67 190 P **P 16 47 37.8 +0.4**
comp=Z,33nm,0.9s,baz=134,slow=5.2,SNR=115
VNDA S **S 16 57 19.1 +5.8**
comp=Z,1.1nm,1.0s,baz=278,slow=18,SNR=6.9
VNDA LR LR 17 20 44.2
comp=Z,2µm,19.9s,baz=140,slow=35
VNDA Vanda 76.67 190 eP **P 16 47 37.8 +0.4**
comp=Z,49nm,1.0s
VNDA S **S 16 57 19.1 +5.8**
YMR Madison River 76.70 330 eP **P 16 47 39.6 +1.3**
comp=Z,1µm,1.9s
WAKR Walker 76.72 321 eP **P 16 47 39.2 +0.7**
comp=Z,216nm,1.4s
YHH Holmes Hill 76.74 330 eP **P 16 47 39.5 +0.9**
comp=Z,248nm,1.1s
SAO San Andreas Ge 76.77 319 eP **P 16 47 39.0 +0.4**
SAO pmax pmax
comp=Z,69nm,1.0s
SAO San Andreas Ge 76.77 319 eP **P 16 47 39.0 +0.4**
comp=Z,69nm,1.0s
A25A Svangstu Ranch 76.91 337 P **P 16 47 39.7 +0.6**
baz=147,SNR=32
DGMT Dagmar 76.91 336 P **P 16 47 39.6 +0.5**
baz=146,SNR=26
DGMT Dagmar 76.91 336 eP **P 16 47 40.0 +0.9**
comp=Z,504nm,1.0s
CMB Columbia Colle 76.96 320 eP **P 16 47 39.8 +0.1**
CMB pmax pmax
comp=Z,110nm,1.3s
CMB Columbia Colle 76.96 320 eP **P 16 47 39.8 +0.1**
comp=Z,110nm,1.3s
TOA0 Torodi Ar. Sit 76.99 70 eP **P 16 47 39.1 -1.1**
TORD Torodi Ar. Bea 76.99 70 P **P 16 47 39.1 -1.1**
comp=Z,878nm,0.9s,baz=257,slow=5.1,SNR=484
TORD pP **pP 16 48 10.9 -0.9**
comp=Z,152nm,0.9s,baz=256,slow=5.5,SNR=1.5
TORD sP **sP 16 48 25.6 +0.2**
comp=Z,89nm,0.9s,baz=258,slow=5.3,SNR=0.8
TORD S **S 16 57 17.1 -1.6**
comp=Z,39nm,1.1s,baz=245,slow=7.6,SNR=17
TORD LR LR 17 21 34.7
comp=Z,9µm,19.1s,baz=220,slow=36
QLMT Earthquake Lak 77.04 330 eP **P 16 47 41.4 +1.2**
QLMT epP **pP 16 48 13.8 +2.0**
PAHR Pah Rah Range 77.49 322 eP **P 16 47 43.9 +1.2**
comp=Z,461nm,0.9s
HLID Hailey 77.53 328 P **P 16 47 44.2 +1.4**
baz=137,SNR=260
HLID Hailey 77.53 328 eP **P 16 47 43.9 +1.0**
comp=Z,235nm,0.8s
HLID epP **pP 16 48 16.1 +1.5**
MCMT McKenzie Canyo 77.70 329 P **P 16 47 45.1 +1.2**
BOZ Bozeman (W) 77.75 331 P **P 16 47 44.3 +0.3**
baz=139,SNR=84
BOZ Bozeman (W) 77.75 331 eP **P 16 47 44.0 0.0**
BOZ pmax pmax
comp=Z,431nm,1.9s
BOZ Bozeman (W) 77.75 331 eP **P 16 47 44.0 0.0**
comp=Z,432nm,1.9s
AFDM Forest Hills D 77.91 321 eP **P 16 47 44.8 0.0**
comp=Z,126nm,0.9s
AFDM epP **pP 16 48 18.1 +1.5**
DLMT Dillon 77.98 330 eP **P 16 47 45.5 +0.2**
comp=Z,290nm,1.5s
SUR Sutherland 78.02 120 eP **P 16 47 46.0 0.0**
comp=Z,1µm,1.3s
MFID Camas Ranch 78.14 327 eP **P 16 47 46.9 +0.7**
comp=Z,723nm,1.8s
MFID epP **pP 16 48 18.7 +0.8**
LRM Limekiln Ridge 78.26 330 eP **P 16 47 47.3 +0.3**
LRM epP **pP 16 48 19.9 +1.2**
MCCM Marconi Confer 78.53 319 eP **P 16 47 48.5 +0.3**
comp=Z,239nm,0.9s
ORV Oroville 78.61 321 eP **P 16 47 49.5 +0.8**
ORV pmax pmax
comp=Z,284nm,1.0s
ORV Oroville 78.61 321 eP **P 16 47 49.5 +0.8**
comp=Z,284nm,1.0s
HRY Holter Researc 78.65 331 eP **P 16 47 49.7 +0.8**
HRY epP **pP 16 48 22.3 +1.6**
EGMT Eagleton 78.76 333 P **P 16 47 49.5 +0.1**
baz=141,SNR=49
EGMT Eagleton 78.76 333 eP **P 16 47 49.4 0.0**
comp=Z,129nm,0.9s
WVOR Wild Horse Val 78.92 325 eP **P 16 47 50.6 +0.1**
WVOR pmax pmax
comp=Z,50nm,0.9s
WVOR Wild Horse Val 78.92 325 eP **P 16 47 50.6 +0.1**
comp=Z,50nm,0.9s
HOPS Hopland Field 79.19 320 eP **P 16 47 52.3 +0.5**
comp=Z,430nm,1.8s
O03D Paynes Creek 79.27 321 P **P 16 47 51.9 -0.4**
baz=130,SNR=71
CHMT Chamberlain Mo 79.45 331 eP **P 16 47 53.5 +0.2**
CHMT epP **pP 16 48 26.8 +1.6**
MOD Modoc Plateau 79.48 323 eP **P 16 47 54.1 +0.5**
comp=Z,234nm,1.0s
MSO Missoula 79.70 330 P **P 16 47 55.4 +0.8**
baz=138,SNR=41
MSO Missoula 79.70 330 eP **P 16 47 55.2 +0.7**
comp=Z,255nm,1.5s
WDC Whiskeytown Da 79.89 321 eP **P 16 47 54.5 -1.1**
WDC pmax pmax
comp=Z,119nm,0.8s
WDC Whiskeytown Da 79.89 321 eP **P 16 47 54.5 -1.1**
comp=Z,119nm,0.8s
BMO Blue Mountains 79.91 327 eP **P 16 47 55.9 +0.2**
BMO pmax pmax
comp=Z,184nm,0.9s
BMO Blue Mountains 79.91 327 eP **P 16 47 55.9 +0.2**
comp=Z,184nm,0.9s
SWMT Swartz Lake 80.23 331 eP **P 16 47 57.8 +0.4**
N02D Trinity Center 80.23 321 P **P 16 47 57.1 -0.5**
baz=130,SNR=79
M04C Macdoel 80.26 322 P **P 16 47 58.3 +0.6**
baz=131,SNR=98
KMRM Mail Ridge 80.34 320 eP **P 16 47 58.7 +0.5**
comp=Z,238nm,1.0s
K05A Summer Lake 80.35 324 P **P 16 47 59.4 +1.0**
YBMT Yellow Bay 80.50 331 eP **P 16 47 59.3 +0.5**
YBMT epP **pP 16 48 32.0 +1.3**
JTMT Jette 80.53 331 eP **P 16 47 59.4 +0.3**
M02C Callahan 80.59 322 P **P 16 47 59.3 -0.1**
baz=130,SNR=27
RTC Rabat Centre 80.62 48 eP **P 16 47 60.0 +0.3**
comp=Z,2µm,0.9s
F10A Beach Ranch, E 80.66 328 P **P 16 48 00.4 +0.7**
YBH Yreka Blue Hor 80.72 322 eP **P 16 47 59.1 -1.1**
YBH pmax pmax
comp=Z,103nm,0.9s
YBH Yreka Blue Hor 80.72 322 eP **P 16 47 59.0 -1.1**
comp=Z,103nm,0.9s
K04D Chiloquin, OR 80.76 323 P **P 16 48 01.1 +0.7**
baz=131,SNR=25
BLMT Blacktail Moun 80.77 331 eP **P 16 48 00.5 +0.1**
BLMT epP **pP 16 48 33.3 +1.0**
KHMM Horse Mountain 80.77 321 eP **P 16 48 01.1 +0.6**
comp=Z,218nm,1.0s
BSMT Bassoo Peak 80.84 330 eP **P 16 48 01.1 +0.3**
BSMT epP **pP 16 48 34.0 +1.3**
J05D Fort Rock, OR 80.91 324 P **P 16 48 02.1 +0.9**
baz=131,SNR=110
JCC Jacoby Creek, 80.91 321 eP **P 16 48 01.4 +0.4**
comp=Z,183nm,0.9s
G08A Pilot Rock 81.05 326 eP **P 16 48 02.2 +0.3**
comp=Z,242nm,1.5s
PFVI Vila Bisbo 81.10 44 eP **P 16 48 02.5 +0.4**
comp=Z,554nm,1.4s
PFVI epP **pP 16 48 37.3 +3.2**
PFVI eS **S 16 58 03.4 +2.0**
PFVI Vila Bisbo 81.10 44 eP **P 16 48 02.0 -0.1**
comp=Z,428nm,1.1s
MORF Marmelete 81.31 44 eP **P 16 48 02.2 -1.2**
MORF AMb AMB 16 48 08.1
comp=Z,556nm,1.0s
MORF eS **S 16 58 01.8 -1.9**
MORF Marmelete 81.31 44 eP **P 16 48 04.0 +0.7**
comp=Z,566nm,1.2s
MORF epP **pP 16 48 38.8 +3.5**
MORF eS **S 16 58 06.8 +3.0**
WALA Waterton Lakes 81.34 332 eP **P 16 48 03.4 +0.1**
comp=Z,146nm,1.0s
PTEO Sao Teotonio 81.41 44 eP **P 16 48 04.5 +0.8**
comp=Z,1µm,1.7s
PTEO epP **pP 16 48 39.5 +3.8**
HUMO Hull Mountain 81.43 323 eP **P 16 48 03.5 -0.3**
comp=Z,126nm,1.4s
E09A Wood Farm, Sta 81.49 328 eP **P 16 48 04.0 0.0**
comp=Z,375nm,1.8s
L02D Cave Junction, 81.51 322 P **P 16 48 05.0 +0.8**
baz=129,SNR=35
MDT Midelt 81.54 50 P **P 16 48 05.2 +0.4**
comp=Z,166nm,0.8s,baz=247,slow=5.2,SNR=194
MDT pP **pP 16 48 40.2 +3.5**
comp=Z,129nm,1.1s,baz=246,slow=5.6,SNR=5.9
MDT sP **sP 16 48 51.7 +1.6**
comp=Z,41nm,1.0s,baz=198,slow=6.5,SNR=1.6
I05D Terrebonne, OR 81.66 325 P **P 16 48 06.0 +0.9**
baz=131,SNR=101
PBDV Barranco-do-Ve 81.74 45 eP **P 16 48 05.5 -0.1**
comp=Z,501nm,1.6s
PBDV epP **pP 16 48 41.0 +3.4**
PBDV Barranco-do-Ve 81.74 45 ePP PP 16 51 14.2 -0.4
PBDV eS **S 16 58 11.0 +2.8**
PMST Lisbon--Monsan 81.81 43 eP **P 16 48 06.4 +0.5**
comp=Z,503nm,1.2s
PMST epP **pP 16 48 41.5 +3.7**
LIS Lisbon 81.82 43 eP **P 16 48 04.9 -1.0**
LIS AMb AMB 16 48 10.0
comp=Z,470nm,1.0s
LIS eS **S 16 58 07.0 -1.8**
LIS Lisbon 81.82 43 eP **P 16 48 06.5 +0.6**
comp=Z,488nm,1.2s
LIS epP **pP 16 48 40.1 +2.2**
PNCL Nicolau / Gran 81.86 44 eP **P 16 48 06.6 +0.5**
comp=Z,287nm,1.4s
PNCL epP **pP 16 48 41.3 +3.2**
PNCL Nicolau / Gran 81.86 44 ePP PP 16 51 14.2 -1.3
PNCL eS **S 16 58 12.1 +2.9**
PMAFR Mafra 81.88 43 eP **P 16 48 06.6 +0.4**
comp=Z,443nm,1.2s
PMAFR epP **pP 16 48 41.6 +3.4**
PMAFR Mafra 81.88 43 ePP PP 16 51 13.7 -2.0
PMAFR eS **S 16 58 09.9 +0.5**
G06A Carlson Farm, 81.89 326 eP **P 16 48 06.9 +0.7**
comp=Z,436nm,1.8s
I04A Tendick Farm, 81.89 324 P **P 16 48 06.1 -0.1**
baz=130,SNR=53
MESJ Messejana 81.90 44 eP **P 16 48 05.1 -1.2**
MESJ AMb AMB 16 48 10.5
comp=Z,417nm,1.0s
MESJ eS **S 16 58 07.7 -2.0**
MESJ Messejana 81.90 44 eP **P 16 48 06.9 +0.6**
comp=Z,418nm,1.1s
MESJ epP **pP 16 48 40.0 +1.7**
MESJ Messejana 81.90 44 ePP PP 16 51 15.1 -0.7
PVAQ Vaqueiros 81.98 45 eP **P 16 48 07.2 +0.4**
comp=Z,284nm,2.0s
PVAQ epP **pP 16 48 42.3 +3.6**
PVAQ Vaqueiros 81.98 45 ePP PP 16 51 15.7 -0.8
PVAQ eS **S 16 58 13.8 +3.3**
HAWA Hanford 82.10 327 eP **P 16 48 08.1 +0.9**
comp=Z,792nm,1.8s
NEW Newport 82.23 330 S **S 16 58 15.1 +2.4**
comp=Z,2.8nm,0.5s,baz=16,slow=21,SNR=4.6
NEW LR LR 17 28 49.2
comp=Z,2µm,20.1s,baz=133,slow=38
NEW Newport 82.23 330 P **P 16 48 07.5 -0.5**
baz=135,SNR=9.2
NEW Newport 82.23 330 eP **P 16 48 07.4 -0.5**
NEW S **S 16 58 15.1 +2.4**
NEW pmax pmax
comp=Z,282nm,1.6s
NEW Newport 82.23 330 eP **P 16 48 07.4 -0.5**
comp=Z,282nm,1.6s
NEW S **S 16 58 15.1 +2.4**
PBEJ Beja 82.24 44 eP **P 16 48 08.4 +0.3**
comp=Z,297nm,1.3s
PBEJ epP **pP 16 48 43.4 +3.3**
PBEJ Beja 82.24 44 ePP PP 16 51 18.5 -0.1
G05D Wamic, OR 82.25 325 P **P 16 48 09.3 +1.2**
baz=132,SNR=24
D08A Wollman Farm, 82.25 328 eP **P 16 48 08.3 +0.3**
comp=Z,243nm,1.3s
I03D Drain, OR 82.35 323 P **P 16 48 09.0 +0.5**
baz=130,SNR=33
E07A Sunnyside 82.38 327 eP **P 16 48 08.4 -0.2**
E07A epP **pP 16 48 41.9 +1.2**
EVO Evora 82.44 43 eP **P 16 48 09.2 +0.1**
comp=Z,248nm,1.6s
EVO epP **pP 16 48 41.9 +0.8**
EVO Evora 82.44 43 ePP PP 16 51 19.8 -0.4
PTOM Tomar 82.81 42 eP **P 16 48 11.1 0.0**
comp=Z,736nm,1.3s
PTOM epP **pP 16 48 46.1 +3.0**
PBAR Barrancos 82.86 44 eP **P 16 48 11.2 -0.1**
comp=Z,509nm,1.6s
PBAR epP **pP 16 48 46.5 +3.1**
PBAR eS **S 16 58 21.3 +1.9**
BOSA Boshof 82.89 118 P **P 16 48 11.1 -0.9**
comp=Z,402nm,1.0s,baz=254,slow=4.1,SNR=152
BOSA pP **pP 16 48 45.1 +1.1**
comp=Z,88nm,0.9s,baz=194,slow=7.1,SNR=2.1
BOSA S **S 16 58 20.0 -0.6**
comp=Z,17nm,1.1s,baz=350,slow=20,SNR=6.7
BOSA PKKPbc **PKKPbc 17 06 35.2 +1.3**
comp=Z,5.2nm,1.1s,baz=69,slow=2.8,SNR=3.0
BOSA LR LR 17 25 04.1
comp=Z,3µm,18.1s,baz=269,slow=36
BOSA Boshof 82.89 118 eP **P 16 48 10.6 -1.4**
BOSA *PP **pP 16 48 45.1 +1.1**
BOSA S **S 16 58 20.0 -0.6**
BOSA pmax pmax
comp=Z,799nm,1.2s
BOSA Boshof 82.89 118 eP **P 16 48 10.6 -1.4**
comp=Z,799nm,1.2s
BOSA pP **pP 16 48 45.1 +1.1**
BOSA S **S 16 58 20.0 -0.6**
BOSA PKKPbc **PKKPbc 17 06 35.2 +1.3**
COR Corvallis 82.89 324 eP **P 16 48 11.4 +0.1**
COR pmax pmax
comp=Z,633nm,1.4s
COR Corvallis 82.89 324 eP **P 16 48 11.4 +0.1**
comp=Z,633nm,1.4s
PESTR Estremoz 82.90 43 eP **P 16 48 11.5 0.0**
comp=Z,437nm,1.3s
PESTR epP **pP 16 48 47.0 +3.4**
PESTR Estremoz 82.90 43 ePP PP 16 51 22.7 -1.3
PESTR eS **S 16 58 22.3 +2.5**
FCC Fort Churchill 83.01 347 eP **P 16 48 11.3 -0.2**
FCC pmax pmax
comp=Z,275nm,1.4s
FCC Fort Churchill 83.01 347 eP **P 16 48 11.3 -0.2**
comp=Z,275nm,1.4s
PCAS Casmilo, Conde 83.01 42 eP **P 16 48 12.2 +0.1**
comp=Z,358nm,1.5s
PCAS epP **pP 16 48 47.0 +2.8**
PCAS Casmilo, Conde 83.01 42 ePP PP 16 51 24.4 -0.6
PCAS eS **S 16 58 21.8 +0.9**
G03D McMinnville, O 83.27 324 P **P 16 48 14.2 +1.0**
baz=130,SNR=8.4
ETW Entiat 83.33 328 eP **P 16 48 14.2 +0.5**
PMRV Marv??o 83.35 43 eP **P 16 48 13.3 -0.5**
comp=Z,201nm,1.6s
PMRV epP **pP 16 48 48.5 +2.6**
PMRV Marv??o 83.35 43 ePP PP 16 51 28.3 +0.6
PMRV eS **S 16 58 25.4 +1.0**
B08A Colville Reser 83.35 329 eP **P 16 48 13.2 -0.5**
B08A epP **pP 16 48 45.1 -0.6**
LON Longmire 83.51 326 eP **P 16 48 14.1 -0.4**
LON pmax pmax
comp=Z,140nm,1.5s
LON Longmire 83.51 326 eP **P 16 48 14.1 -0.4**
comp=Z,140nm,1.5s
PCBR Castelo Branco 83.53 43 eP **P 16 48 14.5 -0.2**
comp=Z,266nm,1.5s
PCBR epP **pP 16 48 49.7 +2.9**
PCBR Castelo Branco 83.53 43 ePP PP 16 51 24.6 -4.5
PTO Porto 83.59 41 eP **P 16 48 17.0 +2.0**
comp=Z,751nm,1.6s
RAR Rarotonga 83.59 250 P **P 16 48 15.6 0.0**
comp=Z,60nm,1.0s,baz=126,slow=12,SNR=6.7
F04D Rainier, OR 83.70 325 P **P 16 48 16.2 +0.8**
baz=130
PVIS Viseu 83.78 42 eP **P 16 48 15.9 -0.1**
comp=Z,468nm,1.6s
PVIS epP **pP 16 48 51.5 +3.4**
C06D Leavenworth 83.82 328 P **P 16 48 15.6 -0.5**
baz=132
D05A Enumclaw 83.89 326 eP **P 16 48 16.2 -0.1**
comp=Z,218nm,1.0s
F03A Seaside 83.89 325 eP **P 16 48 17.3 +0.9**
comp=Z,584nm,1.9s
MAW Mawson 83.93 163 P **P 16 48 15.8 -0.6**
comp=Z,138nm,1.0s,baz=208,slow=6.4,SNR=66
MAW pP **pP 16 48 50.7 +2.2**
comp=Z,69nm,0.8s,baz=222,slow=6.4,SNR=5.5
MAW S **S 16 58 30.5 +1.1**
comp=Z,1.8nm,1.0s,baz=116,slow=21,SNR=2.1
MAW PKKPbc **PKKPbc 17 06 30.6 -2.0**
comp=Z,2.4nm,0.6s,baz=109,slow=2.6,SNR=8.4
MAW LR LR 17 28 37.7
comp=Z,3µm,18.2s,baz=227,slow=38
MAW Mawson 83.93 163 eP **P 16 48 15.2 -1.2**
MAW *PP **pP 16 48 50.7 +2.2**
MAW S **S 16 58 30.5 +1.1**
MAW pmax pmax
comp=Z,22nm,0.8s
MAW Mawson 83.93 163 eP **P 16 48 15.2 -1.2**
comp=Z,22nm,0.8s
MAW pP **pP 16 48 50.7 +2.2**
MAW S **S 16 58 30.5 +1.1**
MAW PKKPbc **PKKPbc 17 06 30.6 -2.0**
PVRL Vila Real 84.21 41 eP **P 16 48 18.1 -0.1**
comp=Z,620nm,1.6s
PVRL epP **pP 16 48 53.9 +3.5**
PVRL Vila Real 84.21 41 ePP PP 16 51 34.3 -0.4
POLO Lamas de Olo 84.22 41 eP **P 16 48 17.8 -0.5**
comp=Z,213nm,1.6s
POLO epP **pP 16 48 53.1 +2.6**
POLO Lamas de Olo 84.22 41 ePP PP 16 51 32.1 -2.8
POLO eS **S 16 58 32.1 -1.1**
PCAB Cabril 84.27 41 eP **P 16 48 18.4 -0.1**
comp=Z,574nm,1.3s
PCAB epP **pP 16 48 53.4 +2.7**
PGAV Gavieira, Arco 84.28 41 eP **P 16 48 18.4 -0.2**
comp=Z,488nm,1.5s
PGAV epP **pP 16 48 53.1 +2.4**
PGAV eS **S 16 58 32.6 -1.1**
E03A Lebam 84.29 325 eP **P 16 48 18.9 +0.5**
comp=Z,192nm,1.0s
E03A epP **pP 16 48 51.8 +1.2**
LBTB Lobatse 84.46 115 S **S 16 58 35.3 -1.2**
comp=Z,4.4nm,1.0s,baz=300,slow=21,SNR=2.8
LBTB PKKPbc PKKPbc 17 06 30.9 +0.7
comp=Z,3.6nm,0.7s,baz=59,slow=1.9,SNR=4.3
LBTB Lobatse 84.46 115 eP **P 16 48 18.9 -1.2**
LBTB S **S 16 58 35.3 -1.2**
LBTB pmax pmax
comp=Z,1µm,1.4s
LBTB Lobatse 84.46 115 eP **P 16 48 18.9 -1.2**
comp=Z,1µm,1.4s
LBTB S **S 16 58 35.3 -1.2**
LBTB PKKPbc **PKKPbc 17 06 30.9 +0.7**
RPW Rockport 84.48 328 P **P 16 48 18.8 -0.7**
TAM Tamanrasset 84.50 63 eP **P 16 48 19.8 -0.5**
TAM pmax pmax
comp=Z,305nm,1.1s
TAM Tamanrasset 84.50 63 eP **P 16 48 19.8 -0.5**
comp=Z,305nm,1.1s
MVO Moncorvo 84.57 42 eP **P 16 48 20.3 +0.2**
comp=Z,693nm,1.7s
MVO epP **pP 16 48 55.3 +3.1**
MVO Moncorvo 84.57 42 ePP PP 16 51 37.1 -0.6
MVO eS **S 16 58 34.7 -1.9**
B05A Bryant 84.65 327 P **P 16 48 19.7 -0.5**
baz=131,SNR=29
NRS Narsarsuaq 84.69 11 ⇑*i*P **P 16 48 20.0 -0.1**
NRS *i* 16 48 52.7
NRS *i* 16 58 33.5
NRS pmax pmax
comp=Z,74nm,1.3s
NRS MLR MLR
comp=Z,4µm,18.0s
NRS Narsarsuaq 84.69 11 ⇑*i*P **P 16 48 20.0 -0.1**
comp=Z,74nm,1.3s
NRS *i* 16 48 52.7
NRS *i* 16 58 33.5
MBW Mount Baker 84.90 328 P **P 16 48 21.0 -0.6**
NLWA Neilton Lookou 84.99 326 eP **P 16 48 22.4 +0.4**
comp=Z,178nm,1.4s
SQM Sequim 85.01 327 P **P 16 48 23.1 +1.1**
OLHC Oulhaca 85.08 49 P **P 16 48 28.0 +5.3**
PBRG Braganca 85.11 41 eP **P 16 48 22.4 -0.3**
comp=Z,526nm,1.6s
PBRG epP **pP 16 48 57.4 +2.5**
PBRG Braganca 85.11 41 ePP PP 16 51 40.8 -1.3
PBRG eS **S 16 58 38.7 -3.2**
A04D Lummi Island 85.26 327 P **P 16 48 23.6 +0.5**
baz=131,SNR=13
MCW Mount Constitu 85.29 327 P **P 16 48 23.6 +0.1**
MCW Mount Constitu 85.29 327 P **P 16 48 23.6 +0.1**
PAB San Pablo 85.36 44 eP **P 16 48 23.8 -0.3**
PAB pmax pmax
comp=Z,492nm,0.9s
PAB San Pablo 85.36 44 eP **P 16 48 23.8 -0.3**

comp=Z,492nm,0.9s
PGC Sidney 85.59 327 *e*P **P 16 48 25.1 +0.3**
comp=Z,303nm,1.3s
PGC *e*pP **pP 16 48 57.4 +0.4**
ESDC Sonseca Array 85.68 44 P **P 16 48 25.6 0.0**
comp=Z,162nm,1.0s,baz=248,slow=4.5,SNR=156
ESDC pP **pP 16 49 01.1 +3.2**
comp=Z,126nm,1.1s,baz=237,slow=5.5,SNR=5.1
ESDC S **S 16 58 43.4 -4.2**
comp=Z,0.1nm,0.3s,baz=93,slow=35,SNR=2.9
ESDC LR LR 17 25 01.1
comp=Z,3μm,19.8s,baz=240,slow=34
ESLA Sonseca Array 85.68 44 *e*P **P 16 48 25.8 +0.1**
comp=Z,429nm,1.2s
ES19 SONSECA Array 85.74 44 *e*P **P 16 48 25.5 -0.4**
USTO Oran 85.93 49 P **P 16 48 30.0 +3.1**
ODJA Bouhanifia 86.01 50 P **P 16 48 29.0 +1.6**
OJBR Djebel Berber 86.49 50 P **P 16 48 32.0 +2.3**
OJGS Djebel Guires 86.74 50 P **P 16 48 33.0 +2.1**
OKGL Djebel Kef Gue 86.92 49 P **P 16 48 34.0 +2.2**
ETRT Tiaret 87.07 50 P **P 16 48 33.0 +0.4**
EANR 'Ain N'Sour 87.20 50 P **P 16 48 34.3 +1.1**
ECHA Ech Chlef 87.49 49 P **P 16 48 36.0 +1.6**
EBNR Beni Rached 87.67 49 P **P 16 48 37.0 +1.6**
EMHD Djebel Mahouad 88.64 50 P **P 16 48 41.5 +1.5**
MATP Matopo 88.66 111 S **SKSac 16 59 01.7 +2.9**
comp=Z,1.1nm,0.7s,baz=114,slow=15,SNR=3.4
MATP PKKPbc PKKPbc 17 06 20.6 +0.5
comp=Z,2.0nm,0.8s,baz=11,slow=0.9,SNR=4.4
MATP PKKPab PKKPab 17 06 55.4
comp=Z,4.1nm,0.9s,baz=285,slow=1.5,SNR=5.5
ABA Alger-Bouzarea 88.98 50 P **P 16 48 42.6 +1.1**
VAL Valentia 89.19 32‖ *i*P **P 16 48 42.1 +0.1**
VAL Valentia 89.19 32‖ *i*SKS **SKSac 16 59 02.0 +2.1**
OSSF Osses 89.30 42‖ *e*P **P 16 48 43.0 +0.2**
LARF Larrau 89.36 43‖ *e*P **P 16 48 44.2 +1.0**
ATAF Djebel Tarf 89.44 51 P **P 16 48 44.2 +0.5**
ORDF Ordiarp 89.48 42‖ *e*P **P 16 48 45.1 +1.4**
SFJD Kangerlussuaq 89.49 7 pP **pP 16 49 15.8 +0.2**
SFJD S **SKSac 16 59 00.9 -0.2**
comp=Z,3.9nm,0.7s,baz=233,slow=12,SNR=1.7
SFJD Kangerlussuaq 89.49 7 *i* P **P 16 48 42.9 -0.2**
SFJD *i* 16 49 14.6
SFJD *i* S **S 16 59 21.1 -1.5**
SFJD pmax pmax
comp=Z,34nm,1.2s
SFJD MLR MLR
comp=Z,2μm,17.0s
SFJD Kangerlussuaq 89.49 7 *i* P **P 16 48 42.9 -0.2**
comp=Z,34nm,1.2s
SFJD *i* 16 49 14.6
SFJD Kangerlussuaq 89.49 7 *i* S **S 16 59 21.1 -1.5**
ATE Arette 89.56 43‖ *e*P **P 16 48 44.7 +0.6**
REYF Montagne du Re 89.75 43 *e*P **P 16 48 47.7 +2.7**
XMAS Kiritimati 89.88 272 *e*P **P 16 48 47.5 +1.3**
comp=Z,302nm,0.9s
VIEF Viey 89.92 43 *e*P **P 16 48 46.6 +0.8**
RESF Ens 90.08 43‖ *e*P **P 16 48 47.6 +1.0**
MELF Melles 90.38 43‖ *e*P **P 16 48 49.0 +1.0**
CKHR Kef el Ahmar 90.39 51 P **P 16 48 50.3 +2.0**
SET Setif 90.39 51 P **P 16 48 50.0 +1.8**
CCA1 Carnmenellis 90.72 35 *e*P **P 16 48 49.4 +0.1**
CCA1 AMB AMB 16 48 51.4
comp=Z,207nm,1.2s
CCA1 AMS AMS 17 28 51.0
comp=Z,4μm,16.7s
MIR Mirnyy 90.84 173 *e*P **P 16 48 51.0 +1.4**
MIR *i* S **S 16 59 36.0 +0.6**
MIR *i* SS **SS 17 05 38.0 -1.3**
MIR pmax pmax
comp=Z,1μm,8.0s
MIR smax smax
comp=E,12μm,10.0s
MIR MLR MLR
comp=Z,4μm,18.0s
DFRA Djebel Bou Aff 90.89 51 P **P 16 48 52.0 +1.4**
VALF Valcebollere 90.96 44 *e*P **P 16 48 51.6 +0.8**
CTEI Djebel Teioual 91.06 51 P **P 16 48 52.0 +0.6**
FILF Fillols 91.39 44‖ *e*P **P 16 48 53.2 +0.5**
CKFL Kef-Lekhel 91.44 51 P **P 16 48 53.5 +0.4**
DYA Yadsworthy 91.56 35 *e*P **P 16 48 52.5 -0.7**
DYA AMB AMB 16 48 55.6
comp=Z,140nm,1.4s
DYA AMS AMS 17 21 10.9
comp=Z,4μm,27.1s
DYA Yadsworthy 91.56 35 *e*P **P 16 48 51.8 -1.3**
LRDF Laroque-de-Fa 91.56 44‖ *e*P **P 16 48 53.5 +0.2**
HTL Hartland 91.57 35 *e*P **P 16 48 51.2 -1.9**
HTL AMS AMS 17 28 50.1
comp=Z,2μm,17.2s
ILULI Ilulissat 91.58 6⇑ *i*P **P 16 48 52.8 0.0**
ILULI *i* 16 49 24.7
ILULI *i* 16 59 39.0
ILULI pmax pmax
comp=Z,99nm,1.4s
ILULI MLR MLR
comp=Z,3μm,21.0s
ILULI Ilulissat 91.58 6⇑ *i*P **P 16 48 52.8 0.0**
comp=Z,99nm,1.4s
ILULI *i* 16 49 24.7
ILULI *i* 16 59 39.0
YKA Yellowknife Ar 91.61 340 P **P 16 48 52.5 -0.5**
comp=Z,118nm,0.8s,baz=134,slow=4.4,SNR=398
YKA pP **pP 16 49 25.5 0.0**
comp=Z,108nm,0.8s,baz=136,slow=4.4,SNR=7.7
YKA PKKPab PKKPab 17 06 33.3
comp=Z,0.3nm,0.5s,baz=327,slow=3.5,SNR=4.2
YKA LR LR 17 33 35.1
comp=Z,360nm,21.1s,baz=180,slow=38
YKW3 Yellowknife Ar 91.66 340 *e*P **P 16 48 52.9 -0.3**
comp=Z,170nm,0.9s
CAEH 'Ain El Ouahch 91.70 51 P **P 16 48 56.6 +2.5**
JSA Saint Aubin 91.85 37 *e*P **P 16 48 50.4 -4.0**
JSA AMS AMS 17 22 05.4
comp=Z,4μm,25.6s
DSB Dublin 91.86 32 *e*P **P 16 48 53.6 -0.8**
comp=Z,105nm,1.2s
ABSA Djebel Ababsia 91.93 52 P **P 16 48 56.2 +0.8**
CMAH Djebel Manchou 92.04 51 P **P 16 48 56.4 +0.6**
CASY Casey 92.22 180 *e*P **P 16 48 55.4 -0.7**
comp=Z,81nm,0.8s
LPW Lampeter 92.40 34⇑ *e*P **P 16 48 56.2 -0.7**
LPW AMB AMB 16 48 58.9
comp=Z,201nm,0.9s
GMM Mts of Mourne 92.64 31 *e*P **P 16 48 55.8 -2.2**
FRNF Fournols 92.74 42 *e*P **P 16 48 59.3 +0.5**
VERF Verneugheol 92.86 41 *e*P **P 16 49 02.4 +3.0**
WLF1 Llynfaes 92.88 33 *e*P **P 16 48 58.9 -0.2**
WLF1 AMB AMB 16 49 01.6
comp=Z,205nm,2.6s
MCH1 Michaelchurch 92.89 34 *e*P **P 16 48 58.2 -1.0**
MCH1 AMB AMB 16 49 01.4
comp=Z,127nm,1.9s
KEST Kesra 93.08 53 P **P 16 48 58.9 -1.7**
comp=Z,72nm,1.0s,baz=240,slow=4.3,SNR=43
KEST S **SKSac 16 59 24.5 +1.4**
comp=Z,2.1nm,0.6s,baz=118,slow=17,SNR=2.5
KEST PKKPbc **PKKPbc 17 06 10.8 +0.7**
comp=Z,3.1nm,0.7s,baz=224,slow=2.1,SNR=3.8
KEST LR LR 17 33 41.8
comp=Z,9μm,18.1s,baz=203,slow=37
KEST Kesra 93.08 53 *e*P **P 16 49 01.2 +0.6**
comp=Z,126nm,1.1s
KEST S **SKSac 16 59 24.5 +1.4**
KEST PKKPbc **PKKPbc 17 06 10.8 +0.7**
LBL Lubilhac 93.09 42 *e*P **P 16 49 00.8 +0.3**
WPM1 Penmaenmawr 93.11 33 *e*P **P 16 48 59.2 -1.0**
PYM Petit Puy Mans 93.19 42 *e*P **P 16 49 04.2 +3.3**
WIM Isle of Man 93.21 32‖ *e*P **P 16 48 59.5 -1.2**
HLM1 Long Mynd 93.23 34 *e*P **P 16 49 00.3 -0.5**
HLM1 AMB AMB 16 49 03.7
comp=Z,123nm,1.3s
HLM1 AMS AMS 17 25 39.5
comp=Z,5μm,24.2s
FOEL Foel Wylfa 93.27 33⇑ *e*P **P 16 48 59.6 -1.4**
FOEL AMB AMB 16 49 03.5
comp=Z,145nm,1.5s
FOEL AMS AMS 17 28 55.5
comp=Z,4μm,18.2s
AGO Saint Agoulin 93.41 41 *e*P **P 16 49 01.9 +0.1**
GMK Mull of Kintyr 93.43 31 *e*P **P 16 49 01.2 -0.5**
BORG Borgarnes 93.52 18 P **P 16 49 03.4 +1.5**
comp=Z,53nm,1.2s,baz=225,slow=3.7,SNR=8.4
BORG Borgarnes 93.52 18 *e*P **P 16 49 02.9 +1.1**
BORG pmax pmax
comp=Z,162nm,1.5s
BORG Borgarnes 93.52 18 *e*P **P 16 49 02.9 +1.1**
comp=Z,162nm,1.5s
GAL1 Galloway 93.59 31⇑ *e*P **P 16 49 01.6 -0.7**
GAL1 AMS AMS 17 24 13.6
comp=Z,2μm,21.6s
PLDF La Plantade 93.67 42 *e*P **P 16 49 02.9 -0.2**
SSB Saint Sauveur 93.92 43 *e*P **P 16 49 04.8 +0.5**
SSB Saint Sauveur 93.92 43 *e*P **P 16 49 03.4 -0.8**
SSB pmax pmax
comp=Z,280nm,1.9s
SSB Saint Sauveur 93.92 43 *e*P **P 16 49 03.4 -0.8**
comp=Z,280nm,1.9s
OG26 St.-Nazaire-De 94.09 43 *e*P **P 16 49 06.3 +1.2**
CWF Charnwood Fore 94.16 34 *e*P **P 16 49 04.3 -0.7**
CWF AMB AMB 16 49 07.6
comp=Z,111nm,1.8s
CWF AMS AMS 17 26 18.6
comp=Z,4μm,25.1s
CWF Charnwood Fore 94.16 34 *e*P **P 16 49 03.9 -1.2**
comp=Z,180nm,1.6s
PGBU Glenifferbraes 94.22 31 *e*P **P 16 49 04.9 -0.3**
PGBU AMB AMB 16 49 07.9
comp=Z,195nm,2.1s
KESW Keswick, Cumbr 94.22 32⇑ *e*P **P 16 49 03.5 -1.8**
KESW AMB AMB 16 49 08.1
comp=Z,188nm,1.6s
KESW AMS AMS 17 29 14.7
comp=Z,3μm,18.1s
BWH Wardlaw 94.27 31 *e*P **P 16 49 04.7 -0.8**
BKZ Black Stump Fm 94.29 225 *e*P **P 16 49 09.2 +3.0**
comp=Z,114nm,1.3s
URZ Urewera 94.37 226 LR LR 17 23 15.1
comp=Z,3μm,21.8s,baz=135,slow=30
KHZ Kahutara 94.37 221 *e*P **P 16 49 08.7 +2.3**
comp=Z,100nm,1.4s
CRAG Craig 94.43 329 *e*P **P 16 49 06.2 0.0**
comp=Z,57nm,1.5s
BHH Howats Hill 94.44 32 *e*P **P 16 49 05.7 -0.5**
EAB Aberfoyle 94.49 30 *e*P **P 16 49 05.1 -1.4**
ECK Cauldkaine Hil 94.53 32 *e*P **P 16 49 05.8 -0.9**
KPL Plockton 94.53 29⇑ *e*P **P 16 49 05.8 -0.8**
KPL AMB AMB 16 49 09.0
comp=Z,112nm,1.9s
KPL AMS AMS 17 21 43.5
comp=Z,4μm,63.6s
KSB Sheil Bridge 94.56 29 *e*P **P 16 49 06.4 -0.3**
ESK Eskdalemuir 94.56 31 *e*P **P 16 49 05.4 -1.4**
ESK AMB AMB 16 49 09.3
comp=Z,120nm,1.6s
ESK Eskdalemuir 94.56 31 *e*P **P 16 49 05.5 -1.4**
ESK pmax pmax
comp=Z,160nm,1.4s
ESK Eskdalemuir 94.56 31 *e*P **P 16 49 05.5 -1.3**
comp=Z,160nm,1.4s
WRAK Wrangell Islan 94.58 330 *e*P **P 16 49 06.7 -0.1**
comp=Z,67nm,1.1s
EKA Eskdalemuir Ar 94.59 31 P **P 16 49 06.0 -0.9**
comp=Z,51nm,1.1s,baz=239,slow=4.3,SNR=41
EKA pP **pP 16 49 39.4 -0.2**
comp=Z,16nm,1.0s,baz=236,slow=3.6,SNR=2.7
EKA PP **PP 16 52 55.5 -1.4**
comp=Z,18nm,1.1s,baz=236,slow=7.0,SNR=5.5
POHA Pohakuloa 94.61 289 *e*P **P 16 49 10.8 +2.6**
comp=Z,160nm,1.1s
VSL Villasalto 94.65 49 *e*P **P 16 49 07.5 -0.2**
comp=Z,134nm,1.3s
GRN Grenoble 94.67 43 *e*P **P 16 49 08.9 +1.2**
DLBC Dease Lake 94.67 332 *e*P **P 16 49 07.6 +0.2**
DLBC *e*pP **pP 16 49 40.0 +0.1**
ELSH Elham, Standar 94.68 36 AMS AMS 17 25 11.0
comp=Z,3μm,22.6s
KAC Achnashellach 94.78 29⇑ *e*P **P 16 49 06.9 -0.9**
GDM Grand'Maison 94.89 43 *e*P **P 16 49 09.5 +0.7**
EDI Edinburgh 94.89 31 AMS AMS 17 28 47.5
comp=Z,5μm,17.5s
LTZ Lake Taylor 94.92 220 *e*P **P 16 49 11.3 +2.2**
comp=Z,109nm,1.4s
RPZ Rata Peaks 95.09 219 LR LR 17 22 14.8
comp=Z,2μm,21.1s,baz=118,slow=29
RPZ Rata Peaks 95.09 219 *e*P **P 16 49 10.6 +0.8**
comp=Z,60nm,1.2s
THZ Tophouse 95.13 221 *e*P **P 16 49 11.8 +1.8**
comp=Z,462nm,2.0s
ESY Stoneypath 95.16 31⇑ *e*P **P 16 49 08.6 -1.0**
MDO Dochfour 95.16 29⇑ *e*P **P 16 49 09.1 -0.5**
RAO Raoul Island 95.30 236 LR LR 17 24 52.1
comp=Z,440nm,18.7s,baz=140,slow=31
EDU Dundee 95.31 30⇑ *e*P **P 16 49 08.7 -1.5**
WHZ Wether Hill Ro 95.51 216 *e*P **P 16 49 13.1 +1.5**
comp=Z,64nm,1.4s
HIZ Hauiti 95.72 225 *e*P **P 16 49 14.9 +2.2**
comp=Z,441nm,1.8s
OG01 Vacheresse 95.73 42 *e*P **P 16 49 13.4 +0.8**
MCD Coleburn Disti 95.75 29 *e*P **P 16 49 11.9 -0.2**
DRUM Mains of Drumt 95.75 30 AMS AMS 17 22 43.6
comp=Z,4μm,59.1s
BIGH Upper Bighouse 95.94 28 *e*P **P 16 49 12.5 -0.5**
BIGH AMS AMS 17 24 21.3
comp=Z,7μm,23.7s
SENIN Lac Senin/Sane 96.13 42 *e*P **P 16 49 14.0 -0.6**
comp=Z,135nm,1.8s
DOU Dourbes 96.13 38 P **P 16 49 13.5 -0.7**
DOU AP **pP 16 49 50.1 +3.4**
SNF Seneffe 96.14 38 P **P 16 49 14.6 +0.5**
SUMG Summit 96.25 9⇑ *i*P **P 16 49 14.9 +0.2**
SUMG pmax pmax
comp=Z,35nm,1.1s
SUMG MLR MLR
comp=Z,3μm,20.0s
SUMG Summit 96.25 9⇑ *i*P **P 16 49 14.9 +0.2**
comp=Z,35nm,1.1s
SUMG Summit 96.25 9 *e*P **P 16 49 14.5 -0.2**
comp=Z,75nm,1.0s
LOMF Lomont 96.26 41‖ *e*P **P 16 49 15.2 +0.3**
MOF Molkenrain 96.66 41 *e*P **P 16 49 16.5 -0.2**
CLTB Caltabellotta 96.66 52 *e*P **P 16 49 19.8 +2.8**
comp=Z,223nm,1.7s
BCLA Clavier 96.69 38 P **P 16 49 17.9 +1.3**
comp=Z,41nm,1.7s
ECH Echery 96.83 41‖ *e*P **P 16 49 17.4 0.0**
WLF Walferdange 96.85 39 P **P 16 49 17.8 +0.4**
comp=Z,113nm,1.5s
WLF AP **pP 16 49 52.0 +2.1**
WLF Walferdange 96.85 39 *e*P **P 16 49 16.7 -0.7**
WLF pmax pmax
comp=Z,147nm,1.1s
WLF Walferdange 96.85 39 *e*P **P 16 49 16.7 -0.7**
comp=Z,147nm,1.1s
AFI Afiamalu 96.95 252 PKKPbc PKKPbc 17 05 57.3 -1.5
comp=Z,18nm,0.8s,baz=102,slow=5.6,SNR=5.1
AFI LR LR 17 24 45.2
comp=Z,6μm,19.0s,baz=116,slow=30
BEBN Eben Emael 97.06 38 P **P 16 49 17.6 -0.7**
MEM Membach 97.17 38 P **P 16 49 18.3 -0.5**
comp=Z,37nm,1.4s
MEM AP **pP 16 49 54.4 +3.0**
HGN Heimansgroeve 97.20 38 *e*P **P 16 49 18.0 -0.9**
comp=Z,113nm,1.3s
HGN *e*pP **pP 16 49 54.0 +2.5**
HGN *e*PP **PP 16 53 09.6 -7.6**
HGN *e*S SKSac 16 59 55.8 +12
VLC Villacollemand 97.22 45 *e*P **P 16 49 18.7 -0.6**
comp=Z,34nm,1.2s
TUE Stuetta 97.47 43 *e*P **P 16 49 19.8 -0.8**
comp=Z,89nm,1.3s
VAE Valguarnera 97.51 53 P Pdif 16 49 22.4 +1.6
comp=Z,22nm,0.8s,baz=312,slow=12,SNR=3.3
VAE PP **PP 16 53 17.8 -2.2**
comp=Z,31nm,0.9s,baz=339,slow=11,SNR=5.4
VAE S **SKSac 16 59 52.4 +5.9**
comp=Z,5.0nm,0.4s,baz=16,slow=8.4,SNR=2.0
SKAG Skagway 97.54 332 *e*P Pdif 16 49 20.3 0.0
SKAG *e*pP pP 16 49 52.6 -0.2
LANF Langenberg 97.54 40‖ *e*P Pdif 16 49 20.8 +0.2
SCO Scoresbysund 97.58 14 *i* P Pdif 16 49 22.3 +2.0
SCO pmax pmax
comp=Z,12nm,1.1s
SCO Scoresbysund 97.58 14 *i* P Pdif 16 49 22.3 +2.0
comp=Z,12nm,1.1s
BFO Black Forest 97.59 41 *i* P Pdif 16 49 21.0 +0.1
BFO Black Forest 97.59 41 *e*P **P 16 49 20.4 -0.4**
comp=Z,25nm,1.0s
RES Resolute Bay 97.73 353 P Pdif 16 49 21.2 +0.4
comp=Z,3.7nm,0.7s,baz=13,slow=1.9,SNR=2.2
RES pP pP 16 49 53.6 +0.3
comp=Z,7.5nm,0.9s,baz=208,slow=10.0,SNR=1.7
RES sP sP 16 50 07.4 +0.8
comp=Z,4.5nm,0.6s,baz=130,slow=10,SNR=1.4
RES LR LR 17 37 29.2
comp=Z,4μm,20.1s,baz=152,slow=38
DAVOX Davos/Dischmat 97.93 43 P **P 16 49 22.1 -0.5**
comp=Z,28nm,0.8s,baz=241,slow=4.0,SNR=26
DAVOX pP **pP 16 49 56.1 +0.9**
comp=Z,13nm,0.8s,baz=56,slow=1.5,SNR=2.0
DAVOX sP **sP 16 50 09.9 +1.5**
comp=Z,9.2nm,0.8s,baz=342,slow=9.3,SNR=1.0
DAVOX PP **PP 16 53 20.5 -2.7**
comp=Z,25nm,0.9s,baz=223,slow=7.3,SNR=9.6
DAVOX S **SKSac 16 59 50.9 +2.4**
FUORN Ofenpass-Fuorn 98.11 43 *e*P **P 16 49 22.3 -1.2**
comp=Z,76nm,1.2s
DAVA Damuels 98.13 42 *i* Pdiff **P 16 49 22.8 -0.7**
comp=Z,361nm,2.2s,SNR=19
DAVA *i* PP **PP 16 53 21.6 -3.0**
comp=Z,1μm,3.0s
DAVA *i* SKSac **SKSac 16 59 52.6 +3.2**
comp=Z,521nm,4.4s
WTSB Winterswijk 98.20 37 *e*P **P 16 49 22.7 -0.7**
comp=Z,322nm,1.8s
WTSB *e*pP **pP 16 49 58.4 +2.4**
STU Stuttgart 98.29 41 *e*P **P 16 49 23.6 -0.3**
STU pmax pmax
comp=Z,57nm,1.0s
STU Stuttgart 98.29 41 *e*P **P 16 49 23.6 -0.3**
comp=Z,57nm,1.0s
FETA Feichten 98.56 43 *i* Pdiff **P 16 49 25.1 -0.3**
comp=Z,261nm,1.7s,SNR=38
FETA *i* PP **PP 16 53 23.9 -4.0**
comp=Z,943nm,3.1s
FETA *i* SKSac **SKSac 16 59 52.6 +1.0**
comp=Z,659nm,6.1s
AQU L'Aquila 98.57 48 *e*P Pdif 16 49 26.1 +0.7
AQU pmax pmax
comp=Z,106nm,1.1s
AQU L'Aquila 98.57 48 *e*P Pdif 16 49 26.1 +0.6
comp=Z,106nm,1.1s
RETA Reutte 98.76 42 *i* Pdiff **P 16 49 25.8 -0.3**
comp=Z,0.1nm,0.2s,SNR=18
RETA *i* PP **PP 16 53 26.2 -3.1**
comp=Z,1μm,4.0s
MOTA Moosalm 98.92 43 *i* Pdiff **P 16 49 26.6 -0.4**
comp=Z,99nm,1.2s,SNR=20
WATA Walderalm 99.21 43 *i* Pdiff **Pdif 16 49 27.8 -0.4**
comp=Z,81nm,1.1s,SNR=14
WTTA Wattenberg 99.22 43 *i* Pdiff **Pdif 16 49 28.2 -0.1**
comp=Z,143nm,1.1s,SNR=31
WTTA *i* PP **PP 16 53 29.3 -3.7**
comp=Z,44nm,1.9s
ABTA Abfaltersbach 99.59 44 *i* Pdiff **Pdif 16 49 29.6 -0.3**
comp=Z,237nm,1.7s,SNR=37
ABTA *i* PP **PP 16 53 32.1 -3.6**
comp=Z,759nm,2.7s
ABTA *e*SKSac **SKSac 16 59 57.0 +0.4**
comp=Z,566nm,6.8s
TIP Timpagrande 99.84 52 *e*Pdif **Pdif 16 49 31.2 +0.1**
comp=Z,103nm,1.4s
GRFO Grafenberg 99.87 40 *e*P **Pdif 16 49 30.6 -0.4**
GRFO pmax pmax
comp=Z,39nm,1.1s
GRFO Grafenberg 99.87 40 *e*Pdif **Pdif 16 49 30.6 -0.4**
comp=Z,39nm,1.1s
KBA Koelnbreinsper 100.24 43 *i* Pdiff **Pdif 16 49 32.3 -0.6**
comp=Z,166nm,2.3s,SNR=19
KBA *i* PP **PP 16 53 37.5 -3.3**
comp=Z,956nm,3.3s
KBA *e*SKSac **SKSac 17 00 00.6 +0.7**
comp=Z,1μm,9.5s
MYKA Terra Mystica 100.27 44 *i* Pdiff **Pdif 16 49 32.7 -0.2**
comp=Z,262nm,2.1s,SNR=29
MYKA *i* PP **PP 16 53 37.8 -3.1**
comp=Z,890nm,2.0s
JAVS Javornik 100.29 45 *e*Pdiff **Pdif 16 49 32.6 -0.4**
JAVS *e*PP **PP 16 53 33.4 -7.6**
JAVS *e*PKiKP PKiKP 16 53 38.0 -22
JAVS *e*SKSac **SKSac 17 00 02.8 +2.7**
JAVS *e*Sdiff **Sdif 17 01 00.9 +3.0**
JAVS *e*SS **SS 17 07 53.4 -2.7**
KMY Karmoy 100.45 30 *e*PP PP 16 53 40.5 -1.3
KMY *e*SKSac **SKSac 17 00 00.7 +0.8**
STAV Stavanger 100.55 30 *e*Pdif **Pdif 16 49 32.4 -1.3**
STAV *e*PP **PP 16 53 40.2 -2.2**
STAV *e*SKSac **SKSac 17 00 05.8 +5.4**
LJU Ljubljana 100.64 45 *e*Pdiff **Pdif 16 49 34.8 +0.3**
VISS Visnje 100.77 45 *e*Pdiff **Pdif 16 49 34.7 -0.4**
VISS *e*PKiKP **PP 16 53 39.9 -4.6**
VISS *e*SKSac **SKSac 17 00 05.0 +2.9**
VISS *e*Sdiff **Sdif 17 01 04.3 +2.6**
VISS *e*SS **SS 17 07 57.9 -4.6**
VNDS Vrh nad Dolski 100.78 45 *i* Pdiff **Pdif 16 49 35.0 -0.1**
NKC Novy Kostel 100.81 40 *e*PDIFF **Pdif 16 49 35.9 +0.8**
NKC *ex* x 16 49 45.5
NKC *e*pP pP 16 50 07.2 -0.6
NKC *e*PP PP 16 53 28.2 -17
NKC *ex* x 16 54 13.2
NKC *e*SKS 17 00 10.0
NKC *e*SDIF **Sdif 17 01 06.4 +4.5**
NKC *e*XS **sS 17 02 02.8 +3.9**
NKC *e*SP **SP 17 02 36.1 +3.2**
NKC *e*SS **SS 17 08 00.6 -2.4**
NKC AMS AMS 17 34 40.0
comp=Z,5μm,17.5s
NKC Novy Kostel 100.81 40 *e*P **Pdif 16 49 35.9 +0.8**
NKC *e*S **Sdif 17 01 06.4 +4.5**
NKC *e*SP **SP 17 02 36.1 +3.2**
NKC *e*SS **SS 17 08 00.6 -2.4**
NKC MLR MLR
comp=Z,5μm,17.5s
OBKA Obir 100.82 44 *i* Pdiff **Pdif 16 49 35.4 +0.1**
comp=Z,344nm,2.2s,SNR=22
OBKA *i* PP **PP 16 53 42.5 -2.5**
comp=Z,1μm,2.8s
BOJS Bojanci 100.94 45 *e*Pdiff **Pdif 16 49 35.7 -0.1**
BOJS *e*PP **PP 16 53 39.5 -6.3**
BOJS *i* PKiKP PKiKP 16 53 41.5 -19
BOJS *e*SKSac **SKSac 17 00 06.2 +3.2**
BOJS *e*Sdiff **Sdif 17 01 03.2 +0.1**
BOJS *e*SP SP 17 02 03.6 -31
PDKS Podkum 100.96 45 *i* PKiKP **PP 16 53 42.1 -3.8**
BER Bergen 100.99 29 *e*Pdif **Pdif 16 49 33.8 -1.8**
BER *e*PP **PP 16 53 43.9 -1.8**
BER *e*SKSac **SKSac 17 00 06.9 +4.4**
BER *e*SS **SS 17 08 06.3 +1.5**
SUE Sulen 101.02 28 *e*Pdif **Pdif 16 49 34.8 -0.9**
SUE *e*PP **PP 16 53 43.9 -2.0**
SUE *e*SKSac **SKSac 17 00 08.6 +6.0**
GEA0 GERESS Array S 101.08 42 *e*Pdif **Pdif 16 49 35.3 -1.1**
GEC2 GERESS Array S 101.09 42 *e*P **Pdif 16 49 35.7 -0.8**
GEC2 GERESS Array S 101.09 42 *e*Pdif **Pdif 16 49 35.7 -0.8**
GERES GERESS Array B 101.09 42 P **Pdif 16 49 36.3 -0.2**
comp=Z,6.6nm,0.9s,baz=236,slow=4.3,SNR=31
GERES pP pP 16 50 10.1 +0.8
comp=Z,4.7nm,0.7s,baz=212,slow=4.7,SNR=5.8
GERES PP **PP 16 53 44.2 -2.7**
comp=Z,7.7nm,0.9s,baz=225,slow=5.5,SNR=5.4
GERES S **SKSac 17 00 05.6 +1.8**
comp=Z,1.1nm,0.2s,baz=159,slow=8.0,SNR=5.8
GERES PKKPbc **PKKPbc 17 05 47.7 -1.0**
comp=Z,1.2nm,0.6s,baz=90,slow=2.7,SNR=4.3
GERES PKKPab PKKPdf 17 06 13.1 +19
comp=Z,2.0nm,0.9s,baz=60,slow=6.3,SNR=6.6
MOA Molln 101.10 43 *i* Pdiff **Pdif 16 49 36.3 -0.2**
comp=Z,227nm,2.2s,SNR=18
MOA *i* PP **PP 16 53 44.0 -3.0**
comp=Z,2μm,3.8s
BLS5 Blasjo 101.11 30 *e*P **Pdif 16 49 37.7 +1.5**
BLS5 *e*PP **PP 16 53 46.4 -0.3**
BLS5 *e*SKSac **SKSac 17 00 00.8 -2.5**
KHC Kasperske Hory 101.11 42 *e*PDIFF **Pdif 16 49 36.6 +0.1**
KHC *e*pP pP 16 50 13.3 +4.1
KHC *e*PP **PP 16 53 40.0 -7.0**
KHC *ex* x 16 54 21.5
KHC *e*SKS 17 00 08.0
KHC *e*SDIF **Sdif 17 01 08.5 +4.0**
KHC *e*XS **sS 17 02 05.9 +4.4**
KHC *e*SP **SP 17 02 39.1 +2.9**
KHC *ex* x 17 06 12.5
KHC *ex* x 17 07 52.6
KHC AMS AMS 17 33 20.0
comp=Z,3μm,18.1s

KHC	**Kasperske Hory**	**101.11**	**42**	*e*P	**Pdif**	**16 49 36.6**	**+0.1**
KHC				*e*		17 00 08.0	
KHC				*e*S	**Sdif**	**17 01 08.5**	**+4.0**
KHC				*e*SP	**SP**	**17 02 39.1**	**+2.9**
KHC				MLR	MLR		
	comp=Z,3µm,18.1s						
KHC	**Kasperske Hory**	**101.11**	**42**	*e*Pdif	**Pdif**	**16 49 35.7**	**-0.8**
SOKA	**Soboth**	**101.19**	**44**	*i* Pdiff	**Pdif**	**16 49 36.5**	**-0.5**
	comp=Z,129nm,1.7s,SNR=18						
SOKA				*i* PP	**PP**	**16 53 45.1**	**-2.7**
	comp=Z,1µm,3.8s						
JMIC	**Jan Mayen**	**101.27**	**17**	P	**Pdif**	**16 49 39.2**	**+2.6**
	comp=Z,49nm,0.9s,baz=158,slow=6.3,SNR=2.2						
JMIC	**Jan Mayen**	**101.27**	**17**	*e*SKSac	**SKSac**	**17 00 03.8**	**+0.3**
JMIC				*e*SS	**SS**	**17 08 09.3**	**+0.9**
INK	**Inuvik**	**101.36**	**340**	P	**Pdif**	**16 49 37.3**	**+0.2**
	comp=Z,10nm,0.9s,baz=107,slow=7.2,SNR=14						
INK				pP	pP	16 50 09.1	-0.8
	comp=Z,25nm,0.9s,baz=112,slow=4.1,SNR=8.8						
INK				PP	**PP**	**16 53 45.7**	**-2.6**
	comp=Z,5.0nm,0.9s,baz=119,slow=12,SNR=6.0						
INK				S	**SKSac**	**17 00 04.5**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=291,slow=31,SNR=5.0						
FOO	**Floro**	**101.37**	**28**	*e*Pdif	**Pdif**	**16 49 35.4**	**-1.9**
FOO				*e*PP	**PP**	**16 53 47.8**	**-0.7**
FOO				*e*SKSac	**SKSac**	**17 00 09.4**	**+5.2**
FOO				*e*SS	**SS**	**17 08 13.0**	**+2.9**
ODD1	**Odda**	**101.39**	**30**	*e*PP	PP	16 53 46.0	-2.9
ODD1				*e*SKSac	**SKSac**	**17 00 01.0**	**-3.6**
ODD1				*e*SS	**SS**	**17 08 12.1**	**+1.6**
CLL	**Collm**	**101.52**	**39**	*e*Pdif	**Pdif**	**16 49 38.0**	**-0.2**
	comp=Z,72nm,1.7s						
CLL				*e*Plp		16 49 38.0	
CLL				*i* pPdif	pP	16 50 14.9	+3.9
CLL				*e*PP	**PP**	**16 53 46.0**	**-4.0**
	comp=Z,293nm,2.1s						
CLL				*e*PPlp		16 53 47.0	
CLL				*i* pPP		16 54 17.5	
CLL				*e*pPPlp		16 54 19.0	
CLL				*e*SKSac	**SKSac**	**17 00 08.0**	**+2.5**
CLL				*e*Sdif	**Sdif**	**17 01 14.0**	**+6.3**
CLL				*e*sSdiff	sSdif	17 02 04.0	-0.5
CLL				*e*PS	**PS**	**17 03 00.0**	**+3.7**
CLL				*e*		17 03 39.0	
CLL				*e*SS	**SS**	**17 08 12.0**	**-0.7**
CLL				Lmax		17 30 00.0	
CLL	**Collm**	**101.52**	**39**	*e*P	**Pdif**	**16 49 38.0**	**-0.2**
CLL				*e*		17 00 08.0	
CLL				pmax	pmax		
	comp=Z,72nm,1.7s						
CLL				MLR	MLR		
	comp=Z,5µm,24.6s						
CLL	**Collm**	**101.52**	**39**	*e*Pdif	**Pdif**	**16 49 37.3**	**-0.9**
HOMB	**Homborsund**	**101.63**	**32**	*e*P	**Pdif**	**16 49 38.4**	**-0.1**
HOMB				*e*PP	**PP**	**16 53 47.3**	**-3.4**
HOMB				*e*SKSac	**SKSac**	**17 00 08.0**	**+2.3**
HYA	**Hoyanger**	**101.69**	**29**	*e*PP	PP	16 53 49.3	-1.7
HYA				*e*SKSac	**SKSac**	**17 00 08.0**	**+2.1**
HYA				*e*SS	**SS**	**17 08 16.0**	**+1.5**
ARSA	**Arzberg**	**101.70**	**44**	*i* Pdiff	**Pdif**	**16 49 38.9**	**-0.3**
	comp=Z,185nm,2.2s,SNR=15						
ARSA				*i* PP	**PP**	**16 53 48.4**	**-3.1**
	comp=Z,943nm,4.0s						
BRG	**Berggiesshubel**	**101.93**	**40**	*e*PDIFF	**Pdif**	**16 49 42.1**	**+2.1**
	comp=Z,54nm,1.8s						
BRG				pPDIFF		16 50 14.0	
BRG				PP	**PP**	**16 53 49.0**	**-4.1**
BRG				SKS		17 00 06.0	
BRG				SDIFF	**Sdif**	**17 01 15.0**	**+3.9**
BRG				*e*PKKP	PKKPdf	17 06 09.0	+16
	comp=Z,15nm,1.3s						
BRG				SS	**SS**	**17 08 17.0**	**-1.4**
BRG	**Berggiesshubel**	**101.93**	**40**	*e*P	**Pdif**	**16 49 42.1**	**+2.1**
BRG						16 53 49.0	
BRG						17 00 06.0	
BRG				S	**Sdif**	**17 01 15.0**	**+3.9**
BRG				SS	**SS**	**17 08 17.0**	**-1.4**
BRG				pmax	pmax		
	comp=Z,54nm,1.8s						
BRG				MLR	MLR		
	comp=N,880nm,18.9s						
BRG				MLR	MLR		
	comp=E,4µm,17.4s						
BRG				MLR	MLR		
	comp=Z,5µm,18.6s						
PRU	**Pruhonice**	**101.99**	**41**	*e*PDIFF	**Pdif**	**16 49 40.9**	**+0.5**
PRU				*ex*	x	16 49 47.1	
PRU				*e*pP	pP	16 50 17.5	+4.3
PRU				*e*PP	**PP**	**16 53 46.8**	**-6.8**
PRU				*ex*	x	16 54 22.4	
PRU				*e*SKS		17 00 13.7	
PRU				*e*SDIF	**Sdif**	**17 01 13.4**	**+1.7**
PRU				*e*XS	**sS**	**17 02 13.9**	**+5.0**
PRU				*e*SP	**SP**	**17 02 47.9**	**+2.5**
PRU				*ex*	x	17 06 08.5	
PRU				*e*SS	**SS**	**17 08 13.4**	**-5.9**
PRU				AMS	AMS	17 36 40.0	
	comp=Z,4µm,16.7s						
PRU	**Pruhonice**	**101.99**	**41**	*e*P	**Pdif**	**16 49 40.9**	**+0.5**
PRU				*e*S	**Sdif**	**17 01 13.4**	**+1.7**
PRU				*e*SP	**SP**	**17 02 47.9**	**+2.5**
PRU				*e*SS	**SS**	**17 08 13.4**	**-5.9**
PRU				MLR	MLR		
	comp=Z,4µm,16.7s						
GOPC	**GO Pecny, Ondr**	**102.11**	**41**	*e*PDIFF	**Pdif**	**16 49 42.0**	**+1.0**
GOPC				*e*PP	**PP**	**16 53 47.6**	**-7.0**
GOPC				*ex*	x	16 54 23.7	
GOPC				*e*SKS		17 00 14.5	
GOPC				*e*SDIF	**Sdif**	**17 01 13.1**	**+0.3**
GOPC				*e*XS	sS	17 02 14.3	+4.3
GOPC				*e*SP	**SP**	**17 02 49.8**	**+3.0**
GOPC				*e*SS	**SS**	**17 08 14.6**	**-6.5**
GOPC				AMS	AMS	17 36 50.0	
	comp=Z,4µm,17.5s						
GOPC	**GO Pecny, Ondr**	**102.11**	**41**	*e*P	**Pdif**	**16 49 42.0**	**+1.0**
GOPC				*e*S	**Sdif**	**17 01 13.1**	**+0.3**
GOPC				*e*SP	**SP**	**17 02 49.8**	**+3.0**
GOPC				*e*SS	**SS**	**17 08 14.6**	**-6.5**
GOPC				MLR	MLR		
	comp=Z,4µm,17.5s						
CONA	**Conrad Observa**	**102.14**	**43**	*i* Pdiff	**Pdif**	**16 49 41.1**	**-0.1**
	comp=Z,224nm,2.4s,SNR=16						
CONA				*i* PP	**PP**	**16 53 52.4**	**-2.4**
	comp=Z,2µm,3.4s						
PVCC	**Panska Ves**	**102.19**	**40**	*e*PDIFF	**Pdif**	**16 49 41.6**	**+0.4**
PVCC				*e*PP	**PP**	**16 53 48.9**	**-6.1**
PVCC				*e*SKS		17 00 14.5	
PVCC				*e*SDIF	**Sdif**	**17 01 14.8**	**+1.5**
PVCC				*e*SP	**SP**	**17 02 50.3**	**+2.8**
PVCC				AMS	AMS	17 36 10.0	
	comp=Z,5µm,17.5s						
PVCC	**Panska Ves**	**102.19**	**40**	*e*P	**Pdif**	**16 49 41.6**	**+0.4**
PVCC				*e*		17 00 14.5	
PVCC				*e*S	**Sdif**	**17 01 14.8**	**+1.5**
PVCC				*e*SP	**SP**	**17 02 50.3**	**+2.8**
PVCC				MLR	MLR		
	comp=Z,5µm,17.5s						
KEK	**Kerkira**	**102.23**	**52**	P	**PP**	**16 53 50.7**	**-5.0**
BEHE	**Becsehely**	**102.26**	**45**‖	*e*PP	PP	16 53 52.8	-2.9
TREC	**Trest**	**102.34**	**42**	*e*PDIFF	**Pdif**	**16 49 42.9**	**+0.9**
TREC				*ex*	x	16 49 50.3	
TREC				*e*pP		16 50 18.0	
TREC				*e*PP	**PP**	**16 53 48.7**	**-7.6**
TREC				*e*SKS		17 00 14.9	
TREC				*e*SDIF	**Sdif**	**17 01 15.0**	**+0.2**
TREC				*e*XS	sS	17 02 16.7	+4.7
TREC				AMS	AMS	17 40 00.0	
	comp=Z,3µm,18.9s						
TREC	**Trest**	**102.34**	**42**	*e*P	**Pdif**	**16 49 42.9**	**+0.9**
TREC				*e*		17 00 14.9	
TREC				*e*S	**Sdif**	**17 01 15.0**	**+0.2**
TREC				MLR	MLR		
	comp=Z,3µm,18.9s						
VLS	**Valsamata**	**102.35**	**54**	P	**PP**	**16 53 52.3**	**-4.3**
ZKS	**Zakynthos**	**102.35**	**54**	P	**PP**	**16 53 50.6**	**-6.0**
BMRM	**Bremner River**	**102.35**	**331**	*e*Pdif	**Pdif**	**16 49 41.8**	**0.0**
BMRM				*e*PKKPbc	**PKKPbc**	**17 05 45.6**	**+0.2**
EGAK	**Eagle**	**102.43**	**335**	*e*Pdif	**Pdif**	**16 49 41.7**	**-0.3**
AKN	**Aaknes**	**102.45**	**28**	*e*PP	PP	16 53 52.8	-3.9
AKN				*e*SKSac	**SKSac**	**17 00 09.7**	**+0.2**
AKN				*e*SS	**SS**	**17 08 28.6**	**+3.5**
SOP	**Sopron**	**102.50**	**44**‖	*e*PP	PP	16 53 49.3	-8.2
SGD	**Sagiada**	**102.52**	**52**	P	**PP**	**16 53 53.2**	**-4.7**
LKD2	**Lefkada island**	**102.59**	**53**	P	**PP**	**16 53 53.8**	**-4.6**
KONO	**Kongsberg**	**102.67**	**31**	*e*Pdif	**Pdif**	**16 49 41.9**	**-1.2**
KONO				*e*PP	**PP**	**16 53 57.8**	**-0.6**
KONO				*e*SKSac	**SKSac**	**17 00 16.0**	**+5.4**
KONO				*e*SS	**SS**	**17 08 29.8**	**+1.7**
PDG	**Podgorica**	**102.68**	**49**	P	**PP**	**16 53 55.4**	**-3.5**
PYL	**PYLOS**	**102.83**	**55**	P	**PP**	**16 53 54.9**	**-5.3**
MOL	**Molde**	**102.84**	**27**	*e*PP	PP	16 53 59.8	+0.2
MOL				*e*SKSac	**SKSac**	**17 00 13.0**	**+1.8**
MOL				*e*SS	**SS**	**17 08 33.3**	**+3.0**
PDO	**Prodromos**	**102.92**	**54**	P	**PP**	**16 53 57.4**	**-3.5**
DIV	**Divide**	**102.94**	**331**	*e*Pdif	**Pdif**	**16 49 44.1**	**-0.3**
	comp=Z,12nm,0.8s						
JAN	**Janina**	**102.99**	**52**	P	**PP**	**16 53 58.1**	**-3.3**
DSL	**Palaion Diasel**	**103.02**	**53**	P	**PP**	**16 53 58.5**	**-3.1**
VRAC	**Vranov**	**103.03**	**42**	P	**Pdif**	**16 49 44.9**	**-0.1**
	comp=Z,8.7nm,1.0s,baz=258,slow=4.8,SNR=11						
VRAC				pP	**pPdif**	**16 50 15.9**	**-1.7**
	comp=Z,2.3nm,0.5s,baz=256,slow=4.7,SNR=2.1						
VRAC				PP	**PP**	**16 53 58.6**	**-2.8**
	comp=Z,16nm,0.9s,baz=249,slow=9.0,SNR=9.5						
VRAC	**Vranov**	**103.03**	**42**‖	*i*P	**Pdif**	**16 49 46.8**	**+1.8**
VRAC	**Vranov**	**103.03**	**42**‖	*i*P	PP	16 53 40.6	-21
VRAC	**Vranov**	**103.03**	**42**‖	P	**Pdif**	**16 49 46.8**	**+1.8**
UPC	**Upice**	**103.05**	**41**	*e*PDIFF	**Pdif**	**16 49 46.1**	**+1.0**
UPC				*ex*	x	16 49 51.9	
UPC				*e*PP	**PP**	**16 53 55.9**	**-5.6**
UPC				*e*SKS		17 00 18.3	
UPC				*e*SDIF	**Sdif**	**17 01 19.0**	**-1.6**
UPC				*e*XS		17 02 19.2	
UPC				*e*SP	**SP**	**17 02 59.4**	**+2.8**
UPC				*e*PKKP	**PKKPbc**	**17 05 44.4**	**+1.5**
UPC				*e*SS	**SS**	**17 08 28.2**	**-5.7**
UPC				AMS	AMS	17 37 00.0	
	comp=Z,5µm,17.2s						
UPC	**Upice**	**103.05**	**41**	*e*P	**Pdif**	**16 49 46.1**	**+1.0**
UPC				*e*		17 00 18.3	
UPC				*e*S	**Sdif**	**17 01 19.0**	**-1.6**
UPC				*e*SP	**SP**	**17 02 59.4**	**+2.8**
UPC				*e*SS	**SS**	**17 08 28.2**	**-5.7**
UPC				MLR	MLR		
	comp=Z,5µm,17.2s						
ITM	**Ithomi**	**103.06**	**55**	P	**PP**	**16 53 56.8**	**-5.1**
DRO	**Drossia**	**103.12**	**54**	P	**PP**	**16 53 59.4**	**-3.0**
DOT	**Dot Lake**	**103.14**	**334**	*e*Pdif	**Pdif**	**16 49 44.4**	**-0.8**
PVO	**Paravola**	**103.18**	**54**	P	**PP**	**16 53 58.4**	**-4.4**
DPC	**Dobruska-Polom**	**103.19**	**41**	*e*PDIFF	**Pdif**	**16 49 46.8**	**+1.0**
DPC				*e*pP		16 50 21.9	
DPC				*e*PP	**PP**	**16 53 56.7**	**-5.9**
DPC				*ex*	x	16 54 31.3	
DPC				*e*SKS		17 00 19.5	
DPC				*ex*	x	17 01 01.8	
DPC				*e*SDIF	**Sdif**	**17 01 19.0**	**-2.8**
DPC				*e*XS		17 02 22.2	
DPC				*e*SP	**SP**	**17 02 59.4**	**+1.8**
DPC				*ex*	x	17 06 03.6	
DPC				*e*SS	**SS**	**17 08 32.2**	**-3.7**
DPC				AMS	AMS	17 35 30.0	
	comp=Z,4µm,20.5s						
DPC	**Dobruska-Polom**	**103.19**	**41**	*e*P	**Pdif**	**16 49 46.8**	**+1.0**
DPC				*e*		17 00 19.5	
DPC				*e*		17 01 01.8	
DPC				*e*S	**Sdif**	**17 01 19.0**	**-2.8**
DPC				*e*SP	**SP**	**17 03 00.0**	**+1.8**
DPC				*e*SS	**SS**	**17 08 32.2**	**-3.7**
DPC				MLR	MLR		
	comp=Z,4µm,20.5s						
OSL	**Oslo**	**103.31**	**31**	*e*PP	PP	16 54 01.0	-2.1
OSL				*e*SKSac	**SKSac**	**17 00 14.8**	**+1.3**
KSP	**Ksiaz**	**103.33**	**40**	*e*Pdif	**Pdif**	**16 49 46.9**	**+0.6**
KSP				*e*PP	**PP**	**16 53 59.8**	**-3.7**
KSP				*e*SKSac	**SKSac**	**17 00 18.8**	**+4.8**
KSP				*e*SP	**SP**	**17 03 01.4**	**+1.9**
KSP				*e*SS	**SS**	**17 08 36.0**	**-1.7**
KSP				LMZ	LR	17 36 25.6	
	comp=Z,6µm,19.5s						
KSP	**Ksiaz**	**103.33**	**40**	*e*P	**Pdif**	**16 49 46.9**	**+0.6**
KSP				*e*		16 53 59.8	
KSP				*e*		17 00 18.8	
KSP				*e*SP	SP	17 03 01.4	+1.9
KSP				*e*SS	**SS**	**17 08 36.0**	**-1.7**
KSP				MLR	MLR		
	comp=Z,6µm,19.5s						
NEST	**Nestorio**	**103.36**	**52**	P	**PP**	**16 54 01.8**	**-2.4**
PENT	**Pentalofos**	**103.36**	**52**	P	**PP**	**16 53 59.6**	**-4.7**
LAKA	**Lakka**	**103.41**	**54**	P	**PP**	**16 54 01.5**	**-3.1**
KPRO	**Kipourio**	**103.46**	**52**	P	**PP**	**16 53 58.0**	**-6.9**
VLX	**Vlachokerasia**	**103.46**	**55**	P	PP	16 53 54.6	-10
ANX	**Ano Chora**	**103.47**	**54**	P	**PP**	**16 54 03.0**	**-2.1**
EVR	**Evrytania**	**103.48**	**53**	P	**PP**	**16 54 01.8**	**-3.4**
KLV	**Kalavryta, Ach**	**103.48**	**54**	P	**PP**	**16 54 00.8**	**-4.3**
SERG	**Sergoula**	**103.52**	**54**	P	**PP**	**16 54 00.3**	**-5.1**
KALE	**Kalithea**	**103.58**	**54**	P	**PP**	**16 54 01.7**	**-4.1**
KYTH	**Kithira**	**103.65**	**56**	P	**PP**	**16 54 03.0**	**-3.4**
DIVS	**Divibare**	**103.69**	**48**	P	**PP**	**16 54 02.7**	**-3.9**
VLI	**Veliai**	**103.69**	**56**	P	**PP**	**16 54 02.5**	**-4.2**
FNA	**Florina**	**103.71**	**51**	P	**PP**	**16 54 02.1**	**-4.7**
ANKY	**Antikythira Is**	**103.73**	**57**	P	**PP**	**16 54 03.7**	**-3.2**
NBO02	**NORSAR Array S**	**103.75**	**29**	*e*Pdif	**Pdif**	**16 49 49.1**	**+1.2**
MORC	**Moravsky Berou**	**103.77**	**42**⇑	*i*P	**Pdif**	**16 49 50.2**	**+1.9**
MORC	**Moravsky Berou**	**103.77**	**42**⇑	P	**Pdif**	**16 49 50.2**	**+1.9**
MORC	**Moravsky Berou**	**103.77**	**42**	*e*Pdif	**Pdif**	**16 49 49.5**	**+1.1**
THL	**Klokotos Trika**	**103.82**	**53**	P	**PP**	**16 54 02.6**	**-4.9**
KZN	**Kozani**	**103.86**	**52**	P	**PP**	**16 54 04.4**	**-3.5**
THAL	**Thalero**	**103.87**	**54**	P	**PP**	**16 54 03.3**	**-4.6**
DSF	**Desfina**	**103.87**	**54**	P	**PP**	**16 54 04.8**	**-3.2**
AGG	**Agios Georgios**	**103.90**	**53**	P	**PP**	**16 54 05.4**	**-2.8**
NB2	**NORSAR Subarra**	**103.91**	**30**	P	**Pdif**	**16 49 49.2**	**+0.5**
	comp=Z,60nm,1.7s,baz=252,slow=4.4						
NB2	**NORSAR Subarra**	**103.91**	**30**	P	**Pdif**	**16 49 49.2**	**+0.5**
	baz=252,slow=4.4						
NOA	**NORSAR Array B**	**103.91**	**30**	Pdiff	**Pdif**	**16 49 49.2**	**+0.5**
	comp=Z,5.2nm,1.0s,baz=250,slow=4.3,SNR=7.0						
NOA				PP	**PKiKP**	**16 54 06.2**	**+0.5**
	comp=Z,49nm,1.1s,baz=247,slow=7.6,SNR=15						
NOA				PKKPbc	**PKKPbc**	**17 05 38.9**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=20,slow=2.5,SNR=3.3						
NOA				PKKPab	PKKPdf	17 05 57.4	+7.8
	comp=Z,3.1nm,0.9s,baz=70,slow=4.6,SNR=6.3						
BUD	**Budapest**	**104.03**	**44**‖	*e*PP	PP	16 54 04.7	-4.2
GVD	**Gavdhos**	**104.04**	**58**	P	**PP**	**16 54 06.0**	**-3.3**
KRND	**KRANIDI**	**104.05**	**55**	P	**PP**	**16 54 04.5**	**-4.8**
KMBO	**Kilima Mbogo**	**104.08**	**97**	Pdiff	**Pdif**	**16 49 49.5**	**-1.3**
	comp=Z,0.7nm,0.2s,baz=240,slow=4.2,SNR=3.4						
KMBO				PP	**PKiKP**	**16 54 05.8**	**-1.9**
	comp=Z,5.4nm,0.9s,baz=239,slow=7.8,SNR=6.1						
KMBO				Sdiff		17 00 27.4	
	comp=Z,0.4nm,0.3s,baz=221,slow=16,SNR=2.2						
LTK	**Loutraki**	**104.09**	**54**	P	**PP**	**16 54 04.4**	**-5.2**
IMMV	**Iera Moni Meta**	**104.14**	**57**	P	**PP**	**16 54 04.7**	**-5.3**
DID	**Didima**	**104.15**	**55**	P	**PP**	**16 54 05.7**	**-4.4**
OKC	**Ostrava-Krasne**	**104.16**	**42**	*e*PDIFF	**Pdif**	**16 49 50.4**	**+0.4**
OKC				*e*PP	**PP**	**16 54 08.2**	**-1.6**
OKC				*e*SKS		17 00 23.8	
OKC				*ex*	x	17 01 07.7	
OKC				*e*SDIF	**Sdif**	**17 01 27.3**	**-2.5**
OKC				*ex*	x	17 02 34.1	
OKC				AMS	AMS	17 38 30.0	
	comp=Z,3µm,17.8s						
OKC	**Ostrava-Krasne**	**104.16**	**42**	*e*P	**Pdif**	**16 49 50.4**	**+0.4**
OKC				*e*		16 54 08.2	
OKC				*e*		17 00 23.8	
OKC				*e*		17 01 07.7	
OKC				*e*S	**Sdif**	**17 01 27.3**	**-2.5**
OKC				MLR	MLR		
	comp=Z,3µm,17.8s						
VYHS	**Vyhne**	**104.20**	**43**	*e*P	**Pdif**	**16 49 50.0**	**-0.3**
VYHS				*e*		17 00 21.1	
VYHS				*e*S	**SKKSac**	**17 01 05.0**	**+2.8**
VYHS				pmax	pmax		
	comp=Z,18nm,1.7s						
VYHS	**Vyhne**	**104.20**	**43**	*e*P	**Pdif**	**16 49 50.0**	**-0.3**
VYHS				*e*		16 49 52.2	
VYHS				*e*PP	**PKiKP**	**16 54 04.3**	**-2.2**
VYHS				*e*		17 00 21.1	
VYHS				*e*S	**SKKSac**	**17 01 05.0**	**+2.8**
VYHS				*e*SS	SS	17 08 39.0	-11
TBLU	**Trondheim**	**104.24**	**27**	*e*SKSac	**SKSac**	**17 00 18.3**	**+0.6**
TBLU				*e*SS	**SS**	**17 08 56.5**	**+6.9**
RAC	**Raciborz**	**104.26**	**42**	*e*P	**Pdif**	**16 49 51.0**	**+0.6**
RAC				*e*		16 54 08.5	
RAC				*e*		17 00 22.9	
RAC				MLR	MLR		
	comp=Z,4µm,23.7s						
VAM	**Vamos**	**104.30**	**57**	P	**PP**	**16 54 06.6**	**-4.6**
LKR	**Lokris**	**104.30**	**54**	P	**PP**	**16 54 06.7**	**-4.4**
ATAL	**Atalanti**	**104.32**	**54**	P	**PP**	**16 54 07.5**	**-3.8**
LIT	**Litokhoron**	**104.33**	**52**	P	**PP**	**16 54 06.3**	**-5.0**
SML	**Sawmill**	**104.33**	**331**	*e*P	**Pdif**	**16 49 49.8**	**-0.7**
SML				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SML	**Sawmill**	**104.33**	**331**	*e*Pdif	**Pdif**	**16 49 49.8**	**-0.7**
	comp=Z,2.7nm,0.8s						
VILL	**Villia**	**104.39**	**54**	P	**PP**	**16 54 06.3**	**-5.6**
FYTO	**Fytoko, Volos**	**104.47**	**53**	P	**PP**	**16 54 06.9**	**-5.4**
GRG	**Griva**	**104.50**	**51**	P	**PP**	**16 54 06.4**	**-6.2**
SMIA	**Simia**	**104.52**	**54**	P	**PP**	**16 54 07.6**	**-5.2**
XOR	**Xorichti**	**104.64**	**53**	P	**PP**	**16 54 06.6**	**-7.1**
NEO	**Neokhori**	**104.65**	**53**	P	**PP**	**16 54 09.2**	**-4.5**
SIVA	**Sivas**	**104.66**	**58**	P	**PP**	**16 54 09.2**	**-4.7**
VLY	**Voula,Athens**	**104.67**	**55**	P	**PP**	**16 54 06.8**	**-7.1**
ATHU	**Athens Univers**	**104.70**	**55**	P	**PP**	**16 54 10.0**	**-4.1**
ATHU	**Athens Univers**	**104.70**	**55**	P	**PP**	**16 54 10.0**	**-4.1**
ILAR	**Eielson Array**	**104.70**	**334**	Pdiff	**Pdif**	**16 49 50.6**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=95,slow=4.1,SNR=13						
ILAR				pPdif	**pPdif**	**16 50 23.0**	**-1.7**
	comp=Z,2.1nm,0.9s,baz=119,slow=4.1,SNR=4.5						
ILAR				sPdiff	**sPdif**	**16 50 37.1**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=125,slow=3.3,SNR=5.8						
ILAR				PP	**PP**	**16 54 14.3**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=99,slow=5.6,SNR=6.2						
ILAR				Sdiff		17 00 21.1	
	comp=Z,0.3nm,0.5s,baz=320,slow=33,SNR=4.4						
ILAR				PKKPbc	**PKKPbc**	**17 05 36.5**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=300,slow=3.6,SNR=5.0						
ILAR				PKKPab	**PKKPab**	**17 05 56.9**	**+4.0**
	comp=Z,1.8nm,0.9s,baz=291,slow=3.1,SNR=4.5						
PSZ	**Piszkesteto**	**104.72**	**44**‖	*e*PKiKP	**PKiKP**	**16 54 09.5**	**+2.0**
PSZ	**Piszkesteto**	**104.72**	**44**	*e*PKiKP	**PKiKP**	**16 54 06.7**	**-0.8**
VAY	**Valandovo**	**104.73**	**51**	P	**PP**	**16 54 10.8**	**-3.4**
RC01	**Rabbit Creek A**	**104.74**	**330**	*e*PKKPbc	PKKPbc	17 05 36.9	-1.3
PTL	**Penteli**	**104.78**	**55**	P	**PP**	**16 54 09.9**	**-4.9**
PTL	**Penteli**	**104.78**	**55**	P	**PP**	**16 54 09.9**	**-4.9**
HFS	**Hagfors**	**104.78**	**31**	Pdiff	**Pdif**	**16 49 51.7**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=108,slow=4.8,SNR=3.8						
HFS				PP	**PP**	**16 54 12.7**	**-1.4**
	comp=Z,64nm,1.0s,baz=215,slow=1.8,SNR=10						
LANS	**Liptovska Anna**	**104.79**	**43**	*e*P	**Pdif**	**16 49 56.1**	**+3.2**
LANS				*e*		16 54 13.7	
LANS	**Liptovska Anna**	**104.79**	**43**	*e*P	**Pdif**	**16 49 56.1**	**+3.2**
LANS				*e*PP	**PP**	**16 54 13.7**	**-0.8**
SKIA	**Skiathos**	**104.79**	**53**	P	**PP**	**16 54 10.1**	**-4.7**
IDI	**Anoyia**	**104.80**	**58**	Pdiff	**Pdif**	**16 49 52.6**	**-0.7**
	comp=Z,5.8nm,1.0s,baz=210,slow=22,SNR=1.9						
IDI				PP	**PP**	**16 54 12.0**	**-3.1**
	comp=Z,27nm,1.0s,baz=248,slow=9.6,SNR=10						
IDI				Sdiff		17 00 24.3	
	comp=Z,4.0nm,0.9s,baz=50,slow=13,SNR=2.5						
IDI	**Anoyia**	**104.80**	**58**	P	**PP**	**16 54 09.1**	**-5.9**
MHLO	**Agia Marina, M**	**104.81**	**56**	P	**PP**	**16 54 11.8**	**-3.2**
THE	**Thessaloniki**	**104.82**	**52**	P	**PP**	**16 54 10.0**	**-4.9**
EREA	**Eretria**	**104.93**	**54**	P	PP	16 54 06.8	-9.1
CNPM	**China Poot**	**104.97**	**328**	*e*PP	PP	16 54 15.4	-0.2
CCB	**Clear Creek Bu**	**105.03**	**334**	*e*Pdif	**Pdif**	**16 49 52.9**	**-0.6**
MDVR	**Moldovita**	**105.07**	**48**‖	*i*P	**Pdif**	**16 49 56.4**	**+2.1**
MDVR	**Moldovita**	**105.07**	**48**‖	*i*P	**PKiKP**	**16 54 12.8**	**+4.5**
RND	**Reindeer**	**105.07**	**333**	*e*P	**Pdif**	**16 49 53.6**	**-0.3**
RND	**Reindeer**	**105.07**	**333**	*e*Pdif	**Pdif**	**16 49 53.6**	**-0.3**
AOS	**Alonnisos**	**105.10**	**54**	P	**PP**	**16 54 13.3**	**-3.7**
AOS	**Alonnisos**	**105.10**	**54**	P	**PP**	**16 54 13.3**	**-3.7**
PLG	**Polygyros**	**105.11**	**52**	P	**PP**	**16 54 10.6**	**-6.5**
KDAK	**Kodiak Island**	**105.13**	**326**	*e*PKKPbc	PKKPbc	17 05 36.

TRPA	Tarpa	106.49	44	‖	*e*	PKiKP	PP	16 54 26.8	-0.2
KOLS	Kolonicke sedl	106.51	43		*e*	P	Pdif	16 50 03.2	+2.7
KOLS					*e*			17 00 29.0	
KOLS					*e*	SS	SS	17 09 14.9	-6.4
KOLS						pmax	pmax		
	comp=Z,5.0nm,1.5s								
KOLS	Kolonicke sedl	106.51	43		*e*	P	Pdif	16 50 03.2	+2.7
KOLS					*e*	PP	PP	16 54 22.2	-5.0
KOLS					*e*			17 00 29.0	
KOLS					*e*	S	Sdif	17 01 48.4	-1.1
KOLS					*e*	SS	SS	17 09 14.9	-6.4
CHOS	Chios island	106.53	55			P	PP	16 54 24.3	-3.4
CHOS	Chios island	106.53	55			P	PP	16 54 24.3	-3.4
SIGR	SIGRI	106.59	54			P	PP	16 54 22.3	-5.7
SIGR	SIGRI	106.59	54			P	PP	16 54 22.3	-5.7
KARP	Karpathos	106.66	58			P	PP	16 54 23.0	-5.7
KARP	Karpathos	106.66	58		*e*	PKiKP	PKiKP	16 54 14.8	+3.3
KARP						P	PP	16 54 23.0	-5.7
SMTH	Samothraki Isl	106.67	53			P	PP	16 54 22.1	-6.5
COLD	Coldfoot	106.75	336		*e*	Pdif	Pdif	16 50 01.9	+0.8
GADA	Gvkgeada	106.87	53			P	PP	16 54 24.0	-6.0
NIS1	Nisyros Isl.	106.94	57			P	PP	16 54 26.0	-4.7
NIS1	Nisyros Isl.	106.94	57			P	PP	16 54 26.0	-4.7
KWP	Kalwaria Pacla	106.96	43		*e*	Pdiff	Pdif	16 50 03.1	+0.6
KWP					*e*	PP	PP	16 54 27.6	-2.8
KWP					*e*	SKSac	SKSac	17 00 33.9	+3.4
KWP					*e*	SP	SP	17 03 42.7	+5.5
KWP					*e*	SS	SS	17 09 29.0	+1.7
KWP						LMZ	LR	17 33 19.9	
	comp=Z,6μm,27.4s								
KWP	Kalwaria Pacla	106.96	43	‖	*i*	P	Pdif	16 50 03.6	+1.1
KWP	Kalwaria Pacla	106.96	43	⇑	*i*	P	PKiKP	16 54 12.5	+0.9
KWP	Kalwaria Pacla	106.96	43		*e*	P	Pdif	16 50 03.1	+0.6
KWP					*e*			16 54 27.6	
KWP					*e*			17 00 33.9	
KWP					*e*	SP	SP	17 03 42.7	+5.5
KWP					*e*	SS	SS	17 09 29.0	+1.7
KWP						MLR	MLR		
	comp=Z,6μm,27.4s								
SMG	Samos	106.96	56			P	PP	16 54 26.7	-4.1
SMG	Samos	106.96	56			P	PP	16 54 26.7	-4.1
LOF	Lofoten	107.04	23		*e*	Pdif	Pdif	16 50 01.3	-1.1
LOF					*e*	PP	PP	16 54 30.4	-0.1
LOF					*e*	SKSac	SKSac	17 00 35.3	+5.4
LOF					*e*			17 09 15.1	
ALN	Alexandroupoli	107.15	52			P	PP	16 54 27.6	-4.5
ARR	Arges	107.22	47	‖	*i*	P	PP	16 54 29.4	-3.1
SVW2	Sparrevohn	107.47	329		*e*	PKKPbc	PKKPbc	17 05 30.5	+0.8
VOIR		107.52	47	⇑	*i*	P	Pdif	16 50 08.3	+3.1
VOIR		107.52	47	⇑	*i*	P	PP	16 54 24.2	-11
VOIR		107.52	47	⇑		P	Pdif	16 50 08.3	+3.1
SZH	Strazhica	107.64	50		*i*	P	Pdif	16 50 05.4	-0.2
LVV	L'vov	107.84	43		*e*	P	Pdif	16 50 03.8	-2.6
LVV					*e*			16 54 35.2	
LVV					*e*			17 00 30.9	
LVV					*e*	PS	PS	17 03 49.2	-13
LVV					*e*	SS	SS	17 09 55.2	+16
DOPR	Dopca	107.87	47	⇑	*i*	P	PP	16 54 27.2	-10
EDRB	Edirne	107.89	51			P	PP	16 54 34.1	-3.3
YER	Yerkesik	107.93	57			P	PP	16 54 29.7	-8.3
BUR08	Bucovina Ar. S	108.12	45		*e*	Pdif	Pdif	16 50 07.2	-0.6
BUR08					*e*	PP	Pdif	16 50 37.6	-1.5
BURAR	Bucovina Array	108.12	45	‖	*i*	P	Pdif	16 50 11.1	+3.3
BURAR	Bucovina Array	108.12	45	‖	*i*	P	PP	16 54 35.1	-4.0
BURAR	Bucovina Array	108.12	45	‖		P	Pdif	16 50 11.1	+3.3
MLR	Muntele Rosu	108.15	48			Pdiff	Pdif	16 50 10.6	+2.5
	comp=Z,0.5nm,0.5s,baz=190,slow=8.3,SNR=4.1								
MLR						PP	PP	16 54 39.3	-0.1
	comp=Z,12nm,1.2s,baz=246,slow=11,SNR=15								
MLR	Muntele Rosu	108.15	48	‖	*i*	P	Pdif	16 50 10.4	+2.4
MLR	Muntele Rosu	108.15	48	⇑	*i*	P	PKiKP	16 54 15.7	+1.6
MLR	Muntele Rosu	108.15	48	‖		P	Pdif	16 50 10.4	+2.4
MLR	Muntele Rosu	108.15	48			Pdif	Pdif	16 50 10.6	+2.5
MLR					*e*	PKiKP	PKiKP	16 54 09.9	-4.2
MLR						PP	PP	16 54 39.3	-0.1
MLR					*e*	PKKPdf	PKKPdf	17 05 41.6	+0.3
SUW	Suwalki	108.22	38		*e*	Pdiff	Pdif	16 50 06.6	-1.3
SUW					*e*	PP	PP	16 54 34.9	-4.6
SUW					*e*	SKSac	SKSac	17 00 35.7	+0.1
SUW					*e*	SKSdf	SKKSac	17 01 30.8	+0.7
SUW					*e*	SS	SS	17 09 35.6	-8.4
SUW						LMZ	LR	17 32 36.7	
	comp=Z,5μm,27.9s								
SUW	Suwalki	108.22	38		*e*	P	Pdif	16 50 06.6	-1.3
SUW					*e*			17 00 35.7	
SUW						MLR	MLR		
	comp=Z,5μm,27.9s								
ISR	Istrita	108.48	48	⇑	*i*	P	PKiKP	16 54 14.9	+0.3
KULA	Kula-Manisa	108.55	55			P	PP	16 54 36.9	-5.6
VRI	Vrincioaia	108.76	47	⇑	*i*	P	PKiKP	16 54 16.1	+1.0
TRO	Tromso	109.28	22		*e*	SKSac	SKSac	17 00 42.6	+3.2
HARR	Harsova	109.35	49	‖	*i*	P	PKiKP	16 54 17.7	+1.6
KBS	Kingsbay	109.37	12		*e*	PP	PP	16 54 45.0	-2.2
CFR	Carcaliu	109.59	48	⇑	*i*	P	PKiKP	16 54 17.0	+0.4
TIRR	Tirgusor	109.64	49	⇑	*i*	P	PKiKP	16 54 17.3	+0.6
TLCR		110.06	48	⇑	*i*	P	PKiKP	16 54 18.8	+1.3
TLCR		110.06	48	⇑	PKiKP		PKiKP	16 54 18.8	+1.3
SPA0	Spitsbergen Ar	110.08	13		*e*			16 55 11.4	
SPA0					*e*	SKSac	SKSac	17 00 42.1	-0.6
ISAL	Salakas	110.18	37		*e*	P	PP	16 54 51.2	-2.4
ISAL						IAmb	IAmb	16 54 54.1	
	comp=Z,45nm,1.6s								
IZAR	Zarasai	110.28	37		*e*	P	PP	16 54 51.5	-2.9
IZAR						IAmb	IAmb	16 54 54.9	
	comp=Z,14nm,0.7s								
SORM	Soroca	110.29	45	‖	*i*	P	PP	16 54 46.2	-8.4
KIS	Kishinev	110.40	46		*e*	P	Pdif	16 50 20.0	+2.2
KIS					*ep*	P		16 50 50.0	
KIS	Kishinev	110.40	46		*i*	PP	PP	16 54 44.0	-11
	comp=Z,900nm,8.0s								
KIS	Kishinev	110.40	46		*i*	PS	PS	17 04 25.0	-1.8
KIS						LRM	MLR	17 44 38.0	
	comp=Z,2μm,18.0s								
KIS	Kishinev	110.40	46		*e*	P	Pdif	16 50 20.0	+2.2
KIS					*i*			17 00 46.0	
KIS					*i*	PS	PS	17 04 25.0	-1.8
KIS						pmax	pmax		
	comp=Z,900nm,8.0s								
NACGM	Naroch	110.45	38		*e*	PKP	pPKiKP	16 54 50.0	-1.8
NACGM					*e*	SKS	SKSdf	17 01 45.0	+27
NACGM					*e*	SKKS	SKKSac	17 02 26.0	+41
NACGM					*e*	SKKKS		17 03 38.0	
NACGM					*e*	PS	PKKPab	17 05 24.0	-3.7
NACGM					*e*	LQ	LQ	17 31 04.0	
NACGM					*e*	LR	LR	17 37 52.0	
NACGM						LRM	MLR	17 41 11.0	
	comp=Z,4.2nm,20.0s								
IDID	Didziasalis	110.49	37		*e*	P	PP	16 54 53.4	-2.4
IDID						IAmb	IAmb	16 54 56.4	
	comp=Z,31nm,1.2s								
FINES	FINESS Array B	110.98	31			PKiKP	PKiKP	16 54 19.8	+1.1
	comp=Z,2.3nm,0.8s,baz=70,slow=2.8,SNR=3.9								
FINES						PP	PP	16 54 59.6	+0.4
	comp=Z,31nm,1.1s,baz=262,slow=5.6,SNR=15								
FINES						PKKPbc	PKKPbc	17 05 17.2	-1.2
	comp=Z,1.7nm,0.6s,baz=67,slow=6.4,SNR=6.6								
FINES						PKKPab	PKKPab	17 05 26.7	+1.6
	comp=Z,4.9nm,0.7s,baz=108,slow=5.0,SNR=8.8								
FIA1	FINESS Array S	110.99	31		*e*	PKKPab	PKKPab	17 05 26.5	+1.4
MICGM	Minsk	111.02	38		*e*	P	Pdif	16 50 20.0	-0.4
MICGM					*ep*			16 50 54.0	
MICGM					*e*	PKP	pPKiKP	16 54 59.0	+6.1
MICGM					*e*	PP	PP	16 55 09.0	+9.3
MICGM					*e*	PPP	PPP	16 57 10.0	
MICGM					*e*	SKS	SKSac	17 00 46.0	-1.4
MICGM					*e*	SKKS	SKKSac	17 01 48.0	-1.4
MICGM					*e*	PS	PS	17 04 32.0	-0.2
MICGM					*e*	SS	SS	17 10 33.0	+11
MICGM					*e*	SSS	SSS	17 14 18.0	
MICGM					*e*	LR	LR	17 31 10.0	
MICGM						LRM	MLR	17 40 30.0	
	comp=Z,5.1nm,20.0s								
MNK	Minsk	111.02	38		*e*	P	Pdif	16 50 20.0	-0.4
MNK					*e*			16 55 09.0	
MNK					*e*			17 00 46.0	
MNK					*e*	PS	PS	17 04 32.0	-0.2
MNK					*e*	SS	SS	17 10 33.0	+11
MNK						MLR	MLR		
	comp=Z,5μm,20.0s								
HAMF	Hammerfest	111.03	21		*e*	Pdif	Pdif	16 50 15.9	-4.2
HAMF					*e*	PP	PP	16 54 56.1	-3.2
HAMF					*e*	SKSac	SKSac	17 00 50.4	+3.7
HAMF					*e*	SS	SS	17 10 23.1	+2.3
DZM	Mont Dzumac	111.03	234		*e*	Pdif	Pdif	16 50 27.5	+6.0
	comp=Z,945nm,26.9s								
DZM	Mont Dzumac	111.03	234		*e*	PP	PP	16 55 07.5	+7.5
	comp=Z,2μm,27.1s								
DZM					*e*	SKSac	SKSac	17 00 49.1	-0.2
	comp=Z,4μm,27.9s								
DZM					*e*	SP	SP	17 04 14.1	-4.3
	comp=Z,5μm,31.7s								
DZM					*e*	SS	SS	17 10 27.2	+5.1
	comp=Z,8μm,32.3s								
DZM	Mont Dzumac	111.03	234		*e*	LR	LR	17 27 26.2	
	comp=Z,8μm,32.9s								
DZM	Mont Dzumac	111.03	234			PKKPab	PKKPab	17 05 26.9	-2.3
	comp=Z,11nm,1.0s,baz=12,slow=11,SNR=5.0								
DZM	Mont Dzumac	111.03	234		*e*	PKKPab	PKKPab	17 05 28.4	-0.8
AK11	Malin Array Si	111.24	43		*e*	PKiKP	PKiKP	16 54 18.6	-0.9
AK11					*e*	PKKPbc	PKKPbc	17 05 16.4	-0.7
AK11					*e*	PKKPab	PKKPab	17 05 26.4	+2.0
KIEV	Kiev	111.26	43		*i*	PKIKP		16 54 20.8	
KIEV	Kiev	111.26	43		*e*	PKiKP	PKiKP	16 54 18.6	-0.9
AKASG	Malin Array Be	111.28	43			Pdiff	Pdif	16 50 20.5	-1.1
	comp=Z,1.0nm,0.8s,baz=261,slow=3.7,SNR=3.7								
AKASG						PKiKP	PKiKP	16 54 18.9	-0.7
	comp=Z,4.9nm,0.6s,baz=268,slow=2.8,SNR=16								
AKASG						PP	PP	16 54 55.4	-6.3
	comp=Z,19nm,0.9s,baz=258,slow=6.8,SNR=11								
AKASG						PKKPbc	PKKPbc	17 05 16.4	-0.7
	comp=Z,2.8nm,0.7s,baz=68,slow=3.9,SNR=12								
AKASG						PKKPab	PKKPab	17 05 25.8	+1.5
	comp=Z,1.6nm,0.6s,baz=66,slow=4.8,SNR=9.2								
CSS	Mathiatis	111.43	60		*e*	PKiKP	PKiKP	16 54 22.3	+1.9
ARA0	ARCESS Array S	111.55	22		*e*	PKKPab	PKKPab	17 05 24.0	+1.6
ARCES	ARCESS Array B	111.55	22			PKKPbc	PKKPbc	17 05 14.6	-2.2
	comp=Z,3.5nm,0.8s,baz=76,slow=5.1,SNR=5.5								
ARCES						PKKPab	PKKPab	17 05 24.2	+1.8
	comp=Z,7.9nm,0.7s,baz=96,slow=4.9,SNR=11								
EIL	Elat	111.60	66			PKiKP	PKiKP	16 54 22.7	+1.8
	comp=Z,6.9nm,1.0s,baz=288,slow=0.9,SNR=3.8								
EIL						PP	PP	16 55 02.3	-2.3
	comp=Z,23nm,0.9s,baz=309,slow=6.2,SNR=6.7								
EIL						Sdiff		17 00 53.1	
	comp=Z,1.3nm,0.4s,baz=134,slow=8.7,SNR=2.2								
BR231	Keskin MP Arra	111.95	55		*e*	PKiKP	PKiKP	16 54 22.3	+0.9
BR231					*e*	PKKPab	PKKPab	17 05 20.5	-1.4
ANTO	Ankara	111.97	55		*e*	PKiKP	PKiKP	16 54 23.0	+1.6
ANTO	Ankara	111.97	55		*e*	PKiKP	PKiKP	16 54 23.0	+1.6
BR131	Keskin Array S	112.58	55		*e*	PKiKP	PKiKP	16 54 23.9	+1.3
BRTR	Keskin Array B	112.58	55			Pdiff	Pdif	16 50 31.5	+3.6
	comp=Z,0.5nm,0.6s,baz=269,slow=13,SNR=2.8								
BRTR						PKKP	PKiKP	16 54 23.8	+1.2
	comp=Z,7.3nm,0.9s,baz=189,slow=2.8,SNR=12								
BRTR						PP	PP	16 55 08.4	-3.2
	comp=Z,24nm,1.0s,baz=225,slow=4.4,SNR=4.2								
BRTR						PKKPab	PKKPab	17 05 19.8	+0.6
	comp=Z,1.1nm,0.7s,baz=110,slow=5.4,SNR=4.7								
MMAI	Mount Meron Ar	112.71	62			PKiKP	PKiKP	16 54 23.3	+0.3
	comp=Z,4.2nm,0.6s,baz=90,slow=0.8,SNR=7.3								
MMAI						PP	PP	16 55 08.7	-3.8
	comp=Z,18nm,1.0s,baz=268,slow=3.9,SNR=5.3								
MMAI						PKKPbc	PKKPbc	17 05 12.6	+0.8
	comp=Z,2.2nm,0.6s,baz=77,slow=3.7,SNR=4.3								
MMAI						PKKPab	PKKPab	17 05 21.9	+3.1
	comp=Z,16nm,1.0s,baz=108,slow=4.8,SNR=8.9								
SIM	Simferopol'	113.73	49		*e*	P	Pdif	16 50 34.3	+1.6
SIM					*i*			16 55 17.0	
SIM					*i*			17 00 59.0	
SIM					*e*			17 04 56.0	
SIM					*i*	PS	PKKPdf	17 05 52.0	+21
SIM						pmax	pmax		
	comp=Z,660nm,11.2s								
SIM						MLR	MLR		
	comp=Z,2μm,16.8s								
ATD	Arta Tunnel	113.77	87			PP	PP	16 55 19.0	-1.4
	comp=Z,32nm,0.9s,baz=216,slow=20,SNR=2.3								
ASF	Jabal al Asfar	113.78	63			PKiKP	PKiKP	16 54 25.5	+0.4
	comp=Z,10nm,0.9s,baz=162,slow=0.8,SNR=10								
ASF						PP	PP	16 55 18.5	-1.6
ASF						Sdiff		17 01 02.9	
	comp=Z,0.8nm,0.4s,baz=195,slow=9.0,SNR=2.2								
ASF						PKKPab	PKKPab	17 05 16.6	+2.4
	comp=Z,6.8nm,0.9s,baz=31,slow=3.3,SNR=6.5								
LVZ	Lovozero	114.88	24	*c*	*i*	PKiKP	PKPdf	16 54 25.9	-0.1
LVZ						pmax	pmax		
	comp=Z,43nm,2.5s								
ANN	Anapa	116.06	50		*i*	PKiKP	PKPdf	16 54 29.5	+0.6
ANN					*e*			16 55 32.5	
ANN					*e*	PPP	PPP	16 58 01.9	
ANN					*e*			17 01 06.6	
ANN					*e*	SP	SP	17 05 02.0	-1.6
ANN					*e*	SS	SS	17 11 32.9	+4.4
ANN					*e*	SSS	SSS	17 15 41.2	
OBN	Obninsk	116.08	38			PKP	PKPdf	16 54 29.0	+0.4
	comp=Z,23nm,0.7s,baz=331,slow=0.9,SNR=9.8								
OBN						pPKP	pPKPdf	16 55 04.4	+1.9
	comp=Z,14nm,0.3s,baz=222,slow=2.7,SNR=2.4								
OBN						sPKP		16 55 17.0	
	comp=Z,9.9nm,0.4s,baz=302,slow=6.4,SNR=3.5								
OBN	Obninsk	116.08	38	*d*	*i*	PKiKP	PKPdf	16 54 30.0	+1.4
OBN					*i*			16 55 05.5	
OBN					*e*			16 55 18.4	
OBN					*e*			16 55 41.1	
OBN					*i*			17 01 08.1	
OBN					*e*	PS	PKKPab	17 05 06.4	+3.5
OBN						pmax	pmax		
	comp=Z,43nm,1.0s								
MOS	Moscow	116.69	37		*i*	PKiKP	PKPdf	16 54 31.6	+1.8
MOS					*e*			16 55 06.0	
MOS					*e*			16 55 48.2	
MOS					*e*			17 01 09.6	
MOS					*i*	PS	PKKPab	17 05 11.0	+11
MOS						pmax	pmax		
	comp=Z,31nm,0.9s								
MOS						MLR	MLR		
	comp=N,1μm,24.0s								
MOS						MLR	MLR		
	comp=E,3μm,24.0s								
MOS						MLR	MLR		
	comp=Z,4μm,24.0s								
KLMR	Klimovskoe	117.48	32		*e*	PKiKP	PKPdf	16 54 29.6	-1.6
KLMR						pmax	pmax		
	comp=Z,42nm,1.3s								
VSR	Storozhevoye	117.58	43		*e*	PKiKP	PKPdf	16 54 30.9	-0.7
VSR					*e*			17 01 11.3	
VSR						pmax	pmax		
	comp=Z,10.0nm,0.5s								
SOC	Sochi	117.59	51		*i*	P	Pdif	16 50 51.5	+1.6
SOC					*e*			16 54 31.2	
SOC					*i*			16 55 43.3	
SOC					*e*	PPP	PPP	16 58 16.8	
SOC					*e*			17 01 12.7	
SOC					*e*	PS	PKKPdf	17 05 23.6	+0.5
SOC						pmax	pmax		
	comp=Z,34nm,0.8s								
SOC						pmax	pmax		
	comp=Z,73nm,1.0s								
VRH	Novokhopyorsk	119.19	43		*e*	PKiKP	PKPdf	16 54 34.3	-0.4
VRH					*e*			17 01 16.4	
VRH						pmax	pmax		
	comp=Z,50nm,1.0s								
STKA	Stephens Creek	119.42	209			PKP	PKPdf	16 54 36.4	+0.4
	comp=Z,9.3nm,0.7s,baz=106,slow=3.1,SNR=11								
STKA						PKKPbc	PKKPbc	17 04 48.0	-0.5
	comp=Z,10nm,0.9s,baz=317,slow=8.7,SNR=5.9								
STKA						PKKP	PKKPdf	17 05 19.0	+0.5
	comp=Z,4.9nm,0.8s,baz=358,slow=8.9,SNR=3.5								
KIV	Kislovodsk	119.76	51		*i*	P	PKPdf	16 54 36.2	0.0
	SNR=10								
KIV	Kislovodsk	119.76	51		*e*	P	Pdif	16 51 00.4	+0.7
KIV					*i*			16 54 37.3	
KIV					*e*			16 55 59.2	
KIV					*e*	PS	PS	17 05 53.1	+0.7
KIV					*e*	SS	SS	17 12 20.6	+3.9
KIV						pmax	pmax		
	comp=Z,45nm,1.1s								
KIV	Kislovodsk	119.76	51			P	PKPdf	16 54 37.3	+1.1
	SNR=6.9								
KIV	Kislovodsk	119.76	51			PKiKP	PKPdf	16 54 37.3	+1.1
	SNR=6.9								
KIV	Kislovodsk	119.76	51		*e*	PKPdf	PKPdf	16 54 35.0	-1.2
KVAR	Kislovodsk Arr	119.77	51			PKP	PKPdf	16 54 36.4	+0.2
	comp=Z,30nm,0.9s,baz=154,slow=2.1,SNR=12								
KVAR						Sdiff		17 01 24.4	
	comp=Z,1.8nm,0.4s,baz=125,slow=20,SNR=4.3								
KBZ	Khabaz	119.91	51			PKP	PKPdf	16 54 36.9	+0.6
	comp=Z,36nm,0.8s,baz=266,slow=24,SNR=32								
KBZ						PKKP	PKKPdf	17 05 19.6	+1.0
	comp=Z,2.6nm,0.8s,baz=351,slow=24,SNR=3.6								
GOF	Gofitskoye	120.05	50	‖	*e*	PKiKP	PKPdf	16 54 37.1	+0.5
GOF						pmax	pmax		
	comp=Z,90nm,1.1s								
AKH	Akhalkalaki	120.23	54			P	PKPdf	16 54 39.0	+1.7
AKH	Akhalkalaki	120.23	54			PKiKP	PKPdf	16 54 39.0	+1.7
ONI	Oni	120.26	53			P	PKPdf	16 54 38.0	+0.8
ONI	Oni	120.26	53			PKiKP	PKPdf	16 54 38.0	+0.8
NCK	Nalchik	120.40	51		*i*	PKiKP	PKPdf	16 54 37.6	+0.2
ZEI	Tsey	120.60	52		*i*	PKiKP	PKPdf	16 54 37.7	-0.3
ZEI						pmax	pmax		
	comp=Z,52nm,0.8s								
GNI	Garni	121.11	55			PKP	PKPdf	16 54 39.3	+0.3
	comp=Z,19nm,0.6s,baz=262,slow=3.5,SNR=9.4								
GNI						pPKP	pPKPdf	16 55 16.3	+3.3
	comp=Z,20nm,0.8s,baz=278,slow=2.8,SNR=3.1								
GNI						sPKP		16 55 29.5	
	comp=Z,18nm,0.9s,baz=240,slow=6.5,SNR=3.3								
GNI						Sdiff		17 01 30.5	
	comp=Z,3.4nm,0.3s,baz=251,slow=21,SNR=3.2								
GNI	Garni	121.11	55			P	PKPdf	16 54 39.6	+0.5
BILL	Bilibino	122.95	339		*i*	PKiKP	PKPdf	16 54 41.5	0.0
BILL					*i*			16 55 16.0	
BILL					*e*			16 55 31.8	
BILL					*i*			16 56 21.4	
BILL					*i*			17 01 37.8	
BILL					*i*	SP	SP	17 06 04.8	+1.0
BILL					*i*	SS	SS	17 12 55.4	-0.1
BILL						pmax	pmax		
	comp=Z,9.0nm,1.0s								
BILL	Bilibino	122.95	339		*e*	PKPdf	PKPdf	16 54 41.6	0.0
CTAO	Charters Tower	126.36	222		*e*	PKiKP	PKPdf	16 54 48.3	-1.3
CTAO	Charters Tower	126.36	222		*e*	PKPdf	PKPdf	16 54 48.3	-1.3
ARU	Arti	128.10	34		PKhKP		PKPpre	16 54 29.8	
	comp=Z,0.8nm,0.3s,baz=197,slow=0.8,SNR=4.0								
ARU						PKP	PKiKP	16 54 52.1	-0.2
	comp=Z,14nm,0.4s,baz=289,slow=2.5,SNR=38								
ARU						pPKP	pPKPdf	16 55 27.2	+1.6
	comp=Z,19nm,0.7s,baz=206,slow=0.6,SNR=4.0								
ARU	Arti	128.10	34		*i*	PKiKP	PKPdf	16 54 52.6	+0.9
ARU								16 56 54.8	
ARU						PPP	PPP	16 59 39.9	
ARU								17 01 49.4	
ARU						SP	SP	17 06 47.1	-2.4
ARU						PS	PS	17 07 02.6	-2.6
H11S2	WAKE ISLAND Hyd	128.40	277			T	T	19 15 18.2	
	baz=102,slow=75,SNR=1922								
H11S1	WAKE ISLAND Hyd	128.41	277			T	T	19 15 18.7	
	baz=102,slow=75,SNR=1243								
H11S3	WAKE ISLAND Hyd	128.41	277			T	T	19 15 19.4	
	baz=102,slow=75,SNR=922								
H11N3	WAKE ISLAND Hyd	128.48	278			T	T	19 15 11.4	
	baz=103,slow=75,SNR=2412								
H11N2	WAKE ISLAND Hyd	128.50	278			T	T	19 15 12.6	
	baz=103,slow=75,SNR=1443								
H11N1	WAKE ISLAND Hyd	128.50	278			T	T	19 15 13.0	
	baz=103,slow=75,SNR=223								
FAQ	Al Faqa, Dubai	128.74	75		*i*	P	PKPdf	16 54 54.1	+0.2
	SNR=21								
NAZ	Nazwa, Dubai	128.84	75		*i*	P	PKPdf	16 54 55.0	+0.9
	SNR=9.7								
SVE	Sverdlovsk	129.03	33		*e*	PKiKP	PKPdf	16 54 54.6	+1.1
SVE						pmax	pmax		
	comp=Z,47nm,1.5s								
ASHO	Ashiyiah	129.15	75			P	PKPdf	16 54 57.7	+2.9
	SNR=7.1								
ASHO	Ashiyiah	129.15	75			PKiKP	PKPdf	16 54 57.7	+2.9
	SNR=7.1								
ASHO	Ashiyiah	129.15	75			P	PP	16 57 04.7	-0.1
	SNR=12						

PETK pPKP pPKPdf 16 55 36.2 +1.1
comp=Z,50nm,1.1s,baz=84,slow=6.1,SNR=5.6
MA2 Magadan 133.18 334 PKhKP PKPpre 16 54 48.9
comp=Z,8.6nm,1.0s,baz=203,slow=7.9,SNR=2.7
MA2 PKP **PKiKP 16 55 02.4 0.0**
comp=Z,8.8nm,0.9s,baz=192,slow=14,SNR=5.4
PMG Port Moresby 133.35 232*c i*PKIKP **PKPdf 16 55 05.1 +2.2**
PMG pmax pmax
comp=Z,337nm,1.7s
PMG Port Moresby 133.35 232 *e*PKPdf **PKPdf 16 55 02.7 -0.2**
ZRNK Zerenda 135.03 35 PKIKP **PKPdf 16 55 05.7 +0.8**
ZRNK pmax pmax
comp=Z,54nm,0.7s
ZRNK Zerenda 135.03 35 *e*PKPdf **PKPdf 16 55 05.4 +0.5**
CHKZ Chkalovo 135.54 34 PKIKP **PKPdf 16 55 07.0 +1.2**
CHKZ pmax pmax
comp=Z,21nm,0.7s
BVA0 Borovoye Array 135.74 35 PKIKP **PKPdf 16 55 06.4 +0.2**
BVA0 pmax pmax
comp=Z,27nm,1.1s
BVAR Borovoye Array 135.74 35 PKhKP PKPpre 16 54 57.5
comp=Z,1.6nm,0.7s,baz=273,slow=11,SNR=6.3
BVAR PKP **PKiKP 16 55 07.3 -0.5**
comp=Z,27nm,0.9s,baz=3.4,slow=5.0,SNR=9.5
BVAR pPKP pPKPdf 16 55 41.9 +1.7
comp=Z,18nm,0.7s,baz=315,slow=0.8,SNR=5.3
BVAR SKPab **SKiKP 16 58 32.2 -0.1**
comp=Z,9.8nm,0.9s,baz=270,slow=3.0,SNR=4.4
VOSK Vostochnaya 136.20 35 PKIKP **PKPdf 16 55 07.8 +0.7**
VOSK pmax pmax
comp=Z,31nm,0.8s
MBWA Marble Bar 136.60 191 *e*PKPdf **PKPdf 16 55 08.9 +0.1**
YAK Yakutsk 137.89 347 PKhKP PKPpre 16 55 00.9
comp=Z,2.3nm,0.6s,baz=235,slow=9.5,SNR=3.8
YAK PKP **PKPdf 16 55 10.7 +0.8**
comp=Z,2.9nm,0.5s,baz=269,slow=2.5,SNR=4.6
YAK pPKP pPKPdf 16 55 44.1 +0.2
comp=Z,2.4nm,0.5s,baz=237,slow=23,SNR=1.7
YAK SKP 16 58 31.1
comp=Z,2.0nm,0.6s,baz=355,slow=22,SNR=2.5
YAK Yakutsk 137.89 347 *i* PKIKP **PKPdf 16 55 10.5 +0.6**
YAK *e* 16 55 41.8
YAK *e* 16 57 53.0
YAK *e*SS SS 17 15 44.7 -13
YAK pmax pmax
comp=Z,27nm,0.8s
YAK pmax pmax
comp=Z,416nm,3.4s
YAK pmax pmax
comp=N,212nm,3.3s
YAK pmax pmax
comp=E,98nm,3.3s
YAK Yakutsk 137.89 347 *e*PKPpre PKPpre 16 55 00.2
YAK *e*PKPdf **PKPdf 16 55 10.1 +0.2**
YAK pPKP pPKPdf 16 55 44.1 +0.2
YAK *e*SKPbc **SKPbc 16 58 30.8 -1.5**
FITZ Fitzroy Crossi 138.06 200 *e*PKPpre PKPpre 16 55 01.2
FITZ *e*PKPdf **PKPdf 16 55 12.1 +0.5**
OTUK Ortayu 139.04 40 PKHKP PKPpre 16 55 05.1
OTUK pmax pmax
comp=Z,17nm,0.7s
DZET Dzherino 139.74 55 PKHKP PKPpre 16 55 06.4
DZET pmax pmax
comp=Z,35nm,0.8s
IUG Iuzhnay 139.78 50 *i* PKP PKPpre 16 55 08.0
IUG *i* PP **PP 16 58 05.2 -6.2**
IUG *e*SS SS 17 16 20.9 -1.5
KK31 Karatay Array 139.82 48 PKHKP PKPpre 16 55 05.1
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 139.82 48 *e*PKHKP PKPpre 16 55 03.6
KKAR Karatay Array 139.82 48 *e*PKPpre PKPpre 16 55 03.5
MTN Manton Dam 140.63 211 *e*PKPpre PKPpre 16 55 08.5
KBL Kabul 140.64 62 *e*PKPpre PKPpre 16 55 10.9
NVS Novosibirsk 140.70 26 *e*PKHKP PKPpre 16 55 08.3
NVS *e* 16 58 16.1
NVS pmax pmax
comp=Z,98nm,1.4s
NVS pmax pmax
comp=N,9.0nm,0.9s
NVS pmax pmax
comp=E,40nm,1.4s
KURK Kurchatov 141.28 34 PP PP 16 58 19.6 -0.2
KURBB Kurchatov Arra 141.29 34 PP PP 16 58 19.6 -0.3
comp=E,8.3nm,1.1s,baz=311,slow=7.2,SNR=5.4
MNAS Manas 141.41 48 PKIKP **PKPdf 16 55 12.2 -5.0**
MNAS pmax pmax
comp=Z,19nm,0.8s
NKL Nikolayevsk 141.60 332 *e*PKHKP PKPpre 16 55 10.0
NKL *e* 16 58 16.0
NKL pmax pmax
comp=Z,52nm,1.0s
NKL pmax pmax
comp=Z,1μm,8.0s
NKL MLR MLR
comp=E,2μm,19.0s
NKL MLR MLR
comp=Z,2μm,19.0s
ZAA0 Zalesovo Array 141.99 26 *e*PKPpre PKPpre 16 55 11.9
ZAA0 *e*PKPpre PKPpre 16 55 12.1
ZAA0 *e*PKPdf **PKPdf 16 55 18.1 +0.5**
ZAA0 *e*PKPdf **PKiKP 16 55 18.2 -2.4**
ZALV Zalesovo Beam 141.99 26 PKhKP PKPpre 16 55 12.4
comp=Z,19nm,0.6s,baz=325,slow=3.5,SNR=48
ZALV pPKP pPKPdf 16 55 52.8 +1.2
comp=Z,51nm,0.7s,baz=288,slow=3.3,SNR=3.5
ZALV SKPbc **SKPbc 16 58 46.9 +3.4**
comp=Z,46nm,0.9s,baz=298,slow=3.2,SNR=5.0
TYV Tymovskoe 142.18 328 *e*PKHKP PKPpre 16 55 13.8
TYV pmax pmax
comp=Z,72nm,1.2s
EKS2 Erkin-Say 142.23 48 *e*PKPpre PKPpre 16 55 14.2
KUR Kuril'sk 142.24 317*c i*PKHKP PKPpre 16 55 14.6
KUR SS SS 17 16 52.3 +2.0
KUR *e*SSS SSS 17 22 06.3
KUR pmax pmax
comp=N,804nm,21.0s
KUR pmax pmax
comp=E,640nm,21.0s
KUR pmax pmax
comp=Z,2μm,21.0s
SEM Semipalatinsk 142.30 33 *i* PKP **PKPdf 16 55 15.0 -3.2**
SEM *i* pPKP **pPKPdf 16 55 50.6 -1.6**
SEM *i* PP **PP 16 58 23.8 -2.2**
SEM *e*SS SS 17 16 52.7 +2.3
SEM LRM MLR 17 58 56.6
comp=Z,500nm,20.6s
JASL Jaisalmer 142.67 74 *e*P **PKPdf 16 55 18.2 -1.5**
AAK Ala-Archa 142.73 47 PKhKP PKPpre 16 55 14.7
AAK PP **PP 16 58 30.8 +1.5**
comp=Z,9.6nm,0.7s,baz=216,slow=4.4,SNR=4.1
AAK SKPbc **SKPbc 16 58 50.6 +4.7**
comp=Z,19nm,1.1s,baz=135,slow=2.3,SNR=4.1
AAK Ala-Archa 142.73 47*c i*PKIKP **PKPdf 16 55 16.6 -3.0**
AAK Ala-Archa 142.73 47 P **PKPdf 16 55 16.5 -3.0**
SNR=41
AAK Ala-Archa 142.73 47 PKPdf **PKPdf 16 55 16.5 -3.0**
SNR=41
AAK Ala-Archa 142.73 47 *e*PKPpre PKPpre 16 55 15.7
AAK *e*PKPpre PKPpre 16 55 16.0
AAK PP **PP 16 58 30.8 +1.5**
AAK SKPbc **SKPbc 16 58 50.6 +4.7**
FRU Bishkek 142.74 47 *i* PKIKP PKPpre 16 55 15.0
FRU *i* 16 55 51.0
FRU *i* 16 58 27.0
FRU *e* 17 17 27.0
FRU pmax pmax
comp=Z,680nm,2.7s
FRU MLR MLR
comp=E,3μm,21.0s
TKM2 Tokmak 2 143.37 46 PKIKP PKPbc 16 55 17.7 -0.5
TKM2 pmax pmax
comp=Z,23nm,1.0s
TKM2 Tokmak 2 143.37 46 *e*PKPpre PKPpre 16 55 16.5
TKM2 *e*PKPdf **PKPdf 16 55 20.8 +0.1**
KUU Kurty 143.45 45 *i* PKP PKPab 16 55 16.9 -0.2
KUU *i* pPKP pPKPdf 16 55 54.1 -0.5
KUU *i* PP **PP 16 58 30.4 -3.1**
KUU *e*SS SS 17 17 01.6 -2.8
KUU LRM MLR 17 59 24.3
comp=Z,1μm,19.2s
CLNS Chul'man 143.64 348 *e*PKIKP PKPab 16 55 17.4 0.0
CLNS pmax pmax
comp=Z,27nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.0s
GOA Goa 143.72 93 *e*P PKPbc 16 55 20.2 +0.5
GOA IAMs_20 IAMs_20 18 06 54.0
comp=Z,3μm,21.2s
BOD Bodaibo 143.95 358 *e*PKIKP PKPab 16 55 18.4 -0.1
BOD *e* 16 55 52.5
BOD pmax pmax
comp=Z,67nm,1.9s
AAA Alma-Ata 144.12 45 *i* PKIKP PKPbc 16 55 20.0 -0.2
AAA *i* S SKSdf 17 01 55.9 -24
AAA pmax pmax
comp=Z,5μm,3.3s
AAA MLR MLR
comp=Z,2μm,14.0s
AAA Alma-Ata 144.12 45 *i* PKP PKPbc 16 55 20.6 +0.4
AAA *i* pPKP pPKPdf 16 55 51.2 -4.6
AAA *i* PP **PP 16 58 36.9 -0.6**
AAA LRM MLR 17 59 40.0
comp=Z,596nm,21.3s
TRD Trivandrum 144.14 106 *e*P PKPbc 16 55 21.0 0.0
MDOK Medeo 144.23 45‖ *i* PKP **PKPab 16 55 19.8 -0.5**
MDOK *i* pPKP **pPKPdf 16 55 56.3 +0.2**
MDOK *i* PP **PP 16 58 35.5 -2.8**
MDOK *i* SKKSac SKKSac 17 05 16.6 -2.3
MDOK *e*SS **SS 17 17 12.4 -1.4**
MDOK LRM MLR 17 59 35.1
comp=Z,706nm,18.2s
POO Poona 144.45 88 *e*P **PKPab 16 55 21.0 -0.6**
POO Poona 144.45 88 *i* PP PP 16 58 38.0 -2.5
POO *i* PKS **PKSdf 16 58 58.0 -0.9**
POO *e*PPP PPP 17 01 52.0
POO *i* SKKS 17 05 27.0
POO *i* SKSP 17 08 48.0
POO *e*PS 17 09 16.0
POO *e*PPS PPS 17 11 03.0
POO *e*SS **SS 17 17 24.0 +6.1**
POO *e*SSS SSS 17 22 51.0
POO *e*LR LR 17 44 26.0
YSS Yuzh-Sakhalins 144.46 322*x i*PKIKP **PKPab 16 55 20.7 0.0**
YSS *e* 16 55 52.6
YSS *e* 16 58 39.0
YSS pmax pmax
comp=Z,130nm,1.0s
YSS pmax pmax
comp=Z,3μm,4.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=N,800nm,19.0s
YSS MLR MLR
comp=E,800nm,19.0s
YSS Yuzh-Sakhalins 144.46 322 *e*PKPdf PKPbc 16 55 20.9 -0.1
SAUI Saumlaki 144.68 215 *e*PKPdf **PKPdf 16 55 24.9 +1.3**
KSH Kashi 144.89 52 PKP PKPbc 16 55 22.1 -0.7
KSH PP **PP 16 58 43.3 +0.9**
KSH SKS **SKSdf 17 02 21.8 +0.6**
KSH SKKS **SKKSac 17 05 20.1 -2.6**
KSH SS **SS 17 17 18.3 -3.3**
KSH LN
comp=E,1μm,16.4s
KSH LE
comp=E,2μm,19.4s
KSH LZ
comp=E,3μm,19.8s
MAKZ Makanchi 145.38 37 PKIKP **PKPab 16 55 24.4 +0.1**
MAKZ pmax pmax
comp=Z,322nm,1.0s
MAKZ Makanchi 145.38 37 *e*PKPdf **PKPdf 16 55 23.8 0.0**
MK31 Makanchi Array 145.56 37 *i* PKIKP **PKPbc 16 55 24.7 +0.1**
MK31 pmax pmax
comp=Z,76nm,0.6s
MK31 Makanchi Array 145.56 37 *e*PKPdf **PKPdf 16 55 24.3 +0.2**
MKAR Makanchi Array 145.56 37 PKPbc **PKPdf 16 55 24.3 +0.1**
comp=Z,241nm,1.0s,baz=328,slow=2.9,SNR=233
MKAR pPKPbc pPKPbc 16 55 59.1 +1.0
comp=Z,140nm,0.7s,baz=326,slow=4.4,SNR=4.4
MK01 Makanchi Array 145.58 37 *e*PKPdf **PKPbc 16 55 24.5 -0.2**
PDGK Podgornoye 145.75 44 PKIKP **PKPab 16 55 26.3 +0.6**
PDGK pmax pmax
comp=Z,275nm,1.0s
ASAJ Asahikawa 146.08 318 PKPbc **PKPbc 16 55 25.9 -0.2**
ASAJ Asahikawa 146.08 318 *e*PKPdf **PKPbc 16 55 26.3 +0.1**
ZSN Zaisan 146.29 34 *i* PKP **PKPdf 16 55 25.4 0.0**
ZSN *i* pPKP **pPKPdf 16 55 58.5 -0.8**
ZSN *i* PP **PP 16 58 53.0 +3.2**
ZSN *e*SS SS 17 17 42.9 +6.8
ZSN LRM MLR 18 01 44.1
comp=Z,1μm,19.9s
SOEI Soe 146.30 203 *e*PKPdf **PKPdf 16 55 27.1 +0.6**
THN Thein Dam 146.47 64 *ex* **PKPdf 16 55 27.0 +0.9**
THN *ex* x 17 01 47.0
PONG Pong 146.74 65 *e*P **PKPdf 16 55 26.0 -0.5**
ERM Erimo 146.75 315‖ *e*PKP2 **PKPbc 16 55 28.5 +0.4**
ERM pmax pmax
comp=Z,274nm,1.0s
ERM Erimo 146.75 315 *e*PKPbc **PKPbc 16 55 28.4 +0.2**
PALK Pallekele 146.88 111 PKPbc **PKPbc 16 55 29.0 -0.4**
comp=Z,89nm,1.0s,baz=296,slow=1.7,SNR=13
PALK Pallekele 146.88 111 *i* P **PKPbc 16 55 29.2 -0.2**
SNR=8.8
PALK Pallekele 146.88 111 *i* PKP2 **PKPab 16 55 31.4 +0.4**
PALK Pallekele 146.88 111 *e*PKPdf **PKPdf 16 55 27.5 +0.1**
KLRI Killari 146.91 90 *e*PKPbc **PKPdf 16 55 27.4 +0.1**
KHET Khetri 147.01 72 *e*P **PKPdf 16 55 26.9 -0.2**
BHK Bhakra 147.21 66 *e*P **PKPdf 16 55 26.4 -1.0**
GUMO Guam 147.35 261 PKPbc **PKPbc 16 55 30.7 +0.1**
comp=Z,1μm,1.1s,baz=170,slow=6.9,SNR=23
GUMO pPKPbc **pPKPbc 16 56 03.8 -0.3**
comp=Z,784nm,0.9s,baz=172,slow=5.0,SNR=6.4
GUMO Guam 147.35 261 *e*PKPbc **PKPbc 16 55 29.5 -1.1**
GUMO pPKPbc **pPKPbc 16 56 03.8 -0.3**
HABR Khabarovsk 147.44 331 *e*PKIKP **PKPdf 16 55 26.3 -0.9**
HABR *i* 16 55 31.8
HABR *e* 16 55 58.7
HABR *e* 16 58 56.9
HABR *e*PPP PPP 17 02 14.8
HABR *e* 17 02 24.6
HABR *e* 17 11 25.3
HABR MLR MLR
comp=Z,2μm,22.0s
KUDL Kundal 147.60 72 *e*P **PKPdf 16 55 28.7 +0.6**
KKR Kurukshetra 147.74 68 *e*P **PKPdf 16 55 27.6 -0.8**
SMLA Simla 147.89 66 *e*P **PKPdf 16 55 27.4 -1.1**
SMLA IAMs_20 IAMs_20 18 05 08.8
comp=Z,4μm,19.7s
BHGR Bahadurgarh 147.96 70 *e*P **PKPdf 16 55 27.9 -0.7**
MMRI Maumere 148.03 200 *e*PKPbc **PKPbc 16 55 31.6 -0.8**
BISR Bishrakh 148.41 71 *e*P **PKPdf 16 55 29.9 +0.5**
BHPL Bhopal 148.42 81 *e*P **PKPdf 16 55 28.5 -1.1**
BHPL IAMs_20 IAMs_20 18 09 23.7
comp=Z,4μm,15.9s
RCLA Racherla 148.46 96 *e*PKPdf **PKPdf 16 55 29.6 -0.2**
RCLA *e*PKIKP **PKPbc 16 55 33.5 -0.1**
RCLA *e*PKPab **PKiKP 16 55 35.3 +0.3**
SRLM Srisailam 148.58 95 *e*PKPdf **PKPdf 16 55 29.6 -0.5**
SRLM *e*PKPbc **PKPbc 16 55 32.7 -1.1**
SRLM *e*PKPab **PKiKP 16 55 35.5 +0.2**
HYB Hyderabad 148.59 92 *i* PKP **PKPdf 16 55 31.0 +0.9**
HYB *e*pPKP **sPKPdf 16 56 23.0 +6.0**
HYB *e*PP **PP 16 59 06.0 +1.2**
HYB Hyderabad 148.59 92 *e*P **PKPdf 16 55 28.7 -1.3**
HYB IAMs_20 IAMs_20 18 00 59.7
comp=Z,3μm,17.4s
HYBB Hyderabad (bro 148.59 92 *e*PKPbc **PKPbc 16 55 32.3 -1.6**
HYBB *e*PKPab **PKiKP 16 55 35.9 +0.6**
SRSP Sriramsagar 148.71 89 *e*PKPdf **PKPdf 16 55 29.8 -0.4**
SRSP *e*PKPbc **PKPbc 16 55 32.6 -1.5**
SRSP *e*PKPab **PKiKP 16 55 36.1 +0.6**
DDI Dehra Dun 148.76 67 *ex* **PKPbc 16 55 33.2 -0.8**
DDI IAMs_20 IAMs_20 18 14 39.5
comp=Z,2μm,17.6s
MDRS Chennai 148.89 101 *e*P **PKPdf 16 55 30.7 +0.2**
MDRS IAMs_20 IAMs_20 18 13 14.2
comp=Z,2μm,14.6s
MOY Mondy 149.04 13 *e*PKP2 **PKPdf 16 55 31.9 +2.0**
MOY pmax pmax
comp=Z,321nm,2.9s
IRK Irkutsk 149.06 9 *e*PKIKP **PKPdf 16 55 31.3 +1.5**
IRK pmax pmax
comp=Z,491nm,2.8s
NJS Nagarjunasagar 149.08 94 *e*PKPdf **PKPdf 16 55 31.1 +0.3**
ADKI Addanki 149.50 96 *e*PKPbc **PKPbc 16 55 34.7 -1.4**
ADKI *e*PKiKP **PKiKP 16 55 36.2 -0.9**
TLY Talaya 149.51 10*c i*PKIKP **PKPdf 16 55 31.7 +1.2**
TLY *i* 16 55 36.0
TLY pmax pmax
comp=Z,191nm,1.6s
TLY Talaya 149.51 10 *e*PKPdf **PKPdf 16 55 30.2 -0.3**
RPR Rampur 149.58 90 *e*PKPbc **PKPbc 16 55 34.2 -2.0**
CIT Chita 149.77 358 *e*PKIKP **PKPdf 16 55 32.2 +1.2**
CIT *e* 16 59 11.4
CIT *e* 17 18 13.9
CIT pmax pmax
comp=Z,271nm,1.4s
JAGI Jajag, Banyuwa 149.84 185 *e*PKPbc **PKPbc 16 55 36.6 -0.4**
JOSI Joshimath 150.01 66 *e*P **PKPdf 16 55 31.8 -0.4**
WMQ Urumqi 150.40 36 PKPbc **PKPdf 16 55 29.8 -2.4**
WMQ PKPab **PKPab 16 55 44.8 +0.4**
WMQ PP **PP 16 59 15.9 +2.0**
WMQ SKKS 17 05 52.9
WMQ SS **SS 17 18 24.5 +2.1**
WMQ PPMZ
comp=Z,1μm,6.8s
WMQ LN
comp=Z,1μm,19.8s
WMQ LE
comp=Z,1μm,21.0s
WMQ LZ
comp=Z,2μm,21.2s
CISI Cisompet, Garu 150.62 172 *e*PKPbc **PKPbc 16 55 38.6 -0.4**
ZAK Zakamensk 150.70 11 *e*PKHKP PKPpre 16 55 33.3
ZAK pmax pmax
comp=Z,63nm,1.5s
PTH Pithoragarh 150.72 68 *e*P **PKPdf 16 55 31.1 -2.2**
LGTI Lohaghat 150.76 68 *ex* **PKPdf 16 55 34.7 +1.6**
PVM Polavaram 151.40 94 *e*PKPdf **PKPdf 16 55 33.9 -0.5**
PVM *e*PKPab **PKPab 16 55 48.5 -0.7**
CBIJ Chichi jima 151.71 287 *e*PKPdf **PKPbc 16 55 40.2 -0.9**
HIA Hailar 151.81 349 *e*PKIKP **PKPbc 16 55 40.0 -0.7**
HIA Hailar 151.81 349 *e*PKPbc **PKPbc 16 55 40.0 -0.7**
USRK Ussuriysk Ar. 152.00 328 PKP **PKPdf 16 55 35.4 +0.8**
comp=Z,6.6nm,0.8s,baz=235,slow=4.2,SNR=11
USRK PKPbc **PKPbc 16 55 41.2 0.0**
comp=Z,63nm,0.8s,baz=5.8,slow=0.9,SNR=47
USRK PKPab **PKPab 16 55 51.9 +1.0**
comp=Z,25nm,0.8s,baz=295,slow=1.6,SNR=5.7
USRK pPKPbc **pPKPbc 16 56 14.3 -0.7**
comp=Z,105nm,0.9s,baz=343,slow=2.0,SNR=7.4
KAPI Kappang 152.21 198 *e*PKPdf **PKPdf 16 55 37.4 +1.6**
KAPI *e*PKPbc **PKiKP 16 55 43.6 +0.7**
MJAR Matsushiro Arr 152.62 308 PKP **PKPdf 16 55 36.6 +0.8**
comp=Z,2.5nm,0.8s,baz=114,slow=1.2,SNR=9.4
MJAR PKPbc **PKiKP 16 55 43.5 +0.4**
comp=Z,74nm,1.0s,baz=84,slow=1.5,SNR=75
MJAR PKPab **PKPab 16 55 54.1 +0.2**
comp=Z,51nm,0.9s,baz=79,slow=2.9,SNR=15
MJAR pPKPbc **pPKPbc 16 56 16.8 +0.1**
comp=Z,78nm,1.0s,baz=333,slow=0.6,SNR=6.5
MJAR pPKPab **pPKPab 16 56 25.7 -1.0**
comp=Z,36nm,0.8s,baz=127,slow=2.4,SNR=3.1
MAJO Matsushiro 152.62 308 *e*PKIKP **PKPdf 16 55 34.9 -0.8**
MAJO *e* 16 55 43.1
MAJO *e* 16 55 54.5
MAJO Matsushiro 152.62 308 *e*PKPdf **PKPdf 16 55 34.9 -0.8**
MAJO *e*PKPbc **PKiKP 16 55 43.1 0.0**
MAJO *e*PKPab **PKPab 16 55 54.5 +0.6**
MAT Matsushiro 152.62 308 PKP **PKPdf 16 55 37.5 +1.7**
MJB9 Matsu-Tunnel 152.62 308 *e*PKPdf **PKPdf 16 55 34.9 -0.8**
MJB9 *e*PKPbc **PKiKP 16 55 43.2 +0.1**
MJB9 *e*PKPab **PKPab 16 55 54.6 +0.7**
JHJ2 Mitsune 152.63 300 *e*PKPbc **PKPbc 16 55 42.8 -0.2**
MDJ Mudanjiang 152.82 331 PKPbc **PKPdf 16 55 35.5 -0.3**
MDJ PP **PP 16 59 27.1 -0.3**
MDJ PPMZ
comp=Z,2μm,13.4s
MDJ Mudanjiang 152.82 331 *e*PKPdf **PKPdf 16 55 35.2 -0.5**
MDJ *e*PKPbc **PKiKP 16 55 44.2 +1.1**
VIS Vishakhapatnam 153.09 94 *e*P **PKPdf 16 55 35.6 -1.3**
MSHR Mys Shultsa 153.59 326*c i*PKIKP **PKPbc 16 55 46.4 +1.7**
SONA1 Songino Array 153.65 8 *e*PKPdf **PKPdf 16 55 37.4 +0.3**
SONM Songino Array 153.66 8 PKP **PKPdf 16 55 37.2 +0.2**
comp=Z,14nm,0.7s,baz=296,slow=1.1,SNR=66
SONM PKPbc **PKPbc 16 55 44.2 -0.7**
comp=Z,10nm,0.7s,baz=314,slow=1.2,SNR=14
SONM PKPab **PKPab 16 55 55.9 -2.1**
comp=Z,21nm,0.8s,baz=299,slow=2.1,SNR=9.1
SONM pPKP **pPKPdf 16 56 11.2 0.0**
comp=Z,31nm,0.9s,baz=358,slow=0.9,SNR=3.6
SONM pPKPbc **pPKPbc 16 56 19.5 +0.8**
comp=Z,28nm,0.8s,baz=291,slow=2.1,SNR=3.2
ULN Ulaanbaatar 153.71 7 *e*PKIKP **PKPdf 16 55 38.0 +0.8**
ULN Ulaanbaatar 153.71 7 P **PKPdf 16 55 38.4 +1.2**
SNR=19
ULN Ulaanbaatar 153.71 7 PKPdf **PKPdf 16 55 38.4 +1.2**
SNR=19
ULN Ulaanbaatar 153.71 7 *e*PKPdf **PKPdf 16 55 38.0 +0.8**
CHLP Challavanipeta 153.94 92 *e*PKPdf **PKPdf 16 55 37.9 -0.2**
CHLP *e*PKPab **PKPab 16 55 58.5 -1.4**
INU Inuyama 154.00 307 *e*PKPdf **PKPdf 16 55 38.6 +0.8**
INU *e*PKPab **PKPab 16 55 59.6 -0.2**
LUWI Luwuk 154.84 207 *e*PKPbc **PKPbc 16 55 49.1 +0.8**
LUWI *e*PKPab **PKPab 16 56 04.7 +1.0**
CN2 Changchun 155.21 336 *e*PKP **PKPdf 16 55 38.8 -0.3**
CN2 *ep*PKP PKPab 16 56 03.8 -0.8
CN2 PPMZ
comp=Z,2μm,7.0s
CN2 LN
comp=Z,1μm,19.0s
CN2 LE
comp=Z,2μm,19.0s
CN2 LZ
comp=Z,3μm,19.0s
BWNR Bhubaneshwar 155.87 89 *e*P **PKPdf 16 55 37.6 -3.1**
BOK Bokaro 156.20 80 *e*P **PKPdf 16 55 41.7 +0.6**
BOK IAMs_20 IAMs_20 18 14 38.9
comp=Z,3μm,9.9s
PSI Prapat 157.47 145 *e*PKIKP **PKPdf 16 55 44.1 +0.9**
PSI Prapat 157.47 145 *e*PKPdf **PKPdf 16 55 44.1 +0.9**
PSI *e*PKPab **PKPab 16 56 08.1 -7.1**
SNY Shenyang 157.61 336‖ PKP **PKPdf 16 55 42.8 +0.5**
SNY PP **PP 16 59 54.8 +0.9**
SNY LN
comp=Z,1μm,24.5s
SNY LE
comp=Z,2μm,37.3s
SNY LZ
comp=Z,5μm,49.0s
KSRS Korea Array 158.95 322 PKP **PKPdf 16 55 43.9 -0.2**
comp=Z,14nm,0.8s,baz=70,slow=1.2,SNR=49
KSRS PKPab **PKPab 16 56 21.2 +0.3**
comp=Z,36nm,0.8s,baz=68,slow=3.3,SNR=22
KSRS pPKPab **pPKPab 16 56 53.5 -0.1**
comp=Z,30nm,0.8s,baz=50,slow=4.3,SNR=5.9
KS01 Wonju Array Si 158.95 322 *e*PKPdf **PKPdf 16 55 43.8 -0.3**
KSAR Wonju Array Be 158.98 322 PKIKP **PKPdf 16 55 43.9 -0.2**
KSAR 16 56 21.2
KSAR Wonju Array Be 158.98 322 PKP **PKPdf 16 55 43.9 -0.2**
KSAR PKPab **PKPab 16 56 21.2 +0.2**
KSAR pPKPab **pPKPab 16 56 53.5 -0.3**
JNU Nakatsue 159.54 308 PKP **PKPdf 16 55 46.2 +1.2**
comp=Z,16nm,1.0s,baz=143,slow=3.9,SNR=2.8
JNU pPKP **pPKPdf 16 56 19.3 +0.2**
comp=Z,3.7nm,0.4s,baz=61,slow=19,SNR=1.3
JNU pPKPab **pPKPab 16 56 55.5 -1.0**
comp=Z,9.3nm,0.7s,baz=19,slow=13,SNR=2.3
MATI Mati 159.58 226 *e*P **PKPab 16 56 23.1 -1.2**
GTA Gaotai 159.73 27 *e*PKP **PKPdf 16 55 45.3 +0.2**
GTA pPKP pPKPdf 16 56 11.8 -7.4
GTA sPKP 16 56 22.6
GTA PP **PP 17 00 06.9 +1.2**
GTA SKKS 17 06 45.3
GTA SS **SS 17 20 02.8 0.0**
GTA PPMZ
comp=Z,1μm,9.0s
GTA LN
comp=Z,810nm,29.5s
GTA LE
comp=Z,1μm,21.9s
GTA LZ
comp=Z,3μm,35.6s
LSA Lhasa 159.96 63 PKP **PKPdf 16 55 46.6 +0.5**
LSA sPKP 16 56 24.3
LSA PP **PP 17 00 04.3 -4.4**
LSA LN
comp=Z,1μm,44.7s

LSA				LE				
	comp=Z,1μm,29.0s							
LSA				LZ				
	comp=Z,6μm,29.0s							
LSA	**Lhasa**	**159.96**	**63**	*e*PKIKP	**PKPdf**	**16 55 46.8**	**+0.7**	
LSA	**Lhasa**	**159.96**	**63**	*e*PKPdf	**PKPdf**	**16 55 46.8**	**+0.7**	
IPM	**Ipoh**	**159.98**	**148**	*e*PKPdf	**PKPdf**	**16 55 46.4**	**+0.3**	
IPM				*e*PKPab	**PKPab**	**16 56 24.1**	**-1.8**	
DAV	**Davao City (W)**	**160.12**	**225**↓	*e*P	PKPdf	16 55 58.8	+13	
DGPR	**DIGLIPUR**	**160.25**	**113**	*e*P	**PKPdf**	**16 55 44.6**	**-1.5**	
SBUM	**Sibu**	**160.79**	**182**	*e*PKPdf	**PKPdf**	**16 55 46.3**	**-0.5**	
DL2	**Dalian**	**160.88**	**336**	PKP	**PKPdf**	**16 55 41.5**	**-4.7**	
DL2				pPKP	**pPKPdf**	**16 56 16.4**	**-3.9**	
DL2				PPMZ				
	comp=Z,2μm,7.3s							
DL2				LE				
	comp=Z,1μm,32.6s							
DL2				LZ				
	comp=Z,3μm,37.3s							
HHC	**Hu-ho-hao-te**	**160.98**	**0**	*e*PKP	**PKPdf**	**16 55 46.1**	**-0.3**	
HHC				pPKP	pPKPdf	16 56 16.3	-4.3	
HHC				sPKP		16 56 23.3		
HHC				SKKS		17 06 51.6		
HHC				PPMZ				
	comp=Z,850nm,10.0s							
HHC				LN				
	comp=Z,2μm,18.5s							
HHC				LE				
	comp=Z,2μm,20.1s							
HHC				LZ				
	comp=Z,2μm,20.2s							
BUKP	**Musuan**	**161.06**	**225**	*e*P	PKPab	16 56 22.4	-8.3	
BTO	**Baotou**	**161.17**	**4**	*e*PKP	**PKPdf**	**16 55 48.4**	**+1.8**	
PKDT	**Phuket**	**161.18**	**135**	P	**PKPab**	**16 56 33.2**	**+2.0**	
	comp=Z,222nm,2.0s,comp=Z,4μm							
BJI	**Beijing**	**161.38**	**349**	PKP	**PKPdf**	**16 55 48.0**	**+1.3**	
BJI				pPKP	**pPKPdf**	**16 56 12.8**	**-8.0**	
BJI				sPKP		16 56 23.8		
BJI				PKS	**PKSdf**	**16 59 22.4**	**+2.5**	
BJI				PP	**PP**	**17 00 13.8**	**-0.1**	
BJI				PPMZ				
	comp=Z,1μm,13.0s							
SHL	**Shillong**	**161.54**	**74**	*e*P	**PKPdf**	**16 55 47.2**	**-0.4**	
SHL				*ex*	x	17 00 19.2		
TRTT	**Trang**	**162.00**	**139**	P	**PKPab**	**16 56 36.3**	**+1.6**	
	comp=Z,140nm,1.8s							
PAGZ	**Pagadian**	**162.10**	**221**	*e*P	pPKPdf	16 56 21.6	-0.7	
SURA	**Surathani**	**162.97**	**136**	P	**PKPab**	**16 56 41.7**	**+2.7**	
	comp=Z,58nm,1.1s							
PLP	**Palo**	**163.42**	**233**↓	*e*P	pPKPdf	16 56 17.1	-6.5	
LLP	**Lapu-Lapu**	**163.56**	**228**↑	*e*P	**PKPab**	**16 56 42.0**	**+0.4**	
TIY	**Taiyuan**	**164.10**	**358**	PKP	**PKPdf**	**16 55 54.5**	**+5.0**	
TIY				PKPab	**PKPab**	**16 56 42.8**	**-0.6**	
TIY				PP	**PP**	**17 00 35.0**	**+6.6**	
TIY				SS	SS	17 20 47.3	+0.1	
TIY				PPMZ				
	comp=Z,3μm,6.0s							
TIY				LN				
	comp=Z,2μm,17.0s							
TIY				LE				
	comp=Z,360nm,12.8s							
TIY				LZ				
	comp=Z,2μm,18.9s							
LZH	**Lanzhou**	**164.21**	**24**	*e*PKP	**PKPdf**	**16 55 52.3**	**+2.5**	
LZH				PP	**PP**	**17 00 28.0**	**-1.4**	
LZH				SKKS		17 07 09.5		
LZH				*e*SS	**SS**	**17 20 47.6**	**-1.6**	
LZH				PPMZ				
	comp=Z,1μm,5.2s							
LZH				LN				
	comp=Z,2μm,18.7s							
LZH				LE				
	comp=Z,2μm,17.6s							
LZH				LZ				
	comp=Z,3μm,19.7s							
GUIM	**Jordan**	**164.72**	**225**	*e*P	pPKPdf	16 56 25.2	+0.4	
TIA	**Tai'an**	**164.83**	**343**	PKP	**PKPdf**	**16 55 51.3**	**+1.1**	
TIA				PP	**PP**	**17 00 31.8**	**-0.5**	
TIA				LN				
	comp=Z,2μm,25.3s							
TIA				LE				
	comp=Z,1μm,17.7s							
TIA				LZ				
	comp=Z,3μm,25.3s							
BATP	**Bataraza**	**165.79**	**206**	*e*P	pPKPdf	16 56 28.2	+2.5	
KHLT	**Khaolaem Dam**	**165.82**	**117**	P	**PKPab**	**16 56 54.2**	**+2.5**	
	comp=Z,68nm,1.1s							
SRDT	**SRDT**	**166.02**	**120**	P	PP	17 00 49.2	+9.2	
PATY	**Pattaya**	**166.49**	**129**	P	**PKPab**	**16 56 56.7**	**+2.2**	
	comp=Z,25nm,1.1s,comp=Z,1μm							
UMPA	**Umpang Tak**	**166.73**	**112**	P	**PP**	**17 00 45.7**	**+1.8**	
	comp=Z,15nm,1.5s							
XAN	**Xi'an**	**167.55**	**10**	PKP	**PKPdf**	**16 55 53.0**	**+0.6**	
XAN				PKPab	**PKPab**	**16 57 01.3**	**+2.6**	
XAN				PKS	**PKSdf**	**16 59 21.3**	**-3.8**	
XAN				PP	**PP**	**17 00 50.8**	**+4.5**	
XAN				SKS	**SKSdf**	**17 02 39.1**	**-5.7**	
XAN				SS	**SS**	**17 21 20.6**	**-1.7**	
XAN				PPMZ				
	comp=Z,1μm,10.4s							
XAN				LN				
	comp=Z,3μm,20.5s							
XAN				LE				
	comp=Z,2μm,19.9s							
XAN				LZ				
	comp=Z,2μm,23.5s							
CM31	**Chiang Mai Arr**	**167.65**	**103**	*e*PKPdf	**PKPdf**	**16 55 52.6**	**-0.3**	
CM31				*e*PKPab	**PKPab**	**16 57 00.7**	**+0.9**	
CMAR	**Chiang Mai Arr**	**167.65**	**103**	PKP	**PKPdf**	**16 55 53.1**	**+0.3**	
	comp=Z,13nm,1.0s,baz=276,slow=2.2,SNR=28							
CMAR				pPKP	**pPKPdf**	**16 56 27.8**	**+0.7**	
	comp=Z,14nm,0.9s,baz=270,slow=1.7,SNR=6.8							
CMAR				PKPab	**PKPab**	**16 56 59.0**	**-0.8**	
	comp=Z,29nm,1.0s,baz=249,slow=4.7,SNR=17							
CMAR				pPKPab	**pPKPab**	**16 57 32.9**	**+0.5**	
	comp=Z,5.6nm,0.8s,baz=250,slow=5.9,SNR=1.1							
CMAR				PP	**PP**	**17 00 48.8**	**0.0**	
	comp=Z,40nm,1.2s,baz=259,slow=5.1,SNR=12							
CM01	**Chiang Mai Arr**	**167.65**	**103**	*e*PKPdf	**PKPdf**	**16 55 52.4**	**-0.4**	
CHTO	**Chiang Mai**	**167.75**	**102**	P	**PKPab**	**16 57 01.1**	**+0.9**	
	comp=Z,478nm,1.4s,comp=Z,15μm							
CHTO	**Chiang Mai**	**167.75**	**102**	P	**PP**	**17 00 52.2**	**+2.8**	
	comp=Z,720nm,4.3s							
CHTO	**Chiang Mai**	**167.75**	**102**	*e*PKIKP	**PKPdf**	**16 55 52.7**	**-0.2**	
CHTO	**Chiang Mai**	**167.75**	**102**	P	**PKPdf**	**16 55 56.6**	**+3.7**	
	SNR=6.3							
CHTO	**Chiang Mai**	**167.75**	**102**	PKPdf	**PKPdf**	**16 55 56.6**	**+3.7**	
	SNR=6.3							
CHTO	**Chiang Mai**	**167.75**	**102**	P	**PP**	**17 00 51.0**	**+1.6**	
	SNR=18							
CHTO	**Chiang Mai**	**167.75**	**102**	*e*PKPdf	**PKPdf**	**16 55 52.6**	**-0.2**	
NJ2	**Nanjing**	**167.90**	**329**	*e*PKP	**PKPdf**	**16 55 53.0**	**+0.4**	
NJ2				PKPab	**PKPab**	**16 57 00.8**	**+0.5**	
NJ2				PP	**PP**	**17 00 46.3**	**-2.2**	
NJ2				SKKS		17 07 26.5		
NJ2				PPMZ				
	comp=Z,3μm,6.0s							
NJ2				LN				
	comp=Z,2μm,19.5s							
NJ2				LE				
	comp=Z,1μm,19.5s							
NJ2				LZ				
	comp=Z,3μm,22.8s							
SUKH	**Sukhothai**	**167.93**	**109**	P	**PKPab**	**16 57 02.3**	**+1.3**	
	comp=Z,320nm,1.2s,comp=Z,325nm							
SUKH	**Sukhothai**	**167.93**	**109**	P	**PP**	**17 00 52.8**	**+2.7**	
	comp=Z,34nm,1.1s							
SRAK	**Srakaew**	**168.06**	**129**	P	**PKPab**	**16 57 04.2**	**+2.7**	
	comp=Z,182nm,1.1s,comp=Z,2μm							
LAMP	**Lampang**	**168.29**	**104**	P	**PKPab**	**16 57 03.6**	**+1.0**	
	comp=Z,44nm,1.2s,comp=Z,427nm							
LAMP	**Lampang**	**168.29**	**104**	P	**PP**	**17 00 55.4**	**+3.3**	
	comp=Z,22nm,1.3s							
CD2	**Chengdu**	**168.50**	**36**	PKP	**PKPdf**	**16 55 51.0**	**-2.2**	
CD2				pPKP	pPKPdf	16 56 21.4	-5.9	
CD2				sPKP		16 56 33.3		
CD2				PP	**PP**	**17 00 51.0**	**-0.8**	
CD2				SKS	**SKSdf**	**17 02 44.4**	**-1.1**	
CD2				SKKS	**SKKSac**	**17 07 27.0**	**-0.7**	
CD2				SS	**SS**	**17 21 34.9**	**+1.8**	
CD2				PPMZ				
	comp=Z,1μm,6.0s							
CD2				LN				
	comp=Z,3μm,24.8s							
CD2				LE				
	comp=Z,3μm,27.8s							
CD2				LZ				
	comp=Z,4μm,24.3s							
PBKT	**Sadao Pong**	**168.69**	**115**	P	**PKPab**	**16 57 06.3**	**+2.0**	
	comp=Z,78nm,1.3s,comp=Z,3μm							
PBKT	**Sadao Pong**	**168.69**	**115**	P	**PP**	**17 00 55.6**	**+1.8**	
	comp=Z,198nm,1.1s							
UTTA	**Uttaradit**	**168.84**	**109**	P	**PKPab**	**16 57 06.3**	**+1.3**	
	comp=Z,37nm,1.1s,comp=Z,356nm							
UTTA	**Uttaradit**	**168.84**	**109**	P	**PP**	**17 00 57.8**	**+3.1**	
	comp=Z,18nm,1.3s							
LOEI	**Loei**	**169.37**	**112**	P	**PP**	**17 01 02.5**	**+5.2**	
KHON	**Khomkaen**	**170.09**	**122**	P	**PKPab**	**16 57 12.5**	**+2.0**	
	comp=Z,20nm,1.2s							
WHN	**Wuhan**	**170.93**	**345**	PKP	**PKPdf**	**16 55 55.6**	**+1.1**	
WHN				PKPab	**PKPab**	**16 57 12.6**	**-1.0**	
WHN				SKKS		17 07 41.3		
WHN				LN				
	comp=Z,8μm,22.2s							
WHN				LE				
	comp=Z,4μm,20.0s							
WHN				LZ				
	comp=Z,17μm,44.6s							
KMI	**Kunming**	**171.19**	**66**	PKP	**PKPdf**	**16 55 51.5**	**-3.6**	
ENH	**Enshi**	**171.32**	**12**	*e*PKPdf	**PKPdf**	**16 55 54.7**	**-0.1**	
SKNT	**Sakolnakorn**	**171.36**	**122**	P	**PKPab**	**16 57 17.7**	**+1.6**	
	comp=Z,157nm,1.1s							
TPUB	**Ta-pu**	**171.53**	**282**	*e*PKPab	**PKPab**	**16 57 18.1**	**+1.1**	
QZH	**Quanzhou**	**172.86**	**298**	*i* PKP	**PKPdf**	**16 55 49.3**	**-6.3**	
QZH				pPKP	**pPKPdf**	**16 56 22.1**	**-7.7**	
QZH				sPKP		16 56 38.1		
QZH				PPMZ				
	comp=Z,6μm,8.0s							
QZH				LE				
	comp=Z,8μm,20.5s							
QZH				LZ				
	comp=Z,19μm,43.9s							
GYA	**Guiyang**	**173.50**	**43**	*i* PKP	**PKPdf**	**16 55 55.8**	**-0.2**	
GYA				pPKP	pPKPdf	16 56 24.9	-5.3	
GYA				PKPab	**PKPab**	**16 57 25.3**	**-0.2**	
GYA				PKS	**PKSdf**	**16 59 25.3**	**-3.1**	
GYA				PP	**PP**	**17 01 21.8**	**+4.7**	
GYA				SKKS		17 07 50.3		
GYA				SS	**SS**	**17 22 19.3**	**-3.7**	
GYA				LN				
	comp=Z,2μm,20.8s							
GYA				LE				
	comp=Z,4μm,20.3s							
GYA				LZ				
	comp=Z,4μm,20.9s							
QIZ	**Qiongzhong**	**176.81**	**148**	PKP	**PKPdf**	**16 55 56.8**	**-0.1**	
QIZ				PP	**PP**	**17 01 30.5**	**-1.7**	
QIZ				SKKS		17 08 11.3		
QIZ				SS	**SS**	**17 22 53.9**	**+0.5**	
QIZ				PPMZ				
	comp=Z,1μm,7.6s							
QIZ				LN				
	comp=Z,1μm,21.3s							
QIZ				LE				
	comp=Z,2μm,22.3s							
QIZ				LZ				
	comp=Z,6μm,50.4s							
GZH	**Guangzhou**	**177.93**	**310**	PKP	**PKPdf**	**16 55 58.8**	**+1.9**	
GZH				PKPab	PKPab	16 57 42.9	-2.3	
GZH				PPMZ				
	comp=Z,7μm,14.9s							

CASC 20 16:53:35.8±1.9, 8.99N×82.87W, h3km±10km, MD3.8, 4C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBS2		**0.29**	**134**↓	*i*P	Pb	16 53 42.9	-0.9
TBS2				*e*S	Sb	16 53 47.7	-1.3
BRU	**Baru**	**0.35**	**121**↑	*i*P	Pb	16 53 44.5	-0.6
BUS	**Buena Vista**	**1.04**	**302**	*e*P	Pg	16 53 54.4	-1.4
BUS				*e*S	Sg	16 54 09.2	-0.2
URSC	**Urasca**	**1.23**	**313**↑	*e*P	Pg	16 53 58.9	-0.5
URSC				*e*S	Sg	16 54 15.6	+0.2
QCR	**Quepos**	**1.35**	**289**↑	*e*P	Pn	16 53 59.5	-2.1
QCR				*e*S	Sn	16 54 20.7	+0.7
CGA2	**Cerro Gallo 2**	**1.88**	**303**↑	*e*P	Pn	16 54 08.5	-0.5
CGA2				*e*S	Sn	16 54 34.0	+0.7
JCR	**Jicaral**	**2.37**	**291**	*e*P	Pn	16 54 16.4	+0.7

IDC 20 17:04:04.8±2.1, 4.20N×124.38E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/41, mbtmp3.4/4, Error ellipse: s-maj=297.7km s-min=21.2km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.92**	**158**	P	P	17 09 38.8	-0.1
	0.2nm,0.4s,baz=336,slow=9.8,SNR=10.0						
ASAR	**Alice Springs**	**29.22**	**162**	P	P	17 10 08.7	+0.1
	0.3nm,0.6s,baz=344,slow=7.4,SNR=5.0						
MKAR	**Makanchi Array**	**55.84**	**326**	P	P	17 13 44.5	+0.4
	0.3nm,0.3s,baz=123,slow=7.7,SNR=9.9						
KURBB	**Kurchatov Arra**	**60.09**	**328**	P	P	17 14 13.3	-0.5
	0.2nm,0.5s,baz=133,slow=5.8,SNR=3.3						

JMA 20 17:12:02.8±0.1, 37.62N×141.62E, h49km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.65**	**247**	P	Pn	17 12 15.9	+0.1
JFK				*e*S	Sn	17 12 25.1	-0.1
JMM	**Marumori**	**0.70**	**291**	P	Pn	17 12 16.6	+0.1
ONAJ	**Iwakimizuishiy**	**0.83**	**232**	P	Pn	17 12 18.1	-0.2
ONAJ				*e*S	Sn	17 12 29.0	-0.7
JIO	**Ouri**	**0.86**	**346**	P	Pn	17 12 18.9	+0.3
JIO				*e*S	Sn	17 12 30.0	-0.2
JFT	**Otama**	**1.02**	**265**	P	Pn	17 12 21.6	+0.8
JFT				*e*S	Sn	17 12 35.3	+1.1
JOU	**Okura**	**1.06**	**315**	P	Pn	17 12 21.4	+0.1
JMK	**Ichinoseki**	**1.37**	**347**	P	Pn	17 12 26.0	+0.5
JMK				*e*S	Sn	17 12 42.8	+0.4
JYS	**Shirataka**	**1.37**	**296**	P	Pn	17 12 26.0	+0.5
JFY	**Yanaizu**	**1.54**	**263**	P	Pn	17 12 28.4	+0.6
JFY				*e*S	Sn	17 12 47.4	+0.7
JYK	**Kaneyama**	**1.63**	**323**	P	Pn	17 12 29.7	+0.6
JYK				*e*S	Sn	17 12 49.8	+0.9
JYA	**Atsumi**	**1.79**	**303**	P	Pn	17 12 31.9	+0.7
JYA				*e*S	Sn	17 12 54.7	+1.9
MAT	**Matsushiro**	**2.93**	**250**	P	Pn	17 12 49.1	+2.2
MAT				S	Sn	17 13 25.4	+4.5

*IDC **20** 17:25:07.9±1.2, 26.90N×143.38E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.5/42, mbtmp3.5/10, ML3.4/2, MS4.3/1, Ms1 4.3/1, ms1mx3.3/38, Error ellipse: s-maj=27.8km s-min=18.3km az=66.0*

*ISCJB **20** 17:25:10.5±0.8, 26.91N±0.09×143.48E±0.08, h33km, mb3.6/9, Error ellipse: s-maj=12.9km s-min=9.2km az=24.7*

*NEIC **20** 17:25:11.6±4.5, 26.89N×143.38E, h25km±31km, mb4.5/1, Error ellipse: s-maj=23.2km s-min=10.0km az=86.0*

ISC 20 17:25:12.9±1.2, 26.9N±0.1×143.4E±0.1, h35km, n15, σ0854/16, mb3.5/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.08**	**280**	Pn	**Pn**	**17 25 30.7**	**-0.8**
CBIJ				Sn	**Sn**	**17 25 45.7**	**+0.4**
JCJ	**Chichijima**	**1.08**	**280**	Pn	**Pn**	**17 25 30.7**	**-0.8**
	23nm,0.3s,baz=283,slow=24,SNR=16						
JCJ				Sn	**Sn**	**17 25 45.7**	**+0.4**
	129nm,0.3s,baz=250,slow=23,SNR=17						
MJAR	**Matsushiro Arr**	**10.55**	**337**	Pn	**Pn**	**17 27 41.5**	**-0.2**
	0.2nm,0.3s,baz=140,slow=10,SNR=1.6						
GUMO	**Guam**	**13.33**	**174**	LR	LR	17 32 52.5	
	comp=Z,1μm,18.7s,baz=162,slow=35						
KSRS	**Korea Array**	**16.76**	**313**	Pn	**P**	**17 29 06.0**	**-0.7**
	0.2nm,0.3s,baz=120,slow=11,SNR=4.3						
KSAR	**Wonju Array Be**	**16.77**	**313**	Pn	**Pn**	**17 29 06.0**	**+1.0**
KLR	**Kul'dur**	**24.03**	**341**	P	**P**	**17 30 24.2**	**-0.2**
	0.7nm,0.4s,baz=156,slow=10.0,SNR=4.5						
SONM	**Songino Array**	**35.58**	**316**	P	**P**	**17 32 07.4**	**+0.3**
	0.5nm,0.7s,baz=116,slow=6.6,SNR=2.4						
CMAR	**Chiang Mai Arr**	**41.68**	**268**	P	**P**	**17 32 58.5**	**+0.2**
	0.4nm,0.6s,baz=61,slow=7.3,SNR=3.6						

WRAB	**Tennant Creek**	**47.39**	**192**	*e*P		**P**	**17 33 43.6**	**-0.2**
	4.6nm,0.9s							
WRA	**Warramunga Arr**	**47.40**	**192**	P		**P**	**17 33 44.1**	**+0.2**
	1.2nm,0.6s,baz=12,slow=8.6,SNR=21							
ZALV	**Zalesovo Beam**	**50.32**	**319**	P		**P**	**17 34 06.0**	**0.0**
	0.3nm,0.4s,baz=114,slow=6.5,SNR=2.8							
ASAR	**Alice Springs**	**51.11**	**191**	P		**P**	**17 34 12.1**	**-0.2**
	0.2nm,0.6s,baz=5.9,slow=4.7,SNR=5.4							
MKAR	**Makanchi Array**	**51.41**	**310**	P		**P**	**17 34 14.3**	**0.0**
	0.2nm,0.6s,baz=109,slow=7.1,SNR=2.8							
FINES	**FINESS Array B**	**78.57**	**334**	P		**P**	**17 37 11.1**	**+0.6**
	1.7nm,1.0s,baz=154,slow=28,SNR=1.7							

WEL 20 17:27:47.9±0.1, 43.60S×172.52E, h10km±1km, ML3.6/15, 3C-2D, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.07**	**73**	↑↑PG	Pg	17 27 50.0	-0.2
CRLZ				SG	Sg	17 27 51.6	-0.2
CRLZ				AML	AML	17 27 51.7	
CRLZ				AML	AML	17 27 51.8	
CRLZ				AML	AML	17 27 51.9	
MQZ	**McQueen's Vall**	**0.14**	**139**	↓↓PG	Pg	17 27 51.3	+0.1
MQZ				SG	Sg	17 27 53.6	+0.1
MQZ				SG		17 27 53.6	
MQZ				AML	AML	17 27 53.9	
QXZ	**Oxford**	**0.45**	**307**	↑↑P*	Pg	17 27 56.4	-0.2
RPZ	**Rata Peaks**	**1.07**	**263**	↑↑P*	Pg	17 28 07.7	-0.8
RPZ				AML	AML	17 28 23.5	
RPZ				AML	AML	17 28 30.3	
INZ	**Inchbonnie**	**1.18**	**317**	↓↓P*	Pb	17 28 09.1	-1.3
WVZ	**Waitaha Valley**	**1.40**	**291**	PN	Pn	17 28 12.7	-0.8
WVZ				AML	AML	17 28 37.9	
WVZ				AML	AML	17 28 40.2	
THZ	**Tophouse**	**1.85**	**9**	PN	Pn	17 28 18.4	-1.4
THZ				AML	AML	17 28 54.2	
THZ				AML	AML	17 28 54.2	
LBZ	**Lake Benmore**	**1.86**	**244**	PN	Pn	17 28 19.1	-0.9
LBZ				AML	AML	17 28 49.4	
LBZ				AML	AML	17 28 49.5	
DSZ	**Denniston Nort**	**1.93**	**344**	PN	Pn	17 28 19.9	-0.9
DSZ				AML	AML	17 28 46.1	
DSZ				AML	AML	17 28 46.7	
DSZ				AML	AML	17 28 47.5	
DSZ				AML	AML	17 28 47.5	
FOZ	**Fox Glacier**	**1.97**	**271**	PN	Pn	17 28 21.6	+0.3
FOZ				AML	AML	17 28 54.5	
FOZ				AML	AML	17 28 56.1	
ODZ	**Otahua Downs**	**1.98**	**222**	PN	Pn	17 28 20.3	-1.2
ODZ				AML	AML	17 28 53.0	
ODZ				AML	AML	17 28 53.0	
ODZ				AML	AML	17 28 53.5	
ODZ				AML	AML	17 28 59.3	
BSWZ	**Blackbirch Sta**	**2.13**	**28**	PN	Pn	17 28 22.0	-1.6
JCZ	**Jackson Bay**	**2.75**	**259**	PN	Pn	17 28 31.4	-0.8
JCZ				AML	AML	17 29 18.8	
QRZ	**Quartz Range**	**2.77**	**0**	AML	AML	17 29 12.6	
EAZ	**Earnscleugh**	**2.83**	**234**	PN	Pn	17 28 31.7	-1.4
EAZ				AML	AML	17 29 21.1	
EAZ				AML	AML	17 29 21.2	
EAZ				AML	AML	17 29 22.5	
EAZ				AML	AML	17 29 22.5	
CAW	**Cannon Point**	**3.12**	**38**	PN	Pn	17 29 34.5	-2.7
CAW				AML	AML	17 29 11.7	
TUZ	**Tuapeka**	**3.13**	**220**	PN	Pn	17 28 36.1	-1.3
TUZ				AML	AML	17 29 30.7	
TUZ				AML	AML	17 29 35.4	
MTW	**Mount Morrison**	**3.29**	**43**	PN	Pn	17 28 36.8	-2.7
MSZ	**Milford Sound**	**3.48**	**250**	AML	AML	17 29 42.6	
MRZ	**Mangatainoka R**	**3.71**	**39**	PN	Pn	17 28 42.6	-2.7
SYZ	**Scrubby Hill**	**3.79**	**218**	PN	Pn	17 28 46.2	-0.2
VRZ	**Vera Road**	**4.77**	**21**	PN	Pn	17 29 01.2	+1.3

MAN 20 17:31:23, 18.96N×121.12E, h1km, mb4.7, ML3.6, MS3.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.79**	**217**↓	*i*P	Pg	17 31 38.6	+0.4
PIP				*e*S	Sn	17 31 54.5	+0.8
APYP	**Conner**	**1.10**	**174**	*e*P	Pn	17 31 46.1	+0.5
APYP				*e*S	Sn	17 32 04.9	+3.5
SGCP	**Mt. Cagua**	**1.13**	**129**	*e*P	Pn	17 31 45.8	-0.2
SGCP				*e*S	Sn	17 32 03.7	+1.5
ABRA	**Dolores**	**1.36**	**197**	*e*P	Pg	17 31 48.4	-0.7
ABRA				*e*S	Sn	17 32 13.3	+5.4
CVP	**Callao Caves**	**1.42**	**152**	*e*P	Pn	17 31 49.5	-0.5
CVP				*e*S	Sn	17 32 10.5	+1.3
CAUP	**Cauayan**	**2.12**	**161**	*e*P	Pg	17 32 03.5	0.0
CAUP				*e*S	Sg	17 32 38.9	+7.9
BALP	**Baler**	**3.23**	**172**	*e*P	Pn	17 32 18.0	+3.1
BALP				*e*S	Sb	17 33 02.4	+1.3

*IDC **20** 17:32:58.4±0.6, 26.90N×143.87E, h0km, mb4.1/21, mb1 4.2/26, mb1mx4.1/40, mbtmp4.1/26, ML3.7/4, Error ellipse: s-maj=17.0km s-min=13.6km az=85.0*

*ISCJB **20** 17:33:01.8±0.5, 26.93N±0.06×143.81E±0.05, h33km, mb4.1/26, Error ellipse: s-maj=9.1km s-min=6.8km az=178.5*

*NEIC **20** 17:33:03.9±0.4, 26.97N×143.78E, h35km, mb4.6/5, Error ellipse: s-maj=11.2km s-min=8.6km az=79.0*

ISC 20 17:33:04.2±0.6, 27.03N±0.08×143.74E±0.08, h35km, n44, σ1919/44, mb4.1/26, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.39**	**273**	Pn	**Pn**	**17 33 26.4**	**-0.7**
CBIJ				Sn	**Sn**	**17 33 44.0**	**-0.2**
JCJ	**Chichijima**	**1.39**	**273**	Pn	**Pn**	**17 33 26.4**	**-0.7**
	35nm,0.3s,baz=263,slow=21,SNR=73						
JCJ				Sn	**Sn**	**17 33 44.0**	**-0.2**
	384nm,0.3s,baz=287,slow=22,SNR=45						
JHJ	**Hachijo jima 2**	**6.97**	**332**	Pn	**Pn**	**17 34 44.5**	**+0.8**
	8.5nm,0.3s,baz=81,slow=22,SNR=4.8						
JHJ				Sn	**Sn**	**17 35 59.9**	**

ASAR	**Alice Springs**	**51.29**	**192**	P	**P**	**17 42 03.3**	**-1.6**
	0.9nm,0.6s,baz=1.0,slow=5.3,SNR=26						
MKAR	**Makanchi Array**	**51.58**	**310**	P	**P**	**17 42 08.1**	**+1.1**
	1.5nm,0.4s,baz=86,slow=10,SNR=34						
MKAR				PcP	**PcP**	**17 43 20.7**	**+0.1**
	0.9nm,0.8s,baz=82,slow=2.6,SNR=4.1						
NRIK	**Noril'sk**	**53.22**	**338**	P	**P**	**17 42 19.7**	**+1.1**
	2.8nm,0.7s,baz=114,slow=9.3,SNR=3.7						
KURK	**Kurchatov**	**54.02**	**315**	*e*P	**P**	**17 42 25.4**	**+0.6**
	16nm,0.6s						
ILAR	**Eielson Array**	**57.11**	**29**	P	**P**	**17 42 46.0**	**-0.9**
	1.4nm,0.8s,baz=257,slow=6.3,SNR=14						
STKA	**Stephens Creek**	**58.61**	**182**	P	**P**	**17 42 56.4**	**-1.3**
	4.3nm,1.0s,baz=331,slow=13,SNR=2.4						
KKAR	**Karatay Array**	**60.24**	**306**	*e*P	**P**	**17 43 09.9**	**+0.8**
	4.6nm,0.6s						
INK	**Inuvik**	**62.52**	**25**	P	**P**	**17 43 24.0**	**+0.1**
	1.2nm,0.5s,baz=256,slow=11,SNR=3.8						
ABKAR	**Akbulak array**	**66.13**	**315**	*e*P	**P**	**17 43 48.0**	**+0.2**
	0.9nm,0.4s						
YKA	**Yellowknife Ar**	**71.54**	**29**	P	**P**	**17 44 21.3**	**+0.1**
	1.1nm,0.7s,baz=291,slow=6.5,SNR=6.3						
FINES	**FINESS Array B**	**78.61**	**334**	P	**P**	**17 45 03.5**	**+1.5**
	0.7nm,0.4s,baz=69,slow=6.3,SNR=6.5						
KBZ	**Khabaz**	**79.06**	**314**	P	**P**	**17 45 06.2**	**+1.3**
	3.5nm,0.8s,baz=303,slow=24,SNR=5.6						
SUMG	**Summit**	**80.65**	**1**	*e*P	**P**	**17 45 14.6**	**+1.1**
	3.0nm,0.8s						
PDAR	**Pinedale Array**	**83.28**	**45**	P	**P**	**17 45 26.2**	**-1.5**
	0.4nm,0.4s,baz=268,slow=4.2,SNR=4.9						
AKASG	**Malin Array Be**	**83.48**	**324**	P	**P**	**17 45 27.6**	**-0.6**
	0.9nm,0.5s,baz=46,slow=6.2,SNR=5.1						
NOA	**NORSAR Array B**	**84.18**	**339**	P	**P**	**17 45 32.0**	**+0.4**
	0.7nm,0.6s,baz=39,slow=5.0,SNR=2.6						
NOA	**NORSAR Array B**	**84.18**	**339**	P	**P**	**17 45 32.0**	**+0.4**
ULM	**Lac du Bonnet**	**86.74**	**34**	P	**P**	**17 45 43.6**	**-1.0**
	2.3nm,0.6s,baz=342,slow=6.4,SNR=2.5						
BRTR	**Keskin Array B**	**87.06**	**314**	P	**P**	**17 45 46.4**	**-0.1**
	1.1nm,0.8s,baz=90,slow=2.5,SNR=5.5						
TXAR	**Lajitas Array**	**94.53**	**54**	P	**P**	**17 46 22.5**	**+1.0**
	0.2nm,0.5s,baz=289,slow=2.8,SNR=3.3						
LPAZ	**La Paz**	**148.60**	**77**	PKPbc	**PKPbc**	**17 52 49.3**	**+0.4**
	1.9nm,0.5s,baz=316,slow=2.7,SNR=9.5						

ISCJB ***20*** *17:47:56.2±1.4, 61°.2S±0°.1×155°.8E±0°.9, h10km, mb4.2/4, MS4.2/1, Error ellipse: s-maj=64.7km s-min=10.5km az=168.0*

IDC ***20*** *17:47:57.3±2.3, 61°.17S×155°.54E, h0km, mb4.2/4, mb1 4.4/5, mb1mx4.2/26, mbtmp4.2/5, ML4.1/1, MS4.3/3, Ms1 4.3/3, ms1mx3.9/29, Error ellipse: s-maj=90.1km s-min=25.5km az=88.0*

NEIC ***20*** *17:47:58.1±1.4, 61°.16S×155°.78E, h10km, mb4.1/1, Error ellipse: s-maj=65.0km s-min=12.2km az=78.0*

ISC 20 17:47:57.4±1.6, 61°.3S±0°.1×156°.2E±0°.5, h10km, n12, σ1§60/10, mb4.1/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNDA	**Vanda**	**16.42**	**176**	Pn		**P**	**17 51 48.7**	**-1.5**
	0.7nm,0.3s,baz=346,slow=13,SNR=51							
VNDA				Sn		**Sn**	**17 54 48.2**	**-1.2**
	0.2nm,0.3s,baz=215,slow=11,SNR=5.1							
VNDA				LR		LR	17 57 28.8	
	comp=Z,634nm,20.7s,baz=343,slow=34							
SBA	**Scott Base**	**17.00**	**172**	*e*P		**P**	**17 51 58.2**	**+1.6**
	21nm,1.2s							
RPZ	**Rata Peaks**	**19.70**	**34**	LR		LR	17 59 17.3	
	comp=Z,1μm,18.1s,baz=188,slow=34							
URZ	**Urewera**	**26.48**	**39**	LR		LR	18 02 02.9	
	comp=Z,799nm,20.8s,baz=139,slow=32							
STKA	**Stephens Creek**	**30.92**	**335**	P		**P**	**17 54 14.9**	**+0.9**
	5.6nm,0.9s,baz=180,slow=8.3,SNR=3.0							
MAW	**Mawson**	**37.05**	**219**	P		**P**	**17 55 07.7**	**+0.9**
	5.1nm,1.2s,baz=144,slow=8.5,SNR=3.8							
H01W1	**Cape Leeuwin H**	**37.48**	**295**	T		T	18 34 05.2	
	baz=148,slow=76,SNR=84							
H01W2	**Cape Leeuwin H**	**37.48**	**295**	T		T	18 34 08.7	
	baz=148,slow=76,SNR=85							
H01W3	**Cape Leeuwin H**	**37.50**	**295**	T		T	18 34 06.4	
	baz=148,slow=76,SNR=84							
ASAR	**Alice Springs**	**40.60**	**328**	P		**P**	**17 55 35.5**	**-1.6**
	2.6nm,0.9s,baz=163,slow=8.4,SNR=14							
ASAR				PcP		**PcP**	**17 57 40.1**	**+1.1**
	1.1nm,0.9s,baz=162,slow=3.7,SNR=5.2							
WRA	**Warramunga Arr**	**44.05**	**330**	P		**P**	**17 56 03.7**	**-1.5**
	3.2nm,1.0s,baz=162,slow=7.0,SNR=11							
WRA				PcP		**PcP**	**17 57 51.4**	**+1.0**
	1.2nm,0.8s,baz=169,slow=2.8,SNR=6.7							
WRAB	**Tennant Creek**	**44.06**	**330**	*e*P		**P**	**17 56 03.6**	**-1.6**

GUC 20 17:54:14.0±0.7, 21°.87S×68°.66W, h132km±6km, ML3.7, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.55**	**277**	↑*i*	P	Pn	17 54 34.4	+0.7
PB09				*i*	S	Sn	17 54 49.0	+0.4
PB09				IAML			17 54 51.3	
	comp=E,3μm,0.6s							
PB01	**IPOC Station P**	**1.12**	**317**	↑*i*	P	Pn	17 54 39.1	+0.7
PB01				*i*	S	Sn	17 54 57.9	+1.1
PB01				IAML			17 55 00.5	
	comp=E,2μm,0.2s							
PB07	**IPOC Station P**	**1.15**	**277**	↑*i*	P	Pn	17 54 39.9	+1.2
PB07				*i*	S	Sn	17 54 59.4	+2.0
PB07				IAML			17 55 00.3	
	comp=N,1μm,0.2s							
PB06	**IPOC Station P**	**1.19**	**225**	↑*i*	P	Pn	17 54 39.8	+0.8
PB06				*i*	S	Sn	17 54 59.0	+0.8
PB06				IAML			17 54 59.4	
	comp=N,1μm,0.4s							
PB04	**IPOC Station P**	**1.46**	**251**	↑*i*	P	Pn	17 54 43.0	+1.0
PB04				*i*	S	Sn	17 55 04.3	+1.2
PB04				IAML			17 55 08.6	
	comp=E,538nm,0.3s							
PB08	**IPOC Station P**	**1.78**	**345**	↑*i*	P	Pn	17 54 47.4	+1.6
PB08				*i*	S	Sn	17 55 11.8	+1.8
PB08				IAML			17 55 13.0	
	comp=E,771nm,0.6s							
HMBC	**Humberstone**	**1.95**	**324**	↑*i*	P	Pn	17 54 48.2	+0.6
HMBC				*i*	S	Sn	17 55 14.7	+1.4
HMBC				IAML			17 55 16.1	
	comp=E,1μm,0.6s							
PB11	**IPOC Station P**	**2.29**	**336**	↑*i*	P	Pn	17 54 52.5	+0.7
PB11				*i*	S	Sn	17 55 22.4	+1.5
PSGC	**Pisagua**	**2.64**	**328**	IAML			17 55 34.9	
	comp=E,246nm,0.5s							
MNMC	**Minye Minye**	**2.86**	**342**	↑*i*	P	Pn	17 55 00.0	+0.9
MNMC				*i*	S	Sn	17 55 36.1	+2.2
MNMC				IAML			17 55 38.1	
	comp=E,632nm,0.4s							

IDC ***20*** *18:13:20.4±0.8, 13°.33S×167°.24E, h196km±6km, mb5.0/28, mb1 5.0/30, mb1mx5.0/34, mbtmp5.5/30, MS4.5/2, Ms1 4.5/2, ms1mx3.6/34, Error ellipse: s-maj=9.8km s-min=8.0km az=81.0*

NEIC ***20*** *18:13:21.4±0.1, 13°.29S×167°.21E, mb5.4/104, Error ellipse: s-maj=3.3km s-min=2.8km az=89.0*

BJI ***20*** *18:13:21.1, 12°.96S×167°.20E, h204km, mb5.4/75, mB5.4/31*

GCMT ***20*** *18:13:21.4±0.4, 13°.38S×166°.91E, h205km±4km, MW5.7/71, Moment Tensor Solution. s12,c12; s71,c94; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr 1.93±.17; Mθθ 2.04±.22; Mφφ -3.96±.20; Mrθ -0.36±.15; Mrφ 2.33±.18; Mθφ -1.25±.14; Best double couple: M◎4.11000×10^17 NP1:φs200.00000°, δ75.00000°, λ150.00000°. NP2:φs299.00000°, δ61.00000°, λ17.00000°. Principal axes: T 3.2950, Plg31.0000°, Azm156.0000°; N 1.6410, Plg57.0000°, Azm356.0000°; P -4.9260, Plg9.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***20*** *18:13:22.2±0.7, 13°.37S±0°.02×167°.17E±0°.02, h227km±7km, mb5.3/162 Error ellipse: s-maj=3.8km s-min=3.2km az=150.9*

MOS ***20*** *18:13:23.3±1.1, 13°.21S×167°.12E, h227km, mb5.7/33, Error ellipse: s-maj=7.9km s-min=6.2km az=118.2*

ISC 20 18:13:22.5±0.4, 13°.37S±0°.04×167°.23E±0°.04, h219km±3km, h219km:pP-P, n991, σ1§20/1069, mb5.4/160, 73C-38D,

Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**8.14**	**298**	P		**Pn**	**18 15 16.1**	**-1.5**
	14nm,0.3s,baz=117,slow=2.7,SNR=10							
HNR				S		**S**	**18 16 43.6**	**-6.2**
	baz=221,slow=20,SNR=1.2							
HNR	**Honiara**	**8.14**	**298**	*e*P		**Pn**	**18 15 16.0**	**-1.7**
HNR				*e*S		**S**	**18 16 49.0**	**-0.9**
DZM	**Mont Dzumac**	**8.69**	**185**	P		**Pn**	**18 15 24.3**	**-0.4**
	2.0nm,0.3s,baz=36,slow=18,SNR=33							
DZM				S		**S**	**18 17 01.5**	**-1.3**
	baz=292,slow=24,SNR=6.2							
DZM	**Mont Dzumac**	**8.69**	**185**	*e*Pn		**Pn**	**18 15 21.4**	**-3.3**
DZM				S		**S**	**18 17 01.5**	**-1.3**
MSVF	**Nonsavu**	**11.29**	**114**	*c*P		**P**	**18 16 02.1**	**-1.1**
MSVF	**Nonsavu**	**11.29**	**114**	*e*Pn		**P**	**18 16 02.0**	**-1.2**
FUNA	**Funafuti**	**12.70**	**69**	*e*Pn		**P**	**18 16 17.6**	**-1.2**
TARA	**Tarawa**	**15.68**	**22**	*e*P		**Pn**	**18 16 54.3**	**+1.9**
RABL	**Rabaul**	**17.45**	**300**	*e*P		**P**	**18 17 10.6**	**-0.7**
	73nm,0.6s							
EIDS	**Eidsvold**	**19.33**	**229**	P		**P**	**18 17 33.0**	**+1.5**
	baz=19,SNR=107							
EIDS	**Eidsvold**	**19.33**	**229**	*e*P		**P**	**18 17 33.1**	**+1.5**
	156nm,0.8s							
LHI	**Lord Howe Isla**	**19.56**	**201**	P		**Pn**	**18 17 37.8**	**-0.2**
	baz=20,SNR=3.5							
PMG	**Port Moresby**	**20.06**	**279**	P		**P**	**18 17 39.7**	**+0.2**
	118nm,1.1s,baz=72,slow=6.1,SNR=16							
PMG	**Port Moresby**	**20.06**	**279**	*d*iP		**P**	**18 17 39.6**	**+0.2**
PMG				pmax		pmax		
	comp=Z,1μm,1.7s							
PMG	**Port Moresby**	**20.06**	**279**	*e*P		**P**	**18 17 39.8**	**+0.4**
	comp=Z,286nm,1.3s							
AFI	**Afiamalu**	**20.41**	**94**	P		**P**	**18 17 44.2**	**+1.0**
	comp=Z,267nm,0.8s,baz=69,slow=14,SNR=21							
AFI	**Afiamalu**	**20.41**	**94**	*e*P		**P**	**18 17 44.2**	**+1.0**
AFI				pmax		pmax		
	comp=Z,316nm,1.0s							
AFI	**Afiamalu**	**20.41**	**94**	*e*P		**P**	**18 17 44.1**	**+1.0**
	comp=Z,316nm,1.0s							
CTA	**Charters Tower**	**21.16**	**249**	P		**P**	**18 17 50.7**	**-0.3**
	comp=Z,142nm,1.1s,baz=76,slow=13,SNR=51							
CTA				S		**S**	**18 21 29.1**	**-3.6**
	comp=Z,12nm,1.1s,baz=75,slow=13,SNR=1.9							
CTAO	**Charters Tower**	**21.16**	**249**	*e*P		**P**	**18 17 51.0**	**0.0**
CTAO				pmax		pmax		
	comp=Z,333nm,1.4s							
CTAO	**Charters Tower**	**21.16**	**249**	*e*P		**P**	**18 17 51.0**	**0.0**
	comp=Z,333nm,1.4s							
RMQ	**Roma**	**21.68**	**230**	P		**P**	**18 17 57.3**	**+1.1**
	baz=22,SNR=227							
PATS	**Pohnpei**	**21.94**	**336**	P		**P**	**18 17 58.5**	**-0.2**
	baz=22,SNR=11							
PATS	**Pohnpei**	**21.94**	**336**	*e*P		**P**	**18 17 58.3**	**-0.5**
	comp=Z,456nm,1.1s							
KWAJ	**Kwajalein Atol**	**22.03**	**1**	*e*P		**P**	**18 17 58.5**	**-1.0**
KWAJ				pmax		pmax		
	comp=Z,482nm,0.8s							
KWAJ	**Kwajalein Atol**	**22.03**	**1**	*e*P		**P**	**18 17 58.5**	**-1.0**
	comp=Z,482nm,0.8s							
ARMA	**Armidale**	**22.25**	**218**	P		**P**	**18 18 03.1**	**+1.4**
	baz=22,SNR=62							
ARMA	**Armidale**	**22.25**	**218**	*e*P		**P**	**18 18 02.7**	**+1.0**
	comp=Z,270nm,1.4s							
ARMA				*e*S		**S**	**18 21 51.7**	**+1.5**
OUZ	**Omahuta**	**22.50**	**166**	*e*P		**P**	**18 18 05.9**	**+2.3**
	comp=Z,190nm,0.9s							
OUZ	**Omahuta**	**22.50**	**166**	*e*PN		**P**	**18 18 06.4**	**+2.7**
MTSU	**Mount Surprise**	**22.55**	**255**	P		**P**	**18 18 05.3**	**+1.0**
	baz=23,SNR=158							
NIUE	**Niue**	**22.64**	**108**	P		**P**	**18 18 06.5**	**+1.3**
	baz=23,SNR=7.0							
MANU	**Manus Island**	**22.65**	**298**	*e*P		**P**	**18 18 05.1**	**-0.1**
	comp=Z,378nm,1.6s							
WCZ	**Waipu Caves**	**23.37**	**165**	*e*PN		**P**	**18 18 14.4**	**+2.9**
COEN	**Coen**	**23.38**	**266**	P		**P**	**18 18 12.9**	**+1.0**
	baz=23,SNR=45							
COEN	**Coen**	**23.38**	**266**	*e*P		**P**	**18 18 12.8**	**+0.9**
	comp=Z,104nm,0.9s							
MGCD	**Mangrove Creek**	**24.62**	**214**	P		**P**	**18 18 24.4**	**+1.5**
	baz=25,SNR=16							
MKAZ	**Moumakai**	**24.68**	**165**	Pn		**P**	**18 18 25.2**	**+1.8**
MKAZ	**Moumakai**	**24.68**	**165**	PN		**P**	**18 18 25.2**	**+1.8**
QLP	**Quilpie**	**25.24**	**235**	P		**P**	**18 18 28.9**	**+0.3**
	baz=25,SNR=24							
TOZ	**Tahuroa Road**	**25.36**	**165**	Pn		**P**	**18 18 31.4**	**+1.9**
TOZ	**Tahuroa Road**	**25.36**	**165**	PN		**P**	**18 18 31.4**	**+1.9**
HIZ	**Hauiti**	**25.94**	**166**	*e*P		**P**	**18 18 36.5**	**+1.7**
	comp=Z,270nm,1.2s							
MXZ	**Matakaoa Point**	**26.04**	**160**	*e*P		**P**	**18 18 36.7**	**+1.1**
	comp=Z,147nm,0.5s							
HAZ	**Te Kaha**	**26.04**	**161**	PN		**P**	**18 18 36.6**	**+1.0**
URZ	**Urewera**	**26.30**	**162**	P		**P**	**18 18 38.1**	**+0.1**
	comp=Z,46nm,0.5s,baz=325,slow=2.4,SNR=29							
URZ				S		**S**	**18 22 53.1**	**-1.1**
	comp=Z,5.9nm,0.6s,baz=246,slow=20,SNR=3.0							
URZ	**Urewera**	**26.30**	**162**	*e*P		**P**	**18 18 37.9**	**0.0**
	comp=Z,174nm,1.4s							
URZ				S		**S**	**18 22 53.1**	**-1.1**
URZ	**Urewera**	**26.30**	**162**	Pn		**P**	**18 18 38.4**	**+0.5**
URZ	**Urewera**	**26.30**	**162**	PN		**P**	**18 18 38.1**	**+0.1**
PUZ	**Puketiti**	**26.49**	**160**	Pn		**P**	**18 18 36.8**	**-2.9**
PUZ	**Puketiti**	**26.49**	**160**	PN		**P**	**18 18 39.5**	**-0.2**
TWGZ	**Tauwhareparae**	**26.49**	**161**	Pn		**P**	**18 18 40.0**	**+0.3**
TWGZ	**Tauwhareparae**	**26.49**	**161**	PN		**P**	**18 18 39.7**	**0.0**
MWZ	**Matawai**	**26.49**	**162**	Pn		**P**	**18 18 39.9**	**+0.1**
MWZ	**Matawai**	**26.49**	**162**	PN		**P**	**18 18 39.9**	**+0.1**
RATZ	**Rangitukua**	**26.50**	**165**	Pn		**P**	**18 18 42.1**	**+2.3**
RATZ	**Rangitukua**	**26.50**	**165**	PN		**P**	**18 18 42.1**	**+2.3**
RTZ	**Ruatahuna**	**26.59**	**163**	PN		**P**	**18 18 41.7**	**+1.0**
WTVZ	**West Tongariro**	**26.69**	**165**	*e*Pn		**P**	**18 18 43.5**	**+1.9**
WTVZ	**West Tongariro**	**26.69**	**165**	*e*PN		**P**	**18 18 43.5**	**+1.9**
PKVZ	**Pokaka**	**26.80**	**166**	PN		**P**	**18 18 44.7**	**+2.3**
CMSA	**Cobar Meteorol**	**26.80**	**224**	P		**P**	**18 18 42.9**	**+0.3**
	baz=27,SNR=14							
SNGZ	**Shannon Statio**	**26.85**	**162**	*e*Pn		**P**	**18 18 43.5**	**+0.6**
SNGZ	**Shannon Statio**	**26.85**	**162**	*e*PN		**P**	**18 18 42.7**	**-0.2**
WNVZ	**Wahianoa**	**26.89**	**166**	Pn		**P**	**18 18 46.0**	**+2.5**
WNVZ	**Wahianoa**	**26.89**	**166**	PN		**P**	**18 18 46.0**	**+2.5**
RAHZ	**Arahi**	**26.90**	**163**	Pn		**P**	**18 18 44.1**	**+0.7**
RIGZ	**Rimuhau**	**26.91**	**162**	*e*PN		**P**	**18 18 43.5**	**0.0**
MTVZ	**Mangateitei**	**26.91**	**166**	*e*Pn		**P**	**18 18 44.6**	**+1.1**
MTVZ	**Mangateitei**	**26.91**	**166**	*e*PN		**P**	**18 18 45.3**	**+1.8**
YNG	**Young**	**26.94**	**216**	P		**P**	**18 18 45.0**	**+1.2**
	baz=27,SNR=15							
BKZ	**Black Stump Fm**	**26.97**	**164**	*e*P		**P**	**18 18 43.6**	**-0.4**
	comp=Z,92nm,0.6s							
BKZ				*e*S		**S**	**18 23 06.2**	**+1.4**
BKZ	**Black Stump Fm**	**26.97**	**164**	Pn		**P**	**18 18 45.0**	**+1.0**
BKZ	**Black Stump Fm**	**26.97**	**164**	PN		**P**	**18 18 45.0**	**+1.0**
NMHZ	**Naumai**	**26.99**	**163**	Pn		**P**	**18 18 45.4**	**+1.2**
NMHZ	**Naumai**	**26.99**	**163**	PN		**P**	**18 18 45.4**	**+1.2**
WHHZ	**Waihua**	**27.09**	**163**	PN		**P**	**18 18 46.3**	**+1.3**
CNB	**Canberra Magne**	**27.16**	**213**	P		**P**	**18 18 46.9**	**+1.2**
	baz=27,SNR=5.1							
WAZ	**Wanganui**	**27.16**	**167**	Pn		**P**	**18 18 47.7**	**+2.1**
WAZ	**Wanganui**	**27.16**	**167**	PN		**P**	**18 18 47.7**	**+2.1**
KNZ	**Kokohu**	**27.17**	**162**	Pn		**P**	**18 18 45.6**	**-0.1**
KNZ	**Kokohu**	**27.17**	**162**	PN		**P**	**18 18 45.6**	**-0.1**
KWHZ	**Kaweka Forest**	**27.19**	**164**	*e*PN		**P**	**18 18 46.8**	**+0.8**
ARHZ	**Aropaoanui**	**27.20**	**163**	Pn		**P**	**18 18 46.7**	**+0.7**
ARHZ	**Aropaoanui**	**27.20**	**163**	PN		**P**	**18 18 46.7**	**+0.7**
MCHZ	**McNeill Hill**	**27.28**	**164**	Pn		**P**	**18 18 47.7**	**+0.9**
MCHZ	**McNeill Hill**	**27.28**	**164**	PN		**P**	**18 18 47.7**	**+0.9**
QIS	**Mount Isa**	**27.34**	**251**	P		**P**	**18 18 47.5**	**0.0**
	baz=27,SNR=14							
CAN	**Canberra**	**27.36**	**214**	*e*PcP		**PcP**	**18 22 02.3**	**+1.4**
KRHZ	**Kereru**	**27.38**	**165**	PN		**P**	**18 18 48.0**	**+0.3**
PNHZ	**Pukenui**	**27.59**	**165**	Pn		**P**	**18 18 49.6**	**+0.1**
PNHZ	**Pukenui**	**27.59**	**165**	PN		**P**	**18 18 49.6**	**+0.1**
KAHZ	**Kahuranaki**	**27.66**	**164**	Pn		**P**	**18 18 50.4**	**+0.3**
KAHZ	**Kahuranaki**	**27.66**	**164**	PN		**P**	**18 18 50.4**	**+0.3**
TSZ	**Takapari Road**	**27.67**	**165**	Pn		**P**	**18 18 50.6**	**+0.3**
TSZ	**Takapari Road**	**27.67**	**165**	PN		**P**	**18 18 50.6**	**+0.3**
QRZ	**Quartz Range**	**27.74**	**171**	PN		**P**	**18 18 52.8**	**+2.1**
PXZ	**Pawanui**	**27.88**	**164**	Pn		**P**	**18 18 51.7**	**-0.3**
PXZ	**Pawanui**	**27.88**	**164**	PN		**P**	**18 18 51.7**	**-0.3**
DUWZ	**D'Urville Isla**	**27.95**	**169**	Pn		**P**	**18 18 54.1**	**+1.4**
DUWZ	**D'Urville Isla**	**27.95**	**169**	Pn		**P**	**18 18 54.1**	**+1.4**
DUWZ	**D'Urville Isla**	**27.95**	**169**	PN		**P**	**18 18 54.1**	**+1.4**
PRWZ	**Pori Road**	**28.14**	**166**	Pn		**P**	**18 18 55.1**	**+0.8**
PRWZ	**Pori Road**	**28.14**	**166**	PN		**P**	**18 18 55.1**	**+0.8**
MRZ	**Mangatainoka R**	**28.15**	**166**	Pn		**P**	**18 18 54.3**	**-0.2**
MRZ	**Mangatainoka R**	**28.15**	**166**	PN		**P**	**18 18 54.3**	**-0.2**
ANWZ	**Angora Road**	**28.18**	**165**	PN		**P**	**18 18 54.8**	**+0.1**
KIW	**Kapiti Island**	**28.20**	**168**	Pn		**P**	**18 18 55.4**	**+0.5**
KIW	**Kapiti Island**	**28.20**	**168**	PN		**P**	**18 18 55.4**	**+0.5**
OGWZ	**Otaki Gorge**	**28.21**	**167**	Pn		**P**	**18 18 55.5**	**+0.5**
OGWZ	**Otaki Gorge**	**28.21**	**167**	PN		**P**	**18 18 55.5**	**+0.5**
NNZ	**Nelson**	**28.26**	**170**	Pn		**P**	**18 18 57.1**	**+1.7**
NNZ	**Nelson**	**28.26**	**170**	Pn		**P**	**18 18 57.1**	**+1.7**
NNZ	**Nelson**	**28.26**	**170**	PN		**P**	**18 18 57.1**	**+1.7**
BFZ	**Birch Farm**	**28.33**	**165**	*e*P		**P**	**18 18 55.0**	**-1.0**
	comp=Z,287nm,1.4s							
BFZ	**Birch Farm**	**28.33**	**165**	Pn		**P**	**18 18 55.8**	**-0.2**
BFZ	**Birch Farm**	**28.33**	**165**	PN		**P**	**18 18 55.8**	**-0.2**
HOWZ	**Holdsworth Sta**	**28.37**	**167**	Pn		**P**	**18 18 56.2**	**-0.1**
HOWZ	**Holdsworth Sta**	**28.37**	**167**	PN		**P**	**18 18 56.2**	**-0.1**
TCW	**Tory Channel**	**28.41**	**169**	Pn		**P**	**18 18 57.6**	**+0.9**
TCW	**Tory Channel**	**28.41**	**169**	Pn		**P**	**18 18 57.6**	**+0.9**
TCW	**Tory Channel**	**28.41**	**169**	PN		**P**	**18 18 57.6**	**+0.9**
DSZ	**Denniston Nort**	**28.55**	**173**	PN		**P**	**18 18 59.7**	**+1.7**
TUWZ	**Tuamarina**	**28.56**	**169**	Pn		**P**	**18 18 58.9**	**+0.9**
TUWZ	**Tuamarina**	**28.56**	**169**	Pn		**P**	**18 18 58.9**	**+0.9**
TUWZ	**Tuamarina**	**28.56**	**169**	PN		**P**	**18 18 58.9**	**+0.9**
SNZO	**South Karori**	**28.59**	**168**	*e*P		**P**	**18 18 58.7**	**+0.4**
MTW	**Mount Morrison**	**28.61**	**167**	*e*Pn		**P**	**18 18 58.1**	**-0.4**
MTW	**Mount Morrison**	**28.61**	**167**	*e*PN		**P**	**18 18 58.1**	**-0.4**
THZ	**Tophouse**	**28.72**	**171**	*e*P		**P**	**18 19 00.3**	**+0.8**
	comp=Z,246nm,1.1s							
THZ	**Tophouse**	**28.72**	**171**	Pn		**P**	**18 19 00.6**	**+1.1**
THZ	**Tophouse**	**28.72**	**171**	PN		**P**	**18 19 00.6**	**+1.1**
PAWZ	**Paruwai Farm**	**28.81**	**167**	*e*Pn		**P**	**18 19 00.2**	**-0.1**
PAWZ	**Paruwai Farm**	**28.81**	**167**	*e*PN		**P**	**18 19 00.2**	**-0.1**
GENI	**Genyem**	**28.82**	**289**	P		P	18 18 51.0	-10
TRWZ	**Traveller**	**28.88**	**167**	*e*Pn		**P**	**18 19 01.2**	**+0.3**
TRWZ	**Traveller**	**28.88**	**167**	*e*PN		**P**	**18 19 01.2**	**+0.3**
PLWZ	**Palliser**	**28.95**	**168**	*e*Pn		**P**	**18 19 01.4**	**-0.1**
PLWZ	**Palliser**	**28.95**	**168**	*e*PN		**P**	**18 19 01.4**	**-0.1**
KHZ	**Kahutara**	**29.45**	**170**	*e*P		**P**	**18 19 05.8**	**-0.1**
	comp=Z,116nm,0.7s							
KHZ	**Kahutara**	**29.45**	**170**	Pn		**P**	**18 19 04.8**	**-1.0**
KHZ	**Kahutara**	**29.45**	**170**	PN		**P**	**18 19 06.1**	**+0.3**
LTZ	**Lake Taylor**	**29.63**	**172**	*e*P		**P**	**18 19 08.1**	**+0.6**
	comp=Z,163nm,0.7s							
WVZ	**Waitahu Valley**	**29.75**	**175**	Pn		**P**	**18 19 10.6**	**+2.1**
WVZ	**Waitahu Valley**	**29.75**	**175**	Pn		**P**	**18 19 10.6**	**+2.1**
WVZ	**Waitahu Valley**	**29.75**	**175**	PN		**P**	**18 19 10.6**	**+2.1**
STKA	**Stephens Creek**	**29.86**	**228**	P		**P**	**18 19 10.3**	**+0.6**
	comp=Z,53nm,0.5s,baz=50,slow=9.0,SNR=128							
STKA				PcP		**PcP**	**18 22 07.7**	**+0.5**
	comp=Z,56nm,0.7s,baz=28,slow=3.4,SNR=19							
STKA				ScP		**ScP**	**18 25 30.4**	**+2.0**
	comp=Z,32nm,0.9s,baz=31,slow=2.9,S

comp=Z,50nm,1.3s
LBMI Labuha 41.32 285 P P 18 20 48.3 +1.0
SOEI Soe 42.21 270 P P 18 20 55.5 +1.0
comp=Z,54nm,1.1s
SOEI Soe 42.21 270 *eP* **P 18 20 55.3 +0.7**
comp=Z,104nm,1.4s
SANI Sanana 42.31 282 P P 18 20 54.9 -0.3
comp=Z,56nm,1.1s
MMRI Maumere 44.37 271 *eP* **P 18 21 11.8 +0.2**
comp=Z,100nm,1.1s
EDFI Ende, Flores 44.88 271 P P 18 21 15.1 -0.7
comp=Z,30nm,1.1s
KMBL Kambalda 45.24 239 P P 18 21 18.0 -0.3
baz=45,SNR=13
LUWI Luwuk 45.68 282 P P 18 21 21.9 -0.1
LUWI Luwuk 45.68 282 *eP* **P 18 21 21.9 -0.1**
comp=Z,93nm,1.1s
MBWA Marble Bar 45.88 253 *eP* **P 18 21 23.4 -0.1**
comp=Z,110nm,0.6s
CBIJ Chichi jima 47.00 329 *eP* **P 18 21 31.2 -0.8**
comp=Z,466nm,0.8s
KAPI Kappang 47.53 275 *eP* **P 18 21 36.1 -0.2**
comp=Z,38nm,0.9s
KIP Kipapa 48.58 45*ceP* **P 18 21 43.9 -0.3**
KIP pmax pmax
comp=Z,662nm,1.1s
KLBR Kellerberrin 48.74 240 P P 18 21 44.8 -0.6
baz=49,SNR=8.1
OPA Opana 48.76 45 *eP* **P 18 21 46.0 +0.5**
OPA pmax pmax
comp=Z,281nm,1.2s
OPA Opana 48.76 45 *eP* **P 18 21 46.0 +0.5**
comp=Z,281nm,1.2s
NWAO Narrogin (SRO) 49.42 238 P P 18 21 50.2 -0.3
baz=49,SNR=30
NWAO Narrogin (SRO) 49.42 238 *eP* **P 18 21 50.1 -0.4**
NWAO pmax pmax
comp=Z,77nm,1.3s
NWAO Narrogin (SRO) 49.42 238 *eP* **P 18 21 50.0 -0.4**
comp=Z,77nm,1.3s
BLDU Ballidu 49.47 241 P P 18 21 50.4 -0.4
baz=50,SNR=7.3
MORW Morawa 49.83 243 P P 18 21 53.5 -0.1
baz=50,SNR=6.0
GIRL Giralia 51.02 252 P P 18 22 03.4 +0.8
baz=51,SNR=4.4
MYLDM Lahad Datu 51.77 288 ⇑P P 18 22 09.0 +0.7
MYLDM Lahad Datu 51.77 288 *eP* **P 18 22 08.8 +0.5**
comp=Z,111nm,1.3s
TSM Tawau 52.04 286 ⇓P P 18 22 10.6 +0.3
SDKM Sandakan 53.15 288 ⇓P P 18 22 17.7 -0.8
KKM Kota Kinabalu 54.20 288 ⇑P P 18 22 26.6 +0.4
KKM Kota Kinabalu 54.20 288 *eP* **P 18 22 26.0 -0.2**
comp=Z,112nm,1.0s
JOW Kunigami 55.03 317 *eP* **P 18 22 32.2 +0.5**
comp=Z,90nm,0.9s
BTM Bintulu 56.19 283 ⇑P P 18 22 40.9 +0.7
INU Inuyama 56.28 330 *eP* **P 18 22 40.6 +0.2**
comp=Z,187nm,1.6s
MJAR Matsushiro Arr 56.69 332 P P 18 22 42.5 -0.8
comp=Z,68nm,0.9s,baz=167,slow=8.1,SNR=172
MJAR PcP **PcP 18 23 37.3 +0.5**
comp=Z,19nm,0.9s,baz=173,slow=4.7,SNR=5.4
MJAR ScP **ScP 18 27 17.3 +2.1**
comp=Z,3.0nm,0.9s,baz=162,slow=4.2,SNR=4.5
MJAR PKP2bc 18 52 47.1
comp=Z,0.9nm,0.8s,baz=279,slow=5.4,SNR=4.5
MAJO Matsushiro 56.69 332*c iP* **P 18 22 42.9 -0.4**
MAJO pmax pmax
comp=Z,570nm,1.0s
MAJO Matsushiro 56.69 332 *eP* **P 18 22 42.8 -0.6**
comp=Z,95nm,0.9s
MAT Matsushiro 56.69 332 P P 18 22 43.0 -0.3
MJB9 Matsu-Tunnel 56.70 332 *eP* **P 18 22 42.8 -0.6**
comp=Z,24nm,0.9s
SBUM Sibu 56.78 282 ⇑P P 18 22 45.2 +0.8
SBUM Sibu 56.78 282 *eP* **P 18 22 45.0 +0.6**
JNU Nakatsue 57.80 324 *eP* **P 18 22 51.4 +0.2**
YULB Yu-li 57.91 309 *eP* **P 18 22 52.6 +0.5**
NACB Ninganchiao 58.13 310 *eP* **P 18 22 53.5 0.0**
comp=Z,70nm,1.0s
KSM Kuching 58.32 280 ⇓P P 18 22 55.4 +0.2
KSM Kuching 58.32 280 *eP* **P 18 22 55.1 0.0**
TPUB Ta-pu 58.37 308 *eP* **P 18 22 53.9 -1.4**
SSLB Suanglung 58.40 309 *eP* **P 18 22 54.9 -0.6**
comp=Z,25nm,0.8s
YHNB Yeheng 58.58 310 *eP* **P 18 22 56.5 -0.3**
CISI Cisompet, Garu 58.60 269 *eP* **P 18 22 56.8 -0.4**
comp=Z,324nm,1.6s
ERM Erimo 59.41 339 *i P* **P 18 23 03.1 +1.1**
ERM pmax pmax
comp=Z,38nm,0.8s
ERM Erimo 59.41 339 *eP* **P 18 23 03.0 +1.0**
KUR Kuril'sk 60.91 344*c iP* **P 18 23 12.8 +0.7**
KUR pmax pmax
comp=Z,164nm,1.6s
KUR pmax pmax
comp=N,47nm,1.6s
KUR pmax pmax
comp=E,19nm,1.0s
ASAJ Asahikawa 61.46 340 P P 18 23 17.1 +1.2
comp=E,113nm,0.6s,baz=220,slow=8.2
ASAJ Asahikawa 61.46 340 *eP* **P 18 23 17.2 +1.4**
TJN Taejon 62.15 324 *i P* **P 18 23 20.4 -0.2**
KSRS Korea Array 62.60 325 P P 18 23 23.7 +0.1
comp=E,21nm,0.9s,baz=141,slow=6.8,SNR=84
KSRS PcP **PcP 18 24 01.5 +1.1**
comp=E,10nm,0.9s,baz=136,slow=4.7,SNR=6.8
KSRS PKPPKP **P'P'df 18 52 24.5 -0.1**
comp=E,0.9nm,0.8s,baz=313,slow=2.6,SNR=4.8
KSAR Wonju Array Be 62.62 325 P P 18 23 23.7 0.0
KSAR 18 24 01.5
KSAR Wonju Array Be 62.62 325 P P 18 23 23.7 0.0
KSAR PcP **PcP 18 24 01.5 +1.0**
KSAR P'P' 18 52 24.5
INCN Inchon 63.34 325 P P 18 23 29.2 +0.7
SNR=9.3
INCN Inchon 63.34 325 P P 18 23 29.2 +0.7
SNR=9.3
INCN Inchon 63.34 325 *eP* **P 18 23 29.4 +0.9**
YSS Yuzh-Sakhalins 63.93 342 ⇑*iP* **P 18 23 33.6 +1.5**
YSS *e* 18 24 05.0
YSS *e* 18 24 52.0
YSS pmax pmax
comp=Z,190nm,1.0s
YSS Yuzh-Sakhalins 63.93 342 *eP* **P 18 23 33.1 +1.0**
VNDA Vanda 64.21 181 P P 18 23 34.3 +0.8
comp=Z,19nm,0.7s,baz=357,slow=7.8,SNR=71
VNDA PcP **PcP 18 24 07.2 +0.8**
comp=Z,10nm,0.8s,baz=22,slow=4.6,SNR=4.5
VNDA PKPPKP **P'P'df 18 52 22.7 -1.0**
comp=Z,5.9nm,1.3s,baz=251,slow=7.8,SNR=5.6
SBA Scott Base 64.49 180 *eP* **P 18 23 37.3 +2.0**
SBA Scott Base 64.49 180 *eP* **P 18 23 37.2 +2.0**
SKR Severo-Kuril's 64.52 352 *eP* **P 18 23 36.2 +0.4**
SKR pmax pmax
comp=Z,276nm,1.0s
SKR pmax pmax
comp=Z,900nm,3.6s
MYKOM Kota Tinggi 64.61 278 *eP* **P 18 23 37.9 +0.6**
NJ2 Nanjing 64.68 315 *eP* **P 18 23 37.8 +0.5**
NJ2 PMZ
comp=Z,61nm,1.1s
CASY Casey 64.77 202 *eP* **P 18 23 37.6 +0.3**
MSHR Mys Shultsa 64.78 331*c iP* **P 18 23 38.7 +1.0**
VLA Vladivostok 64.86 332*c iP* **P 18 23 39.1 +0.9**
VLA pmax pmax
comp=Z,85nm,1.4s
QIZ Qiongzhong 65.05 298 P P 18 23 40.8 +0.9
QIZ PMZ
comp=Z,38nm,1.1s
QIZ Qiongzhong 65.05 298 *eP* **P 18 23 40.6 +0.7**
comp=Z,104nm,1.7s
USRK Ussuriysk Ar. 65.67 333 P P 18 23 44.4 +1.1
comp=Z,102nm,1.0s,baz=134,slow=5.5,SNR=83
USRK PcP **PcP 18 24 13.2 +0.3**
comp=Z,20nm,0.9s,baz=134,slow=4.2,SNR=5.7
PET Petropavlovsk 66.53 354 *eP* **P 18 23 48.9 +0.3**
PET pmax pmax
comp=Z,131nm,1.1s
PET Petropavlovsk 66.53 354 *eP* **P 18 23 49.0 +0.4**
PETK Petropavlovsk- 66.71 354 P P 18 23 50.6 +0.8
comp=Z,118nm,0.8s,baz=139,slow=8.1,SNR=112
BKNI Bangkinang 66.95 276 *eP* **P 18 23 51.9 -0.3**
WHN Wuhan 67.01 312 ⇑P P 18 23 51.9 -0.3
WHN PMZ
comp=Z,400nm,1.8s
MDJ Mudanjiang 67.07 332 P P 18 23 53.0 +0.8
MDJ pP pP 18 24 41.8 -1.3
MDJ sP sP 18 25 04.6 -2.1
MDJ S S 18 32 29.9 +1.7
MDJ PMZ
comp=Z,100nm,1.3s
MDJ PMZ
comp=Z,200nm,3.5s
MDJ LN
comp=Z,220nm,16.8s
MDJ LE
comp=Z,330nm,16.8s
MDJ LZ
comp=Z,470nm,15.9s
MDJ Mudanjiang 67.07 332 *eP* **P 18 23 53.2 +0.9**
comp=Z,121nm,1.1s
DL2 Dalian 67.20 323 P P 18 23 53.6 +0.5
DL2 S S 18 32 31.1 +1.2
DL2 PMZ
comp=Z,140nm,1.1s
TYV Tymovskoe 67.47 343 *eP* **P 18 23 56.0 +1.4**
TYV pmax pmax
comp=Z,110nm,1.0s
HABR Khabarovsk 67.87 338*d iP* **P 18 23 55.8 -1.3**
HABR *e* 18 24 20.6
HABR *e**PP **pP 18 24 50.9 +2.8**
HABR *e**SP **sP 18 25 17.1 +5.4**
HABR *e* 18 26 28.2
HABR *e*PPP PPP 18 28 09.6
HABR *e*S **S 18 32 34.2 -3.3**
HABR *e* 18 33 30.1
HABR *e*SS **SS 18 37 00.6 -3.6**
HABR pmax pmax
comp=N,37nm,1.3s
HABR pmax pmax
comp=E,31nm,1.3s
HABR pmax pmax
comp=Z,154nm,1.3s
HABR pmax pmax
comp=Z,678nm,2.1s
HABR MLR MLR
comp=Z,238nm,19.0s
IPM Ipoh 68.06 280 *eP* **P 18 23 59.0 -0.1**
comp=Z,178nm,1.1s
TIA Tai'an 68.31 318 ⇑P P 18 23 59.9 -0.3
TIA PMZ
comp=Z,80nm,1.0s
CN2 Changchun 68.47 329⇑*iP* **P 18 24 01.5 +0.5**
CN2 *eS* **S 18 32 46.0 +1.2**
CN2 PMZ
comp=Z,100nm,1.0s
CN2 PMZ
comp=Z,400nm,3.0s
KULM Kulim 68.64 281 *eP* **P 18 24 02.7 0.0**
comp=Z,80nm,1.3s
NIKH Nikolski High 69.20 15 *eP* **P 18 24 05.1 -0.2**
SKLT Songkhla 69.21 283 P P 18 24 06.9 +0.7
comp=Z,72nm,1.1s
SRAK Srakaew 70.05 290 P P 18 24 10.9 -0.4
comp=Z,36nm,1.1s
NKL Nikolayevsk 70.07 343 *i P* **P 18 24 12.0 +1.5**
NKL pmax pmax
comp=Z,900nm,3.0s
NKL pmax pmax
comp=N,60nm,1.0s
NKL pmax pmax
comp=Z,260nm,1.0s
KHON Khomkaen 70.16 293 P P 18 24 12.6 +0.7
comp=Z,21nm,1.0s,comp=Z,467nm
TRTT Trang 70.29 283 P P 18 24 13.8 +1.0
comp=Z,112nm,1.1s
ENH Enshi 70.48 309 *eP* **P 18 24 13.2 -0.5**
comp=Z,202nm,1.1s
GSI Gunungsitoli 70.54 276 *eP* **P 18 24 14.5 +0.2**
UNV Unalaska Valle 70.61 16 *eP* **P 18 24 13.0 -0.8**
comp=Z,106nm,1.0s
SURA Surathani 70.74 285 P P 18 24 16.8 +1.3
comp=Z,163nm,1.1s,comp=Z,2µm
PATY Pattaya 70.77 289 P P 18 24 17.0 +1.4
comp=Z,32nm,1.0s,comp=Z,2µm
GYA Guiyang 70.92 304 P P 18 24 18.3 +1.8
GYA pP pP 18 25 08.0 +0.1
GYA sP sP 18 25 31.0 -0.3
GYA PP **PP 18 27 00.3 +3.4**
GYA S **S 18 33 15.5 +1.2**
GYA SKS **SKSac 18 33 54.5 -3.6**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,160nm,6.9s
AKUT Akutan 71.06 16 *eP* **P 18 24 15.1 -1.5**
comp=Z,31nm,0.5s
BJT Baijiatuan 71.18 321 *eP* **P 18 24 18.1 +0.5**
BJT pmax pmax
comp=Z,135nm,1.4s
BJT Baijiatuan 71.18 321 *eP* **P 18 24 18.1 +0.5**
comp=Z,135nm,1.4s
BJI Beijing 71.19 321 P P 18 24 18.0 +0.4
BJI PcP **PcP 18 24 36.4 +0.2**
BJI pP **pP 18 25 07.4 -1.7**
BJI PMZ
comp=Z,57nm,1.0s
BJI PMZ
comp=Z,450nm,4.2s
SURT Suratani 71.47 284 P P 18 24 21.3 +1.5
comp=Z,41nm,1.1s
MIR Mirnyy 71.55 204 *i P* **P 18 24 20.0 +0.7**
MIR pmax pmax
comp=Z,16nm,1.2s
PBKT Sadao Pong 71.90 293 P P 18 24 23.1 +0.8
comp=Z,72nm,1.3s
LOEI Loei 71.97 294 P P 18 24 21.1 -1.7
comp=Z,219nm,0.7s
TIY Taiyuan 72.24 317 *eP* **P 18 24 25.4 +1.3**
UTTA Uttaradit 72.68 294 P P 18 24 27.5 +0.5
comp=Z,19nm,1.0s,comp=Z,142nm
XAN Xi'an 72.75 312 P P 18 24 27.5 +0.4
XAN PMZ
comp=Z,74nm,1.0s
SUKH Sukhothai 73.42 293 P P 18 24 32.1 +0.8
comp=Z,32nm,0.9s
KHLT Khaolaem Dam 73.47 290 P P 18 24 34.7 +3.1
comp=Z,30nm,1.0s
KMI Kunming 73.56 301 P P 18 24 33.6 +1.3
KMI pP pP 18 25 24.8 +0.8
KMI PMZ
comp=Z,190nm,1.1s
UMPA Umpang Tak 73.68 291 P P 18 24 33.8 +0.9
comp=Z,17nm,1.0s,comp=Z,151nm
LAMP Lampang 73.78 294 P P 18 24 34.3 +0.9
comp=Z,67nm,0.9s,comp=Z,488nm
MA2 Magadan 73.91 351 P P 18 24 33.1 -0.1
comp=Z,54nm,0.9s,baz=176,slow=6.4,SNR=28
CMAR Chiang Mai Arr 74.37 294 P P 18 24 37.9 +1.1
comp=Z,70nm,0.8s,baz=125,slow=4.5,SNR=318
CMAR PKPPKP **P'P'df 18 52 07.0 +0.7**
comp=Z,2.4nm,1.1s,baz=299,slow=4.2,SNR=5.4
CHTO Chiang Mai 74.49 294 P P 18 24 38.0 +0.5
comp=Z,436nm,1.5s,comp=Z,5µm
CHTO Chiang Mai 74.49 294 *eP* **P 18 24 38.0 +0.5**
CHTO pmax pmax
comp=Z,77nm,1.0s
CHTO Chiang Mai 74.49 294 P P 18 24 38.7 +1.2
SNR=22
CHTO Chiang Mai 74.49 294 P P 18 24 38.7 +1.2
SNR=22
CHTO Chiang Mai 74.49 294 *eP* **P 18 24 38.0 +0.5**
comp=Z,77nm,1.0s
HHC Hu-ho-hao-te 74.53 319 *eP* **P 18 24 38.8 +1.4**
HHC sP sP 18 25 50.3 -2.4
HHC S **S 18 33 55.8 +1.3**
HHC PMZ
comp=Z,77nm,1.0s
HIA Hailar 75.10 330 *eP* **P 18 24 41.0 +0.6**
HIA pmax pmax
comp=Z,128nm,1.1s
HIA Hailar 75.10 330 *eP* **P 18 24 41.0 +0.6**
comp=Z,128nm,1.1s
CHGN Chignik 75.10 19 *eP* **P 18 24 38.8 -1.3**
CD2 Chengdu 75.16 307 *eP* **P 18 24 41.8 +0.7**
CD2 pP pP 18 25 31.9 -1.2
CD2 sP sP 18 25 54.6 -1.9
CD2 S **S 18 34 03.6 +1.9**
CD2 SKS **SKKSac 18 34 30.0 0.0**
CD2 sS sS 18 35 31.8 -0.8
CD2 SS **SS 18 38 58.8 +2.4**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,220nm,5.4s
BTO Baotou 75.38 319 *eP* **P 18 24 43.0 +0.7**
QSPA South Pole Qui 76.65 180 *eP* **P 18 24 49.9 +0.8**
comp=Z,1µm,1.1s
SEY Seymchan 76.94 353*c iP* **P 18 24 50.8 +0.5**
LZH Lanzhou 77.38 312 *eP* **P 18 24 55.3 +1.6**
LZH sP sP 18 26 03.9 -5.3
LZH PP **PP 18 27 54.0 +2.5**
LZH *e*S **S 18 34 29.5 +3.5**
LZH sS sS 18 35 54.0 -3.4
LZH PMZ
comp=Z,170nm,1.0s
LZH PMZ
comp=Z,560nm,4.0s
OHAK Old Harbor 77.54 21 *eP* **P 18 24 53.8 0.0**
comp=Z,179nm,1.0s
KDAK Kodiak Island 78.21 21 *i P* **P 18 24 57.5 0.0**
KDAK Kodiak Island 78.21 21 *eP* **P 18 24 57.3 -0.1**
comp=Z,69nm,1.0s
CLNS Chul'man 78.26 338 *eP* **P 18 24 59.0 +1.1**
CLNS *e* 18 25 09.4
CLNS *e* 18 27 54.7
CLNS *e*S S 18 34 47.2 +13
CLNS *e*SS **SS 18 39 39.7 -2.4**
CLNS pmax pmax
comp=Z,149nm,1.0s
CLNS pmax pmax
comp=E,25nm,1.2s
CLNS pmax pmax
comp=N,60nm,1.0s
CLNS pmax pmax
comp=Z,5.0nm,0.8s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS smax smax
comp=N,616nm,17.6s
CLNS smax smax
comp=E,463nm,21.7s
GAMB Gambell 78.60 9 *eP* **P 18 24 59.9 +0.4**
comp=E,36nm,0.7s
CIT Chita 79.89 330 *eP* **P 18 25 07.7 +0.9**
CIT *e* 18 25 21.9
CIT *e* 18 25 59.7
CIT *e* 18 26 28.5
CIT *e* 18 28 07.0
CIT *e* 18 34 53.1
CIT pmax pmax
comp=Z,364nm,1.4s
YAK Yakutsk 80.73 343*c iP* **P 18 25 11.1 +0.1**
YAK *e*S **S 18 34 59.2 -0.6**
YAK pmax pmax
comp=Z,362nm,1.1s
YAK pmax pmax
comp=E,75nm,1.2s
YAK pmax pmax
comp=N,144nm,1.2s
YAK smax smax
comp=N,115nm,2.0s
YAK smax smax
comp=E,53nm,1.9s
YAK Yakutsk 80.73 343 *eP* **P 18 25 11.0 +0.1**
comp=E,481nm,1.1s
ULN Ulaanbaatar 81.02 324*ceP* **P 18 25 13.6 +0.5**
ULN pmax pmax
comp=Z,107nm,1.0s
ULN Ulaanbaatar 81.02 324 P P 18 25 14.1 +1.0
SNR=62
ULN Ulaanbaatar 81.02 324 P P 18 25 14.1 +1.0
SNR=62
ULN Ulaanbaatar 81.02 324 *eP* **P 18 25 13.7 +0.6**
comp=Z,106nm,0.9s
SEW Seward 81.03 20 *eP* **P 18 25 12.4 -0.2**
comp=Z,74nm,0.9s
BILL Bilibino 81.19 360*c iP* **P 18 25 13.5 +0.2**
BILL *i* *PP **pP 18 26 06.1 0.0**
BILL *e* 18 28 21.2
BILL *i* S **S 18 35 04.2 -0.2**
BILL *i* 18 35 13.0
BILL pmax pmax
comp=Z,145nm,1.0s
BILL Bilibino 81.19 360 *eP* **P 18 25 13.6 +0.2**
comp=Z,166nm,0.9s
SONM Songino Array 81.39 323 P P 18 25 15.3 +0.3
comp=Z,33nm,0.9s,baz=141,slow=6.1,SNR=130
SONM PKKPbc **PKKPbc 18 43 48.4 -1.9**
comp=Z,1.4nm,0.8s,baz=222,slow=2.0,SNR=7.8
SONM PKPPKP **P'P'df 18 51 56.1 +3.8**
comp=Z,0.6nm,0.7s,baz=343,slow=4.6,SNR=3.5
RC01 Rabbit Creek A 81.67 20 *eP* **P 18 25 15.7 -0.2**
comp=Z,128nm,1.1s
GTA Gaotai 81.70 314 ⇑P P 18 25 17.9 +1.1
GTA pP pP 18 26 07.0 -2.7
GTA sP sP 18 26 29.0 -3.8
GTA S **S 18 35 13.6 +2.5**
GTA PMZ
comp=Z,98nm,1.1s
GTA PMZ
comp=Z,670nm,7.6s
GTA LN
comp=Z,160nm,14.7s
GTA LE
comp=Z,180nm,15.2s
GTA LZ
comp=Z,230nm,15.7s
PMR Palmer 82.24 19 *eP* **P 18 25 18.7 -0.2**
PMR pmax pmax
comp=Z,90nm,0.9s
PMR Palmer 82.24 19 *eP* **P 18 25 18.7 -0.2**
comp=Z,90nm,0.9s
PPLA Purkeypile 82.28 17 *eP* **P 18 25 18.1 -1.2**
comp=Z,15nm,0.8s
SML Sawmill 82.66 20 *eP* **P 18 25 21.1 0.0**
SML pmax pmax
comp=Z,33nm,1.2s
SML Sawmill 82.66 20 *eP* **P 18 25 21.1 0.0**
comp=Z,33nm,1.2s
SHL Shillong 82.89 298⇑*iP* **P 18 25 25.0 +1.7**
DIV Divide 83.04 21 *eP* **P 18 25 22.9 -0.2**
comp=Z,95nm,1.0s
MAW Mawson 83.12 202 P P 18 25 24.0 +0.5
comp=Z,48nm,1.0s,baz=99,slow=6.2,SNR=42
MAW Mawson 83.12 202 P P 18 25 24.3 +0.8
baz=83,SNR=19
MAW Mawson 83.12 202 P P 18 25 24.0 +0.5
KTH Kantishna Hill 83.16 18 *eP* **P 18 25 22.5 -1.2**
comp=Z,87nm,1.0s
BOD Bodaibo 83.24 334 *eP* **P 18 25 24.3 +0.2**
BOD pmax pmax
comp=Z,79nm,1.5s
TRF Thorofare Moun 83.27 18 *eP* **P 18 25 23.5 -0.9**
comp=Z,82nm,1.1s
BMRM Bremner River 83.34 21 *eP* **P 18 25 24.2 -0.5**
comp=Z,163nm,1.4s
BPAW Bear Paw Mtn. 83.55 17 *eP* **P 18 25 24.2 -1.5**
comp=Z,11nm,1.2s
SNCC San Nicolas Is 83.70 54 P P 18 25 27.5 +0.4
baz=250
SCZ2 Santa Cruz Isl 83.88 53 P P 18 25 28.5 +0.5
baz=250
MCK McKinley 83.88 18 *eP* **P 18 25 26.5 -0.8**
MCK pmax pmax
comp=Z,208nm,1.2s
MCK McKinley 83.88 18 *eP* **P 18 25 26.5 -0.8**
comp=Z,208nm,1.2s
SBC Santa Barbara 83.97 53 P P 18 25 29.3 +0.9
baz=249
L02D Cave Junction, 84.05 44 P P 18 25 29.9 +1.3
baz=246
SMMC Simmler 84.06 52 P P 18 25 29.7 +0.8
baz=249
N02D Trinity Center 84.19 46 P P 18 25 30.2 +0.7
baz=247,SNR=9.7
M02C Callahan 84.25 45 P P 18 25 30.7 +0.9
baz=247,SNR=11
BLG Laguna Peak, P 84.36 53 P P 18 25 30.6 +0.2
baz=250
ZAK Zakamensk 84.43 325 *eP* **P 18 25 29.7 -0.8**
ZAK pmax pmax
comp=Z,119nm,1.2s
O03D Paynes Creek 84.56 47 P P 18 25 31.5 +0.1

baz=248,SNR=8.4
HUMO Hull Mountain 84.67 44 *e*P **P** 18 25 32.2 +0.4
comp=Z,130nm,1.1s
CMB Columbia Colle 84.75 49 *e*P **P** 18 25 31.8 -0.5
CMB pmax pmax
comp=Z,78nm,0.9s
CMB Columbia Colle 84.75 49 *e*P **P** 18 25 31.8 -0.5
comp=Z,78nm,0.9s
IRK Irkutsk 84.79 327 *e*P **P** 18 25 30.5 -1.6
IRK pmax pmax
comp=Z,174nm,2.2s
OSI Osito Audit: C 84.80 53 P **P** 18 25 33.2 +0.6
baz=250
LSA Lhasa 84.81 302 *e*P **P** 18 25 33.9 +0.6
LSA pmax pmax
comp=Z,60nm,0.9s
LSA Lhasa 84.81 302 *e*P **P** 18 25 33.9 +0.6
comp=Z,60nm,0.9s
I03D Drain, OR 84.84 43 P **P** 18 25 33.0 +0.5
baz=246
TLY Talaya 84.85 326 P **P** 18 25 32.2 -0.2
comp=Z,69nm,0.8s,baz=179,slow=4.3,SNR=11
TLY Talaya 84.85 326 *c i*P **P** 18 25 32.5 +0.1
TLY pmax pmax
comp=Z,210nm,1.4s
TLY Talaya 84.85 326 *e*P **P** 18 25 32.0 -0.4
comp=Z,335nm,1.4s
ARVC Arvin 84.89 52 P **P** 18 25 33.0 0.0
baz=250
VES Vestal, Richgr 84.94 52 P **P** 18 25 33.2 0.0
baz=250
DECC Green Verdugo 84.98 53 P **P** 18 25 33.5 0.0
baz=250
RCTC Rector, Farmer 84.98 51 P **P** 18 25 33.5 +0.1
baz=250
COLA College 85.04 18 *e*P **P** 18 25 32.5 -0.5
COLA pmax pmax
comp=Z,105nm,0.9s
COLA College 85.04 18 *e*P **P** 18 25 32.5 -0.5
comp=Z,104nm,0.9s
M04C Macdoel 85.11 45 P **P** 18 25 34.4 +0.2
baz=247,SNR=5.1
ILAR Eielson Array 85.25 18 P **P** 18 25 33.1 -1.0
comp=Z,50nm,0.7s,baz=236,slow=5.4,SNR=396
ILAR PKiKP **PKiKP** 18 30 43.2 -0.4
comp=Z,0.8nm,0.8s,baz=280,slow=2.7,SNR=4.6
ILAR S **S** 18 35 37.4 -7.9
comp=Z,0.3nm,0.7s,baz=234,slow=9.3,SNR=3.7
ILAR PKKPbc **PKKPbc** 18 43 38.5 -3.5
comp=Z,1.8nm,0.9s,baz=345,slow=1.4,SNR=10
ILAR PKPPKP **P'P'df** 18 51 42.1 -2.1
comp=Z,1.6nm,0.9s,baz=352,slow=2.1,SNR=10.0
ISA Isabella, Lake 85.35 52 P **P** 18 25 35.7 +0.3
baz=250
DOT Dot Lake 85.36 20 *e*P **P** 18 25 34.0 -0.7
comp=Z,99nm,0.9s
K04D Chiloquin, OR 85.49 44 P **P** 18 25 36.2 +0.2
baz=247
109C Camp Elliot, M 85.49 55 P **P** 18 25 36.0 0.0
baz=251
BFSC Mount Baldy Ra 85.50 53 P **P** 18 25 36.1 -0.1
baz=251,SNR=9.0
I04A Tendick Farm, 85.50 43 P **P** 18 25 36.0 +0.1
baz=247
G03D McMinnville, O 85.51 42 P **P** 18 25 36.2 +0.4
baz=246
WRAK Wrangell Islan 85.65 29 *e*P **P** 18 25 36.5 +0.3
comp=Z,14nm,1.0s
MURC Murrieta 85.65 54 P **P** 18 25 36.9 0.0
baz=251
MLAC Mammoth, Mammo 85.75 50 P **P** 18 25 38.0 +0.5
baz=250
LRMC Laurel Mtn Rad 85.89 52 P **P** 18 25 38.3 +0.2
baz=250,SNR=8.9
CWC Cottonwood Cre 85.91 51 P **P** 18 25 38.8 +0.6
baz=250
TIN Tinemaha, Big 86.00 51 P **P** 18 25 39.5 +0.9
baz=250
NLWA Neilton Lookou 86.02 39 *e*P **P** 18 25 39.0 +0.6
comp=Z,11nm,1.0s
F04D Rainier, OR 86.02 41 P **P** 18 25 38.9 +0.6
baz=246
MONP2 Monument Peak 86.04 55 P **P** 18 25 39.3 +0.3
baz=251,SNR=10
BBRC Big Bear Solar 86.08 54 P **P** 18 25 39.3 0.0
baz=251
J05D Fort Rock, OR 86.09 44 P **P** 18 25 39.4 +0.4
baz=248
COLD Coldfoot 86.14 15 *e*P **P** 18 25 39.0 +0.6
comp=Z,72nm,1.0s
IKP In-Ko-Pah, Jac 86.21 55 P **P** 18 25 39.9 +0.2
baz=252,SNR=7.1
MOD Modoc Plateau 86.22 46 *e*P **P** 18 25 39.6 0.0
comp=Z,16nm,1.0s
RRX Edison Barstow 86.22 53 P **P** 18 25 39.8 +0.2
baz=251
DAC Darwin (Calif) 86.22 52 *e*P **P** 18 25 39.9 +0.1
DAC pmax pmax
comp=Z,18nm,1.3s
DAC Darwin (Calif) 86.22 52 *e*P **P** 18 25 39.9 +0.1
comp=Z,18nm,1.3s
MPMC Manual Prospec 86.23 52 P **P** 18 25 39.9 0.0
baz=251,SNR=14
PFO Pinyon Flats O 86.24 54 P **P** 18 25 40.4 +0.6
comp=Z,6.6nm,0.7s,baz=285,slow=1.8,SNR=12
PFO Pinyon Flats O 86.24 54 P **P** 18 25 40.0 +0.1
baz=251,SNR=7.5
TPFO Pinon Flats 86.24 54 P **P** 18 25 39.9 0.0
baz=251,SNR=6.2
MOY Mondy 86.30 325 *e*P **P** 18 25 39.5 -0.2
MOY pmax pmax
comp=Z,87nm,3.2s
I05D Terrebonne, OR 86.42 43 P **P** 18 25 41.0 +0.6
baz=248
GSC Goldstone, Bar 86.51 53 P **P** 18 25 40.9 -0.2
baz=251,SNR=7.4
ERK Elk Rock 86.54 41 P **P** 18 25 41.9 +0.9
SWSC Sam W. Stewart 86.55 55 P **P** 18 25 41.3 +0.1
baz=252,SNR=6.6
TDL Tradedollar La 86.64 41 P **P** 18 25 41.9 +0.4
GRAC Grapevine Rang 86.64 51 P **P** 18 25 41.7 +0.1
baz=251,SNR=10
HEC Hector,Ludlow 86.72 53 P **P** 18 25 41.8 -0.4
baz=251,SNR=10
BELC Belle Mtn. Jos 86.73 54 P **P** 18 25 42.6 +0.4
baz=252
G05D Wamic, OR 86.78 42 P **P** 18 25 42.6 +0.5
baz=248
PGC Sidney 86.79 38 *e*P **P** 18 25 42.1 +0.2
comp=Z,38nm,1.4s
FURC Furnace Creek, 86.84 52 P **P** 18 25 42.9 +0.4
baz=251
BC3 Big Chuckawall 87.05 55 P **P** 18 25 44.3 +0.5
baz=252,SNR=11
SHOC Shoshone, Teco 87.11 52 P **P** 18 25 44.2 +0.3
baz=251
DAWY Dawson 87.20 21 *e*P **P** 18 25 42.8 -0.9
comp=Z,19nm,1.1s
TUQ Turquoise Moun 87.24 53 P **P** 18 25 44.8 +0.1
baz=252
A04D Lummi Island 87.27 39 P **P** 18 25 44.9 +0.7
baz=246
GLA Glamis 87.36 55 P **P** 18 25 46.0 +0.8
baz=252
IRM Iron Mountain 87.45 54 P **P** 18 25 46.0 +0.5
baz=252,SNR=14
B05A Bryant 87.46 39 P **P** 18 25 45.7 +0.5
baz=247
TPNV Topopah Spring 87.47 51 P **P** 18 25 45.7 -0.1
baz=251,SNR=13
WVOR Wild Horse Val 87.56 45 *e*P **P** 18 25 45.8 -0.2
WVOR Wild Horse Val 87.56 45 *e*P **P** 18 25 45.8 -0.2
NAC Naches 87.67 41 P **P** 18 25 47.1 +0.8
DLBC Dease Lake 87.76 28 *e*P **P** 18 25 45.5 -1.0
comp=Z,16nm,1.3s
Y12C Blythe 87.82 55 P **P** 18 25 47.9 +0.6
baz=252
NEE2 Needles Airpor 88.05 54 P **P** 18 25 48.7 +0.4
baz=252
C06D Leavenworth 88.08 40 P **P** 18 25 48.4 +0.3
baz=248
PDMCI Parker Dam,Lak 88.28 54 P **P** 18 25 49.4 0.0
baz=253,SNR=6.0
HAWA Hanford 88.37 42 *e*P **P** 18 25 49.7 +0.1
comp=Z,9.0nm,0.8s
R11A Troy Canyon, C 88.41 50 P **P** 18 25 50.3 +0.1
baz=252,SNR=14
214A Organ Pipe Nat 88.67 57 P **P** 18 25 52.0 +0.7
baz=254,SNR=10
214A Organ Pipe Nat 88.67 57 *e*P **P** 18 25 51.7 +0.3
comp=Z,58nm,1.0s
BMO Blue Mountains 89.30 44 *e*P **P** 18 25 54.0 -0.1
BMO pmax pmax
comp=Z,35nm,1.4s
BMO Blue Mountains 89.30 44 *e*P **P** 18 25 54.0 -0.1
comp=Z,35nm,1.4s
ELK Elko 89.41 48 *e*P **P** 18 25 54.9 0.0
ELK pmax pmax
comp=Z,16nm,1.1s
ELK Elko 89.41 48 *e*P **P** 18 25 54.9 0.0
comp=Z,16nm,1.1s
MFID Camas Ranch 89.84 45 *e*P **P** 18 25 56.6 0.0
comp=Z,24nm,1.2s
SYO Syowa Base 89.99 197 ⇓ *i*P **P** 18 25 55.0 -1.7
TUC Tucson 90.42 57 P **P** 18 26 00.6 +1.0
baz=254
NEW Newport 90.56 40 P **P** 18 25 59.6 -0.2
baz=251
WUAZ Wupatki 90.81 54 P **P** 18 26 01.9 +0.5
baz=254
WUAZ Wupatki 90.81 54 *e*P **P** 18 26 01.9 +0.5
comp=Z,11nm,1.1s
HLID Hailey 90.86 45 P **P** 18 26 01.7 +0.2
baz=252
HLID Hailey 90.86 45 *e*P **P** 18 26 01.9 +0.5
comp=Z,11nm,1.2s
DUG Dugway, Tooele 91.02 49 P **P** 18 26 02.3 +0.1
baz=253
INK Inuvik 91.62 19 P **P** 18 26 02.7 -1.4
comp=Z,2.8nm,0.7s,baz=235,slow=5.2,SNR=7.7
INK PKKPbc **PKKPdf** 18 43 24.1 +1.3
comp=Z,4.9nm,1.1s,baz=62,slow=3.8,SNR=4.5
WMQ Urumqi 91.75 315 P **P** 18 26 05.9 +0.4
WMQ pP pP 18 26 57.9 -1.4
WMQ sP sP 18 27 19.4 -2.8
WMQ PMZ
comp=Z,30nm,1.6s
WMQ PMZ
comp=Z,280nm,8.0s
BSMT Bassoo Peak 91.91 41 P **P** 18 26 06.5 +0.2
W18A Petrified Fore 92.00 55 P **P** 18 26 07.0 +0.1
baz=255
MSO Missoula 92.16 42 P **P** 18 26 07.3 0.0
baz=253
DLMT Dillon 92.63 44 *e*P **P** 18 26 09.7 +0.1
comp=Z,5.3nm,1.0s
HYB Hyderabad 92.69 287 *i* PKP **P** 18 26 10.0 -0.3
121A Cookes Peak, D 92.93 57 P **P** 18 26 11.5 +0.2
baz=256
BOZ Bozeman (W) 93.36 44 P **P** 18 26 13.2 +0.2
baz=254
BOZ Bozeman (W) 93.36 44 *e*P **P** 18 26 13.1 +0.2
BOZ pmax pmax
comp=Z,2.0nm,1.0s
BOZ Bozeman (W) 93.36 44 *e*P **P** 18 26 13.1 +0.2
comp=Z,2.5nm,1.0s
IMW Indian Meadow 93.37 46 *e*P **P** 18 26 12.9 -0.3
comp=Z,1.8nm,0.7s
MVCO Mesa Verde 93.49 53 P **P** 18 26 13.8 0.0
baz=256
PV01 Paradox Valley 93.66 52 *e*P **P** 18 26 15.0 +0.4
comp=Z,545nm,1.1s
H17A Grant Village 93.75 45 P **P** 18 26 15.5 +0.5
baz=255
BW06 Boulder Array 94.06 47 P **P** 18 26 16.2 -0.1
baz=256
PDAR Pinedale Array 94.06 47 P **P** 18 26 15.9 -0.4
comp=Z,0.6nm,0.5s,baz=235,slow=3.2,SNR=4.3
PDAR PKKP **PKKPdf** 18 43 17.7 -0.3
comp=Z,3.4nm,0.8s,baz=83,slow=6.1,SNR=17
PDAR PKPPKP **P'P'df** 18 51 29.5 +0.1
comp=Z,0.9nm,0.9s,baz=90,slow=7.4,SNR=4.5
O20A White River Ci 94.38 50 P **P** 18 26 18.1 +0.2
baz=256
NVL N'lazarevskaya 94.38 188 *e*P **P** 18 26 18.8 +1.8
ANMO Albuquerque 94.57 55 P **P** 18 26 19.1 +0.3
baz=257
ANMO Albuquerque 94.57 55 ⇓ *i*P **P** 18 26 18.8 0.0
ANMO pmax pmax
comp=Z,3.0nm,1.1s
MNTX Cornudas Mount 94.72 59 P **P** 18 26 19.6 +0.2
baz=257
MNTX Cornudas Mount 94.72 59 *e*P **P** 18 26 18.5 -0.9
comp=Z,1.2nm,0.8s
RLMT Red Ledge 94.84 45 P **P** 18 26 19.9 +0.1
baz=256
SNAA Sanae 94.89 183 P **P** 18 26 19.0 -0.5
SNAA Sanae 94.89 183 *c i*P **P** 18 26 18.1 -1.3
SNAA pmax pmax
comp=Z,3μm,1.3s
SNAA Sanae 94.89 183 *e*P **P** 18 26 18.8 -0.6
comp=Z,3μm,1.1s
S22A 4UR Ranch, Cre 94.90 53 P **P** 18 26 20.5 +0.1
baz=257
TXAR Lajitas Array 95.66 61 P **P** 18 26 23.8 0.0
comp=Z,0.9nm,0.7s,baz=224,slow=5.2,SNR=7.2
TXAR PP **PP** 18 30 18.6 +0.1
comp=Z,3.5nm,1.2s,baz=238,slow=7.2,SNR=7.1
TXAR PKKP **PKKPdf** 18 43 14.3 -0.2
comp=Z,2.5nm,0.9s,baz=98,slow=4.4,SNR=12
VNA1 Neumayer--Stat 96.13 182 P **P** 18 26 24.6 -0.4
MKAR Makanchi Array 96.20 316 P **P** 18 26 25.6 -0.1
comp=Z,30nm,0.7s,baz=95,slow=6.4,SNR=259
MKAR PP **PP** 18 30 20.6 -1.5
comp=Z,3.5nm,1.1s,baz=108,slow=7.8,SNR=3.7
MKAR PKiKP **PKiKP** 18 31 02.3 -0.5
comp=Z,1.4nm,0.5s,baz=120,slow=1.6,SNR=8.3
MKAR S **SKSac** 18 36 35.5 -5.5
comp=Z,1.0nm,1.0s,baz=116,slow=6.6,SNR=4.4
MKAR PKKPbc **PKKPbc** 18 43 11.2 -2.1
comp=Z,2.9nm,0.8s,baz=277,slow=2.1,SNR=15
ZALV Zalesovo Beam 96.28 324 P **P** 18 26 24.6 -1.2
comp=Z,35nm,0.8s,baz=112,slow=4.3,SNR=140
ZALV PKiKP **PKiKP** 18 31 04.6 +2.0
comp=Z,1.9nm,0.7s,baz=158,slow=2.3,SNR=3.6
ZALV S **SKSac** 18 36 36.4 -4.6
comp=Z,1.4nm,0.8s,baz=98,slow=8.9,SNR=4.3
YKA Yellowknife Ar 96.36 27 P **P** 18 26 24.4 -1.6
comp=Z,5.0nm,0.9s,baz=254,slow=4.8,SNR=32
YKA pP **pP** 18 27 16.9 -3.1
comp=Z,7.9nm,1.1s,baz=257,slow=4.1,SNR=3.9
YKA PP **PP** 18 30 17.8 -5.0
comp=Z,0.8nm,0.8s,baz=253,slow=8.2,SNR=3.6
YKA PKiKP **PKiKP** 18 31 02.3 -0.2
comp=Z,0.6nm,0.7s,baz=245,slow=1.6,SNR=5.5
YKA PKKPbc **PKKPbc** 18 43 11.0 -2.3
comp=Z,1.0nm,0.7s,baz=66,slow=3.0,SNR=7.2
YKA PKPPKP **P'P'df** 18 51 25.1 +1.5
comp=Z,0.8nm,0.9s,baz=74,slow=2.5,SNR=3.9
Q24A Divide 96.45 52 P **P** 18 26 28.0 +0.6
baz=258
NVS Novosibirsk 97.39 325 *e*P **P** 18 26 30.1 -0.7
NVS *e*S **SKSac** 18 36 45.3 -1.3
NVS pmax pmax
comp=N,9.0nm,1.3s
NVS pmax pmax
comp=E,17nm,1.3s
NVS pmax pmax
comp=Z,35nm,1.3s
NVS smax smax
comp=N,5.0nm,1.0s
NVS smax smax
comp=E,42nm,2.0s
KSCO Kaye Shedlock' 98.39 52 Pdiff Pdif 18 26 36.7 +0.8
baz=260
NRIK Noril'sk 98.80 339 P Pdif 18 26 36.5 -0.3
comp=E,34nm,0.8s,baz=103,slow=4.8,SNR=47
KSH Kashi 99.33 308 *e*P **Pdif** 18 26 43.3 +3.2
KSH pP pP 18 27 35.4 +1.3
KSH PP **PP** 18 30 52.5 +6.2
KSH S **S** 18 37 51.0 -1.9
KSH PMZ
comp=E,3.0nm,0.7s
KSH PMZ
comp=E,190nm,5.6s
KSH LN
comp=E,110nm,7.7s
KSH LE
comp=E,120nm,5.9s
KSH LZ
comp=E,220nm,11.8s
KURK Kurchatov 99.34 320 *e*P **Pdif** 18 26 38.4 -1.3
KURK 18 30 43.8
KURK pmax pmax
comp=Z,296nm,1.8s
KURK Kurchatov 99.34 320 *e*P **Pdif** 18 26 38.4 -1.3
comp=Z,296nm,1.8s
KURK PP **PP** 18 30 43.8 -2.1
KURK PKiKP **PKiKP** 18 31 08.2 +0.1
KURBB Kurchatov Arra 99.39 320 P **Pdif** 18 26 38.7 -1.1
comp=Z,4.8nm,0.8s,baz=106,slow=3.5,SNR=65
KURBB PP **PP** 18 30 43.8 -2.4
comp=Z,1.6nm,0.9s,baz=104,slow=8.2,SNR=4.6
KURBB PKiKP **PKiKP** 18 31 08.2 0.0
comp=Z,2.1nm,0.8s,baz=113,slow=1.7,SNR=7.5
633A Saathoff Ranch 99.53 62 Pdiff **Pdif** 18 26 41.3 +0.2
baz=260
034A Hebbronville 99.55 64 Pdiff **Pdif** 18 26 41.7 +0.5
baz=260
TKM2 Tokmak 2 100.15 312 *e*P **Pdif** 18 26 42.9 -0.9
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 100.15 312 *e*P **Pdif** 18 26 42.9 -0.9
comp=Z,3.3nm,0.8s
AAK Ala-Archa 100.92 311 *e*P **Pdif** 18 26 46.5 -0.6
F30A Leola 102.05 46 Pdiff **Pdif** 18 26 52.7 +0.8
baz=263
Z36A Blue Ridge 102.44 59 Pdiff **Pdif** 18 26 53.9 0.0
baz=262
O34A Beatrice 103.10 51 Pdiff **Pdif** 18 26 57.6 +0.9
baz=264
ULM Lac du Bonnet 104.55 41 PKiKP **PKiKP** 18 31 16.1 -1.5
comp=Z,2.7nm,0.6s,baz=270,slow=2.7,SNR=3.3
ULM PKPPKP **P'P'df** 18 51 08.9 0.0
comp=Z,4.6nm,0.8s,baz=144,slow=3.7,SNR=3.6
BVAR Borovoye Array 104.66 322 Pdiff **Pdif** 18 27 02.4 -0.8
comp=Z,5.2nm,0.9s,baz=101,slow=4.6,SNR=9.7
BVAR PKiKP **PKiKP** 18 31 17.7 -0.1
comp=Z,1.7nm,0.4s,baz=127,slow=2.8,SNR=19
BVAR PKKPbc **PKKPbc** 18 42 47.7 -1.5
comp=Z,0.6nm,0.5s,baz=316,slow=4.1,SNR=5.7
D36A Goodland 106.19 44 PKiKP **PKiKP** 18 31 21.0 +0.2
baz=268
J38A Wedel Dairy, R 106.50 48 PKiKP **PKiKP** 18 31 22.4 +0.9
baz=267
O40A La Belle 106.77 52 PKiKP **PKiKP** 18 31 21.1 -1.0
baz=267
P41A Barry, Barry 107.37 52 PKiKP **PKiKP** 18 31 23.0 -0.1
baz=267
ABKAR Akbulak array 111.29 318 *e*P **PKiKP** 18 31 29.5 -0.7
ARU Arti 111.35 326 *i* PKiKP **PKiKP** 18 31 30.0 -0.1
ARU 18 32 15.5
ARU 18 38 18.8
ARU SS SS 18 47 31.4 +1.3
ARU Arti 111.35 326 *e*P **PKiKP** 18 31 29.8 -0.3
AKTO Aktyubinsk 112.42 319 PKiKP **PKiKP** 18 31 32.4 0.0
comp=Z,8.0nm,0.7s,baz=90,slow=1.7,SNR=41
AKTO PKKPbc **PKKPbc** 18 42 22.4 -2.1
comp=Z,1.2nm,0.6s,baz=283,slow=2.0,SNR=4.7
GEYT Alibeck 113.12 306 PKiKP **PKiKP** 18 31 34.4 +0.2
comp=Z,10nm,0.8s,baz=18,slow=3.2,SNR=23
SPA0 Spitsbergen Ar 113.59 354 *e*P **PKiKP** 18 31 33.8 -0.1
SPA0 IAmb IAmb 18 31 34.6
comp=Z,27nm,0.9s
SPITS Spitsbergen Ar 113.59 354 PKiKP **PKiKP** 18 31 33.4 -0.5
comp=Z,15nm,0.8s,baz=92,slow=5.1,SNR=12
SPITS PKKPbc **PKKPbc** 18 42 18.5 -2.8
comp=Z,1.6nm,0.5s,baz=163,slow=6.1,SNR=4.2
HATD Hatta, Dubai 114.47 291 *i* P PKPdf 18 31 36.8 -0.3
SNR=10
ASHO Ashiyiah 114.53 291 *i* P PKPdf 18 31 36.8 -0.5
SNR=7.3
KMSC Kings Mountain 115.03 57 PKiKP **PKiKP** 18 31 37.2 -0.7
baz=271
N54A Moraine State 115.81 51 PKiKP **PKPdf** 18 31 38.5 -0.7
baz=275
POPC Popayan, Colom 115.96 94 *e*P **PKPdf** 18 31 44.5 +3.9
M54A Oil Creek Stat 116.01 50 PKiKP **PKPdf** 18 31 39.3 -0.3
baz=275
DAG Danmarks Havn 116.52 2 *i* PKiKP **PKPdf** 18 31 38.3 -1.2
DAG pmax pmax
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 116.52 2 *i* P **PKPdf** 18 31 38.3 -1.2
comp=Z,7.8nm,0.8s,baz=302,slow=1.8,SNR=28
O56A Blue Knob Stat 116.95 52 PKiKP **PKPdf** 18 31 41.0 -0.5
baz=275
LPAZ La Paz 117.86 117 PKP **PKPdf** 18 31 44.5 -0.2
comp=Z,7.8nm,0.8s,baz=302,slow=1.8,SNR=28
LPAZ SKP 18 35 01.0
comp=Z,2.3nm,0.8s,baz=272,slow=4.2,SNR=5.1
LPAZ PKKPbc **PKKPbc** 18 42 05.7 +0.1
comp=Z,2.2nm,0.8s,baz=71,slow=4.1,SNR=7.9
PRAC Prado 117.97 93 *e*P **PKPdf** 18 31 41.6 -2.6
KEV Kevo 118.41 345 *e*P **PKPdf** 18 31 43.1 -0.2
HAMF Hammerfest 118.53 347 *e*P **PKPdf** 18 31 42.9 -0.7
HAMF IAmb IAmb 18 31 43.7
comp=Z,37nm,0.7s
SUMG Summit 118.90 9 *e*PKiKP **PKPdf** 18 31 44.3 -0.4
SUMG Summit 118.90 9 *i* P **PKPdf** 18 31 44.6 -0.1
comp=Z,35nm,1.2s
SUMG Summit 118.90 9 *e*P **PKPdf** 18 31 44.3 -0.4
ARCES ARCESS Array B 118.93 346 PKP **PKPdf** 18 31 44.1 -0.2
comp=Z,22nm,0.6s,baz=85,slow=1.5,SNR=86
ARCES PKKPbc **PKKPab** 18 41 59.0 -2.9
comp=Z,8.3nm,0.7s,baz=207,slow=2.5,SNR=26
ARE0 ARCESS Array S 118.94 346 *e*P **PKPdf** 18 31 44.4 0.0
ARE0 IAmb IAmb 18 31 45.0
comp=Z,36nm,0.7s
N59A State Game Lan 119.00 51 PKiKP **PKPdf** 18 31 45.2 -0.1
baz=278
ILULI Ilulissat 119.16 15 ⇑ *i* PKiKP **PKPdf** 18 31 44.1 -0.6
ILULI pmax pmax
comp=Z,42nm,1.1s
ILULI Ilulissat 119.16 15 ⇑ *i*P **PKPdf** 18 31 44.1 -0.6
comp=Z,42nm,1.1s
CHIC Chingaza 119.30 92 *e*P **PKPdf** 18 31 45.6 -1.6
RUSC La Rusia 120.19 91 *e*P **PKPdf** 18 31 46.7 -2.3
HEF Hetta 120.22 345 *e*P **PKPdf** 18 31 46.4 -0.4
TRO Tromso 120.34 348 *e*P **PKPdf** 18 31 46.5 -0.5
TRO IAmb IAmb 18 31 47.2
comp=Z,39nm,0.8s
KIF Kilpisjarvi 120.44 347 *e*P **PKPdf** 18 31 46.2 -1.0
CBRI Barrientos, No 120.83 89 *e*P **PKPdf** 18 31 47.3 -2.5
SCHQ Schefferville 121.19 33 PKP **PKPdf** 18 31 48.1 -1.0
comp=Z,9.9nm,0.8s,baz=325,slow=2.2,SNR=3.9
CPUP Villa Florida 121.40 132 PKP **PKPdf** 18 31 50.0 -0.4
comp=Z,19nm,0.9s,baz=259,slow=2.0,SNR=29
LMQ La Malbaie 121.52 42 *e*PKPdf **PKPdf** 18 31 48.6 -1.4
VRH Novokhopyorsk 122.29 323 *e*PKiKP **PKPdf** 18 31 50.8 -0.5
VRH pmax pmax
comp=Z,120nm,0.8s
STEI Steigen 122.51 348 *e*P **PKPdf** 18 31 51.2 0.0
STEI IAmb IAmb 18 31 51.7
comp=Z,47nm,0.8s
SCO Scoresbysund 122.64 4 ⇑ *i* PKiKP **PKPdf** 18 31 51.7 +0.3
SCO pmax pmax
comp=Z,38nm,1.0s
SCO Scoresbysund 122.64 4 ⇑ *i*P **PKPdf** 18 31 51.7 +0.3
comp=Z,38nm,1.0s
MOS Moscow 122.71 329 *e*PKiKP **PKPdf** 18 31 51.3 -0.7
MOS pmax pmax
comp=Z,103nm,1.0s
TBLG Delisi 122.94 311 P **PKPdf** 18 31 53.6 +0.7
TBLG Delisi 122.94 311 PKiKP **PKPdf** 18 31 53.6 +0.7
GUDG Gudauri 122.97 312 P **PKPdf** 18 31 52.6 -0.6
GNI Garni 123.25 309 PKP **PKPdf** 18 31 54.6 +0.9
comp=Z,40nm,0.9s,baz=2.3,slow=1.6,SNR=24
GNI Garni 123.25 309 P **PKPdf** 18 31 54.5 +0.7
ZEI Tsey 123.31 313 *i* PKiKP **PKPdf** 18 31 50.6 -3.2
ZEI pmax pmax
comp=Z,77nm,0.9s
GOF Gofitskoye 123.35 315 ⇓ *i* PKiKP **PKPdf** 18 31 54.4 +0.9
GOF pmax pmax
comp=Z,76nm,1.3s
NCK Nalchik 123.36 313 *i* PKiKP **PKPdf** 18 31 54.3 +0.6
OBN Obninsk 123.53 328 PKP **PKPdf** 18 31 53.3 -0.2
comp=Z,35nm,0.6s,baz=92,slow=1.4,SNR=22
OBN Obninsk 123.53 328 *i* PKiKP **PKPdf** 18 31 53.5 0.0
OBN *i* 18 38 38.7
OBN *e*SS SS 18 50 11.8 +4.5
OBN *e*SSS SSS 18 54 49.0
OBN pmax pmax
comp=Z,77nm,0.9s
OBN Obninsk 123.53 328 PKP **PKPdf** 18 31 53.3 -0.2
OBN *e*PKPdf **PKiKP** 18 31 53.8 0.0
ONI Oni 123.68 312 P **PKPdf** 18 31 55.4 +1.1
ONI Oni 123.68 312 PKiKP **PKPdf** 18 31 55.4 +1.1
VSR Storozhevoye 123.78 323 *e*PKiKP **PKPdf** 18 31 53.9 -0.3
VSR pmax pmax
comp=Z,90nm,0.8s
KBZ Khabaz 123.79 314 PKP **PKPdf** 18 31 54.1 -0.3

comp=Z,16nm,0.9s,baz=343,slow=20,SNR=25
BGD Bogdanovka 123.87 311 P **PKPdf** **18 31 56.0 +1.0**
KVAR Kislovodsk Arr 123.88 314 PKP **PKPdf** **18 31 54.0 -0.8**
comp=Z,49nm,1.2s,baz=336,slow=2.2,SNR=15
KIV Kislovodsk 123.88 314 *i* P **PKPdf** **18 31 55.1 +0.4**
SNR=6.3
KIV Kislovodsk 123.88 314 *e*PKIKP **PKPdf** **18 31 54.8 0.0**
KIV pmax pmax
comp=Z,44nm,1.1s
KIV Kislovodsk 123.88 314 P **PKPdf** **18 31 55.2 +0.4**
SNR=11
KIV Kislovodsk 123.88 314 PKiKP **PKPdf** **18 31 55.2 +0.4**
SNR=11
KIV Kislovodsk 123.88 314 *e*PKPdf **PKPdf** **18 31 54.7 0.0**
AKH Akhalkalaki 123.92 311 P **PKPdf** **18 31 55.8 +0.8**
AKH Akhalkalaki 123.92 311 PKIKP **PKPdf** **18 31 55.8 +0.8**
NEY Neytrino 124.04 313*d* PKIKP **PKPdf** **18 31 56.3 +1.1**
SIV San Ignacio 124.04 120 PKP **PKPdf** **18 31 55.1 -0.7**
comp=Z,15nm,0.9s,baz=237,slow=1.4,SNR=23
KONS Konsvik 124.17 348 *e*P **PKPdf** **18 31 55.0 +0.6**
BOSA Boshof 124.37 221 PKP **PKPdf** **18 31 56.7 +0.5**
comp=Z,50nm,0.9s,baz=126,slow=1.7,SNR=40
FINES FINESS Array B 124.45 339 PKhKP PKPpre 18 31 43.5
comp=Z,1.5nm,0.8s,baz=121,slow=1.1,SNR=5.2
FINES PKP **PKPdf** **18 31 54.7 -0.4**
comp=Z,48nm,0.9s,baz=90,slow=3.8,SNR=64
SAML Samuel 125.26 111 *e*PKPdf **PKPdf** **18 31 57.4 -0.7**
NSS Namsos 126.11 347 *e*P **PKPdf** **18 31 58.3 +0.1**
NSS IAmb IAmb 18 31 58.8
comp=Z,46nm,1.0s
VSU Vasula 126.17 336*c* *i*PKIKP **PKPdf** **18 31 58.6 +0.1**
NRS Narsarsuaq 126.75 19⇑ *i*PKIKP **PKPdf** **18 31 58.6 -0.9**
NRS pmax pmax
comp=Z,45nm,0.8s
NRS Narsarsuaq 126.75 19⇑ *i*P **PKPdf** **18 31 58.6 -0.9**
comp=Z,45nm,0.8s
ANN Anapa 127.22 317 *i* PKIKP **PKPdf** **18 32 00.7 -0.2**
ANN pmax pmax
comp=Z,40nm,1.0s
IZAR Zarasai 128.10 333 *e*P **PKPdf** **18 32 03.1 +0.8**
IZAR IAmb IAmb 18 32 04.3
comp=Z,50nm,1.3s
IZAR Zarasai 128.10 333 *e*P **PKPdf** **18 32 03.1 +0.8**
IDID Didziasalis 128.15 332 *e*P **PKPdf** **18 32 02.9 +0.5**
IDID IAmb IAmb 18 32 04.4
comp=Z,34nm,1.0s
IDID Didziasalis 128.15 332 *e*P **PKPdf** **18 32 02.9 +0.5**
ISAL Salakas 128.27 333 *e*P **PKPdf** **18 32 03.1 +0.5**
ISAL IAmb IAmb 18 32 04.7
comp=Z,30nm,1.0s
ISAL Salakas 128.27 333 *e*P **PKPdf** **18 32 03.1 +0.5**
BORG Borgarnes 128.34 5 PKP **PKPdf** **18 32 03.4 +0.9**
comp=Z,18nm,0.9s,baz=51,slow=1.3
KMBO Kilima Mbogo 128.37 258 PKP **PKPdf** **18 32 05.6 +1.2**
comp=Z,8.3nm,0.8s,baz=41,slow=3.6,SNR=16
KMBO SKPab SKPab 18 35 06.5
comp=Z,0.9nm,0.3s,baz=219,slow=6.1,SNR=2.7
KMBO Kilima Mbogo 128.37 258 *e*P **PKPdf** **18 32 04.8 +0.4**
KMBO PKP **PKPdf** **18 32 05.6 +1.2**
KMBO SKPab SKPab 18 35 06.5
NACGM Naroch 128.39 332 *e* **PKPdf** **18 32 02.0 -0.9**
SJG San Juan 128.55 77 *e*PKIKP **PKPdf** **18 32 03.5 -0.7**
SJG San Juan 128.55 77 *e*PKPdf **PKPdf** **18 32 03.5 -0.7**
NB2 NORSAR Subarra 129.31 345 PKPdf **PKPdf** **18 32 04.3 -0.2**
comp=Z,52nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 129.31 345 PKPdf **PKPdf** **18 32 04.3 -0.2**
baz=31,slow=1.9
NOA NORSAR Array B 129.31 345 PKP **PKPdf** **18 32 03.9 -0.6**
comp=Z,26nm,1.0s,baz=33,slow=2.0,SNR=35
NOA PP **PP** **18 34 17.8 +2.0**
comp=Z,2.3nm,1.0s,baz=32,slow=6.6,SNR=3.3
NOA SKPbc SKPbc 18 35 07.4 +2.3
comp=Z,9.5nm,0.9s,baz=32,slow=3.0,SNR=12
SIM Simferopol' 129.35 318*c* *i*PKIKP **PKPdf** **18 32 06.8 +1.8**
SIM pmax pmax
comp=Z,28nm,0.6s
HFS Hagfors 129.42 343 PKP **PKPdf** **18 32 04.8 +0.1**
comp=Z,25nm,0.9s,baz=101,slow=1.5,SNR=24
HFS SKPbc SKPbc 18 35 07.3 +1.8
comp=Z,14nm,0.8s,baz=72,slow=4.8,SNR=14
AKASG Malin Array Be 129.59 326 PKP **PKPdf** **18 32 05.0 -0.3**
AKASG PP **PP** **18 34 19.7 +1.6**
comp=Z,19nm,0.8s,baz=54,slow=2.3,SNR=73
AKASG SKPbc SKPbc 18 35 08.7 +2.3
comp=Z,0.4nm,0.4s,baz=55,slow=7.2,SNR=4.0
comp=Z,2.7nm,0.6s,baz=45,slow=5.1,SNR=9.7
KIEV Kiev 129.60 326*c* *i*PKIKP **PKPdf** **18 32 04.7 -0.6**
KIEV Kiev 129.60 326 *e*PKPdf **PKPdf** **18 32 04.6 -0.7**
LSZ Lusaka 130.48 236 *e*PKIKP **PKPdf** **18 32 08.0 -0.2**
LSZ Lusaka 130.48 236 *e*P **PKPdf** **18 32 08.0 -0.2**
SUW Suwalki 130.58 333 *e*PKP **PKPdf** **18 32 07.1 +0.1**
SUW *e*SKP 18 35 12.6
SUW Suwalki 130.58 333 *e*PKIKP **PKPdf** **18 32 07.1 +0.1**
ASF Jabal al Asfar 130.99 301 PKP **PKPdf** **18 32 09.2 +0.5**
comp=Z,12nm,0.8s,baz=35,slow=2.0,SNR=23
ASF SKPbc **SKPab** **18 35 15.3 +2.4**
comp=Z,20nm,1.1s,baz=0.3,slow=0.7,SNR=20
PTGA Pitinga 131.17 103 SKPbc **SKPab** **18 35 14.9 +0.7**
comp=Z,10nm,1.0s,baz=255,slow=4.9,SNR=8.8
SORM Soroca 131.43 324⇑ *i*P **SKPab** **18 35 15.9 +1.8**
BRTR Keskin Array B 131.59 312 PKhKP PKPpre 18 31 56.5
comp=Z,1.5nm,0.9s,baz=92,slow=3.7,SNR=6.3
BRTR PKP **PKPdf** **18 32 09.2 -0.4**
comp=Z,8.1nm,0.8s,baz=139,slow=3.1,SNR=28
BRTR PP **PP** **18 34 30.3 -1.5**
comp=Z,1.9nm,0.9s,baz=72,slow=1.6,SNR=4.3
BRTR SKPbc **SKPab** **18 35 16.8 +1.5**
comp=Z,13nm,0.8s,baz=109,slow=3.8,SNR=22
BRTR PKKP **PKKPdf** **18 42 06.5 -0.7**
comp=Z,0.9nm,0.8s,baz=190,slow=6.3,SNR=4.7
KIS Kishinev 131.74 322 *e*PKP **PKPdf** **18 32 10.0 +0.5**
KIS Kishinev 131.74 322 *e*PKIKP **PKPdf** **18 32 10.0 +0.5**
MMAI Mount Meron Ar 132.06 303 PKP **PKPdf** **18 32 11.5 +0.9**
comp=Z,21nm,0.9s,baz=69,slow=4.6,SNR=26
MMAI SKPbc **SKPab** **18 35 19.2 +1.8**
comp=Z,23nm,0.9s,baz=69,slow=4.7,SNR=21
ANTO Ankara 132.15 312 *e*PKIKP **PKPdf** **18 32 10.8 +0.2**
ANTO Ankara 132.15 312 P **PKPdf** **18 32 11.3 +0.7**
SNR=13
ANTO Ankara 132.15 312 PKiKP **PKPdf** **18 32 11.3 +0.7**
SNR=13
ANTO Ankara 132.15 312 *e*PKPdf **PKPdf** **18 32 10.8 +0.2**
LEOM Leova 132.34 322⇑ *i*P **PKPdf** **18 32 11.5 +0.9**
LEOM Leova 132.34 322 ⇑PKIKP **PKPdf** **18 32 11.5 +0.9**
TLCR 132.63 320 ⇓ *i*P **PKPdf** **18 32 12.5 +1.3**
TLCR 132.63 320 ⇓ *i*P **SKPab** **18 35 21.2 +1.9**
TLCR 132.63 320 ⇓PKIKP **PKPdf** **18 32 12.5 +1.3**
LVV L'vov 132.83 328 *e*PKIKP **PKPdf** **18 32 10.9 -0.6**
CFR Carcaliu 133.05 321 ⇓ *i*P **PKPdf** **18 32 12.1 +0.1**
CFR Carcaliu 133.05 321 ⇓ *i*P **SKPab** **18 35 22.8 +1.6**
CFR Carcaliu 133.05 321 ⇓PKIKP **PKPdf** **18 32 12.1 +0.1**
EIL Elat 133.08 298 PKP **PKPdf** **18 32 12.9 +0.3**
comp=Z,25nm,0.8s,baz=346,slow=3.9,SNR=19
BSD Bornholm Skovb 133.09 339 *i* PKIKP **PKPdf** **18 32 12.1 +0.3**
BSD pmax pmax
comp=Z,55nm,1.0s
BSD Bornholm Skovb 133.09 339 *i* P **PKPdf** **18 32 12.1 +0.3**
comp=Z,55nm,1.0s
BEL Belsk 133.11 332 *e*PKP **PKPdf** **18 32 12.9 +1.0**
BEL *e*SKP 18 35 22.6
BEL Belsk 133.11 332 *e*PKIKP **PKPdf** **18 32 12.9 +1.0**
TIRR Tirgusor 133.23 320⇑ *i*P **PKPdf** **18 32 14.1 +1.8**
TIRR Tirgusor 133.23 320 ⇑PKIKP **PKPdf** **18 32 14.2 +1.9**
CSS Mathiatis 133.26 306 P **PKPdf** **18 32 13.4 +0.6**
CSS Mathiatis 133.26 306 *e*PKPdf **PKPdf** **18 32 13.8 +1.0**
TESR Tescani 133.27 323⇑ *i*P **PKPdf** **18 32 13.3 +0.9**
TESR Tescani 133.27 323⇑ *i*P **SKPab** **18 35 22.4 +0.3**
PETR Petresti 133.33 322⇑ *i*P PKPdf 18 32 30.3 +18
HARR Harsova 133.42 320⇑ *i*P **SKPab** **18 35 24.1 +1.3**
COP Copenhagen 133.48 341 *i* PKIKP **PKPdf** **18 32 14.6 +2.2**
COP pmax pmax
comp=Z,44nm,1.0s
COP Copenhagen 133.48 341 *i* P **PKPdf** **18 32 14.6 +2.2**
comp=Z,44nm,1.0s
BURAR Bucovina Array 133.49 325 ⇓ *i*P **PKPdf** **18 32 14.4 +1.5**
BURAR Bucovina Array 133.49 325⇑ *i*P **SKPab** **18 35 21.9 -1.2**
BURAR Bucovina Array 133.49 325 ⇓PKIKP **PKPdf** **18 32 14.4 +1.5**
VRI Vrincioaia 133.56 322⇑ *i*P **PKPdf** **18 32 13.3 +0.3**
VRI Vrincioaia 133.56 322⇑ *i*P **SKPab** **18 35 24.6 +1.2**
VRI Vrincioaia 133.56 322 ⇑PKIKP **PKPdf** **18 32 13.3 +0.3**
PLOR Plostina 133.62 322 ⇓ *i*P **PKPdf** **18 32 13.2 +0.1**
PLOR Plostina 133.62 322⇑ *i*P **SKPab** **18 35 24.7 +1.0**
PLOR Plostina 133.62 322 ⇓PKIKP **PKPdf** **18 32 13.2 +0.1**
KWP Kalwaria Pacla 133.62 329 *e*PKP **PKPdf** **18 32 13.2 +0.2**
KWP *e*SKP 18 35 23.9
KWP Kalwaria Pacla 133.62 329 ⇓ *i*P **PKPdf** **18 32 14.0 +1.0**
KWP Kalwaria Pacla 133.62 329⇑ *i*P **SKPab** **18 35 25.1 +1.6**
KWP Kalwaria Pacla 133.62 329 ⇓PKIKP **PKPdf** **18 32 14.0 +1.0**
MUD Monsted U'grnd 133.81 343 *i* PKIKP **PKPdf** **18 32 13.9 +0.9**
MUD pmax pmax
comp=Z,24nm,1.0s
MUD Monsted U'grnd 133.81 343 *i* P **PKPdf** **18 32 13.9 +0.9**
comp=Z,24nm,1.0s
MLR Muntele Rosu 134.22 322 PKP **PKPdf** **18 32 13.8 -0.6**
comp=Z,6.0nm,1.1s,baz=50,slow=2.0,SNR=3.2
MLR SKPbc **SKPab** **18 35 26.0 -0.5**
comp=Z,2.9nm,1.1s,baz=20,slow=3.2,SNR=6.3
MLR Muntele Rosu 134.22 322 ⇑ *i*P **PKPdf** **18 32 14.2 -0.2**
MLR Muntele Rosu 134.22 322 ⇓ *i*P **SKPab** **18 35 26.4 -0.1**
ARCR ARCALIA 134.27 325 ⇓ *i*P **SKPab** **18 35 26.8 +0.3**
KOLS Kolonicke sedl 134.28 328 *e*PKIKP **PKPdf** **18 32 15.2 +1.0**
KOLS Kolonicke sedl 134.28 328 *e*PKP **PKPdf** **18 32 15.2 +1.0**
KOLS Kolonicke sedl 134.28 328 *e*PKP **SKPab** **18 35 26.5 +0.1**
DOPR Dopca 134.30 323⇑ *i*P **PKPdf** **18 32 15.9 +1.5**
DOPR Dopca 134.30 323 ⇓ *i*P **SKPab** **18 35 27.0 +0.4**
SECR 134.39 322⇑ *i*P **PKPdf** **18 32 15.6 +1.0**
BMR Baia Mare 134.40 326⇑ *i*P **SKPab** **18 35 27.0 0.0**
UZH Uzhgorod 134.46 328 *e*PKHKP PKPpre 18 32 01.6
UZH *e* 18 32 14.6
PRD Provadia 134.47 319 *i* P **PKPdf** **18 32 15.3 +0.6**
PRD Provadia 134.47 319 *i* P **SKPab** **18 35 27.2 -0.2**
STHS Stebnicka Huta 134.50 329 *e*PKIKP **PKPdf** **18 32 15.0 +0.4**
STHS Stebnicka Huta 134.50 329 *e*PKP **PKPdf** **18 32 15.0 +0.4**
STHS Stebnicka Huta 134.50 329 *e*PKP **SKPab** **18 35 27.7 +0.3**
TRPA Tarpa 134.64 327⇑ *e*ScP **PKPdf** **18 32 15.2 +0.3**
OJC Ojcow 134.67 331 *e*PKP **PKPdf** **18 32 15.3 +0.4**
OJC *e*SKP 18 35 27.5
OJC Ojcow 134.67 331 *e*PKIKP **PKPdf** **18 32 15.3 +0.4**
CRVS Cervenica-Dubn 134.72 329 *e*PKIKP **PKPdf** **18 32 15.5 +0.4**
CRVS Cervenica-Dubn 134.72 329 *e*PKP **PKPdf** **18 32 15.5 +0.4**
CRVS Cervenica-Dubn 134.72 329 *e*PKP **SKPab** **18 35 28.0 -0.4**
VOIR 134.79 323 ⇓ *i*P **PKPdf** **18 32 16.9 +1.5**
VOIR 134.79 323 ⇓ *i*P **SKPab** **18 35 29.6 +0.7**
VOIR 134.79 323 ⇓PKIKP **PKPdf** **18 32 16.9 +1.5**
CJR Cluj-Napoca 134.91 325⇑ *i*P **PKPdf** **18 32 16.8 +1.3**
CJR Cluj-Napoca 134.91 325⇑ *i*P **SKPab** **18 35 29.4 +0.1**
CJR Cluj-Napoca 134.91 325 ⇑PKIKP **PKPdf** **18 32 16.8 +1.3**
NIE Niedzica 134.96 330 *e*PKP **PKPdf** **18 32 16.6 +1.1**
NIE *e*SKP 18 35 28.7
NIE Niedzica 134.96 330 *e*PKIKP **PKPdf** **18 32 16.6 +1.1**
ARR Arges 135.07 323 ⇓ *i*P **PKPdf** **18 32 17.4 +1.5**
ARR Arges 135.07 323 ⇓ *i*P **SKPab** **18 35 29.5 -0.6**
HUMR Humele 135.32 321 ⇓ *i*P **PKPdf** **18 32 16.5 +0.2**
HUMR Humele 135.32 321 ⇓ *i*P **SKPab** **18 35 29.5 -1.6**
JMB Yambol 135.35 318 *i* P **PKPdf** **18 32 16.6 +0.2**
JMB Yambol 135.35 318 *i* P **SKPab** **18 35 30.5 -0.8**
DRGR 135.36 325 ⇓ *i*P **PKPdf** **18 32 17.2 +0.8**
DRGR 135.36 325⇑ *i*P **SKPab** **18 35 29.2 -2.1**
DRGR 135.36 325 ⇓PKIKP **PKPdf** **18 32 17.2 +0.8**
SZH Strazhica 135.38 319 *i* P **PKPdf** **18 32 16.5 +0.1**
KECS Kecovo 135.48 329 *e*PKIKP **PKPdf** **18 32 15.3 -1.2**
KECS Kecovo 135.48 329 *e*PKP **PKPdf** **18 32 15.3 -1.2**
KECS Kecovo 135.48 329 *e*PKP **SKPab** **18 35 30.3 -1.4**
LOT Lotru 135.53 323 ⇓ *i*P **PKPdf** **18 32 15.5 -0.3**
LOT Lotru 135.53 323⇑ *i*P **SKPab** **18 35 30.7 -1.5**
LANS Liptovska Anna 135.55 330 *e*PKIKP **PKPdf** **18 32 18.0 +1.4**
LANS Liptovska Anna 135.55 330 *e*PKP **PKPdf** **18 32 18.0 +1.4**
LANS Liptovska Anna 135.55 330 *e*PKP **SKPdf** **18 35 31.3 +0.5**
OKC Ostrava-Krasne 135.70 332 *e*PKPdf **PKPdf** **18 32 17.3 +0.5**
OKC *e*SKP 18 35 30.5
OKC Ostrava-Krasne 135.70 332 *e*PKIKP **PKPdf** **18 32 17.3 +0.5**
DEV Deva 135.78 324⇑ *i*P **PKPdf** **18 32 17.1 0.0**
DEV Deva 135.78 324 ⇑PKIKP **PKPdf** **18 32 17.1 0.0**
TSUM Tsumeb 135.94 223 *e*PKPdf **PKPdf** **18 32 18.4 0.0**
MORC Moravsky Berou 136.02 332 ⇓ *i*P **PKPdf** **18 32 18.3 +0.8**
MORC Moravsky Berou 136.02 332⇑ *i*P **SKPab** **18 35 32.5 -1.6**
MORC Moravsky Berou 136.02 332 ⇓PKIKP **PKPdf** **18 32 18.3 +0.8**
PSZ Piszkesteto 136.15 328⇑ *i*P **PKPdf** **18 32 17.9 +0.1**
PSZ Piszkesteto 136.15 328⇑ *i*P **SKPab** **18 35 32.0 -2.8**
PSZ Piszkesteto 136.15 328⇑ *e*ScP **PKPdf** **18 32 17.9 +0.1**
PSZ Piszkesteto 136.15 328 ⇑PKIKP **PKPdf** **18 32 17.9 +0.1**
PSZ Piszkesteto 136.15 328 *e*PKPdf **PKPdf** **18 32 18.0 +0.1**
DPC Dobruska-Polom 136.16 333 *e*PKPpre PKPpre 18 32 06.9
DPC *e*PKPdf **PKPdf** **18 32 18.5 +0.8**
DPC *e*PP **PP** **18 35 01.0 +1.3**
DPC *e*SKP 18 35 32.8
DPC Dobruska-Polom 136.16 333 *e*PKHKP PKPpre 18 32 06.9
DPC *e* 18 32 18.5
DPC *e* 18 35 01.0
UPC Upice 136.18 334 *e*PKPdf **PKPdf** **18 32 18.2 +0.5**
UPC *ex* x 18 32 28.9
UPC *e*SKP 18 35 32.7
UPC Upice 136.18 334 *e*PKIKP **PKPdf** **18 32 18.2 +0.5**
SIRR Siria 136.25 325⇑ *i*P **PKPdf** **18 32 19.3 +1.3**
SIRR Siria 136.25 325⇑ *i*P **SKPdf** **18 35 32.6 +0.4**
VYHS Vyhne 136.30 330 *e*PKHKP PKPpre 18 32 09.0
VYHS *e* 18 32 17.9
VYHS Vyhne 136.30 330 *e*PKP **PKPdf** **18 32 17.9 -0.1**
VYHS Vyhne 136.30 330 *e*PKP **SKPdf** **18 32 17.7 +0.5**
VYHS Vyhne 136.30 330 *e* PKPpre 18 32 09.0
SRE Strehaia 136.31 323 ⇓ *i*P **PKPdf** **18 32 18.0 -0.1**
SRE Strehaia 136.31 323 ⇓PKIKP **PKPdf** **18 32 18.0 -0.1**
ALN Alexandroupoli 136.44 316 P **PKPdf** **18 32 16.0 -2.5**
ALN Alexandroupoli 136.44 316 PKIKP **PKPdf** **18 32 16.0 -2.5**
ALN Alexandroupoli 136.44 316 P **PKPdf** **18 32 16.0 -2.5**
BZS Buzias 136.67 325⇑ *i*P **PKPdf** **18 32 19.0 +0.2**
BZS Buzias 136.67 325⇑ *i*P **SKPdf** **18 35 33.8 +0.9**
BZS Buzias 136.67 325 ⇑PKIKP **PKPdf** **18 32 19.0 +0.2**
MPEP Malo Peshtene 136.70 321 *i* P **PKPdf** **18 32 19.4 +0.5**
BRG Berggiesshubel 136.77 335 *e*PKP PKPpre 18 32 10.3
comp=Z,10nm,1.2s
BRG *i* 18 32 19.3
comp=Z,84nm,1.4s
BRG *i* SK 18 35 33.7
comp=Z,28nm,1.0s
BRG Berggiesshubel 136.77 335 *e*PKHKP PKPpre 18 32 10.4
BRG *i* 18 32 19.3
BRG pmax pmax
comp=Z,10.0nm,1.2s
PVCC Panska Ves 136.78 335 *e*PKPpre PKPpre 18 32 08.6
PVCC *e*PKPdf **PKiKP** **18 32 19.9 -0.7**
PVCC *e*SKP 18 35 34.6
PVCC Panska Ves 136.78 335 *e*PKHKP PKPpre 18 32 08.6
PVCC *e* 18 32 19.9
VRAC Vranov 136.79 332 PKhKP PKPpre 18 32 09.9
comp=Z,4.4nm,1.0s,baz=35,slow=5.4,SNR=4.6
VRAC PKP **PKPdf** **18 32 19.0 +0.1**
comp=Z,9.0nm,0.8s,baz=79,slow=2.0,SNR=15
VRAC SKPbc **SKPbc** **18 35 33.1 +2.2**
comp=Z,14nm,0.9s,baz=28,slow=1.9,SNR=12
VRAC Vranov 136.79 332⇑ *i*P **PKPdf** **18 32 19.9 +1.0**
VRAC Vranov 136.79 332⇑ *i*P **SKPdf** **18 35 33.3 +0.3**
CLL Collm 136.80 337 *e*PKPpre PKPpre 18 32 08.0
CLL *i* PKPdf **PKPdf** **18 32 18.6 -0.2**
comp=Z,48nm,1.0s
CLL *e*PP **PP** **18 35 05.0 +1.4**
CLL *i* SKPdf **SKPdf** **18 35 33.6 +0.7**
comp=Z,21nm,0.9s
CLL Collm 136.80 337 *i* PKIKP **PKPdf** **18 32 18.6 -0.2**
CLL pmax pmax
comp=Z,48nm,1.0s
PGB Panagyurishte 136.86 320 *i* P **PKPdf** **18 32 19.2 -0.1**
BUD Budapest 136.88 328 *e*ScP **PKPdf** **18 32 19.4 +0.3**
RZN Rozhen 136.94 318 *i* P **PKPdf** **18 32 19.4 -0.3**
PRK Paraskevi 137.03 314 P **PKPdf** **18 32 19.2 -0.4**
MDVR Moldovita 137.11 324 ⇓ *i*P **PKPdf** **18 32 20.2 +0.5**
MDVR Moldovita 137.11 324⇑ *i*P **SKPdf** **18 35 34.4 +0.6**
GOPC GO Pecny, Ondr 137.15 334 *e*PKPdf **PKPdf** **18 32 19.7 +0.1**
GOPC *e*PP **PP** **18 35 06.6 +0.8**
GOPC *e*SKP 18 35 34.8
GOPC GO Pecny, Ondr 137.15 334 *e*PKIKP **PKPdf** **18 32 19.7 +0.1**
GOPC *e* 18 35 06.6
PRU Pruhonice 137.19 334 *e*PKPdf **PKPdf** **18 32 20.4 +0.8**
PRU *e*PP **PP** **18 35 06.5 +0.4**
PRU *e*SKP 18 35 35.0
PRU Pruhonice 137.19 334 *e*PKIKP **PKPdf** **18 32 20.4 +0.8**
PRU *e* 18 35 06.5
TREC Trest 137.30 333 *e*PKPdf **PKPdf** **18 32 20.3 +0.4**
TREC *e*PP **PP** **18 35 07.8 +1.0**
TREC *e*SKP 18 35 35.9
TREC Trest 137.30 333 *e*PKIKP **PKPdf** **18 32 20.3 +0.4**
TREC *e* 18 35 07.8
SIGR SIGRI 137.34 314 P **PKPdf** **18 32 18.6 -1.6**
KAVA Kavala 137.42 317 P **PKPdf** **18 32 18.4 -1.9**
EKA Eskdalemuir Ar 137.47 352 PKhKP PKPpre 18 32 08.1
comp=Z,2.1nm,0.6s,baz=14,slow=3.1,SNR=13
EKA PKP **PKPdf** **18 32 19.9 -0.1**
comp=Z,3.9nm,0.5s,baz=20,slow=2.7,SNR=14
EKA SKPbc **SKPbc** **18 35 34.8 +2.1**
comp=Z,13nm,1.1s,baz=18,slow=3.5,SNR=10.0
CHOS Chios island 137.56 313 P **PKPdf** **18 32 18.3 -2.4**
MMB Musomiste 137.63 319 *i* P **PKPdf** **18 32 20.4 -0.3**
NVR Nevrokopi 137.67 318 P **PKPdf** **18 32 19.9 -0.9**
NKC Novy Kostel 137.87 336 *e*PKPdf **PKPdf** **18 32 20.0 -0.9**
NKC *e*SKP 18 35 37.7
NKC Novy Kostel 137.87 336 *e*PKIKP **PKPdf** **18 32 20.0 -0.9**
KKB Krupnik 137.90 319 *i* P **PKPdf** **18 32 20.9 -0.3**
SOP Sopron 137.96 330⇑ *e*ScP **PKPdf** **18 32 21.3 +0.2**
OUR Ouranopolis 138.09 317 P **PKPdf** **18 32 19.6 -1.9**
CONA Conrad Observa 138.12 331 *e*PKiKP **PKPdf** **18 32 22.2 +0.7**
comp=Z,43nm,0.8s,SNR=19
KHC Kasperske Hory 138.25 334 *e*PKPpre PKPpre 18 32 14.0
KHC *e*PKPdf **PKPdf** **18 32 22.0 +0.3**
KHC *ex* x 18 32 30.7
KHC *ex* x 18 32 44.7
KHC *e*PP **PP** **18 35 12.6 -0.1**
KHC *e*SKP 18 35 38.2
KHC Kasperske Hory 138.25 334 *e*PKHKP PKPpre 18 32 14.0
KHC *e* 18 32 22.0
KHC *e* 18 35 12.6
KHC Kasperske Hory 138.25 334 *e*PKPdf **PKPdf** **18 32 21.8 +0.2**
KNT Kendrikon 138.39 318 P **PKPdf** **18 32 20.6 -1.5**
WTSB Winterswijk 138.41 342 *e*PKPdf PKPpre 18 32 14.5
comp=Z,113nm,1.1s
WTSB *e*PKPbc **PKPdf** **18 32 22.0 +0.2**
GERES GERESS Array B 138.42 334 PKhKP PKPpre 18 32 12.2
comp=Z,5.3nm,0.9s,baz=64,slow=3.1,SNR=18
GERES PKP **PKPdf** **18 32 21.8 -0.3**
comp=Z,22nm,0.9s,baz=48,slow=2.0,SNR=26
GERES SKPbc **SKiKP** **18 35 38.2 -1.3**
comp=Z,16nm,0.9s,baz=41,slow=2.5,SNR=23
DIVS Divibare 138.50 324 P **PKPdf** **18 32 21.0 -1.3**
BEHE Becsehely 138.70 329 *e*ScP **PKPdf** **18 32 22.9 +0.4**
ARSA Arzberg 138.77 331 *e*PKiKP **PKPdf** **18 32 23.5 +0.9**
comp=Z,24nm,1.1s,SNR=6.5
GRFO Grafenberg 138.78 336 *e*PKIKP **PKPdf** **18 32 22.1 -0.5**
GRFO Grafenberg 138.78 336 *e*PKPdf **PKPdf** **18 32 22.1 -0.5**
MOA Molln 138.91 332 *e*PKPdf **PKPdf** **18 32 23.0 +0.1**
comp=Z,43nm,1.9s
LIT Litokhoron 139.20 317 P **PKPdf** **18 32 22.5 -1.1**
PTL Penteli 139.25 314 P **PKPdf** **18 32 22.5 -1.3**
LAST Lasithi 139.29 309 P PKPpre 18 32 16.9
LAST Lasithi 139.29 309 P PKPpre 18 32 16.9
ATHU Athens Univers 139.35 314 P **PKPdf** **18 32 22.5 -1.4**
SOKA Soboth 139.41 330 *e*PKPdf **PKPdf** **18 32 24.0 +0.1**
comp=Z,54nm,1.5s,SNR=11
ATAL Atalanti 139.54 315 P **PKPdf** **18 32 22.6 -1.7**
FNA Florina 139.56 319 P **PKPdf** **18 32 20.8 -3.5**
FNA Florina 139.56 319 PKIKP **PKPdf** **18 32 20.8 -3.5**
FNA Florina 139.56 319 P **PKPdf** **18 32 20.8 -3.5**
LKR Lokris 139.57 315 P **PKPdf** **18 32 20.5 -3.8**
IDI Anoyia 139.68 309 PKP **PKPdf** **18 32 24.9 +0.2**
comp=Z,45nm,0.9s,baz=114,slow=1.9,SNR=6.1
IDI SKPbc **SKiKP** **18 35 41.2 -1.2**
comp=Z,13nm,1.0s,baz=147,slow=4.7,SNR=4.4
IDI Anoyia 139.68 309 P PKPpre 18 32 17.6
IDI Anoyia 139.68 309 P PKPpre 18 32 17.6
IDI PKP **PKPdf** **18 32 24.9 +0.2**
IDI *e*PKPdf **PKiKP** **18 32 25.1 -2.1**
IDI SKPbc **SKiKP** **18 35 41.2 -1.2**
HGN Heimansgroeve 139.72 342 *e*PKPdf PKPpre 18 32 17.8
comp=Z,42nm,1.1s
HGN *e*PKPbc **PKPdf** **18 32 24.8 +0.6**
OBKA Obir 139.76 331 *e*PKPdf **PKPdf** **18 32 24.5 -0.1**
comp=Z,18nm,1.4s,SNR=5.8
THL Klokotos Trika 139.79 317 P **PKPdf** **18 32 23.4 -1.3**
CRES Cresnjev 139.81 329 *i* PKPdf PKPpre 18 32 16.9
MEM Membach 139.84 341 PKP PKPpre 18 32 17.1
MEM Membach 139.84 341 SKiKP **SKiKP** **18 35 42.8 +0.7**
AGG Agios Georgios 139.85 316 P PKPpre 18 32 20.4
AGG Agios Georgios 139.85 316 PKIKP PKPpre 18 32 20.4
AGG Agios Georgios 139.85 316 P PKPpre 18 32 20.4
KBA Koelnbreinsper 139.91 332 *e*PKPdf **PKPdf** **18 32 24.5 -0.4**
comp=Z,43nm,1.1s,SNR=8.7
DID Didima 139.94 313 P PKPpre 18 32 16.6
DID Didima 139.94 313 P PKPpre 18 32 16.6
DSF Desfina 140.01 315 P PKPpre 18 32 17.0
DSF Desfina 140.01 315 P PKPpre 18 32 17.0
KPRO Kipourio 140.01 318 P **PKPdf** **18 32 23.8 -1.4**
MYKA Terra Mystica 140.10 331 *e*PKPdf **PKPdf** **18 32 24.9 -0.3**
comp=Z,20nm,0.9s
LJU Ljubljana 140.11 330 *e*PKPdf PKPpre 18 32 19.0
LJU *e* 18 32 25.0
LJU *i* SKPab **SKiKP** **18 35 43.4 +0.6**
VISS Visnje 140.13 330 *e*PKPdf PKPpre 18 32 18.0
VISS *i* PKiKP **PKPdf** **18 32 25.4 +0.2**
VISS *e*SKPab **SKiKP** **18 35 42.6 -0.3**
VISS *e*PKSab PKSab 18 36 01.5 -14
BOJS Bojanci 140.13 329 *i* PKPdf PKPpre 18 32 18.5
BOJS *e*PKiKP **PKPdf** **18 32 25.5 +0.4**
BOJS *i* SKPab **SKiKP** **18 35 43.1 +0.2**
BOJS *i* PKSab PKSab 18 36 02.4 -13
BCLA Clavier 140.22 342 PKP PKPpre 18 32 17.4
ANX Ano Chora 140.34 316 P PKPpre 18 32 19.8
CEY Cerknica 140.38 330 *i* PKPdf PKPpre 18 32 19.6
CEY *i* PKiKP **PKPdf** **18 32 25.7 +0.1**
CEY *i* SKPab **SKiKP** **18 35 43.4 -0.1**
CEY *i* PKSab PKSab 18 36 03.1 -13
SNF Seneffe 140.44 343 E 18 32 25.4
JAVS Javornik 140.44 330 *i* PKPdf PKPpre 18 32 18.8
JAVS *i* PKiKP **PKPdf** **18 32 25.6 -0.2**
JAVS *i* SKPab **SKiKP** **18 35 43.2 -0.5**
JAVS *i* PKSab PKSab 18 36 02.7 -14
KLV Kalavryta, Ach 140.45 315 P PKPpre 18 32 18.0
KLV Kalavryta, Ach 140.45 315 P PKPpre 18 32 18.0
WTTA Wattenberg 140.52 334 *e*PKPdf **PKPdf** **18 32 26.4 +0.4**
comp=Z,73nm,2.0s,SNR=7.0
ABTA Abfaltersbach 140.53 332 *e*PKPdf **PKPdf** **18 32 25.8 -0.1**
comp=Z,40nm,0.9s,SNR=9.3
WLF Walferdange 140.61 341 PKP PKPpre 18 32 18.1
WLF SKiKP **SKiKP** **18 35 45.2 +1.5**
WLF Walferdange 140.61 341 *e*PKHKP PKPpre 18 32 18.9
WLF Walferdange 140.61 341 *e*PKPpre PKPpre 18 32 18.9
DSL Palaion Diasel 140.62 317 P PKPpre 18 32 17.7
DSL Palaion Diasel 140.62 317 P PKPpre 18 32 17.7
ANKY Antikythira Is 140.62 311 P **PKP

VAE	**Valguarnera**	**145.89**	**320**	PKPbc	**PKPab**	**18 32 37.4**	**-0.1**
	comp=Z,44nm,0.9s,baz=137,slow=5.4,SNR=8.7						
CLTB	**Caltabellotta**	**146.57**	**321**	*e*PKPdf	**PKPdf**	**18 32 37.2**	**+0.4**
LRDF	**Laroque-de-Fa**	**147.71**	**339**	PKP	**PKPbc**	**18 32 42.5**	**+1.0**
FILF	**Fillols**	**148.03**	**338**	PKP	**PKPbc**	**18 32 43.1**	**+0.7**
VALF	**Valcebollere**	**148.36**	**339**	PKP	**PKPbc**	**18 32 44.2**	**+0.8**
MELF	**Melles**	**148.36**	**341**	PKP	**PKPbc**	**18 32 44.2**	**+0.9**
REYF	**Montagne du Re**	**148.54**	**342**	PKP	**PKPbc**	**18 32 44.3**	**+0.6**
RESF	**Ens**	**148.55**	**341**	PKP	**PKPbc**	**18 32 45.5**	**+1.7**
ORDF	**Ordiarp**	**148.56**	**343**	PKP	**PKPbc**	**18 32 44.0**	**+0.3**
VIEF	**Viey**	**148.58**	**342**	PKP	**PKPbc**	**18 32 45.2**	**+1.3**
OSSF	**Osses**	**148.61**	**344**	PKP	**PKPbc**	**18 32 44.2**	**+0.2**
ATTE	**Arette**	**148.61**	**343**	PKP	**PKPbc**	**18 32 44.5**	**+0.7**
LARF	**Larrau**	**148.74**	**343**	PKP	**PKPbc**	**18 32 45.3**	**+1.1**
H07N1	**FLORES T-PHASE**	**149.20**	**28**	*e*PKPdf	**PKPbc**	**18 32 46.5**	**+1.1**
H07S1	**FLORES T-PHASE**	**149.41**	**29**	*e*PKPdf	**PKPbc**	**18 32 47.0**	**+1.1**
SHEL	**Horse Pasture**	**150.04**	**194**	*e*PKIKP	**PKPbc**	**18 32 49.4**	**+1.3**
SHEL	**Horse Pasture**	**150.04**	**194**	*e*PKPbc	**PKPbc**	**18 32 49.4**	**+1.3**
KEST	**Kesra**	**150.13**	**322**	PKP	**PKPdf**	**18 32 42.2**	**-0.5**
	comp=Z,47nm,1.2s,baz=316,slow=8.7,SNR=10						
KEST				PKPbc	**PKiKP**	**18 32 48.6**	**0.0**
	comp=Z,265nm,0.9s,baz=245,slow=0.4,SNR=134						
RCBR	**Riachuelo**	**150.14**	**128**	*e*PKPdf	**PKPdf**	**18 32 43.5**	**+0.3**
CMAH	**Djebel Manchou**	**150.61**	**326**	P	**PKPdf**	**18 32 43.8**	**+0.5**
CAEH	**'Ain El Ouahch**	**150.81**	**326**	P	**PKPdf**	**18 32 43.3**	**-0.3**
ABSA	**Djebel Ababsia**	**150.84**	**325**	P	**PKPdf**	**18 32 44.4**	**+0.7**
PGVA	**Graciosa**	**151.12**	**25**	*e*PKPdf	**PKPbc**	**18 32 51.4**	**+1.4**
PCED	**Cedros**	**151.15**	**26**	*e*PKPdf	**PKPbc**	**18 32 50.5**	**+0.4**
CKFL	**Kef-Lekhel**	**151.16**	**326**	P	**PKPdf**	**18 32 45.0**	**+0.7**
PBRG	**Braganca**	**151.19**	**351**	*e*PKPbc	**PKPbc**	**18 32 50.4**	**+0.3**
PBRG	**Braganca**	**151.19**	**351**	*e*PKPab	**PKPab**	**18 32 59.3**	**+0.6**
PGAV	**Gavieira, Arco**	**151.24**	**353**	*e*PKPdf	**PKPdf**	**18 32 44.9**	**+0.7**
PGAV	**Gavieira, Arco**	**151.24**	**353**	*e*PKPbc	**PKPbc**	**18 32 50.7**	**+0.4**
PGAV	**Gavieira, Arco**	**151.24**	**353**	*e*PKPab	**PKPab**	**18 32 58.5**	**-0.4**
ROSA	**Rosais**	**151.27**	**26**	*e*PKPdf	**PKPbc**	**18 32 51.0**	**+0.7**
PICO	**Pico**	**151.37**	**26**	*e*PKPdf	**PKPbc**	**18 32 52.1**	**+1.4**
PCAN	**Candelaria**	**151.38**	**26**	*e*PKPdf	**PKPbc**	**18 32 51.6**	**+1.0**
CASM	**Ain Smara**	**151.39**	**326**	P	**PKPdf**	**18 32 45.1**	**+0.6**
PMAN	**Manadas**	**151.41**	**26**	*e*PKPdf	**PKPbc**	**18 32 51.5**	**+0.9**
PCAB	**Cabril**	**151.46**	**353**	*e*PKPdf	**PKPdf**	**18 32 44.2**	**-0.2**
PCAB	**Cabril**	**151.46**	**353**	*e*PKPbc	**PKPbc**	**18 32 51.3**	**+0.6**
DFRA	**Djebel Bou Aff**	**151.50**	**327**	P	**PKPdf**	**18 32 45.9**	**+1.1**
CTEI	**Djebel Teioual**	**151.58**	**326**	P	**PKPdf**	**18 32 45.6**	**+0.7**
POLO	**Lamas de Olo**	**151.76**	**352**	*e*PKPdf	**PKPdf**	**18 32 45.7**	**+0.7**
POLO	**Lamas de Olo**	**151.76**	**352**	*e*PKPbc	**PKPbc**	**18 32 52.0**	**+0.5**
PVRL	**Vila Real**	**151.85**	**352**	*e*PKPdf	**PKPdf**	**18 32 46.0**	**+1.0**
PVRL	**Vila Real**	**151.85**	**352**	*e*PKPbc	**PKPbc**	**18 32 52.2**	**+0.6**
PVRL	**Vila Real**	**151.85**	**352**	*e*PKPab	**PKPab**	**18 33 02.4**	**+1.0**
MVO	**Moncorvo**	**151.86**	**351**	*e*PKPdf	**PKPdf**	**18 32 46.0**	**+0.9**
MVO	**Moncorvo**	**151.86**	**351**	*e*PKPbc	**PKPbc**	**18 32 52.4**	**+0.7**
SET	**Setif**	**152.01**	**327**	P	**PKPdf**	**18 32 46.0**	**+0.5**
CKHR	**Kef el Ahmar**	**152.09**	**327**	P	**PKPdf**	**18 32 46.1**	**+0.4**
PTO	**Porto**	**152.10**	**353**	*e*PKPbc	**PKPbc**	**18 32 53.1**	**+1.0**
PVIS	**Viseu**	**152.43**	**352**	*e*PKPdf	**PKPdf**	**18 32 46.6**	**+0.7**
PVIS	**Viseu**	**152.43**	**352**	*e*PKPbc	**PKPbc**	**18 32 53.3**	**+0.3**
PVIS	**Viseu**	**152.43**	**352**	*e*PKPab	**PKPab**	**18 33 05.0**	**+1.1**
ESDC	**Sonseca Array**	**152.67**	**345**	PKP	**PKPdf**	**18 32 46.4**	**+0.1**
	comp=Z,4.2nm,0.9s,baz=0.3,slow=2.7,SNR=22						
ESDC				PKPbc	**PKiKP**	**18 32 54.1**	**+0.3**
	comp=Z,38nm,0.8s,baz=14,slow=2.4,SNR=91						
ESDC				PKPab	**PKPab**	**18 33 05.2**	**+0.2**
	comp=Z,27nm,0.7s,baz=9.6,slow=3.9,SNR=20						
ESDC				PP	**PP**	**18 36 38.6**	**+1.0**
	comp=Z,3.2nm,0.9s,baz=16,slow=5.3,SNR=4.2						
MTE	**Manteigas**	**152.69**	**351**	*e*PKPdf	**PKPdf**	**18 32 46.6**	**+0.3**
MTE	**Manteigas**	**152.69**	**351**	*e*PKPbc	**PKPbc**	**18 32 54.1**	**+0.5**
MTE	**Manteigas**	**152.69**	**351**	*e*PKPab	**PKPab**	**18 33 06.2**	**+1.2**
MTE	**Manteigas**	**152.69**	**351**	*e*PKPdf	**PKPdf**	**18 32 46.5**	**+0.2**
MTE				*e*PKPbc	**PKiKP**	**18 32 54.0**	**+0.2**
PAB	**San Pablo**	**152.89**	**346**	*e*PKIKP	**PKPdf**	**18 32 46.9**	**+0.2**
PAB	**San Pablo**	**152.89**	**346**	*e*PKPdf	**PKPdf**	**18 32 46.9**	**+0.2**
PCAS	**Casmilo, Conde**	**153.16**	**353**	*e*PKPdf	**PKPdf**	**18 32 47.2**	**+0.1**
PCAS	**Casmilo, Conde**	**153.16**	**353**	*e*PKPbc	**PKPbc**	**18 32 54.7**	**+0.2**
PCAS	**Casmilo, Conde**	**153.16**	**353**	*e*PKPab	**PKPab**	**18 33 08.0**	**+1.1**
PCBR	**Castelo Branco**	**153.22**	**351**	*e*PKPdf	**PKPdf**	**18 32 47.5**	**+0.5**
PCBR	**Castelo Branco**	**153.22**	**351**	*e*PKPbc	**PKPbc**	**18 32 55.3**	**+0.6**
PCBR	**Castelo Branco**	**153.22**	**351**	*e*PKPab	**PKPab**	**18 33 08.1**	**+0.9**
PTOM	**Tomar**	**153.57**	**352**	*e*PKPdf	**PKPdf**	**18 32 48.3**	**+0.8**
PTOM	**Tomar**	**153.57**	**352**	*e*PKPbc	**PKPbc**	**18 32 55.9**	**+0.5**
PTOM	**Tomar**	**153.57**	**352**	*e*PKPab	**PKPab**	**18 33 09.7**	**+1.0**
PMRV	**Marv??o**	**153.61**	**351**	*e*PKPdf	**PKPdf**	**18 32 47.6**	**0.0**
PMRV	**Marv??o**	**153.61**	**351**	*e*PKPbc	**PKPbc**	**18 32 56.1**	**+0.5**
PMRV	**Marv??o**	**153.61**	**351**	*e*PKPab	**PKPab**	**18 33 09.8**	**+0.9**
PSMN	**Pico do Norte,**	**154.02**	**23**	*e*PKPdf	**PKPdf**	**18 32 49.9**	**+1.6**
PESTR	**Estremoz**	**154.19**	**351**	*e*PKPdf	**PKPdf**	**18 32 48.2**	**-0.3**
PESTR	**Estremoz**	**154.19**	**351**	*e*PKPbc	**PKPbc**	**18 32 56.5**	**-0.3**
PESTR	**Estremoz**	**154.19**	**351**	*e*PKPab	**PKPab**	**18 33 11.4**	**0.0**
PMAFR	**Mafra**	**154.33**	**354**	*e*PKPbc	**PKPbc**	**18 32 58.1**	**+1.0**
PMAFR	**Mafra**	**154.33**	**354**	*e*PKPab	**PKPab**	**18 33 12.7**	**+0.8**
EVO	**Evora**	**154.59**	**351**	*e*PKPdf	**PKPdf**	**18 32 49.1**	**+0.1**
EVO	**Evora**	**154.59**	**351**	*e*PKPbc	**PKPbc**	**18 32 58.1**	**+0.5**
EVO	**Evora**	**154.59**	**351**	*e*PKPab	**PKPab**	**18 33 14.2**	**+1.2**
PBEJ	**Beja**	**155.06**	**351**	*e*PKPdf	**PKPdf**	**18 32 50.5**	**+0.8**
PBEJ	**Beja**	**155.06**	**351**	*e*PKPbc	PKPdf	18 32 59.2	+10
PBEJ	**Beja**	**155.06**	**351**	*e*PKPab	**PKPab**	**18 33 16.5**	**+1.4**
MESJ	**Messejana**	**155.29**	**351**	*e*P	**PKPdf**	**18 32 49.4**	**-0.6**
MESJ	**Messejana**	**155.29**	**351**	*e*PKPdf	**PKPdf**	**18 32 51.1**	**+1.1**
MESJ	**Messejana**	**155.29**	**351**	*e*PKPab	**PKPab**	**18 33 17.4**	**+1.3**
PVAQ	**Vaqueiros**	**155.64**	**350**	*e*PKPdf	**PKPdf**	**18 32 51.8**	**+1.3**
PVAQ	**Vaqueiros**	**155.64**	**350**	*e*PKPab	**PKPab**	**18 33 17.8**	**+0.2**
PTEO	**Sao Teotonio**	**155.66**	**352**	*e*PKPdf	**PKPdf**	**18 32 50.5**	**0.0**
PTEO	**Sao Teotonio**	**155.66**	**352**	*e*PKPab	**PKPab**	**18 33 18.9**	**+1.3**
PBDV	**Barranco-do-Ve**	**155.84**	**351**	*e*PKPdf	**PKPdf**	**18 32 51.3**	**+0.5**
PBDV	**Barranco-do-Ve**	**155.84**	**351**	*e*PKPab	**PKPab**	**18 33 20.1**	**+1.7**
MORF	**Marmelete**	**155.88**	**352**	*e*P	**PKPdf**	**18 32 50.1**	**-0.7**
MORF	**Marmelete**	**155.88**	**352**	*e*PKPdf	**PKPdf**	**18 32 51.6**	**+0.7**
MORF	**Marmelete**	**155.88**	**352**	*e*PKPab	**PKPab**	**18 33 19.4**	**+0.7**
PFVI	**Vila Bisbo**	**156.07**	**352**	*e*PKPdf	**PKPdf**	**18 32 51.9**	**+0.9**
PFVI	**Vila Bisbo**	**156.07**	**352**	*e*PKPab	**PKPab**	**18 33 20.8**	**+1.4**
MDT	**Midelt**	**159.26**	**340**	PKP	**PKPdf**	**18 32 55.4**	**+0.1**
	comp=Z,5.9nm,1.0s,baz=116,slow=1.7,SNR=12						
MDT				PKPab	**PKPab**	**18 33 34.5**	**+1.0**
	comp=Z,24nm,0.8s,baz=40,slow=3.8,SNR=23						
MDT				PP	**PP**	**18 37 14.5**	**+0.3**
	comp=Z,4.7nm,1.1s,baz=22,slow=7.3,SNR=4.6						
TAM	**Tamanrasset**	**160.26**	**301**	*e*PKIKP	**PKPdf**	**18 32 57.6**	**+0.9**
TAM	**Tamanrasset**	**160.26**	**301**	*e*PKPdf	**PKPdf**	**18 32 57.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**165.92**	**271**	PKP	**PKPdf**	**18 33 01.7**	**-0.4**
	comp=Z,37nm,1.1s,baz=58,slow=0.7,SNR=99						
TORD				PKPab	**PKPab**	**18 34 03.3**	**0.0**
	comp=Z,9.2nm,0.8s,baz=84,slow=4.9,SNR=8.8						
TORD				PP	**PP**	**18 37 55.6**	**+4.2**
	comp=Z,4.2nm,1.2s,baz=120,slow=8.8,SNR=4.7						
KIC	**Kosan Boka**	**169.46**	**229**	*e*PKIKP	**PKPdf**	**18 33 04.0**	**-0.7**
	comp=Z,189nm,1.3s						
LIC	**Lamto**	**169.58**	**228**	*e*PKIKP	**PKPdf**	**18 33 04.1**	**-0.6**
	comp=Z,77nm,1.4s						
DBIC	**Dimbokro**	**169.75**	**230**	PKP	**PKPdf**	**18 33 04.1**	**-0.7**
	comp=Z,22nm,0.9s,baz=71,slow=2.4,SNR=12						
DBIC				PKPab	**PKPab**	**18 34 20.4**	**+0.3**
	comp=Z,6.7nm,0.9s,baz=96,slow=5.0,SNR=2.9						
TIC	**Toumodi**	**169.86**	**230**	*e*PKIKP	**PKPdf**	**18 33 04.1**	**-0.8**

*ISK **20** 18:17:22.8, 37.2°24N×30.2°38E, h5km, MD2.6*
*ISCJB **20** 18:17:24.3±0.6, 37.2°23N±0.0°03×30.2°41E±0.0°05, h10km, Error ellipse: s-maj=5.6km s-min=4.8km az=19.9*
*CSEM **20** 18:17:24.0±0.2, 37.2°24N×30.2°36E, h2km, MD2.7, Error ellipse: s-maj=5.4km s-min=4.6km az=156.0*
*DDA **20** 18:17:25.7, 37.2°14N×30.2°24E, h7km, Md2.7*

ISC 20 18:17:23.1±0.9, **37.2°25N**±0.0°03×**30.2°37E**±0.0°04, **h10**km, **n16**, **σ0.87**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KORT	**Korkueli**	**0.25**	**183**	P	**Pg**	**18 17 27.9**	**-0.4**
KORT				S	**Sg**	**18 17 32.6**	**+0.8**
KORT	**Korkueli**	**0.25**	**183**	*i* P	**Pg**	**18 17 27.9**	**-0.4**
KORT				*i* S	**Sg**	**18 17 32.6**	**+0.8**
BCK	**Bucak**	**0.27**	**41**	*e*PG	**Pb**	**18 17 29.3**	**-0.9**
BCK				*e*SG	**Sb**	**18 17 34.6**	**-0.3**
BCK	**Bucak**	**0.27**	**41**	*e*Pg	**Pb**	**18 17 29.3**	**-0.9**
BCK				*e*Sg	**Sb**	**18 17 34.6**	**-0.3**
ANTB	**Antalya**	**0.42**	**147**	*e*PG	**Pb**	**18 17 31.8**	**-0.8**
ANTB				*e*SG	**Sb**	**18 17 38.5**	**-0.6**
ANTB	**Antalya**	**0.42**	**147**	*e*Pg	**Pb**	**18 17 31.8**	**-0.8**
ANTB				*e*Sg	**Sb**	**18 17 38.5**	**-0.6**
SUTC	**Sutluce-Ispart**	**0.55**	**66**	*e*PG	**Pb**	**18 17 34.9**	**-0.1**
SUTC	**Sutluce-Ispart**	**0.55**	**66**	*e*Pg	**Pb**	**18 17 34.9**	**-0.1**
GOLH	**Golhisar**	**0.64**	**269**	P	**Pb**	**18 17 35.9**	**-0.6**
GOLH				S	**Sn**	**18 17 48.1**	**-0.6**
GOLH	**Golhisar**	**0.64**	**269**	*i* P	**Pb**	**18 17 35.9**	**-0.6**
GOLH				*i* S	**Sn**	**18 17 48.1**	**-0.6**
DNZL	**Cakiroluk**	**1.14**	**293**	P	**Pn**	**18 17 46.8**	**+1.6**
DNZL	**Cakiroluk**	**1.14**	**293**	*i* P	**Pn**	**18 17 46.8**	**+1.6**
AKAS	**Kas**	**1.19**	**211**	P	**Pn**	**18 17 47.2**	**+1.3**
AKAS	**Kas**	**1.19**	**211**	*i* P	**Pn**	**18 17 47.2**	**+1.3**
YER	**Yerkesik**	**1.67**	**267**	*e*PN	**Pg**	**18 17 54.4**	**-0.7**
YER	**Yerkesik**	**1.67**	**267**	*e*Pn	**Pg**	**18 17 54.4**	**-0.7**

*IDC **20** 18:20:28.3±0.6, 38.1°14N×22.1°01E, h0km, mb4.0/17, mb1 4.0/26, mb1mx3.9/61, mbtmp3.9/26, ML3.5/8, Error ellipse: s-maj=12.6km s-min=11.9km az=131.0*
*ATH **20** 18:20:29.8, 38.0°5N×21.9°99E, h26km, ML4.1/22, Error ellipse: s-maj=0.8km s-min=0.5km az=298.0*
*NEIC **20** 18:20:30.5, 38.0°5N×21.9°99E, h17km, ML4.2(THE), After THE.*
*ISCJB **20** 18:20:30.6±0.2, 38.0°08N±0.0°01×21.9°95E±0.0°01, h28km±1km, mb4.0/16, Error ellipse: s-maj=2.4km s-min=1.8km az=29.3*
*CSEM **20** 18:20:30.4±0.1, 38.0°05N×21.9°97E, h12km, ML4.1, Error ellipse: s-maj=2.8km s-min=2.0km az=35.0*
*THE **20** 18:20:30.5, 38.0°05N×21.9°99E, h17km, ML4.2/30, Error ellipse: s-maj=0.4km s-min=0.3km az=349.0*

ISC 20 18:20:30.2±0.7, **38.0°06N**±0.0°01×**21.9°7E**±0.0°01, **h17**km±4km, **n379**, **σ1.9**/**27**/491, **mb4.1**/16, **16C-7D**, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.14**	**95**	P	**Pg**	**18 20 34.6**	**+0.2**
KLV				S	**Sg**	**18 20 37.8**	**+0.6**
KLV	**Kalavryta, Ach**	**0.14**	**95**	P	**Pb**	**18 20 34.4**	**-0.1**
KLV				S	**Sb**	**18 20 36.8**	**-0.5**
KLV	**Kalavryta, Ach**	**0.14**	**95**	P	**Pg**	**18 20 34.6**	**+0.2**
KLV				S	**Sg**	**18 20 37.8**	**+0.6**
KLV	**Kalavryta, Ach**	**0.14**	**95**	P	**Pb**	**18 20 34.4**	**-0.1**
KLV				S	**Sb**	**18 20 36.8**	**-0.5**
KLV				AML	AML	18 20 38.3	
KLV				AML	AML	18 20 38.5	
LAKA	**Lakka**	**0.18**	**2**	P	**Pg**	**18 20 35.2**	**+0.3**
LAKA				S	**Sb**	**18 20 38.8**	**+0.3**
LAKA	**Lakka**	**0.18**	**2**	P	**Pg**	**18 20 35.2**	**+0.3**
LAKA				S	**Sb**	**18 20 38.8**	**+0.3**
LAKA	**Lakka**	**0.18**	**2**	P	**Pg**	**18 20 35.2**	**+0.3**
LAKA				S	**Sb**	**18 20 38.8**	**+0.3**
LAKA	**Lakka**	**0.18**	**2**	P	**Pg**	**18 20 34.9**	**0.0**
LAKA				S	**Sg**	**18 20 37.7**	**-0.4**
LAKA				AML	AML	18 20 39.5	
	comp=E,49860μm,0.3s						
LAKA				AML	AML	18 20 39.6	
	comp=N,56936μm,0.2s						
DRO	**Drossia**	**0.23**	**243**	P	**Pg**	**18 20 35.9**	**+0.3**
DRO				S	**Sb**	**18 20 40.3**	**+0.5**
DRO	**Drossia**	**0.23**	**243**	P	**Pg**	**18 20 35.7**	**+0.1**
DRO				S	**Sb**	**18 20 40.0**	**+0.2**
DRO	**Drossia**	**0.23**	**243**	P	**Pg**	**18 20 35.7**	**+0.1**
DRO				S	**Sb**	**18 20 40.0**	**+0.2**
DRO				AML	AML	18 20 43.7	
DRO				AML	AML	18 20 44.2	
UPR	**University Cam**	**0.27**	**328**	P	**Pg**	**18 20 36.6**	**+0.4**
UPR				S	**Sb**	**18 20 41.5**	**+0.6**
UPR	**University Cam**	**0.27**	**328**	P	**Pg**	**18 20 36.6**	**+0.4**
UPR				S	**Sb**	**18 20 41.9**	**+0.6**
UPR	**University Cam**	**0.27**	**328**	P	**Pg**	**18 20 36.7**	**+0.4**
UPR				S	**Sb**	**18 20 41.9**	**+1.0**
TRIZ	**Trizonia**	**0.32**	**15**	P	**Pg**	**18 20 37.0**	**-0.1**
TRIZ				S	**Sb**	**18 20 42.5**	**+0.2**
TRIZ	**Trizonia**	**0.32**	**15**	S	**Sb**	**18 20 42.5**	**+0.2**
TRIZ				AML	AML	18 20 43.4	
	comp=E,61838μm,0.3s						
TRIZ				AML	AML	18 20 44.1	
	comp=N,39045μm,0.3s						
KALE	**Kalithea**	**0.36**	**22**	P	**Pg**	**18 20 37.8**	**-0.1**
KALE				S	**Sb**	**18 20 44.0**	**+0.4**
KALE	**Kalithea**	**0.36**	**22**	P	**Pg**	**18 20 37.7**	**-0.1**
KALE				S	**Sb**	**18 20 44.0**	**+0.4**
KALE	**Kalithea**	**0.36**	**22**	P	**Pg**	**18 20 37.8**	**-0.1**
KALE				S	**Sb**	**18 20 44.0**	**+0.4**
KALE	**Kalithea**	**0.36**	**22**	P	**Pg**	**18 20 37.7**	**-0.1**
KALE				S	**Sb**	**18 20 44.3**	**+0.7**
KALE				AML	AML	18 20 44.9	
	comp=E,65753μm,0.3s						
KALE				AML	AML	18 20 46.0	
	comp=N,73101μm,0.2s						
SERG	**Sergoula**	**0.36**	**11**	P	**Pg**	**18 20 37.8**	**-0.1**
SERG				S	**Sb**	**18 20 44.0**	**+0.3**
SERG	**Sergoula**	**0.36**	**11**	P	**Pg**	**18 20 37.8**	**-0.1**
SERG				S	**Sb**	**18 20 44.0**	**+0.3**
EFP	**Efpalio**	**0.37**	**352**	P	**Pg**	**18 20 38.2**	**+0.2**
EFP				S	**Sb**	**18 20 44.2**	**+0.3**
EFP	**Efpalio**	**0.37**	**352**	P	**Pg**	**18 20 38.2**	**+0.2**
EFP				S	**Sb**	**18 20 44.2**	**+0.3**
EFP	**Efpalio**	**0.37**	**352**	P	**Pb**	**18 20 38.5**	**+0.1**
EFP				S	**Sb**	**18 20 45.1**	**+1.2**
EFP				AML	AML	18 20 46.3	
	comp=N,51866μm,0.3s						
EFP				AML	AML	18 20 47.2	
	comp=E,73992μm,0.3s						
RLS	**Riolos of Patr**	**0.40**	**270**	P	**Pg**	**18 20 38.6**	**+0.2**
RLS				S	**Sb**	**18 20 45.0**	**+0.4**
RLS	**Riolos of Patr**	**0.40**	**270**	P	**Pg**	**18 20 38.6**	**+0.2**
RLS				S	**Sb**	**18 20 45.0**	**+0.4**
RLS	**Riolos of Patr**	**0.40**	**270**	P	**Pg**	**18 20 38.6**	**+0.2**
RLS				S	**Sb**	**18 20 45.0**	**+0.4**
RLS	**Riolos of Patr**	**0.40**	**270**	S	**Sb**	**18 20 45.5**	**+1.0**
RLS				AML	AML	18 20 46.9	
	comp=E,42348μm,0.5s						
RLS				AML	AML	18 20 47.1	
	comp=N,54940μm,0.3s						
AXS	**Araxos**	**0.49**	**287**	P	**Pg**	**18 20 40.1**	**0.0**
AXS				S	**Sb**	**18 20 48.2**	**+1.0**
AXS	**Araxos**	**0.49**	**287**	P	**Pg**	**18 20 40.4**	**+0.3**
AXS				S	**Sb**	**18 20 48.2**	**+1.0**
AXS	**Araxos**	**0.49**	**287**	P	**Pg**	**18 20 40.4**	**+0.3**
AXS				S	**Sb**	**18 20 48.5**	**+1.3**
ANX	**Ano Chora**	**0.54**	**356**	P	**Pg**	**18 20 40.7**	**-0.4**
ANX				S	**Sb**	**18 20 49.6**	**+0.8**
ANX	**Ano Chora**	**0.54**	**356**	P	**Pg**	**18 20 40.7**	**-0.4**
ANX				S	**Sb**	**18 20 49.6**	**+0.8**
THAL	**Thalero**	**0.55**	**92**	P	**Pg**	**18 20 40.8**	**-0.4**
THAL				S	**Sg**	**18 20 48.7**	**+0.2**
THAL	**Thalero**	**0.55**	**92**	P	**Pg**	**18 20 40.8**	**-0.4**
THAL				S	**Sg**	**18 20 48.5**	**0.0**
THAL	**Thalero**	**0.55**	**92**	P	**Pb**	**18 20 41.5**	**+0.2**
THAL				S	**Sg**	**18 20 48.5**	**0.0**
THAL				AML	AML	18 20 56.7	
THAL				AML	AML	18 20 58.5	
	comp=N,85200μm,0.4s						
DSF	**Desfina**	**0.56**	**51**	P	**Pg**	**18 20 40.9**	**-0.6**
DSF				S	**Sb**	**18 20 50.2**	**+0.7**
DSF	**Desfina**	**0.56**	**51**	P	**Pg**	**18 20 40.9**	**-0.6**
DSF				S	**Sb**	**18 20 50.2**	**+0.7**
DSF	**Desfina**	**0.56**	**51**	P	**Pg**	**18 20 40.9**	**-0.6**
DSF				S	**Sb**	**18 20 50.2**	**+0.7**
DSF	**Desfina**	**0.56**	**51**	P	**Pg**	**18 20 41.5**	**-0.1**
VTN	**Vitineika**	**0.64**	**258**	P	**Pb**	**18 20 43.6**	**+0.8**
VTN	**Vitineika**	**0.64**	**258**	P	**Pb**	**18 20 43.6**	**+0.8**
VTN				S	**Sn**	**18 20 54.3**	**+0.2**
PVO	**Paravola**	**0.66**	**328**	P	**Pb**	**18 20 43.2**	**-0.1**
PVO				S	**Sn**	**18 20 54.2**	**-0.6**
PVO	**Paravola**	**0.66**	**328**	P	**Pg**	**18 20 43.5**	**+0.3**
PVO				S	**Sn**	**18 20 54.2**	**-0.6**
PVO	**Paravola**	**0.66**	**328**	P	**Pg**	**18 20 43.5**	**+0.3**
PVO				S	**Sn**	**18 20 54.4**	**-0.4**
VLX	**Vlachokerasia**	**0.76**	**154**	P	**Pb**	**18 20 44.2**	**-0.8**
VLX				S	**Sn**	**18 20 56.4**	**-0.9**
VLX	**Vlachokerasia**	**0.76**	**154**	P	**Pb**	**18 20 44.2**	**-0.8**
VLX				S	**Sg**	**18 20 56.0**	**+0.8**
VLX	**Vlachokerasia**	**0.76**	**154**	P	**Pb**	**18 20 44.2**	**-0.8**
VLX				S	**Sg**	**18 20 56.0**	**+0.8**
VLX				AML	AML	18 20 59.8	
	comp=N,75111μm,0.4s						
VLX				AML	AML	18 20 59.9	
	comp=E,93984μm,0.5s						
PROD	**Prodromos**	**0.76**	**74**	P	**Pg**	**18 20 45.7**	**+0.5**
PROD				S	**Sn**	**18 20 56.4**	**-0.9**
PROD	**Prodromos**	**0.76**	**74**	P	**Pg**	**18 20 45.7**	**+0.5**
PROD				S	**Sn**	**18 20 56.4**	**-0.9**
PROD				AML	AML	18 20 58.3	
	comp=N,16457μm,0.3s						
PROD				AML	AML	18 21 00.4	
	comp=E,14758μm,0.3s						
LTK	**Loutraki**	**0.79**	**92**	P	**Pb**	**18 20 45.1**	**-0.4**
LTK				S	**Sg**	**18 20 56.2**	**+0.1**
LTK	**Loutraki**	**0.79**	**92**	P	**Pb**	**18 20 45.1**	**-0.4**
LTK				S	**Sg**	**18 20 56.2**	**+0.1**
LTK	**Loutraki**	**0.79**	**92**	P	**Pb**	**18 20 45.1**	**-0.4**
LTK				S	**Sg**	**18 20 56.2**	**+0.1**
LTK	**Loutraki**	**0.79**	**92**	P	**Pg**	**18 20 45.8**	**+0.1**
PDO	**Prodromos**	**0.82**	**311**	P	**Pb**	**18 20 45.7**	**-0.4**
PDO				S	**Sn**	**18 20 59.0**	**+0.2**
PDO	**Prodromos**	**0.82**	**311**	P	**Pb**	**18 20 45.7**	**-0.4**
PDO				S	**Sn**	**18 20 59.0**	**+0.2**
PDO	**Prodromos**	**0.82**	**311**	P	**Pb**	**18 20 45.2**	**-0.8**
PDO				AML	AML	18 21 06.0	
	comp=E,16310μm,0.7s						
PDO				AML	AML	18 21 06.6	
	comp=N,24514μm,0.6s						
EVR	**Evrytania**	**0.87**	**352**	P	**Pb**	**18 20 46.6**	**-0.3**
EVR				S	**Sg**	**18 20 59.5**	**+0.8**
EVR	**Evrytania**	**0.87**	**352**	P	**Pb**	**18 20 46.6**	**-0.3**
EVR				S	**Sg**	**18 20 59.5**	**+0.8**
EVR	**Evrytania**	**0.87**	**352**	P	**Pb**	**18 20 46.6**	**-0.3**
EVR				S	**Sg**	**18 20 59.5**	**+0.8**
EVR	**Evrytania**	**0.87**	**352**	P	**Pb**	**18 20 46.5**	**-0.3**
EVR				S	**Sn**	**18 20 59.8**	**-0.3**
EVR				AML	AML	18 21 02.7	
	comp=N,12058μm,0.3s						
ITM	**Ithomi**	**0.88**	**182**	P	**Pb**	**18 20 46.1**	**-0.9**
ITM				S	**Sg**	**18 20 58.9**	**+0.1**
ITM	**Ithomi**	**0.88**	**182**	P	**Pb**	**18 20 46.1**	**-0.9**
ITM				S	**Sg**	**18 20 58.9**	**+0.1**
ITM	**Ithomi**	**

VLY				S	Sb	18 21 14.8	-0.3	
VLY	**Voula,Athens**	**1.46**	**97**	P	Pn	18 20 55.4	-0.3	
VLY				S	Sb	18 21 16.0	+0.9	
VLY				AML	AML	18 21 21.1		
	comp=E,12951μm,0.5s							
VLY				AML	AML	18 21 21.8		
	comp=N,13349μm,0.7s							
PTL	**Penteli**	**1.50**	**90**	P	Pn	18 20 55.7	-0.6	
PTL				S	Sn	18 21 15.0	-0.4	
PTL	**Penteli**	**1.50**	**90**	P	Pn	18 20 56.0	-0.3	
PTL				S	Sn	18 21 15.3	-0.1	
PTL	**Penteli**	**1.50**	**90**	P	Pn	18 20 55.7	-0.6	
PTL				S	Sn	18 21 15.0	-0.4	
PTL	**Penteli**	**1.50**	**90**	P	Pn	18 20 56.0	-0.3	
PTL				S	Sn	18 21 15.3	-0.1	
PTL				AML	AML	18 21 21.2		
	comp=E,10706μm,0.5s							
PTL				AML	AML	18 21 21.5		
	comp=N,7935μm,1.0s							
THL	**Klokotos Trika**	**1.51**	**1**	P	Pb	18 20 57.7	0.0	
VLI	**Veliai**	**1.54**	**150**	P	Pn	18 20 56.7	-0.2	
VLI				S	Sn	18 21 16.8	+0.3	
VLI	**Veliai**	**1.54**	**150**	P	Pn	18 20 57.5	+0.6	
VLI				S	Sn	18 21 16.8	+0.3	
VLI	**Veliai**	**1.54**	**150**	P	Pn	18 20 56.7	-0.2	
VLI				S	Sn	18 21 16.8	+0.3	
VLI	**Veliai**	**1.54**	**150**	P	Pn	18 20 57.5	+0.6	
FYTO	**Fytoko, Volos**	**1.55**	**29**	P	Pn	18 20 56.9	-0.1	
FYTO	**Fytoko, Volos**	**1.55**	**29**	P	Pn	18 20 56.9	-0.1	
FYTO	**Fytoko, Volos**	**1.55**	**29**	P	Pn	18 20 56.9	-0.1	
EREA	**Eretria**	**1.59**	**76**	P	Pb	18 20 58.7	-0.4	
EREA	**Eretria**	**1.59**	**76**	P	Pb	18 20 58.7	-0.4	
NEO	**Neokhori**	**1.59**	**38**	P	Pn	18 20 58.1	+0.5	
NEO	**Neokhori**	**1.59**	**38**	P	Pn	18 20 58.1	+0.5	
SKIA	**Skiathos**	**1.61**	**46**	P	Pn	18 20 57.5	-0.4	
SKIA	**Skiathos**	**1.61**	**46**	P	Pn	18 20 58.1	+0.2	
SKIA	**Skiathos**	**1.61**	**46**	P	Pn	18 20 58.1	+0.2	
XOR	**Xorichti**	**1.62**	**36**	P	Pn	18 20 58.0	-0.1	
XOR	**Xorichti**	**1.62**	**36**	P	Pn	18 20 58.0	-0.1	
AOS	**Alonnisos**	**1.86**	**53**	*e*PN	Pn	18 21 01.6	+0.3	
AOS	**Alonnisos**	**1.86**	**53**	P	Pn	18 21 00.9	-0.5	
AOS	**Alonnisos**	**1.86**	**53**	P	Pn	18 21 00.9	-0.5	
AOS	**Alonnisos**	**1.86**	**53**	*e*Pn	Pn	18 21 01.7	+0.3	
AOS	**Alonnisos**	**1.86**	**53**	P	Pn	18 21 00.9	-0.5	
AOS	**Alonnisos**	**1.86**	**53**	P	Pn	18 21 00.8	-0.6	
KYTH	**Kithira**	**1.98**	**154**	P	Pb	18 21 05.2	-0.7	
KYTH	**Kithira**	**1.98**	**154**	P	Pb	18 21 05.2	-0.7	
SGD	**Sagiada**	**2.06**	**319**	P	Pb	18 21 06.3	-0.9	
SGD	**Sagiada**	**2.06**	**319**	P	Pb	18 21 06.3	-0.9	
LIT	**Litokhoron**	**2.08**	**11**	P	Pn	18 21 04.6	+0.2	
LIT	**Litokhoron**	**2.08**	**11**	P	Pn	18 21 04.6	+0.2	
SERI	**Serifos**	**2.19**	**113**	P	Pn	18 21 05.2	-0.6	
SERI	**Serifos**	**2.19**	**113**	P	Pn	18 21 05.2	-0.6	
KZN	**Kozani**	**2.25**	**356**	P	Pb	18 21 09.1	-1.4	
KEK	**Kerkira**	**2.37**	**315**	P	Pb	18 21 11.2	-1.2	
MHLO	**Agia Marina, M**	**2.37**	**124**	P	Pn	18 21 08.0	-0.3	
MHLO	**Agia Marina, M**	**2.37**	**124**	P	Pn	18 21 08.0	-0.3	
MHLO	**Agia Marina, M**	**2.37**	**124**	P	Pn	18 21 08.9	+0.6	
ANKY	**Antikythira Is**	**2.43**	**154**	P	Pb	18 21 11.4	-2.1	
ANKY	**Antikythira Is**	**2.43**	**154**	P	Pb	18 21 11.4	-2.1	
PLG	**Polygyros**	**2.58**	**26**	P	Pn	18 21 11.5	+0.2	
PLG	**Polygyros**	**2.58**	**26**	P	Pn	18 21 11.5	+0.2	
HORT	**Hortiatis**	**2.69**	**19**	*e*PN	Pn	18 21 14.4	+1.7	
HORT	**Hortiatis**	**2.69**	**19**	P	Pn	18 21 13.3	+0.6	
HORT	**Hortiatis**	**2.69**	**19**	*e*Pn	Pn	18 21 14.4	+1.7	
HORT	**Hortiatis**	**2.69**	**19**	P	Pn	18 21 13.3	+0.6	
OUR	**Ouranopolis**	**2.76**	**34**	*e*PN	Pn	18 21 14.7	+1.0	
OUR	**Ouranopolis**	**2.76**	**34**	P	Pn	18 21 13.1	-0.6	
OUR	**Ouranopolis**	**2.76**	**34**	*e*Pn	Pn	18 21 14.7	+1.0	
OUR	**Ouranopolis**	**2.76**	**34**	P	Pn	18 21 13.1	-0.6	
FNA	**Florina**	**2.76**	**351**	*e*PN	Pb	18 21 17.1	-2.0	
FNA	**Florina**	**2.76**	**351**	P	Pn	18 21 16.6	+2.8	
FNA	**Florina**	**2.76**	**351**	*e*Pn	Pb	18 21 17.2	-2.0	
FNA	**Florina**	**2.76**	**351**	P	Pn	18 21 16.6	+2.8	
GRG	**Griva**	**2.92**	**6**	*e*PN	Pb	18 21 19.2	-2.6	
GRG	**Griva**	**2.92**	**6**	*e*Pn	Pb	18 21 19.2	-2.6	
SOH	**Sokhos**	**2.96**	**21**	P	Pn	18 21 18.5	+2.0	
SOH	**Sokhos**	**2.96**	**21**	P	Pn	18 21 18.5	+2.0	
APE	**Apeiranthos**	**3.00**	**108**	*e*PN	Pn	18 21 18.9	+2.0	
APE	**Apeiranthos**	**3.00**	**108**	P	Pn	18 21 16.9	0.0	
APE	**Apeiranthos**	**3.00**	**108**	*e*Pn	Pn	18 21 19.0	+2.0	
APE	**Apeiranthos**	**3.00**	**108**	P	Pn	18 21 16.9	0.0	
IMMV	**Iera Moni Meta**	**3.05**	**147**	P	Pn	18 21 19.2	+1.5	
IMMV	**Iera Moni Meta**	**3.05**	**147**	P	Pn	18 21 19.2	+1.5	
LIA	**Limnos Island**	**3.11**	**53**	P	Pn	18 21 17.8	-0.6	
THR5	**Thira Island,**	**3.15**	**120**	*e*PN	Pn	18 21 22.3	+3.2	
THR5	**Thira Island,**	**3.15**	**120**	*e*Pn	Pn	18 21 22.3	+3.2	
OHR	**Ohrid**	**3.18**	**344**	*e*PN	Pn	18 21 22.6	+3.1	
OHR	**Ohrid**	**3.18**	**344**	*e*Pn	Pn	18 21 22.6	+3.1	
KNT	**Kendrikon**	**3.18**	**13**	*e*PN	Pn	18 21 22.1	+2.6	
KNT	**Kendrikon**	**3.18**	**13**	P	Pn	18 21 20.9	+1.4	
KNT	**Kendrikon**	**3.18**	**13**	*e*Pn	Pn	18 21 22.1	+2.6	
KNT	**Kendrikon**	**3.18**	**13**	P	Pn	18 21 20.9	+1.4	
VAM	**Vamos**	**3.19**	**145**	P	Pn	18 21 21.6	+2.0	
CHOS	**Chios island**	**3.23**	**83**	*e*PN	Pn	18 21 29.3	+1.0	
CHOS	**Chios island**	**3.23**	**83**	P	Pn	18 21 20.9	+0.6	
CHOS	**Chios island**	**3.23**	**83**	*e*Pn	Pn	18 21 21.3	+1.0	
CHOS	**Chios island**	**3.23**	**83**	P	Pn	18 21 20.9	+0.6	
SANT	**Santorini**	**3.25**	**120**	P	Pn	18 21 23.1	+2.6	
SANT	**Santorini**	**3.25**	**120**	P	Pn	18 21 23.1	+2.6	
SIGR	**SIGRI**	**3.25**	**68**	*e*PN	Pn	18 21 22.2	+1.8	
SIGR	**SIGRI**	**3.25**	**68**	P	Pn	18 21 20.8	+0.4	
SIGR	**SIGRI**	**3.25**	**68**	*e*Pn	Pn	18 21 22.2	+1.8	
SIGR	**SIGRI**	**3.25**	**68**	P	Pn	18 21 20.8	+0.4	
VAY	**Valandovo**	**3.29**	**8**	*e*Pn	Pb	18 21 25.6	-2.6	
VAY	**Valandovo**	**3.29**	**8**	*e*Pn	Pb	18 21 25.6	-2.6	
VAY	**Valandovo**	**3.29**	**8**	*e*P	Pb	18 21 25.9	-2.3	
SRS	**Serrai**	**3.30**	**22**	P	Pn	18 21 22.1	+1.0	
SRS	**Serrai**	**3.30**	**22**	P	Pn	18 21 22.1	+1.0	
ZEY	**˙zmir**	**3.58**	**86**	*i* P	Pn	18 21 26.1	+1.2	
NVR	**Nevrokopi**	**3.60**	**23**	P	Pn	18 21 26.1	+0.9	
IDI	**Anoyia**	**3.62**	**139**	Pn	Pn	18 21 25.3	-0.4	
	comp=N,6.8nm,0.3s,baz=318,slow=13,SNR=24							
IDI				Sn	Sn	18 22 08.0	0.0	
	comp=N,26nm,0.3s,baz=311,slow=15,SNR=7.5							
IDI	**Anoyia**	**3.62**	**139**	P	Pn	18 21 26.3	+0.7	
IDI				Sn	Sn	18 22 08.0	0.0	
IDI	**Anoyia**	**3.62**	**139**	P	Pn	18 21 26.3	+0.7	
BOZC	**Bozcaada**	**3.65**	**59**	*i* P	Pn	18 21 26.8	+0.9	
URLA	**Izmir**	**3.66**	**84**	P	Pn	18 21 27.3	+1.3	
URLA	**Izmir**	**3.66**	**84**	*i* P	Pn	18 21 27.3	+1.3	
GADA	**Gvkgeada**	**3.73**	**54**	*e*PN	Pn	18 21 29.1	+2.2	
GADA	**Gvkgeada**	**3.73**	**54**	*e*Pn	Pn	18 21 29.1	+2.2	
SIVA	**Sivas**	**3.80**	**142**	P	Pn	18 21 29.6	+1.7	
SIVA	**Sivas**	**3.80**	**142**	P	Pn	18 21 29.6	+1.7	
SMG	**Samos**	**3.87**	**94**	P	Pn	18 21 29.1	+0.2	
SMG	**Samos**	**3.87**	**94**	P	Pn	18 21 29.1	+0.2	
DGB	**˙zmir**	**3.88**	**89**	*i* P	Pn	18 21 30.2	+1.2	
SKO	**Skopje**	**3.93**	**354**	*e*PN	Pn	18 21 32.4	+2.6	
SKO	**Skopje**	**3.93**	**354**	*e*Pn	Pn	18 21 32.4	+2.6	
LAST	**Lasithi**	**4.04**	**135**	P	Pn	18 21 30.9	-0.4	
LAST	**Lasithi**	**4.04**	**135**	P	Pn	18 21 30.9	-0.4	
GCAM	**G?zelcaml?**	**4.18**	**93**	P	Pn	18 21 34.3	+1.2	
GCAM	**G?zelcaml?**	**4.18**	**93**	*i* P	Pn	18 21 34.4	+1.2	
IZM	**Izmir**	**4.18**	**84**	*e*PN	Pn	18 21 35.6	+2.3	
IZM	**Izmir**	**4.18**	**84**	*e*Pn	Pn	18 21 35.6	+2.3	
TIP	**Timpagrande**	**4.23**	**287**	P	Pn	18 21 36.1	+2.1	
TIP	**Timpagrande**	**4.23**	**287**	P	Pn	18 21 36.1	+2.1	
ALN	**Alexandroupoli**	**4.24**	**47**	*e*PN	Pn	18 21 36.1	+2.1	
ALN	**Alexandroupoli**	**4.24**	**47**	*e*Pn	Pn	18 21 36.1	+2.1	
BODT	**Bodrum**	**4.36**	**102**	*e*PN	Pn	18 21 38.4	+2.8	
BODT	**Bodrum**	**4.36**	**102**	*e*Pn	Pn	18 21 38.4	+2.8	
ERIK	**Erikli-Kesan**	**4.38**	**52**	*e*PN	Pn	18 21 37.5	+1.5	
ERIK	**Erikli-Kesan**	**4.38**	**52**	*e*Pn	Pn	18 21 37.5	+1.5	
TAR1	**Taranto**	**4.39**	**306**	*e*Pn	Pn	18 21 37.5	+1.4	
ZKR	**Zakros**	**4.50**	**129**	P	Pn	18 21 40.1	+2.5	
ZKR	**Zakros**	**4.50**	**129**	P	Pn	18 21 40.1	+2.5	
DRME	**Dracevica, Mon**	**4.64**	**334**	*e*Pn	Pn	18 21 41.0	+1.4	
NOCI	**Noci**	**4.68**	**307**	P	Pn	18 21 40.6	+0.6	
NOCI	**Noci**	**4.68**	**307**	P	Pn	18 21 40.6	+0.6	
AYDB	**Zeytinkoy-Aydi**	**4.68**	**90**	*e*PN	Pn	18 21 43.0	+2.9	
AYDB	**Zeytinkoy-Aydi**	**4.68**	**90**	*e*Pn	Pn	18 21 43.0	+2.9	
BARS	**Barje**	**4.76**	**359**	*e*P	Pn	18 21 44.9	+3.8	
PDG	**Podgorica**	**4.84**	**335**	*e*Pn	Pn	18 21 43.3	+1.1	
KARP	**Karpathos**	**4.86**	**119**	*e*PN	Pn	18 21 46.9	+4.3	
KARP	**Karpathos**	**4.86**	**119**	P	Pn	18 21 45.2	+2.6	
KARP	**Karpathos**	**4.86**	**119**	*e*Pn	Pn	18 21 46.9	+4.3	
KARP	**Karpathos**	**4.86**	**119**	P	Pn	18 21 45.2	+2.6	
SG1	**Sgolgore (BA)**	**4.95**	**306**	*e*Pn	Pn	18 21 45.0	+1.2	
BAI	**Bari**	**4.97**	**309**	*e*Pn	Pn	18 21 45.2	+1.1	

YER	**Yerkesik**	**5.10**	**98**	*e*PN	Pn	18 21 49.2	+3.4	
YER	**Yerkesik**	**5.10**	**98**	*e*Pn	Pn	18 21 49.2	+3.4	
HCY	**Herceg Novi**	**5.13**	**330**	⇑*i*Pn	Pn	18 21 46.7	+0.5	
CUC	**Castrocucco**	**5.17**	**294**	P	Pn	18 21 50.3	+3.5	
CUC	**Castrocucco**	**5.17**	**294**	P	Pn	18 21 50.3	+3.5	
CDT	**Castel del Mon**	**5.34**	**306**	*e*Pn	Pn	18 21 50.3	+1.2	
TURN	**Turunc**	**5.41**	**101**	*i* P	Pn	18 21 48.4	-1.7	
TREB	**Trebinje**	**5.41**	**330**	*e*Pn	Pn	18 21 50.3	+0.2	
BRY	**Bratogost**	**5.50**	**333**	⇑*i*Pn	Pn	18 21 51.8	+0.3	
DNZL	**Cakiroluk**	**5.61**	**92**	P	Pn	18 21 54.3	+1.3	
DNZL	**Cakiroluk**	**5.61**	**92**	*i* P	Pn	18 21 54.3	+1.3	
UPM	**Unac-Piva**	**5.64**	**337**	*e*Pn	Pn	18 21 55.7	+2.2	
IVAS	**Ivanjica**	**5.68**	**347**	*e*P	Pn	18 21 56.5	+2.6	
MS1	**Monte Sant'Ang**	**5.90**	**310**	*e*Pn	Pn	18 21 57.8	+1.0	
GRUS	**Gruza**	**5.90**	**351**	*e*P	Pn	18 21 58.5	+1.6	
VAE	**Valguarnera**	**6.02**	**267**	Pn	Pn	18 22 01.6	+3.1	
	comp=N,0.4nm,0.3s,baz=18,slow=3.2,SNR=2.1							
VAE				Sn	Sn	18 23 08.3	+1.4	
	comp=N,0.9nm,0.3s,baz=188,slow=14,SNR=2.7							
BBLS	**Lazić**	**6.12**	**342**	*e*P	Pn	18 22 01.0	+1.1	
DIVS	**Divibare**	**6.22**	**347**	⇑*i*Pn	Pn	18 22 02.3	+1.0	
DIVS	**Divibare**	**6.22**	**347**	*e*P	Pn	18 22 02.8	+1.5	
MDVR	**Moldovita**	**6.72**	**358**	⇑*i*P	Pb	18 22 21.6	-5.0	
TEKS	**Tekeris**	**6.74**	**345**	*e*Pn	Pn	18 22 08.8	+0.4	
TEKS	**Tekeris**	**6.74**	**345**	*e*P	Pn	18 22 09.4	+1.0	
HUMR	**Humele**	**6.85**	**18**	⇑*i*P	Pb	18 22 34.6	+5.8	
SAHE	**Sakarya_HENDEK**	**7.42**	**65**	P	Pn	18 22 19.6	+1.9	
SAHE	**Sakarya_HENDEK**	**7.42**	**65**	*i* P	Pn	18 22 19.6	+1.9	
LOT	**Lotru**	**7.51**	**10**	⇑*i*P	Pn	18 22 24.0	+5.0	
BZS	**Buzias**	**7.56**	**358**	⇑*i*P	Pn	18 22 22.0	+2.4	
BZS	**Buzias**	**7.56**	**358**	⇑*i*P	Pn	18 22 22.0	+2.4	
ARR	**Arges**	**7.57**	**14**	⇑*i*P	Pn	18 22 28.6	+8.8	
BLY	**Banja Luka**	**7.59**	**333**	*e*Pn	Pn	18 22 19.1	-0.9	
SECR		**7.62**	**22**	⇓*i*P	Pn	18 22 30.6	+10	
VOIR		**7.72**	**16**	⇓*i*P	Pn	18 22 25.5	+3.6	
ISR	**Istrita**	**7.84**	**24**	⇑*i*P	Pn	18 22 33.9	+10	
UDBI	**Udbina**	**7.97**	**326**	*e*Pn	Pn	18 22 27.2	+1.9	
UDBI				Sn	Sn	18 23 55.1	0.0	
UDBI	**Udbina**	**7.97**	**326**	*e*Pn	Pn	18 22 27.2	+1.9	
UDBI				Sn	Sn	18 23 55.1	0.0	
MLR	**Muntele Rosu**	**8.00**	**21**	Pn	Pn	18 22 26.8	+1.1	
	comp=N,0.1nm,0.3s,baz=129,slow=6.5,SNR=2.9							
MLR	**Muntele Rosu**	**8.00**	**21**	⇓*i*P	Pn	18 22 25.9	+0.2	
MLR	**Muntele Rosu**	**8.00**	**21**	⇓*i*P	Pn	18 22 25.9	+0.2	
TIRR	**Tirgusor**	**8.03**	**35**	⇑*i*P	Pn	18 22 32.3	+6.3	
NVLJ	**Novalja**	**8.41**	**323**	*e*Pn	Pn	18 22 32.2	+0.9	
NVLJ				Sn	Sn	18 24 03.2	-2.5	
NVLJ	**Novalja**	**8.41**	**323**	*e*Pn	Pn	18 22 32.1	+0.9	
CFR	**Carcaliu**	**8.48**	**31**	⇓*i*P	Pn	18 22 39.8	+7.6	
PLOR	**Plostina**	**8.53**	**23**	⇑*i*P	Pn	18 22 35.9	+2.9	
PLOR	**Plostina**	**8.53**	**23**	⇑*i*P	Pn	18 22 35.9	+2.9	
VRI	**Vrincioaia**	**8.57**	**23**	⇑*i*P	Pn	18 22 36.2	+2.8	
VRI	**Vrincioaia**	**8.57**	**23**	⇑*i*P	Pn	18 22 36.2	+2.8	
BOJS	**Bojanci**	**8.97**	**328**	*i* Pn	Pn	18 22 39.3	+0.3	
BOJS				*i* Sn	Sn	18 24 16.3	-3.2	
BOJS	**Bojanci**	**8.97**	**328**	*i* Pn	Pn	18 22 39.3	+0.3	
CRES	**Cresnjev**	**9.15**	**330**	⇑*i*Pn	Pn	18 22 40.9	-0.5	
BRTR	**Keskin Array B**	**9.25**	**76**	Pn	Pn	18 22 46.0	+3.0	
	comp=N,0.3nm,0.3s,baz=257,slow=12,SNR=8.8							
VISS	**Visnje**	**9.38**	**328**	*i* Pn	Pn	18 22 44.0	-0.6	
VISS				*i* Sn	Sn	18 24 30.0	+0.3	
VISS	**Visnje**	**9.38**	**328**	*i* Pn	Pn	18 22 44.0	-0.6	
VISS				*i* Sn	Sn	18 24 30.0	+0.3	
CEY	**Cerknica**	**9.51**	**326**	*i* Pn	Pn	18 22 46.1	-0.3	
CEY				*i* Sn	Sn	18 24 32.9	+0.1	
CEY	**Cerknica**	**9.51**	**326**	*i* Pn	Pn	18 22 46.1	-0.3	
CEY				*i* Sn	Sn	18 24 32.9	+0.1	
VNDS	**Vrh nad Dolski**	**9.68**	**328**	*i* Pn	Pn	18 22 48.5	-0.2	
VNDS	**Vrh nad Dolski**	**9.68**	**328**	*i* Pn	Pn	18 22 48.5	-0.2	
LJU	**Ljubljana**	**9.71**	**328**	*e*Pn	Pn	18 22 48.6	-0.4	
JAVS	**Javornik**	**9.79**	**326**	*i* Pn	Pn	18 22 49.4	-0.9	
JAVS				*i* Sn	Sn	18 24 36.5	-3.4	
JAVS	**Javornik**	**9.79**	**326**	*i* Pn	Pn	18 22 49.4	-0.9	
PSZ	**Piszkesteto**	**9.97**	**352**	⇓*i*P	Pn	18 22 53.7	+1.0	
PSZ	**Piszkesteto**	**9.97**	**352**	⇓*i*P	Pn	18 22 53.7	+1.0	
VOJS	**Vojsko**	**9.98**	**326**	*i* Pn	Pn	18 22 51.9	-0.9	
VOJS	**Vojsko**	**9.98**	**326**	*i* Pn	Pn	18 22 51.9	-0.9	
SOKA	**Soboth**	**10.02**	**331**	*e*Pn	Pn	18 22 52.8	-0.6	
	comp=N,6.9nm,0.9s							
SOKA	**Soboth**	**10.02**	**331**	Pn	Pn	18 22 52.8	-0.6	
	comp=N,6.9nm,0.9s							
OBKA	**Obir**	**10.07**	**329**	*e*Pn	Pn	18 22 54.7	+0.6	
	comp=N,4.8nm,0.7s							
OBKA				*e*Sn	Sn	18 24 49.3	+2.6	
	comp=N,8.1nm,0.6s							
OBKA	**Obir**	**10.07**	**329**	Pn	Pn	18 22 54.7	+0.6	
	comp=N,4.8nm,0.7s							
OBKA				Sn	Sn	18 24 49.3	+2.6	
	comp=N,8.1nm,0.6s							
ARSA	**Arzberg**	**10.34**	**335**	*i* Pn	Pn	18 23 01.1	+3.4	
	comp=N,5.2nm,1.3s							
ARSA	**Arzberg**	**10.34**	**335**	Pn	Pn	18 23 01.1	+3.4	
	comp=N,5.2nm,1.3s							
MYKA	**Terra Mystica**	**10.55**	**327**	*e*Pn	Pn	18 23 00.1	-0.5	
	comp=N,5.3nm,1.0s							
MYKA	**Terra Mystica**	**10.55**	**327**	Pn	Pn	18 23 00.1	-0.5	
	comp=N,5.3nm,1.0s							
VYHS	**Vyhne**	**10.68**	**349**	*e*	Pn	18 23 10.1	+7.8	
CONA	**Conrad Observa**	**10.83**	**338**	*e*Pn	Pn	18 23 04.5	0.0	
	comp=N,4.6nm,1.2s							
CONA	**Conrad Observa**	**10.83**	**338**	Pn	Pn	18 23 04.5	0.0	
	comp=N,4.6nm,1.2s							
KOLS	**Kolonicke sedl**	**10.88**	**1**	*e*	Pn	18 23 11.6	+6.6	
KBA	**Koelnbreinsper**	**11.03**	**328**	*i* Pn	Pn	18 23 06.5	-0.7	
	comp=N,12nm,1.3s							
KBA	**Koelnbreinsper**	**11.03**	**328**	Pn	Pn	18 23 06.5	-0.7	
	comp=N,12nm,1.3s							
ABTA	**Abfaltersbach**	**11.14**	**324**	*i* Pn	Pn	18 23 09.2	+0.5	
	comp=N,7.7nm,0.7s							
ABTA	**Abfaltersbach**	**11.14**	**324**	Pn	Pn	18 23 09.2	+0.5	
	comp=N,7.7nm,0.7s							
MOA	**Molln**	**11.29**	**333**	*e*Pn	Pn	18 23 11.4	+0.7	
	comp=N,5.7nm,0.7s							
MOA	**Molln**	**11.29**	**333**	Pn	Pn	18 23 11.4	+0.7	
	comp=N,5.7nm,0.7s							
VRAC	**Vrsnov**	**11.90**	**343**	Pn	Pn	18 23 18.7	-0.3	
	comp=N,0.2nm,0.3s,baz=164,slow=15,SNR=3.6							
WTTA	**Wattenberg**	**11.93**	**324**	*e*Sn	Sn	18 25 28.8	-3.4	
	comp=N,15nm,1.1s							
WATA	**Walderalm**	**12.01**	**324**	*i* Pn	Pn	18 23 21.9	+1.2	
	comp=N,6.2nm,0.5s							
WATA	**Walderalm**	**12.01**	**324**	Pn	Pn	18 23 21.9	+1.2	
	comp=N,6.2nm,0.5s							
MMAI	**Mount Meron Ar**	**12.04**	**111**	Pn	Pn	18 23 20.6	-0.4	
	comp=N,0.5nm,0.3s,baz=303,slow=13,SNR=2.8							
FETA	**Feichten**	**12.19**	**321**	*e*Pn	Pn	18 23 24.6	+1.4	
	comp=N,6.0nm,0.9s							
FETA	**Feichten**	**12.19**	**321**	Pn	Pn	18 23 24.6	+1.4	
	comp=N,6.0nm,0.9s							
MOTA	**Moosalm**	**12.24**	**323**	*i* Pn	Pn	18 23 24.0	+0.2	
	comp=N,9.4nm,0.7s							
MOTA	**Moosalm**	**12.24**	**323**	Pn	Pn	18 23 24.0	+0.2	
	comp=N,9.4nm,0.7s							
GERES	**GERESS Array B**	**12.34**	**334**	Pn	Pn	18 23 25.9	+0.8	
	comp=N,0.1nm,0.3s,baz=153,slow=13,SNR=8.9							
DAVOX	**Davos/Dischmat**	**12.47**	**318**	Pn	Pn	18 23 27.5	+0.5	
	comp=N,0.2nm,0.3s,baz=202,slow=15,SNR=2.6							
DAVOX				Sn	Sn	18 25 41.1	-4.4	
	comp=N,0.1nm,0.3s,baz=30,slow=20,SNR=2.2							
RETA	**Reutte**	**12.50**	**322**	*e*Sn	Sn	18 25 45.1	-1.1	
	comp=N,9.8nm,0.8s							
KHC	**Kasperske Hory**	**12.62**	**334**	*e*P	Pn	18 23 31.0	+2.1	
KHC				*ex*	x	18 23 42.1		
EIL	**Elat**	**13.64**	**124**	Pn	Pn	18 23 44.5	+1.7	
	comp=N,0.4nm,0.3s,baz=322,slow=17,SNR=3.4							
EIL				Sn	Sn	18 26 08.1	-5.8	
	comp=N,0.3nm,0.3s,baz=313,slow=20,SNR=2.4							
ESDC	**Sonseca Array**	**20.24**	**283**	P	Pn	18 25 05.8	-0.8	
	comp=N,2.2nm,0.7s,baz=77,slow=10,SNR=20							
MDT	**Midelt**	**22.25**	**264**	P	P	18 25 28.5	+2.2	
	comp=N,2.0nm,0.7s,baz=70,slow=7.0,SNR=5.7							
HFS	**Hagfors**	**22.72**	**349**	P	P	18 25 30.6	-0.4	
	comp=N,2.3nm,0.6s,baz=165,slow=12,SNR=7.1							
FINES	**FINESS Array B**	**23.55**	**5**	P	P	18 25 37.8	-1.6	
	comp=N,1.3nm,0.7s,baz=168,slow=9.8,SNR=4.4							
NB2	**NORSAR Subarra**	**23.98**	**347**	P	P	18 25 42.8	-0.8	
	comp=Z,17nm,1.4s,baz=159,slow=11							
NB2	**NORSAR Subarra**	**23.98**	**347**	P	P	18 25 42.8	-0.8	
	comp=Z,17nm,1.4s,baz=159,slow=10,SNR=6.9							
NOA	**NORSAR Array B**	**23.98**	**347**	P	P	18 25 43.6	0.0	
	comp=Z,2.4nm,0.8s,baz=157,slow=10,SNR=5.8							
EKA	**Eskdalemuir Ar**	**24.20**	**324**	P	P	18 25 45.9	+0.4	
	comp=Z,12nm,0.7s,baz=124,slow=9.7,SNR=56							
AKTO	**Aktyubinsk**	**28.34**	**52**	P	P	18 26 23.1	0.0	

	comp=Z,0.6nm,0.5s,baz=233,slow=9.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**30.67**	**221**	P	P	18 26 45.1	+1.1	
	comp=Z,7.4nm,0.7s,baz=32,slow=9.0,SNR=55							
ARCES	**ARCESS Array B**	**31.60**	**2**	P	P	18 26 50.6	-1.0	
	comp=Z,1.4nm,0.8s,baz=185,slow=9.6,SNR=3.3							
BVAR	**Borovoye Array**	**36.32**	**50**	P	P	18 27 33.7	+0.8	
	comp=Z,0.9nm,0.6s,baz=268,slow=4.7,SNR=3.6							
DBIC	**Dimbokro**	**39.59**	**225**

JIH	**Iheya**	**3.56**	**60**	P	**Pn**	18 59 10.3	**+0.9**
JOW	**Kunigami**	**3.72**	**64**	P	**Pn**	18 59 12.2	**+0.6**
JTK	**Tokunoshima**	**4.70**	**57**	P	**Pn**	18 59 25.9	**+0.9**
KSRS	**Korea Array**	**12.49**	**13**	Pn	**Pn**	19 01 14.8	**+3.0**
	0.1nm,0.3s,baz=191,slow=13,SNR=2.6						
CMAR	**Chiang Mai Arr**	**24.66**	**259**	P	**P**	19 03 35.8	**+0.7**
	0.4nm,0.8s,baz=62,slow=7.4,SNR=2.6						
SONM	**Songino Array**	**26.69**	**332**	P	**P**	19 03 53.7	**+0.3**
	1.1nm,1.0s,baz=142,slow=7.3,SNR=3.8						
MKAR	**Makanchi Array**	**39.73**	**314**	P	**P**	19 05 45.5	**-1.2**
	0.3nm,0.7s,baz=100,slow=8.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**41.04**	**325**	P	**P**	19 05 55.0	**-2.4**
	0.4nm,0.5s,baz=114,slow=7.1,SNR=2.6						
WRA	**Warramunga Ar**	**45.95**	**167**	P	**P**	19 06 37.2	**0.0**
	0.5nm,0.8s,baz=348,slow=8.2,SNR=2.9						
ASAR	**Alice Springs**	**49.49**	**169**	P	**P**	19 07 05.5	**+0.8**
	0.4nm,0.8s,baz=348,slow=8.5,SNR=3.3						
YKA	**Yellowknife Ar**	**80.78**	**24**	P	**P**	19 10 27.3	**-0.2**
	0.4nm,0.7s,baz=324,slow=4.1,SNR=3.9						

NNC 20 19:01:03.5±2.0, 36.87N×70.84E, h0km, mb3.8, mpv3.4, 5C-4D, Error ellipse: s-maj=15.9km s-min=7.5km az=174.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.51**	**321**	⇓P	Pn	19 01 46.1	+0.4
	12nm,0.4s						
DZET				⇓S	Sn	19 02 18.3	+1.3
	40nm,0.6s						
MNAS	**Manas**	**5.76**	**12**	⇓P	Pn	19 02 30.7	+0.3
	3.7nm,0.9s						
MNAS				⇑S	Sn	19 03 38.8	+1.6
	12nm,0.4s						
KK31	**Karatay Array**	**6.24**	**358**	⇑P	Pn	19 02 35.2	-1.6
	0.5nm,0.2s,baz=176,slow=9.3,SNR=40						
KK31				⇓S	Sn	19 03 47.7	-1.1
	0.8nm,0.4s,baz=187,slow=24,SNR=4.0						
AAK	**Ala-Archa**	**6.41**	**25**	⇑S	Sn	19 03 55.1	+1.8
	6.1nm,0.5s						
TKM2	**Tokmak 2**	**7.07**	**30**	⇑P	Pn	19 02 48.1	-0.3
	2.8nm,0.5s						
TKM2				⇑S	Sn	19 04 10.8	+1.3
	2.7nm,0.8s						

IDC 20 19:01:50.3±1.3, 11.88N×143.91E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/37, mbtmp3.3/3, Error ellipse: s-maj=51.4km s-min=19.6km az=107.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.94**	**29**	Pn	Pn	19 02 24.8	+0.3
	39nm,0.3s,baz=170,slow=6.1,SNR=26						
GUMO				Sn	Sn	19 02 50.0	+0.3
	31nm,0.3s,baz=163,slow=19,SNR=9.8						
WRA	**Warramunga Arr**	**32.99**	**197**	P	P	19 08 26.9	-0.3
	0.4nm,0.6s,baz=20,slow=9.6,SNR=4.7						
ASAR	**Alice Springs**	**36.65**	**195**	P	P	19 08 58.9	0.0
	0.3nm,0.9s,baz=11,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**62.08**	**317**	P	P	19 12 12.9	0.0
	0.2nm,0.6s,baz=94,slow=7.1,SNR=2.8						

IDC 20 19:06:47.9±3.6, 13.24N×92.47E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/46, mbtmp3.3/3, ML3.8/1, Error ellipse: s-maj=68.7km s-min=35.7km az=105.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.10**	**49**	Pn	Pn	19 08 48.0	+1.0
	0.3nm,0.3s,baz=240,slow=16,SNR=7.7						
CMAR				Sn	Sn	19 10 18.7	-0.6
	baz=234,slow=30,SNR=3.2						
WRA	**Warramunga Arr**	**52.77**	**128**	P	P	19 16 04.8	-0.3
	0.2nm,0.8s,baz=315,slow=8.2,SNR=4.3						
ASAR	**Alice Springs**	**54.65**	**132**	P	P	19 16 18.9	0.0
	0.4nm,0.9s,baz=309,slow=7.1,SNR=6.0						

IDC 20 19:10:42.9±999.0, 41.00N×87.33E, h0km, Error ellipse: s-maj=667.1km s-min=239.8km az=159.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**13.07**	**353**	*i*		20 29 10.0	
	baz=172,slow=327,SNR=3.9						
I31KZ	**AKTYUBINSK INF**	**22.39**	**305**	*i*		21 11 00.0	
	baz=104,slow=315,SNR=20						
I43RU	**DUBNA INFRASON**	**35.63**	**313**	*i*		22 50 10.0	
	baz=95,slow=327,SNR=1.6						

IDC ***20*** *19:19:33.1±1.0, 19.57S×174.96W, h0km, mb4.0/5, mb1 4.2/7, mb1mx3.9/38, mbtmp4.1/7, ML4.0/2, Error ellipse: s-maj=29.6km s-min=23.7km az=115.0*
NEIC ***20*** *19:19:37.4±4.6, 19.60S×174.92W, h28km±34km, mb4.7/3, Error ellipse: s-maj=17.9km s-min=13.3km az=119.0*
ISCJB ***20*** *19:19:44.5±0.7, 19.25S±0.1×174.7W±0.1, h133km, mb3.9/7, Error ellipse: s-maj=22.9km s-min=8.7km az=31.8*
ISC 20 19:19:46.7±0.7, 19.25S±0.1×174.7W±0.2, h133km, n14, σ1§83/16, mb4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.95**	**29**	Pn	**Pn**	19 21 10.1	**-2.5**
	1.4nm,0.3s,baz=269,slow=17,SNR=5.5						
AFI				Sn	**Sn**	19 22 21.0	**+1.3**
	3.6nm,0.3s,baz=74,slow=19,SNR=3.1						
URZ	**Urewera**	**20.31**	**199**	P	P	19 24 04.6	-7.5
	1.0nm,0.3s,baz=9.7,slow=17,SNR=5.3						
RPZ	**Rata Peaks**	**27.23**	**203**	P	**P**	19 25 16.3	**-1.9**
	4.6nm,1.0s,baz=11,slow=16,SNR=3.0						
CTA	**Charters Tower**	**36.69**	**262**	P	**P**	19 26 40.8	**-0.3**
	1.9nm,0.4s,baz=88,slow=12,SNR=5.6						
CTAO	**Charters Tower**	**36.69**	**262**	*eP*	**P**	19 26 40.5	**-0.6**
	7.1nm,0.5s						
ASAR	**Alice Springs**	**47.82**	**255**	P	**P**	19 28 10.6	**-0.7**
	1.6nm,0.6s,baz=93,slow=8.4,SNR=26						
ASAR				PcP	**PcP**	19 29 40.0	**+1.9**
	0.7nm,0.9s,baz=114,slow=3.4,SNR=4.0						
WRAB	**Tennant Creek**	**47.83**	**260**	P	**P**	19 28 11.8	**+0.6**
	3.2nm,1.1s						
WRA	**Warramunga Arr**	**47.84**	**260**	P	**P**	19 28 09.8	**-1.6**
	0.3nm,0.3s,baz=95,slow=7.6,SNR=18						
WRA				PcP	**PcP**	19 29 40.4	**+2.2**
	0.3nm,0.6s,baz=92,slow=3.4,SNR=2.7						
SBA	**Scott Base**	**59.42**	**184**	*eP*	**P**	19 29 35.5	**+0.7**
VNDA	**Vanda**	**59.53**	**186**	P	**P**	19 29 35.2	**-0.3**
	0.8nm,0.8s,baz=337,slow=6.1,SNR=9.3						
QSPA	**South Pole Qui**	**70.90**	**180**	*eP*	**P**	19 30 48.7	**-0.6**
	5.7nm,0.7s						
ARCES	**ARCESS Array B**	**128.12**	**351**	PKP	**PKPdf**	19 38 40.8	**+4.3**
	3.0nm,1.0s,baz=63,slow=0.2,SNR=5.1						
GERES	**GERESS Array B**	**149.61**	**349**	PKPbc	**PKPab**	19 39 25.6	**-0.5**
	0.2nm,0.3s,baz=9.9,slow=2.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**173.11**	**150**	PKPab	**PKPab**	19 41 09.5	**+0.7**
	0.6nm,1.0s,baz=182,slow=2.6,SNR=2.7						

IDC ***20*** *19:20:54.2±2.1, 36.20N×142.16E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/48, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=56.9km s-min=19.5km az=67.0*
ISCJB ***20*** *19:20:55.3±1.8, 36.25N±0.05×142.23E±0.08, h22km±13km, mb3.6/5, Error ellipse: s-maj=10.7km s-min=7.8km az=172.1*
JMA ***20*** *19:20:56.8±0.2, 36.25N×142.10E, h77km±5km, M3.2*
ISC 20 19:20:54.9±2.1, 36.20N±0.05×142.18E±0.08, h15km±12km, n25, σ2§13/27, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.18**	**246**	P	**Pg**	19 21 17.8	**+0.1**
CHOJ				S	**Sn**	19 21 33.4	**+0.8**
JHO	**Hitachi**	**1.36**	**288**	P	**Pn**	19 21 19.2	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.43**	**310**	P	**Pn**	19 21 20.1	**-0.3**
ONAJ				*eS*	**Sn**	19 21 37.9	**-1.1**
JFK	**Kawauchi**	**1.57**	**319**	P	**Pn**	19 21 22.2	**-0.1**
BSO1	**Boso 1**	**1.82**	**213**	P	**Pb**	19 21 27.1	**-0.6**
BSO1				*eS*	**Sb**	19 21 50.6	**+0.5**
JFT	**Otama**	**1.98**	**312**	P	**Pb**	19 21 28.9	**-1.8**
JMM	**Marumori**	**2.00**	**327**	P	**Pn**	19 21 28.2	**0.0**
JAG	**Ashikaga**	**2.21**	**277**	P	**Pn**	19 21 31.4	**+0.3**
JAG				*eS*	**Sn**	19 21 57.4	**-0.8**
JRY	**Ryogami san**	**2.66**	**267**	P	**Pn**	19 21 37.8	**+0.5**
JRY				*eS*	**Sn**	19 22 10.9	**+1.7**
JOD2	**Odawara 2**	**2.68**	**251**	P	**Pn**	19 21 38.9	**+1.4**
MJAR	**Matsushiro Arr**	**3.22**	**277**	Pn	**Pn**	19 21 45.7	**+0.7**
	4.1nm,0.3s,baz=104,slow=7.9,SNR=18						
MAT	**Matsushiro**	**3.22**	**277**	P	**Pn**	19 21 46.8	**+1.8**
MAT				S	**Sb**	19 22 27.5	**-3.4**
JHJ	**Hachijo jima 2**	**3.65**	**213**	Pn	**Pn**	19 21 52.0	**+1.2**
	18nm,0.3s,baz=320,slow=22,SNR=8						
JHJ				Sn	**Sn**	19 22 31.6	**-2.0**
	25nm,0.3s,baz=85,slow=22,SNR=6.9						
JCJ	**Chichijima**	**9.07**	**180**	Pn	**Pn**	19 23 04.4	**-0.9**
	1.5nm,0.3s,baz=285,slow=19,SNR=3.1						
JCJ				Sn	**Sn**	19 24 39.6	**-7.6**
	2.5nm,0.3s,baz=288,slow=20,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**27.19**	**120**	T	T	19 55 01.7	
	baz=313,slow=75,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**27.20**	**120**	T	T	19 55 00.4	
	baz=313,slow=75,SNR=9.9						
H11N3	**WAKE ISLAND Hy**	**27.21**	**120**	T	T	19 55 04.5	
	baz=313,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**27.89**	**123**	T	T	19 55 54.8	
	baz=314,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**27.89**	**123**	T	T	19 55 52.4	
	baz=314,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**27.91**	**123**	T	T	19 55 56.5	
	baz=314,slow=75,SNR=7.4						
SONM	**Songino Array**	**28.77**	**305**	P	**P**	19 26 53.3	**+1.3**
	1.1nm,0.7s,baz=95,slow=9.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**42.93**	**313**	P	**P**	19 28 54.4	**+1.6**
	0.5nm,0.5s,baz=99,slow=7.8,SNR=3.0						
MKAR	**Makanchi Array**	**45.09**	**303**	P	**P**	19 29 11.5	**+1.1**
	0.9nm,0.6s,baz=87,slow=10,SNR=9.1						
WRA	**Warramunga Arr**	**56.32**	**189**	P	**P**	19 30 36.7	**+1.5**
	0.6nm,0.9s,baz=4.0,slow=7.4,SNR=3.7						
ASAR	**Alice Springs**	**60.05**	**189**	P	**P**	19 31 03.6	**+2.4**
	0.2nm,0.7s,baz=6.3,slow=9.3,SNR=3.0						

IDC ***20*** *19:23:00.3±1.3, 36.20N×142.17E, h0km, mb3.8/9, mb1 3.9/13, mb1mx3.7/46, mbtmp3.9/13, ML3.9/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/47, Error ellipse: s-maj=37.9km s-min=17.0km az=75.0*
NIED ***20*** *19:23:00, 36.30N×142.10E, h23km, Mw4.1 Best double couple: M₀1.84000×10¹⁵ NP1:φ₀182.00000°, δ32.00000°, λ74.00000°. NP2:φ₀21.00000°, δ59.00000°, λ100.00000°.*
ISCJB ***20*** *19:23:01.5±0.6, 36.18N±0.04×142.23E±0.06, h23km, mb4.0/14, MS3.8/1, Error ellipse: s-maj=7.1km s-min=5.4km az=168.5*
NEIC ***20*** *19:23:01.0±7.5, 36.20N×142.28E, h7km±43km, mb4.6/5, Error ellipse: s-maj=30.8km s-min=9.7km az=62.0*
JMA ***20*** *19:23:03.8±0.2, 36.25N×142.08E, h69km, M3.7*
ISC 20 19:23:04.1±0.8, 36.21N±0.06×142.13E±0.09, h23km, n44, σ1§21/41, mb3.9/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.15**	**244**	P	**Pn**	19 23 24.4	**-0.3**
CHOJ				*eS*	**Sn**	19 23 39.6	**-0.2**
JHO	**Hitachi**	**1.32**	**288**	P	**Pn**	19 23 25.7	**-1.4**
JHO				*eS*	**Sn**	19 23 42.7	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.40**	**310**	P	**Pn**	19 23 26.5	**-1.7**
JFK	**Kawauchi**	**1.54**	**319**	P	**Pn**	19 23 28.8	**-1.3**
BSO1	**Boso 1**	**1.82**	**212**	P	**Pn**	19 23 33.6	**+0.2**
BSO1				S	**Sn**	19 23 57.3	**+1.9**
JFT	**Otama**	**1.95**	**313**	P	**Pn**	19 23 35.6	**-0.1**
JMM	**Marumori**	**1.97**	**327**	P	**Pn**	19 23 34.8	**-1.2**
JAG	**Ashikaga**	**2.18**	**276**	P	**Pn**	19 23 38.0	**-0.9**
JFY	**Yanaizu**	**2.29**	**302**	P	**Pn**	19 23 40.2	**-0.2**
MJAR	**Matsushiro Arr**	**3.19**	**277**	Pn	**Pn**	19 23 52.3	**-0.4**
	5.3nm,0.3s,baz=98,slow=7.6,SNR=11						
MJAR				LR	LR	19 25 21.4	
	comp=Z,436nm,20.1s,baz=90,slow=44						
MAJO	**Matsushiro**	**3.19**	**277**	*e*Pn	**Pn**	19 23 53.1	**+0.4**
MAT	**Matsushiro**	**3.19**	**277**	P	**Pn**	19 23 53.2	**+0.4**
MAT				*eS*	**Sn**	19 24 29.9	**-0.2**
JHJ	**Hachijo jima 2**	**3.64**	**213**	Pn	**Pn**	19 23 58.9	**-0.1**
	42nm,0.3s,baz=53,slow=20,SNR=8.6						
JHJ				Sn	**Sn**	19 24 38.6	**-2.6**
	62nm,0.3s,baz=99,slow=23,SNR=5.7						
CBIJ	**Chichi jima**	**9.09**	**180**	Pn	**Pn**	19 25 11.9	**-1.8**
CBIJ				Sn	Sn	19 26 45.4	-10
JCJ	**Chichijima**	**9.09**	**180**	Pn	**Pn**	19 25 11.9	**-1.8**
	2.8nm,0.3s,baz=53,slow=20,SNR=4.2						
JCJ				Sn	Sn	19 26 45.4	-10
	5.2nm,0.3s,baz=307,slow=20,SNR=4.5						
USRK	**Ussuriysk Ar.**	**11.12**	**319**	Pn	**Pn**	19 25 42.3	**+0.7**
	0.1nm,0.3s,baz=137,slow=13,SNR=4.3						
KSRS	**Korea Array**	**11.46**	**280**	Pn	**Pn**	19 25 48.9	**+2.6**
	0.1nm,0.3s,baz=97,slow=12,SNR=6.5						
KSAR	**Wonju Array Be**	**11.49**	**280**	Pn	**Pn**	19 25 48.9	**+2.2**
MDJ	**Mudanjiang**	**12.71**	**315**	P	Pn	19 25 58.4	-4.9
H11N2	**WAKE ISLAND Hy**	**27.23**	**120**	T	T	19 57 20.4	
	baz=313,slow=74,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**27.24**	**120**	T	T	19 57 17.0	
	baz=313,slow=74,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**27.25**	**120**	T	T	19 57 21.8	
	baz=313,slow=74,SNR=7.5						
ENH	**Enshi**	**27.86**	**267**	*eP*	**P**	19 28 51.3	**-0.7**
	25nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**27.93**	**123**	T	T	19 58 08.3	
	baz=314,slow=75,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**27.93**	**123**	T	T	19 58 10.9	
	baz=314,slow=75,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**27.94**	**123**	T	T	19 58 14.0	
	baz=314,slow=75,SNR=4.3						
ULN	**Ulaanbaatar**	**28.30**	**305**	*eP*	**P**	19 28 56.6	**+0.7**
	5.4nm,1.1s						
SONM	**Songino Array**	**28.73**	**305**	P	**P**	19 28 59.9	**+0.2**
	3.3nm,0.9s,baz=102,slow=9.4,SNR=11						
CMAR	**Chiang Mai Arr**	**41.86**	**257**	P	**P**	19 30 51.0	**-1.6**
	0.6nm,0.8s,baz=65,slow=6.3,SNR=4.8						
LSA	**Lhasa**	**42.87**	**276**	*eP*	**P**	19 31 02.2	**+1.0**
ZALV	**Zalesovo Beam**	**42.90**	**313**	P	**P**	19 30 59.6	**-0.9**
	0.9nm,0.5s,baz=109,slow=4.7,SNR=5.3						
NRIK	**Noril'sk**	**44.26**	**336**	LR	LR	19 50 57.3	
	comp=Z,113nm,19.3s,baz=28,slow=38						
MKAR	**Makanchi Array**	**45.05**	**303**	P	**P**	19 31 18.1	**+0.1**
	2.8nm,0.7s,baz=86,slow=10,SNR=14						
KURK	**Kurchatov**	**46.90**	**309**	*eP*	**P**	19 31 31.9	**-0.6**
	37nm,0.9s						
TKM2	**Tokmak 2**	**50.53**	**299**	*eP*	**P**	19 32 02.4	**+1.6**
	11nm,1.4s						
WRAB	**Tennant Creek**	**56.32**	**189**	P	**P**	19 32 41.8	**-1.3**
WRA	**Warramunga Arr**	**56.33**	**189**	P	**P**	19 32 43.0	**-0.2**
	0.6nm,0.8s,baz=5.5,slow=8.2,SNR=4.1						
ABKAR	**Akbulak array**	**58.91**	**311**	*eP*	**P**	19 33 00.5	**-0.7**
	0.5nm,0.4s						
ASAR	**Alice Springs**	**60.06**	**189**	P	**P**	19 33 09.2	**0.0**
	0.3nm,0.8s,baz=2.7,slow=6.8,SNR=3.4						
MBWA	**Marble Bar**	**60.87**	**204**	P	**P**	19 33 16.3	**+1.6**
NB2	**NORSAR Subarra**	**75.17**	**338**	P	**P**	19 34 44.9	**+0.6**
	comp=Z,1.2nm,0.8s,baz=35,slow=5.9						
NOA	**NORSAR Array B**	**75.17**	**338**	P	**P**	19 34 44.3	**0.0**
	comp=Z,0.7nm,0.7s,baz=38,slow=6.0,SNR=2.6						
AKASG	**Malin Array Be**	**75.30**	**323**	P	**P**	19 34 44.6	**-0.5**
	comp=Z,0.3nm,0.4s,baz=39,slow=4.9,SNR=4.4						
BRTR	**Keskin Array B**	**79.83**	**312**	P	**P**	19 35 12.0	**+1.1**
	comp=Z,0.5nm,0.8s,baz=55,slow=3.2,SNR=3.4						

CSEM ***20*** *19:26:30.7±0.5, 37.56N×35.97E, h15km, MD2.5, Error ellipse: s-maj=14.7km s-min=9.2km az=102.0*
ISCJB ***20*** *19:26:32.7±0.6, 37.51N±0.05×35.69E±0.04, h4km±7km, Error ellipse: s-maj=7.9km s-min=5.4km az=174.5*
ISK ***20*** *19:26:32.8, 37.44N×35.78E, h11km, MD2.5*
DDA ***20*** *19:26:34.8, 37.57N×35.44E, h6km, Md2.7*
ISC 20 19:26:32.6±1.0, 37.49N±0.04×35.70E±0.04, h10km±7km, n12, σ0§60/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.10**	**95**	*e*PG	**Pg**	19 26 35.2	**-0.1**
KOZT				*e*SG	**Sg**	19 26 37.0	**-0.2**
KOZT	**Kozan**	**0.10**	**95**	*e*Pg	**Pg**	19 26 35.2	**-0.1**
KOZT				*e*Sg	**Sg**	19 26 37.0	**-0.2**
AKO	**Adana**	**0.20**	**262**	*i* P	**Pg**	19 26 37.0	**+0.2**
AKO				*i* S	**Sg**	19 26 40.2	**+0.6**
CEYT	**Ceyhan**	**0.48**	**175**	*e*PG	**Pg**	19 26 41.8	**-0.2**
CEYT	**Ceyhan**	**0.48**	**175**	*e*Pg	**Pg**	19 26 41.8	**-0.2**
YAHY	**KAYSERI_Yahyal**	**0.66**	**337**	P	**Pg**	19 26 44.9	**-0.5**
YAHY				S	**Sg**	19 26 53.5	**-0.5**
YAHY	**KAYSERI_Yahyal**	**0.66**	**337**	*i* P	**Pg**	19 26 44.9	**-0.5**
YAHY				*i* S	**Sg**	19 26 53.5	**-0.5**
NIG	**Nigde**	**1.06**	**306**	*e*PN	**Pn**	19 26 55.0	**+1.2**
NIG	**Nigde**	**1.06**	**306**	*e*Pn	**Pn**	19 26 55.0	**+1.2**
SARI	**SarD1z-Kayseri**	**1.08**	**32**	*e*PN	**Pn**	19 26 54.1	**+0.1**
SARI				*e*SN	**Sn**	19 27 09.8	**+0.6**
KERG	**Konya-Eregli**	**1.25**	**267**	P	**Pn**	19 26 55.6	**-0.7**
KERG				S	**Sb**	19 27 12.5	**-0.2**
KERG	**Konya-Eregli**	**1.25**	**267**	*i* P	**Pn**	19 26 55.6	**-0.7**
KERG				*i* S	**Sb**	19 27 12.5	**-0.2**

IDC 20 19:30:03.2±999.0, 44.80N×102.48E, h0km, Error ellipse: s-maj=2260.0km s-min=272.2km az=131.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**14.67**	**315**	*i*		20 56 15.4	
	baz=122,slow=327,SNR=1.6						
I31KZ	**AKTYUBINSK INF**	**30.13**	**297**	*i*		22 32 54.4	
	baz=84,slow=318,SNR=1.1						
I43RU	**DUBNA INFRASON**	**41.40**	**311**	*i*		23 47 50.0	
	baz=76,slow=333,SNR=0.9						

IDC 20 19:32:14.2±2.8, 25.46N×143.04E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.3/34, mbtmp3.7/3, Error ellipse: s-maj=130.2km s-min=22.1km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.81**	**335**	Pn	Pn	19 32 47.1	+0.6
	baz=72,slow=20						
JCJ				Sn	Sn	19 33 10.4	+0.2
	baz=107,slow=19						
SONM	**Songino Array**	**36.43**	**317**	P	P	19 39 20.9	+0.1
	0.3nm,0.4s,baz=115,slow=9.9,SNR=2.2						
WRA	**Warramunga Arr**	**45.91**	**191**	P	P	19 40 38.7	-0.1
	0.4nm,0.6s,baz=10,slow=8.6,SNR=3.3						
FINES	**FINESS Array B**	**79.75**	**334**	P	P	19 44 23.5	-0.3
	1.9nm,1.0s,baz=39,slow=6.6,SNR=2.6						

MAN 20 19:34:13, 18.04N×120.35E, h1km, mb4.2, ML3.0, MS2.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.38**	**42**	⇓*i*P	Pb	19 34 21.6	-1.0
PIP				*e*S	Sb	19 34 28.9	0.0
ABRA	**Dolores**	**0.52**	**139**	*e*P	Pb	19 34 24.5	-0.5
ABRA				*e*S	Sb	19 34 34.1	+1.1
APYP	**Conner**	**0.87**	**102**	*e*P	Pg	19 34 29.7	0.0
APYP				*e*S	Sn	19 34 46.4	+0.7
CAUP	**Cauayan**	**1.78**	**128**	*e*P	Pb	19 34 46.6	+0.1
BALP	**Baler**	**2.57**	**153**	*e*P	Pn	19 34 56.5	+0.7

BJI ***20*** *19:37:02.4, 46.25N×150.40E, h164km, mb4.6/31, mB4.7/21*
ISCJB ***20*** *19:37:05.2±0.4, 45.99N±0.03×149.95E±0.05, h168km±3km, mb4.4/77, Error ellipse: s-maj=5.8km s-min=4.4km az=43.1*
MOS ***20*** *19:37:05.9±1.1, 46.10N×149.87E, h173km, mb4.5/27, Error ellipse: s-maj=7.3km s-min=5.3km az=96.0*
NEIC ***20*** *19:37:07.4±0.8, 46.10N×149.84E, h173km±7km, mb4.5/23, Error ellipse: s-maj=10.0km s-min=5.8km az=144.0*
IDC ***20*** *19:37:07.8±1.8, 46.21N×149.80E, h173km±16km, mb4.0/25, mb1 4.1/33, mb1mx4.0/45, mbtmp4.4/33, MS3.3/1, Ms1 3.3/1, ms1mx2.6/41, Error ellipse: s-maj=12.1km s-min=9.2km az=146.0*
SKHL ***20*** *19:37:07.7±0.4, 45.91N×149.68E, h169km±9km, mb4.6/8, msh5.1/2*
JMA ***20*** *19:37:09.3±0.5, 45.39N×149.91E, h181km, M4.2*
ISC 20 19:37:06.1±0.6, 45.95N±0.05×149.94E±0.05, h167km±5km, n269, σ1§65/299, mb4.4/77, 34C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.62**	**244**	*de*PN	**Pn**	19 37 39.6	**+1.5**
KUR				*i* S	**Sn**	19 38 04.7	**+1.9**
KUR				pmax	pmax		
	comp=Z,194nm,0.7s						
KUR				pmax	pmax		
	comp=E,96nm,0.9s						
KUR				pmax	pmax		
	comp=N,96nm,0.7s						
KUR				smax	smax		
	comp=N,3μm,0.6s						
KUR				smax	smax		
	comp=E,2μm,0.6s						
KUR				smax	smax		
	comp=N,6μm,2.1s						
KUR				smax	smax		
	comp=E,3μm,2.1s						
KUR	**Kuril'sk**	**1.62**	**244**	*i* P	**Pn**	19 37 39.3	**+1.2**
KUR				AMB	AMB	19 37 44.0	
	comp=E,96nm,0.7s						
KUR	

	comp=N,90nm,1.3s									
YSS	**Yuzh-Sakhalins**	**5.06**	**284**	*e*P		**Pn**	**19 38 21.8**	**+1.3**		
YSS				AMB		AMB	19 38 23.5			
	comp=N,70nm,0.8s									
YSS				*e*S		**Sn**	**19 39 18.1**	**-0.7**		
YSS				A		A	19 39 25.2			
	comp=N,54nm,0.7s									
YSS				A		A	19 39 25.2			
	comp=N,48nm,0.7s									
YSS	**Yuzh-Sakhalins**	**5.06**	**284**	*e*Pn		**Pn**	**19 38 21.8**	**+1.3**		
JAR	**Ashorobuto**	**5.14**	**241**	P		**Pn**	**19 38 22.6**	**+1.0**		
JSE	**Soyaes**	**5.27**	**262**	P		**Pn**	**19 38 25.1**	**+1.9**		
JOB	**Onbets**	**5.33**	**237**	P		**Pn**	**19 38 24.2**	**+0.2**		
JOB				*e*S		**Sn**	**19 39 22.5**	**-2.6**		
HRK	**Horoka**	**5.45**	**245**	*e*P		**Pn**	**19 38 27.0**	**+1.3**		
JKK2	**Kamakawa 2**	**5.51**	**250**	P		**Pn**	**19 38 28.4**	**+1.9**		
JKA	**Kamikawa-asahi**	**5.51**	**253**	*e*P		**Pn**	**19 38 28.9**	**+2.4**		
ASAJ	**Asahikawa**	**5.52**	**253**	P		**Pn**	**19 38 28.9**	**+2.4**		
	baz=90,slow=20									
ASAJ				S		**Sn**	**19 39 30.2**	**+0.6**		
	comp=N,2.9nm,0.3s,baz=104,slow=17,SNR=2.0									
ASAJ	**Asahikawa**	**5.52**	**253**	P		**Pn**	**19 38 28.8**	**+2.3**		
JWK2	**Keihoku**	**5.67**	**266**	P		**Pn**	**19 38 32.2**	**+3.6**		
JCH	**Churui**	**5.78**	**237**	P		**Pn**	**19 38 29.6**	**-0.4**		
JCH				*e*S		**Sn**	**19 39 31.5**	**-4.3**		
JAB	**Ashibetsu**	**6.01**	**249**	P		**Pn**	**19 38 35.4**	**+2.3**		
MYR	**Moyori**	**6.03**	**235**	*e*P		**Pn**	**19 38 32.5**	**-0.8**		
UGL	**Uglegorsk**	**6.18**	**303**	*e*P		**Pn**	**19 38 35.5**	**+0.3**		
UGL				AMB		AMB	19 38 37.6			
	comp=N,41nm,0.5s									
UGL				*e*S		**Sn**	**19 39 45.5**	**+0.3**		
UGL				A		A	19 39 53.0			
	comp=N,700nm,4.0s									
UGL				A		A	19 39 53.0			
	comp=N,1µm,4.0s									
SKR	**Severo-Kuril's**	**6.27**	**39**	*e*PN		**Pn**	**19 38 35.6**	**-0.8**		
SKR				*e*S		**Sn**	**19 39 42.5**	**-4.9**		
SKR				pmax		pmax				
	comp=Z,39nm,1.1s									
SKR				smax		smax				
	comp=N,119nm,0.8s									
SKR				smax		smax				
	comp=E,102nm,0.5s									
SKR	**Severo-Kuril's**	**6.27**	**39**	*e*P		**Pn**	**19 38 35.6**	**-0.8**		
SKR				AMB		AMB	19 38 36.2			
	comp=E,40nm,1.0s									
SKR				*e*S		**Sn**	**19 39 50.0**	**+2.6**		
SKR				A		A	19 39 56.2			
	comp=E,12nm,0.4s									
SKR				A		A	19 39 56.2			
	comp=E,10.0nm,0.4s									
JEM	**Erimo**	**6.28**	**234**	P		**Pn**	**19 38 37.1**	**+0.5**		
JEM				*e*S		**Sn**	**19 39 44.0**	**-3.6**		
ERM	**Erimo**	**6.28**	**234**	*e*PN		**Pn**	**19 38 37.7**	**+1.1**		
ERM				pmax		pmax				
	comp=Z,29nm,0.4s									
ERM	**Erimo**	**6.28**	**234**	*e*P		**Pn**	**19 38 37.7**	**+1.1**		
ERM	**Erimo**	**6.28**	**234**	*e*Pn		**Pn**	**19 38 37.7**	**+1.1**		
	comp=Z,29nm,0.4s									
JBT2	**Biratori 2**	**6.29**	**242**	P		**Pn**	**19 38 38.4**	**+1.7**		
JNBK	**Urakawa-nobuka**	**6.34**	**237**	P		**Pn**	**19 38 36.3**	**-1.1**		
JNBK				*e*S		**Sn**	**19 39 43.0**	**-6.1**		
JEW	**Eniwo**	**6.83**	**246**	P		**Pn**	**19 38 45.2**	**+1.3**		
TYV	**Tymovskoe**	**6.90**	**318**	*e*PN		**Pn**	**19 38 46.0**	**+1.3**		
TYV				pmax		pmax				
	comp=Z,13nm,0.8s									
TYV	**Tymovskoe**	**6.90**	**318**	*e*P		**Pn**	**19 38 45.0**	**+0.3**		
TYV				AMB		AMB	19 38 51.0			
	comp=Z,20nm,0.8s									
TYV				AMB		AMB	19 38 51.0			
	comp=Z,13nm,0.8s									
TYV				*e*S		**Sn**	**19 40 01.2**	**-1.1**		
JNB	**Noboribetsu**	**7.28**	**245**	P		**Pn**	**19 38 49.6**	**-0.2**		
JKB	**Kayabe**	**7.60**	**241**	P		**Pn**	**19 38 52.8**	**-1.3**		
JKB				*e*S		**Sn**	**19 40 12.9**	**-6.4**		
JYM2	**Yakumo 2**	**7.89**	**244**	P		**Pn**	**19 38 57.6**	**-0.3**		
JSR	**Shiriuchi**	**8.19**	**241**	P		**Pn**	**19 39 01.1**	**-0.7**		
JTM	**Tenmabayashi**	**8.27**	**234**	P		**Pn**	**19 39 01.2**	**-1.7**		
JTM				*e*S		Sn	19 40 25.8	-9.4		
JANG	**Nango**	**8.30**	**231**	P		**Pn**	**19 39 00.8**	**-2.6**		
JTH	**Tanohata**	**8.43**	**227**	P		**Pn**	**19 39 02.5**	**-2.6**		
JTH				*e*S		**Sn**	**19 40 30.9**	**-8.3**		
JOSM	**Okushiri--Mats**	**8.47**	**247**	P		**Pn**	**19 39 06.2**	**+0.6**		
PETK	**Petropavlovsk-**	**8.76**	**32**	P		**Pn**	**19 39 08.1**	**-1.2**		
	comp=Z,0.8nm,0.3s,baz=168,slow=8.0,SNR=13									
JRG	**Rokugo**	**9.47**	**230**	P		**Pn**	**19 39 17.4**	**-1.5**		
JOG2	**Oga 2**	**9.57**	**235**	P		**Pn**	**19 39 18.7**	**-1.5**		
JIO	**Ouri**	**9.83**	**223**	P		**Pn**	**19 39 21.2**	**-2.4**		
GRNR	**Gornyy**	**10.20**	**303**	*e*P		**Pn**	**19 39 28.7**	**+0.4**		
GRNR				AMB		AMB	19 39 30.0			
	comp=Z,31nm,1.0s									
HABR	**Khabarovsk**	**10.44**	**289**	*e*PN		**Pn**	**19 39 29.7**	**-1.7**		
HABR				*e*S		**Sn**	**19 41 24.7**	**-2.4**		
HABR				pmax		pmax				
	comp=N,5.0nm,0.7s									
HABR				pmax		pmax				
	comp=E,15nm,1.4s									
HABR				pmax		pmax				
	comp=Z,26nm,1.4s									
HABR				MLR		MLR				
	comp=Z,32nm,14.0s									
JYA	**Atsumi**	**10.55**	**229**	P		**Pn**	**19 39 32.1**	**-0.9**		
JYA				*e*S		**Sn**	**19 41 23.1**	**-6.9**		
JFY	**Yanaizu**	**11.46**	**225**	P		**Pn**	**19 39 44.1**	**-0.7**		
KLR	**Kul'dur**	**12.70**	**292**	P		**Pn**	**19 40 01.9**	**+1.1**		
	comp=Z,0.1nm,0.3s,baz=103,slow=15,SNR=18									
USRK	**Ussuriysk Ar.**	**12.81**	**269**	P		**Pn**	**19 40 03.0**	**+0.9**		
	comp=Z,0.9nm,0.3s,baz=76,slow=12,SNR=10									
MAJO	**Matsushiro**	**12.88**	**227**	*e*PN		**Pn**	**19 40 03.3**	**+0.1**		
MAJO				pmax		pmax				
	comp=Z,3.0nm,0.4s									
MAJO	**Matsushiro**	**12.88**	**227**	*e*Pn		**Pn**	**19 40 03.3**	**+0.1**		
	comp=Z,3.1nm,0.4s									
MJAR	**Matsushiro Arr**	**12.88**	**227**	P		**Pn**	**19 40 02.7**	**-0.4**		
	comp=Z,0.3nm,0.3s,baz=33,slow=13,SNR=7.1									
EKMR	**Ekimchan**	**13.12**	**309**	*e*P		**Pn**	**19 40 06.5**	**+0.5**		
EKMR				AMB		AMB	19 40 11.5			
	comp=Z,11nm,0.5s									
VLA	**Vladivostok**	**13.19**	**264**	‖*e*PN		**Pn**	**19 40 08.6**	**+1.7**		
VLA				*e*S		**Sn**	**19 42 31.4**	**-1.7**		
VLA				pmax		pmax				
	comp=Z,23nm,1.5s									
VLA	**Vladivostok**	**13.19**	**264**	*e*P		**Pn**	**19 40 08.6**	**+1.7**		
MA2	**Magadan**	**13.65**	**2**	P		**Pn**	**19 40 10.4**	**-2.3**		
	comp=Z,1.3nm,0.3s,baz=179,slow=8.6,SNR=7.7									
MDJ	**Mudanjiang**	**14.38**	**272**	*e*Pn		**P**	**19 40 23.9**	**-0.3**		
	comp=Z,30nm,1.0s									
BMKR	**Bomnak**	**16.02**	**311**	*e*P		**Pn**	**19 40 41.9**	**-0.1**		
BMKR				AMB		AMB	19 40 45.0			
	comp=Z,15nm,0.5s									
ZEA	**Zeya**	**16.52**	**306**	*e*P		**P**	**19 40 46.5**	**-1.2**		
ZEA				AMB		AMB	19 40 49.9			
	comp=Z,43nm,1.0s									
KROS	**Kirovskiy**	**16.91**	**308**	*e*P		**P**	**19 40 50.0**	**-2.1**		
KROS				AMB		AMB	19 40 59.8			
	comp=Z,9.0nm,0.6s									
SEY	**Seymchan**	**17.07**	**4**	P		**P**	**19 40 52.7**	**-0.9**		
	comp=Z,1.7nm,0.3s,baz=182,slow=9.4,SNR=38									
SEY	**Seymchan**	**17.07**	**4**	*c*eP		**P**	**19 40 52.5**	**-1.2**		
SEY	**Seymchan**	**17.07**	**4**	*e*P		**P**	**19 40 52.5**	**-1.2**		
KSRS	**Korea Array**	**18.46**	**250**	P		**Pn**	**19 41 11.3**	**+0.1**		
	comp=Z,0.8nm,0.3s,baz=54,slow=11,SNR=12									
KSAR	**Wonju Array Be**	**18.49**	**250**	P		**Pn**	**19 41 11.3**	**-0.3**		
KSAR	**Wonju Array Be**	**18.49**	**250**	P		**Pn**	**19 41 11.3**	**-0.3**		
TJN	**Taejon**	**19.45**	**249**	*i* P		**Pn**	**19 41 22.1**	**-0.7**		
YAK	**Yakutsk**	**19.88**	**331**	P		**P**	**19 41 22.3**	**-1.8**		
	comp=Z,0.0nm,0.3s,baz=137,slow=19,SNR=5.8									
YAK	**Yakutsk**	**19.88**	**331**	*e*P		**P**	**19 41 23.6**	**-0.6**		
YAK				*e*S		**S**	**19 44 56.5**	**-2.0**		
YAK				pmax		pmax				
	comp=Z,40nm,0.9s									
YAK				pmax		pmax				
	comp=E,14nm,1.1s									
YAK				pmax		pmax				
	comp=N,17nm,1.0s									
YAK				smax		smax				
	comp=E,52nm,2.0s									
YAK				smax		smax				
	comp=N,23nm,2.0s									
YAK	**Yakutsk**	**19.88**	**331**	*e*P		**P**	**19 41 23.6**	**-0.6**		
BILL	**Bilibino**	**23.70**	**15**	‖*e*P		**P**	**19 42 01.2**	**-1.1**		
BILL				*e*			19 45 42.1			
BILL				pmax		pmax				
	comp=Z,4.0nm,0.6s									
BILL	**Bilibino**	**23.70**	**15**	‖*e*P		**P**	**19 42 02.3**	**0.0**		
	comp=Z,3.4nm,0.4s									
ULN	**Ulaanbaatar**	**29.09**	**290**	‖*e*P		**P**	**19 42 50.3**	**-0.6**		
ULN				pmax		pmax				
	comp=Z,8.0nm,1.7s									
ULN	**Ulaanbaatar**	**29.09**	**290**	*e*P		**P**	**19 42 50.3**	**-0.6**		
SONM	**Songino Array**	**29.52**	**290**	P		**P**	**19 42 54.1**	**-0.7**		
	comp=Z,0.7nm,0.5s,baz=78,slow=7.3,SNR=3.6									
H11N2	**WAKE ISLAND Hy**	**29.65**	**146**	T		T	20 14 18.1			
	baz=335,slow=76,SNR=294									
H11N1	**WAKE ISLAND Hy**	**29.67**	**146**	T		T	20 14 21.9			
	baz=335,slow=76,SNR=288									
H11N3	**WAKE ISLAND Hy**	**29.67**	**146**	T		T	20 14 22.1			
	baz=335,slow=76,SNR=292									
TLY	**Talaya**	**30.60**	**298**	P		**P**	**19 43 03.1**	**-1.0**		
	comp=Z,1.9nm,0.5s,baz=85,slow=16,SNR=5.1									
TLY				LR		LR	19 56 08.5			
	comp=Z,50nm,18.1s,baz=160,slow=38									
TLY	**Talaya**	**30.60**	**298**	*e*P		**P**	**19 43 04.1**	**0.0**		
TLY				pmax		pmax				
	comp=Z,7.0nm,1.3s									
H11S1	**WAKE ISLAND Hy**	**30.69**	**148**	T		T	20 15 34.1			
	baz=336,slow=76,SNR=253									
H11S3	**WAKE ISLAND Hy**	**30.70**	**148**	T		T	20 15 33.1			
	baz=336,slow=76,SNR=134									
H11S2	**WAKE ISLAND Hy**	**30.71**	**148**	T		T	20 15 33.1			
	baz=336,slow=76,SNR=188									
ZAK	**Zakamensk**	**31.03**	**295**	*e*P		**P**	**19 43 06.8**	**-1.1**		
ZAK				*e*			19 43 45.1			
ZAK				pmax		pmax				
	comp=Z,4.0nm,1.4s									
ZAK				pmax		pmax				
	comp=Z,3.0nm,1.5s									
XAN	**Xi'an**	**33.25**	**264**	P		**P**	**19 43 28.3**	**+0.9**		
XAN				PMZ						
	comp=Z,9.0nm,1.1s									
XAN				PMZ						
	comp=Z,11nm,7.7s									
LZH	**Lanzhou**	**35.70**	**271**	*e*P		**P**	**19 43 50.8**	**+2.1**		
LZH				PMZ						
	comp=Z,15nm,1.0s									
LZH				PMZ						
	comp=Z,89nm,4.5s									
PPLA	**Purkeypile**	**36.22**	**41**	*e*P		**P**	**19 43 53.4**	**+0.7**		
	comp=Z,39nm,1.6s									
KDAK	**Kodiak Island**	**36.30**	**50**	*i* P		**P**	**19 43 53.5**	**+0.3**		
KDAK	**Kodiak Island**	**36.30**	**50**	*e*P		**P**	**19 43 53.5**	**+0.3**		
BPAW	**Bear Paw Mtn.**	**36.77**	**39**	*e*P		**P**	**19 43 58.0**	**+0.8**		
	comp=Z,1.1nm,1.0s									
KTH	**Kantishna Hill**	**36.79**	**40**	*e*P		**P**	**19 43 58.6**	**+1.2**		
	comp=Z,30nm,1.2s									
GTA	**Gaotai**	**36.91**	**278**	P		**P**	**19 44 00.3**	**+1.5**		
GTA				PMZ						
	comp=Z,23nm,1.1s									
COLD	**Coldfoot**	**37.22**	**34**	*e*P		**P**	**19 44 01.8**	**+0.8**		
	comp=Z,10nm,0.6s									
SML	**Sawmill**	**38.06**	**43**	*e*P		**P**	**19 44 08.7**	**+0.7**		
SML				pmax		pmax				
	comp=Z,8.0nm,1.3s									
SML	**Sawmill**	**38.06**	**43**	*e*P		**P**	**19 44 08.7**	**+0.7**		
SML	**Sawmill**	**38.06**	**43**	*e*P		**P**	**19 44 08.7**	**+0.7**		
	comp=Z,7.6nm,1.3s									
COLA	**College**	**38.12**	**38**	*e*P		**P**	**19 44 09.7**	**+1.3**		
COLA				pmax		pmax				
	comp=Z,9.0nm,0.8s									
COLA	**College**	**38.12**	**38**	*e*P		**P**	**19 44 09.7**	**+1.3**		
COLA	**College**	**38.12**	**38**	*e*P		**P**	**19 44 09.7**	**+1.3**		
	comp=Z,9.5nm,0.8s									
NRIK	**Noril'sk**	**38.32**	**330**	P		**P**	**19 44 08.0**	**-2.0**		
	comp=Z,3.1nm,0.5s,baz=101,slow=4.4,SNR=10									
ILAR	**Eielson Array**	**38.54**	**38**	P		**P**	**19 44 12.1**	**+0.1**		
	comp=Z,6.0nm,0.8s,baz=265,slow=6.9,SNR=50									
ILAR				PcP		**PcP**	**19 46 20.4**	**-0.5**		
	comp=Z,0.6nm,0.8s,baz=274,slow=4.8,SNR=3.4									
DIV	**Divide**	**39.35**	**44**	*e*P		**P**	**19 44 19.1**	**+0.3**		
	comp=Z,10nm,1.0s									
DOT	**Dot Lake**	**39.85**	**40**	*e*P		**P**	**19 44 22.6**	**-0.2**		
	comp=Z,12nm,0.9s									
EGAK	**Eagle**	**40.98**	**38**	*e*P		**P**	**19 44 32.1**	**0.0**		
	comp=Z,14nm,1.0s									
ZALV	**Zalesovo Beam**	**41.29**	**306**	P		**P**	**19 44 32.8**	**-1.9**		
	comp=Z,1.2nm,0.4s,baz=64,slow=6.5,SNR=7.8									
ZALV				PcP		**PcP**	**19 46 30.1**	**+0.1**		
	comp=Z,2.7nm,0.7s,baz=69,slow=2.7,SNR=12									
INK	**Inuvik**	**43.49**	**32**	P		**P**	**19 44 52.8**	**+0.4**		
	comp=Z,6.8nm,0.6s,baz=289,slow=7.6,SNR=11									
INK	**Inuvik**	**43.49**	**32**	*e*P		**P**	**19 44 53.3**	**+1.0**		
INK	**Inuvik**	**43.49**	**32**	*e*P		**P**	**19 44 53.3**	**+1.0**		
INK	**Inuvik**	**43.49**	**32**	*e*P		**P**	**19 44 53.3**	**+1.0**		
MKAR	**Makanchi Array**	**45.34**	**297**	P		**P**	**19 45 06.5**	**-0.8**		
	comp=Z,2.4nm,0.7s,baz=71,slow=7.9,SNR=18									
MKAR				PcP		**PcP**	**19 46 44.5**	**+0.7**		
	comp=Z,1.6nm,0.7s,baz=63,slow=4.9,SNR=5.7									
KURK	**Kurchatov**	**45.96**	**303**	*e*P		**P**	**19 45 10.8**	**-1.3**		
KURK	**Kurchatov**	**45.96**	**303**	*e*P		**P**	**19 45 10.8**	**-1.3**		
	comp=Z,96nm,0.8s									
LSA	**Lhasa**	**48.11**	**272**	*e*P		**P**	**19 45 32.0**	**+2.5**		
LSA				pmax		pmax				
	comp=Z,10.0nm,0.6s									
LSA	**Lhasa**	**48.11**	**272**	*e*P		**P**	**19 45 32.0**	**+2.5**		
	comp=Z,9.5nm,0.6s									
BVAR	**Borovoye Array**	**49.65**	**309**	P		**P**	**19 45 39.1**	**-1.3**		
	comp=Z,2.9nm,0.8s,baz=59,slow=9.2,SNR=20									
BVAR				PcP		**PcP**	**19 46 59.6**	**+0.4**		
	comp=Z,1.1nm,0.3s,baz=83,slow=3.8,SNR=8.0									
CMAR	**Chiang Mai Arr**	**50.04**	**254**	P		**P**	**19 45 45.4**	**+1.6**		
	comp=Z,2.4nm,0.8s,baz=39,slow=7.4,SNR=16									
SHL	**Shillong**	**50.14**	**267**	*e*P		**P**	**19 45 47.0**	**+2.3**		
TKM2	**Tokmak 2**	**51.36**	**295**	*e*P		**P**	**19 45 53.8**	**+0.2**		
TKM2				pmax		pmax				
	comp=Z,9.0nm,1.2s									
TKM2	**Tokmak 2**	**51.36**	**295**	*e*P		**P**	**19 45 53.8**	**+0.2**		
	comp=Z,8.6nm,1.2s									
AAK	**Ala-Archa**	**52.20**	**295**	P		**P**	**19 45 59.7**	**-0.1**		
	comp=Z,1.8nm,0.5s,baz=73,slow=5.1,SNR=7.1									
AAK	**Ala-Archa**	**52.20**	**295**	‖*i* P		**P**	**19 46 00.3**	**+0.5**		
AAK				pmax		pmax				
	comp=Z,20nm,1.4s									
AAK	**Ala-Archa**	**52.20**	**295**	*e*P		**P**	**19 46 00.3**	**+0.5**		
EKS2	**Erkin-Say**	**52.64**	**296**	*e*P		**P**	**19 46 03.6**	**+0.6**		
EKS2				pmax		pmax				
	comp=Z,4.0nm,0.8s									
EKS2	**Erkin-Say**	**52.64**	**296**	*e*P		**P**	**19 46 03.5**	**+0.6**		
	comp=Z,3.8nm,0.8s									
YKA	**Yellowknife Ar**	**52.86**	**35**	P		**P**	**19 46 04.8**	**+0.7**		
	comp=Z,4.2nm,0.8s,baz=299,slow=7.3,SNR=21									
YKA				PcP		**PcP**	**19 47 12.0**	**+1.1**		
	comp=Z,0.5nm,0.5s,baz=299,slow=3.8,SNR=3.6									
GUN	**Gumba**	**52.86**	**273**	*e*P		**P**	**19 46 06.5**	**+1.4**		
	comp=Z,21nm,0.5s									
SVE	**Sverdlovsk**	**52.90**	**316**	*e*P		**P**	**19 46 03.6**	**-0.9**		
SVE				pmax		pmax				
	comp=Z,12nm,0.7s									
KSH	**Kashi**	**52.91**	**291**	P		P	19 46 09.8	+4.8		
KSH				pP		pP	19 46 50.1	+7.3		
KSH				PcP		**PcP**	**19 47 16.1**	**+4.4**		
KSH				PP		**PP**	**19 48 13.6**	**+7.6**		
KSH				S		**S**	**19 53 23.3**	**+2.2**		
KSH				ScS		**ScS**	**19 55 34.8**	**-2.7**		
KSH				SS		**SKiKP**	**19 57 04.3**	**-1.4**		
KSH				PMZ						
	comp=Z,7.0nm,0.8s									
KSH				PMZ						
	comp=Z,78nm,2.6s									
KSH				LN						
	comp=Z,160nm,6.6s									
KSH				LE						
	comp=Z,160nm,6.4s									
KSH				LZ						
	comp=Z,210nm,11.9s									
KKN	**Kakani**	**53.36**	**274**	*e*P		**P**	**19 46 10.2**	**+1.7**		
PKIN	**Phulchoki**	**53.41**	**273**	*e*P		**P**	**19 46 10.2**	**+1.2**		
DMN	**Daman**	**53.59**	**274**	*e*P		**P**	**19 46 12.0**	**+1.7**		
	comp=Z,28nm,0.7s									
GKN	**Gorkha**	**53.67**	**274**	*e*P		**P**	**19 46 12.3**	**+1.5**		
	comp=Z,55nm,0.9s									
ARU	**Arti**	**54.10**	**317**	*c i*P		**P**	**19 46 11.3**	**-1.9**		
ARU				*PP		**pP**	**19 46 50.5**	**-0.7**		
ARU							19 47 13.9			
ARU				S		**S**	**19 53 30.2**	**-6.1**		
ARU				SS		**SKiKP**	**19 57 10.5**	**+4.1**		
ARU				pmax		pmax				
	comp=Z,24nm,1.2s									
ARU	**Arti**	**54.10**	**317**	*e*P		**P**	**19 46 11.7**	**-1.5**		
	comp=Z,30nm,1.3s									
KKAR	**Karatay Array**	**54.44**	**298**	*e*P		**P**	**19 46 15.7**	**-0.2**		
KKAR				pmax		pmax				
	comp=Z,1.0nm,0.4s									
KKAR	**Karatay Array**	**54.44**	**298**	*e*P		**P**	**19 46 15.7**	**-0.2**		
	comp=Z,0.8nm,0.4s									
PYUN	**Piuthan**	**54.76**	**276**	*e*P		**P**	**19 46 20.4**	**+1.7**		
ABKAR	**Akbulak array**	**57.23**	**309**	*e*P		**P**	**19 46 34.7**	**-0.9**		
	comp=Z,3.6nm,0.5s									
ARCES	**ARCESS Array B**	**57.86**	**340**	P		**P**	**19 46 38.2**	**-1.6**		
	comp=Z,2.4nm,0.8s,baz=34,slow=8.8,SNR=5.4									
KLMR	**Klimovskoe**	**59.63**	**328**	*e*P		**P**	**19 46 49.8**	**-2.2**		
KLMR				*e*			19 49 01.7			
KLMR				pmax		pmax				
	comp=Z,16nm,1.6s									
SUMG	**Summit**	**61.63**	**3**	*i* P		**P**	**19 47 04.8**	**-1.1**		
SUMG				pmax		pmax				
	comp=Z,22nm,0.8s									
SUMG	**Summit**	**61.63**	**3**	*i* P		**P**	**19 47 04.8**	**-1.1**		
	comp=Z,22nm,0.8s									
SUMG	**Summit**	**61.63**	**3**	*e*P		**P**	**19 47 05.6**	**-0.3**		
	comp=Z,29nm,1.0s									
SCO	**Scoresbysund**	**63.73**	**357**	*i* P		**P**	**19 47 18.8**	**-0.5**		
SCO				pmax		pmax				
	comp=Z,5.0nm,0.8s									
SCO	**Scoresbysund**	**63.73**	**357**	*i* P		**P**	**19 47 18.8**	**-0.5**		
	comp=Z,5.1nm,0.8s									
FINES	**FINESS Array B**	**63.80**	**334**	P		**P**	**19 47 18.1**	**-1.8**		
	comp=Z,8.7nm,0.6s,baz=35,slow=6.6,SNR=28									
BOZ	**Bozeman (W)**	**63.97**	**51**	*e*P		**P**	**19 47 23.1**	**+1.6**		
BOZ				pmax		pmax				
	comp=Z,5.0nm,0.7s									
BOZ	**Bozeman (W)**	**63.97**	**51**	*e*P		**P**	**19 47 23.1**	**+1.6**		
BOZ	**Bozeman (W)**	**63.97**	**51**	*e*P		**P**	**19 47 23.1**	**+1.6**		
	comp=Z,4.6nm,0.7s									
OBN	**Obninsk**	**64.70**	**324**	‖*e*P		**P**	**19 47 25.4**	**-0.4**		
OBN				pmax		pmax				
	comp=Z,8.0nm,1.0s									
OBN	**Obninsk**	**64.70**	**324**	*e*P		**P**	**19 47 25.4**	**-0.4**		
GEYT	**Alibeck**	**65.10**	**299**	P		**P**	**19 47 29.2**	**+0.4**		
	comp=Z,13nm,0.9s,baz=5.7,slow=3.0,SNR=24									
WRAB	**Tennant Creek**	**67.08**	**196**	*c*eP		**P**	**19 47 43.0**	**+1.6**		
WRAB				pmax		pmax				
	comp=Z,23nm,1.7s									
WRA	**Warramunga Arr**	**67.09**	**196**	P		**P**	**19 47 42.5**	**+1.0**		
	comp=Z,2.8nm,0.7s,baz=11,slow=6.8,SNR=16									
NB2	**NORSAR Subarra**	**68.24**	**340**	P		**P**	**19 47 47.1**	**-1.2**		
	comp=Z,9.3nm,0.6s,baz=30,slow=6.5									
NOA	**NORSAR Array B**	**68.24**	**340**	P		**P**	**19 47 47.0**	**-1.2**		
	comp=Z,6.9nm,0.6s,baz=29,slow=6.6,SNR=35									
ULM	**Lac du Bonnet**	**68.54**	**39**	P		**P**	**19 47 49.1**	**-1.2**		
	comp=Z,3.6nm,0.7s,baz=313,slow=8.2,SNR=3.3									
NCK	**Nalchik**	**69.60**	**312**	‖*e*P		**P**	**19 47 58.9**	**+1.9**		
NCK				pmax		pmax				
	comp=Z,14nm,1.1s									
KIV	**Kislovodsk**	**69.75**	**313**	*e*P		**P**	**19 47 58.8**	**+0.9**		
KIV				pmax		pmax				
	comp=Z,19nm,1.1s									
KIV	**Kislovodsk**	**69.75**	**313**	*e*P		**P**	**19 47 58.8**	**+0.9**		
KBZ	**Khabaz**	**69.80**	**312**	P		**P**	**19 47 58.9**	**+0.8**		
	comp=

CONA	**Conrad Observa**	**78.24**	**330**	*i* P	**P**	**19 48 48.0**	**+0.9**
	comp=Z,7.2nm,0.6s,SNR=8.2						
MOA	**Molln**	**78.85**	**331**	*i* P	**P**	**19 48 50.9**	**+0.5**
	comp=Z,4.0nm,0.9s						
ARSA	**Arzberg**	**78.94**	**330**	*i* P	**P**	**19 48 51.5**	**+0.6**
	comp=Z,2.2nm,0.5s						
SOKA	**Soboth**	**79.60**	**330**	*i* P	**P**	**19 48 55.1**	**+0.6**
	comp=Z,20nm,1.4s,SNR=14						
TXAR	**Lajitas Array**	**79.79**	**58**	P	**P**	**19 48 56.8**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=301,slow=4.4,SNR=23						
TXAR				pP	**pP**	**19 49 38.0**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=299,slow=3.9,SNR=2.2						
KBA	**Koelnbreinsper**	**79.83**	**332**	*i* P	**P**	**19 48 56.7**	**+0.9**
	comp=Z,17nm,0.9s,SNR=12						
OBKA	**Obir**	**79.92**	**330**	*i* P	**P**	**19 48 56.3**	**+0.1**
	comp=Z,6.9nm,0.9s						
MYKA	**Terra Mystica**	**80.12**	**331**	*i* P	**P**	**19 48 57.3**	**-0.1**
	comp=Z,3.3nm,0.4s						
WATA	**Walderalm**	**80.18**	**333**	*i* P	**P**	**19 48 58.0**	**+0.2**
	comp=Z,6.3nm,0.5s,SNR=5.7						
WTTA	**Wattenberg**	**80.22**	**333**	*i* P	**P**	**19 48 58.7**	**+0.7**
	comp=Z,9.7nm,0.4s,SNR=6.0						
BFO	**Black Forest**	**80.29**	**335**	*i* P	**P**	**19 48 59.0**	**+0.9**
RETA	**Reutte**	**80.30**	**333**	*i* P	**P**	**19 48 58.8**	**+0.5**
	comp=Z,7.1nm,0.9s						
MOTA	**Moosalm**	**80.32**	**333**	*i* P	**P**	**19 48 58.6**	**+0.1**
	comp=Z,21nm,1.1s,SNR=10						
ABTA	**Abfaltersbach**	**80.39**	**332**	*i* P	**P**	**19 48 58.1**	**-0.8**
	comp=Z,7.3nm,1.1s						
FETA	**Feichten**	**80.73**	**333**	*i* P	**P**	**19 49 01.1**	**+0.5**
	comp=Z,10nm,1.2s,SNR=6.3						
DAVA	**Damuels**	**80.76**	**334**	*i* P	**P**	**19 49 01.1**	**+0.3**
	comp=Z,9.3nm,1.0s						
TIP	**Timpagrande**	**85.43**	**325**	*eP*	**P**	**19 49 24.6**	**-0.2**
	comp=Z,15nm,1.1s						
TKL	**Tuckaleechee C**	**85.44**	**41**	P	**P**	**19 49 25.2**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=295,slow=5.5,SNR=3.6						
ESDC	**Sonseca Array**	**91.60**	**340**	P	**P**	**19 49 54.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=3.9,slow=3.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**114.58**	**326**	PKP	PKPdf	19 55 26.3	-0.3
	comp=Z,0.2nm,0.4s,baz=18,slow=2.3,SNR=6.3						
VNDA	**Vanda**	**123.42**	**177**	PKhKP	PKPpre	19 55 39.8	
	comp=Z,0.5nm,0.6s,baz=270,slow=1.3,SNR=5.1						
PLCA	**Paso Flores**	**150.33**	**95**	PKPbc	**PKPbc**	**19 56 38.6**	**+1.4**
	comp=Z,4.1nm,0.8s,baz=349,slow=10,SNR=3.5						
CPUP	**Villa Florida**	**150.76**	**57**	PKPbc	**PKPbc**	**19 56 38.8**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=327,slow=2.8,SNR=6.8						

*JMA **20** 19:40:47.8±0.1, 22.2°45N×121.7°6E, h21km, M3.2*
*TAP **20** 19:40:48.3, 22.2°34N×121.7°65E, h22km±1km, ML3.2, C*

ISC 20 19:40:47.1±1.1, 22°34N±0.03°×121°73E±0.03, h23km±12km, n45, σ1s32/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.34**	**210**	*i* P	**Pb**	**19 40 54.7**	**0.0**
	baz=188						
LAY				*e*S	**Sb**	**19 41 00.3**	**+0.6**
	baz=188						
TTN	**Taitung**	**0.68**	**307**	*e*P	**Pb**	**19 40 60.0**	**-0.3**
	baz=321						
TTN				*e*S	**Sn**	**19 41 09.5**	**-1.7**
	baz=321						
ECL	**Taimali**	**0.77**	**290**	*i* P	**Pb**	**19 41 01.0**	**-0.7**
	baz=281						
ECL				S	**Sb**	**19 41 11.2**	**-0.6**
	baz=281						
TAW	**Tawu**	**0.78**	**272**	*i* P	**Pb**	**19 41 01.2**	**-0.7**
	baz=271						
TAW				S	**Sb**	**19 41 10.6**	**-1.4**
	baz=271						
TWG	**Pinlang**	**0.78**	**308**	*i* P	**Pn**	**19 41 01.9**	**-0.7**
	baz=320						
TWG				*i* S	**Sb**	**19 41 11.5**	**-0.6**
	baz=320						
EAST	**Anshuo**	**0.82**	**273**	*i* P	**Pb**	**19 41 01.9**	**-0.9**
	baz=273						
EAST				S	**Sb**	**19 41 11.9**	**-1.5**
	baz=273						
CHKT	**Chengkung**	**0.83**	**336**	*e*P	**Pb**	**19 41 02.3**	**-0.6**
	baz=341						
CHKT				*e*S	**Sb**	**19 41 12.4**	**-1.3**
	baz=341						
TSEB	**Hengchuen, Pin**	**0.89**	**241**	*e*P	**Pn**	**19 41 05.2**	**+1.0**
	baz=251						
TSEB				*e*S	**Sn**	**19 41 16.1**	**-0.2**
	baz=251						
TWK1	**Hengchun**	**0.95**	**246**	P	**Pb**	**19 41 04.0**	**-0.8**
	baz=253						
TWK1				*e*S	**Sb**	**19 41 15.1**	**-1.9**
	baz=253						
HEN	**Hengchun**	**0.98**	**251**	P	**Pb**	**19 41 04.8**	**-0.6**
	baz=248						
HEN				*i* S	**Sb**	**19 41 16.3**	**-1.6**
	baz=248						
SCZT	**Fangliau**	**1.03**	**272**	*i* P	**Pn**	**19 41 05.3**	**-0.8**
	baz=272						
SCZT				*e*S	**Sn**	**19 41 19.0**	**-0.8**
	baz=272						
ELDTW	**Lidau**	**1.08**	**322**	*e*P	**Pn**	**19 41 05.9**	**-1.0**
	baz=314						
ELDTW				*e*S	**Sb**	**19 41 19.2**	**-1.6**
	baz=314						
SSD	**Sandimen**	**1.10**	**292**	P	**Pn**	**19 41 06.4**	**-0.6**
	baz=293						
SSD				*e*S	**Sb**	**19 41 19.8**	**-1.4**
	baz=293						
STYT	**Tauyuan**	**1.22**	**313**	P	**Pb**	**19 41 08.8**	**-0.8**
	baz=314						
STYT				*e*S	**Sb**	**19 41 27.1**	**+2.2**
	baz=314						
EHY	**Hungye**	**1.22**	**342**	*e*P	**Pb**	**19 41 09.7**	**+0.2**
	baz=353						
EHY				*e*S	**Sb**	**19 41 24.9**	**0.0**
	baz=353						
TWP	**Hsiaoliuchiu**	**1.27**	**271**	*e*P	**Pb**	**19 41 11.7**	**+1.4**
	baz=255						
TWP				*e*S	**Sb**	**19 41 29.6**	**+3.4**
	baz=255						
SGST	**Jiashian**	**1.30**	**305**	P	**Pb**	**19 41 10.9**	**+0.1**
	baz=306						
SGST				*e*S	**Sb**	**19 41 28.2**	**+1.2**
	baz=306						
TWM1	**Shoushan**	**1.30**	**292**	*e*P	**Pb**	**19 41 12.6**	**+1.6**
	baz=284						
TWM1				*e*S	**Sb**	**19 41 30.3**	**+3.0**
	baz=284						
WTP	**Ta-pu**	**1.37**	**311**	*i* P	**Pb**	**19 41 12.1**	**-0.1**
	baz=321						
WTP				*e*S	**Sb**	**19 41 30.4**	**+1.1**
	baz=321						
CHN1	**Nanshi**	**1.40**	**307**	*i* P	**Pb**	**19 41 12.9**	**+0.4**
	baz=308						
CHN1				*e*S	**Sb**	**19 41 31.1**	**+1.2**
	baz=308						
ALS	**Alishan**	**1.45**	**324**	*e*P	**Pb**	**19 41 13.2**	**-0.4**
	baz=337						
ALS				*e*S	**Sb**	**19 41 33.8**	**+2.2**
	baz=337						
CHN3	**Shinhua**	**1.46**	**300**	*e*P	**Pb**	**19 41 14.0**	**+0.4**
	baz=301						
CHN3				*e*S	**Sb**	**19 41 37.0**	**+5.2**
	baz=301						
TWK	**Hsinying**	**1.48**	**309**	*e*P	**Pb**	**19 41 13.1**	**-0.7**
	baz=310						
TWK				*e*S	**Sb**	**19 41 34.8**	**+2.6**
	baz=310						
ESL	**Shilin**	**1.50**	**349**	*e*P	**Pn**	**19 41 12.7**	**+0.2**
	baz=2.0						
ESL				*e*S	**Sb**	**19 41 31.7**	**-1.1**
	baz=2.0						
CHN5	**Tsauling**	**1.59**	**322**	*e*P	**Pb**	**19 41 15.6**	**-0.2**
	baz=324						
CHN5				*e*S	**Sb**	**19 41 36.9**	**+1.4**
	baz=324						
CHN2	**Minshiung**	**1.66**	**316**	*e*P	**Pb**	**19 41 17.4**	**+0.4**
	baz=317						
CHN2				*e*S	**Sb**	**19 41 39.4**	**+1.9**
	baz=317						
CHY	**Chiayi**	**1.67**	**314**	P	**Pb**	**19 41 17.4**	**+0.2**
	baz=315						
CHY				S	**Sb**	**19 41 38.9**	**+1.1**
	baz=315						
SMLT	**Sun Moon Lake**	**1.72**	**334**	*e*P	**Pb**	**19 41 18.8**	**+0.8**
	baz=347						
SMLT				*e*S	**Sb**	**19 41 39.5**	**+0.2**
	baz=347						

WGK	**Gukeng**	**1.72**	**321**	*e*P	**Pb**	**19 41 18.6**	**+0.5**
	baz=322						
WGK				*e*S	**Sb**	**19 41 41.5**	**+2.3**
	baz=322						
TYC	**Yuchr**	**1.76**	**333**	P	**Pb**	**19 41 18.6**	**0.0**
	baz=346						
TYC				*e*S	**Sb**	**19 41 42.3**	**+2.1**
	baz=346						
ENA	**Nanau**	**2.08**	**0**	*e*P	**Pb**	**19 41 24.4**	**+0.3**
	baz=12						
ENA				*e*S	**Sb**	**19 41 47.5**	**-2.1**
	baz=12						
NNS	**Nan Shan**	**2.12**	**351**	*e*P	**Pb**	**19 41 24.4**	**-0.4**
	baz=2.0						
NNS				*e*S	**Sb**	**19 41 49.2**	**-1.6**
	baz=2.0						
TWQ1	**Liyutan**	**2.19**	**336**	*e*P	**Pb**	**19 41 25.9**	**-0.1**
	baz=337						
TWQ1				*e*S	**Sb**	**19 41 52.9**	**+0.2**
	baz=337						
ENTT	**Nioudou**	**2.30**	**356**	*e*P	**Pb**	**19 41 27.5**	**-0.4**
	baz=357						
ENTT				*e*S	**Sb**	**19 41 55.3**	**-0.6**
	baz=357						
NSK	**Sanguang**	**2.35**	**352**	*e*P	**Pb**	**19 41 28.3**	**-0.5**
	baz=2.0						
NSK				*e*S	**Sn**	**19 41 53.5**	**+0.9**
	baz=2.0						
TWE	**Neicheng**	**2.37**	**359**	*e*P	**Pb**	**19 41 28.3**	**-0.9**
	baz=9.0						
TWE				*e*S	**Sb**	**19 41 56.0**	**-2.0**
	baz=9.0						
NSTT	**Nanjuang**	**2.38**	**344**	*e*P	**Pb**	**19 41 29.6**	**+0.3**
	baz=357						
NSTT				*e*S	**Sb**	**19 41 58.1**	**-0.1**
	baz=357						
HATJ	**Hateruma jima**	**2.56**	**48**	S	**Sn**	**19 41 57.6**	**0.0**
IRIF	**Iriomote-Funau**	**2.71**	**42**	P	**Pn**	**19 41 29.8**	**+0.6**
IRIF				S	**Sn**	**19 42 01.5**	**+0.3**
JKRS	**Kuro-shima**	**2.82**	**47**	S	**Sn**	**19 42 04.0**	**0.0**
JIJ	**Ishigaki jima**	**3.00**	**47**	*e*S	**Sn**	**19 42 07.3**	**-1.0**
JISG	**Ishigakijimahi**	**3.26**	**46**	P	**Pn**	**19 41 38.2**	**+1.4**
JISG				S	**Sn**	**19 42 14.5**	**-0.3**
JTJ	**Tarama**	**3.56**	**49**	P	**Pn**	**19 41 42.6**	**+1.7**
JTJ				S	**Sn**	**19 42 21.9**	**-0.4**
JIRB	**Irabujima**	**4.01**	**51**	S	**Sn**	**19 42 33.3**	**-0.1**
JIKM	**Ikemajima**	**4.12**	**51**	S	**Sn**	**19 42 36.6**	**+0.4**

*ISCJB **20** 19:51:55.0±0.4, 7.°86S±0.°08×68.°16E±0.°03, h15km, mb4.2/31, MS4.0/17, Error ellipse: s-maj=10.9km s-min=4.1km az=176.6*
*IDC **20** 19:51:55.3±0.8, 7.°76S×67.°84E, h0km, mb4.0/15, mb1 4.1/15, mb1mx3.9/40, mbtmp4.0/15, MS4.0/18, Ms1 4.0/18, ms1mx3.8/39, Error ellipse: s-maj=22.1km s-min=19.2km az=180.0*
*NEIC **20** 19:51:57.3±0.6, 7.°72S×67.°87E, h10km, mb4.8/5, Error ellipse: s-maj=18.9km s-min=15.1km az=151.0*

ISC 20 19:51:57.2±0.6, 7.°93S±0.°10×68.°12E±0.°06, h15km, n68, σ1s45/58, mb4.4/32, MS4.0/17, 1C-1D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**3.25**	**61**	Pn	**Pn**	**19 52 48.3**	**+0.9**
H08N3				Sn	**Sn**	**19 53 24.1**	**-1.6**
H08N3				T	T	19 56 23.5	
	baz=243,slow=76,SNR=634						
H08N2	**Diego Garcia H**	**3.27**	**61**	Pn	**Pn**	**19 52 48.5**	**+0.9**
H08N2				Sn	**Sn**	**19 53 24.3**	**-1.8**
H08N2				T	T	19 56 17.4	
	baz=243,slow=76,SNR=758						
H08N1	**Diego Carcia H**	**3.27**	**61**	Pn	**Pn**	**19 52 48.6**	**+0.9**
H08N1				Sn	**Sn**	**19 53 24.4**	**-1.9**
H08N1				T	T	19 56 19.2	
	baz=243,slow=76,SNR=696						
H08S1	**Diego Carcia H**	**4.32**	**87**	Pn	**Pn**	**19 53 00.4**	**-1.8**
H08S1				Sn	**Sn**	**19 53 50.1**	**-2.1**
H08S3	**Diego Garcia H**	**4.33**	**86**	Pn	**Pn**	**19 53 00.5**	**-1.8**
H08S3				Sn	**Sn**	**19 53 51.1**	**-1.4**
H08S2	**Diego Garcia H**	**4.34**	**87**	Pn	**Pn**	**19 53 00.6**	**-1.8**
H08S2				Sn	**Sn**	**19 53 50.4**	**-2.3**
PALK	**Pallekele**	**19.63**	**40**	LR	LR	20 02 08.2	
	comp=Z,333nm,18.4s,baz=293,slow=31						
OPO	**Ambohidratompo**	**22.93**	**240**	LR	LR	20 03 47.7	
	comp=Z,518nm,18.3s,baz=52,slow=31						
KMBO	**Kilima Mbogo**	**31.49**	**281**	LR	LR	20 08 21.7	
	comp=Z,552nm,20.4s,baz=98,slow=32						
LSZ	**Lusaka**	**39.74**	**256**	P	**P**	**19 59 28.4**	**-1.4**
	10nm,1.1s,baz=84,slow=6.1,SNR=6.0						
LSZ	**Lusaka**	**39.74**	**256**	*e*P	**P**	**19 59 28.2**	**-1.6**
	17nm,1.3s						
CMAR	**Chiang Mai Arr**	**40.15**	**49**	P	**P**	**19 59 35.5**	**+2.5**
	0.6nm,0.8s,baz=247,slow=8.2,SNR=4.4						
CMAR				PcP	**PcP**	**20 01 38.7**	**+1.3**
	0.4nm,0.7s,baz=247,slow=3.7,SNR=2.9						
LSA	**Lhasa**	**43.48**	**30**	*e*P	**P**	**20 00 02.9**	**+2.3**
	49nm,1.9s						
BOSA	**Boshof**	**45.28**	**237**	P	**P**	**20 00 14.5**	**-0.2**
	5.8nm,1.1s,baz=112,slow=1.0,SNR=3.8						
BOSA				LR	LR	20 18 14.4	
	comp=Z,192nm,19.1s,baz=86,slow=35						
GEYT	**Alibeck**	**46.57**	**349**	P	**P**	**20 00 23.1**	**-1.4**
	0.5nm,0.4s,baz=116,slow=3.4,SNR=3.1						
H01W3	**Cape Leeuwin H**	**49.94**	**129**	T	T	20 54 44.2	
	baz=292,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**49.94**	**129**	T	T	20 54 44.6	
	baz=292,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**49.96**	**129**	T	T	20 54 44.3	
	baz=292,slow=75,SNR=16						
MKAR	**Makanchi Array**	**55.92**	**12**	P	**P**	**20 01 33.2**	**-1.4**
	3.1nm,1.1s,baz=198,slow=7.1,SNR=9.1						
KBZ	**Khabaz**	**56.27**	**338**	P	**P**	**20 01 36.3**	**-0.8**
	1.5nm,0.9s,baz=180,slow=20,SNR=2.4						
BRTR	**Kevin Array B**	**57.15**	**329**	P	**P**	**20 01 42.0**	**-1.5**
	2.2nm,1.0s,baz=160,slow=7.6,SNR=10						
BRTR				LR	LR	20 24 06.1	
	comp=Z,82nm,20.4s,baz=127,slow=34						
ABKAR	**Akbulak array**	**57.39**	**354**	*e*P	**P**	**20 01 43.5**	**-1.5**
	3.2nm,0.9s						
KURK	**Kurchatov**	**59.11**	**8**	*e*P	**P**	**20 01 55.9**	**-1.0**
	46nm,1.0s						
MAW	**Mawson**	**59.70**	**182**	LR	LR	20 22 17.2	
	comp=Z,81nm,21.3s,baz=56,slow=30						
ZALV	**Zalesovo Beam**	**63.24**	**11**	P	**P**	**20 02 23.1**	**-1.7**
	0.6nm,0.5s,baz=240,slow=5.0,SNR=4.3						
ZALV				LR	LR	20 29 22.4	
	comp=Z,124nm,18.4s,baz=250,slow=36						
SYO	**Syowa Base**	**63.80**	**191**	*e*P	**P**	**20 02 29.0**	**+0.6**
SYO	**Syowa Base**	**63.80**	**191**	*e*pP	pP	20 02 35.0	+1.7
ARU	**Arti**	**64.61**	**354**	*e*P	**P**	**20 02 32.4**	**-1.4**
	7.2nm,1.1s						
ASAR	**Alice Springs**	**64.71**	**112**	P	**P**	**20 02 37.1**	**+1.9**
	0.5nm,0.8s,baz=279,slow=6.5,SNR=5.2						
ASAR				LR	LR	20 27 26.8	
	comp=Z,127nm,21.6s,baz=296,slow=33						
SONM	**Songino Array**	**65.00**	**27**	P	**P**	**20 02 37.4**	**+0.7**
	2.2nm,0.9s,baz=218,slow=7.3,SNR=14						
WRA	**Warramunga Arr**	**65.02**	**108**	P	**P**	**20 02 39.4**	**+2.1**
	0.8nm,0.8s,baz=280,slow=6.1,SNR=4.6						
WRA				LR	LR	20 27 17.4	
	comp=Z,268nm,22.0s,baz=255,slow=32						
AKASG	**Malin Array Be**	**67.39**	**334**	P	**P**	**20 02 49.4**	**-2.4**
	0.9nm,0.5s,baz=128,slow=5.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**69.21**	**287**	P	**P**	**20 03 05.8**	**+1.8**
	3.0nm,1.1s,baz=115,slow=4.9,SNR=4.9						
TORD				LR	LR	20 31 43.5	
	comp=Z,180nm,18.9s,baz=95,slow=35						
KOLS	**Kolonicke sedl**	**69.39**	**330**	*e*P	**P**	**20 03 04.0**	**-0.5**
CRVS	**Cervenica-Dubn**	**69.78**	**329**	*e*P	**P**	**20 03 08.7**	**+1.8**
VYHS	**Vyhne**	**70.89**	**328**	*e*P	**P**	**20 03 12.4**	**-1.2**
LANS	**Liptovska Anna**	**70.96**	**329**	*e*P	**P**	**20 03 13.1**	**-1.0**
KSAR	**Wonju Array Be**	**71.70**	**46**	P	**P**	**20 03 21.1**	**+2.4**
KSRS	**Korea Array**	**71.73**	**46**	P	**P**	**20 03 21.1**	**+2.2**
	0.6nm,0.6s,baz=256,slow=9.9,SNR=2.6						
STKA	**Stephens Creek**	**71.83**	**121**	LR	LR	20 33 28.8	
	comp=Z,151nm,18.2s,baz=232,slow=35						
SOKA	**Soboth**	**71.93**	**325**	*i* P	**P**	**20 03 20.4**	**+0.3**
	5.2nm,1.5s						
ARSA	**Arzberg**	**71.97**	**325**	*i* P	**P**	**20 03 20.8**	**+0.5**
	3.7nm,1.2s						
CONA	**Conrad Observa**	**72.16**	**326**	*i* P	**P**	**20 03 20.2**	**-1.2**
	5.9nm,1.3s						
JNU	**Nakatsue**	**72.18**	**52**	LR	LR	20 33 11.3	
	comp=Z,57nm,20.6s,baz=306,slow=34						

MOA	**Molln**	**73.01**	**325**	*i* P	**P**	**20 03 25.4**	**-1.0**
	5.3nm,1.2s						
KBA	**Koelnbreinsper**	**73.12**	**324**	*e*pP	**P**	**20 03 28.6**	**+1.4**
	2.3nm,1.0s						
ABTA	**Abfaltersbach**	**73.43**	**324**	*e*P	**P**	**20 03 27.7**	**-1.3**
	5.7nm,1.0s						
KHC	**Kasperske Hory**	**74.09**	**326**	*e*P	**P**	**20 03 32.1**	**-0.7**
DBIC	**Dimbokro**	**74.20**	**279**	LR	LR	20 35 29.5	
	comp=Z,118nm,18.1s,baz=110,slow=35						
MOTA	**Moosalm**	**74.56**	**324**	*i* P	**P**	**20 03 34.3**	**-1.4**
	2.5nm,0.5s						
FETA	**Feichten**	**74.62**	**323**	*e*P	**P**	**20 03 35.3**	**-0.7**
	5.1nm,1.1s						
RETA	**Reutte**	**74.83**	**324**	*i* P	**P**	**20 03 37.3**	**+0.2**
	5.0nm,1.1s						
BRG	**Berggiesshubel**	**74.85**	**328**	*e*P	P	20 03 43.1	+6.0
	12nm,1.6s						
DAVA	**Damuels**	**75.25**	**323**	*i* P	**P**	**20 03 38.7**	**-1.0**
	8.6nm,1.1s						
NKC	**Novy Kostel**	**75.31**	**327**	*e*P	**P**	**20 03 39.7**	**-0.1**
CLL	**Collm**	**75.59**	**328**	*i* P	**P**	**20 03 41.4**	**+0.1**
	comp=Z,10.0nm,1.5s						
NRIK	**Noril'sk**	**78.26**	**7**	LR	LR	20 40 34.5	
	comp=Z,69nm,18.5s,baz=140,slow=37						
GUMO	**Guam**	**79.12**	**75**	LR	LR	20 36 51.6	
	comp=Z,38nm,21.0s,baz=220,slow=34						
ESDC	**Sonseca Array**	**81.49**	**312**	P	**P**	**20 04 13.0**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=97,slow=4.9,SNR=4.5						
NOA	**NORSAR Array B**	**81.75**	**336**	LR	LR	20 41 20.5	
	comp=Z,41nm,19.6s,baz=105,slow=36						
ARCES	**ARCESS Array B**	**82.64**	**346**	P	**P**	**20 04 19.3**	**-0.3**
	comp=Z,5.1nm,0.9s,baz=134,slow=3.9,SNR=4.1						
YAK	**Yakutsk**	**84.17**	**25**	LR	LR	20 43 52.5	
	comp=Z,64nm,18.7s,baz=180,slow=37						
PETK	**Petropavlovsk-**	**96.02**	**37**	LR	LR	20 51 32.9	
	comp=Z,36nm,21.6s,baz=136,slow=37						
YKA	**Yellowknife Ar**	**125.51**	**2**	PKP	**PKPdf**	**20 10 57.1**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=348,slow=2.0,SNR=3.2						
MOD	**Modoc Plateau**	**145.35**	**11**	*e*P	**PKPbc**	**20 11 34.1**	**-0.7**
OTAV	**Otavalo**	**145.82**	**259**	*e*PKPdf	**PKPab**	**20 11 39.4**	**+1.5**
HWUT	**Hardware Ranch**	**146.46**	**360**	*e*PKPdf	**PKPab**	**20 11 39.2**	**0.0**
TXAR	**Lajitas Array**	**157.35**	**341**	PKPab	**PKPab**	**20 12 25.5**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=39,slow=4.6,SNR=2.7						

*IDC **20** 20:26:15.6±2.2, 38.°34N×142.°51E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/45, mbtmp3.5/6, ML3.2/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/33, Error ellipse: s-maj=56.2km s-min=27.7km az=83.0*
*JMA **20** 20:26:25.1±0.1, 38.°12N×141.°78E, h56km±1km, M3.7*
JMA Felt I J1.

ISC 20 20:26:22.7±1.5, 38.°06N±0.°04×141.°98E±0.°08, h33km±4km, n26, σ1s66/31, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.63**	**309**	P	**Pb**	**20 26 36.6**	**+1.1**
JIO				S	**Sn**	**20 26 44.5**	**+0.2**
JMM	**Marumori**	**0.95**	**259**	P	**Pn**	**20 26 40.4**	**+0.6**
JMM				S	**Sn**	**20 26 51.7**	**-0.5**
OFUJ	**Ofunato**	**1.05**	**347**	P	**Pb**	**20 26 42.5**	**+0.1**
OFUJ				S	**Sn**	**20 26 55.0**	**+0.4**
JMK	**Ichinoseki**	**1.07**	**327**	P	**Pn**	**20 26 42.5**	**+1.1**
JMK				S	**Sn**	**20 26 55.0**	**-0.1**
JOU	**Okura**	**1.08**	**287**	P	**Pn**	**20 26 42.1**	**+0.6**
JOU				S	**Sn**	**20 26 54.4**	**-0.9**
JFK	**Kawauchi**	**1.11**	**232**	P	**Pb**	**20 26 43.4**	**-0.1**
JFK				S	**Sn**	**20 26 57.4**	**+1.2**
JFT	**Otama**	**1.41**	**248**	P	**Pn**	**20 26 47.6**	**+1.6**
JFT				S	**Sn**	**20 27 03.9**	**+0.5**
JOM	**Ohasama**	**1.51**	**340**	P	**Pn**	**20 26 48.8**	**+1.3**
JOM				*e*S	**Sn**	**20 27 06.2**	**+0.2**
JYS	**Shirataka**	**1.52**	**277**	P	**Pn**	**20 26 48.2**	**+0.7**
JYS				S	**Sn**	**20 27 05.9**	**-0.2**
JYK	**Kaneyama**	**1.53**	**305**	P	**Pn**	**20 26 48.3**	**+0.5**
JYK				*e*S	**Sn**	**20 27 05.8**	**-0.7**
JRG	**Rokugo**	**1.70**	**322**	P	**Pn**	**20 26 51.3**	**+1.2**
MJAR	**Matsushiro Arr**	**3.36**	**244**	Pn	**Pn**	**20 27 16.8**	**+3.8**
	0.8nm,0.3s,baz=61,slow=12,SNR=6.0						
MAT	**Matsushiro**	**3.36**	**244**	P	**Pn**	**20 27 17.7**	**+4.7**
MAT				S	**Sn**	**20 27 51.1**	**-0.7**
JHJ	**Hachijo jima 2**	**5.24**	**201**	Pn	**Pn**	**20 27 42.0**	**+3.3**
	4.8nm,0.3s,baz=66,slow=20,SNR=2.9						
JHJ				Sn	**Sn**	**20 28 35.6**	**-2.4**
	2.8nm,0.3s,baz=258,slow=19,SNR=1.9						
USRK	**Ussuriysk Ar.**	**9.71**	**312**	Pn	**Pn**	**20 28 41.4**	**+1.4**
	0.4nm,0.3s,baz=123,slow=14,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**28.31**	**123**	T	T	21 02 29.1	
	baz=316,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**28.32**	**123**	T	T	21 02 31.5	
	baz=316,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy**	**28.33**	**123**	T	T	21 02 34.4	
	baz=316,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	**29.06**	**125**	T	T	21 03 29.8	
	baz=318,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.06**	**125**	T	T	21 03 26.8	
	baz=318,slow=76,SNR=26

PCIG *e*S Sn 20 33 23.8 -1.0

*ISCJB **20** 20:33:51.1±1.0,7.2↑89.5±0.2°06.4×68.6°W±0.2°,1,h132km±10km, mb3.9/5, Error ellipse: s-maj=23.2km s-min=8.8km az=9.9*
*GUC **20** 20:33:51.3±0.5,21.2↑87.5×68.5°59W,h124km±5km,ML4.0*
*IDC **20** 20:33:55.0±5.7,21.2↑69.5×68.3°18W,h142km±44km,mb3.8/5, mb1 3.9/6,mb1mx3.5/25,mbtmp4.2/6,Error ellipse: s-maj=66.0km s-min=38.7km az=43.0*

ISC 20 20:33:51.4±1.1,21.2↑85.5±0.2°06.4×68.5°W±0.2°,1,h123km±12km, n13,σ1%74/21,mb4.1/5,3C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.68**	**274**	*i*P	**Pn**	**20 34 11.3**	**+0.2**
PB09				*i* S	**Sn**	**20 34 25.9**	**-0.2**
PB09				IAML		20 34 27.4	
	comp=N,5μm,1.0s						
PB01	**IPOC Station P**	**1.21**	**311**	⇑*i*P	**Pn**	**20 34 16.0**	**0.0**
PB01				*i* S	**Sn**	**20 34 34.8**	**+0.2**
PB01				IAML		20 34 36.3	
	comp=N,2μm,0.3s						
PB07	**IPOC Station P**	**1.28**	**275**	*i* P	**Pn**	**20 34 16.6**	**-0.2**
PB07				*i* S	**Sn**	**20 34 36.0**	**-0.1**
PB07				IAML		20 34 37.5	
	comp=E,2μm,0.3s						
PB06	**IPOC Station P**	**1.30**	**229**	⇑*i*P	**Pn**	**20 34 16.8**	**-0.2**
PB06				*i* S	**Sn**	**20 34 36.0**	**-0.4**
PB06				IAML		20 34 37.0	
	comp=N,4μm,0.4s						
PB04	**IPOC Station P**	**1.59**	**252**	*i* P	**Pn**	**20 34 19.9**	**-0.4**
PB04				*e*S	**Sn**	**20 34 40.6**	**-1.6**
PB04				IAML		20 34 49.5	
	comp=N,1μm,0.5s						
PB08	**IPOC Station P**	**1.80**	**340**	*i* P	**Pn**	**20 34 24.3**	**+1.3**
PB08				*i* S	**Sn**	**20 34 48.3**	**+1.3**
PB08				IAML		20 34 50.1	
	comp=E,2μm,0.4s						
HMBC	**Humberstone**	**2.02**	**320**	*e*P	**Pn**	**20 34 25.1**	**-0.3**
HMBC				*e*S	**Sn**	**20 34 50.9**	**-0.5**
HMBC				IAML		20 34 52.6	
	comp=N,3μm,0.4s						
LPAZ	**La Paz**	**5.54**	**4**	P	**Pn**	**20 35 13.8**	**+1.6**
	comp=N,4.5nm,0.3s,baz=167,slow=4.3,SNR=79						
LPAZ				S	**Sn**	**20 36 08.9**	**-6.3**
	comp=N,1.1nm,0.3s,baz=172,slow=10.0,SNR=4.5						
DBIC	**Dimbokro**	**68.48**	**73**	P	**P**	**20 44 40.3**	**-0.5**
	comp=N,2.1nm,0.4s,baz=221,slow=8.8,SNR=9.4						
TORD	**Torodi Ar. Bea**	**77.12**	**70**	P	**P**	**20 45 31.4**	**-0.4**
	comp=N,1.9nm,0.5s,baz=258,slow=5.5,SNR=61						
BOSA	**Boshof**	**82.96**	**118**	P	**P**	**20 46 03.4**	**+0.3**
	comp=N,1.7nm,1.0s,baz=270,slow=8.1,SNR=3.2						
LBTB	**Lobatse**	**84.54**	**115**	P	**P**	**20 46 11.9**	**+0.7**
	comp=N,2.6nm,0.9s,baz=252,slow=7.4,SNR=3.6						
YKA	**Yellowknife Ar**	**91.64**	**340**	P	**P**	**20 46 45.2**	**+1.2**
	comp=N,0.2nm,0.4s,baz=135,slow=4.9,SNR=3.8						

*ISCJB **20** 20:33:55.9±0.8,59.4↑45.0°1×25.7°W±0.2°,1,h40km,mb4.4/10, Error ellipse: s-maj=23.7km s-min=10.1km az=44.5*
*NEIC **20** 20:33:57.1±2.6,59.3↑32.5×25.6°2W,h37km±22km,mb4.7/2, Error ellipse: s-maj=20.2km s-min=9.1km az=218.0*
*IDC **20** 20:34:03.8±8.0,59.3↑36.5×25.9°99W,h93km±70km,mb4.2/8, mb1 4.3/8,mb1mx3.9/23,mbtmp4.4/8,Error ellipse: s-maj=30.0km s-min=18.0km az=51.0*

ISC 20 20:33:57.5±0.6,59.4↑45.0°1×25.7°W±0.2°,1,h40km,n32, σ0§92/26,mb4.5/9,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.43**	**155**	P	**Pn**	**20 37 04.1**	**-1.1**
SNAA	**Sanae**	**15.40**	**152**	P	**Pn**	**20 37 30.5**	**-1.2**
SNAA	**Sanae**	**15.40**	**152**	*e*P	**Pn**	**20 37 30.3**	**-1.4**
	968nm,0.5s						
EFI	**East Falkland**	**19.73**	**279**	*e*P	**P**	**20 38 23.8**	**+0.4**
USHA	**Ushuaia**	**23.36**	**262**	P	**P**	**20 39 02.6**	**+0.6**
	53nm,0.6s,baz=120,slow=9.6,SNR=9.0						
H09N1	**TRISTAN DA CUN**	**23.91**	**27**	T	T	21 04 28.0	
	SNR=9.2						
QSPA	**South Pole Qui**	**30.89**	**180**	*e*P	**P**	**20 40 10.7**	**+0.8**
	11nm,0.6s						
TRQA	**Tornquist**	**31.46**	**296**	*e*P	**P**	**20 40 15.3**	**+0.3**
	5.2nm,0.7s						
PLCA	**Paso Flores**	**33.48**	**284**	P	**P**	**20 40 31.9**	**-0.8**
	2.4nm,0.4s,baz=174,slow=6.4,SNR=6.3						
MAW	**Mawson**	**37.03**	**141**	P	**P**	**20 41 03.7**	**+0.9**
	1.2nm,0.6s,baz=230,slow=12,SNR=5.6						
VNDA	**Vanda**	**43.30**	**182**	P	**P**	**20 41 56.5**	**+1.8**
	2.4nm,0.7s,baz=184,slow=7.1,SNR=20						
H10S2	**ASCENSION HYDR**	**50.97**	**14**	T	T	21 37 30.7	
	baz=188,slow=74,SNR=13						
H10S3	**ASCENSION HYDR**	**50.98**	**14**	T	T	21 37 35.7	
	baz=188,slow=74,SNR=10						
H10S1	**ASCENSION HYDR**	**50.99**	**14**	T	T	21 37 31.8	
	baz=188,slow=74,SNR=9.2						
H10N1	**ASCENSION HYDR**	**52.09**	**14**	T	T	21 38 54.3	
	baz=182,slow=72,SNR=5.9						
H10N3	**ASCENSION HYDR**	**52.09**	**14**	T	T	21 39 07.9	
	baz=182,slow=72,SNR=8.3						
H10N2	**ASCENSION HYDR**	**52.11**	**14**	T	T	21 38 56.4	
	baz=182,slow=72,SNR=6.4						
LPAZ	**La Paz**	**52.97**	**306**	P	**P**	**20 43 09.8**	**-0.8**
	1.0nm,0.3s,baz=178,slow=4.8,SNR=8.5						
TORD	**Torodi Ar. Bea**	**75.57**	**28**	P	**P**	**20 45 39.1**	**+1.3**
	4.6nm,0.6s,baz=199,slow=6.1,SNR=29						
ASAR	**Alice Springs**	**95.59**	**161**	P	**P**	**20 47 17.4**	**-1.1**
	1.1nm,0.6s,baz=184,slow=4.1,SNR=23						
ASAR				PKKPbc	**PKKPbc**	**21 04 07.5**	**+1.4**
	0.3nm,0.5s,baz=20,slow=2.9,SNR=5.3						
WRA	**Warramunga Arr**	**99.31**	**161**	P	**Pdif**	**20 47 34.5**	**-0.7**
	0.5nm,0.9s,baz=191,slow=14,SNR=2.9						
WRA				PKKPbc	**PKKPdf**	**21 03 57.8**	**-0.7**
	0.2nm,0.3s,baz=360,slow=2.9,SNR=13						
CMAR	**Chiang Mai Arr**	**123.12**	**111**	PKP	**PKPdf**	**20 52 49.2**	**-0.2**
	1.1nm,0.7s,baz=232,slow=3.7,SNR=7.7						
FINES	**FINESS Array B**	**126.92**	**28**	PKP	**PKPdf**	**20 52 55.0**	**-0.3**
	0.7nm,0.5s,baz=215,slow=1.7,SNR=6.4						
ABKAR	**Akbulak array**	**128.54**	**57**	*e*PKPdf	**PKPdf**	**20 52 58.5**	**-0.3**
ARCES	**ARCESS Array B**	**133.70**	**22**	PKP	**PKPdf**	**20 53 07.8**	**-0.2**
	0.8nm,0.4s,baz=209,slow=3.1,SNR=8.1						
MKAR	**Makanchi Array**	**137.09**	**74**	PKP	**PKPdf**	**20 53 15.2**	**+0.1**
	0.4nm,0.8s,baz=222,slow=1.6,SNR=3.7						
YKA	**Yellowknife Ar**	**139.13**	**315**	PKP	**PKPdf**	**20 53 17.2**	**-1.0**
	2.2nm,0.7s,baz=126,slow=2.3,SNR=20						
ZALV	**Zalesovo Beam**	**143.00**	**67**	PKhKP	PKPpre	20 53 21.5	
	0.7nm,0.5s,baz=244,slow=4.5,SNR=4.2						
SONM	**Songino Array**	**149.98**	**91**	PKPbc	**PKPbc**	**20 53 42.5**	**0.0**
	2.2nm,0.5s,baz=221,slow=3.1,SNR=19						
DOT	**Dot Lake**	**151.32**	**305**	*e*PKPbc	**PKPbc**	**20 53 44.8**	**-0.3**
ILAR	**Eielson Array**	**152.84**	**307**	PKPbc	**PKPbc**	**20 53 47.6**	**-0.8**
	0.8nm,0.5s,baz=142,slow=1.5,SNR=9.9						
BPAW	**Bear Paw Mtn.**	**154.38**	**304**	*e*PKPbc	**PKPbc**	**20 53 51.2**	**-0.6**

*CSEM **20** 20:48:06.2±1.1,50.2↑4.0×19.5°32E,h1km,Error ellipse: s-maj=21.2km s-min=7.5km az=50.0*

PRU 20 20:48:06.8,50.2↑4.0×19.5°34E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANS	**Liptovska Anna**	**1.09**	**176**	*e*Sg	Sg	20 48 42.2	+0.3
LANS	**Liptovska Anna**	**1.09**	**176**	*e*SG	Sg	20 48 42.2	+0.3
MORC	**Moravsky Berou**	**1.25**	**249**	*e*Pg	Pg	20 48 30.3	-0.4
MORC				*e*Sg	Sg	20 48 45.8	-1.1
VYHS	**Vyhne**	**1.78**	**191**	*e*Sn	Sn	20 49 00.0	-2.1
VYHS	**Vyhne**	**1.78**	**191**	*e*SN	Sn	20 49 00.0	-2.1
DPC	**Dobruska-Polom**	**1.94**	**274**	*e*PG	Pb	20 48 43.1	+0.1
DPC				*e*SG	Sg	20 49 08.4	-0.6
DPC	**Dobruska-Polom**	**1.94**	**274**	Pg	Pb	20 48 43.1	+0.1
DPC				Sg	Sg	20 49 08.4	-0.6

*CSEM **20** 20:49:07.5±0.3,46.3↑2.9×13.6°3E,h2km,ML0.4,Error ellipse: s-maj=6.4km s-min=4.4km az=138.0*

LJU 20 20:49:07.6,46.3↑2.9×13.6°4E,h4km,ML0.4,3C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CADS	**Cadrg**	**0.09**	**134**	⇑*i*Pg	Pg	20 49 09.5	0.0
CADS				*i* Sg	Sg	20 49 10.9	+0.2
CADS	**Cadrg**	**0.09**	**134**	⇑*i*Pg	Pg	20 49 09.5	0.0
CADS				*i* Sg	Sg	20 49 10.9	+0.1
ROBS	**Robic**	**0.10**	**243**	*i* Pg	Pg	20 49 09.7	0.0
ROBS				*i* Sg	Sg	20 49 11.4	+0.3
ROBS	**Robic**	**0.10**	**243**	*i* Pg	Pg	20 49 09.7	0.0
ROBS				*i* Sg	Sg	20 49 11.4	+0.3
DRE	**Drenchia**	**0.12**	**180**	⇓*e*Pg	Pg	20 49 09.9	-0.1
DRE				*e*Sg	Sg	20 49 11.7	+0.1
DRE	**Drenchia**	**0.12**	**180**	*e*P	Pg	20 49 09.9	-0.1
DRE	**Drenchia**	**0.12**	**180**	*e*Pg	Pg	20 49 11.7	+1.7
GORS	**Gorjuse**	**0.25**	**84**	*i* Pg	Pg	20 49 12.6	+0.2
GORS				*i* Sg	Sg	20 49 16.3	+0.7
	comp=Z,1.0nm,0.1s						
GORS	**Gorjuse**	**0.25**	**84**	*i* Pg	Pg	20 49 12.6	+0.2
GORS				*i* Sg	Sg	20 49 16.3	+0.7
	comp=Z,1.0nm,0.1s						
VINO	**Villanova**	**0.25**	**262**	*e*Pg	Pg	20 49 12.5	0.0
VINO				*e*Sg	Sg	20 49 16.5	+0.7
VINO	**Villanova**	**0.25**	**262**	*e*P	Pg	20 49 12.5	0.0
VINO	**Villanova**	**0.25**	**262**	*e*Pg	Pn	20 49 16.5	-1.7
VOJS	**Vojsko**	**0.31**	**147**	*i* Sg	Sg	20 49 18.3	+0.6
VOJS	**Vojsko**	**0.31**	**147**	*i* Sg	Sg	20 49 18.3	+0.6
SABO	**M.te Sabotino**	**0.31**	**185**	*e*Pg	Pg	20 49 13.6	0.0
SABO				*e*Sg	Sg	20 49 18.1	+0.4
SABO	**M.te Sabotino**	**0.31**	**185**	*e*P	Pg	20 49 13.6	0.0
SABO	**M.te Sabotino**	**0.31**	**185**	*e*Pg	Pn	20 49 18.1	-0.9

*CSEM **20** 20:50:08.5±0.3,50.1↑5.1×19.2°4E,h1km,Error ellipse: s-maj=6.7km s-min=3.7km az=177.0*

PRU 20 20:50:09.5,50.1↑3.1×19.2°3E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.44**	**78**	*e*Pg	Pg	20 50 17.2	-0.7
OJC				*e*Sg	Sg	20 50 22.8	-0.8
OJC	**Ojcow**	**0.44**	**78**	*e*Pg	Pg	20 50 17.2	-0.7
OJC				*e*Sg	Sg	20 50 22.8	-0.8
OKC	**Ostrava-Krasne**	**0.70**	**246**	*e*SG	Sb	20 50 33.5	-1.2
OKC	**Ostrava-Krasne**	**0.70**	**246**	Sg	Sb	20 50 33.5	-1.2
LANS	**Liptovska Anna**	**1.00**	**167**	*e*Pg	Pg	20 50 28.2	-0.5
LANS				*e*Sg	Sg	20 50 41.8	+0.1
LANS	**Liptovska Anna**	**1.00**	**167**	*e*PG	Pg	20 50 28.2	-0.5
LANS				*e*SG	Sg	20 50 41.8	+0.1
MORC	**Moravsky Berou**	**1.08**	**252**	*e*Sg	Sg	20 50 45.0	+0.7
MORC	**Moravsky Berou**	**1.08**	**252**	*e*Pg	Pg	20 50 30.5	+0.2
STHS	**Stebnicka Huta**	**1.54**	**117**	*e*Pn	Pn	20 50 38.3	0.0
STHS	**Stebnicka Huta**	**1.54**	**117**	*e*PN	Pn	20 50 38.3	0.0
STHS				*e*LG	Lg	20 51 07.9	
VYHS	**Vyhne**	**1.65**	**187**	*e*Pn	Pn	20 50 38.4	-1.3
VYHS	**Vyhne**	**1.65**	**187**	*e*Sn	Sn	20 50 59.4	-2.2
VYHS	**Vyhne**	**1.65**	**187**	*e*PN	Pn	20 50 38.4	-1.3
VYHS				*e*SN	Sn	20 50 59.4	-2.2
VYHS				*e*LG	Lg	20 51 06.4	
DPC	**Dobruska-Polom**	**1.82**	**278**	*e*PG	Pb	20 50 43.3	-0.3
DPC				*e*SG	Sb	20 51 06.4	-0.5
	2.4nm,0.4s						
DPC	**Dobruska-Polom**	**1.82**	**278**	Pg	Pb	20 50 43.3	-0.3
DPC				Sg	Sb	20 51 06.4	-0.5
	2.4nm,0.4s						
VRAC	**Vranov**	**1.84**	**244**	*e*Sg	Sg	20 51 08.2	-0.4
KHC	**Kasperske Hory**	**3.75**	**257**	*e*SG	Sg	20 52 08.4	-1.3
KHC	**Kasperske Hory**	**3.75**	**257**	Sg	Sg	20 52 08.4	-1.3

IDC 20 20:51:47.5±2.1,53.6↑5.5×34.9°7W,h0km,mb3.4/2, mb1 3.6/2,mb1mx3.2/45,mbtmp3.4/2,Error ellipse: s-maj=195.8km s-min=32.0km az=43.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**40.42**	**315**	P	P	20 59 26.8	-0.1
	0.2nm,0.6s,baz=56,slow=9.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**49.70**	**130**	P	P	21 00 41.1	-0.1
	0.8nm,0.9s,baz=318,slow=6.8,SNR=3.8						
ASAR	**Alice Springs**	**148.91**	**20**	PKPbc	PKPbc	21 11 36.4	-0.6
	0.4nm,0.6s,baz=355,slow=2.4,SNR=7.3						

IDC 20 20:52:57.6±1.8,53.3↑0.5×35.8°8W,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/49,mbtmp3.4/4,Error ellipse: s-maj=76.2km s-min=30.6km az=42.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**40.45**	**315**	P	P	21 00 37.0	-0.2
	0.3nm,0.6s,baz=64,slow=9.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**49.71**	**129**	P	P	21 01 51.5	+0.1
	0.7nm,0.7s,baz=338,slow=7.3,SNR=3.6						
ILAR	**Eielson Array**	**51.04**	**329**	P	P	21 02 01.2	+0.3
	0.6nm,1.0s,baz=56,slow=5.5,SNR=3.0						
MKAR	**Makanchi Array**	**67.11**	**41**	P	P	21 03 52.8	+0.1
	0.3nm,0.7s,baz=324,slow=7.1,SNR=1.9						
ASAR	**Alice Springs**	**149.33**	**19**	PKPbc	PKPbc	21 12 47.2	-1.0
	0.6nm,0.7s,baz=343,slow=2.3,SNR=7.8						

*IDC **20** 20:53:18.9±0.8,53.3↑9.0×35.7°4W,h0km,mb3.8/12, mb1 3.9/13,mb1mx3.7/52,mbtmp3.8/13,ML3.7/1,Error ellipse: s-maj=27.3km s-min=16.3km az=10.0*
*ISCJB **20** 20:53:19.8±0.6,53.4↑1.0×35.4°W±0.1,h16km,mb3.8/13, Error ellipse: s-maj=20.4km s-min=11.0km az=8.6*
*NEIC **20** 20:53:20.4±0.4,53.3↑9.0×35.4°1W,h10km,mb4.2/1,Error ellipse: s-maj=14.6km s-min=8.2km az=189.0*

ISC 20 20:53:21.4±0.7,53.4↑0.2×35.3°9W±0.0°9,h16km,n17, σ0§64/17,mb3.8/13,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**18.79**	**71**	P	**Pn**	**20 57 40.7**	**+0.4**
	baz=276,slow=9.9,SNR=3.4						
ESDC	**Sonseca Array**	**25.36**	**110**	P	**P**	**20 58 47.9**	**+0.4**
	0.7nm,0.7s,baz=307,slow=9.8,SNR=4.6						
SADO	**Sadowa**	**29.52**	**271**	P	**P**	**20 59 24.9**	**+0.2**
	2.6nm,0.8s,baz=97,slow=17,SNR=2.0						
ULM	**Lac du Bonnet**	**36.54**	**290**	P	**P**	**21 00 27.1**	**+1.2**
	2.2nm,0.6s,baz=117,slow=9.0,SNR=3.5						
AKASG	**Malin Array Be**	**38.62**	**67**	P	**P**	**21 00 43.0**	**-0.5**
	0.4nm,0.4s,baz=301,slow=7.5,SNR=3.7						
YKA	**Yellowknife Ar**	**40.42**	**315**	P	**P**	**21 00 57.8**	**-0.6**
	0.7nm,0.8s,baz=68,slow=8.7,SNR=3.4						
BRTR	**Keskin Array B**	**47.54**	**77**	P	**P**	**21 01 56.4**	**+0.5**
	1.6nm,0.9s,baz=320,slow=3.2,SNR=4.3						
PDAR	**Pinedale Array**	**48.54**	**289**	P	**P**	**21 02 03.3**	**-0.5**
	0.4nm,0.5s,baz=29,slow=8.3,SNR=3.4						
DAWY	**Dawson**	**49.04**	**326**	*e*P	**P**	**21 02 07.5**	**+0.4**
	2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**49.73**	**130**	P	**P**	**21 02 12.7**	**0.0**
	1.0nm,0.6s,baz=336,slow=7.4,SNR=4.8						
ILAR	**Eielson Array**	**50.99**	**329**	P	**P**	**21 02 21.9**	**+0.1**
	0.6nm,0.7s,baz=42,slow=6.7,SNR=6.3						
MKAR	**Makanchi Array**	**67.00**	**41**	P	**P**	**21 04 13.6**	**+0.5**
	0.4nm,0.6s,baz=330,slow=3.7,SNR=2.3						
SONM	**Songino Array**	**74.06**	**26**	P	**P**	**21 04 55.9**	**-0.4**
	0.4nm,0.6s,baz=319,slow=5.7,SNR=3.7						
LPAZ	**La Paz**	**74.89**	**213**	P	**P**	**21 05 01.6**	**-0.3**
	1.0nm,0.5s,baz=354,slow=8.9,SNR=4.1						
QSPA	**South Pole Qui**	**143.28**	**180**	*e*P	**PKPdf**	**21 12 53.5**	**+0.2**
WRA	**Warramunga Arr**	**145.68**	**17**	PKPbc	**PKPdf**	**21 12 58.6**	**-0.3**
	0.7nm,0.8s,baz=345,slow=3.6,SNR=3.4						
ASAR	**Alice Springs**	**149.23**	**19**	PKPbc	**PKPbc**	**21 13 07.6**	**-1.4**
	1.1nm,0.7s,baz=352,slow=2.3,SNR=9.9						

*IDC **20** 20:58:30.7±1.0,53.7↑2.4×35.7°2W,h0km,mb3.5/9, mb1 3.8/10,mb1mx3.6/54,mbtmp3.5/10,ML3.7/1,Error ellipse: s-maj=36.2km s-min=18.4km az=19.0*
*ISCJB **20** 20:58:31.4±0.8,53.7↑4.2×35.7°4W±0.2°,h16km,mb3.5/9, Error ellipse: s-maj=27.1km s-min=13.3km az=13.6*

ISC 20 20:58:33.2±0.9,53.7↑4.2×35.7°4W±0.1°,h16km,n12, σ0§75/12,mb3.6/9,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**18.79**	**71**	P	**Pn**	**21 02 51.4**	**-0.6**
	baz=287,slow=9.6,SNR=4.2						
ESDC	**Sonseca Array**	**25.38**	**110**	P	**P**	**21 03 59.8**	**+0.3**
	0.8nm,0.7s,baz=312,slow=9.3,SNR=6.6						
YKA	**Yellowknife Ar**	**40.39**	**315**	P	**P**	**21 06 09.4**	**-0.4**
	0.4nm,0.7s,baz=64,slow=8.9,SNR=3.0						
BRTR	**Keskin Array B**	**47.54**	**77**	P	**P**	**21 07 09.3**	**+1.6**
	0.6nm,0.7s,baz=302,slow=7.1,SNR=3.3						
PDAR	**Pinedale Array**	**48.52**	**289**	P	**P**	**21 07 15.8**	**+0.5**
	0.4nm,0.5s,baz=49,slow=8.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**49.76**	**130**	P	**P**	**21 07 24.3**	**-0.5**
	1.0nm,0.9s,baz=328,slow=9.0,SNR=5.4						
ILAR	**Eielson Array**	**50.95**	**329**	P	**P**	**21 07 33.8**	**+0.6**
	0.6nm,0.9s,baz=33,slow=7.9,SNR=6.4						
TXAR	**Lajitas Array**	**54.26**	**272**	P	**P**	**21 07 58.2**	**-0.1**
	0.2nm,0.6s,baz=83,slow=9.2,SNR=2.9						
MKAR	**Makanchi Array**	**66.98**	**41**	P	**P**	**21 09 24.2**	**-0.5**
	0.3nm,0.7s,baz=355,slow=6.1,SNR=3.7						
SONM	**Songino Array**	**74.03**	**26**	P	**P**	**21 10 07.8**	**-0.1**
	0.4nm,0.6s,baz=329,slow=7.0,SNR=3.4						
WRA	**Warramunga Arr**	**145.65**	**17**	PKPbc	**PKPab**	**21 18 10.7**	**-0.5**
	0.7nm,1.0s,baz=340,slow=3.4,SNR=3.9						
ASAR	**Alice Springs**	**149.20**	**19**	PKPbc	**PKPbc**	**21 18 20.0**	**-0.7**
	0.8nm,0.6s,baz=354,slow=2.3,SNR=15						

IDC 20 20:59:44.0±3.7,9.6↑0.5×113.9°8E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.5/35,mbtmp3.7/4,ML3.2/1,Error ellipse: s-maj=140.7km s-min=26.4km az=54.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.12**	**128**	Pn	Pn	21 03 03.3	-2.2
	0.1nm,0.3s,baz=315,slow=11,SNR=2.1						
FITZ				Sn	Sn	21 05 26.2	-17
	0.1nm,0.3s,baz=59,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**22.18**	**120**	P	P	21 04 41.6	-0.4
	0.8nm,0.5s,baz=295,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.62**	**129**	P	P	21 04 57.5	+0.5
	1.5nm,0.8s,baz=304,slow=9.1,SNR=24						
SONM	**Songino Array**	**57.57**	**354**	P	P	21 09 35.8	+0.2
	0.6nm,0.6s,baz=174,slow=9.5,SNR=4.5						

*IDC **20** 21:00:55.4±0.8,53.3↑7.3×35.4°4W,h0km,mb3.7/11, mb1 4.0/12,mb1mx3.7/57,mbtmp3.7/12,ML4.0/1,Error ellipse: s-maj=24.3km s-min=17.5km az=11.0*
*ISCJB **20** 21:00:56.4±0.7,53.4↑1.0×35.4°W±0.2°,h16km,mb3.7/11, Error ellipse: s-maj=21.0km s-min=12.7km az=8.4*

ISC 20 21:00:57.9±0.8,53.4↑0.2×35.4°W±0.1°,h16km,n16, σ0§88/16,mb3.7/11,1C-1D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**18.81**	**71**	P	**P**	**21 05 16.0**	**-0.5**
	baz=122,slow=11,SNR=4.9						
ESDC	**Sonseca Array**	**25.37**	**110**	P	**P**	**21 06 24.2**	**0.0**
	0.6nm,0.6s,baz=320,slow=8.5,SNR=5.0						
NOA	**NORSAR Array B**	**25.89**	**54**	P	**P**	**21 06 27.7**	**-1.0**
	1.5nm,0.8s,baz=273,slow=9.0,SNR=3.0						
GERES	**GERESS Array B**	**30.67**	**78**	P	**P**	**21 07 10.6**	**-0.9**
	0.2nm,0.5s,baz=295,slow=2.8,SNR=3.4						
MLR	**Muntele Rosu**	**39.55**	**76**	⇓*i*P	**P**	**21 08 29.2**	**+1.2**
YKA	**Yellowknife Ar**	**40.42**	**315**	P	**P**	**21 08 33.7**	**-1.1**
	0.5nm,0.6s,baz=60,slow=9.1,SNR=5.5						
CFR	**Carcaliu**	**41.00**	**75**	⇑*i*P	**P**	**21 08 41.5**	**+1.7**
BRTR	**Keskin Array B**	**47.56**	**77**	P	**P**	**21 09 33.4**	**+0.8**
	1.2nm,0.7s,baz=317,slow=6.4,SNR=6.7						
PDAR	**Pinedale Array**	**48.53**	**289**	P	**P**	**21 09 40.4**	**+0.2**
	0.5nm,0.5s,baz=60,slow=8.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**49.73**	**130**	P	**P**	**21 09 48.9**	**-0.3**
	0.6nm,0.6s,baz=340,slow=5.5,SNR=5.4						
ILAR	**Eielson Array**	**51.00**	**329**	P	**P**	**21 09 59.2**	**+0.9**
	2.3nm,1.1s,baz=42,slow=5.5,SNR=11						
MKAR	**Makanchi Array**	**67.03**	**41**	P	**P**	**21 11 49.6**	**-0.2**
	0.5nm,0.8s,baz=350,slow=7.3,SNR=3.4						
SONM	**Songino Array**	**74.08**	**26**	P	**P**	**21 12 33.5**	**+0.6**
	0.6nm,0.8s,baz=312,slow=7.1,SNR=3.7						
LPAZ	**La Paz**	**74.87**	**213**	P	**P**	**21 12 38.5**	**+0.2**
	2.2nm,0.3s,baz=172,slow=3.2,SNR=15						
WRA	**Warramunga Arr**	**145.71**	**17**	PKPbc	**PKPdf**	**21 20 35.3**	**-0.2**
	0.7nm,1.2s,baz=353,slow=4.5,SNR=4.2						
ASAR	**Alice Springs**	**149.25**

LANS	Liptovska Anna	33.81	75	*e*P		P	21 08 09.0	+1.7	
LANS	Liptovska Anna	33.81	75	*e*P		P	21 08 09.0	+1.7	
LANS				*e*			21 08 13.3		
STHS	Stebnicka Huta	34.70	73	*e*P		P	21 08 14.6	-0.4	
	comp=Z,4.3nm,1.6s								
STHS	Stebnicka Huta	34.70	73	*e*P		P	21 08 14.6	-0.4	
CRVS	Cervenica-Dubn	35.07	74	*e*P		P	21 08 17.5	-0.7	
CRVS	Cervenica-Dubn	35.07	74	*e*P		P	21 08 17.5	-0.7	
KWP	Kalwaria Pacla	35.43	72	*i*P		P	21 08 30.5	+9.2	
KOLS	Kolonicke sedl	35.52	73	*e*P		P	21 08 23.1	+1.0	
	comp=Z,3.3nm,0.4s								
KOLS	Kolonicke sedl	35.52	73	*e*P		P	21 08 23.1	+1.0	
SIRR	Siria	36.55	78	*i*P		P	21 08 36.8	+5.9	
BZS	Buzias	36.88	79	*i*P		P	21 08 34.4	+0.7	
BZS	Buzias	36.88	79	*i*P		P	21 08 34.4	+0.7	
DRGR		36.88	76	*i*P		P	21 08 32.5	-1.3	
DRGR		36.88	76	*i*P		P	21 08 32.5	-1.3	
MDVR	Moldovita	37.40	80	*i*P		P	21 08 40.5	+2.3	
BURAR	Bucovina Array	37.89	74	*i*P		P	21 08 43.6	+1.2	
BURAR	Bucovina Array	37.89	74	*i*P		P	21 08 43.6	+1.2	
AKASG	Malin Array Be	38.56	67	P		P	21 08 47.1	-0.8	
	comp=Z,0.3nm,0.3s,baz=306,slow=8.6,SNR=5.7								
AKBB	Malin Array Si	38.56	67	*e*P		P	21 08 47.0	-0.8	
	comp=Z,7.4nm,0.8s								
AKBB	Malin Array Si	38.56	67	*e*P		P	21 08 47.0	-0.8	
	comp=Z,7.4nm,0.8s								
VOIR		38.98	77	*i*P		P	21 08 48.5	-3.1	
VOIR		38.98	77	*i*P		P	21 08 48.5	-3.1	
MTUR	Matau	39.11	77	*i*P		P	21 08 52.4	-0.2	
MTUR	Matau	39.11	77	*i*P		P	21 08 52.4	-0.2	
YKA	Yellowknife Ar	40.42	315	P		P	21 09 02.2	-1.0	
	comp=Z,2.3nm,0.9s,baz=62,slow=9.2,SNR=11								
YKA				PcP		PcP	21 11 04.7	-1.1	
	comp=Z,1.0nm,0.8s,baz=41,slow=3.2,SNR=5.1								
YKB5	Yellowknife Ar	40.42	315	*e*P		P	21 09 02.2	-1.0	
YKB5	Yellowknife Ar	40.42	315	*e*PcP		PcP	21 11 04.7	-1.1	
YKB5	Yellowknife Ar	40.42	315	*e*P		P	21 09 02.2	-1.0	
YKB5				*e*PcP		PcP	21 11 04.7	-1.1	
ECSD	EROS Data Cent	40.51	282	*e*P		P	21 09 04.9	+0.6	
	comp=Z,10nm,1.0s								
ECSD	EROS Data Cent	40.51	282	*e*P		P	21 09 04.9	+0.6	
	comp=Z,10nm,1.0s								
GLAT	Glass	40.86	268	*e*P		P	21 09 07.0	-0.1	
GLAT	Glass	40.86	268	*e*P		P	21 09 07.0	-0.1	
TAM	Tamanrasset	43.42	119	*e*P		P	21 09 29.7	+1.4	
	comp=Z,27nm,1.6s								
TAM	Tamanrasset	43.42	119	*e*P		P	21 09 29.7	+1.4	
	comp=Z,27nm,1.6s								
LAO	LASA Array	44.28	291	*e*P		P	21 09 36.0	+1.1	
	comp=Z,20nm,1.1s								
LAO	LASA Array	44.28	291	*e*P		P	21 09 36.0	+1.1	
	comp=Z,20nm,1.1s								
INK	Inuvik	44.59	328	P		P	21 09 36.1	-0.8	
	comp=Z,10.0nm,1.2s,baz=54,slow=8.2,SNR=6.9								
MIAR	Mount Ida	44.60	269	*e*P		P	21 09 37.6	+0.1	
	comp=Z,31nm,1.3s								
MIAR	Mount Ida	44.60	269	*e*P		P	21 09 37.6	+0.1	
	comp=Z,31nm,1.3s								
BR231	Keskin MP Arra	46.90	78	*e*P		P	21 10 00.5	+4.7	
WALA	Waterton Lakes	47.05	298	*e*P		P	21 09 57.0	+0.2	
	comp=Z,14nm,1.1s								
WALA	Waterton Lakes	47.05	298	*e*P		P	21 09 57.0	+0.2	
	comp=Z,14nm,1.1s								
BR101	Keskin Array S	47.48	78	*e*P		P	21 10 01.3	+0.9	
BR101	Keskin Array S	47.48	78	*e*P		P	21 10 01.3	+0.9	
BR131	Keskin Array S	47.48	78	*e*P		P	21 10 01.9	+1.5	
BR131	Keskin Array S	47.48	78	*e*P		P	21 10 01.9	+1.5	
BRTR	Keskin Array B	47.48	78	P		P	21 10 01.3	+0.9	
	comp=Z,1.5nm,0.7s,baz=309,slow=5.3,SNR=8.2								
BW06	Boulder Array	48.57	289	*e*P		P	21 10 08.1	-0.7	
BW06	Boulder Array	48.57	289	*e*P		P	21 10 08.1	-0.7	
PD31	Pinedale Array	48.57	289	*e*P		P	21 10 07.9	-0.9	
PD31	Pinedale Array	48.57	289	*e*P		P	21 10 08.0	-0.9	
PDAR	Pinedale Array	48.57	289	P		P	21 10 08.0	-0.9	
	comp=Z,1.2nm,0.7s,baz=59,slow=7.1,SNR=10								
TPAW	Teton Pass	48.89	291	*e*P		P	21 10 11.6	+0.3	
	comp=Z,3.4nm,0.8s								
TPAW	Teton Pass	48.89	291	*e*P		P	21 10 11.6	+0.3	
	comp=Z,3.4nm,0.8s								
DAWY	Dawson	49.03	326	*e*P		P	21 10 11.5	-0.3	
	comp=Z,25nm,1.4s								
DAWY	Dawson	49.03	326	*e*P		P	21 10 11.5	-0.3	
	comp=Z,25nm,1.4s								
MCMT	McKenzie Canyo	49.09	293	*e*P		P	21 10 13.4	+0.6	
MCMT	McKenzie Canyo	49.09	293	*e*P		P	21 10 13.4	+0.6	
AMTX	Amarillo	49.20	276	*e*P		P	21 10 14.8	+1.2	
	comp=Z,35nm,1.2s								
AMTX	Amarillo	49.20	276	*e*P		P	21 10 14.8	+1.2	
	comp=Z,35nm,1.2s								
NEW	Newport	49.22	299	P		P	21 10 12.9	-0.6	
	comp=Z,2.8nm,0.6s,baz=50,slow=12,SNR=3.3								
TOA1	Torodi Ar. Sit	49.72	130	*e*P		P	21 10 16.9	-0.7	
	comp=Z,13nm,1.4s								
TOA1	Torodi Ar. Sit	49.72	130	*e*P		P	21 10 16.9	-0.7	
	comp=Z,13nm,1.4s								
TOA0	Torodi Ar. Sit	49.73	130	*e*P		P	21 10 17.0	-0.7	
TOA0	Torodi Ar. Sit	49.73	130	*e*P		P	21 10 16.9	-0.7	
TORD	Torodi Ar. Bea	49.73	130	P		P	21 10 16.9	-0.8	
	comp=Z,2.4nm,0.8s,baz=328,slow=7.7,SNR=9.9								
ARU	Arti	49.92	46	P		P	21 10 18.6	-0.1	
	comp=Z,2.3nm,0.6s,baz=279,slow=6.2,SNR=5.4								
ARU	Arti	49.92	46	*e*P		P	21 10 18.6	-0.1	
	comp=Z,5.8nm,1.0s								
ARU	Arti	49.92	46	*e*P		P	21 10 18.6	-0.1	
	comp=Z,5.8nm,1.0s								
COLD	Coldfoot	50.20	333	*e*P		P	21 10 21.0	+0.3	
	comp=Z,4.5nm,1.0s								
COLD	Coldfoot	50.20	333	*e*P		P	21 10 21.0	+0.3	
	comp=Z,4.5nm,1.0s								
HWUT	Hardware Ranch	50.45	289	*e*P		P	21 10 23.5	+0.3	
	comp=Z,10.0nm,0.9s								
HWUT	Hardware Ranch	50.45	289	*e*P		P	21 10 23.4	+0.3	
	comp=Z,10.0nm,0.9s								
NRIK	Noril'sk	50.66	23	P		P	21 10 24.5	+0.4	
	comp=Z,1.7nm,0.4s,baz=0.0,slow=4.0,SNR=3.5								
TCUT	Toone Canyon	50.69	289	*e*P		P	21 10 25.5	+0.5	
	comp=Z,19nm,1.1s								
TCUT	Toone Canyon	50.69	289	*e*P		P	21 10 25.4	+0.5	
	comp=Z,19nm,1.1s								
HLID	Hailey	50.76	293	*e*P		P	21 10 26.3	+0.8	
	comp=Z,12nm,1.5s								
HLID	Hailey	50.76	293	*e*P		P	21 10 26.3	+0.8	
	comp=Z,12nm,1.5s								
ILAR	Eielson Array	50.97	329	P		P	21 10 26.8	+0.3	
	comp=Z,5.4nm,1.0s,baz=42,slow=5.5,SNR=22								
SPUT	South Promonto	51.15	289	*e*P		P	21 10 28.7	+0.3	
	comp=Z,21nm,1.5s								
SPUT	South Promonto	51.15	289	*e*P		P	21 10 28.7	+0.3	
	comp=Z,21nm,1.5s								
PV10	Paradox Valley	51.16	284	*e*P		P	21 10 30.2	+1.6	
PV10	Paradox Valley	51.16	284	*e*P		P	21 10 30.2	+1.6	
CCB	Clear Creek Bu	51.34	329	*e*P		P	21 10 29.3	+0.1	
	comp=Z,5.2nm,1.0s								
CCB	Clear Creek Bu	51.34	329	*e*P		P	21 10 29.3	+0.1	
	comp=Z,5.2nm,1.0s								
SRU	San Rafael Swe	51.52	286	*e*P		P	21 10 33.1	+1.9	
	comp=Z,5.2nm,1.0s								
SRU	San Rafael Swe	51.52	286	*e*P		P	21 10 33.1	+1.9	
	comp=Z,5.2nm,1.0s								
MFID	Camas Ranch	51.64	294	*e*P		P	21 10 33.0	+1.0	
	comp=Z,17nm,1.8s								
MFID	Camas Ranch	51.64	294	*e*P		P	21 10 33.0	+1.0	
	comp=Z,17nm,1.8s								
ANMO	Albuquerque	51.99	279	*e*P		P	21 10 36.0	+1.2	
	comp=Z,7.3nm,1.3s								
ANMO	Albuquerque	51.99	279	*e*P		P	21 10 36.0	+1.2	
	comp=Z,7.3nm,1.3s								
DUG	Dugway, Tooele	52.10	289	*e*P		P	21 10 36.5	+1.0	
	comp=Z,18nm,1.5s								
DUG	Dugway, Tooele	52.10	289	*e*P		P	21 10 36.5	+1.0	
	comp=Z,18nm,1.5s								
MCK	McKinley	52.34	329	*e*P		P	21 10 37.6	+0.8	
	comp=Z,24nm,1.0s								
MCK	McKinley	52.34	329	*e*P		P	21 10 37.6	+0.8	
	comp=Z,24nm,1.0s								
CRQM	Cirque	52.54	324	*e*P		P	21 10 38.8	+0.3	
CRQM	Cirque	52.54	324	*e*P		P	21 10 38.8	+0.3	
RND	Reindeer	52.55	329	*e*P		P	21 10 38.5	+0.1	
	comp=Z,14nm,1.0s								
RND	Reindeer	52.55	329	*e*P		P	21 10 38.5	+0.1	
	comp=Z,14nm,1.0s								
GDL2	Guadalupe Moun	52.68	275	*e*P		P	21 10 40.3	+0.5	
GDL2	Guadalupe Moun	52.68	275	*e*P		P	21 10 40.3	+0.5	
DBIC	Dimbokro	52.79	141	P		P	21 10 39.3	-1.3	
	comp=Z,7.7nm,1.0s,baz=338,slow=14,SNR=3.9								
DBIC	Dimbokro	52.79	141	*e*P		P	21 10 39.3	-1.3	
	comp=Z,67nm,1.7s								
DBIC	Dimbokro	52.79	141	*e*P		P	21 10 39.3	-1.3	
	comp=Z,67nm,1.7s								
BMRM	Bremner River	52.91	325	*e*P		P	21 10 41.2	+0.2	
	comp=Z,12nm,1.0s								
BMRM	Bremner River	52.91	325	*e*P		P	21 10 41.2	+0.2	
	comp=Z,12nm,1.0s								
KTH	Kantishna Hill	53.08	330	*e*P		P	21 10 42.4	+0.1	
	comp=Z,23nm,1.1s								
KTH	Kantishna Hill	53.08	330	*e*P		P	21 10 42.4	+0.1	
	comp=Z,23nm,1.1s								
ELK	Elko	53.09	291	*e*P		P	21 10 43.3	+0.4	
	comp=Z,10nm,1.4s								
ELK	Elko	53.09	291	*e*P		P	21 10 43.3	+0.4	
	comp=Z,10nm,1.4s								
MTPU	Mount Pierson	53.20	286	*e*P		P	21 10 45.3	+1.4	
	comp=Z,18nm,1.6s								
MTPU	Mount Pierson	53.20	286	*e*P		P	21 10 45.3	+1.4	
	comp=Z,18nm,1.6s								
EYAK	Cordova Ski Ar	53.60	325	*e*P		P	21 10 46.6	+0.6	
	comp=Z,6.5nm,0.7s								
EYAK	Cordova Ski Ar	53.60	325	*e*P		P	21 10 46.6	+0.6	
	comp=Z,6.5nm,0.7s								
E03A	Lebam	53.67	301	*e*P		P	21 10 44.8	-1.9	
	comp=Z,29nm,1.1s								
E03A	Lebam	53.67	301	*e*P		P	21 10 44.8	-1.9	
	comp=Z,29nm,1.1s								
KNB	Kanab	54.27	286	*e*P		P	21 10 52.0	+0.4	
	comp=Z,6.8nm,1.0s								
KNB	Kanab	54.27	286	*e*P		P	21 10 52.0	+0.4	
	comp=Z,6.8nm,1.0s								
LTX	Lajitas	54.32	272	*e*P		P	21 10 51.6	-0.3	
LTX	Lajitas	54.32	272	*e*P		P	21 10 51.6	-0.3	
TXAR	Lajitas Array	54.32	272	P		P	21 10 51.6	-0.3	
	comp=Z,1.5nm,0.9s,baz=52,slow=4.9,SNR=6.6								
SUA	Susitna One	54.58	328	*e*P		P	21 10 54.3	+0.9	
	comp=Z,18nm,1.0s								
SUA	Susitna One	54.58	328	*e*P		P	21 10 54.3	+0.9	
	comp=Z,18nm,1.0s								
K05A	Summer Lake	54.85	296	*e*P		P	21 10 56.3	+0.6	
	comp=Z,31nm,1.3s								
K05A	Summer Lake	54.85	296	*e*P		P	21 10 56.3	+0.6	
	comp=Z,31nm,1.3s								
R11A	Troy Canyon, C	54.93	289	*e*P		P	21 10 56.4	+0.1	
	comp=Z,4.9nm,1.4s								
R11A	Troy Canyon, C	54.93	289	*e*P		P	21 10 56.4	+0.1	
	comp=Z,4.9nm,1.4s								
MOD	Modoc Plateau	55.10	295	*e*P		P	21 10 57.9	+0.5	
	comp=Z,7.5nm,1.0s								
MOD	Modoc Plateau	55.10	295	*e*P		P	21 10 57.9	+0.5	
	comp=Z,7.5nm,1.0s								
BRLK	Bradley Lake	55.91	327	*e*P		P	21 11 03.2	+0.3	
	comp=Z,12nm,0.9s								
BRLK	Bradley Lake	55.91	327	*e*P		P	21 11 03.2	+0.3	
	comp=Z,12nm,0.9s								
PAHR	Pah Rah Range	56.11	292	*e*P		P	21 11 05.8	+1.0	
	comp=Z,17nm,1.2s								
PAHR	Pah Rah Range	56.11	292	*e*P		P	21 11 05.8	+1.0	
	comp=Z,17nm,1.2s								
319A	Douglas	56.19	278	*e*P		P	21 11 07.0	+1.6	
	comp=Z,17nm,0.8s								
TPNV	Topopah Spring	56.28	288	*e*P		P	21 11 06.2	+0.2	
	comp=Z,7.0nm,1.4s								
TPNV	Topopah Spring	56.28	288	*e*P		P	21 11 06.2	+0.2	
	comp=Z,7.0nm,1.4s								
TVH1	TV Hill, Hawth	56.64	291	*e*P		P	21 11 09.9	+1.1	
	comp=Z,9.7nm,1.2s								
TVH1	TV Hill, Hawth	56.64	291	*e*P		P	21 11 09.9	+1.1	
	comp=Z,9.7nm,1.2s								
MGL	Magalia	57.23	294	*e*P		P	21 11 10.2	-2.5	
VOSK	Vostochnaya	57.73	44	*e*P		P	21 11 16.1	+0.3	
	comp=Z,2.6nm,0.9s								
VOSK	Vostochnaya	57.73	44	*e*P		P	21 11 16.1	+0.3	
	comp=Z,2.6nm,0.9s								
PTGA	Pitinga	57.76	210	P		P	21 11 16.7	+0.3	
	comp=Z,7.9nm,0.9s,baz=22,slow=7.4,SNR=12								
ROSC	El Rosal	57.97	228	P		P	21 11 19.9	+1.5	
	comp=Z,6.0nm,0.4s,baz=100,slow=2.3,SNR=6.3								
ROSC	El Rosal	57.97	228	*e*P		P	21 11 19.9	+1.5	
	comp=Z,18nm,1.1s								
ROSC	El Rosal	57.97	228	*e*P		P	21 11 19.9	+1.5	
	comp=Z,18nm,1.1s								
PFO	Pinyon Flats O	58.78	285	P		P	21 11 23.2	-0.4	
	comp=Z,5.1nm,1.0s,baz=67,slow=9.0,SNR=6.7								
ZAA1	Zalesovo Array	62.04	35	*e*P		P	21 11 44.8	-0.6	
ZAA1	Zalesovo Array	62.04	35	*e*P		P	21 11 44.8	-0.6	
ZALV	Zalesovo Beam	62.04	35	P		P	21 11 44.8	-0.6	
	comp=Z,1.0nm,0.6s,baz=311,slow=8.2,SNR=4.7								
GEYT	Alibeck	62.47	63	P		P	21 11 49.3	+0.7	
	comp=Z,1.7nm,0.7s,baz=355,slow=8.8,SNR=4.3								
EKS2	Erkin-Say	66.63	49	*e*P		P	21 12 17.3	+1.5	
	comp=Z,6.7nm,0.8s								
EKS2	Erkin-Say	66.63	49	*e*P		P	21 12 17.3	+1.5	
	comp=Z,6.7nm,0.8s								
MK32	Makanchi Array	66.93	41	*e*P		P	21 12 17.4	-0.2	
MK32	Makanchi Array	66.93	41	*e*P		P	21 12 17.4	-0.2	
MKAR	Makanchi Array	66.93	41	P		P	21 12 17.4	-0.2	
	comp=Z,1.5nm,0.8s,baz=331,slow=5.5,SNR=11								
MK01	Makanchi Array	66.96	41	*e*P		P	21 12 17.2	-0.5	
MK01	Makanchi Array	66.96	41	*e*P		P	21 12 17.2	-0.5	
TKM2	Tokmak 2	67.24	48	*e*P		P	21 12 21.2	+1.4	
	comp=Z,7.6nm,1.2s								
TKM2	Tokmak 2	67.24	48	*e*P		P	21 12 21.2	+1.4	
	comp=Z,7.6nm,1.2s								
SONA0	Songino Array	73.99	26	*e*P		P	21 13 00.9	+0.1	
	comp=Z,4.8nm,1.0s								
SONA0	Songino Array	73.99	26	*e*P		P	21 13 00.9	+0.1	
	comp=Z,4.8nm,1.0s								
SONM	Songino Array	73.99	26	P		P	21 13 00.9	+0.1	
	comp=Z,2.5nm,0.8s,baz=332,slow=6.4,SNR=14								
LPAZ	La Paz	74.96	213	P		P	21 13 07.2	0.0	
	comp=Z,5.0nm,1.1s,baz=11,slow=3.2,SNR=6.4								
CPUP	Vila Florida	81.71	200	P		P	21 13 43.0	-0.5	
	comp=Z,2.2nm,0.8s,baz=330,slow=3.3,SNR=5.0								
SNAA	Sanae	126.91	168	*e*PKIKP		PKPdf	21 20 26.9	-0.7	
SNAA	Sanae	126.91	168	*e*PKPdf		PKPdf	21 20 26.9	-0.7	
WR1	Warramunga Arr	145.62	17	*e*PKIKP		PKPdf	21 21 03.2	-0.5	
WR1	Warramunga Arr	145.62	17	*e*PKPdf		PKPdf	21 21 03.2	-0.5	
WRA	Warramunga Arr	145.62	17	PKPbc		PKPdf	21 21 03.2	-0.4	
	comp=Z,3.3nm,1.1s,baz=342,slow=3.0,SNR=10								
AS31	Alice Springs	149.17	20	*e*pPKPdf		PKPbc	21 21 12.8	-0.9	
AS31	Alice Springs	149.17	20	*e*pPKPdf		PKPbc	21 21 12.8	-0.9	
ASAR	Alice Springs	149.17	20	PKPbc		PKPbc	21 21 12.8	-1.0	
	comp=Z,3.9nm,0.7s,baz=347,slow=2.3,SNR=26								

MEX 20 21:10:43.3±0.4, 17°.15N×95°.25W, h115km±16km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	Vista Hermosa	1.42	267	*e*P	Pn	21 11 08.3	-1.3
VHO				*e*S	Sn	21 11 28.0	-1.6
HUIG	Huatulco	1.60	211	*e*P	Pn	21 11 10.1	-1.5
HUIG				*e*S	Sn	21 11 31.4	-1.6

*IDC **20** 21:11:10.7±1.6, 43°.41N×105°.16W, h0km, mb4.2/2, mb1 3.9/6, mb1mx3.5/46, mbtmp3.8/6, ML2.9/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/44, Error ellipse: s-maj=38.7km s-min=8.9km az=156.0*

*ISCJB **20** 21:11:13.0±0.3, 43°.78N±0°.02×105°.23W±0°.04, h0km, mb4.4/2, MS3.4/1, Error ellipse: s-maj=3.8km s-min=3.4km az=24.7*

*NEIC **20** 21:11:14.3±0.5, 43°.77N×105°.22W, h0km, ML3.6, MN2.9, Error ellipse: s-maj=6.2km s-min=5.8km az=74.0, Suspected Mining explosion.*

NEIC 64 km [40 miles] SSE of Gillette.

ISC 20 21:11:13.3±0.7, 43°.77N±0°.03×105°.17W±0°.03, h0km, n58, σ1§85/70, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	0.89	67	*e*Pg	Pb	21 11 32.6	+0.8
RSSD				*e*Sg	Sb	21 11 45.4	+1.0
K22A	Casper	1.49	222	*e*Pn	Pn	21 11 39.0	-2.6
K22A				*e*Sg	Sg	21 12 01.3	0.0
PHWY	Pilot Hill	2.48	185	*e*Pn	Pn	21 11 55.7	+0.5
PHWY				*e*Sn	Sn	21 12 28.4	+2.0
N23A	Red Feather La	2.93	191	*e*Pn	Pn	21 12 01.8	+0.3
N23A				*e*Sn	Sn	21 12 38.5	+1.0
LAO	LASA Array	3.01	346	*e*Pn	Pn	21 12 03.6	+1.3
LAO				*e*Sn	Sn	21 12 40.1	+1.0
RLMT	Red Lodge	3.23	296	*e*Pn	Pn	21 12 05.4	0.0
RLMT				*e*Sn	Sn	21 12 45.0	+0.4
BW06	Boulder Array	3.36	254	*e*Pn	Pn	21 12 06.9	-0.3
BW06				*e*Sn	Sn	21 12 48.4	+0.5
BW06				*e*Sn	Sb	21 12 50.2	-5.0
PD31	Pinedale Array	3.36	254	*e*Pn	Pn	21 12 06.9	-0.3
PD31				*e*Sn	Sn	21 12 47.6	-0.3
PD31				*e*Lg	Lg	21 12 53.7	
PDAR	Pinedale Array	3.36	254	Pn	Pn	21 12 06.5	-0.7
	7.9nm,0.3s,baz=76,slow=15,SNR=32						
PDAR				Sn	Sn	21 12 47.6	-0.3
	2.8nm,0.3s,baz=81,slow=19,SNR=1.6						
PDAR				Lg	Lg	21 12 53.7	
	18nm,0.3s,baz=78,slow=33,SNR=4.9						
OGNE	Ogallala	3.66	139	*e*Pn	Pn	21 12 11.7	+0.4
GCMT	Greycliff	3.78	304	*e*Pn	Pn	21 12 13.3	+0.3
GCMT				*e*Sn	Sn	21 12 59.3	+1.0
LOHW	Long Hollow	3.94	270	*e*Pn	Pn	21 12 18.3	+3.1
H17A	Grant Village	3.94	281	*e*Pn	Pn	21 12 17.2	+1.9
ISCO	Idaho Springs	3.98	185	*e*Pn	Pn	21 12 17.0	+1.1
FLWY	Flagg Ranch	4.00	276	*e*Pn	Pn	21 12 16.6	+0.5
MOOW	Moose Ponds	4.04	272	*e*Pn	Pn	21 12 16.8	+0.2
SNOW	Snow King Moun	4.06	268	*e*Pn	Pn	21 12 17.4	+0.4
YPP	Pitchstone Pla	4.09	279	*e*Pn	Pn	21 12 17.0	-0.4
REDW	Red Top Meadow	4.15	266	*e*Pn	Pn	21 12 19.1	+1.0
IMW	Indian Meadow	4.17	274	*e*Pn	Pn	21 12 19.9	+1.3
YHH	Holmes Hill	4.20	286	*e*Pn	Pn	21 12 20.2	+1.3
TPAW	Teton Pass	4.20	268	*e*Pn	Pn	21 12 19.2	+0.3
FXWY	Fox Creek	4.25	270	*e*Pn	Pn	21 12 19.7	+0.3
O20A	White River Ci	4.29	213	*e*Pn	Pn	21 12 17.1	-3.0
YHB	Horse Butte	4.43	285	*e*Pn	Pn	21 12 22.5	+0.5
DGMT	Dagmar	4.75	8	*e*Pn	Pn	21 12 28.6	+2.4
SMCO	Snowmass	4.79	197	*e*Pb	Pb	21 12 40.7	+2.4
SMCO				*e*Sg	Sg	21 13 45.6	-1.5
Q24A	Divide	4.80	180	*e*Pb	Pb	21 12 41.6	+3.0
BOZ	Bozeman (W)	4.97	294	*e*Pn	Pn	21 12 29.4	+0.1
KSCO	Kaye Shedlock'	5.13	157	*e*Pb	Pg	21 12 49.8	-1.8
HWUT	Hardware Ranch	5.18	248	*e*Pn	Pn	21 12 31.8	-0.5
EGMT	Eagleton	5.32	325	*e*Pn	Pn	21 12 34.7	+0.6
TCUT	Toone Canyon	5.32	242	*e*Pn	Pn	21 12 36.6	+2.3
DLMT	Dillon	5.54	289	*e*Pb	Pb	21 12 54.5	+3.6
LRM	Limekiln Ridge	5.57	294	*e*Pn	Pn	21 12 40.6	+3.0
MCMT	McKenzie Canyo	5.61	283	*e*Pb	Pb	21 12 50.5	-1.7
JLU	Jordanelle	5.64	238	*e*Pb	Pb	21 12 55.0	+2.3
SPUT	South Promonto	5.91	248	*e*Pn	Pn	21 12 42.8	+0.6
SPUT				*e*Pb	Pb	21 12 59.8	+2.4
HVU	Hansel Valley	5.94	253	*e*Pb	Pg	21 13 03.5	-3.5
HVU				*e*Sb	Sb	21 14 15.7	+6.2
P17A	Butcher Ranch,	5.99	226	*e*Pb	Pb	21 13 00.7	+2.0
PV09	Paradox Valley	6.06	211	*e*Pn	Pn	21 12 44.8	+0.4
PV10	Paradox Valley	6.13	210	*e*Pn	Pn	21 12 47.8	+2.4
SRU	San Rafael Swe	6.15	223	*e*Pn	Pn	21 12 45.8	+0.2
ECSD	EROS Data Cent	6.20	87	*e*Pn	Pn	21 12 48.6	+2.5
TMUT	Trail Mountain	6.36

PMRV **Marv??o** 23.69 115 *e*P P 21 22 01.4 -0.3
DAG **Danmarks Havn** 24.19 9 *i* P P 21 22 05.6 -0.4
5.3nm,1.0s
DAG **Danmarks Havn** 24.19 9 *e*P P 21 22 05.6 -0.4
5.3nm,1.0s
MESJ **Messejana** 24.41 119 *e*P P 21 22 08.8 +0.4
43nm,1.9s
MESJ **Messejana** 24.41 119 *e*P P 21 22 08.8 +0.4
PBDV **Barranco-do-Ve** 25.01 119 *e*P P 21 22 13.4 -0.5
60nm,1.7s
PBDV **Barranco-do-Ve** 25.01 119 *e*P P 21 22 13.4 -0.5
PAB **San Pablo** 25.28 111 *e*P P 21 22 19.8 +3.4
17nm,1.4s
ESDC **Sonseca Array** 25.40 110 P P 21 22 15.9 -1.5
8.0nm,1.1s,baz=314,slow=8.9,SNR=26
ES19 **SONSECA Array** 25.42 110 *e*P P 21 22 17.1 -0.5
ES19 **SONSECA Array** 25.42 110 *e*P P 21 22 17.1 -0.5
NB2 **NORSAR Subarra** 25.80 54 P P 21 22 20.9 +0.1
comp=Z,9.7nm,1.2s,baz=277,slow=9.3
NB2 **NORSAR Subarra** 25.80 54 P P 21 22 20.9 +0.1
comp=Z,9.7nm,1.2s,baz=277,slow=9.0,SNR=3.8
NB200 **NORSAR Array S** 25.80 54 *e*P P 21 22 20.3 -0.5
NB200 **NORSAR Array S** 25.80 54 *e*P P 21 22 20.3 -0.5
NOA **NORSAR Array B** 25.80 54 P P 21 22 20.3 -0.5
comp=Z,2.2nm,0.9s,baz=276,slow=9.7,SNR=3.3
NC303 **NORSAR Array S** 25.86 54 *e*P P 21 22 21.6 +0.3
NC303 **NORSAR Array S** 25.86 54 *e*P P 21 22 21.6 +0.3
CLL **Collm** 29.16 74 *i* P P 21 22 50.8 -0.2
comp=Z,6.0nm,0.9s
CLL L L 21 35 00.0
comp=Z,1μm,20.1s
CLL **Collm** 29.16 74 *e*P P 21 22 49.8 -1.2
comp=Z,22nm,1.6s
CLL **Collm** 29.16 74 *e*P P 21 22 49.8 -1.2
comp=Z,22nm,1.6s
DAVOX **Davos/Dischmat** 29.37 85 P P 21 22 51.3 -1.8
comp=Z,1.1nm,0.5s,baz=315,slow=16,SNR=2.8
N59A **State Game Lan** 29.76 261 P P 21 22 57.4 +0.9
baz=51
BRG **Berggiesshubel** 29.88 75 *e*P P 21 22 59.1 +1.8
comp=Z,6.2nm,1.3s
KHC **Kasperske Hory** 30.43 78 *e*P P 21 23 03.1 +0.8
SPITS **Spitsbergen Ar** 30.57 19 P P 21 23 03.9 +0.7
comp=Z,9.5nm,1.0s,baz=227,slow=14,SNR=3.6
GEC2 **GERESS Array S** 30.63 79 *e*P P 21 23 04.7 +0.5
comp=Z,14nm,1.6s
GEC2 **GERESS Array S** 30.63 79 *e*P P 21 23 04.7 +0.5
comp=Z,14nm,1.6s
GERES **GERESS Array B** 30.63 79 P P 21 23 03.9 -0.3
comp=Z,1.7nm,0.9s,baz=304,slow=7.7,SNR=10
GEA0 **GERESS Array S** 30.64 79 *e*P P 21 23 04.1 -0.1
GEA0 **GERESS Array S** 30.64 79 *e*P P 21 23 04.1 -0.1
SSPA **Standing Stone** 31.19 263 *e*P P 21 23 08.0 -1.0
comp=Z,41nm,1.8s
SSPA **Standing Stone** 31.19 263 *e*P P 21 23 08.0 -1.0
comp=Z,41nm,1.8s
UPC **Upice** 31.23 74 *e*P P 21 23 09.7 +0.4
TREC **Trest** 31.47 77 *e*P P 21 23 11.7 +0.3
DPC **Dobruska-Polom** 31.47 74 *e*P P 21 23 11.4 -0.1
DPC *ex* x 21 23 19.8
DPC *ex* x 21 23 48.3
M54A **Oil Creek Stat** 31.70 266 P P 21 23 13.2 -0.4
baz=52
O56A **Blue Knob Stat** 31.82 263 P P 21 23 15.6 +1.0
baz=51
N54A **Moraine State** 32.23 265 P P 21 23 19.2 +1.0
baz=52
MORC **Moravsky Berou** 32.43 75⇓ *i* P P 21 23 20.7 +0.8
MORC **Moravsky Berou** 32.43 75 *e*P P 21 23 21.0 +1.1
comp=Z,36nm,1.3s
MORC **Moravsky Berou** 32.43 75 *e*P P 21 23 21.0 +1.1
comp=Z,36nm,1.3s
FIA0 **FINESS Array S** 32.81 51 *e*P P 21 23 22.5 -0.5
FIA0 **FINESS Array S** 32.81 51 *e*P P 21 23 22.5 -0.5
FINES **FINESS Array B** 32.81 51 P P 21 23 22.5 -0.5
comp=Z,2.5nm,0.9s,baz=302,slow=7.9,SNR=4.7
FIA1 **FINESS Array S** 32.81 51 *e*P P 21 23 22.5 -0.5
FIA1 **FINESS Array S** 32.81 51 *e*P P 21 23 22.5 -0.5
OJC **Ojcow** 33.52 73 *e*P P 21 23 29.8 +0.4
comp=Z,6.2nm,1.0s
OJC **Ojcow** 33.52 73 *e*P P 21 23 29.8 +0.4
comp=Z,6.2nm,1.0s
VYHS **Vyhne** 33.79 76 *e*P P 21 23 32.4 +0.6
comp=Z,10nm,1.8s
VYHS **Vyhne** 33.79 76 *e*P P 21 23 32.4 +0.6
LANS **Liptovska Anna** 33.84 75 *e*P P 21 23 32.9 +0.7
LANS **Liptovska Anna** 33.84 75 *e*P P 21 23 32.9 +0.7
C39A **Grand Marais** 34.42 283 P P 21 23 37.4 +0.3
baz=60
ACSO **Alum Creek Sta** 34.47 267 *e*P P 21 23 39.3 +1.6
comp=Z,34nm,1.4s
ACSO **Alum Creek Sta** 34.47 267 *e*P P 21 23 39.3 +1.6
comp=Z,34nm,1.4s
PSZ **Piszkesteto** 34.69 76⇓ *i* P P 21 23 47.2 +7.6
STHS **Stebnicka Huta** 34.73 73 *e*P P 21 23 39.2 -0.7
comp=Z,5.6nm,1.5s
STHS **Stebnicka Huta** 34.73 73 *e*P P 21 23 39.2 -0.7
CRVS **Cervenica-Dubn** 35.10 74 *e*P P 21 23 43.1 0.0
CRVS **Cervenica-Dubn** 35.10 74 *e*P P 21 23 43.1 0.0
C38A **Sawbill Land.** 35.13 284 P P 21 23 42.5 -0.8
baz=59
EYMN **Ely** 35.14 284 P P 21 23 44.0 +0.5
baz=60
KWP **Kalwaria Pacla** 35.46 72⇓ *i* P P 21 23 47.0 +0.9
KWP **Kalwaria Pacla** 35.46 72⇓ *i* P P 21 23 47.0 +0.9
KOLS **Kolonicke sedl** 35.55 73 *e*P P 21 23 43.9 -3.1
KEST **Kesra** 35.76 101 P P 21 23 48.6 -0.3
comp=Z,5.1nm,1.0s,baz=309,slow=6.5,SNR=2.8
KEST **Kesra** 35.76 101 *e*P P 21 23 48.6 -0.3
comp=Z,12nm,1.2s
KEST **Kesra** 35.76 101 *e*P P 21 23 48.6 -0.3
comp=Z,12nm,1.2s
C36A **Pine Crest Far** 36.02 285 P P 21 23 51.1 +0.1
baz=59
D37A **Cotton** 36.09 284 P P 21 23 51.5 0.0
baz=58
B35A **Bob, Littlefor** 36.22 286 P P 21 23 53.1 +0.5
baz=59
ULM **Lac du Bonnet** 36.50 290 P P 21 23 55.8 +0.8
comp=Z,4.4nm,0.8s,baz=56,slow=8.6,SNR=3.2
SIRR **Siria** 36.59 78⇑ *i* P P 21 23 56.9 +1.1
SIRR **Siria** 36.59 78⇑ *i* P P 21 23 56.9 +1.1
B34A **Aery, Baudette** 36.68 287 P P 21 23 56.7 +0.1
baz=59
C35A **Jirik Farms, M** 36.70 285 P P 21 23 56.3 -0.5
baz=58
SFIN **Lafayette** 36.84 271 P P 21 23 58.2 +0.2
baz=51
A33A **Warroad** 36.88 288 P P 21 23 59.1 +0.9
baz=60
DRGR 36.91 76⇓ *i* P P 21 23 59.7 +1.0
DRGR 36.91 76⇓ *i* P P 21 23 59.7 +1.0
E36A **McGregor** 36.91 283 P P 21 23 59.0 +0.4
baz=57
BZS **Buzias** 36.91 79⇑ *i* P P 21 23 59.5 +0.9
BZS **Buzias** 36.91 79⇑ *i* P P 21 23 59.5 +0.9
D35A **Remer** 37.07 284 P P 21 24 00.4 +0.4
baz=58
F36A **Milaca** 37.43 282 P P 21 24 02.9 -0.1
baz=57
MDVR **Moldovita** 37.44 80⇓ *i* P P 21 24 03.2 +0.1
MDVR **Moldovita** 37.44 80⇓ *i* P P 21 24 03.2 +0.1
AGMN **Agassiz Nation** 37.47 287 P P 21 24 03.5 +0.2
baz=59
E35A **Pequot Lakes** 37.56 284 P P 21 24 03.7 -0.4
baz=57
ARCR **ARCALIA** 37.71 75⇑ *i* P P 21 24 06.4 +1.1
ARCR **ARCALIA** 37.71 75⇑ *i* P P 21 24 06.4 +1.1
K40A **Colesburg** 37.83 277 P P 21 24 06.3 -0.2
baz=54
BUR08 **Bucovina Ar. S** 37.89 74 *e*P P 21 24 08.3 +1.3
BUR08 **Bucovina Ar. S** 37.89 74 *e*P P 21 24 08.3 +1.3
BURAR **Bucovina Array** 37.92 74⇓ *i* P P 21 24 08.0 +0.8
BURAR **Bucovina Array** 37.92 74⇓ *i* P P 21 24 08.0 +0.8
E34A **Wadena** 38.03 284 P P 21 24 08.2 +0.2
baz=57
HDIL **Hopedale** 38.04 272 P P 21 24 08.2 +0.1
baz=52
K39A **Oelwein** 38.27 277 P P 21 24 10.1 -0.1
baz=54
E33A **Westby DABS, E** 38.51 285 P P 21 24 12.5 +0.3
baz=57
AKASG **Malin Array Be** 38.58 67 P P 21 24 11.9 -0.7
comp=Z,1.4nm,0.8s,baz=306,slow=8.3,SNR=8.5
AKBB **Malin Array Si** 38.58 67 *e*P P 21 24 11.9 -0.7
comp=Z,8.0nm,0.9s
AKBB **Malin Array Si** 38.58 67 *e*P P 21 24 11.9 -0.7
comp=Z,8.0nm,0.9s
L39A **Vinton** 38.69 276 P P 21 24 13.5 -0.1
baz=53
B30A **Myrvik Farm, E** 38.79 289 P P 21 24 14.8 +0.3
baz=58
K38A **Parkersburg** 38.83 278 P P 21 24 15.5 +0.6
baz=53
H35A **Sunnyside Ranc** 38.84 282 P P 21 24 15.4 +0.5
baz=55
Q44A **Meyer Farm, Va** 38.92 270 P P 21 24 15.6 0.0
baz=50
D31A **Mcclaflin, Tow** 39.20 287 P P 21 24 17.9 0.0
baz=57
K37A **Belmond** 39.27 278 P P 21 24 18.1 -0.4
baz=53
R44A **Waltonville** 39.38 269 P P 21 24 19.4 0.0
baz=49
H34A **Spellman Lake,** 39.41 282 P P 21 24 20.3 +0.6
baz=55
I35A **Creekview Farm** 39.42 281 P P 21 24 20.0 +0.2
baz=54
SORM **Soroca** 39.42 71⇑ *i* P P 21 24 18.5 -1.2
SORM **Soroca** 39.42 71⇑ *i* P P 21 24 18.5 -1.2
S45A **Carrier Mills** 39.45 268 P P 21 24 20.0 0.0
baz=49
E31A **Nome** 39.57 286 P P 21 24 21.2 +0.3
baz=56
A28A **Rude Farm, Bot** 39.64 291 P P 21 24 23.1 +1.5
baz=58
P41A **Barry, Barry** 39.64 273 P P 21 24 22.1 +0.5
baz=51
M38A **Pleasantville** 39.83 276 P P 21 24 22.8 -0.3
baz=52
S44A **Carbondale** 39.84 269 P P 21 24 23.7 +0.4
baz=49
H33A **Prehn Over Nor** 39.97 283 P P 21 24 24.5 +0.2
baz=55
N38A **Joes South For** 40.24 276 P P 21 24 26.5 0.0
baz=52
K35A **Storm Lake** 40.24 280 P P 21 24 26.5 0.0
baz=53
D29A **Pettibone, Tap** 40.26 288 P P 21 24 27.2 +0.4
baz=56
YKA **Yellowknife Ar** 40.33 315 P P 21 24 27.2 +0.2
comp=Z,2.4nm,0.9s,baz=62,slow=9.1,SNR=12
YKA PcP PcP 21 26 29.3 -0.8
comp=Z,1.1nm,0.8s,baz=60,slow=3.8,SNR=6.2
YKB5 **Yellowknife Ar** 40.33 315 *e*P P 21 24 27.2 +0.2
YKB5 **Yellowknife Ar** 40.33 315 *e*PcP PcP 21 26 29.3 -0.8
YKB5 **Yellowknife Ar** 40.33 315 *e*P P 21 24 27.2 +0.2
YKB5 *e*PcP PcP 21 26 29.3 -0.8
M37A **Trindle Farm,** 40.35 277 P P 21 24 28.1 +0.6
baz=52
C28A **Hausauer Farms** 40.35 289 P P 21 24 28.5 +1.0
baz=57
ECSD **EROS Data Cent** 40.45 282 P P 21 24 28.4 +0.1
baz=54
ECSD **EROS Data Cent** 40.45 282 *e*P P 21 24 29.0 +0.7
comp=Z,7.3nm,0.9s
ECSD **EROS Data Cent** 40.45 282 *e*P P 21 24 29.0 +0.7
comp=Z,7.3nm,0.9s
E29A **Napoleon** 40.57 287 P P 21 24 29.6 +0.3
baz=56
F30A **Leola** 40.63 286 P P 21 24 30.5 +0.7
baz=55
Q40A **Laux Farm, Aux** 40.68 273 P P 21 24 30.2 0.0
baz=50
D28A **Regan** 40.74 289 P P 21 24 31.7 +1.0
baz=56
K34A **Le Mars** 40.77 280 P P 21 24 31.2 +0.2
baz=53
P39B **Salisbury** 40.77 274 P P 21 24 31.3 +0.3
baz=50
L35A **Bielow Farm, R** 40.79 279 P P 21 24 31.3 +0.2
baz=52
O38A **Galt** 40.80 275 P P 21 24 31.1 -0.1
baz=51
TIGA **Tifton** 40.83 257 P P 21 24 33.7 +2.1
baz=43
F29A **Eureka** 41.09 286 P P 21 24 33.9 +0.3
baz=55
G30A **Faulkton** 41.10 285 P P 21 24 33.8 +0.1
baz=55
P38A **Dawn** 41.15 275 P P 21 24 34.6 +0.5
baz=50
Q39A **Willow Grove F** 41.19 273 P P 21 24 34.3 -0.1
baz=50
R40A **Maddies Statio** 41.25 272 P P 21 24 35.0 +0.1
baz=49
V44A **Blytheville** 41.47 267 P P 21 24 37.0 +0.2
baz=47
G29A **Hoven** 41.51 286 P P 21 24 37.1 0.0
baz=54
Y47A **UCPARC, Winfie** 41.58 264 P P 21 24 37.9 +0.2
baz=46
Q38A **Cooks Store, C** 41.62 274 P P 21 24 37.8 -0.2
baz=50
R39A **Chumby, Stover** 41.70 273 P P 21 24 38.9 +0.3
baz=49
T41A **Mountain View** 41.77 270 P P 21 24 39.3 +0.1
baz=48
Z48A **Northport** 41.77 263 P P 21 24 39.5 +0.2
baz=45
S40A **Lebanon** 41.84 271 P P 21 24 40.2 +0.3
baz=49
D26A **Manning** 41.89 289 P P 21 24 40.4 +0.3
baz=55
J31A **Geddes** 41.95 283 P P 21 24 40.3 -0.3
baz=53
M33A **Taylor Creek F** 42.10 279 P P 21 24 41.3 -0.6
baz=52
N34A **Lincoln** 42.14 278 P P 21 24 41.9 -0.4
baz=51
T40A **Mansfield** 42.15 271 P P 21 24 42.4 0.0
baz=48
Y46A **Houston** 42.19 264 P P 21 24 43.1 +0.4
baz=46
S39A **Bolivar** 42.27 272 P P 21 24 43.3 0.0
baz=49
R38A **Fenwick Farm,** 42.30 273 P P 21 24 43.5 0.0
baz=49
J30A **Dallas** 42.37 283 P P 21 24 44.0 -0.1
baz=53
V42A **Cord** 42.38 269 P P 21 24 44.4 +0.2
baz=47
S38A **Stockton** 42.66 273 P P 21 24 46.3 -0.2
baz=49
O34A **Beatrice** 42.67 278 P P 21 24 46.1 -0.5
baz=51
P35A **Duane Minner,** 42.69 276 P P 21 24 46.3 -0.4
baz=50
L31A **Butterfield Fa** 42.69 281 P P 21 24 46.7 0.0
baz=52
147A **Livingston** 42.69 263 P P 21 24 47.3 +0.6
baz=45
Z46A **Louisville** 42.72 264 P P 21 24 47.5 +0.5
baz=45
T39A **Clever** 42.75 271 P P 21 24 46.9 -0.3
baz=48
BGNE **Belgrade** 42.76 280 P P 21 24 46.8 -0.5
baz=51
R37A **Teagarden Farm** 42.77 274 P P 21 24 46.9 -0.4
baz=49
248A **Dixon Mills** 42.79 262 P P 21 24 48.2 +0.7
baz=44
V41A **Mountainview** 42.85 269 P P 21 24 48.1 0.0
baz=47
U40A **Yerille** 42.88 270 P P 21 24 48.5 +0.2
baz=48
F25A **Bowman** 43.10 289 P P 21 24 50.6 +0.5
baz=54
S37A **Fort Scott** 43.13 273 P P 21 24 49.9 -0.4
baz=49,SNR=6.7
Q35A **Mercer Eighty,** 43.13 276 P P 21 24 49.6 -0.7
baz=50
P34A **Walnut Farm, R** 43.16 277 P P 21 24 50.0 -0.5
baz=50
R36A **Gordon, Harris** 43.16 275 P P 21 24 50.5 0.0
baz=49
U39A **Green Forest** 43.24 271 P P 21 24 51.2 0.0
baz=48
WHAR **Wooly Hollow** 43.27 269 *e*P P 21 24 52.0 +0.6
comp=Z,33nm,1.4s
WHAR **Wooly Hollow** 43.27 269 *e*P P 21 24 52.0 +0.6
comp=Z,33nm,1.4s
T38A **Diamond** 43.29 272 P P 21 24 51.4 -0.2
baz=48
KSU1 **Kansas State U** 43.31 276 P P 21 24 51.2 -0.6
baz=50
W41B **Gary Mavity, V** 43.32 269 P P 21 24 51.7 -0.2
baz=47
247A **Quitman** 43.34 262 P P 21 24 53.3 +1.3
baz=44
TAM **Tamanrasset** 43.50 119 *e*P P 21 24 54.4 +0.9
comp=Z,34nm,1.8s
TAM **Tamanrasset** 43.50 119 *e*P P 21 24 54.4 +0.9
comp=Z,34nm,1.8s
O32A **Brockman Farm,** 43.56 279 P P 21 24 52.7 -1.1
baz=50
N31A **Bailey Ranch,** 43.60 280 P P 21 24 54.3 +0.2
baz=51
T37A **Cheneyville 18** 43.60 273 P P 21 24 53.7 -0.3
baz=48
S36A **Lake Cedric, C** 43.61 274 P P 21 24 53.8 -0.3
baz=49
Q34A **Chapman** 43.63 276 P P 21 24 54.3 0.0
baz=50
V39A **Pettigrew** 43.70 270 P P 21 24 54.8 -0.2
baz=47
P33A **Williams Farm,** 43.74 277 P P 21 24 55.2 0.0
baz=50
U38A **Gravette** 43.74 272 P P 21 24 54.9 -0.3
baz=48
S35A **Otter Creek Ra** 44.07 274 P P 21 24 57.4 -0.4
baz=49,SNR=13
V38A **Canehill** 44.14 271 P P 21 24 57.7 -0.7
baz=47
X40A **Basin Creek Fa** 44.14 268 P P 21 24 57.8 -0.6
baz=46
P32A **Huiting Farm,** 44.16 278 P P 21 24 58.1 -0.5
baz=50
U37A **Salina** 44.20 272 P P 21 24 58.5 -0.4
baz=48
LAO **LASA Array** 44.21 291 P P 21 25 00.3 +1.3
baz=54,SNR=8.9
LAO **LASA Array** 44.21 291 *e*P P 21 25 00.9 +2.0
comp=Z,16nm,0.8s
LAO **LASA Array** 44.21 291 *e*P P 21 25 00.9 +2.0
comp=Z,16nm,0.8s
R34A **Isabella, Hill** 44.21 276 P P 21 24 58.0 -1.0
baz=49
T36A **Boggs Farm, Ca** 44.22 273 P P 21 24 58.8 -0.2
baz=48,SNR=5.8
W39A **Magazine** 44.22 270 P P 21 24 59.2 +0.1
baz=47,SNR=6.1
346A **Big Creek Wild** 44.32 262 P P 21 24 59.6 -0.2
baz=44
Q32A **Meitler Ranch,** 44.54 278 P P 21 25 00.6 -1.0
baz=49
MIAR **Mount Ida** 44.55 269 P P 21 25 01.8 +0.2
baz=46,SNR=5.3
MIAR **Mount Ida** 44.55 269 *e*P P 21 25 02.2 +0.5
comp=Z,23nm,1.2s
MIAR **Mount Ida** 44.55 269 *e*P P 21 25 02.2 +0.5
comp=Z,23nm,1.2s
V37A **Hulbert** 44.57 272 P P 21 25 01.4 -0.5
baz=47
U36A **Oologah** 44.58 273 P P 21 25 01.2 -0.7
baz=48
T35A **Sooner Cattle** 44.69 274 P P 21 25 02.1 -0.7
baz=48
Y40A **Okolona** 44.74 268 P P 21 25 03.5 +0.3
baz=46
W38A **Poteau** 44.75 270 P P 21 25 03.4 +0.1
baz=47
X39A **Fountain Ranch** 44.89 269 P P 21 25 04.3 -0.1
baz=46
TUL1 **Leonard** 44.94 272 P P 21 25 04.1 -0.7
baz=47
Z41A **Richland Creek** 44.98 267 P P 21 25 05.4 +0.3
baz=45
T34A **McClaskey Farm** 45.02 274 P P 21 25 04.6 -0.9
baz=48
344A **Westbrook Farm** 45.02 264 P P 21 25 06.2 +0.7
baz=44
V36A **Jenks** 45.11 272 P P 21 25 05.6 -0.6
baz=47
X38A **Whitesboro** 45.21 270 P P 21 25 06.9 0.0
baz=46
W37B **Quinton** 45.25 271 P P 21 25 06.6 -0.7
baz=47
Y39A **Lockesburg** 45.27 269 P P 21 25 07.2 -0.3
baz=46
CBKS **Cedar Bluff** 45.35 278 P P 21 25 07.3 -0.8
baz=49
141A **Papa Simpson,** 45.50 267 P P 21 25 08.9 -0.4
baz=45
X37A **Clayton** 45.59 271 P P 21 25 10.0 0.0
baz=46
V35A **Meyer Ranch, C** 45.66 273 P P 21 25 10.1 -0.5
baz=47
Y38A **Idabel** 45.66 269 P P 21 25 10.2 -0.4
baz=46
140A **Cam and Jess,** 45.87 267 P P 21 25 12.2 0.0
baz=45
V34A **Guthrie** 46.02 273 P P 21 25 13.2 -0.1
baz=47
W35A **Tecumseh** 46.10 272 P P 21 25 13.4 -0.6
baz=47
139A **Bunkhouse Ranc** 46.33 268 P P 21 25 15.9 0.0
baz=45
U32A **Winter Ranch,** 46.53 275 P P 21 25 17.2 -0.2
baz=48
W34A **Bridge Creek,** 46.58 273 P P 21 25 17.3 -0.5
baz=47
Y36A **Durant** 46.61 271 P P 21 25 17.5 -0.5
baz=46
X35A **Drake** 46.67 272 P P 21 25 18.0 -0.5
baz=46,SNR=6.8
K22A **Casper** 46.84 287 P P 21 25 19.6 -0.4
baz=51
K22A **Casper** 46.84 287 *e*P P 21 25 25.0 +5.1
comp=Z,18nm,0.8s
RLMT **Red Lodge** 46.85 291 P P 21 25 21.1 +1.0
baz=52
RLMT **Red Lodge** 46.85 291 *e*P P 21 25 21.4 +1.4
comp=Z,33nm,1.8s
RLMT **Red Lodge** 46.85 291 *e*P P 21 25 21.4 +1.4
comp=Z,33nm,1.8s
BR231 **Keskin MP Arra** 46.94 78 *e*P P 21 25 24.8 +4.2
V32A **Arapaho** 47.00 275 P P 21 25 20.7 -0.4
baz=47
X34A **Smith Ranch, M** 47.05 272 P P 21 25 21.8 +0.3
baz=46
W33A **Caddo, Fort Co** 47.05 273 P P 21 25 21.5 0.0
baz=47
Y35A **Marietta** 47.05 271 P P 21 25 20.9 -0.6
baz=46
BR101 **Keskin Array S** 47.52 78 *e*P P 21 25 26.0 +0.8
BR101 *e*ScP ScP 21 30 50.0 +1.7
BR101 **Keskin Array S** 47.52 78 *e*P P 21 25 26.1 +0.8
BR101 *e*ScP ScP 21 30 50.0 +1.7
BRTR **Keskin Array B** 47.52 78 P P 21 25 26.1 +0.8
comp=Z,2.1nm,0.8s,baz=295,slow=6.2,SNR=11
BRTR ScP ScP 21 30 50.0 +1.7
comp=Z,0.4nm,0.5s,baz=342,slow=3.9,SNR=3.0
WMOK **Wichita Mounta** 47.52 273 P P 21 25 25.1 0.0
baz=46
N23A **Red Feather La** 47.63 285 P P 21 25 27.1 +0.8
baz=50,SNR=6.6
N23A **Red Feather La** 47.63 285 *e*P P 21 25 27.7 +1.4
comp=Z,20nm,1.1s
N23A **Red Feather La** 47.63 285 *e*P P 21 25 27.7 +1.4
comp=Z,20nm,1.1s
BOZ **Bozeman (W)** 47.83 293 P P 21 25 28.4 +0.8
baz=52,SNR=6.5
Z34A **Collier Ranch,** 47.95 271 P P 21 25 28.2 -0.3
baz=46
ISCO **Idaho Springs** 48.16 283 P P 21 25 30.0 -0.4
baz=49
ISCO **Idaho Springs** 48.16 283 *e*P P 21 25 31.7 +1.3
comp=Z,16nm,1.5s
ISCO **Idaho Springs** 48.16 283 *e*P P 21 25 31.7 +1.3
comp=Z,16nm,1.5s
135A **Vickery Place,** 48.22 270 P P 21 25 30.3 -0.3
baz=45
PDAR **Pinedale Array** 48.49 289 P P 21 25 32.4 -0.4
comp=Z,1.4nm,0.8s,baz=53,slow=8.4,SNR=11
BW06 **Boulder Array** 48.49 289 P P 21 25 33.1 +0.2
baz=50
BW06 **Boulder Array** 48.49 289 *e*P P 21 25 32.1 -0.8
BW06 **Boulder Array** 48.49 289 *e*P P 21 25 32.1 -0.8
Z33A **Whitaker Ranch** 48.52 272 P P 21 25 32.8 -0.1
baz=45
WHTX **Lake Whitney,** 48.65 270 P P 21 25 33.5 -0.3

baz=45
TPAW Teton Pass 48.81 291 eP P 21 25 36.2 +0.8
comp=Z,4.1nm,0.9s
TPAW Teton Pass 48.81 291 eP P 21 25 36.2 +0.8
comp=Z,4.1nm,0.9s
DLBC Dease Lake 48.94 316 P P 21 25 36.8 +0.9
comp=Z,2.1nm,0.7s,baz=355,slow=2.3,SNR=5.0
DLBC Dease Lake 48.94 316 eP P 21 25 36.8 +0.9
comp=Z,4.5nm,1.2s
DLBC Dease Lake 48.94 316 eP P 21 25 36.8 +0.9
comp=Z,4.5nm,1.2s
MCMT McKenzie Canyo 49.01 293 eP P 21 25 38.1 +1.3
MCMT McKenzie Canyo 49.01 293 eP P 21 25 38.1 +1.3
234A Clairette 49.05 270 P P 21 25 36.2 -0.7
baz=45
EGAK Eagle 49.07 327 eP P 21 25 36.7 +0.1
comp=Z,11nm,1.1s
EGAK Eagle 49.07 327 eP P 21 25 36.7 +0.1
comp=Z,11nm,1.1s
133A Hamilton Ranch 49.08 271 P P 21 25 36.4 -0.9
baz=45
335A Moody 49.14 269 P P 21 25 37.6 0.0
baz=44
AMTX Amarillo 49.15 276 P P 21 25 36.6 -1.2
baz=46
T25A Trinidad 49.22 280 P P 21 25 38.4 -0.1
baz=47
T25A Trinidad 49.22 280 eP P 21 25 39.7 +1.2
comp=Z,20nm,1.6s
T25A Trinidad 49.22 280 eP P 21 25 39.7 +1.2
comp=Z,20nm,1.6s
537A Green Hill Far 49.34 267 P P 21 25 38.6 -0.5
baz=43
O20A White River Ci 49.45 285 P P 21 25 40.5 +0.3
baz=49
O20A White River Ci 49.45 285 eP P 21 25 41.7 +1.5
comp=Z,7.5nm,0.9s
O20A White River Ci 49.45 285 eP P 21 25 41.7 +1.5
comp=Z,7.5nm,0.9s
233A Rising Star 49.49 271 P P 21 25 40.0 -0.3
baz=45
334A Lometa 49.58 270 P P 21 25 40.8 -0.2
baz=44
536A Bastrop 49.79 268 P P 21 25 42.6 0.0
baz=44
TOA1 Torodi Ar. Sit 49.80 130 eP P 21 25 41.5 -1.3
comp=Z,44nm,1.9s
TOA1 Torodi Ar. Sit 49.80 130 eP P 21 25 41.5 -1.3
comp=Z,44nm,1.9s
TOA0 Torodi Ar. Sit 49.81 130 eP P 21 25 41.8 -1.1
TOA0 Torodi Ar. Sit 49.81 130 eP P 21 25 41.8 -1.1
TORD Torodi Ar. Bea 49.81 130 P P 21 25 41.5 -1.4
comp=Z,3.6nm,0.9s,baz=329,slow=7.6,SNR=16
ARU Arti 49.91 46 eP P 21 25 43.9 +0.7
comp=Z,13nm,1.4s
ARU Arti 49.91 46 eP P 21 25 43.9 +0.7
comp=Z,13nm,1.4s
434A Burnet 49.97 269 P P 21 25 43.0 -1.0
baz=44
333A Richland Sprin 50.03 270 P P 21 25 43.3 -1.2
baz=44
COLD Coldfoot 50.12 333 eP P 21 25 45.6 +1.0
comp=Z,3.6nm,0.9s
COLD Coldfoot 50.12 333 eP P 21 25 45.6 +1.0
comp=Z,3.6nm,0.9s
S22A 4UR Ranch, Cre 50.23 282 P P 21 25 45.6 -0.7
baz=47
737A Port Lavaca 50.37 266 P P 21 25 46.6 -0.4
baz=43
HWUT Hardware Ranch 50.38 289 eP P 21 25 47.5 +0.3
comp=Z,12nm,1.0s
HWUT Hardware Ranch 50.38 289 eP P 21 25 47.5 +0.3
comp=Z,12nm,1.0s
MSTX Muleshoe 50.43 276 P P 21 25 47.7 +0.2
baz=46
MSTX Muleshoe 50.43 276 eP P 21 25 48.3 +0.7
comp=Z,18nm,1.1s
MSTX Muleshoe 50.43 276 eP P 21 25 48.3 +0.7
comp=Z,18nm,1.1s
433A Art 50.51 270 P P 21 25 47.2 -0.9
baz=44
534A Blanco 50.66 269 P P 21 25 48.7 -0.5
baz=44
HLID Hailey 50.69 293 P P 21 25 50.2 +0.7
baz=49,SNR=5.1
HLID Hailey 50.69 293 eP P 21 25 51.0 +1.5
comp=Z,24nm,1.9s
HLID Hailey 50.69 293 eP P 21 25 51.0 +1.5
comp=Z,24nm,1.9s
635A Leesville 50.71 268 P P 21 25 49.6 0.0
baz=43
DOT Dot Lake 50.77 327 eP P 21 25 51.1 +1.5
comp=Z,21nm,1.0s
DOT Dot Lake 50.77 327 eP P 21 25 51.1 +1.5
comp=Z,21nm,1.0s
ILAR Eielson Array 50.88 329 P P 21 25 51.0 +0.5
comp=Z,3.1nm,1.0s,baz=43,slow=5.7,SNR=25
ILAR Eielson Array 50.88 329 P P 21 25 51.0 +0.5
533A Kerrville 50.97 269 P P 21 25 50.9 -0.7
baz=44
SPUT South Promonto 51.08 289 eP P 21 25 53.6 +1.2
comp=Z,39nm,1.7s
SPUT South Promonto 51.08 289 eP P 21 25 53.6 +1.2
comp=Z,39nm,1.7s
CCB Clear Creek Bu 51.25 329 eP P 21 25 54.0 +0.8
comp=Z,12nm,1.7s
CCB Clear Creek Bu 51.25 329 eP P 21 25 54.0 +0.8
comp=Z,12nm,1.7s
SRU San Rafael Swe 51.45 286 eP P 21 25 56.0 +0.7
comp=Z,6.3nm,1.0s
SRU San Rafael Swe 51.45 286 eP P 21 25 56.0 +0.7
comp=Z,6.3nm,1.0s
MFID Camas Ranch 51.56 293 eP P 21 25 57.3 +1.3
comp=Z,22nm,1.8s
MFID Camas Ranch 51.56 293 eP P 21 25 57.3 +1.3
comp=Z,22nm,1.8s
ANMO Albuquerque 51.93 279 P P 21 25 58.8 -0.2
baz=46
ANMO Albuquerque 51.93 279 eP P 21 26 00.8 +1.8
comp=Z,6.0nm,1.3s
ANMO Albuquerque 51.93 279 eP P 21 26 00.8 +1.8
comp=Z,6.0nm,1.3s
DUG Dugway, Tooele 52.03 288 P P 21 26 00.2 +0.6
baz=48,SNR=5.2
DUG Dugway, Tooele 52.03 288 eP P 21 26 00.4 +0.9
comp=Z,14nm,1.4s
DUG Dugway, Tooele 52.03 288 eP P 21 26 00.4 +0.9
comp=Z,14nm,1.4s
834A Tilden 52.09 267 P P 21 25 59.7 -0.3
baz=42
BWN Browne 52.10 330 eP P 21 26 01.1 +1.5
comp=Z,31nm,1.2s
BWN Browne 52.10 330 eP P 21 26 01.1 +1.5
comp=Z,31nm,1.2s
MCK McKinley 52.25 329 eP P 21 26 02.0 +1.2
comp=Z,26nm,1.2s
MCK McKinley 52.25 329 eP P 21 26 02.0 +1.2
comp=Z,26nm,1.2s
CRQM Cirque 52.46 324 eP P 21 26 03.5 +1.0
CRQM Cirque 52.46 324 eP P 21 26 03.5 +1.0
BNM Barren Site 52.59 279 eP P 21 26 05.7 +1.8
BNM Barren Site 52.59 279 eP P 21 26 05.7 +1.8
BPAW Bear Paw Mtn. 52.61 330 eP P 21 26 04.3 +1.0
comp=Z,21nm,1.4s
BPAW Bear Paw Mtn. 52.61 330 eP P 21 26 04.3 +1.0
comp=Z,21nm,1.4s
MSU Marysvale 52.80 287 eP P 21 26 06.7 +1.3
MSU Marysvale 52.80 287 eP P 21 26 06.7 +1.3
BMRM Bremner River 52.82 325 eP P 21 26 05.8 +0.8
comp=Z,8.7nm,1.0s
BMRM Bremner River 52.82 325 eP P 21 26 05.8 +0.8
comp=Z,8.7nm,1.0s
933A Laredo 52.90 267 P P 21 26 05.2 -0.8
baz=42
KTH Kantishna Hill 52.99 330 eP P 21 26 07.2 +0.9
comp=Z,18nm,1.2s
KTH Kantishna Hill 52.99 330 eP P 21 26 07.2 +0.9
comp=Z,18nm,1.2s
ELK Elko 53.02 291 eP P 21 26 08.6 +1.6
comp=Z,5.3nm,1.3s
ELK Elko 53.02 291 eP P 21 26 08.6 +1.6
comp=Z,5.3nm,1.3s
SCM Sheep Creek Mo 53.12 327 eP P 21 26 08.1 +0.9
comp=Z,31nm,1.7s
SCM Sheep Creek Mo 53.12 327 eP P 21 26 08.1 +0.9
comp=Z,31nm,1.7s
MTPU Mount Pierson 53.13 286 eP P 21 26 09.5 +1.5
comp=Z,18nm,1.6s
MTPU Mount Pierson 53.13 286 eP P 21 26 09.5 +1.5
comp=Z,18nm,1.6s
NLWA Neilton Lookou 53.18 302 eP P 21 26 09.3 +1.5
comp=Z,25nm,1.1s
NLWA Neilton Lookou 53.18 302 eP P 21 26 09.3 +1.5
comp=Z,25nm,1.1s
MNTX Cornudas Mount 53.58 276 P P 21 26 10.6 -0.4
baz=44
MNTX Cornudas Mount 53.58 276 eP P 21 26 11.2 +0.2
comp=Z,4.9nm,1.1s
MNTX Cornudas Mount 53.58 276 eP P 21 26 11.2 +0.2
comp=Z,4.9nm,1.1s
E03A Lebam 53.59 301 eP P 21 26 11.4 +0.6
comp=Z,25nm,0.9s
E03A Lebam 53.59 301 eP P 21 26 11.3 +0.6
comp=Z,25nm,0.9s
KNB Kanab 54.20 286 eP P 21 26 16.2 +0.6
comp=Z,9.3nm,1.2s
KNB Kanab 54.20 286 eP P 21 26 16.2 +0.6
comp=Z,9.3nm,1.2s
LTX Lajitas 54.27 272 eP P 21 26 16.2 +0.1
LTX Lajitas 54.27 272 ePcP PcP 21 27 20.1 -0.1
LTX Lajitas 54.27 272 eP P 21 26 16.2 +0.1
LTX ePcP PcP 21 27 20.1 -0.1
TX31 Lajitas Ar. Si 54.27 272 eP P 21 26 15.8 -0.3
TX31 Lajitas Ar. Si 54.27 272 eP P 21 26 15.8 -0.3
TXAR Lajitas Array 54.27 272 P P 21 26 16.2 +0.2
comp=Z,1.1nm,0.8s,baz=40,slow=9.9,SNR=8.4
TXAR PcP PcP 21 27 20.1 0.0
comp=Z,0.6nm,0.9s,baz=60,slow=5.3,SNR=2.7
U15A North Rim 54.31 285 eP P 21 26 17.0 +0.5
comp=Z,2.6nm,0.9s
U15A North Rim 54.31 285 eP P 21 26 17.0 +0.5
comp=Z,2.6nm,0.9s
121A Cookes Peak, D 54.41 278 P P 21 26 16.4 -0.8
baz=44
SUA Susitna One 54.49 328 eP P 21 26 18.8 +1.5
SUA Susitna One 54.49 328 eP P 21 26 18.8 +1.5
J05D Fort Rucker OR 54.58 297 P P 21 26 19.7 +1.5
baz=47,SNR=8.1
K05A Summer Lake 54.77 296 eP P 21 26 21.1 +1.4
comp=Z,38nm,1.4s
K05A Summer Lake 54.77 296 eP P 21 26 21.1 +1.4
comp=Z,38nm,1.4s
R11A Troy Canyon, C 54.86 289 P P 21 26 20.6 +0.2
baz=46
R11A Troy Canyon, C 54.86 289 eP P 21 26 20.5 +0.1
comp=Z,12nm,1.9s
R11A Troy Canyon, C 54.86 289 eP P 21 26 20.5 +0.1
comp=Z,12nm,1.9s
TT01 Tatalina 54.99 331 eP P 21 26 20.1 -0.6
TT01 Tatalina 54.99 331 eP P 21 26 20.1 -0.6
SPU Mount Spurr 55.12 328 eP P 21 26 22.5 +0.7
SPU Mount Spurr 55.12 328 eP P 21 26 22.5 +0.7
BRLK Bradley Lake 55.83 326 eP P 21 26 27.9 +1.0
comp=Z,12nm,0.9s
BRLK Bradley Lake 55.83 326 eP P 21 26 27.9 +1.0
comp=Z,12nm,0.9s
M04C Macdoel 55.93 296 P P 21 26 29.0 +1.0
baz=46
PAHR Pah Rah Range 56.04 292 eP P 21 26 30.3 +1.5
PAHR Pah Rah Range 56.04 292 eP P 21 26 30.3 +1.5
TPNV Topopah Spring 56.21 288 P P 21 26 30.5 +0.3
baz=45
TPNV Topopah Spring 56.21 288 eP P 21 26 30.8 +0.7
comp=Z,4.3nm,1.0s
TPNV Topopah Spring 56.21 288 eP P 21 26 30.8 +0.7
comp=Z,4.3nm,1.0s
ZRNK Zerenda 56.72 45 eP P 21 26 34.0 +0.7
comp=Z,5.5nm,1.4s
ZRNK Zerenda 56.72 45 eP P 21 26 34.0 +0.7
comp=Z,5.5nm,1.4s
GRAC Grapevine Rang 56.81 289 P P 21 26 35.1 +0.8
baz=45,SNR=7.5
O03D Paynes Creek 56.95 294 P P 21 26 35.9 +0.7
baz=45
MGL Magalia 57.16 294 eP P 21 26 34.7 -2.0
Y12C Blythe 57.49 284 P P 21 26 38.7 -0.3
baz=44
MPMC Manual Prospec 57.55 288 P P 21 26 40.5 +0.8
baz=44
IRM Iron Mountain 57.56 285 P P 21 26 39.6 0.0
baz=44
VOSK Vostochnaya 57.71 44 eP P 21 26 40.9 +0.6
VOSK Vostochnaya 57.71 44 eP P 21 26 40.9 +0.6
HEC Hector,Ludlow 57.76 286 P P 21 26 41.6 +0.6
baz=44
214A Organ Pipe Nat 57.78 281 P P 21 26 41.7 +0.5
baz=44
PTGA Pitinga 57.79 209 eP P 21 26 41.6 +0.3
comp=Z,7.7nm,1.0s
PTGA Pitinga 57.79 209 eP P 21 26 41.6 +0.3
comp=Z,7.7nm,1.0s
KDAK Kodiak Island 57.92 326 eP P 21 26 42.5 +0.9
comp=Z,13nm,1.1s
KDAK Kodiak Island 57.92 326 eP P 21 26 42.5 +0.9
comp=Z,13nm,1.1s
LRMC Laurel Mtn Rad 58.07 288 P P 21 26 43.5 +0.3
baz=44
BC3 Big Chuckawall 58.10 285 P P 21 26 44.2 +0.8
baz=44,SNR=6.2
BELC Belle Mtn. Jos 58.16 285 P P 21 26 44.1 +0.1
baz=44
GLA Glamis 58.17 284 eP P 21 26 46.1 +2.3
comp=Z,37nm,1.8s
GLA Glamis 58.17 284 eP P 21 26 46.1 +2.3
comp=Z,37nm,1.8s
EDW2 Edwards Air Fo 58.67 287 P P 21 26 48.2 +0.8
baz=44,SNR=6.3
PFO Pinyon Flats O 58.71 285 P P 21 26 48.4 +0.7
baz=44
PFO Pinyon Flats O 58.71 285 eP P 21 26 49.4 +1.7
comp=Z,7.1nm,1.0s
PFO Pinyon Flats O 58.71 285 eP P 21 26 49.4 +1.7
comp=Z,7.1nm,1.0s
TPFO Pinon Flats 58.71 285 P P 21 26 48.4 +0.7
baz=44
BFSC Mount Baldy Ra 58.95 287 P P 21 26 50.0 +0.7
baz=44
IKP In-Ko-Pah, Jac 59.20 284 P P 21 26 51.9 +0.8
baz=43
PCCM Crazy Canyon 59.59 291 eP P 21 26 53.1 -0.6
PCCM Crazy Canyon 59.59 291 eP P 21 26 53.1 -0.6
PKM Mcpherson Peak 59.70 289 P P 21 26 55.0 +0.3
baz=43
ZAA1 Zalesovo Array 62.01 35 eP P 21 27 10.0 +0.2
ZAA1 Zalesovo Array 62.01 35 eP P 21 27 10.0 +0.2
ZALV Zalesovo Beam 62.01 35 P P 21 27 10.0 +0.2
comp=Z,0.4nm,0.3s,baz=309,slow=11,SNR=2.9
GEYT Alibeck 62.48 63 P P 21 27 14.1 +0.8
comp=Z,0.8nm,0.6s,baz=308,slow=7.3,SNR=4.3
MK32 Makanchi Array 66.92 41 eP P 21 27 42.1 0.0
MK32 Makanchi Array 66.92 41 eP P 21 27 42.1 0.0
MKAR Makanchi Array 66.92 41 P P 21 27 42.1 0.0
comp=Z,1.8nm,0.9s,baz=326,slow=4.7,SNR=10
MK01 Makanchi Array 66.94 41 eP P 21 27 41.8 -0.4
MK01 Makanchi Array 66.94 41 eP P 21 27 41.8 -0.4
KSH Kashi 70.13 50 eP P 21 28 04.4 +2.0
KSH pP pP 21 28 17.3 +10
KSH PcP PcP 21 28 27.1 +2.8
KSH PP PP 21 30 41.4 +4.4
KSH S S 21 37 05.8 -6.9
KSH ScS SKSac 21 37 55.0 -7.9
KSH Kashi 70.13 50 SS SS 21 41 36.0 -5.6
KSH pmax pmax
comp=Z,5.0nm,0.7s
KSH pmax pmax
comp=Z,91nm,2.6s
KSH LR LR
comp=N,160nm,8.5s
KSH LR LR
comp=E,160nm,8.6s
KSH LR LR
comp=Z,700nm,16.4s
SONA1 Songino Array 73.94 26 eP P 21 28 25.0 -0.1
SONA1 Songino Array 73.94 26 eP P 21 28 25.0 -0.1
SONA0 Songino Array 73.95 26 eP P 21 28 25.1 0.0
comp=Z,6.1nm,1.0s
SONA0 Songino Array 73.95 26 eP P 21 28 25.1 0.0
comp=Z,6.1nm,1.0s
SONM Songino Array 73.95 26 P P 21 28 25.1 0.0
comp=Z,2.6nm,0.9s,baz=329,slow=5.5,SNR=16
ULN Ulaanbaatar 74.09 25 eP P 21 28 26.9 +0.9
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 74.09 25 eP P 21 28 26.9 +0.9
comp=Z,8.0nm,1.1s
LPAZ La Paz 74.99 213 P P 21 28 32.0 +0.1
comp=Z,1.8nm,0.9s,baz=21,slow=8.1,SNR=5.4
CPUP Villa Florida 81.76 200 P P 21 29 07.3 -1.1
comp=Z,1.6nm,0.9s,baz=61,slow=19,SNR=3.3
RKT Rikitea 113.87 263 eLR LR 22 09 43.2
comp=Z,427nm,41.2s
PPT2 Papeete2 118.31 279 eLR LR 22 11 50.7
comp=Z,390nm,22.8s
TBI Tubuai 122.68 274 eLR LR 22 13 50.4
comp=Z,358nm,23.0s
WR1 Warramunga Arr 145.57 17 ePKIKP PKPdf 21 36 27.2 -1.0
WR1 Warramunga Arr 145.57 17 ePKPdf PKPdf 21 36 27.2 -1.0
WRA Warramunga Arr 145.57 17 PKPbc PKPdf 21 36 27.2 -1.0
comp=Z,2.2nm,0.9s,baz=343,slow=3.1,SNR=9.0
AS31 Alice Springs 149.12 19 ePKPdf PKPdf 21 36 33.1 -0.9
AS31 ePKPbc PKPbc 21 36 37.5 -0.7
ASAR Alice Springs 149.12 19 PKP PKPdf 21 36 33.1 -1.0
comp=Z,3.1nm,0.7s,baz=342,slow=2.0,SNR=5.1
ASAR PKPbc PKPbc 21 36 37.5 -0.7
comp=Z,3.1nm,0.7s,baz=348,slow=2.3,SNR=30

---

*IDC **20** 21:19:55.8±0.6,53°.47N×35°.41W,h0km,mb4.1/17, mb1 4.2/18,mb1mx4.0/47,mbtmp4.0/18,ML3.9/1,MS4.5/43, Ms1 4.5/43,ms1mx4.4/49,Error ellipse: s-maj=20.1km s-min=13.2km az=15.0*

*ISCJB **20** 21:19:56.8±0.1,53°.43N±0'.04×35°.48W±0'.03,h16km, mb4.7/80,MS4.5/38,Error ellipse: s-maj=6.4km s-min=2.6km az=2.0*

*GCMT **20** 21:19:57.7±0.2,53°.57N×35°.21W,h12km,MW5.1/92, Moment Tensor Solution. s15,c16; s92,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.00±.19; $M_{\theta\theta}$0.16±.20; $M_{\phi\phi}$5.84±.14; $M_{r\theta}$ 1.33±.77; $M_{\theta\phi}$0.94±.15; $M_{\phi r}$-1.11±.64; Best double couple: $M_0$6.23400×10^{16} NP1:ϕs356.00000°,δ51.00000°,λ-107.00000°. NP2: ϕs202.00000°,δ42.00000°,λ-71.00000°. Principal axes: T 6.0590, Pl94.0000°, Azm98.0000°; N 0.3470, Pl13.0000°, Azm7.0000°; P -6.4090, Pl76.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 21:19:57.7±0.8,53°.46N×35°.31W,h9km±4km,mb4.9/63 Error ellipse: s-maj=7.0km s-min=3.8km az=185.0*

*CSEM **20** 21:19:57.7±0.1,53°.51N×35°.34W,h10km,mb4.8/55,Error ellipse: s-maj=7.1km s-min=3.5km az=10.0*

ISC 20 21:19:58.6±0.4,53°.52N±0'.08×35°.40W±0'.05,h16km,n436, σ1s17/393,mb4.8/80,MS4.5/38,13C-3D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	13.33	27	LR		LR	LR	21 26 36.3	
	comp=Z,1μm,20.8s,baz=226,slow=30								
H07S1	FLORES T-PHASE	14.44	167	eLQ		LQ	LQ	21 26 29.0	
VAL	Valentia	15.30	86	eP		Pn		21 23 31.6	-2.1
PGRA	Graciosa	15.36	158	eLQ		LQ	LQ	21 26 29.0	
SFJD	Kangerlussuaq	15.41	337	LR		LR	LR	21 28 23.0	
	comp=Z,2μm,21.1s,baz=156,slow=33								
SFJD	Kangerlussuaq	15.41	337	ePn		P		21 23 37.3	-2.2
	24nm,1.0s								
SFJD	Kangerlussuaq	15.41	337	ePn		P		21 23 37.3	-2.2
	24nm,1.0s								
ROSA	Rosais	15.60	159	eLQ		LQ	LQ	21 26 36.3	
CMLA	Cha da Macela	17.18	153	eLQ		LQ	LQ	21 27 14.3	
PSMN	Pico do Norte,	18.02	152	eLQ		LQ	LQ	21 27 39.2	
SCHQ	Schefferville	18.37	287	LR		LR	LR	21 30 17.7	
	comp=Z,1μm,21.2s,baz=84,slow=34								
EKA	Eskdalemuir Ar	18.76	71	P		P		21 24 15.8	-0.8
	baz=275,slow=10.0,SNR=6.0								
EKA				LR		LR	LR	21 30 18.0	
	comp=Z,2μm,18.4s,baz=260,slow=33								
SUMG	Summit	19.17	357	eP		P		21 24 21.5	0.0
	71nm,1.9s								
SUMG	Summit	19.17	357	eP		P		21 24 21.5	0.0
	72nm,1.9s								
FRB	Frobisher Bay	19.81	314	LR		LR	LR	21 30 35.5	
	comp=Z,3μm,18.4s,baz=104,slow=32								
LMN	Caledonia Moun	20.40	260	eP		P		21 24 33.6	-1.0
	110nm,1.8s								
LMN	Caledonia Moun	20.40	260	eP		P		21 24 33.6	-1.0
	110nm,1.8s								
JMIC	Jan Mayen	21.19	24	LR		LR	LR	21 30 48.7	
	comp=Z,2μm,19.3s,baz=240,slow=31								
PGAV	Gavieira, Arco	21.46	112	eP		P		21 24 53.7	+7.6
POLO	Lamas de Olo	22.12	112	eP		P		21 24 59.0	+5.7
PBRG	Braganca	22.42	110	eP		P		21 25 02.2	+5.8
PVIS	Viseu	22.51	114	eP		P		21 24 59.1	+1.7
PVIS	Viseu	22.51	114	eP		P		21 24 59.1	+1.7
EMMW	East Machias	22.59	260	eP		P		21 24 59.0	+0.9
	87nm,1.5s								
EMMW	East Machias	22.59	260	eP		P		21 24 59.0	+0.9
	87nm,1.5s								
PCAS	Casmilo, Conde	22.65	116	eP		P		21 24 58.7	-0.2
PCAS	Casmilo, Conde	22.65	116	eP		P		21 24 58.7	-0.2
MVO	Moncorvo	22.68	112	eP		P		21 25 00.0	+0.7
MVO	Moncorvo	22.68	112	eP		P		21 25 00.0	+0.7
LMQ	La Malbaie	22.82	269	eP		P		21 24 53.7	-6.9
	66nm,1.8s								
PTOM	Tomar	23.01	116	eP		P		21 25 03.2	+0.6
PTOM	Tomar	23.01	116	eP		P		21 25 03.2	+0.6
PMAFR	Mafra	23.03	119	eP		P		21 25 01.5	-1.3
PMAFR	Mafra	23.03	119	eP		P		21 25 01.5	-1.3
PCBR	Castelo Branco	23.36	115	eP		P		21 25 07.7	+1.6
PCBR	Castelo Branco	23.36	115	eP		P		21 25 07.7	+1.6
PMRV	Marv??o	23.70	115	eP		P		21 25 09.8	+0.3
PMRV	Marv??o	23.70	115	eP		P		21 25 09.8	+0.3
PESTR	Estremoz	23.99	116	eP		P		21 25 21.0	+8.7
PNCL	Nicolau / Gran	24.05	119	eP		P		21 25 13.4	+0.6
PNCL	Nicolau / Gran	24.05	119	eP		P		21 25 13.4	+0.6
MESJ	Messejana	24.42	119	eP		P		21 25 14.8	-1.4
MESJ	Messejana	24.42	119	eP		P		21 25 14.8	-1.4
PBEJ	Beja	24.46	118	eP		P		21 25 18.0	+1.4
PBEJ	Beja	24.46	118	eP		P		21 25 18.0	+1.4
PVAQ	Vaqueiros	25.01	119	eP		P		21 25 30.1	+8.6
PBDV	Barranco-do-Ve	25.02	119	eP		P		21 25 31.1	+9.4
PAB	San Pablo	25.28	111	eP		P		21 25 26.4	+2.2
	17nm,1.4s								
ESDC	Sonseca Array	25.41	110	P		P		21 25 24.6	-0.6
	3.9nm,0.9s,baz=314,slow=8.7,SNR=12								
ESDC				LR		LR	LR	21 33 23.1	
	comp=Z,2μm,18.6s,baz=305,slow=32								
ESLA	Sonseca Array	25.41	110	eP		P		21 25 23.3	-1.9
	10nm,1.0s								
ESLA	Sonseca Array	25.41	110	eP		P		21 25 23.3	-1.9
	10nm,1.0s								
ES19	SONSECA Array	25.43	110	eP		P		21 25 24.6	-0.8
ES19	SONSECA Array	25.43	110	eP		P		21 25 24.6	-0.8
NB200	NORSAR Array S	25.80	54	eP		P		21 25 28.5	0.0
NB200	NORSAR Array S	25.80	54	eP		P		21 25 28.6	0.0
NOA	NORSAR Array B	25.80	54	P		P		21 25 28.6	0.0
	1.4nm,0.7s,baz=276,slow=9.9,SNR=2.5								
NOA				LR		LR	LR	21 34 10.0	
	comp=Z,852nm,18.6s,baz=275,slow=33								
TRQ	Mont Tremblant	26.00	270	eP		P		21 25 29.9	-0.7
TRQ	Mont Tremblant	26.00	270	eP		P		21 25 29.9	-0.7
HFS	Hagfors	27.11	56	LR		LR	LR	21 34 59.6	
	comp=Z,1μm,18.9s,baz=276,slow=33								
CLL	Collm	29.16	74	*i* P		P		21 25 59.1	+0.4
	comp=Z,8.0nm,1.0s								
NKC	Novy Kostel	29.28	77	AMS		AMS		21 37 00.0	
	comp=Z,2μm,15.8s								
DAVOX	Davos/Dischmat	29.37	85	LR		LR	LR	21 36 23.1	
	comp=Z,2μm,20.5s,baz=294,slow=34								
SADO	Sadowa	29.50	271	LR		LR	LR	21 36 59.3	
	comp=Z,3μm,18.6s,baz=61,slow=35								
N59A	State Game Lan	29.76	261	P		P		21 26 04.1	0.0
	baz=51								
BRG	Berggiesshubel	29.88	75	eP		P		21 26 06.0	+1.0
	comp=Z,5.5nm,1.3s								
PVCC	Panska Ves	30.39	75	AMS		AMS		21 38 50.0	
	comp=Z,2μm,14.2s								
KHC	Kasperske Hory	30.43	78	eP		P		21 26 11.7	+1.7
KHC				AMS		AMS		21 37 30.0	
	comp=Z,2μm,17.9s								
PRU	Pruhonice	30.60	76	AMS		AMS		21 37 40.0	
	comp=Z,2μm,18.2s								
GERES	GERESS Array B	30.63	79	P		P		21 26 12.5	+0.6
	comp=Z,1.2nm,0.9s,baz=293,slow=6.9,SNR=5.9								
GERES				LR		LR	LR	21 38 11.8	
	comp=Z,1μm,18.2s,baz=284,slow=36								
GOPC	GO Pecny, Ondr	30.78	76	AMS		AMS		21 38 00.0	
	comp=Z,2μm,16.2s								
UPC	Upice	31.23	74	AMS		AMS		21 39 50.0	
	comp=Z,1μm,14.1s								

ARCES **ARCESS Array B** 31.46 36 LR LR 21 36 30.6
comp=Z,225nm,18.3s,baz=264,slow=32
TREC **Trest** 31.47 77 eP P **21 26 20.7 +1.6**
TREC epP sP **21 26 24.8 -1.2**
TREC AMS AMS 21 38 10.0
comp=Z,2µm,18.6s
DPC **Dobruska-Polom** 31.47 74 eP P **21 26 19.7 +0.5**
DPC epP sP **21 26 24.9 -1.2**
DPC AMS AMS 21 39 30.0
comp=Z,1µm,13.9s
M54A **Oil Creek Stat** 31.70 266 P P **21 26 20.2 -1.1**
baz=52
O56A **Blue Knob Stat** 31.82 263 P P **21 26 21.9 -0.4**
baz=51
FCC **Fort Churchill** 32.18 303 eP P **21 26 26.4 +1.1**
comp=Z,38nm,1.6s
FCC **Fort Churchill** 32.18 303 eP P **21 26 26.4 +1.1**
comp=Z,38nm,1.6s
N54A **Moraine State** 32.23 265 P P **21 26 25.6 -0.3**
baz=52
MORC **Moravsky Berou** 32.43 75⇑ iP P **21 26 26.2 -1.5**
MORC **Moravsky Berou** 32.43 75 eP P **21 26 29.0 +1.3**
OKC **Ostrava-Krasne** 32.75 74 AMS AMS 21 39 20.0
comp=Z,1µm,16.1s
FIA0 **FINESS Array S** 32.81 51 eP P **21 26 30.1 -0.6**
FIA0 **FINESS Array S** 32.81 51 eP P **21 26 30.1 -0.6**
FINES **FINESS Array B** 32.81 51 P P **21 26 30.1 -0.6**
comp=Z,2.4nm,0.8s,baz=261,slow=9.3,SNR=5.0
FINES LR LR 21 38 20.4
comp=Z,1µm,21.0s,baz=276,slow=34
VYHS **Vyhne** 33.79 76 eP P **21 26 38.9 -0.6**
comp=Z,15nm,2.2s
VYHS **Vyhne** 33.79 76 eP P **21 26 38.8 -0.7**
LANS **Liptovska Anna** 33.84 75 eP P **21 26 40.8 +0.9**
LANS **Liptovska Anna** 33.84 75 eP P **21 26 40.8 +0.9**
C39A **Grand Marais** 34.41 283 P P **21 26 44.3 -0.5**
baz=60
ACSO **Alum Creek Sta** 34.47 267 eP P **21 26 47.1 +1.7**
comp=Z,38nm,1.4s
ACSO **Alum Creek Sta** 34.47 267 eP P **21 26 47.1 +1.7**
comp=Z,38nm,1.4s
PSZ **Piszkesteto** 34.69 76⇓ iP P 21 26 57.2 +10
CRVS **Cervenica-Dubn** 35.10 74 eP P **21 26 50.8 0.0**
CRVS **Cervenica-Dubn** 35.10 74 eP P **21 26 50.8 0.0**
EYMN **Ely** 35.14 284 P P **21 26 50.9 -0.3**
baz=59
KWP **Kalwaria Pacla** 35.46 72⇑ iP P **21 26 55.2 +1.3**
KWP **Kalwaria Pacla** 35.46 72⇑ iP P **21 26 55.2 +1.3**
C37A **Embarrass** 35.65 284 P P **21 26 54.9 -0.6**
baz=59
KEST **Kesra** 35.77 101 P P **21 26 57.2 +0.5**
comp=Z,6.0nm,0.8s,baz=286,slow=7.5,SNR=5.6
KEST LR LR 21 41 00.8
comp=Z,624nm,18.0s,baz=288,slow=35
KEST **Kesra** 35.77 101 eP P **21 26 57.2 +0.5**
comp=Z,30nm,1.5s
KEST **Kesra** 35.77 101 eP P **21 26 57.2 +0.5**
comp=Z,30nm,1.5s
C36A **Pine Crest Far** 36.01 285 P P **21 26 59.7 +1.1**
baz=59
D37A **Cotton** 36.09 284 P P **21 27 00.2 +0.9**
baz=58
B35A **Bob, Littlefor** 36.21 286 P P **21 27 01.6 +1.2**
baz=59
ULM **Lac du Bonnet** 36.49 290 LR LR 21 40 39.4
comp=Z,1µm,18.8s,baz=68,slow=34
SIRR **Siria** 36.59 78⇑ iP P **21 27 04.4 +0.8**
SIRR **Siria** 36.59 78⇑ iP P **21 27 04.4 +0.8**
B34A **Aery, Baudette** 36.68 287 P P **21 27 03.4 -0.9**
baz=59
C35A **Jirik Farms, M** 36.70 285 P P **21 27 04.5 0.0**
baz=58
CUC **Castrocucco** 36.79 90 eP P **21 27 03.7 -1.7**
comp=Z,5.8nm,1.0s
CUC **Castrocucco** 36.79 90 eP P **21 27 03.7 -1.7**
comp=Z,5.8nm,1.0s
SFIN **Lafayette** 36.83 271 P P **21 27 05.1 -0.6**
baz=51
A33A **Warroad** 36.87 288 P P **21 27 06.1 +0.2**
baz=60
E36A **McGregor** 36.91 283 P P **21 27 06.5 +0.2**
baz=57
DRGR 36.91 76⇑ iP P **21 27 07.7 +1.3**
DRGR 36.91 76⇑ iP P **21 27 07.7 +1.3**
BZS **Buzias** 36.91 79⇑ iP P **21 27 06.2 -0.1**
BZS **Buzias** 36.91 79⇑ iP P **21 27 06.2 -0.1**
D35A **Remer** 37.07 284 P P **21 27 07.8 +0.1**
baz=58
TZTN **Tazewell** 37.21 263 eP P **21 27 10.1 +1.1**
comp=Z,48nm,1.5s
TZTN **Tazewell** 37.21 263 eP P **21 27 10.1 +1.1**
comp=Z,48nm,1.5s
F36A **Milaca** 37.42 282 P P **21 27 10.6 0.0**
baz=56
MDVR **Moldovita** 37.44 80⇓ iP P **21 27 10.9 0.0**
MDVR **Moldovita** 37.44 80⇓ iP P **21 27 10.9 0.0**
AGMN **Agassiz Nation** 37.47 287 P P **21 27 11.5 +0.5**
baz=59
ARCR **ARCALIA** 37.71 75⇑ iP P **21 27 13.3 +0.3**
ARCR **ARCALIA** 37.71 75⇑ iP P **21 27 13.3 +0.3**
BUR08 **Bucovina Ar. S** 37.89 74 eP P **21 27 16.2 +1.4**
BUR08 **Bucovina Ar. S** 37.89 74 eP P **21 27 16.2 +1.4**
BURAR **Bucovina Array** 37.92 74⇑ iP P **21 27 16.0 +1.0**
BURAR **Bucovina Array** 37.92 74⇑ iP P **21 27 16.0 +1.0**
J38A **Wedel Dairy, R** 38.26 278 P P **21 27 16.9 -0.8**
baz=54
K39A **Oelwein** 38.27 277 P P **21 27 17.1 -0.7**
baz=54
AKASG **Malin Array Be** 38.58 67 P P **21 27 19.7 -0.6**
comp=Z,0.3nm,0.3s,baz=304,slow=8.0,SNR=6.0
AKASG LR LR 21 43 13.1
comp=Z,543nm,18.1s,baz=270,slow=36
L39A **Vinton** 38.69 276 P P **21 27 20.7 -0.6**
baz=53
B30A **Myrvik Farm, E** 38.79 289 P P **21 27 21.9 -0.2**
baz=58
J37A **Redenius Farm,** 38.90 279 P P **21 27 22.6 -0.5**
baz=54
Q44A **Meyer Farm, Va** 38.91 270 P P **21 27 22.1 -1.1**
baz=50
O41A **Passleys Farm,** 39.26 273 P P **21 27 25.8 -0.3**
baz=51
K37A **Belmond** 39.27 278 P P **21 27 25.3 -0.9**
baz=53
Q43A **New Douglas** 39.30 271 P P **21 27 25.6 -0.9**
baz=50
R44A **Waltonville** 39.38 269 P P **21 27 26.3 -0.9**
baz=49
WVT **Waverly** 40.03 266 eP P **21 27 33.2 +0.6**
comp=Z,23nm,1.4s
WVT **Waverly** 40.03 266 eP P **21 27 33.2 +0.6**
comp=Z,23nm,1.4s
YKA **Yellowknife Ar** 40.32 315 P P **21 27 34.5 -0.2**
comp=Z,1.3nm,0.9s,baz=61,slow=9.2,SNR=6.1
YKA PcP **PcP** **21 29 37.8 0.0**
comp=Z,0.7nm,0.8s,baz=64,slow=3.6,SNR=4.8
YKA LR LR 21 42 44.9
comp=Z,71nm,18.9s,baz=0.0,slow=34
ECSD **EROS Data Cent** 40.44 282 P P **21 27 36.0 0.0**
baz=54
ECSD **EROS Data Cent** 40.44 282 eP P **21 27 37.0 +1.0**
comp=Z,24nm,1.5s
ECSD **EROS Data Cent** 40.44 282 eP P **21 27 37.0 +1.0**
comp=Z,24nm,1.5s
P39B **Salisbury** 40.77 274 P P **21 27 38.2 -0.5**
baz=50
G30A **Faulkton** 41.10 285 P P **21 27 41.1 -0.3**
baz=54
Q39A **Willow Grove F** 41.18 273 P P **21 27 40.6 -1.5**
baz=50
R40A **Maddies Statio** 41.25 272 P P **21 27 41.2 -1.4**
baz=49
AGG **Agios Georgios** 41.30 86 eP P **21 27 43.2 +0.1**
comp=Z,25nm,1.0s
AGG **Agios Georgios** 41.30 86 eP P **21 27 43.2 +0.1**
comp=Z,25nm,1.0s
Y47A **UCPARC, Winfie** 41.58 263 P P **21 27 44.8 -0.6**
baz=46
Q38A **Cooks Store, C** 41.62 274 P P **21 27 44.7 -1.0**
baz=50
R39A **Chumby, Stover** 41.69 273 P P **21 27 45.5 -0.8**
baz=49
T41A **Mountain View** 41.77 270 P P **21 27 45.9 -1.1**
baz=48
Z48A **Northport** 41.77 263 P P **21 27 46.1 -0.9**
baz=45
P36A **Good Intent, A** 42.14 276 P P **21 27 49.1 -0.9**
baz=50
Y46A **Houston** 42.19 264 P P **21 27 49.5 -0.9**
baz=46
S39A **Bolivar** 42.27 272 P P **21 27 49.5 -1.6**
baz=49
R38A **Fenwick Farm,** 42.29 273 P P **21 27 49.6 -1.6**
baz=49
J30A **Dallas** 42.37 283 P P **21 27 50.8 -1.0**
baz=53
V42A **Cord** 42.38 269 P P **21 27 50.8 -1.1**
baz=47
I29A **Vivian Onida** 42.42 284 P P **21 27 51.1 -1.1**
baz=53
S38A **Stockton** 42.66 273 P P **21 27 53.1 -1.1**
baz=49
O34A **Beatrice** 42.67 278 P P **21 27 53.4 -0.9**
baz=51
P35A **Duane Minner,** 42.68 276 P P **21 27 53.7 -0.6**
baz=50
147A **Livingston** 42.69 263 P P **21 27 53.7 -0.8**
baz=44
T39A **Clever** 42.74 271 P P **21 27 53.9 -1.0**
baz=48
248A **Dixon Mills** 42.79 262 P P **21 27 54.8 -0.5**
baz=44
V41A **Mountainview** 42.85 269 P P **21 27 54.9 -0.9**
baz=47
U40A **Yellville** 42.88 270 P P **21 27 55.6 -0.4**
baz=48
S37A **Fort Scott** 43.12 273 P P **21 27 57.9 0.0**
baz=49
Q35A **Mercer Eighty,** 43.13 276 P P **21 27 57.3 -0.7**
baz=50
P34A **Walnut Farm, R** 43.15 277 P P **21 27 57.5 -0.7**
baz=50
R36A **Gordon, Harris** 43.16 275 P P **21 27 57.4 -0.8**
baz=49
U39A **Green Forest** 43.24 271 P P **21 27 58.5 -0.4**
baz=48
WHAR **Wooly Hollow** 43.26 269 eP P **21 27 59.4 +0.3**
comp=Z,29nm,1.3s
WHAR **Wooly Hollow** 43.26 269 eP P **21 27 59.4 +0.3**
comp=Z,29nm,1.3s
T38A **Diamond** 43.28 272 P P **21 27 59.3 0.0**
baz=48
X201 **Greenbrier Sit** 43.31 269 eP P **21 27 59.0 -0.4**
comp=Z,80nm,1.9s
X201 **Greenbrier Sit** 43.31 269 eP P **21 27 59.0 -0.4**
comp=Z,80nm,1.9s
W41B **Gary Mavity, V** 43.32 269 P P **21 28 00.4 +0.9**
baz=47
247A **Quitman** 43.34 262 P P **21 28 00.5 +0.8**
baz=44
TAM **Tamanrasset** 43.51 119 eP P **21 28 03.6 +2.3**
comp=Z,28nm,1.9s
R35A **Emporia Munici** 43.57 275 P P **21 28 00.8 -0.8**
baz=49
T37A **Cheneyville 18** 43.60 273 P P **21 28 01.6 -0.2**
baz=48
S36A **Lake Cedric, C** 43.60 274 P P **21 28 01.7 -0.1**
baz=49
Q34A **Chapman** 43.62 276 P P **21 28 01.7 -0.3**
baz=50
V39A **Pettigrew** 43.70 270 P P **21 28 02.1 -0.6**
baz=47
U38A **Gravette** 43.74 272 P P **21 28 02.8 -0.1**
baz=48
W40A **Ferguson Farm,** 43.80 269 P P **21 28 02.8 -0.6**
baz=47
S35A **Otter Creek Ra** 44.06 274 P P **21 28 04.5 -1.1**
baz=49
V38A **Canehill** 44.14 271 P P **21 28 05.7 -0.5**
baz=47
X40A **Basin Creek Fa** 44.14 268 P P **21 28 05.3 -0.8**
baz=46
U37A **Salina** 44.20 272 P P **21 28 06.1 -0.5**
baz=48
LAO **LASA Array** 44.20 291 P P **21 28 07.3 +0.7**
baz=54
LAO **LASA Array** 44.20 291 eP P **21 28 08.4 +1.8**
comp=Z,14nm,0.6s
LAO **LASA Array** 44.20 291 eP P **21 28 08.4 +1.8**
comp=Z,14nm,0.6s
T36A **Boggs Farm, Ca** 44.21 273 P P **21 28 06.3 -0.5**
baz=48
W39A **Magazine** 44.22 270 P P **21 28 06.2 -0.6**
baz=47
INK **Inuvik** 44.49 328 P P **21 28 08.3 -0.2**
comp=Z,1.2nm,0.5s,baz=48,slow=9.2,SNR=4.6
INK **Inuvik** 44.49 328 eP P **21 28 08.4 -0.2**
comp=Z,6.1nm,0.9s
INK **Inuvik** 44.49 328 eP P **21 28 08.3 -0.2**
comp=Z,6.1nm,0.9s
143A **Socs Landing,** 44.53 265 P P **21 28 09.0 -0.3**
baz=45
MIAR **Mount Ida** 44.54 269 P P **21 28 09.6 +0.2**
baz=46
MIAR **Mount Ida** 44.54 269 eP P **21 28 09.9 +0.5**
comp=Z,30nm,1.3s
MIAR **Mount Ida** 44.54 269 eP P **21 28 09.9 +0.5**
comp=Z,30nm,1.3s
V37A **Hulbert** 44.56 272 P P **21 28 09.6 0.0**
baz=47
U36A **Oologah** 44.57 273 P P **21 28 09.6 0.0**
baz=48
Y40A **Okolona** 44.73 268 P P **21 28 10.6 -0.3**
baz=46
W38A **Poteau** 44.74 270 P P **21 28 11.1 +0.1**
baz=47
X39A **Fountain Ranch** 44.89 269 P P **21 28 11.8 -0.4**
baz=46
TUL1 **Leonard** 44.93 272 P P **21 28 11.4 -1.1**
baz=47
T34A **McClaskey Farm** 45.02 274 P P **21 28 13.1 -0.1**
baz=48
344A **Westbrook Farm** 45.02 264 P P **21 28 12.5 -0.7**
baz=44
V36A **Jess** 45.11 272 P P **21 28 13.5 -0.4**
baz=47
X38A **Whitesboro** 45.20 270 P P **21 28 14.2 -0.4**
baz=46
W37B **Quinton** 45.24 271 P P **21 28 14.5 -0.5**
baz=47
IDI **Anoyia** 45.30 89 eP P **21 28 15.5 0.0**
comp=Z,32nm,1.4s
IDI **Anoyia** 45.30 89 eP P **21 28 15.5 0.0**
comp=Z,32nm,1.4s
X37A **Clayton** 45.58 270 P P **21 28 16.8 -0.9**
baz=46
T33A **Patterson Ranc** 45.61 275 P P **21 28 17.3 -0.6**
baz=48
V35A **Meyer Ranch, C** 45.66 273 P P **21 28 17.1 -1.1**
baz=47
W36A **Wetumka** 45.72 272 P P **21 28 18.0 -0.7**
baz=47
V34A **Guthrie** 46.01 273 P P **21 28 20.4 -0.7**
baz=47
W35A **Tecumseh** 46.09 272 P P **21 28 20.6 -1.1**
baz=47
X36A **Centrahoma** 46.18 271 P P **21 28 21.9 -0.5**
baz=46
V33A **Lossen Ranch,** 46.48 274 P P **21 28 24.4 -0.4**
baz=47
X35A **Drake** 46.67 272 P P **21 28 25.6 -0.6**
baz=46
K22A **Casper** 46.84 287 P P **21 28 27.4 -0.2**
baz=51
RLMT **Red Lodge** 46.84 291 P P **21 28 26.5 -1.2**
baz=52
RLMT **Red Lodge** 46.84 291 eP P **21 28 28.9 +1.2**
comp=Z,29nm,1.5s
RLMT **Red Lodge** 46.84 291 eP P **21 28 28.9 +1.2**
comp=Z,29nm,1.5s
BR231 **Keskin MP Arra** 46.94 78 eP P **21 28 26.5 -1.9**
BR231 **Keskin MP Arra** 46.94 78 eP P **21 28 26.5 -1.9**
X34A **Smith Ranch, M** 47.05 272 P P **21 28 28.0 -1.2**
baz=46
W33A **Caddo, Fort Co** 47.05 273 P P **21 28 27.4 -1.8**
baz=47
Y35A **Marietta** 47.05 271 P P **21 28 28.8 -0.4**
baz=46
WMOK **Wichita Mounta** 47.52 273 P P **21 28 32.3 -0.5**
baz=46
BR101 **Keskin Array S** 47.52 78 eP P **21 28 33.9 +0.9**
BR101 **Keskin Array S** 47.52 78 eP P **21 28 33.9 +0.9**
BRTR **Keskin Array B** 47.52 78 P P **21 28 33.9 +0.9**
comp=Z,2.9nm,0.8s,baz=305,slow=5.6,SNR=13
BRTR LR LR 21 50 03.3
comp=Z,704nm,18.4s,baz=306,slow=38
W32A **Sentinel** 47.53 274 P P **21 28 31.6 -1.4**
baz=46
N23A **Red Feather La** 47.63 285 P P **21 28 34.1 +0.1**
baz=50
N23A **Red Feather La** 47.63 285 eP P **21 28 35.9 +1.9**
comp=Z,39nm,1.5s
N23A **Red Feather La** 47.63 285 eP P **21 28 35.9 +1.9**
comp=Z,39nm,1.5s
338A **Crockett** 47.82 267 P P **21 28 34.0 -1.2**
baz=44
BOZ **Bozeman (W)** 47.82 293 P P **21 28 34.7 -0.5**
baz=51
Y33A **Hilltop Ranch,** 47.93 272 P P **21 28 35.2 -0.9**
baz=46
H17A **Grant Village** 48.02 291 eS S **21 35 34.6 +0.2**
H17A **Grant Village** 48.02 291 eS S **21 35 34.6 +0.2**
236A **Katherine and** 48.09 269 P P **21 28 36.2 -1.1**
baz=45
ISCO **Idaho Springs** 48.15 283 P P **21 28 36.5 -1.5**
baz=49
ISCO **Idaho Springs** 48.15 283 eP P **21 28 40.1 +2.0**
comp=Z,8.9nm,0.9s
ISCO **Idaho Springs** 48.15 283 eP P **21 28 40.1 +2.0**
comp=Z,8.9nm,0.9s
BW06 **Boulder Array** 48.49 289 P P **21 28 39.9 -0.7**
baz=50
BW06 **Boulder Array** 48.49 289 eP P **21 28 39.8 -0.7**
BW06 **Boulder Array** 48.49 289 eP P **21 28 39.8 -0.7**
PD31 **Pinedale Array** 48.49 289 eP P **21 28 40.4 -0.2**
PD31 **Pinedale Array** 48.49 289 eP P **21 28 40.4 -0.2**
PDAR **Pinedale Array** 48.49 289 P P **21 28 40.4 -0.2**
comp=Z,1.3nm,0.7s,baz=51,slow=7.1,SNR=6.2
PDAR LR LR 21 48 06.1
comp=Z,864nm,18.8s,baz=57,slow=35
MOOW **Moose Ponds** 48.53 291 eP P **21 28 37.2 -3.7**
comp=Z,10nm,1.4s
234A **Clairette** 49.04 270 P P **21 28 42.8 -1.9**
baz=45
EGAK **Eagle** 49.05 327 eP P **21 28 45.3 +1.0**
comp=Z,22nm,1.7s
EGAK **Eagle** 49.05 327 eP P **21 28 45.3 +1.0**
comp=Z,22nm,1.7s
133A **Hamilton Ranch** 49.08 271 P P **21 28 43.2 -1.7**
baz=45
335A **Moody** 49.13 269 P P **21 28 43.9 -1.5**
baz=44
NEW **Newport** 49.13 299 P P **21 28 45.7 +0.5**
baz=51
AMTX **Amarillo** 49.14 276 P P **21 28 44.3 -1.2**
baz=46
T25A **Trinidad** 49.22 280 P P **21 28 45.0 -1.2**
baz=47
SDCO **Great Sand Dun** 49.45 281 P P **21 28 46.4 -1.6**
baz=48
SDCO **Great Sand Dun** 49.45 281 eP P **21 28 49.8 +1.7**
comp=Z,12nm,1.5s
SDCO **Great Sand Dun** 49.45 281 eP P **21 28 49.8 +1.7**
comp=Z,12nm,1.5s
233A **Rising Star** 49.49 271 P P **21 28 46.2 -1.9**
baz=45
334A **Lometa** 49.58 270 P P **21 28 47.2 -1.6**
baz=44
TOA1 **Torodi Ar. Sit** 49.81 130 eP P **21 28 49.3 -1.3**
comp=Z,18nm,1.4s
TOA1 **Torodi Ar. Sit** 49.81 130 eP P **21 28 49.3 -1.3**
comp=Z,18nm,1.4s
TOA0 **Torodi Ar. Sit** 49.82 130 eP P **21 28 49.8 -0.9**
TOA0 **Torodi Ar. Sit** 49.82 130 eP P **21 28 49.8 -0.9**
TORD **Torodi Ar. Bea** 49.82 130 P P **21 28 49.3 -1.3**
comp=Z,4.5nm,0.8s,baz=332,slow=7.5,SNR=18
TORD LR LR 21 47 59.2
comp=Z,688nm,18.2s,baz=315,slow=34
ARU **Arti** 49.90 46 eP P **21 28 51.7 +0.8**
comp=Z,6.1nm,0.9s
ARU **Arti** 49.90 46 eP P **21 28 51.7 +0.8**
comp=Z,6.1nm,0.9s
434A **Burnet** 49.97 269 P P **21 28 49.5 -2.2**
baz=44
333A **Richland Sprin** 50.03 270 P P **21 28 50.5 -1.8**
baz=44
COLD **Coldfoot** 50.10 333 eP P **21 28 54.8 +2.5**
comp=Z,3.3nm,1.1s
COLD **Coldfoot** 50.10 333 eP P **21 28 54.8 +2.5**
comp=Z,3.3nm,1.1s
KBZ **Khabaz** 50.18 68 LR LR 21 51 21.0
comp=Z,621nm,18.4s,baz=249,slow=38
636A **Smothers Creek** 50.21 267 P P 21 28 48.5 -5.0
baz=43
HWUT **Hardware Ranch** 50.38 289 eP P **21 28 55.2 +0.3**
comp=Z,9.7nm,0.8s
HWUT **Hardware Ranch** 50.38 289 eP P **21 28 55.2 +0.3**
comp=Z,9.7nm,0.8s
433A **Art** 50.51 270 P P **21 28 54.9 -0.9**
baz=44
TCUT **Toone Canyon** 50.61 288 eP P **21 28 57.0 +0.2**
comp=Z,43nm,1.5s
TCUT **Toone Canyon** 50.61 288 eP P **21 28 57.0 +0.2**
comp=Z,43nm,1.5s
534A **Blanco** 50.66 269 P P **21 28 56.1 -0.9**
baz=43
HLID **Hailey** 50.68 293 P P **21 28 56.2 -1.0**
baz=49
HLID **Hailey** 50.68 293 eP P **21 28 58.6 +1.4**
comp=Z,18nm,1.7s
HLID **Hailey** 50.68 293 eP P **21 28 58.6 +1.4**
comp=Z,18nm,1.7s
DOT **Dot Lake** 50.76 327 eP P **21 28 58.6 +1.3**
comp=Z,18nm,1.2s
DOT **Dot Lake** 50.76 327 eP P **21 28 58.6 +1.3**
comp=Z,18nm,1.2s
ILAR **Eielson Array** 50.87 329 P P **21 28 58.5 +0.5**
comp=Z,2.5nm,1.0s,baz=40,slow=5.7,SNR=13
ILAR LR LR 21 48 35.7
comp=Z,326nm,21.1s,baz=59,slow=34
533A **Kerrville** 50.96 269 P P **21 28 58.3 -1.0**
baz=44
SPUT **South Promonto** 51.07 289 eP P **21 29 00.5 +0.4**
comp=Z,38nm,1.7s
SPUT **South Promonto** 51.07 289 eP P **21 29 00.5 +0.4**
comp=Z,38nm,1.7s
PV10 **Paradox Valley** 51.08 284 eP P **21 29 02.4 +2.0**
PV10 **Paradox Valley** 51.08 284 eP P **21 29 02.4 +2.0**
COLA **College** 51.09 330 eP P **21 28 58.7 -1.0**
comp=Z,64nm,0.3s
COLA **College** 51.09 330 eP P **21 28 58.7 -1.0**
comp=Z,64nm,0.3s
CCB **Clear Creek Bu** 51.24 329 eP P **21 29 02.2 +1.4**
comp=Z,21nm,1.8s
CCB **Clear Creek Bu** 51.24 329 eP P **21 29 02.2 +1.4**
comp=Z,21nm,1.8s
PV05 **Paradox Valley** 51.32 284 eP P **21 29 02.4 +0.3**
PV05 **Paradox Valley** 51.32 284 eP P **21 29 02.4 +0.3**
ANMO **Albuquerque** 51.93 279 P P **21 29 05.4 -1.2**
baz=46
ANMO **Albuquerque** 51.93 279 eP P **21 29 07.7 +1.0**
comp=Z,12nm,1.4s
ANMO **Albuquerque** 51.93 279 eP P **21 29 07.7 +1.0**
comp=Z,12nm,1.4s
DUG **Dugway, Tooele** 52.02 288 P P **21 29 07.1 -0.1**
baz=48
834A **Tilden** 52.09 267 P P **21 29 06.8 -0.9**
baz=42
MCK **McKinley** 52.24 329 eP P **21 29 09.9 +1.5**
comp=Z,50nm,1.8s
MCK **McKinley** 52.24 329 eP P **21 29 09.9 +1.5**
comp=Z,50nm,1.8s
CRQM **Cirque** 52.45 324 eP P **21 29 10.9 +0.7**
CRQM **Cirque** 52.45 324 eP P **21 29 10.9 +0.7**
BPAW **Bear Paw Mtn.** 52.59 330 eP P **21 29 12.2 +1.2**
comp=Z,20nm,1.5s
BPAW **Bear Paw Mtn.** 52.59 330 eP P **21 29 12.2 +1.2**
comp=Z,20nm,1.5s
BMRM **Bremner River** 52.81 325 eP P **21 29 13.4 +0.7**
comp=Z,6.7nm,1.0s
BMRM **Bremner River** 52.81 325 eP P **21 29 13.4 +0.7**
comp=Z,6.7nm,1.0s
TRF **Thorofare Moun** 52.86 329 eP P **21 29 13.8 +0.7**
comp=Z,28nm,1.5s
TRF **Thorofare Moun** 52.86 329 eP P **21 29 13.8 +0.7**
comp=Z,28nm,1.5s
DBIC **Dimbokro** 52.89 141 P P **21 29 12.6 -1.1**
comp=Z,7.5nm,0.8s,baz=319,slow=5.9,SNR=4.7
DBIC LR LR 21 48 45.7
comp=Z,790nm,20.4s,baz=325,slow=33
DBIC **Dimbokro** 52.89 141 eP P **21 29 12.6 -1.1**
comp=Z,20nm,1.1s
DBIC **Dimbokro** 52.89 141 eP P **21 29 12.6 -1.1**

	comp=Z,20nm,1.1s								
933A	**Laredo**	**52.90**	**267**	P		**P**	21 29 12.4	**-1.3**
	baz=42								
034A	**Hebbronville**	**52.95**	**266**	P		**P**	21 29 12.9	**-1.2**
	baz=42								
KTH	**Kantishna Hill**	**52.98**	**330**	*eP*		**P**	21 29 15.1	**+1.2**
	comp=Z,19nm,1.4s								
KTH	**Kantishna Hill**	**52.98**	**330**	*eP*		**P**	21 29 15.1	**+1.2**
	comp=Z,19nm,1.4s								
ELK	**Elko**	**53.01**	**291**	*eP*		**P**	21 29 16.6	**+1.9**
	comp=Z,16nm,1.6s								
ELK	**Elko**	**53.01**	**291**	*eP*		**P**	21 29 16.6	**+1.9**
	comp=Z,16nm,1.6s								
MTPU	**Mount Pierson**	**53.12**	**286**	*eP*		**P**	21 29 13.3	**-2.4**
	comp=Z,13nm,1.3s								
NLWA	**Neilton Lookou**	**53.17**	**302**	*eP*		**P**	21 29 16.9	**+1.4**
	comp=Z,19nm,1.3s								
NLWA	**Neilton Lookou**	**53.17**	**302**	*eP*		**P**	21 29 16.9	**+1.4**
	comp=Z,19nm,1.3s								
MNTX	**Cornudas Mount**	**53.58**	**276**	P		**P**	21 29 17.6	**-1.0**
	baz=44								
MNTX	**Cornudas Mount**	**53.58**	**276**	*eP*		**P**	21 29 19.2	**+0.5**
	comp=Z,5.9nm,1.2s								
MNTX	**Cornudas Mount**	**53.58**	**276**	*eP*		**P**	21 29 19.2	**+0.5**
	comp=Z,5.9nm,1.2s								
E03A	**Lebam**	**53.58**	**301**	*eP*		**P**	21 29 19.7	**+1.3**
	comp=Z,22nm,1.0s								
E03A	**Lebam**	**53.58**	**301**	*eP*		**P**	21 29 19.7	**+1.3**
	comp=Z,22nm,1.0s								
SZCU	**Shurtz Canyon**	**53.95**	**286**	*eP*		**P**	21 29 23.5	**+2.0**
	comp=Z,22nm,1.8s								
SZCU	**Shurtz Canyon**	**53.95**	**286**	*eP*		**P**	21 29 23.6	**+2.0**
	comp=Z,22nm,1.8s								
KNB	**Kanab**	**54.20**	**286**	*eP*		**P**	21 29 24.3	**+0.9**
	comp=Z,20nm,1.6s								
KNB	**Kanab**	**54.20**	**286**	*eP*		**P**	21 29 24.3	**+0.9**
	comp=Z,20nm,1.6s								
LTX	**Lajitas**	**54.26**	**272**	*eP*		**P**	21 29 23.5	**-0.3**
LTX	**Lajitas**	**54.26**	**272**	*eP*		**P**	21 29 23.5	**-0.3**
TX31	**Lajitas Ar. Si**	**54.26**	**272**	*eP*		**P**	21 29 23.5	**-0.3**
TX31	**Lajitas Ar. Si**	**54.26**	**272**	*eP*		**P**	21 29 23.4	**-0.3**
TXAR	**Lajitas Array**	**54.26**	**272**	P		**P**	21 29 23.5	**-0.3**
	comp=Z,2.2nm,1.1s,baz=74,slow=4.4,SNR=8.0								
TXAR					LR	LR	21 52 03.0		
	comp=Z,920nm,18.4s,baz=0.0,slow=36								
121A	**Cookes Peak, D**	**54.41**	**278**	P		**P**	21 29 24.9	**-0.1**
	baz=44								
J05D	**Fort Rock, OR**	**54.57**	**297**	P		**P**	21 29 26.9	**+0.9**
	baz=47								
K05A	**Summer Lake**	**54.77**	**296**	*eP*		**P**	21 29 25.9	**-1.5**
	comp=Z,67nm,2.0s								
K05A	**Summer Lake**	**54.77**	**296**	*eP*		**P**	21 29 25.9	**-1.5**
	comp=Z,67nm,2.0s								
I04A	**Tendick Farm,**	**54.84**	**298**	P		**P**	21 29 29.1	**+1.4**
	baz=47								
R11A	**Troy Canyon, C**	**54.85**	**289**	P		**P**	21 29 28.0	**-0.1**
	baz=46								
R11A	**Troy Canyon, C**	**54.85**	**289**	*eP*		**P**	21 29 28.5	**+0.4**
	comp=Z,16nm,1.7s								
R11A	**Troy Canyon, C**	**54.85**	**289**	*eP*		**P**	21 29 28.5	**+0.4**
	comp=Z,16nm,1.7s								
MOD	**Modoc Plateau**	**55.01**	**295**	*eP*		**P**	21 29 30.0	**+0.9**
	comp=Z,22nm,1.7s								
MOD	**Modoc Plateau**	**55.01**	**295**	*eP*		**P**	21 29 30.0	**+0.9**
	comp=Z,22nm,1.7s								
I03D	**Drain, OR**	**55.41**	**298**	P		**P**	21 29 31.4	**-0.4**
	baz=46								
M04C	**Macdoel**	**55.93**	**296**	P		**P**	21 29 34.8	**-0.9**
	baz=46								
PAHR	**Pah Rah Range**	**56.03**	**292**	*eP*		**P**	21 29 37.8	**+1.3**
	comp=Z,18nm,1.4s								
PAHR	**Pah Rah Range**	**56.03**	**292**	*eP*		**P**	21 29 37.8	**+1.3**
	comp=Z,18nm,1.4s								
TPNV	**Topopah Spring**	**56.20**	**288**	P		**P**	21 29 36.0	**-1.8**
	baz=45								
TUC	**Tucson**	**56.34**	**280**	P		**P**	21 29 38.5	**-0.2**
	baz=44								
TVH1	**TV Hill, Hawth**	**56.56**	**291**	*eP*		**P**	21 29 42.3	**+1.7**
	comp=Z,16nm,1.5s								
TVH1	**TV Hill, Hawth**	**56.56**	**291**	*eP*		**P**	21 29 42.3	**+1.7**
	comp=Z,16nm,1.5s								
GRAC	**Grapevine Rang**	**56.80**	**289**	P		**P**	21 29 42.1	**+0.2**
	baz=45								
FURC	**Furnace Creek,**	**56.89**	**288**	P		**P**	21 29 42.8	**+0.3**
	baz=45								
N02D	**Trinity Center**	**56.96**	**296**	P		**P**	21 29 42.9	**0.0**
	baz=45								
BVAR	**Borovoye Array**	**57.24**	**44**	LR		LR	21 52 36.6		
	comp=Z,747nm,20.5s,baz=272,slow=34								
Y12C	**Blythe**	**57.49**	**284**	P		**P**	21 29 47.0	**+0.2**
	baz=44								
Y12C	**Blythe**	**57.49**	**284**	*eP*		**P**	21 29 48.2	**+1.5**
	comp=Z,35nm,1.6s								
Y12C	**Blythe**	**57.49**	**284**	*eP*		**P**	21 29 48.2	**+1.5**
	comp=Z,35nm,1.6s								
MPMC	**Manual Prospec**	**57.54**	**288**	P		**P**	21 29 47.2	**-0.1**
	baz=44								
CWC	**Cottonwood Cre**	**57.60**	**289**	P		**P**	21 29 47.4	**-0.3**
	baz=44								
GSC	**Goldstone, Bar**	**57.69**	**287**	P		**P**	21 29 48.7	**+0.4**
	baz=44								
214A	**Organ Pipe Nat**	**57.78**	**281**	P		**P**	21 29 48.9	**0.0**
	baz=44								
PTGA	**Pitinga**	**57.80**	**209**	*eP*		**P**	21 29 48.9	**-0.2**
	comp=Z,37nm,1.6s								
PTGA	**Pitinga**	**57.80**	**209**	*eP*		**P**	21 29 48.9	**-0.2**
	comp=Z,37nm,1.6s								
ROSC	**El Rosal**	**57.98**	**228**	LR		LR	21 55 18.3		
	comp=Z,83nm,19.2s,baz=36,slow=37								
ROSC	**El Rosal**	**57.98**	**228**	*eP*		**P**	21 29 52.5	**+1.6**
	comp=Z,10nm,0.8s								
LRMC	**Laurel Mtn Rad**	**58.06**	**288**	P		**P**	21 29 51.0	**+0.1**
	baz=44								
BC3	**Big Chuckawall**	**58.09**	**285**	P		**P**	21 29 51.4	**+0.2**
	baz=44								
BELC	**Belle Mtn. Jos**	**58.16**	**285**	P		**P**	21 29 51.2	**-0.4**
	baz=44								
KCPM	**Cahto Peak**	**58.34**	**295**	*eP*		P	21 29 57.9	+5.1
	comp=Z,28µm,0.6s								
CMIG	**Matias Romero**	**58.38**	**255**	LR		LR	21 55 55.8		
	comp=Z,312nm,19.9s,baz=23,slow=37								
EDW2	**Edwards Air Fo**	**58.67**	**287**	P		**P**	21 29 55.5	**+0.5**
	baz=44								
PFO	**Pinyon Flats O**	**58.70**	**285**	LR		LR	21 54 46.1		
	comp=Z,388nm,20.7s,baz=66,slow=36								
PFO	**Pinyon Flats O**	**58.70**	**285**	P		**P**	21 29 55.4	**0.0**
	baz=44								
PFO	**Pinyon Flats O**	**58.70**	**285**	*eP*		**P**	21 29 57.0	**+1.6**
	comp=Z,40nm,1.9s								
PFO	**Pinyon Flats O**	**58.70**	**285**	*eP*		**P**	21 29 57.0	**+1.6**
	comp=Z,40nm,1.9s								
TPFO	**Pinon Flats**	**58.70**	**285**	P		**P**	21 29 55.4	**0.0**
	baz=44								
BFSC	**Mount Baldy Ra**	**58.94**	**287**	P		**P**	21 29 57.4	**+0.3**
	baz=44								
MONP2	**Monument Peak**	**59.20**	**285**	P		**P**	21 29 58.5	**-0.5**
	baz=43								
ZALV	**Zalesovo Beam**	**62.01**	**35**	LR		LR	21 56 29.8		
	comp=Z,230nm,20.2s,baz=250,slow=35								
LPIG	**La Paz**	**62.10**	**273**	LR		LR	21 56 54.4		
	comp=Z,775nm,20.2s,baz=40,slow=36								
GEYT	**Alibeck**	**62.48**	**63**	LR		LR	21 59 47.2		
	comp=Z,417nm,18.0s,baz=65,slow=38								
YAK	**Yakutsk**	**64.19**	**8**	LR		LR	21 58 22.0		
	comp=Z,93nm,18.1s,baz=30,slow=36								
MAKZ	**Makanchi**	**66.77**	**42**	*eP*		P	21 30 53.8	+5.0	
	comp=Z,5.8nm,1.2s								
MK32	**Makanchi Array**	**66.91**	**41**	*eP*		**P**	21 30 49.2	**-0.5**
MK32	**Makanchi Array**	**66.91**	**41**	*eP*		**P**	21 30 49.2	**-0.5**
MKAR	**Makanchi Array**	**66.91**	**41**	P		**P**	21 30 49.2	**-0.5**
	comp=Z,1.1nm,0.8s,baz=325,slow=5.9,SNR=7.2								
MKAR					LR	LR	21 59 40.8		
	comp=Z,204nm,20.0s,baz=328,slow=36								
MK01	**Makanchi Array**	**66.93**	**41**	*eP*		**P**	21 30 50.8	**+0.9**
MK01	**Makanchi Array**	**66.93**	**41**	*eP*		**P**	21 30 50.9	**+0.9**
PETK	**Petropavlovsk-**	**73.18**	**352**	LR		LR	22 05 17.6		
	comp=Z,352nm,19.2s,baz=19,slow=37								
SONA1	**Songino Array**	**73.93**	**26**	*eP*		**P**	21 31 32.5	**-0.3**
SONA1	**Songino Array**	**73.93**	**26**	*eP*		**P**	21 31 32.5	**-0.3**
SONA0	**Songino Array**	**73.94**	**26**	*eP*		**P**	21 31 32.8	**0.0**
	comp=Z,3.2nm,1.0s								
SONA0	**Songino Array**	**73.94**	**26**	*eP*		**P**	21 31 32.9	**0.0**
	comp=Z,3.2nm,1.0s								
SONM	**Songino Array**	**73.94**	**26**	P		**P**	21 31 32.9	**+0.1**
	comp=Z,1.9nm,0.9s,baz=332,slow=5.0,SNR=7.9								
WSAR	**Wadi Sarin**	**73.97**	**73**	LR		LR	22 06 47.0		
	comp=Z,214nm,19.3s,baz=316,slow=38								
ULN	**Ulaanbaatar**	**74.08**	**25**	*eP*		**P**	21 31 34.4	**+0.7**
	comp=Z,14nm,1.7s								
ULN	**Ulaanbaatar**	**74.08**	**25**	*eP*		**P**	21 31 34.4	**+0.7**
	comp=Z,14nm,1.7s								
LPAZ	**La Paz**	**75.00**	**213**	P		**P**	21 31 39.6	**-0.1**
	comp=Z,2.2nm,1.0s,baz=13,slow=5.4,SNR=6.2								
LPAZ					LR	LR	22 03 26.1		
	comp=Z,99nm,19.6s,baz=5.0,slow=35								
GTA	**Gaotai**	**79.69**	**34**	*eP*		**P**	21 32 05.3	**-0.1**
GTA					pP	pP	21 32 09.6	-1.1	
GTA					sP	sP	21 32 12.5	-0.1	
GTA					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KMBO	**Kilima Mbogo**	**80.66**	**105**	LR		LR	22 07 38.8		
	comp=Z,261nm,19.8s,baz=278,slow=36								
USRK	**Ussuriysk Ar.**	**82.06**	**9**	LR		LR	22 09 23.6		
	comp=Z,136nm,19.0s,baz=341,slow=36								
KSRS	**Korea Array**	**88.25**	**13**	LR		LR	22 12 25.1		
	comp=Z,94nm,18.9s,baz=321,slow=36								
BOSA	**Boshof**	**97.18**	**129**	LR		LR	22 16 24.8		
	comp=Z,271nm,18.3s,baz=338,slow=35								
CMAR	**Chiang Mai Arr**	**98.26**	**43**	LR		LR	22 19 48.2		
	comp=Z,237nm,19.7s,baz=293,slow=36								
PLCA	**Paso Flores**	**98.65**	**206**	LR		LR	22 16 49.8		
	comp=Z,108nm,18.2s,baz=21,slow=35								
WRA	**Warramunga Arr**	**145.56**	**17**	PKPbc		**PKPdf**	**21 39 34.9**	**-1.0**	
	comp=Z,2.2nm,0.9s,baz=346,slow=3.3,SNR=7.3								
WR1	**Warramunga Arr**	**145.56**	**17**	*e*PKIKP		**PKPdf**	**21 39 34.9**	**-1.0**	
WR1	**Warramunga Arr**	**145.56**	**17**	*e*PKPdf		**PKPdf**	**21 39 34.9**	**-1.0**	
AS31	**Alice Springs**	**149.11**	**19**	*eg*PKPdf		**PKPbc**	**21 39 45.0**	**-0.9**	
AS31	**Alice Springs**	**149.11**	**19**	*eg*PKPdf		**PKPbc**	**21 39 45.0**	**-0.9**	
ASAR	**Alice Springs**	**149.11**	**19**	PKPbc		**PKPbc**	**21 39 45.0**	**-0.9**	
	comp=Z,1.9nm,0.7s,baz=351,slow=2.2,SNR=16								
ASAR	**Alice Springs**	**149.11**	**19**	PKPbc		**PKPbc**	**21 39 45.0**	**-0.9**	

JMA 20 21:27:51.1±0.1, 36.38N×140.58E, h54km±1km, M2.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.23**	**358**	P		P	Pn	21 28 00.1	0.0
JHO				S		S	Sn	21 28 06.1	-0.4
JYT	**Yasato**	**0.35**	**244**	P		P	Pn	21 28 01.3	+0.3
JYT				S		S	Sn	21 28 08.0	-0.1
ONAJ	**Iwakimizuishiy**	**0.74**	**14**	P		P	Pn	21 28 05.2	-0.4
ONAJ				S		S	Sn	21 28 15.2	-1.0
JSB	**Shiboa**	**0.79**	**318**	P		P	Pn	21 28 06.3	+0.1
JFK	**Kawauchi**	**1.01**	**13**	P		P	Pn	21 28 08.7	-0.4
JFK				S		S	Sn	21 28 20.9	-1.6
MAT	**Matsushiro**	**1.92**	**276**	P		P	Pn	21 28 22.6	+1.2
MAT				S		S	Sn	21 28 49.1	+4.7

CSEM ***20****21:29:30.5, 37.64N×20.58E, h11km, ML1.7/6*

ATH 20 21:29:30.5, 37.64N×20.58E, h11km±4km, ML1.7/5, Error ellipse: s-maj=4.5km s-min=1.1km az=64.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZKS	**Zakynthos**	**0.17**	**69**	P		Pg		21 29 34.4	+0.1
ZKS				S		Sg		21 29 36.6	-0.3
ZKS	**Zakynthos**	**0.17**	**69**	P		Pg		21 29 34.4	+0.1
ZKS				S		Sg		21 29 36.6	-0.4
ZKS					AML	AML		21 29 36.8	
	comp=E,3047µm,0.3s								
ZKS					AML	AML		21 29 38.0	
	comp=N,3411µm,0.2s								
KFL	**Anninata**	**0.50**	**19**	P		Pg		21 29 40.2	-0.1
KFL				S		Sg		21 29 47.2	+0.3
KFL	**Anninata**	**0.50**	**19**	P		Pg		21 29 40.2	-0.1
KFL				S		Sg		21 29 47.2	+0.4
VLS	**Valsamata**	**0.54**	**0**	P		Pg		21 29 41.0	0.0
VLS				S		Sb		21 29 49.5	-0.3
VTN	**Vitineika**	**0.55**	**59**	P		Pb		21 29 41.9	-0.3
VTN				S		Sb		21 29 49.5	-0.6
VTN	**Vitineika**	**0.55**	**59**	P		Pb		21 29 41.9	-0.3
VTN				S		Sb		21 29 49.5	-0.6
RLS	**Riolos of Patr**	**0.81**	**59**	P		Pg		21 29 46.0	-0.2
RLS				S		Sb		21 29 58.0	+0.3
RLS	**Riolos of Patr**	**0.81**	**59**	S		Sb		21 29 58.0	+0.3
RLS					AML	AML		21 29 59.0	
	comp=N,36µm,0.2s								
RLS					AML	AML		21 29 59.5	
	comp=E,26µm,0.2s								
AXS	**Araxos**	**0.84**	**48**	P		Pg		21 29 45.3	-1.4
AXS	**Araxos**	**0.84**	**48**	P		Pg		21 29 45.3	-1.4
DRO	**Drossia**	**0.95**	**70**	P		Pg		21 29 47.6	-1.1
DRO				S		Sb		21 30 02.0	+0.5
DRO	**Drossia**	**0.95**	**70**	P		Pg		21 29 47.6	-1.2
DRO				S		Sb		21 30 02.0	+0.5
DRO					AML	AML		21 30 04.6	
	comp=N,55µm,0.4s								
DRO					AML	AML		21 30 04.7	
	comp=E,60µm,0.3s								
PDO	**Prodromos**	**1.07**	**26**	P		Pb		21 29 50.0	-1.0
PDO				S		Sg		21 30 04.9	-0.1
PDO	**Prodromos**	**1.07**	**26**	P		Pb		21 29 50.0	-1.1
PDO				S		Sg		21 30 05.0	-0.1
LKD2	**Lefkada island**	**1.15**	**3**	P		Pb		21 29 51.1	-1.4
LKD2	**Lefkada island**	**1.15**	**3**	P		Pb		21 29 51.1	-1.4
PYL	**PYLOS**	**1.18**	**128**	P		Pg		21 29 53.2	0.0
PYL				S		Sn		21 30 10.2	+1.1
PYL	**PYLOS**	**1.18**	**128**	P		Pg		21 29 53.2	0.0
PYL				S		Sn		21 30 10.2	+1.1
PVO	**Paravola**	**1.23**	**37**	P		Pn		21 29 53.2	-0.4
PVO	**Paravola**	**1.23**	**37**	P		Pn		21 29 53.2	-0.4
LAKA	**Lakka**	**1.26**	**61**	P		Pn		21 29 52.8	-1.2
LAKA	**Lakka**	**1.26**	**61**	P		Pn		21 29 52.8	-1.2
KLV	**Kalavryta, Ach**	**1.30**	**71**	P		Pn		21 29 54.2	-0.5
KLV	**Kalavryta, Ach**	**1.30**	**71**	P		Pn		21 29 54.2	-0.5

ISCJB ***20****21:49:35.0±0.3, 37.38N±0.03×74.44E±0.05, h10km, mb4.2/26, MS3.3/1, Error ellipse: s-maj=6.1km s-min=3.8km az=147.9*

IDC ***20****21:49:35.8±0.8, 37.45N×74.48E, h0km, mb3.9/13, mb1 4.0/18, mb1mx3.8/41, mbtmp3.9/18, ML3.1/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/50, Error ellipse: s-maj=17.2km s-min=15.7km az=55.0*

BJI ***20****21:49:40.4, 37.59N×74.75E, h7km, mb4.2/14, mB4.4/6, ML4.1/5, Ms3.9/3, Ms7 3.8/2*

NNC ***20****21:49:41.0±1.4, 37.66N×74.39E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=12.1km s-min=6.4km az=149.0*

NEIC ***20****21:49:44.8±0.9, 37.63N×74.51E, h72km±8km, mb4.5/14, Error ellipse: s-maj=8.8km s-min=6.6km az=200.0*

ISC 20 21:49:36.8±0.4, 37.47N±0.04×74.43E±0.04, h10km, n83, σ2ş37/93, mb4.1/26, 15C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.38**	**30**	Pg		Pn		21 50 10.1	-5.8
KSH				Sg		Sn		21 50 31.3	-14
KSH				SMN					
	760nm,0.6s								
KSH				SME					
	860nm,1.0s								
DZET	**Dzherino**	**4.61**	**288**	⇑Pn		**Pn**		**21 50 51.0**	**+4.3**
	20nm,0.6s								
DZET				⇓Pg		**Pg**		**21 51 03.5**	**-1.6**
	35nm,0.5s								
DZET				⇑Sn		**Sn**		**21 51 45.7**	**+5.3**
	208nm,1.1s								
DZET				⇓Lg		Lg		21 52 06.1	
	129nm,0.8s								
AAK	**Ala-Archa**	**5.16**	**1**	Pn		Pn		21 50 58.5	+4.3
	1.0nm,0.3s,baz=181,slow=12,SNR=12								
AAK						**Sn**		**21 52 00.8**	**+7.0**
	0.6nm,0.3s,baz=192,slow=20,SNR=2.7								
AAK	**Ala-Archa**	**5.16**	**1**	⇑Pn		**Pn**		**21 50 56.1**	**+1.9**
	19nm,1.2s								
AAK				⇓Pg		**Pg**		**21 51 12.5**	**-3.1**
	41nm,0.8s								
AAK				⇓Lg		Lg		21 52 18.6	
	43nm,1.0s								
EKS2	**Erkin-Say**	**5.21**	**355**	*e*Pn		Pn		21 50 59.8	+4.9
EKS2				*e*Sn		**Sn**		**21 52 00.6**	**+5.5**
MNAS	**Manas**	**5.22**	**344**	⇑Pn		**Pn**		**21 50 59.0**	**+3.9**
	17nm,0.6s								
MNAS				⇑Pg		**Pg**		**21 51 12.7**	**-4.1**
	23nm,0.6s								
MNAS				⇑Sn		**Sn**		**21 51 58.2**	**+2.8**
	36nm,0.7s								
MNAS				⇑Lg		Lg		21 52 19.9	
	63nm,1.0s								
KBL	**Kabul**	**5.25**	**238**	*e*Pn		**Pb**		**21 51 04.5**	**-4.3**
KBL				*e*Sn		**Sn**		**21 52 02.8**	**+6.5**
TKM2	**Tokmak 2**	**5.52**	**9**	⇓Pn		Pn		21 51 03.7	+4.6
	27nm,0.6s								
TKM2				⇑Sn		**Sn**		**21 52 06.7**	**+3.9**
	45nm,0.7s								
TKM2	**Tokmak 2**	**5.52**	**9**	*e*Pn		Pn		21 51 03.6	+4.4
TKM2				*e*Sn		**Sn**		**21 52 03.8**	**+1.1**
KK31	**Karatay Array**	**6.37**	**333**	Pn		**Pn**		**21 51 14.8**	**+4.1**
	4.5nm,0.5s,baz=134,slow=12,SNR=110								
KK31				⇓Sn		**Sn**		**21 52 25.7**	**+2.1**
	13nm,0.5s								
KKAR	**Karatay Array**	**6.37**	**333**	*e*Pn		**Pn**		**21 51 14.9**	**+4.2**
KKAR				*e*Sn		**Sn**		**21 52 25.0**	**+1.4**
OTUK	**Ortayu**	**10.88**	**353**	⇑Pn		**Pn**		**21 52 13.9**	**+1.4**
	9.6nm,1.0s								
MAKZ	**Makanchi**	**10.88**	**29**	*e*Pn		**Pn**		**21 52 14.8**	**+2.3**
MK01	**Makanchi Array**	**10.97**	**30**	*e*Pn		**Pn**		**21 52 16.2**	**+2.4**
MK31	**Makanchi Array**	**10.99**	**30**	Pn		**Pn**		**21 52 16.1**	**+2.1**
	4.1nm,0.8s,baz=203,slow=12,SNR=21								
MK31	**Makanchi Array**	**10.99**	**30**	*e*Pn		**Pn**		**21 52 17.5**	**+3.5**
MK32	**Makanchi Array**	**10.99**	**30**	*e*Pn		**Pn**		**21 52 15.1**	**+1.2**
MK32				*e*Sn		**Sn**		**21 54 15.8**	**-1.1**
MKAR	**Makanchi Array**	**10.99**	**30**	Pn		**Pn**		**21 52 15.1**	**+1.2**
	0.1nm,0.3s,baz=209,slow=12,SNR=13								
MKAR						Sn		**Sn**	**21 54 15.8**	**-1.1**
	0.1nm,0.3s,baz=205,slow=15,SNR=3.5								
MKAR	**Makanchi Array**	**10.99**	**30**	*e*Pn		**Pn**		**21 52 17.5**	**+3.5**
MKAR						Sn		**Sn**	**21 54 15.8**	**-1.1**
PYUN	**Piuthan**	**11.79**	**140**	*e*P		**Pn**		**21 52 24.8**	**-0.4**
	45nm,0.5s								
KOLN	**Koldanda**	**12.37**	**139**	*e*P		**Pn**		**21 52 32.2**	**-1.0**
	19nm,0.5s								
GKN	**Gorkha**	**12.76**	**135**	*e*P		**Pn**		**21 52 37.3**	**-1.1**
GEYT	**Alibeck**	**12.93**	**277**	Pn		**Pn**		**21 52 41.8**	**+1.2**
	0.2nm,0.3s,baz=120,slow=20,SNR=3.1								
GEYT						Sn		**Sn**	**21 55 03.3**	**-1.2**
	0.3nm,0.3s,baz=114,slow=18,SNR=3.5								
KKN	**Kakani**	**13.29**	**133**	*e*P		**Pn**		**21 52 44.0**	**-1.7**
	21nm,0.8s								
KURBB	**Kurchatov Arra**	**13.47**	**11**	Pn		**Pn**		**21 52 48.1**	**+0.3**
	0.0nm,0.3s,baz=199,slow=12,SNR=12								
KURBB				Lg		Lg		21 56 39.6	
	baz=193,slow=33,SNR=6.0								
KURBB	**Kurchatov Arra**	**13.47**	**11**	⇑Pn		**Pn**		**21 52 47.9**	**+0.1**
	6.4nm,0.9s								
PKIN	**Phulchoki**	**13.51**	**134**	*e*P		**Pn**		**21 52 47.1**	**-1.7**
	13nm,0.5s								
KURK	**Kurchatov**	**13.57**	**11**	*e*Pn		**Pn**		**21 52 49.2**	**0.0**
KURK				Lg		Lg		21 56 39.6	
AB31	**Akbulak array**	**15.77**	**323**	⇑Pn		**P**		**21 53 21.0**	**-1.8**
	2.2nm,0.6s,baz=136,slow=11,SNR=38								
AB31						⇑Sn		**Sn**	**21 56 06.1**	**-7.5**
	4.5nm,0.9s,baz=144,slow=21,SNR=5.0								
ABKAR	**Akbulak array**	**15.77**	**323**	*e*Pn		**Pn**		**21 53 18.5**	**-0.4**
ABKAR				*e*Sn		**Sn**		**21 56 08.3**	**-5.2**
BVA0	**Borovoye Array**	**15.81**	**351**	⇓Pn		**P**		**21 53 23.5**	**+0.4**
	7.0nm,1.1s,baz=181,slow=23,SNR=22								
BVAR	**Borovoye Array**	**15.81**	**351**	Pn		**Pn**		**21 53 20.3**	**+1.0**
	0.3nm,0.3s,baz=169,slow=16,SNR=4.7								
BVAR						Lg		Lg	21 57 56.1	
	0.2nm,0.3s,baz=322,slow=23,SNR=3.0								
LSA	**Lhasa**	**15.93**	**114**	*e*Pn		**P**		**21 53 24.9**	**-0.3**
	7.7nm,1.0s								
ZRNK	**Zerenda**	**15.94**	**348**	⇓Pn		**P**		**21 53 24.3**	**-0.3**
	5.0nm,0.7s								
ZRNK	**Zerenda**	**15.94**	**348**	*e*Pn		**Pn**		**21 53 21.4**	**+0.5**
	6.6nm,0.7s								
CHKZ	**Chkalov

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.86**	**153**	Pn	Pn	21 53 32.8	-1.4
	0.1nm,0.3s,baz=328,slow=14,SNR=12						
WRA				Sn	Sn	21 55 53.2	-16
	0.4nm,0.3s,baz=331,slow=23,SNR=7.2						
ASAR	**Alice Springs**	**17.04**	**160**	Pn	P	21 54 17.6	-0.6
	0.1nm,0.3s,baz=340,slow=10,SNR=5.5						
ASAR				Sn	Sn	21 57 16.8	-10
	0.1nm,0.3s,baz=359,slow=28,SNR=1.3						
AFI	**Afiamalu**	**59.72**	**102**	LR	LR	22 24 44.2	
	comp=Z,95nm,18.3s,baz=56,slow=35						
MKAR	**Makanchi Array**	**67.49**	**328**	P	P	22 01 14.8	+0.4
	0.3nm,0.5s,baz=132,slow=8.1,SNR=6.7						
KURBB	**Kurchatov Arra**	**71.84**	**330**	P	P	22 01 40.6	-0.4
	0.3nm,0.4s,baz=128,slow=4.7,SNR=7.6						

BJI ***20*** *22:05:47.1,4˚.82S×135˚.69E,h13km,mb4.8/46,mB4.9/27, Ms4.7/18,Ms7 4.2/16*

IDC ***20*** *22:05:49.1±0.6,4˚.42S×135˚.49E,h0km,mb4.4/14, mb1 4.6/19,mb1mx4.5/34,mbtmp4.5/19,ML4.2/4,MS3.7/10, Ms1 3.7/10,ms1mx3.4/37,Error ellipse: s-maj=22.6km s-min=13.0km az=73.0*

DJA ***20*** *22:05:49.5±1.1,4˚S±3˚×13˚5E±˚,h11km±8km,M5.1/11, mb4.9/11,mB5.3/4,MLv5.3/6,Mw(mB)4.8/4*

ISCJB ***20*** *22:05:50.3±0.2,4˚.58S±0˚.02×135˚.55E±0˚.03,h20km, mb4.7/52,MS3.7/7,Error ellipse: s-maj=4.1km s-min=3.2km az=7.5*

NEIC ***20*** *22:05:52.3±4.5,4˚.50S×135˚.41E,h19km±28km,mb4.9/45, Error ellipse: s-maj=9.2km s-min=5.5km az=58.0*

ISC 20 22:05:52.1±0.3, 4˚54S±0˚.04×135˚52E±0˚.04, h20km, n142, σ2§39/163, mb4.8/52, MS3.7/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**3.29**	**336**	P	**Pn**	**22 06 40.4**	**-2.1**
GENI	**Genyem**	**5.03**	**68**	P	**Pn**	**22 07 05.7**	**-0.7**
GENI				S	**Sn**	**22 08 04.6**	**+0.7**
SAUI	**Saumlaki**	**5.41**	**231**	*e*Pn	**Pn**	**22 07 10.6**	**-1.1**
JAY	**Jayapura**	**5.55**	**69**	Pn	**Pn**	**22 07 11.9**	**-1.7**
	1.1nm,0.3s,baz=244,slow=20,SNR=23						
JAY				Sn	**Sn**	**22 08 17.4**	**+0.4**
	0.3nm,0.3s,baz=90,slow=20,SNR=2.3						
JAY				LR	LR	22 09 46.1	
	comp=Z,46nm,20.0s,baz=192,slow=43						
JAY	**Jayapura**	**5.55**	**69**	P	**Pn**	**22 07 10.0**	**-3.7**
SIJI	**Sorong**	**5.59**	**311**	Pn	**Pn**	**22 07 11.9**	**-2.4**
	5.9nm,0.3s,baz=270,slow=24,SNR=7.6						
SIJI				Sn	**Sn**	**22 08 11.5**	**-6.5**
	27nm,0.3s,baz=270,slow=20,SNR=2.3						
BNDI	**Bandanaira**	**5.60**	**270**	P	**Pn**	**22 07 14.7**	**+0.5**
BNDI				S	**Sn**	**22 08 18.8**	**+0.8**
SWI	**Sorong**	**5.60**	**311**	P	**Pn**	**22 07 10.4**	**-3.9**
	326nm,0.7s,5μm1.3nm						
SWI				S	**Sn**	**22 08 12.4**	**-5.8**
	326nm,0.7s,5μm1.3nm						
MSAI	**Masohi**	**6.68**	**280**	P	**Pn**	**22 07 26.8**	**-2.3**
KDU	**Kakadu**	**8.64**	**200**	P	**Pn**	**22 07 57.4**	**+1.3**
	baz=8.7,SNR=23						
LBMI	**Labuha**	**8.89**	**296**	P	**Pn**	**22 07 56.4**	**-3.2**
MTN	**Manton Dam**	**9.32**	**207**	*e*Pn	**Pn**	**22 08 08.4**	**+3.0**
MTN				*e*Sn	**Sn**	**22 09 51.5**	**+1.8**
SANI	**Sanana**	**9.83**	**284**	P	**Pn**	**22 08 09.5**	**-2.9**
	78nm,0.5s,987nm						
COEN	**Coen**	**12.03**	**142**	P	**Pn**	**22 08 42.2**	**-0.3**
	baz=12,SNR=36						
COEN	**Coen**	**12.03**	**142**	*e*Pn	**Pn**	**22 08 42.2**	**-0.3**
COEN				*e*Sn	Sn	22 10 46.0	-10
SOEI	**Soe**	**12.31**	**244**	P	**Pn**	**22 08 46.1**	**-0.3**
	105nm,0.9s						
SOEI	**Soe**	**12.31**	**244**	*e*Pn	**Pn**	**22 08 47.0**	**+0.5**
SOEI				*e*Sn	Sn	22 11 17.9	+15
PMG	**Port Moresby**	**12.53**	**113**	Pn	**Pn**	**22 08 49.1**	**-0.2**
	2.0nm,0.3s,baz=330,slow=14,SNR=3.6						
PMG				LR	LR	22 15 16.7	
	comp=Z,356nm,18.8s,baz=255,slow=45						
PMG	**Port Moresby**	**12.53**	**113**	*e*Pn	**Pn**	**22 08 49.0**	**-0.3**
PMG				*e*Sn	**Sn**	**22 11 01.6**	**-6.7**
LUWI	**Luwuk**	**13.19**	**285**	*e*Pn	**Pn**	**22 08 57.8**	**-0.7**
MRSI	**Marisa**	**14.45**	**290**	P	Pn	22 09 08.3	-7.3
WRAB	**Tennant Creek**	**15.35**	**184**	*e*Pn	**Pn**	**22 09 25.7**	**-1.9**
	44nm,0.6s						
WRAB				*e*Sn	**Sn**	**22 12 07.9**	**-9.3**
WB2	**Warramunga Arr**	**15.36**	**184**	*e*Pn	**Pn**	**22 09 26.0**	**-1.8**
WR1	**Warramunga Arr**	**15.36**	**184**	*e*Pn	**Pn**	**22 09 25.8**	**-2.0**
	51nm,0.6s						
WR1				*e*Sn	**Sn**	**22 12 14.1**	**-3.4**
WRA	**Warramunga Arr**	**15.36**	**184**	Pn	**Pn**	**22 09 25.8**	**-2.0**
	1.5nm,0.3s,baz=8.1,slow=13,SNR=75						
WRA				Sn	**Sn**	**22 12 14.1**	**-3.4**
	3.0nm,0.3s,baz=5.4,slow=22,SNR=4.9						
SPSI	**Sidrap Palu**	**15.72**	**271**	P	**Pn**	**22 09 27.5**	**-5.0**
PCI	**Palu**	**16.07**	**283**	P	**P**	**22 09 40.7**	**+0.4**
QIS	**Mount Isa**	**16.41**	**166**	P	**Pn**	**22 09 39.7**	**-1.7**
	baz=16,SNR=4.9						
FITZ	**Fitzroy Crossi**	**16.59**	**215**	Pn	**Pn**	**22 09 42.4**	**-1.2**
	2.8nm,0.3s,baz=47,slow=12,SNR=42						
FITZ				Sn	**Sn**	**22 12 41.5**	**-5.9**
	3.0nm,0.3s,baz=222,slow=9.3,SNR=5.5						
FITZ				LR	LR	22 15 35.9	
	comp=Z,90nm,20.6s,baz=29,slow=35						
FITZ	**Fitzroy Crossi**	**16.59**	**215**	P	**Pn**	**22 09 42.4**	**-1.2**
	baz=17,SNR=54						
FITZ	**Fitzroy Crossi**	**16.59**	**215**	*e*Pn	**Pn**	**22 09 42.4**	**-1.2**
	34nm,1.0s						
FITZ				*e*Sn	**Sn**	**22 12 41.5**	**-5.9**
CTA	**Charters Tower**	**18.66**	**147**	P	**Pn**	**22 10 10.6**	**+1.3**
	0.6nm,0.3s,baz=324,slow=13,SNR=11						
CTAO	**Charters Tower**	**18.66**	**147**	*e*P	**Pn**	**22 10 11.7**	**+2.4**
	20nm,0.8s						
AS01	**Alice Springs**	**19.08**	**184**	*e*P	**Pn**	**22 10 14.2**	**-0.1**
AS31	**Alice Springs**	**19.08**	**185**	*e*P	**P**	**22 10 13.1**	**-0.5**
	25nm,0.6s						
AS31				*e*Sn	**Sn**	**22 13 42.2**	**-5.5**
ASAR	**Alice Springs**	**19.08**	**185**	P	**Pn**	**22 10 14.1**	**-0.3**
	7.8nm,0.3s,baz=8.2,slow=12,SNR=190						
ASAR				S	**Sn**	**22 13 42.2**	**-5.6**
	0.4nm,0.3s,baz=4.4,slow=29,SNR=2.9						
ASAR				LR	LR	22 18 14.1	
	comp=Z,692nm,20.5s,baz=0.0,slow=39						
MYLDM	**Lahad Datu**	**19.55**	**299**	*e*P	**P**	**22 10 13.2**	**-5.5**
	81nm,1.5s						
BBKI	**Banjar Baru**	**20.65**	**272**	P	Pn	22 10 40.4	+7.3
MTKI	**Muara Teweh, K**	**20.90**	**279**	P	Pn	22 10 39.0	+3.0
WRKA	**Warakurna**	**21.53**	**198**	P	**P**	**22 10 42.8**	**+2.6**
	baz=22,SNR=80						
KKM	**Kota Kinabalu**	**21.95**	**298**	*e*P	**P**	**22 10 44.2**	**-0.7**
	40nm,0.8s						
MBWA	**Marble Bar**	**22.54**	**221**	*e*P	**P**	**22 10 51.4**	**+0.4**
	61nm,1.4s						
QLP	**Quilpie**	**23.45**	**160**	P	**P**	**22 11 02.3**	**+2.0**
	baz=24,SNR=19						
SBUM	**Sibu**	**24.29**	**286**	*e*P	**P**	**22 11 10.8**	**+2.4**
	14nm,0.8s						
STKI	**Sintang**	**24.45**	**280**	P	**P**	**22 11 14.4**	**+4.5**
EIDS	**Eidsvoid**	**25.54**	**146**	*e*P	**P**	**22 11 21.0**	**+1.4**
	9.9nm,1.1s						
KSM	**Kuching**	**25.89**	**283**	*e*P	**P**	**22 11 26.3**	**+3.4**
	11nm,0.8s						
STKA	**Stephens Creek**	**27.79**	**169**	P	**P**	**22 11 40.7**	**+0.8**
	4.7nm,0.7s,baz=341,slow=9.3,SNR=4.2						
STKA				LR	LR	22 24 10.2	
	comp=Z,172nm,18.9s,baz=350,slow=40						
STKA	**Stephens Creek**	**27.79**	**169**	*e*P	**P**	**22 11 40.7**	**+0.8**
	12nm,1.5s						
KMBL	**Kambalda**	**29.61**	**204**	P	**P**	**22 11 57.9**	**+1.9**
	baz=30,SNR=5.9						
KLBR	**Kellerberrin**	**31.66**	**210**	P	**P**	**22 12 16.4**	**+2.2**
	baz=32,SNR=5.8						
MYKOM	**Kota Tinggi**	**32.26**	**281**	*e*P	**P**	**22 12 22.6**	**+2.9**
	19nm,0.6s						
QIZ	**Qiongzhong**	**34.46**	**314**	P	**P**	**22 12 40.3**	**+1.5**
PDSI	**Padang**	**35.20**	**275**	P	**P**	**22 12 49.8**	**+4.5**
PPI	**Padang Panjang**	**35.31**	**276**	P	**P**	**22 12 48.6**	**+2.4**
IPM	**Ipoh**	**35.60**	**284**	*e*P	**P**	**22 12 51.5**	**+2.7**
	9.9nm,0.7s						
KULM	**Kulim**	**36.17**	**285**	*e*P	**P**	**22 12 51.0**	**-2.5**
	24nm,1.3s						
MNSI	**Mandailing Nat**	**36.29**	**278**	P	**P**	**22 12 57.0**	**+2.3**
PSI	**Prapat**	**37.28**	**281**	*e*P	**P**	**22 13 04.5**	**+1.3**
	19nm,1.0s						
JNU	**Nakatsue**	**37.71**	**354**	P	**P**	**22 13 04.9**	**-1.5**
	11nm,0.7s,baz=30,slow=5.9,SNR=4.7						
JNU	**Nakatsue**	**37.71**	**354**	*e*P	**P**	**22 13 04.9**	**-1.5**
	18nm,0.9s						
SKNT	**Sakolnakorn**	**37.78**	**305**	P	**P**	**22 13 09.8**	**+2.5**
	12nm,1.1s						
TRTT	**Trang**	**37.80**	**289**	P	P	22 13 13.5	+6.1
	32nm,0.7s						
GSI	**Gunungsitoli**	**38.35**	**278**	P	**P**	**22 13 14.9**	**+2.8**
GSI	**Gunungsitoli**	**38.35**	**278**	*e*P	**P**	**22 13 11.5**	**-0.6**
	92nm,1.7s						
MJAR	**Matsushiro Arr**	**40.94**	**3**	P	**P**	**22 13 31.1**	**-2.3**
	2.8nm,0.8s,baz=185,slow=7.4,SNR=7.2						
MJAR				LR	LR	22 27 44.4	
	comp=Z,73nm,21.5s,baz=25,slow=32						
GYA	**Guiyang**	**41.59**	**319**	*e*P	**P**	**22 13 42.0**	**+3.0**
GYA				PMZ			
	10.0nm,1.0s						
KS15	**Wonju Array Si**	**42.36**	**351**	*e*P	**P**	**22 13 43.8**	**-1.2**
KSAR	**Wonju Array Be**	**42.36**	**351**	P	**P**	**22 13 43.8**	**-1.2**
KSRS	**Korea Array**	**42.37**	**351**	P	**P**	**22 13 43.8**	**-1.2**
	1.7nm,0.7s,baz=168,slow=8.1,SNR=7.6						
KSRS				LR	LR	22 29 59.7	
	comp=Z,104nm,21.3s,baz=288,slow=34						
CM01	**Chiang Mai Arr**	**42.65**	**303**	*e*P	**P**	**22 13 48.1**	**+0.6**
CM31	**Chiang Mai Arr**	**42.68**	**303**	*e*P	**P**	**22 13 45.1**	**-2.7**
CMAR	**Chiang Mai Arr**	**42.68**	**303**	P	**P**	**22 13 48.0**	**+0.1**
	2.9nm,0.8s,baz=127,slow=6.7,SNR=14						
CHTO	**Chiang Mai**	**42.85**	**304**	*e*P	**P**	**22 13 50.3**	**+1.1**
	38nm,2.0s						
KMI	**Kunming**	**43.40**	**314**	P	**P**	**22 13 55.4**	**+1.6**
KMI				PMZ			
	11nm,1.0s						
XAN	**Xi'an**	**45.86**	**329**	P	**P**	**22 14 13.5**	**+0.4**
XAN				PMZ			
	22nm,0.9s						
XAN				PMZ			
	200nm,14.2s						
CD2	**Chengdu**	**46.50**	**321**	*e*P	**P**	**22 14 19.0**	**+0.8**
CD2				sP	pP	22 14 24.8	+0.3
CD2				PP	**PP**	**22 16 08.3**	**+0.5**
CD2				PcS	**PcS**	**22 19 47.6**	**+0.1**
CD2				S	**S**	**22 21 08.5**	**+2.7**
CD2				sS	sS	22 21 15.5	-0.6
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
BJT	**Baijiatuan**	**47.78**	**340**	*e*P	**P**	**22 14 27.4**	**-0.6**
	38nm,1.4s						
BJI	**Beijing**	**47.79**	**340**	P	**P**	**22 14 27.6**	**-0.5**
BJI				PMZ			
	18nm,1.1s						
BJI				PMZ			
	110nm,6.8s						
USRK	**Ussuriysk Ar.**	**48.62**	**357**	P	**P**	**22 14 33.7**	**-0.7**
	1.2nm,0.6s,baz=184,slow=9.7,SNR=4.3						
ASAJ	**Asahikawa**	**48.85**	**7**	*e*P	**P**	**22 14 33.2**	**-3.0**
	84nm,1.9s						
CN2	**Changchun**	**48.97**	**350**	*e*P	**P**	**22 14 41.6**	**+4.5**
MDJ	**Mudanjiang**	**49.22**	**354**	P	**P**	**22 14 40.0**	**+1.0**
MDJ				PMZ			
	8.0nm,1.1s						
MDJ				PMZ			
	23nm,3.3s						
THZ	**Tophouse**	**49.85**	**144**	*e*P	**P**	**22 14 45.9**	**+1.8**
	71nm,1.6s						
RPZ	**Rata Peaks**	**50.03**	**147**	LR	LR	22 33 04.4	
	comp=Z,135nm,19.9s,baz=258,slow=33						
LZH	**Lanzhou**	**50.12**	**326**	*e*P	**P**	**22 14 47.4**	**+1.1**
LZH				pP	sP	22 14 54.4	-0.7
LZH				PP	**PP**	**22 16 41.0**	**-0.7**
LZH				*e*S	**S**	**22 21 52.4**	**-4.7**
LZH				SS	**SS**	**22 25 24.1**	**-6.6**
LZH				PMZ			
	25nm,1.0s						
LZH				PMZ			
	91nm,4.8s						
LZH				LN			
	400nm,13.5s						
LZH				LE			
	440nm,14.0s						
LZH				LZ			
	500nm,15.7s						
HHC	**Hu-ho-hao-te**	**50.21**	**336**	*e*P	**P**	**22 14 50.6**	**+3.8**
HHC				S	**S**	**22 21 59.1**	**+1.0**
HHC				PMZ			
	12nm,1.1s						
HHC				PMZ			
	110nm,8.0s						
HHC				LN			
	170nm,14.3s						
HHC				LE			
	130nm,13.1s						
HHC				LZ			
	140nm,13.7s						
LSA	**Lhasa**	**54.46**	**312**	*e*P	**P**	**22 15 20.9**	**+2.0**
	14nm,1.6s						
GTA	**Gaotai**	**54.73**	**326**	*e*P	**P**	**22 15 21.8**	**+1.4**
GTA				pP	sP	22 15 30.8	+1.6
GTA				sP	pP	22 15 35.3	+8.5
GTA				PMZ			
	13nm,0.7s						
ULN	**Ulaanbaatar**	**57.86**	**338**	*e*P	**P**	**22 15 43.3**	**+0.7**
	1.9nm,0.6s						
SONA0	**Songino Array**	**58.08**	**337**	*e*P	**P**	**22 15 44.4**	**+0.3**
	1.9nm,0.8s						
SONM	**Songino Array**	**58.08**	**337**	P	**P**	**22 15 44.4**	**+0.3**
	1.7nm,0.7s,baz=152,slow=7.9,SNR=5.6						
SONA1	**Songino Array**	**58.09**	**337**	*e*P	**P**	**22 15 44.6**	**+0.4**
PEA0	**Petropavlovsk-**	**60.41**	**15**	*e*P	**P**	**22 16 00.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**60.41**	**15**	*e*P	**P**	**22 16 00.4**	**+0.5**
	47nm,1.4s						
PETK	**Petropavlovsk-**	**60.41**	**15**	P	**P**	**22 16 00.3**	**+0.4**
	7.1nm,0.7s,baz=159,slow=4.3,SNR=8.7						
PETK				LR	LR	22 40 06.5	
	comp=Z,39nm,20.9s,baz=234,slow=34						
PEA1	**Petropavlovsk-**	**60.41**	**15**	*e*P	**P**	**22 16 00.3**	**+0.4**
WMQ	**Urumqi**	**64.51**	**324**	P	**P**	**22 16 29.4**	**+1.7**
WMQ				pP	pP	22 16 34.4	+0.2
WMQ				sP	sP	22 16 36.4	-0.2
WMQ				PMZ			
	11nm,0.8s						
WMQ				PMZ			
	73nm,6.8s						
WMQ				LN			
	20nm,21.2s						
WMQ				LE			
	27nm,20.4s						
WMQ				LZ			
	29nm,22.6s						
MK01	**Makanchi Array**	**69.31**	**324**	*e*P	**P**	**22 16 56.7**	**-1.4**
MK31	**Makanchi Array**	**69.33**	**324**	*e*P	**P**	**22 16 58.6**	**+0.3**
MK32	**Makanchi Array**	**69.33**	**324**	*e*P	**P**	**22 16 56.9**	**-1.3**
MKAR	**Makanchi Array**	**69.33**	**324**	P	**P**	**22 16 56.9**	**-1.3**
	11nm,0.6s,baz=106,slow=8.3,SNR=76						
MKAR	**Makanchi Array**	**69.33**	**324**	*e*P	**P**	**22 16 58.6**	**+0.3**
MAKZ	**Makanchi**	**69.52**	**324**	*e*P	**P**	**22 16 58.4**	**-1.1**
	16nm,0.7s						
KSH	**Kashi**	**70.06**	**315**	P	**P**	**22 17 04.4**	**+1.4**
KSH				pP	pP	22 17 08.9	-0.7
KSH				PcP	**PcP**	**22 17 26.8**	**+1.7**
KSH				PP	**PP**	**22 19 42.5**	**+4.2**
KSH				S	**S**	**22 26 13.3**	**+0.2**
KSH				ScS	**SKSac**	**22 27 01.8**	**-1.7**
KSH				SS	**SS**	**22 30 46.6**	**+3.6**
KSH				PMZ			
	6.0nm,0.8s						
KSH				PMZ			
	91nm,4.4s						
KSH				LN			
	56nm,5.6s						
KSH				LE			
	59nm,4.3s						
KSH				LZ			
	120nm,9.3s						
TKM2	**Tokmak 2**	**71.72**	**318**	*e*P	**P**	**22 17 13.2**	**0.0**
	9.7nm,0.7s						
ZAA0	**Zalesovo Array**	**71.95**	**331**	*e*P	**P**	**22 17 14.0**	**0.0**
ZALV	**Zalesovo Beam**	**71.95**	**331**	P	**P**	**22 17 13.7**	**-0.3**
	3.6nm,0.7s,baz=110,slow=6.0,SNR=16						
ZALV				LR	LR	22 49 45.8	
	comp=Z,28nm,20.7s,baz=76,slow=37						
ZAA1	**Zalesovo Array**	**71.95**	**331**	*e*P	**P**	**22 17 13.7**	**-0.3**
AAK	**Ala-Archa**	**72.34**	**317**	*e*P	**P**	**22 17 18.8**	**+1.9**
	8.2nm,1.0s						
EKS2	**Erkin-Say**	**72.83**	**317**	*e*P	**P**	**22 17 19.8**	**+0.1**
	9.8nm,0.8s						
KURK	**Kurchatov**	**73.41**	**326**	*e*P	**P**	**22 17 22.6**	**-0.1**
	9.6nm,0.9s						
KBL	**Kabul**	**73.49**	**308**	*e*P	**P**	**22 17 25.5**	**+1.6**
	3.2nm,0.6s						
VNDA	**Vanda**	**74.27**	**174**	P	**P**	**22 17 27.8**	**+0.4**
	1.9nm,0.9s,baz=315,slow=4.7,SNR=10						
VNDA				LR	LR	22 50 03.1	
	comp=Z,160nm,18.5s,baz=271,slow=36						
VNDA	**Vanda**	**74.27**	**174**	*e*P	**P**	**22 17 27.8**	**+0.4**
	5.5nm,1.4s						
KKAR	**Karatay Array**	**75.23**	**317**	*e*P	**P**	**22 17 32.6**	**-1.0**
ZRNK	**Zerenda**	**79.76**	**326**	*e*P	**P**	**22 17 59.4**	**+0.7**
	9.3nm,0.8s						
NRIK	**Noril'sk**	**80.59**	**345**	P	**P**	**22 18 02.9**	**+0.1**
	5.2nm,0.9s,baz=126,slow=4.7,SNR=5.8						
GEYT	**Alibeck**	**82.89**	**309**	P	**P**	**22 18 16.0**	**+0.3**
	2.9nm,0.6s,baz=174,slow=3.0,SNR=10						
ABKAR	**Akbulak array**	**84.07**	**320**	*e*P	**P**	**22 18 21.4**	**0.0**
TT01	**Tatalina**	**84.39**	**25**	*e*P	**P**	**22 18 23.6**	**+0.8**
QSPA	**South Pole Qui**	**85.42**	**180**	*e*P	**P**	**22 18 29.0**	**+0.8**
	28nm,1.9s						
SML	**Sawmill**	**87.47**	**27**	*e*P	**P**	**22 18 38.9**	**+0.8**
	5.4nm,0.8s						
RND	**Reindeer**	**87.64**	**26**	*e*P	**P**	**22 18 39.0**	**+0.1**
	9.1nm,0.8s						
MCK	**McKinley**	**87.69**	**26**	*e*P	**P**	**22 18 39.8**	**+0.7**
	4.3nm,0.7s						
SCM	**Sheep Creek Mo**	**87.94**	**28**	*e*P	**P**	**22 18 41.3**	**+0.9**
	8.8nm,0.8s						
WRH	**Wood River Hil**	**88.23**	**25**	*e*P	**P**	**22 18 41.8**	**+0.2**
	7.2nm,1.2s						
CCB	**Clear Creek Bu**	**88.40**	**25**	*e*P	**P**	**22 18 42.4**	**0.0**
	2.9nm,0.8s						
DIV	**Divide**	**88.51**	**28**	*e*P	**P**	**22 18 44.4**	**+1.3**
	9.5nm,0.7s						
KLU	**Klutina**	**88.52**	**28**	*e*P	**P**	**22 18 44.3**	**+1.2**
	9.3nm,0.8s						
ILAR	**Eielson Array**	**88.81**	**25**	P	**P**	**22 18 43.5**	**-0.8**
	1.7nm,0.8s,baz=265,slow=4.4,SNR=17						
ILB	**Eielson Array**	**88.81**	**25**	*e*P	**P**	**22 18 43.5**	**-0.8**
BMRM	**Bremner River**	**89.03**	**29**	*e*P	**P**	**22 18 46.6**	**+1.1**
	4.8nm,0.8s						
DOT	**Dot Lake**	**89.79**	**26**	*e*P	**P**	**22 18 50.0**	**+1.0**
	6.6nm,0.9s						
BALM	**Baldy**	**90.13**	**29**	*e*P	**P**	**22 18 52.1**	**+1.4**
PD31	**Pinedale Array**	**111.25**	**46**	*e*Pdif	**Pdif**	**22 20 26.6**	**+0.1**
SPMN	**Marine on St.**	**121.61**	**38**	*e*PKPdf	**PKPdf**	**22 24 47.0**	**+2.4**
TORD	**Torodi Ar. Bea**	**133.65**	**284**	PKP	**PKPdf**	**22 25 06.8**	**-1.6**
	0.7nm,0.8s,baz=318,slow=1.6,SNR=2.7						
TOA1	**Torodi Ar. Sit**	**133.65**	**284**	*e*PKPdf	**PKPdf**	**22 25 06.8**	**-1.6**
PB11	**IPOC Station P**	**145.42**	**135**	*e*PKPdf	**PKPab**	**22 25 31.9**	**+1.9**
CPUP	**Villa Florida**	**146.89**	**159**	PKPbc	**PKPab**	**22 25 34.6**	**-0.4**
	4.8nm,0.8s,baz=204,slow=3.2,SNR=7.1						
LPAZ	**La Paz**	**148.77**	**132**	PKPbc	**PKPbc**	**22 25 41.5**	**+1.6**
	7.7nm,0.9s,baz=36,slow=1.3,SNR=15						

ISCJB ***20*** *22:12:08.2±0.7,4˚.10S±0˚.07×129˚.30E±0˚.10,h36km, mb3.9/4,Error ellipse: s-maj=15.1km s-min=9.2km az=26.3*

IDC ***20*** *22:12:11.9±2.4,4˚.06S×129˚.40E,h59km±23km,mb3.6/4, mb1 3.9/8,mb1mx3.6/41,mbtmp4.0/8,ML4.1/3,Error ellipse: s-maj=25.7km s-min=16.2km az=107.0*

ISC 20 22:12:09.6±0.8, 4˚19S±0˚.10×129˚4E±0˚.1, h36km, n9, σ1§22/11, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.78**	**29**	P	**Pn**	**22 13 06.9**	**+1.5**
	25nm,0.3s,baz=271,slow=24,SNR=14						
SIJI				S	**Sn**	**22 13 49.1**	**+0.5**
	9.2nm,0.3s,baz=90,slow=20,SNR=3.5						
KAPI	**Kappang**	**9.67**	**265**	P	**Pn**	**22 14 28.1**	**+1.8**
	1.1nm,0.3s,baz=123,slow=2.7,SNR=6.8						
WRA	**Warramunga Arr**	**16.37**	**163**	P	**P**	**22 15 59.7**	**+0.4**
	baz=346,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**19.84**	**168**	P	**Pn**	**22 16 39.0**	**-0.2**
	0.7nm,0.3s,baz=347,slow=12,SNR=5.3						
ASAR				PcP	**PcP**	**22 20 54.5**	**0.0**
	0.1nm,0.3s,baz=340,slow=1.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**37.53**	**308**	P	**P**	**22 19 20.4**	**-0.1**
	1.2nm,0.7s,baz=138,slow=7.5,SNR=7.0						
SONM	**Songino Array**	**55.61**	**341**	P	**P**	**22 21 40.4**	**-1.5**
	0.7nm,0.8s,baz=151,slow=3.3,SNR=3.0						
MKAR	**Makanchi Array**	**65.58**	**326**	P	**P**	**22 22 48.3**	**-1.5**
	1.0nm,0.8s,baz=122,slow=7.4,SNR=7.6						
ZALV	**Zalesovo Beam**	**68.83**	**334**	P	**P**	**22 23 09.0**	**-1.2**
	1.1nm,0.7s,baz=104,slow=6.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**127.65**	**283**	PKP	**PKPdf**	**22 31 11.8**	**-0.4**
	0.7nm,0.7s,baz=98,slow=1.3,SNR=4.7						

IDC ***20*** *22:17:10.7±1.4,19˚.06S×174˚.36W,h0km,mb4.1/5, mb1 4.3/6,mb1mx3.9/42,mbtmp4.2/6,ML4.1/1,Error ellipse: s-maj=54.3km s-min=23.8km az=128.0*

ISCJB ***20*** *22:17:11.1±0.7,19˚.07S±0˚.09×174˚.1W±0˚.1,h35km, mb4.8/17,Error ellipse: s-maj=20.2km s-min=7.9km az=31.4*

NEIC ***20*** *22:17:14.1±0.9,19˚.0S±0˚.1×174˚.3W±0˚.2,h35km,n29, σ1§63/32,mb5.0/16,1C,

*ISCJB **20** 22:19:25.2±0.5, 73.65N×8.5E±0.2, h10km, mb3.6/13, MS3.1/5, Error ellipse: s-maj=8.7km s-min=6.0km az=164.6*
*CSEM **20** 22:19:26.5±0.8, 73.66N×8.77E, h10km, ML2.4, Error ellipse: s-maj=28.3km s-min=9.4km az=80.0*
*IDC **20** 22:19:26.6±0.7, 73.65N×8.05E, h0km, mb3.7/13, mb1 3.8/20, mb1mx3.7/56, mbtmp3.7/20, ML3.1/4, MS3.0/11, Ms1 3.0/11, ms1mx2.9/45, Error ellipse: s-maj=15.4km s-min=11.6km az=68.0*
*BER **20** 22:19:27.4±1.8, 73.74N×7.93E, h0km±268km, MD2.4, ML2.4*

ISC 20 22:19:27.6±0.6, 73.68N±0.07×8.42E±0.08, h10km, n55, σ1§83/52, mb3.6/13, MS3.0/5, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJO	**Bjornoya**	**3.08**	**69**	*e*P	**Pn**	**22 20 15.2**	**-0.9**
BJO	**Bjornoya**	**3.08**	**69**	*e*P	**Pn**	**22 20 15.2**	**-0.9**
	SNR=50						
HSPB	**Hornsund (broa**	**3.79**	**25**	*e*P	**Pn**	**22 20 24.4**	**-1.5**
HSPB	**Hornsund (broa**	**3.79**	**25**	*e*P	**Pn**	**22 20 24.5**	**-1.5**
	SNR=50						
SPA0	**Spitsbergen Ar**	**4.91**	**19**	*e*P	**Pn**	**22 20 40.7**	**-0.7**
SPA0	**Spitsbergen Ar**	**4.91**	**19**	*e*P	**Pn**	**22 20 40.7**	**-0.7**
	SNR=49						
SPITS	**Spitsbergen Ar**	**4.91**	**19**	Pn	**Pn**	**22 20 40.9**	**-0.4**
	baz=189,slow=16,SNR=187						
SPITS				LR	LR	22 22 26.0	
	comp=Z,128nm,19.9s,baz=300,slow=36						
TRO	**Tromso**	**5.24**	**136**	*e*P	**Pn**	**22 20 46.3**	**+0.4**
TRO	**Tromso**	**5.24**	**136**	P	**Pn**	**22 20 44.6**	**-1.3**
KBS	**Kingsbay**	**5.34**	**7**	*e*P	**Pn**	**22 20 45.6**	**-1.6**
KBS	**Kingsbay**	**5.34**	**7**	*e*P	**Pn**	**22 20 45.6**	**-1.6**
	SNR=49						
JMIC	**Jan Mayen**	**5.81**	**251**	Pn	**Pn**	**22 20 51.2**	**-2.5**
	7.4nm,0.3s,baz=56,slow=3.6,SNR=5.7						
JMIC				LR	LR	22 22 24.4	
	comp=Z,38nm,20.5s,baz=68,slow=31						
LOF	**Lofoten**	**5.83**	**161**	*e*P	**Pn**	**22 20 52.8**	**-1.1**
LOF				IAML		22 21 56.4	
	comp=Z,9.0nm,0.5s						
LOF	**Lofoten**	**5.83**	**161**	*e*P	**Pn**	**22 20 52.8**	**-1.1**
	SNR=49						
KIF	**Kilpisjarvi**	**6.14**	**134**	*e*P	**Pn**	**22 20 58.0**	**-0.2**
KIF	**Kilpisjarvi**	**6.14**	**134**	P	**Pn**	**22 20 57.3**	**-0.9**
ARCES	**ARCESS Array B**	**6.80**	**119**	Pn	**Pn**	**22 21 07.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=317,slow=11,SNR=33						
ARCES				Sn	**Sn**	**22 22 19.6**	**-5.0**
	baz=314,slow=20,SNR=2.0						
ARCES				LR	LR	22 24 12.7	
	comp=Z,82nm,18.1s,baz=290,slow=42						
ARE0	**ARCESS Array S**	**6.80**	**119**	*e*P	**Pn**	**22 21 08.3**	**+1.0**
ARE0	**ARCESS Array S**	**6.80**	**119**	P	**Pn**	**22 21 06.2**	**-1.1**
KEV	**Kevo**	**7.02**	**115**	*e*P	**Pn**	**22 21 11.2**	**+0.8**
KEV	**Kevo**	**7.02**	**115**	P	**Pn**	**22 21 08.5**	**-1.8**
LANU	**Lannavaara**	**7.18**	**135**	P	**Pn**	**22 21 11.9**	**-0.6**
LANU				S	Sn	22 22 23.7	-10
HEF	**Hetta**	**7.23**	**129**	P	**Pn**	**22 21 12.2**	**-1.0**
KONS	**Konsvik**	**7.39**	**165**	*e*P	**Pn**	**22 21 14.8**	**-0.6**
KONS	**Konsvik**	**7.39**	**165**	*e*P	**Pn**	**22 21 14.8**	**-0.6**
	SNR=47						
SGF	**Sodankyl**	**8.65**	**127**	P	**Pn**	**22 21 29.3**	**-3.4**
RNF	**Rovaniemi**	**9.24**	**131**	P	**Pn**	**22 21 37.6**	**-3.0**
TOF	**Tornio**	**9.35**	**137**	P	**Pn**	**22 21 39.5**	**-2.7**
MSF	**Maaselka**	**10.49**	**127**	P	**Pn**	**22 21 54.5**	**-3.3**
OUL	**Oulu**	**10.52**	**125**	P	**Pn**	**22 21 54.1**	**-4.4**
KU6	**Riekki**	**10.59**	**126**	P	**Pn**	**22 21 56.0**	**-3.1**
NOA	**NORSAR Array B**	**12.75**	**174**	Pn	**Pn**	**22 22 30.2**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=356,slow=14,SNR=3.3						
NOA				LR	LR	22 27 10.8	
	comp=Z,39nm,19.0s,baz=340,slow=36						
HFS	**Hagfors**	**13.76**	**169**	Pn	**Pn**	**22 22 43.7**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=349,slow=12,SNR=5.4						
HFS				LR	LR	22 27 33.0	
	comp=Z,92nm,20.0s,baz=9.0,slow=35						
FINES	**FINESS Array B**	**13.91**	**143**	Pn	**Pn**	**22 22 42.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=343,slow=14,SNR=3.0						
FINES				LR	LR	22 28 10.4	
	comp=Z,43nm,19.6s,baz=108,slow=38						
EKA	**Eskdalemuir Ar**	**19.01**	**201**	P	**P**	**22 23 48.4**	**-0.8**
	baz=5.7,slow=11,SNR=6.9						
SFJD	**Kangerlussuaq**	**20.09**	**281**	LR	LR	22 30 43.3	
	comp=Z,69nm,19.3s,baz=356,slow=34						
OBN	**Obninsk**	**21.83**	**133**	LR	LR	22 33 12.1	
	comp=Z,54nm,21.8s,baz=274,slow=38						
VRAC	**Vranov**	**24.72**	**167**	LR	LR	22 34 34.5	
	comp=Z,54nm,19.6s,baz=316,slow=37						
AKASG	**Malin Array Be**	**24.73**	**147**	P	**P**	**22 24 48.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=347,slow=9.7,SNR=4.4						
STHS	**Stebnicka Huta**	**24.98**	**160**	*e*PP	**P**	**22 24 53.2**	**+2.2**
GERES	**GERESS Array B**	**25.03**	**172**	P	**P**	**22 24 53.2**	**+1.6**
	comp=Z,1.3nm,0.9s,baz=10,slow=8.3,SNR=8.2						
KOLS	**Kolonicke sedl**	**25.57**	**159**	*e*PP	**P**	**22 24 57.2**	**+0.9**
ARU	**Arti**	**26.07**	**104**	P	**P**	**22 25 01.8**	**+1.0**
	comp=Z,1.1nm,0.2s,baz=273,slow=20,SNR=5.6						
ARU				LR	LR	22 35 31.4	
	comp=Z,64nm,18.7s,baz=236,slow=37						
DAVOX	**Davos/Dischmat**	**27.00**	**178**	LR	LR	22 35 11.9	
	comp=Z,63nm,18.4s,baz=1.5,slow=35						
ZALV	**Zalesovo Beam**	**35.61**	**81**	P	**P**	**22 26 26.4**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=331,slow=15,SNR=2.7						
BRTR	**Keskin Array B**	**36.12**	**146**	P	**P**	**22 26 31.6**	**+2.2**
	comp=Z,1.0nm,0.8s,baz=341,slow=7.1,SNR=4.1						
YKA	**Yellowknife Ar**	**38.92**	**322**	P	**P**	**22 26 52.6**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=11,slow=8.2,SNR=8.4						
ILAR	**Eielson Array**	**40.84**	**344**	P	**P**	**22 27 09.7**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=11,slow=5.2,SNR=6.3						
MKAR	**Makanchi Array**	**41.33**	**88**	P	**P**	**22 27 15.8**	**+2.8**
	comp=Z,0.6nm,0.9s,baz=323,slow=9.3,SNR=3.5						
GEYT	**Alibeck**	**42.97**	**118**	P	**P**	**22 27 26.7**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=331,slow=8.7,SNR=2.8						
SONM	**Songino Array**	**46.97**	**66**	P	**P**	**22 28 00.2**	**+1.9**
	comp=Z,1.2nm,0.9s,baz=334,slow=5.6,SNR=4.8						
TORD	**Toroli Ar. Bea**	**60.64**	**188**	P	**P**	**22 29 38.3**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=1.7,slow=6.5,SNR=6.9						
TXAR	**Lajitas Array**	**68.00**	**299**	P	**P**	**22 30 25.2**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=42,slow=2.9,SNR=2.6						
CMAR	**Chiang Mai Arr**	**72.58**	**84**	P	**P**	**22 30 54.8**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=298,slow=3.0,SNR=4.0						
MAW	**Mawson**	**145.39**	**147**	PKPbc	**PKPab**	**22 39 05.1**	**+1.3**
	comp=Z,3.8nm,0.9s,baz=356,slow=8.2,SNR=5.7						

*NIED **20** 22:26:00, 37.10N×141.10E, h44km, Mw3.8 Best double couple: M₀4.77000×10¹⁴ NP1:φ₀239.00000°, δ10.00000°, λ104.00000°. NP2:φ₀45.00000°, δ80.00000°, λ87.00000°.*
*ISCJB **20** 22:26:37.7±0.8, 37.02N±0.04×141.34E±0.08, h49km±6km, mb3.5/5, Error ellipse: s-maj=11.3km s-min=5.5km az=16.6*
*JMA **20** 22:26:39.9±0.1, 37.06N×141.14E, h51km±1km, M3.8*
JMA Felt II J1.
*IDC **20** 22:26:42.8±2.6, 36.89N×141.12E, h84km±24km, mb3.2/5, mb1 3.4/8, mb1mx3.2/50, mbtmp3.6/8, Error ellipse: s-maj=25.1km s-min=13.0km az=65.0*

ISC 20 22:26:38.9±1.3, 37.05N±0.04×141.29E±0.08, h42km±11km, n26, σ0§98/29, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.39**	**277**	P	**Pn**	**22 26 48.8**	**+0.4**
ONAJ				S	**Sn**	**22 26 55.0**	**-0.1**
JFK	**Kawauchi**	**0.45**	**314**	P	**Pn**	**22 26 49.5**	**+0.3**
JFK				*i* S	**Sn**	**22 26 56.3**	**-0.1**
JHO	**Hitachi**	**0.72**	**233**	P	**Pn**	**22 26 52.6**	**-0.1**
JHO				S	**Sn**	**22 27 01.4**	**-1.2**
JFT	**Otama**	**0.89**	**302**	P	**Pn**	**22 26 55.6**	**+0.7**
JFT				S	**Sn**	**22 27 06.7**	**0.0**
JMM	**Marumori**	**0.90**	**334**	P	**Pn**	**22 26 55.4**	**+0.3**
JMM				S	**Sn**	**22 27 06.6**	**-0.4**
JFY	**Yanaizu**	**1.31**	**286**	P	**Pn**	**22 27 00.7**	**0.0**
JIO	**Ouri**	**1.40**	**2**	P	**Pn**	**22 27 02.5**	**+0.6**
JIO				S	**Sn**	**22 27 18.9**	**-0.3**
JOU	**Okura**	**1.40**	**340**	P	**Pn**	**22 27 02.5**	**+0.5**
JOU				S	**Sn**	**22 27 19.4**	**+0.2**
JYS	**Shirataka**	**1.52**	**321**	P	**Pn**	**22 27 04.2**	**+0.7**
JAG	**Ashikaga**	**1.60**	**248**	P	**Pn**	**22 27 04.5**	**-0.1**
JKT	**Katashina**	**1.66**	**261**	P	**Pn**	**22 27 05.9**	**+0.4**
MJAR	**Matsushiro Arr**	**2.52**	**259**	P	**Pn**	**22 27 17.6**	**+0.2**
	6.5nm,0.3s,baz=83,slow=16,SNR=26						
MJAR				S	**Sn**	**22 27 48.8**	**+1.9**
	4.6nm,0.3s,baz=69,slow=15,SNR=5.1						
MAT	**Matsushiro**	**2.52**	**259**	P	**Pn**	**22 27 18.2**	**+0.8**
MAT				S	**Sn**	**22 27 49.2**	**+2.3**
JHJ	**Hachijo jima 2**	**4.11**	**198**	P	**Pn**	**22 27 40.9**	**+1.8**
	13nm,0.3s,baz=338,slow=23,SNR=7.3						
JHJ				S	**Sn**	**22 28 25.4**	**-0.7**
	21nm,0.3s,baz=271,slow=24,SNR=7.4						
USRK	**Ussuriysk Ar.**	**10.04**	**318**	P	Pn	22 29 05.3	+4.9
	0.1nm,0.3s,baz=119,slow=14,SNR=4.3						
SONM	**Songino Array**	**27.69**	**304**	P	**P**	**22 32 21.6**	**-1.4**
	0.3nm,0.5s,baz=109,slow=8.9,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	23 02 25.5	
	baz=313,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	23 02 26.2	
	baz=313,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	23 02 26.8	
	baz=313,slow=75,SNR=57						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	23 03 21.8	
	baz=315,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	23 03 20.0	
	baz=315,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.97**	**123**	T	T	23 03 25.0	
	baz=315,slow=76,SNR=23						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**22 34 23.4**	**-0.8**
	1.5nm,0.5s,baz=91,slow=7.3,SNR=6.1						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**22 34 41.8**	**-0.4**
	0.5nm,0.7s,baz=83,slow=11,SNR=6.3						
ILAR	**Eielson Array**	**49.53**	**32**	P	**P**	**22 35 26.6**	**+1.7**
	0.3nm,0.7s,baz=268,slow=5.4,SNR=3.0						
WRA	**Warramunga Arr**	**57.06**	**188**	P	**P**	**22 36 19.6**	**-1.1**
	0.7nm,1.1s,baz=6.0,slow=7.0,SNR=3.0						

DJA 20 22:30:51.9±0.5, 10.5±4.×11.4E±., h10km, M3.6/9, MLv3.6/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.16**	**10**	P	Pb	22 31 13.7	-0.4
JAGI				S	Sb	22 31 29.1	-0.1
GMJI	**Gumukmas**	**1.43**	**339**	P	Pn	22 31 16.3	-1.6
GMJI				S	Sn	22 31 34.9	-1.9
DNP	**Denpasar**	**1.56**	**53**	P	Pb	22 31 20.4	-0.4
DNP				S	Sb	22 31 40.7	+0.1
ABJI	**Asem Bagus**	**1.83**	**9**	P	Pb	22 31 25.1	-0.5
SRBI	**Singaraja**	**1.97**	**39**	P	Pn	22 31 25.5	+0.1
PWJI	**Pagerwojo**	**2.65**	**307**	P	Pn	22 31 32.8	-1.9
PWJI				S	Sn	22 32 07.1	+0.2
TWSI	**Taliwang, Sumb**	**3.02**	**73**	P	Pn	22 31 38.4	-1.5
GRJI	**Gresik**	**3.06**	**331**	P	Pn	22 31 40.6	+0.3
PCJI	**Pacitan**	**3.08**	**297**	P	Pn	22 31 40.4	-0.3
PLAI	**Plampang**	**3.86**	**79**	P	Pn	22 31 51.0	-0.4
PLAI				S	Sn	22 32 37.4	+0.6

*IDC **20** 22:44:09.2±4.5, 8.32S×102.80E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/31, mbtmp3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.8/43, Error ellipse: s-maj=173.7km s-min=30.3km az=51.0*
*ISCJB **20** 22:44:16.7±1.0, 7.48S±0.06×103.95E±0.06, h33km, mb3.6/5, MS3.2/1, Error ellipse: s-maj=10.8km s-min=6.5km az=39.4*
*DJA **20** 22:44:19.5±0.9, 7.5S±13.×10.4E±1.0, h85km±38km, M4.1/7, MLv4.1/7*

ISC 20 22:44:19.5±1.3, 7.41S±0.10×104.05E±0.09, h35km, n16, σ1§45/21, mb3.7/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**1.81**	**64**	P	**Pn**	**22 44 48.6**	**+0.4**
CGJI				S	**Sn**	**22 45 10.7**	**+0.7**
KASI	**Kota Agung**	**1.92**	**13**	P	**Pn**	**22 44 48.7**	**-1.1**
KASI				S	**Sn**	**22 45 13.3**	**+0.6**
LWLI	**Liwa**	**2.37**	**0**	P	**Pn**	**22 44 54.9**	**-1.2**
LWLI				S	**Sn**	**22 45 23.8**	**-0.2**
SKJI	**Sukabumi**	**2.52**	**81**	P	**Pn**	**22 44 58.3**	**+0.3**
SKJI				S	**Sn**	**22 45 23.9**	**-3.6**
KLSI		**2.78**	**14**	P	**Pn**	**22 45 01.6**	**0.0**
CNJI	**Cibinong**	**3.06**	**88**	P	**Pn**	**22 45 05.5**	**+0.1**
CNJI				S	**Sn**	**22 45 42.4**	**+1.6**
CISI	**Cisompet, Garu**	**3.74**	**93**	P	**Pn**	**22 45 13.8**	**-1.0**
CISI				S	**Sn**	**22 45 55.6**	**-2.1**
KSI	**Kapahiang**	**4.00**	**339**	P	**Pn**	**22 45 18.2**	**-0.2**
KPJI	**Karang Pucung**	**4.84**	**89**	P	**Pn**	**22 45 30.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**26.19**	**349**	P	**P**	**22 49 51.9**	**+0.8**
	0.6nm,0.5s,baz=171,slow=12,SNR=3.3						
TGY	**Tagaytay City**	**27.16**	**38**	LR	LR	23 03 24.7	
	comp=Z,65nm,19.4s,baz=108,slow=40						
WRA	**Warramunga Arr**	**31.89**	**116**	P	**P**	**22 50 42.1**	**+0.3**
	0.4nm,1.0s,baz=288,slow=12,SNR=2.5						
SONM	**Songino Array**	**55.04**	**2**	P	**P**	**22 53 50.2**	**+2.5**
	0.7nm,0.7s,baz=185,slow=9.7,SNR=3.5						
MKAR	**Makanchi Array**	**57.33**	**342**	P	**P**	**22 54 02.4**	**-1.6**
	0.3nm,0.4s,baz=161,slow=9.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**63.24**	**347**	P	**P**	**22 54 42.5**	**-1.8**
	0.7nm,0.4s,baz=166,slow=5.0,SNR=4.1						
TXAR	**Lajitas Array**	**146.00**	**47**	PKPbc	**PKPab**	**23 03 57.0**	**+0.1**
	0.4nm,0.5s,baz=308,slow=2.7,SNR=5.0						

*ISCJB **20** 22:48:52.4±0.6, 32.28N±0.08×115.4W±0.1, h14km±15km, Error ellipse: s-maj=19.4km s-min=6.4km az=142.0*
*ECX **20** 22:48:53.7±0.5, 32.28N×115.37W, h5km, MD2.2, ML2.4*
*MEX **20** 22:48:54.1±0.7, 32.36N×115.26W, h20km±19km, MD3.8*

ISC 20 22:48:51.9±0.9, 32.26N±0.04×115.36W±0.05, h16km±9km, n12, σ0§38/18, 2C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.16**	**17**	*e*P	**Pg**	**22 48 56.3**	**+0.2**
CPBX				*e*S	**Sg**	**22 48 59.1**	**+0.1**
CPBX				IAML		22 49 00.7	
	comp=E,4μm,0.2s						
CPBX				⇑*e*		22 49 00.7	
CPBX				IAML		22 49 01.2	
	comp=N,2μm,0.1s						
CPBX				⇑*e*		22 49 01.2	
MBIG	**Mexicali**	**0.20**	**44**	*e*P	**Pb**	**22 48 57.3**	**+0.2**
MBIG				*e*S	**Sg**	**22 48 59.1**	**-0.7**
WESC	**Westside Schoo**	**0.58**	**328**	*e*P	**Pb**	**22 49 04.0**	**+0.3**
IKP	**In-Ko-Pah, Jac**	**0.74**	**302**	*e*P	**Pb**	**22 49 06.3**	**-0.2**
ECBX	**El Chinero**	**0.83**	**161**	*e*P	**Pn**	**22 49 08.8**	**-0.1**
CBX	**Cerro Bola**	**1.10**	**273**	*e*P	**Pb**	**22 49 12.9**	**+0.2**
CBX				*e*S	**Sb**	**22 49 26.1**	**-0.8**
CBX	**Cerro Bola**	**1.10**	**273**	*e*P	**Pn**	**22 49 13.0**	**+0.2**
CBX				*e*S	**Sn**	**22 49 27.6**	**-0.1**
TJIG	**Tijuana**	**1.12**	**279**	*e*P	**Pn**	**22 49 12.7**	**-0.2**
TJIG				*e*S	**Sb**	**22 49 27.7**	**+0.4**
BAR	**Barrett**	**1.18**	**291**	*e*P	**Pn**	**22 49 13.9**	**+0.2**
SPIG	**San Pedro Mart**	**1.22**	**184**	*e*P	**Pn**	**22 49 14.2**	**-0.3**
SPIG				*e*S	**Sb**	**22 49 30.2**	**-0.1**
SPIG	**San Pedro Mart**	**1.22**	**184**	*e*P	**Pb**	**22 49 15.0**	**+0.3**
SPX	**San Pedro Mart**	**1.22**	**184**	*e*P	**Pb**	**22 49 15.1**	**+0.4**

*ISCJB **20** 22:49:37.9±0.4, 39.52N±0.02×25.95E±0.04, h6km±4km, Error ellipse: s-maj=5.0km s-min=2.6km az=169.8*
*ATH **20** 22:49:37.8, 39.51N×25.98E, h17km±2km, ML1.9/5, Error ellipse: s-maj=2.9km s-min=0.8km az=200.0*
*DDA **20** 22:49:37.4, 39.48N×26.08E, h7km, Md2.8*
*ISK **20** 22:49:37.1, 39.56N×25.90E, h6km, MD2.6*
*CSEM **20** 22:49:38.0±0.1, 39.52N×25.98E, h8km, ML1.9, Error ellipse: s-maj=4.2km s-min=2.5km az=86.0*

ISC 20 22:49:37.9±0.9, 39.51N±0.01×25.98E±0.03, h13km±7km, n44, σ0§67/72, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.32**	**197**	*e*PG	**Pg**	**22 49 44.4**	**0.0**
SIGR				*e*SG	**Sb**	**22 49 49.7**	**-0.8**
SIGR	**SIGRI**	**0.32**	**197**	P	**Pg**	**22 49 44.0**	**-0.4**
SIGR	**SIGRI**	**0.32**	**197**	*e*Pg	**Pg**	**22 49 44.4**	**0.0**
SIGR				S	**Sg**	**22 49 49.0**	**+0.3**
SIGR	**SIGRI**	**0.32**	**197**	P	**Pg**	**22 49 44.0**	**-0.4**
SIGR				S	**Sg**	**22 49 49.0**	**+0.3**
SIGR				AML	AML	22 49 49.4	
	comp=N,1129μm,0.3s						
SIGR				AML	AML	22 49 50.5	
	comp=E,979μm,0.4s						
BOZC	**Bozcaada**	**0.33**	**10**	*i* P	**Pg**	**22 49 44.7**	**0.0**
BOZC				*i* S	**Sg**	**22 49 49.9**	**+0.6**
PRK	**Paraskevi**	**0.35**	**139**	P	**Pg**	**22 49 45.2**	**+0.2**
PRK				S	**Sb**	**22 49 50.7**	**-0.8**
PRK				AML	AML	22 49 51.6	
	comp=E,361μm,0.7s						
PRK				AML	AML	22 49 52.5	
	comp=N,190μm,0.3s						
EZN	**Ezine**	**0.41**	**41**	*e*PG	**Pg**	**22 49 45.8**	**-0.3**
EZN				*e*SG	**Sg**	**22 49 52.3**	**+0.6**
EZN	**Ezine**	**0.41**	**41**	*e*Pg	**Pg**	**22 49 45.8**	**-0.3**
EZN				*e*Sg	**Sg**	**22 49 52.3**	**+0.6**
AYVA	**Ayvalik**	**0.59**	**110**	P	**Pg**	**22 49 49.4**	**0.0**
AYVA				S	**Sn**	**22 50 01.3**	**-0.2**
AYVA	**Ayvalik**	**0.59**	**110**	*i* P	**Pg**	**22 49 49.4**	**0.0**
AYVA				*i* S	**Sn**	**22 50 01.3**	**-0.2**
GADA	**Gvkgeada**	**0.68**	**355**	*e*PG	**Pg**	**22 49 49.9**	**-1.3**
GADA				*e*SG	**Sg**	**22 49 59.1**	**-1.0**
GADA	**Gvkgeada**	**0.68**	**355**	*e*Pg	**Pg**	**22 49 49.9**	**-1.3**
GADA				*e*Sg	**Sg**	**22 49 59.1**	**-1.0**
LIA	**Limnos Island**	**0.72**	**302**	P	**Pb**	**22 49 52.3**	**-0.1**
LIA				S	**Sb**	**22 50 02.6**	**+0.4**
DKL	**Dikili**	**0.85**	**121**	*e*PG	**Pb**	**22 49 55.2**	**+0.7**
DKL				*e*SG	**Sn**	**22 50 08.3**	**+0.5**
DKL	**Dikili**	**0.85**	**121**	*e*Pg	**Pb**	**22 49 55.2**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.96**	**23**	*e*PG	**Pg**	**22 49 55.8**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.96**	**23**	*e*Pg	**Pg**	**22 49 55.8**	**-0.7**
SMTH	**Samothraki Isl**	**1.02**	**340**	P	**Pg**	**22 49 57.2**	**-0.3**
SMTH				S	**Sb**	**22 50 11.9**	**+1.2**
SMTH	**Samothraki Isl**	**1.02**	**340**	P	**Pg**	**22 49 57.2**	**-0.3**
SMTH				S	**Sb**	**22 50 11.9**	**+1.2**
SMTH				AML	AML	22 50 12.8	
	comp=E,167μm,0.4s						
SMTH				AML	AML	22 50 13.8	
	comp=N,154μm,0.3s						
CHOS	**Chios island**	**1.13**	**177**	*e*PN	**Pn**	**22 49 59.9**	**+0.4**
CHOS				*e*SN	**Sn**	**22 50 16.7**	**+1.8**
CHOS	**Chios island**	**1.13**	**177**	P	**Pg**	**22 49 59.1**	**-0.6**
CHOS	**Chios island**	**1.13**	**177**	*e*Pn	**Pn**	**22 49 59.9**	**+0.4**
CHOS				S	**Sg**	**22 50 14.2**	**-0.1**
CHOS				*e*Sn	**Sn**	**22 50 16.7**	**+1.8**
CHOS	**Chios island**	**1.13**	**177**	P	**Pg**	**22 49 59.1**	**-0.6**
CHOS				S	**Sg**	**22 50 14.2**	**-0.1**
CHOS				AML	AML	22 50 17.4	
	comp=N,189μm,0.4s						
CHOS				AML	AML	22 50 20.1	
	comp=E,205μm,0.4s						
ERIK	**Erikli-Kesan**	**1.23**	**19**	*e*PN	**Pb**	**22 50 00.5**	**-0.5**
ERIK	**Erikli-Kesan**	**1.23**	**19**	*e*Pn	**Pb**	**22 50 00.5**	**-0.5**
URLA	**Izmir**	**1.25**	**157**	P	**Pn**	**22 50 00.1**	**-1.0**
URLA				S	**Sb**	**22 50 17.6**	**+0.2**
URLA	**Izmir**	**1.25**	**157**	*i* P	**Pn**	**22 50 00.1**	**-1.0**
URLA				*i* S	**Sb**	**22 50 17.6**	**+0.2**
ZEY	**˜zmir**	**1.34**	**162**	*i* P	**Pn**	**22 50 02.0**	**-0.4**
ZEY				*i* S	**Sb**	**22 50 19.2**	**-0.7**
KRBG	**Karabiga-Canak**	**1.34**	**49**	*e*PN	**Pb**	**22 50 03.0**	**+0.1**
KRBG	**Karabiga-Canak**	**1.34**	**49**	*e*Pn	**Pb**	**22 50 03.1**	**+0.1**
ALN	**Alexandroupoli**	**1.38**	**2**	*e*PN	**Pn**	**22 50 03.3**	**+0.3**
ALN	**Alexandroupoli**	**1.38**	**2**	*e*Pn	**Pn**	**22 50 03.3**	**+0.3**
ALN	**Alexandroupoli**	**1.38**	**2**	P	**Pn**	**22 50 03.5**	**+0.5**
ALN				S	**Sg**	**22 50 22.4**	**-0.1**
ALN	**Alexandroupoli**	**1.38**	**2**	P	**Pn**	**22 50 03.5**	**+0.5**
ALN				S	**Sg**	**22 50 22.4**	**-0.1**
ALN				AML	AML	22 50 24.0	
	comp=E,43μm,0.3s						
ALN				AML	AML	22 50 24.1	
	comp=N,47μm,0.4s						
KESN	**Edirne-Kesan**	**1.42**	**22**	P	**Pg**	**22 50 04.8**	**-0.4**
KESN				S	**Sn**	**22 50 23.1**	**+0.6**
KESN	**Edirne-Kesan**	**1.42**	**22**	*i* P	**Pg**	**22 50 04.8**	**-0.4**
KESN				*i* S	**Sn**	**22 50 23.1**	**+0.6**
DGB	**˜zmir**	**1.62**	**154**	*i* P	**Pb**	**22 50 07.3**	**-0.4**
DGB				*i* S	**Sb**	**22 50 28.7**	**+0.6**
MRMT	**Marmara Adasi**	**1.65**	**48**	*e*PN	**Pg**	**22 50 08.9**	**-0.8**
MRMT	**Marmara Adasi**	**1.65**	**48**	*e*Pn	**Pg**	**22 50

ASQU					Sg	Sg	23 04 34.1	+1.2
	23nm,0.2s							
CPGN	**Carpegna, Ital**	**0.24**	**109**		Pg	Pg	23 04 32.6	+1.2
	20µm,17.0s							
CPGN	**Carpegna, Ital**	**0.24**	**109**		Pg	Pg	23 04 32.6	+1.2
	20µm,17.0s							
CRE	**Caprese Michel**	**0.26**	**189**		Pg	Pg	23 04 32.5	+0.7
CRE					Sg	Sb	23 04 37.1	-0.9
	14nm,0.2s							
CRE	**Caprese Michel**	**0.26**	**189**		Pg	Pg	23 04 32.5	+0.7
CRE					Sg	Sb	23 04 37.1	-0.9
	14nm,0.2s							
PIEI	**Pieia**	**0.52**	**132**		Pg	Pg	23 04 36.4	0.0
PIEI					Sg	Sb	23 04 45.0	-0.2
PIEI	**Pieia**	**0.52**	**132**		Pg	Pg	23 04 36.4	0.0
PIEI					Sg	Sb	23 04 45.0	-0.2

*BJI **20** 23:09:32.9, 39˚.49N × 146˚.35E, h8km, mb4.5/24, mB4.7/17, Ms4.6/7, Ms7 4.1/8*
*NEIC **20** 23:09:38.8 ± 0.3, 39˚.15N × 146˚.33E, h35km, mb4.7/33, Error ellipse: s-maj=7.1km s-min=4.5km az=153.0*
NEIC Recorded [1 JMA] in Aomori and Iwate.
*NIED **20** 23:10:00, 40˚.10N × 142˚.40E, h38km, Mw4.1 Best double couple: M0 1.53000 × 10^15 NP1: ϕs 174.00000°, δ 17.00000°, λ 61.00000°. NP2: ϕs 24.00000°, δ 75.00000°, λ 98.00000°.*
*ISCJB **20** 23:10:01.7 ± 0.7, 40˚.16N ± 0˚.04 × 142˚.47E ± 0˚.07, h50km ± 5km, mb4.3/31, MS3.0/2, Error ellipse: s-maj=9.4km s-min=6.1km az=12.5*
*JMA **20** 23:10:01.9 ± 0.1, 40˚.15N × 142˚.46E, h35km ± 1km, M4.0*
JMA Felt I J1.
*IDC **20** 23:10:04.9 ± 2.3, 40˚.15N × 142˚.48E, h67km ± 20km, mb3.7/19, mb1 3.8/23, mb1mx3.7/57, mbtmp4.0/23, MS3.1/7, Ms1 3.1/7, ms1mx2.8/57, Error ellipse: s-maj=20.3km s-min=14.3km az=111.0*

ISC 20 23:10:03.4 ± 1.1, 40˚.09N ± 0˚.04 × 142˚.43E ± 0˚.07, h46km ± 9km, n73, σ 2° 17/72, mb4.2/31, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.46**	**251**	P	**Pn**	**23 10 12.4**	**-1.5**
JTH				*e*S	**Sn**	**23 10 20.2**	**-1.1**
MIYJ	**Miyakonagasawa**	**0.69**	**223**	P	**Pn**	**23 10 15.8**	**-1.0**
MIYJ				*e*S	**Sn**	**23 10 25.5**	**-1.1**
JANG	**Nango**	**0.76**	**293**	P	**Pn**	**23 10 15.9**	**-1.8**
JANG				*e*S	**Sn**	**23 10 25.8**	**-2.3**
JKZ	**Kuzumaki**	**0.85**	**263**	P	**Pn**	**23 10 18.2**	**-0.8**
JKZ				*e*S	**Sn**	**23 10 29.6**	**-0.8**
JOM	**Ohasama**	**1.07**	**235**	P	**Pn**	**23 10 21.9**	**0.0**
JOM				*e*S	**Sn**	**23 10 36.3**	**+0.7**
JTM	**Tenmabayashi**	**1.25**	**304**	P	**Pn**	**23 10 23.3**	**-1.1**
JTM				*e*S	**Sn**	**23 10 39.2**	**-0.9**
JAH	**Hinai**	**1.38**	**275**	P	**Pn**	**23 10 25.9**	**-0.2**
JAH				*e*S	**Sn**	**23 10 43.9**	**+0.7**
JMK	**Ichinoseki**	**1.47**	**220**	*e*S	**Sn**	**23 10 47.7**	**+2.3**
JRG	**Rokugo**	**1.54**	**244**	P	**Pn**	**23 10 29.0**	**+0.6**
ERM	**Erimo**	**2.00**	**16**	*e*Pn	**Pn**	**23 10 34.0**	**-0.7**
ERM				*e*Sn	**Sn**	**23 11 03.2**	**+4.7**
ASAJ	**Asahikawa**	**4.03**	**2**	P	**Pn**	**23 11 02.0**	**-0.5**
	7.0nm,0.3s,baz=223,slow=9.7,SNR=19						
ASAJ				S	**Sn**	**23 11 52.7**	**+4.3**
	4.9nm,0.3s,baz=288,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**4.03**	**2**	*e*Pn	**Pn**	**23 11 01.3**	**-1.2**
ASAJ				*e*Sn	Sn	23 11 59.1	+11
MAJO	**Matsushiro**	**4.85**	**224**	*e*Pn	**Pn**	**23 11 17.0**	**+3.2**
MAT	**Matsushiro**	**4.85**	**224**	P	**Pn**	**23 11 16.6**	**+2.8**
MAT				*e*S	**Sn**	**23 12 08.9**	**+0.2**
MJAR	**Matsushiro Arr**	**4.85**	**224**	P	**Pn**	**23 11 16.5**	**+2.7**
	4.2nm,0.3s,baz=32,slow=13,SNR=75						
MJAR				LR	LR	23 13 24.1	
	comp=Z,164nm,20.2s,baz=25,slow=40						
MJB9	**Matsu-Tunnel**	**4.85**	**225**	*e*Pn	**Pn**	**23 11 17.0**	**+3.2**
INU	**Inuyama**	**6.38**	**224**	*e*Pn	**Pn**	**23 11 37.6**	**+2.8**
USRK	**Ussuriysk Ar.**	**8.78**	**301**	P	**Pn**	**23 12 09.4**	**+1.9**
	0.7nm,0.3s,baz=101,slow=13,SNR=19						
USRK				LR	LR	23 15 25.5	
	comp=Z,130nm,19.2s,baz=115,slow=36						
KSRS	**Korea Array**	**11.62**	**262**	P	**Pn**	**23 12 49.6**	**+3.0**
	0.3nm,0.3s,baz=79,slow=13,SNR=5.1						
KSRS				LR	LR	23 16 42.4	
	comp=Z,107nm,20.0s,baz=108,slow=34						
KLR	**Kul'dur**	**11.88**	**324**	LR	LR	23 17 16.1	
	comp=Z,122nm,21.6s,baz=152,slow=36						
PETK	**Petropavlovsk-**	**16.68**	**34**	LR	LR	23 20 10.4	
	comp=Z,29nm,19.6s,baz=236,slow=36						
MA2	**Magadan**	**20.21**	**12**	LR	LR	23 21 47.7	
	comp=Z,51nm,20.2s,baz=316,slow=35						
HHC	**Hu-ho-hao-te**	**23.44**	**282**	*e*P	**P**	**23 15 13.6**	**+5.1**
HHC				S	Sn	23 19 49.4	+8.9
HHC				PMZ			
	12nm,1.1s						
HHC				PMZ			
	56nm,5.1s						
SEY	**Seymchan**	**23.65**	**11**	P	**P**	**23 15 09.2**	**-0.9**
	1.5nm,0.3s,baz=185,slow=7.8,SNR=7.9						
YULB	**Yu-li**	**24.40**	**233**	*e*P	**P**	**23 15 11.3**	**-6.0**
	54nm,1.9s						
SONA1	**Songino Array**	**26.87**	**299**	*e*P	**P**	**23 15 39.6**	**-0.1**
SONM	**Songino Array**	**26.88**	**299**	P	**P**	**23 15 39.1**	**-0.7**
	1.3nm,0.5s,baz=102,slow=8.7,SNR=7.9						
SONM				LR	LR	23 26 50.2	
	comp=Z,66nm,18.3s,baz=52,slow=37						
TLY	**Talaya**	**29.04**	**307**	*e*P	**P**	**23 16 02.3**	**+3.4**
	2.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	23 46 51.5	
	baz=319,slow=75,SNR=379						
H11N1	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	23 46 52.4	
	baz=319,slow=75,SNR=345						
H11N3	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	23 46 43.9	
	baz=319,slow=75,SNR=186						
H11S1	**WAKE ISLAND Hy**	**30.00**	**129**	T	T	23 47 54.8	
	baz=321,slow=76,SNR=96						
H11S3	**WAKE ISLAND Hy**	**30.00**	**129**	T	T	23 47 54.9	
	baz=321,slow=76,SNR=64						
H11S2	**WAKE ISLAND Hy**	**30.02**	**129**	T	T	23 47 56.1	
	baz=321,slow=76,SNR=62						
CD2	**Chengdu**	**32.57**	**266**	*e*P	**P**	**23 16 32.3**	**+2.0**
CD2				pP	pP	23 16 36.9	-5.7
CD2				sP	sP	23 16 38.9	-9.2
CD2				PP	**PP**	**23 17 52.9**	**+8.5**
CD2				S	S	23 22 07.8	+25
CD2				sS	sS	23 22 15.8	+13
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
GYA	**Guiyang**	**32.62**	**256**	*e*P	**P**	**23 16 32.0**	**+1.2**
GYA				PMZ			
	10.0nm,0.8s						
KMI	**Kunming**	**36.29**	**258**	P	**P**	**23 17 04.3**	**+1.6**
KMI				PMZ			
	6.0nm,0.8s						
WMQ	**Urumqi**	**40.25**	**294**	P	**P**	**23 17 37.8**	**+2.1**
WMQ				pP	pP	23 17 42.6	-5.5
WMQ				sP	sP	23 17 45.1	-8.5
WMQ				PMZ			
	5.0nm,0.6s						
WMQ				PMZ			
	54nm,4.4s						
ZAA0	**Zalesovo Array**	**40.51**	**310**	*e*P	**P**	**23 17 37.0**	**-0.5**
ZALV	**Zalesovo Beam**	**40.51**	**310**	P	**P**	**23 17 36.9**	**-0.7**
	2.4nm,0.6s,baz=89,slow=8.2,SNR=9.3						
CMAR	**Chiang Mai Arr**	**43.09**	**253**	P	**P**	**23 17 59.6**	**+0.6**
	0.6nm,0.3s,baz=43,slow=6.5,SNR=4.4						
MK01	**Makanchi Array**	**43.24**	**300**	*e*P	**P**	**23 17 59.1**	**-0.9**
MK31	**Makanchi Array**	**43.24**	**300**	*e*P	**P**	**23 17 59.5**	**-0.4**
MKAR	**Makanchi Array**	**43.24**	**300**	P	**P**	**23 17 59.2**	**-0.7**
	2.0nm,0.6s,baz=86,slow=10,SNR=21						
KURK	**Kurchatov**	**44.73**	**306**	*e*P	**P**	**23 18 10.8**	**-1.0**
	9.1nm,0.7s						
ILAR	**Eielson Array**	**46.51**	**34**	P	**P**	**23 18 24.8**	**-0.9**
	0.6nm,0.6s,baz=269,slow=5.4,SNR=5.9						
VOSK	**Vostochnaya**	**48.88**	**310**	*e*P	**P**	**23 18 43.7**	**-0.5**
	4.4nm,0.7s						
TKM2	**Tokmak 2**	**48.93**	**296**	*e*P	**P**	**23 18 45.3**	**+0.3**
	3.5nm,0.6s						
KSH	**Kashi**	**49.94**	**292**	*e*P	P	23 18 57.8	+5.1
KSH				pP	pP	23 19 02.4	-3.0
KSH				PcP	PcP	23 20 04.3	-8.0
KSH				S	S	23 26 26.8	+27
KSH				ScS	**ScS**	**23 28 42.4**	**+2.3**
KSH				SS	SKiKP	23 30 07.9	-19
KSH				PMZ			
	2.0nm,0.4s						
KSH				PMZ			
	98nm,6.4s						
KSH				LN			
	130nm,6.5s						
KSH				LE			
	93nm,4.6s						
KSH				LZ			
	98nm,9.2s						
ZRNK	**Zerenda**	**49.98**	**311**	*e*P	**P**	**23 18 52.2**	**-0.3**
	4.9nm,0.8s						
EKS2	**Erkin-Say**	**50.27**	**297**	*e*P	**P**	**23 18 55.2**	**0.0**
	8.0nm,1.8s						
INK	**Inuvik**	**51.32**	**28**	P	**P**	**23 19 02.5**	**+0.1**
	2.1nm,0.6s,baz=339,slow=7.7,SNR=3.2						
KKAR	**Karatay Array**	**52.33**	**298**	*e*P	**P**	**23 19 09.7**	**-0.7**
LHMI	**Lhok Sumawe**	**53.57**	**242**	*e*P	P	23 19 13.7	-6.1
	97nm,1.2s						
PSI	**Prapat**	**54.06**	**238**	*e*P	P	23 19 17.0	-6.5
	36nm,2.0s						
ARU	**Arti**	**54.63**	**317**	*e*P	**P**	**23 19 24.6**	**-2.4**
	7.2nm,0.7s						
ABKAR	**Akbulak array**	**56.61**	**309**	*e*P	**P**	**23 19 38.9**	**-2.4**
KBL	**Kabul**	**57.10**	**290**	*e*P	**P**	**23 19 44.7**	**-0.6**
	8.7nm,0.8s						
CISI	**Cisompet, Garu**	**57.16**	**222**	*e*P	P	23 19 33.5	-12
	51nm,1.0s						
WRA	**Warramunga Arr**	**60.19**	**189**	P	**P**	**23 20 05.7**	**-0.8**
	0.9nm,0.6s,baz=6.5,slow=6.8,SNR=13						
YKA	**Yellowknife Ar**	**60.78**	**31**	P	**P**	**23 20 08.3**	**-1.8**
	0.3nm,0.7s,baz=300,slow=6.5,SNR=3.0						
ARCES	**ARCESS Array B**	**61.43**	**339**	P	**P**	**23 20 13.5**	**-0.9**
	3.5nm,0.9s,baz=66,slow=9.4,SNR=4.6						
GEYT	**Alibeck**	**63.08**	**298**	P	**P**	**23 20 25.4**	**-0.6**
	3.6nm,0.7s,baz=46,slow=6.4,SNR=8.1						
ASAR	**Alice Springs**	**63.92**	**189**	P	**P**	**23 20 31.2**	**-0.3**
	0.3nm,0.5s,baz=12,slow=6.1,SNR=2.9						
FINES	**FINESS Array B**	**66.49**	**332**	P	**P**	**23 20 46.3**	**-1.4**
	3.1nm,0.7s,baz=46,slow=5.5,SNR=13						
HFS	**Hagfors**	**71.64**	**336**	P	**P**	**23 21 18.8**	**-0.8**
	1.0nm,0.3s,baz=43,slow=6.9,SNR=12						
NB2	**NORSAR Subarra**	**71.68**	**337**	P	**P**	**23 21 19.0**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**71.68**	**337**	P	**P**	**23 21 19.1**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=38,slow=5.9,SNR=7.6						
AKASG	**Malin Array Be**	**72.37**	**322**	P	**P**	**23 21 22.6**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=47,slow=6.2,SNR=5.4						
BRTR	**Keskin Array B**	**77.42**	**312**	P	**P**	**23 21 53.2**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=46,slow=4.6,SNR=3.4						
KHC	**Kasperske Hory**	**80.36**	**329**	*e*pP	**P**	**23 22 09.8**	**+0.2**
EKA	**Eskdalemuir Ar**	**80.52**	**341**	P	**P**	**23 22 09.2**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=30,slow=4.7,SNR=5.2						
GERES	**GERESS Array B**	**80.53**	**329**	P	**P**	**23 22 09.2**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=43,slow=6.0,SNR=4.2						

MAN 20 23:10:16, 8˚.13N × 126˚.42E, h83km, mb4.1, ML2.9, MS2.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.08**	**312**	*i*P	Pn	23 10 30.5	+2.7
BIPH				*i* S	Sn	23 10 39.9	+3.4
MATI	**Mati**	**1.19**	**188**	*e*P	Pn	23 10 38.7	+1.2
MATI				*e*S	Sn	23 10 55.7	+2.0
BUKP	**Musuan**	**1.37**	**260**	*e*P	Pn	23 10 41.6	+1.8
BUKP				*e*S	Sn	23 11 00.0	+2.2
CGP	**Cagayan de Oro**	**1.74**	**281**	*e*P	Pn	23 10 46.0	+1.5
CGP				*e*S	Sn	23 11 07.5	+1.2

*ISCJB **20** 23:24:49.3 ± 0.6, 21˚.90S ± 0˚.04 × 68˚.40W ± 0˚.08, h122km ± 6km, mb3.9/4, Error ellipse: s-maj=12.6km s-min=7.0km az=176.1*
*IDC **20** 23:24:49.9 ± 0.8, 21˚.87S × 68˚.32W, h110km ± 8km, mb3.7/4, mb1 3.8/7, mb1mx3.6/33, mbtmp4.0/7, Error ellipse: s-maj=22.8km s-min=18.1km az=115.0*
*GUC **20** 23:24:50.8 ± 0.6, 21˚.89S × 68˚.61W, h125km ± 5km, ML4.1*

ISC 20 23:24:49.5 ± 0.8, 21˚.89S ± 0˚.05 × 68˚.30W ± 0˚.07, h111km ± 7km, n23, σ 1° 18/30, mb4.1/4, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.88**	**276**	*i*P	**Pn**	**23 25 10.8**	**+0.9**
PB09				*i* S	**Sn**	**23 25 25.5**	**+0.4**
PB09				IAML		23 25 27.8	
	comp=E,13µm,0.4s						
LVC	**Limon Verde**	**0.91**	**218**	P	**Pn**	**23 25 11.4**	**+1.0**
	comp=E,7µm,0.3s,baz=22,slow=7.5,SNR=908						
LVC				S	**Sn**	**23 25 26.6**	**+0.5**
	comp=E,10µm,0.3s,baz=246,slow=20,SNR=133						
PB01	**IPOC Station P**	**1.39**	**307**	*i*P	**Pn**	**23 25 15.5**	**+0.3**
PB01				*i* S	**Sn**	**23 25 34.6**	**0.0**
PB01				IAML		23 25 36.9	
	comp=E,3µm,0.2s						
PB06	**IPOC Station P**	**1.43**	**235**	*i*P	**Pn**	**23 25 16.1**	**+0.4**
PB06				*i* S	**Sn**	**23 25 35.5**	**-0.2**
PB06				IAML		23 25 35.9	
	comp=N,4µm,0.4s						
PB07	**IPOC Station P**	**1.48**	**276**	*i*P	**Pn**	**23 25 16.2**	**-0.2**
PB07				*i* S	**Sn**	**23 25 35.7**	**-1.0**
PB07				IAML		23 25 36.7	
	comp=E,2µm,0.3s						
PB04	**IPOC Station P**	**1.77**	**255**	*i*P	**Pn**	**23 25 19.3**	**-0.6**
PB04				*i* S	**Sn**	**23 25 41.0**	**-2.0**
PB04				IAML		23 25 47.5	
	comp=E,2µm,0.6s						
PB08	**IPOC Station P**	**1.91**	**335**	*i*P	**Pn**	**23 25 23.9**	**+2.0**
PB08				*i* S	**Sn**	**23 25 48.4**	**+1.9**
PB08				IAML		23 25 49.5	
	comp=E,1µm,0.7s						
HMBC	**Humberstone**	**2.18**	**317**	*i*P	**Pn**	**23 25 24.7**	**-0.3**
HMBC				*i* S	**Sn**	**23 25 50.8**	**-1.4**
HMBC				IAML		23 25 52.6	
	comp=E,3µm,0.6s						
PB11	**IPOC Station P**	**2.47**	**329**	*i*P	**Pn**	**23 25 28.9**	**+0.1**
PB11				*i* S	**Sn**	**23 25 58.7**	**-0.1**
PB10	**IPOC Station P**	**2.63**	**232**	IAML		23 26 14.5	
	comp=E,1µm,0.8s						
PSGC	**Pisagua**	**2.85**	**323**	IAML		23 26 11.3	
	comp=E,563nm,0.6s						
MNMC	**Minye Minye**	**3.00**	**336**	IAML		23 26 14.6	
	comp=E,913nm,0.5s						
LPAZ	**La Paz**	**5.57**	**2**	P	**Pn**	**23 26 12.4**	**+1.7**
	comp=E,0.7nm,0.3s,baz=125,slow=4.0,SNR=23						
SIV	**San Ignacio**	**9.01**	**51**	P	**Pn**	**23 26 56.3**	**-0.4**
	comp=E,5.5nm,0.3s,baz=244,slow=12,SNR=51						
SIV				S	**Sn**	**23 28 33.0**	**-3.6**
	comp=E,0.6nm,0.3s,baz=126,slow=23,SNR=3.8						
CPUP	**Villa Florida**	**10.95**	**116**	P	**Pn**	**23 27 22.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=304,slow=12,SNR=5.2						
TXAR	**Lajitas Array**	**61.27**	**325**	P	**P**	**23 34 52.7**	**-0.6**
	comp=E,0.2nm,0.6s,baz=123,slow=9.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P	**P**	**23 36 30.8**	**+0.4**
	comp=E,2.3nm,0.6s,baz=258,slow=5.2,SNR=39						
MAW	**Mawson**	**83.80**	**163**	P	**P**	**23 37 07.1**	**+1.1**
	comp=E,1.6nm,0.8s,baz=215,slow=16,SNR=4.7						
YKA	**Yellowknife Ar**	**91.74**	**340**	P	**P**	**23 37 44.5**	**+0.5**
	comp=E,1.3nm,0.7s,baz=136,slow=4.5,SNR=13						
ASAR	**Alice Springs**	**129.83**	**207**	PKP	**PKPdf**	**23 43 46.8**	**+0.2**
	comp=E,1.0nm,0.8s,baz=171,slow=3.1,SNR=6.4						
WRA	**Warramunga Arr**	**132.90**	**210**	PKP	**PKPdf**	**23 43 52.8**	**+0.3**
	comp=E,0.6nm,0.6s,baz=161,slow=1.8,SNR=9.7						
ZALV	**Zalesovo Beam**	**142.06**	**26**	PKP	**PKPdf**	**23 44 08.0**	**-0.2**
	comp=E,0.9nm,0.5s,baz=308,slow=4.7,SNR=2.7						
MKAR	**Makanchi Array**	**145.61**	**37**	PKPbc	**PKPab**	**23 44 15.7**	**+0.1**
	comp=E,0.5nm,0.4s,baz=337,slow=2.9,SNR=9.9						

*MOS **20** 23:31:00.9 ± 1.5, 73˚.72N × 8˚.48E, h10km, mb4.5/23, Error ellipse: s-maj=23.3km s-min=4.6km az=95.2*
*IDC **20** 23:31:00.9 ± 0.5, 73˚.62N × 8˚.10E, h0km, mb4.0/25, mb1 4.1/32, mb1mx4.0/58, mbtmp4.0/32, ML3.4/6, MS3.4/22, Ms1 3.4/22, ms1mx3.3/44, Error ellipse: s-maj=12.0km s-min=9.1km az=70.0*
*ISCJB **20** 23:31:00.6 ± 0.2, 73˚.67N ± 0˚.03 × 8˚.5E ± 0˚.1, h10km, mb4.2/56, MS3.4/19, Error ellipse: s-maj=4.5km s-min=3.5km az=158.3*
*NAO **20** 23:31:01.3 ± 2.0, 73˚.66N × 8˚.90E, ML3.8*
*NEIC **20** 23:31:02.5 ± 0.2, 73˚.64N × 8˚.33E, h10km, mb4.5/22, Error ellipse: s-maj=5.7km s-min=4.2km az=68.0*

*CSEM **20** 23:31:02.5 ± 0.1, 73˚.69N × 8˚.51E, h14km, mb4.4/23, Error ellipse: s-maj=5.5km s-min=4.0km az=66.0*
*BER **20** 23:31:03.9 ± 3.0, 73˚.72N × 8˚.34E, h23km ± 59km, ML3.8(NAO)*

ISC 20 23:31:02.4 ± 0.4, 73˚.64N ± 0˚.05 × 8˚.43E ± 0˚.05, h10km, n284, σ 1° 80/285, mb4.3/56, MS3.4/19, 19C-11D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**3.04**	**68**	P	**Pn**	**23 31 48.1**	**-2.3**
BJO	**Bjornoya**	**3.09**	**68**	P	**Pn**	**23 31 48.1**	**-3.0**
BJO	**Bjornoya**	**3.09**	**68**	P	Pn	23 31 48.1	-3.0
HSPB	**Hornsund (broa**	**3.83**	**25**	*e*P	**Pn**	**23 31 58.8**	**-2.5**
HSPB	**Hornsund (broa**	**3.83**	**25**	*e*P	**Pn**	**23 31 58.8**	**-2.5**
	SNR=53						
HSP	**Hornsund**	**3.84**	**25**	Pn	**Pn**	**23 31 58.8**	**-2.6**
BRBA	**Barentsburg A**	**4.67**	**15**	Pn	**Pn**	**23 32 10.4**	**-2.3**
SPA0	**Spitsbergen Ar**	**4.96**	**19**	Pn	**Pn**	**23 32 14.9**	**-1.8**
	baz=193,slow=12						
SPA0	**Spitsbergen Ar**	**4.96**	**19**	Pn	**Pn**	**23 32 14.9**	**-1.8**
	baz=193,slow=12						
SPA0	**Spitsbergen Ar**	**4.96**	**19**	Pn	**Pn**	**23 32 14.9**	**-1.8**
	baz=193,slow=12,SNR=237						
SPA0	**Spitsbergen Ar**	**4.96**	**19**	*e*Pn	**Pn**	**23 32 15.1**	**-1.7**
SPITS	**Spitsbergen Ar**	**4.96**	**19**	Pn	**Pn**	**23 32 14.9**	**-1.8**
	baz=190,slow=14,SNR=242						
SPITS				LR	LR	23 34 00.2	
	comp=Z,243nm,19.4s,baz=290,slow=36						
HOPEN	**Hopen**	**5.15**	**48**	*e*P	**Pn**	**23 32 16.1**	**-3.3**
HOPEN	**Hopen**	**5.15**	**48**	*e*P	**Pn**	**23 32 16.1**	**-3.3**
	SNR=53						
TRO	**Tromso**	**5.21**	**135**	P	**Pn**	**23 32 20.1**	**0.0**
KBS	**Kingsbay**	**5.38**	**7**	*e*P	**Pn**	**23 32 20.2**	**-2.4**
KBS	**Kingsbay**	**5.38**	**7**	*e*P	**Pn**	**23 32 19.8**	**-2.8**
KBS	**Kingsbay**	**5.38**	**7**	*e*Pn	**Pn**	**23 32 19.8**	**-2.8**
KBS	**Kingsbay**	**5.38**	**7**	*e*P	**Pn**	**23 32 20.2**	**-2.4**
	SNR=53						
KBS	**Kingsbay**	**5.38**	**7**	*e*Pn	**Pn**	**23 32 19.8**	**-2.8**
HAMF	**Hammerfest**	**5.56**	**115**	*e*P	**Pn**	**23 32 25.4**	**+0.4**
HAMF	**Hammerfest**	**5.56**	**115**	*e*P	**Pn**	**23 32 25.4**	**+0.4**
	SNR=53						
JNE	**Jan Mayen East**	**5.74**	**251**	*e*P	**Pn**	**23 32 26.1**	**-1.3**
JNE	**Jan Mayen East**	**5.74**	**251**	*e*P	**Pn**	**23 32 26.1**	**-1.3**
	SNR=53						
JNW	**Jan Mayen West**	**5.75**	**251**	*e*P	**Pn**	**23 32 26.1**	**-1.5**
JNW	**Jan Mayen West**	**5.75**	**251**	*e*P	**Pn**	**23 32 26.1**	**-1.5**
	SNR=53						
LOF	**Lofoten**	**5.78**	**161**	*e*P	**Pn**	**23 32 26.7**	**-1.3**
LOF	**Lofoten**	**5.78**	**161**	*e*P	**Pn**	**23 32 26.7**	**-1.3**
	SNR=53						
JMIC	**Jan Mayen**	**5.79**	**251**	Pn	**Pn**	**23 32 25.4**	**-2.7**
	5.8nm,0.3s,baz=177,slow=12,SNR=5.9						
JMIC				LR	LR	23 33 58.4	
	comp=Z,171nm,19.8s,baz=74,slow=31						
JMIC	**Jan Mayen**	**5.79**	**251**	*e*P	**Pn**	**23 32 25.3**	**-2.9**
KIF	**Kilpisjarvi**	**6.11**	**133**	*e*P	**Pn**	**23 32 32.4**	**-0.1**
KIF	**Kilpisjarvi**	**6.11**	**133**	*e*P	**Pn**	**23 32 32.4**	**-0.1**
	SNR=51						
KTK1	**Kautokeino**	**6.63**	**127**	P	**Pn**	**23 32 38.9**	**-0.7**
ARA0	**ARCESS Array S**	**6.78**	**119**	Pn	**Pn**	**23 32 41.0**	**-0.7**
	baz=315,slow=8.6						
ARA0				Sn	**Sn**	**23 33 53.0**	**-5.8**
	baz=311,slow=22						
ARA0	**ARCESS Array S**	**6.78**	**119**	Pn	**Pn**	**23 32 41.0**	**-0.7**
	baz=315,slow=8.6						
ARA0				Sn	**Sn**	**23 33 53.0**	**-5.8**
	baz=311,slow=22						
ARA0	**ARCESS Array S**	**6.78**	**119**	Pn	**Pn**	**23 32 41.0**	**-0.7**
	baz=315,slow=8.4,SNR=9.9						
ARA0	**ARCESS Array S**	**6.78**	**119**	*e*Pn	**Pn**	**23 32 41.0**	**-0.7**
ARA0				*e*Sn	**Sn**	**23 33 51.0**	**-7.7**
ARCES	**ARCESS Array B**	**6.78**	**119**	Pn	**Pn**	**23 32 40.8**	**-0.9**
	1.2nm,0.3s,baz=316,slow=9.1,SNR=39						
ARCES				Sn	**Sn**	**23 33 51.0**	**-7.7**
	0.8nm,0.3s,baz=301,slow=20,SNR=3.1						
ARCES				LR	LR	23 35 37.5	
	comp=Z,218nm,20.9s,baz=299,slow=40						
ARE0	**ARCESS Array S**	**6.78**	**119**	*e*P	**Pn**	**23 32 41.4**	**-0.3**
ARE0	**ARCESS Array S**	**6.78**	**119**	*e*Pn	**Pn**	**23 32 41.3**	**-0.3**
ARE0	**ARCESS Array S**	**6.78**	**119**	*e*Pn	**Pn**	**23 32 41.4**	**-0.3**
KEV	**Kevo**	**7.00**	**115**	*e*P	**Pn**	**23 32 44.3**	**-0.5**
KEV	**Kevo**	**7.00**	**115**	*e*P	**Pn**	**23 32 43.8**	**-1.0**
KEV	**Kevo**	**7.00**	**115**	P	**

comp=Z,124nm,19.0s
CLL Collm 22.50 172 *i* P **P** 23 36 07.1 +5.5
comp=Z,19nm,1.3s
CLL LmV 23 44 00.0
comp=Z,100nm,19.6s
CLL Collm 22.50 172 *i* P **P** 23 36 07.1 +5.5
CLL pmax pmax
comp=Z,19nm,1.3s
BRG Berggiesshubel 22.97 171 *e*P **P** 23 36 06.9 +0.4
comp=Z,7.9nm,1.3s
BRG Berggiesshubel 22.97 171 *e*P **P** 23 36 06.9 +0.4
BRG pmax pmax
comp=Z,8.0nm,1.3s
NKC Novy Kostel 23.55 174 *e*P **P** 23 36 14.0 +1.5
NKC Novy Kostel 23.55 174 *e*P **P** 23 36 14.0 +1.5
NKC Novy Kostel 23.55 174 P **P** 23 36 14.0 +1.5
DPC Dobruska-Polom 23.62 167 *e*P **P** 23 36 15.7 +2.5
DPC *e*x x 23 36 25.0
DPC *e*x x 23 36 34.0
DPC Dobruska-Polom 23.62 167 *e*P **P** 23 36 15.7 +2.5
DPC Dobruska-Polom 23.62 167 P **P** 23 36 15.7 +2.5
NRIK Noril'sk 23.72 60 P **P** 23 36 15.0 +1.1
comp=Z,5.9nm,1.1s,baz=323,slow=8.1,SNR=12
NRIK LR LR 23 45 59.2
comp=Z,40nm,21.9s,baz=248,slow=38
GOPC GO Pecny, Ondr 23.97 170 AMS AMS 23 45 40.0
OJC Ojcow 24.01 162 *e*P **P** 23 36 17.8 +0.9
OJC Ojcow 24.01 162 *e*P **P** 23 36 17.8 +0.9
OJC Ojcow 24.01 162 *e*P **P** 23 36 17.8 +0.9
OJC Ojcow 24.01 162 *e*P **P** 23 36 19.2 +2.3
comp=Z,20nm,1.3s
MORC Moravsky Berou 24.27 166 ⇓ *i*P **P** 23 36 20.0 +0.7
MORC Moravsky Berou 24.27 166 ⇓P **P** 23 36 20.0 +0.7
MORC Moravsky Berou 24.27 166 *e*P **P** 23 36 20.0 +0.7
TREC Trest 24.62 169 *e*P **P** 23 36 26.1 +3.6
TREC Trest 24.62 169 *e*P **P** 23 36 26.1 +3.6
VRAC Vranov 24.67 167 P **P** 23 36 23.5 +0.6
comp=Z,5.3nm,1.0s,baz=351,slow=11,SNR=9.3
VRAC LR LR 23 46 17.8
comp=Z,84nm,18.4s,baz=351,slow=37
VRAC Vranov 24.67 167 ⇑ *i*P **P** 23 36 24.5 +1.6
VRAC Vranov 24.67 167 ⇑P **P** 23 36 24.5 +1.6
AKASG Malin Array Be 24.68 147 P **P** 23 36 22.5 -0.5
comp=Z,1.4nm,0.6s,baz=345,slow=9.9,SNR=8.4
AKASG LR LR 23 45 48.9
comp=Z,151nm,21.2s,baz=15,slow=36
AKBB Malin Array Si 24.68 147 *e*P **P** 23 36 22.5 -0.5
AKBB pmax pmax
comp=Z,21nm,1.4s
AKBB Malin Array Si 24.68 147 *e*P **P** 23 36 22.5 -0.5
comp=Z,21nm,1.4s
AKBB Malin Array Si 24.68 147 *e*P **P** 23 36 22.5 -0.5
comp=Z,21nm,1.4s
KIEV Kiev 24.69 147 *i*P **P** 23 36 22.6 -0.4
KIEV pmax pmax
comp=Z,8.0nm,1.5s
KHC Kasperske Hory 24.69 172 *e*P **P** 23 36 24.6 +1.4
KHC AMS AMS 23 45 50.0
KHC Kasperske Hory 24.69 172 *e*P **P** 23 36 24.6 +1.4
KHC Kasperske Hory 24.69 172 P **P** 23 36 24.6 +1.4
NIE Niedzica 24.85 161 *e*P **P** 23 36 26.1 +1.6
NIE Niedzica 24.85 161 *e*P **P** 23 36 26.1 +1.6
NIE Niedzica 24.85 161 *e*P **P** 23 36 26.1 +1.6
KWP Kalwaria Pacla 24.88 158 ⇑ *i*P **P** 23 36 24.5 -0.3
KWP Kalwaria Pacla 24.88 158 ⇑P **P** 23 36 24.5 -0.3
KWP Kalwaria Pacla 24.88 158 ⇑ *i*P **P** 23 36 24.5 -0.3
STHS Stebnicka Huta 24.94 160 *e*P **P** 23 36 27.2 +1.9
STHS pmax pmax
comp=Z,6.0nm,1.1s
STHS Stebnicka Huta 24.94 160 *e*P **P** 23 36 27.2 +1.9
comp=Z,5.6nm,1.1s
STHS Stebnicka Huta 24.94 160 *e*P **P** 23 36 27.2 +1.9
GEC2 GERESS Array S 24.98 172 *e*P **P** 23 36 28.1 +2.2
GEC2 pmax pmax
comp=Z,10.0nm,1.3s
GEC2 GERESS Array S 24.98 172 *e*P **P** 23 36 28.0 +2.2
comp=Z,10nm,1.3s
GEC2 GERESS Array S 24.98 172 *e*P **P** 23 36 28.1 +2.2
comp=Z,10nm,1.3s
GERES GERESS Array B 24.98 172 P **P** 23 36 27.3 +1.4
comp=Z,3.7nm,1.0s,baz=358,slow=7.2,SNR=15
GERES LR LR 23 46 24.8
comp=Z,79nm,19.4s,baz=310,slow=37
GEA0 GERESS Array S 24.99 172 *e*P **P** 23 36 27.4 +1.5
GEA0 GERESS Array S 24.99 172 *e*P **P** 23 36 27.4 +1.5
BFO Black Forest 25.39 180 *i*P **P** 23 36 31.8 +2.3
BFO Black Forest 25.39 180 *e*P **P** 23 36 31.2 +1.7
comp=Z,21nm,1.6s
BFO Black Forest 25.39 180 *e*P **P** 23 36 31.2 +1.7
comp=Z,21nm,1.6s
CRVS Cervenica-Dubn 25.47 160 *e*P **P** 23 36 32.5 +2.4
CRVS Cervenica-Dubn 25.47 160 *e*P **P** 23 36 32.5 +2.4
CRVS Cervenica-Dubn 25.47 160 *e*P **P** 23 36 32.5 +2.4
KOLS Kolonicke sedl 25.52 159 *e*P **P** 23 36 31.9 +1.3
KOLS pmax pmax
comp=Z,10.0nm,1.2s
KOLS Kolonicke sedl 25.52 159 *e*P **P** 23 36 31.9 +1.3
comp=Z,10nm,1.2s
KOLS Kolonicke sedl 25.52 159 *e*P **P** 23 36 31.9 +1.3
VYHS Vyhne 25.64 164 *e*P **P** 23 36 32.4 +0.7
VYHS pmax pmax
comp=Z,6.0nm,1.6s
VYHS Vyhne 25.64 164 *e*P **P** 23 36 32.4 +0.7
comp=Z,5.7nm,1.6s
VYHS Vyhne 25.64 164 *e*P **P** 23 36 32.4 +0.7
KECS Kecovo 25.79 161 *e*P **P** 23 36 34.5 +1.4
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 25.79 161 *e*P **P** 23 36 34.5 +1.4
comp=Z,3.0nm,0.8s
KECS Kecovo 25.79 161 *e*P **P** 23 36 34.5 +1.4
UZH Uzhgorod 25.82 159 *e*P **P** 23 36 33.7 +0.4
VSR Storozhevoye 26.00 133 *e*P **P** 23 36 32.8 -2.1
VSR pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 26.06 104 P **P** 23 36 36.2 +0.8
comp=Z,2.6nm,0.6s,baz=317,slow=9.6,SNR=10
ARU Arti 26.06 104 *d i*P **P** 23 36 36.3 +0.9
ARU 23 37 14.8
ARU PPP PPP 23 37 25.3
ARU 23 39 58.6
ARU S **S** 23 41 09.6 +3.5
ARU SS **SnSn** 23 42 05.0 +1.7
ARU pmax pmax
comp=Z,17nm,1.7s
ARU Arti 26.06 104 *e*P **P** 23 36 36.2 +0.8
comp=Z,65nm,1.6s
ARU Arti 26.06 104 *e*P **P** 23 36 36.2 +0.8
comp=Z,65nm,1.6s
SVE Sverdlovsk 26.29 101 *e*P **P** 23 36 38.8 +1.3
SVE pmax pmax
comp=Z,21nm,1.5s
PSZ Piszkesteto 26.30 162 ⇑ *i*P **P** 23 36 35.7 -2.0
PSZ Piszkesteto 26.30 162 ⇑P **P** 23 36 35.7 -2.0
PSZ Piszkesteto 26.30 162 *e*P **P** 23 36 35.8 -2.0
comp=Z,19nm,1.5s
PSZ Piszkesteto 26.30 162 *e*P **P** 23 36 35.9 -1.9
comp=Z,19nm,1.5s
VRH Novokhopyorsk 26.56 129 *e*P **P** 23 36 39.6 -0.3
VRH pmax pmax
comp=Z,10.0nm,1.2s
SORM Soroca 27.06 150 ⇑ *i*P **P** 23 36 44.6 +0.2
SORM Soroca 27.06 150 ⇑P **P** 23 36 44.6 +0.2
SORM Soroca 27.06 150 ⇑ *i*P **P** 23 36 44.6 +0.2
BUR08 Bucovina Ar. S 27.12 155 *e*P **P** 23 36 49.3 +4.1
BURAR Bucovina Array 27.15 155 ⇓ *i*P **P** 23 36 47.1 +1.6
BURAR Bucovina Array 27.15 155 ⇓P **P** 23 36 47.1 +1.6
BURAR Bucovina Array 27.15 155 ⇓ *i*P **P** 23 36 47.1 +1.6
FRB Frobisher Bay 27.46 290 LR LR 23 46 33.8
comp=Z,46nm,20.5s,baz=48,slow=34
DRGR 27.68 159 ⇓ *i*P **P** 23 36 51.9 +1.7
DRGR 27.68 159 ⇓P **P** 23 36 51.9 +1.7
DRGR 27.68 159 ⇓ *i*P **P** 23 36 51.9 +1.7
SIRR Siria 28.10 160 ⇓ *i*P **P** 23 36 56.6 +2.8
BZS Buzias 28.74 161 ⇑ *i*P **P** 23 37 01.2 +1.7
BZS Buzias 28.74 161 ⇑P **P** 23 37 01.2 +1.7
BZS Buzias 28.74 161 ⇑ *i*P **P** 23 37 01.2 +1.7
DOPR Dopca 28.80 155 ⇑ *i*P **P** 23 36 56.5 -3.6
TIXI Tiksi 30.22 33 P **P** 23 37 13.5 +1.1
comp=Z,0.8nm,0.3s,baz=348,slow=9.4,SNR=6.2
TIXI LR LR 23 50 26.9
comp=Z,48nm,18.4s,baz=220,slow=38
TIXI Tiksi 30.22 33 *ce*P **P** 23 37 13.6 +1.2
TIXI pmax pmax
comp=Z,5.0nm,1.2s
AKTO Aktyubinsk 31.27 110 P **P** 23 37 22.9 +1.1
comp=Z,2.3nm,0.8s,baz=327,slow=12,SNR=6.8
AKTO LR LR 23 50 50.3
comp=Z,103nm,18.2s,baz=351,slow=38
ZRNK Zerenda 32.03 96 *e*P **P** 23 37 29.9 +1.4
ZRNK pmax pmax
comp=Z,3.0nm,0.8s
ZRNK Zerenda 32.03 96 *e*P **P** 23 37 29.9 +1.4
comp=Z,2.8nm,0.8s
ZRNK Zerenda 32.03 96 *e*P **P** 23 37 29.9 +1.4
comp=Z,2.8nm,0.8s
BVAR Borovoye Array 32.35 95 P **P** 23 37 33.1 +1.7
comp=Z,3.0nm,0.7s,baz=330,slow=8.6,SNR=23
ABKAR Akbulak array 32.85 109 *e*P **P** 23 37 36.9 +1.2
ABKAR Akbulak array 32.85 109 *e*P **P** 23 37 36.9 +1.2
KIV Kislovodsk 33.64 133 *e*P **P** 23 37 44.7 +1.9
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,62nm,15.0s
KIV Kislovodsk 33.64 133 *e*P **P** 23 37 44.1 +1.3
comp=Z,9.9nm,1.2s
KIV Kislovodsk 33.64 133 *e*P **P** 23 37 44.1 +1.3
comp=Z,9.9nm,1.2s
KVAR Kislovodsk Arr 33.64 133 P **P** 23 37 44.1 +1.2
comp=Z,6.6nm,1.1s,baz=307,slow=4.3,SNR=3.7
KBZ Khabaz 33.90 133 LR LR 23 52 06.2
comp=Z,92nm,18.8s,baz=318,slow=37
SCHQ Schefferville 34.52 279 LR LR 23 50 20.7
comp=Z,85nm,18.8s,baz=78,slow=34
ESDC Sonseca Array 34.56 197 P **P** 23 37 50.5 -0.2
comp=Z,0.1nm,0.3s,baz=357,slow=9.8,SNR=5.4
ZAA1 Zalesovo Array 35.61 81 *e*P **P** 23 38 00.9 +1.3
ZAA1 Zalesovo Array 35.61 81 *e*P **P** 23 38 00.9 +1.3
ZALV Zalesovo Beam 35.62 81 P **P** 23 38 00.9 +1.3
comp=Z,0.6nm,0.3s,baz=332,slow=8.6,SNR=3.3
ZALV LR LR 23 55 33.4
comp=Z,52nm,19.8s,baz=250,slow=41
BR231 Keskin MP Arra 35.83 147 *e*P **P** 23 38 05.1 +3.4
BR101 Keskin Array S 36.07 146 *e*P **P** 23 38 05.2 +1.3
BR101 Keskin Array S 36.07 146 *e*P **P** 23 38 05.2 +1.3
BRTR Keskin Array B 36.07 146 P **P** 23 38 05.2 +1.3
comp=Z,1.4nm,0.8s,baz=340,slow=5.9,SNR=7.5
BRTR LR LR 23 53 59.6
comp=Z,36nm,19.7s,baz=32,slow=38
INK Inuvik 36.17 337 P **P** 23 38 04.2 0.0
comp=Z,4.5nm,0.9s,baz=342,slow=18,SNR=3.7
INK Inuvik 36.17 337 *e*P **P** 23 38 04.2 0.0
INK pmax pmax
comp=Z,12nm,1.4s
INK Inuvik 36.17 337 *e*P **P** 23 38 04.2 0.0
comp=Z,12nm,1.4s
INK Inuvik 36.17 337 *e*P **P** 23 38 04.2 0.0
comp=Z,12nm,1.4s
KURK Kurchatov 36.74 89 *e*P **P** 23 38 10.0 +0.7
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 36.74 89 *e*P **P** 23 38 10.0 +0.7
comp=Z,4.6nm,1.0s
KURK Kurchatov 36.74 89 *e*P **P** 23 38 10.0 +0.7
comp=Z,4.6nm,1.0s
KURBB Kurchatov Arra 36.80 89 P **P** 23 38 10.6 +0.8
comp=Z,2.0nm,0.8s,baz=333,slow=7.0,SNR=12
BILL Bilibino 37.84 13 ⇓ *e*P **P** 23 38 19.1 +0.7
BILL 23 38 22.9
BILL 23 39 46.0
BILL pmax pmax
comp=Z,6.0nm,1.2s
YKA Yellowknife Ar 38.96 322 P **P** 23 38 26.9 -0.9
comp=Z,5.4nm,1.1s,baz=20,slow=8.8,SNR=17
YKA LR LR 23 53 59.7
comp=Z,4.6nm,18.5s,baz=0.0,slow=36
YKB5 Yellowknife Ar 38.96 322 *e*P **P** 23 38 26.9 -0.9
YKB5 Yellowknife Ar 38.96 322 *e*P **P** 23 38 26.9 -0.9
EGAK Eagle 40.38 340 *e*P **P** 23 38 39.8 +0.1
comp=Z,5.0nm,1.1s
EGAK Eagle 40.38 340 *e*P **P** 23 38 39.8 +0.1
comp=Z,5.0nm,1.1s
ILAR Eielson Array 40.88 344 P **P** 23 38 44.5 +0.6
comp=Z,2.0nm,0.9s,baz=3.6,slow=7.2,SNR=22
ILB Eielson Array 40.88 344 *e*P **P** 23 38 44.5 +0.6
ILB Eielson Array 40.88 344 *e*P **P** 23 38 44.5 +0.6
MK32 Makanchi Array 41.33 88 *e*P **P** 23 38 48.0 +0.2
MK32 Makanchi Array 41.33 88 *e*P **P** 23 38 48.0 +0.2
MKAR Makanchi Array 41.33 88 P **P** 23 38 48.0 +0.2
comp=Z,2.5nm,1.0s,baz=359,slow=7.4,SNR=8.6
MKAR LR LR 23 58 59.9
comp=Z,53nm,19.5s,baz=280,slow=40
MKAR Makanchi Array 41.33 88 P **P** 23 38 48.0 +0.2
MKAR Makanchi Array 41.33 88 P **P** 23 38 48.0 +0.2
KKAR Karatay Array 41.40 102 *e*P **P** 23 38 50.3 +2.0
KKAR Karatay Array 41.40 102 *e*P **P** 23 38 50.3 +2.0
SEY Seymchan 41.59 24 P **P** 23 38 49.9 +0.3
comp=Z,3.1nm,0.2s,baz=344,slow=9.1,SNR=5.4
SEY Seymchan 41.59 24 *ce*P **P** 23 38 50.4 +0.7
MOY Mondy 42.07 68 *e*P **P** 23 38 50.4 -3.4
GEYT Alibeck 42.94 118 P **P** 23 39 02.6 +1.6
comp=Z,2.4nm,0.8s,baz=332,slow=8.4,SNR=6.9
GEYT LR LR 23 59 19.7
comp=Z,114nm,18.8s,baz=190,slow=40
SCM Sheep Creek Mo 43.82 344 *e*P **P** 23 39 03.4 -4.5
SCM Sheep Creek Mo 43.82 344 *e*P **P** 23 39 03.4 -4.5
TRQ Mont Tremblant 44.42 280 *e*P **P** 23 39 12.9 +0.1
TRQ *ep*P **sP** 23 39 17.2 0.0
TRQ Mont Tremblant 44.42 280 *e*P **P** 23 39 12.9 +0.1
TRQ *ep*P **sP** 23 39 17.2 0.0
DLBC Dease Lake 45.25 331 LR LR 00 00 30.6
comp=Z,78nm,18.7s,baz=28,slow=39
ULM Lac du Bonnet 46.34 301 LR LR 23 58 22.7
comp=Z,84nm,19.5s,baz=354,slow=36
SONA1 Songino Array 46.98 66 *e*P **P** 23 39 34.3 +1.2
SONA1 Songino Array 46.98 66 *e*P **P** 23 39 34.3 +1.2
SONA0 Songino Array 46.99 66 *e*P **P** 23 39 34.3 +1.1
comp=Z,12nm,1.4s
SONA0 Songino Array 46.99 66 *e*P **P** 23 39 34.3 +1.1
comp=Z,12nm,1.4s
SONM Songino Array 46.99 66 P **P** 23 39 34.3 +1.1
comp=Z,2.4nm,0.9s,baz=328,slow=5.8,SNR=16
ULN Ulaanbaatar 47.13 65 *ce*P **P** 23 39 35.6 +1.3
ULN pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 47.13 65 *e*P **P** 23 39 35.9 +1.6
comp=Z,11nm,1.2s
TAM Tamanrasset 50.90 183 *e*P **P** 23 40 05.9 +2.5
TAM pmax pmax
comp=Z,4.0nm,1.2s
TAM Tamanrasset 50.90 183 *e*P **P** 23 40 05.9 +2.5
comp=Z,3.8nm,1.2s
TAM Tamanrasset 50.90 183 *e*P **P** 23 40 05.9 +2.5
comp=Z,3.8nm,1.2s
ECSD EROS Data Cent 52.61 298 *e*P **P** 23 40 16.3 +0.5
comp=Z,5.2nm,1.1s
ECSD EROS Data Cent 52.61 298 *e*P **P** 23 40 16.3 +0.5
comp=Z,5.2nm,1.1s
NEW Newport 52.89 317 LR LR 00 03 27.9
comp=Z,97nm,18.1s,baz=34,slow=37
CHMT Chamberlain Mo 53.41 313 *e*P **P** 23 40 25.2 +3.3
MSO Missoula 53.63 314 *e*P **P** 23 40 23.6 +0.2
MSO Missoula 53.63 314 *e*P **P** 23 40 23.6 +0.2
MCMT McKenzie Canyo 55.32 312 *e*P **P** 23 40 36.5 +0.6
MCMT McKenzie Canyo 55.32 312 *e*P **P** 23 40 36.5 +0.6
IMW Indian Meadow 55.80 310 *e*P **P** 23 40 40.4 +1.0
comp=Z,4.9nm,1.1s
IMW Indian Meadow 55.80 310 *e*P **P** 23 40 40.4 +1.0
comp=Z,4.9nm,1.1s
K22A Casper 56.00 306 *e*P **P** 23 40 40.5 -0.3
comp=Z,9.4nm,1.2s
K22A Casper 56.00 306 *e*P **P** 23 40 40.5 -0.3
comp=Z,9.4nm,1.2s
PD31 Pinedale Array 56.58 309 *e*P **P** 23 40 44.2 -0.7
PD31 Pinedale Array 56.58 309 *e*P **P** 23 40 44.1 -0.7
PDAR Pinedale Array 56.58 309 P **P** 23 40 44.1 -0.7
comp=Z,0.6nm,0.8s,baz=28,slow=6.7,SNR=5.9
HLID Hailey 56.85 313 *e*P **P** 23 40 46.5 -0.3
comp=Z,2.5nm,0.9s
HLID Hailey 56.85 313 *e*P **P** 23 40 46.5 -0.3
comp=Z,2.5nm,0.9s
O20A White River Ci 58.79 307 *e*P **P** 23 41 01.3 +0.8
comp=Z,9.7nm,1.1s
O20A White River Ci 58.79 307 *e*P **P** 23 41 01.3 +0.8
comp=Z,9.7nm,1.1s
TOA1 Torodi Ar. Sit 60.59 188 *e*P **P** 23 41 12.9 +0.1
comp=Z,16nm,1.5s
TOA1 Torodi Ar. Sit 60.59 188 *e*P **P** 23 41 12.9 +0.1
comp=Z,16nm,1.5s
TOA0 Torodi Ar. Sit 60.59 188 *e*P **P** 23 41 13.2 +0.4
TOA0 Torodi Ar. Sit 60.59 188 *e*P **P** 23 41 13.2 +0.4
TORD Torodi Ar. Bea 60.59 188 P **P** 23 41 12.9 0.0
comp=Z,2.9nm,1.0s,baz=359,slow=6.3,SNR=12
MJAR Matsushiro Arr 65.01 43 P **P** 23 41 42.2 +0.1
comp=Z,0.7nm,0.3s,baz=331,slow=7.4,SNR=5.1
LTX Lajitas 68.02 299 *e*P **P** 23 42 00.9 -0.6
LTX Lajitas 68.02 299 *e*P **P** 23 42 00.9 -0.6
LTX Lajitas 68.02 299 *e*P **P** 23 42 00.9 -0.6
TXAR Lajitas Array 68.02 299 P **P** 23 42 00.9 -0.7
comp=Z,0.9nm,1.0s,baz=359,slow=7.5,SNR=6.0
CM31 Chiang Mai Arr 72.58 84 *e*P **P** 23 42 30.5 +1.1
CM31 Chiang Mai Arr 72.58 84 *e*P **P** 23 42 30.5 +1.1
CMAR Chiang Mai Arr 72.58 84 P **P** 23 42 30.5 +1.1
comp=Z,0.5nm,0.3s,baz=301,slow=7.1,SNR=5.6
ASAR Alice Springs 122.25 62 PKP **PKPdf** 23 49 55.3 -1.5
comp=Z,0.5nm,0.6s,baz=349,slow=2.5,SNR=4.3
SNAA Sanae 145.26 186 P **PKPdf** 23 50 38.2 +0.1
MAW Mawson 145.35 147 PKPbc **PKPab** 23 50 38.6 +0.3
comp=Z,5.3nm,0.9s,baz=274,slow=4.3,SNR=6.3

*ISCJB **20** 23:51:47.0±0.5, 73.°65N±0.°05×8.°2E±0.°2, h10km, mb3.4/7, MS3.3/1, Error ellipse: s-maj=8.4km s-min=6.4km az=158.7*
*BER **20** 23:51:47.5±2.9, 73.°60N×6.°62E, h10km±600km, ML2.1*
*IDC **20** 23:51:48.4±0.7, 73.°61N×8.°10E, h0km, mb3.4/7, mb1 3.6/13, mb1mx3.5/46, mbtmp3.5/13, ML3.2/6, MS2.9/3, Ms1 2.8/3, ms1mx2.5/37, Error ellipse: s-maj=18.4km s-min=11.5km az=63.0*
ISC 20 23:51:49.0±0.7, 73.°65N±0.°07×8.°39E±0.°08, h10km, n25, σ1§32/25, mb3.4/7, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**3.83**	**25**	*e*P		**Pn**	**23 52 47.2**	**-0.6**
HSPB				*e*			23 53 09.0	
SPA0	**Spitsbergen Ar**	**4.95**	**19**	*e*P		**Pn**	**23 53 03.4**	**+0.1**
SPITS	**Spitsbergen Ar**	**4.95**	**19**	Pn		**Pn**	**23 53 03.4**	**+0.1**
	baz=188,slow=16,SNR=95							
HOPEN	**Hopen**	**5.15**	**48**	*e*P		**Pn**	**23 53 06.2**	**+0.2**
TRO	**Tromso**	**5.23**	**135**	*e*P		**Pn**	**23 53 08.3**	**+1.2**
KBS	**Kingsbay**	**5.37**	**7**	*e*P		**Pn**	**23 53 08.4**	**-0.6**
HAMF	**Hammerfest**	**5.58**	**115**	*e*P		**Pn**	**23 53 12.2**	**+0.3**
HAMF				IAML			23 54 19.3	
	comp=Z,3.3nm,0.7s							
JMIC	**Jan Mayen**	**5.79**	**251**	Pn		**Pn**	**23 53 12.9**	**-1.9**
	comp=Z,3.5nm,0.3s,baz=217,slow=20,SNR=3.0							
JMIC				LR		LR	23 54 46.9	
	comp=Z,46nm,18.2s,baz=64,slow=31							
LOF	**Lofoten**	**5.80**	**161**	*e*P		**Pn**	**23 53 15.0**	**+0.1**
LOF				IAML			23 54 17.4	
	comp=Z,4.8nm,0.6s							
KIF	**Kilpisjarvi**	**6.12**	**133**	*e*P		**Pn**	**23 53 20.5**	**+1.1**
ARCES	**ARCESS Array B**	**6.79**	**119**	Pn		**Pn**	**23 53 29.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=320,slow=12,SNR=30							
ARCES				Sn		**Sn**	**23 54 41.9**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=325,slow=23,SNR=2.6							
ARCES				LR		LR	23 55 50.5	
	comp=Z,60nm,20.8s,baz=60,slow=35							
ARE0	**ARCESS Array S**	**6.79**	**119**	*e*P		**Pn**	**23 53 29.4**	**+0.8**
KEV	**Kevo**	**7.02**	**115**	*e*P		**Pn**	**23 53 33.2**	**+1.5**
SCO	**Scoresbysund**	**9.80**	**266**	*i*P		**Pn**	**23 54 07.6**	**-2.1**
HFS	**Hagfors**	**12.73**	**169**	Pn		**Pn**	**23 55 02.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=352,slow=8.7,SNR=2.7							
FINES	**FINESS Array B**	**13.89**	**143**	Pn		**Pn**	**23 55 05.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=342,slow=8.7,SNR=3.0							
EKA	**Eskdalemuir Ar**	**18.98**	**201**	P		**Pn**	**23 56 11.0**	**+0.1**
	baz=17,slow=9.8,SNR=3.7							
AKASG	**Malin Array Be**	**24.70**	**147**	P		**P**	**23 57 09.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=348,slow=9.6,SNR=2.6							
GERES	**GERESS Array B**	**25.00**	**172**	P		**P**	**23 57 14.7**	**+2.1**
	comp=Z,1.2nm,0.9s,baz=2.1,slow=7.9,SNR=7.3							
BRTR	**Keskin Array B**	**36.09**	**146**	P		**P**	**23 58 51.3**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=339,slow=7.7,SNR=2.4							
KEST	**Kesra**	**38.00**	**179**	LR		LR	00 14 13.0	
	comp=Z,43nm,19.0s,baz=216,slow=35							
YKA	**Yellowknife Ar**	**38.94**	**322**	P		**P**	**23 59 14.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=17,slow=8.2,SNR=3.9							
ILAR	**Eielson Array**	**40.87**	**344**	P		**P**	**23 59 31.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=3.6,slow=6.5,SNR=4.1							
PDAR	**Pinedale Array**	**56.56**	**309**	P		**P**	**00 01 32.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=42,slow=9.7,SNR=3.0							
TORD	**Torodi Ar. Bea**	**60.61**	**187**	P		**P**	**00 02 00.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=352,slow=7.5,SNR=4.3							

*OMAN **20** 23:59:04.0, 28.°04N×56.°58E, h15km*
*TEH **20** 23:59:04.0, 28.°05N×56.°58E, h15km, ML3.0*
*ISCJB **20** 23:59:06.3±0.4, 27.°95N±0.°03×56.°53E±0.°08, h28km, Error ellipse: s-maj=10.7km s-min=3.6km az=2.8*
*CSEM **20** 23:59:06.4±0.2, 27.°94N×56.°59E, h19km, ML3.0, Error ellipse: s-maj=8.9km s-min=3.6km az=95.0*
*DSN **20** 23:59:08.5±1.2, 27.°73N×56.°69E, h15km, ML3.1, Error ellipse: s-maj=50.7km s-min=9.9km az=110.0*
ISC 20 23:59:07.7±1.1, 27.°91N±0.°03×56.°61E±0.°07, h28km, n39, σ1§07/47, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.46**	**188**	*e*Pg		**Pb**	**23 59 16.5**	**-0.9**
IBND				*e*Sg		**Sn**	**23 59 25.5**	**-0.2**
IBND				*e*AMB		AMB	23 59 31.1	
	comp=Z,20µm,0.1s							
IBND	**Bandar-abas**	**0.46**	**188**	*e*Pg		**Pb**	**23 59 16.5**	**-0.9**
IBND				*e*Sg		**Sn**	**23 59 25.5**	**-0.2**
GENO	**Geno**	**0.64**	**218**	*e*Pg		**Pb**	**23 59 19.8**	**-0.7**
GENO	**Geno**	**0.64**	**218**	*e*Pg		**Pb**	**23 59 19.8**	**-0.7**
BNDS	**Bandar-Abbas**	**0.64**	**218**	*e*Pg		**Pb**	**23 59 19.4**	**-1.1**
KHSK	**Kohestak**	**1.21**	**161**	*e*Pn		**Pn**	**23 59 28.2**	**-0.6**
KHSK	**Kohestak**	**1.21**	**161**	*e*Pn		**Pn**	**23 59 28.2**	**-0.6**
NGRK	**Negar Kerman**	**1.73**	**3**	*e*Pn		**Pn**	**23 59 34.4**	**-1.9**
NGRK	**Negar Kerman**	**1.73**	**3**	*e*Pn		**Pn**	**23 59 34.4**	**-1.9**
BANOM	**Banah**	**2.00**	**188**	*e*P		**Pn**	**23 59 38.8**	**-0.8**
	SNR=33							
BANOM	**Banah**	**2.00**	**188**	Pn		**Pn**	**23 59 38.8**	**-0.8**
	SNR=33							
BANOM				Sn		**Sn**	**00 00 03.9**	**+0.2**
	SNR=17							
BANOM	**Banah**	**2.00**	**188**	P		**Pn**	**23 59 38.8**	**-0.8**
	SNR=33							
BANOM				S		**Sn**	**00 00 03.9**	**+0.2**
	SNR=17							
BANOM	**Banah**	**2.00**	**188**	Pn		**Pn**	**23 59 38.8**	**-0.8**
	SNR=33							
BANOM				Sn		**Sn**	**00 00 03.9**	**+0.2**
	SNR=17							
KRBR	**Kerman**	**2.07**	**4**	*e*Pg		**Pn**	**23 59 40.0**	**-0.9**
TVBK	**TV Kerman**	**2.07**	**4**	*e*Pn		**Pn**	**23 59 40.6**	**-0.4**
TVBK	**TV Kerman**	**2.07**	**4**	*e*Pn		**Pn**	**23 59 40.6**	**-0.4**
CHMN	**Cheshme madani**	**2.11**	**22**	*e*Pn		**Pn**	**23 59 40.0**	**-1.4**
CHMN	**Cheshme madani**	**2.11**	**22**	*e*Pn		**Pn**	**23 59 40.0**	**-1.4**
KHGB	**Koh Gabri**	**2.46**	**357**	*e*Pn		**Pn**	**23 59 46.0**	**-0.2**
KHGB	**Koh Gabri**	**2.46**	**357**	*e*Pn		**Pn**	**23 59 46.0**	**-0.2**
UOSS	**Minazif**	**2.97**	**187**	Pn		**Pn**	**23 59 52.6**	**-0.4**
NAZ	**Nazwa, Dubai**	**3.03**	**197**	P		**Pn**	**23 59 54.6**	**+0.8**
NAZ	**Nazwa, Dubai**	**3.03**	**197**	P		**Pn**	**23 59 54.6**	**+0.8**
HATD	**Hatta, Dubai**	**3.10**	**188**	P		**Pn**	**23 59 55.3**	**+0.5**
HATD	**Hatta, Dubai**	**3.10**	**188**	P		**Pn**	**23 59 55.3**	**+0.5**
GHIR	**Ghir-Karzin**	**3.23**	**278**	*e*Pn		**Pn**	**23 59 53.7**	**-2.9**
ASHO	**Ashiyiah**	**3.25**	**189**	*i*P		**Pn**	**23 59 56.7**	**-0.2**
	SNR=14							
ASHO	**Ashiyiah**	**3.25**	**189**	Pn		**Pn**	**23 59 56.7**	**-0.2**
	SNR=14							
ASHO				Sn		**Sn**	**00 00 34.9**	**+0.3**
ASHO	**Ashiyiah**	**3.25**	**189**	P		**Pn**	**23 59 56.7**	**-0.2**
	SNR=14							
ASHO			

	comp=Z,84nm,0.1s							
IKOO	**Kooshah**	**4.95**	**24**	*e*Pn	**Pn**	**00 00 19.4**	**-1.1**
IKOO				*e*AMB	AMB	00 00 34.4	
	comp=N,329nm,0.2s						
ITEG	**Tejag**	**5.30**	**20**	*e*Pn	**Pn**	**00 00 25.3**	**+0.1**
ITEG				*e*AMB	AMB	00 00 46.9	
	comp=Z,120nm,0.1s						
IRAM	**Rameshe**h	**5.35**	**318**	*e*Pn	**Pn**	**00 00 25.1**	**-0.8**
IRAM				*e*AMB	AMB	00 01 31.9	
	comp=Z,60nm,0.1s						
IPIR	**Pirpir**	**6.86**	**315**	*e*Pn	**Pn**	**00 00 46.2**	**-0.5**
IPIR				*e*AMB	AMB	00 00 48.2	
	comp=Z,51nm,0.1s						

MEX 21 00:07:26.1±0.3, 16°29N×94°15W, h107km±7km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.07**	**123**	*e*P	Pn	00 07 46.4	-1.4
PCIG				*e*S	Sn	00 08 02.5	-1.6
CCIG	**Comitan**	**1.94**	**90**	*e*P	Pn	00 07 56.9	-1.4
CCIG				*i* S	Sn	00 08 20.8	-2.1
HUIG	**Huatulco**	**1.95**	**255**	*e*P	Pn	00 07 57.1	-1.2
HUIG				*i* S	Sn	00 08 21.4	-1.6

*ISCJB **21** 00:13:17.8±0.3, 60.40S±0.07×24.78W±0.1, h10km, mb4.8/27, MS3.7/8, Error ellipse: s-maj=10.3km s-min=8.1km az=24.7*
*IDC **21** 00:13:17.8±0.5, 60.44S×24.71W, h0km, mb4.6/12, mb1 4.7/13, mb1mx4.6/18, mbtmp4.6/13, ML5.1/1, MS3.7/9, Ms1 3.7/9, ms1mx3.6/20, Error ellipse: s-maj=19.7km s-min=16.7km az=39.0*
*BJI **21** 00:13:21.6, 60.50S×24.80W, h25km, mB5.3/5, Ms5.2/6, Ms7 4.8/5*
*NEIC **21** 00:13:22.4±1.9, 60.50S×24.80W, h30km±4km, mb4.9/24, Error ellipse: s-maj=17.5km s-min=14.3km az=214.0*

ISC 21 00:13:19.1±0.3, 60.47S±0.08×24.64W±0.08, h10km, n90, σ1=48/89, mb4.9/27, MS3.6/8, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.20**	**154**	P	**Pn**	**00 16 10.1**	**-2.4**
SNAA	**Sanae**	**14.17**	**151**	P	**Pn**	**00 16 36.5**	**-3.0**
SNAA	**Sanae**	**14.17**	**151**	*e*Pn	**Pn**	**00 16 36.4**	**-3.1**
PMSA	**Palmer Station**	**18.40**	**240**	P	**P**	**00 17 35.1**	**+1.2**
	0.6nm,0.3s,baz=117,slow=11,SNR=2.1						
PMSA				LR	LR	00 22 55.5	
	comp=Z,197nm,21.9s,baz=94,slow=31						
EFI	**East Falkland**	**20.42**	**281**	*e*P	**P**	**00 17 56.5**	**+0.4**
	39nm,0.6s						
USHA	**Ushuaia**	**23.74**	**264**	P	**P**	**00 18 32.2**	**+1.2**
	86nm,0.9s,baz=104,slow=13,SNR=4.0						
USHA				LR	LR	00 25 36.0	
	comp=Z,2μm,21.3s,baz=102,slow=31						
SYO	**Syowa Base**	**27.39**	**135**	*e*P	**P**	**00 19 06.0**	**+2.0**
QSPA	**South Pole Qui**	**29.77**	**180**	*e*P	**P**	**00 19 27.2**	**+1.7**
TRQA	**Tornquist**	**32.42**	**297**	*e*P	**P**	**00 19 48.5**	**-0.5**
	15nm,0.7s						
PLCA	**Paso Flores**	**34.25**	**284**	P	**P**	**00 20 04.2**	**-0.8**
	5.2nm,0.7s,baz=140,slow=3.0,SNR=2.8						
PLCA				LR	LR	00 34 04.6	
	comp=Z,144nm,18.6s,baz=163,slow=36						
PLCA	**Paso Flores**	**34.25**	**284**	*e*P	**P**	**00 20 04.3**	**-0.8**
	23nm,1.2s						
MAW	**Mawson**	**35.84**	**139**	P	**P**	**00 20 18.7**	**+0.5**
	12nm,1.0s,baz=230,slow=9.6,SNR=14						
MAW				PcP	**PcP**	**00 22 45.7**	**+0.5**
	2.0nm,0.8s,baz=238,slow=3.9,SNR=4.3						
MAW				LR	LR	00 32 57.4	
	comp=Z,118nm,21.0s,baz=244,slow=33						
MAW	**Mawson**	**35.84**	**139**	*e*P	**P**	**00 20 18.7**	**+0.5**
	3.4nm,1.1s						
MAW				*e*PcP	**PcP**	**00 22 45.7**	**+0.5**
ROC1	**El Roble**	**40.73**	**291**	*e*P	**P**	**00 20 58.9**	**-1.1**
	17nm,1.0s						
CPUP	**Villa Florida**	**40.77**	**312**	P	**P**	**00 20 58.9**	**-1.3**
	1.4nm,0.3s,baz=149,slow=7.6,SNR=10						
CPUP				LR	LR	00 35 08.8	
	comp=Z,93nm,21.8s,baz=154,slow=32						
CPUP	**Villa Florida**	**40.77**	**312**	*e*P	**P**	**00 20 57.5**	**-2.6**
SUR	**Sutherland**	**40.80**	**67**	*e*P	**P**	**00 21 02.3**	**+1.8**
	120nm,1.8s						
SBA	**Scott Base**	**41.75**	**184**	*e*P	**P**	**00 21 10.3**	**+2.7**
	6.1nm,1.1s						
VNDA	**Vanda**	**42.20**	**182**	P	**P**	**00 21 13.2**	**+1.9**
	5.5nm,0.9s,baz=186,slow=6.7,SNR=37						
VNDA				LR	LR	00 39 50.8	
	comp=Z,48nm,18.6s,baz=192,slow=38						
VNDA	**Vanda**	**42.20**	**182**	*e*P	**P**	**00 21 13.2**	**+1.9**
	11nm,1.2s						
CRZF	**Crozet Islands**	**44.98**	**108**	*e*P	**P**	**00 21 35.3**	**+1.3**
	147nm,0.6s						
BOSA	**Boshof**	**46.02**	**69**	P	**P**	**00 21 43.1**	**+0.5**
	7.9nm,0.7s,baz=211,slow=7.6,SNR=16						
BOSA				LR	LR	00 38 43.9	
	comp=Z,78nm,18.8s,baz=186,slow=33						
BOSA	**Boshof**	**46.02**	**69**	*e*P	**P**	**00 21 43.1**	**+0.5**
BOSA				*e*P	**P**	**00 21 43.2**	**+0.5**
LVC	**Limon Verde**	**48.71**	**301**	*e*P	**P**	**00 22 02.7**	**-1.2**
	11nm,1.0s						
LBTB	**Lobatse**	**49.25**	**67**	*e*P	**P**	**00 22 08.4**	**+0.7**
	13nm,0.8s						
CASY	**Casey**	**49.28**	**158**	*e*P	**P**	**00 22 07.2**	**-0.2**
	11nm,0.8s						
PB01	**IPOC Station P**	**50.35**	**301**	*e*P	**P**	**00 22 16.0**	**-0.1**
	20nm,0.9s						
H10S2	**ASCENSION HYDR**	**51.95**	**13**	T	T	01 18 56.9	
	baz=186,slow=75,SNR=32						
H10S3	**ASCENSION HYDR**	**51.95**	**13**	T	T	01 18 56.7	
	baz=186,slow=75,SNR=38						
H10S1	**ASCENSION HYDR**	**51.97**	**13**	T	T	01 18 57.6	
	baz=186,slow=75,SNR=33						
H10N1	**ASCENSION HYDR**	**53.06**	**13**	T	T	01 20 19.2	
	baz=180,slow=72,SNR=15						
H10N3	**ASCENSION HYDR**	**53.07**	**13**	T	T	01 20 21.1	
	baz=180,slow=72,SNR=27						
H10N2	**ASCENSION HYDR**	**53.08**	**13**	T	T	01 20 22.2	
	baz=180,slow=72,SNR=30						
LPAZ	**La Paz**	**54.04**	**305**	P	**P**	**00 22 44.1**	**-0.1**
	2.7nm,0.5s,baz=153,slow=17,SNR=20						
LPAZ				LR	LR	00 46 39.9	
	comp=Z,34nm,20.5s,baz=155,slow=37						
SAML	**Samuel**	**58.87**	**314**	*e*P	**P**	**00 23 16.9**	**-0.9**
	15nm,1.4s						
LSZ	**Lusaka**	**58.91**	**64**	*e*P	**P**	**00 23 19.0**	**+0.7**
	12nm,0.9s						
DBIC	**Dimbokro**	**68.73**	**21**	P	**P**	**00 24 24.1**	**+1.4**
	5.8nm,0.8s,baz=178,slow=7.7,SNR=3.7						
DBIC	**Dimbokro**	**68.73**	**21**	*e*P	**P**	**00 24 24.1**	**+1.4**
	60nm,1.5s						
ROSC	**El Rosal**	**75.72**	**308**	LR	LR	01 00 19.4	
	comp=Z,30nm,19.3s,baz=284,slow=37						
TOA0	**Torodi Ar. Sit**	**76.34**	**26**	*e*P	**P**	**00 25 09.5**	**+1.5**
TOA0				*e*P	**pP**	**00 25 09.7**	**-1.7**
TORD	**Torodi Ar. Bea**	**76.34**	**26**	P	**P**	**00 25 09.3**	**+1.2**
	8.1nm,0.5s,baz=201,slow=6.4,SNR=118						
TOA1	**Torodi Ar. Sit**	**76.34**	**26**	*e*P	**P**	**00 25 09.3**	**+1.2**
	24nm,1.1s						
TAM	**Tamanrasset**	**86.52**	**28**	*e*P	**P**	**00 26 04.8**	**+2.8**
	4.3nm,1.2s						
STKA	**Stephens Creek**	**87.30**	**168**	P	**P**	**00 26 05.3**	**-0.4**
	7.1nm,1.1s,baz=186,slow=9.2,SNR=2.6						
STKA	**Stephens Creek**	**87.30**	**168**	*e*P	**P**	**00 26 05.3**	**-0.4**
	11nm,1.9s						
ASAR	**Alice Springs**	**94.36**	**160**	P	**P**	**00 26 38.3**	**-0.6**
	1.4nm,0.7s,baz=188,slow=4.5,SNR=9.9						
AS31	**Alice Springs**	**94.36**	**160**	*e*P	**P**	**00 26 38.3**	**-0.6**
	2.2nm,1.0s						
WR1	**Warramunga Arr**	**98.08**	**160**	*e*P	**P**	**00 26 54.8**	**-1.0**
	22nm,1.6s						
WRA	**Warramunga Arr**	**98.08**	**160**	P	**P**	**00 26 54.8**	**-1.0**
	0.8nm,0.9s,baz=191,slow=2.6,SNR=4.6						
CM31	**Chiang Mai Arr**	**122.24**	**111**	*e*PKPdf	**PKPdf**	**00 32 13.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**122.24**	**111**	PKP	**PKPdf**	**00 32 13.9**	**+0.1**
	0.7nm,0.6s,baz=241,slow=3.7,SNR=3.8						
PANM	**San Antonio Re**	**123.34**	**285**	*e*PKPdf	**PKPdf**	**00 32 16.2**	**+0.7**
MOOW	**Moose Ponds**	**125.05**	**298**	*e*PKPdf	**PKPdf**	**00 32 21.8**	**+3.0**
FXWY	**Fox Creek**	**125.08**	**298**	*e*PKPdf	**PKPdf**	**00 32 19.7**	**+0.9**
YMS	**Mount Sheridan**	**125.36**	**299**	*e*PKPpre	PKPpre	00 32 11.1	
FIA0	**FINESS Array S**	**127.67**	**28**	*e*PKPdf	**PKPdf**	**00 32 22.6**	**-0.3**
FINES	**FINESS Array B**	**127.67**	**28**	PKP	**PKPdf**	**00 32 22.6**	**-0.3**
	3.5nm,0.7s,baz=120,slow=2.3,SNR=15						
KCPM	**Cahto Peak**	**127.73**	**285**	*e*PKPdf	**PKPdf**	**00 32 21.8**	**-2.1**
KSH	**Kashi**	**128.40**	**76**	*e*PKP	**PKPdf**	**00 32 23.3**	**-1.9**
KSH				sPKP		00 32 38.3	
KSH				PKS	**PKSdf**	**00 35 58.5**	**-3.3**
KSH				SKS	**SKSdf**	**00 39 31.0**	**-5.6**
KSH				SKKS	SKKSac	00 41 17.6	-10
KSH				SS	**SS**	**00 51 41.8**	**-4.6**
KSH				LN			
	49nm,4.5s						
KSH				LE			
	43nm,3.4s						
ABKAR	**Akbulak array**	**128.72**	**57**	*e*PKPdf	**PKPdf**	**00 32 25.1**	**-0.2**
KMI	**Kunming**	**129.75**	**110**	PKP	**PKPdf**	**00 32 28.8**	**+0.5**
ARA0	**ARCESS Array S**	**134.55**	**22**	*e*PKPdf	**PKPdf**	**00 32 35.6**	**-0.1**
ARCES	**ARCESS Array B**	**134.55**	**22**	PKP	**PKPdf**	**00 32 35.6**	**-0.1**
	2.1nm,0.8s,baz=222,slow=1.1,SNR=4.4						
MK32	**Makanchi Array**	**136.91**	**74**	*e*PKPdf	**PKPdf**	**00 32 39.6**	**-1.2**
MKAR	**Makanchi Array**	**136.91**	**74**	PKP	**PKPdf**	**00 32 39.6**	**-1.2**
	0.5nm,0.9s,baz=248,slow=3.9,SNR=2.5						
WMQ	**Urumqi**	**137.36**	**81**	PKP	**PKPdf**	**00 32 42.4**	**+0.6**
WMQ				LN			
	25nm,17.2s						
WMQ				LE			
	25nm,21.6s						
WMQ				LZ			
	20nm,21.2s						
YKA	**Yellowknife Ar**	**140.29**	**313**	PKP	**PKPdf**	**00 32 45.2**	**-1.3**
	0.9nm,0.9s,baz=132,slow=2.7,SNR=4.4						
YKB5	**Yellowknife Ar**	**140.29**	**313**	*e*PKPdf	**PKPdf**	**00 32 45.2**	**-1.3**
ZALV	**Zalesovo Beam**	**142.96**	**68**	PKhKP	PKPpre	00 32 46.7	
	0.6nm,0.4s,baz=228,slow=3.8,SNR=3.8						
ZAA1	**Zalesovo Array**	**142.96**	**68**	*e*PKPpre	PKPpre	00 32 46.7	
DLBC	**Dease Lake**	**143.90**	**301**	*e*PKPdf	**PKPdf**	**00 32 53.2**	**0.0**
TIA	**Tai'an**	**145.65**	**117**	PKPbc	**PKPdf**	**00 32 57.4**	**+0.6**
HHC	**Hu-ho-hao-te**	**146.85**	**106**	*e*PKPbc	**PKPdf**	**00 32 58.8**	**-0.1**
HHC				PP	**PP**	**00 36 25.6**	**+0.2**
HHC				SS	SS	00 55 25.6	+0.6
HHC				PPMZ			
	74nm,9.1s						
HHC				LN			
	130nm,14.8s						
HHC				LE			
	73nm,13.6s						
HHC				LZ			
	88nm,14.8s						
SONA0	**Songino Array**	**149.43**	**92**	*e*PKPbc	**PKPbc**	**00 33 07.3**	**-0.1**
SONM	**Songino Array**	**149.43**	**92**	PKPbc	**PKPbc**	**00 33 07.3**	**-0.1**
	4.5nm,0.8s,baz=215,slow=2.7,SNR=23						
SONA1	**Songino Array**	**149.44**	**92**	*e*PKPdf	**PKPdf**	**00 33 03.6**	**+0.7**
SONA1				*e*PKPbc	**PKPbc**	**00 33 07.7**	**+0.2**
ULN	**Ulaanbaatar**	**149.78**	**93**	*e*PKPab	**PKPab**	**00 33 13.9**	**+0.1**
INK	**Inuvik**	**150.00**	**315**	*e*PKPbc	**PKPbc**	**00 33 08.5**	**+0.6**
KS15	**Wonju Array Si**	**151.13**	**130**	*e*PKPbc	**PKPbc**	**00 33 11.7**	**+0.1**
KSRS	**Korea Array**	**151.15**	**131**	PKPbc	**PKPbc**	**00 33 11.7**	**+0.1**
	2.7nm,0.8s,baz=207,slow=3.2,SNR=12						
KS01	**Wonju Array Si**	**151.16**	**130**	*e*PKPbc	**PKPbc**	**00 33 11.5**	**-0.1**
NRIK	**Noril'sk**	**151.47**	**43**	PKPbc	**PKPbc**	**00 33 11.8**	**+0.4**
	2.8nm,0.7s,baz=84,slow=1.9,SNR=4.8						
BMRM	**Bremner River**	**151.53**	**298**	*e*PKPbc	**PKPbc**	**00 33 13.2**	**+1.4**
EGAK	**Eagle**	**151.60**	**306**	*e*PKPbc	**PKPbc**	**00 33 12.6**	**+0.8**
DOT	**Dot Lake**	**152.37**	**303**	*e*PKPbc	**PKPbc**	**00 33 14.8**	**+1.1**
SCM	**Sheep Creek Mo**	**153.08**	**298**	*e*PKPbc	**PKPbc**	**00 33 15.0**	**-0.3**
IL1	**Eielson Array**	**153.92**	**304**	*e*PKPbc	**PKPbc**	**00 33 16.9**	**-0.1**
ILAR	**Eielson Array**	**153.92**	**304**	PKPbc	**PKPbc**	**00 33 16.7**	**-0.2**
	4.0nm,1.0s,baz=130,slow=1.1,SNR=14						
ILB	**Eielson Array**	**153.92**	**304**	*e*PKPbc	**PKPbc**	**00 33 16.7**	**-0.2**
WRH	**Wood River Hil**	**154.32**	**303**	*e*PKPbc	**PKPbc**	**00 33 18.8**	**+1.0**

*ISCJB **21** 00:19:15.5±0.6, 32.66N±0.06×115.77W±0.05, h10km±6km, Error ellipse: s-maj=10.4km s-min=6.5km az=169.4*
*ECX **21** 00:19:16.3±0.4, 32.68N×115.76W, h3km, MD2.3, ML2.5*
*MEX **21** 00:19:21.1±0.3, 32.04N×115.97W, h20km, MD3.6*

ISC 21 00:19:14.8±1.1, 32.66N±0.06×115.77W±0.04, h13km±9km, n18, σ0=74/22, 6C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESC	**Westside Schoo**	**0.11**	**19**	*e*P	**Pg**	**00 19 18.1**	**+0.3**
YUH	**Yuha Desert**	**0.13**	**266**	↑*i*P	**Pg**	**00 19 18.9**	**+0.8**
ERPC	**Ernies Place**	**0.13**	**47**	↓*i*P	**Pg**	**00 19 18.4**	**+0.3**
COK	**Cook Ranch**	**0.20**	**12**	↓*i*P	**Pg**	**00 19 20.0**	**+0.8**
RMX	**La Rumorosa**	**0.26**	**258**	↑*e*P	**Pb**	**00 19 20.9**	**-0.6**
RMX				*e*S	**Sb**	**00 19 25.1**	**-0.9**
CRR	**Carrizo Plain**	**0.28**	**324**	↓*i*P	**Pg**	**00 19 21.6**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**0.28**	**269**	↑*e*P	**Pb**	**00 19 21.7**	**0.0**
IKP				↑*i*P	**Pb**	**00 19 21.8**	**0.0**
SWSC	**Sam W. Stewart**	**0.29**	**356**	↓*i*P	**Pg**	**00 19 21.4**	**+0.6**
CPBX	**Cerro Prieto**	**0.46**	**121**	*e*P	**Pb**	**00 19 24.6**	**-0.2**
CPBX				IAML		00 19 35.5	
	comp=N,625nm,0.1s						
CPBX				↓*e*		00 19 35.5	
CPBX				↓*e*		00 19 40.8	
CPBX				IAML		00 19 40.8	
	comp=E,2μm,0.3s						
BAR	**Barrett**	**0.76**	**272**	↑*e*P	**Pn**	**00 19 30.2**	**-1.0**
TJIG	**Tijuana**	**0.79**	**254**	*e*P	**Pn**	**00 19 32.7**	**+1.0**
TJIG				*e*S	**Sb**	**00 19 41.6**	**+0.5**
TJIG	**Tijuana**	**0.79**	**254**	*e*P	**Pb**	**00 19 30.3**	**+0.2**
CBX	**Cerro Bola**	**0.83**	**246**	*e*P	**Pb**	**00 19 31.4**	**+0.4**
CBX				*i* S	**Sg**	**00 19 39.9**	**-1.7**
CBX	**Cerro Bola**	**0.83**	**246**	↑*e*P	**Pb**	**00 19 31.5**	**+0.4**
CBX				*e*S	**Sb**	**00 19 42.8**	**+0.6**
SDRC	**San Diego Road**	**0.99**	**275**	*e*P	**Pn**	**00 19 34.1**	**-0.3**
SPIG	**San Pedro Mart**	**1.63**	**171**	*e*P	Pn	00 19 38.1	-5.4
SPIG				*e*S	Sn	00 19 52.2	-12
SPIG	**San Pedro Mart**	**1.63**	**171**	*e*P	**Pb**	**00 19 45.0**	**+0.2**
SPX	**San Pedro Mart**	**1.63**	**171**	*e*P	**Pb**	**00 19 45.0**	**+0.1**

*ISK **21** 00:48:47.9, 39.16N×29.10E, h5km, ML3.3*
*DDA **21** 00:48:48.3, 39.15N×29.07E, h10km, Ml3.2*
*CSEM **21** 00:48:49.5±0.1, 39.16N×29.12E, h2km, ML3.3, Error ellipse: s-maj=3.1km s-min=2.8km az=155.0*

ISC 21 00:48:48.6±0.9, 39.16N±0.02×29.08E±0.01, h10km±9km, n132, σ1=92/174, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.28**	**113**	PG	**Pb**	**00 48 54.5**	**-1.3**
GEDZ	**Gediz**	**0.28**	**113**	*i* Pg	**Pb**	**00 48 54.5**	**-1.3**
DEMI	**Demirci**	**0.30**	**248**	P	**Pg**	**00 48 54.8**	**+0.1**
DEMI				S	**Sg**	**00 48 58.9**	**+0.2**
DEMI	**Demirci**	**0.30**	**248**	*i* P	**Pg**	**00 48 54.9**	**+0.1**
DEMI				*i* S	**Sg**	**00 48 58.9**	**+0.2**
GDZ	**Gediz**	**0.32**	**102**	P	**Pg**	**00 48 55.0**	**-0.1**
GDZ				S	**Sg**	**00 48 59.5**	**+0.2**
GDZ	**Gediz**	**0.32**	**102**	*i* P	**Pg**	**00 48 55.0**	**-0.1**
GDZ				*i* S	**Sg**	**00 48 59.5**	**+0.2**
TVSB	**Tavsanli**	**0.42**	**45**	PG	**Pg**	**00 48 56.8**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**45**	*i* Pg	**Pg**	**00 48 56.8**	**-0.1**
KHL	**Karahalli**	**0.90**	**157**	PG	**Pg**	**00 49 05.5**	**-0.4**
KHL	**Karahalli**	**0.90**	**157**	*i* Pg	**Pg**	**00 49 05.6**	**-0.4**
AKS	**Akhisar**	**1.02**	**255**	PG	**Pg**	**00 49 08.3**	**+0.1**
AKS	**Akhisar**	**1.02**	**255**	*i* Pg	**Pg**	**00 49 08.3**	**+0.1**
BALB	**Balikesir**	**1.05**	**298**	PG	**Pn**	**00 49 09.5**	**+0.1**
BALB	**Balikesir**	**1.05**	**298**	*i* Pg	**Pn**	**00 49 09.5**	**+0.1**
IGD	**Bursa**	**1.11**	**5**	*i* P	**Pb**	**00 49 09.1**	**-0.8**
IGD				*i* S	**Sn**	**00 49 25.3**	**-0.4**
IZI	**Iznik**	**1.22**	**14**	PN	**Pg**	**00 49 12.3**	**+0.2**
IZI	**Iznik**	**1.22**	**14**	*i* Pn	**Pg**	**00 49 12.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.22**	**353**	PN	**Pb**	**00 49 11.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.22**	**353**	*i* Pn	**Pb**	**00 49 11.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.24**	**334**	PN	**Pg**	**00 49 13.1**	**+0.6**
KCTX	**Karacabey (Bur**	**1.24**	**334**	*i* Pn	**Pg**	**00 49 13.1**	**+0.6**
GEMT	**Gemlik**	**1.28**	**4**	*e*Pn	**Pg**	**00 49 13.4**	**+0.2**
GEMT	**Gemlik**	**1.28**	**4**	*e*Pn	**Pg**	**00 49 13.4**	**+0.2**
BORA	**Eskisehir**	**1.29**	**55**	P	**Pg**	**00 49 13.2**	**-0.2**
BORA				S	**Sg**	**00 49 29.3**	**-0.8**
BORA	**Eskisehir**	**1.29**	**55**	*i* P	**Pg**	**00 49 13.2**	**-0.2**
BORA				*i* S	**Sg**	**00 49 29.3**	**-0.8**
ADVT	**Abdulvahap**	**1.38**	**22**	*e*Pn	**Pg**	**00 49 15.1**	**+0.1**
ADVT				*e*SN	**Sg**	**00 49 34.9**	**+2.1**
ADVT	**Abdulvahap**	**1.38**	**22**	*e*Pn	**Pg**	**00 49 15.1**	**+0.1**
ADVT				*e*Sn	**Sg**	**00 49 34.9**	**+2.1**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*PN	**Pg**	**00 49 15.7**	**+0.3**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*Pn	**Pg**	**00 49 15.7**	**+0.3**
ARMT	**Armutlu**	**1.42**	**353**	*e*PN	**Pg**	**00 49 15.9**	**+0.1**
ARMT	**Armutlu**	**1.42**	**353**	*e*Pn	**Pg**	**00 49 15.9**	**+0.1**
ESKT	**Eskisehir**	**1.42**	**75**	*e*PN	**Pb**	**00 49 14.8**	**-0.5**
ESKT	**Eskisehir**	**1.42**	**75**	*e*Pn	**Pb**	**00 49 14.8**	**-0.5**
ESKT	**Eskisehir**	**1.42**	**75**	*i* P	**Pb**	**00 49 14.8**	**-0.5**
ESKT				*i* S	**Sg**	**00 49 34.9**	**+0.5**
SEYT	**Eskypehyr**	**1.42**	**75**	P	**Pb**	**00 49 14.8**	**-0.5**
SEYT				S	**Sg**	**00 49 34.9**	**+0.5**
DNZL	**Cakiroluk**	**1.46**	**181**	P	**Pb**	**00 49 16.0**	**-0.1**
DNZL				S	**Sg**	**00 49 38.1**	**+2.4**
DNZL	**Cakiroluk**	**1.46**	**181**	*i* P	**Pb**	**00 49 16.0**	**-0.1**
DNZL				*i* S	**Sg**	**00 49 38.1**	**+2.4**
EDC	**Edincik**	**1.51**	**322**	*e*PN	**Pg**	**00 49 17.4**	**-0.2**
EDC	**Edincik**	**1.51**	**322**	*e*Pn	**Pg**	**00 49 17.4**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**218**	*e*PN	**Pg**	**00 49 17.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**218**	*e*Pn	**Pg**	**00 49 17.7**	**-0.1**
BOLV	**Bolvadin**	**1.52**	**106**	P	**Pg**	**00 49 17.9**	**0.0**
BOLV				S	**Sg**	**00 49 38.3**	**+0.6**
BOLV	**Bolvadin**	**1.52**	**106**	*i* P	**Pg**	**00 49 17.9**	**0.0**
BOLV				*i* S	**Sg**	**00 49 38.3**	**+0.6**
IZM	**Izmir**	**1.61**	**243**	*e*PN	**Pb**	**00 49 18.9**	**+0.4**
IZM	**Izmir**	**1.61**	**243**	*e*Pn	**Pb**	**00 49 18.9**	**+0.4**
KNL	**Bal¯–kesir**	**1.64**	**313**	*i* P	**Pn**	**00 49 18.0**	**+0.5**
KNL				*i* S	**Sg**	**00 49 41.0**	**-0.2**
GULT	**Gulveren**	**1.69**	**41**	*e*PN	**Pb**	**00 49 19.5**	**-0.4**
GULT				*e*SN	**Sg**	**00 49 42.4**	**-0.5**
GULT	**Gulveren**	**1.69**	**41**	*e*Pn	**Pb**	**00 49 19.5**	**-0.4**
GULT				*e*Sn	**Sg**	**00 49 42.4**	**-0.5**
DKL	**Dikili**	**1.69**	**268**	*e*PN	**Pb**	**00 49 20.1**	**+0.3**
DKL	**Dikili**	**1.69**	**268**	*e*Pn	**Pb**	**00 49 20.1**	**+0.3**
BUY	**Buyukada**	**1.70**	**1**	P	**Pg**	**00 49 21.1**	**0.0**
BUY				S	**Sb**	**00 49 40.6**	**-0.7**
BUY	**Buyukada**	**1.70**	**1**	*i* P	**Pg**	**00 49 21.1**	**0.0**
BUY				*i* S	**Sb**	**00 49 40.6**	**-0.7**
HRT	**Hereke**	**1.73**	**15**	*e*PN	**Pb**	**00 49 20.4**	**-0.1**
HRT	**Hereke**	**1.73**	**15**	*e*Pn	**Pb**	**00 49 20.4**	**-0.1**
SPNC	**Sapanca-Adapaz**	**1.80**	**31**	*e*PN	**Pb**	**00 49 21.2**	**-0.5**
SPNC				*e*SN	**Sg**	**00 49 45.3**	**-1.1**
SPNC	**Sapanca-Adapaz**	**1.80**	**31**	*e*Pn	**Pb**	**00 49 21.2**	**-0.5**
SPNC				*e*Sn	**Sg**	**00 49 45.3**	**-1.1**
MRMT	**Marmara Adasi**	**1.84**	**322**	*e*PN	**Pb**	**00 49 22.1**	**-0.3**
MRMT	**Marmara Adasi**	**1.84**	**322**	*e*Pn	**Pb**	**00 49 22.2**	**-0.3**
KRBG	**Karabiga-Canak**	**1.85**	**313**	*e*PN	**Pb**	**00 49 22.1**	**-0.3**
KRBG	**Karabiga-Canak**	**1.85**	**313**	*e*Pn	**Pb**	**00 49 22.2**	**-0.3**
AYVA	**Ayvalik**	**1.86**	**275**	P	**Pg**	**00 49 24.4**	**+0.1**
AYVA				S	**Sg**	**00 49 48.9**	**+0.5**
AYVA	**Ayvalik**	**1.86**	**275**	*i* P	**Pg**	**00 49 24.4**	**+0.1**
AYVA				*i* S	**Sg**	**00 49 48.9**	**+0.5**
ISK	**Istanbul-Kandi**	**1.91**	**360**	*e*PN	**Pb**	**00 49 23.1**	**-0.4**
ISK	**Istanbul-Kandi**	**1.91**	**360**	*e*Pn	**Pb**	**00 49 23.1**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.92**	**80**	*e*PN	**Pb**	**00 49 23.1**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.92**	**80**	*e*Pn	**Pb**	**00 49 23.1**	**-0.7**
GOLH	**Golhisar**	**1.95**	**169**	P	**Pb**	**00 49 22.8**	**-1.6**
GOLH	**Golhisar**	**1.95**	**169**	*i* P	**Pb**	**00 49 22.8**	**-1.6**
BGKT	**

*CSEM **21** 00:55:53.0±0.1, 39.°17N×29.°12E, h2km, ML3.2, Error ellipse: s-maj=3.5km s-min=3.1km az=40.0*
*SOF **21** 00:55:59.8, 39.°76N×28.°70E, h8km, MD2.9*
ISC 21 00:55:52.3±0.9, 39.°16N±0.°01×29.°10E±0.°01, h10km±9km, n198, σ1s00/245, 13C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.26**	**115**	PG	**Pb**	**00 55 58.5**	**-0.7**
GEDZ				*e*SG	**Sb**	**00 56 03.1**	**-0.7**
GEDZ	**Gediz**	**0.26**	**115**	*i* Pg	**Pb**	**00 55 58.5**	**-0.7**
GEDZ				*e*Sg	**Sb**	**00 56 03.1**	**-0.7**
GDZ	**Gediz**	**0.30**	**103**	P	**Pg**	**00 55 58.6**	**+0.2**
GDZ				S	**Sg**	**00 56 03.0**	**+0.5**
GDZ	**Gediz**	**0.30**	**103**	*i* P	**Pg**	**00 55 58.6**	**+0.2**
GDZ				*i* S	**Sg**	**00 56 03.0**	**+0.5**
DEMI	**Demirci**	**0.32**	**249**	P	**Pg**	**00 55 59.0**	**+0.2**
DEMI				S	**Sg**	**00 56 03.1**	**0.0**
DEMI	**Demirci**	**0.32**	**249**	*i* P	**Pg**	**00 55 59.0**	**+0.2**
DEMI				*i* S	**Sg**	**00 56 03.1**	**0.0**
TVSB	**Tavsanli**	**0.40**	**43**	PG	**Pb**	**00 56 01.4**	**-0.2**
TVSB	**Tavsanli**	**0.40**	**43**	*i* Pg	**Pb**	**00 56 01.4**	**-0.2**
KHL	**Karahalli**	**0.89**	**158**	*e*PG	**Pg**	**00 56 09.5**	**0.0**
KHL	**Karahalli**	**0.89**	**158**	*e*Pg	**Pg**	**00 56 09.5**	**0.0**
AKS	**Akhisar**	**1.04**	**255**	*e*PG	**Pb**	**00 56 12.6**	**+0.1**
AKS	**Akhisar**	**1.04**	**255**	*e*Pg	**Pb**	**00 56 12.6**	**+0.1**
BALB	**Balikesir**	**1.06**	**297**	*e*PN	**Pn**	**00 56 14.3**	**+1.0**
BALB	**Balikesir**	**1.06**	**297**	*e*Pn	**Pn**	**00 56 14.3**	**+1.0**
IGD	**Bursa**	**1.11**	**4**	*i* P	**Pb**	**00 56 12.3**	**-1.3**
IGD				*i* S	**Sg**	**00 56 26.8**	**-1.2**
IZI	**Iznik**	**1.21**	**13**	*e*PN	**Pg**	**00 56 15.7**	**+0.1**
IZI	**Iznik**	**1.21**	**13**	*e*Pn	**Pg**	**00 56 15.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.22**	**352**	*e*PN	**Pg**	**00 56 15.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.22**	**352**	*e*Pn	**Pg**	**00 56 15.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**333**	*e*PN	**Pb**	**00 56 16.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**333**	*e*Pn	**Pb**	**00 56 16.1**	**+0.1**
BORA	**Eskisehir**	**1.27**	**55**	P	**Pn**	**00 56 16.2**	**0.0**
BORA				S	**Sg**	**00 56 33.1**	**-0.1**
BORA	**Eskisehir**	**1.27**	**55**	*i* P	**Pn**	**00 56 16.2**	**0.0**
BORA				*i* S	**Sg**	**00 56 33.1**	**-0.1**
GEMT	**Gemlik**	**1.28**	**3**	*e*PN	**Pg**	**00 56 17.1**	**+0.2**
GEMT	**Gemlik**	**1.28**	**3**	*e*Pn	**Pg**	**00 56 17.1**	**+0.2**
BALY	**Balya**	**1.29**	**297**	P	**Pb**	**00 56 16.4**	**0.0**
BALY				S	**Sg**	**00 56 34.3**	**+0.5**
BALY	**Balya**	**1.29**	**297**	*i* P	**Pn**	**00 56 16.4**	**0.0**
BALY				*i* S	**Sg**	**00 56 34.3**	**+0.5**
ADVT	**Abdulvahap**	**1.37**	**21**	*e*PN	**Pg**	**00 56 18.9**	**+0.4**
ADVT	**Abdulvahap**	**1.37**	**21**	*e*Pn	**Pg**	**00 56 18.9**	**+0.4**
ESKT	**Eskisehir**	**1.40**	**74**	*e*PN	**Pg**	**00 56 19.9**	**+0.6**
ESKT	**Eskisehir**	**1.40**	**74**	*e*Pn	**Pg**	**00 56 19.9**	**+0.6**
ESKT	**Eskisehir**	**1.40**	**74**	*i* P	**Pb**	**00 56 18.4**	**-0.3**
ESKT				*i* S	**Sg**	**00 56 37.4**	**0.0**
SEYT	**Eskypehyr**	**1.40**	**74**	P	**Pb**	**00 56 18.4**	**-0.3**
SEYT				S	**Sg**	**00 56 37.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**310**	*e*PN	**Pg**	**00 56 20.4**	**+1.1**
GONE	**Gonen-Balikesi**	**1.41**	**310**	*e*Pn	**Pg**	**00 56 20.5**	**+1.1**
ARMT	**Armutlu**	**1.42**	**353**	*e*PN	**Pg**	**00 56 20.1**	**+0.5**
ARMT	**Armutlu**	**1.42**	**353**	*e*Pn	**Pg**	**00 56 20.1**	**+0.5**
GPA	**Golpazari**	**1.46**	**39**	*e*PN	**Pg**	**00 56 20.6**	**+0.2**
GPA	**Golpazari**	**1.46**	**39**	*e*Pn	**Pg**	**00 56 20.6**	**+0.2**
DNZL	**Cakiroluk**	**1.47**	**182**	P	**Pb**	**00 56 19.4**	**-0.4**
DNZL				S	**Sg**	**00 56 42.2**	**+2.7**
DNZL	**Cakiroluk**	**1.47**	**182**	*i* P	**Pb**	**00 56 19.4**	**-0.4**
DNZL				*i* S	**Sg**	**00 56 42.2**	**+2.7**
BOLV	**Bolvadin**	**1.50**	**106**	P	**Pn**	**00 56 18.6**	**-0.9**
BOLV				S	**Sg**	**00 56 41.2**	**+0.4**
BOLV	**Bolvadin**	**1.50**	**106**	*i* P	**Pn**	**00 56 18.6**	**-0.9**
BOLV				*i* S	**Sg**	**00 56 41.2**	**+0.4**
EDC	**Edincik**	**1.53**	**322**	*e*PN	**Pg**	**00 56 21.5**	**-0.1**
EDC	**Edincik**	**1.53**	**322**	*e*Pn	**Pg**	**00 56 21.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**219**	*e*PN	**Pg**	**00 56 22.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**219**	*e*Pn	**Pg**	**00 56 22.2**	**+0.4**
IZM	**Izmir**	**1.63**	**243**	*e*PN	**Pb**	**00 56 22.4**	**-0.1**
IZM	**Izmir**	**1.63**	**243**	*e*Pn	**Pb**	**00 56 22.4**	**-0.1**
KNL	**Bal¯–kesir**	**1.65**	**313**	*i* P	**Pn**	**00 56 20.4**	**-1.0**
KNL				*i* S	**Sg**	**00 56 44.9**	**-0.5**
GULT	**Gulveren**	**1.68**	**40**	*e*PN	**Pb**	**00 56 23.9**	**+0.6**
GULT	**Gulveren**	**1.68**	**40**	*e*Pn	**Pb**	**00 56 23.9**	**+0.6**
BUY	**Buyukada**	**1.69**	**0**	P	**Pn**	**00 56 21.8**	**-0.2**
BUY				S	**Sb**	**00 56 44.5**	**-0.4**
BUY	**Buyukada**	**1.69**	**0**	*i* P	**Pn**	**00 56 21.8**	**-0.2**
BUY				*i* S	**Sb**	**00 56 44.5**	**-0.4**
DKL	**Dikili**	**1.71**	**268**	*e*PN	**Pb**	**00 56 24.4**	**+0.5**
DKL	**Dikili**	**1.71**	**268**	*e*Pn	**Pb**	**00 56 24.4**	**+0.5**
HRT	**Hereke**	**1.72**	**14**	*e*PN	**Pb**	**00 56 23.9**	**-0.1**
HRT	**Hereke**	**1.72**	**14**	*e*Pn	**Pb**	**00 56 23.9**	**-0.1**
ISP	**Isparta**	**1.74**	**140**	*e*PN	**Pb**	**00 56 24.4**	**0.0**
ISP	**Isparta**	**1.74**	**140**	*e*Pn	**Pb**	**00 56 24.4**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.79**	**31**	*e*PN	**Pg**	**00 56 26.0**	**-0.6**
SPNC	**Sapanca-Adapaz**	**1.79**	**31**	*e*Pn	**Pg**	**00 56 26.0**	**-0.6**
MRMT	**Marmara Adasi**	**1.85**	**322**	*e*PN	**Pb**	**00 56 26.6**	**+0.3**
MRMT				*e*SN	**Sg**	**00 56 51.6**	**-0.3**
MRMT	**Marmara Adasi**	**1.85**	**322**	*e*Pn	**Pb**	**00 56 26.6**	**+0.3**
MRMT				*e*Sn	**Sg**	**00 56 51.6**	**-0.3**
KRBG	**Karabiga-Canak**	**1.86**	**312**	*e*PN	**Pb**	**00 56 29.0**	**+0.5**
KRBG	**Karabiga-Canak**	**1.86**	**312**	*e*Pn	**Pb**	**00 56 26.9**	**+0.5**
AYVA	**Ayvalik**	**1.88**	**275**	P	**Pg**	**00 56 29.4**	**+1.0**
AYVA				S	**Sg**	**00 56 51.8**	**-0.9**
AYVA	**Ayvalik**	**1.88**	**275**	*i* P	**Pg**	**00 56 29.4**	**+1.0**
AYVA				*i* S	**Sg**	**00 56 51.8**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.90**	**80**	*e*PN	**Pb**	**00 56 27.2**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.90**	**80**	*e*Pn	**Pb**	**00 56 27.2**	**+0.1**
ISK	**Istanbul-Kandi**	**1.91**	**359**	*e*PN	**Pb**	**00 56 27.3**	**+0.1**
ISK	**Istanbul-Kandi**	**1.91**	**359**	*e*Pn	**Pb**	**00 56 27.3**	**+0.1**
GOLH	**Golhisar**	**1.95**	**169**	P	**Pn**	**00 56 25.6**	**0.0**
GOLH				S	**Sg**	**00 56 55.4**	**+0.4**
GOLH	**Golhisar**	**1.95**	**169**	*i* P	**Pn**	**00 56 25.6**	**0.0**
GOLH				*i* S	**Sg**	**00 56 55.4**	**+0.4**
GLHS	**Glhisar (BURDU**	**2.02**	**171**	*e*PN	**Pb**	**00 56 29.1**	**-0.1**
GLHS	**Glhisar (BURDU**	**2.02**	**171**	*e*Pn	**Pb**	**00 56 29.1**	**-0.1**
BTAS	**Taskesti**	**2.03**	**45**	P	**Pn**	**00 56 26.5**	**-0.2**
BTAS				S	**Sg**	**00 56 59.1**	**+1.5**
BTAS	**Taskesti**	**2.03**	**45**	*i* P	**Pn**	**00 56 26.5**	**-0.2**
BTAS				*i* S	**Sg**	**00 56 59.1**	**+1.5**
SILT	**Sile**	**2.04**	**12**	*e*PN	**Pb**	**00 56 29.1**	**-0.3**
SILT	**Sile**	**2.04**	**12**	*e*Pn	**Pb**	**00 56 29.1**	**-0.3**
BGKT	**Bogazkoy**	**2.04**	**353**	*e*PN	**Pb**	**00 56 29.7**	**+0.3**
BGKT	**Bogazkoy**	**2.04**	**353**	*e*Pn	**Pb**	**00 56 29.7**	**+0.3**
ELBA	**Catalca**	**2.05**	**346**	P	**Pn**	**00 56 26.6**	**-0.4**
ELBA				S	**Sb**	**00 56 56.1**	**+0.8**
ELBA	**Catalca**	**2.05**	**346**	*i* P	**Pn**	**00 56 26.6**	**-0.4**
ELBA				*i* S	**Sb**	**00 56 56.1**	**+0.8**
DGB	**¯zmir**	**2.06**	**238**	*i* P	**Pg**	**00 56 31.7**	**-0.1**
DGB				*i* S	**Sb**	**00 56 56.7**	**+1.2**
GCAM	**G?zelcaml?**	**2.07**	**226**	P	**Pg**	**00 56 31.4**	**-0.5**
GCAM				S	**Sg**	**00 57 00.1**	**+1.4**
GCAM	**G?zelcaml?**	**2.07**	**226**	*i* P	**Pg**	**00 56 31.4**	**-0.5**
GCAM				*i* S	**Sg**	**00 57 00.1**	**+1.4**
MDUB	**Mudurnu**	**2.08**	**50**	*e*PN	**Pb**	**00 56 29.7**	**-0.5**
MDUB	**Mudurnu**	**2.08**	**50**	*e*Pn	**Pb**	**00 56 29.7**	**-0.5**
KLYT	**Kilyos**	**2.10**	**359**	*e*PN	**Pb**	**00 56 30.3**	**-0.1**
KLYT	**Kilyos**	**2.10**	**359**	*e*Pn	**Pb**	**00 56 30.3**	**-0.1**
KAND	**Kocaeli-Kandir**	**2.11**	**23**	P	**Pg**	**00 56 32.8**	**+0.1**
KAND				S	**Sg**	**00 56 59.9**	**-0.1**
KAND	**Kocaeli-Kandir**	**2.11**	**23**	*i* P	**Pg**	**00 56 32.8**	**+0.1**
KAND				*i* S	**Sg**	**00 56 59.9**	**-0.1**
URLA	**Izmir**	**2.12**	**249**	P	**Pg**	**00 56 33.7**	**+0.8**
URLA				S	**Sg**	**00 56 59.1**	**-1.2**
URLA	**Izmir**	**2.12**	**249**	*i* P	**Pg**	**00 56 33.7**	**+0.8**
URLA				*i* S	**Sg**	**00 56 59.1**	**-1.2**
YER	**Yerkesik**	**2.12**	**198**	*e*PN	**Pb**	**00 56 30.0**	**-0.9**
YER	**Yerkesik**	**2.12**	**198**	*e*Pn	**Pb**	**00 56 30.0**	**-0.9**
CTKS	**Kestanelik-??a**	**2.13**	**348**	*e*PN	**Pb**	**00 56 30.9**	**0.0**
CTKS	**Kestanelik-??a**	**2.13**	**348**	*e*Pn	**Pb**	**00 56 30.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.13**	**317**	*e*PN	**Pb**	**00 56 30.2**	**-0.8**
RKY	**Sarkoy-Tekirda**	**2.13**	**317**	*e*Pn	**Pb**	**00 56 30.2**	**-0.8**
SART	**Tekirdag**	**2.13**	**317**	P	**Pb**	**00 56 31.4**	**+0.4**
SART				S	**Sg**	**00 57 00.1**	**-0.7**
SART	**Tekirdag**	**2.13**	**317**	*i* P	**Pb**	**00 56 31.4**	**+0.4**
SART				*i* S	**Sg**	**00 57 00.1**	**-0.7**
SAHE	**Sakarya_HENDEK**	**2.16**	**38**	P	**Pn**	**00 56 28.3**	**-0.1**
SAHE				S	**Sb**	**00 56 59.5**	**+1.0**
SAHE	**Sakarya_HENDEK**	**2.16**	**38**	*i* P	**Pn**	**00 56 28.3**	**-0.1**
SAHE				*i* S	**Sb**	**00 56 59.5**	**+1.0**
LPK	**Lapseki**	**2.18**	**305**	*e*PN	**Pb**	**00 56 31.6**	**-0.2**
LPK	**Lapseki**	**2.18**	**305**	*e*Pn	**Pb**	**00 56 31.6**	**-0.2**
KIZT	**Kizilcal**	**2.18**	**96**	*e*PN	**Pb**	**00 56 30.9**	**-1.0**
KIZT	**Kizilcal**	**2.18**	**96**	*e*Pn	**Pb**	**00 56 30.9**	**-1.0**
SLVT	**Silivri**	**2.18**	**342**	P	**Pb**	**00 56 31.1**	**-0.8**
SLVT				S	**Sb**	**00 56 57.9**	**-1.1**
TKR	**Tekirdag**	**2.19**	**327**	*e*PN	**Pb**	**00 56 31.9**	**-0.2**
TKR	**Tekirdag**	**2.19**	**327**	*e*Pn	**Pb**	**00 56 31.9**	**-0.2**
PRK	**Paraskevi**	**2.20**	**273**	P	**Pn**	**00 56 28.9**	**-0.1**
PRK	**Paraskevi**	**2.20**	**273**	P	**Pn**	**00 56 28.9**	**-0.1**
ZEY	**¯zmir**	**2.23**	**247**	*i* P	**Pg**	**00 56 34.7**	**-0.4**
ZEY				*i* S	**Sg**	**00 57 02.6**	**-1.4**
CRLT	**Corlu**	**2.23**	**332**	*e*PN	**Pb**	**00 56 31.7**	**-1.0**
CRLT	**Corlu**	**2.23**	**332**	*e*Pn	**Pb**	**00 56 31.7**	**-1.0**
SUTC	**Sutluce-Ispart**	**2.24**	**138**	*e*PN	**Pb**	**00 56 31.8**	**-1.3**
SUTC	**Sutluce-Ispart**	**2.24**	**138**	*e*Pn	**Pb**	**00 56 31.8**	**-1.3**
EZN	**Ezine**	**2.25**	**288**	*e*PN	**Pb**	**00 56 32.4**	**-0.7**
EZN	**Ezine**	**2.25**	**288**	*e*Pn	**Pb**	**00 56 32.4**	**-0.7**
DALY	**Dalyan (Mu¯la**	**2.36**	**189**	*e*PN	**Pb**	**00 56 34.0**	**-0.9**
DALY	**Dalyan (Mu¯la**	**2.36**	**189**	*e*Pn	**Pb**	**00 56 34.0**	**-0.9**
KORT	**Korkueli**	**2.37**	**155**	P	**Pn**	**00 56 32.0**	**+0.6**
KORT	**Korkueli**	**2.37**	**155**	*i* P	**Pn**	**00 56 32.0**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.38**	**302**	*e*PN	**Pb**	**00 56 33.6**	**-1.5**
GELI	**Tayfur-Gelibol**	**2.38**	**302**	*e*Pn	**Pb**	**00 56 33.7**	**-1.5**
CTYL	**Yalikoy Yolu**	**2.40**	**345**	*e*PN	**Pb**	**00 56 34.1**	**-1.5**
CTYL	**Yalikoy Yolu**	**2.40**	**345**	*e*Pn	**Pb**	**00 56 34.1**	**-1.5**
KDHN	**Kadinhani**	**2.44**	**104**	P	**Pn**	**00 56 32.8**	**+0.5**
KDHN	**Kadinhani**	**2.44**	**104**	*i* P	**Pn**	**00 56 32.8**	**+0.5**
BOZC	**Bozcaada**	**2.46**	**287**	*i* P	**Pn**	**00 56 33.0**	**+0.5**
ELL	**Elmali**	**2.49**	**165**	*e*PN	**Pb**	**00 56 35.3**	**-1.9**
ELL	**Elmali**	**2.49**	**165**	*e*Pn	**Pb**	**00 56 35.3**	**-1.9**
KESN	**Edirne-Kesan**	**2.50**	**313**	P	**Pn**	**00 56 32.6**	**-0.8**
KESN				S	**Sb**	**00 57 10.5**	**+2.0**
KESN	**Edirne-Kesan**	**2.50**	**313**	*i* P	**Pn**	**00 56 32.6**	**-0.8**
KESN				*i* S	**Sb**	**00 57 10.5**	**+2.0**
ERIK	**Erikli-Kesan**	**2.50**	**308**	*e*PN	**Pn**	**00 56 35.1**	**+2.1**
ERIK	**Erikli-Kesan**	**2.50**	**308**	*e*Pn	**Pn**	**00 56 35.1**	**+2.1**
CHOS	**Chios island**	**2.50**	**253**	*e*PN	**Pb**	**00 56 32.2**	**-1.0**
CHOS	**Chios island**	**2.50**	**253**	P	**Pn**	**00 56 32.2**	**-1.0**
CHOS	**Chios island**	**2.50**	**253**	*e*Pn	**Pb**	**00 56 35.8**	**-1.6**
CHOS	**Chios island**	**2.50**	**253**	P	**Pn**	**00 56 32.2**	**-1.0**
BODT	**Bodrum**	**2.52**	**215**	*e*PN	**Pb**	**00 56 36.1**	**-1.6**
BODT	**Bodrum**	**2.52**	**215**	*e*Pn	**Pb**	**00 56 36.1**	**-1.6**
SIGR	**SIGRI**	**2.52**	**272**	*e*PN	**Pb**	**00 56 35.9**	**-1.8**
SIGR	**SIGRI**	**2.52**	**272**	P	**Pn**	**00 56 34.0**	**+0.6**
SIGR	**SIGRI**	**2.52**	**272**	*e*Pn	**Pb**	**00 56 35.9**	**-1.8**
SIGR	**SIGRI**	**2.52**	**272**	P	**Pn**	**00 56 34.0**	**+0.6**
GADA	**Gvkgeada**	**2.68**	**294**	*e*PN	**Pb**	**00 56 38.0**	**-2.4**
GADA	**Gvkgeada**	**2.68**	**294**	*e*Pn	**Pb**	**00 56 38.0**	**-2.4**
BCAM	**Yenícaga**	**2.81**	**53**	*i* P	**Pg**	**00 56 45.0**	**-1.3**
BCAM				*i* S	**Sg**	**00 57 21.9**	**-0.9**
KONT	**Konya--Tatoy**	**2.83**	**114**	*e*PN	**Pb**	**00 56 40.5**	**-2.4**
KONT	**Konya--Tatoy**	**2.83**	**114**	*e*Pn	**Pb**	**00 56 40.5**	**-2.4**
ALN	**Alexandroupoli**	**2.92**	**307**	*e*PN	**Pn**	**00 56 41.2**	**+2.4**
ALN	**Alexandroupoli**	**2.92**	**307**	P	**Pn**	**00 56 39.0**	**+0.1**
ALN	**Alexandroupoli**	**2.92**	**307**	*e*Pn	**Pn**	**00 56 41.2**	**+2.4**
ALN	**Alexandroupoli**	**2.92**	**307**	P	**Pn**	**00 56 39.0**	**+0.1**
SMTH	**Samothraki Isl**	**3.05**	**297**	P	**Pn**	**00 56 40.8**	**+0.2**
SMTH	**Samothraki Isl**	**3.05**	**297**	P	**Pn**	**00 56 40.8**	**+0.2**
LIA	**Limnos Island**	**3.12**	**285**	P	**Pn**	**00 56 42.4**	**+0.8**
BBAL	**Bala**	**3.14**	**82**	*i* P	**Pg**	**00 56 53.6**	**+1.1**
BBAL				*i* S	**Sg**	**00 57 37.3**	**+4.1**
EDRB	**Edirne**	**3.23**	**327**	*e*PN	**Pn**	**00 56 46.1**	**+2.9**
EDRB	**Edirne**	**3.23**	**327**	*e*Pn	**Pn**	**00 56 46.1**	**+2.9**
KDZ	**Kurdzhali**	**3.76**	**313**	P	**Pn**	**00 56 50.9**	**+0.5**
JMB	**Yambol**	**3.82**	**331**	P	**Pn**	**00 56 52.3**	**+1.1**
JMB	**Yambol**	**3.82**	**331**	P	**Pn**	**00 56 52.3**	**+1.1**
RZN	**Rozhen**	**4.20**	**308**	P	**Pn**	**00 56 56.8**	**+0.3**
RZN	**Rozhen**	**4.20**	**308**	P	**Pn**	**00 56 56.8**	**+0.3**
PRD	**Provadia**	**4.24**	**343**	P	**Pn**	**00 56 56.3**	**-0.6**
PRD	**Provadia**	**4.24**	**343**	P	**Pn**	**00 56 56.3**	**-0.6**
NVR	**Nevrokopi**	**4.57**	**300**	P	**Pn**	**00 57 02.0**	**+0.5**
SZH	**Strazhica**	**4.75**	**331**	P	**Pn**	**00 57 04.2**	**+0.2**
SZH	**Strazhica**	**4.75**	**331**	P	**Pn**	**00 57 04.2**	**+0.2**
PGB	**Panagyurishte**	**5.05**	**314**	P	**Pn**	**00 57 08.5**	**+0.3**
PGB	**Panagyurishte**	**5.05**	**314**	P	**Pn**	**00 57 08.5**	**+0.3**
TIRR	**Tirgusor**	**5.32**	**355**	∏*i*P	**Pn**	**00 57 12.2**	**+0.4**
TIRR	**Tirgusor**	**5.32**	**355**	∏*i*P	**Pn**	**00 57 12.2**	**+0.4**
HARR	**Harsova**	**5.60**	**351**	∏*i*P	**Pb**	**00 57 26.6**	**-3.5**
MPEP	**Malo Peshtene**	**5.83**	**318**	P	**Pn**	**00 57 19.6**	**+0.9**
MPEP	**Malo Peshtene**	**5.83**	**318**	P	**Pn**	**00 57 19.6**	**+0.9**
CFR	**Carcaliu**	**6.06**	**354**	∏*i*P	**Pn**	**00 57 21.9**	**0.0**
CFR	**Carcaliu**	**6.06**	**354**	∏*i*P	**Pn**	**00 57 21.9**	**0.0**
MLR	**Muntele Rosu**	**6.75**	**341**	∐*i*P	**Pn**	**00 57 32.6**	**+1.1**
MLR	**Muntele Rosu**	**6.75**	**341**	∐*i*P	**Pn**	**00 57 32.6**	**+1.1**
PLOR	**Plostina**	**6.93**	**346**	∐*i*P	**Pn**	**00 57 35.3**	**+1.3**
PLOR	**Plostina**	**6.93**	**346**	∐*i*P	**Pn**	**00 57 35.3**	**+1.3**
VRI	**Vrincioaia**	**6.93**	**346**	∐*i*P	**Pn**	**00 57 35.1**	**+1.2**
VRI	**Vrincioaia**	**6.93**	**346**	∐*i*P	**Pn**	**00 57 35.1**	**+1.2**
VOIR		**6.96**	**336**	∏*i*P	**Pn**	**00 57 35.5**	**+1.1**
VOIR		**6.96**	**336**	∏*i*P	**Pn**	**00 57 35.5**	**+1.1**
ARR	**Arges**	**7.04**	**333**	∏*i*P	**Pn**	**00 57 36.2**	**+0.8**
ARR	**Arges**	**7.04**	**333**	∏*i*P	**Pn**	**00 57 36.2**	**+0.8**
DOPR	**Dopca**	**7.34**	**339**	∐*i*P	**Pn**	**00 57 40.8**	**+1.3**
DOPR	**Dopca**	**7.34**	**339**	∐*i*P	**Pn**	**00 57 40.8**	**+1.3**
TESR	**Tescani**	**7.57**	**347**	∏*i*P	**Pn**	**00 57 43.2**	**+0.5**
TESR	**Tescani**	**7.57**	**347**	∏*i*P	**Pn**	**00 57 43.2**	**+0.5**
MDVR	**Moldovita**	**7.87**	**318**	∏*i*P	**Pn**	**00 57 47.3**	**+0.5**
MDVR	**Moldovita**	**7.87**	**318**	∏*i*P	**Pn**	**00 57 47.3**	**+0.5**

*OMAN **21** 01:04:57.7±71.0, 24.°86N×60.°54E, h24km, Error ellipse: s-maj=10.4km s-min=2.1km az=240.0*
*CSEM **21** 01:05:02.6±3.2, 24.°91N×60.°18E, h20km, ML3.5, Error ellipse: s-maj=84.3km s-min=31.0km az=65.0*
*DSN **21** 01:05:04.5±1.7, 24.°98N×60.°01E, h15km, ML3.5, Error ellipse: s-maj=28.0km s-min=10.8km az=33.0*
ISC 21 01:04:59.7±4.8, 25.°0N±0.°2×60.°5E±0.°3, h35km, n13, σ1s14/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIDO	**Bidbid**	**2.63**	**236**	P	**Pn**	**01 05 39.4**	**-0.3**
BIDO	**Bidbid**	**2.63**	**236**	P	**Pn**	**01 05 39.4**	**-0.3**
UOSS	**Minazif** SNR=7.1	**3.91**	**270**	P	**Pn**	**01 05 56.8**	**-0.4**
UOSS				S	**Sn**	**01 06 43.0**	**+1.1**
BANOM	**Banah** SNR=12	**3.91**	**284**	*i* P	**Pn**	**01 05 57.6**	**+0.3**
BANOM				S	**Sn**	**01 06 40.0**	**-2.0**
BANOM	**Banah** SNR=12	**3.91**	**284**	P	**Pn**	**01 05 57.4**	**0.0**
BANOM				S	**Sn**	**01 06 43.2**	**+1.1**
BANOM	**Banah** SNR=12	**3.91**	**284**	P	**Pn**	**01 05 57.6**	**+0.3**
BANOM				S	**Sn**	**01 06 40.0**	**-2.0**
HATD	**Hatta, Dubai**	**3.98**	**268**	P	**Pn**	**01 05 58.3**	**+0.1**
HATD	**Hatta, Dubai**	**3.98**	**268**	P	**Pn**	**01 05 58.3**	**+0.1**
ASHO	**Ashiyiah** SNR=5.7	**4.06**	**266**	*i* P	**Pn**	**01 05 59.9**	**+0.5**
ASHO	**Ashiyiah** SNR=5.7	**4.06**	**266**	P	**Pn**	**01 05 59.3**	**0.0**
ASHO	**Ashiyiah** SNR=5.7	**4.06**	**266**	P	**Pn**	**01 05 59.3**	**0.0**
FAQ	**Al Faqa, Dubai** SNR=9.0	**4.47**	**268**	*i* P	**Pn**	**01 06 06.8**	**+1.8**
FAQ	**Al Faqa, Dubai** SNR=9.0	**4.47**	**268**	P	**Pn**	**01 06 06.8**	**+1.8**

MEX 21 01:06:21.1±0.6, 16.°38N×98.°51W, h4km±8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**88**	*e*P	Pg	01 06 28.0	-0.2
PNIG				*e*S	Sg	01 06 33.1	0.0
TLIG	**Tlapa**	**1.18**	**357**	*e*P	Pg	01 06 40.4	-3.4
TLIG				*e*S	Sg	01 06 54.7	-4.3
ACX	**Acapulco**	**1.38**	**291**	*e*P	Pn	01 06 47.1	0.0
ACX				*e*S	Sb	01 07 05.1	-0.4
VHO	**Vista Hermosa**	**1.84**	**68**	*e*P	Pn	01 06 50.4	-3.2
VHO				*e*S	Sn	01 07 12.4	-5.0
PLIG	**Platanillo**	**2.21**	**335**	*e*P	Pn	01 06 58.5	-0.2
PLIG				*e*S	Sn	01 07 27.0	+0.4
ARIG	**Puente Sto Nin**	**2.58**	**317**	*e*P	Pn	01 07 05.2	+1.6
ARIG				*e*S	Sb	01 07 38.6	-1.5

IDC 21 01:11:55.8±3.3, 5.°89S×151.°07E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/28, mbtmp3.9/3, Error ellipse: s-maj=109.3km s-min=47.2km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.44**	**228**	P	P	01 16 45.7	-0.1
	1.8nm,0.5s,baz=54,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**24.19**	**221**	P	P	01 17 14.4	+0.1
	2.3nm,0.7s,baz=58,slow=9.0,SNR=18						
FITZ	**Fitzroy Crossi**	**27.63**	**242**	P	P	01 17 45.4	0.0
	1.2nm,0.6s,baz=49,slow=9.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**148.97**	**286**	PKPbc	PKPbc	01 31 46.3	-0.6
	0.5nm,0.6s,baz=86,slow=2.1,SNR=6.4						

*ISCJB **21** 01:29:11.1±0.7, 12.°64N±0.°09×93.°59E±0.°10, h58km, mb3.9/11, Error ellipse: s-maj=14.0km s-min=11.8km az=36.1*
*IDC **21** 01:29:18.1±6.0, 12.°77N×93.°69E, h104km±54km, mb3.6/11, mb1 3.7/12, mb1mx3.4/42, mbtmp3.9/12, Error ellipse: s-maj=41.0km s-min=13.2km az=52.0*
ISC 21 01:29:13.1±0.9, 12.°6N±0.°1×93.°5E±0.°1, h58km, n12, σ0s95/13, mb4.0/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.83**	**41**	P	**Pn**	**01 31 06.5**	**+2.1**
	0.7nm,0.3s,baz=232,slow=14,SNR=18						
CMAR				S	**Sn**

JMA 21 01:41:31.9±0.1, 37°56N×144°47E, h33km, M4.1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.62**	**291**	P	Pn	01 42 13.6	+1.7
JIO				*eS*	Sn	01 42 44.1	+1.5
OFUJ	**Ofunato**	**2.67**	**305**	P	Pn	01 42 14.5	+1.9
JMK	**Ichinoseki**	**2.91**	**300**	P	Pn	01 42 17.9	+2.0
JMK				*eS*	Sn	01 42 52.2	+2.5
JOU	**Okura**	**3.11**	**286**	P	Pn	01 42 20.8	+2.1
JOU				*eS*	Sn	01 42 57.0	+2.2
JOM	**Ohasama**	**3.14**	**308**	P	Pn	01 42 21.1	+2.1
JOM				*eS*	Sn	01 42 58.0	+2.6
JFT	**Otama**	**3.29**	**271**	P	Pn	01 42 22.9	+1.8
JFT				*eS*	Sn	01 43 00.7	+1.7
JYK	**Kaneyama**	**3.51**	**294**	P	Pn	01 42 26.6	+2.5
JYK				*eS*	Sn	01 43 07.4	+2.9
JRG	**Rokugo**	**3.52**	**303**	P	Pn	01 42 26.8	+2.5
JRG				S	Sn	01 43 07.6	+2.7
JTM	**Tenmabayashi**	**4.17**	**322**	P	Pn	01 42 35.0	+1.9
JTM				S	Sn	01 43 22.0	+1.3
JRY	**Ryogami san**	**4.73**	**253**	P	Pn	01 42 41.1	+0.2
JRY				*eS*	Sn	01 43 31.9	-2.7
JKB	**Kayabe**	**5.07**	**330**	*eS*	Sn	01 43 44.7	+1.8
JCH	**Churui**	**5.12**	**351**	P	Pn	01 42 46.4	+0.2
JCH				*eS*	Sn	01 43 42.9	-1.2
NEM2	**Nemuro 2**	**5.88**	**9**	P	Pn	01 42 54.7	-1.9
NEM2				*eS*	Sn	01 43 57.9	-4.9
JTKR	**Abashiri--Toko**	**6.42**	**356**	P	Pn	01 43 05.0	+1.0
JTKR				*eS*	Sn	01 44 14.4	-1.7

IDC 21 01:55:10.5±2.5, 13°63S×73°07W, h0km, mb3.5/2, mb1 4.0/4, mb1mx3.7/37, mbtmp3.8/4, ML4.0/2, Error ellipse: s-maj=72.6km s-min=31.0km az=32.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.45**	**120**	Pn	Pn	01 56 32.1	-1.5
	1.5nm,0.3s,baz=309,slow=14,SNR=55						
LPAZ				Sn	Sn	01 57 28.8	-8.6
	0.1nm,0.3s,baz=15,slow=19,SNR=3.1						
PTGA	**Pitinga**	**18.23**	**46**	P	Pn	01 59 24.3	-0.9
	1.1nm,0.3s,baz=217,slow=16,SNR=6.0						
TXAR	**Lajitas Array**	**51.94**	**326**	P	P	02 04 21.0	-0.5
	0.6nm,0.6s,baz=141,slow=9.3,SNR=1.5						
TORD	**Torodi Ar. Bea**	**78.70**	**73**	P	P	02 07 16.4	+1.1
	0.1nm,0.4s,baz=262,slow=3.7,SNR=4.1						

GUC 21 01:57:33.6±0.4, 21°81S×68°70W, h131km±3km, ML3.6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.50**	**271**	*eP*	Pn	01 57 53.3	+0.3
PB09				*eS*	Sn	01 58 08.5	+0.8
PB09				IAML		01 58 10.2	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**1.05**	**316**	*eP*	Pn	01 57 57.7	+0.4
PB01				*eS*	Sn	01 58 16.0	+0.8
PB01				IAML		01 58 17.8	
	comp=E,859nm,0.2s						
PB07	**IPOC Station P**	**1.10**	**274**	*eP*	Pn	01 57 58.5	+0.7
PB07				*eS*	Sn	01 58 17.3	+1.2
PB07				IAML		01 58 18.7	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.20**	**222**	*eP*	Pn	01 57 59.1	+0.4
PB06				*eS*	Sn	01 58 18.4	+0.5
PB06				IAML		01 58 19.5	
	comp=E,1μm,0.4s						
PB04	**IPOC Station P**	**1.44**	**248**	*eP*	Pn	01 58 02.1	+0.8
PB04				*eS*	Sn	01 58 23.4	+1.1
PB04				IAML		01 58 25.8	
	comp=E,945nm,0.3s						
PB08	**IPOC Station P**	**1.71**	**346**	*eP*	Pn	01 58 05.8	+1.1
PB08				*eS*	Sn	01 58 29.9	+1.6
PB08				IAML		01 58 31.1	
	comp=E,426nm,0.3s						
HMBC	**Humberstone**	**1.88**	**324**	*eP*	Pn	01 58 07.2	+0.8
HMBC				*eS*	Sn	01 58 32.5	+1.1

*ISCJB **21** 02:04:12.7±0.2, 35°.14N±0°.02×75°.49E±0°.03, h33km, mb4.4/48, MS4.4/4, Error ellipse: s-maj=3.7km s-min=2.8km az=153.6*

*MOS **21** 02:04:13.5±1.1, 35°.15N×75°.51E, h39km, mb4.6/30, Error ellipse: s-maj=8.3km s-min=4.9km az=99.9*

*NEIC **21** 02:04:15.9±0.9, 35°.15N×75°.49E, h47km±7km, mb4.5/10, Error ellipse: s-maj=8.2km s-min=5.8km az=183.0*

*BJI **21** 02:04:15.2, 35°.01N×75°.59E, h58km, mb4.6/31, mB4.5/18, ML4.3/4, Ms4.6/5, Ms7 4.5/4*

*IDC **21** 02:04:15.0±2.8, 35°.21N×75°.44E, h38km±24km, mb4.1/25, mb1 4.3/30, mb1mx4.2/45, mbtmp4.3/30, ML4.3/6, MS4.5/4, Ms1 4.5/4, ms1mx3.4/55, Error ellipse: s-maj=12.1km s-min=9.9km az=24.0*

*NNC **21** 02:04:18.4±3.9, 35°.32N×75°.27E, h61km±23km, mb4.4, mpv4.4, Error ellipse: s-maj=39.0km s-min=22.8km az=17.0*

ISC 21 02:04:14.4±0.4, 35°.17N±0°.04×75°.50E±0°.04, h35km, n170, σ1°82/193, mb4.5/48, MS4.1/4, 38C-10D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**2.38**	**232**	P	**Pn**	**02 04 52.9**	**+1.9**
THN	**Thein Dam**	**2.73**	**176**	*eP*	**Pn**	**02 04 54.2**	**-1.5**
THN				*eS*	**Sn**	**02 05 31.6**	**+4.1**
CEP	**Cherat**	**3.25**	**247**	P	**Pn**	**02 05 03.8**	**+0.7**
CEP				S	**Sn**	**02 05 47.0**	**+6.4**
JWA	**Jwalamukhi**	**3.36**	**168**	*eP*	**Pn**	**02 05 04.0**	**-0.4**
JWA				*ex*	x	02 05 53.0	
BHK	**Bhakra**	**3.82**	**168**	*eP*	Pn	02 05 17.8	+7.1
BHK				*eS*	Sn	02 06 06.6	+12
SDNR	**Sundarnagar**	**3.86**	**161**	*eP*	**Pn**	**02 05 12.0**	**+0.7**
THW	**Thamme Wali**	**3.92**	**234**	P	**Pn**	**02 05 12.7**	**+0.6**
KSH	**Kashi**	**4.36**	**5**	P	**Pn**	**02 05 19.9**	**+1.7**
KSH				S	**Sn**	**02 06 09.1**	**+1.2**
KKR	**Kurukshetra**	**5.31**	**168**	*eP*	**Pn**	**02 05 31.8**	**+0.6**
KKR				*eS*	**Sn**	**02 06 32.9**	**+1.8**
KKR				IAML		02 06 41.4	
	comp=Z,561nm,0.5s						
KBL	**Kabul**	**5.34**	**265**	*eP*	**Pn**	**02 05 33.5**	**+1.6**
KBL				*e*		02 06 31.8	
KBL	**Kabul**	**5.34**	**265**	*ePn*	**Pn**	**02 05 33.5**	**+1.6**
KBL				*eSn*	**Sn**	**02 05 31.8**	**-0.6**
JOSI	**Joshimath**	**5.73**	**142**	*eP*	**Pn**	**02 05 36.4**	**-0.7**
JOSI				*eS*	**Sn**	**02 06 40.5**	**-1.2**
JOSI				IAML		02 07 18.4	
	comp=N,943nm,0.7s						
JOSI				IAML		02 07 31.5	
	comp=E,995nm,0.8s						
DZET	**Dzherino**	**6.46**	**306**	⇓P	**Pn**	**02 05 46.9**	**-0.2**
	comp=E,5.6nm,0.5s						
DZET				⇑S	**Sn**	**02 07 00.7**	**+1.1**
	comp=E,63nm,0.5s						
LGTI	**Lohaghat**	**6.97**	**144**	*eS*	**Sn**	**02 07 10.9**	**-1.2**
KUDL	**Kundal**	**7.05**	**173**	*eP*	**Pn**	**02 05 53.3**	**-1.8**
KUDL				*eS*	**Sn**	**02 07 11.4**	**-2.6**
KHET	**Khetri**	**7.08**	**178**	*eP*	**Pn**	**02 05 53.1**	**-2.4**
KHET				*eS*	**Sn**	**02 07 13.3**	**-1.4**
AAK	**Ala-Archa**	**7.50**	**354**	Pn	**Pn**	**02 06 05.4**	**+4.0**
	comp=E,1.5nm,0.3s,baz=171,slow=14,SNR=9.7						
AAK				LR	LR	02 09 14.9	
	comp=E,325nm,21.8s,baz=156,slow=40						
AAK	**Ala-Archa**	**7.50**	**354**	⇑P	**Pn**	**02 06 05.6**	**+4.3**
	comp=E,11nm,1.0s						
AAK	**Ala-Archa**	**7.50**	**354**	⇑*e*P	**Pn**	**02 06 05.9**	**+4.5**
AAK	**Ala-Archa**	**7.50**	**354**	*ePn*	**Pn**	**02 06 05.4**	**+4.0**
AAK				*eS*	Sn	02 07 00.9	-24
AAK				*eSn*	Sn	02 07 16.7	-8.5
EKS2	**Erkin-Say**	**7.60**	**350**	*eP*	**Pn**	**02 06 06.4**	**+3.6**
EKS2				*eS*	Sn	02 07 40.2	+12
EKS2	**Erkin-Say**	**7.60**	**350**	*ePn*	**Pn**	**02 06 06.4**	**+3.6**
EKS2				*eS*	Sn	02 07 40.1	+12
MNAS	**Manas**	**7.67**	**343**	⇑P	**Pn**	**02 06 05.2**	**+1.5**
	comp=E,15nm,0.7s						
MNAS				⇑S	**Sn**	**02 07 30.9**	**+1.4**
	comp=E,18nm,0.7s						
FRU	**Bishkek**	**7.69**	**355**	*eP*	Pn	02 06 09.0	+5.2
FRU					pmax	pmax	
	comp=Z,90nm,2.0s						
TKM2	**Tokmak 2**	**7.75**	**1**	⇑P	**Pn**	**02 06 08.4**	**+3.6**
	comp=Z,29nm,0.8s						
TKM2	**Tokmak 2**	**7.75**	**1**	*eP*	**Pn**	**02 06 08.3**	**+3.5**
TKM2	**Tokmak 2**	**7.75**	**1**	*ePn*	**Pn**	**02 06 08.3**	**+3.5**
PDGK	**Podgornoye**	**8.72**	**20**	⇑P	**Pn**	**02 06 20.8**	**+2.9**
	comp=Z,17nm,1.0s						
KK31	**Karatay Array**	**8.82**	**335**	⇑P	**Pn**	**02 06 20.3**	**+0.9**
	comp=Z,19nm,0.5s,baz=154,slow=12,SNR=339						
KK31				⇑S	**Sn**	**02 07 59.1**	**+1.6**
	comp=Z,32nm,0.6s,baz=163,slow=24,SNR=18						
KKAR	**Karatay Array**	**8.82**	**335**	*eP*	**Pn**	**02 06 20.2**	**+0.8**
KKAR				*eS*	**Sn**	**02 07 57.8**	**+0.3**
KKAR	**Karatay Array**	**8.82**	**335**	*ePn*	**Pn**	**02 06 20.2**	**+0.8**
KKAR				*eS*	**Sn**	**02 07 57.8**	**+0.3**
PYUN	**Piuthan**	**9.50**	**136**	*eP*	**Pn**	**02 06 27.0**	**-2.0**
	comp=Z,36nm,0.3s						
GKN	**Gorkha**	**10.56**	**130**	*eP*	**Pn**	**02 06 41.0**	**-2.4**
	comp=Z,54nm,0.5s						
KKN	**Kakani**	**11.12**	**129**	*eP*	**Pn**	**02 06 47.9**	**-3.2**
	comp=Z,96nm,0.9s						
DMN	**Daman**	**11.13**	**130**	*eP*	**Pn**	**02 06 48.1**	**-3.3**
	comp=Z,62nm,0.5s						
PKIN	**Phulchoki**	**11.34**	**129**	*eP*	**Pn**	**02 06 50.6**	**-3.6**
	comp=Z,68nm,0.7s						
GUN	**Gumba**	**11.43**	**126**	*eP*	**Pn**	**02 06 51.6**	**-3.8**
	comp=Z,63nm,0.7s						
RAMN	**Ramite**	**12.55**	**128**	*eP*	Pn	02 07 04.9	-5.7
MAKZ	**Makanchi**	**12.61**	**21**	*eP*	**Pn**	**02 07 12.4**	**+1.2**
MAKZ	**Makanchi**	**12.61**	**21**	*ePn*	**Pn**	**02 07 12.4**	**+1.2**
MK01	**Makanchi Array**	**12.67**	**22**	*ePn*	**Pn**	**02 07 12.6**	**+0.5**
MK31	**Makanchi Array**	**12.69**	**22**	⇑P	**Pn**	**02 07 13.3**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=211,slow=15,SNR=6.4						
MK31	**Makanchi Array**	**12.69**	**22**	*eP*	**Pn**	**02 07 13.5**	**+1.2**
MK31	**Makanchi Array**	**12.69**	**22**	*ePn*	**Pn**	**02 07 13.5**	**+1.2**
MKAR	**Makanchi Array**	**12.69**	**22**	Pn	**Pn**	**02 07 12.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=215,slow=14,SNR=13						
MKAR				Sn	**Sn**	**02 09 29.3**	**-3.0**
	baz=205,slow=20,SNR=2.4						
WMQ	**Urumqi**	**12.77**	**44**	P	**P**	**02 07 19.4**	**-4.7**
WMQ				*pP*	*pP*	02 07 29.4	
WMQ				*sP*	*sP*	02 07 37.4	
WMQ				PMZ			
	comp=Z,7.0nm,0.6s						
WMQ				PMZ			
	comp=Z,58nm,4.0s						
OTUK	**Ortayu**	**13.28**	**351**	⇑P	**Pn**	**02 07 20.3**	**0.0**
	comp=Z,28nm,0.9s						
GEYT	**Alibeck**	**14.24**	**286**	Pn	**Pn**	**02 07 30.3**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=116,slow=10,SNR=4.9						
GEYT				Sn	**Sn**	**02 10 07.1**	**-3.2**
	comp=Z,0.5nm,0.3s,baz=103,slow=18,SNR=3.1						
KURBB	**Kurchatov Arra**	**15.61**	**7**	Pn	**Pn**	**02 07 49.6**	**-1.9**
	comp=Z,2.2nm,0.3s,baz=196,slow=9.7,SNR=57						
KURBB	**Kurchatov Arra**	**15.61**	**7**	⇑P	**Pn**	**02 07 50.9**	**-0.6**
	comp=Z,119nm,0.7s						
KURK	**Kurchatov**	**15.71**	**7**	⇑P	**Pn**	**02 07 51.2**	**-1.6**
KURK	**Kurchatov**	**15.71**	**7**	*eP*	**Pn**	**02 07 51.1**	**-1.7**
KURK	**Kurchatov**	**15.71**	**7**	*ePn*	**Pn**	**02 07 51.1**	**-1.7**
KURK				*eS*	**S**	**02 10 56.7**	**-3.0**
AB31	**Akbulak array**	**18.14**	**326**	⇓P	**Pn**	**02 08 20.4**	**-3.0**
	comp=Z,4.6nm,0.5s,baz=134,slow=12,SNR=226						
AB31				⇑S	**Sn**	**02 11 36.8**	**-7.9**
	comp=Z,5.0nm,0.8s,baz=133,slow=24,SNR=6.6						
ABKAR	**Akbulak array**	**18.14**	**326**	*eP*	**Pn**	**02 08 21.0**	**-2.4**
BVA0	**Borovoye Array**	**18.22**	**350**	⇑P	**P**	**02 08 23.7**	**-0.6**
	comp=Z,26nm,1.1s,baz=173,slow=10,SNR=111						
BVAR	**Borovoye Array**	**18.22**	**350**	P	**P**	**02 08 23.4**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=155,slow=10,SNR=74						
ZRNK	**Zerenda**	**18.37**	**347**	*eP*	**Pn**	**02 08 26.2**	**+0.1**
ZRNK				*eS*	**S**	**02 11 57.2**	**+3.4**
ZRNK	**Zerenda**	**18.37**	**347**	*ePn*	**Pn**	**02 08 26.2**	**+0.1**
ZRNK				*eS*	**S**	**02 11 57.2**	**+3.4**
CHKZ	**Chkalovo**	**18.82**	**351**	⇓P	**P**	**02 08 31.2**	**+0.3**
	comp=Z,15nm,1.1s						
GTA	**Gaotai**	**19.79**	**70**	*eP*	**Pn**	**02 08 43.0**	**-0.4**
GTA				*pP*	*sP*	02 08 56.6	+1.2
GTA				*sP*	*pP*	02 09 05.0	+14
GTA				PMZ			
	comp=Z,5.0nm,1.3s						
AKTO	**Aktyubinsk**	**19.86**	**326**	P	**P**	**02 08 42.4**	**+0.1**
	comp=Z,2.9nm,0.3s,baz=122,slow=11,SNR=51						
AKTO				S	**S**	**02 12 19.9**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=3.2						
AKTO	**Aktyubinsk**	**19.86**	**326**	⇑P	**P**	**02 08 42.0**	**-0.2**
	comp=Z,17nm,0.6s						
AKTO				⇓S	**S**	**02 12 22.3**	**-1.6**
	comp=Z,8.0nm,1.2s						
ZAA0	**Zalesovo Array**	**19.89**	**16**	*eP*	**P**	**02 08 42.5**	**-0.1**
ZALV	**Zalesovo Beam**	**19.89**	**16**	P	**P**	**02 08 42.0**	**-0.5**
	comp=Z,6.7nm,0.3s,baz=209,slow=11,SNR=72						
ZALV				S	**S**	**02 12 25.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=209,slow=15,SNR=3.0						
NVS	**Novosibirsk**	**20.40**	**13**	⇑P	**P**	**02 08 48.1**	**+0.1**
NVS				*e*		02 12 34.2	
NVS				pmax	pmax		
	comp=N,32nm,0.6s						
NVS				pmax	pmax		
	comp=E,12nm,0.6s						
NVS				pmax	pmax		
	comp=Z,33nm,0.6s						
LZH	**Lanzhou**	**23.03**	**79**	*eP*	**P**	**02 09 17.6**	**+1.0**
LZH				*pP*	*sP*	02 09 30.1	-0.3
LZH				*sP*	*pP*	02 09 39.3	+13
LZH				PMZ			
	comp=Z,19nm,1.0s						
SVE	**Sverdlovsk**	**23.90**	**340**	*eP*	**P**	**02 09 25.5**	**+0.9**
SVE				pmax	pmax		
	comp=Z,21nm,1.4s						
CD2	**Chengdu**	**24.03**	**92**	*eP*	**P**	**02 09 26.3**	**+0.1**
CD2				*pP*	*sP*	02 09 41.5	+1.1
CD2				*sP*	*pP*	02 09 49.6	+13
CD2				S	**S**	**02 13 39.6**	**-1.5**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.0s						
ARU	**Arti**	**24.20**	**337**	P	**P**	**02 09 28.0**	**+0.6**
	comp=Z,15nm,0.8s,baz=133,slow=4.9,SNR=27						
ARU	**Arti**	**24.20**	**337**	*c iP*	**P**	**02 09 28.2**	**+0.9**
ARU						02 09 59.9	
ARU				S	**S**	**02 13 43.7**	**+0.6**
ARU				SS	**SnSn**	**02 14 28.2**	**+1.5**
ARU				pmax	pmax		
	comp=Z,26nm,1.0s						
ARU	**Arti**	**24.20**	**337**	*eP*	**P**	**02 09 28.3**	**+0.9**
GNI	**Garni**	**24.78**	**291**	P	**P**	**02 09 32.4**	**-0.7**
	comp=Z,2.7nm,0.4s,baz=156,slow=13,SNR=1.8						
ZAK	**Zakamensk**	**25.24**	**44**	*eP*	**P**	**02 09 37.7**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMI	**Kunming**	**25.52**	**106**	P	**P**	**02 09 40.4**	**+0.4**
KMI				PMZ			
	comp=Z,13nm,0.5s						
KMI				PMZ			
	comp=Z,110nm,4.3s						
SONM	**Songino Array**	**26.19**	**52**	P	**P**	**02 09 46.7**	**+1.0**
	comp=Z,10.0nm,0.6s,baz=251,slow=9.5,SNR=37						
SONA1	**Songino Array**	**26.20**	**52**	*eP*	**P**	**02 09 47.2**	**+1.4**
CHTO	**Chiang Mai**	**26.39**	**122**	*eP*	**P**	**02 09 49.3**	**+1.7**
CHTO	**Chiang Mai**	**26.39**	**122**	*eP*	**P**	**02 09 49.2**	**+1.7**
ULN	**Ulaanbaatar**	**26.62**	**52**	*ceP*	**P**	**02 09 50.5**	**+0.9**
ULN				pmax	pmax		
	comp=Z,11nm,1.2s						
ULN	**Ulaanbaatar**	**26.62**	**52**	*eP*	**P**	**02 09 50.8**	**+1.1**
	comp=Z,6.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**26.63**	**123**	P	**P**	**02 09 48.7**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=315,slow=9.4,SNR=12						
KIV	**Kislovodsk**	**26.64**	**299**	*eP*	**P**	**02 09 49.5**	**-0.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CM01	**Chiang Mai Arr**	**26.67**	**123**	*eP*	**P**	**02 09 50.3**	**+0.2**
HHC	**Hu-ho-hao-te**	**28.84**	**68**	*eP*	**P**	**02 10 11.3**	**+1.8**
HHC				PMZ			
	comp=Z,31nm,0.9s						
HHC				PMZ			
	comp=Z,61nm,4.6s						
VRH	**Novokhopyorsk**	**29.06**	**314**	*eP*	**P**	**02 10 11.2**	**0.0**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VSR	**Storozhevoye**	**30.59**	**313**	*eP*	**P**	**02 10 24.5**	**-0.2**
VSR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MMAI	**Mount Meron Ar**	**33.12**	**278**	LR	LR	02 26 29.8	
	comp=Z,303nm,20.4s,baz=260,slow=40						
BRTR	**Keskin Array B**	**33.32**	**290**	P	**P**	**02 10 49.1**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=102,slow=8.2,SNR=13						
BRTR				LR	LR	02 26 26.1	
	comp=Z,256nm,18.1s,baz=92,slow=40						
OBN	**Obninsk**	**33.34**	**319**	⇑*e*P	**P**	**02 10 49.5**	**+0.8**
OBN				*e*		02 12 03.1	
OBN				*eS*	**S**	**02 16 07.0**	**+0.1**
OBN				*eSS*	**SnSn**	**02 18 07.2**	**-2.1**
OBN				pmax	pmax		
	comp=Z,20nm,1.2s						
OBN	**Obninsk**	**33.34**	**319**	*eP*	**P**	**02 10 49.3**	**+0.5**
	comp=Z,18nm,0.8s						
KLMR	**Klimovskoe**	**34.46**	**329**	*eP*	**P**	**02 10 56.7**	**-1.8**
KLMR				*e*		02 13 31.1	
KLMR				pmax	pmax		
	comp=Z,12nm,1.0s						
EIL	**Elat**	**34.49**	**272**	LR	LR	02 26 13.7	
	comp=Z,454nm,21.4s,baz=243,slow=38						
NRIK	**Noril'sk**	**34.88**	**7**	P	**P**	**02 11 03.3**	**+1.3**
	comp=Z,7.3nm,0.8s,baz=190,slow=4.7,SNR=9.4						
AKASG	**Malin Array Be**	**36.62**	**310**	P	**P**	**02 11 17.4**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=79,slow=7.3,SNR=7.6						
VRI	**Vrincioaia**	**38.05**	**302**	⇓*i*P	**P**	**02 11 31.5**	**+2.1**
VRI	**Vrincioaia**	**38.05**	**302**	⇓P	**P**	**02 11 31.5**	**+2.1**
MLR	**Muntele Rosu**	**38.61**	**301**	⇓*i*P	**P**	**02 11 36.3**	**+2.1**
MLR	**Muntele Rosu**	**38.61**	**301**	⇓P	**P**	**02 11 36.3**	**+2.1**
MLR	**Muntele Rosu**	**38.61**	**301**	*eP*	**P**	**02 11 35.4**	**+1.1**
	comp=Z,9.7nm,0.8s						
DOPR	**Dopca**	**38.98**	**302**	⇑*i*P	**P**	**02 11 38.8**	**+1.6**
BURAR	**Bucovina Array**	**39.07**	**304**	⇑*i*P	**P**	**02 11 38.5**	**+0.5**
BURAR	**Bucovina Array**	**39.07**	**304**	⇑P	**P**	**02 11 38.5**	**+0.5**
BUR08	**Bucovina Ar. S**	**39.08**	**304**	*eP*	**P**	**02 11 38.9**	**+0.8**
VSU	**Vasula**	**39.50**	**322**	*ceP*	**P**	**02 11 41.8**	**+0.5**
VSU				pmax	pmax		
	comp=Z,121nm,2.5s						
ARR	**Arges**	**39.54**	**301**	⇑*i*P	**P**	**02 11 42.6**	**+0.7**
FIA1	**FINESS Array S**	**40.63**	**326**	*eP*	**P**	**02 11 51.2**	**+0.6**
FINES	**FINESS Array B**	**40.63**	**326**	P	**P**	**02 11 51.6**	**+1.0**
	comp=Z,8.2nm,0.8s,baz=108,slow=8.1,SNR=20						
DRGR		**40.80**	**303**	⇓*i*P	**P**	**02 11 53.7**	**+1.4**
DRGR		**40.80**	**303**	⇓P	**P**	**02 11 53.7**	**+1.4**
BZS	**Buzias**	**41.64**	**301**	⇑*i*P	**P**	**02 12 00.5**	**+1.4**
BZS	**Buzias**	**41.64**	**301**	⇑P	**P**	**02 12 00.5**	**+1.4**
MDVR	**Moldovita**	**41.65**	**300**	⇑*i*P	**P**	**02 12 00.4**	**+1.1**
KSAR	**Wonju Array Be**	**41.83**	**71**	P	**P**	**02 12 01.1**	**+0.3**
KSAR	**Wonju Array Be**	**41.83**	**71**	P	**P**	**02 12 01.1**	**+0.3**
KSRS	**Korea Array**	**41.86**	**71**	P	**P**	**02 12 01.1**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=276,slow=8.7,SNR=7.7						
MDJ	**Mudanjiang**	**41.88**	**60**	P	**P**	**02 12 01.0**	**-0.2**
MDJ				PMZ			
	comp=Z,6.0nm,0.5s						
MDJ				PMZ			
	comp=Z,25nm,4.4s						
PSZ	**Piszkesteto**	**42.64**	**305**	⇑*i*P	**P**	**02 12 09.0**	**+1.6**
PSZ	**Piszkesteto**	**42.64**	**305**	⇑P	**P**	**02 12 09.0**	**+1.6**
YAK	**Yakutsk**	**42.97**	**34**	*eP*	**P**	**02 12 11.7**	**+2.0**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
KLR	**Kul'dur**	**43.00**	**53**	P	**P**	**02 12 10.7**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=306,slow=3.1,SNR=14						
USRK	**Ussuriysk Ar.**	**43.64**	**60**	P	**P**	**02 12 16.5**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=140,slow=41,SNR=5.4						
ARA0	**ARCESS Array S**	**43.78**	**337**	*eP*	**P**	**02 12 17.6**	**+1.3**
ARCES	**ARCESS Array B**	**43.78**	**337**	P	**P**	**02 12 17.2**	**+0.9**
	comp=Z,9.5nm,0.8s,baz=117,slow=8.9,SNR=17						
MORC	**Moravsky Berou**	**44.08**	**308**	⇑*i*P	**P**	**02 12 18.1**	**-0.8**
MORC	**Moravsky Berou**	**44.08**	**308**	⇑P	**P**	**02 12 18.1**	**-0.8**
VRAC	**Vranov**	**44.73**	**307**	⇑*i*P	**P**	**02 12 25.0**	**+0.9**
VRAC	**Vranov**	**44.73**	**307**	⇑P	**P**	**02 12 25.0**	**+0.9**
DPC	**Dobruska-Polom**	**44.83**	**309**	*eP*	**P**	**02 12 26.1**	**+1.2**
DPC	**Dobruska-Polom**	**44.83**	**309**	*eP*	**P**	**02 12 26.1**	**+1.2**
CONA	**Conrad Observa**	**45.34**	**305**	*i* P	**P**	**02 12 29.9**	**+0.8**
	comp=Z,8.1nm,0.9s						
TIXI	**Tiksi**	**45.68**	**21**	*ceP*	**P**	**02 12 32.2**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TIXI	**Tiksi**	**45.68**	**21**	*eP*	**P**	**02 12 31.8**	**+0.5**
	comp=Z,7.9nm,1.0s						
SOKA	**Soboth**	**46.06**	**304**	*i* P	**P**	**02 12 35.6**	**+0.8**
	comp=Z,9.2nm,1.2s						
BRG	**Berggiesshubel**	**46.30**	**310**	*eP*	**P**	**02 12 37.2**	**+0.7**
	comp=Z,2.6nm,0.7s						
BRG

*NEIC **21** 02:04:15.9±0.1,11°.48S×165°.55E,h14km,mb5.8/246, ME5.3,MS5.8/296,MW6.0,MW5.9, Error ellipse: s-maj=3.2km s-min=2.8km az=131.0,Moment Tensor Solution. s39 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.52; $M_{\theta\theta}$-3.19; $M_{\phi\phi}$ 7.71; $M_{r\theta}$1.08; $M_{r\phi}$-2.76; $M_{\theta\phi}$-2.05; Best double couple: $M_0$7.60000×10^{17} NP1:ϕ_s327.00000°, δ59.00000°,λ-118.00000°. NP2:ϕ_s192.00000°, δ41.00000°,λ-53.00000°. Principal axes: T 8.7500, Plg10.0000°, Azm76.0000°; N -3.6000, Plg23.0000°, Azm342.0000°; P -5.1500, Plg65.0000°, Azm187.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

*NEIC **21** 02:04:15.0±0.0,11°.41S×165°.34E,h13km,Moment Tensor Solution. s45 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.20; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$1.24; $M_{r\theta}$0.04; $M_{r\phi}$-0.35; $M_{\theta\phi}$-0.41; Best double couple: $M_0$1.30000×10^{18} NP1:ϕ_s349.00000°, δ54.00000°,λ-86.00000°. NP2:ϕ_s162.00000°, δ36.00000°, λ-95.00000°. Principal axes: T 1.3900, Plg8.0000°, Azm75.0000°; N -0.1200, Plg3.0000°, Azm166.0000°; P -1.2700, Plg80.0000°, Azm276.0000°;*

*GCMT **21** 02:04:15.9±0.1,11°.55S×165°.36E,h22km,MW6.0/139, Moment Tensor Solution. s138,c314; s139,c497; Duration: 2s5 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.26±.01; $M_{\theta\theta}$0.05±.01; $M_{\phi\phi}$1.21±.01; $M_{r\theta}$0.01±.01; $M_{\theta\phi}$-0.34±.01; $M_{r\phi}$-0.10±.01; Best double couple: $M_0$1.28600×10^{18} NP1:ϕ_s346.00000°, δ47.00000°, λ-89.00000°. NP2:ϕ_s164.00000°, δ43.00000°, λ-92.00000°. Principal axes: T 1.3080, Plg2.0000°, Azm75.0000°; N -0.0440, Plg1.0000°, Azm165.0000°; P -1.2640, Plg88.0000°, Azm280.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **21** 02:04:18.2±1.4, 11°.36S×165°.50E,h33km,mb6.0/75, MS5.7/60 Error ellipse: s-maj=6.6km s-min=5.8km az=111.4*

ISC 21 02:04:16.9±0.6,11°.48S±0°.03×165°.50E±0°.03,h19km±2km, n1448,σ1s73/1386,mb5.8/331,MS5.8/514,34C-40D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.83**	**290**		*e*P		**Pn**	**02 05 43.0**	**+0.6**
HNR					*e*S		**Sn**	**02 06 44.0**	**-4.8**
HNR	**Honiara**	**5.83**	**290**		*e*P		**Pn**	**02 05 44.0**	**+1.6**
HNR					*e*			02 06 50.8	
HNR	**Honiara**	**5.83**	**290**		*e*Pn		**Pn**	**02 05 44.0**	**+1.6**
HNR					*e*Sn		**Sn**	**02 06 50.8**	**+2.0**
DZM	**Mont Dzumac** 104nm,0.2s	**10.57**	**175**		*e*Pn		**Pn**	**02 06 46.4**	**-1.2**
DZM	56nm,0.3s				*e*Sn		Sn	02 08 36.0	-10
DZM	42μm,23.1s				*e*LR		LR	02 09 12.2	
DZM	**Mont Dzumac** 41nm,0.3s,baz=341,slow=12,SNR=90	**10.57**	**175**	Pn			**Pn**	**02 06 47.3**	**-0.2**
DZM	9.4nm,0.3s,baz=327,slow=19,SNR=5.0			Sn			**Sn**	**02 08 45.4**	**-0.1**
DZM	comp=Z,42μm,19.0s,baz=26,slow=35			LR			LR	02 10 24.1	
DZM	**Mont Dzumac**	**10.57**	**175**	*e*Pn			**Pn**	**02 06 46.4**	**-1.2**
DZM				*e*Sn			**Sn**	**02 08 41.5**	**-4.1**
MSVF	**Nonsavu**	**13.64**	**119**	*e*P			**Pn**	**02 07 32.8**	**+3.1**
MSVF	**Nonsavu**	**13.64**	**119**	*e*Pn			**Pn**	**02 07 32.8**	**+3.1**
FUNA	**Funafuti**	**13.81**	**79**	*e*Pn			**Pn**	**02 07 31.6**	**-0.2**
TARA	**Tarawa**	**14.74**	**31**	*e*Pn			**Pn**	**02 07 45.8**	**+1.2**
TARA				*e*Sn			Sn	02 10 16.3	-11
RABL	**Rabaul** 2μm,1.6s	**15.06**	**298**	*e*Pn			**Pn**	**02 07 48.4**	**-0.5**
PMG	**Port Moresby** 1.8nm,0.3s,baz=74,slow=7.0,SNR=16	**18.15**	**275**	P			**P**	**02 08 29.9**	**+1.4**
PMG	0.8nm,0.3s,baz=251,slow=18,SNR=1.7			S			**S**	**02 11 56.9**	**+1.1**
PMG	comp=Z,65μm,19.1s,baz=90,slow=36			LR			LR	02 15 14.6	
PMG	**Port Moresby**	**18.15**	**275**	*ce*P			**P**	**02 08 31.5**	**+3.1**
PMG	comp=Z,2μm,2.5s			pmax			pmax		
PMG	**Port Moresby** comp=Z,2μm,1.8s	**18.15**	**275**	*e*Pn			**P**	**02 08 31.8**	**+3.4**
PMG				S			**S**	**02 11 56.9**	**+1.1**
EIDS	**Eidsvold** baz=20,SNR=51	**19.41**	**223**	P			**Pn**	**02 08 44.6**	**+1.3**
EIDS	**Eidsvold** comp=Z,1μm,1.9s	**19.41**	**223**	*e*P			**Pn**	**02 08 44.2**	**+0.9**
EIDS				*e*Sn			**Sn**	**02 12 15.8**	**-4.9**
PATS	**Pohnpei** baz=20,SNR=12	**19.55**	**338**	P			**Pn**	**02 08 46.2**	**+1.0**
PATS	**Pohnpei** comp=Z,911nm,1.3s	**19.55**	**338**	*e*P			**P**	**02 08 43.2**	**-0.6**
PATS				*e*S			S	02 12 13.2	-11
KWAJ	**Kwajalein Atol**	**20.26**	**6**	*e*P			**P**	**02 08 50.8**	**-0.7**
KWAJ	comp=Z,2μm,1.6s			pmax			pmax		
KWAJ	comp=Z,26μm,20.0s			MLR			MLR		
KWAJ	**Kwajalein Atol** comp=Z,2μm,1.6s	**20.26**	**6**	*e*P			**P**	**02 08 50.8**	**-0.7**
KWAJ	comp=Z,26μm,20.0s			LR			LR		
MANU	**Manus Island** comp=Z,3μm,1.4s	**20.28**	**296**	*e*P			Pn	02 08 53.2	-0.6
CTA	**Charters Tower** comp=Z,121nm,0.8s,baz=70,slow=13,SNR=64	**20.38**	**243**	P			Pn	02 08 54.6	-0.4
CTA	comp=Z,2.9nm,0.6s,baz=29,slow=19,SNR=4.8			S			Sn	02 12 44.6	+0.3
CTA	comp=Z,40μm,18.2s,baz=71,slow=35			LR			LR	02 16 09.3	
CTAO	**Charters Tower**	**20.38**	**243**	*e*P			Pn	02 08 54.5	-0.4
CTAO	comp=Z,640nm,1.5s			pmax			pmax		
CTAO	**Charters Tower** comp=Z,643nm,1.5s	**20.38**	**243**	*e*P			Pn	02 08 54.5	-0.5
CTAO	comp=Z,43μm,18.0s			LR			LR		
LHI	**Lord Howe Isla** baz=21,SNR=7.7	**20.81**	**196**	P			**P**	**02 08 58.5**	**+1.2**
LHI	**Lord Howe Isla** comp=Z,352nm,0.8s	**20.81**	**196**	*e*P			**P**	**02 08 57.7**	**+0.4**
LHI	comp=Z,41μm,19.0s			LR			LR		
MTSU	**Mount Surprise** baz=22,SNR=162	**21.50**	**250**	P			**P**	**02 09 06.6**	**+1.6**
RMQ	**Roma** baz=22,SNR=74	**21.71**	**224**	P			**P**	**02 09 09.0**	**+1.8**
COEN	**Coen** baz=22,SNR=13	**21.91**	**261**	P			**P**	**02 09 11.0**	**+1.6**
COEN	**Coen** comp=Z,404nm,1.1s	**21.91**	**261**	*e*P			**P**	**02 09 11.4**	**+2.0**
COEN	comp=Z,31μm,19.0s			LR			LR		
AFI	**Afiamalu** comp=Z,65nm,0.9s,baz=293,slow=7.4,SNR=7.3	**22.30**	**99**	P			**P**	**02 09 12.9**	**-0.7**
AFI	comp=Z,28μm,21.8s,baz=264,slow=32			LR			LR	02 16 05.4	
AFI	**Afiamalu**	**22.30**	**99**	*e*P			**P**	**02 09 14.3**	**+0.7**
AFI	comp=Z,360nm,1.2s			pmax			pmax		
AFI	**Afiamalu** comp=Z,362nm,1.2s	**22.30**	**99**	*e*P			**P**	**02 09 14.3**	**+0.7**
ARMA	**Armidale** comp=Z,540nm,1.0s	**22.82**	**212**	*e*P			**P**	**02 09 19.3**	**+0.3**
ARMA				*e*PcP			**PcP**	**02 13 13.2**	**+2.9**
ARMA				*e*S			**S**	**02 13 33.8**	**+6.2**
ARMA	comp=Z,38μm,19.0s			LR			LR		
RAO	**Raoul Island** comp=Z,281nm,0.3s,baz=287,slow=20,SNR=3.3	**23.49**	**141**	P			**P**	**02 09 25.5**	**-0.2**
RAO	**Raoul Island**	**23.49**	**141**	P			**P**	**02 09 25.5**	**-0.2**
RAO	comp=Z,20μm,19.0s			MLR			MLR		
RAO	**Raoul Island**	**23.49**	**141**	P			**P**	**02 09 25.5**	**-0.2**
RAO	comp=Z,20μm,19.0s			LR			LR		
OUZ	**Omahuta** comp=Z,305nm,1.0s	**24.75**	**164**	*e*P			**P**	**02 09 36.6**	**-0.8**
OUZ	comp=Z,19μm,20.0s			LR			LR		
OUZ	**Omahuta**	**24.75**	**164**	PN			**P**	**02 09 38.7**	**+1.3**
QLP	**Quilpie** baz=25,SNR=17	**25.03**	**230**	P			**P**	**02 09 40.0**	**-0.1**
MGCD	**Mangrove Creek**	**25.33**	**209**	P			**P**	**02 09 43.3**	**+0.6**
	baz=26,SNR=24								
JAY	**Jayapura** comp=Z,3.4nm,0.9s,baz=90,slow=20,SNR=14	**26.15**	**288**	P			**P**	**02 09 50.9**	**+0.5**
JAY	comp=Z,444nm,19.2s,baz=4.5,slow=39			LR			LR	02 21 20.9	
JAY	**Jayapura**	**26.15**	**288**	P			**P**	**02 09 51.1**	**+0.7**
QIS	**Mount Isa** baz=27,SNR=18	**26.44**	**247**	P			**P**	**02 09 54.0**	**+1.1**
GENI	**Genyem**	**26.62**	**287**	P			**P**	**02 09 55.8**	**+1.2**
CMSA	**Cobar Meteorol** baz=27,SNR=61	**27.07**	**219**	P			**P**	**02 09 58.7**	**+0.2**
YNG	**Young** baz=28,SNR=4.5	**27.55**	**212**	P			**P**	**02 10 04.0**	**+1.1**
CNB	**Canberra Magne** baz=28,SNR=10.0	**27.88**	**209**	P			**P**	**02 10 07.7**	**+1.9**
CAN	**Canberra**	**28.06**	**210**	*e*P			**P**	**02 10 07.7**	**+0.3**
CAN	comp=Z,281nm,1.7s			pmax			pmax		
CAN	comp=Z,12μm,19.0s			MLR			MLR		
CAN	**Canberra** comp=Z,281nm,1.7s	**28.06**	**210**	*e*P			**P**	**02 10 07.7**	**+0.3**
CAN	comp=Z,12μm,19.0s			LR			LR		
HIZ	**Hauiti** comp=Z,734nm,1.4s	**28.18**	**164**	*e*P			**P**	**02 10 08.8**	**+0.5**
HIZ	comp=Z,28μm,18.0s			LR			LR		
MXZ	**Matakaoa Point** comp=Z,127nm,0.7s	**28.40**	**158**	*e*P			**P**	**02 10 11.6**	**+1.3**
MXZ	comp=Z,24μm,20.0s			LR			LR		
MXZ	**Matakaoa Point**	**28.40**	**158**	PN			**P**	**02 10 12.1**	**+1.8**
URZ	**Urewera** comp=Z,53nm,0.7s,baz=359,slow=5.1,SNR=15	**28.61**	**161**	P			**P**	**02 10 11.5**	**-0.7**
URZ	comp=Z,10.0nm,0.8s,baz=222,slow=19,SNR=4.1			S			**S**	**02 14 59.4**	**-0.4**
URZ	comp=Z,14μm,19.7s,baz=339,slow=34			LR			LR	02 20 14.7	
URZ	**Urewera** comp=Z,288nm,1.4s	**28.61**	**161**	*e*P			**P**	**02 10 12.2**	**0.0**
URZ				*e*PcP			**PcP**	**02 13 22.5**	**-0.6**
URZ				S			**S**	**02 14 59.4**	**-0.4**
MWZ	**Matawai**	**28.82**	**160**	PN			**P**	**02 10 13.9**	**-0.2**
MWZ				PcP			**PcP**	**02 13 24.2**	**+0.5**
MWZ				SN			**S**	**02 15 02.6**	**-0.5**
WTVZ	**West Tongariro**	**28.95**	**164**	*e*PN			**P**	**02 10 16.7**	**+1.4**
OTVZ	**Oturere**	**29.01**	**164**	*e*PN			**P**	**02 10 16.7**	**+0.7**
OTVZ				SN			**S**	**02 15 05.7**	**-0.7**
FWVZ	**Far West T-bar**	**29.07**	**164**	*e*PN			**P**	**02 10 17.0**	**+0.5**
RIGZ	**Rimuhau**	**29.23**	**160**	*e*PN			**P**	**02 10 18.0**	**+0.2**
BKZ	**Black Stump Fm** comp=Z,561nm,1.5s	**29.25**	**162**	*e*P			**P**	**02 10 18.0**	**0.0**
BKZ				*e*PcP			**PcP**	**02 13 21.5**	**-3.3**
BKZ				*e*S			**S**	**02 15 04.9**	**-5.1**
BKZ	comp=Z,18μm,19.0s			LR			LR		
KWHZ	**Kaweka Forest**	**29.47**	**163**	*e*PN			**P**	**02 10 19.2**	**-0.7**
KNZ	**Kokohu**	**29.49**	**161**	PN			**P**	**02 10 21.5**	**+1.6**
ARHZ	**Aropaoanui**	**29.50**	**162**	PN			**P**	**02 10 20.1**	**+0.1**
KRHZ	**Kereru**	**29.66**	**163**	*e*PN			**P**	**02 10 20.6**	**-0.9**
H11S2	**WAKE ISLAND Hy** baz=181,slow=76,SNR=122	**29.81**	**2**	T			T	02 40 56.0	
H11S3	**WAKE ISLAND Hy** baz=181,slow=76,SNR=96	**29.81**	**2**	T			T	02 40 59.5	
H11S1	**WAKE ISLAND Hy** baz=181,slow=76,SNR=93	**29.82**	**2**	T			T	02 41 00.1	
PNHZ	**Pukenui**	**29.86**	**163**	*e*PN			**P**	**02 10 21.9**	**-1.4**
STKA	**Stephens Creek** comp=Z,51nm,0.7s,baz=39,slow=9.7,SNR=52	**29.96**	**224**	P			**P**	**02 10 24.1**	**-0.1**
STKA	comp=Z,9.9nm,0.7s,baz=132,slow=3.0,SNR=3.6			PcP			**PcP**	**02 13 26.9**	**+0.3**
STKA	comp=Z,22μm,18.8s,baz=48,slow=35			LR			LR	02 21 54.0	
STKA	**Stephens Creek** baz=30,SNR=50	**29.96**	**224**	P			**P**	**02 10 24.1**	**-0.1**
STKA	**Stephens Creek** comp=Z,15nm,0.8s	**29.96**	**224**	*e*P			**P**	**02 10 24.1**	**-0.1**
STKA				pmax			pmax		
STKA	**Stephens Creek** comp=Z,15nm,0.8s	**29.96**	**224**	*e*P			**P**	**02 10 24.1**	**-0.1**
STKA				PcP			**PcP**	**02 13 26.9**	**+0.3**
PXZ	**Pawanui**	**30.16**	**162**	*e*PN			**P**	**02 10 24.3**	**-1.5**
ANWZ	**Angora Road**	**30.45**	**163**	*e*PN			**P**	**02 10 27.3**	**-1.1**
BFZ	**Birch Farm** comp=Z,194nm,0.8s	**30.59**	**164**	*e*P			**P**	**02 10 28.7**	**-1.0**
BFZ	comp=Z,29μm,18.0s			LR			LR		
BFZ	**Birch Farm**	**30.59**	**164**	PN			**P**	**02 10 28.2**	**-1.5**
BFZ				SN			**S**	**02 15 27.6**	**-3.2**
SNZO	**South Karori** comp=Z,212nm,0.8s	**30.79**	**166**	*e*P			**P**	**02 10 30.1**	**-1.3**
SNZO	comp=Z,24μm,19.0s			LR			LR		
THZ	**Tophouse** comp=Z,150nm,0.8s	**30.85**	**169**	*e*P			**P**	**02 10 30.7**	**-1.4**
THZ	comp=Z,17μm,20.0s			LR			LR		
THZ	**Tophouse**	**30.85**	**169**	PN			**P**	**02 10 31.8**	**-0.3**
THZ				SN			**S**	**02 15 38.7**	**+3.6**
TMWZ	**Te Maipa**	**30.89**	**165**	*e*PN			**P**	**02 10 31.4**	**-1.0**
WR0	**Warramunga Arr**	**30.92**	**250**	PFAKE				02 10 50.0	+17
WR0	comp=Z,21μm,18.0s			LR			LR		
WR9	**Warramunga Arr**	**30.95**	**250**	PFAKE				02 10 50.0	+17
WR9	comp=Z,20μm,18.0s			LR			LR		
WR8	**Warramunga Arr**	**30.96**	**250**	PFAKE				02 10 50.0	+17
WR8	comp=Z,21μm,18.0s			LR			LR		
WR7	**Warramunga Arr**	**30.98**	**250**	PFAKE				02 10 50.0	+17
WR7	comp=Z,21μm,18.0s			LR			LR		
WR6	**Warramunga Arr**	**31.00**	**250**	PFAKE				02 10 50.0	+16
WR6	comp=Z,20μm,19.0s			LR			LR		
WB0	**Warramunga Arr**	**31.02**	**251**	PFAKE				02 10 50.0	+16
WB0	comp=Z,23μm,18.0s			LR			LR		
WR5	**Warramunga Arr**	**31.02**	**250**	PFAKE				02 10 50.0	+16
WR5	comp=Z,22μm,18.0s			LR			LR		
H11N1	**WAKE ISLAND Hy** baz=182,slow=76,SNR=78	**31.03**	**3**	T			T	02 42 28.0	
WB9	**Warramunga Arr**	**31.04**	**251**	PFAKE				02 10 50.0	+16
WB9	comp=Z,48μm,18.0s			LR			LR		
H11N3	**WAKE ISLAND Hy** baz=182,slow=76,SNR=79	**31.04**	**3**	T			T	02 42 36.4	
WB8	**Warramunga Arr**	**31.04**	**251**	PFAKE				02 10 50.0	+16
WB8	comp=Z,23μm,19.0s			LR			LR		
WR4	**Warramunga Arr**	**31.04**	**250**	PFAKE				02 10 50.0	+16
WR4	comp=Z,20μm,18.0s			LR			LR		
H11N2	**WAKE ISLAND Hy** baz=182,slow=76,SNR=52	**31.05**	**3**	T			T	02 42 33.6	
WR3	**Warramunga Arr**	**31.06**	**250**	PFAKE				02 10 50.0	+16
WR3	comp=Z,22μm,18.0s			LR			LR		
WB6	**Warramunga Arr**	**31.06**	**251**	PFAKE				02 10 50.0	+16
WB6	comp=Z,22μm,18.0s			LR			LR		
WB5	**Warramunga Arr**	**31.07**	**251**	PFAKE				02 10 50.0	+16
WB5	comp=Z,23μm,19.0s			LR			LR		
WC2	**Warramunga Arr**	**31.08**	**250**	PFAKE				02 10 50.0	+16
WC2	comp=Z,24μm,18.0s			LR			LR		
WC3	**Warramunga Arr**	**31.08**	**250**	PFAKE				02 10 50.0	+16
WC3	comp=Z,23μm,18.0s			LR			LR		
WB4	**Warramunga Arr**	**31.08**	**250**	PFAKE				02 10 50.0	+16
WB4	comp=Z,21μm,18.0s			LR			LR		
WR2	**Warramunga Arr**	**31.08**	**250**	PFAKE				02 10 50.0	+16
WR2	comp=Z,21μm,18.0s			LR			LR		
WB3	**Warramunga Arr**	**31.09**	**250**	PFAKE				02 10 50.0	+16
WB3	comp=Z,22μm,18.0s			LR			LR		
WRAB	**Tennant Creek**	**31.09**	**250**	*ce*P			**P**	**02 10 32.6**	**-1.8**
WRAB	comp=Z,614nm,1.7s			pmax			pmax		
WRAB	comp=Z,54μm,18.0s			MLR			MLR		
WRAB	**Tennant Creek** comp=Z,780nm,1.8s	**31.09**	**250**	*e*P			**P**	**02 10 33.3**	**-1.1**
WRAB				*e*PP			**PnPn**	**02 11 37.8**	**+1.8**
WRAB	comp=Z,24μm,19.0s			LR			LR		
WB2	**Warramunga Arr** comp=Z,891nm,1.9s	**31.09**	**250**	*e*P			**P**	**02 10 33.6**	**-0.8**
WB2				*e*PP			**PnPn**	**02 11 37.9**	**+1.9**
WB2	comp=Z,24μm,19.0s			LR			LR		
WC1	**Warramunga Arr**	**31.10**	**250**	PFAKE				02 10 50.0	+15
WC1	comp=Z,17μm,18.0s			LR			LR		
WR1	**Warramunga Arr**	**31.11**	**250**	PFAKE				02 10 50.0	+15
WR1	comp=Z,22μm,18.0s			LR			LR		
WRA	**Warramunga Arr** comp=Z,85nm,0.8s,baz=80,slow=9.2,SNR=173	**31.11**	**250**	P			**P**	**02 10 33.8**	**-0.7**
WRA	comp=Z,14nm,0.8s,baz=76,slow=3.2,SNR=7.7			PcP			**PcP**	**02 13 30.0**	**+0.1**
WRA	comp=Z,5.0nm,1.1s,baz=79,slow=25,SNR=3.0			S			**S**	**02 15 37.4**	**-2.1**
WRA	comp=Z,2.7nm,0.9s,baz=72,slow=5.4,SNR=3.3			ScP			**ScP**	**02 17 16.9**	**+4.8**
WRA	comp=Z,22μm,18.4s,baz=75,slow=36			LR			LR	02 23 15.3	
WC4	**Warramunga Arr**	**31.11**	**250**	PFAKE				02 10 50.0	+15
WC4	comp=Z,23μm,18.0s			LR			LR		
TRWZ	**Traveller**	**31.11**	**165**	*e*PN			**P**	**02 10 33.0**	**-1.3**
PLWZ	**Palliser**	**31.17**	**166**	*e*PN			**P**	**02 10 33.6**	**-1.2**
INZ	**Inchbonnie**	**31.55**	**172**	PN			**P**	**02 10 40.3**	**+2.1**
INZ				PcP			**PcP**	**02 13 31.7**	**+1.1**
KHZ	**Kahutara** comp=Z,129nm,0.9s	**31.61**	**169**	*e*P			**P**	**02 10 37.0**	**-1.6**
KHZ	comp=Z,26μm,20.0s			LR			LR		
LTZ	**Lake Taylor** comp=Z,122nm,0.8s	**31.73**	**170**	*e*P			**P**	**02 10 40.1**	**+0.3**
LTZ	comp=Z,15μm,19.0s			LR			LR		
LTZ	**Lake Taylor**	**31.73**	**170**	PN			**P**	**02 10 40.1**	**+0.3**
FOZ	**Fox Glacier** comp=Z,268nm,0.9s	**32.15**	**174**	*e*P			**P**	**02 10 43.4**	**0.0**
FOZ	comp=Z,15μm,18.0s			LR			LR		
FOZ	**Fox Glacier**	**32.15**	**174**	PN			**P**	**02 10 43.4**	**0.0**
FOZ				PcP			**PcP**	**02 13 33.3**	**+1.1**
OXZ	**Oxford** comp=Z,158nm,1.1s	**32.23**	**171**	*e*P			**P**	**02 10 43.0**	**-1.1**
OXZ	comp=Z,12μm,19.0s			LR			LR		
OXZ	**Oxford**	**32.23**	**171**	PN			**P**	**02 10 45.9**	**+1.8**
GUMO	**Guam** comp=Z,54nm,0.7s,baz=170,slow=12,SNR=2.7	**32.23**	**320**	P			**P**	**02 10 43.3**	**-1.2**
GUMO	comp=Z,8μm,19.4s,baz=126,slow=36			LR			LR	02 23 28.5	
KDU	**Kakadu** baz=32,SNR=4.7	**32.30**	**264**	P			**P**	**02 10 45.3**	**+0.2**
AS01	**Alice Springs**	**32.34**	**244**	*e*P			**P**	**02 10 43.8**	**-1.5**
AS01				*e*PcP			**PcP**	**02 13 30.4**	**-2.8**
AS31	**Alice Springs** comp=Z,16nm,0.8s	**32.38**	**244**	*e*P			**P**	**02 10 44.5**	**-1.2**
AS31	comp=Z,400nm,18.0s			LR			LR		
ASAR	**Alice Springs** comp=Z,22nm,0.7s,baz=73,slow=9.3,SNR=85	**32.38**	**244**	P			**P**	**02 10 43.3**	**-2.4**
ASAR	comp=Z,14nm,0.7s,baz=68,slow=2.6,SNR=9.2			PcP			**PcP**	**02 13 33.8**	**+0.4**
ASAR	comp=Z,1.6nm,1.0s,baz=76,slow=28,SNR=2.5			S			**S**	**02 15 57.4**	**-1.9**
ASAR	comp=Z,2.0nm,0.8s,baz=48,slow=2.8,SNR=3.8			ScP			**ScP**	**02 17 18.9**	**+2.5**
ASAR	comp=Z,20μm,18.5s,baz=72,slow=35			LR			LR	02 23 07.1	
RPZ	**Rata Peaks** comp=Z,57nm,0.7s,baz=140,slow=0.2,SNR=29	**32.47**	**172**	P			**P**	**02 10 45.9**	**-0.3**
RPZ	comp=Z,12μm,18.3s,baz=342,slow=36			LR			LR	02 23 32.3	
RPZ	**Rata Peaks** comp=Z,150nm,0.8s	**32.47**	**172**	*e*P			**P**	**02 10 45.9**	**-0.3**
RPZ	**Rata Peaks**	**32.47**	**172**	PN			**P**	**02 10 45.8**	**-0.3**
CRLZ	**Canterbury Las** comp=Z,290nm,1.1s	**32.56**	**170**	*e*P			**P**	**02 10 47.1**	**+0.1**
CRLZ				*e*PcP			**PcP**	**02 13 34.9**	**+1.6**
CRLZ	comp=Z,10μm,18.0s			LR			LR		
JCZ	**Jackson Bay**	**32.60**	**176**	PN			**P**	**02 10 48.6**	**+1.2**
JCZ				PcP			**PcP**	**02 13 36.0**	**+2.4**
HTT	**Hallett** baz=33,SNR=26	**32.69**	**224**	P			**P**	**02 10 49.1**	**+0.7**
MQZ	**McQueen's Vall** comp=Z,187nm,0.9s	**32.70**	**170**	*e*P			**P**	**02 10 47.1**	**-1.0**
MQZ	comp=Z,8μm,19.0s			LR			LR		
ARPS	**Mount Arapiles** baz=33,SNR=8.2	**32.98**	**216**	P			**P**	**02 10 53.1**	**+2.3**
LBZ	**Lake Benmore** comp=Z,121nm,1.1s	**33.03**	**174**	*e*P			**P**	**02 10 51.7**	**+0.6**
LBZ	comp=Z,12μm,18.0s			LR			LR		
WKZ	**Wanaka** comp=Z,447nm,1.5s	**33.36**	**175**	*e*P			**P**	**02 10 54.3**	**+0.3**
WKZ	comp=Z,19μm,18.0s			LR			LR		
WKZ	**Wanaka**	**33.36**	**175**	PN			**P**	**02 10 55.2**	**+1.2**
MTN	**Manton Dam** baz=34,SNR=4.4	**33.60**	**264**	P			**P**	**02 10 57.6**	**+1.1**
MTN	**Manton Dam** comp=Z,68nm,1.0s	**33.60**	**264**	*e*P			**P**	**02 10 56.0**	**-0.5**
MTN				*e*PcP			**PcP**	**02 13 37.4**	**+0.6**
MTN	comp=Z,14μm,19.0s			LR			LR		
ODZ	**Otahua Downs** comp=Z,93nm,1.0s	**33.73**	**173**	*e*P			**P**	**02 10 57.5**	**+0.3**
ODZ	comp=Z,9μm,18.0s			LR			LR		
EAZ	**Earnscleugh**	**33.79**	**175**	PN			**P**	**02 10 58.3**	**+0.6**
MLZ	**Mavora Lakes** comp=Z,105nm,1.2s	**33.84**	**177**	*e*P			**P**	**02 10 57.9**	**-0.3**
MLZ	comp=Z,21μm,18.0s			LR			LR		
SAUI	**Saumlaki**	**33.87**	**273**	PFAKE				02 11 10.0	+11
SAUI	comp=Z,23μm,18.0s			LR			LR		
DCZ	**Deep Cove** comp=Z,103nm,1.0s	**33.89**	**178**	*e*P			**P**	**02 10 58.7**	**+0.2**
DCZ	comp=Z,10μm,18.0s			LR			LR		
DCZ	**Deep Cove**	**33.89**	**178**	*e*PN			**P**	**02 10 59.6**	**+1.1**
BBOO	**Buckleboo** baz=34,SNR=16	**34.35**	**227**	P			**P**	**02 11 02.1**	**-0.7**
BBOO	**Buckleboo** comp=Z,102nm,0.9s	**34.35**	**227**	*e*P			**P**	**02 11 02.8**	**0.0**
BBOO	comp=Z,21μm,18.0s			LR			LR		
WHZ	**Wether Hill Ro** comp=Z,57nm,1.0s	**34.35**	**177**	*e*P			**P**	**02 11 00.2**	**-2.4**
WHZ	comp=Z,15μm,18.0s			LR			LR		
TUZ	**Tuapeka**	**34.53**	**175**	PN			**P**	**02 11 04.6**	**+0.5**
PYZ	**Puysegur Point**	**34.58**	**179**	PFAKE				02 11 20.0	+15
PYZ	comp=Z,13μm,19.0s			LR			LR		
RAR	**Rarotonga** comp=Z,10μm,21.2s,baz=275,slow=32	**34.63**	**111**	LR			LR	02 22 27.3	
TAU	**Tasmania Unive** comp=Z,10μm,22.0s	**35.07**	**204**	PFAKE				02 11 20.0	+11
TAU				LR			LR		
BNDI	**Bandanaira**	**35.89**	**278**	P			**P**	**02 11 17.9**	**+1.7**
JOHN	**Johnston Islan** comp=Z,10μm,20.0s	**37.36**	**42**	PFAKE				02 11 40.0	+11
JOHN				LR			LR		
WRKA	**Warakurna** baz=38,SNR=32	**37.67**	**244**	P			**P**	**02 11 29.8**	**-1.6**
FITZ	**Fitzroy Crossi** comp=Z,19μm,18.6s,slow=36	**39.03**	**255**	LR			LR	02 27 22.7	
FITZ	**Fitzroy Crossi**

SOEI LR LR
comp=Z,492nm,1.7s
MIDW Midway 42.81 22 PFAKE 02 12 20.0 +6.3
MIDW LR LR
comp=Z,9μm,19.0s
KMSI Cibinong 42.95 283 P P 02 12 23.5 +8.3
comp=Z,420nm,1.2s
KDI Kendari 43.10 277 P P 02 12 29.2 +13
EDFI Ende, Flores 43.18 269 P **P 02 12 17.7 +0.5**
MCQ Macquarie Isla 43.22 186 PFAKE 02 12 30.0 +13
MCQ LR LR
comp=Z,14μm,18.0s
LUWI Luwuk 43.65 281 P **P 02 12 22.8 +1.9**
comp=Z,179nm,1.4s,comp=Z,5μm
LUWI Luwuk 43.65 281 *e*P **P 02 12 21.9 +1.1**
comp=Z,215nm,1.2s
DAV Davao City (W) 43.78 293⇓ *e*P **P 02 12 21.0 -0.9**
PPT Papeete 43.83 103 LR LR 02 27 33.2
comp=Z,8μm,18.6s,baz=270,slow=32
PPT2 Papeete2 43.83 103 *e*S S 02 19 02.3 +10
comp=Z,6μm,28.0s
PPT2 *e*LQ LQ 02 22 58.2
comp=Z,18μm,29.5s
PPT2 *e*LR LR 02 24 45.9
comp=Z,16μm,25.2s,baz=282
GTOI Gorontalo 43.89 283 P **P 02 12 21.8 -1.0**
comp=Z,2μm,1.0s
TBI Tubuai 44.40 112 *e*S **S 02 19 07.7 +7.0**
comp=Z,4μm,29.2s
TBI *e*LQ LQ 02 23 05.9
comp=Z,19μm,31.8s
TBI *e*LR LR 02 25 04.7
comp=Z,16μm,26.5s,baz=287
JCJ Chichijima 44.53 330 P **P 02 12 26.7 -1.0**
comp=Z,118nm,1.1s
CBIJ Chichi jima 44.53 330 *e*P **P 02 12 26.6 -1.1**
comp=Z,604nm,1.7s
BUKP Musuan 44.58 294 *e*P **P 02 12 29.4 +1.0**
BSSI Bau Bau, Buton 44.75 273 P **P 02 12 33.0 +3.3**
comp=Z,175nm,2.1s,comp=Z,4μm
KMBL Kambalda 44.80 237 P **P 02 12 29.2 -0.7**
baz=45,SNR=11
MRSI Marisa 44.87 282 P **P 02 12 32.5 +1.9**
comp=Z,46nm,0.8s,comp=Z,6μm
WBSI Waikabubak, Su 45.33 268 P **P 02 12 35.9 +1.6**
comp=Z,125nm,0.8s,comp=Z,2μm
KAPI Kappang 45.68 274 LR LR 02 30 46.5
comp=Z,2μm,22.0s,baz=110,slow=35
KAPI Kappang 45.68 274 *e*P **P 02 12 37.8 +0.8**
comp=Z,600nm,1.7s
PCI Palu 46.52 280 P **P 02 12 46.6 +2.9**
comp=Z,350nm,1.1s,comp=Z,6μmcomp=Z,11μm
PLAI Plampang 47.01 269 P **P 02 12 48.6 +1.1**
comp=Z,263nm,2.1s,comp=Z,5μm
KEKH Kekaha 47.66 46 PFAKE 02 13 00.0 +7.6
KEKH LR LR
comp=Z,6μm,20.0s
TWSI Taliwang, Sumb 47.90 269 P **P 02 12 55.7 +1.3**
comp=Z,124nm,1.5s,comp=Z,3μm
RCP Roxas 48.24 297⇓ *e*P **P 02 12 58.1 +1.1**
KLBR Kellerberrin 48.27 238 P **P 02 12 56.2 -0.9**
baz=48,SNR=34
KIP Kipapa 48.51 48 *ce*P **P 02 13 00.9 +1.9**
KIP pmax pmax
comp=Z,884nm,1.7s
KIP Kipapa 48.51 48 PFAKE 02 13 10.0 +11
KIP LR LR
comp=Z,6μm,22.0s
OPA Opana 48.68 47 *e*P **P 02 12 59.7 -0.6**
OPA pmax pmax
comp=Z,850nm,1.7s
OPA Opana 48.68 47 *e*P **P 02 12 59.7 -0.6**
comp=Z,853nm,1.7s
OPA LR LR
comp=Z,6μm,20.0s
BLDU Ballidu 48.93 239 P **P 02 13 02.9 +0.7**
baz=49,SNR=17
NWAO Narrogin (SRO) 49.02 236 LR LR 02 33 56.6
comp=Z,44μm,18.1s,baz=308,slow=36
NWAO Narrogin (SRO) 49.02 236 P **P 02 13 02.5 -0.4**
baz=49,SNR=18
NWAO Narrogin (SRO) 49.02 236 *e*P **P 02 13 02.9 0.0**
NWAO pmax pmax
comp=Z,100nm,0.9s
NWAO Narrogin (SRO) 49.02 236 *e*P **P 02 13 02.9 0.0**
comp=Z,100nm,0.9s
MORW Morawa 49.20 241 P **P 02 13 03.8 -0.5**
baz=49,SNR=34
UWE Uwekahuna 49.35 52 PFAKE 02 13 20.0 +14
UWE LR LR
comp=Z,7μm,20.0s
POHA Pohakuloa 49.36 51 *e*P **P 02 13 03.7 -2.1**
comp=Z,442nm,1.6s
POHA LR LR
comp=Z,8μm,20.0s
HPAH Hawaii Prepara 49.39 51 PFAKE 02 13 20.0 +14
HPAH LR LR
comp=Z,7μm,19.0s
HLK Haleakala 49.41 50 PFAKE 02 13 20.0 +14
HLK LR LR
comp=Z,7μm,19.0s
MYLDM Lahad Datu 49.60 287⇓ P **P 02 13 10.2 +2.7**
MYLDM Lahad Datu 49.60 287 *e*P **P 02 13 10.1 +2.6**
comp=Z,557nm,1.5s
SRBI Singaraja 49.62 269 P **P 02 13 08.8 +1.1**
comp=Z,151nm,1.7s,comp=Z,4μm
RKGY Rocky Gully 49.66 234 P **P 02 13 08.0 +0.4**
baz=50,SNR=11
TSM Tawau 49.90 286⇑ P **P 02 13 10.6 +0.8**
JAGI Jajag, Banyuwa 50.61 268 P **P 02 13 15.5 +0.3**
comp=Z,269nm,1.4s,comp=Z,4μm
JAGI Jajag, Banyuwa 50.61 268 *e*P **P 02 13 13.8 -1.4**
comp=Z,1μm,1.9s
JAGI *e*PcP **PcP 02 14 27.1 -5.7**
ABJI Asem Bagus 50.62 269 P **P 02 13 16.8 +1.5**
comp=Z,273nm,1.4s,comp=Z,6μm
JHJ2 Mitsune 50.66 332 PFAKE 02 13 30.0 +15
JHJ2 LR LR
comp=Z,3μm,20.0s
JHJ Hachijo jima 2 50.68 332 P **P 02 13 14.9 -0.4**
baz=196,slow=15
JHJ LR LR 02 33 04.6
comp=Z,2μm,20.6s,baz=119,slow=34
TGY Tagaytay City 50.97 299 P **P 02 13 18.0 +0.1**
comp=Z,86nm,0.3s,baz=132,slow=11,SNR=6.0
TGY Tagaytay City 50.97 299 P **P 02 13 18.0 +0.1**
TGY Tagaytay City 50.97 299 P **P 02 13 18.0 +0.1**
SDKM Sandakan 50.98 287⇑ P **P 02 13 19.0 +1.0**
GMJI Gumukmas 51.33 269 P **P 02 13 22.1 +1.5**
comp=Z,97nm,1.8s
KDM Kudat 51.75 288⇑ P **P 02 13 25.2 +1.5**
KKM Kota Kinabalu 52.03 287⇑ P **P 02 13 27.1 +1.1**
KKM Kota Kinabalu 52.03 287 *e*P **P 02 13 26.2 +0.2**
comp=Z,601nm,1.5s
JOW Kunigami 52.51 317 *e*P **P 02 13 30.4 +1.3**
comp=Z,172nm,1.0s
JOW LR LR
comp=Z,4μm,19.0s
PWJI Pagerwojo 52.97 269 P **P 02 13 33.4 +0.6**
comp=Z,252nm,0.9s,comp=Z,4μm
NGJI Ngawi 53.40 269 P **P 02 13 39.8 +3.8**
comp=Z,377nm,1.5s
TAOE Nuku Hiva Isla 53.50 93 *e*S **S 02 21 15.5 +6.2**
comp=Z,4μm,27.4s
TAOE *e*SS **SKiKP 02 24 53.7 +1.2**
comp=Z,3μm,29.8s
TAOE *e*LR LR 02 29 27.2
comp=Z,8μm,23.7s,baz=266
TAOE Nuku Hiva Isla 53.50 93 PFAKE 02 13 50.0 +13
TAOE LR LR
comp=Z,5μm,21.0s
PCJI Pacitan 53.56 268 P **P 02 13 38.2 +1.0**
comp=Z,926nm,1.3s,comp=Z,9μm
INU Inuyama 53.81 331 *e*P **P 02 13 39.2 +0.6**
comp=Z,313nm,1.7s
INU LR LR
comp=Z,3μm,19.0s
BTM Bintulu 54.12 282⇓ P **P 02 13 41.9 +0.5**
MJAR Matsushiro Arr 54.25 333 P **P 02 13 41.4 -0.4**
comp=Z,29nm,0.9s,baz=159,slow=7.0,SNR=34
MJAR PcP **PcP 02 14 46.9 +1.0**
comp=Z,4.6nm,0.6s,baz=147,slow=2.3,SNR=2.5
MJAR LR LR 02 35 09.1
comp=Z,2μm,21.8s,baz=170,slow=34
MAJO Matsushiro 54.25 333 *e*P **P 02 13 40.1 -1.7**
MAJO pmax pmax
comp=Z,74nm,0.9s
MAJO Matsushiro 54.25 333 *e*P **P 02 13 40.1 -1.7**
comp=Z,74nm,0.8s
MAJO LR LR
comp=Z,4μm,20.0s
MAT Matsushiro 54.25 333 P **P 02 13 41.3 -0.5**
MAT S **S 02 21 17.2 -1.3**
MJB9 Matsu-Tunnel 54.25 333 *e*P **P 02 13 40.2 -1.6**
comp=Z,19nm,0.8s
MJB9 LR LR
comp=Z,1μm,20.0s
YOJ Yonaguni jima 54.74 311 PFAKE 02 14 00.0 +14
YOJ LR LR
comp=Z,7μm,20.0s
SBUM Sibu 54.74 281⇑ P **P 02 13 46.8 +1.0**
SBUM Sibu 54.74 281 *e*P **P 02 13 46.3 +0.5**
comp=Z,395nm,1.9s
STKI Sintang 54.85 278 P **P 02 13 49.0 +2.4**
comp=Z,122nm,1.9s,comp=Z,19μm
TWG Pinlang 55.27 308 *e*P **P 02 13 49.5 +0.1**
comp=Z,985nm,1.8s
JNU Nakatsue 55.29 325 *e*P **P 02 13 48.8 -0.6**
comp=Z,179nm,0.8s
JNU LR LR
comp=Z,4μm,20.0s
YULB Yu-li 55.42 309 *e*P **P 02 13 50.5 0.0**
comp=Z,89nm,1.0s
NACB Ninganchiao 55.63 310 *e*P **P 02 13 51.5 -0.5**
comp=Z,729nm,1.9s
TPUB Ta-pu 55.88 308 *e*P **P 02 13 52.9 -1.0**
comp=Z,1μm,2.0s
TPUB LR LR
comp=Z,4μm,20.0s
KPJI Karang Pucung 55.89 269 P **P 02 13 56.1 +2.0**
comp=Z,226nm,0.8s,comp=Z,4μm
SSLB Suanglung 55.90 309 *e*P **P 02 13 53.2 -0.8**
comp=Z,266nm,1.8s
YHNB Yeheng 56.08 310 *e*P **P 02 13 55.2 -0.1**
comp=Z,148nm,0.9s
TATO Taipei 56.16 311 *e*P **P 02 13 53.5 -2.3**
comp=Z,159nm,1.0s
TATO LR LR
comp=Z,4μm,20.0s
KSM Kuching 56.33 280⇓ P **P 02 13 58.1 +0.8**
KSM Kuching 56.33 280 *e*P **P 02 13 57.5 +0.3**
comp=Z,491nm,1.8s
KSM *e*PcP **PcP 02 14 57.0 +2.4**
JCJI Jatiwangi 56.67 270 P **P 02 14 00.4 +0.7**
comp=Z,881nm,1.6s,comp=Z,17μm
CISI Cisompet, Garu 56.95 268 P **P 02 14 02.4 +0.7**
comp=Z,313nm,2.1s
CISI Cisompet, Garu 56.95 268 *e*P **P 02 14 01.4 -0.4**
comp=Z,1μm,1.8s
CISI LR LR
comp=Z,3μm,18.0s
ERM Erimo 57.06 340 *ce*P **P 02 14 02.5 +0.7**
ERM pmax pmax
comp=Z,53nm,1.2s
ERM MLR MLR
comp=Z,4μm,19.0s
ERM Erimo 57.06 340 *e*P **P 02 14 01.6 -0.2**
comp=Z,91nm,1.5s
ERM LR LR
comp=Z,7μm,20.0s
CNJI Cibinong 57.66 269 P **P 02 14 07.3 +0.7**
comp=Z,268nm,1.4s,comp=Z,4μm
RKT Rikitea 57.67 110 *e*S **S 02 22 09.2 +4.7**
RKT comp=Z,4μm,29.2s *e*LQ LQ 02 28 42.5
RKT comp=Z,8μm,32.8s *e*LR LR 02 31 08.9
comp=Z,17μm,26.0s,baz=281
CBJI Citeko 58.07 270 P **P 02 14 10.5 +0.9**
comp=Z,518nm,1.6s,comp=Z,20μm
QZH Quanzhou 58.33 309⇓ *i*P P 02 14 05.0 -6.1
QZH S **S 02 22 07.3 -5.7**
QZH pmax pmax
comp=Z,980nm,1.6s
QZH pmax pmax
comp=Z,3μm,2.5s
QZH LR LR
comp=N,2μm,14.8s
QZH LR LR
comp=E,4μm,17.8s
QZH LR LR
comp=Z,6μm,18.6s
KUR Kuril'sk 58.66 345 *e*P P 02 14 05.7 -7.3
KUR *i* S **S 02 22 10.8 -5.7**
KUR pmax pmax
comp=N,26nm,1.6s
KUR pmax pmax
comp=E,36nm,1.6s
KUR pmax pmax
comp=Z,101nm,1.6s
KUR pmax pmax
comp=Z,659nm,9.7s
KUR MLR MLR
comp=N,3μm,18.0s
KUR MLR MLR
comp=E,864nm,18.0s
KUR MLR MLR
comp=Z,4μm,18.0s
ASAJ Asahikawa 59.12 341 P **P 02 14 16.4 +0.1**
comp=Z,47nm,0.9s,baz=214,slow=11,SNR=22
ASAJ Asahikawa 59.12 341 *e*P **P 02 14 15.9 -0.4**
comp=Z,56nm,0.8s
ASAJ LR LR
comp=Z,7μm,21.0s
CGJI Cibinong 59.17 269 P **P 02 14 17.1 -0.2**
comp=Z,387nm,1.9s,comp=Z,7μm
TJN Taejon 59.64 325 *ce*P **P 02 14 20.3 +0.3**
SSE Sheshan 60.00 316 P **P 02 14 21.1 -1.5**
SSE S **S 02 22 35.3 +0.9**
SSE PMZ
comp=Z,950nm,7.6s
SSE LN
comp=Z,2μm,18.7s
SSE LE
comp=Z,2μm,18.7s
SSE LZ
comp=Z,3μm,18.9s
KSRS Korea Array 60.10 326 P **P 02 14 23.8 +0.7**
comp=Z,25nm,0.8s,baz=138,slow=7.2,SNR=55
KSRS PcP **PcP 02 15 11.0 +2.2**
comp=Z,5.7nm,0.7s,baz=136,slow=4.2,SNR=2.9
KSRS LR LR 02 41 01.8
comp=Z,2μm,18.0s,baz=134,slow=37
KS15 Wonju Array Si 60.11 326 *e*P **P 02 14 23.9 +0.6**
KSAR Wonju Array Be 60.11 326 P **P 02 14 23.8 +0.6**
KSAR 02 15 11.0
KSAR Wonju Array Be 60.11 326 P **P 02 14 23.8 +0.6**
KSAR PcP **PcP 02 15 11.0 +2.1**
KS01 Wonju Array Si 60.13 326 *e*P **P 02 14 22.4 -1.0**
KS01 *e*PcP **PcP 02 15 10.3 +1.3**
KASI Kota Agung 60.53 270 P **P 02 14 27.8 +1.2**
comp=Z,126nm,1.8s,comp=Z,2μm
INCN Inchon 60.84 325 P **P 02 14 29.4 +1.1**
SNR=19
INCN Inchon 60.84 325 P **P 02 14 29.4 +1.1**
SNR=19
INCN P **P 02 14 29.4 +1.1**
SNR=19
INCN Inchon 60.84 325 *e*P **P 02 14 28.9 +0.7**
comp=Z,283nm,1.5s
GZH Guangzhou 61.53 304 P **P 02 14 35.0 +1.9**
GZH PP **PP 02 16 53.6 +4.7**
GZH S **S 02 22 56.1 +1.9**
GZH PMZ
comp=Z,3μm,3.9s
YSS Yuzh-Sakhalins 61.63 342 *k i*P **P 02 14 34.3 +1.0**
YSS *e* 02 14 51.4
YSS *e* 02 15 16.8
YSS *e* 02 16 52.4
YSS *e*PPP PPP 02 18 18.0
YSS *e*S **S 02 22 53.1 -1.5**
YSS *e*PS **PnS 02 23 03.4 -6.8**
YSS *e* 02 23 27.2
YSS *e* 02 24 23.1
YSS *e*SS **SS 02 26 54.0 -2.5**
YSS pmax pmax
comp=Z,70nm,1.1s
YSS pmax pmax
comp=Z,2μm,9.0s
YSS Yuzh-Sakhalins 61.63 342 *e*P **P 02 14 33.6 +0.2**
comp=Z,288nm,1.7s
YSS LR LR
comp=Z,2μm,20.0s
NJ2 Nanjing 62.16 316 *e*P **P 02 14 37.9 +0.7**
NJ2 sP **sP 02 14 47.0 +1.4**
NJ2 PcP **PcP 02 15 20.9 +3.6**
NJ2 S **S 02 23 05.0 +3.1**
NJ2 SS **SS 02 27 06.3 +0.9**
NJ2 PMZ
comp=Z,130nm,1.0s
NJ2 PMZ
comp=Z,2μm,9.2s
NJ2 LN
comp=Z,2μm,13.0s
NJ2 LE
comp=Z,2μm,18.4s
NJ2 LZ
comp=Z,3μm,18.4s
MSHR Mys Shultsa 62.32 332 *ce*P **P 02 14 39.1 +1.0**
VLA Vladivostok 62.42 333 *d i*P **P 02 14 40.8 +2.1**
VLA pmax pmax
comp=Z,163nm,1.1s
VLA MLR MLR
comp=Z,2μm,18.0s
MYKOM Kota Tinggi 62.67 278 *e*P **P 02 14 41.9 +0.8**
comp=Z,130nm,1.3s
QIZ Qiongzhong 62.67 298 P **P 02 14 42.3 +1.4**
QIZ PcP **PcP 02 15 23.9 +4.2**
QIZ PP **PP 02 16 59.0 0.0**
QIZ S **S 02 23 11.3 +2.4**
QIZ SS **SS 02 27 11.9 -1.9**
QIZ PMZ
comp=Z,86nm,1.6s
QIZ PMZ
comp=Z,2μm,12.7s
QIZ LE
comp=Z,2μm,21.4s
QIZ LZ
comp=Z,4μm,22.3s
QIZ Qiongzhong 62.67 298 *e*P **P 02 14 42.1 +1.1**
comp=Z,136nm,1.2s
USRK Ussuriysk Ar. 63.23 334 P **P 02 14 44.7 +0.6**
comp=Z,23nm,0.6s,baz=144,slow=6.2,SNR=52
USRK LR LR 02 39 05.3
comp=Z,3μm,21.9s,baz=144,slow=33
RUS Russkaya 63.94 355 *e*PKPdf 02 23 12.0
RUS LR LR
comp=Z,400nm,19.0s
SMY Shemya 64.38 6 PFAKE 02 15 00.0 +8.5
SMY LR LR
comp=Z,4μm,21.0s
WHN Wuhan 64.50 312⇑ *i*P **P 02 14 53.5 +0.7**
WHN PMZ
comp=Z,71nm,1.0s
WHN PMZ
comp=Z,2μm,3.2s
WHN LN
comp=Z,5μm,15.8s
WHN LE
comp=Z,4μm,17.9s
WHN LZ
comp=Z,8μm,18.8s
PET Petropavlovsk 64.52 355 *d i*P **P 02 14 53.8 +1.4**
PET *i* S **S 02 23 32.9 +2.4**
PET *e*SS **SS 02 27 43.2 +1.8**
PET pmax pmax
comp=Z,1μm,7.8s
PET pmax pmax
comp=Z,2μm,9.0s
PET MLR MLR
comp=Z,3μm,18.0s
PET MLR MLR
comp=Z,2μm,19.0s
PET Petropavlovsk 64.52 355 PFAKE 02 15 00.0 +7.6
PET LR LR
comp=Z,6μm,22.0s
MDJ Mudanjiang 64.62 332 P **P 02 14 54.3 +1.0**
MDJ pP pP 02 14 57.6 -1.8
MDJ S **S 02 23 35.8 +3.6**
MDJ PMZ
comp=Z,84nm,1.5s
MDJ PMZ
comp=Z,1μm,9.1s
MDJ LN
comp=Z,3μm,17.2s
MDJ LE
comp=Z,540nm,19.8s
MDJ LZ
comp=Z,2μm,26.7s
MDJ Mudanjiang 64.62 332 *e*P **P 02 14 54.3 +1.0**
comp=Z,123nm,1.2s
MDJ LR LR
comp=Z,3μm,19.0s
PEA0 Petropavlovsk- 64.68 355 *e*P **P 02 14 53.8 +0.3**
PEA0B Petropavlovsk- 64.68 355 *e*P **P 02 14 53.1 -0.3**
comp=Z,67nm,1.2s
PEA0B LR LR
comp=Z,5μm,21.0s
PETK Petropavlovsk- 64.68 355 P **P 02 14 53.6 +0.2**
comp=Z,12nm,0.8s,baz=134,slow=6.4,SNR=7.3
PETK LR LR 02 37 55.8
comp=Z,4μm,21.6s,baz=184,slow=31
DL2 Dalian 64.68 323 P **P 02 14 54.8 +1.0**
DL2 S **S 02 23 34.9 +1.8**
DL2 PMZ
comp=Z,190nm,1.2s
DL2 PMZ
comp=Z,2μm,11.0s
DL2 LN
comp=Z,2μm,19.4s
DL2 LE
comp=Z,2μm,18.2s
DL2 LZ
comp=Z,2μm,23.1s
BKNI Bangkinang 65.07 276 P **P 02 14 58.8 +1.9**
comp=Z,536nm,1.0s,comp=Z,8μm
TYV Tymovskoe 65.20 344 *e*P **P 02 14 57.2 +0.3**
TYV *e*S **S 02 23 34.0 -5.0**
TYV pmax pmax
comp=E,120nm,1.6s
TYV pmax pmax
comp=Z,180nm,1.6s
TYV pmax pmax
comp=Z,2μm,10.0s
TYV smax smax
comp=E,2μm,15.0s
PDSI Padang 65.37 274 P **P 02 15 00.3 +1.5**
comp=E,13nm,0.5s,comp=E,5μm
HABR Khabarovsk 65.50 338 *e*P **P 02 14 57.0 -1.9**
HABR *e* 02 15 28.8
HABR *e*PPP PPP 02 18 53.7
HABR *e*S **S 02 23 42.0 -0.8**
HABR *e* 02 24 52.7
HABR *e*SS **SS 02 27 56.5 -0.4**
HABR MLR MLR
comp=Z,2μm,19.0s
PPI Padang Panjang 65.53 275 P **P 02 15 00.8 +1.0**
comp=Z,134nm,1.4s,comp=Z,4μm
SNY Shenyang 65.56 327⇓ P **P 02 14 57.8 -1.6**
SNY S **S 02 23 46.0 +2.2**
SNY PMZ
comp=Z,59nm,1.0s
SNY PMZ
comp=Z,2μm,8.8s
SNY LN
comp=Z,3μm,17.8s
SNY LE
comp=Z,2μm,22.8s
SNY LZ
comp=Z,4μm,21.8s
TIA Tai'an 65.78 318 *e*P **P 02 15 00.5 -0.5**
TIA S **S 02 23 43.0 -3.8**
TIA PMZ
comp=Z,90nm,1.6s
TIA PMZ
comp=Z,2μm,9.0s
TIA LN
comp=Z,4μm,21.4s
TIA LE
comp=Z,4μm,22.0s
TIA LZ
comp=Z,6μm,21.4s
CASY Casey 65.88 201 *e*P **P 02 15 00.4 -0.8**
comp=Z,81nm,0.8s
CASY LR LR
comp=Z,5μm,19.0s
CN2 Changchun 65.99 329 *e*P **P 02 15 02.3 +0.1**
CN2 *e*pP pP 02 15 06.8 -1.5
CN2 *e*sP sP 02 15 09.3 -1.2

CN2 eS **S** **02 23 47.9 -1.1**
CN2 PMZ
comp=Z,30nm,0.9s
CN2 PMZ
comp=Z,100nm,5.0s
CN2 LN
comp=Z,2µm,17.0s
CN2 LE
comp=Z,2µm,17.0s
CN2 LZ
comp=Z,3µm,18.0s
VNDA Vanda 66.05 181 P **P** **02 15 02.2 0.0**
comp=Z,12nm,0.8s,baz=354,slow=5.8,SNR=38
VNDA LR LR 02 40 33.7
comp=Z,5µm,19.2s,baz=349,slow=33
VNDA PKPPKP **P'P'df** **02 43 37.9 -2.2**
comp=Z,2.1nm,1.0s,baz=275,slow=3.5,SNR=6.4
VNDA Vanda 66.05 181 eP **P** **02 15 00.8 -1.3**
VNDA pmax pmax
comp=Z,190nm,1.6s
VNDA Vanda 66.05 181 eP **P** **02 15 00.8 -1.3**
comp=Z,189nm,1.6s
VNDA P'P' 02 43 37.9
IPM Ipoh 66.06 280 eP **P** **02 15 03.2 -0.1**
comp=Z,1µm,1.8s
SBA Scott Base 66.36 180 eP **P** **02 15 03.9 -0.2**
SBA pmax pmax
comp=Z,310nm,1.7s
SBA Scott Base 66.36 180 eP **P** **02 15 03.9 -0.2**
comp=Z,308nm,1.8s
SBA LR LR
comp=Z,5µm,19.0s
MNSI Mandailing Nat 66.59 276 P **P** **02 15 06.1 -0.6**
comp=Z,277nm,0.8s,comp=Z,4µm
KULM Kulim 66.62 281 eP **P** **02 15 06.2 -0.7**
comp=Z,152nm,1.0s
KULM LR LR
comp=Z,3µm,19.0s
COCO West Island 67.03 262 PFAKE 02 15 20.0 +11
COCO LR LR
comp=Z,6µm,18.0s
SKNT Sakolnakorn 67.05 294 P **P** **02 15 10.1 +0.6**
comp=Z,236nm,1.9s,comp=Z,6µm
SKLT Songkhla 67.14 283 P **P** **02 15 11.9 +1.7**
comp=Z,139nm,1.5s,comp=Z,2µm
CHBT CHBT 67.15 289 P **P** **02 15 14.1 +3.9**
comp=Z,138nm,0.9s,comp=Z,92µm
KLR Kul'dur 67.36 337 P **P** **02 15 10.8 0.0**
comp=Z,28nm,0.8s,baz=131,slow=6.3,SNR=55
KLR PKPPKP **P'P'df** **02 43 33.3 +0.2**
comp=Z,1.6nm,0.9s,baz=13,slow=1.8,SNR=3.9
PSI Prapat 67.69 278 eP **P** **02 15 12.8 -1.0**
PSI pmax pmax
comp=Z,140nm,1.0s
PSI Prapat 67.69 278 eP **P** **02 15 12.8 -1.0**
comp=Z,144nm,1.0s
NKL Nikolayevsk 67.79 344 *i* P **P** **02 15 14.0 +0.6**
NKL eS **S** **02 24 11.0 +0.6**
NKL pmax pmax
comp=Z,130nm,1.5s
NKL pmax pmax
comp=N,500nm,12.0s
NKL pmax pmax
comp=E,450nm,12.0s
NKL pmax pmax
comp=Z,2µm,10.0s
NKL smax smax
comp=N,500nm,16.0s
NKL smax smax
comp=E,2µm,16.0s
NKL MLR MLR
comp=N,2µm,17.0s
NKL MLR MLR
comp=Z,2µm,17.0s
NIKH Nikolski High 67.86 16 eP **P** **02 15 12.2 -1.6**
comp=Z,321nm,1.1s
NIKH LR LR
comp=Z,5µm,20.0s
KHON Khomkaen 67.87 293 P **P** **02 15 16.8 +2.1**
comp=Z,28nm,1.4s,comp=Z,1µm
ENH Enshi 67.98 309 eP **P** **02 15 15.2 0.0**
comp=Z,525nm,1.5s
TSI Tuntungan 68.20 278 P **P** **02 15 17.9 +1.0**
comp=Z,419nm,0.9s,comp=Z,6µm
TRTT Trang 68.21 283 P **P** **02 15 18.7 +1.8**
comp=Z,148nm,1.3s,comp=Z,3µm
GYA Guiyang 68.46 304⇑ *i*P **P** **02 15 18.8 +0.4**
GYA pP pP 02 15 24.8 +0.3
GYA PcP **PcP** **02 15 45.0 +1.3**
GYA PP **PP** **02 17 54.3 +4.5**
GYA ScP 02 19 47.4
GYA S **S** **02 24 23.1 +3.3**
GYA SKS **SKSac** **02 25 15.0 -2.0**
GYA PMZ
comp=Z,110nm,1.0s
GYA PMZ
comp=Z,1µm,12.1s
GYA LN
comp=Z,2µm,20.8s
GYA LE
comp=Z,2µm,20.5s
GYA LZ
comp=Z,3µm,23.3s
PATY Pattaya 68.56 289 P **P** **02 15 21.2 +2.2**
comp=Z,44nm,1.4s
BJT Baijiatuau 68.66 321 eP **P** **02 15 20.2 +1.0**
BJT pmax pmax
comp=Z,185nm,1.3s
BJT MLR MLR
comp=Z,6µm,22.0s
BJT Baijiatuau 68.66 321 eP **P** **02 15 20.2 +1.0**
comp=Z,185nm,1.3s
BJT LR LR
comp=Z,6µm,22.0s
GSI Gunungsitoli 68.66 276 P **P** **02 15 20.6 +0.8**
comp=Z,314nm,1.5s
GSI Gunungsitoli 68.66 276 eP **P** **02 15 19.8 0.0**
comp=Z,233nm,0.9s
BJI Beijing 68.67 321 P **P** **02 15 19.6 +0.4**
BJI PP **PP** **02 17 53.6 +2.5**
BJI S **S** **02 24 21.3 -0.1**
BJI SS **SS** **02 28 42.6 -3.8**
BJI PMZ
comp=Z,2µm,8.8s
BJI LN
comp=Z,3µm,22.6s
BJI LE
comp=Z,3µm,22.0s
BJI LZ
comp=Z,5µm,24.4s
KCSI Kotacane, Aceh 68.97 278 P **P** **02 15 21.9 +0.2**
comp=Z,117nm,1.2s,comp=Z,6µm
UNV Unalaska Valle 69.30 17 eP **P** **02 15 21.5 -1.3**
comp=Z,61nm,1.0s
UNV LR LR
comp=Z,4µm,22.0s
SURT Suratani 69.36 284 P **P** **02 15 26.2 +2.1**
comp=Z,56nm,1.2s,comp=Z,1µm
TPTI 69.49 278 P **P** **02 15 26.2 +1.3**
comp=Z,59nm,1.5s
PKDT Phuket 69.52 283 P **P** **02 15 28.7 +3.7**
comp=Z,114nm,1.5s,comp=Z,3µm
PBKT Sadao Pong 69.62 293 P **P** **02 15 26.6 +1.0**
comp=Z,98nm,1.9s,comp=Z,3µm
TIY Taiyuan 69.72 317 eP **P** **02 15 27.3 +1.4**
TIY S **S** **02 24 30.3 -3.8**
TIY PMZ
comp=Z,290nm,1.5s
TIY PMZ
comp=Z,2µm,9.2s
TIY LN
comp=Z,3µm,17.2s
TIY LE
comp=Z,440nm,12.5s
TIY LZ
comp=Z,4µm,22.1s
AKUT Akutan 69.76 18 PFAKE 02 15 40.0 +14
AKUT LR LR
comp=Z,5µm,22.0s
XAN Xi'an 70.23 313 P **P** **02 15 29.1 0.0**
XAN pP sP 02 15 38.4 +0.9
XAN sP pP 02 15 43.0 +7.7
XAN PcP **PcP** **02 15 52.3 +1.4**
XAN S **S** **02 24 42.0 +1.7**
XAN ScS **SKSac** **02 25 29.8 -0.2**
XAN PMZ
comp=Z,120nm,1.8s
XAN PMZ
comp=Z,1µm,7.9s
XAN LN
comp=Z,2µm,18.5s
XAN LE
comp=Z,1µm,22.7s
XAN LZ
comp=Z,3µm,21.8s
UTTA Uttaradit 70.38 294 P **P** **02 15 31.9 +1.6**
comp=Z,15nm,1.4s,comp=Z,178nm
MLSI Meulaboh, Aceh 70.47 279 P **P** **02 15 31.9 +0.9**
comp=Z,295nm,1.4s,comp=Z,4µm
SUKH Sukhothai 71.13 293 P **P** **02 15 36.3 +1.5**
comp=Z,17nm,1.3s,comp=Z,188nm
KMI Kunming 71.14 302 P **P** **02 15 37.1 +2.0**
KMI pP pP 02 15 41.5 +0.3
KMI sP sP 02 15 43.3 -0.1
KMI S **S** **02 24 53.1 +1.6**
KMI sS sS 02 25 00.0 -1.6
KMI SS **SS** **02 29 29.1 +3.5**
KMI PMZ
comp=Z,200nm,1.4s
KMI PMZ
comp=Z,2µm,5.9s
KMI LN
comp=Z,2µm,18.1s
KMI LE
comp=Z,2µm,20.0s
KMI LZ
comp=Z,4µm,20.7s
SPIA Saint Paul Isl 71.29 14 PFAKE 02 15 50.0 +15
SPIA LR LR
comp=Z,5µm,20.0s
UMPA Umpang Tak 71.42 291 P **P** **02 15 39.5 +2.8**
comp=Z,16nm,1.2s
LAMP Lampang 71.47 294 P **P** **02 15 38.3 +1.4**
comp=Z,31nm,1.0s,comp=Z,244nm
MA2 Magadan 71.81 352 P **P** **02 15 37.0 -1.0**
comp=Z,4.5nm,0.4s,baz=174,slow=11,SNR=3.1
HHC Hu-ho-hao-te 72.01 320 eP **P** **02 15 41.3 +1.5**
HHC sP PcP 02 15 53.4 -4.9
HHC S **S** **02 25 03.5 +2.8**
HHC SS **SS** **02 29 34.8 -3.3**
HHC PMZ
comp=Z,78nm,1.3s
HHC PMZ
comp=Z,1µm,8.2s
HHC LN
comp=Z,3µm,18.6s
HHC LE
comp=Z,3µm,18.4s
HHC LZ
comp=Z,5µm,22.2s
CM31 Chiang Mai Arr 72.06 294 eP **P** **02 15 41.5 +1.0**
CMAR Chiang Mai Arr 72.06 294 P **P** **02 15 41.2 +0.8**
comp=Z,36nm,0.8s,baz=120,slow=4.6,SNR=84
CMAR LR LR 02 45 37.1
comp=Z,1µm,21.7s,baz=115,slow=34
CHTO Chiang Mai 72.18 294 P **P** **02 15 42.2 +1.0**
comp=Z,416nm,1.6s,comp=Z,9µm
CHTO Chiang Mai 72.18 294 eP **P** **02 15 41.7 +0.5**
CHTO pmax pmax
comp=Z,270nm,1.6s
CHTO Chiang Mai 72.18 294 P **P** **02 15 42.9 +1.8**
SNR=30
CHTO Chiang Mai 72.18 294 P **P** **02 15 42.9 +1.8**
SNR=30
CHTO P **P** **02 15 42.9 +1.8**
SNR=30
CHTO Chiang Mai 72.18 294 eP **P** **02 15 41.7 +0.5**
comp=Z,274nm,1.6s
CHTO LR LR
comp=Z,2µm,20.0s
SDPT Sand Point 72.44 20 PFAKE 02 15 50.0 +8.1
SDPT LR LR
comp=Z,4µm,20.0s
MIR Mirnyy 72.58 204⇑ *i*P **P** **02 15 42.0 -0.7**
MIR *i* S **S** **02 25 05.0 -1.2**
MIR pmax pmax
comp=Z,3µm,9.0s
MIR smax smax
comp=N,3µm,10.0s
MIR MLR MLR
comp=N,2µm,16.0s
MIR MLR MLR
comp=E,2µm,16.0s
MIR MLR MLR
comp=Z,4µm,16.0s
HIA Hailar 72.63 331 eP **P** **02 15 43.8 +0.5**
HIA pmax pmax
comp=Z,204nm,1.4s
HIA MLR MLR
comp=Z,3µm,18.0s
HIA Hailar 72.63 331 eP **P** **02 15 43.8 +0.5**
comp=Z,204nm,1.4s
HIA LR LR
comp=Z,3µm,18.0s
CD2 Chengdu 72.67 308 P **P** **02 15 44.6 +0.7**
CD2 pP pP 02 15 49.0 -1.1
CD2 PP **PP** **02 18 26.5 +0.6**
CD2 S **S** **02 25 12.3 +3.7**
CD2 sS sS 02 25 18.6 -0.1
CD2 SS **SS** **02 29 52.1 +3.6**
CD2 PMZ
comp=Z,190nm,1.7s
CD2 PMZ
comp=Z,2µm,8.2s
CD2 LN
comp=Z,2µm,19.4s
CD2 LE
comp=Z,3µm,26.4s
CD2 LZ
comp=Z,3µm,22.9s
BTO Baotou 72.86 319 eP **P** **02 15 46.3 +1.4**
CHGN Chignik 73.90 20 eP **P** **02 15 49.5 -1.0**
LZH Lanzhou 74.87 312⇓ P **P** **02 15 58.8 +1.9**
LZH pP sP 02 16 04.8 -0.5
LZH sP PcP 02 16 08.3 -2.5
LZH S **S** **02 25 35.3 +1.9**
LZH sS sS 02 25 43.0 -0.6
LZH SS **SS** **02 30 22.3 +0.2**
LZH PMZ
comp=Z,560nm,1.5s
LZH PMZ
comp=Z,2µm,4.2s
LZH LN
comp=Z,2µm,18.0s
LZH LE
comp=Z,2µm,17.8s
LZH LZ
comp=Z,2µm,18.3s
SEY Seymchan 74.88 354 *ce*P **P** **02 15 55.7 -0.4**
PBA Port Blair 75.82 285 eP P 02 15 58.8 -3.7
CLNS Chul'man 75.89 338 eP **P** **02 16 03.4 +1.3**
CLNS e*PP **sP** **02 16 12.5 +2.0**
CLNS *e* 02 16 14.3
CLNS *e* 02 18 53.7
CLNS eS **S** **02 25 46.1 +2.5**
CLNS *e* 02 26 16.8
CLNS pmax pmax
comp=Z,63nm,1.1s
CLNS pmax pmax
comp=N,35nm,1.1s
CLNS pmax pmax
comp=E,14nm,1.2s
CLNS pmax pmax
comp=Z,5.0nm,1.2s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.3s
CLNS smax smax
comp=E,1µm,13.3s
CLNS smax smax
comp=N,889nm,10.2s
CLNS MLR MLR
comp=Z,1µm,20.0s
CLNS MLR MLR
comp=N,1µm,18.0s
CLNS MLR MLR
comp=E,945nm,18.0s
DGPR DIGLIPUR 76.04 287 eP **P** **02 16 02.1 -1.7**
DGPR IAmb IAmb 02 16 04.6
comp=Z,6µm,4.6s
OHAK Old Harbor 76.40 22 eP **P** **02 16 03.6 -1.3**
comp=Z,88nm,1.1s
OHAK LR LR
comp=Z,4µm,19.0s
GAMB Gambell 77.04 10 eP **P** **02 16 09.1 +0.7**
comp=Z,153nm,1.2s
GAMB LR LR
comp=Z,7µm,21.0s
KDAK Kodiak Island 77.07 22 *i* P **P** **02 16 08.6 -0.1**
KDAK Kodiak Island 77.07 22 eP **P** **02 16 08.0 -0.7**
comp=Z,63nm,1.2s
KDAK LR LR
comp=Z,5µm,18.0s
CIT Chita 77.42 330 eP **P** **02 16 12.0 +1.1**
CIT *e* 02 16 18.6
CIT *e* 02 16 27.4
CIT pmax pmax
comp=Z,655nm,1.7s
YAK Yakutsk 78.44 344 LR LR 02 52 40.9
comp=Z,4µm,18.0s,baz=119,slow=37
YAK Yakutsk 78.44 344 eP **P** **02 16 16.3 +0.1**
YAK *e* 02 16 26.3
YAK *e* 02 19 13.6
YAK ePPP PPP 02 21 03.3
YAK eS **S** **02 26 04.9 -6.2**
YAK *e* 02 26 26.1
YAK e*SS ScS 02 26 50.0 +14
YAK eSS **SS** **02 31 10.9 -3.8**
YAK eSSS SSS 02 34 26.9
YAK pmax pmax
comp=Z,72nm,1.4s
YAK pmax pmax
comp=N,41nm,1.5s
YAK pmax pmax
comp=E,28nm,1.6s
YAK pmax pmax
comp=Z,267nm,4.8s
YAK pmax pmax
comp=N,187nm,5.2s
YAK pmax pmax
comp=E,85nm,2.5s
YAK smax smax
comp=N,518nm,7.3s
YAK smax smax
comp=E,485nm,5.9s
YAK Yakutsk 78.44 344 eP **P** **02 16 16.7 +0.5**
comp=E,93nm,0.8s
ULN Ulaanbaatar 78.51 324*ce*P **P** **02 16 17.0 -0.2**
ULN pmax pmax
comp=Z,232nm,1.7s
ULN Ulaanbaatar 78.51 324 P **P** **02 16 18.7 +1.5**
SNR=112
ULN Ulaanbaatar 78.51 324 P **P** **02 16 18.7 +1.5**
SNR=112
ULN P **P** **02 16 18.7 +1.5**
SNR=112
ULN Ulaanbaatar 78.51 324 eP **P** **02 16 17.4 +0.2**
comp=Z,129nm,1.1s
ULN LR LR
comp=Z,2µm,19.0s
QSPA South Pole Qui 78.52 180 eP **P** **02 16 15.7 -1.3**
QSPA LR LR
comp=Z,10µm,18.0s
SVW2 Sparrevohn 78.60 18 eP **P** **02 16 16.7 -0.5**
comp=Z,99nm,1.1s
SVW2 LR LR
comp=Z,5µm,19.0s
HOM Homer 78.79 21 PFAKE 02 16 30.0 +12
HOM LR LR
comp=Z,4µm,19.0s
CNPM China Poot 78.84 21 eP **P** **02 16 18.7 +0.2**
comp=Z,208nm,1.5s
CNPM LR LR
comp=Z,6µm,20.0s
SONM Songino Array 78.87 324 P **P** **02 16 20.0 +0.8**
comp=Z,29nm,0.9s,baz=137,slow=5.8,SNR=67
SONM PKPPKP **P'P'df** **02 43 20.0 +5.7**
comp=Z,0.7nm,0.9s,baz=299,slow=3.1,SNR=5.0
SONM LR LR 02 50 48.5
comp=Z,1µm,19.6s,baz=118,slow=35
SONM Songino Array 78.87 324 P **P** **02 16 20.0 +0.8**
SONA1 Songino Array 78.88 324 eP **P** **02 16 19.7 +0.5**
RSO Redoubt South 79.02 20 eP **P** **02 16 19.2 -0.5**
BRLK Bradley Lake 79.13 21 eP **P** **02 16 19.4 -0.7**
comp=Z,62nm,0.8s
BRLK LR LR
comp=Z,6µm,19.0s
GTA Gaotai 79.19 314 P **P** **02 16 21.6 +0.6**
GTA pP pP 02 16 27.4 +0.2
GTA sP sP 02 16 30.6 +1.1
GTA S **S** **02 26 21.9 +1.6**
GTA SKS **SKSac** **02 26 32.4 -4.0**
GTA PMZ
comp=Z,31nm,1.3s
GTA PMZ
comp=Z,2µm,7.2s
GTA LN
comp=Z,2µm,20.4s
GTA LE
comp=Z,3µm,19.5s
GTA LZ
comp=Z,3µm,21.9s
BILL Bilibino 79.32 0 eP **P** **02 16 19.7 -1.2**
BILL pmax pmax
comp=Z,72nm,1.1s
BILL Bilibino 79.32 0 eP **P** **02 16 19.7 -1.2**
comp=Z,72nm,1.1s
BILL LR LR
comp=Z,3µm,21.0s
SPU Mount Spurr 79.78 19 eP **P** **02 16 22.4 -1.3**
SEW Seward 79.88 21 eP **P** **02 16 24.1 0.0**
comp=Z,60nm,1.0s
SEW LR LR
comp=Z,4µm,20.0s
TT01 Tatalina 79.89 17 eP **P** **02 16 24.2 0.0**
TTA Tatalina 79.91 17 eP **P** **02 16 25.3 +0.9**
TTA pmax pmax
comp=Z,150nm,1.3s
TTA Tatalina 79.91 17 eP **P** **02 16 25.3 +0.9**
comp=Z,150nm,1.4s
TTA LR LR
comp=Z,5µm,22.0s
SUA Susitna One 80.42 20 eP **P** **02 16 26.8 -0.4**
comp=Z,134nm,1.4s
RC01 Rabbit Creek A 80.48 20 eP **P** **02 16 26.5 -0.9**
comp=Z,46nm,0.9s
RC01 LR LR
comp=Z,5µm,19.0s
SHL Shillong 80.51 299 eP **P** **02 16 28.0 -0.6**
SHL eS **S** **02 26 36.0 +1.1**
RPN Rapa Nui 80.60 116 PFAKE 02 16 40.0 +11
RPN LR LR
comp=Z,17µm,20.0s
BOD Bodaibo 80.82 335 eP **P** **02 16 28.4 -0.9**
BOD pmax pmax
comp=Z,74nm,1.7s
PPLA Purkeypile 81.02 18 eP **P** **02 16 30.5 +0.1**
comp=Z,108nm,1.6s
PPLA LR LR
comp=Z,3µm,18.0s
PMR Palmer 81.05 20 eP **P** **02 16 29.2 -1.2**
PMR pmax pmax
comp=Z,89nm,1.2s
PMR Palmer 81.05 20 eP **P** **02 16 29.1 -1.2**
comp=Z,89nm,1.3s
PMR LR LR
comp=Z,5µm,21.0s
CAST Castle Rocks 81.44 18 PFAKE 02 16 40.0 +7.5
CAST LR LR
comp=Z,400nm,21.0s
SML Sawmill 81.47 20 eP **P** **02 16 32.7 -0.1**
SML pmax pmax
comp=Z,127nm,1.2s
SML MLR MLR
comp=Z,6µm,20.0s
SML Sawmill 81.47 20 eP **P** **02 16 32.6 -0.1**
comp=Z,127nm,1.2s
SML LR LR
comp=Z,6µm,20.0s
EYAK Cordova Ski Ar 81.52 22 eP **P** **02 16 32.1 -0.8**
comp=Z,170nm,1.6s
EYAK LR LR
comp=Z,8µm,21.0s
RAGM Ragged Mountai 81.81 23 eP **P** **02 16 34.5 -0.1**
comp=Z,77nm,1.1s
RAGM ePP **PP** **02 19 39.7 -2.3**
RAGM LR LR
comp=Z,7µm,19.0s

SCM	**Sheep Creek Mo**	**81.83**	**21**	*e*P		**P**	**02 16 33.9**	**-0.8**
SCM				pmax		pmax			
	comp=Z,130nm,1.0s								
SCM	**Sheep Creek Mo**	**81.83**	**21**	*e*P		**P**	**02 16 33.9**	**-0.8**
	comp=Z,134nm,1.0s								
SCM				LR		LR			
	comp=Z,4µm,20.0s								
KTH	**Kantishna Hill**	**81.89**	**18**	*e*P		**P**	**02 16 34.7**	**-0.2**
	comp=Z,111nm,1.5s								
DIV	**Divide**	**81.90**	**22**	*e*P		**P**	**02 16 34.3**	**-0.8**
	comp=Z,89nm,1.0s								
DIV				LR		LR			
	comp=Z,7µm,20.0s								
ZAK	**Zakamensk**	**81.92**	**325**	*e*P		**P**	**02 16 34.1**	**-1.3**
ZAK				pmax		pmax			
	comp=Z,64nm,1.7s								
TRF	**Thorofare Moun**	**82.01**	**18**	*e*P		**P**	**02 16 35.1**	**-0.6**
	comp=Z,84nm,1.2s								
TRF				LR		LR			
	comp=Z,5µm,22.0s								
KLU	**Klutina**	**82.09**	**21**	*e*P		**P**	**02 16 35.7**	**-0.3**
	comp=Z,59nm,1.0s								
KLU				LR		LR			
	comp=Z,5µm,20.0s								
BMRM	**Bremner River**	**82.22**	**22**	*e*P		**P**	**02 16 35.8**	**-0.9**
	comp=Z,169nm,1.4s								
BMRM				LR		LR			
	comp=Z,6µm,22.0s								
BPAW	**Bear Paw Mtn.**	**82.27**	**18**	*e*P		**P**	**02 16 36.4**	**-0.4**
	comp=Z,62nm,1.5s								
BPAW				*e*PP		**PP**	**02 19 47.6**	**+1.9**
BPAW				LR		LR			
	comp=Z,4µm,20.0s								
IRK	**Irkutsk**	**82.29**	**327**	*e*P		**P**	**02 16 36.8**	**-0.4**
IRK				pmax		pmax			
	comp=Z,202nm,2.2s								
TLY	**Talaya**	**82.35**	**326**	P		**P**	**02 16 37.0**	**-0.6**
	comp=Z,19nm,0.8s,baz=170,slow=4.6,SNR=19								
TLY	**Talaya**	**82.35**	**326**	*e*P		**P**	**02 16 37.7**	**+0.1**
TLY				*e*			02 16 54.0		
TLY				*e*S		**S**	**02 26 53.9**	**+1.3**
TLY				*e*SS		**SS**	**02 32 15.0**	**+1.4**
TLY				pmax		pmax			
	comp=Z,150nm,1.6s								
TLY	**Talaya**	**82.35**	**326**	*e*P		**P**	**02 16 38.5**	**+1.0**
	comp=Z,82nm,1.1s								
TLY				LR		LR			
	comp=Z,2µm,20.0s								
LSA	**Lhasa**	**82.38**	**302**	*e*P		**P**	**02 16 40.5**	**+1.7**
LSA				pmax		pmax			
	comp=Z,145nm,1.8s								
LSA	**Lhasa**	**82.38**	**302**	*e*P		**P**	**02 16 40.5**	**+1.7**
	comp=Z,145nm,1.8s								
RND	**Reindeer**	**82.43**	**19**	*e*P		**P**	**02 16 37.1**	**-0.7**
RND				pmax		pmax			
	comp=Z,140nm,1.2s								
RND	**Reindeer**	**82.43**	**19**	*e*P		**P**	**02 16 37.1**	**-0.7**
	comp=Z,143nm,1.3s								
RND				*e*PP		**PP**	**02 19 46.0**	**-1.1**
RND				LR		LR			
	comp=Z,2µm,18.0s								
CRQM	**Cirque**	**82.63**	**23**	*e*P		**P**	**02 16 38.8**	**-0.2**
	comp=Z,95nm,1.0s								
MCK	**McKinley**	**82.64**	**19**	*e*P		**P**	**02 16 37.8**	**-1.0**
MCK				pmax		pmax			
	comp=Z,230nm,1.3s								
MCK	**McKinley**	**82.64**	**19**	*e*P		**P**	**02 16 37.8**	**-1.0**
	comp=Z,231nm,1.3s								
MCK				LR		LR			
	comp=Z,4µm,19.0s								
BWN	**Browne**	**82.78**	**18**	*e*P		**P**	**02 16 40.7**	**+1.2**
	comp=Z,336nm,1.3s								
BWN				LR		LR			
	comp=Z,5µm,19.0s								
MCCM	**Marconi Confer**	**82.99**	**49**	PFAKE			02 16 50.0	+8.9	
MCCM				LR		LR			
	comp=Z,4µm,20.0s								
MLY	**Manley**	**83.03**	**17**	*e*P		**P**	**02 16 40.5**	**-0.3**
	comp=Z,82nm,1.3s								
MLY				LR		LR			
	comp=Z,4µm,19.0s								
BALM	**Baldy**	**83.11**	**23**	*e*P		**P**	**02 16 41.2**	**-0.2**
BALM				pmax		pmax			
	comp=Z,72nm,1.0s								
BALM	**Baldy**	**83.11**	**23**	*e*P		**P**	**02 16 41.2**	**-0.2**
	comp=Z,72nm,1.0s								
BALM				*e*PP		**PP**	**02 19 50.8**	**-2.0**
BALM				LR		LR			
	comp=Z,4µm,20.0s								
JCC	**Jacoby Creek,**	**83.12**	**46**	PFAKE			02 16 50.0	+8.3	
JCC				LR		LR			
	comp=Z,3µm,18.0s								
KMRM	**Mail Ridge**	**83.13**	**47**	*e*P		**P**	**02 16 41.7**	**-0.2**
	comp=Z,75nm,1.0s								
KMRM				LR		LR			
	comp=Z,6µm,18.0s								
HOPS	**Hopland Field**	**83.15**	**48**	*e*P		**P**	**02 16 41.6**	**-0.4**
	comp=Z,176nm,1.5s								
HOPS				LR		LR			
	comp=Z,3µm,18.0s								
YKU2	**Yakutat**	**83.24**	**25**	PFAKE			02 16 50.0	+8.1	
YKU2				LR		LR			
	comp=Z,8µm,20.0s								
PAX	**Paxson**	**83.24**	**20**	*e*P		**P**	**02 16 41.9**	**-0.1**
PAX				pmax		pmax			
	comp=Z,20nm,0.9s								
PAX				MLR		MLR			
	comp=Z,4µm,20.0s								
PAX	**Paxson**	**83.24**	**20**	*e*P		**P**	**02 16 41.9**	**-0.1**
	comp=Z,20nm,0.9s								
PAX				LR		LR			
	comp=Z,4µm,20.0s								
KHMM	**Horse Mountain**	**83.35**	**46**	*e*P		**P**	**02 16 42.3**	**-0.9**
	comp=Z,84nm,1.2s								
KHMM				LR		LR			
	comp=Z,4µm,20.0s								
WRH	**Wood River Hil**	**83.42**	**18**	*e*P		**P**	**02 16 41.6**	**-1.2**
	comp=Z,78nm,1.1s								
WRH				LR		LR			
	comp=Z,4µm,20.0s								
SAO	**San Andreas Ge**	**83.60**	**51**	*e*P		**P**	**02 16 44.5**	**+0.1**
SAO				pmax		pmax			
	comp=Z,53nm,1.2s								
SAO				MLR		MLR			
	comp=Z,12µm,18.0s								
SAO	**San Andreas Ge**	**83.60**	**51**	*e*P		**P**	**02 16 44.5**	**+0.1**
	comp=Z,53nm,1.2s								
SAO				LR		LR			
	comp=Z,12µm,18.0s								
DHAK	**Deception Hill**	**83.60**	**26**	*e*P		**P**	**02 16 43.1**	**-0.8**
	comp=Z,245nm,1.4s								
DHAK				LR		LR			
	comp=Z,10µm,19.0s								
CCB	**Clear Creek Bu**	**83.63**	**18**	*e*P		**P**	**02 16 42.4**	**-1.4**
	comp=Z,30nm,0.8s								
CCB				*e*PP		**PP**	**02 19 59.9**	**+3.1**
CCB				LR		LR			
	comp=Z,4µm,20.0s								
MDM	**Murphy Dome**	**83.72**	**18**	*e*P		**P**	**02 16 43.4**	**-1.0**
	comp=Z,62nm,0.9s								
MDM				LR		LR			
	comp=Z,4µm,20.0s								
HDA	**Harding Lake**	**83.73**	**19**	*e*P		**P**	**02 16 43.7**	**-0.7**
	comp=Z,98nm,0.8s								
HDA				LR		LR			
	comp=Z,3µm,20.0s								
COLA	**College**	**83.78**	**18**	*i* P		**P**	**02 16 43.9**	**-0.7**
COLA	**College**	**83.78**	**18**	*e*P		**P**	**02 16 44.1**	**-0.4**
	comp=Z,78nm,0.8s								
COLA				LR		LR			
	comp=Z,4µm,20.0s								
MOY	**Mondy**	**83.80**	**326**	*e*P		**P**	**02 16 45.7**	**+0.5**
MOY				pmax		pmax			
	comp=Z,231nm,2.4s								
MENT	**Mentasta**	**83.83**	**21**	*e*P		**P**	**02 16 43.7**	**-1.2**
	comp=Z,150nm,1.4s								
MENT				LR		LR			
	comp=Z,4µm,20.0s								
L02D	**Cave Junction,**	**83.90**	**45**	P		**P**	**02 16 45.3**	**-0.5**
	baz=249								
SNCC	**San Nicolas Is**	**83.98**	**54**	P		**P**	**02 16 45.9**	**-0.5**
	baz=252								
SNCC	**San Nicolas Is**	**83.98**	**54**	PFAKE			02 17 00.0	+14	
SNCC				LR		LR			
	comp=Z,6µm,20.0s								
CRAG	**Craig**	**83.99**	**30**	*e*P		**P**	**02 16 46.1**	**+0.3**
	comp=Z,43nm,1.2s								
CRAG				LR		LR			
	comp=Z,4µm,22.0s								
ILAR	**Eielson Array**	**84.00**	**19**	P		**P**	**02 16 44.4**	**-1.4**
	comp=Z,14nm,0.8s,baz=239,slow=5.6,SNR=62								
ILAR				PKPPKP		**P'P'df**	**02 43 04.8**	**+1.1**
	comp=Z,1.1nm,1.1s,baz=334,slow=1.5,SNR=4.1								
ILAR				LR		LR	02 48 46.3		
	comp=Z,2µm,21.1s,baz=243,slow=32								
ILB	**Eielson Array**	**84.00**	**19**	*e*P		**P**	**02 16 44.7**	**-1.1**
IL1	**Eielson Array**	**84.00**	**19**	*e*P		**P**	**02 16 44.9**	**-0.8**
IL1				*e*PP		**PP**	**02 20 00.2**	**+0.4**
WDC	**Whiskeytown Da**	**84.09**	**47**	*e*P		**P**	**02 16 45.4**	**-1.3**
WDC				pmax		pmax			
	comp=Z,87nm,1.4s								
WDC	**Whiskeytown Da**	**84.09**	**47**	*e*P		**P**	**02 16 45.4**	**-1.3**
	comp=Z,87nm,1.4s								
WDC				*e*PP		**PP**	**02 19 56.9**	**-4.2**
WDC				LR		LR			
	comp=Z,4µm,19.0s								
N02D	**Trinity Center**	**84.11**	**46**	P		**P**	**02 16 46.7**	**-0.3**
	baz=249,SNR=18								
SCZ2	**Santa Cruz Isl**	**84.12**	**54**	P		**P**	**02 16 45.6**	**-1.5**
	baz=252								
M02C	**Callahan**	**84.15**	**46**	P		**P**	**02 16 46.5**	**-0.6**
	baz=249,SNR=20								
DOT	**Dot Lake**	**84.17**	**20**	*e*P		**P**	**02 16 46.0**	**-0.7**
	comp=Z,450nm,1.1s								
DOT				LR		LR			
	comp=Z,9µm,20.0s								
SBC	**Santa Barbara**	**84.19**	**53**	P		**P**	**02 16 46.2**	**-1.2**
	baz=252								
MAW	**Mawson**	**84.23**	**202**	P		**P**	**02 16 46.2**	**-0.8**
	comp=Z,29nm,0.8s,baz=106,slow=6.6,SNR=37								
MAW				LR		LR	02 52 29.5		
	comp=Z,2µm,18.2s,baz=98,slow=34								
MAW	**Mawson**	**84.23**	**202**	P		**P**	**02 16 46.3**	**-0.6**
	baz=84,SNR=38								
MAW	**Mawson**	**84.23**	**202**	*e*P		**P**	**02 16 46.4**	**-0.6**
MAW				pmax		pmax			
	comp=Z,140nm,1.8s								
MAW	**Mawson**	**84.23**	**202**	*e*P		**P**	**02 16 46.4**	**-0.6**
	comp=Z,135nm,1.8s								
SMMC	**Simmler**	**84.24**	**52**	P		**P**	**02 16 46.9**	**-0.9**
	baz=252								
PKM	**Mcpherson Peak**	**84.25**	**53**	P		**P**	**02 16 47.0**	**-0.9**
	baz=252								
YBH	**Yreka Blue Hor**	**84.37**	**46**	*e*P		**P**	**02 16 47.7**	**-0.6**
YBH				pmax		pmax			
	comp=Z,79nm,1.0s								
YBH				MLR		MLR			
	comp=Z,5µm,21.0s								
YBH	**Yreka Blue Hor**	**84.37**	**46**	*e*P		**P**	**02 16 47.7**	**-0.6**
	comp=Z,79nm,1.0s								
YBH				LR		LR			
	comp=Z,5µm,21.0s								
ORV	**Oroville**	**84.49**	**48**	*e*P		**P**	**02 16 48.2**	**-0.6**
ORV				pmax		pmax			
	comp=Z,47nm,1.1s								
ORV	**Oroville**	**84.49**	**48**	*e*P		**P**	**02 16 48.2**	**-0.6**
	comp=Z,46nm,1.1s								
ORV				LR		LR			
	comp=Z,3µm,18.0s								
HUMO	**Hull Mountain**	**84.51**	**45**	*e*P		**P**	**02 16 47.4**	**-1.5**
	comp=Z,39nm,1.0s								
HUMO				LR		LR			
	comp=Z,5µm,19.0s								
O03D	**Paynes Creek**	**84.52**	**47**	P		**P**	**02 16 48.1**	**-1.0**
	baz=250,SNR=32								
BLG	**Laguna Peak, P**	**84.60**	**54**	P		**P**	**02 16 48.4**	**-1.1**
	baz=252								
I03D	**Drain, OR**	**84.64**	**44**	P		**P**	**02 16 48.9**	**-0.6**
	baz=249,SNR=11								
AFDM	**Forest Hills D**	**84.67**	**49**	*e*P		**P**	**02 16 48.8**	**-1.0**
	comp=Z,85nm,1.2s								
AFDM				LR		LR			
	comp=Z,3µm,20.0s								
SCI2	**San Clemente I**	**84.68**	**55**	P		**P**	**02 16 48.9**	**-1.0**
	baz=253								
COLD	**Coldfoot**	**84.78**	**16**	*e*P		**P**	**02 16 51.2**	**+1.5**
	comp=Z,50nm,1.3s								
COLD				LR		LR			
	comp=Z,5µm,20.0s								
CMB	**Columbia Colle**	**84.81**	**50**	*e*P		**P**	**02 16 49.4**	**-1.1**
CMB				pmax		pmax			
	comp=Z,34nm,1.0s								
CMB	**Columbia Colle**	**84.81**	**50**	*e*P		**P**	**02 16 49.4**	**-1.1**
	comp=Z,34nm,1.0s								
CMB				*e*PP		**PP**	**02 20 03.5**	**-3.6**
CMB				LR		LR			
	comp=Z,8µm,20.0s								
WRAK	**Wrangell Islan**	**84.84**	**30**	PFAKE			02 17 00.0	+10	
WRAK				LR		LR			
	comp=Z,4µm,19.0s								
COR	**Corvallis**	**84.99**	**43**	PFAKE			02 17 00.0	+8.8	
COR				LR		LR			
	comp=Z,4µm,21.0s								
M04C	**Macdoel**	**85.00**	**46**	P		**P**	**02 16 50.7**	**-0.9**
	baz=250,SNR=15								
OSI	**Osito Audit: C**	**85.02**	**53**	P		**P**	**02 16 50.5**	**-1.2**
	baz=252								
OSI	**Osito Audit: C**	**85.02**	**53**	PFAKE			02 17 00.0	+8.3	
OSI				LR		LR			
	comp=Z,5µm,20.0s								
SKAG	**Skagway**	**85.04**	**26**	*e*P		**P**	**02 16 51.6**	**+0.5**
	comp=Z,49nm,1.1s								
SKAG				LR		LR			
	comp=Z,9µm,19.0s								
ARVC	**Arvin**	**85.09**	**53**	P		**P**	**02 16 51.0**	**-1.0**
	baz=252								
FMP	**Fort Macarthur**	**85.10**	**54**	P		**P**	**02 16 50.9**	**-1.1**
	baz=253								
VES	**Vestal, Richgr**	**85.11**	**52**	P		**P**	**02 16 51.0**	**-1.0**
	baz=252,SNR=11								
DECC	**Green Verdugo**	**85.22**	**54**	P		**P**	**02 16 51.4**	**-1.3**
	baz=253								
G03D	**McMinnville, O**	**85.24**	**42**	P		**P**	**02 16 51.6**	**-0.9**
	baz=249								
BOK	**Bokaro**	**85.26**	**295**	*e*P		**P**	**02 16 54.4**	**+1.3**
BOK				IAmb		IAmb	02 16 56.3		
	comp=Z,44nm,0.7s								
I04A	**Tendick Farm,**	**85.31**	**44**	P		**P**	**02 16 51.8**	**-1.0**
	baz=249								
F03A	**Seaside**	**85.31**	**41**	PFAKE			02 17 00.0	+7.2	
F03A				LR		LR			
	comp=Z,4µm,19.0s								
PASC	**Pasadena Art C**	**85.32**	**54**	*e*P		**P**	**02 16 52.6**	**-0.5**
	comp=Z,47nm,1.4s								
PASC				LR		LR			
	comp=Z,6µm,20.0s								
K04D	**Chiloquin, OR**	**85.35**	**45**	P		**P**	**02 16 51.7**	**-1.6**
	baz=250								
MWC	**Mount Wilson**	**85.43**	**54**	*e*P		**P**	**02 16 54.0**	**+0.1**
MWC				pmax		pmax			
	comp=Z,240nm,1.7s								
MWC	**Mount Wilson**	**85.43**	**54**	*e*P		**P**	**02 16 54.0**	**+0.1**
	comp=Z,239nm,1.8s								
MWC				LR		LR			
	comp=Z,7µm,20.0s								
ISA	**Isabella, Lake**	**85.53**	**52**	P		**P**	**02 16 53.3**	**-0.9**
	baz=252,SNR=9.8								
ISA	**Isabella, Lake**	**85.53**	**52**	*e*P		**P**	**02 16 54.3**	**0.0**
ISA				pmax		pmax			
	comp=Z,62nm,1.2s								
ISA	**Isabella, Lake**	**85.53**	**52**	*e*P		**P**	**02 16 54.3**	**0.0**
	comp=Z,62nm,1.3s								
E03A	**Lebam**	**85.54**	**41**	*e*P		**P**	**02 16 53.4**	**-0.5**
	comp=Z,98nm,1.0s								
E03A				LR		LR			
	comp=Z,6µm,20.0s								
CHLP	**Challavanipeta**	**85.64**	**290**	*e*P		**P**	**02 16 54.9**	**-0.1**
CHLP				IAmb		IAmb	02 16 58.6		
	comp=Z,120nm,1.1s								
NLWA	**Neilton Lookou**	**85.66**	**40**	*e*P		**P**	**02 16 55.0**	**+0.4**
	comp=Z,32nm,1.1s								
WAKR	**Walker**	**85.67**	**49**	*e*P		**P**	**02 16 55.0**	**0.0**
	comp=Z,171nm,1.5s								
WAKR				*e*PP		**PP**	**02 20 11.5**	**-2.8**
WAKR				LR		LR			
	comp=Z,9µm,20.0s								
EDW2	**Edwards Air Fo**	**85.68**	**53**	P		**P**	**02 16 53.9**	**-1.1**
	baz=253,SNR=33								
F04D	**Rainier, OR**	**85.72**	**41**	P		**P**	**02 16 53.8**	**-1.0**
	baz=249								
FYU	**Fort Yukon**	**85.73**	**18**	*e*P		**P**	**02 16 56.1**	**+1.7**
	comp=Z,87nm,1.1s								
FYU				LR		LR			
	comp=Z,4µm,22.0s								
BFSC	**Mount Baldy Ra**	**85.75**	**54**	P		**P**	**02 16 54.0**	**-1.4**
	baz=253,SNR=24								
109C	**Camp Elliot, M**	**85.81**	**55**	P		**P**	**02 16 54.2**	**-1.4**
	baz=254								
MLAC	**Mammoth, Mammo**	**85.85**	**50**	P		**P**	**02 16 54.1**	**-1.9**
	baz=252								
EGAK	**Eagle**	**85.87**	**20**	*e*P		**P**	**02 16 54.5**	**-0.6**
	comp=Z,108nm,0.9s								
J05D	**Fort Rock, OR**	**85.93**	**45**	P		**P**	**02 16 55.1**	**-1.1**
	baz=250								
MURC	**Murrieta**	**85.94**	**55**	P		**P**	**02 16 55.3**	**-1.0**
	baz=253,SNR=8.0								
K05A	**Summer Lake**	**85.98**	**45**	*e*P		**P**	**02 16 55.0**	**-1.5**
	comp=Z,91nm,1.1s								
K05A				LR		LR			
	comp=Z,4µm,18.0s								
DAWY	**Dawson**	**86.05**	**21**	*e*P		**P**	**02 16 55.5**	**-0.6**
	comp=Z,55nm,1.0s								
DAWY				*e*PP		**PP**	**02 20 17.8**	**+1.2**
DAWY				LR		LR			
	comp=Z,7µm,21.0s								
F04A	**Amboy**	**86.06**	**42**	PFAKE			02 17 10.0	+14	
F04A				LR		LR			
	comp=Z,3µm,20.0s								
CWC	**Cottonwood Cre**	**86.07**	**52**	P		**P**	**02 16 54.6**	**-2.4**
	baz=253								
PAHR	**Pah Rah Range**	**86.08**	**48**	*e*P		**P**	**02 16 56.0**	**-0.9**
	comp=Z,86nm,1.3s								
PAHR				*e*PP		**PP**	**02 20 17.3**	**-0.3**
PAHR				LR		LR			
	comp=Z,3µm,18.0s								
LRMC	**Laurel Mtn Rad**	**86.09**	**53**	P		**P**	**02 16 55.7**	**-1.4**
	baz=253,SNR=12								
BAR	**Barrett**	**86.10**	**56**	*e*P		**P**	**02 16 56.8**	**-0.3**
	comp=Z,59nm,1.5s								
BAR				LR		LR			
	comp=Z,4µm,21.0s								
MOD	**Modoc Plateau**	**86.12**	**46**	*e*P		**P**	**02 16 56.1**	**-1.0**
	comp=Z,43nm,1.1s								
MOD				LR		LR			
	comp=Z,3µm,20.0s								
VIS	**Vishakhapatnam**	**86.13**	**289**	*e*P		**P**	**02 16 57.1**	**-0.3**
VIS				IAmb		IAmb	02 17 00.1		
	comp=Z,281nm,2.1s								
TIN	**Tinemaha, Big**	**86.14**	**51**	P		**P**	**02 16 56.0**	**-1.3**
	baz=252								
I05D	**Terrebonne, OR**	**86.22**	**43**	P		**P**	**02 16 56.5**	**-0.9**
	baz=250								
BBRC	**Big Bear Solar**	**86.35**	**54**	P		**P**	**02 16 57.1**	**-1.5**
	baz=254								
MONP2	**Monument Peak**	**86.36**	**56**	P		**P**	**02 16 57.1**	**-1.5**
	baz=254,SNR=28								
PALK	**Pallekele**	**86.37**	**278**	*e*P		**P**	**02 16 58.1**	**-0.7**
PALK				pmax		pmax			
	comp=Z,66nm,1.0s								
PALK	**Pallekele**	**86.37**	**278**	*e*P		**P**	**02 16 58.1**	**-0.7**
	comp=Z,66nm,1.0s								
PALK				LR		LR			
	comp=Z,2µm,19.0s								
PGC	**Sidney**	**86.39**	**39**	*e*P		**P**	**02 16 57.4**	**-0.6**
	comp=Z,184nm,1.8s								
PGC				LR		LR			
	comp=Z,7µm,20.0s								
DAC	**Darwin (Calif)**	**86.40**	**52**	*e*P		**P**	**02 16 57.6**	**-1.1**
DAC				pmax		pmax			
	comp=Z,99nm,1.6s								
DAC	**Darwin (Calif)**	**86.40**	**52**	*e*P		**P**	**02 16 57.6**	**-1.1**
	comp=Z,99nm,1.6s								
DAC				LR		LR			
	comp=Z,6µm,20.0s								
MPMC	**Manual Prospec**	**86.41**	**52**	P		**P**	**02 16 57.7**	**-1.1**
	baz=253,SNR=14								
RRX	**Edison Barstow**	**86.46**	**54**	P		**P**	**02 16 57.4**	**-1.4**
	baz=253								
TIXI	**Tiksi**	**86.47**	**349⇓**	*e*P		**P**	**02 16 56.8**	**-1.1**
TIXI				pmax		pmax			
	comp=Z,83nm,1.7s								
TIXI	**Tiksi**	**86.47**	**349**	*e*P		**P**	**02 16 57.6**	**-0.3**
	comp=Z,113nm,1.4s								
TIXI				LR		LR			
	comp=Z,2µm,20.0s								
PFO	**Pinyon Flats O**	**86.53**	**55**	P		**P**	**02 16 58.3**	**-1.0**
	comp=Z,10nm,1.0s,baz=260,slow=3.8,SNR=19								
PFO	**Pinyon Flats O**	**86.53**	**55**	P		**P**	**02 16 58.8**	**-0.5**
	baz=254,SNR=15								
PFO	**Pinyon Flats O**	**86.53**	**55**	*e*P		**P**	**02 16 58.3**	**-1.0**
PFO				pmax		pmax			
	comp=Z,67nm,1.7s								
PFO				MLR		MLR			
	comp=Z,6µm,18.0s								
PFO	**Pinyon Flats O**	**86.53**	**55**	*e*P		**P**	**02 16 58.3**	**-1.0**
	comp=Z,67nm,1.7s								
PFO				LR		LR			
	comp=Z,6µm,18.0s								
TPFO	**Pinon Flats**	**86.54**	**55**	P		**P**	**02 16 59.2**	**-0.1**
	baz=254,SNR=16								
G05D	**Wamic, OR**	**86.54**	**43**	P		**P**	**02 16 58.6**	**-0.4**
	baz=250								
IKP	**In-Ko-Pah, Jac**	**86.55**	**56**	P		**P**	**02 16 59.4**	**0.0**
	baz=254,SNR=17								
GSC	**Goldstone, Bar**	**86.73**	**53**	P		**P**	**02 16 59.9**	**-0.3**
	baz=254,SNR=18								
GSC	**Goldstone, Bar**	**86.73**	**53**	*e*P		**P**	**02 16 59.3**	**-0.9**
GSC				pmax		pmax			
	comp=Z,79nm,1.6s								
GSC	**Goldstone, Bar**	**86.73**	**53**	*e*P		**P**	**02 16 59.3**	**-0.9**
	comp=Z,79nm,1.6s								
GSC				LR		LR			
	comp=Z,5µm,20.0s								
LON	**Longmire**	**86.74**	**41**	*e*P		**P**	**02 17 00.0**	**+0.1**
LON				pmax		pmax			
	comp=Z,35nm,1.4s								
LON				MLR		MLR			
	comp=Z,3µm,20.0s								
LON	**Longmire**	**86.74**	**41**	*e*P		**P**	**02 17 00.0**	**+0.1**
	comp=Z,35nm,1.4s								
LON				LR		LR			
	comp=Z,3µm,20.0s								
D05A	**Enumclaw**	**86.78**	**41**	*e*P		**P**	**02 17 01.6**	**+1.5**
	comp=Z,180nm,1.4s								
D05A				LR		LR			
	comp=Z,3µm,20.0s								
GRAC	**Grapevine Rang**	**86.78**	**51**	P		**P**	**02 16 59.8**	**-0.5**
	baz=253,SNR=26								
A04D	**Lummi Island**	**86.87**	**39**	P		**P**	**02 16 59.7**	**-0.7**
	baz=249,SNR=22								
SWSC	**Sam W. Stewart**	**86.88**	**56**	P		**P**	**02 17 00.1**	**-0.7**
	baz=254,SNR=20								
DLBC	**Dease Lake**	**86.91**	**28**	LR		LR	02 48 05.4		
	comp=Z,2µm,21.8s,baz=258,slow=30								
DLBC	**Dease Lake**	**86.91**	**28**	*e*P		**P**	**02 16 60.0**	**-0.5**
	comp=Z,20nm,1.0s								
DLBC				*e*PP		**PP**	**02 20 21.4**	**-2.3**
HEC	**Hector,Ludlow**	**86.97**	**54**	P		**P**	**02 16 59.9**	**-1.5**
	baz=254,SNR=16								
G06A	**Carlson Farm,**	**86.99**	**43**	*e*P		**P**	**02 17 00.9**	**-0.3**
	comp=Z,91nm,1.

TPNV					pmax	pmax			
	comp=Z,53nm,1.2s								
TPNV	**Topopah Spring**	**87.62**	**52**	*e*P	**P**		**02 17 03.5**	**-1.1**
	comp=Z,53nm,1.3s								
TPNV				*e*PP	**PP**		**02 20 30.8**	**+0.7**
TPNV				LR	LR				
	comp=Z,7μm,21.0s								
LTY	**Liberty**	**87.64**	**41**	PFAKE			02 17 20.0	+16
LTY				LR	LR				
	comp=Z,4μm,20.0s								
GLA	**Glamis**	**87.70**	**56**	P	**P**		**02 17 04.6**	**-0.3**
	baz=255,SNR=16								
GLA	**Glamis**	**87.70**	**56**	*e*P	**P**		**02 17 05.1**	**+0.2**
GLA				pmax	pmax				
	comp=Z,140nm,1.4s								
GLA	**Glamis**	**87.70**	**56**	*e*P	**P**		**02 17 05.1**	**+0.2**
	comp=Z,140nm,1.4s								
GLA				LR	LR				
	comp=Z,5μm,21.0s								
C06D	**Leavenworth**	**87.73**	**40**	P	**P**		**02 17 04.5**	**-0.1**
	baz=250								
IRM	**Iron Mountain**	**87.73**	**55**	P	**P**		**02 17 04.6**	**-0.4**
	baz=254,SNR=36								
BMN	**Battle Mountai**	**87.88**	**48**	PFAKE			02 17 20.0	+14
BMN				LR	LR				
	comp=Z,2μm,22.0s								
E07A	**Sunnyside**	**87.94**	**42**	PFAKE			02 17 20.0	+14
E07A				LR	LR				
	comp=Z,3μm,20.0s								
LDFC	**Landfair**	**88.00**	**54**	*e*P	**P**		**02 17 05.4**	**-1.0**
	comp=Z,268nm,1.5s								
LDFC				LR	LR				
	comp=Z,9μm,18.0s								
MDRS	**Chennai**	**88.01**	**284**	*e*P	**P**		**02 17 04.6**	**-2.1**
HAWA	**Hanford**	**88.10**	**42**	*e*P	**P**		**02 17 06.8**	**+0.4**
	comp=Z,120nm,1.7s								
Y12C	**Blythe**	**88.12**	**55**	P	**P**		**02 17 06.1**	**-0.7**
	baz=255,SNR=16								
Y12C	**Blythe**	**88.12**	**55**	*e*P	**P**		**02 17 06.4**	**-0.4**
	comp=Z,72nm,1.1s								
Y12C				LR	LR				
	comp=Z,5μm,21.0s								
G08A	**Pilot Rock**	**88.13**	**43**	*e*P	**P**		**02 17 06.4**	**-0.4**
	comp=Z,101nm,1.6s								
G08A				*e*PP	**PP**		**02 20 39.3**	**+5.4**
NEE2	**Needles Airpor**	**88.31**	**54**	P	**P**		**02 17 06.7**	**-1.0**
	baz=255								
SHPR	**Sheep Range**	**88.34**	**52**	*e*P	**P**		**02 17 07.9**	**-0.1**
	comp=Z,134nm,1.6s								
SHPR				LR	LR				
	comp=Z,6μm,20.0s								
SRIG	**Santa Rosalia**	**88.45**	**62**	PFAKE			02 17 20.0	+12
SRIG				LR	LR				
	comp=Z,7μm,20.0s								
113A	**Mohawk Valley,**	**88.49**	**56**	*e*P	**P**		**02 17 08.0**	**-0.6**
	comp=Z,100nm,1.6s								
113A				LR	LR				
	comp=Z,7μm,19.0s								
R11A	**Troy Canyon, C**	**88.52**	**51**	P	**P**		**02 17 08.1**	**-0.7**
	baz=254,SNR=66								
R11A	**Troy Canyon, C**	**88.52**	**51**	PFAKE			02 17 20.0	+11
R11A				LR	LR				
	comp=Z,7μm,20.0s								
PDMCI	**Parker Dam,Lak**	**88.57**	**55**	P	**P**		**02 17 08.3**	**-0.6**
	baz=255,SNR=16								
D08A	**Wollman Farm,**	**88.71**	**41**	*e*P	**P**		**02 17 09.4**	**+0.2**
	comp=Z,110nm,1.8s								
D08A				LR	LR				
	comp=Z,4μm,20.0s								
B08A	**Colville Reser**	**88.86**	**40**	*e*P	**P**		**02 17 09.5**	**-0.5**
	comp=Z,114nm,2.0s								
B08A				LR	LR				
	comp=Z,2μm,18.0s								
ADKI	**Addanki**	**88.86**	**286**	*e*P	**P**		**02 17 09.8**	**-0.8**
ADKI				IAmb	IAmb		02 17 14.8		
	comp=Z,113nm,1.8s								
W13A	**Hualapai Mount**	**88.98**	**54**	*e*P	**P**		**02 17 10.2**	**-0.9**
	comp=Z,112nm,1.5s								
W13A				LR	LR				
	comp=Z,6μm,18.0s								
E09A	**Wood Farm, Sta**	**89.05**	**42**	PFAKE			02 17 20.0	+9.1
E09A				LR	LR				
	comp=Z,3μm,20.0s								
214A	**Organ Pipe Nat**	**89.07**	**57**	P	**P**		**02 17 11.1**	**-0.3**
	baz=256,SNR=37								
BMO	**Blue Mountains**	**89.11**	**44**	*e*P	**P**		**02 17 10.9**	**-0.5**
BMO				pmax	pmax				
	comp=Z,120nm,1.8s								
BMO	**Blue Mountains**	**89.11**	**44**	*e*P	**P**		**02 17 10.9**	**-0.5**
	comp=Z,123nm,1.8s								
WMQ	**Urumqi**	**89.23**	**315**	P	**P**		**02 17 12.0**	**+0.1**
WMQ				pP	pP		02 17 17.0	-1.2
WMQ				sP	sP		02 17 20.3	-0.1
WMQ				PP	**PP**		**02 20 42.5**	**-0.2**
WMQ				SKS	**SKSac**		**02 27 39.3**	**-1.9**
WMQ				S	**S**		**02 27 59.1**	**-1.5**
WMQ				SS	**SS**		**02 33 56.8**	**+1.6**
WMQ				PMZ					
	comp=Z,45nm,0.8s								
WMQ				PMZ					
	comp=Z,710nm,5.2s								
WMQ				LN					
	comp=Z,910nm,22.6s								
WMQ				LE					
	comp=Z,900nm,19.6s								
WMQ				LZ					
	comp=Z,1μm,21.6s								
C09A	**Chrisman Ranch**	**89.36**	**41**	PFAKE			02 17 20.0	+7.7
C09A				LR	LR				
	comp=Z,4μm,19.0s								
Y14A	**Wickenburg**	**89.40**	**55**	*e*P	**P**		**02 17 11.7**	**-1.2**
	comp=Z,154nm,1.3s								
Y14A				LR	LR				
	comp=Z,17μm,20.0s								
LPIG	**La Paz**	**89.41**	**65**	LR	LR		02 46 34.1		
	comp=Z,1μm,21.2s,baz=302,slow=28								
ELK	**Elko**	**89.42**	**48**	*e*P	**P**		**02 17 12.2**	**-0.9**
ELK				pmax	pmax				
	comp=Z,41nm,1.2s								
ELK	**Elko**	**89.42**	**48**	*e*P	**P**		**02 17 12.2**	**-0.9**
	comp=Z,41nm,1.3s								
F10A	**Beach Ranch, E**	**89.50**	**43**	*e*P	**P**		**02 17 11.9**	**-1.2**
	comp=Z,163nm,1.8s								
F10A				LR	LR				
	comp=Z,3μm,20.0s								
NJS	**Nagarjunasagar**	**89.63**	**287**	*e*P	**P**		**02 17 13.7**	**-0.6**
NJS				IAmb	IAmb		02 17 16.9		
	comp=Z,55nm,1.1s								
SLBS	**Sierra La Lagu**	**89.65**	**66**	*e*P	**P**		**02 17 13.4**	**-0.9**
	comp=Z,71nm,1.4s								
SLBS				LR	LR				
	comp=Z,3μm,20.0s								
MFID	**Camas Ranch**	**89.72**	**46**	*e*P	**P**		**02 17 13.2**	**-1.1**
	comp=Z,42nm,1.1s								
MFID				LR	LR				
	comp=Z,4μm,18.0s								
RCLA	**Racherla**	**89.73**	**286**	*e*P	**P**		**02 17 14.2**	**-0.5**
RCLA				IAmb	IAmb		02 17 18.0		
	comp=Z,34nm,1.4s								
PSUT	**Pine Spring**	**89.87**	**51**	*e*P	**P**		**02 17 14.5**	**-0.7**
	comp=Z,66nm,1.2s								
SRLM	**Srisailam**	**89.93**	**286**	*e*P	**P**		**02 17 15.2**	**-0.5**
SRLM				IAmb	IAmb		02 17 18.4		
	comp=Z,79nm,1.1s								
HSIG		**89.95**	**60**	*e*P	**P**		**02 17 16.6**	**+1.1**
	comp=Z,112nm,1.5s								
HSIG				LR	LR				
	comp=Z,7μm,20.0s								
LCMT	**Little Creek M**	**89.96**	**52**	*e*P	**P**		**02 17 14.8**	**-0.8**
	comp=Z,53nm,1.0s								
LCMT				LR	LR				
	comp=Z,5μm,20.0s								
CCUT	**Cedar City**	**90.00**	**52**	*e*P	**P**		**02 17 15.6**	**-0.3**
	comp=Z,58nm,1.1s								
CCUT				LR	LR				
	comp=Z,8μm,20.0s								
RPR	**Rampur**	**90.12**	**289**	*e*P	**P**		**02 17 15.9**	**-0.6**
RPR				IAmb	IAmb		02 17 17.8		
	comp=Z,66nm,1.0s								
NEW	**Newport**	**90.23**	**41**	P	**P**		**02 17 16.1**	**-0.3**
	baz=253,SNR=6.3								
NEW	**Newport**	**90.23**	**41**	*e*P	**P**		**02 17 16.2**	**-0.3**
NEW				pmax	pmax				
	comp=Z,68nm,1.7s								
NEW	**Newport**	**90.23**	**41**	*e*P	**P**		**02 17 16.2**	**-0.3**
	comp=Z,68nm,1.7s								
KNB	**Kanab**	**90.29**	**52**	*e*P	**P**		**02 17 16.8**	**-0.4**
KNB				pmax	pmax				
	comp=Z,130nm,1.4s								
KNB	**Kanab**	**90.29**	**52**	*e*P	**P**		**02 17 16.8**	**-0.4**
	comp=Z,131nm,1.4s								
KNB				LR	LR				
	comp=Z,5μm,18.0s								
INK	**Inuvik**	**90.39**	**19**	P	**P**		**02 17 16.2**	**-0.4**
	comp=Z,4.4nm,1.0s,baz=238,slow=7.1,SNR=5.9								
INK	**Inuvik**	**90.39**	**19**	*e*P	**P**		**02 17 15.9**	**-0.7**
INK				pmax	pmax				
	comp=Z,33nm,1.4s								
INK				MLR	MLR				
	comp=Z,5μm,20.0s								
INK	**Inuvik**	**90.39**	**19**	*e*P	**P**		**02 17 15.9**	**-0.7**
	comp=Z,33nm,1.4s								
INK				LR	LR				
	comp=Z,5μm,20.0s								
HYB	**Hyderabad**	**90.51**	**288**	*i* P	**P**		**02 17 19.0**	**+0.6**
HYB				*e*S	**S**		**02 28 10.0**	**-3.4**
HYB				*e*ScS	**ScS**		**02 28 18.0**	**+0.9**
HYB				*e*			02 29 12.0		
HYB	**Hyderabad**	**90.51**	**288**	*e*P	**P**		**02 17 17.2**	**-1.2**
HYB				IAmb	IAmb		02 17 20.5		
	comp=Z,26nm,0.5s								
HYBB	**Hyderabad (bro**	**90.51**	**288**	*e*P	**P**		**02 17 18.8**	**+0.4**
HYBB				IAmb	IAmb		02 17 21.4		
	comp=Z,168nm,1.9s								
U15A	**North Rim**	**90.56**	**53**	*e*P	**P**		**02 17 17.8**	**-0.8**
	comp=Z,61nm,0.9s								
U15A				LR	LR				
	comp=Z,5μm,18.0s								
HLID	**Hailey**	**90.76**	**46**	P	**P**		**02 17 18.3**	**-0.9**
	baz=255								
HLID	**Hailey**	**90.76**	**46**	*e*P	**P**		**02 17 18.3**	**-0.9**
	comp=Z,28nm,1.0s								
X16A	**Lo Mia Camp, P**	**90.77**	**55**	*e*P	**P**		**02 17 18.8**	**-0.7**
	comp=Z,25nm,0.9s								
X16A				LR	LR				
	comp=Z,5μm,20.0s								
PKCU	**Pink Cliffs**	**90.79**	**52**	*e*P	**P**		**02 17 21.0**	**+1.3**
	comp=Z,50nm,1.2s								
PKCU				LR	LR				
	comp=Z,6μm,18.0s								
TUC	**Tucson**	**90.83**	**57**	P	**P**		**02 17 18.7**	**-1.0**
	baz=257								
TUC	**Tucson**	**90.83**	**57**	*e*P	**P**		**02 17 19.3**	**-0.3**
TUC				pmax	pmax				
	comp=Z,120nm,1.9s								
TUC	**Tucson**	**90.83**	**57**	*e*P	**P**		**02 17 19.3**	**-0.3**
	comp=Z,123nm,1.9s								
TUC				LR	LR				
	comp=Z,9μm,20.0s								
SRSP	**Sriramsagar**	**91.01**	**289**	*e*P	**P**		**02 17 19.1**	**-1.6**
SRSP				IAmb	IAmb		02 17 22.4		
	comp=Z,391nm,2.1s								
MTPU	**Mount Pierson**	**91.03**	**52**	*e*P	**P**		**02 17 20.5**	**-0.3**
	comp=Z,46nm,1.0s								
MTPU				LR	LR				
	comp=Z,8μm,20.0s								
DUG	**Dugway, Tooele**	**91.07**	**49**	P	**P**		**02 17 20.0**	**-0.7**
	baz=256								
DUG	**Dugway, Tooele**	**91.07**	**49**	*e*P	**P**		**02 17 19.8**	**-0.9**
DUG				pmax	pmax				
	comp=Z,33nm,1.0s								
DUG	**Dugway, Tooele**	**91.07**	**49**	*e*P	**P**		**02 17 19.8**	**-0.9**
	comp=Z,33nm,1.0s								
DUG				LR	LR				
	comp=Z,5μm,19.0s								
WUAZ	**Wupatki**	**91.07**	**54**	P	**P**		**02 17 19.9**	**-1.0**
	baz=257								
WUAZ	**Wupatki**	**91.07**	**54**	*e*P	**P**		**02 17 20.0**	**-0.8**
	comp=Z,42nm,1.0s								
WUAZ				LR	LR				
	comp=Z,4μm,18.0s								
BGU	**Big Grassy Mou**	**91.09**	**49**	*e*P	**P**		**02 17 20.1**	**-0.7**
	comp=Z,37nm,1.1s								
BGU				LR	LR				
	comp=Z,3μm,20.0s								
MSU	**Marysvale**	**91.14**	**51**	*e*P	**P**		**02 17 20.9**	**-0.3**
MSU	**Marysvale**	**91.14**	**51**	*e*P	**P**		**02 17 20.9**	**-0.3**
SYO	**Syowa Base**	**91.30**	**197**	‖*e*X	**P**		**02 17 18.0**	**-3.0**
SYO	**Syowa Base**	**91.30**	**197**	‖*i*PcP	**PcP**		**02 17 19.0**	**-2.9**
SYO	**Syowa Base**	**91.30**	**197**	‖*i*pP	pP		02 17 23.0	-4.3
HVU	**Hansel Valley**	**91.48**	**48**	*e*P	**P**		**02 17 21.6**	**-1.0**
HVU				pmax	pmax				
	comp=Z,70nm,1.1s								
HVU	**Hansel Valley**	**91.48**	**48**	*e*P	**P**		**02 17 21.6**	**-1.0**
	comp=Z,70nm,1.1s								
HVU				LR	LR				
	comp=Z,2μm,20.0s								
DGAR	**Diego Garcia**	**91.50**	**262**	PFAKE			02 17 30.0	+6.9	
DGAR				LR	LR				
	comp=Z,6μm,18.0s								
SPUT	**South Promonto**	**91.60**	**48**	*e*P	**P**		**02 17 22.8**	**-0.4**
	comp=Z,157nm,2.0s								
SPUT				*e*PP	**PP**		**02 21 00.4**	**-1.3**
SPUT				LR	LR				
	comp=Z,2μm,20.0s								
BSMT	**Bassoo Peak**	**91.62**	**42**	*e*P	**P**		**02 17 21.9**	**-1.2**
319A	**Douglas**	**91.87**	**59**	*e*P	**P**		**02 17 24.3**	**-0.3**
	comp=Z,52nm,1.1s								
319A				LR	LR				
	comp=Z,8μm,18.0s								
MPU	**Maple Canyon**	**91.91**	**50**	*e*P	**P**		**02 17 25.1**	**+0.5**
	comp=Z,75nm,1.4s								
MPU				LR	LR				
	comp=Z,8μm,20.0s								
MSO	**Missoula**	**91.92**	**43**	P	**P**		**02 17 23.6**	**-0.8**
	baz=255,SNR=10								
MSO	**Missoula**	**91.92**	**43**	*e*P	**P**		**02 17 24.2**	**-0.2**
	comp=Z,14nm,1.0s								
JTMT	**Jette**	**91.93**	**42**	*e*P	**P**		**02 17 23.2**	**-1.2**
BLMT	**Blacktail Moun**	**91.94**	**41**	*e*P	**P**		**02 17 24.2**	**-0.4**
CTU	**Camp Tracy**	**91.97**	**49**	*e*P	**P**		**02 17 24.6**	**-0.3**
	comp=Z,76nm,1.0s								
X18A	**Snowflake**	**91.99**	**55**	*e*P	**P**		**02 17 24.7**	**-0.5**
	comp=Z,26nm,1.0s								
X18A				LR	LR				
	comp=Z,4μm,21.0s								
Q16A	**Castle Valley**	**92.00**	**51**	*e*P	**P**		**02 17 25.5**	**+0.4**
	comp=Z,59nm,1.3s								
Q16A				LR	LR				
	comp=Z,6μm,20.0s								
SWMT	**Swartz Lake**	**92.05**	**42**	*e*P	**P**		**02 17 23.5**	**-1.5**
TMUT	**Trail Mountain**	**92.06**	**50**	*e*P	**P**		**02 17 24.5**	**-1.0**
	comp=Z,23nm,1.1s								
TMUT				*e*PP	PP		02 20 50.4	-15	
TMUT				LR	LR				
	comp=Z,5μm,19.0s								
YBMT	**Yellow Bay**	**92.13**	**42**	*e*P	**P**		**02 17 24.7**	**-0.7**
MCMT	**McKenzie Canyo**	**92.16**	**45**	*e*P	**P**		**02 17 25.1**	**-0.6**
JLU	**Jordanelle**	**92.18**	**49**	*e*P	**P**		**02 17 25.4**	**-0.5**
	comp=Z,34nm,1.1s								
JLU				LR	LR				
	comp=Z,4μm,19.0s								
W18A	**Petrified Fore**	**92.29**	**55**	P	**P**		**02 17 25.6**	**-0.9**
	baz=258,SNR=7.0								
W18A	**Petrified Fore**	**92.29**	**55**	*e*P	**P**		**02 17 26.5**	**0.0**
	comp=Z,101nm,1.8s								
W18A				LR	LR				
	comp=Z,5μm,20.0s								
HWUT	**Hardware Ranch**	**92.32**	**48**	*e*P	**P**		**02 17 25.4**	**-1.1**
	comp=Z,91nm,1.9s								
HWUT				*e*PP	**PP**		**02 21 10.2**	**+2.9**
HWUT				LR	LR				
	comp=Z,3μm,20.0s								
TCUT	**Toone Canyon**	**92.32**	**49**	*e*P	**P**		**02 17 26.8**	**+0.2**
	comp=Z,39nm,0.9s								
TCUT				LR	LR				
	comp=Z,5μm,20.0s								
CHMT	**Chamberlain Mo**	**92.40**	**43**	*e*P	**P**		**02 17 25.2**	**-1.5**
P17A	**Butcher Ranch,**	**92.45**	**50**	PFAKE			02 17 40.0	+13
P17A				LR	LR				
	comp=Z,5μm,19.0s								
DLMT	**Dillon**	**92.46**	**44**	*e*P	**P**		**02 17 26.0**	**-1.0**
	comp=Z,140nm,1.8s								
DLMT				LR	LR				
	comp=Z,4μm,20.0s								
KLRI	**Killari**	**92.47**	**288**	*e*P	**P**		**02 17 27.5**	**0.0**
KLRI				IAmb	IAmb		02 17 29.3		
	comp=Z,251nm,2.0s								
WALA	**Waterton Lakes**	**92.50**	**41**	*e*P	**P**		**02 17 26.9**	**-0.1**
	comp=Z,100nm,1.4s								
WALA				LR	LR				
	comp=Z,3μm,18.0s								
SRU	**San Rafael Swe**	**92.54**	**51**	*e*P	**P**		**02 17 27.5**	**-0.1**
SRU				pmax	pmax				
	comp=Z,33nm,1.7s								
SRU				MLR	MLR				
SRU	**San Rafael Swe**	**92.54**	**51**	*e*P	**P**		**02 17 27.5**	**-0.1**
	comp=Z,33nm,1.7s								
SRU				LR	LR				
	comp=Z,6μm,20.0s								
LRM	**Limekiln Ridge**	**92.67**	**44**	*e*P	**P**		**02 17 27.1**	**-1.0**
BHPL	**Bhopal**	**92.71**	**293**	*e*P	**P**		**02 17 28.4**	**-0.2**
P18A	**Preston Nutter**	**92.86**	**50**	PFAKE			02 17 40.0	+11
P18A				LR	LR				
	comp=Z,7μm,18.0s								
AHID	**Auburn Hatcher**	**92.92**	**47**	PFAKE			02 17 40.0	+11
AHID				LR	LR				
	comp=Z,2μm,20.0s								
QLMT	**Earthquake Lak**	**93.14**	**45**	*e*P	**P**		**02 17 30.7**	**+0.4**
FXWY	**Fox Creek**	**93.16**	**46**	*e*P	**P**		**02 17 29.5**	**-0.9**
	comp=Z,12nm,0.9s								
FXWY				LR	LR				
	comp=Z,3μm,20.0s								
TPAW	**Teton Pass**	**93.18**	**46**	*e*P	**P**		**02 17 30.2**	**-0.3**
	comp=Z,13nm,1.0s								
TPAW				LR	LR				
	comp=Z,3μm,20.0s								
BOZ	**Bozeman (W)**	**93.19**	**44**	P	**P**		**02 17 29.8**	**-0.5**
	baz=257,SNR=36								
BOZ	**Bozeman (W)**	**93.19**	**44**	*e*P	**P**		**02 17 29.6**	**-0.8**
BOZ				pmax	pmax				
	comp=Z,36nm,1.1s								
BOZ	**Bozeman (W)**	**93.19**	**44**	*e*P	**P**		**02 17 29.6**	**-0.8**
	comp=Z,36nm,1.1s								
REDW	**Red Top Meadow**	**93.23**	**47**	*e*P	**P**		**02 17 30.4**	**-0.3**
	comp=Z,52nm,1.6s								
REDW				*e*PP	**PP**		**02 21 10.4**	**-4.1**
REDW				LR	LR				
	comp=Z,3μm,20.0s								
IMW	**Indian Meadow**	**93.28**	**46**	*e*P	**P**		**02 17 30.4**	**-0.7**
	comp=Z,22nm,1.2s								
IMW				LR	LR				
	comp=Z,3μm,19.0s								
YHB	**Horse Butte**	**93.29**	**45**	PFAKE			02 17 40.0	+9.0	
YHB				LR	LR				
	comp=Z,6μm,21.0s								
HRY	**Holter Researc**	**93.30**	**43**	*e*P	**P**		**02 17 31.3**	**+0.5**
SNOW	**Snow King Moun**	**93.32**	**46**	*e*P	**P**		**02 17 30.8**	**-0.3**
	comp=Z,31nm,1.6s								
SNOW				LR	LR				
	comp=Z,3μm,20.0s								
121A	**Cookes Peak, D**	**93.35**	**58**	P	**P**		**02 17 30.8**	**-0.7**
	baz=258								
MOOW	**Moose Ponds**	**93.39**	**46**	*e*P	**P**		**02 17 29.9**	**-1.5**
	comp=Z,27nm,1.6s								
MOOW				LR	LR				
	comp=Z,3μm,18.0s								
YMR	**Madison River**	**93.43**	**45**	PFAKE			02 17 40.0	+8.4	
YMR				LR	LR				
	comp=Z,4μm,19.0s								
LOHW	**Long Hollow**	**93.46**	**46**	*e*P	**P**		**02 17 30.9**	**-0.9**
	comp=Z,32nm,1.6s								
LOHW				LR	LR				
	comp=Z,3μm,20.0s								
YPP	**Pitchstone Pla**	**93.46**	**46**	*e*P	**P**		**02 17 33.0**	**+1.2**
	comp=Z,6.0nm,1.0s								
YPP				LR	LR				
	comp=Z,5μm,20.0s								
PV09	**Paradox Valley**	**93.47**	**52**	*e*P	**P**		**02 17 32.6**	**+0.6**
YFT	**Old Faithful**	**93.47**	**45**	*e*P	**P**		**02 17 31.9**	**+0.1**
	comp=Z,14nm,1.1s								
YFT				LR	LR				
	comp=Z,9μm,18.0s								
FLWY	**Flagg Ranch**	**93.49**	**46**	*e*P	**P**		**02 17 32.4**	**+0.5**
	comp=Z,26nm,1.3s								
FLWY				LR	LR				
	comp=Z,3μm,20.0s								
PV10	**Paradox Valley**	**93.52**	**52**	*e*P	**P**		**02 17 32.3**	**+0.1**
DDI	**Dehra Dun**	**93.53**	**300**	*e*P	**P**		**02 17 32.1**	**0.0**
YHH	**Holmes Hill**	**93.54**	**45**	*e*P	**P**		**02 17 32.8**	**+0.6**
	comp=Z,10nm,1.1s								
YHH				LR	LR				
	comp=Z,5μm,18.0s								
H17A	**Grant Village**	**93.64**	**46**	P	**P**		**02 17 32.3**	**-0.4**
	baz=258,SNR=7.3								
H17A	**Grant Village**	**93.64**	**46**	*e*P	**P**		**02 17 32.7**	**0.0**
	comp=Z,11nm,0.9s								
H17A				LR	LR				
	comp=Z,4μm,19.0s								
MK01	**Makanchi Array**	**93.66**	**317**	*e*P	**P**		**02 17 31.0**	**-1.4**
MK01				*e*PP	**PP**		**02 21 14.5**	**-3.1**
MK31	**Makanchi Array**	**93.67**	**317**	*e*P	**P**		**02 17 31.5**	**-0.9**
MK31	**Makanchi Array**	**93.67**	**317**	*e*P	**P**		**02 17 31.5**	**-0.9**
MKAR	**Makanchi Array**	**93.67**	**317**	P	**P**		**02 17 32.3**	**-0.2**
	comp=Z,27nm,0.6s,baz=98,slow=4.7,SNR=101								
MKAR				PKKP	**PKKPdf**		**02 34 36.9**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=292,slow=3.1,SNR=19								
MKAR				LR	LR		02 58 48.7		
	comp=Z,2μm,22.0s,baz=94,slow=35								
MKAR	**Makanchi Array**	**93.67**	**317**	*e*P	**P**		**02 17 31.5**	**-0.9**
MKAR	**Makanchi Array**	**93.67**	**317**	*e*P	**P**		**02 17 31.5**	**-0.9**
MKAR				PKKP	**PKKPdf**		**02 34 36.9**	**-1.2**
MVCO	**Mesa Verde**	**93.70**	**53**	P	**P**		**02 17 32.1**	**-1.0**
	baz=258								
MVCO	**Mesa Verde**	**93.70**	**53**	*e*P	**P**		**02 17 32.9**	**-0.2**
	comp=Z,10nm,0.9s								
ZAA0	**Zalesovo Array**	**93.77**	**324**	*e*P	**P**		**02 17 30.7**	**-1.9**
ZAA0				*e*PP	PP		02 21 10.0	-8.1	
ZALV	**Zalesovo Beam**	**93.77**	**324**	P	**P**		**02 17 32.6**	**0.0**
	comp=Z,14nm,0.6s,baz=112,slow=4.4,SNR=44								
ZALV				LR	LR		02 58 50.2		
	comp=Z,1μm,20.2s,baz=84,slow=35								
PV01	**Paradox Valley**	**93.83**	**52**	*e*P	**P**		**02 17 33.3**	**-0.3**
MAKZ	**Makanchi**	**93.89**	**317**	*e*P	**P**		**02 17 32.4**	**-1.0**
MAKZ				pmax	pmax				
	comp=Z,380nm,1.9s								
MAKZ	**Makanchi**	**93.89**	**317**	*e*P	**P**		**02 17 32.4**	**-1.0**
	comp=Z,379nm,1.9s								
MAKZ				*e*PP	**PP**		**02 21 17.7**	**-1.7**
MAKZ				LR	LR				
	comp=Z,2μm,21.0s								
BW06	**Boulder Array**	**94.03**	**47**	P	**P**		**02 17 33.9**	**-0.5**
	baz=258,SNR=13								
BW06	**Boulder Array**	**94.03**	**47**	*e*P	**P**		**02 17 33.5**	**-0.9**
	comp=Z,26nm,1.5s								
BW06				LR	LR				
	comp=Z,2μm,18.0s								
PD31	**Pinedale Array**	**94.03**	**47**	*e*P	**

NVS smax smax
comp=N,28nm,2.9s
NVS smax smax
comp=E,87nm,2.9s
ANMO Albuquerque 94.90 55 P **P** 02 17 37.7 -0.8
baz=259
ANMO Albuquerque 94.90 55 *ce*P **P** 02 17 37.8 -0.8
ANMO pmax pmax
comp=Z,12nm,1.7s
ANMO Albuquerque 94.90 55 *e*P **P** 02 17 38.6 0.0
comp=Z,25nm,1.8s
ANMO LR LR
comp=Z,4µm,21.0s
S22A 4UR Ranch, Cre 95.11 53 P **P** 02 17 38.9 -0.7
baz=259
S22A 4UR Ranch, Cre 95.11 53 *e*P **P** 02 17 39.2 -0.4
comp=Z,18nm,1.4s
S22A *e*PP **PP** 02 21 32.7 +3.3
S22A LR LR
comp=Z,4µm,19.0s
POO Poona 95.12 288 *e*P **P** 02 17 38.5 -1.2
MNTX Cornudas Mount 95.20 59 P **P** 02 17 39.2 -0.6
baz=260
MNTX Cornudas Mount 95.20 59 *e*P **P** 02 17 37.7 -2.0
comp=Z,5.8nm,0.9s
MNTX LR LR
comp=Z,6µm,20.0s
SMCO Snowmass 95.26 51 *e*P **P** 02 17 39.7 -0.6
comp=Z,9.0nm,1.0s
SMCO LR LR
comp=Z,7µm,21.0s
YKA Yellowknife Ar 95.47 27 P **P** 02 17 37.8 -2.4
comp=Z,4.6nm,0.7s,baz=255,slow=4.7,SNR=27
YKA PP **PP** 02 21 32.9 +1.7
comp=Z,0.2nm,0.4s,baz=254,slow=8.0,SNR=5.1
YKA PKiKP **PKiKP** 02 22 20.5 0.0
comp=Z,0.7nm,0.7s,baz=252,slow=1.3,SNR=5.2
YKA PKKP **PKKPbc** 02 34 31.2 -3.5
comp=Z,0.4nm,0.7s,baz=74,slow=2.3,SNR=4.0
THN Thein Dam 95.88 302 *e*P **P** 02 17 41.0 -1.8
NVL N'lazarevskaya 96.00 189 *e*P **P** 02 17 43.6 +1.0
NVL *e* 02 21 35.4
NVL *e*S **SKSac** 02 28 19.7 +1.8
NVL *e*SS **SS** 02 35 35.9 +6.2
ZAIG Zacatecas 96.12 68 PFAKE 02 18 00.0 +15
ZAIG LR LR
comp=Z,5µm,18.0s
SDCO Great Sand Dun 96.14 53 P **P** 02 17 43.4 -0.9
baz=260
SDCO Great Sand Dun 96.14 53 *e*P **P** 02 17 44.8 +0.5
comp=Z,11nm,1.6s
SDCO LR LR
comp=Z,3µm,20.0s
K22A Casper 96.20 48 P **P** 02 17 43.4 -0.9
baz=260
K22A Casper 96.20 48 *e*P **P** 02 17 44.9 +0.6
comp=Z,14nm,1.2s
K22A LR LR
comp=Z,3µm,19.0s
TX31 Lajitas Ar. Si 96.25 61 *e*P **P** 02 17 43.8 -0.9
TXAR Lajitas Array 96.25 61 P **P** 02 17 43.5 -1.2
comp=Z,1.7nm,0.8s,baz=232,slow=4.8,SNR=15
TXAR PKKPbc **PKKPbc** 02 34 30.7 -0.8
comp=Z,0.7nm,0.7s,baz=107,slow=4.7,SNR=8.6
TXAR LR LR 02 53 30.3
comp=Z,7µm,20.5s,baz=0.0,slow=31
N23A Red Feather La 96.33 50 P **P** 02 17 44.3 -0.8
baz=260
N23A Red Feather La 96.33 50 *e*P **P** 02 17 44.9 -0.2
comp=Z,30nm,1.7s
N23A LR LR
comp=Z,4µm,18.0s
ISCO Idaho Springs 96.40 51 P **P** 02 17 44.8 -0.6
baz=260
ISCO Idaho Springs 96.40 51 *e*P **P** 02 17 45.3 -0.2
ISCO pmax pmax
comp=Z,28nm,2.0s
ISCO Idaho Springs 96.40 51 *e*P **P** 02 17 45.3 -0.2
comp=Z,28nm,2.0s
ISCO LR LR
comp=Z,7µm,20.0s
NRIK Noril'sk 96.44 340 P **P** 02 17 44.5 0.0
comp=Z,7.2nm,0.6s,baz=114,slow=4.6,SNR=20
NRIK PP **PP** 02 21 37.9 -0.6
comp=Z,3.9nm,0.8s,baz=158,slow=9.1,SNR=4.6
NRIK LR LR 03 00 34.0
comp=Z,2µm,20.6s,baz=112,slow=35
Q24A Divide 96.62 52 P **P** 02 17 45.9 -0.5
baz=261
Q24A Divide 96.62 52 PFAKE 02 18 00.0 +14
Q24A LR LR
comp=Z,4µm,20.0s
SNAA Sanae 96.67 184 P **P** 02 17 45.7 -0.1
SNAA Sanae 96.67 184 *e*P **P** 02 17 45.2 -0.5
SNAA Sanae 96.67 184 *e*P **P** 02 17 45.2 -0.5
comp=Z,15nm,1.0s
SNAA LR LR
comp=Z,8µm,18.0s
PHWY Pilot Hill 96.76 49 PFAKE 02 18 00.0 +13
PHWY LR LR
comp=Z,4µm,19.0s
KURK Kurchatov 96.82 320 *e*P **P** 02 17 45.9 -0.7
KURK 02 21 36.8
KURK pmax pmax
comp=Z,311nm,1.6s
KURK MLR MLR
comp=Z,9µm,20.0s
KURK Kurchatov 96.82 320 *e*P **P** 02 17 45.9 -0.7
comp=Z,311nm,1.6s
KURK PP **PP** 02 21 36.8 -5.1
KURK PKKPbc **PKKPbc** 02 34 28.9 -1.7
KURK LR LR
comp=Z,9µm,20.0s
KSH Kashi 96.84 309 P **P** 02 17 47.0 -0.2
KSH pP pP 02 17 51.6 -1.9
KSH PP **PP** 02 21 46.1 +3.5
KSH S **S** 02 29 04.9 -3.8
KSH SS **SS** 02 35 48.3 +3.7
KSH PMZ
comp=Z,9.0nm,0.4s
KSH PMZ
comp=Z,370nm,5.2s
KSH LN
comp=Z,500nm,14.2s
KSH LE
comp=Z,1µm,18.0s
KSH LZ
comp=Z,2µm,22.9s
KURBB Kurchatov Arra 96.86 320 P **P** 02 17 46.0 -0.8
comp=Z,2.6nm,0.6s,baz=102,slow=3.9,SNR=33
KURBB PP **PP** 02 21 36.8 -5.5
comp=Z,2.2nm,0.9s,baz=101,slow=8.3,SNR=4.2
KURBB PKKPbc **PKKPbc** 02 34 28.9 -1.6
comp=Z,1.6nm,0.9s,baz=274,slow=3.0,SNR=8.3
MOIG Morelia 96.87 71 PFAKE 02 18 00.0 +12
MOIG LR LR
comp=Z,4µm,21.0s
T25A Trinidad 96.90 54 P **P** 02 17 46.8 -0.8
baz=261
T25A Trinidad 96.90 54 PFAKE 02 18 00.0 +12
T25A LR LR
comp=Z,4µm,20.0s
LAO LASA Array 97.08 44 P Pdif 02 17 48.2 +0.1
baz=261
LAO LASA Array 97.08 44 *e*P **P** 02 17 47.8 -0.3
comp=Z,25nm,1.2s
TKM2 Tokmak 2 97.64 312 *e*P **P** 02 17 49.5 -1.3
TKM2 Tokmak 2 97.64 312 *e*P **P** 02 17 49.5 -1.3
comp=Z,15nm,1.4s
TKM2 LR LR
comp=Z,1µm,20.0s
MSTX Muleshoe 97.74 57 P **P** 02 17 50.6 -0.7
baz=261
MSTX Muleshoe 97.74 57 *e*P **P** 02 17 48.2 -3.2
comp=Z,19nm,1.4s
MSTX LR LR
comp=Z,6µm,19.0s
RSSD Black Hills 98.22 47 P **P** 02 17 52.7 -0.7
baz=262
RSSD Black Hills 98.22 47 PFAKE 02 18 00.0 +6.5
RSSD LR LR
comp=Z,2µm,20.0s
FRU Bishkek 98.34 312 *e*P Pdif 02 17 55.0 +1.2
FRU *e* 02 30 46.0
FRU pmax pmax
comp=Z,140nm,2.2s
AAK Ala-Archa 98.40 312 P Pdif 02 17 54.5 +0.2
comp=Z,3.5nm,0.6s,baz=125,slow=4.8,SNR=7.6
AAK Ala-Archa 98.40 312 *e*P **P** 02 17 52.3 -1.9
AAK Ala-Archa 98.40 312 Pdiff Pdif 02 17 55.9 +1.7
SNR=6.4
AAK Ala-Archa 98.40 312 P Pdif 02 17 55.9 +1.7
SNR=6.4
AAK P Pdif 02 17 55.9 +1.7
SNR=6.4
AAK Ala-Archa 98.40 312 *e*P **P** 02 17 52.3 -1.9
comp=Z,41nm,2.0s
AAK LR LR
comp=Z,1µm,20.0s
KSCO Kaye Shedlock' 98.57 52 PFAKE 02 18 10.0 +15
KSCO LR LR
comp=Z,4µm,22.0s
H25A Fruitdale 98.60 46 Pdiff Pdif 02 17 55.0 +0.1
baz=262
UNM Universidad Na 98.69 72 PFAKE 02 18 10.0 +14
UNM LR LR
comp=Z,3µm,22.0s
DGMT Dagmar 98.69 42 Pdiff **P** 02 17 55.0 -0.2
baz=262
AMTX Amarillo 98.76 56 Pdiff **P** 02 17 55.4 -0.5
baz=262
AMTX Amarillo 98.76 56 PFAKE 02 18 10.0 +14
AMTX LR LR
comp=Z,6µm,18.0s
EKS2 Erkin-Say 98.93 312 *e*P Pdif 02 17 57.1 +0.6
EKS2 Erkin-Say 98.93 312 *e*P Pdif 02 17 57.1 +0.6
comp=Z,19nm,1.5s
EKS2 LR LR
comp=Z,1µm,20.0s
TLIG Tlapa 98.98 74 PFAKE 02 18 10.0 +13
TLIG LR LR
comp=Z,4µm,18.0s
OGNE Ogallala 99.27 50 PFAKE 02 18 10.0 +12
OGNE LR LR
comp=Z,7µm,20.0s
832A Faith Ranch, C 99.30 63 Pdiff **Pdif** 02 17 57.4 -1.0
baz=262
B25A Knox Farm, Ray 99.35 43 Pdiff **Pdif** 02 17 58.3 +0.1
baz=263
A25A Svangstu Ranch 99.46 42 Pdiff **Pdif** 02 17 58.6 0.0
baz=263
E26A Carlson Angus 99.62 44 Pdiff **Pdif** 02 17 59.1 -0.3
baz=263
833A Chaparral WMA, 99.81 63 Pdiff **Pdif** 02 17 59.5 -1.1
baz=262
933A Laredo 99.82 64 Pdiff **Pdif** 02 18 00.1 -0.5
baz=262
633A Saathoff Ranch 100.15 62 Pdiff **Pdif** 02 18 01.6 -0.5
baz=262
ABTX Abilene, Hawle 100.15 59 Pdiff **Pdif** 02 18 01.3 -0.8
baz=263
ABTX Abilene, Hawle 100.15 59 PFAKE 02 18 10.0 +7.9
ABTX LR LR
comp=Z,8µm,20.0s
A26A Wade Farm, Ken 100.16 42 Pdiff **Pdif** 02 18 01.9 +0.1
baz=264
533A Kerrville 100.35 61 Pdiff **Pdif** 02 18 02.5 -0.5
baz=263
433A Art 100.38 61 Pdiff **Pdif** 02 18 02.8 -0.3
baz=263
934A Benavides 100.48 64 Pdiff **Pdif** 02 18 03.2 -0.4
baz=262
834A Tilden 100.52 63 Pdiff **Pdif** 02 18 03.0 -0.7
baz=262
333A Richland Sprin 100.55 60 Pdiff **Pdif** 02 18 03.2 -0.7
baz=263
233A Rising Star 100.70 59 Pdiff **Pdif** 02 18 04.2 -0.3
baz=263
W32A Sentinel 100.77 56 Pdiff **Pdif** 02 18 04.1 -0.7
baz=264
CBKS Cedar Bluff 100.78 52 PFAKE 02 18 20.0 +15
CBKS LR LR
comp=Z,3µm,20.0s
534A Blanco 100.82 61 Pdiff **Pdif** 02 18 04.5 -0.6
baz=263
Z33A Whitaker Ranch 100.96 58 Pdiff **Pdif** 02 18 05.0 -0.6
baz=263
KVTX Kingsville 101.02 64 PFAKE 02 18 20.0 +14
KVTX LR LR
comp=Z,3µm,18.0s
WMOK Wichita Mounta 101.11 57 PFAKE 02 18 20.0 +14
WMOK LR LR
comp=Z,7µm,18.0s
334A Lometa 101.18 60 Pdiff **Pdif** 02 18 05.9 -0.8
baz=263
B28A Dugan Ranch, T 101.23 43 Pdiff **Pdif** 02 18 06.2 -0.3
baz=265
A28A Rude Farm, Bot 101.33 42 Pdiff **Pdif** 02 18 07.0 +0.1
baz=266
KKAR Karatay Array 101.36 312 *e*P **Pdif** 02 18 07.1 -0.1
KKAR Karatay Array 101.36 312 *e*Pdif **Pdif** 02 18 07.1 -0.1
MDND Maddock 101.69 43 PFAKE 02 18 20.0 +11
MDND LR LR
comp=Z,3µm,21.0s
Y34A Reagan Ranch, 101.87 58 Pdiff **Pdif** 02 18 09.6 -0.1
baz=264
WHTX Lake Whitney, 101.92 60 PFAKE 02 18 20.0 +10
WHTX LR LR
comp=Z,6µm,20.0s
W34A Bridge Creek, 101.98 56 PFAKE 02 18 20.0 +10
W34A LR LR
comp=Z,7µm,19.0s
A29A Manning Farm, 102.01 42 Pdiff **Pdif** 02 18 10.5 +0.6
baz=265
S33A Kaszmaul Farm, 102.03 54 Pdiff **Pdif** 02 18 10.3 0.0
baz=265
BVAR Borovoye Array 102.14 322 P **Pdif** 02 18 10.4 0.0
comp=Z,2.4nm,0.6s,baz=108,slow=4.8,SNR=17
BVAR PP **PP** 02 22 26.7 +4.3
comp=Z,1.5nm,0.7s,baz=93,slow=3.0,SNR=5.7
BVAR PKKPbc **PKKPbc** 02 34 13.3 -2.3
comp=Z,0.2nm,0.3s,baz=238,slow=2.7,SNR=2.6
BRVK Borovoye 102.21 322 PFAKE 02 18 20.0 +9.3
BRVK LR LR
comp=Z,7µm,20.0s
BGNE Belgrade 102.24 50 PFAKE 02 18 20.0 +8.9
BGNE LR LR
comp=Z,8µm,19.0s
V34A Guthrie 102.25 56 PFAKE 02 18 20.0 +8.7
V34A LR LR
comp=Z,6µm,18.0s
U34A Anderson Ranch 102.29 55 PFAKE 02 18 20.0 +8.5
U34A LR LR
comp=Z,4µm,20.0s
436A Wall Ranch, Ga 102.35 61 Pdiff **Pdif** 02 18 11.3 -0.5
baz=264
X35A Drake 102.56 57 Pdiff **Pdif** 02 18 12.5 -0.2
baz=265
236A Katherine and 102.70 60 Pdiff **Pdif** 02 18 13.3 0.0
baz=264
S34A Willow Spring 102.74 54 Pdiff **Pdif** 02 18 13.6 +0.1
baz=265
E31A Nome 102.77 45 Pdiff **Pdif** 02 18 13.4 0.0
baz=267
C31A Landman Farms, 102.94 43 Pdiff **Pdif** 02 18 14.2 +0.1
baz=267
M33A Taylor Creek F 102.96 50 Pdiff **Pdif** 02 18 14.2 -0.2
baz=266
Q34A Chapman 102.97 53 Pdiff **Pdif** 02 18 14.2 -0.2
baz=266
ZRNK Zerenda 102.98 322 *e*P **Pdif** 02 18 13.2 -0.9
ZRNK Zerenda 102.98 322 *e*Pdif **Pdif** 02 18 13.2 -0.9
ZRNK *e*PP **PP** 02 22 24.7 -3.9
ZRNK LR LR
comp=Z,3µm,20.0s
Y36A Durant 103.08 58 Pdiff **Pdif** 02 18 14.4 -0.6
baz=265
W36A Wetumka 103.24 56 Pdiff **Pdif** 02 18 15.4 -0.3
baz=265
J33A Davis 103.24 48 Pdiff **Pdif** 02 18 15.2 -0.3
baz=267
D32A Dogwood Acres, 103.40 44 Pdiff **Pdif** 02 18 15.8 -0.3
baz=268
ECSD EROS Data Cent 103.52 48 PFAKE 02 18 30.0 +13
ECSD LR LR
comp=Z,4µm,19.0s
RES Resolute Bay 103.54 16 PFAKE 02 18 30.0 +14
RES LR LR
comp=Z,4µm,22.0s
TUL1 Leonard 103.65 56 PFAKE 02 18 30.0 +12
TUL1 LR LR
comp=Z,8µm,18.0s
T36A Boggs Farm, Ca 103.67 54 Pdiff **Pdif** 02 18 17.3 -0.3
baz=266
338A Crockett 103.67 60 Pdiff **Pdif** 02 18 17.5 -0.2
baz=265
B32A Ashes, Strandq 103.77 43 Pdiff **Pdif** 02 18 17.6 -0.2
baz=268
A32A Rocking H Ranc 103.81 42 Pdiff **Pdif** 02 18 17.5 -0.4
baz=268
V37A Hulbert 104.18 56 Pdiff **Pdif** 02 18 20.2 +0.3
baz=266
U37A Salina 104.23 55 Pdiff **Pdif** 02 18 19.5 -0.5
baz=266
ULM Lac du Bonnet 104.25 41 PFAKE 02 18 30.0 +10
ULM LR LR
comp=Z,2µm,18.0s
NATX Nacogdoches 104.26 60 PFAKE 02 18 30.0 +10
NATX LR LR
comp=Z,6µm,18.0s
C33A Trail 104.26 43 Pdiff **Pdif** 02 18 19.7 -0.2
baz=269
T37A Cheneyville 18 104.44 54 Pdiff **Pdif** 02 18 20.6 -0.4
baz=266
V38A Canehill 104.77 56 Pdiff **Pdif** 02 18 22.3 -0.2
baz=266
U38A Gravette 104.82 55 Pdiff **Pdif** 02 18 22.3 -0.5
baz=266
CCIG Comitan 104.88 76 PFAKE 02 18 30.0 +6.4
CCIG LR LR
comp=Z,3µm,18.0s
FCC Fort Churchill 105.14 32 PFAKE 02 22 50.0
FCC LR LR
comp=Z,4µm,20.0s
HHAR Hobbs 105.17 55 PFAKE 02 22 50.0
HHAR LR LR
comp=Z,6µm,20.0s
M37A Trindle Farm, 105.31 50 PKiKP **PKiKP** 02 22 39.5 +0.7
baz=268
MIAR Mount Ida 105.37 57 PFAKE 02 22 50.0
MIAR LR LR
comp=Z,7µm,21.0s
C35A Jirik Farms, M 105.48 44 PKiKP **PKiKP** 02 22 39.2 +0.3
baz=270
T39A Clever 105.66 55 PKiKP **PKiKP** 02 22 39.5 -0.1
baz=267
WLAR White Oak Lake 105.70 58 PFAKE 02 22 50.0
WLAR LR LR
comp=Z,3µm,20.0s
SCIA State Center 105.95 50 PFAKE 02 22 50.0
SCIA LR LR
comp=Z,7µm,18.0s
SPMN Marine on St. 106.29 46 PFAKE 02 22 50.0
SPMN LR LR
comp=Z,4µm,20.0s
X301 Greenbrier Sit 106.37 57 PFAKE 02 22 50.0
X301 LR LR
comp=Z,9µm,21.0s
UALR University of 106.40 57 PFAKE 02 22 50.0
UALR LR LR
comp=Z,9µm,19.0s
X201 Greenbrier Sit 106.41 56 PFAKE 02 22 50.0
X201 LR LR
comp=Z,8µm,20.0s
WHAR Wooly Hollow 106.47 56 PFAKE 02 22 50.0
WHAR LR LR
comp=Z,8µm,21.0s
V41A Mountainview 106.59 56 PKiKP **PKiKP** 02 22 41.0 -0.4
baz=268
CCAR Cane Creek 106.83 58 PFAKE 02 22 50.0
CCAR LR LR
comp=Z,5µm,20.0s
PBMO Poplar Bluff 108.02 55 PFAKE 02 23 00.0
PBMO LR LR
comp=Z,8µm,18.0s
JFWS Jewell Farm 108.15 49 PFAKE 02 23 00.0
JFWS LR LR
comp=Z,4µm,19.0s
SLM Saint Louis 108.19 53 PFAKE 02 23 00.0
SLM LR LR
comp=Z,4µm,22.0s
MET Memphis--Engin 108.39 57 PFAKE 02 23 00.0
MET LR LR
comp=Z,8µm,18.0s
PVMO Portageville 108.60 55 PFAKE 02 23 00.0
PVMO LR LR
comp=Z,3µm,19.0s
OXF Oxford 108.81 57 PFAKE 02 23 00.0
OXF LR LR
comp=Z,5µm,19.0s
ARU Arti 108.85 326 PKiKP **PKiKP** 02 22 45.4 +0.5
comp=Z,2.2nm,0.5s,baz=355,slow=3.7,SNR=4.8
ARU Arti 108.85 326 PKiKP **PKiKP** 02 22 45.4 +0.5
ARU LR LR
comp=Z,2µm,19.0s
HALT Halls 108.89 56 PFAKE 02 23 00.0
HALT LR LR
comp=Z,7246µm,20.0s
TEIG Tepich 108.98 72 PFAKE 02 23 00.0
TEIG LR LR
comp=Z,3µm,22.0s
SIUC Southern Illin 108.99 54 PFAKE 02 23 00.0
SIUC LR LR
comp=Z,8µm,20.0s
TGUH Tegucigalpa,Un 109.24 79 PFAKE 02 23 00.0
TGUH LR LR
comp=Z,4µm,20.0s
OLIL Olney 109.86 53 PFAKE 02 23 00.0
OLIL LR LR
comp=Z,4µm,21.0s
AKTO Aktyubinsk 109.90 320 PKiKP **PKiKP** 02 22 48.3 +1.2
comp=Z,1.1nm,0.6s,baz=86,slow=7.0,SNR=4.4
AKTO PKKPbc **PKKPbc** 02 33 50.1 -1.4
comp=Z,0.8nm,0.7s,baz=165,slow=4.4,SNR=3.7
PLAL Pickwick Lake 109.91 57 PFAKE 02 23 00.0
PLAL LR LR
comp=Z,6µm,19.0s
WVT Waverly 110.11 56 PFAKE 02 23 00.0
WVT LR LR
comp=Z,6µm,20.0s
USIN University of 110.22 54 PFAKE 02 23 00.0
USIN LR LR
comp=Z,8µm,20.0s
SFIN Lafayette 110.59 51 PFAKE 02 23 00.0
SFIN LR LR
comp=Z,6µm,18.0s
BRAL Brewton 110.72 61 PFAKE 02 23 00.0
BRAL LR LR
comp=Z,4µm,21.0s
BLO Bloomington 111.08 52 PFAKE 02 23 00.0
BLO LR LR
comp=Z,6µm,20.0s
WCI Wyandotte Cave 111.29 53 PFAKE 02 23 00.0
WCI LR LR
comp=Z,8µm,20.0s
KBS Kingsbay 111.33 355 *e*PP PP 02 23 29.6 +0.6
KBS IAMs_20 IAMs_20 03 06 13.1
comp=Z,2µm,20.8s
KBS IVMs_BB IVMs_BB 03 06 28.1
comp=Z,640nm,19.9s
KBS Kingsbay 111.33 355 PFAKE 02 23 00.0
KBS LR LR
comp=Z,2µm,21.0s
SPA0 Spitsbergen Ar 111.53 353 *e*P **Pdif** 02 18 52.8 +1.1
SPA0 *e*PP **PP** 02 23 27.4 -3.1
SWET Sewanee 111.67 57 PFAKE 02 23 00.0
SWET LR LR
comp=Z,2µm,21.0s
HOPEN Hopen 111.70 351 *e*PP PP 02 23 31.2 -0.6
HDC Heredia 111.75 84 PFAKE 02 23 00.0
HDC LR LR
comp=Z,2µm,20.0s
HOPE Hope Point 111.89 166 PFAKE 02 23 00.0
HOPE LR LR
comp=Z,7µm,20.0s
ABPO Ambohimpanom 112.03 244 PFAKE 02 23 00.0
ABPO LR LR
comp=Z,4µm,18.0s
HSPB Hornsund (broa 112.63 353 *e*PP PP 02 23 40.4 +2.1
HSPB Hornsund (broa 112.63 353 *e*P **Pdif** 02 19 01.1 +4.6
HSPB *e* 02 23 41.5
HSPB *e*PS **PS** 02 33 18.4 +5.5
HSPB *e*SS SS 02 39 27.0 +8.8
CPCT Cooper Cave 112.81 56 PFAKE 02 23 00.0
CPCT LR LR
comp=Z,3µm,19.0s
AAM Ann Arbor 113.04 49 PFAKE 02 23 00.0
AAM LR LR
comp=Z,8µm,19.0s

TKL **Tuckaleechee C** **113.41** **56** PFAKE 02 23 10.0
TKL LR LR
comp=Z,5µm,20.0s
TZTN **Tazewell** **113.55** **55** PFAKE 02 23 10.0
TZTN LR LR
comp=Z,5µm,20.0s
TRQA **Tornquist** **113.68** **141** PFAKE 02 23 10.0
TRQA LR LR
comp=Z,3µm,18.0s
TIGA **Tifton** **113.69** **61** PFAKE 02 23 10.0
TIGA LR LR
comp=Z,2µm,19.0s
ACSO **Alum Creek Sta** **113.74** **51** PFAKE 02 23 10.0
ACSO LR LR
comp=Z,5µm,18.0s
GOGA **Godfrey** **113.75** **59** PFAKE 02 23 10.0
GOGA LR LR
comp=Z,6µm,20.0s
LVZ **Lovozero** **115.19** **342** PFAKE 02 23 10.0 +13
LVZ LR LR
comp=Z,4µm,22.0s
KMSC **Kings Mountain** **115.43** **57** PFAKE 02 23 10.0 +12
KMSC LR LR
comp=Z,5µm,21.0s
OTAV **Otavalo** **115.55** **95** PFAKE 02 23 10.0 +10
OTAV LR LR
comp=Z,2µm,20.0s
DWPF **Disney Wildern** **115.60** **64** PFAKE 02 23 10.0 +11
DWPF LR LR
comp=Z,3µm,18.0s
ALLY **Alegheny Colle** **115.72** **49** PFAKE 02 23 10.0 +12
ALLY LR LR
comp=Z,7µm,20.0s
BCIP **Isla Barro Col** **115.80** **85** PFAKE 02 23 10.0 +11
BCIP LR LR
comp=Z,1µm,18.0s
SADO **Sadowa** **115.97** **46** PKKPab PKKPab 02 33 34.2 +0.1
comp=Z,5.9nm,0.9s,baz=128,slow=4.4,SNR=7.3
BLA **Blacksburg** **116.01** **54** PFAKE 02 23 10.0 +11
BLA LR LR
comp=Z,5µm,18.0s
KEV **Kevo** **116.16** **345** PFAKE 02 23 10.0 +12
KEV LR LR
comp=Z,4µm,21.0s
MCWV **Mont Chateau** **116.20** **51** PFAKE 02 23 10.0 +11
MCWV LR LR
comp=Z,3µm,18.0s
NHSC **New Hope** **116.52** **59** PFAKE 02 23 10.0 +10
NHSC LR LR
comp=Z,5µm,19.0s
ARA0 **ARCESS Array S** **116.69** **345** *e*PKPdf **PKPdf** **02 22 59.3 -0.2**
ARCES **ARCESS Array B** **116.69** **345** PKP **PKPdf** **02 22 58.6 -0.9**
comp=Z,10nm,0.6s,baz=106,slow=0.7,SNR=50
ARCES PKKPbc **PKKPbc** **02 33 27.1 -2.0**
comp=Z,3.8nm,0.8s,baz=324,slow=6.0,SNR=4.6
ARE0 **ARCESS Array S** **116.69** **345** *e*PP PP 02 24 06.8 -0.4
ARE0 IAMs_20 IAMs_20 03 12 39.8
comp=Z,3µm,19.2s
ARE0 **ARCESS Array S** **116.69** **345** PFAKE 02 23 10.0 +10
ARE0 LR LR
comp=Z,3µm,22.0s
KLMR **Klimovskoe** **117.03** **334** *e*PKIKP **PKPdf** **02 22 58.5 -1.8**
KLMR *e* 02 24 07.7
KLMR pmax pmax
comp=Z,27nm,1.3s
SUMG **Summit** **117.29** **8** *i* PKIKP **PKPdf** **02 23 02.0 +0.9**
SUMG pmax pmax
comp=Z,25nm,1.3s
SUMG MLR MLR
comp=Z,2µm,21.0s
SUMG **Summit** **117.29** **8** *i* P **PKPdf** **02 23 02.0 +0.9**
comp=Z,25nm,1.3s
SUMG *i* 02 24 06.3
comp=Z,2µm,21.0s
SUMG **Summit** **117.29** **8** *e*PKPdf **PKPdf** **02 23 01.7 +0.7**
SUMG *e*PP **PP** **02 24 15.1 +3.5**
SUMG LR LR
comp=Z,2µm,22.0s
SSPA **Standing Stone** **117.55** **50** *e*PKPdf **PKPdf** **02 23 02.8 +0.8**
SSPA LR LR
comp=Z,5µm,21.0s
ILULI **Ilulissat** **117.76** **14** *i* PKIKP **PKPdf** **02 23 01.0 -0.5**
ILULI pmax pmax
comp=Z,10.0nm,0.8s
ILULI MLR MLR
comp=Z,3µm,18.0s
ILULI **Ilulissat** **117.76** **14** *i* P **PKPdf** **02 23 01.0 -0.5**
comp=Z,9.6nm,0.8s
comp=Z,3µm,18.0s
CNNC **Cliffs of the** **118.23** **56** PFAKE 02 23 10.0 +6.6
CNNC LR LR
comp=Z,4µm,21.0s
CBN **Corbin Frederi** **118.29** **53** PFAKE 02 23 10.0 +6.5
CBN LR LR
comp=Z,8µm,20.0s
BINY **Binghamton** **118.69** **48** PFAKE 02 23 20.0 +16
BINY LR LR
comp=Z,5µm,18.0s
MTDJ **Mount Denham** **118.95** **75** PFAKE 02 23 20.0 +15
MTDJ LR LR
comp=Z,2µm,20.0s
KSPA **Keystone Colle** **118.97** **49** PFAKE 02 23 20.0 +15
KSPA LR LR
comp=Z,8µm,19.0s
N59A **State Game Lan** **119.09** **50** PKiKP **PKPdf** **02 23 04.5 -0.5**
baz=280
LUPA **Lehigh Univers** **119.44** **50** PFAKE 02 23 20.0 +14
LUPA LR LR
comp=Z,7µm,20.0s
SFJD **Kangerlussuaq** **119.55** **15** *i* PKIKP **PKPdf** **02 23 06.0 +1.0**
SFJD **Kangerlussuaq** **119.55** **15** *i* P **PKPdf** **02 23 06.0 +1.0**
SFJD **Kangerlussuaq** **119.55** **15** PFAKE 02 23 20.0 +15
SFJD LR LR
comp=Z,4µm,19.0s
HELC **Santa Helena** **119.56** **89** *e*P **PKPdf** **02 23 02.1 -5.0**
HELC **Santa Helena** **119.56** **89** PFAKE 02 23 20.0 +13
HELC LR LR
comp=Z,2µm,18.0s
PRAC **Prado** **119.75** **92** *e*P PKPdf 02 22 56.8 -10
PRAC **Prado** **119.75** **92** *e*PKPdf **PKPdf** **02 23 06.8 -0.2**
PRAC LR LR
comp=Z,2µm,20.0s
VRH **Novokhopyorsk** **119.78** **323** *i* PKIKP **PKPdf** **02 23 04.5 -1.4**
VRH pmax pmax
comp=Z,30nm,1.2s
VRH MLR MLR
comp=Z,2µm,22.0s
FRNY **Flat Rock** **119.82** **45** *e*PKPdf **PKPdf** **02 23 03.7 -2.5**
FRNY LR LR
comp=Z,3µm,20.0s
ODNJ **Ogdensburg** **119.92** **49** *e*PKPdf **PKPdf** **02 23 06.3 -0.2**
ODNJ LR LR
comp=Z,3µm,22.0s
BRNJ **Basking Ridge** **120.03** **50** PFAKE 02 23 20.0 +13
BRNJ LR LR
comp=Z,7µm,20.0s
LPAZ **La Paz** **120.21** **117** PKP **PKPdf** **02 23 08.6 0.0**
comp=Z,9.5nm,0.9s,baz=316,slow=1.3,SNR=26
LPAZ PKKPbc **PKKPbc** **02 33 15.6 -0.2**
comp=Z,2.0nm,0.8s,baz=63,slow=4.1,SNR=6.7
MOS **Moscow** **120.23** **329** *e*PKIKP **PKPdf** **02 23 05.4 -1.2**
MOS *e* 02 24 33.2
MOS pmax pmax
comp=Z,300nm,2.7s
TRY **Troy** **120.26** **47** *e*PKPdf **PKPdf** **02 23 09.1 +2.0**
TRY LR LR
comp=Z,8µm,19.0s
MDV **Middlebury** **120.31** **46** *e*PKPdf **PKPdf** **02 23 08.0 +0.8**
JMIC **Jan Mayen** **120.42** **358** *e*PP PP 02 24 33.1 +0.4
JMIC IAMs_20 IAMs_20 03 13 49.2
comp=Z,1µm,20.4s
TBLG **Delisi** **120.42** **312** P **PKPdf** **02 23 08.0 +0.5**
TBLG **Delisi** **120.42** **312** PKIKP **PKPdf** **02 23 08.0 +0.5**
GUDG **Gudauri** **120.45** **313** P **PKPdf** **02 23 10.0 +2.2**
PAL **Palisades** **120.46** **49** PFAKE 02 23 20.0 +12
PAL LR LR
comp=Z,4µm,18.0s
ROSC **El Rosal** **120.51** **91** PKP **PKPdf** **02 23 09.0 +0.1**
comp=Z,3.6nm,0.4s,baz=66,slow=17,SNR=2.9
ROSC **El Rosal** **120.51** **91** PKP **PKPdf** **02 23 09.0 +0.1**
ROSC LR LR
comp=Z,200nm,18.0s
SCHQ **Schefferville** **120.53** **32** PKP **PKPdf** **02 23 07.4 +0.1**
comp=Z,3.5nm,0.7s,baz=257,slow=9.6,SNR=3.1
SCHQ PKKPbc **PKKPab** **02 33 13.9 +0.1**
comp=Z,4.9nm,0.8s,baz=107,slow=5.3,SNR=3.9
SCHQ **Schefferville** **120.53** **32** PKP **PKPdf** **02 23 07.3 +0.1**
SCHQ PKKPbc **PKKPab** **02 33 13.9 +0.1**
SCHQ LR LR
comp=Z,4µm,19.0s
GNI **Garni** **120.75** **310** PKP **PKPdf** **02 23 08.7 +0.3**
comp=Z,6.8nm,0.6s,baz=128,slow=1.1,SNR=9.2
GNI **Garni** **120.75** **310** PKIKP **PKPdf** **02 23 08.7 +0.3**
GNI MLR MLR
comp=Z,1µm,22.0s
GNI **Garni** **120.75** **310** PKP **PKPdf** **02 23 08.7 +0.3**
GNI LR LR
comp=Z,1µm,22.0s
ZEI **Tsey** **120.79** **313** *i* PKIKP **PKPdf** **02 23 08.3 -0.1**
ZEI pmax pmax
comp=Z,134nm,2.0s
SCO **Scoresbysund** **120.86** **3** *i* PKIKP **PKPdf** **02 23 08.9 +1.4**
SCO pmax pmax
comp=Z,43nm,1.5s
SCO MLR MLR
comp=Z,2µm,19.0s
SCO **Scoresbysund** **120.86** **3** *i* P **PKPdf** **02 23 08.9 +1.4**
comp=Z,43nm,1.5s
SCO *i* 02 24 31.6
comp=Z,2µm,19.0s
CHIC **Chingaza** **121.05** **91** *e*P PKPpre 02 23 03.4
OBN **Obninsk** **121.05** **329** PKP **PKPdf** **02 23 08.8 +0.6**
comp=Z,7.2nm,0.4s,baz=100,slow=2.9,SNR=10
OBN **Obninsk** **121.05** **329** *i* PKIKP **PKPdf** **02 23 09.4 +1.2**
OBN *e* 02 24 37.7
OBN *e*PPP PPP 02 27 10.6
OBN *e* 02 30 09.1
OBN *e*SS SS 02 41 07.4 -1.5
OBN pmax pmax
comp=Z,57nm,1.5s
OBN **Obninsk** **121.05** **329** PKP **PKPdf** **02 23 08.8 +0.6**
OBN LR LR
comp=Z,2µm,20.0s
YLE **Yale** **121.11** **49** PFAKE 02 23 20.0 +11
YLE LR LR
comp=Z,7µm,19.0s
ONI **Oni** **121.16** **313** P **PKPdf** **02 23 10.7 +1.7**
ONI **Oni** **121.16** **313** PKIKP **PKPdf** **02 23 10.7 +1.7**
LMQ **La Malbaie** **121.23** **41** *e*PKPdf **PKPdf** **02 23 08.9 0.0**
LMQ LR LR
comp=Z,4µm,20.0s
VSR **Storozhevoye** **121.27** **324** *i* PKIKP **PKPdf** **02 23 09.5 +0.7**
VSR *e*PS **PS** **02 34 24.8 -7.4**
VSR pmax pmax
comp=Z,40nm,1.6s
VSR MLR MLR
comp=Z,2µm,23.0s
KBZ **Khabaz** **121.27** **314** PKP **PKPdf** **02 23 10.7 +1.7**
comp=Z,2.5nm,0.7s,baz=32,slow=24,SNR=6.2
GTBY **Guantanamo Bay** **121.31** **74** PFAKE 02 23 20.0 +10
GTBY LR LR
comp=Z,1µm,22.0s
QUA2 **Belchertown** **121.31** **47** PFAKE 02 23 20.0 +11
QUA2 LR LR
comp=Z,7µm,20.0s
KIV **Kislovodsk** **121.36** **315** *i* PKIKP **PKPdf** **02 23 11.1 +1.8**
KIV *e* 02 24 40.5
KIV *e*PS **PS** **02 34 34.5 +0.9**
KIV *e*SS SS 02 41 17.4 +3.3
KIV pmax pmax
comp=Z,14nm,1.0s
KIV **Kislovodsk** **121.36** **315** PKPdf **PKPdf** **02 23 12.4 +3.1**
SNR=5.7
KIV **Kislovodsk** **121.36** **315** P **PKPdf** **02 23 12.4 +3.1**
SNR=5.7
KIV **Kislovodsk** **121.36** **315** PFAKE 02 23 20.0 +11
KIV LR LR
comp=Z,2µm,20.0s
AKH **Akhalkalaki** **121.41** **312** P **PKPdf** **02 23 11.8 +2.2**
AKH **Akhalkalaki** **121.41** **312** PKIKP **PKPdf** **02 23 11.8 +2.2**
FFD **Franklin Falls** **121.52** **46** PFAKE 02 23 20.0 +10
FFD LR LR
comp=Z,5µm,20.0s
NEY **Neytrino** **121.52** **314** *i* PKIKP **PKPdf** **02 23 11.2 +1.4**
HRV **Adam Dziewonsk** **121.83** **47** PFAKE 02 23 20.0 +10
HRV LR LR
comp=Z,5µm,20.0s
RUSC **La Rusia** **121.91** **90** *e*P PKPpre 02 23 02.1
BRYW **Bryant College** **121.99** **48** *e*PKPdf **PKPdf** **02 23 11.6 +1.1**
BRYW LR LR
comp=Z,10µm,19.0s
WES **Weston** **122.03** **47** *e*PKIKP **PKPdf** **02 23 12.4 +1.9**
WES MLR MLR
comp=Z,11µm,20.0s
WES **Weston** **122.03** **47** *e*PKPdf **PKPdf** **02 23 12.4 +1.9**
WES LR LR
comp=Z,11µm,20.0s
OCAC **Ocana** **122.04** **87** *e*P **PKPdf** **02 23 08.7 -2.9**
FIA1 **FINESS Array S** **122.08** **338** *e*PKPdf **PKPdf** **02 23 10.2 +0.1**
FINES **FINESS Array B** **122.09** **338** PKP **PKPdf** **02 23 09.7 -0.3**
comp=Z,9.8nm,0.9s,baz=31,slow=4.6,SNR=18
GRMC **Gramalote, San** **122.47** **88** *e*P **PKPdf** **02 23 08.7 -3.7**
WVL **Waterville** **122.59** **44** PFAKE 02 23 20.0 +8.5
WVL LR LR
comp=Z,8µm,20.0s
PKME **Peaks-Kenny Pk** **122.63** **43** *e*PKPdf **PKPdf** **02 23 12.8 +1.3**
DAMY **Dhamar** **122.67** **280** PFAKE 02 23 20.0 +7.1
DAMY LR LR
comp=Z,2µm,19.0s
SOC **Sochi** **123.53** **315** *i* PKIKP **PKPdf** **02 23 13.2 -0.2**
SOC *e* 02 24 55.4
SOC *e*PPP PPP 02 27 33.3
SOC *e*PS **PS** **02 34 51.0 -1.6**
SOC *e*SS SS 02 41 35.8 -5.6
SOC MLR MLR
comp=Z,2µm,22.0s
ATD **Arta Tunnel** **123.89** **276** PKP **PKPdf** **02 23 15.8 +0.9**
comp=Z,25nm,1.0s,baz=252,slow=17,SNR=2.3
CPUP **Villa Florida** **123.91** **133** PKP **PKPdf** **02 23 14.1 -0.6**
comp=Z,7.7nm,0.9s,baz=283,slow=1.2,SNR=14
CPUP PKKPbc **PKKPbc** **02 33 00.7 -0.4**
comp=Z,1.2nm,0.7s,baz=85,slow=4.4,SNR=4.1
CPUP **Villa Florida** **123.91** **133** *e*PKIKP **PKPdf** **02 23 14.6 -0.1**
CPUP *e* 02 24 55.7
CPUP **Villa Florida** **123.91** **133** *e*PKPdf **PKPdf** **02 23 14.6 -0.1**
CPUP *e*PP **PP** **02 24 55.7 -1.8**
CPUP PKKPbc **PKKPbc** **02 33 00.7 -0.4**
BOSA **Boshof** **124.63** **223** PKP **PKPdf** **02 23 15.4 -0.7**
comp=Z,12nm,0.7s,baz=70,slow=1.3,SNR=21
BOSA **Boshof** **124.63** **223** *e*PKIKP **PKPdf** **02 23 13.2 -3.0**
BOSA **Boshof** **124.63** **223** *e*PKPdf **PKPdf** **02 23 13.2 -3.0**
ANN **Anapa** **124.69** **317** *i* P **Pdif** **02 19 42.0 -8.8**
ANN *i* 02 23 12.0
ANN *e* 02 24 58.9
ANN *e*SS SS 02 41 55.9 0.0
ANN pmax pmax
comp=Z,211nm,1.9s
ANN pmax pmax
comp=Z,196nm,1.5s
ANN MLR MLR
comp=E,1µm,25.0s
ANN MLR MLR
comp=N,2µm,25.0s
ANN MLR MLR
comp=Z,2µm,25.0s
SDV **Santo Domingo** **124.76** **87** PFAKE 02 23 30.0 +13
SDV LR LR
comp=Z,1µm,19.0s
SUR **Sutherland** **124.85** **217** PFAKE 02 23 30.0 +13
SUR LR LR
comp=Z,3µm,18.0s
SDDR **Presa de Saban** **124.90** **75** PFAKE 02 23 30.0 +13
SDDR LR LR
comp=Z,3µm,20.0s
GRTK **Grand Turk** **125.04** **72** PFAKE 02 23 30.0 +13
GRTK LR LR
comp=Z,2µm,19.0s
LMN **Caledonia Moun** **125.39** **41** *e*PKPdf **PKPdf** **02 23 15.9 -1.0**
LMN LR LR
comp=Z,4µm,21.0s
NRS **Narsarsuaq** **125.50** **18** *i* PKIKP **PKPdf** **02 23 15.9 -0.7**
NRS pmax pmax
comp=Z,58nm,1.1s
NRS **Narsarsuaq** **125.50** **18** *i* P **PKPdf** **02 23 15.9 -0.7**
comp=Z,58nm,1.1s
MICGM **Minsk** **125.66** **331** *e*PKP **PKPdf** **02 23 19.0 +1.9**
MICGM *e*PP **PP** **02 25 14.0 +5.4**
MICGM *e*PPP PPP 02 27 46.0
MICGM *e*SKS 02 32 05.0
MICGM *e*PS **PS** **02 35 04.0 -6.8**
MICGM *e*SS **SS** **02 42 14.0 +6.8**
MICGM *e*LR LR 03 32 50.0
MNK **Minsk** **125.66** **331** *e*PKIKP **PKPdf** **02 23 19.0 +1.9**
MNK *e* 02 25 14.0
MNK *e*PPP PPP 02 27 46.0
MNK *e*PS **PS** **02 35 04.0 -6.8**
MNKR **ALMNKUR** **125.85** **306** *e*P PKPdf 02 23 07.2 -11
KSRV **Kasrt alli** **126.08** **306** *e*P **PKPdf** **02 23 20.6 +2.1**
SDD **Santo Domingo** **126.19** **76** PFAKE 02 23 30.0 +11
SDD LR LR
comp=Z,7µm,19.0s
MOL **Molde** **126.59** **347** *e*PP PP 02 25 14.3 0.0
BORG **Borgarnes** **126.60** **4** PFAKE 02 23 30.0 +11
BORG LR LR
comp=Z,1µm,20.0s
LBTB **Lobatse** **126.66** **227** *e*PKIKP **PKPdf** **02 23 21.1 +1.0**
LBTB **Lobatse** **126.66** **227** *e*PKPdf **PKPdf** **02 23 21.1 +1.0**
SIM **Simferopol'** **126.83** **318** *e*PKIKP **PKPdf** **02 23 21.2 +1.5**
SIM *e* 02 25 18.0
SIM *e*PS **PS** **02 35 14.0 -7.5**
SIM *e*PPS PPS 02 36 43.0
SIM *e*SS SS 02 42 15.0 -7.7
SIM pmax pmax
comp=Z,70nm,2.0s
SIM pmax pmax
comp=Z,340nm,10.7s
NC303 **NORSAR Array S** **126.86** **345** *e*PKPdf **PKPdf** **02 23 19.0 -0.3**
AKN **Aaknes** **127.06** **348** *e*P **PKPdf** **02 23 19.9 +0.2**
AKN *e*PP **PP** **02 25 16.5 -1.0**
NB2 **NORSAR Subarra** **127.06** **345** PKPdf **PKPdf** **02 23 18.7 -1.0**
comp=Z,168nm,2.0s,baz=34,slow=1.9
NB2 **NORSAR Subarra** **127.06** **345** PKPdf **PKPdf** **02 23 18.7 -1.0**
baz=34,slow=1.9
NOA **NORSAR Array B** **127.06** **345** PKP **PKPdf** **02 23 20.3 +0.6**
comp=Z,7.0nm,0.7s,baz=36,slow=2.0,SNR=26
KMBO **Kilima Mbogo** **127.07** **260** PKP **PKPdf** **02 23 22.2 +0.8**
comp=Z,1.0nm,0.3s,baz=61,slow=3.9,SNR=5.0
KMBO **Kilima Mbogo** **127.07** **260** *e*PKIKP **PKPdf** **02 23 22.2 +0.8**
KMBO MLR MLR
comp=Z,2µm,19.0s
KMBO **Kilima Mbogo** **127.07** **260** *e*PKPdf **PKPdf** **02 23 22.2 +0.8**
KMBO LR LR
comp=Z,2µm,19.0s
AKASG **Malin Array Be** **127.09** **327** PKP **PKPdf** **02 23 19.6 -0.4**
comp=Z,10nm,1.0s,baz=52,slow=2.2,SNR=36
AKBB **Malin Array Si** **127.09** **327** *e*PKIKP **PKPdf** **02 23 20.8 +0.8**
AKBB MLR MLR
comp=Z,2µm,20.0s
AKBB **Malin Array Si** **127.09** **327** *e*PKPdf **PKPdf** **02 23 20.8 +0.8**
AKBB LR LR
comp=Z,2µm,20.0s
KIEV **Kiev** **127.11** **327** ⇑ *i* PKIKP **PKPdf** **02 23 21.1 +1.1**
KIEV **Kiev** **127.11** **327** *e*PKPdf **PKPdf** **02 23 20.3 +0.3**
KIEV LR LR
comp=Z,2µm,20.0s
AK11 **Malin Array Si** **127.14** **327** *e*PKPdf **PKPdf** **02 23 19.3 -0.8**
AK11 *e*PP **PP** **02 25 22.3 +3.7**
NBO02 **NORSAR Array S** **127.14** **345** *e*PKPdf **PKPdf** **02 23 19.7 -0.1**
NBO00 **NORSAR Array S** **127.18** **345** *e*PKPdf **PKPdf** **02 23 20.7 +0.8**
NC602 **NORSAR Array S** **127.23** **344** *e*P **PKPdf** **02 23 19.9 -0.1**
NC602 *e*PP **PP** **02 25 17.0 -1.7**
NC602 **NORSAR Array S** **127.23** **344** *e*PKPdf **PKPdf** **02 23 19.8 -0.1**
NAO01 **NORSAR Array S** **127.31** **345** *e*PKPdf **PKPdf** **02 23 17.9 -2.3**
SAML **Samuel** **127.51** **111** *e*PKPdf **PKPdf** **02 23 20.8 -1.1**
SAML LR LR
comp=Z,1µm,20.0s
FURI **Furi** **127.65** **272** PFAKE 02 23 30.0 +7.5
FURI LR LR
comp=Z,2µm,20.0s
ROOS **tl_alroos** **127.83** **304** *e*P **PKPdf** **02 23 23.7 +1.7**
RABH **Abou Rabah** **127.83** **305** *e*P **PKPdf** **02 23 25.9 +3.9**
FOO **Floro** **127.98** **348** *e*PP PP 02 25 23.6 +0.1
ZALF **Zalf** **128.06** **303** *i* P **PKPdf** **02 23 29.6 +7.1**
OSL **Oslo** **128.12** **344** *e*P **PKPdf** **02 23 18.1 -3.5**
OSL *e*PP **PP** **02 25 23.3 -1.3**
SUW **Suwalki** **128.13** **333** *e*PKP **PKPdf** **02 23 22.4 +0.6**
SUW **Suwalki** **128.13** **333** *e*PKIKP **PKPdf** **02 23 22.4 +0.6**
HYA **Hoyanger** **128.14** **347** *e*PP PP 02 25 25.1 +0.5
WRDH **Warideh** **128.21** **306** *i* P **PKPdf** **02 23 24.9 +2.2**
BIDA **Albida** **128.41** **306** *e*P **PKPdf** **02 23 24.6 +1.5**
HAWK **Haweek** **128.46** **305** *e*P **PKPdf** **02 23 25.4 +2.2**
ARNB **Al Arnab** **128.47** **307** *e*P **PKPdf** **02 23 23.4 +0.2**
MARH **Ras Al Marh** **128.51** **304** *e*P **PKPdf** **02 23 28.1 +4.5**
SUE **Sulen** **128.53** **348** *e*P **PKPdf** **02 23 21.9 -0.4**
SUE *e*P **PP** **02 25 31.4 +4.3**
ASF **Jabal al Asfar** **128.57** **302** PKP **PKPdf** **02 23 24.3 +0.8**
comp=Z,4.0nm,0.9s,baz=178,slow=1.2,SNR=18
KONO **Kongsberg** **128.67** **345** *e*P **PKPdf** **02 23 23.1 +0.4**
KONO *e*PP **PP** **02 25 29.5 +1.4**
KONO IAMs_20 IAMs_20 03 14 59.6
comp=Z,2µm,19.2s
KONO **Kongsberg** **128.67** **345** PFAKE 02 23 30.0 +7.3
KONO LR LR
comp=Z,2µm,20.0s
TOTH **TOTAH** **128.70** **304** *e*P **PKPdf** **02 23 25.5 +1.8**
MPR **Mayaguez** **128.82** **76** PFAKE 02 23 40.0 +16
MPR LR LR
comp=Z,2µm,20.0s
SORM **Soroca** **128.92** **324** ⇑ *i* P **PKPdf** **02 23 24.5 +1.0**
SORM **Soroca** **128.92** **324** ⇑ PKIKP **PKPdf** **02 23 24.5 +1.0**
BER **Bergen** **129.03** **347** *e*PKPdf **PKPdf** **02 23 18.2 -5.1**
BER *e*PP **PP** **02 25 31.3 +0.9**
BR131 **Keskin Array S** **129.08** **312** *e*PKPdf **PKPdf** **02 23 24.1 -0.2**
BRTR **Keskin Array B** **129.08** **312** PKP **PKPdf** **02 23 25.5 +1.1**
comp=Z,7.4nm,1.1s,baz=126,slow=2.1,SNR=16
BRTR PKKP **PKKPdf** **02 33 29.6 -1.9**
comp=Z,0.8nm,0.8s,baz=284,slow=5.0,SNR=4.4
KIS **Kishinev** **129.22** **323** ⇓ *i* PKP **PKPdf** **02 23 27.0 +2.9**
KIS M M 02 23 27.5
comp=Z,200nm,2.0s
KIS **Kishinev** **129.22** **323** *i* PsP 02 23 40.0
KIS **Kishinev** **129.22** **323** *e*PP PP 02 25 26.0 -6.4
KIS **Kishinev** **129.22** **323** *i* PKS 02 26 46.0
KIS **Kishinev** **129.22** **323** *e*PPP PPP 02 28 18.0
KIS *e*SKKS 02 32 40.0
KIS **Kishinev** **129.22** **323** *e*PS PS 02 35 38.0 -4.3
KIS LRM MLR 03 21 40.0
comp=Z,2µm,20.0s
KIS **Kishinev** **129.22** **323** ⇓ *i* PKIKP **PKPdf** **02 23 27.0 +2.9**
KIS *e*PS **PS** **02 35 38.0 -4.3**
KIS pmax pmax
comp=Z,200nm,2.0s
KIS MLR MLR
comp=N,2µm,20.0s
KIS MLR MLR
comp=Z,2µm,20.0s
KIS MLR MLR
comp=Z,2µm,20.0s
BBSR **BB Station** **129.53** **57** PFAKE 02 23 40.0 +15
BBSR LR LR
comp=Z,4µm,20.0s
MMAI **Mount Meron Ar** **129.62** **303** PKP **PKPdf** **02 23 26.4 +1.0**
comp=Z,2.3nm,0.6s,baz=57,slow=5.1,SNR=13
ANTO **Ankara** **129.64** **313** *e*PKIKP **PKPdf** **02 23 27.4 +2.1**
ANTO MLR MLR
comp=Z,1µm,21.0s
ANTO **Ankara** **129.64** **313** PKPdf **PKPdf** **02 23 26.9 +1.6**
SNR=17
ANTO **Ankara** **129.64** **313** P **PKPdf** **02 23 26.9 +1.6**
SNR=17
ANTO **Ankara** **129.64** **313** *e*PKPdf **PKPdf** **02 23 27.4 +2.1**
ANTO LR LR
comp=Z,1µm,21.0s
BLS5 **Blasjo** **129.64** **346** *e*P **PKPdf** **02 23 25.5 +0.9**
BLS5 *e*PP **PP** **02 25 34.0 -0.5**
BLS5 IAMs_20 IAMs_20 03 19 17.5
comp=Z,3µm,21.5s
BR231 **Keskin MP Arra** **129.66** **313** *e*PKPdf **PKPdf** **02 23 24.7 -0.7**
BR231 *e*PP **PP** **02 25 32.8 -3.1**
SJG **San Juan** **129.76** **76** *e*PKIKP **PKPdf** **02 23 23.6 -2.4**
SJG MLR MLR
comp=Z,2µm,21.0s
SJG **San Juan** **129.76** **76** *e*PKPdf **PKPdf** **02 23 23.6 -2.4**
SJG LR LR
comp=Z,2µm,21.0s
CBYP **Canovanas** **130.04** **76** PFAKE 02 23 40.0 +13
CBYP LR LR
comp=Z,2µm,20.0s
HUMP **Col San Antoni** **130.05** **76** *e*PKPdf **PKPdf** **02 23 25.7 -0.9**
HUMP LR LR
comp=Z,2µm,21.0s
LSZ **Lusaka** **130.06** **239** *e*PKIKP **PKPdf** **02 23 26.3 -0.5**
LSZ *e* 02 25 39.1

LSZ MLR MLR
comp=Z,4µm,20.0s
LSZ Lusaka 130.06 239 *e*PKPdf **PKPdf 02 23 26.3 -0.5**
LSZ *e*PP **PP 02 25 39.1 +0.3**
LSZ LR LR
comp=Z,4µm,20.0s
HOMB Homborsund 130.15 344 *e*P **PKPdf 02 23 24.2 -1.3**
HOMB *e*PP **PP 02 25 38.0 +0.2**
STAV Stavanger 130.25 346 *e*PKPdf **PKPdf 02 23 24.4 -1.3**
STAV *e*PP **PP 02 25 40.9 +2.5**
STAV IAMs_20 IAMs_20 03 19 12.7
comp=Z,2µm,21.6s
LVV L'vov 130.34 328 *e*PKIKP **PKPdf 02 23 27.5 +1.3**
LVV *e* 02 25 39.9
CFR Carcaliu 130.53 321 ⇓*i*P **PKPdf 02 23 28.9 +2.2**
CFR Carcaliu 130.53 321 ⇓⇓PKIKP **PKPdf 02 23 28.9 +2.2**
BEL Belsk 130.66 332 *e*PKP **PKPdf 02 23 29.8 +3.1**
BEL Belsk 130.66 332 *e*PKIKP **PKPdf 02 23 29.8 +3.1**
EIL Elat 130.69 299 PKP **PKPdf 02 23 28.6 +1.1**
comp=Z,9.9nm,1.0s,baz=22,slow=1.3,SNR=15
TIRR Tirgusor 130.70 320 ⇑*i*P **PKPdf 02 23 29.2 +2.2**
TIRR Tirgusor 130.70 320 *e*PKIKP **PKPdf 02 23 25.5 -1.5**
TIRR MLR MLR
comp=Z,2µm,18.0s
TIRR Tirgusor 130.70 320 *e*PKPdf **PKPdf 02 23 25.5 -1.5**
TIRR LR LR
comp=Z,2µm,18.0s
BSD Bornholm Skovb 130.73 338 *i* PKIKP **PKPdf 02 23 27.4 +0.7**
BSD pmax pmax
comp=Z,30nm,1.0s
BSD MLR MLR
comp=Z,3µm,20.0s
BSD Bornholm Skovb 130.73 338 *i* P **PKPdf 02 23 27.4 +0.7**
comp=Z,30nm,1.0s
comp=Z,3µm,20.0s
CSS Mathiatis 130.79 306 P **PKPdf 02 23 27.6 0.0**
CSS Mathiatis 130.79 306 *e*PKPdf **PKPdf 02 23 26.0 -1.6**
CSS LR LR
comp=Z,300nm,19.0s
BUR08 Bucovina Ar. S 130.97 325 *e*PKPdf **PKPdf 02 23 29.4 +1.8**
BURAR Bucovina Array 130.98 325 ⇓*i*P **PKPdf 02 23 29.5 +1.9**
BURAR Bucovina Array 130.98 325 ⇓⇓PKIKP **PKPdf 02 23 29.5 +1.9**
VRI Vrincioaia 131.04 322 ⇑*i*P **PKPdf 02 23 28.8 +1.1**
VRI Vrincioaia 131.04 322 ⇑⇑PKIKP **PKPdf 02 23 28.8 +1.1**
KWP Kalwaria Pacla 131.14 329 *e*PKP **PKPdf 02 23 30.2 +2.4**
KWP Kalwaria Pacla 131.14 329 ⇓*i*P **PKPdf 02 23 29.6 +1.8**
KWP Kalwaria Pacla 131.14 329 ⇓⇓PKIKP **PKPdf 02 23 29.6 +1.8**
COP Copenhagen 131.14 340 *i* PKIKP **PKPdf 02 23 28.6 +1.1**
COP MLR MLR
comp=Z,1µm,18.0s
COP Copenhagen 131.14 340 *i* P **PKPdf 02 23 28.6 +1.1**
comp=Z,1µm,18.0s
ABVI Anegada Island 131.48 75 PFAKE 02 23 40.0 +11
ABVI LR LR
comp=Z,2µm,19.0s
MUD Monsted U'grnd 131.52 343 *e*PKIKP **PKPdf 02 23 32.0 +3.8**
MUD *i* 02 25 54.9
MUD MLR MLR
comp=Z,2µm,22.0s
MUD Monsted U'grnd 131.52 343 *i* P **PKPdf 02 23 32.0 +3.8**
MUD *i* 02 25 54.9
comp=Z,2µm,22.0s
MLR Muntele Rosu 131.71 322 ⇑*i*P **PKPdf 02 23 31.6 +2.5**
MLR Muntele Rosu 131.71 322 *e*PKIKP **PKPdf 02 23 29.8 +0.7**
MLR MLR
comp=Z,2µm,20.0s
MLR Muntele Rosu 131.71 322 *e*PKPdf **PKPdf 02 23 29.8 +0.7**
MLR LR LR
comp=Z,2µm,20.0s
RGN Rugen 131.75 339 PFAKE 02 23 40.0 +11
RGN LR LR
comp=Z,2µm,20.0s
DOPR Dopca 131.78 323 ⇓*i*P **PKPdf 02 23 31.3 +2.2**
KOLS Kolonicke sedl 131.79 328 *e*PKIKP **PKPdf 02 23 31.1 +2.1**
KOLS Kolonicke sedl 131.79 328 *e*PKP **PKPdf 02 23 31.1 +2.1**
KOLS *e*PP PP 02 25 40.4 -8.6
KOLS *e* 02 26 52.4
PRD Provadia 131.94 319 *i* P **PKPdf 02 23 30.2 +0.8**
UZH Uzhgorod 131.97 328 *i* PKIKP **PKPdf 02 23 30.1 +0.8**
UZH *e* 02 23 39.1
UZH *e* 02 23 45.1
UZH *e* 02 30 30.5
STHS Stebnicka Huta 132.02 329 *e*PKIKP **PKPdf 02 23 32.1 +2.7**
STHS Stebnicka Huta 132.02 329 *e*PKP **PKPdf 02 23 32.1 +2.7**
ISP Isparta 132.02 311 P **PKPdf 02 23 29.6 -0.3**
ISP Isparta 132.02 311 PFAKE 02 23 40.0 +10
ISP LR LR
comp=Z,1µm,20.0s
TRPA Tarpa 132.15 327 ⇓*e*PKPdf **PKPdf 02 23 30.6 +1.0**
TRPA *e*PP **PP 02 25 52.7 +1.5**
OJC Ojcow 132.20 331 *e*PKP **PKPdf 02 23 31.4 +1.7**
OJC *e*PP **PP 02 25 54.0 +2.5**
OJC Ojcow 132.20 331 *e*PKIKP **PKPdf 02 23 30.5 +0.8**
OJC *e* 02 25 54.2
OJC Ojcow 132.20 331 *e*PKPdf **PKPdf 02 23 30.5 +0.8**
OJC *e*PP **PP 02 25 54.2 +2.8**
CRVS Cervenica-Dubn 132.23 328 *e*PKIKP **PKPdf 02 23 31.8 +2.0**
CRVS Cervenica-Dubn 132.23 328 *e*PKP **PKPdf 02 23 31.8 +2.0**
CRVS *e*PP PP 02 25 40.1 -12
CRVS *e* 02 26 57.7
VOIR 132.27 323 ⇑*i*P **PKPdf 02 23 33.1 +3.0**
VOIR 132.27 323 ⇑⇑PKIKP **PKPdf 02 23 33.1 +3.0**
NIE Niedzica 132.49 330 *e*PKP **PKPdf 02 23 32.9 +2.6**
NIE Niedzica 132.49 330 *e*PKIKP **PKPdf 02 23 32.9 +2.6**
SABA Saba 132.53 77 PFAKE 02 23 40.0 +8.7
SABA LR LR
comp=Z,3µm,21.0s
SPB Sao Paulo 132.54 137 *e*PKPdf **PKPdf 02 23 30.3 -0.9**
SPB LR LR
comp=Z,2µm,18.0s
ARR Arges 132.55 323 ⇑*i*P **PKPdf 02 23 31.8 +1.2**
SMRT St. Maarten 132.69 76 PFAKE 02 23 40.0 +8.4
SMRT LR LR
comp=Z,1µm,20.0s
SEUS St. Eustatius 132.78 77 PFAKE 02 23 40.0 +8.3
SEUS LR LR
comp=Z,2µm,20.0s
HUMR Humele 132.79 322 ⇓*i*P **PKPdf 02 23 32.2 +1.2**
SZH Strazhica 132.85 320 *i* P **PKPdf 02 23 31.8 +0.6**
DRGR 132.85 325 ⇓*i*P **PKPdf 02 23 31.4 +0.2**
DRGR 132.85 325 ⇓⇓PKIKP **PKPdf 02 23 31.4 +0.2**
KECS Kecovo 133.00 329 *e*PKIKP **PKPdf 02 23 32.8 +1.5**
KECS *e* 02 25 55.1
KECS Kecovo 133.00 329 *e*PKP **PKPdf 02 23 32.8 +1.5**
KECS *e*PP **PP 02 25 55.1 -1.5**
EDRB Edirne 133.01 318 P **PKPdf 02 23 31.3 -0.2**
LOT Lotru 133.02 323 ⇑*i*P **PKPdf 02 23 34.7 +3.1**
LANS Liptovska Anna 133.07 330 *e*PKIKP **PKPdf 02 23 33.0 +1.5**
LANS *e* 02 25 57.1
LANS Liptovska Anna 133.07 330 *e*PKP **PKPdf 02 23 32.9 +1.5**
LANS *e*PP **PP 02 25 57.1 0.0**
PTGA Pitinga 133.23 102 *e*PKPdf **PKPdf 02 23 33.2 +0.4**
PTGA LR LR
comp=Z,2µm,20.0s
OKC Ostrava-Krasne 133.25 331 *e*PKPdf **PKPdf 02 23 33.5 +1.8**
OKC *e*PP **PP 02 25 56.7 -1.4**
OKC *e*SKP 02 27 04.3
OKC AMS AMS 03 18 30.0
comp=Z,3µm,25.0s
OKC Ostrava-Krasne 133.25 331 *e*PKIKP **PKPdf 02 23 33.5 +1.8**
OKC *e* 02 25 56.7
OKC MLR MLR
comp=Z,3µm,25.0s
DEV Deva 133.27 324 ⇑*i*P PKPdf 02 23 50.3 +18
MBAR Mbarara 133.48 258 PFAKE 02 23 40.0 +6.6
MBAR LR LR
comp=Z,4µm,20.0s
FETY Fethiye 133.52 310 P **PKPdf 02 23 33.8 +1.1**
MORC Moravsky Berou 133.57 332 ⇓*i*P **PKPdf 02 23 32.9 +0.5**
MORC Moravsky Berou 133.57 332 ⇓⇓PKIKP **PKPdf 02 23 32.9 +0.5**
MORC Moravsky Berou 133.57 332 *e*PKPdf **PKPdf 02 23 32.9 +0.5**
MORC *e*PP PP 02 25 52.4 -7.9
MORC LR LR
comp=Z,8µm,19.0s
PSZ Piszkesteto 133.66 328 ⇓*i*P **PKPdf 02 23 34.2 +1.5**
PSZ Piszkesteto 133.66 328 ⇓⇓*e*PKPdf **PKPdf 02 23 33.2 +0.5**
PSZ *e*PKPdf PKiKP 02 23 48.3 +14
PSZ *e*PP **PP 02 26 02.9 +1.9**
PSZ Piszkesteto 133.66 328 *e*PKIKP **PKPdf 02 23 33.7 +1.1**
PSZ *e* 02 26 03.6
PSZ MLR MLR
comp=Z,3µm,19.0s
PSZ Piszkesteto 133.66 328 *e*PKPdf **PKPdf 02 23 33.7 +1.1**
PSZ *e*PP **PP 02 26 03.6 +2.6**
PSZ LR LR
comp=Z,3µm,19.0s
DPC Dobruska-Polom 133.72 333 *e*PKPdf **PKPdf 02 23 33.3 +0.6**
DPC *ex* x 02 23 45.8
DPC *e*PP **PP 02 26 01.2 0.0**
DPC *e*SKP 02 27 04.2
DPC *ex* x 02 37 56.8
DPC *e*SS SS 02 43 50.0 +3.6
DPC AMS AMS 03 24 50.0
comp=Z,2µm,19.4s
DPC Dobruska-Polom 133.72 333 *e*PKIKP **PKPdf 02 23 33.3 +0.6**
DPC *e* 02 23 45.8
DPC *e* 02 26 01.2
DPC *e* 02 37 56.8
DPC *e*SS SS 02 43 50.0 +3.6
DPC MLR MLR
comp=Z,2µm,19.4s
UPC Upice 133.74 333 *e*PKPdf **PKPdf 02 23 34.2 +1.6**
UPC *e*PP **PP 02 25 58.6 -2.6**
UPC *e*SKP 02 27 04.6
UPC *ex* x 02 38 00.5
UPC AMS AMS 03 22 00.0
comp=Z,2µm,21.1s
UPC Upice 133.74 333 *e*PKIKP **PKPdf 02 23 34.2 +1.6**
UPC *e* 02 25 58.6
UPC *e* 02 38 00.5
UPC MLR MLR
comp=Z,2µm,21.1s
SIRR Siria 133.75 325 ⇑*i*P **PKPdf 02 23 34.3 +1.5**
VYHS Vyhne 133.82 330 *e*PKIKP **PKPdf 02 23 34.4 +1.5**
VYHS *e*SS SS 02 43 42.2 -5.6
VYHS MLR MLR
comp=Z,1µm,20.9s
VYHS Vyhne 133.82 330 *e*PKP **PKPdf 02 23 34.4 +1.5**
VYHS *e*PP PP 02 25 47.2 -15
VYHS *e* 02 27 01.9
VYHS *e*SS SS 02 43 42.2 -5.6
ALN Alexandroupoli 133.92 317 P **PKPdf 02 23 33.3 +0.1**
ANWB Willy Bob 133.92 77 PFAKE 02 23 50.0 +16
ANWB LR LR
comp=Z,2µm,20.0s
YER Yerkesik 133.93 311 P **PKPdf 02 23 34.5 +1.0**
KDZ Kurdzhali 133.98 318 *i* P **PKPdf 02 23 33.6 +0.2**
BZS Buzias 134.16 325 ⇑*i*P **PKPdf 02 23 34.2 +0.7**
BZS Buzias 134.16 325 ⇑⇑PKIKP **PKPdf 02 23 34.2 +0.7**
MPEP Malo Peshtene 134.18 321 *i* P **PKPdf 02 23 34.4 +0.7**
EZN Ezine 134.22 315 P **PKPdf 02 23 34.2 +0.4**
PGB Panagyurishte 134.33 320 *i* P **PKPdf 02 23 34.4 +0.3**
VRAC Vranov 134.34 332 ⇓*i*P **PKPdf 02 23 34.1 +0.3**
VRAC Vranov 134.34 332 ⇓⇓PKIKP **PKPdf 02 23 34.1 +0.3**
PVCC Panska Ves 134.35 334 *e*PKPdf **PKPdf 02 23 34.7 +0.9**
PVCC *e*PP **PP 02 26 00.9 -4.2**
PVCC *e*SKP 02 27 06.7
PVCC AMS AMS 03 22 20.0
comp=Z,3µm,22.8s
PVCC Panska Ves 134.35 334 *e*PKIKP **PKPdf 02 23 34.7 +0.9**
PVCC MLR MLR
comp=Z,3µm,22.8s
BRG Berggiesshubel 134.36 335 *e*PKP PKPpre 02 23 26.6
comp=Z,6.0nm,1.5s
BRG *i* 02 23 35.6
comp=Z,96nm,1.8s
BRG *e*PP **PP 02 25 58.3 -6.7**
comp=Z,15nm,1.6s
BRG SKP 02 27 08.0
BRG SS SS 02 43 54.0 +0.1
comp=N,2µm,21.4s
comp=E,936nm,20.7s
comp=Z,2µm,20.5s
BRG Berggiesshubel 134.36 335 *e*PKIKP PKPpre 02 23 26.6
BRG *i* 02 23 35.6
BRG SS SS 02 43 54.0 +0.1
BRG pmax pmax
comp=Z,6.0nm,1.5s
BRG pmax pmax
comp=Z,96nm,1.8s
BRG pmax pmax
comp=Z,15nm,1.6s
BRG MLR MLR
comp=N,2µm,21.4s
BRG MLR MLR
comp=E,936nm,20.7s
BRG MLR MLR
comp=Z,2µm,20.5s
ARG Arkhangelos 134.39 310 P **PKPdf 02 23 34.6 +0.3**
BUD Budapest 134.39 328 ⇓*e*PKPdf **PKPdf 02 23 34.0 +0.1**
BUD *e*PKPdf PKiKP 02 23 50.9 +16
BUD *e*PP **PP 02 26 07.2 +1.7**
CLL Collm 134.41 336 *i* PKPdf **PKPdf 02 23 35.6 +1.8**
comp=Z,54nm,1.5s
CLL *i* PKiKP **PKiKP 02 23 37.5 +2.3**
CLL *i* 02 23 51.2
CLL *e* 02 23 59.0
CLL *e*PP **PP 02 26 07.0 +1.7**
comp=Z,19nm,1.4s
CLL *e*PPlp 02 26 11.0
CLL *e*PKSdf **PKSdf 02 27 06.0 -4.0**
CLL *i* 02 27 20.6
CLL *e*SKKSac SKKSac 02 32 57.0 -3.5
CLL *e*PS **PS 02 36 22.0 -4.5**
CLL *e*SS **SS 02 43 59.0 +4.6**
CLL *e*SSS SSS 02 48 54.0
CLL Lmax 03 22 00.0
CLL L L 03 23 00.0
comp=Z,2µm,21.3s
CLL Collm 134.41 336 *e*PKIKP **PKPdf 02 23 32.5 -1.3**
CLL MLR MLR
comp=Z,3µm,22.0s
CLL Collm 134.41 336 *e*PKPdf **PKPdf 02 23 32.5 -1.3**
CLL LR LR
comp=Z,3µm,22.0s
RZN Rozhen 134.42 318 *i* P **PKPdf 02 23 34.1 -0.3**
PRK Paraskevi 134.51 315 P **PKPdf 02 23 35.0 +0.6**
FDF Fort de France 134.51 81 PFAKE 02 23 50.0 +15
FDF LR LR
comp=Z,2µm,20.0s
BANR Banloc 134.57 325 ⇓*i*P PKPdf 02 23 52.0 +18
MDVR Moldovita 134.59 324 ⇑*i*P **PKPdf 02 23 34.9 +0.4**
BODT Bodrum 134.68 311 P **PKPdf 02 23 35.0 +0.2**
GOPC GO Pecny, Ondr 134.72 334 *e*PKPdf **PKPdf 02 23 36.3 +1.8**
GOPC *e*PP **PP 02 26 04.8 -2.6**
GOPC *e*SKP 02 27 07.2
GOPC *e*SS SS 02 44 00.5 +2.2
GOPC AMS AMS 03 25 50.0
comp=Z,2µm,19.7s
GOPC GO Pecny, Ondr 134.72 334 *e*PKIKP **PKPdf 02 23 36.3 +1.8**
GOPC *e* 02 26 04.8
GOPC *e*SS SS 02 44 00.5 +2.2
GOPC MLR MLR
comp=Z,2µm,19.7s
PRU Pruhonice 134.77 334 *e*PKPdf **PKPdf 02 23 34.4 -0.1**
PRU *e*PP **PP 02 26 04.8 -2.9**
PRU *e*SKP 02 27 06.5
PRU *ex* x 02 38 11.6
PRU *e*SS SS 02 44 00.1 +1.2
PRU AMS AMS 03 28 30.0
comp=Z,3µm,19.4s
PRU Pruhonice 134.77 334 *e*PKIKP **PKPdf 02 23 34.4 -0.1**
PRU *e* 02 26 04.8
PRU *e* 02 38 11.6
PRU *e*SS SS 02 44 00.1 +1.2
PRU MLR MLR
comp=Z,3µm,19.4s
SIGR SIGRI 134.82 315 P **PKPdf 02 23 35.0 0.0**
TREC Trest 134.86 333 *e*PKPdf **PKPdf 02 23 35.3 +0.5**
TREC *ex* x 02 23 45.1
TREC *ex* x 02 23 51.5
TREC *e*PP **PP 02 26 03.9 -4.5**
TREC *e*SKP 02 27 08.5
TREC *ex* x 02 38 10.3
TREC AMS AMS 03 29 10.0
comp=Z,2µm,19.7s
TREC Trest 134.86 333 *e*PKIKP **PKPdf 02 23 35.3 +0.5**
TREC *e* 02 23 45.1
TREC *e* 02 23 51.5
TREC *e* 02 38 10.3
TREC MLR MLR
comp=Z,2µm,19.7s
KAVA Kavala 134.89 318 P **PKPdf 02 23 35.6 +0.6**
LIA Limnos Island 134.97 316 P **PKPdf 02 23 35.6 +0.4**
CHOS Chios island 135.04 314 P **PKPdf 02 23 35.6 +0.1**
MMB Musomiste 135.10 319 *i* P **PKPdf 02 23 35.2 -0.3**
NVR Nevrokopi 135.14 319 P **PKPdf 02 23 35.9 +0.3**
KARP Karpathos 135.37 309 P **PKPdf 02 23 36.9 +0.7**
KKB Krupnik 135.37 320 *i* P **PKPdf 02 23 35.9 -0.1**
ESK Eskdalemuir 135.38 351 PFAKE 02 23 50.0 +14
ESK LR LR
comp=Z,2µm,20.0s
SRS Serrai 135.43 318 P **PKPdf 02 23 36.0 -0.1**
NKC Novy Kostel 135.46 335 *e*PKPdf **PKPdf 02 23 37.7 +1.8**
NKC *ex* x 02 23 51.3
NKC *e*PP **PP 02 26 09.1 -3.0**
NKC *e*SKP 02 27 10.6
NKC AMS AMS 03 22 10.0
comp=Z,3µm,21.8s
NKC Novy Kostel 135.46 335 *e*PKIKP **PKPdf 02 23 37.7 +1.8**
NKC *e* 02 23 51.3
NKC *e* 02 26 09.1
NKC MLR MLR
comp=Z,3µm,21.8s
SOP Sopron 135.50 330 ⇓⇓*e*PKPdf **PKPdf 02 23 37.0 +1.0**
SOP *e*PP **PP 02 26 15.4 +3.0**
SOP ⇓⇓*e*SKPbc **SKPab 02 27 09.6 -1.1**
CONA Conrad Observa 135.66 331 *e*PKPdf **PKPdf 02 23 35.9 -0.5**
comp=Z,18nm,1.1s
KHC Kasperske Hory 135.82 334 *e*PKPpre PKPpre 02 23 26.6
KHC *e*PKPdf **PKiKP 02 23 38.2 0.0**
KHC *ex* x 02 23 51.2
KHC *e*PP **PP 02 26 13.4 -1.1**
KHC *e*SKP 02 27 11.2
KHC *e*SS SS 02 44 07.8 -3.9
KHC AMS AMS 03 23 10.0
comp=Z,3µm,22.0s
KHC Kasperske Hory 135.82 334 *e*PKHKP PKPpre 02 23 26.6
KHC *e* 02 23 38.2
KHC *e* 02 23 51.2
KHC *e* 02 26 13.4
KHC *e*SS SS 02 44 07.8 -3.9
KHC MLR MLR
comp=Z,3µm,22.0s
KHC Kasperske Hory 135.82 334 *e*PKPdf **PKPdf 02 23 37.7 +1.1**
KHC LR LR
comp=Z,1µm,22.0s
KNT Kendrikon 135.86 319 P **PKPdf 02 23 37.2 +0.3**
APE Apeiranthos 135.97 312 P **PKPdf 02 23 37.4 +0.1**
GEC2 GERESS Array S 135.99 333 *e*PKIKP **PKPdf 02 23 37.9 +0.9**
GEC2 MLR MLR
comp=Z,2µm,19.0s
GEC2 GERESS Array S 135.99 333 *e*PKPdf **PKPdf 02 23 37.9 +0.9**
GEC2 *e*PP **PP 02 26 10.2 -5.3**
GEC2 LR LR
comp=Z,2µm,19.0s
GERES GERESS Array B 135.99 333 PKhKP PKPpre 02 23 25.1
comp=Z,1.4nm,0.7s,baz=42,slow=2.2,SNR=10
GERES PKP **PKPdf 02 23 37.0 0.0**
comp=Z,3.4nm,0.7s,baz=85,slow=1.1,SNR=11
GEA0 GERESS Array S 135.99 333 *e*PKPpre PKPpre 02 23 24.8
GEA0 *e*PKPdf **PKPdf 02 23 37.0 0.0**
GEA0 *e*PP **PP 02 26 09.0 -6.5**
DIVS Divibare 135.99 324 P **PKPdf 02 23 37.3 +0.2**
TSUM Tsumeb 136.07 226 *e*PKPdf **PKPdf 02 23 33.4 -4.7**
TSUM *e*PP **PP 02 26 12.7 -4.1**
TSUM LR LR
comp=Z,7µm,18.0s
BEHE Becsehely 136.22 329 ⇓*e*PKPdf **PKPdf 02 23 38.1 +0.7**
BEHE *e*PKPdf PKiKP 02 23 55.6 +17
SKO Skopje 136.35 321 P **PKPdf 02 23 38.2 +0.4**
GRFO Grafenberg 136.38 336 PFAKE 02 23 50.0 +12
GRFO LR LR
comp=Z,2µm,21.0s
MOA Molln 136.47 332 *e*PKPdf **PKPdf 02 23 36.3 -1.5**
comp=Z,8.0nm,0.9s,SNR=6.0
XOR Xorichti 136.57 316 P **PKPdf 02 23 38.8 +0.5**
LIT Litokhoron 136.67 318 P **PKPdf 02 23 38.2 -0.3**
LAST Lasithi 136.79 310 P **PKPdf 02 23 39.7 +0.8**
LAST Lasithi 136.79 310 *e*PKPdf **PKPdf 02 23 40.1 +1.2**
LAST *e*PP **PP 02 26 22.4 +0.9**
SMIA Simia 136.80 316 P **PKPdf 02 23 39.1 +0.4**
ATH Athens Observa 136.87 314 P **PKPdf 02 23 38.5 -0.3**
SOKA Soboth 136.94 330 *e*PKiKP **PKPdf 02 23 39.5 +0.7**
comp=Z,33nm,1.8s
ATAL Atalanti 137.01 316 P **PKPdf 02 23 38.5 -0.6**
KZN Kozani 137.04 318 P **PKPdf 02 23 39.1 -0.1**
FNA Florina 137.04 319 P **PKPdf 02 23 39.5 +0.3**
LKR Lokris 137.05 316 P **PKPdf 02 23 39.0 -0.1**
VILL Villia 137.06 315 P **PKPdf 02 23 38.9 -0.4**
IDI Anoyia 137.18 310 PKP **PKPdf 02 23 39.9 +0.3**
comp=Z,12nm,0.9s,baz=235,slow=2.1,SNR=5.5
IDI Anoyia 137.18 310 P **PKPdf 02 23 40.2 +0.6**
IDI Anoyia 137.18 310 *e*PKPdf **PKPdf 02 23 41.3 +1.7**
THL Klokotos Trika 137.26 317 P **PKPdf 02 23 38.7 -0.6**
AGG Agios Georgios 137.32 316 P **PKPdf 02 23 39.5 -0.2**
AGG Agios Georgios 137.32 316 *e*PKIKP **PKPdf 02 23 37.3 -2.4**
AGG *e* 02 26 26.6
AGG MLR MLR
comp=Z,3µm,21.0s
AGG Agios Georgios 137.32 316 *e*PKPdf **PKPdf 02 23 37.3 -2.4**
AGG *e*PP **PP 02 26 26.6 +2.1**
AGG LR LR
comp=Z,3µm,21.0s
LTK Loutraki 137.37 315 P **PKPdf 02 23 40.0 +0.2**
PDG Podgorica 137.42 323 P **PKPdf 02 23 39.7 0.0**
DID Didima 137.42 314 P **PKPdf 02 23 39.1 -0.8**
NEST Nestorio 137.45 319 P **PKPdf 02 23 40.0 0.0**
BEBN Eben Emael 137.46 341 PKP **PKPdf 02 23 41.4 +2.0**
KPRO Kipourio 137.49 318 P **PKPdf 02 23 40.1 +0.1**
DSF Desfina 137.49 316 P **PKPdf 02 23 39.4 -0.7**
CWF Charnwood Fore 137.50 348 *e*PKPpre PKPpre 02 23 28.8
CWF *e*PKPdf **PKiKP 02 23 41.0 -0.4**
CWF LR LR
comp=Z,2µm,19.0s
PENT Pentalofos 137.51 319 P **PKPdf 02 23 39.4 -0.7**
MEM Membach 137.51 341 PKP **PKPdf 02 23 41.9 +2.3**
KRND KRANIDI 137.54 314 P **PKPdf 02 23 39.7 -0.4**
LJU Ljubljana 137.64 330 *e*PKPdf **PKPdf 02 23 41.5 +1.5**
MYKA Terra Mystica 137.65 331 *e*PKPdf **PKPdf 02 23 39.2 -0.9**
comp=Z,12nm,1.4s
VAM Vamos 137.65 311 P **PKPdf 02 23 41.4 +1.0**
VISS Visnje 137.65 329 *i* PKPdf **PKPdf 02 23 40.2 +0.2**
VISS *i* PP **PP 02 26 23.4 -2.6**
BOJS Bojanci 137.65 329 *i* PKPdf **PKPdf 02 23 40.5 +0.4**
BOJS *e*PP **PP 02 26 26.1 +0.1**
TIR Tirane 137.68 321 PFAKE 02 23 50.0 +10
TIR LR LR
comp=Z,2µm,20.0s
IMMV Iera Moni Meta 137.78 311 P **PKPdf 02 23 41.2 +0.6**
SERG Sergoula 137.81 316 P **PKPdf 02 23 41.2 +0.6**
ANX Ano Chora 137.81 316 P **PKPdf 02 23 42.0 +1.3**
DSB Dublin 137.84 353 PFAKE 02 23 50.0 +10
DSB LR LR
comp=Z,1µm,19.0s
BCLA Clavier 137.90 341 PKP **PKPdf 02 23 42.5 +2.1**
STU Stuttgart 137.91 337 *e*PKHKP PKPpre 02 23 31.4
STU *e* 02 23 39.0
STU MLR MLR
comp=Z,2µm,19.0s
STU Stuttgart 137.91 337 *e*PKPpre PKPpre 02 23 31.4
STU *e*PKPdf **PKPdf 02 23 39.0 -1.4**
STU LR LR
comp=Z,2µm,19.0s
KLV Kalavryta, Ach 137.93 315 P **PKPdf 02 23 40.8 -0.1**
LAKA Lakka 137.95 316 P **PKPdf 02 23 41.7 +0.8**
GVD Gavdhos 137.96 310 P **PKPdf 02 23 41.5 +0.5**
JAVS Javornik 137.97 330 *i* PKPdf **PKPdf 02 23 41.3 +0.5**
JAVS *i* PP **PP 02 26 25.4 -2.7**
JAN Janina 137.98 318 P **PKPdf 02 23 41.6 +0.7**
PVO Paravola 138.07 316 P **PKPdf 02 23 42.2 +1.2**
ABTA Abfaltersbach 138.08 332 *e*PKPdf **PKPdf 02 23 40.9 0.0**
comp=Z,45nm,1.3s
VLX Vlachokerasia 138.09 314 P **PKPdf 02 23 42.3 +1.0**
ANKY Antikythira Is 138.11 312 P **PKPdf 02 23 42.2 +1.0**
TRI Trieste 138.25 330 PFAKE 02 23 50.0 +8.9
TRI LR LR
comp=Z,2µm,20.0s
MOTA Moosalm 138.26 334 *e*PKPdf **PKPdf 02 23 41.3 0.0**
comp=Z,38nm,1.3s
LANF Langenberg 138.27 338 PKP **PKPdf 02 23 39.6 -1.5**
WLF Walferdange 138.28 340 PKP **PKPdf 02 23 40.4 -0.7**
WLF Walferdange 138.28 340 *e*PKIKP **PKPdf 02 23 40.0 -1.1**
WLF MLR MLR
comp=Z,3µm,20.0s
WLF Walferdange 138.28 340 *e*PKPdf **PKPdf 02 23 40.0 -1.1**
WLF LR LR

	comp=Z,3µm,20.0s							
PDO	**Prodromos**	138.31	317	P		PKPdf	02 23 41.5	0.0
RLS	**Riolos of Patr**	138.39	316	P		PKPdf	02 23 42.8	+1.2
SGD	**Sagiada**	138.41	318	P		PKPdf	02 23 41.2	-0.4
DOU	**Dourbes**	138.41	341	PKP		PKPdf	02 23 42.9	+1.6
BFO	**Black Forest**	138.61	337	*i* PKIKP		PKPdf	02 23 36.6	-5.2
BFO	**Black Forest**	138.61	337	*e*PKPpre		PKPpre	02 23 34.5	
BFO				*e*PP		PP	02 26 34.0	+2.3
BFO				LR		LR		
	comp=Z,2µm,19.0s							
DAVA	**Damuels**	138.82	335	*e*PKPdf		PKPdf	02 23 39.7	-2.7
	comp=Z,48nm,1.9s							
ECH	**Echery**	139.14	338	PKP		PKPdf	02 23 40.3	-2.5
FUORN	**Ofenpass-Fuorn**	139.18	334	*e*PKPpre		PKPpre	02 23 35.3	
FUORN				*e*PP		PP	02 26 35.6	0.0
FUORN				LR		LR		
	comp=Z,2µm,19.0s							
MOF	**Molkenrain**	139.46	338	PKP		PKPdf	02 23 41.3	-2.1
TUE	**Stuetta**	139.69	334	*e*PKPpre		PKPpre	02 23 36.9	
TUE				LR		LR		
	comp=Z,3µm,19.0s							
LOMF	**Lomont**	139.99	337	PKP		PKPdf	02 23 41.7	-2.7
SENIN	**Lac Senin/Sane**	140.62	336	*e*PKPpre		PKPpre	02 23 38.8	
SENIN				LR		LR		
	comp=Z,2µm,20.0s							
AQU	**L'Aquila**	140.79	327	*e*PKHKP		PKPpre	02 23 40.2	
AQU				MLR		MLR		
	comp=Z,2µm,19.0s							
AQU	**L'Aquila**	140.79	327	*e*PKPpre		PKPpre	02 23 40.1	
AQU				LR		LR		
	comp=Z,2µm,19.0s							
TIP	**Timpagrande**	140.87	320	*e*PKPdf		PKPdf	02 23 43.5	-2.8
TIP				*e*PP		PP	02 26 43.5	-2.7
TIP				LR		LR		
	comp=Z,1µm,20.0s							
OG01	**Vacheresse**	140.89	337	PKP		PKPdf	02 23 43.6	-2.5
CUC	**Castrocucco**	140.96	322	PFAKE			02 24 00.0	+14
CUC				LR		LR		
	comp=Z,900nm,19.0s							
VLC	**Villacollemand**	141.01	331	PFAKE			02 24 00.0	+14
VLC				LR		LR		
	comp=Z,1µm,21.0s							
BNI	**Bardonecchia**	141.94	335	PFAKE			02 24 00.0	+12
BNI				LR		LR		
	comp=Z,2µm,19.0s							
CEL	**Celeste**	141.96	320	PFAKE			02 24 00.0	+12
CEL				LR		LR		
	comp=Z,1µm,21.0s							
GDM	**Grand'Maison**	142.04	336	PKP		PKPdf	02 23 45.1	-3.2
GRN	**Grenoble**	142.16	337	PKP		PKPdf	02 23 45.5	-2.9
PLDF	**La Plantade**	142.33	339	PKP		PKPdf	02 23 45.8	-2.8
AGO	**Saint Agoulin**	142.42	340	PKP		PKPdf	02 23 46.3	-2.4
SSB	**Saint Sauveur**	142.59	338	PKP		PKPdf	02 23 46.1	-3.0
SSB	**Saint Sauveur**	142.59	338	*e*PKHKP		PKPpre	02 23 42.9	
SSB				*e*			02 26 59.5	
SSB				MLR		MLR		
	comp=Z,1µm,21.0s							
SSB	**Saint Sauveur**	142.59	338	*e*PKPpre		PKPpre	02 23 42.9	
SSB				*e*PP		PP	02 26 59.5	+3.5
SSB				LR		LR		
	comp=Z,1µm,21.0s							
PYM	**Petit Puy Mans**	142.73	340	PKP		PKPdf	02 23 46.8	-2.6
OG26	**St.-Nazaire-De**	142.89	336	PKP		PKPdf	02 23 46.8	-2.9
LBL	**Lubilhac**	143.10	339	PKP		PKPbc	02 23 47.4	+0.6
FRNF	**Fournols**	143.20	340	PKP		PKPbc	02 23 48.3	+1.2
CLTB	**Caltabellotta**	144.05	321	*e*PKPdf		PKPab	02 23 48.3	-1.1
WDD	**Wied Dalam**	144.25	318	PFAKE			02 24 00.0	+7.8
WDD				LR		LR		
	comp=Z,2µm,20.0s							
VSL	**Villasalto**	144.97	327	*e*PKPbc		PKPab	02 23 51.6	-1.0
VSL				LR		LR		
	comp=Z,2µm,20.0s							
LRDF	**Laroque-de-Fa**	145.34	338	PKP		PKPbc	02 23 51.4	-2.3
FILF	**Fillols**	145.65	337	PKP		PKPdf	02 23 52.4	-2.2
VALF	**Valcebollere**	145.99	338	PKP		PKPdf	02 23 52.7	-2.6
MELF	**Melles**	146.03	340	PKP		PKPdf	02 23 53.1	-2.1
RESF	**Ens**	146.22	340	PKP		PKPdf	02 23 53.5	-2.1
REYF	**Montagne du Re**	146.23	341	PKP		PKPdf	02 23 53.2	-2.3
VIEF	**Viey**	146.26	341	PKP		PKPdf	02 23 53.4	-2.2
ORDF	**Ordiarp**	146.26	342	PKP		PKPdf	02 23 52.9	-2.6
ATE	**Arette**	146.31	342	PKP		PKPdf	02 23 53.7	-1.9
OSSF	**Osses**	146.32	342	PKP		PKPdf	02 23 53.4	-2.2
LARF	**Larrau**	146.44	342	PKP		PKPdf	02 23 54.2	-1.6
KEST	**Kesra**	147.61	322	PKPbc		PKPbc	02 24 00.4	-0.4
	comp=Z,87nm,0.9s,baz=310,slow=2.1,SNR=60							
KEST	**Kesra**	147.61	322	*e*PKPbc		PKPbc	02 24 01.2	+0.4
KEST				LR		LR		
	comp=Z,2µm,20.0s							
H07N1	**FLORES T-PHASE**	148.28	25	*e*PKPdf		PKPbc	02 24 03.3	+1.0
H07S1	**FLORES T-PHASE**	148.50	25	*e*PKPdf		PKPab	02 24 05.6	-0.6
PBRG	**Braganca**	149.04	349	*e*PKPdf		PKPdf	02 24 01.9	+1.7
PBRG	**Braganca**	149.04	349	*e*PP		PP	02 27 37.7	+3.6
PCAB	**Cabril**	149.36	350	*e*PKPdf		PKPdf	02 24 02.4	+1.7
PCAB	**Cabril**	149.36	350	*e*PP		PP	02 27 37.8	+1.9
SET	**Setif**	149.52	327	P		PKPdf	02 24 03.0	+1.8
MVO	**Moncorvo**	149.71	349	*e*PKPdf		PKPdf	02 24 02.4	+1.1
MVO	**Moncorvo**	149.71	349	*e*SS		SS	02 46 56.1	+4.5
MVO	**Moncorvo**	149.71	349	*e*LR		LR	03 23 04.6	
	comp=Z,3µm,18.0s							
PVRL	**Vila Real**	149.73	350	*e*PKPdf		PKPdf	02 24 02.8	+1.5
PGRA	**Graciosa**	150.06	21	*e*PKPdf		PKPbc	02 24 09.4	+2.6
PVIS	**Viseu**	150.31	350	*e*PKPdf		PKPdf	02 24 03.9	+1.7
PVIS	**Viseu**	150.31	350	*e*PP		PP	02 27 42.6	+1.2
ES19	**SONSECA Array**	150.36	343	*e*PKPdf		PKPdf	02 24 02.6	+0.2
PMAN	**Manadas**	150.37	22	*e*PKPdf		PKPbc	02 24 08.5	+1.0
PCAN	**Candelaria**	150.37	23	*e*PKPdf		PKPbc	02 24 09.3	+1.7
ESDC	**Sonseca Array**	150.41	343	PKP		PKPdf	02 24 02.4	0.0
	comp=Z,14nm,0.9s,baz=4.3,slow=2.2,SNR=15							
ESDC				PKPbc		PKiKP	02 24 08.1	-0.3
	comp=Z,14nm,0.8s,baz=8.1,slow=2.1,SNR=54							
ESLA	**Sonseca Array**	150.41	343	PFAKE			02 24 10.0	+2.3
ESLA				LR		LR		
	comp=Z,2µm,20.0s							
MTE	**Manteigas**	150.55	349	*e*PKPdf		PKPdf	02 24 03.3	+0.7
MTE	**Manteigas**	150.55	349	*e*PP		PP	02 27 44.4	+1.6
MTE	**Manteigas**	150.55	349	*e*SS		SS	02 46 55.1	-5.8
MTE	**Manteigas**	150.55	349	*e*LR		LR	03 19 04.2	
	comp=Z,2µm,20.0s							
MTE	**Manteigas**	150.55	349	*e*PKPdf		PKPdf	02 24 02.5	-0.1
MTE				LR		LR		
	comp=Z,2µm,20.0s							
PAB	**San Pablo**	150.63	344	*e*PKIKP		PKPbc	02 24 05.7	-2.6
PAB				*e*			02 24 10.6	
PAB				MLR		MLR		
	comp=Z,2µm,18.0s							
PAB	**San Pablo**	150.63	344	*e*PKPdf		PKPbc	02 24 05.7	-2.6
PAB				*e*PKPbc		PKiKP	02 24 10.6	+1.6
PAB				LR		LR		
	comp=Z,2µm,18.0s							
ADH	**Angra Heroismo**	150.65	21	*e*PKPdf		PKPbc	02 24 07.3	-0.9
EMHD	**Djebel Mahouad**	150.77	330	P		PKPbc	02 24 06.3	-2.5
PCBR	**Castelo Branco**	151.08	349	*e*PKPdf		PKPdf	02 24 04.9	+1.5
PCBR	**Castelo Branco**	151.08	349	*e*PP		PP	02 27 47.8	+2.1
EBNR	**Beni Rached**	151.37	332	P		PKPbc	02 24 10.0	0.0
SHEL	**Horse Pasture**	151.39	198	*i* PKIKP		PKPbc	02 24 13.7	+3.1
PMRV	**Marv??o**	151.46	348	*e*PKPdf		PKPdf	02 24 04.5	+0.5
PMRV	**Marv??o**	151.46	348	*e*PP		PP	02 27 49.1	+1.1
PMRV	**Marv??o**	151.46	348	*e*SS		SS	02 47 07.6	-3.3
PMRV	**Marv??o**	151.46	348	*e*LR		LR	03 20 44.6	
	comp=Z,2µm,20.0s							
PTOM	**Tomar**	151.46	350	*e*PKPdf		PKPdf	02 24 04.9	+0.9
ECHA	**Ech Chlef**	151.56	332	P		PKPbc	02 24 10.2	-0.2
EANR	**'Ain N'Sour**	151.84	332	P		PKPbc	02 24 10.8	-0.4
PDA	**Ponta Delgada**	152.00	19	*e*PKPdf		PKPbc	02 24 08.7	-2.6
PCALD	**Caldeiras da R**	152.01	19	*e*PKPdf		PKPbc	02 24 14.4	+3.0
CMLA	**Cha da Macela**	152.03	19	*i* PKIKP		PKPab	02 24 16.3	-4.4
CMLA	**Cha da Macela**	152.03	19	*e*PKPdf		PKPbc	02 24 11.8	+0.3
CMLA	**Cha da Macela**	152.03	19	PFAKE			02 24 20.0	-0.7
CMLA				LR		LR		
	comp=Z,3µm,20.0s							
PESTR	**Estremoz**	152.04	348	*e*PKPdf		PKPdf	02 24 05.1	+0.2
PESTR	**Estremoz**	152.04	348	*e*PP		PP	02 27 53.1	+1.8
BART	**Pico Bartolome**	152.13	18	*e*PKPdf		PKPdf	02 24 07.5	+2.4
PMAFR	**Mafra**	152.25	351	*e*PKPdf		PKPdf	02 24 05.7	+0.5
PMAFR	**Mafra**	152.25	351	*e*PP		PP	02 27 54.4	+2.0
EVO	**Evora**	152.45	349	*e*PKPdf		PKPdf	02 24 05.9	+0.4
EVO	**Evora**	152.45	349	*e*PKPab		PKPab	02 24 22.1	-0.3
EVO	**Evora**	152.45	349	*e*PP		PP	02 27 54.5	+0.9
PMST	**Lisbon--Monsan**	152.45	351	*e*PKPdf		PKPdf	02 24 05.5	0.0
PMST	**Lisbon--Monsan**	152.45	351	*e*PP		PP	02 27 54.5	+1.0
LIS	**Lisbon**	152.46	351	*e*P		PKPdf	02 24 03.0	-2.5
LIS				*e*PP		PP	02 27 53.3	-0.3
LIS				AMS		AMS	03 45 56.0	
	comp=E,2µm,13.2s							
LIS	**Lisbon**	152.46	351	*e*PKIKP		PKPdf	02 24 03.0	-2.5
LIS				*e*			02 27 53.3	
RCBR	**Riachuelo**	152.63	128	*e*PKPdf		PKPdf	02 24 08.7	+2.2
RCBR				LR		LR		
	comp=Z,3µm,19.0s							
PSMA	**Santa Maria**	152.86	19	*e*PKPdf		PKPbc	02 24 11.6	-1.7
PBEJ	**Beja**	152.91	348	*e*PKPdf		PKPdf	02 24 07.7	+1.5
MESJ	**Messejana**	153.16	349	*e*P		PKPdf	02 24 04.0	-2.5
MESJ				*e*PP		PP	02 27 57.3	-0.3
MESJ				AMS		AMS	03 39 39.2	
	comp=Z,2µm,17.2s							
MESJ	**Messejana**	153.16	349	*e*PKPdf		PKPdf	02 24 06.6	+0.1
MESJ	**Messejana**	153.16	349	*e*PP		PP	02 27 59.2	+1.6
MESJ	**Messejana**	153.16	349	*e*PKIKP		PKPdf	02 24 04.0	-2.5
MESJ				*e*			02 27 57.2	
PVAQ	**Vaqueiros**	153.48	348	*e*PKPdf		PKPdf	02 24 07.7	+0.7
PVAQ	**Vaqueiros**	153.48	348	*e*PP		PP	02 28 00.5	+1.1
PVAQ	**Vaqueiros**	153.48	348	*e*SS		SS	02 47 50.6	+18
PVAQ	**Vaqueiros**	153.48	348	*e*LR		LR	03 20 59.6	
	comp=Z,2µm,20.0s							
PTEO	**Sao Teotonio**	153.53	350	*e*PKPdf		PKPdf	02 24 07.9	+0.8
PBDV	**Barranco-do-Ve**	153.68	348	*e*PKPdf		PKPdf	02 24 05.6	-1.8
PBDV	**Barranco-do-Ve**	153.68	348	*e*PP		PP	02 28 03.5	+2.9
MORF	**Marmelete**	153.75	349	*e*P		PKPdf	02 24 05.0	-2.6
MORF				*e*PP		PP	02 28 00.6	-0.4
MORF				AMS		AMS	03 37 56.4	
	comp=Z,3µm,15.7s							
MORF	**Marmelete**	153.75	349	*e*PKPdf		PKPdf	02 24 08.8	+1.3
MORF	**Marmelete**	153.75	349	*e*PP		PP	02 28 03.5	+2.5
MORF	**Marmelete**	153.75	349	*e*PKIKP		PKPdf	02 24 04.9	-2.6
MORF				*e*			02 28 00.6	
PFVI	**Vila Bisbo**	153.96	350	*e*PKPdf		PKPdf	02 24 07.9	+0.2
PFVI	**Vila Bisbo**	153.96	350	*e*PP		PP	02 28 03.6	+1.5
PFVI	**Vila Bisbo**	153.96	350	PFAKE			02 24 20.0	+4.3
PFVI				LR		LR		
	comp=Z,3µm,20.0s							
RTC	**Rabat Centre**	156.53	344	PFAKE			02 24 20.0	+8.7
RTC				LR		LR		
	comp=Z,7µm,18.0s							
TAM	**Tamanrasset**	157.83	303	*e*PKIKP		PKPdf	02 24 14.3	+0.8
TAM				*e*			02 24 40.5	
TAM				MLR		MLR		
	comp=Z,2µm,19.0s							
TAM	**Tamanrasset**	157.83	303	*e*PKPdf		PKPdf	02 24 14.3	+0.8
TAM				*e*PKPab		PKPab	02 24 40.5	-5.7
TAM				LR		LR		
	comp=Z,2µm,19.0s							
PMPS	**Porto Santo**	158.46	4	*e*PKPdf		PKPdf	02 24 12.4	-1.3
PMAR	**Madeira**	158.74	6	*e*PKPdf		PKPdf	02 24 13.3	-1.0
TOA0	**Torodi Ar. Sit**	164.09	278	*e*PKPdf		PKPdf	02 24 19.1	-1.1
TOA0				*e*PKPab		PKPab	02 25 15.1	+1.5
TORD	**Torodi Ar. Bea**	164.09	278	PKP		PKPdf	02 24 19.5	-0.7
	comp=Z,4.9nm,0.8s,baz=54,slow=1.1,SNR=26							
TORD				PKPab		PKPab	02 25 15.1	+1.5
	comp=Z,5.0nm,0.7s,baz=95,slow=2.5,SNR=7.5							
TORD				PP		PP	02 28 58.1	-1.6
	comp=Z,1.7nm,0.9s,baz=131,slow=6.7,SNR=3.6							
KIC	**Kosan Boka**	169.10	243	*e*P		PKPab	02 25 36.1	+0.4
	comp=Z,348nm,2.0s							
LIC	**Lamto**	169.28	242	*e*P		PKPab	02 25 33.4	-3.1
	comp=Z,214nm,2.2s							
DBIC	**Dimbokro**	169.34	244	PKP		PKPdf	02 24 25.2	+1.0
	comp=Z,11nm,1.0s,baz=113,slow=5.8,SNR=3.5							
DBIC				PKPab		PKPab	02 25 37.9	+1.2
	comp=Z,9.0nm,0.9s,baz=120,slow=5.1,SNR=3.3							
TIC	**Toumodi**	169.47	244	*e*P		PKPab	02 25 38.4	+1.0

*CRAAG **21** 02:07:03.8, 36°.89N×2°.71E, Ml3.5*
*ISCJB **21** 02:07:05.0±0.4, 37°.06N±0°.02×2°.64E±0°.04, h14km, Error ellipse: s-maj=4.2km s-min=3.2km az=22.3*
*MDD **21** 02:07:05.6±0.4, 36°.94N×2°.70E, h0km, mb3.7/29, mbLg1.9/1, Error ellipse: s-maj=5.7km s-min=3.7km az=37.0, PRXIMO*
*CSEM **21** 02:07:05.4±0.2, 36°.90N×2°.69E, h10km, ML3.5, Error ellipse: s-maj=4.6km s-min=4.4km az=38.0*
ISC 21 02:07:04.8±0.8, **36°.94N**±0°.04×**2°.70E**±0°.03, **h14**km, **n81,** σ1§67/121, **2C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	0.30	118	P	**Pg**	02 07 10.7	-0.4
ABA	**Alger-Bouzarea**	0.30	118	P	**Pg**	02 07 10.7	-0.4
ABA	**Alger-Bouzarea**	0.30	118	P	**Pg**	02 07 10.7	-0.4
ABMS	**Boumerdes**	0.66	107	P	**Pg**	02 07 17.6	0.0
ABMS	**Boumerdes**	0.66	107	P	**Pg**	02 07 17.6	0.0
ABMS	**Boumerdes**	0.66	107	P	**Pg**	02 07 17.6	0.0
EMHD	**Djebel Mahouad**	0.77	165	P	**Pg**	02 07 19.0	-0.8
EMHD	**Djebel Mahouad**	0.77	165	P	**Pg**	02 07 19.0	-0.8
EMHD	**Djebel Mahouad**	0.77	165	P	**Pg**	02 07 19.0	-0.8
ADJB	**Djebel Djouab**	0.98	143	P	**Pb**	02 07 24.0	+0.3
ADJB	**Djebel Djouab**	0.98	143	P	**Pb**	02 07 24.0	+0.3
ADJB	**Djebel Djouab**	0.98	143	P	**Pb**	02 07 24.0	+0.3
EBNR	**Beni Rached**	1.14	236	P	**Pn**	02 07 27.0	+0.5
EBNR	**Beni Rached**	1.14	236	P	**Pn**	02 07 27.0	+0.5
ECHA	**Ech Chlef**	1.33	234	P	**Pb**	02 07 30.0	+0.4
ECHA	**Ech Chlef**	1.33	234	P	**Pb**	02 07 30.0	+0.4
ECHF	**Ech Chlef**	1.35	235	P	**Pb**	02 07 30.0	+0.2
ECHF	**Ech Chlef**	1.35	235	P	**Pb**	02 07 30.0	+0.2
EANR	**'Ain N'Sour**	1.63	233	P	**Pb**	02 07 35.5	+0.9
EANR	**'Ain N'Sour**	1.63	233	P	**Pb**	02 07 35.5	+0.9
EANR	**'Ain N'Sour**	1.63	233	P	**Pb**	02 07 35.5	+0.9
OKGL	**Djebel Kef Gue**	1.89	242	P	**Pb**	02 07 38.7	-0.4
	16nm,0.2s,SNR=5.0						
OKGL				S	**Sb**	02 08 02.3	-0.2
	419nm,0.6s,SNR=4.0						
OKGL	**Djebel Kef Gue**	1.89	242	P	**Pb**	02 07 38.7	-0.4
	16nm,0.2s,SNR=5.0						
OKGL				S	**Sb**	02 08 02.3	-0.2
	419nm,0.6s,SNR=4.0						
EIBI	**Ibiza**	2.34	333	P	**Pn**	02 07 44.0	+1.1
	10nm,0.2s,SNR=31						
EIBI				S	**Sn**	02 08 10.4	-1.0
	15nm,0.2s,SNR=11						
EIBI	**Ibiza**	2.34	333	P	**Pn**	02 07 44.0	+1.1
	10nm,0.2s,SNR=31						
EIBI				S	**Sn**	02 08 10.4	-1.0
	15nm,0.2s,SNR=11						
ETOS	**Mallorca**	2.82	2	⇑P	**Pn**	02 07 50.6	+1.1
	4.5nm,0.2s,SNR=18						
ETOS				S	**Sn**	02 08 21.3	-2.0
	5.9nm,0.2s,SNR=5.7						
ETOS	**Mallorca**	2.82	2	P	**Pn**	02 07 50.6	+1.1
	4.5nm,0.2s,SNR=18						
ETOS				S	**Sn**	02 08 21.3	-2.0
	5.9nm,0.2s,SNR=5.7						
EMUR	**La Murta**	3.26	287	P	**Pn**	02 07 56.3	+0.7
	0.7nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	02 08 33.3	-0.9
	1.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	3.26	287	P	**Pn**	02 07 56.3	+0.7
	0.7nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	02 08 33.3	-0.9
	1.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	3.77	298	P	**Pn**	02 08 03.9	+1.3
	6.1nm,0.2s,SNR=22						
ETOB				S	**Sn**	02 08 46.0	-0.8
	1.5nm,0.2s						
ETOB	**Tobarra**	3.77	298	P	**Pn**	02 08 03.9	+1.3
	6.1nm,0.2s,SNR=22						
ETOB				S	**Sn**	02 08 46.0	-0.8
	1.5nm,0.2s						
ENIJ	**Nijar**	3.93	272	P	**Pn**	02 08 04.5	-0.3
	0.7nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	02 08 48.4	-2.3
	2.1nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	3.93	272	P	**Pn**	02 08 04.5	-0.3
	0.7nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	02 08 48.4	-2.3
	2.1nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	4.22	325	⇑P	**Pn**	02 08 10.5	+1.6
	4.6nm,0.2s,SNR=18						
EMOS				S	**Sn**	02 08 56.3	-1.8
	8.6nm,0.4s						
EMOS	**Mosqueruela**	4.22	325	P	**Pn**	02 08 10.5	+1.6
	4.6nm,0.2s,SNR=18						
EMOS				S	**Sn**	02 08 56.3	-1.8
	8.6nm,0.4s						
SESP	**Santiago Espad**	4.33	287	P	**Pn**	02 08 12.4	+2.0
	2.5nm,0.2s,SNR=7.9						
SESP				S	**Sn**	02 08 59.9	-0.8
	4.1nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	4.41	336	P	**Pn**	02 08 13.2	+1.8
	0.8nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	02 09 01.1	-1.5
	1.4nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	4.41	336	P	**Pn**	02 08 13.2	+1.8
	0.8nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	02 09 01.1	-1.5
	1.4nm,0.2s,SNR=7.9						
EBER	**Berja**	4.48	271	P	**Pn**	02 08 12.6	+0.2
	0.3nm,0.2s,SNR=4.5						
EBER				S	**Sn**	02 09 03.3	-1.1
	2.6nm,0.3s						
EBER	**Berja**	4.48	271	P	**Pn**	02 08 12.6	+0.2
	0.3nm,0.2s,SNR=4.5						
EBER				S	**Sn**	02 09 03.3	-1.1
	2.6nm,0.3s						
EPOB	**Poblet**	4.58	345	P	**Pn**	02 08 14.8	+1.1
	1.0nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	02 09 03.7	-3.0
	1.4nm,0.2s,SNR=7.9						
EPOB	**Poblet**	4.58	345	P	**Pn**	02 08 14.8	+1.1
	1.0nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	02 09 03.7	-3.0
	1.4nm,0.2s,SNR=7.9						
GORA	**Gorafe**	4.61	278	S	**Sn**	02 09 06.4	-1.2
	3.5nm,0.3s,SNR=7.9						
GORA	**Gorafe**	4.61	278	S	**Sn**	02 09 06.4	-1.2
	3.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	4.68	282	P	**Pn**	02 08 16.7	+1.6
	3.1nm,0.3s,SNR=30						
EQES				S	**Sn**	02 09 09.7	+0.5
	0.5nm,0.2s						
EQES	**Quesada**	4.68	282	P	**Pn**	02 08 16.7	+1.6
	3.1nm,0.3s,SNR=30						
EQES				S	**Sn**	02 09 09.7	+0.5
	0.5nm,0.2s						
CFON	**Fontmartina**	4.82	358	P	**Pn**	02 08 18.9	+1.9
	1.7nm,0.2s,SNR=8.2						
CFON				S	**Sn**	02 09 10.7	-1.9
	4.0nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	4.82	358	P	**Pn**	02 08 18.9	+1.9
	1.7nm,0.2s,SNR=8.2						
CFON				S	**Sn**	02 09 10.7	-1.9
	4.0nm,0.2s,SNR=7.9						
SELV	**Sierra Elvira**	5.15	275	P	**Pn**	02 08 23.6	+2.1
	0.8nm,0.2s,SNR=4.0						
SELV	**Sierra Elvira**	5.15	275	P	**Pn**	02 08 23.6	+2.1
	0.8nm,0.2s,SNR=4.0						
EGOR	**Sierra Gorda,**	5.45	274	P	**Pn**	02 08 27.5	+1.7
	0.1nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	02 09 32.1	+3.8
	1.3nm,0.3s,SNR=4.0						
EGOR	**Sierra Gorda,**	5.45	274	P	**Pn**	02 08 27.5	+1.7
	0.1nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	02 09 32.1	+3.8
	1.3nm,0.3s,SNR=4.0						
EJON	**La Jonquera**	5.50	1	P	**Pn**	02 08 27.9	+1.6
	1.1nm,0.2s,SNR=7.9						
EJON				S	**Sn**	02 09 27.8	-1.6
	0.8nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	5.50	1	P	**Pn**	02 08 27.9	+1.6
	1.1nm,0.2s,SNR=7.9						
EJON				S	**Sn**	02 09 27.8	-1.6
	0.8nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	5.54	1	P	**Pn**	02 08 29.3	+2.5
	0.3nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	02 09 28.5	-1.8
	0.3nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	5.54	1	P	**Pn**	02 08 29

	11µm,4.5s								
T0502	**Localit˙ San**	**0.17**	**306**	⇑*i*Pg		**Pg**	**02 10 54.8**	**-0.1**
T0502				Sg		**Sb**	**02 10 58.8**	**+0.7**
	5µm,0.3s								
BADI	**Badiali**	**0.30**	**192**	Pg		**Pg**	**02 10 56.6**	**-0.2**
BADI				Sg		**Sb**	**02 11 01.8**	**+0.1**
	3µm,0.2s								
BADI	**Badiali**	**0.30**	**192**	Pg		**Pg**	**02 10 56.6**	**-0.2**
BADI				Sg		**Sb**	**02 11 01.8**	**+0.1**
	3µm,0.2s								
PIEI	**Pieia**	**0.30**	**150**	Pg		**Pg**	**02 10 56.2**	**-0.7**
PIEI				Sg		**Sg**	**02 11 01.3**	**-0.1**
	2µm,0.1s								
PIEI	**Pieia**	**0.30**	**150**	Pg		**Pg**	**02 10 56.2**	**-0.7**
PIEI				Sg		**Sg**	**02 11 01.3**	**-0.1**
	2µm,0.1s								
CRE	**Caprese Michel**	**0.33**	**237**	⇑*i*Pg		**Pg**	**02 10 57.1**	**-0.3**
CRE				Sg		**Sg**	**02 11 02.6**	**+0.4**
	310nm,0.2s								
CRE	**Caprese Michel**	**0.33**	**237**	⇑*i*Pg		**Pg**	**02 10 57.1**	**-0.3**
CRE				Sg		**Sg**	**02 11 02.6**	**+0.4**
	310nm,0.2s								
ATPC	**Poggio Castell**	**0.33**	**164**	⇓*i*Pg		**Pg**	**02 10 57.0**	**-0.4**
ATPC				Sg		**Sb**	**02 11 03.2**	**+0.4**
	905nm,0.4s								
ATPC	**Poggio Castell**	**0.33**	**164**	⇓*i*Pg		**Pg**	**02 10 57.0**	**-0.4**
ATPC				Sg		**Sb**	**02 11 03.2**	**+0.4**
	905nm,0.4s								
FSSB	**Fossombrone**	**0.34**	**108**	⇑*i*Pg		**Pg**	**02 10 56.8**	**-0.7**
FSSB				Sg		**Sb**	**02 11 02.5**	**-0.6**
	2µm,0.3s								
FSSB	**Fossombrone**	**0.34**	**108**	⇑*i*Pg		**Pg**	**02 10 56.8**	**-0.7**
FSSB				Sg		**Sb**	**02 11 02.5**	**-0.6**
	2µm,0.3s								
BLLA	**Bellaria**	**0.36**	**16**	Pg		**Pb**	**02 10 58.1**	**-0.1**
BLLA				Sg		**Sb**	**02 11 04.5**	**+1.0**
	268µm,20.0s								
BLLA	**Bellaria**	**0.36**	**16**	Pg		**Pb**	**02 10 58.1**	**-0.1**
BLLA				Sg		**Sb**	**02 11 04.5**	**+1.0**
	268µm,20.0s								
SFI	**Santa Sofia**	**0.36**	**287**	Pg		**Pg**	**02 10 57.6**	**-0.4**
SFI				Sg		**Sb**	**02 11 03.9**	**+0.1**
	324nm,0.1s								
SFI	**Santa Sofia**	**0.36**	**287**	Pg		**Pg**	**02 10 57.6**	**-0.4**
SFI				Sg		**Sb**	**02 11 03.9**	**+0.1**
	324nm,0.1s								
ATMC	**Monte Cedrone**	**0.37**	**196**	Pg		**Pg**	**02 10 57.7**	**-0.3**
ATMC				Sg		**Sb**	**02 11 03.8**	**0.0**
	1µm,0.2s								
ATMC	**Monte Cedrone**	**0.37**	**196**	Pg		**Pg**	**02 10 57.7**	**-0.3**
ATMC				Sg		**Sb**	**02 11 03.8**	**0.0**
	1µm,0.2s								
ASQU	**Asqua**	**0.39**	**270**	⇑*i*Pg		**Pg**	**02 10 58.1**	**-0.4**
ASQU				Sg		**Sb**	**02 11 04.8**	**+0.2**
	397nm,0.5s								
ASQU	**Asqua**	**0.39**	**270**	⇑*i*Pg		**Pg**	**02 10 58.1**	**-0.4**
ASQU				Sg		**Sb**	**02 11 04.8**	**+0.2**
	397nm,0.5s								
PESA	**Pesaro**	**0.40**	**69**	Pg		**Pg**	**02 10 57.9**	**-0.6**
PESA				Sg		**Sb**	**02 11 05.3**	**+0.7**
	1µm,0.4s								
PESA	**Pesaro**	**0.40**	**69**	Pg		**Pg**	**02 10 57.9**	**-0.6**
PESA				Sg		**Sb**	**02 11 05.3**	**+0.7**
	1µm,0.4s								
FRON	**Frontone**	**0.40**	**134**	Pg		**Pg**	**02 10 58.1**	**-0.5**
FRON				Sg		**Sb**	**02 11 04.9**	**+0.1**
	804nm,0.2s								
FRON	**Frontone**	**0.40**	**134**	Pg		**Pg**	**02 10 58.1**	**-0.5**
FRON				Sg		**Sb**	**02 11 04.9**	**+0.1**
	804nm,0.2s								
SSFR	**Montelago di S**	**0.49**	**138**	Pg		**Pg**	**02 10 59.6**	**-0.6**
SSFR				Sg		**Sb**	**02 11 07.6**	**+0.3**
SSFR	**Montelago di S**	**0.49**	**138**	Pg		**Pg**	**02 10 59.6**	**-0.6**
SSFR				Sg		**Sb**	**02 11 07.6**	**+0.3**
ARVD	**Arcevia**	**0.54**	**124**	Pg		**Pg**	**02 11 00.6**	**-0.4**
ARVD				Sg		**Sb**	**02 11 09.0**	**+0.4**
	641nm,0.3s								
ARVD	**Arcevia**	**0.54**	**124**	Pg		**Pg**	**02 11 00.6**	**-0.4**
ARVD				Sg		**Sb**	**02 11 09.0**	**+0.4**
	641nm,0.3s								
CAFI	**Castiglion Fio**	**0.54**	**210**	Pg		**Pg**	**02 11 01.0**	**-0.1**
CAFI				Sg		**Sb**	**02 11 09.6**	**+0.9**
	329nm,0.7s								
CAFI	**Castiglion Fio**	**0.54**	**210**	Pg		**Pg**	**02 11 01.0**	**-0.1**
CAFI				Sg		**Sb**	**02 11 09.6**	**+0.9**
	329nm,0.7s								
MURB	**Monte Urbino**	**0.55**	**165**	Pg		**Pg**	**02 11 01.0**	**-0.4**
MURB				Sg		**Sb**	**02 11 10.8**	**+1.6**
	879nm,0.2s								
MURB	**Monte Urbino**	**0.55**	**165**	Pg		**Pg**	**02 11 01.0**	**-0.4**
MURB				Sg		**Sb**	**02 11 10.8**	**+1.6**
	879nm,0.2s								
VMG	**Vicchio**	**0.59**	**286**	⇓*i*Pg		**Pg**	**02 11 01.8**	**-0.3**
VMG				Sg		**Sb**	**02 11 11.4**	**+1.2**
VMG	**Vicchio**	**0.59**	**286**	⇓*i*Pg		**Pg**	**02 11 01.8**	**-0.3**
VMG				Sg		**Sb**	**02 11 11.4**	**+1.2**
ATTE	**AVT- Monte Tez**	**0.60**	**178**	Pg		**Pg**	**02 11 01.8**	**-0.5**
ATTE				Sg		**Sb**	**02 11 11.5**	**+0.9**
	193nm,0.4s								
ATTE	**AVT- Monte Tez**	**0.60**	**178**	Pg		**Pg**	**02 11 01.8**	**-0.5**
ATTE				Sg		**Sb**	**02 11 11.5**	**+0.9**
	193nm,0.4s								
ATCC	**AVT- Casa Cast**	**0.65**	**160**	Pg		**Pg**	**02 11 02.8**	**-0.4**
ATCC				Sg		**Sb**	**02 11 13.4**	**+1.4**
	397nm,0.3s								
ATCC	**AVT- Casa Cast**	**0.65**	**160**	Pg		**Pg**	**02 11 02.8**	**-0.4**
ATCC				Sg		**Sb**	**02 11 13.4**	**+1.4**
	397nm,0.3s								
SENI	**Senigallia**	**0.66**	**98**	Pg		**Pb**	**02 11 03.8**	**+0.5**
	63µm,15.0s								
SENI	**Senigallia**	**0.66**	**98**	Pg		**Pb**	**02 11 03.8**	**+0.5**
	63µm,15.0s								
SNTG	**Esanatoglia**	**0.70**	**141**	Pg		**Pg**	**02 11 03.4**	**-0.7**
SNTG				Sg		**Sb**	**02 11 14.6**	**+1.2**
	404nm,0.2s								
SNTG	**Esanatoglia**	**0.70**	**141**	Pg		**Pg**	**02 11 03.4**	**-0.7**
SNTG				Sg		**Sb**	**02 11 14.6**	**+1.2**
	404nm,0.2s								
SEI	**Scarperia**	**0.75**	**290**	Pg		**Pg**	**02 11 04.4**	**-0.6**
SEI	**Scarperia**	**0.75**	**290**	Pg		**Pg**	**02 11 04.4**	**-0.6**
CING	**Cingoli**	**0.76**	**124**	Pg		**Pg**	**02 11 04.7**	**-0.5**
	194nm,0.4s								
CING	**Cingoli**	**0.76**	**124**	Pg		**Pg**	**02 11 04.7**	**-0.5**
	194nm,0.4s								
MTRZ	**Monterenzio**	**0.85**	**313**	Pg		**Pb**	**02 11 07.1**	**+0.5**
	302nm,0.3s								
MTRZ	**Monterenzio**	**0.85**	**313**	Pg		**Pb**	**02 11 07.1**	**+0.5**
	302nm,0.3s								
CESI	**CESI - Serrava**	**0.90**	**152**	Pg		**Pb**	**02 11 06.9**	**-0.5**
CESI				Sg		**Sn**	**02 11 20.7**	**0.0**
	47nm,0.3s								
CESI	**CESI - Serrava**	**0.90**	**152**	Pg		**Pb**	**02 11 06.9**	**-0.5**
CESI				Sg		**Sn**	**02 11 20.7**	**0.0**
	47nm,0.3s								
MGAB	**Montegabbione**	**0.90**	**190**	Pg		**Pb**	**02 11 07.4**	**0.0**
	161nm,0.3s								
MGAB	**Montegabbione**	**0.90**	**190**	Pg		**Pb**	**02 11 07.4**	**0.0**
	161nm,0.3s								
PTF	**Prato**	**0.93**	**280**	Pg		**Pb**	**02 11 08.0**	**+0.1**
PTF	**Prato**	**0.93**	**280**	Pg		**Pb**	**02 11 08.0**	**+0.1**
FDMO	**Fiordimonte**	**0.94**	**144**	Pg		**Pb**	**02 11 07.6**	**-0.5**
	201nm,0.2s								
FDMO	**Fiordimonte**	**0.94**	**144**	Pg		**Pb**	**02 11 07.6**	**-0.5**
	201nm,0.2s								
AOI	**Ancona**	**0.96**	**105**	Pg		**Pn**	**02 11 08.9**	**0.0**
	103nm,0.3s								
AOI	**Ancona**	**0.96**	**105**	Pg		**Pn**	**02 11 08.9**	**0.0**
	103nm,0.3s								
CRMI	**Carmignano**	**0.98**	**270**	Pg		**Pb**	**02 11 09.0**	**+0.1**
	46nm,0.9s								
CRMI	**Carmignano**	**0.98**	**270**	Pg		**Pb**	**02 11 09.0**	**+0.1**
	46nm,0.9s								
SACS	**San Casciano d**	**1.00**	**198**	Pg		**Pg**	**02 11 09.8**	**+0.1**
	64nm,0.4s								
FROS	**Frosini**	**1.04**	**236**	Pg		**Pb**	**02 11 10.3**	**+0.5**
	82nm,0.8s								
FROS	**Frosini**	**1.04**	**236**	Pg		**Pb**	**02 11 10.3**	**+0.5**
	82nm,0.8s								
NRCA	**Norcia**	**1.12**	**149**	Pg		**Pb**	**02 11 10.7**	**-0.6**
	145nm,0.5s								
NRCA	**Norcia**	**1.12**	**149**	Pg		**Pb**	**02 11 10.7**	**-0.6**
	145nm,0.5s								
MCIV	**Monte Civitell**	**1.13**	**205**	Pg		**Pg**	**02 11 12.4**	**+0.3**
	20nm,0.7s								
MCIV	**Monte Civitell**	**1.13**	**205**	Pg		**Pg**	**02 11 12.4**	**+0.3**
	20nm,0.7s								
ARCI	**Arcidosso**	**1.13**	**214**	Pg		**Pg**	**02 11 12.3**	**0.0**
	46nm,0.6s								
ARCI	**Arcidosso**	**1.13**	**214**	Pg		**Pg**	**02 11 12.3**	**0.0**
	46nm,0.6s								
POPM	**Popiglio**	**1.16**	**283**	P		**Pb**	**02 11 12.3**	**+0.4**
POPM				S		**Sn**	**02 11 28.1**	**+0.9**
CESX	**Cesi**	**1.20**	**171**	Pg		**Pn**	**02 11 12.7**	**+0.4**
	112nm,0.5s								
CESX	**Cesi**	**1.20**	**171**	Pg		**Pn**	**02 11 12.7**	**+0.4**
	112nm,0.5s								
LATE	**Laterza**	**1.25**	**198**	Pg		**Pg**	**02 11 14.3**	**-0.1**
	61nm,0.5s								
LATE	**Laterza**	**1.25**	**198**	Pg		**Pg**	**02 11 14.3**	**-0.1**
	61nm,0.5s								
BDI	**Bagni Di Lucca**	**1.28**	**282**	Pg		**Pn**	**02 11 14.0**	**+0.6**
	40nm,0.9s								
BDI	**Bagni Di Lucca**	**1.28**	**282**	Pg		**Pn**	**02 11 14.0**	**+0.6**
	40nm,0.9s								
LNSS	**Leonessa**	**1.30**	**156**	Pg		**Pb**	**02 11 14.4**	**0.0**
	142nm,0.4s								
LNSS	**Leonessa**	**1.30**	**156**	Pg		**Pb**	**02 11 14.4**	**0.0**
	142nm,0.4s								
SASS	**Sassa**	**1.31**	**246**	Pg		**Pn**	**02 11 14.2**	**+0.4**
	31nm,1.4s								
SASS	**Sassa**	**1.31**	**246**	Pg		**Pn**	**02 11 14.2**	**+0.4**
	31nm,1.4s								
OFFI	**Offida**	**1.31**	**131**	Pg		**Pg**	**02 11 15.9**	**+0.3**
	380nm,0.8s								
OFFI	**Offida**	**1.31**	**131**	Pg		**Pg**	**02 11 15.9**	**+0.3**
	380nm,0.8s								
MAIM	**Mastiano**	**1.33**	**276**	Pg		**Pn**	**02 11 14.6**	**+0.5**
	22nm,0.6s								
MAIM	**Mastiano**	**1.33**	**276**	P		**Pn**	**02 11 14.3**	**+0.2**
MAIM	**Mastiano**	**1.33**	**276**	Pg		**Pn**	**02 11 14.6**	**+0.5**
	22nm,0.6s								
MAIM				S		**Sn**	**02 11 31.5**	**+0.1**
GUMA	**Gualdo di Mace**	**1.38**	**122**	Pg		Pn	02 11 09.9	-4.9
	687nm,0.6s								
RM33	**Pellescritta (**	**1.44**	**153**	Pg		**Pb**	**02 11 16.9**	**+0.2**
	74nm,0.5s								
RM33	**Pellescritta (**	**1.44**	**153**	Pg		**Pb**	**02 11 16.9**	**+0.2**
	74nm,0.5s								
SARO	**Sassorosso**	**1.44**	**286**	P		**Pn**	**02 11 16.4**	**+0.7**
FIAM	**Fiamignano**	**1.64**	**159**	Pg		**Pb**	**02 11 20.1**	**+0.1**
	38nm,0.6s								
FIAM	**Fiamignano**	**1.64**	**159**	Pg		**Pb**	**02 11 20.1**	**+0.1**
	38nm,0.6s								
AQU	**L'Aquila**	**1.64**	**151**	Pg		**Pb**	**02 11 20.6**	**+0.5**
	62nm,0.7s								
AQU	**L'Aquila**	**1.64**	**151**	Pg		**Pb**	**02 11 20.6**	**+0.5**
	62nm,0.7s								
GRAM	**Graiana**	**1.77**	**294**	P		**Pb**	**02 11 21.8**	**-0.5**
GRAM				S		**Sn**	**02 11 43.3**	**+1.0**
CODM	**Codolo**	**1.88**	**289**	P		**Pn**	**02 11 22.8**	**+1.1**
CODM				S		**Sn**	**02 11 45.4**	**+0.4**
NVLJ	**Novalja**	**1.98**	**66**	*e*Pn		**Pn**	**02 11 23.4**	**+0.4**
NVLJ				Sn		**Sn**	**02 11 48.8**	**+1.4**
SC2M	**Scurtabo**	**2.10**	**288**	P		**Pn**	**02 11 25.9**	**+1.2**
SKDS	**Skadanscina**	**2.12**	**34**	*i* Pn		**Pn**	**02 11 24.6**	**-0.4**
SKDS				*e*Sn		**Sn**	**02 11 51.1**	**+0.2**
SKDS	**Skadanscina**	**2.12**	**34**	*i* Pn		**Pn**	**02 11 24.6**	**-0.4**
SKDS				*e*Sn		**Sn**	**02 11 51.1**	**+0.2**
MAGA	**Magasa**	**2.32**	**329**	Pg		**Pn**	**02 11 29.6**	**+1.9**
	67nm,0.5s								
VOJS	**Vojsko**	**2.49**	**26**	*i* Pn		**Pn**	**02 11 29.8**	**-0.3**
VOJS				*i* Sn		**Sn**	**02 12 00.9**	**+0.8**
VOJS	**Vojsko**	**2.49**	**26**	*i* Pn		**Pn**	**02 11 29.8**	**-0.3**
VOJS				*i* Sn		**Sn**	**02 12 00.9**	**+0.8**
VINO	**Villanova**	**2.55**	**15**	Pg		**Pn**	**02 11 30.8**	**0.0**
UDBI	**Udbina**	**2.58**	**72**	*i* Pn		**Pn**	**02 11 32.8**	**+1.5**
UDBI	**Udbina**	**2.58**	**72**	*i* Pn		**Pn**	**02 11 32.7**	**+1.5**
ABTA	**Abfaltersbach**	**2.95**	**2**	*e*Pn		**Pn**	**02 11 37.5**	**+1.1**
	0.2nm,0.1s								
ABTA				*e*Sn		**Sn**	**02 12 11.8**	**+0.3**
	1.3nm,0.2s								
ABTA	**Abfaltersbach**	**2.95**	**2**	Pn		**Pn**	**02 11 37.5**	**+1.1**
	0.2nm,0.1s								
ABTA				Sn		**Sn**	**02 12 11.8**	**+0.3**
	1.3nm,0.2s								
OBKA	**Obir**	**3.13**	**29**	*e*Pn		**Pn**	**02 11 39.0**	**+0.1**
	0.5nm,0.2s								
OBKA				Sg		**Sg**	**02 12 31.1**	**+0.2**
	22nm,0.6s								
OBKA	**Obir**	**3.13**	**29**	Pn		**Pn**	**02 11 39.0**	**+0.1**
	0.5nm,0.2s								
OBKA				Sg		**Sg**	**02 12 31.1**	**+0.2**
	22nm,0.6s								
SBF	**Sospel**	**3.54**	**273**	*e*P		**Pn**	**02 11 45.4**	**+0.9**
SBF				*e*Sn		**Sn**	**02 12 20.7**	**-5.3**
	2.4nm,0.4s								
SBF	**Sospel**	**3.54**	**273**	*e*P		**Pn**	**02 11 45.4**	**+0.9**
FRF	**La Foret Royal**	**4.13**	**269**	*e*P		**Pn**	**02 11 53.5**	**+1.0**
FRF				*e*Sn		**Sn**	**02 12 35.2**	**-5.2**
	2.5nm,0.4s								
FRF	**La Foret Royal**	**4.13**	**269**	*e*P		**Pn**	**02 11 53.5**	**+1.0**
LMR	**La Mourre**	**4.26**	**266**	*e*P		**Pn**	**02 11 55.1**	**+0.9**
LMR	**La Mourre**	**4.26**	**266**	*e*P		**Pn**	**02 11 55.1**	**+0.9**
MOA	**Molln**	**4.27**	**18**	*i* Pn		**Pn**	**02 11 55.3**	**+0.8**
	0.3nm,0.1s								
MOA				*i* Sn		**Sn**	**02 12 41.3**	**-2.6**
	0.3nm,0.0s								
MOA	**Molln**	**4.27**	**18**	Pn		**Pn**	**02 11 55.3**	**+0.8**
	0.3nm,0.1s								
MOA				Sn		**Sn**	**02 12 41.3**	**-2.6**
	0.3nm,0.0s								
LPG	**La Plagne**	**4.33**	**295**	*e*P		**Pn**	**02 11 56.5**	**+1.0**
LPG	**La Plagne**	**4.33**	**295**	*e*P		**Pn**	**02 11 56.5**	**+1.0**
LPL	**La Plagne**	**4.35**	**295**	*e*P		**Pn**	**02 11 57.1**	**+1.4**
LPL				*e*Sn		**Sn**	**02 12 40.5**	**-5.5**
	0.9nm,0.3s								
LPL	**La Plagne**	**4.35**	**295**	*e*P		**Pn**	**02 11 57.1**	**+1.4**
ORIF	**Oris-en-Rattie**	**4.76**	**286**	*e*P		**Pn**	**02 12 03.9**	**+2.6**
ORIF	**Oris-en-Rattie**	**4.76**	**286**	*e*P		**Pn**	**02 12 03.9**	**+2.6**
SMRF	**Simiane la Rot**	**4.89**	**274**	*e*Pn		**Pn**	**02 11 59.8**	**-3.2**
SMRF	**Simiane la Rot**	**4.89**	**274**	*e*P		**Pn**	**02 12 04.6**	**+1.6**
SMRF	**Simiane la Rot**	**4.89**	**274**	*e*Pn		**Pn**	**02 11 59.8**	**-3.2**
SMRF	**Simiane la Rot**	**4.89**	**274**	*e*P		**Pn**	**02 12 04.6**	**+1.6**
CDF	**Champ du Feu**	**5.80**	**324**	*e*P		**Pn**	**02 12 16.3**	**+0.8**
CDF				*e*Sn		**Sn**	**02 13 14.7**	**-6.9**
	2.2nm,0.4s								
CDF	**Champ du Feu**	**5.80**	**324**	*e*P		**Pn**	**02 12 16.3**	**+0.8**
HAU	**Haudompre**	**5.92**	**317**	*e*P		**Pn**	**02 12 18.1**	**+0.9**
HAU				*e*Sn		**Sn**	**02 13 17.4**	**-7.2**
	5.0nm,0.4s								
HAU				*e*S		**Sn**	**02 13 27.7**	**+3.1**
HAU	**Haudompre**	**5.92**	**317**	*e*P		**Pn**	**02 12 18.1**	**+0.9**
HAU				*e*S		**Sn**	**02 13 27.7**	**+3.1**
SSF	**Saint Saulge**	**7.01**	**301**	*e*P		**Pn**	**02 12 33.2**	**+1.1**
SSF	**Saint Saulge**	**7.01**	**301**	*e*P		**Pn**	**02 12 33.2**	**+1.1**
MTLF	**Montolieu**	**7.36**	**270**	*e*P		**Pn**	**02 12 38.1**	**+1.2**
MTLF	**Montolieu**	**7.36**	**270**	*e*P		**Pn**	**02 12 38.1**	**+1.2**

IDC ***21*** *02:18:34.8±3.2,23°.28S×179°.94E,h584km±34km, mb3.5/13,mb1 3.6/15,mb1mx3.4/45,mbtmp4.4/15,Error ellipse: s-maj=25.9km s-min=14.8km az=57.0*

ISC 21 02:18:28.8±0.9,**23°.2S**±0°.1×**179°.7W**±0°.1,**h526**km,**n20,** σ1°**71**/22,**mb4.2**/13,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.88**	**272**	P	**P**	**02 21 20.7**	**+4.1**
	0.4nm,0.3s,baz=81,slow=17,SNR=6.0						
URZ	**Urewera**	**15.25**	**190**	P	**P**	**02 21 43.1**	**+2.2**
	0.8nm,0.3s,baz=19,slow=1.6,SNR=5.1						
URZ				S	**S**	**02 24 16.9**	**-2.5**
	0.6nm,0.3s,baz=53,slow=20,SNR=6.7						
RPZ	**Rata Peaks**	**21.83**	**198**	P	**P**	**02 22 45.3**	**+2.9**
	7.0nm,0.5s,baz=59,slow=5.9,SNR=4.2						
PMG	**Port Moresby**	**34.57**	**288**	P	**P**	**02 24 32.9**	**-0.8**
	23nm,0.7s,baz=104,slow=8.3						
STKA	**Stephens Creek**	**35.26**	**247**	P	**P**	**02 24 39.0**	**-0.3**
	3.6nm,0.5s,baz=77,slow=9.8,SNR=8.3						
ASAR	**Alice Springs**	**42.45**	**260**	P	**P**	**02 25 36.5**	**-1.1**
	9.5nm,0.8s,baz=102,slow=7.0,SNR=62						
ASAR				PcP	**PcP**	**02 27 17.6**	**-1.0**
	0.5nm,0.7s,baz=98,slow=5.8,SNR=3.3						
WRA	**Warramunga Arr**	**42.76**	**265**	P	**P**	**02 25 38.4**	**-1.7**
	7.4nm,0.5s,baz=102,slow=8.4,SNR=201						
JAY	**Jayapura**	**43.53**	**292**	P	**P**	**02 25 45.1**	**-1.1**
	0.5nm,0.3s,baz=258,slow=23,SNR=4.2						
FITZ	**Fitzroy Crossi**	**51.19**	**265**	P	**P**	**02 26 42.7**	**-0.9**
	6.0nm,0.4s,baz=91,slow=6.4,SNR=38						
VNDA	**Vanda**	**55.08**	**185**	P	**P**	**02 27 11.2**	**+0.8**
	0.6nm,0.5s,baz=68,slow=5.4,SNR=8.9						
NWAO	**Narrogin (SRO)**	**55.80**	**245**	P	**P**	**02 27 14.8**	**-1.3**
	3.3nm,0.4s,baz=359,slow=7.6,SNR=5.0						
KSRS	**Korea Array**	**77.92**	**320**	P	**P**	**02 29 33.2**	**+0.9**
	0.6nm,0.6s,baz=103,slow=6.4,SNR=3.8						
MAW	**Mawson**	**78.49**	**200**	P	**P**	**02 29 34.4**	**-0.5**
	1.1nm,0.9s,baz=121,slow=4.3,SNR=7.1						
CMAR	**Chiang Mai Arr**	**89.58**	**290**	P	**P**	**02 30 31.5**	**+0.9**
	1.8nm,0.3s,baz=143,slow=3.6,SNR=5.3						
TXAR	**Lajitas Array**	**89.81**	**58**	P	**P**	**02 30 32.9**	**+1.2**
	0.4nm,0.7s,baz=210,slow=6.4,SNR=6.9						
AKTO	**Aktyubinsk**	**128.01**	**317**	PKP	**PKPdf**	**02 36 33.8**	**-0.9**
	0.5nm,0.4s,baz=127,slow=5.1,SNR=2.9						
AKASG	**Malin Array Be**	**144.56**	**328**	PKP	**PKPdf**	**02 37 03.2**	**-1.9**
	0.9nm,0.5s,baz=43,slow=3.8,SNR=10						
ASF	**Jabal al Asfar**	**146.55**	**294**	PKPbc	**PKPbc**	**02 37 11.1**	**-0.6**
	1.5nm,0.7s,baz=104,slow=2.5,SNR=4.1						
BRTR	**Keskin Array B**	**147.40**	**308**	PKPbc	**PKPbc**	**02 37 12.4**	**-1.4**
	1.2nm,0.7s,baz=88,slow=3.5,SNR=4.5						
MMAI	**Mount Meron Ar**	**147.69**	**295**	PKPbc	**PKPbc**	**02 37 14.3**	**-0.3**
	baz=81,slow=4.7						

CRAAG ***21*** *02:19:19.2,36°.92N×2°.70E,Ml3.4*
ISCJB ***21*** *02:19:20.6±0.5,37°.02N±0°.03×2°.71E±0°.05,h14km,Error ellipse: s-maj=6.6km s-min=4.3km az=153.7*
CSEM ***21*** *02:19:20.8±0.2,36°.96N×2°.71E,h5km,mb3.8,Error ellipse: s-maj=7.6km s-min=4.8km az=55.0*
MDD ***21*** *02:19:21.6±0.6,36°.95N×2°.72E,h0km,mb3.8/4,Error ellipse: s-maj=10.2km s-min=4.5km az=51.0,PRXIMO*

ISC 21 02:19:21.1±0.8,**36°.93N**±0°.04×**2°.75E**±0°.03,**h14**km,**n32,** σ1°**14**/47,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.26**	**118**	P	**Pg**	**02 19 26.6**	**-0.2**
ABA	**Alger-Bouzarea**	**0.26**	**118**	P	**Pg**	**02 19 26.6**	**-0.2**
ABA	**Alger-Bouzarea**	**0.26**	**118**	P	**Pg**	**02 19 26.6**	**-0.2**
ABMS	**Boumerdes**	**0.61**	**107**	P	**Pg**	**02 19 33.6**	**+0.4**
ABMS	**Boumerdes**	**0.61**	**107**	P	**Pg**	**02 19 33.6**	**+0.4**
ABMS	**Boumerdes**	**0.61**	**107**	P	**Pg**	**02 19 33.6**	**+0.4**
EMHD	**Djebel Mahouad**	**0.74**	**167**	P	**Pg**	**02 19 35.3**	**-0.3**
EMHD	**Djebel Mahouad**	**0.74**	**167**	P	**Pg**	**02 19 35.3**	**-0.3**
EMHD	**Djebel Mahouad**	**0.74**	**167**	P	**Pg**	**02 19 35.3**	**-0.3**
ADJB	**Djebel Djouab**	**0.95**	**144**	P	**Pb**	**02 19 39.7**	**+0.3**
ADJB	**Djebel Djouab**	**0.95**	**144**	P	**Pb**	**02 19 39.7**	**+0.3**
ADJB	**Djebel Djouab**	**0.95**	**144**	P	**Pb**	**02 19 39.7**	**+0.3**
EBNR	**Beni Rached**	**1.17**	**237**	P	**Pn**	**02 19 43.0**	**-0.1**
EBNR	**Beni Rached**	**1.17**	**237**	P	**Pn**	**02 19 43.0**	**-0.1**
OKGL	**Djebel Kef Gue**	**1.91**	**243**	P	**Pg**	**02 19 58.2**	**+0.3**
	10.0nm,0.2s,SNR=7.9						
OKGL				S	**Sg**	**02 20 23.3**	**+0.6**
	39nm,0.2s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**1.91**	**243**	P	**Pg**	**02 19 58.2**	**+0.3**
	10.0nm,0.2s,SNR=7.9						
OKGL				S	**Sg**	**02 20 23.3**	**+0.6**
	39nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**2.37**	**333**	P	**Pn**	**02 20 00.2**	**+0.6**
	2.1nm,0.1s,SNR=12						
EIB

ASAR	**Alice Springs**	**24.35**	**221**	P	P	02 36 41.8	-0.2
	1.5nm,0.7s,baz=55,slow=9.3,SNR=13						
FITZ	**Fitzroy Crossi**	**27.70**	**241**	P	P	02 37 12.8	+0.5
	2.7nm,0.6s,baz=56,slow=6.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc	PKPbc	02 51 12.2	-0.7
	0.7nm,0.8s,baz=64,slow=2.5,SNR=6.9						

*IDC **21** 02:37:45.8±1.4,4°.14S×145°.64E, h0km, mb4.0/6, mb1 4.4/9, mb1mx4.0/36, mbtmp4.2/9, ML4.3/2, Error ellipse: s-maj=39.8km s-min=21.2km az=91.0*
*ISCJB **21** 02:37:49.0±1.0, 4°.22S±0°.09×145°.6E±0°.2, h33km, mb4.0/6, Error ellipse: s-maj=23.1km s-min=12.8km az=170.8*
*NEIC **21** 02:37:50.9±0.7, 4°.22S×145°.68E, h35km, mb4.5/2, Error ellipse: s-maj=17.5km s-min=9.3km az=80.0*

ISC 21 02:37:51.0±1.1, 4°.22S±0°.10×145°.6E±0°.2, h35km, n20, σ1§96/15, mb4.2/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.37**	**164**	Pn		**Pn**	**02 39 08.7**	**0.0**
	3.2nm,0.3s,baz=338,slow=11,SNR=3.7							
PMG				Sn		**Sn**	**02 40 04.9**	**-4.4**
	1.9nm,0.3s,baz=342,slow=20,SNR=3.5							
PMG	**Port Moresby**	**5.37**	**164**	*e*Pn		**Pn**	**02 39 08.6**	**0.0**
	63nm,0.9s							
PMG				*e*S		**Sn**	**02 40 14.2**	**+4.9**
CTA	**Charters Tower**	**15.78**	**178**	Pn		**Pn**	**02 41 29.9**	**-0.8**
	0.5nm,0.3s,baz=352,slow=12,SNR=19							
CTAO	**Charters Tower**	**15.78**	**178**	*e*Pn		**Pn**	**02 41 30.1**	**-0.6**
	128nm,1.0s							
WRAB	**Tennant Creek**	**19.09**	**214**	*e*P		**Pn**	**02 42 11.7**	**-0.1**
	27nm,0.9s							
WRA	**Warramunga Arr**	**19.11**	**214**	P		**Pn**	**02 42 11.5**	**-0.5**
	1.5nm,0.3s,baz=42,slow=10.0,SNR=183							
ASAR	**Alice Springs**	**22.40**	**209**	P		**P**	**02 42 46.4**	**-0.2**
	9.3nm,0.8s,baz=39,slow=9.3,SNR=75							
FITZ	**Fitzroy Crossi**	**23.93**	**233**	P		**P**	**02 43 02.7**	**+0.8**
	6.0nm,0.8s,baz=56,slow=9.2,SNR=9.7							
FITZ	**Fitzroy Crossi**	**23.93**	**233**	*e*P		**P**	**02 43 02.2**	**+0.3**
	16nm,1.1s							
STKA	**Stephens Creek**	**27.77**	**187**	P		**P**	**02 43 37.4**	**+0.8**
	9.1nm,1.1s,baz=29,slow=14,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**30.67**	**42**	T		T	03 14 59.0	
	baz=223,slow=76,SNR=6.0							
H11S2	**WAKE ISLAND Hy**	**30.68**	**42**	T		T	03 14 59.1	
	baz=223,slow=76,SNR=5.5							
H11S1	**WAKE ISLAND Hy**	**30.69**	**42**	T		T	03 15 02.0	
	baz=223,slow=76,SNR=6.0							
H11N1	**WAKE ISLAND Hy**	**31.68**	**41**	T		T	03 16 19.9	
	baz=220							
H11N3	**WAKE ISLAND Hy**	**31.69**	**41**	T		T	03 16 13.5	
	baz=220							
H11N2	**WAKE ISLAND Hy**	**31.69**	**41**	T		T	03 16 15.4	
	baz=220							
CMAR	**Chiang Mai Arr**	**51.21**	**298**	P		**P**	**02 46 51.0**	**-0.3**
	1.2nm,0.5s,baz=108,slow=6.2,SNR=5.1							
MKAR	**Makanchi Array**	**75.26**	**321**	P		**P**	**02 49 30.7**	**+0.3**
	0.5nm,0.8s,baz=122,slow=7.0,SNR=3.3							
ILAR	**Eielson Array**	**84.40**	**23**	P		**P**	**02 50 19.4**	**-0.1**
	0.3nm,0.7s,baz=243,slow=4.0,SNR=3.3							
TORD	**Torodi Ar. Bea**	**143.30**	**286**	PKhKP	PKPpre		02 57 16.9	
	0.5nm,0.7s,baz=88,slow=4.8,SNR=3.5							

*IDC **21** 02:44:33.0±0.7, 37°.46N×142°.05E, h0km, mb3.9/14, mb1 4.1/18, mb1mx4.0/37, mbtmp3.9/18, ML3.8/3, Error ellipse: s-maj=20.0km s-min=14.9km az=108.0*
*ISCJB **21** 02:44:33.1±1.6, 37°.49N±0°.04×142°.11E±0°.04, h11km±10km, mb3.9/14, Error ellipse: s-maj=6.5km s-min=5.3km az=165.3*
*JMA **21** 02:44:34.4±0.2, 37°.50N×142°.06E, h24km±4km, M4.0*

ISC 21 02:44:33.2±1.9, 37°.50N±0°.05×142°.07E±0°.06, h1km±11km, n40, σ1§11/43, mb3.9/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.96**	**262**	P		**Pg**	**02 44 51.8**	**+0.1**
JFK				*e*S		**Sg**	**02 45 04.3**	**+0.2**
JMM	**Marumori**	**1.08**	**290**	P		**Pg**	**02 44 53.7**	**-0.2**
JMM				*e*S		**Sg**	**02 45 07.3**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.09**	**249**	P		**Pg**	**02 44 53.8**	**-0.3**
JIO	**Ouri**	**1.11**	**329**	P		**Pg**	**02 44 54.2**	**-0.3**
JIO				S		**Sg**	**02 45 08.0**	**-0.8**
JFT	**Otama**	**1.38**	**271**	P		**Pn**	**02 44 59.0**	**-0.7**
JFT				*e*S		**Sb**	**02 45 16.5**	**-1.5**
JOU	**Okura**	**1.41**	**308**	P		**Pn**	**02 44 59.2**	**-0.8**
JOU				*e*S		**Sb**	**02 45 17.2**	**-1.6**
JMK	**Ichinoseki**	**1.59**	**335**	P		**Pn**	**02 45 01.8**	**-0.8**
JYS	**Shirataka**	**1.74**	**295**	P		**Pn**	**02 45 04.4**	**-0.2**
JYS				*e*S		**Sn**	**02 45 26.2**	**-1.3**
JFY	**Yanaizu**	**1.89**	**268**	P		**Pn**	**02 45 06.5**	**-0.1**
JFY				S		**Sn**	**02 45 29.7**	**-1.4**
JYK	**Kaneyama**	**1.95**	**317**	P		**Pn**	**02 45 06.9**	**-0.6**
JOM	**Ohasama**	**2.06**	**343**	P		**Pn**	**02 45 08.4**	**-0.6**
MJAR	**Matsushiro Arr**	**3.24**	**254**	Pn		**Pn**	**02 45 25.7**	**+0.5**
	3.7nm,0.3s,baz=80,slow=16,SNR=11							
MJAR				Sn		**Sn**	**02 46 06.9**	**+2.4**
	3.8nm,0.3s,baz=78,slow=30,SNR=6.2							
MAT	**Matsushiro**	**3.24**	**254**	P		**Pn**	**02 45 25.8**	**+0.6**
MAT				*e*S		**Sn**	**02 46 06.3**	**+1.9**
JHJ	**Hachijo jima 2**	**4.76**	**204**	Pn		**Pn**	**02 45 45.8**	**-0.3**
	16nm,0.3s,baz=3.8,slow=15,SNR=7.3							
JHJ				Sn		**Sn**	**02 46 39.2**	**-2.7**
	22nm,0.3s,baz=43,slow=18,SNR=4.0							
ASAJ	**Asahikawa**	**6.62**	**3**	Pn		**Pn**	**02 46 12.6**	**+1.0**
	2.3nm,0.3s,baz=151,slow=4.6,SNR=5.0							
USRK	**Ussuriysk Ar.**	**10.15**	**314**	Pn		**Pn**	**02 47 00.5**	**+0.5**
	baz=118,slow=15,SNR=1.8							
KSRS	**Korea Array**	**11.24**	**274**	Pn		Pn	02 47 21.1	+6.1
	0.3nm,0.3s,baz=258,slow=39,SNR=3.0							
KLR	**Kul'dur**	**13.90**	**331**	Pn		**Pn**	**02 47 55.0**	**+3.7**
	0.1nm,0.3s,baz=150,slow=12,SNR=2.6							
SEY	**Seymchan**	**26.23**	**11**	P		**P**	**02 50 10.1**	**+0.7**
	1.9nm,0.2s,baz=182,slow=20,SNR=3.3							
H11N2	**WAKE ISLAND Hy**	**27.95**	**122**	T		T	03 19 32.2	
	baz=315,slow=75,SNR=465							
H11N1	**WAKE ISLAND Hy**	**27.95**	**122**	T		T	03 19 33.1	
	baz=315,slow=75,SNR=184							
SONM	**Songino Array**	**27.96**	**303**	P		**P**	**02 50 25.7**	**+0.4**
	1.0nm,0.7s,baz=101,slow=9.1,SNR=5.1							
H11N3	**WAKE ISLAND Hy**	**27.96**	**122**	T		T	03 19 33.6	
	baz=315,slow=75,SNR=239							
H11S1	**WAKE ISLAND Hy**	**28.68**	**125**	T		T	03 20 32.4	
	baz=316,slow=76,SNR=262							
H11S3	**WAKE ISLAND Hy**	**28.68**	**125**	T		T	03 20 32.0	
	baz=316,slow=76,SNR=346							
H11S2	**WAKE ISLAND Hy**	**28.70**	**125**	T		T	03 20 28.9	
	baz=316,slow=76,SNR=264							
ZALV	**Zalesovo Beam**	**41.99**	**312**	P		**P**	**02 52 25.5**	**-0.2**
	0.8nm,0.4s,baz=93,slow=7.8,SNR=3.9							
MKAR	**Makanchi Array**	**44.31**	**302**	P		**P**	**02 52 44.3**	**-0.4**
	1.0nm,0.6s,baz=87,slow=9.8,SNR=10							
ILAR	**Eielson Array**	**48.82**	**33**	P		**P**	**02 53 20.0**	**+0.3**
	0.6nm,0.7s,baz=267,slow=6.5,SNR=9.5							
WRA	**Warramunga Arr**	**57.60**	**189**	P		**P**	**02 54 23.8**	**-1.0**
	0.9nm,0.5s,baz=6.9,slow=7.2,SNR=17							
ASAR	**Alice Springs**	**61.33**	**189**	P		**P**	**02 54 50.6**	**0.0**
	0.5nm,0.8s,baz=14,slow=6.5,SNR=6.1							
YKA	**Yellowknife Ar**	**63.14**	**30**	P		**P**	**02 55 02.2**	**0.0**
	0.5nm,0.7s,baz=304,slow=6.7,SNR=5.6							
FINES	**FINESS Array B**	**68.64**	**332**	P		**P**	**02 55 37.4**	**-0.3**
	2.1nm,0.7s,baz=67,slow=11,SNR=4.5							
NB2	**NORSAR Subarra**	**73.95**	**337**	P		**P**	**02 56 09.1**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**73.95**	**337**	P		**P**	**02 56 09.6**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=39,slow=5.9,SNR=3.9							
AKASG	**Malin Array Be**	**74.25**	**322**	P		**P**	**02 56 11.4**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=47,slow=7.1,SNR=4.4							
PDAR	**Pinedale Array**	**76.96**	**46**	P		**P**	**02 56 28.1**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=260,slow=2.6,SNR=5.6							
ULM	**Lac du Bonnet**	**78.82**	**34**	P		**P**	**02 56 37.3**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=216,slow=8.7,SNR=2.5							
TXAR	**Lajitas Array**	**89.42**	**53**	P		**P**	**02 57 32.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=305,slow=3.7,SNR=5.7							
LPAZ	**La Paz**	**146.00**	**60**	PKPbc		**PKPbc**	**03 04 16.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=333,slow=4.5,SNR=3.6							

*KRNET **21** 03:12:12.5±0.1, 39°.51N×74°.33E, mb2.8*
*NNC **21** 03:12:17.1±7.2, 39°.55N×74°.09E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=68.3km s-min=29.6km az=133.0*

ISC 21 03:12:17.7±1.7, 39°.58N±0°.08×74°.34E±0°.06, h28km, n15, σ1§99/28, 27C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**2.03**	**330**	⇑*e*P		**Pn**	**03 12 50.6**	**+0.5**
	baz=331							
ARSB				⇑*e*S		**Sb**	**03 13 18.4**	**-0.4**
	baz=331							
ARLS	**Aral**	**2.28**	**360**	⇑*e*P		**Pn**	**03 12 54.5**	**+0.9**
	baz=0.0							
ARLS				⇑*e*S		**Sb**	**03 13 24.6**	**-1.4**
	baz=0.0							
KZA	**Kyzart**	**2.59**	**15**	⇑*i*P		**Pn**	**03 12 59.1**	**+1.0**
	baz=15							
KZA				⇑*i*S		**Sb**	**03 13 33.0**	**-2.1**
	baz=15							
UCH	**Uchtor**	**2.65**	**3**	⇑*i*P		**Pn**	**03 13 00.3**	**+1.4**
	baz=3.0							
UCH				⇑*i*S		**Sb**	**03 13 34.5**	**-2.4**
	baz=3.0							
BTK	**Batken**	**2.76**	**281**	⇑*e*P		**Pn**	**03 13 00.8**	**+0.7**
	baz=283							
BTK				⇑*e*S		**Sn**	**03 13 34.9**	**+2.4**
	baz=283							
ARK	**Arkit**	**2.86**	**321**	⇑*e*P		**Pn**	**03 13 01.5**	**-0.1**
	baz=323							
ARK				⇑*e*S		**Sn**	**03 13 37.6**	**+2.5**
	baz=323							
ULHL	**Ulahol**	**3.02**	**28**	⇑*i*P		**Pn**	**03 13 04.2**	**+0.3**
	baz=27							
ULHL				⇑*i*S		**Sn**	**03 13 43.3**	**+4.0**
	baz=27							
AAK	**Ala-Archa**	**3.05**	**2**	⇑Pn		**Pb**	**03 13 07.9**	**-3.5**
	4.5nm,0.6s							
AAK				⇓Sn		**Sb**	**03 13 49.0**	**+0.7**
	8.5nm,0.8s							
KBK	**Karagaybulak**	**3.10**	**8**	⇑*i*P		**Pn**	**03 13 06.3**	**+1.3**
	baz=8.0							
KBK				⇑*i*S		**Sb**	**03 13 47.2**	**-2.6**
	baz=8.0							
BOOM	**Boomskoye usch**	**3.15**	**22**	⇑*e*P		**Pn**	**03 13 06.8**	**+1.3**
	baz=22							
BOOM				⇑*e*S		**Sn**	**03 13 44.6**	**+2.4**
	baz=22							
MNAS	**Manas**	**3.22**	**335**	⇑*e*P		**Pn**	**03 13 07.0**	**+0.5**
	baz=336							
MNAS				⇑*e*S		**Sn**	**03 13 47.7**	**+3.7**
	baz=336							
MNAS	**Manas**	**3.22**	**335**	⇑Pn		**Pn**	**03 13 06.7**	**+0.2**
	2.0nm,0.5s							
MNAS				⇓Lg		Lg	03 13 54.0	
	6.7nm,0.5s							
ANVS	**Anan'yevo**	**4.06**	**37**	⇑*e*P		**Pn**	**03 13 18.4**	**+0.2**
	baz=37							
ANVS				⇑*e*S		**Sn**	**03 14 07.6**	**+2.7**
	baz=37							
DZET	**Dzherino**	**4.36**	**261**	⇑Pg		**Pb**	**03 13 31.8**	**-1.7**
	3.8nm,0.5s							
DZET				⇑Lg		Lg	03 14 34.0	
	9.9nm,0.7s							
KK31	**Karatay Array**	**4.55**	**322**	⇓Pn		**Pn**	**03 13 23.9**	**-0.8**
	0.2nm,0.3s,baz=140,slow=13,SNR=6.7							
KK31				⇓Pg		**Pb**	**03 13 36.0**	**-0.8**
	0.5nm,0.5s,baz=137,slow=16,SNR=3.6							
KK31				⇑Lg		Lg	03 14 37.3	
	1.1nm,0.4s,baz=134,slow=27,SNR=2.5							

*BEO **21** 03:20:36.5±1.0, 44°.12N×16°.18E, h0km, M2.6/4*
*CSEM **21** 03:20:40.6±0.1, 44°.04N×16°.73E, h2km, ML2.4, Error ellipse: s-maj=5.7km s-min=2.6km az=38.0*

ISC 21 03:20:41.9±1.2, 44°.18N±0°.04×16°.74E±0°.03, h18km±4km, n28, σ1§14/50, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.66**	**29**	*e*Pg		**Pn**	**03 20 55.0**	**-1.3**
BLY				*e*Sg		**Sn**	**03 21 06.6**	**+0.5**
BLY	**Banja Luka**	**0.66**	**29**	*e*Pg		**Pn**	**03 20 55.0**	**-1.3**
BLY				*e*Sg		**Sn**	**03 21 05.5**	**-0.6**
UDBI	**Udbina**	**0.78**	**297**	*i* Pg		**Pb**	**03 20 56.7**	**-0.3**
UDBI				Sg		**Sn**	**03 21 08.8**	**-0.5**
UDBI	**Udbina**	**0.78**	**297**	*i* Pg		**Pb**	**03 20 56.7**	**-0.3**
UDBI				Sg		**Sn**	**03 21 08.8**	**-0.5**
NVLJ	**Novalja**	**1.39**	**287**	*e*Pn		**Pn**	**03 21 06.6**	**+0.2**
NVLJ				Sg		**Sg**	**03 21 29.2**	**+2.2**
NVLJ	**Novalja**	**1.39**	**287**	*e*Pn		**Pn**	**03 21 06.6**	**+0.2**
NVLJ				Sg		**Sg**	**03 21 29.2**	**+2.2**
BOJS	**Bojanci**	**1.70**	**322**	*e*Pn		**Pg**	**03 21 13.9**	**-0.7**
BOJS				*i* Sn		**Sg**	**03 21 38.7**	**+2.1**
BOJS	**Bojanci**	**1.70**	**322**	*e*Pn		**Pg**	**03 21 13.9**	**-0.7**
BOJS				*i* Sn		**Sg**	**03 21 38.7**	**+2.1**
BRY	**Bratogost**	**1.83**	**134**	*e*Pn		**Pn**	**03 21 12.3**	**-0.2**
BRY				*e*Sn		**Sn**	**03 21 34.9**	**-0.4**
UPM	**Unac-Piva**	**1.85**	**121**	*e*Pn		**Pn**	**03 21 12.1**	**-0.8**
TREB	**Trebinje**	**1.87**	**141**	*e*Pn		**Pn**	**03 21 12.5**	**-0.5**
TREB				*e*Sn		**Sb**	**03 21 39.5**	**+0.9**
TREB	**Trebinje**	**1.87**	**141**	⇑*i*Pn		**Pn**	**03 21 12.1**	**-0.9**
TREB				*e*Sn		**Sn**	**03 21 35.7**	**-0.5**
CRES	**Cresnjev**	**1.88**	**332**	*e*Pn		**Pb**	**03 21 15.2**	**-0.5**
CRES	**Cresnjev**	**1.88**	**332**	*e*Pn		**Pb**	**03 21 15.2**	**-0.5**
CRES				*e*Sn		**Sg**	**03 21 41.2**	**-1.4**
BBLS	**Lazići**	**1.95**	**98**	*e*Pn		**Pb**	**03 21 16.5**	**-0.4**
BBLS				*e*Sn		**Sg**	**03 21 45.2**	**+0.5**
BBLS	**Lazići**	**1.95**	**98**	⇓*i*Pn		**Pn**	**03 21 14.5**	**+0.4**
BBLS				*e*Sn		**Sn**	**03 21 38.9**	**+0.7**
TEKS	**Tekeris**	**2.04**	**79**	*e*Pn		**Pb**	**03 21 17.7**	**-0.7**
TEKS				*e*Sn		**Sg**	**03 21 48.8**	**+1.3**
TEKS	**Tekeris**	**2.04**	**79**	*e*Pn		**Pb**	**03 21 17.7**	**-0.7**
HCY	**Herceg Novi**	**2.15**	**143**	*e*Pn		**Pn**	**03 21 16.0**	**-0.9**
HCY				*e*Sn		**Sn**	**03 21 42.3**	**-0.8**
CEY	**Cerknica**	**2.27**	**314**	*e*Pn		**Pb**	**03 21 20.3**	**-2.0**
CEY				*e*Sn		**Sb**	**03 21 50.0**	**+0.1**
DIVS	**Divibare**	**2.34**	**91**	*e*Pn		**Pb**	**03 21 22.3**	**-1.3**
DIVS				*e*Sn		**Sg**	**03 21 56.2**	**-1.1**
DIVS	**Divibare**	**2.34**	**91**	*e*Pn		**Pn**	**03 21 20.1**	**+0.5**
DIVS				*e*Sn		**Sn**	**03 21 49.2**	**+1.3**
PDG	**Podgorica**	**2.54**	**133**	*e*Pn		**Pn**	**03 21 21.6**	**-0.5**
PDG				*e*Sn		**Sn**	**03 21 52.0**	**-0.5**
IVAS	**Ivanjica**	**2.54**	**102**	*e*Pn		**Pn**	**03 21 23.9**	**+1.6**
IVAS				*e*Sn		**Sb**	**03 22 00.3**	**+2.4**
IVAS	**Ivanjica**	**2.54**	**102**	*e*Pn		**Pn**	**03 21 23.9**	**+1.6**
TRUS	**Trudelj**	**2.64**	**88**	*e*Pn		**Pn**	**03 21 24.9**	**+1.4**
TRUS	**Trudelj**	**2.64**	**88**	*e*Pn		**Pn**	**03 21 24.9**	**+1.4**
DRME	**Dracevica, Mon**	**2.68**	**137**	*e*Pn		**Pn**	**03 21 23.8**	**-0.3**
DRME				*e*Sn		**Sn**	**03 21 55.1**	**-0.9**

*ISCJB **21** 03:26:19.7±0.7, 39°.14N±0°.04×29°.12E±0°.03, h0km±8km, Error ellipse: s-maj=7.3km s-min=4.1km az=166.0*
*DDA **21** 03:26:19.1, 39°.12N×29°.10E, h7km, Md2.9*
*CSEM **21** 03:26:19.8±0.1, 39°.14N×29°.12E, h2km, MD2.5, Error ellipse: s-maj=1.5km s-min=1.3km az=15.0*
*ISK **21** 03:26:19.9, 39°.14N×29°.18E, h8km, MD2.5*

ISC 21 03:26:19.8±1.0, 39°.13N±0°.03×29°.12E±0°.02, h6km±9km, n29, σ0§41/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.24**	**109**	*e*PG		**Pg**	**03 26 24.6**	**0.0**
GEDZ				*e*SG		**Sg**	**03 26 28.0**	**+0.2**
GEDZ	**Gediz**	**0.24**	**109**	*e*Pg		**Pg**	**03 26 24.6**	**0.0**
GEDZ				*e*Sg		**Sg**	**03 26 28.0**	**+0.2**
GDZ	**Gediz**	**0.29**	**97**	P		**Pg**	**03 26 25.5**	**+0.1**
GDZ				S		**Sg**	**03 26 29.6**	**+0.4**
GDZ	**Gediz**	**0.29**	**97**	*i* P		**Pg**	**03 26 25.5**	**+0.1**
GDZ				*i* S		**Sg**	**03 26 29.6**	**+0.4**
DEMI	**Demirci**	**0.32**	**255**	P		**Pg**	**03 26 26.1**	**0.0**
DEMI				S		**Sg**	**03 26 30.5**	**+0.1**
DEMI	**Demirci**	**0.32**	**255**	*i* P		**Pg**	**03 26 26.1**	**0.0**
DEMI				*i* S		**Sg**	**03 26 30.4**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**39**	*e*PG		**Pg**	**03 26 27.8**	**-0.2**
TVSB				*e*SG		**Sg**	**03 26 33.4**	**-0.1**
TVSB	**Tavsanli**	**0.42**	**39**	*e*Pg		**Pg**	**03 26 27.8**	**-0.2**
TVSB				*e*Sg		**Sg**	**03 26 33.4**	**-0.1**
KHL	**Karahalli**	**0.86**	**158**	*e*PG		**Pb**	**03 26 37.1**	**-0.1**
KHL	**Karahalli**	**0.86**	**158**	*e*Pg		**Pb**	**03 26 37.1**	**-0.1**
BALB	**Balikesir**	**1.09**	**299**	*e*PN		**Pn**	**03 26 42.2**	**+0.6**
BALB	**Balikesir**	**1.09**	**299**	*e*Pn		**Pn**	**03 26 42.2**	**+0.6**
IGD	**Bursa**	**1.14**	**3**	*i* P		**Pg**	**03 26 41.0**	**-0.6**
IGD				*i* S		**Sb**	**03 26 57.0**	**0.0**
IZI	**Iznik**	**1.24**	**13**	*e*PN		**Pn**	**03 26 44.3**	**+0.5**
IZI				*e*SN		**Sn**	**03 27 00.9**	**0.0**
IZI	**Iznik**	**1.24**	**13**	*e*Pn		**Pn**	**03 26 44.3**	**+0.5**
IZI				*e*Sn		**Sn**	**03 27 00.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*PN		**Pg**	**03 26 44.1**	**+0.2**
MDNY				*e*SN		**Sn**	**03 27 01.7**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*Pn		**Pg**	**03 26 44.1**	**+0.2**
MDNY				*e*Sn		**Sn**	**03 27 01.7**	**+0.6**
BORA	**Eskisehir**	**1.28**	**53**	P		**Pn**	**03 26 43.8**	**-0.6**
BORA				S		**Sg**	**03 27 00.9**	**-0.1**
BORA	**Eskisehir**	**1.28**	**53**	*i* P		**Pn**	**03 26 43.8**	**-0.6**
BORA				*i* S		**Sg**	**03 27 00.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*PN		**Pg**	**03 26 44.5**	**+0.2**
KCTX				*e*SN		**Sn**	**03 27 02.8**	**+1.0**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn		**Pg**	**03 26 44.6**	**+0.2**
KCTX				*e*Sn		**Sn**	**03 27 02.8**	**+1.0**
BALY	**Balya**	**1.31**	**298**	P		**Pn**	**03 26 43.9**	**-0.8**
BALY				S		**Sn**	**03 27 02.3**	**-0.3**
BALY	**Balya**	**1.31**	**298**	*i* P		**Pn**	**03 26 43.9**	**-0.8**
BALY				*i* S		**Sn**	**03 27 02.3**	**-0.3**
GONE	**Gonen-Balikesi**	**1.44**	**310**	*e*PN		**Pg**	**03 26 47.0**	**-0.4**
GONE	**Gonen-Balikesi**	**1.44**	**310**	*e*Pn		**Pg**	**03 26 47.0**	**-0.4**
ARMT	**Armutlu**	**1.45**	**352**	*e*PN		**Pb**	**03 26 47.0**	**-0.3**
ARMT				*e*SN		**Sg**	**03 27 06.8**	**+0.3**
ARMT	**Armutlu**	**1.45**	**352**	*e*Pn		**Pb**	**03 26 47.0**	**-0.3**
ARMT				*e*Sn		**Sg**	**03 27 06.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**220**	*e*PN		**Pb**	**03 26 48.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**220**	*e*Pn		**Pb**	**03 26 48.3**	**-0.2**

MAN 21 03:38:13, 7°.83N×121°.46E, h32km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**1.10**	**92**	*e*P		Pn	03 38 31.6	-0.6
IPIL				*e*S		Sn	03 38 44.3	-2.1
PAGZ	**Pagadian**	**1.90**	**89**	*e*P		Pn	03 38 44.4	+1.1
PAGZ				*e*S		Sn	03 39 07.0	+0.8
DCPH	**Dipolog City**	**2.02**	**68**	⇑*e*P		Pb	03 38 48.2	-0.9
CUYO	**Cuyo Island**	**3.04**	**352**	*e*P		Pn	03 39 01.0	+2.1
CUYO				*e*S		Sn	03 39 35.4	+1.2
ENPP	**El Nido**	**3.91**	**329**	*e*P		Pn	03 39 12.1	+1.2

*NNC **21** 03:42:26.6±3.7, 54°.36N×86°.76E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=32.5km s-min=25.1km az=163.0*
*IDC **21** 03:42:27.2±2.5, 54°.50N×86°.51E, h0km, mb1 3.0/3, mb1mx2.9/42, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=20.9km s-min=13.4km az=61.0*

ISC 21 03:42:25.9±4.3, 54°.7N±0°.2×87°.0E±0°.2, h35km, n8, σ1§36/12, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**241**	*i*			03 50 10.0	
	baz=58,slow=318,SNR=1.9							
ZALV	**Zalesovo Beam**	**1.46**	**241**	Pg		**Pn**	**03 42 47.5**	**-2.3**
	4.3nm,0.3s,baz=57,slow=16,SNR=9.9							
ZALV				Lg		Lg	03 43 03.9	
	3.8nm,0.3s,baz=56,slow=27,SNR=9.1							
KURK	**Kurchatov**	**6.44**	**236**	⇑Pn		**Pn**	**03 43 58.5**	**+0.3**
KURK				⇓Sn		**Sn**	**03 45 11.9**	**+1.5**
KURK				⇑Lg		Lg	03 45 43.2	
KURBB	**Kurchatov Arra**	**6.55**	**235**	Pn		**Pn

Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**0.40**	**101**	Pg	Pg	04 12 51.1	+0.1
	23nm,0.3s,baz=276,slow=19,SNR=2753						
WRA				Lg	Lg	04 12 56.2	
	108nm,0.3s,baz=281,slow=34,SNR=142						
ASAR	**Alice Springs**	**3.78**	**180**	Pn	Pn	04 13 45.1	+2.1
	4.2nm,0.3s,baz=15,slow=8.1,SNR=102						
ASAR				Sn	Sn	04 14 30.6	+2.4
	11nm,0.3s,baz=2.0,slow=28,SNR=15						
ASAR				Lg	Lg	04 14 44.2	
	18nm,0.3s,baz=359,slow=30,SNR=13						
FITZ	**Fitzroy Crossi**	**8.04**	**281**	Pn	Pn	04 14 41.4	-0.1
	1.4nm,0.3s,baz=104,slow=8.2,SNR=18						
FITZ				Sn	Sn	04 16 05.1	-8.1
	3.7nm,0.3s,baz=340,slow=11,SNR=10						
FITZ				Lg	Lg	04 16 57.5	
	3.0nm,0.3s,baz=13,slow=14,SNR=3.8						
CTA	**Charters Tower**	**11.59**	**93**	Lg	Lg	04 18 49.8	
	0.7nm,0.3s,baz=16,slow=19,SNR=4.6						
MKAR	**Makanchi Array**	**81.03**	**327**	P	P	04 24 59.5	-0.6
	0.3nm,0.5s,baz=138,slow=6.7,SNR=4.1						

NEIC ***21*** *04:29:38.4±0.3,5.91S×151.40E,h10km,mb4.5/4, Error ellipse: s-maj=13.1km s-min=7.5km az=121.0*

ISCJB ***21*** *04:29:41.3±0.5,5.96S±0.09×151.28E±0.10,h41km, mb4.3/16,MS3.9/1, Error ellipse: s-maj=16.8km s-min=7.8km az=39.5*

IDC ***21*** *04:29:43.4±2.7,5.98S×151.31E,h46km±24km,mb4.0/12, mb1 4.2/13,mb1mx3.9/38,mbtmp4.3/13,ML2.6/1,MS3.4/3, Ms1 3.4/3,ms1mx3.0/43,Error ellipse: s-maj=22.2km s-min=13.5km az=124.0*

ISC 21 04:29:42.9±0.6,5.96S±0.10×151.3E±0.1,h41km,n27, σ0.76/28,mb4.3/16,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.37**	**230**	P	**Pn**	**04 31 02.5**	**+1.9**
	12nm,0.3s,baz=70,slow=6.2,SNR=18						
PMG				S	**Sn**	**04 32 00.1**	**-1.1**
	8.4nm,0.3s,baz=120,slow=22,SNR=8.9						
PMG				LR	LR	04 32 27.6	
	comp=Z,103nm,18.3s,baz=37,slow=31						
PMG	**Port Moresby**	**5.37**	**230**	*e*Pn	**Pn**	**04 31 01.4**	**+0.8**
	136nm,1.0s						
PMG				*e*S	**Sn**	**04 32 00.7**	**-0.5**
HNR	**Honiara**	**9.20**	**113**	LR	LR	04 35 11.9	
	comp=Z,236nm,19.8s,baz=326,slow=36						
CTA	**Charters Tower**	**14.88**	**199**	P	**P**	**04 33 15.5**	**-0.3**
	0.5nm,0.3s,baz=15,slow=12,SNR=6.4						
WRAB	**Tennant Creek**	**21.57**	**228**	*e*P	**P**	**04 34 29.1**	**-0.1**
	13nm,0.6s						
WRA	**Warramunga Arr**	**21.59**	**228**	P	**P**	**04 34 29.3**	**-0.1**
	12nm,0.6s,baz=54,slow=11,SNR=187						
WRA				S	**S**	**04 38 26.0**	**-0.6**
	3.7nm,1.1s,baz=55,slow=18,SNR=4.6						
DZM	**Mont Dzumac**	**21.67**	**139**	P	**P**	**04 34 30.1**	**-0.2**
	4.1nm,0.6s,baz=196,slow=16,SNR=5.7						
ASAR	**Alice Springs**	**24.32**	**222**	P	**P**	**04 34 57.5**	**+0.7**
	10nm,0.6s,baz=58,slow=9.2,SNR=126						
STKA	**Stephens Creek**	**27.34**	**198**	P	**P**	**04 35 23.3**	**-0.9**
	4.2nm,0.8s,baz=5.8,slow=24,SNR=2.8						
FITZ	**Fitzroy Crossi**	**27.83**	**242**	P	**P**	**04 35 28.9**	**+0.3**
	12nm,0.6s,baz=60,slow=7.6,SNR=50						
FITZ	**Fitzroy Crossi**	**27.83**	**242**	*e*P	**P**	**04 35 28.5**	**-0.2**
	11nm,0.6s						
MBWA	**Marble Bar**	**34.13**	**241**	*e*P	**P**	**04 36 24.6**	**+0.5**
KLR	**Kul'dur**	**57.56**	**345**	P	**P**	**04 39 27.8**	**-0.5**
	1.3nm,0.8s,baz=231,slow=3.8,SNR=4.0						
SONM	**Songino Array**	**66.54**	**329**	P	**P**	**04 40 29.5**	**+0.7**
	0.2nm,0.3s,baz=116,slow=6.6,SNR=2.7						
VNDA	**Vanda**	**71.73**	**178**	P	**P**	**04 41 00.7**	**+0.4**
	1.2nm,0.9s,baz=346,slow=7.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**81.31**	**327**	P	**P**	**04 41 53.8**	**-1.1**
	0.5nm,0.3s,baz=166,slow=2.2,SNR=2.4						
PMR	**Palmer**	**81.34**	**25**	*e*P	**P**	**04 41 55.4**	**+0.6**
MCK	**McKinley**	**82.49**	**23**	*e*P	**P**	**04 42 01.1**	**+0.2**
	3.1nm,0.8s						
COLA	**College**	**83.47**	**22**	*e*P	**P**	**04 42 04.7**	**-1.2**
ILAR	**Eielson Array**	**83.78**	**22**	P	**P**	**04 42 06.5**	**-1.1**
	2.2nm,0.6s,baz=247,slow=5.0,SNR=36						
MAW	**Mawson**	**83.94**	**203**	P	**P**	**04 42 07.6**	**-0.7**
	1.3nm,0.7s,baz=90,slow=7.1,SNR=6.8						
QSPA	**South Pole Qui**	**84.00**	**180**	*e*P	**P**	**04 42 09.3**	**+0.4**
	22nm,1.0s						
EGAK	**Eagle**	**86.00**	**23**	*e*P	**P**	**04 42 19.4**	**+0.8**
	3.6nm,1.1s						
BBB	**Bella Bella**	**88.90**	**37**	LR	LR	05 17 11.0	
	comp=Z,47nm,19.2s,baz=223,slow=32						
YKA	**Yellowknife Ar**	**97.13**	**28**	P	**P**	**04 43 11.1**	**+0.6**
	0.3nm,0.6s,baz=266,slow=4.8,SNR=4.4						
GERES	**GERESS Array B**	**124.26**	**327**	PKP	**PKPdf**	**04 48 37.6**	**+0.1**
	1.0nm,0.6s,baz=48,slow=2.0,SNR=7.3						
TORD	**Torodi Ar. Bea**	**149.25**	**286**	PKPbc	**PKPbc**	**04 49 28.1**	**-0.1**
	3.1nm,0.8s,baz=74,slow=2.8,SNR=16						

MEX 21 04:31:25.1±0.5,32.32N×115.20W,h14km±67km,MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.09**	**3**	*e*P	Pg	04 31 27.0	-1.2
MBIG				*e*S	Sg	04 31 29.6	-0.6
CBX	**Cerro Bola**	**1.24**	**270**	*e*P	Pn	04 31 44.4	-3.6
CBX				*e*S	Sb	04 31 59.0	-5.1
TJIG	**Tijuana**	**1.25**	**276**	*e*P	Pn	04 31 44.2	-3.9
TJIG				*e*S	Sb	04 31 58.9	-5.5
SPIG	**San Pedro Mart**	**1.29**	**190**	*e*P	Pn	04 31 45.3	-3.7
SPIG				*e*S	Sb	04 32 01.2	-4.7

NIED ***21*** *04:39:00,38.70N×142.00E,h47km,Mw4.1 Best double couple: M0 1.62000×10^15 NP1:φs160.00000°,δ32.00000°, λ40.00000°. NP2:φs35.00000°,δ70.00000°,λ116.00000°.*

ISCJB ***21*** *04:39:50.4±0.8,38.71N±0.05×141.99E±0.08,h56km±5km, mb4.2/24,Error ellipse: s-maj=11.9km s-min=5.8km az=28.3*

JMA ***21*** *04:39:50.9±0.1,38.67N×142.02E,h45km±1km,M4.1*

JMA Felt III J1.

IDC ***21*** *04:39:51.2±0.7,38.62N×142.00E,h50km±6km,mb3.8/18, mb1 4.0/22,mb1mx3.8/50,mbtmp4.0/22,MS3.2/3, Ms1 3.2/3,ms1mx2.8/48,Error ellipse: s-maj=16.1km s-min=12.3km az=97.0*

NEIC ***21*** *04:39:51.9±0.7,38.72N×142.00E,h54km±6km,mb4.3/3, Error ellipse: s-maj=9.8km s-min=5.5km az=124.0*

NEIC Recorded [3 JMA] in Iwate and Miyagi.

ISC 21 04:39:51.0±0.8,38.65N±0.05×142.02E±0.07,h50km±6km, n49,σ1.918/55,mb4.1/24,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.51**	**327**	P	**Pn**	**04 40 01.8**	**-0.6**
OFUJ				*i* S	**Sn**	**04 40 09.5**	**-1.1**
JIO	**Ouri**	**0.56**	**250**	P	**Pn**	**04 40 02.6**	**-0.4**
JIO				S	**Sn**	**04 40 10.6**	**-1.1**
JMK	**Ichinoseki**	**0.69**	**296**	P	**Pn**	**04 40 04.4**	**-0.3**
JMK				S	**Sn**	**04 40 13.8**	**-0.8**
JOM	**Ohasama**	**1.00**	**326**	P	**Pn**	**04 40 08.5**	**-0.3**
JOM				S	**Sn**	**04 40 19.8**	**-2.0**
JOU	**Okura**	**1.10**	**255**	P	**Pn**	**04 40 10.2**	**0.0**
JOU				S	**Sn**	**04 40 24.6**	**+0.3**
JMM	**Marumori**	**1.25**	**231**	P	**Pn**	**04 40 11.7**	**-0.4**
JRG	**Rokugo**	**1.31**	**305**	P	**Pn**	**04 40 12.9**	**-0.1**
JYK	**Kaneyama**	**1.33**	**282**	P	**Pn**	**04 40 13.2**	**0.0**
ERM	**Erimo**	**3.47**	**14**	*e*Pn	**Pn**	**04 40 41.8**	**-0.7**
ERM				*e*S	**Sn**	**04 41 25.5**	**+3.1**
MJAR	**Matsushiro Arr**	**3.69**	**236**	P	**Pn**	**04 40 47.0**	**+1.5**
	7.6nm,0.3s,baz=36,slow=13,SNR=57						
MJAR				LR	LR	04 42 31.4	
	comp=Z,154nm,19.6s,baz=55,slow=44						
MAJO	**Matsushiro**	**3.69**	**236**	*e*Pn	**Pn**	**04 40 47.5**	**+1.9**
MAT	**Matsushiro**	**3.69**	**236**	P	**Pn**	**04 40 47.4**	**+1.8**
MAT				S	**Sn**	**04 41 30.0**	**+2.2**
ASAJ	**Asahikawa**	**5.48**	**4**	P	**Pn**	**04 41 08.9**	**-1.1**
	baz=220,slow=10.0						
ASAJ	**Asahikawa**	**5.48**	**4**	*e*Pn	**Pn**	**04 41 09.7**	**-0.3**
	7.8nm,0.6s						
ASAJ				*e*S	Sn	04 42 21.2	+10
USRK	**Ussuriysk Ar.**	**9.35**	**310**	P	**Pn**	**04 42 03.7**	**+0.6**
	1.0nm,0.3s,baz=121,slow=14,SNR=35						
KSRS	**Korea Array**	**11.18**	**268**	P	**Pn**	**04 42 29.9**	**+1.7**
	0.7nm,0.3s,baz=82,slow=14,SNR=17						
KSRS				LR	LR	04 46 26.9	
	comp=Z,117nm,21.3s,baz=330,slow=35						
KSAR	**Wonju Array Be**	**11.22**	**268**	P	**Pn**	**04 42 29.9**	**+1.3**
KLR	**Kul'dur**	**12.89**	**328**	P	**Pn**	**04 42 50.6**	**-0.9**
	0.2nm,0.3s,baz=129,slow=13,SNR=3.5						
KLR				LR	LR	04 47 55.3	
	comp=Z,236nm,19.3s,baz=314,slow=38						
MA2	**Magadan**	**21.68**	**12**	P	**P**	**04 44 37.6**	**+0.4**
	5.7nm,0.6s,baz=246,slow=9.0,SNR=4.0						
SEY	**Seymchan**	**25.11**	**11**	P	**P**	**04 45 12.0**	**+1.2**
	7.7nm,0.8s,baz=208,slow=6.0,SNR=20						
SEY				pP	**pP**	**04 45 25.8**	**+2.2**
	4.0nm,0.8s,baz=22,slow=3.9,SNR=4.6						
SONM	**Songino Array**	**27.32**	**301**	P	**P**	**04 45 31.4**	**+0.2**
	0.7nm,0.7s,baz=101,slow=9.3,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**28.61**	**124**	T	T	05 16 06.1	
	baz=317,slow=75,SNR=2993						
H11N1	**WAKE ISLAND Hy**	**28.62**	**124**	T	T	05 16 05.7	
	baz=317,slow=75,SNR=3874						
H11N3	**WAKE ISLAND Hy**	**28.63**	**124**	T	T	05 16 02.4	
	baz=317,slow=75,SNR=3035						
H11S1	**WAKE ISLAND Hy**	**29.38**	**126**	T	T	05 17 09.2	
	baz=318,slow=76,SNR=1079						
H11S3	**WAKE ISLAND Hy**	**29.38**	**126**	T	T	05 17 14.1	
	baz=318,slow=76,SNR=956						
H11S2	**WAKE ISLAND Hy**	**29.39**	**126**	T	T	05 17 15.2	
	baz=318,slow=76,SNR=737						
TIXI	**Tiksi**	**33.75**	**353**	P	**P**	**04 46 26.8**	**-0.6**
	0.6nm,0.3s,baz=162,slow=9.6,SNR=2.4						
ZALV	**Zalesovo Beam**	**41.20**	**311**	P	**P**	**04 47 29.9**	**-0.6**
	2.4nm,0.4s,baz=86,slow=7.2,SNR=8.7						
ZALV				pP	**pP**	**04 47 44.5**	**+0.6**
	1.3nm,0.5s,baz=76,slow=10,SNR=2.7						
ZALV				PcP	**PcP**	**04 49 28.5**	**-0.2**
	0.9nm,0.4s,baz=127,slow=2.2,SNR=2.6						
MKAR	**Makanchi Array**	**43.69**	**301**	P	**P**	**04 47 51.2**	**+0.3**
	2.0nm,0.5s,baz=87,slow=11,SNR=20						
KURK	**Kurchatov**	**45.33**	**307**	*e*P	**P**	**04 48 03.7**	**-0.2**
	72nm,0.8s						
KURBB	**Kurchatov Arra**	**45.40**	**307**	P	**P**	**04 48 04.5**	**0.0**
	8.4nm,0.5s,baz=82,slow=8.2,SNR=86						
ILAR	**Eielson Array**	**47.88**	**33**	P	**P**	**04 48 23.9**	**+0.2**
	1.1nm,0.7s,baz=272,slow=6.5,SNR=17						
TKM2	**Tokmak 2**	**49.30**	**297**	*e*P	**P**	**04 48 36.0**	**+0.8**
	2.2nm,0.6s						
KKAR	**Karatay Array**	**52.74**	**299**	*e*P	**P**	**04 49 00.1**	**-0.7**
	0.5nm,0.3s						
ABKAR	**Akbulak array**	**57.28**	**310**	*e*P	**P**	**04 49 33.1**	**-0.2**
	1.5nm,0.5s						
CTAO	**Charters Tower**	**58.56**	**175**	*e*P	**P**	**04 49 38.3**	**-4.2**
	26nm,0.6s						
WRA	**Warramunga Arr**	**58.73**	**188**	P	**P**	**04 49 44.1**	**+0.4**
	0.6nm,0.7s,baz=7.0,slow=7.0,SNR=12						
WRA				pP	**pP**	**04 49 56.1**	**-1.5**
	1.9nm,0.4s,baz=6.1,slow=7.1,SNR=10						
YKA	**Yellowknife Ar**	**62.17**	**31**	P	**P**	**04 50 07.3**	**+0.5**
	0.3nm,0.8s,baz=309,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**62.45**	**188**	P	**P**	**04 50 08.6**	**-0.5**
	0.3nm,0.4s,baz=10,slow=5.7,SNR=3.5						
ASAR				pP	**pP**	**04 50 23.1**	**0.0**
	0.7nm,0.5s,baz=1.8,slow=4.1,SNR=4.5						
FINES	**FINESS Array B**	**67.61**	**332**	P	**P**	**04 50 42.1**	**0.0**
	2.6nm,0.6s,baz=33,slow=9.1,SNR=7.5						
NB2	**NORSAR Subarra**	**72.88**	**337**	P	**P**	**04 51 14.3**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.88**	**337**	P	**P**	**04 51 14.3**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=38,slow=5.9,SNR=6.5						
AKASG	**Malin Array Be**	**73.31**	**322**	P	**P**	**04 51 16.8**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=44,slow=6.3,SNR=7.2						
PDAR	**Pinedale Array**	**76.19**	**46**	P	**P**	**04 51 35.0**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=283,slow=4.2,SNR=4.0						
BRTR	**Keskin Array B**	**78.14**	**312**	P	**P**	**04 51 45.5**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=101,slow=3.3,SNR=7.4						
CLL	**Collm**	**79.94**	**330**	*i* P	**P**	**04 51 54.8**	**+0.3**
	comp=Z,4.0nm,0.6s						
GERES	**GERESS Array B**	**81.59**	**328**	P	**P**	**04 52 03.7**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=28,slow=6.0,SNR=4.6						
TXAR	**Lajitas Array**	**88.76**	**53**	P	**P**	**04 52 40.4**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=300,slow=1.9,SNR=4.9						

IDC ***21*** *04:42:11.9±1.4,39.23N×20.65E,h0km,mb3.6/7, mb1 3.6/8,mb1mx3.5/37,mbtmp3.5/8,ML2.9/1,Error ellipse: s-maj=31.0km s-min=24.9km az=130.0*

ISCJB ***21*** *04:42:11.7±0.5,39.08N±0.02×20.47E±0.03,h7km±4km, mb3.5/7,Error ellipse: s-maj=4.1km s-min=2.3km az=154.7*

ATH ***21*** *04:42:12.5,39.07N×20.62E,h7km±1km,ML3.0/18,Error ellipse: s-maj=1.9km s-min=0.7km az=228.0*

CSEM ***21*** *04:42:12.2±0.2,39.07N×20.52E,h2km,ML3.3,Error ellipse: s-maj=4.5km s-min=2.3km az=62.0*

THE ***21*** *04:42:12.7,39.08N×20.58E,h0km±2km,ML3.3/16,Error ellipse: s-maj=2.3km s-min=0.6km az=263.0*

BEO ***21*** *04:42:18.7±0.8,39.50N×20.33E,h0km,M3.1/8*

ISC 21 04:42:11.9±1.0,39.07N±0.01×20.56E±0.02,h7km±8km, n145,σ1.920/216,mb3.5/7,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.29**	**164**	P	**Pb**	**04 42 19.2**	**-0.2**
LKD2				S	**Sb**	**04 42 23.9**	**-0.6**
LKD2	**Lefkada island**	**0.29**	**164**	P	**Pb**	**04 42 19.2**	**-0.2**
DSL	**Palaion Diasel**	**0.43**	**81**	P	**Pg**	**04 42 19.1**	**-1.1**
DSL				S	**Sg**	**04 42 26.4**	**+0.6**
DSL	**Palaion Diasel**	**0.43**	**81**	P	**Pg**	**04 42 19.1**	**-1.1**
DSL				S	**Sg**	**04 42 26.4**	**+0.6**
DSL	**Palaion Diasel**	**0.43**	**81**	P	**Pg**	**04 42 18.4**	**-1.9**
DSL				S	**Sg**	**04 42 24.9**	**-1.0**
DSL				AML	AML	04 42 29.2	
	comp=E,7345μm,0.4s						
DSL				AML	AML	04 42 32.8	
	comp=N,6034μm,0.3s						
SGD	**Sagiada**	**0.60**	**336**	P	**Pb**	**04 42 24.4**	**-0.3**
SGD	**Sagiada**	**0.60**	**336**	P	**Pb**	**04 42 24.4**	**-0.3**
SGD				S	**Sg**	**04 42 31.8**	**+0.4**
SGD	**Sagiada**	**0.60**	**336**	P	**Pb**	**04 42 24.5**	**-0.3**
SGD				S	**Sg**	**04 42 31.8**	**+0.4**
JAN	**Janina**	**0.63**	**21**	P	**Pg**	**04 42 23.7**	**-0.5**
JAN				S	**Sg**	**04 42 32.6**	**+0.2**
JAN	**Janina**	**0.63**	**21**	P	**Pg**	**04 42 23.7**	**-0.5**
JAN				S	**Sg**	**04 42 32.6**	**+0.2**
JAN	**Janina**	**0.63**	**21**	AML	AML	04 42 38.1	
	comp=E,4172μm,0.3s						
PDO	**Prodromos**	**0.68**	**133**	P	**Pg**	**04 42 25.2**	**+0.2**
PDO	**Prodromos**	**0.68**	**133**	P	**Pg**	**04 42 25.5**	**+0.5**
PDO				S	**Sg**	**04 42 34.2**	**+0.4**
PDO	**Prodromos**	**0.68**	**133**	P	**Pg**	**04 42 25.5**	**+0.5**
PDO				S	**Sg**	**04 42 34.2**	**+0.4**
PDO				AML	AML	04 42 45.4	
	comp=N,2625μm,0.4s						
PDO				AML	AML	04 42 50.5	
	comp=E,3270μm,0.6s						
KEK	**Kerkira**	**0.87**	**318**	P	**Pg**	**04 42 29.2**	**+0.5**
KEK	**Kerkira**	**0.87**	**318**	P	**Pg**	**04 42 29.2**	**+0.5**
PVO	**Paravola**	**0.88**	**120**	P	**Pg**	**04 42 28.7**	**-0.2**
PVO				S	**Sb**	**04 42 41.9**	**+0.4**
PVO	**Paravola**	**0.88**	**120**	P	**Pb**	**04 42 29.2**	**-0.3**
PVO				S	**Sg**	**04 42 40.4**	**+0.1**
PVO	**Paravola**	**0.88**	**120**	P	**Pb**	**04 42 29.2**	**-0.3**
PVO				S	**Sg**	**04 42 40.4**	**+0.1**
PVO				AML	AML	04 42 47.1	
	comp=E,2636μm,0.4s						
PVO				AML	AML	04 42 48.6	
	comp=N,1845μm,0.4s						
VLS	**Valsamata**	**0.89**	**178**	P	**Pb**	**04 42 30.1**	**+0.4**
VLS	**Valsamata**	**0.89**	**178**	P	**Pb**	**04 42 30.1**	**+0.4**
VLS				S	**Sn**	**04 42 43.3**	**-0.7**
KFL	**Anninata**	**0.97**	**169**	P	**Pg**	**04 42 30.8**	**+0.2**
KFL				S	**Sn**	**04 42 46.9**	**+0.9**
KFL	**Anninata**	**0.97**	**169**	P	**Pg**	**04 42 30.8**	**+0.2**
KFL				S	**Sg**	**04 42 42.8**	**-0.4**
KFL	**Anninata**	**0.97**	**169**	P	**Pg**	**04 42 30.8**	**+0.2**
KFL				S	**Sg**	**04 42 42.8**	**-0.4**
EVR	**Evrytania**	**0.99**	**98**	P	**Pg**	**04 42 30.1**	**-0.8**
EVR				S	**Sn**	**04 42 46.0**	**-0.6**
EVR	**Evrytania**	**0.99**	**98**	P	**Pg**	**04 42 30.3**	**-0.6**
EVR				S	**Sn**	**04 42 46.0**	**-0.6**
EVR	**Evrytania**	**0.99**	**98**	P	**Pg**	**04 42 30.3**	**-0.6**
EVR				S	**Sg**	**04 42 42.6**	**-1.2**
EVR				AML	AML	04 42 51.0	
	comp=N,1528μm,0.8s						
AXS	**Araxos**	**1.08**	**143**	P	**Pg**	**04 42 32.2**	**-0.5**
AXS	**Araxos**	**1.08**	**143**	P	**Pg**	**04 42 32.2**	**-0.5**
AXS				S	**Sg**	**04 42 46.1**	**-0.6**
AXS	**Araxos**	**1.08**	**143**	P	**Pg**	**04 42 31.8**	**-0.9**
AXS				S	**Sg**	**04 42 46.1**	**-0.6**
KPRO	**Kipourio**	**1.09**	**35**	P	**Pg**	**04 42 32.5**	**-0.3**
KPRO				S	**Sn**	**04 42 48.9**	**-0.1**
KPRO	**Kipourio**	**1.09**	**35**	P	**Pg**	**04 42 32.5**	**-0.3**
KPRO				S	**Sn**	**04 42 48.9**	**-0.1**
ANX	**Ano Chora**	**1.17**	**113**	P	**Pg**	**04 42 33.5**	**-0.8**
ANX				S	**Sn**	**04 42 50.9**	**-0.1**
ANX	**Ano Chora**	**1.17**	**113**	P	**Pg**	**04 42 33.5**	**-0.8**
ANX				S	**Sn**	**04 42 50.9**	**-0.1**
PENT	**Pentalofos**	**1.22**	**22**	P	**Pg**	**04 42 34.6**	**-0.7**
PENT				S	**Sn**	**04 42 54.0**	**+1.8**
PENT	**Pentalofos**	**1.22**	**22**	P	**Pn**	**04 42 36.7**	**+1.2**
PENT				S	**Sn**	**04 42 53.7**	**+1.5**
PENT	**Pentalofos**	**1.22**	**22**	P	**Pn**	**04 42 36.7**	**+1.2**
PENT				S	**Sn**	**04 42 53.7**	**+1.5**
PENT				AML	AML	04 42 59.4	
	comp=N,1491μm,0.6s						
PENT				AML	AML	04 42 59.5	
	comp=E,1606μm,0.4s						
EFP	**Efpalio**	**1.23**	**121**	P	**Pb**	**04 42 35.0**	**-0.5**
EFP				S	**Sn**	**04 42 54.8**	**+2.3**
EFP	**Efpalio**	**1.23**	**121**	P	**Pb**	**04 42 35.1**	**-0.5**
EFP				S	**Sn**	**04 42 51.9**	**-0.6**
EFP	**Efpalio**	**1.23**	**121**	P	**Pb**	**04 42 35.1**	**-0.4**
EFP				S	**Sn**	**04 42 51.9**	**-0.6**
EFP				AML	AML	04 42 60.0	
	comp=E,1708μm,0.9s						
EFP				AML	AML	04 43 01.0	
	comp=N,1913μm,0.5s						
THL	**Klokotos Trika**	**1.24**	**66**	P	**Pb**	**04 42 34.9**	**-0.7**
THL				S	**Sn**	**04 42 54.2**	**+1.7**
THL	**Klokotos Trika**	**1.24**	**66**	P	**Pb**	**04 42 34.9**	**-0.7**
THL				S	**Sn**	**04 42 54.2**	**+1.7**
TRIZ	**Trizonia**	**1.38**	**120**	P	**Pn**	**04 42 37.6**	**+0.1**
TRIZ				S	**Sn**	**04 42 55.1**	**-0.1**
ZKS	**Zakynthos**	**1.38**	**172**	P	**Pb**	**04 42 38.0**	**0.0**
ZKS	**Zakynthos**	**1.38**	**172**	P	**Pb**	**04 42 38.0**	**0.0**
ZKS				S	**Sb**	**04 42 55.9**	**0.0**
ZKS	**Zakynthos**	**1.38**	**172**	P	**Pn**	**04 42 37.2**	**-0.4**
ZKS				S	**Sb**	**04 42 55.9**	**0.0**
ZKS				AML	AML	04 43 16.7	
	comp=N,1792μm,0.6s						
ZKS				AML	AML	04 43 17.9	
	comp=E,2136μm,0.7s						
AGG	**Agios Georgios**	**1.38**	**91**	P	**Pn**	**04 42 37.0**	**-0.6**
AGG				S	**Sg**	**04 42 57.7**	**+1.3**
AGG	**Agios Georgios**	**1.38**	**91**	P	**Pn**	**04 42 37.1**	**-0.6**
AGG				S	**Sg**	**04 42 57.4**	**+1.0**
AGG	**Agios Georgios**	**1.38**	**91**	P	**Pn**	**04 42 37.1**	**-0.6**
AGG				S	**Sg**	**04 42 57.4**	**+1.0**
AGG				AML	AML	04 43 06.6	
	comp=E,2949μm,0.5s						
AGG				AML	AML	04 43 07.6	
	comp=N,4908μm,0.8s						
LAKA	**Lakka**	**1.39**	**126**	P	**Pb**	**04 42 37.9**	**-0.3**
LAKA	**Lakka**	**1.39**	**126**	P	**Pb**	**04 42 37.9**	**-0.3**
LAKA				S	**Sb**	**04 42 55.9**	**-0.2**
LAKA	**Lakka**	**1.39**	**126**	P	**Pn**	**04 42 37.3**	**-0.4**
LAKA				S	**Sb**	**04 42 55.9**	**-0.2**
NEST	**Nestorio**	**1.40**	**16**	P	**Pn**	**04 42 38.1**	**+0.1**
NEST				S	**Sg**	**04 42 59.6**	**+2.6**
NEST	**Nestorio**	**1.40**	**16**	P	**Pn**	**04 42 38.1**	**+0.1**
NEST				S	**Sg**	**04 42 59.6**	**+2.6**
KALE	**Kalithea**	**1.41**	**118**	P	**Pb**	**04 42 38.5**	**-0.1**
KALE	**Kalithea**	**1.41**	**118**	P	**Pg**	**04 42 39.1**	**+0.1**
KALE				S	**Sn**	**04 42 56.9**	**0.0**
KALE	**Kalithea**	**1.41**	**118**	P	**Pg**	**04 42 39.1**	**+0.1**
KALE				S	**Sn**	**04 42 56.9**	**0.0**
KALE				AML	AML	04 43 04.8	
	comp=E,678μm,1.0s						
KALE				AML	AML	04 43 08.3	
	comp=N,1140μm,0.5s						
DRO	**Drossia**	**1.44**	**140**	P	**Pn**	**04 42 38.2**	**-0.2**
DRO				S	**Sg**	**04 42 59.4**	**+1.3**
DRO	**Drossia**	**1.44**	**140**	P	**Pb**	**04 42 39.1**	**+0.1**
DRO				S	**Sn**	**04 42 57.3**	**-0.2**
DRO	**Drossia**	**1.44**	**140**	P	**Pb**	**04 42 39.1**	**+0.1**
DRO				S	**Sn**	**04 42 57.3**	**-0.2**
DRO				AML	AML	04 43 13.3	
	comp=N,972μm,0.5s						
DRO				AML	AML	04 43 16.8	
	comp=E,1216μm,0.6s						
KZN	**Kozani**	**

GRG	Griva	2.36	36	P	Pb	04 42 53.1	-1.7
DID	Didima	2.62	126	P	Pb	04 42 57.3	-2.0
DID	Didima	2.62	126	P	Pb	04 42 57.3	-2.0
VAY	Valandovo	2.73	34	*e*Pn	Pb	04 43 01.9	+0.8
VAY	Valandovo	2.73	34	*e*Pn	Pb	04 43 01.9	+0.8
KNT	Kendrikon	2.76	40	P	Pn	04 42 58.3	+1.7
KNT	Kendrikon	2.76	40	P	Pn	04 42 58.3	+1.7
SOH	Sokhos	2.77	50	P	Pn	04 42 58.9	+2.1
SOH	Sokhos	2.77	50	P	Pn	04 42 58.9	+2.1
VLI	Veliai	3.01	140	P	Pb	04 43 03.2	-2.6
VLI	Veliai	3.01	140	P	Pb	04 43 03.2	-2.6
DRME	Dracevica, Mon	3.29	342	*e*Pn	Pn	04 43 04.2	+0.4
PDG	Podgorica	3.50	344	*e*Pn	Pn	04 43 07.8	+1.0
PDG				*e*Sn	Sn	04 43 44.7	-3.7
PDG	Podgorica	3.50	344	*e*Pn	Pn	04 43 06.7	-0.1
HCY	Herceg Novi	3.72	336	*e*Pn	Pn	04 43 09.7	-0.1
BARS	Barje	3.87	14	*e*Pn	Pn	04 43 13.6	+1.8
BARS				*e*Sn	Sn	04 43 56.0	-1.5
BARS	Barje	3.87	14	*e*Pn	Pn	04 43 13.6	+1.8
BARS				*e*Sn	Sn	04 43 56.0	-1.5
TREB	Trebinje	4.01	336	*e*Pn	Pn	04 43 13.8	0.0
TREB				*e*Sn	Sn	04 43 57.3	-3.7
TREB	Trebinje	4.01	336	*e*Pn	Pn	04 43 13.7	0.0
BRY	Bratogost	4.12	339	*e*Pn	Pn	04 43 14.9	-0.6
SELS	Selova	4.17	6	*e*Pn	Pn	04 43 16.9	+0.9
SELS				*e*Sn	Sn	04 44 01.9	-3.1
ZAPS	Zavoj	4.49	20	*e*Pn	Pn	04 43 23.2	+2.9
ZAPS				*e*Sn	Sn	04 44 11.3	-1.5
IVAS	Ivanjica	4.52	356	*e*Pn	Pn	04 43 21.6	+0.8
IVAS	Ivanjica	4.52	356	*e*Pn	Pn	04 43 21.6	+0.8
BOVS	Bovan	4.65	10	*e*Pn	Pn	04 43 23.5	+1.0
BOVS	Bovan	4.65	10	*e*Pn	Pn	04 43 23.5	+1.0
GRUS	Gruza	4.82	1	*e*Pn	Pn	04 43 26.3	+1.4
GRUS				*e*Sn	Sn	04 44 16.6	-4.3
GRUS	Gruza	4.82	1	*e*Pn	Pn	04 43 26.3	+1.4
BBLS	Lazići	4.87	350	*e*Pn	Pn	04 43 27.0	+1.3
BBLS	Lazići	4.87	350	*e*Pn	Pn	04 43 26.6	+0.9
DIVS	Divibare	5.05	355	*e*Pn	Pn	04 43 29.6	+1.5
DIVS				*e*Sn	Sn	04 44 22.0	-4.6
DIVS	Divibare	5.05	355	*e*Pn	Pn	04 43 29.0	+0.9
TRUS	Trudelj	5.15	359	*e*Pn	Pn	04 43 31.7	+2.2
TRUS	Trudelj	5.15	359	*e*Pn	Pn	04 43 31.7	+2.2
KUBS	Kucevo	5.41	9	*e*Pn	Pn	04 43 34.5	+1.5
KUBS	Kucevo	5.41	9	*e*Pn	Pn	04 43 34.5	+1.5
TEKS	Tekeris	5.53	352	*e*Pn	Pn	04 43 35.1	+0.4
TEKS	Tekeris	5.53	352	*e*Pn	Pn	04 43 34.6	-0.1
BLY	Banja Luka	6.21	337	*e*Pn	Pn	04 43 41.9	-2.1
UDBI	Udbina	6.53	328	*i* Pn	Pn	04 43 50.0	+1.6
UDBI				Sn	Sn	04 45 01.0	-2.0
UDBI	Udbina	6.53	328	*i* Pn	Pn	04 43 49.9	+1.6
NVLJ	Novalja	6.94	324	Sn	Sn	04 45 08.8	-4.4
CRES	Cresnjev	7.73	333	*e*Pn	Pn	04 44 04.5	-0.4
CEY	Cerknica	8.06	328	*e*Pn	Pn	04 44 08.8	-0.6
BRTR	Keskin Array B	10.15	82	Pn	Pn	04 44 40.8	+2.6
	comp=N,0.1nm,0.3s,baz=270,slow=12,SNR=3.7						
FINES	FINESS Array B	22.66	7	P	P	04 47 13.7	+0.2
	comp=N,0.8nm,0.5s,baz=188,slow=12,SNR=4.5						
NOA	NORSAR Array B	22.75	348	P	P	04 47 14.4	-0.1
	comp=N,1.2nm,0.9s,baz=171,slow=11,SNR=3.3						
ARCES	ARCESS Array B	30.65	3	P	P	04 48 25.0	-1.5
	comp=N,1.1nm,0.6s,baz=167,slow=14,SNR=3.3						
TORD	Torodi Ar. Bea	30.74	218	P	P	04 48 30.5	+2.7
	comp=N,0.3nm,0.7s,baz=31,slow=7.5,SNR=4.6						
KURBB	Kurchatov Arra	41.69	54	P	P	04 50 01.1	+0.1
	comp=N,0.3nm,0.3s,baz=281,slow=9.0,SNR=4.4						
MKAR	Makanchi Array	44.82	59	P	P	04 50 25.9	-0.6
	comp=N,0.3nm,0.4s,baz=283,slow=8.0,SNR=4.4						
ZALV	Zalesovo Beam	45.08	49	P	P	04 50 28.2	-0.1
	comp=N,1.7nm,0.5s,baz=274,slow=9.9,SNR=5.5						

ROM 21 04:43:46.9±0.2, 43.36N×11.13E, h5km, Md1.7/3, Ml0.9/2, Error ellipse: s-maj=1.6km s-min=0.7km az=29.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FROS	Frosini	0.15	173	Pg	Pg	04 43 50.4	+0.5
FROS				Sg	Sg	04 43 52.9	+1.0
TRIF	Trifonti	0.29	214	Pg	Pb	04 43 53.8	-0.9
TRIF				Sg	Sb	04 43 58.6	-1.3
	23nm,0.2s						
SASS	Sassa	0.34	253	Pg	Pb	04 43 54.6	-0.8
SASS				Sg	Sb	04 43 59.9	-1.2
	38nm,1.8s						

IDC 21 04:43:52.9±9.3, 17.24S×179.03W, h637km±123km, mb3.5/8, mb1 3.7/9, mb1mx3.3/31, mbtmp4.4/9, Error ellipse: s-maj=46.0km s-min=23.7km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.50	248	P	P	04 46 54.5	-0.6
	0.6nm,0.3s,baz=225,slow=10.0,SNR=4.3						
PMG	Port Moresby	33.77	279	P	P	04 49 46.4	+1.8
	24nm,0.8s,baz=109,slow=3.3,SNR=4.6						
STKA	Stephens Creek	38.44	240	P	P	04 50 21.6	-1.0
	6.8nm,0.7s,baz=97,slow=7.8,SNR=7.4						
WRA	Warramunga Arr	44.17	259	P	P	04 51 07.6	-0.2
	4.2nm,0.5s,baz=94,slow=7.2,SNR=89						
ASAR	Alice Springs	44.40	254	P	P	04 51 09.4	-0.1
	25nm,0.6s,baz=87,slow=8.5,SNR=250						
VNDA	Vanda	61.06	185	P	P	04 53 07.0	+0.7
	2.5nm,0.5s,baz=47,slow=7.1,SNR=20						
ILAR	Eielson Array	85.38	13	P	P	04 55 24.4	+0.3
	0.3nm,0.4s,baz=232,slow=4.0,SNR=5.0						
TXAR	Lajitas Array	86.14	58	P	P	04 55 28.5	-0.2
	1.2nm,0.8s,baz=211,slow=8.5,SNR=12						
PDAR	Pinedale Array	87.28	44	P	P	04 55 33.4	-0.5
	0.6nm,0.6s,baz=233,slow=0.7,SNR=5.5						

IDC 21 04:50:58.5±3.1, 23.84N×91.29E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/37, mbtmp3.5/3, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/44, Error ellipse: s-maj=153.9km s-min=27.4km az=58.0

ISCJB 21 04:51:00.3±1.2, 23.1N±0.1×90.3E±0.1, h35km, mb3.6/2, MS3.5/1, Error ellipse: s-maj=21.9km s-min=9.9km az=36.6

ISC 21 04:51:01.0±1.2, 23.1N±0.1×90.34E±0.0, h35km, n13, σ1s74/15, 1D, Bangladesh

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	Shillong	2.86	29	⇓*i* Pn	Pn	04 51 46.0	+1.7
SHL				*e*Sn	Sn	04 52 05.0	-13
SHL				*e*Sg		04 52 23.5	
RAMN	Ramite	5.15	320	*e*Pn	Pn	04 52 37.6	+1.8
RAMN				*e*Sn	Sn	04 53 14.5	+0.4
	272nm,0.5s						
GUN	Gumba	6.29	321	*e*Pn	Pn	04 52 32.6	+1.0
GUN				*e*Sn	Sn	04 53 41.6	-0.8
	265nm,0.8s						
PKIN	Phulchoki	6.34	316	*e*Pn	Pn	04 52 33.7	+1.4
DMN	Daman	6.55	315	*e*Pn	Pn	04 52 37.4	+2.3
KKN	Kakani	6.56	317	*e*Pn	Pn	04 52 36.2	+0.9
GKN	Gorkha	7.12	315	*e*Pn	Pn	04 52 44.5	+1.6
GKN				*e*Sn	Sn	04 54 00.2	-2.5
	61nm,0.5s						
KOLN	Koldanda	7.69	309	*e*Pn	Pn	04 52 52.0	+1.3
PYUN	Piuthan	8.32	309	*e*Pn	Pn	04 53 00.5	+1.2
CMAR	Chiang Mai Arr	9.26	118	Pn	Pn	04 53 10.7	-1.4
	0.2nm,0.3s,baz=305,slow=13,SNR=6.2						
MKAR	Makanchi Array	24.55	347	P	P	04 56 15.2	-2.2
	0.9nm,0.7s,baz=161,slow=8.3,SNR=9.2						
AKASG	Malin Array Be	54.30	317	LR	LR	05 24 40.6	
	comp=Z,42nm,19.5s,baz=230,slow=37						
WRA	Warramunga Arr	60.58	131	P	P	05 01 09.7	+1.3
	0.5nm,0.7s,baz=326,slow=7.1,SNR=3.8						

IDC 21 04:59:51.1±0.8, 35.14N×81.31E, h0km, mb3.8/11, mb1 4.0/17, mb1mx3.8/59, mbtmp3.8/17, ML3.2/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/41, Error ellipse: s-maj=21.2km s-min=15.8km az=51.0

ISCJB 21 04:59:52.8±0.4, 35.38N±0.04×81.41E±0.08, h15km, mb3.8/11, MS3.3/1, Error ellipse: s-maj=9.4km s-min=4.6km az=158.5

BJI 21 04:59:54.7, 35.46N×81.39E, h6km, mb3.8/3, mB4.0/1, ML4.0/7, Ms3.4/2, Ms7 3.4/1

ISC 21 04:59:54.1±0.6, 35.31N±0.07×81.36E±0.08, h15km, n33, σ1s97/34, mb3.8/11, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	Thein Dam	5.50	240	*e*P	Pn	05 01 18.2	+2.8
KSH	Kashi	6.00	316	Pn	Pn	05 01 25.8	+3.4
KSH				Sn	Sn	05 02 32.4	+1.5
KSH				SMN			
	130nm,0.7s						
KSH				SME			
	220nm,1.0s						
PYUN	Piuthan	7.32	169	*e*P	Pn	05 01 40.6	-0.1
	14nm,0.5s						
KOLN	Koldanda	7.76	165	*e*P	Pn	05 01 46.4	-0.3
	12nm,0.5s						
GKN	Gorkha	7.80	158	*e*P	Pn	05 01 49.8	+2.5
	26nm,0.7s						
KKN	Kakani	8.21	155	*e*P	Pn	05 01 56.2	+3.3
DMN	Daman	8.32	156	*e*P	Pn	05 01 57.5	+3.0
GUN	Gumba	8.32	151	*e*P	Pn	05 01 57.4	+2.8
	20nm,0.4s						
PKIN	Phulchoki	8.45	155	*e*P	Pn	05 01 58.7	+2.5
	15nm,0.4s						
AAK	Ala-Archa	9.05	326	Pn	Pn	05 02 06.8	+2.4
	baz=119,slow=17,SNR=5.8						
AAK				Pg		05 02 37.6	
	0.8nm,0.3s,baz=168,slow=18,SNR=4.7						
AAK				Lg	Lg	05 04 36.6	
	0.7nm,0.3s,baz=360,slow=19,SNR=5.0						
RAMN	Ramite	9.47	150	*e*P	Pn	05 02 11.3	+1.1
	29nm,0.5s						
WMQ	Urumqi	9.80	28	P	Pn	05 02 16.5	+1.9
WMQ				LR	LR		
	comp=N,130nm,13.0s						
WMQ				LR	LR		
	comp=E,160nm,13.8s						
WMQ				LR	LR		
	comp=Z,150nm,8.2s						
WMQ	Urumqi	9.80	28	P	Pn	05 02 13.1	-1.5
WMQ				pP		05 02 18.1	
WMQ				sP		05 02 20.1	
WMQ				PMZ			
	comp=Z,6.0nm,0.6s						
WMQ				LN			
	comp=Z,130nm,11.8s						
WMQ				LE			
	comp=Z,170nm,14.2s						
WMQ				LZ			
	comp=Z,190nm,10.0s						
MKAR	Makanchi Array	11.49	3	Pn	Pn	05 02 37.6	-0.1
	comp=Z,0.3nm,0.3s,baz=185,slow=13,SNR=14						
MKAR				Sn	Sn	05 04 44.6	-1.1
	comp=Z,0.3nm,0.3s,baz=186,slow=23,SNR=3.4						
KURBB	Kurchatov Arra	15.44	353	Pn	Pn	05 03 28.1	-3.1
	comp=Z,0.0nm,0.3s,baz=172,slow=11,SNR=7.8						
KURBB				Lg	Lg	05 08 15.9	
	comp=Z,0.0nm,0.3s,baz=174,slow=28,SNR=4.5						
ZALV	Zalesovo Beam	18.79	6	P	P	05 04 13.0	+0.2
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=5.7						
GEYT	Alibeck	18.83	285	P	P	05 04 11.1	-2.2
	comp=Z,2.4nm,0.3s,baz=91,slow=13,SNR=6.2						
BVAR	Borovoye Array	19.34	340	P	P	05 04 19.7	+0.9
	comp=Z,0.3nm,0.3s,baz=139,slow=12,SNR=11						
SONM	Songino Array	22.41	48	P	P	05 04 53.8	+1.6
	comp=Z,1.2nm,0.8s,baz=235,slow=13,SNR=8.5						
AKTO	Aktyubinsk	22.69	319	P	P	05 04 56.1	+1.1
	comp=Z,2.1nm,0.7s,baz=127,slow=8.3,SNR=7.3						
CMAR	Chiang Mai Arr	22.91	133	P	P	05 04 56.6	-1.0
	comp=Z,1.4nm,0.3s,baz=316,slow=11,SNR=3.2						
HHC	Hu-ho-hao-te	24.34	68	*e*P	P	05 05 12.8	+1.3
BRTR	Keskin Array B	37.75	291	LR	LR	05 24 19.2	
	comp=Z,45nm,20.0s,baz=94,slow=39						
FINES	FINESS Array B	43.24	325	P	P	05 07 54.1	-0.3
	comp=Z,3.2nm,0.8s,baz=98,slow=9.8,SNR=5.9						
CRVS	Cervenica-Dubn	45.33	307	*e*P	P	05 08 08.0	-3.4
NB2	NORSAR Subarra	50.37	324	P	P	05 08 50.0	-0.3
	comp=Z,1.0nm,0.6s,baz=88,slow=7.4						
NOA	NORSAR Array B	50.37	324	P	P	05 08 51.1	+0.8
	comp=Z,1.6nm,0.7s,baz=88,slow=7.4,SNR=5.8						
GERES	GERESS Array B	50.40	308	P	P	05 08 51.8	+1.0
	comp=Z,0.8nm,0.7s,baz=68,slow=7.4,SNR=7.0						
ILAR	Eielson Array	73.35	19	P	P	05 11 26.0	+1.1
	comp=Z,0.3nm,0.7s,baz=319,slow=3.7,SNR=3.7						
TORD	Torodi Ar. Bea	74.15	275	P	P	05 11 29.9	-0.4
	comp=Z,1.7nm,0.8s,baz=50,slow=5.3,SNR=18						
WRA	Warramunga Arr	74.45	129	P	P	05 11 30.2	-1.7
	comp=Z,0.6nm,1.0s,baz=326,slow=5.5,SNR=3.0						
YKA	Yellowknife Ar	81.69	7	P	P	05 12 11.1	-0.4
	comp=Z,0.2nm,0.6s,baz=340,slow=5.1,SNR=3.6						
BOSA	Boshof	82.71	227	P	P	05 12 15.2	-2.1
	comp=Z,3.5nm,0.8s,baz=59,slow=4.7,SNR=4.1						

ISCJB 21 05:02:52.1±0.6, 13.57N±0.04×120.64E±0.06, h108km±5km, mb3.7/3, Error ellipse: s-maj=10.3km s-min=5.3km az=16.6

IDC 21 05:02:52.1±2.9, 13.75N×121.41E, h96km±34km, mb3.4/3, mb1 3.6/3, mb1mx3.0/51, mbtmp3.7/3, Error ellipse: s-maj=184.2km s-min=20.9km az=71.0

MAN 21 05:02:53, 13.56N×120.62E, h76km, mb4.5, ML3.3, MS3.2

ISC 21 05:02:52.8±1.0, 13.58N±0.04×120.63E±0.07, h99km±7km, n17, σ1s03/27, mb3.7/3, 3C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	Puerto Galera	0.32	105	⇓*e*P	Pn	05 03 07.2	-0.3
PGP				*i* S	Sn	05 03 17.6	-0.7
TGY	Tagaytay City	0.59	30	P	Pn	05 03 09.5	+0.2
	2µm,0.3s,baz=221,slow=1.7,SNR=41						
TGY				S	Sn	05 03 21.8	+0.1
	1µm,0.3s,baz=286,slow=19,SNR=12						
TGY	Tagaytay City	0.59	30	⇓*e*P	Pn	05 03 09.2	-0.1
TGY				*e*S	Sn	05 03 22.4	+0.8
LQP	Lukban	1.02	59	⇑*e*P	Pn	05 03 13.6	0.0
BOAC	Boac	1.18	96	*e*P	Pn	05 03 15.5	+0.4
BOAC				*e*S	Sn	05 03 32.4	+0.3
SJMP	San Jose	1.21	157	*e*P	Pn	05 03 16.8	+1.2
SJMP				*e*S	Sn	05 03 34.2	+1.5
BUSP	Coron	1.63	195	*e*P	Pn	05 03 21.4	+0.7
BUSP				*e*S	Sn	05 03 42.5	+0.8
POLP	Polilio Island	1.70	48	*e*P	Pn	05 03 23.0	+1.5
GQP	Guinayangan	1.79	79	⇑*e*P	Pn	05 03 16.8	-5.8
GQP				*e*S	Sn	05 03 45.1	-0.3
OTRP	Odiongan	1.82	132	*e*P	Pn	05 03 23.3	+0.3
OTRP				*e*S	Sn	05 03 46.7	+0.7
PCPH	Palayan	2.02	13	⇑*i*P	Pn	05 03 24.7	-0.9
BALP	Baler	2.33	23	*e*P	Pn	05 03 31.4	+1.8
BALP				*e*S	Sn	05 03 60.0	+2.1
ENPP	El Nido	2.64	207	*e*P	Pn	05 03 34.8	+1.0
ENPP				*e*S	Sn	05 04 04.9	-0.3
CUYO	Cuyo Island	2.74	172	*e*P	Pn	05 03 35.4	+0.2
CUYO				*e*S	Sn	05 04 08.7	+1.0
WRA	Warramunga Arr	35.94	158	P	P	05 09 42.0	-1.9
	0.5nm,0.3s,baz=341,slow=8.6,SNR=24						
SONM	Songino Array	36.15	344	P	P	05 09 45.7	+0.1
	0.3nm,0.4s,baz=148,slow=8.5,SNR=3.3						
ASAR	Alice Springs	39.23	161	P	P	05 10 10.8	-0.9
	0.5nm,0.4s,baz=336,slow=6.9,SNR=8.3						

IDC 21 05:09:20.3±2.8, 54.10N×86.67E, h0km, mb1 3.1/2, mb1mx3.0/46, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=23.0km s-min=13.6km az=59.0

NNC 21 05:09:29.3±6.5, 53.91N×85.87E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=52.1km s-min=41.9km az=178.0

ISC 21 05:09:24.6±4.3, 54.1N±0.2×86.2E±0.2, h10km, n7, σ2s08/9, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.84	257	*i*		05 15 50.0	
	baz=82,slow=322,SNR=1.2						
ZALV	Zalesovo Beam	0.84	257	Pg	Pb	05 09 40.6	-0.6
	1.1nm,0.3s,baz=83,slow=17,SNR=9.2						
ZALV				Lg	Lg	05 09 57.2	
	2.5nm,0.3s,baz=80,slow=25,SNR=6.3						
KURK	Kurchatov	5.77	237	⇑Pn	Pn	05 10 53.9	+3.8
KURK				⇑Sn	Sn	05 11 58.8	+2.5
KURK				⇓Lg	Lg	05 12 28.4	
KURBB	Kurchatov Arra	5.87	236	Pn	Pn	05 10 51.2	-0.3
	0.2nm,0.3s,baz=55,slow=14,SNR=7.6						
KURBB				Lg	Lg	05 12 33.2	
	0.1nm,0.3s,baz=59,slow=34,SNR=6.1						
KURBB	Kurchatov Arra	5.87	236	⇑Pn	Pn	05 10 53.6	+2.0
	2.3nm,0.6s						
KURBB				⇑Sn	Sn	05 11 55.8	-3.0
	1.5nm,0.5s						
KURBB				⇓Lg	Lg	05 12 27.8	
	1.9nm,0.3s						
MK31	Makanchi Array	7.76	200	Pn	Pn	05 11 17.9	+0.3
	0.8nm,0.7s,baz=25,slow=13,SNR=11						
MK31				⇓Sn	Sn	05 12 47.5	+1.9
	1.0nm,0.8s						
MK31				⇓Lg	Lg	05 13 29.2	
	5.4nm,1.1s,baz=20,slow=33,SNR=3.7						
MKAR	Makanchi Array	7.76	200	Pn	Pn	05 11 17.2	-0.4
	0.3nm,0.3s,baz=16,slow=11,SNR=8.9						
MKAR				Sn	Sn	05 12 44.1	-1.4
	0.1nm,0.3s,baz=26,slow=28,SNR=5.2						
MKAR				Lg	Lg	05 13 29.1	
	0.1nm,0.3s,baz=25,slow=30,SNR=6.2						

ISCJB 21 05:16:59.7±0.7, 38.56N±0.04×141.84E±0.08, h62km±5km, mb3.8/9, Error ellipse: s-maj=11.0km s-min=5.8km az=21.9

JMA 21 05:17:00.9, 38.58N×141.73E, h61km±1km, M4.0

JMA Felt II J1.

NIED 21 05:17:00, 38.60N×141.80E, h59km, Mw4.0 Best double couple: M0 9.68000×10^14 NP1:φs 49.00000°, δ45.00000°, λ-177.00000°. NP2:φs 317.00000°, δ88.00000°, λ-45.00000°.

IDC 21 05:17:01.4±0.8, 38.42N×141.91E, h70km±7km, mb3.6/9, mb1 3.8/13, mb1mx3.6/35, mbtmp4.0/13, MS3.5/1, Ms1 3.5/1, ms1mx2.5/40, Error ellipse: s-maj=18.7km s-min=11.4km az=109.0

ISC 21 05:16:60.0±0.8, 38.54N±0.05×141.94E±0.07, h49km±5km, n33, σ1s57/39, mb3.9/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	Ouri	0.48	260	P	Pn	05 17 11.3	+0.4
JIO				S	Sn	05 17 18.5	-0.1
OFUJ	Ofunato	0.58	338	P	Pn	05 17 13.0	+0.8
OFUJ				*e*S	Sn	05 17 21.5	+0.6
JMK	Ichinoseki	0.70	306	P	Pn	05 17 13.6	-0.1
JMK				*e*S	Sn	05 17 22.6	-1.0
JOU	Okura	1.02	260	P	Pn	05 17 17.2	-0.8
JOU				*e*S	Sn	05 17 29.6	-1.6
JOM	Ohasama	1.06	332	P	Pn	05 17 18.5	0.0
JOM				*e*S	Sn	05 17 31.8	-0.4
JMM	Marumori	1.13	234	P	Pn	05 17 18.9	-0.5
JYK	Kaneyama	1.30	287	P	Pn	05 17 20.8	-0.9
JYK				*e*S	Sn	05 17 35.9	-2.0
JRG	Rokugo	1.33	310	P	Pn	05 17 21.4	-0.8
JFK	Kawauchi	1.45	216	P	Pn	05 17 24.1	+0.3
JYS	Shirataka	1.51	258	P	Pn	05 17 24.2	-0.4
JYS				*e*S	Sn	05 17 42.1	-1.1
JFT	Otama	1.63	232	P	Pn	05 17 26.5	+0.2
JFT				*e*S	Sn	05 17 45.4	-0.7
MJAR	Matsushiro Arr	3.58	237	P	Pn	05 17 54.0	+1.1
	6.6nm,0.3s,baz=40,slow=11,SNR=46						
MAT	Matsushiro	3.58	237	P	Pn	05 17 55.1	+2.1
MAT				S	Sn	05 18 40.1	+6.1
ASAJ	Asahikawa	5.59	5	P	Pn	05 18 20.7	+0.2
	baz=281,slow=17						
JHJ	Hachijo jima 2	5.69	199	P	Pn	05 18 22.9	+1.0
	26nm,0.8s,baz=334,slow=21,SNR=9.8						
JHJ				S	Sn	05 19 23.2	-2.7
	24nm,0.3s,baz=53,slow=20,SNR=4.0						
USRK	Ussuriysk Ar.	9.38	310	P	Pn	05 19 14.5	+2.1
	0.6nm,0.3s,baz=127,slow=13,SNR=11						
KSRS	Korea Array	11.12	269	P	Pn	05 19 38.4	+2.1
	0.3nm,0.3s,baz=82,slow=14,SNR=7.2						
MA2	Magadan	21.79	12	P	P	05 21 48.7	+1.2
	3.8nm,0.4s,baz=179,slow=19,SNR=5.0						
SEY	Seymchan	25.23	11	P	P	05 22 21.8	+0.8
	3.2nm,0.7s,baz=198,slow=8.4,SNR=7.9						
SONM	Songino Array	27.33	301	P	P	05 22 40.5	+0.3
	0.6nm,0.5s,baz=90,slow=10,SNR=3.9						
H11N2	WAKE ISLAND Hy	28.60	124	T	T	05 53 11.6	
	baz=316,slow=75,SNR=701						
H11N1	WAKE ISLAND Hy	28.61	124	T	T	05 53 14.3	
	baz=316,slow=75,SNR=415						
H11N3	WAKE ISLAND Hy	28.62	124	T	T	05 53 14.9	
	baz=316,slow=75,SNR=646						
H11S1	WAKE ISLAND Hy	29.36	126	T	T	05 54 07.4	
	baz=318,slow=76,SNR=204						
H11S3	WAKE ISLAND Hy	29.36	126	T	T	05 54 09.9	
	baz=318,slow=76,SNR=445						
H11S2	WAKE ISLAND Hy	29.38	126	T	T	05 54 11.0	
	baz=318,slow=76,SNR=138						
ZALV	Zalesovo Beam	41.23	311	P	P	05 24 38.4	-1.5
	1.4nm,0.6s,baz=90,slow=8.9,SNR=6.0						
MKAR	Makanchi Array	43.69	301	P	P	05 24 58.3	-1.7
	1.3nm,0.6s,baz=78,slow=11,SNR=11						
MKAR				pP	sP	05 25 18.7	-0.2
	1.3nm,0.7s,baz=91,slow=10,SNR=4.8						
ILAR	Eielson Array	48.00	33	P	P	05 25 33.4	-0.3
	0.4nm,0.7s,baz=277,slow=6.0,SNR=6.8						
ILAR				pP	sP	05 25 50.8	-1.9
	0.6nm,0.8s,baz=267,slow=7.9,SNR=5.9						
INK	Inuvik	52.86	28	P	P	05 26 10.7	+0.4
	1.2nm,0.5s,baz=175,slow=26,SNR=5.4						
AKTO	Aktyubinsk	57.99	311	LR

JMK				*e*S	**Sb**	**05 21 50.9**	**-0.7**
JMM	**Marumori**	**1.10**	**249**	P	**Pn**	**05 21 40.8**	**-0.1**
JMM				*e*S	**Sb**	**05 21 54.7**	**-0.6**
JOU	**Okura**	**1.13**	**276**	P	**Pb**	**05 21 42.0**	**+0.1**
JOU				*e*S	**Sn**	**05 21 56.7**	**+0.5**
JFK	**Kawauchi**	**1.31**	**228**	P	**Pn**	**05 21 43.7**	**-0.2**
JFK				*e*S	**Sn**	**05 21 59.1**	**-1.6**
JOM	**Ohasama**	**1.36**	**333**	P	**Pn**	**05 21 44.6**	**0.0**
JOM				*e*S	**Sn**	**05 22 01.4**	**-0.5**
JYK	**Kaneyama**	**1.51**	**296**	P	**Pn**	**05 21 47.1**	**+0.5**
JYK				*e*S	**Sb**	**05 22 06.5**	**-0.6**
JRG	**Rokugo**	**1.61**	**315**	P	**Pn**	**05 21 48.5**	**+0.5**
MJAR	**Matsushiro Arr**	**3.54**	**242**	Pn	**Pb**	**05 22 24.2**	**+1.3**
	baz=65,slow=9.6,SNR=6.0						
JHJ	**Hachijo jima 2**	**5.46**	**201**	Pn	**Pn**	**05 22 42.2**	**+1.3**
	9.8nm,0.3s,baz=53,slow=20,SNR=3.1						
JHJ				Sn	**Sn**	**05 23 39.4**	**-3.6**
	3.5nm,0.3s,baz=90,slow=20,SNR=2.6						
MKAR	**Makanchi Array**	**43.94**	**301**	P	P	05 29 35.5	+10
	0.5nm,0.7s,baz=80,slow=6.6,SNR=4.5						
ILAR	**Eielson Array**	**48.17**	**33**	P	**P**	**05 29 59.5**	**+0.5**
	0.2nm,0.7s,baz=276,slow=5.9,SNR=4.3						
WRA	**Warramunga Arr**	**58.35**	**189**	P	**P**	**05 31 14.9**	**+0.6**
	0.3nm,0.4s,baz=5.7,slow=7.0,SNR=2.4						

KRSC 21 05:22:25.8±0.6, 55°02'N×162°44'E, h44km±13km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.62**	**222**	*i* P	Pn	05 22 39.4	+1.1
MKZ				*e*S	Sn	05 22 48.0	+0.8
KBG	**Krutoberegovo**	**1.25**	**7**	P	Pn	05 22 48.8	+2.0
KBG				*e*S	Sn	05 23 04.9	+2.5
TUMR	**Tumrok**	**1.34**	**282**	*e*P	Pn	05 22 50.1	+1.9
TUMR				*e*S	Sn	05 23 06.9	+1.9
ZLN	**Zelenaya**	**1.37**	**318**	*e*P	Pn	05 22 50.3	+1.8
ZLN				*e*S	Sn	05 23 07.3	+1.8
BZMR	**Bezymyannaya**	**1.44**	**310**	*e*P	Pn	05 22 51.0	+1.4
LGNR	**Loginova**	**1.46**	**318**	*e*P	Pn	05 22 52.2	+2.2
KMNR	**Kamenistaya**	**1.46**	**301**	*i* P	Pn	05 22 51.5	+1.7
KMNR				S	Sn	05 23 09.0	+1.2
CIRR	**Tsirk**	**1.46**	**319**	*e*P	Pn	05 22 51.9	+2.1
KPT	**Kopyto**	**1.58**	**308**	P	Pn	05 22 53.3	+1.9
KRSR	**Krestovskiy**	**1.60**	**319**	*e*P	Pn	05 22 53.2	+1.4
KLY	**Klyuchi**	**1.65**	**323**	*e*P	Pn	05 22 52.8	+0.6
KLY				*e*S	Sn	05 23 10.6	-1.6
SMKR	**Semkarok**	**1.66**	**341**	*e*P	Pn	05 22 54.3	+1.8
SMKR				*e*S	Sn	05 23 14.7	+2.0
BDR	**Baidarnaya**	**1.70**	**336**	*e*P	Pn	05 22 55.5	+2.4
BDR				*e*S	Sn	05 23 16.8	+3.1
SRKR	**Sorokina**	**1.79**	**337**	*e*P	Pn	05 22 56.4	+2.1
KOZ	**Kozyrevsk**	**1.79**	**307**	P	Pn	05 22 56.3	+2.0
BKI	**Bering**	**2.04**	**83**	*e*P	Pn	05 22 59.4	+1.9
BKI				*e*S	Sn	05 23 23.4	+1.7
ESO	**Esso**	**2.32**	**295**	*i* P	Pn	05 23 03.2	+1.7
NLC	**Nalytchevo**	**2.60**	**226**	*e*P	Pn	05 23 08.7	+3.4
NLC				*e*S	Sn	05 23 38.4	+2.8
SDLR	**Sedlovina**	**2.73**	**232**	*i* P	Pn	05 23 10.4	+3.2
SDLR				*e*S	Sn	05 23 42.2	+3.3
KRER	**Koryakskii**	**2.77**	**233**	P	Pn	05 23 11.5	+3.7
KRER				*e*S	Sn	05 23 44.7	+4.6
KRX	**Arik**	**2.78**	**235**	*e*P	Pn	05 23 12.0	+4.0
KRX				*e*S	Sn	05 23 44.3	+4.0
UGLR	**Uglovaya**	**2.80**	**231**	*i* P	Pn	05 23 11.6	+3.4
UGLR				*e*S	Sn	05 23 44.1	+3.4
AVH	**Avacha**	**2.80**	**233**	*e*P	Pn	05 23 11.9	+3.8
AVH				*e*S	Sn	05 23 45.5	+4.8
GNL	**Ganaly**	**2.95**	**245**	*e*P	Pn	05 23 13.9	+3.7
DALK	**Dalny**	**2.95**	**229**	*e*P	Pn	05 23 13.5	+3.4
DALK				S	Sn	05 23 47.5	+3.3
PET	**Petropavlovsk**	**3.00**	**230**	P	Pn	05 23 14.0	+3.2
PET				*e*S	Sn	05 23 47.7	+2.3
KRMR	**Karymshinskiy**	**3.36**	**231**	*e*P	Pn	05 23 19.7	+3.9
KRMR				S	Sn	05 23 58.0	+3.6
RUS	**Russkaya**	**3.49**	**224**	S	Sn	05 24 02.2	+4.7

KRSC 21 05:22:47.7±1.3, 51°36'N×160°56'E, h80km±28km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.66**	**311**	*e*P	Pn	05 23 16.2	+1.1
RUS				*e*S	Sn	05 23 37.3	+1.5
ASAK	**Asacha**	**1.94**	**303**	*e*P	Pn	05 23 21.3	+2.4
ASAK				*e*S	Sn	05 23 45.8	+3.2
KRMR	**Karymshinskiy**	**2.10**	**315**	S	Sn	05 23 48.1	+1.9
SKR	**Severo-Kuril's**	**2.89**	**258**	P	Pn	05 23 33.8	+2.4
SKR				*e*S	Sn	05 24 07.5	+2.4

IDC 21 05:26:33.7±1.7, 7°47'S×124°28'E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.5/31, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=193.8km s-min=29.5km az=59.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.78**	**143**	Pn	Pn	05 30 19.1	+1.7
	0.4nm,0.3s,baz=317,slow=12,SNR=16						
WRA				Sn	Sn	05 32 59.7	-13
	0.1nm,0.3s,baz=132,slow=8.6,SNR=3.8						
ASAR	**Alice Springs**	**18.57**	**151**	P	P	05 30 51.4	-1.0
	0.2nm,0.3s,baz=328,slow=12,SNR=9.2						
MKAR	**Makanchi Array**	**65.63**	**330**	P	P	05 37 19.7	0.0
	0.2nm,0.4s,baz=134,slow=7.5,SNR=4.1						

*ISCJB **21** 05:30:35.1±0.7, 43°.77N±0°.03×8°.59E±0°.04, h10km±3km, Error ellipse: s-maj=5.1km s-min=4.7km az=31.7*
*CSEM **21** 05:30:35.5±0.3, 43°.76N×8°.60E, h10km, ML2.7/11, Error ellipse: s-maj=4.6km s-min=4.4km az=35.0*
*GEN **21** 05:30:37.1, 43°.86N×8°.58E, h3km, ML1.8*
*ROM **21** 05:30:37.1±0.3, 43°.89N×8°.54E, h7km±1km, Md2.3/10, Ml1.9/6, Error ellipse: s-maj=3.4km s-min=1.9km az=127.0*
*LDG **21** 05:30:38.3±0.2, 43°.62N×8°.47E, h10km, Md2.2/1, Ml2.4/6, Error ellipse: s-maj=5.6km s-min=2.7km az=48.0*

ISC 21 05:30:35.2±1.1, 43°.78N±0°.03×8°.61E±0°.03, h16km±9km, n37, σ0s90/72, Corsica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FINB	**Finale Ligure**	**0.45**	**333**	Pg	**Pb**	**05 30 44.5**	**-0.2**
FINB				Sg	**Sg**	**05 30 49.8**	**-0.5**
FINB	**Finale Ligure**	**0.45**	**333**	Pg	**Pb**	**05 30 44.5**	**-0.2**
FINB				Sg	**Sg**	**05 30 49.8**	**-0.5**
RORO	**Rocca Rossa**	**0.51**	**311**	Pg	**Pb**	**05 30 45.8**	**-0.1**
RORO				Sg	**Sb**	**05 30 52.5**	**-0.6**
RORO	**Rocca Rossa**	**0.51**	**311**	P	**Pb**	**05 30 45.7**	**-0.1**
RORO				S	**Sg**	**05 30 52.0**	**-0.3**
IMI	**Imperia**	**0.53**	**284**	Pg	**Pb**	**05 30 46.7**	**+0.5**
IMI				Sg	**Sb**	**05 30 54.0**	**+0.3**
	92nm,0.2s						
IMI	**Imperia**	**0.53**	**284**	P	**Pb**	**05 30 46.5**	**+0.3**
IMI				S	**Sb**	**05 30 53.5**	**-0.2**
IMI				Sg	**Sb**	**05 30 54.0**	**+0.3**
	92nm,0.2s						
QLNO	**Quiliano**	**0.58**	**341**	Pg	**Pb**	**05 30 46.8**	**-0.2**
QLNO				Sg	**Sg**	**05 30 53.4**	**-0.9**
QLNO	**Quiliano**	**0.58**	**341**	Pg	**Pb**	**05 30 46.8**	**-0.2**
QLNO				Sg	**Sg**	**05 30 53.4**	**-0.9**
NEGI	**Seborga**	**0.66**	**276**	Pg	**Pn**	**05 30 49.3**	**-0.6**
NEGI				Sg	**Sb**	**05 30 58.0**	**+0.7**
NEGI	**Seborga**	**0.66**	**276**	P	**Pn**	**05 30 49.3**	**-0.6**
NEGI				S	**Sb**	**05 30 57.6**	**+0.3**
NEGI				Sg	**Sb**	**05 30 58.0**	**+0.7**
PCP	**Piancastagn**	**0.76**	**357**	Pg	**Pb**	**05 30 50.1**	**-0.1**
PCP				Sg	**Sb**	**05 30 59.7**	**-0.6**
	17nm,0.4s						
PCP	**Piancastagn**	**0.76**	**357**	P	**Pb**	**05 30 50.1**	**-0.1**
PCP				S	**Sb**	**05 30 58.8**	**-1.5**
PCP				Sg	**Sb**	**05 30 59.7**	**-0.6**
	17nm,0.4s						
SBF	**Sospel**	**0.85**	**276**	*e*Pg	**Pn**	**05 30 52.7**	**+0.1**
SBF				*e*Sg	**Sn**	**05 31 03.8**	**-1.0**
	120nm,0.2s						
SBF	**Sospel**	**0.85**	**276**	*e*Pg	**Pn**	**05 30 52.7**	**+0.1**
SBF				*e*Sg	**Sn**	**05 31 03.8**	**-1.0**
	60nm,0.2s						
ENR	**Entracque**	**0.97**	**298**	Pg	**Pn**	**05 30 54.2**	**0.0**
	26nm,0.3s						
ENR	**Entracque**	**0.97**	**298**	P	**Pn**	**05 30 54.2**	**0.0**
STV	**Sant Anna di V**	**1.04**	**297**	Pg	**Pg**	**05 30 55.5**	**+0.2**
STV				Sg	**Sg**	**05 31 08.8**	**0.0**
	18nm,0.3s						
STV	**Sant Anna di V**	**1.04**	**297**	P	**Pg**	**05 30 55.5**	**+0.2**
STV				Sg	**Sg**	**05 31 08.8**	**0.0**
	18nm,0.3s						
DOI	**San Damiano**	**1.22**	**307**	Pg	**Pg**	**05 30 58.8**	**+0.1**
	47nm,0.5s						
DOI	**San Damiano**	**1.22**	**307**	Pg	**Pg**	**05 30 58.8**	**+0.1**
	47nm,0.5s						
PGF	**Pioggiola**	**1.26**	**167**	*e*Pn	**Pn**	**05 30 58.6**	**+0.3**
PGF				*e*Sn	**Sb**	**05 31 14.8**	**+0.1**
PGF	**Pioggiola**	**1.26**	**167**	*e*Pn	**Pn**	**05 30 58.6**	**+0.3**
PGF				*e*Sn	**Sb**	**05 31 14.8**	**+0.1**
PZZ	**Stroppo**	**1.30**	**305**	Pg	**Pg**	**05 30 59.9**	**-0.3**
PZZ				Sg	**Sg**	**05 31 16.6**	**-0.6**
	35nm,0.6s						
SARO	**Sassorosso**	**1.36**	**72**	P	**Pg**	**05 31 01.7**	**+0.4**
FRF	**La Foret Royal**	**1.44**	**262**	*e*Pn	**Pn**	**05 31 00.8**	**+0.2**
FRF				*e*Sn	**Sn**	**05 31 18.3**	**-0.9**
	6.9nm,0.2s						
FRF	**La Foret Royal**	**1.44**	**262**	*e*Pn	**Pn**	**05 31 00.8**	**+0.2**
FRF				*e*Sn	**Sn**	**05 31 18.3**	**-0.9**
	3.5nm,0.2s						
LMR	**La Mourre**	**1.59**	**254**	*e*Pn	**Pn**	**05 31 02.5**	**-0.2**
LMR				*e*Sn	**Sn**	**05 31 21.7**	**-1.2**
	4.2nm,0.2s						
LMR	**La Mourre**	**1.59**	**254**	*e*Pn	**Pn**	**05 31 02.5**	**-0.2**
LMR				*e*Sn	**Sn**	**05 31 21.7**	**-1.2**
	2.1nm,0.2s						
MBDF	**Montbardon**	**1.62**	**306**	*e*Pn	**Pg**	**05 31 05.9**	**-0.6**
MBDF				*e*Sn	**Sg**	**05 31 26.3**	**-1.3**
	15nm,0.5s						
MBDF	**Montbardon**	**1.62**	**306**	*e*Pn	**Pg**	**05 31 05.9**	**-0.6**
MBDF				*e*Sn	**Sg**	**05 31 26.3**	**-1.3**
	7.4nm,0.5s						
RRL	**Rocca Remolon**	**1.73**	**312**	P	**Pb**	**05 31 07.1**	**+0.3**
RRL				S	**Sb**	**05 31 28.3**	**-0.1**
LPG	**La Plagne**	**2.17**	**323**	*e*Pg	**Pg**	**05 31 20.3**	**+3.4**
LPG				*e*Sn	**Sb**	**05 31 39.9**	**-1.1**
	4.3nm,0.5s						
LPG	**La Plagne**	**2.17**	**323**	*e*Pg	**Pg**	**05 31 20.3**	**+3.4**
LPG				*e*Sn	**Sb**	**05 31 39.9**	**-1.1**
	2.2nm,0.5s						
SMRF	**Simiane la Rot**	**2.20**	**276**	*e*Pg	**Pg**	**05 31 17.7**	**+0.3**
SMRF				*e*Sg	**Sg**	**05 31 46.1**	**+0.1**
	13nm,0.4s						
SMRF	**Simiane la Rot**	**2.20**	**276**	*e*Pg	**Pg**	**05 31 17.7**	**+0.3**
SMRF				*e*Sg	**Sg**	**05 31 46.1**	**+0.1**
	6.3nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.26**	**301**	*e*Pn	**Pn**	**05 31 13.8**	**+1.8**
ORIF				*e*Sn	**Sn**	**05 31 40.8**	**+1.1**
	6.2nm,0.6s						
ORIF	**Oris-en-Rattie**	**2.26**	**301**	*e*Pn	**Pn**	**05 31 13.8**	**+1.8**
ORIF				*e*Sn	**Sn**	**05 31 40.8**	**+1.1**
	3.1nm,0.6s						

*NIED **21** 05:36:00, 35°.70N×140°.60E, h47km, Mw4.0 Best double couple: M0 1.2000×10^15 NP1:φs172.00000°, δ14.00000°, λ68.00000°. NP2:φs15.00000°, δ77.00000°, λ95.00000°.*
*ISCJB **21** 05:36:58.2±0.6, 35°.69N±0°.04×140°.7E±0°.1, h59km±5km, mb3.8/8, MS3.2/2, Error ellipse: s-maj=14.7km s-min=7.0km az=170.1*
*IDC **21** 05:36:58.8±2.4, 35°.64N×140°.69E, h49km±23km, mb3.6/8, mb1 3.8/12, mb1mx3.5/44, mbtmp3.9/12, ML3.4/3, MS3.1/5, Ms1 3.1/5, ms1mx2.8/38, Error ellipse: s-maj=32.5km s-min=17.7km az=64.0*
*JMA **21** 05:36:59.2±0.1, 35°.72N×140°.62E, h47km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs8.00000°, δ80.00000°, λ86.00000°. NP2:φs212.00000°, δ11.00000°, λ113.00000°. Principal axes: T Plg55.0000°, Azm273.0000°; N Plg4.0000°, Azm9.0000°; P Plg35.0000°, Azm102.0000°;*
JMA Felt I J1.

ISC 21 05:36:58.7±1.0, 35°.67N±0°.05×140°.77E±0°.08, h49km±9km, n25, σ1s20/23, mb3.8/8, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.08**	**67**	⇑P	**Pn**	**05 37 07.0**	**+0.7**
JCN	**Nagara**	**0.53**	**241**	⇓P	**Pn**	**05 37 10.4**	**+0.2**
JYT	**Yasato**	**0.72**	**320**	⇓P	**Pn**	**05 37 11.7**	**-1.0**
JYT				S	**Sn**	**05 37 21.2**	**-1.6**
BSO4	**Boso 4**	**0.76**	**207**	P	**Pn**	**05 37 13.6**	**+0.5**
BSO4				*e*X		05 37 24.5	
BSO3	**Boso 3**	**0.89**	**194**	P	**Pn**	**05 37 15.4**	**+0.7**
JHO	**Hitachi**	**0.95**	**350**	P	**Pn**	**05 37 15.5**	**-0.2**
BSO1	**Boso 1**	**1.03**	**170**	P	**Pn**	**05 37 17.7**	**+1.4**
MJAR	**Matsushiro Arr**	**2.25**	**294**	P	**Pn**	**05 37 33.0**	**-0.4**
	15nm,0.3s,baz=94,slow=11,SNR=102						
MJAR				LR	LR	05 38 33.1	
	comp=Z,266nm,18.9s,baz=100,slow=44						
MAT	**Matsushiro**	**2.25**	**294**	P	**Pn**	**05 37 34.1**	**+0.7**
MAT				S	**Sn**	**05 38 03.5**	**+3.5**
JHJ	**Hachijo jima 2**	**2.67**	**198**	P	**Pn**	**05 37 38.9**	**-0.4**
	57nm,0.3s,baz=156,slow=6.0,SNR=11						
JHJ				S	**Sn**	**05 38 10.8**	**+0.5**
	51nm,0.3s,baz=68,slow=24,SNR=6.7						
JNU	**Nakatsue**	**8.56**	**256**	LR	LR	05 42 38.7	
	comp=Z,143nm,18.8s,baz=122,slow=40						
JCJ	**Chichijima**	**8.63**	**172**	P	**Pn**	**05 38 59.0**	**-2.1**
	14nm,0.3s,baz=305,slow=12,SNR=11						
KSRS	**Korea Array**	**10.48**	**284**	P	**Pn**	**05 39 26.7**	**+0.4**
	0.1nm,0.3s,baz=100,slow=13,SNR=8.7						
KSRS				LR	LR	05 43 30.3	
	comp=Z,86nm,19.5s,baz=116,slow=37						
YAK	**Yakutsk**	**27.29**	**349**	LR	LR	05 52 12.5	
	comp=Z,59nm,21.0s,baz=166,slow=34						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**05 42 45.8**	**-0.4**
	0.8nm,0.6s,baz=104,slow=9.7,SNR=4.0						
H11S1	**WAKE ISLAND Hy 28.60**	**120**		T	T	06 12 42.5	
	baz=312,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy 28.60**	**120**		T	T	06 12 42.1	
	baz=312,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy 28.61**	**120**		T	T	06 12 51.9	
	baz=312,slow=75,SNR=27						
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**05 45 03.4**	**-1.2**
	1.5nm,0.8s,baz=86,slow=11,SNR=9.7						
MKAR				LR	LR	06 02 42.7	
	comp=Z,32nm,21.5s,baz=157,slow=35						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**05 45 55.2**	**+0.6**
	0.7nm,0.8s,baz=272,slow=6.2,SNR=9.0						
BVAR	**Borovoye Array**	**51.11**	**313**	P	**P**	**05 45 56.0**	**-0.3**
	0.7nm,0.5s,baz=85,slow=6.7,SNR=6.4						
WRA	**Warramunga Arr**	**55.64**	**187**	P	**P**	**05 46 30.0**	**+0.2**
	0.8nm,0.7s,baz=3.0,slow=7.5,SNR=9.2						
FINES	**FINESS Array B**	**69.78**	**332**	P	**P**	**05 48 03.2**	**-0.2**
	1.0nm,0.7s,baz=60,slow=4.6,SNR=3.7						
AKASG	**Malin Array Be**	**75.05**	**322**	P	**P**	**05 48 34.9**	**-0.1**
	0.7nm,0.5s,baz=48,slow=6.2,SNR=4.7						
NOA	**NORSAR Array B**	**75.24**	**337**	P	**P**	**05 48 36.5**	**+0.5**
	0.6nm,0.5s,baz=16,slow=5.0,SNR=2.7						

*ISCJB **21** 06:00:22.0±0.8, 33°.40S±0°.06×70°.03W±0°.04, h5km±7km, mb4.0/4, MS4.0/2, Error ellipse: s-maj=10.6km s-min=5.3km az=174.6*
*SJA **21** 06:00:22.1±0.4, 33°.36S×70°.05W, h26km±2km, ML3.8, MW4.4*
*GUC **21** 06:00:22.1±0.3, 33°.38S×70°.03W, h5km±1km, ML3.5*
*IDC **21** 06:00:24.8±1.3, 33°.13S×69°.87W, h0km, mb4.0/4, mb1 4.2/9, mb1mx4.0/24, mbtmp4.1/9, ML4.1/5, MS3.6/3, Ms1 3.6/3, ms1mx3.1/21, Error ellipse: s-maj=36.9km s-min=26.3km az=93.0*

ISC 21 06:00:22.8±1.3, 33°.35S±0°.07×70°.09W±0°.04, h6km±8km, n24, σ1s47/30, mb4.1/4, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.17**	**279**	*e*P	**Pg**	**06 00 27.1**	**+0.7**
FCH				*e*S	**Sg**	**06 00 30.9**	**+2.1**
FCH				IAML		06 00 31.5	
	comp=N,15μm,0.3s						
CLCH	**Cerro Calan**	**0.38**	**263**	*e*P	**Pg**	**06 00 30.4**	**+0.2**
CLCH				*e*S	**Sb**	**06 00 36.8**	**-1.4**
CLCH				IAML		06 00 38.1	
	comp=N,12μm,1.1s						
FSR	**Penalolen**	**0.39**	**251**	*e*P	**Pg**	**06 00 30.4**	**+0.1**
FSR				*e*S	**Sb**	**06 00 36.9**	**-1.6**
ANTU	**Antumapu**	**0.51**	**245**	*e*P	**Pg**	**06 00 32.4**	**-0.2**
ANTU				*e*S	**Sb**	**06 00 40.1**	**-1.6**
ANTU				IAML		06 00 40.8	
	comp=N,7μm,0.8s						
PEL	**Peldehue**	**0.55**	**292**	*e*P	**Pg**	**06 00 33.6**	**+0.3**
PEL				*e*S	**Sb**	**06 00 42.1**	**-0.8**
PEL				IAML		06 00 53.5	
	comp=N,4μm,1.2s						
RCDM	**Rinconada Maip**	**0.62**	**257**	*e*P	**Pg**	**06 00 33.8**	**-0.9**
RCDM				*e*S	**Sb**	**06 00 43.5**	**-1.5**
ROCH	**El Roble**	**0.86**	**296**	*e*P	**Pb**	**06 00 39.6**	**-0.8**
ROCH				*e*S	**Sn**	**06 00 52.9**	**-1.8**
ROCH				IAML		06 01 03.2	
	comp=E,3μm,0.6s						
ROC1	**El Roble**	**0.87**	**296**	*e*P	**Pb**	**06 00 39.7**	**-0.7**
ROC1				*e*S	**Sn**	**06 00 53.2**	**-1.7**
ARCO	**CERRO ARCO**	**1.09**	**62**	*e*P	**Pb**	**06 00 43.0**	**-1.2**
ARCO				IAML		06 00 43.9	
	comp=Z,2μm,0.2s						
ARCO				*e*S	**Sb**	**06 00 58.1**	**-0.7**
AUSP	**Uspallata**	**1.27**	**28**	*e*P	**Pn**	**06 00 46.6**	**-0.7**
ASAL	**Salagasta**	**1.30**	**54**	*e*P	**Pn**	**06 00 46.4**	**-1.1**
PLCA	**Paso Flores**	**7.38**	**183**	Pn	Pn	06 02 17.3	+6.2
	comp=Z,0.6nm,0.3s,baz=19,slow=13,SNR=5.2						
PLCA				Lg	Lg	06 04 36.3	
	comp=Z,0.3nm,0.3s,baz=260,slow=9.1,SNR=3.6						
PLCA				LR	LR	06 04 58.8	
	comp=Z,90nm,19.5s,baz=358,slow=36						
LVC	**Limon Verde**	**10.75**	**6**	Pn	**Pn**	**06 02 57.3**	**-0.4**
	comp=Z,11nm,0.3s,baz=199,slow=16,SNR=3.4						
LVC				Lg	Lg	06 06 07.2	
	comp=Z,12nm,0.3s,baz=126,slow=23,SNR=4.3						
CPUP	**Villa Florida**	**13.09**	**61**	Pn	**Pn**	**06 03 26.8**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=238,slow=11,SNR=6.1						
CPUP				Lg	Lg	06 07 24.6	
	comp=Z,0.1nm,0.3s,baz=291,slow=19,SNR=2.9						
LPAZ	**La Paz**	**17.08**	**6**	Pn	**P**	**06 04 24.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=192,slow=6.4,SNR=15						
SIV	**San Ignacio**	**19.11**	**27**	P	**Pn**	**06 04 47.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=222,slow=12,SNR=17						
PTGA	**Pitinga**	**33.82**	**18**	P	**P**	**06 07 05.2**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=230,slow=11,SNR=4.4						
TXAR	**Lajitas Array**	**69.99**	**329**	P	**P**	**06 11 37.5**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=157,slow=8.0,SNR=7.8						
DBIC	**Dimbokro**	**73.43**	**70**	P	**P**	**06 11 59.2**	**+2.9**
	comp=Z,3.3nm,0.9s,baz=181,slow=1.6,SNR=3.9						
RAR	**Rarotonga**	**78.40**	**252**	LR	LR	06 39 42.6	
	comp=Z,310nm,20.2s,baz=260,slow=30						
TORD	**Torodi Ar. Bea**	**82.46**	**69**	P	**P**	**06 12 46.9**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=281,slow=5.4,SNR=5.3						
FRB	**Frobisher Bay**	**96.78**	**1**	LR	LR	06 57 45.1	
	comp=Z,14nm,19.2s,baz=194,slow=36						
ZALV	**Zalesovo Beam**	**152.80**	**33**	PKPbc	**PKPbc**	**06 20 22.5**	**+2.4**
	comp=Z,1.7nm,0.6s,baz=291,slow=3.2,SNR=7.0						
MKAR	**Makanchi Array**	**155.11**	**49**	PKPab	**PKPab**	**06 20 42.9**	**+1.7**
	comp=Z,1.1nm,1.0s,baz=299,slow=1.5,SNR=5.2						

*ISCJB **21** 06:12:31.0±0.4, 7°.55S±0°.04×130°.52E±0°.05, h27km, mb4.2/12, MS3.5/2, Error ellipse: s-maj=7.7km s-min=5.1km az=12.1*
*NEIC **21** 06:12:31.4±0.5, 7°.51S×130°.47E, h10km, mb4.6/3, Error ellipse: s-maj=11.9km s-min=8.2km az=75.0*
*IDC **21** 06:12:31.1±0.7, 7°.25S×130°.35E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/36, mbtmp4.2/11, ML4.1/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/35, Error ellipse: s-maj=32.5km s-min=15.1km az=77.0*
*DJA **21** 06:12:34.6±0.3, 8°.S±3°×13°.1E±°, h123km±10km, M4.9/7, mB5.2/2, mb4.7/5, MLv4.9/7, Mw(mB)4.6/2*

ISC 21 06:12:33.2±0.5, 7°.60S±0°.05×130°.55E±0°.07, h27km, n38, σ2s65/41, mb4.3/12, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**0.83**	**117**	P	Pn	06 12 55.4	+6.2
SAUI				S	Sn	06 13 14.0	+13
BNDI	**Bandanaira**	**3.13**	**348**	P	**Pn**	**06 13 19.6**	**-1.2**
FAKI	**Fak Fak**	**4.95**	**20**	P	**Pn**	**06 13 46.9**	**+1.0**
FAKI				S	**Sn**	**06 14 42.6**	**+0.3**
FAKI	**Fak Fak**	**4.95**	**20**	*e*Pn	**Pn**	**06 13 46.4**	**+0.5**
SOEI	**Soe**	**6.57**	**251**	P	**Pn**	**06 14 09.6**	**+1.3**
	115nm,0.8s						
SOEI				S	**Sn**	**06 15 24.6**	**+2.2**
	115nm,0.8s						
SOEI	**Soe**	**6.57**	**251**	*e*Pn	**Pn**	**06 14 09.1**	**+0.9**
	85nm,0.8s						
SIJI	**Sorong**	**6.73**	**6**	Pn	**Pn**	**06 14 08.8**	**-1.5**

ellipse: s-maj=31.4km s-min=15.3km az=173.0
*NEIC **21** 06:20:31.0,51°21N×176°86W,h1km,mb3.8/8, ML4.1(AEIC),After AEIC.*
NEIC Felt on Adak.
*ISCJB **21** 06:20:34.5±0.6,51°31N±0°07×176°99W±0°05,h48km, mb4.0/15,Error ellipse: s-maj=10.5km s-min=4.2km az=175.6*

ISC 21 06:20:36.1±0.6,**51°4N**±0°1×**177°06W**±0°04,**h48**km,**n56,** σ1§**37**/55,**mb4.0**/15,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KIKV	**Kanaga Island**	**0.45**	**351**	P			**Pn**	**06 20 46.4**	**-0.3**
KIRH	**Kanaga Island**	**0.47**	**357**	P			**Pn**	**06 20 46.6**	**-0.2**
KICM	**Kanaga Island**	**0.49**	**350**	P			**Pn**	**06 20 47.1**	**-0.1**
ETKA	**Kagalaska Isla**	**0.59**	**43**	P			**Pn**	**06 20 46.9**	**-1.5**
TAPA	**Tanaga Point A**	**0.60**	**309**	P			**Pn**	**06 20 48.9**	**+0.3**
TAFL	**Tanaga Flats**	**0.61**	**302**	P			**Pn**	**06 20 49.0**	**+0.3**
ADAG	**Mount Adagdak**	**0.61**	**27**	P			**Pn**	**06 20 48.4**	**-0.3**
TAFP	**Tanaga Falls P**	**0.74**	**309**	P			**Pn**	**06 20 50.8**	**+0.5**
GSCK	**Great Sitkin C**	**0.80**	**44**	P			**Pn**	**06 20 50.0**	**-1.2**
TANO	**Tanaga North**	**0.82**	**306**	P			**Pn**	**06 20 52.4**	**+1.1**
GSTD	**Great Sitkin T**	**0.84**	**42**	P			**Pn**	**06 20 50.6**	**-1.1**
GSMY	**Great Sitkin M**	**0.87**	**45**	P			**Pn**	**06 20 50.7**	**-1.3**
GAEA	**Gareloi East**	**1.11**	**289**	P			**Pn**	**06 20 56.4**	**+1.2**
GALAA	**Gareloi Lava P**	**1.12**	**288**	P			**Pn**	**06 20 56.5**	**+1.1**
GANE	**Gareloi Northe**	**1.14**	**290**	P			**Pn**	**06 20 56.9**	**+1.3**
KOKL	**Mount Kliuchef**	**1.98**	**62**	P			**Pn**	**06 21 07.1**	**-0.1**
KOKV	**Korovin Volcan**	**2.02**	**62**	P			**Pn**	**06 21 07.3**	**-0.4**
KOKV				S			**Sn**	**06 21 32.2**	**+0.4**
KOFP	**Korovin Flat P**	**2.02**	**64**	P			**Pn**	**06 21 07.1**	**-0.6**
KONE	**Korovin Northe**	**2.06**	**61**	P			**Pn**	**06 21 08.6**	**+0.4**
NIKH	**Nikolski High**	**5.28**	**70**	P			**Pn**	**06 21 52.5**	**+0.2**
NIKH				S			**Sn**	**06 22 54.6**	**+2.9**
OKTU	**Okmok Mt. Tuli**	**5.85**	**67**	P			**Pn**	**06 22 02.5**	**+2.2**
OKTU				S			**Sn**	**06 23 11.6**	**+5.6**
MSOM	**Makushin Julie**	**6.60**	**65**	P			**Pn**	**06 22 11.9**	**+1.5**
UNV	**Unalaska Valle**	**6.86**	**65**	P			**Pn**	**06 22 15.0**	**+0.9**
UNV				S			**Sn**	**06 23 34.2**	**+3.5**
SPIA	**Saint Paul Isl**	**7.00**	**32**	P			**Pn**	**06 22 18.3**	**+2.4**
PPLA	**Purkeypile** 7.6nm,0.9s	**17.57**	**40**	*e*Pn			**P**	**06 24 38.7**	**+0.8**
KTH	**Kantishna Hill** 4.6nm,0.7s	**18.39**	**39**	*e*P			**Pn**	**06 24 47.4**	**+0.1**
TRF	**Thorofare Moun** 8.1nm,1.0s	**18.59**	**39**	*e*P			**Pn**	**06 24 50.2**	**+0.4**
BPAW	**Bear Paw Mtn.** 0.7nm,0.7s	**18.64**	**37**	*e*P			**Pn**	**06 24 50.6**	**+0.4**
SEY	**Seymchan** 0.1nm,0.3s,baz=100,slow=10,SNR=3.9	**19.94**	**317**	P			**P**	**06 25 03.4**	**-0.3**
ILAR	**Eielson Array** 0.7nm,0.6s,baz=246,slow=12,SNR=11	**20.52**	**38**	P			**P**	**06 25 09.8**	**-0.2**
DOT	**Dot Lake** 9.0nm,0.6s	**21.22**	**42**	*e*P			**P**	**06 25 16.7**	**-0.9**
EGAK	**Eagle** 1.9nm,0.6s	**22.79**	**40**	*e*P			**P**	**06 25 32.7**	**-1.6**
H11N2	**WAKE ISLAND Hy** baz=18,slow=76,SNR=1347	**34.06**	**208**	T			T	07 03 38.7	
H11N3	**WAKE ISLAND Hy** baz=18,slow=76,SNR=1138	**34.07**	**208**	T			T	07 03 35.1	
H11N1	**WAKE ISLAND Hy** baz=18,slow=76,SNR=1185	**34.08**	**208**	T			T	07 03 32.4	
USRK	**Ussuriysk Ar.** 0.9nm,0.4s,baz=74,slow=12,SNR=4.4	**34.37**	**278**	P			**P**	**06 27 16.6**	**-1.6**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=282,slow=8.6,SNR=6.0	**34.40**	**47**	P			**P**	**06 27 18.1**	**-0.2**
YKA				PcP			**PcP**	**06 29 53.3**	**+0.6**
H11S1	**WAKE ISLAND Hy** 0.2nm,0.4s,baz=285,slow=3.4,SNR=8.9 baz=18,slow=76,SNR=518	**35.28**	**207**	T			T	07 05 14.5	
H11S2	**WAKE ISLAND Hy** baz=18,slow=76,SNR=353	**35.30**	**207**	T			T	07 05 06.7	
H11S3	**WAKE ISLAND Hy** baz=18,slow=76,SNR=232	**35.30**	**207**	T			T	07 05 15.6	
NEW	**Newport** 1.8nm,0.5s,baz=274,slow=14,SNR=2.7	**37.84**	**71**	P			**P**	**06 27 46.0**	**-1.8**
WVOR	**Wild Horse Val** 1.7nm,0.8s	**39.92**	**79**	*e*P			**P**	**06 28 06.1**	**+0.6**
BW06	**Boulder Array** 1.3nm,0.5s	**45.25**	**73**	*e*P			**P**	**06 28 48.7**	**-0.1**
PDAR	**Pinedale Array** 1.3nm,0.5s,baz=296,slow=4.4,SNR=12	**45.25**	**73**	P			**P**	**06 28 49.1**	**+0.3**
SONM	**Songino Array** 0.5nm,0.5s,baz=66,slow=7.2,SNR=3.9	**47.59**	**297**	P			**P**	**06 29 07.2**	**+0.2**
SONM				PcP			**PcP**	**06 30 36.1**	**+0.1**
PV01	**Paradox Valley** 230nm,1.1s	**48.66**	**78**	*e*P			**P**	**06 29 15.7**	**+0.2**
ZALV	**Zalesovo Beam** 1.2nm,0.6s,baz=54,slow=3.5,SNR=4.8	**54.78**	**314**	PcP			**PcP**	**06 31 02.3**	**-0.1**
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=301,slow=5.9,SNR=7.9	**57.57**	**82**	P			**P**	**06 30 20.7**	**-0.2**
H06E1	**SOCORRO T-PHAS** SNR=3.9	**60.69**	**96**	T			T	07 36 36.6	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=44,slow=6.9,SNR=5.9	**60.85**	**309**	P			**P**	**06 30 40.9**	**-2.4**
CMAR	**Chiang Mai Arr** 1.3nm,0.5s,baz=30,slow=7.4,SNR=5.1	**72.09**	**277**	P			**P**	**06 31 55.6**	**+0.2**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=72,slow=4.7,SNR=2.9	**85.33**	**337**	P			**P**	**06 33 08.0**	**-0.1**
ASAR	**Alice Springs** 1.2nm,0.9s,baz=16,slow=6.9,SNR=3.9	**86.28**	**224**	P			**P**	**06 33 12.6**	**+0.1**
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=3.9,slow=1.6,SNR=4.3	**115.68**	**1**	PKP			**PKPdf**	**06 39 12.1**	**-1.1**
MAW	**Mawson** 2.1nm,0.9s,baz=89,slow=7.0,SNR=5.2	**147.19**	**218**	PKPbc			**PKPbc**	**06 40 13.0**	**+0.5**
BOSA	**Boshof** 2.0nm,0.5s,baz=58,slow=1.9,SNR=6.7	**151.72**	**315**	PKPbc			**PKPbc**	**06 40 24.9**	**-0.3**

*KRNET **21** 06:24:59.8±0.1,39°51N×73°74E,mb3.6*
*SOME **21** 06:25:00.3,39°63N×73°95E,h15km*
*NNC **21** 06:25:02.5±3.6,39°72N×73°96E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=38.2km s-min=22.6km az=140.0*
*IDC **21** 06:25:04.6±3.0,39°63N×72°25E,h0km,mb3.8/3, mb1 3.7/4,mb1mx3.4/45,mbtmp3.6/4,ML2.6/1,Error ellipse: s-maj=71.2km s-min=22.3km az=152.0*

ISC 21 06:25:01.2±1.7,**39°48N**±0°07×**73°46E**±0°03,**h10**km±10km, **n45,**σ1§**31**/76,**mb3.8**/3,**34C-12D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHH	**Osh** baz=325	**1.17**	**334**	⇓*e*P			**Pn**	**06 25 24.3**	**+0.6**
OHH	baz=325			⇓*e*S			**Sn**	**06 25 42.1**	**+2.3**
BTK	**Batken** baz=285	**2.12**	**287**	⇑*e*P			**Pg**	**06 25 41.7**	**-0.1**
BTK	baz=285			⇑*e*S			**Sg**	**06 26 11.9**	**+2.7**
ARLS	**Aral** baz=11	**2.47**	**15**	⇑*e*P			**Pn**	**06 25 42.2**	**+0.5**
ARLS	baz=11			⇑*e*S			**Sb**	**06 26 14.5**	**-1.8**
ARK	**Arkit** baz=330	**2.58**	**334**	⇑*e*P			**Pb**	**06 25 45.2**	**-2.5**
ARK	baz=330			⇑*e*S			**Sb**	**06 26 19.3**	**-0.2**
UCH	**Uchtor** baz=12	**2.86**	**16**	⇑*i*P			**Pn**	**06 25 47.4**	**+0.1**
UCH	baz=12			⇑*i*S			**Sn**	**06 26 23.1**	**+1.0**
KZA	**Kyzart** baz=24	**2.93**	**27**	⇑*i*P			**Pn**	**06 25 48.1**	**-0.2**
KZA	baz=24			⇑*i*S			**Sn**	**06 26 23.8**	**0.0**
MNAS	**Manas** baz=343	**3.09**	**347**	⇑*e*P			**Pb**	**06 25 53.1**	**-3.3**
MNAS	baz=343			⇑*e*S			**Sb**	**06 26 31.4**	**-2.8**
MNAS	**Manas** 15nm,0.7s	**3.09**	**347**	⇑Pn			**Pn**	**06 25 51.1**	**+0.9**
MNAS	75nm,0.5s			⇓Lg			Lg	06 26 36.6	
EKS2	**Erkin-Say** baz=1.0	**3.19**	**4**	⇑*i*P			**Pn**	**06 25 53.0**	**+1.4**
EKS2	baz=1.0			⇑*i*S			**Sn**	**06 26 32.0**	**+2.3**
AAK	**Ala-Archa** baz=10.0	**3.25**	**14**	⇑*i*P			**Pn**	**06 25 53.2**	**+0.8**
AAK	baz=10.0			⇑*i*S			**Sn**	**06 26 32.5**	**+1.3**
AAK	**Ala-Archa** 11nm,0.5s	**3.25**	**14**	⇑Pn			**Pn**	**06 25 51.4**	**-1.0**
AAK	69nm,0.8s			⇓Lg			Lg	06 26 37.4	
MRKS	**Merke** 33nm,0.6s	**3.27**	**357**	*e*P			**Pb**	**06 25 58.2**	**-1.2**
MRKS	145nm,0.6s			*e*S			**Sb**	**06 26 37.9**	**-1.4**
JBG	**Jabagly** 24nm,0.5s	**3.34**	**28**	*e*P			**Pg**	**06 26 04.9**	**-0.2**
JBG	98nm,0.4s			*e*S			**Sg**	**06 26 49.9**	**+1.5**
KBK	**Karagaybulak** baz=16	**3.37**	**19**	⇓*i*P			**Pn**	**06 25 54.6**	**+0.5**
KBK	baz=16			⇓*i*S			**Sn**	**06 26 34.8**	**+0.6**
FRU1	**Bishkek** baz=11	**3.44**	**14**	⇑*e*P			**Pn**	**06 25 55.5**	**+0.5**
FRU1	baz=11			⇑*e*S			**Sn**	**06 26 37.3**	**+1.4**
ULHL	**Ulahol** baz=34	**3.48**	**36**	⇑*i*P			**Pn**	**06 25 54.6**	**-1.0**
ULHL	baz=34			⇑*i*S			**Sn**	**06 26 35.4**	**-1.6**
BOOM	**Boomskoye usch** baz=29	**3.55**	**31**	⇑*e*P			**Pn**	**06 25 56.0**	**-0.5**
BOOM	baz=29			⇑*e*S			**Sn**	**06 26 38.5**	**-0.1**
CHMS	**Chumysh** baz=12	**3.65**	**15**	⇑*i*P			**Pn**	**06 25 57.8**	**0.0**
CHMS	baz=12			⇑*i*S			**Sn**	**06 26 41.5**	**+0.6**
DZET	**Dzherino** 23nm,0.5s	**3.66**	**261**	Pn			**Pb**	**06 26 05.4**	**-0.8**
DZET	54nm,0.5s			⇓Lg			Lg	06 27 08.6	
DZA	**Taraz** 90nm,0.1s	**3.77**	**335**	*e*P			**Pb**	**06 26 08.0**	**+0.1**
DZA	156nm,0.3s			⇓*i*S			**Sb**	**06 26 55.3**	**+1.7**
TKM2	**Tokmak 2** baz=22	**3.80**	**24**	⇓*i*P			**Pn**	**06 25 59.7**	**-0.3**
TKM2	baz=22			⇓*i*S			**Sn**	**06 26 44.6**	**-0.3**
TKM2	**Tokmak 2** 8.7nm,0.7s	**3.80**	**24**	⇓Pn			**Pn**	**06 25 59.5**	**-0.5**
TKM2	21nm,0.6s			⇑Lg			Lg	06 26 52.6	
USP	**Ospenovka** baz=8.0	**3.87**	**11**	⇑*i*P			**Pn**	**06 26 01.7**	**+0.9**
USP	baz=8.0			⇑*i*S			**Sn**	**06 26 46.9**	**+0.6**
KST	**Kastek** 44nm,0.6s	**4.03**	**27**	*e*P			**Pn**	**06 26 07.2**	**+4.0**
KST	47nm,0.7s			*e*S			**Sn**	**06 26 53.8**	**+3.3**
DGS	**Degeres** 13nm,0.5s	**4.14**	**24**	*e*P			**Pb**	**06 26 13.9**	**-0.3**
DGS	60nm,0.6s			*e*S			**Sb**	**06 27 05.2**	**+0.7**
KK31	**Karatay Array** 3.2nm,0.4s,baz=137,slow=13,SNR=31	**4.25**	**329**	Pn			**Pn**	**06 26 07.9**	**+1.9**
KK31	19nm,0.5s,baz=132,slow=31,SNR=5.5			⇓Lg			Lg	06 27 16.1	
BRLS	**Borolday** 4.1nm,0.4s	**4.37**	**320**	⇑*i*P			**Pg**	**06 26 23.8**	**-1.0**
BRLS	28nm,0.5s			⇓*i*S			**Sg**	**06 27 21.0**	**-0.4**
TNSS	**Tian-Shan** 5.8nm,0.5s	**4.42**	**35**	*e*P			**Pb**	**06 26 19.1**	**-0.1**
TNSS	46nm,0.7s			*e*S			**Sb**	**06 27 13.0**	**+0.2**
MDOK	**Medeo** 5.3nm,0.5s	**4.57**	**35**	*e*P			**Pb**	**06 26 21.0**	**-0.5**
MDOK	23nm,0.8s			*e*S			**Sb**	**06 27 17.0**	**+0.3**
KOTS	**Kotyrbulak**	**4.65**	**35**	*e*P			**Pb**	**06 26 22.9**	**0.0**
KOTS				*e*S			**Sb**	**06 27 19.3**	**+0.2**
KTBS	**Karatobe**	**4.87**	**29**	*e*P			**Pb**	**06 26 27.1**	**+0.4**
KTBS				*e*S			**Sb**	**06 27 26.5**	**+1.2**
KUU	**Kurty** 5.5nm,0.6s	**4.91**	**25**	*e*P			**Pb**	**06 26 26.1**	**-1.1**
KUU	32nm,0.6s			⇑*i*S			**Sb**	**06 27 25.4**	**-1.0**
CHKK	**Chushkaly** 8.9nm,0.8s	**5.13**	**30**	*e*P			**Pb**	**06 26 30.7**	**-0.3**
CHKK	31nm,0.7s			*e*S			**Sb**	**06 27 33.4**	**+0.8**
SATY	**Saty** 14nm,0.6s	**5.17**	**45**	*e*P			**Pb**	**06 26 31.9**	**+0.2**
SATY	24nm,0.8s			*e*S			**Sb**	**06 27 35.4**	**+1.5**
KURS	**Kuram**	**5.34**	**40**	*e*P			**Pb**	**06 26 34.6**	**-0.1**
KURS				*e*S			**Sb**	**06 27 39.3**	**+0.3**
KPKS	**Kokpek** 8.5nm,0.4s	**5.59**	**43**	*e*P			**Pb**	**06 26 37.2**	**-1.8**
KPKS	20nm,0.5s			*e*S			**Sb**	**06 27 43.8**	**-2.3**
ARXS	**Arharly** 6.7nm,0.8s	**5.75**	**33**	*e*P			**Pb**	**06 26 41.1**	**-0.4**
ARXS	22nm,0.6s			*e*S			**Sb**	**06 27 50.9**	**+0.4**
MNBS	**Baschi** 0.1nm,0.1s	**5.90**	**37**	*e*P			**Pb**	**06 26 44.3**	**+0.1**
MNBS	19nm,0.5s			*e*S			**Sb**	**06 27 56.0**	**+1.2**
PDGK	**Podgornoye** 1.4nm,0.7s	**5.94**	**48**	⇑Pn			Pn	06 26 23.3	-5.9
PDGK	19nm,0.8s			⇑Lg			Lg	06 28 01.1	
KTMS	**Ketmen** 3.1nm,0.6s	**6.52**	**50**	*e*P			**Pb**	**06 26 53.5**	**-1.3**
KTMS	7.3nm,0.9s			*e*S			**Sb**	**06 28 12.3**	**-0.5**
OTUK	**Ortayu** 4.6nm,0.7s	**8.80**	**355**	⇑Lg			Lg	06 29 34.8	
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=231,slow=13,SNR=3.1	**9.75**	**39**	Pn			Pn	06 27 33.6	+12
FINES	**FINESS Array B** 0.5nm,0.5s,baz=119,slow=13,SNR=3.4	**36.18**	**323**	P			**P**	**06 32 03.5**	**-0.1**
ARCES	**ARCESS Array B** 3.1nm,1.0s,baz=106,slow=8.9,SNR=4.4	**39.19**	**336**	P			**P**	**06 32 28.5**	**-0.4**
TORD	**Torodi Ar. Bea** 0.4nm,0.6s,baz=44,slow=4.7,SNR=5.1	**67.73**	**269**	P			**P**	**06 35 58.2**	**-1.0**

IDC 21 06:27:23.9±2.1,**7°55S**×**130°33E,h0**km,**mb3.8**/1, **mb1 3.9**/4,**mb1mx3.6**/32,**mbtmp3.7**/4,**ML3.6**/3,**MS3.7**/2, **Ms1 3.6**/2,**ms1mx2.8**/30,**Error ellipse: s-maj=81.5km s-min=27.9km az=78.0,Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=24,slow=10,SNR=16	**11.44**	**203**	Pn			Pn	06 30 09.8	+1.0
FITZ	1.1nm,0.3s,baz=142,slow=19,SNR=6.2			Sn			Sn	06 32 11.7	-5.7
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=344,slow=14,SNR=23	**12.92**	**163**	Pn			Pn	06 30 27.9	-1.2
WRA	1.0nm,0.3s,baz=335,slow=22,SNR=9.3			Sn			Sn	06 32 44.3	-9.4
ASAR	**Alice Springs** 0.2nm,0.3s,baz=344,slow=8.6,SNR=5.9	**16.39**	**168**	Pn			Pn	06 31 15.8	+0.1
ASAR	0.2nm,0.3s,baz=356,slow=28,SNR=4.9			Sn			Sn	06 34 11.1	-7.2
STKA	**Stephens Creek** comp=Z,160nm,18.4s,baz=211,slow=39	**26.39**	**158**	LR			LR	06 44 37.5	
MKAR	**Makanchi Array** 1.0nm,0.7s,baz=117,slow=7.7,SNR=8.7	**68.86**	**327**	P			P	06 38 30.4	0.0
ZALV	**Zalesovo Beam** comp=Z,39nm,19.5s,baz=69,slow=38	**72.21**	**334**	LR			LR	07 12 35.0	

IDC 21 06:45:24.8±2.2,**4°57S**×**129°09E,h0**km,**mb3.8**/1, **mb1 3.9**/3,**mb1mx3.6**/35,**mbtmp3.7**/3,**ML3.9**/2,**Error ellipse: s-maj=167.4km s-min=28.2km az=68.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=344,slow=13,SNR=21	**16.12**	**162**	Pn			Pn	06 49 11.7	-1.2
WRA	0.7nm,0.3s,baz=337,slow=22,SNR=11			Sn			Sn	06 51 57.8	-15
ASAR	**Alice Springs** 0.6nm,0.3s,baz=346,slow=11,SNR=34	**19.55**	**167**	P			P	06 49 54.8	+0.6
ASAR	0.1nm,0.3s,baz=190,slow=28,SNR=4.1			S			Sn	06 53 23.0	-13
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=114,slow=8.1,SNR=10	**65.71**	**327**	P			P	06 56 11.3	0.0

*DDA **21** 06:57:19.6,35°20N×27°60E,h18km,Ml3.6*
*IDC **21** 06:57:19.5±0.8,35°39N×27°75E,h0km,mb3.9/11, mb1 3.9/17,mb1mx3.7/44,mbtmp3.8/17,ML3.5/6,MS2.4/2, Ms1 2.4/2,ms1mx2.2/49,Error ellipse: s-maj=18.0km s-min=13.7km az=162.0*
*ISK **21** 06:57:21.5,35°10N×27°62E,h26km,ML3.6*
*ATH **21** 06:57:23.6,35°38N×27°75E,h30km±1km,ML3.7/10,Error ellipse: s-maj=1.6km s-min=0.9km az=147.0*
*NEIC **21** 06:57:24.7,35°34N×27°76E,h10km,mb3.7/2, ML4.0(THE),ML3.7(ATH),After ATH.*
*CSEM **21** 06:57:24.1±0.2,35°30N×27°78E,h20km,ML3.8,Error ellipse: s-maj=5.8km s-min=3.3km az=162.0*
*THE **21** 06:57:24.7,35°44N×27°75E,h0km,ML3.8/8,Error ellipse: s-maj=1.7km s-min=0.6km az=144.0*

ISC 21 06:57:23.5±1.0,**35°28N**±0°03×**27°80E**±0°02,**h29**km±8km, **n209,**σ1§**69**/265,**mb4.0**/12,**1D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.59**	**297**	PG			**Pb**	**06 57 33.9**	**-1.4**
KARP				SG			**Sb**	**06 57 42.9**	**-0.5**
KARP	**Karpathos**	**0.59**	**297**	P			**Pb**	**06 57 34.5**	**-0.9**
KARP				S			**Sb**	**06 57 42.7**	**-0.7**
KARP	**Karpathos**	**0.59**	**297**	*i* Pg			**Pb**	**06 57 33.9**	**-1.4**
KARP	**Karpathos**	**0.59**	**297**	P			**Pb**	**06 57 34.4**	**-0.9**
KARP				S			**Sb**	**06 57 42.5**	**-0.9**
KARP	**Karpathos**	**0.59**	**297**	P			**Pb**	**06 57 34.4**	**-0.9**
KARP				S			**Sb**	**06 57 42.5**	**-0.9**
KARP	comp=N,50180μm,0.3s			AML			AML	06 57 43.5	
KARP	comp=E,35636μm,0.5s			AML			AML	06 57 43.9	
ARG	**Arkhangelos**	**0.97**	**16**	P			**Pb**	**06 57 41.8**	**+0.1**
ARG				S			**Sb**	**06 57 54.8**	**+0.7**
ARG	**Arkhangelos**	**0.97**	**16**	P			**Pb**	**06 57 41.8**	**+0.1**
ARG				S			**Sb**	**06 57 54.8**	**+0.7**
ZKR	**Zakros**	**1.31**	**263**	P			**Pb**	**06 57 47.8**	**+0.4**
ZKR				S			**Sb**	**06 58 07.6**	**+3.8**
ZKR	**Zakros**	**1.31**	**263**	P			**Pb**	**06 57 47.8**	**+0.4**
ZKR				S			**Sb**	**06 58 04.7**	**+0.9**
ZKR	**Zakros**	**1.31**	**263**	P			**Pb**	**06 57 47.3**	**-0.2**
ZKR				S			**Sb**	**06 58 04.7**	**+0.9**
ZKR	comp=N,5446μm,0.8s			AML			AML	06 58 14.1	
ZKR	comp=E,7231μm,0.4s			AML			AML	06 58 17.0	
NIS1	**Nisyros Isl.**	**1.41**	**339**	PN			**Pb**	**06 57 48.2**	**-1.0**
NIS1	**Nisyros Isl.**	**1.41**	**339**	P			**Pn**	**06 57 47.9**	**+0.7**
NIS1	**Nisyros Isl.**	**1.41**	**339**	P			**Pn**	**06 57 47.9**	**+0.7**
NIS1	**Nisyros Isl.**	**1.41**	**339**	*i* Pn			**Pb**	**06 57 48.2**	**-1.0**
NIS1				S			**Sb**	**06 58 05.4**	**-1.4**
NIS1	**Nisyros Isl.**	**1.41**	**339**	P			**Pn**	**06 57 47.8**	**+0.6**
NIS1				S			**Sb**	**06 58 05.4**	**-1.4**
NIS1	comp=E,10650μm,0.5s			AML			AML	06 58 12.5	
NIS1	comp=N,9546μm,0.6s			AML			AML	06 58 15.8	
NISR	**Nisiros**	**1.44**	**338**	P			**Pb**	**06 57 48.4**	**-1.1**
NISR				S			**Sb**	**06 58 06.2**	**-1.2**
NISR	**Nisiros**	**1.44**	**338**	P			**Pb**	**06 57 48.4**	**-1.1**
NISR				S			**Sb**	**06 58 06.2**	**-1.2**
NISR	**Nisiros**	**1.44**	**338**	P			**Pn**	**06 57 47.9**	**+0.4**
NISR				S			**Sb**	**06 58 07.0**	**-0.4**
NISR	comp=N,3776μm,0.6s			AML			AML	06 58 17.9	
NISR	comp=E,5450μm,0.8s			AML			AML	06 58 18.7	
DALY	**Dalyan (Mu˘la**	**1.68**	**24**	PN			**Pb**	**06 57 53.3**	**-0.4**
DALY	**Dalyan (Mu˘la**	**1.68**	**24**	*i* Pn			**Pb**	**06 57 53.3**	**-0.4**
KSL	**Kastellorizon**	**1.69**	**59**	P			**Pn**	**06 57 53.0**	**+2.1**
KSL	**Kastellorizon**	**1.69**	**59**	P			**Pn**	**06 57 52.9**	**+1.9**
KSL				S			**Sn**	**06 58 13.8**	**+2.3**
KSL	comp=E,1173μm,0.8s			AML			AML	06 58 36.1	
KSL	comp=N,747μm,0.9s			AML			AML	06 58 47.0	
FETY	**Fethiye**	**1.70**	**37**	PN			**Pb**	**06 57 53.6**	**-0.5**
FETY				SN			**Sb**	**06 58 17.1**	**+1.9**
FETY	**Fethiye**	**1.70**	**37**	P			**Pn**	**06 57 52.9**	**+1.7**
FETY	**Fethiye**	**1.70**	**37**	P			**Pn**	**06 57 52.9**	**+1.7**
FETY	**Fethiye**	**1.70**	**37**	*i* Pn			**Pb**	**06 57 53.6**	**-0.5**
FETY				*i* Sn			**Sb**	**06 58 17.1**	**+1.9**
TURN	**Turunc**	**1.71**	**22**	*i* P			**Pn**	**06 57 50.8**	**-0.5**
TURN				*i* S			**Sn**	**06 58 12.8**	**+0.5**
AKAS	**Kas**	**1.75**	**57**	P			**Pn**	**06 57 54.0**	**+2.1**
AKAS				S			**Sb**	**06 58 17.5**	**+1.0**
AKAS	**Kas**	**1.75**	**57**	*i* P			**Pn**	**06 57 54.0**	**+2.1**
AKAS				*i* S			**Sb**	**06 58 17.5**	**+1.0**
NPS	**Neapolis**	**1.79**	**270**	P			**Pn**	**06 57 53.3**	**+0.9**
NPS				S			**Sb**	**06 58 17.2**	**-0.5**
NPS	**Neapolis**	**1.79**	**270**	P			**Pn**	**06 57 53.3**	**+0.9**
NPS				S			**Sb**	**06 58 17.2**	**-0.5**
NPS	comp=E,3810μm,0.5s			AML			AML	06 58 25.4	
NPS	comp=N,3282μm,1.1s			AML			AML	06 58 28.2	
BDRM	**Kayabasi**	**1.80**	**351**	P			**Pn**	**06 57 53.3**	**+0.7**
BDRM				S			**Sb**	**06 58 15.9**	**-2.1**
BDRM	**Kayabasi**	**1.80**	**351**	*i* P			**Pn**	**06 57 53.3**	**+0.7**
BDRM				*i* S			**Sb**	**06 58 15.9**	**-2.1**
BODT	**Bodrum**	**1.82**	**348**	PN			**Pn**	**06 57 53.5**	**+0.7**
BODT	**Bodrum**	**1.82**	**348**	P			**Pn**	**06 57 53.0**	**+0.2**
BODT				S			**Sb**	**06 58 16.6**	**-1.9**
BODT	**Bodrum**	**1.82**	**348**	P			**Pn**	**06 57 53.0**	**+0.2**
BODT	**Bodrum**	**1.82**	**348**	*i* Pn			**Pn**	**06 57 53.5**	**+0.7**
BODT				S			**Sb**	**06 58 16.6**	**-1.9**
YER	**Yerkesik**	**1.89**	**12**	PN			**Pb**	**06 57 56.0**	**-1.2**
YER				SN			**Sb**	**06 58 21.1**	**+0.6**
YER	**Yerkesik**	**1.89**	**12**	P			**Pn**	**06 57 55.2**	**+1.4**
YER				S			**Sn**	**06 58 17.9**	**+1.3**
YER	**Yerkesik**	**1.89**	**12**	P			**Pn**	**06 57 55.2**	**+1.4**
YER	**Yerkesik**	**1.89**	**12**	*i* Pn			**Pb**	**06 57 56.1**	**-1.2**
YER				S			**Sn**	**06 58 17.9**	**+1.3**
YER				*i* Sn			**Sb**	**06 58 21.1**	**+0.6**
LAST	**Lasithi**	**1.91**	**267**	P			**Pb**	**06 57 57.1**	**-0.5**
LAST				S			**Sb**	**06 58 22.3**	**+1.3**
**LA

comp=N,19nm,0.3s,baz=106,slow=14,SNR=63
IDI LR LR 06 58 52.3
comp=N,79nm,18.2s,baz=89,slow=40
IDI Anoyia 2.38 271 P **Pn 06 58 02.7 +2.1**
IDI S **Sb 06 58 33.0 -1.7**
IDI Anoyia 2.38 271 P **Pn 06 58 02.7 +2.1**
IDI Anoyia 2.38 271 Pn **Pn 06 58 01.3 +0.8**
IDI *e*Pn **Pn 06 58 02.7 +2.1**
IDI Anoyia 2.38 271 P **Pn 06 58 02.7 +2.1**
IDI AML AML 06 58 42.2
comp=N,1005µm,0.7s
IDI AML AML 06 58 44.0
comp=E,980µm,0.5s
GOLH Golhisar 2.41 36 P **Pn 06 58 03.8 +2.8**
GOLH Golhisar 2.41 36 *i* P **Pn 06 58 03.8 +2.8**
GOLH *i* S **Sb 06 58 36.4 +0.8**
GCAM G?zelcaml? 2.46 349 P **Pn 06 58 02.7 +1.2**
GCAM G?zelcaml? 2.46 349 *i* P **Pn 06 58 02.7 +1.2**
GCAM *i* S **Sb 06 58 35.6 -1.1**
SIVA Sivas 2.47 265 P **Pb 06 58 05.1 -2.0**
SIVA Sivas 2.47 265 P **Pn 06 58 04.2 +2.6**
SIVA Sivas 2.47 265 P **Pn 06 58 04.2 +2.6**
SMG Samos 2.54 342 P **Pn 06 58 03.6 +0.9**
SMG Samos 2.54 342 P **Pn 06 58 03.6 +0.9**
SMG S **Sn 06 58 32.8 +0.1**
SMG Samos 2.54 342 P **Pn 06 58 03.4 +0.7**
SMG S **Sn 06 58 32.8 +0.1**
SMG AML AML 06 58 48.6
comp=N,580µm,0.7s
SMG AML AML 06 58 48.9
comp=E,861µm,0.9s
APE Apeiranthos 2.56 315 *e*PN **Pn 06 58 03.0 0.0**
APE *e*SN **Sn 06 58 33.0 -0.1**
APE Apeiranthos 2.56 315 P **Pn 06 58 03.6 +0.6**
APE S **Sn 06 58 34.4 +1.2**
APE Apeiranthos 2.56 315 *e*Pn **Pn 06 58 03.0 0.0**
APE Apeiranthos 2.56 315 P **Pn 06 58 03.6 +0.6**
APE S **Sn 06 58 32.3 -0.9**
APE *e*Sn **Sn 06 58 33.1 -0.1**
APE Apeiranthos 2.56 315 P **Pn 06 58 03.3 +0.3**
APE S **Sn 06 58 32.3 -0.9**
APE AML AML 06 58 35.0
comp=N,1525µm,0.7s
APE AML AML 06 58 35.5
comp=E,1031µm,0.4s
DNZL Cakiroluk 2.60 22 P **Pn 06 58 04.9 +1.2**
DNZL Cakiroluk 2.60 22 *i* P **Pn 06 58 04.9 +1.2**
DNZL *i* S **Sb 06 58 43.3 +2.1**
AYDB Zeytinkoy-Aydi 2.66 2 *e*PN **Pn 06 58 06.6 +2.1**
AYDB Zeytinkoy-Aydi 2.66 2 *e*Pn **Pn 06 58 06.6 +2.1**
KORT Korkueli 2.68 50 P **Pb 06 58 09.4 -1.4**
KORT Korkueli 2.68 50 *i* P **Pb 06 58 09.4 -1.4**
ANTB Antalya 2.82 54 *e*PN **Pn 06 58 09.5 +3.0**
ANTB *e*SN **Sb 06 58 44.5 -2.6**
ANTB Antalya 2.82 54 *e*Pn **Pn 06 58 09.5 +3.0**
ANTB *e*Sn **Sb 06 58 44.5 -2.6**
DGB ¯zmir 2.86 345 *i* P **Pn 06 58 07.7 +0.6**
VAM Vamos 2.95 273 P **Pn 06 58 10.1 +1.8**
VAM Vamos 2.95 273 P **Pn 06 58 10.1 +1.8**
GVD Gavdhos 3.08 263 P **Pn 06 58 12.6 +2.5**
GVD Gavdhos 3.08 263 P **Pn 06 58 12.3 +2.2**
GVD Gavdhos 3.08 263 P **Pn 06 58 12.3 +2.2**
MHLO Agia Marina, M 3.10 298 P **Pn 06 58 12.4 +2.1**
MHLO Agia Marina, M 3.10 298 P **Pn 06 58 11.9 +1.6**
MHLO Agia Marina, M 3.10 298 P **Pn 06 58 11.9 +1.6**
IMMV Iera Moni Meta 3.13 274 P **Pn 06 58 13.5 +2.7**
IMMV Iera Moni Meta 3.13 274 P **Pn 06 58 12.6 +1.8**
IMMV Iera Moni Meta 3.13 274 P **Pn 06 58 12.6 +1.8**
ZEY ¯zmir 3.13 341 *i* P **Pn 06 58 11.7 +0.9**
IZM Izmir 3.14 352 *e*PN **Pn 06 58 13.6 +2.6**
IZM Izmir 3.14 352 *e*Pn **Pn 06 58 13.6 +2.6**
URLA Izmir 3.22 343 P **Pn 06 58 13.0 +1.0**
URLA Izmir 3.22 343 *i* P **Pn 06 58 13.0 +1.0**
KHL Karahalli 3.33 24 *e*PN **Pn 06 58 16.7 +3.0**
KHL Karahalli 3.33 24 *e*Pn **Pn 06 58 16.7 +3.0**
CHOS Chios island 3.40 336 *e*PN **Pn 06 58 16.0 +1.4**
CHOS Chios island 3.40 336 P **Pn 06 58 15.8 +1.2**
CHOS S **Sn 06 58 55.2 +1.2**
CHOS Chios island 3.40 336 P **Pn 06 58 15.8 +1.2**
CHOS S **Sn 06 58 55.2 +1.2**
CHOS Chios island 3.40 336 P **Pn 06 58 15.8 +1.2**
AKS Akhisar 3.59 0 *e*PN **Pn 06 58 19.6 +2.5**
AKS Akhisar 3.59 0 *e*Pn **Pn 06 58 19.7 +2.5**
ANKY Antikythira Is 3.71 280 P **Pn 06 58 20.2 +1.4**
ANKY Antikythira Is 3.71 280 P **Pn 06 58 20.2 +1.4**
ANKY Antikythira Is 3.71 280 P **Pn 06 58 19.5 +0.6**
DKL Dikili 3.85 350 *e*PN **Pn 06 58 23.0 +2.4**
DKL Dikili 3.85 350 *e*Pn **Pn 06 58 23.0 +2.4**
KYTH Kithira 3.99 286 P **Pn 06 58 24.0 +1.4**
KYTH Kithira 3.99 286 P **Pn 06 58 24.0 +1.4**
VLY Voula,Athens 4.12 310 P **Pn 06 58 26.1 +1.7**
VLY Voula,Athens 4.12 310 P **Pn 06 58 26.1 +1.7**
VLY Voula,Athens 4.12 310 P **Pn 06 58 26.2 +1.8**
ATHU Athens Univers 4.20 311 P **Pn 06 58 27.3 +1.8**
ATHU Athens Univers 4.20 311 P **Pn 06 58 27.3 +1.8**
VLI Veliai 4.20 291 P **Pn 06 58 26.5 +1.0**
VLI Veliai 4.20 291 P **Pn 06 58 26.5 +1.0**
VLI Veliai 4.20 291 P **Pn 06 58 26.2 +0.8**
SIGR SIGRI 4.22 339 *e*PN **Pn 06 58 27.5 +1.8**
SIGR SIGRI 4.22 339 P **Pn 06 58 27.0 +1.3**
SIGR SIGRI 4.22 339 P **Pn 06 58 27.0 +1.3**
SIGR SIGRI 4.22 339 *e*Pn **Pn 06 58 27.5 +1.8**
DID Didima 4.30 302 P **Pn 06 58 28.7 +1.8**
DID Didima 4.30 302 P **Pn 06 58 28.7 +1.8**
DID Didima 4.30 302 P **Pn 06 58 27.7 +0.8**
KRND KRANIDI 4.30 301 P **Pn 06 58 29.2 +2.3**
KRND KRANIDI 4.30 301 P **Pn 06 58 29.2 +2.3**
KRND KRANIDI 4.30 301 P **Pn 06 58 29.6 +2.7**
VILL Villia 4.61 310 P **Pn 06 58 33.0 +1.8**
VILL Villia 4.61 310 P **Pn 06 58 33.0 +1.8**
LTK Loutraki 4.75 307 P **Pn 06 58 35.0 +1.9**
LTK Loutraki 4.75 307 P **Pn 06 58 34.6 +1.5**
LTK Loutraki 4.75 307 P **Pn 06 58 34.6 +1.5**
VLX Vlachokerasia 4.85 297 P **Pn 06 58 36.5 +2.0**
VLX Vlachokerasia 4.85 297 P **Pn 06 58 36.5 +2.0**
VLX Vlachokerasia 4.85 297 P **Pn 06 58 36.7 +2.2**
ITM Ithomi 5.11 293 P **Pn 06 58 39.8 +1.7**
ITM Ithomi 5.11 293 P **Pn 06 58 39.8 +1.7**
ITM Ithomi 5.11 293 P **Pn 06 58 39.1 +1.0**
PYL PYLOS 5.17 290 P **Pn 06 58 39.6 +0.8**
PYL PYLOS 5.17 290 P **Pn 06 58 39.6 +0.8**
PYL PYLOS 5.17 290 P **Pn 06 58 39.1 +0.3**
DSF Desfina 5.26 308 P **Pn 06 58 42.0 +1.9**
DSF Desfina 5.26 308 P **Pn 06 58 42.0 +1.9**
KLV Kalavryta, Ach 5.31 303 P **Pn 06 58 43.2 +2.3**
KLV Kalavryta, Ach 5.31 303 P **Pn 06 58 43.2 +2.3**
SERG Sergoula 5.57 306 P **Pn 06 58 46.7 +2.4**
SERG Sergoula 5.57 306 P **Pn 06 58 46.7 +2.4**
BRTR Keskin Array B 6.42 45 Pn **Pn 06 58 56.5 +0.4**
comp=E,0.3nm,0.3s,baz=216,slow=14,SNR=6.9
BRTR Sn **Sn 07 00 08.0 -0.4**
comp=E,0.7nm,0.3s,baz=214,slow=26,SNR=8.2
ARNB Al Arnab 6.68 83 *e*P **Sn 07 00 13.4 -1.5**
ARNB *e*P **Sn 07 00 14.3 -0.6**
MMAI Mount Meron Ar 6.69 108 Pn **Pn 06 59 00.1 +0.3**
comp=E,2.2nm,0.3s,baz=298,slow=12,SNR=5.2
MMAI Sn **Sn 07 00 16.7 +1.5**
comp=E,7.0nm,0.3s,baz=306,slow=28,SNR=6.8
BIDA Albida 6.98 90 *e*P **Sn 07 00 17.9 -4.4**
WRDH Warideh 7.04 86 *e*P **Sn 07 00 16.7 -6.8**
BTCH Batrach 7.09 81 *e*P **Sn 07 00 20.1 -4.7**
HAWK Haweek 7.11 94 *e*P **Sn 07 00 19.1 -6.3**
MARH Ras Al Marh 7.26 97 *e*P Sn 07 00 21.4 -8.1
DRWC Darouich 7.31 77 *e*P Sn 07 00 17.9 -12
ROOS tl_alroos 7.89 95 *e*P **Sn 07 00 41.1 -3.5**
EIL Elat 8.23 131 Pn **Pn 06 59 22.3 +1.5**
comp=E,1.1nm,0.3s,baz=293,slow=5.2,SNR=9.1
EIL Sn **Sn 07 00 50.8 -2.1**
comp=E,2.7nm,0.3s,baz=325,slow=18,SNR=8.3
BARS Barje 8.85 330 *e*Pn **Pn 06 59 32.4 +3.1**
TIP Timpagrande 9.63 297 *e*Pn **Pn 06 59 38.9 -1.1**
comp=E,7.3nm,0.3s
TIP Timpagrande 9.63 297 *e*Pn **Pn 06 59 38.9 -1.1**
comp=E,7.3nm,0.3s
MLR Muntele Rosu 10.29 353 Pn **Pn 06 59 49.2 -0.1**
comp=E,0.0nm,0.3s,baz=231,slow=14,SNR=2.0
MLR LR LR 07 04 32.0
comp=E,21nm,20.9s,baz=134,slow=42
MDVR Moldovita 10.57 336 ‖ *i*P **Pn 06 59 56.2 +3.3**
CUC Castrocucco 10.60 300 *e*Pn **Pn 06 59 53.6 +0.2**
comp=E,14nm,0.6s
CUC Castrocucco 10.60 300 *e*Pn **Pn 06 59 53.6 +0.2**
comp=E,14nm,0.6s
KEST Kesra 15.04 277 Pn **Pn 07 00 56.5 +2.5**
comp=E,0.3nm,0.3s,baz=26,slow=5.5,SNR=8.8
GERES GERESS Array B 17.09 327 Pn **Pn 07 01 19.4 -0.7**
comp=E,0.2nm,0.3s,baz=143,slow=12,SNR=9.3
KHC Kasperske Hory 17.35 327 *e*P **Pn 07 01 23.6 +0.2**
KHC Kasperske Hory 17.35 327 *e*Pn **Pn 07 01 23.3 -0.1**
comp=E,2.8nm,1.1s
KHC Kasperske Hory 17.35 327 *e*Pn **Pn 07 01 23.3 -0.1**
comp=E,2.8nm,1.1s
ESDC Sonseca Array 25.51 289 P **P 07 02 49.5 +0.1**
comp=E,3.7nm,0.5s,baz=80,slow=9.5,SNR=30
PAB San Pablo 25.81 289 *e*P **P 07 02 51.9 -0.2**
comp=E,3.8nm,0.8s
PAB San Pablo 25.81 289 *e*P **P 07 02 51.9 -0.2**
comp=E,3.8nm,0.8s
FINES FINESS Array B 26.20 358 P **P 07 02 53.5 -1.7**
comp=E,1.9nm,0.8s,baz=170,slow=12,SNR=4.7
HFS Hagfors 26.50 344 P **P 07 02 57.4 -0.6**
comp=E,1.8nm,0.6s,baz=153,slow=17,SNR=4.1
TORD Torodi Ar. Bea 32.26 233 P **P 07 03 50.1 +0.5**
comp=E,2.2nm,0.5s,baz=34,slow=8.6,SNR=31
KURBB Kurchatov Arra 39.36 51 P **P 07 04 50.6 +0.5**
comp=E,0.2nm,0.4s,baz=275,slow=9.0,SNR=3.0
KURK Kurchatov 39.42 51 P **P 07 04 50.6 0.0**
KURK Kurchatov 39.42 51 P **P 07 04 50.6 0.0**
DBIC Dimbokro 41.36 234 P **P 07 05 06.8 -0.1**
comp=E,7.8nm,1.1s,baz=30,slow=9.6,SNR=4.3
MKAR Makanchi Array 41.90 57 P **P 07 05 10.9 -0.3**
comp=E,0.2nm,0.5s,baz=280,slow=7.5,SNR=2.7
SPITS Spitsbergen Ar 43.28 357 P **P 07 05 21.8 -0.1**
comp=E,3.9nm,1.0s,baz=153,slow=14,SNR=4.9
SONM Songino Array 57.73 51 P **P 07 07 13.7 +2.1**
comp=E,0.2nm,0.3s,baz=298,slow=9.3,SNR=2.3
SCHQ Schefferville 64.48 320 P **P 07 07 56.1 -1.0**
comp=E,2.9nm,0.8s,baz=50,slow=6.5,SNR=6.3
YKA Yellowknife Ar 77.98 343 P **P 07 09 17.2 -1.3**
comp=E,0.2nm,0.6s,baz=49,slow=6.6,SNR=3.3

MAN 21 07:22:21,13.44N×120.79E,h4km,mb4.1,ML2.9,MS2.7, Mindoro

IDC 21 07:32:36.4±4.0, 11.81S×165.75E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/43, mbtmp3.8/4, MS2.9/2, Ms1 2.9/2, ms1mx2.6/34, Error ellipse: s-maj=167.9km s-min=32.5km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.17**	**292**	LR		LR	LR	07 36 20.6	
comp=Z,89nm,21.9s,baz=138,slow=36									
PMG	**Port Moresby**	**18.43**	**276**	LR		LR		07 42 58.6	
comp=Z,52nm,20.6s,baz=49,slow=34									
WRA	**Warramunga Arr**	**31.23**	**251**	P		P		07 38 58.2	+0.3
2.5nm,0.9s,baz=81,slow=9.2,SNR=12									
ASAR	**Alice Springs**	**32.46**	**244**	P		P		07 39 08.1	-0.6
0.9nm,1.0s,baz=80,slow=10,SNR=6.0									
ILAR	**Eielson Array**	**84.24**	**18**	P		P		07 45 09.3	-0.2
0.4nm,0.8s,baz=238,slow=5.4,SNR=5.0									
MKAR	**Makanchi Array**	**94.08**	**317**	P		P		07 45 57.3	+0.4
0.4nm,0.6s,baz=93,slow=6.1,SNR=4.7									

*ISCJB **21** 07:35:03.3±0.3, 43.79S±0.04×171.96E±0.04, h16km, mb3.7/2, Error ellipse: s-maj=6.1km s-min=2.9km az=143.1*
*IDC **21** 07:35:04.4±1.6, 43.65S×171.83E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/33, mbtmp3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=58.2km s-min=12.2km az=171.0*
*WEL **21** 07:35:06.2±0.1, 43.70S×171.77E, h12km, ML4.3/43, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*
WEL Felt from West Coast to Canterbury, maximum reported intensity MM 5.
*NEIC **21** 07:35:06.2, 43.70S×171.75E, h12km, ML4.3(WEL), After WEL.*
NEIC Felt in Canterbury.

ISC 21 07:35:04.4±0.8, 43.71S±0.04×171.86E±0.04, h16km, n76, σ1.936/78, 5C-7D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.41**	**19**	↑ *e*P*			**Pb**	**07 35 14.1**	**+0.9**
MQZ	**McQueen's Vall**	**0.58**	**90**	↓ P*			**Pn**	**07 35 18.4**	**+0.5**
MQZ						AML	AML	07 35 29.3	
MQZ						AML	AML	07 35 29.6	
RPZ	**Rata Peaks**	**0.58**	**269**	Pg			**Pb**	**07 35 16.1**	**-0.1**
898nm,0.3s,baz=102,slow=4.7,SNR=3.0									
RPZ				Lg			Lg	07 35 22.8	
1µm,0.3s,baz=354,slow=19,SNR=57									
RPZ	**Rata Peaks**	**0.58**	**269**	↓ P*			**Pb**	**07 35 16.2**	**-0.1**
RPZ				S*			**Sb**	**07 35 23.3**	**-1.0**
RPZ						AML	AML	07 35 23.5	
RPZ	**Rata Peaks**	**0.58**	**269**	*e*Pg			**Pb**	**07 35 16.0**	**-0.1**
RPZ				*e*Sg			**Sb**	**07 35 22.3**	**-1.9**
RPZ				Lg			Lg	07 35 22.8	
LTZ	**Lake Taylor**	**0.98**	**18**	P*			**Pn**	**07 35 23.9**	**+0.5**
LTZ						AML	AML	07 35 41.6	
LTZ						AML	AML	07 35 42.9	
INZ	**Inchbonnie**	**1.03**	**343**	P*			**Pn**	**07 35 24.2**	**0.0**
WVZ	**Waitaha Valley**	**1.04**	**308**	↑ P*			**Pn**	**07 35 24.4**	**+0.2**
WVZ				S*			**Sn**	**07 35 38.0**	**-0.3**
WVZ						AML	AML	07 35 39.6	
ODZ	**Otahua Downs**	**1.59**	**213**	↑ PN			**Pn**	**07 35 32.4**	**+0.5**
ODZ						AML	AML	07 35 57.5	
ODZ						AML	AML	07 35 57.5	
ODZ						AML	AML	07 35 57.8	
ODZ						AML	AML	07 35 57.8	
ODZ	**Otahua Downs**	**1.59**	**213**	*e*Pn			**Pn**	**07 35 32.4**	**+0.5**
ODZ				*e*Pg			**Pg**	**07 35 36.0**	**+1.0**
ODZ				*e*Sg			**Sg**	**07 35 56.1**	**+0.5**
KHZ	**Kahutara**	**1.79**	**44**	PN			**Pn**	**07 35 35.5**	**+1.0**
KHZ	**Kahutara**	**1.79**	**44**	*e*Pn			**Pn**	**07 35 35.2**	**+0.7**
DSZ	**Denniston Nort**	**1.97**	**359**	↓ PN			**Pb**	**07 35 37.7**	**-2.1**
DSZ						AML	AML	07 36 08.5	
DSZ						AML	AML	07 36 08.6	
DSZ						AML	AML	07 36 14.6	
DSZ						AML	AML	07 36 14.6	
THZ	**Tophouse**	**2.10**	**22**	PN			**Pn**	**07 35 39.6**	**+0.7**
THZ						AML	AML	07 36 08.0	
THZ						AML	AML	07 36 09.7	
JCZ	**Jackson Bay**	**2.25**	**260**	↓ PN			**Pn**	**07 35 41.5**	**+0.5**
JCZ						AML	AML	07 36 23.1	
JCZ						AML	AML	07 36 24.2	
WKZ	**Wanaka**	**2.33**	**240**	PN			**Pn**	**07 35 42.1**	**+0.1**
WKZ						AML	AML	07 36 19.8	
WKZ						AML	AML	07 36 19.8	
WKZ						AML	AML	07 36 26.8	
WKZ						AML	AML	07 36 26.9	
HHSZ	**Highcliff Hill**	**2.35**	**202**	PN			**Pn**	**07 35 42.5**	**+0.2**
EAZ	**Earnscleugh**	**2.38**	**229**	↓ PN			**Pn**	**07 35 42.8**	**+0.1**
EAZ						AML	AML	07 36 22.9	
EAZ						AML	AML	07 36 24.5	
BSWZ	**Blackbirch Sta**	**2.49**	**37**	PN			**Pn**	**07 35 45.5**	**+1.3**
BSWZ						AML	AML	07 35 56.5	
BSWZ						AML	AML	07 36 19.3	
NNZ	**Nelson**	**2.73**	**25**	↓ PN			**Pn**	**07 35 49.1**	**+1.5**
NNZ						AML	AML	07 36 24.3	
NNZ						AML	AML	07 36 24.8	
NNZ						AML	AML	07 36 24.8	
NNZ						AML	AML	07 36 26.5	
TUZ	**Tuapeka**	**2.75**	**214**	↑ PN			**Pn**	**07 35 48.2**	**+0.5**
TUZ						AML	AML	07 36 35.1	
TUZ						AML	AML	07 36 41.1	
TUWZ	**Tuamarina**	**2.75**	**35**	AML		AML	AML	07 36 23.6	
TUWZ						AML	AML	07 36 25.4	
QRZ	**Quartz Range**	**2.93**	**10**	↑ PN			**Pn**	**07 35 50.8**	**+0.6**
QRZ						AML	AML	07 36 02.1	
QRZ						AML	AML	07 36 47.9	
MSZ	**Milford Sound**	**2.99**	**250**	PN			**Pn**	**07 35 50.7**	**-0.3**
MSZ						AML	AML	07 36 43.5	
MSZ						AML	AML	07 36 43.6	
TCW	**Tory Channel**	**3.07**	**36**	PN			**Pn**	**07 35 52.9**	**+0.7**
TCW						AML	AML	07 36 30.6	
TCW						AML	AML	07 36 30.8	
MLZ	**Mavora Lakes**	**3.15**	**237**	PN			**Pn**	**07 35 53.1**	**-0.1**
MLZ						AML	AML	07 36 53.3	
MLZ						AML	AML	07 36 56.5	
SNZO	**South Karori**	**3.19**	**42**	*e*Pn			**Pn**	**07 35 54.2**	**+0.4**
SNZO				*e*Sn			**Sn**	**07 36 32.5**	**+1.0**
BHW	**Baring Head**	**3.20**	**45**	PN			**Pn**	**07 35 54.4**	**+0.4**
BHW						AML	AML	07 36 31.8	
BHW						AML	AML	07 36 36.7	
WEL	**Wellington**	**3.24**	**43**	PN			**Pn**	**07 35 54.8**	**+0.3**
DUWZ	**D'Urville Isla**	**3.29**	**28**	PN			**Pn**	**07 35 56.6**	**+1.4**
PLWZ	**Palliser**	**3.30**	**51**	PN			**Pn**	**07 35 55.5**	**+0.2**
MSWZ	**Moikau Station**	**3.40**	**49**	PN			**Pn**	**07 35 56.6**	**-0.1**
MSWZ						AML	AML	07 36 36.0	
MSWZ						AML	AML	07 36 37.2	
SYZ	**Scrubby Hill**	**3.42**	**213**	↓ PN			**Pn**	**07 35 57.6**	**+0.7**
SYZ						AML	AML	07 37 00.1	
SYZ						AML	AML	07 37 00.1	
SYZ						AML	AML	07 37 03.0	
SYZ						AML	AML	07 37 03.1	
PAWZ	**Paruwai Farm**	**3.52**	**50**	PN			**Pn**	**07 35 58.1**	**-0.3**
PAWZ						AML	AML	07 36 41.0	
PAWZ						AML	AML	07 36 42.8	
CAW	**Cannon Point**	**3.52**	**43**	PN			**Pn**	**07 35 58.4**	**0.0**
CAW						AML	AML	07 36 42.0	
CAW						AML	AML	07 36 42.1	
WHZ	**Wether Hill Ro**	**3.54**	**231**	PN			**Pn**	**07 35 57.7**	**-0.9**
WHZ						AML	AML	07 37 02.8	
WHZ						AML	AML	07 37 07.2	
WHZ	**Wether Hill Ro**	**3.54**	**231**	*e*Pn			**Pn**	**07 35 58.3**	**-0.3**
WHZ				*e*Pg			**Pg**	**07 36 10.4**	**-1.6**
KIW	**Kapiti Island**	**3.64**	**40**	PN			**Pn**	**07 36 00.5**	**+0.5**
KIW						AML	AML	07 36 45.6	
KIW						AML	AML	07 36 45.7	
TRWZ	**Traveller**	**3.65**	**52**	PN			**Pn**	**07 36 00.5**	**+0.3**
TRWZ						AML	AML	07 36 45.1	
MTW	**Mount Morrison**	**3.71**	**48**	PN			**Pn**	**07 36 00.6**	**-0.4**
MTW						AML	AML	07 36 45.8	
MTW						AML	AML	07 36 48.2	
DCZ	**Deep Cove**	**3.79**	**241**	PN			**Pn**	**07 36 01.7**	**-0.3**
DCZ						AML	AML	07 36 51.4	
DCZ						AML	AML	07 37 09.8	
OGWZ	**Otaki Gorge**	**3.80**	**41**	PN			**Pn**	**07 36 02.1**	**0.0**
TMWZ	**Te Maipa**	**3.96**	**50**	PN			**Pn**	**07 36 03.8**	**-0.7**
MRZ	**Mangatainoka R**	**4.12**	**43**	PN			**Pn**	**07 36 05.9**	**-0.7**
APZ	**The Paps**	**4.15**	**220**	PN			**Pn**	**07 36 07.1**	**+0.1**
APZ						AML	AML	07 37 20.5	
APZ						AML	AML	07 37 28.9	
TIWZ	**Tintock**	**4.19**	**47**	PN			**Pn**	**07 36 08.0**	**+0.4**
TIWZ						AML	AML	07 36 56.6	
TIWZ						AML	AML	07 36 58.7	
OHWZ	**Ohakea**	**4.35**	**38**	PN			**Pn**	**07 36 10.6**	**+0.8**
PRWZ	**Pori Road**	**4.39**	**46**	PN			**Pn**	**07 36 10.8**	**+0.5**
BFZ	**Birch Farm**	**4.45**	**49**	PN			**Pn**	**07 36 10.2**	**-1.0**
BFZ						AML	AML	07 37 03.7	
BFZ						AML	AML	07 37 04.8	
NMEZ	**Namu Road**	**4.55**	**20**	PN			**Pn**	**07 36 15.1**	**+2.5**
WAZ	**Wanganui**	**4.59**	**32**	PN			**Pn**	**07 36 16.0**	**+2.9**
WAZ						AML	AML	07 37 13.4	
WAZ						AML	AML	07 37 14.8	
DVHZ	**Dannevirke**	**4.68**	**45**	PN			**Pn**	**07 36 14.3**	**-0.1**
NWEZ	**Newall Road**	**4.68**	**19**	PN			**Pn**	**07 36 16.4**	**+2.0**
PREZ	**Palmer Road**	**4.70**	**22**	PN			**Pn**	**07 36 16.6**	**+2.1**
KHEZ	**Kahui Hut**	**4.70**	**21**	PN			**Pn**	**07 36 16.7**	**+2.0**
ANWZ	**Angora Road**	**4.73**	**48**	PN			**Pn**	**07 36 14.9**	**-0.1**
TSZ	**Takapari Road**	**4.76**	**41**	PN			**Pn**	**07 36 14.7**	**-0.8**
TSZ						AML	AML	07 37 11.0	
PKE	**Pukeiti**	**4.79**	**20**	PN			**Pn**	**07 36 18.2**	**+2.3**
PKE						AML	AML	07 37 14.9	
PKE						AML	AML	07 37 15.4	
PRHZ	**Porangahau**	**4.95**	**48**	PN			**Pn**	**07 36 17.8**	**-0.3**
VRZ	**Vera Road**	**5.08**	**26**	PN			**Pn**	**07 36 21.6**	**+1.8**
VRZ						AML	AML	07 37 26.3	
VRZ						AML	AML	07 37 27.0	
MTVZ	**Mangateitei**	**5.10**	**33**	AML		AML	AML	07 37 25.4	
MTVZ						AML	AML	07 37 26.6	
MOVZ	**Moawhango**	**5.20**	**35**	AML		AML	AML	07 37 22.9	
WNVZ	**Wahianoa**	**5.20**	**34**	PN			**Pn**	**07 36 22.2**	**+0.6**
TRVZ	**Turoa**	**5.21**	**33**	AML		AML	AML	07 37 23.7	
TRVZ						AML	AML	07 37 25.1	
TUVZ	**Tukino**	**5.28**	**34**	AML		AML	AML	07 37 25.7	
NGZ	**Ngauruhoe**	**5.33**	**33**	PN			**Pn**	**07 36 24.5**	**+1.0**
NGZ						AML	AML	07 37 26.8	
NGZ						AML	AML	07 37 26.8	
OTVZ	**Oturere**	**5.37**	**33**	AML		AML	AML	07 37 28.3	
OTVZ						AML	AML	07 37 28.4	
KRVZ	**Karewarewa**	**5.42**	**33**	PN			**Pn**	**07 36 26.1**	**+1.5**
KRVZ						AML	AML	07 37 28.8	
KRVZ						AML	AML	07 37 29.4	
BKZ	**Black Stump Fm**	**5.72**	**39**	PN			**Pn**	**07 36 28.1**	**-0.6**
BKZ						AML	AML	07 37 33.6	
MRHZ	**Matea Rd**	**5.96**	**37**	PN			**Pn**	**07 36 30.3**	**-1.7**
TLZ	**Tolley Road**	**6.05**	**29**	PN			**Pn**	**07 36 34.1**	**+0.8**
URZ	**Urewera**	**6.74**	**38**	PN			**Pn**	**07 36 39.8**	**-2.8**
1.2nm,0.3s,baz=238,slow=5.0,SNR=9.3									
URZ						Sn	**Sn**	**07 37 52.5**	**-6.5**
8.8nm,0.3s,baz=101,slow=21,SNR=13									
URZ						LR	LR	07 39 43.4	
comp=Z,178nm,18.7s,baz=239,slow=42									
ASAR	**Alice Springs**	**36.95**	**290**	P			**P**	**07 42 15.9**	**+3.1**
0.6nm,0.5s,baz=127,slow=8.1,SNR=11									
WRA	**Warramunga Arr**	**39.24**	**295**	P			**P**	**07 42 33.6**	**+1.6**
0.8nm,0.5s,baz=134,slow=7.9,SNR=6.6									
TORD	**Torodi Ar. Bea**	**148.39**	**199**	PKPbc			**PKPab**	**07 54 52.6**	**-0.8**
0.6nm,0.8s,baz=163,slow=3.6,SNR=2.7									
ARCES	**ARCESS Array B**	**148.97**	**338**	PKPbc			**PKPbc**	**07 54 51.3**	**+1.1**
1.9nm,0.8s,baz=85,slow=3.1,SNR=4.0									

IDC 21 07:36:43.9±1.4, 5.52S×147.17E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/36, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=58.6km s-min=24.5km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.86**	**180**	Pn		Pn	Pn	07 37 45.3	+0.8
7.4nm,0.3s,baz=359,slow=10,SNR=9.1									
PMG						Sn	Sn	07 38 26.8	-3.8
17nm,0.3s

0.5nm,0.6s,baz=96,slow=5.3,SNR=4.7

KRSC 21 07:53:19.0±1.5, 52°.83N×160°.76E, h16km±10km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.92**	**292**	*eP*	Pb	07 53 36.4	-0.2
NLC				*eS*	Sb	07 53 47.9	-0.7
SDLR	**Sedlovina**	**1.22**	**292**	*i* P	Pn	07 53 41.4	-0.1
SDLR				*eS*	Sb	07 53 56.6	-0.7
UGLR	**Uglovaya**	**1.23**	**289**	*i* P	Pn	07 53 41.7	+0.1
UGLR				*eS*	Sb	07 53 56.7	-0.9
DALK	**Dalny**	**1.23**	**280**	*eP*	Pn	07 53 41.6	+0.1
DALK				*eS*	Sb	07 53 57.0	-0.5
PET	**Petropavlovsk**	**1.29**	**280**	*i* P	Pn	07 53 42.4	+0.1
PET				*eS*	Sb	07 53 58.4	-0.8
AVH	**Avacha**	**1.30**	**290**	*i* P	Pb	07 53 43.0	0.0
AVH				*eS*	Sb	07 53 59.3	-0.2
KRER	**Koryakskii**	**1.30**	**292**	*i* P	Pb	07 53 43.2	0.0
KRER				*eS*	Sb	07 53 59.7	-0.1
KOK	**Koryaka**	**1.36**	**291**	*eP*	Pn	07 53 43.7	+0.3
KOK				*eS*	Sn	07 54 00.4	-0.8
KRX	**Arik**	**1.38**	**293**	*i* P	Pn	07 53 43.7	0.0
KRX				*eS*	Sn	07 54 00.5	-1.2
RUS	**Russkaya**	**1.43**	**255**	*i* P	Pn	07 53 44.3	+0.1
RUS				*eS*	Sn	07 54 01.8	-0.8
KII	**Karymskiy**	**1.44**	**327**	*eP*	Pb	07 53 45.8	+0.3
KRMR	**Karymshinskiy**	**1.60**	**271**	*eP*	Pn	07 53 46.9	+0.4
KRMR				*eS*	Sn	07 54 06.6	-0.2
GRL	**Gorelyy**	**1.66**	**261**	*eP*	Pg	07 53 50.6	-0.3
GRL				*eS*	Sg	07 54 11.6	-0.9
ASAK	**Asacha**	**1.80**	**257**	*i* P	Pb	07 53 50.8	-0.8
ASAK				*eS*	Sn	07 54 12.5	+0.5
MKZ	**Mys Kozlova**	**1.82**	**18**	*i* P	Pn	07 53 50.4	+0.8
MKZ				*i* S	Sn	07 54 12.6	+0.3
GNL	**Ganaly**	**1.90**	**298**	*eP*	Pb	07 53 52.5	-0.9
GNL				*eS*	Sb	07 54 15.9	-1.0
TUMD	**Tumrok D**	**2.39**	**355**	P	Pn	07 53 59.3	+1.9
TUMD				S	Sn	07 54 27.9	+1.6
TUMR	**Tumrok**	**2.49**	**352**	*eP*	Pb	07 54 01.3	-2.0
TUMR				*eS*	Sb	07 54 32.0	-1.7
PAU	**Pauzhetka**	**2.79**	**242**	P	Pn	07 54 05.3	+2.4
KMNR	**Kamenistaya**	**2.95**	**354**	*eP*	Pb	07 54 08.6	-2.6
KMNR				*eS*	Sb	07 54 43.7	-3.3
BZMR	**Bezymyannaya**	**3.12**	**357**	P	Pb	07 54 11.1	-2.9
BZMR				S	Sb	07 54 50.6	-1.2
KPT	**Kopyto**	**3.16**	**354**	P	Pn	07 54 10.9	+2.8
ZLN	**Zelenaya**	**3.19**	**0**	P	Pb	07 54 12.0	-3.3
LGNR	**Loginova**	**3.26**	**359**	P	Pb	07 54 13.5	-3.1
CIRR	**Tsirk**	**3.29**	**360**	P	Pb	07 54 13.8	-3.2
ESO	**Esso**	**3.33**	**340**	*eP*	Pn	07 54 12.7	+2.4
KRSR	**Krestovskiy**	**3.40**	**358**	P	Pn	07 54 14.7	+3.4
KLY	**Klyuchi**	**3.49**	**359**	P	Pn	07 54 16.0	+3.5
SKR	**Severo-Kuril's**	**3.60**	**235**	P	Pn	07 54 17.0	+3.0
BDR	**Baidarnaya**	**3.76**	**4**	P	Pn	07 54 20.1	+3.8
BDR				S	Sn	07 55 04.7	+4.6
SMKR	**Semkarok**	**3.78**	**6**	P	Pn	07 54 20.6	+4.0
SRKR	**Sorokina**	**3.84**	**3**	P	Pn	07 54 20.6	+3.2
BKI	**Bering**	**3.88**	**50**	*eP*	Pn	07 54 18.6	+0.7

DJA 21 08:12:06.1±0.3, 2°.N±3°×99°.9E±°, h10km, M3.7/6, MLv3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.25**	**155**	P	Pn	08 12 23.6	-6.1
GSI	**Gunungsitoli**	**1.60**	**247**	P	Pn	08 12 31.9	-2.6
GSI				S	Sb	08 12 56.8	+0.6
TSI	**Tuntungan**	**1.62**	**343**	P	Pn	08 12 35.0	+0.2
TPTI		**2.28**	**305**	P	Pn	08 12 45.6	+1.7
BKNI	**Bangkinang**	**2.56**	**129**	P	Pn	08 12 48.5	+0.9
BKNI				S	Sn	08 13 18.6	-0.2
PPI	**Padang Panjang**	**2.73**	**150**	P	Pn	08 12 50.7	+0.6

WEL 21 08:13:05.8±0.1, 41°.04S×174°.85E, h33km, ML3.5/29, 14C-11D, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAW	**Cannon Point**	**0.18**	**113**	⇓P*	Pb	08 13 11.9	-0.3
CAW				S*	Sb	08 13 17.1	+0.6
CAW				AML	AML	08 13 17.9	
KIW	**Kapiti Island**	**0.18**	**14**	⇓P*	Pn	08 13 11.7	+0.1
KIW				S*	Sb	08 13 16.0	-0.6
KIW				AML	AML	08 13 16.9	
WEL	**Wellington**	**0.26**	**194**	⇓P*	Pb	08 13 12.7	-0.3
OGWZ	**Otaki Gorge**	**0.33**	**48**	⇓P*	Pb	08 13 13.0	-0.5
OGWZ				S*	Sb	08 13 19.0	-0.4
BHW	**Baring Head**	**0.37**	**178**	⇓P*	Pb	08 13 14.2	-0.3
BHW				S*	Sb	08 13 20.4	-0.1
BHW				AML	AML	08 13 22.5	
TCW	**Tory Channel**	**0.47**	**248**	P*	Pb	08 13 15.4	-0.5
TCW				S*	Sb	08 13 21.3	-1.6
TCW				AML	AML	08 13 23.5	
MSWZ	**Moikau Station**	**0.48**	**142**	⇑P*	Pb	08 13 16.2	+0.1
MSWZ				S*	Sn	08 13 24.5	+0.7
MSWZ				AML	AML	08 13 25.5	
MTW	**Mount Morrison**	**0.51**	**104**	⇑P*	Pb	08 13 16.4	0.0
MTW				S*	Sn	08 13 24.9	+0.6
MTW				AML	AML	08 13 26.0	
HOWZ	**Holdsworth Sta**	**0.52**	**75**	⇑P*	Pb	08 13 16.4	-0.3
HOWZ				S*	Sn	08 13 24.6	-0.1
PAWZ	**Paruwai Farm**	**0.55**	**129**	⇑P*	Pb	08 13 17.2	-0.1
PAWZ				S*	Sn	08 13 26.2	+0.7
PAWZ				AML	AML	08 13 29.1	
PLWZ	**Palliser**	**0.61**	**150**	⇑P*	Pn	08 13 17.9	-0.3
PLWZ				S*	Sn	08 13 27.8	+0.8
MRZ	**Mangatainoka R**	**0.67**	**56**	⇑P*	Pn	08 13 18.5	-0.5
TRWZ	**Traveller**	**0.73**	**120**	P*	Pn	08 13 19.3	-0.5
TRWZ				AML	AML	08 13 34.2	
TRWZ				AML	AML	08 13 36.3	
DUWZ	**D'Urville Isla**	**0.74**	**288**	P*	Pn	08 13 19.7	-0.3
TMWZ	**Te Maipa**	**0.79**	**95**	⇑P*	Pn	08 13 20.2	-0.4
TUWZ	**Tuamarina**	**0.79**	**240**	⇓P*	Pn	08 13 20.2	-0.4
TUWZ				AML	AML	08 13 32.6	
TUWZ				AML	AML	08 13 32.7	
TIWZ	**Tintock**	**0.83**	**72**	⇑P*	Pn	08 13 20.9	-0.3
TIWZ				AML	AML	08 13 34.0	
TIWZ				AML	AML	08 13 35.1	
OHWZ	**Ohakea**	**0.90**	**23**	P*	Pb	08 13 22.6	-0.4
POWZ	**Post Office Ro**	**0.95**	**48**	P*	Pn	08 13 22.7	-0.1
PRWZ	**Pori Road**	**0.98**	**61**	P*	Pn	08 13 23.2	0.0
BSWZ	**Blackbirch Sta**	**1.00**	**227**	P*	Pn	08 13 23.9	+0.4
BSWZ				AML	AML	08 13 41.0	
BSWZ				AML	AML	08 13 43.1	
CPWZ	**Castlepoint**	**1.03**	**83**	P*	Pn	08 13 24.1	+0.2
BFZ	**Birch Farm**	**1.12**	**72**	⇑P*	Pn	08 13 24.2	-0.9
BFZ				AML	AML	08 13 48.0	
BFZ				AML	AML	08 13 48.0	
BFZ				AML	AML	08 13 48.8	
BFZ				AML	AML	08 13 48.8	
NNZ	**Nelson**	**1.13**	**260**	⇓PN	Pn	08 13 25.2	0.0
NNZ				AML	AML	08 13 42.1	
NNZ				AML	AML	08 13 43.1	
DVHZ	**Dannevirke**	**1.24**	**54**	P*	Pn	08 13 26.2	-0.7
WAZ	**Wanganui**	**1.28**	**5**	PN	Pb	08 13 28.9	-0.5
WAZ				AML	AML	08 13 49.1	
WAZ				AML	AML	08 13 50.4	
TSZ	**Takapari Road**	**1.29**	**41**	⇓PN	Pn	08 13 27.3	-0.3
TSZ				AML	AML	08 13 51.8	
TSZ				AML	AML	08 13 52.6	
ANWZ	**Angora Road**	**1.36**	**65**	PN	Pn	08 13 28.1	-0.4
PNHZ	**Pukenui**	**1.52**	**43**	PN	Pn	08 13 30.1	-0.7
PRHZ	**Porangahau**	**1.56**	**61**	PN	Pn	08 13 31.1	-0.1
THZ	**Tophouse**	**1.63**	**243**	⇑PN	Pn	08 13 32.2	-0.1
THZ				AML	AML	08 14 03.4	
THZ				AML	AML	08 14 09.9	
MTVZ	**Mangateitei**	**1.72**	**16**	⇓PN	Pn	08 13 34.2	+0.8
MTVZ				AML	AML	08 14 16.5	
MTVZ				AML	AML	08 14 22.1	
MOVZ	**Moawhango**	**1.77**	**23**	PN	Pn	08 13 34.2	0.0
MOVZ				AML	AML	08 14 05.3	
MOVZ				AML	AML	08 14 05.4	
QRZ	**Quartz Range**	**1.77**	**276**	PN	Pn	08 13 34.5	+0.4
QRZ				AML	AML	08 13 59.4	
QRZ				AML	AML	08 14 00.8	
PREZ	**Palmer Road**	**1.77**	**342**	PN	Pb	08 13 36.0	-1.7
NMEZ	**Namu Road**	**1.79**	**335**	PN	Pb	08 13 36.5	-1.3
PKVZ	**Pokaka**	**1.79**	**12**	PN	Pn	08 13 35.3	+0.9
PKVZ				AML	AML	08 14 12.4	
PKVZ				AML	AML	08 14 18.5	
WNVZ	**Wahianoa**	**1.80**	**19**	PN	Pn	08 13 35.2	+0.5
KRHZ	**Kereru**	**1.81**	**40**	PN	Pn	08 13 33.8	-0.9
TRVZ	**Turoa**	**1.82**	**17**	PN	Pn	08 13 35.8	+0.9
TRVZ				AML	AML	08 14 06.3	
TRVZ				AML	AML	08 14 16.2	
PXZ	**Pawanui**	**1.83**	**57**	PN	Pn	08 13 34.4	-0.5
WHVZ	**Whangaehu Hut**	**1.84**	**18**	PN	Pn	08 13 36.0	+0.7
KHEZ	**Kahui Hut**	**1.85**	**340**	PN	Pn	08 13 37.2	+1.8
NEZ	**North Egmont**	**1.86**	**342**	PN	Pn	08 13 37.1	+1.7
FWVZ	**Far West T-bar**	**1.86**	**17**	⇑PN	Pn	08 13 36.3	+0.8
FWVZ				AML	AML	08 14 06.3	
FWVZ				AML	AML	08 14 09.0	
TUVZ	**Tukino**	**1.87**	**19**	⇓PN	Pn	08 13 36.4	+0.8
TUVZ				AML	AML	08 14 20.0	
VRZ	**Vera Road**	**1.91**	**358**	PN	Pn	08 13 37.4	+1.3
VRZ				AML	AML	08 14 07.0	
VRZ				AML	AML	08 14 17.2	
NWEZ	**Newall Road**	**1.92**	**336**	PN	Pn	08 13 37.7	+1.6
NGZ	**Ngauruhoe**	**1.95**	**17**	PN	Pn	08 13 37.5	+0.8
NGZ				AML	AML	08 14 17.0	
NGZ				AML	AML	08 14 30.5	
PKE	**Pukeiti**	**1.96**	**340**	PN	Pn	08 13 38.2	+1.5
OTVZ	**Oturere**	**1.97**	**19**	⇑PN	Pn	08 13 37.8	+0.7
OTVZ				AML	AML	08 14 17.9	
OTVZ				AML	AML	08 14 26.7	
KAHZ	**Kahuranaki**	**1.98**	**52**	PN	Pn	08 13 36.0	-1.0
WTVZ	**West Tongariro**	**2.00**	**17**	PN	Pn	08 13 38.4	+1.0
WTVZ				AML	AML	08 14 33.7	
WTVZ				AML	AML	08 14 24.8	
TWVZ	**Taurewa**	**2.02**	**13**	PN	Pn	08 13 38.1	+0.5
KRVZ	**Karewarewa**	**2.03**	**18**	PN	Pn	08 13 38.5	+0.7
KRVZ				AML	AML	08 14 22.1	
KRVZ				AML	AML	08 14 22.2	
DSZ	**Denniston Nort**	**2.40**	**252**	PN	Pn	08 13 42.6	-0.2
MRHZ	**Matea Rd**	**2.51**	**29**	⇑PN	Pn	08 13 43.1	-1.2
HIZ	**Hauiti**	**2.52**	**0**	⇑PN	Pn	08 13 45.6	+1.1
HIZ				AML	AML	08 14 34.1	
HIZ				AML	AML	08 14 35.1	
TLZ	**Tolley Road**	**2.76**	**11**	PN	Pn	08 13 47.9	+0.2
INZ	**Inchbonnie**	**3.05**	**235**	⇓PN	Pn	08 13 51.0	-0.8

*IDC **21** 08:23:40.6±2.8, 53°.60N×87°.98E, h0km, mb1 3.2/2, mb1mx3.0/49, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=22.9km s-min=15.5km az=62.0*
*NNC **21** 08:23:46.3±1.9, 53°.47N×87°.40E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=14.6km s-min=12.1km az=12.0*
ISC 21 08:23:45.3±3.9, 53°.7N±0°.1×87°.8E±0°.2, h35km, n8, σ1s38/12, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**279**	*i*		08 35 10.0	
	baz=98,slow=325,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.79**	**279**	Pn	**Pn**	**08 24 14.7**	**+1.0**
	1.4nm,0.3s,baz=96,slow=14,SNR=14						
ZALV				Lg	Lg	08 24 40.2	
	5.8nm,0.3s,baz=103,slow=26,SNR=26						
KURK	**Kurchatov**	**6.39**	**246**	⇑Pn	**Pn**	**08 25 18.1**	**+1.2**
KURK				⇓Sn	**Sn**	**08 26 28.6**	**+0.1**
KURK				⇑Lg	Lg	08 27 01.9	
KURBB	**Kurchatov Arra**	**6.49**	**245**	Pn	**Pn**	**08 25 18.6**	**+0.4**
KURBB	0.1nm,0.3s,baz=61,slow=14,SNR=6.0			Sn	**Sn**	**08 26 32.9**	**+2.0**
	0.1nm,0.3s,baz=58,slow=23,SNR=4.8						
KURBB				Lg	Lg	08 27 07.5	
	0.1nm,0.3s,baz=63,slow=35,SNR=14						
KURBB	**Kurchatov Arra**	**6.49**	**245**	⇓Pn	**Pn**	**08 25 18.4**	**+0.2**
	1.5nm,0.5s						
KURBB				⇑Sn	**Sn**	**08 26 30.4**	**-0.5**
	10nm,0.6s						
KURBB				⇓Lg	Lg	08 27 03.6	
	13nm,0.7s						
MK31	**Makanchi Array**	**7.76**	**209**	⇑Pn	**Pn**	**08 25 36.1**	**+0.4**
	0.3nm,0.5s,baz=31,slow=12,SNR=8.1						
MK31				⇓Sn	**Sn**	**08 27 02.5**	**+0.1**
	0.6nm,0.5s,baz=30,slow=22,SNR=4.2						
MK31				⇑Lg	Lg	08 27 44.9	
	4.6nm,0.9s,baz=27,slow=34,SNR=4.2						
MKAR	**Makanchi Array**	**7.76**	**209**	Pn	**Pn**	**08 25 35.1**	**-0.6**
	0.2nm,0.3s,baz=29,slow=9.9,SNR=7.6						
MKAR				Sn	**Sn**	**08 27 03.0**	**+0.7**
	0.1nm,0.3s,baz=32,slow=23,SNR=8.4						
MKAR				Lg	Lg	08 27 44.5	
	0.1nm,0.3s,baz=31,slow=31,SNR=5.8						
BVAR	**Borovoye Array**	**10.44**	**273**	Sn	**Sn**	**08 28 04.8**	**-3.1**
	0.2nm,0.3s,baz=80,slow=26,SNR=3.6						

*ISCJB **21** 08:28:30.4±0.7, 40°.00N±0°.04×31°.66E±0°.07, h8km, Error ellipse: s-maj=7.3km s-min=5.3km az=5.7*
*DDA **21** 08:28:30.4, 40°.05N×31°.70E, h7km, Md2.8*
*CSEM **21** 08:28:31.6±0.5, 39°.98N×31°.49E, h20km, ML2.5, Error ellipse: s-maj=13.7km s-min=9.0km az=76.0*
*ISK **21** 08:28:31.3, 39°.94N×31°.55E, h11km, ML2.5*
ISC 21 08:28:30.7±0.9, 40°.00N±0°.03×31°.57E±0°.04, h8km, n20, σ1s25/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRH	**Sivrihisar-ESK**	**0.55**	**184**	PG	**Pg**	**08 28 41.3**	**-0.1**
SVRH				SG	**Sg**	**08 28 48.9**	**+0.2**
SVRH	**Sivrihisar-ESK**	**0.55**	**184**	*i* Pg	**Pg**	**08 28 41.3**	**-0.1**
SVRH				*i* Sg	**Sg**	**08 28 48.9**	**+0.2**
MDUB	**Mudurnu**	**0.55**	**329**	*e*PG	**Pg**	**08 28 43.4**	**+0.7**
MDUB	**Mudurnu**	**0.55**	**329**	*e*Pg	**Pb**	**08 28 43.4**	**+0.7**
BTAS	**Taskesti**	**0.72**	**323**	P	**Pg**	**08 28 44.6**	**0.0**
BTAS	**Taskesti**	**0.72**	**323**	*i* P	**Pg**	**08 28 44.6**	**0.0**
ESKT	**Eskisehir**	**0.73**	**230**	*e*PG	**Pg**	**08 28 44.9**	**0.0**
ESKT	**Eskisehir**	**0.73**	**230**	*e*Pg	**Pg**	**08 28 44.9**	**0.0**
ESKT	**Eskisehir**	**0.73**	**230**	*i* P	**Pn**	**08 28 46.6**	**-0.9**
ESKT				*i* S	**Sb**	**08 28 55.9**	**-0.2**
SEYT	**Eskypehyr**	**0.73**	**230**	P	**Pn**	**08 28 46.6**	**-0.9**
SEYT				S	**Sb**	**08 28 55.9**	**-0.1**
BORA	**Eskisehir**	**0.87**	**263**	P	**Pg**	**08 28 45.0**	**-2.4**
BORA				S	**Sn**	**08 29 02.1**	**-0.2**
BORA	**Eskisehir**	**0.87**	**263**	*i* P	**Pg**	**08 28 45.0**	**-2.4**
BORA				*i* S	**Sn**	**08 29 02.1**	**-0.2**
BCAM	**Yenicaga**	**0.90**	**25**	P	**Pg**	**08 28 46.0**	**-2.0**
BCAM	**Yenicaga**	**0.90**	**25**	*i* P	**Pg**	**08 28 46.0**	**-2.0**
SAHE	**Sakarya_HENDEK**	**1.01**	**327**	P	**Pg**	**08 28 50.4**	**+0.2**
SAHE				S	**Sn**	**08 29 08.6**	**+2.8**
SAHE	**Sakarya_HENDEK**	**1.01**	**327**	*i* P	**Pg**	**08 28 50.4**	**+0.2**
SAHE				*i* S	**Sn**	**08 29 08.6**	**+2.8**
KIZT	**Kizilcal**	**1.14**	**168**	*e*PN	**Pg**	**08 28 52.5**	**-0.1**
KIZT	**Kizilcal**	**1.14**	**168**	*e*Pn	**Pg**	**08 28 52.5**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**1.28**	**115**	*e*PN	**Pb**	**08 28 55.5**	**+0.4**
AFSR	**Af˙ar-Bala (A**	**1.28**	**115**	*e*Pn	**Pb**	**08 28 55.5**	**+0.4**

*NIED **21** 08:33:00, 36°.90N×141°.20E, h32km, Mw3.5 Best double couple: M0 2.36000×10^14 NP1:φs89.00000°, δ33.00000°, λ-53.00000°. NP2:φs227.00000°, δ64.00000°, λ-111.00000°.*
*ISCJB **21** 08:33:44.5±1.0, 36°.90N±0°.04×141°.35E±0°.08, h38km±11km, mb3.3/4, Error ellipse: s-maj=11.3km s-min=6.3km az=7.9*
*JMA **21** 08:33:46.0±0.1, 36°.93N×141°.18E, h49km±1km, M3.5*
*IDC **21** 08:33:47.5±2.8, 36°.83N×141°.35E, h54km±27km, mb3.1/4, mb1 3.6/8, mb1mx3.3/40, mbtmp3.7/8, ML3.4/3, Error ellipse: s-maj=22.4km s-min=13.1km az=59.0*
ISC 21 08:33:44.6±1.7, 36°.89N±0°.05×141°.36E±0°.08, h25km±12km, n21, σ1s31/24, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**295**	P	**Pb**	**08 33 55.4**	**+0.5**
ONAJ				S	**Sb**	**08 34 01.9**	**+0.1**
JFK	**Kawauchi**	**0.61**	**321**	P	**Pb**	**08 33 57.0**	**+0.2**
JFK				S	**Sb**	**08 34 04.4**	**-0.6**
JHO	**Hitachi**	**0.70**	**246**	P	**Pb**	**08 33 58.0**	**-0.2**
JHO				S	**Sb**	**08 34 06.5**	**-0.9**
JFT	**Otama**	**1.03**	**308**	P	**Pb**	**08 34 03.2**	**-0.3**
JFT				S	**Sb**	**08 34 15.1**	**-1.8**
JMM	**Marumori**	**1.07**	**335**	P	**Pn**	**08 34 03.3**	**-0.8**
JMM				S	**Sb**	**08 34 16.0**	**-2.1**
JAG	**Ashikaga**	**1.60**	**254**	P	**Pn**	**08 34 10.6**	**-0.8**
JAG				S	**Sn**	**08 34 29.0**	**-2.3**
MJAR	**Matsushiro Arr**	**2.56**	**263**	P	**Pn**	**08 34 24.7**	**+0.2**
	3.7nm,0.3s,baz=83,slow=15,SNR=32						
MJAR				S	**Sn**	**08 34 56.0**	**+1.1**
	7.4nm,0.3s,baz=89,slow=28,SNR=8.2						
MAT	**Matsushiro**	**2.56**	**263**	P	**Pn**	**08 34 24.9**	**+0.4**
MAT				S	**Sn**	**08 34 54.8**	**-0.1**
JHJ	**Hachijo jima 2**	**3.98**	**199**	P	**Pn**	**08 34 45.4**	**+1.4**
	7.0nm,0.3s,baz=90,slow=20,SNR=3.5						
JHJ				S	**Sn**	**08 35 31.6**	**+1.6**
	20nm,0.3s,baz=71,slow=21,SNR=5.6						
JCJ	**Chichijima**	**9.79**	**176**	P	**Pn**	**08 36 02.9**	**-1.0**
	0.7nm,0.3s,baz=282,slow=19,SNR=2.5						
USRK	**Ussuriysk Ar.**	**10.20**	**319**	P	**Pn**	**08 36 12.0**	**+2.7**
	0.1nm,0.3s,baz=124,slow=14,SNR=7.6						
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**08 39 32.1**	**+0.1**
	0.4nm,0.5s,baz=116,slow=13,SNR=2.8						
H11N2	**WAKE ISLAND Hy 28.11**	**120**		T	T	09 09 11.6	
	baz=313,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy 28.12**	**121**		T	T	09 09 12.3	
	baz=313,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy 28.13**	**120**		T	T	09 09 13.0	
	baz=313,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy 28.82**	**123**		T	T	09 10 11.6	
	baz=315,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy 28.82**	**123**		T	T	09 10 02.6	
	baz=315,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy 28.83**	**123**		T	T	09 10 11.4	
	baz=315,slow=75,SNR=9.9						
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**08 41 51.2**	**0.0**
	0.2nm,0.5s,baz=93,slow=8.7,SNR=2.7						
ILAR	**Eielson Array**	**49.63**	**32**	P	**P**	**08 42 34.0**	**+0.3**
	0.2nm,0.6s,baz=251,slow=8.5,SNR=3.3						
WRA	**Warramunga Arr**	**56.92**	**188**	P	**P**	**08 43 25.6**	**-2.0**
	0.3nm,0.7s,baz=5.1,slow=7.2,SNR=4.3						

*NIED **21** 08:49:00, 35°.90N×141°.50E, h17km, Mw5.3 Best double couple: M0 1.02000×10^17 NP1:φs8.00000°, δ18.00000°, λ-86.00000°. NP2:φs183.00000°, δ72.00000°, λ-91.00000°.*
*IDC **21** 08:49:37.8±0.4, 35°.64N×141°.45E, h0km, mb5.1/34, mb1 5.1/41, mb1mx5.1/45, mbtmp5.1/41, ML4.4/5, MS5.0/48, Ms1 5.0/48, ms1mx4.9/61, Error ellipse: s-maj=11.8km s-min=9.4km az=95.0*
*BJI **21** 08:49:37.6, 35°.74N×141°.34E, h13km, mb5.3/78, mB5.1/60, Ms5.4/88, Ms7 5.2/85*
*JMA **21** 08:49:39.9±0.2, 35°.76N×141°.47E, h21km±2km, M5.5*
JMA Felt III J1.
*NEIC **21** 08:49:40.5±0.1, 35°.62N×141°.31E, h15km, mb5.5/296, MS4.9/225, MW5.4, Error ellipse: s-maj=2.5km s-min=1.7km az=145.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^17Nm; Mrr~0.97; Mθθ~0.54; Mφφ 1.51; Mrθ~0.04; Mrφ 0.70; Mθφ~0.19; Best double couple: M0 1.50000×10^17 NP1:φs12.00000°, δ49.00000°, λ-97.00000°. NP2:φs203.00000°, δ41.00000°, λ-82.00000°. Principal axes: T 1.7400, Plg4.0000°, Azm107.0000°; N -0.7600, Plg5.0000°, Azm17.0000°; P -0.9800, Plg83.0000°, Azm236.0000°;*
NEIC Felt [II] at Tokyo. Also felt at Chiba, Narita, Tatebayashi and Yachimata. Recorded [3 JMA] in Chiba and Ibaraki.
*GCMT **21** 08:49:40.5±0.2, 35°.76N×141°.32E, h20km, MW5.2/96, Moment Tensor Solution. s66,c100; s96,c176; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr~5.52±.19; Mθθ 0.08±.12; Mφφ 5.44±.14; Mrθ 2.17±.27; Mθφ 2.01±.09; Mrφ 5.54±.29; Best double couple: M0 8.32000×10^16 NP1:φs201.00000°, δ68.00000°, λ-88.00000°. NP2:φs16.00000°, δ22.00000°, λ-95.00000°. Principal axes: T 8.6100, Plg23.0000°, Azm289.0000°; N -0.5830, Plg2.0000°, Azm20.0000°; P -8.0300, Plg67.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **21** 08:49:41.6±0.8, 35°.69N×141°.35E, h32km, mb5.6/107, MS5.3/62 Error ellipse: s-maj=5.9km s-min=3.9km az=111.8*
*ISCJB **21** 08:49:41.0±0.5, 35°.65N±0°.02×141°.36E±0°.01, h29km±3km, mb5.4/413, MS5.0/293, Error ellipse: s-maj=2.9km s-min=2.0km az=166.0*
ISC 21 08:49:42.0±0.4, 35°.65N±0°.03×141°.38E±0°.03, h25km±2km, h25km:pP-P, n1388, σ1s35/1429, mb5.5/423, MS5.0/294, 54C-39D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.43**	**277**	⇑P	**Pb**	**08 49 49.8**	**-1.2**
CHOJ				S	**Sb**	**08 49 56.8**	**-0.3**
I30JP	**ISUMI INFRASON**	**0.93**	**249**	Pn	**Pb**	**08 50 00.8**	**+1.3**
	baz=74,slow=20,SNR=4.2						
BSO1	**Boso 1**	**1.05**	**198**	P	**Pb**	**08 50 01.2**	**+0.1**
BSO4	**Boso 4**	**1.08**	**233**	⇑P	**Pb**	**08 50 02.6**	**+0.8**

ASAJ	Asahikawa	8.51	6	*e*Pn		**Pn**		**08 51 40.2**	**-3.3**
CBIJ	Chichi jima	8.56	175	*e*Pn		**Pn**		**08 51 41.2**	**-3.0**
CBIJ				Sn		**Sn**		**08 53 13.9**	**-6.1**
JCJ	Chichijima	8.56	175	Pn		**Pn**		**08 51 41.2**	**-3.0**
	comp=Z,142nm,0.3s,baz=330,slow=6.7,SNR=89									
JCJ				Sn		**Sn**		**08 53 13.9**	**-6.1**
	comp=Z,117nm,0.3s,baz=284,slow=21,SNR=7.5									
JNU	Nakatsue	9.04	257	Pn		**Pn**		**08 51 51.8**	**+0.9**
	comp=Z,5.2nm,0.3s,baz=60,slow=4.7,SNR=36									
JNU				LR		LR		08 55 19.8		
	comp=Z,5µm,21.0s,baz=81,slow=38									
JNU	Nakatsue	9.04	257	*e*Pn		**Pn**		**08 51 53.2**	**+2.4**
JTZ	Takazaki	9.35	249	P		**Pn**		**08 51 58.3**	**+3.2**
VLA	Vladivostok	10.46	318	*c i*P		**Pn**		**08 52 13.1**	**+2.8**
MSHR	Mys Shultsa	10.53	314	*c i*P		**Pn**		**08 52 12.5**	**+1.3**
KUR	Kuril'sk	10.77	25	*e*P		**Pn**		**08 52 09.8**	**-4.7**
KUR				pmax	pmax					
	comp=Z,60nm,0.6s									
KUR				pmax	pmax					
	comp=N,39nm,0.6s									
KUR				pmax	pmax					
	comp=E,29nm,0.6s									
KUR				pmax	pmax					
	comp=Z,255nm,2.8s									
KUR				MLR	MLR					
	comp=N,1µm,15.0s									
KUR				MLR	MLR					
	comp=E,1µm,15.0s									
KUR				MLR	MLR					
	comp=Z,1µm,15.0s									
KSRS	Korea Array	10.97	283	Pn		**Pn**		**08 52 19.3**	**+2.0**
	comp=Z,2.2nm,0.3s,baz=95,slow=14,SNR=125									
KSRS				LR		LR		08 56 47.0		
	comp=Z,9µm,19.7s,baz=95,slow=39									
KS01	Wonju Array Si	11.00	283	*e*Pn		**Pn**		**08 52 19.9**	**+2.2**
KS15	Wonju Array Si	11.00	283	*e*Pn		**Pn**		**08 52 21.3**	**+3.6**
KSAR	Wonju Array Be	11.00	283	P		**Pn**		**08 52 19.3**	**+1.6**
KSAR	Wonju Array Be	11.00	283	Pn		**Pn**		**08 52 19.3**	**+1.6**
USRK	Ussuriysk Ar.	11.17	323	Pn		**Pn**		**08 52 20.1**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=141,slow=12,SNR=62									
USRK				LR		LR		08 56 32.1		
	comp=Z,14µm,18.6s,baz=128,slow=37									
YSS	Yuzh-Sakhalins	11.34	5	*e*P		**Pn**		**08 52 18.8**	**-3.5**
YSS	Yuzh-Sakhalins	11.34	5	*e*Pn		**Pn**		**08 52 18.8**	**-3.5**
TJN	Taejon	11.38	278	*c i*P		**Pn**		**08 52 25.6**	**+2.8**
INCN	Inchon	12.00	283	*e*Pn		**Pn**		**08 52 34.2**	**+2.8**
MDJ	Mudanjiang	12.70	318	P		**Pn**		**08 52 41.3**	**+0.4**
MDJ				S		**Sn**		**08 55 03.4**	**+2.0**
MDJ				PcP		**PcP**		**08 58 18.3**	**+1.3**
MDJ				ScP		**ScP**		**09 01 51.3**	**+2.9**
MDJ				PcS		**PcS**		**09 01 52.5**	**+1.3**
MDJ				ScS		**ScS**		**09 05 27.3**	**+2.7**
MDJ				PMZ						
	comp=Z,12nm,0.9s									
MDJ				PMZ						
	comp=Z,570nm,6.5s									
MDJ				LN						
	comp=Z,8µm,16.1s									
MDJ				LE						
	comp=Z,6µm,18.3s									
MDJ				LZ						
	comp=Z,11µm,16.9s									
MDJ	Mudanjiang	12.70	318	*e*Pn		**Pn**		**08 52 43.7**	**+2.8**
JOW	Kunigami	14.23	235	*e*Pn		**Pn**		**08 53 02.3**	**+0.3**
CN2	Changchun	14.70	308	*e*P		**Pn**		**08 53 06.5**	**-1.7**
CN2				*e*S		**Sn**		**08 55 55.4**	**+5.2**
CN2				PMZ						
	comp=Z,10.0nm,0.7s									
CN2				PMZ						
	comp=Z,400nm,6.0s									
CN2				LN						
	comp=Z,4µm,16.0s									
CN2				LE						
	comp=Z,8µm,16.0s									
CN2				LZ						
	comp=Z,9µm,14.0s									
SNY	Shenyang	15.19	299	⇑P		**Pn**		**08 53 14.1**	**-0.6**
SNY				PMZ						
	comp=Z,59nm,1.4s									
SNY				PMZ						
	comp=Z,640nm,8.0s									
SNY				LN						
	comp=Z,9µm,14.3s									
SNY				LE						
	comp=Z,8µm,17.3s									
SNY				LZ						
	comp=Z,14µm,16.3s									
TYV	Tymovskoe	15.23	3	*e*P		**Pn**		**08 53 12.0**	**-3.3**
TYV				pmax	pmax					
	comp=E,44nm,0.8s									
TYV				pmax	pmax					
	comp=Z,81nm,0.8s									
TYV				MLR	MLR					
	comp=N,9µm,15.0s									
TYV				MLR	MLR					
	comp=Z,12µm,14.0s									
KLR	Kul'dur	15.30	335	Pn		**Pn**		**08 53 13.4**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=138,slow=14,SNR=13									
KLR				LR		LR		08 59 03.4		
	comp=Z,6µm,18.8s,baz=151,slow=37									
DL2	Dalian	16.05	288	P		**Pn**		**08 53 25.8**	**-0.1**
DL2				S		**Sn**		**08 56 28.5**	**+5.3**
DL2				PMZ						
	comp=Z,170nm,0.7s									
DL2				PMZ						
	comp=Z,1µm,8.6s									
DL2				LN						
	comp=Z,3µm,16.4s									
DL2				LE						
	comp=Z,6µm,18.3s									
DL2				LZ						
	comp=Z,8µm,22.2s									
SSE	Sheshan	17.46	261	P		**P**		**08 53 45.0**	**+0.2**
SSE				sP		**sP**		**08 53 54.3**	**-0.5**
SSE				S		**S**		**08 57 01.6**	**-3.6**
SSE				PMZ						
	comp=Z,34nm,0.7s									
SSE				PMZ						
	comp=Z,490nm,10.2s									
SSE				LN						
	comp=Z,4µm,15.2s									
SSE				LE						
	comp=Z,9µm,15.2s									
SSE				LZ						
	comp=Z,11µm,16.2s									
NKL	Nikolayevsk	17.50	359	*e*P		**Pn**		**08 53 44.0**	**-0.1**
NKL				pmax	pmax					
	comp=Z,40nm,1.0s									
NKL				pmax	pmax					
	comp=Z,400nm,4.0s									
NKL				MLR	MLR					
	comp=N,3µm,14.0s									
NKL				MLR	MLR					
	comp=Z,7µm,14.0s									
SKR	Severo-Kuril's	18.42	31	*e*P		**Pn**		**08 53 59.8**	**+4.4**
SKR				pmax	pmax					
	comp=Z,1µm,2.5s									
SKR				pmax	pmax					
	comp=Z,231nm,1.1s									
SKR				MLR	MLR					
	comp=Z,2µm,16.0s									
NJ2	Nanjing	19.04	266	*e*P		**P**		**08 54 02.3**	**+0.1**
NJ2				sP		**pP**		**08 54 09.4**	**+0.4**
NJ2				S		**S**		**08 57 38.5**	**+1.7**
NJ2				PMZ						
	comp=Z,32nm,0.7s									
NJ2				PMZ						
	comp=Z,410nm,7.1s									
NJ2				LN						
	comp=Z,8µm,15.2s									
NJ2				LE						
	comp=Z,9µm,19.5s									
NJ2				LZ						
	comp=Z,8µm,19.5s									
YOJ	Yonaguni jima	19.39	240	*e*P		**P**		**08 54 03.5**	**-2.5**
YOJ				pmax	pmax					
	comp=Z,110nm,0.7s									
YOJ	Yonaguni jima	19.39	240	*e*P		**P**		**08 54 03.5**	**-2.5**
	comp=Z,112nm,0.7s									
TIA	Tai'an	19.64	279	⇓P		**P**		**08 54 06.8**	**-2.0**
TIA				sP		**pP**		**08 54 16.3**	**+0.7**
TIA				PMZ						
	comp=Z,70nm,1.1s									
TIA				LN						
	comp=Z,5µm,16.7s									
TIA				LE						
	comp=Z,4µm,21.0s									
TIA				LZ						
	comp=Z,6µm,23.0s									
TATO	Taipei	20.16	244	*e*P		**P**		**08 54 12.5**	**-2.0**
	comp=Z,644nm,1.9s									
TATO				LR		LR				
	comp=Z,2µm,21.0s									
BJI	Beijing	20.36	290	P		**P**		**08 54 13.8**	**-2.7**
BJI				S		**S**		**08 57 55.3**	**-8.1**
BJI				PMZ						
	comp=Z,61nm,1.1s									
BJI				PMZ						
	comp=Z,510nm,11.5s									
BJI				LN						
	comp=Z,3µm,13.2s									
BJI				LE						
	comp=Z,3µm,11.8s									
BJI				LZ						
	comp=Z,3µm,24.3s									
BJT	Baijiatuan	20.36	290	*e*P		**P**		**08 54 14.3**	**-2.2**
BJT				pmax	pmax					
	comp=Z,177nm,0.9s									
BJT				MLR	MLR					
	comp=Z,3µm,18.0s									
BJT	Baijiatuan	20.36	290	*e*P		**P**		**08 54 14.3**	**-2.2**
	comp=Z,177nm,0.9s									
BJT				LR		LR				
	comp=Z,3µm,18.0s									
YHNB	Yeheng	20.43	243	*e*P		**P**		**08 54 15.3**	**-2.2**
	comp=Z,46nm,0.7s									
YHNB				LR		LR				
	comp=Z,2µm,20.0s									
NACB	Ninganchiao	20.57	242	*e*P		**P**		**08 54 16.1**	**-2.8**
	comp=Z,37nm,0.7s									
NACB				LR		LR				
	comp=Z,2µm,21.0s									
HIA	Hailar	20.88	317	*e*P		**P**		**08 54 21.4**	**-0.8**
HIA				pmax	pmax					
	comp=Z,58nm,0.8s									
HIA				MLR	MLR					
	comp=Z,7µm,19.0s									
HIA	Hailar	20.88	317	*e*P		**P**		**08 54 21.4**	**-0.8**
	comp=Z,58nm,0.8s									
HIA				LR		LR				
	comp=Z,7µm,19.0s									
PEA0	Petropavlovsk-	20.91	28	*e*P		**P**		**08 54 21.6**	**-0.7**
PEA0B	Petropavlovsk-	20.91	28	*e*P		**P**		**08 54 22.2**	**-0.1**
	comp=Z,274nm,1.3s									
PEA0B				LR		LR				
	comp=Z,2µm,20.0s									
PETK	Petropavlovsk-	20.91	28	P		**P**		**08 54 22.1**	**-0.3**
	comp=Z,33nm,1.0s,baz=201,slow=7.9,SNR=34									
PETK				LR		LR		09 03 55.9		
	comp=Z,2µm,18.9s,baz=212,slow=41									
PETK	Petropavlovsk-	20.91	28	P		**P**		**08 54 22.1**	**-0.3**
PETK				pmax	pmax					
	comp=Z,34nm,1.0s									
PETK				MLR	MLR					
	comp=Z,2µm,18.9s									
PET	Petropavlovsk	21.22	30	⇑*i*P		**P**		**08 54 25.8**	**+0.1**
PET				*i* S		**S**		**08 58 21.9**	**+1.7**
PET				pmax	pmax					
	comp=Z,700nm,16.1s									
PET				pmax	pmax					
	comp=Z,292nm,1.6s									
PET				MLR	MLR					
	comp=Z,2µm,17.0s									
PET	Petropavlovsk	21.22	30	*e*P		**P**		**08 54 26.1**	**+0.4**
	comp=Z,633nm,1.5s									
PET				LR		LR				
	comp=Z,2µm,20.0s									
SSLB	Suanglung	21.27	242	*e*P		**P**		**08 54 23.9**	**-2.6**
	comp=Z,49nm,0.7s									
SSLB				LR		LR				
	comp=Z,3µm,18.0s									
YULB	Yu-li	21.27	240	*e*P		**P**		**08 54 22.8**	**-3.8**
	comp=Z,40nm,0.7s									
YULB				LR		LR				
	comp=Z,2µm,20.0s									
TWG	Pinlang	21.80	240	*e*P		**P**		**08 54 29.8**	**-2.3**
	comp=Z,289nm,0.8s									
TWG				LR		LR				
	comp=Z,6µm,18.0s									
TPUB	Ta-pu	21.81	241	*e*P		**P**		**08 54 29.5**	**-2.8**
	comp=Z,76nm,0.9s									
TPUB				LR		LR				
	comp=Z,2µm,20.0s									
GUMO	Guam	22.19	171	P		**P**		**08 54 36.3**	**-0.1**
	comp=Z,948nm,1.1s,baz=226,slow=2.2,SNR=13									
GUMO	Guam	22.19	171	P		**P**		**08 54 36.3**	**-0.1**
GUMO				pmax	pmax					
	comp=Z,609nm,1.1s									
GUMO	Guam	22.19	171	*e*P		**P**		**08 54 37.3**	**+0.9**
	comp=Z,1µm,1.2s									
WHN	Wuhan	23.18	265	⇓P		**P**		**08 54 45.3**	**-1.4**
WHN				pP		**pP**		**08 54 49.6**	**-4.1**
WHN				S		**S**		**08 58 53.8**	**-3.1**
WHN				LN						
	comp=Z,7µm,15.4s									
WHN				LE						
	comp=Z,16µm,12.6s									
WHN				LZ						
	comp=Z,27µm,14.5s									
TIY	Taiyuan	23.27	284	*e*P		**P**		**08 54 49.8**	**+2.1**
TIY				S		**S**		**08 58 50.6**	**-7.9**
TIY				SS		**SnSn**		**08 59 42.3**	**+9.0**
TIY				PMZ						
	comp=Z,180nm,3.6s									
TIY				LN						
	comp=Z,2µm,13.1s									
TIY				LE						
	comp=Z,4µm,13.2s									
TIY				LZ						
	comp=Z,4µm,13.4s									
HHC	Hu-ho-hao-te	23.92	292	*e*P		**P**		**08 54 51.6**	**-2.4**
HHC				sP		pP		08 54 58.8	-2.5	
HHC				S		**S**		**08 59 05.8**	**-3.2**
HHC				sS		sS		08 59 15.6	-5.5	
HHC				SS		**SnSn**		**08 59 53.3**	**+4.0**
HHC				PMZ						
	comp=Z,33nm,1.1s									
HHC				PMZ						
	comp=Z,230nm,4.9s									
HHC				LN						
	comp=Z,2µm,11.8s									
HHC				LE						
	comp=Z,3µm,12.9s									
HHC				LZ						
	comp=Z,2µm,12.6s									
CLNS	Chul'man	23.94	337	*e*P		**P**		**08 54 52.0**	**-1.9**
CLNS				*e**PP		**pP**		**08 54 59.7**	**-1.6**
CLNS				*e*				08 58 34.3		
CLNS				*e*S		**S**		**08 59 05.1**	**-3.8**
CLNS				pmax	pmax					
	comp=E,11nm,1.0s									
CLNS				pmax	pmax					
	comp=N,45nm,0.9s									
CLNS				pmax	pmax					
	comp=Z,69nm,0.9s									
CLNS				pmax	pmax					
	comp=N,29nm,0.8s									
CLNS				pmax	pmax					
	comp=Z,66nm,1.0s									
CLNS				pmax	pmax					
	comp=E,41nm,1.0s									
CLNS				smax	smax					
	comp=E,415nm,10.8s									
CLNS				smax	smax					
	comp=N,1µm,9.8s									
CLNS				MLR	MLR					
	comp=E,1µm,12.0s									
CLNS				MLR	MLR					
	comp=Z,5µm,16.0s									
CLNS				MLR	MLR					
	comp=N,4µm,13.0s									
MA2	Magadan	24.71	11	P		**P**		**08 54 60.0**	**-0.9**
	comp=N,20nm,0.7s,baz=221,slow=11,SNR=18									
MA2				LR		LR		09 05 50.9		
	comp=N,2µm,18.4s,baz=220,slow=39									
MA2	Magadan	24.71	11	P		**P**		**08 55 00.0**	**-0.9**
MA2				pmax	pmax					
	comp=Z,20nm,0.7s									
MA2				MLR	MLR					
	comp=Z,2µm,18.4s									
MA2	Magadan	24.71	11	*e*P		**P**		**08 55 00.8**	**-0.1**
	comp=Z,2µm,1.5s									
BTO	Baotou	25.08	291	*e*P		**P**		**08 55 00.8**	**-3.8**
XAN	Xi'an	26.62	276	P		**P**		**08 55 17.1**	**-1.5**
XAN				pP		pP		08 55 23.8	-2.1	
XAN				sP		sP		08 55 27.1	-1.9	
XAN				S		**S**		**08 59 43.8**	**-8.3**
XAN				PMZ						
	comp=Z,38nm,0.7s									
XAN				PMZ						
	comp=Z,250nm,8.1s									
XAN				LN						
	comp=Z,3µm,19.3s									
XAN				LE						
	comp=Z,4µm,21.8s									
XAN				LZ						
	comp=Z,5µm,16.8s									
ENH	Enshi	27.22	268	*e*P		**P**		**08 55 22.4**	**-1.5**
	comp=Z,132nm,0.8s									
ENH				LR		LR				
	comp=Z,7µm,18.0s									
GZH	Guangzhou	27.35	250	P		**P**		**08 55 20.4**	**-4.7**
GZH				S		**S**		**08 59 54.3**	**-9.2**
GZH				LZ						
	comp=Z,21µm,16.9s									
YAK	Yakutsk	27.41	348	P		**P**		**08 55 25.0**	**-0.2**
	comp=Z,5.5nm,0.5s,baz=340,slow=23,SNR=14									
YAK				LR		LR		09 06 55.2		
	comp=Z,3µm,18.1s,baz=158,slow=38									
YAK	Yakutsk	27.41	348	*e*P		**P**		**08 55 24.1**	**-1.1**
YAK				*e**PP		**pP**		**08 55 34.2**	**+1.6**
YAK				*e*				08 56 06.8		
YAK				*e*PPP		PPP		08 56 22.8		
YAK				*e*				08 58 43.0		
YAK				*e*S		**S**		**09 00 02.0**	**-1.8**
YAK				*e*SSS		SSS		09 01 23.9		
YAK				pmax	pmax					
	comp=Z,41nm,0.9s									
YAK				pmax	pmax					
	comp=N,67nm,1.5s									
YAK				pmax	pmax					
	comp=E,18nm,1.3s									
YAK				pmax	pmax					
	comp=Z,227nm,3.1s									
YAK				pmax	pmax					
	comp=N,232nm,2.8s									
YAK				pmax	pmax					
	comp=E,59nm,1.2s									
YAK				smax	smax					
	comp=N,95nm,2.1s									
YAK				smax	smax					
	comp=E,288nm,2.5s									
YAK				MLR	MLR					
	comp=Z,3µm,19.0s									
YAK				MLR	MLR					
	comp=N,2µm,17.0s									
YAK				MLR	MLR					
	comp=E,989nm,17.0s									
YAK	Yakutsk	27.41	348	*e*P		**P**		**08 55 24.1**	**-1.1**
	comp=E,136nm,1.0s									
H11N2	WAKE ISLAND Hy	27.49	118	T		T		09 24 15.2		
	baz=311,slow=75,SNR=1134									
H11N1	WAKE ISLAND Hy	27.50	118	T		T		09 24 22.0		
	baz=311,slow=75,SNR=1524									
H11N3	WAKE ISLAND Hy	27.51	118	T		T		09 24 20.2		
	baz=311,slow=75,SNR=1046									
ULN	Ulaanbaatar	28.13	306	*d i*P		**P**		**08 55 31.8**	**-0.3**
ULN				pmax	pmax					
	comp=Z,67nm,0.9s									
ULN	Ulaanbaatar	28.13	306	*e*P		**P**		**08 55 31.7**	**-0.3**
	comp=Z,57nm,0.9s									
ULN				LR		LR				
	comp=Z,5µm,18.0s									
SEY	Seymchan	28.15	11	P		**P**		**08 55 32.4**	**+0.5**
	comp=Z,15nm,0.7s,baz=195,slow=7.0,SNR=51									
H11S1	WAKE ISLAND Hy	28.16	121	T		T		09 25 13.3		
	baz=313,slow=75,SNR=1721									
H11S3	WAKE ISLAND Hy	28.16	121	T		T		09 25 13.2		
	baz=313,slow=75,SNR=1952									
H11S2	WAKE ISLAND Hy	28.17	121	T		T		09 25 14.0		
	baz=313,slow=75,SNR=1610									
TGY	Tagaytay City	28.25	226	LR		LR		09 07 04.0		
	comp=Z,917nm,18.1s,baz=20,slow=37									
SONA1	Songino Array	28.55	306	*e*P		**P**		**08 55 35.5**	**-0.3**
SONM	Songino Array	28.55	306	P		**P**		**08 55 35.7**	**-0.1**
	comp=Z,34nm,0.7s,baz=107,slow=8.7,SNR=71									
SONM				PcP		**PcP**		**08 58 46.8**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=118,slow=2.9,SNR=5.0									
SONM				LR		LR		09 07 36.3		
	comp=Z,6µm,18.2s,baz=86,slow=38									
SMY	Shemya	28.68	43	*e*P		**P**		**08 55 36.7**	**+0.1**
SMY				pmax	pmax					
	comp=Z,223nm,1.2s									
SMY				MLR	MLR					
	comp=Z,2µm,20.0s									
SMY	Shemya	28.68	43	*e*P		**P**		**08 55 36.7**	**+0.1**
	comp=Z,223nm,1.2s									
SMY				LR		LR				
	comp=Z,2µm,20.0s									
BOD	Bodaibo	28.69	329	⇑*i*P		**P**		**08 55 36.3**	**-0.4**
BOD				*e*S		**S**		**09 00 22.6**	**-1.5**
BOD				pmax	pmax					
	comp=Z,98nm,1.4s									
LZH	Lanzhou	30.30	282	*e*P		**P**		**08 55 51.1**	**-0.3**
LZH				pP		pP		08 55 55.9	-3.0	
LZH				sP		sP		08 55 59.0	-2.9	
LZH				PP		**PnPn**		**08 56 51.0**	**+1.3**
LZH				S		**S**		**09 00 45.6**	**-4.5**
LZH				sS		sS		09 00 56.0	-6.4	
LZH				SS		**SnSn**		**09 02 28.4**	**+3.2**
LZH				PMZ						
	comp=Z,46nm,1.0s									
LZH				PMZ						
	comp=Z,200nm,4.4s									
LZH				LN						
	comp=Z,3µm,15.9s									
LZH				LE						
	comp=Z,5µm,14.4s									
LZH				LZ						
	comp=Z,7µm,16.7s									
GYA	Guiyang	30.99	263	⇑*i*P		**P**		**08 55 56.3**	**-1.2**
GYA				pP		pP		08 56 04.0	-1.0	
GYA				PP		**PnPn**		**08 57 01.3**	**+2.5**
GYA				PcP		**PcP**		**08 58 54.8**	**+1.5**
GYA				S		**S**		**09 00 56.6**	**-4.4**
GYA				ScP		**ScP**		**09 02 36.0**	**+1.5**
GYA				SS		**SnSn**		**09 02 44.8**	**+2.7**
GYA				PMZ						
	comp=Z,60nm,1.1s									
GYA				PMZ						
	comp=Z,160nm,6.9s									
GYA				LN						
	comp=Z,4µm,19.6s									
GYA				LE						
	comp=Z,3µm,20.0s									
GYA				LZ						
	comp=Z,3µm,22.0s									
IRK	Irkutsk	31.02	314	*e*P		**P**		**08 55 57.3**	**-0.1**
IRK				*e*S		**S**		**09 01 05.0**	**+4.2**
IRK				pmax	pmax					
	comp=Z,67nm,2.1s									
ZAK	Zakamensk	31.12	310	*e*P		**P**		**08 55 57.1**	**-1.4**
ZAK				pmax	pmax					
	comp=Z,17nm,1.3s									
TLY	Talaya	31.23	313	P		**P**		**08 55 58.9**	**-0.4**
	comp=Z,18nm,0.8s,baz=114,slow=2.7,SNR=31									
TLY	Talaya	31.23	313	*e*P		**P**		**08 55 58.3**	**-1.1**
TLY				*e*				08 57 15.7		
TLY				*e*S		**S**		**09 01 05.6**	**+1.5**
TLY				*e*SSS		SSS		09 03 04.8		
TLY				pmax	pmax					
	comp=Z,45nm,1.1s									
TLY				MLR	MLR					
	comp=Z,4µm,13.0s									
TLY	Talaya	31.23	313	*e*P		**P**		**08 55 58.2**	**-1.1**
	comp=Z,30nm,0.8s									
TLY				LR		LR				
	comp=Z,6µm,18.0s									
CD2	Chengdu	31.68	272	*e*P		**P**		**08 56 02.8**	**-0.7**
CD2				pP		pP		08 56 08.3	-2.6	
CD2				sP		sP		08 56 10.5	-3.5	
CD2				S		**S**		**09 01 06.6**	**-4.9**
CD2				sS		sS		09 01 21.0	-2.8	
CD2				PMZ						
	comp=Z,50nm,0.9s									
CD2				PMZ						
	comp=Z,160nm,5.0s									
CD2				LN						
	comp=Z,6µm,15.8s									

CD2					LE					
	comp=Z,9μm,20.9s									
CD2					LZ					
	comp=Z,10μm,19.6s									
DAV	**Davao City (W)**	**31.93**	**211**		LR	LR	09 08 34.3			
	comp=Z,2μm,20.8s,baz=56,slow=36									
QIZ	**Qiongzhong**	**32.36**	**248**		P	**P**	**08 56 10.3**	**+0.8**		
QIZ					S	**S**	**09 01 24.8**	**+2.6**		
QIZ					PMZ					
	comp=Z,11nm,0.7s									
QIZ					LN					
	comp=Z,3μm,15.1s									
QIZ					LZ					
	comp=Z,3μm,16.9s									
QIZ	**Qiongzhong**	**32.36**	**248**		PFAKE		08 56 20.0	+11		
QIZ					LR	LR				
	comp=Z,3μm,19.0s									
MOY	**Mondy**	**32.83**	**312**	*eP*	**P**	**08 56 13.5**	**+0.1**			
MOY					pmax	pmax				
	comp=Z,44nm,1.4s									
GTA	**Gaotai**	**32.97**	**289**	⇑P	**P**	**08 56 14.8**	**0.0**			
GTA					pP	pP	08 56 19.1	-3.2		
GTA					sP	sP	08 56 21.8	-3.5		
GTA					PP	**PnPn**	**08 57 25.3**	**+1.2**		
GTA					PcP	**PcP**	**08 58 58.9**	**+0.4**		
GTA					S	**S**	**09 01 30.1**	**-1.5**		
GTA					sS	sS	09 01 37.6	-6.3		
GTA					ScP	**ScP**	**09 02 42.6**	**+1.6**		
GTA					SS	**SnSn**	**09 03 28.8**	**-1.1**		
GTA					PMZ					
	comp=Z,29nm,1.1s									
GTA					PMZ					
	comp=Z,190nm,5.5s									
GTA					LN					
	comp=Z,2μm,16.2s									
GTA					LE					
	comp=Z,2μm,14.7s									
GTA					LZ					
	comp=Z,3μm,14.7s									
KMI	**Kunming**	**34.75**	**263**		P	**P**	**08 56 30.9**	**+0.4**		
KMI					pP	pP	08 56 36.6	-1.4		
KMI					sP	sP	08 56 39.0	-2.1		
KMI					PP	**PP**	**08 57 48.8**	**-0.6**		
KMI					S	**S**	**09 01 58.6**	**-1.0**		
KMI					sS	sS	09 02 08.8	-3.2		
KMI					SS	**SnSn**	**09 04 09.9**	**-3.7**		
KMI					PMZ					
	comp=Z,31nm,0.9s									
KMI					PMZ					
	comp=Z,260nm,4.3s									
KMI					LN					
	comp=Z,4μm,16.9s									
KMI					LE					
	comp=Z,3μm,15.8s									
KMI					LZ					
	comp=Z,4μm,16.2s									
BILL	**Bilibino**	**35.36**	**16**	*d iP*	**P**	**08 56 34.2**	**-0.8**			
BILL				*eS*	**S**	**09 02 04.7**	**-3.0**			
BILL				*e*SS	**SnSn**	**09 04 31.3**	**+4.3**			
BILL				pmax	pmax					
	comp=Z,61nm,1.2s									
BILL	**Bilibino**	**35.36**	**16**	*eP*	**P**	**08 56 34.4**	**-0.6**			
	comp=Z,61nm,1.2s									
BILL					LR	LR				
	comp=Z,2μm,21.0s									
MIDW	**Midway**	**35.58**	**90**		PFAKE		08 56 50.0	+13		
MIDW					LR	LR				
	comp=Z,2μm,19.0s									
KWAJ	**Kwajalein Atol**	**35.88**	**132**		PFAKE		08 56 50.0	+10		
KWAJ					LR	LR				
	comp=Z,3μm,21.0s									
TIXI	**Tiksi**	**36.66**	**353**		P	**P**	**08 56 45.5**	**-0.6**		
	comp=Z,15nm,0.8s,baz=144,slow=6.2,SNR=29									
TIXI	**Tiksi**	**36.66**	**353**	*eP*	**P**	**08 56 45.3**	**-0.8**			
TIXI					pmax	pmax				
	comp=Z,100nm,1.6s									
TIXI	**Tiksi**	**36.66**	**353**	*eP*	**P**	**08 56 45.3**	**-0.8**			
	comp=Z,100nm,1.6s									
TIXI					LR	LR				
	comp=Z,2μm,18.0s									
MYLDM	**Lahad Datu**	**36.93**	**220**	*eP*	**P**	**08 56 48.8**	**-0.2**			
	comp=Z,48nm,1.1s									
MYLDM					LR	LR				
	comp=Z,2μm,19.0s									
SDKM	**Sandakan**	**37.24**	**222**	⇓P	**P**	**08 56 51.1**	**-0.6**			
KKM	**Kota Kinabalu**	**37.46**	**224**	⇓P	**P**	**08 56 53.1**	**-0.5**			
KKM	**Kota Kinabalu**	**37.46**	**224**	*eP*	**P**	**08 56 53.2**	**-0.5**			
	comp=Z,23nm,0.7s									
KKM				*es*P	**pP**	**08 56 59.9**	**-1.2**			
KKM					LR	LR				
	comp=Z,1μm,20.0s									
SWI	**Sorong**	**37.53**	**197**		P	**P**	**08 56 54.1**	**0.0**		
	comp=Z,136nm,0.9s,comp=Z,2μm									
SKNT	**Sakolnakorn**	**38.04**	**251**		P	**P**	**08 56 57.4**	**-1.1**		
	comp=Z,44nm,0.8s									
GENI	**Genyem**	**38.06**	**182**		P	**P**	**08 56 58.8**	**+0.3**		
KMSI	**Cibinong**	**38.47**	**209**		P	**P**	**08 57 02.0**	**0.0**		
SPIA	**Saint Paul Isl**	**38.62**	**41**	*eP*	**P**	**08 57 02.8**	**-0.1**			
	comp=Z,208nm,1.4s									
NIKH	**Nikolski High**	**38.72**	**48**	*eP*	**P**	**08 57 02.5**	**-1.3**			
	comp=Z,74nm,0.8s									
FAKI	**Fak Fak**	**39.31**	**194**	P	**P**	**08 57 09.4**	**+0.4**			
	comp=Z,134nm,1.4s,comp=Z,2μm									
FAKI	**Fak Fak**	**39.31**	**194**	*eP*	**P**	**08 57 08.5**	**-0.6**			
	comp=Z,556nm,1.9s									
FAKI					LR	LR				
	comp=Z,2μm,20.0s									
GAMB	**Gambell**	**39.92**	**30**	*eP*	**P**	**08 57 13.1**	**-0.5**			
	comp=Z,37nm,1.3s									
SANI	**Sanana**	**40.17**	**204**	P	**P**	**08 57 14.3**	**-1.9**			
UNV	**Unalaska Valle**	**40.20**	**46**	*eP*	**P**	**08 57 16.1**	**-0.1**			
	comp=Z,30nm,1.3s									
UNV					LR	LR				
	comp=Z,799nm,22.0s									
UTTA	**Uttaradit**	**40.26**	**255**		P	**P**	**08 57 16.1**	**-0.9**		
	comp=Z,16nm,0.7s,comp=Z,112nm									
LUWI	**Luwuk**	**40.42**	**209**	*eP*	**P**	**08 57 16.4**	**-1.9**			
	comp=Z,91nm,0.6s									
LUWI					LR	LR				
	comp=Z,600nm,20.0s									
LAMP	**Lampang**	**40.55**	**256**		P	**P**	**08 57 20.0**	**+0.6**		
	comp=Z,12nm,0.7s,comp=Z,117nm									
PBKT	**Sadao Pong**	**40.61**	**253**		P	**P**	**08 57 18.9**	**-1.0**		
	comp=Z,53nm,0.8s									
AKUT	**Akutan**	**40.66**	**46**		PFAKE		08 57 30.0	+10		
AKUT					LR	LR				
	comp=Z,800nm,19.0s									
RABL	**Rabaul**	**40.90**	**163**		PFAKE		08 57 30.0	+7.7		
RABL					LR	LR				
	comp=Z,600nm,22.0s									
CHTO	**Chiang Mai**	**40.94**	**257**		P	**P**	**08 57 23.3**	**+0.6**		
	comp=Z,102nm,1.4s									
CHTO	**Chiang Mai**	**40.94**	**257**	*eP*	**P**	**08 57 22.9**	**+0.2**			
CHTO					pmax	pmax				
	comp=Z,15nm,0.8s									
CHTO	**Chiang Mai**	**40.94**	**257**	*eP*	**P**	**08 57 22.9**	**+0.2**			
	comp=Z,15nm,0.8s									
CHTO					LR	LR				
	comp=Z,5μm,18.0s									
CM31	**Chiang Mai Arr**	**41.14**	**257**	*eP*	**P**	**08 57 24.5**	**+0.2**			
CMAR	**Chiang Mai Arr**	**41.14**	**257**	P	**P**	**08 57 22.7**	**-1.6**			
	comp=Z,6.8nm,0.6s,baz=50,slow=8.0,SNR=34									
CMAR					PcP	**PcP**	**08 59 23.6**	**+0.1**		
	comp=Z,4.2nm,0.9s,baz=20,slow=2.8,SNR=5.1									
CMAR					ScP	**ScP**	**09 03 13.7**	**+2.1**		
	comp=Z,1.5nm,0.3s,baz=37,slow=3.3,SNR=9.5									
CMAR					LR	LR	09 16 27.6			
	comp=Z,5μm,18.4s,baz=60,slow=39									
CM01	**Chiang Mai Arr**	**41.15**	**257**	*eP*	**P**	**08 57 23.1**	**-1.2**			
SRAK	**Srakaew**	**41.32**	**249**	P	**P**	**08 57 21.5**	**-4.3**			
	comp=Z,169nm,0.7s,comp=Z,1μm									
WMQ	**Urumqi**	**41.45**	**298**		P	**P**	**08 57 27.8**	**+1.1**		
WMQ					pP	pP	08 57 32.1	-2.1		
WMQ					sP	sP	08 57 36.8	-0.5		
WMQ					PcP	**PcP**	**08 59 26.3**	**+2.1**		
WMQ					S	**S**	**09 03 41.4**	**+1.0**		
WMQ					sS	sS	09 03 51.3	-1.6		
WMQ					SS	**SS**	**09 06 40.8**	**-4.1**		
WMQ					PMZ					
	comp=Z,81nm,0.8s									
WMQ					PMZ					
	comp=Z,360nm,4.0s									
WMQ					LN					
	comp=Z,1μm,14.4s									
WMQ					LE					
	comp=Z,810nm,16.6s									
WMQ					LZ					
	comp=Z,790nm,21.2s									
PCI	**Palu**	**41.55**	**214**		P	**P**	**08 57 26.9**	**-0.7**		
	comp=Z,94nm,1.0s,comp=Z,1μm									
BTM	**Bintulu**	**41.57**	**226**	⇓P	**P**	**08 57 26.9**	**-0.8**			
LSA	**Lhasa**	**42.32**	**277**	*eP*	**P**	**08 57 35.6**	**+1.2**			
LSA				pmax	pmax					
	comp=Z,56nm,1.0s									
LSA				MLR	MLR					
	comp=Z,4μm,19.0s									
LSA	**Lhasa**	**42.32**	**277**	*eP*	**P**	**08 57 35.6**	**+1.2**			
	comp=Z,56nm,1.0s									
LSA				LR	LR					
	comp=Z,4μm,19.0s									
SBUM	**Sibu**	**42.67**	**226**	⇑P	**P**	**08 57 36.4**	**-0.4**			
SBUM	**Sibu**	**42.67**	**226**	*eP*	**P**	**08 57 36.1**	**-0.7**			
	comp=Z,48nm,1.5s									
SBUM					LR	LR				
	comp=Z,1μm,18.0s									
ZAA0	**Zalesovo Array**	**42.84**	**313**	*eP*	**P**	**08 57 38.0**	**+0.4**			
ZALV	**Zalesovo Beam**	**42.84**	**313**	P	**P**	**08 57 38.0**	**+0.4**			
	comp=Z,54nm,0.8s,baz=94,slow=6.9,SNR=54									
ZALV					LR	LR	09 16 18.9			
	comp=Z,2μm,18.5s,baz=84,slow=37									
KDI	**Kendari**	**43.15**	**208**	P	**P**	**08 57 40.8**	**+0.2**			
	comp=Z,40nm,0.8s									
ZSN	**Zaisan**	**43.33**	**304**	*i* P	**P**	**08 57 39.5**	**-2.4**			
	comp=Z,702nm,1.0s									
ZSN				*e*S	**S**	**09 04 04.9**	**-3.1**			
ZSN					LR	LR	09 15 56.7			
	comp=Z,2μm,14.3s									
SHL	**Shillong**	**43.38**	**271**	*eP*	**P**	**08 57 41.5**	**-1.2**			
SHL				*e*S	**S**	**09 04 05.0**	**-4.4**			
NVS	**Novosibirsk**	**43.78**	**315**	⇑*iP*	**P**	**08 57 45.9**	**+0.6**			
NVS				*e*S	**S**	**09 04 13.9**	**-0.3**			
NVS				pmax	pmax					
	comp=N,21nm,1.1s									
NVS				pmax	pmax					
	comp=Z,71nm,1.1s									
NVS				smax	smax					
	comp=N,22nm,2.0s									
NVS				smax	smax					
	comp=E,20nm,2.0s									
SDPT	**Sand Point**	**43.80**	**45**		PFAKE		08 58 00.0	+15		
SDPT					LR	LR				
	comp=Z,700nm,20.0s									
PHET	**Kaeng Krachan**	**43.84**	**250**	P	**P**	**08 57 46.2**	**0.0**			
	comp=Z,28nm,0.8s,comp=Z,215nm									
SPSI	**Sidrap Palu**	**44.31**	**212**	P	**P**	**08 57 49.6**	**-0.3**			
	comp=Z,54nm,1.0s									
NRIK	**Noril'sk**	**44.51**	**336**	P	**P**	**08 57 51.1**	**+0.1**			
	comp=Z,20nm,0.9s,baz=110,slow=8.9,SNR=16									
NRIK					LR	LR	09 17 28.6			
	comp=Z,2μm,18.2s,baz=110,slow=38									
KSM	**Kuching**	**44.59**	**227**	*eP*	**P**	**08 57 52.1**	**-0.1**			
	comp=Z,39nm,0.6s									
KSM					LR	LR				
	comp=Z,600nm,21.0s									
MK01	**Makanchi Array**	**44.84**	**303**	*eP*	**P**	**08 57 54.2**	**+0.2**			
MK31	**Makanchi Array**	**44.84**	**303**	*eP*	**P**	**08 57 54.3**	**+0.3**			
MK31	**Makanchi Array**	**44.84**	**303**	*eP*	**P**	**08 57 54.3**	**+0.3**			
MKAR	**Makanchi Array**	**44.84**	**303**	P	**P**	**08 57 54.2**	**+0.3**			
	comp=Z,48nm,0.7s,baz=87,slow=9.0,SNR=148									
MKAR					LR	LR	09 17 22.4			
	comp=Z,3μm,18.6s,baz=88,slow=37									
TARA	**Tarawa**	**44.97**	**132**		PFAKE		08 58 10.0	+15		
TARA					LR	LR				
	comp=Z,2μm,20.0s									
STKI	**Sintang**	**45.03**	**225**	P	**P**	**08 57 59.0**	**+3.2**			
MAKZ	**Makanchi**	**45.05**	**303**	*eP*	**P**	**08 57 56.1**	**+0.5**			
MAKZ				pmax	pmax					
	comp=Z,59nm,0.8s									
MAKZ	**Makanchi**	**45.05**	**303**	*eP*	**P**	**08 57 56.1**	**+0.5**			
	comp=Z,59nm,0.8s									
MAKZ					LR	LR				
	comp=Z,4μm,18.0s									
PMG	**Port Moresby**	**45.14**	**172**	*eP*	**P**	**08 57 55.9**	**-0.6**			
PMG				pmax	pmax					
	comp=Z,41nm,0.8s									
PMG	**Port Moresby**	**45.14**	**172**	*eP*	**P**	**08 57 56.5**	**0.0**			
	comp=Z,41nm,0.8s									
KAPI	**Kappang**	**45.26**	**211**	P	**P**	**08 57 57.7**	**+0.3**			
	comp=Z,30nm,0.5s,baz=209,slow=0.5,SNR=14									
KAPI	**Kappang**	**45.26**	**211**	*eP*	**P**	**08 57 57.8**	**+0.3**			
	comp=Z,64nm,0.8s									
KAPI					LR	LR				
	comp=Z,600nm,20.0s									
SEM	**Semipalatinsk**	**45.77**	**309**	*eP*	**P**	**08 58 00.5**	**-0.8**			
	comp=Z,380nm,1.0s									
SEM				*e*S	**S**	**09 04 42.7**	**-0.4**			
SEM					LR	LR	09 17 28.5			
	comp=Z,3μm,14.1s									
BBKI	**Banjar Baru**	**46.17**	**218**	P	**P**	**08 58 04.9**	**+0.2**			
	comp=Z,112nm,0.9s									
KTGM	**Kuala Trenggan**	**46.34**	**238**	⇓P	**P**	**08 58 05.5**	**-0.5**			
TT01	**Tatalina**	**46.57**	**34**	*eP*	**P**	**08 58 07.8**	**+0.5**			
TTA	**Tatalina**	**46.58**	**34**	*eP*	**P**	**08 58 08.4**	**+0.9**			
TTA				pmax	pmax					
	comp=Z,44nm,1.3s									
TTA	**Tatalina**	**46.58**	**34**	*eP*	**P**	**08 58 08.4**	**+0.9**			
	comp=Z,44nm,1.4s									
SVW2	**Sparrevohn**	**46.64**	**37**	*eP*	**P**	**08 58 09.2**	**+1.3**			
	comp=Z,90nm,1.1s									
KURK	**Kurchatov**	**46.77**	**309**	*eP*	**P**	**08 58 08.4**	**-0.7**			
KURK				pmax	pmax					
	comp=Z,460nm,0.8s									
KURK	**Kurchatov**	**46.77**	**309**	*eP*	**P**	**08 58 09.0**	**-0.1**			
	comp=Z,465nm,0.8s									
KURK					LR	LR				
	comp=Z,10μm,19.0s									
SKLT	**Songkhla**	**46.84**	**243**	P	**P**	**08 58 09.9**	**-0.1**			
	comp=Z,56nm,0.7s									
KURBB	**Kurchatov Arra**	**46.84**	**309**	P	**P**	**08 58 09.5**	**-0.1**			
	comp=Z,47nm,0.6s,baz=85,slow=7.9,SNR=201									
RAMN	**Ramite**	**47.09**	**275**	*eP*	**P**	**08 58 12.1**	**-0.1**			
	comp=Z,293nm,0.6s									
SHLS	**Shalkode**	**47.16**	**299**	*eP*	**P**	**08 58 11.3**	**-1.3**			
	comp=Z,224nm,0.9s									
SHLS				*e*S	**S**	**09 05 02.7**	**-1.2**			
SHLS					LR	LR	09 18 08.1			
	comp=Z,2μm,14.8s									
KRAB	**Krabi**	**47.17**	**245**	P	**P**	**08 58 12.5**	**-0.1**			
	comp=Z,69nm,0.7s,comp=Z,2μm									
GUN	**Gumba**	**47.28**	**277**	*eP*	**P**	**08 58 14.0**	**+0.2**			
	comp=Z,209nm,0.9s									
PDGK	**Podgornoye**	**47.41**	**299**	P	**P**	**08 58 14.2**	**0.0**			
PDGK				pmax	pmax					
	comp=Z,78nm,0.8s									
MMRI	**Maumere**	**47.60**	**206**	P	**P**	**08 58 20.0**	**+4.1**			
	comp=Z,155nm,0.9s									
MMRI	**Maumere**	**47.60**	**206**	*eP*	**P**	**08 58 16.0**	**+0.1**			
	comp=Z,241nm,1.3s									
OHAK	**Old Harbor**	**47.80**	**42**	*eP*	**P**	**08 58 16.6**	**-0.3**			
	comp=Z,179nm,1.6s									
OHAK					LR	LR				
	comp=Z,1μm,22.0s									
PKIN	**Phulchoki**	**47.80**	**277**	*eP*	**P**	**08 58 17.5**	**-0.3**			
	comp=Z,84nm,0.7s									
KKN	**Kakani**	**47.81**	**277**	*eP*	**P**	**08 58 17.9**	**+0.1**			
	comp=Z,152nm,0.8s									
EDFI	**Ende, Flores**	**47.91**	**207**	P	**P**	**08 58 17.8**	**-0.6**			
	comp=Z,104nm,1.3s									
KPKS	**Kokpek**	**47.95**	**299**	*i* P	**P**	**08 58 17.8**	**-0.8**			
	comp=Z,544nm,0.7s									
KPKS				*e*S	**S**	**09 05 14.3**	**-0.4**			
KPKS					LR	LR	09 19 14.4			
	comp=Z,2μm,15.8s									
SOEI	**Soe**	**47.96**	**203**	P	**P**	**08 58 19.2**	**+0.4**			
	comp=Z,379nm,1.1s,comp=Z,3μm									
SOEI	**Soe**	**47.96**	**203**	*eP*	**P**	**08 58 18.0**	**-0.8**			
	comp=Z,367nm,1.0s									
RSO	**Redoubt South**	**48.01**	**37**	*eP*	**P**	**08 58 19.4**	**+0.5**			
PKDT	**Phuket**	**48.03**	**245**	P	**P**	**08 58 20.5**	**+1.2**			
	comp=Z,74nm,0.8s,comp=Z,4μm									
DMN	**Daman**	**48.03**	**277**	*eP*	**P**	**08 58 19.6**	**+0.1**			
	comp=Z,100nm,0.7s									
KULM	**Kulim**	**48.11**	**241**	⇑P	**P**	**08 58 20.0**	**+0.1**			
KULM	**Kulim**	**48.11**	**241**	*eP*	**P**	**08 58 19.6**	**-0.2**			
	comp=Z,15nm,0.7s									
KULM					LR	LR				
	comp=Z,1μm,18.0s									
HNR	**Honiara**	**48.14**	**155**		PFAKE		08 58 30.0	+10		
HNR					LR	LR				
	comp=Z,1μm,20.0s									
KDAK	**Kodiak Island**	**48.15**	**41**	*i* P	**P**	**08 58 19.2**	**-0.5**			
KDAK	**Kodiak Island**	**48.15**	**41**	*eP*	**P**	**08 58 19.4**	**-0.2**			
	comp=Z,105nm,0.8s									
KDAK					LR	LR				
	comp=Z,1μm,20.0s									
SATY	**Saty**	**48.24**	**299**	*eP*	**P**	**08 58 19.4**	**-1.5**			
	comp=Z,281nm,0.9s									
SATY					LR	LR	09 19 21.7			
	comp=Z,2μm,15.1s									
GKN	**Gorkha**	**48.24**	**278**	*eP*	**P**	**08 58 21.2**	**+0.1**			
	comp=Z,556nm,0.8s									
PPLA	**Purkeypile**	**48.32**	**34**	*eP*	**P**	**08 58 22.3**	**+1.2**			
	comp=Z,156nm,1.4s									
PPLA					LR	LR				
	comp=Z,600nm,20.0s									
SPU	**Mount Spurr**	**48.35**	**37**	*eP*	**P**	**08 58 21.9**	**+0.6**			
CAST	**Castle Rocks**	**48.39**	**34**	PFAKE		08 58 30.0	+8.5			
CAST					LR	LR				
	comp=Z,300nm,19.0s									
IPM	**Ipoh**	**48.41**	**240**	*eP*	**P**	**08 58 21.0**	**-1.3**			
	comp=Z,39nm,0.9s									
IPM					LR	LR				
	comp=Z,2μm,18.0s									
MYKOM	**Kota Tinggi**	**48.43**	**234**	PFAKE		08 58 30.0	+7.7			
MYKOM					LR	LR				
	comp=Z,900nm,18.0s									
HOM	**Homer**	**48.58**	**39**	PFAKE		08 58 40.0	+17			
HOM					LR	LR				
	comp=Z,600nm,19.0s									
KGM	**Kluang**	**48.61**	**235**	⇓P	**P**	**08 58 24.4**	**+0.6**			
CNPM	**China Poot**	**48.79**	**39**	*eP*	**P**	**08 58 24.4**	**-0.3**			
	comp=Z,31nm,0.7s									
CNPM					LR	LR				
	comp=Z,700nm,20.0s									
FRIM	**Kepong**	**48.88**	**238**	⇓P	**P**	**08 58 25.7**	**-0.1**			
BPAW	**Bear Paw Mtn.**	**48.90**	**33**	*eP*	**P**	**08 58 26.2**	**+0.8**			
	comp=Z,57nm,1.6s									
BPAW					LR	LR				
	comp=Z,700nm,20.0s									
KTH	**Kantishna Hill**	**48.91**	**33**	*eP*	**P**	**08 58 26.3**	**+0.7**			
	comp=Z,95nm,1.2s									
BRLK	**Bradley Lake**	**48.96**	**38**	*eP*	**P**	**08 58 25.1**	**-0.8**			
	comp=Z,64nm,1.1s									
BRLK					LR	LR				
	comp=Z,600nm,20.0s									
SUA	**Susitna One**	**48.98**	**36**	*eP*	**P**	**08 58 26.1**	**-0.1**			
	comp=Z,49nm,0.9s									
SUA					LR	LR				
	comp=Z,600nm,19.0s									
MLY	**Manley**	**49.04**	**31**	*eP*	**P**	**08 58 27.6**	**+1.0**			
	comp=Z,47nm,1.0s									
MLY					LR	LR				
	comp=Z,600nm,18.0s									
KOLN	**Koldanda**	**49.18**	**278**	*eP*	**P**	**08 58 28.5**	**+0.2**			
	comp=Z,100nm,0.7s									
MDOK	**Medeo**	**49.18**	**299**	*i* P	**P**	**08 58 27.7**	**-0.3**			
	comp=Z,271nm,1.0s									
MDOK				*e*S	**S**	**09 05 31.8**	**-0.5**			
MDOK					LR	LR	09 19 18.8			
	comp=Z,2μm,17.2s									
MTN	**Manton Dam**	**49.20**	**193**	*eP*	**P**	**08 58 27.6**	**-0.5**			
	comp=Z,61nm,0.8s									
TRF	**Thorofare Moun**	**49.20**	**33**	*eP*	**P**	**08 58 28.2**	**+0.3**			
	comp=Z,176nm,1.9s									
TRF					LR	LR				
	comp=Z,500nm,19.0s									
AAA	**Alma-Ata**	**49.23**	**300**	*eP*	**P**	**08 58 28.8**	**+0.5**			
AAA				*e*S	**S**	**09 05 31.9**	**-0.8**			
AAA				pmax	pmax					
	comp=Z,400nm,2.9s									
AAA				smax	smax					
	comp=E,1μm,14.4s									
AAA				MLR	MLR					
	comp=Z,6μm,20.0s									
COEN	**Coen**	**49.37**	**178**	*eP*	**P**	**08 58 30.0**	**+0.6**			
	comp=Z,124nm,1.1s									
COLD	**Coldfoot**	**49.38**	**28**	*eP*	**P**	**08 58 29.7**	**+0.7**			
	comp=Z,74nm,1.7s									
COLD					LR	LR				
	comp=Z,500nm,19.0s									
RC01	**Rabbit Creek A**	**49.48**	**37**	*eP*	**P**	**08 58 30.1**	**+0.2**			
	comp=Z,114nm,1.1s									
RC01					LR	LR				
	comp=Z,900nm,19.0s									
KUU	**Kurty**	**49.51**	**300**	*i* P	**P**	**08 58 29.8**	**-0.6**			
	comp=Z,773nm,1.2s									
KUU				*e*S	**S**	**09 05 35.8**	**-0.7**			
KUU					LR	LR	09 19 49.0			
	comp=Z,2μm,14.9s									
PLAI	**Plampang**	**49.52**	**211**	P	**P**	**08 58 31.6**	**+0.9**			
	comp=Z,85nm,0.8s									
PYUN	**Piuthan**	**49.53**	**279**	*eP*	**P**	**08 58 31.4**	**+0.4**			
	comp=Z,667nm,0.9s									
BWN	**Browne**	**49.57**	**33**	*eP*	**P**	**08 58 32.3**	**+1.9**			
	comp=Z,206nm,1.2s									
SEW	**Seward**	**49.66**	**38**	*eP*	**P**	**08 58 31.0**	**-0.3**			
	comp=Z,96nm,1.1s									
PMR	**Palmer**	**49.75**	**36**	*eP*	**P**	**08 58 31.8**	**-0.1**			
PMR				pmax	pmax					
	comp=Z,110nm,1.2s									
PMR	**Palmer**	**49.75**	**36**	*eP*	**P**	**08 58 31.8**	**-0.1**			
	comp=Z,112nm,1.2s									
PMR					LR	LR				
	comp=Z,500nm,21.0s									
MCK	**McKinley**	**49.80**	**33**	*eP*	**P**	**08 58 32.4**	**+0.1**			
MCK				pmax	pmax					
	comp=Z,190nm,1.9s									
MCK	**McKinley**	**49.80**	**33**	*eP*	**P**	**08 58 32.4**	**+0.1**			
	comp=Z,193nm,2.0s						

ILAR Eielson Array 50.68 32 P **P** **08 58 38.6 -0.2**
comp=Z,28nm,0.8s,baz=268,slow=6.2,SNR=270
ILAR LR LR 09 21 14.6
comp=Z,463nm,19.7s,baz=284,slow=37
ILB Eielson Array 50.68 32 *eP* **P** **08 58 38.7 -0.2**
JAGI Jajag, Banyuwa 50.84 216 P P 08 58 48.5 +7.8
KSH Kashi 50.95 295 P **P** **08 58 45.8 +4.3**
KSH pP sP 08 58 51.8 -0.5
KSH PcP **PcP** **09 00 01.8 +4.2**
KSH PP **PP** **09 00 43.9 +6.0**
KSH S **S** **09 06 01.1 +4.1**
KSH ScS **ScS** **09 08 31.8 +1.1**
KSH SS **SS** **09 09 35.1 +3.4**
KSH PMZ
comp=Z,28nm,0.8s
KSH PMZ
comp=Z,130nm,3.5s
KSH LN
comp=Z,2μm,15.3s
KSH LE
comp=Z,2μm,15.0s
KSH LZ
comp=Z,2μm,15.5s
FRU Bishkek 50.99 300 *eP* **P** **08 58 43.0 +1.3**
FRU *i* 08 58 55.0
FRU pmax pmax
comp=Z,80nm,2.0s
FRU MLR MLR
comp=E,4μm,17.0s
PSI Prapat 51.07 240 *eP* **P** **08 58 42.0 -0.6**
PSI pmax pmax
comp=Z,22nm,0.7s
PSI Prapat 51.07 240 *eP* **P** **08 58 42.0 -0.6**
comp=Z,22nm,0.7s
PSI LR LR
comp=Z,2μm,18.0s
AAK Ala-Archa 51.13 299⇑ *iP* **P** **08 58 43.2 +0.3**
AAK pmax pmax
comp=Z,27nm,0.8s
AAK MLR MLR
comp=Z,9μm,18.0s
AAK Ala-Archa 51.13 299 *eP* **P** **08 58 43.5 +0.7**
comp=Z,31nm,0.9s
AAK LR LR
comp=Z,4μm,18.0s
LGTI Lohaghat 51.19 281 *ex* **P** **08 58 45.2 +2.0**
OTUK Ortayu 51.22 307 P **P** **08 58 43.3 0.0**
OTUK pmax pmax
comp=Z,99nm,1.3s
CHKZ Chkalovo 51.24 314 P **P** **08 58 43.3 0.0**
KLU Klutina 51.30 36 *eP* **P** **08 58 44.3 +0.6**
comp=Z,131nm,1.4s
KLU LR LR
comp=Z,800nm,19.0s
FYU Fort Yukon 51.32 29 *eP* **P** **08 58 44.8 +1.1**
comp=Z,336nm,1.8s
BKNI Bangkinang 51.39 236 P **P** **08 58 45.9 +1.1**
comp=Z,147nm,0.4s
BKNI Bangkinang 51.39 236 *eP* **P** **08 58 45.0 +0.2**
comp=Z,125nm,0.7s
PAX Paxson 51.39 34 *eP* **P** **08 58 44.5 +0.1**
PAX pmax pmax
comp=Z,31nm,1.0s
PAX Paxson 51.39 34 *eP* **P** **08 58 44.5 +0.1**
comp=Z,31nm,1.1s
PAX LR LR
comp=Z,600nm,19.0s
DIV Divide 51.40 36 *eP* **P** **08 58 45.2 +0.7**
comp=Z,172nm,1.2s
DIV LR LR
comp=Z,599nm,19.0s
EYAK Cordova Ski Ar 51.47 37 *eP* **P** **08 58 45.6 +0.7**
comp=Z,97nm,1.1s
EYAK LR LR
comp=Z,800nm,19.0s
BVA0 Borovoye Array 51.49 313 *i* P **P** **08 58 45.5 +0.3**
BVA0 pmax pmax
comp=Z,47nm,1.2s
BVAR Borovoye Array 51.49 313 LR LR 09 21 47.8
comp=Z,3μm,18.3s,baz=74,slow=37
BRVK Borovoye 51.55 313 *d iP* **P** **08 58 45.5 -0.1**
BRVK pmax pmax
comp=Z,102nm,1.5s
BRVK MLR MLR
comp=Z,7μm,16.0s
BRVK Borovoye 51.55 313 *eP* **P** **08 58 46.5 +0.9**
comp=Z,108nm,1.0s
BRVK LR LR
comp=Z,7μm,18.0s
PWJI Pagerwojo 51.61 219 P **P** **08 58 45.5 -0.9**
comp=Z,265nm,0.8s
EKS2 Erkin-Say 51.63 300 *eP* **P** **08 58 47.3 +0.7**
EKS2 pmax pmax
comp=Z,24nm,0.8s
EKS2 Erkin-Say 51.63 300 *eP* **P** **08 58 47.2 +0.7**
comp=Z,24nm,0.8s
EKS2 LR LR
comp=Z,4μm,19.0s
DOT Dot Lake 51.97 33 *eP* **P** **08 58 48.4 -0.2**
comp=Z,59nm,0.8s
DOT LR LR
comp=Z,2μm,20.0s
BMRM Bremner River 51.98 37 *eP* **P** **08 58 49.6 +0.8**
comp=Z,135nm,1.2s
BMRM LR LR
comp=Z,600nm,21.0s
RAGM Ragged Mountai 52.01 37 *eP* **P** **08 58 50.1 +1.1**
comp=Z,106nm,1.2s
RAGM LR LR
comp=Z,700nm,19.0s
MNSI Mandailing Nat 52.04 238 P **P** **08 58 49.4 -0.3**
comp=Z,51nm,0.6s,comp=Z,4μm
MENT Mentasta 52.19 34 *eP* **P** **08 58 51.0 +0.7**
comp=Z,54nm,1.1s
MENT LR LR
comp=Z,700nm,19.0s
ZRNK Zerenda 52.32 313 *eP* **P** **08 58 51.5 +0.1**
ZRNK pmax pmax
comp=Z,84nm,1.0s
ZRNK Zerenda 52.32 313 *eP* **P** **08 58 51.5 +0.1**
comp=Z,84nm,1.0s
ZRNK LR LR
comp=Z,3μm,18.0s
KPJI Karang Pucung 52.54 222 P **P** **08 58 53.0 -0.4**
comp=Z,139nm,0.8s
MNAS Manas 52.58 300 P **P** **08 58 54.5 +0.8**
MNAS pmax pmax
comp=Z,55nm,1.0s
CRQM Cirque 52.72 37 *eP* **P** **08 58 55.2 +0.8**
comp=Z,138nm,1.1s
CRQM LR LR
comp=Z,700nm,22.0s
LHSI Lahat 52.90 230 P **P** **08 58 56.6 +0.5**
comp=Z,286nm,1.0s,comp=Z,3μm
BALM Baldy 53.06 36 *eP* **P** **08 58 57.3 +0.4**
BALM pmax pmax
comp=Z,62nm,1.2s
BALM MLR MLR
comp=Z,400nm,18.0s
BALM Baldy 53.06 36 *eP* **P** **08 58 57.3 +0.4**
comp=Z,62nm,1.2s
BALM LR LR
comp=Z,400nm,18.0s
GSI Gunungsitoli 53.08 240 P **P** **08 58 57.4 0.0**
comp=Z,158nm,0.7s
GSI Gunungsitoli 53.08 240 *eP* **P** **08 58 57.1 -0.3**
comp=Z,134nm,1.0s
EGAK Eagle 53.13 32 *eP* **P** **08 58 57.0 -0.1**
comp=Z,83nm,1.6s
EGAK LR LR
comp=Z,500nm,20.0s
CISI Cisompet, Garu 53.34 223 *eP* **P** **08 58 57.5 -1.9**
comp=Z,330nm,1.7s
KSI Kapahiang 53.35 231 P **P** **08 58 59.2 -0.3**
comp=Z,116nm,0.9s
LWLI Liwa 53.50 229 P **P** **08 59 02.1 +1.5**
comp=Z,178nm,0.5s,comp=Z,6μm
KASI Kota Agung 53.63 228 P **P** **08 59 01.1 -0.3**
comp=Z,121nm,1.2s
KK31 Karatay Array 53.80 301 *i* P **P** **08 59 02.9 +0.4**
KK31 pmax pmax
comp=Z,47nm,1.0s
KKAR Karatay Array 53.80 301 *eP* **P** **08 59 03.0 +0.5**
KKAR Karatay Array 53.80 301 *eP* **P** **08 59 03.0 +0.5**
DAWY Dawson 53.98 32 *eP* **P** **08 59 04.0 +0.5**
comp=Z,62nm,1.6s
OPA Opana 54.20 88 *eP* **P** **08 59 06.6 +0.9**
OPA pmax pmax
comp=Z,229nm,1.1s
OPA Opana 54.20 88 *eP* **P** **08 59 06.5 +0.9**
comp=Z,228nm,1.1s
IUG Iuzhnay 54.44 300 *i* P **P** **08 59 06.7 -0.6**
comp=Z,860nm,1.4s
IUG *eS* **S** **09 06 44.0 -0.3**
IUG LR LR 09 22 44.1
comp=Z,778nm,15.1s
BRLS Borolday 54.48 301 *eP* **P** **08 59 06.9 -0.5**
comp=Z,46nm,1.0s
BRLS *eS* **S** **09 06 43.8 -0.9**
BRLS LR LR 09 22 48.2
comp=Z,377nm,12.6s
DHAK Deception Hill 55.46 38 *eP* **P** **08 59 15.3 +1.0**
comp=Z,149nm,1.5s
FITZ Fitzroy Crossi 55.50 198 *eP* **P** **08 59 15.2 +0.3**
comp=Z,227nm,1.8s
CTAO Charters Tower 55.62 174 *eP* **P** **08 59 15.7 0.0**
CTAO pmax pmax
comp=Z,49nm,1.1s
CTAO Charters Tower 55.62 174 *eP* **P** **08 59 15.7 0.0**
comp=Z,49nm,1.1s
INK Inuvik 55.63 27 P **P** **08 59 15.7 +0.4**
comp=Z,17nm,0.7s,baz=271,slow=7.4,SNR=24
INK Inuvik 55.63 27 *eP* **P** **08 59 15.7 +0.4**
INK pmax pmax
comp=Z,86nm,1.5s
INK Inuvik 55.63 27 *eP* **P** **08 59 15.7 +0.4**
comp=Z,86nm,1.5s
WRAB Tennant Creek 55.68 188 *d iP* **P** **08 59 15.4 -0.8**
WRAB pmax pmax
comp=Z,532nm,1.1s
WRAB MLR MLR
comp=Z,2μm,20.0s
WRAB Tennant Creek 55.68 188 *eP* **P** **08 59 15.7 -0.4**
comp=Z,164nm,0.9s
WB2 Warramunga Arr 55.69 188 *eP* **P** **08 59 15.7 -0.5**
comp=Z,171nm,0.9s
WRA Warramunga Arr 55.69 188 P **P** **08 59 14.9 -1.3**
comp=Z,112nm,0.9s,baz=6.9,slow=7.5,SNR=259
WRA S **S** **09 07 06.8 +5.6**
comp=Z,6.5nm,1.1s,baz=0.4,slow=14,SNR=8.4
WRA LR LR 09 21 29.4
comp=Z,816nm,21.7s,baz=10.0,slow=34
WRA PKPPKP P'P'df 09 29 20.9 +9.5
comp=Z,1.0nm,1.1s,baz=173,slow=2.0,SNR=5.4
PVM Polavaram 55.73 267 *eP* **P** **08 59 16.8 +0.1**
PVM IAmb IAmb 08 59 18.3
comp=Z,97nm,1.4s
PVM *eS* **S** **09 07 02.4 +0.3**
PVM IVMs_BB IVMs_BB 09 24 02.5
comp=Z,687nm,19.3s
HLK Haleakala 56.09 88 *eP* **P** **08 59 21.0 +1.4**
comp=Z,557nm,1.7s
SVE Sverdlovsk 56.17 319 *d iP* **P** **08 59 20.3 +1.0**
SVE *eS* **S** **09 07 05.9 -1.0**
SVE pmax pmax
comp=Z,72nm,1.2s
SVE MLR MLR
comp=Z,4μm,15.0s
RPR Rampur 56.80 270 *eP* **P** **08 59 24.2 -0.2**
RPR IAmb IAmb 08 59 25.7
comp=Z,44nm,0.8s
RPR *eS* **S** **09 07 15.4 -0.9**
RPR IVMs_BB IVMs_BB 09 25 01.3
comp=Z,537nm,13.2s
SKAG Skagway 56.81 37 *eP* **P** **08 59 24.2 +0.4**
comp=Z,117nm,1.6s
SKAG LR LR
comp=Z,500nm,18.0s
POHA Pohakuloa 57.17 88 *eP* **P** **08 59 28.8 +1.5**
comp=Z,198nm,1.3s
MLOA Mauna Loa Obse 57.24 88 *eP* **P** **08 59 29.0 +1.0**
ARU Arti 57.38 319 *c iP* **P** **08 59 28.4 +0.5**
ARU 09 00 19.7
ARU 09 01 35.5
ARU PPP PPP 09 02 55.6
ARU S **S** **09 07 25.8 +2.9**
ARU 09 09 16.7
ARU SS **SS** **09 11 14.0 +2.0**
ARU pmax pmax
comp=Z,108nm,1.7s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 57.38 319 *eP* **P** **08 59 28.1 +0.2**
comp=Z,78nm,1.0s
ARU LR LR
comp=Z,2μm,18.0s
SRSP Sriramsagar 57.54 271 *eP* **P** **08 59 29.3 -0.3**
SRSP IAmb IAmb 08 59 30.9
comp=Z,61nm,0.8s
SRSP *eS* **S** **09 07 24.8 -1.3**
SRSP IVMs_BB IVMs_BB 09 26 46.8
comp=Z,721nm,5.2s
ADKI Addanki 57.82 267 *eP* **P** **08 59 31.9 +0.3**
ADKI IAmb IAmb 08 59 33.0
comp=Z,22nm,0.8s
ADKI *eS* **S** **09 07 31.7 +2.0**
ADKI IVMs_BB IVMs_BB 09 26 54.9
comp=Z,908nm,5.4s
KBL Kabul 57.89 292 *eP* **P** **08 59 32.3 +0.1**
KBL pmax pmax
comp=Z,22nm,0.8s
KBL Kabul 57.89 292 *eP* **P** **08 59 32.3 +0.1**
comp=Z,22nm,0.8s
KBL LR LR
comp=Z,900nm,20.0s
NJS Nagarjunasagar 57.99 268 *eP* **P** **08 59 32.6 -0.1**
NJS IAmb IAmb 08 59 34.0
comp=Z,103nm,1.6s
NJS *eS* **S** **09 07 31.4 -0.4**
NJS IVMs_BB IVMs_BB 09 27 06.8
comp=Z,596nm,4.5s
HYB Hyderabad 58.15 269 *i* P **P** **08 59 35.0 +1.1**
HYB *eS* **S** **09 07 32.0 -2.1**
HYBB Hyderabad (bro 58.15 269 *eP* **P** **08 59 33.5 -0.5**
HYBB IAmb IAmb 08 59 36.9
comp=Z,61nm,0.9s
HYBB *eS* **S** **09 07 31.8 -2.2**
HYBB IVMs_BB IVMs_BB 09 27 04.0
comp=Z,981nm,4.9s
SRLM Srisailam 58.56 268 *eP* **P** **08 59 36.5 -0.4**
SRLM IAmb IAmb 08 59 37.9
comp=Z,55nm,1.3s
SRLM *eS* **S** **09 07 40.4 +0.9**
SRLM IVMs_BB IVMs_BB 09 24 53.2
comp=Z,1μm,4.4s
AB31 Akbulak array 58.81 311 *i* P **P** **08 59 37.7 -0.4**
AB31 pmax pmax
comp=Z,14nm,0.6s
ABKAR Akbulak array 58.81 311 *eP* **P** **08 59 38.0 -0.1**
RCLA Racherla 58.85 267 *eP* **P** **08 59 38.6 -0.2**
RCLA IAmb IAmb 08 59 40.1
comp=Z,48nm,1.0s
RCLA *eS* **S** **09 07 44.0 +0.8**
RCLA IVMs_BB IVMs_BB 09 26 47.9
comp=Z,899nm,4.2s
CRAG Craig 59.11 41 *eP* **P** **08 59 41.4 +1.4**
comp=Z,96nm,1.8s
CRAG LR LR
comp=Z,500nm,21.0s
WRAK Wrangell Islan 59.21 40 *eP* **P** **08 59 41.8 +1.1**
comp=Z,89nm,1.7s
WRAK LR LR
comp=Z,600nm,21.0s
KLRI Killari 59.40 271 *eP* **P** **08 59 42.0 -0.6**
KLRI IAmb IAmb 08 59 46.9
comp=Z,93nm,0.6s
KLRI *eS* **S** **09 07 51.7 +1.3**
KLRI IVMs_BB IVMs_BB 09 27 47.0
comp=Z,1μm,18.8s
AS01 Alice Springs 59.41 188 *eP* **P** **08 59 42.1 -0.3**
AS31 Alice Springs 59.42 188 *eP* **P** **08 59 42.1 -0.3**
comp=Z,15nm,0.6s
ASAR Alice Springs 59.42 188 P **P** **08 59 42.1 -0.3**
comp=Z,26nm,0.8s,baz=9.3,slow=8.8,SNR=184
ASAR S **S** **09 07 56.7 +6.6**
comp=Z,1.5nm,0.8s,baz=18,slow=19,SNR=5.5
ASAR LR LR 09 23 56.6
comp=Z,668nm,21.9s,baz=0.5,slow=35
ASAR PKP2bc 09 29 22.6
comp=Z,3.0nm,1.0s,baz=176,slow=3.2,SNR=11
DLBC Dease Lake 59.73 38 P **P** **08 59 44.3 -0.1**
comp=Z,21nm,1.0s,baz=289,slow=6.8,SNR=32
DLBC Dease Lake 59.73 38 *eP* **P** **08 59 45.9 +1.5**
comp=Z,129nm,1.6s
DLBC LR LR
comp=Z,500nm,18.0s
MBWA Marble Bar 60.11 203 *eP* **P** **08 59 47.0 -0.2**
comp=Z,124nm,0.6s
EIDS Eidsvold 61.38 170 *eP* **P** **08 59 56.3 +0.5**
comp=Z,53nm,1.0s
SPA0 Spitsbergen Ar 61.87 349 *eP* **P** **08 59 59.3 +0.7**
KBS Kingsbay 62.01 350 *eP* **P** **09 00 00.5 +1.0**
KBS pmax pmax
comp=Z,33nm,0.9s
KBS Kingsbay 62.01 350 *eP* **P** **09 00 00.5 +1.0**
comp=Z,33nm,0.8s
KBS LR LR
comp=Z,700nm,19.0s
PALK Pallekele 62.05 258 *eP* **P** **09 00 01.7 +1.0**
PALK pmax pmax
comp=Z,63nm,1.2s
PALK Pallekele 62.05 258 *eP* **P** **09 00 01.7 +1.0**
comp=Z,63nm,1.2s
PALK LR LR
comp=Z,2μm,20.0s
DZM Mont Dzumac 62.12 154 *eP* **P** **09 00 01.0 0.0**
comp=Z,152nm,1.3s
DZM *eS* **S** **09 08 18.0 -6.8**
comp=Z,1μm,26.6s
DZM Mont Dzumac 62.12 154 *eLR* LR 09 18 18.3
comp=Z,1μm,21.3s
DZM Mont Dzumac 62.12 154 *eP* **P** **09 00 01.3 +0.3**
LVZ Lovozero 63.36 336 *eP* **P** **09 00 09.0 +0.4**
LVZ pmax pmax
comp=Z,62nm,1.4s
LVZ MLR MLR
comp=Z,3μm,18.0s
LVZ Lovozero 63.36 336 *eP* **P** **09 00 09.0 +0.4**
comp=Z,62nm,1.4s
LVZ LR LR
comp=Z,3μm,18.0s
MSVF Nonsavu 63.45 140 *eP* **P** **09 00 10.6 +0.7**
MSVF pmax pmax
comp=Z,139nm,1.4s
MSVF Nonsavu 63.45 140 *eP* **P** **09 00 10.6 +0.7**
comp=Z,139nm,1.4s
APA Apatity 63.94 336⇑ *iP* **P** **09 00 12.0 -0.4**
APA *i* 09 00 50.0
APA *i* S **S** **09 08 44.0 -2.3**
APA *i* SS **SS** **09 12 57.0 +2.9**
APA pmax pmax
comp=Z,18nm,1.0s
APA MLR MLR
comp=Z,3μm,18.0s
RES Resolute Bay 63.95 14 LR LR 09 33 13.2
comp=Z,238nm,18.2s,baz=313,slow=41
RES Resolute Bay 63.95 14 *eP* **P** **09 00 12.0 -0.3**
RES Resolute Bay 63.95 14 *eP* **P** **09 00 12.0 -0.3**
GEYT Alibeck 64.48 300 P **P** **09 00 16.8 +0.2**
comp=Z,9.4nm,0.8s,baz=64,slow=3.4,SNR=9.8
GEYT LR LR 09 30 14.4
comp=Z,1μm,18.9s,baz=55,slow=38
KEV Kevo 64.72 339 *eP* **P** **09 00 17.9 +0.4**
KEV pmax pmax
comp=Z,64nm,1.5s
KEV MLR MLR
comp=Z,2μm,18.0s
KEV Kevo 64.72 339 *eP* **P** **09 00 17.9 +0.4**
comp=Z,64nm,1.5s
KEV LR LR
comp=Z,2μm,18.0s
KLMR Klimovskoe 64.91 328 *eP* **P** **09 00 16.5 -2.4**
KLMR *e* 09 02 40.0
KLMR pmax pmax
comp=Z,32nm,0.9s
YKA Yellowknife Ar 65.02 30 P **P** **09 00 19.1 -0.4**
comp=Z,13nm,0.8s,baz=300,slow=6.6,SNR=116
YKA PKP2bc 09 29 06.6
comp=Z,0.4nm,0.8s,baz=100,slow=2.2,SNR=4.1
YKA LR LR 09 29 44.4
comp=Z,23nm,21.7s,baz=0.0,slow=37
ARA0 ARCESS Array S 65.28 340 *eP* **P** **09 00 21.2 0.0**
ARCES ARCESS Array B 65.28 340 P **P** **09 00 21.1 -0.1**
comp=Z,7.7nm,0.8s,baz=62,slow=8.4,SNR=10
ARCES LR LR 09 32 06.3
comp=Z,1μm,20.8s,baz=51,slow=39
ARE0 ARCESS Array S 65.28 340 *eP* **P** **09 00 21.4 +0.2**
comp=Z,32nm,1.3s
ARE0 LR LR
comp=Z,1μm,18.0s
AFI Afiamalu 66.28 129 LR LR 09 24 15.5
comp=Z,1μm,20.8s,baz=322,slow=31
ARMA Armidale 66.42 170 *eP* **P** **09 00 30.2 +1.2**
comp=Z,52nm,1.0s
DAG Danmarks Havn 67.15 355⇓ *iP* **P** **09 00 32.6 -0.4**
DAG *i* 09 00 40.4
DAG pmax pmax
comp=Z,120nm,1.3s
DAG Danmarks Havn 67.15 355⇓ *iP* **P** **09 00 32.6 -0.4**
comp=Z,62nm,1.3s
DAG *i* 09 00 40.4
STKA Stephens Creek 67.17 180 P **P** **09 00 33.7 +0.1**
comp=Z,34nm,0.8s,baz=346,slow=7.7,SNR=29
STKA Stephens Creek 67.17 180 *eP* **P** **09 00 33.7 +0.1**
STKA pmax pmax
comp=Z,9.0nm,0.9s
STKA Stephens Creek 67.17 180 *eP* **P** **09 00 33.7 +0.1**
comp=Z,8.9nm,0.9s
PGC Sidney 67.32 46 *eP* **P** **09 00 35.0 +0.5**
comp=Z,42nm,1.1s
B04A Port Angeles 67.57 46 P **P** **09 00 37.0 +0.9**
NLWA Neilton Lookou 67.67 47 *eP* **P** **09 00 38.1 +1.3**
comp=Z,128nm,1.3s
A04D Lummi Island 67.72 45 P **P** **09 00 37.6 +0.6**
baz=299
GNW Green Mountain 68.21 47 P **P** **09 00 41.1 +1.0**
E03A Lebam 68.26 48 *eP* **P** **09 00 41.7 +1.2**
comp=Z,63nm,1.1s
BBOO Buckleboo 68.29 185 *eP* **P** **09 00 40.7 +0.1**
comp=Z,94nm,1.0s
B05A Bryant 68.29 46 P **P** **09 00 41.2 +0.5**
baz=300,SNR=17
B05A Bryant 68.29 46 P **P** **09 00 41.4 +0.7**
MOS Moscow 68.34 324 *eP* **P** **09 00 40.7 -0.2**
MOS *e* 09 00 48.1
MOS *e* 09 01 05.0
MOS *e* 09 03 11.1
MOS *eS* **S** **09 09 40.1 -0.1**
MOS pmax pmax
comp=Z,72nm,1.4s
MOS pmax pmax
comp=Z,200nm,2.4s
MOS MLR MLR
comp=Z,2μm,16.0s
JCW Jim Creek 68.42 46 P **P** **09 00 42.3 +0.7**
B06A Marblemount 68.52 45 PFAKE 09 00 50.0 +7.9
B06A LR LR
comp=Z,300nm,19.0s
F03A Seaside 68.57 48 *eP* **P** **09 00 43.9 +1.4**
comp=Z,120nm,1.4s
VRH Novokhopyorsk 68.59 318 *eP* **P** **09 00 41.1 -1.4**
VRH *e**SP **sP** **09 00 55.4 +2.0**
VRH pmax pmax
comp=Z,30nm,1.1s
VRH MLR MLR
comp=Z,3μm,15.0s
F04D Rainier, OR 68.83 48 P **P** **09 00 44.8 +0.8**
baz=300
D05A Enumclaw 68.89 47 *eP* **P** **09 00 45.8 +1.3**
comp=Z,123nm,1.3s
G03D McMinnville, O 69.10 49 P **P** **09 00 46.3 +0.5**
baz=300,SNR=6.6
C06D Leavenworth 69.16 45 P **P** **09 00 46.6 +0.5**
baz=300
TDL Tradedollar La 69.17 47 P **P** **09 00 47.3 +0.9**
OBN Obninsk 69.19 324 LR LR 09 33 17.3
comp=Z,1μm,18.8s,baz=351,slow=38
OBN Obninsk 69.19 324 *d iP* **P** **09 00 45.7 -0.4**
OBN *e* 09 00 56.9
OBN *e* 09 01 08.7
OBN *e* 09 03 23.1
OBN *e*PPP PPP 09 05 01.8
OBN *eS* **S** **09 09 48.0 -2.2**
OBN pmax pmax
comp=Z,61nm,1.4s
OBN MLR MLR
comp=Z,2μm,15.0s
LON Longmire 69.21 47 *eP* **P** **09 00 47.0 +0.4**
LON pmax pmax

	comp=Z,36nm,1.4s							
LON	**Longmire**	**69.21**	**47**	*e*P		**P**	**09 00 47.0**	**+0.4**
	comp=Z,36nm,1.4s							
F04A	**Amboy**	**69.26**	**48**	*e*P		**P**	**09 00 48.0**	**+1.2**
	comp=Z,103nm,1.4s							
KULLO	**Kullorsuaq**	**69.36**	**5**⇓	*i*P		**P**	**09 00 46.3**	**-0.6**
KULLO				*i*			09 00 54.6	
KULLO					pmax	pmax		
	comp=Z,73nm,1.5s							
KULLO					MLR	MLR		
	comp=Z,940nm,17.0s							
KULLO	**Kullorsuaq**	**69.36**	**5**⇓	*i*P		**P**	**09 00 46.3**	**-0.6**
	comp=Z,73nm,1.5s							
KULLO				*i*			09 00 54.6	
COR	**Corvallis**	**69.39**	**49**	*e*P		**P**	**09 00 49.1**	**+1.5**
COR					pmax	pmax		
	comp=Z,69nm,1.1s							
COR	**Corvallis**	**69.39**	**49**	*e*P		**P**	**09 00 49.1**	**+1.5**
	comp=Z,69nm,1.1s							
LTY	**Liberty**	**69.63**	**46**	*e*P		**P**	**09 00 49.5**	**+0.4**
	comp=Z,62nm,1.4s							
LTY					LR	LR		
	comp=Z,300nm,22.0s							
TBM	**Table Mountain**	**69.72**	**46**	P		**P**	**09 00 50.5**	**+0.8**
I03D	**Drain, OR**	**69.81**	**50**	P		**P**	**09 00 51.0**	**+0.8**
	baz=300,SNR=13							
WTV	**Waterville**	**69.82**	**45**	P		**P**	**09 00 50.6**	**+0.3**
B08A	**Colville Reser**	**69.84**	**45**	*e*P		**P**	**09 00 51.0**	**+0.6**
	comp=Z,62nm,1.2s							
VSR	**Storozhevoye**	**69.95**	**319**	*e*P		**P**	**09 00 50.5**	**-0.4**
VSR				*e**SP		**sP**	**09 01 03.7**	**+1.8**
VSR					pmax	pmax		
	comp=Z,30nm,0.9s							
VSR					MLR	MLR		
	comp=Z,3µm,16.0s							
FIA1	**FINESS Array S**	**70.02**	**332**	*e*P		**P**	**09 00 51.2**	**+0.1**
	comp=Z,51nm,1.1s							
FINES	**FINESS Array B**	**70.02**	**332**	P		**P**	**09 00 50.9**	**-0.3**
	comp=Z,16nm,0.8s,baz=64,slow=8.7,SNR=30							
FINES					LR	LR	09 33 47.9	
	comp=Z,1µm,18.4s,baz=43,slow=38							
VFP	**Flag Point**	**70.15**	**48**	P		**P**	**09 00 53.1**	**+0.7**
G05D	**Wamic, OR**	**70.28**	**48**	P		**P**	**09 00 53.4**	**+0.3**
	baz=301							
I04A	**Tendick Farm,**	**70.34**	**50**	P		**P**	**09 00 53.9**	**+0.3**
	baz=301,SNR=17							
L02D	**Cave Junction,**	**70.42**	**52**	P		**P**	**09 00 54.8**	**+0.7**
	baz=301,SNR=5.7							
HUMO	**Hull Mountain**	**70.61**	**51**	*e*P		**P**	**09 00 56.1**	**+0.9**
	comp=Z,33nm,1.5s							
CROR	**Criterion Ridg**	**70.61**	**48**	P		**P**	**09 00 55.8**	**+0.6**
G06A	**Carlson Farm,**	**70.69**	**48**	*e*P		**P**	**09 00 56.5**	**+0.8**
	comp=Z,111nm,1.8s							
I05D	**Terrebonne, OR**	**70.73**	**49**	P		**P**	**09 00 56.4**	**+0.5**
	baz=301,SNR=10							
C09A	**Chrisman Ranch**	**70.73**	**45**	*e*P		**P**	**09 00 56.3**	**+0.5**
	comp=Z,101nm,1.4s							
HAWA	**Hanford**	**70.75**	**46**	*e*P		**P**	**09 00 56.8**	**+0.9**
	comp=Z,40nm,1.3s							
D08A	**Wollman Farm,**	**70.75**	**46**	*e*P		**P**	**09 00 56.0**	**+0.1**
	comp=Z,34nm,1.0s							
VTHM	**Trough**	**70.76**	**48**	P		**P**	**09 00 56.7**	**+0.6**
CAN	**Canberra**	**70.97**	**173**	*e*P		**P**	**09 00 58.0**	**+0.8**
CAN	**Canberra**	**70.97**	**173**	*e*P		**P**	**09 00 58.0**	**+0.8**
	comp=Z,72nm,1.2s							
KHMM	**Horse Mountain**	**71.00**	**53**	*e*P		**P**	**09 00 58.9**	**+1.2**
	comp=Z,79nm,1.3s							
NEW	**Newport**	**71.14**	**44**	LR		LR	09 29 21.1	
	comp=Z,188nm,21.9s,baz=312,slow=34							
NEW	**Newport**	**71.14**	**44**	P		**P**	**09 00 58.2**	**-0.1**
	baz=303							
NEW	**Newport**	**71.14**	**44**	*e*P		**P**	**09 00 58.6**	**+0.2**
NEW					pmax	pmax		
	comp=Z,50nm,1.2s							
NEW	**Newport**	**71.14**	**44**	*e*P		**P**	**09 00 58.6**	**+0.2**
	comp=Z,50nm,1.2s							
YBH	**Yreka Blue Hor**	**71.21**	**52**	*e*P		**P**	**09 01 00.0**	**+1.1**
YBH					pmax	pmax		
	comp=Z,79nm,1.3s							
YBH	**Yreka Blue Hor**	**71.21**	**52**	*e*P		**P**	**09 01 00.0**	**+1.1**
	comp=Z,79nm,1.4s							
M02C	**Callahan**	**71.30**	**52**	P		**P**	**09 01 00.6**	**+1.1**
	baz=301,SNR=6.4							
J05D	**Fort Rock, OR**	**71.34**	**50**	P		**P**	**09 00 59.8**	**0.0**
	baz=302,SNR=28							
K04D	**Chiloquin, OR**	**71.36**	**51**	P		**P**	**09 01 00.4**	**+0.6**
	baz=302,SNR=5.0							
GUDG	**Gudauri**	**71.46**	**309**	P		**P**	**09 01 01.2**	**+0.6**
E09A	**Wood Farm, Sta**	**71.49**	**46**	*e*P		**P**	**09 01 01.4**	**+0.9**
	comp=Z,74nm,1.2s							
N02D	**Trinity Center**	**71.61**	**53**	P		**P**	**09 01 02.5**	**+1.1**
	baz=302,SNR=11							
VSU	**Vasula**	**71.63**	**330**	*d i*P		**P**	**09 01 01.0**	**0.0**
VSU					pmax	pmax		
	comp=Z,142nm,1.4s							
VSU					MLR	MLR		
	comp=Z,3µm,18.0s							
ZEI	**Tsey**	**71.66**	**310**	*e*P		**P**	**09 01 00.7**	**-1.0**
ZEI					pmax	pmax		
	comp=Z,31nm,0.6s							
G08A	**Pilot Rock**	**71.67**	**47**	*e*P		**P**	**09 01 02.5**	**+0.8**
	comp=Z,51nm,1.8s							
TBLG	**Delisi**	**71.68**	**308**	P		**P**	**09 01 02.6**	**+0.9**
TBLG	**Delisi**	**71.68**	**308**	P		**P**	**09 01 02.6**	**+0.9**
M04C	**Macdoel**	**71.74**	**51**	P		**P**	**09 01 02.5**	**+0.3**
	baz=302,SNR=19							
KBZ	**Khabaz**	**71.78**	**311**	P		**P**	**09 01 02.5**	**+0.3**
	comp=Z,16nm,0.8s,baz=67,slow=7.0,SNR=28							
KBZ					LR	LR	09 34 42.2	
	comp=Z,742nm,20.5s,baz=349,slow=38							
KVAR	**Kislovodsk Arr**	**71.79**	**311**	LR		LR	09 35 39.5	
	comp=Z,955nm,18.4s,baz=14,slow=38							
KIV	**Kislovodsk**	**71.79**	**311**	*i* P		**P**	**09 01 02.7**	**+0.3**
	SNR=9.5							
KIV	**Kislovodsk**	**71.79**	**311**	*e*P		**P**	**09 01 03.0**	**+0.6**
KIV				*e*S		**S**	**09 10 23.0**	**+1.7**
KIV				*e*SS		**SS**	**09 15 00.2**	**+3.5**
KIV					pmax	pmax		
	comp=Z,74nm,1.1s							
KIV					pmax	pmax		
	comp=Z,30nm,3.1s							
KIV					MLR	MLR		
	comp=Z,1µm,18.0s							
KIV	**Kislovodsk**	**71.79**	**311**	*e*P		**P**	**09 01 03.1**	**+0.7**
	comp=Z,88nm,1.1s							
KIV					LR	LR		
	comp=Z,1µm,19.0s							
K05A	**Summer Lake**	**71.85**	**50**	*e*P		**P**	**09 01 04.0**	**+1.1**
	comp=Z,127nm,1.3s							
NWAO	**Narrogin (SRO)**	**71.87**	**201**	*e*P		**P**	**09 01 02.6**	**0.0**
NWAO					pmax	pmax		
	comp=Z,87nm,1.0s							
NWAO	**Narrogin (SRO)**	**71.87**	**201**	*e*P		**P**	**09 01 02.6**	**0.0**
	comp=Z,87nm,0.9s							
WDC	**Whiskeytown Da**	**71.92**	**53**	*e*P		**P**	**09 01 03.8**	**+0.7**
WDC					pmax	pmax		
	comp=Z,53nm,1.3s							
WDC	**Whiskeytown Da**	**71.92**	**53**	*e*P		**P**	**09 01 03.8**	**+0.7**
	comp=Z,52nm,1.4s							
ONI	**Oni**	**72.04**	**310**	P		**P**	**09 01 05.2**	**+1.3**
ONI	**Oni**	**72.04**	**310**	P		**P**	**09 01 05.2**	**+1.3**
SUMG	**Summit**	**72.06**	**360**	*i* P		**P**	**09 01 04.4**	**+0.5**
SUMG					pmax	pmax		
	comp=Z,80nm,1.2s							
SUMG					MLR	MLR		
	comp=Z,1µm,19.0s							
SUMG	**Summit**	**72.06**	**360**	*i* P		**P**	**09 01 04.4**	**+0.5**
	comp=Z,80nm,1.2s							
SUMG	**Summit**	**72.06**	**360**	*e*P		**P**	**09 01 04.4**	**+0.5**
	comp=Z,70nm,1.1s							
SUMG					LR	LR		
	comp=Z,1µm,19.0s							
NEY	**Neytrino**	**72.15**	**311**	*e*P		**P**	**09 01 06.6**	**+2.0**
NEY					pmax	pmax		
	comp=Z,6.0nm,1.1s							
UOSS	**Minazif**	**72.21**	**288**	*e*P		**P**	**09 01 06.1**	**+1.0**
	comp=Z,3.7nm,1.3s							
UOSS					LR	LR		
	comp=Z,800nm,21.0s							
F10A	**Beach Ranch, E**	**72.32**	**46**	*e*P		**P**	**09 01 06.2**	**+0.7**
	comp=Z,45nm,1.5s							
F10A					LR	LR		
	comp=Z,300nm,20.0s							
HATD	**Hatta, Dubai**	**72.33**	**288**	*i* P		**P**	**09 01 06.6**	**+0.8**
	SNR=6.8							
HOPS	**Hopland Field**	**72.41**	**54**	PFAKE			09 01 20.0	+14
HOPS					LR	LR		
	comp=Z,1µm,19.0s							
ASHO	**Ashiyiah**	**72.46**	**288**	P		**P**	**09 01 06.7**	**+0.1**
WALA	**Waterton Lakes**	**72.48**	**42**	*e*P		**P**	**09 01 07.1**	**+0.6**
	comp=Z,56nm,1.4s							
GNI	**Garni**	**72.51**	**307**	LR		LR	09 35 44.5	
	comp=Z,1µm,18.8s,baz=48,slow=38							
GNI	**Garni**	**72.51**	**307**	P		**P**	**09 01 07.6**	**+0.8**
O03D	**Paynes Creek**	**72.55**	**53**	P		**P**	**09 01 06.9**	**-0.1**
	baz=302,SNR=15							
MOD	**Modoc Plateau**	**72.65**	**51**	*e*P		**P**	**09 01 08.2**	**+0.6**
	comp=Z,69nm,1.5s							
BMO	**Blue Mountains**	**72.89**	**47**	*e*P		**P**	**09 01 09.3**	**+0.4**
BMO					pmax	pmax		
	comp=Z,57nm,1.5s							
BMO	**Blue Mountains**	**72.89**	**47**	*e*P		**P**	**09 01 09.3**	**+0.4**
	comp=Z,57nm,1.5s							
BMO					LR	LR		
	comp=Z,300nm,20.0s							
MCCM	**Marconi Confer**	**72.98**	**55**	PFAKE			09 01 20.0	+11
MCCM					LR	LR		
	comp=Z,700nm,20.0s							
ORV	**Oroville**	**73.14**	**53**	*e*P		**P**	**09 01 10.5**	**+0.1**
ORV					pmax	pmax		
	comp=Z,59nm,1.5s							
ORV	**Oroville**	**73.14**	**53**	*e*P		**P**	**09 01 10.5**	**+0.1**
	comp=Z,59nm,1.5s							
ORV					LR	LR		
	comp=Z,500nm,20.0s							
WVOR	**Wild Horse Val**	**73.41**	**50**	*e*P		**P**	**09 01 12.6**	**+0.5**
WVOR					pmax	pmax		
	comp=Z,68nm,1.5s							
WVOR	**Wild Horse Val**	**73.41**	**50**	*e*P		**P**	**09 01 12.6**	**+0.5**
	comp=Z,68nm,1.5s							
WVOR					LR	LR		
	comp=Z,400nm,19.0s							
SCO	**Scoresbysund**	**73.48**	**354**⇓	*i*P		**P**	**09 01 12.5**	**+0.7**
SCO				*i*			09 01 20.2	
SCO					pmax	pmax		
	comp=Z,68nm,1.5s							
SCO					MLR	MLR		
	comp=Z,460nm,18.0s							
SCO	**Scoresbysund**	**73.48**	**354**⇓	*i*P		**P**	**09 01 12.5**	**+0.7**
	comp=Z,68nm,1.5s							
SCO				*i*			09 01 20.2	
MICGM	**Minsk**	**73.62**	**326**	*e*P		**P**	**09 01 14.0**	**+1.1**
MICGM				*e*LR		LR	09 33 36.0	
MNK	**Minsk**	**73.62**	**326**	*e*P		**P**	**09 01 14.0**	**+1.1**
MSO	**Missoula**	**73.73**	**44**	P		**P**	**09 01 13.4**	**-0.4**
	baz=305							
MSO	**Missoula**	**73.73**	**44**	*e*P		**P**	**09 01 13.8**	**-0.1**
	comp=Z,27nm,1.1s							
SOC	**Sochi**	**73.80**	**312**	*e*P		**P**	**09 01 11.5**	**-2.7**
SOC				*e*PPP		PPP	09 05 43.7	
SOC				*e*S		**SKiKP**	**09 10 40.3**	**-1.4**
SOC					pmax	pmax		
	comp=Z,28nm,0.9s							
SOC					MLR	MLR		
	comp=Z,1µm,15.0s							
AFDM	**Forest Hills D**	**73.81**	**54**	*e*P		**P**	**09 01 15.0**	**+0.6**
	comp=Z,52nm,1.6s							
AFDM					LR	LR		
	comp=Z,500nm,19.0s							
CHMT	**Chamberlain Mo**	**74.07**	**43**	*e*P		**P**	**09 01 15.6**	**-0.4**
PAHR	**Pah Rah Range**	**74.43**	**52**	*e*P		**P**	**09 01 18.6**	**+0.5**
	comp=Z,54nm,1.3s							
ANN	**Anapa**	**74.47**	**314**	*e*P		P	09 01 05.0	-13
ANN				*e**PP		pP	09 01 16.6	-9.4
ANN				*e*			09 01 28.1	
ANN				*e*SS		SS	09 15 35.3	-1.9
ANN					pmax	pmax		
	comp=Z,64nm,1.5s							
MFID	**Camas Ranch**	**74.58**	**47**	*e*P		**P**	**09 01 19.4**	**+0.6**
	comp=Z,93nm,1.7s							
SAO	**San Andreas Ge**	**74.69**	**56**	*e*P		**P**	**09 01 20.2**	**+0.7**
SAO					pmax	pmax		
	comp=Z,26nm,1.2s							
SAO	**San Andreas Ge**	**74.69**	**56**	*e*P		**P**	**09 01 20.2**	**+0.7**
	comp=Z,26nm,1.3s							
CMB	**Columbia Colle**	**74.70**	**54**	*e*P		**P**	**09 01 20.1**	**+0.5**
CMB					pmax	pmax		
	comp=Z,48nm,1.2s							
CMB	**Columbia Colle**	**74.70**	**54**	*e*P		**P**	**09 01 20.1**	**+0.5**
	comp=Z,48nm,1.3s							
CMB					LR	LR		
	comp=Z,500nm,21.0s							
HRY	**Holter Researc**	**74.98**	**43**	*e*P		**P**	**09 01 22.0**	**+0.8**
ILULI	**Ilulissat**	**75.04**	**5**⇓	*i*P		**P**	**09 01 20.8**	**-0.1**
ILULI				*i*			09 01 29.0	
ILULI					MLR	MLR		
	comp=Z,580nm,16.0s							
ILULI	**Ilulissat**	**75.04**	**5**⇓	*i*P		**P**	**09 01 20.8**	**-0.1**
ILULI				*i*			09 01 29.0	
WAKR	**Walker**	**75.06**	**53**	*e*P		**P**	**09 01 22.8**	**+0.9**
	comp=Z,20nm,1.0s							
LRM	**Limekiln Ridge**	**75.16**	**44**	*e*P		**P**	**09 01 22.6**	**+0.3**
NC405	**NORSAR Array S**	**75.24**	**337**	*e*P		**P**	**09 01 22.2**	**0.0**
FCC	**Fort Churchill**	**75.25**	**26**	*e*P		**P**	**09 01 21.9**	**-0.4**
FCC	**Fort Churchill**	**75.25**	**26**	*e*P		**P**	**09 01 21.9**	**-0.4**
	comp=Z,125nm,1.5s							
NC303	**NORSAR Array S**	**75.26**	**337**	*e*P		**P**	**09 01 22.3**	**-0.1**
HFS	**Hagfors**	**75.33**	**336**	LR		LR	09 37 09.3	
	comp=Z,2µm,19.4s,baz=28,slow=38							
HLID	**Hailey**	**75.33**	**47**	P		**P**	**09 01 23.8**	**+0.5**
	baz=305							
HLID	**Hailey**	**75.33**	**47**	*e*P		**P**	**09 01 24.0**	**+0.6**
	comp=Z,20nm,1.3s							
DLMT	**Dillon**	**75.34**	**44**	*e*P		**P**	**09 01 23.5**	**+0.2**
	comp=Z,55nm,1.1s							
AKASG	**Malin Array Be**	**75.37**	**323**	P		**P**	**09 01 22.6**	**-0.6**
	comp=Z,6.6nm,0.5s,baz=46,slow=6.4,SNR=56							
AKASG					LR	LR	09 37 32.6	
	comp=Z,3µm,19.2s,baz=40,slow=38							
AKBB	**Malin Array Si**	**75.37**	**323**	*e*P		**P**	**09 01 23.4**	**+0.3**
AKBB					pmax	pmax		
	comp=Z,106nm,1.4s							
AKBB					MLR	MLR		
	comp=Z,3µm,19.0s							
AKBB	**Malin Array Si**	**75.37**	**323**	*e*P		**P**	**09 01 23.4**	**+0.3**
	comp=Z,106nm,1.4s							
AKBB					LR	LR		
	comp=Z,3µm,19.0s							
KIEV	**Kiev**	**75.39**	**323**	*d i*P		**P**	**09 01 22.8**	**-0.4**
KIEV					pmax	pmax		
	comp=Z,36nm,1.0s							
KIEV					MLR	MLR		
	comp=Z,3µm,17.0s							
KIEV	**Kiev**	**75.39**	**323**	*e*P		**P**	**09 01 22.7**	**-0.5**
	comp=Z,97nm,1.4s							
KIEV					LR	LR		
	comp=Z,3µm,19.0s							
NC204	**NORSAR Array S**	**75.41**	**338**	*e*P		**P**	**09 01 22.9**	**-0.4**
AK11	**Malin Array Si**	**75.42**	**323**	*e*P		**P**	**09 01 23.5**	**+0.1**
NB201	**NORSAR Array S**	**75.42**	**337**	*e*P		**P**	**09 01 23.3**	**0.0**
NB2	**NORSAR Subarra**	**75.45**	**337**	P		**P**	**09 01 23.1**	**-0.4**
	comp=Z,18nm,0.7s,baz=39,slow=5.9							
NB2	**NORSAR Subarra**	**75.45**	**337**	P		**P**	**09 01 23.1**	**-0.4**
	baz=39,slow=5.9							
NOA	**NORSAR Array B**	**75.45**	**337**	P		**P**	**09 01 23.3**	**-0.2**
	comp=Z,16nm,0.8s,baz=39,slow=5.7,SNR=35							
NOA					LR	LR	09 37 45.4	
	comp=Z,2µm,19.1s,baz=40,slow=38							
MCMT	**McKenzie Canyo**	**75.51**	**45**	*e*P		**P**	**09 01 24.3**	**-0.1**
NBO02	**NORSAR Array S**	**75.55**	**338**	*e*P		**P**	**09 01 24.3**	**+0.3**
NC602	**NORSAR Array S**	**75.58**	**337**	*e*P		**P**	**09 01 23.5**	**-0.6**
NBO00	**NORSAR Array S**	**75.59**	**338**	*e*P		**P**	**09 01 24.4**	**+0.1**
NAO01	**NORSAR Array S**	**75.70**	**337**	*e*P		**P**	**09 01 24.3**	**-0.6**
BOZ	**Bozeman (W)**	**75.72**	**44**	P		**P**	**09 01 26.0**	**+0.5**
	baz=307							
BOZ	**Bozeman (W)**	**75.72**	**44**	*e*P		**P**	**09 01 25.8**	**+0.3**
BOZ					pmax	pmax		
	comp=Z,30nm,1.0s							
BOZ	**Bozeman (W)**	**75.72**	**44**	*e*P		**P**	**09 01 25.8**	**+0.3**
	comp=Z,30nm,1.0s							
MLAC	**Mammoth, Mammo**	**75.94**	**54**	P		**P**	**09 01 27.7**	**+0.7**
	baz=304							
SUW	**Suwalki**	**76.04**	**328**	*e*P		**P**	**09 01 26.7**	**-0.2**
SUW	**Suwalki**	**76.04**	**328**	*e*P		**P**	**09 01 26.7**	**-0.2**
SIM	**Simferopol'**	**76.30**	**316**	*e*P		**P**	**09 01 28.8**	**+0.2**
SIM				*e*			09 01 40.0	
SIM				*e*S		**S**	**09 11 12.0**	**+0.4**
SIM					pmax	pmax		
	comp=Z,25nm,1.1s							
SIM					MLR	MLR		
	comp=Z,1µm,17.0s							
QLMT	**Earthquake Lak**	**76.32**	**44**	*e*P		**P**	**09 01 30.0**	**+1.0**
ELK	**Elko**	**76.46**	**49**	*e*P		**P**	**09 01 30.8**	**+0.9**
	comp=Z,30nm,1.3s							
ELK	**Elko**	**76.46**	**49**	*e*P		**P**	**09 01 30.8**	**+0.9**
	comp=Z,30nm,1.3s							
SMMC	**Simmler**	**76.47**	**56**	P		**P**	**09 01 30.5**	**+0.7**
	baz=304							
YHB	**Horse Butte**	**76.51**	**44**	*e*P		**P**	**09 01 30.6**	**+0.5**
	comp=Z,38nm,1.2s							
YHB					LR	LR		
	comp=Z,600nm,20.0s							
TIN	**Tinemaha, Big**	**76.67**	**54**	P		**P**	**09 01 31.6**	**+0.6**
	baz=305							
YHH	**Holmes Hill**	**76.68**	**44**	*e*P		**P**	**09 01 32.1**	**+1.0**
	comp=Z,38nm,1.4s							
YMR	**Madison River**	**76.69**	**44**	*e*P		**P**	**09 01 31.9**	**+0.8**
	comp=Z,67nm,1.4s							
YMR					LR	LR		
	comp=Z,300nm,21.0s							
GCMT	**Greycliff**	**76.73**	**43**	*e*P		**P**	**09 01 31.7**	**+0.5**
VES	**Vestal, Richgr**	**76.78**	**55**	P		**P**	**09 01 31.0**	**-0.5**
	baz=304							
PKM	**Mcpherson Peak**	**76.83**	**57**	P		**P**	**09 01 32.0**	**0.0**
	baz=304							
YFT	**Old Faithful**	**76.89**	**44**	*e*P		**P**	**09 01 34.9**	**+2.6**
	comp=Z,86nm,1.5s							
YFT					LR	LR		
	comp=Z,600nm,19.0s							
YJC	**Joseph's Coat**	**76.98**	**44**	*e*P		**P**	**09 01 29.8**	**-3.0**
YPP	**Pitchstone Pla**	**77.02**	**45**	*e*P		**P**	**09 01 34.8**	**+1.7**
	comp=Z,35nm,1.4s							
KONO	**Kongsberg**	**77.04**	**337**	PFAKE			09 01 40.0	+7.5
KONO					LR	LR		
	comp=Z,3µm,19.0s							
LKWY	**Lake**	**77.07**	**44**	*e*P		**P**	**09 01 35.8**	**+2.5**
LKWY	**Lake**	**77.07**	**44**	*e*P		**P**	**09 01 35.8**	**+2.5**
	comp=Z,39nm,1.1s							
H17A	**Grant Village**	**77.07**	**44**	P		**P**	**09 01 35.2**	**+1.8**
	baz=308							
H17A	**Grant Village**	**77.07**	**44**	*e*P		**P**	**09 01 35.6**	**+2.2**
	comp=Z,80nm,1.3s							
SBC	**Santa Barbara**	**77.15**	**57**	P		**P**	**09 01 34.3**	**+0.8**
	baz=304							
IMW	**Indian Meadow**	**77.17**	**45**	*e*P		**P**	**09 01 35.0**	**+1.1**
	comp=Z,46nm,1.3s							
FLWY	**Flagg Ranch**	**77.19**	**45**	*e*P		**P**	**09 01 35.8**	**+1.9**
	comp=Z,114nm,1.5s							
YTP	**The Promontory**	**77.24**	**44**	*e*P		**P**	**09 01 35.7**	**+1.4**
SFJD	**Kangerlussuaq**	**77.26**	**5**⇓	*i*P		**P**	**09 01 33.6**	**0.0**
SFJD				*i*			09 01 41.8	
SFJD	**Kangerlussuaq**	**77.26**	**5**⇓	*i*P		**P**	**09 01 33.6**	**0.0**
SFJD				*i*			09 01 41.8	
SFJD	**Kangerlussuaq**	**77.26**	**5**	*e*P		**P**	**09 01 34.0**	**+0.4**
	comp=Z,68nm,1.6s							
SFJD					LR	LR		
	comp=Z,300nm,19.0s							
GRAC	**Grapevine Rang**	**77.27**	**54**	P		**P**	**09 01 34.7**	**+0.4**
	baz=305							
ISA	**Isabella, Lake**	**77.29**	**55**	P		**P**	**09 01 34.0**	**-0.5**
	baz=305							
ISA	**Isabella, Lake**	**77.29**	**55**	*e*P		**P**	**09 01 34.0**	**-0.5**
ISA					pmax	pmax		
	comp=Z,54nm,2.0s							
ISA	**Isabella, Lake**	**77.29**	**55**	*e*P		**P**	**09 01 34.0**	**-0.5**
	comp=Z,54nm,2.0s							
ARVC	**Arvin**	**77.36**	**56**	P		**P**	**09 01 34.5**	**-0.2**
	baz=305							
HVU	**Hansel Valley**	**77.36**	**48**	*e*P		**P**	**09 01 35.8**	**+1.0**
HVU					pmax	pmax		
	comp=Z,27nm,1.1s							
HVU	**Hansel Valley**	**77.36**	**48**	*e*P		**P**	**09 01 35.8**	**+1.0**
	comp=Z,27nm,1.1s							
RLMT	**Red Lodge**	**77.37**	**43**	P		**P**	**09 01 35.4**	**+0.5**
	baz=308							
RLMT	**Red Lodge**	**77.37**	**43**	*e*P		**P**	**09 01 35.4**	**+0.5**
	comp=Z,43nm,1.4s							
MOOW	**Moose Ponds**	**77.37**	**45**	*e*P		**P**	**09 01 35.9**	**+1.0**
	comp=Z,62nm,1.6s							
TPAW	**Teton Pass**	**77.41**	**45**	*e*P		**P**	**09 01 36.2**	**+1.0**
	comp=Z,53nm,1.5s							
SCZ2	**Santa Cruz Isl**	**77.45**	**57**	P		**P**	**09 01 35.4**	**+0.1**
	baz=305							
DAC	**Darwin (Calif)**	**77.53**	**54**	*e*P		**P**	**09 01 35.9**	**0.0**
DAC	**Darwin (Calif)**	**77.53**	**54**	*e*P		**P**	**09 01 35.9**	**0.0**
	comp=Z,40nm,1.6s							
LOHW	**Long Hollow**	**77.53**	**45**	*e*P		**P**	**09 01 37.0**	**+1.2**
	comp=Z,38nm,1.7s							
LOHW					LR	LR		
	comp=Z,300nm,21.0s							
SNOW	**Snow King Moun**	**77.54**	**45**	*e*P		**P**	**09 01 37.0**	**+1.1**
	comp=Z,28nm,1.3s							
REDW	**Red Top Meadow**	**77.54**	**45**	*e*P		**P**	**09 01 36.7**	**+0.8**
	comp=Z,45nm,1.4s							
R11A	**Troy Canyon, C**	**77.64**	**52**	P		**P**	**09 01 36.7**	**+0.2**
	baz=306							
R11A	**Troy Canyon, C**	**77.64**	**52**	*e*P		**P**	**09 01 36.9**	**+0.4**
	comp=Z,21nm,0.9s							
R11A					LR	LR		
	comp=Z,400nm,19.0s							
BGU	**Big Grassy Mou**	**77.71**	**48**	*e*P		**P**	**09 01 37.5**	**+0.6**
	comp=Z,51nm,1.5s							
BGU					LR	LR		
	comp=Z,300nm,19.0s							
OSI	**Osito Audit: C**	**77.72**	**56**	P		**P**	**09 01 37.1**	**+0.2**
	baz=305							
OSI	**Osito Audit: C**	**77.72**	**56**	*e*P		**P**	**09 01 37.7**	**+0.8**
	comp=Z,20nm,0.6s	

	comp=Z,36nm,1.0s								
DUG					LR	LR			
	comp=Z,400nm,19.0s								
PASC	**Pasadena Art C**	**78.34**	**56**	*eP*	**P**		**09 01 40.7**	**+0.5**	
	comp=Z,49nm,1.5s								
PASC					LR	LR			
	comp=Z,1µm,21.0s								
MWC	**Mount Wilson**	**78.40**	**56**	*eP*	**P**		**09 01 41.2**	**+0.4**	
MWC	**Mount Wilson**	**78.40**	**56**	*eP*	**P**		**09 01 41.2**	**+0.4**	
	comp=Z,69nm,1.5s								
MWC					LR	LR			
	comp=Z,1µm,20.0s								
FMP	**Fort Macarthur**	**78.53**	**57**	P	**P**		**09 01 41.2**	**-0.1**	
	baz=305								
TCUT	**Toone Canyon**	**78.58**	**47**	*eP*	**P**		**09 01 42.6**	**+0.8**	
	comp=Z,62nm,1.2s								
TCUT					LR	LR			
	comp=Z,400nm,21.0s								
BEL	**Belsk**	**78.59**	**327**	*eP*	**P**		**09 01 41.7**	**+0.5**	
BEL	**Belsk**	**78.59**	**327**	*eP*	**P**		**09 01 41.7**	**+0.5**	
B25A	**Knox Farm, Ray**	**78.59**	**38**	P	**P**		**09 01 41.7**	**+0.4**	
	baz=312								
GSC	**Goldstone, Bar**	**78.61**	**55**	P	**P**		**09 01 42.2**	**+0.4**	
	baz=306								
GSC	**Goldstone, Bar**	**78.61**	**55**	*eP*	**P**		**09 01 42.0**	**+0.2**	
GSC	**Goldstone, Bar**	**78.61**	**55**	*eP*	**P**		**09 01 42.0**	**+0.2**	
	comp=Z,43nm,1.6s								
SHOC	**Shoshone, Teco**	**78.62**	**54**	P	**P**		**09 01 42.0**	**+0.2**	
	baz=306								
PSUT	**Pine Spring**	**78.63**	**51**	*eP*	**P**		**09 01 43.0**	**+1.0**	
	comp=Z,60nm,1.5s								
PSUT					LR	LR			
	comp=Z,1µm,19.0s								
CTU	**Camp Tracy**	**78.63**	**48**	*eP*	**P**		**09 01 42.8**	**+0.9**	
	comp=Z,108nm,1.4s								
BW06	**Boulder Array**	**78.66**	**45**	P	**P**		**09 01 41.8**	**-0.4**	
	baz=308								
BW06	**Boulder Array**	**78.66**	**45**	*eP*	**P**		**09 01 42.0**	**-0.1**	
	comp=Z,8.7nm,0.7s								
BW06					LR	LR			
	comp=Z,300nm,21.0s								
PD31	**Pinedale Array**	**78.66**	**45**	*eP*	**P**		**09 01 42.0**	**-0.1**	
PDAR	**Pinedale Array**	**78.66**	**45**	P	**P**		**09 01 42.0**	**-0.1**	
	comp=Z,6.4nm,0.6s,baz=273,slow=1.6,SNR=55								
PDAR					LR	LR	09 31 30.7		
	comp=Z,219nm,21.7s,baz=335,slow=32								
BFSC	**Mount Baldy Ra**	**78.66**	**56**	P	**P**		**09 01 41.7**	**-0.4**	
	baz=306								
A26A	**Wade Farm, Ken**	**78.73**	**37**	P	**P**		**09 01 42.0**	**-0.1**	
	baz=312								
RRX	**Edison Barstow**	**78.73**	**55**	P	**P**		**09 01 42.8**	**+0.4**	
	baz=306								
JLU	**Jordanelle**	**78.87**	**48**	*eP*	**P**		**09 01 44.2**	**+0.9**	
	comp=Z,53nm,1.4s								
C25A	**Freed Ranch, W**	**78.91**	**38**	P	**P**		**09 01 43.3**	**+0.1**	
	baz=312								
B26A	**Jensen Ranch,**	**78.98**	**37**	P	**P**		**09 01 43.6**	**+0.1**	
	baz=312								
SHPR	**Sheep Range**	**78.99**	**53**	*eP*	**P**		**09 01 44.5**	**+0.5**	
	comp=Z,95nm,1.9s								
A27A	**Ledoux Ranch,**	**79.08**	**37**	P	**P**		**09 01 43.9**	**-0.1**	
	baz=313								
TUQ	**Turquoise Moun**	**79.12**	**54**	P	**P**		**09 01 44.7**	**+0.1**	
	baz=306								
BBRC	**Big Bear Solar**	**79.14**	**56**	P	**P**		**09 01 44.8**	**-0.2**	
	baz=306								
COP	**Copenhagen**	**79.15**	**333**	*i* P	**P**		**09 01 43.2**	**-1.0**	
COP					MLR	MLR			
	comp=Z,610nm,16.0s								
COP	**Copenhagen**	**79.15**	**333**	*i* P	**P**		**09 01 43.2**	**-1.0**	
HEC	**Hector,Ludlow**	**79.20**	**55**	P	**P**		**09 01 45.3**	**+0.3**	
	baz=306								
KWP	**Kalwaria Pacla**	**79.24**	**324**	*eP*	**P**		**09 01 45.4**	**+0.5**	
KWP	**Kalwaria Pacla**	**79.24**	**324**	⇑*iP*	**P**		**09 01 45.4**	**+0.5**	
KWP	**Kalwaria Pacla**	**79.24**	**324**	*eP*	**P**		**09 01 45.4**	**+0.5**	
MURC	**Murrieta**	**79.34**	**56**	P	**P**		**09 01 45.4**	**-0.4**	
	baz=306								
BUR08	**Bucovina Ar. S**	**79.37**	**322**	*eP*	**P**		**09 01 46.4**	**+0.7**	
RAR	**Rarotonga**	**79.38**	**126**	LR	LR		09 33 09.2		
	comp=Z,560nm,18.8s,baz=270,slow=33								
BURAR	**Bucovina Array**	**79.38**	**322**	⇑*iP*	**P**		**09 01 46.0**	**+0.2**	
TESR	**Tescani**	**79.38**	**320**	⇑*iP*	**P**		**09 01 46.2**	**+0.5**	
CFR	**Carcaliu**	**79.46**	**319**	⇑*iP*	**P**		**09 01 48.0**	**+1.9**	
CCUT	**Cedar City**	**79.53**	**51**	*eP*	**P**		**09 01 47.8**	**+0.8**	
	comp=Z,18nm,1.1s								
A28A	**Rude Farm, Bot**	**79.58**	**36**	P	**P**		**09 01 46.6**	**-0.2**	
	baz=313								
GMRC	**Granite Mounta**	**79.68**	**55**	P	**P**		**09 01 47.7**	**0.0**	
	baz=306								
RGN	**Rugen**	**79.68**	**332**	*eP*	**P**		**09 01 47.9**	**+0.8**	
	comp=Z,124nm,1.1s								
RGN					LR	LR			
	comp=Z,1µm,18.0s								
MSU	**Marysvale**	**79.69**	**50**	*eP*	**P**		**09 01 48.8**	**+0.9**	
MSU	**Marysvale**	**79.69**	**50**	*eP*	**P**		**09 01 48.8**	**+0.9**	
MUD	**Monsted U'grnd**	**79.70**	**335**	*eP*	**P**		**09 01 47.6**	**+0.4**	
MUD					MLR	MLR			
	comp=Z,1µm,15.0s								
MUD	**Monsted U'grnd**	**79.70**	**335**	*i* P	**P**		**09 01 47.6**	**+0.4**	
BR131	**Keskin Array S**	**79.75**	**312**	*eP*	**P**		**09 01 49.0**	**+1.0**	
BRTR	**Keskin Array B**	**79.75**	**312**	P	**P**		**09 01 48.6**	**+0.6**	
	comp=Z,5.1nm,0.7s,baz=92,slow=3.7,SNR=24								
BRTR					LR	LR	09 41 48.5		
	comp=Z,577nm,18.1s,baz=56,slow=39								
VRI	**Vrincioaia**	**79.76**	**320**	⇑*iP*	**P**		**09 01 48.8**	**+1.0**	
TIRR	**Tirgusor**	**79.78**	**318**	⇓*iP*	**P**		**09 01 48.1**	**+0.2**	
TIRR	**Tirgusor**	**79.78**	**318**	PFAKE			09 02 00.0	+12	
TIRR					LR	LR			
	comp=Z,1µm,19.0s								
D26A	**Manning**	**79.78**	**39**	P	**P**		**09 01 47.3**	**-0.7**	
	baz=312								
TMUT	**Trail Mountain**	**79.81**	**49**	*eP*	**P**		**09 01 49.4**	**+0.9**	
	comp=Z,36nm,1.5s								
PLOR	**Plostina**	**79.81**	**320**	⇓*iP*	**P**		**09 01 49.2**	**+1.1**	
109C	**Camp Elliot, M**	**79.82**	**57**	P	**P**		**09 01 48.5**	**+0.2**	
	baz=306								
PFO	**Pinyon Flats O**	**79.83**	**56**	P	**P**		**09 01 48.5**	**0.0**	
	baz=306								
PFO	**Pinyon Flats O**	**79.83**	**56**	*eP*	**P**		**09 01 48.7**	**+0.1**	
PFO	**Pinyon Flats O**	**79.83**	**56**	*eP*	**P**		**09 01 48.7**	**+0.1**	
	comp=Z,59nm,1.3s								
PFO					LR	LR			
	comp=Z,1µm,20.0s								
TPFO	**Pinon Flats**	**79.84**	**56**	P	**P**		**09 01 48.7**	**+0.1**	
	baz=306								
B28A	**Dugan Ranch, T**	**79.85**	**37**	P	**P**		**09 01 47.7**	**-0.5**	
	baz=313								
LDFC	**Landfair**	**79.87**	**54**	*eP*	**P**		**09 01 49.4**	**+0.7**	
	comp=Z,148nm,1.8s								
HARR	**Harsova**	**79.89**	**318**	⇑*iP*	P		09 01 53.3	+4.8	
BELC	**Belle Mtn. Jos**	**79.91**	**55**	P	**P**		**09 01 48.7**	**-0.3**	
	baz=306								
KOLS	**Kolonicke sedl**	**79.92**	**324**	*eP*	**P**		**09 01 49.1**	**+0.5**	
KOLS					pmax	pmax			
	comp=Z,16nm,1.1s								
KOLS	**Kolonicke sedl**	**79.92**	**324**	*eP*	**P**		**09 01 49.1**	**+0.5**	
KOLS				*ePP*	**PP**		**09 04 49.3**	**-0.4**	
KOLS				*eS*	**S**		**09 11 51.0**	**+0.4**	
KOLS				*eL*	L		09 40 32.3		
LCMT	**Little Creek M**	**79.92**	**52**	*eP*	**P**		**09 01 49.6**	**+0.6**	
	comp=Z,21nm,1.0s								
LCMT					LR	LR			
	comp=Z,500nm,20.0s								
MTPU	**Mount Pierson**	**79.97**	**50**	*eP*	**P**		**09 01 50.5**	**+1.0**	
	comp=Z,18nm,1.0s								
P17A	**Butcher Ranch,**	**79.99**	**48**	*eP*	**P**		**09 01 50.0**	**+0.6**	
	comp=Z,41nm,1.1s								
P17A					LR	LR			
	comp=Z,300nm,20.0s								
F25A	**Bowman**	**79.99**	**40**	P	**P**		**09 01 49.1**	**-0.1**	
	baz=312								
A29A	**Manning Farm,**	**80.06**	**36**	P	**P**		**09 01 49.4**	**0.0**	
	baz=314								
Q16A	**Castle Valley**	**80.07**	**49**	*eP*	**P**		**09 01 50.8**	**+1.0**	
	comp=Z,78nm,1.6s								
STHS	**Stebnicka Huta**	**80.07**	**325**	*eP*	**P**		**09 01 49.8**	**+0.4**	
STHS					pmax	pmax			
	comp=Z,21nm,1.1s								
STHS	**Stebnicka Huta**	**80.07**	**325**	*eP*	**P**		**09 01 49.8**	**+0.4**	
UZH	**Uzhgorod**	**80.12**	**324**	*eP*	**P**		**09 01 49.7**	**0.0**	
UZH				*e*			09 01 56.9		
UZH				*i*			09 02 06.1		
UZH				*eS*	**S**		**09 11 48.3**	**-4.3**	
UZH					MLR	MLR			
	comp=N,2µm,14.0s								
UZH					MLR	MLR			
	comp=E,2µm,14.0s								
UZH					MLR	MLR			
	comp=Z,1µm,14.0s								
E26A	**Carlson Angus**	**80.14**	**39**	P	**P**		**09 01 49.5**	**-0.4**	
	baz=312								
ANTO	**Ankara**	**80.17**	**312**	*eP*	**P**		**09 01 51.1**	**+0.9**	
ANTO	**Ankara**	**80.17**	**312**	*eP*	**P**		**09 01 51.1**	**+0.9**	
	comp=Z,25nm,0.8s								
OJC	**Ojcow**	**80.17**	**326**	*eP*	**P**		**09 01 49.8**	**-0.1**	
OJC	**Ojcow**	**80.17**	**326**	*eP*	**P**		**09 01 49.5**	**-0.4**	
OJC	**Ojcow**	**80.17**	**326**	*eP*	**P**		**09 01 49.5**	**-0.4**	
	comp=Z,59nm,1.3s								
KNB	**Kanab**	**80.19**	**51**	*eP*	**P**		**09 01 51.5**	**+1.0**	
KNB	**Kanab**	**80.19**	**51**	*eP*	**P**		**09 01 51.5**	**+1.0**	
	comp=Z,130nm,1.6s								
KNB					LR	LR			
	comp=Z,500nm,20.0s								
P18A	**Preston Nutter**	**80.19**	**48**	*eP*	**P**		**09 01 51.4**	**+0.7**	
	comp=Z,51nm,1.4s								
BR231	**Keskin MP Arra**	**80.20**	**312**	*eP*	**P**		**09 01 48.6**	**-1.8**	
BAR	**Barrett**	**80.23**	**57**	*eP*	**P**		**09 01 50.8**	**+0.2**	
	comp=Z,125nm,1.9s								
BAR					LR	LR			
	comp=Z,800nm,20.0s								
MONP2	**Monument Peak**	**80.28**	**57**	P	**P**		**09 01 51.3**	**+0.2**	
	baz=306								
B29A	**Wagenman Farm,**	**80.33**	**36**	P	**P**		**09 01 50.5**	**-0.3**	
	baz=314								
CRVS	**Cervenica-Dubn**	**80.33**	**325**	*eP*	**P**		**09 01 51.2**	**+0.4**	
CRVS				*eS*	**S**		**09 11 53.4**	**-1.5**	
CRVS	**Cervenica-Dubn**	**80.33**	**325**	*eP*	**P**		**09 01 51.2**	**+0.4**	
C28A	**Hausauer Farms**	**80.34**	**37**	P	**P**		**09 01 50.9**	**0.0**	
	baz=313								
SRU	**San Rafael Swe**	**80.34**	**49**	*eP*	**P**		**09 01 51.9**	**+0.6**	
SRU	**San Rafael Swe**	**80.34**	**49**	*eP*	**P**		**09 01 51.9**	**+0.6**	
	comp=Z,29nm,0.9s								
ISR	**Istrita**	**80.35**	**319**	⇓*iP*	**P**		**09 01 52.1**	**+1.0**	
NEE2	**Needles Airpor**	**80.38**	**54**	P	**P**		**09 01 51.2**	**-0.1**	
	baz=307								
IRM	**Iron Mountain**	**80.39**	**55**	P	**P**		**09 01 51.8**	**+0.3**	
	baz=307								
DOPR	**Dopca**	**80.39**	**321**	⇓*iP*	**P**		**09 01 52.5**	**+1.3**	
MLR	**Muntele Rosu**	**80.42**	**320**	LR	LR		09 40 42.9		
	comp=Z,814nm,18.2s,baz=46,slow=38								
MLR	**Muntele Rosu**	**80.42**	**320**	⇓*iP*	**P**		**09 01 51.8**	**+0.3**	
MLR	**Muntele Rosu**	**80.42**	**320**	*eP*	**P**		**09 01 52.0**	**+0.5**	
MLR	**Muntele Rosu**	**80.42**	**320**	*eP*	**P**		**09 01 52.0**	**+0.5**	
	comp=Z,44nm,1.6s								
MMU	**Miners Mountai**	**80.43**	**50**	*eP*	**P**		**09 01 51.8**	**-0.1**	
F26A	**Lodgepole**	**80.45**	**40**	P	**P**		**09 01 51.4**	**-0.2**	
	baz=312								
K22A	**Casper**	**80.46**	**44**	P	**P**		**09 01 51.6**	**-0.3**	
	baz=310								
K22A	**Casper**	**80.46**	**44**	*eP*	**P**		**09 01 51.8**	**-0.1**	
	comp=Z,90nm,1.8s								
K22A					LR	LR			
	comp=Z,200nm,19.0s								
BC3	**Big Chuckawall**	**80.48**	**55**	P	**P**		**09 01 52.3**	**+0.2**	
	baz=307								
A30A	**Hoffart Farm,**	**80.49**	**35**	P	**P**		**09 01 51.4**	**-0.3**	
	baz=315								
NIE	**Niedzica**	**80.51**	**325**	*eP*	**P**		**09 01 52.5**	**+0.7**	
NIE	**Niedzica**	**80.51**	**325**	*eP*	**P**		**09 01 52.5**	**+0.7**	
D28A	**Regan**	**80.61**	**38**	P	**P**		**09 01 52.1**	**-0.3**	
	baz=313								
MDND	**Maddock**	**80.63**	**37**	P	**P**		**09 01 52.1**	**-0.4**	
	baz=314								
MDND	**Maddock**	**80.63**	**37**	*eP*	**P**		**09 01 52.6**	**+0.1**	
	comp=Z,88nm,1.3s								
MDND					LR	LR			
	comp=Z,800nm,22.0s								
IKP	**In-Ko-Pah, Jac**	**80.64**	**57**	P	**P**		**09 01 53.1**	**+0.3**	
	baz=306								
W13A	**Hualapai Mount**	**80.66**	**53**	*eP*	**P**		**09 01 53.4**	**+0.2**	
	comp=Z,40nm,1.5s								
SWSC	**Sam W. Stewart**	**80.67**	**56**	P	**P**		**09 01 52.8**	**-0.1**	
	baz=307								
ULM	**Lac du Bonnet**	**80.67**	**33**	P	**P**		**09 01 51.2**	**-1.3**	
	comp=Z,12nm,0.9s,baz=307,slow=6.0,SNR=12								
ULM					LR	LR	09 36 59.0		
	comp=Z,215nm,21.9s,baz=326,slow=35								
ULM	**Lac du Bonnet**	**80.67**	**33**	*eP*	**P**		**09 01 51.8**	**-0.8**	
	comp=Z,117nm,2.0s								
H25A	**Fruitdale**	**80.78**	**41**	P	**P**		**09 01 53.0**	**-0.4**	
	baz=312								
B30A	**Myrvik Farm, E**	**80.82**	**36**	P	**P**		**09 01 53.1**	**-0.4**	
	baz=315								
RSSD	**Black Hills**	**80.88**	**42**	P	**P**		**09 01 53.7**	**-0.4**	
	baz=312								
RSSD	**Black Hills**	**80.88**	**42**	*eP*	**P**		**09 01 53.7**	**-0.4**	
RSSD	**Black Hills**	**80.88**	**42**	*eP*	**P**		**09 01 53.7**	**-0.4**	
	comp=Z,19nm,1.3s								
RSSD					LR	LR			
	comp=Z,300nm,22.0s								
U15A	**North Rim**	**80.89**	**52**	*eP*	**P**		**09 01 54.2**	**-0.2**	
	comp=Z,91nm,1.8s								
PDMCI	**Parker Dam,Lak**	**80.97**	**54**	P	**P**		**09 01 54.6**	**+0.1**	
	baz=307								
A31A	**Linda, St. Vin**	**81.02**	**35**	P	**P**		**09 01 53.5**	**-1.0**	
	baz=315								
Y12C	**Blythe**	**81.05**	**55**	P	**P**		**09 01 55.3**	**+0.4**	
	baz=307								
Y12C	**Blythe**	**81.05**	**55**	*eP*	**P**		**09 01 55.5**	**+0.6**	
	comp=Z,50nm,1.2s								
Y12C					LR	LR			
	comp=Z,800nm,20.0s								
O20A	**White River Ci**	**81.08**	**47**	P	**P**		**09 01 55.1**	**-0.1**	
	baz=310								
O20A	**White River Ci**	**81.08**	**47**	*eP*	**P**		**09 01 55.5**	**+0.2**	
	comp=Z,43nm,1.3s								
KECS	**Kecovo**	**81.08**	**325**	*eP*	**P**		**09 01 55.7**	**+0.9**	
KECS					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KECS	**Kecovo**	**81.08**	**325**	*eP*	**P**		**09 01 55.6**	**+0.8**	
KECS				*ePP*	**PP**		**09 05 01.3**	**+2.0**	
PRD	**Provadia**	**81.16**	**317**	*i* P	**P**		**09 01 55.6**	**+0.3**	
B31A	**Greenbush Farm**	**81.16**	**35**	P	**P**		**09 01 54.5**	**-0.7**	
	baz=315								
D29A	**Petibone, Tap**	**81.18**	**37**	P	**P**		**09 01 54.5**	**-0.9**	
	baz=314								
OKC	**Ostrava-Krasne**	**81.19**	**327**	*eP*	**P**		**09 01 55.4**	**0.0**	
OKC				*ePP*	**PP**		**09 02 02.7**	**-0.7**	
OKC					AMS	AMS	09 42 10.0		
	comp=Z,2µm,14.6s								
OKC	**Ostrava-Krasne**	**81.19**	**327**	*eP*	**P**		**09 01 55.4**	**0.0**	
OKC				*e*			09 02 02.7		
OKC					MLR	MLR			
	comp=Z,2µm,14.6s								
ARR	**Arges**	**81.19**	**320**	⇑*iP*	**P**		**09 01 56.6**	**+1.0**	
DRGR		**81.19**	**322**	⇑*iP*	**P**		**09 01 55.7**	**+0.2**	
BKZ	**Black Stump Fm**	**81.20**	**153**	PFAKE			09 02 10.0	+15	
BKZ					LR	LR			
	comp=Z,800nm,19.0s								
GLA	**Glamis**	**81.26**	**56**	P	**P**		**09 01 56.3**	**+0.2**	
	baz=307								
GLA	**Glamis**	**81.26**	**56**	*eP*	**P**		**09 01 55.6**	**-0.5**	
GLA	**Glamis**	**81.26**	**56**	*eP*	**P**		**09 01 55.6**	**-0.5**	
	comp=Z,59nm,1.1s								
GLA					LR	LR			
	comp=Z,1µm,19.0s								
C30A	**Mose, Pekin**	**81.28**	**36**	P	**P**		**09 01 54.9**	**-1.0**	
	baz=315								
A32A	**Rocking H Ranc**	**81.35**	**34**	P	**P**		**09 01 55.1**	**-1.1**	
	baz=316								
E29A	**Napoleon**	**81.50**	**38**	P	**P**		**09 01 56.2**	**-0.9**	
	baz=314								
MORC	**Moravsky Berou**	**81.50**	**327**	⇓*iP*	**P**		**09 01 57.5**	**+0.3**	
MORC	**Moravsky Berou**	**81.50**	**327**	*eP*	**P**		**09 01 57.4**	**+0.3**	
MORC	**Moravsky Berou**	**81.50**	**327**	*eP*	**P**		**09 01 57.4**	**+0.3**	
	comp=Z,71nm,1.1s								
MORC					LR	LR			
	comp=Z,3µm,20.0s								
D30A	**Buchanan**	**81.56**	**37**	P	**P**		**09 01 56.8**	**-0.6**	
	baz=315								
C31A	**Landman Farms,**	**81.57**	**36**	P	**P**		**09 01 56.6**	**-0.9**	
	baz=315								
PV09	**Paradox Valley**	**81.57**	**48**	*eP*	**P**		**09 01 58.6**	**+0.6**	
DPC	**Dobruska-Polom**	**81.61**	**328**	*eP*	**P**		**09 01 58.4**	**+0.7**	
DPC				*ex*	x		09 02 07.5		
DPC				*ex*	x		09 02 13.3		
DPC				*ePP*	**PP**		**09 04 56.7**	**-7.0**	
DPC				*eS*	**S**		**09 12 08.2**	**-0.1**	
DPC					AMS	AMS	09 42 40.0		
	comp=Z,3µm,14.6s								
DPC	**Dobruska-Polom**	**81.61**	**328**	*eP*	**P**		**09 01 58.4**	**+0.7**	
DPC				*e*			09 02 07.5		
DPC				*e*			09 02 13.3		
DPC				*eS*	**S**		**09 12 08.2**	**-0.1**	
DPC					MLR	MLR			
	comp=Z,3µm,14.6s								
UPC	**Upice**	**81.63**	**328**	*eP*	**P**		**09 01 58.2**	**+0.5**	
UPC				*ePP*	**PP**		**09 02 05.3**	**-0.5**	
UPC				*ex*	x		09 02 13.9		
UPC					AMS	AMS	09 42 50.0		
	comp=Z,2µm,13.9s								
UPC	**Upice**	**81.63**	**328**	*eP*	**P**		**09 01 58.2**	**+0.5**	
UPC				*e*			09 02 05.3		
UPC				*e*			09 02 13.9		
UPC					MLR	MLR			
	comp=Z,2µm,13.9s								
B32A	**Ashes, Strandq**	**81.70**	**35**	P	**P**		**09 01 57.1**	**-1.0**	
	baz=316								
PV10	**Paradox Valley**	**81.71**	**48**	*eP*	**P**		**09 01 59.4**	**+0.7**	
PSZ	**Piszkesteto**	**81.77**	**325**	⇑*iP*	**P**		**09 01 59.6**	**+1.0**	
PSZ	**Piszkesteto**	**81.77**	**325**	⇓*eP*	**P**		**09 01 59.1**	**+0.6**	
PSZ	**Piszkesteto**	**81.77**	**325**	*eP*	**P**		**09 01 59.1**	**+0.6**	
PSZ	**Piszkesteto**	**81.77**	**325**	*eP*	**P**		**09 01 59.1**	**+0.6**	
	comp=Z,36nm,1.1s								
PSZ					LR	LR			
	comp=Z,1µm,19.0s								
PV04	**Paradox Valley**	**81.78**	**48**	*eP*	**P**		**09 01 59.5**	**+0.5**	
A33A	**Warroad**	**81.84**	**34**	P	**P**		**09 01 57.7**	**-1.1**	
	baz=317								
VYHS	**Vyhne**	**81.85**	**325**	*eP*	**P**		**09 01 59.3**	**+0.4**	
VYHS					pmax	pmax			
	comp=Z,15nm,1.3s								
VYHS	**Vyhne**	**81.85**	**325**	*eP*	**P**		**09 01 59.3**	**+0.4**	
VYHS				*ePP*	**PP**		**09 04 59.3**	**-6.3**	
VYHS				*eS*	**S**		**09 12 10.6**	**-0.1**	
VYHS				*eL*	L		09 42 12.1		
PV05	**Paradox Valley**	**81.86**	**49**	*eP*	**P**		**09 02 00.0**	**+0.6**	
E30A	**Jud**	**81.91**	**37**	P	**P**		**09 01 58.8**	**-0.5**	
	baz=314								
SZH	**Strazhica**	**81.91**	**318**	*i* P	**P**		**09 01 59.1**	**-0.2**	
F29A	**Eureka**	**81.92**	**38**	P	**P**		**09 01 59.2**	**-0.2**	
	baz=314								
N23A	**Red Feather La**	**81.93**	**45**	P	**P**		**09 02 00.5**	**+0.7**	
	baz=311								
N23A	**Red Feather La**	**81.93**	**45**	*eP*	**P**		**09 02 00.6**	**+0.7**	
	comp=Z,65nm,1.4s								
N23A					LR	LR			
	comp=Z,300nm,22.0s								
Y14A	**Wickenburg**	**81.94**	**54**	*eP*	**P**		**09 02 00.0**	**+0.3**	
	comp=Z,187nm,1.4s								
Y14A					LR	LR			
	comp=Z,2µm,20.0s								
PHWY	**Pilot Hill**	**81.94**	**44**	*eP*	**P**		**09 02 00.3**	**+0.4**	
	comp=Z,12nm,0.9s								
WUAZ	**Wupatki**	**82.03**	**52**	P	**P**		**09 02 00.9**	**+0.5**	
	baz=308								
WUAZ	**Wupatki**	**82.03**	**52**	*eP*	**P**		**09 02 01.0**	**+0.7**	
	comp=Z,46nm,1.4s								
WUAZ					LR	LR			
	comp=Z,400nm,21.0s								
AGMN	**Agassiz Nation**	**82.09**	**35**	P	**P**		**09 01 59.1**	**-1.0**	
	baz=316								
AGMN	**Agassiz Nation**	**82.09**	**35**	*eP*	**P**		**09 01 59.1**	**-1.0**	
	comp=Z,39nm,1.5s								
D31A	**Mcclaflin, Tow**	**82.10**	**36**	P	**P**		**09 01 59.6**	**-0.6**	
	baz=315								
C32A	**Crookston**	**82.12**	**35**	P	**P**		**09 01 59.4**	**-0.9**	
	baz=316								
113A	**Mohawk Valley,**	**82.14**	**55**	*eP*	**P**		**09 02 00.8**	**+0.1**	
	comp=Z,71nm,1.6s								
PV01	**Paradox Valley**	**82.15**	**48**	*eP*	**P**		**09 02 01.3**	**+0.3**	
BRG	**Berggiesshubel**	**82.23**	**329**	S	**S**		**09 12 12.0**	**-2.4**	
BRG				SS	**SS**		**09 17 26.0**	**-7.3**	
PVCC	**Panska Ves**	**82.23**	**329**	*eP*	**P**		**09 02 01.4**	**+0.6**	
PVCC					AMS	AMS	09 41 30.0		
	comp=Z,2µm,17.5s								
PVCC	**Panska Ves**	**82.23**	**329**	*eP*	**P**		**09 02 01.4**	**+0.6**	
PVCC					MLR	MLR			
	comp=Z,2µm,17.5s								
B33A	**Robert and Kas**	**82.23**	**34**	P	**P**		**09 01 59.8**	**-1.1**	
	baz=317								
VRAC	**Vranov**	**82.27**	**327**	LR	LR		09 41 34.2		
	comp=Z,854nm,18.4s,baz=33,slow=38								
VRAC	**Vranov**	**82.27**	**327**	⇓*iP*	**P**		**09 02 01.5**	**+0.4**	
THZ	**Tophouse**	**82.28**	**157**	*eP*	**P**		**09 02 00.7**	**-0.3**	
	comp=Z,46nm,0.9s								
CLL	**Collm**	**82.28**	**330**	⇓*iP*	**P**		**09 02 00.9**	**-0.2**	
	comp=Z,30nm

ISP LR LR
comp=Z,600nm,21.0s
CSS Mathiatis 82.89 308 *eP* **P 09 02 05.3 +0.7**
comp=Z,5.4nm,0.7s
CSS LR LR
comp=Z,200nm,18.0s
I29A Vivian Onida 82.93 40 P **P 09 02 04.1 -0.5**
baz=314
D33A AnnSam, Waubun 82.93 35 P **P 09 02 03.7 -0.9**
baz=316
C34A RKJ Ranch, Bem 83.00 35 P **P 09 02 03.8 -1.1**
baz=317
B35A Bob, Littlefor 83.01 33 P **P 09 02 04.1 -0.8**
baz=318
MPEP Malo Peshtene 83.03 319 *i* P **P 09 02 05.3 +0.1**
MDVR Moldovita 83.09 321 ⇑*i* P **P 09 02 05.7 +0.2**
G31A Conde 83.16 38 P **P 09 02 05.2 -0.6**
baz=315
F32A Veblen 83.23 37 P **P 09 02 05.3 -0.8**
baz=316
D34A Park Rapids 83.28 35 P **P 09 02 05.5 -0.9**
baz=317
214A Organ Pipe Nat 83.28 55 P **P 09 02 07.0 +0.3**
baz=308
214A Organ Pipe Nat 83.28 55 *eP* **P 09 02 07.0 +0.3**
comp=Z,219nm,1.4s
KDZ Kurdzhali 83.28 317 *i* P **P 09 02 07.3 +0.8**
E33A Westby DABS, E 83.32 36 P **P 09 02 06.0 -0.6**
baz=316
W18A Petrified Fore 83.33 51 P **P 09 02 07.3 +0.2**
baz=309
W18A Petrified Fore 83.33 51 PFAKE 09 02 20.0 +13
W18A LR LR
comp=Z,400nm,20.0s
SUSD Miller 83.33 39 P **P 09 02 06.1 -0.6**
baz=315
NKC Novy Kostel 83.33 330 *eP* **P 09 02 06.7 +0.1**
NKC AMS AMS 09 42 50.0
comp=Z,2μm,15.1s
NKC Novy Kostel 83.33 330 *eP* **P 09 02 06.7 +0.1**
NKC MLR MLR
comp=Z,2μm,15.1s
PGB Panagyurishte 83.35 319 *i* P **P 09 02 07.2 +0.3**
C35A Jirik Farms, M 83.39 34 P **P 09 02 05.9 -1.1**
baz=318
OXZ Oxford 83.42 158 *eP* **P 09 02 06.8 0.0**
comp=Z,50nm,1.1s
S22A 4UR Ranch, Cre 83.45 48 P **P 09 02 08.5 +0.7**
baz=311
S22A 4UR Ranch, Cre 83.45 48 *eP* **P 09 02 08.7 +0.8**
comp=Z,76nm,1.8s
I30A Oacoma 83.46 39 P **P 09 02 07.1 -0.3**
baz=314
SOP Sopron 83.48 326⇓ *eP* **P 09 02 08.1 +0.7**
G32A Webster 83.49 37 P **P 09 02 06.8 -0.7**
baz=316
H31A Wolsey 83.55 39 P **P 09 02 07.0 -0.8**
baz=315
X18A Snowflake 83.56 52 *eP* **P 09 02 08.9 +0.6**
comp=Z,54nm,1.6s
X18A LR LR
comp=Z,400nm,19.0s
CONA Conrad Observa 83.61 327 *i* P **P 09 02 08.7 +0.5**
comp=Z,37nm,1.6s,SNR=17
Q24A Divide 83.66 46 P **P 09 02 09.1 +0.2**
baz=311
Q24A Divide 83.66 46 *eP* **P 09 02 09.2 +0.2**
comp=Z,60nm,1.9s
Q24A LR LR
comp=Z,300nm,19.0s
F33A 5 Mile Ranch, 83.66 36 P **P 09 02 07.9 -0.4**
baz=316
KHC Kasperske Hory 83.70 329 *i* P **P 09 02 08.9 +0.3**
KHC *ex* x 09 02 18.2
KHC *eS* **S 09 12 30.6 +1.0**
KHC AMS AMS 09 44 10.0
comp=Z,2μm,14.2s
KHC Kasperske Hory 83.70 329 *i* P **P 09 02 08.9 +0.3**
KHC *e* 09 02 18.2
KHC *eS* **S 09 12 30.6 +1.0**
KHC MLR MLR
comp=Z,2μm,14.2s
KHC Kasperske Hory 83.70 329 *eP* **P 09 02 08.2 -0.3**
comp=Z,6.9nm,0.9s
KHC LR LR
comp=Z,500nm,19.0s
D35A Remer 83.81 34 P **P 09 02 07.9 -1.2**
baz=318
I31A Royce, Wessing 83.83 39 P **P 09 02 08.5 -0.8**
baz=315
J30A Dallas 83.83 40 P **P 09 02 08.6 -0.7**
baz=314
LBZ Lake Benmore 83.85 160 *eP* **P 09 02 09.5 +0.6**
comp=Z,40nm,0.9s
C36A Pine Crest Far 83.86 33 P **P 09 02 08.6 -0.8**
baz=318
GEC2 GERESS Array S 83.87 328 *eP* **P 09 02 09.6 +0.1**
GEC2 pmax pmax
comp=Z,9.0nm,0.8s
GEC2 MLR MLR
comp=Z,1μm,19.0s
GEC2 GERESS Array S 83.87 328 *eP* **P 09 02 09.6 +0.1**
comp=Z,9.1nm,0.8s
GEC2 LR LR
comp=Z,1μm,19.0s
GERES GERESS Array B 83.87 328 P **P 09 02 09.2 -0.3**
comp=Z,6.1nm,0.8s,baz=36,slow=5.0,SNR=32
GERES LR LR 09 43 29.7
comp=Z,903nm,18.6s,baz=48,slow=38
GEA0 GERESS Array S 83.88 328 *eP* **P 09 02 09.1 -0.4**
E35A Pequot Lakes 84.03 35 P **P 09 02 09.4 -0.9**
baz=318
PPT Papeete 84.04 116 LR LR 09 34 03.7
comp=Z,616nm,20.5s,baz=316,slow=32
G33A Ortonville 84.05 37 P **P 09 02 09.9 -0.5**
baz=316
H32A Carlson Farm, 84.05 38 P **P 09 02 09.2 -1.2**
baz=316
PPT2 Papeete2 84.06 116 *eS* **S 09 12 36.6 +2.7**
comp=Z,875nm,30.5s
PPT2 Papeete2 84.06 116 *e*LR LR 09 28 32.2
comp=Z,1μm,21.8s,baz=310
PPT2 Papeete2 84.06 116 *eT* T 10 34 55.4
comp=Z,4.9nm,0.3s
OGNE Ogallala 84.11 43 P **P 09 02 10.6 -0.3**
baz=313
D36A Goodland 84.15 34 P **P 09 02 09.6 -1.3**
baz=318
C37A Embarrass 84.17 33 P **P 09 02 10.0 -1.0**
baz=319
F34A Alexandria 84.19 36 P **P 09 02 10.5 -0.6**
baz=317
MLZ Mavora Lakes 84.19 161 *eP* **P 09 02 10.6 -0.2**
comp=Z,25nm,1.2s
K30A Basset 84.22 40 P **P 09 02 11.0 -0.4**
baz=314
J31A Geddes 84.25 40 P **P 09 02 10.9 -0.6**
baz=315
SDCO Great Sand Dun 84.25 47 P **P 09 02 12.3 +0.4**
baz=311
SDCO Great Sand Dun 84.25 47 *eP* **P 09 02 12.3 +0.4**
comp=Z,39nm,1.5s
MMB Musomiste 84.25 318 *i* P **P 09 02 12.0 +0.5**
GRFO Grafenberg 84.25 330 *eP* **P 09 02 11.7 +0.4**
GRFO pmax pmax
comp=Z,124nm,1.7s
GRFO MLR MLR
comp=Z,700nm,18.0s
GRFO Grafenberg 84.25 330 *eP* **P 09 02 11.7 +0.4**
comp=Z,124nm,1.7s
GRFO LR LR
comp=Z,700nm,18.0s
ARSA Arzberg 84.27 326 *i* P **P 09 02 11.6 +0.1**
comp=Z,12nm,1.1s,SNR=6.6
H33A Prehn Over Nor 84.27 38 P **P 09 02 11.1 -0.5**
baz=316
EYMN Ely 84.31 33 P **P 09 02 10.9 -0.7**
baz=319
EYMN Ely 84.31 33 *eP* **P 09 02 11.2 -0.4**
comp=Z,22nm,1.1s
I32A Karley and Nic 84.38 38 P **P 09 02 11.3 -0.8**
baz=316
MOA Molln 84.38 327 *i* P **P 09 02 12.1 +0.1**
comp=Z,36nm,1.5s,SNR=6.9
KKB Krupnik 84.41 319 *i* P **P 09 02 12.7 +0.4**
G34A Benson 84.41 37 P **P 09 02 11.9 -0.2**
baz=317

TUC Tucson 84.41 54 P **P 09 02 12.9 +0.4**
baz=309
TUC Tucson 84.41 54 *eP* **P 09 02 12.8 +0.3**
TUC Tucson 84.41 54 *eP* **P 09 02 12.8 +0.3**
comp=Z,63nm,1.5s
TUC LR LR
comp=Z,900nm,20.0s
ESK Eskdalemuir 84.45 341 *eP* **P 09 02 12.4 +0.2**
ESK pmax pmax
comp=Z,21nm,1.1s
ESK MLR MLR
comp=Z,1μm,18.0s
ESK Eskdalemuir 84.45 341 *eP* **P 09 02 12.4 +0.2**
comp=Z,21nm,1.1s
ESK LR LR
comp=Z,1μm,18.0s
F35A Swanville 84.47 36 P **P 09 02 11.8 -0.7**
baz=317
D37A Cotton 84.50 34 P **P 09 02 11.2 -1.4**
baz=319
ODZ Otahua Downs 84.58 160 *eP* **P 09 02 13.9 +1.2**
comp=Z,19nm,1.0s
C38A Sawbill Land. 84.59 33 P **P 09 02 12.2 -0.8**
baz=320
E36A McGregor 84.60 34 P **P 09 02 12.4 -0.7**
baz=318
YER Yerkesik 84.64 312 PFAKE 09 02 20.0 +6.4
YER LR LR
comp=Z,400nm,20.0s
WHZ Wether Hill Ro 84.64 162 *eP* **P 09 02 12.4 -0.6**
comp=Z,73nm,1.9s
J32A Parkston 84.65 39 P **P 09 02 12.7 -0.8**
baz=316
I33A Coleman 84.70 38 P **P 09 02 13.3 -0.4**
baz=316
K31A O'Neill 84.71 40 P **P 09 02 13.4 -0.4**
baz=315
H34A Spellman Lake, 84.76 37 P **P 09 02 13.7 -0.3**
baz=317
SOKA Soboth 84.92 326 *i* P **P 09 02 14.7 -0.1**
comp=Z,33nm,1.2s,SNR=23
E37A Wrenshall 84.95 34 P **P 09 02 14.0 -0.9**
baz=319
G35A Watkins 84.98 36 P **P 09 02 14.9 -0.2**
baz=318
L31A Butterfield Fa 84.98 40 P **P 09 02 14.8 -0.4**
baz=315
C39A Grand Marais 85.01 32 P **P 09 02 14.2 -1.0**
baz=320
ECSD EROS Data Cent 85.02 38 *eP* **P 09 02 14.7 -0.6**
comp=Z,12nm,0.8s
ECSD LR LR
comp=Z,400nm,20.0s
VAY Valandovo 85.06 319 *eP* **P 09 02 14.7 -0.8**
KSCO Kaye Shedlock' 85.08 45 P **P 09 02 15.6 -0.3**
baz=313
KSCO Kaye Shedlock' 85.08 45 *eP* **P 09 02 16.1 +0.2**
comp=Z,86nm,1.5s
K32A Verdigre 85.09 40 P **P 09 02 14.7 -1.0**
baz=315
EIL Elat 85.11 303 LR LR 09 44 27.1
comp=Z,676nm,19.6s,baz=57,slow=39
J33A Davis 85.14 39 P **P 09 02 15.2 -0.7**
baz=316
I34A Hadley 85.17 37 P **P 09 02 15.5 -0.6**
baz=317
H35A Sunnyside Ranc 85.20 36 P **P 09 02 15.9 -0.3**
baz=317
SKO Skopje 85.21 320 *eP* **P 09 02 17.4 +1.1**
OBKA Obir 85.27 326 *i* P **P 09 02 16.1 -0.6**
comp=Z,6.7nm,0.9s
T25A Trinidad 85.30 47 P **P 09 02 17.4 +0.3**
baz=312
T25A Trinidad 85.30 47 *eP* **P 09 02 17.6 +0.5**
comp=Z,49nm,1.4s
PLE Pljevlja 85.30 322⇑ *i* P **P 09 02 15.5 -1.4**
G36A St. Michael 85.32 36 P **P 09 02 16.2 -0.6**
baz=318
IVA Berane 85.37 321 *eP* **P 09 02 17.8 +0.6**
LAZ Ladron 85.43 51 *eP* **P 09 02 18.3 +0.5**
M31A Lambtecht Ranc 85.50 41 P **P 09 02 17.1 -0.7**
baz=315
ANMO Albuquerque 85.50 50 P **P 09 02 18.4 +0.3**
baz=311
ANMO Albuquerque 85.50 50 *eP* **P 09 02 18.6 +0.5**
ANMO Albuquerque 85.50 50 *eP* **P 09 02 18.6 +0.5**
comp=Z,14nm,1.0s
ANMO LR LR
comp=Z,400nm,19.0s
MEM Membach 85.53 333 P **P 09 02 17.8 +0.1**
PVY Plav 85.54 321⇑ *i* P **P 09 02 18.3 +0.2**
L32A Elgin 85.54 40 P **P 09 02 17.5 -0.5**
baz=316
MYKA Terra Mystica 85.59 327 *i* P **P 09 02 17.4 -0.7**
comp=Z,6.7nm,0.7s,SNR=6.0
K33A Hanington 85.63 39 P **P 09 02 17.9 -0.5**
baz=316
UPM Unac-Piva 85.64 322⇑ *i* P **P 09 02 15.7 -2.9**
VISS Visnje 85.67 326 *i* P **P 09 02 17.8 -0.7**
J34A George 85.67 38 P **P 09 02 17.9 -0.7**
baz=317
BOJS Bojanci 85.71 325 *i* P **P 09 02 18.3 -0.4**
H36A Jessenland, He 85.72 36 P **P 09 02 19.1 +0.3**
baz=318
I35A Creekview Farm 85.74 37 P **P 09 02 18.2 -0.7**
baz=317
SPMN Marine on St. 85.77 35 P **P 09 02 18.6 -0.5**
baz=319
SPMN Marine on St. 85.77 35 *eP* **P 09 02 18.5 -0.5**
comp=Z,71nm,0.1s
Y22D IRIS PASSCAL I 85.78 51 P **P 09 02 20.0 +0.5**
baz=311
Y22D IRIS PASSCAL I 85.78 51 *eP* **P 09 02 20.6 +1.2**
comp=Z,54nm,1.4s
Y22D LR LR
comp=Z,600nm,20.0s
STU Stuttgart 85.80 331 *eP* **P 09 02 19.4 +0.3**
STU pmax pmax
comp=Z,35nm,0.9s
STU MLR MLR
comp=Z,1μm,18.0s
STU Stuttgart 85.80 331 *eP* **P 09 02 19.4 +0.3**
comp=Z,35nm,0.9s
STU LR LR
comp=Z,1μm,18.0s
LPM Los Pinos Moun 85.80 50 *eP* **P 09 02 19.9 +0.3**
L33A Hoskins 85.81 40 P **P 09 02 18.6 -0.7**
baz=316
TAOE Nuku Hiva Isla 85.86 104 *e*LR LR 09 29 27.9
comp=Z,1μm,23.6s
N31A Bailey Ranch, 85.87 41 P **P 09 02 18.8 -0.9**
baz=315
BGNE Belgrade 85.89 41 P **P 09 02 18.8 -0.9**
baz=315
BGNE Belgrade 85.89 41 *eP* **P 09 02 19.4 -0.3**
comp=Z,107nm,1.4s
BGNE LR LR
comp=Z,500nm,21.0s
BNM Barren Site 85.91 50 *eP* **P 09 02 20.4 +0.2**
NKME Niksic 85.93 321⇑ *i* P **P 09 02 19.2 -0.7**
BCLA Clavier 85.94 334 P **P 09 02 19.7 -0.1**
JAVS Javornik 85.96 326 *i* P **P 09 02 18.8 -1.3**
WTTA Wattenberg 85.97 328 *eP* **P 09 02 19.9 -0.3**
comp=Z,4.5nm,0.9s
J35A Milford 85.99 38 P **P 09 02 19.2 -0.9**
baz=317
319A Douglas 85.99 54 *eP* **P 09 02 20.9 +0.4**
comp=Z,42nm,1.4s
319A LR LR
comp=Z,900nm,19.0s
ABTA Abfaltersbach 86.00 328 *i* P **P 09 02 19.0 -1.2**
comp=Z,8.3nm,0.9s
TTG Podgorica 86.02 321 *eP* **P 09 02 19.8 -0.5**
K34A Le Mars 86.04 39 P **P 09 02 19.5 -0.9**
baz=317
BRY Bratogost 86.04 322⇑ *i* P **P 09 02 19.3 -1.3**
I36A Fitzsimmons Fa 86.09 37 P **P 09 02 20.2 -0.5**
baz=318
CEME Cevo 86.11 321⇑ *i* P **P 09 02 20.3 -0.5**
MOTA Moosalm 86.14 329 *i* PcP **P 09 02 20.8 -0.2**
comp=Z,8.4nm,0.9s
O31A Woolen Ranch, 86.14 42 P **P 09 02 19.9 -1.1**
baz=315
OHR Ohrid 86.16 319 *eP* **P 09 02 21.1 0.0**
CWF Charnwood Fore 86.17 338 *eP* **P 09 02 20.9 +0.1**
comp=Z,39nm,1.2s
CWF LR LR
comp=Z,1μm,21.0s
RETA Reutte 86.17 329 *i* P **P 09 02 20.8 -0.2**
comp=Z,15nm,0.8s,SNR=9.2
LANF Langenberg 86.18 331⇑ *e*P **P 09 02 19.3 -1.7**
H37A Dierke Farm, C 86.20 36 P **P 09 02 21.1 -0.1**
baz=319
121A Cookes Peak, D 86.22 52 P **P 09 02 22.2 +0.5**
baz=310
121A Cookes Peak, D 86.22 52 *eP* **P 09 02 21.9 +0.2**
comp=Z,282nm,2.3s
DRME Dracevica, Mon 86.23 321⇑ *i* P **P 09 02 21.9 +0.6**
SNF Seneffe 86.23 334 P **P 09 02 20.9 -0.3**
TRI Trieste 86.23 326 *eP* **P 09 02 19.9 -1.4**
TRI pmax pmax
comp=Z,28nm,1.4s
TRI MLR MLR
comp=Z,1μm,19.0s
TRI Trieste 86.23 326 *eP* **P 09 02 19.9 -1.4**
comp=Z,28nm,1.4s
TRI LR LR
comp=Z,1μm,19.0s
WLF Walferdange 86.25 333 P **P 09 02 21.3 -0.1**
comp=Z,25nm,1.7s
WLF Walferdange 86.25 333 *eP* **P 09 02 21.2 -0.1**
WLF pmax pmax
comp=Z,18nm,0.9s
WLF MLR MLR
comp=Z,1μm,20.0s
WLF Walferdange 86.25 333 *eP* **P 09 02 21.2 -0.1**
comp=Z,18nm,0.9s
WLF LR LR
comp=Z,1μm,20.0s
N32A Stulken Farm, 86.27 41 P **P 09 02 20.5 -1.1**
baz=315
M33A Taylor Creek F 86.28 40 P **P 09 02 20.6 -1.0**
baz=316
HSIG 86.36 57 *eP* **P 09 02 22.4 +0.2**
comp=Z,29nm,1.2s
HSIG LR LR
comp=Z,600nm,19.0s
KARP Karpathos 86.36 312 PFAKE 09 02 30.0 +7.8
KARP LR LR
comp=Z,100nm,18.0s
HCY Herceg Novi 86.39 321⇑ *i* P **P 09 02 21.9 -0.2**
I37A Lemond, Waseca 86.39 36 P **P 09 02 22.2 +0.1**
baz=318
L34A Svendsen Farm, 86.42 39 P **P 09 02 21.6 -0.7**
baz=316
J36A Seneca 1, Swea 86.44 37 P **P 09 02 21.6 -0.8**
baz=318
K35A Storm Lake 86.45 38 P **P 09 02 21.5 -0.9**
baz=317
DOU Dourbes 86.47 334 P **P 09 02 22.1 -0.2**
TIR Tirane 86.48 320 PFAKE 09 02 30.0 +7.4
TIR LR LR
comp=Z,4μm,19.0s
BFO Black Forest 86.49 331 *eP* **P 09 02 22.3 -0.3**
BFO Black Forest 86.49 331 *eP* **P 09 02 22.3 -0.3**
comp=Z,45nm,1.3s
BFO LR LR
comp=Z,800nm,18.0s
SRIG Santa Rosalia 86.53 59 *eP* **P 09 02 22.7 -0.3**
comp=Z,34nm,1.1s
SRIG LR LR
comp=Z,600nm,20.0s
FETA Feichten 86.55 329 *eP* **P 09 02 22.5 -0.5**
O32A Brockman Farm, 86.64 41 P **P 09 02 22.1 -1.4**
baz=315
M34A Aspy Farms, Fr 86.64 40 P **P 09 02 22.7 -0.7**
baz=316
SCHQ Schefferville 86.67 16 P **P 09 02 22.3 -1.0**
comp=Z,16nm,0.8s,baz=343,slow=4.8,SNR=12
SCHQ LR LR 09 43 53.0
comp=Z,456nm,20.8s,baz=339,slow=38
SCHQ Schefferville 86.67 16 *eP* **P 09 02 23.6 +0.3**
comp=Z,26nm,1.0s
DAVA Damuels 86.70 329 *i* P **P 09 02 22.8 -1.0**
comp=Z,27nm,1.2s,SNR=5.9
L35A Bielow Farm, R 86.73 39 P **P 09 02 23.0 -0.8**
baz=317
N33A J Bar K, Exete 86.74 41 P **P 09 02 22.6 -1.3**
baz=316
COWI Conover 86.77 33 *eP* **P 09 02 23.6 -0.4**
comp=Z,65nm,1.9s
SANT Santorini 86.83 313 *eP* **P 09 02 24.1 -0.4**
comp=Z,151nm,1.4s
SANT LR LR
comp=Z,900nm,18.0s
J37A Redenius Farm, 86.84 37 P **P 09 02 23.8 -0.5**
baz=318
CBKS Cedar Bluff 86.85 43 P **P 09 02 23.6 -1.0**
baz=315
I38A Scanlan Farm, 86.89 36 P **P 09 02 23.8 -0.8**
baz=319
K36A Gilmore City 86.90 38 P **P 09 02 24.0 -0.7**
baz=318
P32A Huiting Farm, 86.91 42 P **P 09 02 23.8 -1.0**
baz=315
ECH Echery 87.05 331⇑ *eP* **P 09 02 23.0 -2.3**
FUORN Ofenpass-Fuorn 87.06 329 *eP* **P 09 02 25.9 +0.3**
comp=Z,26nm,1.0s
FUORN LR LR
comp=Z,2μm,18.0s
DAVOX Davos/Dischmat 87.10 329 LR LR 09 44 50.1
comp=Z,1μm,19.9s,baz=78,slow=38
M35A Neola 87.13 39 P **P 09 02 25.6 -0.2**
baz=317
O33A Hebron 87.14 41 P **P 09 02 24.6 -1.3**
baz=316
DSB Dublin 87.14 341 *eP* **P 09 02 25.3 -0.3**
comp=Z,157nm,2.0s
DSB LR LR
comp=Z,800nm,19.0s
N34A Lincoln 87.17 40 P **P 09 02 24.8 -1.1**
baz=316
DAMY Dhamar 87.18 286 PFAKE 09 02 40.0 +13
DAMY LR LR
comp=Z,800nm,20.0s
L36A Harm Buss Farm 87.19 38 P **P 09 02 25.5 -0.5**
baz=318
K37A Belmond 87.21 37 P **P 09 02 25.5 -0.6**
baz=318
MOF Molkenrain 87.35 331⇑ *eP* **P 09 02 24.7 -2.1**
J38A Wedel Dairy, R 87.36 36 P **P 09 02 26.2 -0.6**
baz=319
Q32A Meitler Ranch, 87.38 42 P **P 09 02 26.4 -0.7**
baz=315
P33A Williams Farm, 87.54 42 P **P 09 02 27.1 -0.7**
baz=316
O34A Beatrice 87.54 41 P **P 09 02 26.8 -0.9**
baz=316
TUE Stuetta 87.56 329 *eP* **P 09 02 27.6 -0.4**
comp=Z,23nm,1.3s
TUE LR LR
comp=Z,2μm,19.0s
M36A Felix, Anita 87.59 39 P **P 09 02 27.9 -0.1**
baz=318
N35A Tabor 87.60 40 P **P 09 02 27.8 -0.2**
baz=317
L37A Phoenix Point, 87.63 38 P **P 09 02 27.5 -0.6**
baz=318
LAST Lasithi 87.64 312 *eP* **P 09 02 28.8 +0.4**
comp=Z,40nm,1.2s
LAST LR LR
comp=Z,500nm,18.0s
R32A Long Quarter, 87.70 43 P **P 09 02 27.9 -0.7**
baz=315
J39A Decorah 87.72 36 P **P 09 02 27.5 -1.0**
baz=320
K38A Parkersburg 87.72 37 P **P 09 02 28.2 -0.4**
baz=319
Q33A Connelly Farm, 87.78 42 P **P 09 02 28.1 -0.8**
baz=316
TBI Tubuai 87.84 121 *e*LR LR 09 30 08.5
comp=Z,1μm,22.5s,baz=312
TBI Tubuai 87.84 121 *eT* T 10 39 33.8
comp=Z,12nm,0.3s
O35A Humboldt 87.89 40 P **P 09 02 28.5 -1.0**
baz=317
IDI Anoyia 87.91 313 *eP* **P 09 02 28.0 -1.7**
comp=Z,7.6nm,0.8s
IDI LR LR
comp=Z,400nm,18.0s
P34A Walnut Farm, R 87.92 41 P **P 09 02 28.9 -0.7**
baz=316
N36A Muff Farm, Cla 87.98 39 P **P 09 02 29.8 -0.1**
baz=317
L38A Oak Wood Farm, 88.01 37 P **P 09 02 29.7 -0.3**

baz=319
M37A Trindle Farm, 88.01 38 P P 09 02 30.2 +0.2
baz=318
SCIA State Center 88.06 38 eP P 09 02 30.7 +0.5
comp=Z,56nm,1.2s
S32A Newby Ranch, P 88.08 44 P P 09 02 30.2 -0.2
baz=315
K39A Oelwein 88.11 36 P P 09 02 29.7 -0.8
baz=319
R33A Olander Ranch, 88.18 43 P P 09 02 30.4 -0.5
baz=316
MNTX Cornudas Mount 88.31 52 P P 09 02 31.4 -0.1
baz=312
MNTX Cornudas Mount 88.31 52 eP P 09 02 31.5 -0.1
comp=Z,9.8nm,1.4s
Q34A Chapman 88.31 42 P P 09 02 31.1 -0.4
baz=316
P35A Duane Minner, 88.37 41 P P 09 02 31.1 -0.6
baz=317
N37A Lee Faris, Mou 88.41 39 P P 09 02 32.0 +0.1
baz=318
MSTX Muleshoe 88.42 48 P P 09 02 31.7 -0.5
baz=313
M38A Pleasantville 88.43 38 P P 09 02 32.0 0.0
baz=318
AMTX Amarillo 88.45 47 P P 09 02 32.7 +0.4
baz=314
AMTX Amarillo 88.45 47 eP P 09 02 32.7 +0.4
comp=Z,18nm,0.9s
T32A Huddler Ranch, 88.46 44 P P 09 02 32.2 -0.1
baz=315
K40A Colesburg 88.47 36 P P 09 02 31.5 -0.6
baz=320
O36A Bolckow 88.48 40 P P 09 02 32.1 -0.1
baz=317
L39A Vinton 88.49 37 P P 09 02 32.0 -0.3
baz=319
SENIN Lac Senin/Sane 88.50 330 PFAKE 09 02 40.0 +7.5
SENIN LR LR
comp=Z,1µm,19.0s
R34A Isabella, Hill 88.59 42 P P 09 02 32.6 -0.3
baz=316
S33A Kaszmaul Farm, 88.68 43 P P 09 02 33.4 +0.1
baz=316
JFWS Jewell Farm 88.72 35 eP P 09 02 32.6 -0.8
JFWS pmax pmax
comp=Z,13nm,0.8s
JFWS MLR MLR
comp=Z,700nm,21.0s
JFWS Jewell Farm 88.72 35 eP P 09 02 32.6 -0.8
comp=Z,13nm,0.8s
JFWS LR LR
comp=Z,700nm,21.0s
P36A Good Intent, A 88.73 40 P P 09 02 32.8 -0.7
baz=317
Q35A Mercer Eighty, 88.85 41 P P 09 02 33.6 -0.4
baz=317
N38A Joes South For 88.88 38 P P 09 02 34.0 -0.1
baz=318
O37A Wolven Farm, M 88.88 39 P P 09 02 34.1 -0.1
baz=318
T33A Patterson Ranc 88.91 44 P P 09 02 34.3 -0.1
baz=316
VLC Villacollemand 88.95 327 PFAKE 09 02 50.0 +16
VLC LR LR
comp=Z,700nm,19.0s
AQU L'Aquila 88.97 324 eP P 09 02 34.7 +0.1
AQU pmax pmax
comp=Z,22nm,0.7s
AQU MLR MLR
comp=Z,2µm,19.0s
AQU L'Aquila 88.97 324 eP P 09 02 34.7 +0.1
comp=Z,22nm,0.7s
AQU LR LR
comp=Z,2µm,19.0s
DYA Yadsworthy 88.98 339 eP P 09 02 34.1 -0.3
comp=Z,181nm,1.9s
U32A Winter Ranch, 88.98 45 P P 09 02 34.8 +0.1
baz=315
Q36A Arnold C. Orve 89.08 41 P P 09 02 34.5 -0.5
baz=317
S34A Willow Spring 89.10 43 P P 09 02 34.9 -0.3
baz=316
R35A Emporia Munici 89.15 42 P P 09 02 35.6 +0.2
baz=317
N39A Derby Farms, D 89.18 38 P P 09 02 35.3 -0.2
baz=319
P37A Lathrop 89.20 40 P P 09 02 35.1 -0.5
baz=318
L41A Preston 89.25 36 P P 09 02 35.0 -0.8
baz=320
O38A Galt 89.26 39 P P 09 02 35.7 -0.2
baz=318
V32A Arapaho 89.42 45 P P 09 02 37.2 +0.4
baz=315
U33A Lingo Farm, Me 89.44 44 P P 09 02 36.7 -0.2
baz=316
R36A Gordon, Harris 89.52 41 P P 09 02 37.0 -0.1
baz=317
T34A McClaskey Farm 89.54 43 P P 09 02 37.3 0.0
baz=316
S35A Otter Creek Ra 89.55 42 P P 09 02 37.1 -0.2
baz=317
CUC Castrocucco 89.57 321 eP P 09 02 36.1 -1.3
comp=Z,34nm,2.0s
CUC LR LR
comp=Z,1µm,19.0s
P38A Dawn 89.60 39 P P 09 02 37.3 -0.2
baz=318
O39A Kirksville 89.63 38 P P 09 02 37.5 -0.2
baz=319
Q37A Longview Farm, 89.67 40 P P 09 02 36.9 -0.9
baz=318
TIP Timpagrande 89.69 320 PFAKE 09 02 50.0 +12
TIP LR LR
comp=Z,2µm,20.0s
W32A Sentinel 89.72 46 P P 09 02 38.7 +0.5
baz=315
U34A Anderson Ranch 89.77 44 P P 09 02 38.4 0.0
baz=316
U34A Anderson Ranch 89.77 44 eP P 09 02 38.9 +0.5
comp=Z,35nm,1.0s
V33A Lossen Ranch, 89.78 45 P P 09 02 38.5 0.0
baz=316
BNI Bardonecchia 89.81 330 eP P 09 02 38.7 +0.1
BNI pmax pmax
comp=Z,13nm,1.3s
BNI MLR MLR
comp=Z,900nm,19.0s
BNI Bardonecchia 89.81 330 eP P 09 02 38.7 +0.1
comp=Z,13nm,1.3s
BNI LR LR
comp=Z,900nm,19.0s
R37A Teagarden Farm 89.89 41 P P 09 02 38.2 -0.7
baz=318
S36A Lake Cedric, C 89.91 42 P P 09 02 38.7 -0.3
baz=317
T35A Sooner Cattle 90.00 43 P P 09 02 39.5 0.0
baz=316
Q38A Cooks Store, C 90.05 40 P P 09 02 39.0 -0.6
baz=318
O40A La Belle 90.07 38 P P 09 02 39.6 -0.1
baz=319
P39B Salisbury 90.10 39 P P 09 02 39.6 -0.2
baz=319
W33A Caddo, Fort Co 90.15 45 P P 09 02 40.9 +0.7
baz=315
X32A Elmer 90.19 46 P P 09 02 40.5 +0.1
baz=315
V34A Guthrie 90.21 44 P P 09 02 40.6 +0.1
baz=316
V34A Guthrie 90.21 44 eP P 09 02 40.3 -0.2
comp=Z,155nm,1.9s
T36A Boggs Farm, Ca 90.24 42 P P 09 02 40.3 -0.2
baz=317
WMOK Wichita Mounta 90.26 46 P P 09 02 40.7 -0.1
baz=315
WMOK Wichita Mounta 90.26 46 eP P 09 02 40.5 -0.2
WMOK Wichita Mounta 90.26 46 eP P 09 02 40.5 -0.2
comp=Z,32nm,1.5s
WMOK LR LR
comp=Z,400nm,20.0s
U35A Pawnee 90.27 43 P P 09 02 40.6 -0.1
baz=316
PLDF La Plantade 90.27 332⇑ eP P 09 02 38.0 -2.6
S37A Fort Scott 90.30 41 P P 09 02 40.3 -0.5
baz=318
Q39A Willow Grove F 90.32 39 P P 09 02 40.6 -0.3
baz=319
AGO Saint Agoulin 90.39 332⇑ eP P 09 02 38.7 -2.4
P40A Paris 90.43 38 P P 09 02 41.3 -0.1
baz=319
R38A Fenwick Farm, 90.47 40 P P 09 02 40.5 -1.2
baz=318
SSB Saint Sauveur 90.49 331 eP P 09 02 40.6 -1.0
SSB pmax pmax
comp=Z,8.0nm,1.0s
SSB MLR MLR
comp=Z,800nm,18.0s
SSB Saint Sauveur 90.49 331 eP P 09 02 40.6 -1.0
comp=Z,7.6nm,1.0s
SSB LR LR
comp=Z,800nm,18.0s
W34A Bridge Creek, 90.49 45 P P 09 02 42.0 +0.2
baz=316
W34A Bridge Creek, 90.49 45 eP P 09 02 42.5 +0.7
comp=Z,81nm,1.6s
O41A Passleys Farm, 90.56 37 P P 09 02 41.8 -0.2
baz=320
X33A Lawton 90.57 46 P P 09 02 41.9 -0.3
baz=315
V35A Meyer Ranch, C 90.64 44 P P 09 02 42.5 0.0
baz=316
PYM Petit Puy Mans 90.69 332 eP P 09 02 40.5 -2.1
T37A Cheneyville 18 90.72 42 P P 09 02 42.4 -0.3
baz=318
U36A Oologah 90.81 43 P P 09 02 43.0 -0.1
baz=317
P41A Barry, Barry 90.81 38 P P 09 02 43.0 -0.2
baz=320
Q40A Laux Farm, Aux 90.82 39 P P 09 02 43.0 -0.2
baz=319
CEL Celeste 90.82 320 eP P 09 02 43.6 +0.3
comp=Z,26nm,1.0s
CEL LR LR
comp=Z,2µm,19.0s
R39A Chumby, Stover 90.83 40 P P 09 02 42.6 -0.6
baz=319
Y33A Hilltop Ranch, 90.87 46 P P 09 02 43.3 -0.3
baz=315
S38A Stockton 90.88 41 P P 09 02 42.6 -0.9
baz=318
X34A Smith Ranch, M 90.91 45 P P 09 02 44.2 +0.5
baz=316
TX31 Lajitas Ar. Si 90.98 52 eP P 09 02 44.5 +0.2
TXAR Lajitas Array 90.99 52 P P 09 02 44.4 +0.1
comp=Z,7.3nm,0.7s,baz=295,slow=3.3,SNR=75
TXAR PP PP 09 06 25.1 +5.0
comp=Z,0.7nm,0.9s,baz=280,slow=2.3,SNR=3.6
TXAR PKKPbc PKKPbc 09 20 09.0 +1.9
comp=Z,0.3nm,0.6s,baz=146,slow=6.9,SNR=3.5
TXAR LR LR 09 40 04.9
comp=Z,571nm,19.7s,baz=0.0,slow=33
HDIL Hopedale 91.00 36 P P 09 02 43.8 -0.2
baz=321
W35A Tecumseh 91.06 44 P P 09 02 44.3 -0.1
baz=316
T38A Diamond 91.12 41 P P 09 02 44.3 -0.3
baz=318
TUL1 Leonard 91.12 43 P P 09 02 44.6 -0.1
baz=317
V36A Jenks 91.13 43 P P 09 02 44.8 +0.1
baz=317
U37A Salina 91.13 42 P P 09 02 44.5 -0.2
baz=317
S39A Bolivar 91.15 40 P P 09 02 43.8 -1.0
baz=318
ABTX Abilene, Hawle 91.24 48 P P 09 02 45.4 +0.1
baz=315
ABTX Abilene, Hawle 91.24 48 eP P 09 02 45.3 -0.1
comp=Z,52nm,1.6s
ABTX LR LR
comp=Z,400nm,20.0s
R40A Maddies Statio 91.25 39 P P 09 02 44.6 -0.6
baz=319
HPIG 91.27 55 eP P 09 02 45.8 0.0
comp=Z,64nm,2.0s
HPIG LR LR
comp=Z,700nm,19.0s
Z33A Whitaker Ranch 91.30 47 P P 09 02 45.4 -0.1
baz=315
Y34A Reagan Ranch, 91.41 46 P P 09 02 45.7 -0.3
baz=316
W36A Wetumka 91.44 44 P P 09 02 46.1 -0.1
baz=317
V37A Hulbert 91.50 43 P P 09 02 46.2 -0.2
baz=317
U38A Gravette 91.51 42 P P 09 02 46.0 -0.5
baz=318
X35A Drake 91.55 45 P P 09 02 46.3 -0.4
baz=316
T39A Clever 91.62 41 P P 09 02 46.4 -0.6
baz=318
S40A Lebanon 91.65 40 P P 09 02 46.5 -0.6
baz=319
Q42A Golden Eagle 91.66 38 P P 09 02 47.1 0.0
baz=320
133A Hamilton Ranch 91.69 47 P P 09 02 47.0 -0.3
baz=315
Z34A Collier Ranch, 91.74 46 P P 09 02 47.4 -0.1
baz=316
X36A Centrahoma 91.78 44 P P 09 02 47.8 +0.1
baz=317
Y35A Marietta 91.87 45 P P 09 02 48.0 -0.2
baz=316
HHAR Hobbs 91.87 42 eP P 09 02 47.8 -0.3
comp=Z,12nm,0.9s
HHAR LR LR
comp=Z,400nm,19.0s
W37B Quinton 91.89 43 P P 09 02 48.3 +0.1
baz=317
V38A Canehill 91.92 42 P P 09 02 48.1 -0.3
baz=318
SADO Sadowa 91.93 28 PFAKE 09 03 00.0 +12
SADO LR LR
comp=Z,400nm,20.0s
T40A Mansfield 91.98 40 P P 09 02 47.9 -0.7
baz=319
SLM Saint Louis 92.02 38 eP P 09 02 48.5 -0.3
SLM pmax pmax
comp=Z,74nm,1.8s
SLM Saint Louis 92.02 38 eP P 09 02 48.5 -0.3
comp=Z,74nm,1.8s
U39A Green Forest 92.04 41 P P 09 02 48.3 -0.6
baz=318
Q43A New Douglas 92.05 37 P P 09 02 48.6 -0.3
baz=321
233A Rising Star 92.11 48 P P 09 02 49.5 +0.1
baz=315
Z35A Perchaven, San 92.15 46 P P 09 02 49.1 -0.4
baz=316
AAM Ann Arbor 92.17 32 eP P 09 02 49.5 +0.1
AAM pmax pmax
comp=Z,18nm,0.3s
AAM MLR MLR
comp=Z,500nm,20.0s
AAM Ann Arbor 92.17 32 eP P 09 02 49.5 +0.1
comp=Z,18nm,0.3s
AAM LR LR
comp=Z,500nm,20.0s
SFIN Lafayette 92.18 35 P P 09 02 49.0 -0.4
baz=322
SFIN Lafayette 92.18 35 eP P 09 02 49.2 -0.3
comp=Z,9.0nm,0.8s
134A White-Moore Ra 92.21 47 P P 09 02 49.9 +0.1
baz=316
Y36A Durant 92.30 45 P P 09 02 49.8 -0.3
baz=317
TRQ Mont Tremblant 92.31 24 eP P 09 02 50.0 0.0
X37A Clayton 92.32 44 P P 09 02 49.8 -0.4
baz=317
V39A Pettigrew 92.36 42 P P 09 02 49.6 -0.9
baz=318
U40A Yellville 92.39 41 P P 09 02 50.0 -0.5
baz=319
Q44A Meyer Farm, Va 92.42 37 P P 09 02 50.0 -0.6
baz=321
LMQ La Malbaie 92.44 21 eP P 09 02 50.6 +0.1
comp=Z,32nm,1.3s
W38A Poteau 92.44 43 P P 09 02 50.6 -0.2
baz=318
T41A Mountain View 92.45 40 P P 09 02 50.1 -0.7
baz=319
333A Richland Sprin 92.55 48 P P 09 02 51.4 0.0
baz=315
X38A Whitesboro 92.57 43 P P 09 02 51.3 -0.1
baz=318
234A Clairette 92.58 47 P P 09 02 51.4 -0.1
baz=316
135A Vickery Place, 92.61 46 P P 09 02 51.6 -0.1
baz=316
H06N1 SOCORRO T-PHAS 92.70 65 T T 10 46 38.2
SNR=16
W39A Magazine 92.76 42 P P 09 02 51.7 -0.6
baz=318
H06E1 SOCORRO T-PHAS 92.80 65 T T 10 46 12.4
SNR=13
433A Art 92.88 49 P P 09 02 52.4 -0.6
baz=315
S43A Fulton Ridge, 92.92 38 P P 09 02 52.2 -0.8
baz=320
WHTX Lake Whitney, 92.99 47 P P 09 02 53.2 -0.1
baz=316
WHTX Lake Whitney, 92.99 47 eP P 09 02 53.3 -0.1
comp=Z,32nm,1.0s
334A Lometa 92.99 48 P P 09 02 53.1 -0.3
baz=315
OLIL Olney 93.00 37 eP P 09 02 53.4 +0.2
comp=Z,22nm,1.1s
OLIL LR LR
comp=Z,500nm,19.0s
X39A Fountain Ranch 93.08 43 P P 09 02 53.6 -0.2
baz=318
VSL Villasalto 93.10 325 PFAKE 09 03 00.0 +6.2
VSL LR LR
comp=Z,1µm,19.0s
W40A Ferguson Farm, 93.15 42 P P 09 02 53.6 -0.4
baz=319
Y38A Idabel 93.17 44 P P 09 02 53.2 -0.9
baz=318
136A Ennis 93.19 46 P P 09 02 53.8 -0.5
baz=316
Z37A Pogue Cattle C 93.19 45 P P 09 02 53.9 -0.4
baz=317
V41A Mountainview 93.20 41 P P 09 02 53.3 -1.0
baz=319
S44A Carbondale 93.24 38 P P 09 02 53.8 -0.6
baz=321
SIUC Southern Illin 93.24 38 eP P 09 02 54.1 -0.3
comp=Z,19nm,1.0s
434A Burnet 93.34 48 P P 09 02 54.3 -0.8
baz=315
WDD Wied Dalam 93.34 319 PFAKE 09 03 10.0 +15
WDD LR LR
comp=Z,1µm,19.0s
MIAR Mount Ida 93.35 43 P P 09 02 54.7 -0.3
baz=318
MIAR Mount Ida 93.35 43 eP P 09 02 55.2 +0.2
MIAR Mount Ida 93.35 43 eP P 09 02 55.2 +0.2
comp=Z,38nm,1.2s
MIAR LR LR
comp=Z,400nm,20.0s
533A Kerrville 93.40 49 P P 09 02 55.0 -0.4
baz=315
X201 Greenbrier Sit 93.46 41 eP P 09 02 55.2 -0.2
comp=Z,29nm,1.2s
X201 LR LR
comp=Z,400nm,21.0s
X301 Greenbrier Sit 93.48 41 eP P 09 02 55.7 +0.2
comp=Z,29nm,1.4s
WHAR Wooly Hollow 93.50 41 eP P 09 02 55.4 -0.2
comp=Z,24nm,1.0s
WHAR LR LR
comp=Z,400nm,22.0s
335A Moody 93.52 47 P P 09 02 55.5 -0.3
baz=316
Y39A Lockesburg 93.52 43 P P 09 02 55.4 -0.4
baz=318
Z38A Mt. Pleasant 93.52 44 P P 09 02 55.4 -0.3
baz=317
236A Katherine and 93.53 46 P P 09 02 55.4 -0.5
baz=316
S45A Carrier Mills 93.59 37 P P 09 02 55.3 -0.7
baz=322
V42A Cord 93.59 40 P P 09 02 55.3 -0.7
baz=320
W41B Gary Mavity, V 93.61 41 P P 09 02 55.6 -0.6
baz=319
633A Saathoff Ranch 93.74 50 P P 09 02 56.7 -0.1
baz=315
534A Blanco 93.77 49 P P 09 02 56.7 -0.3
baz=315
435B Jarrell 93.78 48 P P 09 02 56.6 -0.4
baz=316
336A Riesel 93.79 47 P P 09 02 56.8 -0.3
baz=316
X40A Basin Creek Fa 93.80 42 P P 09 02 56.8 -0.3
baz=319
UALR University of 93.86 42 PFAKE 09 03 10.0 +13
UALR LR LR
comp=Z,400nm,20.0s
138A Matatall Enter 93.89 45 P P 09 02 57.5 0.0
baz=317
Y40A Okolona 93.91 43 P P 09 02 57.2 -0.4
baz=318
X41A Kaden, Bauxite 93.97 42 P P 09 02 57.6 -0.2
baz=319
Z39A Irene McRaven, 93.98 44 P P 09 02 58.0 +0.2
baz=318
832A Faith Ranch, C 94.06 51 P P 09 02 58.3 -0.1
baz=314
ACSO Alum Creek Sta 94.16 32 eP P 09 02 58.5 0.0
comp=Z,12nm,0.9s
ACSO LR LR
comp=Z,500nm,21.0s
733A Divot King Ran 94.19 50 P P 09 02 59.1 +0.1
baz=315
WLAR White Oak Lake 94.25 43 eP P 09 02 59.0 -0.1
comp=Z,17nm,0.9s
436A Wall Ranch, Ga 94.26 47 P P 09 02 59.4 +0.2
baz=316
WCI Wyandotte Cave 94.26 36 eP P 09 02 59.0 -0.2
WCI Wyandotte Cave 94.26 36 eP P 09 02 59.0 -0.2
comp=Z,8.3nm,0.9s
238A Jacksonville 94.35 45 P P 09 02 59.6 0.0
baz=317
Y41A Eaglette Beard 94.38 42 P P 09 02 59.5 -0.3
baz=319
833A Chaparral WMA, 94.40 51 P P 09 02 59.8 -0.1
baz=315
M54A Oil Creek Stat 94.49 30 P P 09 02 59.8 -0.3
baz=328
734A La Parita Cree 94.55 50 P P 09 03 00.3 -0.3
baz=315
536A Bastrop 94.59 48 P P 09 03 00.7 -0.1
baz=316
437A Phantom Ranch, 94.61 47 P P 09 03 00.7 -0.1
baz=317
635A Leesville 94.66 49 P P 09 03 01.1 +0.1
baz=316
Z41A Richland Creek 94.74 43 P P 09 03 01.1 -0.3
baz=319
NATX Nacogdoches 94.80 45 PFAKE 09 03 10.0 +8.3
NATX LR LR
comp=Z,500nm,19.0s
PKME Peaks-Kenny Pk 94.81 21 eP P 09 03 01.8 +0.4
comp=Z,15nm,1.2s
N54A Moraine State 94.82 30 P P 09 03 01.3 -0.4
baz=327
X43A Marvell 94.84 41 P P 09 03 01.5 -0.3
baz=320
Y42A Garnett, Star 94.86 42 P P 09 03 01.8 -0.1
baz=319
933A Laredo 94.97 51 P P 09 03 03.0 +0.5
baz=315
636A Smothers Creek 95.03 48 P P 09 03 02.7 0.0
baz=316
FURI Furi 95.04 285 PFAKE 09 03 10.0 +6.6
FURI LR LR
comp=Z,700nm,19.0s
537A Green Hill Far 95.04 47 P P 09 03 03.1 +0.2
baz=316
WVT Waverly 95.17 38 PFAKE 09 03 10.0 +6.7
WVT LR LR
comp=Z,500nm,20.0s
BINY Binghamton 95.32 27 PFAKE 09 03 20.0 +16
BINY LR LR
comp=Z,600nm,19.0s
LMN Caledonia Moun 95.50 18 eP P 09 03 04.6 0.0
comp=Z,73nm,2.0s
TRY Troy 95.68 25 PFAKE 09 03 20.0 +15
TRY LR LR
comp=Z,1µm,20.0s
FFD Franklin Falls 95.70 24 PFAKE 09 03 20.0 +14

FFD					LR	LR		
	comp=Z,600nm,19.0s							
EMMW	**East Machias**	**95.85**	**20**	PFAKE			09 03 20.0	+14
EMMW					LR	LR		
	comp=Z,500nm,18.0s							
PLAL	**Pickwick Lake**	**95.94**	**39**	PFAKE			09 03 20.0	+13
PLAL					LR	LR		
	comp=Z,400nm,21.0s							
Z44A	**Pea Ridge, Bel**	**96.02**	**41**	P		**P**	**09 03 06.6**	**-0.6**
	baz=320							
Y45A	**Yeager Farm, C**	**96.05**	**41**	P		**P**	**09 03 06.8**	**-0.5**
	baz=321							
KEST	**Kesra**	**96.10**	**323**	P		**P**	**09 03 07.5**	**-0.2**
	comp=Z,5.5nm,1.1s,baz=206,slow=2.8,SNR=4.2							
KEST					LR	LR	09 51 21.4	
	comp=Z,842nm,18.1s,baz=356,slow=38							
KEST	**Kesra**	**96.10**	**323**	*e*P		**P**	**09 03 08.2**	**+0.6**
	comp=Z,36nm,1.6s							
ZAIG	**Zacatecas**	**96.14**	**57**	PFAKE			09 03 20.0	+12
ZAIG					LR	LR		
	comp=Z,700nm,20.0s							
Y46A	**Houston**	**96.39**	**40**	P		**P**	**09 03 08.0**	**-0.9**
	baz=321							
243A	**Waterproof**	**96.51**	**43**	P		**P**	**09 03 09.1**	**-0.4**
	baz=319							
244A	**Avery, Jackson**	**96.83**	**42**	P		**P**	**09 03 10.7**	**-0.2**
	baz=320							
SWET	**Sewanee**	**96.84**	**37**	PFAKE			09 03 20.0	+9.0
SWET					LR	LR		
	comp=Z,100nm,21.0s							
LUPA	**Lehigh Univers**	**96.94**	**27**	PFAKE			09 03 20.0	+8.8
LUPA					LR	LR		
	comp=Z,700nm,18.0s							
MVL	**Millersville**	**97.08**	**28**	PFAKE			09 03 20.0	+8.0
MVL					LR	LR		
	comp=Z,500nm,22.0s							
BRYW	**Bryant College**	**97.12**	**24**	PFAKE			09 03 20.0	+7.8
BRYW					LR	LR		
	comp=Z,800nm,22.0s							
YLE	**Yale**	**97.19**	**25**	PFAKE			09 03 20.0	+7.6
YLE					LR	LR		
	comp=Z,400nm,19.0s							
CPNY	**Central Park**	**97.28**	**26**	PFAKE			09 03 20.0	+7.1
CPNY					LR	LR		
	comp=Z,2µm,21.0s							
CBN	**Corbin Frederi**	**98.22**	**30**	PFAKE			09 03 30.0	+13
CBN					LR	LR		
	comp=Z,500nm,19.0s							
RKT	**Rikitea**	**98.25**	**112**	*e*LR		LR	09 35 10.2	
	comp=Z,1µm,24.0s,baz=305							
ESDC	**Sonseca Array**	**98.52**	**334**	P		**P**	**09 03 17.4**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=20,slow=4.7,SNR=4.1							
ESDC					PP	**PP**	**09 07 18.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=36,slow=7.9,SNR=5.6							
ESDC					LR	LR	09 51 47.9	
	comp=Z,776nm,21.6s,baz=90,slow=38							
ESLA	**Sonseca Array**	**98.52**	**334**	PFAKE			09 03 30.0	+12
ESLA					LR	LR		
	comp=Z,1µm,21.0s							
PAB	**San Pablo**	**98.77**	**334**	PFAKE			09 03 30.0	+10
PAB					LR	LR		
	comp=Z,1µm,20.0s							
KMSC	**Kings Mountain**	**99.09**	**34**	PFAKE			09 03 30.0	+9.0
KMSC					LR	LR		
	comp=Z,500nm,19.0s							
MTE	**Manteigas**	**99.10**	**336**	PFAKE			09 03 30.0	+8.9
MTE					LR	LR		
	comp=Z,800nm,18.0s							
GOGA	**Godfrey**	**99.50**	**37**	PFAKE			09 03 30.0	+7.1
GOGA					LR	LR		
	comp=Z,400nm,18.0s							
KMBO	**Kilima Mbogo**	**102.13**	**277**	PFAKE			09 03 50.0	+15
KMBO					LR	LR		
	comp=Z,600nm,20.0s							
PFVI	**Vila Bisbo**	**102.48**	**336**	PFAKE			09 03 50.0	+14
PFVI					LR	LR		
	comp=Z,1µm,18.0s							
RTC	**Rabat Centre**	**104.62**	**333**	PFAKE			09 04 00.0	+14
RTC					LR	LR		
	comp=Z,2µm,18.0s							
TAM	**Tamanrasset**	**108.41**	**317**	PFAKE			09 08 20.0	
TAM					LR	LR		
	comp=Z,500nm,18.0s							
VNDA	**Vanda**	**113.60**	**175**	PKiKP		**PKiKP**	**09 08 17.1**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=316,slow=2.1,SNR=5.5							
VNDA					PP	**PP**	**09 09 09.7**	**0.0**
	comp=Z,2.0nm,0.8s,baz=339,slow=5.6,SNR=5.8							
SDDR	**Presa de Saban**	**117.46**	**35**	PFAKE			09 08 40.0	+14
SDDR					LR	LR		
	comp=Z,600nm,20.0s							
MAW	**Mawson**	**118.28**	**205**	PKP		**PKPdf**	**09 08 26.5**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=59,slow=2.6,SNR=13							
TOA0	**Torodi Ar. Sit**	**118.28**	**314**	*e*PKPdf		**PKPdf**	**09 08 26.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**118.28**	**314**	PKP		**PKPdf**	**09 08 26.8**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=20,slow=1.5,SNR=21							
TORD					PP	**PP**	**09 09 43.4**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=43,slow=6.1,SNR=4.7							
TORD					PKKPbc	**PKKPbc**	**09 18 46.0**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=214,slow=3.3,SNR=13							
HUMP	**Col San Antoni**	**120.60**	**30**	PFAKE			09 08 40.0	+8.0
HUMP					LR	LR		
	comp=Z,400nm,21.0s							
SMRT	**St. Maarten**	**121.78**	**28**	PFAKE			09 08 50.0	+16
SMRT					LR	LR		
	comp=Z,100nm,18.0s							
LBTB	**Lobatse**	**124.43**	**262**	*e*PKIKP		**PKPdf**	**09 08 39.6**	**+0.3**
LBTB	**Lobatse**	**124.43**	**262**	*e*PKPdf		**PKPdf**	**09 08 39.5**	**+0.3**
QSPA	**South Pole Qui**	**125.40**	**180**	*e*PKPdf		**PKPdf**	**09 08 39.4**	**-0.4**
BRRC	**Barranca, Sant**	**126.16**	**45**	*e*P		**PKPdf**	**09 08 40.7**	**-2.1**
CBRI	**Barrientos, No**	**126.18**	**44**	*e*P		**PKPdf**	**09 08 36.7**	**-6.4**
BOSA	**Boshof**	**126.28**	**258**	PKP		**PKPdf**	**09 08 42.5**	**-0.2**
	comp=Z,5.5nm,0.8s,baz=146,slow=2.0,SNR=6.0							
PAMC	**Pamplona, Colo**	**126.55**	**44**	*e*P		**PKPdf**	**09 08 46.7**	**+2.6**
DBIC	**Dimbokro**	**127.27**	**316**	PKP		**PKPdf**	**09 08 44.9**	**0.0**
	comp=Z,3.3nm,0.7s,baz=340,slow=3.2,SNR=6.1							
RUSC	**La Rusia**	**127.50**	**45**	*e*P		**PKPdf**	**09 08 42.7**	**-3.3**
ROSC	**El Rosal**	**127.62**	**47**	PKP		**PKPdf**	**09 08 46.8**	**+0.7**
	comp=Z,6.1nm,0.6s,baz=108,slow=0.7,SNR=8.4							
ROSC	**El Rosal**	**127.62**	**47**	*e*P		**PKPdf**	**09 08 42.7**	**-3.4**
ROSC	**El Rosal**	**127.62**	**47**	*e*PKPdf		**PKPdf**	**09 08 47.0**	**+0.9**
POPC	**Popayan, Colom**	**127.96**	**51**	*e*P		**PKPdf**	**09 08 44.7**	**-1.9**
CHIC	**Chingaza**	**128.14**	**47**	*e*P		**PKPdf**	**09 08 45.2**	**-1.9**
TSUM	**Tsumeb**	**128.16**	**273**	*e*PKPdf		**PKPdf**	**09 08 47.2**	**+0.6**
OTAV	**Otavalo**	**128.54**	**55**	*e*PKPdf		**PKPdf**	**09 08 48.5**	**+0.6**
NVL	**N'lazarevskaya**	**136.00**	**202**	*e*PKIKP		**PKPdf**	**09 09 01.9**	**+2.3**
SNAA	**Sanae**	**139.42**	**197**	PKP		PKPpre	09 08 55.9	
PTGA	**Pitinga**	**139.98**	**34**	*e*PKPdf		**PKPdf**	**09 09 08.3**	**-0.5**
VNA1	**Neumayer--Stat**	**141.38**	**196**	PKP		PKPpre	09 09 02.3	
SAML	**Samuel**	**145.24**	**46**	*e*PKPbc		**PKPbc**	**09 09 16.8**	**-0.8**
LPAZ	**La Paz**	**147.40**	**61**	PKPbc		**PKPdf**	**09 09 23.1**	**+0.7**
	comp=Z,19nm,0.7s,baz=326,slow=2.3,SNR=94							
PB01	**IPOC Station P**	**149.33**	**70**	*e*PKPdf		**PKPdf**	**09 09 25.0**	**+0.3**
PB04	**IPOC Station P**	**149.54**	**73**	*e*PKPbc		**PKPbc**	**09 09 29.9**	**+0.3**
PB10	**IPOC Station P**	**149.84**	**75**	*e*PKPbc		**PKPbc**	**09 09 30.8**	**+0.6**
RCBR	**Riachuelo**	**150.22**	**355**	*e*PKPbc		**PKPbc**	**09 09 31.6**	**+0.2**
LVC	**Limon Verde**	**150.65**	**72**	*e*PKPbc		**PKPbc**	**09 09 33.5**	**+0.9**
PLCA	**Paso Flores**	**154.48**	**111**	PKPbc		**PKPbc**	**09 09 40.3**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=295,slow=5.4,SNR=3.1							
PLCA					PKPab	**PKPab**	**09 09 54.1**	**-0.7**
	comp=Z,7.3nm,0.8s,baz=270,slow=3.6,SNR=4.9							
TRQA	**Tornquist**	**161.16**	**104**	*e*PKPab		**PKPab**	**09 10 24.9**	**+1.1**
CPUP	**Villa Florida**	**161.49**	**65**	PKP		**PKPdf**	**09 09 40.9**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=20,slow=3.0,SNR=4.3							
CPUP					PKPab	**PKPab**	**09 10 22.8**	**-2.5**
	comp=Z,1.6nm,1.0s,baz=358,slow=5.4,SNR=3.7							

*ISK **21** 08:52:56.9, 37˚.24N×28˚.19E, h5km, ML2.0*
*ISCJB **21** 08:52:57.9±0.6, 37˚.25N±0˚.04×28˚.21E±0˚.04, h0km, Error ellipse: s-maj=5.8km s-min=4.1km az=27.7*
*CSEM **21** 08:52:58.2±0.2, 37˚.26N×28˚.21E, h2km, ML2.0, Error ellipse: s-maj=5.5km s-min=4.1km az=26.0, Suspected Mining explosion.*
*DDA **21** 08:52:58.4, 37˚.28N×28˚.16E, h7km, Md2.7, Suspected Mining explosion.*

ISC 21 08:52:59.2±1.0, 37°25N±0˚.03×28°20E±0˚.03, h0km, n17, σ1§29/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**150**	*e*PG		**Pg**	**08 53 00.1**	**-1.6**
YER	**Yerkesik**	**0.13**	**150**	*e*Pg		**Pg**	**08 53 00.1**	**-1.6**
TURN	**Turunc**	**0.49**	**139**	*i* P		**Pg**	**08 53 06.2**	**-2.4**
DALY	**Dalyan (Mu˘la**	**0.56**	**140**	*e*PG		**Pg**	**08 53 09.0**	**-0.9**
DALY					*e*SG	**Sg**	**08 53 17.7**	**+0.5**
DALY	**Dalyan (Mu˘la**	**0.56**	**140**	*e*Pg		**Pg**	**08 53 09.0**	**-0.9**
DALY					*e*Sg	**Sg**	**08 53 17.7**	**+0.5**
BDRM	**Kayabasi**	**0.63**	**254**	P		**Pg**	**08 53 10.5**	**-0.8**
BDRM					S	**Sg**	**08 53 19.4**	**-0.1**
BDRM	**Kayabasi**	**0.63**	**254**	*i* P		**Pg**	**08 53 10.5**	**-0.8**
BDRM					*i* S	**Sg**	**08 53 19.4**	**-0.1**
BODT	**Bodrum**	**0.73**	**256**	*e*PG		**Pg**	**08 53 12.0**	**-1.3**
BODT					*e*SG	**Sg**	**08 53 23.0**	**+0.2**
BODT	**Bodrum**	**0.73**	**256**	*e*Pg		**Pg**	**08 53 12.0**	**-1.3**
BODT					*e*Sg	**Sg**	**08 53 23.0**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**341**	*e*PG		**Pg**	**08 53 12.3**	**-1.1**
AYDB					*e*SG	**Sg**	**08 53 23.6**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**341**	*e*Pg		**Pg**	**08 53 12.3**	**-1.1**
AYDB					*e*Sg	**Sg**	**08 53 23.6**	**+0.5**
DNZL	**Cakiroluk**	**0.81**	**56**	P		**Pg**	**08 53 13.2**	**-1.4**
DNZL	**Cakiroluk**	**0.81**	**56**	*i* P		**Pg**	**08 53 13.2**	**-1.4**
FETY	**Fethiye**	**0.93**	**131**	*e*PG		**Pg**	**08 53 16.1**	**-1.0**
FETY	**Fethiye**	**0.93**	**131**	*e*Pg		**Pg**	**08 53 16.1**	**-1.0**
AKAS	**Kas**	**1.52**	**131**	P		**Pn**	**08 53 27.4**	**-0.3**
AKAS					S	**Sn**	**08 53 50.8**	**+2.6**
AKAS	**Kas**	**1.52**	**131**	*i* P		**Pn**	**08 53 27.4**	**-0.3**
AKAS					*i* S	**Sn**	**08 53 50.8**	**+2.6**

*NEIC **21** 08:55:09.7, 17˚.42N×101˚.45W, h20km, MD4.1(MEX), After MEX.*

MEX 21 08:55:09.7±0.6, 17˚.42N×101˚.45W, h20km±14km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.19**	**355**	*e*P		Pb	08 55 13.6	-1.1
ZIIG					*e*S	Sb	08 55 17.3	-0.9
ZIIG	**Zihuatanejo**	**0.19**	**355**	*e*P		Pb	08 55 13.6	-1.1
ZIIG					*e*S	Sb	08 55 17.3	-0.9
CAIG	**El Cayaco**	**1.19**	**108**	*e*P		Pn	08 55 27.9	-3.3
CAIG					*e*S	Sb	08 55 42.3	-4.1
CAIG	**El Cayaco**	**1.19**	**108**	*e*P		Pn	08 55 27.9	-3.3
CAIG					*e*S	Sb	08 55 42.3	-4.1
ARIG	**Puente Sto Nin**	**1.36**	**50**	*e*P		Pn	08 55 30.1	-3.4
ARIG					*e*S	Sn	08 55 47.1	-3.9
MEIG	**Mezcala**	**1.81**	**73**	*e*P		Pn	08 55 37.5	-2.4
MEIG					*e*S	Sn	08 55 58.4	-3.9
MEIG	**Mezcala**	**1.81**	**73**	*e*P		Pn	08 55 37.5	-2.4
MEIG					*e*S	Sn	08 55 58.4	-3.9
PLIG	**Platanillo**	**2.09**	**62**	*e*P		Pn	08 55 41.3	-2.4
PLIG					*e*S	Sn	08 56 05.2	-4.0
PLIG	**Platanillo**	**2.09**	**62**	*e*P		Pn	08 55 41.3	-2.4
PLIG					*e*S	Sn	08 56 05.2	-4.0
YAIG	**Yautepec**	**2.68**	**57**	*e*P		Pn	08 55 50.3	-1.6
YAIG	**Yautepec**	**2.68**	**57**	*e*P		Pn	08 55 50.3	-1.6
TLIG	**Tlapa**	**2.75**	**87**	*e*P		Pn	08 55 50.6	-2.3
TLIG					*e*S	Sn	08 56 22.2	-3.4
EZ5V		**2.90**	**315**	*e*P		Pn	08 55 56.8	+1.8
EZ5V					*e*S	Sb	08 56 40.0	+4.0
EZ5V					*e*S	Sb	08 56 40.0	+4.0
R15V		**2.98**	**306**	*e*P		Pn	08 55 58.2	+2.3
R15V					*e*P	Pb	08 55 59.1	-3.0
R15V					*e*S	Sb	08 56 38.1	+0.1
PNIG	**Pinotepa**	**3.34**	**107**	*e*P		Pn	08 56 02.8	+2.0
PNIG					*e*S	Sb	08 56 50.0	+1.6
PNIG	**Pinotepa**	**3.34**	**107**	*e*P		Pn	08 56 02.8	+2.0
PNIG					*e*S	Sb	08 56 50.0	+1.6

BUC 21 09:11:07.3±0.8, 45˚.28N×25˚.37E, h3km, 7km, MD2.6/2, 10C-6D, Error ellipse: s-maj=9.2km s-min=2.9km az=354.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MTUR	**Matau**	**0.22**	**257**	↑ *i*P		Pg	09 11 12.5	+0.9
MTUR	**Matau**	**0.22**	**257**	↑ *i*P		Pg	09 11 12.5	+0.9
VOIR		**0.28**	**305**	↑ *i*P		Pg	09 11 12.9	+0.2
VOIR		**0.28**	**305**	S		Sg	09 11 17.6	+1.3
VOIR		**0.28**	**305**	↑ *i*P		Pg	09 11 12.9	+0.2
VOIR					*i* S	Sg	09 11 17.6	+1.3
MLR	**Muntele Rosu**	**0.46**	**62**	↓ *i*P		Pg	09 11 16.4	+0.3
MLR	**Muntele Rosu**	**0.46**	**62**	S		Sb	09 11 24.0	-1.3
MLR	**Muntele Rosu**	**0.46**	**62**	↓ *i*P		Pg	09 11 16.4	+0.3
MLR					*i* S	Sb	09 11 24.0	-1.3
ARR	**Arges**	**0.53**	**280**	↑ *i*P		Pg	09 11 18.1	+0.7
ARR	**Arges**	**0.53**	**280**	↑ *i*P		Pg	09 11 18.1	+0.7
ARR					*i* S	Sb	09 11 26.1	-1.1
DOPR	**Dopca**	**0.69**	**1**	↓ *i*P		Pg	09 11 20.9	+0.4
DOPR	**Dopca**	**0.69**	**1**	↓ *i*P		Pg	09 11 20.9	+0.4
DOPR					*i* S	Sb	09 11 31.5	-0.4
PLOR	**Plostina**	**1.07**	**57**	↓ *i*P		Pn	09 11 29.0	-0.1
PLOR	**Plostina**	**1.07**	**57**	↓ *i*P		Pn	09 11 29.0	-0.1
PLOR					*i* S	Sn	09 11 45.2	+0.7
VRI	**Vrincioaia**	**1.12**	**58**	↑ *i*P		Pn	09 11 29.8	-0.1
VRI	**Vrincioaia**	**1.12**	**58**	↑ *i*P		Pn	09 11 29.8	-0.1
VRI					*i* S	Sn	09 11 45.8	0.0
LOT	**Lotru**	**1.14**	**279**	↑ *i*P		Pb	09 11 29.5	-0.2
LOT	**Lotru**	**1.14**	**279**	↑ *i*P		Pb	09 11 29.5	-0.2
DRGR		**2.39**	**310**	S		Sn	09 12 17.8	+0.6
DRGR		**2.39**	**310**	*i* S		Sn	09 12 17.8	+0.6

*ISCJB **21** 09:23:16.1±0.2, 59˚.98N±0˚.02×152˚.77W±0˚.05, h109km±3km, mb4.1/4, Error ellipse: s-maj=4.3km s-min=3.3km az=44.3*
*IDC **21** 09:23:17.7±4.7, 60˚.13N×152˚.74W, h96km±49km, mb3.7/4, mb1 3.8/8, mb1mx3.4/67, mbtmp4.0/8, MS4.1/1, Ms1 4.1/1, ms1mx3.0/50, Error ellipse: s-maj=37.2km s-min=26.3km az=36.0*
*NEIC **21** 09:23:18.2, 59˚.98N×152˚.86W, h96km, MG3.5(AEIC), After AEIC.*

ISC 21 09:23:17.1±0.8, 59˚99N±0˚.04×152˚78W±0˚.04, h100km±6km, n110, σ0§88/120, mb4.1/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPT	**Oil Point**	**0.40**	**214**	P		**Pn**	**09 23 39.4**	**+0.1**
RDWB	**Redoubt West**	**0.50**	**357**	P		**Pn**	**09 23 33.1**	**0.0**
RDWB					S	**Sn**	**09 23 44.9**	**-0.1**
NCT	**North Crescent**	**0.58**	**353**	P		**Pn**	**09 23 33.8**	**+0.2**
RDJH	**Redoubt Jeurge**	**0.61**	**359**	P		**Pn**	**09 23 34.0**	**+0.2**
RDJH					S	**Sn**	**09 23 46.2**	**-0.2**
HOM	**Homer**	**0.66**	**119**	P		**Pn**	**09 23 35.0**	**+0.8**
HOM					S	**Sn**	**09 23 48.6**	**+1.7**
AUL	**Augustine Lava**	**0.69**	**209**	P		**Pn**	**09 23 34.5**	**+0.1**
AUE	**Augustine Isla**	**0.70**	**206**	P		**Pn**	**09 23 34.3**	**-0.1**
AUSE	**Augustine SEas**	**0.72**	**206**	P		**Pn**	**09 23 34.5**	**-0.1**
AUI	**Augustine Isla**	**0.73**	**207**	P		**Pn**	**09 23 34.7**	**-0.1**
AUI					S	**Sn**	**09 23 47.2**	**-0.8**
CNPM	**China Poot**	**0.91**	**120**	P		**Pn**	**09 23 37.1**	**+0.5**
CNPM					S	**Sn**	**09 23 51.8**	**+0.6**
BRLK	**Bradley Lake**	**0.98**	**102**	P		**Pn**	**09 23 37.6**	**+0.2**
BRLK					S	**Sn**	**09 23 53.4**	**+0.8**
MCNL	**McNeil River**	**1.13**	**225**	P		**Pn**	**09 23 38.5**	**-0.4**
CDD	**Cape Douglas**	**1.15**	**203**	P		**Pn**	**09 23 38.7**	**-0.5**
CKL	**Chakachamna La**	**1.23**	**10**	P		**Pn**	**09 23 40.7**	**+0.4**
SPCR	**Spurr Chakacha**	**1.25**	**13**	P		**Pn**	**09 23 40.9**	**+0.4**
SPCR					S	**Sn**	**09 23 58.2**	**+0.2**
FOSS	**Fourpeaked Sta**	**1.28**	**202**	P		**Pn**	**09 23 40.5**	**-0.1**
FOPK	**Fourpeaked Vol**	**1.28**	**196**	P		**Pn**	**09 23 40.0**	**-0.7**
SPWE	**Spurr West**	**1.30**	**5**	P		**Pn**	**09 23 41.8**	**+0.9**
SLKM	**Skilak Lake**	**1.38**	**67**	P		**Pn**	**09 23 42.1**	**+0.2**
STLK	**Strandline Lak**	**1.59**	**17**	P		**Pn**	**09 23 45.0**	**+0.6**
SEW	**Seward**	**1.68**	**85**	P		**Pn**	**09 23 45.5**	**+0.1**
FIB	**Fire Island**	**1.75**	**46**	P		**Pn**	**09 23 48.5**	**+2.1**
KAHC	**Katmai Hardscr**	**1.76**	**221**	P		**Pn**	**09 23 46.4**	**-0.3**
SVW2	**Sparrevohn**	**1.78**	**310**	P		**Pn**	**09 23 46.3**	**-0.5**
SUA	**Susitna One**	**1.79**	**33**	P		**Pn**	**09 23 48.0**	**+0.9**
RC01	**Rabbit Creek A**	**1.87**	**52**	P		**Pn**	**09 23 48.0**	**+0.1**
KAWH	**Katmai**	**1.91**	**214**	P		**Pn**	**09 23 48.4**	**-0.2**
KAKN	**Katmai Knife C**	**2.06**	**216**	P		**Pn**	**09 23 50.4**	**-0.1**
KVTA	**Katmai Vly 10**	**2.06**	**220**	P		**Pn**	**09 23 50.5**	**0.0**
KABU	**Katmai Buttres**	**2.15**	**218**	P		**Pn**	**09 23 51.9**	**+0.2**
KELA	**Mount Kelaz**	**2.17**	**226**	P		**Pn**	**09 23 51.7**	**-0.3**
KABR	**Katmai Barrier**	**2.18**	**212**	P		**Pn**	**09 23 51.9**	**-0.1**
KDAK	**Kodiak Island**	**2.21**	**177**	P		**Pn**	**09 23 51.4**	**-1.0**
PMR	**Palmer**	**2.41**	**46**	P		**Pn**	**09 23 54.8**	**-0.1**
KNK	**Knik Glacier**	**2.56**	**54**	P		**Pn**	**09 23 56.9**	**-0.2**
GHO	**Glory Hole Cre**	**2.60**	**45**	P		**Pn**	**09 23 57.6**	**0.0**
OHAK	**Old Harbor**	**2.79**	**186**	P		**Pn**	**09 23 58.7**	**-1.2**
SML	**Sawmill**	**2.84**	**48**	P		**Pn**	**09 24 00.6**	**-0.1**
PLK3	**Peulik 3**	**2.93**	**220**	P		**Pn**	**09 24 02.5**	**+0.6**
PPLA	**Purkeypile**	**2.94**	**5**	P		**Pn**	**09 24 03.5**	**+1.5**
HIN	**Hinchinbrook I**	**3.16**	**80**	P		**Pn**	**09 24 04.2**	**-0.8**
SCM	**Sheep Creek Mo**	**3.25**	**53**	P		**Pn**	**09 24 06.0**	**-0.2**
MID	**Middleton Isla**	**3.31**	**97**	P		**Pn**	**09 24 07.5**	**+0.5**
TT01	**Tatalina**	**3.32**	**333**	P		**Pn**	**09 24 06.8**	**-0.2**
TTA	**Tatalina**	**3.33**	**334**	P		**Pn**	**09 24 07.4**	**+0.1**
HUR	**Hurricane**	**3.36**	**25**	P		**Pn**	**09 24 09.2**	**+1.6**
VLZ	**Valdez**	**3.39**	**67**	P		**Pn**	**09 24 07.3**	**-0.6**
EYAK	**Cordova Ski Ar**	**3.55**	**78**	P		**Pn**	**09 24 09.2**	**-0.9**
DIV	**Divide**	**3.65**	**69**	P		**Pn**	**09 24 11.0**	**-0.5**
TRF	**Thorofare Moun**	**3.67**	**18**	P		**Pn**	**09 24 12.1**	**+0.2**
KTH	**Kantishna Hill**	**3.69**	**13**	P		**Pn**	**09 24 12.5**	**+0.4**
KLU	**Klutina**	**3.69**	**63**	P		**Pn**	**09 24 11.7**	**-0.5**
RND	**Reindeer**	**3.91**	**27**	P		**Pn**	**09 24 15.7**	**+0.7**
BMRM	**Bremner River**	**4.17**	**73**	P		**Pn**	**09 24 17.6**	**-0.9**
MCK	**McKinley**	**4.18**	**24**	*e*Pn		**Pn**	**09 24 20.6**	**+2.0**
MCK					*e*Sn	**Sn**	**09 25 03.5**	**-2.8**
BPAW	**Bear Paw Mtn.**	**4.21**	**11**	P		**Pn**	**09 24 18.7**	**-0.4**
NICHA	**Nichawak Mount**	**4.42**	**83**	P		**Pn**	**09 24 20.9**	**-0.9**
BWN	**Browne**	**4.48**	**19**	P		**Pn**	**09 24 23.7**	**+1.1**
SUCK	**Suckling Hills**	**4.52**	**85**	P		**Pn**	**09 24 24.2**	**+1.0**
BERG	**Berg Lake**	**4.55**	**81**	P		**Pn**	**09 24 23.4**	**-0.2**
PAX	**Paxson**	**4.61**	**46**	P		**Pn**	**09 24 24.8**	**+0.3**
GRIN	**Grindle Hills**	**4.74**	**82**	P		**Pn**	**09 24 26.8**	**+0.6**
VRDI	**Verde Repeater**	**4.76**	**71**	P		**Pn**	**09 24 26.1**	**-0.6**
KHIT	**Khitrov Hills**	**4.78**	**80**	P		**Pn**	**09 24 26.5**	**-0.3**
CRQM	**Cirque**	**4.85**	**77**	P		**Pn**	**09 24 27.6**	**-0.2**
MCARA	**McCarthy VSAT**	**5.00**	**70**	P		**Pn**	**09 24 30.9**	**+1.2**
TGL	**Tana Glacier**	**5.00**	**77**	P		**Pn**	**09 24 30.3**	**+0.5**
WRH	**Wood River Hil**	**5.01**	**24**	P		**Pn**	**09 24 29.6**	**-0.2**
KULT	**Kultieh River**	**5.04**	**83**	P		**Pn**	**09 24 31.0**	**+0.7**
MLY	**Manley**	**5.15**	**10**	P		**Pn**	**09 24 32.7**	**+1.0**
BARK	**Barkley Ridge**	**5.15**	**81**	P		**Pn**	**09 24 32.3**	**+0.4**
CCB	**Clear Creek Bu**	**5.22**	**24**	P		**Pn**	**09 24 32.5**	**-0.2**
ISLE	**Juniper Island**	**5.23**	**79**	P		**Pn**	**09 24 33.5**	**+0.5**
KIAG	**Kiagna River**	**5.25**	**75**	P		**Pn**	**09 24 33.9**	**+0.7**
MENT	**Mentasta**	**5.26**	**52**	P		**Pn**	**09 24 33.5**	**+0.2**
BALM	**Baldy**	**5.26**	**74**	P		**Pn**	**09 24 33.1**	**-0.3**
PS08	**TAPS Pump Stn8**	**5.35**	**29**	P		**Pn**	**09 24 34.5**	**0.0**
BAGL	**Bagley Icefiel**	**5.35**	**80**	P		**Pn**	**09 24 34.9**	**+0.5**
COLA	**College**	**5.41**	**23**	P		**Pn**	**09 24 35.5**	**+0.2**
MDM	**Murphy Dome**	**5.42**	**21**	P		**Pn**	**09 24 35.5**	**+0.1**
MESA	**MESA**	**5.43**	**83**	P		**Pn**	**09 24 35.2**	**-0.5**
GRNC	**Granite Creek**	**5.53**	**77**	P		**Pn**	**09 24 37.9**	**+0.

WRA	**Warramunga Arr**	**27.03**	**242**	P	**P**	**10 04 34.0**	**0.0**
	6.4nm,0.5s,baz=67,slow=9.4,SNR=88							
H11S3	**WAKE ISLAND Hy**	**27.72**	**14**	T	T	10 33 19.4		
	baz=194,slow=76,SNR=763							
H11S2	**WAKE ISLAND Hy**	**27.72**	**14**	T	T	10 33 18.7		
	baz=194,slow=76,SNR=912							
H11S1	**WAKE ISLAND Hy**	**27.74**	**14**	T	T	10 33 20.7		
	baz=194,slow=76,SNR=582							
STKA	**Stephens Creek**	**28.69**	**213**	P	**P**	**10 04 49.0**	**+0.3**
	2.3nm,0.3s,baz=48,slow=13,SNR=15							
STKA				LR	LR	10 15 17.8		
	comp=Z,148nm,18.1s,baz=233,slow=34							
ASAR	**Alice Springs**	**28.92**	**236**	P	**P**	**10 04 50.0**	**-0.8**
	1.6nm,0.4s,baz=63,slow=9.6,SNR=33							
H11N1	**WAKE ISLAND Hy**	**28.94**	**14**	T	T	10 34 49.7		
	baz=194,slow=76,SNR=923							
H11N3	**WAKE ISLAND Hy**	**28.95**	**14**	T	T	10 34 51.2		
	baz=194,slow=76,SNR=974							
H11N2	**WAKE ISLAND Hy**	**28.96**	**14**	T	T	10 34 52.6		
	baz=194,slow=76,SNR=1324							
BBOO	**Buckleboo**	**32.60**	**219**	*e*P	**P**	**10 05 23.2**	**0.0**
	8.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**34.43**	**250**	*e*P	**P**	**10 05 38.7**	**-0.5**
	1.4nm,0.4s							
RPZ	**Rata Peaks**	**36.43**	**166**	*e*P	**P**	**10 05 56.6**	**+0.5**
	28nm,1.0s							
MBWA	**Marble Bar**	**40.50**	**247**	*e*P	**P**	**10 06 29.7**	**-1.0**
	15nm,0.6s							
MJAR	**Matsushiro Arr**	**49.17**	**337**	P	**P**	**10 07 39.1**	**-0.4**
	2.7nm,0.7s,baz=169,slow=8.9,SNR=11							
KSRS	**Korea Array**	**54.55**	**329**	P	**P**	**10 08 20.1**	**+0.6**
	3.5nm,1.0s,baz=148,slow=7.7,SNR=9.5							
KSAR	**Wonju Array Be**	**54.56**	**329**	P	**P**	**10 08 20.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**58.17**	**337**	P	**P**	**10 08 46.2**	**+1.0**
	12nm,0.9s,baz=134,slow=6.7,SNR=17							
PETK	**Petropavlovsk-**	**61.42**	**359**	P	**P**	**10 09 07.5**	**+0.1**
	3.0nm,0.6s,baz=98,slow=4.4,SNR=3.1							
CMAR	**Chiang Mai Arr**	**65.65**	**295**	P	**P**	**10 09 36.5**	**+0.4**
	3.0nm,0.6s,baz=121,slow=5.3,SNR=14							
CHTO	**Chiang Mai**	**65.77**	**295**	*e*P	**P**	**10 09 37.7**	**+0.9**
	1.5nm,0.4s							
CASY	**Casey**	**66.65**	**199**	*e*P	**P**	**10 09 41.3**	**-0.3**
	0.4nm,0.5s							
VNDA	**Vanda**	**68.97**	**179**	P	**P**	**10 09 54.7**	**-1.4**
	1.9nm,0.8s,baz=338,slow=6.4,SNR=10							
VNDA				pP	**sP**	**10 10 11.3**	**+0.3**
	1.6nm,0.7s,baz=327,slow=4.5,SNR=3.7							
SBA	**Scott Base**	**69.40**	**178**	*e*P	**P**	**10 09 57.4**	**-1.2**
	0.4nm,0.1s							
ULN	**Ulaanbaatar**	**72.83**	**326**	*e*P	**P**	**10 10 20.5**	**+0.3**
	2.7nm,0.8s							
SONM	**Songino Array**	**73.18**	**326**	P	**P**	**10 10 23.0**	**+0.8**
	3.8nm,0.7s,baz=133,slow=5.7,SNR=21							
SONM				pP	**pP**	**10 10 37.2**	**+4.1**
	4.1nm,0.7s,baz=138,slow=5.7,SNR=13							
BILL	**Bilibino**	**76.52**	**3**	*e*P	**P**	**10 10 41.0**	**+0.1**
	14nm,1.1s							
PMR	**Palmer**	**80.38**	**22**	*e*P	**P**	**10 11 01.6**	**-0.7**
	3.1nm,0.8s							
TRF	**Thorofare Moun**	**81.14**	**20**	*e*P	**P**	**10 11 05.3**	**-1.3**
	4.4nm,0.6s							
QSPA	**South Pole Qui**	**81.46**	**180**	*e*P	**P**	**10 11 06.2**	**-2.0**
	7.6nm,0.9s							
MCK	**McKinley**	**81.79**	**21**	*e*P	**P**	**10 11 08.7**	**-1.1**
	14nm,1.1s							
TIXI	**Tiksi**	**82.57**	**351**	P	**P**	**10 11 13.0**	**-0.7**
	0.8nm,0.4s,baz=334,slow=3.1,SNR=3.4							
ILAR	**Eielson Array**	**83.13**	**20**	P	**P**	**10 11 15.2**	**-1.5**
	2.8nm,0.5s,baz=244,slow=5.1,SNR=83							
ILAR				pP	**sP**	**10 11 32.0**	**+0.2**
	1.1nm,0.5s,baz=246,slow=5.3,SNR=4.7							
DOT	**Dot Lake**	**83.48**	**22**	*e*P	**P**	**10 11 18.2**	**-0.5**
	16nm,1.0s							
MAW	**Mawson**	**84.78**	**202**	P	**P**	**10 11 23.7**	**-1.5**
	1.2nm,0.7s,baz=110,slow=10,SNR=6.3							
EGAK	**Eagle**	**85.17**	**22**	*e*P	**P**	**10 11 27.2**	**+0.1**
	9.1nm,1.3s							
HUMO	**Hull Mountain**	**86.52**	**46**	*e*P	**P**	**10 11 33.8**	**-0.6**
	11nm,0.8s							
MKAR	**Makanchi Array**	**87.64**	**318**	P	**P**	**10 11 39.1**	**-0.6**
	4.4nm,0.6s,baz=97,slow=6.1,SNR=37							
MKAR				pP	**sP**	**10 11 55.4**	**+0.5**
	1.4nm,0.6s,baz=91,slow=5.9,SNR=4.2							
ZALV	**Zalesovo Beam**	**88.07**	**325**	P	**P**	**10 11 42.6**	**+1.0**
	0.6nm,0.4s,baz=126,slow=4.9,SNR=2.8							
YKA	**Yellowknife Ar**	**95.51**	**28**	P	**P**	**10 12 14.7**	**-1.1**
	1.2nm,0.7s,baz=262,slow=4.8,SNR=21							
YKA				pP	**pP**	**10 12 30.4**	**+3.4**
	0.9nm,0.6s,baz=261,slow=4.8,SNR=8.4							
PDAR	**Pinedale Array**	**96.26**	**48**	P	**P**	**10 12 19.4**	**-0.7**
	0.8nm,0.7s,baz=225,slow=1.5,SNR=6.4							
PDAR				pP	**sP**	**10 12 35.5**	**+0.2**
	0.6nm,0.6s,baz=249,slow=4.1,SNR=4.0							
ESDC	**Sonseca Array**	**145.71**	**337**	PKPbc	**PKPdf**	**10 18 29.9**	**-0.2**
	0.4nm,0.3s,baz=1.8,slow=3.8,SNR=4.4							
MDT	**Midelt**	**151.80**	**331**	PKPbc	**PKPbc**	**10 18 46.4**	**-0.3**
	3.1nm,0.8s,baz=182,slow=19,SNR=7.3							
MDT				PKPab	**PKPab**	**10 18 55.9**	**+0.3**
	2.9nm,0.9s,baz=345,slow=5.6,SNR=4.7							
TORD	**Torodi Ar. Bea**	**157.92**	**284**	PKP	**PKPdf**	**10 18 48.0**	**-0.9**
	0.4nm,0.8s,baz=36,slow=2.7,SNR=2.8							
TORD				PKPab	**PKPab**	**10 19 20.8**	**-1.2**
	0.6nm,0.6s,baz=88,slow=4.6,SNR=6.5							

*CSEM **21** 10:02:10.2, 38°.43N×13°.66E, h5km, ML3.6/25*
ROM 21 10:02:10.2±0.2, 38°.43N×13°.66E, h5km, Ml3.6/25, 6D, Error ellipse: s-maj=2.9km s-min=2.4km az=160.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOLUN	**Solunto**	**0.35**	**196**	Pg	Pg	10 02 17.2	+0.3
SOLUN				Sg	Sb	10 02 23.1	-1.5
SOLUN	**Solunto**	**0.35**	**196**	Pg	Pg	10 02 17.2	+0.3
SOLUN				Sg	Sb	10 02 23.1	-1.5
MPG	**Monte Pellegri**	**0.35**	**222**	Pg	Pg	10 02 17.2	+0.2
MPG				Sg	Sb	10 02 23.3	-1.5
	523nm,1.8s						
MPG	**Monte Pellegri**	**0.35**	**222**	Pg	Pg	10 02 17.2	+0.2
MPG				Sg	Sb	10 02 23.3	-1.5
	523nm,1.8s						
USI	**Ustica**	**0.47**	**307**	Pg	Pb	10 02 20.7	-0.2
USI				Sg	Sb	10 02 29.1	+0.9
	19µm,0.5s						
USI	**Ustica**	**0.47**	**307**	Pg	Pb	10 02 20.7	-0.2
USI				Sg	Sb	10 02 29.1	+0.9
	19µm,0.5s						
GIB	**Gibilmanna**	**0.53**	**146**	Pg	Pg	10 02 21.1	+0.8
GIB				Sg	Sb	10 02 30.6	+0.8
GIB	**Gibilmanna**	**0.53**	**146**	Pg	Pg	10 02 21.1	+0.8
GIB				Sg	Sb	10 02 30.6	+0.8
IACL	**Alicudi**	**0.56**	**79**	Pg	Pb	10 02 22.7	+0.2
IACL				Sg	Sb	10 02 31.6	+0.8
	3µm,0.5s						
IACL	**Alicudi**	**0.56**	**79**	Pg	Pb	10 02 22.7	+0.2
IACL				Sg	Sb	10 02 31.6	+0.8
	3µm,0.5s						
PLLN	**Pollina**	**0.58**	**138**	Pg	Pb	10 02 22.1	-0.7
PLLN				Sg	Sb	10 02 32.7	+1.3
PLLN	**Pollina**	**0.58**	**138**	Pg	Pb	10 02 22.1	-0.7
PLLN				Sg	Sb	10 02 32.7	+1.3
ALJA	**Alia**	**0.68**	**173**	↓*i*Pg	Pb	10 02 24.9	+0.3
ALJA				Sg	Sb	10 02 35.6	+1.3
	6µm,0.8s						
ALJA	**Alia**	**0.68**	**173**	↓*i*Pg	Pb	10 02 24.9	+0.3
ALJA				Sg	Sb	10 02 35.6	+1.3
	6µm,0.8s						
IFIL	**Filicudi I Eol**	**0.73**	**79**	Pg	Pb	10 02 25.2	-0.1
	1457µm,59.0s						
IFIL	**Filicudi I Eol**	**0.73**	**79**	Pg	Pb	10 02 25.2	-0.1
	1457µm,59.0s						
MCT	**Mte Cammarata**	**0.79**	**181**	Pg	Pn	10 02 28.2	0.0
MCT	**Mte Cammarata**	**0.79**	**181**	Pg	Pn	10 02 28.2	0.0
CRJA	**Costa Raja**	**0.81**	**220**	Pg	Pb	10 02 26.4	-0.3
CRJA	**Costa Raja**	**0.81**	**220**	Pg	Pb	10 02 26.4	-0.3
RESU	**Resuttano**	**0.84**	**158**	↓*i*Pg	Pn	10 02 28.3	-0.4
	2µm,0.5s						
RESU	**Resuttano**	**0.84**	**158**	↓*i*Pg	Pn	10 02 28.3	-0.4
	2µm,0.5s						
MTGR	**Montagna Grand**	**0.89**	**233**	Pg	Pg	10 02 27.5	+0.3
MTGR	**Montagna Grand**	**0.89**	**233**	Pg	Pg	10 02 27.5	+0.3
CLTB	**Caltabellotta**	**0.92**	**202**	Pg	Pn	10 02 29.9	+0.1
CLTB	**Caltabellotta**	**0.92**	**202**	Pg	Pn	10 02 29.9	+0.1
GALF	**Gagliano Caste**	**1.01**	**135**	Pg	Pb	10 02 30.6	+0.4
	1µm,0.7s						
GALF	**Gagliano Caste**	**1.01**	**135**	Pg	Pb	10 02 30.6	+0.4
	1µm,0.7s						
LLI	**Lipari**	**1.01**	**89**	Pg	Pg	10 02 29.9	+0.2
	4µm,0.5s						
LLI	**Lipari**	**1.01**	**89**	Pg	Pg	10 02 29.9	+0.2
	4µm,0.5s						
CAGR	**Agira**	**1.04**	**140**	Pg	Pn	10 02 31.9	+0.4
	1µm,0.5s						
CAGR	**Agira**	**1.04**	**140**	Pg	Pn	10 02 31.9	+0.4
	1µm,0.5s						
VPL	**Vulcano Piano**	**1.04**	**92**	Pg	Pg	10 02 29.7	-0.5
	2µm,0.5s						
VPL	**Vulcano Piano**	**1.04**	**92**	Pg	Pg	10 02 29.7	-0.5
	2µm,0.5s						
ECNV	**Catenanuova**	**1.18**	**134**	Pg	Pn	10 02 34.3	+1.0
	1µm,0.8s						
ECNV	**Catenanuova**	**1.18**	**134**	Pg	Pn	10 02 34.3	+1.0
	1µm,0.8s						
NOV	**Novara**	**1.23**	**108**	Pg	Pg	10 02 33.1	-0.7
	2µm,0.8s						
NOV	**Novara**	**1.23**	**108**	Pg	Pg	10 02 33.1	-0.7
	2µm,0.8s						
ESLN	**Serra La Nave**	**1.27**	**125**	Pg	Pn	10 02 35.6	+0.8
ESLN	**Serra La Nave**	**1.27**	**125**	Pg	Pn	10 02 35.6	+0.8
MCSR	**Castroreale**	**1.31**	**106**	Pg	Pn	10 02 33.8	-1.4
	992nm,0.3s						
MCSR	**Castroreale**	**1.31**	**106**	Pg	Pn	10 02 33.8	-1.4
	992nm,0.3s						
RAFF	**Raffo Rosso**	**1.32**	**155**	↓*i*Pg	Pg	10 02 36.3	+0.7
	695nm,0.5s						
RAFF	**Raffo Rosso**	**1.32**	**155**	↓*i*Pg	Pg	10 02 36.3	+0.7
	695nm,0.5s						
MPNC	**Port Mandanici**	**1.36**	**101**	Pg	Pn	10 02 34.5	-1.4
	1µm,0.7s						
MPNC	**Port Mandanici**	**1.36**	**101**	Pg	Pn	10 02 34.5	-1.4
	1µm,0.7s						
HLNI	**Lentini**	**1.44**	**138**	Pg	Pn	10 02 36.6	-0.3
	318nm,0.4s						
HLNI	**Lentini**	**1.44**	**138**	Pg	Pn	10 02 36.6	-0.3
	318nm,0.4s						
ATN	**Antennamare**	**1.45**	**100**	Pg	Pn	10 02 36.0	-1.1
	509nm,0.5s						
ATN	**Antennamare**	**1.45**	**100**	Pg	Pn	10 02 36.0	-1.1
	509nm,0.5s						
MSRU	**Castanea**	**1.47**	**96**	Pg	Pn	10 02 35.4	-1.9
	351nm,0.6s						
MSRU	**Castanea**	**1.47**	**96**	Pg	Pn	10 02 35.4	-1.9
	351nm,0.6s						
HCRL	**Carlentini**	**1.58**	**136**	Pg	Pn	10 02 38.4	-0.4
	755nm,0.4s						
HCRL	**Carlentini**	**1.58**	**136**	Pg	Pn	10 02 38.4	-0.4
	755nm,0.4s						
HAGA	**Augusta**	**1.65**	**133**	Pg	Pn	10 02 39.7	0.0
	351nm,0.6s						
HAGA	**Augusta**	**1.65**	**133**	Pg	Pn	10 02 39.7	0.0
	351nm,0.6s						
MSCL	**Scilla**	**1.69**	**96**	Pg	Pn	10 02 39.0	-1.4
	339nm,0.5s						
MSCL	**Scilla**	**1.69**	**96**	Pg	Pn	10 02 39.0	-1.4
	339nm,0.5s						
SSY	**Sortino**	**1.69**	**138**	Pg	Pn	10 02 40.3	-0.2
	711nm,0.3s						
SSY	**Sortino**	**1.69**	**138**	Pg	Pn	10 02 40.3	-0.2
	711nm,0.3s						
AGST	**Augusta-Monte**	**1.71**	**133**	Pg	Pn	10 02 40.7	+0.1
AGST	**Augusta-Monte**	**1.71**	**133**	Pg	Pn	10 02 40.7	+0.1
HMDC	**Modica**	**1.72**	**148**	Pg	Pn	10 02 40.8	0.0
	574nm,0.4s						
HMDC	**Modica**	**1.72**	**148**	Pg	Pn	10 02 40.8	0.0
	574nm,0.4s						
JOPP	**Joppolo**	**1.76**	**83**	Pg	Pn	10 02 40.1	-1.2
JOPP	**Joppolo**	**1.76**	**83**	Pg	Pn	10 02 40.1	-1.2
HAVL	**Avola**	**1.87**	**141**	Pg	Pn	10 02 43.4	+0.5
	422nm,0.4s						
HAVL	**Avola**	**1.87**	**141**	Pg	Pn	10 02 43.4	+0.5
	422nm,0.4s						
MPAZ	**Palizzi**	**1.91**	**104**	Pg	Pn	10 02 43.2	-0.2
	380nm,0.7s						
MPAZ	**Palizzi**	**1.91**	**104**	Pg	Pn	10 02 43.2	-0.2
	380nm,0.7s						
SOI	**Samo**	**1.92**	**100**	Pg	Pn	10 02 43.2	-0.3
	512nm,0.7s						
SOI	**Samo**	**1.92**	**100**	Pg	Pn	10 02 43.2	-0.3
	512nm,0.7s						

*ISK **21** 10:12:03.7, 37°.40N×35°.78E, h12km, ML2.2*
*DDA **21** 10:12:03.8, 37°.53N×35°.69E, h7km, Md2.6*
*ISCJB **21** 10:12:04.2±0.6, 37°.50N±0°.04×35°.69E±0°.04, h3km±6km, Error ellipse: s-maj=7.6km s-min=5.2km az=2.0*
*CSEM **21** 10:12:04.2±0.4, 37°.49N×35°.67E, h2km, ML2.2, Error ellipse: s-maj=8.3km s-min=6.8km az=8.0*
ISC 21 10:12:04.3±0.9, 37°.48N±0°.03×35°.68E±0°.03, h8km±9km, n18, σ1§00/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.12**	**89**	PG	**Pg**	**10 12 06.6**	**-0.3**
KOZT				*e*SG	**Sg**	**10 12 08.7**	**0.0**
KOZT	**Kozan**	**0.12**	**89**	*i* Pg	**Pg**	**10 12 06.6**	**-0.3**
KOZT				*e*Sg	**Sg**	**10 12 08.7**	**0.0**
AKO	**Adana**	**0.19**	**265**	*i* P	**Pg**	**10 12 08.6**	**+0.5**
AKO				*i* S	**Sg**	**10 12 11.9**	**+1.1**
KARA	**Karaisali**	**0.55**	**247**	*e*PG	**Pb**	**10 12 15.8**	**-0.3**
KARA	**Karaisali**	**0.55**	**247**	*e*Pg	**Pb**	**10 12 15.8**	**-0.3**
YURE	**YUREGIR**	**0.65**	**183**	P	**Pg**	**10 12 17.0**	**+0.1**
YURE	**YUREGIR**	**0.65**	**183**	*i* P	**Pg**	**10 12 16.9**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**0.67**	**338**	P	**Pg**	**10 12 16.5**	**-0.6**
YAHY				S	**Sg**	**10 12 24.7**	**-1.1**
YAHY	**KAYSERI_Yahyal**	**0.67**	**338**	*i* P	**Pg**	**10 12 16.5**	**-0.6**
YAHY				*i* S	**Sg**	**10 12 24.7**	**-1.1**
GULE	**Gulek**	**0.75**	**255**	P	**Pg**	**10 12 16.8**	**-1.9**
GULE				S	**Sb**	**10 12 30.3**	**+0.3**
GULE	**Gulek**	**0.75**	**255**	*i* P	**Pg**	**10 12 16.8**	**-1.9**
GULE				*i* S	**Sb**	**10 12 30.3**	**+0.3**
KAMA	**Osmaniye**	**0.84**	**110**	*i* P	**Pb**	**10 12 20.5**	**-0.6**
NIG	**Nigde**	**1.06**	**307**	*e*PN	**Pn**	**10 12 26.4**	**+0.8**
NIG	**Nigde**	**1.06**	**307**	*e*Pn	**Pn**	**10 12 26.5**	**+0.8**
KERG	**Konya-Eregli**	**1.24**	**268**	P	**Pg**	**10 12 26.8**	**-1.3**
KERG				S	**Sg**	**10 12 43.7**	**-0.5**
KERG	**Konya-Eregli**	**1.24**	**268**	*i* P	**Pg**	**10 12 26.8**	**-1.3**
KERG				*i* S	**Sg**	**10 12 43.7**	**-0.5**
GULA	**Gulagac**	**1.43**	**308**	*e*PN	**Pg**	**10 12 31.8**	**0.0**
GULA				*e*SN	**Sg**	**10 12 52.3**	**+1.9**
GULA	**Gulagac**	**1.43**	**308**	*e*Pn	**Pg**	**10 12 31.8**	**0.0**
GULA				*e*Sn	**Sg**	**10 12 52.3**	**+1.9**

*ISCJB **21** 10:16:27.9±1.3, 53°.94N±0°.09×90°.5E±0°.2, h10km, mb3.2/1, Error ellipse: s-maj=16.4km s-min=10.0km az=44.4*
*IDC **21** 10:16:28.9±1.6, 53°.94N×90°.85E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.2/62, mbtmpb3.3/4, ML2.8/3, Error ellipse: s-maj=22.9km s-min=14.7km az=142.0*
*NNC **21** 10:16:34.1±10.0, 53°.88N×90°.12E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=87.1km s-min=66.2km az=20.0*
ISC 21 10:16:30.5±1.7, 54°.0N±0°.1×90°.7E±0°.1, h10km, n8, σ1§40/12, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.48**	**272**	*i*		10 38 14.8	
	baz=91,slow=319,SNR=7.4						
ZALV	**Zalesovo Beam**	**3.48**	**272**	Pn	**Pn**	**10 17 24.8**	**+0.2**
	0.5nm,0.3s,baz=94,slow=14,SNR=3.4						
ZALV				Pg	**Pb**	**10 17 32.6**	**+0.5**
	2.1nm,0.3s,baz=91,slow=16,SNR=19						
ZALV				Lg	Lg	10 18 22.2	
	3.3nm,0.3s,baz=86,slow=22,SNR=5.4						
KURK	**Kurchatov**	**8.09**	**251**	⇑Pn	**Pn**	**10 18 30.3**	**+2.4**
KURK				⇑Sn	**Sn**	**10 19 57.0**	**-2.3**
KURK				⇓Lg	Lg	10 20 45.1	
KURBB	**Kurchatov Arra**	**8.18**	**251**	Pn	**Pn**	**10 18 30.4**	**+1.3**
	0.2nm,0.3s,baz=63,slow=14,SNR=10						
KURBB				Sn	**Sn**	**10 20 01.1**	**-0.5**
	0.1nm,0.3s,baz=66,slow=25,SNR=5.4						
KURBB				Lg	Lg	10 20 48.0	
	0.1nm,0.3s,baz=69,slow=30,SNR=5.4						
KURBB	**Kurchatov Arra**	**8.18**	**251**	⇑Pn	**Pn**	**10 18 29.0**	**-0.1**
	1.0nm,1.0s						
KURBB				⇑Sn	**Sn**	**10 20 00.8**	**-0.8**
	57nm,0.9s						
KURBB				⇑Lg	Lg	10 20 45.7	
	121nm,1.2s						
MK31	**Makanchi Array**	**8.97**	**220**	⇑Pn	Pn	10 18 37.4	-2.6
	0.8nm,0.6s,baz=30,slow=12,SNR=14						
MK31				⇑Sn	**Sn**	**10 20 19.4**	**-1.6**
	7.2nm,1.1s,baz=35,slow=25,SNR=5.0						
MK31				⇓Lg	Lg	10 21 06.9	
	24nm,1.1s,baz=25,slow=30,SNR=3.8						
MKAR	**Makanchi Array**	**8.97**	**220**	Pn	**Pn**	**10 18 40.4**	**+0.3**
	0.5nm,0.3s,baz=40,slow=13,SNR=11						
MKAR				Sn	**Sn**	**10 20 21.5**	**+0.5**
	0.2nm,0.3s,baz=35,slow=25,SNR=6.7						
MKAR				Lg	Lg	10 21 05.3	
	0.1nm,0.3s,baz=51,slow=32,SNR=2.9						
ILAR	**Eielson Array**	**53.61**	**27**	P	**P**	**10 25 50.7**	**-0.5**
	0.3nm,0.8s,baz=321,slow=6.9,SNR=4.6						

*ISCJB **21** 10:34:19.5±0.2, 43°.69S±0°.02×172°.78E±0°.02, h10km, mb5.0/23, MS4.5/16, Error ellipse: s-maj=3.6km s-min=1.8km az=145.8*
*BJI **21** 10:34:20.7, 43°.56S×172°.88E, h10km, mb5.4/10, mB5.4/5, Ms5.1/7, Ms7 4.7/8*
*IDC **21** 10:34:20.8±0.6, 43°.68S×172°.63E, h0km, mb5.0/8, mb1 5.1/8, mb1mx4.6/23, mbtmpb5.0/8, MS4.5/17, Ms1 4.5/17, ms1mx4.4/20, Error ellipse: s-maj=20.8km s-min=11.8km az=178.0*
*GCMT **21** 10:34:23.0±0.2, 43°.61S×172°.44E, h12km, MW5.2/103, Moment Tensor Solution. s56,c75; s103,c170; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.15±.15; Mθθ -0.23±.15; Mφφ -0.92±.15; Mrθ 0.15±.38; Mθφ -6.81±.11; Mφr 1.54±.40; Best double couple: Mo 6.99300×10¹⁶ NP1: ϕs 359.00000°, δ88.00000°, λ13.00000°. NP2: ϕs 269.00000°, δ77.00000°, λ178.00000°. Principal axes: T 6.4180, Plg10.0000°, Azm224.0000°; N 1.1480, Plg77.0000°, Azm6.0000°; P -7.5670, Plg8.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*WEL **21** 10:34:23.0±0.1, 43°.60S×172°.52E, h9km, ML5.4/67 Error ellipse: s-maj=0.6km s-min=0.5km az=90.0*
WEL Felt from Manawatu to Southland, maximum reported intensity MM 8.
*NEIC **21** 10:34:23.0, 43°.60S×172°.53E, h8km, mb5.2/12, MW5.2, ML5.4(WEL), Moment Tensor Solution. s15 Moment tensor: Scale 10¹⁶Nm; Mrr 0.60; Mθθ 0.00; Mφφ -0.60; Mrθ 1.76; Mφφ -6.58; Mφr -1.04; Best double couple: Mo 6.90000×10¹⁶ NP1: ϕs 180.00000°, δ75.00000°, λ10.00000°. NP2: ϕs 87.00000°, δ80.00000°, λ165.00000°. Principal axes: T 6.9200, Plg18.0000°, Azm43.0000°; N 0.0000, Plg72.0000°, Azm236.0000°; P -6.9200, Plg4.0000°, Azm134.0000°; After WEL.*
NEIC Felt [VII] at Hornby and [VI] at Christchurch. Felt throughout Canterbury, in much of West Coast and as far as Palmerston North and the Invercargill area.
*MOS **21** 10:34:27.2±2.1, 43°.48S×172°.15E, h33km, mb5.0/9, MS4.4/5 Error ellipse: s-maj=22.2km s-min=15.4km az=44.7*
ISC 21 10:34:23.0±0.7, 43°.63S±0°.02×172°.61E±0°.02, h10km±4km, n343, σ2§10/355, mb5.2/23, MS4.5/16, 16C-8D, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.05**	**11**	*e*Pg	**Pg**	**10 34 25.1**	**+0.1**
CRLZ				*e*Sg	**Sg**	**10 34 26.6**	**+0.1**
MQZ	**McQueen's Vall**	**0.09**	**158**	↓*e*PG	**Pg**	**10 34 26.2**	**+0.8**
MQZ				SG	**Sg**	**10 34 28.8**	**+1.6**
MQZ	**McQueen's Vall**	**0.09**	**158**	*e*Pg	**Pg**	**10 34 26.3**	**+0.8**
MQZ				*e*Sg	**Sg**	**10 34 28.9**	**+1.6**
OXZ	**Oxford**	**0.51**	**306**	↓*e*P*	**Pg**	**10 34 31.4**	**-1.6**
OXZ	**Oxford**	**0.51**	**306**	*e*Pg	**Pg**	**10 34 31.6**	**-1.4**
OXZ				*e*Sg	**Sb**	**10 34 40.0**	**-2.5**
LTZ	**Lake Taylor**	**0.88**	**344**	⇑P*	**Pg**	**10 34 38.8**	**-1.0**
LTZ				S*	**Sg**	**10 34 50.4**	**-0.9**
LTZ				AML	AML	10 34 52.2	
LTZ				AML	AML	10 34 52.3	
LTZ				AML	AML	10 34 57.4	
LTZ	**Lake Taylor**	**0.88**	**344**	*e*Pg	**Pg**	**10 34 38.9**	**-1.0**
LTZ				*e*Sg	**Sg**	**10 34 50.1**	**-1.3**
RPZ	**Rata Peaks**	**1.13**	**265**	Pg	**Pg**	**10 34 42.9**	**-1.9**
	3µm,0.3s,baz=135,slow=1.1,SNR=4030						
RPZ				Lg	Lg	10 34 58.1	
	6µm,0.3s,baz=318,slow=15,SNR=40						
RPZ	**Rata Peaks**	**1.13**	**265**	P*	**Pg**	**10 34 42.6**	**-2.1**
RPZ				S*	**Sg**	**10 34 57.6**	**-1.8**
RPZ				AML	AML	10 35 06.7	
RPZ	**Rata Peaks**	**1.13**	**265**	*e*Pg	**Pg**	**10 34 42.9**	**-1.9**
RPZ				*e*Sg	**Sn**	**10 34 58.8**	**-1.7**
INZ	**Inchbonnie**	**1.24**	**316**	P*	**Pb**	**10 34 43.7**	**-2.7**
**KHZ

JCZ	**Jackson Bay**	**2.80**	**259**	PN	**Pn**	**10 35 06.0**	**-1.9**
JCZ				AML	AML	10 35 59.0	
JCZ				AML	AML	10 35 59.2	
JCZ	**Jackson Bay**	**2.80**	**259**	*e*Pn	**Pn**	**10 35 06.0**	**-1.9**
WEL	**Wellington**	**2.83**	**35**	⇓PN	**Pn**	**10 35 06.0**	**-2.2**
WEL				AML	AML	10 35 41.5	
WEL				AML	AML	10 36 20.5	
PLWZ	**Palliser**	**2.83**	**44**	PN	**Pn**	**10 35 05.9**	**-2.4**
WKZ	**Wanaka**	**2.85**	**244**	⇑PN	**Pn**	**10 35 06.5**	**-2.0**
WKZ				AML	AML	10 36 01.0	
WKZ				AML	AML	10 36 01.0	
WKZ				AML	AML	10 36 04.4	
WKZ				AML	AML	10 36 04.4	
WKZ	**Wanaka**	**2.85**	**244**	*e*Pn	**Pn**	**10 35 07.1**	**-1.3**
WKZ				*e*Sn	**Sg**	**10 35 59.0**	**+4.5**
EAZ	**Earnscleugh**	**2.86**	**235**	⇑PN	**Pn**	**10 35 06.8**	**-1.8**
EAZ				AML	AML	10 36 07.0	
EAZ				AML	AML	10 36 07.0	
EAZ				AML	AML	10 36 07.6	
EAZ				AML	AML	10 36 07.6	
EAZ	**Earnscleugh**	**2.86**	**235**	*e*Pn	**Pn**	**10 35 06.8**	**-1.8**
EAZ				*e*Lg	Lg	10 36 07.6	
MSWZ	**Moikau Station**	**2.95**	**42**	PN	**Pn**	**10 35 07.4**	**-2.4**
MSWZ				SN	**Sn**	**10 35 41.7**	**-3.5**
MSWZ				AML	AML	10 35 43.0	
DUWZ	**D'Urville Isla**	**2.98**	**20**	PN	**Pn**	**10 35 09.0**	**-1.4**
DUWZ	**D'Urville Isla**	**2.98**	**20**	*e*Pn	**Pn**	**10 35 09.0**	**-1.4**
PAWZ	**Paruwai Farm**	**3.06**	**44**	PN	**Pn**	**10 35 08.8**	**-2.6**
PAWZ				AML	AML	10 36 30.3	
PAWZ				AML	AML	10 36 37.4	
PAWZ	**Paruwai Farm**	**3.06**	**44**	*e*Pn	**Pn**	**10 35 08.8**	**-2.6**
PAWZ				*e*Sn	**Sb**	**10 35 54.7**	**-0.2**
PAWZ				*e*Lg	Lg	10 35 58.3	
CAW	**Cannon Point**	**3.10**	**37**	PN	**Pn**	**10 35 09.4**	**-2.5**
CAW				AML	AML	10 35 52.7	
CAW				AML	AML	10 36 34.2	
CAW	**Cannon Point**	**3.10**	**37**	*e*Pn	**Pn**	**10 35 09.4**	**-2.5**
CAW				*e*Sn	**Sn**	**10 35 52.7**	**+3.6**
TUZ	**Tuapeka**	**3.15**	**221**	⇓PN	**Pn**	**10 35 10.8**	**-1.8**
TUZ				AML	AML	10 36 06.7	
TUZ				AML	AML	10 36 06.8	
TUZ				AML	AML	10 36 11.2	
TUZ				AML	AML	10 36 11.2	
TRWZ	**Traveller**	**3.18**	**47**	PN	**Pn**	**10 35 10.6**	**-2.4**
TRWZ				AML	AML	10 36 50.0	
TRWZ				AML	AML	10 37 01.2	
TRWZ	**Traveller**	**3.18**	**47**	*e*Pn	**Pn**	**10 35 10.6**	**-2.4**
TRWZ				*e*Sn	**Sn**	**10 35 50.8**	**-0.3**
TRWZ				*e*Lg	Lg	10 36 11.7	
KIW	**Kapiti Island**	**3.25**	**33**	PN	**Pn**	**10 35 11.7**	**-2.2**
KIW				AML	AML	10 36 23.2	
KIW				AML	AML	10 36 42.0	
KIW	**Kapiti Island**	**3.25**	**33**	*e*Pn	**Pn**	**10 35 11.7**	**-2.2**
MTW	**Mount Morrison**	**3.27**	**42**	PN	**Pn**	**10 35 11.6**	**-2.6**
MTW				AML	AML	10 35 55.1	
MTW				AML	AML	10 36 37.1	
MTW	**Mount Morrison**	**3.27**	**42**	*e*Pn	**Pn**	**10 35 11.6**	**-2.6**
MTW				*e*Sn	**Sn**	**10 35 55.1**	**+2.0**
OGWZ	**Otaki Gorge**	**3.39**	**35**	PN	**Pn**	**10 35 13.3**	**-2.5**
HOWZ	**Holdsworth Sta**	**3.48**	**39**	PN	**Pn**	**10 35 14.4**	**-2.7**
TMWZ	**Te Maipa**	**3.50**	**45**	PN	**Pn**	**10 35 14.9**	**-2.5**
MSZ	**Milford Sound**	**3.53**	**251**	PN	**Pn**	**10 35 15.6**	**-2.2**
MSZ				AML	AML	10 36 18.9	
MSZ				AML	AML	10 36 18.9	
MSZ				AML	AML	10 36 21.8	
MSZ				AML	AML	10 36 21.8	
MSZ	**Milford Sound**	**3.53**	**251**	*e*P	**Pn**	**10 35 15.6**	**-2.2**
MSZ	**Milford Sound**	**3.53**	**251**	*e*Pn	**Pn**	**10 35 15.6**	**-2.2**
MSZ				*e*Sg	**Sg**	**10 36 18.9**	**+2.6**
MSZ				*e*Lg	Lg	10 36 21.8	
MLZ	**Mavora Lakes**	**3.66**	**240**	⇑PN	**Pn**	**10 35 17.2**	**-2.3**
MLZ				AML	AML	10 36 26.4	
MLZ				AML	AML	10 36 30.1	
MLZ	**Mavora Lakes**	**3.66**	**240**	*e*Pn	**Pn**	**10 35 17.6**	**-2.0**
MLZ				*e*Sg	**Sg**	**10 36 19.6**	**-0.7**
MLZ				*e*Lg	Lg	10 36 30.1	
MRZ	**Mangatainoka R**	**3.69**	**38**	PN	**Pn**	**10 35 17.1**	**-3.0**
MRZ	**Mangatainoka R**	**3.69**	**38**	*e*Pn	**Pn**	**10 35 17.1**	**-3.0**
TIWZ	**Tintock**	**3.75**	**42**	PN	**Pn**	**10 35 18.2**	**-2.6**
TIWZ				AML	AML	10 36 05.0	
TIWZ				AML	AML	10 37 09.3	
CPWZ	**Castlepoint**	**3.80**	**46**	PN	**Pn**	**10 35 20.0**	**-1.6**
SYZ	**Scrubby Hill**	**3.81**	**219**	⇑PN	**Pn**	**10 35 20.2**	**-1.5**
SYZ				AML	AML	10 36 34.3	
SYZ				AML	AML	10 36 34.3	
SYZ				AML	AML	10 36 39.0	
SYZ				AML	AML	10 36 39.0	
PRWZ	**Pori Road**	**3.96**	**40**	PN	**Pn**	**10 35 21.3**	**-2.4**
OHWZ	**Ohakea**	**3.97**	**31**	PN	**Pn**	**10 35 22.5**	**-1.3**
BFZ	**Birch Farm**	**4.00**	**44**	PN	**Pn**	**10 35 21.1**	**-3.1**
BFZ				AML	AML	10 37 16.5	
BFZ				AML	AML	10 37 16.5	
BFZ				AML	AML	10 37 19.4	
BFZ				AML	AML	10 37 19.5	
BFZ	**Birch Farm**	**4.00**	**44**	*e*Pn	**Pn**	**10 35 21.2**	**-3.0**
BFZ				*e*Sn	**Sn**	**10 36 05.8**	**-5.3**
POWZ	**Post Office Ro**	**4.00**	**37**	PN	**Pn**	**10 35 21.9**	**-2.3**
WHZ	**Wether Hill Ro**	**4.02**	**234**	⇑PN	**Pn**	**10 35 21.7**	**-2.8**
WHZ				AML	AML	10 36 44.5	
WHZ				AML	AML	10 36 44.7	
WHZ	**Wether Hill Ro**	**4.02**	**234**	*e*Pn	**Pn**	**10 35 21.8**	**-2.8**
WHZ				*e*Sg	**Sg**	**10 36 29.8**	**-2.2**
WHZ				*e*Lg	Lg	10 36 44.5	
DVHZ	**Dannevirke**	**4.25**	**40**	PN	**Pn**	**10 35 24.4**	**-3.3**
WAZ	**Wanganui**	**4.26**	**26**	PN	**Pn**	**10 35 27.5**	**-0.4**
WAZ				AML	AML	10 37 14.9	
WAZ				AML	AML	10 37 48.2	
ANWZ	**Angora Road**	**4.28**	**44**	PN	**Pn**	**10 35 25.1**	**-2.9**
DCZ	**Deep Cove**	**4.31**	**243**	PN	**Pn**	**10 35 26.0**	**-2.6**
DCZ				AML	AML	10 36 45.4	
DCZ				AML	AML	10 36 46.8	
DCZ				AML	AML	10 36 46.8	
DCZ				AML	AML	10 37 02.9	
DCZ	**Deep Cove**	**4.31**	**243**	*e*Pn	**Pn**	**10 35 27.0**	**-1.5**
DCZ				*e*Sg	**Sg**	**10 36 46.8**	**+5.5**
DCZ				*e*Lg	Lg	10 37 02.9	
NMEZ	**Namu Road**	**4.31**	**13**	PN	**Pn**	**10 35 29.3**	**+0.7**
TSZ	**Takapari Road**	**4.36**	**36**	⇑PN	**Pn**	**10 35 26.0**	**-3.2**
TSZ				AML	AML	10 36 53.8	
TSZ				AML	AML	10 37 09.5	
LREZ	**Lake Rotokare**	**4.37**	**19**	PN	**Pn**	**10 35 30.1**	**+0.7**
PREZ	**Palmer Road**	**4.43**	**16**	PN	**Pn**	**10 35 29.8**	**-0.4**
NWEZ	**Newall Road**	**4.45**	**13**	PN	**Pn**	**10 35 30.7**	**+0.3**
KHEZ	**Kahui Hut**	**4.45**	**14**	PN	**Pn**	**10 35 30.6**	**0.0**
NEZ	**North Egmont**	**4.49**	**15**	PN	**Pn**	**10 35 31.3**	**+0.2**
PRHZ	**Porangahau**	**4.50**	**43**	PN	**Pn**	**10 35 28.0**	**-3.1**
PKE	**Pukeiti**	**4.55**	**14**	PN	**Pn**	**10 35 31.2**	**-0.6**
PKE				AML	AML	10 36 29.5	
PKE				AML	AML	10 36 30.5	
PKE	**Pukeiti**	**4.55**	**14**	*e*Pn	**Pn**	**10 35 31.2**	**-0.6**
PKE				*e*Sg	**Sn**	**10 36 29.5**	**+4.8**
WPHZ	**Waipukurau**	**4.56**	**40**	PN	**Pn**	**10 35 30.0**	**-2.0**
APZ	**The Paps**	**4.58**	**224**	⇑PN	**Pn**	**10 35 30.1**	**-2.1**
APZ				AML	AML	10 37 03.0	
APZ				AML	AML	10 37 04.0	
APZ	**The Paps**	**4.58**	**224**	*e*Pn	**Pn**	**10 35 30.1**	**-2.1**
APZ				*e*Lg	Lg	10 37 03.0	
PNWZ	**Pukenui**	**4.58**	**37**	PN	**Pn**	**10 35 29.0**	**-3.3**
DREZ	**Durham Road**	**4.59**	**16**	PN	**Pn**	**10 35 31.6**	**-0.8**
MHEZ	**Mangahewa**	**4.72**	**16**	PN	**Pn**	**10 35 35.3**	**+1.1**
MTVZ	**Mangateitei**	**4.75**	**28**	PN	**Pn**	**10 35 33.5**	**-1.2**
MTVZ				AML	AML	10 37 14.5	
MTVZ				AML	AML	10 37 31.0	
MTVZ	**Mangateitei**	**4.75**	**28**	*e*Pn	**Pn**	**10 35 33.5**	**-1.2**
MTVZ				*e*Sn	**Sn**	**10 36 34.1**	**+4.3**
VRZ	**Vera Road**	**4.78**	**20**	⇓PN	**Pn**	**10 35 34.4**	**-0.6**
VRZ				AML	AML	10 36 56.5	
VRZ				AML	AML	10 37 12.3	
PXZ	**Pawanui**	**4.79**	**43**	PN	**Pn**	**10 35 31.7**	**-3.5**
PXZ				AML	AML	10 37 30.1	
PXZ				AML	AML	10 37 30.1	
PXZ				AML	AML	10 37 34.5	
PXZ				AML	AML	10 37 45.7	
PXZ	**Pawanui**	**4.79**	**43**	*e*Pn	**Pn**	**10 35 31.7**	**-3.5**
PKVZ	**Pokaka**	**4.79**	**26**	PN	**Pn**	**10 35 34.1**	**-1.1**
PKVZ				AML	AML	10 37 22.0	
PKVZ				AML	AML	10 37 35.6	
MOVZ	**Moawhango**	**4.83**	**30**	PN	**Pn**	**10 35 33.3**	**-2.4**
MOVZ				AML	AML	10 37 22.5	
MOVZ				AML	AML	10 37 31.7	
MOVZ	**Moawhango**	**4.83**	**30**	*e*Pn	**Pn**	**10 35 33.3**	**-2.4**
WNVZ	**Wahianoa**	**4.84**	**29**	PN	**Pn**	**10 35 34.0**	**-2.0**
WNVZ	**Wahianoa**	**4.84**	**29**	*e*Pn	**Pn**	**10 35 34.7**	**-1.4**
TRVZ	**Turoa**	**4.85**	**28**	PN	**Pn**	**10 35 34.3**	**-1.9**
TRVZ				AML	AML	10 37 08.6	
TRVZ				AML	AML	10 37 34.8	
TRVZ	**Turoa**	**4.85**	**28**	*e*Pn	**Pn**	**10 35 35.0**	**-1.2**
TRVZ				*e*Lg	Lg	10 37 08.6	
KRHZ	**Kereru**	**4.88**	**37**	PN	**Pn**	**10 35 32.8**	**-3.6**
DRZ	**Dome Shelter**	**4.88**	**28**	PN	**Pn**	**10 35 36.3**	**-0.4**
DRZ				AML	AML	10 36 42.3	
DRZ				AML	AML	10 37 23.9	
DRZ	**Dome Shelter**	**4.88**	**28**	*e*Pn	**Pn**	**10 35 36.6**	**0.0**
DRZ				*e*Sn	**Sb**	**10 36 42.3**	**-5.3**
DRZ				*e*Sg	Sg	10 36 48.0	-12
WHVZ	**Whangaehu Hut**	**4.88**	**28**	PN	**Pn**	**10 35 35.6**	**-1.0**
FWVZ	**Far West T-bar**	**4.89**	**28**	PN	**Pn**	**10 35 34.8**	**-1.9**
FWVZ				AML	AML	10 37 20.1	
FWVZ				AML	AML	10 37 30.7	
FWVZ	**Far West T-bar**	**4.89**	**28**	*e*Pn	**Pn**	**10 35 35.6**	**-1.1**
FWVZ				*e*Sn	**Sn**	**10 36 35.5**	**+2.0**
TUVZ	**Tukino**	**4.92**	**29**	PN	**Pn**	**10 35 35.3**	**-1.7**
TUVZ				AML	AML	10 37 24.6	
TUVZ				AML	AML	10 37 25.1	
TUVZ	**Tukino**	**4.92**	**29**	*e*Pn	**Pn**	**10 35 35.3**	**-1.7**
PYZ	**Puysegur Point**	**4.92**	**237**	PN	**Pn**	**10 35 34.3**	**-2.5**
PYZ	**Puysegur Point**	**4.92**	**237**	*e*Pn	**Pn**	**10 35 34.5**	**-2.4**
NGZ	**Ngauruhoe**	**4.98**	**28**	PN	**Pn**	**10 35 36.6**	**-1.3**
NGZ				AML	AML	10 37 40.3	
NGZ				AML	AML	10 37 42.3	
NGZ	**Ngauruhoe**	**4.98**	**28**	*e*Pn	**Pn**	**10 35 36.7**	**-1.3**
KAHZ	**Kahuranaki**	**4.98**	**41**	PN	**Pn**	**10 35 34.6**	**-3.2**
OTVZ	**Oturere**	**5.01**	**28**	PN	**Pn**	**10 35 36.7**	**-1.6**
OTVZ				AML	AML	10 37 33.3	
OTVZ				AML	AML	10 37 37.6	
OTVZ	**Oturere**	**5.01**	**28**	*e*Pn	**Pn**	**10 35 36.7**	**-1.6**
TWVZ	**Taurewa**	**5.02**	**26**	PN	**Pn**	**10 35 37.0**	**-1.4**
TWVZ				AML	AML	10 37 12.5	
TWVZ				AML	AML	10 37 19.5	
TWVZ	**Taurewa**	**5.02**	**26**	*e*Pn	**Pn**	**10 35 37.0**	**-1.4**
TWVZ				*e*Lg	Lg	10 37 19.5	
WTVZ	**West Tongariro**	**5.03**	**27**	PN	**Pn**	**10 35 37.3**	**-1.2**
WTVZ				AML	AML	10 37 14.2	
WTVZ				AML	AML	10 37 30.8	
WTVZ	**West Tongariro**	**5.03**	**27**	*e*Pn	**Pn**	**10 35 37.3**	**-1.2**
KRVZ	**Karewarewa**	**5.07**	**28**	PN	**Pn**	**10 35 38.0**	**-1.0**
KRVZ				AML	AML	10 37 28.5	
KRVZ				AML	AML	10 37 39.6	
KWHZ	**Kaweka Forest**	**5.08**	**36**	PN	**Pn**	**10 35 36.6**	**-2.5**
MCHZ	**McNeill Hill**	**5.18**	**38**	PN	**Pn**	**10 35 37.4**	**-3.1**
CKHZ	**Cape Kidnapper**	**5.19**	**42**	PN	**Pn**	**10 35 38.0**	**-2.6**
KATZ	**Kakaramea**	**5.19**	**28**	PN	**Pn**	**10 35 40.0**	**-0.8**
KATZ				AML	AML	10 37 39.0	
KATZ	**Kakaramea**	**5.19**	**28**	*e*Pn	**Pn**	**10 35 40.0**	**-0.8**
KATZ				*e*Lg	Lg	10 37 14.1	
RITZ	**Rihia Road**	**5.25**	**29**	PN	**Pn**	**10 35 40.3**	**-1.2**
RITZ				AML	AML	10 36 24.7	
RITZ				AML	AML	10 37 53.4	
RATZ	**Rangitukua**	**5.32**	**28**	PN	**Pn**	**10 35 42.3**	**-0.1**
RATZ				AML	AML	10 37 40.0	
RATZ				AML	AML	10 37 48.2	
BKZ	**Black Stump Fm**	**5.33**	**35**	PN	**Pn**	**10 35 39.3**	**-3.3**
BKZ				AML	AML	10 37 43.2	
BKZ				AML	AML	10 37 52.7	
BKZ	**Black Stump Fm**	**5.33**	**35**	*e*Pn	**Pn**	**10 35 39.2**	**-3.3**
HIZ	**Hauiti**	**5.38**	**19**	⇑PN	**Pn**	**10 35 41.6**	**-1.7**
HIZ				AML	AML	10 37 32.8	
HIZ				AML	AML	10 37 34.9	
HIZ	**Hauiti**	**5.38**	**19**	*e*Pn	**Pn**	**10 35 41.6**	**-1.7**
WATZ	**Wairara**	**5.45**	**27**	PN	**Pn**	**10 35 43.8**	**-0.4**
WATZ				AML	AML	10 37 51.8	
WATZ				AML	AML	10 37 53.7	
WATZ	**Wairara**	**5.45**	**27**	*e*Pn	**Pn**	**10 35 43.8**	**-0.4**
ARHZ	**Aropaoanui**	**5.46**	**39**	PN	**Pn**	**10 35 41.4**	**-3.0**
NMHZ	**Naumai**	**5.52**	**36**	PN	**Pn**	**10 35 42.1**	**-3.1**
MRHZ	**Matea Rd**	**5.58**	**32**	PN	**Pn**	**10 35 41.9**	**-4.1**
KUTZ	**Kaahu Road**	**5.68**	**26**	PN	**Pn**	**10 35 46.1**	**-1.2**
WHHZ	**Waihua**	**5.72**	**39**	PN	**Pn**	**10 35 45.0**	**-2.9**
TLZ	**Tolley Road**	**5.74**	**24**	PN	**Pn**	**10 35 46.1**	**-2.1**
WPRZ	**Whakapapatarin**	**5.76**	**29**	PN	**Pn**	**10 35 46.3**	**-2.2**
KNZ	**Kokohu**	**5.97**	**41**	PN	**Pn**	**10 35 47.8**	**-3.5**
KNZ				AML	AML	10 38 30.3	
KNZ				AML	AML	10 41 03.1	
KNZ	**Kokohu**	**5.97**	**41**	*e*Pn	**Pn**	**10 35 47.9**	**-3.5**
MHGZ	**Mahia Peninsul**	**5.99**	**44**	PN	**Pn**	**10 35 48.0**	**-3.5**
RTZ	**Ruatahuna**	**5.99**	**35**	PN	**Pn**	**10 35 48.6**	**-3.1**
SNGZ	**Shannon Statio**	**6.01**	**38**	PN	**Pn**	**10 35 48.2**	**-3.7**
MUGZ	**Murupara**	**6.03**	**33**	PN	**Pn**	**10 35 48.5**	**-3.6**
PRGZ	**Paritu Road**	**6.15**	**42**	PN	**Pn**	**10 35 50.1**	**-3.8**
OMRZ	**Omania**	**6.21**	**29**	PN	**Pn**	**10 35 51.6**	**-3.0**
RIGZ	**Rimuhau**	**6.26**	**40**	PN	Pn	10 35 50.7	-4.7
RAGZ	**Rawiri**	**6.28**	**37**	PN	**Pn**	**10 35 52.2**	**-3.5**
TOZ	**Tahuroa Road**	**6.28**	**21**	PN	**Pn**	**10 35 53.4**	**-2.3**
TOZ				AML	AML	10 38 00.1	
TOZ				AML	AML	10 38 04.8	
TOZ	**Tahuroa Road**	**6.28**	**21**	*e*Pn	**Pn**	**10 35 54.3**	**-1.4**
URZ	**Urewera**	**6.35**	**34**	Pn	**Pn**	**10 35 52.6**	**-3.9**
URZ	8.1nm,0.3s,baz=220,slow=6.4,SNR=46			Sn	**Sn**	**10 37 02.9**	**-6.2**
	42nm,0.3s,baz=74,slow=16,SNR=7.0						
URZ	**Urewera**	**6.35**	**34**	PN	**Pn**	**10 35 52.6**	**-3.9**
URZ				AML	AML	10 38 34.1	
URZ				AML	AML	10 38 50.0	
MWZ	**Matawai**	**6.46**	**37**	PN	Pn	10 35 53.2	-5.0
MWZ				AML	AML	10 36 10.2	
MWZ				AML	AML	10 37 17.4	
MWZ				AML	AML	10 37 17.4	
MWZ				AML	AML	10 37 59.1	
MWZ	**Matawai**	**6.46**	**37**	*e*Pn	Pn	10 35 53.2	-5.0
MWZ				*e*Sn	**Sn**	**10 37 17.4**	**+5.5**
MWZ				*e*Lg	Lg	10 37 59.1	
TKGZ	**Te Karaka**	**6.52**	**39**	PN	**Pn**	**10 35 54.8**	**-4.0**
CNGZ	**Carnagh Statio**	**6.65**	**41**	PN	**Pn**	**10 35 56.8**	**-3.9**
AWAZ	**Awhitu Peninsu**	**6.74**	**14**	PN	**Pn**	**10 36 00.3**	**-1.5**
KBAZ	**Karaka Road Bo**	**6.75**	**16**	PN	**Pn**	**10 36 01.6**	**-0.4**
TWGZ	**Tauwhareparae**	**6.79**	**39**	PN	**Pn**	**10 35 58.4**	**-4.2**
MKAZ	**Moumakai**	**6.80**	**17**	PN	**Pn**	**10 36 00.9**	**-1.8**
MKAZ				AML	AML	10 38 18.4	
MKAZ				AML	AML	10 38 32.6	
MKAZ	**Moumakai**	**6.80**	**17**	*e*Pn	**Pn**	**10 36 00.9**	**-1.8**
MKAZ				*e*Lg	Lg	10 38 18.4	
WTAZ	**Waiatarua**	**6.85**	**13**	PN	**Pn**	**10 36 04.5**	**+1.0**
ETAZ	**East Tamaki Re**	**6.89**	**16**	PN	**Pn**	**10 36 02.7**	**-1.3**
PUZ	**Puketiti**	**7.01**	**40**	PN	Pn	10 36 01.0	-4.5
PUZ				AML	AML	10 38 43.9	
PUZ				AML	AML	10 39 15.0	
RVAZ	**Riverhead Bore**	**7.01**	**13**	PN	**Pn**	**10 36 05.6**	**0.0**
HAZ	**Te Kaha**	**7.06**	**36**	PN	**Pn**	**10 36 01.7**	**-4.5**
WIAZ	**Waiheke Island**	**7.09**	**17**	PN	**Pn**	**10 36 05.1**	**-1.6**
ABAZ	**Army Bay**	**7.22**	**14**	PN	**Pn**	**10 36 07.5**	**-1.0**
KUZ	**Kuaotunu**	**7.27**	**20**	PN	**Pn**	**10 36 07.1**	**-2.1**
KUZ				AML	AML	10 38 28.5	
KUZ				AML	AML	10 38 48.0	
KUZ	**Kuaotunu**	**7.27**	**20**	*e*Pn	**Pn**	**10 36 07.1**	**-2.1**
KUZ				*e*Lg	Lg	10 38 28.5	
WMGZ	**Waiomatatini S**	**7.28**	**39**	PN	**Pn**	**10 36 05.0**	**-4.3**
MXZ	**Matakaoa Point**	**7.45**	**38**	PN	**Pn**	**10 36 08.5**	**-3.1**
MXZ				AML	AML	10 38 24.8	
MXZ				AML	AML	10 39 03.1	
MXZ	**Matakaoa Point**	**7.45**	**38**	*e*Pn	**Pn**	**10 36 08.5**	**-3.1**
MXZ				*e*Lg	Lg	10 38 24.9	
GRZ	**Great Barrier**	**7.68**	**17**	PN	**Pn**	**10 36 14.6**	**-0.3**
WCZ	**Waipu Caves**	**7.79**	**10**	PN	**Pn**	**10 36 15.9**	**-0.4**
WCZ				AML	AML	10 39 15.6	
WCZ				AML	AML	10 39 45.6	
WCZ	**Waipu Caves**	**7.79**	**10**	*e*Pn	**Pn**	**10 36 15.9**	**-0.4**
CTZ	**Chatham Island**	**7.81**	**95**	PN	**Pn**	**10 36 15.1**	**-1.5**
I36NZ	**CHATHAM INFRAS**	**7.90**	**96**	*i*		11 16 40.0	
	baz=269,slow=299,SNR=0.3						
OUZ	**Omahuta**	**8.43**	**6**	PN	**Pn**	**10 36 24.8**	**-0.2**
OUZ				AML	AML	10 39 27.7	
OUZ				AML	AML	10 39 41.9	
OUZ	**Omahuta**	**8.43**	**6**	*e*Pn	**Pn**	**10 36 26.9**	**+1.9**
RAO	**Raoul Island**	**16.23**	**31**	LR	LR	10 44 23.9	
	comp=Z,4µm,19.3s,baz=201,slow=37						
DZM	**Mont Dzumac**	**22.10**	**345**	*e*P	**P**	**10 39 19.7**	**+1.3**
	60nm,1.1s						
DZM				*e*LR	LR	10 44 35.6	
	3µm,22.4s						
DZM	**Mont Dzumac**	**22.10**	**345**	P	**P**	**10 39 18.6**	**+0.2**
	19nm,0.9s,baz=158,slow=10,SNR=7.7						
DZM				LR	LR	10 46 54.3	
	comp=Z,2µm,19.8s,baz=182,slow=34						
DZM	**Mont Dzumac**	**22.10**	**345**	*e*P	**P**	**10 39 19.8**	**+1.4**
	32nm,1.1s						
EIDS	**Eidsvold**	**25.30**	**309**	*e*P	**P**	**10 39 51.8**	**+2.2**
	86nm,1.9s						
STKA	**Stephens Creek**	**27.03**	**285**	P	**P**	**10 40 05.2**	**0.0**
	15nm,0.8s,baz=119,slow=11,SNR=12						
STKA				LR	LR	10 48 57.0	
	comp=Z,952nm,21.1s,baz=123,slow=32						
STKA	**Stephens Creek**	**27.03**	**285**	*e*P	**P**	**10 40 06.8**	**+1.6**
	4.3nm,0.9s						
CTAO	**Charters Tower**	**32.19**	**308**	*e*P	**P**	**10 40 52.9**	**+1.9**
CTAO	**Charters Tower**	**32.19**	**308**	*e*P	**P**	**10 40 52.9**	**+1.9**
VNDA	**Vanda**	**34.29**	**184**	P	**P**	**10 41 05.8**	**-3.0**
	0.6nm,0.9s,baz=320,slow=3.1,SNR=2.0						
HNR	**Honiara**	**35.81**	**338**	P	**P**	**10 41 20.5**	**-2.0**
	55nm,0.5s,baz=175,slow=8.3,SNR=2.6						
TBI	**Tubuai**	**37.12**	**69**	*e*LR	LR	10 51 27.7	
	1µm,30.0s						
TBI	**Tubuai**	**37.12**	**69**	*e*T	T	11 19 43.2	
	34nm,0.3s						
AS01	**Alice Springs**	**37.41**	**289**	*e*P	**P**	**10 41 34.5**	**-1.6**
AS31	**Alice Springs**	**37.44**	**289**	*e*P	**P**	**10 41 35.5**	**-0.9**
	16nm,1.1s						
ASAR	**Alice Springs**	**37.44**	**289**	P	**P**	**10 41 35.4**	**-1.1**
	26nm,1.0s,baz=133,slow=9.0,SNR=53						
ASAR				LR	LR	10 55 57.0	
	comp=Z,837nm,20.2s,baz=139,slow=35						
WRAB	**Warramunga Arr**	**39.69**	**294**	*e*P	**P**	**10 41 54.3**	**-1.0**
	45nm,0.9s						
WRAB	**Tennant Creek**	**39.69**	**294**	*ce*P	**P**	**10 41 54.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,195nm,1.4s						
WRAB	**Tennant Creek**	**39.69**	**294**	*e*P	**P**	**10 41 54.4**	**-0.9**
	comp=Z,41nm,0.8s						
WR1	**Warramunga Arr**	**39.70**	**294**	*e*P	**P**	**10 41 54.4**	**-0.9**
	comp=Z,49nm,0.9s						
WRA	**Warramunga Arr**	**39.70**	**294**	P	**P**	**10 41 54.4**	**-1.0**
	comp=Z,31nm,0.9s,baz=134,slow=7.8,SNR=165						
WRA				LR	LR	10 57 17.4	
	comp=Z,2µm,20.0s,baz=120,slow=35						
WRA	**Warramunga Arr**	**39.70**	**294**	P	**P**	**10 41 54.4**	**-1.0**
WRA				pmax	pmax		
	comp=Z,32nm,0.9s						
WRA				MLR	MLR		
	comp=Z,2µm,20.0s						
PMG	**Port Moresby**	**40.66**	**319**	P	**P**	**10 42 03.3**	**0.0**
	comp=Z,49nm,0.8s,baz=127,slow=5.7,SNR=9.2						
PMG	**Port Moresby**	**40.66**	**319**	*d iP*	**P**	**10 42 03.7**	**+0.4**
PMG				pmax	pmax		
	comp=Z,211nm,0.8s						
PMG	**Port Moresby**	**40.66**	**319**	*e*P	**P**	**10 42 04.1**	**+0.8**
	comp=Z,51nm,0.8s						
PAE	**Paea**	**41.03**	**63**	*e*T	T	11 24 41.2	
	comp=Z,18nm,0.3s						
PPT2	**Papeete2**	**41.09**	**63**	*e*S	**S**	**10 48 21.1**	**+1.3**
	comp=Z,184nm,24.8s						
PPT2				*e*LR	LR	10 53 12.6	
	comp=Z,2µm,29.8s						
PPT2	**Papeete2**	**41.09**	**63**	*e*T	T	11 24 41.9	
	comp=Z,14nm,0.3s						
PPT	**Papeete**	**41.10**	**63**	LR	LR	10 57 45

BILL pmax pmax
comp=Z,1.0nm,1.1s

ILAR Eielson Array 112.61 18 PKiKP **PKiKP 10 52 56.9 -1.4**
comp=Z,0.7nm,0.9s,baz=276,slow=1.9,SNR=6.6

ILAR PKKPab **PKKPab 11 03 52.0 -0.2**
comp=Z,1.3nm,1.0s,baz=0.0,slow=4.4,SNR=8.3

TIXI Tiksi 119.07 345 PKP **PKPdf 10 53 10.2 -0.3**
comp=Z,1.6nm,0.7s,baz=285,slow=2.1,SNR=3.6

TIXI Tiksi 119.07 345 ||*i*PKIKP **PKPdf 10 53 10.6 +0.1**

PLAL Pickwick Lake 119.27 68 *e*PKPdf **PKPdf 10 53 11.5 -0.6**

KSH Kashi 120.04 297 PKP **PKPdf 10 53 17.9 +4.3**

KSH PP **PP 10 54 45.8 +6.9**

KSH PKS **PKSdf 10 56 51.6 +1.3**

KSH SS SS 11 11 01.1 -4.5

KSH PPMZ
comp=Z,120nm,6.8s

YKA Yellowknife Ar 120.61 31 PKP **PKPdf 10 53 12.3 -1.4**
comp=Z,2.1nm,0.8s,baz=240,slow=1.6,SNR=23

YKA PKKPbc **PKKPab 11 03 17.3 -0.3**
comp=Z,0.5nm,0.8s,baz=51,slow=3.6,SNR=6.3

YKB5 Yellowknife Ar 120.61 31 *e*PKPdf **PKPdf 10 53 12.3 -1.3**

FFC Flin Flon 121.76 43 *e*PKIKP **PKPdf 10 53 15.6 -0.6**

FFC Flin Flon 121.76 43 *e*PKPdf **PKPdf 10 53 15.6 -0.6**

WCI Wyandotte Cave 122.26 66 *e*PKIKP **PKPdf 10 53 17.4 -0.3**

WCI Wyandotte Cave 122.26 66 *e*PKPdf **PKPdf 10 53 17.4 -0.3**

ZALV Zalesovo Beam 122.55 316 PKP **PKPdf 10 53 15.9 -1.8**
comp=Z,0.6nm,0.3s,baz=116,slow=3.4,SNR=2.9

ZAA1 Zalesovo Array 122.55 316 *e*PKPdf **PKPdf 10 53 15.9 -1.8**

ULM Lac du Bonnet 122.65 50 PKP **PKPdf 10 53 16.4 -1.6**
comp=Z,5.4nm,0.7s,baz=240,slow=1.2,SNR=5.9

COWI Conover 124.49 57 *e*PKPdf **PKPdf 10 53 21.3 -0.5**

KKAR Karatay Array 125.42 299 *e*PKIKP **PKPdf 10 53 23.3 -0.4**

KKAR Karatay Array 125.42 299 *e*PKPdf **PKPdf 10 53 23.3 -0.4**

ACSO Alum Creek Sta 125.50 66 *e*PKPdf **PKPdf 10 53 23.8 -0.1**

GEYT Alibeck 131.22 287 PKP **PKPdf 10 53 35.0 +0.1**
comp=Z,2.2nm,0.5s,baz=150,slow=3.2,SNR=3.5

NEY Neytrino 144.06 287 ||*e*PKIKP **PKPdf 10 53 57.6 -0.9**

SPITS Spitsbergen Ar 144.07 352 PKP PKPbc 10 53 55.5 +0.1
comp=Z,2.5nm,0.6s,baz=119,slow=5.2,SNR=7.2

KIV Kislovodsk 144.30 288 *i* PKIKP **PKPdf 10 54 00.9 +2.1**

KIV pmax pmax
comp=Z,9.0nm,1.0s

MMAI Mount Meron Ar 145.14 267 PKPbc **PKPdf 10 54 00.9 +0.4**
comp=Z,18nm,0.8s,baz=99,slow=5.2,SNR=12

DAG Danmarks Havn 146.41 5 *i* PKIKP **PKPdf 10 54 00.5 -0.8**

DAG pmax pmax
comp=Z,7.0nm,0.7s

DAG Danmarks Havn 146.41 5 *i* P **PKPdf 10 54 00.5 -0.8**
comp=Z,10nm,0.7s

VRH Novokhopyorsk 146.46 301 *e*PKIKP **PKPdf 10 54 02.6 +0.6**

VRH pmax pmax
comp=Z,10.0nm,0.6s

SFJD Kangerlussuaq 147.15 30 PKPbc **PKPab 10 54 06.0 -0.6**
comp=Z,5.0nm,0.6s,baz=275,slow=3.8,SNR=7.0

SFJD Kangerlussuaq 147.15 30 *i* P **PKPab 10 54 07.3 +0.6**
comp=Z,10nm,0.9s

KLMR Klimovskoe 147.39 318 *e*PKIKP **PKPdf 10 54 03.6 +0.3**

KLMR pmax pmax
comp=Z,57nm,1.1s

SUMG Summit 147.45 17⇑ *i*PKP2 **PKPab 10 54 09.4 +1.1**

SUMG pmax pmax
comp=Z,25nm,1.3s

SUMG Summit 147.45 17⇑ *i* P **PKPab 10 54 09.4 +1.1**
comp=Z,25nm,1.3s

VSR Storozhevoye 148.06 300 *e*PKP2 **PKPbc 10 54 08.8 +0.9**

VSR pmax pmax
comp=Z,30nm,1.2s

TOA0 Torodi Ar. Sit 148.64 197 *e*PKPbc **PKPbc 10 54 10.1 -0.4**

TORD Torodi Ar. Bea 148.64 197 PKPbc **PKPbc 10 54 10.1 -0.4**
comp=Z,17nm,1.0s,baz=162,slow=2.0,SNR=26

TOA1 Torodi Ar. Sit 148.65 197 *e*PKPbc **PKPbc 10 54 10.1 -0.4**

MOS Moscow 149.02 309 *e*PKP2 **PKPbc 10 54 10.7 +0.5**

MOS pmax pmax
comp=Z,61nm,1.3s

ARA0 ARCESS Array S 149.10 338 *e*PKPbc **PKPbc 10 54 09.4 -0.7**

ARCES ARCESS Array B 149.10 338 PKPbc **PKPbc 10 54 09.4 -0.7**
comp=Z,9.0nm,0.8s,baz=58,slow=3.0,SNR=14

BR101 Keskin Array S 149.33 277 *e*PKPbc **PKPbc 10 54 11.1 -0.7**

BR131 Keskin Array S 149.33 277 *e*PKPbc **PKPbc 10 54 10.8 -1.0**

BRTR Keskin Array B 149.33 277 PKPbc **PKPbc 10 54 11.1 -0.7**
comp=Z,7.8nm,0.7s,baz=143,slow=6.2,SNR=39

OBN Obninsk 149.66 308⇑ *e*PKHKP PKPpre 10 54 07.4

OBN pmax pmax
comp=Z,14nm,0.9s

BR231 Keskin MP Arra 149.99 277 *e*PKPbc **PKPbc 10 54 11.7 -1.7**

NRS Narsarsuaq 151.48 39 *i* PKIKP **PKPbc 10 54 15.1 -0.9**

NRS pmax pmax
comp=Z,21nm,1.0s

NRS Narsarsuaq 151.48 39 *i* P **PKPbc 10 54 15.1 -0.9**
comp=Z,21nm,1.0s

SCO Scoresbysund 152.10 10 *i* PKIKP **PKPbc 10 54 16.5 -0.6**

SCO pmax pmax
comp=Z,21nm,1.6s

SCO Scoresbysund 152.10 10 *i* P **PKPbc 10 54 16.5 -0.6**
comp=Z,21nm,1.6s

FIA0 FINESS Array S 153.38 324 *e*PKIKP **PKPbc 10 54 19.3 -0.9**

FIA0 *e* 10 54 33.0

FIA0 FINESS Array S 153.38 324 *e*PKPbc **PKPbc 10 54 19.3 -0.9**

FIA0 *e*PKPab **PKPab 10 54 33.0 +0.6**

FINES FINESS Array B 153.38 324 PKPbc **PKPbc 10 54 19.3 -0.9**
comp=Z,5.4nm,0.7s,baz=56,slow=4.6,SNR=10

FINES PKPab **PKPab 10 54 33.0 +0.6**
comp=Z,3.8nm,0.6s,baz=70,slow=3.2,SNR=6.7

IDI Anoyia 153.85 262 PKPbc **PKPbc 10 54 22.4 +0.2**
comp=Z,2.8nm,0.4s,baz=135,slow=5.7,SNR=4.2

AKASG Malin Array Be 154.32 299 PKPbc **PKPbc 10 54 21.4 -1.2**
comp=Z,2.4nm,0.7s,baz=76,slow=2.5,SNR=9.4

AKASG PKPab **PKPab 10 54 35.4 -1.4**
comp=Z,4.9nm,0.8s,baz=73,slow=4.4,SNR=12

AKBB Malin Array Si 154.32 299 *e*PKIKP **PKPbc 10 54 21.2 -1.4**

AKBB Malin Array Si 154.32 299 *e*PKPbc **PKPbc 10 54 21.2 -1.4**

KIEV Kiev 154.33 299⇑ *i*PKIKP **PKPbc 10 54 20.9 -1.7**

AK11 Malin Array Si 154.36 299 *e*PKPbc **PKPbc 10 54 21.8 -0.9**

AK11 *e*PKPab **PKPab 10 54 35.9 -1.1**

BUR08 Bucovina Ar. S 156.96 291 *e*PKPab **PKPab 10 54 48.6 +0.2**

KOLS Kolonicke sedl 158.90 295 *e*PKP2 **PKPab 10 55 00.9 +4.3**

KOLS Kolonicke sedl 158.90 295 *e*PKP **PKPab 10 55 00.9 +4.3**

HFS Hagfors 159.12 330 PKPab **PKPab 10 54 56.6 -0.5**
comp=Z,1.4nm,0.6s,baz=69,slow=8.1,SNR=5.1

NB2 NORSAR Subarra 159.32 334 P **PKPab 10 54 56.6 -1.4**
comp=Z,11nm,1.2s,baz=42,slow=5.1

NB200 NORSAR Array S 159.32 334 *e*PKPab **PKPab 10 54 56.7 -1.3**

NOA NORSAR Array B 159.32 334 PKPab **PKPab 10 54 56.7 -1.3**
comp=Z,2.8nm,0.9s,baz=47,slow=4.8,SNR=5.7

STHS Stebnicka Huta 159.54 296 *e*PKP2 **PKPab 10 55 00.5 +1.1**

STHS Stebnicka Huta 159.54 296 *e*PKP **PKPab 10 55 00.5 +1.1**

OKC Ostrava-Krasne 161.47 299 AMS AMS 12 17 00.0

DPC Dobruska-Polan 162.52 301 AMS AMS 12 12 20.0
comp=Z,100nm,16.8s

UPC Upice 162.68 302 AMS AMS 12 13 10.0

TREC Trest 163.28 298 AMS AMS 12 16 40.0
comp=Z,100nm,20.9s

PVCC Panska Ves 163.56 303 AMS AMS 12 22 30.0

GOPC GO Pecny, Ondr 163.59 300 AMS AMS 12 12 30.0
comp=Z,200nm,19.8s

PRU Pruhonice 163.72 301 AMS AMS 12 16 00.0
comp=Z,200nm,14.8s

BOJS Bojanci 163.76 285 *i* PKPdf **PKPab 10 55 18.0 0.0**

BRG Berggiesshubel 163.84 304 *e*PKP2 **PKPab 10 55 21.0 +2.9**

BRG pmax pmax
comp=Z,11nm,1.3s

VISS Visnje 164.05 286 *i* PKPdf **PKPab 10 55 19.2 -0.1**

CLL Collm 164.25 306 *i* PKPab **PKPab 10 55 22.4 +2.5**
comp=Z,33nm,1.8s

CLL L L 12 14 00.0
comp=Z,200nm,21.0s

CLL Collm 164.25 306 *i* PKP2 **PKPab 10 55 22.4 +2.5**

CLL pmax pmax
comp=Z,33nm,1.8s

GERES GERESS Array B 164.52 297 PKPab **PKPab 10 55 20.8 -0.5**
comp=Z,0.5nm,0.3s,baz=73,slow=4.6,SNR=6.7

KHC Kasperske Hory 164.53 298 AMS AMS 12 19 50.0
comp=Z,200nm,22.6s

JAVS Javornik 164.59 286 *i* PKPdf **PKPab 10 55 21.2 -0.6**

KEST Kesra 164.91 244 PKPab **PKPab 10 55 22.9 -0.5**
comp=Z,13nm,1.1s,baz=352,slow=5.1,SNR=6.4

DAVOX Davos/Dischmat 167.42 291 PKPab **PKPab 10 55 33.6 -0.8**
comp=Z,11nm,0.9s,baz=88,slow=1.7,SNR=9.6

MDT Midelt 168.99 192 PKPab **PKPab 10 55 40.5 -0.9**
comp=Z,1.9nm,0.9s,baz=174,slow=4.6,SNR=3.2

*ISCJB **21** 10:37:37.6±0.3, 44.°68N±0.°01×7.°20E±0.°03, h14km±3km, Error ellipse: s-maj=3.5km s-min=2.4km az=165.8*

*ROM **21** 10:37:37.9±0.2, 44.°67N×7.°20E, h17km±3km, Md2.1/8, Ml1.8/6, Error ellipse: s-maj=2.6km s-min=2.4km az=95.0*
*GEN **21** 10:37:38.6, 44.°68N×7.°23E, h11km, ML1.6*
*CSEM **21** 10:37:38.1±0.1, 44.°68N×7.°23E, h10km, ML2.5/10, Error ellipse: s-maj=2.0km s-min=1.4km az=73.0*
*LDG **21** 10:37:38.2±0.1, 44.°69N×7.°26E, h2km, Md2.2/1, Ml2.5/8, Error ellipse: s-maj=1.9km s-min=1.1km az=76.0*

ISC 21 10:37:38.2±0.8, 44.°68N±0.°02×7.°23E±0.°02, h17km±6km, n44, σ0°48/78, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.18**	**176**	Pg	Pg	**Pb**	**10 37 43.0**	**0.0**
DOI				Sg	Sg	**Sg**	**10 37 45.7**	**-0.1**
	184nm,0.3s							
DOI	**San Damiano**	**0.18**	**176**	Pg	Pg	**Pb**	**10 37 43.0**	**0.0**
DOI				Sg	Sg	**Sg**	**10 37 45.7**	**-0.1**
	184nm,0.3s							
PZZ	**Stroppo**	**0.19**	**205**	Pg	Pg	**Pb**	**10 37 43.2**	**-0.1**
PZZ				Sg	Sg	**Sg**	**10 37 46.0**	**-0.3**
	404nm,0.2s							
PZZ	**Stroppo**	**0.19**	**205**	P	Pg	**Pb**	**10 37 43.2**	**-0.1**
PZZ				S	Sg	**Sg**	**10 37 45.7**	**-0.6**
PZZ				Sg	Sg		10 37 46.0	-0.3
	404nm,0.2s							
MBDF	**Montbardon**	**0.33**	**278**	*e*Pg	Pg	**Pg**	**10 37 45.5**	**+0.3**
MBDF				*e*Sg	Sg	**Sg**	**10 37 49.8**	**-0.3**
	214nm,0.3s							
MBDF	**Montbardon**	**0.33**	**278**	*e*Pg	Pg	**Pg**	**10 37 45.5**	**+0.3**
MBDF				*e*Sg	Sg	**Sg**	**10 37 49.8**	**-0.3**
	107nm,0.3s							
RRL	**Rocca Remolon**	**0.40**	**308**	Pg	Pg	**Pg**	**10 37 46.6**	**+0.1**
RRL				Sg	Sg	**Sg**	**10 37 51.7**	**-0.3**
	53nm,0.2s							
RRL	**Rocca Remolon**	**0.40**	**308**	P	Pg	**Pg**	**10 37 46.5**	**+0.1**
RRL				S	Sg	**Sg**	**10 37 51.7**	**-0.3**
STV	**Sant Anna di V**	**0.44**	**171**	Pg	Pg	**Pg**	**10 37 47.1**	**-0.1**
STV				Sg	Sg	**Sg**	**10 37 52.9**	**-0.2**
	25nm,0.1s							
STV	**Sant Anna di V**	**0.44**	**171**	P	Pg	**Pg**	**10 37 47.0**	**-0.1**
STV				S	Sg	**Sg**	**10 37 52.4**	**-0.7**
STV				Sg	Sg	**Sg**	**10 37 52.9**	**-0.2**
	25nm,0.1s							
RSP	**Reno Superiore**	**0.47**	**3**	Pg	Pg	**Pg**	**10 37 47.3**	**-0.4**
RSP				Sg	Sg	**Sg**	**10 37 53.8**	**-0.3**
	30nm,0.1s							
RSP	**Reno Superiore**	**0.47**	**3**	Pg	Pg	**Pg**	**10 37 47.3**	**-0.4**
RSP				Sg	Sg	**Sg**	**10 37 53.8**	**-0.3**
	30nm,0.1s							
RSP				S	Sb	**Sb**	**10 37 54.1**	**-0.7**
ENR	**Entracque**	**0.47**	**163**	Pg	Pg	**Pg**	**10 37 47.5**	**-0.3**
ENR				Sg	Sg	**Sg**	**10 37 53.7**	**-0.5**
	69nm,0.1s							
ENR	**Entracque**	**0.47**	**163**	P	Pg	**Pg**	**10 37 47.4**	**-0.3**
ENR				Sg	Sg	**Sg**	**10 37 53.7**	**-0.5**
	69nm,0.1s							
MONC	**Moncucco Torin**	**0.63**	**51**	Pg	Pb	**Pb**	**10 37 51.1**	**+0.3**
MONC				Sg	Sg	**Sb**	**10 38 00.5**	**+1.1**
MONC	**Moncucco Torin**	**0.63**	**51**	Pg	Pb	**Pb**	**10 37 51.1**	**+0.3**
MONC				Sg	Sg	**Sb**	**10 38 00.5**	**+1.1**
LSD	**Lago del Serru**	**0.78**	**355**	Pg	Pg	**Pg**	**10 37 53.7**	**+0.2**
LSD				Sg	Sg	**Sg**	**10 38 02.9**	**-1.0**
LSD	**Lago del Serru**	**0.78**	**355**	P	Pg	**Pg**	**10 37 53.4**	**-0.1**
LSD	**Lago del Serru**	**0.78**	**355**	Pg	Pg	**Pg**	**10 37 53.7**	**+0.2**
LSD				Sg	Sg	**Sg**	**10 38 02.9**	**-1.0**
RORO	**Rocca Rossa**	**0.82**	**133**	P	Pg	**Pg**	**10 37 53.8**	**-0.5**
SBF	**Sospel**	**0.83**	**170**	*e*Pg	Pg	**Pg**	**10 37 53.8**	**-0.6**
SBF				*e*Sg	Sg	**Sg**	**10 38 04.9**	**-0.4**
	9.1nm,0.2s							
SBF	**Sospel**	**0.83**	**170**	*e*Pg	Pg	**Pg**	**10 37 53.8**	**-0.6**
SBF				*e*Sg	Sg	**Sg**	**10 38 04.9**	**-0.4**
	4.6nm,0.2s							
LPG	**La Plagne**	**0.89**	**338**	*e*Pg	Pg	**Pg**	**10 37 55.2**	**-0.3**
LPG				*e*Sg	Sg	**Sg**	**10 38 06.7**	**-0.5**
	13nm,0.2s							
LPG	**La Plagne**	**0.89**	**338**	*e*Pg	Pg	**Pg**	**10 37 55.2**	**-0.3**
NEGI	**Seborga**	**0.90**	**158**	P	Pg	**Pg**	**10 37 54.9**	**-0.8**
IMI	**Imperia**	**0.91**	**148**	P	Pg	**Pg**	**10 37 55.1**	**-0.7**
LPL	**La Plagne**	**0.91**	**337**	*e*Pg	Pg	**Pg**	**10 37 55.6**	**-0.3**
LPL				*e*Sg	Sg	**Sg**	**10 38 07.2**	**-0.7**
	15nm,0.3s							
LPL	**La Plagne**	**0.91**	**337**	*e*Pg	Pg	**Pg**	**10 37 55.6**	**-0.3**
PCP	**Piancastagn**	**0.95**	**98**	Pg	Pg	**Pg**	**10 37 56.4**	**-0.2**
PCP				Sg	Sg	**Sg**	**10 38 08.8**	**-0.3**
PCP	**Piancastagn**	**0.95**	**98**	Pg	Pg	**Pg**	**10 37 56.4**	**-0.2**
PCP				Sg	Sg	**Sg**	**10 38 08.8**	**-0.3**
ORIF	**Oris-en-Rattie**	**0.99**	**284**	*e*Pg	Pb	**Pb**	**10 37 57.5**	**+0.6**
ORIF				*e*Sg	Sg	**Sg**	**10 38 09.5**	**-0.9**
	8.0nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.99**	**284**	*e*Pg	Pb	**Pb**	**10 37 57.5**	**+0.6**
ORIF				*e*Sg	Sg	**Sg**	**10 38 09.5**	**-0.9**
	4.0nm,0.2s							
FRF	**La Foret Royal**	**1.20**	**201**	*e*Pg	Pg	**Pg**	**10 38 01.0**	**-0.2**
FRF				*e*Sg	Sg	**Sg**	**10 38 16.6**	**-0.3**
	15nm,0.2s							
FRF	**La Foret Royal**	**1.20**	**201**	*e*Pg	Pg	**Pg**	**10 38 01.0**	**-0.2**
FRF				*e*Sg	Sg	**Sg**	**10 38 16.6**	**-0.3**
	7.7nm,0.2s							
SMRF	**Simiane la Rot**	**1.38**	**240**	*e*Pg	Pg	**Pg**	**10 38 04.8**	**0.0**
SMRF				*e*Sg	Sg	**Sg**	**10 38 22.9**	**+0.1**
	3.1nm,0.2s							
SMRF	**Simiane la Rot**	**1.38**	**240**	*e*Pg	Pg	**Pg**	**10 38 04.8**	**0.0**
LMR	**La Mourre**	**1.44**	**201**	*e*Pg	Pb	**Pb**	**10 38 05.2**	**+0.6**
LMR				*e*Sg	Sg	**Sg**	**10 38 24.5**	**-0.2**
	18nm,0.2s							
LMR	**La Mourre**	**1.44**	**201**	*e*Pg	Pb	**Pb**	**10 38 05.2**	**+0.6**
LMR				*e*Sg	Sg	**Sg**	**10 38 24.5**	**-0.2**
	9.1nm,0.2s							
VIVF	**Saint-Julien-l**	**1.83**	**276**	*e*Pn	Pn	**Pn**	**10 38 09.2**	**+0.3**
VIVF	**Saint-Julien-l**	**1.83**	**276**	*e*P	Pb	**Pb**	**10 38 10.9**	**-0.3**
VIVF	**Saint-Julien-l**	**1.83**	**276**	*e*Pg	Pg	**Pg**	**10 38 12.6**	**-0.7**
VIVF				*e*Sg	Sg	**Sg**	**10 38 36.5**	**-0.6**
	2.4nm,0.3s							
VIVF	**Saint-Julien-l**	**1.83**	**276**	*e*Pn	Pn	**Pn**	**10 38 09.2**	**+0.3**
VIVF	**Saint-Julien-l**	**1.83**	**276**	*e*P	Pb	**Pb**	**10 38 10.9**	**-0.3**
VIVF	**Saint-Julien-l**	**1.83**	**276**	*e*Pg	Pg	**Pg**	**10 38 12.6**	**-0.7**

*IDC **21** 10:37:37.4±0.8, 60.°23N×60.°04E, h0km, mb3.7/4, mb1 3.8/12, mb1mx3.6/47, mbtmp3.8/12, ML3.2/7, MS3.0/1, Ms1 3.0/1, ms1mx2.2/55, Error ellipse: s-maj=13.6km s-min=8.6km az=57.0*
*ISCJB **21** 10:37:38.6±0.8, 60.°16N±0.°09×60.°4E±0.°2, h33km, mb3.8/4, MS2.8/1, Error ellipse: s-maj=15.5km s-min=9.0km az=40.2*

ISC 21 10:37:39.8±0.9, 60.°27N±0.°08×60.°27E±0.°09, h35km, n13, σ2.°89/15, mb3.8/4, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ARU	**Arti**	**3.95**	**194**	Pn	Pn	**Pn**	**10 38 39.0**	**+1.1**
	0.0nm,0.3s,baz=11,slow=8.7,SNR=5.3							
ARU				Sn		**Sn**	**10 39 26.1**	**+3.1**
	0.1nm,0.3s,baz=136,slow=23,SNR=15							
BVAR	**Borovoye Array**	**9.14**	**138**	Pn	Pn	**Pn**	**10 39 50.5**	**+1.4**
	2.1nm,0.3s,baz=327,slow=16,SNR=20							
BVAR				Sn		**Sn**	**10 41 28.7**	**-1.9**
	0.9nm,0.3s,baz=340,slow=25,SNR=4.5							
BVAR				Lg	Lg		10 42 32.0	
	0.3nm,0.3s,baz=333,slow=28,SNR=2.1							
AKTO	**Aktyubinsk**	**9.94**	**188**	Pn	Pn	**Pn**	**10 39 59.7**	**-0.3**
	0.4nm,0.3s,baz=321,slow=7.0,SNR=6.1							
AKTO				Sn		**Sn**	**10 41 45.5**	**-4.7**
	0.3nm,0.3s,baz=177,slow=19,SNR=3.2							
AKTO				Lg	Lg		10 42 49.9	
	0.2nm,0.3s,baz=114,slow=20,SNR=3.3							
KURBB	**Kurchatov Arra**	**14.12**	**125**	Pn	Pn	**Pn**	**10 40 55.7**	**-1.3**
	0.1nm,0.3s,baz=327,slow=12,SNR=5.3							
FINES	**FINESS Array B**	**16.59**	**289**	Pn	Pn	**Pn**	**10 41 24.5**	**-4.8**
	0.2nm,0.3s,baz=90,slow=11,SNR=6.7							
ARCES	**ARCESS Array B**	**17.15**	**317**	Pn	Pn	**Pn**	**10 41 31.6**	**-4.7**
	0.3nm,0.3s,baz=103,slow=14,SNR=5.2							
MKAR	**Makanchi Array**	**18.67**	**126**	Pn	P	**P**	**10 41 54.6**	**0.0**
	0.1nm,0.3s,baz=331,slow=9.3,SNR=4.9							
AKASG	**Malin Array Be**	**19.84**	**255**	P	P	**P**	**10 42 06.9**	**-0.4**
	0.9nm,0.3s,baz=44,slow=11,SNR=13							
GNI	**Garni**	**22.35**	**213**	LR	LR		10 53 27.8	
	comp=Z,36nm,18.1s,baz=140,slow=43							
HFS	**Hagfors**	**22.78**	**290**	P		**P**	**10 42 39.6**	**+0.8**
	3.1nm,0.6s,baz=84,slow=14,SNR=6.1							
NOA	**NORSAR Array B**	**23.61**	**293**	P	P	**P**	**10 42 47.8**	**+0.6**
	1.6nm,0.8s,baz=87,slow=10,SNR=6.2							
YKA	**Yellowknife Ar**	**57.50**	**357**	P	P	**P**	**10 47 27.6**	**+2.8**
	0.6nm,0.7s,baz=0.6,slow=7.6,SNR=11							
TORD	**Torodi Ar. Bea**	**63.31**	**248**	P	P		**10 48 07.5**	**+2.5**
	1.1nm,1.1s,baz=14,slow=6.7,SNR=3.9							

WEL 21 10:37:58.2±0.1, 43.°60S×172.°54E, h8km±1km, ML3.5/3, 1C-2D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.07**	**65**	⇑Pg	Pg	Pg	10 38 00.1	-0.1
CRLZ					SG	Sg	10 38 01.3	-0.1
CRLZ					AML	AML	10 38 01.6	
CRLZ					AML	AML	10 38 01.7	
CRLZ					AML	AML	10 38 01.7	
MQZ	**McQueen's Vall**	**0.13**	**140**	⇓PG	Pg	Pg	10 38 01.3	+0.2
MQZ					SG	Sg	10 38 03.5	+0.5
MQZ					AML	AML	10 38 03.7	
MQZ					AML	AML	10 38 03.7	
OXZ	**Oxford**	**0.46**	**307**		Pg	Pg	10 38 06.8	-0.3
LTZ	**Lake Taylor**	**0.84**	**347**	⇓P*		Pg	10 38 14.4	-0.1
RPZ	**Rata Peaks**	**1.08**	**264**	P*		Pg	10 38 18.1	-0.9

*NEIC **21** 10:38:05.4, 43.°60S×172.°51E, h5km, ML4.7(WEL), After WEL.*
NEIC Felt [V] in Canterbury.

WEL 21 10:38:05.5±0.1, 43.°60S×172.°53E, h7km, ML4.4/51, 1C-2D, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.07**	**72**	⇑PG	Pg	Pg	10 38 07.2	-0.2
CRLZ					AML	AML	10 38 08.9	
CRLZ					AML	AML	10 38 08.9	
CRLZ					AML	AML	10 38 09.0	
CRLZ					AML	AML	10 38 09.2	
CRLZ	**Canterbury Las**	**0.07**	**72**	Pg	Pg	Pg	10 38 07.2	-0.2
CRLZ				Sg	Sg	Sg	10 38 08.3	-0.4
CRLZ				Sg	Sg	Sg	10 38 08.6	-0.1
MQZ	**McQueen's Vall**	**0.14**	**141**	⇓PG	Pg	Pg	10 38 08.6	0.0
MQZ					SG	Sg	10 38 10.9	+0.3
MQZ					AML	AML	10 38 11.9	
MQZ	**McQueen's Vall**	**0.14**	**141**	⇓Pg	Pg	Pg	10 38 08.6	+0.1
MQZ					Sg	Sg	10 38 10.9	+0.4
OXZ	**Oxford**	**0.45**	**307**	PG	Pg	Pg	10 38 13.5	-0.7
OXZ	**Oxford**	**0.45**	**307**	Pg	Pg	Pg	10 38 13.9	-0.3
OXZ					Sg	Sg	10 38 20.7	+0.5
LTZ	**Lake Taylor**	**0.84**	**347**	P*	Pg	Pg	10 38 21.8	+0.2
LTZ				S*	Sg	Sg	10 38 33.0	+0.5
LTZ					AML	AML	10 38 34.6	
LTZ	**Lake Taylor**	**0.84**	**347**	P*	Pg	Pg	10 38 21.9	+0.3
LTZ				S*	Sb	Sb	10 38 33.3	-0.6
RPZ	**Rata Peaks**	**1.08**	**263**	P*	Pg	Pg	10 38 25.5	-0.7
RPZ					AML	AML	10 38 44.0	
RPZ					AML	AML	10 38 45.4	
RPZ	**Rata Peaks**	**1.08**	**263**	P*	Pg	Pg	10 38 25.5	-0.7
RPZ				S*	Sg	Sg	10 38 39.7	-0.5
INZ	**Inchbonnie**	**1.18**	**317**	P*	Pg	Pg	10 38 27.7	-0.5
WVZ	**Waitaha Valley**	**1.41**	**291**	AML	AML	AML	10 38 54.9	
WVZ					AML	AML	10 38 55.0	
WVZ	**Waitaha Valley**	**1.41**	**291**	Pn	Pn	Pn	10 38 30.5	-1.0
THZ	**Tophouse**	**1.85**	**9**	AML	AML	AML	10 39 02.8	
THZ					AML	AML	10 39 02.9	
LBZ	**Lake Benmore**	**1.87**	**244**	AML	AML	AML	10 39 06.4	
LBZ					AML	AML	10 39 07.6	
DSZ	**Denniston Nort**	**1.93**	**344**	AML	AML	AML	10 39 03.3	
DSZ					AML	AML	10 39 04.5	
FOZ	**Fox Glacier**	**1.98**	**271**	PN	Pn	Pn	10 38 39.6	+0.2
FOZ					AML	AML	10 39 05.6	
FOZ					AML	AML	10 39 12.6	
ODZ	**Otahua Downs**	**1.98**	**222**	*e*PN	Pn	Pn	10 38 35.6	-3.9
ODZ					AML	AML	10 39 09.1	
ODZ					AML	AML	10 39 09.4	
ODZ	**Otahua Downs**	**1.98**	**222**	Pn	Pn	Pn	10 38 38.1	-1.3
BSWZ	**Blackbirch Sta**	**2.13**	**28**	AML	AML	AML	10 39 09.2	
BSWZ					AML	AML	10 39 12.1	
CMWZ	**Cape Campbell**	**2.23**	**34**	AML	AML	AML	10 39 16.5	
CMWZ					AML	AML	10 39 18.0	
TUWZ	**Tuamarina**	**2.41**	**26**	AML	AML	AML	10 39 23.3	
TUWZ					AML	AML	10 39 23.9	
NNZ	**Nelson**	**2.46**	**15**	AML	AML	AML	10 39 19.6	
NNZ					AML	AML	10 39 19.7	
TCW	**Tory Channel**	**2.71**	**29**	AML	AML	AML	10 39 21.2	
TCW					AML	AML	10 39 22.1	
JCZ	**Jackson Bay**	**2.75**	**259**	AML	AML	AML	10 39 36.6	
JCZ					AML	AML	10 39 39.2	
QRZ	**Quartz Range**	**2.77**	**360**	AML	AML	AML	10 39 38.9	
QRZ					AML	AML	10 39 39.6	
WKZ	**Wanaka**	**2.81**	**243**	AML	AML	AML	10 39 40.2	
WKZ					AML	AML	10 39 43.7	
EAZ	**Earnscleugh**	**2.83**	**234**	*e*PN	Pn	Pn	10 38 49.6	-1.5
EAZ					AML	AML	10 39 36.9	
EAZ					AML

Error ellipse: s-maj=12.3km s-min=8.4km az=5.2
*ISK **21** 10:47:09.9,38.˚65N×36.˚69E,h21km,ML2.1*
*DDA **21** 10:47:09.7,38.˚78N×36.˚78E,h7km,Md2.8*
*CSEM **21** 10:47:11.2±0.5,38.˚85N×36.˚77E,h20km,ML2.1,Error ellipse: s-maj=12.8km s-min=9.7km az=133.0*

ISC 21 10:47:06.0±1.9,**38.˚63N**±0.˚06×**36.˚89E**±0.˚04,**h11**km±13km,
n18,σ**952/26,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINB	**Pinarbasi**	**0.39**	**278**	P	**Pn**	**10 47 17.3**	**-0.4**
PINB	**Pinarbasi**	**0.39**	**278**	*i* P	**Pn**	**10 47 17.3**	**-0.4**
PINB				*i* S	**Sg**	**10 47 19.9**	**+0.9**
SARI	**SarD1z-Kayseri**	**0.43**	**240**	*e*PG	**Pn**	**10 47 17.6**	**-0.7**
SARI				*e*SG	**Sb**	**10 47 22.6**	**+0.4**
CUALT	**Altinyayla-SIV**	**0.65**	**351**	P	**Pb**	**10 47 20.2**	**+0.7**
CUALT				S	**Sg**	**10 47 26.5**	**-0.9**
CUALT	**Altinyayla-SIV**	**0.65**	**351**	*i* P	**Pb**	**10 47 20.2**	**+0.7**
CUALT				*i* S	**Sg**	**10 47 26.5**	**-0.9**
CUKAN	**kangal_SIVAS**	**0.82**	**33**	P	**Pn**	**10 47 23.8**	**+0.1**
CUKAN	**kangal_SIVAS**	**0.82**	**33**	*i* P	**Pn**	**10 47 23.8**	**+0.1**
BNN	**Bunyan**	**0.85**	**286**	*e*Pg	**Pn**	**10 47 24.0**	**+0.1**
BNN				*e*SG	**Sb**	**10 47 34.5**	**+0.3**
BNN	**Bunyan**	**0.85**	**286**	*e*Pg	**Pn**	**10 47 24.0**	**+0.1**
BNN				*e*Sg	**Sb**	**10 47 34.5**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**0.94**	**328**	P	**Pb**	**10 47 24.9**	**+0.6**
CUSAR	**Sarkisla-SIVAS**	**0.94**	**328**	*i* P	**Pb**	**10 47 24.9**	**+0.6**
YOZ	**Yozgat**	**1.59**	**310**	*e*PN	**Pb**	**10 47 35.7**	**+0.3**
YOZ				*e*SN	**Sn**	**10 47 54.5**	**-0.2**
YOZ	**Yozgat**	**1.59**	**310**	*e*Pn	**Pb**	**10 47 35.7**	**+0.3**
YOZ				*e*Sn	**Sn**	**10 47 54.5**	**-0.2**
SUSE	**Susehri**	**1.88**	**32**	*i* P	**Pn**	**10 47 38.2**	**0.0**
COAL	**Corum-Alaca**	**2.20**	**318**	P	**Pb**	**10 47 45.2**	**-0.5**
COAL	**Corum-Alaca**	**2.20**	**318**	*i* P	**Pb**	**10 47 45.2**	**-0.5**
KELT	**Kelkit**	**2.38**	**50**	P	**Pb**	**10 47 49.0**	**+0.1**
KELT	**Kelkit**	**2.38**	**50**	*i* P	**Pb**	**10 47 49.0**	**+0.1**

*ISCJB **21** 10:53:45.2±0.8,38.˚79N±0.˚04×141.˚67E±0.˚09,h74km±4km, mb3.8/4,Error ellipse: s-maj=11.4km s-min=6.2km az=15.6*
*JMA **21** 10:53:46.0,38.˚78N×141.˚62E,h71km±1km,M3.4 Broadband fault plane solution: P waves. NP1: ϕs157.00000°,δ84.00000°,λ35.00000°. NP2:ϕs63.00000°, δ55.00000°,λ172.00000°. Principal axes: T Plg29.0000°, Azm26.0000°; N Plg54.0000°, Azm166.0000°; P Plg19.0000°, Azm285.0000°;*
JMA Felt I J1.
*IDC **21** 10:53:50.6±3.5,39.˚43N×139.˚66E,h0km,mb3.9/4, mb1 3.8/5,mb1mx3.5/54,mbtmp3.8/5,ML3.1/1 Error ellipse: s-maj=102.1km s-min=24.0km az=71.0*

ISC 21 10:53:46.0±1.3,**38.˚80N**±0.˚04×**141.˚71E**±0.˚08,**h67**km±8km,
n18,σ**918/29,mb3.8/4,7C-5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.28**	**354**	⇓P	**Pn**	**10 53 57.3**	**+0.6**
OFUJ				S	**Sn**	**10 54 05.4**	**+0.9**
JMK	**Ichinoseki**	**0.41**	**292**	⇑P	**Pn**	**10 53 57.7**	**+0.1**
JMK				S	**Sn**	**10 54 06.0**	**-0.1**
JIO	**Ouri**	**0.44**	**219**	⇑P	**Pn**	**10 53 58.1**	**+0.2**
JIO				S	**Sn**	**10 54 06.3**	**-0.1**
JOM	**Ohasama**	**0.74**	**335**	⇓P	**Pn**	**10 54 01.5**	**+0.3**
JOM				S	**Sn**	**10 54 12.6**	**+0.3**
JOU	**Okura**	**0.93**	**242**	⇑P	**Pn**	**10 54 03.1**	**-0.3**
JOU				S	**Sn**	**10 54 15.9**	**-0.3**
JRG	**Rokugo**	**1.02**	**306**	⇓P	**Pn**	**10 54 04.5**	**-0.1**
JRG				S	**Sn**	**10 54 18.6**	**+0.2**
JYK	**Kaneyama**	**1.06**	**277**	⇓P	**Pn**	**10 54 04.7**	**-0.3**
JYK				S	**Sn**	**10 54 19.1**	**-0.1**
JMM	**Marumori**	**1.18**	**218**	⇑P	**Pn**	**10 54 05.8**	**-0.7**
JMM				S	**Sn**	**10 54 20.6**	**-1.3**
JYS	**Shirataka**	**1.41**	**246**	⇑P	**Pn**	**10 54 09.5**	**-0.1**
JYS				*e*S	**Sn**	**10 54 27.0**	**-0.4**
JYA	**Atsumi**	**1.57**	**263**	⇓P	**Pn**	**10 54 11.5**	**-0.3**
JYA				*e*S	**Sn**	**10 54 30.7**	**-0.6**
JFK	**Kawauchi**	**1.57**	**205**	⇑P	**Pn**	**10 54 11.5**	**-0.4**
JFK				S	**Sn**	**10 54 30.5**	**-0.9**
JANG	**Nango**	**1.58**	**355**	⇑P	**Pn**	**10 54 11.8**	**-0.1**
MAT	**Matsushiro**	**3.58**	**232**	P	**Pn**	**10 54 40.7**	**+1.7**
MAT				S	**Sn**	**10 55 24.7**	**+4.7**
MJAR	**Matsushiro Arr** 2.5nm,0.3s,baz=40,slow=12,SNR=31	**3.58**	**232**	Pn	**Pn**	**10 54 40.8**	**+1.8**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=73,slow=7.8,SNR=3.2	**40.91**	**311**	P	**P**	**11 01 21.2**	**-0.3**
MKAR	**Makanchi Array** 1.5nm,0.7s,baz=84,slow=7.9,SNR=8.6	**43.40**	**301**	P	**P**	**11 01 41.0**	**-0.8**
KURBB	**Kurchatov Arra** 1.6nm,0.4s,baz=84,slow=8.9,SNR=14	**45.12**	**307**	P	**P**	**11 01 54.6**	**-0.8**
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=5.1,slow=7.1,SNR=6.5	**58.84**	**188**	P	P	11 03 54.0	+16

WEL 21 10:57:02.0±0.1,**43.˚60S×172.˚51E,h7km**±1km,**ML3.5**/12,
3C-1D,Error ellipse: s-maj=1.2km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.09**	**75**	⇑PG	Pg	10 57 04.0	0.0
CRLZ				SG	Sg	10 57 05.6	+0.2
CRLZ				AML	AML	10 57 05.7	
CRLZ				AML	AML	10 57 06.0	
CRLZ				AML	AML	10 57 06.0	
MQZ	**McQueen's Vall**	**0.15**	**136**	PG	Pg	10 57 05.1	0.0
MQZ				SG	Sg	10 57 07.7	+0.5
OXZ	**Oxford**	**0.44**	**308**	PG	Pg	10 57 10.5	0.0
RPZ	**Rata Peaks**	**1.06**	**263**	⇑P*	Pg	10 57 21.8	-0.5
RPZ				S*	Sg	10 57 36.0	-0.1
RPZ				AML	AML	10 57 42.4	
INZ	**Inchbonnie**	**1.17**	**318**	P*	Pg	10 57 23.6	-0.8
WVZ	**Waitaha Valley**	**1.39**	**291**	PN	Pn	10 57 26.8	-1.0
WVZ				AML	AML	10 57 49.2	
WVZ				AML	AML	10 57 56.4	
KHZ	**Kahutara**	**1.40**	**33**	⇑PN	Pn	10 57 25.7	-2.2
LBZ	**Lake Benmore**	**1.85**	**244**	PN	Pn	10 57 33.5	-0.7
LBZ				AML	AML	10 58 03.3	
LBZ				AML	AML	10 58 03.7	
THZ	**Tophouse**	**1.86**	**9**	PN	Pn	10 57 32.5	-1.8
THZ				AML	AML	10 58 06.9	
THZ				AML	AML	10 58 08.3	
DSZ	**Denniston Nort**	**1.92**	**344**	PN	Pn	10 57 34.3	-0.9
DSZ				AML	AML	10 58 00.3	
DSZ				AML	AML	10 58 00.3	
DSZ				AML	AML	10 58 10.8	
FOZ	**Fox Glacier**	**1.96**	**271**	⇓PN	Pn	10 57 36.0	+0.3
FOZ				AML	AML	10 58 09.7	
FOZ				AML	AML	10 58 10.1	
ODZ	**Otahua Downs**	**1.97**	**222**	PN	Pn	10 57 34.3	-1.5
ODZ				AML	AML	10 58 07.3	
ODZ				AML	AML	10 58 09.1	
ODZ				AML	AML	10 58 11.3	
ODZ				AML	AML	10 58 11.3	
BSWZ	**Blackbirch Sta**	**2.13**	**29**	PN	Pn	10 57 36.4	-1.7
NNZ	**Nelson**	**2.46**	**15**	PN	Pn	10 57 41.6	-1.0
HHSZ	**Highcliff Hill**	**2.66**	**210**	PN	Pn	10 57 43.8	-1.5
JCZ	**Jackson Bay**	**2.73**	**259**	PN	Pn	10 57 46.2	-0.3
QRZ	**Quartz Range**	**2.77**	**0**	PN	Pn	10 57 47.3	+0.5
QRZ				AML	AML	10 57 57.2	
WKZ	**Wanaka**	**2.79**	**243**	PN	Pn	10 57 47.0	-0.1
WKZ				AML	AML	10 58 38.3	
EAZ	**Earnscleugh**	**2.81**	**233**	PN	Pn	10 57 46.0	-1.4
EAZ				AML	AML	10 58 40.2	
EAZ				AML	AML	10 58 40.3	
PLWZ	**Palliser**	**2.87**	**46**	PN	Pn	10 57 45.2	-3.0
TUZ	**Tuapeka**	**3.12**	**220**	PN	Pn	10 57 50.1	-1.5
TUZ				AML	AML	10 58 46.7	
TUZ				AML	AML	10 58 57.7	
CAW	**Cannon Point**	**3.13**	**38**	PN	Pn	10 57 48.9	-2.8
MRZ	**Mangatainoka R**	**3.72**	**39**	PN	Pn	10 57 57.5	-2.4
SYZ	**Scrubby Hill**	**3.79**	**218**	PN	Pn	10 57 59.7	-1.0
DCZ	**Deep Cove**	**4.26**	**242**	PN	Pn	10 58 06.0	-1.3

IDC 21 10:58:50.4±26.0,**22.˚60S×173.˚13W,h0km,mb4.3/4, mb1 4.4/4,mb1mx3.8/30,mbtmp4.3/4,Error ellipse: s-maj=486.7km s-min=152.6km az=76.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 4.3nm,0.4s,baz=94,slow=10,SNR=13	**37.84**	**266**	P	P	11 06 09.6	+0.5
STKA	**Stephens Creek** 1.4nm,0.5s,baz=108,slow=6.9,SNR=3.7	**41.06**	**247**	P	P	11 06 34.9	-1.0
ASAR	**Alice Springs** 0.7nm,0.5s,baz=95,slow=7.4,SNR=24	**48.49**	**258**	P	P	11 07 35.0	-0.2
WRA	**Warramunga Arr** 2.8nm,0.5s,baz=100,slow=8.3,SNR=68	**48.82**	**263**	P	P	11 07 37.9	0.0

*PDG **21** 11:00:40.5±0.1,42.˚28N×19.˚47E,h20km, MD2.6/2, ML2.5/12,Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
*ISCJB **21** 11:00:41.3±0.4,42.˚25N±0.˚03×19.˚48E±0.˚03,h17km±5km, Error ellipse: s-maj=4.4km s-min=3.7km az=169.4*
*CSEM **21** 11:00:41.0±0.2,42.˚29N×19.˚49E,h10km,ML2.5,Error ellipse: s-maj=3.4km s-min=2.9km az=177.0*
*BEO **21** 11:00:42.0±0.3,42.˚35N×19.˚58E,h5km,3km,M2.1/7*

ISC 21 11:00:41.5±0.9,**42.˚30N**±0.˚02×**19.˚50E**±0.˚02,**h10**km±7km,
n51,σ**1°03/94,13C-10D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.22**	**304**	*e*Pg	**Pg**	**11 00 46.1**	**-0.1**
PDG				*e*Sg	**Sg**	**11 00 50.7**	**+1.4**
PDG	**Podgorica**	**0.22**	**304**	*e*Pg	**Pg**	**11 00 46.1**	**-0.1**
PDG				*e*Sg	**Sg**	**11 00 50.4**	**+1.1**
TTG	**Podgorica**	**0.22**	**304**	⇑*i*Pg	**Pg**	**11 00 46.0**	**-0.1**
TTG				*e*Sg	**Sg**	**11 00 50.4**	**+1.1**
DRME	**Dracevica, Mon**	**0.27**	**244**	⇓*i*Pg	**Pg**	**11 00 46.0**	**-0.9**
DRME				*e*Sg	**Sg**	**11 00 50.8**	**+0.3**
DRME	**Dracevica, Mon**	**0.27**	**244**	⇓*i*Pg	**Pg**	**11 00 46.0**	**-0.9**
DRME				*e*Sg	**Sg**	**11 00 50.4**	**-0.1**
ULC	**Ulcinj**	**0.39**	**210**	⇓*i*Pg	**Pg**	**11 00 47.5**	**-1.7**
ULC				*e*Sg	**Sg**	**11 00 54.2**	**-0.2**
ULC	**Ulcinj**	**0.39**	**210**	P	**Pg**	**11 00 47.5**	**-1.7**
ULC				*e*Sg	**Sg**	**11 00 54.2**	**-0.2**
PVY	**Plav**	**0.44**	**49**	⇑*i*Pg	**Pg**	**11 00 50.1**	**-0.2**
PVY				*e*Sg	**Sb**	**11 00 58.3**	**0.0**
PVY	**Plav**	**0.44**	**49**	⇑*i*Pg	**Pg**	**11 00 50.1**	**-0.2**
PVY				*e*Sg	**Sb**	**11 00 58.3**	**0.0**
BUM	**Brajici-Budva**	**0.45**	**270**	⇓*i*Pg	**Pg**	**11 00 49.1**	**-1.3**
BUM				*e*Sg	**Sg**	**11 00 56.6**	**+0.2**
BUM	**Brajici-Budva**	**0.45**	**270**	⇓*i*Pg	**Pg**	**11 00 49.1**	**-1.3**
BUM				*e*Sg	**Sg**	**11 00 56.6**	**+0.2**
CEME	**Cevo**	**0.50**	**299**	⇑*i*Pg	**Pg**	**11 00 50.1**	**-1.1**
CEME				*e*Sg	**Sg**	**11 00 58.4**	**+0.6**
CEME	**Cevo**	**0.50**	**299**	⇑*i*Pg	**Pg**	**11 00 50.1**	**-1.1**
CEME				*e*Sg	**Sg**	**11 00 58.4**	**+0.6**
NKME	**Niksic**	**0.62**	**319**	⇑*i*Pg	**Pg**	**11 00 52.3**	**-1.2**
NKME				*e*Sg	**Sg**	**11 01 02.6**	**+1.0**
NKME	**Niksic**	**0.62**	**319**	⇑*i*Pg	**Pg**	**11 00 52.3**	**-1.2**
NKME				*e*Sg	**Sg**	**11 01 02.6**	**+1.0**
NKY	**Niksic**	**0.63**	**324**	⇑*i*Pg	**Pg**	**11 00 52.8**	**-1.0**
NKY				*e*Sg	**Sg**	**11 01 03.1**	**+0.9**
NKY	**Niksic**	**0.63**	**324**	⇑*i*Pg	**Pg**	**11 00 52.8**	**-1.0**
NKY				*e*Sg	**Sg**	**11 01 03.1**	**+0.9**
BEY	**Berane**	**0.64**	**27**	P	**Pb**	**11 00 53.8**	**-1.0**
BEY				*e*Sg	**Sb**	**11 01 04.0**	**+0.2**
IVA	**Berane**	**0.64**	**27**	⇓*i*Pg	**Pg**	**11 00 53.6**	**-0.3**
IVA				*e*Sg	**Sb**	**11 01 04.0**	**+0.2**
PEJK	**Peje**	**0.67**	**59**	P	**Pg**	**11 00 53.8**	**-0.6**
PEJK				S	**Sb**	**11 01 04.9**	**+0.3**
HCY	**Herceg Novi**	**0.76**	**281**	⇑*i*Pg	**Pg**	**11 00 54.6**	**-1.6**
HCY				*e*Sg	**Sg**	**11 01 06.4**	**+0.2**
HCY	**Herceg Novi**	**0.76**	**281**	⇑*i*Pg	**Pg**	**11 00 54.6**	**-1.6**
HCY				*e*Sg	**Sg**	**11 01 06.4**	**+0.2**
BRY	**Bratogost**	**0.93**	**310**	⇑*i*Pg	**Pg**	**11 00 58.2**	**-1.2**
BRY				*e*Sg	**Sg**	**11 01 12.9**	**+1.3**
BRY	**Bratogost**	**0.93**	**310**	⇑*i*Pg	**Pg**	**11 00 58.2**	**-1.2**
BRY				*e*Sg	**Sg**	**11 01 12.9**	**+1.3**
TREB	**Trebinje**	**0.95**	**296**	*e*Pg	**Pg**	**11 00 59.9**	**+0.1**
TREB				*e*Sg	**Sg**	**11 01 13.9**	**+1.8**
TREB	**Trebinje**	**0.95**	**296**	*e*Pg	**Pg**	**11 00 59.9**	**+0.1**
TREB				*e*Sg	**Sg**	**11 01 12.4**	**+0.3**
TIR	**Tirane**	**0.99**	**164**	*e*Pg	**Pg**	**11 01 00.6**	**0.0**
TIR				*e*Sg	**Sg**	**11 01 15.0**	**+1.5**
UPM	**Unac-Piva**	**1.00**	**334**	⇓*i*Pg	**Pg**	**11 00 59.4**	**-1.4**
UPM				*e*Sg	**Sb**	**11 01 15.6**	**+1.2**
UPM	**Unac-Piva**	**1.00**	**334**	⇓*i*Pg	**Pg**	**11 00 59.4**	**-1.4**
UPM	**Unac-Piva**	**1.00**	**334**	*i* P	**Pg**	**11 00 59.9**	**-0.9**
UPM				*e*Sg	**Sb**	**11 01 15.6**	**+1.2**
PLE	**Pljevlja**	**1.03**	**355**	⇓*i*Pg	**Pg**	**11 01 00.2**	**-1.1**
PLE				*e*Sg	**Sn**	**11 01 16.7**	**0.0**
PLE	**Pljevlja**	**1.03**	**355**	⇓*i*Pg	**Pg**	**11 01 00.2**	**-1.1**
PLE				*e*Sg	**Sn**	**11 01 16.7**	**0.0**
IVAS	**Ivanjica**	**1.36**	**20**	*e*Pn	**Pn**	**11 01 06.5**	**-0.1**
IVAS	**Ivanjica**	**1.36**	**20**	*e*Pn	**Pn**	**11 01 06.5**	**-0.1**
SELS	**Selova**	**1.50**	**52**	*e*Pn	**Pn**	**11 01 07.7**	**-0.8**
SELS	**Selova**	**1.50**	**52**	*e*Pn	**Pn**	**11 01 07.7**	**-0.8**
OHR	**Ohrid**	**1.54**	**140**	*e*Pg	**Pg**	**11 01 11.9**	**+0.9**
OHR				*e*Sg	**Sg**	**11 01 32.1**	**+1.1**
OHR	**Ohrid**	**1.54**	**140**	*e*Pg	**Pg**	**11 01 11.9**	**+0.9**
OHR				*e*Sg	**Sg**	**11 01 32.0**	**+1.1**
BBLS	**Lazići**	**1.56**	**357**	*e*Pn	**Pn**	**11 01 09.7**	**+0.3**
BBLS	**Lazići**	**1.56**	**357**	*e*Pn	**Pn**	**11 01 09.4**	**0.0**
BBLS				*e*Sn	**Sg**	**11 01 30.9**	**-0.9**
BARS	**Barje**	**1.78**	**73**	*e*Pn	**Pn**	**11 01 11.9**	**-0.5**
BARS				*e*Sn	**Sg**	**11 01 37.1**	**-1.7**
DIVS	**Divibare**	**1.83**	**11**	*e*Pn	**Pn**	**11 01 12.7**	**-0.4**
DIVS				*e*Sn	**Sn**	**11 01 36.5**	**+0.2**
DIVS	**Divibare**	**1.83**	**11**	*e*Pn	**Pn**	**11 01 12.7**	**-0.4**
DIVS				*e*Sn	**Sn**	**11 01 37.0**	**+0.7**
TRUS	**Trudelj**	**2.03**	**19**	*e*Pn	**Pn**	**11 01 15.0**	**-0.8**
TRUS	**Trudelj**	**2.03**	**19**	*e*Pn	**Pn**	**11 01 15.0**	**-0.8**
TEKS	**Tekeris**	**2.24**	**0**	*e*Pn	**Pn**	**11 01 18.5**	**-0.3**
TEKS				*e*Sn	**Sn**	**11 01 46.8**	**+0.3**
TEKS	**Tekeris**	**2.24**	**0**	*e*Pn	**Pn**	**11 01 18.4**	**-0.3**
TEKS				*e*Sn	**Sn**	**11 01 46.8**	**+0.3**
UDBI	**Udbina**	**3.52**	**310**	*i* Pn	**Pn**	**11 01 37.4**	**+1.2**
UDBI				Sn	**Sn**	**11 02 21.3**	**+3.3**
UDBI	**Udbina**	**3.52**	**310**	*i* Pn	**Pn**	**11 01 37.4**	**+1.2**
UDBI				Sn	**Sn**	**11 02 21.2**	**+3.3**
NVLJ	**Novalja**	**4.06**	**305**	*e*Pn	**Pn**	**11 01 42.9**	**-0.8**
NVLJ				Sn	**Sn**	**11 02 30.4**	**-0.8**
NVLJ	**Novalja**	**4.06**	**305**	*e*Pn	**Pn**	**11 01 42.8**	**-0.8**
NVLJ				Sn	**Sn**	**11 02 30.4**	**-0.8**

KRSC 21 11:02:07.4±1.2,**52.˚84N×160.˚72E,h24km**±9km,**ML3.5,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.90**	**293**	*e*P	**Pb**	11 02 24.1	-0.1
NLC				*e*S	**Sb**	11 02 35.8	+0.1
SDLR	**Sedlovina**	**1.19**	**293**	*e*P	**Pb**	11 02 29.2	-0.2
SDLR				*e*S	**Sn**	11 02 44.3	+0.1
UGLR	**Uglovaya**	**1.20**	**289**	*i* P	**Pb**	11 02 29.7	+0.1
UGLR				S	**Sb**	11 02 45.1	+0.4
DALK	**Dalny**	**1.21**	**280**	*e*P	**Pb**	11 02 29.5	0.0
PET	**Petropavlovsk**	**1.26**	**279**	*e*P	**Pb**	11 02 30.4	-0.1
PET				*e*S	**Sb**	11 02 46.7	+0.4
AVH	**Avacha**	**1.27**	**291**	*i* P	**Pb**	11 02 30.8	+0.1
AVH				S	**Sb**	11 02 47.3	+0.7
KRER	**Koryakskii**	**1.28**	**292**	*i* P	**Pb**	11 02 31.0	+0.1
KRER				*e*S	**Sb**	11 02 47.7	+0.8
KRX	**Arik**	**1.35**	**294**	*i* P	**Pb**	11 02 31.6	-0.5
KRX				*e*S	**Sn**	11 02 48.3	+0.1
RUS	**Russkaya**	**1.40**	**254**	*e*P	**Pb**	11 02 32.3	-0.5
RUS				*e*S	**Sb**	11 02 50.0	-0.3
KII	**Karymskiy**	**1.42**	**328**	*e*P	**Pb**	11 02 33.2	-0.1
KRMR	**Karymshinskiy**	**1.57**	**271**	*e*P	**Pn**	11 02 44.6	-0.8
KRMR				S	**Sn**	11 02 54.0	+0.7
ASAK	**Asacha**	**1.78**	**256**	*e*P	**Pb**	11 02 38.6	-0.7
ASAK				*e*S	**Sb**	11 03 01.0	-0.1
MKZ	**Mys Kozlova**	**1.83**	**19**	*e*P	**Pn**	11 02 38.2	+0.9
MKZ				*e*S	**Sn**	11 02 59.9	+0.3
GNL	**Ganaly**	**1.88**	**298**	*i* P	**Pb**	11 02 40.5	-0.5
GNL				*e*S	**Sb**	11 03 03.8	-0.3
TUMR	**Tumrok**	**2.48**	**352**	*e*P	**Pb**	11 02 49.3	-1.9
TUMR				S	**Sb**	11 03 20.0	-1.3
KMNR	**Kamenistaya**	**2.94**	**355**	*e*P	**Pb**	11 02 56.6	-2.5
BZMR	**Bezymyannaya**	**3.11**	**358**	P	**Pb**	11 02 58.6	-3.4
KPT	**Kopyto**	**3.15**	**355**	P	**Pb**	11 02 59.6	-3.1
ESO	**Esso**	**3.31**	**340**	*e*P	**Pn**	11 03 00.9	+3.1
KRSR	**Krestovskiy**	**3.39**	**359**	P	**Pn**	11 03 02.2	+3.3
BDR	**Baidarnaya**	**3.75**	**4**	P	**Pb**	11 03 09.1	-3.8
SMKR	**Semkarok**	**3.78**	**6**	P	**Pn**	11 03 07.3	+3.1
BKI	**Bering**	**3.90**	**50**	P	**Pn**	11 03 09.1	+3.3

*CSEM **21** 11:02:40.6,13.˚57N×42.˚18E,h37km,ML3.6*

DHMR 21 11:02:40.6±1.5,**13.˚57N×42.˚18E,h37km**±10km,**ML3.6, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**1.78**	**77**	*i* P	**Pn**	11 03 10.7	+1.8
UDYN				*i* S	**Sn**	11 03 31.1	+0.7
UDYN	**Al 'Udayn**	**1.78**	**77**	*i* P	**Pn**	11 03 11.3	+2.4
UDYN				*i* S	**Sn**	11 03 35.4	+5.0
DHBB	**Dhamar BB**	**2.36**	**65**	*i* P	**Pn**	11 03 20.5	+3.3
DHBB				*i* S	**Sn**	11 03 50.7	+5.6
DHBB	**Dhamar BB**	**2.36**	**65**	*i* P	**Pn**	11 03 20.5	+3.4
DHBB				*i* S	**Sn**	11 03 50.7	+5.7
HAJJ	**Hajjah**	**2.52**	**33**	*i* P	**Pn**	11 03 22.9	+3.7
HAJJ				*i* S	**Sn**	11 03 54.9	+6.1
HAJJ	comp=N,255nm,0.5s			AML	AML	11 04 15.1	
HAJJ	**Hajjah**	**2.52**	**33**	*i* P	**Pn**	11 03 20.9	+1.7
HAJJ				*i* S	**Sn**	11 03 55.2	+6.5
HAJJ	**Hajjah**	**2.52**	**33**	*i* P	**Pn**	11 03 20.9	+1.7
HAJJ				*i* S	**Sn**	11 03 55.2	+6.4
BDHA	**Al Bayda'**	**3.31**	**83**	*i* P	**Pn**	11 03 33.5	+3.3
BDHA				*i* S	**Sn**	11 04 12.9	+4.5
BDHA	comp=N,290nm,0.6s			AML	AML	11 04 35.3	
BDHA	**Al Bayda'**	**3.31**	**83**	*i* P	**Pn**	11 03 33.5	+3.3
BDHA				*i* S	**Sn**	11 04 12.9	+4.5

*ISCJB **21** 11:08:11.5±0.5,50.˚87N±0.˚04×73.˚74E±0.˚07,h0km, mb3.4/1,Error ellipse: s-maj=6.7km s-min=5.6km az=154.0*
*IDC **21** 11:08:11.5±1.5,50.˚53N×73.˚51E,h0km,mb3.3/1, mb1 3.2/5,mb1mx3.1/35,mbtmp3.1/5,ML2.4/4,Error ellipse: s-maj=27.5km s-min=9.1km az=32.0*
*NNC **21** 11:08:13.1±0.7,50.˚88N×73.˚62E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=9.5km s-min=5.6km az=44.0, Suspected Mining explosion.*

ISC 21 11:08:12.3±0.7,**50.˚88N**±0.˚05×**73.˚64E**±0.˚06,**h0km,n19,**
σ1°78/21,13C-13D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya** 5.5nm,0.7s	**2.48**	**319**	⇑Pn	**Pn**	**11 08 55.4**	**+1.4**
VOSK				⇓Lg	Lg	11 09 28.8	
OTUK	**Ortayu** 7.4nm,0.6s	**2.77**	**198**	⇑Pn	**Pn**	**11 08 59.1**	**+1.1**
OTUK				⇓Lg	Lg	11 09 37.7	
BVA0	**Borovoye Array** 5.3nm,0.7s,baz=135,slow=14,SNR=40	**2.94**	**318**	⇓Pn	**Pb**	**11 09 04.1**	**-1.5**
BVA0				⇓Lg	Lg	11 09 45.8	
BVAR	**Borovoye Array** 1.6nm,0.3s,baz=147,slow=12,SNR=27	**2.94**	**318**	Pn	**Pn**	**11 09 02.1**	**+1.8**
BVAR				Sn	**Sb**	**11 09 41.7**	**-0.4**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=277,slow=14,SNR=26	**3.12**	**93**	Pn	**Pn**	**11 09 03.9**	**+1.2**
KURBB				Lg	Lg	11 09 51.8	
KURBB	**Kurchatov Arra** 15nm,0.6s	**3.12**	**93**	⇓Pn	**Pn**	**11 09 04.2**	**+1.5**
KURBB				⇓Lg	Lg	11 09 50.5	
KURK	**Kurchatov** 295nm,0.9s	**3.16**	**91**	⇓Pn	**Pn**	**11 09 04.2**	**+0.9**
KURK				⇓Lg	Lg	11 09 50.7	
CHKZ	**Chkalovo** 2.7nm,0.5s	**3.36**	**328**	⇑Pn	**Pn**	**11 09 07.5**	**+1.5**
CHKZ				⇑Lg	Lg	11 09 56.9	
ZRNK	**Zerenda** 0.8nm,0.5s	**3.54**	**308**	⇓Pn	**Pn**	**11 09 09.6**	**+1.1**
ZRNK				⇑Pg	**Pb**	**11 09 16.0**	**+0.2**
ZRNK	4.6nm,0.7s			⇓Sn	**Sn

ODZ	**Otahua Downs**	**1.98**	**222**	PN	Pn	11 10 06.0	-2.1
ODZ				AML	AML	11 10 43.8	
ODZ				AML	AML	11 10 45.3	
BSWZ	**Blackbirch Sta**	**2.12**	**28**	PN	Pn	11 10 08.7	-1.3
NNZ	**Nelson**	**2.46**	**15**	PN	Pn	11 10 14.1	-0.4
HHSZ	**Highcliff Hill**	**2.67**	**210**	PN	Pn	11 10 15.6	-2.0
JCZ	**Jackson Bay**	**2.75**	**259**	PN	Pn	11 10 18.0	-0.7
JCZ				AML	AML	11 11 12.3	
QRZ	**Quartz Range**	**2.76**	**0**	PN	Pn	11 10 18.1	-0.7
QRZ				AML	AML	11 10 29.0	
WKZ	**Wanaka**	**2.81**	**243**	PN	Pn	11 10 17.9	-1.6
EAZ	**Earnscleugh**	**2.83**	**233**	⇑PN	Pn	11 10 17.8	-2.0
EAZ				AML	AML	11 11 04.2	
EAZ				AML	AML	11 11 04.4	
EAZ				AML	AML	11 11 06.3	
EAZ				AML	AML	11 11 08.9	
PLWZ	**Palliser**	**2.85**	**46**	PN	Pn	11 10 17.2	-2.9
DUWZ	**D'Urville Isla**	**2.97**	**21**	PN	Pn	11 10 22.3	+0.6
CAW	**Cannon Point**	**3.11**	**38**	PN	Pn	11 10 20.7	-3.0
TUZ	**Tuapeka**	**3.14**	**220**	PN	Pn	11 10 22.0	-1.9
TUZ				AML	AML	11 11 17.4	
TUZ				AML	AML	11 11 25.2	
KIW	**Kapiti Island**	**3.25**	**34**	PN	Pn	11 10 23.1	-2.5
OGWZ	**Otaki Gorge**	**3.40**	**36**	PN	Pn	11 10 25.1	-2.5
MSZ	**Milford Sound**	**3.48**	**250**	AML	AML	11 11 26.7	
MSZ				AML	AML	11 11 29.2	
MLZ	**Mavora Lakes**	**3.62**	**239**	⇑PN	Pn	11 10 28.7	-2.0
MRZ	**Mangatainoka R**	**3.70**	**39**	PN	Pn	11 10 29.3	-2.4
SYZ	**Scrubby Hill**	**3.80**	**218**	PN	Pn	11 10 31.5	-1.5
WHZ	**Wether Hill Ro**	**3.99**	**233**	PN	Pn	11 10 32.7	-3.0
BFZ	**Birch Farm**	**4.01**	**45**	PN	Pn	11 10 32.7	-3.3
DCZ	**Deep Cove**	**4.28**	**242**	PN	Pn	11 10 37.7	-1.9
APZ	**The Paps**	**4.56**	**223**	PN	Pn	11 10 41.6	-1.9
VRZ	**Vera Road**	**4.77**	**21**	PN	Pn	11 10 48.4	+2.0

IDC 21 11:25:30.6±2.7, 54°19.N×87°23.E, h0km, mb1 3.4/2, mb1mx3.0/52, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=22.6km s-min=16.2km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**261**	*i*		11 34 41.7	
	baz=79,slow=319,SNR=11						
ZALV	**Zalesovo Beam**	**1.44**	**261**	Pg	Pn	11 25 56.5	-1.4
	7.1nm,0.3s,baz=75,slow=16,SNR=44						
ZALV				Lg	Lg	11 26 17.2	
	6.5nm,0.3s,baz=75,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**6.41**	**240**	Pn	Pn	11 27 07.0	+0.9
	0.3nm,0.3s,baz=57,slow=13,SNR=7.8						
KURBB				Sn	Sn	11 28 19.3	-0.7
	0.0nm,0.3s,baz=34,slow=20,SNR=2.0						
KURBB				Lg	Lg	11 28 52.2	
	0.0nm,0.3s,baz=57,slow=31,SNR=3.2						
MKAR	**Makanchi Array**	**8.05**	**205**	Pn	Pn	11 27 30.1	+1.4
	0.3nm,0.3s,baz=26,slow=14,SNR=13						
MKAR				Sn	Sn	11 28 58.3	-2.0
	0.2nm,0.3s,baz=42,slow=20,SNR=3.6						

MAN 21 11:29:49, 6.97N×126.47E, h17km, mb4.2, ML3.1, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.21**	**263**	*eP*	Pb	11 29 55.3	+0.9
MATI				*eS*	Sb	11 30 03.5	+5.4
DMPH	**Davao City--Mi**	**0.96**	**277**	⇑*eP*	Pb	11 30 06.0	-1.2
DMPH				*eS*	Sn	11 30 23.1	+2.0
BUKP	**Musuan**	**1.66**	**303**	*eP*	Pn	11 30 17.5	+0.1
BUKP				*eS*	Sn	11 30 38.5	+0.1

IDC 21 11:43:47.1±1.0, 6.64S×132.09E, h0km, mb4.1/8, mb1 4.4/11, mb1mx4.1/42, mbtmp4.3/11, ML4.7/3, Error ellipse: s-maj=48.9km s-min=18.4km az=77.0
ISCJB 21 11:43:50.5±0.5, 6.73S±0.04×132.21E±0.07, h46km, mb4.1/11, Error ellipse: s-maj=10.3km s-min=5.6km az=176.9
NEIC 21 11:43:51.5±0.9, 6.77S×132.36E, h41km±12km, mb4.4/2, Error ellipse: s-maj=13.1km s-min=8.0km az=94.0
DJA 21 11:43:53.0±0.2, 7°S±2°×13°2E±°, h119km±7km, M4.8/7, mb5.3/5, mb4.7/7, MLv4.9/6, Mw(mB)4.7/5

ISC 21 11:43:53.6±0.7, 6.56S±0.04×132.13E±0.08, h46km, n28, σ2s33/33, mb4.1/11, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.64**	**210**	P	**Pn**	**11 44 22.2**	**+2.2**
SAUI				S	**Sn**	**11 44 43.8**	**+3.9**
BNDI	**Bandanaira**	**3.00**	**312**	P	**Pn**	**11 44 40.8**	**+2.1**
BNDI				S	**Sn**	**11 45 14.1**	**+0.7**
FAKI	**Fak Fak**	**3.62**	**2**	P	**Pn**	**11 44 48.6**	**+1.4**
FAKI				S	**Sn**	**11 45 28.6**	**-0.1**
FAKI	**Fak Fak**	**3.62**	**2**	*e*Pn	**Pn**	**11 44 48.3**	**+1.1**
FAKI				*e*Sn	**Sn**	**11 45 28.1**	**-0.6**
RKPI	**Ransiki, Papua**	**5.41**	**22**	P	**Pn**	**11 45 15.3**	**+3.4**
RKPI				S	**Sn**	**11 46 14.1**	**+1.1**
SWI	**Sorong**	**5.72**	**351**	P	**Pn**	**11 45 17.7**	**+1.6**
	33nm,0.6s,2μm1.1nm						
SWI				S	**Sn**	**11 46 18.6**	**-1.9**
	33nm,0.6s,2μm1.1nm						
LBMI	**Labuha**	**7.48**	**322**	P	**Pn**	**11 45 40.9**	**+0.7**
SANI	**Sanana**	**7.58**	**306**	P	**Pn**	**11 45 41.9**	**+0.2**
	77nm,0.6s,1μm0.4nm						
SOEI	**Soe**	**8.40**	**247**	P	**Pn**	**11 45 55.8**	**+2.8**
	46nm,0.8s						
SOEI				S	**Sn**	**11 47 21.5**	**-5.2**
	46nm,0.8s						
FITZ	**Fitzroy Crossi**	**13.10**	**208**	Pn	**Pn**	**11 46 53.2**	**-4.1**
	4.7nm,0.3s,baz=27,slow=11,SNR=110						
FITZ				Sn	Sn	11 49 09.2	-12
	8.4nm,0.3s,baz=216,slow=15,SNR=12						
WRAB	**Tennant Creek**	**13.47**	**171**	*e*Pn	Pn	11 46 57.5	-4.8
	20nm,0.7s						
WRAB				*e*Sn	Sn	11 49 17.7	-13
WRA	**Warramunga Arr**	**13.48**	**171**	Pn	Pn	11 46 57.3	-5.1
	3.3nm,0.3s,baz=346,slow=14,SNR=86						
WRA				Sn	Sn	11 49 18.2	-13
	7.5nm,0.3s,baz=355,slow=23,SNR=6.1						
ASAR	**Alice Springs**	**17.10**	**174**	P	**Pn**	**11 47 45.3**	**-4.2**
	1.7nm,0.3s,baz=356,slow=14,SNR=86						
ASAR				Sn	Sn	11 50 45.5	-13
	1.5nm,0.3s,baz=356,slow=28,SNR=7.7						
BBKI	**Banjar Baru**	**17.49**	**279**	P	**P**	**11 48 00.8**	**+5.7**
MBWA	**Marble Bar**	**18.83**	**218**	*e*P	**P**	**11 48 07.5**	**-2.3**
	18nm,0.6s						
STKA	**Stephens Creek**	**26.70**	**162**	P	**P**	**11 49 28.6**	**-0.1**
	1.5nm,0.4s,baz=337,slow=8.4,SNR=5.8						
LAMP	**Lampang**	**40.60**	**308**	P	**P**	**11 51 30.5**	**+1.3**
	3.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.10**	**308**	P	**P**	**11 51 33.4**	**0.0**
	2.8nm,0.5s,baz=141,slow=8.3,SNR=4.8						
CMMT	**Chiang Mai**	**41.30**	**308**	P	**P**	**11 51 35.8**	**+0.8**
	12nm,1.1s						
CHTO	**Chiang Mai**	**41.30**	**308**	P	**P**	**11 51 35.9**	**+0.9**
	52nm,1.4s						
CHTO	**Chiang Mai**	**41.30**	**308**	*e*P	**P**	**11 51 35.5**	**+0.4**
	7.4nm,0.9s						
MJAR	**Matsushiro Arr**	**43.25**	**7**	P	**P**	**11 51 50.6**	**0.0**
	0.9nm,0.6s,baz=186,slow=7.9,SNR=3.7						
SONM	**Songino Array**	**58.72**	**340**	P	**P**	**11 53 48.1**	**+1.2**
	0.4nm,0.5s,baz=154,slow=9.3,SNR=4.0						
MKAR	**Makanchi Array**	**69.03**	**326**	P	**P**	**11 54 55.8**	**+1.2**
	3.2nm,0.6s,baz=109,slow=9.4,SNR=19						
ZALV	**Zalesovo Beam**	**72.14**	**333**	P	**P**	**11 55 12.7**	**-0.6**
	1.3nm,0.6s,baz=119,slow=4.0,SNR=4.5						
KURBB	**Kurchatov Arra**	**73.25**	**328**	P	**P**	**11 55 20.6**	**+0.7**
	1.6nm,0.6s,baz=127,slow=4.9,SNR=4.2						
KURK	**Kurchatov**	**73.26**	**328**	P	**P**	**11 55 20.6**	**+0.7**
BVAR	**Borovoye Array**	**78.83**	**327**	P	**P**	**11 55 51.2**	**-0.5**
	0.9nm,0.5s,baz=118,slow=6.9,SNR=6.2						

NEIC 21 11:46:11.0±2.0, 5.82S×150.11E, h113km±17km, mb4.3/1, Error ellipse: s-maj=33.7km s-min=11.4km az=101.0
IDC 21 11:46:11.6±3.2, 5.84S×149.93E, h115km±26km, mb3.8/13, mb1 4.0/15, mb1mx3.8/47, mbtmp4.3/15, Error ellipse: s-maj=45.3km s-min=16.2km az=107.0
ISCJB 21 11:46:12.3±1.2, 5.78S±0.1×149.78E±0.2, h135km, mb3.9/12, Error ellipse: s-maj=37.3km s-min=7.7km az=20.5

ISC 21 11:46:13.7±1.1, 5.81S±0.10×150.0E±0.3, h135km, n23, σ1s00/21, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.56**	**218**	P	Pn	11 47 18.0	-3.0
	22nm,0.3s,baz=51,slow=7.0,SNR=57						
PMG				S	Sn	11 48 08.6	-4.8
	61nm,0.3s,baz=351,slow=20,SNR=18						
PMG	**Port Moresby**	**4.56**	**218**	*e*Pn	Pn	11 47 18.1	-3.0
	610nm,0.6s						
CTA	**Charters Tower**	**14.66**	**194**	P	**P**	**11 49 39.0**	**+1.8**
	1.0nm,0.3s,baz=12,slow=12,SNR=11						
CTAO	**Charters Tower**	**14.66**	**194**	*e*Pn	**Pn**	**11 49 32.9**	**-1.7**
GUMO	**Guam**	**19.93**	**345**	P	**P**	**11 50 34.4**	**-0.8**
	6.8nm,0.3s,baz=204,slow=11,SNR=4.2						
WRAB	**Tennant Creek**	**20.71**	**226**	P	**P**	**11 50 44.9**	**+1.3**
	5.3nm,0.4s						
WRA	**Warramunga Arr**	**20.73**	**226**	P	**P**	**11 50 43.4**	**-0.3**
	10nm,0.5s,baz=49,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**23.57**	**219**	P	**P**	**11 51 12.1**	**-0.2**
	5.0nm,0.6s,baz=38,slow=11,SNR=6.5						
MJAR	**Matsushiro Arr**	**43.55**	**346**	P	**P**	**11 54 04.6**	**+0.4**
	1.4nm,0.5s,baz=172,slow=6.7,SNR=5.3						
KSRS	**Korea Array**	**47.71**	**336**	P	**P**	**11 54 37.0**	**+0.2**
	3.0nm,0.5s,baz=154,slow=8.4,SNR=18						
KSAR	**Wonju Array Be**	**47.72**	**336**	P	**P**	**11 54 37.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**52.36**	**344**	P	**P**	**11 55 11.8**	**0.0**
	1.2nm,0.5s,baz=191,slow=5.8,SNR=4.1						
KLR	**Kul'dur**	**57.08**	**346**	P	**P**	**11 55 46.5**	**+0.8**
	1.4nm,0.5s,baz=159,slow=8.7,SNR=6.2						
PETK	**Petropavlovsk-**	**59.05**	**5**	P	**P**	**11 56 00.9**	**+1.5**
	5.0nm,0.5s,baz=157,slow=6.0,SNR=22						
SONM	**Songino Array**	**65.73**	**329**	P	**P**	**11 56 43.5**	**-0.6**
	1.2nm,0.5s,baz=147,slow=4.4,SNR=10						
MKAR	**Makanchi Array**	**79.27**	**320**	P	**P**	**11 58 04.5**	**+0.3**
	0.5nm,0.6s,baz=101,slow=7.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**80.46**	**327**	P	**P**	**11 58 09.0**	**-1.4**
	1.3nm,0.5s,baz=118,slow=3.7,SNR=4.2						
KURK	**Kurchatov**	**82.86**	**323**	P	**P**	**11 58 23.1**	**0.0**
KURBB	**Kurchatov Arra**	**82.89**	**323**	P	**P**	**11 58 23.1**	**-0.1**
	0.3nm,0.4s,baz=106,slow=3.3,SNR=3.2						
ILAR	**Eielson Array**	**84.14**	**23**	P	**P**	**11 58 28.4**	**-1.0**
	1.1nm,0.7s,baz=246,slow=5.5,SNR=14						
BVAR	**Borovoye Array**	**88.38**	**324**	P	**P**	**11 58 48.8**	**-1.5**
	0.4nm,0.4s,baz=73,slow=5.0,SNR=3.9						
BOSA	**Boshof**	**116.79**	**234**	PKP	**PKPdf**	**12 04 43.0**	**-0.1**
	2.0nm,0.5s,baz=26,slow=2.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**147.93**	**285**	PKPbc	**PKPbc**	**12 05 45.0**	**+0.8**
	1.1nm,0.5s,baz=54,slow=3.3,SNR=8.6						

BJI 21 11:47:23.6, 30.40S×177.60W, h20km, mb5.1/12, mB5.5/8, Ms5.1/10, Ms7 4.8/8
IDC 21 11:47:23.5±4.0, 30.26S×177.47W, h25km±25km, mb4.4/13, mb1 4.5/16, mb1mx4.3/39, mbtmp4.5/16, ML3.8/3, MS4.3/20, Ms1 4.3/20, ms1mx4.1/30, Error ellipse: s-maj=18.3km s-min=15.8km az=130.0
ISCJB 21 11:47:23.4±0.2, 30.74S±0.03×177.53W±0.06, h33km, mb4.9/41, MS4.4/23, Error ellipse: s-maj=8.7km s-min=3.1km az=24.4
MOS 21 11:47:24.0±1.2, 30.25S×177.69W, h31km, mb5.2/13, MS4.5/4, Error ellipse: s-maj=14.5km s-min=11.2km az=80.9
NEIC 21 11:47:24.9±0.3, 30.53S×177.71W, h35km, mb4.9/29, Error ellipse: s-maj=12.4km s-min=6.5km az=122.0
GCMT 21 11:47:25.0±0.3, 30.33S×177.29W, h33km±1km, MW5.1/73, Moment Tensor Solution. s43,c61; s73,c104; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.44±.27; Mθθ=0.04±.18; Mφφ=-4.49±.17; Mrθ=0.78±.23; Mφθ=-2.02±.11; Mφr=3.22±.19; Best double couple: M0=5.87700×10^16 NP1: ϕs=207.00000°, δ=28.00000°, λ=99.00000°. NP2: ϕs=207.00000°, δ=28.00000°, λ=99.00000°. Principal axes: T 5.4830, Plg=72.0000°, Azm=275.0000°; N 0.7830, Plg=4.0000°, Azm=18.0000°; P -6.2700, Plg=17.0000°, Azm=110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 21 11:47:24.2±0.3, 30.69S±0.05×177.31W±0.06, h33km, n192, σ2s33/198, mb4.9/41, MS4.4/23, 6C-6D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.52**	**340**	Pn	Pn	11 47 42.8	-6.3
	6μm,0.3s,baz=123,slow=2.8,SNR=191						
RAO				Sn	Sn	11 47 56.6	-11
	11μm,0.3s,baz=72,slow=20,SNR=26						
RAO				LR	LR	11 47 59.1	
	comp=Z,3μm,20.6s,baz=133,slow=33						
RAO	**Raoul Island**	**1.52**	**340**	*e*P	Pn	11 47 42.5	-6.7
RAO				*e*		11 48 00.0	
RAO	**Raoul Island**	**1.52**	**340**	*e*Pn	Pn	11 47 42.5	-6.6
RAO				*e*Sn	**Sn**	**11 47 60.0**	**-7.9**
MXZ	**Matakaoa Point**	**7.76**	**207**	*e*Pn	**Pn**	**11 49 14.8**	**0.0**
MXZ	**Matakaoa Point**	**7.76**	**207**	PN	**Pn**	**11 49 14.3**	**-0.5**
MXZ				SN	**Sn**	**11 50 43.7**	**+2.2**
WMGZ	**Waiomatatini S**	**7.94**	**205**	PN	**Pn**	**11 49 18.0**	**+0.7**
HAZ	**Te Kaha**	**8.13**	**209**	PN	**Pn**	**11 49 19.5**	**-0.5**
HAZ				SN	**Sn**	**11 50 53.4**	**+2.7**
PUZ	**Puketiti**	**8.22**	**205**	PN	**Pn**	**11 49 18.7**	**-2.6**
PUZ				SN	**Sn**	**11 50 53.0**	**0.0**
TWGZ	**Tauwhareparae**	**8.42**	**206**	PN	**Pn**	**11 49 22.5**	**-1.4**
TWGZ				SN	**Sn**	**11 51 00.9**	**+3.1**
CNGZ	**Carnagh Statio**	**8.61**	**204**	PN	**Pn**	**11 49 25.3**	**-1.2**
WCZ	**Waipu Caves**	**8.72**	**231**	PN	Pn	11 49 36.1	+8.0
MWZ	**Matawai**	**8.73**	**208**	PN	**Pn**	**11 49 26.7**	**-1.5**
URZ	**Urewera**	**8.84**	**210**	Pn	**Pn**	**11 49 30.1**	**+0.4**
	1.6nm,0.3s,baz=282,slow=5.3,SNR=24						
URZ				Sn	**Sn**	**11 51 10.5**	**+2.4**
	14nm,0.3s,baz=59,slow=20,SNR=8.3						
URZ	**Urewera**	**8.84**	**210**	*e*Pn	**Pn**	**11 49 27.5**	**-2.2**
URZ				*e*Sn	**Sn**	**11 51 07.5**	**-0.6**
URZ				Sn	Sn	11 51 10.5	+2.4
URZ	**Urewera**	**8.84**	**210**	PN	**Pn**	**11 49 28.2**	**-1.5**
OUZ	**Omahuta**	**8.87**	**237**	PN	Pn	11 49 36.9	+6.8
RIGZ	**Rimuhau**	**8.97**	**206**	PN	**Pn**	**11 49 30.3**	**-1.2**
RIGZ				SN	**Sn**	**11 51 14.3**	**+3.1**
PRGZ	**Paritu Road**	**9.11**	**204**	PN	**Pn**	**11 49 31.5**	**-1.9**
PRGZ				SN	**Sn**	**11 51 17.2**	**+2.3**
SNGZ	**Shannon Statio**	**9.19**	**207**	PN	**Pn**	**11 49 34.0**	**-0.6**
SNGZ				SN	**Sn**	**11 51 19.0**	**+2.2**
RTZ	**Ruatahuna**	**9.20**	**209**	PN	**Pn**	**11 49 33.8**	**-0.8**
KNZ	**Kokohu**	**9.28**	**205**	PN	**Pn**	**11 49 33.7**	**-1.9**
ARHZ	**Aropaoanui**	**9.74**	**207**	PN	**Pn**	**11 49 39.8**	**-2.2**
ARHZ				SN	**Sn**	**11 51 32.1**	**+1.8**
BKZ	**Black Stump Fm**	**9.87**	**209**	*e*Pn	**Pn**	**11 49 42.1**	**-1.6**
BKZ	**Black Stump Fm**	**9.87**	**209**	PN	**Pn**	**11 49 41.7**	**-2.0**
HIZ	**Hauiti**	**10.12**	**217**	*e*Pn	Pn	11 49 53.0	+5.8
KAHZ	**Kahuranaki**	**10.25**	**206**	PN	**Pn**	**11 49 45.9**	**-3.1**
PXZ	**Pawanui**	**10.46**	**205**	SN	**Sn**	**11 51 44.7**	**-3.2**
BFZ	**Birch Farm**	**11.26**	**206**	*e*Pn	**Pn**	**11 49 58.4**	**-4.4**
BFZ	**Birch Farm**	**11.26**	**206**	PN	**Pn**	**11 49 59.2**	**-3.6**
BFZ				SN	**Sn**	**11 52 04.8**	**-2.6**
MRZ	**Mangatainoka R**	**11.50**	**208**	PN	**Pn**	**11 50 01.6**	**-4.5**
MRZ				SN	**Sn**	**11 52 08.5**	**-4.9**
KIW	**Kapiti Island**	**11.95**	**210**	SN	**Sn**	**11 52 18.6**	**-5.7**
SNZO	**South Karori**	**12.41**	**209**	*e*Pn	**Pn**	**11 50 17.4**	**-1.0**
SNZO				*e*Sn	**Sn**	**11 52 29.6**	**-5.8**
NNZ	**Nelson**	**12.92**	**213**	SN	**Sn**	**11 52 42.0**	**-6.1**
CTZ	**Chatham Island**	**13.04**	**178**	PN	**Pn**	**11 50 28.4**	**+1.3**
CTZ				SN	**Sn**	**11 52 45.5**	**-5.3**
THZ	**Tophouse**	**13.57**	**213**	*e*Pn	**Pn**	**11 50 33.0**	**-1.5**
THZ				*e*Sn	**Sn**	**11 53 00.2**	**-3.8**
KHZ	**Kahutara**	**13.81**	**210**	*e*Pn	**Pn**	**11 50 33.5**	**-4.2**
KHZ				*e*Sn	**Sn**	**11 53 02.4**	**-7.3**
KHZ	**Kahutara**	**13.81**	**210**	*e*PN	Pn	11 50 32.0	-5.6
KHZ				SN	Sn	11 53 01.1	-8.7
LTZ	**Lake Taylor**	**14.66**	**212**	*e*Pn	**Pn**	**11 50 47.7**	**-1.6**
OXZ	**Oxford**	**15.20**	**211**	*e*Pn	**Pn**	**11 50 54.6**	**-1.8**
	53nm,0.5s						
RPZ	**Rata Peaks**	**15.95**	**212**	Pn	**Pn**	**11 51 06.4**	**+0.3**
	4.3nm,0.3s,baz=159,slow=4.9,SNR=15						
RPZ	**Rata Peaks**	**15.95**	**212**	*e*Pn	**Pn**	**11 51 04.5**	**-1.6**
	19nm,0.6s						
DZM	**Mont Dzumac**	**16.88**	**297**	*e*Pn	**P**	**11 51 22.7**	**+2.8**
	188nm,1.6s						
DZM				*e*LR	LR	11 55 02.9	
	3μm,23.9s						
DZM	**Mont Dzumac**	**16.88**	**297**	Pn	**Pn**	**11 51 13.5**	**-4.7**
	0.2nm,0.3s,baz=150,slow=20,SNR=2.5						
ODZ	**Otahua Downs**	**17.17**	**210**	*e*Pn	**Pn**	**11 51 21.1**	**-0.4**
	20nm,0.8s						
ODZ	**Otahua Downs**	**17.17**	**210**	*e*PN	**Pn**	**11 51 20.6**	**-0.9**
ODZ				SN	Sn	11 54 20.6	-11
AFI	**Afiamalu**	**17.46**	**18**	P	**Pn**	**11 51 21.3**	**-4.0**
	1.5nm,0.3s,baz=252,slow=20,SNR=3.9						
AFI				S	Sn	11 54 18.2	-21
	1.1nm,0.3s,baz=73,slow=19,SNR=3.2						
RAR	**Rarotonga**	**18.36**	**63**	P	**P**	**11 51 33.6**	**-2.5**
	1.7nm,0.3s,baz=150,slow=8.1,SNR=3.8						
RAR				S	Sn	11 54 42.9	-18
	1.1nm,0.3s,baz=65,slow=19,SNR=3.1						
RAR				LR	LR	11 57 05.4	
	comp=Z,543nm,19.4s,baz=254,slow=32						
MLZ	**Mavora Lakes**	**18.57**	**214**	*e*P	**Pn**	**11 51 38.6**	**-0.2**
	55nm,1.5s						
WHZ	**Wether Hill Ro**	**19.04**	**213**	*e*P	**Pn**	**11 51 44.1**	**-0.2**
	15nm,0.6s						
LHI	**Lord Howe Isla**	**20.24**	**262**	P	Pn	11 51 59.3	+0.5
	baz=20,SNR=3.3						
TBI	**Tubuai**	**25.82**	**80**	*e*LQ	LQ	11 57 57.7	
	1μm,26.5s						
TBI				*e*LR	LR	11 59 23.5	
	2μm,27.0s,baz=248						
TBI	**Tubuai**	**25.82**	**80**	*e*T	T	12 19 42.2	
	17nm,0.3s						
MGCD	**Mangrove Creek**	**26.86**	**256**	P	**P**	**11 53 04.8**	**+2.9**
	baz=27,SNR=6.0						
PAE	**Paea**	**28.34**	**69**	*e*T	T	12 22 54.9	
	9.6nm,0.3s						
PPT2	**Papeete2**	**28.38**	**69**	*e*LQ	LQ	11 58 52.6	
	1μm,25.0s						
PPT2				*e*LR	LR	12 00 27.7	
	2μm,26.2s,baz=234						
PPT2	**Papeete2**	**28.38**	**69**	*e*T	T	12 22 58.4	
	5.8nm,0.3s						
PPT	**Papeete**	**28.39**	**69**	LR	LR	12 01 44.8	
	comp=Z,416nm,20.4s,baz=240,slow=30						
HNR	**Honiara**	**29.94**	**310**	LR	LR	12 03 22.9	
	comp=Z,377nm,20.1s,baz=154,slow=32						
RMQ	**Roma**	**30.02**	**269**	P	**P**	**11 53 31.9**	**+1.8**
	baz=30,SNR=11						
VAH	**Vaihoa**	**31.23**	**67**	*e*T	T	12 26 33.1	
	35nm,0.3s						
TOO	**Toolangi**	**31.40**	**247**	P	**P**	**11 53 45.6**	**+3.4**
	baz=31,SNR=6.0						
CMSA	**Cobar Meteorol**	**31.59**	**259**	P	**P**	**11 53 45.7**	**+1.8**
	baz=31,SNR=16						
QLP	**Quilpie**	**33.89**	**267**	P	**P**	**11 54 04.2**	**+0.1**
	baz=34,SNR=7.5						
CTA	**Charters Tower**	**34.43**	**279**	P	**P**	**11 54 08.8**	**-0.1**
	11nm,0.4s,baz=93,slow=10,SNR=13						
CTA				LR	LR	12 06 44.3	
	comp=Z,1μm,19.5s,baz=144,slow=34						
CTAO	**Charters Tower**	**34.43**	**279**	*e*P	**P**	**11 54 06.8**	**-2.0**
CTAO				pmax	pmax		
	comp=Z,20nm,0.8s						
CTAO	**Charters Tower**	**34.43**	**279**	*e*P	**P**	**11 54 06.8**	**-2.0**
	comp=Z,20nm,0.8s						
STKA	**Stephens Creek**	**34.99**	**257**	P	**P**	**11 54 13.9**	**+0.4**
	comp=Z,17nm,0.6s,baz=100,slow=12,SNR=13						
STKA				LR	LR	12 07 26.6	
	comp=Z,996nm,18.2s,baz=80,slow=34						
STKA	**Stephens Creek**	**34.99**	**257**	P	**P**	**11 54 15.4**	**+1.8**
	baz=35,SNR=17						
STKA	**Stephens Creek**	**34.99**	**257**	*e*P	**P**	**11 54 15.2**	**+1.6**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
STKA	**Stephens Creek**	**34.99**	**257**	*e*P	**P**	**11 54 15.2**	**+1.6**
	comp=Z,4.4nm,0.7s						
MTSU	**Mount Surprise**	**36.93**	**281**	P	**P**	**11 54 31.6**	**+1.2**
	baz=37,SNR=4.4						
HTT	**Hallett**	**36.99**	**254**	P	**P**	**11 54 32.0**	**+1.2**
	baz=37,SNR=6.1						
RKT	**Rikitea**	**38.33**	**89**	*e*S	**S**	**12 00 32.7**	**-1.7**
	comp=Z,352nm,30.2s						
RKT				*e*LR	LR	12 05 13.2	
	comp=Z,1μm,27.8s,baz=266						
BBOO	**Buckleboo**	**39.46**	**254**	P	**P**	**11 54 52.2**	**+0.7**
	baz=39,SNR=11						
BBOO	**Buckleboo**	**39.46**	**254**	*e*P	**P**	**11 54 51.8**	**+0.3**
	comp=Z,215nm,1.9s						
TAOE	**Nuku Hiva Isla**	**40.88**	**66**	*e*S	**S**	**12 01 09.3**	**-3.8**
	comp=Z,290nm,24.7s						
TAOE				*e*LR	LR	12 06 12.5

113A	**Mohawk Valley,**	**87.15**	**49**	*e*P		**P**	**12 00 09.0**	**+2.0**	
WAKR	**Walker**	**87.45**	**42**	*e*P		**P**	**12 00 09.6**	**+1.1**	
	comp=Z,30nm,1.8s								
USRK	**Ussuriysk Ar.**	**87.73**	**326**	P		**P**	**12 00 08.2**	**-1.2**	
	comp=Z,1.5nm,0.7s,baz=176,slow=4.7,SNR=4.1								
USRK				LR		LR	12 34 13.4		
	comp=Z,120nm,21.4s,baz=131,slow=32								
TPNV	**Topopah Spring**	**88.28**	**45**	*e*P		**P**	**12 00 14.2**	**+1.7**	
TPNV				pmax	pmax				
	comp=Z,6.0nm,1.0s								
TPNV	**Topopah Spring**	**88.28**	**45**	*e*P		**P**	**12 00 14.2**	**+1.7**	
	comp=Z,5.8nm,1.0s								
W13A	**Hualapai Mount**	**88.55**	**47**	*e*P		**P**	**12 00 15.2**	**+1.3**	
	comp=Z,4.7nm,1.0s								
TYV	**Tymovskoe**	**88.56**	**336**	*e*P		**P**	**12 00 12.2**	**-1.0**	
TYV				pmax	pmax				
	comp=Z,22nm,1.0s								
TYV				MLR	MLR				
	comp=Z,500nm,18.0s								
SHPR	**Sheep Range**	**88.66**	**45**	*e*P		**P**	**12 00 16.5**	**+2.2**	
	comp=Z,9.7nm,1.4s								
TUC	**Tucson**	**88.83**	**51**	*e*P		**P**	**12 00 17.6**	**+2.5**	
TUC				pmax	pmax				
	comp=Z,12nm,1.3s								
TUC	**Tucson**	**88.83**	**51**	*e*P		**P**	**12 00 17.6**	**+2.5**	
	comp=Z,12nm,1.3s								
MDJ	**Mudanjiang**	**89.20**	**325**	P		**P**	**12 00 15.4**	**-1.0**	
MDJ				PMZ					
	comp=Z,8.0nm,0.9s								
MDJ				PMZ					
	comp=Z,140nm,11.4s								
K05A	**Summer Lake**	**89.55**	**38**	*e*P		**P**	**12 00 19.4**	**+1.1**	
	comp=Z,47nm,1.8s								
HABR	**Khabarovsk**	**89.58**	**331**	*de*P		**P**	**12 00 18.1**	**0.0**	
HABR				*e**PP		**pP**	**12 00 28.7**	**+0.1**	
HABR				*e**SP		**sP**	**12 00 32.9**	**+0.5**	
HABR							12 03 49.2		
HABR				*e*S		**SKSac**	**12 10 45.0**	**-0.6**	
HABR				*e*			12 11 09.9		
HABR				*e*SS		**SS**	**12 17 02.5**	**-1.3**	
HABR				*e*SSS		SSS	12 20 38.3		
HABR				pmax	pmax				
	comp=N,15nm,1.5s								
HABR				pmax	pmax				
	comp=E,15nm,1.4s								
HABR				pmax	pmax				
	comp=Z,17nm,1.4s								
HABR				MLR	MLR				
	comp=Z,110nm,20.0s								
X16A	**Lo Mia Camp, P**	**89.69**	**49**	*e*P		**P**	**12 00 21.5**	**+2.2**	
LCMT	**Little Creek M**	**90.16**	**46**	*e*P		**P**	**12 00 22.4**	**+1.1**	
	comp=Z,19nm,0.4s								
U15A	**North Rim**	**90.39**	**47**	*e*P		**P**	**12 00 24.5**	**+1.9**	
WUAZ	**Wupatki**	**90.41**	**48**	*e*P		**P**	**12 00 24.5**	**+2.0**	
	comp=Z,10nm,1.1s								
KNB	**Kanab**	**90.43**	**46**	*e*P		**P**	**12 00 24.5**	**+1.9**	
KNB				pmax	pmax				
	comp=Z,42nm,0.2s								
KNB	**Kanab**	**90.43**	**46**	*e*P		**P**	**12 00 24.5**	**+1.9**	
	comp=Z,42nm,0.2s								
CCUT	**Cedar City**	**90.43**	**46**	*e*P		**P**	**12 00 25.0**	**+2.3**	
	comp=Z,5.7nm,1.2s								
CN2	**Changchun**	**90.73**	**322**	*e*P		**P**	**12 00 23.3**	**-0.3**	
CN2				*e*S		**S**	**12 11 19.3**	**+2.0**	
CN2				PMZ					
	comp=Z,10.0nm,0.6s								
CN2				PMZ					
	comp=Z,100nm,3.0s								
CN2				LN					
	comp=Z,100nm,18.0s								
CN2				LE					
	comp=Z,100nm,18.0s								
CN2				LZ					
	comp=Z,200nm,17.0s								
MTPU	**Mount Pierson**	**91.46**	**46**	*e*P		**P**	**12 00 29.7**	**+2.1**	
	comp=Z,14nm,1.6s								
KLR	**Kul'dur**	**91.58**	**329**	P		**P**	**12 00 26.2**	**-1.2**	
	comp=Z,1.8nm,0.6s,baz=137,slow=8.3,SNR=6.7								
KLR				LR		LR	12 40 52.3		
	comp=Z,158nm,18.4s,slow=35								
TX31	**Lajitas Ar. Si**	**92.05**	**57**	*e*P		**P**	**12 00 31.4**	**+1.2**	
TXAR	**Lajitas Array**	**92.05**	**57**	P		**P**	**12 00 30.6**	**+0.4**	
	comp=Z,0.9nm,1.1s,baz=167,slow=6.3,SNR=5.8								
TXAR				LR		LR	12 32 44.7		
	comp=Z,124nm,21.4s,baz=0.0,slow=30								
GYA	**Guiyang**	**92.21**	**299**	*e*P		**P**	**12 00 32.4**	**+1.4**	
GYA				PMZ					
	comp=Z,10.0nm,1.0s								
MFID	**Camas Ranch**	**92.76**	**40**	*e*P		**P**	**12 00 34.2**	**+1.1**	
	comp=Z,4.1nm,1.1s								
ANMO	**Albuquerque**	**93.30**	**51**	⇓*e*P		**P**	**12 00 38.8**	**+2.8**	
ANMO				pmax	pmax				
	comp=Z,5.0nm,2.5s								
HLID	**Hailey**	**93.64**	**40**	*e*P		**P**	**12 00 38.5**	**+1.2**	
	comp=Z,2.9nm,1.1s								
KMI	**Kunming**	**94.48**	**296**	P		**P**	**12 00 43.3**	**+1.6**	
KMI				PMZ					
	comp=Z,12nm,0.6s								
KMI				PMZ					
	comp=Z,140nm,4.9s								
PDAR	**Pinedale Array**	**95.94**	**43**	LR		LR	12 41 20.2		
	comp=Z,128nm,18.3s,baz=252,slow=34								
YJC	**Joseph's Coat**	**96.67**	**41**	*e*P		**P**	**12 00 49.3**	**-2.0**	
CD2	**Chengdu**	**96.74**	**302**	*e*P		**P**	**12 00 51.6**	**0.0**	
HHC	**Hu-ho-hao-te**	**96.86**	**314**	*e*P		**P**	**12 00 53.6**	**+1.6**	
HHC				PP		**PP**	**12 04 50.4**	**+2.5**	
HHC				S		**S**	**12 12 11.0**	**-0.8**	
HHC				SS		**SS**	**12 18 50.4**	**+1.8**	
HHC				PMZ					
	comp=Z,17nm,1.1s								
HHC				PMZ					
	comp=Z,78nm,5.0s								
HHC				LN					
	comp=Z,160nm,16.3s								
HHC				LE					
	comp=Z,160nm,17.7s								
HHC				LZ					
	comp=Z,94nm,13.6s								
LPAZ	**La Paz**	**97.49**	**114**	LR		LR	12 36 22.3		
	comp=Z,71nm,20.1s,baz=205,slow=30								
ILAR	**Eielson Array**	**98.07**	**13**	P		**P**	**12 00 55.4**	**-1.3**	
	comp=Z,0.4nm,1.0s,baz=228,slow=4.7,SNR=2.8								
ILAR				LR		LR	12 38 25.3		
	comp=Z,66nm,21.0s,baz=147,slow=31								
BILL	**Bilibino**	**99.19**	**354**	*i* P		**Pdif**	**12 01 08.6**	**+7.0**	
BILL				pmax	pmax				
	comp=Z,1.0nm,0.9s								
CPUP	**Villa Florida**	**99.34**	**128**	LR		LR	12 38 07.6		
	comp=Z,143nm,21.2s,baz=250,slow=30								
WMQ	**Urumqi**	**113.87**	**308**	PKP		**PKiKP**	**12 05 59.8**	**+0.3**	
WMQ				LN					
	comp=Z,37nm,19.2s								
WMQ				LE					
	comp=Z,37nm,19.2s								
MKAR	**Makanchi Array**	**118.41**	**310**	PKP		**PKPdf**	**12 06 06.7**	**-1.5**	
	comp=Z,0.4nm,0.4s,baz=203,slow=1.2,SNR=5.9								
KSH	**Kashi**	**120.90**	**300**	*e*PKP		**PKPdf**	**12 06 14.4**	**+1.1**	
KSH				PP		**PP**	**12 07 48.3**	**+5.4**	
KSH				PKS		**PKSdf**	**12 09 48.3**	**-1.7**	
KSH				SKS		**SKSdf**	**12 13 20.1**	**-2.8**	
KSH				SS		**SS**	**12 24 12.6**	**-0.1**	
KSH				LN					
	comp=Z,120nm,7.9s								
KSH				LE					
	comp=Z,85nm,5.5s								
KURK	**Kurchatov**	**121.67**	**314**	PKIKP		**PKPdf**	**12 06 12.9**	**-1.3**	
KURK	**Kurchatov**	**121.67**	**314**	PKP		**PKPdf**	**12 06 12.9**	**-1.3**	
KURBB	**Kurchatov Arra**	**121.71**	**313**	PKP		**PKPdf**	**12 06 12.9**	**-1.4**	
	comp=Z,1.0nm,0.5s,baz=116,slow=2.0,SNR=13								
BVAR	**Borovoye Array**	**127.02**	**316**	PKP		**PKPdf**	**12 06 23.7**	**-0.7**	
	comp=Z,1.7nm,0.4s,baz=131,slow=1.7,SNR=16								
BRVK	**Borovoye**	**127.09**	**316**	⇑*i* PKIKP		**PKPdf**	**12 06 24.4**	**-0.1**	
GEYT	**Alibeck**	**134.22**	**295**	PKP		**PKPdf**	**12 06 38.1**	**-0.5**	
	comp=Z,1.8nm,0.5s,baz=332,slow=9.1,SNR=2.8								
ARCES	**ARCESS Array B**	**138.99**	**348**	PKP		**PKPdf**	**12 06 44.0**	**-2.4**	
	comp=Z,3.3nm,0.9s,baz=90,slow=1.2,SNR=5.3								
ARCES	**ARCESS Array B**	**138.99**	**348**	PKIKP		**PKPdf**	**12 06 44.0**	**-2.4**	
MOS	**Moscow**	**144.91**	**326**	*e*PKIKP		**PKPab**	**12 06 55.0**	**-1.5**	
ZEI	**Tsey**	**145.16**	**302**	*e*PKIKP		**PKPbc**	**12 06 55.7**	**-2.4**	
ZEI				pmax	pmax				
	comp=Z,45nm,0.8s								
NCK	**Nalchik**	**145.29**	**303**	⇓*e*PKIKP		**PKPbc**	**12 06 57.8**	**-0.5**	
FINES	**FINESS Array B**	**145.62**	**340**	PKPbc		**PKPdf**	**12 06 57.3**	**-1.1**	
	comp=Z,7.0nm,0.5s,baz=54,slow=3.8,SNR=52								
OBN	**Obninsk**	**145.74**	**325**	*c i* PKP2		**PKPdf**	**12 06 57.7**	**-1.1**	
OBN				pmax	pmax				
	comp=Z,95nm,1.8s								
KBZ	**Khabaz**	**145.76**	**304**	PKPbc		**PKPdf**	**12 06 58.9**	**-0.3**	
	comp=Z,2.2nm,0.6s,baz=168,slow=4.1,SNR=6.1								
KIV	**Kislovodsk**	**145.88**	**304**	*i* PKIKP		**PKPdf**	**12 06 58.8**	**-0.7**	
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
NEY	**Neytrino**	**145.96**	**303**	⇑*i* PKIKP		**PKPab**	**12 07 01.6**	**+0.5**	
VSR	**Storozhevoye**	**146.15**	**318**	*e*PKIKP		**PKPdf**	**12 06 57.8**	**-1.8**	
VSR				pmax	pmax				
	comp=Z,40nm,1.3s								
VSU	**Vasula**	**147.73**	**336**	⇑*e*PKP2		**PKPdf**	**12 07 03.4**	**+1.4**	
NB2	**NORSAR Subarra**	**149.12**	**352**	PKP		**PKPbc**	**12 07 07.3**	**-1.2**	
	comp=Z,99nm,2.5s,baz=11,slow=2.7								
NB2	**NORSAR Subarra**	**149.12**	**352**	PKP		**PKPbc**	**12 07 07.3**	**-1.2**	
	baz=11,slow=2.7								
NOA	**NORSAR Array B**	**149.12**	**352**	PKPbc		**PKPbc**	**12 07 07.5**	**-1.0**	
	comp=Z,2.7nm,0.6s,baz=14,slow=4.2,SNR=11								
MICGM	**Minsk**	**150.13**	**330**	*e*		**PKPbc**	**12 07 12.0**	**+0.9**	
MNK	**Minsk**	**150.13**	**330**	*e*PKP2		**PKPbc**	**12 07 12.0**	**+0.9**	
AKASG	**Malin Array Be**	**151.89**	**323**	PKPbc		**PKPbc**	**12 07 14.2**	**-1.1**	
	comp=Z,1.7nm,0.4s,baz=50,slow=2.4,SNR=12								
AKASG				PKPab		**PKPab**	**12 07 22.3**	**-2.2**	
	comp=Z,6.7nm,0.6s,baz=46,slow=3.2,SNR=9.9								
KIEV	**Kiev**	**151.90**	**323**	⇓*e*PKIKP		**PKPdf**	**12 07 09.3**	**+0.4**	
EIL	**Elat**	**152.14**	**276**	PKPbc		**PKPbc**	**12 07 15.6**	**-1.0**	
	comp=Z,4.3nm,0.5s,baz=68,slow=2.2,SNR=6.7								
MMAI	**Mount Meron Ar**	**152.17**	**283**	PKPbc		**PKPbc**	**12 07 17.1**	**+0.4**	
	comp=Z,6.0nm,0.5s,baz=79,slow=6.0,SNR=13								
BRTR	**Keskin Array B**	**153.26**	**299**	PKPbc		**PKPbc**	**12 07 18.0**	**-1.0**	
	comp=Z,2.5nm,0.6s,baz=150,slow=5.1,SNR=12								
DPC	**Dobruska-Polom**	**157.86**	**336**	*e*PKPAB		**PKPab**	**12 07 48.9**	**-1.2**	
DPC	**Dobruska-Polom**	**157.86**	**336**	*e*PKP2		**PKPab**	**12 07 48.9**	**-1.2**	
CLL	**Collm**	**158.02**	**343**	*e*PKPab		**PKPab**	**12 07 49.0**	**-1.6**	
	comp=Z,28nm,2.0s								
CLL				*e*PP		**PP**	**12 11 37.0**	**+7.0**	
BRG	**Berggiesshubel**	**158.16**	**341**	*e*PKP		**PKPab**	**12 07 50.2**	**-1.0**	
	comp=Z,16nm,1.8s								
BRG	**Berggiesshubel**	**158.16**	**341**	*e*PKP2		**PKPab**	**12 07 50.2**	**-1.0**	
BRG				pmax	pmax				
	comp=Z,17nm,1.8s								
VYHS	**Vyhne**	**158.37**	**330**	*e*PKIKP		**PKPdf**	**12 07 18.0**	**+0.2**	
VYHS				*e*			12 07 51.5		
VYHS	**Vyhne**	**158.37**	**330**	*e*PKP		**PKPdf**	**12 07 18.0**	**+0.2**	
VYHS				*e*			12 07 51.5		
PRU	**Pruhonice**	**158.76**	**339**	AMS		AMS	13 22 10.0		
	comp=Z,100nm,21.2s								
TREC	**Trest**	**159.04**	**336**	AMS		AMS	13 15 00.0		
KHC	**Kasperske Hory**	**159.81**	**339**	*e*PKPAB		**PKPab**	**12 07 57.1**	**-1.5**	
KHC				AMS		AMS	13 20 00.0		
	comp=Z,100nm,21.9s								
KHC	**Kasperske Hory**	**159.81**	**339**	*e*PKP2		**PKPab**	**12 07 57.1**	**-1.5**	
KHC				MLR	MLR				
	comp=Z,100nm,21.9s								
GERES	**GERESS Array B**	**160.02**	**338**	PKPab		**PKPab**	**12 07 56.3**	**-3.3**	
	comp=Z,0.4nm,0.2s,baz=86,slow=1.9,SNR=5.3								
TORD	**Torodi Ar. Bea**	**162.52**	**177**	PKP		**PKPdf**	**12 07 23.6**	**+0.3**	
	comp=Z,0.6nm,0.8s,baz=160,slow=17,SNR=3.4								
TORD				PKPab		**PKPab**	**12 08 12.2**	**+1.2**	
	comp=Z,0.9nm,0.5s,baz=171,slow=3.5,SNR=6.1								

IDC 21 12:15:18.4±23.0, 14.72S×175.55W, h259km±213km, mb3.5/5, mb1 3.7/5, mb1mx3.2/36, mbtmp4.2/5, Error ellipse: s-maj=138.3km s-min=49.6km az=128.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**36.77**	**256**	P		P	12 22 02.3	+0.4
	0.6nm,0.3s,baz=107,slow=8.1,SNR=3.5							
STKA	**Stephens Creek**	**42.59**	**239**	P		P	12 22 49.4	0.0
	2.0nm,0.4s,baz=70,slow=7.5,SNR=8.7							
WRA	**Warramunga Arr**	**47.28**	**256**	P		P	12 23 31.2	-0.6
	0.5nm,0.3s,baz=89,slow=6.3,SNR=5.5							
ASAR	**Alice Springs**	**48.35**	**251**	P		P	12 23 34.4	-0.2
	13nm,0.7s,baz=88,slow=7.8,SNR=184							
ILAR	**Eielson Array**	**82.20**	**12**	P		P	12 27 10.1	-0.1
	0.3nm,0.5s,baz=220,slow=4.6,SNR=5.5							
BRTR	**Keskin Array B**	**144.31**	**320**	PKP		PKPdf	12 34 23.9	-0.1
	1.1nm,0.6s,baz=90,slow=2.5,SNR=4.4							

*SJA **21** 12:15:58.8±0.5, 32.74S×69.84W, h126km±2km, ML3.6, MW3.6*
*ISCJB **21** 12:15:59.6±0.7, 32.68S±0.05×69.81W±0.05, h130km±5km, Error ellipse: s-maj=9.3km s-min=4.3km az=142.9*
*GUC **21** 12:16:01.0±0.3, 32.44S×70.04W, h102km±5km, ML3.9*
ISC 21 12:16:00.5±1.7, 32.68S±0.05×69.81W±0.05, h124km±11km, n24, σ0.79/40, 1C-3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AUSP	**Uspallata**	**0.58**	**38**	*i* P		**Pn**	**12 16 19.8**	**0.0**
AUSP				*i* S		**Sn**	**12 16 34.8**	**+0.5**
ARCO	**CERRO ARCO**	**0.76**	**102**	*i* P		**Pn**	**12 16 20.1**	**-0.8**
ARCO				*i* S		**Sn**	**12 16 35.8**	**-0.5**
ARCO				IAML			12 16 41.5	
	comp=Z,1μm,0.2s							
FCH	**Farellones**	**0.76**	**212**	⇓*e*P		**Pn**	**12 16 22.1**	**+1.0**
FCH				*e*S		**Sn**	**12 16 38.3**	**+1.6**
FCH				IAML			12 16 40.6	
	comp=N,2μm,0.3s							
ASAL	**Salagasta**	**0.83**	**84**	*i* P		**Pn**	**12 16 20.8**	**-0.6**
ASAL				*i* S		**Sn**	**12 16 37.0**	**-0.2**
PEL	**Peldehue**	**0.87**	**238**	⇓*e*P		**Pn**	**12 16 21.3**	**-0.4**
PEL				*e*S		**Sn**	**12 16 36.5**	**-1.2**
PEL				IAML			12 16 39.6	
	comp=N,2μm,0.5s							
AAGR	**Agrelo**	**0.92**	**116**	*i* P		**Pn**	**12 16 21.4**	**-0.9**
AAGR				*i* S		**Sn**	**12 16 38.1**	**-0.5**
RTLS	**Leoncito**	**0.98**	**27**	*i* P		**Pn**	**12 16 23.5**	**+0.5**
RTLS				*i* S		**Sn**	**12 16 41.0**	**+0.9**
FSR	**Penalolen**	**1.00**	**217**	⇓*e*P		**Pn**	**12 16 23.9**	**+1.0**
FSR				*e*S		**Sn**	**12 16 41.0**	**+1.1**
ROCH	**El Roble**	**1.05**	**254**	⇑*e*P		**Pn**	**12 16 22.8**	**-0.8**
ROCH				*e*S		**Sn**	**12 16 39.3**	**-1.8**
ROCH				IAML			12 16 40.7	
	comp=N,8μm,0.4s							
ROC1	**El Roble**	**1.06**	**253**	*i* P		**Pn**	**12 16 22.4**	**-1.2**
ROC1				*i* S		**Sn**	**12 16 40.0**	**-1.2**
ANTU	**Antumapu**	**1.12**	**218**	*e*P		**Pn**	**12 16 25.0**	**+0.9**
ANTU				*e*S		**Sn**	**12 16 43.3**	**+1.2**
ANTU				IAML			12 16 44.3	
	comp=N,2μm,0.5s							
RCDM	**Rinconada Maip**	**1.16**	**226**	*e*P		**Pn**	**12 16 24.8**	**+0.3**
RCDM				*e*S		**Sn**	**12 16 43.0**	**+0.3**
RCDM				IAML			12 16 43.6	
	comp=E,5μm,0.1s							
RTCV	**Cerro Valdivia**	**1.35**	**53**	*i* P		**Pn**	**12 16 26.4**	**-0.2**
RTCV				*i* S		**Sn**	**12 16 46.7**	**+0.4**
SJA	**San Juan**	**1.56**	**43**	*i* P		**Pn**	**12 16 28.8**	**-0.2**
SJA				*i* S		**Sn**	**12 16 51.0**	**+0.3**
RTLL	**Cerro Villicun**	**1.76**	**40**	*i* P		**Pn**	**12 16 31.2**	**-0.1**
RTLL				*i* S		**Sn**	**12 16 55.6**	**+0.8**
AMOG	**MOGNA**	**2.07**	**33**	*i* P		**Pn**	**12 16 35.2**	**+0.2**
AMOG				*i* S		**Sn**	**12 17 02.0**	**+0.5**
ACAN	**Cantantal**	**2.25**	**80**	*i* P		**Pn**	**12 16 37.3**	**-0.1**
ACAN				*i* S		**Sn**	**12 17 05.5**	**-0.1**
AVFE	**Valle Fertil**	**2.84**	**46**	IAML			12 16 50.2	
	comp=Z,104nm,0.4s							
AGUA	**GUANDACOL**	**3.38**	**20**	*i* P		**Pn**	**12 16 52.2**	**+0.2**
MRA	**San Martin**	**3.47**	**87**	*i* P		**Pn**	**12 16 53.0**	**-0.1**
MRA				IAML			12 17 55.8	
	comp=Z,157nm,0.8s							
VCA	**Vinchina**	**4.17**	**20**	*i* P		**Pn**	**12 17 02.5**	**0.0**
TCA	**Tanti**	**4.63**	**75**	*i* P		**Pn**	**12 17 08.4**	**-0.2**
TCA				IAML			12 18 01.5	
	comp=Z,37nm,0.6s							
CYA	**Choya**	**5.46**	**40**	*i* P		**Pn**	**12 17 18.9**	**-0.9**
FSA	**Cafayete**	**7.35**	**28**	*i* P		**Pn**	**12 17 45.5**	**+0.1**

IDC 21 12:16:18.0±310.0, 55.24N×80.94E, h0km, Error ellipse: s-maj=121.6km s-min=58.0km az=119.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.60**	**118**	*i*			12 32 50.0	
	baz=301,slow=319,SNR=1.0							
I31KZ	**AKTYUBINSK INF**	**14.64**	**260**	*i*			13 51 20.0	
	baz=63,slow=320,SNR=0.3							
I43RU	**DUBNA INFRASON**	**24.20**	**292**	*i*			14 43 20.0	
	baz=72,slow=322,SNR=0.8							

IDC 21 12:17:04.5±471.0, 47.06N×46.03E, h0km, Error ellipse: s-maj=201.5km s-min=143.5km az=176.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**8.62**	**63**	*i*			13 16 27.6	
	baz=248,slow=309							
I43RU	**DUBNA INFRASON**	**11.09**	**334**	*i*			13 23 30.0	
	baz=143,slow=316,SNR=2.0							
I26DE	**FREYUNG INFRAS**	**21.63**	**287**	*i*			14 28 02.7	
	baz=81,slow=322,SNR=0.4							

IDC 21 12:22:38.0±2.6, 54.27N×86.02E, h0km, mb1 3.1/2, mb1mx2.9/51, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=18.8km s-min=12.5km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**246**	*i*			12 28 00.0	
	baz=65,slow=319,SNR=3.5							
ZALV	**Zalesovo Beam**	**0.78**	**246**	Pg		Pg	12 22 51.6	-1.4
	0.8nm,0.3s,baz=71,slow=17,SNR=5.1							
ZALV				Lg		Lg	12 23 04.2	
	3.0nm,0.3s,baz=65,slow=29,SNR=20							
KURBB	**Kurchatov Arra**	**5.86**	**234**	Pn		Pn	12 24 07.3	+1.3
	0.1nm,0.3s,baz=52,slow=14,SNR=7.2							
KURBB				Lg		Lg	12 25 44.6	
	0.0nm,0.3s,baz=52,slow=31,SNR=3.6							
MKAR	**Makanchi Array**	**7.86**	**199**	Pn		Pn	12 24 34.1	+0.6
	0.2nm,0.3s,baz=21,slow=13,SNR=4.9							

*IDC **21** 13:01:17.2±3.1, 46.32S×166.19E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/19, mbtmp3.7/3, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/22, Error ellipse: s-maj=77.8km s-min=28.3km az=168.0*
*ISCJB **21** 13:01:19.2±0.9, 46.14S±0.08×166.00E±0.07, h12km, mb3.8/2, Error ellipse: s-maj=11.2km s-min=7.4km az=5.5*
*WEL **21** 13:01:20.6±0.4, 46.32S×166.04E, h20km, ML4.0/13, Error ellipse: s-maj=4.2km s-min=2.4km az=90.0*
ISC 21 13:01:19.3±1.2, 46.23S±0.08×166.08E±0.07, h12km, n29, σ1.25/27, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.42**	**82**	⇓P*		**Pn**	**13 01 30.4**	**-0.8**
PYZ				S*		**Sb**	**13 01 36.9**	**+2.0**
DCZ	**Deep Cove**	**1.07**	**45**	PN		**Pb**	**13 01 39.3**	**-0.4**
DCZ				SN		**Sb**	**13 01 52.5**	**-1.1**
DCZ				AML	AML		13 01 53.9	
DCZ				AML	AML		13 02 06.1	
DCZ				AML	AML		13 02 06.1	
WHZ	**Wether Hill Ro**	**1.34**	**76**	PN		**Pb**	**13 01 44.5**	**+0.2**
WHZ				SN		**Sb**	**13 02 01.8**	**+0.4**
WHZ				AML	AML		13 02 04.7	
APZ	**The Paps**	**1.45**	**115**	PN		**Pn**	**13 01 45.1**	**-0.3**
APZ				AML	AML		13 02 03.9	
APZ				AML	AML		13 02 05.6	
MLZ	**Mavora Lakes**	**1.67**	**60**	PN		**Pb**	**13 01 50.4**	**+0.5**
MLZ				AML	AML		13 02 20.3	
MLZ				AML	AML		13 02 21.2	
MSZ	**Milford Sound**	**2.02**	**41**	PN		**Pn**	**13 01 54.1**	**+0.9**
MSZ				AML	AML		13 02 32.3	
MSZ				AML	AML		13 02 34.4	
SYZ	**Scrubby Hill**	**2.14**	**99**	PN		**Pn**	**13 01 55.3**	**+0.5**
SYZ				AML	AML		13 02 24.3	
SYZ				AML	AML		13 02 47.4	
EAZ	**Earnscleugh**	**2.47**	**67**	PN		**Pb**	**13 02 01.7**	**-1.9**
EAZ				AML	AML		13 02 35.2	
EAZ				AML	AML		13 02 39.2	
TUZ	**Tuapeka**	**2.49**	**85**	PN		**Pn**	**13 02 00.7**	**+1.1**
TUZ				AML	AML		13 02 33.6	
TUZ				AML	AML		13 02 40.4	
WKZ	**Wanaka**	**2.49**	**57**	PN		**Pb**	**13 02 02.7**	**-1.3**
WKZ				AML	AML		13 02 43.1	
WKZ				AML	AML		13 03 01.2	
JCZ	**Jackson Bay**	**2.88**	**43**	PN		**Pb**	**13 02 07.7**	**-3.0**
JCZ				AML	AML		13 02 58.5	
JCZ				AML	AML		13 03 01.1	
HHSZ	**Highcliff Hill**	**3.16**	**85**	PN		**Pn**	**13 02 10.0**	**+1.1**
ODZ	**Otahua Downs**	**3.41**	**71**	PN		**Pn**	**13 02 12.4**	**+0.1**
ODZ				AML	AML		13 03 07.9	
ODZ				AML	AML		13 03 10.0	
**LB

RPZ	**Rata Peaks**	**1.26**	**265**	⇓P*	Pn	13 34 51.0	-1.4
RPZ				AML	AML	13 35 14.9	
RPZ				AML	AML	13 35 15.9	
KHZ	**Kahutara**	**1.31**	**25**	P*	Pn	13 34 51.2	-2.0
INZ	**Inchbonnie**	**1.32**	**312**	PN	Pn	13 34 52.3	-0.9
WVZ	**Waitaha Valley**	**1.59**	**289**	⇑PN	Pn	13 34 56.1	-0.7
THZ	**Tophouse**	**1.85**	**3**	⇑PN	Pn	13 34 58.8	-1.8
THZ				AML	AML	13 35 36.2	
THZ				AML	AML	13 35 39.4	
DSZ	**Denniston Nort**	**2.00**	**338**	PN	Pn	13 35 02.2	-0.4
DSZ				AML	AML	13 35 35.4	
LBZ	**Lake Benmore**	**2.03**	**247**	PN	Pn	13 35 02.0	-1.1
LBZ				AML	AML	13 35 39.3	
LBZ				AML	AML	13 35 39.7	
ODZ	**Otahua Downs**	**2.10**	**226**	PN	Pn	13 35 02.4	-1.6
ODZ				AML	AML	13 35 41.4	
ODZ				AML	AML	13 35 42.8	
FOZ	**Fox Glacier**	**2.16**	**271**	PN	Pn	13 35 04.9	+0.2
NNZ	**Nelson**	**2.43**	**11**	PN	Pn	13 35 07.3	-1.2
HHSZ	**Highcliff Hill**	**2.76**	**214**	PN	Pn	13 35 11.3	-1.7
QRZ	**Quartz Range**	**2.79**	**356**	PN	Pn	13 35 12.7	-0.8
JCZ	**Jackson Bay**	**2.93**	**260**	PN	Pn	13 35 14.8	-0.7
WKZ	**Wanaka**	**2.97**	**244**	PN	Pn	13 35 15.0	-1.0
EAZ	**Earnscleugh**	**2.97**	**236**	PN	Pn	13 35 14.5	-1.5
EAZ				AML	AML	13 36 07.2	
CAW	**Cannon Point**	**3.02**	**35**	PN	Pn	13 35 14.2	-2.4
TUZ	**Tuapeka**	**3.25**	**223**	PN	Pn	13 35 18.1	-1.6
TUZ				AML	AML	13 36 21.2	
TUZ				AML	AML	13 36 22.4	

NIED ***21*** *13:59:00,36°.90N×141°.30E,h8km,Mw3.6 Best double couple: M₀2.79000×10¹⁴ NP1:φ₅49.00000°,δ41.00000°, λ-54.00000°. NP2:φ₅185.00000°,δ58.00000°, λ-118.00000°.*

IDC ***21*** *13:59:05.5±1.1,36°.87N×141°.31E,h0km,mb3.5/6, mb1 3.6/8,mb1mx3.5/39,mbtmp3.4/8,ML3.0/1,Error ellipse: s-maj=26.8km s-min=22.1km az=67.0*

JMA ***21*** *13:59:07.8±0.1,36°.92N×141°.27E,h30km±1km,M3.7 JMA Felt I J1.*

ISCJB ***21*** *13:59:08.6±0.9,36°.93N±0°.05×141°.22E±0°.09,h35km, mb3.5/6,Error ellipse: s-maj=10.2km s-min=7.8km az=3.1*

ISC 21 13:59:10.4±1.1,36°.95N±0°.06×141°.2E±0°.1,h35km,n21, σ1ᵖ47/18,mb3.5/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.35**	**296**	P	**Pn**	**13 59 16.6**	**-2.4**
ONAJ				S	**Sn**	**13 59 23.1**	**-1.8**
JFK	**Kawauchi**	**0.48**	**329**	P	**Pn**	**13 59 18.7**	**-2.2**
JFK				S	**Sn**	**13 59 26.4**	**-1.7**
JHO	**Hitachi**	**0.60**	**236**	P	**Pn**	**13 59 20.1**	**-2.4**
JHO				S	**Sn**	**13 59 29.3**	**-1.7**
JFT	**Otama**	**0.88**	**310**	P	**Pn**	**13 59 25.8**	**-0.6**
JMM	**Marumori**	**0.96**	**341**	P	**Pn**	**13 59 26.0**	**-1.4**
JSB	**Shiboa**	**1.02**	**271**	P	**Pn**	**13 59 28.2**	**0.0**
JFY	**Yanaizu**	**1.27**	**291**	P	**Pn**	**13 59 31.9**	**+0.3**
MJAR	**Matsushiro Arr**	**2.43**	**261**	Pn	**Pn**	**13 59 48.3**	**+0.7**
	3.2nm,0.3s,baz=89,slow=15,SNR=10						
KSRS	**Korea Array**	**10.60**	**277**	Pn	**Pn**	**14 01 40.8**	**+1.1**
	baz=83,slow=15,SNR=2.8						
SONM	**Songino Array**	**27.68**	**304**	P	**P**	**14 04 56.1**	**+1.0**
	0.3nm,0.4s,baz=107,slow=9.5,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.26**	**120**	T	T	14 34 24.9	
	baz=313,slow=75,SNR=82						
H11N1	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	14 34 27.2	
	baz=313,slow=75,SNR=65						
H11N3	**WAKE ISLAND Hy**	**28.28**	**120**	T	T	14 34 28.8	
	baz=313,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**28.97**	**122**	T	T	14 35 18.6	
	baz=315,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**28.97**	**122**	T	T	14 35 18.5	
	baz=315,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.98**	**122**	T	T	14 35 19.9	
	baz=315,slow=76,SNR=27						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**14 06 57.6**	**+1.0**
	0.8nm,0.4s,baz=79,slow=7.5,SNR=2.5						
MKAR	**Makanchi Array**	**44.01**	**302**	P	**P**	**14 07 15.2**	**+0.8**
	0.4nm,0.6s,baz=88,slow=8.7,SNR=3.9						
ILAR	**Eielson Array**	**49.66**	**32**	P	**P**	**14 07 59.0**	**+0.7**
	0.8nm,0.8s,baz=265,slow=5.7,SNR=11						
WRA	**Warramunga Arr**	**56.96**	**188**	P	**P**	**14 08 52.0**	**-0.3**
	0.3nm,0.5s,baz=4.2,slow=7.2,SNR=6.6						
ASAR	**Alice Springs**	**60.68**	**188**	P	**P**	**14 09 18.0**	**-0.1**
	0.2nm,0.6s,baz=8.9,slow=6.6,SNR=2.4						

IDC ***21*** *14:04:08.1±7.9,43°.50N×129°.19W,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.4/45,mbtmp3.3/3,ML4.0/1,MS3.2/2, Ms1 3.2/2,ms1mx2.9/12,Error ellipse: s-maj=138.4km s-min=30.2km az=29.0*

ISCJB ***21*** *14:04:16.6±1.1,44°.16N±0°.04×128°.7W±0°.1,h15km, mb3.7/3,MS2.9/1,Error ellipse: s-maj=11.7km s-min=5.4km az=166.0*

NEIC ***21*** *14:04:16.2±1.3,44°.17N×128°.96W,h10km,mb3.8/6,Error ellipse: s-maj=16.6km s-min=7.6km az=75.0*

ISC 21 14:04:17.2±1.7,44°.10N±0°.07×128°.8W±0°.1,h15km,n53, σ1ᵖ30/50,mb4.0/3,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I03D	**Drain, OR**	**3.99**	**94**	P	**Pn**	**14 05 16.7**	**-1.1**
	baz=279,SNR=15						
COR	**Corvallis**	**4.00**	**81**	*e*Pn	**Pn**	**14 05 17.8**	**-0.2**
G03D	**McMinnville, O**	**4.13**	**72**	P	**Pn**	**14 05 18.9**	**-0.8**
	baz=258,SNR=17						
F03A	**Seaside**	**4.17**	**62**	P	**Pn**	**14 05 20.0**	**-0.3**
L02D	**Cave Junction,**	**4.29**	**115**	P	**Pn**	**14 05 19.2**	**-2.8**
	baz=299						
L02D				S	**Sn**	**14 06 10.4**	**-1.5**
	baz=299						
E03A	**Lebam**	**4.45**	**55**	*e*Pn	**Pn**	**14 05 23.4**	**-0.7**
HUMO	**Hull Mountain**	**4.54**	**107**	*e*Pn	**Pn**	**14 05 23.4**	**-2.0**
HUMO				*e*Sn	**Sn**	**14 06 16.7**	**-1.2**
F04D	**Rainier, OR**	**4.58**	**62**	P	**Pn**	**14 05 25.7**	**-0.2**
	baz=248						
I04A	**Tendick Farm,**	**4.65**	**92**	P	**Pn**	**14 05 25.2**	**-1.8**
	baz=277,SNR=22						
NLWA	**Neilton Lookou**	**4.79**	**45**	*e*Pn	**Pn**	**14 05 28.0**	**-0.8**
F04A	**Amboy**	**4.91**	**66**	*e*Pn	**Pn**	**14 05 30.1**	**-0.3**
LVP	**Lakeview Peak**	**4.96**	**64**	P	**Pn**	**14 05 32.0**	**+0.7**
FL2	**Flat Top 2**	**5.05**	**63**	P	**Pn**	**14 05 32.8**	**+0.3**
YBH	**Yreka Blue Hor**	**5.08**	**116**	*e*Pn	**Pn**	**14 05 31.5**	**-1.4**
OCP	**Olym-Cheeka Pk**	**5.12**	**33**	*e*Pn	**Pn**	**14 05 32.9**	**-0.4**
OCP				*e*Sn	**Sn**	**14 06 32.6**	**+0.5**
TDL	**Tradedollar La**	**5.19**	**62**	P	**Pn**	**14 05 34.7**	**+0.2**
I05D	**Terrebonne, OR**	**5.40**	**85**	P	**Pn**	**14 05 36.3**	**-0.9**
	baz=271						
B04A	**Port Angeles**	**5.43**	**41**	*e*Pn	**Pn**	**14 05 37.8**	**+0.2**
G05D	**Wamic, OR**	**5.49**	**75**	P	**Pn**	**14 05 38.4**	**0.0**
	baz=262						
J05D	**Fort Rock, OR**	**5.57**	**96**	P	**Pn**	**14 05 38.6**	**-1.1**
	baz=282						
LON	**Longmire**	**5.61**	**59**	*e*Pn	**Pn**	**14 05 40.4**	**+0.2**
BLN	**Blyn Mountain**	**5.65**	**44**	*e*Pn	**Pn**	**14 05 41.7**	**+1.1**
OBSR	**Observation Ro**	**5.67**	**58**	*e*Pn	**Pn**	**14 05 42.6**	**+1.3**
D05A	**Enumclaw**	**5.71**	**55**	*e*Pn	**Pn**	**14 05 41.9**	**+0.5**
WDC	**Whiskeytown Da**	**5.84**	**125**	*e*Pn	**Pn**	**14 05 45.0**	**+1.7**
PGC	**Sidney**	**5.88**	**37**	*e*Pn	**Pn**	**14 05 42.5**	**-1.2**
PGC				*e*Sn	**Sn**	**14 06 49.7**	**-1.1**
K05A	**Summer Lake**	**5.95**	**101**	*e*Pn	**Pn**	**14 05 44.1**	**-0.8**
G06A	**Carlson Farm,**	**5.96**	**76**	*e*Pn	**Pn**	**14 05 45.1**	**+0.2**
B05A	**Bryant**	**6.26**	**46**	P	**Pn**	**14 05 49.5**	**+0.5**
	baz=232						
LTY	**Liberty**	**6.54**	**58**	*e*Pn	**Pn**	**14 05 50.8**	**-2.1**
B06A	**Marblemount**	**6.74**	**46**	*e*Pn	**Pn**	**14 05 54.3**	**-1.3**
G08A	**Pilot Rock**	**7.14**	**77**	*e*Pn	**Pn**	**14 06 01.0**	**-0.3**
HLID	**Hailey**	**10.44**	**88**	*e*Pn	**Pn**	**14 06 49.5**	**+3.0**
	4.0nm,0.8s						
GSC	**Goldstone, Bar**	**12.76**	**129**	*e*Pn	**Pn**	**14 07 19.2**	**+1.1**
IMW	**Indian Meadow**	**12.89**	**85**	*e*Pn	**Pn**	**14 07 23.2**	**+3.1**
	1.6nm,0.7s						
PDAR	**Pinedale Array**	**14.08**	**89**	Pn	**Pn**	**14 07 37.5**	**+1.3**
	0.1nm,0.3s,baz=282,slow=16,SNR=3.3						
PDAR				LR	LR	14 13 11.6	
	comp=Z,123nm,18.1s,baz=284,slow=38						
U15A	**North Rim**	**14.76**	**116**	*e*Pn	**Pn**	**14 07 47.1**	**+1.4**
WUAZ	**Wupatki**	**15.90**	**117**	Pn	**Pn**	**14 08 02.3**	**+1.8**
	12nm,1.3s						
PV01	**Paradox Valley**	**16.38**	**104**	*e*Pn	**Pn**	**14 08 07.5**	**+0.7**
MVCO	**Mesa Verde**	**16.88**	**107**	*e*Pn	**Pn**	**14 08 13.8**	**+0.7**
	9.1nm,1.2s						
SDCO	**Great Sand Dun**	**18.71**	**102**	*e*P	**P**	**14 08 36.6**	**+1.2**
	3.3nm,0.9s						
ANMO	**Albuquerque**	**19.49**	**110**	*e*P	**Pn**	**14 08 46.3**	**+1.2**
	4.5nm,1.3s						
YKA	**Yellowknife Ar**	**20.21**	**19**	P	**P**	**14 08 50.8**	**-0.4**
	1.5nm,0.9s,baz=210,slow=10.0,SNR=11						
ILAR	**Eielson Array**	**23.05**	**340**	P	**P**	**14 09 19.8**	**-1.9**
	0.7nm,0.7s,baz=161,slow=8.7,SNR=10.0						
ECSD	**EROS Data Cent**	**23.14**	**80**	*e*P	**P**	**14 09 22.7**	**-0.1**
	5.5nm,1.1s						
TXAR	**Lajitas Array**	**24.86**	**118**	LR	LR	14 18 31.4	
	comp=Z,34nm,19.6s,baz=0.0,slow=35						
WMOK	**Wichita Mounta**	**24.92**	**102**	*e*P	**P**	**14 09 41.0**	**+1.4**
	4.6nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**58.17**	**267**	T	T	15 16 48.4	
	baz=49,slow=75,SNR=1615						
H11N2	**WAKE ISLAND Hy**	**58.17**	**267**	T	T	15 16 42.4	
	baz=49,slow=75,SNR=636						
H11N1	**WAKE ISLAND Hy**	**58.18**	**267**	T	T	15 17 01.5	
	baz=49,slow=75,SNR=429						
H11S1	**WAKE ISLAND Hy**	**59.10**	**266**	T	T	15 17 59.2	
	baz=48,slow=75,SNR=230						
H11S2	**WAKE ISLAND Hy**	**59.11**	**266**	T	T	15 17 58.7	
	baz=48,slow=75,SNR=111						
H11S3	**WAKE ISLAND Hy**	**59.12**	**266**	T	T	15 18 00.3	
	baz=48,slow=75,SNR=101						

IDC 21 14:06:40.0±2.2,3°.62N×125°.83E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.3/42,mbtmp3.5/3,Error ellipse: s-maj=208.0km s-min=25.7km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.87**	**161**	P	P	14 12 04.3	-0.3
	0.9nm,0.5s,baz=340,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**28.24**	**164**	P	P	14 12 35.2	+0.2
	0.2nm,0.6s,baz=334,slow=8.4,SNR=3.7						
MKAR	**Makanchi Array**	**57.13**	**326**	P	P	14 16 28.5	0.0
	0.3nm,0.4s,baz=121,slow=7.9,SNR=7.5						

IDC ***21*** *14:08:25.0±0.9,26°.65N×144°.35E,h0km,mb3.9/9, mb1 4.0/11,mb1mx3.8/44,mbtmp3.9/11,ML3.5/2,MS2.9/1, Ms1 2.9/1,ms1mx2.4/50,Error ellipse: s-maj=26.4km s-min=16.5km az=76.0*

NEIC ***21*** *14:08:26.5±0.6,26°.60N×144°.28E,h10km,mb4.5/5,Error ellipse: s-maj=17.1km s-min=8.8km az=75.0*

ISCJB ***21*** *14:08:27.7±0.6,26°.59N±0°.07×144°.27E±0°.07,h31km, mb4.2/16,Error ellipse: s-maj=11.8km s-min=7.9km az=37.2*

ISC 21 14:08:29.8±0.8,26°.6N±0°.1×144°.2E±0°.1,h31km,n27, σ2ᵖ11/30,mb4.3/16,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.87**	**285**	*e*Pn	**Pn**	**14 08 58.1**	**-1.7**
CBIJ				Sn	**Sn**	**14 09 22.4**	**0.0**
JCJ	**Chichijima**	**1.87**	**285**	Pn	**Pn**	**14 08 58.5**	**-1.3**
	7.7nm,0.3s,baz=359,slow=20,SNR=31						
JCJ				Sn	**Sn**	**14 09 22.4**	**0.0**
	28nm,0.3s,baz=271,slow=23,SNR=6.7						
MJAR	**Matsushiro Arr**	**11.13**	**334**	Pn	**Pn**	**14 11 04.1**	**-2.8**
	0.4nm,0.3s,baz=134,slow=11,SNR=5.6						
MAJO	**Matsushiro**	**11.13**	**334**	*e*Pn	**Pn**	**14 11 07.6**	**+0.7**
JNU	**Nasue**	**13.26**	**302**	LR	LR	14 16 44.4	
	comp=Z,49nm,18.9s,baz=121,slow=37						
KSRS	**Korea Array**	**17.51**	**312**	P	**P**	**14 12 32.5**	**0.0**
	0.1nm,0.3s,baz=124,slow=12,SNR=8.2						
KSAR	**Wonju Array Be**	**17.52**	**312**	P	**P**	**14 12 32.5**	**-0.2**
KLR	**Kul'dur**	**24.55**	**340**	P	**P**	**14 13 46.3**	**-0.4**
	1.3nm,0.7s,baz=135,slow=8.9,SNR=5.7						
ULN	**Ulaanbaatar**	**35.91**	**316**	*e*P	**P**	**14 15 28.8**	**+1.4**
	8.5nm,1.0s						
SONM	**Songino Array**	**36.31**	**316**	P	**P**	**14 15 31.1**	**+0.3**
	4.0nm,0.8s,baz=130,slow=8.3,SNR=24						
CHTO	**Chiang Mai**	**42.30**	**269**	*e*P	**P**	**14 16 21.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**42.42**	**269**	P	**P**	**14 16 22.3**	**+0.4**
	1.0nm,0.8s,baz=62,slow=8.9,SNR=4.8						
WRAB	**Tennant Creek**	**47.26**	**193**	*e*P	**P**	**14 17 00.6**	**+0.3**
	3.4nm,0.8s						
WRA	**Warramunga Arr**	**47.27**	**193**	P	**P**	**14 16 59.7**	**-0.7**
	3.1nm,0.9s,baz=13,slow=8.4,SNR=15						
FITZ	**Fitzroy Crossi**	**47.98**	**204**	P	**P**	**14 17 06.7**	**+0.8**
	2.9nm,1.0s,baz=45,slow=20,SNR=2.9						
ASAR	**Alice Springs**	**50.98**	**192**	P	**P**	**14 17 28.7**	**-0.1**
	0.4nm,0.8s,baz=3.1,slow=7.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**51.03**	**319**	P	**P**	**14 17 29.5**	**+0.6**
	0.5nm,0.3s,baz=101,slow=7.8,SNR=2.8						
MKAR	**Makanchi Array**	**52.17**	**310**	P	**P**	**14 17 38.6**	**+1.1**
	2.2nm,0.9s,baz=98,slow=8.7,SNR=11						
MBWA	**Marble Bar**	**53.10**	**209**	P	**P**	**14 17 42.4**	**-2.2**
	193nm,1.6s						
KURK	**Kurchatov**	**54.61**	**315**	*e*P	**P**	**14 17 55.5**	**+0.2**
	7.4nm,0.6s						
KSH	**Kashi**	**57.37**	**301**	*e*P	**P**	**14 18 18.3**	**+2.8**
KSH				pP	sP	14 18 39.0	+10
KSH				PcP	**PcP**	**14 19 14.8**	**+5.5**
KSH				PP	**PP**	**14 20 26.0**	**+3.2**
KSH				S	S	14 25 57.8	-13
KSH				ScS	**ScS**	**14 27 56.3**	**-6.6**
KSH	**Kashi**	**57.37**	**301**	SS	SS	14 29 48.4	-11
KSH				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,120nm,4.6s						
KSH				LR	LR		
	comp=N,210nm,5.3s						
KSH				LR	LR		
	comp=E,86nm,4.9s						
KSH				LR	LR		
	comp=Z,200nm,7.3s						
KKAR	**Karatay Array**	**60.83**	**306**	*e*P	**P**	**14 18 39.1**	**-0.1**
	comp=Z,1.9nm,0.7s						
ABKAR	**Akbulak array**	**66.72**	**315**	*e*P	**P**	**14 19 18.4**	**+0.5**
	comp=Z,0.8nm,0.7s						
YKA	**Yellowknife Ar**	**71.69**	**29**	P	**P**	**14 19 47.0**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=293,slow=5.3,SNR=5.8						
YKA	**Yellowknife Ar**	**71.69**	**29**	P	**P**	**14 19 47.0**	**-1.4**
LPAZ	**La Paz**	**148.27**	**78**	PKPbc	**PKPbc**	**14 28 14.7**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=356,slow=2.9,SNR=5.9						

GUC ***21*** *14:11:36.6±0.6,21°.81S×68°.72W,h133km±4km,ML3.9*

IDC ***21*** *14:11:40.7±6.7,21°.43S×68°.30W,h148km±54km,mb3.8/3, mb1 3.6/4,mb1mx3.4/16,mbtmp4.0/4,Error ellipse: s-maj=57.1km s-min=37.5km az=2.0*

ISC 21 14:11:36.5±1.1,21°.80S±0°.05×68°.5W±0°.1,h123km±11km, n15,σ1ᵖ33/25,mb4.0/3,9C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.69**	**270**	⇑*i*P	**Pn**	**14 11 56.6**	**+0.3**
PB09				*e*S	**Sn**	**14 12 11.7**	**+0.6**
PB09				IAML		14 12 16.2	
	comp=E,5μm,0.7s						
PB01	**IPOC Station P**	**1.19**	**309**	⇑*i*P	**Pn**	**14 12 01.1**	**+0.3**
PB01				*i* S	**Sn**	**14 12 19.1**	**-0.1**
PB01				IAML		14 12 21.2	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.29**	**273**	⇑*i*P	**Pn**	**14 12 01.9**	**0.0**
PB07				*i* S	**Sn**	**14 12 20.4**	**-0.8**
PB07				IAML		14 12 22.5	
	comp=E,1μm,0.4s						
PB06	**IPOC Station P**	**1.34**	**227**	⇑*i*P	**Pn**	**14 12 02.2**	**-0.3**
PB06				*i* S	**Sn**	**14 12 22.0**	**-0.3**
PB06				IAML		14 12 22.4	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	**1.62**	**250**	⇑*i*P	**Pn**	**14 12 05.3**	**-0.4**
PB04				*e*S	**Sn**	**14 12 26.3**	**-1.6**
PB04				IAML		14 12 33.5	
	comp=N,727nm,0.4s						
HMBC	**Humberstone**	**1.99**	**319**	⇑*i*P	**Pn**	**14 12 10.2**	**+0.1**
HMBC				*i* S	**Sn**	**14 12 35.9**	**0.0**
HMBC				IAML		14 12 38.1	
	comp=E,1μm,1.0s						
PB11	**IPOC Station P**	**2.30**	**332**	⇑*i*P	**Pn**	**14 12 14.3**	**+0.3**
PB11				*i* S	**Sn**	**14 12 43.4**	**+0.7**
PB11				IAML		14 12 45.0	
	comp=E,6μm,0.6s						
PSGC	**Pisagua**	**2.67**	**325**	⇑*i*P	**Pn**	**14 12 17.7**	**-1.0**
PSGC				*i* S	**Sn**	**14 12 49.9**	**-1.2**
PSGC				IAML		14 12 58.5	
	comp=E,283nm,0.4s						

MNMC	**Minye Minye**	**2.84**	**339**	⇑*i*P	**Pn**	**14 12 21.9**	**+0.7**
MNMC				*i* S	**Sn**	**14 12 56.1**	**+0.6**
MNMC				IAML		14 13 05.5	
	comp=N,576nm,0.4s						
LPAZ	**La Paz**	**5.49**	**4**	P	**Pn**	**14 12 58.2**	**+1.5**
	comp=N,0.5nm,0.3s,baz=156,slow=5.2,SNR=9.4						
LPAZ				S	**Sn**	**14 13 54.1**	**-5.0**
	comp=N,0.3nm,0.3s,baz=219,slow=6.5,SNR=3.9						
DBIC	**Dimbokro**	**68.46**	**73**	P	**P**	**14 22 25.2**	**-0.6**
	comp=N,3.3nm,0.8s,baz=218,slow=7.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.10**	**70**	P	**P**	**14 23 16.8**	**-0.1**
	comp=N,1.9nm,0.7s,baz=259,slow=5.6,SNR=16						
YKA	**Yellowknife Ar**	**91.59**	**340**	P	**P**	**14 24 29.9**	**+0.9**
	comp=N,0.3nm,0.6s,baz=132,slow=4.2,SNR=5.6						
ASAR	**Alice Springs**	**129.82**	**207**	PKP	**PKPdf**	**14 30 32.8**	**+0.6**
	comp=N,0.3nm,0.8s,baz=146,slow=3.3,SNR=2.9						
WRA	**Warramunga Arr**	**132.89**	**210**	PKP	**PKPdf**	**14 30 38.9**	**+0.8**
	comp=N,0.4nm,0.6s,baz=150,slow=1.8,SNR=5.4						

WEL 21 14:25:58.7±0.2,43°.57S×172°.92E,h5km,ML3.8/18,2C-1D, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.21**	**268**	⇓PG	Pg	14 26 03.0	+0.1
CRLZ				SG	Sg	14 26 05.7	0.0
CRLZ				AML	AML	14 26 06.7	
MQZ	**McQueen's Vall**	**0.24**	**233**	PG	Pg	14 26 03.6	+0.3
MQZ				SG	Sg	14 26 07.0	+0.5
MQZ				AML	AML	14 26 07.4	
OXZ	**Oxford**	**0.68**	**290**	⇑P*	Pg	14 26 11.7	-0.1
LTZ	**Lake Taylor**	**0.92**	**329**	P*	Pg	14 26 16.7	+0.4
LTZ				AML	AML	14 26 29.5	
LTZ				AML	AML	14 26 33.9	
KHZ	**Kahutara**	**1.24**	**22**	P*	Pg	14 26 21.5	-0.9
RPZ	**Rata Peaks**	**1.36**	**263**	PN	Pn	14 26 23.0	-1.4
RPZ				AML	AML	14 26 49.5	
RPZ				AML	AML	14 26 50.1	
INZ	**Inchbonnie**	**1.37**	**308**	PN	Pn	14 26 23.4	-1.0
THZ	**Tophouse**	**1.80**	**360**	⇑PN	Pn	14 26 29.5	-1.0
THZ				AML	AML	14 27 03.3	
THZ				AML	AML	14 27 06.2	
DSZ	**Denniston Nort**	**2.00**	**335**	PN	Pn	14 26 32.8	-0.4
DSZ				AML	AML	14 27 08.1	
DSZ				AML	AML	14 27 08.3	
LBZ	**Lake Benmore**	**2.13**	**246**	PN	Pn	14 26 34.5	-0.5
LBZ				AML	AML	14 27 17.6	
LBZ				AML	AML	14 27 17.7	
ODZ	**Otahua Downs**	**2.20**	**227**	PN	Pn	14 26 35.1	-0.8
ODZ				AML	AML	14 27 18.3	
ODZ				AML	AML	14 27 19.1	
FOZ	**Fox Glacier**	**2.25**	**270**	PN	Pn	14 26 37.0	+0.4
FOZ				AML	AML	14 27 05.6	
FOZ				AML	AML	14 27 23.6	
TUWZ	**Tuamarina**	**2.27**	**20**	PN	Pn	14 26 35.9	-1.0
TUWZ				AML	AML	14 27 31.9	
NNZ	**Nelson**	**2.37**	**9**	PN	Pn	14 26 37.7	-0.6
NNZ				AML	AML	14 27 44.6	
TCW	**Tory Channel**	**2.56**	**24**	PN	Pn	14 26 39.9	-1.0
BHW	**Baring Head**	**2.60**	**35**	PN	Pn	14 26 40.3	-1.0
PLWZ	**Palliser**	**2.64**	**42**	PN	Pn	14 26 41.5	-1.5
WEL	**Wellington**	**2.66**	**32**	PN	Pn	14 26 41.3	-1.0
QRZ	**Quartz Range**	**2.75**	**354**	PN	Pn	14 26 43.2	-0.3
QRZ				AML	AML	14 26 56.4	
QRZ				AML	AML	14 26 56.5	
QRZ				AML	AML	14 27 32.4	
QRZ				AML	AML	14 27 32.4	
HHSZ	**Highcliff Hill**	**2.85**	**215**	PN	Pn	14 26 44.0	-0.8
DUWZ	**D'Urville Isla**	**2.86**	**15**	PN	Pn	14 26 44.7	-0.3
CAW	**Cannon Point**	**2.93**	**34**	PN	Pn	14 26 44.6	-1.4
CAW				AML	AML	14 27 21.2	
CAW				AML	AML	14 27 24.6	
JCZ	**Jackson Bay**	**3.03**	**259**	PN	Pn	14 26 47.0	-0.4
JCZ				AML	AML	14 27 44.7	
JCZ				AML	AML	14 27 45.4	
WKZ	**Wanaka**	**3.07**	**244**	PN	Pn	14 26 47.2	-0.7
WKZ				AML	AML	14 27 49.6	
WKZ				AML	AML	14 28 00.8	
EAZ	**Earnscleugh**	**3.07**	**236**	PN	Pn	14 26 47.3	-0.7
EAZ				AML	AML	14 27 43.0	
EAZ				AML	AML	14 27 49.9	
EAZ				AML	AML	14 27 49.9	
EAZ				AML	AML	14 27 54.4	
KIW	**Kapiti Island**	**3.08**	**29**	PN	Pn	14 26 47.0	-1.1
**OGW

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.15**	**230**	⇓P	**Pn**	**14 31 08.1**	**+2.0**
KTR				S	**Sn**	**14 31 14.9**	**+3.6**
JCN	**Nagara**	**0.27**	**310**	⇓P	**Pn**	**14 31 08.3**	**+1.3**
BSO4	**Boso 4**	**0.27**	**201**	⇓P	**Pn**	**14 31 09.5**	**+2.5**
BSO3	**Boso 3**	**0.45**	**174**	⇓P	**Pn**	**14 31 11.1**	**+2.4**
CHOJ	**Chosi**	**0.56**	**36**	⇓P	**Pn**	**14 31 10.4**	**0.0**
CHOJ				S	**Sn**	**14 31 19.3**	**+0.5**
BSO1	**Boso 1**	**0.73**	**144**	P	**Pn**	**14 31 13.9**	**+1.8**
BSO1				X		14 31 24.5	
JIM2	**Oshima 3**	**0.99**	**238**	⇓P	**Pn**	**14 31 16.7**	**+0.5**
JIM2				S	**Sn**	**14 31 30.0**	**+0.9**
JOD2	**Odawara 2**	**1.12**	**271**	⇓P	**Pn**	**14 31 18.2**	**+0.2**
JOD2				S	**Sn**	**14 31 32.1**	**-0.1**
JHJ	**Hachijo jima 2**	**2.19**	**195**	P	**Pn**	**14 31 34.1**	**+1.5**
	285nm,0.3s,baz=88,slow=23,SNR=47						
JHJ				S	**Sn**	**14 31 59.5**	**+0.9**
	329nm,0.3s,baz=178,slow=23,SNR=14						
JHJ2	**Mitsune**	**2.19**	**194**	*e*Pn	**Pn**	**14 31 33.8**	**+1.1**
MJAR	**Matsushiro Arr**	**2.24**	**306**	P	**Pn**	**14 31 33.1**	**-0.2**
	49nm,0.3s,baz=102,slow=14,SNR=322						
MJAR				S	**Sn**	**14 31 59.8**	**+0.1**
	74nm,0.3s,baz=129,slow=26,SNR=15						
MJAR				LR	LR	14 32 38.8	
	comp=Z,2μm,20.9s,baz=130,slow=46						
MAJO	**Matsushiro**	**2.24**	**306**	*ce*P	**Pn**	**14 31 33.5**	**+0.2**
MAJO	**Matsushiro**	**2.24**	**306**	*e*Pn	**Pn**	**14 31 33.4**	**+0.2**
MAT	**Matsushiro**	**2.24**	**306**	P	**Pn**	**14 31 33.5**	**+0.2**
MAT				S	**Sn**	**14 31 59.4**	**-0.3**
MJB9	**Matsu-Tunnel**	**2.24**	**306**	*e*Pn	**Pn**	**14 31 33.9**	**+0.5**
INU	**Inuyama**	**2.81**	**273**	*e*Pn	**Pn**	**14 31 42.2**	**+1.1**
ERM	**Erimo**	**7.08**	**17**	⇑*e*P	**Pn**	**14 32 37.1**	**-2.6**
ERM	**Erimo**	**7.08**	**17**	*e*Pn	**Pn**	**14 32 37.2**	**-2.5**
JNU	**Nakatsue**	**8.21**	**258**	P	**Pn**	**14 32 56.3**	**+1.0**
	0.3nm,0.3s,baz=69,slow=9.9,SNR=3.0						
JNU				LR	LR	14 36 42.8	
	comp=Z,774nm,18.1s,baz=121,slow=42						
JNU	**Nakatsue**	**8.21**	**258**	Pn	**Pn**	**14 32 53.7**	**-1.6**
	8.3nm,0.9s						
CBIJ	**Chichi jima**	**8.26**	**169**	*e*Pn	**Pn**	**14 32 55.3**	**-0.6**
CBIJ				S	**Sn**	**14 34 25.1**	**-2.8**
CBIJ				*e*Sn	Sn	14 34 31.2	+3.3
JCJ	**Chichijima**	**8.26**	**169**	P	**Pn**	**14 32 55.3**	**-0.6**
	baz=296,slow=18						
JCJ				S	**Sn**	**14 34 25.1**	**-2.8**
	baz=287,slow=19						
ASAJ	**Asahikawa**	**9.01**	**10**	P	**Pn**	**14 33 02.4**	**-3.8**
	2.4nm,0.3s,baz=221,slow=9.3,SNR=28						
ASAJ				S	**Sn**	**14 34 43.1**	**-3.1**
	1.8nm,0.3s,baz=90,slow=20,SNR=3.5						
VLA	**Vladivostok**	**10.29**	**322**	*de*P	**Pn**	**14 33 27.1**	**+3.4**
KSRS	**Korea Array**	**10.35**	**286**	P	**Pn**	**14 33 24.2**	**-0.2**
	0.1nm,0.3s,baz=103,slow=13,SNR=3.0						
KSRS				LR	LR	14 37 21.7	
	comp=Z,679nm,21.6s,baz=99,slow=37						
KSAR	**Wonju Array Be**	**10.38**	**286**	P	**Pn**	**14 33 24.2**	**-0.6**
KSAR	**Wonju Array Be**	**10.38**	**286**	P	**Pn**	**14 33 24.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**11.06**	**326**	P	**Pn**	**14 33 33.9**	**-0.2**
	0.1nm,0.3s,baz=141,slow=12,SNR=2.9						
USRK				LR	LR	14 37 50.1	
	comp=Z,178nm,20.4s,baz=144,slow=37						
KUR	**Kuril'sk**	**11.46**	**27**	P	**Pn**	**14 33 37.5**	**-2.2**
KUR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.82**	**8**	*e*P	**Pn**	**14 33 41.2**	**-3.4**
YSS	**Yuzh-Sakhalins**	**11.82**	**8**	*e*Pn	**Pn**	**14 33 41.2**	**-3.4**
MDJ	**Mudanjiang**	**12.52**	**322**	P	**Pn**	**14 33 57.0**	**+2.8**
MDJ				S	**Sn**	**14 36 11.8**	**-0.4**
MDJ				PMZ			
	comp=Z,5.0nm,0.8s						
MDJ				PMZ			
	comp=Z,75nm,8.5s						
KLR	**Kul'dur**	**15.37**	**338**	P	**Pn**	**14 34 31.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=140,slow=5.4,SNR=5.4						
KLR				LR	LR	14 40 11.6	
	comp=Z,112nm,20.3s,baz=160,slow=36						
TYV	**Tymovskoe**	**15.69**	**5**	*e*P	**Pn**	**14 34 35.5**	**-1.0**
TYV				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJI	**Beijing**	**19.79**	**291**	P	**P**	**14 35 24.5**	**-0.7**
BJI				pP	**pP**	**14 35 33.6**	**-2.2**
BJI				S	**S**	**14 39 00.4**	**-5.3**
BJI				PMZ			
	comp=Z,11nm,1.4s						
BJI				PMZ			
	comp=Z,150nm,4.3s						
BJI				LN			
	comp=Z,160nm,24.6s						
BJI				LE			
	comp=Z,200nm,27.2s						
BJI				LZ			
	comp=Z,310nm,29.9s						
PETK	**Petropavlovsk-**	**21.62**	**29**	P	**P**	**14 35 44.9**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=206,slow=2.8,SNR=5.6						
PETK				LR	LR	14 43 53.1	
	comp=Z,86nm,22.0s,baz=229,slow=36						
WHN	**Wuhan**	**22.39**	**265**	⇑P	**P**	**14 35 53.3**	**0.0**
WHN				S	**S**	**14 39 52.8**	**-3.6**
WHN				LN			
	comp=Z,970nm,18.0s						
WHN				LE			
	comp=Z,610nm,24.3s						
WHN				LZ			
	comp=Z,560nm,19.2s						
HHC	**Hu-ho-hao-te**	**23.37**	**292**	*e*P	**P**	**14 36 02.5**	**-0.9**
HHC				sP	sP	14 36 16.9	-3.2
HHC				S	**S**	**14 40 11.5**	**-1.6**
HHC				PMZ			
	comp=Z,18nm,0.9s						
HHC				PMZ			
	comp=Z,100nm,6.5s						
HHC				LN			
	comp=Z,220nm,13.1s						
HHC				LE			
	comp=Z,180nm,10.6s						
HHC				LZ			
	comp=Z,140nm,9.4s						
MA2	**Magadan**	**25.26**	**12**	P	**P**	**14 36 20.5**	**+0.1**
	comp=Z,7.7nm,0.7s,baz=224,slow=10,SNR=10						
MA2				LR	LR	14 47 00.1	
	comp=Z,76nm,18.3s,baz=210,slow=38						
XAN	**Xi'an**	**25.92**	**276**	P	**P**	**14 36 26.3**	**-0.4**
XAN				pP	pP	14 36 35.0	-3.5
XAN				PMZ			
	comp=Z,6.0nm,0.8s						
XAN				LE			
	comp=Z,230nm,19.3s						
XAN				LZ			
	comp=Z,300nm,20.1s						
ENH	**Enshi**	**26.45**	**268**	*e*P	**P**	**14 36 30.2**	**-1.3**
	comp=Z,21nm,0.8s						
YAK	**Yakutsk**	**27.66**	**349**	LR	LR	14 47 26.3	
	comp=Z,64nm,20.6s,baz=187,slow=36						
YAK	**Yakutsk**	**27.66**	**349**	*e*P	**P**	**14 36 43.9**	**+1.9**
YAK				*e**PP	**sP**	**14 36 58.7**	**-0.4**
YAK				*e*		14 37 30.5	
YAK				*e*		14 40 00.1	
YAK				*e*S	**S**	**14 41 22.0**	**+1.4**
YAK				*e*SS	**SnSn**	**14 42 40.8**	**+5.7**
YAK				*e*		14 47 26.6	
YAK				pmax	pmax		
	comp=Z,12nm,1.3s						
YAK				pmax	pmax		
	comp=N,12nm,1.4s						
YAK				pmax	pmax		
	comp=Z,46nm,3.2s						
YAK				pmax	pmax		
	comp=N,18nm,2.8s						
YAK				pmax	pmax		
	comp=E,35nm,3.0s						
YAK				smax	smax		
	comp=N,30nm,1.7s						
YAK				smax	smax		
	comp=E,27nm,2.3s						
ULN	**Ulaanbaatar**	**27.77**	**307**	⇑*e*P	**P**	**14 36 44.6**	**+1.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**27.97**	**117**	T	T	15 06 07.2	
	baz=309,slow=75,SNR=105						
H11N1	**WAKE ISLAND Hy**	**27.98**	**117**	T	T	15 06 02.9	
	baz=309,slow=75,SNR=99						
H11N3	**WAKE ISLAND Hy**	**27.99**	**117**	T	T	15 06 08.6	
	baz=309,slow=75,SNR=122						
SONA1	**Songino Array**	**28.19**	**307**	*e*P	**P**	**14 36 44.3**	**-2.8**
SONM	**Songino Array**	**28.19**	**307**	P	**P**	**14 36 45.6**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=108,slow=8.1,SNR=6.3						
SONM				LR	LR	14 48 36.1	
	comp=Z,239nm,18.7s,baz=101,slow=38						
H11S3	**WAKE ISLAND Hy**	**28.61**	**119**	T	T	15 06 51.3	
	baz=312,slow=75,SNR=95						
H11S1	**WAKE ISLAND Hy**	**28.61**	**119**	T	T	15 06 57.2	
	baz=312,slow=75,SNR=116						
H11S2	**WAKE ISLAND Hy**	**28.62**	**119**	T	T	15 06 52.9	
	baz=312,slow=75,SNR=114						
BOD	**Bodaibo**	**28.66**	**330**	*e*P	**P**	**14 36 48.5**	**-2.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SEY	**Seymchan**	**28.69**	**11**	P	**P**	**14 36 49.9**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=198,slow=4.7,SNR=5.1						
SEY	**Seymchan**	**28.69**	**11**	⇓*e*P	**P**	**14 36 52.4**	**+1.2**
LZH	**Lanzhou**	**29.65**	**282**	*e*P	**P**	**14 37 02.0**	**+1.8**
LZH				pP	pP	14 37 10.1	-2.0
LZH				sP	sP	14 37 15.8	-1.6
LZH				PMZ			
	comp=Z,17nm,1.0s						
CD2	**Chengdu**	**30.94**	**273**	*e*P	**P**	**14 37 10.8**	**-0.7**
TLY	**Talaya**	**30.96**	**314**	LR	LR	14 50 18.3	
	comp=Z,119nm,19.5s,baz=111,slow=38						
GTA	**Gaotai**	**32.39**	**290**	*e*P	**P**	**14 37 24.5**	**+0.2**
GTA				pP	pP	14 37 33.8	-2.4
GTA				sP	sP	14 37 38.1	-3.4
GTA				S	**S**	**14 42 35.3**	**-0.3**
GTA				PMZ			
	comp=Z,3.0nm,1.0s						
GTA				PMZ			
	comp=Z,69nm,6.6s						
GTA				LN			
	comp=Z,120nm,19.5s						
GTA				LE			
	comp=Z,150nm,18.5s						
GTA				LZ			
	comp=Z,230nm,20.4s						
KMI	**Kunming**	**33.95**	**263**	P	**P**	**14 37 40.0**	**+1.9**
KMI				PMZ			
	comp=Z,10.0nm,0.6s						
KMI				PMZ			
	comp=Z,130nm,4.2s						
BILL	**Bilibino**	**35.96**	**16**	⇑*e*P	**P**	**14 37 53.5**	**-1.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TIXI	**Tiksi**	**36.98**	**354**	⇑*e*P	**P**	**14 38 05.6**	**+2.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
TIXI	**Tiksi**	**36.98**	**354**	*e*P	**P**	**14 38 02.3**	**-0.9**
	comp=Z,3.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**40.31**	**257**	P	**P**	**14 38 32.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=48,slow=8.5,SNR=5.9						
WMQ	**Urumqi**	**40.98**	**299**	P	**P**	**14 38 37.6**	**+0.4**
WMQ				pP	pP	14 38 47.6	-1.8
WMQ				sP	sP	14 38 52.8	-1.9
WMQ				PMZ			
	comp=Z,7.0nm,1.2s						
WMQ				PMZ			
	comp=Z,54nm,3.8s						
WMQ				LZ			
	comp=Z,260nm,13.2s						
ZAA0	**Zalesovo Array**	**42.57**	**314**	*e*P	**P**	**14 38 49.3**	**-0.6**
ZALV	**Zalesovo Beam**	**42.57**	**314**	P	**P**	**14 38 49.3**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=91,slow=7.6,SNR=9.1						
NVS	**Novosibirsk**	**43.53**	**315**	*e*P	**P**	**14 38 58.7**	**+1.0**
MK01	**Makanchi Array**	**44.43**	**303**	*e*P	**P**	**14 39 03.9**	**-1.2**
MK31	**Makanchi Array**	**44.43**	**304**	*e*P	**P**	**14 39 04.8**	**-0.3**
MK31	**Makanchi Array**	**44.43**	**304**	*e*P	**P**	**14 39 04.8**	**-0.3**
MKAR	**Makanchi Array**	**44.43**	**304**	P	**P**	**14 39 04.9**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=89,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**44.43**	**304**	*e*P	**P**	**14 39 04.8**	**-0.4**
KURK	**Kurchatov**	**46.44**	**309**	*e*P	**P**	**14 39 19.4**	**-1.5**
KURK				pmax	pmax		
	comp=Z,41nm,0.7s						
KURK	**Kurchatov**	**46.44**	**309**	*e*P	**P**	**14 39 19.4**	**-1.5**
	comp=Z,41nm,0.7s						
HNR	**Honiara**	**48.10**	**154**	LR	LR	14 55 50.7	
	comp=Z,61nm,21.4s,baz=50,slow=31						
KDAK	**Kodiak Island**	**48.95**	**41**	*i* P	**P**	**14 39 40.5**	**+0.3**
MLY	**Manley**	**49.78**	**31**	*e*P	**P**	**14 39 47.5**	**+1.0**
	comp=Z,3.6nm,0.9s						
TKM2	**Tokmak 2**	**49.82**	**299**	*e*P	**P**	**14 39 48.0**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,35nm,1.6s						
TKM2	**Tokmak 2**	**49.82**	**299**	*e*P	**P**	**14 39 48.0**	**+0.7**
	comp=Z,35nm,1.6s						
KSH	**Kashi**	**50.44**	**295**	*e*P	**P**	**14 39 54.1**	**+2.0**
KSH				pP	pP	14 40 03.9	-0.6
KSH				PcP	**PcP**	**14 41 11.1**	**+1.3**
KSH				PP	**PP**	**14 41 49.6**	**+1.8**
KSH				S	**S**	**14 47 03.4**	**+0.8**
KSH				SS	**SS**	**14 50 36.8**	**+0.3**
KSH				PMZ			
	comp=Z,5.0nm,0.4s						
KSH				PMZ			
	comp=Z,110nm,3.7s						
KSH				LN			
	comp=Z,180nm,8.4s						
KSH				LE			
	comp=Z,150nm,6.1s						
KSH				LZ			
	comp=Z,190nm,7.3s						
FRU	**Bishkek**	**50.53**	**300**	*e*P	**P**	**14 39 55.0**	**+2.4**
RND	**Reindeer**	**50.59**	**33**	*e*P	**P**	**14 39 52.5**	**-0.3**
RND				pmax	pmax		
	comp=Z,7.0nm,1.3s						
RND	**Reindeer**	**50.59**	**33**	*e*P	**P**	**14 39 52.5**	**-0.3**
	comp=Z,6.9nm,1.3s						
AAK	**Ala-Archa**	**50.67**	**299**	⇓*e*P	**P**	**14 39 56.5**	**+2.7**
AAK				pmax	pmax		
	comp=Z,21nm,1.9s						
MDM	**Murphy Dome**	**50.84**	**31**	*e*P	**P**	**14 39 55.2**	**+0.7**
	comp=Z,8.7nm,0.7s						
SML	**Sawmill**	**50.89**	**35**	*e*P	**P**	**14 39 55.4**	**+0.4**
SML				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SML	**Sawmill**	**50.89**	**35**	*e*P	**P**	**14 39 55.4**	**+0.4**
	comp=Z,5.8nm,0.8s						
WRH	**Wood River Hil**	**50.91**	**32**	*e*P	**P**	**14 39 55.2**	**+0.2**
	comp=Z,12nm,1.7s						
COLA	**College**	**51.00**	**31**	*c i*P	**P**	**14 39 57.2**	**+1.5**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CCB	**Clear Creek Bu**	**51.03**	**32**	*e*P	**P**	**14 39 56.4**	**+0.6**
	comp=Z,4.1nm,1.3s						
BRVK	**Borovoye**	**51.27**	**313**	⇑*e*P	**P**	**14 40 00.7**	**+2.8**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SCM	**Sheep Creek Mo**	**51.37**	**35**	*e*P	**P**	**14 39 58.8**	**+0.2**
SCM				pmax	pmax		
	comp=Z,16nm,1.6s						
SCM	**Sheep Creek Mo**	**51.37**	**35**	*e*P	**P**	**14 39 58.8**	**+0.2**
	comp=Z,16nm,1.6s						
HDA	**Harding Lake**	**51.41**	**32**	*e*P	**P**	**14 39 58.4**	**-0.4**
	comp=Z,3.9nm,0.8s						
IL1	**Eielson Array**	**51.42**	**32**	*e*P	**P**	**14 39 58.5**	**-0.4**
ILAR	**Eielson Array**	**51.42**	**32**	P	**P**	**14 39 58.5**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=268,slow=6.1,SNR=32						
ILB	**Eielson Array**	**51.42**	**32**	*e*P	**P**	**14 39 58.4**	**-0.4**
ZRNK	**Zerenda**	**52.05**	**313**	*e*P	**P**	**14 40 04.7**	**+0.9**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZRNK	**Zerenda**	**52.05**	**313**	*e*P	**P**	**14 40 04.7**	**+0.9**
	comp=Z,5.7nm,1.0s						
DOT	**Dot Lake**	**52.72**	**33**	Pn	**P**	**14 40 08.6**	**0.0**
	comp=Z,5.9nm,0.6s						
KKAR	**Karatay Array**	**53.36**	**301**	*e*P	**P**	**14 40 13.7**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**53.36**	**301**	*e*P	**P**	**14 40 13.7**	**+0.1**
	comp=Z,3.5nm,0.8s						
WRAB	**Tennant Creek**	**55.18**	**187**	⇓*i*P	**P**	**14 40 26.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,32nm,1.7s						
WRAB	**Tennant Creek**	**55.18**	**187**	*e*P	**P**	**14 40 26.5**	**-0.5**
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**55.19**	**187**	P	**P**	**14 40 26.6**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=2.8,slow=7.5,SNR=68						
ARU	**Arti**	**57.19**	**319**	*c i*P	**P**	**14 40 42.7**	**+1.8**
ARU						14 42 47.3	
ARU				S	**S**	**14 48 38.2**	**+5.1**
ARU				SS	**SS**	**14 52 29.5**	**+7.5**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ABKAR	**Akbulak array**	**58.51**	**311**	*e*P	**P**	**14 40 49.4**	**-0.9**
ASAR	**Alice Springs**	**58.92**	**187**	P	**P**	**14 40 53.1**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=18,slow=12,SNR=19						
ARCES	**ARCESS Array B**	**65.39**	**339**	P	**P**	**14 41 36.1**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=64,slow=8.1,SNR=3.4						
YKA	**Yellowknife Ar**	**65.74**	**29**	P	**P**	**14 41 37.8**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=302,slow=6.4,SNR=11						
OBN	**Obninsk**	**69.06**	**323**	*e*P	**P**	**14 41 59.2**	**-0.4**
OBN				*e*		14 42 28.5	
OBN				*e*		14 44 33.9	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**70.03**	**332**	P	**P**	**14 42 04.8**	**-0.7**
	comp=Z,3.3nm,0.9s,baz=64,slow=8.7,SNR=5.1						
KIV	**Kislovodsk**	**71.49**	**311**	*e*P	**P**	**14 42 16.1**	**+1.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKASG	**Malin Array Be**	**75.23**	**322**	P	**P**	**14 42 35.7**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=48,slow=5.9,SNR=3.6						
NB2	**NORSAR Subarra**	**75.53**	**337**	P	**P**	**14 42 38.8**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**75.53**	**337**	P	**P**	**14 42 37.3**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=9.5,slow=5.4,SNR=2.5						
LRM	**Limekiln Ridge**	**75.97**	**44**	*e*P	**P**	**14 42 41.4**	**+0.2**
BRTR	**Keskin Array B**	**79.45**	**311**	P	**P**	**14 43 00.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=108,slow=4.7,SNR=2.7						
BW06	**Boulder Array**	**79.47**	**45**	*e*P	**P**	**14 43 00.6**	**-0.2**
PD31	**Pinedale Array**	**79.47**	**45**	*e*P	**P**	**14 42 59.8**	**-1.0**
PDAR	**Pinedale Array**	**79.47**	**45**	P	**P**	**14 43 00.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=230,slow=1.8,SNR=12						
SRU	**San Rafael Swe**	**81.18**	**48**	*e*P	**P**	**14 43 10.5**	**+0.6**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SRU	**San Rafael Swe**	**81.18**	**48**	*e*P	**P**	**14 43 10.5**	**+0.6**
	comp=Z,3.2nm,0.7s						
U15A	**North Rim**	**81.73**	**51**	*e*P	**P**	**14 43 14.1**	**+1.1**
	comp=Z,1.9nm,0.9s						
PV10	**Paradox Valley**	**82.54**	**48**	*e*P	**P**	**14 43 18.4**	**+1.2**
TXAR	**Lajitas Array**	**91.83**	**52**	P	**P**	**14 44 02.5**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=305,slow=3.0,SNR=4.1						
TXAR				LR	LR	15 18 48.2	
	comp=Z,24nm,21.9s,baz=0.0,slow=31						
LPAZ	**La Paz**	**148.25**	**61**	PKPbc	**PKPbc**	**14 50 40.9**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=196,slow=1.2,SNR=5.6						

MEX 21 14:36:28.2±0.4, 15.08N×94.11W, h16km±5km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.06**	**54**	*e*P	Pb	14 36 44.5	-3.7
PCIG				*i* S	Sb	14 36 57.5	-4.3
HUIG	**Huatulco**	**2.04**	**290**	*e*P	Pn	14 36 58.6	-3.4
HUIG				*e*S	Sn	14 37 22.2	-5.0
CCIG	**Comitan**	**2.24**	**58**	*e*P	Pn	14 37 04.3	-0.6
CCIG				*e*S	Sn	14 37 29.3	-3.1

*IDC **21** 14:47:33.9±0.4, 39.15N×72.52E, h0km, mb4.7/37, mb1 4.8/46, mb1mx4.7/59, mbtmp4.8/46, ML4.3/9, MS4.1/37, Ms1 4.1/37, ms1mx4.0/55, Error ellipse: s-maj=9.8km s-min=7.8km az=174.0*

*SOME **21** 14:47:34.4, 39.25N×72.50E, h20km, MS4.6*

*NNC **21** 14:47:35.0±2.7, 39.11N×72.30E, h0km, mb5.4, mpv5.0, Error ellipse: s-maj=21.1km s-min=17.0km az=10.0*

*BJI **21** 14:47:35.6, 39.20N×72.28E, h30km, mb4.9/57, mB4.9/40, ML4.8/5, Ms4.6/53, Ms7 4.4/51*

*KRNET **21** 14:47:36.3±0.1, 39.18N×72.34E, h17km, mb5.3*

*MOS **21** 14:47:37.6±0.9, 39.25N×72.56E, h33km, mb5.1/81, MS4.2/32, Error ellipse: s-maj=5.5km s-min=4.3km az=110.8*

*ISCJB **21** 14:47:38.7±0.3, 39.08N±0.01×72.50E±0.02, h49km±2km, mb4.9/176, MS4.2/46, Error ellipse: s-maj=2.7km s-min=2.2km az=155.5*

*NEIC **21** 14:47:40.9±0.5, 39.21N×72.50E, h52km±4km, mb5.0/104, Error ellipse: s-maj=3.9km s-min=2.9km az=186.0*

ISC 21 14:47:38.9±0.6, 39.14N±0.03×72.38E±0.02, h33km±2km, n507, σ2.220/586, mb4.9/178, MS4.2/46, 79C-51D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.56**	**307**	⇑*e*P	Pb	14 47 45.8	-5.0
	baz=307						
DRK				⇑*e*S	**Sb**	**14 47 53.9**	**-5.1**
	baz=307						
OHH	**Osh**	**1.41**	**12**	⇓*e*P	**Pn**	**14 48 02.1**	**-0.3**
	baz=14						
OHH				⇓*e*S	**Sb**	**14 48 20.5**	**-2.0**
	baz=14						
BTK	**Batken**	**1.52**	**308**	⇑*e*P	**Pn**	**14 48 02.6**	**-1.2**
	baz=307						
BTK				⇑*e*S	**Sn**	**14 48 23.2**	**+0.8**
	baz=307						
ARSB	**Arslanbob**	**2.23**	**12**	⇓*e*P	**Pn**	**14 48 14.6**	**+1.0**
	baz=12						
ARSB				⇓*e*S	**Sb**	**14 48 42.8**	**-3.0**
	baz=12						
ARK	**Arkit**	**2.67**	**353**	⇓*e*P	**Pn**	**14 48 20.3**	**+0.6**
	baz=354						
ARK				⇓*e*S	**Sn**	**14 48 52.7**	**+1.7**
	baz=354						
KSH	**Kashi**	**2.81**	**81**	Pg	**Pn**	**14 48 19.4**	**-2.2**
KSH				Sn	**Sn**	**14 48 46.9**	**-7.4**
KSH				SMN			
	6μm,0.9s						
KSH				SME			
	5μm,0.8s						
ARLS	**Aral**	**3.09**	**28**	⇓*e*P	**Pn**	**14 48 26.4**	**+0.9**
	baz=29						
ARLS				⇓*e*S	**Sn**	**14 49 03.6**	**+2.2**
	baz=29						
MNAS	**Manas**	**3.34**	**2**	⇓*e*P	**Pn**	**14 48 30.3**	**+1.4**
	baz=2.0						
MNAS				⇓*e*S	**Sn**	**14 49 09.4**	**+1.9**
	baz=2.0						
MNAS	**Manas**	**3.34**	**2**	⇓Pn	**Pn**	**14 48 30.7**	**+1.8**
	930nm,0.5s						
MNAS				⇑Sn	**Sb**	**14 49 12.4**	**-5.4**
	6μm,0.7s						
MNAS	**Manas**	**3.34**	**2**	PN	**Pn**	**14 48 30.0**	**+1.1**
MNAS						14 49 12.4	
MNAS			

AAK				⇓*i*S		**Sn**	**14 49 23.1**	**+3.4**			
	baz=25										
AAK	**Ala-Archa**	**3.84**	**24**	⇓Pn		**Pn**	**14 48 38.0**	**+2.2**			
	comp=N,503nm,0.9s										
AAK				⇑Sn		**Sn**	**14 49 23.2**	**+3.4**			
	comp=N,2μm,0.7s										
KBK	**Karagaybulak**	**4.01**	**28**	⇑*i*P		**Pn**	**14 48 40.4**	**+2.2**			
	baz=29										
KBK				⇑*i*S		**Sn**	**14 49 27.4**	**+3.3**			
	baz=29										
FRU1	**Bishkek**	**4.04**	**24**	⇑*e*P		**Pn**	**14 48 40.2**	**+1.8**			
	baz=25										
FRU1				⇑*e*S		**Sn**	**14 49 26.9**	**+2.3**			
	baz=25										
FRU	**Bishkek**	**4.05**	**24**	*e*PN		**Pn**	**14 48 41.0**	**+2.4**			
FRU				*e*S		**Sn**	**14 49 27.0**	**+2.0**			
FRU				smax		smax					
	comp=E,7μm,1.8s										
JBG	**Jabagly**	**4.06**	**35**	*e*P		**Pn**	**14 48 34.6**	**-4.2**			
	comp=E,453nm,0.5s										
JBG				*e*S		**Sn**	**14 49 18.1**	**-7.2**			
	comp=E,3μm,0.7s										
BRLS	**Borolday**	**4.17**	**332**	*e*P		**Pb**	**14 48 50.7**	**-1.0**			
	comp=E,615nm,0.5s										
BRLS				*e*S		**Sb**	**14 49 46.1**	**+4.5**			
	comp=E,680nm,0.6s										
KK31	**Karatay Array**	**4.20**	**341**	⇓Pn		**Pn**	**14 48 41.8**	**+1.1**			
	comp=E,78nm,0.2s,baz=154,slow=12,SNR=4532										
KK31				⇑Sn		**Sn**	**14 49 32.3**	**+3.8**			
	comp=E,541nm,0.5s,baz=154,slow=21,SNR=5.8										
KK31	**Karatay Array**	**4.20**	**341**	*i* PN		**Pn**	**14 48 41.5**	**+0.9**			
KK31				*e*			14 49 31.7				
KK31				pmax		pmax					
	comp=Z,261nm,0.5s										
KK31				pmax		pmax					
	comp=N,541nm,0.5s										
KKAR	**Karatay Array**	**4.20**	**341**	*e*PN		**Pn**	**14 48 41.5**	**+0.9**			
KKAR	**Karatay Array**	**4.20**	**341**	*e*Pn		**Pn**	**14 48 41.5**	**+0.9**			
CHMS	**Chumysh**	**4.25**	**24**	⇑*i*P		**Pn**	**14 48 42.9**	**+1.6**			
	baz=25										
CHMS				⇑*i*S		**Sn**	**14 49 32.2**	**+2.5**			
	baz=25										
ULHL	**Ulahol**	**4.27**	**42**	⇑*i*P		**Pn**	**14 48 43.1**	**+1.4**			
	baz=43										
ULHL				⇑*i*S		**Sn**	**14 49 33.1**	**+2.7**			
	baz=43										
BOOM	**Boomskoye usch**	**4.30**	**38**	⇑*e*P		**Pn**	**14 48 43.6**	**+1.5**			
	baz=38										
BOOM				⇑*e*S		**Sn**	**14 49 33.2**	**+2.1**			
	baz=38										
USP	**Ospenovka**	**4.42**	**20**	⇑*i*P		**Pn**	**14 48 45.1**	**+1.5**			
	baz=21										
USP				⇑*i*S		**Sn**	**14 49 36.1**	**+2.2**			
	baz=21										
TKM2	**Tokmak 2**	**4.49**	**32**	⇑*i*P		**Pn**	**14 48 46.5**	**+1.8**			
	baz=32										
TKM2				⇑*i*S		**Sn**	**14 49 38.5**	**+2.6**			
	baz=32										
TKM2	**Tokmak 2**	**4.49**	**32**	⇓Pn		**Pn**	**14 48 46.3**	**+1.5**			
	comp=N,82nm,0.7s										
TKM2				⇓Lg		Lg	14 50 03.6				
	comp=N,490nm,0.7s										
TKM2	**Tokmak 2**	**4.49**	**32**	PN		**Pn**	**14 48 46.2**	**+1.5**			
TKM2							14 48 58.6				
TKM2							14 49 53.0				
TKM2				pmax		pmax					
	comp=Z,61nm,0.5s										
TKM2				pmax		pmax					
	comp=Z,270nm,0.8s										
TKM2				pmax		pmax					
	comp=N,1μm,0.8s										
TKM2	**Tokmak 2**	**4.49**	**32**	*e*Pn		**Pn**	**14 48 46.3**	**+1.5**			
KST	**Kastek**	**4.74**	**34**	*e*P		**Pn**	**14 48 52.0**	**+3.8**			
	comp=N,40nm,0.5s										
KST				⇑*i*S		**Sn**	**14 49 48.3**	**+6.3**			
	comp=N,702nm,1.1s										
DGS	**Degeres**	**4.83**	**31**	*e*P		**Pb**	**14 49 00.5**	**-2.3**			
	comp=N,445nm,0.7s										
DGS				*e*S		**Sb**	**14 50 02.0**	**+1.5**			
	comp=N,2μm,0.8s										
MTBS	**Maitube**	**5.02**	**36**	*e*P		**Pb**	**14 49 09.8**	**+3.8**			
	comp=N,114nm,0.8s										
MTBS				*e*S		Sb	14 50 18.2	+12			
	comp=N,427nm,0.7s										
IZV	**Izvestkoviy**	**5.03**	**38**	*e*P		**Pb**	**14 49 03.4**	**-2.9**			
IZV				*e*S		**Sb**	**14 50 07.7**	**+1.3**			
TNSS	**Tian-Shan**	**5.20**	**40**	*e*P		**Pb**	**14 49 08.3**	**-1.0**			
	comp=N,390nm,1.0s										
TNSS				*e*S		**Sb**	**14 50 15.6**	**+4.2**			
	comp=N,2μm,0.8s										
KBL	**Kabul**	**5.32**	**211**	*e*PN		**Pn**	**14 49 00.9**	**+4.7**			
KBL	**Kabul**	**5.32**	**211**	*e*Pn		**Pn**	**14 49 00.9**	**+4.7**			
CEP	**Cherat**	**5.32**	**184**	P		Pn	14 49 01.0	+4.8			
KNDC	**Almaty**	**5.34**	**39**	⇑Pn		**Pn**	**14 48 57.5**	**+1.2**			
	comp=N,109nm,0.8s										
KNDC				⇑Lg		Lg	14 50 21.6				
	comp=N,4μm,1.0s										
MDOK	**Medeo**	**5.34**	**40**	*e*P		**Pb**	**14 49 11.0**	**-0.5**			
	comp=N,278nm,0.7s										
MDOK				⇑*i*S		**Sb**	**14 50 20.6**	**+5.4**			
	comp=N,928nm,0.7s										
AAA	**Alma-Ata**	**5.37**	**38**	*e*P		**Pb**	**14 49 11.6**	**-0.4**			
	comp=N,462nm,0.6s										
AAA				*e*S		**Sb**	**14 50 20.4**	**+4.4**			
	comp=N,2μm,0.8s										
AAA	**Alma-Ata**	**5.37**	**38**	*e*PN		**Pb**	**14 49 11.6**	**-0.4**			
AAA				pmax		pmax					
	comp=Z,462nm,0.6s										
ANVS	**Anan'yevo**	**5.41**	**46**	⇑*e*P		**Pn**	**14 48 58.9**	**+1.6**			
	baz=46										
ANVS				⇑*e*S		**Sn**	**14 49 59.4**	**+1.0**			
	baz=46										
KOTS	**Kotyrbulak**	**5.42**	**40**	*e*P		**Pb**	**14 49 11.9**	**-1.0**			
KOTS				*e*S		**Sb**	**14 50 21.3**	**+3.7**			
CHCP	**Chirah Chowk**	**5.52**	**172**	P		Pn	14 49 04.1	+5.3			
KUU	**Kurty**	**5.60**	**31**	*e*P		**Pb**	**14 49 13.8**	**-2.0**			
	comp=Z,458nm,0.7s										
KUU				⇓*i*S		**Sb**	**14 50 25.5**	**+3.1**			
	comp=Z,731nm,0.8s										
PRZ	**Przheval'sk**	**5.65**	**52**	⇑*e*P		**Pn**	**14 49 02.1**	**+1.4**			
	baz=52										
PRZ				⇑*e*S		**Sn**	**14 50 05.1**	**+0.6**			
	baz=52										
CHKK	**Chushkaly**	**5.86**	**35**	*e*P		**Pb**	**14 49 20.7**	**+0.4**			
	comp=Z,90nm,0.7s										
CHKK				*e*S		**Sb**	**14 50 37.3**	**+7.4**			
	comp=Z,561nm,0.7s										
SATY	**Saty**	**6.00**	**47**	*e*P		**Pb**	**14 49 22.6**	**-0.1**			
	comp=Z,379nm,0.7s										
SATY				*e*S		**Sb**	**14 50 40.9**	**+6.8**			
	comp=Z,672nm,1.2s										
KURS	**Kuram**	**6.15**	**43**	*e*P		**Pb**	**14 49 25.0**	**-0.2**			
	comp=Z,96nm,0.9s										
KURS				*e*S		**Sb**	**14 50 45.0**	**+6.7**			
	comp=Z,384nm,1.4s										
THW	**Thamme Wali**	**6.36**	**185**	P		**Pn**	**14 49 13.6**	**+3.3**			
UZB	**Uzynbulak**	**6.41**	**49**	*e*P		**Pb**	**14 49 29.6**	**-0.2**			
	comp=Z,122nm,0.7s										
UZB				*e*S		**Sb**	**14 50 52.1**	**+6.2**			
	comp=Z,178nm,0.7s										
KPKS	**Kokpek**	**6.41**	**46**	*e*P		**Pb**	**14 49 30.9**	**+1.1**			
	comp=Z,236nm,0.7s										
KPKS				*e*S		Sb	14 50 54.1	+8.1			
	comp=Z,422nm,0.7s										
ARXS	**Arharly**	**6.50**	**37**	*e*P		**Pb**	**14 49 30.8**	**-0.4**			
	comp=Z,148nm,0.8s										
ARXS				*e*S		**Sb**	**14 50 54.5**	**+6.1**			
	comp=Z,535nm,0.7s										
PDGK	**Podgornoye**	**6.79**	**50**	⇓*e*P		**Pn**	**14 49 17.1**	**+1.0**			
	baz=50										
PDGK				⇓*e*S		**Sn**	**14 50 32.4**	**+0.2**			
	baz=50										
PDGK	**Podgornoye**	**6.79**	**50**	⇓Pn		**Pn**	**14 49 16.5**	**+0.4**			
	comp=Z,62nm,0.8s										
PDGK				⇑Lg		Lg	14 51 05.3				
	comp=Z,1μm,1.3s										
SARP	**Sargodha**	**7.21**	**178**	P		**Pn**	**14 49 25.1**	**+3.2**			
THN	**Thein Dam**	**7.22**	**157**	*e*P		**Pn**	**14 49 23.0**	**+0.9**			
THN				*ex*		x	14 52 41.0				
DHRM	**DHARAMSHALA**	**7.58**	**154**	*e*P		**Pn**	**14 49 29.3**	**+2.0**			
DHRM				*e*S		**Sn**	**14 50 54.6**	**+2.6**			
DHRM				IAML			14 51 49.5				
	comp=E,419nm,1.4s										
DHRM				IAML			14 51 50.5				
	comp=N,354nm,0.9s										
JWA	**Jwalamukhi**	**7.94**	**155**	*e*P		**Pn**	**14 49 33.0**	**+1.0**			
JWA				*ex*		x	14 51 05.0				

BHK	**Bhakra**	**8.38**	**156**	*e*P		**Pn**	**14 49 40.8**	**+2.7**			
BHK				*ex*		x	14 51 10.6				
SDNR	**Sundarnagar**	**8.49**	**152**	*ex*		**Pn**	**14 49 37.0**	**-2.6**			
SDNR				*e*S		**Sn**	**14 51 17.5**	**+3.2**			
SMLA	**Simla**	**8.90**	**152**	*e*P		**Pn**	**14 49 46.8**	**+1.6**			
SMLA				*e*S		**Sn**	**14 51 23.7**	**-0.5**			
OTUK	**Ortayu**	**9.10**	**360**	⇑Pn		**Pn**	**14 49 46.9**	**-0.9**			
	comp=N,40nm,0.7s										
OTUK				⇑Lg		Lg	14 52 19.2				
	comp=N,551nm,0.9s										
OTUK	**Ortayu**	**9.10**	**360**	P		**Pn**	**14 49 46.9**	**-0.9**			
OTUK				pmax		pmax					
	comp=Z,50nm,0.6s										
OTUK				pmax		pmax					
	comp=N,578nm,0.9s										
KKR	**Kurukshetra**	**9.86**	**157**	*e*P		**Pn**	**14 49 59.8**	**+1.5**			
DDI	**Dehra Dun**	**9.96**	**150**	*e*P		**Pn**	**14 50 01.0**	**+1.3**			
DDI				*ex*		x	14 51 57.3				
MAKZ	**Makanchi**	**10.39**	**39**	*e*P		**Pn**	**14 50 06.1**	**+0.6**			
MAKZ	**Makanchi**	**10.39**	**39**	*e*Pn		**Pn**	**14 50 06.1**	**+0.6**			
JOSI	**Joshimath**	**10.39**	**143**	*e*P		**Pn**	**14 50 05.1**	**-0.7**			
JOSI				*e*S		**Sn**	**14 52 00.4**	**-0.8**			
JOSI				IAML			14 52 11.3				
	comp=E,838nm,0.9s										
JOSI				IAML			14 52 11.9				
	comp=N,494nm,1.1s										
MK01	**Makanchi Array**	**10.53**	**40**	*e*Pn		**Pn**	**14 50 07.9**	**+0.5**			
MK31	**Makanchi Array**	**10.54**	**40**	⇑Pn		**Pn**	**14 50 08.7**	**+1.2**			
	comp=N,25nm,0.7s,baz=219,slow=13,SNR=234										
MK31				⇓Lg		Lg	14 53 16.1				
	comp=N,50nm,0.8s										
MK31	**Makanchi Array**	**10.54**	**40**	*e*P		**Pn**	**14 50 08.3**	**+0.8**			
MK31	**Makanchi Array**	**10.54**	**40**	*e*Pn		**Pn**	**14 50 08.3**	**+0.8**			
MKAR	**Makanchi Array**	**10.54**	**40**	Pn		**Pn**	**14 50 07.8**	**+0.3**			
	comp=N,1.7nm,0.3s,baz=221,slow=14,SNR=103										
MKAR				Lg		Lg	14 53 03.3				
	comp=N,1.1nm,0.3s,baz=231,slow=29,SNR=3.3										
MKAR	**Makanchi Array**	**10.54**	**40**	*e*P		**Pn**	**14 50 08.3**	**+0.8**			
MKAR	**Makanchi Array**	**10.54**	**40**	*e*Pn		**Pn**	**14 50 08.3**	**+0.8**			
MKAR				Lg		Lg	14 53 03.3				
BHGR	**Bahadurgarh**	**11.09**	**159**	*e*P		**Pn**	**14 50 15.6**	**+0.4**			
BHGR				*e*S		**Sn**	**14 52 16.6**	**-1.4**			
GEYT	**Alibeck**	**11.24**	**268**	Pn		**Pn**	**14 50 15.8**	**-1.5**			
	comp=N,6.8nm,0.3s,baz=104,slow=10,SNR=36										
GEYT				Sn		**Sn**	**14 52 21.4**	**-0.3**			
	comp=N,7.0nm,0.3s,baz=120,slow=18,SNR=6.4										
GEYT				LR		LR	14 55 30.8				
	comp=N,3μm,18.2s,baz=75,slow=42										
KHET	**Khetri**	**11.40**	**165**	*e*P		**Pn**	**14 50 18.1**	**-1.3**			
KHET				*e*S		**Sn**	**14 52 20.4**	**-5.2**			
KUDL	**Kundal**	**11.49**	**161**	*e*P		**Pn**	**14 50 20.6**	**0.0**			
KUDL				*e*S		**Sn**	**14 52 22.4**	**-5.3**			
LGTI	**Lohaghat**	**11.64**	**144**	*e*P		**Pn**	**14 50 23.1**	**+0.4**			
JASL	**Jaisalmer**	**12.25**	**186**	*e*P		**Pn**	**14 50 30.4**	**-0.6**			
KURBB	**Kurchatov Arra**	**12.27**	**19**	Pn		**Pn**	**14 50 28.4**	**-2.8**			
	comp=N,1.1nm,0.3s,baz=208,slow=9.8,SNR=44										
KURBB				Lg		Lg	14 53 59.2				
	comp=N,1.0nm,0.3s,baz=205,slow=27,SNR=7.0										
KURBB	**Kurchatov Arra**	**12.27**	**19**	⇑Pn		**Pn**	**14 50 29.1**	**-2.0**			
	comp=N,17nm,0.6s										
KURBB				⇓Lg		Lg	14 54 03.1				
	comp=N,323nm,0.8s										
KURK	**Kurchatov**	**12.38**	**19**	⇑Pn		**Pn**	**14 50 31.0**	**-1.6**			
KURK				⇑Lg		Lg	14 54 06.4				
KURK	**Kurchatov**	**12.38**	**19**	*e*P		**Pn**	**14 50 30.2**	**-2.4**			
KURK	**Kurchatov**	**12.38**	**19**	*e*Pn		**Pn**	**14 50 30.2**	**-2.4**			
KURK				Lg		Lg	14 53 59.2				
WMQ	**Urumqi**	**12.39**	**63**	P		Pn	14 50 27.3	-5.7			
WMQ				pP		P	14 50 32.6	-12			
WMQ				sP			14 50 36.3				
WMQ				S		**Sn**	**14 52 49.9**	**+0.1**			
WMQ				SS		**SnSn**	**14 53 04.4**	**+2.6**			
WMQ				pmax		pmax					
	comp=Z,34nm,0.6s										
WMQ				pmax		pmax					
	comp=Z,79nm,3.6s										
WMQ				smax		smax					
	comp=N,29nm,1.2s										
WMQ				smax		smax					
	comp=E,25nm,1.4s										
WMQ				LR		LR					
	comp=N,1μm,9.4s										
WMQ				LR		LR					
	comp=E,1μm,7.0s										
WMQ				LR		LR					
	comp=Z,1μm,8.8s										
WMQ	**Urumqi**	**12.39**	**63**	P		**Pn**	**14 50 35.8**	**+2.8**			
WMQ				pP		P	14 50 44.8	+0.3			
WMQ				S		**Sn**	**14 52 52.3**	**+2.5**			
WMQ				PMZ							
	comp=Z,34nm,0.5s										
WMQ				PMZ							
	comp=Z,130nm,4.6s										
WMQ				LN							
	comp=Z,990nm,11.2s										
WMQ				LE							
	comp=Z,1μm,7.2s										
WMQ				LZ							
	comp=Z,260nm,12.8s										
AB31	**Akbulak array**	**13.47**	**323**	⇓Pn		**Pn**	**14 50 44.0**	**-3.5**			
	comp=Z,67nm,0.5s										
AB31				⇓Sn		**Sn**	**14 53 09.1**	**-6.8**			
	comp=Z,89nm,0.7s,baz=133,slow=25,SNR=12										
ABKAR	**Akbulak array**	**13.47**	**323**	*e*Pn		**Pn**	**14 50 44.5**	**-3.0**			
VOSK	**Vostochnaya**	**13.62**	**356**	⇓Pn		**Pn**	**14 50 46.2**	**-3.4**			
	comp=Z,19nm,0.8s										
VOSK				⇓Lg		Lg	14 54 46.1				
	comp=Z,273nm,1.2s										
VOSK	**Vostochnaya**	**13.62**	**356**	P		**Pn**	**14 50 45.6**	**-4.0**			
VOSK				pmax		pmax					
	comp=Z,47nm,1.1s										
VOSK				pmax		pmax					
	comp=N,273nm,1.3s										
BVA0	**Borovoye Array**	**13.95**	**355**	⇑Pn		**Pn**	**14 50 50.6**	**-3.5**			
	comp=N,41nm,0.7s,baz=162,slow=12,SNR=168										
BVA0				⇓Lg		Lg	14 54 57.6				
	comp=N,131nm,1.1s,baz=160,slow=22,SNR=5.6										
BVA0	**Borovoye Array**	**13.95**	**355**	*i* P		**Pn**	**14 50 50.6**	**-3.5**			
BVA0				pmax		pmax					
	comp=Z,45nm,1.1s										
BVA0				pmax		pmax					
	comp=N,184nm,1.5s										
BVAR	**Borovoye Array**	**13.95**	**355**	Pn		**Pn**	**14 50 50.9**	**-3.2**			
	comp=N,4.2nm,0.3s,baz=164,slow=12,SNR=123										
BVAR				Lg		Lg	14 54 55.3				
	comp=N,1.3nm,0.3s,baz=167,slow=27,SNR=2.9										
BVAR				LR		LR	14 56 32.8				
	comp=N,1μm,21.3s,baz=148,slow=39										
BRVK	**Borovoye**	**13.99**	**355**	⇑Pn		**Pn**	**14 50 51.3**	**-3.4**			
	comp=N,180nm,0.9s										
BRVK				⇑Lg		Lg	14 55 01.1				
	comp=N,662nm,1.2s										
BRVK	**Borovoye**	**13.99**	**355**	*d* iP		**Pn**	**14 50 51.6**	**-3.1**			
BRVK				pmax		pmax					
	comp=Z,183nm,1.2s										
BRVK	**Borovoye**	**13.99**	**355**	*e*Pn		**Pn**	**14 50 51.0**	**-3.7**			
ZRNK	**Zerenda**	**14.01**	**352**	⇑Pn		**Pn**	**14 50 51.4**	**-3.5**			
	comp=Z,46nm,0.7s										
ZRNK				⇓Lg		Lg	14 54 57.5				
	comp=Z,231nm,1.3s										
ZRNK	**Zerenda**	**14.01**	**352**	*e*P		**Pn**	**14 50 51.6**	**-3.3**			
ZRNK	**Zerenda**	**14.01**	**352**	*e*Pn		**Pn**	**14 50 51.6**	**-3.3**			
PYUN	**Piuthan**	**14.11**	**138**	*e*P		**Pn**	**14 50 52.2**	**-4.4**			
	comp=Z,417nm,0.7s										
KOLN	**Koldanda**	**14.69**	**137**	*e*P		Pn	14 50 59.3	-5.2			
	comp=Z,62nm,0.4s										
GKN	**Gorkha**	**15.07**	**134**	*e*P		**Pn**	**14 51 05.6**	**-4.0**			
	comp=Z,264nm,0.5s										
I31KZ	**AKTYUBINSK INF**	**15.16**	**323**	*i*			16 16 40.0				
	baz=133,slow=324,SNR=0.6										
AKTO	**Aktyubinsk**	**15.18**	**323**	Pn		**Pn**	**14 51 08.0**	**-2.7**			
	comp=Z,8.2nm,0.3s,baz=133,slow=14,SNR=164										
AKTO				Sn		**Sn**	**14 53 50.5**	**-7.2**			
	comp=Z,4.3nm,0.3s,baz=316,slow=19,SNR=4.5										
AKTO				LR		LR	14 57 34.4				
	comp=Z,2μm,20.7s,baz=138,slow=39										
AKTO	**Aktyubinsk**	**15.18**	**323**	⇓Pn		**Pn**	**14 51 07.7**	**-3.1**			
	comp=Z,142nm,0.7s										
AKTO				⇓Sn		**Sn**	**14 53 52.2**	**-5.5**			
	comp=Z,64nm,0.9s										
KKN	**Kakani**	**15.60**	**133**	*e*P		**Pn**	**14 51 12.5**	**-4.0**			
	comp=Z,173nm,0.6s										
DMN	**Daman**	**15.64**	**134**	*e*P		**Pn**	**14 51 12.6**	**-4.5**			
	comp=Z,116nm,0.7s										
PKIN	**Phulchoki**	**15.83**	**133**	*e*P		**Pn**	**14 51 15.5**	**-4.0**			
	comp=Z,149nm,0.7s										

GUN	**Gumba**	**15.86**	**131**	*e*P		**Pn**	**14 51 15.9**	**-4.1**			
	comp=Z,169nm,0.9s										
BHPL	**Bhopal**	**16.42**	**163**	*e*P		**Pn**	**14 51 26.1**	**-0.8**			
RAMN	**Ramite**	**17.00**	**131**	*e*P		**Pn**	**14 51 28.3**	**-6.0**			
	comp=Z,176nm,0.6s										
ZAA0	**Zalesovo Array**	**17.06**	**26**	*e*Pn		**Pn**	**14 51 32.1**	**-2.6**			
ZALV	**Zalesovo Beam**	**17.06**	**26**	P		**Pn**	**14 51 32.6**	**-2.0**			
	comp=Z,1.2nm,0.3s,baz=221,slow=11,SNR=53										
ZALV				LR		LR	14 58 25.5				
	comp=Z,589nm,18.9s,baz=256,slow=38										
NVS	**Novosibirsk**	**17.32**	**21**	⇓*i*P		**Pn**	**14 51 36.4**	**-1.5**			
NVS				*i*			14 54 47.0				
LSA	**Lhasa**	**18.09**	**116**	*e*P		**Pn**	**14 51 47.5**	**-0.6**			
LSA				pmax		pmax					
	comp=Z,29nm,0.9s										
LSA	**Lhasa**	**18.09**	**116**	*e*P		**Pn**	**14 51 47.5**	**-0.6**			
	comp=Z,29nm,0.9s										
BOK	**Bokaro**	**19.11**	**139**	*e*P		**P**	**14 51 57.1**	**-1.9**			
BOK				IAmb		IAmb	14 52 01.8				
	comp=Z,49nm,0.7s										
SVE	**Sverdlovsk**	**19.31**	**340**	*c*eP		**P**	**14 52 00.4**	**-0.5**			
SVE				*e*S		**Sn**	**14 55 29.7**	**-7.8**			
SVE				pmax		pmax					
	comp=Z,76nm,1.3s										
SVE				MLR		MLR					
	comp=Z,2μm,11.0s										
ARU	**Arti**	**19.57**	**337**	P		**Pn**	**14 52 04.3**	**-0.9**			
	comp=Z,0.0nm,0.3s,baz=147,slow=7.1,SNR=49										
ARU	**Arti**	**19.57**	**337**	*d* iP		**P**	**14 52 04.1**	**+0.4**			
ARU				S		**Sn**	**14 55 47.1**	**+3.5**			
ARU				pmax		pmax					
	comp=Z,101nm,1.2s										
ARU				MLR		MLR					
	comp=Z,1μm,13.0s										
ARU	**Arti**	**19.57**	**337**	*e*P		**P**	**14 52 02.2**	**-1.5**			
	comp=Z,70nm,0.9s										
WSAR	**Wadi Sarin**	**19.70**	**220**	P		**Pn**	**14 52 06.9**	**-0.2**			
	comp=Z,1.3nm,0.3s,baz=53,slow=5.2,SNR=12										
POO	**Poona**	**20.58**	**176**	*e*P		**P**	**14 52 14.7**	**-0.4**			
TBLG	**Delisi**	**21.17**	**286**	P		**P**	**14 52 23.3**	**+2.1**			
TBLG	**Delisi**	**21.17**	**286**	P		**P**	**14 52 23.3**	**+2.1**			
DUS	**Dusheti**	**21.18**	**287**	P		**P**	**14 52 26.6**	**+5.2**			
DUS	**Dusheti**	**21.18**	**287**	P		**P**	**14 52 26.6**	**+5.1**			
GTA	**Gaotai**	**21.21**	**81**	⇑P		**P**	**14 52 22.0**	**+0.2**			
GTA				S		Sn	14 56 20.8	-2.9			
GTA				PMZ							
	comp=Z,99nm,1.1s										
GTA				PMZ							
	comp=Z,490nm,5.0s										
GTA				LN							
	comp=Z,650nm,12.6s										
GTA				LE							
	comp=Z,890nm,14.1s										
GTA				LZ							
	comp=Z,980nm,17.1s										
GNI	**Garni**	**21.28**	**282**	P		**P**	**14 52 24.5**	**+1.9**			
	comp=Z,191nm,0.9s,baz=8.7,slow=0.7,SNR=42										
GNI				LR		LR	15 02 17.4				
	comp=Z,428nm,18.2s,baz=102,slow=41										
ZEI	**Tsey**	**21.77**	**289**	*e*P		**P**	**14 52 29.9**	**+2.0**			
ZEI				pmax		pmax					
	comp=Z,65nm,0.5s										
NCK	**Nalchik**	**22.00**	**291**	⇑*e*P		**P**	**14

CD2 LZ
comp=Z,760nm,15.5s
MOS Moscow 28.38 317 *e*P P 14 53 36.2 +6.4
MOS *e* 14 53 52.7
MOS *e* 14 54 34.8
MOS *e* 14 56 36.5
MOS *e*SS SS 14 59 53.4 -21
MOS pmax pmax
comp=Z,36nm,1.0s
MOS MLR MLR
comp=Z,800nm,17.0s
OBN Obninsk 28.73 316 P **P** **14 53 33.3 +0.4**
comp=Z,21nm,0.4s,baz=4.5,slow=22,SNR=5.3
OBN LR LR 15 06 16.9
comp=Z,440nm,21.4s,baz=87,slow=39
OBN Obninsk 28.73 316⇑ *e*P **P** **14 53 35.5 +2.6**
OBN *e* 14 54 23.8
OBN *e*PPP PPP 14 54 35.5
OBN *e*S **S** **14 58 24.2 +4.5**
OBN *e*SS **SnSn** **14 59 48.0 +6.0**
OBN pmax pmax
comp=Z,17nm,0.8s
OBN MLR MLR
comp=Z,801nm,16.0s
SIM Simferopol' **28.81 294***c*e P **P** **14 53 34.4 +0.6**
SIM pmax pmax
comp=Z,44nm,0.9s
KMI Kunming 29.10 110 P **P** **14 53 37.8 +1.0**
KMI PP **PnPn** **14 54 33.3 +3.5**
KMI S **S** **14 58 22.1 -4.5**
KMI sS sS 14 58 45.3 +2.7
KMI SS **SnSn** **14 59 57.8 +5.7**
KMI PMZ
comp=Z,12nm,0.8s
KMI PMZ
comp=Z,200nm,7.1s
KMI LN
comp=Z,390nm,13.1s
KMI LE
comp=Z,460nm,12.8s
KMI LZ
comp=Z,540nm,14.8s
XAN Xi'an 29.64 88 P **P** **14 53 41.1 -0.2**
XAN pP pP 14 53 50.0 -0.9
XAN PMZ
comp=Z,12nm,1.0s
XAN PMZ
comp=Z,57nm,4.5s
XAN LE
comp=Z,760nm,16.8s
XAN LZ
comp=Z,970nm,15.9s
BR131 Keskin Array S 29.78 284 *e*P **P** **14 53 43.6 +1.0**
BRTR Keskin Array B 29.78 284 P **P** **14 53 44.4 +1.8**
comp=Z,7.5nm,0.8s,baz=89,slow=8.6,SNR=18
BRTR LR LR 15 07 20.8
comp=Z,160nm,19.2s,baz=88,slow=40
BRTR Keskin Array B 29.78 284 P **P** **14 53 44.4 +1.8**
BRTR pmax pmax
comp=Z,9.0nm,0.7s
BRTR MLR MLR
comp=Z,160nm,19.2s
KLMR Klimovskoe 29.78 328 *e*P **P** **14 53 40.1 -2.0**
KLMR *e* 14 56 44.1
KLMR pmax pmax
comp=Z,31nm,1.4s
HHC Hu-ho-hao-te 29.90 74 *e*P **P** **14 53 43.8 +0.2**
HHC S **S** **14 58 37.0 -1.6**
HHC sS sS 14 58 57.6 +3.0
HHC PMZ
comp=Z,10.0nm,0.9s
HHC PMZ
comp=Z,140nm,5.2s
HHC LN
comp=Z,260nm,12.2s
HHC LE
comp=Z,460nm,11.8s
HHC LZ
comp=Z,590nm,10.6s
MMAI Mount Meron Ar 30.36 270 LR LR 15 08 40.6
comp=Z,244nm,20.5s,baz=10.0,slow=42
BR231 Keskin MP Arra 30.41 284 *e*P **P** **14 53 44.5 -3.6**
CHTO Chiang Mai 30.64 124 P P 14 54 00.3 +10
CMMT Chiang Mai 30.64 124 P P 14 54 00.2 +10
CMAR Chiang Mai Arr 30.90 124 P **P** **14 53 51.2 -1.2**
comp=Z,3.0nm,0.8s,baz=313,slow=8.5,SNR=15
CMAR PcP **PcP** **14 56 48.8 +0.2**
comp=Z,3.4nm,0.9s,baz=298,slow=4.2,SNR=7.1
CMAR ScP **ScP** **15 00 32.9 +4.2**
comp=Z,1.1nm,0.8s,baz=299,slow=6.5,SNR=6.2
CMAR LR LR 15 08 37.5
comp=Z,426nm,20.1s,baz=308,slow=41
CM01 Chiang Mai Arr 30.93 124 *e*P **P** **14 53 49.7 -3.1**
CM01 *e*PcP **PcP** **14 56 49.1 +0.4**
CM01 *e*ScP **ScP** **15 00 33.1 +4.2**
CIT Chita 31.12 52 *e*P **P** **14 53 53.8 -0.4**
CIT *e* 14 54 04.2
CIT *e* 14 54 11.0
CIT pmax pmax
comp=Z,63nm,1.3s
GYA Guiyang 31.28 103⇑ *i*P **P** **14 53 56.8 +0.9**
GYA PP **PnPn** **14 55 01.0 +2.4**
GYA PcP **PcP** **14 56 50.4 +0.7**
GYA S **S** **14 58 56.8 -3.8**
GYA ScP **ScP** **15 00 27.8 -2.3**
GYA SS **SnSn** **15 00 46.6 +1.7**
GYA PMZ
comp=Z,460nm,6.2s
GYA LN
comp=Z,560nm,17.2s
GYA LE
comp=Z,510nm,17.8s
GYA LZ
comp=Z,550nm,18.1s
LAMP Lampang 31.30 123 P **P** **14 53 54.7 -1.2**
comp=Z,16nm,0.7s,comp=Z,122nm
NRIK Noril'sk 31.33 10 P **P** **14 53 55.3 -0.5**
comp=Z,20nm,0.9s,baz=199,slow=5.6,SNR=18
NRIK LR LR 15 08 18.7
comp=Z,353nm,18.9s,baz=165,slow=40
ENH Enshi 31.58 95 *e*P **P** **14 53 58.5 0.0**
comp=Z,25nm,0.9s
SUKH Sukhothai 32.05 125 P **P** **14 54 02.3 -0.3**
comp=Z,8.3nm,0.8s,comp=Z,91nm
EIL Elat 32.11 264 LR LR 15 09 46.1
comp=Z,449nm,18.3s,baz=60,slow=41
AKASG Malin Array Be 32.23 305 P **P** **14 54 03.9 +0.1**
comp=Z,2.1nm,0.4s,baz=79,slow=8.1,SNR=9.7
AKASG PcP **PcP** **14 56 51.2 -0.5**
comp=Z,2.2nm,0.8s,baz=86,slow=3.4,SNR=4.4
AKASG LR LR 15 09 08.3
comp=Z,440nm,19.4s,baz=90,slow=40
KIEV Kiev 32.24 305⇑ *i*P **P** **14 54 03.7 -0.2**
KIEV pmax pmax
comp=Z,4.0nm,0.5s
KIEV Kiev 32.24 305 *e*P **P** **14 54 03.2 -0.8**
comp=Z,15nm,0.7s
AK11 Malin Array Si 32.26 305 *e*P **P** **14 54 04.9 +0.7**
KIS Kishinev 32.43 298 *e*P **P** **14 54 09.0 +3.3**
KIS LRM MLR 15 11 38.0
comp=Z,900nm,12.0s
KIS Kishinev 32.43 298 *e*P **P** **14 54 09.0 +3.3**
UTTA Uttaradit 32.46 123 P **P** **14 54 05.3 -0.9**
comp=Z,5.8nm,0.8s,comp=Z,56nm
PALK Pallekele 32.60 165 LR LR 15 08 04.1
comp=Z,397nm,19.2s,baz=295,slow=38
BOD Bodaibo 32.63 41⇑ *i*P **P** **14 54 06.2 -1.0**
BOD pmax pmax
comp=Z,26nm,1.2s
CFR Carcaliu 33.02 295⇑ *i*P **P** **14 54 12.2 +1.3**
CFR Carcaliu 33.02 295⇑ P **P** **14 54 12.2 +1.3**
HARR Harsova 33.22 294⇑ *i*P **P** **14 54 14.7 +2.1**
HARR Harsova 33.22 294⇑ P **P** **14 54 14.7 +2.1**
BJI Beijing 33.51 74 P **sP** **14 54 15.0 -0.1**
BJI pP **sP** **14 54 26.8 -2.1**
BJI S **S** **14 59 37.4 +2.7**
BJI PMZ
comp=Z,13nm,0.7s
BJI LN
comp=Z,370nm,16.1s
BJI LE
comp=Z,550nm,18.8s
BJI LZ
comp=Z,490nm,17.5s
PBKT Sadao Pong 33.59 124 P **P** **14 54 15.8 -0.2**
comp=Z,24nm,1.2s
VRI Vrincioaia 33.95 297⇑ *i*P **P** **14 54 21.1 +2.2**
VRI Vrincioaia 33.95 297⇑ P **P** **14 54 21.1 +2.2**
TESR Tescani 33.95 298⇑ *i*P **P** **14 54 20.0 +1.1**
NONG Nongkai 33.96 119 P **P** **14 54 18.5 -0.7**
comp=Z,39nm,1.2s
PLOR Plostina 34.00 296⇑ *i*P **P** **14 54 21.6 +2.1**
PLOR Plostina 34.00 296⇑ P **P** **14 54 21.6 +2.1**
MLR Muntele Rosu 34.53 296 P **P** **14 54 26.1 +2.0**
comp=Z,2.7nm,0.8s,baz=46,slow=2.7,SNR=20
MLR Muntele Rosu 34.53 296⇓ *i*P **P** **14 54 26.3 +2.2**
MLR Muntele Rosu 34.53 296⇓ P **P** **14 54 26.3 +2.2**
MLR Muntele Rosu 34.53 296 *e*P **P** **14 54 25.4 +1.3**
comp=Z,30nm,0.9s
CHAI Chaiyaphum 34.74 123 P **P** **14 54 25.9 -0.1**
comp=Z,8.3nm,0.8s
BURAR Bucovina Array 34.85 300⇑ *i*P **P** **14 54 28.5 +1.7**
BURAR Bucovina Array 34.85 300⇑ P **P** **14 54 28.5 +1.7**
BUR08 Bucovina Ar. S 34.86 300 *e*P **P** **14 54 28.0 +1.1**
DOPR Dopca 34.87 297⇓ *i*P **P** **14 54 29.3 +2.4**
KHON Khomkaen 34.97 122 P **P** **14 54 27.5 -0.5**
comp=Z,19nm,0.8s
VOIR 35.16 296⇑ *i*P **P** **14 54 31.1 +1.6**
VOIR 35.16 296⇑ P **P** **14 54 31.1 +1.6**
WHN Wuhan 35.24 91 P **P** **14 54 29.8 -0.4**
TIA Tai'an 35.26 80⇓ P **P** **14 54 31.1 +0.7**
TIA PMZ
comp=Z,40nm,1.0s
SKNT Sakolnakorn 35.29 120 P **P** **14 54 29.7 -1.0**
comp=Z,55nm,0.9s
LVZ Lovozero 35.44 336 P **P** **14 54 30.4 -1.2**
LVZ pmax pmax
comp=Z,28nm,0.8s
LVZ Lovozero 35.44 336 P **P** **14 54 30.4 -1.2**
comp=Z,28nm,0.8s
ARR Arges 35.46 296⇑ *i*P **P** **14 54 33.3 +1.2**
ARCR ARCALIA 35.47 299⇓ *i*P **P** **14 54 34.8 +2.7**
APA Apatity 35.65 336⇓ *i*P P 14 54 22.0 -11
APA *i* 14 55 54.0
APA pmax pmax
comp=Z,8.0nm,1.2s
APA MLR MLR
comp=Z,1μm,16.0s
FIA1 FINESS Array S 35.95 324 *e*P **P** **14 54 36.4 +0.4**
FINES FINESS Array B 35.95 324 P **P** **14 54 35.9 -0.1**
comp=Z,5.2nm,0.5s,baz=114,slow=8.6,SNR=39
FINES PcP **PcP** **14 57 02.6 +0.5**
comp=Z,7.5nm,0.7s,baz=123,slow=14,SNR=2.4
FINES LR LR 15 10 16.5
comp=Z,941nm,19.6s,baz=93,slow=38
LOT Lotru 36.05 296⇑ *i*P **P** **14 54 39.3 +2.1**
DRGR 36.62 299⇑ *i*P **P** **14 54 43.4 +1.4**
DRGR 36.62 299⇑ P **P** **14 54 43.4 +1.4**
KOLS Kolonicke sedl 36.73 302 *e*P **P** **14 54 43.3 +0.5**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 36.73 302 *e*P **P** **14 54 43.3 +0.5**
KOLS *e* 14 55 47.6
CRVS Cervenica-Dubn 37.26 302 *e*P **P** **14 54 47.3 -0.1**
CRVS Cervenica-Dubn 37.26 302 *e*P **P** **14 54 47.2 -0.1**
CRVS *e* 14 55 52.5
CHBT CHBT 37.31 127 P P 14 54 53.4 +5.3
comp=Z,5μm,1.1s
STHS Stebnicka Huta 37.37 303 *e*P **P** **14 54 48.6 +0.3**
STHS pmax pmax
comp=Z,13nm,2.0s
STHS Stebnicka Huta 37.37 303 *e*P **P** **14 54 48.6 +0.3**
STHS *e*PP **PP** **14 56 09.9 -3.8**
BZS Buzias 37.53 297⇑ *i*P **P** **14 54 51.4 +1.8**
BZS Buzias 37.53 297⇑ P **P** **14 54 51.4 +1.8**
MDVR Moldovita 37.59 295⇓ *i*P **P** **14 54 51.7 +1.4**
IDI Anoyia 37.68 279 P **P** **14 54 51.0 -0.1**
comp=Z,5.1nm,0.8s,baz=59,slow=12,SNR=3.0
KECS Kecovo 37.94 302 *e*PP PP 14 56 19.8 -0.2
QIZ Qiongzhong 38.03 111 P **P** **14 54 53.0 -1.1**
QIZ S **S** **15 00 42.9 -1.5**
QIZ LZ
comp=Z,710nm,14.9s
NJ2 Nanjing 38.11 86 *e*P **P** **14 54 54.4 -0.3**
NJ2 S **S** **15 00 45.6 +0.2**
NJ2 LN
comp=Z,480nm,7.6s
NJ2 LE
comp=Z,400nm,13.0s
NJ2 LZ
comp=Z,820nm,14.1s
SURT Suratani 38.25 135 P P 14 55 01.9 +6.0
comp=Z,18nm,0.8s
OJC Ojcow 38.25 304 *e*P **P** **14 54 55.9 +0.3**
OJC pmax pmax
comp=Z,10.0nm,0.7s
OJC Ojcow 38.25 304 *e*P **P** **14 54 55.9 +0.3**
comp=Z,10nm,0.7s
AGG Agios Georgios 38.45 286 *e*P **P** **14 54 57.9 +0.4**
AGG pmax pmax
comp=Z,58nm,1.3s
AGG Agios Georgios 38.45 286 *e*P **P** **14 54 57.9 +0.4**
comp=Z,58nm,1.3s
LANS Liptovska Anna 38.55 303 *e*P **P** **14 55 01.1 +2.9**
LANS *e* 14 56 26.7
LANS Liptovska Anna 38.55 303 *e*P **P** **14 55 01.1 +2.9**
LANS *e*PP **PP** **14 56 26.7 +0.1**
VYHS Vyhne 39.03 302 *e*P **P** **14 55 02.2 -0.1**
VYHS pmax pmax
comp=Z,34nm,3.0s
VYHS Vyhne 39.03 302 *e*P **P** **14 55 02.2 -0.1**
VYHS *e*PP **PP** **14 56 29.4 -2.5**
ARA0 ARCESS Array S 39.15 336 *e*P **P** **14 55 03.4 +0.4**
ARCES ARCESS Array B 39.15 336 P **P** **14 55 03.6 +0.6**
comp=Z,16nm,0.6s,baz=111,slow=8.6,SNR=31
ARE0 ARCESS Array S 39.15 336 *e*P **P** **14 55 03.9 +0.9**
comp=Z,20nm,0.8s
OKC Ostrava-Krasne 39.34 304 AMS AMS 15 14 10.0
comp=Z,300nm,18.2s
CN2 Changchun 39.47 66 *e*P **P** **14 55 04.1 -1.8**
CN2 *e*S **S** **15 01 00.1 -5.5**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,100nm,3.0s
CN2 LN
comp=Z,300nm,18.0s
CN2 LE
comp=Z,400nm,18.0s
CN2 LZ
comp=Z,500nm,15.0s
TRTT Trang 39.67 135 P P 14 55 13.4 +5.6
comp=Z,46nm,1.0s
MORC Moravsky Berou 39.74 304⇓ *i*P **P** **14 55 09.7 +1.5**
MORC Moravsky Berou 39.74 304⇓ P **P** **14 55 09.7 +1.5**
MORC Moravsky Berou 39.74 304 *e*P **P** **14 55 08.9 +0.7**
comp=Z,31nm,1.1s
VRAC Vranov 40.40 303 P **P** **14 55 13.2 -0.4**
comp=Z,2.9nm,0.3s,baz=77,slow=9.6,SNR=4.3
VRAC LR LR 15 15 52.8
comp=Z,208nm,18.2s,baz=82,slow=42
DPC Dobruska-Polom 40.46 305 *e*P **P** **14 55 15.4 +1.3**
DPC *e*x x 14 55 20.6
DPC *e*x x 14 56 38.2
DPC *e*PP **PnPn** **14 56 49.6 -1.8**
DPC AMS AMS 15 15 00.0
comp=Z,400nm,12.3s
DPC Dobruska-Polom 40.46 305 *e*P **P** **14 55 15.4 +1.3**
DPC *e* 14 55 20.6
DPC *e* 14 56 49.6
DPC MLR MLR
comp=Z,400nm,12.3s
UPC Upice 40.64 305 *e*P **P** **14 55 16.4 +0.8**
UPC *e*x x 14 55 21.4
UPC AMS AMS 15 15 10.0
comp=Z,600nm,14.4s
UPC Upice 40.64 305 *e*P **P** **14 55 16.4 +0.8**
UPC *e* 14 55 21.4
UPC MLR MLR
comp=Z,600nm,14.4s
TREC Trest 41.12 304 AMS AMS 15 14 30.0
comp=Z,300nm,14.2s
YAK Yakutsk 41.19 37 LR LR 15 13 35.2
comp=Z,112nm,18.5s,baz=268,slow=38
YAK Yakutsk 41.19 37 *e*P **P** **14 55 18.3 -1.6**
YAK *e**PP **sP** **14 55 37.0 +3.2**
YAK *e* 14 56 54.4
YAK *e* 14 57 15.9
YAK *e*PPP PPP 14 57 23.3
YAK *e*S **S** **15 01 27.8 -3.0**
YAK *e*SSS SSS 15 05 04.6
YAK *e* 15 05 17.8
YAK pmax pmax
comp=Z,19nm,0.8s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,67nm,4.6s
YAK pmax pmax
comp=N,29nm,4.6s
YAK pmax pmax
comp=E,77nm,4.4s
YAK smax smax
comp=N,14nm,1.6s
YAK smax smax
comp=E,22nm,2.0s
YAK Yakutsk 41.19 37 *e*P **P** **14 55 17.0 -2.9**
comp=E,29nm,0.9s
GOPC GO Pecny, Ondr 41.49 305 AMS AMS 15 15 30.0
comp=E,500nm,19.7s
PVCC Panska Ves 41.55 305 AMS AMS 15 15 50.0
comp=E,500nm,16.9s
PRU Pruhonice 41.64 305 *e*P **P** **14 55 25.4 +1.6**
PRU AMS AMS 15 16 00.0
comp=E,500nm,17.3s
PRU Pruhonice 41.64 305 *e*P **P** **14 55 25.4 +1.6**
PRU MLR MLR
comp=Z,500nm,17.3s
HFS Hagfors 41.71 320 P **P** **14 55 24.3 +0.1**
comp=Z,19nm,0.5s,baz=97,slow=11,SNR=39
HFS LR LR 15 13 35.8
comp=Z,739nm,19.1s,baz=92,slow=37
BRG Berggiesshubel 41.90 306 *e*P **P** **14 55 27.1 +1.1**
comp=Z,6.4nm,0.7s
BRG Berggiesshubel 41.90 306 *e*P **P** **14 55 27.0 +1.1**
BRG pmax pmax
comp=Z,6.0nm,0.7s
BOJS Bojanci 41.95 298 *i* P **P** **14 55 27.8 +1.4**
BOJS *i* 14 57 22.1
VISS Visnje 42.17 298 *i* P **P** **14 55 29.3 +1.1**
VISS *i* 14 57 22.7
MDJ Mudanjiang 42.20 63 P **P** **14 55 26.8 -1.6**
MDJ PcP **PcP** **14 57 22.0 -0.1**
MDJ ScP **ScP** **15 01 07.3 -2.8**
MDJ PcS **PcS** **15 01 13.0 -0.8**
MDJ S **S** **15 01 41.3 -4.9**
MDJ SS **SS** **15 04 50.3 -4.3**
MDJ ScS **ScS** **15 05 25.3 -2.5**
MDJ PMZ
comp=Z,7.0nm,0.9s
MDJ PMZ
comp=Z,71nm,6.7s
MDJ LN
comp=Z,180nm,10.4s
MDJ LE
comp=Z,240nm,11.5s
MDJ LZ
comp=Z,450nm,11.9s
GEC2 GERESS Array S 42.35 303 *e*P **P** **14 55 29.9 +0.1**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s
GEC2 GERESS Array S 42.35 303 *e*P **P** **14 55 29.9 +0.1**
comp=Z,8.3nm,1.0s
GERES GERESS Array B 42.35 303 P **P** **14 55 30.9 +1.1**
comp=Z,2.1nm,0.5s,baz=69,slow=7.6,SNR=17
GERES LR LR 15 14 41.3
comp=Z,206nm,22.0s,baz=81,slow=38
GEA0 GERESS Array S 42.35 303 *e*P **P** **14 55 29.8 +0.1**
KHC Kasperske Hory 42.39 304 *e*P **P** **14 55 31.4 +1.4**
KHC *ex* x 14 55 36.4
KHC AMS AMS 15 16 40.0
comp=Z,300nm,15.0s
KHC Kasperske Hory 42.39 304 *e*P **P** **14 55 31.4 +1.4**
KHC *e* 14 55 36.4
KHC MLR MLR
comp=Z,300nm,15.0s
KHC Kasperske Hory 42.39 304 *e*P **P** **14 55 30.7 +0.7**
comp=Z,6.4nm,1.3s
CLL Collm 42.44 307 *e*P **P** **14 55 31.0 +0.7**
comp=Z,10.0nm,0.7s
CLL *e*S S 15 01 23.0 -27
CLL LmV 15 15 00.0
comp=Z,500nm,20.7s
CLL Collm 42.44 307 *e*P **P** **14 55 31.0 +0.7**
CLL pmax pmax
comp=Z,10.0nm,0.7s
CLL MLR MLR
comp=Z,500nm,20.7s
JAVS Javornik 42.68 299 *i* P **P** **14 55 33.0 +0.5**
JAVS *e* 14 57 23.8
NC405 NORSAR Array S 42.73 321 *e*P **P** **14 55 32.3 -0.2**
KLR Kul'dur 42.73 56 LR LR 15 15 18.3
comp=Z,151nm,19.9s,slow=39
KLR Kul'dur 42.73 56 *i* P **P** **14 55 32.2 -0.5**
NC303 NORSAR Array S 42.90 322 *e*P **P** **14 55 34.2 +0.3**
TIXI Tiksi 42.92 23 *e*P **P** **14 55 32.8 -1.0**
TIXI pmax pmax
comp=Z,41nm,0.9s
TIXI Tiksi 42.92 23 *e*P **P** **14 55 32.8 -1.0**
comp=Z,41nm,0.9s
TRI Trieste 42.92 299 *e*P **P** **14 55 34.8 +0.5**
TRI pmax pmax
comp=Z,22nm,0.9s
TRI Trieste 42.92 299 *e*P **P** **14 55 34.8 +0.5**
comp=Z,22nm,0.9s
NB201 NORSAR Array S 42.93 321 *e*P **P** **14 55 33.7 -0.5**
NKC Novy Kostel 42.94 305 AMS AMS 15 16 40.0
comp=Z,700nm,16.6s
NB2 NORSAR Subarra 42.97 321 P **P** **14 55 34.0 -0.5**
comp=Z,9.9nm,0.6s,baz=91,slow=8.6
NOA NORSAR Array B 42.97 321 P **P** **14 55 34.5 0.0**
comp=Z,8.8nm,0.6s,baz=105,slow=7.8,SNR=15
NOA LR LR 15 14 15.3
comp=Z,605nm,18.0s,baz=90,slow=37
CUC Castrocucco 42.98 290 *e*P **P** **14 55 34.3 -0.5**
comp=Z,14nm,0.7s
TJN Taejon 43.00 76⇓ *e*P **P** **14 55 33.4 -1.6**
KS01 Wonju Array Si 43.01 74 *e*P **P** **14 55 33.9 -1.2**
KSAR Wonju Array Be 43.01 74 P **P** **14 55 33.4 -1.7**
KSAR 14 57 24.7
KSAR Wonju Array Be 43.01 74 P **P** **14 55 33.4 -1.7**
KSAR PcP **PcP** **14 57 24.6 -0.3**
KSRS Korea Array 43.04 74 P **P** **14 55 33.4 -1.9**
comp=Z,8.0nm,1.0s,baz=282,slow=7.2,SNR=21
KSRS PcP **PcP** **14 57 24.6 -0.4**
comp=Z,5.8nm,0.9s,baz=289,slow=2.6,SNR=9.8
KSRS LR LR 15 16 10.8
comp=Z,351nm,19.0s,baz=286,slow=40
NBO02 NORSAR Array S 43.14 321 *e*P **P** **14 55 36.2 +0.3**
IPM Ipoh 43.18 136 *e*P **P** **14 55 35.1 -1.6**
comp=Z,18nm,0.8s
NC204 NORSAR Array S 43.20 322 *e*P **P** **14 55 36.7 +0.3**
SSLB Suanglung 43.65 96 *e*P **P** **14 55 40.1 -0.4**
comp=Z,64nm,1.1s
KONO Kongsberg 43.76 319 *e*P **P** **14 55 40.0 -0.9**
KONO Kongsberg 43.76 319 *e*P **P** **14 55 40.0 -0.9**
USRK Ussuriysk Ar. 43.96 63 P **P** **14 55 41.2 -1.4**
comp=Z,2.6nm,0.6s,baz=147,slow=39,SNR=5.4
USRK LR LR 15 15 51.7
comp=Z,350nm,18.3s,baz=275,slow=39
GSI Gunungsitoli 44.13 142 *e*P **P** **14 55 43.8 -0.6**
comp=Z,27nm,0.9s
VLA Vladivostok 44.18 65*c i*P **P** **14 55 43.5 -0.9**
VLA pmax pmax
comp=Z,34nm,1.0s
TWG Pinlang 44.27 97 *e*P **P** **14 55 44.9 -0.5**
comp=Z,171nm,1.0s
FUORN Ofenpass-Fuorn 45.08 301 *e*P **P** **14 55 52.3 +0.4**
comp=Z,8.3nm,0.6s
SPA0 Spitsbergen Ar 45.18 346 *e*P **P** **14 55 52.9 +0.9**
SPITS Spitsbergen Ar 45.18 346 P **P** **14 55 52.2 +0.2**
comp=Z,7.6nm,0.7s,baz=130,slow=8.8,SNR=13
DAVOX Davos/Dischmat 45.30 301 P **P** **14 55 53.9 +0.4**
comp=Z,12nm,0.5s,baz=103,slow=4.5,SNR=19
DAVOX LR LR 15 18 01.9
comp=Z,278nm,19.5s,baz=80,slow=40
MNSI Mandailing Nat 45.55 140 P **P** **14 55 56.2 +0.6**
TUE Stuetta 45.73 301 *e*P **P** **14 55 56.9 -0.1**
comp=Z,8.1nm,0.6s
BFO Black Forest 45.95 303 *e*P **P** **14 55 59.1 +0.6**
BFO pmax pmax
comp=Z,6.0nm,0.9s
BFO Black Forest 45.95 303 *e*P **P** **14 55 59.1 +0.6**
comp=Z,6.5nm,0.9s
KBS Kingsbay 46.29 347 *e*P **P** **14 56 01.5 +0.8**

KBS					pmax	pmax				
	comp=Z,27nm,0.7s									
KBS	**Kingsbay**	**46.29**	**347**	*e*P		**P**	**14 56 01.5**	**+0.8**		
	comp=Z,27nm,0.7s									
JNU	**Nakatsue**	**46.92**	**78**	P		**P**	**14 56 06.4**	**0.0**		
	comp=Z,35nm,0.9s,baz=330,slow=1.5,SNR=17									
JNU	**Nakatsue**	**46.92**	**78**	*e*P		**P**	**14 56 05.6**	**-0.8**		
	comp=Z,69nm,1.2s									
SENIN	**Lac Senin/Sane**	**47.12**	**301**	*e*P		**P**	**14 56 08.1**	**+0.1**		
	comp=Z,10nm,0.8s									
TYV	**Tymovskoe**	**49.26**	**52**	*e*P		**P**	**14 56 24.0**	**0.0**		
TYV					pmax	pmax				
	comp=Z,13nm,0.8s									
TYV					MLR	MLR				
	comp=E,500nm,11.0s									
TYV					MLR	MLR				
	comp=Z,1μm,14.0s									
KEST	**Kesra**	**49.28**	**287**	P		**P**	**14 56 26.8**	**+2.3**		
	comp=Z,4.4nm,0.5s,baz=48,slow=3.5,SNR=6.4									
KEST					LR	LR	15 21 18.9			
	comp=Z,75nm,18.1s,baz=266,slow=41									
KEST	**Kesra**	**49.28**	**287**	*e*P		**P**	**14 56 24.9**	**+0.4**		
	comp=Z,12nm,0.9s									
SSB	**Saint Sauveur**	**49.28**	**300**	*e*P		**P**	**14 56 24.6**	**+0.2**		
SSB					pmax	pmax				
	comp=Z,7.0nm,0.9s									
SSB	**Saint Sauveur**	**49.28**	**300**	*e*P		**P**	**14 56 24.6**	**+0.2**		
	comp=Z,7.4nm,0.9s									
TGY	**Tagaytay City**	**49.33**	**107**	LR		LR	15 20 44.8			
	comp=Z,149nm,20.6s,baz=330,slow=40									
YSS	**Yuzh-Sakhalins**	**50.43**	**57**	P		**P**	**14 56 32.1**	**-0.9**		
YSS					MLR	MLR				
	comp=Z,400nm,11.0s									
INU	**Inuyama**	**50.62**	**73**	*e*P		**P**	**14 56 33.6**	**-1.0**		
	comp=Z,21nm,0.9s									
KSI	**Kapahiang**	**50.88**	**140**	P		**P**	**14 56 41.2**	**+4.4**		
KSM	**Kuching**	**51.00**	**128**	*e*P		**P**	**14 56 38.1**	**+0.4**		
	comp=Z,6.6nm,0.9s									
MJB9	**Matsu-Tunnel**	**51.01**	**71**	*e*P		**P**	**14 56 35.9**	**-1.7**		
	comp=Z,5.8nm,0.9s									
MAJO	**Matsushiro**	**51.01**	**71**	*c i*P		**P**	**14 56 36.2**	**-1.4**		
MAJO					pmax	pmax				
	comp=Z,166nm,1.0s									
MAJO	**Matsushiro**	**51.01**	**71**	*e*P		**P**	**14 56 35.9**	**-1.6**		
	comp=Z,22nm,0.8s									
MAT	**Matsushiro**	**51.01**	**71**	P		**P**	**14 56 36.0**	**-1.6**		
MAT				*e*S		**S**	**15 03 50.0**	**-2.5**		
MJAR	**Matsushiro Arr**	**51.01**	**71**	P		**P**	**14 56 36.6**	**-1.0**		
	comp=Z,14nm,0.9s,baz=290,slow=9.2,SNR=35									
EKA	**Eskdalemuir Ar**	**51.18**	**315**	P		**P**	**14 56 38.7**	**+0.2**		
	comp=Z,2.9nm,0.4s,baz=88,slow=8.1,SNR=12									
ESK	**Eskdalemuir**	**51.21**	**315**	*e*P		**P**	**14 56 39.2**	**+0.4**		
ESK	**Eskdalemuir**	**51.21**	**315**	*e*P		**P**	**14 56 39.2**	**+0.4**		
ASAJ	**Asahikawa**	**51.26**	**60**	P		**P**	**14 56 38.4**	**-1.0**		
	comp=Z,2.7nm,0.5s									
KKM	**Kota Kinabalu**	**51.41**	**118**	*e*P		**P**	**14 56 40.8**	**-0.1**		
	comp=Z,37nm,1.1s									
KMBO	**Kilima Mbogo**	**51.42**	**227**	P		**P**	**14 56 43.0**	**+1.9**		
	comp=Z,5.5nm,0.7s,baz=32,slow=12,SNR=11									
KMBO	**Kilima Mbogo**	**51.42**	**227**	*e*P		**P**	**14 56 42.6**	**+1.5**		
KMBO					pmax	pmax				
	comp=Z,8.0nm,1.0s									
KMBO	**Kilima Mbogo**	**51.42**	**227**	*e*P		**P**	**14 56 42.6**	**+1.5**		
	comp=Z,8.2nm,1.0s									
SBUM	**Sibu**	**51.44**	**125**	*e*P		**P**	**14 56 41.3**	**+0.3**		
	comp=Z,11nm,1.0s									
MA2	**Magadan**	**51.62**	**39**	*e*P		**P**	**14 56 41.4**	**-0.4**		
SEY	**Seymchan**	**51.62**	**35**	*e*P		**P**	**14 56 41.4**	**-0.3**		
DAG	**Danmarks Havn**	**52.52**	**343**	*i*P		**P**	**14 56 48.1**	**-0.1**		
DAG					pmax	pmax				
	comp=Z,8.0nm,0.8s									
DAG	**Danmarks Havn**	**52.52**	**343**	*i*P		**P**	**14 56 48.1**	**-0.1**		
	comp=Z,10nm,0.8s									
DAG				*i*			14 56 51.4			
MYLDM	**Lahad Datu**	**53.61**	**117**	*e*P		**P**	**14 56 59.5**	**+2.5**		
	comp=Z,38nm,1.2s									
SCO	**Scoresbysund**	**55.08**	**336**	*i* P		**P**	**14 57 07.8**	**+0.8**		
SCO	**Scoresbysund**	**55.08**	**336**	*i* P		**P**	**14 57 07.8**	**+0.8**		
BILL	**Bilibino**	**55.76**	**27**	*i*P		**P**	**14 57 11.1**	**-0.9**		
BILL				*e*			14 58 04.9			
BILL				*e*			14 59 14.1			
BILL				*e*S		**S**	**15 04 57.4**	**+1.4**		
BILL					pmax	pmax				
	comp=Z,15nm,1.0s									
BILL					MLR	MLR				
	comp=Z,273nm,16.0s									
BILL	**Bilibino**	**55.76**	**27**	*e*P		**P**	**14 57 11.0**	**-0.9**		
	comp=Z,6.5nm,0.6s									
ES19	**SONSECA Array**	**57.16**	**297**	*e*P		**P**	**14 57 22.6**	**+0.1**		
ESDC	**Sonseca Array**	**57.22**	**297**	P		**P**	**14 57 23.3**	**+0.4**		
	comp=Z,1.6nm,0.6s,baz=54,slow=7.6,SNR=7.5									
ESLA	**Sonseca Array**	**57.22**	**297**	*e*P		**P**	**14 57 25.6**	**+2.7**		
	comp=Z,17nm,1.6s									
PETK	**Petropavlovsk-**	**57.32**	**46**	P		**P**	**14 57 21.9**	**-1.4**		
	comp=Z,3.4nm,0.9s,baz=297,slow=6.5,SNR=4.3									
PETK					LR	LR	15 22 36.3			
	comp=Z,85nm,19.3s,baz=286,slow=37									
BBKI	**Banjar Baru**	**57.66**	**127**	P		**P**	**14 57 29.5**	**+3.4**		
TAM	**Tamanrasset**	**58.39**	**275**	*e*P		**P**	**14 57 33.9**	**+2.5**		
TAM					pmax	pmax				
	comp=Z,25nm,2.0s									
TAM	**Tamanrasset**	**58.39**	**275**	*e*P		**P**	**14 57 33.9**	**+2.5**		
	comp=Z,25nm,2.0s									
MVO	**Moncorvo**	**58.66**	**300**	*e*P		P	14 57 39.6	+6.7		
	comp=Z,14nm,1.5s									
SUMG	**Summit**	**58.92**	**341**	*e*P		**P**	**14 57 34.9**	**+0.2**		
SUMG					pmax	pmax				
	comp=Z,29nm,0.7s									
SUMG	**Summit**	**58.92**	**341**	*i* P		**P**	**14 57 35.3**	**+0.6**		
	comp=Z,14nm,1.0s									
SUMG				*i*			14 57 39.7			
SUMG	**Summit**	**58.92**	**341**	*e*P		**P**	**14 57 34.9**	**+0.2**		
	comp=Z,29nm,0.7s									
PCI	**Palu**	**58.94**	**121**	P		**P**	**14 57 37.4**	**+2.3**		
POLO	**Lamas de Olo**	**59.08**	**300**	*e*P		P	14 57 42.8	+6.9		
	comp=Z,8.6nm,1.9s									
MTE	**Manteigas**	**59.35**	**299**	*e*P		**P**	**14 57 41.7**	**+3.9**		
	comp=Z,26nm,1.5s									
MRSI	**Marisa**	**59.36**	**118**	P		**P**	**14 57 38.7**	**+0.7**		
PVIS	**Viseu**	**59.45**	**300**	*e*P		**P**	**14 57 41.3**	**+2.9**		
	comp=Z,17nm,2.1s									
PMRV	**Marv??o**	**59.70**	**298**	*e*P		**P**	**14 57 44.5**	**+4.4**		
	comp=Z,9.5nm,1.9s									
PBAR	**Barrancos**	**60.03**	**297**	*e*P		**P**	**14 57 43.3**	**+0.9**		
	comp=Z,48nm,1.6s									
EVO	**Evora**	**60.54**	**297**	*e*P		P	14 57 52.9	+7.0		
	comp=Z,16nm,1.9s									
MESJ	**Messejana**	**61.02**	**297**	*e*P		**P**	**14 57 51.4**	**+2.3**		
	comp=Z,15nm,2.2s									
SFJD	**Kangerlussuaq**	**65.69**	**339**	*e*P		**P**	**14 58 19.6**	**+0.1**		
SFJD					pmax	pmax				
	comp=Z,10.0nm,0.8s									
SFJD	**Kangerlussuaq**	**65.69**	**339**	*e*P		**P**	**14 58 19.6**	**+0.1**		
	comp=Z,10nm,0.8s									
TOA0	**Torodi Ar. Sit**	**66.88**	**268**	*e*P		**P**	**14 58 27.6**	**-0.4**		
	comp=Z,12nm,0.6s									
TORD	**Torodi Ar. Bea**	**66.88**	**268**	P		**P**	**14 58 27.7**	**-0.3**		
	comp=Z,3.8nm,0.5s,baz=52,slow=6.0,SNR=35									
TORD					LR	LR	15 33 25.3			
	comp=Z,69nm,18.1s,baz=130,slow=41									
SOEI	**Soe**	**68.45**	**124**	*e*P		**P**	**14 58 35.5**	**-2.3**		
	comp=Z,56nm,1.1s									
COLD	**Coldfoot**	**69.13**	**16**	*e*P		**P**	**14 58 40.6**	**-0.7**		
	comp=Z,15nm,1.0s									
FYU	**Fort Yukon**	**70.74**	**15**	*e*P		**P**	**14 58 51.5**	**+0.3**		
	comp=Z,13nm,1.0s									
MLY	**Manley**	**70.83**	**18**	*e*P		**P**	**14 58 51.0**	**-0.9**		
	comp=Z,6.5nm,0.8s									
INK	**Inuvik**	**71.12**	**10**	*e*P		**P**	**14 58 53.2**	**-0.2**		
INK					pmax	pmax				
	comp=Z,21nm,0.8s									
INK	**Inuvik**	**71.12**	**10**	*e*P		**P**	**14 58 53.2**	**-0.2**		
	comp=Z,21nm,0.8s									
TTA	**Tatalina**	**71.17**	**21**	*e*P		**P**	**14 58 53.6**	**-0.3**		
TTA					pmax	pmax				
	comp=Z,5.0nm,0.9s									
TTA	**Tatalina**	**71.17**	**21**	*e*P		**P**	**14 58 53.6**	**-0.3**		
	comp=Z,5.0nm,0.9s									
TT01	**Tatalina**	**71.18**	**21**	*e*P		**P**	**14 58 53.8**	**-0.1**		
MDM	**Murphy Dome**	**71.48**	**17**	*e*P		**P**	**14 58 55.4**	**-0.3**		
	comp=Z,8.6nm,0.8s									
BPAW	**Bear Paw Mtn.**	**71.55**	**19**	*e*P		**P**	**14 58 55.3**	**-0.8**		
	comp=Z,9.7nm,0.8s									
COLA	**College**	**71.64**	**17**	*c i*P		**P**	**14 58 56.2**	**-0.4**		
COLA					pmax	pmax				
	comp=Z,25nm,0.9s									
COLA	**College**	**71.64**	**17**	*e*P		**P**	**14 58 56.5**	**-0.1**		
	comp=Z,22nm,0.8s									
CCB	**Clear Creek Bu**	**71.84**	**17**	*e*P		**P**	**14 58 56.9**	**-0.9**		
	comp=Z,12nm,1.4s									
BWN	**Browne**	**71.86**	**18**	*e*P		**P**	**14 58 57.4**	**-0.5**		
	comp=Z,25nm,0.9s									
WRH	**Wood River Hil**	**71.92**	**17**	*e*P		**P**	**14 58 57.3**	**-1.0**		
	comp=Z,5.7nm,0.9s									
IL1	**Eielson Array**	**71.94**	**17**	*e*P		**P**	**14 58 56.9**	**-1.6**		
ILAR	**Eielson Array**	**71.94**	**17**	P		**P**	**14 58 57.6**	**-0.8**		
	comp=Z,6.8nm,0.8s,baz=318,slow=5.0,SNR=73									
ILAR					PP	**PP**	**15 01 37.9**	**+0.1**		
	comp=Z,2.1nm,0.9s,baz=316,slow=6.2,SNR=4.2									
ILAR					LR	LR	15 34 30.6			
	comp=Z,85nm,19.3s,baz=322,slow=39									
ILB	**Eielson Array**	**71.94**	**17**	*e*P		**P**	**14 58 57.5**	**-1.0**		
KTH	**Kantishna Hill**	**72.02**	**19**	*e*P		**P**	**14 58 58.2**	**-0.8**		
	comp=Z,19nm,0.9s									
PPLA	**Purkeypile**	**72.23**	**20**	*e*P		**P**	**14 58 59.8**	**-0.7**		
	comp=Z,51nm,1.7s									
TRF	**Thorofare Moun**	**72.26**	**19**	*e*P		**P**	**14 58 59.7**	**-0.9**		
	comp=Z,4.4nm,0.7s									
MCK	**McKinley**	**72.35**	**18**	*e*P		**P**	**14 59 00.6**	**-0.4**		
MCK					pmax	pmax				
	comp=Z,6.0nm,0.6s									
MCK	**McKinley**	**72.35**	**18**	*e*P		**P**	**14 59 00.6**	**-0.4**		
	comp=Z,5.7nm,0.6s									
RND	**Reindeer**	**72.65**	**18**	*e*P		**P**	**14 59 01.7**	**-1.1**		
RND					pmax	pmax				
	comp=Z,7.0nm,0.8s									
RND	**Reindeer**	**72.65**	**18**	*e*P		**P**	**14 59 01.7**	**-1.1**		
	comp=Z,6.8nm,0.8s									
EGAK	**Eagle**	**73.12**	**14**	*e*P		**P**	**14 59 05.0**	**-0.4**		
	comp=Z,10nm,1.1s									
DOT	**Dot Lake**	**73.53**	**16**	*e*P		**P**	**14 59 07.0**	**-1.0**		
	comp=Z,13nm,0.8s									
SUA	**Susitna One**	**73.80**	**20**	*e*P		**P**	**14 59 08.8**	**-0.9**		
	comp=Z,25nm,1.2s									
PAX	**Paxson**	**73.82**	**17**	*e*P		**P**	**14 59 08.9**	**-0.8**		
PAX					pmax	pmax				
	comp=Z,12nm,0.9s									
PAX	**Paxson**	**73.82**	**17**	*e*P		**P**	**14 59 08.9**	**-0.8**		
	comp=Z,12nm,0.9s									
RSO	**Redoubt South**	**74.08**	**21**	*e*P		**P**	**14 59 10.7**	**-0.8**		
DAWY	**Dawson**	**74.10**	**14**	*e*P		**P**	**14 59 10.5**	**-0.8**		
	comp=Z,12nm,0.9s									
PMR	**Palmer**	**74.12**	**19**	*e*P		**P**	**14 59 10.1**	**-1.3**		
PMR					pmax	pmax				
	comp=Z,11nm,0.8s									
PMR	**Palmer**	**74.12**	**19**	*e*P		**P**	**14 59 10.1**	**-1.3**		
	comp=Z,11nm,0.8s									
SML	**Sawmill**	**74.13**	**19**	*e*P		**P**	**14 59 10.5**	**-1.1**		
SML					pmax	pmax				
	comp=Z,30nm,0.8s									
SML	**Sawmill**	**74.13**	**19**	*e*P		**P**	**14 59 10.5**	**-1.1**		
	comp=Z,30nm,0.8s									
SCM	**Sheep Creek Mo**	**74.36**	**18**	*e*P		**P**	**14 59 12.0**	**-0.9**		
SCM					pmax	pmax				
	comp=Z,24nm,0.7s									
SCM	**Sheep Creek Mo**	**74.36**	**18**	*e*P		**P**	**14 59 12.0**	**-0.9**		
	comp=Z,24nm,0.7s									
RC01	**Rabbit Creek A**	**74.38**	**20**	*e*P		**P**	**14 59 11.7**	**-1.2**		
	comp=Z,44nm,1.6s									
KLU	**Klutina**	**75.00**	**18**	*e*P		**P**	**14 59 16.2**	**-0.4**		
	comp=Z,15nm,1.0s									
BRLK	**Bradley Lake**	**75.19**	**21**	*e*P		**P**	**14 59 15.8**	**-1.8**		
	comp=Z,11nm,0.8s									
SEW	**Seward**	**75.29**	**20**	*e*P		**P**	**14 59 16.3**	**-1.9**		
	comp=Z,14nm,1.2s									
DIV	**Divide**	**75.35**	**18**	*e*P		**P**	**14 59 17.6**	**-1.0**		
	comp=Z,8.9nm,0.7s									
FITZ	**Fitzroy Crossi**	**75.62**	**128**	*e*P		**P**	**14 59 20.4**	**-0.2**		
	comp=Z,19nm,1.1s									
BMRM	**Bremner River**	**75.77**	**18**	*e*P		**P**	**14 59 20.5**	**-0.5**		
	comp=Z,19nm,1.0s									
EYAK	**Cordova Ski Ar**	**75.86**	**18**	*e*P		**P**	**14 59 21.0**	**-0.4**		
	comp=Z,13nm,0.9s									
DBIC	**Dinokro**	**75.93**	**267**	P		**P**	**14 59 24.7**	**+2.1**		
	comp=Z,23nm,1.4s,baz=346,slow=2.2,SNR=3.6									
DBIC					LR	LR	15 38 04.3			
	comp=Z,81nm,18.0s,baz=30,slow=40									
BALM	**Baldy**	**76.22**	**17**	*e*P		**P**	**14 59 23.2**	**-0.5**		
BALM					pmax	pmax				
	comp=Z,7.0nm,0.8s									
BALM	**Baldy**	**76.22**	**17**	*e*P		**P**	**14 59 23.2**	**-0.5**		
	comp=Z,7.1nm,0.8s									
CRQM	**Cirque**	**76.30**	**17**	*e*P		**P**	**14 59 23.3**	**-0.9**		
	comp=Z,8.3nm,0.8s									
KDAK	**Kodiak Island**	**76.34**	**23**	*e*P		**P**	**14 59 23.2**	**-1.0**		
KDAK					pmax	pmax				
	comp=Z,21nm,1.0s									
KDAK	**Kodiak Island**	**76.34**	**23**	*e*P		**P**	**14 59 23.2**	**-1.0**		
	comp=Z,21nm,1.0s									
OHAK	**Old Harbor**	**76.59**	**24**	*e*P		**P**	**14 59 25.2**	**-0.4**		
	comp=Z,22nm,1.0s									
LBTB	**Lobatse**	**77.37**	**223**	*e*P		**P**	**14 59 31.3**	**+0.8**		
LBTB					pmax	pmax				
	comp=Z,18nm,0.9s									
LBTB	**Lobatse**	**77.37**	**223**	*e*P		**P**	**14 59 31.3**	**+0.8**		
	comp=Z,18nm,0.9s									
TSUM	**Tsumeb**	**77.40**	**232**	*e*P		**P**	**14 59 31.9**	**+1.1**		
	comp=Z,13nm,1.4s									
YKA	**Yellowknife Ar**	**78.55**	**3**	P		**P**	**14 59 36.2**	**-0.3**		
	comp=Z,17nm,0.8s,baz=349,slow=5.6,SNR=148									
YKA					PKKPbc	**PKKPbc**	**15 18 30.7**	**-1.2**		
	comp=Z,0.2nm,0.6s,baz=170,slow=2.8,SNR=4.3									
YKA					LR	LR	15 38 04.8			
	comp=Z,15nm,18.9s,baz=0.0,slow=39									
SCHQ	**Schefferville**	**80.09**	**337**	P		**P**	**14 59 44.1**	**-0.9**		
	comp=Z,6.4nm,0.7s,baz=20,slow=5.9,SNR=4.3									
SCHQ					LR	LR	15 34 51.9			
	comp=Z,169nm,19.3s,baz=67,slow=35									
BOSA	**Boshof**	**80.47**	**221**	LR		LR	15 36 03.9			
	comp=Z,37nm,20.6s,baz=32,slow=36									
BOSA	**Boshof**	**80.47**	**221**	*e*P		**P**	**14 59 47.5**	**+0.1**		
BOSA					pmax	pmax				
	comp=Z,26nm,1.3s									
BOSA	**Boshof**	**80.47**	**221**	*e*P		**P**	**14 59 47.5**	**+0.1**		
	comp=Z,26nm,1.3s									
DLBC	**Dease Lake**	**80.99**	**12**	*e*P		**P**	**14 59 50.0**	**+0.1**		
	comp=Z,8.0nm,0.9s									
FCC	**Fort Churchill**	**81.80**	**353**	*e*P		**P**	**14 59 54.1**	**+0.1**		
FCC					pmax	pmax				
	comp=Z,18nm,1.2s									
FCC	**Fort Churchill**	**81.80**	**353**	*e*P		**P**	**14 59 54.1**	**+0.1**		
	comp=Z,18nm,1.2s									
WRA	**Warramunga Arr**	**82.48**	**123**	P		**P**	**14 59 57.6**	**-0.6**		
	comp=Z,8.4nm,0.6s,baz=325,slow=4.8,SNR=114									
WRA					PKKPbc	**PKKPbc**	**15 18 25.6**	**+2.0**		
	comp=Z,0.5nm,0.8s,baz=136,slow=2.0,SNR=4.6									
WRA	**Warramunga Arr**	**82.48**	**123**	P		**P**	**14 59 57.6**	**-0.6**		
WRA					pmax	pmax				
	comp=Z,9.0nm,0.6s									
WRA					pmax	pmax				
	comp=Z,1.0nm,0.8s									
WRAB	**Tennant Creek**	**82.48**	**123**	*e*P		**P**	**14 59 57.4**	**-0.8**		
WRAB					pmax	pmax				
	comp=Z,68nm,1.4s									
WRAB	**Tennant Creek**	**82.48**	**123**	*e*P		**P**	**14 59 57.1**	**-1.0**		
	comp=Z,14nm,0.8s									
WB2	**Warramunga Arr**	**82.49**	**123**	*e*P		**P**	**14 59 56.9**	**-1.3**		
	comp=Z,22nm,1.0s									
WRAK	**Wrangell Islan**	**82.52**	**14**	*e*P		**P**	**14 59 58.1**	**+0.3**		
	comp=Z,16nm,0.9s									
COEN	**Coen**	**84.39**	**113**	*e*P		**P**	**15 00 07.6**	**-0.5**		
	comp=Z,22nm,0.8s									
AS31	**Alice Springs**	**84.89**	**126**	*e*P		**P**	**15 00 09.7**	**-0.8**		
	comp=Z,8.2nm,1.5s									
ASAR	**Alice Springs**	**84.89**	**126**	P		**P**	**15 00 09.8**	**-0.7**		
	comp=Z,5.2nm,0.7s,baz=317,slow=5.0,SNR=61									
ASAR					PKKPbc	**PKKPbc**	**15 18 19.4**	**+1.3**		
	comp=Z,0.1nm,0.4s,baz=127,slow=2.1,SNR=5.2									
AS01	**Alice Springs**	**84.92**	**126**	*e*P		**P**	**15 00 09.4**	**-1.2**		
ULM	**Lac du Bonnet**	**90.39**	**352**	LR		LR	15 43 43.0			
	comp=Z,162nm,20.7s,baz=314,slow=37									
CTAO	**Charters Tower**	**90.67**	**115**	*e*P		**P**	**15 00 37.6**	**-0.6**		
CTAO					pmax	pmax				
	comp=Z,10.0nm,1.0s									
CTAO	**Charters Tower**	**90.67**	**115**	*e*P		**P**	**15 00 37.6**	**-0.6**		
	comp=Z,10nm,1.0s									
LONY	**Lake Ozonia**	**91.46**	**337**	*e*P		**P**	**15 00 41.9**	**+0.1**		
	comp=Z,9.0nm,0.9s									
PGC	**Sidney**	**91.46**	**10**	*e*P		**P**	**15 00 41.3**	**-0.3**		
	comp=Z,11nm,1.0s									
WALA	**Waterton Lakes**	**92.00**	**4**	*e*P		**P**	**15 00 44.2**	**-0.1**		
	comp=Z,12nm,0.9s									
NEW	**Newport**	**92.56**	**6**	*e*P		**P**	**15 00 46.8**	**0.0**		
NEW					pmax	pmax				
	comp=Z,10.0nm,0.8s									
NEW	**Newport**	**92.56**	**6**	*e*P		**P**	**15 00 46.8**	**0.0**		
	comp=Z,9.5nm,0.8s									
NLWA	**Neilton Lookou**	**92.63**	**11**	*e*P		**P**	**15 00 47.8**	**+0.6**		
	comp=Z,8.2nm,0.9s									
C09A	**Chrisman Ranch**	**92.92**	**7**	*e*P		**P**	**15 00 48.6**	**+0.2**		
	comp=Z,12nm,0.8s									
LON	**Longmire**	**93.55**	**10**	*e*P		**P**	**15 00 51.2**	**-0.2**		
LON					pmax	pmax				
	comp=Z,6.0nm,0.8s									
LON	**Longmire**	**93.55**	**10**	*e*P		**P**	**15 00 51.2**	**-0.2**		
	comp=Z,6.3nm,0.8s									
CHMT	**Chamberlain Mo**	**94.17**	**4**	*e*P		**P**	**15 00 53.9**	**-0.6**		
F10A	**Beach Ranch, E**	**94.83**	**7**	*e*P		**P**	**15 00 57.1**	**-0.2**		
	comp=Z,5.5nm,0.9s									
LRM	**Limekiln Ridge**	**95.30**	**3**	*e*P		**P**	**15 00 58.9**	**-0.8**		
GCMT	**Greycliff**	**95.43**	**1**	*e*P		**P**	**15 01 00.4**	**+0.2**		
BOZ	**Bozeman (W)**	**95.51**	**3**	*e*P		**P**	**15 01 00.4**	**-0.1**		
BOZ					pmax	pmax				
	comp=Z,6.0nm,1.0s									
BOZ	**Bozeman (W)**	**95.51**	**3**	*e*P		**P**	**15 01 00.4**	**-0.1**		
	comp=Z,5.8nm,1.0s									
DLMT	**Dillon**	**95.76**	**4**	*e*P		**P**	**15 01 01.7**	**0.0**		
	comp=Z,5.4nm,1.0s									
RLMT	**Red Lodge**	**96.10**	**1**	*e*P		**P**	**15 01 03.3**	**0.0**		
	comp=Z,8.0nm,1.0s									
MCMT	**McKenzie Canyo**	**96.28**	**4**	*e*P		**P**	**15 01 04.0**	**-0.1**		
ECSD	**EROS Data Cent**	**96.91**	**352**	*e*P		**P**	**15 01 06.8**	**+0.1**		
	comp=Z,22nm,1.9s									
PDAR	**Pinedale Array**	**98.45**	**1**	LR		LR	15 50 49.6			
	comp=Z,62nm,18.9s,baz=14,slow=39									
HWUT	**Hardware Ranch**	**99.55**	**3**	*e*P		**Pdif**	**15 01 17.9**	**-0.9**		
TXAR	**Lajitas Array**	**111.78**	**356**	PKKPbc		PKKPbc	15 17 02.8	-0.1		
	comp=Z,0.3nm,0.3s,baz=146,slow=16,SNR=6.7									
ROSC	**El Rosal**	**126.51**	**317**	*e*PKPdf		**PKPdf**	**15 06 38.0**	**-1.5**		
SAML	**Samuel**	**130.22**	**295**	*e*PKPdf		**PKPdf**	**15 06 45.6**	**-0.4**		
CPUP	**Villa Florida**	**136.32**	**271**	PKP		**PKPdf**	**15 06 56.8**	**-0.3**		
	comp=Z,3.3nm,0.8s,baz=38,slow=2.1,SNR=8.0									
LPAZ	**La Paz**	**138.73**	**292**	PKP		**PKPdf**	**15 07 03.2**	**+0.6**		
	comp=Z,2.4nm,1.0s,baz=5.5,slow=1.8,SNR=5.5									
TRQA	**Tornquist**	**144.60**	**257**	*e*PKPdf		**PKPab**	**15 07 10.3**	**-0.1**		
LCO	**Las Campanas**	**147.99**	**277**	*e*PKPdf		**PKPdf**	**15 07 17.5**	**-0.6**		

IDC 21 14:48:27.1±31.0, 19.80S×177.93W, h448km±288km, mb3.5/3, mb1 3.7/3, mb1mx3.0/30, mbtmp4.4/3, Error ellipse: s-maj=189.3km s-min=108.8km az=87.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.16**	**243**	P		P	14 55 06.8	0.0
	5.0nm,1.2s,baz=68,slow=11,SNR=3.6							
ASAR

EDC	**Edincik**	**1.57**	**325**	*e*Pn		**Pb**	**14**	**57**	**01.1**	**-0.1**

*MOS **21** 15:17:33.0±2.2,49°.02N×157°.09E,h6km,mb4.3/1,Error ellipse: s-maj=53.0km s-min=7.4km az=84.4*

KRSC 21 15:17:33.1±1.5,49°.02N×157°.09E,h6km±5km,ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
SKR	**Severo-Kuril's**	**1.78**	**340**	PN	Pn	15	18	03.6	-0.7
SKR				S	Sn	15	18	26.9	-0.3
SKR	**Severo-Kuril's**	**1.78**	**340**	*e*P	Pn	15	18	03.6	-0.7
SKR				*e*S	Sn	15	18	26.9	-0.3
PAU	**Pauzhetka**	**2.46**	**356**	PN	Pn	15	18	15.1	+1.5
PAU				S	Sb	15	18	46.6	-1.5
PAU	**Pauzhetka**	**2.46**	**356**	*e*P	Pn	15	18	15.1	+1.5
PAU				*e*S	Sb	15	18	46.6	-1.5
ASAK	**Asacha**	**3.41**	**8**	PN	Pn	15	18	30.2	+3.4
ASAK	**Asacha**	**3.41**	**8**	*e*P	Pn	15	18	30.2	+3.4
RUS	**Russkaya**	**3.54**	**14**	PN	Pn	15	18	32.2	+3.7
RUS				S	Sb	15	19	15.7	-3.4
RUS	**Russkaya**	**3.54**	**14**	*e*P	Pn	15	18	32.2	+3.7
RUS				*e*S	Sb	15	19	15.7	-3.4
DALK	**Dalny**	**4.15**	**14**	PN	Pn	15	18	40.4	+3.5
DALK				S	Sn	15	19	30.8	+5.1
DALK	**Dalny**	**4.15**	**14**	*e*P	Pn	15	18	40.4	+3.5
DALK				*e*S	Sn	15	19	30.8	+5.1
UGLR	**Uglovaya**	**4.33**	**14**	PN	Pn	15	18	43.5	+3.9
UGLR	**Uglovaya**	**4.33**	**14**	*e*P	Pn	15	18	43.5	+3.9
AVH	**Avacha**	**4.38**	**13**	PN	Pn	15	18	44.8	+4.7
AVH	**Avacha**	**4.38**	**13**	*e*P	Pn	15	18	44.8	+4.7
SDLR	**Sedlovina**	**4.41**	**14**	PN	Pn	15	18	44.6	+4.0
SDLR	**Sedlovina**	**4.41**	**14**	*e*P	Pn	15	18	44.6	+4.0
KRER	**Koryakskii**	**4.42**	**13**	PN	Pn	15	18	45.3	+4.5
KRER	**Koryakskii**	**4.42**	**13**	*e*P	Pn	15	18	45.3	+4.5
KRX	**Arik**	**4.45**	**12**	PN	Pn	15	18	45.1	+3.9
KRX	**Arik**	**4.45**	**12**	*e*P	Pn	15	18	45.1	+3.9
GNL	**Ganaly**	**4.71**	**6**	PN	Pn	15	18	49.4	+4.6
GNL	**Ganaly**	**4.71**	**6**	*e*P	Pn	15	18	49.4	+4.6
MKZ	**Mys Kozlova**	**6.25**	**26**	PN	Pn	15	19	10.0	+4.3
MKZ	**Mys Kozlova**	**6.25**	**26**	*e*P	Pn	15	19	10.0	+4.3

IDC 21 15:24:41.5±2.0,3°.66N×126°.94E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.4/44,mbtmp3.7/4,Error ellipse: s-maj=170.3km s-min=23.6km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
WRA	**Warramunga Arr**	**24.55**	**163**	P	P	15	30	02.6	-0.7
	1.4nm,0.7s,baz=343,slow=10,SNR=20								
ASAR	**Alice Springs**	**27.99**	**166**	P	P	15	30	34.8	+0.5
	0.2nm,0.3s,baz=343,slow=11,SNR=11								
STKA	**Stephens Creek**	**37.99**	**160**	P	P	15	32	01.4	+0.1
	3.9nm,0.9s,baz=321,slow=9.0,SNR=3.3								
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	15	34	34.1	-0.1
	0.2nm,0.5s,baz=122,slow=8.0,SNR=2.5								

*ISCJB **21** 15:28:06.8±0.4,43°.69S±0°.04×172°.68E±0°.05,h20km±3km, mb3.6/2,MS3.9/1,Error ellipse: s-maj=7.7km s-min=3.3km az=135.1*

*NEIC **21** 15:28:08.6,43°.60S×172°.48E,h5km,MW4.1,ML4.5(WEL), Moment Tensor Solution. s15 Moment tensor: Scale 10^{15}Nm; M_{rr}0.07; $M_{\theta\theta}$1.09; $M_{\phi\phi}$-1.16; $M_{r\theta}$0.40; $M_{\theta\phi}$-0.90; $M_{\phi r}$0.06; Best double couple: $M_0$1.50000×10^{15} NP1: ϕ_s155.00000°,δ75.00000°,λ5.00000°. NP2:ϕ_s64.00000°, δ85.00000°,λ165.00000°. Principal axes: T 1.4900, Plg14.0000°, Azm18.0000°; N 0.0000, Plg74.0000°, Azm226.0000°; P -1.5000, Plg7.0000°, Azm110.0000°; After WEL.*

NEIC Felt in Canterbury.

*WEL **21** 15:28:08.7±0.1,43°.60S×172°.53E,h9km,ML4.5/49 Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*

WEL Felt in the Canterbury region, maximum reported intensity MM 5.

*IDC **21** 15:28:09.1±1.7,43°.13S×172°.33E,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/32,mbtmp3.8/3,ML3.4/1,MS4.1/1, Ms1 4.1/1,ms1mx3.2/22,Error ellipse: s-maj=51.8km s-min=37.0km az=169.0*

ISC 21 15:28:07.9±0.8,43°.62S±0°.04×172°.56E±0°.04,h18km±4km, n107,σ1§60/110,5C-10D,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
CRLZ	**Canterbury Las**	**0.06**	**44**	⇓PG	**Pg**	**15**	**28**	**10.6**	**-0.5**
CRLZ				SG	**Sg**	**15**	**28**	**12.1**	**-1.2**
CRLZ				AML	AML	15	28	12.4	
CRLZ	**Canterbury Las**	**0.06**	**44**	*e*Pg	**Pg**	**15**	**28**	**10.7**	**-0.5**
CRLZ				*e*Sg	**Sg**	**15**	**28**	**12.0**	**-1.4**
MQZ	**McQueen's Vall**	**0.11**	**143**	⇓PG	**Pg**	**15**	**28**	**11.9**	**+0.3**
MQZ				SG	**Sg**	**15**	**28**	**14.0**	**0.0**
MQZ	**McQueen's Vall**	**0.11**	**143**	*e*Pg	**Pg**	**15**	**28**	**11.9**	**+0.3**
MQZ				*e*Sg	**Sg**	**15**	**28**	**14.1**	**0.0**
OXZ	**Oxford**	**0.48**	**307**	⇓P*	**Pb**	**15**	**28**	**17.1**	**-0.7**
OXZ	**Oxford**	**0.48**	**307**	*e*Pg	**Pb**	**15**	**28**	**17.1**	**-0.7**
LTZ	**Lake Taylor**	**0.86**	**346**	⇓P*	**Pb**	**15**	**28**	**24.8**	**+0.4**
LTZ				AML	AML	15	28	36.5	
LTZ				AML	AML	15	28	36.8	
LTZ	**Lake Taylor**	**0.86**	**346**	*e*Pg	**Pb**	**15**	**28**	**24.8**	**+0.4**
LTZ				*e*Sg	**Sn**	**15**	**28**	**36.3**	**-1.1**
RPZ	**Rata Peaks**	**1.10**	**265**	P*	**Pb**	**15**	**28**	**28.1**	**-0.2**
RPZ				AML	AML	15	28	44.3	
RPZ				AML	AML	15	28	51.1	
RPZ	**Rata Peaks**	**1.10**	**265**	*e*Pn	**Pn**	**15**	**28**	**28.4**	**-0.1**
INZ	**Inchbonnie**	**1.21**	**317**	⇓P*	**Pb**	**15**	**28**	**29.6**	**-0.7**
KHZ	**Kahutara**	**1.40**	**31**	PN	**Pn**	**15**	**28**	**32.2**	**-0.2**
KHZ	**Kahutara**	**1.40**	**31**	*e*Pn	**Pn**	**15**	**28**	**32.3**	**-0.2**
WVZ	**Waitaha Valley**	**1.44**	**292**	⇓PN	**Pb**	**15**	**28**	**33.3**	**-0.9**
WVZ				AML	AML	15	29	00.2	
WVZ				AML	AML	15	29	04.7	
THZ	**Tophouse**	**1.87**	**8**	PN	**Pn**	**15**	**28**	**38.9**	**-0.2**
THZ				AML	AML	15	29	21.1	
THZ				AML	AML	15	29	22.9	
THZ	**Tophouse**	**1.87**	**8**	*e*Pn	**Pn**	**15**	**28**	**39.2**	**+0.2**
LBZ	**Lake Benmore**	**1.88**	**245**	PN	**Pn**	**15**	**28**	**39.7**	**+0.6**
LBZ				AML	AML	15	29	15.3	
LBZ				AML	AML	15	29	15.4	
LBZ				AML	AML	15	29	16.9	
LBZ				AML	AML	15	29	17.0	
LBZ	**Lake Benmore**	**1.88**	**245**	*e*Pn	**Pn**	**15**	**28**	**39.7**	**+0.6**
DSZ	**Denniston Nort**	**1.96**	**343**	PN	**Pn**	**15**	**28**	**40.4**	**+0.2**
DSZ				AML	AML	15	29	15.7	
DSZ				AML	AML	15	29	15.8	
DSZ				AML	AML	15	29	15.9	
DSZ				AML	AML	15	29	15.9	
ODZ	**Otahua Downs**	**1.98**	**223**	⇑PN	**Pn**	**15**	**28**	**40.8**	**+0.2**
ODZ				AML	AML	15	29	11.6	
ODZ				AML	AML	15	29	11.6	
ODZ				AML	AML	15	29	11.6	
ODZ				AML	AML	15	29	19.4	
ODZ	**Otahua Downs**	**1.98**	**223**	*e*Pn	**Pn**	**15**	**28**	**40.8**	**+0.2**
FOZ	**Fox Glacier**	**2.00**	**272**	PN	**Pb**	**15**	**28**	**42.1**	**-1.6**
FOZ				AML	AML	15	29	19.9	
FOZ				AML	AML	15	29	22.0	
FOZ				AML	AML	15	29	22.5	
FOZ				AML	AML	15	29	22.5	
FOZ	**Fox Glacier**	**2.00**	**272**	*e*Pn	**Pb**	**15**	**28**	**42.5**	**-1.1**
BSWZ	**Blackbirch Sta**	**2.13**	**27**	PN	**Pn**	**15**	**28**	**42.8**	**+0.2**
BSWZ				AML	AML	15	29	40.3	
BSWZ				AML	AML	15	29	41.9	
CMWZ	**Cape Campbell**	**2.23**	**34**	PN	**Pb**	**15**	**28**	**48.9**	**+1.3**
CMWZ				AML	AML	15	29	38.6	
CMWZ				AML	AML	15	29	42.5	
TUWZ	**Tuamarina**	**2.41**	**25**	PN	**Pn**	**15**	**28**	**46.2**	**-0.2**
TUWZ				AML	AML	15	29	44.8	
TUWZ				AML	AML	15	29	44.8	
NNZ	**Nelson**	**2.48**	**14**	⇓PN	**Pn**	**15**	**28**	**48.0**	**+0.7**
NNZ				AML	AML	15	29	36.6	
NNZ				AML	AML	15	29	36.7	
NNZ				AML	AML	15	29	37.1	
NNZ				AML	AML	15	29	37.2	
HHSZ	**Highcliff Hill**	**2.66**	**211**	⇑PN	**Pn**	**15**	**28**	**50.0**	**+0.1**
TCW	**Tory Channel**	**2.72**	**28**	PN	**Pn**	**15**	**28**	**50.4**	**-0.2**
TCW				AML	AML	15	29	36.4	
TCW				AML	AML	15	29	53.2	
JCZ	**Jackson Bay**	**2.77**	**259**	PN	**Pn**	**15**	**28**	**51.9**	**+0.5**
JCZ				AML	AML	15	29	42.9	
JCZ				AML	AML	15	29	44.3	
BHW	**Baring Head**	**2.79**	**38**	PN	**Pn**	**15**	**28**	**51.3**	**-0.3**
BHW				AML	AML	15	29	31.0	
BHW				AML	AML	15	30	07.1	
QRZ	**Quartz Range**	**2.79**	**359**	⇓PN	**Pn**	**15**	**28**	**51.9**	**+0.3**
QRZ				AML	AML	15	29	04.3	
QRZ				AML	AML	15	29	04.3	
QRZ				AML	AML	15	29	43.1	
QRZ				AML	AML	15	29	45.4	
SNZO	**South Karori**	**2.80**	**35**	*e*Pn	**Pn**	**15**	**28**	**51.3**	**-0.4**
WKZ	**Wanaka**	**2.82**	**243**	PN	**Pn**	**15**	**28**	**52.4**	**+0.3**
WKZ				AML	AML	15	29	47.1	
WKZ				AML	AML	15	29	47.2	
WKZ				AML	AML	15	29	51.9	
WKZ				AML	AML	15	29	51.9	
WKZ	**Wanaka**	**2.82**	**243**	*e*Pn	**Pn**	**15**	**28**	**52.8**	**+0.7**
EAZ	**Earnscleugh**	**2.83**	**234**	⇑PN	**Pn**	**15**	**28**	**52.4**	**+0.2**
EAZ				AML	AML	15	29	44.9	
EAZ				AML	AML	15	29	44.9	
EAZ				AML	AML	15	29	51.4	
EAZ				AML	AML	15	29	51.4	
WEL	**Wellington**	**2.85**	**36**	PN	**Pn**	**15**	**28**	**51.9**	**-0.5**
WEL				AML	AML	15	29	33.6	
PLWZ	**Palliser**	**2.85**	**45**	PN	**Pn**	**15**	**28**	**51.8**	**-0.7**
MSWZ	**Moikau Station**	**2.96**	**43**	PN	**Pn**	**15**	**28**	**53.3**	**-0.8**
MSWZ				AML	AML	15	29	27.4	
MSWZ				AML	AML	15	29	36.5	
DUWZ	**D'Urville Isla**	**2.99**	**20**	PN	**Pn**	**15**	**28**	**55.6**	**+1.1**
PAWZ	**Paruwai Farm**	**3.08**	**44**	PN	**Pn**	**15**	**28**	**54.7**	**-0.9**
PAWZ				AML	AML	15	29	30.3	
PAWZ				AML	AML	15	30	27.2	
CAW	**Cannon Point**	**3.12**	**37**	PN	**Pn**	**15**	**28**	**55.4**	**-0.8**
CAW				AML	AML	15	29	32.8	
CAW				AML	AML	15	30	20.0	
TUZ	**Tuapeka**	**3.13**	**221**	⇑PN	**Pn**	**15**	**28**	**56.5**	**+0.2**
TUZ				AML	AML	15	29	53.8	
TUZ				AML	AML	15	29	53.8	
TUZ				AML	AML	15	29	55.3	
TUZ				AML	AML	15	29	55.3	
TRWZ	**Traveller**	**3.20**	**47**	PN	**Pn**	**15**	**28**	**56.7**	**-0.6**
TRWZ				AML	AML	15	29	36.0	
TRWZ				AML	AML	15	29	38.3	
KIW	**Kapiti Island**	**3.26**	**33**	PN	**Pn**	**15**	**28**	**57.8**	**-0.3**
KIW				AML	AML	15	30	08.0	
KIW				AML	AML	15	30	08.8	
MTW	**Mount Morrison**	**3.28**	**43**	PN	**Pn**	**15**	**28**	**57.4**	**-1.0**
MTW				AML	AML	15	29	52.3	
MTW				AML	AML	15	30	17.5	
OGWZ	**Otaki Gorge**	**3.41**	**36**	PN	**Pn**	**15**	**28**	**59.7**	**-0.4**
MSZ	**Milford Sound**	**3.50**	**251**	PN	**Pn**	**15**	**29**	**01.3**	**-0.1**
MSZ				AML	AML	15	30	02.4	
MSZ				AML	AML	15	30	06.2	
MSZ				AML	AML	15	30	08.2	
MSZ				AML	AML	15	30	08.2	
TMWZ	**Te Maipa**	**3.52**	**46**	PN	**Pn**	**15**	**29**	**02.7**	**+1.1**
MLZ	**Mavora Lakes**	**3.63**	**240**	⇓PN	**Pn**	**15**	**29**	**03.2**	**0.0**
MLZ				AML	AML	15	30	13.9	
MLZ				AML	AML	15	30	16.4	
MLZ	**Mavora Lakes**	**3.63**	**240**	*e*Pn	**Pn**	**15**	**29**	**03.4**	**+0.2**
MRZ	**Mangatainoka R**	**3.71**	**38**	PN	**Pn**	**15**	**29**	**03.3**	**-1.0**
TIWZ	**Tintock**	**3.76**	**42**	PN	**Pn**	**15**	**29**	**05.1**	**0.0**
TIWZ				AML	AML	15	29	49.5	
TIWZ				AML	AML	15	29	51.0	
SYZ	**Scrubby Hill**	**3.79**	**219**	PN	**Pn**	**15**	**29**	**05.8**	**+0.5**
SYZ				AML	AML	15	30	23.7	
SYZ				AML	AML	15	30	23.7	
SYZ				AML	AML	15	30	27.5	
SYZ				AML	AML	15	30	27.5	
PRWZ	**Pori Road**	**3.98**	**41**	PN	**Pn**	**15**	**29**	**08.8**	**+0.9**
WHZ	**Wether Hill Ro**	**4.00**	**234**	⇑PN	**Pn**	**15**	**29**	**07.3**	**-0.9**
WHZ				AML	AML	15	30	23.2	
WHZ				AML	AML	15	30	35.5	
WHZ	**Wether Hill Ro**	**4.00**	**234**	*e*Pn	**Pn**	**15**	**29**	**08.5**	**+0.3**
POWZ	**Post Office Ro**	**4.01**	**38**	PN	**Pn**	**15**	**29**	**07.9**	**-0.6**
BFZ	**Birch Farm**	**4.01**	**44**	⇓PN	**Pn**	**15**	**29**	**07.3**	**-1.2**
BFZ				AML	AML	15	30	00.9	
BFZ				AML	AML	15	30	00.9	
BFZ	**Birch Farm**	**4.01**	**44**	*e*Pn	**Pn**	**15**	**29**	**07.9**	**-0.6**
WAZ	**Wanganui**	**4.27**	**26**	AML	AML	15	30	42.4	
WAZ				AML	AML	15	30	45.0	
DCZ	**Deep Cove**	**4.29**	**243**	PN	**Pn**	**15**	**29**	**12.1**	**0.0**
DCZ				AML	AML	15	29	58.9	
DCZ				AML	AML	15	30	05.9	
DCZ				AML	AML	15	30	36.5	
DCZ				AML	AML	15	30	49.3	
DCZ	**Deep Cove**	**4.29**	**243**	*e*Pn	**Pn**	**15**	**29**	**12.2**	**+0.1**
ANWZ	**Angora Road**	**4.29**	**44**	PN	**Pn**	**15**	**29**	**11.5**	**-0.8**
NMEZ	**Namu Road**	**4.32**	**14**	PN	**Pn**	**15**	**29**	**16.0**	**+3.4**
TSZ	**Takapari Road**	**4.37**	**37**	PN	**Pn**	**15**	**29**	**12.3**	**-1.1**
TSZ				AML	AML	15	30	56.3	
TSZ				AML	AML	15	30	56.4	
PREZ	**Palmer Road**	**4.44**	**16**	PN	**Pn**	**15**	**29**	**17.2**	**+2.9**
NWEZ	**Newall Road**	**4.45**	**13**	PN	**Pn**	**15**	**29**	**18.2**	**+3.8**
KHEZ	**Kahui Hut**	**4.46**	**15**	PN	**Pn**	**15**	**29**	**17.7**	**+3.1**
NEZ	**North Egmont**	**4.50**	**15**	PN	**Pn**	**15**	**29**	**16.6**	**+1.4**
PRHZ	**Porangahau**	**4.52**	**44**	PN	**Pn**	**15**	**29**	**15.5**	**+0.1**
PKE	**Pukeiti**	**4.55**	**14**	PN	**Pn**	**15**	**29**	**18.8**	**+3.0**
PKE				AML	AML	15	30	34.2	
PKE				AML	AML	15	30	47.1	
APZ	**The Paps**	**4.56**	**224**	PN	**Pn**	**15**	**29**	**16.0**	**+0.1**
APZ				AML	AML	15	30	36.8	
APZ				AML	AML	15	30	46.8	
DREZ	**Durham Road**	**4.59**	**16**	PN	**Pn**	**15**	**29**	**20.2**	**+3.7**
VRZ	**Vera Road**	**4.79**	**21**	PN	**Pn**	**15**	**29**	**21.2**	**+2.1**
VRZ				AML	AML	15	30	35.4	
VRZ				AML	AML	15	31	05.8	
PKVZ	**Pokaka**	**4.80**	**27**	PN	**Pn**	**15**	**29**	**21.5**	**+2.1**
PKVZ				AML	AML	15	31	06.1	
PKVZ				AML	AML	15	31	15.6	
WNVZ	**Wahianoa**	**4.86**	**29**	PN	**Pn**	**15**	**29**	**21.1**	**+0.9**
TRVZ	**Turoa**	**4.86**	**28**	PN	**Pn**	**15**	**29**	**24.5**	**+4.1**
TRVZ				AML	AML	15	30	25.0	
TRVZ				AML	AML	15	30	53.7	
KRHZ	**Kereru**	**4.89**	**37**	PN	**Pn**	**15**	**29**	**19.1**	**-1.4**
WHVZ	**Whangaehu Hut**	**4.89**	**29**	PN	**Pn**	**15**	**29**	**22.2**	**+1.5**
PYZ	**Puysegur Point**	**4.89**	**237**	*e*Pn	**Pn**	**15**	**29**	**22.3**	**+1.7**
PYZ				*e*Sg	**Sg**	**15**	**30**	**41.0**	**-3.9**
FWVZ	**Far West T-bar**	**4.91**	**28**	PN	**Pn**	**15**	**29**	**25.3**	**+4.4**
FWVZ				AML	AML	15	31	05.0	
FWVZ				AML	AML	15	31	06.1	
TUVZ	**Tukino**	**4.93**	**29**	PN	**Pn**	**15**	**29**	**22.1**	**+0.9**
NGZ	**Ngauruhoe**	**4.99**	**28**	PN	**Pn**	**15**	**29**	**23.6**	**+1.5**
NGZ				AML	AML	15	31	18.4	
NGZ				AML	AML	15	31	35.1	
KAHZ	**Kahuranaki**	**5.00**	**42**	*e*PN	**Pn**	**15**	**29**	**21.5**	**-0.6**
OTVZ	**Oturere**	**5.03**	**29**	PN	**Pn**	**15**	**29**	**24.0**	**+1.5**
OTVZ				AML	AML	15	30	22.1	
OTVZ				AML	AML	15	31	22.5	
WTVZ	**West Tongariro**	**5.04**	**28**	PN	**Pn**	**15**	**29**	**27.1**	**+4.4**
WTVZ				AML	AML	15	30	37.0	
WTVZ				AML	AML	15	30	56.6	
KRVZ	**Karewarewa**	**5.08**	**28**	PN	Pn	15	29	30.9	+7.7
RATZ	**Rangitukua**	**5.33**	**28**	AML	AML	15	29	59.7	
RATZ				AML	AML	15	31	41.1	
BKZ	**Black Stump Fm**	**5.34**	**35**	PN	**Pn**	**15**	**29**	**27.9**	**+1.2**
BKZ				AML	AML	15	30	55.2	
BKZ	**Black Stump Fm**	**5.34**	**35**	*e*Pn	**Pn**	**15**	**29**	**26.5**	**-0.3**
BKZ				*e*Pg	**Pg**	**15**	**29**	**47.1**	**-3.0**
HIZ	**Hauiti**	**5.39**	**20**	PN	**Pn**	**15**	**29**	**27.4**	**+0.1**
HIZ				AML	AML	15	30	38.6	
HIZ				AML	AML	15	31	24.2	
HIZ	**Hauiti**	**5.39**	**20**	*e*Pn	**Pn**	**15**	**29**	**29.2**	**+1.8**
MRHZ	**Matea Rd**	**5.59**	**33**	PN	**Pn**	**15**	**29**	**30.2**	**0.0**
TLZ	**Tolley Road**	**5.74**	**24**	PN	**Pn**	**15**	**29**	**34.5**	**+2.3**
TOZ	**Tahuroa Road**	**6.29**	**22**	PN	**Pn**	**15**	**29**	**42.0**	**+2.3**
URZ	**Urewera**	**6.37**	**34**	Pn	**Pn**	**15**	**29**	**39.8**	**-0.9**
	1.0nm,0.3s,baz=235,slow=5.8,SNR=6.1								
URZ				Sn	**Sn**	**15**	**30**	**48.6**	**-4.4**
	2.5nm,0.3s,baz=288,slow=16,SNR=3.1								
MWZ	**Matawai**	**6.48**	**37**	PN	**Pn**	**15**	**29**	**39.9**	**-2.5**
AWAZ	**Awhitu Peninsu**	**6.74**	**14**	PN	**Pn**	**15**	**29**	**48.7**	**+2.9**
MKAZ	**Moumakai**	**6.80**	**18**	PN	**Pn**	**15**	**29**	**47.8**	**+1.1**
PUZ	**Puketiti**	**7.02**	**40**	AML	AML	15	34	48.2	
PUZ				AML	AML	15	35	00.1	
DZM	**Mont Dzumac**	**22.08**	**345**	LR	LR	15	40	54.6	
	comp=Z,443nm,19.2s,baz=140,slow=36								
ASAR	**Alice Springs**	**37.41**	**289**	P	**P**	**15**	**35**	**20.9**	**+1.0**
	1.7nm,1.1s,baz=131,slow=7.5,SNR=6.2								
WRA	**Warramunga Arr**	**39.66**	**294**	P	**P**	**15**	**35**	**39.9**	**+1.0**
	1.3nm,1.1s,baz=134,slow=7.6,SNR=5.8								
HHC	**Hu-ho-hao-te**	**100.42**	**318**	*e*P	**Pdif**	**15**	**41**	**56.3**	**+2.8**
HHC				pmax	pmax				
	comp=Z,11nm,0.9s								
TORD	**Torodi Ar. Bea**	**148.63**	**197**	PKPbc	**PKPab**	**15**	**47**	**59.0**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=145,slow=2.5,SNR=4.8								
BRTR	**Keskin Array B**	**149.30**	**277**	PKPbc	**PKPbc**	**15**	**47**	**58.5**	**+3.1**
	comp=Z,0.6nm,0.7s,baz=123,slow=5.3,SNR=2.9								

*ISCJB **21** 15:30:30.4±0.3,29°.42S±0°.06×176°.33W±0°.10,h28km, mb4.6/30,MS3.6/3,Error ellipse: s-maj=14.3km s-min=5.1km az=31.5*

*BJI **21** 15:30:34.3,29°.60S×176°.40W,h70km,mb5.0/7,mB5.3/2, Ms4.9/4,Ms7 4.6/2*

*NEIC **21** 15:30:35.4±1.2,29°.58S×176°.23W,h62km±11km,mb4.7/24, Error ellipse: s-maj=10.7km s-min=9.2km az=104.0*

*IDC **21** 15:30:36.1±1.0,28°.89S×176°.24W,h54km±6km,mb4.0/10, mb1 4.2/10,mb1mx4.0/30,mbtmp4.2/10,MS3.6/4, Ms1 3.6/4,ms1mx3.2/30,Error ellipse: s-maj=34.2km s-min=9.1km az=160.0*

ISC 21 15:30:32.0±0.5,29°.32S±0°.07×176°.19W±0°.07,h28km,n78, σ1§97/75,mb4.7/30,MS3.5/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
RAO	**Raoul Island**	**1.51**	**272**	P	**Pb**	**15**	**31**	**00.1**	**+0.8**
	baz=75,slow=19								
RAO				S	**Sb**	**15**	**31**	**20.1**	**+2.1**
	5μm,0.3s,baz=108,slow=20,SNR=15								
MXZ	**Matakaoa Point**	**9.41**	**208**	*e*Pn	**Pn**	**15**	**32**	**45.9**	**+0.2**
URZ	**Urewera**	**10.51**	**210**	P	**Pn**	**15**	**33**	**00.2**	**-0.5**
	1.8nm,0.3s,baz=276,slow=5.4,SNR=11								
URZ				S	**Sn**	**15**	**34**	**58.5**	**+1.0**
	9.6nm,0.3s,baz=118,slow=17,SNR=8.6								
SNZO	**South Karori**	**14.07**	**209**	*e*Pn	Pn	15	33	44.0	-5.4
SNZO				*e*Sn	**Sn**	**15**	**36**	**22.3**	**-2.2**
THZ	**Tophouse**	**15.24**	**213**	*e*Pn	**Pn**	**15**	**34**	**03.1**	**-2.2**
THZ				*e*Sn	Sn	15	36	38.5	-15
KHZ	**Kahutara**	**15.47**	**210**	*e*Pn	**Pn**	**15**	**34**	**04.7**	**-3.6**
	31nm,0.8s								
CRLZ	**Canterbury Las**	**16.81**	**209**	*e*Pn	**Pn**	**15**	**34**	**23.1**	**-2.1**
	102nm,1.7s								
OXZ	**Oxford**	**16.86**	**211**	*e*Pn	**Pn**	**15**	**34**	**23.5**	**-2.5**
	26nm,0.7s								
RAR	**Rarotonga**	**16.89**	**65**	LR	LR	15	40	40.4	
	comp=Z,186nm,18.9s,baz=262,slow=36								
DZM	**Mont Dzumac**	**17.22**	**291**	*e*LR	LR	15	38	55.9	
	486nm,21.9s								
DZM	**Mont Dzumac**	**17.22**	**291**	P	**P**	**15**	**34**	**34.5**	**+2.4**
	0.3nm,0.3s,baz=42,slow=8.2,SNR=3.9								
RPZ	**Rata Peaks**	**17.61**	**212**	P	**P**	**15**	**34**	**36.9**	**+0.7**
	1.5nm,0.3s,baz=72,slow=6.4,SNR=3.7								
RPZ	**Rata Peaks**	**17.61**	**212**	*e*Pn	**Pn**	**15**	**34**	**34.5**	**-0.8**
	74nm,1.5s								
TBI	**Tubuai**	**24.66**	**82**	*e*LR	LR	15	41	24.1	
	174nm,31.5s								
PPT2	**Papeete2**	**27.00**	**70**	*e*LR	LR	15	42	36.7	
	110nm,24.5s			

ARCES	ARCESS Array B	137.85	349	PKP		PKPdf	15 49 52.5	-0.4
	2.8nm,0.8s,baz=349,slow=0.5,SNR=3.9							
H10S3	ASCENSION HYDR	137.99	152	T		T	18 25 39.7	
	baz=204,slow=74,SNR=11							
H10S2	ASCENSION HYDR	137.99	152	T		T	18 25 38.2	
	baz=204,slow=74,SNR=9.6							
H10S1	ASCENSION HYDR	138.01	152	T		T	18 25 39.2	
	baz=204,slow=74,SNR=5.6							
H10N3	ASCENSION HYDR	139.06	152	T		T	18 26 29.0	
	baz=204,slow=75,SNR=13							
H10N1	ASCENSION HYDR	139.06	152	T		T	18 26 24.5	
	baz=204,slow=75,SNR=15							
H10N2	ASCENSION HYDR	139.08	152	T		T	18 26 35.4	
	baz=204,slow=75,SNR=13							
FINES	FINESS Array B	144.65	342	PKP		PKPab	15 50 03.5	-0.5
	1.9nm,0.4s,baz=59,slow=2.8,SNR=16							
NC303	NORSAR Array S	147.70	353	*e*PKPbc		PKPbc	15 50 12.9	-0.4
NB2	NORSAR Subarra	147.90	353	PKP		PKPbc	15 50 13.3	-0.6
	comp=Z,4.2nm,0.6s,baz=8.8,slow=2.9							
NOA	NORSAR Array B	147.90	353	PKPbc		PKPbc	15 50 13.7	-0.2
	comp=Z,5.7nm,0.8s,baz=14,slow=4.4,SNR=15							
AKASG	Malin Array Be	151.35	325	PKPbc		PKPbc	15 50 21.7	-1.0
	comp=Z,1.5nm,0.5s,baz=46,slow=2.7,SNR=7.0							
AKASG				pPKPbc		pPKPbc	15 50 37.7	+5.8
	comp=Z,0.7nm,0.3s,baz=54,slow=2.0,SNR=3.3							
AK11	Malin Array Si	151.40	325	*e*PKPbc		PKPbc	15 50 22.6	-0.2
BRTR	Keskin Array B	153.43	301	PKPab		PKPab	15 50 38.8	-1.4
	comp=Z,0.9nm,0.8s,baz=95,slow=3.0,SNR=3.9							
VYHS	Vyhne	157.64	333	*e*PKP		PKPdf	15 50 27.3	+1.8
VYHS				*e*			15 50 57.2	
TORD	Torodi Ar. Bea	163.79	173	PKP		PKPdf	15 50 34.5	+1.4
	comp=Z,0.8nm,0.8s,baz=186,slow=2.0,SNR=3.6							
TORD				PKPab		PKPab	15 51 27.8	+2.6
	comp=Z,3.2nm,0.8s,baz=211,slow=4.7,SNR=13							
TORD				pPKPab		pPKPab	15 51 42.2	+8.0
	comp=Z,1.9nm,0.8s,baz=186,slow=4.3,SNR=6.1							
ESDC	Sonseca Array	167.85	30	PKPab		PKPab	15 51 41.2	-1.5
	comp=Z,0.2nm,0.3s,baz=306,slow=4.3,SNR=4.2							

IDC ***21*** *15:31:55.9±1.6, 33.˚17S×178.˚28W, h0km, mb4.4/3, mb1 4.6/4, mb1mx4.0/34, mbtmp4.4/4, ML4.2/1, Error ellipse: s-maj=50.4km s-min=30.2km az=140.0*
ISCJB ***21*** *15:32:00.1±1.8, 33.˚16S±0.˚07×178.˚5W±0.˚3, h34km, mb4.4/4, Error ellipse: s-maj=34.3km s-min=7.2km az=13.1*
NEIC ***21*** *15:32:01.2±0.9, 33.˚27S×178.˚32W, h35km, mb4.4/1, Error ellipse: s-maj=24.0km s-min=16.6km az=125.0*

ISC 21 15:32:01.0±1.5, 33.˚2S±0.˚1×178.˚2W±0.˚2, h34km, n33, σ2s63/41, mb4.5/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HAZ	Te Kaha	5.60	215	PN		Pn	15 33 23.9	+2.1
HAZ				SN		Sn	15 34 28.0	+3.1
TWGZ	Tauwhareparae	5.85	211	SN		Sn	15 34 34.6	+3.3
CNGZ	Carnagh Statio	6.02	208	*e*Pn		Pn	15 33 27.7	0.0
CNGZ				SN		Sn	15 34 40.3	+4.9
MWZ	Matawai	6.18	213	*e*Pn		Pn	15 33 29.9	0.0
MWZ				SN		Sn	15 34 42.1	+2.6
URZ	Urewera	6.32	216	Pn		Pn	15 33 31.0	-0.7
	6.0nm,0.3s,baz=54,slow=0.3,SNR=7.2							
URZ				Sn		Sn	15 34 43.6	+0.9
	6.8nm,0.3s,baz=151,slow=21,SNR=3.8							
URZ	Urewera	6.32	216	*e*Pn		Pn	15 33 30.5	-1.2
	22nm,0.4s							
URZ				Sn		Sn	15 34 43.6	+0.9
URZ	Urewera	6.32	216	PN		Pn	15 33 28.5	-3.2
URZ				SN		Sn	15 34 45.1	+2.4
RIGZ	Rimuhau	6.39	210	PN		Pn	15 33 33.8	+1.1
RIGZ				SN		Sn	15 34 47.4	+2.9
SNGZ	Shannon Statio	6.64	212	*e*PN		Pn	15 33 37.2	+1.1
SNGZ				SN		Sn	15 34 51.1	+0.6
MUGZ	Murupara	6.66	216	SN		Sn	15 34 48.1	-2.9
RTZ	Ruatahuna	6.67	214	SN		Sn	15 34 52.4	+1.0
BKZ	Black Stump Fm	7.33	214	SN		Sn	15 35 07.2	-0.5
PXZ	Pawanui	7.88	209	SN		Sn	15 35 19.8	-1.3
PRHZ	Porangahau	8.18	209	SN		Sn	15 35 26.0	-2.4
TSZ	Takapari Road	8.29	213	SN		Sn	15 35 27.5	-3.8
ANWZ	Angora Road	8.40	209	SN		Sn	15 35 34.6	+0.6
BFZ	Birch Farm	8.69	209	SN		Sn	15 35 37.6	-3.3
TIWZ	Tintock	8.91	210	SN		Sn	15 35 43.0	-3.5
MRZ	Mangatainoka R	8.95	212	SN		Sn	15 35 42.7	-4.8
HOWZ	Holdsworth Sta	9.17	211	SN		Sn	15 35 47.8	-5.1
TMWZ	Te Maipa	9.19	209	SN		Sn	15 35 49.2	-4.0
THZ	Tophouse	11.08	217	SN		Sn	15 36 46.1	+6.4
CTA	Charters Tower	34.17	283	P		P	15 38 43.5	+0.4
	3.7nm,0.5s,baz=112,slow=11,SNR=6.8							
CTAO	Charters Tower	34.17	283	*e*P		P	15 38 43.4	+0.2
	22nm,0.6s							
ASAR	Alice Springs	42.85	270	P		P	15 39 55.3	-0.8
	2.2nm,0.6s,baz=107,slow=7.8,SNR=5.9							
WRAB	Tennant Creek	44.09	275	*e*P		P	15 40 04.5	-1.5
	3.4nm,0.5s							
WRA	Warramunga Arr	44.09	275	P		P	15 40 04.8	-1.3
	4.1nm,0.5s,baz=116,slow=7.6,SNR=15							
WMQ	Urumqi	114.79	307	P		Pdif	15 46 51.4	+3.2
FINES	FINESS Array B	147.69	338	PKPbc		PKPbc	15 51 41.0	-0.2
	3.0nm,0.4s,baz=44,slow=3.7,SNR=11							
NB2	NORSAR Subarra	151.47	350	PKP		PKPbc	15 51 50.9	+0.3
	comp=Z,0.9nm,0.5s,baz=14,slow=2.6							
NOA	NORSAR Array B	151.47	350	PKPbc		PKPbc	15 51 50.9	+0.3
	comp=Z,1.1nm,0.5s,baz=13,slow=4.1,SNR=4.5							
AKASG	Malin Array Be	153.35	319	PKPbc		PKPbc	15 51 55.5	+0.5
	comp=Z,1.2nm,0.6s,baz=51,slow=2.2,SNR=2.2							
BRTR	Keskin Array B	153.66	293	PKPbc		PKPbc	15 51 56.3	0.0
	comp=Z,0.8nm,0.5s,baz=134,slow=3.1,SNR=5.8							

IDC ***21*** *15:33:12.6±0.7, 38.˚64N×75.˚11E, h0km, mb4.0/15, mb1 4.1/21, mb1mx3.9/52, mbtmp4.0/21, ML3.4/5, MS3.2/9, Ms1 3.2/9, ms1mx2.9/50, Error ellipse: s-maj=15.7km s-min=13.2km az=61.0*
BJI ***21*** *15:33:13.4, 38.˚75N×74.˚92E, h5km, mb4.2/14, mB4.4/7, ML3.9/6, Ms3.5/4, Ms7 3.5/3*
MOS ***21*** *15:33:15.6±1.5, 38.˚66N×75.˚09E, h28km, mb4.2/7, Error ellipse: s-maj=10.0km s-min=5.6km az=101.7*
NNC ***21*** *15:33:16.9±2.0, 38.˚84N×74.˚94E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=19.1km s-min=9.6km az=148.0*
NEIC ***21*** *15:33:18.7±1.1, 38.˚75N×75.˚10E, h41km±10km, mb4.2/4, Error ellipse: s-maj=11.1km s-min=8.8km az=146.0*
SOME ***21*** *15:33:18.1, 39.˚03N×75.˚18E, h10km, MS3.7*

ISC 21 15:33:16.3±0.4, 38.˚66N±0.˚04×75.˚07E±0.˚03, h20km, n128, σ2s17/152, mb4.1/23, MS3.2/6, 26C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSH	Kashi	1.11	39	Pg		Pn	15 33 24.5	-12
KSH				Sg		Sb	15 33 29.8	-21
AAK	Ala-Archa	4.00	354	Pn		Pn	15 34 17.8	+1.3
	3.8nm,0.3s,baz=161,slow=9.2,SNR=25							
AAK				Sn		Sn	15 35 07.4	+4.5
	7.1nm,0.3s,baz=108,slow=19,SNR=3.7							
AAK				LR		LR	15 36 04.3	
	comp=Z,223nm,19.8s,baz=164,slow=43							
AAK	Ala-Archa	4.00	354	⇑Pn		Pn	15 34 17.8	+1.3
	18nm,0.8s							
AAK				⇑Pg		Pb	15 34 27.9	+1.8
	58nm,0.8s							
AAK				⇓Lg		Lg	15 35 16.1	
	96nm,0.7s							
EKS2	Erkin-Say	4.12	347	*e*PN		Pn	15 34 20.3	+2.1
EKS2	Erkin-Say	4.12	347	*e*Pn		Pn	15 34 20.3	+2.1
FRU	Bishkek	4.18	355	*e*PN		Pn	15 34 23.0	+4.0
FRU				*i*			15 34 32.0	
FRU				*e*S		Sb	15 35 23.0	+3.6
FRU				pmax		pmax		
	comp=Z,160nm,1.8s							
FRU				smax		smax		
	comp=N,300nm,1.8s							
TKM2	Tokmak 2	4.28	5	⇑Pn		Pn	15 34 21.9	+1.5
	comp=N,25nm,0.3s							
TKM2				⇑Lg		Lg	15 35 23.6	
	comp=N,122nm,0.6s							
TKM2	Tokmak 2	4.28	5	PN		Pn	15 34 21.9	+1.5
TKM2							15 35 22.8	
TKM2				pmax		pmax		
	comp=Z,25nm,0.3s							
TKM2				pmax		pmax		
	comp=N,122nm,0.6s							
TKM2	Tokmak 2	4.28	5	*e*Pn		Pn	15 34 21.7	+1.3
MNAS	Manas	4.29	334	⇓Pn		Pn	15 34 22.7	+2.0
	comp=N,6.7nm,0.5s							
MNAS				⇓Pg		Pb	15 34 33.4	+2.2
	comp=N,25nm,0.6s							
MNAS				⇓Lg		Lg	15 35 23.7	
	comp=N,110nm,0.9s							
MNAS	Manas	4.29	334	PN		Pn	15 34 22.0	+1.4
MNAS							15 34 33.4	
MNAS							15 35 22.5	
MNAS				pmax		pmax		
	comp=Z,16nm,0.8s							
MNAS				pmax		pmax		
	comp=Z,25nm,0.6s							
MNAS				pmax		pmax		
	comp=N,110nm,0.9s							
MRKS	Merke	4.32	342	*e*P		Pb	15 34 27.9	-3.6
	comp=N,75nm,0.4s							
MRKS				*e*S		Sb	15 35 18.6	-4.6
	comp=N,63nm,0.8s							
KST	Kastek	4.43	8	*e*P		Pb	15 34 33.2	-0.3
	comp=N,7.3nm,0.7s							
KST				⇓*i*S		Sb	15 35 27.7	+1.1
	comp=N,114nm,0.8s							
IZV	Izvestkoviy	4.53	14	*e*P		Pb	15 34 33.7	-1.5
	comp=N,104nm,0.5s							
IZV				*e*S		Sb	15 35 28.8	-0.5
	comp=N,130nm,0.7s							
MTBS	Maitube	4.58	13	*e*P		Pb	15 34 41.1	+5.0
	comp=N,34nm,0.6s							
MTBS				⇑*i*S		Sb	15 35 41.9	+11
	comp=N,84nm,0.6s							
TNSS	Tian-Shan	4.60	17	*e*P		Pb	15 34 36.6	0.0
	comp=N,44nm,0.5s							
TNSS				*e*S		Sb	15 35 34.4	+2.6
	comp=N,220nm,1.0s							
DGS	Degeres	4.61	6	*e*P		Pb	15 34 35.0	-1.5
	comp=N,75nm,0.7s							
DGS				*e*S		Sb	15 35 31.6	-0.1
	comp=N,84nm,0.7s							
MDOK	Medeo	4.74	18	*e*P		Pb	15 34 39.3	+0.5
	comp=N,53nm,0.7s							
MDOK				⇑*i*S		Sb	15 35 38.5	+3.0
	comp=N,123nm,0.9s							
KNDC	Almaty	4.78	17	⇓Pg		Pb	15 34 39.9	+0.6
	comp=N,38nm,0.5s							
KNDC				⇑Lg		Lg	15 35 41.4	
	comp=N,155nm,0.6s							
AAA	Alma-Ata	4.82	17	*e*P		Pb	15 34 39.3	-0.8
	comp=N,87nm,0.5s							
AAA				*e*S		Sb	15 35 39.6	+1.9
	comp=N,200nm,0.8s							
AAA	Alma-Ata	4.82	17	*e*PN		Pb	15 34 39.3	-0.8
AAA				*e*S		Sb	15 35 39.6	+1.9
AAA				pmax		pmax		
	comp=Z,67nm,0.6s							
AAA				smax		smax		
	comp=E,157nm,0.8s							
KOTS	Kotyrbulak	4.83	18	*e*P		Pb	15 34 39.7	-0.5
KOTS				*e*S		Sb	15 35 39.7	+1.8
DZET	Dzherino	4.88	274	⇓Pn		Pn	15 34 29.3	+0.5
	comp=E,28nm,0.4s							
DZET				⇑Pg		Pb	15 34 40.4	-0.8
	comp=E,66nm,0.5s							
DZET				⇓Sn		Sn	15 35 26.8	+2.1
	comp=E,186nm,0.7s							
DZET				⇓Lg		Lg	15 35 46.4	
	comp=E,252nm,0.6s							
DZET	Dzherino	4.88	274	PN		Pn	15 34 29.2	+0.5
DZET							15 35 26.8	
DZET							15 35 46.3	
DZET				pmax		pmax		
	comp=Z,28nm,0.4s							
DZET				pmax		pmax		
	comp=E,66nm,0.5s							
DZET				smax		smax		
	comp=N,186nm,0.7s							
DZET				pmax		pmax		
	comp=N,252nm,0.6s							
SATY	Saty	5.07	29	*e*P		Pb	15 34 43.3	-1.1
	comp=N,140nm,0.8s							
SATY				*e*S		Sb	15 35 45.7	+0.8
	comp=N,151nm,1.2s							
DZA	Taraz	5.09	327	*e*P		Pb	15 34 46.4	+1.7
	comp=N,36nm,0.2s							
DZA				*e*S		Sb	15 35 50.5	+5.0
	comp=N,146nm,0.2s							
IUG	Iuzhnay	5.19	314	*e*P		Pb	15 34 49.9	+3.5
	comp=N,91nm,0.8s							
IUG				*e*S		Sb	15 35 56.7	+8.3
	comp=N,180nm,1.1s							
KTBS	Karatobe	5.19	13	*e*P		Pb	15 34 45.1	-1.3
KTBS				*e*S		Sb	15 35 48.5	+0.1
CHCP	Chirah Chowk	5.20	197	P		Pn	15 34 37.8	+4.8
KUU	Kurty	5.32	10	*e*P		Pb	15 34 48.2	-0.3
	comp=N,65nm,0.7s							
KUU				*e*S		Sb	15 35 54.5	+2.6
	comp=N,185nm,1.1s							
KURS	Kuram	5.36	25	*e*P		Pb	15 34 49.3	0.0
	comp=N,33nm,0.6s							
KURS				*e*S		Sb	15 35 55.8	+2.5
	comp=N,44nm,1.3s							
CHKK	Chushkaly	5.41	15	*e*P		Pb	15 34 48.4	-1.6
	comp=N,63nm,0.6s							
CHKK				*e*S		Sb	15 35 54.1	-0.3
	comp=N,76nm,0.8s							
CEP	Cherat	5.46	209	P		Pn	15 34 37.8	+1.2
KPKS	Kokpek	5.53	28	*e*P		Pb	15 34 52.4	+0.3
	comp=N,81nm,0.7s							
KPKS				*e*S		Sb	15 36 01.0	+3.0
	comp=N,167nm,0.6s							
KK31	Karatay Array	5.63	324	Pn		Pn	15 34 39.1	+0.4
	comp=N,2.9nm,0.3s,baz=133,slow=13,SNR=82							
KK31				⇑Sn		Sn	15 35 44.7	+1.8
	comp=N,6.3nm,0.5s,baz=144,slow=18,SNR=3.7							
KK31				⇑Lg		Lg	15 36 07.1	
	comp=N,26nm,0.7s,baz=136,slow=25,SNR=5.7							
KK31	Karatay Array	5.63	324	*i* PN		Pn	15 34 39.2	+0.4
KK31				pmax		pmax		
	comp=Z,12nm,0.6s							
KKAR	Karatay Array	5.63	324	*e*PN		Pn	15 34 39.0	+0.2
KKAR	Karatay Array	5.63	324	*e*Pn		Pn	15 34 39.0	+0.2
PDGK	Podgornoye	5.74	34	⇑Pn		Pn	15 34 42.1	+1.8
	comp=Z,83nm,0.7s							
PDGK				⇑Lg		Lg	15 36 10.9	
	comp=Z,58nm,0.6s							
SHLS	Shalkode	5.79	38	*e*P		Pb	15 34 58.9	+2.2
	comp=Z,57nm,0.6s							
SHLS				*e*S		Sb	15 36 12.2	+6.6
	comp=Z,118nm,0.6s							
THN	Thein Dam	6.23	175	*e*P		Pn	15 34 49.0	+1.9
THN				*ex*		x	15 36 15.0	
KBL	Kabul	6.35	232	*e*PN		Pn	15 34 51.2	+2.2
KBL	Kabul	6.35	232	*e*Pn		Pn	15 34 51.2	+2.2
THW	Thamme Wali	6.45	206	P		Pn	15 34 53.5	+3.4
DHRM	DHARAMSHALA	6.47	171	*e*P		Pn	15 34 54.3	+3.6
DHRM				*e*S		Sn	15 36 05.5	+1.5
DJR	Jarkent	6.68	30	*e*P		Pb	15 35 13.9	+2.1
	comp=Z,42nm,0.6s							
DJR				*e*S		Sb	15 36 38.5	+7.2
	comp=Z,22nm,0.7s							
TDK	Taldyqorghan	6.81	20	*e*P		Pb	15 35 18.6	+4.6
	comp=Z,42nm,0.5s							
TDK				*e*S		Sb	15 36 46.3	+11
	comp=Z,52nm,0.7s							
KAPS	Kapalarasan	7.35	24	*e*P		Pb	15 35 28.3	+5.1
	comp=Z,11nm,0.5s							
KAPS				⇑*i*S		Sb	15 37 03.5	+13
	comp=Z,17nm,0.7s							
SMLA	Simla	7.71	166	*e*P		Pn	15 35 10.2	+2.9
SMLA				*e*S		Sn	15 36 35.0	+0.9
DDI	Dehra Dun	8.67	163	*e*P		Pn	15 35 21.1	+0.5
DDI				*ex*		x	15 36 40.9	
DDI				IAML			15 37 04.1	
	comp=N,92nm,0.5s							
DDI				IAML			15 37 05.3	
	comp=E,150nm,0.2s							
MK01	Makanchi Array	9.69	31	*e*Pn		Pn	15 35 34.3	-0.3
MK31	Makanchi Array	9.71	31	⇑Pn		Pn	15 35 35.9	+1.2
	comp=E,3.4nm,0.7s,baz=209,slow=11,SNR=19							
MK31				⇑Lg		Lg	15 38 21.9	
	comp=E,6.5nm,0.8s,baz=210,slow=28,SNR=4.2							
MK31	Makanchi Array	9.71	31	*e*P		Pn	15 35 35.1	+0.3
MK31	Makanchi Array	9.71	31	*e*Pn		Pn	15 35 35.1	+0.3
MKAR	Makanchi Array	9.71	31	Pn		Pn	15 35 34.5	-0.3
	comp=E,0.5nm,0.3s,baz=220,slow=11,SNR=16							
MKAR				Lg		Lg	15 38 21.1	
	comp=E,0.3nm,0.3s,baz=217,slow=29,SNR=3.2							
MKAR				LR		LR	15 39 46.2	
	comp=E,46nm,20.3s,baz=212,slow=41							
MKAR	Makanchi Array	9.71	31	*e*P		Pn	15 35 35.0	+0.2
MKAR	Makanchi Array	9.71	31	*e*Pn		Pn	15 35 35.0	+0.2
MKAR				Lg		Lg	15 38 21.1	
OTUK	Ortayu	9.79	349	⇓Pn		Pn	15 35 38.3	+2.5
	comp=E,1.8nm,0.8s							
OTUK				⇑Lg		Lg	15 38 18.1	
	comp=E,13nm,1.1s							
WMQ	Urumqi	10.81	57	P		Pn	15 35 50.8	+0.9
WMQ				pP			15 35 53.8	
WMQ				sP			15 35 56.3	
WMQ				PMZ				
	comp=E,9.0nm,0.8s							
WMQ				LN				
	comp=E,130nm,7.0s							
WMQ				LE				
	comp=E,68nm,13.2s							
WMQ				LZ				
	comp=E,78nm,5.8s							
KURBB	Kurchatov Arra	12.21	10	Pn		Pn	15 36 07.3	-1.6
	comp=E,0.0nm,0.3s,baz=194,slow=12,SNR=9.9							
KURBB				Lg		Lg	15 39 30.5	
	comp=E,0.0nm,0.3s,baz=191,slow=28,SNR=4.4							
KURBB	Kurchatov Arra	12.21	10	⇑Pn		Pn	15 36 09.2	+0.2
	comp=E,1.8nm,0.6s							
KURBB				⇑Lg		Lg	15 39 39.2	
	comp=E,42nm,1.1s							
KURK	Kurchatov	12.32	11	P		Pn	15 36 07.3	-3.1
KURK	Kurchatov	12.32	11	Pn		Pn	15 36 07.3	-3.1
KURK				Lg		Lg	15 39 30.5	
PYUN	Piuthan	12.43	146	*e*P		Pn	15 36 14.0	+1.7
	comp=E,29nm,0.4s							
KOLN	Koldanda	12.99	144	*e*P		Pn	15 36 21.8	+1.9
	comp=E,11nm,0.3s							
GKN	Gorkha	13.29	140	*e*P		Pn	15 36 24.8	+0.8
	comp=E,16nm,0.4s							
GEYT	Alibeck	13.34	272	Pn		Pn	15 36 20.9	-3.6
	comp=E,1.7nm,0.3s,baz=105,slow=10,SNR=14							
GEYT				Sn		Sn	15 38 46.5	-5.7
	comp=E,0.4nm,0.3s,baz=74,slow=17,SNR=4.1							
KKN	Kakani	13.79	139	*e*P		Pn	15 36 30.7	-0.1
	comp=E,11nm,0.4s							
DMN	Daman	13.85	140	*e*P		Pn	15 36 32.4	+0.7
	comp=E,10nm,0.4s							
PKIN	Phulchoki	14.02	139	*e*P		Pn	15 36 33.3	-0.8
	comp=E,9.4nm,0.4s							
VOSK	Vostochnaya	14.35	350	⇑Pn		Pn	15 36 37.0	-1.2
	comp=E,3.0nm,0.6s							
BVA0	Borovoye Array	14.73	349	⇑Pn		P	15 36 47.2	-2.1
	comp=E,4.2nm,0.6s,baz=157,slow=10.0,SNR=26							
BVA0	Borovoye Array	14.73	349	*i* P		P	15 36 50.4	+1.1
BVA0				pmax		pmax		
	comp=Z,4.0nm,0.6s							
BVAR	Borovoye Array	14.73	349	Pn		Pn	15 36 41.1	-2.2
	comp=Z,0.1nm,0.3s,baz=158,slow=14,SNR=4.4							
BVAR				Lg		Lg	15 40 52.4	
	baz=145,slow=31,SNR=5.2							
BRVK	Borovoye	14.78	349	*d* iP		P	15 36 49.2	-0.6
ZRNK	Zerenda	14.90	346	⇑Pn		Pn	15 36 43.2	-2.4
	comp=Z,2.4nm,0.8s							
ZRNK	Zerenda	14.90	346	*e*P		Pn	15 36 44.5	-1.1
ZRNK	Zerenda	14.90	346	*e*Pn		Pn	15 36 44.5	-1.1
AB31	Akbulak array	15.16	319	Pn		Pn	15 36 45.9	-3.3
	comp=Z,2.5nm,0.7s,baz=129,slow=12,SNR=36							
ZAA0	Zalesovo Array	16.68	20	*e*Pn		Pn	15 37 06.2	-2.5
ZALV	Zalesovo Beam	16.68	20	Pn		Pn	15 37 05.7	-3.0
	baz=207,slow=10,SNR=5.6							
AKTO	Aktyubinsk	16.88	320	Pn		Pn	15 37 10.3	-0.8
	comp=Z,0.6nm,0.3s,baz=115,slow=17,SNR=13							
AKTO				LR		LR	15 44 06.1	
	comp=Z,74nm,18.9s,baz=136,slow=39							
AKTO	Aktyubinsk	16.88	320	⇑Pn		Pn	15 37 11.9	+0.8
	comp=Z,4.1nm,0.6s							
GTA	Gaotai	19.23	80	*e*P		Pn	15 37 40.1	-0.2
GTA				pP		pP	15 37 43.3	-1.6
GTA				sP		sP	15 37 46.1	-1.4
GTA				PMZ				
	comp=Z,3.0nm,1.0s							
WSAR	Wadi Sarin	20.81	227	P		P	15 37 56.5	+0.2
	comp=Z,6.8nm,0.9s,baz=66,slow=8.7,SNR=5.5							
ARU	Arti	20.89	334	P		P	15 37 57.3	+0.3
	comp=Z,7.7nm,0.5s,baz=121,slow=7.3,SNR=5.8							
ARU				LR		LR	15 46 22.7	
	comp=Z,55nm,19.1s,baz=124,slow=38							
ARU	Arti	20.89	334	*d* iP		Pn	15 37 58.7	-0.8
ARU							15 38 15.5	
ARU				S		S	15 41 48.5	-0.3
ARU				SS		SnSn	15 42 07.4	-2.1
ARU				pmax		pmax		
	comp=Z,12nm,1.0s							
ARU	Arti	20.89	334	*e*P		Pn	15 37 58.6	-0.9
	comp=Z,9.6nm,0.6s							
ZAK	Zakamensk	23.13	50	*e*P		P	15 38 19.1	-2.0
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.6s							
NCK	Nalchik	24.13	292	⇑*e*P		P	15 38 32.8	+2.0
SONM	Songino Array	24.45	58	P		P	15 38 34.8	+1.0
	comp=Z,1.0nm,0.7s,baz=256,slow=9.7,SNR=5.7							
SONM				LR		LR	15 48 15.9	
	comp=Z,80nm,19.2s,baz=213,slow=37							
KBZ	Khabaz	24.64	292	LR		LR	15 50 12.5	
	comp=Z,31nm,19.6s,baz=174,slow=41							
CD2	Chengdu	24.73	99

NOA	**NORSAR Array B**	**44.65**	**322**	P		**P**	**15 41 25.9**	**-1.3**
	comp=Z,2.8nm,0.7s,baz=91,slow=7.9,SNR=9.9							
NOA				LR		LR	16 00 44.5	
	comp=Z,29nm,19.4s,baz=35,slow=37							
NOA	**NORSAR Array B**	**44.65**	**322**	P		**P**	**15 41 26.0**	**-1.3**
TORD	**Torodi Ar. Bea**	**68.97**	**270**	P		**P**	**15 44 18.8**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=50,slow=5.8,SNR=12							
COLD	**Coldfoot**	**68.99**	**17**	*e*P		**P**	**15 44 18.8**	**-0.9**
	comp=Z,2.4nm,0.8s							
ILAR	**Eielson Array**	**71.79**	**18**	P		**P**	**15 44 35.6**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=308,slow=4.1,SNR=8.3							
YKA	**Yellowknife Ar**	**78.89**	**5**	P		**P**	**15 45 17.0**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=346,slow=5.6,SNR=21							
YKA	**Yellowknife Ar**	**78.89**	**5**	P		**P**	**15 45 17.0**	**-0.7**
WRA	**Warramunga Arr**	**80.48**	**125**	P		**P**	**15 45 25.8**	**-1.1**
	comp=Z,2.1nm,1.1s,baz=330,slow=5.4,SNR=9.0							
ASAR	**Alice Springs**	**82.92**	**128**	P		**P**	**15 45 39.0**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=315,slow=5.3,SNR=13							
ASAR	**Alice Springs**	**82.92**	**128**	P		**P**	**15 45 39.0**	**-0.8**

WEL 21 15:37:47.0±0.1,**43.60S**×**172.52E**,**h8**km±1km,**ML3.5**/14,
1C-2D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.08**	**73**	PG	Pg	15 37 49.1	0.0
CRLZ				SG	Sg	15 37 50.7	+0.1
CRLZ				AML	AML	15 37 51.0	
CRLZ				AML	AML	15 37 51.1	
CRLZ				AML	AML	15 37 51.1	
MQZ	**McQueen's Vall**	**0.15**	**138**	⇑PG	Pg	15 37 50.2	+0.1
MQZ				SG	Sg	15 37 52.5	+0.2
MQZ				AML	AML	15 37 52.8	
OXZ	**Oxford**	**0.44**	**308**	P*	Pg	15 37 55.3	-0.3
LTZ	**Lake Taylor**	**0.84**	**347**	P*	Pg	15 38 02.9	-0.2
LTZ				AML	AML	15 38 15.5	
RPZ	**Rata Peaks**	**1.07**	**263**	P*	Pg	15 38 06.6	-0.9
RPZ				AML	AML	15 38 26.3	
RPZ				AML	AML	15 38 26.7	
INZ	**Inchbonnie**	**1.17**	**318**	P*	Pb	15 38 09.0	-0.5
KHZ	**Kahutara**	**1.40**	**33**	PN	Pn	15 38 10.5	-2.2
WVZ	**Waitaha Valley**	**1.40**	**291**	PN	Pn	15 38 11.6	-1.1
WVZ				AML	AML	15 38 35.3	
WVZ				AML	AML	15 38 38.0	
THZ	**Tophouse**	**1.86**	**9**	⇓PN	Pn	15 38 17.3	-1.8
THZ				AML	AML	15 38 50.9	
THZ				AML	AML	15 38 58.9	
LBZ	**Lake Benmore**	**1.86**	**244**	PN	Pn	15 38 18.4	-0.7
LBZ				AML	AML	15 38 52.0	
LBZ				AML	AML	15 38 53.5	
DSZ	**Denniston Nort**	**1.93**	**344**	PN	Pn	15 38 18.6	-1.5
DSZ				AML	AML	15 38 50.8	
DSZ				AML	AML	15 38 50.8	
DSZ				AML	AML	15 38 52.2	
DSZ				AML	AML	15 38 52.3	
FOZ	**Fox Glacier**	**1.96**	**271**	⇓PN	Pn	15 38 20.6	+0.1
ODZ	**Otahua Downs**	**1.97**	**222**	AML	AML	15 38 56.5	
ODZ				AML	AML	15 38 57.8	
BSWZ	**Blackbirch Sta**	**2.13**	**28**	PN	Pn	15 38 21.2	-1.7
TUWZ	**Tuamarina**	**2.41**	**26**	PN	Pn	15 38 25.3	-1.3
NNZ	**Nelson**	**2.46**	**15**	PN	Pn	15 38 25.9	-1.5
HHSZ	**Highcliff Hill**	**2.66**	**210**	PN	Pn	15 38 29.0	-1.2
JCZ	**Jackson Bay**	**2.74**	**259**	PN	Pn	15 38 31.3	-0.1
JCZ				AML	AML	15 39 23.2	
QRZ	**Quartz Range**	**2.77**	**0**	PN	Pn	15 38 29.7	-1.9
QRZ				AML	AML	15 38 42.5	
BHW	**Baring Head**	**2.80**	**39**	PN	Pn	15 38 29.0	-2.9
WKZ	**Wanaka**	**2.80**	**243**	PN	Pn	15 38 33.3	+1.3
EAZ	**Earnscleugh**	**2.82**	**234**	PN	Pn	15 38 30.7	-1.6
EAZ				AML	AML	15 39 22.0	
EAZ				AML	AML	15 39 22.1	
PLWZ	**Palliser**	**2.86**	**46**	PN	Pn	15 38 30.0	-3.0
CAW	**Cannon Point**	**3.12**	**38**	PN	Pn	15 38 33.5	-3.0
CAW				AML	AML	15 39 11.5	
CAW				AML	AML	15 39 12.3	
TUZ	**Tuapeka**	**3.13**	**220**	PN	Pn	15 38 34.8	-1.6
TUZ				AML	AML	15 39 32.8	
TUZ				AML	AML	15 39 39.0	
KIW	**Kapiti Island**	**3.26**	**34**	PN	Pn	15 38 35.9	-2.4
MTW	**Mount Morrison**	**3.29**	**43**	PN	Pn	15 38 35.6	-3.1
OGWZ	**Otaki Gorge**	**3.41**	**36**	PN	Pn	15 38 37.3	-3.0
MRZ	**Mangatainoka R**	**3.71**	**39**	PN	Pn	15 38 41.2	-3.4
SYZ	**Scrubby Hill**	**3.79**	**218**	PN	Pn	15 38 44.9	-0.7
WHZ	**Wether Hill Ro**	**3.98**	**233**	PN	Pn	15 38 47.3	-1.0
BFZ	**Birch Farm**	**4.02**	**45**	PN	Pn	15 38 45.7	-3.1
DCZ	**Deep Cove**	**4.26**	**242**	PN	Pn	15 38 52.9	+0.8
VRZ	**Vera Road**	**4.78**	**21**	PN	Pn	15 38 59.2	0.0

*DDA **21** 15:38:50.8, 38˚.30N×28˚.67E, h7km, Md2.8*
*ISK **21** 15:38:50.2, 38˚.31N×28˚.64E, h3km, MD2.8*
*CSEM **21** 15:38:51.0±0.1, 38˚.30N×28˚.65E, h2km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.6km az=78.0*
ISC 21 15:38:51.1±1.1,**38˚.30N**±0˚.02×**28˚.63E**±0˚.02,**h5**km±10km,
n34,σ0°54/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.21**	**6**	*e*PG	**Pg**	**15 38 55.4**	**+0.1**
KULA				*e*SG	**Sg**	**15 38 58.8**	**+0.7**
KULA	**Kula-Manisa**	**0.21**	**6**	*e*Pg	**Pg**	**15 38 55.4**	**+0.1**
KULA				*e*Sg	**Sg**	**15 38 58.8**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**239**	*e*PG	**Pg**	**15 39 04.2**	**-0.1**
AYDB				*e*SG	**Sb**	**15 39 14.7**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**239**	*e*Pg	**Pg**	**15 39 04.2**	**-0.1**
AYDB				*e*Sg	**Sb**	**15 39 14.7**	**-0.8**
DNZL	**Cakiroluk**	**0.69**	**152**	P	**Pg**	**15 39 04.6**	**+0.1**
DNZL				S	**Sg**	**15 39 14.1**	**+0.6**
DNZL	**Cakiroluk**	**0.69**	**152**	*i* P	**Pg**	**15 39 04.6**	**+0.1**
DNZL				*i* S	**Sg**	**15 39 14.1**	**+0.6**
KHL	**Karahalli**	**0.70**	**88**	*e*PG	**Pg**	**15 39 04.6**	**0.0**
KHL	**Karahalli**	**0.70**	**88**	*e*Pg	**Pg**	**15 39 04.6**	**0.0**
DEMI	**Demirci**	**0.74**	**5**	P	**Pg**	**15 39 05.0**	**-0.4**
DEMI				S	**Sg**	**15 39 15.3**	**+0.3**
DEMI	**Demirci**	**0.74**	**5**	*i* P	**Pg**	**15 39 05.0**	**-0.4**
DEMI				*i* S	**Sg**	**15 39 15.3**	**+0.3**
AKS	**Akhisar**	**0.86**	**312**	*e*PG	**Pg**	**15 39 07.4**	**-0.2**
AKS				*e*SG	**Sb**	**15 39 20.2**	**-0.3**
AKS	**Akhisar**	**0.86**	**312**	*e*Pg	**Pg**	**15 39 07.4**	**-0.2**
AKS				*e*Sg	**Sb**	**15 39 20.2**	**-0.3**
GDZ	**Gediz**	**1.03**	**40**	P	**Pg**	**15 39 10.2**	**-0.6**
GDZ				S	**Sb**	**15 39 24.8**	**-0.6**
GDZ	**Gediz**	**1.03**	**40**	*i* P	**Pg**	**15 39 10.2**	**-0.6**
GDZ				*i* S	**Sb**	**15 39 24.8**	**-0.6**
IZM	**Izmir**	**1.08**	**275**	*e*PG	**Pg**	**15 39 11.8**	**0.0**
IZM	**Izmir**	**1.08**	**275**	*e*Pg	**Pg**	**15 39 11.8**	**0.0**
GOLH	**Golhisar**	**1.29**	**145**	P	**Pg**	**15 39 14.7**	**-1.3**
GOLH				S	**Sn**	**15 39 34.8**	**+1.0**
GOLH	**Golhisar**	**1.29**	**145**	*i* P	**Pg**	**15 39 14.7**	**-1.3**
GOLH				*i* S	**Sn**	**15 39 34.8**	**+1.0**
TVSB	**Tavsanli**	**1.31**	**29**	*e*PN	**Pg**	**15 39 15.7**	**-0.6**
TVSB	**Tavsanli**	**1.31**	**29**	*e*Pn	**Pg**	**15 39 15.7**	**-0.6**
DGB	**˙zmir**	**1.40**	**260**	*i* P	**Pb**	**15 39 17.6**	**-0.1**
DGB				*i* S	**Sg**	**15 39 36.0**	**-0.1**
BALB	**Balikesir**	**1.46**	**337**	*e*PN	**Pn**	**15 39 18.1**	**-0.1**
BALB	**Balikesir**	**1.46**	**337**	*e*Pn	**Pn**	**15 39 18.1**	**-0.1**
DKL	**Dikili**	**1.55**	**300**	*e*PN	**Pb**	**15 39 19.9**	**-0.5**
DKL	**Dikili**	**1.55**	**300**	*e*Pn	**Pb**	**15 39 19.9**	**-0.5**
ZEY	**˙zmir**	**1.68**	**268**	*i* P	**Pg**	**15 39 23.5**	**+0.2**
ZEY				*i* S	**Sg**	**15 39 44.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.97**	**354**	*e*PN	**Pn**	**15 39 25.7**	**+0.4**
KCTX	**Karacabey (Bur**	**1.97**	**354**	*e*Pn	**Pn**	**15 39 25.7**	**+0.4**
CAVI	**Cavuskoy**	**2.12**	**26**	*e*PN	**Pn**	**15 39 27.8**	**+0.5**
CAVI	**Cavuskoy**	**2.12**	**26**	*e*Pn	**Pn**	**15 39 27.8**	**+0.5**
IZI	**Iznik**	**2.13**	**18**	*e*PN	**Pn**	**15 39 27.8**	**+0.2**
IZI	**Iznik**	**2.13**	**18**	*e*Pn	**Pn**	**15 39 27.8**	**+0.2**
ARMT	**Armutlu**	**2.27**	**4**	*e*PN	**Pn**	**15 39 29.9**	**+0.6**
ARMT	**Armutlu**	**2.27**	**4**	*e*Pn	**Pn**	**15 39 29.9**	**+0.6**

*IDC **21** 15:47:38.8±1.6, 36˚.14N×142˚.62E, h0km, mb3.8/5, mb1 3.7/11, mb1mx3.5/51, mbtmp3.8/11, ML3.3/6, MS3.4/4, Ms1 3.4/4, ms1mx2.8/44, Error ellipse: s-maj=40.0km s-min=17.4km az=71.0*
*ISCJB **21** 15:47:39.1±0.6, 36˚.15N±0˚.04×142˚.57E±0˚.06, h18km, mb3.9/8, MS3.6/3, Error ellipse: s-maj=7.0km s-min=5.4km az=178.9*

*NEIC **21** 15:47:39.6±0.7, 36˚.15N×142˚.67E, h10km, mb4.3/3, Error ellipse: s-maj=11.9km s-min=7.5km az=91.0*
*JMA **21** 15:47:41.7±0.1, 36˚.20N×142˚.49E, h71km, M3.2*
ISC 21 15:47:40.1±0.9,**36˚.10N**±0˚.05×**142˚.64E**±0˚.08,**h18**km,**n34,**
σ2°03/41, mb3.8/8, MS3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.50**	**255**	P	**Pn**	**15 48 06.0**	**-0.1**
JHO	**Hitachi**	**1.75**	**288**	P	**Pn**	**15 48 08.4**	**-1.1**
JHO				*e*S	**Sn**	**15 48 28.4**	**-2.9**
ONAJ	**Iwakimizuishiy**	**1.79**	**304**	P	**Pn**	**15 48 08.5**	**-1.6**
JFK	**Kawauchi**	**1.90**	**312**	P	**Pn**	**15 48 10.0**	**-1.6**
BSO1	**Boso 1**	**1.98**	**224**	P	**Pn**	**15 48 13.4**	**+1.2**
BSO1				*e*S	**Sn**	**15 48 36.9**	**+0.6**
JFT	**Otama**	**2.33**	**308**	P	**Pn**	**15 48 16.8**	**-0.7**
JFT				*e*S	**Sn**	**15 48 42.9**	**-2.8**
JAG	**Ashikaga**	**2.60**	**278**	P	**Pn**	**15 48 20.8**	**-0.4**
JAG				*e*S	**Sn**	**15 48 49.7**	**-2.6**
JOD2	**Odawara 2**	**3.01**	**255**	P	**Pn**	**15 48 26.9**	**0.0**
JRY	**Ryogami san**	**3.03**	**269**	P	**Pn**	**15 48 26.8**	**-0.4**
JRY				*e*S	**Sn**	**15 49 00.8**	**-2.2**
JMK	**Ichinoseki**	**3.06**	**339**	P	**Pn**	**15 48 27.2**	**-0.3**
JYK	**Kaneyama**	**3.35**	**328**	P	**Pn**	**15 48 31.0**	**-0.5**
MJAR	**Matsushiro Arr**	**3.61**	**278**	Pn	**Pn**	**15 48 35.1**	**+0.1**
	2.9nm,0.3s,baz=90,slow=15,SNR=29						
MJAR				LR	LR	15 50 03.6	
	comp=Z,70nm,19.7s,baz=170,slow=41						
MAJO	**Matsushiro**	**3.61**	**278**	*e*Pn	**Pn**	**15 48 35.7**	**+0.6**
MAT	**Matsushiro**	**3.61**	**278**	P	**Pn**	**15 48 35.0**	**-0.1**
MAT				*e*S	**Sn**	**15 49 12.8**	**-4.4**
JHJ2	**Mitsune**	**3.79**	**219**	*e*Pn	**Pn**	**15 48 38.4**	**+1.0**
JHJ	**Hachijo jima 2**	**3.80**	**219**	Pn	**Pn**	**15 48 38.2**	**+0.6**
	5.7nm,0.3s,baz=75,slow=20,SNR=3.0						
JHJ				Sn	**Sn**	**15 49 19.2**	**-2.6**
	23nm,0.3s,baz=84,slow=15,SNR=7.2						
ERM	**Erimo**	**5.92**	**4**	*e*Pn	**Pn**	**15 49 05.4**	**-1.4**
ASAJ	**Asahikawa**	**8.01**	**360**	Pn	**Pn**	**15 49 35.2**	**-0.2**
	0.5nm,0.3s,baz=184,slow=14,SNR=7.6						
ASAJ				Sn	**Sn**	**15 51 03.0**	**-2.5**
	0.2nm,0.3s,baz=233,slow=20,SNR=3.4						
CBIJ	**Chichi jima**	**8.99**	**183**	*e*Pn	**Pn**	**15 49 48.9**	**0.0**
CBIJ				Sn	**Sn**	**15 51 24.1**	**-5.6**
JCJ	**Chichijima**	**8.99**	**183**	Pn	**Pn**	**15 49 48.6**	**-0.3**
	2.9nm,0.3s,baz=270,slow=22,SNR=9.5						
JCJ				Sn	**Sn**	**15 51 24.1**	**-5.7**
	baz=0.0,slow=20						
USRK	**Ussuriysk Ar.**	**11.47**	**318**	Pn	**Pn**	**15 50 23.9**	**+1.0**
	0.2nm,0.3s,baz=132,slow=12,SNR=4.7						
KSRS	**Korea Array**	**11.88**	**281**	Pn	**Pn**	**15 50 29.5**	**+1.0**
	0.1nm,0.3s,baz=99,slow=14,SNR=4.4						
KSAR	**Wonju Array Be**	**11.91**	**281**	Pn	**Pn**	**15 50 29.5**	**+0.6**
YAK	**Yakutsk**	**27.20**	**347**	LR	LR	16 06 24.8	
	comp=Z,58nm,18.1s,baz=260,slow=42						
ENH	**Enshi**	**28.26**	**268**	*e*P	**P**	**15 53 33.3**	**+1.0**
	2.5nm,0.6s						
ULN	**Ulaanbaatar**	**28.70**	**305**	*e*P	**P**	**15 53 37.3**	**+1.2**
	1.4nm,0.9s						
SONM	**Songino Array**	**29.13**	**305**	P	**P**	**15 53 42.0**	**+2.0**
	1.3nm,0.7s,baz=106,slow=9.2,SNR=11						
ZALV	**Zalesovo Beam**	**43.27**	**313**	P	**P**	**15 55 40.8**	**+0.5**
	0.5nm,0.4s,baz=94,slow=6.4,SNR=2.5						
MKAR	**Makanchi Array**	**45.45**	**303**	P	**P**	**15 55 58.9**	**+1.0**
	1.3nm,0.7s,baz=88,slow=11,SNR=10						
KURK	**Kurkatov**	**47.28**	**309**	*e*P	**P**	**15 56 12.8**	**+0.6**
	20nm,0.9s						
WRA	**Warramunga Arr**	**56.29**	**189**	P	**P**	**15 57 21.5**	**+1.9**
	1.1nm,1.1s,baz=7.4,slow=7.4,SNR=3.0						
ASAR	**Alice Springs**	**60.02**	**189**	P	**P**	**15 57 48.0**	**+2.3**
	0.5nm,0.9s,baz=9.1,slow=6.5,SNR=2.7						
DZM	**Mont Dzumac**	**62.09**	**155**	LR	LR	16 23 15.1	
	comp=Z,160nm,19.9s,baz=34,slow=34						
AKASG	**Malin Array Be**	**75.64**	**323**	LR	LR	16 34 31.1	
	comp=Z,28nm,18.7s,baz=280,slow=37						

*ISCJB **21** 15:51:16.7±0.4, 24˚.43N±0˚.03×121˚.76E±0˚.02, h71km±5km, Error ellipse: s-maj=5.1km s-min=2.7km az=151.7*
*JMA **21** 15:51:16.2±0.1, 24˚.37N×121˚.70E, h65km±1km, M3.1*
*TAP **21** 15:51:17.0, 24˚.41N×121˚.71E, h65km, ML3.7, B*
ISC 21 15:51:17.6±1.3,**24˚.42N**±0˚.03×**121˚.75E**±0˚.03,**h65**km±7km,
n59,σ0°89/93, 11C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.01**	**325**	⇓P	**Pn**	**15 51 26.7**	**-0.4**
	baz=63						
TWC	**Suao**	**0.21**	**25**	⇓*i*P	**Pn**	**15 51 27.7**	**+0.1**
	baz=34						
TWC				S	**Sn**	**15 51 36.0**	**+1.1**
	baz=34						
ENTT	**Nioudou**	**0.28**	**323**	⇓*i*P	**Pn**	**15 51 27.9**	**-0.2**
	baz=332						
ENTT				S	**Sn**	**15 51 35.5**	**-0.2**
	baz=332						
TWE	**Neicheng**	**0.31**	**346**	P	**Pn**	**15 51 28.5**	**+0.2**
	baz=351						
TWE				S	**Sn**	**15 51 36.3**	**+0.2**
	baz=351						
NNS	**Nan Shan**	**0.34**	**274**	⇓*i*P	**Pn**	**15 51 28.3**	**-0.3**
	baz=276						
NNS				S	**Sn**	**15 51 35.9**	**-0.8**
	baz=276						
ILA	**Ilan**	**0.35**	**360**	P	**Pn**	**15 51 29.2**	**+0.7**
	baz=360						
ILA				*e*S	**Sn**	**15 51 38.0**	**+1.5**
	baz=360						
TWD	**Chiawan**	**0.36**	**203**	⇓P	**Pn**	**15 51 27.5**	**-1.1**
	baz=203						
NSK	**Sanguang**	**0.44**	**306**	⇑*i*P	**Pn**	**15 51 29.0**	**-0.5**
	baz=307						
NSK				S	**Sn**	**15 51 37.1**	**-1.0**
	baz=307						
HWA	**Hwalien**	**0.46**	**197**	*e*P	**Pn**	**15 51 29.2**	**-0.3**
	baz=200						
EGS		**0.46**	**21**	⇓*i*P	**Pn**	**15 51 30.3**	**+0.8**
	baz=32						
EGS				*e*S	**Sn**	**15 51 40.1**	**+1.9**
	baz=32						
WHF	**Hehuan Shan**	**0.52**	**239**	⇑P	**Pn**	**15 51 30.0**	**-0.6**
	baz=234						
WHF				*e*S	**Sn**	**15 51 38.9**	**-1.1**
	baz=234						
TWT	**Tachien**	**0.55**	**253**	⇑*i*P	**Pn**	**15 51 30.6**	**0.0**
	baz=250						
TWT				*i* S	**Sn**	**15 51 40.3**	**+0.2**
	baz=250						
TWA	**Mucha**	**0.58**	**345**	*e*P	**Pn**	**15 51 30.1**	**-0.7**
	baz=339						
TWB1	**Santiao Chiao**	**0.63**	**20**	⇓*i*P	**Pn**	**15 51 31.7**	**+0.4**
	baz=14						
TWB1				S	**Sn**	**15 51 42.2**	**+0.9**
	baz=14						
NWF	**Wu-fen Shan**	**0.65**	**2**	⇑P	**Pn**	**15 51 31.7**	**0.0**
	baz=354						
NWF				*e*S	**Sn**	**15 51 43.2**	**+1.2**
	baz=354						
TAP1	**Taipei**	**0.66**	**342**	*e*P	**Pn**	**15 51 30.8**	**-0.8**
	baz=343						
TAP1				*e*S	**Sn**	**15 51 40.8**	**-1.1**
	baz=343						
TAP	**Taipei**	**0.66**	**340**	*e*P	**Pn**	**15 51 30.8**	**-0.9**
	baz=336						
ESL	**Shilin**	**0.67**	**206**	*e*P	**Pn**	**15 51 29.8**	**-1.9**
	baz=198						
NSTT	**Nanjuang**	**0.72**	**288**	⇑*i*P	**Pn**	**15 51 31.8**	**-0.5**
	baz=289						
NSTT				*e*S	**Sn**	**15 51 42.5**	**-0.6**
	baz=289						
TWS1	**Kuangyinshan**	**0.75**	**336**	⇑*i*P	**Pn**	**15 51 32.3**	**-0.4**
	baz=338						
TWS1				S	**Sn**	**15 51 43.7**	**-0.1**
	baz=338						
NCU	**National Centr**	**0.75**	**317**	⇑*i*P	**Pn**	**15 51 32.4**	**-0.3**
	baz=319						
NCU				*e*S	**Sn**	**15 51 43.5**	**-0.5**
	baz=319						
HSN	**Hsinchu**	**0.81**	**299**	*e*P	**Pn**	**15 51 32.3**	**-1.1**
	baz=303						
TWY	**Chenhua**	**0.87**	**351**	*e*P	**Pn**	**15 51 33.5**	**-0.6**
	baz=344						
TWQ1	**Liyutan**	**0.89**	**266**	⇑*i*P	**Pn**	**15 51 34.0**	**-0.5**
	baz=266						
NSY	**Sanyi**	**0.90**	**270**	⇑P	**Pn**	**15 51 34.3**	**-0.3**
	baz=271						
NSY				*e*S	**Sn**	**15 51 47.1**	**0.0**
	baz=271						
SMLT	**Sun Moon Lake**	**0.94**	**236**	P	**Pn**	**15 51 35.5**	**+0.4**
	baz=235						
SMLT				*e*S	**Sn**	**15 51 49.1**	**+1.0**
	baz=235						
TYC	**Yuchr**	**0.96**	**238**	⇑*i*P	**Pn**	**15 51 35.5**	**+0.3**
	baz=238						
TYC				*e*S	**Sn**	**15 51 49.4**	**+0.9**
	baz=238						
EHY	**Hungye**	**0.99**	**204**	*e*P	**Pn**	**15 51 34.4**	**-1.3**
	baz=195						
TCU	**Taichung**	**1.02**	**255**	*e*P	**Pn**	**15 51 35.4**	**-0.6**
	baz=254						
JYNG	**Yonagunijimaku**	**1.09**	**88**	P	**Pn**	**15 51 36.6**	**-0.3**
JYNG				S	**Sn**	**15 51 51.1**	**-0.3**
WNT	**Mingjian**	**1.11**	**241**	*e*P	**Pn**	**15 51 36.7**	**-0.6**
	baz=251						
YOJ	**Yonaguni jima**	**1.15**	**87**	P	**Pn**	**15 51 37.3**	**-0.4**
YOJ				*e*S	**Sn**	**15 51 52.8**	**0.0**
YOJ	**Yonaguni jima**	**1.15**	**87**	*e*P	**Pn**	**15 51 37.3**	**-0.4**
	baz=78						
YOJ				*e*S	**Sn**	**15 51 52.4**	**-0.3**
	baz=78						
YUS	**Yu-Shan**	**1.18**	**219**	*e*P	**Pn**	**15 51 38.4**	**-0.2**
	baz=211						
PCYT	**Pengchaiyu**	**1.24**	**13**	*e*P	**Pn**	**15 51 39.4**	**+0.4**
	baz=13						
PCYT				*e*S	**Sn**	**15 51 56.4**	**+1.4**
	baz=13						
ALS	**Alishan**	**1.25**	**224**	⇑P	**Pn**	**15 51 39.8**	**+0.5**
	baz=234						
ALS				*e*S	**Sn**	**15 51 56.9**	**+1.4**
	baz=234						
CHN5	**Tsauling**	**1.27**	**231**	*e*P	**Pn**	**15 51 39.5**	**0.0**
	baz=240						
CHN5				*e*S	**Sn**	**15 51 57.1**	**+1.2**
	baz=240						
WGK	**Gukeng**	**1.31**	**236**	*e*P	**Pn**	**15 51 40.0**	**+0.2**
	baz=246						
CHKT	**Chengkung**	**1.36**	**195**	*e*P	**Pn**	**15 51 38.9**	**-1.6**
	baz=194						
ELDTW	**Lidau**	**1.39**	**209**	*e*P	**Pn**	**15 51 40.0**	**-1.0**
	baz=201						
WTCT	**Ta-ch'eng**	**1.45**	**248**	*e*P	**Pn**	**15 51 40.9**	**-0.8**
	baz=257						
CHY	**Chiayi**	**1.52**	**233**	*e*P	**Pn**	**15 51 42.2**	**-0.4**
	baz=243						
STYT	**Tauyuan**	**1.54**	**216**	*e*P	**Pn**	**15 51 43.6**	**+0.5**
	baz=208						
STYT				*e*S	**Sn**	**15 52 05.0**	**+2.8**
	baz=208						
WTP	**Ta-pu**	**1.56**	**222**	*e*P	**Pn**	**15 51 43.0**	**-0.2**
	baz=232						
WSF	**Szhu**	**1.60**	**241**	*e*P	**Pn**	**15 51 42.7**	**-0.9**
	baz=241						
TWK	**Hsinying**	**1.63**	**226**	*e*P	**Pn**	**15 51 44.9**	**+0.7**
	baz=224						
CHN1	**Nanshi**	**1.66**	**223**	*e*P	**Pn**	**15 51 44.5**	**-0.1**
	baz=235						
CHN1				*e*S	**Sn**	**15 52 04.9**	**0.0**
	baz=235						
SGST	**Jiashian**	**1.71**	**219**	*e*P	**Pn**	**15 51 45.9**	**+0.8**
	baz=231						
SGST				*e*S	**Sn**	**15 52 07.2**	**+1.2**
	baz=231						
TWG	**Pinlang**	**1.71**	**202**	*e*P	**Pn**	**15 51 44.1**	**-1.1**
	baz=192						
IRIF	**Iriomote-Funau**	**1.81**	**92**	P	**Pn**	**15 51 45.7**	**-0.8**
IRIF				S	**Sn**	**15 52 07.6**	**-0.8**
HATJ	**Hateruma jima**	**1.91**	**100**	P	**Pn**	**15 51 48.2**	**+0.4**
HATJ				S	**Sn**	**15 52 11.4**	**+0.5**
SSD	**Sandimen**	**1.95**	**212**	*e*P	**Pn**	**15 51 49.4**	**+0.9**
	baz=212						
SSD				*e*S	**Sn**	**15 52 12.6**	**+0.6**
	baz=212						
JKRS	**Kuro-shima**	**2.07**	**94**	P	**Pn**	**15 51 49.9**	**-0.1**
JKRS				S	**Sn**	**15 52 13.9**	**-0.8**
PNG	**Penghu**	**2.18**	**248**	*e*P	**Pn**	**15 51 49.2**	**-2.3**
	baz=247						
JIJ	**Ishigaki jima**	**2.18**	**91**	P	**Pn**	**15 51 50.6**	**-1.0**
JIJ				S	**Sn**	**15 52 16.4**	**-1.1**
EAST	**Anshuo**	**2.19**	**202**	*e*P	**Pn**	**15 51 52.6**	**+0.9**
	baz=195						
SCZT	**Fangliau**	**2.28**	**207**	*e*P	**Pn**	**15 51 54.4**	**+1.4**
	baz=218						
JISG	**Ishigakijimahi**	**2.34**	**85**	P	**Pn**	**15 51 53.0**	**-0.7**
JISG				S	**Sn**	**15 52 20.3**	**-1.0**
JTJ	**Tarama**	**2.70**	**85**	P	**Pn**	**15 51 58.8**	**+0.2**
JTJ				S	**Sn**	**15 52 31.1**	**+1.0**

*NEIC **21** 15:52:10.8, 43˚.85S×172˚.67E, h5km, ML4.0(WEL), After WEL.*
*NEIC

NNZ					AML	AML	15 53 30.8	
NNZ	**Nelson**	**2.46**	**15**		Pn	Pn	15 52 53.7	-1.5
HHSZ	**Highcliff Hill**	**2.67**	**210**		PN	Pn	15 52 56.5	-1.6
HHSZ	**Highcliff Hill**	**2.67**	**210**		Pn	Pn	15 52 56.5	-1.6
TCW	**Tory Channel**	**2.71**	**29**		PN	Pn	15 52 56.3	-2.4
TCW					AML	AML	15 53 37.1	
TCW					AML	AML	15 53 42.8	
TCW	**Tory Channel**	**2.71**	**29**		Pn	Pn	15 52 56.3	-2.4
JCZ	**Jackson Bay**	**2.75**	**259**		PN	Pn	15 52 58.0	-1.3
JCZ					AML	AML	15 53 49.3	
JCZ					AML	AML	15 53 55.9	
JCZ	**Jackson Bay**	**2.75**	**259**		Pn	Pn	15 52 58.0	-1.3
QRZ	**Quartz Range**	**2.77**	**360**		PN	Pn	15 52 57.6	-1.9
QRZ					AML	AML	15 53 46.1	
QRZ					AML	AML	15 53 51.3	
QRZ	**Quartz Range**	**2.77**	**360**		Pn	Pn	15 52 57.6	-1.9
BHW	**Baring Head**	**2.79**	**39**		PN	Pn	15 52 56.9	-2.8
BHW	**Baring Head**	**2.79**	**39**		Pn	Pn	15 52 57.0	-2.8
WKZ	**Wanaka**	**2.81**	**243**		PN	Pn	15 52 58.3	-1.8
WKZ					AML	AML	15 53 51.0	
WKZ					AML	AML	15 53 54.2	
WKZ	**Wanaka**	**2.81**	**243**		Pn	Pn	15 52 58.3	-1.8
EAZ	**Earnscleugh**	**2.83**	**234**	⇓	PN	Pn	15 52 58.6	-1.7
EAZ					AML	AML	15 53 45.8	
EAZ					AML	AML	15 53 47.5	
EAZ	**Earnscleugh**	**2.83**	**234**		Pn	Pn	15 52 58.6	-1.7
WEL	**Wellington**	**2.84**	**36**		PN	Pn	15 52 57.7	-2.8
WEL	**Wellington**	**2.84**	**36**		Pn	Pn	15 52 57.7	-2.8
PLWZ	**Palliser**	**2.85**	**46**		Pn	Pn	15 52 57.7	-3.0
PLWZ	**Palliser**	**2.85**	**46**		Pn	Pn	15 52 57.7	-3.0
MSWZ	**Moikau Station**	**2.96**	**44**		PN	Pn	15 52 59.4	-2.8
MSWZ					AML	AML	15 52 59.4	
MSWZ	**Moikau Station**	**2.96**	**44**		Pn	Pn	15 52 59.4	-2.8
DUWZ	**D'Urville Isla**	**2.98**	**21**		PN	Pn	15 53 01.3	-1.1
DUWZ	**D'Urville Isla**	**2.98**	**21**		Pn	Pn	15 53 01.3	-1.1
PAWZ	**Paruwai Farm**	**3.08**	**45**		PN	Pn	15 53 00.6	-3.2
PAWZ	**Paruwai Farm**	**3.08**	**45**		Pn	Pn	15 53 00.6	-3.2
CAW	**Cannon Point**	**3.12**	**38**	⇓	PN	Pn	15 53 01.2	-3.1
CAW					AML	AML	15 53 40.2	
CAW					AML	AML	15 53 42.0	
CAW	**Cannon Point**	**3.12**	**38**		Pn	Pn	15 53 01.2	-3.1
TUZ	**Tuapeka**	**3.13**	**220**		PN	Pn	15 53 02.7	-1.8
TUZ					AML	AML	15 53 58.2	
TUZ					AML	AML	15 54 10.3	
TUZ	**Tuapeka**	**3.13**	**220**		Pn	Pn	15 53 02.7	-1.8
TRWZ	**Traveller**	**3.21**	**48**		PN	Pn	15 53 02.6	-2.9
TRWZ	**Traveller**	**3.21**	**48**		Pn	Pn	15 53 02.6	-2.9
KIW	**Kapiti Island**	**3.25**	**34**		PN	Pn	15 53 03.7	-2.5
KIW	**Kapiti Island**	**3.25**	**34**		Pn	Pn	15 53 03.7	-2.5
MTW	**Mount Morrison**	**3.28**	**43**		PN	Pn	15 53 03.4	-3.1
MTW					AML	AML	15 53 41.8	
MTW	**Mount Morrison**	**3.28**	**43**		Pn	Pn	15 53 03.4	-3.1
OGWZ	**Otaki Gorge**	**3.40**	**36**		PN	Pn	15 53 05.0	-3.1
OGWZ	**Otaki Gorge**	**3.40**	**36**		Pn	Pn	15 53 05.0	-3.1
MSZ	**Milford Sound**	**3.48**	**250**		PN	Pn	15 53 07.7	-1.7
MSZ					AML	AML	15 54 09.0	
MSZ					AML	AML	15 54 14.8	
MSZ	**Milford Sound**	**3.48**	**250**		Pn	Pn	15 53 07.7	-1.7
HOWZ	**Holdsworth Sta**	**3.49**	**40**		PN	Pn	15 53 06.6	-2.9
HOWZ	**Holdsworth Sta**	**3.49**	**40**		Pn	Pn	15 53 06.6	-2.9
TMWZ	**Te Maipa**	**3.52**	**46**		PN	Pn	15 53 06.6	-3.2
TMWZ	**Te Maipa**	**3.52**	**46**		Pn	Pn	15 53 06.6	-3.2
MLZ	**Mavora Lakes**	**3.62**	**239**		PN	Pn	15 53 09.5	-1.8
MLZ					AML	AML	15 54 20.3	
MLZ					AML	AML	15 54 22.4	
MLZ	**Mavora Lakes**	**3.62**	**239**		Pn	Pn	15 53 09.5	-1.8
MRZ	**Mangatainoka R**	**3.71**	**39**		PN	Pn	15 53 09.1	-3.3
MRZ	**Mangatainoka R**	**3.71**	**39**		Pn	Pn	15 53 09.1	-3.3
TIWZ	**Tintock**	**3.76**	**43**		PN	Pn	15 53 10.0	-3.2
TIWZ					AML	AML	15 53 55.4	
TIWZ					AML	AML	15 53 55.7	
TIWZ	**Tintock**	**3.76**	**43**		Pn	Pn	15 53 10.0	-3.2
SYZ	**Scrubby Hill**	**3.80**	**218**		PN	Pn	15 53 12.4	-1.1
SYZ					AML	AML	15 54 23.8	
SYZ					AML	AML	15 54 27.6	
SYZ	**Scrubby Hill**	**3.80**	**218**		Pn	Pn	15 53 12.4	-1.1
WHZ	**Wether Hill Ro**	**3.99**	**233**		PN	Pn	15 53 13.5	-2.8
WHZ					AML	AML	15 54 29.0	
WHZ					AML	AML	15 54 40.7	
WHZ	**Wether Hill Ro**	**3.99**	**233**		Pn	Pn	15 53 13.5	-2.8
POWZ	**Post Office Ro**	**4.01**	**38**		PN	Pn	15 53 13.7	-2.8
POWZ	**Post Office Ro**	**4.01**	**38**		Pn	Pn	15 53 13.7	-2.8
BFZ	**Birch Farm**	**4.01**	**45**		PN	Pn	15 53 13.1	-3.5
BFZ	**Birch Farm**	**4.01**	**45**		Pn	Pn	15 53 13.1	-3.5
WAZ	**Wanganui**	**4.26**	**26**		PN	Pn	15 53 19.9	-0.1
WAZ	**Wanganui**	**4.26**	**26**		Pn	Pn	15 53 19.9	-0.1
DVHZ	**Dannevirke**	**4.27**	**41**		PN	Pn	15 53 16.3	-3.8
DVHZ	**Dannevirke**	**4.27**	**41**		Pn	Pn	15 53 16.4	-3.8
DCZ	**Deep Cove**	**4.28**	**242**		PN	Pn	15 53 18.2	-1.9
DCZ					AML	AML	15 54 36.3	
DCZ					AML	AML	15 54 42.4	
DCZ	**Deep Cove**	**4.28**	**242**		Pn	Pn	15 53 18.2	-1.9
ANWZ	**Angora Road**	**4.30**	**44**		PN	Pn	15 53 17.0	-3.5
PREZ	**Palmer Road**	**4.42**	**17**		PN	Pn	15 53 22.0	-0.3
PREZ	**Palmer Road**	**4.42**	**17**		Pn	Pn	15 53 22.0	-0.3
NWEZ	**Newall Road**	**4.43**	**14**		PN	Pn	15 53 22.0	-0.3
NWEZ	**Newall Road**	**4.43**	**14**		Pn	Pn	15 53 22.1	-0.3
KHEZ	**Kahui Hut**	**4.44**	**15**		PN	Pn	15 53 23.5	+0.9
KHEZ	**Kahui Hut**	**4.44**	**15**		Pn	Pn	15 53 23.5	+0.9
NEZ	**North Egmont**	**4.48**	**16**		PN	Pn	15 53 23.7	+0.6
NEZ	**North Egmont**	**4.48**	**16**		Pn	Pn	15 53 23.7	+0.6
PRHZ	**Porangahau**	**4.52**	**44**		PN	Pn	15 53 19.8	-3.8
PRHZ	**Porangahau**	**4.52**	**44**		Pn	Pn	15 53 19.8	-3.8
PKE	**Pukeiti**	**4.53**	**14**		PN	Pn	15 53 23.1	-0.6
PKE	**Pukeiti**	**4.53**	**14**		Pn	Pn	15 53 23.1	-0.6
APZ	**The Paps**	**4.56**	**223**		PN	Pn	15 53 22.9	-1.2
APZ	**The Paps**	**4.56**	**223**		Pn	Pn	15 53 22.9	-1.2
DREZ	**Durham Road**	**4.58**	**16**		PN	Pn	15 53 24.7	+0.4
DREZ	**Durham Road**	**4.58**	**16**		Pn	Pn	15 53 24.8	+0.4
PNHZ	**Pukenui**	**4.59**	**38**		PN	Pn	15 53 21.0	-3.5
PNHZ	**Pukenui**	**4.59**	**38**		Pn	Pn	15 53 21.0	-3.5
VRZ	**Vera Road**	**4.77**	**21**		PN	Pn	15 53 26.7	-0.3
VRZ	**Vera Road**	**4.77**	**21**		Pn	Pn	15 53 26.7	-0.3
PKVZ	**Pokaka**	**4.80**	**27**		PN	Pn	15 53 26.8	-0.6
PKVZ	**Pokaka**	**4.80**	**27**		Pn	Pn	15 53 26.8	-0.6
PXZ	**Pawanui**	**4.81**	**44**		PN	Pn	15 53 25.0	-2.6
WNVZ	**Wahianoa**	**4.85**	**29**		PN	Pn	15 53 27.1	-1.1
WNVZ	**Wahianoa**	**4.85**	**29**		Pn	Pn	15 53 27.1	-1.1
TRVZ	**Turoa**	**4.86**	**29**		PN	Pn	15 53 27.8	-0.6
TRVZ	**Turoa**	**4.86**	**29**		Pn	Pn	15 53 27.8	-0.6
KRHZ	**Kereru**	**4.89**	**37**		PN	Pn	15 53 24.5	-4.1
TUVZ	**Tukino**	**4.92**	**30**		PN	Pn	15 53 28.1	-1.2
TUVZ	**Tukino**	**4.92**	**30**		Pn	Pn	15 53 28.1	-1.1
MCHZ	**McNeill Hill**	**5.20**	**38**		PN	Pn	15 53 30.4	-2.4
MCHZ	**McNeill Hill**	**5.20**	**38**		Pn	Pn	15 53 30.4	-2.4
ARHZ	**Aropaoanui**	**5.48**	**39**		PN	Pn	15 53 34.3	-2.4
ARHZ	**Aropaoanui**	**5.48**	**39**		Pn	Pn	15 53 34.3	-2.4
MRHZ	**Matea Rd**	**5.59**	**33**		PN	Pn	15 53 33.5	-4.8
SNGZ	**Shannon Statio**	**6.02**	**39**		PN	Pn	15 53 40.0	-4.2
SNGZ	**Shannon Statio**	**6.02**	**39**		Pn	Pn	15 53 40.0	-4.2
MKAZ	**Moumakai**	**6.79**	**18**		Pn	Pn	15 53 53.0	-1.7

*DDA **21** 15:54:19.7, 36°37′N×36°36′.86E, h7km, Md2.8*
*CSEM **21** 15:54:19.7, 36°37′N×36°36′.86E, h7km, MD2.8*
*ISCJB **21** 15:54:20.5±0.5, 36°38′N±0°.04×36°89′E±0°.08, h28km±9km, Error ellipse: s-maj=12.2km s-min=3.7km az=26.0*
*NSSC **21** 15:54:20.3±1.5, 36°40′N×36°92′E, h23km±8km, ML2.0*

ISC 21 15:54:19.8±1.0, 36°36′N±0°.03×36°83′E±0°.05, h17km±9km, n15, σ0°66/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
DRWC	**Darouich**	**0.29**	**334**		*eP*	**Pb**	**15 54 27.5**	**+0.9**
DRWC					*eS*	**Sb**	**15 54 31.4**	**+0.2**
DRWC					AML	AML	15 54 34.4	
	comp=E,84nm,0.1s							
DRWC					AML	AML	15 54 35.5	
	comp=N,64nm,0.3s							
BTCH	**Batrach**	**0.44**	**223**		*eP*	**Pn**	**15 54 30.6**	**-0.7**
BTCH					*eS*	**Sn**	**15 54 37.9**	**-1.1**
BTCH					AML	AML	15 54 39.1	
	comp=N,118nm,0.2s							
BTCH					AML	AML	15 54 39.8	
	comp=E,78nm,0.1s							
KUZU	**Kuzuini**	**0.46**	**26**		P	**Pg**	**15 54 29.0**	**-0.1**
KUZU					S	**Sg**	**15 54 35.3**	**0.0**
KUZU	**Kuzuini**	**0.46**	**26**	*i*	P	**Pg**	**15 54 29.0**	**-0.1**
KUZU				*i*	S	**Sg**	**15 54 35.3**	**0.0**
YAYL	**Yayladag**	**0.67**	**241**		P	**Pg**	**15 54 32.7**	**-0.3**
YAYL					S	**Sn**	**15 54 43.8**	**-0.9**
YAYL	**Yayladag**	**0.67**	**241**	*i*	P	**Pg**	**15 54 32.7**	**-0.3**
YAYL				*i*	S	**Sn**	**15 54 43.8**	**-0.9**
KAMA	**Osmaniye**	**0.83**	**351**	*i*	P	**Pn**	**15 54 36.6**	**-0.2**
KAMA				*i*	S	**Sg**	**15 54 47.4**	**+0.3**
ARNB	**Al Arnab**	**0.85**	**234**	*eP*		**Pn**	**15 54 38.1**	**+1.0**
ARNB				*eS*		**Sn**	**15 54 50.2**	**+0.9**
ARNB					AML	AML	15 54 52.5	
	comp=N,34nm,0.4s							
ARNB					AML	AML	15 54 52.7	
	comp=E,66nm,0.1s							
WRDH	**Warideh**	**0.92**	**202**	*eP*		**Pn**	**15 54 38.5**	**+0.6**
WRDH				*eS*		**Sn**	**15 54 51.2**	**+0.5**
HCB	**Kahramanmara¯**	**0.98**	**4**	*i*	P	**Pb**	**15 54 38.6**	**+0.2**
HCB				*i*	S	**Sb**	**15 54 51.0**	**-0.1**
KFRA	**Kufra**	**1.15**	**181**	*eP*		**Pg**	**15 54 41.7**	**-0.3**
KFRA				*eS*		**Sb**	**15 54 55.9**	**+0.1**
KFRA					AML	AML	15 54 59.4	
	comp=N,66nm,0.1s							
KFRA					AML	AML	15 54 59.9	
	comp=E,284nm,0.2s							
GZT	**Gaziantep**	**1.16**	**31**	*i*	P	**Pn**	**15 54 40.8**	**-0.5**
GZT				*i*	S	**Sb**	**15 54 55.7**	**-0.5**
HAWK	**Haweek**	**1.87**	**191**	*eP*		**Pb**	**15 54 52.8**	**-0.7**
HAWK				*eS*		**Sn**	**15 55 14.1**	**-0.1**
HAWK					AML	AML	15 55 19.8	
	comp=N,34nm,0.3s							
HAWK					AML	AML	15 55 24.3	
	comp=E,16nm,0.4s							
ROOS	**tl_alroos**	**2.22**	**170**	*eP*		**Pn**	**15 54 57.2**	**+1.4**
ROOS				*eS*		**Sn**	**15 55 23.1**	**+0.1**
ROOS					AML	AML	15 55 34.0	
	comp=E,19nm,0.4s							
ROOS					AML	AML	15 55 37.1	
	comp=N,23nm,0.5s							
MARH	**Ras Al Marh**	**2.35**	**187**	*eP*		**Pn**	**15 54 58.6**	**+0.8**
MARH				*eS*		**Sn**	**15 55 25.6**	**-0.8**
MARH					AML	AML	15 55 41.9	
	comp=E,6.6nm,0.3s							
MARH					AML	AML	15 55 44.5	
	comp=N,12nm,0.4s							

*ISCJB **21** 16:02:27.3±0.8, 23°.8N±0°.2×45°.4W±0°.1, h12km, mb3.9/9, MS3.5/14, Error ellipse: s-maj=24.6km s-min=16.4km az=175.6*
*IDC **21** 16:02:27.1±1.0, 23°.77N×45°.35W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.7/53, mbtmp3.8/9, MS3.4/13, Ms1 3.5/13, ms1mx3.2/45, Error ellipse: s-maj=31.3km s-min=20.4km az=1.0*

ISC 21 16:02:28.9±0.9, 23°.8N±0°.2×45°.4W±0°.1, h12km, n25, σ0°54/9, mb4.0/9, MS3.4/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.21**	**258**	LR	LR	16 12 56.6	
	comp=Z,119nm,20.7s,baz=99,slow=31						
PCRV	**Puerto La Cruz**	**22.82**	**237**	LR	LR	16 15 50.1	
	comp=Z,99nm,21.7s,baz=70,slow=35						
RCBR	**Riachuelo**	**30.83**	**161**	LR	LR	16 17 42.5	
	comp=Z,48nm,20.3s,baz=316,slow=30						
SADO	**Sadowa**	**34.55**	**316**	LR	LR	16 21 23.6	
	comp=Z,34nm,18.6s,baz=166,slow=33						
TKL	**Tuckaleechee C**	**35.20**	**299**	LR	LR	16 21 02.2	
	comp=Z,60nm,19.1s,baz=108,slow=32						
ESDC	**Sonseca Array**	**38.25**	**56**	LR	LR	16 21 36.5	
	comp=Z,50nm,21.2s,baz=290,slow=30						
H10N2	**ASCENSION HYDR**	**43.53**	**132**	T	T	16 56 48.6	
	baz=317,slow=75,SNR=227						
H10N3	**ASCENSION HYDR**	**43.53**	**132**	T	T	16 56 47.3	
	baz=317,slow=75,SNR=241						
H10N1	**ASCENSION HYDR**	**43.55**	**132**	T	T	16 56 48.6	
	baz=317,slow=75,SNR=368						
H10S3	**ASCENSION HYDR**	**44.24**	**134**	T	T	16 57 40.5	
	baz=318,slow=75,SNR=242						
H10S1	**ASCENSION HYDR**	**44.24**	**134**	T	T	16 57 44.3	
	baz=318,slow=75,SNR=277						
H10S2	**ASCENSION HYDR**	**44.25**	**134**	T	T	16 57 45.3	
	baz=318,slow=75,SNR=200						
LPAZ	**La Paz**	**45.61**	**211**	P	**P**	**16 10 50.2**	**+0.2**
	1.2nm,0.6s,baz=1.8,slow=6.4,SNR=4.3						
TORD	**Tordi Ar. Bea**	**45.68**	**95**	P	**P**	**16 10 49.3**	**-0.6**
	1.8nm,0.9s,baz=293,slow=7.4,SNR=9.0						
TORD				LR	LR	16 27 19.0	
	comp=Z,60nm,20.0s,baz=145,slow=33						
ULM	**Lac du Bonnet**	**47.06**	**317**	LR	LR	16 30 03.7	
	comp=Z,58nm,18.6s,baz=277,slow=35						
KEST	**Kesra**	**48.41**	**63**	P	**P**	**16 11 11.2**	**+0.1**
	5.1nm,0.9s,baz=269,slow=3.5,SNR=5.1						
KEST				LR	LR	16 28 48.5	
	comp=Z,55nm,21.3s,baz=233,slow=33						
TXAR	**Lajitas Array**	**52.01**	**289**	P	**P**	**16 11 38.6**	**0.0**
	0.5nm,0.8s,baz=96,slow=8.9,SNR=6.1						
GERES	**GERESS Array B**	**52.26**	**46**	P	**P**	**16 11 40.4**	**+0.3**
	0.3nm,0.4s,baz=248,slow=5.2,SNR=4.6						
GERES				LR	LR	16 28 58.4	
	comp=Z,46nm,21.6s,baz=279,slow=30						
NOA	**NORSAR Array B**	**53.43**	**30**	LR	LR	16 30 11.3	
	comp=Z,37nm,21.8s,baz=230,slow=31						
PDAR	**Pinedale Array**	**55.62**	**307**	P	**P**	**16 12 04.9**	**0.0**
	0.6nm,0.6s,baz=85,slow=9.1,SNR=4.4						
PDAR				LR	LR	16 33 11.2	
	comp=Z,54nm,20.6s,baz=116,slow=33						
YKA	**Yellowknife Ar**	**59.63**	**330**	P	**P**	**16 12 31.7**	**-0.8**
	0.5nm,0.7s,baz=104,slow=6.8,SNR=6.0						
FINES	**FINESS Array B**	**60.55**	**32**	LR	LR	16 34 17.5	
	comp=Z,74nm,21.9s,baz=262,slow=32						
BRTR	**Keskin Array B**	**67.04**	**55**	P	**P**	**16 13 22.8**	**+0.4**
	1.2nm,0.9s,baz=316,slow=3.4,SNR=4.4						
ILAR	**Eielson Array**	**73.53**	**334**	P	**P**	**16 14 01.9**	**+0.6**
	1.4nm,0.8s,baz=76,slow=4.8,SNR=14						
MA2	**Magadan**	**95.91**	**352**	LR	LR	16 55 47.4	
	comp=Z,256nm,21.9s,baz=159,slow=33						

DJA 21 16:04:14.4±1.0, 9°S±5°, 11°E±°, h26km±9km, M4.0/8, mb4.1/1, MLv3.9/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.91**	**22**	P	Pn	16 04 30.5	-1.0
PCJI				S	Sb	16 04 42.3	-0.9
PWJI	**Pagerwojo**	**1.40**	**44**	P	Pn	16 04 37.2	-1.0
PWJI				S	Sn	16 04 54.1	-1.7
NGJI	**Ngawi**	**1.77**	**21**	P	Pb	16 04 46.1	-0.2
KPJI	**Karang Pucung**	**2.53**	**312**	P	Pn	16 04 55.3	+1.5
KPJI				S	Sb	16 05 27.5	-2.4
CMJI	**Cimerak**	**2.67**	**298**	P	Pn	16 04 56.0	+0.3
CMJI				S	Sn	16 05 26.3	-0.9
GMJI	**Gumukmas**	**2.69**	**74**	P	Pn	16 04 56.0	-0.1
CISI	**Cisompet, Garu**	**3.33**	**296**	P	Pn	16 05 04.9	0.0
CISI				S	Sn	16 05 41.9	-1.7
JAGI	**Jajag, Banyuwa**	**3.33**	**80**	P	Pn	16 05 03.7	-1.2
JAGI				S	Sn	16 05 39.3	-4.4
TWSI	**Taliwang, Sumb**	**5.99**	**88**	P	Pn	16 05 41.2	-0.2

IDC 21 16:06:18.6±3.0, 32°.98S×177°.79W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=77.5km s-min=44.9km az=129.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.71**	**217**	Pn	Pn	16 07 58.5	+0.2
	0.9nm,0.3s,baz=68,slow=9.1,SNR=8.3						
URZ				Sn	Sn	16 09 09.4	-6.0
	0.6nm,0.3s,baz=307,slow=20,SNR=2.7						
ASAR	**Alice Springs**	**43.21**	**270**	P	P	16 14 21.6	0.0
	0.1nm,0.4s,baz=113,slow=8.2,SNR=5.5						
WRA	**Warramunga Arr**	**44.43**	**275**	P	P	16 14 31.1	-0.3
	0.3nm,0.6s,baz=118,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**147.61**	**339**	PKPbc	PKPbc	16 26 03.3	-0.8
	1.0nm,0.7s,baz=343,slow=2.9,SNR=2.3						

*SJA **21** 16:06:43.1±0.8, 32°.72S×69°.63W, h130km±8km, ML3.0, MW3.4*
*ISCJB **21** 16:06:44.4±1.4, 32°.75S±0°.08×69°.65W±0°.07, h127km±10km, Error ellipse: s-maj=15.9km s-min=6.6km az=147.7*
*GUC **21** 16:06:45.0±0.5, 32°.63S×69°.74W, h121km±8km, ML3.1*

ISC 21 16:06:44.9±4.0, 32°.74S±0°.09×69°.65W±0°.08, h123km±29km, n12, σ0°47/20, 4C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.56**	**24**	*i* P	**Pn**	**16 07 03.4**	**-0.5**
ARCO	**CERRO ARCO**	**0.62**	**100**	*i* P	**Pn**	**16 07 03.6**	**-0.5**
ARCO				*i* S	**Sn**	**16 07 18.6**	**0.0**
ARCO				IAML		16 07 18.8	
	comp=Z,251nm,0.3s						
ARCO	**CERRO ARCO**	**0.62**	**100**	IAML		16 23 21.6	
	comp=Z,197nm,0.6s						
ASAL	**Salagasta**	**0.71**	**78**	*i* P	**Pn**	**16 07 04.4**	**-0.2**
ASAL				*i* S	**Sn**	**16 07 20.0**	**+0.4**
FCH	**Farellones**	**0.80**	**222**	⇓ *i* P	**Pn**	**16 07 05.8**	**+0.2**
FCH				*i* S	**Sn**	**16 07 21.9**	**+0.5**
PEL	**Peldehue**	**0.96**	**245**	⇑ *i* P	**Pn**	**16 07 06.6**	**-0.1**
PEL				*i* S	**Sn**	**16 07 22.9**	**-0.5**
PEL				IAML		16 07 23.7	
	comp=E,268nm,0.2s						
RTLS	**Leoncito**	**0.98**	**18**	*i* P	**Pn**	**16 07 07.6**	**+0.3**
RTLS				*i* S	**Sn**	**16 07 24.7**	**+0.5**
CLCH	**Cerro Calan**	**0.99**	**228**	⇑ *i* P	**Pn**	**16 07 07.5**	**+0.3**
CLCH				*i* S	**Sn**	**16 07 24.1**	**+0.1**
CLCH				IAML		16 07 25.1	
	comp=N,506nm,0.4s						
ROCH	**El Roble**	**1.17**	**258**	⇑ *i* P	**Pn**	**16 07 08.6**	**-0.4**
ROCH				*i* S	**Sn**	**16 07 26.8**	**-0.6**
ROCH				IAML		16 07 27.8	
	comp=N,413nm,0.4s						
ANTU	**Antumapu**	**1.17**	**224**	*eS*	**Sn**	**16 07 27.4**	**+0.3**
ROC1	**El Roble**	**1.17**	**258**	*i* P	**Pn**	**16 07 08.6**	**-0.5**
ROC1				*i* S	**Sn**	**16 07 28.5**	**+1.0**
RCDM	**Rinconada Maip**	**1.23**	**232**	⇑ *i* P	**Pn**	**16 07 09.5**	**+0.1**
RCDM				*i* S	**Sn**	**16 07 28.2**	**+0.1**
RCDM				IAML		16 07 30.7	
	comp=E,478nm,0.1s						

NNC 21 16:19:37.5±12.0, 37°.19N×71°.46E, h0km, mb3.5, mpv3.1, 2C-3D, Error ellipse: s-maj=102.5km s-min=53.1km az=161.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.63**	**309**	⇑ P	Pn	16 20 20.9	-0.4
	4.3nm,0.3s						
DZET				⇓ S	Sb	16 20 56.3	-2.2
	38nm,0.5s						
MNAS	**Manas**	**5.35**	**8**	⇑ P	Pn	16 20 58.4	-0.4
	0.8nm,0.5s						
MNAS				⇓ S	Sn	16 22 02.3	+1.1
	2.5nm,0.5s						
KK31	**Karatay Array**	**5.95**	**353**	P	Pn	16 21 06.0	-0.8
	0.7nm,0.3s,baz=178,slow=12,SNR=11						
KK31				⇓ S	Sn	16 22 15.4	-0.4
	0.8nm,0.3s,baz=186,slow=25						

*GUC **21** 16:21:13.8±0.5, 37°.55S×74°.35W, h11km±6km, ML4.7*
*IDC **21** 16:21:17.6±0.8, 37°.55S×73°.85W, h0km, mb4.3/9, mb1 4.4/12, mb1mx4.2/31, mbtmp4.3/12, ML4.5/4, MS4.6/3, Ms1 4.6/3, ms1mx3.8/19, Error ellipse: s-maj=31.4km s-min=17.9km az=82.0*
*ISCJB **21** 16:21:20.9±0.4, 37°.52S±0°.03×73°.87W±0°.07, h33km, mb4.4/18, MS4.2/1, Error ellipse: s-maj=8.5km s-min=4.9km az=177.3*
*BJI **21** 16:21:21.4, 38°.22S×73°.17W, h37km, mB5.1/2, Ms5.3/3, Ms7 5.4/2*
*NEIC **21** 16:21:23.0±0.8, 37°.52S×73°.81W, h37km±7km, mb4.6/14, Error ellipse: s-maj=11.0km s-min=5.1km az=87.0*
NEIC Felt [III] at Arauco, Contulmo, Curanilahue and Lebu; [II] at Concepcion, Lota, Mulchen and San Pedro de la Paz.

ISC 21 16:21:22.5±0.5, 37°.51S±0°.04×74°.11W±0°.07, h35km, n79, σ1°68/75, mb4.5/18, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.04**	**51**	*eP*	**Pn**	**16 21 36.8**	**-3.8**
CCSP				*eS*	**Sn**	**16 21 54.3**	**+0.5**
CCSP				IAML		16 21 59.2	
	comp=N,15μm,0.4s						
COCH	**Cobquecura**	**1.74**	**38**	*eP*	**Pn**	**16 21 47.5**	**-2.7**
COCH				*eS*	**Sn**	**16 22 13.3**	**+2.3**
COCH				IAML		16 22 24.6

comp=Z,21nm,0.9s
QSPA South Pole Qui 52.73 180 *e*P **P 16 30 34.3 +0.8**
comp=Z,17nm,1.0s
RKT Rikitea 53.62 267 *e*LR LR 16 46 30.4
comp=Z,250nm,25.2s
TBI Tubuai 64.93 259 *e*LR LR 16 51 26.9
comp=Z,160nm,25.5s
TAOE Nuku Hiva Isla 65.68 278 *e*LR LR 16 52 11.2
comp=Z,220nm,27.0s
PPT2 Papeete2 68.13 264 *e*S S 16 41 28.2 +11
comp=Z,62nm,22.0s
PPT2 Papeete2 68.13 264 *e*LR LR 16 53 03.9
comp=Z,178nm,25.5s
MAW Mawson 70.29 164 P **P 16 32 31.8 0.0**
comp=Z,4.0nm,0.9s,baz=225,slow=9.4,SNR=6.6
MAW Mawson 70.29 164 *e*P **P 16 32 31.3 -0.4**
comp=Z,1.8nm,1.0s
TX31 Lajitas Ar. Si 72.03 333 *e*P **P 16 32 44.5 +1.6**
TXAR Lajitas Array 72.03 333 P **P 16 32 44.9 +2.0**
comp=Z,0.7nm,0.9s,baz=149,slow=5.8,SNR=4.9
SWET Sewanee 73.19 350 *e*P **P 16 32 50.2 +0.7**
comp=Z,4.6nm,0.8s
CPCT Cooper Cave 73.23 351 *e*P **P 16 32 50.0 +0.3**
comp=Z,4.5nm,0.9s
DBIC Dimbokro 77.89 72 P **P 16 33 17.0 +0.1**
comp=Z,3.8nm,0.7s,baz=158,slow=6.8,SNR=5.1
TSUM Tsumeb 79.86 106 P **P 16 33 27.4 -0.6**
comp=Z,1.6nm,0.8s,baz=226,slow=8.5,SNR=4.4
BOSA Boshof 79.92 118 P **P 16 33 27.4 -0.7**
comp=Z,6.3nm,1.0s,baz=196,slow=7.8,SNR=5.7
O20A White River Ci 83.38 334 *e*P **P 16 33 45.8 -0.1**
comp=Z,8.3nm,0.6s
ECSD EROS Data Cent 83.41 344 *e*P **P 16 33 46.3 +0.5**
comp=Z,4.9nm,0.8s
BW06 Boulder Array 86.17 335 *e*P **P 16 34 00.4 +0.4**
PDAR Pinedale Array 86.17 335 P **P 16 34 01.1 +1.0**
comp=Z,0.7nm,1.0s,baz=179,slow=7.1,SNR=4.1
TOA0 Torodi Ar. Sit 86.97 71 *e*P **P 16 34 02.6 -1.6**
TORD Torodi Ar. Bea 86.97 71 P **P 16 34 03.4 -0.9**
comp=Z,3.4nm,0.9s,baz=246,slow=3.5,SNR=11
GERES GERESS Array B 115.79 47 PKP **PKPdf 16 40 00.9 +0.1**
comp=Z,0.6nm,0.7s,baz=183,slow=2.7,SNR=3.4
BRTR Keskin Array B 124.95 64 PKhKP **PKPdf 16 40 18.8 0.0**
comp=Z,1.4nm,0.7s,baz=177,slow=4.8,SNR=6.6
GEYT Alibeck 142.54 74 PKhKP PKPpre 16 40 47.8
comp=Z,1.5nm,0.5s,baz=253,slow=4.4,SNR=3.4
TIXI Tiksi 143.81 348 *e*PKPpre PKPpre 16 40 49.4
ABKAR Akbulak array 145.12 55 *e*PKPdf **PKPbc 16 40 55.1 -0.1**
BRVK Borovoye 150.89 46 *e*PKPbc **PKPbc 16 41 11.4 +0.7**
YAK Yakutsk 151.37 337 *e*PKPbc **PKPbc 16 41 11.6 +0.1**
KSH Kashi 156.55 76 *e*PKP **PKPdf 16 41 12.4 -1.3**
ZALV Zalesovo Beam 158.08 35 PKP **PKPdf 16 41 14.8 -0.2**
comp=Z,1.0nm,0.7s,baz=264,slow=4.0,SNR=5.2
ZALV PKPab **PKPab 16 41 48.9 +0.2**
comp=Z,4.9nm,0.8s,baz=296,slow=5.2,SNR=11
CMAR Chiang Mai Arr 160.06 160 PKPab **PKPab 16 41 56.4 -1.8**
comp=Z,0.8nm,1.0s,baz=206,slow=3.9,SNR=4.0
MKAR Makanchi Array 160.26 55 PKP **PKPdf 16 41 18.5 +0.7**
comp=Z,0.8nm,0.9s,baz=276,slow=3.5,SNR=4.8
MKAR PKPab **PKPab 16 41 58.0 -0.5**
comp=Z,1.1nm,0.8s,baz=304,slow=3.9,SNR=5.1
WMQ Urumqi 164.83 60 PKP **PKPdf 16 41 23.1 +0.6**
WMQ LN
comp=Z,36nm,19.6s
WMQ LE
comp=Z,35nm,20.2s
SONM Songino Array 169.68 358 PKPab **PKPab 16 42 40.3 +0.5**
comp=Z,0.8nm,0.9s,baz=350,slow=2.8,SNR=4.4
HHC Hu-ho-hao-te 174.47 309 *e*PKP **PKPdf 16 41 27.9 -0.4**
GTA Gaotai 174.87 66 *e*PKP **PKPdf 16 41 29.3 +0.8**
GTA pPKP pPKPdf 16 41 39.8 -0.2
GTA sPKP 16 41 44.1
GTA PKPab **PKPab 16 43 04.1 +0.7**

---

*KLM **21** 16:25:00.6, 2.°25S×99.°40E, h16km, mb4.7, ML5.0, MS5.5*
*BJI **21** 16:25:03.6, 2.°40S×100.°05E, h40km, mb4.7/36, mB5.0/29, Ms4.6/26, Ms7 4.4/25*
*DJA **21** 16:25:05.8±0.5, 2.°5±4.°×10.°0E±.°, h10km, M5.0/13, mb5.3/9, mB5.3/5, MLv5.0/13, Mw(mB)4.7/5*
*MOS **21** 16:25:06.7±1.0, 1.°78S×100.°15E, h33km, mb5.1/29, Error ellipse: s-maj=11.9km s-min=5.6km az=109.4*
*ISCJB **21** 16:25:07.9±0.6, 1.°86S±0.°03×100.°04E±0.°04, h45km±5km, mb4.8/78, MS4.1/11, Error ellipse: s-maj=8.0km s-min=3.9km az=147.4*
*IDC **21** 16:25:08.3±0.6, 1.°82S×100.°10E, h31km±4km, mb4.4/31, mb1 4.5/32, mb1mx4.3/49, mbtmp4.6/32, ML4.8/1, MS4.1/9, Ms1 4.1/9, ms1mx3.5/48, Error ellipse: s-maj=15.0km s-min=8.8km az=58.0*
*NEIC **21** 16:25:09.0±0.7, 1.°84S×100.°15E, h42km±5km, mb5.1/35, Error ellipse: s-maj=7.6km s-min=3.7km az=59.0*
NEIC Felt [III] at Padang and Padangpanjang.
ISC 21 16:25:07.6±0.5, 1.°89S±0.°04×100.°02E±0.°06, h30km±3km, h29km: pP-P, n348, σ1§59/361, mb5.0/78, MS4.0/12, 23C-23D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.48**	**15**	P	**Pn**	**16 25 32.8**	**+0.6**
BKNI	**Bangkinang**	**2.43**	**25**	P	**Pn**	**16 25 47.2**	**+1.9**
BKNI	**Bangkinang**	**2.43**	**25**	*e*Pn	**Pn**	**16 25 46.7**	**+1.4**
MNSI	**Mandailing Nat**	**2.71**	**351**	P	**Pn**	**16 25 47.9**	**-1.2**
KSI	**Kapahiang**	**3.10**	**124**	P	**Pn**	**16 25 56.0**	**+1.4**
MNAI	**Manna**	**3.82**	**130**	P	**Pn**	**16 26 05.9**	**+1.5**
MNAI	**Manna**	**3.82**	**130**	*e*Pn	**Pn**	**16 26 05.5**	**+1.1**
LHSI	**Lahat**	**3.99**	**119**	P	**Pn**	**16 26 10.0**	**+3.3**
GSI	**Gunungsitoli**	**4.01**	**322**	P	**Pn**	**16 26 07.3**	**+0.2**
GSI	**Gunungsitoli**	**4.01**	**322**	*e*Pn	**Pn**	**16 26 07.0**	**0.0**
PSI	**Prapat**	**4.79**	**347**	*e*P	**Pn**	**16 26 17.4**	**-0.5**
PSI	**Prapat**	**4.79**	**347**	*e*Pn	**Pn**	**16 26 17.4**	**-0.5**
LWLI	**Liwa**	**5.08**	**128**	P	**Pn**	**16 26 23.8**	**+1.9**
	1μm,0.6s,13μm3.9nm						
KGM	**Kluang**	**5.09**	**40**	⇓P	**Pn**	**16 26 24.4**	**+2.5**
MYKOM	**Kota Tinggi**	**5.29**	**46**	⇑P	**Pn**	**16 26 27.1**	**+2.4**
KASI	**Kota Agung**	**5.74**	**129**	P	**Pn**	**16 26 31.6**	**+0.8**
TPTI		**5.86**	**331**	P	**Pn**	**16 26 33.0**	**+0.6**
KULM	**Kulim**	**7.16**	**5**	⇓P	**Pn**	**16 26 52.1**	**+1.7**
CGJI	**Cibinong**	**7.34**	**130**	P	**Pn**	**16 26 51.8**	**-1.1**
CNJI	**Cibinong**	**8.89**	**127**	P	**Pn**	**16 27 13.0**	**-1.1**
	228nm,1.1s						
CISI	**Cisompet, Garu**	**9.59**	**126**	P	**Pn**	**16 27 22.0**	**-1.7**
	218nm,0.6s						
CISI	**Cisompet, Garu**	**9.59**	**126**	*e*Pn	**Pn**	**16 27 21.9**	**-1.8**
KPJI	**Karang Pucung**	**10.39**	**122**	P	**Pn**	**16 27 35.8**	**+1.1**
	153nm,0.7s						
KSM	**Kuching**	**10.81**	**72**	⇑P	**Pn**	**16 27 44.9**	**+4.4**
SBUM	**Sibu**	**12.93**	**71**	⇓P	**Pn**	**16 28 13.6**	**+4.1**
BTM	**Bintulu**	**14.00**	**69**	⇓P	**P**	**16 28 28.5**	**-3.2**
KKM	**Kota Kinabalu**	**17.99**	**64**	⇓P	**P**	**16 29 18.7**	**+2.7**
SDKM	**Sandakan**	**18.71**	**66**	⇑P	**Pn**	**16 29 27.2**	**+2.7**
KDM	**Kudat**	**18.92**	**62**	⇓P	**Pn**	**16 29 29.2**	**+2.2**
KAPI	**Kappang**	**19.93**	**99**	P	**P**	**16 29 35.5**	**-1.8**
	2.9nm,0.3s,baz=250,slow=12,SNR=4.6						
KAPI				LR	LR	16 38 51.9	
	comp=Z,361nm,18.2s,baz=300,slow=42						
KAPI	**Kappang**	**19.93**	**99**	*e*P	**P**	**16 29 34.9**	**-2.4**
	67nm,0.8s						
CM01	**Chiang Mai Arr**	**20.21**	**357**	*e*P	**P**	**16 29 39.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**20.25**	**357**	P	**P**	**16 29 40.8**	**+0.1**
	2.1nm,0.8s,baz=187,slow=9.4,SNR=9.4						
CMAR				PcP	**PcP**	**16 33 55.4**	**+1.2**
	1.6nm,0.7s,baz=215,slow=2.6,SNR=6.1						
CMAR				ScP	**ScP**	**16 37 29.5**	**+0.8**
	0.4nm,0.3s,baz=188,slow=3.4,SNR=4.0						
CMAR				LR	LR	16 37 44.8	
	comp=Z,167nm,18.4s,baz=180,slow=38						
CHTO	**Chiang Mai**	**20.61**	**357**	*e*P	**P**	**16 29 45.5**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**20.61**	**357**	*e*P	**P**	**16 29 45.5**	**+1.0**
	comp=Z,6.5nm,0.8s						
LUWI	**Luwuk**	**22.76**	**88**	*e*P	**P**	**16 30 03.5**	**-4.2**
	comp=Z,141nm,1.2s						
QIZ	**Qiongzhong**	**22.92**	**24**	P	**P**	**16 30 09.3**	**-0.1**
QIZ				pP	**sP**	**16 30 19.3**	**-1.9**
QIZ				S	**S**	**16 34 16.9**	**-0.8**
QIZ				PMZ			
	comp=Z,18nm,1.2s						
QIZ				LE			
	comp=Z,480nm,11.0s						
QIZ				LZ			
	comp=Z,420nm,13.2s						
QIZ	**Qiongzhong**	**22.92**	**24**	*e*P	**P**	**16 30 08.9**	**-0.5**
	comp=Z,70nm,1.4s						
SOEI	**Soe**	**25.33**	**109**	*e*P	**P**	**16 30 28.0**	**-4.3**
	comp=Z,34nm,0.8s						
KMI	**Kunming**	**26.99**	**5**	P	**P**	**16 30 49.8**	**+2.6**
KMI				pP	sP	16 31 00.9	+1.5
KMI				sP	pP	16 31 05.5	+10
KMI				PP	**PnPn**	**16 31 36.8**	**+6.5**
KMI				S	**S**	**16 35 23.3**	**+0.2**
KMI				sS	sS	16 35 41.0	+3.7
KMI				PMZ			
	comp=Z,9.0nm,0.6s						
KMI				PMZ			
	comp=Z,190nm,5.1s						
KMI				LN			
	comp=Z,360nm,12.0s						
KMI				LE			
	comp=Z,310nm,13.4s						
KMI				LZ			
	comp=Z,310nm,16.4s						
H08S2	**Diego Garcia H**	**28.01**	**257**	T	T	16 59 40.5	
	baz=80,slow=75,SNR=534						
H08S3	**Diego Garcia H**	**28.02**	**257**	T	T	16 59 40.9	
	baz=80,slow=75,SNR=488						
H08S1	**Diego Carcia H**	**28.03**	**257**	T	T	16 59 41.8	
	baz=80,slow=75,SNR=317						
SHL	**Shillong**	**28.41**	**344**	*e*P	**P**	**16 31 03.0**	**+3.1**
GYA	**Guiyang**	**28.91**	**12**	P	**P**	**16 31 06.8**	**+2.6**
GYA				pP	sP	16 31 18.0	+1.5
GYA				PP	**PnPn**	**16 32 01.0**	**+4.6**
GYA				PcP	**PcP**	**16 34 14.6**	**+1.4**
GYA				S	**S**	**16 35 53.4**	**+0.3**
GYA				sS	sS	16 36 13.0	+5.6
GYA				SS	**SnSn**	**16 37 23.3**	**+6.3**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,5.2s						
GYA				LN			
	comp=Z,580nm,17.4s						
GYA				LE			
	comp=Z,540nm,17.8s						
GYA				LZ			
	comp=Z,560nm,18.0s						
FITZ	**Fitzroy Crossi**	**29.85**	**124**	P	**P**	**16 31 11.9**	**-0.6**
	comp=Z,34nm,0.8s,baz=304,slow=7.0,SNR=38						
FITZ				PcP	**PcP**	**16 34 16.3**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=297,slow=3.4,SNR=3.9						
FITZ				LR	LR	16 44 31.6	
	comp=Z,221nm,20.1s,baz=326,slow=39						
FITZ	**Fitzroy Crossi**	**29.85**	**124**	P	**P**	**16 31 12.0**	**-0.6**
	baz=30,SNR=26						
FITZ	**Fitzroy Crossi**	**29.85**	**124**	*e*P	**P**	**16 31 11.6**	**-1.0**
	comp=Z,35nm,0.8s						
FITZ				PcP	**PcP**	**16 34 16.3**	**+0.8**
MORW	**Morawa**	**31.03**	**152**	P	**P**	**16 31 24.4**	**+1.4**
	baz=31,SNR=5.2						
PKIN	**Phulchoki**	**32.51**	**335**	*e*P	**P**	**16 31 35.1**	**-1.1**
	comp=Z,9.4nm,0.6s						
LSA	**Lhasa**	**32.54**	**346**	*e*P	**P**	**16 31 36.4**	**-0.3**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**32.54**	**346**	*e*P	**P**	**16 31 36.4**	**-0.3**
	comp=Z,12nm,0.6s						
GUN	**Gumba**	**32.61**	**336**	*e*P	**P**	**16 31 38.2**	**+1.0**
	comp=Z,63nm,0.6s						
KKN	**Kakani**	**32.74**	**335**	*e*P	**P**	**16 31 38.8**	**+0.6**
	comp=Z,37nm,0.8s						
CD2	**Chengdu**	**32.81**	**6**	*e*P	**P**	**16 31 39.6**	**+1.0**
CD2				pP	sP	16 31 51.0	+0.1
CD2				sP	pP	16 31 56.3	+9.0
CD2				S	**S**	**16 36 55.4**	**+1.3**
CD2				sS	sS	16 37 15.0	+6.6
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.4s						
CD2				LN			
	comp=Z,370nm,16.9s						
CD2				LE			
	comp=Z,430nm,14.0s						
CD2				LZ			
	comp=Z,260nm,14.5s						
GKN	**Gorkha**	**33.20**	**335**	*e*P	**P**	**16 31 42.8**	**+0.6**
	comp=Z,16nm,0.5s						
ENH	**Enshi**	**33.24**	**15**	*e*P	**P**	**16 31 40.9**	**-1.4**
	comp=Z,12nm,0.8s						
KOLN	**Koldanda**	**33.46**	**333**	*e*P	**P**	**16 31 45.2**	**+0.7**
	comp=Z,22nm,0.6s						
YHNB	**Yeheng**	**33.56**	**37**	P	**P**	**16 31 45.4**	**+0.1**
KLBR	**Kellerberrin**	**33.95**	**152**	P	**P**	**16 31 50.6**	**+2.1**
	baz=34,SNR=5.9						
PYUN	**Piuhan**	**34.02**	**332**	*e*P	P	16 31 54.4	+5.1
NWAO	**Narrogin (SRO)**	**34.84**	**154**	P	**P**	**16 31 57.1**	**+1.0**
	comp=Z,20nm,0.7s,baz=48,slow=3.5,SNR=15						
NWAO				LR	LR	16 45 07.4	
	comp=Z,251nm,20.5s,baz=183,slow=34						
NWAO	**Narrogin (SRO)**	**34.84**	**154**	P	**P**	**16 31 57.7**	**+1.5**
	baz=35,SNR=12						
NWAO	**Narrogin (SRO)**	**34.84**	**154**	*e*P	**P**	**16 31 57.2**	**+1.0**
NWAO				pmax	pmax		
	comp=Z,31nm,0.9s						
NWAO	**Narrogin (SRO)**	**34.84**	**154**	*e*P	**P**	**16 31 57.2**	**+1.0**
	comp=Z,31nm,0.9s						
H01W3	**Cape Leeuwin H**	**35.36**	**160**	T	T	17 09 14.2	
	baz=336,slow=76,SNR=22						
H01W2	**Cape Leeuwin H**	**35.37**	**160**	T	T	17 09 15.4	
	baz=336,slow=76,SNR=43						
H01W1	**Cape Leeuwin H**	**35.37**	**160**	T	T	17 09 16.4	
	baz=336,slow=76,SNR=39						
WRKA	**Warakurna**	**35.68**	**133**	P	**P**	**16 32 03.8**	**+0.2**
	baz=36,SNR=20						
KMBL	**Kambalda**	**35.86**	**147**	P	**P**	**16 32 06.1**	**+1.2**
	baz=36,SNR=13						
XAN	**Xi'an**	**36.71**	**12**	P	**P**	**16 32 11.3**	**-0.9**
XAN				pP	sP	16 32 22.6	-1.9
XAN				sP	pP	16 32 28.3	+7.4
XAN				PMZ			
	comp=Z,9.0nm,0.8s						
XAN				PMZ			
	comp=Z,72nm,5.2s						
XAN				LN			
	comp=Z,310nm,14.3s						
XAN				LZ			
	comp=Z,470nm,15.1s						
WRA	**Warramunga Arr**	**38.02**	**121**	P	**P**	**16 32 22.6**	**-1.0**
	comp=Z,22nm,0.8s,baz=297,slow=9.2,SNR=10						
WRA				PcP	**PcP**	**16 34 39.1**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=310,slow=2.5,SNR=6.9						
WRA				S	**S**	**16 38 08.3**	**-6.1**
	comp=Z,1.4nm,0.9s,baz=295,slow=17,SNR=4.6						
WRAB	**Tennant Creek**	**38.03**	**121**	*d*P	**P**	**16 32 22.9**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,64nm,0.8s						
WB2	**Warramunga Arr**	**38.04**	**121**	*e*P	**P**	**16 32 22.4**	**-1.2**
	comp=Z,19nm,0.6s						
WC3	**Warramunga Arr**	**38.06**	**121**	P	**P**	**16 32 23.6**	**-0.3**
	baz=38						
NJ2	**Nanjing**	**38.19**	**26**	*e*P	**P**	**16 32 21.8**	**-2.9**
NJ2				PMZ			
	comp=Z,16nm,1.0s						
NJ2				LZ			
	comp=Z,220nm,13.6s						
AS31	**Alice Springs**	**39.30**	**126**	*e*P	**P**	**16 32 33.6**	**-0.6**
	comp=Z,8.5nm,0.8s						
ASAR	**Alice Springs**	**39.30**	**126**	P	**P**	**16 32 34.0**	**-0.2**
	comp=Z,22nm,0.7s,baz=301,slow=7.7,SNR=325						
ASAR				pP	**sP**	**16 32 44.0**	**-2.6**
	comp=Z,17nm,0.7s,baz=307,slow=8.0,SNR=10						
ASAR				PcP	**PcP**	**16 34 43.4**	**+0.6**
	comp=Z,6.5nm,0.7s,baz=300,slow=2.7,SNR=11						
ASAR				S	**S**	**16 38 30.0**	**-3.5**
	comp=Z,1.5nm,0.9s,baz=293,slow=14,SNR=5.9						
AS01	**Alice Springs**	**39.33**	**126**	*e*P	**P**	**16 32 33.5**	**-1.0**
GTA	**Gaotai**	**41.10**	**360**	*e*P	**P**	**16 32 48.3**	**-0.7**
GTA				pP	sP	16 32 59.5	-1.9
GTA				sP	pP	16 33 05.0	+7.1
GTA				PcP	**PcP**	**16 34 49.0**	**+0.7**
GTA				ScP	**ScP**	**16 38 36.4**	**+0.2**
GTA				S	**S**	**16 38 58.3**	**-2.0**
GTA				sS	sS	16 39 17.6	+2.8
GTA				PMZ			
	comp=Z,3.0nm,1.1s						
GTA				PMZ			
	comp=Z,58nm,4.7s						
GTA				LN			
	comp=Z,250nm,13.8s						
GTA				LE			
	comp=Z,180nm,16.2s						
GTA				LZ			
	comp=Z,350nm,14.7s						
QIS	**Mount Isa**	**42.84**	**119**	P	**P**	**16 33 02.8**	**-0.6**
	baz=43,SNR=12						
HHC	**Hu-ho-hao-te**	**43.82**	**13**	*e*P	**P**	**16 33 14.4**	**+3.3**
HHC				S	**S**	**16 39 42.8**	**+2.6**
HHC				sS	sS	16 40 04.3	+9.4
HHC				PMZ			
	comp=Z,17nm,1.2s						
HHC				PMZ			
	comp=Z,87nm,5.0s						
HHC				LN			
	comp=Z,320nm,13.1s						
HHC				LE			
	comp=Z,260nm,15.3s						
HHC				LZ			
	comp=Z,180nm,13.6s						
BJI	**Beijing**	**44.28**	**18**	P	**P**	**16 33 16.8**	**+2.2**
BJI				PMZ			
	comp=Z,8.0nm,0.7s						
JNU	**Nakatsue**	**45.40**	**37**	P	**P**	**16 33 24.8**	**+1.1**
	comp=Z,18nm,1.0s,baz=208,slow=13,SNR=8.6						
JNU	**Nakatsue**	**45.40**	**37**	*e*P	**P**	**16 33 24.9**	**+1.1**
	comp=Z,27nm,1.0s						
MTSU	**Mount Surprise**	**46.33**	**113**	P	**P**	**16 33 30.3**	**-1.0**
	baz=46,SNR=7.3						
KSH	**Kashi**	**46.75**	**334**	*e*P	**P**	**16 33 34.5**	**+0.1**
KSH				pP	sP	16 33 46.4	-0.5
KSH				PcP	**PcP**	**16 35 07.5**	**0.0**
KSH				PP	**PP**	**16 35 24.8**	**+0.1**
KSH				S	**S**	**16 40 19.4**	**-3.2**
KSH				ScS	**ScS**	**16 43 21.4**	**-5.9**
KSH				SS	**SS**	**16 43 39.0**	**-10**
KSH				PMZ			
	comp=Z,3.0nm,0.4s						
KSH				PMZ			
	comp=Z,88nm,4.0s						
KSH				LN			
	comp=Z,140nm,5.2s						
KSH				LE			
	comp=Z,140nm,5.6s						
KSH				LZ			
	comp=Z,190nm,6.4s						
WMQ	**Urumqi**	**46.84**	**348**	P	**P**	**16 33 36.0**	**+1.1**
WMQ				pP	sP	16 33 46.8	-0.6
WMQ				sP	pP	16 33 53.8	+10
WMQ				PMZ			
	comp=Z,26nm,0.8s						
WMQ				PMZ			
	comp=Z,98nm,4.2s						
WMQ				LN			
	comp=Z,46nm,19.2s						
WMQ				LE			
	comp=Z,56nm,21.0s						
WMQ				LZ			
	comp=Z,43nm,17.6s						
KSAR	**Wonju Array Be**	**46.89**	**31**	P	**P**	**16 33 35.1**	**-0.2**
KSAR	**Wonju Array Be**	**46.89**	**31**	P	**P**	**16 33 35.0**	**-0.2**
KSRS	**Korea Array**	**46.92**	**31**	P	**P**	**16 33 35.0**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=217,slow=7.6,SNR=5.8						
KS01	**Wonju Array Si**	**46.92**	**31**	*e*P	**P**	**16 33 34.2**	**-1.3**
HTT	**Hallett**	**48.05**	**135**	P	**P**	**16 33 45.4**	**+0.9**
	baz=48,SNR=7.2						
CTA	**Charters Tower**	**48.62**	**115**	P	**P**	**16 33 48.1**	**-1.0**
	comp=Z,12nm,0.9s,baz=285,slow=10.0,SNR=15						
CTA				LR	LR	16 56 12.0	
	comp=Z,694nm,18.7s,baz=336,slow=38						
CTAO	**Charters Tower**	**48.62**	**115**	*e*P	**P**	**16 33 47.9**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,17nm,1.0s						
CTAO	**Charters Tower**	**48.62**	**115**	*e*P	**P**	**16 33 47.9**	**-1.2**
	comp=Z,17nm,1.0s						
QLP	**Quilpie**	**48.99**	**124**	P	**P**	**16 33 52.3**	**+0.5**
	baz=49,SNR=18						
STKA	**Stephens Creek**	**49.20**	**132**	P	**P**	**16 33 53.9**	**+0.6**
	comp=Z,32nm,0.6s,baz=311,slow=7.4,SNR=60						
STKA	**Stephens Creek**	**49.20**	**132**	P	**P**	**16 33 54.0**	**+0.6**
	baz=49,SNR=35						
STKA	**Stephens Creek**	**49.20**	**132**	*e*P	**P**	**16 33 53.5**	**+0.1**
STKA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
STKA	**Stephens Creek**	**49.20**	**132**	*e*P	**P**	**16 33 53.5**	**+0.1**
	comp=Z,7.5nm,0.6s						
TKM2	**Tokmak 2**	**49.75**	**337**	*e*P	**P**	**16 33 58.3**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,29nm,1.1s						
TKM2	**Tokmak 2**	**49.75**	**337**	*e*P	**P**	**16 33 58.3**	**+0.7**
	comp=Z,29nm,1.1s						
SONM	**Songino Array**	**49.84**	**6**	P	**P**	**16 33 58.1**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=185,slow=9.5,SNR=22						
SONM				ScP	**ScP**	**16 39 11.7**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=198,slow=0.9,SNR=4.0						
SONA1	**Songino Array**	**49.85**	**6**	*e*P	**P**	**16 33 58.0**	**-0.2**
ULN	**Ulaanbaatar**	**49.94**	**6**	⇓*e*P	**P**	**16 33 59.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**49.94**	**6**	*e*P	**P**	**16 33 58.7**	**-0.2**
	comp=Z,6.3nm,0.9s						
AAK	**Ala-Archa**	**49.95**	**335**	⇓*e*P	**P**	**16 34 00.8**	**+1.7**
AAK				pmax	pmax		
	comp=Z,15nm,2.0s						
FRU	**Bishkek**	**50.07**	**336**	*e*P	P	16 34 11.0	+11
EKS2	**Erkin-Say**	**50.28**	**335**	*e*P	**P**	**16 34 02.3**	**+0.8**
EKS2				pmax	pmax		
	comp=Z,20nm,0.9s						
EKS2	**Erkin-Say**	**50.28**	**335**	*e*P	**P**	**16 34 02.3**	**+0.8**
	comp=Z,20nm,0.9s						
CN2	**Changchun**	**50.88**	**24**	*e*P	P	16 34 14.6	+8.7
CN2				*e*S	**S**	**16 41 23.1**	**+2.7**
CN2				pmax	pmax		
	comp=Z,20nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,17.0s						
CN2				LR	LR		
	comp=E,200nm,17.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
MK01	**Makanchi Array**	**50.91**	**344**	*e*P	**P**	**16 34 06.2**	**+0.1**
MK31	**Makanchi Array**	**50.93**	**344**	*e*P	**P**	**16 34 06.6**	**+0.3**
MK31	**Makanchi Array**	**50.93**	**344**	*e*P	**P**	**16 34 06.6**	**+0.3**
MKAR	**Makanchi Array**	**50.93**	**344**	P	**P**	**16 34 06.8**	**+0.5**
	comp=Z,8.0nm,0.7s,baz=147,slow=7.9,SNR=68						
MKAR				pP	**pP**	**16 34 16.1**	**+0.8**
	comp=Z,18nm,0.7s,baz=144,slow=7.5,SNR=22						
MAKZ	**Makanchi**	**51.03**	**344**	*e*P	**P**	**16 34 06.9**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,15nm,0.8s						
MAKZ	**Makanchi**	**51.03**	**344**	*e*P	**P**	**16 34 06.9**	**-0.1**
	comp=Z,15nm,0.8s						
KKAR	**Karatay Array**	**52.07**	**333**	*e*P	**P**	**16 34 14.3**	**-0.6**
KKAR	**Karatay Array**	**52.07**	**333**	*e*P	**P**	**16 34 14.2**	**-0.6**
**

ZALV				pP		**pP**		**16 35 00.4**	**+0.5**
	comp=Z,28nm,0.8s,baz=178,slow=5.6,SNR=20								
KLR	**Kul'dur**	**57.83**	**24**	*i* P		**P**		**16 34 56.4**	**+0.1**
NVS	**Novosibirsk**	**58.22**	**349**	⇓*i* P		**P**		**16 34 59.0**	**+0.1**
NVS				pmax	pmax				
	comp=N,13nm,1.4s								
NVS				pmax	pmax				
	comp=E,11nm,1.4s								
NVS				pmax	pmax				
	comp=Z,17nm,1.4s								
VOSK	**Vostochnaya**	**59.64**	**340**	P		**P**		**16 35 07.7**	**-1.2**
VOSK				pmax	pmax				
	comp=Z,9.0nm,0.8s								
BVAR	**Borovoye Array**	**60.09**	**340**	P		**P**		**16 35 11.6**	**-0.4**
	comp=Z,4.5nm,0.7s,baz=140,slow=7.8,SNR=30								
BRVK	**Borovoye**	**60.16**	**340**	*c i* P		**P**		**16 35 11.8**	**-0.6**
BRVK				pmax	pmax				
	comp=Z,19nm,1.2s								
BRVK	**Borovoye**	**60.16**	**340**	*e*P		**P**		**16 35 10.8**	**-1.6**
	comp=Z,17nm,0.6s								
ZRNK	**Zerenda**	**60.52**	**339**	*e*P		**P**		**16 35 14.0**	**-0.9**
ZRNK				pmax	pmax				
	comp=Z,8.0nm,0.8s								
ZRNK	**Zerenda**	**60.52**	**339**	*e*P		**P**		**16 35 14.0**	**-0.9**
	comp=Z,7.6nm,0.8s								
BOD	**Bodaibo**	**60.57**	**9**	*e*P		**P**		**16 35 13.8**	**-1.3**
BOD				pmax	pmax				
	comp=Z,7.0nm,1.3s								
YSS	**Yuzh-Sakhalins**	**61.38**	**32**	⇑*e*P		**P**		**16 35 21.0**	**+0.2**
YSS				*e*				16 35 30.4	
YSS				pmax	pmax				
	comp=Z,20nm,1.0s								
YSS	**Yuzh-Sakhalins**	**61.38**	**32**	*e*P		**P**		**16 35 20.8**	**-0.1**
	comp=Z,26nm,1.0s								
AB31	**Akbulak array**	**61.56**	**331**	P		**P**		**16 35 21.1**	**-0.9**
AB31				pmax	pmax				
	comp=Z,12nm,0.7s								
ABKAR	**Akbulak array**	**61.56**	**331**	*e*P		**P**		**16 35 21.7**	**-0.3**
AKTO	**Aktyubinsk**	**63.28**	**331**	P		**P**		**16 35 32.6**	**-0.9**
	comp=Z,4.8nm,0.9s,baz=142,slow=7.6,SNR=7.2								
SVE	**Sverdlovsk**	**66.59**	**338**	*e*P		**P**		**16 35 55.2**	**+0.3**
SVE				pmax	pmax				
	comp=Z,18nm,1.0s								
ARU	**Arti**	**67.12**	**336**	LR		LR		17 09 22.1	
	comp=Z,60nm,18.6s,baz=115,slow=40								
ARU	**Arti**	**67.12**	**336**	*c i* P		**P**		**16 35 58.0**	**-0.3**
ARU								16 36 22.4	
ARU								16 38 21.5	
ARU				S		**S**		**16 44 52.4**	**+1.9**
ARU				SS		**SS**		**16 49 06.1**	**-3.9**
ARU				pmax	pmax				
	comp=Z,13nm,1.7s								
ARU	**Arti**	**67.12**	**336**	*e*P		**P**		**16 35 57.4**	**-0.9**
YAK	**Yakutsk**	**67.63**	**15**	*e*P		**P**		**16 36 00.6**	**-0.8**
YAK				*e*				16 36 12.3	
YAK				pmax	pmax				
	comp=Z,30nm,0.9s								
YAK				pmax	pmax				
	comp=N,10.0nm,1.2s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,24nm,0.9s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,11nm,1.5s								
YAK	**Yakutsk**	**67.63**	**15**	*e*P		**P**		**16 36 00.1**	**-1.3**
	comp=E,34nm,0.9s								
NCK	**Nalchik**	**67.69**	**319**	⇑*e*P		**P**		**16 36 01.4**	**-0.8**
NCK				pmax	pmax				
	comp=Z,7.0nm,0.6s								
KBZ	**Khabaz**	**68.24**	**319**	P		**P**		**16 36 06.0**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=116,slow=7.6,SNR=11								
KIV	**Kislovodsk**	**68.48**	**319**	*e*P		**P**		**16 36 08.2**	**+0.9**
KIV				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KIV				MLR	MLR				
	comp=Z,58nm,17.0s								
EIL	**Elat**	**69.49**	**303**	LR		LR		17 06 53.4	
	comp=Z,144nm,18.2s,baz=58,slow=36								
MAW	**Mawson**	**70.39**	**194**	P		**P**		**16 36 20.1**	**+1.6**
	comp=Z,2.2nm,0.8s,baz=36,slow=8.1,SNR=4.2								
NRIK	**Noril'sk**	**71.60**	**355**	P		**P**		**16 36 25.6**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=156,slow=3.3,SNR=7.7								
MATP	**Matopo**	**72.03**	**249**	P		**P**		**16 36 30.4**	**+0.9**
	comp=Z,2.4nm,0.5s,baz=76,slow=7.1,SNR=6.8								
VRH	**Novokhopyorsk**	**72.25**	**326**	*e*P		**P**		**16 36 28.8**	**-1.2**
VRH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
ANN	**Anapa**	**72.27**	**318**	*e*P		P		16 36 20.4	-10
ANN				*e**PP		pP		16 36 35.5	-4.1
ANN				*e*PPP		PPP		16 40 51.8	
ANN				pmax	pmax				
	comp=Z,54nm,1.5s								
PETK	**Petropavlovsk-**	**72.78**	**32**	P		**P**		**16 36 32.8**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=242,slow=3.2,SNR=4.7								
MA2	**Magadan**	**72.93**	**24**	*e*P		**P**		**16 36 34.1**	**+0.2**
MA2				pmax	pmax				
	comp=Z,76nm,1.4s								
MA2	**Magadan**	**72.93**	**24**	*e*P		**P**		**16 36 34.0**	**+0.2**
	comp=Z,76nm,1.4s								
BRTR	**Keskin Array B**	**73.27**	**312**	P		**P**		**16 36 35.6**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=120,slow=7.4,SNR=6.7								
VSR	**Storozhevoye**	**73.70**	**325**	*e*P		**P**		**16 36 37.1**	**-1.5**
VSR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
BR231	**Keskin MP Arra**	**73.94**	**312**	*e*P		**P**		**16 36 43.2**	**+2.8**
RPZ	**Rata Peaks**	**75.04**	**135**	P		**P**		**16 36 47.1**	**+0.5**
	comp=Z,12nm,0.6s,baz=202,slow=1.8,SNR=11								
RPZ	**Rata Peaks**	**75.04**	**135**	*e*P		**P**		**16 36 46.8**	**+0.2**
	comp=Z,49nm,0.8s								
SEY	**Seymchan**	**75.52**	**22**	⇓*i* P		**P**		**16 36 49.6**	**+0.7**
TIXI	**Tiksi**	**75.75**	**9**	*c i* P		**P**		**16 36 48.9**	**-1.2**
TIXI				pmax	pmax				
	comp=Z,15nm,1.2s								
TIXI	**Tiksi**	**75.75**	**9**	*e*P		**P**		**16 36 48.7**	**-1.3**
	comp=Z,12nm,1.0s								
THZ	**Tophouse**	**76.00**	**133**	*e*P		**P**		**16 36 52.3**	**+0.1**
	comp=Z,21nm,0.8s								
KHZ	**Kahutara**	**76.58**	**133**	*e*P		**P**		**16 36 56.1**	**+0.7**
	comp=Z,18nm,0.5s								
OBN	**Obninsk**	**76.72**	**328**	⇓*e*P		**P**		**16 36 55.2**	**-0.7**
OBN				*e*				16 37 06.2	
OBN				pmax	pmax				
	comp=Z,27nm,1.6s								
OBN				MLR	MLR				
	comp=Z,55nm,17.0s								
KLMR	**Klimovskoe**	**77.75**	**334**	*e*P		**P**		**16 37 00.4**	**-1.1**
KLMR				pmax	pmax				
	comp=Z,16nm,1.3s								
SYO	**Syowa Base**	**77.97**	**199**	⇑*e*P		**P**		**16 37 03.0**	**+0.3**
TIRR	**Tirgusor**	**78.30**	**316**	⇓*i* P		**P**		**16 37 05.0**	**+0.1**
TIRR	**Tirgusor**	**78.30**	**316**	⇓P		**P**		**16 37 05.0**	**+0.1**
BKZ	**Black Stump Fm**	**78.32**	**129**	*e*P		**P**		**16 37 05.3**	**0.0**
	comp=Z,34nm,1.0s								
CFR	**Carcaliu**	**78.67**	**317**	⇓*i* P		**P**		**16 37 07.3**	**+0.3**
CFR	**Carcaliu**	**78.67**	**317**	⇓P		**P**		**16 37 07.3**	**+0.3**
SORM	**Soroca**	**79.27**	**320**	⇑*i* P		**P**		**16 37 10.0**	**-0.2**
SORM	**Soroca**	**79.27**	**320**	⇑P		**P**		**16 37 10.0**	**-0.2**
AKASG	**Malin Array Be**	**79.42**	**322**	P		**P**		**16 37 09.7**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=80,slow=5.7,SNR=5.6								
KIEV	**Kiev**	**79.42**	**322**	⇑*e*P		**P**		**16 37 11.1**	**+0.1**
KIEV				pmax	pmax				
	comp=Z,2.0nm,0.8s								
VRI	**Vrincioaia**	**79.79**	**317**	⇑*i* P		**P**		**16 37 14.1**	**+0.9**
VRI	**Vrincioaia**	**79.79**	**317**	⇑P		**P**		**16 37 14.1**	**+0.9**
PLOR	**Plostina**	**79.84**	**317**	⇓*i* P		**P**		**16 37 14.9**	**+1.4**
PLOR	**Plostina**	**79.84**	**317**	⇓P		**P**		**16 37 14.9**	**+1.4**
SUR	**Sutherland**	**79.88**	**238**	P		**P**		**16 37 15.8**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=97,slow=12,SNR=4.8								
TESR	**Tescani**	**79.99**	**318**	⇑*i* P		**P**		**16 37 14.5**	**+0.3**
MLR	**Muntele Rosu**	**80.24**	**317**	⇓*i* P		**P**		**16 37 16.6**	**+0.9**
MLR	**Muntele Rosu**	**80.24**	**317**	⇓P		**P**		**16 37 16.6**	**+0.9**
MLR	**Muntele Rosu**	**80.24**	**317**	*e*P		**P**		**16 37 15.4**	**-0.3**
	comp=Z,21nm,1.3s								
BURAR	**Bucovina Array**	**81.20**	**319**	⇑*i* P		**P**		**16 37 22.0**	**+1.2**
BURAR	**Bucovina Array**	**81.20**	**319**	⇑P		**P**		**16 37 22.0**	**+1.2**
BUR08	**Bucovina Ar. S**	**81.21**	**319**	*e*P		**P**		**16 37 21.5**	**+0.7**
VNDA	**Vanda**	**82.26**	**169**	P		**P**		**16 37 26.7**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=291,slow=5.5,SNR=11								
VNDA	**Vanda**	**82.26**	**169**	*e*P		**P**		**16 37 26.4**	**+0.7**
VNDA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
VNDA	**Vanda**	**82.26**	**169**	*e*P		**P**		**16 37 26.4**	**+0.7**
	comp=Z,4.3nm,0.9s								
DRGR		**82.70**	**317**	⇓*i* P		**P**		**16 37 29.9**	**+1.2**
DRGR		**82.70**	**317**	⇓P		**P**		**16 37 29.9**	**+1.2**
MDVR	**Moldovita**	**83.04**	**315**	⇑*i* P		sP		16 37 42.3	-1.1
BILL	**Bilibino**	**83.05**	**20**	⇑*i* P		**P**		**16 37 29.1**	**-0.8**
BILL				pmax	pmax				
	comp=Z,4.0nm,1.2s								
KWP	**Kalwaria Pacla**	**83.24**	**320**	⇑*i* P		sP		16 37 42.9	-1.3
KWP	**Kalwaria Pacla**	**83.24**	**320**	⇑P		sP		16 37 42.9	-1.3
BZS	**Buzias**	**83.25**	**316**	⇑*i* P		**P**		**16 37 32.2**	**+0.8**
BZS	**Buzias**	**83.25**	**316**	⇑P		**P**		**16 37 32.2**	**+0.8**
SBA	**Scott Base**	**83.36**	**169**	*e*P		**P**		**16 37 32.7**	**+1.4**
SBA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
SBA	**Scott Base**	**83.36**	**169**	*e*P		**P**		**16 37 32.7**	**+1.4**
	comp=Z,6.4nm,0.8s								
KOLS	**Kolonicke sedl**	**83.39**	**320**	*e*P		**P**		**16 37 33.1**	**+0.9**
KOLS				*e*				16 37 45.6	
KOLS				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KOLS	**Kolonicke sedl**	**83.39**	**320**	*e*P		**P**		**16 37 33.0**	**+0.9**
KOLS				*e*				16 37 45.6	
FINES	**FINESS Array B**	**84.03**	**332**	P		**P**		**16 37 35.4**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=124,slow=5.6,SNR=9.7								
STHS	**Stebnicka Huta**	**84.14**	**320**	*e*P		**P**		**16 37 37.3**	**+1.4**
STHS				*e*				16 37 48.4	
STHS				pmax	pmax				
	comp=Z,4.0nm,0.9s								
STHS	**Stebnicka Huta**	**84.14**	**320**	*e*P		**P**		**16 37 37.3**	**+1.4**
STHS				*e*				16 37 48.4	
ARCES	**ARCESS Array B**	**86.38**	**340**	P		**P**		**16 37 47.0**	**+0.3**
	comp=Z,4.3nm,0.8s,baz=93,slow=4.9,SNR=7.4								
ARCES	**ARCESS Array B**	**86.38**	**340**	P		**P**		**16 37 47.0**	**+0.3**
DPC	**Dobruska-Polom**	**87.42**	**320**	*e*P		**P**		**16 37 53.0**	**+0.8**
DPC				*ex*		x		16 38 01.6	
DPC				*e*pP		**sP**		**16 38 04.6**	**-0.6**
DPC	**Dobruska-Polom**	**87.42**	**320**	*e*P		**P**		**16 37 53.0**	**+0.8**
DPC				*e*				16 38 01.6	
DPC				*e*				16 38 04.6	
QSPA	**South Pole Qui**	**88.07**	**180**	*e*P		**P**		**16 37 56.3**	**+1.2**
BRG	**Berggiesshubel**	**88.98**	**321**	*e*P		**P**		**16 38 01.1**	**+1.6**
	comp=Z,8.3nm,1.4s								
BRG				*e*				16 38 11.6	
	comp=Z,15nm,1.7s comp=N,156nm,15.2s comp=E,96nm,20.9s comp=Z,186nm,26.2s								
BRG	**Berggiesshubel**	**88.98**	**321**	*e*P		**P**		**16 38 01.1**	**+1.6**
BRG				*e*				16 38 11.6	
BRG				pmax	pmax				
	comp=Z,8.0nm,1.4s								
BRG				pmax	pmax				
	comp=Z,15nm,1.7s								
BRG				MLR	MLR				
	comp=N,156nm,15.2s								
BRG				MLR	MLR				
	comp=E,96nm,20.9s								
BRG				MLR	MLR				
	comp=Z,186nm,26.2s								
GEA0	**GERESS Array S**	**88.98**	**319**	*e*P		**P**		**16 37 60.0**	**+0.2**
GERES	**GERESS Array B**	**88.99**	**319**	P		**P**		**16 38 00.5**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=64,slow=3.1,SNR=7.5								
NOA	**NORSAR Array B**	**91.06**	**331**	P		**P**		**16 38 09.8**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=116,slow=3.9,SNR=2.9								
FUORN	**Ofenpass-Fuorn**	**91.20**	**316**	*e*P		**P**		**16 38 09.8**	**-0.5**
	comp=Z,18nm,1.4s								
KEST	**Kesra**	**91.64**	**306**	P		**P**		**16 38 12.3**	**-0.2**
	comp=Z,5.6nm,0.9s,baz=64,slow=4.5,SNR=4.6								
KEST				LR		LR		17 25 57.5	
	comp=Z,301nm,18.3s,baz=225,slow=40								
KEST	**Kesra**	**91.64**	**306**	*e*P		**P**		**16 38 11.0**	**-1.4**
	comp=Z,9.8nm,1.0s								
NIKH	**Nikolski High**	**92.18**	**37**	*e*P		**P**		**16 38 12.5**	**-1.9**
	comp=Z,16nm,0.8s								
TTA	**Tatalina**	**98.02**	**27**	*e*P		**P**		**16 38 39.9**	**-1.1**
TTA	**Tatalina**	**98.02**	**27**	*e*P		**P**		**16 38 39.9**	**-1.1**
YKA	**Yellowknife Ar**	**114.26**	**17**	PKP		PKPdf		16 43 43.4	-0.7
	comp=Z,0.5nm,0.8s,baz=328,slow=2.2,SNR=3.7								
G03D	**McMinnville, O**	**122.51**	**35**	P		**PKPdf**		**16 44 00.1**	**-0.3**
	baz=306								
I03D	**Drain, OR**	**123.34**	**37**	P		**PKPdf**		**16 44 02.1**	**0.0**
	baz=305								
NEW	**Newport**	**123.83**	**29**	P		**PKPdf**		**16 44 02.9**	**-0.1**
	baz=313								
I04A	**Tendick Farm,**	**123.83**	**36**	P		**PKPdf**		**16 44 02.9**	**-0.2**
	baz=306								
I05D	**Terrebonne, OR**	**124.13**	**35**	P		**PKPdf**		**16 44 03.7**	**0.0**
	baz=307								
J05D	**Fort Rock, OR**	**124.83**	**36**	P		**PKPdf**		**16 44 05.1**	**0.0**
	baz=307								
M02C	**Callahan**	**124.94**	**39**	P		**PKPdf**		**16 44 05.6**	**+0.3**
	baz=304								
MOD	**Modoc Plateau**	**126.20**	**37**	*e*PKPdf		**PKPdf**		**16 44 06.9**	**-0.9**
MFID	**Camas Ranch**	**127.79**	**33**	*e*PKPdf		**PKPdf**		**16 44 11.2**	**+0.4**
BOZ	**Bozeman (W)**	**128.33**	**28**	P		**PKPdf**		**16 44 12.1**	**+0.4**
	baz=318								
B30A	**Myrvik Farm, E**	**131.00**	**16**	P		**PKPdf**		**16 44 17.6**	**+1.0**
	baz=335								
R11A	**Troy Canyon, C**	**131.24**	**38**	P		**PKPdf**		**16 44 18.2**	**+0.7**
	baz=309								
R11A	**Troy Canyon, C**	**131.24**	**38**	*e*PKPdf		**PKPdf**		**16 44 18.0**	**+0.4**
PDAR	**Pinedale Array**	**131.47**	**29**	PKP		**PKPdf**		**16 44 17.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=250,slow=2.6,SNR=2.3								
DUG	**Dugway, Tooele**	**131.63**	**34**	P		**PKPdf**		**16 44 19.3**	**+1.1**
	baz=314								
MSU	**Marysvale**	**133.14**	**35**	*e*PKIKP		**PKPdf**		**16 44 21.0**	**-0.2**
MSU	**Marysvale**	**133.14**	**35**	*e*PKPdf		**PKPdf**		**16 44 21.0**	**-0.2**
F36A	**Milaca**	**134.63**	**13**	P		**PKPdf**		**16 44 24.4**	**+0.9**
	baz=341								
ECSD	**EROS Data Cent**	**135.79**	**17**	P		**PKPdf**		**16 44 26.8**	**+1.1**
	baz=336								
ECSD	**EROS Data Cent**	**135.79**	**17**	*e*PKPdf		**PKPdf**		**16 44 25.5**	**-0.3**
I38A	**Scanlan Farm,**	**136.62**	**13**	P		**PKPdf**		**16 44 28.4**	**+1.2**
	baz=342								
214A	**Organ Pipe Nat**	**136.98**	**43**	P		**PKPdf**		**16 44 29.4**	**+1.1**
	baz=308								
SDCO	**Great Sand Dun**	**137.31**	**30**	P		**PKPdf**		**16 44 30.1**	**+1.0**
	baz=321								
K39A	**Oelwein**	**137.99**	**13**	P		**PKPdf**		**16 44 31.1**	**+1.3**
	baz=342								
T25A	**Trinidad**	**138.32**	**30**	P		**PKPdf**		**16 44 32.1**	**+1.2**
	baz=322								
M38A	**Pleasantville**	**138.89**	**15**	P		**PKPdf**		**16 44 33.1**	**+1.6**
	baz=340								
ANMO	**Albuquerque**	**138.91**	**34**	P		**PKPdf**		**16 44 33.5**	**+1.4**
	baz=317								
ANMO	**Albuquerque**	**138.91**	**34**	*e*PKIKP		**PKPdf**		**16 44 31.3**	**-0.7**
ANMO	**Albuquerque**	**138.91**	**34**	*e*PKPdf		**PKPdf**		**16 44 31.3**	**-0.7**
Q32A	**Meitler Ranch,**	**139.36**	**22**	P		**PKPdf**		**16 44 34.7**	**+2.3**
	baz=331								
P35A	**Duane Minner,**	**139.79**	**19**	P		**PKPdf**		**16 44 35.2**	**+1.9**
	baz=335								
R34A	**Isabella, Hill**	**140.46**	**22**	P		**PKPdf**		**16 44 36.4**	**+1.9**
	baz=332								
S34A	**Willow Spring**	**141.04**	**22**	P		**PKPdf**		**16 44 36.8**	**+1.2**
	baz=332								
R36A	**Gordon, Harris**	**141.05**	**20**	P		**PKPdf**		**16 44 37.2**	**+1.6**
	baz=335								
Q38A	**Cooks Store, C**	**141.06**	**17**	P		**PKPdf**		**16 44 37.3**	**+1.8**
	baz=338								
Q39A	**Willow Grove F**	**141.16**	**16**	P		**PKPdf**		**16 44 37.9**	**+2.2**
	baz=339								
MSTX	**Muleshoe**	**141.63**	**31**	P		**PKPdf**		**16 44 38.7**	**+1.8**
	baz=321								
R38A	**Fenwick Farm,**	**141.69**	**18**	P		**PKPdf**		**16 44 38.7**	**+2.0**
	baz=337								
MNTX	**Cornudas Mount**	**141.88**	**36**	P		**PKPdf**		**16 44 38.9**	**+1.7**
	baz=316								
T36A	**Boggs Farm, Ca**	**142.06**	**21**	P		**PKPdf**		**16 44 39.5**	**+2.1**
	baz=334								
R40A	**Maddies Statio**	**142.06**	**16**	P		**PKPdf**		**16 44 39.5**	**+2.1**
	baz=340								
Q43A	**New Douglas**	**142.07**	**12**	P		**PKPdf**		**16 44 39.8**	**+2.4**
	baz=344								
S38A	**Stockton**	**142.20**	**18**	P		**PKPdf**		**16 44 39.9**	**+2.3**
	baz=337								
S39A	**Bolivar**	**142.32**	**17**	P		**PKPdf**		**16 44 40.3**	**+2.4**
	baz=338								
T37A	**Cheneyville 18**	**142.33**	**20**	P		**PKPdf**		**16 44 40.4**	**+2.5**
	baz=335								
T38A	**Diamond**	**142.62**	**19**	P		**PKPdf**		**16 44 41.0**	**+2.6**
	baz=336								
T41A	**Mountain View**	**143.37**	**16**	P		**PKPdf**		**16 44 42.5**	**+2.7**
	baz=340								
V37A	**Hulbert**	**143.37**	**21**	P		**PKPdf**		**16 44 42.6**	**+2.8**
	baz=334								
ABTX	**Abilene, Hawle**	**144.28**	**29**	P		**PKPdf**		**16 44 44.0**	**+2.5**
	baz=325								
ROC1	**El Roble**	**144.30**	**193**	*e*PKPdf		**PKPdf**		**16 44 41.1**	**-0.6**
CPUP	**Villa Florida**	**144.42**	**216**	PKP		PKPbc		16 44 41.0	+0.8
	comp=Z,13nm,0.7s,baz=132,slow=2.7,SNR=32								
CPUP	**Villa Florida**	**144.42**	**216**	*e*PKPdf		PKPbc		16 44 41.0	+0.7
V41A	**Mountainview**	**144.44**	**17**	P		**PKPab**		**16 44 39.9**	**+0.1**
	baz=339,SNR=6.8								
X37A	**Clayton**	**144.44**	**22**	P		PKPbc		16 44 40.1	0.0
	baz=333								
Z34A	**Collier Ranch,**	**144.46**	**26**	P		PKPbc		16 44 40.2	0.0
	baz=328								
W39A	**Magazine**	**144.46**	**20**	P		PKPbc		16 44 40.2	0.0
	baz=336								
X38A	**Whitesboro**	**144.57**	**21**	P		**PKPab**		**16 44 40.4**	**+0.1**
	baz=334,SNR=8.7								
TX31	**Lajitas Ar. Si**	**144.60**	**37**	*e*PKPdf		PKPbc		16 44 41.3	+0.4
TXAR	**Lajitas Array**	**144.60**	**37**	PKP		**PKPdf**		**16 44 41.6**	**-0.6**
	comp=Z,11nm,0.7s,baz=296,slow=1.3,SNR=154								
TXAR				pPKP		**pPKPdf**		**16 44 51.9**	**-0.1**
	comp=Z,6.8nm,0.6s,baz=261,slow=1.1,SNR=16								
V42A	**Cord**	**144.63**	**16**	P		**PKPab**		**16 44 40.5**	**+0.1**
	baz=340								
133A	**Hamilton Ranch**	**144.64**	**28**	P		PKPbc		16 44 40.8	0.0
	baz=326								
Y36A	**Durant**	**144.69**	**24**	P		**PKPab**		**16 44 40.3**	**-0.4**
	baz=331								
W40A	**Ferguson Farm,**	**144.70**	**19**	P		**PKPab**		**16 44 40.5**	**-0.3**
	baz=337								
Z35A	**Perchaven, San**	**144.78**	**26**	P		**PKPab**		**16 44 40.4**	**-0.8**
	baz=329								
WHAR	**Wooly Hollow**	**144.85**	**18**	*e*PKPdf		**PKPab**		**16 44 40.8**	**-0.6**
HPIG		**144.97**	**42**	*e*PKPdf		**PKPab**		**16 44 42.1**	**-0.2**
X39A	**Fountain Ranch**	**144.97**	**21**	P		**PKPab**		**16 44 41.4**	**-0.4**
	baz=335,SNR=14								
134A	**White-Moore Ra**	**145.06**	**27**	P		**PKPbc**		**16 44 41.4**	**-0.8**
	baz=327								
MIAR	**Mount Ida**	**145.12**	**20**	P		**PKPab**		**16 44 42.4**	**+0.1**
	baz=336,SNR=19								
MIAR	**Mount Ida**	**145.12**	**20**	*e*PKIKP		**PKPbc**		**16 44 42.0**	**-0.3**
MIAR	**Mount Ida**	**145.12**	**20**	*e*PKPbc		**PKPbc**		**16 44 42.0**	**-0.3**
233A	**Rising Star**	**145.13**	**29**	P		**PKPbc**		**16 44 42.0**	**-0.5**
	baz=325,SNR=6.1								
WVT	**Waverly**	**145.17**	**11**	*e*PKIKP		**PKPbc**		**16 44 41.6**	**-0.7**
WVT	**Waverly**	**145.17**	**11**	*e*PKPbc		**PKPbc**		**16 44 41.6**	**-0.7**
Z36A	**Blue Ridge**	**145.18**	**25**	P		**PKPbc**		**16 44 42.1**	**-0.4**
	baz=330								
UALR	**University of**	**145.31**	**18**	*e*PKPbc		**PKPbc**		**16 44 42.2**	**-0.7**
TZTN	**Tazewell**	**145.36**	**5**	*e*PKPbc		**PKPbc**		**16 44 42.4**	**-0.7**
X40A	**Basin Creek Fa**	**145.43**	**19**	P		**PKPbc**		**16 44 42.8**	**-0.4**
	baz=337,SNR=7.4								
Y39A	**Lockesburg**	**145.50**	**21**	P		**PKPbc**		**16 44 43.2**	**-0.3**
	baz=334								
234A	**Clairette**	**145.50**	**28**	P		**PKPdf**		**16 44 43.3**	**-0.3**
	baz=327								
333A	**Richland Sprin**	**145.66**	**30**	P		**PKPdf**		**16 44 43.9**	**+0.1**
	baz=325,SNR=11								
433A	**Art**	**146.06**	**30**	P		**PKPdf**		**16 44 44.9**	**+0.3**
	baz=324,SNR=9.6								
TKL	**Tuckaleechee C**	**146.22**	**6**	*e*PKP2		**PKPdf**		**16 44 45.0**	**+0.3**
TKL	**Tuckaleechee C**	**146.22**	**6**	*e*PKPdf		**PKPdf**		**16 44 45.0**	**+0.3**
PLAL	**Pickwick Lake**	**146.23**	**12**	*e*PKPdf		**PKPdf**		**16 44 44.6

Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **21** 16:42:12.1±0.2,51°.30N×179°.17E,mb5.0/198, ML4.9(AEIC) Error ellipse: s-maj=5.5km s-min=2.2km az=177.0*
*BJI **21** 16:42:13.0,51°.45N×179°.03E,h58km,mb5.2/68,mB5.1/43, Ms4.7/44,Ms7 4.4/42*
*ISCJB **21** 16:42:13.1±0.4,51°.30N±0°.04×179°.29E±0°.02,h60km±3km, mb5.0/263,MS4.2/23,Error ellipse: s-maj=6.2km s-min=2.2km az=0.7*
ISC 21 16:42:13.1±0.5,51°.19N±0°.07×179°.21E±0°.03,h47km±3km, h46km:pP-P,n817,σ1§23/858,mb5.0/264,MS4.2/24, 45C-28D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**1.39**	**65**	P	**Pn**	**16 42 35.3**	**-0.8**
GAEA	**Gareloi East**	**1.41**	**64**	P	**Pn**	**16 42 35.6**	**-0.8**
TANO	**Tanaga North**	**1.82**	**65**	P	**Pn**	**16 42 41.6**	**-0.3**
TASE	**Tanaga Southea**	**1.84**	**68**	P	**Pn**	**16 42 41.7**	**-0.6**
TAFP	**Tanaga Falls P**	**1.90**	**67**	P	**Pn**	**16 42 42.4**	**-0.6**
TAFP				S	**Sn**	**16 43 07.3**	**+1.7**
TAFL	**Tanaga Flats**	**1.90**	**71**	P	**Pn**	**16 42 42.4**	**-0.6**
TAPA	**Tanaga Point A**	**1.97**	**70**	P	**Pn**	**16 42 43.7**	**-0.3**
KICM	**Kanaga Island**	**2.36**	**71**	P	**Pn**	**16 42 49.5**	**+0.1**
KIKV	**Kanaga Island**	**2.37**	**72**	P	**Pn**	**16 42 49.3**	**-0.1**
KIRH	**Kanaga Island**	**2.42**	**71**	P	**Pn**	**16 42 50.1**	**0.0**
ADAG	**Mount Adagdak**	**2.73**	**71**	P	**Pn**	**16 42 55.3**	**+0.8**
ETKA	**Kagalaska Isla**	**2.82**	**74**	P	**Pn**	**16 42 56.0**	**+0.3**
GSCK	**Great Sitkin C**	**3.00**	**72**	P	**Pn**	**16 42 58.4**	**+0.3**
GSTD	**Great Sitkin T**	**3.03**	**71**	P	**Pn**	**16 42 58.6**	**+0.1**
GSTD				S	**Sn**	**16 43 35.6**	**+2.1**
GSMY	**Great Sitkin M**	**3.08**	**72**	P	**Pn**	**16 42 58.7**	**-0.4**
GSTR	**Great Sitkin T**	**3.09**	**71**	*e*Pn	**Pn**	**16 42 60.0**	**+0.7**
SMY	**Shemya**	**3.52**	**298**	P	**Pn**	**16 43 05.1**	**0.0**
SMY				S	**Sn**	**16 43 50.8**	**+5.4**
SMY	**Shemya**	**3.52**	**298**	P	**Pn**	**16 43 05.1**	**0.0**
SMY				S	**Sn**	**16 43 50.8**	**+5.4**
KOKL	**Mount Kliuchef**	**4.25**	**72**	P	**Pn**	**16 43 16.2**	**+0.9**
KOFP	**Korovin Flat P**	**4.30**	**73**	P	**Pn**	**16 43 17.1**	**+1.1**
NIKH	**Nikolski High**	**7.57**	**72**	P	**Pn**	**16 44 01.5**	**+0.7**
OKAK	**Okmok**	**7.98**	**68**	P	**Pn**	**16 44 08.8**	**+2.5**
OKTU	**Okmok Mt. Tuli**	**8.13**	**69**	P	**Pn**	**16 44 10.2**	**+1.8**
SPIA	**Saint Paul Isl**	**8.61**	**42**	P	**Pn**	**16 44 17.0**	**+2.0**
MTBL	**Makushin Table**	**9.04**	**67**	P	**Pn**	**16 44 22.3**	**+1.4**
UNV	**Unalaska Valle**	**9.11**	**67**	P	**Pn**	**16 44 22.6**	**+0.8**
UNV				S	**Sn**	**16 46 06.7**	**+3.8**
AKRB	**Akutan Reef Bi**	**9.42**	**66**	P	**Pn**	**16 44 28.1**	**+2.1**
AKGG	**Akutan Green G**	**9.48**	**66**	P	**Pn**	**16 44 28.6**	**+1.8**
AKUT	**Akutan**	**9.59**	**66**	P	**Pn**	**16 44 30.4**	**+2.0**
AKSA	**Akutan Strait**	**9.64**	**66**	P	**Pn**	**16 44 30.7**	**+1.8**
PET	**Petropavlovsk**	**12.76**	**286**	*i*||*e*P	**P**	**16 45 17.0**	**-4.5**
PET	comp=Z,39nm,1.2s			pmax	pmax		
SDPT	**Sand Point**	**12.84**	**63**	*e*Pn	**Pn**	**16 45 11.6**	**-1.1**
PEA0	**Petropavlovsk-**	**13.34**	**287**	*e*Pn	**Pn**	**16 45 19.8**	**+0.2**
PEA0B	**Petropavlovsk-**	**13.34**	**287**	*e*Pn	**Pn**	**16 45 19.9**	**+0.4**
PETK	**Petropavlovsk-**	**13.34**	**287**	Pn	**Pn**	**16 45 20.1**	**+0.5**
PETK	comp=Z,0.8nm,0.3s,baz=81,slow=12,SNR=13			Sn	**Sn**	**16 47 40.7**	**-5.5**
PETK	comp=Z,0.1nm,0.3s,baz=92,slow=24,SNR=2.5			LR	LR	16 50 22.5	
CHGN	comp=Z,746nm,21.6s,baz=93,slow=37 **Chignik**	**14.17**	**60**	*e*Pn	**Pn**	**16 45 28.4**	**-2.3**
SKR	**Severo-Kuril's**	**14.56**	**277**	*e*P	**Pn**	**16 45 37.2**	**+1.2**
SKR				*e*S	**S**	**16 48 28.3**	**-4.9**
SKR	comp=Z,56nm,1.2s			pmax	pmax		
SKR	comp=N,70nm,0.8s			smax	smax		
SKR	comp=E,87nm,0.9s			smax	smax		
SKR	comp=Z,600nm,21.0s			MLR	MLR		
SVW2	**Sparrevohn**	**17.09**	**45**	*e*P	**P**	**16 46 08.9**	**-0.5**
OHAK	comp=Z,32nm,1.0s **Old Harbor**	**17.11**	**59**	*e*Pn	**Pn**	**16 46 04.3**	**-4.3**
KDAK	comp=Z,67nm,0.8s **Kodiak Island**	**17.58**	**57**	*e*P	**Pn**	**16 46 10.3**	**-4.0**
KDAK	comp=Z,59nm,0.9s			pmax	pmax		
KDAK	**Kodiak Island** comp=Z,59nm,0.9s	**17.58**	**57**	*e*Pn	**Pn**	**16 46 10.3**	**-4.0**
TT01	**Tatalina**	**17.73**	**39**	*e*Pn	**P**	**16 46 17.2**	**+0.7**
TTA	**Tatalina**	**17.74**	**39**	*e*P	**P**	**16 46 17.8**	**+1.1**
TTA	comp=Z,73nm,1.0s			pmax	pmax		
TTA	**Tatalina** comp=Z,73nm,1.0s	**17.74**	**39**	*e*Pn	**P**	**16 46 17.8**	**+1.1**
BILL	**Bilibino**	**18.05**	**344**	*c i*P	**Pn**	**16 46 21.5**	**+1.4**
BILL	comp=Z,66nm,0.9s			pmax	pmax		
BILL	**Bilibino** comp=Z,52nm,0.8s	**18.05**	**344**	*e*Pn	**Pn**	**16 46 20.8**	**+0.7**
MA2	**Magadan** comp=Z,0.4nm,0.3s,baz=132,slow=6.4,SNR=8.8	**18.08**	**309**	P	**Pn**	**16 46 20.9**	**+0.4**
MA2	**Magadan** comp=Z,67nm,0.9s	**18.08**	**309**	*e*Pn	**P**	**16 46 19.4**	**-1.1**
RSO	**Redoubt South**	**18.15**	**48**	*e*P	**P**	**16 46 18.4**	**-3.0**
SEY	**Seymchan** comp=Z,0.4nm,0.3s,baz=126,slow=10,SNR=14	**18.56**	**320**	P	**Pn**	**16 46 26.8**	**+0.5**
SEY	baz=153,slow=6.8			ScP	**ScP**	**16 54 25.2**	**+0.8**
SEY	**Seymchan**	**18.56**	**320**	||*e*P	**Pn**	**16 46 27.8**	**+1.5**
CNPM	**China Poot** comp=Z,47nm,0.8s	**18.62**	**52**	*e*P	**P**	**16 46 25.4**	**-1.0**
SPU	**Mount Spurr**	**18.71**	**47**	*e*P	**Pn**	**16 46 27.9**	**-0.2**
BRLK	**Bradley Lake** comp=Z,48nm,1.2s	**18.86**	**51**	*e*P	**P**	**16 46 27.4**	**-1.6**
PPLA	**Purkeypile** comp=Z,205nm,1.5s	**19.29**	**42**	*e*P	**Pn**	**16 46 34.9**	**-0.2**
SUA	**Susitna One** comp=Z,50nm,0.8s	**19.40**	**46**	*e*P	**P**	**16 46 34.2**	**-0.8**
SEW	**Seward** comp=Z,34nm,0.8s	**19.64**	**51**	*e*P	**P**	**16 46 36.4**	**-1.0**
RC01	**Rabbit Creek A** comp=Z,25nm,0.8s	**19.75**	**48**	*e*P	**P**	**16 46 38.1**	**-0.6**
RC01				*e*S	**Sn**	**16 50 24.3**	**+3.1**
KTH	**Kantishna Hill** comp=Z,179nm,0.9s	**20.08**	**41**	*e*P	**P**	**16 46 42.8**	**+0.5**
PMR	**Palmer**	**20.17**	**47**	*e*P	**P**	**16 46 42.9**	**-0.3**
PMR	comp=Z,19nm,1.0s			pmax	pmax		
PMR	**Palmer** comp=Z,19nm,1.0s	**20.17**	**47**	*e*P	**P**	**16 46 42.9**	**-0.3**
BPAW	**Bear Paw Mtn.** comp=Z,53nm,0.7s	**20.28**	**39**	*e*P	**P**	**16 46 45.0**	**+0.5**
TRF	**Thorofare Moun** comp=Z,76nm,0.9s	**20.30**	**41**	*e*P	**P**	**16 46 44.9**	**0.0**
SML	**Sawmill**	**20.60**	**46**	*e*P	**P**	**16 46 46.5**	**-1.4**
SML	comp=Z,45nm,0.9s			pmax	pmax		
SML	**Sawmill** comp=Z,45nm,0.9s	**20.60**	**46**	*e*P	**P**	**16 46 46.5**	**-1.4**
MLY	**Manley** comp=Z,68nm,1.0s	**20.80**	**37**	*e*P	**P**	**16 46 50.5**	**+0.5**
RND	**Reindeer**	**20.88**	**42**	*e*P	**P**	**16 46 49.0**	**-2.0**
RND	comp=Z,43nm,0.8s			pmax	pmax		
RND	**Reindeer** comp=Z,43nm,0.8s	**20.88**	**42**	*e*P	**P**	**16 46 49.0**	**-2.0**
BWN	**Browne** comp=Z,165nm,1.1s	**20.92**	**40**	*e*P	**P**	**16 46 50.9**	**-0.4**
MCK	**McKinley**	**20.96**	**41**	*e*P	**P**	**16 46 51.0**	**-0.9**
MCK	comp=Z,51nm,0.9s			pmax	pmax		
MCK	**McKinley** comp=Z,51nm,0.9s	**20.96**	**41**	*e*P	**P**	**16 46 51.0**	**-0.9**
SCM	**Sheep Creek Mo**	**21.06**	**47**	*e*P	**P**	**16 46 51.6**	**-1.4**
SCM	comp=Z,104nm,1.1s			pmax	pmax		
SCM	**Sheep Creek Mo** comp=Z,104nm,1.1s	**21.06**	**47**	*e*P	**P**	**16 46 51.6**	**-1.4**
EYAK	**Cordova Ski Ar** comp=Z,32nm,0.8s	**21.53**	**51**	*e*P	**P**	**16 46 55.7**	**-2.2**
WRH	**Wood River Hil** comp=Z,34nm,1.0s	**21.59**	**40**	*e*P	**P**	**16 46 56.6**	**-1.8**
KUR	**Kuril'sk**	**21.61**	**266**	*i* P	**P**	**16 46 59.9**	**+1.1**
DIV	**Divide** comp=Z,51nm,0.9s	**21.63**	**49**	*e*P	**P**	**16 46 55.7**	**-3.3**
KLU	**Klutina** comp=Z,56nm,1.1s	**21.63**	**48**	*e*P	**P**	**16 46 57.2**	**-1.9**
MDM	**Murphy Dome** comp=Z,97nm,0.8s	**21.73**	**38**	*e*P	**P**	**16 46 58.8**	**-1.1**
CCB	**Clear Creek Bu** comp=Z,33nm,0.9s	**21.77**	**39**	*e*P	**P**	**16 46 57.6**	**-2.7**
COLA	**College**	**21.84**	**39**	*e*P	**P**	**16 47 01.8**	**+0.7**
COLA	comp=Z,41nm,0.8s			pmax	pmax		
COLA	**College** comp=Z,41nm,0.8s	**21.84**	**39**	*e*P	**P**	**16 47 01.8**	**+0.7**
HDA	**Harding Lake** comp=Z,15nm,0.7s	**22.03**	**40**	*e*P	**P**	**16 47 02.1**	**-1.1**
RAGM	**Ragged Mountai** comp=Z,41nm,0.8s	**22.03**	**51**	*e*P	**P**	**16 47 02.7**	**-0.6**
COLD	**Coldfoot** comp=Z,46nm,1.0s	**22.07**	**32**	*e*P	**P**	**16 47 03.4**	**-0.2**
BMRM	**Bremner River** comp=Z,42nm,0.8s	**22.16**	**50**	*e*P	**P**	**16 47 02.3**	**-2.3**
IL1	**Eielson Array**	**22.18**	**39**	*e*P	**P**	**16 47 02.3**	**-2.6**
IL1				*e*ScP	**ScP**	**16 54 31.9**	**-1.1**
ILAR	**Eielson Array** comp=Z,8.9nm,0.8s,baz=240,slow=10,SNR=37	**22.18**	**39**	P	**P**	**16 47 01.7**	**-3.1**
ILAR	comp=Z,2.3nm,0.7s,baz=282,slow=3.4,SNR=8.9			PcP	**PcP**	**16 50 59.0**	**-0.8**
ILAR	comp=Z,1.6nm,0.7s,baz=282,slow=3.3,SNR=11			ScP	**ScP**	**16 54 34.9**	**+1.8**
ILB	**Eielson Array**	**22.18**	**39**	*e*P	**P**	**16 47 01.9**	**-3.0**
PAX	**Paxson**	**22.20**	**44**	*e*P	**P**	**16 47 03.5**	**-1.7**
PAX	comp=Z,28nm,0.8s			pmax	pmax		
PAX	**Paxson** comp=Z,28nm,0.8s	**22.20**	**44**	*e*P	**P**	**16 47 03.5**	**-1.7**
CRQM	**Cirque** comp=Z,35nm,0.8s	**22.83**	**51**	*e*P	**P**	**16 47 10.3**	**-1.7**
TYV	**Tymovskoe**	**22.84**	**284**	*e*P	**P**	**16 47 13.0**	**+1.0**
TYV				*e*		16 51 12.0	
TYV	comp=E,72nm,1.2s			pmax	pmax		
TYV	comp=Z,24nm,0.8s			pmax	pmax		
TYV	comp=E,1μm,15.0s			MLR	MLR		
TYV	comp=Z,1μm,15.0s			MLR	MLR		
MENT	**Mentasta** comp=Z,28nm,0.8s	**22.97**	**45**	*e*P	**P**	**16 47 11.6**	**-1.6**
DOT	**Dot Lake** comp=Z,70nm,0.8s	**23.00**	**43**	*e*P	**P**	**16 47 11.2**	**-2.3**
BALM	**Baldy**	**23.25**	**50**	*e*P	**P**	**16 47 13.4**	**-2.7**
BALM	comp=Z,21nm,0.9s			pmax	pmax		
BALM	**Baldy** comp=Z,21nm,0.9s	**23.25**	**50**	*e*P	**P**	**16 47 13.4**	**-2.7**
YUK	**Yuzh-Kuril'sk**	**23.44**	**265**	||*e*P	**P**	**16 47 18.7**	**+0.8**
FYU	**Fort Yukon** comp=Z,126nm,1.0s	**23.51**	**36**	*e*P	**P**	**16 47 17.5**	**-0.9**
YSS	**Yuzh-Sakhalins**	**24.09**	**274**	||*e*P	**P**	**16 47 25.2**	**+1.3**
YSS				*e*		16 47 36.3	
YSS				*e*S	**S**	**16 51 41.6**	**+3.6**
YSS				*e*		16 51 57.0	
YSS	comp=Z,70nm,1.1s			pmax	pmax		
YSS	comp=Z,400nm,19.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins** comp=Z,259nm,1.6s	**24.09**	**274**	*e*P	**P**	**16 47 25.2**	**+1.3**
EGAK	**Eagle** comp=Z,82nm,0.9s	**24.52**	**41**	*e*P	**P**	**16 47 26.8**	**-0.9**
ASAJ	**Asahikawa** comp=Z,102nm,0.8s,baz=58,slow=6.4,SNR=46	**25.45**	**268**	P	**P**	**16 47 37.5**	**+1.3**
ASAJ	**Asahikawa** comp=Z,122nm,0.9s	**25.45**	**268**	*e*P	**P**	**16 47 37.6**	**+1.3**
ERM	**Erimo**	**26.18**	**264**	*c i*P	**P**	**16 47 44.8**	**+1.9**
ERM	comp=Z,69nm,1.2s			pmax	pmax		
ERM	**Erimo** comp=Z,48nm,1.0s	**26.18**	**264**	*e*P	**P**	**16 47 44.2**	**+1.3**
HABR	**Khabarovsk**	**28.29**	**282**	*ce*P	**P**	**16 48 01.2**	**-0.6**
HABR				*e**PP	**pP**	**16 48 14.1**	**+0.1**
HABR				*e*		16 48 51.3	
HABR				*e*		16 51 13.2	
HABR				*e*S	**S**	**16 52 44.4**	**-0.2**
HABR				*e*SS	**SnSn**	**16 54 05.8**	**+1.2**
HABR				*e*		16 58 42.7	
HABR	comp=E,14nm,1.0s			pmax	pmax		
HABR	comp=Z,27nm,1.0s			pmax	pmax		
HABR	comp=N,11nm,1.0s			pmax	pmax		
HABR	comp=Z,128nm,18.0s			MLR	MLR		
INK	**Inuvik** comp=Z,7.6nm,0.8s,baz=292,slow=7.0,SNR=11	**28.34**	**35**	P	**P**	**16 48 01.1**	**-0.9**
INK	comp=Z,8.0nm,0.9s,baz=205,slow=2.1,SNR=4.6			PcP	**PcP**	**16 51 13.7**	**+0.2**
INK	**Inuvik** comp=Z,36nm,0.9s	**28.34**	**35**	*e*P	**P**	**16 48 01.4**	**-0.6**
INK				PcP	**PcP**	**16 51 13.7**	**+0.2**
YAK	**Yakutsk** comp=Z,1.1nm,0.4s,baz=135,slow=2.9,SNR=10.0	**28.61**	**311**	P	**P**	**16 48 02.9**	**-1.5**
YAK	**Yakutsk**	**28.61**	**311**	*e*P	**P**	**16 48 03.3**	**-1.1**
YAK				*e**PP	**pP**	**16 48 16.7**	**0.0**
YAK				*e*		16 48 53.6	
YAK				*e*		16 51 13.9	
YAK				*e*S	**S**	**16 52 46.6**	**-2.6**
YAK				*e*SS	**SnSn**	**16 54 11.4**	**-0.6**
YAK				*e*		16 58 44.5	
YAK	comp=Z,27nm,1.0s			pmax	pmax		
YAK	comp=E,22nm,1.1s			pmax	pmax		
YAK	comp=Z,46nm,2.5s			pmax	pmax		
YAK	comp=N,19nm,2.3s			pmax	pmax		
YAK	comp=E,23nm,2.2s			pmax	pmax		
YAK	comp=N,61nm,3.0s			smax	smax		
YAK	comp=E,39nm,3.6s			smax	smax		
YAK	**Yakutsk** comp=E,33nm,0.9s	**28.61**	**311**	*e*P	**P**	**16 48 02.7**	**-1.7**
YAK				*e*SS	SS	16 54 45.5	-5.7
DLBC	**Dease Lake** comp=E,0.9nm,0.3s,baz=342,slow=20,SNR=2.5	**29.51**	**56**	P	**P**	**16 48 09.3**	**-3.3**
KLR	**Kul'dur** comp=E,58nm,0.6s,baz=68,slow=7.8,SNR=131	**30.02**	**285**	P	**P**	**16 48 17.6**	**+0.5**
TIXI	**Tiksi**	**30.19**	**331**	*c i*P	**P**	**16 48 17.6**	**-0.8**
TIXI	comp=Z,5.0nm,1.0s			pmax	pmax		
TIXI	**Tiksi** comp=Z,7.0nm,1.0s	**30.19**	**331**	*e*P	**P**	**16 48 15.9**	**-2.5**
USRK	**Ussuriysk Ar.** comp=Z,10nm,0.8s,baz=58,slow=5.4,SNR=13	**32.07**	**276**	P	**P**	**16 48 35.5**	**+0.3**
USRK	comp=Z,4.5nm,0.9s,baz=333,slow=2.1,SNR=5.3			PcP	**PcP**	**16 51 24.5**	**+0.9**
USRK	comp=Z,230nm,21.5s,baz=62,slow=35			LR	LR	17 00 51.0	
MAJO	**Matsushiro**	**32.52**	**259**	*c i*P	**P**	**16 48 40.5**	**+1.2**
MAJO	comp=Z,235nm,1.1s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,33nm,1.0s	**32.52**	**259**	*e*P	**P**	**16 48 38.1**	**-1.2**
MAT	**Matsushiro**	**32.52**	**259**	P	**P**	**16 48 39.9**	**+0.6**
MAT				S	**S**	**16 53 55.2**	**+4.2**
MJAR	**Matsushiro Arr** comp=Z,7.9nm,0.8s,baz=54,slow=7.5,SNR=24	**32.52**	**259**	P	**P**	**16 48 40.1**	**+0.8**
MJAR	comp=Z,3.2nm,0.9s,baz=79,slow=2.3,SNR=7.1			PcP	**PcP**	**16 51 25.3**	**+0.3**
MJAR	comp=Z,212nm,21.7s,baz=65,slow=32			LR	LR	16 59 41.0	
MJB9	**Matsu-Tunnel** comp=Z,8.8nm,1.0s	**32.52**	**259**	*e*P	**P**	**16 48 38.3**	**-1.0**
VLA	**Vladivostok**	**32.68**	**275**	*c i*P	**P**	**16 48 41.2**	**+0.6**
VLA	comp=Z,24nm,0.8s			pmax	pmax		
H11N2	**WAKE ISLAND Hy** baz=18,slow=75,SNR=133	**32.86**	**202**	T	T	17 23 50.8	
H11N3	**WAKE ISLAND Hy** baz=18,slow=75,SNR=186	**32.87**	**202**	T	T	17 23 47.3	
H11N1	**WAKE ISLAND Hy** baz=18,slow=75,SNR=171	**32.88**	**202**	T	T	17 23 44.3	
MDJ	**Mudanjiang**	**33.36**	**278**	P	**P**	**16 48 45.9**	**-0.6**
MDJ				pP	pP	16 48 58.9	0.0
MDJ				sP	sP	16 49 05.0	+0.5
MDJ				PP	**PP**	**16 50 01.3**	**-1.2**
MDJ				PcP	**PcP**	**16 51 28.8**	**+1.6**
MDJ				S	**S**	**16 54 02.3**	**-1.7**
MDJ				ScP	**ScP**	**16 55 06.8**	**-0.7**
MDJ				ScS	**ScS**	**16 59 05.9**	**-2.4**
MDJ	comp=Z,18nm,0.9s			PMZ			
MDJ	comp=Z,93nm,6.9s			PMZ			
MDJ	comp=Z,200nm,16.8s			LN			
MDJ	comp=Z,290nm,18.3s			LE			
MDJ	comp=Z,520nm,16.8s			LZ			
MDJ	**Mudanjiang** comp=Z,18nm,0.9s	**33.36**	**278**	*e*P	**P**	**16 48 45.7**	**-0.9**
MSHR	**Mys Shultsa**	**33.42**	**274**	*c i*P	**P**	**16 48 48.3**	**+1.3**
INU	**Inuyama** comp=Z,29nm,1.4s	**34.02**	**259**	*e*P	**P**	**16 48 52.7**	**+0.4**
H11S1	**WAKE ISLAND Hy** baz=19,slow=76,SNR=140	**34.08**	**202**	T	T	17 25 19.0	
H11S2	**WAKE ISLAND Hy** baz=19,slow=76,SNR=69	**34.10**	**201**	T	T	17 25 22.0	
H11S3	**WAKE ISLAND Hy** baz=19,slow=76,SNR=71	**34.10**	**202**	T	T	17 25 22.0	
YKA	**Yellowknife Ar** comp=Z,15nm,0.8s,baz=281,slow=8.2,SNR=88	**36.27**	**46**	P	**P**	**16 49 10.7**	**-0.6**
YKA	comp=Z,6.2nm,0.9s,baz=293,slow=3.1,SNR=9.5			PcP	**PcP**	**16 51 35.6**	**+0.3**
YKA	comp=Z,4.3nm,0.7s,baz=293,slow=3.1,SNR=28			ScP	**ScP**	**16 55 20.1**	**+2.5**
CN2	**Changchun**	**36.35**	**280**	*e*P	**P**	**16 49 12.1**	**-0.2**
CN2				*e*S	**S**	**16 54 48.3**	**-1.6**
CN2	comp=Z,10.0nm,1.0s			PMZ			
CN2	comp=Z,100nm,4.0s			PMZ			
CN2	comp=Z,300nm,21.0s			LN			
CN2	comp=Z,400nm,21.0s			LE			
CN2	comp=Z,400nm,23.0s			LZ			
NLWA	**Neilton Lookou** comp=Z,26nm,1.0s	**36.53**	**73**	*e*P	**P**	**16 49 14.8**	**+1.0**
CBIJ	**Chichi jima**	**36.87**	**243**	P	**P**	**16 49 17.3**	**+0.5**
JCJ	**Chichijima** comp=Z,39nm,0.6s,baz=80,slow=23,SNR=5.8	**36.87**	**243**	P	**P**	**16 49 17.3**	**+0.5**
GNW	**Green Mountain**	**37.08**	**72**	P	**P**	**16 49 19.5**	**+1.1**
BOD	**Bodaibo**	**37.08**	**306**	||*i*P	**P**	**16 49 17.5**	**-0.9**
BOD	comp=Z,46nm,1.1s			pmax	pmax		
E03A	**Lebam** comp=Z,50nm,0.9s	**37.11**	**74**	*e*P	**P**	**16 49 19.5**	**+0.8**
B05A	**Bryant** baz=297	**37.19**	**71**	P	**P**	**16 49 20.9**	**+1.5**
HIA	**Hailar**	**37.19**	**291**	*c i*P	**P**	**16 49 19.2**	**-0.2**
HIA	comp=Z,47nm,1.4s			pmax	pmax		
HIA	**Hailar** comp=Z,56nm,1.3s	**37.19**	**291**	*e*P	**P**	**16 49 18.0**	**-1.4**
D05A	**Enumclaw** comp=Z,40nm,0.8s	**37.76**	**72**	*e*P	**P**	**16 49 25.5**	**+1.4**
OBSR	**Observation Ro**	**38.00**	**73**	P	**P**	**16 49 27.8**	**+1.2**
FL2	**Flat Top 2**	**38.02**	**74**	P	**P**	**16 49 27.6**	**+1.1**
TDL	**Tradedollar La**	**38.02**	**74**	P	**P**	**16 49 28.1**	**+1.4**
LON	**Longmire**	**38.07**	**73**	*e*P	**P**	**16 49 27.2**	**+0.3**
LON	comp=Z,13nm,0.7s			pmax	pmax		
LON	**Longmire** comp=Z,13nm,0.7s	**38.07**	**73**	*e*P	**P**	**16 49 27.2**	**+0.3**
RCM	**Mount Rainier-**	**38.08**	**73**	P	**P**	**16 49 28.8**	**+1.4**
F04A	**Amboy** comp=Z,25nm,0.7s	**38.11**	**74**	*e*P	**P**	**16 49 27.5**	**+0.3**
MTMW	**Mount Mitchell**	**38.19**	**74**	P	**P**	**16 49 29.6**	**+1.7**
COR	**Corvallis**	**38.25**	**77**	*e*P	**P**	**16 49 28.4**	**+0.1**
COR				*e**PP	**pP**	**16 49 42.0**	**+1.2**
COR	comp=Z,43nm,0.8s			pmax	pmax		
COR	**Corvallis** comp=Z,43nm,0.8s	**38.25**	**77**	*e*P	**P**	**16 49 28.4**	**+0.1**
COR				*ep*P	**pP**	**16 49 42.0**	**+1.2**
KSRS	**Korea Array** comp=Z,15nm,0.9s,baz=60,slow=8.4,SNR=44	**38.38**	**269**	P	**P**	**16 49 30.9**	**+1.4**
KSRS	comp=Z,4.1nm,0.8s,baz=45,slow=2.6,SNR=10			PcP	**PcP**	**16 51 43.4**	**+1.1**
KSRS	comp=Z,132nm,21.0s,baz=78,slow=34			LR	LR	17 04 12.8	
KS01	**Wonju Array Si**	**38.39**	**270**	*e*P	**P**	**16 49 30.2**	**+0.6**
KS15	**Wonju Array Si**	**38.42**	**269**	*e*P	**P**	**16 49 30.5**	**+0.6**
KSAR	**Wonju Array Be**	**38.42**	**269**	P	**P**	**16 49 30.9**	**+1.1**
KSAR						16 51 43.4	
KSAR	**Wonju Array Be**	**38.42**	**269**	P	**P**	**16 49 30.9**	**+1.1**
KSAR				PcP	**PcP**	**16 51 43.4**	**+1.0**
TBM	**Table Mountain**	**38.60**	**72**	P	**P**	**16 49 32.2**	**+0.8**
B08A	**Colville Reser** comp=Z,28nm,1.1s	**38.78**	**69**	*e*P	**P**	**16 49 32.1**	**-0.7**
VFP	**Flag Point**	**38.99**	**75**	P	**P**	**16 49 35.8**	**+0.9**
G05D	**Wamic, OR** baz=301	**39.12**	**75**	P	**P**	**16 49 36.4**	**+0.6**
INCN	**Inchon** comp=Z,72nm,1.1s	**39.18**	**271**	*e*P	**P**	**16 49 37.0**	**+0.8**
I04A	**Tendick Farm,** baz=302,SNR=7.8	**39.21**	**77**	P	**P**	**16 49 37.6**	**+1.1**
JNU	**Nakatsue** comp=Z,34nm,1.0s,baz=27,slow=1.3,SNR=14	**39.30**	**262**	P	**P**	**16 49 38.5**	**+1.1**
JNU	comp=Z,8.0nm,0.8s,baz=22,slow=5.0,SNR=3.8			PcP	**PcP**	**16 51 45.2**	**-0.1**
JNU	**Nakatsue** comp=Z,43nm,1.0s	**39.30**	**262**	*e*P	**P**	**16 49 37.1**	**-0.3**
JNU				PcP	**PcP**	**16 51 45.2**	**-0.1**
L02D	**Cave Junction,** baz=304	**39.36**	**80**	P	**P**	**16 49 38.9**	**+1.2**
TJN	**Taejon**	**39.40**	**269**	*c i*P	**P**	**16 49 39.0**	**+0.9**
HUMO	**Hull Mountain** comp=Z,16nm,1.2s	**39.51**	**79**	*e*P	**P**	**16 49 40.0**	**+1.0**
CIT	**Chita**	**39.53**	**298**	*e*P	**P**	**16 49 39.5**	**+0.5**
CIT				*e*		16 49 52.2	
CIT	comp=Z,76nm,1.2s			pmax	pmax		
I05D	**Terrebonne, OR** baz=302	**39.58**	**76**	P	**P**	**16 49 40.2**	**+0.6**
VTHM	**Trough**	**39.61**	**74**	P	**P**	**16 49 40.7**	**+0.8**
HAWA	**Hanford** comp=Z,27nm,0.7s	**39.62**	**72**	*e*P	**P**	**16 49 38.8**	**-1.0**
NEW	**Newport** baz=299	**40.12**	**68**	P	**P**	**16 49 43.6**	**-0.4**
NEW	**Newport** comp=Z,23nm,0.9s	**40.12**	**68**	*e*P	**P**	**16 49 43.4**	**-0.6**
NEW	comp=Z,23nm,0.9s			pmax	pmax		
NEW	**Newport** comp=Z,23nm,0.9s	**40.12**	**68**	*e*P	**P**	**16 49 43.4**	**-0.6**
YBH	**Yreka Blue Hor** comp=Z,35nm,1.0s	**40.15**	**80**	*e*P	**P**	**16 49 46.5**	**+2.1**
YBH	comp=Z,35nm,1.0s			pmax	pmax		
YBH	**Yreka Blue Hor** comp=Z,35nm,1.0s	**40.15**	**80**	*e*P	**P**	**16 49 46.5**	**+2.1**
J05D	**Fort Rock, OR** baz=303,SNR=8.3	**40.20**	**77**	P	**P**	**16 49 45.9**	**+1.1**
K04D	**Chiloquin, OR** baz=304	**40.24**	**78**	P	**P**	**16 49 46.1**	**+0.9**
M02C	**Callahan** baz=305	**40.25**	**81**	P	**P**	**16 49 45.6**	**+0.4**
G08A	**Pilot Rock** comp=Z,9.3nm,0.9s	**40.52**	**73**	*e*P	**P**	**16 49 47.3**	**-0.1**
G08A				*ep*P	**pP**	**16 49 55.4**	**-4.7**
N02D	**Trinity Center** baz=305	**40.58**	**81**	P	**P**	**16 49 48.6**	**+0.7**
M04C	**Macdoel** baz=304	**40.66**	**80**	P	**P**	**16 49 49.4**	**+0.8**
K05A	**Summer Lake** comp=Z,23nm,1.0s	**40.72**	**78**	*e*P	**P**	**16 49 50.3**	**+1.1**
WDC	**Whiskeytown Da**	**40.91**	**82**	*e*P	**P**	**16 49 51.6**	**+1.1**
WDC				*e**PP	**pP**	**16 50 03.0**	**-0.1**
WDC	comp=Z,9.0nm,0.8s			pmax	pmax		
WDC	**Whiskeytown Da** comp=Z,9.1nm,0.8s	**40.91**	**82

BMO **Blue Mountains** 41.75 73 *e*P P 16 49 57.3 -0.2
comp=Z,19nm,1.0s
WVOR **Wild Horse Val** 42.27 77 *e*P P 16 50 02.1 +0.3
WVOR pmax pmax
comp=Z,22nm,0.8s
WVOR **Wild Horse Val** 42.27 77 *e*P P 16 50 02.1 +0.3
comp=Z,22nm,0.8s
MSO **Missoula** 42.71 69 P P 16 50 04.7 -0.6
baz=302,SNR=7.1
MSO **Missoula** 42.71 69 *e*P P 16 50 04.4 -0.9
comp=Z,14nm,0.8s
AFDM **Forest Hills D** 42.84 82 *es*P sP 16 50 25.6 +1.1
CHMT **Chamberlain Mo** 43.06 68 *e*P P 16 50 07.2 -1.1
PAHR **Pah Rah Range** 43.38 80 *e*P P 16 50 11.4 +0.5
comp=Z,23nm,0.8s
MFID **Camas Ranch** 43.43 74 *e*P P 16 50 10.8 -0.3
comp=Z,14nm,1.1s
CMB **Columbia Colle** 43.76 83 *e*pP pP 16 50 28.8 +2.3
NRIK **Norif'sk** 43.94 329 P P 16 50 14.8 +0.1
comp=Z,30nm,0.9s,baz=74,slow=8.4,SNR=32
NRIK PcP PcP 16 52 00.8 +1.0
comp=Z,10nm,0.8s,baz=66,slow=2.8,SNR=4.0
WAKR **Walker** 44.07 82 *e*P P 16 50 16.7 +0.3
comp=Z,9.0nm,0.7s
LRM **Limekiln Ridge** 44.12 69 *e*P P 16 50 15.7 -1.2
BJI **Beijing** 44.18 281 P P 16 50 18.1 +1.0
BJI S S 16 56 47.3 +0.5
BJI PMZ
comp=Z,36nm,1.0s
BJI PMZ
comp=Z,320nm,4.6s
BJI LN
comp=Z,300nm,17.5s
BJI LE
comp=Z,140nm,20.6s
BJI LZ
comp=Z,300nm,22.1s
HLID **Hailey** 44.20 73 P P 16 50 17.5 +0.1
baz=304,SNR=15
HLID **Hailey** 44.20 73 *e*P P 16 50 17.6 +0.1
comp=Z,25nm,0.9s
BJT **Baijiatuau** 44.20 281 *e*P P 16 50 17.9 +0.7
BJT pmax pmax
comp=Z,28nm,0.7s
BJT **Baijiatuau** 44.20 281 *e*P P 16 50 17.9 +0.7
comp=Z,28nm,0.7s
DLMT **Dillon** 44.28 70 *e*P P 16 50 17.3 -0.8
comp=Z,10nm,1.1s
BMN **Battle Mountai** 44.29 78 *e*P P 16 50 18.4 +0.2
BMN pmax pmax
comp=Z,15nm,0.9s
BMN **Battle Mountai** 44.29 78 *e*P P 16 50 18.4 +0.2
comp=Z,15nm,0.9s
MCMT **McKenzie Canyo** 44.43 70 *e*P P 16 50 19.0 -0.3
BOZ **Bozeman (W)** 44.69 69 P P 16 50 21.3 0.0
baz=304,SNR=17
BOZ **Bozeman (W)** 44.69 69 *e*P P 16 50 21.0 -0.3
BOZ pmax pmax
comp=Z,17nm,0.9s
BOZ **Bozeman (W)** 44.69 69 *e*P P 16 50 21.0 -0.3
comp=Z,17nm,0.9s
TLY **Talaya** 45.10 302 LR LR 17 10 56.2
comp=Z,639nm,18.2s,baz=48,slow=38
TLY **Talaya** 45.10 302 *e*P P 16 50 25.1 +0.8
TLY pmax pmax
comp=Z,18nm,0.8s
TLY MLR MLR
comp=Z,403nm,14.0s
TLY **Talaya** 45.10 302 *e*P P 16 50 24.2 -0.1
comp=Z,16nm,0.8s
ULN **Ulaanbaatar** 45.22 295 *c*iP P 16 50 26.2 +0.8
ULN pmax pmax
comp=Z,24nm,1.0s
ULN **Ulaanbaatar** 45.22 295 *e*P P 16 50 25.9 +0.4
comp=Z,19nm,0.8s
QLMT **Earthquake Lak** 45.26 70 *e*P P 16 50 26.0 +0.1
ELK **Elko** 45.32 77 *e*P P 16 50 27.1 +0.7
ELK pmax pmax
comp=Z,14nm,0.7s
ELK **Elko** 45.32 77 *e*P P 16 50 27.1 +0.7
comp=Z,14nm,0.7s
SONA1 **Songino Array** 45.59 296 *e*P P 16 50 29.0 +0.6
SONM **Songino Array** 45.61 296 P P 16 50 29.5 +1.0
comp=Z,13nm,0.6s,baz=57,slow=9.8,SNR=82
SONM PcP PcP 16 52 06.6 +0.5
comp=Z,2.8nm,0.6s,baz=75,slow=2.1,SNR=3.6
SONM ScP ScP 16 55 57.5 +2.7
comp=Z,0.9nm,0.7s,baz=48,slow=2.1,SNR=3.7
SONM LR LR 17 11 23.3
comp=Z,592nm,18.0s,baz=62,slow=38
YHH **Holmes Hill** 45.63 69 *e*P P 16 50 28.5 -0.5
comp=Z,30nm,1.0s
TIN **Tinemaha, Big** 45.71 83 P P 16 50 30.7 +1.3
baz=309
YFT **Old Faithful** 45.83 70 *e*P P 16 50 31.6 +1.2
comp=Z,24nm,0.9s
TIA **Tai'an** 45.94 276 ⇑P P 16 50 31.9 +0.8
TIA PMZ
comp=Z,70nm,0.9s
VES **Vestal, Richgr** 45.94 85 P P 16 50 32.5 +1.4
baz=310
YPP **Pitchstone Pla** 45.95 70 *e*P P 16 50 32.0 +0.6
comp=Z,10.0nm,0.9s
ZAK **Zakamensk** 45.97 300 *e*P P 16 50 31.2 -0.1
ZAK pmax pmax
comp=Z,15nm,1.3s
ZAK pmax pmax
comp=Z,3.0nm,1.4s
H17A **Grant Village** 46.01 70 P P 16 50 32.3 +0.4
baz=305,SNR=8.8
H17A **Grant Village** 46.01 70 *e*P P 16 50 32.9 +1.0
comp=Z,47nm,1.3s
LKWY **Lake** 46.02 69 *e*P P 16 50 33.2 +1.2
LKWY pmax pmax
comp=Z,26nm,0.8s
LKWY **Lake** 46.02 69 *e*P P 16 50 33.1 +1.2
comp=Z,26nm,0.8s
IMW **Indian Meadow** 46.08 70 *e*P P 16 50 32.7 +0.2
comp=Z,12nm,0.8s
PKM **Mcpherson Peak** 46.10 86 P P 16 50 33.8 +1.2
baz=310
FLWY **Flagg Ranch** 46.12 70 *e*P P 16 50 33.0 +0.3
comp=Z,22nm,0.8s
FXWY **Fox Creek** 46.18 71 *e*P P 16 50 33.2 0.0
comp=Z,5.8nm,1.0s
CWC **Cottonwood Cre** 46.19 83 P P 16 50 34.4 +1.1
baz=310
HVU **Hansel Valley** 46.21 74 *e*P P 16 50 33.2 -0.2
HVU pmax pmax
comp=Z,19nm,0.8s
HVU **Hansel Valley** 46.21 74 *e*P P 16 50 33.2 -0.2
comp=Z,19nm,0.8s
MOOW **Moose Ponds** 46.28 70 *e*P P 16 50 34.0 0.0
comp=Z,6.1nm,0.9s
GRAC **Grapevine Rang** 46.29 82 P P 16 50 34.5 +0.6
baz=309
TPAW **Teton Pass** 46.31 71 *e*P P 16 50 34.4 +0.2
comp=Z,9.4nm,0.8s
RLMT **Red Lodge** 46.37 68 P P 16 50 34.5 -0.1
baz=305,SNR=12
RLMT **Red Lodge** 46.37 68 *e*P P 16 50 34.3 -0.3
comp=Z,26nm,1.0s
REDW **Red Top Meadow** 46.44 71 *e*P P 16 50 35.4 +0.1
comp=Z,9.1nm,0.9s
LOHW **Long Hollow** 46.44 71 *e*P P 16 50 35.2 -0.1
comp=Z,6.0nm,0.8s
MOY **Mondy** 46.52 303 *e*P P 16 50 36.3 +0.7
MOY pmax pmax
comp=Z,26nm,2.2s
HHC **Hu-ho-hao-te** 46.53 285 *e*P P 16 50 37.3 +1.5
HHC sP sP 16 50 59.4 +5.3
HHC S S 16 57 21.6 +0.7
HHC SS SS 17 00 39.6 -7.2
HHC PMZ
comp=Z,47nm,1.2s
HHC PMZ
comp=Z,190nm,6.9s
HHC LN
comp=Z,190nm,17.3s
HHC LE
comp=Z,300nm,16.7s
R11A **Troy Canyon, C** 46.55 79 P P 16 50 36.3 +0.2
baz=308,SNR=26
R11A **Troy Canyon, C** 46.55 79 *e*P P 16 50 36.0 -0.1
comp=Z,13nm,0.8s
BGU **Big Grassy Mou** 46.56 75 *e*P P 16 50 36.5 +0.4
comp=Z,10nm,0.9s

DAC **Darwin (Calif)** 46.60 83 *e*P P 16 50 37.3 +0.8
DAC pmax pmax
comp=Z,7.0nm,0.9s
DAC **Darwin (Calif)** 46.60 83 *e*P P 16 50 37.3 +0.8
comp=Z,6.8nm,0.9s
GUMO **Guam** 46.63 229 LR LR 17 07 49.7
comp=Z,128nm,19.7s,baz=38,slow=33
SPUT **South Promonto** 46.69 74 *e*P P 16 50 37.6 +0.5
comp=Z,23nm,1.1s
SPUT *e*pP pP 16 50 48.5 -1.4
MPMC **Manual Prospec** 46.80 83 P P 16 50 38.2 +0.1
baz=310
FURC **Furnace Creek,** 46.94 82 P P 16 50 39.4 +0.6
baz=310
TPNV **Topopah Spring** 47.01 81 P P 16 50 40.0 +0.3
baz=309,SNR=28
TPNV **Topopah Spring** 47.01 81 *e*P P 16 50 39.7 0.0
TPNV pmax pmax
comp=Z,28nm,0.8s
TPNV **Topopah Spring** 47.01 81 *e*P P 16 50 39.7 0.0
comp=Z,28nm,0.8s
HWUT **Hardware Ranch** 47.04 73 *e*P P 16 50 40.0 +0.1
comp=Z,14nm,0.9s
LRMC **Laurel Mtn Rad** 47.05 84 P P 16 50 39.8 -0.2
baz=310
DUG **Dugway, Tooele** 47.13 76 P P 16 50 41.1 +0.5
baz=308,SNR=19
DUG **Dugway, Tooele** 47.13 76 *e*P P 16 50 40.8 +0.2
DUG pmax pmax
comp=Z,34nm,0.9s
DUG **Dugway, Tooele** 47.13 76 *e*P P 16 50 40.8 +0.2
comp=Z,34nm,0.9s
LAO **LASA Array** 47.24 65 P P 16 50 40.9 -0.4
baz=304
LAO **LASA Array** 47.24 65 *e*P P 16 50 36.6 -4.7
comp=Z,32nm,1.4s
EDW2 **Edwards Air Fo** 47.24 85 P P 16 50 41.6 +0.2
baz=311
TCUT **Toone Canyon** 47.43 74 *e*P P 16 50 43.1 +0.1
comp=Z,24nm,0.8s
CTU **Camp Tracy** 47.48 74 *e*P P 16 50 43.8 +0.4
comp=Z,64nm,1.1s
PSUT **Pine Spring** 47.51 78 *e*P P 16 50 49.3 +5.6
comp=Z,25nm,0.7s
BW06 **Boulder Array** 47.56 71 P P 16 50 43.7 -0.3
baz=306,SNR=46
BW06 **Boulder Array** 47.56 71 *e*P P 16 50 43.7 -0.3
comp=Z,1.5nm,0.8s
PD31 **Pinedale Array** 47.56 71 *e*P P 16 50 43.9 -0.1
PDAR **Pinedale Array** 47.56 71 P P 16 50 44.0 0.0
comp=Z,26nm,0.7s,baz=295,slow=4.1,SNR=173
PDAR ScP ScP 16 56 04.4 +1.1
comp=Z,0.2nm,0.3s,baz=316,slow=2.5,SNR=3.0
NJ2 **Nanjing** 47.56 270 *e*P P 16 50 44.8 +1.0
NJ2 PMZ
comp=Z,28nm,0.5s
BTO **Baotou** 47.62 286 *e*P P 16 50 45.8 +1.5
MWC **Mount Wilson** 47.63 86 *e*P P 16 50 46.4 +1.8
MWC *e*PP sP 16 51 03.1 +0.3
MWC **Mount Wilson** 47.63 86 *e*P P 16 50 46.4 +1.8
MWC *e*pP sP 16 51 03.1 +0.3
GSC **Goldstone, Bar** 47.72 84 P P 16 50 45.3 +0.2
baz=310,SNR=13
GSC **Goldstone, Bar** 47.72 84 *e*P P 16 50 45.2 +0.1
GSC pmax pmax
comp=Z,14nm,0.8s
GSC **Goldstone, Bar** 47.72 84 *e*P P 16 50 45.2 +0.1
comp=Z,14nm,0.8s
JLU **Jordanelle** 47.72 74 *e*P P 16 50 45.2 0.0
comp=Z,17nm,0.9s
A25A **Svangstu Ranch** 47.72 61 P P 16 50 44.0 -0.8
baz=304
BFSC **Mount Baldy Ra** 47.87 85 P P 16 50 46.1 -0.3
baz=311
SHPR **Sheep Range** 47.97 81 *e*P P 16 50 47.3 +0.1
comp=Z,5.6nm,0.9s
SCI2 **San Clemente I** 48.14 87 P P 16 50 48.5 +0.2
baz=312
TUQ **Turquoise Moun** 48.18 83 P P 16 50 48.9 +0.1
baz=310
HEC **Hector,Ludlow** 48.31 84 P P 16 50 50.0 +0.2
baz=311
A26A **Wade Farm, Ken** 48.33 60 P P 16 50 49.3 -0.3
baz=304
CCUT **Cedar City** 48.43 79 *e*P P 16 50 50.4 -0.3
comp=Z,8.0nm,0.8s
MSU **Marysvale** 48.55 77 *e*P P 16 50 51.8 +0.1
MSU **Marysvale** 48.55 77 *e*P P 16 50 51.8 +0.1
TMUT **Trail Mountain** 48.66 76 *e*P P 16 50 53.2 +0.6
comp=Z,29nm,0.8s
GMRC **Granite Mounta** 48.77 83 P P 16 50 53.7 +0.4
baz=311
P17A **Butcher Ranch,** 48.84 75 *e*P P 16 50 53.6 -0.2
comp=Z,15nm,0.7s
LCMT **Little Creek M** 48.84 79 *e*P P 16 50 53.8 0.0
comp=Z,21nm,0.9s
MTPU **Mount Pierson** 48.84 78 *e*P P 16 50 54.9 +0.8
comp=Z,9.5nm,0.8s
PFO **Pinyon Flats O** 49.03 85 P P 16 50 56.0 +0.7
baz=312
PFO **Pinyon Flats O** 49.03 85 P P 16 50 55.3 0.0
PFO pmax pmax
comp=Z,5.0nm,0.8s
PFO **Pinyon Flats O** 49.03 85 P P 16 50 55.3 0.0
comp=Z,5.5nm,0.8s
TPFO **Pinon Flats** 49.04 85 P P 16 50 56.1 +0.7
baz=312
P18A **Preston Nutter** 49.04 75 *e*P P 16 50 56.0 +0.5
comp=Z,21nm,1.1s
KNB **Kanab** 49.10 79 *e*P P 16 50 57.1 +1.3
KNB pmax pmax
comp=Z,29nm,1.1s
KNB **Kanab** 49.10 79 *e*P P 16 50 57.1 +1.3
comp=Z,28nm,1.1s
PKCU **Pink Cliffs** 49.14 78 *e*P P 16 50 57.0 +0.7
comp=Z,16nm,0.9s
SRU **San Rafael Swe** 49.19 75 *e*P P 16 50 56.6 +0.1
SRU pmax pmax
comp=Z,22nm,0.8s
SRU **San Rafael Swe** 49.19 75 *e*P P 16 50 56.6 +0.1
comp=Z,22nm,0.8s
A28A **Rude Farm, Bot** 49.28 59 P P 16 50 55.7 -1.2
baz=305
K22A **Casper** 49.42 69 P P 16 50 57.7 -0.5
baz=307
K22A **Casper** 49.42 69 *e*P P 16 50 57.5 -0.7
comp=Z,10nm,0.6s
E26A **Carlson Angus** 49.49 63 P P 16 50 57.6 -0.9
baz=306
IRM **Iron Mountain** 49.50 84 P P 16 50 58.6 -0.1
baz=311,SNR=8.5
BAR **Barrett** 49.52 86 *e*P P 16 50 58.5 -0.3
comp=Z,14nm,0.8s
BC3 **Big Chuckawall** 49.63 84 P P 16 50 59.2 -0.6
baz=312
W13A **Huatapai Mount** 49.67 82 *e*P P 16 50 60.0 -0.3
comp=Z,7.3nm,0.8s
U15A **North Rim** 49.80 79 *e*P P 16 50 61.3 0.0
comp=Z,29nm,0.9s
A29A **Manning Farm,** 49.83 59 P P 16 50 59.6 -1.5
baz=306
IKP **In-Ko-Pah, Jac** 49.89 86 P P 16 51 01.7 0.0
baz=312
KBS **Kingsbay** 49.92 357 *e*P P 16 51 01.2 -0.1
KBS pmax pmax
comp=Z,27nm,0.8s
KBS **Kingsbay** 49.92 357 *e*P P 16 51 01.2 -0.1
comp=Z,27nm,0.8s
O20A **White River Ci** 49.94 73 P P 16 51 02.3 +0.1
baz=309,SNR=9.0
O20A **White River Ci** 49.94 73 *e*P P 16 51 01.9 -0.4
comp=Z,30nm,0.8s
RSSD **Black Hills** 49.99 66 P P 16 51 01.5 -1.0
baz=307
RSSD **Black Hills** 49.99 66 *e*P P 16 51 01.7 -0.9
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD **Black Hills** 49.99 66 *e*P P 16 51 01.7 -0.9
comp=Z,5.2nm,0.8s
PDMCI **Parker Dam,Lak** 50.03 83 P P 16 51 02.9 +0.2
baz=311
A30A **Hoffart Farm,** 50.32 58 P P 16 51 03.9 -0.9
baz=306
PV09 **Paradox Valley** 50.42 75 *e*P P 16 51 05.8 -0.2
GLA **Glamis** 50.42 84 P P 16 51 06.0 +0.2
baz=312
GLA **Glamis** 50.42 84 *e*P P 16 51 05.5 -0.3

GLA pmax pmax
comp=Z,15nm,0.8s
GLA **Glamis** 50.42 84 *e*P P 16 51 05.5 -0.3
comp=Z,15nm,0.8s
SPA0 **Spitsbergen Ar** 50.47 355 *e*P P 16 51 04.6 -0.9
PV10 **Paradox Valley** 50.56 75 *e*P P 16 51 07.8 +0.8
PV04 **Paradox Valley** 50.63 75 *e*P P 16 51 07.3 -0.1
PV05 **Paradox Valley** 50.71 75 *e*P P 16 51 08.5 +0.4
ULM **Lac du Bonnet** 50.83 56 P P 16 51 06.6 -2.0
comp=Z,3.6nm,0.5s,baz=313,slow=4.5,SNR=3.7
N23A **Red Feather La** 50.84 71 P P 16 51 09.1 0.0
baz=309,SNR=8.4
N23A **Red Feather La** 50.84 71 *e*P P 16 51 08.9 -0.2
comp=Z,14nm,1.0s
PHWY **Pilot Hill** 50.88 70 *e*P P 16 51 08.0 -1.4
comp=Z,22nm,0.8s
WUAZ **Wupatki** 50.96 80 P P 16 51 10.5 +0.6
baz=311,SNR=9.4
WUAZ **Wupatki** 50.96 80 *e*P P 16 51 10.1 +0.2
comp=Z,19nm,0.8s
Y14A **Wickenburg** 50.98 82 *e*P P 16 51 09.6 -0.4
comp=Z,42nm,1.0s
PV01 **Paradox Valley** 50.99 75 *e*P P 16 51 09.9 -0.3
SMCO **Snowmass** 51.30 73 *e*P P 16 51 11.4 -1.3
comp=Z,7.8nm,0.6s
WHN **Wuhan** 51.41 272 ⇓*i*P P 16 51 13.8 +0.6
MVCO **Mesa Verde** 51.63 76 P P 16 51 14.8 -0.2
baz=310
MVCO **Mesa Verde** 51.63 76 *e*P P 16 51 14.9 -0.1
comp=Z,14nm,0.8s
X16A **Lo Mia Camp, P** 51.63 81 *e*P P 16 51 15.7 +0.7
comp=Z,9.4nm,0.8s
ISCO **Idaho Springs** 51.72 72 P P 16 51 16.1 +0.3
baz=309,SNR=9.4
ISCO **Idaho Springs** 51.72 72 *e*P P 16 51 16.3 +0.5
ISCO pmax pmax
comp=Z,11nm,0.8s
ISCO **Idaho Springs** 51.72 72 *e*P P 16 51 16.3 +0.5
comp=Z,11nm,0.8s
D31A **Mcclaflin, Tow** 51.76 60 P P 16 51 14.5 -1.0
baz=308
E31A **Nome** 51.97 60 P P 16 51 15.9 -1.3
baz=308
AGMN **Agassiz Nation** 52.01 58 P P 16 51 15.9 -1.5
baz=308
AGMN **Agassiz Nation** 52.01 58 *e*P P 16 51 15.4 -2.0
comp=Z,7.5nm,0.9s
SSLB **Suanglung** 52.04 261 *e*P P 16 51 18.1 +0.1
comp=Z,37nm,1.0s
S22A **4UR Ranch, Cre** 52.30 74 P P 16 51 20.6 +0.5
baz=310,SNR=12
S22A **4UR Ranch, Cre** 52.30 74 *e*P P 16 51 20.8 +0.8
comp=Z,15nm,1.1s
214A **Organ Pipe Nat** 52.42 84 P P 16 51 20.3 -0.4
baz=313
214A **Organ Pipe Nat** 52.42 84 *e*P P 16 51 20.5 -0.2
comp=Z,37nm,1.1s
XAN **Xi'an** 52.46 280 P P 16 51 21.3 +0.3
XAN pP pP 16 51 34.3 +0.3
XAN sP sP 16 51 40.8 +1.4
XAN PMZ
comp=Z,36nm,1.0s
B34A **Aery, Baudette** 52.53 57 P P 16 51 19.5 -1.7
baz=308
SDCO **Great Sand Dun** 53.10 73 P P 16 51 26.5 +0.5
baz=311,SNR=24
SDCO **Great Sand Dun** 53.10 73 *e*P P 16 51 26.1 0.0
comp=Z,14nm,1.0s
D34A **Park Rapids** 53.10 58 P P 16 51 24.4 -1.1
baz=308
ZAA0 **Zalesovo Array** 53.25 313 *e*P P 16 51 25.5 -0.9
ZALV **Zalesovo Beam** 53.25 313 P P 16 51 26.0 -0.4
comp=Z,7.2nm,0.7s,baz=49,slow=6.7,SNR=25
ZALV PcP PcP 16 52 34.2 +0.5
comp=Z,7.2nm,0.7s,baz=23,slow=3.3,SNR=6.4
ZALV LR LR 17 15 40.2
comp=Z,286nm,18.6s,baz=70,slow=38
F33A **5 Mile Ranch,** 53.28 60 P P 16 51 25.6 -1.3
baz=309
C35A **Jirik Farms, M** 53.37 57 P P 16 51 26.0 -1.5
baz=309
NVS **Novosibirsk** 53.41 314 ⇓*i*P P 16 51 28.0 +0.4
NVS pmax pmax
comp=Z,24nm,0.8s
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=E,12nm,0.8s
TUC **Tucson** 53.45 82 P P 16 51 28.2 -0.2
baz=313
TUC **Tucson** 53.45 82 *e*P P 16 51 28.4 +0.1
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC **Tucson** 53.45 82 *e*P P 16 51 28.4 +0.1
comp=Z,6.9nm,0.9s
H32A **Carlson Farm,** 53.49 62 P P 16 51 27.5 -0.9
baz=309
J31A **Geddes** 53.52 64 P P 16 51 27.6 -1.1
baz=309
G33A **Ortonville** 53.61 61 P P 16 51 28.5 -0.8
baz=309
D35A **Remer** 53.72 58 P P 16 51 29.5 -0.5
baz=309
H33A **Prehn Over Nor** 53.76 62 P P 16 51 30.1 -0.3
baz=309
SUMG **Summit** 53.78 13 ⇑*i*P P 16 51 30.6 0.0
SUMG pmax pmax
comp=Z,28nm,0.7s
SUMG **Summit** 53.78 13 ⇑*i*P P 16 51 30.6 0.0
comp=Z,28nm,0.7s
SUMG **Summit** 53.78 13 *e*P P 16 51 30.0 -0.5
comp=Z,48nm,1.0s
F34A **Alexandria** 53.88 60 P P 16 51 30.6 -0.6
baz=309
C36A **Pine Crest Far** 53.94 57 P P 16 51 30.5 -1.1
baz=309
KSCO **Kaye Shedlock'** 54.00 70 P P 16 51 32.5 +0.1
baz=311
KSCO **Kaye Shedlock'** 54.00 70 *e*P P 16 51 32.8 +0.4
comp=Z,44nm,1.1s
G34A **Benson** 54.02 60 P P 16 51 32.0 -0.3
baz=309
T25A **Trinidad** 54.16 73 P P 16 51 34.3 +0.7
baz=311,SNR=22
T25A **Trinidad** 54.16 73 *e*P P 16 51 34.4 +0.7
comp=Z,32nm,0.9s
LZH **Lanzhou** 54.23 285 *e*P P 16 51 35.3 +1.2
LZH pP pP 16 51 52.0 +4.9
LZH sP sP 16 51 58.4 +5.9
LZH sS sS 16 59 30.1 +0.3
LZH SS SS 17 02 45.0 -4.9
LZH PMZ
comp=Z,55nm,1.0s
LZH PMZ
comp=Z,280nm,5.8s
LZH LN
comp=Z,500nm,14.0s
LZH LE
comp=Z,450nm,15.0s
LZH LZ
comp=Z,730nm,15.7s
LAZ **Ladron** 54.30 78 *e*P P 16 51 35.2 +0.5
ANMO **Albuquerque** 54.36 77 P P 16 51 34.6 -0.5
baz=312
ANMO **Albuquerque** 54.36 77 *ce*P P 16 51 36.8 +1.7
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO **Albuquerque** 54.36 77 *e*P P 16 51 35.1 0.0
comp=Z,5.4nm,0.9s
ECSD **EROS Data Cent** 54.44 62 P P 16 51 34.3 -1.0
baz=310
ECSD **EROS Data Cent** 54.44 62 *e*P P 16 51 34.3 -1.0
GTA **Gaotai** 54.47 291 ⇑P P 16 51 36.5 +0.7
GTA pP sP 16 51 51.8 -2.4
GTA sP pP 16 51 59.3 +11
GTA S S 16 59 08.9 -2.2
GTA sS sS 16 59 36.0 +3.1
GTA SS SS 17 02 49.8 -3.6
GTA PMZ
comp=Z,35nm,1.3s
GTA LN
comp=Z,240nm,15.7s
GTA LE
comp=Z,320nm,16.2s
GTA LZ
comp=Z,400nm,16.6s
ENH **Enshi** 54.65 276 *e*P P 16 51 36.3 -0.8

LPM **Los Pinos Moun** 54.67 77 *e*P P 16 51 37.5 +0.1
BNM **Barren Site** 54.78 78 *e*P P 16 51 39.2 +0.9
H35A **Sunnyside Ranc** 54.81 61 P P 16 51 36.7 -1.3
baz=310
121A **Cookes Peak, D** 55.16 80 P P 16 51 41.3 +0.4
baz=313
O31A **Woolen Ranch,** 55.20 67 P P 16 51 40.9 0.0
baz=311
L34A **Svendsen Farm,** 55.71 64 P P 16 51 43.7 -0.8
baz=311
CBKS **Cedar Bluff** 55.84 69 P P 16 51 45.1 -0.5
baz=312
K35A **Storm Lake** 55.86 63 P P 16 51 45.0 -0.6
baz=311
O33A **Hebron** 56.26 66 P P 16 51 47.9 -0.6
baz=312
M35A **Neola** 56.42 64 P P 16 51 49.2 -0.4
baz=311
R32A **Long Quarter,** 56.70 69 P P 16 51 51.4 -0.3
baz=312
O34A **Beatrice** 56.70 66 P P 16 51 51.2 -0.4
baz=312
Q33A **Connelly Farm,** 56.83 68 P P 16 51 52.5 -0.1
baz=312
N35A **Tabor** 56.85 65 P P 16 51 52.6 0.0
baz=312
L37A **Phoenix Point,** 57.08 62 P P 16 51 53.8 -0.5
baz=312
R33A **Olander Ranch,** 57.20 68 P P 16 51 54.9 -0.3
baz=312
MNTX **Cornudas Mount** 57.22 79 P P 16 51 55.9 +0.5
baz=314,SNR=14
MNTX **Cornudas Mount** 57.22 79 *e*P P 16 51 55.4 0.0
comp=Z,12nm,1.0s
MSTX **Muleshoe** 57.27 75 P P 16 51 56.0 +0.2
baz=313,SNR=7.5
MSTX **Muleshoe** 57.27 75 *e*P P 16 51 55.1 -0.7
comp=Z,17nm,1.0s
AMTX **Amarillo** 57.31 74 P P 16 51 56.2 +0.2
baz=313
AMTX **Amarillo** 57.31 74 *e*P P 16 51 55.9 -0.1
comp=Z,14nm,0.7s
M37A **Trindle Farm,** 57.39 63 P P 16 51 55.9 -0.6
baz=312
Q34A **Chapman** 57.40 67 P P 16 51 56.1 -0.4
baz=312
T32A **Huddler Ranch,** 57.40 70 P P 16 51 56.2 -0.5
baz=313
L38A **Oak Wood Farm,** 57.51 62 P P 16 51 56.1 -1.2
baz=312
P35A **Duane Minner,** 57.52 66 P P 16 51 56.6 -0.9
baz=312
R34A **Isabella, Hill** 57.64 68 P P 16 51 57.7 -0.6
baz=312
S33A **Kaszmaul Farm,** 57.67 69 P P 16 51 58.2 -0.3
baz=313
SCO **Scoresbysund** 57.68 8⇑ *i*P P 16 51 58.0 0.0
SCO pmax pmax
comp=Z,10.0nm,0.8s
SCO **Scoresbysund** 57.68 8⇑ *i*P P 16 51 58.0 0.0
comp=Z,10nm,0.8s
CD2 **Chengdu** 57.78 280 *e*P P 16 51 58.8 -0.6
CD2 pP pP 16 52 11.3 -1.2
CD2 sP sP 16 52 16.8 -1.1
CD2 PcS **PcS** **16 56 52.8 -0.3**
CD2 S **S** **16 59 54.4 -0.7**
CD2 sS sS 17 00 15.9 -1.1
CD2 SS **SS** **17 03 46.4 +0.7**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
U32A **Winter Ranch,** 57.90 71 P P 16 51 59.9 -0.2
baz=313
P36A **Good Intent, A** 57.93 65 P P 16 51 59.9 -0.4
baz=312
Q35A **Mercer Eighty,** 57.96 67 P P 16 52 00.3 -0.2
baz=313
L39A **Vinton** 58.05 61 P P 16 52 00.7 -0.3
baz=312,SNR=5.8
ARCES **ARCESS Array B** 58.06 349 P P 16 51 59.6 -1.1
comp=Z,4.7nm,0.8s,baz=24,slow=6.6,SNR=8.8
ARCES PcP **PcP** 16 52 51.4 -0.7
comp=Z,7.0nm,1.0s,baz=44,slow=3.7,SNR=3.6
O37A **Wolven Farm, M** 58.16 64 P P 16 52 00.9 -1.0
baz=313
Q36A **Arnold C. Orve** 58.23 66 P P 16 52 01.5 -0.8
baz=313
R35A **Emporia Munici** 58.23 67 P P 16 52 01.7 -0.7
baz=313
KURBB **Kurchatov Arra** 58.34 313 S S 17 00 04.2 +2.4
comp=Z,0.3nm,0.8s,baz=21,slow=11,SNR=4.8
WMQ **Urumqi** 58.38 302 P P 16 52 04.4 +0.9
WMQ pP pP 16 52 16.3 -0.3
WMQ sP sP 16 52 23.6 +1.6
WMQ PMZ
comp=Z,16nm,0.8s
WMQ PMZ
comp=Z,76nm,6.0s
WMQ LN
comp=Z,260nm,17.4s
WMQ LE
comp=Z,240nm,20.6s
WMQ LZ
comp=Z,290nm,20.6s
U33A **Lingo Farm, Me** 58.39 70 P P 16 52 03.0 -0.6
baz=313
P37A **Lathrop** 58.44 65 P P 16 52 03.1 -0.7
baz=313
T34A **McClaskey Farm** 58.53 69 P P 16 52 03.9 -0.6
baz=313,SNR=6.4
O38A **Galt** 58.58 64 P P 16 52 04.3 -0.5
baz=313
S35A **Otter Creek Ra** 58.59 68 P P 16 52 04.7 -0.3
baz=313
W32A **Sentinel** 58.61 72 P P 16 52 04.9 -0.2
baz=313
N39A **Derby Farms, D** 58.61 63 P P 16 52 04.0 -1.0
baz=313,SNR=6.0
R36A **Gordon, Harris** 58.63 67 P P 16 52 04.8 -0.4
baz=313
V33A **Lossen Ranch,** 58.70 71 P P 16 52 05.4 -0.3
baz=313
U34A **Anderson Ranch** 58.73 70 P P 16 52 05.7 -0.2
baz=313,SNR=5.4
U34A **Anderson Ranch** 58.73 70 *e*P P 16 52 05.3 -0.6
comp=Z,32nm,0.8s
P38A **Dawn** 58.88 64 P P 16 52 05.9 -1.0
baz=313
L41A **Preston** 58.91 60 P P 16 52 06.1 -1.0
baz=313
T35A **Sooner Cattle** 59.00 68 P P 16 52 07.5 -0.3
baz=313
R37A **Teagarden Farm** 59.03 66 P P 16 52 07.4 -0.6
baz=313
W33A **Caddo, Fort Co** 59.05 71 P P 16 52 07.5 -0.7
baz=314
X32A **Elmer** 59.06 72 P P 16 52 08.4 +0.1
baz=314,SNR=5.2
GYA **Guiyang** 59.09 275 P P 16 52 09.3 +0.6
GYA PMZ
comp=Z,10.0nm,1.0s
WMOK **Wichita Mounta** 59.15 72 P P 16 52 08.8 0.0
baz=314,SNR=12
WMOK **Wichita Mounta** 59.15 72 *e*P P 16 52 08.3 -0.6
WMOK pmax pmax
comp=Z,15nm,0.9s
WMOK **Wichita Mounta** 59.15 72 *e*P P 16 52 08.3 -0.6
comp=Z,15nm,0.9s
MK31 **Makanchi Array** 59.16 307 *i* P P 16 52 08.4 -0.4
MK31 pmax pmax
comp=Z,13nm,0.6s
MK31 **Makanchi Array** 59.16 307 *e*P P 16 52 08.1 -0.7
MKAR **Makanchi Array** 59.16 307 P P 16 52 08.5 -0.3
comp=Z,14nm,0.5s,baz=50,slow=5.8,SNR=204
MKAR LR LR 17 18 15.3
comp=Z,261nm,20.1s,baz=40,slow=37
MKAR **Makanchi Array** 59.16 307 *e*P P 16 52 08.1 -0.7
MK01 **Makanchi Array** 59.17 307 *e*P P 16 52 08.2 -0.6
T36A **Boggs Farm, Ca** 59.27 68 P P 16 52 08.9 -0.7
baz=313
Q38A **Cooks Store, C** 59.28 65 P P 16 52 08.3 -1.3
baz=313
MAKZ **Makanchi** 59.31 308 *e*P P 16 52 09.4 -0.4
MAKZ pmax pmax
comp=Z,25nm,0.6s
MAKZ **Makanchi** 59.31 308 *e*P P 16 52 09.4 -0.4
comp=Z,25nm,0.6s
S37A **Fort Scott** 59.41 67 P P 16 52 09.4 -1.2
baz=313
W34A **Bridge Creek,** 59.41 71 P P 16 52 10.0 -0.7
baz=314
P39B **Salisbury** 59.41 64 P P 16 52 09.7 -0.9
baz=313,SNR=5.4
Q39A **Willow Grove F** 59.59 64 P P 16 52 10.5 -1.3
baz=313,SNR=8.3
R38A **Fenwick Farm,** 59.65 66 P P 16 52 10.6 -1.5
baz=314
CHKZ **Chkalovo** 59.65 319 P P 16 52 12.0 0.0
CHKZ pmax pmax
comp=Z,55nm,1.0s
Y33A **Hilltop Ranch,** 59.74 72 P P 16 52 11.6 -1.3
baz=314
P40A **Paris** 59.78 63 P P 16 52 11.7 -1.4
baz=314,SNR=11
T37A **Cheneyville 18** 59.79 67 P P 16 52 11.5 -1.7
baz=314
TX31 **Lajitas Ar. Si** 59.92 80 *e*P P 16 52 13.8 -0.5
TXAR **Lajitas Array** 59.92 80 P P 16 52 14.4 +0.1
comp=Z,2.8nm,0.8s,baz=303,slow=4.3,SNR=26
TXAR LR LR 17 18 01.7
comp=Z,186nm,18.4s,baz=0.0,slow=36
W35A **Tecumseh** 60.00 70 P P 16 52 14.8 +0.1
baz=314,SNR=8.8
O41A **Passleys Farm,** 60.03 62 P P 16 52 13.6 -1.3
baz=314,SNR=9.3
ABTX **Abilene, Hawle** 60.09 74 P P 16 52 15.4 +0.1
baz=314,SNR=7.7
ABTX **Abilene, Hawle** 60.09 74 *e*P P 16 52 15.0 -0.4
comp=Z,19nm,0.9s
V36A **Jenks** 60.11 69 P P 16 52 15.2 -0.2
baz=314
TUL1 **Leonard** 60.11 69 P P 16 52 15.0 -0.5
baz=314
TUL1 **Leonard** 60.11 69 *e*P P 16 52 14.9 -0.5
comp=Z,21nm,0.9s
Q40A **Laux Farm, Aux** 60.13 64 P P 16 52 14.8 -0.7
baz=314
Z33A **Whitaker Ranch** 60.16 73 P P 16 52 15.9 +0.1
baz=314
U37A **Salina** 60.17 68 P P 16 52 15.5 -0.4
baz=314
VOSK **Vostochnaya** 60.19 318 P P 16 52 15.9 +0.2
VOSK pmax pmax
comp=Z,51nm,0.9s
T38A **Diamond** 60.21 67 P P 16 52 15.3 -0.8
baz=314
BVA0 **Borovoye Array** 60.22 319 P P 16 52 16.5 +0.6
BVA0 pmax pmax
comp=Z,73nm,0.8s
BRVK **Borovoye** 60.24 319 *c i*P P 16 52 16.8 +0.7
BRVK pmax pmax
comp=Z,275nm,1.2s
BRVK **Borovoye** 60.24 319 *e*P P 16 52 16.7 +0.7
comp=Z,164nm,0.8s
Y34A **Reagan Ranch,** 60.30 72 P P 16 52 17.1 +0.4
baz=314,SNR=7.7
W36A **Wetumka** 60.39 70 P P 16 52 17.3 0.0
baz=314,SNR=6.1
X35A **Drake** 60.46 71 P P 16 52 17.8 0.0
baz=314
R40A **Maddes Statio** 60.51 65 P P 16 52 17.2 -0.9
baz=314,SNR=7.4
V37A **Hulbert** 60.51 68 P P 16 52 17.6 -0.6
baz=314
133A **Hamilton Ranch** 60.54 74 P P 16 52 18.5 +0.1
baz=315,SNR=13
U38A **Gravette** 60.57 68 P P 16 52 17.9 -0.6
baz=314
HDIL **Hopedale** 60.61 61 P P 16 52 18.2 -0.6
baz=314
HDIL **Hopedale** 60.61 61 *e*P P 16 52 18.6 -0.2
comp=Z,24nm,0.6s
Z34A **Collier Ranch,** 60.61 72 P P 16 52 18.9 0.0
baz=314
X36A **Centrahoma** 60.71 70 P P 16 52 19.5 0.0
baz=314,SNR=6.4
T39A **Clever** 60.75 66 P P 16 52 19.6 -0.2
baz=314
Y35A **Marietta** 60.76 71 P P 16 52 20.1 +0.1
baz=314
ZRNK **Zerenda** 60.84 319 *e*P P 16 52 20.6 +0.5
ZRNK pmax pmax
comp=Z,76nm,0.8s
ZRNK **Zerenda** 60.84 319 *e*P P 16 52 20.6 +0.5
comp=Z,76nm,0.8s
S40A **Lebanon** 60.85 65 P P 16 52 20.2 -0.3
baz=314
W37B **Quinton** 60.86 69 P P 16 52 20.4 -0.2
baz=314
SCHQ **Schefferville** 60.92 37 P P 16 52 19.5 -1.2
comp=Z,17nm,0.9s,baz=323,slow=7.6,SNR=5.8
SCHQ **Schefferville** 60.92 37 *e*P P 16 52 19.4 -1.2
comp=Z,30nm,1.1s
V38A **Canehill** 60.96 68 P P 16 52 21.0 -0.2
baz=314
233A **Rising Star** 60.96 74 P P 16 52 21.3 0.0
baz=315
Q42A **Golden Eagle** 61.06 63 P P 16 52 21.3 -0.5
baz=314,SNR=7.8
134A **White-Moore Ra** 61.07 73 P P 16 52 22.5 +0.5
baz=315,SNR=7.1
SVE **Sverdlovsk** 61.07 327⇑ *i*P P 16 52 22.8 +1.2
SVE pmax pmax
comp=Z,29nm,1.1s
U39A **Green Forest** 61.13 67 P P 16 52 21.5 -0.9
baz=314
T40A **Mansfield** 61.16 66 P P 16 52 21.7 -0.8
baz=314
Y36A **Durant** 61.22 71 P P 16 52 23.2 +0.3
baz=315,SNR=5.5
X37A **Clayton** 61.28 70 P P 16 52 23.2 -0.1
baz=315,SNR=6.7
333A **Richland Sprin** 61.40 75 P P 16 52 23.5 -0.7
baz=315
V39A **Pettigrew** 61.42 68 P P 16 52 23.6 -0.8
baz=315
234A **Claiette** 61.43 74 P P 16 52 24.7 +0.2
baz=315,SNR=14
W38A **Poteau** 61.44 69 P P 16 52 24.9 +0.5
baz=315,SNR=6.4
135A **Vickery Place,** 61.48 73 P P 16 52 24.5 -0.3
baz=315
Q43A **New Douglas** 61.51 63 P P 16 52 24.4 -0.5
baz=314
U40A **Yellville** 61.52 67 P P 16 52 24.3 -0.6
baz=315
X38A **Whitesboro** 61.54 69 P P 16 52 25.4 +0.2
baz=315,SNR=5.8
Z36A **Blue Ridge** 61.57 71 P P 16 52 25.3 -0.1
baz=315
T41A **Mountain View** 61.66 65 P P 16 52 25.4 -0.6
baz=315
433A **Art** 61.73 75 P P 16 52 27.2 +0.6
baz=315,SNR=7.3
W39A **Magazine** 61.78 68 P P 16 52 26.5 -0.3
baz=315
334A **Lometa** 61.84 74 P P 16 52 27.5 +0.2
baz=315
WHTX **Lake Whitney,** 61.85 73 P P 16 52 27.6 +0.4
baz=315
WHTX **Lake Whitney,** 61.85 73 *e*P P 16 52 26.5 -0.8
comp=Z,27nm,1.1s
Q44A **Meyer Farm, Va** 61.91 62 P P 16 52 27.2 -0.4
baz=315
SFIN **Lafayette** 61.94 60 P P 16 52 27.4 -0.3
baz=315
SFIN **Lafayette** 61.94 60 *e*P P 16 52 26.9 -0.9
comp=Z,26nm,0.8s
X39A **Fountain Ranch** 62.07 69 P P 16 52 28.7 -0.1
baz=315,SNR=13
ARU **Arti** 62.10 327 *e*P P 16 52 29.0 +0.5
ARU pmax pmax
comp=Z,41nm,1.0s
ARU **Arti** 62.10 327 *e*P P 16 52 28.7 +0.2
comp=Z,64nm,1.3s
Z37A **Pogue Cattle C** 62.10 71 P P 16 52 29.4 +0.4
baz=315
434A **Burnet** 62.19 75 P P 16 52 29.9 +0.3
baz=315,SNR=7.6
W40A **Ferguson Farm,** 62.20 68 P P 16 52 29.0 -0.6
baz=315
533A **Kerrville** 62.25 76 P P 16 52 30.1 0.0
baz=316
S43A **Fulton Ridge,** 62.25 64 P P 16 52 29.1 -0.8
baz=315
V41A **Mountainview** 62.32 67 P P 16 52 29.8 -0.6
baz=315
R44A **Waltonville** 62.34 63 P P 16 52 29.8 -0.6
baz=315
MIAR **Mount Ida** 62.36 69 P P 16 52 30.5 -0.2
baz=315,SNR=15
MIAR **Mount Ida** 62.36 69 *e*P P 16 52 30.3 -0.4
MIAR pmax pmax
comp=Z,33nm,1.1s
MIAR **Mount Ida** 62.36 69 *e*P P 16 52 30.3 -0.4
comp=Z,33nm,1.1s
236A **Katherine and** 62.40 73 P P 16 52 30.8 -0.1
baz=315
Z38A **Mt. Pleasant** 62.44 71 P P 16 52 30.6 -0.6
baz=315
137A **Heron Place, G** 62.45 72 P P 16 52 30.7 -0.5
baz=315
Y39A **Lockesburg** 62.49 69 P P 16 52 31.1 -0.4
baz=315
KMI **Kunming** 62.51 277 P P 16 52 32.6 +0.6
KMI PMZ
comp=Z,16nm,0.9s
KMI PMZ
comp=Z,130nm,4.5s
OLIL **Olney** 62.54 62 *e*P P 16 52 30.8 -1.0
comp=Z,20nm,0.8s
X201 **Greenbrier Sit** 62.55 67 *e*P P 16 52 30.5 -1.4
comp=Z,14nm,0.8s
X301 **Greenbrier Sit** 62.56 67 *e*P P 16 52 31.1 -0.8
comp=Z,18nm,0.8s
WHAR **Wooly Hollow** 62.59 67 *e*P P 16 52 31.1 -1.1
comp=Z,11nm,0.8s
PBMO **Poplar Bluff** 62.61 65 *e*P P 16 52 31.3 -1.0
comp=Z,15nm,0.6s
534A **Blanco** 62.62 75 P P 16 52 31.7 -0.8
baz=316
S44A **Carbondale** 62.63 63 P P 16 52 31.8 -0.6
baz=315
336A **Riesel** 62.65 73 P P 16 52 32.4 -0.2
baz=316
V42A **Cord** 62.74 66 P P 16 52 32.1 -1.1
baz=315
138A **Matatall Enter** 62.80 71 P P 16 52 32.8 -0.8
baz=315
237A **Washetta, Mont** 62.83 72 P P 16 52 33.9 +0.1
baz=316
X40A **Basin Creek Fa** 62.84 68 P P 16 52 33.2 -0.7
baz=315
OTUK **Ortayu** 62.87 314 P P 16 52 34.5 +0.6
OTUK pmax pmax
comp=Z,21nm,0.6s
PDGK **Podgornoye** 63.01 306 P P 16 52 35.2 +0.4
PDGK pmax pmax
comp=Z,27nm,0.9s
436A **Wall Ranch, Ga** 63.11 74 P P 16 52 36.5 +0.8
baz=316
WLAR **White Oak Lake** 63.24 69 *e*P P 16 52 36.6 +0.1
comp=Z,40nm,0.8s
238A **Jacksonville** 63.24 72 P P 16 52 37.8 +1.2
baz=316
239A **Gary** 63.62 71 P P 16 52 39.1 +0.1
baz=316
NATX **Nacogdoches** 63.69 71 P P 16 52 40.5 +1.0
baz=316
140A **Cam and Jess,** 63.71 70 P P 16 52 39.6 -0.1
baz=316
KLMR **Klimovskoe** 63.72 339 *e*P P 16 52 37.5 -1.7
KLMR *e* 16 53 12.6
KLMR *e* 16 54 59.0
KLMR pmax pmax
comp=Z,12nm,1.1s
537A **Green Hill Far** 63.90 74 P P 16 52 42.2 +1.3
baz=316
438A **Sam Houston St** 63.92 73 P P 16 52 42.2 +1.2
baz=316
141A **Papa Simpson,** 64.13 70 P P 16 52 42.8 +0.4
baz=316
340A **Bronson** 64.40 71 P P 16 52 44.7 +0.6
baz=316
WVT **Waverly** 64.54 64 *e*P P 16 52 43.8 -1.2
WVT pmax pmax
comp=Z,8.0nm,0.7s
WVT **Waverly** 64.54 64 *e*P P 16 52 43.8 -1.2
comp=Z,7.7nm,0.7s
341A **Kurthwood** 64.89 71 P P 16 52 47.2 -0.1
baz=316
MMNY **Mt. Morris Dam** 65.04 52 *e*P P 16 52 47.2 -1.0
Y45A **Yeager Farm, C** 65.19 66 P P 16 52 49.1 -0.2
baz=316
PLAL **Pickwick Lake** 65.23 65 *e*P P 16 52 48.8 -0.7
comp=Z,23nm,0.6s
TKM2 **Tokmak 2** 65.26 308 *e*P P 16 52 50.0 +0.1
TKM2 pmax pmax
comp=Z,23nm,0.9s
TKM2 **Tokmak 2** 65.26 308 *e*P P 16 52 50.0 +0.1
comp=Z,23nm,0.9s
Z45A **Winona** 65.46 67 P P 16 52 50.8 -0.3
baz=316
Y46A **Houston** 65.57 66 P P 16 52 51.3 -0.4
baz=317,SNR=7.3
FINES **FINESS Array B** 65.68 346 P P 16 52 50.3 -1.7
comp=Z,4.1nm,0.7s,baz=23,slow=10,SNR=16
FINES LR LR 17 22 46.4
comp=Z,126nm,21.3s,baz=10.0,slow=37
FRU **Bishkek** 65.81 309⇑ *i*P P 16 52 51.0 -2.2
FRU pmax pmax
comp=Z,70nm,2.1s
AAK **Ala-Archa** 66.02 309 *c i*P P 16 52 55.7 +1.0
AAK pmax pmax
comp=Z,77nm,1.1s
AAK **Ala-Archa** 66.02 309 *e*P P 16 52 55.2 +0.5
comp=Z,31nm,1.0s
Y47A **UCPARC, Winfie** 66.14 65 P P 16 52 55.1 -0.3
baz=317
LSA **Lhasa** 66.32 288 *e*P P 16 52 58.5 +1.3
LSA pmax pmax
comp=Z,22nm,0.7s
LSA **Lhasa** 66.32 288 *e*P P 16 52 58.5 +1.3
comp=Z,22nm,0.7s
EKS2 **Erkin-Say** 66.34 309 *e*P P 16 52 57.5 +0.7
EKS2 pmax pmax
comp=Z,37nm,1.0s
EKS2 **Erkin-Say** 66.34 309 *e*P P 16 52 57.5 +0.7
comp=Z,37nm,1.0s
BINY **Binghamton** 66.39 52 *e*P P 16 52 56.5 -0.4
comp=Z,20nm,1.3s
Z47A **Carrollton** 66.52 66 P P 16 52 57.7 -0.2
baz=317
SSPA **Standing Stone** 66.60 54 *e*P P 16 52 56.8 -1.4
comp=Z,8.6nm,0.6s
Z48A **Northport** 66.69 65 P P 16 52 57.7 -1.2
baz=317,SNR=7.7
147A **Livingston** 66.79 66 P P 16 52 59.2 -0.4
baz=317
MNAS **Manas** 67.09 310 P P 16 53 02.4 +0.8
MNAS pmax pmax
comp=Z,19nm,0.7s
AKTO **Aktyubinsk** 67.11 324 P P 16 53 02.1 +0.8
comp=Z,55nm,0.8s,baz=44,slow=7.4,SNR=13
ABKAR **Akbulak array** 67.32 322 *e*P P 16 53 03.1 +0.4
NONG **Nongkai** 67.43 271 P P 16 53 04.5 +0.7
comp=Z,60nm,0.7s
NC204 **NORSAR Array S** 67.51 354 *e*P P 16 53 03.4 -0.4
NC303 **NORSAR Array S** 67.52 354 *e*P P 16 53 03.0 -0.8
KK31 **Karatay Array** 67.58 311 *i* P P 16 53 04.9 +0.4
KK31 pmax pmax
comp=Z,22nm,0.7s
KKAR **Karatay Array** 67.58 311 *e*P P 16 53 04.8 +0.3
KKAR **Karatay Array** 67.58 311 *e*P P 16 53 04.8 +0.3
KSH **Kashi** 67.60 305 P P 16 53 09.3 +4.5
KSH pP sP 16 53 25.3 +1.8
KSH PcP **PcP** **16 53 36.3 +4.7**
KSH PP **PP** **16 55 41.5 +7.8**
KSH S **S** **17 02 01.0 +2.9**
KSH ScS **ScS** **17 02 59.3 +0.1**
KSH SS **SS** **17 06 23.0 +4.4**
KSH PMZ
comp=Z,24nm,0.6s
KSH LN
comp=Z,130nm,8.6s
KSH LE
comp=Z,160nm,6.2s
KSH LZ
comp=Z,310nm,8.8s
NC405 **NORSAR Array S** 67.60 353 *e*P P 16 53 03.4 -0.9

NB201	**NORSAR Array S**	**67.69**	**354**	*e*P		**P**	**16 53 04.3**	**-0.6**
NB2	**NORSAR Subarra**	**67.71**	**354**	P		**P**	**16 53 04.3**	**-0.7**
	comp=Z,20nm,0.9s,baz=6.3,slow=6.5							
NB2	**NORSAR Subarra**	**67.71**	**354**	P		**P**	**16 53 04.3**	**-0.7**
	baz=6.3,slow=6.5							
NOA	**NORSAR Array B**	**67.71**	**354**	P		**P**	**16 53 04.4**	**-0.6**
	comp=Z,14nm,0.8s,baz=8.5,slow=6.3,SNR=30							
SKNT	**Sakolnakorn**	**67.72**	**270**	P		**P**	**16 53 06.2**	**+0.5**
	comp=Z,18nm,1.2s							
NBO02	**NORSAR Array S**	**67.72**	**354**	*e*P		**P**	**16 53 04.6**	**-0.5**
LUPA	**Lehigh Univers**	**67.89**	**52**	*e*P		**P**	**16 53 05.2**	**-1.2**
	comp=Z,14nm,0.9s							
EMMW	**East Machias**	**68.46**	**45**	*e*P		**P**	**16 53 08.5**	**-1.4**
	comp=Z,53nm,1.4s							
LMN	**Caledonia Moun**	**68.71**	**42**	*e*P		**P**	**16 53 10.5**	**-1.0**
	comp=Z,20nm,1.0s							
KMSC	**Kings Mountain**	**68.87**	**60**	P		**P**	**16 53 12.0**	**-0.6**
	baz=318							
KMSC	**Kings Mountain**	**68.87**	**60**	*e*P		**P**	**16 53 11.9**	**-0.7**
	comp=Z,14nm,0.8s							
KHON	**Khomkaen**	**68.93**	**270**	P		**P**	**16 53 14.1**	**+0.9**
	comp=Z,13nm,0.9s,comp=Z,533nm							
KONO	**Kongsberg**	**69.20**	**354**	*e*P		**P**	**16 53 13.8**	**-0.4**
KONO				pmax	pmax			
	comp=Z,21nm,0.8s							
KONO	**Kongsberg**	**69.20**	**354**	*e*P		**P**	**16 53 13.8**	**-0.4**
	comp=Z,21nm,0.8s							
LAMP	**Lampang**	**69.30**	**274**	P		**P**	**16 53 16.8**	**+1.3**
	comp=Z,4.6nm,0.8s							
TAOE	**Nuku Hiva Isla**	**69.33**	**137**	*e*LR		LR	17 14 15.8	
	comp=Z,445nm,23.5s							
CMMT	**Chiang Mai**	**69.51**	**275**	P		**P**	**16 53 17.3**	**+0.5**
	comp=Z,18nm,0.8s							
CHTO	**Chiang Mai**	**69.52**	**275**	P		**P**	**16 53 17.3**	**+0.5**
	comp=Z,78nm,0.8s							
CHTO	**Chiang Mai**	**69.52**	**275**	*e*P		**P**	**16 53 16.5**	**-0.4**
CHTO				pmax	pmax			
	comp=Z,14nm,0.9s							
CHTO	**Chiang Mai**	**69.52**	**275**	*e*P		**P**	**16 53 16.4**	**-0.4**
	comp=Z,14nm,0.9s							
JSC	**Jenkinsville**	**69.55**	**61**	*e*P		**P**	**16 53 15.3**	**-1.5**
JSC				pmax	pmax			
	comp=Z,135nm,2.0s							
JSC	**Jenkinsville**	**69.55**	**61**	*e*P		**P**	**16 53 15.3**	**-1.5**
	comp=Z,135nm,2.0s							
OBN	**Obninsk**	**69.59**	**338**	P		**P**	**16 53 15.8**	**-0.9**
	comp=Z,18nm,0.6s,baz=350,slow=19							
OBN	**Obninsk**	**69.59**	**338**	*e*P		**P**	**16 53 16.5**	**-0.2**
OBN				*e*			16 53 40.0	
OBN				pmax	pmax			
	comp=Z,17nm,0.6s							
CM31	**Chiang Mai Arr**	**69.78**	**274**	*e*P		**P**	**16 53 18.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**69.78**	**274**	P		**P**	**16 53 18.9**	**+0.4**
	comp=Z,9.8nm,0.7s,baz=27,slow=6.7,SNR=71							
CMAR				LR		LR	17 27 12.7	
	comp=Z,51nm,19.0s,baz=35,slow=39							
CM01	**Chiang Mai Arr**	**69.80**	**274**	*e*P		**P**	**16 53 18.8**	**+0.2**
PBKT	**Sadao Pong**	**69.92**	**272**	P		**P**	**16 53 19.9**	**+0.6**
	comp=Z,19nm,1.1s,comp=Z,1µm							
GUN	**Gumba**	**70.76**	**291**	*e*P		**P**	**16 53 26.0**	**+1.2**
	comp=Z,204nm,0.9s							
RAMN	**Ramite**	**71.05**	**289**	*e*P		**P**	**16 53 27.3**	**+0.9**
	comp=Z,216nm,0.9s							
SRAK	**Srakaew**	**71.17**	**269**	P		**P**	**16 53 25.9**	**-1.1**
	comp=Z,78nm,1.0s,comp=Z,647nm							
KKN	**Kakani**	**71.20**	**291**	*e*P		**P**	**16 53 28.5**	**+1.2**
	comp=Z,80nm,0.6s							
PKIN	**Phulchoki**	**71.29**	**291**	*e*P		**P**	**16 53 28.7**	**+0.8**
	comp=Z,36nm,0.6s							
GKN	**Gorkha**	**71.42**	**292**	*e*P		**P**	**16 53 29.4**	**+0.9**
	comp=Z,165nm,1.0s							
DMN	**Daman**	**71.44**	**291**	*e*P		**P**	**16 53 29.9**	**+1.1**
	comp=Z,77nm,0.9s							
UMPA	**Umpang Tak**	**71.52**	**273**	P		**P**	**16 53 31.2**	**+2.1**
	comp=Z,14nm,1.1s,comp=Z,162nm							
DZET	**Dzherino**	**71.71**	**310**	P		**P**	**16 53 30.8**	**+0.7**
DZET				pmax	pmax			
	comp=Z,51nm,0.9s							
VRH	**Novokhopyorsk**	**71.81**	**333**	*e*P		**P**	**16 53 28.7**	**-1.6**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CHBT	**CHBT**	**71.95**	**268**	P		**P**	**16 53 29.5**	**-2.1**
	comp=Z,14µm,0.8s							
KOLN	**Koldanda**	**72.20**	**292**	*e*P		**P**	**16 53 34.0**	**+0.7**
	comp=Z,50nm,0.8s							
PYUN	**Piuthan**	**72.31**	**293**	*e*P		**P**	**16 53 34.7**	**+0.8**
	comp=Z,134nm,1.0s							
VSR	**Storozhevoye**	**72.49**	**335**	*e*P		**P**	**16 53 32.9**	**-1.5**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PPT	**Papeete**	**73.72**	**149**	LR		LR	17 19 13.1	
	comp=Z,183nm,20.1s,baz=323,slow=30							
PPT2	**Papeete2**	**73.74**	**149**	*e*S		**SKiKP**	**17 03 06.1**	**-1.2**
	comp=Z,446nm,30.0s							
PPT2	**Papeete2**	**73.74**	**149**	*e*LR		LR	17 16 07.4	
	comp=Z,368nm,25.2s,baz=340							
PPT2	**Papeete2**	**73.74**	**149**	*e*T		T	18 14 25.6	
	comp=Z,9.6nm,0.3s							
DZM	**Mont Dzumac**	**73.80**	**192**	*e*LR		LR	17 16 21.9	
	comp=Z,334nm,23.6s							
KBL	**Kabul**	**74.96**	**307**	*e*P		**P**	**16 53 48.8**	**-0.6**
KBL				pmax	pmax			
	comp=Z,45nm,0.8s							
KBL	**Kabul**	**74.96**	**307**	*e*P		**P**	**16 53 48.8**	**-0.6**
	comp=Z,45nm,0.8s							
AKASG	**Malin Array Be**	**75.33**	**341**	P		**P**	**16 53 50.2**	**-0.8**
	comp=Z,8.1nm,0.6s,baz=23,slow=6.0,SNR=21							
AKASG				LR		LR	17 30 48.2	
	comp=Z,290nm,20.1s,baz=335,slow=39							
KIEV	**Kiev**	**75.34**	**341**	*c i*P		**P**	**16 53 50.3**	**-0.7**
KIEV				pmax	pmax			
	comp=Z,19nm,1.2s							
KIEV	**Kiev**	**75.34**	**341**	*e*P		**P**	**16 53 50.1**	**-0.9**
	comp=Z,23nm,1.2s							
AK11	**Malin Array Si**	**75.36**	**341**	*e*P		**P**	**16 53 50.0**	**-1.2**
GOF	**Gofitskoye**	**76.91**	**330⇑**	*e*P		**P**	**16 54 03.8**	**+3.7**
CLL	**Collm**	**77.21**	**351**	*i*P		**P**	**16 54 00.7**	**-0.9**
	comp=Z,6.0nm,1.1s							
CLL				*i*			16 54 16.8	
CLL				L		L	17 30 00.0	
	comp=Z,100nm,20.5s							
CLL	**Collm**	**77.21**	**351**	*i*P		**P**	**16 54 00.7**	**-0.9**
CLL				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GEYT	**Alibeck**	**77.36**	**316**	P		**P**	**16 54 03.9**	**+1.0**
	comp=Z,24nm,0.9s,baz=358,slow=4.3,SNR=43							
GEYT				LR		LR	17 33 24.1	
	comp=Z,438nm,18.1s,baz=315,slow=40							
OJC	**Ojcow**	**77.46**	**347**	*e*P		**P**	**16 54 01.8**	**-1.3**
OJC				pmax	pmax			
	comp=Z,7.0nm,0.8s							
OJC	**Ojcow**	**77.46**	**347**	*e*P		**P**	**16 54 01.8**	**-1.3**
	comp=Z,7.1nm,0.8s							
KWP	**Kalwaria Pacla**	**77.58**	**345**	*e*P		**P**	**16 54 04.4**	**+0.6**
KWP	**Kalwaria Pacla**	**77.58**	**345⇑**	*i*P		**P**	**16 54 04.7**	**+1.0**
KWP	**Kalwaria Pacla**	**77.58**	**345**	⇑P		**P**	**16 54 04.7**	**+1.0**
UPC	**Upice**	**77.68**	**349**	AMS		AMS	17 34 40.0	
	comp=Z,100nm,15.7s							
DPC	**Dobruska-Polom**	**77.80**	**349**	*e*P		**P**	**16 54 04.5**	**-0.5**
DPC				*ex*		x	16 54 09.7	
DPC				AMS		AMS	17 36 00.0	
DPC	**Dobruska-Polom**	**77.80**	**349**	*e*P		**P**	**16 54 04.5**	**-0.5**
DPC				*e*			16 54 09.7	
SORM	**Soroca**	**77.95**	**341⇑**	*i*P		**P**	**16 54 05.2**	**-0.6**
SORM	**Soroca**	**77.95**	**341**	⇑P		**P**	**16 54 05.2**	**-0.6**
KIV	**Kislovodsk**	**78.01**	**329**	*e*P		**P**	**16 54 06.7**	**+0.3**
KIV				pmax	pmax			
	comp=Z,13nm,0.9s							
KIV	**Kislovodsk**	**78.01**	**329**	*e*P		**P**	**16 54 06.4**	**0.0**
	comp=Z,11nm,0.8s							
STHS	**Stebnicka Huta**	**78.02**	**345**	*e*P		**P**	**16 54 07.0**	**+0.8**
STHS				pmax	pmax			
	comp=Z,5.0nm,0.8s							
STHS	**Stebnicka Huta**	**78.02**	**345**	*e*P		**P**	**16 54 07.0**	**+0.8**
NCK	**Nalchik**	**78.13**	**329‖**	*e*P		**P**	**16 54 08.2**	**+1.3**
NCK				pmax	pmax			
	comp=Z,46nm,0.9s							
KBZ	**Khabaz**	**78.15**	**329**	P		**P**	**16 54 07.6**	**+0.7**
	comp=Z,8.0nm,0.9s,baz=125,slow=3.2,SNR=14							
KBZ				LR		LR	17 32 31.2	
	comp=Z,252nm,21.3s,baz=20,slow=39							
MORC	**Moravsky Berou**	**78.20**	**348**	‖*i*P		**P**	**16 54 06.0**	**-1.3**
MORC	**Moravsky Berou**	**78.20**	**348**	‖P		**P**	**16 54 06.0**	**-1.3**
KOLS	**Kolonicke sedl**	**78.32**	**345**	*e*P		**P**	**16 54 08.0**	**+0.1**
KOLS				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KOLS	**Kolonicke sedl**	**78.32**	**345**	*e*P		**P**	**16 54 08.0**	**+0.1**
PRU	**Pruhonice**	**78.36**	**350**	AMS		AMS	17 37 30.0	
	comp=Z,100nm,14.1s							
GOPC	**GO Pecny, Ondr**	**78.40**	**350**	AMS		AMS	17 36 40.0	
	comp=Z,200nm,15.7s							
MEM	**Membach**	**78.42**	**356**	P		**P**	**16 54 08.9**	**+0.5**
	comp=Z,9.1nm,1.1s							
CRVS	**Cervenica-Dubn**	**78.49**	**345**	*e*P		**P**	**16 54 08.7**	**-0.1**
CRVS	**Cervenica-Dubn**	**78.49**	**345**	*e*P		**P**	**16 54 08.7**	**-0.1**
LANS	**Liptovska Anna**	**78.55**	**347**	*e*P		**P**	**16 54 10.1**	**+0.9**
LANS	**Liptovska Anna**	**78.55**	**347**	*e*P		**P**	**16 54 10.1**	**+0.9**
SNF	**Seneffe**	**78.59**	**357**	P		**P**	**16 54 09.4**	**+0.2**
NEY	**Neytrino**	**78.63**	**329⇑**	*e*P		**P**	**16 54 11.5**	**+1.6**
NEY				pmax	pmax			
	comp=Z,4.0nm,2.0s							
BCLA	**Clavier**	**78.64**	**356**	P		**P**	**16 54 09.3**	**-0.2**
	comp=Z,6.4nm,1.3s							
ZEI	**Tsey**	**78.66**	**328**	*e*P		**P**	**16 54 09.7**	**-0.4**
ZEI				pmax	pmax			
	comp=Z,71nm,1.0s							
VRAC	**Vranov**	**78.79**	**348**	‖*i*P		**P**	**16 54 10.6**	**+0.2**
VRAC	**Vranov**	**78.79**	**348**	‖P		**P**	**16 54 10.6**	**+0.2**
ANN	**Anapa**	**78.83**	**333**	*e*P		P	16 54 04.5	-6.2
ANN				*e*			16 54 16.8	
ANN				*e**PP		pP	16 54 22.4	-1.9
ANN				*e*PPP		PPP	16 58 56.4	
ANN				*e*S		S	17 03 53.0	-12
ANN				pmax	pmax			
	comp=Z,36nm,1.2s							
TREC	**Trest**	**78.93**	**349**	AMS		AMS	17 30 50.0	
	comp=Z,200nm,15.2s							
ONI	**Oni**	**78.98**	**328**	P		**P**	**16 54 16.5**	**+4.8**
ONI	**Oni**	**78.98**	**328**	P		**P**	**16 54 16.5**	**+4.8**
DOU	**Dourbes**	**78.99**	**356**	P		**P**	**16 54 11.7**	**+0.2**
BUR08	**Bucovina Ar. S**	**79.05**	**342**	*e*P		**P**	**16 54 11.7**	**-0.3**
KECS	**Kecovo**	**79.05**	**346**	*e*P		**P**	**16 54 12.8**	**+0.9**
KECS				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KECS	**Kecovo**	**79.05**	**346**	*e*P		**P**	**16 54 12.8**	**+0.9**
BURAR	**Bucovina Array**	**79.07**	**342⇑**	*i*P		**P**	**16 54 12.1**	**0.0**
BURAR	**Bucovina Array**	**79.07**	**342**	⇑P		**P**	**16 54 12.1**	**0.0**
TBI	**Tubuai**	**79.18**	**151**	*e*LR		LR	17 18 42.6	
	comp=Z,448nm,23.5s,baz=336							
VYHS	**Vyhne**	**79.28**	**347**	*e*P		**P**	**16 54 13.2**	**0.0**
VYHS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
VYHS	**Vyhne**	**79.28**	**347**	*e*P		**P**	**16 54 13.2**	**0.0**
KHC	**Kasperske Hory**	**79.31**	**350**	*e*P		**P**	**16 54 13.1**	**-0.2**
KHC				*ex*		x	16 54 17.2	
KHC				AMS		AMS	17 32 30.0	
	comp=Z,200nm,16.9s							
KHC	**Kasperske Hory**	**79.31**	**350**	*e*P		**P**	**16 54 13.1**	**-0.2**
KHC				*e*			16 54 17.2	
KHC				MLR		MLR		
	comp=Z,200nm,16.9s							
KHC	**Kasperske Hory**	**79.31**	**350**	*e*P		**P**	**16 54 12.6**	**-0.7**
	comp=Z,2.8nm,1.1s							
TBLG	**Delisi**	**79.32**	**327**	P		**P**	**16 54 14.4**	**+0.9**
TBLG	**Delisi**	**79.32**	**327**	P		**P**	**16 54 14.4**	**+0.9**
WLF	**Walferdange**	**79.35**	**355**	P		**P**	**16 54 13.9**	**+0.4**
LEOM	**Leova**	**79.55**	**340⇑**	*i*P		**P**	**16 54 14.0**	**-0.6**
LEOM	**Leova**	**79.55**	**340**	⇑P		**P**	**16 54 14.0**	**-0.6**
GERES	**GERESS Array B**	**79.58**	**350**	P		**P**	**16 54 14.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=28,slow=6.0,SNR=9.2							
GERES				LR		LR	17 32 59.4	
	comp=Z,106nm,18.2s,baz=29,slow=38							
GEA0	**GERESS Array S**	**79.58**	**350**	*e*P		**P**	**16 54 13.9**	**-1.0**
PSZ	**Piszkesteto**	**79.69**	**346**	‖*i*P		**P**	**16 54 17.2**	**+1.7**
PSZ	**Piszkesteto**	**79.69**	**346**	‖P		**P**	**16 54 17.2**	**+1.7**
PSZ	**Piszkesteto**	**79.69**	**346**	*e*P		**P**	**16 54 14.9**	**-0.6**
	comp=Z,12nm,1.2s							
ARCR	**ARCALIA**	**79.74**	**343**	‖*i*P		**P**	**16 54 17.1**	**+1.4**
TESR	**Tescani**	**79.85**	**341**	‖*i*P		**P**	**16 54 16.3**	**0.0**
AKH	**Akhalkalaki**	**80.03**	**328**	P		**P**	**16 54 19.1**	**+1.6**
AKH	**Akhalkalaki**	**80.03**	**328**	P		**P**	**16 54 19.1**	**+1.6**
BGD	**Bogdanovka**	**80.12**	**328**	P		**P**	**16 54 19.5**	**+1.4**
CONA	**Conrad Observa**	**80.23**	**349**	*i*P		**P**	**16 54 18.8**	**+0.4**
	comp=Z,7.4nm,1.4s							
DRGR		**80.32**	**344⇑**	*i*P		**P**	**16 54 18.9**	**0.0**
DRGR		**80.32**	**344**	⇑P		**P**	**16 54 18.9**	**0.0**
VRI	**Vrincioaia**	**80.45**	**341**	‖*i*P		**P**	**16 54 19.1**	**-0.4**
VRI	**Vrincioaia**	**80.45**	**341**	‖P		**P**	**16 54 19.1**	**-0.4**
ODBI	**Odobesti**	**80.48**	**341**	‖*i*P		**P**	**16 54 21.2**	**+1.6**
PLOR	**Plostina**	**80.48**	**341⇑**	*i*P		**P**	**16 54 20.3**	**+0.6**
PLOR	**Plostina**	**80.48**	**341**	⇑P		**P**	**16 54 20.3**	**+0.6**
MOA	**Molln**	**80.50**	**350**	*i*P		**P**	**16 54 19.8**	**0.0**
	comp=Z,3.1nm,0.9s							
BFO	**Black Forest**	**80.55**	**354**	*i*P		**P**	**16 54 20.3**	**+0.2**
BFO	**Black Forest**	**80.55**	**354**	*e*P		**P**	**16 54 19.1**	**-1.0**
	comp=Z,26nm,1.8s							
DOPR	**Dopca**	**80.62**	**342**	‖*i*P		**P**	**16 54 22.3**	**+1.8**
TLCR		**80.65**	**339**	‖*i*P		**P**	**16 54 20.7**	**+0.2**
TLCR		**80.65**	**339**	‖P		**P**	**16 54 20.7**	**+0.2**
GNI	**Garni**	**80.72**	**326**	P		**P**	**16 54 22.4**	**+1.1**
	comp=Z,4.8nm,0.5s,baz=43,slow=18,SNR=2.6							
CFR	**Carcaliu**	**80.80**	**340**	‖*i*P		**P**	**16 54 22.7**	**+1.3**
CFR	**Carcaliu**	**80.80**	**340**	‖P		**P**	**16 54 22.7**	**+1.3**
ARSA	**Arzberg**	**80.94**	**349**	*i*P		**P**	**16 54 22.7**	**+0.5**
	comp=Z,3.2nm,0.8s							
MLR	**Muntele Rosu**	**80.97**	**341**	P		**P**	**16 54 23.6**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=38,slow=4.8,SNR=11							
MLR	**Muntele Rosu**	**80.97**	**341**	‖*i*P		**P**	**16 54 23.9**	**+1.5**
MLR	**Muntele Rosu**	**80.97**	**341**	*e*P		**P**	**16 54 22.4**	**0.0**
MLR				pmax	pmax			
	comp=Z,8.0nm,0.8s							
MLR	**Muntele Rosu**	**80.97**	**341**	*e*P		**P**	**16 54 22.4**	**0.0**
	comp=Z,8.0nm,0.8s							
SIRR	**Siria**	**81.01**	**344⇑**	*i*P		**P**	**16 54 23.5**	**+1.0**
VOIR		**81.19**	**342**	‖*i*P		**P**	**16 54 24.6**	**+1.3**
VOIR		**81.19**	**342**	‖P		**P**	**16 54 24.6**	**+1.0**
ISR	**Istrita**	**81.20**	**341⇑**	*i*P		**P**	**16 54 24.7**	**+1.1**
ISR	**Istrita**	**81.20**	**341**	⇑P		**P**	**16 54 24.7**	**+1.1**
RETA	**Reutte**	**81.20**	**352**	*i*P		**P**	**16 54 22.5**	**-1.1**
	comp=Z,1.0nm,0.3s							
WATA	**Walderalm**	**81.28**	**352**	*i*P		**P**	**16 54 24.6**	**+0.5**
	comp=Z,9.3nm,0.9s							
MOTA	**Moosalm**	**81.32**	**352**	*i*P		**P**	**16 54 25.2**	**+0.9**
	comp=Z,10nm,1.0s							
WTTA	**Wattenberg**	**81.35**	**351**	*i*P		**P**	**16 54 24.7**	**+0.2**
	comp=Z,8.4nm,0.8s							
KBA	**Koebreinsper**	**81.36**	**350**	*i*P		**P**	**16 54 25.1**	**+0.5**
	comp=Z,18nm,0.7s,SNR=16							
TIRR	**Tirgusor**	**81.43**	**339⇑**	*i*P		**P**	**16 54 25.7**	**+1.0**
TIRR	**Tirgusor**	**81.43**	**339**	⇑P		**P**	**16 54 25.7**	**+1.0**
LOT	**Lotru**	**81.43**	**343⇑**	*i*P		**P**	**16 54 24.3**	**-0.6**
DAVA	**Damuels**	**81.48**	**353**	*i*P		**P**	**16 54 21.2**	**-4.0**
	comp=Z,5.4nm,1.1s							
SOKA	**Soboth**	**81.56**	**349**	*i*P		**P**	**16 54 26.0**	**+0.4**
	comp=Z,20nm,1.2s,SNR=15							
BZS	**Buzias**	**81.65**	**344**	‖*i*P		**P**	**16 54 26.1**	**+0.2**
BZS	**Buzias**	**81.65**	**344**	‖P		**P**	**16 54 26.1**	**+0.2**
FETA	**Feichten**	**81.67**	**352**	*i*P		**P**	**16 54 26.6**	**+0.4**
	comp=Z,8.7nm,1.0s							
PSI	**Prapat**	**81.73**	**264**	*e*P		**P**	**16 54 26.3**	**-0.6**
PSI				pmax	pmax			
	comp=Z,21nm,0.9s							
PSI	**Prapat**	**81.73**	**264**	*e*P		**P**	**16 54 26.3**	**-0.6**
	comp=Z,21nm,0.9s							
MYKA	**Terra Mystica**	**81.77**	**350**	*i*P		**P**	**16 54 26.8**	**+0.2**
	comp=Z,4.2nm,0.6s							
ABTA	**Abfaltersbach**	**81.77**	**351**	*i*P		**P**	**16 54 26.5**	**-0.1**
	comp=Z,8.8nm,1.0s,SNR=6.4							
OBKA	**Obir**	**81.79**	**349**	*i*P		**P**	**16 54 27.1**	**+0.4**
	comp=Z,10nm,0.8s,SNR=5.4							
FUORN	**Ofenpass-Fuorn**	**82.11**	**352**	*e*P		**P**	**16 54 28.0**	**-0.6**
	comp=Z,7.1nm,0.8s							
TUE	**Stuetta**	**82.33**	**353**	*e*P		**P**	**16 54 28.9**	**-0.8**
	comp=Z,7.6nm,0.9s							
MDVR	**Moldovita**	**82.44**	**344⇑**	*i*P		**P**	**16 54 30.1**	**0.0**
HYB	**Hyderabad**	**83.10**	**289**	*i*P		**P**	**16 54 35.0**	**+1.1**
ASAR	**Alice Springs**	**84.51**	**221**	LR		LR	17 30 52.1	
	comp=Z,52nm,19.3s,baz=338,slow=34							
BR131	**Keskin Array S**	**84.58**	**334**	*e*P		**P**	**16 54 41.2**	**-0.2**
BRTR	**Keskin Array B**	**84.58**	**334**	P		**P**	**16 54 41.5**	**+0.2**
	comp=Z,8.5nm,0.7s,baz=55,slow=3.0,SNR=43							
BRTR				LR		LR	17 37 47.2	
	comp=Z,87nm,19.3s,baz=16,slow=40							
BR231	**Keskin MP Arra**	**84.71**	**335**	*e*P		**P**	**16 54 41.8**	**-0.2**
STKA	**Stephens Creek**	**89.10**	**211**	LR		LR	17 33 01.6	
	comp=Z,91nm,21.0s,baz=23,slow=34							
ES19	**SONSECA Array**	**89.45**	**2**	*e*P		**P**	**16 55 03.5**	**-1.4**
ESDC	**Sonseca Array**	**89.47**	**2**	P		**P**	**16 55 03.6**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=354,slow=4.7,SNR=8.3							
BCIP	**Isla Barro Col**	**89.72**	**76**	*e*P		**P**	**16 55 05.4**	**-0.9**
	comp=Z,87nm,1.1s							
ASF	**Jabal al Asfar**	**90.60**	**329**	P		**P**	**16 55 10.6**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=43,slow=2.1,SNR=4.4							
TOA0	**Torodi Ar. Sit**	**115.90**	**357**	*e*PKPdf		**PKPdf**	**17 00 50.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**115.90**	**357**	PKP		**PKPdf**	**17 00 50.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=6.4,slow=2.1,SNR=7.4							
KMBO	**Kilima Mbogo**	**120.71**	**314**	PKP		**PKPdf**	**17 01 01.6**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=55,slow=1.8,SNR=5.8							
DBIC	**Dimbokro**	**122.27**	**5**	PKP		**PKPdf**	**17 01 02.8**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=307,slow=4.4,SNR=8.2							
TSUM	**Tsumeb**	**144.93**	**329**	*e*PKPdf		**PKPdf**	**17 01 44.9**	**-0.2**
MAW	**Mawson**	**145.57**	**217**	PKPbc		**PKPdf**	**17 01 44.6**	**+0.1**
	comp=Z,5.0nm,0.7s,baz=84,slow=4.9,SNR=13							
MAW	**Mawson**	**145.57**	**217**	*e*PKPdf		**PKPab**	**17 01 45.5**	**+0.4**
LBTB	**Lobatse**	**146.96**	**312**	*e*PKIKP		**PKPdf**	**17 01 48.7**	**+0.3**
LBTB				*e*			17 01 51.2	
LBTB	**Lobatse**	**146.96**	**312**	*e*PKPdf		**PKPdf**	**17 01 48.7**	**+0.3**
LBTB				*e*PKPbc		**PKPbc**	**17 01 51.2**	**+0.8**
BOSA	**Boshof**	**150.15**	**309**	PKPbc		**PKPbc**	**17 01 59.2**	**+0.7**
	comp=Z,24nm,0.8s,baz=13,slow=1.9,SNR=38							
SYO	**Syowa Base**	**153.85**	**212‖**	*e*X		**PKPbc**	**17 02 03.0**	**-2.5**

*ISCJB **21** 16:43:12.4±0.5, 40.°94N±0.°04×30.°55E±0.°04, h0km, Error ellipse: s-maj=5.6km s-min=3.6km az=20.9*
*DDA **21** 16:43:12.4, 40.°88N×30.°52E, h7km, Md2.8, Suspected Mining explosion.*
*ISK **21** 16:43:12.4, 40.°94N×30.°58E, h11km, MD2.5*
*CSEM **21** 16:43:12.5±0.2, 40.°96N×30.°57E, h1km, MD2.5, Error ellipse: s-maj=4.6km s-min=3.1km az=22.0, Suspected Mining explosion.*

ISC 21 16:43:12.2±0.8, **40.°87N**±0.°04×**30.°54E**±0.°02, **h0km**, **n37**, σ0**s58**/46, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAHE	**Sakarya_HENDEK**	**0.24**	**94**	P			**Pg**	**16 43 17.5**	**+0.7**
SAHE				S			**Sg**	**16 43 21.5**	**+1.5**
SAHE	**Sakarya_HENDEK**	**0.24**	**94**	*i* P			**Pg**	**16 43 17.5**	**+0.7**
SAHE				*i* S			**Sg**	**16 43 21.5**	**+1.5**
SPNC	**Sapanca-Adapaz**	**0.25**	**223**	*e*PG			**Pb**	**16 43 19.5**	**-0.2**
SPNC	**Sapanca-Adapaz**	**0.25**	**223**	*e*Pg			**Pb**	**16 43 19.5**	**-0.2**
KAND	**Kocaeli-Kandir**	**0.34**	**311**	P			**Pg**	**16 43 19.5**	**+0.7**
KAND				S			**Sg**	**16 43 23.8**	**+0.5**
KAND	**Kocaeli-Kandir**	**0.34**	**311**	*i* P			**Pg**	**16 43 19.5**	**+0.7**
KAND				*i* S			**Sg**	**16 43 23.8**	**+0.5**
GULT	**Gulveren**	**0.44**	**182**	*e*PG			**Pb**	**16 43 22.7**	**-0.2**
GULT				*e*SG			**Sb**	**16 43 30.2**	**+0.2**
GULT	**Gulveren**	**0.44**	**

61nm,0.7s,baz=194,slow=3.1,SNR=6.4
HNR Honiara 20.44 107 P **P** 16 49 40.0 -0.5
HNR Honiara 20.44 107 *eP* **P** 16 49 39.5 -0.9
62nm,0.7s
PCI Palu 20.51 277 P Pn 16 49 44.7 +0.8
AS01 Alice Springs 20.74 196 *eP* **P** **16 49 43.9 +0.3**
AS31 Alice Springs 20.75 196 *eP* **P** **16 49 44.5 +0.8**
122nm,0.6s
ASAR Alice Springs 20.75 196 P **P** **16 49 45.2 +1.5**
282nm,0.6s,baz=26,slow=6.7,SNR=480
ASAR S **S** **16 53 32.0 -0.5**
11nm,1.0s,baz=14,slow=24,SNR=5.2
ASAR LR LR 16 58 20.0
comp=Z,575nm,20.6s,baz=10,slow=38
EIDS Eidsvold 23.96 155 *eP* **P** **16 50 17.6 +0.8**
33nm,0.6s
TGY Tagaytay City 26.02 313 LR LR 17 01 58.2
comp=Z,76nm,19.1s,baz=29,slow=39
MBWA Marble Bar 26.39 227 *eP* **P** **16 50 38.8 0.0**
18nm,0.6s
STKA Stephens Creek 28.06 177 P **P** **16 50 53.7 0.0**
1.7nm,0.5s,baz=326,slow=11,SNR=4.8
STKA LR LR 17 03 16.4
comp=Z,529nm,19.5s,baz=8.7,slow=39
DZM Mont Dzumac 31.34 128 P **P** **16 51 24.0 +1.0**
16nm,1.1s,baz=236,slow=8.9,SNR=3.1
DZM Mont Dzumac 31.34 128 *eP* **P** **16 51 21.6 -1.4**
28nm,1.2s
NWAO Narrogin (SRO) 36.14 214 P **P** **16 52 05.1 +0.7**
6.0nm,0.7s,baz=59,slow=19,SNR=7.2
JNU Nakatsue 37.67 347 P **P** **16 52 17.1 -0.3**
6.5nm,1.1s,baz=141,slow=6.5,SNR=2.4
MJAR Matsushiro Arr 40.08 358 P **P** **16 52 36.1 -1.4**
0.8nm,0.5s,baz=182,slow=6.1,SNR=3.8
PSI Prapat 41.73 278 *eP* **P** **16 52 51.6 0.0**
35nm,0.9s
KSAR Wonju Array Be 42.50 345 P **P** **16 52 57.4 0.0**
KSRS Korea Array 42.50 346 P **P** **16 52 57.4 0.0**
1.6nm,0.6s,baz=160,slow=9.4,SNR=7.1
GSI Gunungsitoli 42.87 276 *eP* **P** **16 53 00.1 -0.6**
101nm,1.6s
UTTA Uttaradit 44.51 300 P **P** **16 53 15.5 +1.7**
10nm,0.9s,81nm
SUKH Sukhothai 45.20 299 P **P** **16 53 20.8 +1.4**
5.9nm,0.8s
KMI Kunming 46.27 310 P **P** **16 53 29.0 +1.0**
KMI PMZ
7.0nm,0.6s
KMI PMZ
150nm,4.4s
ASAJ Asahikawa 47.65 2 P **P** **16 53 38.0 -0.1**
6.0nm,0.8s,baz=196,slow=9.4,SNR=4.3
URZ Urewera 48.12 141 P **P** **16 53 45.2 +3.2**
6.2nm,1.0s,baz=313,slow=19,SNR=4.9
URZ Urewera 48.12 141 P **P** **16 53 43.1 +1.1**
RPZ Rata Peaks 48.30 150 P **P** **16 53 44.8 +1.6**
7.4nm,0.4s,baz=352,slow=7.7,SNR=9.4
RPZ Rata Peaks 48.30 150 *eP* **P** **16 53 44.0 +0.8**
19nm,0.9s
CD2 Chengdu 48.90 317 *eP* **P** **16 53 48.3 +0.3**
HHC Hu-ho-hao-te 51.48 332 *eP* **P** **16 54 09.8 +2.3**
HHC PP PP 16 56 12.5 +7.2
HHC S **S** **17 01 23.3 -0.4**
HHC PMZ
11nm,1.0s
HHC PMZ
120nm,5.6s
HHC LN
170nm,12.3s
HHC LE
200nm,13.6s
HHC LZ
160nm,16.7s
KLR Kul'dur 53.23 353 P **P** **16 54 19.9 -0.2**
2.0nm,0.6s,baz=164,slow=9.0,SNR=6.7
GTA Gaotai 56.73 323 *eP* **P** **16 54 45.8 0.0**
GTA pP pP 16 55 02.8 +1.9
GTA sP sP 16 55 10.4 +3.1
GTA PMZ
3.0nm,1.0s
PETK Petropavlovsk- 58.50 12 P **P** **16 54 58.6 +0.8**
7.1nm,1.1s,baz=108,slow=8.0,SNR=3.8
PETK LR LR 17 17 00.2
comp=Z,62nm,21.9s,baz=211,slow=33
SONM Songino Array 59.24 334 P **P** **16 55 02.8 -0.4**
0.8nm,0.6s,baz=149,slow=5.7,SNR=4.0
MA2 Magadan 63.64 6 P **P** **16 55 31.5 -1.0**
2.0nm,0.7s,baz=173,slow=16,SNR=3.1
CASY Casey 65.82 193 *eP* **P** **16 55 46.8 +0.2**
0.7nm,0.6s
WMQ Urumqi 66.69 321 P **P** **16 55 54.8 +2.1**
WMQ pP sP 16 56 11.8 -2.7
WMQ sP PcP 16 56 18.8 -2.7
WMQ PMZ
4.0nm,1.2s
WMQ PMZ
60nm,3.8s
WMQ LN
230nm,15.8s
WMQ LE
210nm,15.8s
WMQ LZ
280nm,19.2s
SEY Seymchan 67.10 6 P **P** **16 55 55.4 +0.6**
1.3nm,0.7s,baz=306,slow=2.1,SNR=3.8
MK01 Makanchi Array 71.45 322 *eP* **P** **16 56 21.6 -0.5**
MKAR Makanchi Array 71.47 322 P **P** **16 56 21.7 -0.5**
1.9nm,0.8s,baz=94,slow=8.7,SNR=9.6
KSH Kashi 72.83 313 *eP* **P** **16 56 32.1 +1.5**
KSH pP sP 16 56 50.0 -2.5
KSH PP **PP** **16 59 17.5 +4.1**
KSH S **S** **17 05 51.1 -1.6**
KSH ScS **SKSac** **17 06 29.0 -2.6**
KSH PMZ
4.0nm,0.5s
KSH PMZ
110nm,5.4s
KSH LN
110nm,8.7s
KSH LE
120nm,5.6s
KSH LZ
310nm,9.1s
ZALV Zalesovo Beam 73.53 330 P **P** **16 56 32.9 -1.3**
0.7nm,0.4s,baz=130,slow=6.7,SNR=4.0
VNDA Vanda 74.67 175 P **P** **16 56 41.3 +0.7**
2.4nm,0.7s,baz=321,slow=6.1,SNR=12
VNDA Vanda 74.67 175 *eP* **P** **16 56 40.6 +0.1**
3.2nm,0.9s
KURK Kurchatov 75.37 325 P **P** **16 56 44.5 -0.5**
KURBB Kurchatov Arra 75.38 325 P **P** **16 56 44.5 -0.6**
0.9nm,0.7s,baz=110,slow=5.0,SNR=4.4
TIXI Tiksi 75.58 356 *eP* **P** **16 56 45.5 -0.2**
3.1nm,0.8s
OHAK Old Harbor 80.66 30 *eP* **P** **16 57 13.9 -0.3**
7.6nm,0.7s
BVAR Borovoye Array 80.96 325 P **P** **16 57 15.6 -0.3**
1.6nm,0.4s,baz=117,slow=7.9,SNR=12
MAW Mawson 81.76 202 P **P** **16 57 21.2 +1.3**
2.7nm,0.8s,baz=43,slow=3.5,SNR=4.2
SML Sawmill 84.61 27 *eP* **P** **16 57 34.0 -0.7**
7.2nm,0.9s
MLY Manley 84.66 23 *eP* **P** **16 57 34.2 -0.8**
2.7nm,0.6s
RND Reindeer 84.89 25 *eP* **P** **16 57 34.4 -1.8**
4.9nm,0.8s
SCM Sheep Creek Mo 85.07 27 *eP* **P** **16 57 36.2 -0.9**
6.0nm,0.8s
DIV Divide 85.59 28 *eP* **P** **16 57 38.6 -1.1**
KLU Klutina 85.62 28 *eP* **P** **16 57 39.3 -0.5**
3.1nm,0.6s
COLD Coldfoot 85.63 21 *eP* **P** **16 57 39.4 -0.3**
2.2nm,0.8s
CCB Clear Creek Bu 85.72 24 *eP* **P** **16 57 38.8 -1.3**
3.4nm,0.8s
ILAR Eielson Array 86.13 24 P **P** **16 57 40.5 -1.7**
2.0nm,0.6s,baz=263,slow=4.5,SNR=21
ILAR LR LR 17 29 06.3
comp=Z,33nm,21.0s,baz=261,slow=31
BALM Baldy 87.18 28 *eP* **P** **16 57 46.8 -0.8**
6.0nm,1.1s
EGAK Eagle 88.51 25 *eP* **P** **16 57 53.9 +0.2**
8.2nm,1.5s
YKA Yellowknife Ar 100.28 27 P **Pdif** **16 58 47.2 -0.4**
0.3nm,0.7s,baz=280,slow=5.7,SNR=4.0
ARCES ARCESS Array B 101.92 341 P **Pdif** **16 58 52.9 -1.8**
3.6nm,0.8s,baz=88,slow=8.6,SNR=3.8
TORD Torodi Ar. Bea 137.93 285 PKP **PKPdf** **17 04 27.7 +0.8**
0.5nm,0.7s,baz=108,slow=3.2,SNR=2.6
DBIC Dimbokro 145.06 276 PKP **PKPdf** **17 04 39.2 -0.5**
4.4nm,0.6s,baz=84,slow=3.8,SNR=8.5
CPUP Villa Florida 145.67 151 PKPbc **PKPab** **17 04 41.8 +0.7**
3.1nm,0.7s,baz=203,slow=2.3,SNR=7.3
LPAZ La Paz 145.68 126 PKPbc **PKPab** **17 04 43.4 +1.1**
5.2nm,0.9s,baz=240,slow=0.9,SNR=12

*IDC **21** 16:54:20.7±2.0, 36°.62N×142°.11E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.3/52, mbtmp3.6/7, ML3.1/3, Error ellipse: s-maj=45.0km s-min=23.3km az=80.0*
*JMA **21** 16:54:24.4±0.2, 36°.65N×141°.95E, h62km, M3.0*
ISC 21 16:54:24.0±1.1, 36°.60N±0°.06×141°.81E±0°.08, h19km, n13, σ1§84/16, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.95**	**302**	P	**Pg**	**16 54 42.6**	**+0.1**
JHO	**Hitachi**	**1.00**	**271**	P	**Pg**	**16 54 43.8**	**+0.4**
JFK	**Kawauchi**	**1.07**	**316**	P	**Pg**	**16 54 44.1**	**-0.6**
JMM	**Marumori**	**1.50**	**328**	P	**Pb**	**16 54 50.1**	**-1.1**
JIO	**Ouri**	**1.88**	**349**	P	**Pb**	**16 54 55.0**	**-2.8**
MJAR	**Matsushiro Arr**	**2.90**	**270**	Pn	**Pb**	**16 55 11.5**	**-3.5**
MJAR	4.0nm,0.3s,baz=88,slow=15,SNR=28			Sn	**Sb**	**16 55 50.0**	**-0.1**
MAT	**Matsushiro**	**2.90**	**270**	P	**Pb**	**16 55 12.1**	**-3.0**
MAT	1.7nm,0.3s,baz=95,slow=24,SNR=4.3			*e*S	**Sn**	**16 55 45.8**	**+2.3**
JHJ	**Hachijo jima 2**	**3.85**	**206**	Pn	**Pn**	**16 55 23.6**	**+1.4**
JHJ	4.6nm,0.3s,baz=75,slow=20,SNR=4.3			Sn	**Sn**	**16 56 05.6**	**-1.4**
ASAJ	**Asahikawa**	**7.53**	**4**	Pn	**Pn**	**16 56 12.3**	**-0.4**
SONM	22nm,0.3s,baz=53,slow=20,SNR=7.6 **Songino Array**	**28.29**	**305**	P	**P**	**17 00 17.9**	**+1.7**
MKAR	0.9nm,0.8s,baz=97,slow=9.6,SNR=5.3 **Makanchi Array**	**44.62**	**303**	P	**P**	**17 02 35.6**	**+0.5**
KURBB	0.3nm,0.6s,baz=81,slow=8.9,SNR=3.1 **Kurchatov Arra**	**46.52**	**308**	P	**P**	**17 02 50.9**	**+0.9**
WRA	0.5nm,0.6s,baz=81,slow=7.6,SNR=4.4 **Warramunga Arr**	**56.68**	**189**	P	**P**	**17 04 06.1**	**-0.1**
	0.6nm,1.1s,baz=5.6,slow=7.4,SNR=3.3						

*ISCJB **21** 17:04:09.1±0.4, 67°.08N±0°.02×21°.06E±0°.06, h0km, Error ellipse: s-maj=3.6km s-min=2.9km az=147.7*
*CSEM **21** 17:04:09.6±0.2, 67°.09N×21°.06E, h0km±3km, ML1.8, Error ellipse: s-maj=5.2km s-min=4.4km az=67.0, Mining explosion.*
*HEL **21** 17:04:10.9±0.1, 67°.08N×20°.92E, h0km, ML2.2, ML1.8(UPP), Explosion*
*UPP **21** 17:04:10.3±0.1, 67°.07N×20°.93E, h0km, ML1.8, Explosion*
*IDC **21** 17:04:12.4±0.9, 67°.02N×21°.71E, h0km, mb1 3.2/4, mb1mx3.0/42, mbtmp3.1/4, ML2.3/4, Error ellipse: s-maj=16.6km s-min=8.4km az=103.0*
ISC 21 17:04:09.8±0.7, 67°.06N±0°.02×20°.89E±0°.02, h0km, n58, σ1§35/79, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.14**	**295**	P	**Pg**	**17 04 13.5**	**+1.0**
DUNU				S	**Sg**	**17 04 15.2**	**+1.0**
DUNU	**Dundret**	**0.14**	**295**	*i* P	**Pg**	**17 04 13.5**	**+1.0**
DUNU				*i* S	**Sg**	**17 04 15.2**	**+1.0**
DUNU	**Dundret**	**0.14**	**295**	P	**Pg**	**17 04 13.5**	**+1.0**
DUNU				S	**Sg**	**17 04 15.2**	**+1.0**
MASU	**Masugnsbyn**	**0.58**	**47**	P	**Pg**	**17 04 21.2**	**+0.2**
MASU	**Masugnsbyn**	**0.58**	**47**	*i* P	**Pg**	**17 04 21.2**	**+0.2**
MASU	**Masugnsbyn**	**0.58**	**47**	P	**Pg**	**17 04 21.2**	**+0.2**
ERTU	**Ertsjaerv**	**0.73**	**134**	P	**Pg**	**17 04 23.9**	**+0.2**
ERTU	**Ertsjaerv**	**0.73**	**134**	*e*P	**Pg**	**17 04 23.6**	**-0.2**
	baz=314						
ERTU				*e*S	**Sg**	**17 04 33.5**	**+0.4**
ERTU	**Ertsjaerv**	**0.73**	**134**	Pg	**Pg**	**17 04 23.5**	**-0.2**
ERTU	**Ertsjaerv**	**0.73**	**134**	P	**Pg**	**17 04 23.9**	**+0.2**
ERTU				Sg	**Sg**	**17 04 33.5**	**+0.4**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**17 04 27.3**	**+0.2**
HARU	**Harads**	**0.91**	**178**	*e*P	**Pg**	**17 04 27.3**	**+0.2**
HARU	**Harads**	**0.91**	**178**	P	**Pg**	**17 04 27.3**	**+0.2**
KUA	**Kurravaara**	**0.92**	**347**	P	**Pg**	**17 04 27.1**	**-0.3**
KUA	**Kurravaara**	**0.92**	**347**	*e*P	**Pg**	**17 04 27.1**	**-0.3**
KUA	**Kurravaara**	**0.92**	**347**	P	**Pg**	**17 04 27.1**	**-0.3**
SALU	**Saltoluokta**	**0.98**	**290**	P	**Pg**	**17 04 28.9**	**+0.3**
SALU	**Saltoluokta**	**0.98**	**290**	*e*P	**Pg**	**17 04 28.9**	**+0.3**
SALU	**Saltoluokta**	**0.98**	**290**	P	**Pg**	**17 04 28.9**	**+0.3**
LANU	**Lannavaara**	**1.08**	**23**	P	**Pg**	**17 04 29.8**	**-0.6**
LANU	**Lannavaara**	**1.08**	**23**	*e*P	**Pg**	**17 04 29.8**	**-0.6**
LANU	**Lannavaara**	**1.08**	**23**	P	**Pg**	**17 04 29.8**	**-0.6**
SJUU	**Sjulsmark**	**1.59**	**169**	P	**Pn**	**17 04 39.4**	**+0.3**
SJUU	**Sjulsmark**	**1.59**	**169**	*e*P	**Pn**	**17 04 39.4**	**+0.3**
SJUU	**Sjulsmark**	**1.59**	**169**	P	**Pn**	**17 04 39.4**	**+0.3**
TOF	**Tornio**	**1.69**	**124**	*e*PG	**Pn**	**17 04 41.1**	**+0.5**
TOF				*e*SG	**Sn**	**17 05 03.1**	**+0.2**
TOF	**Tornio**	**1.69**	**124**	Pg	**Pn**	**17 04 41.1**	**+0.5**
TOF				Sg	**Sn**	**17 05 03.1**	**+0.2**
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**17 04 40.9**	**-0.1**
	baz=219						
HEF				MSG		17 05 01.5	
	comp=Z,16nm,0.2s						
HEF				*e*SG	**Sn**	**17 05 03.3**	**-0.2**
HEF	**Hetta**	**1.71**	**37**	Pg	**Pn**	**17 04 40.8**	**-0.1**
HEF				Sn	**Sn**	**17 05 03.3**	**-0.2**
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**17 04 43.6**	**+1.0**
LILU	**Lilltraesk**	**1.84**	**194**	*e*P	**Pn**	**17 04 43.6**	**+1.0**
LILU	**Lilltraesk**	**1.84**	**194**	P	**Pn**	**17 04 43.6**	**+1.0**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*PG	**Pb**	**17 04 45.9**	**-0.3**
KIF				MSG		17 05 09.2	
	comp=Z,21nm,0.2s						
KIF				*e*SG	**Sg**	**17 05 12.9**	**+0.5**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pg	**Pb**	**17 04 45.9**	**-0.3**
KIF				Sg	**Sg**	**17 05 12.9**	**+0.5**
RNF	**Rovaniemi**	**2.08**	**100**	*e*PB	**Pn**	**17 04 47.0**	**+1.1**
RNF				*e*SG	**Sb**	**17 05 15.1**	**+0.5**
RNF	**Rovaniemi**	**2.08**	**100**	Pg	**Pn**	**17 04 46.9**	**+1.1**
RNF				Sg	**Sb**	**17 05 15.1**	**+0.5**
SGF	**Sodankyl**	**2.22**	**78**	*e*PG	**Pb**	**17 04 51.5**	**+0.7**
SGF				*e*SG	**Sg**	**17 05 21.6**	**+0.4**
SGF	**Sodankyl**	**2.22**	**78**	Pg	**Pb**	**17 04 51.5**	**+0.7**
SGF				Sg	**Sg**	**17 05 21.5**	**+0.4**
OUL	**Oulu**	**2.85**	**132**	*e*PB	**Pb**	**17 05 00.0**	**-1.4**
OUL				*e*SG	**Sg**	**17 05 41.0**	**-0.2**
OUL	**Oulu**	**2.85**	**132**	Pb	**Pb**	**17 05 00.0**	**-1.4**
OUL				Sg	**Sg**	**17 05 41.0**	**-0.2**
ARCES	**ARCESS Array B**	**3.02**	**33**	Pn	**Pn**	**17 04 59.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=208,slow=14,SNR=18						
ARCES				Sn	**Sn**	**17 05 36.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=208,slow=23,SNR=4.3						
ARE0	**ARCESS Array S**	**3.02**	**33**	*e*P	**Pn**	**17 04 59.3**	**+0.5**
	baz=215						
ARE0	**ARCESS Array S**	**3.02**	**33**	Pn	**Pn**	**17 04 59.3**	**+0.5**
OUFX	**Oulainen**	**3.13**	**148**	*e*SB	**Sb**	**17 05 44.6**	**-0.4**
OUFX	**Oulainen**	**3.13**	**148**	Sb	**Sb**	**17 05 44.6**	**-0.4**
UMAU	**Umeaa**	**3.20**	**182**	*e*P	**Pn**	**17 05 02.9**	**+1.6**
UMAU	**Umeaa**	**3.20**	**182**	Pn	**Pn**	**17 05 02.8**	**+1.6**
VRF	**Varrio**	**3.44**	**74**	*e*PB	**Pn**	**17 05 08.2**	**+3.7**
	baz=261						
VRF	**Varrio**	**3.44**	**74**	Pb	**Pn**	**17 05 08.2**	**+3.7**
MSF	**Maaselka**	**3.46**	**106**	*e*PB	**Pn**	**17 05 08.4**	**+3.4**
MSF	**Maaselka**	**3.46**	**106**	Pb	**Pn**	**17 05 08.4**	**+3.4**
KU6	**Riekki**	**3.75**	**102**	*e*P	**Pn**	**17 05 11.2**	**+2.3**
KU6	**Riekki**	**3.75**	**102**	Pn	**Pn**	**17 05 11.1**	**+2.3**
VAF	**Ylistaro**	**4.11**	**169**	*e*P	**Pn**	**17 05 13.0**	**+1.3**
VAF	**Ylistaro**	**4.11**	**169**	Pn	**Pn**	**17 05 13.7**	**0.0**
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**17 05 42.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=5.6						
FINES				Sn	**Sn**	**17 06 49.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=344,slow=23,SNR=3.4						
FINES				Lg	Lg	17 07 17.3	
	comp=Z,0.2nm,0.3s,baz=343,slow=26,SNR=2.4						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**17 06 02.8**	**+4.1**
	comp=Z,0.1nm,0.3s,baz=22,slow=10,SNR=2.4						
NOA				Sn	**Sn**	**17 07 19.7**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=45,slow=21,SNR=2.5						
NOA				Lg	Lg	17 08 03.8	
	comp=Z,0.2nm,0.3s,baz=48,slow=18,SNR=3.0						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**17 06 03.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=26,slow=16,SNR=5.1						
HFS				Sn	**Sn**	**17 07 25.6**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=34,slow=26,SNR=2.9						
HFS				Lg	Lg	17 08 10.3	
	comp=Z,0.1nm,0.3s,baz=17,slow=26,SNR=2.4						

*ISCJB **21** 17:08:26.4±0.6, 24°.32N±0°.06×122°.64E±0°.02, h71km±7km, Error ellipse: s-maj=9.6km s-min=2.9km az=175.8*
*TAP **21** 17:08:26.1, 24°.37N×122°.55E, h91km±1km, ML2.7, C*
*JMA **21** 17:08:26.4±0.1, 24°.24N×122°.60E, h71km±2km, M1.8*
ISC 21 17:08:27.0±1.4, 24°.31N±0°.07×122°.64E±0°.03, h69km±11km, n26, σ0§74/48, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.32**	**63**	P	**Pn**	**17 08 38.3**	**+0.1**
JYNG				S	**Sn**	**17 08 46.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.38**	**65**	P	**Pn**	**17 08 38.8**	**+0.2**
YOJ				S	**Sn**	**17 08 47.5**	**+0.3**
TWC	**Suao**	**0.78**	**293**	P	**Pn**	**17 08 42.4**	**-0.3**
	baz=296						
TWC				S	**Sn**	**17 08 54.1**	**-0.2**
	baz=296						
ENA	**Nanau**	**0.82**	**279**	P	**Pn**	**17 08 43.0**	**-0.2**
	baz=278						
ENA				S	**Sn**	**17 08 55.7**	**+0.4**
	baz=278						
TWE	**Neicheng**	**0.97**	**295**	*e*P	**Pn**	**17 08 45.1**	**+0.1**
	baz=299						
TWE				*e*S	**Sn**	**17 08 57.9**	**-0.7**
	baz=299						
TWD	**Chiawan**	**0.97**	**257**	P	**Pn**	**17 08 44.5**	**-0.6**
	baz=253						
TWD				S	**Sn**	**17 08 57.8**	**-0.8**
	baz=253						
IRIF	**Iriomote-Funau**	**1.00**	**88**	P	**Pn**	**17 08 45.6**	**+0.2**
IRIF				S	**Sn**	**17 08 59.5**	**+0.4**
ENTT	**Nioudou**	**1.03**	**289**	P	**Pn**	**17 08 45.7**	**-0.1**
	baz=293						
ENTT				S	**Sn**	**17 08 59.8**	**0.0**
	baz=293						
HATJ	**Hateruma jima**	**1.10**	**103**	*e*S	**Sn**	**17 09 01.1**	**-0.2**
NNS	**Nan Shan**	**1.16**	**277**	*e*P	**Pn**	**17 08 47.2**	**-0.4**
	baz=276						
NNS				*e*S	**Sn**	**17 09 02.4**	**-0.6**
	baz=276						
ESL	**Shilin**	**1.20**	**246**	*e*P	**Pn**	**17 08 47.1**	**-0.9**
	baz=248						
ESL				*e*S	**Sn**	**17 09 04.0**	**+0.2**
	baz=248						
NSK	**Sanguang**	**1.22**	**288**	*e*P	**Pn**	**17 08 48.2**	**-0.1**
	baz=288						
NSK				*e*S	**Sn**	**17 09 04.0**	**-0.3**
	baz=288						
JKRS	**Kuro-shima**	**1.26**	**93**	P	**Pn**	**17 08 49.3**	**+0.6**
JKRS				S	**Sn**	**17 09 05.8**	**+0.8**
TWT	**Tachien**	**1.33**	**268**	P	**Pn**	**17 08 50.2**	**+0.4**
	baz=262						
TWT				S	**Sn**	**17 09 07.4**	**+0.3**
	baz=262						
JIJ	**Ishigaki jima**	**1.38**	**87**	P	**Pn**	**17 08 50.2**	**-0.1**
JIJ				S	**Sn**	**17 09 07.0**	**-0.8**
EHY	**Hungye**	**1.44**	**237**	*e*P	**Pn**	**17 08 51.0**	**-0.2**
	baz=232						
EHY				*e*S	**Sn**	**17 09 09.3**	**-0.1**
	baz=232						
NSTT	**Nanjuang**	**1.52**	**283**	*e*P	**Pn**	**17 08 52.2**	**0.0**
	baz=283						
NSTT				*e*S	**Sn**	**17 09 11.2**	**-0.1**
	baz=283						
TWF1	**Yuli**	**1.55**	**233**	⇓P	**Pn**	**17 08 52.3**	**-0.3**
	baz=237						
TWF1				*e*S	**Sn**	**17 09 09.4**	**-2.5**
	baz=237						
JISG	**Ishigakijimahi**	**1.55**	**79**	P	**Pn**	**17 08 52.4**	**-0.2**
JISG				*e*S	**Sn**	**17 09 11.4**	**-0.5**
SMLT	**Sun Moon Lake**	**1.64**	**256**	*e*P	**Pn**	**17 08 54.3**	**+0.4**
	baz=250						
SMLT				*e*S	**Sn**	**17 09 15.2**	**+1.0**
	baz=250						
TYC	**Yuchr**	**1.67**	**257**	*e*P	**Pn**	**17 08 54.6**	**+0.4**
	baz=251						
TYC				*e*S	**Sn**	**17 09 17.3**	**+2.5**
	baz=251						
ALS	**Alishan**	**1.85**	**245**	*e*P	**Pn**	**17 08 58.2**	**+1.3**
	baz=235						
ALS				*e*S	**Sn**	**17 09 20.1**	**+0.5**
	baz=235						
ELDTW	**Lidau**	**1.85**	**233**	*e*P	**Pn**	**17 08 56.2**	**-0.5**
	baz=233						
JTJ	**Tarama**	**1.91**	**80**	*e*S	**Sn**	**17 09 20.3**	**-0.2**
CHN5	**Tsauling**	**1.93**	**249**	*e*P	**Pn**	**17 08 57.7**	**+0.1**
	baz=239						
CHN5				*e*S	**Sn**	**17 09 22.1**	**+1.1**
	baz=239						
JIRB	**Irabujima**	**2.37**	**77**	S	**Sn**	**17 09 30.7**	**-0.9**

WEL 21 17:16:57.3±0.2, 43°.58S×172°.53E, h10km±2km, ML3.9/17, 6C-4D, Error ellipse: s-maj=1.9km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.07**	**89**	⇑PG	Pg	17 16 59.7	+0.1
CRLZ				SG	Sg	17 17 01.1	0.0
CRLZ				AML	AML	17 17 01.4	
CRLZ				AML	AML	17 17 01.5	
CRLZ				AML	AML	17 17 01.5	
MQZ	**McQueen's Vall**	**0.16**	**145**	⇓PG	Pg	17 17 01.0	+0.2
MQZ				SG	Sg	17 17 03.5	+0.3
MQZ				AML	AML	17 17 03.7	
OXZ	**Oxford**	**0.43**	**305**	⇓P*	Pg	17 17 05.9	+0.1
INZ	**Inchbonnie**	**1.16**	**317**	P*	Pb	17 17 18.8	-0.7
KHZ	**Kahutara**	**1.38**	**33**	⇑PN	Pn	17 17 21.8	-0.7
WVZ	**Waitaha Valley**	**1.40**	**290**	⇑PN	Pn	17 17 22.5	-0.3
WVZ				AML	AML	17 17 44.8	
WVZ				AML	AML	17 17 50.5	
THZ	**Tophouse**	**1.83**	**9**	⇓PN	Pn	17 17 28.6	-0.3
THZ				AML	AML	17 18 02.4	
THZ				AML	AML	17 18 07.7	
LBZ	**Lake Benmore**	**1.88**	**244**	PN	Pn	17 17 29.2	-0.3
LBZ				AML	AML	17 18 00.2	
LBZ				AML	AML	17 18 07.9	
DSZ	**Denniston Nort**	**1.91**	**344**	⇓PN	Pn	17 17 29.7	-0.2
DSZ				AML	AML	17 18 03.6	
DSZ				AML	AML	17 18 04.7	
FOZ	**Fox Glacier**	**1.97**	**270**	⇑PN	Pn	17 17 31.7	+0.9
FOZ				AML	AML	17 18 07.8	
FOZ				AML	AML	17 18 11.1	
ODZ	**Otahua Downs**	**2.00**	**222**	⇑PN	Pn	17 17 30.0	-1.1
ODZ				AML	AML	17 18 08.6	
ODZ				AML	AML	17 18 09.1	
BSWZ	**Blackbirch Sta**	**2.11**	**29**	PN	Pn	17 17 32.3	-0.3
BSWZ				AML	AML	17 18 21.1	
BSWZ				AML	AML	17 18 23.9	
NNZ	**Nelson**	**2.44**	**15**	PN	Pn	17 17 37.1	0.0
QRZ	**Quartz Range**	**2.75**	**0**	PN	Pn	17 17 41.5	+0.1
QRZ				AML	AML	17 18 30.1	
QRZ				AML	AML	17 18 31.9	
JCZ	**Jackson Bay**	**2.75**	**258**	PN	Pn	17 17 41.9	+0.3
JCZ				AML	AML	17 18 32.0	
JCZ				AML	AML	17 18 32.0	
WKZ	**Wanaka**	**2.82**	**242**	PN	Pn	17 17 42.0	-0.4
WKZ				AML	AML	17 18 35.4	
WKZ				AML	AML	17 18 38.8	
EAZ	**Earnscleugh**	**2.84**	**233**	⇑PN	Pn	17 17 41.7	-1.0
EAZ				AML	AML	17 18 36.2	
EAZ				AML	AML	17 18 37.2	
PLWZ	**Palliser**	**2.84**	**46**	PN	Pn	17 17 41.5	-1.3
DUWZ	**D'Urville Isla**	**2.96**	**21**	PN	Pn	17 17 45.3	+0.9
CAW	**Cannon Point**	**3.10**	**38**	PN	Pn	17 17 45.0	-1.3
CAW

DCZ	**Deep Cove**	**4.28**	**242**	PN	Pn	17 18 01.8	-0.7
VRZ	**Vera Road**	**4.75**	**21**	PN	Pn	17 18 12.8	+3.8
HIZ	**Hauiti**	**5.36**	**20**	PN	Pn	17 18 18.3	+1.0

WEL 21 17:20:14.0±0.3, 43.59S×172.65E, h5km, ML3.6/2, 2C-1D, Error ellipse: s-maj=3.9km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.02**	**295**	⇑PG	Pg	17 20 14.9	-0.1
CRLZ				SG	Sg	17 20 15.3	-0.4
CRLZ				AML	AML	17 20 15.4	
CRLZ				AML	AML	17 20 15.5	
CRLZ				AML	AML	17 20 15.5	
OXZ	**Oxford**	**0.52**	**300**	⇓PG	Pg	17 20 24.2	+0.3
OXZ				SG	Sb	17 20 32.0	-1.3
LTZ	**Lake Taylor**	**0.85**	**341**	⇑P*	Pb	17 20 31.0	-0.2
LTZ				S*	Sb	17 20 43.0	0.0
LTZ				AML	AML	17 20 44.2	
INZ	**Inchbonnie**	**1.23**	**314**	P*	Pn	17 20 37.9	0.0

IDC 21 17:27:21.1±2.9, 32.91S×178.72W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/19, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=70.6km s-min=45.2km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.33**	**211**	Pn	Pn	17 28 54.6	-1.0
	1.2nm,0.3s,baz=309,slow=6.5,SNR=7.5						
URZ				Sn	Sn	17 30 05.6	-3.0
	0.3nm,0.3s,baz=331,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**42.43**	**270**	P	P	17 35 17.9	+0.1
	0.3nm,0.7s,baz=106,slow=7.3,SNR=6.4						
WRA	**Warramunga Arr**	**43.64**	**275**	P	P	17 35 27.5	-0.2
	0.3nm,0.5s,baz=114,slow=7.8,SNR=8.2						
FINES	**FINESS Array B**	**147.26**	**338**	PKPbc	PKPbc	17 47 05.0	-0.7
	3.9nm,1.1s,baz=48,slow=2.1,SNR=3.1						

*NIED **21** 17:49:00, 36.70N×142.40E, h20km, Mw3.7 Best double couple: M0=4.16000×10^14 NP1:φs=208.00000°, δ23.00000°, λ101.00000°. NP2:φs=16.00000°, δ67.00000°, λ85.00000°.*
*ISCJB **21** 17:49:29.7±0.8, 36.67N±0.05×142.46E±0.09, h15km, mb3.5/5, Error ellipse: s-maj=10.6km s-min=7.3km az=171.8*
*JMA **21** 17:49:29.8±0.3, 36.70N×142.38E, h12km, M3.5*
*IDC **21** 17:49:29.6±1.2, 36.62N×142.39E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/45, mbtmp3.6/8, ML3.7/3, Error ellipse: s-maj=30.2km s-min=20.3km az=90.0*

ISC 21 17:49:31.5±1.0, 36.67N±0.06×142.31E±0.09, h15km, n25, σ1§41/26, mb3.5/5, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.29**	**290**	P	**Pn**	**17 49 53.8**	**-1.2**
JFK	**Kawauchi**	**1.34**	**301**	P	**Pn**	**17 49 54.9**	**-0.9**
JHO	**Hitachi**	**1.40**	**268**	P	**Pn**	**17 49 55.9**	**-0.7**
JMM	**Marumori**	**1.70**	**315**	P	**Pn**	**17 50 00.0**	**-0.6**
JMM				*e*S	**Sn**	**17 50 22.9**	**+0.8**
JFT	**Otama**	**1.79**	**299**	P	**Pn**	**17 50 02.0**	**+0.1**
JIO	**Ouri**	**1.94**	**337**	P	**Pn**	**17 50 03.6**	**-0.3**
JOU	**Okura**	**2.14**	**323**	P	**Pn**	**17 50 06.9**	**+0.2**
JFY	**Yanaizu**	**2.21**	**290**	P	**Pn**	**17 50 08.2**	**+0.5**
BSO1	**Boso 1**	**2.29**	**209**	P	**Pn**	**17 50 09.3**	**+1.0**
JAG	**Ashikaga**	**2.32**	**265**	P	**Pn**	**17 50 09.4**	**+0.3**
JYS	**Shirataka**	**2.36**	**311**	P	**Pn**	**17 50 10.2**	**+0.4**
JMK	**Ichinoseki**	**2.43**	**339**	P	**Pn**	**17 50 10.8**	**+0.1**
JKT	**Katashina**	**2.46**	**273**	P	**Pn**	**17 50 12.3**	**+1.1**
MJAR	**Makanchi Array**	**3.31**	**269**	Pn	**Pn**	**17 50 24.4**	**+1.6**
	7.3nm,0.3s,baz=99,slow=11,SNR=66						
MAT	**Matsushiro**	**3.31**	**269**	P	**Pn**	**17 50 24.4**	**+1.6**
MAT				*e*S	**Sn**	**17 50 58.9**	**-2.9**
JHJ	**Hachijo jima 2**	**4.11**	**211**	Pn	**Pn**	**17 50 34.0**	**+0.2**
	14nm,0.3s,baz=96,slow=22,SNR=7.1						
JHJ				Sn	**Sn**	**17 51 18.2**	**-3.4**
	23nm,0.3s,baz=73,slow=19,SNR=8.4						
ASAJ	**Asahikawa**	**7.44**	**2**	Pn	**Pn**	**17 51 19.0**	**-0.5**
	1.3nm,0.3s,baz=220,slow=14,SNR=19						
ASAJ				Sn	**Sn**	**17 52 40.4**	**-3.1**
	0.3nm,0.3s,baz=264,slow=19,SNR=3.0						
H11N2	**WAKE ISLAND Hy 27.34**	**121**		T	T	18 23 54.6	
	baz=313,slow=75,SNR=5.2						
H11N1	**WAKE ISLAND Hy 27.35**	**121**		T	T	18 23 54.6	
	baz=313,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy 27.36**	**121**		T	T	18 23 54.6	
	baz=313,slow=75,SNR=3.6						
SONM	**Songino Array**	**28.58**	**304**	P	**P**	**17 55 28.0**	**+1.0**
	0.8nm,0.6s,baz=106,slow=9.4,SNR=8.6						
MKAR	**Makanchi Array**	**44.92**	**303**	P	**P**	**17 57 46.1**	**+0.5**
	0.3nm,0.6s,baz=81,slow=9.5,SNR=4.7						
ILAR	**Eielson Array**	**49.41**	**32**	P	**P**	**17 58 21.8**	**+1.4**
	0.4nm,0.7s,baz=260,slow=6.1,SNR=4.6						
WRA	**Warramunga Arr**	**56.81**	**189**	P	**P**	**17 59 15.8**	**+0.5**
	0.4nm,0.7s,baz=6.6,slow=7.4,SNR=2.9						
ASAR	**Alice Springs**	**60.54**	**189**	P	**P**	**17 59 40.6**	**-0.6**
	0.3nm,0.8s,baz=3.1,slow=6.1,SNR=3.5						

*IDC **21** 17:52:59.0±1.7, 35.70N×141.70E, h0km, mb3.3/3, mb1 3.5/7, mb1mx3.3/43, mbtmp3.6/7, ML3.4/4, Error ellipse: s-maj=45.0km s-min=21.4km az=74.0*
*ISCJB **21** 17:53:00.4±0.8, 35.77N±0.05×141.60E±0.08, h25km, mb3.4/3, Error ellipse: s-maj=9.3km s-min=7.4km az=165.2*
*JMA **21** 17:53:02.9±0.2, 35.79N×141.41E, h24km±2km, M3.0*

ISC 21 17:53:01.6±1.1, 35.72N±0.06×141.57E±0.08, h25km, n20, σ2§04/18, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.58**	**269**	P	**Pb**	**17 53 12.1**	**-1.0**
CHOJ				*e*S	**Sb**	**17 53 18.7**	**-2.3**
JCN	**Nagara**	**1.15**	**256**	P	**Pb**	**17 53 23.9**	**+1.0**
JHO	**Hitachi**	**1.21**	**318**	P	**Pn**	**17 53 22.1**	**-0.8**
JYT	**Yasato**	**1.23**	**295**	P	**Pn**	**17 53 21.8**	**-1.3**
BSO4	**Boso 4**	**1.24**	**235**	P	**Pb**	**17 53 24.6**	**+0.3**
BSO3	**Boso 3**	**1.26**	**224**	P	**Pb**	**17 53 24.7**	**+0.2**
MJAR	**Matsushiro Arr**	**2.84**	**288**	Pn	**Pn**	**17 53 45.9**	**+0.5**
	3.5nm,0.3s,baz=98,slow=9.4,SNR=15						
MAT	**Matsushiro**	**2.84**	**288**	P	**Pn**	**17 53 47.1**	**+1.7**
MAT				*e*S	**Sn**	**17 54 17.6**	**-1.3**
JHJ	**Hachijo jima 2**	**2.98**	**210**	Pn	**Pn**	**17 53 48.1**	**+0.8**
	6.1nm,0.3s,baz=66,slow=20,SNR=2.4						
JHJ				Sn	**Sn**	**17 54 23.9**	**+1.6**
	7.8nm,0.3s,baz=73,slow=19,SNR=4.6						
ASAJ	**Asahikawa**	**8.43**	**5**	Pn	**Pn**	**17 55 01.7**	**-0.3**
	0.4nm,0.3s,baz=212,slow=11,SNR=5.7						
JCJ	**Chichijima**	**8.61**	**176**	Pn	**Pn**	**17 55 04.5**	**-0.1**
	1.5nm,0.3s,baz=288,slow=20,SNR=2.7						
JCJ				Sn	**Sn**	**17 56 35.0**	**-5.9**
	baz=294,slow=19						
H11N2	**WAKE ISLAND Hy 27.38**	**119**		T	T	18 27 44.7	
	baz=311,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy 27.39**	**119**		T	T	18 27 43.9	
	baz=311,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy 27.40**	**119**		T	T	18 27 49.3	
	baz=311,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy 28.06**	**121**		T	T	18 28 33.7	
	baz=313,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy 28.06**	**121**		T	T	18 28 34.4	
	baz=313,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy 28.07**	**121**		T	T	18 28 35.1	
	baz=313,slow=76,SNR=14						
MKAR	**Makanchi Array**	**44.94**	**303**	P	**P**	**18 01 16.8**	**+2.5**
	0.4nm,0.7s,baz=88,slow=8.8,SNR=2.7						
WRA	**Warramunga Arr**	**55.78**	**188**	P	**P**	**18 02 37.9**	**+1.4**
	0.4nm,0.8s,baz=6.3,slow=7.5,SNR=4.6						
ASAR	**Alice Springs**	**59.50**	**188**	P	**P**	**18 03 03.5**	**+0.8**
	0.2nm,0.7s,baz=359,slow=6.2,SNR=4.3						

*ISCJB **21** 18:05:43.6±1.7, 32.22N±0.07×115.1W±0.1, h33km±45km, Error ellipse: s-maj=17.6km s-min=6.1km az=142.9*
*ECX **21** 18:05:45.2±0.4, 32.19N×115.23W, h8km, MD2.2, ML2.4*
*MEX **21** 18:05:45.6±0.3, 32.29N×115.02W, h33km±4km, MD3.7*

ISC 21 18:05:43.0±1.8, 32.22N±0.09×115.1W±0.1, h30km±12km, n10, σ1§01/17, 1C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.23**	**327**	*i* P	**Pb**	**18 05 50.5**	**+1.0**
MBIG				*i* S	**Sb**	**18 05 54.8**	**+0.8**
CPBX	**Cerro Prieto**	**0.29**	**313**	*e*P	**Pb**	**18 05 50.0**	**-0.4**
CPBX				*e*S	**Sb**	**18 05 53.3**	**-2.1**
CPBX				⇑*e*		18 05 58.5	
CPBX				IAML		18 05 58.5	
	comp=E,2μm,0.2s						
ECBX	**El Chinero**	**0.74**	**180**	*e*P	**Pn**	**18 05 57.2**	**-0.2**
ECBX				*e*S	**Sn**	**18 06 07.0**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**0.99**	**296**	*e*P	**Pb**	**18 06 00.5**	**-1.2**
SPIG	**San Pedro Mart**	**1.22**	**197**	*e*P	**Pb**	**18 06 05.8**	**+0.1**
SPIG				*e*S	**Sn**	**18 06 21.7**	**+1.7**
SPIG	**San Pedro Mart**	**1.22**	**197**	*e*P	**Pb**	**18 06 05.6**	**-0.1**
SPX	**San Pedro Mart**	**1.22**	**197**	*e*P	**Pb**	**18 06 05.4**	**-0.3**
CBX	**Cerro Bola**	**1.37**	**274**	*e*P	**Pn**	**18 06 06.9**	**+0.7**
CBX				*e*S	**Sn**	**18 06 23.6**	**+0.2**
CBX	**Cerro Bola**	**1.37**	**274**	*e*P	**Pn**	**18 06 06.2**	**0.0**
CBX				*e*S	**Sn**	**18 06 23.1**	**-0.3**
CBX				⇓*e*		18 06 24.6	
CBX				IAML		18 06 24.6	
	comp=N,129nm,0.4s						
TJIG	**Tijuana**	**1.39**	**279**	*e*P	**Pb**	**18 06 09.6**	**+1.3**
TJIG				*e*S	**Sn**	**18 06 23.7**	**-0.1**

*IDC **21** 18:09:46.8±6.4, 38.00S×75.31W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/21, mbtmp3.6/3, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx3.0/17, Error ellipse: s-maj=151.8km s-min=31.4km az=64.0*
*ISCJB **21** 18:09:54.1±2.0, 37.42S±0.06×74.3W±0.2, h33km, mb3.7/2, Error ellipse: s-maj=24.7km s-min=8.9km az=176.8*

ISC 21 18:09:57.9±2.1, 37.44S±0.06×74.1W±0.2, h35km, n8, σ2§07/9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.66**	**38**	*e*P	**Pn**	**18 10 23.3**	**-1.2**
COCH				*i* S	**Sn**	**18 10 44.1**	**-0.4**
CCHI	**Chillan**	**1.79**	**63**	*e*P	**Pn**	**18 10 25.3**	**-1.0**
PLCA	**Paso Flores**	**4.27**	**141**	Pn	**Pn**	**18 10 58.0**	**-2.5**
	1.0nm,0.3s,baz=314,slow=13,SNR=25						
PLCA				Sn	**Sn**	**18 11 52.0**	**+3.0**
	1.7nm,0.3s,baz=331,slow=8.9,SNR=5.1						
PLCA				Lg	Lg	18 12 05.5	
	3.8nm,0.3s,baz=82,slow=18,SNR=6.3						
PLCA				LR	LR	18 12 36.0	
	comp=Z,250nm,18.0s,baz=290,slow=37						
PEL	**Peldehue**	**5.10**	**34**	*e*P	**Pn**	**18 11 11.0**	**-0.9**
ROCH	**El Roble**	**5.11**	**30**	*e*P	**Pn**	**18 11 11.1**	**-1.1**
CPUP	**Villa Florida**	**17.98**	**57**	LR	LR	18 22 09.2	
	comp=Z,784nm,19.4s,baz=234,slow=39						
LPAZ	**La Paz**	**21.71**	**16**	P	**P**	**18 14 49.1**	**+2.5**
	1.2nm,0.7s,baz=168,slow=8.7,SNR=6.8						
TORD	**Torodi Ar. Bea**	**86.90**	**71**	P	**P**	**18 22 38.9**	**-0.5**
	0.5nm,0.6s,baz=240,slow=2.8,SNR=2.3						

*ISCJB **21** 18:19:49.7±0.3, 26.63N±0.04×144.21E±0.04, h10km, mb4.5/75, MS3.3/8, Error ellipse: s-maj=5.5km s-min=4.6km az=178.3*
*IDC **21** 18:19:49.7±0.6, 26.59N×144.24E, h0km, mb4.3/23, mb1 4.4/26, mb1mx4.3/48, mbtmp4.3/26, ML3.4/3, MS3.3/10, Ms1 3.4/10, ms1mx3.0/44, Error ellipse: s-maj=17.2km s-min=14.0km az=90.0*
*NEIC **21** 18:19:51.4±0.2, 26.65N×144.22E, h10km, mb4.6/49, Error ellipse: s-maj=5.4km s-min=5.0km az=147.0*
*BJI **21** 18:19:52.5, 26.67N×143.74E, h10km, mb4.6/56, mB4.8/34, Ms4.3/21, Ms7 3.9/20*
*MOS **21** 18:19:53.4±1.2, 26.63N×144.19E, h35km, mb4.9/35, Error ellipse: s-maj=11.2km s-min=5.5km az=118.1*

ISC 21 18:19:52.4±0.8, 26.68N±0.07×144.22E±0.06, h15km±4km, n194, σ1§34/200, mb4.6/75, MS3.3/8, 10C-8D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.87**	**283**	*e*Pn	**Pn**	**18 20 22.8**	**-1.0**
CBIJ				*e*Sn	**Sn**	**18 20 46.0**	**-1.1**
JCJ	**Chichijima**	**1.87**	**283**	Pn	**Pn**	**18 20 22.8**	**-1.1**
	baz=180,slow=1.8						
JCJ				Sn	**Sn**	**18 20 44.9**	**-2.3**
	baz=128,slow=19						
INU	**Inuyama**	**10.62**	**326**	*e*Pn	**Pn**	**18 22 22.7**	**-1.4**
MJAR	**Matsushiro Arr**	**11.08**	**334**	Pn	**Pn**	**18 22 28.0**	**-2.4**
	1.2nm,0.3s,baz=167,slow=10,SNR=22						
MAJO	**Matsushiro**	**11.09**	**334**	*de*P	**Pn**	**18 22 28.6**	**-1.9**
MAJO	**Matsushiro**	**11.09**	**334**	*e*Pn	**Pn**	**18 22 28.8**	**-1.6**
MAT	**Matsushiro**	**11.09**	**334**	P	**Pn**	**18 22 28.2**	**-2.3**
MAT				*e*S	Sn	18 24 17.6	-17
MJB9	**Matsu-Tunnel**	**11.09**	**334**	*e*Pn	**Pn**	**18 22 28.9**	**-1.7**
GUMO	**Guam**	**13.04**	**177**	LR	LR	18 27 24.6	
	comp=Z,107nm,19.3s,baz=22,slow=35						
JNU	**Nakatsue**	**13.23**	**302**	Pn	**Pn**	**18 23 01.6**	**+1.8**
	0.1nm,0.3s,baz=83,slow=9.3,SNR=4.1						
JNU				LR	LR	18 27 32.6	
	comp=Z,81nm,21.0s,baz=123,slow=35						
ERM	**Erimo**	**15.32**	**357**	*e*P	**Pn**	**18 23 25.7**	**-2.4**
ERM				pmax	pmax		
	comp=Z,34nm,1.1s						
ERM	**Erimo**	**15.32**	**357**	*e*Pn	**Pn**	**18 23 25.7**	**-2.4**
	comp=Z,34nm,1.1s						
TJN	**Taejon**	**17.30**	**308**	⇓*i*P	**Pn**	**18 23 54.7**	**+1.3**
ASAJ	**Asahikawa**	**17.45**	**356**	P	**Pn**	**18 23 54.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=186,slow=9.2,SNR=3.3						
ASAJ	**Asahikawa**	**17.45**	**356**	*e*Pn	**Pn**	**18 23 55.1**	**-0.1**
	comp=Z,43nm,1.5s						
KSRS	**Korea Array**	**17.47**	**312**	P	**Pn**	**18 23 56.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=124,slow=13,SNR=31						
KSRS				LR	LR	18 30 49.5	
	comp=Z,114nm,18.2s,baz=132,slow=38						
KS15	**Wonju Array Si**	**17.49**	**312**	*e*Pn	**Pn**	**18 23 56.4**	**+0.6**
KSAR	**Wonju Array Be**	**17.49**	**312**	P	**Pn**	**18 23 56.4**	**+0.6**
KSAR	**Wonju Array Be**	**17.49**	**312**	P	**Pn**	**18 23 56.4**	**+0.6**
KS01	**Wonju Array Si**	**17.50**	**312**	*e*Pn	**Pn**	**18 23 55.5**	**-0.5**
INCN	**Inchon**	**18.36**	**310**	*e*P	**Pn**	**18 24 06.5**	**0.0**
	comp=Z,42nm,0.8s						
MSHR	**Mys Shultsa**	**19.12**	**329**	⇑*i*P	**P**	**18 24 13.8**	**-1.1**
VLA	**Vladivostok**	**19.24**	**332**	⇑*e*P	**P**	**18 24 16.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**20.08**	**334**	P	**P**	**18 24 25.8**	**+0.5**
	comp=Z,11nm,1.1s,baz=145,slow=14,SNR=14						
YSS	**Yuzh-Sakhalins**	**20.27**	**357**	⇓*e*P	Pn	18 24 29.8	+0.5
YSS				*e*S	S	18 28 02.2	-12
YSS				pmax	pmax		
	comp=Z,20nm,1.4s						
YSS				smax	smax		
	comp=E,30nm,1.5s						
NACB	**Ninganchiao**	**20.58**	**268**	*e*P	**P**	**18 24 31.4**	**+0.4**
	comp=E,30nm,1.0s						
YHNB	**Yeheng**	**20.68**	**270**	*e*P	**P**	**18 24 31.7**	**-0.4**
	comp=E,26nm,0.9s						
YULB	**Yu-li**	**21.02**	**266**	*e*P	**P**	**18 24 34.6**	**-1.1**
	comp=E,73nm,1.7s						
SSLB	**Suanglung**	**21.24**	**267**	*e*P	**P**	**18 24 38.7**	**+0.7**
	comp=E,35nm,1.1s						
TWG	**Pinlang**	**21.36**	**265**	*e*P	**P**	**18 24 39.5**	**+0.1**
	comp=E,288nm,1.5s						
MDJ	**Mudanjiang**	**21.43**	**330**	P	**P**	**18 24 41.0**	**+1.1**
MDJ				PMZ			
	comp=E,19nm,1.4s						
MDJ				PMZ			
	comp=E,100nm,10.9s						
MDJ	**Mudanjiang**	**21.43**	**330**	*e*P	**P**	**18 24 41.0**	**+1.1**
	comp=E,27nm,1.1s						
H11N2	**WAKE ISLAND Hy 21.94**	**104**		T	T	18 47 35.5	
	baz=291,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy 21.94**	**104**		T	T	18 47 24.1	
	baz=291,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy 21.96**	**104**		T	T	18 47 28.9	
	baz=291,slow=75,SNR=7.1						
H11S3	**WAKE ISLAND Hy 22.26**	**107**		T	T	18 48 12.6	
	baz=294,slow=76,SNR=8.7						
H11S1	**WAKE ISLAND Hy 22.27**	**107**		T	T	18 48 15.0	
	baz=294,slow=76,SNR=5.6						
H11S2	**WAKE ISLAND Hy 22.28**	**107**		T	T	18 48 13.5	
	baz=294,slow=76,SNR=7.6						
NJ2	**Nanjing**	**22.72**	**290**	*e*P	**P**	**18 24 52.4**	**-1.5**
NJ2				sP	**sP**	**18 24 59.5**	**-0.5**
NJ2				PMZ			
	comp=E,7.0nm,0.6s						
CN2	**Changchun**	**22.87**	**323**	*e*P	**P**	**18 24 55.4**	**+0.1**
CN2				PMZ			
	comp=E,10.0nm,1.0s						
HABR	**Khabarovsk**	**22.91**	**344**	*de*P	**P**	**18 24 53.7**	**-1.9**
HABR				*e*PP	**sP**	**18 25 02.4**	**+0.6**
HABR				*e*SP	pP	18 25 06.9	+7.0
HABR				*e*PPP	PPP	18 25 26.8	
HABR				*e*		18 28 43.6	
HABR				*e*S	**S**	**18 29 01.5**	**-3.4**
HABR				*e*SS	Sn	18 29 17.5	-2.9
HABR				*e*SSS	SSS	18 29 49.2	
HABR				pmax	pmax		
	comp=N,29nm,2.0s						
HABR				pmax	pmax		
	comp=E,18nm,2.0s						
HABR				pmax	pmax		
	comp=Z,75nm,2.0s						
HABR				MLR	MLR		
	comp=Z,49nm,18.0s						
KLR	**Kul'dur**	**24.50**	**340**	P	**P**	**18 25 11.6**	**+0.5**
	comp=Z,6.8nm,0.9s,baz=137,slow=11,SNR=15						
TIA	**Tai'an**	**24.93**	**299**	⇑P	**P**	**18 25 14.3**	**-0.8**
TIA				PMZ			
	comp=Z,20nm,1.3s						
TGY	**Tagaytay City**	**25.10**	**245**	LR	LR	18 33 06.7	
	comp=Z,112nm,20.8s,baz=60,slow=32						
DAV	**Davao City (W)**	**26.36**	**226**	LR	LR	18 33 51.7	
	comp=Z,57nm,21.0s,baz=226,slow=32						
WHN	**Wuhan**	**26.47**	**285**	⇑P	**P**	**18 25 30.5**	**+1.4**
BJT	**Baijiatuan**	**26.82**	**307**	*e*P	**P**	**18 25 30.7**	**-1.4**
BJT				pmax	pmax		
	comp=Z,11nm,1.1s						
BJT	**Baijiatuan**	**26.82**	**307**	*e*P	**P**	**18 25 30.7**	**-1.4**
	comp=Z,11nm,1.1s						
BJI	**Beijing**	**26.82**	**307**	P	**P**	**18 25 30.6**	**-1.6**
BJI				PMZ			
	comp=Z,9.0nm,0.9s						
BJI				PMZ			
	comp=Z,94nm,4.2s						
HHC	**Hu-ho-hao-te**	**30.41**	**306**	*e*P	**P**	**18 26 05.3**	**+1.0**
HHC				PP	**PnPn**	**18 27 06.3**	**+3.6**
HHC				S	**S**	**18 31 06.3**	**+1.7**
HHC				PMZ			
	comp=Z,21nm,1.0s						
HHC				PMZ			
	comp=Z,85nm,7.8s						
HHC				LN			
	comp=Z,130nm,12.3s						
HHC				LE			
	comp=Z,170nm,14.8s						
HHC				LZ			
	comp=Z,160nm,17.7s						
ENH	**Enshi**	**30.67**	**285**	*e*P	**P**	**18 26 04.8**	**-1.8**
	comp=Z,15nm,1.0s						
XAN	**Xi'an**	**31.22**	**292**	P	**P**	**18 26 10.3**	**-1.1**
XAN				pP	pP	18 26 14.6	-1.4
XAN				PMZ			
	comp=Z,8.0nm,0.9s						
MYLDM	**Lahad Datu**	**32.55**	**233**	*e*P	**P**	**18 26 24.9**	**+1.7**
	comp=Z,19nm,1.1s						
GYA	**Guiyang**	**33.51**	**278**	*e*P	**P**	**18 26 32.6**	**+0.9**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CIT	**Chita**	**34.24**	**326**	*e*P	**P**	**18 26 39.0**	**+1.3**
CD2	**Chengdu**	**35.57**	**287**	*e*P	**P**	**18 26 49.0**	**-0.4**
ULN	**Ulaanbaatar**	**35.88**	**316**	*d*⇑*i*P	**P**	**18 26 53.4**	**+1.4**
ULN				pmax	pmax		
	comp=Z,59nm,1.7s						
ULN	**Ulaanbaatar**	**35.88**	**316**	*e*P	**P**	**18 26 53.3**	**+1.4**
	comp=Z,29nm,0.9s						
SONA1	**Songino Array**	**36.28**	**316**	*e*P	**P**	**18 26 56.2**	**+0.9**
SONA0	**Songino Array**	**36.28**	**316**	*e*P	**P**	**18 26 56.7**	**+1.3**
	comp=Z,22nm,1.0s						
SONM	**Songino Array**	**36.28**	**316**	P	**P**	**18 26 56.7**	**+1.3**
	comp=Z,15nm,0.8s,baz=115,slow=7.9,SNR=87						
SEY	**Seymchan**	**36.65**	**6**	P	**P**	**18 26 58.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=201,slow=9.6,SNR=6.1						
SEY	**Seymchan**	**36.65**	**6**	⇑*i*P	**P**	**18 26 58.2**	**+0.1**
YAK	**Yakutsk**	**36.66**	**349**	*e*P	**P**	**18 26 58.1**	**-0.1**
YAK				pmax	pmax		
	comp=Z,13nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK	**Yakutsk**	**36.66**	**349**	*e*P	**P**	**18 26 57.8**	**-0.5**
	comp=N,10nm,0.9s						
KMI	**Kunming**	**37.23**	**277**	P	**P**	**18 27 04.8**	**+1.0**
KMI				PMZ			
	comp=N,9.0nm,0.9s						
KMI				PMZ			
	comp=N,170nm,6.4s						
BOD	**Bodaibo**	**37.72**	**334**	*e*P	**P**	**18 27 05.2**	**-2.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.6s						
GTA	**Gaotai**	**38.96**	**300**	*e*P	**P**	**18 27 16.6**	**-1.6**
GTA				pP	pP	18 27 22.4	-0.4
GTA				sP	sP	18 27 25.4	+0.8
GTA				PMZ			
	comp=Z,3.0nm,1.2s						
HNR	**Honiara**	**39.01**	**155**	LR	LR	18 41 17.5	
	comp=Z,78nm,19.8s,baz=326,slow=33						
ZAK	**Zakamensk**	**39.12**	**318**	*e*P	**P**	**18 27 19.7**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,11nm,1.5s						
TLY	**Talaya**	**39.41**	**320**	LR	LR	18 44 52.5	
	comp=Z,40nm,19.2s,baz=146,slow=38						
TLY	**Talaya**	**39.41**	**320**	*e*P	**P**	**18 27 23.4**	**+1.7**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TLY	**Talaya**	**39.41**	**320**	*e*P	**P**	**18 27 22.5**	**+0.8**
	comp=Z,10.0nm,0.7s						
KSM	**Kuching**	**41.09**	**238**	*e*P	**P**	**18 27 35.2**	**-0.7

PSI					pmax	pmax			
	comp=Z,7.0nm,0.8s								
PSI	**Prapat**	**49.43**	**249**	*eP*	**P**		**18 28 41.6**	**-0.7**	
	comp=Z,6.6nm,0.8s								
ZAA0	**Zalesovo Array**	**50.99**	**319**	*eP*	**P**		**18 28 52.9**	**-0.6**	
ZAA0				*e*PcP	**PcP**		**18 30 08.9**	**-0.6**	
ZAA1	**Zalesovo Array**	**50.99**	**319**	*eP*	**P**		**18 28 53.4**	**-0.1**	
ZAA1				*e*PcP	**PcP**		**18 30 09.3**	**-0.2**	
ZALV	**Zalesovo Beam**	**50.99**	**319**	P	**P**		**18 28 53.4**	**-0.1**	
	comp=Z,2.9nm,0.7s,baz=102,slow=6.9,SNR=15								
ZALV				PcP	**PcP**		**18 30 09.3**	**-0.2**	
	comp=Z,2.2nm,0.6s,baz=93,slow=3.7,SNR=7.3								
ZALV				LR	LR		18 50 53.7		
	comp=Z,40nm,18.8s,baz=264,slow=36								
AS01	**Alice Springs**	**51.02**	**192**	*eP*	**P**		**18 28 53.0**	**-1.1**	
AS01				*e*PcP	**PcP**		**18 30 10.2**	**+0.2**	
AS31	**Alice Springs**	**51.03**	**192**	*eP*	**P**		**18 28 53.2**	**-0.9**	
	comp=Z,3.5nm,1.6s								
ASAR	**Alice Springs**	**51.03**	**192**	P	**P**		**18 28 51.9**	**-2.2**	
	comp=Z,0.9nm,0.8s,baz=9.3,slow=6.3,SNR=9.8								
ASAR				PcP	**PcP**		**18 30 09.7**	**-0.3**	
	comp=Z,0.8nm,0.8s,baz=13,slow=4.9,SNR=4.6								
NVS	**Novosibirsk**	**52.03**	**320**	*eP*	**P**		**18 29 00.8**	**-0.4**	
NVS				pmax	pmax				
	comp=Z,16nm,1.9s								
NVS				pmax	pmax				
	comp=E,7.0nm,1.7s								
MK01	**Makanchi Array**	**52.13**	**310**	*eP*	**P**		**18 29 02.8**	**+0.6**	
MK01				*e*PcP	**PcP**		**18 30 13.8**	**-0.1**	
MK31	**Makanchi Array**	**52.14**	**310**	*eP*	**P**		**18 29 02.4**	**+0.2**	
MK31	**Makanchi Array**	**52.14**	**310**	*eP*	**P**		**18 29 02.4**	**+0.2**	
MK32	**Makanchi Array**	**52.14**	**310**	*eP*	**P**		**18 29 02.8**	**+0.6**	
MKAR	**Makanchi Array**	**52.14**	**310**	P	**P**		**18 29 02.8**	**+0.6**	
	comp=E,7.5nm,0.9s,baz=94,slow=9.3,SNR=34								
MKAR				LR	LR		18 53 20.3		
	comp=E,36nm,18.6s,baz=186,slow=38								
MKAR	**Makanchi Array**	**52.14**	**310**	*eP*	**P**		**18 29 02.7**	**+0.4**	
MAKZ	**Makanchi**	**52.35**	**310**	*eP*	**P**		**18 29 04.7**	**+0.9**	
MAKZ				pmax	pmax				
	comp=Z,10.0nm,1.0s								
MAKZ	**Makanchi**	**52.35**	**310**	*eP*	**P**		**18 29 04.7**	**+0.9**	
	comp=Z,9.5nm,1.0s								
NRIK	**Noril'sk**	**53.70**	**338**	P	**P**		**18 29 13.7**	**+0.4**	
	comp=Z,6.4nm,0.8s,baz=86,slow=7.5,SNR=6.8								
RND	**Reindeer**	**56.18**	**30**	*eP*	**P**		**18 29 31.2**	**-0.3**	
RND				pmax	pmax				
	comp=Z,3.0nm,1.0s								
RND	**Reindeer**	**56.18**	**30**	*eP*	**P**		**18 29 31.1**	**-0.3**	
	comp=Z,2.9nm,1.0s								
COLD	**Coldfoot**	**56.26**	**25**	*eP*	**P**		**18 29 32.8**	**+0.9**	
	comp=Z,5.9nm,1.4s								
WRH	**Wood River Hil**	**56.66**	**29**	*eP*	**P**		**18 29 34.3**	**-0.5**	
	comp=Z,4.7nm,1.3s								
MDM	**Murphy Dome**	**56.66**	**28**	*eP*	**P**		**18 29 36.4**	**+1.5**	
	comp=Z,2.2nm,1.0s								
TKM2	**Tokmak 2**	**57.14**	**305**	*eP*	**P**		**18 29 39.8**	**+0.9**	
TKM2				pmax	pmax				
	comp=Z,8.0nm,1.0s								
TKM2	**Tokmak 2**	**57.14**	**305**	*eP*	**P**		**18 29 39.8**	**+0.9**	
	comp=Z,7.7nm,1.0s								
ILAR	**Eielson Array**	**57.21**	**28**	P	**P**		**18 29 38.2**	**-0.4**	
	comp=Z,0.8nm,0.9s,baz=270,slow=5.3,SNR=8.9								
ILB	**Eielson Array**	**57.21**	**28**	*eP*	**P**		**18 29 37.8**	**-0.9**	
IL1	**Eielson Array**	**57.21**	**28**	*eP*	**P**		**18 29 37.5**	**-1.1**	
KLU	**Klutina**	**57.34**	**32**	*eP*	**P**		**18 29 38.0**	**-1.8**	
	comp=Z,3.4nm,0.6s								
KSH	**Kashi**	**57.35**	**301**	P	**P**		**18 29 44.8**	**+4.5**	
KSH				pP	sP		18 29 50.4	+3.6	
KSH				PcP	**PcP**		**18 30 37.4**	**+3.1**	
KSH				PP	**PP**		**18 31 53.8**	**+6.4**	
KSH				S	**S**		**18 37 40.4**	**+3.9**	
KSH				ScS	**ScS**		**18 39 25.1**	**-4.4**	
KSH				SS	**SS**		**18 41 27.5**	**+1.8**	
KSH				PMZ					
	comp=Z,9.0nm,0.6s								
KSH				PMZ					
	comp=Z,140nm,5.0s								
KSH				LN					
	comp=Z,130nm,6.7s								
KSH				LE					
	comp=Z,96nm,7.6s								
KSH				LZ					
	comp=Z,150nm,9.5s								
PAX	**Paxson**	**57.66**	**31**	*eP*	P		18 29 38.2	-3.8	
PAX				pmax	pmax				
	comp=Z,5.0nm,0.6s								
PAX	**Paxson**	**57.66**	**31**	*eP*	P		18 29 38.2	-3.8	
	comp=Z,4.7nm,0.6s								
FRU	**Bishkek**	**57.87**	**305**	*eP*	**P**		**18 29 44.0**	**+0.3**	
AAK	**Ala-Archa**	**57.98**	**305**	*i*P	**P**		**18 29 45.9**	**+1.2**	
AAK				pmax	pmax				
	comp=Z,13nm,1.0s								
AAK	**Ala-Archa**	**57.98**	**305**	*eP*	**P**		**18 29 44.3**	**-0.5**	
	comp=Z,5.5nm,1.0s								
EKS2	**Erkin-Say**	**58.50**	**305**	*eP*	**P**		**18 29 49.4**	**+1.1**	
EKS2				pmax	pmax				
	comp=Z,5.0nm,0.9s								
EKS2	**Erkin-Say**	**58.50**	**305**	*eP*	**P**		**18 29 49.4**	**+1.1**	
	comp=Z,4.5nm,0.9s								
VOSK	**Vostochnaya**	**59.24**	**317**	*eP*	**P**		**18 29 52.9**	**-0.2**	
VOSK				pmax	pmax				
	comp=Z,7.0nm,0.9s								
VOSK	**Vostochnaya**	**59.24**	**317**	*eP*	**P**		**18 29 52.9**	**-0.2**	
	comp=Z,7.1nm,0.9s								
BRVK	**Borovoye**	**59.64**	**318**	*d iP*	**P**		**18 29 56.2**	**+0.4**	
BRVK				pmax	pmax				
	comp=Z,40nm,1.7s								
BRVK	**Borovoye**	**59.64**	**318**	*eP*	**P**		**18 29 56.4**	**+0.5**	
	comp=Z,9.4nm,1.0s								
ZRNK	**Zerenda**	**60.42**	**318**	*eP*	**P**		**18 30 01.3**	**+0.1**	
ZRNK				pmax	pmax				
	comp=Z,6.0nm,0.8s								
ZRNK	**Zerenda**	**60.42**	**318**	*eP*	**P**		**18 30 01.3**	**+0.1**	
	comp=Z,5.5nm,0.8s								
KKAR	**Karatay Array**	**60.80**	**306**	*eP*	**P**		**18 30 03.7**	**-0.3**	
KKAR	**Karatay Array**	**60.80**	**306**	*eP*	**P**		**18 30 03.7**	**-0.3**	
INK	**Inuvik**	**62.65**	**25**	P	**P**		**18 30 16.6**	**+0.6**	
	comp=Z,2.0nm,0.8s,baz=271,slow=7.1,SNR=3.5								
INK	**Inuvik**	**62.65**	**25**	*eP*	**P**		**18 30 16.7**	**+0.7**	
INK	**Inuvik**	**62.65**	**25**	*eP*	**P**		**18 30 16.7**	**+0.7**	
KBL	**Kabul**	**63.83**	**297**	*eP*	**P**		**18 30 22.8**	**-1.9**	
KBL				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KBL	**Kabul**	**63.83**	**297**	*eP*	**P**		**18 30 22.8**	**-1.9**	
	comp=Z,6.3nm,0.9s								
ARU	**Arti**	**65.86**	**323**	*d iP*	**P**		**18 30 37.2**	**0.0**	
ARU							18 31 07.9		
ARU							18 33 01.4		
ARU				S	**S**		**18 39 24.1**	**+0.5**	
ARU				SS	**SS**		**18 43 36.4**	**-1.4**	
ARU				pmax	pmax				
	comp=Z,18nm,1.7s								
ARU	**Arti**	**65.86**	**323**	*eP*	**P**		**18 30 37.0**	**-0.2**	
	comp=Z,9.9nm,1.0s								
ABKAR	**Akbulak array**	**66.68**	**315**	*eP*	**P**		**18 30 42.5**	**-0.1**	
GEYT	**Alibeck**	**71.25**	**304**	P	**P**		**18 31 12.1**	**+0.7**	
	comp=Z,0.7nm,0.4s,baz=28,slow=6.7,SNR=3.8								
YKA	**Yellowknife Ar**	**71.64**	**29**	P	**P**		**18 31 13.2**	**+0.1**	
	comp=Z,1.9nm,0.9s,baz=293,slow=5.7,SNR=10								
YKB5	**Yellowknife Ar**	**71.64**	**29**	*eP*	**P**		**18 31 13.2**	**+0.1**	
PGC	**Sidney**	**71.93**	**44**	*eP*	**P**		**18 31 14.9**	**-0.3**	
	comp=Z,27nm,0.3s								
F04A	**Amboy**	**73.55**	**47**	*eP*	**P**		**18 31 25.0**	**+0.2**	
	comp=Z,15nm,1.3s								
KLMR	**Klimovskoe**	**73.84**	**330**	*eP*	**P**		**18 31 24.9**	**-1.4**	
KLMR				pmax	pmax				
	comp=Z,7.0nm,1.4s								
K05A	**Summer Lake**	**75.77**	**49**	*eP*	**P**		**18 31 39.6**	**+1.6**	
	comp=Z,44nm,2.0s								
ARN	**Arnold Ranch**	**77.47**	**54**	*eP*	**P**		**18 31 45.3**	**-2.3**	
ARN	**Arnold Ranch**	**77.47**	**54**	*eP*	**P**		**18 31 45.3**	**-2.3**	
OBN	**Obninsk**	**77.90**	**326**	*eP*	**P**		**18 31 49.0**	**-0.5**	
OBN				*e*			18 31 59.0		
OBN				pmax	pmax				
	comp=Z,5.0nm,0.9s								
FIA0	**FINESS Array S**	**79.11**	**334**	*eP*	**P**		**18 31 57.1**	**+1.0**	
FIA0	**FINESS Array S**	**79.11**	**334**	*eP*	**P**		**18 31 57.1**	**+1.0**	
FINES	**FINESS Array B**	**79.11**	**334**	P	**P**		**18 31 57.1**	**+1.0**	
	comp=Z,3.0nm,1.0s,baz=38,slow=5.6,SNR=3.3								
NCK	**Nalchik**	**79.27**	**313**	*eP*	**P**		**18 31 58.9**	**+1.5**	
NCK				pmax	pmax				
	comp=Z,4.0nm,0.3s								
KBZ	**Khabaz**	**79.62**	**314**	P	**P**		**18 31 60.0**	**+0.8**	
	comp=Z,6.3nm,0.8s,baz=92,slow=5.0,SNR=11								
KBZ	**Khabaz**	**79.62**	**314**	*eP*	**P**		**18 32 00.0**	**+0.8**	
KIV	**Kislovodsk**	**79.65**	**314**	*eP*	**P**		**18 32 01.5**	**+2.0**	
KIV				pmax	pmax				
	comp=Z,9.0nm,1.1s								
LRM	**Limekiln Ridge**	**79.92**	**44**	*eP*	**P**		**18 32 01.8**	**+0.6**	
SUMG	**Summit**	**80.99**	**1**	*eP*	**P**		**18 32 07.4**	**+0.8**	
SUMG				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SUMG	**Summit**	**80.99**	**1**	*eP*	**P**		**18 32 07.4**	**+0.8**	
	comp=Z,4.8nm,0.9s								
FFC	**Flin Flon**	**81.12**	**32**	*eP*	**P**		**18 32 07.5**	**+0.4**	
FFC				pmax	pmax				
	comp=Z,6.0nm,0.9s								
FFC	**Flin Flon**	**81.12**	**32**	*eP*	**P**		**18 32 07.5**	**+0.4**	
	comp=Z,6.3nm,0.9s								
R11A	**Troy Canyon, C**	**81.29**	**52**	*eP*	**P**		**18 32 09.0**	**+0.4**	
	comp=Z,2.5nm,1.0s								
IMW	**Indian Meadow**	**81.78**	**45**	*eP*	**P**		**18 32 12.4**	**+1.2**	
	comp=Z,2.4nm,0.8s								
PD31	**Pinedale Array**	**83.22**	**45**	*eP*	**P**		**18 32 18.2**	**-0.5**	
PDAR	**Pinedale Array**	**83.22**	**45**	P	**P**		**18 32 18.5**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=222,slow=1.8,SNR=5.2								
KNB	**Kanab**	**83.85**	**52**	*eP*	**P**		**18 32 23.0**	**+1.1**	
KNB				pmax	pmax				
	comp=Z,14nm,1.8s								
KNB	**Kanab**	**83.85**	**52**	*eP*	**P**		**18 32 23.0**	**+1.1**	
	comp=Z,14nm,1.8s								
AKASG	**Malin Array Be**	**84.02**	**325**	P	**P**		**18 32 21.3**	**-0.9**	
	comp=Z,1.8nm,0.7s,baz=48,slow=5.4,SNR=6.2								
AKBB	**Malin Array Si**	**84.02**	**325**	*eP*	**P**		**18 32 21.7**	**-0.6**	
AKBB				pmax	pmax				
	comp=Z,9.0nm,0.8s								
AKBB	**Malin Array Si**	**84.02**	**325**	*eP*	**P**		**18 32 21.7**	**-0.6**	
	comp=Z,9.2nm,0.8s								
KIEV	**Kiev**	**84.03**	**325**	*eP*	**P**		**18 32 21.9**	**-0.4**	
KIEV				pmax	pmax				
	comp=Z,4.0nm,0.9s								
NB2	**NORSAR Subarra**	**84.66**	**339**	P	**P**		**18 32 24.9**	**-0.5**	
	comp=Z,7.2nm,1.0s,baz=41,slow=5.1								
NB200	**NORSAR Array S**	**84.66**	**339**	*eP*	**P**		**18 32 24.2**	**-1.1**	
NOA	**NORSAR Array B**	**84.66**	**339**	P	**P**		**18 32 24.2**	**-1.1**	
	comp=Z,4.2nm,1.0s,baz=40,slow=4.8,SNR=4.5								
BR101	**Keskin Array S**	**87.61**	**314**	*eP*	**P**		**18 32 39.4**	**-1.1**	
BRTR	**Keskin Array B**	**87.61**	**314**	P	**P**		**18 32 39.4**	**-1.1**	
	comp=Z,1.6nm,0.9s,baz=97,slow=5.1,SNR=8.1								
BR231	**Keskin MP Arra**	**88.10**	**314**	*eP*	**P**		**18 32 40.4**	**-2.5**	
BORG	**Borgarnes**	**88.18**	**354**	*ce*P	**P**		**18 32 45.1**	**+2.6**	
GERES	**GERESS Array B**	**92.80**	**330**	P	**P**		**18 33 02.8**	**-1.7**	
	comp=Z,0.5nm,0.8s,baz=30,slow=6.1,SNR=4.9								
LTX	**Lajitas**	**94.38**	**54**	*eP*	**P**		**18 33 13.0**	**+0.8**	
LTX	**Lajitas**	**94.38**	**54**	*eP*	**P**		**18 33 13.0**	**+0.8**	
TXAR	**Lajitas Array**	**94.38**	**54**	P	**P**		**18 33 13.0**	**+0.8**	
	comp=Z,0.3nm,0.9s,baz=342,slow=5.7,SNR=2.5								
TXAR	**Lajitas Array**	**94.38**	**54**	P	**P**		**18 33 13.0**	**+0.8**	
TOA1	**Torodi Ar. Sit**	**126.21**	**313**	*e*PKPdf	**PKPdf**		**18 38 54.8**	**-0.4**	
TORD	**Torodi Ar. Bea**	**126.21**	**313**	PKP	**PKPdf**		**18 38 54.8**	**-0.5**	
	comp=Z,1.1nm,0.9s,baz=5.7,slow=1.4,SNR=4.1								
LPAZ	**La Paz**	**148.25**	**78**	PKPbc	**PKPbc**		**18 39 40.3**	**+0.8**	
	comp=Z,2.7nm,0.8s,baz=318,slow=3.3,SNR=12								

IDC 21 18:41:08.3±6.4, 3°.53S×152°.12E, h445km±53km, mb2.8/3, mb1 3.0/4, mb1mx2.6/40, mbtmp3.7/4, Error ellipse: s-maj=108.6km s-min=58.6km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.64**	**220**	P	P	18 43 00.0	+0.1
	1.0nm,0.3s,baz=48,slow=14,SNR=4.9						
WRA	**Warramunga Arr**	**23.81**	**225**	P	P	18 45 44.7	0.0
	0.5nm,0.4s,baz=48,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**26.66**	**220**	P	P	18 46 09.3	-0.6
	0.3nm,0.9s,baz=52,slow=8.2,SNR=5.3						
FITZ	**Fitzroy Crossi**	**29.70**	**239**	P	P	18 46 37.0	+0.3
	5.0nm,1.2s,baz=73,slow=11,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.26**	**290**	PKPbc	PKPbc	19 00 06.5	-0.5
	0.3nm,0.4s,baz=86,slow=2.1,SNR=7.6						

*IDC **21** 18:41:38.5±1.7, 35°.72N×141°.75E, h0km, mb3.7/4, mb1 3.7/8, mb1mx3.5/51, mbtmp3.6/8, ML3.3/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/34, Error ellipse: s-maj=44.4km s-min=19.6km az=72.0*

*ISCJB **21** 18:41:40.8±0.8, 35°.74N±0°.05×141°.54E±0°.07, h25km, mb3.7/4, MS3.3/1, Error ellipse: s-maj=8.8km s-min=6.4km az=162.9*

*JMA **21** 18:41:42.5±0.3, 35°.76N×141°.42E, h24km±3km, MS.4*

ISC 21 18:41:43.1±1.2, 35°.74N±0°.06×141°.43E±0°.09, h25km, n23, σ0s.99/19, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.46**	**266**	P	**Pb**	**18 41 51.9**	**-0.8**
CHOJ				S	**Sb**	**18 41 58.9**	**-0.3**
JCN	**Nagara**	**1.05**	**252**	P	**Pn**	**18 42 02.6**	**+0.4**
JYT	**Yasato**	**1.11**	**296**	P	**Pn**	**18 42 01.5**	**-1.6**
JHO	**Hitachi**	**1.11**	**322**	P	**Pn**	**18 42 03.1**	**0.0**
JHO				*e*S	**Sn**	**18 42 18.3**	**+0.7**
BSO4	**Boso 4**	**1.16**	**230**	P	**Pb**	**18 42 04.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.72**	**288**	Pn	**Pn**	**18 42 27.0**	**+1.7**
	5.5nm,0.3s,baz=101,slow=8.6,SNR=52						
MJAR				Sn	**Sn**	**18 42 57.2**	**-0.2**
	4.3nm,0.3s,baz=108,slow=27,SNR=5.8						
MAT	**Matsushiro**	**2.73**	**288**	P	**Pn**	**18 42 26.9**	**+1.6**
MAT				*e*S	**Sn**	**18 42 56.8**	**-0.7**
JHJ	**Hachijo jima 2**	**2.94**	**208**	Pn	**Pn**	**18 42 28.0**	**-0.3**
	6.8nm,0.3s,baz=73,slow=19,SNR=4.0						
JHJ				Sn	**Sn**	**18 43 02.4**	**-0.5**
	26nm,0.3s,baz=73,slow=19,SNR=4.4						
ASAJ	**Asahikawa**	**8.41**	**6**	Pn	**Pn**	**18 43 41.9**	**-1.5**
	0.4nm,0.3s,baz=210,slow=15,SNR=4.3						
JNU	**Nakatsue**	**9.10**	**256**	LR	LR	18 47 48.8	
	comp=Z,204nm,19.1s,baz=122,slow=40						
KSRS	**Korea Array**	**10.99**	**283**	LR	LR	18 48 16.7	
	comp=Z,91nm,20.8s,baz=152,slow=35						
USRK	**Ussuriysk Ar.**	**11.12**	**322**	Pn	**Pn**	**18 44 20.5**	**+0.1**
	1.0nm,0.3s,baz=134,slow=14,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**27.50**	**119**	T	T	19 16 25.2	
	baz=311,slow=75,SNR=77						
H11N1	**WAKE ISLAND Hy**	**27.51**	**119**	T	T	19 16 24.4	
	baz=311,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**27.52**	**119**	T	T	19 16 26.3	
	baz=311,slow=75,SNR=74						
H11S1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	19 17 22.9	
	baz=313,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	19 17 19.5	
	baz=313,slow=76,SNR=58						
H11S2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	19 17 18.9	
	baz=313,slow=76,SNR=38						
SONM	**Songino Array**	**28.53**	**306**	P	**P**	**18 47 37.4**	**+0.6**
	0.5nm,0.7s,baz=97,slow=7.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**41.19**	**257**	LR	LR	19 09 24.2	
	comp=Z,46nm,20.2s,baz=185,slow=40						
MKAR	**Makanchi Array**	**44.82**	**303**	P	**P**	**18 49 56.4**	**+1.4**
	0.8nm,0.7s,baz=89,slow=9.1,SNR=5.4						
WRA	**Warramunga Arr**	**55.78**	**188**	P	**P**	**18 51 17.3**	**-0.8**
	1.5nm,0.7s,baz=6.0,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**59.51**	**188**	P	**P**	**18 51 43.6**	**-0.7**
	0.3nm,0.5s,baz=18,slow=14,SNR=8.4						

MAN 21 18:45:32, 6°.27N×126°.61E, h107km, mb4.7, ML3.5, MS3.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.76**	**333**	*eP*	Pn	18 45 52.5	+1.9
MATI				*e*S	Sn	18 46 07.6	+3.0
DMPH	**Davao City--Mi**	**1.36**	**307**	*i eP*	Pn	18 45 59.9	+2.9
DMPH				*e*S	Sn	18 46 17.4	+1.5
BUKP	**Musuan**	**2.22**	**316**	*eP*	Pn	18 46 08.7	+1.0
BUKP				*e*S	Sn	18 46 36.5	+1.5

IDC 21 18:58:21.6±2.2, 26°.47N×143°.92E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/31, mbtmp3.5/3, Error ellipse: s-maj=58.9km s-min=25.2km az=55.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.67**	**292**	Pn	Pn	18 58 52.6	+0.5
	baz=90,slow=20						
JCJ				Sn	Sn	18 59 14.5	+0.2
	baz=322,slow=19						
SONM	**Songino Array**	**36.24**	**316**	P	P	19 05 26.3	-0.2
	0.6nm,0.5s,baz=110,slow=7.0,SNR=7.5						
WRA	**Warramunga Arr**	**47.06**	**192**	P	P	19 06 55.0	-0.2
	0.9nm,0.9s,baz=12,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	**52.07**	**310**	P	P	19 07 33.1	-0.1
	0.3nm,0.7s,baz=85,slow=8.2,SNR=2.8						

*NIED **21** 19:03:00, 39°.00N×142°.40E, h35km, Mw4.1 Best double couple: M0 1.37000×10^15 NP1:φs=254.00000°, δ=49.00000°, λ=-139.00000°. NP2:φs=134.00000°, δ=60.00000°, λ=-49.00000°.*

*ISCJB **21** 19:03:55.6±1.0, 38°.98N±0°.03×142°.50E±0°.06, h21km±6km, mb3.8/10, MS3.7/3, Error ellipse: s-maj=7.9km s-min=4.9km az=17.8*

*JMA **21** 19:03:57.4±0.1, 39°.03N×142°.41E, h30km±2km, M4.1*

JMA Felt I J1.

*IDC **21** 19:03:59.8±2.8, 38°.94N×142°.41E, h40km±26km, mb3.6/10, mb1 3.8/13, mb1mx3.6/34, mbtmp3.9/13, ML3.7/3, MS3.2/8, Ms1 3.2/8, ms1mx3.0/41, Error ellipse: s-maj=23.9km s-min=15.0km az=100.0*

ISC 21 19:03:55.7±1.9, 38°.99N±0°.04×142°.46E±0°.07, h11km±11km, n38, σ1s.15/37, mb3.9/10, MS3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.62**	**279**	P	**Pb**	**19 04 09.1**	**+0.6**
OFUJ				S	**Sb**	**19 04 16.9**	**-0.4**
MIYJ	**Miyakonagasawa**	**0.77**	**320**	P	**Pg**	**19 04 10.8**	**+0.2**
MIYJ				S	**Sg**	**19 04 20.1**	**-0.6**
JMK	**Ichinoseki**	**0.97**	**268**	P	**Pb**	**19 04 14.4**	**0.0**
JMK				S	**Sb**	**19 04 26.2**	**-1.0**
JIO	**Ouri**	**1.02**	**239**	P	**Pb**	**19 04 14.9**	**-0.4**
JIO				S	**Sb**	**19 04 26.8**	**-1.8**
JOM	**Ohasama**	**1.03**	**299**	P	**Pb**	**19 04 15.3**	**-0.2**
JOM				S	**Sb**	**19 04 28.3**	**-0.7**
JTH	**Tanohata**	**1.06**	**334**	P	**Pb**	**19 04 15.2**	**-0.8**
JTH				S	**Sb**	**19 04 29.5**	**-0.3**
JKZ	**Kuzumaki**	**1.33**	**319**	P	**Pn**	**19 04 20.0**	**-0.1**
JKZ				S	**Sb**	**19 04 35.8**	**-1.8**
JRG	**Rokugo**	**1.48**	**287**	P	**Pb**	**19 04 22.7**	**-0.4**
JRG				S	**Sb**	**19 04 41.3**	**-0.6**
JOU	**Okura**	**1.54**	**247**	P	**Pn**	**19 04 23.4**	**+0.4**
JOU				S	**Sn**	**19 04 42.8**	**-0.1**
JANG	**Nango**	**1.57**	**333**	P	**Pn**	**19 04 23.1**	**-0.3**
JANG				S	**Sn**	**19 04 43.3**	**-0.4**
MJAR	**Matsushiro Arr**	**4.16**	**235**	Pn	**Pn**	**19 05 01.1**	**+2.0**
	4.0nm,0.3s,baz=39,slow=11,SNR=68						
MJAR				LR	LR	19 06 59.0	
	comp=Z,185nm,18.9s,baz=50,slow=44						
MAT	**Matsushiro**	**4.16**	**235**	P	**Pn**	**19 05 01.1**	**+2.0**
MAT				*e*S	**Sn**	**19 05 49.0**	**+1.3**
ASAJ	**Asahikawa**	**5.13**	**1**	Pn	**Pn**	**19 05 14.0**	**+1.7**
	0.9nm,0.3s,baz=217,slow=12,SNR=13						
ASAJ				Sn	**Sn**	**19 06 11.8**	**+0.4**
	1.1nm,0.3s,baz=207,slow=16,SNR=4.3						
JHJ	**Hachijo jima 2**	**6.24**	**201**	Pn	**Pn**	**19 05 27.6**	**-0.1**
	39nm,0.3s,baz=79,slow=23,SNR=15						
JHJ				Sn	**Sn**	**19 06 35.1**	**-3.8**
	15nm,0.3s,baz=17,slow=19,SNR=3.0						
USRK	**Ussuriysk Ar.**	**9.41**	**307**	Pn	Pn	19 06 16.2	+5.0
	0.1nm,0.3s,baz=101,slow=15,SNR=4.0						
JNU	**Nakatsue**	**11.05**	**242**	LR	LR	19 11 08.4	
	comp=Z,99nm,19.0s,baz=121,slow=39						
KSRS	**Korea Array**	**11.54**	**267**	Pn	Pn	19 06 45.7	+5.5
	0.1nm,0.3s,baz=82,slow=14,SNR=6.6						
KSRS				LR	LR	19 11 04.8	
	comp=Z,68nm,18.1s,baz=135,slow=37						
KLR	**Kul'dur**	**12.80**	**327**	LR	LR	19 11 21.2	
	comp=Z,73nm,20.7s,baz=174,slow=34						
PETK	**Petropavlovsk-**	**17.59**	**32**	LR	LR	19 14 23.1	
	comp=Z,28nm,21.1s,baz=242,slow=35						
MA2	**

SART	**Tekirdag**	**0.43**	**281**	*i* P	**Pg**	19 40 35.3	**0.0**
SART				*i* S	**Sg**	19 40 40.5	**-0.5**
RKY	**Sarkoy-Tekirda**	**0.43**	**280**	*e*PG	**Pg**	19 40 35.6	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.43**	**280**	*e*Pg	**Pg**	19 40 35.6	**+0.3**
CRLT	**Corlu**	**0.52**	**0**	*e*PG	**Pb**	19 40 37.9	**0.0**
CRLT	**Corlu**	**0.52**	**0**	*e*Pg	**Pb**	19 40 37.9	**0.0**
KCTX	**Karacabey (Bur**	**0.59**	**126**	*e*PG	**Pg**	19 40 37.9	**-0.3**
KCTX	**Karacabey (Bur**	**0.59**	**126**	*e*Pg	**Pg**	19 40 37.9	**-0.3**
SLVT	**Silivri**	**0.72**	**30**	P	**Pg**	19 40 38.6	**-2.1**
SLVT				S	**Sg**	19 40 47.0	**-3.1**
ELBA	**Catalca**	**0.75**	**44**	P	**Pg**	19 40 41.8	**+0.4**
ELBA				S	**Sb**	19 40 52.3	**+0.2**
ELBA	**Catalca**	**0.75**	**44**	*i* P	**Pg**	19 40 41.8	**+0.4**
ELBA				*i* S	**Sb**	19 40 52.3	**+0.2**
LPK	**Lapseki**	**0.78**	**252**	*e*PG	**Pg**	19 40 41.5	**-0.4**
LPK	**Lapseki**	**0.78**	**252**	*e*Pg	**Pg**	19 40 41.5	**-0.4**
KESN	**Edirne-Kesan**	**0.83**	**285**	P	**Pg**	19 40 42.5	**-0.4**
KESN				S	**Sg**	19 40 54.0	**+0.2**
KESN	**Edirne-Kesan**	**0.83**	**285**	*i* P	**Pg**	19 40 42.5	**-0.4**
KESN				*i* S	**Sg**	19 40 54.0	**+0.2**
CTKS	**Kestanelik-??a**	**0.86**	**43**	*e*PG	**Pb**	19 40 43.8	**+0.2**
CTKS	**Kestanelik-??a**	**0.86**	**43**	*e*Pg	**Pb**	19 40 43.8	**+0.2**
ARMT	**Armutlu**	**0.86**	**93**	*e*PG	**Pb**	19 40 44.1	**+0.4**
ARMT	**Armutlu**	**0.86**	**93**	*e*Pg	**Pb**	19 40 44.1	**+0.4**
BALY	**Balya**	**0.88**	**186**	P	**Pg**	19 40 43.6	**-0.1**
BALY	**Balya**	**0.88**	**186**	*i* P	**Pg**	19 40 43.6	**-0.1**
MDNY	**Mudanya-Bursa**	**0.91**	**105**	*e*PG	**Pg**	19 40 44.1	**-0.3**
MDNY	**Mudanya-Bursa**	**0.91**	**105**	*e*Pg	**Pg**	19 40 44.1	**-0.3**
ERIK	**Erikli-Kesan**	**0.93**	**274**	*e*PG	**Pg**	19 40 44.5	**-0.2**
ERIK	**Erikli-Kesan**	**0.93**	**274**	*e*Pg	**Pg**	19 40 44.5	**-0.2**
CTYL	**Yalikoy Yolu**	**0.96**	**26**	*e*PG	**Pn**	19 40 46.5	**+0.4**
CTYL	**Yalikoy Yolu**	**0.96**	**26**	*e*Pg	**Pn**	19 40 46.5	**+0.4**
BGKT	**Bogazkoy**	**0.97**	**54**	*e*PG	**Pg**	19 40 45.5	**0.0**
BGKT	**Bogazkoy**	**0.97**	**54**	*e*Pg	**Pg**	19 40 45.5	**0.0**
BALB	**Balikesir**	**0.98**	**173**	*e*PG	**Pg**	19 40 45.4	**-0.2**
BALB	**Balikesir**	**0.98**	**173**	*e*Pg	**Pg**	19 40 45.4	**-0.2**
GELI	**Tayfur-Gelibol**	**0.98**	**258**	*e*PG	**Pg**	19 40 44.8	**-0.9**
GELI	**Tayfur-Gelibol**	**0.98**	**258**	*e*Pg	**Pg**	19 40 44.8	**-0.9**
PHSR	**Pinarhisar**	**1.03**	**351**	*e*PG	**Pg**	19 40 47.0	**+0.3**
PHSR	**Pinarhisar**	**1.03**	**351**	*e*Pg	**Pg**	19 40 47.0	**+0.3**
ISK	**Istanbul-Kandi**	**1.10**	**65**	*e*PN	**Pb**	19 40 47.5	**-0.3**
ISK	**Istanbul-Kandi**	**1.10**	**65**	P	**Pb**	19 40 47.4	**-0.4**
ISK				S	**Sb**	19 41 02.5	**+0.3**
ISK	**Istanbul-Kandi**	**1.10**	**65**	P	**Pb**	19 40 47.4	**-0.4**
ISK				S	**Sb**	19 41 02.5	**+0.3**
GEMT	**Gemlik**	**1.12**	**99**	*e*PN	**Pb**	19 40 48.4	**+0.2**
GEMT	**Gemlik**	**1.12**	**99**	*e*Pn	**Pb**	19 40 48.4	**+0.2**
IGD	**Bursa**	**1.17**	**107**	*i* P	**Pb**	19 40 48.1	**-0.9**
IGD				*i* S	**Sg**	19 41 04.7	**+0.1**
KLYT	**Kilyos**	**1.18**	**57**	*e*PN	**Pn**	19 40 49.4	**+0.2**
KLYT	**Kilyos**	**1.18**	**57**	*e*Pn	**Pn**	19 40 49.4	**+0.2**
ENEZ	**Enez**	**1.21**	**276**	*e*PN	**Pg**	19 40 50.1	**+0.1**
ENEZ	**Enez**	**1.21**	**276**	P	**Pn**	19 40 49.4	**-0.1**
ENEZ				S	**Sb**	19 41 05.4	**+0.2**
ENEZ	**Enez**	**1.21**	**276**	P	**Pn**	19 40 49.4	**-0.1**
ENEZ	**Enez**	**1.21**	**276**	*e*Pn	**Pg**	19 40 50.1	**+0.1**
ENEZ				S	**Sb**	19 41 05.4	**+0.2**
ALN	**Alexandroupoli**	**1.31**	**283**	*e*PN	**Pn**	19 40 50.9	**-0.1**
ALN	**Alexandroupoli**	**1.31**	**283**	P	**Pn**	19 40 50.7	**-0.3**
ALN				S	**Sb**	19 41 08.1	**-0.1**
ALN	**Alexandroupoli**	**1.31**	**283**	*e*Pn	**Pn**	19 40 50.9	**-0.1**
ALN				S	**Sb**	19 41 08.1	**-0.1**
EZN	**Ezine**	**1.33**	**234**	*e*PN	**Pb**	19 40 51.6	**-0.1**
EZN	**Ezine**	**1.33**	**234**	P	**Pn**	19 40 51.1	**-0.1**
EZN				S	**Sn**	19 41 09.1	**+0.2**
EZN	**Ezine**	**1.33**	**234**	P	**Pn**	19 40 51.1	**-0.1**
EZN	**Ezine**	**1.33**	**234**	*e*Pn	**Pb**	19 40 51.6	**-0.1**
EZN				S	**Sn**	19 41 09.1	**+0.2**
IZI	**Iznik**	**1.35**	**101**	*e*PN	**Pb**	19 40 52.2	**0.0**
IZI	**Iznik**	**1.35**	**101**	*e*Pn	**Pb**	19 40 52.2	**0.0**
EDRB	**Edirne**	**1.44**	**329**	*e*PN	**Pn**	19 40 52.9	**+0.1**
EDRB	**Edirne**	**1.44**	**329**	P	**Pn**	19 40 52.6	**-0.2**
EDRB				S	**Sn**	19 41 11.6	**-0.1**
EDRB	**Edirne**	**1.44**	**329**	P	**Pn**	19 40 52.6	**-0.2**
EDRB	**Edirne**	**1.44**	**329**	*e*Pn	**Pn**	19 40 52.9	**+0.1**
EDRB				S	**Sn**	19 41 11.6	**-0.1**
GADA	**Gvkgeada**	**1.46**	**254**	*e*PN	**Pn**	19 40 53.2	**+0.2**
GADA	**Gvkgeada**	**1.46**	**254**	P	**Pn**	19 40 52.7	**-0.3**
GADA				S	**Sn**	19 41 12.1	**0.0**
GADA	**Gvkgeada**	**1.46**	**254**	P	**Pn**	19 40 52.7	**-0.3**
GADA	**Gvkgeada**	**1.46**	**254**	*e*Pn	**Pn**	19 40 53.2	**+0.2**
GADA				S	**Sn**	19 41 12.1	**0.0**
HRT	**Hereke**	**1.49**	**81**	*e*PN	**Pb**	19 40 54.1	**-0.3**
HRT	**Hereke**	**1.49**	**81**	*e*Pn	**Pb**	19 40 54.1	**-0.3**
BOZC	**Bozcaada**	**1.50**	**240**	*i* P	**Pb**	19 40 53.9	**+0.4**
BOZC				*i* S	**Sb**	19 41 13.5	**0.0**
AYVA	**Ayvalik**	**1.53**	**212**	P	**Pb**	19 40 55.4	**+0.3**
AYVA				S	**Sb**	19 41 14.4	**0.0**
AYVA	**Ayvalik**	**1.53**	**212**	*i* P	**Pb**	19 40 55.4	**+0.3**
AYVA				*i* S	**Sb**	19 41 14.4	**0.0**
ADVT	**Abdulvahap**	**1.54**	**96**	*e*PN	**Pn**	19 40 54.5	**+0.4**
ADVT	**Abdulvahap**	**1.54**	**96**	*e*Pn	**Pn**	19 40 54.5	**+0.4**
SILT	**Sile**	**1.55**	**69**	*e*PN	**Pn**	19 40 54.4	**+0.2**
SILT	**Sile**	**1.55**	**69**	*e*Pn	**Pn**	19 40 54.4	**+0.2**
CAVI	**Cavuskoy**	**1.66**	**104**	*e*PN	**Pn**	19 40 56.6	**+0.8**
CAVI	**Cavuskoy**	**1.66**	**104**	*e*Pn	**Pn**	19 40 56.6	**+0.8**
DKL	**Dikili**	**1.67**	**203**	*e*PN	**Pn**	19 40 56.3	**+0.5**
DKL	**Dikili**	**1.67**	**203**	*e*Pn	**Pn**	19 40 56.3	**+0.5**
SMTH	**Samothraki Isl**	**1.68**	**266**	P	**Pn**	19 40 55.4	**-0.7**
SMTH				S	**Sn**	19 41 16.9	**-0.7**
SMTH	**Samothraki Isl**	**1.68**	**266**	P	**Pn**	19 40 55.4	**-0.7**
SMTH				S	**Sn**	19 41 16.9	**-0.7**
AKS	**Akhisar**	**1.73**	**178**	*e*PN	**Pn**	19 40 57.3	**+0.6**
AKS	**Akhisar**	**1.73**	**178**	*e*Pn	**Pn**	19 40 57.3	**+0.6**
DEMI	**Demirci**	**1.74**	**154**	P	**Pn**	19 40 56.8	**-0.1**
DEMI				S	**Sb**	19 41 21.4	**+0.8**
DEMI	**Demirci**	**1.74**	**154**	*i* P	**Pn**	19 40 56.8	**-0.1**
DEMI				*i* S	**Sb**	19 41 21.4	**+0.8**
TVSB	**Tavsanli**	**1.76**	**131**	*e*PN	**Pn**	19 40 57.8	**+0.5**
TVSB	**Tavsanli**	**1.76**	**131**	*e*Pn	**Pn**	19 40 57.8	**+0.5**
PRK	**Paraskevi**	**1.77**	**220**	P	**Pn**	19 40 57.0	**-0.2**
PRK				S	**Sn**	19 41 19.9	**+0.3**
PRK	**Paraskevi**	**1.77**	**220**	P	**Pn**	19 40 57.0	**-0.2**
PRK				S	**Sn**	19 41 19.9	**+0.3**
KAND	**Kocaeli-Kandir**	**1.93**	**75**	P	**Pn**	19 40 59.7	**+0.3**
KAND				S	**Sb**	19 41 25.1	**-0.8**
KAND	**Kocaeli-Kandir**	**1.93**	**75**	*i* P	**Pn**	19 40 59.7	**+0.3**
KAND				*i* S	**Sb**	19 41 25.1	**-0.8**
SPNC	**Sapanca-Adapaz**	**1.96**	**87**	*e*PN	**Pn**	19 41 01.0	**+1.1**
SPNC	**Sapanca-Adapaz**	**1.96**	**87**	*e*Pn	**Pn**	19 41 01.0	**+1.1**
SIGR	**SIGRI**	**2.01**	**227**	*e*PN	**Pn**	19 41 00.7	**+0.2**
SIGR	**SIGRI**	**2.01**	**227**	P	**Pn**	19 41 00.8	**+0.2**
SIGR				S	**Sg**	19 41 32.0	**+0.6**
SIGR	**SIGRI**	**2.01**	**227**	*e*Pn	**Pn**	19 41 00.7	**+0.2**
GEDZ	**Gediz**	**2.03**	**140**	*e*PN	**Pn**	19 41 01.4	**+0.5**
GEDZ	**Gediz**	**2.03**	**140**	*e*Pn	**Pn**	19 41 01.4	**+0.5**
GDZ	**Gediz**	**2.03**	**138**	P	**Pg**	19 41 04.9	**-0.8**
GDZ	**Gediz**	**2.03**	**138**	*i* P	**Pg**	19 41 05.0	**-0.8**
GDZ				*i* S	**Sg**	19 41 31.7	**-0.4**
LIA	**Limnos Island**	**2.08**	**251**	P	**Pn**	19 41 01.1	**-0.4**
LIA				S	**Sb**	19 41 31.1	**+0.9**
LIA	**Limnos Island**	**2.08**	**251**	P	**Pn**	19 41 01.1	**-0.4**
LIA				S	**Sb**	19 41 31.1	**+0.9**
GULT	**Gulveren**	**2.13**	**94**	*e*PN	**Pn**	19 41 02.7	**+0.4**
GULT	**Gulveren**	**2.13**	**94**	*e*Pn	**Pn**	19 41 02.7	**+0.4**
BORA	**Eskisehir**	**2.21**	**108**	P	**Pb**	19 41 05.5	**-1.2**
BORA	**Eskisehir**	**2.21**	**108**	*i* P	**Pb**	19 41 05.5	**-1.2**
BORA				*i* S	**Sg**	19 41 37.2	**-0.5**
KULA	**Kula-Manisa**	**2.21**	**161**	*e*PN	**Pn**	19 41 03.9	**+0.5**
KULA	**Kula-Manisa**	**2.21**	**161**	P	**Pn**	19 41 03.5	**0.0**
KULA	**Kula-Manisa**	**2.21**	**161**	P	**Pn**	19 41 03.5	**0.0**
KULA	**Kula-Manisa**	**2.21**	**161**	*e*Pn	**Pn**	19 41 03.9	**+0.5**
IZM	**Izmir**	**2.24**	**190**	*e*PN	**Pn**	19 41 03.9	**+0.1**
IZM	**Izmir**	**2.24**	**190**	*e*Pn	**Pn**	19 41 03.9	**+0.1**
SAHE	**Sakarya_HENDEK**	**2.38**	**83**	P	**Pn**	19 41 06.9	**+1.2**
SAHE	**Sakarya_HENDEK**	**2.38**	**83**	*i* P	**Pn**	19 41 06.9	**+1.2**
SAHE				*i* S	**Sb**	19 41 40.8	**+1.7**
KAVA	**Kavala**	**2.47**	**280**	P	**Pn**	19 41 07.2	**+0.3**
KAVA	**Kavala**	**2.47**	**280**	P	**Pn**	19 41 07.2	**+0.3**
CHOS	**Chios island**	**2.57**	**211**	*e*PN	**Pn**	19 41 08.4	**0.0**
CHOS	**Chios island**	**2.57**	**211**	P	**Pn**	19 41 07.8	**-0.6**
CHOS	**Chios island**	**2.57**	**211**	P	**Pn**	19 41 07.8	**-0.6**
CHOS	**Chios island**	**2.57**	**211**	*e*Pn	**Pn**	19 41 08.4	**0.0**
AYDB	**Zeytinkoy-Aydi**	**2.66**	**177**	*e*PN	**Pn**	19 41 10.0	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**2.66**	**177**	*e*Pn	**Pn**	19 41 10.0	**+0.3**
KHL	**Karahalli**	**2.67**	**148**	*e*PN	**Pn**	19 41 10.8	**+1.0**
KHL	**Karahalli**	**2.67**	**148**	*e*Pn	**Pn**	19 41 10.8	**+1.0**
OUR	**Ouranopolis**	**2.88**	**266**	*e*PN	**Pn**	19 41 11.4	**-1.0**
OUR	**Ouranopolis**	**2.88**	**266**	*e*Pn	**Pn**	19 41 11.4	**-1.0**
TIRR	**Tirgusor**	**3.88**	**7**	⇓*i* P	**Pn**	19 41 26.9	**+0.7**
TIRR	**Tirgusor**	**3.88**	**7**	⇓*i* P	**Pn**	19 41 26.9	**+0.7**
TIRR				S	**Sn**	19 42 10.8	**-0.9**
HARR	**Harsova**	**4.08**	**2**	⇑*i* P	**Pn**	19 41 30.2	**+1.2**
HARR	**Harsova**	**4.08**	**2**	⇑*i* P	**Pn**	19 41 30.2	**+1.2**
CFR	**Carcaliu**	**4.57**	**4**	⇓*i* P	**Pn**	19 41 36.2	**+0.4**
CFR	**Carcaliu**	**4.57**	**4**	⇓*i* P	**Pn**	19 41 36.2	**+0.4**
CFR				S	**Sn**	19 42 28.8	**0.0**
BARS	**Barje**	**4.95**	**298**	*e*Pn	**Pn**	19 41 42.0	**+1.1**
MLR	**Muntele Rosu**	**5.05**	**346**	⇓*i* P	**Pn**	19 41 44.5	**+2.0**
MLR	**Muntele Rosu**	**5.05**	**346**	⇓*i* P	**Pn**	19 41 44.5	**+2.0**
VOIR		**5.21**	**339**	⇓*i* P	**Pn**	19 41 45.8	**+1.2**
VOIR		**5.21**	**339**	⇓*i* P	**Pn**	19 41 45.8	**+1.2**
VRI	**Vrincioaia**	**5.30**	**352**	⇑*i* P	**Pn**	19 41 47.5	**+1.6**
VRI	**Vrincioaia**	**5.30**	**352**	⇑*i* P	**Pn**	19 41 47.5	**+1.6**
BOVS	**Bovan**	**5.41**	**306**	*e*Pn	**Pn**	19 41 47.6	**+0.4**
DOPR	**Dopca**	**5.62**	**343**	⇑*i* P	**Pn**	19 41 52.0	**+1.8**
DOPR	**Dopca**	**5.62**	**343**	⇑*i* P	**Pn**	19 41 52.0	**+1.8**
TESR	**Tescani**	**5.95**	**353**	⇓*i* P	**Pn**	19 41 55.9	**+1.2**
TESR	**Tescani**	**5.95**	**353**	⇓*i* P	**Pn**	19 41 55.9	**+1.2**
MDVR	**Moldovita**	**6.08**	**315**	⇑*i* P	**Pn**	19 41 57.1	**+0.5**
MDVR	**Moldovita**	**6.08**	**315**	⇑*i* P	**Pn**	19 41 57.1	**+0.5**
BURAR	**Bucovina Array**	**7.23**	**346**	⇓*i* P	**Pn**	19 42 14.4	**+2.0**
BURAR	**Bucovina Array**	**7.23**	**346**	⇓*i* P	**Pn**	19 42 14.4	**+2.0**
SORM	**Soroca**	**7.54**	**3**	⇓*i* P	**Pn**	19 42 16.0	**-0.4**
SORM	**Soroca**	**7.54**	**3**	⇓*i* P	**Pn**	19 42 16.0	**-0.4**

*IDC **21** 19:43:03.0±1.3, 34°.37S×72°.27W, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.7/30, mbtmp3.8/4, ML3.6/2, MS3.2/3, Ms1 3.2/3, ms1mx3.0/25, Error ellipse: s-maj=70.8km s-min=28.8km az=99.0*

*ISCJB **21** 19:43:05.6±1.1, 34°.34S±0°.03×72°.39W±0°.07, h23km±7km, mb4.6/4, MS3.0/2, Error ellipse: s-maj=9.4km s-min=5.3km az=19.1*

*NEIC **21** 19:43:07.0, 34°.31S×72°.25W, h25km, ML4.0(GUC), After GUC.*

NEIC Felt [III] at Pichilemu.

*GUC **21** 19:43:07.2±0.7, 34°.31S×72°.25W, h25km±4km, ML4.0*

ISC 21 19:43:03.7±2.0, 34°28S±0°.04×72°42W±0°.08, h5km±12km, n41, σ1°37/51, mb4.7/4, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.37**	**108**	⇓*i*P	**Pn**	**19 43 12.8**	**+0.1**
CHPI				*i* S	**Sg**	**19 43 17.4**	**+1.7**
NICH	**Los Niches**	**1.22**	**127**	⇓*i*P	**Pg**	**19 43 26.9**	**-0.3**
NICH				*i* S	**Sg**	**19 43 40.9**	**-2.1**
TALC	**Talca**	**1.29**	**150**	⇑*i*P	**Pg**	**19 43 28.1**	**-0.4**
TALC				*i* S	**Sg**	**19 43 43.9**	**-1.4**
RCDM	**Rinconada Maip**	**1.56**	**60**	*e*P	**Pn**	**19 43 32.1**	**-0.1**
RCDM				*i* S	**Sn**	**19 43 50.7**	**-2.1**
ANTU	**Antumapu**	**1.65**	**65**	*e*P	**Pn**	**19 43 33.6**	**+0.1**
ANTU				*e*S	**Sn**	**19 43 53.3**	**-1.8**
ANTU				IAML		19 44 04.0	
	comp=N,4μm,0.5s						
ROC1	**El Roble**	**1.75**	**43**	*e*Pn	**Pn**	**19 43 35.5**	**+0.4**
ROC1				*e*Sn	**Sn**	**19 43 56.6**	**-1.3**
ROCH	**El Roble**	**1.76**	**43**	⇑*i*P	**Pn**	**19 43 35.4**	**+0.3**
ROCH				*i* S	**Sn**	**19 43 58.1**	**+0.1**
ROCH				IAML		19 44 06.3	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**1.80**	**61**	⇑*i*P	**Pn**	**19 43 36.1**	**+0.5**
CLCH				*i* S	**Sn**	**19 43 57.8**	**-1.1**
CLCH				IAML		19 44 07.9	
	comp=E,3μm,1.1s						
PEL	**Peldehue**	**1.84**	**53**	⇑*i*P	**Pn**	**19 43 36.9**	**+0.8**
PEL				*i* S	**Sn**	**19 43 59.6**	**-0.2**
PEL				IAML		19 44 07.7	
	comp=N,3μm,0.5s						
FCH	**Farellones**	**2.01**	**63**	*e*P	**Pn**	**19 43 39.4**	**+0.6**
FCH				*i* S	**Sn**	**19 44 04.8**	**+0.3**
FCH				IAML		19 44 10.4	
	comp=N,2μm,0.4s						
AAGR	**Agrelo**	**3.23**	**69**	*i* P	**Pb**	**19 44 01.5**	**-0.1**
ARCO	**CERRO ARCO**	**3.25**	**65**	*i* P	**Pb**	**19 44 00.9**	**-1.2**
ARCO				IAML		19 44 52.2	
	comp=Z,159nm,0.4s						
AUSP	**Uspallata**	**3.27**	**52**	*i* P	**Pn**	**19 43 58.9**	**+3.0**
AUSP				*i* S	**Sg**	**19 44 50.5**	**+1.8**
ASAL	**Salagasta**	**3.44**	**62**	*i* P	**Pb**	**19 44 02.5**	**-2.8**
RTLS	**Leoncito**	**3.61**	**48**	*i* P	**Pn**	**19 44 02.5**	**+1.9**
CANA	**Caviahue**	**3.77**	**163**	*i* P	**Pn**	**19 44 04.5**	**+1.7**
CANA				IAML		19 44 38.4	
	comp=Z,40nm,0.6s						
RTCV	**Cerro Valdivia**	**4.05**	**55**	*i* P	**Pn**	**19 44 09.0**	**+2.4**
LCO	**Las Campanas**	**5.45**	**16**	*e*Pn	**Pn**	**19 44 25.7**	**-0.3**
LCO				*e*Sn	**Sn**	**19 45 25.8**	**-3.5**
PLCA	**Paso Flores**	**6.61**	**168**	Pn	**Pn**	**19 44 41.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=354,slow=15,SNR=4.1						
PLCA				Lg	Lg	19 46 23.8	
	comp=Z,0.1nm,0.3s,baz=312,slow=15,SNR=2.0						
PLCA	**Paso Flores**	**6.61**	**168**	*e*Pn	**Pn**	**19 44 40.7**	**-1.1**
PLCA				Lg	Lg	19 46 23.8	
TRQA	**Tornquist**	**9.25**	**117**	*e*Pn	**Pn**	**19 45 19.1**	**+1.2**
PB10	**IPOC Station P**	**10.85**	**9**	*e*Pn	**Pn**	**19 45 39.4**	**-0.4**
CPUP	**Villa Florida**	**15.24**	**63**	LR	LR	19 52 53.6	
	comp=Z,118nm,19.7s,baz=240,slow=39						
LPAZ	**La Paz**	**18.32**	**13**	P	**P**	**19 47 21.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=202,slow=13,SNR=4.6						
LPAZ	**La Paz**	**18.32**	**13**	*e*P	**P**	**19 47 20.4**	**+0.8**
SIV	**San Ignacio**	**20.88**	**32**	P	**P**	**19 47 46.3**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=207,slow=9.0,SNR=7.6						
SIV				LR	LR	19 57 02.9	
	comp=Z,64nm,19.9s,baz=170,slow=40						
NNA	**Nana**	**22.55**	**349**	LR	LR	19 54 49.2	
	comp=Z,44nm,19.7s,baz=180,slow=31						
ROSC	**El Rosal**	**38.95**	**357**	*e*P	**P**	**19 50 31.3**	**0.0**
	comp=Z,5.0nm,0.4s						
RUSC	**La Rusia**	**39.96**	**359**	*e*P	**P**	**19 50 42.3**	**+2.4**
SNAA	**Sanae**	**51.45**	**158**	*e*P	**P**	**19 52 10.3**	**+0.7**
	comp=Z,24nm,2.0s						
QSPA	**South Pole Qui**	**55.96**	**180**	*e*P	**P**	**19 52 43.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**84.61**	**70**	P	**P**	**19 55 37.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=268,slow=4.3,SNR=4.5						
TOA1	**Torodi Ar. Sit**	**84.61**	**70**	*e*P	**P**	**19 55 37.9**	**-0.8**
	comp=Z,44nm,2.0s						
WR1	**Warramunga Arr**	**120.36**	**209**	*e*PKPdf	**PKPdf**	**20 01 55.7**	**-1.1**
WRA	**Warramunga Arr**	**120.36**	**209**	PKP	**PKPdf**	**20 01 55.7**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=166,slow=1.7,SNR=4.6						
BVAR	**Borovoye Array**	**147.70**	**43**	PKPbc	**PKPbc**	**20 02 49.6**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=262,slow=3.4,SNR=7.2						
KURBB	**Kurchatov Arra**	**153.29**	**43**	PKPbc	**PKPbc**	**20 03 02.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=297,slow=2.9,SNR=11						
KURK	**Kurchatov**	**153.30**	**43**	*e*PKPbc	**PKPbc**	**20 03 02.2**	**-0.2**
ZAA1	**Zalesovo Array**	**154.63**	**32**	*e*PKPbc	**PKPbc**	**20 03 04.5**	**-0.8**
ZALV	**Zalesovo Beam**	**154.63**	**32**	PKPbc	**PKPbc**	**20 03 04.5**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=294,slow=4.6,SNR=3.8						
SONM	**Songino Array**	**166.43**	**3**	PKPab	**PKPab**	**20 04 12.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=349,slow=1.5,SNR=4.0						

*IDC **21** 19:48:39.9±2.0, 23°.05S×176°.38W, h0km, mb4.1/6, mb1 4.4/6, mb1mx3.9/37, mbtmp4.1/6, Error ellipse: s-maj=119.4km s-min=23.9km az=157.0*

*ISCJB **21** 19:48:53.9±0.7, 23°.3S±0°.1×176°.6W±0°.1, h124km, mb4.3/13, Error ellipse: s-maj=15.2km s-min=13.8km az=44.5*

*NEIC **21** 19:48:54.8±1.8, 23°.23S×176°.51W, h119km±14km, mb4.8/8, Error ellipse: s-maj=14.8km s-min=10.3km az=125.0*

ISC 21 19:48:55.3±0.8, 23°.3S±0°.1×176°.5W±0°.1, h124km, n25, σ0°95/26, mb4.6/13, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.51**	**316**	*e*Pn	**Pn**	**19 50 41.6**	**-0.6**
SNZO	**South Karori**	**19.47**	**200**	*e*P	**P**	**19 53 11.0**	**-1.4**
	86nm,1.6s						
DCZ	**Deep Cove**	**25.86**	**207**	*e*P	**P**	**19 54 16.6**	**+1.4**
	48nm,1.5s						
CTA	**Charters Tower**	**34.72**	**268**	P	**P**	**19 55 34.4**	**+0.8**
	6.3nm,0.4s,baz=101,slow=12,SNR=26						
CTAO	**Charters Tower**	**34.72**	**268**	*e*P	**P**	**19 55 34.7**	**+1.1**
AS01	**Alice Springs**	**45.29**	**259**	*e*P	**P**	**19 57 02.0**	**+1.1**
AS31	**Alice Springs**	**45.33**	**259**	*e*P	**P**	**19 57 01.0**	**-0.3**
	1.4nm,1.3s						
ASAR	**Alice Springs**	**45.33**	**259**	P	**P**	**19 57 00.6**	**-0.7**
	1.8nm,0.7s,baz=97,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**19 58 40.8**	**+1.9**
	0.2nm,0.6s,baz=117,slow=3.6,SNR=4.2						
WB2	**Warramunga Arr**	**45.67**	**264**	*e*P	**P**	**19 57 03.0**	**-0.9**
	23nm,1.7s						
WRAB	**Tennant Creek**	**45.68**	**264**	*e*P	**P**	**19 57 03.1**	**-0.8**
	43nm,2.0s						
WR1	**Warramunga Arr**	**45.68**	**264**	*e*P	**P**	**19 57 03.0**	**-1.0**
	23nm,1.6s						
WRA	**Warramunga Arr**	**45.68**	**264**	P	**P**	**19 57 03.0**	**-1.1**
	2.9nm,0.6s,baz=102,slow=8.3,SNR=68						
MTN	**Manton Dam**	**50.65**	**272**	*e*P	**P**	**19 57 42.5**	**+0.3**
	27nm,1.4s						
FITZ	**Fitzroy Crossi**	**54.11**	**264**	P	**P**	**19 58 07.2**	**-0.5**
	2.9nm,0.7s,baz=93,slow=5.2,SNR=7.6						
FITZ	**Fitzroy Crossi**	**54.11**	**264**	*e*P	**P**	**19 58 07.8**	**+0.1**
	49nm,1.9s						
MAW	**Mawson**	**79.47**	**200**	*e*P	**P**	**20 00 48.2**	**+0.6**
SYO	**Syowa Base**	**84.36**	**192**	⇑*e*P	**P**	**20 01 11.2**	**-2.0**
LTX	**Lajitas**	**87.36**	**57**	*e*P	**P**	**20 01 29.2**	**+0.5**
TXAR	**Lajitas Array**	**87.36**	**57**	P	**P**	**20 01 29.2**	**+0.5**
	0.3nm,0.6s,baz=223,slow=7.4,SNR=3.8						
TRF	**Thorofare Moun**	**88.84**	**11**	*e*P	**P**	**20 01 34.5**	**-0.5**
	2.9nm,0.6s						
ILAR

ARLS				⇓*e*S		**Sn**	**20 11 23.2**	**-2.3**
	baz=36										
MNAS	**Manas**	**2.32**	**5**	⇓*e*P		**Pb**	**20 10 57.9**	**-1.9**
	baz=359										
MNAS				⇓*e*S		**Sb**	**20 11 27.8**	**-1.3**
	baz=359										
MNAS	**Manas**	**2.32**	**5**	⇑Pn		**Pb**	**20 11 00.0**	**+0.2**
	19nm,0.3s										
MNAS				⇑Sn		**Sb**	**20 11 30.7**	**+1.6**
	41nm,0.4s										
IUG	**Iuzhnay**	**2.59**	**321**	*e*P		**Pb**	**20 11 04.1**	**-0.1**
	40nm,0.2s										
IUG				*e*S		**Sb**	**20 11 36.2**	**-0.3**
	147nm,0.7s										
UCH	**Uchtor**	**2.68**	**39**	⇑*i*P		**Pn**	**20 11 01.5**	**-0.2**
	baz=34										
UCH				⇑*i*S		**Sn**	**20 11 34.5**	**-0.4**
	baz=34										
MRKS	**Merke**	**2.68**	**16**	*e*P		**Pb**	**20 11 04.3**	**-1.5**
	31nm,0.4s										
MRKS				*e*S		**Sn**	**20 11 36.2**	**+1.8**
	156nm,0.5s										
EKS2	**Erkin-Say**	**2.75**	**24**	⇓*i*P		**Pn**	**20 11 02.9**	**+0.6**
	baz=19										
EKS2				⇓*i*S		**Sn**	**20 11 36.6**	**+0.5**
	baz=19										
DZA	**Taraz**	**2.81**	**346**	*e*P		**Pg**	**20 11 09.6**	**-1.3**
	74nm,0.1s										
DZA				*e*S		**Sb**	**20 11 43.9**	**+1.1**
	200nm,0.1s										
CHM	**Chimkent**	**2.93**	**318**	*e*P		**Pb**	**20 11 10.3**	**+0.3**
	32nm,0.3s										
CHM				*e*S		**Sb**	**20 11 46.3**	**0.0**
	279nm,0.4s										
KZA	**Kyzart**	**2.97**	**49**	⇓*i*P		**Pn**	**20 11 05.6**	**0.0**
	baz=44										
KZA				⇓*i*S		**Sn**	**20 11 40.1**	**-1.9**
	baz=44										
AAK	**Ala-Archa**	**2.99**	**34**	⇓*i*P		**Pn**	**20 11 06.1**	**+0.4**
	baz=29										
AAK				⇓*i*S		**Sn**	**20 11 41.6**	**-0.6**
	baz=29										
AAK	**Ala-Archa**	**2.99**	**34**	⇓Pn		**Pn**	**20 11 06.1**	**+0.4**
	8.0nm,0.5s										
AAK				⇑Sn		**Sb**	**20 11 46.5**	**-1.7**
	35nm,0.3s										
KK31	**Karatay Array**	**3.21**	**337**	⇓Pg		**Pg**	**20 11 18.3**	**-0.2**
	1.5nm,0.2s,baz=152,slow=17,SNR=22										
KK31				⇓Lg		Lg	20 11 59.4	
	7.3nm,0.3s,baz=146,slow=30,SNR=3.7										
KBK	**Karagaybulak**	**3.21**	**38**	⇑*i*P		**Pn**	**20 11 09.7**	**+0.9**
	baz=34										
KBK				⇑*i*S		**Sn**	**20 11 47.1**	**-0.6**
	baz=34										
BRLS	**Borolday**	**3.25**	**325**	*e*P		**Pg**	**20 11 19.0**	**-0.3**
	6.6nm,0.2s										
BRLS				⇓*i*S		**Sg**	**20 12 01.3**	**0.0**
	5.7nm,0.5s										
CHMS	**Chumysh**	**3.40**	**33**	⇑*i*P		**Pn**	**20 11 11.5**	**+0.3**
	baz=28										
CHMS				⇑*i*S		**Sn**	**20 11 51.3**	**-0.8**
	baz=28										
BOOM	**Boomskoye usch**	**3.62**	**49**	⇑*e*P		**Pn**	**20 11 12.8**	**-1.6**
	baz=45										
BOOM				⇑*e*S		**Sn**	**20 11 53.4**	**-4.5**
	baz=45										
ULHL	**Ulahol**	**3.66**	**54**	⇑*e*P		**Pn**	**20 11 14.4**	**-0.6**
	baz=51										
ULHL				⇑*i*S		**Sn**	**20 11 55.5**	**-3.4**
	baz=51										
TKM2	**Tokmak 2**	**3.73**	**41**	⇑*i*P		**Pn**	**20 11 16.0**	**+0.1**
	baz=38										
TKM2				⇑*i*S		**Sn**	**20 11 58.9**	**-1.6**
	baz=38										
TKM2	**Tokmak 2**	**3.73**	**41**	⇑Pn		**Pn**	**20 11 16.1**	**+0.3**
	5.8nm,0.3s										
TKM2				⇑Lg		Lg	20 12 09.4	
	14nm,0.6s										
KST	**Kastek**	**4.00**	**43**	*e*P		**Pb**	**20 11 28.5**	**+0.1**
	5.1nm,0.5s										
KST				⇓*i*S		**Sb**	**20 12 17.8**	**+0.4**
	22nm,0.5s										
DGS	**Degeres**	**4.05**	**40**	*e*P		**Pb**	**20 11 29.7**	**+0.5**
	10nm,0.6s										
DGS				*e*S		**Sb**	**20 12 18.5**	**-0.2**
	34nm,0.6s										
IZV	**Izvestkoviy**	**4.35**	**47**	*e*P		**Pb**	**20 11 34.7**	**+0.3**
	14nm,0.5s										
IZV				*e*S		**Sb**	**20 12 27.4**	**0.0**
	24nm,0.7s										
TNSS	**Tian-Shan**	**4.55**	**49**	*e*P		**Pb**	**20 11 38.3**	**+0.5**
	7.6nm,0.5s										
TNSS				*e*S		**Sb**	**20 12 34.7**	**+1.5**
	28nm,0.9s										
KNDC	**Almaty**	**4.67**	**48**	⇓Lg		Lg	20 12 39.5	
	40nm,0.7s										
MDOK	**Medeo**	**4.68**	**49**	⇑*i*P		**Pb**	**20 11 40.3**	**+0.3**
	7.8nm,0.9s										
MDOK				⇑*i*S		**Sb**	**20 12 39.1**	**+2.2**
	15nm,0.5s										
KOTS	**Kotyrbulak**	**4.76**	**48**	*e*P		**Pb**	**20 11 42.5**	**+1.2**
KOTS				*e*S		**Sb**	**20 12 41.0**	**+1.8**
KUU	**Kurty**	**4.81**	**38**	⇓*i*P		**Pb**	**20 11 40.9**	**-1.2**
	6.3nm,0.4s										
KUU				⇓*i*S		**Sb**	**20 12 40.0**	**-0.5**
	16nm,0.5s										
KTBS	**Karatobe**	**4.85**	**42**	*e*P		**Pb**	**20 11 43.5**	**+0.7**
KTBS				*e*S		**Sb**	**20 12 42.5**	**+1.0**
CHKK	**Chushkaly**	**5.12**	**42**	*e*P		**Pb**	**20 11 48.5**	**+1.1**
	3.5nm,0.5s										
CHKK				*e*S		**Sb**	**20 12 51.5**	**+2.1**
	24nm,0.4s										
SATY	**Saty**	**5.45**	**56**	*e*P		**Pb**	**20 11 53.5**	**+0.5**
	7.5nm,1.1s										
SATY				*e*S		**Sb**	**20 12 59.9**	**+1.0**
	24nm,1.0s										
KURS	**Kuram**	**5.53**	**51**	*e*P		**Pb**	**20 11 57.0**	**+2.6**
	3.6nm,1.2s										
KURS				*e*S		**Sb**	**20 13 06.0**	**+4.8**
	8.8nm,1.3s										
ARXS	**Arharly**	**5.79**	**44**	*e*P		**Pb**	**20 12 00.4**	**+1.5**
	5.0nm,0.7s										
ARXS				*e*S		**Sb**	**20 13 12.2**	**+3.6**
	11nm,0.5s										
KPKS	**Kokpek**	**5.83**	**54**	*e*P		**Pb**	**20 12 00.5**	**+1.0**
	4.6nm,1.1s										
KPKS				*e*S		**Sb**	**20 13 12.6**	**+2.7**
	19nm,1.3s										
PDGK	**Podgornoye**	**6.27**	**57**	⇑Lg		Lg	20 13 29.7	
	12nm,0.7s										
DJR	**Jarkent**	**6.97**	**51**	*e*P		**Pb**	**20 12 21.4**	**+2.4**
	3.8nm,0.8s										
DJR				*e*S		**Sb**	**20 13 48.8**	**+6.1**
	8.0nm,0.9s										
OTUK	**Ortayu**	**8.07**	**0**	⇑Lg		Lg	20 14 32.7	
	1.6nm,0.5s										
KURBB	**Kurchatov Arra**	**11.34**	**21**	⇑Lg		Lg	20 16 15.8	
	5.0nm,0.7s										

*ISCJB **21** 20:13:15.2±0.7,24.˚54N±0.˚06×122.˚95E±0.˚02,h91km±6km, Error ellipse: s-maj=9.4km s-min=3.4km az=174.9*
*JMA **21** 20:13:15.1±0.2,24.˚43N×122.˚95E,h98km±2km,M1.9*
*TAP **21** 20:13:16.7,24.˚47N×122.˚93E,h72km±1km,ML3.0,D*

ISC 21 20:13:15.5±1.5,**24.˚52N**±0.˚07×**122.˚95E**±0.˚03,**h92**km±10km, **n28,σ0°90/53,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.07**	**182**	P	**Pn**	**20 13 28.8**	**+0.4**
JYNG				S	**Sn**	**20 13 38.7**	**+0.7**
YOJ	**Yonaguni jima**	**0.08**	**137**	P	**Pn**	**20 13 28.8**	**+0.4**
YOJ				S	**Sn**	**20 13 38.7**	**+0.7**
IRIF	**Iriomote-Funau**	**0.74**	**105**	P	**Pn**	**20 13 32.6**	**+0.1**
IRIF				*e*S	**Sn**	**20 13 45.5**	**+0.2**
TWC	**Suao**	**1.00**	**275**	P	**Pn**	**20 13 35.1**	**-0.3**
	baz=278						
TWC				S	**Sn**	**20 13 48.9**	**-1.3**
	baz=278						
JKRS	**Kuro-shima**	**1.01**	**106**	P	**Pn**	**20 13 35.7**	**+0.3**
JKRS				S	**Sn**	**20 13 51.0**	**+0.6**
JIJ	**Ishigaki jima**	**1.10**	**98**	P	**Pn**	**20 13 36.5**	**0.0**
JIJ				S	**Sn**	**20 13 51.4**	**-0.9**
ENA	**Nanau**	**1.10**	**265**	P	**Pn**	**20 13 36.9**	**+0.4**
	baz=267						
ENA				S	**Sn**	**20 13 51.0**	**-1.3**
	baz=267						
TWE	**Neicheng**	**1.18**	**280**	P	**Pn**	**20 13 37.9**	**+0.5**
	baz=282						
TWE				*e*S	**Sn**	**20 13 51.4**	**-2.6**
	baz=282						
JISG	**Ishigakijimahi**	**1.24**	**87**	P	**Pn**	**20 13 38.0**	**-0.1**
JISG				S	**Sn**	**20 13 54.4**	**-0.8**
ENTT	**Nioudou**	**1.26**	**276**	P	**Pn**	**20 13 39.2**	**+0.8**
	baz=277						
ENTT				*e*S	**Sn**	**20 13 55.5**	**-0.2**
	baz=277						
TWD	**Chiawan**	**1.31**	**251**	*e*P	**Pn**	**20 13 38.8**	**-0.2**
	baz=252						
TWD				S	**Sn**	**20 13 55.7**	**-1.0**
	baz=252						
NNS	**Nan Shan**	**1.44**	**267**	*e*P	**Pn**	**20 13 41.5**	**+0.9**
	baz=268						
NNS				S	**Sn**	**20 13 58.8**	**-0.9**
	baz=268						
NSK	**Sanguang**	**1.46**	**276**	P	**Pn**	**20 13 41.4**	**+0.5**
	baz=278						
NSK				S	**Sn**	**20 13 59.6**	**-0.4**
	baz=278						
ESL	**Shilin**	**1.55**	**243**	*e*P	**Pn**	**20 13 41.2**	**-0.8**
	baz=244						
WHF	**Hehuan Shan**	**1.58**	**257**	*e*P	**Pn**	**20 13 42.9**	**+0.2**
	baz=257						
WHF				S	**Sn**	**20 14 02.5**	**-0.9**
	baz=257						
JTJ	**Tarama**	**1.60**	**85**	S	**Sn**	**20 14 03.0**	**-0.2**
TWT	**Tachien**	**1.64**	**261**	P	**Pn**	**20 13 44.0**	**+0.8**
	baz=262						
TWT				S	**Sn**	**20 14 04.2**	**-0.1**
	baz=262						
NSTT	**Nanjuang**	**1.77**	**274**	*e*P	**Pn**	**20 13 45.9**	**+1.1**
	baz=275						
NSTT				*e*S	**Sn**	**20 14 06.6**	**-0.6**
	baz=275						
EHY	**Hungye**	**1.80**	**236**	*e*P	**Pn**	**20 13 44.3**	**-0.9**
	baz=236						
EHY				*e*S	**Sn**	**20 14 06.2**	**-1.6**
	baz=236						
SMLT	**Sun Moon Lake**	**1.98**	**252**	*e*P	**Pn**	**20 13 48.2**	**+0.7**
	baz=252						
SMLT				*e*S	**Sn**	**20 14 12.6**	**+0.6**
	baz=252						
TYC	**Yuchr**	**2.01**	**253**	*e*P	**Pn**	**20 13 48.6**	**+0.8**
	baz=253						
TYC				*e*S	**Sn**	**20 14 13.2**	**+0.7**
	baz=253						
JIRB	**Irabujima**	**2.05**	**81**	*e*S	**Sn**	**20 14 13.1**	**-0.4**
ALS	**Alishan**	**2.20**	**243**	*e*P	**Pn**	**20 13 51.6**	**+0.9**
	baz=243						
ALS				*e*S	**Sn**	**20 14 18.5**	**+0.9**
	baz=243						
ELDTW	**Lidau**	**2.21**	**233**	*e*P	**Pn**	**20 13 50.0**	**-0.6**
	baz=233						
ELDTW				*e*S	**Sn**	**20 14 16.6**	**-1.0**
	baz=233						
CHN5	**Tsauling**	**2.27**	**247**	*e*P	**Pn**	**20 13 52.2**	**+0.8**
	baz=247						
CHN5				*e*S	**Sn**	**20 14 20.5**	**+1.6**
	baz=247						
TTN	**Taitung**	**2.41**	**224**	*e*P	**Pn**	**20 13 53.6**	**+0.3**
	baz=223						
TTN				*e*S	**Sn**	**20 14 21.3**	**-0.9**
	baz=223						
TWG	**Pinlang**	**2.41**	**226**	*e*P	**Pn**	**20 13 52.0**	**-1.3**
	baz=225						
TWG				*e*S	**Sn**	**20 14 23.9**	**+1.7**
	baz=225						
STYT	**Tauyuan**	**2.42**	**236**	*e*P	**Pn**	**20 13 54.2**	**+0.8**
	baz=236						
STYT				*e*S	**Sn**	**20 14 23.1**	**+0.7**
	baz=236						

TAP 21 20:17:35.2,24.˚27N×121.˚75E,h12km±1km,ML1.8,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.15**	**356**	P	Pg	20 17 38.7	-0.2
	baz=358						
ENA				S	Sg	20 17 41.5	+0.1
	baz=358						
TWD	**Chiawan**	**0.24**	**216**	P	Pg	20 17 40.1	-0.2
	baz=215						
TWD				S	Sg	20 17 43.6	-0.1
	baz=215						
NNS	**Nan Shan**	**0.38**	**296**	P	Pg	20 17 42.8	-0.2
	baz=295						
ENTT	**Nioudou**	**0.40**	**335**	P	Pg	20 17 43.1	-0.1
	baz=335						
ENTT				S	Sg	20 17 48.0	-0.6
	baz=335						
NSK	**Sanguang**	**0.54**	**318**	*e*P	Pg	20 17 46.0	+0.2
	baz=318						
NSK				*e*S	Sg	20 17 53.2	+0.3
	baz=318						
ESL	**Shilin**	**0.54**	**213**	*e*P	Pg	20 17 45.9	0.0
	baz=211						
ESL				*e*S	Sg	20 17 52.1	-1.0
	baz=211						

TAP 21 20:17:40.7,24.˚27N×121.˚77E,h12km,ML1.8,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.16**	**351**	P	Pg	20 17 44.4	0.0
	baz=354						
ENA				S	Sg	20 17 46.9	-0.1
	baz=354						
TWD	**Chiawan**	**0.24**	**220**	*e*P	Pg	20 17 45.5	-0.3
	baz=218						
TWD				S	Sg	20 17 49.3	+0.1
	baz=218						
NNS	**Nan Shan**	**0.40**	**295**	*e*P	Pg	20 17 48.2	-0.4
	baz=295						
NNS				*e*S	Sg	20 17 54.0	0.0
	baz=295						
NNS	**Nan Shan**	**0.40**	**295**	S	Pg	20 17 48.2	-0.5
	baz=295						
ENTT	**Nioudou**	**0.41**	**334**	*e*P	Pg	20 17 48.9	0.0
	baz=334						
ENTT				S	Sg	20 17 54.5	+0.1
	baz=334						
NSK	**Sanguang**	**0.55**	**317**	*e*P	Pb	20 17 52.6	+0.2
	baz=317						
NSK				*e*S	Sg	20 17 58.4	-0.4
	baz=317						

*NIED **21** 20:18:00,26.˚00N×128.˚70E,h11km,Mw4.5 Best double couple: M06.20000×10^15 NP1:φ242.00000°,δ36.00000°, λ119.00000°. NP2:φ28.00000°,δ59.00000°,λ70.00000°.*
*BJI **21** 20:18:30.7,25.˚75N×128.˚83E,h6km,mb4.6/51,mB4.8/40, Ms4.6/49,Ms7 4.4/46*
*IDC **21** 20:18:35.5±0.6,26.˚10N×128.˚43E,h0km,mb4.2/19, mb1 4.3/23,mb1mx4.2/49,mbtmp4.2/23,ML3.5/3,MS3.9/18, Ms1 3.9/18,ms1mx3.6/43,Error ellipse: s-maj=21.6km s-min=12.9km az=78.0*
*ISCJB **21** 20:18:36.6±0.7,26.˚02N±0.˚02×128.˚50E±0.˚03,h19km±4km, mb4.6/81,MS4.1/21,Error ellipse: s-maj=5.1km s-min=3.3km az=41.6*
*JMA **21** 20:18:37.2±0.3,26.˚04N×128.˚66E,h32km,M4.6*
*NEIC **21** 20:18:37.6±1.3,26.˚05N×128.˚35E,h13km±7km,mb4.8/51, Error ellipse: s-maj=5.8km s-min=4.0km az=122.0*
NEIC Felt at Ginowan, Okinawa.
*MOS **21** 20:18:39.1±1.2,26.˚08N×128.˚45E,h36km,mb4.9/34, MS4.4/4,Error ellipse: s-maj=9.2km s-min=5.7km az=112.0*

ISC 21 20:18:38.9±0.5,**26.˚02N**±0.˚04×**128.˚52E**±0.˚04,**h21**km±3km, **n269,σ1°78/282,mb4.6/85,MS4.0/21,27C-9D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.67**	**318**	P	**Pb**	**20 18 50.9**	**-1.1**
JJT2	**Tamagusuku 2**	**0.71**	**280**	P	**Pb**	**20 18 52.9**	**+0.3**
JJT2				S	**Sn**	**20 19 04.4**	**+0.5**
JOW	**Kunigami**	**0.84**	**345**	P	**Pb**	**20 18 53.3**	**-1.6**
JOW	**Kunigami**	**0.84**	**345**	*e*Pg	**Pb**	**20 18 53.5**	**-1.4**
JOW				*e*Sg	**Sb**	**20 19 03.5**	**-2.2**
JIH	**Iheya**	**1.13**	**334**	P	**Pn**	**20 18 58.0**	**-1.5**
JIH				S	**Sb**	**20 19 12.9**	**-1.0**
JAGN	**Aguni-jima**	**1.28**	**297**	P	**Pn**	**20 19 01.0**	**-0.5**
JOKE	**Okinoerabujima**	**1.34**	**2**	P	**Pn**	**20 19 00.4**	**-2.0**
JOKE				S	**Sn**	**20 19 16.4**	**-3.2**
JKE	**Kume jima 2**	**1.59**	**282**	P	**Pn**	**20 19 04.8**	**-1.0**
JTK	**Tokunoshima**	**1.80**	**12**	P	**Pn**	**20 19 06.6**	**-2.2**
JTK				*e*S	**Sn**	**20 19 28.1**	**-2.9**
JAMN	**Amaminishikomi**	**2.29**	**15**	P	**Pn**	**20 19 13.3**	**-2.2**
JMZ	**Minamidaito 2**	**2.44**	**94**	P	**Pn**	**20 19 14.3**	**-3.2**
JMZ				*e*S	**Sn**	**20 19 41.4**	**-5.3**
JAM	**Amami Oshima**	**2.57**	**22**	P	**Pn**	**20 19 16.7**	**-2.6**
JZK	**Kikaishima**	**2.63**	**29**	P	**Pn**	**20 19 19.1**	**-1.0**
JOGS	**Gusukube**	**3.08**	**247**	P	**Pn**	**20 19 26.5**	**+0.1**
JIKM	**Ikemajima**	**3.15**	**250**	P	**Pn**	**20 19 27.0**	**-0.3**
JMJ	**Miyako jima 2**	**3.15**	**248**	P	**Pn**	**20 19 27.0**	**-0.3**
JMJ				S	**Sn**	**20 20 02.9**	**-1.4**
JTAJ	**Takarajima**	**3.18**	**11**	P	**Pn**	**20 19 27.1**	**-0.6**
JIRB	**Irabujima**	**3.25**	**249**	P	**Pn**	**20 19 28.8**	**+0.1**
JIRB				S	**Sn**	**20 20 05.4**	**-1.3**
JTJ	**Tarama**	**3.72**	**249**	P	**Pn**	**20 19 34.4**	**-0.7**
JTJ				*e*S	**Sn**	**20 20 16.5**	**-1.7**
JNN	**Nakanoshima**	**3.99**	**17**	P	**Pn**	**20 19 37.7**	**-1.2**
JISG	**Ishigakijimahi**	**4.07**	**250**	P	**Pn**	**20 19 38.6**	**-1.3**
JIJ	**Ishigaki jima**	**4.29**	**248**	P	**Pn**	**20 19 42.9**	**-0.1**
JKRS	**Kuro-shima**	**4.46**	**248**	P	**Pn**	**20 19 44.5**	**-0.7**
IRIF	**Iriomote-Funau**	**4.65**	**250**	P	**Pn**	**20 19 47.7**	**-0.2**
YOJ	**Yonaguni jima**	**5.22**	**254**	*e*P	**Pn**	**20 19 54.4**	**-1.4**
YOJ	**Yonaguni jima**	**5.22**	**254**	*e*Pn	**Pn**	**20 19 54.4**	**-1.4**
TATO	**Taipei**	**6.44**	**262**	*e*Pn	**Pn**	**20 20 09.5**	**-3.0**
NACB	**Ninganchiao**	**6.54**	**255**	*e*Pn	Pn	20 20 07.0	-6.9
YHNB	**Yeheng**	**6.60**	**260**	*e*Pn	**Pn**	**20 20 14.7**	**-0.1**
YULB	**Yu-li**	**7.07**	**250**	*e*Pn	**Pn**	**20 20 17.4**	**-3.8**
SSLB	**Suanglung**	**7.22**	**254**	*e*Pn	**Pn**	**20 20 20.4**	**-2.9**
SSLB				*e*Sn	**Sn**	**20 21 39.5**	**-5.1**
JNU	**Nakatsue**	**7.37**	**16**	Pn	**Pn**	**20 20 24.6**	**-0.7**
	2.0nm,0.3s,baz=182,slow=5.7,SNR=16						
JNU				LR	LR	20 23 41.3	
	comp=Z,525nm,19.1s,baz=203,slow=42						
JNU	**Nakatsue**	**7.37**	**16**	*e*Pn	**Pn**	**20 20 24.4**	**-0.9**
TWG	**Pinlang**	**7.50**	**246**	*e*Pn	**Pn**	**20 20 22.7**	**-4.4**
TWG				*e*Sn	**Sn**	**20 21 44.8**	**-6.7**
TPUB	**Ta-pu**	**7.67**	**251**	*e*Pn	**Pn**	**20 20 27.6**	**-1.8**
TPUB				*e*Sn	**Sn**	**20 21 49.8**	**-6.0**
NJ2	**Nanjing**	**10.37**	**308**	*e*P	**Pn**	**20 21 07.8**	**+1.3**
NJ2				PMZ			
	11nm,0.6s						
NJ2				LN			
	1μm,11.9s						
NJ2				LE			
	3μm,11.9s						
NJ2				LZ			
	3μm,10.3s						
KSAR	**Wonju Array Be**	**11.40**	**357**	P	**Pn**	**20 21 19.2**	**-1.3**
KSAR	**Wonju Array Be**	**11.40**	**357**	Pn	**Pn**	**20 21 19.2**	**-1.3**
KSRS	**Korea Array**	**11.41**	**358**	Pn	**Pn**	**20 21 19.2**	**-1.4**
	0.2nm,0.3s,baz=179,slow=12,SNR=5.6						
KSRS				LR	LR	20 25 53.8	
	comp=Z,401nm,19.7s,baz=176,slow=39						
KS01	**Wonju Array Si**	**11.44**	**357**	*e*Pn	**Pn**	**20 21 20.2**	**-0.8**
WHN	**Wuhan**	**13.27**	**293**	P	**P**	**20 21 51.5**	**-4.3**
WHN				S	S	20 24 26.3	-11
WHN				LN			
	950nm,11.5s						
WHN				LE			
	3μm,12.2s						
WHN				LZ			
	3μm,12.0s						
MJAR	**Matsushiro Arr**	**13.36**	**36**	Pn	**Pn**	**20 21 46.7**	**-0.6**
	0.1nm,0.3s,baz=205,slow=11,SNR=3.4						
MJAR				LR	LR	20 25 52.6	
	comp=Z,37nm,19.1s,baz=225,slow=33						
DL2	**Dalian**	**14.10**	**337**	P	**P**	**20 22 05.9**	**+1.0**
DL2				S	**S**	**20 25 00.3**	**+6.3**
DL2				pmax	pmax		
	comp=Z,35nm,1.5s						
DL2				pmax	pmax		
	comp=Z,280nm,10.5s						
DL2				LR	LR		
	comp=N,840nm,13.6s						
DL2				LR	LR		
	comp=Z,940nm,13.8s						
ENH	**Enshi**	**17.31**	**289**	*e*Pn	**P**	**20 22 41.5**	**+0.8**
	comp=Z,33nm,1.4s						
BJT	**Baijiatuau**	**17.36**	**327**	*e*P	**Pn**	**20 22 39.8**	**0.0**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJT	**Baijiatuau**	**17.36**	**327**	*e*Pn	**Pn**	**20 22 39.8**	**0.0**
	comp=Z,10nm,0.7s						
BJI	**Beijing**	**17.37**	**327**	P	**Pn**	**20 22 39.8**	**-0.2**
BJI				S	**Sn**	**20 25 52.1**	**-0.6**
BJI				PMZ			
	comp=Z,10.0nm,1.3s						
BJI				PMZ			
	comp=Z,230nm,6.3s						
BJI				LN			
	comp=Z,2μm,13.3s						
BJI				LE			
	comp=Z,670nm,12.8s						
BJI				LZ			
	comp=Z,580nm,14.7s						
USRK	**Ussuriysk Ar.**	**18.36**	**8**	P	**P**	**20 22 50.5**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=167,slow=11,SNR=5.1						
MDJ	**Mudanjiang**	**18.58**	**2**	P	**Pn**	**20 23 00.9**	**+6.1**
MDJ				S	S	20 26 41.8	+17
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,89nm,7.2s						
MDJ				LR	LR		
	comp=N,65nm,31.2s						
MDJ				LR	LR		
	comp=E,220nm,30.1s						
MDJ				LR	LR		
	comp=Z,110nm,12.9s						
QIZ	**Qiongzhong**	**18.59**	**252**	P	**P**	**20 22 54.4**	**-0.4**
QIZ				S	**Sn**	**20 26 23.3**	**+0.8**
QIZ				PMZ			
	comp=Z,190nm,4.3s						
QIZ				LN			
	comp=Z,720nm,20.8s						
QIZ				LZ			
	comp=Z,470nm,19.9s						
XAN	**Xi'an**	**18.74**	**300**	P	**P**	**20 22 56.6**	**+0.2**
XAN				pP	sP	20 23 04.9	-0.3
XAN				S	**S**	**20 26 29.8**	**+1.1**
XAN				PMZ			
	comp=Z,16nm,0.9s						
XAN				LE			
	comp=Z,730nm,15.1s						
XAN				LZ			
	comp=Z,810nm,14.3s						
GYA	**Guiyang**	**19.61**	**276**	P	**P**	**20 23 06.3**	**+0.2**
GYA				PP	**PnPn**	**20 23 24.0**	**+2.9**
GYA				S	**S**	**20 26 39.8**	**-6.8**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.8s						
GYA				LN			
	comp=Z,580nm,15.4s						
GYA				LE			
	comp=Z,540nm,16.8s						
GYA				LZ			
	comp=Z,560nm,16.0s						
HHC	**

comp=Z,30nm,0.7s
CD2 PMZ
comp=Z,220nm,5.0s
CD2 LN
comp=Z,810nm,14.5s
CD2 LE
comp=Z,1μm,14.0s
CD2 LZ
comp=Z,2μm,13.0s
KMI Kunming 23.26 273 P **P** **20 23 44.6 -0.8**
KMI pP pP 20 23 46.4 -5.1
KMI sP sP 20 23 47.4 -6.9
KMI PP **PnPn** **20 24 14.5 +3.2**
KMI S **S** **20 27 50.8 -6.0**
KMI PMZ
comp=Z,19nm,1.1s
KMI PMZ
comp=Z,200nm,6.2s
KMI LN
comp=Z,630nm,13.6s
KMI LE
comp=Z,610nm,12.1s
KMI LZ
comp=Z,590nm,13.0s
KLR Kul'dur 23.31 5 LR LR 20 32 54.9
comp=Z,135nm,18.1s,baz=178,slow=37
LZH Lanzhou 23.34 301 *eP* **P** **20 23 45.1 -0.9**
LZH pP pP 20 23 50.5 -1.7
LZH sP sP 20 23 53.8 -1.1
LZH PP **PnPn** **20 24 18.3 +6.1**
LZH S **S** **20 28 01.4 +3.6**
LZH sS sS 20 28 10.4 +1.9
LZH PMZ
comp=Z,54nm,1.1s
LZH PMZ
comp=Z,150nm,4.2s
LZH LN
comp=Z,770nm,12.9s
LZH LE
comp=Z,560nm,11.0s
LZH LZ
comp=Z,970nm,15.0s
YSS Yuzh-Sakhalins 23.75 25 *eP* **P** **20 23 50.0 +0.4**
YSS *e* 20 23 59.7
YSS *eS* **S** **20 28 00.0 -3.8**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS smax smax
comp=E,190nm,1.4s
YSS Yuzh-Sakhalins 23.75 25 *eP* **P** **20 23 50.2 +0.6**
comp=E,71nm,1.1s
GTA Gaotai 27.47 306 P **P** **20 24 21.3 -2.4**
GTA pP pP 20 24 26.3 -3.8
GTA sP sP 20 24 29.8 -3.0
GTA S **S** **20 29 00.6 -2.7**
GTA PMZ
comp=E,25nm,1.3s
GTA PMZ
comp=E,120nm,4.6s
GTA LN
comp=E,420nm,13.3s
GTA LE
comp=E,520nm,14.3s
GTA LZ
comp=E,740nm,14.7s
ULN Ulaanbaatar 27.57 328*c i*P **P** **20 24 25.5 +0.9**
ULN pmax pmax
comp=Z,23nm,1.7s
ULN Ulaanbaatar 27.57 328 *eP* **P** **20 24 22.8 -1.8**
comp=Z,15nm,1.1s
SONA0 Songino Array 27.87 327 *eP* **P** **20 24 25.3 -2.0**
comp=Z,12nm,1.1s
SONM Songino Array 27.87 327 P **P** **20 24 25.3 -2.0**
comp=Z,6.2nm,0.9s,baz=135,slow=5.4,SNR=28
SONM LR LR 20 37 28.5
comp=Z,348nm,18.2s,baz=138,slow=41
SONA1 Songino Array 27.88 327 *eP* **P** **20 24 24.5 -2.8**
SBUM Sibu 28.19 216 *eP* **P** **20 24 28.6 -1.5**
comp=Z,12nm,1.4s
CHTO Chiang Mai 28.22 261 *eP* **P** **20 24 29.8 -0.7**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 28.22 261 *eP* **P** **20 24 29.8 -0.7**
comp=Z,9.2nm,0.8s
CM01 Chiang Mai Arr 28.34 261 *eP* **P** **20 24 32.0 +0.4**
CM31 Chiang Mai Arr 28.35 261 *eP* **P** **20 24 31.7 +0.1**
CMAR Chiang Mai Arr 28.35 261 P **P** **20 24 31.6 0.0**
comp=Z,3.2nm,0.9s,baz=63,slow=6.6,SNR=20
TLY Talaya 31.83 330 LR LR 20 39 46.0
comp=Z,178nm,18.5s,baz=131,slow=40
TLY Talaya 31.83 330 *eP* **P** **20 24 57.5 -4.6**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,233nm,10.0s
SHL Shillong 32.92 277 *ex* **P** **20 25 13.0 +0.8**
LSA Lhasa 33.15 285 *eP* **P** **20 25 14.0 -0.4**
LSA pmax pmax
comp=Z,5.0nm,1.1s
LSA Lhasa 33.15 285 *eP* **P** **20 25 14.0 -0.4**
comp=Z,4.8nm,1.1s
PET Petropavlovsk 35.14 32 *eP* **P** **20 25 31.6 +0.8**
PET pmax pmax
comp=Z,37nm,1.2s
PET Petropavlovsk 35.14 32 *eP* **P** **20 25 31.6 +0.8**
comp=Z,37nm,1.2s
YAK Yakutsk 36.01 1 LR LR 20 41 53.5
comp=Z,117nm,18.6s,baz=353,slow=39
YAK Yakutsk 36.01 1⇓*i*P **P** **20 25 37.3 -0.9**
YAK pmax pmax
comp=Z,12nm,1.0s
PSI Prapat 36.61 236 *eP* **P** **20 25 43.5 -0.6**
PSI pmax pmax
comp=Z,30nm,1.7s
PSI Prapat 36.61 236 *eP* **P** **20 25 43.5 -0.6**
comp=Z,30nm,1.7s
JAGI Jajag, Banyuwa 37.02 204 *eP* **P** **20 25 47.1 -0.2**
comp=Z,111nm,1.3s
RAMN Ramite 37.41 281 *eP* **P** **20 25 50.5 -0.4**
comp=Z,13nm,0.6s
WMQ Urumqi 37.45 309 P **P** **20 25 50.5 -0.3**
WMQ pP pP 20 25 56.3 -1.1
WMQ sP sP 20 25 58.3 -1.7
WMQ PMZ
comp=Z,7.0nm,1.0s
WMQ PMZ
comp=Z,120nm,5.8s
WMQ LN
comp=Z,180nm,10.6s
WMQ LE
comp=Z,200nm,15.4s
WMQ LZ
comp=Z,100nm,14.6s
GUN Gumba 37.91 283 *eP* **P** **20 25 55.5 +0.2**
comp=Z,46nm,0.9s
PKIN Phulchoki 38.38 282 *eP* **P** **20 25 58.4 -0.7**
comp=Z,28nm,0.7s
KKN Kakani 38.46 283 *eP* **P** **20 25 59.5 -0.2**
comp=Z,59nm,0.9s
DMN Daman 38.63 282 *eP* **P** **20 26 01.3 +0.1**
comp=Z,95nm,1.2s
MTN Manton Dam 38.71 176 *eP* **P** **20 26 00.7 -0.8**
comp=Z,13nm,0.8s
CISI Cisompet, Garu 38.97 214 *eP* **P** **20 26 04.1 +0.3**
comp=Z,251nm,1.9s
GKN Gorkha 38.99 283 *eP* **P** **20 26 03.7 -0.4**
comp=Z,68nm,0.9s
KOLN Koldanda 39.93 283 *eP* **P** **20 26 11.9 -0.1**
comp=Z,60nm,0.8s
SEY Seymchan 40.15 17⇑*eP* **P** **20 26 13.3 +0.2**
PYUN Piuthan 40.42 284 *eP* **P** **20 26 16.3 +0.2**
comp=Z,119nm,1.0s
MK01 Makanchi Array 41.86 312 *eP* **P** **20 26 25.9 -1.6**
MK31 Makanchi Array 41.87 312 *eP* **P** **20 26 26.6 -0.9**
MK31 Makanchi Array 41.87 312 *eP* **P** **20 26 26.6 -0.9**
MK32 Makanchi Array 41.87 312 *eP* **P** **20 26 26.3 -1.2**
MKAR Makanchi Array 41.87 312 P **P** **20 26 26.3 -1.2**
comp=Z,2.1nm,0.6s,baz=99,slow=11,SNR=18
MKAR Makanchi Array 41.87 312 *eP* **P** **20 26 26.2 -1.4**
MKAR Makanchi Array 41.87 312 *eP* **P** **20 26 26.2 -1.4**
MAKZ Makanchi 42.08 312 *eP* **P** **20 26 27.3 -2.0**
MAKZ pmax pmax
comp=Z,9.0nm,1.0s
MAKZ Makanchi 42.08 312 *eP* **P** **20 26 27.3 -2.0**
comp=Z,9.3nm,1.0s
ZAA0 Zalesovo Array 42.57 323 *eP* **P** **20 26 30.4 -2.7**
ZALV Zalesovo Beam 42.57 323 P **P** **20 26 31.2 -1.9**
comp=Z,0.8nm,0.5s,baz=111,slow=8.4,SNR=4.7
ZALV LR LR 20 45 26.0
comp=Z,119nm,19.9s,baz=68,slow=38
ZAA1 Zalesovo Array 42.57 323 *eP* **P** **20 26 31.2 -1.9**
FITZ Fitzroy Crossi 43.95 184 P **P** **20 26 44.8 +0.3**
comp=Z,4.0nm,0.9s,baz=0.1,slow=14,SNR=3.3
FITZ Fitzroy Crossi 43.95 184 *eP* **P** **20 26 44.6 +0.1**
comp=Z,44nm,1.9s
KURK Kurchatov 45.15 317 *eP* **P** **20 26 52.4 -1.5**
KURK Kurchatov 45.15 317 *eP* **P** **20 26 52.4 -1.5**
KURBB Kurchatov Arra 45.19 317 P **P** **20 26 52.4 -1.7**
comp=Z,5.0nm,0.9s,baz=104,slow=8.1,SNR=28
KSH Kashi 45.59 301 *eP* **P** **20 26 59.8 +2.1**
KSH pP pP 20 27 02.8 -1.6
KSH PcP **PcP** **20 28 37.4 +1.4**
KSH PP **PP** **20 28 47.9 +3.4**
KSH S **S** **20 33 42.5 +3.3**
KSH ScS **ScS** **20 36 52.6 -0.5**
KSH PMZ
comp=Z,5.0nm,0.7s
KSH PMZ
comp=Z,170nm,5.2s
KSH LN
comp=Z,220nm,11.3s
KSH LE
comp=Z,250nm,13.1s
KSH LZ
comp=Z,290nm,13.7s
TIXI Tiksi 45.67 0⇓*i*P **P** **20 26 56.4 -1.2**
TIXI pmax pmax
comp=Z,15nm,2.5s
TIXI Tiksi 45.67 0 *eP* **P** **20 26 55.6 -2.0**
comp=Z,30nm,2.0s
TKM2 Tokmak 2 46.01 305 *eP* **P** **20 26 59.8 -1.3**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 46.01 305 *eP* **P** **20 26 59.8 -1.3**
comp=Z,6.1nm,0.6s
WRAB Tennant Creek 46.03 172⇑*eP* **P** **20 27 00.3 -0.8**
WRAB pmax pmax
comp=Z,37nm,1.5s
WRAB Tennant Creek 46.03 172 *eP* **P** **20 27 01.4 +0.3**
comp=Z,8.6nm,0.7s
WR1 Warramunga Arr 46.03 172 *eP* **P** **20 27 01.3 +0.2**
comp=Z,10nm,0.6s
WRA Warramunga Arr 46.03 172 P **P** **20 27 01.3 +0.2**
comp=Z,4.2nm,0.5s,baz=352,slow=8.3,SNR=42
WB2 Warramunga Arr 46.04 172 *eP* **P** **20 27 00.9 -0.2**
comp=Z,9.7nm,0.6s
FRU Bishkek 46.73 305 *eP* P 20 27 16.0 +10
AAK Ala-Archa 46.80 305 *eP* **P** **20 27 06.9 -0.4**
AAK pmax pmax
comp=Z,9.0nm,1.5s
AAK Ala-Archa 46.80 305 *eP* **P** **20 27 06.9 -0.4**
comp=Z,9.3nm,1.5s
EKS2 Erkin-Say 47.33 305 *eP* **P** **20 27 11.6 +0.2**
EKS2 pmax pmax
comp=Z,3.0nm,1.0s
EKS2 Erkin-Say 47.33 305 *eP* **P** **20 27 11.6 +0.2**
comp=Z,3.0nm,1.0s
BILL Bilibino 47.79 18⇑*eP* **P** **20 27 15.3 +1.0**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 47.79 18 *eP* **P** **20 27 16.1 +1.7**
comp=Z,6.0nm,0.9s
GSTR Great Sitkin T 48.82 42 *eP* **P** **20 27 21.4 -1.1**
COCO West Island 48.92 223 *eP* **P** **20 27 25.2 +1.6**
COCO pmax pmax
comp=Z,937nm,1.9s
COCO West Island 48.92 223 *eP* **P** **20 27 25.2 +1.6**
comp=Z,937nm,1.9s
NRIK Noril'sk 49.53 342 LR LR 20 49 34.0
comp=Z,116nm,18.5s,baz=120,slow=38
AS31 Alice Springs 49.66 174 *eP* **P** **20 27 29.8 +0.6**
comp=Z,1.6nm,0.8s
ASAR Alice Springs 49.67 174 P **P** **20 27 29.7 +0.4**
comp=Z,2.2nm,0.7s,baz=7.1,slow=13,SNR=31
AS01 Alice Springs 49.67 173 *eP* **P** **20 27 29.5 +0.2**
KKAR Karatay Array 49.74 306 *eP* **P** **20 27 29.5 -0.3**
KKAR Karatay Array 49.74 306 *eP* **P** **20 27 29.5 -0.3**
VOSK Vostochnaya 50.20 318 *eP* **P** **20 27 31.8 -1.3**
VOSK pmax pmax
comp=Z,17nm,1.8s
VOSK Vostochnaya 50.20 318 *eP* **P** **20 27 31.8 -1.3**
comp=Z,17nm,1.8s
BVAR Borovoye Array 50.60 318 P **P** **20 27 35.6 -0.5**
comp=Z,3.0nm,0.7s,baz=90,slow=8.9,SNR=23
BRVK Borovoye 50.67 318*d i*P **P** **20 27 36.0 -0.6**
BRVK pmax pmax
comp=Z,34nm,1.2s
BRVK Borovoye 50.67 318 *eP* **P** **20 27 35.6 -1.0**
comp=Z,22nm,0.9s
ZRNK Zerenda 51.42 318 *eP* **P** **20 27 41.8 -0.5**
ZRNK pmax pmax
comp=Z,12nm,1.1s
ZRNK Zerenda 51.42 318 *eP* **P** **20 27 41.8 -0.5**
comp=Z,12nm,1.1s
KBL Kabul 51.43 295 *eP* **P** **20 27 42.5 -0.3**
KBL pmax pmax
comp=Z,17nm,0.8s
KBL Kabul 51.43 295 *eP* **P** **20 27 42.5 -0.3**
comp=Z,17nm,0.8s
ABKAR Akbulak array 56.98 313 *eP* **P** **20 28 22.0 -0.8**
ARU Arti 57.72 322*c i*P **P** **20 28 27.1 -0.8**
ARU 20 29 21.1
ARU 20 30 32.3
ARU S **S** **20 36 25.2 -0.2**
ARU SS **SS** **20 40 14.1 -1.4**
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU MLR MLR
comp=Z,373nm,17.0s
ARU Arti 57.72 322 *eP* **P** **20 28 26.1 -1.8**
comp=Z,6.2nm,1.1s
SDPT Sand Point 58.30 39 *eP* **P** **20 28 33.2 +1.2**
comp=Z,23nm,1.0s
STKA Stephens Creek 58.91 167 P **P** **20 28 36.9 +0.5**
comp=Z,3.4nm,1.0s,baz=349,slow=15,SNR=2.9
STKA Stephens Creek 58.91 167 *eP* **P** **20 28 36.1 -0.3**
STKA pmax pmax
comp=Z,13nm,1.9s
STKA Stephens Creek 58.91 167 *eP* **P** **20 28 36.1 -0.3**
comp=Z,13nm,1.9s
GEYT Ailbeck 59.62 300 P **P** **20 28 41.0 -0.5**
comp=Z,4.5nm,0.8s,baz=72,slow=2.3,SNR=9.7
GEYT LR LR 20 56 58.9
comp=Z,101nm,19.5s,baz=115,slow=39
TT01 Tatalina 60.57 31 *eP* **P** **20 28 48.7 +1.1**
SVW2 Sparrevohn 60.80 33 *eP* **P** **20 28 50.6 +1.4**
comp=Z,8.8nm,1.4s
PPLA Purkeypile 62.33 31 *eP* **P** **20 29 01.3 +1.7**
comp=Z,18nm,1.7s
CAST Castle Rocks 62.35 30 *eP* **P** **20 29 01.6 +2.0**
comp=Z,4.1nm,0.9s
MLY Manley 62.84 28 *eP* **P** **20 29 04.5 +1.6**
comp=Z,4.6nm,1.0s
BRLK Bradley Lake 63.21 34 *eP* **P** **20 29 07.2 +1.7**
comp=Z,7.8nm,0.9s
RND Reindeer 63.80 30 *eP* **P** **20 29 09.6 +0.3**
RND pmax pmax
comp=Z,8.0nm,0.9s
RND Reindeer 63.80 30 *eP* **P** **20 29 09.6 +0.3**
comp=Z,8.3nm,0.9s
MDM Murphy Dome 63.91 28 *eP* **P** **20 29 11.3 +1.3**
comp=Z,6.5nm,0.8s
MDM *eS* **S** **20 37 46.2 +1.9**
WRH Wood River Hil 64.02 29 *eP* **P** **20 29 13.2 +2.6**
comp=Z,3.8nm,1.0s
SML Sawmill 64.22 32 *eP* **P** **20 29 12.9 +0.9**
SML pmax pmax
comp=Z,19nm,1.4s
SML Sawmill 64.22 32 *eP* **P** **20 29 12.9 +0.9**
comp=Z,19nm,1.4s
IL1 Eielson Array 64.50 28 *eP* **P** **20 29 13.3 -0.5**
ILAR Eielson Array 64.50 28 P **P** **20 29 13.8 0.0**
comp=Z,0.5nm,0.8s,baz=264,slow=5.5,SNR=5.3
ILB Eielson Array 64.50 28 *eP* **P** **20 29 12.4 -1.4**
PAX Paxson 65.38 30 *eP* **P** **20 29 19.4 -0.2**
PAX pmax pmax
comp=Z,7.0nm,1.3s
PAX Paxson 65.38 30 *eP* **P** **20 29 19.4 -0.2**
comp=Z,6.7nm,1.3s
DOT Dot Lake 65.89 29 *eP* **P** **20 29 24.3 +1.4**
comp=Z,15nm,1.0s
KLMR Klimovskoe 67.16 328 P **P** **20 29 27.1 -3.9**
KLMR *e* 20 29 54.8
KLMR pmax pmax
comp=Z,7.0nm,1.5s
NCK Nalchik 69.07 309⇓*eP* **P** **20 29 42.1 -1.2**
NCK pmax pmax
comp=Z,3.0nm,0.9s
GNI Garni 69.21 305 LR LR 21 03 27.8
comp=Z,69nm,18.4s,baz=62,slow=39
KBZ Khabaz 69.49 309 P **P** **20 29 46.1 +0.2**
comp=Z,4.8nm,1.0s,baz=133,slow=3.2,SNR=4.9
KBZ LR LR 21 05 53.1
comp=Z,82nm,18.4s,baz=87,slow=41
KVAR Kislovodsk Arr 69.57 310 LR LR 21 04 02.3
comp=Z,114nm,18.8s,slow=39
KIV Kislovodsk 69.58 310 *eP* **P** **20 29 48.1 +1.6**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,87nm,17.0s
KIV Kislovodsk 69.58 310 *eP* **P** **20 29 46.9 +0.4**
comp=Z,12nm,1.0s
OBN Obninsk 70.15 322 *eP* **P** **20 29 49.3 -0.4**
OBN *e* 20 30 12.8
OBN *e* 20 32 24.7
OBN pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 70.30 339 LR LR 21 06 01.4
comp=Z,41nm,18.1s,baz=50,slow=40
ANN Anapa 72.89 312 *eP* P 20 29 59.7 -6.7
ANN *e**PP pP 20 30 13.6 +0.3
ANN *eS* S 20 39 20.8 -11
ANN *eSS* **SS** **20 44 10.5 -1.0**
ANN pmax pmax
comp=Z,47nm,1.3s
FIA0 FINESS Array S 73.17 331 *eP* **P** **20 30 06.9 -0.9**
FIA0 FINESS Array S 73.17 331 *eP* **P** **20 30 06.9 -0.9**
FINES FINESS Array B 73.17 331 P **P** **20 30 06.9 -0.9**
comp=Z,1.6nm,0.6s,baz=73,slow=6.7,SNR=9.6
FINES LR LR 21 05 36.1
comp=Z,97nm,19.2s,baz=64,slow=39
DAG Danmarks Havn 75.50 353 *eP* P 20 30 31.2 +10
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 75.50 353 *i* P P 20 30 31.2 +10
comp=Z,3.3nm,0.7s
AKASG Malin Array Be 75.86 320 P **P** **20 30 22.6 -1.0**
comp=Z,2.5nm,0.6s,baz=54,slow=6.6,SNR=10
AKBB Malin Array Si 75.86 320 *eP* **P** **20 30 22.1 -1.5**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 75.86 320 *eP* **P** **20 30 22.1 -1.5**
comp=Z,9.9nm,0.9s
KIEV Kiev 75.87 320⇑*eP* **P** **20 30 22.6 -1.1**
KIEV pmax pmax
comp=Z,8.0nm,1.4s
KIEV Kiev 75.87 320 *eP* **P** **20 30 22.2 -1.4**
comp=Z,4.3nm,0.8s
BR101 Keskin Array S 77.37 308 *eP* **P** **20 30 32.4 -0.2**
BR131 Keskin Array S 77.37 308 *eP* **P** **20 30 32.0 -0.6**
BRTR Keskin Array B 77.37 308 P **P** **20 30 32.4 -0.2**
comp=Z,4.4nm,0.9s,baz=100,slow=5.1,SNR=21
SORM Soroca 77.44 318⇓*iP* **P** **20 30 32.0 -0.5**
SORM Soroca 77.44 318 ⇓P **P** **20 30 32.0 -0.5**
BR231 Keskin MP Arra 77.93 308 *eP* **P** **20 30 32.8 -2.9**
YKA Yellowknife Ar 78.61 25 P **P** **20 30 38.9 +0.1**
comp=Z,0.6nm,0.8s,baz=306,slow=5.4,SNR=3.4
YKB5 Yellowknife Ar 78.61 25 *eP* **P** **20 30 38.9 +0.1**
CFR Carcaliu 78.83 315⇓*iP* **P** **20 30 39.4 -0.9**
CFR Carcaliu 78.83 315 ⇓P **P** **20 30 39.4 -0.9**
TESR Tescani 79.18 317⇓*iP* **P** **20 30 42.3 0.0**
VRI Vrincioaia 79.42 316⇑*iP* **P** **20 30 44.9 +1.3**
VRI Vrincioaia 79.42 316 ⇑P **P** **20 30 44.9 +1.3**
PLOR Plostina 79.47 316⇑*iP* **P** **20 30 44.9 +1.0**
PLOR Plostina 79.47 316 ⇑P **P** **20 30 44.9 +1.0**
CSS Mathiatis 79.51 304 *eP* **P** **20 30 43.4 -0.9**
comp=Z,1.9nm,0.8s
BUR08 Bucovina Ar. S 79.56 318 *eP* **P** **20 30 44.3 -0.2**
BURAR Bucovina Array 79.56 318⇑*iP* **P** **20 30 45.1 +0.6**
BURAR Bucovina Array 79.56 318 ⇑P **P** **20 30 45.1 +0.6**
NB2 NORSAR Subarra 79.62 334 P **P** **20 30 43.1 -1.3**
comp=Z,1.1nm,0.7s,baz=52,slow=5.3
NB200 NORSAR Array S 79.62 334 *eP* **P** **20 30 43.1 -1.3**
NOA NORSAR Array B 79.62 334 P **P** **20 30 43.1 -1.3**
comp=Z,1.7nm,0.7s,baz=50,slow=5.3,SNR=5.2
NOA LR LR 21 11 08.6
comp=Z,96nm,18.6s,baz=40,slow=40
MLR Muntele Rosu 80.08 316⇑*iP* **P** **20 30 47.3 0.0**
MLR Muntele Rosu 80.08 316 ⇑P **P** **20 30 47.3 0.0**
MLR Muntele Rosu 80.08 316 *eP* **P** **20 30 47.4 0.0**
comp=Z,8.7nm,1.2s
KWP Kalwaria Pacla 80.09 321⇑*iP* **P** **20 30 48.3 +1.1**
KWP Kalwaria Pacla 80.09 321 ⇑P **P** **20 30 48.3 +1.1**
DOPR Dopca 80.21 316⇑*iP* **P** **20 30 48.4 +0.5**
VOIR 80.66 316⇑*iP* P 20 30 40.8 -10
VOIR 80.66 316 ⇑P P 20 30 40.8 -10
KOLS Kolonicke sedl 80.68 320 *eP* **P** **20 30 50.4 0.0**
KOLS *e* 20 31 01.1
KOLS pmax pmax
comp=Z,5.0nm,1.5s
KOLS Kolonicke sedl 80.68 320 *eP* **P** **20 30 50.4 0.0**
KOLS *e* 20 31 01.1
ARR Arges 80.95 316⇑*iP* **P** **20 30 53.1 +1.1**
SUMG Summit 81.26 356 *eP* **P** **20 30 52.9 -0.6**
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 81.26 356 *i* P **P** **20 30 57.4 +3.9**
comp=Z,15nm,1.0s
SUMG *i* 20 31 05.3
SUMG Summit 81.26 356 *eP* **P** **20 30 52.9 -0.6**
comp=Z,16nm,0.9s
OJC Ojcow 81.44 322 *eP* **P** **20 30 53.0 -1.4**
OJC pmax pmax
comp=Z,11nm,1.1s
OJC Ojcow 81.44 322 *eP* **P** **20 30 53.0 -1.4**
comp=Z,11nm,1.1s
DRGR 81.46 318⇑*iP* **P** **20 30 54.9 +0.3**
DRGR 81.46 318 ⇑P **P** **20 30 54.9 +0.3**
OKC Ostrava-Krasne 82.55 322 AMS AMS 21 10 50.0
comp=Z,200nm,15.6s
VYHS Vyhne 82.87 321 *eP* **P** **20 31 02.7 +0.8**
VYHS *e* 20 31 11.1
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 82.87 321 *eP* **P** **20 31 02.7 +0.8**
VYHS *e* 20 31 11.1
MORC Moravsky Berou 82.92 322⇑*iP* **P** **20 31 02.0 -0.2**
MORC Moravsky Berou 82.92 322 ⇑P **P** **20 31 02.0 -0.2**
MDVR Moldovita 83.05 317⇑*iP* **P** **20 31 01.8 -1.2**
DPC Dobruska-Polom 83.27 323 *eP* **P** **20 31 05.6 +1.6**
DPC *ex* x 20 31 12.7
DPC AMS AMS 21 12 10.0
comp=Z,200nm,14.2s
DPC Dobruska-Polom 83.27 323 *eP* **P** **20 31 05.6 +1.6**
DPC *e* 20 31 12.7
DPC MLR MLR
comp=Z,200nm,14.2s
UPC Upice 83.35 324 AMS AMS 21 12 20.0
comp=Z,300nm,13.7s
VRAC Vranov 83.69 322⇑*iP* **P** **20 31 06.7 +0.6**
VRAC Vranov 83.69 322 ⇑P **P** **20 31 06.7 +0.6**
PVCC Panska Ves 84.10 324 AMS AMS 21 12 50.0
comp=Z,200nm,14.5s
BRG Berggiesshubel 84.24 325 *eP* **P** **20 31 11.0 +2.1**
comp=Z,7.1nm,1.5s
BRG *e* 20 31 19.9
comp=Z,9.7nm,1.4s
comp=N,126nm,17.8s
comp=E,138nm,18.4s
comp=Z,168nm,13.0s
BRG Berggiesshubel 84.24 325 *eP* **P** **20 31 11.0 +2.1**
BRG *e* 20 31 19.9
BRG pmax pmax
comp=Z,7.0nm,1.5s
BRG pmax pmax
comp=Z,10.0nm,1.4s
BRG MLR MLR
comp=N,126nm,17.8s
BRG MLR MLR
comp=E,138nm,18.4s
BRG MLR MLR
comp=Z,168nm,13.0s
TREC Trest 84.30 323 AMS AMS 21 11 30.0
comp=Z,200nm,14.1s
GOPC GO Pecny, Ondr 84.33 324 AMS AMS 21 12 50.0
comp=Z,300nm,14.5s

PRU	**Pruhonice**	**84.42**	**324**	AMS	AMS	21 13 00.0
	comp=Z,200nm,12.8s					
CLL	**Collm**	**84.47**	**325**	*i* P	**P**	**20 31 09.4 -0.6**
	comp=Z,7.0nm,1.0s					
CLL				*i*		20 31 18.9
CLL				*e*S	**S**	**20 41 36.0 +0.7**
CLL	**Collm**	**84.47**	**325**	*i* P	**P**	**20 31 09.4 -0.6**
CLL				pmax	pmax	
	comp=Z,7.0nm,1.0s					
CLL	**Collm**	**84.47**	**325**	*e*P	**P**	**20 31 09.6 -0.4**
	comp=Z,6.2nm,0.9s					
CONA	**Conrad Observa**	**84.85**	**321**	*i* PcP	**P**	**20 31 12.9 +0.8**
	comp=Z,12nm,1.6s					
LAST	**Lasithi**	**85.20**	**307**	*e*P	**P**	**20 31 14.4 +0.3**
	comp=Z,126nm,1.6s					
ARSA	**Arzberg**	**85.42**	**321**	*i* PcP	**P**	**20 31 15.6 +0.7**
KHC	**Kasperske Hory**	**85.43**	**323**	*e*P	**P**	**20 31 15.5 +0.6**
KHC				AMS	AMS	21 13 30.0
	comp=Z,300nm,13.0s					
KHC	**Kasperske Hory**	**85.43**	**323**	*e*P	**P**	**20 31 15.5 +0.6**
KHC				MLR	MLR	
	comp=Z,300nm,13.0s					
GERES	**GERESS Array B**	**85.52**	**323**	P	**P**	**20 31 15.5 -0.1**
	comp=Z,1.0nm,0.8s,baz=46,slow=5.8,SNR=7.1					
GERES				LR	LR	21 12 56.8
	comp=Z,164nm,19.0s,baz=54,slow=38					
GEA0	**GERESS Array S**	**85.53**	**323**	*e*P	**P**	**20 31 15.2 -0.3**
MOA	**Molln**	**85.78**	**322**	*i* PcP	**P**	**20 31 17.6 +0.9**
	comp=Z,5.7nm,1.1s					
SOKA	**Soboth**	**86.02**	**321**	*i* P	**P**	**20 31 17.2 -0.8**
	comp=Z,4.6nm,1.1s					
OBKA	**Obir**	**86.39**	**321**	*i* P	**P**	**20 31 17.5 -2.4**
	comp=Z,2.1nm,0.7s					
KBA	**Koelnbreinsper**	**86.74**	**322**	*i* P	**P**	**20 31 18.5 -3.1**
	comp=Z,2.3nm,0.8s					
ABTA	**Abfaltersbach**	**87.40**	**322**	*i* pP	**P**	**20 31 27.0 +2.3**
	comp=Z,3.5nm,1.0s					
FETA	**Feichten**	**88.22**	**323**	*i* PcP	**P**	**20 31 28.1 -0.7**
	comp=Z,2.8nm,1.0s					
TVH1	**TV Hill, Hawth**	**90.15**	**46**	*e*P	**P**	**20 31 37.7 -0.5**
	comp=Z,6.6nm,1.0s					
PPT	**Papeete**	**90.57**	**109**	LR	LR	21 03 01.2
	comp=Z,42nm,20.7s,baz=24,slow=29					
KEST	**Kesra**	**95.92**	**314**	LR	LR	21 22 05.9
	comp=Z,36nm,19.5s,baz=274,slow=40					

JMA 21 20:19:31.7±0.2, 25°.97N×128°.65E, h29km, M3.7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.79**	**314**	P	Pn	20 19 46.4	-0.4
JNTH				*e*S	Sb	20 19 57.2	+0.1
JOW	**Kunigami**	**0.92**	**339**	P	Pn	20 19 48.8	+0.1
JIH	**Iheya**	**1.22**	**330**	*e*S	Sn	20 20 08.0	-0.5
JOKE	**Okinoerabujima**	**1.39**	**357**	P	Pn	20 19 55.8	+0.7
JMZ	**Minamidaito 2**	**2.32**	**93**	P	Pn	20 20 09.5	+1.6
JMZ				S	Sn	20 20 35.6	+0.1

*ISCJB **21** 20:20:33.4±1.1, 34°.32S±0°.04×72°.46W±0°.06, h22km±8km, mb4.2/7, MS3.3/4, Error ellipse: s-maj=8.7km s-min=5.8km az=28.7*
*GUC **21** 20:20:35.1±0.6, 34°.30S×72°.31W, h28km±5km, ML4.2*
*NEIC **21** 20:20:38.9±1.2, 34°.18S×72°.21W, h50km±10km, mb4.4/5, Error ellipse: s-maj=17.6km s-min=7.8km az=85.0*
NEIC Felt [IV] at Pichilemu; [III] at Peralillo and Santa Cruz; [II] at Duao, Iloca, Navidad, Paredones and Rancagua.
*IDC **21** 20:20:41.6±3.8, 34°.23S×71°.99W, h74km±34km, mb3.6/3, mb1 3.8/5, mb1mx3.5/30, mbtmp3.9/5, ML4.0/2, MS3.5/7, Ms1 3.5/7, ms1mx3.3/21, Error ellipse: s-maj=46.9km s-min=26.1km az=99.0*

ISC 21 20:20:34.5±1.6, 34°.24S±0°.03×72°.26W±0°.07, h18km±8km, n44, σ1§54/52, mb4.3/7, MS3.2/4, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.26**	**126**	*e*P	**Pb**	**20 20 41.3**	**+0.6**
CHPI				*i* S	**Sg**	**20 20 46.0**	**+1.6**
CHPI				IAML		20 20 46.4	
	comp=E,21μm,0.3s						
NICH	**Los Niches**	**1.14**	**132**	*e*P	**Pg**	**20 20 55.2**	**-1.4**
NICH				*e*S	**Sn**	**20 21 10.4**	**-0.5**
TALC	**Talca**	**1.27**	**156**	⇑*i* P	**Pn**	**20 20 56.8**	**-0.6**
TALC				*i* S	**Sb**	**20 21 12.6**	**-1.3**
RCDM	**Rinconada Maip**	**1.42**	**59**	*e*P	**Pb**	**20 21 00.4**	**-0.1**
RCDM				*e*S	**Sg**	**20 21 19.6**	**-0.7**
RCDM				IAML		20 21 27.5	
	comp=E,3μm,0.9s						
ANTU	**Antumapu**	**1.50**	**64**	*e*P	**Pb**	**20 21 02.3**	**+0.3**
ANTU				*e*S	**Sg**	**20 21 22.8**	**-0.4**
ANTU				IAML		20 21 31.2	
	comp=E,4μm,0.9s						
ROC1	**El Roble**	**1.63**	**40**	*i* P	**Pb**	**20 21 03.7**	**-0.5**
ROC1				*i* S	Sg	20 21 37.0	+10
ROC1	**El Roble**	**1.63**	**40**	*e*Pn	**Pb**	**20 21 03.9**	**-0.3**
ROCH	**El Roble**	**1.63**	**40**	⇑*i* P	**Pb**	**20 21 03.9**	**-0.4**
ROCH				*e*S	**Sg**	**20 21 26.6**	**-0.7**
ROCH				IAML		20 21 37.2	
	comp=N,5μm,0.4s						
CLCH	**Cerro Calan**	**1.66**	**60**	⇑*i* P	**Pb**	**20 21 04.5**	**-0.1**
CLCH				*i* S	**Sg**	**20 21 27.1**	**-0.9**
CLCH				IAML		20 21 38.8	
	comp=E,5μm,1.2s						
PEL	**Peldehue**	**1.70**	**51**	⇑*i* P	**Pb**	**20 21 05.3**	**-0.1**
PEL				*i* S	**Sg**	**20 21 28.6**	**-0.8**
PEL				IAML		20 21 37.8	
	comp=E,4μm,0.4s						
FCH	**Farellones**	**1.87**	**62**	⇑*i* P	**Pb**	**20 21 07.7**	**-0.7**
FCH				*i* S	**Sb**	**20 21 32.7**	**+1.2**
FCH				IAML		20 21 40.5	
	comp=E,3μm,0.3s						
AAGR	**Agrelo**	**3.08**	**69**	*i* P	**Pb**	**20 21 27.1**	**-1.8**
ARCO	**CERRO ARCO**	**3.10**	**64**	*i* P	**Pb**	**20 21 27.7**	**-1.6**
ARCO				*i* S	**Sg**	**20 22 15.9**	**+1.6**
ARCO				IAML		20 22 23.6	
	comp=Z,356nm,0.6s						
AUSP	**Uspallata**	**3.13**	**51**	*i* P	**Pb**	**20 21 26.9**	**-2.9**
AUSP				*i* S	**Sg**	**20 22 16.2**	**+1.0**
ASAL	**Salagasta**	**3.30**	**61**	*i* P	**Pb**	**20 21 29.7**	**-2.9**
RTLS	**Leoncito**	**3.48**	**46**	*i* P	**Pn**	**20 21 30.9**	**+2.9**
RTCV	**Cerro Valdivia**	**3.92**	**54**	*i* P	**Pn**	**20 21 37.1**	**+3.2**
LCO	**Las Campanas**	**5.38**	**15**	*e*Pn	**Pn**	**20 21 54.3**	**+0.2**
LCO				*e*Sn	**Sn**	**20 22 53.2**	**-2.5**
PLCA	**Paso Flores**	**6.63**	**169**	P	Pn	20 22 16.2	+5.1
	comp=Z,0.4nm,0.3s,baz=352,slow=13,SNR=3.9						
PLCA				LR	LR	20 24 48.4	
	comp=Z,389nm,18.4s,baz=360,slow=37						
PLCA	**Paso Flores**	**6.63**	**169**	*e*Pn	**Pn**	**20 22 15.2**	**+4.1**
TRQA	**Tornquist**	**9.14**	**118**	*e*Pn	**Pn**	**20 22 48.6**	**+3.0**
LVC	**Limon Verde**	**11.95**	**15**	LR	LR	20 28 16.8	
	comp=Z,1μm,20.3s,baz=212,slow=38						
LVC	**Limon Verde**	**11.95**	**15**	*e*Pn	**Pn**	**20 23 24.9**	**+0.5**
PB11	**IPOC Station P**	**14.60**	**10**	*e*Pn	**Pn**	**20 24 01.5**	**+1.1**
CPUP	**Villa Florida**	**15.10**	**63**	P	**P**	**20 24 10.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=228,slow=15,SNR=2.0						
CPUP				LR	LR	20 30 20.5	
	comp=Z,168nm,19.4s,baz=244,slow=39						
LPAZ	**La Paz**	**18.25**	**13**	P	**P**	**20 24 49.8**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=198,slow=8.5,SNR=18						
LPAZ	**La Paz**	**18.25**	**13**	*e*P	**P**	**20 24 48.6**	**+0.9**
LPAZ				*e*Pn	**P**	**20 24 49.8**	**+2.1**
SIV	**San Ignacio**	**20.77**	**32**	P	**P**	**20 25 14.5**	**-0.1**
	comp=Z,5.2nm,0.7s,baz=211,slow=11,SNR=14						
SIV				LR	LR	20 34 52.9	
	comp=Z,113nm,21.1s,baz=182,slow=41						
NNA	**Nana**	**22.54**	**348**	LR	LR	20 32 07.9	
	comp=Z,68nm,18.8s,baz=179,slow=30						
SAML	**Samuel**	**26.51**	**20**	*e*P	**P**	**20 26 11.5**	**+0.3**
	comp=Z,2.7nm,0.8s						
ATAH	**Atahualpa**	**27.56**	**347**	LR	LR	20 36 03.6	
	comp=Z,65nm,18.5s,baz=228,slow=33						
SNAA	**Sanae**	**51.44**	**158**	*e*P	**P**	**20 29 37.9**	**-0.3**
	comp=Z,5.2nm,1.1s						
QSPA	**South Pole Qui**	**56.00**	**180**	*e*P	**P**	**20 30 12.5**	**+0.6**
LTX	**Lajitas**	**69.85**	**331**	*e*P	**P**	**20 31 45.3**	**+1.0**
TX31	**Lajitas Ar. Si**	**69.85**	**331**	*e*P	**P**	**20 31 45.5**	**+1.2**
TXAR	**Lajitas Array**	**69.85**	**331**	P	**P**	**20 31 45.3**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=163,slow=9.1,SNR=4.7						
WVT	**Waverly**	**71.50**	**347**	*e*P	**P**	**20 31 54.4**	**+0.5**
	comp=Z,7.4nm,0.8s						
MAW	**Mawson**	**73.00**	**164**	*e*P	**P**	**20 32 01.6**	**-1.1**
	comp=Z,3.1nm,1.7s						
TORD	**Torodi Ar. Bea**	**84.46**	**70**	P	**P**	**20 33 05.8**	**-0.7**
	comp=Z,2.0nm,1.1s,baz=234,slow=5.1,SNR=5.9						
TOA1	**Torodi Ar. Sit**	**84.46**	**70**	*e*P	**P**	**20 33 05.8**	**-0.7**
	comp=Z,27nm,1.6s						
RAO	**Raoul Island**	**85.59**	**238**	LR	LR	21 08 27.8	
	comp=Z,22nm,18.2s,baz=32,slow=33						
WRA	**Warramunga Arr**	**120.47**	**209**	PKP	**PKPdf**	**20 39 24.4**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=162,slow=1.6,SNR=7.7						
ZALV	**Zalesovo Beam**	**154.52**	**32**	PKPbc	**PKPbc**	**20 40 33.5**	**0.0**
	comp=Z,1.5nm,0.7s,baz=284,slow=3.7,SNR=7.7						
MKAR	**Makanchi Array**	**157.06**	**49**	PKPab	**PKPab**	**20 40 57.6**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=264,slow=4.8,SNR=3.7						

IDC 21 20:22:15.0±2.0, 26°.50N×143°.99E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/48, mbtmp3.6/4, Error ellipse: s-maj=51.9km s-min=28.3km az=52.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.72**	**290**	Pn	Pn	20 22 46.4	+0.2
	10nm,0.3s,baz=207,slow=11,SNR=12						
JCJ				Sn	Sn	20 23 09.0	+0.2
	baz=270,slow=20						
SONM	**Songino Array**	**36.26**	**316**	P	P	20 29 20.7	+0.6
	0.7nm,0.5s,baz=115,slow=6.9,SNR=7.4						
WRA	**Warramunga Arr**	**47.11**	**192**	P	P	20 30 48.8	-0.1
	0.7nm,0.8s,baz=13,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**52.09**	**310**	P	P	20 31 27.1	+0.2
	0.3nm,0.7s,baz=88,slow=9.2,SNR=3.0						
BVAR	**Borovoye Array**	**59.57**	**318**	P	P	20 32 19.5	-0.8
	0.6nm,0.6s,baz=90,slow=7.2,SNR=4.8						

*ISCJB **21** 20:22:53.1±0.6, 36°.65N±0°.05×4°.70E±0°.07, h13km, Error ellipse: s-maj=9.3km s-min=5.8km az=44.5*
*CSEM **21** 20:22:53.2±0.2, 36°.59N×4°.71E, h5km, mb3.6, Error ellipse: s-maj=7.6km s-min=5.3km az=37.0*
*MDD **21** 20:22:53.3±1.0, 36°.66N×4°.70E, h0km, mb3.6/2, Error ellipse: s-maj=14.0km s-min=9.8km az=27.0, PRXIMO*
*CRAAG **21** 20:22:53.3, 36°.48N×4°.77E, Ml3.4*

ISC 21 20:22:52.7±0.9, 36°.61N±0°.05×4°.75E±0°.03, h13km, n30, σ1§73/35, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SET	**Setif**	**0.67**	**128**	P	**Pg**	**20 23 06.2**	**+0.6**
SET	**Setif**	**0.67**	**128**	P	**Pg**	**20 23 06.2**	**+0.6**
SET	**Setif**	**0.67**	**128**	P	**Pg**	**20 23 06.2**	**+0.6**
ATAF	**Djebel Tarf**	**0.83**	**208**	P	**Pb**	**20 23 09.2**	**+0.2**
ATAF	**Djebel Tarf**	**0.83**	**208**	P	**Pb**	**20 23 09.2**	**+0.2**
ATAF	**Djebel Tarf**	**0.83**	**208**	P	**Pb**	**20 23 09.2**	**+0.2**
CKHR	**Kef el Ahmar**	**0.85**	**134**	P	**Pg**	**20 23 09.4**	**+0.2**
CKHR	**Kef el Ahmar**	**0.85**	**134**	P	**Pg**	**20 23 09.4**	**+0.2**
CKHR	**Kef el Ahmar**	**0.85**	**134**	P	**Pg**	**20 23 09.4**	**+0.2**
DFRA	**Djebel Bou Aff**	**0.91**	**94**	P	**Pn**	**20 23 11.9**	**+0.6**
DFRA	**Djebel Bou Aff**	**0.91**	**94**	P	**Pn**	**20 23 11.9**	**+0.6**
DFRA	**Djebel Bou Aff**	**0.91**	**94**	P	**Pn**	**20 23 11.9**	**+0.6**
ADJB	**Djebel Djouab**	**1.15**	**247**	P	**Pg**	**20 23 15.2**	**+0.4**
ADJB	**Djebel Djouab**	**1.15**	**247**	P	**Pg**	**20 23 15.2**	**+0.4**
ADJB	**Djebel Djouab**	**1.15**	**247**	P	**Pg**	**20 23 15.2**	**+0.4**
OKGL	**Djebel Kef Gue**	**3.37**	**261**	P	**Pn**	**20 23 45.1**	**+0.1**
	2.5nm,0.1s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**3.37**	**261**	P	**Pn**	**20 23 45.1**	**+0.1**
	2.5nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.50**	**335**	P	**Pn**	**20 23 48.6**	**+1.8**
	1.5nm,0.1s,SNR=12						
ETOS				S	**Sn**	**20 24 24.4**	**-3.7**
	2.3nm,0.2s,SNR=5.2						
ETOS	**Mallorca**	**3.50**	**335**	P	**Pn**	**20 23 48.6**	**+1.8**
	1.5nm,0.1s,SNR=12						
EIBI	**Ibiza**	**3.62**	**313**	P	**Pn**	**20 23 49.8**	**+1.4**
	1.2nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**20 24 30.5**	**-0.5**
	1.7nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.62**	**313**	P	**Pn**	**20 23 49.8**	**+1.4**
	1.2nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**20 24 30.5**	**-0.5**
	1.7nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.40**	**294**	P	**Pn**	**20 24 15.2**	**+2.3**
	0.3nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.40**	**294**	P	**Pn**	**20 24 15.2**	**+2.3**
	0.3nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.45**	**341**	P	**Pn**	**20 24 15.2**	**+1.6**
	0.8nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**20 25 12.3**	**-3.9**
	1.5nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**5.45**	**341**	P	**Pn**	**20 24 15.2**	**+1.6**
	0.8nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.53**	**330**	P	**Pn**	**20 24 15.5**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**20 25 14.7**	**-3.5**
	1.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.53**	**330**	P	**Pn**	**20 24 15.5**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EBER	**Berja**	**6.14**	**275**	S	**Sn**	**20 25 30.7**	**-2.8**
	2.7nm,0.3s,SNR=6.6						
CLLI	**Llivia**	**6.24**	**341**	P	**Pn**	**20 24 27.4**	**+2.9**
	0.2nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**6.24**	**341**	P	**Pn**	**20 24 27.4**	**+2.9**
	0.2nm,0.1s,SNR=7.9						

*IDC **21** 20:26:57.5±2.2, 37°.87N×141°.19E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/47, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=43.2km s-min=28.9km az=82.0*
*JMA **21** 20:26:59.5±0.1, 37°.29N×141°.38E, h46km±1km, M3.4*
JMA Felt II J1.

ISC 21 20:26:58.2±2.3, 37°.28N±0°.07×141°.5E±0°.1, h33km±4km, n16, σ1§22/15, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.49**	**280**	P	**Pb**	**20 27 09.4**	**+0.7**
JFK				S	**Sn**	**20 27 16.2**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.57**	**252**	P	**Pb**	**20 27 10.5**	**+0.5**
ONAJ				S	**Sb**	**20 27 18.1**	**0.0**
JMM	**Marumori**	**0.80**	**317**	P	**Pb**	**20 27 13.5**	**-0.2**
JMM				S	**Sn**	**20 27 23.5**	**-0.4**
JFT	**Otama**	**0.94**	**285**	P	**Pn**	**20 27 16.0**	**+0.9**
JFT				S	**Sb**	**20 27 27.8**	**-0.5**
JHO	**Hitachi**	**0.99**	**228**	P	**Pn**	**20 27 16.1**	**+0.4**
JHO				S	**Sn**	**20 27 27.2**	**-1.4**
MJAR	**Matsushiro Arr**	**2.73**	**255**	Pn	**Pn**	**20 27 42.3**	**+2.7**
	2.2nm,0.3s,baz=77,slow=18,SNR=15						
MJAR				Sn	**Sb**	**20 28 17.5**	**-1.7**
	2.6nm,0.3s,baz=74,slow=16,SNR=5.0						
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**20 32 42.6**	**-0.7**
	0.3nm,0.3s,baz=102,slow=8.5,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	21 03 03.3	
	baz=314,slow=75,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	21 03 03.5	
	baz=314,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	21 03 04.6	
	baz=314,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	21 03 55.6	
	baz=316,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	21 03 56.0	
	baz=316,slow=75,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	21 04 00.2	
	baz=316,slow=75,SNR=3.5						
ZALV	**Zalesovo Beam**	**41.79**	**312**	P	**P**	**20 34 44.8**	**+0.5**
	0.4nm,0.4s,baz=86,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**20 35 01.4**	**-1.2**
	0.4nm,0.6s,baz=86,slow=8.4,SNR=4.0						
WRA	**Warramunga Arr**	**57.31**	**188**	P	P	20 36 51.0	+8.2
	0.5nm,0.9s,baz=3.5,slow=7.0,SNR=4.4						

WEL 21 20:33:03.2±0.1, 43°.60S×172°.52E, h8km±1km, ML3.8/17, 5C-1D, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.15**	**139**	⇓PG	Pg	20 33 06.4	+0.1
MQZ				SG	Sg	20 33 08.8	+0.3
MQZ				AML	AML	20 33 09.0	
OXZ	**Oxford**	**0.44**	**307**	PG	Pg	20 33 11.5	-0.3
LTZ	**Lake Taylor**	**0.83**	**347**	⇑P*	Pg	20 33 19.2	0.0
LTZ				AML	AML	20 33 31.2	
LTZ				AML	AML	20 33 36.7	
INZ	**Inchbonnie**	**1.17**	**317**	P*	Pg	20 33 25.1	-0.6
KHZ	**Kahutara**	**1.40**	**33**	⇑PN	Pn	20 33 26.8	-2.1
WVZ	**Waitaha Valley**	**1.40**	**291**	PN	Pn	20 33 28.2	-0.9
WVZ				AML	AML	20 33 50.2	
WVZ				AML	AML	20 33 57.5	
THZ	**Tophouse**	**1.85**	**9**	⇑PN	Pn	20 33 33.5	-1.9
THZ				AML	AML	20 34 12.6	
THZ				AML	AML	20 34 12.7	
LBZ	**Lake Benmore**	**1.86**	**244**	PN	Pn	20 33 34.2	-1.3
LBZ				AML	AML	20 34 07.6	
LBZ				AML	AML	20 34 11.4	
DSZ	**Denniston Nort**	**1.92**	**344**	PN	Pn	20 33 35.2	-1.1
DSZ				AML	AML	20 34 07.1	
DSZ				AML	AML	20 34 10.0	
FOZ	**Fox Glacier**	**1.97**	**271**	PN	Pn	20 33 36.6	-0.2
FOZ				AML	AML	20 34 10.8	
FOZ				AML	AML	20 34 11.0	
ODZ	**Otahua Downs**	**1.98**	**222**	⇑PN	Pn	20 33 35.2	-1.8
ODZ				AML	AML	20 34 06.6	
ODZ				AML	AML	20 34 13.8	
BSWZ	**Blackbirch Sta**	**2.13**	**28**	PN	Pn	20 33 37.2	-1.8
BSWZ				AML	AML	20 34 31.8	
NNZ	**Nelson**	**2.46**	**15**	PN	Pn	20 33 42.4	-1.2
HHSZ	**Highcliff Hill**	**2.67**	**210**	PN	Pn	20 33 45.5	-1.0
TCW	**Tory Channel**	**2.71**	**29**	PN	Pn	20 33 45.1	-2.0
JCZ	**Jackson Bay**	**2.75**	**259**	PN	Pn	20 33 47.1	-0.5
JCZ				AML	AML	20 34 37.5	
JCZ				AML	AML	20 34 43.6	
QRZ	**Quartz Range**	**2.77**	**0**	PN	Pn	20 33 46.1	-1.8
QRZ				AML	AML	20 33 58.9	
QRZ				AML	AML	20 34 39.6	
BHW	**Baring Head**	**2.79**	**39**	PN	Pn	20 33 45.7	-2.4
WKZ	**Wanaka**	**2.80**	**243**	PN	Pn	20 33 46.9	-1.5
WKZ				AML	AML	20 34 39.5	
WKZ				AML	AML	20 34 48.5	
EAZ	**Earnscleugh**	**2.82**	**234**	⇑PN	Pn	20 33 46.9	-1.8
EAZ				AML	AML	20 34 37.1	
EAZ				AML	AML	20 34 39.1	
PLWZ	**Palliser**	**2.86**	**46**	PN	Pn	20 33 46.2	-3.0
MSWZ	**Moikau Station**	**2.97**	**44**	PN	Pn	20 33 48.0	-2.7
MSWZ				AML	AML	20 34 22.8	
DUWZ	**D'Urville Isla**	**2.98**	**21**	PN	Pn	20 33 50.4	-0.4
CAW	**Cannon Point**	**3.12**	**38**	PN	Pn	20 33 49.7	-3.0
CAW				AML	AML	20 34 27.5	
CAW				AML	AML	20 34 29.1	
TUZ	**Tuapeka**	**3.13**	**220**	PN	Pn	20 33 51.1	-1.8
TUZ				AML	AML	20 34 52.3	
TUZ				AML	AML	20 34 59.5	
TRWZ	**Traveller**	**3.21**	**48**	PN	Pn	20 33 51.1	-2.8
KIW	**Kapiti Island**	**3.26**	**34**	PN	Pn	20 33 52.2	-2.4
OGWZ	**Otaki Gorge**	**3.40**	**36**	PN	Pn	20 33 53.8	-2.8
MLZ	**Mavora Lakes**	**3.62**	**239**	PN	Pn	20 33 57.2	-2.3
MRZ	**Mangatainoka R**	**3.71**	**39**	PN	Pn	20 33 57.7	-3.2
SYZ	**Scrubby Hill**	**3.79**	**218**	PN	Pn	20 34 00.8	-1.2
SYZ				AML	AML	20 35 15.9	
SYZ				AML	AML	20 35 19.9	
BFZ	**Birch Farm**	**4.02**	**45**	PN	Pn	20 34 01.5	-3.5
DCZ	**Deep Cove**	**4.27**	**242**	PN	Pn	20 34 06.8	-1.6
ANWZ	**Angora Road**	**4.30**	**45**	PN	Pn	20 34 05.6	-3.3
PREZ	**Palmer Road**	**4.42**	**17**	PN	Pn	20 34 11.4	+0.8
APZ	**The Paps**	**4.55**	**223**	PN	Pn	20 34 10.9	-1.5
VRZ	**Vera Road**	**4.77**	**21**	PN	Pn	20 34 16.2	+0.8

*IDC **21** 20:53:26.7±6.7, 36°.15N×70°.81E, h177km±62km, mb3.2/2, mb1 3.1/7, mb1mx2.8/52, mbtmp3.7/7, Error ellipse: s-maj=76.6km s-min=40.9km az=143.0*
*NNC **21** 20:53:33.4±3.9, 36°.82N×70°.42E, h163km±57km, mb3.1, mpv4.3, Error ellipse: s-maj=33.2km s-min=24.4km az=24.0*

ISC 21 20:53:35.5±2.5, 36°.9N±0°.2×70°.6E±0°.1, h200km, n14, σ0§99/19, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**5.74**	**14**	⇓P	**Pn**	**20 54 59.2**	**-0.3**
	6.6nm,0.3s						
MNAS				⇓S	**Sn**	**20 56 06.7**	**+0.7**
	25nm,0.5s						
KK31	**Karatay Array**	**6.17**	**359**	P	**Pn**	**20 55 04.8**	**0.0**
	9.1nm,0.5s,baz=177,slow=11,SNR=194						
KK31				S	**Sn**	**20 56 15.6**	**-0.1**
	5.4nm,0.4s,baz=185,slow=24,SNR=16						
AAK	**Ala-Archa**	**6.45**	**27**	P	**Pn**	**20 55 07.8**	**-0.8**
	5.7nm,0.3s,baz=192,slow=6.1,SNR=23						
AAK				S	**Sn**	**20 56 23.0**	**+0.7**
	1.7nm,0.3s,baz=325,slow=19,SNR=16						
AAK	**Ala-Archa**	**6.45**	**27**	⇑P	**Pn**	**20 55 07.7**	**-0.

USRK	**Ussuriysk Ar.**	**11.24**	**322**	Pn		**Pn**	**21 05 40.5**	**+2.3**
	0.1nm,0.3s,baz=133,slow=14,SNR=3.5							
H11N2	**WAKE ISLAND Hy**	**27.36**	**119**	T		T	21 37 42.3	
	baz=311,slow=75,SNR=69							
H11N1	**WAKE ISLAND Hy**	**27.37**	**119**	T		T	21 37 41.1	
	baz=311,slow=75,SNR=71							
H11N3	**WAKE ISLAND Hy**	**27.38**	**119**	T		T	21 37 48.0	
	baz=311,slow=75,SNR=57							
H11S1	**WAKE ISLAND Hy**	**28.03**	**121**	T		T	21 38 40.8	
	baz=313,slow=75,SNR=18							
H11S3	**WAKE ISLAND Hy**	**28.03**	**121**	T		T	21 38 29.3	
	baz=313,slow=75,SNR=22							
H11S2	**WAKE ISLAND Hy**	**28.05**	**121**	T		T	21 38 46.3	
	baz=313,slow=75,SNR=20							
SONM	**Songino Array**	**28.67**	**306**	P		**P**	**21 08 54.9**	**+0.9**
	0.4nm,0.6s,baz=105,slow=9.3,SNR=3.8							
ZALV	**Zalesovo Beam**	**42.93**	**313**	P		**P**	**21 10 57.3**	**+1.6**
	0.5nm,0.3s,baz=91,slow=8.9,SNR=3.5							
MKAR	**Makanchi Array**	**44.96**	**303**	P		**P**	**21 11 12.6**	**+0.4**
	0.5nm,0.5s,baz=82,slow=8.6,SNR=6.8							
ILAR	**Eielson Array**	**50.58**	**32**	P		**P**	**21 11 55.8**	**+0.4**
	0.4nm,0.5s,baz=252,slow=6.1,SNR=4.8							
WRA	**Warramunga Arr**	**55.73**	**188**	P		**P**	**21 12 33.3**	**-0.5**
	0.7nm,0.4s,baz=5.8,slow=7.4,SNR=17							
ASAR	**Alice Springs**	**59.46**	**188**	P		**P**	**21 13 00.1**	**+0.1**
	0.4nm,0.5s,baz=16,slow=12,SNR=6.7							

CSEM ***21*** *21:11:34.4±0.3,50.35N×18.73E,h1km, Error ellipse: s-maj=7.5km s-min=2.7km az=177.0*

PRU 21 21:11:34.8,50.29N×18.77E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.14**	**90**	*e*Pg	Pg	21 11 38.4	+0.9
OKC	**Ostrava-Krasne**	**0.60**	**222**	*e*PG	Pg	21 11 47.0	+0.6
OKC				*e*SG	Sg	21 11 55.3	+1.1
OKC	**Ostrava-Krasne**	**0.60**	**222**	Pg	Pg	21 11 47.0	+0.6
OKC				Sg	Sg	21 11 55.3	+1.1
OJC	**Ojcow**	**0.66**	**96**	*e*Pg	Pg	21 11 47.8	+0.3
OJC				*e*Sg	Sg	21 11 56.0	-0.1
OJC	**Ojcow**	**0.66**	**96**	*e*Pg	Pg	21 11 47.8	+0.3
OJC				*e*Sg	Sg	21 11 56.0	-0.1
MORC	**Moravsky Berou**	**0.94**	**237**	*e*Pg	Pg	21 11 52.6	-0.3
MORC				*e*Sg	Sg	21 12 05.9	+0.8
NIE	**Niedzica**	**1.32**	**131**	*e*Pg	Pn	21 12 01.1	+0.6
NIE				*e*Sg	Sn	21 12 18.5	-0.4
NIE	**Niedzica**	**1.32**	**131**	*e*Pg	Pn	21 12 01.1	+0.6
NIE				*e*Sg	Sn	21 12 18.5	-0.3
DPC	**Dobruska-Polom**	**1.57**	**273**	*e*PG	Pn	21 12 03.7	-0.3
DPC				*e*SG	Sg	21 12 25.7	+0.5
DPC	**Dobruska-Polom**	**1.57**	**273**	Pg	Pn	21 12 03.7	-0.3
DPC				Sg	Sg	21 12 25.7	+0.5
VRAC	**Vranov**	**1.72**	**236**	*e*Sg	Sb	21 12 29.2	-0.2

JMA 21 21:14:56.3,37.11N×140.86E,h8km±1km,M1.9,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.05**	**260**	P	Pg	21 14 57.9	-0.2
ONAJ				S	Sg	21 14 59.1	-0.2
JFK	**Kawauchi**	**0.26**	**3**	P	Pg	21 15 01.5	+0.1
JFK				S	Sg	21 15 05.4	+0.5
JHO	**Hitachi**	**0.55**	**205**	P	Pg	21 15 06.8	-0.1
JHO				S	Sg	21 15 14.2	+0.1
JFT	**Otama**	**0.58**	**314**	P	Pg	21 15 07.9	+0.3
JFT				S	Sg	21 15 16.0	+0.8
JMM	**Marumori**	**0.76**	**356**	S	Sg	21 15 20.7	0.0

NIED ***21*** *21:15:00,36.30N×141.80E,h14km,Mw4.8 Best double couple: M₀1.87000×10¹⁶ NP1:φ₀207.00000°,δ17.00000°, λ96.00000°. NP2:φ₀21.00000°,δ73.00000°,λ88.00000°.*

IDC ***21*** *21:15:55.8±0.5,36.21N×141.88E,h0km,mb4.9/38, mb1 5.0/44,mb1mx4.9/50,mbtmp4.9/44,ML4.5/4,MS4.3/29, Ms1 4.4/29,ms1mx4.1/47, Error ellipse: s-maj=13.1km s-min=11.5km az=102.0*

BJI ***21*** *21:15:58.2,36.40N×141.59E,h21km,mb5.1/76,mB5.0/50, Ms4.8/75,Ms7 4.7/71*

JMA ***21*** *21:15:58.6±0.3,36.29N×141.85E,h73km,M5.0*

JMA Felt II J1.

NEIC ***21*** *21:16:00.7±0.1,36.23N×141.72E,mb4.9/138, Error ellipse: s-maj=3.5km s-min=2.4km az=149.0*

NEIC Recorded [2 JMA] in Ibaraki.

ISCJB ***21*** *21:16:00.7±0.3,36.27N±0.02×141.74E±0.02,h38km±2km, mb4.9/217,MS4.5/48, Error ellipse: s-maj=3.8km s-min=2.9km az=135.2*

MOS ***21*** *21:16:01.2±0.8,36.57N×141.71E,h31km,mb5.3/74, MS4.7/22, Error ellipse: s-maj=6.5km s-min=4.0km az=111.7*

ISC 21 21:15:59.9±0.4,36.26N±0.03×141.81E±0.03,h24km±2km, h23km:pP-P,n610,σ1s32/679,mb4.9/220,MS4.6/48, 59C-25D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.95**	**235**	⇑P	**Pb**	**21 16 17.6**	**0.0**
CHOJ				S	**Sn**	**21 16 32.3**	**+1.8**
JHO	**Hitachi**	**1.06**	**290**	⇓P	**Pn**	**21 16 18.0**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.17**	**316**	⇓P	**Pn**	**21 16 19.3**	**-1.5**
ONAJ				*e*S	**Sb**	**21 16 36.8**	**+0.6**
JFK	**Kawauchi**	**1.34**	**326**	P	**Pn**	**21 16 21.8**	**-1.3**
I30JP	**ISUMI INFRASON**	**1.54**	**232**	Pg	**Pb**	**21 16 27.9**	**+0.1**
	baz=47,slow=20,SNR=0.6						
JSB	**Shiboa**	**1.68**	**296**	⇓P	**Pn**	**21 16 27.8**	**0.0**
JFT	**Otama**	**1.73**	**317**	⇓P	**Pn**	**21 16 28.4**	**0.0**
BSO1	**Boso 1**	**1.74**	**203**	P	**Pn**	**21 16 28.2**	**+0.1**
BSO3	**Boso 3**	**1.80**	**216**	P	**Pn**	**21 16 29.4**	**+0.3**
JMM	**Marumori**	**1.80**	**334**	⇑P	**Pn**	**21 16 28.3**	**-1.1**
JAG	**Ashikaga**	**1.91**	**276**	⇓P	**Pn**	**21 16 30.3**	**-0.6**
JFY	**Yanaizu**	**2.04**	**305**	⇓P	**Pn**	**21 16 33.1**	**+0.3**
JKT	**Katashina**	**2.12**	**285**	⇓P	**Pn**	**21 16 34.1**	**+0.1**
JRY	**Ryogami san**	**2.36**	**265**	P	**Pn**	**21 16 36.8**	**-0.4**
JYS	**Shirataka**	**2.40**	**325**	⇑P	**Pn**	**21 16 37.8**	**0.0**
JHK	**Hiroka**	**2.45**	**295**	⇓P	**Pn**	**21 16 39.1**	**+0.7**
JIM2	**Oshima 3**	**2.47**	**232**	P	**Pn**	**21 16 38.1**	**-0.6**
AJI	**Ajiro2**	**2.52**	**242**	P	**Pn**	**21 16 39.5**	**+0.2**
JMK	**Ichinoseki**	**2.73**	**350**	⇑P	**Pn**	**21 16 41.1**	**-1.1**
JYN	**Shimob**	**2.75**	**255**	P	**Pn**	**21 16 43.6**	**+0.9**
JIZZ	**Izumozaki**	**2.79**	**298**	P	**Pn**	**21 16 45.0**	**+2.0**
OFUJ	**Ofunato**	**2.82**	**358**	⇑P	**Pn**	**21 16 41.8**	**-1.7**
JIZS	**Izushimoda**	**2.84**	**238**	P	**Pn**	**21 16 43.6**	**-0.2**
JYA	**Atsumi**	**2.87**	**325**	P	**Pn**	**21 16 44.4**	**+0.3**
MJAR	**Matsushiro Arr**	**2.92**	**277**	Pn	**Pn**	**21 16 45.4**	**+0.5**
	163nm,0.3s,baz=103,slow=9.0,SNR=1030						
MJAR				Sn	**Sb**	**21 17 23.9**	**-2.6**
	68nm,0.3s,baz=77,slow=9.3,SNR=5.1						
MJAR				LR	LR	21 18 00.2	
	comp=Z,4μm,20.4s,baz=130,slow=42						
MAJO	**Matsushiro**	**2.92**	**277**	⇑*e*P	**Pn**	**21 16 44.8**	**-0.1**
MAJO	**Matsushiro**	**2.92**	**277**	*e*Pn	**Pn**	**21 16 46.0**	**+1.1**
MAJO				*e*Sn	**Sn**	**21 17 19.4**	**+0.3**
MAT	**Matsushiro**	**2.92**	**277**	P	**Pn**	**21 16 45.2**	**+0.3**
MAT				S	**Sn**	**21 17 18.0**	**-1.2**
MAT	**Matsushiro**	**2.92**	**277**	P	**Pn**	**21 16 46.0**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.92**	**277**	*e*Pn	**Pn**	**21 16 46.2**	**+1.3**
JNG	**Nsakai**	**3.00**	**274**	P	**Pn**	**21 16 46.9**	**+0.9**
JNT	**Takato**	**3.00**	**264**	P	**Pn**	**21 16 47.5**	**+1.5**
JKO	**Kozu shima**	**3.01**	**227**	P	**Pn**	**21 16 45.8**	**-0.2**
JJN	**Nakama**	**3.05**	**287**	P	**Pn**	**21 16 48.3**	**+1.7**
SHZ3	**Shizuoka 3**	**3.16**	**249**	P	**Pn**	**21 16 49.4**	**+1.2**
JRG	**Rokugo**	**3.27**	**344**	P	**Pn**	**21 16 49.3**	**-0.4**
JNY	**Yasuok**	**3.33**	**256**	P	**Pn**	**21 16 52.4**	**+1.8**
JSD	**Sado**	**3.34**	**303**	P	**Pn**	**21 16 50.9**	**+0.2**
JHJ2	**Mitsune**	**3.54**	**208**	P	**Pn**	**21 16 53.3**	**-0.1**
JHJ2	**Mitsune**	**3.54**	**208**	*e*Pn	**Pn**	**21 16 52.8**	**-0.5**
JHJ2				*e*Sn	**Sn**	**21 17 31.0**	**-3.5**
JHJ	**Hachijo jima 2**	**3.55**	**209**	Pn	**Pn**	**21 16 52.5**	**-1.0**
	319nm,0.3s,baz=128,slow=3.8,SNR=66						
JHJ				Sn	**Sn**	**21 17 32.6**	**-2.1**
	595nm,0.3s,baz=243,slow=23,SNR=12						
JYZW	**Yoshizawa**	**3.55**	**250**	P	**Pn**	**21 16 54.6**	**+1.1**
HMMJ	**Hamamatsu 2**	**3.61**	**248**	P	**Pn**	**21 16 56.3**	**+1.9**
JTT	**Ttatey**	**3.62**	**277**	P	**Pn**	**21 16 56.8**	**+2.3**
JGN	**Niukaw**	**3.63**	**271**	P	**Pn**	**21 16 56.3**	**+1.6**
JGF	**Kuroka**	**3.67**	**261**	P	**Pn**	**21 16 57.3**	**+2.1**
JSZ	**Suzu**	**3.76**	**290**	P	**Pn**	**21 16 57.3**	**+1.0**
JAO	**Obara**	**3.83**	**256**	P	**Pn**	**21 16 59.0**	**+1.6**
INU	**Inuyama**	**4.00**	**258**	*e*Pn	**Pn**	**21 17 01.0**	**+1.3**
JAA	**Atsumi**	**4.14**	**248**	P	**Pn**	**21 17 03.3**	**+1.7**
JHG	**Hegura jima**	**4.22**	**294**	P	**Pn**	**21 17 04.0**	**+1.3**
JIE	**Ise**	**4.57**	**247**	P	**Pn**	**21 17 08.7**	**+1.2**
TSUJ	**Tsu 2**	**4.66**	**252**	P	**Pn**	**21 17 10.7**	**+2.0**
JFM	**Mihama**	**4.78**	**263**	P	**Pn**	**21 17 12.9**	**+2.4**
JKN2	**Miekihoku**	**4.96**	**248**	P	**Pn**	**21 17 14.1**	**+1.3**
ERM	**Erimo**	**5.84**	**10**	*de*P	**Pn**	**21 17 22.1**	**-2.9**
ERM				pmax	pmax		
	comp=Z,73nm,1.0s						
ERM	**Erimo**	**5.84**	**10**	*e*Pn	**Pn**	**21 17 22.6**	**-2.4**
ERM				*e*Sn	**Sn**	**21 18 28.6**	**-2.7**
ASAJ	**Asahikawa**	**7.87**	**4**	Pn	**Pn**	**21 17 51.3**	**-1.6**
	baz=212,slow=12						
ASAJ				Sn	**Sn**	**21 19 18.8**	**-2.4**
	baz=270,slow=20						
CBIJ	**Chichi jima**	**9.14**	**178**	*e*Pn	**Pn**	**21 18 08.0**	**-2.3**
CBIJ				*e*Sn	Sn	21 19 42.5	-10
JCJ	**Chichijima**	**9.14**	**178**	Pn	Pn	21 18 04.2	-6.1
	baz=302,slow=17						
JCJ				Sn	Sn	21 19 42.5	-10
	baz=90,slow=20						
JNU	**Nakatsue**	**9.53**	**254**	Pn	**Pn**	**21 18 16.8**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=66,slow=7.3,SNR=22						
VLA	**Vladivostok**	**10.26**	**315**	⇓*e*P	**Pn**	**21 18 27.6**	**+2.0**
MSHR	**Mys Shultsa**	**10.38**	**311**	*c i*P	**Pn**	**21 18 28.7**	**+1.5**
YSS	**Yuzh-Sakhalins**	**10.71**	**3**	⇑*e*P	**Pn**	**21 18 30.0**	**-1.7**
YSS				*e*S	**Sn**	**21 20 26.1**	**-4.7**
YSS				pmax	pmax		
	comp=Z,80nm,0.8s						
YSS				MLR	MLR		
	comp=Z,800nm,15.0s						
YSS				MLR	MLR		
	comp=N,1μm,19.0s						
YSS	**Yuzh-Sakhalins**	**10.71**	**3**	*e*Pn	**Pn**	**21 18 30.2**	**-1.6**
USRK	**Ussuriysk Ar.**	**10.91**	**320**	Pn	**Pn**	**21 18 35.1**	**+0.6**
	comp=N,1.0nm,0.3s,baz=134,slow=14,SNR=35						
USRK				LR	LR	21 22 39.0	
	comp=N,3μm,18.4s,baz=122,slow=37						
KSRS	**Korea Array**	**11.19**	**280**	Pn	**Pn**	**21 18 41.9**	**+3.6**
	comp=N,1.4nm,0.3s,baz=94,slow=13,SNR=86						
KSRS				LR	LR	21 23 03.3	
	comp=N,2μm,18.0s,baz=73,slow=38						
KSRS				PcP	**PcP**	**21 24 33.4**	**0.0**
	comp=N,0.1nm,0.3s,baz=83,slow=1.7,SNR=4.6						
KS01	**Wonju Array Si**	**11.21**	**280**	*e*Pn	**Pn**	**21 18 41.5**	**+2.8**
KS15	**Wonju Array Si**	**11.22**	**280**	*e*Pn	**Pn**	**21 18 41.9**	**+3.1**
KS15				*e*PcP	**PcP**	**21 24 33.4**	**-0.1**
KSAR	**Wonju Array Be**	**11.22**	**280**	P	**Pn**	**21 18 41.9**	**+3.2**
KSAR	**Wonju Array Be**	**11.22**	**280**	Pn	**Pn**	**21 18 41.9**	**+3.2**
TJN	**Taejon**	**11.65**	**275**	*c i*P	**Pn**	**21 18 47.7**	**+3.0**
MDJ	**Mudanjiang**	**12.49**	**316**	P	**Pn**	**21 18 56.8**	**+0.7**
MDJ				S	**Sn**	**21 21 14.3**	**-0.1**
MDJ				PMZ			
	comp=N,9.0nm,0.7s						
MDJ				PMZ			
	comp=N,170nm,9.1s						
MDJ				LN			
	comp=N,1μm,16.9s						
MDJ				LE			
	comp=N,1μm,14.2s						
MDJ				LZ			
	comp=N,3μm,18.5s						
MDJ	**Mudanjiang**	**12.49**	**316**	*e*Pn	**Pn**	**21 18 57.8**	**+1.7**
HABR	**Khabarovsk**	**13.18**	**340**	*e*P	**Pn**	**21 19 03.6**	**-1.9**
HABR				*e*S	**Sn**	**21 21 29.7**	**-1.5**
HABR				pmax	pmax		
	comp=N,61nm,2.4s						
HABR				pmax	pmax		
	comp=Z,64nm,2.4s						
HABR				pmax	pmax		
	comp=E,49nm,2.4s						
HABR				MLR	MLR		
	comp=Z,435nm,13.0s						
CN2	**Changchun**	**14.61**	**306**	*e*P	**Pn**	**21 19 24.1**	**-0.9**
CN2				*e*S	**Sn**	**21 22 10.0**	**+3.9**
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
CN2				LN			
	comp=Z,2μm,15.0s						
CN2				LE			
	comp=Z,2μm,15.0s						
CN2				LZ			
	comp=Z,2μm,17.0s						
TYV	**Tymovskoe**	**14.61**	**2**	*e*P	**Pn**	**21 19 25.0**	**0.0**
TYV				*e*		21 22 08.0	
TYV				pmax	pmax		
	comp=Z,39nm,0.6s						
TYV				MLR	MLR		
	comp=N,2μm,16.0s						
TYV				MLR	MLR		
	comp=Z,3μm,14.0s						
JOW	**Kunigami**	**14.87**	**235**	*e*Pn	**Pn**	**21 19 26.6**	**-2.0**
KLR	**Kul'dur**	**14.90**	**334**	Pn	**Pn**	**21 19 27.1**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=140,slow=13,SNR=25						
KLR				LR	LR	21 25 16.1	
	comp=Z,1μm,18.4s,baz=147,slow=37						
SNY	**Shenyang**	**15.21**	**297**	⇑P	**Pn**	**21 19 32.3**	**-0.8**
SNY				PMZ			
	comp=Z,26nm,1.1s						
SNY				PMZ			
	comp=Z,300nm,9.2s						
SNY				LN			
	comp=Z,1μm,13.7s						
SNY				LE			
	comp=Z,3μm,15.7s						
SNY				LZ			
	comp=Z,4μm,16.2s						
DL2	**Dalian**	**16.21**	**285**	P	**Pn**	**21 19 45.5**	**-0.6**
DL2				S	**Sn**	**21 22 50.1**	**+4.9**
DL2				PMZ			
	comp=Z,54nm,1.1s						
DL2				PMZ			
	comp=Z,280nm,7.6s						
DL2				LN			
	comp=Z,2μm,12.7s						
DL2				LE			
	comp=Z,3μm,13.9s						
DL2				LZ			
	comp=Z,4μm,15.8s						
NKL	**Nikolayevsk**	**16.91**	**358**	*e*P	**P**	**21 19 56.0**	**-0.6**
NKL				MLR	MLR		
	comp=N,550nm,16.0s						
NKL				MLR	MLR		
	comp=Z,2μm,16.0s						
NJ2	**Nanjing**	**19.44**	**264**	*e*P	Pn	21 20 33.3	+7.4
NJ2				S	**S**	**21 24 02.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,24nm,0.8s						
NJ2				LR	LR		
	comp=N,2μm,18.4s						
NJ2				LR	LR		
	comp=E,2μm,16.3s						
NJ2				LR	LR		
	comp=Z,1μm,14.1s						
TIA	**Tai'an**	**19.90**	**277**	⇓P	**P**	**21 20 27.8**	**-1.9**
TIA				PMZ			
	comp=Z,40nm,0.8s						
TIA				LN			
	comp=Z,1μm,14.5s						
TIA				LE			
	comp=Z,960nm,15.5s						
TIA				LZ			
	comp=Z,960nm,18.0s						
PEA0	**Petropavlovsk-**	**20.21**	**29**	*e*P	P	21 20 25.5	-7.4
PETK	**Petropavlovsk-**	**20.21**	**29**	P	**P**	**21 20 33.0**	**+0.1**
	comp=Z,8.4nm,0.8s,baz=224,slow=9.8,SNR=9.5						
PETK				LR	LR	21 28 13.3	
	comp=Z,347nm,20.9s,baz=215,slow=36						
PETK	**Petropavlovsk-**	**20.21**	**29**	P	**P**	**21 20 33.0**	**+0.1**
PETK	**Petropavlovsk-**	**20.21**	**29**	P	**P**	**21 20 33.0**	**+0.1**
PEA1	**Petropavlovsk-**	**20.21**	**29**	*e*P	**P**	**21 20 33.0**	**+0.1**
BJI	**Beijing**	**20.48**	**288**	P	**P**	**21 20 34.8**	**-1.2**
BJI				S	**S**	**21 24 23.1**	**-1.0**
BJI				PMZ			
	comp=Z,24nm,0.9s						
BJI				PMZ			
	comp=Z,170nm,5.5s						
BJI				LN			
	comp=Z,1μm,13.5s						
BJI				LE			
	comp=Z,920nm,12.6s						
BJI				LZ			
	comp=Z,630nm,18.1s						
BJT	**Baijiatuao**	**20.49**	**288**	*e*P	**P**	**21 20 34.5**	**-1.5**
BJT				pmax	pmax		
	comp=Z,34nm,0.8s						
BJT	**Baijiatuao**	**20.49**	**288**	*e*P	**P**	**21 20 34.5**	**-1.5**
	comp=Z,34nm,0.8s						
PET	**Petropavlovsk**	**20.52**	**30**	*i*P	**P**	**21 20 37.0**	**+0.8**
PET				*e*S	**S**	**21 24 21.3**	**-3.3**
PET				pmax	pmax		
	comp=Z,55nm,1.1s						
PET				MLR	MLR		
	comp=Z,500nm,16.0s						
HIA	**Hailar**	**20.68**	**316**	*e*P	**P**	**21 20 36.4**	**-1.7**
HIA				pmax	pmax		
	comp=Z,26nm,0.7s						
HIA	**Hailar**	**20.68**	**316**	*e*P	**P**	**21 20 36.4**	**-1.7**
	comp=Z,26nm,0.7s						
YHNB	**Yeheng**	**21.01**	**242**	*e*P	**P**	**21 20 39.1**	**-2.8**
	comp=Z,165nm,2.0s						
NACB	**Ninganchiao**	**21.17**	**241**	*e*P	**P**	**21 20 41.1**	**-2.4**
	comp=Z,28nm,0.7s						
SSLB	**Suanglung**	**21.86**	**241**	*e*P	**P**	**21 20 47.2**	**-3.8**
	comp=Z,26nm,0.8s						
YULB	**Yu-li**	**21.88**	**240**	*e*P	**P**	**21 20 46.5**	**-4.5**
	comp=Z,17nm,0.6s						
TPUB	**Ta-pu**	**22.40**	**241**	*e*P	**P**	**21 20 52.8**	**-4.0**
	comp=Z,47nm,0.9s						
TWG	**Pinlang**	**22.41**	**239**	*e*P	**P**	**21 20 55.5**	**-1.3**
	comp=Z,751nm,1.8s						
QZH	**Quanzhou**	**22.89**	**247**	*e*P	**P**	**21 21 05.3**	**+3.5**
QZH				*e*S	**S**	**21 25 08.0**	**-2.2**
QZH				LZ			
	comp=Z,2μm,23.6s						
CLNS	**Chul'man**	**23.52**	**336**	*e*P	**P**	**21 21 07.6**	**-0.4**
CLNS				*e**PP	**pP**	**21 21 15.8**	**+0.9**
CLNS				*e*		21 21 34.1	
CLNS				*e*		21 24 53.2	
CLNS				*e*S	**S**	**21 25 19.2**	**-1.2**
CLNS				*e*SS	**SnSn**	**21 26 07.0**	**+10**
CLNS				pmax	pmax		
	comp=Z,59nm,1.0s						
CLNS				pmax	pmax		
	comp=N,36nm,1.1s						
CLNS				pmax	pmax		
	comp=E,13nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,18nm,1.0s						
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
CLNS				smax	smax		
	comp=N,230nm,13.7s						
CLNS				smax	smax		
	comp=E,84nm,17.0s						
CLNS				MLR	MLR		
	comp=N,922nm,15.0s						
CLNS				MLR	MLR		
	comp=Z,1μm,15.0s						
CLNS				MLR	MLR		
	comp=E,218nm,17.0s						
WHN	**Wuhan**	**23.58**	**264**	⇑*i*P	**P**	**21 21 07.5**	**-1.2**
WHN				pP	**sP**	**21 21 17.3**	**-1.3**
WHN				S	**S**	**21 25 21.8**	**+0.2**
WHN				LN			
	comp=E,2μm,11.4s						
WHN				LE			
	comp=E,2μm,12.9s						
WHN				LZ			
	comp=E,4μm,15.0s						
HHC	**Hu-ho-hao-te**	**24.03**	**290**	*e*P	**P**	**21 21 11.5**	**-1.6**
HHC				pP	sP	21 21 22.1	-1.0
HHC				PP	**PnPn**	**21 21 48.9**	**+6.8**
HHC				S	**S**	**21 25 23.8**	**-5.1**
HHC				sS	sS	21 25 38.8	-1.7
HHC				SS	**SnSn**	**21 26 09.4**	**-0.6**
HHC				PMZ			
	comp=E,29nm,1.0s						
HHC				PMZ			
	comp=E,110nm,6.8s						
HHC				LN			
	comp=E,340nm,12.4s						
HHC				LE			
	comp=E,1μm,14.6s						
HHC				LZ			
	comp=E,1μm,15.1s						
MA2	**Magadan**	**24.05**	**11**	P	**P**	**21 21 12.8**	**-0.1**
	comp=E,21nm,0.8s,baz=212,slow=10,SNR=21						
BTO	**Baotou**	**25.20**	**290**	*e*P	**P**	**21 21 21.6**	**-2.1**
CIT	**Chita**	**25.46**	**317**	*e*P	**P**	**21 21 25.4**	**-0.5**
CIT				*e*		21 21 35.0	
YAK	**Yakutsk**	**26.90**	**347**	P	**P**	**21 21 38.4**	**-0.3**
	comp=E,5.1nm,0.4s,baz=158,slow=19,SNR=24						
YAK				LR	LR	21 32 36.1	
	comp=E,567nm,18.5s,baz=155,slow=37						
YAK	**Yakutsk**	**26.90**	**347**	*c i*P	**P**	**21 21 38.2**	**-0.5**
YAK				*e**PP	**pP**	**21 21 47.0**	**+1.2**
YAK				*e*		21 22 20.6	
YAK				*e*PPP	PPP	21 22 29.5	
YAK				*e*		21 24 59.9	
YAK				*e*S	**S**	**21 26 13.2**	**-0.6**
YAK				*e*SSS	SSS	21 27 36.2	
YAK				pmax	pmax		
	comp=Z,103nm,0.9s						
YAK				pmax	pmax		
	comp=N,45nm,1.0s						
YAK				pmax	pmax		
	comp=E,19nm,1.0s						
YAK				pmax	pmax		
	comp=Z,56nm,1.3s						
YAK				pmax	pmax		
	comp=N,32nm,1.4s						
YAK				pmax	pmax		
	comp=E,16nm,0.9s						
YAK				smax	smax		
	comp=N,102nm,3.3s						
YAK				smax	smax		
	comp=E,55nm,3.3s						
YAK				MLR	MLR		
	comp=Z,1μm,14.0s						
YAK				MLR	MLR		
	comp=N,909nm,14.0s						
YAK				MLR	MLR		
	comp=E,248nm,14.0s						
YAK	**Yakutsk**	**26.90**	**347**	*e*P	**P**	**21 21 38.4**	**-0.3**
	comp=E,148nm,0.9s						
XAN	**Xi'an**	**26.91**	**275**	P	**P**	**21 21 38.4**	**-0.8**
XAN				pP	pP	21 21 46.8	+0.5
XAN				S	**S**	**21 26 14.1**	**-0.7**
XAN				PMZ			
	comp=E,62nm,0.7s						
XAN				PMZ			
	comp=E,160nm,7.0s						
XAN				LE			
	comp=E,960nm,14.3s						
XAN				LZ			
	comp=E,1μm,15.1s						
H11N2	**WAKE ISLAND Hy**	**27.48**	**120**	T	T	21 51 12.0	
	baz=312,slow=75,SNR=219						
H11N1	**WAKE ISLAND Hy**	**27.49**	**120**	T	T	21 51 10.2	
	baz=312,slow=75,SNR=78						
SEY	**Seym

LZH SS **SnSn** **21 28 45.3 -3.3**
LZH PMZ
comp=Z,36nm,1.0s
LZH PMZ
comp=Z,170nm,4.5s
LZH LN
comp=Z,1µm,13.8s
LZH LE
comp=Z,2µm,16.4s
LZH LZ
comp=Z,2µm,17.3s
IRK **Irkutsk** **30.86 313** *e*P **P** **21 22 12.3 -1.8**
IRK pmax pmax
comp=Z,37nm,1.5s
ZAK **Zakamensk** **31.00 309** *e*P **P** **21 22 14.7 -0.8**
ZAK pmax pmax
comp=Z,28nm,1.0s
TLY **Talaya** **31.08 312** P **P** **21 22 16.6 +0.5**
comp=Z,28nm,0.8s,baz=121,slow=5.7,SNR=32
LR LR 21 35 28.5
TLY
comp=Z,1µm,18.3s,baz=102,slow=38
TLY **Talaya** **31.08 312** *e*P **P** **21 22 16.3 +0.2**
TLY pmax pmax
comp=Z,46nm,1.0s
MLR MLR
TLY
comp=Z,1µm,15.0s
GYA **Guiyang** **31.41 262** P **P** **21 22 20.6 +1.2**
GYA pP sP 21 22 30.0 +0.6
GYA PP **PnPn** **21 23 24.3 +1.9**
GYA PcP **PcP** **21 25 15.5 +2.9**
GYA S **S** **21 27 23.8 -2.0**
GYA sS sS 21 27 40.0 +2.5
GYA SS **SnSn** **21 29 11.6 +1.1**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,540nm,17.2s
GYA LE
comp=Z,510nm,17.6s
GYA LZ
comp=Z,530nm,17.8s
CD2 **Chengdu** **32.00 272** P **P** **21 22 23.6 -0.8**
CD2 pP sP 21 22 33.0 -1.5
CD2 sP pP 21 22 37.3 +5.8
CD2 S **S** **21 27 32.9 -1.9**
CD2 sS sS 21 27 48.9 +2.4
CD2 PMZ
comp=Z,50nm,0.8s
CD2 PMZ
comp=Z,220nm,5.2s
CD2 LN
comp=Z,1µm,14.5s
CD2 LE
comp=Z,820nm,14.8s
CD2 LZ
comp=Z,1µm,13.5s
MOY **Mondy** **32.68 311** *e*P **P** **21 22 30.6 +0.3**
MOY pmax pmax
comp=Z,30nm,1.3s
QIZ **Qiongzhong** **32.91 247** P **P** **21 22 32.8 +0.4**
QIZ S **S** **21 27 50.4 +1.4**
QIZ LE
comp=Z,470nm,17.4s
QIZ LZ
comp=Z,690nm,18.4s
GTA **Gaotai** **33.10 288** P **P** **21 22 33.8 -0.3**
GTA pP sP 21 22 44.0 -0.1
GTA sP pP 21 22 48.0 +6.8
GTA PcP **PcP** **21 25 18.1 +1.1**
GTA S **S** **21 27 49.1 -2.8**
GTA sS sS 21 28 04.4 +0.7
GTA ScP **ScP** **21 28 58.0 -1.7**
GTA PcS **PcS** **21 29 02.1 -0.5**
GTA SS **SnSn** **21 29 49.5 -1.8**
GTA PMZ
comp=Z,34nm,1.0s
GTA PMZ
comp=Z,180nm,4.2s
GTA LN
comp=Z,450nm,13.8s
GTA LE
comp=Z,860nm,18.1s
GTA LZ
comp=Z,920nm,18.1s
BILL **Bilibino** **34.68 16**⇓ *i*P **P** **21 22 47.1 -0.2**
BILL pmax pmax
comp=Z,10.0nm,1.7s
BILL MLR MLR
comp=Z,322nm,18.0s
BILL **Bilibino** **34.68 16** *e*P **P** **21 22 48.8 +1.5**
comp=Z,8.5nm,0.9s
KMI **Kunming** **35.17 263** P **P** **21 22 51.8 -0.4**
KMI pP sP 21 23 02.4 +0.1
KMI sP pP 21 23 06.3 +6.9
KMI PP **PP** **21 24 11.8 -0.3**
KMI S **S** **21 28 20.4 -3.9**
KMI sS sS 21 28 39.6 +3.5
KMI SS **SnSn** **21 30 37.3 -4.5**
KMI PMZ
comp=Z,41nm,1.0s
KMI PMZ
comp=Z,190nm,4.3s
KMI LN
comp=Z,660nm,13.8s
KMI LE
comp=Z,970nm,14.5s
KMI LZ
comp=Z,1µm,14.9s
TIXI **Tiksi** **36.10 353**⇑ *i*P **P** **21 22 58.9 -0.5**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI MLR MLR
comp=Z,751nm,17.0s
TIXI **Tiksi** **36.10 353** *e*P **P** **21 22 58.8 -0.5**
comp=Z,13nm,0.9s
KDM **Kudat** **37.07 224** ⇑P **P** **21 23 09.5 +1.1**
MYLDM **Lahad Datu** **37.62 220** ⇓P **P** **21 23 14.4 +1.5**
MYLDM **Lahad Datu** **37.62 220** *e*P **P** **21 23 13.7 +0.8**
comp=Z,29nm,0.9s
SDKM **Sandakan** **37.92 222** ⇓P **P** **21 23 19.2 +3.6**
SWI **Sorong** **38.21 197** P P 21 23 28.5 +11
SKNT **Sakolnakorn** **38.57 250** P **P** **21 23 21.9 +0.9**
comp=Z,26nm,0.9s
JAY **Jayapura** **38.59 182** LR LR 21 37 57.9
comp=Z,6.2nm,18.6s,slow=34
TSM **Tawau** **38.69 220** ⇓P **P** **21 23 22.8 +0.8**
KMSI **Cibinong** **39.17 209** P **P** **21 23 26.5 +0.5**
KHON **Khomkaen** **39.84 251** P **P** **21 23 33.5 +1.9**
comp=Z,10nm,0.8s,comp=Z,1µm
FAKI **Fak Fak** **39.98 195** P **P** **21 23 33.3 +0.6**
MRSI **Marisa** **40.09 212** P **P** **21 23 34.0 +0.3**
CHAI **Chaiyaphum** **40.74 251** P **P** **21 23 38.9 -0.2**
comp=Z,11nm,0.7s,comp=Z,106nm
UTTA **Uttaradit** **40.76 254** P **P** **21 23 39.2 0.0**
comp=Z,16nm,0.8s,comp=Z,122nm
SANI **Sanana** **40.87 205** P **P** **21 23 39.5 -0.5**
LAMP **Lampang** **41.04 256** P **P** **21 23 41.8 +0.3**
comp=Z,20nm,0.7s,comp=Z,162nm
PBKT **Sadao Pong** **41.12 252** P **P** **21 23 42.2 0.0**
comp=Z,53nm,1.0s
LUWI **Luwuk** **41.12 210** P **P** **21 23 40.8 -1.4**
LUWI **Luwuk** **41.12 210** *e*P **P** **21 23 40.8 -1.4**
comp=Z,67nm,0.6s
CMMT **Chiang Mai** **41.41 257** P **P** **21 23 44.4 -0.2**
comp=Z,37nm,1.3s
CHTO **Chiang Mai** **41.42 257** P **P** **21 23 44.5 -0.1**
comp=Z,166nm,1.1s,comp=Z,2µm
CHTO **Chiang Mai** **41.42 257** *e*P **P** **21 23 44.5 -0.1**
CHTO pmax pmax
comp=Z,21nm,0.8s
CHTO **Chiang Mai** **41.42 257** *e*P **P** **21 23 44.5 -0.1**
comp=Z,21nm,0.8s
WMQ **Urumqi** **41.48 298** P **P** **21 23 45.8 +0.8**
WMQ pP sP 21 23 54.8 -0.3
WMQ sP pP 21 23 59.8 +7.6
WMQ PcP **PcP** **21 25 44.1 +1.7**
WMQ S **S** **21 29 58.3 -0.7**
WMQ sS sS 21 30 14.5 +3.6
WMQ SS **SS** **21 32 58.1 -5.4**
WMQ PMZ
comp=Z,43nm,0.8s
WMQ PMZ
comp=Z,230nm,3.6s
WMQ LN
comp=Z,360nm,13.2s
WMQ LE
comp=Z,380nm,15.6s
WMQ LZ
comp=Z,240nm,18.4s
CM31 **Chiang Mai Arr** **41.61 256** *e*P **P** **21 23 46.2 -0.1**
CMAR **Chiang Mai Arr** **41.61 256** P **P** **21 23 46.2 -0.1**
comp=Z,11nm,0.8s,baz=50,slow=5.6,SNR=69
CMAR LR LR 21 41 03.2
comp=Z,291nm,18.4s,baz=45,slow=36
CM01 **Chiang Mai Arr** **41.62 256** *e*P **P** **21 23 45.3 -1.0**
CM01 *e*PcP **PcP** **21 25 43.1 0.0**
SUKH **Sukhothai** **41.63 255** P **P** **21 23 46.6 +0.3**
comp=Z,16nm,0.8s,comp=Z,132nm
SRAK **Srakaew** **41.87 248** P **P** **21 23 47.6 -0.7**
comp=Z,59nm,0.8s,comp=Z,678nm
BTM **Bintulu** **42.24 226** ⇓P **P** **21 23 52.7 +1.3**
PCI **Palu** **42.25 214** P **P** **21 23 51.1 -0.3**
LSA **Lhasa** **42.60 276** *e*P **P** **21 23 55.8 +1.0**
LSA pmax pmax
comp=Z,23nm,0.7s
LSA **Lhasa** **42.60 276** *e*P **P** **21 23 55.8 +1.0**
comp=Z,23nm,0.7s
ZAA0 **Zalesovo Array** **42.67 313** *e*P **P** **21 23 54.2 -0.3**
ZAA1 **Zalesovo Array** **42.67 313** *e*P **P** **21 23 54.6 +0.2**
ZAA1 *e*PcP **PcP** **21 25 45.6 -0.4**
ZALV **Zalesovo Beam** **42.67 313** P **P** **21 23 54.6 +0.2**
comp=Z,38nm,0.8s,baz=92,slow=6.6,SNR=119
ZALV PcP **PcP** **21 25 45.6 -0.4**
comp=Z,7.3nm,0.5s,baz=90,slow=3.4,SNR=5.7
ZALV LR LR 21 42 28.0
comp=Z,794nm,18.2s,baz=70,slow=37
UMPA **Umpang Tak** **42.97 254** P **P** **21 23 59.5 +2.2**
comp=Z,14nm,0.9s,comp=Z,131nm
SBUM **Sibu** **43.34 226** ⇑P **P** **21 24 01.0 +0.7**
SBUM **Sibu** **43.34 226** *e*P **P** **21 24 00.1 -0.2**
comp=Z,23nm,1.1s
NVS **Novosibirsk** **43.61 314**⇓ *i*P **P** **21 24 02.5 +0.5**
NVS *e* 21 25 47.2
NVS pmax pmax
comp=Z,46nm,1.3s
NVS pmax pmax
comp=N,10.0nm,1.2s
NVS pmax pmax
comp=E,43nm,1.4s
KDI **Kendari** **43.85 208** P P 21 24 16.1 +12
NRIK **Noril'sk** **44.10 336** P **P** **21 24 05.5 -0.3**
comp=E,8.7nm,0.6s,baz=107,slow=8.9,SNR=12
NRIK LR LR 21 45 32.5
comp=E,276nm,18.6s,baz=101,slow=40
MK01 **Makanchi Array** **44.80 303** *e*P **P** **21 24 11.7 -0.1**
MK31 **Makanchi Array** **44.80 303** *e*P **P** **21 24 11.9 +0.1**
MK31 **Makanchi Array** **44.80 303** *e*P **P** **21 24 11.9 +0.1**
MK32 **Makanchi Array** **44.80 303** *e*P **P** **21 24 11.9 +0.1**
MK32 *e*PcP **PcP** **21 25 53.5 +0.1**
MKAR **Makanchi Array** **44.80 303** P **P** **21 24 11.9 +0.1**
comp=E,32nm,0.7s,baz=92,slow=9.2,SNR=192
MKAR PcP **PcP** **21 25 53.5 +0.1**
comp=E,6.3nm,0.8s,baz=108,slow=4.7,SNR=2.8
MKAR LR LR 21 43 35.7
comp=E,465nm,20.0s,baz=84,slow=37
SPSI **Sidrap Palu** **45.01 212** P **P** **21 24 11.6 -2.0**
comp=E,46nm,1.0s
MAKZ **Makanchi** **45.01 303** *e*P **P** **21 24 13.5 +0.1**
MAKZ pmax pmax
comp=Z,42nm,0.8s
MAKZ **Makanchi** **45.01 303** *e*P **P** **21 24 13.5 +0.1**
comp=Z,42nm,0.8s
KSM **Kuching** **45.25 227** ⇓P **P** **21 24 16.8 +1.3**
KSM **Kuching** **45.25 227** *e*P **P** **21 24 16.2 +0.7**
comp=Z,36nm,0.7s
PMG **Port Moresby** **45.70 173** LR LR 21 39 53.3
comp=Z,54nm,21.4s,baz=28,slow=32
TT01 **Tatalina** **45.88 34** *e*P **P** **21 24 19.4 -0.6**
SVW2 **Sparrevohn** **45.95 37** *e*P **P** **21 24 22.1 +1.5**
comp=Z,11nm,1.1s
KAPI **Kappang** **45.96 211** *e*P **P** **21 24 21.4 +0.2**
comp=Z,87nm,1.0s
KURK **Kurchatov** **46.66 309** *e*P **P** **21 24 25.8 -0.5**
KURK pmax pmax
comp=Z,70nm,0.8s
KURK **Kurchatov** **46.66 309** *e*P **P** **21 24 25.8 -0.5**
comp=Z,70nm,0.8s
KURBB **Kurchatov Arra** **46.73 309** P **P** **21 24 26.6 -0.2**
comp=Z,46nm,0.7s,baz=84,slow=7.9,SNR=419
BBKI **Banjar Baru** **46.86 218** P **P** **21 24 28.3 +0.1**
KTGM **Kuala Trenggan** **46.95 238** ⇓P **P** **21 24 30.0 +1.0**
RSO **Redoubt South** **47.32 38** *e*P **P** **21 24 30.8 -0.8**
RAMN **Ramite** **47.38 275** *e*P **P** **21 24 32.8 +0.2**
comp=Z,278nm,0.9s
KDAK **Kodiak Island** **47.47 41** *i* P **P** **21 24 32.0 -0.5**
KDAK **Kodiak Island** **47.47 41** *e*P **P** **21 24 32.5 0.0**
comp=Z,15nm,0.9s
GUN **Gumba** **47.55 277** *e*P **P** **21 24 34.4 +0.4**
comp=Z,114nm,0.9s
SPU **Mount Spurr** **47.66 37** *e*P **P** **21 24 35.1 +1.1**
SPU *e*pP **sP** **21 24 44.9 +0.6**
CAST **Castle Rocks** **47.69 34** *e*P **P** **21 24 35.3 +1.0**
comp=Z,4.6nm,0.8s
PKIN **Phulchoki** **48.08 276** *e*P **P** **21 24 37.8 -0.2**
comp=Z,96nm,1.2s
KKN **Kakani** **48.08 277** *e*P **P** **21 24 38.3 +0.3**
comp=Z,58nm,0.7s
BPAW **Bear Paw Mtn.** **48.20 33** *e*P **P** **21 24 39.2 +1.1**
comp=Z,19nm,1.8s
KTH **Kantishna Hill** **48.22 34** *e*P **P** **21 24 39.4 +1.0**
comp=Z,12nm,1.1s
SUA **Susitna One** **48.29 36** *e*P **P** **21 24 39.0 0.0**
comp=Z,7.0nm,0.9s
DMN **Daman** **48.30 277** *e*P **P** **21 24 39.8 +0.1**
comp=Z,44nm,0.8s
MLY **Manley** **48.34 32** *e*P **P** **21 24 40.3 +1.1**
comp=Z,12nm,0.9s
TRF **Thorofare Moun** **48.50 34** *e*P **P** **21 24 41.1 +0.5**
comp=Z,7.1nm,0.9s
GKN **Gorkha** **48.51 277** *e*P **P** **21 24 41.6 +0.4**
comp=Z,339nm,1.3s
EDFI **Ende, Flores** **48.60 207** P **P** **21 24 43.7 +1.9**
SOEI **Soe** **48.66 203** P **P** **21 24 43.8 +1.5**
SOEI **Soe** **48.66 203** *e*P **P** **21 24 43.9 +1.6**
comp=Z,122nm,0.9s
BWN **Browne** **48.87 33** *e*P **P** **21 24 45.2 +1.9**
comp=Z,28nm,0.9s
IPM **Ipoh** **49.02 240** *e*P **P** **21 24 44.4 -0.7**
comp=Z,23nm,0.7s
PMR **Palmer** **49.06 36** *e*P **P** **21 24 44.8 +0.1**
PMR pmax pmax
comp=Z,10.0nm,1.0s
PMR **Palmer** **49.06 36** *e*P **P** **21 24 44.8 +0.1**
comp=Z,9.9nm,1.0s
MCK **McKinley** **49.10 33** *e*P **P** **21 24 45.7 +0.6**
MCK *e*PP **sP** **21 24 55.4 +0.1**
MCK **McKinley** **49.10 33** *e*P **P** **21 24 45.7 +0.6**
MCK epP **sP** **21 24 55.4 +0.1**
RND **Reindeer** **49.14 34** *e*P **P** **21 24 45.6 +0.1**
RND pmax pmax
comp=Z,7.0nm,0.9s
RND **Reindeer** **49.14 34** *e*P **P** **21 24 45.6 +0.1**
comp=Z,7.4nm,0.9s
MDM **Murphy Dome** **49.41 32** *e*P **P** **21 24 48.6 +1.2**
comp=Z,16nm,0.8s
SML **Sawmill** **49.43 36** *e*P **P** **21 24 48.1 +0.4**
SML pmax pmax
comp=Z,9.0nm,0.8s
SML **Sawmill** **49.43 36** *e*P **P** **21 24 48.1 +0.4**
comp=Z,9.3nm,0.8s
KOLN **Koldanda** **49.44 278** *e*P **P** **21 24 48.0 -0.4**
comp=Z,44nm,0.7s
WRH **Wood River Hil** **49.47 32** *e*P **P** **21 24 48.3 +0.5**
comp=Z,8.8nm,0.7s
COLA **College** **49.57 32** *d i*P **P** **21 24 49.5 +1.0**
COLA pmax pmax
comp=Z,7.0nm,0.7s
CCB **Clear Creek Bu** **49.59 32** *e*P **P** **21 24 49.2 +0.4**
comp=Z,3.7nm,0.7s
PYUN **Piuthan** **49.79 278** *e*P **P** **21 24 51.5 +0.4**
comp=Z,222nm,0.8s
DHY **Denali Highway** **49.82 34** *e*P **P** **21 24 51.0 +0.3**
comp=Z,4.5nm,0.9s
SCM **Sheep Creek Mo** **49.91 36** *e*P **P** **21 24 52.0 +0.7**
SCM pmax pmax
comp=Z,13nm,1.1s
SCM **Sheep Creek Mo** **49.91 36** *e*P **P** **21 24 52.0 +0.7**
comp=Z,13nm,1.1s
COEN **Coen** **49.96 178** *e*P **P** **21 24 52.7 +0.6**
comp=Z,18nm,0.7s
HDA **Harding Lake** **49.97 32** *e*P **P** **21 24 51.6 -0.1**
comp=Z,9.3nm,0.9s
ILAR **Eielson Array** **49.98 32** P **P** **21 24 51.6 -0.1**
comp=Z,7.3nm,0.8s,baz=266,slow=6.3,SNR=77
ILAR LR LR 21 48 01.9
comp=Z,107nm,18.7s,baz=282,slow=38
ILB **Eielson Array** **49.98 32** *e*P **P** **21 24 51.6 -0.1**
IL1 **Eielson Array** **49.98 32** *e*P **P** **21 24 51.1 -0.7**
TKM2 **Tokmak 2** **50.28 299** *e*P **P** **21 24 55.5 +0.9**
TKM2 pmax pmax
comp=Z,33nm,0.6s
TKM2 **Tokmak 2** **50.28 299** *e*P **P** **21 24 55.5 +0.9**
comp=Z,33nm,0.6s
KLU **Klutina** **50.60 36** *e*P **P** **21 24 57.5 +0.9**
comp=Z,11nm,1.2s
DIV **Divide** **50.71 37** *e*P **P** **21 24 58.4 +1.0**
comp=Z,10nm,0.9s
FRU **Bishkek** **51.00 299**⇑ *i*P **P** **21 24 59.0 -0.8**
KSH **Kashi** **51.01 295** *e*P **P** **21 25 04.1 +4.0**
KSH pP sP 21 25 14.1 +3.8
KSH PcP **PcP** **21 26 18.6 +2.7**
KSH PP **PP** **21 27 02.9 +6.4**
KSH S **S** **21 32 18.5 +2.5**
KSH ScS **ScS** **21 34 49.5 +0.1**
KSH SS **SS** **21 35 52.8 +2.0**
KSH PMZ
comp=Z,14nm,0.9s
KSH LN
comp=Z,630nm,15.2s
KSH LE
comp=Z,550nm,13.0s
KSH LZ
comp=Z,1µm,17.8s
VOSK **Vostochnaya** **51.04 312** *e*P **P** **21 24 59.5 -0.4**
VOSK pmax pmax
comp=Z,48nm,0.8s
VOSK **Vostochnaya** **51.04 312** *e*P **P** **21 24 59.5 -0.4**
comp=Z,48nm,0.8s
AAK **Ala-Archa** **51.14 299** P **P** **21 25 01.3 +0.3**
comp=Z,15nm,0.5s,baz=98,slow=7.7,SNR=23
AAK **Ala-Archa** **51.14 299** *c i*P **P** **21 25 01.2 +0.2**
AAK pmax pmax
comp=Z,28nm,0.9s
DOT **Dot Lake** **51.28 33** *e*P **P** **21 25 01.8 +0.2**
comp=Z,18nm,1.0s
BMRM **Bremner River** **51.29 37** *e*P **P** **21 25 02.8 +1.0**
comp=Z,15nm,1.0s
RAGM **Ragged Mountai** **51.32 38** *e*P **P** **21 25 03.2 +1.2**
comp=Z,13nm,1.0s
BVAR **Borovoye Array** **51.33 313** P **P** **21 25 02.3 +0.2**
comp=Z,22nm,1.0s,baz=79,slow=7.7,SNR=95
BVAR PcP **PcP** **21 26 16.6 -0.1**
comp=Z,9.5nm,0.7s,baz=88,slow=4.1,SNR=5.4
BRVK **Borovoye** **51.39 313** *c i*P **P** **21 25 02.3 -0.2**
BRVK pmax pmax
comp=Z,68nm,0.8s
BRVK **Borovoye** **51.39 313** *e*P **P** **21 25 02.4 -0.1**
comp=Z,67nm,0.9s
MENT **Mentasta** **51.50 34** *e*P **P** **21 25 04.4 +1.2**
comp=Z,6.1nm,0.8s
EKS2 **Erkin-Say** **51.64 299** *e*P **P** **21 25 05.1 +0.4**
EKS2 pmax pmax
comp=Z,13nm,0.6s
EKS2 **Erkin-Say** **51.64 299** *e*P **P** **21 25 05.1 +0.4**
comp=Z,13nm,0.6s
PSI **Prapat** **51.67 240** *e*P **P** **21 25 05.3 0.0**
PSI pmax pmax
comp=Z,20nm,1.0s
PSI **Prapat** **51.67 240** *e*P **P** **21 25 05.3 0.0**
comp=Z,20nm,1.0s
BKNI **Bangkinang** **52.01 236** *e*P **P** **21 25 08.5 +0.9**
comp=Z,127nm,0.9s
CRQM **Cirque** **52.03 37** *e*P **P** **21 25 08.5 +1.1**
comp=Z,13nm,0.8s
ZRNK **Zerenda** **52.16 313** *e*P **P** **21 25 08.4 +0.1**
ZRNK pmax pmax
comp=Z,32nm,0.6s
ZRNK **Zerenda** **52.16 313** *e*P **P** **21 25 08.3 +0.1**
comp=Z,32nm,0.6s
BALM **Baldy** **52.37 37** *e*P **P** **21 25 10.7 +0.8**
BALM pmax pmax
comp=Z,6.0nm,0.8s
BALM **Baldy** **52.37 37** *e*P **P** **21 25 10.7 +0.8**
comp=Z,6.0nm,0.8s
EGAK **Eagle** **52.43 32** *e*P **P** **21 25 10.4 +0.3**
comp=Z,4.0nm,0.8s
GSI **Gunungsitoli** **53.68 240** *e*P **P** **21 25 19.3 -0.6**
comp=Z,139nm,1.3s
THN **Thein Dam** **53.75 287** *e*P **P** **21 25 18.7 -1.6**
KKAR **Karatay Array** **53.79 301** *e*P **P** **21 25 20.7 +0.2**
KKAR **Karatay Array** **53.79 301** *e*P **P** **21 25 20.7 +0.2**
INK **Inuvik** **54.94 27** *e*P **P** **21 25 29.1 +0.7**
INK pmax pmax
comp=Z,11nm,0.8s
INK **Inuvik** **54.94 27** *e*P **P** **21 25 29.1 +0.7**
comp=Z,11nm,0.8s
SVE **Sverdlovsk** **55.94 319**⇓ *e*P **P** **21 25 36.2 +0.4**
SVE pmax pmax
comp=Z,51nm,1.0s
SVE MLR MLR
comp=Z,972nm,15.0s
FITZ **Fitzroy Crossi** **56.19 199** *e*P **P** **21 25 38.2 +0.4**
comp=Z,29nm,1.4s
WRAB **Tennant Creek** **56.33 188**⇑ *i*P **P** **21 25 37.8 -1.1**
WRAB pmax pmax
comp=Z,28nm,0.8s
WRAB **Tennant Creek** **56.33 188** *e*P **P** **21 25 38.3 -0.6**
comp=Z,16nm,0.8s
WB2 **Warramunga Arr** **56.34 188** *e*P **P** **21 25 38.1 -0.8**
comp=Z,17nm,0.7s
WR1 **Warramunga Arr** **56.34 188** *e*P **P** **21 25 38.0 -1.0**
comp=Z,17nm,0.6s
WRA **Warramunga Arr** **56.34 188** P **P** **21 25 38.0 -1.0**
comp=Z,6.5nm,0.5s,baz=6.0,slow=7.4,SNR=103
ARU **Arti** **57.15 319** P **P** **21 25 44.4 0.0**
comp=Z,23nm,0.7s,baz=75,slow=3.4,SNR=48
ARU **Arti** **57.15 319** *c i*P **P** **21 25 44.1 -0.3**
ARU 21 26 38.1
ARU 21 27 50.8
ARU S **S** **21 33 40.1 +2.0**
ARU SS **SS** **21 37 24.2 -2.4**
ARU pmax pmax
comp=Z,88nm,1.7s
ARU MLR MLR
comp=Z,777nm,17.0s
ARU **Arti** **57.15 319** *e*P **P** **21 25 44.4 0.0**
comp=Z,37nm,0.8s
KBL **Kabul** **57.99 292** *e*P **P** **21 25 50.5 -0.4**
KBL pmax pmax
comp=Z,27nm,1.2s
KBL **Kabul** **57.99 292** *e*P **P** **21 25 50.5 -0.4**
comp=Z,27nm,1.2s
HYB **Hyderabad** **58.50 269** *i* P **P** **21 25 55.0 +0.5**
ABKAR **Akbulak array** **58.68 311** *e*P **P** **21 25 54.5 -0.8**
DLBC **Dease Lake** **59.04 38** *e*P **P** **21 25 59.8 +2.0**
comp=Z,31nm,1.9s
AKTO **Aktyubinsk** **59.43 312** P **P** **21 26 00.2 -0.2**
comp=Z,17nm,0.8s,baz=73,slow=6.1,SNR=34
AS01 **Alice Springs** **60.06 188** *e*P **P** **21 26 04.1 -0.9**
AS31 **Alice Springs** **60.06 188** *e*P **P** **21 26 04.2 -0.8**
comp=Z,5.5nm,0.6s
ASAR **Alice Springs** **60.06 188** P **P** **21 26 04.2 -0.8**
comp=Z,4.0nm,0.7s,baz=16,slow=8.1,SNR=40
ASAR LR LR 21 53 20.6
comp=Z,102nm,18.0s,baz=341,slow=37
SPITS **Spitsbergen Ar** **61.34 349** P **P** **21 26 13.6 +0.5**
comp=Z,7.1nm,0.7s,baz=120,slow=8.7,SNR=7.5
KBS **Kingsbay** **61.48 350** *e*P **P** **21 26 15.1 +1.2**
KBS pmax pmax
comp=Z,22nm,0.8s
KBS **Kingsbay** **61.48 350** *e*P **P** **21 26 15.1 +1.2**
comp=Z,22nm,0.8s
DZM **Mont Dzumac** **62.52 154** *e*LR LR 21 44 55.7
comp=Z,398nm,20.9s
PALK **Pallekele** **62.52 258** *i* P **P** **21 26 23.3 +1.4**
YKA **Yellowknife Ar** **64.32 30** P **P** **21 26 33.0 -0.1**
comp=Z,5.2nm,0.7s,baz=301,slow=6.7,SNR=29
YKA LR LR 21 55 01.5
comp=Z,6.8nm,21.4s,baz=0.0,slow=36
YKB5 **Yellowknife Ar** **64.32 30** *e*P **P** **21 26 33.0 0.0**
GEYT **Alibeck** **64.49 299** P **P** **21 26 34.9 +0.2**
comp=Z,9.2nm,0.9s,baz=64,slow=3.4,SNR=21
GEYT LR LR 21 56 37.4
comp=Z,252nm,19.9s,baz=70,slow=38
KLMR **Klimovskoe** **64.58 328** *e*P **P** **21 26 33.4 -1.4**

KLMR *e* 21 27 06.1
KLMR *e* 21 28 56.8
KLMR pmax pmax
comp=Z,29nm,0.9s
ARA0 ARCESS Array S 64.83 340 *eP* **P 21 26 36.7 +0.3**
ARCES ARCESS Array B 64.83 340 P **P 21 26 36.7 +0.3**
comp=Z,14nm,0.7s,baz=56,slow=7.6,SNR=25
ARCES LR LR 21 58 08.6
comp=Z,317nm,21.3s,baz=47,slow=39
ARE0 ARCESS Array S 64.83 340 *eP* **P 21 26 37.0 +0.6**
comp=Z,30nm,1.0s
DAG Danmarks Havn 66.57 355⇑ *iP* **P 21 26 47.3 -0.2**
DAG pmax pmax
comp=Z,15nm,1.0s
DAG Danmarks Havn 66.57 355⇑ *iP* **P 21 26 47.3 -0.2**
comp=Z,15nm,1.0s
NLWA Neilton Lookou 67.01 47 *eP* **P 21 26 52.6 +1.8**
comp=Z,20nm,0.9s
STKA Stephens Creek 67.78 180 P **P 21 26 54.6 -0.9**
comp=Z,5.8nm,0.8s,baz=329,slow=5.9,SNR=9.5
STKA Stephens Creek 67.78 180 *eP* **P 21 26 54.6 -0.9**
STKA *e**PP **pP 21 27 03.0 -0.2**
STKA Stephens Creek 67.78 180 *eP* **P 21 26 54.6 -0.9**
STKA *ep*P **pP 21 27 03.0 -0.2**
MOS Moscow 68.06 324 *eP* **P 21 26 56.9 -0.3**
MOS pmax pmax
comp=Z,56nm,0.9s
MOS MLR MLR
comp=Z,600nm,15.0s
VRH Novokhopyorsk 68.37 318 *eP* **P 21 26 58.2 -1.0**
VRH pmax pmax
comp=Z,30nm,0.8s
VRH MLR MLR
comp=Z,770nm,16.0s
LON Longmire 68.55 47 *eP* **P 21 27 01.7 +1.2**
LON pmax pmax
comp=Z,6.0nm,0.9s
LON Longmire 68.55 47 *eP* **P 21 27 01.7 +1.2**
comp=Z,5.7nm,0.9s
OBN Obninsk 68.91 324 P **P 21 27 02.4 -0.1**
comp=Z,24nm,0.6s,baz=65,slow=5.8,SNR=9.5
OBN Obninsk 68.91 324*c iP* **P 21 27 02.3 -0.1**
OBN *e* 21 27 10.9
OBN *e* 21 27 26.1
OBN *e* 21 29 34.7
OBN pmax pmax
comp=Z,28nm,0.7s
OBN MLR MLR
comp=Z,593nm,15.0s
OBN Obninsk 68.91 324 *eP* **P 21 27 02.4 -0.1**
comp=Z,31nm,0.8s
FIA1 FINESS Array S 69.65 333 *eP* **P 21 27 07.3 +0.3**
FIA0 FINESS Array S 69.65 333 *eP* **P 21 27 07.0 0.0**
FIA0 FINESS Array S 69.65 333 *eP* **P 21 27 07.0 0.0**
FINES FINESS Array B 69.65 333 P **P 21 27 07.0 0.0**
comp=Z,28nm,0.8s,baz=63,slow=6.5,SNR=49
FINES LR LR 22 00 01.2
comp=Z,333nm,18.0s,baz=36,slow=38
FINES FINESS Array B 69.65 333 P **P 21 27 07.0 0.0**
VSR Storozhevoye 69.72 319 *eP* **P 21 27 07.1 -0.5**
VSR pmax pmax
comp=Z,40nm,0.7s
VSR MLR MLR
comp=Z,810nm,14.0s
NEW Newport 70.47 44 *eP* **P 21 27 13.3 +1.0**
NEW *e**PP **pP 21 27 20.2 +0.2**
NEW Newport 70.47 44 *eP* **P 21 27 13.3 +1.0**
NEW *ep*P **pP 21 27 20.2 +0.2**
KCPM Cahto Peak 71.07 54 *eP* **P 21 27 14.4 -1.9**
comp=Z,30µm,0.6s
K05A Summer Lake 71.19 51 *eP* **P 21 27 18.6 +1.6**
comp=Z,28nm,1.0s
VSU Vasula 71.28 330*c iP* **P 21 27 17.0 0.0**
VSU pmax pmax
comp=Z,63nm,0.8s
NCK Nalchik 71.35 311⇓ *eP* **P 21 27 18.0 +0.3**
NCK pmax pmax
comp=Z,7.0nm,0.6s
SUMG Summit 71.46 0 *i* P **P 21 27 19.1 +0.7**
SUMG pmax pmax
comp=Z,14nm,0.7s
SUMG Summit 71.46 0 *i* P **P 21 27 19.1 +0.7**
comp=Z,14nm,0.7s
SUMG Summit 71.46 0 *eP* **P 21 27 19.2 +0.9**
comp=Z,17nm,0.9s
ZEI Tsey 71.54 310 *eP* **P 21 27 16.8 -2.3**
ZEI pmax pmax
comp=Z,18nm,0.6s
KBZ Khabaz 71.65 311 P **P 21 27 19.9 +0.4**
comp=Z,16nm,0.8s,baz=58,slow=3.4,SNR=24
KBZ LR LR 22 00 53.2
comp=Z,240nm,21.1s,baz=60,slow=38
KVAR Kislovodsk Arr 71.65 311 P **P 21 27 20.0 +0.3**
comp=Z,22nm,1.0s,baz=56,slow=2.0,SNR=11
KIV Kislovodsk 71.66 311 *i* P **P 21 27 19.9 +0.3**
SNR=5.5
KIV Kislovodsk 71.66 311 *eP* **P 21 27 19.9 +0.3**
KIV pmax pmax
comp=Z,34nm,0.9s
KIV MLR MLR
comp=Z,324nm,18.0s
KIV Kislovodsk 71.66 311 *eP* **P 21 27 20.0 +0.3**
comp=Z,29nm,0.8s
MOD Modoc Plateau 72.00 51 *eP* **P 21 27 22.8 +0.9**
comp=Z,6.5nm,1.0s
NEY Neytrino 72.02 311⇑ *eP* **P 21 27 22.7 +0.7**
NEY pmax pmax
comp=Z,1.0nm,0.6s
BMO Blue Mountains 72.22 47 *eP* **P 21 27 24.0 +0.9**
BMO pmax pmax
comp=Z,8.0nm,1.1s
BMO Blue Mountains 72.22 47 *eP* **P 21 27 24.0 +0.9**
comp=Z,8.1nm,1.1s
UOSS Minazif 72.35 288 *eP* **P 21 27 24.2 +0.2**
comp=Z,1.5nm,0.8s
GNI Garni 72.42 307 P **P 21 27 24.9 +0.4**
comp=Z,7.1nm,0.9s,baz=168,slow=5.7,SNR=6.6
GNI Garni 72.42 307 P **P 21 27 25.1 +0.6**
GNI Garni 72.42 307 *eP* **P 21 27 25.7 +1.3**
GNI Garni 72.42 307 *eP* **P 21 27 25.7 +1.3**
YBMT Yellow Bay 72.42 43 *eP* **P 21 27 25.2 +0.9**
HATD Hatta, Dubai 72.47 288 *i* P **P 21 27 25.0 +0.3**
SNR=8.9
ASHO Ashiyiah 72.60 288 P **P 21 27 25.1 -0.5**
SWMT Swartz Lake 72.63 44 *eP* **P 21 27 26.3 +0.8**
SCO Scoresbysund 72.92 354 *i* P **P 21 27 27.6 +1.0**
SCO pmax pmax
comp=Z,9.0nm,0.9s
SCO Scoresbysund 72.92 354 *i* P **P 21 27 27.6 +1.0**
comp=Z,8.8nm,0.9s
FAQ Al Faqa, Dubai 72.92 288 P **P 21 27 27.0 -0.4**
NACGM Naroch 73.55 327 *e* **P 21 27 30.0 -0.6**
PAHR Pah Rah Range 73.79 53 *eP* **P 21 27 33.4 +0.9**
comp=Z,11nm,1.0s
MFID Camas Ranch 73.91 48 *eP* **P 21 27 34.2 +1.1**
MFID *ep*P **sP 21 27 43.8 +0.2**
PNTR Pine Nut 73.99 53 *ep*P pP 21 27 44.7 +3.2
CMB Columbia Colle 74.06 54 *eP* P 21 27 44.9 +11
CMB Columbia Colle 74.06 54 *ep*P pP 21 27 44.9 +3.2
FFC Flin Flon 74.19 33 *eP* **P 21 27 34.7 +0.3**
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC Flin Flon 74.19 33 *eP* **P 21 27 34.7 +0.3**
comp=Z,7.7nm,0.8s
YERR Yerington 74.28 53 *eP* **P 21 27 36.9 +1.5**
comp=Z,15nm,1.0s
ANN Anapa 74.30 314 *eP* P 21 27 27.7 -7.4
ANN *e**PP pP 21 27 42.4 -0.4
ANN *eS* **SKiKP 21 36 55.2 -5.4**
ANN pmax pmax
comp=Z,84nm,1.5s
ANN MLR MLR
comp=E,348nm,23.0s
ANN MLR MLR
comp=N,452nm,23.0s
ANN MLR MLR
comp=Z,505nm,23.0s
BPIM Pinnacles 74.40 56 *eP* **P 21 27 36.8 +0.8**
LRM Limekiln Ridge 74.48 44 *eP* **P 21 27 37.2 +0.7**
DLMT Dillon 74.67 45 *eP* **P 21 27 38.5 +0.9**
comp=Z,17nm,1.3s
BMN Battle Mountai 74.75 51 *eP* **P 21 27 39.4 +1.3**
BMN *e**PP **pP 21 27 47.0 +1.2**
BMN Battle Mountai 74.75 51 *eP* **P 21 27 39.4 +1.3**
BMN *ep*P **pP 21 27 47.0 +1.2**

NC405 NORSAR Array S 74.81 337 *eP* **P 21 27 38.2 +0.4**
NC303 NORSAR Array S 74.83 338 *eP* **P 21 27 38.5 +0.6**
TVH1 TV Hill, Hawth 74.89 53 *eP* **P 21 27 40.7 +1.5**
comp=Z,12nm,1.2s
TVH3 East Aurora ar 74.91 53 *eP* **P 21 27 40.8 +1.6**
comp=Z,8.3nm,0.9s
HFS Hagfors 74.92 336 P **P 21 27 38.6 +0.1**
comp=Z,17nm,0.8s,baz=72,slow=5.2,SNR=17
NC204 NORSAR Array S 74.98 336 *eP* **P 21 27 39.7 +0.8**
NB201 NORSAR Array S 74.99 337 *eP* **P 21 27 39.5 +0.6**
NB2 NORSAR Subarra 75.02 338 P **P 21 27 39.2 +0.1**
comp=Z,35nm,0.9s,baz=38,slow=5.9
NB2 NORSAR Subarra 75.02 338 P **P 21 27 39.2 +0.1**
baz=38,slow=5.9
NB200 NORSAR Array S 75.02 338 *eP* **P 21 27 39.2 +0.1**
NOA NORSAR Array B 75.02 338 P **P 21 27 39.2 +0.1**
comp=Z,22nm,0.8s,baz=39,slow=5.8,SNR=60
NOA LR LR 22 03 03.9
comp=Z,343nm,21.2s,baz=40,slow=38
BOZ Bozeman (W) 75.05 44 *eP* **P 21 27 40.5 +0.8**
BOZ pmax pmax
comp=Z,11nm,0.9s
BOZ Bozeman (W) 75.05 44 *eP* **P 21 27 40.5 +0.8**
comp=Z,11nm,0.9s
AKASG Malin Array Be 75.11 323 P **P 21 27 39.5 -0.2**
comp=Z,40nm,0.8s,baz=46,slow=6.0,SNR=51
AKASG LR LR 22 03 41.1
comp=Z,668nm,18.1s,baz=50,slow=38
AKBB Malin Array Si 75.11 323 *eP* **P 21 27 39.6 -0.1**
AKBB pmax pmax
comp=Z,34nm,0.8s
AKBB Malin Array Si 75.11 323 *eP* **P 21 27 39.5 -0.1**
comp=Z,34nm,0.8s
KIEV Kiev 75.12 323*c iP* **P 21 27 39.5 -0.3**
KIEV pmax pmax
comp=Z,36nm,0.8s
KIEV Kiev 75.12 323 *eP* **P 21 27 39.3 -0.5**
comp=Z,34nm,0.8s
NBO02 NORSAR Array S 75.13 338 *eP* **P 21 27 39.3 -0.4**
AK11 Malin Array Si 75.15 323 *eP* **P 21 27 39.9 -0.1**
NBO00 NORSAR Array S 75.17 338 *eP* **P 21 27 40.4 +0.4**
NAO01 NORSAR Array S 75.28 338 *eP* **P 21 27 41.2 +0.6**
ELK Elko 75.81 50 *eP* **P 21 27 45.6 +1.3**
ELK *e**PP **sP 21 27 54.0 -0.8**
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 75.81 50 *eP* **P 21 27 45.6 +1.3**
comp=Z,3.3nm,0.8s
ELK *ep*P **sP 21 27 54.0 -0.8**
SIM Simferopol' 76.10 316*ceP* **P 21 27 44.7 -0.9**
SIM pmax pmax
comp=Z,27nm,0.8s
SIM MLR MLR
comp=Z,260nm,15.0s
IMW Indian Meadow 76.50 45 *eP* **P 21 27 50.0 +1.8**
comp=Z,6.2nm,0.8s
FXWY Fox Creek 76.60 45 *eP* **P 21 27 50.3 +1.5**
comp=Z,7.4nm,1.1s
HVU Hansel Valley 76.70 48 *eP* **P 21 27 50.6 +1.4**
HVU pmax pmax
comp=Z,8.0nm,1.0s
HVU Hansel Valley 76.70 48 *eP* **P 21 27 50.6 +1.4**
comp=Z,8.2nm,1.0s
MOOW Moose Ponds 76.70 45 *eP* **P 21 27 50.6 +1.4**
comp=Z,11nm,1.4s
TPAW Teton Pass 76.74 46 *eP* **P 21 27 51.1 +1.5**
comp=Z,5.2nm,0.8s
R11A Troy Canyon, C 76.99 52 *eP* **P 21 27 51.8 +0.9**
comp=Z,8.6nm,1.0s
BGU Big Grassy Mou 77.05 49 *eP* **P 21 27 52.1 +0.8**
comp=Z,5.0nm,1.0s
SPUT South Promonto 77.17 48 *eP* **P 21 27 55.7 +3.8**
SORM Soroca 77.19 321⇓ *iP* **P 21 27 50.8 -0.8**
LAO LASA Array 77.35 41 *eP* **P 21 27 53.6 +0.9**
comp=Z,15nm,0.4s
TPNV Topopah Spring 77.38 53 *eP* **P 21 27 54.0 +0.8**
TPNV pmax pmax
comp=Z,10.0nm,1.1s
TPNV Topopah Spring 77.38 53 *eP* **P 21 27 54.0 +0.8**
comp=Z,9.8nm,1.1s
HWUT Hardware Ranch 77.52 47 *eP* **P 21 27 55.1 +1.2**
comp=Z,9.6nm,1.0s
DUG Dugway, Tooele 77.62 49 *eP* **P 21 27 55.5 +1.1**
DUG pmax pmax
comp=Z,10.0nm,0.9s
DUG Dugway, Tooele 77.62 49 *eP* **P 21 27 55.5 +1.1**
comp=Z,9.8nm,0.9s
TCUT Toone Canyon 77.91 48 *eP* **P 21 27 57.4 +1.2**
comp=Z,16nm,1.0s
BW06 Boulder Array 77.98 46 *eP* **P 21 27 55.8 -0.7**
PD31 Pinedale Array 77.98 46 *eP* **P 21 27 56.5 0.0**
PDAR Pinedale Array 77.98 46 P **P 21 27 56.5 0.0**
comp=Z,21nm,0.6s,baz=293,slow=4.7,SNR=17
JLU Jordanelle 78.20 48 *eP* **P 21 27 59.2 +1.5**
comp=Z,9.1nm,1.1s
IAS Iasi 78.21 321⇑ *iP* **P 21 27 57.3 0.0**
BEL Belsk 78.27 327 *eP* **P 21 27 58.3 +0.7**
BEL Belsk 78.27 327 *eP* **P 21 27 58.3 +0.7**
BSD Bornholm Skovb 78.28 332 *i* P **P 21 27 56.7 -0.8**
BSD pmax pmax
comp=Z,20nm,0.8s
BSD Bornholm Skovb 78.28 332 *i* P **P 21 27 56.7 -0.8**
comp=Z,20nm,0.8s
LEOM Leova 78.33 320⇑ *iP* **P 21 27 58.3 +0.3**
SHPR Sheep Range 78.35 53 *eP* **P 21 28 00.1 +1.6**
comp=Z,4.1nm,0.9s
COP Copenhagen 78.76 333 *eP* **P 21 28 00.3 +0.1**
COP pmax pmax
comp=Z,17nm,0.8s
COP Copenhagen 78.76 333 *i* P **P 21 28 00.3 +0.1**
comp=Z,17nm,0.8s
CCUT Cedar City 78.88 52 *eP* **P 21 28 03.2 +1.6**
CCUT *ep*P **PcP 21 28 10.4 +0.2**
KWP Kalwaria Pacla 78.94 325 *eP* **P 21 28 02.1 +0.7**
KWP Kalwaria Pacla 78.94 325⇑ *iP* **P 21 28 02.2 +0.8**
KWP Kalwaria Pacla 78.94 325 *eP* **P 21 28 02.1 +0.7**
MSU Marysvale 79.04 50 *eP* **P 21 28 03.8 +1.4**
MSU *e**PP **pP 21 28 08.4 -1.7**
MSU Marysvale 79.04 50 *eP* **P 21 28 03.8 +1.4**
MSU *ep*P **pP 21 28 08.4 -1.7**
BUR08 Bucovina Ar. S 79.11 322 *eP* **P 21 28 02.9 +0.4**
BURAR Bucovina Array 79.12 322⇑ *iP* **P 21 28 02.7 +0.2**
TESR Tescani 79.13 320⇑ *iP* **P 21 28 02.8 +0.3**
CFR Carcaliu 79.24 319⇑ *iP* **P 21 28 02.7 -0.3**
LCMT Little Creek M 79.28 52 *eP* **P 21 28 04.8 +1.2**
comp=Z,8.8nm,1.0s
MUD Monsted U'grnd 79.29 335 *eP* **P 21 28 03.6 +0.5**
MUD pmax pmax
comp=Z,31nm,1.1s
MUD Monsted U'grnd 79.29 335 *i* P **P 21 28 03.6 +0.5**
comp=Z,31nm,1.1s
MTPU Mount Pierson 79.32 51 *eP* **P 21 28 05.6 +1.5**
MTPU *ep*P **pP 21 28 10.6 -1.2**
P17A Butcher Ranch, 79.33 49 *eP* **P 21 28 05.2 +1.3**
comp=Z,13nm,1.0s
VRI Vrincioaia 79.52 320⇑ *iP* **P 21 28 05.2 +0.6**
KNB Kanab 79.54 52 *eP* **P 21 28 06.5 +1.4**
KNB pmax pmax
comp=Z,13nm,1.1s
KNB Kanab 79.54 52 *eP* **P 21 28 06.5 +1.4**
comp=Z,13nm,1.1s
TIRR Tirgusor 79.56 318⇑ *iP* **P 21 28 04.8 0.0**
PLOR Plostina 79.57 320⇑ *iP* **P 21 28 05.5 +0.6**
BR101 Keskin Array S 79.60 312 *eP* **P 21 28 05.5 +0.2**
BR101 *ep*P **PP 21 31 08.2 +2.6**
BR131 Keskin Array S 79.60 312 *eP* **P 21 28 05.8 +0.4**
BRTR Keskin Array B 79.60 312 P **P 21 28 05.5 +0.2**
comp=Z,8.6nm,0.7s,baz=100,slow=4.1,SNR=42
BRTR PP **PP 21 31 08.2 +2.6**
comp=Z,1.1nm,0.7s,baz=54,slow=6.3,SNR=3.7
BRTR LR LR 22 07 57.7
comp=Z,124nm,18.4s,baz=40,slow=39
KOLS Kolonicke sedl 79.64 324 *eP* **P 21 28 05.3 +0.1**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 79.64 324 *eP* **P 21 28 05.3 +0.1**
HARR Harsova 79.67 318⇑ *iP* **P 21 28 06.2 +0.8**
SRU San Rafael Swe 79.68 49 *eP* **P 21 28 06.8 +0.9**
SRU pmax pmax
comp=Z,11nm,0.8s
SRU San Rafael Swe 79.68 49 *eP* **P 21 28 06.8 +0.9**
comp=Z,11nm,0.8s
STHS Stebnicka Huta 79.78 325 *eP* **P 21 28 06.7 +0.8**
STHS pmax pmax
comp=Z,8.0nm,0.8s

STHS Stebnicka Huta 79.78 325 *eP* **P 21 28 06.7 +0.8**
UZH Uzhgorod 79.84 324 *eP* **P 21 28 04.6 -1.6**
UZH *e* 21 28 14.2
UZH *e* 21 28 18.6
OJC Ojcow 79.86 326 *eP* **P 21 28 06.8 +0.4**
OJC Ojcow 79.86 326 *eP* **P 21 28 06.7 +0.3**
OJC pmax pmax
comp=Z,27nm,1.0s
OJC Ojcow 79.86 326 *eP* **P 21 28 06.7 +0.3**
comp=Z,27nm,1.0s
ARCR ARCALIA 79.91 322⇑ *iP* **P 21 28 07.9 +1.2**
ULM Lac du Bonnet 79.98 33 P **P 21 28 06.8 -0.2**
comp=Z,2.2nm,0.4s,baz=292,slow=1.5,SNR=4.2
ANTO Ankara 80.02 312 *eP* **P 21 28 08.0 +0.5**
ANTO pmax pmax
comp=Z,17nm,0.7s
ANTO Ankara 80.02 312 *eP* **P 21 28 08.0 +0.5**
comp=Z,17nm,0.7s
PGOR Pogoanele 80.03 319⇓ *iP* **P 21 28 08.4 +1.1**
CRVS Cervenica-Dubn 80.04 325 *eP* **P 21 28 07.6 +0.2**
CRVS Cervenica-Dubn 80.04 325 *eP* **P 21 28 07.6 +0.2**
BR231 Keskin MP Arra 80.05 312 *eP* **P 21 28 08.5 +0.8**
TRPA Tarpa 80.07 324⇓ *eP* **P 21 28 08.1 +0.6**
ISR Istrita 80.12 319⇑ *iP* **P 21 28 07.7 -0.2**
DOPR Dopca 80.15 321⇑ *iP* **P 21 28 07.9 -0.1**
MLR Muntele Rosu 80.18 320 P **P 21 28 08.7 +0.4**
comp=Z,0.5nm,0.6s,baz=2.9,slow=3.7,SNR=7.1
MLR Muntele Rosu 80.18 320⇑ *iP* **P 21 28 09.1 +0.8**
MLR Muntele Rosu 80.18 320 *eP* **P 21 28 08.7 +0.4**
MLR pmax pmax
comp=Z,17nm,1.4s
MLR Muntele Rosu 80.18 320 *eP* **P 21 28 08.7 +0.4**
comp=Z,17nm,1.4s
NIE Niedzica 80.21 326 *eP* **P 21 28 09.1 +0.8**
NIE Niedzica 80.21 326 *eP* **P 21 28 09.1 +0.8**
U15A North Rim 80.24 52 *eP* **P 21 28 10.2 +1.2**
comp=Z,18nm,1.7s
CJR Cluj-Napoca 80.54 322⇑ *iP* **P 21 28 10.1 0.0**
VOIR 80.68 320⇑ *iP* **P 21 28 11.4 +0.4**
LANS Liptovska Anna 80.78 326 *eP* **P 21 28 12.5 +1.1**
LANS *e* 21 31 15.8
LANS Liptovska Anna 80.78 326 *eP* **P 21 28 12.5 +1.1**
LANS *ePP* **PP 21 31 15.8 +0.9**
OKC Ostrava-Krasne 80.87 327 *eP* **P 21 28 11.9 +0.1**
OKC *ex* x 21 28 15.9
OKC AMS AMS 22 07 10.0
comp=Z,400nm,18.9s
OKC Ostrava-Krasne 80.87 327 *eP* **P 21 28 11.9 +0.1**
OKC MLR MLR
comp=Z,400nm,18.9s
PV09 Paradox Valley 80.91 49 *eP* **P 21 28 13.8 +1.1**
DRGR 80.92 323⇑ *iP* **P 21 28 11.5 -0.7**
KSP Ksiaz 80.93 328 *eP* **P 21 28 12.5 +0.5**
KSP Ksiaz 80.93 328 *eP* **P 21 28 12.5 +0.4**
ARR Arges 80.94 321⇑ *iP* **P 21 28 13.0 +0.6**
PV10 Paradox Valley 81.05 49 *eP* **P 21 28 14.9 +1.6**
MORC Moravsky Berou 81.18 327⇑ *iP* **P 21 28 12.9 -0.6**
MORC Moravsky Berou 81.18 327 *eP* **P 21 28 13.8 +0.3**
MORC pmax pmax
comp=Z,47nm,1.0s
MORC Moravsky Berou 81.18 327 *eP* **P 21 28 13.8 +0.3**
comp=Z,47nm,1.0s
PV05 Paradox Valley 81.20 49 *eP* **P 21 28 15.2 +1.2**
N23A Red Feather La 81.26 45 *eP* **P 21 28 15.5 +1.1**
comp=Z,7.5nm,0.9s
DPC Dobruska-Polom 81.28 328 *eP* **P 21 28 14.8 +0.8**
DPC *ep*P **sP 21 28 23.4 -1.2**
DPC *eP*P **PP 21 31 21.3 +2.3**
DPC Dobruska-Polom 81.28 328 *eP* **P 21 28 14.8 +0.8**
DPC *e* 21 28 23.4
DPC *e* 21 31 21.3
UPC Upice 81.30 328 *eP* **P 21 28 14.6 +0.5**
UPC AMS AMS 22 08 50.0
comp=Z,400nm,16.2s
UPC Upice 81.30 328 *eP* **P 21 28 14.6 +0.5**
UPC MLR MLR
comp=Z,400nm,16.2s
LOT Lotru 81.33 321⇑ *iP* **P 21 28 14.9 +0.4**
WUAZ Wupatki 81.39 52 *eP* **P 21 28 16.1 +1.1**
comp=Z,8.9nm,1.0s
PSZ Piszkesteto 81.47 325⇑ *iP* **P 21 28 15.7 +0.6**
PSZ Piszkesteto 81.47 325⇑ *eP* **P 21 28 15.5 +0.4**
PSZ Piszkesteto 81.47 325 *eP* **P 21 28 15.6 +0.4**
PSZ pmax pmax
comp=Z,18nm,0.9s
PSZ Piszkesteto 81.47 325 *eP* **P 21 28 15.6 +0.4**
comp=Z,18nm,0.9s
PV01 Paradox Valley 81.49 49 *eP* **P 21 28 16.5 +0.9**
VYHS Vyhne 81.54 326 *eP* **P 21 28 15.7 +0.3**
VYHS pmax pmax
comp=Z,5.0nm,0.8s
VYHS Vyhne 81.54 326 *eP* **P 21 28 15.7 +0.3**
BRG Berggiesshubel 81.88 330 *eP* **P 21 28 17.2 +0.1**
comp=Z,11nm,0.8s
BRG *e* 21 33 41.4
comp=Z,2.5nm,0.6s
comp=N,243nm,15.6s
comp=E,126nm,13.4s
comp=Z,498nm,15.7s
BRG Berggiesshubel 81.88 330 *eP* **P 21 28 17.2 +0.1**
BRG pmax pmax
comp=Z,11nm,0.8s
BRG pmax pmax
comp=Z,3.0nm,0.6s
BRG MLR MLR
comp=N,243nm,15.6s
BRG MLR MLR
comp=E,126nm,13.4s
BRG MLR MLR
comp=Z,498nm,15.7s
PVCC Panska Ves 81.89 329 *eP* **P 21 28 17.7 +0.5**
PVCC AMS AMS 22 09 40.0
comp=Z,500nm,13.5s
PVCC Panska Ves 81.89 329 *eP* **P 21 28 17.7 +0.5**
PVCC MLR MLR
comp=Z,500nm,13.5s
CLL Collm 81.93 330⇑ *iP* **P 21 28 17.3 0.0**
comp=Z,20nm,0.9s
CLL *i* 21 28 33.2
CLL *i* 21 29 34.7
CLL *eS* **S 21 38 30.0 +0.5**
CLL Collm 81.93 330⇑ *iP* **P 21 28 17.3 0.0**
CLL *eS* **S 21 38 30.0 +0.5**
CLL pmax pmax
comp=Z,20nm,0.9s
CLL Collm 81.93 330 *eP* **P 21 28 17.1 -0.3**
comp=Z,19nm,0.8s
VRAC Vranov 81.94 327 P **P 21 28 17.9 +0.4**
comp=Z,8.6nm,0.7s,baz=43,slow=3.9,SNR=15
VRAC Vranov 81.94 327⇑ *iP* **P 21 28 18.1 +0.6**
X16A Lo Mia Camp, P 82.03 53 *eP* **P 21 28 20.1 +1.6**
comp=Z,5.9nm,1.2s
ISCO Idaho Springs 82.17 46 *eP* **P 21 28 19.7 +0.4**
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 82.17 46 *eP* **P 21 28 19.7 +0.4**
comp=Z,3.4nm,0.8s
GOPC GO Pecny, Ondr 82.26 329 *eP* **P 21 28 19.6 +0.4**
GOPC AMS AMS 22 09 30.0
comp=Z,400nm,13.6s
GOPC GO Pecny, Ondr 82.26 329 *eP* **P 21 28 19.6 +0.4**
GOPC MLR MLR
comp=Z,400nm,13.6s
BZS Buzias 82.29 322⇑ *iP* **P 21 28 19.0 -0.4**
PRU Pruhonice 82.31 329 *eP* **P 21 28 19.6 +0.2**
PRU *ex* x 21 28 25.0
PRU AMS AMS 22 09 40.0
comp=Z,400nm,14.3s
PRU Pruhonice 82.31 329 *eP* **P 21 28 19.6 +0.2**
PRU *e* 21 28 25.0
PRU MLR MLR
comp=Z,400nm,14.3s
TREC Trest 82.43 328 *eP* **P 21 28 20.4 +0.3**
TREC *ep*P **sP 21 28 31.2 +0.6**
TREC AMS AMS 22 09 30.0
comp=Z,400nm,16.1s
TREC Trest 82.43 328 *eP* **P 21 28 20.4 +0.3**
TREC *e* 21 28 31.2
TREC MLR MLR
comp=Z,400nm,16.1s
S22A 4UR Ranch, Cre 82.79 48 *eP* **P 21 28 21.5 -1.0**
comp=Z,15nm,1.4s
CSS Mathiatis 82.79 308 *eP* **P 21 28 22.1 -0.1**
comp=Z,3.0nm,0.8s

MPEP	**Malo Peshtene**	**82.80 320**	P		**P**		**21 28 22.5**	**+0.4**
MPEP	**Malo Peshtene**	**82.80 320**	P		**P**		**21 28 22.5**	**+0.4**
MDVR	**Moldovita**	**82.83 322**	⇑*i*P		**P**		**21 28 22.3**	**0.0**
NKC	**Novy Kostel**	**82.98 330**	*e*P		**P**		**21 28 22.8**	**-0.1**
NKC	**Novy Kostel**	**82.98 330**	*e*P		**P**		**21 28 22.8**	**-0.1**
Q24A	**Divide**	**82.99 46**	*e*P		**P**		**21 28 24.2**	**+0.7**
	comp=Z,6.0nm,0.8s							
KDZ	**Kurdzhali**	**83.07 317**	P		**P**		**21 28 24.5**	**+1.0**
KDZ	**Kurdzhali**	**83.07 317**	P		**P**		**21 28 24.5**	**+1.0**
SOP	**Sopron**	**83.17 326**	⇑*e*P		**P**		**21 28 24.5**	**+0.6**
CONA	**Conrad Observa**	**83.30 327**	*i* P		**P**		**21 28 25.2**	**+0.5**
	comp=Z,12nm,1.0s,SNR=8.9							
KHC	**Kasperske Hory**	**83.37 329**	*e*P		**P**		**21 28 25.3**	**+0.3**
KHC			*e*PP		**PP**		**21 31 39.0**	**+2.8**
KHC			AMS		AMS		22 10 10.0	
	comp=Z,500nm,14.4s							
KHC	**Kasperske Hory**	**83.37 329**	*e*P		**P**		**21 28 25.3**	**+0.3**
KHC			*e*				21 31 39.0	
KHC			MLR		MLR			
	comp=Z,500nm,14.4s							
KHC	**Kasperske Hory**	**83.37 329**	*e*P		**P**		**21 28 25.2**	**+0.3**
	comp=Z,6.0nm,0.8s							
RZN	**Rozhen**	**83.43 318**	P		**P**		**21 28 25.5**	**-0.1**
RZN	**Rozhen**	**83.43 318**	P		**P**		**21 28 25.5**	**-0.1**
GEC2	**GERESS Array S**	**83.54 328**	*e*P		**P**		**21 28 26.1**	**+0.2**
GEC2			pmax		pmax			
	comp=Z,7.0nm,0.6s							
GEC2	**GERESS Array S**	**83.54 328**	*e*P		**P**		**21 28 26.1**	**+0.2**
	comp=Z,7.1nm,0.6s							
GERES	**GERESS Array B**	**83.54 328**	P		**P**		**21 28 25.8**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=36,slow=5.5,SNR=67							
GERES			LR		LR		22 09 09.8	
	comp=Z,354nm,18.0s,baz=18,slow=38							
GEA0	**GERESS Array S**	**83.54 328**	*e*P		**P**		**21 28 25.5**	**-0.4**
SDCO	**Great Sand Dun**	**83.58 47**	*e*P		**P**		**21 28 27.6**	**+1.0**
	comp=Z,4.0nm,1.1s							
GRFO	**Grafenberg**	**83.90 330**	*e*P		**P**		**21 28 28.2**	**+0.5**
GRFO			pmax		pmax			
	comp=Z,17nm,0.9s							
GRFO	**Grafenberg**	**83.90 330**	*e*P		**P**		**21 28 28.1**	**+0.5**
	comp=Z,17nm,0.9s							
ARSA	**Arzberg**	**83.96 326**	*i* P		**P**		**21 28 28.6**	**+0.5**
	comp=Z,6.3nm,0.8s,SNR=5.5							
PPT	**Papeete**	**84.00 117**	LR		LR		22 00 21.4	
	comp=Z,143nm,21.2s,baz=4.0,slow=32							
PPT2	**Papeete2**	**84.02 117**	*e*LR		LR		21 54 49.9	
	comp=Z,268nm,22.2s,baz=312							
MMB	**Musomiste**	**84.03 318**	P		**P**		**21 28 28.5**	**0.0**
MMB	**Musomiste**	**84.03 318**	P		**P**		**21 28 28.5**	**0.0**
MOA	**Molln**	**84.06 328**	*i* PcP		**P**		**21 28 29.7**	**+1.2**
	comp=Z,2.2nm,0.5s							
KKB	**Krupnik**	**84.18 319**	P		**P**		**21 28 29.4**	**+0.2**
KKB	**Krupnik**	**84.18 319**	P		**P**		**21 28 29.4**	**+0.2**
ECSD	**EROS Data Cent**	**84.33 38**	*e*P		**P**		**21 28 29.8**	**-0.1**
	comp=Z,4.6nm,0.9s							
SOKA	**Soboth**	**84.61 326**	*i* P		**P**		**21 28 31.3**	**-0.2**
	comp=Z,10nm,0.7s,SNR=12							
T25A	**Trinidad**	**84.64 47**	*e*P		**P**		**21 28 33.2**	**+1.4**
	comp=Z,6.6nm,0.8s							
ANMO	**Albuquerque**	**84.84 50**	⇑*e*P		**P**		**21 28 33.5**	**+0.6**
ANMO			pmax		pmax			
	comp=Z,4.0nm,1.2s							
ANMO	**Albuquerque**	**84.84 50**	*e*P		**P**		**21 28 33.8**	**+0.9**
	comp=Z,5.4nm,0.9s							
OBKA	**Obir**	**84.96 327**	*i* P		**P**		**21 28 32.4**	**-0.7**
	comp=Z,5.9nm,0.9s							
KBA	**Koelnbreinsper**	**85.05 328**	*i* P		**P**		**21 28 33.5**	**-0.2**
	comp=Z,7.2nm,0.9s							
MEM	**Membach**	**85.15 334**	P		**P**		**21 28 33.8**	**-0.1**
MYKA	**Terra Mystica**	**85.27 327**	*i* P		**P**		**21 28 34.2**	**-0.5**
	comp=Z,4.8nm,0.6s,SNR=5.7							
VISS	**Visnje**	**85.37 326**	*i* P		**P**		**21 28 34.6**	**-0.5**
BOJS	**Bojanci**	**85.41 325**	*i* P		**P**		**21 28 34.8**	**-0.5**
STU	**Stuttgart**	**85.44 331**	*e*P		**P**		**21 28 35.7**	**+0.3**
STU			pmax		pmax			
	comp=Z,28nm,0.9s							
STU	**Stuttgart**	**85.44 331**	*e*P		**P**		**21 28 35.7**	**+0.3**
	comp=Z,28nm,0.9s							
BCLA	**Clavier**	**85.56 334**	P		**P**		**21 28 35.5**	**-0.4**
	comp=Z,6.9nm,1.1s							
JAVS	**Javornik**	**85.65 326**	*i* P		**P**		**21 28 35.1**	**-1.5**
ABTA	**Abfaltersbach**	**85.67 328**	*i* P		**P**		**21 28 35.6**	**-1.1**
	comp=Z,4.6nm,0.8s							
TAOE	**Nuku Hiva Isla**	**85.67 104**	*e*LR		LR		21 55 37.4	
	comp=Z,339nm,25.6s							
CWF	**Charnwood Fore**	**85.73 339**	*e*P		**P**		**21 28 36.8**	**0.0**
	comp=Z,22nm,0.9s							
MOTA	**Moosalm**	**85.80 329**	*i* PcP		**P**		**21 28 37.4**	**0.0**
	comp=Z,6.0nm,0.9s							
RETA	**Reutte**	**85.83 329**	*i* P		**P**		**21 28 37.3**	**-0.2**
	comp=Z,9.3nm,0.7s							
SNF	**Seneffe**	**85.84 334**	P		**P**		**21 28 37.2**	**-0.1**
SCHQ	**Schefferville**	**86.00 16**	LR		LR		22 07 47.2	
	comp=Z,146nm,21.8s,baz=341,slow=36							
DOU	**Dourbes**	**86.08 334**	P		**P**		**21 28 39.0**	**+0.5**
BFO	**Black Forest**	**86.14 331**	*e*P		**P**		**21 28 38.6**	**-0.3**
BFO			pmax		pmax			
	comp=Z,15nm,0.8s							
BFO	**Black Forest**	**86.14 331**	*e*P		**P**		**21 28 38.6**	**-0.3**
	comp=Z,15nm,0.8s							
FETA	**Feichten**	**86.21 329**	*i* P		**P**		**21 28 36.8**	**-2.7**
	comp=Z,9.8nm,1.3s							
DAVA	**Damuels**	**86.35 330**	*i* P		**P**		**21 28 39.8**	**-0.4**
	comp=Z,12nm,0.8s,SNR=5.3							
FUORN	**Ofenpass-Fuorn**	**86.72 329**	*e*P		**P**		**21 28 42.3**	**+0.2**
	comp=Z,8.1nm,0.5s							
DAVOX	**Davos/Dischmat**	**86.76 329**	LR		LR		22 11 13.3	
	comp=Z,320nm,18.1s,baz=16,slow=38							
TBI	**Tubuai**	**87.86 121**	*e*LR		LR		21 56 35.9	
	comp=Z,245nm,23.2s							
SENIN	**Lac Senin/Sane**	**88.14 330**	*e*P		**P**		**21 28 48.5**	**-0.4**
	comp=Z,4.3nm,0.8s							
AQU	**L'Aquila**	**88.68 324**	*e*P		**P**		**21 28 51.7**	**+0.4**
AQU			pmax		pmax			
	comp=Z,13nm,0.8s							
AQU	**L'Aquila**	**88.68 324**	*e*P		**P**		**21 28 51.7**	**+0.4**
	comp=Z,13nm,0.8s							
CUC	**Castrocucco**	**89.31 322**	*e*P		**P**		**21 28 53.0**	**-1.3**
	comp=Z,6.7nm,1.2s							
TIP	**Timpagrande**	**89.44 320**	*e*P		**P**		**21 28 54.8**	**-0.2**
	comp=Z,18nm,1.5s							
TX31	**Lajitas Ar. Si**	**90.34 53**	*e*P		**P**		**21 28 59.9**	**+0.5**
LTX	**Lajitas**	**90.34 53**	*e*P		**P**		**21 28 59.7**	**+0.3**
LTX	**Lajitas**	**90.34 53**	*e*P		**P**		**21 28 59.7**	**+0.3**
TXAR	**Lajitas Array**	**90.34 53**	P		**P**		**21 28 59.7**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=296,slow=3.4,SNR=28							
TXAR			LR		LR		22 09 43.1	
	comp=Z,103nm,18.1s,baz=0.0,slow=36							
KEST	**Kesra**	**95.83 323**	LR		LR		22 18 13.0	
	comp=Z,204nm,18.4s,baz=305,slow=39							
ES19	**SONSECA Array**	**98.08 334**	*e*P		**P**		**21 29 33.6**	**-1.0**
ESDC	**Sonseca Array**	**98.12 334**	P		**P**		**21 29 34.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=16,slow=4.3,SNR=6.3							
ESDC			LR		LR		22 18 22.3	
	comp=Z,190nm,20.6s,baz=35,slow=38							
RKT	**Rikitea**	**98.17 113**	*e*LR		LR		22 01 07.1	
	comp=Z,285nm,35.0s							
TOA1	**Torodi Ar. Sit**	**118.10 315**	*e*PKPdf		**PKPdf**		**21 34 44.3**	**-1.1**
TORD	**Torodi Ar. Bea**	**118.10 315**	PKP		**PKPdf**		**21 34 44.3**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=32,slow=2.2,SNR=7.2							
TORD			PP		PP		21 35 46.2	-13
	comp=Z,1.1nm,0.8s,baz=38,slow=4.7,SNR=6.2							
LBTB	**Lobatse**	**124.85 263**	*e*PKIKP		**PKPdf**		**21 34 58.4**	**+0.2**
LBTB	**Lobatse**	**124.85 263**	*e*PKPdf		**PKPdf**		**21 34 58.4**	**+0.2**
BOSA	**Boshof**	**126.74 259**	PKP		**PKPdf**		**21 35 01.9**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=91,slow=4.6,SNR=3.1							
LPAZ	**La Paz**	**146.80 61**	PKPbc		**PKPbc**		**21 35 40.5**	**-0.7**
	comp=Z,8.7nm,0.6s,baz=345,slow=3.1,SNR=50							
LCO	**Las Campanas**	**151.78 85**	*e*PKPbc		**PKPbc**		**21 35 53.3**	**+0.2**

NIED ***21*** *21:22:00,36.30N×141.90E,h20km,Mw4.0 Best double couple: M₀1.27000×10¹⁵ NP1:ϕs199.00000°,δ28.00000°, λ87.00000°. NP2:ϕs22.00000°,δ62.00000°,λ92.00000°.*

IDC ***21*** *21:22:21.3±0.8,36.26N×142.04E,h0km,mb3.9/14, mb1 4.1/17,mb1mx3.9/48,mbtmp4.0/17,ML4.1/2,Error ellipse: s-maj=20.9km s-min=16.2km az=89.0*

ISCJB ***21*** *21:22:22.6±1.2,36.22N±0.03×142.06E±0.05,h23km±8km, mb4.2/27,Error ellipse: s-maj=7.2km s-min=4.7km az=168.9*

NEIC ***21*** *21:22:24.6±1.5,36.24N×142.05E,h21km±10km,mb4.5/13, Error ellipse: s-maj=6.2km s-min=5.0km az=102.0*

JMA ***21*** *21:22:24.7±0.2,36.30N×141.90E,h65km,M3.9*

ISC 21 21:22:25.5±2.3,36.24N±0.04×141.94E±0.07,h27km±17km, n72,σ1°31/81,mb4.2/27,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.03 239**		P	**Pn**	**21 22 43.7**	**-0.3**
CHOJ				S	**Sn**	**21 22 57.6**	**+0.1**
JHO	**Hitachi**	**1.17 289**		P	**Pn**	**21 22 44.2**	**-1.8**
JHO				*e*S	**Sn**	**21 22 59.7**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.26 314**		P	**Pn**	**21 22 45.4**	**-1.9**
ONAJ				S	**Sn**	**21 22 59.7**	**-3.7**
JFK	**Kawauchi**	**1.41 323**		P	**Pn**	**21 22 48.0**	**-1.4**
JFK				S	**Sn**	**21 23 08.1**	**+0.9**
BSO1	**Boso 1**	**1.77 207**		*e*S	**Sb**	**21 23 18.1**	**-0.2**
JFT	**Otama**	**1.81 315**		P	**Pn**	**21 22 54.4**	**-0.5**
JFT				S	**Sn**	**21 23 18.1**	**+1.1**
BSO3	**Boso 3**	**1.85 220**		P	**Pn**	**21 22 55.6**	**+0.5**
JMM	**Marumori**	**1.86 331**		P	**Pn**	**21 22 55.3**	**-0.3**
JMM				S	**Sn**	**21 23 17.9**	**-0.3**
JAG	**Ashikaga**	**2.02 276**		P	**Pn**	**21 22 56.8**	**-0.9**
JAG				*e*S	**Sn**	**21 23 19.6**	**-2.4**
JFY	**Yanaizu**	**2.14 304**		P	**Pn**	**21 22 59.5**	**+0.1**
JFY				S	**Sn**	**21 23 25.8**	**+0.8**
MJAR	**Matsushiro Arr**	**3.02 277**		Pn	**Pn**	**21 23 11.9**	**+0.4**
	18nm,0.3s,baz=90,slow=15,SNR=74						
MAJO	**Matsushiro**	**3.03 277**		*e*Pn	**Pn**	**21 23 12.2**	**+0.6**
MAT	**Matsushiro**	**3.03 277**		P	**Pn**	**21 23 11.9**	**+0.3**
MAT				*e*S	**Sn**	**21 23 48.0**	**+1.1**
MJB9	**Matsu-Tunnel**	**3.03 277**		*e*Pn	**Pn**	**21 23 11.6**	**0.0**
JHJ2	**Mitsune**	**3.58 210**		*e*Pn	**Pn**	**21 23 19.2**	**+0.1**
JHJ2				*e*Sn	**Sn**	**21 23 58.3**	**-2.1**
JHJ	**Hachijo jima 2**	**3.58 210**		Pn	**Pn**	**21 23 18.9**	**-0.3**
	48nm,0.3s,baz=73,slow=5.5,SNR=17						
JHJ				Sn	**Sn**	**21 23 59.2**	**-1.5**
	66nm,0.3s,baz=258,slow=23,SNR=8.4						
INU	**Inuyama**	**4.10 259**		*e*Pn	**Pn**	**21 23 27.4**	**+1.1**
INU				*e*Sn	**Sn**	**21 24 11.5**	**-1.8**
ERM	**Erimo**	**5.85 9**		*e*Pn	**Pn**	**21 23 48.4**	**-1.9**
ERM				*e*Sn	Sn	21 24 47.9	-8.5
ASAJ	**Asahikawa**	**7.88 3**		*e*Pn	**Pn**	**21 24 17.7**	**-0.6**
ASAJ				*e*Sn	**Sn**	**21 25 42.0**	**-4.5**
CBIJ	**Chichi jima**	**9.12 179**		*e*Pn	**Pn**	**21 24 34.4**	**-0.8**
JCJ	**Chichijima**	**9.12 179**		Pn	**Pn**	**21 24 34.4**	**-0.8**
	baz=270,slow=19						
USRK	**Ussuriysk Ar.**	**11.00 319**		Pn	**Pn**	**21 25 04.1**	**+3.2**
	0.2nm,0.3s,baz=135,slow=12,SNR=3.8						
KSRS	**Korea Array**	**11.30 280**		Pn	**Pn**	**21 25 08.0**	**+3.0**
	0.2nm,0.3s,baz=98,slow=14,SNR=5.6						
KS01	**Wonju Array Si**	**11.32 280**		*e*Pn	**Pn**	**21 25 07.7**	**+2.3**
KS15	**Wonju Array Si**	**11.33 280**		*e*Pn	**Pn**	**21 25 08.0**	**+2.5**
KSAR	**Wonju Array Be**	**11.33 280**		Pn	**Pn**	**21 25 08.0**	**+2.5**
NACB	**Ninganchiao**	**21.25 241**		*e*P	**P**	**21 27 06.1**	**-3.4**
	22nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**27.38 120**		T	T	21 57 44.8	
	baz=312,slow=75,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**27.39 120**		T	T	21 57 39.1	
	baz=312,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**27.40 120**		T	T	21 57 34.9	
	baz=312,slow=75,SNR=7.7						
ENH	**Enshi**	**27.70 267**		*e*P	**P**	**21 28 10.9**	**-0.5**
	11nm,0.6s						
ULN	**Ulaanbaatar**	**28.15 305**		*e*P	**P**	**21 28 15.0**	**-0.4**
	2.5nm,0.8s						
SONA1	**Songino Array**	**28.58 305**		*e*P	**P**	**21 28 19.6**	**+0.4**
SONA0	**Songino Array**	**28.58 305**		*e*P	**P**	**21 28 19.9**	**+0.6**
	6.2nm,1.1s						
SONM	**Songino Array**	**28.58 305**		P	**P**	**21 28 19.9**	**+0.6**
	4.3nm,0.8s,baz=101,slow=8.8,SNR=16						
CM31	**Chiang Mai Arr**	**41.71 257**		*e*P	**P**	**21 30 12.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**41.71 257**		P	**P**	**21 30 12.7**	**+0.5**
	1.2nm,0.8s,baz=50,slow=5.6,SNR=7.3						
CM01	**Chiang Mai Arr**	**41.72 257**		*e*P	**P**	**21 30 12.6**	**+0.4**
ZAA0	**Zalesovo Array**	**42.76 313**		*e*P	**P**	**21 30 20.6**	**+0.3**
ZAA1	**Zalesovo Array**	**42.76 313**		*e*P	**P**	**21 30 20.3**	**0.0**
ZALV	**Zalesovo Beam**	**42.76 313**		P	**P**	**21 30 20.3**	**0.0**
	1.4nm,0.5s,baz=91,slow=5.9,SNR=5.5						
MK01	**Makanchi Array**	**44.90 303**		*e*P	**P**	**21 30 38.1**	**+0.5**
MK31	**Makanchi Array**	**44.90 303**		*e*P	**P**	**21 30 38.2**	**+0.6**
MK32	**Makanchi Array**	**44.90 303**		*e*P	**P**	**21 30 38.0**	**+0.3**
MKAR	**Makanchi Array**	**44.90 303**		P	**P**	**21 30 38.0**	**+0.3**
	2.3nm,0.6s,baz=86,slow=9.7,SNR=9.8						
MKAR	**Makanchi Array**	**44.90 303**		*e*P	**P**	**21 30 38.2**	**+0.6**
KURK	**Kurchatov**	**46.76 309**		*e*P	**P**	**21 30 52.1**	**0.0**
	4.7nm,0.6s						
KURBB	**Kurchatov Arra**	**46.83 309**		P	**P**	**21 30 52.7**	**0.0**
	3.0nm,0.7s,baz=84,slow=8.1,SNR=12						
SCM	**Sheep Creek Mo**	**49.86 36**		*e*P	P	21 31 20.4	+4.4
	6.1nm,0.9s						
ILAR	**Eielson Array**	**49.94 32**		P	**P**	**21 31 16.0**	**-0.5**
	0.4nm,0.7s,baz=269,slow=5.8,SNR=4.9						
ILB	**Eielson Array**	**49.94 32**		*e*P	**P**	**21 31 16.1**	**-0.5**
TKM2	**Tokmak 2**	**50.38 299**		*e*P	**P**	**21 31 21.8**	**+1.3**
	2.6nm,0.8s						
VOSK	**Vostochnaya**	**51.13 312**		*e*P	**P**	**21 31 26.1**	**+0.4**
	3.7nm,0.8s						
DOT	**Dot Lake**	**51.23 33**		*e*P	**P**	**21 31 27.9**	**+1.6**
	18nm,1.0s						
BVAR	**Borovoye Array**	**51.42 313**		P	**P**	**21 31 28.2**	**+0.4**
	0.8nm,0.5s,baz=64,slow=3.4,SNR=3.7						
ZRNK	**Zerenda**	**52.26 313**		*e*P	**P**	**21 31 34.9**	**+0.8**
	2.2nm,0.6s						
WR1	**Warramunga Arr**	**56.34 189**		*e*P	**P**	**21 32 04.1**	**+0.1**
	9.6nm,1.2s						
WRA	**Warramunga Arr**	**56.34 189**		P	**P**	**21 32 04.1**	**+0.1**
	0.7nm,0.8s,baz=6.3,slow=7.4,SNR=6.3						
ABKAR	**Akbulak array**	**58.78 311**		*e*P	**P**	**21 32 21.2**	**+0.2**
AS31	**Alice Springs**	**60.06 189**		*e*P	**P**	**21 32 30.2**	**+0.2**
	2.3nm,1.4s						
ASAR	**Alice Springs**	**60.06 189**		P	**P**	**21 32 30.2**	**+0.2**
	0.4nm,0.8s,baz=12,slow=6.6,SNR=2.9						
YKA	**Yellowknife Ar**	**64.28 30**		P	**P**	**21 32 57.8**	**-0.1**
	0.4nm,0.6s,baz=305,slow=7.5,SNR=3.9						
YKB5	**Yellowknife Ar**	**64.28 30**		*e*P	**P**	**21 32 57.8**	**-0.1**
FIA0	**FINESS Array S**	**69.71 333**		*e*P	**P**	**21 33 32.8**	**+0.4**
FINES	**FINESS Array B**	**69.71 333**		P	**P**	**21 33 32.8**	**+0.4**
	2.0nm,0.8s,baz=64,slow=6.3,SNR=3.5						
NB2	**NORSAR Subarra**	**75.08 338**		P	**P**	**21 34 05.0**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=41,slow=5.9						
NB200	**NORSAR Array S**	**75.08 338**		*e*P	**P**	**21 34 05.2**	**+0.7**
NOA	**NORSAR Array B**	**75.08 338**		P	**P**	**21 34 05.2**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=40,slow=5.8,SNR=5.0						
AKASG	**Malin Array Be**	**75.18 323**		P	**P**	**21 34 04.7**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=45,slow=5.7,SNR=5.1						
AKBB	**Malin Array Si**	**75.18 323**		*e*P	**P**	**21 34 04.7**	**-0.6**
	comp=Z,7.0nm,0.8s						
GERES	**GERESS Array B**	**83.61 329**		P	**P**	**21 34 51.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=32,slow=5.8,SNR=4.2						
LPAZ	**La Paz**	**146.72 61**		PKPbc	**PKPbc**	**21 42 05.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=342,slow=3.2,SNR=3.4						

JMA 21 21:34:12.9±0.2,37.30N×143.43E,h36km,M3.8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.01 306**		P	Pn	21 34 45.8	+1.6
JIO				S	Sn	21 35 09.9	+1.8
JFK	**Kawauchi**	**2.04 273**		P	Pn	21 34 45.8	+1.1
JFK				*e*S	Sn	21 35 10.2	+1.3
ONAJ	**Iwakimizuishiy**	**2.11 265**		S	Sn	21 35 11.9	+1.2
JMM	**Marumori**	**2.17 286**		P	Pn	21 34 47.8	+1.4
JMM				*e*S	Sn	21 35 14.1	+2.0
JMK	**Ichinoseki**	**2.40 314**		P	Pn	21 34 51.2	+1.6
JMK				*e*S	Sn	21 35 19.5	+1.8
JOU	**Okura**	**2.44 297**		P	Pn	21 34 52.1	+2.0
JOU				S	Sn	21 35 21.4	+2.7
JFT	**Otama**	**2.47 276**		P	Pn	21 34 53.2	+2.6
JFT				S	Sn	21 35 21.9	+2.3
JOM	**Ohasama**	**2.74 323**		S	Sn	21 35 28.2	+2.0
JYK	**Kaneyama**	**2.91 305**		P	Pn	21 34 58.9	+2.2
JYK				S	Sn	21 35 33.8	+3.4
JAG	**Ashikaga**	**3.31 256**		P	Pn	21 35 03.6	+1.5
JAG				*e*S	Sn	21 35 40.5	+0.4
JANG	**Nango**	**3.41 335**		S	Sn	21 35 44.0	+1.2
JRY	**Ryogami san**	**3.86 252**		P	Pn	21 35 10.9	+1.2
JRY				S	Sn	21 35 53.6	-0.2

IDC 21 21:36:52.9±28.0,1.88N×127.79E,h386km±332km, mb3.1/5,mb1 3.2/6,mb1mx2.9/38,mbtmp3.9/6,Error ellipse: s-maj=132.1km s-min=36.3km az=44.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.97 186**		P	P	21 40 58.2	+0.1
	0.1nm,0.3s,baz=7.6,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**22.62 164**		P	P	21 41 21.8	-0.4
	0.9nm,0.3s,baz=343,slow=10,SNR=19						
ASAR	**Alice Springs**	**26.08 167**		P	P	21 41 53.3	+0.1
	0.7nm,0.6s,baz=355,slow=8.3,SNR=8.1						
STKA	**Stephens Creek**	**36.04 160**		P	P	21 43 19.4	+0.1
	0.8nm,0.3s,baz=334,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**59.67 325**		P	P	21 46 18.1	+0.1
	0.6nm,0.4s,baz=120,slow=8.3,SNR=15						
KURBB	**Kurchatov Arra**	**63.86 327**		P	P	21 46 45.4	-0.1
	1.7nm,0.6s,baz=127,slow=5.9,SNR=22						

NIED ***21*** *21:52:00,38.90N×142.00E,h50km,Mw3.9 Best double couple: M₀7.87000×10¹⁴ NP1:ϕs3.00000°,δ38.00000°, λ65.00000°. NP2:ϕs213.00000°,δ56.00000°,λ108.00000°.*

IDC ***21*** *21:52:32.9±2.1,39.10N×142.73E,h0km,mb3.8/4, mb1 3.9/6,mb1mx3.5/45,mbtmp3.9/6,ML3.6/2,MS3.1/1, Ms1 3.1/1,ms1mx2.4/40,Error ellipse: s-maj=55.9km s-min=24.1km az=82.0*

ISCJB ***21*** *21:52:40.9±1.1,38.87N±0.04×142.10E±0.1,h55km±7km, mb3.8/4,Error ellipse: s-maj=16.9km s-min=7.1km az=9.5*

JMA ***21*** *21:52:42.0±0.1,38.89N×141.97E,h50km±1km,M3.9*

JMA Felt II J1.

ISC 21 21:52:40.7±1.7,38.84N±0.05×142.1E±0.1,h45km±13km, n24,σ1°59/24,mb3.8/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.43 303**		P	**Pn**	**21 52 51.3**	**+0.4**
OFUJ				S	**Sn**	**21 52 57.7**	**-0.3**
JMK	**Ichinoseki**	**0.72 279**		P	**Pn**	**21 52 54.4**	**-0.1**
JMK				*e*S	**Sn**	**21 53 03.0**	**-1.5**
JIO	**Ouri**	**0.72 238**		P	**Pn**	**21 52 55.0**	**+0.4**
JIO				S	**Sn**	**21 53 03.8**	**-0.8**
JOM	**Ohasama**	**0.91 314**		P	**Pn**	**21 52 57.0**	**-0.1**
JOM				S	**Sn**	**21 53 07.8**	**-1.2**
JOU	**Okura**	**1.24 248**		P	**Pn**	**21 53 01.7**	**0.0**
JRG	**Rokugo**	**1.29 296**		P	**Pn**	**21 53 01.9**	**-0.4**
JYK	**Kaneyama**	**1.38 274**		P	**Pn**	**21 53 03.4**	**-0.2**
JMM	**Marumori**	**1.43 228**		P	**Pn**	**21 53 04.4**	**+0.1**
JMM				S	**Sn**	**21 53 21.5**	**-0.4**
JANG	**Nango**	**1.60 343**		P	**Pn**	**21 53 06.7**	**+0.1**
MAT	**Matsushiro**	**3.87 235**		P	**Pn**	**21 53 40.0**	**+2.3**
MAT				*e*S	**Sn**	**21 54 22.5**	**+0.6**
MJAR	**Matsushiro Arr**	**3.87 235**		Pn	**Pn**	**21 53 41.3**	**+3.6**
	2.0nm,0.3s,baz=39,slow=12,SNR=13						
JHJ	**Hachijo jima 2**	**6.02 199**		Pn	**Pn**	**21 54 09.4**	**+2.2**
	5.7nm,0.3s,baz=351,slow=13,SNR=2.7						
JHJ				Sn	**Sn**	**21 55 11.5**	**-3.4**
	4.9nm,0.3s,baz=90,slow=20,SNR=2.8						
JHJ				LR	LR	21 56 21.4	
	comp=Z,159nm,21.1s,baz=96,slow=36						
USRK	**Ussuriysk Ar.**	**9.30 308**		Pn	**Pn**	**21 54 55.1**	**+3.1**
	0.2nm,0.3s,baz=110,slow=14,SNR=10						
KSRS	**Korea Array**	**11.28 267**		Pn	Pn	21 55 25.9	+6.7
	0.1nm,0.3s,baz=81,slow=14,SNR=2.

MNAS				⇑S		Sn	22 08 29.2	-4.0	
	2.0nm,0.4s								
KK31	**Karatay Array**	**7.07**	**1**	P		**Pn**	**22 07 23.1**	**-0.8**	
	1.2nm,0.4s,baz=187,slow=12,SNR=16								
KK31				⇑S		Sn	22 08 39.2	-3.4	
	2.3nm,0.4s,baz=187,slow=22,SNR=7.8								
AAK	**Ala-Archa**	**7.36**	**25**	P		**Pn**	**22 07 30.5**	**+2.6**	
	1.5nm,0.3s,baz=192,slow=9.3,SNR=5.8								
AAK				S		Sn	22 08 46.3	-3.5	
	0.8nm,0.3s,baz=325,slow=20,SNR=11								
AAK	**Ala-Archa**	**7.36**	**25**	⇑P		**Pn**	**22 07 30.2**	**+2.3**	
	2.0nm,0.4s								
AAK				⇑S		**Sn**	**22 08 48.0**	**-1.9**	
	5.1nm,0.6s								
GEYT	**Alibeck**	**9.92**	**285**	P		**Pn**	**22 08 03.2**	**+0.5**	
	0.5nm,0.3s,baz=100,slow=16,SNR=5.5								
GEYT				S		**Sn**	**22 09 51.7**	**-0.5**	
	0.4nm,0.3s,baz=162,slow=14,SNR=3.1								
MKAR	**Makanchi Array**	**14.01**	**36**	P		**Pn**	**22 08 57.9**	**+0.9**	
	0.1nm,0.3s,baz=225,slow=15,SNR=2.8								
AB31	**Akbulak array**	**15.23**	**333**	P		**Pn**	**22 09 11.6**	**-1.0**	
	1.7nm,0.5s,baz=154,slow=12,SNR=35								
AB31				S		**Sn**	**22 11 58.2**	**-2.4**	
	0.4nm,0.3s,baz=159,slow=24,SNR=2.9								
KURBB	**Kurchatov Arra**	**15.76**	**20**	P		**Pn**	**22 09 20.9**	**+1.8**	
	0.1nm,0.3s,baz=204,slow=10,SNR=5.2								
AKTO	**Aktyubinsk**	**16.92**	**332**	P		**Pn**	**22 09 34.1**	**+0.7**	
	0.2nm,0.3s,baz=131,slow=15,SNR=4.4								
AKTO	**Aktyubinsk**	**16.92**	**332**	⇓P		**Pn**	**22 09 34.7**	**+1.2**	
	1.0nm,0.7s								
BVAR	**Borovoye Array**	**16.99**	**0**	P		**P**	**22 09 35.3**	**+0.6**	
	0.2nm,0.3s,baz=164,slow=8.1,SNR=6.0								
ZALV	**Zalesovo Beam**	**20.58**	**25**	P		**P**	**22 10 13.2**	**-0.5**	
	3.2nm,0.4s,baz=219,slow=11,SNR=18								

BUC 21 22:11:48.6±0.3, 45°31'N×25°04'E, h17km, MD2.0/2, 4C-2D, Error ellipse: s-maj=8.1km s-min=3.6km az=101.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MTUR	**Matau**	**0.09**	**171**	⇑*i*P		Pg	22 11 52.3	+0.2
MTUR	**Matau**	**0.09**	**171**	⇑*i*P		Pg	22 11 52.3	+0.2
VOIR		**0.12**	**2**	⇓*i*P		Pb	22 11 52.6	0.0
VOIR				*i* S		Sb	22 11 56.0	+0.7
VOIR		**0.12**	**2**	⇓*i*P		Pb	22 11 52.6	0.0
VOIR				*i* S		Sb	22 11 56.0	+0.7
MLR	**Muntele Rosu**	**0.66**	**74**	⇑*i*P		Pb	22 12 02.0	+0.2
MLR				S		Sb	22 12 10.9	+0.2
MLR	**Muntele Rosu**	**0.66**	**74**	⇑*i*P		Pb	22 12 02.0	+0.2
MLR				*i* S		Sb	22 12 10.9	+0.2

BUC 21 22:12:16.5±0.6, 45°46N×26°95E, h29km±6km, MD2.3/3, 10C-8D, Error ellipse: s-maj=9.9km s-min=6.2km az=48.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GRER		**0.08**	**167**	⇓*i*P		Pb	22 12 21.7	+0.1
GRER				S		Sb	22 12 25.0	-0.1
GRER		**0.08**	**167**	⇓*i*P		Pb	22 12 21.7	+0.1
GRER				*i* S		Sb	22 12 25.0	-0.1
VRI	**Vrincioaia**	**0.43**	**339**	⇑*i*P		Pn	22 12 26.6	-0.2
VRI	**Vrincioaia**	**0.43**	**339**	⇑*i*P		Pn	22 12 26.6	-0.2
VRI				*i* S		Sn	22 12 33.3	-0.5
PLOR	**Plostina**	**0.44**	**332**	⇑*i*P		Pn	22 12 26.6	-0.3
PLOR	**Plostina**	**0.44**	**332**	⇑*i*P		Pn	22 12 26.6	-0.3
ISR	**Istrita**	**0.45**	**220**	⇓*i*P		Pn	22 12 27.6	+0.6
ISR	**Istrita**	**0.45**	**220**	⇓*i*P		Pn	22 12 27.6	+0.6
ISR				*i* S		Sn	22 12 33.4	-0.7
MLR	**Muntele Rosu**	**0.71**	**273**	⇓*i*P		Pb	22 12 29.6	-0.8
MLR	**Muntele Rosu**	**0.71**	**273**	⇓*i*P		Pb	22 12 29.6	-0.8
MLR				*i* S		Sn	22 12 40.4	-0.2
CFR	**Carcaliu**	**0.89**	**108**	⇑*i*P		Pn	22 12 33.0	0.0
CFR	**Carcaliu**	**0.89**	**108**	⇑*i*P		Pn	22 12 33.0	0.0
CFR				*i* S		Sn	22 12 45.8	+1.0
SULR		**0.93**	**212**	S		Sb	22 12 47.2	+1.4
SULR		**0.93**	**212**	*i* S		Sb	22 12 47.2	+1.4
DOPR	**Dopca**	**1.20**	**295**	⇑*i*P		Pn	22 12 37.3	-0.1
DOPR	**Dopca**	**1.20**	**295**	⇑*i*P		Pn	22 12 37.3	-0.1
DOPR				*i* S		Sb	22 12 54.3	+0.4
VOIR		**1.34**	**270**	⇑*i*P		Pn	22 12 39.7	+0.4
VOIR		**1.34**	**270**	⇑*i*P		Pn	22 12 39.7	+0.4
VOIR				*i* S		Sb	22 12 57.9	+0.2
TIRR	**Tirgusor**	**1.45**	**133**	⇓*i*P		Pb	22 12 42.0	-0.7
TIRR	**Tirgusor**	**1.45**	**133**	S		Sb	22 13 01.0	+0.3
TIRR	**Tirgusor**	**1.45**	**133**	⇓*i*P		Pb	22 12 42.0	-0.7
TIRR				*i* S		Sb	22 13 01.0	+0.3

*IDC **21** 22:13:16.8±0.9, 10°09N×125°99E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/33, mbtmp3.8/9, MS2.3/1, Ms1 2.3/1, ms1mx2.3/33, Error ellipse: s-maj=49.6km s-min=19.2km az=66.0*

*ISCJB **21** 22:13:24.6±0.9, 10°11N±0°05×126°14E±0°09, h78km±8km, mb3.8/9, Error ellipse: s-maj=14.8km s-min=7.3km az=170.0*

*MAN **21** 22:13:24, 10°08N×125°84E, h1km, mb4.4, ML3.3, MS3.2*

ISC 21 22:13:25.0±1.3, 10°08N±0°05×126°19E±0°09, h65km±12km, n26, σ1s76/25, mb3.9/9, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PLP	**Palo**	**1.60**	**312**	⇑*e*P		**Pn**	**22 13 49.7**	**-1.5**
PLP				*i* S		**Sn**	**22 14 10.5**	**-0.4**
BESP	**Borongan**	**1.68**	**334**	*e*P		**Pn**	**22 13 52.3**	**+0.1**
BESP				*e*S		**Sn**	**22 14 16.1**	**+3.3**
OCLP	**Ormoc**	**1.82**	**302**	*e*P		**Pn**	**22 13 53.1**	**-1.1**
BIPH	**Bislig**	**1.89**	**175**	⇓*e*P		**Pn**	**22 13 56.1**	**+1.0**
BIPH				*e*S		**Sn**	**22 14 13.0**	**-5.0**
CGP	**Cagayan de Oro**	**2.19**	**222**	⇑*e*P		**Pn**	**22 13 58.7**	**-0.4**
CGP				*e*S		**Sn**	**22 14 25.0**	**-0.1**
LLP	**Lapu-Lapu**	**2.20**	**276**	*e*P		**Pn**	**22 13 58.2**	**-1.0**
LLP				*e*S		**Sn**	**22 14 26.4**	**+1.1**
BUKP	**Musuan**	**2.45**	**207**	*e*P		**Pn**	**22 14 04.3**	**+1.6**
BUKP				*e*S		**Sn**	**22 14 35.2**	**+3.6**
DAV	**Davao City (W)**	**3.05**	**191**	LR		LR	22 14 58.7	
	comp=Z,49nm,18.1s,baz=8.0,slow=34							
RCP	**Roxas**	**3.69**	**294**	⇑*e*P		**Pn**	**22 14 20.0**	**+0.5**
PVCP	**Virac**	**4.02**	**331**	*e*P		Pn	22 14 30.7	+6.6
PVCP				*e*S		Sn	22 15 23.3	+13
CMAR	**Chiang Mai Arr**	**27.65**	**291**	P		**P**	**22 19 05.8**	**-1.1**
	0.5nm,0.6s,baz=103,slow=7.0,SNR=6.0							
WRA	**Warramunga Arr**	**30.90**	**165**	P		**P**	**22 19 35.7**	**+0.1**
	0.6nm,0.4s,baz=343,slow=9.1,SNR=5.2							
ASAR	**Alice Springs**	**34.38**	**167**	P		**P**	**22 20 06.7**	**+0.6**
	0.4nm,0.5s,baz=347,slow=6.5,SNR=6.4							
H11S3	**WAKE ISLAND Hy**	**40.05**	**73**	T		T	23 03 52.7	
	baz=262,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**40.07**	**73**	T		T	23 03 46.5	
	baz=262,slow=75,SNR=11							
H11S2	**WAKE ISLAND Hy**	**40.07**	**73**	T		T	23 03 51.5	
	baz=262,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**40.39**	**71**	T		T	23 04 21.4	
	baz=264,slow=74,SNR=17							
H11N2	**WAKE ISLAND Hy**	**40.40**	**71**	T		T	23 04 18.1	
	baz=264,slow=74,SNR=17							
H11N3	**WAKE ISLAND Hy**	**40.41**	**71**	T		T	23 04 22.8	
	baz=264,slow=74,SNR=19							
SONM	**Songino Array**	**41.17**	**340**	P		**P**	**22 21 03.1**	**0.0**
	0.5nm,0.8s,baz=161,slow=9.2,SNR=2.6							
MKAR	**Makanchi Array**	**52.13**	**323**	P		**P**	**22 22 28.4**	**-0.3**
	1.4nm,0.7s,baz=127,slow=8.1,SNR=12							
MKAR				PcP		**PcP**	**22 23 40.0**	**+0.2**
	0.6nm,0.6s,baz=120,slow=4.3,SNR=5.1							
ZALV	**Zalesovo Beam**	**54.75**	**331**	P		**P**	**22 22 46.8**	**-0.9**
	0.5nm,0.3s,baz=120,slow=8.5,SNR=3.3							
BRTR	**Keskin Array B**	**85.59**	**309**	P		**P**	**22 25 55.6**	**-1.1**
	0.9nm,0.8s,baz=66,slow=6.0,SNR=5.2							
FINES	**FINESS Array B**	**86.02**	**332**	P		**P**	**22 25 58.0**	**-0.1**
	4.0nm,1.1s,baz=77,slow=6.1,SNR=5.3							
YKA	**Yellowknife Ar**	**93.96**	**24**	P		**P**	**22 26 37.2**	**+1.7**
	0.4nm,0.7s,baz=299,slow=4.8,SNR=2.8							
TORD	**Torodi Ar. Bea**	**120.26**	**292**	PKP		**PKPdf**	**22 32 09.6**	**-0.1**
	0.3nm,0.6s,baz=59,slow=2.5,SNR=6.8							

*ISCJB **21** 22:14:30.7±0.2, 47°30N±0°01×11°21E±0°01, h2km±1km, Error ellipse: s-maj=1.7km s-min=1.5km az=162.6*

*IASPEI **21** 22:14:31.8±0.9, 47°25N±0°02×11°23E±0°02, h10km±5km, Error ellipse: s-maj=3.5km s-min=2.8km az=6.8, GT5*

selection from ISC bulletin GT5 identified by Bond¨ji and McLaughlin (2009) selection criteria Bond¨ji and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009

*ROM **21** 22:14:31.9±0.1, 47°24N×11°27E, h10km, Ml2.6/14, Error ellipse: s-maj=2.1km s-min=1.2km az=167.0*

*VIE **21** 22:14:31.8±0.2, 47°23N×11°24E, h9km±2km, mb2.3/12, ML2.9/15, Error ellipse: s-maj=1.2km s-min=1.0km az=2.0*

*CSEM **21** 22:14:31.7±0.1, 47°27N×11°27E, h2km, ML3.1/34, Error ellipse: s-maj=1.9km s-min=1.5km az=156.0*

*BGR **21** 22:14:33.1±0.2, 47°23N×11°26E, h10km, ML2.7/30, Error ellipse: s-maj=3.3km s-min=2.2km az=167.0*

BGR Reports of slight damage of buildings like fissures in the plastering in the epicentral region.

*PRU **21** 22:14:33.7, 47°32N×11°31E, h4km, Near Innsbruck*

*LDG **21** 22:14:33.7±0.1, 47°25N×11°31E, h5km, Ml2.9/19, Error ellipse: s-maj=3.7km s-min=2.5km az=25.0*

*STR **21** 22:14:37.7±0.3, 47°30N×10°88E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 21 22:14:31.8±0.8, 47°25N±0°01×11°26E±0°01, h10km±4km, n210, σ1s41/367, 1C-4D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SQTA	**Sankt Quirin**	**0.04**	**231**	Pg		**Pg**	**22 14 33.5**	**-0.5**
SQTA				Sg		**Sg**	**22 14 34.7**	**-0.8**
MOTA	**Moosalm**	**0.14**	**313**	Pg		**Pg**	**22 14 35.0**	**-0.2**
	200nm,0.1s,SNR=1000							
MOTA				Sg		**Sg**	**22 14 37.7**	**0.0**
	3µm,0.3s							
WATA	**Walderalm**	**0.23**	**68**	Pg		**Pg**	**22 14 36.7**	**-0.1**
	72nm,0.2s,SNR=314							
WATA				Sg		**Sg**	**22 14 41.4**	**+1.3**
	381nm,0.2s							
WTTA	**Wattenberg**	**0.26**	**86**	⇑*i*Pg		**Pg**	**22 14 37.5**	**+0.3**
WTTA				Sg		**Sg**	**22 14 41.6**	**+0.8**
	486nm,0.3s							
WTTA	**Wattenberg**	**0.26**	**86**	*e*Pg		**Pg**	**22 14 37.6**	**+0.4**
WTTA				*e*Sg		**Sg**	**22 14 41.7**	**+0.9**
WTTA	**Wattenberg**	**0.26**	**86**	Pg		**Pg**	**22 14 37.5**	**+0.3**
	142nm,0.1s,SNR=256							
WTTA				Sg		**Sg**	**22 14 41.6**	**+0.8**
	486nm,0.3s							
ROSI	**Rosskopf**	**0.34**	**162**	⇓*i*Pg		**Pg**	**22 14 38.8**	**+0.2**
ROSI				Sg		**Sg**	**22 14 43.8**	**+0.7**
	895nm,0.3s							
ROSI	**Rosskopf**	**0.34**	**162**	⇓*i*Pg		**Pg**	**22 14 38.8**	**+0.2**
ROSI				Sg		**Sg**	**22 14 43.8**	**+0.7**
	895nm,0.3s							
RETA	**Reutte**	**0.41**	**306**	Pg		**Pg**	**22 14 39.2**	**-0.8**
	12nm,0.1s,SNR=21							
RETA				Sg		**Sg**	**22 14 45.2**	**-0.3**
	37nm,0.1s							
FETA	**Feichten**	**0.42**	**238**	Pg		**Pg**	**22 14 40.1**	**-0.1**
	35nm,0.2s,SNR=64							
FETA				Sg		**Sg**	**22 14 45.3**	**-0.6**
	40nm,0.1s							
ABSI	**Aberstueckl**	**0.52**	**175**	⇓*i*Pg		**Pg**	**22 14 42.3**	**+0.3**
ABSI				Sg		**Sg**	**22 14 49.3**	**+0.4**
	340nm,0.4s							
ABSI	**Aberstueckl**	**0.52**	**175**	⇓*i*Pg		**Pg**	**22 14 42.3**	**+0.3**
ABSI				Sg		**Sg**	**22 14 49.3**	**+0.4**
	340nm,0.4s							
RISI	**Rein**	**0.64**	**118**	Pg		**Pg**	**22 14 44.3**	**+0.1**
RISI				Sg		**Sg**	**22 14 53.0**	**+0.4**
	435nm,0.3s							
RISI	**Rein**	**0.64**	**118**	Pg		**Pg**	**22 14 44.3**	**+0.1**
RISI				Sg		**Sg**	**22 14 53.0**	**+0.4**
	435nm,0.3s							
APPI	**Appiano**	**0.77**	**181**	Pg		**Pg**	**22 14 46.9**	**+0.2**
	81nm,0.3s							
APPI	**Appiano**	**0.77**	**181**	Pg		**Pg**	**22 14 46.9**	**+0.2**
	81nm,0.3s							
KOSI	**Kohlern**	**0.79**	**174**	Pg		**Pg**	**22 14 47.3**	**+0.3**
	76nm,0.5s							
KOSI	**Kohlern**	**0.79**	**174**	Pg		**Pg**	**22 14 47.3**	**+0.3**
	76nm,0.5s							
MOSI	**Grossmontoni**	**0.80**	**218**	Pg		**Pg**	**22 14 47.1**	**-0.1**
MOSI				Sg		**Sg**	**22 14 57.7**	**+0.1**
	340nm,0.4s							
MOSI	**Grossmontoni**	**0.80**	**218**	Pg		**Pg**	**22 14 47.1**	**-0.1**
MOSI				Sg		**Sg**	**22 14 57.7**	**+0.1**
	340nm,0.4s							
FUR	**Furstenfeldbru**	**0.92**	**1**	*e*Pg		**Pb**	**22 14 50.3**	**+0.5**
FUR				*e*Sg		**Sn**	**22 15 04.5**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**0.93**	**228**	Pg		**Pg**	**22 14 49.2**	**-0.5**
	57nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**0.93**	**228**	Pg		**Pg**	**22 14 49.2**	**-0.5**
	57nm,0.7s							
DAVA	**Damuels**	**0.94**	**273**	*e*Pg		**Pg**	**22 14 49.6**	**-0.3**
DAVA	**Damuels**	**0.94**	**273**	Pg		**Pg**	**22 14 49.6**	**-0.3**
BRMO	**Bormio**	**0.98**	**219**	Pg		**Pg**	**22 14 50.0**	**-0.7**
	39nm,0.6s							
BRMO	**Bormio**	**0.98**	**219**	Pg		**Pg**	**22 14 50.0**	**-0.7**
	39nm,0.6s							
ABTA	**Abfaltersbach**	**0.99**	**120**	Pg		**Pg**	**22 14 50.9**	**0.0**
	20nm,0.3s,SNR=19							
ABTA				Sg		**Sg**	**22 15 04.3**	**+0.4**
	18nm,0.1s							
DAVOX	**Davos/Dischmat**	**1.05**	**244**	Pg		**Pg**	**22 14 51.3**	**-0.8**
	157nm,0.4s							
DAVOX	**Davos/Dischmat**	**1.05**	**244**	Pg		**Pg**	**22 14 51.3**	**-0.8**
	157nm,0.4s							
AGOR	**Agordo**	**1.11**	**150**	Pg		**Pg**	**22 14 53.0**	**-0.1**
BERNI	**Berninapass**	**1.19**	**226**	Pg		**Pb**	**22 14 53.9**	**-0.7**
BERNI	**Berninapass**	**1.19**	**226**	Pg		**Pb**	**22 14 53.9**	**-0.7**
FVI	**Forni Avoltri**	**1.23**	**121**	Pg		**Pn**	**22 14 55.1**	**0.0**
	18µm,0.2s							
FVI	**Forni Avoltri**	**1.23**	**121**	Pg		**Pn**	**22 14 55.1**	**0.0**
	18µm,0.2s							
PLONS	**Plons/SG**	**1.30**	**262**	Pg		**Pn**	**22 14 55.8**	**-0.2**
	89nm,0.7s							
PLONS	**Plons/SG**	**1.30**	**262**	*e*Pn		**Pn**	**22 14 56.5**	**+0.5**
PLONS				*e*Pg		**Pg**	**22 14 58.7**	**+2.0**
PLONS				*e*Sg		**Sg**	**22 15 15.2**	**+1.7**
PLONS	**Plons/SG**	**1.30**	**262**	Pn		**Pn**	**22 14 56.5**	**+0.5**
CGRP	**Cima Grappa**	**1.42**	**164**	Pg		**Pn**	**22 14 58.1**	**+0.3**
	91nm,0.7s							
CGRP	**Cima Grappa**	**1.42**	**164**	Pg		**Pn**	**22 14 58.1**	**+0.3**
	91nm,0.7s							
KBA	**Koelnbreinsper**	**1.44**	**96**	*e*Pn		**Pn**	**22 14 58.7**	**+0.7**
KBA				*e*Pg		**Pg**	**22 15 01.9**	**+2.5**
KBA	**Koelnbreinsper**	**1.44**	**96**	Pn		**Pn**	**22 14 58.7**	**+0.7**
KBA	**Koelnbreinsper**	**1.44**	**96**	Pg		**Pg**	**22 15 01.9**	**+2.5**
KBA				Sg		**Sg**	**22 15 18.8**	**+0.8**
	26nm,0.3s							
TUE	**Stuetta**	**1.52**	**240**	Pg		**Pn**	**22 14 59.5**	**+0.3**
	42nm,0.5s							
TUE	**Stuetta**	**1.52**	**240**	Pg		**Pn**	**22 14 59.5**	**+0.3**
	42nm,0.5s							
WILA	**Wila**	**1.61**	**277**	*e*Pg		**Pb**	**22 15 02.8**	**+1.2**
WILA				*e*Sg		**Sg**	**22 15 25.0**	**+1.5**
WILA	**Wila**	**1.61**	**277**	Pg		**Pb**	**22 15 02.8**	**+1.2**
WILA				Sg		**Sg**	**22 15 25.0**	**+1.5**
GRC3	**Grafenberg Arr**	**1.66**	**8**	*e*Pn		**Pn**	**22 15 01.3**	**+0.3**
GRC3				*e*Pg		**Pg**	**22 15 03.8**	**+0.1**
GRC3				*e*Sn		**Sb**	**22 15 23.4**	**0.0**
GRC3				*e*Sg		**Sg**	**22 15 26.2**	**+1.1**
GRC3	**Grafenberg Arr**	**1.66**	**8**	Pn		**Pn**	**22 15 01.3**	**+0.3**
MYKA	**Terra Mystica**	**1.75**	**110**	Pg		**Pb**	**22 15 04.9**	**+0.9**
	11nm,0.4s							
MYKA				Sg		**Sg**	**22 15 28.2**	**+0.2**
	10nm,0.4s							
GRC1	**Grafenberg Arr**	**1.76**	**6**	*e*Pn		**Pn**	**22 15 02.5**	**+0.2**
GRC1				*e*Sn		**Sb**	**22 15 26.0**	**-0.3**
GRC1				*e*Sg		**Sg**	**22 15 28.6**	**+0.2**
GRC1	**Grafenberg Arr**	**1.76**	**6**	Pn		**Pn**	**22 15 02.5**	**+0.2**
GRC1				Sn		**Sb**	**22 15 26.0**	**-0.3**
GRC1				Sg		**Sg**	**22 15 28.6**	**+0.2**
ROBS	**Robic**	**1.84**	**122**	*e*Pn		**Pb**	**22 15 06.8**	**+1.2**
GRC4	**Grafenberg Arr**	**1.85**	**6**	*e*Pn		**Pn**	**22 15 03.8**	**+0.2**
GRC4				*e*Pg		**Pg**	**22 15 07.3**	**0.0**
GRC4				*e*Sn		**Sn**	**22 15 27.7**	**+0.7**
GRC4				*e*Sg		**Sg**	**22 15 31.8**	**+0.5**
GRC4	**Grafenberg Arr**	**1.85**	**6**	Pn		**Pn**	**22 15 03.8**	**+0.2**
SPAK	**Spaichingen-Ko**	**1.88**	**298**	Pn		**Pn**	**22 15 05.7**	**+1.7**
SPAK				Sg		**Sb**	**22 15 31.2**	**+1.5**
GRB5	**Grafenberg Arr**	**1.89**	**8**	*e*Pn		**Pn**	**22 15 04.3**	**+0.2**
GRB5				*e*Pg		**Pg**	**22 15 08.2**	**+0.2**
GRB5				*e*Sn		**Sn**	**22 15 28.5**	**+0.6**
GRB5				*e*Sg		**Sg**	**22 15 32.8**	**+0.4**
GRB5	**Grafenberg Arr**	**1.89**	**8**	Pn		**Pn**	**22 15 04.3**	**+0.2**
SLE	**Schleitheim**	**1.94**	**286**	*e*Pn		**Pn**	**22 15 06.2**	**+1.3**
SLE				*e*Pg		**Pb**	**22 15 08.7**	**+1.3**
SLE				*e*Sg		**Sg**	**22 15 34.4**	**+0.1**
SLE	**Schleitheim**	**1.94**	**286**	Pn		**Pn**	**22 15 06.2**	**+1.3**
CADS	**Cadrg**	**1.99**	**120**	*e*Pn		**Pb**	**22 15 08.8**	**+0.8**
GRB2	**Grafenberg Arr**	**2.04**	**8**	*e*Pn		**Pn**	**22 15 06.4**	**+0.1**
GRB2				*e*Sn		**Sn**	**22 15 32.2**	**+0.4**
GRB2				*e*Sg		**Sg**	**22 15 37.5**	**0.0**
GRB2	**Grafenberg Arr**	**2.04**	**8**	Pn		**Pn**	**22 15 06.4**	**+0.1**
GRB2				Sn		**Sn**	**22 15 32.2**	**+0.4**
GRB2				Sg		**Sg**	**22 15 37.5**	**0.0**
STU	**Stuttgart**	**2.06**	**319**	*e*Pn		**Pn**	**22 15 07.6**	**+1.2**
STU	**Stuttgart**	**2.06**	**319**	Pn		**Pn**	**22 15 07.6**	**+1.2**
MOA	**Molln**	**2.13**	**72**	*e*Pn		**Pb**	**22 15 09.6**	**-0.8**
MOA				*e*Pg		**Pg**	**22 15 11.8**	**-0.7**
MOA				*e*Sg		**Sg**	**22 15 41.3**	**+1.1**
MOA	**Molln**	**2.13**	**72**	Pn		**Pb**	**22 15 09.3**	**-1.1**
	0.1nm,0.1s							
MOA	**Molln**	**2.13**	**72**	Pg		**Pg**	**22 15 11.8**	**-0.7**
MOA				Sg		**Sg**	**22 15 41.2**	**+1.1**
	19nm,0.2s							
GRB3	**Grafenberg Arr**	**2.13**	**10**	*e*Pn		**Pn**	**22 15 07.5**	**+0.1**
GRB3				*e*Sg		**Sg**	**22 15 40.9**	**+0.6**
GRB3	**Grafenberg Arr**	**2.13**	**10**	Pn		**Pn**	**22 15 07.5**	**+0.1**
GRB3				Sg		**Sg**	**22 15 40.9**	**+0.6**
GRB1	**Grafenberg Arr**	**2.16**	**7**	*e*Pn		**Pn**	**22 15 07.9**	**0.0**
GRB1	**Grafenberg Arr**	**2.16**	**7**	Pn		**Pn**	**22 15 07.9**	**0.0**
VOJS	**Vojsko**	**2.18**	**123**	*e*Pn		**Pb**	**22 15 11.5**	**+0.2**
BFO	**Black Forest**	**2.25**	**300**	*e*Pg		**Pg**	**22 15 17.2**	**+2.2**
BFO				*e*Sn		**Sn**	**22 15 36.3**	**-0.6**
BFO				*e*Sg		**Sg**	**22 15 44.8**	**+0.7**
BFO	**Black Forest**	**2.25**	**300**	Pg		**Pg**	**22 15 17.2**	**+2.2**
BFO				Sn		**Sn**	**22 15 36.3**	**-0.6**
BFO				Sg		**Sg**	**22 15 44.8**	**+0.7**
FELD	**Feldberg im Sc**	**2.29**	**287**	Pn		**Pn**	**22 15 10.7**	**+1.0**
FELD	**Feldberg im Sc**	**2.29**	**287**	Pg		**Pg**	**22 15 15.6**	**-0.1**
FELD				Sg		**Sg**	**22 15 44.5**	**-0.9**
GEC2	**GERESS Array S**	**2.29**	**45**	*e*Pn		**Pn**	**22 15 10.9**	**+1.2**
GEC2				*e*Sn		**Sb**	**22 15 40.2**	**-1.4**
GEC2				*e*Sg		**Sg**	**22 15 46.0**	**+0.6**
GEC2	**GERESS Array S**	**2.29**	**45**	Pn		**Pn**	**22 15 10.9**	**+1.2**
GEC2				Sn		**Sb**	**22 15 40.2**	**-1.4**
GEC2				Sg		**Sg**	**22 15 46.0**	**+0.6**
GRA4	**Grafenberg Arr**	**2.32**	**3**	*e*Pn		**Pn**	**22 15 09.9**	**-0.2**
GRA4				*e*Pg		**Pg**	**22 15 16.0**	**-0.0**
GRA4				*e*Sn		**Sn**	**22 15 38.0**	**-0.6**
GRA4	**Grafenberg Arr**	**2.32**	**3**	Pn		**Pn**	**22 15 09.9**	**-0.2**
OBKA	**Obir**	**2.38**	**107**	*e*Pg		**Pb**	**22 15 15.5**	**+0.8**
OBKA	**Obir**	**2.38**	**107**	Pg		**Pb**	**22 15 15.5**	**+0.8**
OBKA				Sg		**Sg**	**22 15 47.1**	**-1.0**
	7.3nm,0.3s							
GRA2	**Grafenberg Arr**	**2.41**	**2**	*e*Pn		**Pn**	**22 15 11.1**	**-0.2**
GRA2				*e*Pg		**Pg**	**22 15 17.9**	**-0.1**
GRA2				*e*Sn		**Sn**	**22 15 41.3**	**+0.5**
GRA2				*e*Sg		**Sg**	**22 15 50.1**	**+0.9**
GRA2	**Grafenberg Arr**	**2.41**	**2**	Pn		**Pn**	**22 15 11.1**	**-0.2**
BALST	**Balsthal**	**2.43**	**273**	*e*Pn		**Pn**	**22 15 13.8**	**+2.3**
BALST				*e*Sg		**

TREC				*e*SN	**Sn**	**22 16 08.8 +1.4**
TREC				*e*SG	**Sg**	**22 16 21.4 -2.5**
	13nm,0.2s					
TREC	**Trest**	**3.49**	**52**	Pn	**Pn**	**22 15 28.0 +1.9**
PRU	**Pruhonice**	**3.50**	**37**	*e*PN	**Pn**	**22 15 28.6 +2.3**
PRU				*e*PG	**Pb**	**22 15 36.0 +2.1**
PRU				*ex*	x	22 16 01.8
PRU				*e*SN	**Sn**	**22 16 07.8 +0.1**
PRU				*e*SG	**Sg**	**22 16 20.8 -3.5**
	8.6nm,0.3s					
PRU	**Pruhonice**	**3.50**	**37**	Pn	**Pn**	**22 15 28.6 +2.3**
TNS	**Taunus Mts**	**3.51**	**329**	*e*PN	**Pn**	**22 15 27.9 +1.5**
TNS	**Taunus Mts**	**3.51**	**329**	Pn	**Pn**	**22 15 27.9 +1.5**
GOPC	**GO Pecny, Ondr**	**3.55**	**40**	*e*PN	**Pn**	**22 15 28.8 +1.8**
GOPC				*e*PG	**Pg**	**22 15 38.7 -1.1**
GOPC				*e*SN	**Sn**	**22 16 09.5 +0.5**
GOPC				*e*SG	**Sg**	**22 16 22.0 -3.8**
	7.6nm,0.2s					
GOPC	**GO Pecny, Ondr**	**3.55**	**40**	Pn	**Pn**	**22 15 28.8 +1.8**
GOPC				Sn	**Sn**	**22 16 09.5 +0.5**
GOPC				Sg	**Sg**	**22 16 22.0 -3.8**
	7.6nm,0.2s					
LPG	**La Plagne**	**3.58**	**242**	*e*Pn	**Pn**	**22 15 30.4 +2.9**
	SNR=1.0					
LPG	**La Plagne**	**3.58**	**242**	*e*Pn	**Pn**	**22 15 30.4 +2.9**
	SNR=1.0					
LPL	**La Plagne**	**3.58**	**243**	*e*Pn	**Pn**	**22 15 30.4 +2.9**
	SNR=1.0					
LPL	**La Plagne**	**3.58**	**243**	*e*Pn	**Pn**	**22 15 30.4 +2.9**
	SNR=1.0					
CABF	**La Chapelle**	**3.60**	**262**	*e*Pn	**Pn**	**22 15 29.7 +2.0**
CABF	**La Chapelle**	**3.60**	**262**	*e*Pg	**Pg**	**22 15 41.0 +0.3**
	SNR=1.0					
CABF				*e*Sn	**Sn**	**22 16 09.5 -0.7**
	16nm,0.6s,SNR=1.0					
CABF				*e*Sg	**Sg**	**22 16 27.8 +0.5**
	22nm,0.7s					
CABF	**La Chapelle**	**3.60**	**262**	*e*Pn	**Pn**	**22 15 29.7 +2.0**
CABF	**La Chapelle**	**3.60**	**262**	*e*Pg	**Pg**	**22 15 41.0 +0.3**
	SNR=1.0					
CABF				*e*Sn	**Sn**	**22 16 09.5 -0.7**
	7.8nm,0.6s,SNR=1.0					
CABF				*e*Sg	**Sg**	**22 16 27.8 +0.5**
	11nm,0.7s					
NVLJ	**Novalja**	**3.68**	**135**	*e*Pn	**Pn**	**22 15 31.8 +3.1**
NVLJ				Sn	**Sb**	**22 16 17.9 -3.6**
NVLJ	**Novalja**	**3.68**	**135**	*e*Pn	**Pn**	**22 15 31.8 +3.1**
NVLJ				Sn	**Sb**	**22 16 17.9 -3.6**
RUP	**Ruppelstein**	**3.72**	**313**	Pn	**Pn**	**22 15 31.3 +2.0**
RUP				Sg	**Sg**	**22 16 32.0 +0.8**
RRL	**Rocca Remolon**	**3.88**	**235**	P	**Pn**	**22 15 33.8 +2.1**
PAGF	**Fort de Pagny**	**3.94**	**291**	*e*Pn	**Pn**	**22 15 34.4 +2.1**
PAGF	**Fort de Pagny**	**3.94**	**291**	*e*Pg	**Pg**	**22 15 46.7 -0.6**
	baz=116					
PAGF				*e*Sg	**Sg**	**22 16 37.4 -1.0**
	4.0nm,0.4s					
PAGF	**Fort de Pagny**	**3.94**	**291**	*e*Pn	**Pn**	**22 15 34.4 +2.1**
PAGF	**Fort de Pagny**	**3.94**	**291**	*e*Pg	**Pg**	**22 15 46.7 -0.6**
PAGF				*e*Sg	**Sg**	**22 16 37.4 -1.0**
	2.0nm,0.4s					
PVCC	**Panska Ves**	**3.94**	**32**	*e*SN	**Sn**	**22 16 18.3 -0.3**
PVCC				*e*SG	**Sg**	**22 16 37.6 -0.8**
	10nm,0.2s					
PVCC	**Panska Ves**	**3.94**	**32**	Sn	**Sn**	**22 16 18.3 -0.3**
MBDF	**Montbardon**	**4.01**	**233**	*e*Pn	**Pn**	**22 15 34.6 +1.2**
MBDF	**Montbardon**	**4.01**	**233**	*e*P	Pn	22 15 38.7 +5.3
	SNR=1.0					
MBDF				*e*Sn	**Sn**	**22 16 19.9 -0.7**
	3.2nm,0.4s					
MBDF	**Montbardon**	**4.01**	**233**	*e*Pn	**Pn**	**22 15 34.6 +1.2**
MBDF	**Montbardon**	**4.01**	**233**	*e*P	Pn	22 15 38.7 +5.3
	SNR=1.0					
MBDF				*e*Sn	**Sn**	**22 16 19.9 -0.7**
	1.6nm,0.4s					
BRG	**Berggiesshubel**	**4.04**	**25**	SG	**Sg**	**22 16 36.7 -4.7**
	9.1nm,0.5s					
VRAC	**Vranov**	**4.12**	**58**	*e*Pn	**Pn**	**22 15 37.2 +2.5**
VRAC				*e*Sn	**Sn**	**22 16 22.9 0.0**
VRAC				*e*Sg	**Sg**	**22 16 41.9 -2.1**
CLL	**Collm**	**4.22**	**15**	*e*Pn	**Pn**	**22 15 36.0 -0.1**
CLL				*e*Pg	**Pg**	**22 15 55.0 +2.4**
CLL				*i* Sn	**Sn**	**22 16 25.1 -0.3**
CLL				*i* Sg	**Sg**	**22 16 46.6 -0.7**
	comp=Z,9.0nm,0.7s					
SFTF	**Sexfontaines**	**4.30**	**285**	*e*Pg	**Pg**	**22 15 53.3 -0.9**
	baz=112					
SFTF				*e*Sn	**Sg**	**22 16 49.1 -0.9**
	comp=Z,6.2nm,0.4s					
SFTF	**Sexfontaines**	**4.30**	**285**	*e*Pg	**Pg**	**22 15 53.3 -0.9**
SFTF				*e*Sg	**Sg**	**22 16 49.1 -0.9**
	comp=Z,3.1nm,0.4s					
SBF	**Sospel**	**4.32**	**220**	*e*Pn	**Pn**	**22 15 38.9 +1.4**
SBF	**Sospel**	**4.32**	**220**	*e*P	**Pn**	**22 15 42.2 +4.7**
	SNR=1.0					
SBF				*e*Sn	**Sn**	**22 16 27.2 -0.7**
	comp=Z,1.9nm,0.3s					
SBF	**Sospel**	**4.32**	**220**	*e*Pn	**Pn**	**22 15 38.9 +1.4**
SBF	**Sospel**	**4.32**	**220**	*e*P	**Pn**	**22 15 42.2 +4.7**
	SNR=1.0					
SBF				*e*Sn	**Sn**	**22 16 27.2 -0.7**
	comp=Z,0.9nm,0.3s					
MEZF	**Maizieres J'vi**	**4.36**	**289**	*e*Sg	**Sg**	**22 16 51.7 -0.1**
	comp=Z,9.5nm,0.5s,SNR=1.0					
MEZF	**Maizieres J'vi**	**4.36**	**289**	*e*Sg	**Sg**	**22 16 51.7 -0.1**
	comp=Z,4.8nm,0.5s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**4.41**	**240**	*e*Pn	**Pn**	**22 15 41.4 +2.6**
	SNR=1.0					
ORIF				*e*Sn	**Sn**	**22 16 29.5 -0.6**
	comp=Z,2.8nm,0.3s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**4.41**	**240**	*e*Pn	**Pn**	**22 15 41.4 +2.6**
	SNR=1.0					
ORIF				*e*Sn	**Sn**	**22 16 29.5 -0.6**
	comp=Z,1.4nm,0.3s,SNR=1.0					
UPC	**Upice**	**4.53**	**42**	*e*SN	**Sn**	**22 16 31.4 -1.6**
UPC				*e*SG	**Sg**	**22 16 53.8 -3.3**
	comp=Z,5.9nm,0.3s					
UPC	**Upice**	**4.53**	**42**	Sg	**Sg**	**22 16 53.8 -3.3**
	comp=Z,5.9nm,0.3s					
DPC	**Dobruska-Polom**	**4.57**	**45**	*e*PN	**Pn**	**22 15 42.0 +1.1**
DPC				*e*PG	**Pg**	**22 15 57.9 -1.3**
DPC				*e*SN	**Sn**	**22 16 32.9 -1.1**
DPC				*ex*	x	22 16 45.6
DPC				*e*SG	**Sg**	**22 16 55.1 -3.2**
	comp=Z,7.8nm,0.5s					
DPC	**Dobruska-Polom**	**4.57**	**45**	Pn	**Pn**	**22 15 42.0 +1.1**
DPC				Sn	**Sn**	**22 16 32.9 -1.1**
DPC				Sg	**Sg**	**22 16 55.1 -3.2**
	comp=Z,7.8nm,0.5s					
MORC	**Moravsky Berou**	**4.88**	**56**	*e*Pn	**Pn**	**22 15 46.2 +0.9**
MORC				*e*Sn	**Sn**	**22 16 43.1 +1.3**
MORC				*e*Sg	**Sg**	**22 17 06.3 -2.3**
FRF	**La Foret Royal**	**4.91**	**223**	*e*Pn	**Pn**	**22 15 48.0 +2.4**
	SNR=1.0					
FRF	**La Foret Royal**	**4.91**	**223**	*e*Pn	**Pn**	**22 15 48.0 +2.4**
	SNR=1.0					
LOR	**Lormes**	**5.04**	**273**	*e*Pn	**Pn**	**22 15 48.0 +0.6**
	baz=91					
LOR				*e*Sg	**Sg**	**22 17 10.7 -2.8**
	comp=Z,4.3nm,0.3s,SNR=1.0					
LOR	**Lormes**	**5.04**	**273**	*e*Pn	**Pn**	**22 15 48.0 +0.6**
LOR				*e*Sg	**Sg**	**22 17 10.7 -2.8**
	comp=Z,2.2nm,0.3s,SNR=1.0					
SMF	**Signal de Mont**	**5.11**	**266**	*e*Pn	**Pn**	**22 15 49.5 +1.1**
	SNR=1.0					
SMF				*e*Sg	**Sg**	**22 17 14.4 -1.5**
	comp=Z,6.0nm,0.5s					
SMF	**Signal de Mont**	**5.11**	**266**	*e*Pn	**Pn**	**22 15 49.5 +1.1**
	SNR=1.0					
SMF				*e*Sg	**Sg**	**22 17 14.4 -1.5**
	comp=Z,3.0nm,0.5s					
LMR	**La Mourre**	**5.15**	**222**	*e*Pn	**Pn**	**22 15 51.5 +2.6**
	SNR=1.0					
LMR	**La Mourre**	**5.15**	**222**	*e*Pn	**Pn**	**22 15 51.5 +2.6**
	SNR=1.0					
SMRF	**Simiane la Rot**	**5.16**	**233**	*e*Pn	**Pn**	**22 15 52.0 +3.0**
	SNR=1.0					
SMRF	**Simiane la Rot**	**5.16**	**233**	*e*Pn	**Pn**	**22 15 52.0 +3.0**
	SNR=1.0					
VIVF	**Saint-Julien-l**	**5.17**	**245**	*e*Pn	**Pn**	**22 15 50.5 +1.3**
	SNR=1.0					
VIVF				*e*Sn	**Sn**	**22 16 47.2 -1.6**
	comp=Z,2.7nm,0.4s,SNR=1.0					
VIVF	**Saint-Julien-l**	**5.17**	**245**	*e*Pn	**Pn**	**22 15 50.5 +1.3**
	SNR=1.0					
VIVF				*e*Sn	**Sn**	**22 16 47.2 -1.6**
	comp=Z,1.4nm,0.4s,SNR=1.0					
VYHS	**Vyhne**	**5.25**	**73**	*e*Pn	**Pn**	**22 15 51.1 +0.8**
VYHS	**Vyhne**	**5.25**	**73**	*e*PN	**Pn**	**22 15 51.1 +0.8**
OKC	**Ostrava-Krasne**	**5.26**	**58**	*e*SG	**Sg**	**22 17 19.3 -1.3**
	comp=Z,8.2nm,0.6s					
OKC	**Ostrava-Krasne**	**5.26**	**58**	Sg	**Sg**	**22 17 19.3 -1.3**
	comp=Z,8.2nm,0.6s					
SSF	**Saint Saulge**	**5.29**	**271**	*e*Pn	**Pn**	**22 15 51.8 +1.0**
	SNR=1.0					
SSF	**Saint Saulge**	**5.29**	**271**	*e*Pn	**Pn**	**22 15 51.8 +1.0**
	SNR=1.0					
AVF	**Avril sur Loir**	**5.42**	**268**	*e*Pn	**Pn**	**22 15 54.0 +1.4**
	SNR=1.0					
AVF	**Avril sur Loir**	**5.42**	**268**	*e*Pn	**Pn**	**22 15 54.0 +1.4**
	SNR=1.0					
BAIF	**Baives**	**5.45**	**304**	*e*Pn	**Pn**	**22 15 54.0 +1.0**
BAIF				*e*Sg	**Sg**	**22 17 24.9 -1.9**
	comp=Z,5.0nm,0.5s					
BAIF	**Baives**	**5.45**	**304**	*e*Pn	**Pn**	**22 15 54.0 +1.0**
BGF	**Bois d'Agland**	**5.80**	**266**	*e*Pn	**Pn**	**22 15 58.0 +0.1**
	SNR=1.0					
BGF				*e*Sn	**Sn**	**22 17 02.5 -2.0**
	comp=Z,4.1nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**5.80**	**266**	*e*Pn	**Pn**	**22 15 58.0 +0.1**
	SNR=1.0					
LASF	**Ste Croix**	**6.08**	**241**	*e*Pn	**Pn**	**22 16 03.1 +1.4**
	SNR=1.0					
LASF				*e*Sn	**Sn**	**22 17 08.7 -2.5**
	SNR=1.0					
LASF				*e*Sg	**Sg**	**22 17 45.1 -1.7**
	comp=Z,1.7nm,0.4s,SNR=1.0					
LASF	**Ste Croix**	**6.08**	**241**	*e*Pn	**Pn**	**22 16 03.1 +1.4**
	SNR=1.0					
LASF				*e*Sg	**Sg**	**22 17 45.1 -1.7**
	comp=Z,0.9nm,0.4s,SNR=1.0					
TCF	**Toulx Ste Croi**	**6.29**	**265**	*e*Pn	**Pn**	**22 16 06.1 +1.6**
	SNR=1.0					
TCF	**Toulx Ste Croi**	**6.29**	**265**	*e*Pn	**Pn**	**22 16 06.1 +1.6**
	SNR=1.0					
CAF	**Calviac**	**6.80**	**253**	*e*Pn	**Pn**	**22 16 12.5 +0.9**
	SNR=1.0					
CAF	**Calviac**	**6.80**	**253**	*e*Pn	**Pn**	**22 16 12.5 +0.9**
	SNR=1.0					
RJF	**Les Rejaudoux**	**7.02**	**258**	*e*Pn	**Pn**	**22 16 16.0 +1.4**
	SNR=1.0					
RJF	**Les Rejaudoux**	**7.02**	**258**	*e*Pn	**Pn**	**22 16 16.0 +1.4**
	SNR=1.0					
MTLF	**Montolieu**	**7.47**	**242**	*e*Pn	**Pn**	**22 16 21.9 +1.1**
MTLF				*e*Sn	**Sn**	**22 17 43.4 -2.1**
	comp=Z,2.9nm,0.8s,SNR=1.0					
MTLF	**Montolieu**	**7.47**	**242**	*e*Pn	**Pn**	**22 16 21.9 +1.1**
MFF	**Saint Martin d**	**7.83**	**269**	*e*Pn	**Pn**	**22 16 26.4 +0.7**
	SNR=1.0					
MFF	**Saint Martin d**	**7.83**	**269**	*e*Pn	**Pn**	**22 16 26.4 +0.7**
	SNR=1.0					

DDA ***21*** *22:19:08.3,39.10N×29.06E,h7km,Md3.1*
ISK ***21*** *22:19:08.9,39.10N×29.00E,h4km,MD3.0*
CSEM ***21*** *22:19:09.1±0.1,39.10N×29.05E,h0km±1km,MD3.1,Error ellipse: s-maj=3.3km s-min=1.8km az=178.0*

ISC 21 22:19:09.0±1.0,39.09N±0.03×29.05E±0.02,h6km±9km, n74,σ0°60/90,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**259**	P	**Pg**	**22 19 14.4**	**+0.1**
DEMI				S	**Sg**	**22 19 18.1**	**+0.3**
DEMI	**Demirci**	**0.27**	**259**	*i* P	**Pg**	**22 19 14.4**	**+0.1**
DEMI				*i* S	**Sg**	**22 19 18.1**	**+0.3**
GEDZ	**Gediz**	**0.28**	**100**	*e*PG	**Pb**	**22 19 15.9**	**-0.6**
GEDZ	**Gediz**	**0.28**	**100**	*e*Pg	**Pb**	**22 19 15.9**	**-0.6**
GDZ	**Gediz**	**0.33**	**90**	P	**Pg**	**22 19 15.6**	**0.0**
GDZ				S	**Sg**	**22 19 20.4**	**+0.4**
GDZ	**Gediz**	**0.33**	**90**	*i* P	**Pg**	**22 19 15.6**	**0.0**
GDZ				*i* S	**Sg**	**22 19 20.4**	**+0.4**
TVSB	**Tavsanli**	**0.48**	**41**	*e*PG	**Pg**	**22 19 18.1**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**41**	*e*Pg	**Pg**	**22 19 18.1**	**-0.2**
KHL	**Karahalli**	**0.85**	**154**	*e*PG	**Pb**	**22 19 25.9**	**-0.3**
KHL	**Karahalli**	**0.85**	**154**	*e*Pg	**Pb**	**22 19 25.9**	**-0.3**
AKS	**Akhisar**	**0.99**	**258**	*e*PG	**Pg**	**22 19 27.9**	**-0.1**
AKS	**Akhisar**	**0.99**	**258**	*e*Pg	**Pg**	**22 19 27.9**	**-0.1**
BALB	**Balikesir**	**1.06**	**301**	*e*PG	**Pg**	**22 19 29.2**	**-0.2**
BALB				*e*SG	**Sb**	**22 19 44.0**	**+0.2**
BALB	**Balikesir**	**1.06**	**301**	*e*Pg	**Pg**	**22 19 29.2**	**-0.2**
BALB				*e*Sg	**Sb**	**22 19 44.1**	**+0.2**
IGD	**Bursa**	**1.18**	**6**	*i* P	**Pg**	**22 19 30.3**	**-1.2**
IGD				*i* S	**Sb**	**22 19 47.3**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN	**Pn**	**22 19 33.8**	**+0.6**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*Pn	**Pn**	**22 19 33.8**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*PN	**Pn**	**22 19 33.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*Pn	**Pn**	**22 19 33.7**	**+0.3**
BALY	**Balya**	**1.28**	**301**	P	**Pg**	**22 19 33.3**	**-0.3**
BALY				S	**Sb**	**22 19 50.5**	**+0.1**
BALY	**Balya**	**1.28**	**301**	*i* P	**Pg**	**22 19 33.3**	**-0.3**
BALY				*i* S	**Sb**	**22 19 50.5**	**+0.1**
IZI	**Iznik**	**1.28**	**14**	*e*PN	**Pn**	**22 19 34.0**	**+0.5**
IZI	**Iznik**	**1.28**	**14**	*e*Pn	**Pn**	**22 19 34.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*PN	**Pn**	**22 19 33.8**	**+0.2**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*Pn	**Pn**	**22 19 33.8**	**+0.2**
BORA	**Eskisehir**	**1.34**	**54**	P	**Pn**	**22 19 33.9**	**-0.4**
BORA				S	**Sg**	**22 19 52.0**	**-0.1**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pn**	**22 19 33.9**	**-0.4**
BORA				*i* S	**Sg**	**22 19 52.0**	**-0.1**
GEMT	**Gemlik**	**1.34**	**4**	*e*PN	**Pg**	**22 19 35.0**	**+0.2**
GEMT	**Gemlik**	**1.34**	**4**	*e*Pn	**Pg**	**22 19 35.0**	**+0.2**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*PN	**Pb**	**22 19 35.9**	**0.0**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*Pn	**Pb**	**22 19 35.9**	**0.0**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*PN	**Pg**	**22 19 36.5**	**-0.1**
ADVT	**Abdulvahap**	**1.44**	**21**	*e*Pn	**Pg**	**22 19 36.5**	**-0.1**
ESKT	**Eskisehir**	**1.46**	**72**	*e*PN	**Pg**	**22 19 37.1**	**+0.1**
ESKT	**Eskisehir**	**1.46**	**72**	*e*Pn	**Pg**	**22 19 37.1**	**+0.1**
ESKT	**Eskisehir**	**1.46**	**72**	*i* P	**Pn**	**22 19 35.6**	**-0.4**
ESKT				*i* S	**Sn**	**22 19 55.9**	**+0.4**
SEYT	**Eskypehyr**	**1.46**	**72**	P	**Pn**	**22 19 35.6**	**-0.3**
SEYT				S	**Sn**	**22 19 55.8**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**219**	*e*PN	**Pb**	**22 19 36.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**219**	*e*Pn	**Pb**	**22 19 36.6**	**-0.1**
ARMT	**Armutlu**	**1.48**	**354**	*e*PN	**Pb**	**22 19 36.9**	**0.0**
ARMT	**Armutlu**	**1.48**	**354**	*e*Pn	**Pb**	**22 19 36.9**	**0.0**
EDC	**Edincik**	**1.55**	**324**	*e*PN	**Pb**	**22 19 37.7**	**-0.4**
EDC	**Edincik**	**1.55**	**324**	*e*Pn	**Pb**	**22 19 37.7**	**-0.4**
KNL	**Bal¯kesir**	**1.67**	**315**	*i* P	**Pn**	**22 19 38.8**	**+0.1**
KNL				*i* S	**Sn**	**22 19 59.7**	**-0.7**
DKL	**Dikili**	**1.67**	**270**	*e*PN	**Pn**	**22 19 38.6**	**-0.1**
DKL	**Dikili**	**1.67**	**270**	*e*Pn	**Pn**	**22 19 38.6**	**-0.1**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pb**	**22 19 41.0**	**-0.5**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pb**	**22 19 41.0**	**-0.5**
HRT	**Hereke**	**1.79**	**15**	*e*PN	**Pn**	**22 19 41.3**	**+0.8**
HRT	**Hereke**	**1.79**	**15**	*e*Pn	**Pn**	**22 19 41.3**	**+0.8**
AYVA	**Ayvalik**	**1.85**	**277**	P	**Pb**	**22 19 42.5**	**-0.7**
AYVA				S	**Sg**	**22 20 07.7**	**-0.7**
AYVA	**Ayvalik**	**1.85**	**277**	*i* P	**Pb**	**22 19 42.5**	**-0.7**
AYVA				*i* S	**Sg**	**22 20 07.7**	**-0.7**
KRBG	**Karabiga-Canak**	**1.88**	**314**	*e*PN	**Pn**	**22 19 42.5**	**+0.9**
KRBG	**Karabiga-Canak**	**1.88**	**314**	*e*Pn	**Pn**	**22 19 42.5**	**+0.9**
MRMT	**Marmara Adasi**	**1.88**	**324**	*e*PN	**Pn**	**22 19 42.5**	**+0.8**
MRMT	**Marmara Adasi**	**1.88**	**324**	*e*Pn	**Pn**	**22 19 42.5**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*PN	**Pb**	**22 19 44.0**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*Pn	**Pb**	**22 19 44.1**	**-0.9**
ISK	**Istanbul-Kandi**	**1.97**	**0**	*e*PN	**Pn**	**22 19 44.0**	**+1.2**
ISK	**Istanbul-Kandi**	**1.97**	**0**	*e*Pn	**Pn**	**22 19 44.1**	**+1.2**
BGKT	**Bogazkoy**	**2.10**	**354**	*e*PN	**Pn**	**22 19 45.9**	**+1.3**
BGKT	**Bogazkoy**	**2.10**	**354**	*e*Pn	**Pn**	**22 19 45.9**	**+1.3**
SILT	**Sile**	**2.11**	**12**	*e*PN	**Pb**	**22 19 46.8**	**-0.8**
SILT	**Sile**	**2.11**	**12**	*e*Pn	**Pb**	**22 19 46.8**	**-0.8**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*PN	**Pn**	**22 19 46.2**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.15**	**318**	*e*Pn	**Pn**	**22 19 46.2**	**+0.8**
MDUB	**Mudurnu**	**2.15**	**50**	*e*PN	**Pn**	**22 19 46.8**	**+1.3**
MDUB	**Mudurnu**	**2.15**	**50**	*e*Pn	**Pn**	**22 19 46.8**	**+1.3**
KLYT	**Kilyos**	**2.16**	**360**	*e*PN	**Pn**	**22 19 46.5**	**+1.0**
KLYT	**Kilyos**	**2.16**	**360**	*e*Pn	**Pn**	**22 19 46.5**	**+1.0**
CTKS	**Kestanelik-??a**	**2.18**	**349**	*e*PN	**Pn**	**22 19 46.2**	**+0.4**
CTKS	**Kestanelik-??a**	**2.18**	**349**	*e*Pn	**Pn**	**22 19 46.2**	**+0.4**
CTYL	**Yalikoy Yolu**	**2.45**	**346**	*e*PN	**Pn**	**22 19 50.1**	**+0.6**
CTYL	**Yalikoy Yolu**	**2.45**	**346**	*e*Pn	**Pn**	**22 19 50.1**	**+0.6**

WEL 21 22:29:00.9±0.3,39.41S×174.50E,h204km±2km,ML3.7/10, 14C-1D,Error ellipse: s-maj=2.0km s-min=1.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.09**	**235**	PN	**Pn**	**22 29 27.3**	**-0.2**
PREZ	**Palmer Road**	**0.27**	**283**	PN	**Pn**	**22 29 27.5**	**-0.3**
NEZ	**North Egmont**	**0.34**	**293**	PN	**Pn**	**22 29 27.6**	**-0.5**
NEZ				SN	**S**	**22 29 49.0**	**-0.2**
VRZ	**Vera Road**	**0.34**	**35**	PN	**Pn**	**22 29 26.9**	**-1.1**
KHEZ	**Kahui Hut**	**0.40**	**286**	PN	**Pn**	**22 29 27.8**	**-0.4**
WAZ	**Wanganui**	**0.51**	**133**	PN	**Pn**	**22 29 28.7**	**+0.3**
WAZ				*e*SN	**S**	**22 29 50.2**	**+0.2**
MTVZ	**Mangateitei**	**0.75**	**89**	PN	**Pn**	**22 29 29.3**	**-0.3**
MTVZ				SN	**S**	**22 29 50.9**	**-0.9**
TWVZ	**Taurewa**	**0.80**	**65**	PN	**Pn**	**22 29 29.2**	**-0.8**
TWVZ				SN	**S**	**22 29 51.0**	**-1.3**
TRVZ	**Turoa**	**0.82**	**83**	PN	**Pn**	**22 29 29.9**	**-0.3**
FWVZ	**Far West T-bar**	**0.83**	**80**	⇑PN	**Pn**	**22 29 29.8**	**-0.5**
FWVZ				SN	**S**	**22 29 51.4**	**-1.5**
WNVZ	**Wahianoa**	**0.85**	**85**	PN	**Pn**	**22 29 30.1**	**-0.2**
WNVZ				SN	**S**	**22 29 51.6**	**-1.3**
WTVZ	**West Tongariro**	**0.89**	**71**	⇑PN	**Pn**	**22 29 30.0**	**-0.4**
TUVZ	**Tukino**	**0.90**	**82**	⇑PN	**Pn**	**22 29 30.5**	**-0.1**
MOVZ	**Moawhango**	**0.97**	**90**	⇑PN	**Pn**	**22 29 30.4**	**-0.5**
OHWZ	**Ohakea**	**1.01**	**142**	PN	**Pn**	**22 29 31.9**	**+0.8**
TSZ	**Takapari Road**	**1.30**	**121**	PN	**Pn**	**22 29 33.3**	**+0.1**
TSZ				SN	**S**	**22 29 57.4**	**-0.8**
PNHZ	**Pukenui**	**1.40**	**112**	PN	**Pn**	**22 29 34.1**	**0.0**
DUWZ	**D'Urville Isla**	**1.46**	**198**	PN	**Pn**	**22 29 34.1**	**-0.4**
KRHZ	**Kereru**	**1.46**	**100**	PN	**Pn**	**22 29 34.6**	**0.0**
KIW	**Kapiti Island**	**1.49**	**168**	PN	**Pn**	**22 29 34.6**	**-0.2**
KIW				AML	AML	**22 30 00.2**	
KIW				AML	AML	**22 30 01.2**	
KWHZ	**Kaweka Forest**	**1.49**	**91**	PN	**Pn**	**22 29 34.9**	**+0.1**
OGWZ	**Otaki Gorge**	**1.50**	**160**	⇑PN	**Pn**	**22 29 34.9**	**+0.1**
MRZ	**Mangatainoka R**	**1.50**	**147**	⇑PN	**Pn**	**22 29 34.7**	**-0.2**
MRZ				SN	**S**	**22 30 00.1**	**-1.0**
DVHZ	**Dannevirke**	**1.56**	**125**	⇑PN	**Pn**	**22 29 35.3**	**-0.1**
BKZ	**Black Stump Fm**	**1.56**	**82**	PN	**Pn**	**22 29 34.7**	**-0.9**
BKZ				AML	AML	**22 29 59.8**	
BKZ				AML	AML	**22 29 59.8**	
MRHZ	**Matea Rd**	**1.59**	**70**	PN	**Pn**	**22 29 34.7**	**-1.2**
MRHZ				SN	**S**	**22 29 58.7**	**-3.9**
PRWZ	**Pori Road**	**1.61**	**136**	PN	**Pn**	**22 29 36.0**	**+0.2**
WPHZ	**Waipukurau**	**1.63**	**114**	PN	**Pn**	**22 29 36.1**	**0.0**
WPHZ				SN	**S**	**22 30 02.5**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.68**	**153**	⇑PN	**Pn**	**22 29 36.1**	**-0.4**
HOWZ				SN	**S**	**22 30 02.5**	**-1.5**
MCHZ	**McNeill Hill**	**1.70**	**92**	⇑PN	**Pn**	**22 29 37.1**	**+0.4**
TIWZ	**Tintock**	**1.73**	**143**	PN	**Pn**	**22 29 36.8**	**-0.2**
TIWZ				AML	AML	**22 30 05.6**	
TIWZ				AML	AML	**22 30 06.8**	
TCW	**Tory Channel**	**1.81**	**185**	AML	AML	**22 30 06.5**	
TC

MYKOM	**Kota Tinggi**	8.87	337	⇓P	Pn	22 45 18.8	+2.8
MYKOM	**Kota Tinggi**	8.87	337	*e*Pn	Pn	22 45 18.4	+2.3
PPI	**Padang Panjang**	9.13	310	P	Pn	22 45 18.9	-0.6
	167nm,0.6s						
BKNI	**Bangkinang**	9.20	316	P	Pn	22 45 21.7	+1.3
	232nm,0.8s,3μm						
BKNI	**Bangkinang**	9.20	316	*e*Pn	Pn	22 45 22.1	+1.7
KGM	**Kluang**	9.29	334	⇑P	Pn	22 45 24.8	+3.2
TWSI	**Taliwang, Sumb**	9.71	104	P	Pn	22 45 24.1	-2.9
SBUM	**Sibu**	10.04	29	⇑P	P	22 45 36.0	-4.1
SBUM	**Sibu**	10.04	29	*e*Pn	P	22 45 35.9	-4.1
MNSI	**Mandailing Nat**	10.57	312	P	Pn	22 45 36.5	-1.8
	333nm,0.7s,3μm						
PLAI	**Plampang**	10.59	104	P	Pn	22 45 36.0	-2.5
	123nm,0.7s						
FRIM	**Kepong**	11.17	329	⇑P	Pn	22 45 49.3	+3.3
KTGM	**Kuala Trenggan**	12.40	340	⇓P	P	22 46 06.3	-0.1
GSI	**Gunungsitoli**	12.42	308	P	Pn	22 45 59.8	-2.3
	305nm,0.6s,3μm						
GSI	**Gunungsitoli**	12.42	308	*e*Pn	Pn	22 45 59.1	-3.0
GSI				*e*Sn	Sn	22 48 12.2	-8.2
PSI	**Prapat**	12.44	317	*e*Pn	Pn	22 45 59.6	-2.9
IPM	**Ipoh**	12.53	329	⇑P	P	22 46 06.4	-1.5
IPM	**Ipoh**	12.53	329	*e*P	P	22 46 06.5	-1.4
KULM	**Kulim**	13.42	330	⇑P	P	22 46 16.7	-1.1
KULM	**Kulim**	13.42	330	*e*Pn	Pn	22 46 16.2	+1.6
EDFI	**Ende, Flores**	14.38	100	P	Pn	22 46 25.0	-1.8
MMRI	**Maumere**	14.90	99	*e*Pn	Pn	22 46 31.3	-1.8
KKM	**Kota Kinabalu**	15.19	36	*e*Pn	Pn	22 46 34.6	-2.1
	12nm,0.9s						
SDKM	**Sandakan**	15.47	40	⇑P	P	22 46 42.7	+2.2
MYLDM	**Lahad Datu**	15.99	44	⇑P	Pn	22 46 50.0	+3.6
KDM	**Kudat**	16.25	36	⇓P	Pn	22 46 53.4	+3.8
SOEI	**Soe**	17.05	102	*e*P	P	22 46 56.8	-1.3
	84nm,1.2s						
SOEI				*e*S	S	22 50 04.7	-1.8
MBWA	**Marble Bar**	18.93	142	*e*P	P	22 47 18.3	-0.1
	36nm,1.4s						
FITZ	**Fitzroy Crossi**	21.27	125	P	P	22 47 43.5	+0.1
	4.9nm,0.6s,baz=322,slow=10,SNR=9.1						
FITZ				S	S	22 51 33.2	+4.6
	1.8nm,0.9s,baz=0.0,slow=19,SNR=2.7						
FITZ	**Fitzroy Crossi**	21.27	125	P	P	22 47 43.6	+0.1
	baz=21,SNR=7.2						
FITZ	**Fitzroy Crossi**	21.27	125	*e*P	P	22 47 43.5	+0.1
	12nm,1.0s						
FITZ				*e*S	S	22 51 33.2	+4.6
CHAI	**Chaiyaphum**	22.80	347	P	P	22 47 59.2	+0.9
	21nm,0.6s,198nm						
PBKT	**Sadao Pong**	23.69	345	P	P	22 48 07.1	+0.7
	15nm,0.7s,1μm						
MORW	**Morawa**	23.98	161	P	P	22 48 09.0	0.0
	baz=24,SNR=6.4						
UTTA	**Uttaradit**	24.92	344	P	P	22 48 19.2	+1.6
	2.7nm,0.9s						
SUKH	**Sukhothai**	24.94	342	P	P	22 48 18.7	+1.0
	4.4nm,0.7s,51nm						
BLDU	**Ballidu**	25.63	161	P	P	22 48 24.3	+0.5
	baz=26,SNR=10.0						
LAMP	**Lampang**	25.92	343	P	P	22 48 27.8	+1.2
	6.2nm,0.8s						
CM01	**Chiang Mai Arr**	26.03	342	*e*P	P	22 48 26.9	-0.6
CM01				*e*pP	pP	22 49 08.8	+3.7
CM31	**Chiang Mai Arr**	26.07	342	*e*P	P	22 48 28.1	+0.1
CM31				*e*pP	pP	22 49 08.8	+3.4
CM31				*e*ScP	ScP	22 55 13.4	+0.2
CMAR	**Chiang Mai Arr**	26.07	342	P	P	22 48 28.1	+0.1
	2.4nm,0.5s,baz=175,slow=8.5,SNR=19						
CMAR				pP	pP	22 49 08.8	+3.4
	2.9nm,0.8s,baz=177,slow=9.1,SNR=3.0						
CMAR				ScP	ScP	22 55 13.4	+0.2
	2.2nm,0.8s,baz=199,slow=2.7,SNR=8.3						
CHTO	**Chiang Mai**	26.40	342	*e*P	P	22 48 31.1	+0.2
	11nm,1.3s						
KLBR	**Kellerberrin**	26.87	160	P	P	22 48 34.7	-0.3
	baz=27,SNR=11						
WRKA	**Warakurna**	27.29	135	P	P	22 48 39.6	+0.8
	baz=27,SNR=9.9						
NWAO	**Narrogin (SRO)**	27.94	162	P	P	22 48 44.0	-0.5
	4.5nm,0.4s,baz=201,slow=8.9,SNR=12						
NWAO	**Narrogin (SRO)**	27.94	162	P	P	22 48 44.0	-0.5
	baz=28,SNR=8.7						
KMBL	**Kambalda**	28.31	153	P	P	22 48 47.3	-0.4
	baz=28,SNR=7.4						
RKGY	**Rocky Gully**	29.44	164	P	P	22 48 58.5	+0.8
	baz=30,SNR=6.1						
WR1	**Warramunga Arr**	29.44	120	*e*P	P	22 48 57.9	0.0
	34nm,1.9s						
WR1				*e*PcP	PcP	22 51 59.5	+0.3
WR1				*e*ScP	ScP	22 55 23.8	0.0
WRA	**Warramunga Arr**	29.44	120	P	P	22 48 57.9	0.0
	1.3nm,0.4s,baz=308,slow=9.1,SNR=26						
WRA				PcP	PcP	22 51 59.5	+0.3
	1.8nm,0.4s,baz=309,slow=2.0,SNR=12						
WRA				ScP	ScP	22 55 23.8	0.0
	0.8nm,0.5s,baz=316,slow=2.5,SNR=10						
WRAB	**Tennant Creek**	29.44	120	*e*P	P	22 48 58.0	0.0
	17nm,0.7s						
WRAB				*e*PcP	PcP	22 52 01.4	+2.2
WB2	**Warramunga Arr**	29.45	120	P	P	22 48 57.6	-0.4
	baz=30						
WB2	**Warramunga Arr**	29.45	120	*e*P	P	22 48 57.5	-0.4
	10nm,1.3s						
WC3	**Warramunga Arr**	29.47	120	P	P	22 48 57.9	-0.4
	baz=30						
ASAR	**Alice Springs**	30.74	127	P	P	22 49 09.7	+0.3
	9.6nm,0.6s,baz=296,slow=7.6,SNR=77						
ASAR				pP	pP	22 49 46.8	-0.7
	2.3nm,0.7s,baz=300,slow=8.5,SNR=2.2						
ASAR				PcP	PcP	22 52 03.0	+0.5
	1.3nm,0.6s,baz=304,slow=2.3,SNR=6.3						
ASAR				S	S	22 53 56.8	-2.0
	4.0nm,0.8s,baz=290,slow=14,SNR=16						
ASAR				ScP	ScP	22 55 28.4	+0.5
	2.3nm,0.8s,baz=299,slow=2.9,SNR=12						
AS31	**Alice Springs**	30.74	127	*e*P	P	22 49 09.7	+0.3
	5.4nm,0.4s						
AS31				*e*pP	pP	22 49 46.8	-0.7
AS31				*e*PcP	PcP	22 52 03.0	+0.5
AS31				*e*S	S	22 53 56.8	-2.1
AS31				*e*ScP	ScP	22 55 28.4	+0.5
AS01	**Alice Springs**	30.77	127	*e*P	P	22 49 09.5	-0.2
YOJ	**Yonaguni jima**	34.26	26	*e*P	P	22 49 39.3	-0.6
	156nm,1.2s						
QIS	**Mount Isa**	34.26	117	P	P	22 49 40.3	+0.2
	baz=34,SNR=7.9						
COEN	**Coen**	35.99	105	*e*P	P	22 49 54.0	-0.9
	32nm,1.6s						
BBOO	**Buckleboo**	37.44	138	P	P	22 50 07.0	+0.1
	baz=38,SNR=9.4						
BBOO	**Buckleboo**	37.44	138	*e*P	P	22 50 06.8	-0.1
	118nm,1.8s						
MTSU	**Mount Surprise**	37.85	111	P	P	22 50 11.7	+1.1
	baz=38,SNR=6.4						
RAMN	**Ramite**	38.79	330	*e*P	P	22 50 17.6	-0.9
	17nm,0.3s						
LSA	**Lhasa**	39.14	337	*e*P	P	22 50 20.9	-0.7
	7.5nm,1.0s						
HTT	**Hallett**	39.73	137	P	P	22 50 26.8	+0.7
	baz=40,SNR=4.4						
PKIN	**Phulchoki**	39.91	329	*e*P	P	22 50 26.2	-1.6
	6.9nm,0.5s						
GUN	**Gumba**	39.94	330	*e*P	P	22 50 27.2	-0.9
	24nm,0.3s						
KKN	**Kakani**	40.14	329	*e*P	P	22 50 28.3	-1.4
	6.6nm,0.4s						
GKN	**Gorkha**	40.65	328	*e*P	P	22 50 32.4	-1.3
	22nm,0.3s						
STKA	**Stephens Creek**	40.77	133	P	P	22 50 35.4	+0.9
	65nm,0.6s,baz=309,slow=8.5,SNR=119						
STKA				PcP	PcP	22 52 32.5	+0.3
	2.8nm,0.5s,baz=291,slow=4.5,SNR=3.7						
STKA	**Stephens Creek**	40.77	133	P	P	22 50 35.4	+0.9
	baz=41,SNR=105						
STKA	**Stephens Creek**	40.77	133	*e*P	P	22 50 35.4	+0.9
	12nm,0.7s						
STKA				*e*PcP	PcP	22 52 32.5	+0.3
KOLN	**Koldanda**	41.01	327	*e*P	P	22 50 34.5	-2.3
	32nm,0.6s						
PYUN	**Piuthan**	41.60	327	*e*P	P	22 50 40.2	-1.4
	18nm,0.5s						
ARPS	**Mount Arapiles**	43.61	139	P	P	22 50 58.7	+1.3
	baz=44,SNR=4.6						
CMSA	**Cobar Meteorol**	43.66	130	P	P	22 50 59.2	+1.3
	baz=44,SNR=15						
ANA2	**Anatahan**	44.15	59	*e*P	P	22 51 00.9	-1.1
RABL	**Rabaul**	44.64	89	*e*pP	pP	22 51 45.0	-1.3
KS15	**Wonju Array Si**	47.64	22	*e*P	P	22 51 30.0	+1.1
KS15				*e*pP	pP	22 52 11.5	+1.8
KSAR	**Wonju Array Be**	47.64	22	P	P	22 51 30.0	+1.1
KSAR				pP	pP	22 52 11.5	+1.8
KSRS	**Korea Array**	47.66	22	P	P	22 51 30.0	+0.9
	1.4nm,0.7s,baz=204,slow=8.0,SNR=5.9						
KSRS				pP	pP	22 52 11.5	+1.6
	1.3nm,0.8s,baz=213,slow=8.6,SNR=3.1						
MJAR	**Matsushiro Arr**	51.57	32	pP		22 52 39.4	-0.7
	1.2nm,0.4s,baz=212,slow=7.0,SNR=3.4						
SONA0	**Songino Array**	54.01	359	*e*P	P	22 52 17.4	+0.9
	6.8nm,0.8s						
SONA0				*e*pP	pP	22 53 00.2	+1.9
SONM	**Songino Array**	54.01	359	P	P	22 52 17.4	+0.9
	5.4nm,0.6s,baz=171,slow=8.1,SNR=25						
SONM				pP	pP	22 53 00.2	+1.9
	5.1nm,1.1s,baz=184,slow=8.6,SNR=4.0						
SONA1	**Songino Array**	54.02	359	*e*P	P	22 52 17.4	+0.8
SONA1				*e*pP	pP	22 53 00.7	+2.3
ULN	**Ulaanbaatar**	54.04	360	*e*P	P	22 52 17.0	+0.3
	9.4nm,0.6s						
USRK	**Ussuriysk Ar.**	55.05	21	P	P	22 52 23.7	-0.1
	1.9nm,0.6s,baz=227,slow=6.7,SNR=5.1						
USRK				pP	pP	22 53 06.8	+1.0
	1.7nm,0.7s,baz=204,slow=6.3,SNR=2.9						
WSAR	**Wadi Sarin**	55.99	303	P	P	22 52 31.1	+0.2
	3.7nm,0.6s,baz=175,slow=5.6						
TKM2	**Tokmak 2**	56.95	333	*e*P	P	22 52 36.2	-1.4
	7.1nm,0.4s						
MK01	**Makanchi Array**	57.43	340	*e*P	P	22 52 39.7	-1.0
MK01				*e*pP	pP	22 53 23.1	+0.1
MK31	**Makanchi Array**	57.46	340	*e*P	P	22 52 39.5	-1.3
MK31				*e*pP	pP	22 53 24.9	+1.7
MK32	**Makanchi Array**	57.46	340	*e*P	P	22 52 40.2	-0.7
MK32				*e*pP	pP	22 53 23.1	-0.1
MKAR	**Makanchi Array**	57.46	340	P	P	22 52 40.2	-0.7
	5.8nm,0.5s,baz=143,slow=7.8,SNR=94						
MKAR				pP	pP	22 53 23.1	-0.1
	3.5nm,0.6s,baz=145,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	57.46	340	*e*P	P	22 52 39.5	-1.3
MKAR				pP	pP	22 53 23.1	-0.1
OPO	**Ambohidratompo**	59.75	252	P	P	22 52 58.7	+1.3
	4.0nm,0.8s,baz=113,slow=5.3,SNR=5.7						
KURBB	**Kurchatov Arra**	62.02	340	pP	pP	22 53 54.0	-0.8
	1.7nm,0.7s,baz=154,slow=5.9,SNR=4.1						
KURK	**Kurchatov**	62.07	340	*e*P	P	22 53 10.8	-1.5
	8.4nm,0.8s						
KURK				*e*pP	pP	22 53 54.0	-1.1
ZAA0	**Zalesovo Array**	63.05	345	*e*P	P	22 53 17.2	-1.4
ZAA0				*e*pP	pP	22 54 02.3	+0.6
ZALV	**Zalesovo Beam**	63.05	345	P	P	22 53 17.4	-1.2
	7.3nm,0.3s,baz=156,slow=6.3,SNR=59						
ZALV				pP	pP	22 54 01.8	+0.1
	1.8nm,0.6s,baz=134,slow=4.3,SNR=2.2						
ZAA1	**Zalesovo Array**	63.06	345	*e*P	P	22 53 17.4	-1.3
ZAA1				*e*pP	pP	22 54 01.8	+0.1
GEYT	**Alibeck**	63.57	318	P	P	22 53 21.3	-1.2
	0.9nm,0.3s,baz=156,slow=6.3,SNR=4.5						
VOSK	**Vostochnaya**	66.51	337	*e*P	P	22 53 39.7	-1.3
	3.7nm,0.5s						
BVAR	**Borovoye Array**	66.97	337	P	P	22 53 43.0	-0.9
	6.4nm,0.6s,baz=142,slow=8.1,SNR=37						
ZRNK	**Zerenda**	67.47	336	*e*P	P	22 53 46.0	-1.0
	7.7nm,0.6s						
MAW	**Mawson**	68.04	197	P	P	22 53 51.8	+1.3
	13nm,0.5s,baz=62,slow=6.4,SNR=91						
MAW	**Mawson**	68.04	197	P	P	22 53 51.7	+1.3
	baz=68,SNR=74						
MAW	**Mawson**	68.04	197	*e*P	P	22 53 51.8	+1.3
	3.0nm,0.6s						
ABKAR	**Akbulak array**	69.10	329	*e*P	P	22 53 56.0	-1.3
AKTO	**Aktyubinsk**	70.81	329	P	P	22 54 06.6	-1.1
	1.2nm,0.4s,baz=139,slow=6.1,SNR=5.1						
ARU	**Arti**	74.25	334	P	P	22 54 27.3	-0.5
	2.4nm,0.5s,baz=105,slow=5.1,SNR=6.3						
ARU	**Arti**	74.25	334	*e*P	P	22 54 27.3	-0.5
	5.1nm,0.9s						
VNDA	**Vanda**	76.48	170	P	P	22 54 41.1	+0.8
	3.2nm,0.4s,baz=321,slow=6.3,SNR=38						
VNDA	**Vanda**	76.48	170	*e*P	P	22 54 41.1	+0.8
	4.7nm,0.6s						
NRIK	**Noril'sk**	76.81	353	P	P	22 54 41.8	-0.4
	1.4nm,0.3s,baz=130,slow=4.1,SNR=3.9						
ASF	**Jabal al Asfar**	77.12	305	P	P	22 54 45.6	+0.8
	10nm,0.7s,baz=59,slow=3.4,SNR=27						
SBA	**Scott Base**	77.55	169	*e*P	P	22 54 48.1	+1.8
	3.9nm,0.7s						
EIL	**Elat**	78.08	302	P	P	22 54 50.5	+0.4
	10.0nm,0.6s,baz=145,slow=4.5,SNR=14						
MMAI	**Mount Meron Ar**	78.56	305	P	P	22 54 53.7	+0.9
	5.6nm,0.6s,baz=93,slow=6.5,SNR=8						
BOSA	**Boshof**	80.06	242	P	P	22 55 02.0	+1.0
	2.1nm,0.5s,baz=82,slow=3.8,SNR=7.0						
CSS	**Mathiatis**	80.72	307	*e*P	P	22 55 04.7	+0.4
	5.4nm,0.8s						
BR101	**Keskin Array S**	81.71	312	*e*P	P	22 55 09.2	-0.3
BRTR	**Keskin Array B**	81.71	312	P	P	22 55 09.2	-0.3
	3.9nm,0.7s,baz=132,slow=7.0,SNR=15						
IDI	**Anoyia**	87.56	306	P	P	22 55 39.3	+0.5
	4.9nm,0.6s,baz=108,slow=9.6,SNR=4.4						
IDI	**Anoyia**	87.56	306	*e*P	P	22 55 39.3	+0.5
	157nm,1.9s						
BURAR	**Bucovina Array**	89.42	318	*i*P	P	22 55 48.4	+1.1
SNAA	**Sanae**	90.20	197	P	P	22 55 51.9	+1.4
SNAA	**Sanae**	90.20	197	*e*P	P	22 55 52.4	+1.9
	7.5nm,1.0s						
VNA1	**Neumayer--Stat**	92.23	198	P	P	22 56 02.1	+2.3
TORD	**Torodi Ar. Bea**	106.66	282	PKiKP	PKiKP	23 01 15.3	-0.2
	0.7nm,1.1s,baz=70,slow=2.8,SNR=4.5						
TOA1	**Torodi Ar. Sit**	106.66	282	*e*PKiKP	PKiKP	23 01 15.3	-0.2
SCHQ	**Schefferville**	131.49	356	SKPbc	SKPbc	23 05 08.0	-1.9
	3.9nm,0.5s,baz=198,slow=6.4,SNR=5.3						
LTX	**Lajitas**	142.89	48	*e*SKPbc	SKPbc	23 05 44.5	-0.1
TXAR	**Lajitas Array**	142.89	48	SKPbc	SKPbc	23 05 44.5	-0.1
	0.4nm,0.6s,baz=230,slow=1.4,SNR=3.5						
CPUP	**Villa Florida**	144.24	204	PKP	PKPbc	23 02 25.6	+1.0
	7.8nm,0.6s,baz=156,slow=1.9,SNR=29						
LPAZ	**La Paz**	157.02	191	PKPab	PKPab	23 03 18.7	+1.2
	1.2nm,0.7s,baz=168,slow=3.3,SNR=5.5						

NNC 21 22:55:34.2±4.9, 36°.81N×69°.81E, h0km, mb3.6, mpv3.2, 7C, Error ellipse: s-maj=46.0km s-min=31.1km az=140.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	6.03	19	⇑Pn	Pn	22 57 05.7	+0.8
	0.8nm,0.6s						
MNAS				⇑Sn	Sn	22 58 16.2	+1.5
	2.4nm,0.5s						
KK31	**Karatay Array**	6.30	5	⇑Pn	Pn	22 57 08.8	+0.3
	0.5nm,0.3s,baz=183,slow=12,SNR=10						
KK31				⇑Sn	Sn	22 58 23.9	+2.7
	0.8nm,0.3s,baz=188,slow=22,SNR=7.1						
AAK	**Ala-Archa**	6.84	30	⇑Pn	Pn	22 57 17.2	+1.2
	1.4nm,0.5s						
AAK				⇑Sn	Sn	22 58 33.3	-1.3
	4.2nm,0.7s						
AB31	**Akbulak array**	14.36	333	P	Pn	22 58 57.0	-1.7
	0.5nm,0.5s,baz=154,slow=13,SNR=9.2						
AKTO	**Aktyubinsk**	16.04	332	⇑P	Pn	22 59 19.1	-2.0
	2.2nm,1.1s						

IDC 21 23:02:58.1±58.0, 18°.56S×175°.37W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/29, mbtmpg4.1/3, Error ellipse: s-maj=1097.0km s-min=183.2km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	40.87	243	P	P	23 10 41.9	-0.2
	1.9nm,0.6s,baz=84,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	47.36	260	P	P	23 11 34.2	-0.1
	1.5nm,0.3s,baz=97,slow=7.2,SNR=44						
ASAR	**Alice Springs**	47.40	255	P	P	23 11 34.5	-0.1
	1.3nm,0.3s,baz=88,slow=8.4,SNR=24						

IDC 21 23:07:20.4±4.5, 23°.82N×94°.75E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/42, mbtmpg3.5/3, Error ellipse: s-maj=394.0km s-min=27.1km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	25.01	339	P	P	23 12 45.9	0.0
	0.3nm,0.7s,baz=162,slow=9.3,SNR=3.4						
WRA	**Warramunga Arr**	58.15	135	P	P	23 17 16.3	+0.1
	0.7nm,0.5s,baz=324,slow=7.4,SNR=9.0						
ASAR	**Alice Springs**	60.61	138	P	P	23 17 33.1	-0.2
	0.3nm,0.4s,baz=314,slow=7.2,SNR=5.0						

IDC 21 23:29:48.9±3.2, 5°.77S×151°.08E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/28, mbtmpg4.1/3, Error ellipse: s-maj=108.3km s-min=44.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	21.53	228	P	P	23 34 40.1	+0.2
	2.8nm,0.5s,baz=54,slow=10,SNR=26						
ASAR	**Alice Springs**	24.30	221	P	P	23 35 08.3	0.0
	2.7nm,0.7s,baz=56,slow=9.3,SNR=33						
FITZ	**Fitzroy Crossi**	27.70	242	P	P	23 35 39.1	0.0
	1.7nm,0.6s,baz=66,slow=10.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	148.95	286	PKPbc	PKPbc	23 49 39.1	-0.8
	0.5nm,0.5s,baz=76,slow=2.8,SNR=11						

*DDA **21** 23:38:47.9, 39°.10N×29°.03E, h7km, Ml3.0*
*ISCJB **21** 23:38:48.1±0.5, 39°.09N±0°.03×29°.02E±0°.03, h2km±6km, Error ellipse: s-maj=5.4km s-min=3.4km az=177.5*
*CSEM **21** 23:38:48.4±0.1, 39°.09N×29°.03E, h2km, ML3.0, Error ellipse: s-maj=2.3km s-min=1.9km az=168.0*
*ISK **21** 23:38:48.1, 39°.08N×29°.01E, h7km, MD2.9*
ISC 21 23:38:48.4±0.9, 39°.09N±0°.02×29°.03E±0°.02, h10km±8km, n82, σ0°.76/99, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	0.25	260	P	Pg	23 38 53.5	+0.1
DEMI				S	Sg	23 38 57.1	+0.2
DEMI	**Demirci**	0.25	260	*i* P	Pg	23 38 53.5	+0.1
DEMI				*i* S	Sg	23 38 57.1	+0.2
GEDZ	**Gediz**	0.30	98	*e*PG	Pg	23 38 54.4	0.0
GEDZ	**Gediz**	0.30	98	*e*Pg	Pg	23 38 54.4	0.0
GDZ	**Gediz**	0.35	89	P	Pg	23 38 55.2	-0.2
GDZ				S	Sg	23 39 00.2	+0.1
GDZ	**Gediz**	0.35	89	*i* P	Pg	23 38 55.2	-0.2
GDZ				*i* S	Sg	23 39 00.2	+0.1
TVSB	**Tavsanli**	0.49	43	*e*PG	Pg	23 38 57.4	-0.6
TVSB	**Tavsanli**	0.49	43	*e*Pg	Pg	23 38 57.4	-0.6
KULA	**Kula-Manisa**	0.64	207	*e*PG	Pg	23 39 00.8	0.0
KULA				*e*SG	Sg	23 39 08.8	-0.3
KULA	**Kula-Manisa**	0.64	207	*e*Pg	Pg	23 39 00.8	0.0
KULA				*e*Sg	Sg	23 39 08.8	-0.3
KHL	**Karahalli**	0.85	153	*e*PG	Pb	23 39 05.5	+0.1
KHL	**Karahalli**	0.85	153	*e*Pg	Pb	23 39 05.5	+0.1
AKS	**Akhisar**	0.97	258	*e*PG	Pb	23 39 07.2	-0.1
AKS	**Akhisar**	0.97	258	*e*Pg	Pb	23 39 07.2	-0.1
BALB	**Balikesir**	1.05	302	*e*PG	Pn	23 39 09.3	+0.1
BALB				*e*SG	Sb	23 39 22.6	+0.2
BALB	**Balikesir**	1.05	302	*e*Pg	Pn	23 39 09.3	+0.1
IGD	**Bursa**	1.18	6	*i* P	Pg	23 39 09.9	-1.2
IGD				*i* S	Sb	23 39 26.7	+0.3
BALY	**Balya**	1.27	301	P	Pg	23 39 12.7	-0.1
BALY				S	Sb	23 39 28.8	-0.1
BALY	**Balya**	1.27	301	*i* P	Pg	23 39 12.7	-0.1
BALY				*i* S	Sb	23 39 28.8	-0.1
CAVI	**Cavuskoy**	1.28	29	*e*PN	Pg	23 39 12.9	0.0
CAVI	**Cavuskoy**	1.28	29	*e*Pn	Pg	23 39 12.9	0.0
MDNY	**Mudanya-Bursa**	1.29	355	*e*PN	Pn	23 39 12.9	-0.2
MDNY	**Mudanya-Bursa**	1.29	355	*e*Pn	Pg	23 39 12.9	-0.2
KCTX	**Karacabey (Bur**	1.29	336	*e*PN	Pn	23 39 12.6	+0.1
KCTX				*e*SN	Sn	23 39 30.9	+1.0
KCTX	**Karacabey (Bur**	1.29	336	*e*Pn	Pn	23 39 12.6	+0.1
KCTX				*e*Sn	Sn	23 39 30.9	+1.0
IZI	**Iznik**	1.29	15	*e*PN	Pg	23 39 13.9	+0.6
IZI	**Iznik**	1.29	15	*e*Pn	Pg	23 39 13.9	+0.6
GEMT	**Gemlik**	1.35	5	*e*PN	Pg	23 39 14.3	-0.1
GEMT	**Gemlik**	1.35	5	*e*Pn	Pg	23 39 14.3	-0.1
BORA	**Eskisehir**	1.36	54	P	Pn	23 39 13.3	-0.3
BORA				S	Sb	23 39 31.4	-0.1
BORA	**Eskisehir**	1.36	54	*i* P	Pn	23 39 13.3	-0.3
BORA				*i* S	Sb	23 39 31.4	-0.1
GONE	**Gonen-Balikesi**	1.41	313	*e*PN	Pn	23 39

0.4nm,0.3s,baz=242,slow=31,SNR=3.9
MJAR Matsushiro Arr 39.36 21 P **P** **00 13 04.5 -1.3**
1.4nm,0.4s,baz=199,slow=9.4,SNR=3.3
USRK Ussuriysk Ar. 44.83 11 P **P** **00 13 48.3 -1.4**
4.5nm,0.8s,baz=216,slow=9.4,SNR=5.8
SONM Songino Array 49.28 347 P **P** **00 14 24.6 +0.5**
4.9nm,0.6s,baz=167,slow=8.7,SNR=22
MKAR Makanchi Array 57.72 329 P **P** **00 15 25.8 +0.7**
3.4nm,0.3s,baz=125,slow=8.8,SNR=58
PETK Petropavlovsk- 60.73 24 P **P** **00 15 46.0 +0.5**
11nm,1.1s,baz=190,slow=4.5,SNR=4.4
ZALV Zalesovo Beam 61.58 336 P **P** **00 15 51.1 -0.1**
5.3nm,0.7s,baz=128,slow=5.5,SNR=24
GEYT Alibeck 69.18 311 P **P** **00 16 39.7 -0.5**
2.1nm,0.8s,baz=157,slow=4.7,SNR=2.3
VNDA Vanda 80.61 172 P **P** **00 17 45.6 +1.0**
1.4nm,0.8s,baz=332,slow=3.8,SNR=5.1
BRTR Keskin Array B 88.29 310 P **P** **00 18 23.7 -0.3**
0.5nm,0.8s,baz=99,slow=8.9,SNR=3.6
ILAR Eielson Array 90.53 25 P **P** **00 18 33.0 -0.7**
0.3nm,0.7s,baz=250,slow=5.3,SNR=3.4
TORD Torodi Ar. Bea 118.97 285 PKP **PKPdf** **00 24 19.9 -0.3**
0.3nm,0.8s,baz=108,slow=3.2,SNR=4.2
TXAR Lajitas Array 127.86 52 PKP **PKPdf** **00 24 37.4 +0.3**
0.1nm,0.5s,baz=350,slow=2.7,SNR=3.0

IDC 22 00:13:14.3±7.3, 14°29S×170°93E, h631km±52km, mb3.7/6, mb1 3.7/7, mb1mx3.1/34, mbtmp4.7/7, Error ellipse: s-maj=94.2km s-min=55.0km az=45.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.84**	**208**	P	P	00 15 22.2	-0.4
	2.9nm,0.3s,baz=134,slow=23,SNR=18						
CTA	**Charters Tower**	**24.25**	**253**	P	P	00 17 44.7	+0.2
	4.4nm,0.5s,baz=83,slow=11,SNR=8.3						
STKA	**Stephens Creek**	**32.01**	**232**	P	P	00 18 52.1	+0.6
	8.3nm,0.5s,baz=59,slow=7.9,SNR=16						
WRA	**Warramunga Arr**	**35.37**	**256**	P	P	00 19 19.3	-0.3
	5.3nm,0.3s,baz=81,slow=6.1,SNR=86						
ASAR	**Alice Springs**	**36.14**	**249**	P	P	00 19 25.9	-0.1
	13nm,0.4s,baz=75,slow=9.3,SNR=150						
FITZ	**Fitzroy Crossi**	**43.58**	**259**	P	P	00 20 25.5	+0.5
	3.3nm,0.5s,baz=88,slow=4.6,SNR=22						
NWAO	**Narrogin (SRO)**	**52.02**	**239**	P	P	00 21 26.8	-0.6
	13nm,0.7s,baz=333,slow=6.5,SNR=8.8						
TORD	**Torodi Ar. Bea**	**169.48**	**265**	PKPab	PKPab	00 33 29.4	-0.3
	0.6nm,1.0s,baz=111,slow=4.4,SNR=3.4						

ISK 22 00:19:48.8, 39°16N×29°13E, h5km, MD2.8
ISCJB 22 00:19:49.6±0.5, 39°14N±0°04×29°15E±0°04, h9km±6km, Error ellipse: s-maj=7.9km s-min=4.0km az=156.4
DDA 22 00:19:49.4, 39°15N×29°16E, h7km, Md2.8
CSEM 22 00:19:49.6±0.2, 39°15N×29°16E, h10km, MD2.8, Error ellipse: s-maj=5.0km s-min=3.2km az=149.0
ISC 22 00:19:49.8±0.9, 39°17N±0°03×29°16E±0°02, h10km±9km, n31, σ0s59/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.27**	**107**	P	**Pg**	**00 19 55.4**	**+0.2**
GDZ				S	**Sg**	**00 19 59.1**	**+0.2**
GDZ	**Gediz**	**0.27**	**107**	*i* P	**Pg**	**00 19 55.4**	**+0.2**
GDZ				*i* S	**Sg**	**00 19 59.1**	**+0.2**
DEMI	**Demirci**	**0.36**	**250**	P	**Pg**	**00 19 57.0**	**-0.1**
DEMI				S	**Sg**	**00 20 01.9**	**0.0**
DEMI	**Demirci**	**0.36**	**250**	*i* P	**Pg**	**00 19 57.0**	**-0.1**
DEMI				*i* S	**Sg**	**00 20 01.9**	**0.0**
TVSB	**Tavsanli**	**0.37**	**40**	*e*PG	**Pg**	**00 19 57.5**	**+0.3**
TVSB				*e*SG	**Sg**	**00 20 02.4**	**+0.3**
TVSB	**Tavsanli**	**0.37**	**40**	*e*Pg	**Pg**	**00 19 57.5**	**+0.3**
TVSB				*e*Sg	**Sg**	**00 20 02.4**	**+0.3**
KULA	**Kula-Manisa**	**0.76**	**211**	*e*PG	**Pg**	**00 20 04.0**	**-0.5**
KULA				*e*SG	**Sg**	**00 20 13.5**	**-0.9**
KULA	**Kula-Manisa**	**0.76**	**211**	*e*Pg	**Pg**	**00 20 04.0**	**-0.5**
KULA				*e*Sg	**Sg**	**00 20 13.5**	**-0.9**
BALB	**Balikesir**	**1.10**	**296**	*e*PN	**Pg**	**00 20 10.3**	**-0.6**
BALB				*e*SN	**Sb**	**00 20 25.7**	**+0.4**
BALB	**Balikesir**	**1.10**	**296**	*e*Pn	**Pg**	**00 20 10.3**	**-0.6**
BALB				*e*Sn	**Sb**	**00 20 25.7**	**+0.4**
IGD	**Bursa**	**1.10**	**2**	*i* P	**Pg**	**00 20 09.5**	**-1.4**
IGD				*i* S	**Sb**	**00 20 26.1**	**+0.8**
CAVI	**Cavuskoy**	**1.16**	**27**	*e*PN	**Pg**	**00 20 11.5**	**-0.7**
CAVI	**Cavuskoy**	**1.16**	**27**	*e*Pn	**Pg**	**00 20 11.5**	**-0.7**
IZI	**Iznik**	**1.19**	**12**	*e*PN	**Pg**	**00 20 11.7**	**-1.1**
IZI	**Iznik**	**1.19**	**12**	*e*Pn	**Pg**	**00 20 11.7**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.22**	**350**	*e*PN	**Pb**	**00 20 12.4**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.22**	**350**	*e*Pn	**Pb**	**00 20 12.4**	**-0.6**
BORA	**Eskisehir**	**1.23**	**54**	P	**Pg**	**00 20 13.1**	**-0.4**
BORA				S	**Sn**	**00 20 29.9**	**-0.1**
BORA	**Eskisehir**	**1.23**	**54**	*i* P	**Pg**	**00 20 13.1**	**-0.4**
BORA				*i* S	**Sn**	**00 20 29.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.26**	**331**	*e*PN	**Pb**	**00 20 13.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.26**	**331**	*e*Pn	**Pb**	**00 20 13.7**	**0.0**
BALY	**Balya**	**1.32**	**296**	P	**Pg**	**00 20 15.7**	**+0.5**
BALY				S	**Sn**	**00 20 33.3**	**+1.2**
BALY	**Balya**	**1.32**	**296**	*i* P	**Pg**	**00 20 15.7**	**+0.5**
BALY				*i* S	**Sn**	**00 20 33.3**	**+1.2**
ADVT	**Abdulvahap**	**1.34**	**19**	*e*PN	**Pb**	**00 20 15.1**	**0.0**
ADVT	**Abdulvahap**	**1.34**	**19**	*e*Pn	**Pb**	**00 20 15.1**	**0.0**
ESKT	**Eskisehir**	**1.36**	**74**	*e*PN	**Pg**	**00 20 15.5**	**-0.5**
ESKT	**Eskisehir**	**1.36**	**74**	*e*Pn	**Pg**	**00 20 15.5**	**-0.5**
ARMT	**Armutlu**	**1.42**	**351**	*e*PN	**Pb**	**00 20 16.2**	**-0.2**
ARMT	**Armutlu**	**1.42**	**351**	*e*Pn	**Pb**	**00 20 16.2**	**-0.2**
GULT	**Gulveren**	**1.64**	**39**	*e*PN	**Pn**	**00 20 18.8**	**-0.1**
GULT	**Gulveren**	**1.64**	**39**	*e*Pn	**Pn**	**00 20 18.8**	**-0.1**

IPEC 22 00:26:16.4±0.2, 50°29N×18°79E, h2km±2km, ML1.2/3, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0
CSEM 22 00:26:16.1±0.3, 50°32N×18°74E, h2km, ML2.0/5, Error ellipse: s-maj=8.9km s-min=3.1km az=175.0
PRU 22 00:26:15.7, 50°34N×18°77E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.15**	**109**	*e*Pg	Pg	00 26 19.9	+1.3
CHZP				*e*Sg	Sg	00 26 22.4	+1.9
OKC	**Ostrava-Krasne**	**0.64**	**219**	*e*PG	Pg	00 26 28.5	+0.5
OKC				*e*SG	Sg	00 26 37.1	+0.8
	5.0nm,0.5s						
OKC	**Ostrava-Krasne**	**0.64**	**219**	Pg	Pg	00 26 28.5	+0.5
OKC				Sg	Sg	00 26 37.1	+0.8
	5.0nm,0.5s						
OJC	**Ojcow**	**0.67**	**100**	*e*Pg	Pg	00 26 29.3	+0.8
OJC				*e*Sg	Sg	00 26 37.6	+0.3
OJC	**Ojcow**	**0.67**	**100**	*e*Pg	Pg	00 26 29.3	+0.8
OJC				*e*Sg	Sg	00 26 37.6	+0.4
MORC	**Moravsky Berou**	**0.97**	**235**	*e*Pg	Pg	00 26 34.3	0.0
MORC				*e*Sg	Sg	00 26 46.5	-0.4
	3.9nm,0.4s						
NIE	**Niedzica**	**1.35**	**132**	*e*Pg	Pg	00 26 41.2	-0.4
NIE				*e*Sg	Sb	00 26 59.6	-0.2
NIE	**Niedzica**	**1.35**	**132**	*e*Pg	Pg	00 26 41.2	-0.4
NIE				*e*Sg	Sb	00 26 59.6	-0.2
DPC	**Dobruska-Polom**	**1.57**	**271**	*e*PG	Pn	00 26 45.0	+0.2
DPC				*e*SG	Sg	00 27 06.6	+0.6
	1.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.57**	**271**	Pg	Pn	00 26 45.0	+0.2
DPC				Sg	Sg	00 27 06.6	+0.6
	1.3nm,0.3s						
VRAC	**Vranov**	**1.75**	**235**	*e*Pn	Pn	00 26 47.8	+0.5
VRAC				*e*Sg	Sn	00 27 10.6	+0.4
	2.4nm,0.3s						
KRUC	**Moravsky**	**2.00**	**231**	*e*Pn	Pn	00 26 51.0	+0.2
KRUC				*e*Sg	Sb	00 27 18.4	-0.1
	1.3nm,0.3s						

JMA 22 00:26:32.9±0.1, 36°34N×137°06E, h269km±1km, M3.2
IDC 22 00:26:33.5±1.0, 36°36N×136°99E, h264km±10km, mb3.2/11, mb1 3.4/15, mb1mx3.2/41, mbtmp3.9/15, Error ellipse: s-maj=14.4km s-min=12.0km az=75.0
ISC 22 00:26:32.8±0.7, 36°43N±0°09×136°96E±0°07, h250km, n24, σ1s61/27, mb3.4/11, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.53**	**253**	P	**Pn**	**00 27 08.4**	**+2.6**
MAT	**Matsushiro**	**1.01**	**83**	P	**Pn**	**00 27 09.6**	**+1.7**
MAT				S	**S**	**00 27 37.6**	**+2.1**
MAT	**Matsushiro**	**1.01**	**83**	P	**Pn**	**00 27 09.6**	**+1.7**
MAT				*e*S	**S**	**00 27 38.1**	**+2.6**
MJAR	**Matsushiro Arr**	**1.01**	**83**	P	**Pn**	**00 27 09.9**	**+2.0**
	5.2nm,0.3s,baz=258,slow=6.4,SNR=61						
JRY	**Ryogami san**	**1.62**	**104**	P	**Pn**	**00 27 13.9**	**+1.8**
JWT	**Wachi**	**1.71**	**228**	P	**Pn**	**00 27 14.7**	**+1.9**
JIE	**Ise**	**2.04**	**186**	P	**Pn**	**00 27 17.4**	**+1.6**
JOD2	**Odawara 2**	**2.08**	**123**	P	**Pn**	**00 27 16.8**	**+0.7**
JOD2				S	**S**	**00 27 51.7**	**+1.5**
JNU	**Nakatsue**	**6.00**	**238**	P	**Pn**	**00 28 02.6**	**+1.7**
	1.1nm,0.3s,baz=85,slow=20,SNR=6.3						
KSRS	**Korea Array**	**7.31**	**281**	P	**Pn**	**00 28 19.9**	**+2.6**
	0.2nm,0.3s,baz=100,slow=12,SNR=4.5						
USRK	**Ussuriysk Ar.**	**8.64**	**335**	P	**Pn**	**00 28 36.4**	**+2.4**
	0.7nm,0.3s,baz=155,slow=12,SNR=26						
KLR	**Kul'dur**	**13.35**	**345**	P	**Pn**	**00 29 32.1**	**-0.7**
	1.4nm,0.3s,baz=146,slow=10.0,SNR=54						
SONM	**Songino Array**	**25.21**	**306**	P	**P**	**00 31 34.9**	**-0.9**
	0.6nm,0.6s,baz=106,slow=9.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**39.69**	**313**	P	**P**	**00 33 40.7**	**-0.1**
	0.3nm,0.3s,baz=104,slow=7.1,SNR=3.0						
MKAR	**Makanchi Array**	**41.41**	**302**	P	**P**	**00 33 54.4**	**-0.4**
	0.7nm,0.9s,baz=79,slow=11,SNR=3.7						
KURBB	**Kurchatov Arra**	**43.55**	**308**	P	**P**	**00 34 11.8**	**-0.2**
	2.3nm,0.7s,baz=85,slow=8.2,SNR=25						
ILAR	**Eielson Array**	**51.91**	**32**	P	**P**	**00 35 15.3**	**-0.4**
	0.4nm,0.5s,baz=261,slow=5.5,SNR=8.1						
WRA	**Warramunga Arr**	**56.12**	**183**	P	**P**	**00 35 44.7**	**-1.8**
	0.9nm,0.4s,baz=359,slow=7.6,SNR=17						
INK	**Inuvik**	**56.54**	**26**	P	**P**	**00 35 48.3**	**-0.6**
	1.0nm,0.5s,baz=336,slow=32,SNR=4.8						
ASAR	**Alice Springs**	**59.84**	**183**	P	**P**	**00 36 11.2**	**-1.0**
	0.6nm,0.9s,baz=153,slow=15,SNR=3.0						
YKA	**Yellowknife Ar**	**66.09**	**29**	P	**P**	**00 36 51.8**	**-0.9**
	0.2nm,0.7s,baz=313,slow=6.9,SNR=4.3						
FINES	**FINESS Array B**	**67.64**	**331**	P	**P**	**00 37 02.1**	**-0.4**
	1.0nm,0.6s,baz=164,slow=36,SNR=2.8						
TXAR	**Lajitas Array**	**93.28**	**50**	P	**P**	**00 39 19.3**	**-0.2**
	0.6nm,0.7s,baz=308,slow=3.0,SNR=7.1						
LPAZ	**La Paz**	**150.02**	**55**	PKPbc	**PKPbc**	**00 45 54.4**	**-0.6**
	0.6nm,0.6s,baz=71,slow=1.9,SNR=3.2						

NIED 22 00:27:00, 36°30N×141°80E, h17km, Mw3.7 Best double couple: M0 3.95000×10^14 NP1:φ=264.00000°, δ=43.00000°, λ=153.00000°. NP2:φ=15.00000°, δ=72.00000°, λ=51.00000°.
ISCJB 22 00:27:24.1±1.0, 36°30N±0°06×141°98E±0°09, h26km, mb3.6/5, Error ellipse: s-maj=10.1km s-min=8.7km az=22.8
JMA 22 00:27:25.1±0.2, 36°29N×141°82E, h74km±5km, M3.5
IDC 22 00:27:31.7±5.6, 36°09N×141°50E, h66km±43km, mb3.3/5, mb1 3.5/7, mb1mx3.2/38, mbtmp3.7/7, ML3.7/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/26, Error ellipse: s-maj=51.5km s-min=12.1km az=66.0
ISC 22 00:27:25.9±1.4, 36°29N±0°06×141°9E±0°1, h26km, n20, σ1s18/18, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.02**	**235**	P	**Pn**	**00 27 43.9**	**-0.6**
CHOJ				*e*S	**Sn**	**00 27 58.3**	**+0.4**
JHO	**Hitachi**	**1.11**	**287**	P	**Pn**	**00 27 44.5**	**-1.3**
JHO				S	**Sn**	**00 28 00.0**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.20**	**313**	P	**Pn**	**00 27 48.2**	**-0.9**
JFK	**Kawauchi**	**1.35**	**323**	P	**Pn**	**00 27 48.5**	**-0.6**
JFT	**Otama**	**1.75**	**315**	P	**Pn**	**00 27 54.7**	**+0.1**
MJAR	**Matsushiro Arr**	**2.98**	**276**	P	**Pn**	**00 28 12.1**	**+0.7**
	8.5nm,0.3s,baz=109,slow=8.1,SNR=16						
MJAR				S	**Sn**	**00 28 44.4**	**-2.0**
	3.7nm,0.3s,baz=90,slow=11,SNR=5.1						
MJAR				LR	LR	00 29 27.1	
	comp=Z,77nm,18.8s,baz=115,slow=43						
MAT	**Matsushiro**	**2.98**	**276**	P	**Pn**	**00 28 12.3**	**+0.8**
MAT				S	**Sn**	**00 28 47.8**	**+1.4**
JHJ	**Hachijo jima 2**	**3.60**	**209**	P	**Pn**	**00 28 21.2**	**+1.1**
	40nm,0.3s,baz=324,slow=22,SNR=10						
JHJ				S	**Sn**	**00 28 58.9**	**-2.9**
	69nm,0.3s,baz=253,slow=23,SNR=7.4						
KSRS	**Korea Array**	**11.25**	**280**	LR	LR	00 34 09.6	
	comp=Z,38nm,20.2s,baz=30,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.44**	**120**	T	T	01 02 02.0	
	baz=312,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy**	**27.45**	**120**	T	T	01 02 07.0	
	baz=312,slow=74,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**27.46**	**120**	T	T	01 02 15.3	
	baz=312,slow=74,SNR=10						
H11S1	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	01 03 30.4	
	baz=314,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	01 03 25.0	
	baz=314,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	01 03 21.6	
	baz=314,slow=76,SNR=9.1						
SONM	**Songino Array**	**28.52**	**305**	P	**P**	**00 33 20.3**	**+1.0**
	0.8nm,0.7s,baz=94,slow=9.2,SNR=4.6						
ZALV	**Zalesovo Beam**	**42.70**	**313**	P	**P**	**00 35 20.4**	**0.0**
	0.3nm,0.3s,baz=114,slow=6.5,SNR=2.6						
MKAR	**Makanchi Array**	**44.84**	**303**	P	**P**	**00 35 38.0**	**+0.2**
	0.9nm,0.7s,baz=94,slow=9.7,SNR=5.5						
KURBB	**Kurchatov Arra**	**46.76**	**309**	P	**P**	**00 35 53.0**	**+0.1**
	0.8nm,0.6s,baz=83,slow=7.7,SNR=6.6						
WRA	**Warramunga Arr**	**56.38**	**189**	P	**P**	**00 37 04.6**	**-0.3**
	0.1nm,0.3s,baz=4.9,slow=7.7,SNR=2.9						

WEL 22 00:35:38.0±0.1, 43°59S×172°52E, h9km, ML3.5/13, 6C-3D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.08**	**78**	↑PG	Pg	00 35 40.1	0.0
CRLZ				SG	Sg	00 35 41.7	0.0
CRLZ				AML	AML	00 35 41.9	
CRLZ				AML	AML	00 35 42.0	
CRLZ				AML	AML	00 35 42.1	
MQZ	**McQueen's Vall**	**0.15**	**139**	↓PG	Pg	00 35 41.4	+0.1
MQZ				SG	Sg	00 35 43.8	+0.3
MQZ				AML	AML	00 35 44.0	
OXZ	**Oxford**	**0.44**	**307**	↓P*	Pg	00 35 46.4	-0.2
OXZ				SG	Sb	00 35 53.6	-1.0
LTZ	**Lake Taylor**	**0.83**	**347**	↓P*	Pg	00 35 54.1	+0.2
LTZ				S*	Sb	00 36 05.7	-0.2
LTZ				AML	AML	00 36 06.3	
RPZ	**Rata Peaks**	**1.07**	**263**	↑P*	Pg	00 35 57.7	-0.9
RPZ				AML	AML	00 36 13.3	
RPZ				AML	AML	00 36 14.3	
INZ	**Inchbonnie**	**1.17**	**317**	P*	Pb	00 35 59.3	-1.1
KHZ	**Kahutara**	**1.39**	**33**	↑PN	Pn	00 36 01.8	-1.9
WVZ	**Waitaha Valley**	**1.40**	**291**	PN	Pn	00 36 03.3	-0.4
WVZ				AML	AML	00 36 24.2	
THZ	**Tophouse**	**1.85**	**9**	PN	Pn	00 36 08.9	-1.1
THZ				AML	AML	00 36 37.7	
THZ				AML	AML	00 36 44.7	
LBZ	**Lake Benmore**	**1.86**	**244**	PN	Pn	00 36 09.0	-1.2
LBZ				AML	AML	00 36 43.5	
LBZ				AML	AML	00 36 46.8	
DSZ	**Denniston Nort**	**1.92**	**344**	PN	Pn	00 36 10.4	-0.5
DSZ				AML	AML	00 36 36.1	
DSZ				AML	AML	00 36 36.8	
DSZ				AML	AML	00 36 37.6	
DSZ				AML	AML	00 36 46.8	
FOZ	**Fox Glacier**	**1.96**	**271**	PN	Pn	00 36 11.2	-0.3
FOZ				AML	AML	00 36 37.3	
FOZ				AML	AML	00 36 46.6	
ODZ	**Otahua Downs**	**1.98**	**222**	↑PN	Pn	00 36 10.1	-1.6
ODZ				AML	AML	00 36 43.1	
ODZ				AML	AML	00 36 44.7	
ODZ				AML	AML	00 36 47.7	
ODZ				AML	AML	00 36 49.4	
BSWZ	**Blackbirch Sta**	**2.13**	**29**	PN	Pn	00 36 12.3	-1.4
NNZ	**Nelson**	**2.46**	**15**	PN	Pn	00 36 18.1	-0.1
HHSZ	**Highcliff Hill**	**2.67**	**210**	PN	Pn	00 36 19.4	-1.8
JCZ	**Jackson Bay**	**2.74**	**259**	PN	Pn	00 36 21.3	-1.0
QRZ	**Quartz Range**	**2.76**	**0**	PN	Pn	00 36 21.8	-0.8
QRZ				AML	AML	00 37 00.6	
EAZ	**Earnscleugh**	**2.82**	**233**	↑PN	Pn	00 36 21.7	-1.6
EAZ				AML	AML	00 37 09.4	
EAZ				AML	AML	00 37 11.5	
TUZ	**Tuapeka**	**3.13**	**220**	↑PN	Pn	00 36 25.8	-1.7
TUZ				AML	AML	00 37 21.3	
TUZ				AML	AML	00 37 24.2	
MLZ	**Mavora Lakes**	**3.61**	**239**	PN	Pn	00 36 32.4	-1.8
MRZ	**Mangatainoka R**	**3.71**	**39**	PN	Pn	00 36 32.7	-2.8
SYZ	**Scrubby Hill**	**3.79**	**218**	PN	Pn	00 36 35.5	-1.2
BFZ	**Birch Farm**	**4.02**	**45**	PN	Pn	00 36 36.9	-2.9

CSEM 22 00:55:56.9±0.5, 35°44N×22°50E, h10km, ML3.5, Error ellipse: s-maj=11.6km s-min=4.4km az=28.0
ATH 22 00:55:59.9, 35°56N×22°67E, h36km±2km, ML3.4/3, Error ellipse: s-maj=3.3km s-min=1.0km az=54.0
IDC 22 00:56:02.5±2.0, 35°74N×22°61E, h60km±21km, mb3.6/10, mb1 3.6/14, mb1mx3.4/45, mbtmp3.7/14, ML3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/38, Error ellipse: s-maj=20.8km s-min=15.1km az=6.0
THE 22 00:56:02.0, 35°58N×22°73E, h22km±1km, ML3.5/5, Error ellipse: s-maj=2.2km s-min=0.8km az=47.0
ISC 22 00:55:59.3±0.9, 35°46N±0°05×22°56E±0°03, h49km±8km, n246, σ1s83/239, mb3.7/12, 12C-2D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.73**	**56**	P	**Pn**	**00 56 12.5**	**-0.9**
ANKY				S	**Sn**	**00 56 20.9**	**-2.7**
ANKY	**Antikythira Is**	**0.73**	**56**	P	**Pn**	**00 56 12.5**	**-0.9**
ANKY				S	**Sn**	**00 56 20.5**	**-3.1**
ANKY	**Antikythira Is**	**0.73**	**56**	P	**Pn**	**00 56 12.7**	**-0.7**
ANKY				S	**Sn**	**00 56 20.5**	**-3.1**
ANKY				AML	AML	00 56 23.7	
	comp=N,6192μm,0.5s						
ANKY				AML	AML	00 56 26.9	
	comp=E,6751μm,0.5s						
KYTH	**Kithira**	**0.89**	**26**	P	**Pn**	**00 56 15.4**	**-0.2**
KYTH				S	**Sn**	**00 56 27.0**	**-0.6**
KYTH	**Kithira**	**0.89**	**26**	P	**Pn**	**00 56 15.4**	**-0.2**
KYTH				S	**Sn**	**00 56 27.0**	**-0.6**
KYTH	**Kithira**	**0.89**	**26**	P	**Pn**	**00 56 15.4**	**-0.2**
IMMV	**Iera Moni Meta**	**1.16**	**90**	P	**Pn**	**00 56 20.7**	**+1.5**
IMMV				S	**Sn**	**00 56 34.6**	**+0.6**
IMMV	**Iera Moni Meta**	**1.16**	**90**	P	**Pn**	**00 56 20.7**	**+1.5**
IMMV				S	**Sn**	**00 56 34.8**	**+0.8**
IMMV	**Iera Moni Meta**	**1.16**	**90**	P	**Pn**	**00 56 20.1**	**+0.9**
IMMV				S	**Sn**	**00 56 34.8**	**+0.8**
IMMV				AML	AML	00 56 37.1	
	comp=N,4544μm,0.7s						
IMMV				AML	AML	00 56 40.9	
	comp=E,6081μm,0.9s						
VLI	**Veliai**	**1.29**	**14**	P	**Pn**	**00 56 22.5**	**+1.6**
VLI				S	**Sn**	**00 56 37.5**	**+0.4**
VLI	**Veliai**	**1.29**	**14**	P	**Pn**	**00 56 22.5**	**+1.6**
VLI				S	**Sn**	**00 56 38.4**	**+1.3**
VLI	**Veliai**	**1.29**	**14**	P	**Pn**	**00 56 22.5**	**+1.6**
VLI				S	**Sn**	**00 56 38.4**	**+1.3**
VLI				AML	AML	00 56 44.9	
	comp=N,2802μm,0.8s						
VLI				AML	AML	00 56 45.7	
	comp=E,3148μm,0.6s						
VAM	**Vamos**	**1.34**	**92**	P	**Pn**	**00 56 23.1**	**+1.4**
VAM	**Vamos**	**1.34**	**92**	P	**Pn**	**00 56 23.1**	**+1.4**
GVD	**Gavdhos**	**1.40**	**116**	P	**Pn**	**00 56 24.1**	**+1.6**
GVD	**Gavdhos**	**1.40**	**116**	P	**Pn**	**00 56 24.1**	**+1.6**
GVD	**Gavdhos**	**1.40**	**116**	P	**Pn**	**00 56 23.6**	**+1.2**
PYL	**PYLOS**	**1.57**	**336**	P	**Pn**	**00 56 27.5**	**+2.7**
PYL				S	**Sn**	**00 56 47.1**	**+3.1**
PYL	**PYLOS**	**1.57**	**336**	P	**Pn**	**00 56 25.1**	**+0.3**
PYL				S	**Sn**	**00 56 47.1**	**+3.1**
PYL	**PYLOS**	**1.57**	**336**	P	**Pn**	**00 56 25.1**	**+0.3**
ITM	**Ithomi**	**1.79**	**344**	P	**Pn**	**00 56 29.7**	**+1.9**
ITM	**Ithomi**	**1.79**	**344**	P	**Pn**	**00 56 28.9**	**+1.1**
ITM	**Ithomi**	**1.79**	**344**	P	**Pn**	**00 56 28.9**	**+1.1**
SIVA	**Sivas**	**1.90**	**103**	P	**Pn**	**00 56 31.1**	**+1.9**
SIVA	**Sivas**	**1.90**	**103**	P	**Pn**	**00 56 31.1**	**+1.9**
SIVA	**Sivas**	**1.90**	**103**	P	**Pn**	**00 56 31.1**	**+1.9**
VLX	**Vlachokerasia**	**1.91**	**356**	P	Pn	00 56 34.2	+4.7
VLX	**Vlachokerasia**	**1.91**	**356**	P	Pn	00 56 33.3	+3.8
VLX	**Vlachokerasia**	**1.91**	**356**	P	Pn	00 56 33.3	+3.8
IDI	**Anoyia**	**1.92**	**95**	P	**Pn**	**00 56 31.1**	**+1.5**
	comp=E,5.4nm,0.3s,baz=293,slow=5.6,SNR=204						
IDI				S	**Sn**	**00 56 56.8**	**+4.3**
	comp=E,23nm,0.3s,baz=290,slow=22,SNR=6.5						
IDI				LR	LR	00 57 41.8	
	comp=E,81nm,20.9s,baz=261,slow=52						
IDI	**Anoyia**	**1.92**	**95**	P	**Pn**	**00 56 31.2**	**+1.7**
IDI	**Anoyia**	**1.92**	**95**	P	**Pn**	**00 56 31.2**	**+1.7**
IDI	**Anoyia

LKR	Lokris	3.20	6	P	Pn	00 56 48.2	+1.1
LKR	Lokris	3.20	6	P	Pn	00 56 47.5	+0.4
LKR	Lokris	3.20	6	P	Pn	00 56 47.5	+0.4
ATAL	Atalanti	3.25	6	P	Pn	00 56 47.3	-0.4
ATAL	Atalanti	3.25	6	P	Pn	00 56 47.3	-0.4
PVO	Paravola	3.25	346	P	Pn	00 56 51.6	+3.8
PVO	Paravola	3.25	346	P	Pn	00 56 52.5	+4.7
PVO	Paravola	3.25	346	P	Pn	00 56 52.5	+4.7
PDO	Prodromos	3.32	341	P	Pn	00 56 52.1	+3.4
PDO	Prodromos	3.32	341	P	Pn	00 56 52.5	+3.8
PDO	Prodromos	3.32	341	P	Pn	00 56 52.5	+3.8
SMIA	Simia	3.45	9	P	Pn	00 56 52.9	+2.4
SMIA	Simia	3.45	9	P	Pn	00 56 52.9	+2.4
EVR	Evrytania	3.50	350	P	Pn	00 56 55.1	+3.8
EVR	Evrytania	3.50	350	P	Pn	00 56 55.4	+4.1
EVR	Evrytania	3.50	350	P	Pn	00 56 55.4	+4.1
AGG	Agios Georgios	3.56	357	*e*PN	Pn	00 56 55.0	+3.0
AGG	Agios Georgios	3.56	357	P	Pn	00 56 54.5	+2.5
AGG	Agios Georgios	3.56	357	P	Pn	00 56 54.5	+2.5
AGG	Agios Georgios	3.56	357	*e*Pn	Pn	00 56 55.0	+3.0
LKD2	Lefkada island	3.65	336	P	Pn	00 56 55.7	+2.4
LKD2	Lefkada island	3.65	336	P	Pn	00 56 55.7	+2.4
KARP	Karpathos	3.76	87	*e*PN	Pn	00 56 56.4	+1.6
KARP	Karpathos	3.76	87	P	Pn	00 56 53.8	-1.0
KARP	Karpathos	3.76	87	*e*Pn	Pn	00 56 56.4	+1.6
KARP	Karpathos	3.76	87	P	Pn	00 56 53.9	-1.0
SKIA	Skiathos	3.77	11	P	Pn	00 56 54.7	-0.2
SKIA	Skiathos	3.77	11	P	Pn	00 56 54.7	-0.2
DSL	Palaion Diasel	3.84	343	P	Pn	00 56 58.4	+2.4
DSL	Palaion Diasel	3.84	343	P	Pn	00 56 58.4	+2.4
DSL	Palaion Diasel	3.84	343	P	Pn	00 56 58.4	+2.4
NEO	Neokhori	3.87	8	P	Pn	00 56 57.9	+1.5
NEO	Neokhori	3.87	8	P	Pn	00 56 57.9	+1.5
NEO	Neokhori	3.87	8	P	Pn	00 56 55.8	-0.5
CHOS	Chios island	4.05	43	*e*PN	Pn	00 56 58.7	-0.1
CHOS	Chios island	4.05	43	*e*Pn	Pn	00 56 58.7	-0.1
SMG	Samos	4.11	56	P	Pn	00 56 58.0	-1.6
SMG	Samos	4.11	56	P	Pn	00 56 58.0	-1.6
THL	Klokotos Trika	4.12	354	P	Pn	00 57 01.4	+1.7
THL	Klokotos Trika	4.12	354	P	Pn	00 57 01.0	+1.3
BODT	Bodrum	4.16	66	*e*PN	Pn	00 57 01.0	+0.7
BODT	Bodrum	4.16	66	*e*Pn	Pn	00 57 01.0	+0.7
SGD	Sagiada	4.53	337	P	Pn	00 57 06.6	+1.2
SGD	Sagiada	4.53	337	P	Pn	00 57 06.6	+1.2
KPRO	Kipourio	4.58	348	P	Pn	00 57 08.8	+2.7
KPRO	Kipourio	4.58	348	P	Pn	00 57 08.8	+2.7
ARG	Arkhangelos	4.59	79	P	Pn	00 57 05.5	-0.6
YER	Yerkesik	4.92	68	*e*PN	Pn	00 57 11.9	+1.2
YER	Yerkesik	4.92	68	*e*Pn	Pn	00 57 11.9	+1.2
AYDB	Zeytinkoy-Aydi	4.95	58	*e*PN	Pn	00 57 11.8	+0.6
AYDB	Zeytinkoy-Aydi	4.95	58	*e*Pn	Pn	00 57 11.8	+0.6
OUR	Ouranopolis	4.99	13	*e*PN	Pn	00 57 13.4	+1.7
OUR	Ouranopolis	4.99	13	*e*Pn	Pn	00 57 13.4	+1.7
TURN	Turunc	5.09	72	*i* P	Pn	00 57 09.5	-3.5
DALY	Dalyan (Mu¨la	5.12	73	*e*PN	Pn	00 57 14.9	+1.5
DALY	Dalyan (Mu¨la	5.12	73	*e*Pn	Pn	00 57 14.9	+1.5
HORT	Hortiatis	5.14	5	*e*PN	Pn	00 57 14.0	+0.2
HORT	Hortiatis	5.14	5	*e*Pn	Pn	00 57 14.0	+0.2
AKAS	Kas	5.78	80	P	Pn	00 57 21.5	-1.1
AKAS				S	Sn	00 58 21.7	-5.9
AKAS	Kas	5.78	80	*i* P	Pn	00 57 21.5	-1.1
AKAS				*i* S	Sn	00 58 21.7	-5.9
GELI	Tayfur-Gelibol	5.82	31	*e*PN	Pn	00 57 22.1	-0.9
GELI	Tayfur-Gelibol	5.82	31	*e*Pn	Pn	00 57 22.1	-0.9
GOLH	Golhisar	5.92	71	P	Pn	00 57 25.7	+1.1
GOLH	Golhisar	5.92	71	*i* P	Pn	00 57 25.7	+1.1
ALN	Alexandroupoli	6.08	26	*e*PN	Pn	00 57 28.0	+1.4
ALN	Alexandroupoli	6.08	26	*e*Pn	Pn	00 57 28.0	+1.4
TIR	Tirame	6.24	341	P	Pn	00 57 30.3	+1.5
KORT	Korkueli	6.48	74	P	Pn	00 57 30.3	-2.0
KORT	Korkueli	6.48	74	*i* P	Pn	00 57 30.3	-2.0
TAR1	Taranto	6.55	322	*e*Pn	Pn	00 57 33.3	+0.3
SG1	Sgolgore (BA)	7.09	321	*e*Pn	Pn	00 57 40.6	+0.2
SG1				S	Sn	00 58 53.5	-6.1
ZATK	Zatriq	7.14	348	P	Pn	00 57 40.9	-0.3
DRME	Dracevica, Mon	7.21	340	*e*Pn	Pn	00 57 41.4	-0.7
BARS	Barje	7.37	356	*e*Pn	Pn	00 57 44.2	0.0
PEJK	Peje	7.38	347	P	Pn	00 57 44.8	+0.3
PDG	Podgorica	7.42	341	*e*Pn	Pn	00 57 44.0	-0.9
CDT	Castel del Mon	7.47	321	*e*Pn	Pn	00 57 45.9	+0.2
CDT				S	Sn	00 59 02.4	-6.7
HCY	Herceg Novi	7.66	337	*e*Pn	Pn	00 57 46.1	-2.1
TREB	Trebinje	7.95	337	*e*Pn	Pn	00 57 50.5	-1.7
BRY	Bratogost	8.05	338	*e*Pn	Pn	00 57 52.4	-1.4
MS1	Monte Sant'Ang	8.10	322	*e*Pn	Pn	00 57 54.1	-0.3
MS1				S	Sn	00 59 14.9	-10
BOVS	Bovan	8.19	356	*e*Pn	Pn	00 57 57.6	+2.1
UPM	Unac-Piva	8.23	341	*e*Pn	Pn	00 57 55.6	-0.6
UPM	Unac-Piva	8.23	341	P	Pn	00 57 58.1	+1.9
IVAS	Ivanjica	8.31	348	*e*Pn	Pn	00 57 56.0	-1.2
GRUS	Gruza	8.53	351	*e*Pn	Pn	00 57 59.1	-1.1
BBLS	Lazići	8.74	345	*e*Pn	Pn	00 58 02.7	-0.3
DIVS	Divibare	8.85	348	⇑*i* Pn	Pn	00 58 03.4	-1.2
KUBS	Kucevo	8.96	356	*e*Pn	Pn	00 58 12.7	+6.6
MDVR	Moldovita	9.33	356	⇑*i* P	Pn	00 58 09.9	-1.2
MDVR	Moldovita	9.33	356	⇑*i* P	Pn	00 58 09.9	-1.2
TEKS	Tekeris	9.37	347	*e*Pn	Pn	00 58 10.4	-1.2
BRTR	Keskin Array B	9.77	61	P	Pn	00 58 19.9	+2.6
	comp=E,0.1nm,0.3s,baz=247,slow=17,SNR=8.1						
GZR	Gura Zlata	9.92	1	⇑*i* P	Pn	00 58 21.4	+2.2
GZR	Gura Zlata	9.92	1	⇑*i* P	Pn	00 58 21.4	+2.2
VOIR		10.14	10	⇑*i* P	Pn	00 58 23.3	+1.0
VOIR		10.14	10	⇑*i* P	Pn	00 58 23.3	+1.0
BLY	Banja Luka	10.14	338	*e*Pn	Pn	00 58 22.0	-0.2
BZS	Buzias	10.17	356	⇑*i* P	Pn	00 58 20.6	-1.9
BZS	Buzias	10.17	356	⇑*i* P	Pn	00 58 20.6	-1.9
MLR	Muntele Rosu	10.34	13	P	Pn	00 58 28.2	+3.1
	comp=E,0.0nm,0.3s,baz=202,slow=11,SNR=1.7						
MLR	Muntele Rosu	10.34	13	⇓*i* P	Pn	00 58 36.3	+11
MLR	Muntele Rosu	10.34	13	⇓*i* P	Pn	00 58 36.3	+11
UDBI	Udbina	10.44	332	*i* Pn	Pn	00 58 26.6	+0.3
UDBI					Sn	01 00 14.5	-7.3
UDBI	Udbina	10.44	332	*i* Pn	Pn	00 58 26.6	+0.3
NVLJ	Novalja	10.83	329	*e*Pn	Pn	00 58 30.5	-1.1
NVLJ				S	Sn	01 00 21.0	-10
NVLJ	Novalja	10.83	329	*e*Pn	Pn	00 58 30.5	-1.1
MMAI	Mount Meron Ar	10.91	99	P	Pn	00 58 34.8	+1.9
	comp=E,0.6nm,0.3s,baz=212,slow=38,SNR=3.6						
DRGR		11.32	1	⇑*i* P	Pn	00 58 37.9	-0.4
DRGR		11.32	1	⇑*i* P	Pn	00 58 37.9	-0.4
CRES	Cresnjev	11.66	335	⇑*i* Pn	Pn	00 58 40.9	-2.1
EIL	Elat	11.94	115	P	Pn	00 58 48.1	+1.2
	comp=E,0.2nm,0.3s,baz=280,slow=6.9,SNR=5.0						
CEY	Cerknica	11.97	331	*e*Pn	Pn	00 58 46.3	-0.9
SOKA	Soboth	12.55	335	*i* Pn	Pn	00 58 53.3	-1.9
	comp=E,0.9nm,0.3s						
SOKA	Soboth	12.55	335	P	Pn	00 58 53.3	-1.9
	comp=E,0.9nm,0.3s						
OBKA	Obir	12.57	334	*i* Pn	Pn	00 58 54.6	-0.9
	comp=E,0.8nm,0.2s						
OBKA	Obir	12.57	334	P	Pn	00 58 54.6	-0.9
	comp=E,0.8nm,0.2s						
ARSA	Arzberg	12.90	338	*i* Pn	Pn	00 58 58.8	-1.1
	comp=E,0.9nm,0.4s						
ARSA	Arzberg	12.90	338	P	Pn	00 58 58.8	-1.1
	comp=E,0.9nm,0.4s						
MOA	Molln	13.83	336	*i* Pn	Pn	00 59 11.5	-1.1
	comp=E,0.7nm,0.4s						
MOA	Molln	13.83	336	Pn	Pn	00 59 11.5	-1.1
	comp=E,0.7nm,0.4s						
GERES	GERESS Array B	14.88	337	P	Pn	00 59 26.9	+0.3
	comp=E,0.2nm,0.3s,baz=161,slow=17,SNR=3.4						
RETA	Reutte	14.89	327	*i* P	P	00 59 33.1	+1.6
RETA	Reutte	14.89	327	P	P	00 59 33.1	+1.6
KHC	Kasperske Hory	15.17	337	*e*P	P	00 59 35.5	+1.0
AKASG	Malin Array Be	15.98	16	P	Pn	00 59 38.6	-2.0
	comp=E,1.1nm,0.3s,baz=208,slow=12,SNR=4.3						
ESDC	Sonseca Array	21.41	289	P	P	01 00 44.1	+1.1
	comp=E,0.1nm,0.5s,baz=150,slow=39,SNR=3.0						
HFS	Hagfors	25.35	350	P	P	01 01 21.2	-0.2
	comp=E,1.6nm,0.5s,baz=152,slow=10,SNR=7.7						
FINES	FINESS Array B	26.10	4	P	P	01 01 27.9	-0.2
	comp=E,0.8nm,0.5s,baz=166,slow=11,SNR=5.7						
FINES				LR	LR	01 14 06.9	
	comp=E,33nm,19.8s,baz=72,slow=42						
EKA	Eskdalemuir Ar	26.59	326	P	P	01 01 36.8	+4.1
	comp=E,1.4nm,0.6s,baz=128,slow=8.1,SNR=5.1						
TORD	Torodi Ar. Bea	29.12	225	P	P	01 01 60.0	+4.3
	comp=E,0.4nm,0.7s,baz=37,slow=10.0,SNR=3.7						
AKTO	Aktyubinsk	29.63	49	P	P	01 01 59.8	-0.1
	comp=E,0.6nm,0.5s,baz=217,slow=6.2,SNR=3.0						
ARCES	ARCESS Array B	34.17	2	P	P	01 02 39.2	-0.3
	comp=E,4.1nm,1.0s,baz=190,slow=9.2,SNR=7.4						
MKAR	Makanchi Array	45.38	56	P	P	01 04 12.7	-0.2
	comp=E,1.0nm,0.5s,baz=267,slow=7.6,SNR=11						
ZALV	Zalesovo Beam	46.33	46	P	P	01 04 20.2	0.0
	comp=E,1.2nm,0.3s,baz=265,slow=11,SNR=3.9						
SONM	Songino Array	60.93	50	P	P	01 06 07.3	+0.1
	comp=E,0.4nm,0.6s,baz=298,slow=10.0,SNR=3.5						
YKA	Yellowknife Ar	76.49	341	P	P	01 07 46.1	+2.4
	comp=E,0.3nm,0.7s,baz=36,slow=5.8,SNR=3.6						
USRK	Ussuriysk Ar.	78.11	44	P	P	01 07 53.5	+0.4
	comp=E,1.3nm,0.7s,baz=251,slow=4.4,SNR=3.5						

SKO 22 00:57:15.2, 41.10N×21.21E, h21km, M2.3, ML2.4, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.31	272	⇑*i*	Pg		Pb	00 57 22.5	+0.4
OHR					*i* Sg		Sb	00 57 27.5	+0.6
OHR					*e*Lg		Lg	00 57 27.6	
	comp=N,1μm,0.4s								
OHR					*e*Lg		Lg	00 57 28.2	
	comp=E,650nm,0.4s								
SKO	Skopje	0.89	11	⇑*i*	Pg		Pn	00 57 33.0	+0.5
SKO					*i* Sg		Sn	00 57 45.5	+0.7
VAY	Valandovo	1.05	77	*i*	Pg		Pn	00 57 35.7	+1.0
VAY					*i* Sg		Sn	00 57 49.9	+1.2
VAY					*e*Lg		Lg	00 57 50.0	
	comp=E,36nm,0.3s								

NIED **22** *00:57:00, 37.40N×141.30E, h20km, Mw3.7 Best double couple: M₀4.44000×10¹⁴ NP1:φ₀337.00000°, δ49.00000°, λ-125.00000°. NP2:φ₀203.00000°, δ52.00000°, λ-57.00000°.*

ISCJB **22** *00:57:18.8±1.3, 37.33N±0.04×141.51E±0.07, h17km±8km, mb3.6/9, Error ellipse: s-maj=9.7km s-min=5.9km az=23.8*

IDC **22** *00:57:18.0±0.8, 37.35N×141.47E, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.7/34, mbtmp3.7/11, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/44, Error ellipse: s-maj=22.0km s-min=17.5km az=104.0*

JMA **22** *00:57:21.9±0.2, 37.35N×141.31E, h31km±1km, M3.8*

JMA Felt I J1.

ISC 22 00:57:18.4±2.2, 37.34N±0.05×141.45E±0.06, h2km±13km, n29, σ0.69/27, mb3.6/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.46	274	P		P	Pb	00 57 29.8	+0.6
JFK				S		S	Sb	00 57 35.3	-1.2
ONAJ	Iwakimizuishiy	0.57	246	P		P	Pb	00 57 31.7	+0.5
JMM	Marumori	0.74	315	S		S	Sg	00 57 42.8	+0.6
JFT	Otama	0.90	282	P		P	Pg	00 57 37.2	+0.4
JFT				S		S	Sg	00 57 48.1	+0.7
JHO	Hitachi	1.01	224	S		S	Sg	00 57 49.8	-1.1
JIO	Ouri	1.12	356	S		S	Sg	00 57 53.5	-0.7
JOU	Okura	1.20	329	S		S	Sg	00 57 56.9	0.0
JFY	Yanaizu	1.39	273	P		P	Pn	00 57 44.6	-0.3
JFY				S		S	Sg	00 58 02.3	-0.8
JYS	Shirataka	1.41	309	S		S	Sg	00 58 02.9	-0.7
MJAR	Matsushiro Arr	2.72	254	Pn		Pn	Pn	00 58 03.7	+0.6
	12nm,0.3s,baz=82,slow=16,SNR=26								
MJAR				Sn		Sn	Sn	00 58 36.6	+0.1
	12nm,0.3s,baz=78,slow=28,SNR=6.0								
MAT	Matsushiro	2.72	254	P		Pn	Pn	00 58 04.1	+1.0
MAT				S		S	Sn	00 58 37.0	+0.5
JHJ	Hachijo jima 2	4.43	198	Pn		Pn	Pn	00 58 27.2	+0.7
	14nm,0.3s,baz=65,slow=22,SNR=8.1								
JNU	Nakatsue	9.62	247	LR		LR		01 03 49.0	
	comp=Z,50nm,19.8s,baz=296,slow=41								
SONM	Songino Array	27.64	303	P		P		01 03 07.4	-0.1
	0.2nm,0.4s,baz=108,slow=14,SNR=2.8								
H11N2	WAKE ISLAND Hy	28.28	121	T		T		01 32 46.3	
	baz=314,slow=75,SNR=90								
H11N1	WAKE ISLAND Hy	28.29	121	T		T		01 32 57.6	
	baz=314,slow=75,SNR=121								
H11N3	WAKE ISLAND Hy	28.30	121	T		T		01 32 57.1	
	baz=314,slow=75,SNR=82								
H11S1	WAKE ISLAND Hy	29.00	123	T		T		01 33 49.5	
	baz=316,slow=76,SNR=74								
H11S3	WAKE ISLAND Hy	29.00	123	T		T		01 33 45.9	
	baz=316,slow=76,SNR=48								
H11S2	WAKE ISLAND Hy	29.02	123	T		T		01 33 40.6	
	baz=316,slow=76,SNR=43								
ZALV	Zalesovo Beam	41.73	312	P		P		01 05 09.3	+0.7
	0.4nm,0.8s,baz=89,slow=5.9,SNR=2.5								
MKAR	Makanchi Array	43.98	302	P		P		01 05 27.4	+0.4
	0.5nm,0.8s,baz=86,slow=8.8,SNR=2.8								
ILAR	Eielson Array	49.22	32	P		P		01 06 08.2	+0.4
	0.3nm,0.7s,baz=284,slow=6.0,SNR=4.4								
WRA	Warramunga Arr	57.37	188	P		P		01 07 07.9	-0.3
	0.9nm,0.5s,baz=6.2,slow=7.5,SNR=8.3								
ASAR	Alice Springs	61.09	188	P		P		01 07 33.6	-0.4
	0.6nm,0.9s,baz=17,slow=7.9,SNR=4.1								
YKA	Yellowknife Ar	63.53	30	P		P		01 07 49.6	-0.2
	0.3nm,0.7s,baz=300,slow=6.3,SNR=3.8								
FINES	FINESS Array B	68.56	332	P		P		01 08 21.4	-0.8
	1.4nm,0.8s,baz=28,slow=8.6,SNR=6.7								
NOA	NORSAR Array B	73.92	337	P		P		01 08 53.6	-1.0
	0.6nm,0.8s,baz=71,slow=11,SNR=2.7								
LPAZ	La Paz	146.51	59	PKPbc		PKPbc		01 17 02.7	+0.2
	0.7nm,0.5s,baz=290,slow=6.6,SNR=3.7								

NIED **22** *01:07:00, 37.70N×142.50E, h14km, Mw3.8 Best double couple: M₀5.08000×10¹⁴ NP1:φ₀174.00000°, δ33.00000°, λ-112.00000°. NP2:φ₀19.00000°, δ59.00000°, λ-76.00000°.*

ISCJB **22** *01:07:33.9±0.5, 37.70N±0.04×142.48E±0.05, h21km, mb3.9/18, Error ellipse: s-maj=6.0km s-min=5.6km az=11.6*

JMA **22** *01:07:34.3±0.2, 37.73N×142.48E, h27km±3km, M4.3*

IDC **22** *01:07:40.2±2.6, 37.74N×142.47E, h57km±24km, mb3.7/18, mb1 3.8/21, mb1mx3.6/55, mbtmp4.0/21, ML3.4/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/44, Error ellipse: s-maj=20.1km s-min=15.5km az=91.0*

ISC 22 01:07:36.1±0.7, 37.75N±0.05×142.36E±0.06, h21km, n45, σ1.34/44, mb4.0/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.07	312	P		P	Pn	01 07 54.7	-1.0
JIO					*e*S		Sb	01 08 09.2	-0.1
JFK	Kawauchi	1.24	253	P		P	Pn	01 07 57.3	-0.9
JMM	Marumori	1.25	276	P		P	Pn	01 07 57.6	-0.7
JMM				S		S	Sn	01 08 14.4	0.0
JOU	Okura	1.48	295	P		P	Pn	01 08 01.4	0.0
JOU					*e*S		Sb	01 08 21.4	+0.3
JMK	Ichinoseki	1.50	324	P		P	Pn	01 08 01.0	-0.7
JFT	Otama	1.62	262	P		P	Pn	01 08 03.8	+0.3
JYS	Shirataka	1.88	285	P		P	Pn	01 08 07.2	+0.3
JOM	Ohasama	1.92	334	P		P	Pn	01 08 07.6	+0.2
JOM				S		S	Sn	01 08 31.8	+0.9
JYK	Kaneyama	1.96	307	P		P	Pn	01 08 08.1	0.0
JRG	Rokugo	2.13	321	P		P	Pn	01 08 10.8	+0.4
JAW	Awa shima	2.56	287	P		P	Pn	01 08 16.3	+0.1
JANG	Nango	2.70	346	P		P	Pn	01 08 16.9	-1.4
JAH	Hinai	2.78	332	P		P	Pn	01 08 21.1	+1.7
JTM	Tenmabayashi	3.20	342	P		P	Pn	01 08 25.4	+0.4
MJAR	Matsushiro Arr	3.53	251	P		P	Pb	01 08 34.2	-3.6
	4.0nm,0.3s,baz=66,slow=14,SNR=14								
MJAR				LR		LR		01 09 58.4	
	comp=Z,69nm,19.4s,baz=75,slow=38								
MAT	Matsushiro	3.53	251	P		P	Pn	01 08 32.7	+3.0
MAT				S		S	Sn	01 09 12.6	+1.8
JHJ	Hachijo jima 2	5.08	205	P		P	Pn	01 08 53.3	+2.4
	26nm,0.3s,baz=254,slow=2.2,SNR=7.4								
JHJ				S			Sn	01 09 47.4	-1.5
	25nm,0.3s,baz=255,slow=24,SNR=3.2								
USRK	Ussuriysk Ar.	10.15	313	P		P	Pn	01 10 04.6	+4.2
	0.4nm,0.3s,baz=145,slow=40,SNR=8.5								
KSRS	Korea Array	11.46	273	LR		LR		01 14 42.8	
	comp=Z,56nm,18.4s,baz=235,slow=36								
KLR	Kul'dur	13.80	330	P		P		01 10 59.8	+1.1
	0.2nm,0.3s,baz=27,slow=1.5,SNR=4.1								
MA2	Magadan	22.50	11	P		P		01 12 33.4	-0.6
	3.1nm,0.3s,baz=222,slow=9.3,SNR=4.1								
SEY	Seymchan	25.95	10	P		P		01 13 07.3	+0.6
	1.3nm,0.3s,baz=176,slow=5.3,SNR=10								
H11N2	WAKE ISLAND Hy	27.89	123	T		T		01 42 30.2	
	baz=316,slow=75,SNR=435								
H11N1	WAKE ISLAND Hy	27.89	123	T		T		01 42 30.8	
	baz=316,slow=75,SNR=206								
H11N3	WAKE ISLAND Hy	27.90	123	T		T		01 42 31.5	
	baz=316,slow=75,SNR=215								
SONM	Songino Array	28.02	303	P		P		01 13 27.2	+1.5
	1.4nm,0.6s,baz=104,slow=8.7,SNR=13								
H11S1	WAKE ISLAND Hy	28.63	125	T		T		01 43 33.6	
	baz=317,slow=76,SNR=104								
H11S3	WAKE ISLAND Hy	28.64	125	T		T		01 43 32.2	
	baz=317,slow=76,SNR=135								
H11S2	WAKE ISLAND Hy	28.65	125	T		T		01 43 30.8	
	baz=317,slow=76,SNR=108								
ZALV	Zalesovo Beam	42.00	312	P		P		01 15 26.2	+0.7
	1.0nm,0.3s,baz=96,slow=7.6,SNR=3.1								
MKAR	Makanchi Array	44.38	302	P		P		01 15 45.2	+0.3
	1.0nm,0.7s,baz=94,slow=8.2,SNR=7.5								
KURBB	Kurchatov Arra	46.16	308	P		P		01 15 59.0	+0.1
	3.2nm,0.5s,baz=82,slow=8.0,SNR=29								
ILAR	Eielson Array	48.49	33	P		P		01 16 16.1	-0.7
	0.4nm,0.6s,baz=271,slow=6.5,SNR=5.9								
BVAR	Borovoye Array	50.65	312	P		P		01 16 33.9	+0.4
	1.0nm,0.5s,baz=67,slow=8.0,SNR=4.9								
ARU	Arti	56.33	318	P		P		01 17 15.2	+0.2
	1.6nm,0.5s,baz=69,slow=4.8,SNR=2.9								
WRA	Warramunga Arr	57.88	189	P		P		01 17 26.4	0.0
	0.8nm,0.7s,baz=6.1,slow=7.2,SNR=8.5								
AKTO	Aktyubinsk	58.76	312	P		P		01 17 34.0	+1.7
	0.8nm,0.4s,baz=66,slow=11,SNR=3.6								
ASAR	Alice Springs	61.60	189	P		P		01 17 51.1	-0.9
	0.3nm,0.7s,baz=13,slow=6.1,SNR=4.1								
YKA	Yellowknife Ar	62.81	31	P		P		01 17 58.6	-1.1
	0.3nm,0.7s,baz=207,slow=24,SNR=3.0								
FINES	FINESS Array B	68.53	332	P		P		01 18 36.5	-0.1
	0.9nm,0.6s,baz=46,slow=11,SNR=6.6								
HFS	Hagfors	73.75	336	P		P		01 19 08.9	+0.7
	4.5nm,1.1s,baz=224,slow=6.2,SNR=4.1								
NOA	NORSAR Array B	73.82	338	P		P		01 19 07.9	-0.7
	0.7nm,0.7s,baz=215,slow=15,SNR=2.7								
AKASG	Malin Array Be	74.19	323	P		P		01 19 09.6	-1.3
	1.3nm,0.5s,baz=49,slow=6.8,SNR=4.3								
PDAR	Pinedale Array	76.63	46	P		P		01 19 26.4	+1.0
	0.3nm,0.6s,baz=208,slow=44,SNR=3.0								
LPAZ	La Paz	145.68	60	PKPbc		PKPdf		01 27 13.6	-0.5
	0.5nm,0.5s,baz=350,slow=6.7,SNR=3.1								

IDC 22 01:30:29.4±0.9, 28.96N×140.54E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/24, mbtmp3.9/6, Error ellipse: s-maj=57.6km s-min=21.2km az=98.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.98	188	P		P		01 39 17.0	-0.8
	1.4nm,0.6s,baz=6.8,slow=12,SNR=6.4								
ASAR	Alice Springs	52.71	188	P		P		01 39 46.5	+0.6
	4.8nm,0.7s,baz=6.7,slow=11,SNR=39								
ILAR	Eielson Array	56.79	29	P		P		01 40 16.4	+1.4
	0.4nm,0.8s,baz=262,slow=6.4,SNR=5.

*BKK **22** 01:41:48.3±1.6,27˚N±55˚×10˚0E±1˚7,h10km,M4.1/7, mB4.6/5,mb4.4/7,Mw(mB)3.8/5*
*ISCJB **22** 01:42:07.9±0.4,25˚.58N±0˚.04×99˚.84E±0˚.06,h10km, mb4.1/12,MS3.3/9,Error ellipse: s-maj=7.7km s-min=5.2km az=17.1*
*BJI **22** 01:42:07.0,25˚.60N×99˚.97E,h6km,mb4.0/9,mB4.0/1, ML4.0/10,Ms3.9/9,Ms7 3.7/9*
*IDC **22** 01:42:09.3±0.9,25˚.65N×100˚.11E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.6/55,mbtmp3.9/7,ML4.5/1,MS3.4/10, Ms1 3.4/10,ms1mx3.2/34,Error ellipse: s-maj=34.5km s-min=15.4km az=76.0*
*NEIC **22** 01:42:11.1±3.5,25˚.59N×99˚.82E,h15km±24km,mb4.4/7, Error ellipse: s-maj=9.2km s-min=6.5km az=88.0*

ISC 22 01:42:11.0±0.6,25˚.56N±0˚.04×99˚.86E±0˚.06,h10km,n37, σ2s42/38,mb4.1/12,MS3.3/9,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.64**	**99**	Pn	Pn	01 42 52.1	-1.8
KMI				Pg	Pb	01 42 55.5	-3.1
KMI				Sn	**Sn**	**01 43 26.8**	**+0.6**
KMI				Sg	**Sb**	**01 43 28.8**	**-2.4**
KMI	2μm,1.1s			SMN			
KMI	1μm,1.0s			SME			
GYA	**Guiyang**	**6.19**	**80**	Pn	**Pn**	**01 43 41.3**	**-1.2**
GYA				Sn	**Sn**	**01 44 53.6**	**+0.1**
GYA				Sg	**Sb**	**01 45 18.1**	**+5.0**
GYA	40nm,0.6s			SMN			
GYA	50nm,0.7s			SME			
GYA	710nm,7.8s			LE			
GYA	720nm,7.1s			LZ			
CD2	**Chengdu**	**6.34**	**32**	Pn	Pn	01 43 39.9	-4.7
CD2				Pg	**Pb**	**01 44 02.3**	**+0.8**
CD2				Sn	Sn	01 44 48.5	-8.6
CD2				Sg	**Sb**	**01 45 23.3**	**+5.9**
CD2	160nm,1.3s			SMN			
CD2	190nm,1.2s			SME			
CHTO	**Chiang Mai**	**6.77**	**187**	P	**Pn**	**01 43 50.1**	**-0.4**
CHTO	274nm,1.2s			S	**Sb**	**01 45 31.0**	**+1.3**
CHTO	**Chiang Mai**	**6.77**	**187**	*e*Pn	**Pn**	**01 43 50.0**	**-0.4**
CHTO	6.0nm,0.6s			*e*Pg	Pb	01 44 15.8	+7.0
CHTO				*e*Sn	**Sn**	**01 45 06.3**	**-1.3**
CMMT	**Chiang Mai**	**6.77**	**187**	P	**Pn**	**01 43 49.9**	**-0.5**
CMMT	61nm,1.2s,830nm			S	**Sb**	**01 45 30.0**	**+0.3**
LAMP	**Lampang**	**7.01**	**182**	P	**Pn**	**01 43 53.4**	**-0.3**
LAMP	14nm,0.8s,406nm			S	**Sb**	**01 45 43.5**	**+6.9**
CMAR	**Chiang Mai Arr**	**7.12**	**187**	Pn	**Pn**	**01 43 55.3**	**0.0**
CMAR	2.0nm,0.3s,baz=6.6,slow=12,SNR=10			Pg	Pb	01 44 21.1	+6.3
CMAR	4.0nm,0.3s,baz=6.1,slow=17,SNR=13			Lg	Lg	01 45 59.5	
CMAR	3.7nm,0.3s,baz=357,slow=31,SNR=7.6			LR	LR	01 46 54.1	
UTTA	**Uttaradit**	**7.81**	**175**	P	**Pn**	**01 44 04.4**	**-0.2**
UTTA	comp=Z,238nm,18.8s,baz=10.0,slow=39 2.6nm,0.6s,112nm			S	**Sg**	**01 46 19.2**	**-2.4**
SUKH	**Sukhothai**	**8.04**	**182**	P	**Pn**	**01 44 07.0**	**-0.9**
SUKH	5.9nm,0.5s,96nm			S	Sb	01 46 18.2	+12
PBKT	**Sadao Pong**	**9.01**	**173**	P	Pn	01 44 08.1	-13
UMPA	**Umpang Tak**	**9.36**	**186**	P	**Pn**	**01 44 28.9**	**+2.9**
SKNT	**Sakolnakorn**	**9.37**	**155**	P	Pn	01 44 21.3	-4.8
ENH	**Enshi**	**9.72**	**59**	*e*Pn	**Pn**	**01 44 30.5**	**-0.5**
XAN	**Xi'an**	**11.54**	**41**	P	Pn	01 44 51.3	-4.6
XAN	600nm,14.7s			LN			
XAN	380nm,13.7s			LZ			
HHC	**Hu-ho-hao-te**	**18.09**	**30**	*e*P	**Pn**	**01 46 20.3**	**-2.2**
HHC				S	**Sn**	**01 49 42.4**	**-2.1**
HHC				SS	**SnSn**	**01 50 04.3**	**+6.0**
HHC	22nm,1.0s			PMZ			
HHC	250nm,9.4s			LN			
HHC	190nm,11.0s			LZ			
YHNB	**Yeheng**	**19.51**	**88**	*e*P	**P**	**01 46 38.8**	**+0.3**
WMQ	**Urumqi**	**20.74**	**334**	P	**P**	**01 46 48.3**	**-3.5**
WMQ				pP	Pn	01 46 52.3	-1.8
WMQ				sP	pP	01 46 55.3	+0.7
WMQ	5.0nm,0.8s			PMZ			
WMQ	140nm,15.8s			LN			
WMQ	91nm,11.2s			LE			
WMQ	47nm,21.2s			LZ			
SONM	**Songino Array**	**22.82**	**11**	P	**P**	**01 47 13.2**	**-1.0**
SONM	2.9nm,1.1s,baz=199,slow=10,SNR=8.4 comp=Z,65nm,19.4s,baz=180,slow=40			LR	LR	01 57 14.5	
ULN	**Ulaanbaatar**	**22.98**	**12**	*e*P	**P**	**01 47 15.4**	**-0.3**
MKAR	**Makanchi Array**	**25.39**	**331**	P	**P**	**01 47 38.2**	**-0.2**
TLY	**Talaya**	**26.24**	**5**	LR	LR	01 59 12.7	
KSRS	**Korea Array**	**26.60**	**57**	LR	LR	01 59 37.6	
AAK	**Ala-Archa**	**26.89**	**316**	LR	LR	02 01 22.3	
EKS2	**Erkin-Say**	**27.36**	**315**	*e*P	**P**	**01 47 55.3**	**-1.1**
JNU	**Nakatsue**	**28.00**	**67**	LR	LR	01 59 06.5	
JNU	**Nakatsue**	**28.00**	**67**	*e*P	**P**	**01 48 01.5**	**-0.6**
KURK	**Kurchatov**	**29.95**	**333**	*e*P	**P**	**01 48 17.9**	**-1.3**
ZALV	**Zalesovo Beam**	**30.49**	**342**	P	**P**	**01 48 22.7**	**-1.2**
ZALV	2.2nm,0.7s,baz=156,slow=11,SNR=6.3 comp=Z,41nm,20.4s,baz=250,slow=34			LR	LR	01 59 36.3	
MJAR	**Matsushiro Arr**	**34.43**	**62**	LR	LR	02 03 59.6	
GEYT	**Alibeck**	**37.29**	**300**	P	**P**	**01 49 25.5**	**+2.3**
WRAB	**Tennant Creek**	**56.29**	**140**	*e*P	**P**	**01 51 52.4**	**+0.4**
WRA	**Warramunga Arr**	**56.29**	**140**	P	**P**	**01 51 51.1**	**-1.0**
ASAR	**Alice Springs**	**59.01**	**143**	P	**P**	**01 52 11.1**	**0.0**
ARCES	**ARCESS Array B**	**60.83**	**337**	LR	LR	02 21 50.1	
GERES	**GERESS Array B**	**68.77**	**315**	LR	LR	02 27 04.6	
SEW	**Seward**	**77.79**	**29**	*e*P	**P**	**01 54 06.8**	**-1.3**

comp=Z,47nm,18.3s,baz=89,slow=39 8.2nm,0.8s

IDC 22 01:43:29.0±4.9,11˚.29S×166˚.05E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/41,mbtmp3.8/3,MS3.2/3,Ms1 3.2/3, ms1mx2.8/32,Error ellipse: s-maj=218.9km s-min=38.0km az=136.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.28**	**287**	LR	LR	01 47 50.0	
PMG	**Port Moresby** comp=Z,137nm,19.0s,baz=112,slow=42	**18.68**	**274**	LR	LR	01 54 49.0	
	comp=Z,94nm,18.5s,baz=184,slow=36						
RAO	**Raoul Island** comp=Z,46nm,18.8s,baz=286,slow=33	**23.30**	**142**	LR	LR	01 56 14.9	
ASAR	**Alice Springs** 0.8nm,0.7s,baz=78,slow=9.0,SNR=7.3	**32.95**	**244**	P	P	01 50 05.8	+0.1
ILAR	**Eielson Array** 0.3nm,0.6s,baz=237,slow=5.9,SNR=6.1	**83.65**	**18**	P	P	01 55 59.2	+0.1
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=101,slow=6.5,SNR=4.0	**93.90**	**317**	P	P	01 56 48.3	-0.4

*IDC **22** 01:59:09.9±0.9,9˚.22S×125˚.46E,h0km,mb4.2/8, mb1 4.4/11,mb1mx4.1/30,mbtmp4.2/11,ML4.2/3,MS3.7/4, Ms1 3.6/4,ms1mx3.0/35,Error ellipse: s-maj=35.3km s-min=17.8km az=63.0*
*ISCJB **22** 01:59:12.2±0.4,9˚.40S±0˚.04×125˚.58E±0˚.05,h33km, mb4.3/14,MS3.8/2,Error ellipse: s-maj=7.2km s-min=5.3km az=150.4*
*NEIC **22** 01:59:15.2±0.7,9˚.37S×125˚.51E,h40km±8km,mb4.2/5, Error ellipse: s-maj=10.1km s-min=6.5km az=50.0*

ISC 22 01:59:14.6±0.5,9˚.39S±0˚.06×125˚.62E±0˚.06,h35km,n34, σ2s33/37,mb4.2/14,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.38**	**255**	*e*Pn	**Pn**	**01 59 36.9**	**-0.6**
SOEI				*e*Sn	**Sn**	**01 59 52.5**	**-2.1**
MMRI	**Maumere**	**3.42**	**282**	*e*Pn	**Pn**	**02 00 05.8**	**+0.3**
KAPI	**Kappang** comp=Z,403nm,19.1s,baz=121,slow=41	**7.26**	**306**	LR	LR	02 03 58.5	
KAPI	**Kappang**	**7.26**	**306**	*e*Pn	**Pn**	**02 00 57.7**	**-0.6**
FITZ	**Fitzroy Crossi** 3.1nm,0.3s,baz=355,slow=9.6,SNR=86	**8.66**	**180**	Pn	**Pn**	**02 01 18.4**	**+0.9**
FITZ	7.5nm,0.3s,baz=105,slow=15,SNR=11			Sn	**Sn**	**02 02 52.7**	**-1.3**
LUWI	**Luwuk** 108nm,0.3s	**8.77**	**341**	*e*Pn	**Pn**	**02 01 18.7**	**-0.3**
FAKI	**Fak Fak**	**9.21**	**46**	*e*Pn	**Pn**	**02 01 27.9**	**+2.8**
MBWA	**Marble Bar**	**13.00**	**205**	*e*Pn	**Pn**	**02 02 16.1**	**-0.9**
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=321,slow=13,SNR=21	**13.46**	**142**	Pn	**Pn**	**02 02 23.9**	**+0.7**
WRA	3.5nm,0.3s,baz=319,slow=24,SNR=12			Sn	**Sn**	**02 04 49.0**	**-2.6**
WRAB	**Tennant Creek** 12nm,0.7s	**13.46**	**142**	*e*Pn	**Pn**	**02 02 23.6**	**+0.4**
WRAB				*e*Sn	**Sn**	**02 04 47.4**	**-4.2**
ASAR	**Alice Springs** 1.1nm,0.3s,baz=321,slow=11,SNR=51	**16.26**	**152**	Pn	**Pn**	**02 03 00.9**	**+0.5**
ASAR	0.6nm,0.3s,baz=325,slow=22,SNR=9.3			Sn	**Sn**	**02 05 58.3**	**-1.5**
ASAR	comp=Z,212nm,18.0s,baz=320,slow=43			LR	LR	02 10 53.8	
COEN	**Coen**	**17.78**	**106**	*e*Pn	**P**	**02 03 20.6**	**+0.5**
COEN				*e*Sn	**Sn**	**02 06 29.1**	**-7.8**
KKM	**Kota Kinabalu**	**17.97**	**328**	*e*Pn	**P**	**02 03 22.0**	**-0.3**
CTA	**Charters Tower** 2.3nm,0.3s,baz=264,slow=7.7,SNR=6.0	**22.59**	**120**	P	**P**	**02 04 15.9**	**+3.6**
CTAO	**Charters Tower** 20nm,0.3s	**22.59**	**120**	*e*P	**P**	**02 04 13.5**	**+1.2**
STKA	**Stephens Creek** 4.0nm,0.9s,baz=322,slow=13,SNR=3.6	**26.84**	**149**	P	**P**	**02 04 58.1**	**+6.1**
CMAR	**Chiang Mai Arr** 0.9nm,0.4s,baz=140,slow=7.1,SNR=4.1	**38.19**	**316**	P	**P**	**02 06 31.4**	**+0.1**
KSAR	**Wonju Array Be**	**46.63**	**2**	P	**P**	**02 07 39.9**	**+0.3**
KSRS	**Korea Array** 0.5nm,0.3s,baz=165,slow=10,SNR=3.3	**46.65**	**3**	P	**P**	**02 07 39.9**	**+0.2**
MJAR	**Matsushiro Arr** 2.3nm,0.8s,baz=187,slow=8.4,SNR=6.2	**47.20**	**14**	P	**P**	**02 07 44.0**	**-0.1**
ULN	**Ulaanbaatar** 1.3nm,0.7s	**59.34**	**346**	*e*P	**P**	**02 09 12.6**	**-0.7**
SONM	**Songino Array** 0.7nm,0.6s,baz=167,slow=7.1,SNR=5.1	**59.47**	**345**	P	**P**	**02 09 12.5**	**-1.7**
MKAR	**Makanchi Array** 7.1nm,0.6s,baz=130,slow=7.8,SNR=71	**67.95**	**329**	P	**P**	**02 10 08.6**	**-1.4**
PETK	**Petropavlovsk-** 3.0nm,0.7s,baz=91,slow=12,SNR=3.1	**67.99**	**20**	P	**P**	**02 10 09.5**	**-0.6**
TKM2	**Tokmak 2** 1.8nm,0.8s	**69.16**	**323**	*e*P	**P**	**02 10 17.2**	**-0.7**
AAK	**Ala-Archa** 1.6nm,0.3s	**69.66**	**322**	*e*P	**P**	**02 10 20.5**	**-0.4**
VNDA	**Vanda** comp=Z,53nm,18.8s,baz=304,slow=36	**70.65**	**172**	LR	LR	02 41 17.0	
ZALV	**Zalesovo Beam** 2.8nm,0.8s,baz=129,slow=4.4,SNR=9.0	**71.89**	**336**	P	**P**	**02 10 32.0**	**-2.0**
KURK	**Kurchatov** 37nm,0.9s	**72.38**	**331**	*e*P	**P**	**02 10 35.4**	**-1.6**
ABKAR	**Akbulak array** 1.0nm,0.7s	**81.73**	**323**	*e*P	**P**	**02 11 27.8**	**-1.8**
SNAA	**Sanae**	**92.31**	**194**	*e*P	**P**	**02 12 23.7**	**+2.7**
BOSA	**Boshof** comp=Z,31nm,19.5s,baz=100,slow=32	**94.52**	**240**	LR	LR	02 49 50.0	
TORD	**Torodi Ar. Bea** 2.9nm,0.6s,baz=64,slow=2.0,SNR=49	**124.96**	**279**	PKP	**PKPdf**	**02 18 13.7**	**+1.5**
LPAZ	**La Paz** 0.5nm,0.6s,baz=160,slow=7.1,SNR=1.8	**151.08**	**152**	PKP	**PKPdf**	**02 19 01.0**	**+0.9**

*NEIC **22** 02:00:27.2,32˚.05N×116˚.67W,h8km,ML3.1(PAS), ML2.9(ECX),After ECX.*
*ECX **22** 02:00:27.2±0.5,32˚.05N×116˚.67W,h8km,MD2.9,ML3.1, Fault plane solution: NP1:ϕs206.57000˚,δ75.52000˚, λ-26.57000˚.*
*MEX **22** 02:00:28.4±0.5,32˚.14N×116˚.81W,h21km±16km,MD3.7*

ISC 22 02:00:25.0±1.1,32˚.04N±0˚.02×116˚.68W±0˚.03,h5km±10km, n39,σ0s93/66,3C-8D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCX	**Cicese**	**0.17**	**175**	*e*P	Pg	02 00 33.9	+5.6
CBX	**Cerro Bola**	**0.28**	**3**	*e*P	**Pb**	**02 00 32.0**	**-0.5**
CBX				*e*S	**Sb**	**02 00 36.5**	**-1.0**
CBX	**Cerro Bola**	**0.28**	**3**	⇓*e*P	**Pb**	**02 00 32.5**	**0.0**
CBX				*e*S	**Sb**	**02 00 36.1**	**-1.4**
CBX				*e*		02 00 36.6	
CBX	comp=N,4μm,0.2s			IAML		02 00 36.6	
CBX	**Cerro Bola**	**0.28**	**3**	*e*P	**Pb**	**02 00 32.0**	**-0.5**
CBX				*e*S	**Sb**	**02 00 36.5**	**-1.0**
PBX	**Punta Banda**	**0.30**	**187**	⇓*e*P	**Pb**	**02 00 32.8**	**+0.1**
PBX				*e*S	**Sg**	**02 00 37.3**	**+2.7**
ECNX	**Esteban Cantu**	**0.39**	**169**	⇓*e*P	**Pb**	**02 00 34.4**	**0.0**
ECNX				⇓*e*P	**Pg**	**02 00 31.3**	**-1.2**
ECNX				*e*S	**Sg**	**02 00 33.9**	**-3.6**
ECNX				*e*S	**Sb**	**02 00 40.4**	**-0.2**
TJIG	**Tijuana**	**0.40**	**1**	*e*P	**Pb**	**02 00 34.2**	**-0.2**
TJIG				*e*S	**Sg**	**02 00 39.1**	**+1.2**
TJIG	**Tijuana**	**0.40**	**1**	*e*P	**Pb**	**02 00 33.8**	**-0.7**
ZAX	**El Zacaton**	**0.63**	**146**	⇓*e*P	**Pb**	**02 00 38.4**	**0.0**
ZAX				*e*S	**Sb**	**02 00 47.2**	**-0.4**
ZAX	comp=E,2μm,0.4s			IAML		02 00 49.5	
BAR	**Barrett**	**0.64**	**1**	⇓*e*P	**Pb**	**02 00 38.3**	**-0.4**
SDRC	**San Diego Road**	**0.73**	**342**	⇓*e*P	**Pg**	**02 00 39.7**	**+0.7**
RMX	**La Rumorosa**	**0.76**	**42**	⇓*e*P	**Pb**	**02 00 40.2**	**-0.6**
RMX				*e*S	**Sb**	**02 00 50.2**	**-1.3**
RMX				⇑*e*		02 00 50.7	
RMX	comp=N,599nm,0.2s			IAML		02 00 50.7	
RMX	**La Rumorosa**	**0.76**	**42**	*e*P	**Pb**	**02 00 40.2**	**-0.6**
RMX				*e*S	**Sb**	**02 00 50.2**	**-1.3**
IKP	**In-Ko-Pah, Jac** baz=222,SNR=27	**0.78**	**38**	P	**Pb**	**02 00 40.9**	**-0.1**
IKP	baz=222			S	**Sb**	**02 00 51.4**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.78**	**38**	⇑*e*P	**Pb**	**02 00 41.0**	**-0.1**
MONP2	**Monument Peak** baz=197,SNR=48	**0.88**	**14**	P	**Pb**	**02 00 42.5**	**-0.4**
MONP2	baz=197			S	**Sg**	**02 00 53.9**	**+0.6**
109C	**Camp Elliot, M** baz=158,SNR=28	**0.92**	**337**	P	**Pg**	**02 00 42.9**	**+0.2**
109C	baz=158			S	**Sg**	**02 00 54.4**	**-0.2**
SWSC	**Sam W. Stewart** baz=222,SNR=36	**1.17**	**39**	P	**Pn**	**02 00 48.3**	**+0.3**
SWSC	baz=222			S	**Sb**	**02 01 03.6**	**+0.4**
CPBX	**Cerro Prieto**	**1.23**	**72**	*e*P	**Pn**	**02 00 49.5**	**+0.7**
CPBX				*e*S	**Sn**	**02 01 05.6**	**-0.1**
SPIG	**San Pedro Mart**	**1.43**	**133**	*e*P	**Pb**	**02 00 52.9**	**+0.5**
SPIG				*e*S	**Sb**	**02 01 11.2**	**+0.2**
SPIG	**San Pedro Mart**	**1.43**	**133**	*e*P	**Pn**	**02 00 52.4**	**+0.5**
SPIG	**San Pedro Mart**	**1.43**	**133**	*e*P	**Pb**	**02 00 52.9**	**+0.5**
SPIG	**San Pedro Mart**	**1.44**	**133**	*e*P	**Pb**	**02 01 11.2**	**+0.2**
SPX	**San Pedro Mart**	**1.44**	**133**	*e*P	**Pg**	**02 00 52.4**	**-0.1**
SPX	**San Pedro Mart**	**1.44**	**133**	*e*P	**Pg**	**02 00 52.4**	**-0.1**
SPX				*e*S	**Sb**	**02 01 11.2**	**+0.1**
ECBX	**El Chinero**	**1.50**	**112**	⇓*e*P	**Pn**	**02 00 52.3**	**-0.2**
ECBX				*e*S	**Sg**	**02 01 12.2**	**-0.9**
TPFO	**Pinon Flats** baz=188,SNR=38	**1.58**	**7**	P	**Pn**	**02 00 54.4**	**+0.6**
TPFO	baz=188			Sb	**Sn**	**02 01 14.5**	**-0.1**
PFO	**Pinyon Flats O** baz=188,SNR=31	**1.58**	**7**	P	**Pn**	**02 00 54.4**	**+0.7**
PFO	baz=188			Sb	**Sn**	**02 01 14.7**	**0.0**
PFO	**Pinyon Flats O**	**1.58**	**7**	*e*Pn	**Pn**	**02 00 54.5**	**+0.8**
PFO				*e*Sn	**Sn**	**02 01 14.5**	**-0.2**
MURC	**Murrieta** baz=165,SNR=42	**1.62**	**345**	P	**Pn**	**02 00 54.2**	**0.0**
MURC	baz=165			Sb	**Sn**	**02 01 15.4**	**0.0**
SCI2	**San Clemente I** baz=120	**1.84**	**301**	S	**Sn**	**02 01 19.5**	**-1.2**
GLA	**Glamis** baz=239,SNR=7.0	**1.86**	**57**	P	**Pn**	**02 00 58.2**	**+0.6**
GLA	baz=239			S	**Sn**	**02 01 21.0**	**-0.5**
BC3	**Big Chuckawall** baz=214,SNR=22	**1.92**	**32**	P	**Pn**	**02 00 59.1**	**+0.7**
BC3	baz=214			S	**Sn**	**02 01 22.3**	**-0.7**
BELC	**Belle Mtn. Jos** baz=198,SNR=31	**2.04**	**16**	P	**Pn**	**02 01 00.7**	**+0.6**
BELC	baz=198			S	**Sn**	**02 01 25.3**	**-0.8**
IRM	**Iron Mountain** baz=213	**2.48**	**31**	P	**Pn**	**02 01 07.3**	**+1.3**
GMRC	**Granite Mounta** baz=198	**2.87**	**17**	P	**Pn**	**02 01 13.0**	**+1.5**
EDW2	**Edwards Air Fo** baz=159	**3.04**	**339**	P	**Pn**	**02 01 15.1**	**+1.3**
214A	**Organ Pipe Nat** baz=273,SNR=5.2	**3.29**	**90**	P	**Pn**	**02 01 18.0**	**+0.8**
214A	**Organ Pipe Nat**	**3.29**	**90**	*e*Pn	**Pn**	**02 01 17.9**	**+0.7**
214A				*e*Sn	**Sn**	**02 01 56.9**	**+0.2**
121A	**Cookes Peak, D** baz=269	**7.55**	**84**	P	**Pn**	**02 02 18.0**	**+2.2**

*DDA **22** 02:03:43.2,39˚.46N×26˚.29E,h18km,Md2.9*
*ISK **22** 02:03:43.4,39˚.49N×26˚.24E,h5km,MD3.0*
*CSEM **22** 02:03:44.3±0.1,39˚.49N×26˚.28E,h2km,ML2.3,Error ellipse: s-maj=3.2km s-min=2.6km az=68.0*
*ATH **22** 02:03:44.1,39˚.48N×26˚.28E,h5km±2km,ML2.1/6,Error ellipse: s-maj=2.4km s-min=0.8km az=260.0*
*THE **22** 02:03:44.1,39˚.47N×26˚.25E,h2km±2km,ML2.3/6,Error ellipse: s-maj=2.9km s-min=0.4km az=123.0*

ISC 22 02:03:44.1±0.9,39˚.47N±0˚.01×26˚.26E±0˚.02,h7km±8km, n99,σ0s64/143,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.23**	**178**	P	**Pg**	**02 03 48.5**	**-0.1**
PRK				S	**Sg**	**02 03 51.7**	**0.0**
PRK	**Paraskevi**	**0.23**	**178**	P	**Pg**	**02 03 48.5**	**-0.1**
PRK				S	**Sg**	**02 03 51.7**	**0.0**
PRK	**Paraskevi**	**0.23**	**178**	P	**Pg**	**02 03 48.3**	**-0.3**
PRK				S	**Sg**	**02 03 51.8**	**0.0**
PRK	comp=E,1169μm,0.3s			AML	AML	02 03 52.6	
PRK	comp=N,3644μm,0.6s			AML	AML	02 03 52.6	
EZN	**Ezine**	**0.35**	**8**	*e*PG	**Pg**	**02 03 51.0**	**-0.1**
EZN	**Ezine**	**0.35**	**8**	P	**Pg**	**02 03 50.9**	**-0.2**
EZN				S	**Sg**	**02 03 56.6**	**+0.8**
EZN	**Ezine**	**0.35**	**8**	P	**Pg**	**02 03 50.9**	**-0.2**
EZN				S	**Sg**	**02 03 56.6**	**+0.8**
AYVA	**Ayvalik**	**0.37**	**116**	P	**Pg**	**02 03 51.0**	**-0.4**
AYVA				S	**Sg**	**02 03 56.6**	**+0.4**
AYVA	**Ayvalik**	**0.37**	**116**	*i* P	**Pg**	**02 03 51.0**	**-0.4**
AYVA				*i* S	**Sg**	**02 03 56.6**	**+0.4**
BOZC	**Bozcaada**	**0.40**	**336**	*i* P	**Pg**	**02 03 51.8**	**-0.2**
BOZC				*i* S	**Sg**	**02 03 57.8**	**+0.5**
SIGR	**SIGRI**	**0.41**	**231**	*e*PG	**Pg**	**02 03 51.7**	**-0.3**
SIGR				*e*SG	**Sg**	**02 03 57.7**	**+0.2**
SIGR	**SIGRI**	**0.41**	**231**	P	**Pg**	**02 03 51.8**	**-0.3**
SIGR				S	**Sg**	**02 03 57.3**	**-0.2**
SIGR	**SIGRI**	**0.41**	**231**	P	**Pg**	**02 03 51.8**	**-0.3**
SIGR				S	**Sg**	**02 03 57.3**	**-0.2**
SIGR	**SIGRI**	**0.41**	**231**	P	**Pg**	**02 03 51.8**	**-0.8**
SIGR				S	**Sg**	**02 03 58.0**	**+0.5**
SIGR	comp=E,656μm,0.5s			AML	AML	02 03 58.4	
SIGR	comp=N,526μm,0.3s			AML	AML	02 03 58.5	
DKL	**Dikili**	**0.64**	**129**	*e*PG	**Pg**	**02 03 56.6**	**+0.2**
DKL				*e*SG	**Sb**	**02 04 06.7**	**0.0**
DKL	**Dikili**	**0.64**	**129**	*e*Pg	**Pg**	**02 03 56.7**	**+0.2**
DKL				*e*Sg	**Sb**	**02 04 06.7**	**0.0**
GADA	**Gvkgeada**	**0.77**	**339**	*e*PG	**Pg**	**02 03 59.0**	**+0.1**
GADA				*e*SG	**Sg**	**02 04 09.1**	**+0.1**
GADA	**Gvkgeada**	**0.77**	**339**	P	**Pg**	**02 03 58.6**	**-0.4**
GADA				S	**Sb**	**02 04 09.9**	**-0.6**
GADA	**Gvkgeada**	**0.77**	**339**	P	**Pg**	**02 03 58.6**	**-0.4**
GADA	**Gvkgeada**	**0.77**	**339**	*e*Pg	**Pg**	**02 03 59.0**	**+0.1**
GADA				*e*Sg	**Sg**	**02 04 09.1**	**+0.1**
LIA	**Limnos Island**	**0.94**	**297**	P	**Pg**	**02 04 02.1**	**0.0**
LIA				S	**Sb**	**02 04 15.7**	**+0.4**
LIA	**Limnos Island**	**0.94**	**297**	P	**Pg**	**02 04 02.1**	**0.0**
LIA				S	**Sb**	**02 04 15.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.94**	**10**	*e*PG	**Pg**	**02 04 01.8**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.94**	**10**	*e*Pg	**Pg**	**02 04 01.8**	**-0.4**
LPK	**Lapseki**	**0.98**	**23**	*e*PG	**Pg**	**02 04 02.2**	**-0.7**
LPK	**Lapseki**	**0.98**	**23**	*e*Pg	**Pg**	**02 04 02.2**	**-0.7**
BALY	**Balya**	**1.08**	**75**	P	**Pg**	**02 04 04.2**	**-0.7**
BALY				S	**Sg**	**02 04 18.7**	**-0.3**
BALY	**Balya**	**1.08**	**75**	*i* P	**Pg**	**02 04 04.2**	**-0.7**
BALY				*i* S	**Sg**	**02 04 18.7**	**-0.3**
CHOS	**Chios island**	**1.10**	**189**	*e*PN	**Pg**	**02 04 05.1**	**-0.1**
CHOS	**Chios island**	**1.10**	**189**	P	**Pg**	**02 04 05.1**	**-0.1**
CHOS				S	**Sb**	**02 04 20.6**	**+0.6**
CHOS	**Chios island**	**1.10**	**189**	P	**Pg**	**02 04 05.1**	**-0.1**
CHOS				S	**Sb**	**02 04 20.6**	**+0.6**
CHOS	**Chios island**	**1.10**	**189**	P	**Pb**	**02 04 05.6**	**+0.1**
CHOS				S	**Sn**	**02 04 21.2**	**-0.2**
CHOS	comp=N,364μm,0.3s			AML	AML	02 04 22.9	
CHOS	comp=E,698μm,0.2s			AML	AML	02 04 23.1	
URLA	**Izmir**	**1.14**	**167**	P	**Pg**	**02 04 05.0**	**-1.0**
URLA				S	**Sg**	**02 04 20.2**	**-0.6**
URLA	**Izmir**	**1.14**	**167**	*i* P	**Pg**	**02 04 05.0**	**-1.0**
URLA				*i* S	**Sg**	**02 04 20.2**	**-0.6**
SMTH	**Samothraki Isl**	**1.14**	**331**	P	**Pg**	**02 04 05.7**	**-0.4**
SMTH				S	**Sb**	**02 04 21.9**	**+0.6**
SMTH	**Samothraki Isl**	**1.14**	**331**	P	**Pb**	**02 04 06.3**	**0.0**
SMTH				S	**Sb**	**02 04 21.9**	**+0.6**
SMTH	**Samothraki Isl**	**1.14**	**331**	P	**Pb**	**02 04 06.3**	**0.0**
SMTH				S	**Sb**	**02 04 21.9**	**+0.6**
SMTH	comp=N,169μm,0.2s			AML	AML	02 04 22.2	
SMTH	comp=E,132μm,0.2s			AML	AML	02 04 22.5	
ERIK	**Erikli-Kesan**	**1.21**	**9**	*e*PN	**Pg**	**02 04 06.3**	**-1.1**
ERIK	**Erikli-Kesan**	**1.21**	**9**	*e*Pn	**Pg**	**02 04 06.3**	**-1.1**
KRBG	**Karabiga-Canak**	**1.22**	**41**	*e*PN	**Pg**	**02 04 06.3**	**-1.2**
KRBG	**Karabiga-Canak**	**1.22**	**41**	*e*Pn	**Pg**	**02 04 06.3**	**-1.2**
GONE	**Gonen-

KESN				*i* S		**Sb**	**02 04 28.9**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.40**	**30**	*e*PN		**Pn**	**02 04 09.3**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.40**	**30**	*e*Pn		**Pn**	**02 04 09.3**	**-0.9**
ALN	**Alexandroupoli**	**1.43**	**353**	*e*PN		**Pn**	**02 04 10.5**	**+0.1**
ALN	**Alexandroupoli**	**1.43**	**353**	P		**Pn**	**02 04 10.6**	**+0.1**
ALN				S		**Sn**	**02 04 30.0**	**+0.4**
ALN	**Alexandroupoli**	**1.43**	**353**	P		**Pn**	**02 04 10.6**	**+0.1**
ALN				S		**Sn**	**02 04 30.0**	**+0.4**
ALN	**Alexandroupoli**	**1.43**	**353**	P		**Pn**	**02 04 10.2**	**-0.4**
ALN				S		**Sg**	**02 04 30.2**	**0.0**
ALN				AML	AML		02 04 31.3	
	comp=N,168μm,0.4s							
ALN				AML	AML		02 04 31.3	
	comp=E,134μm,0.3s							
DGB	**ˇzmir**	**1.50**	**161**	*i* P		**Pn**	**02 04 11.6**	**+0.1**
DGB				*i* S		**Sn**	**02 04 29.1**	**-2.1**
EDC	**Edincik**	**1.51**	**54**	*e*PN		**Pb**	**02 04 12.1**	**-0.4**
EDC	**Edincik**	**1.51**	**54**	*e*Pn		**Pb**	**02 04 12.1**	**-0.4**
MRMT	**Marmara Adasi**	**1.52**	**42**	*e*PN		**Pn**	**02 04 11.7**	**-0.2**
MRMT	**Marmara Adasi**	**1.52**	**42**	*e*Pn		**Pn**	**02 04 11.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.79**	**63**	*e*PN		**Pn**	**02 04 15.8**	**+0.2**
KCTX	**Karacabey (Bur**	**1.79**	**63**	*e*Pn		**Pn**	**02 04 15.8**	**+0.2**
TKR	**Tekirdag**	**1.80**	**32**	*e*PN		**Pn**	**02 04 16.4**	**+0.8**
TKR	**Tekirdag**	**1.80**	**32**	*e*Pn		**Pn**	**02 04 16.4**	**+0.8**
SMG	**Samos**	**1.82**	**165**	P		**Pg**	**02 04 19.0**	**0.0**
SMG				S		**Sg**	**02 04 43.5**	**+0.9**
SMG	**Samos**	**1.82**	**165**	P		**Pg**	**02 04 19.0**	**0.0**
SMG				S		**Sg**	**02 04 43.5**	**+0.9**
DEMI	**Demirci**	**1.95**	**102**	P		**Pg**	**02 04 21.0**	**-0.6**
DEMI				S		**Sb**	**02 04 45.1**	**+0.5**
DEMI	**Demirci**	**1.95**	**102**	*i* P		**Pg**	**02 04 21.0**	**-0.6**
DEMI				*i* S		**Sb**	**02 04 45.1**	**+0.5**
OUR	**Ouranopolis**	**1.95**	**297**	*e*PN		**Pn**	**02 04 18.4**	**+0.7**
OUR	**Ouranopolis**	**1.95**	**297**	*e*Pn		**Pn**	**02 04 18.4**	**+0.7**
OUR	**Ouranopolis**	**1.95**	**297**	P		**Pb**	**02 04 19.7**	**-0.3**
OUR	**Ouranopolis**	**1.95**	**297**	P		**Pb**	**02 04 19.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.99**	**140**	*e*PN		**Pn**	**02 04 18.9**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.99**	**140**	*e*Pn		**Pn**	**02 04 19.0**	**+0.7**
KULA	**Kula-Manisa**	**2.10**	**116**	*e*PN		**Pn**	**02 04 20.5**	**+0.7**
KULA	**Kula-Manisa**	**2.10**	**116**	*e*Pn		**Pn**	**02 04 20.5**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.21**	**65**	*e*PN		**Pn**	**02 04 22.2**	**+1.0**
MDNY	**Mudanya-Bursa**	**2.21**	**65**	*e*Pn		**Pn**	**02 04 22.2**	**+1.0**
ARMT	**Armutlu**	**2.27**	**61**	*e*PN		**Pn**	**02 04 23.0**	**+0.9**
ARMT	**Armutlu**	**2.27**	**61**	*e*Pn		**Pn**	**02 04 23.0**	**+0.9**
PLG	**Polygyros**	**2.35**	**293**	P		**Pb**	**02 04 25.3**	**-1.5**
PLG				S		**Sb**	**02 04 55.6**	**-0.3**
PLG	**Polygyros**	**2.35**	**293**	P		**Pb**	**02 04 25.3**	**-1.5**
PLG				S		**Sb**	**02 04 55.6**	**-0.3**
PLG				AML	AML		02 05 01.8	
	comp=E,18μm,0.4s							
PLG				AML	AML		02 05 02.4	
	comp=N,17μm,0.5s							
EDRB	**Edirne**	**2.40**	**9**	*e*PN		**Pn**	**02 04 24.7**	**+0.9**
EDRB	**Edirne**	**2.40**	**9**	*e*Pn		**Pn**	**02 04 24.7**	**+0.9**
CTKS	**Kestanelik-??a**	**2.46**	**44**	*e*PN		**Pn**	**02 04 25.2**	**+0.6**
CTKS	**Kestanelik-??a**	**2.46**	**44**	*e*Pn		**Pn**	**02 04 25.2**	**+0.6**
TVSB	**Tavsanli**	**2.48**	**90**	*e*PN		**Pn**	**02 04 26.0**	**+1.0**
TVSB	**Tavsanli**	**2.48**	**90**	*e*Pn		**Pn**	**02 04 26.0**	**+1.0**
BGKT	**Bogazkoy**	**2.57**	**48**	*e*PN		**Pn**	**02 04 26.9**	**+0.8**
BGKT	**Bogazkoy**	**2.57**	**48**	*e*Pn		**Pn**	**02 04 26.9**	**+0.8**
IZI	**Iznik**	**2.62**	**70**	*e*PN		**Pn**	**02 04 28.0**	**+1.1**
IZI	**Iznik**	**2.62**	**70**	*e*Pn		**Pn**	**02 04 28.0**	**+1.1**
KLYT	**Kilyos**	**2.77**	**49**	*e*PN		**Pn**	**02 04 30.1**	**+1.2**
KLYT	**Kilyos**	**2.77**	**49**	*e*Pn		**Pn**	**02 04 30.1**	**+1.2**
ADVT	**Abdulvahap**	**2.84**	**69**	*e*PN		**Pn**	**02 04 30.8**	**+0.9**
ADVT	**Abdulvahap**	**2.84**	**69**	*e*Pn		**Pn**	**02 04 30.8**	**+0.9**

NIED ***22*** *02:18:00,36˚.30N×141˚.90E,h17km,Mw3.8 Best double couple: M₀5.27000×10¹⁴ NP1:φ₀213.00000°,δ26.00000°, λ101.00000°. NP2:φ₀20.00000°,δ65.00000°,λ85.00000°.*
IDC ***22*** *02:18:20.3±2.3,36˚.26N×142˚.29E,h0km,mb4.0/4, mb1 3.9/9,mb1mx3.7/38,mbtmp4.0/9,ML3.9/4,MS2.9/4, Ms1 2.9/4,ms1mx2.6/46,Error ellipse: s-maj=52.3km s-min=21.1km az=69.0*
ISCJB ***22*** *02:18:22.0±0.6,36˚.18N±0˚.04×142˚.11E±0˚.07,h23km, mb4.1/9,MS3.1/1,Error ellipse: s-maj=7.6km s-min=5.5km az=179.9*
NEIC ***22*** *02:18:24.0±2.6,36˚.21N×142˚.18E,h22km±19km,mb4.1/4, Error ellipse: s-maj=11.9km s-min=8.8km az=78.0*
JMA ***22*** *02:18:24.5±0.2,36˚.29N×141˚.92E,h64km,M3.8*

ISC 22 02:18:24.2±0.8,36˚.21N±0˚.06×142˚.09E±0˚.08,h23km,n33, σ1§32/30,mb4.0/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**1.29**	**289**	P	**Pn**	**02 18 44.3**	**-2.4**
ONAJ	**Iwakimizuishiy**	**1.37**	**311**	P	**Pn**	**02 18 45.6**	**-2.3**
JFK	**Kawauchi**	**1.51**	**320**	P	**Pn**	**02 18 48.3**	**-1.5**
JYT	**Yasato**	**1.53**	**271**	P	**Pn**	**02 18 48.2**	**-1.8**
JFT	**Otama**	**1.92**	**314**	P	**Pn**	**02 18 54.9**	**-0.5**
MJAR	**Matsushiro Arr**	**3.15**	**277**	Pn	**Pn**	**02 19 12.2**	**-0.1**
	12nm,0.3s,baz=103,slow=9.6,SNR=50						
MJAR				Sn	**Sn**	**02 19 49.9**	**+0.8**
	4.8nm,0.3s,baz=84,slow=16,SNR=5.7						
MJAR				LR	LR	02 20 26.4	
	comp=Z,119nm,21.7s,baz=150,slow=38						
MAJO	**Matsushiro**	**3.15**	**277**	*e*Pn	**Pn**	**02 19 12.1**	**-0.3**
MAT	**Matsushiro**	**3.15**	**277**	P	**Pn**	**02 19 12.2**	**-0.1**
MAT				S	**Sn**	**02 19 46.8**	**-2.4**
JHJ2	**Mitsune**	**3.61**	**212**	*e*Pn	**Pn**	**02 19 19.0**	**+0.3**
JHJ2				*e*Sn	**Sn**	**02 19 59.3**	**-1.3**
JHJ	**Hachijo jima 2**	**3.62**	**212**	Pn	**Pn**	**02 19 19.0**	**+0.2**
	34nm,0.3s,baz=162,slow=23,SNR=9.3						
JHJ				Sn	**Sn**	**02 19 59.3**	**-1.5**
	52nm,0.3s,baz=256,slow=23,SNR=9.1						
ERM	**Erimo**	**5.86**	**8**	*e*Pn	**Pn**	**02 19 49.6**	**+0.1**
CBIJ	**Chichi jima**	**9.09**	**179**	Pn	**Pn**	**02 20 34.1**	**+0.2**
JCJ	**Chichijima**	**9.09**	**179**	Pn	**Pn**	**02 20 34.1**	**+0.2**
	2.9nm,0.3s,baz=267,slow=23,SNR=3.4						
USRK	**Ussuriysk Ar.**	**11.10**	**319**	Pn	**Pn**	**02 21 00.6**	**-0.7**
	0.1nm,0.3s,baz=139,slow=39,SNR=3.0						
USRK				LR	LR	02 25 13.1	
	comp=Z,63nm,18.9s,baz=14,slow=37						
KSRS	**Korea Array**	**11.42**	**280**	Pn	**Pn**	**02 21 08.4**	**+2.6**
	0.3nm,0.3s,baz=92,slow=14,SNR=5.0						
KSRS				LR	LR	02 25 21.3	
	comp=Z,61nm,20.3s,baz=131,slow=36						
KSAR	**Wonju Array Be**	**11.45**	**280**	Pn	**Pn**	**02 21 08.4**	**+2.2**
YAK	**Yakutsk**	**26.99**	**347**	LR	LR	02 35 29.2	
	comp=Z,49nm,18.3s,baz=275,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.26**	**120**	T	T	02 53 35.0	
	baz=312,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.27**	**120**	T	T	02 53 39.2	
	baz=312,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.28**	**120**	T	T	02 53 31.2	
	baz=312,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**27.96**	**123**	T	T	02 54 32.3	
	baz=314,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**27.96**	**123**	T	T	02 54 23.1	
	baz=314,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.98**	**123**	T	T	02 54 33.9	
	baz=314,slow=75,SNR=14						
ULN	**Ulaanbaatar**	**28.27**	**305**	*e*P	**P**	**02 24 16.3**	**+0.5**
	2.3nm,0.9s						
SONM	**Songino Array**	**28.70**	**305**	P	**P**	**02 24 20.8**	**+1.2**
	2.9nm,0.9s,baz=101,slow=9.0,SNR=11						
ZALV	**Zalesovo Beam**	**42.87**	**313**	P	**P**	**02 26 20.7**	**+0.2**
	0.8nm,0.4s,baz=97,slow=6.0,SNR=5.1						
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**02 26 37.8**	**0.0**
	1.3nm,0.6s,baz=83,slow=9.9,SNR=11						
KURK	**Kurchatov**	**46.87**	**309**	*e*P	**P**	**02 26 52.7**	**+0.4**
	16nm,0.6s						
EKS2	**Erkin-Say**	**51.86**	**299**	*e*P	**P**	**02 27 32.5**	**+1.7**
	1.1nm,0.3s						
WRA	**Warramunga Arr**	**56.32**	**189**	P	**P**	**02 28 03.4**	**+0.1**
	1.4nm,1.2s,baz=6.8,slow=7.5,SNR=5.1						
ABKAR	**Akbulak array**	**58.88**	**311**	*e*P	**P**	**02 28 20.6**	**-0.5**
	0.6nm,0.5s						
SUMG	**Summit**	**71.51**	**0**	*e*P	**P**	**02 29 42.7**	**-0.4**
	1.7nm,0.7s						
BMO	**Blue Mountains**	**72.09**	**47**	*e*P	**P**	**02 29 45.5**	**-1.1**

CASC 22 02:22:27.9±0.9,12˚.97N×88˚.74W,h28km±3km,MD3.6, ML3.1,2C-1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.73**	**334**	*e*P	Pb	02 22 42.2	0.0
LFRS				*e*S	Sn	02 22 52.5	-0.1
LBRS	**Las Brisas**	**0.82**	**339⇑**	*e*P	Pb	02 22 43.9	+0.2
LBRS				*e*S	Sn	02 22 54.8	-0.2
LFU	**La Fuente**	**0.86**	**335**	*e*P	Pn	02 22 44.2	0.0
LFU				*e*S	Sn	02 22 56.5	+0.6
SNET	**Serv Nac Est T**	**0.86**	**326**	*e*P	Pn	02 22 43.8	-0.4
SNET				*e*S	Sn	02 22 56.1	+0.1
SNET				AML	AML	02 22 58.0	
	comp=Z,1μm,0.2s						
COLS	**Colinas**	**0.89**	**322⇓**	*e*P	Pn	02 22 44.3	-0.3
COLS				*e*S	Sn	02 22 56.6	0.0
CNCH	**Conchagua**	**0.93**	**71**	*e*P	Pn	02 22 44.8	-0.4
CNCH				*e*S	Sn	02 22 58.2	+0.4
CAHU	**Cacacuatique**	**0.95**	**33⇑**	*e*P	Pb	02 22 45.8	-0.1
CAHU				*e*S	Sn	02 22 59.6	+1.3
SBLS	**San Blas**	**1.22**	**315**	*e*P	Pn	02 22 49.1	-0.2
SBLS				*e*S	Sb	02 23 06.6	+0.5
MONT	**Ecomontaæa**	**1.25**	**315**	*e*P	Pn	02 22 50.0	+0.2
MONT				*e*S	Sb	02 23 06.7	-0.3
RTR	**El Retiro**	**1.28**	**316**	*e*P	Pn	02 22 50.0	-0.1
RTR				*e*S	Sb	02 23 07.5	-0.2
RBDL	**Robledal**	**1.47**	**321**	*e*P	Pn	02 22 52.6	0.0
TGUH	**Tegucigalpa,Un**	**1.79**	**53**	*e*P	Pn	02 22 56.7	-0.2
COPN	**Copaltepe**	**2.23**	**110**	*e*P	Pn	02 22 59.4	-3.7
COPN				AML	AML	02 23 29.8	
	comp=Z,55nm,0.5s						

FUNV ***22*** *02:32:52.8,10˚.31N×62˚.00W,h3km,MW3.1*
ISCJB ***22*** *02:32:53.8±0.6,10˚.31N±0˚.03×62˚.14W±0˚.03,h20km±5km, Error ellipse: s-maj=5.1km s-min=3.3km az=42.8*
TRN ***22*** *02:32:56.4,10˚.47N×61˚.99W,h6km,MD3.8*

ISC 22 02:32:52.6±1.3,10˚.27N±0˚.03×62˚.06W±0˚.03,h11km±10km, n24,σ1§43/44,1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.40**	**337⇓**	*i* P	**Pg**	**02 33 00.7**	**0.0**
GUIV				*e*S	**Sg**	**02 33 05.8**	**-0.2**
TCE	**Chacachacare**	**0.52**	**36**	*e*P	**Pb**	**02 33 02.7**	**-1.1**
TPP	**Pointe-a-Pierr**	**0.60**	**86**	*e*P	**Pn**	**02 33 06.8**	**-0.3**
TPP				*e*S	**Sn**	**02 33 15.7**	**-1.2**
GUNV	**Guanoco**	**0.87**	**263**	*e*P	**Pg**	**02 33 10.2**	**+0.7**
GUNV				*e*S	**Sb**	**02 33 24.1**	**+2.6**
CRUV	**Carupano**	**1.22**	**289**	*e*P	**Pg**	**02 33 14.9**	**-1.3**
ORIV	**Orítupano**	**1.79**	**228**	*e*P	**Pn**	**02 33 25.6**	**+2.1**
TOSP	**Speyside**	**1.81**	**56**	*e*P	**Pb**	**02 33 25.4**	**-0.5**
TOSP				*e*S	**Sb**	**02 33 48.2**	**-0.4**
GRW	**Mount Saint Ca**	**1.92**	**12**	*e*P	**Pb**	**02 33 27.5**	**-0.1**
GRW				*e*S	**Sn**	**02 33 50.0**	**+0.5**
GRSS	**Sisters**	**2.06**	**12**	*e*P	**Pb**	**02 33 29.2**	**-0.8**
GRSS				*e*S	**Sn**	**02 33 52.5**	**-0.4**
RIOV	**Rio Grande**	**2.20**	**174**	*e*P	**Pn**	**02 33 30.8**	**+1.6**
RIOV				*e*S	**Sn**	**02 33 57.7**	**+1.3**
PCRV	**Puerto La Cruz**	**2.54**	**268**	*e*P	**Pn**	**02 33 34.5**	**+0.8**
PCRV				*e*S	**Sn**	**02 34 04.9**	**+0.2**
GURV	**El Guri**	**2.69**	**202**	*e*P	**Pn**	**02 33 36.6**	**+0.7**
GURV				*e*S	**Sn**	**02 34 09.6**	**+1.0**
PRGV	**PARIAGUAN**	**2.96**	**240**	*e*P	**Pn**	**02 33 40.9**	**+1.3**
PRGV				*e*S	**Sn**	**02 34 16.4**	**+1.3**
FCV	**Fort Charlotte**	**2.98**	**16**	*e*P	**Pn**	**02 33 41.5**	**+1.7**
FCV				*e*S	**Sn**	**02 34 15.2**	**-0.3**
SVB	**Belmont**	**3.08**	**15**	*e*P	**Pn**	**02 33 43.5**	**+2.1**
SVB				*e*S	**Sn**	**02 34 17.6**	**-0.6**
SVV	**Soufriere Volc**	**3.14**	**15**	*e*P	**Pn**	**02 33 45.1**	**+3.1**
SVV				*e*S	**Sn**	**02 34 19.7**	**+0.1**
MCLT	**Moule a Chique**	**3.59**	**18**	*e*P	**Pn**	**02 33 50.3**	**+2.0**
MCLT				*e*S	**Sn**	**02 34 29.8**	**-0.8**
CUPV	**Cœpira**	**3.67**	**267**	*e*P	**Pn**	**02 33 50.4**	**+0.9**
CUPV				*e*S	**Sn**	**02 34 32.3**	**-0.6**
BIRV	**Birongo**	**4.14**	**273**	*e*P	**Pn**	**02 33 56.5**	**+0.6**
BIRV				*e*S	**Sn**	**02 34 43.7**	**-0.6**
LUEV	**Luepa**	**4.44**	**172**	*e*P	**Pn**	**02 34 00.1**	**0.0**
LUEV				*e*S	**Sn**	**02 34 50.0**	**-2.0**
TURV	**Turiamo**	**5.69**	**272**	*e*P	**Pn**	**02 34 17.3**	**+0.2**
TURV				*e*S	**Sn**	**02 35 20.0**	**-2.5**
BAUV	**El Baul**	**6.04**	**258**	*e*P	**Pn**	**02 34 21.5**	**-0.5**
BAUV				*e*S	**Sn**	**02 35 28.5**	**-2.7**
MAPV	**Macapo**	**6.31**	**267**	*e*P	**Pn**	**02 34 26.3**	**+0.5**
MAPV				*e*S	**Sn**	**02 35 34.5**	**-3.5**
TEPV	**Terepaima**	**7.03**	**268**	*e*P	**Pn**	**02 34 35.0**	**-0.5**

NIED ***22*** *02:38:00,39˚.70N×143˚.70E,h23km,Mw3.5 Best double couple: M₀2.00000×10¹⁴ NP1:φ₀349.00000°,δ38.00000°, λ53.00000°. NP2:φ₀213.00000°,δ61.00000°,λ115.00000°.*
ISCJB ***22*** *02:38:48.4±1.0,39˚.68N±0˚.06×143˚.58E±0˚.09,h11km, mb3.6/5,MS3.2/1,Error ellipse: s-maj=11.8km s-min=7.2km az=35.2*
JMA ***22*** *02:38:48.9±0.1,39˚.65N×143˚.66E,h31km,M3.6*
IDC ***22*** *02:38:50.2±2.7,39˚.87N×143˚.30E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.5/33,mbtmp3.6/6,ML3.3/1,MS3.2/1, Ms1 3.2/1,ms1mx2.3/38,Error ellipse: s-maj=62.3km s-min=28.9km az=152.0*

ISC 22 02:38:50.6±1.2,39˚.70N±0˚.07×143˚.4E±0˚.1,h11km,n20, σ0§98/19,mb3.8/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.22**	**282**	P	**Pn**	**02 39 13.4**	**-0.2**
JTH				*e*S	**Sn**	**02 39 30.8**	**+0.7**
MIYJ	**Miyakonagasawa**	**1.24**	**265**	P	**Pn**	**02 39 13.3**	**-0.5**
OFUJ	**Ofunato**	**1.49**	**246**	P	**Pn**	**02 39 16.5**	**-0.8**
JANG	**Nango**	**1.61**	**295**	P	**Pn**	**02 39 18.4**	**-0.5**
JOM	**Ohasama**	**1.66**	**263**	P	**Pn**	**02 39 19.8**	**+0.2**
JMK	**Ichinoseki**	**1.86**	**247**	P	**Pn**	**02 39 21.8**	**-0.5**
JTM	**Tenmabayashi**	**2.10**	**302**	P	**Pn**	**02 39 26.2**	**+0.5**
JOU	**Okura**	**2.52**	**239**	P	**Pn**	**02 39 31.5**	**0.0**
JCH	**Churui**	**2.91**	**359**	P	**Pn**	**02 39 36.0**	**-0.8**
JCH				*e*S	**Sn**	**02 40 11.1**	**-0.7**
MAT	**Matsushiro**	**5.18**	**234**	P	**Pn**	**02 40 08.9**	**+0.9**
MAT				S	**Sn**	**02 41 05.2**	**-2.5**
MJAR	**Matsushiro Arr**	**5.18**	**234**	Pn	**Pn**	**02 40 09.0**	**+1.0**
	1.2nm,0.3s,baz=36,slow=12,SNR=8.7						
SONM	**Songino Array**	**27.73**	**299**	P	**P**	**02 44 40.0**	**+1.0**
	0.5nm,0.3s,baz=90,slow=7.2,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**28.34**	**128**	T	T	03 14 21.4	
	baz=320,slow=74,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**28.36**	**128**	T	T	03 14 20.0	
	baz=320,slow=74,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**28.36**	**128**	T	T	03 14 45.6	
	baz=320,slow=74,SNR=6.1						
ZALV	**Zalesovo Beam**	**41.34**	**310**	LR	LR	03 06 32.9	
	comp=Z,28nm,18.2s,baz=264,slow=40						
MKAR	**Makanchi Array**	**44.09**	**300**	P	**P**	**02 46 59.1**	**+0.4**
	0.4nm,0.7s,baz=78,slow=8.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.65**	**306**	P	**P**	**02 47 10.3**	**-0.6**
	0.7nm,0.7s,baz=81,slow=8.1,SNR=7.2						
ILAR	**Eielson Array**	**46.40**	**34**	P	**P**	**02 47 17.8**	**+1.1**
	0.2nm,0.7s,baz=270,slow=5.2,SNR=2.8						
FINES	**FINESS Array B**	**67.19**	**332**	P	**P**	**02 49 43.4**	**-0.8**
	2.0nm,0.9s,baz=14,slow=8.6,SNR=3.3						

IDC ***22*** *02:38:47.9±2.0,6˚.60S×147˚.76E,h0km,mb3.8/3, mb1 4.0/5,mb1mx3.6/25,mbtmp3.8/5,ML3.5/1,MS3.1/2, Ms1 3.1/2,ms1mx2.6/35,Error ellipse: s-maj=46.4km s-min=32.6km az=98.0*
NEIC ***22*** *02:38:53.6±1.5,6˚.69S×147˚.74E,h35km,mb4.0/2,Error ellipse: s-maj=30.6km s-min=22.2km az=98.0*

ISC 22 02:38:55.9±2.1,6.7S±0˚.1×147.7E±0˚.3,h63km,n10, σ1§27/9,mb3.8/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.75**	**191**	Pn	**Pn**	**02 39 35.8**	**-1.8**
	7.5nm,0.3s,baz=5.9,slow=8.7,SNR=27						
PMG				Sn	**Sn**	**02 40 11.7**	**+1.9**
	2.1nm,0.3s,baz=336,slow=21,SNR=5.0						
WRAB	**Tennant Creek**	**18.47**	**223**	*e*P	**P**	**02 43 06.8**	**0.0**
	12nm,1.2s						
WRA	**Warramunga Arr**	**18.49**	**223**	P	**Pn**	**02 43 07.8**	**+0.1**
	0.2nm,0.3s,baz=49,slow=11,SNR=6.3						
GUMO	**Guam**	**20.34**	**352**	LR	LR	02 50 23.2	
	comp=Z,20nm,20.6s,baz=168,slow=34						
ASAR	**Alice Springs**	**21.46**	**217**	P	**P**	**02 43 38.6**	**-0.6**
	2.7nm,0.6s,baz=51,slow=9.2,SNR=26						
DZM	**Mont Dzumac**	**23.70**	**132**	LR	LR	02 51 30.0	
	comp=Z,123nm,19.0s,baz=52,slow=32						
FITZ	**Fitzroy Crossi**	**24.31**	**240**	P	**P**	**02 44 07.0**	**-0.7**
	2.7nm,0.5s,baz=45,slow=9.8,SNR=12						
FITZ	**Fitzroy Crossi**	**24.31**	**240**	*e*P	**P**	**02 44 08.3**	**+0.5**
	3.3nm,0.5s						
VNDA	**Vanda**	**71.19**	**177**	P	**P**	**02 50 08.1**	**+0.5**
	0.7nm,0.8s,baz=321,slow=7.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**145.93**	**284**	PKPbc	**PKPab**	**02 58 31.1**	**+1.1**
	0.4nm,0.7s,baz=73,slow=2.5,SNR=9.7						

ISCJB ***22*** *02:55:06.2±0.6,36˚.51N±0˚.04×71˚.33E±0˚.07,h200km, mb3.3/3,Error ellipse: s-maj=8.7km s-min=4.8km az=155.4*
IDC ***22*** *02:55:07.5±3.5,36˚.48N×71˚.27E,h224km±35km,mb3.1/3, mb1 3.2/10,mb1mx2.9/41,mbtmp3.8/10,Error ellipse: s-maj=32.2km s-min=19.3km az=162.0*
NNC ***22*** *02:55:12.6±1.6,36˚.88N×71˚.23E,h204km±14km,mb2.9, mpv4.2,Error ellipse: s-maj=16.5km s-min=8.6km az=146.0*

ISC 22 02:55:06.2±0.7,36˚.49N±0˚.06×71˚.30E±0˚.07,h200km,n23, σ1§50/30,mb3.3/3,6C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.03**	**320**	⇑P	**Pn**	**02 55 59.3**	**+3.0**
	45nm,0.3s						
DZET				⇓S	**Sn**	**02 56 35.9**	**+0.4**
	53nm,0.2s						
THN	**Thein Dam**	**5.45**	**137**	*e*P	Pn	02 56 31.0	+4.6
THN				*e*S	**Sn**	**02 57 31.8**	**+2.2**
MNAS	**Manas**	**6.06**	**8**	⇓P	**Pn**	**02 56 36.1**	**+1.7**
	8.5nm,0.3s						
MNAS				⇓S	**Sn**	**02 57 43.3**	**-0.8**
AAK	**Ala-Archa**	**6.62**	**21**	P	**Pn**	**02 56 44.0**	**+2.5**
	6.8nm,0.3s,baz=183,slow=5.2,SNR=27						
AAK				S	**Sn**	**02 57 57.5**	**+0.4**
	0.8nm,0.3s,baz=308,slow=24,SNR=15						
AAK	**Ala-Archa**	**6.62**	**21**	P	**Pn**	**02 56 43.7**	**+2.1**
	9.0nm,0.3s						
AAK				⇓S	**Sn**	**02 57 57.3**	**+0.1**
	17nm,0.8s						
KK31	**Karatay Array**	**6.63**	**355**	P	**Pn**	**02 56 43.4**	**+1.8**
	1.9nm,0.3s,baz=171,slow=11,SNR=26						
KK31				⇑S	**Sn**	**02 57 54.1**	**-3.2**
	15nm,0.4s,baz=180,slow=22,SNR=27						
TKM2	**Tokmak 2**	**7.23**	**26**	⇑P	**Pn**	**02 56 50.8**	**+1.3**
	13nm,0.5s						
TKM2				⇑S	**Sn**	**02 58 09.6**	**-1.9**
	14nm,1.1s						
GEYT	**Alibeck**	**10.61**	**282**	P	**Pn**	**02 57 34.9**	**+1.6**
	1.8nm,0.3s,baz=152,slow=13,SNR=6.5						
PYUN	**Piuthan**	**12.94**	**127**	*e*P	**Pn**	**02 58 03.7**	**+0.5**
	8.3nm,0.2s						
MKAR	**Makanchi Array**	**13.16**	**35**	P	**Pn**	**02 58 06.4**	**+0.8**
	0.5nm,0.3s,baz=212,slow=12,SNR=13						
KOLN	**Koldanda**	**13.56**	**126**	*e*P	**Pn**	**02 58 10.4**	**-0.6**
	9.2nm,0.3s						
GKN	**Gorkha**	**14.10**	**123**	*e*P	**P**	**02 58 19.0**	**-0.3**
	14nm,0.4s						
KKN	**Kakani**	**14.67**	**122**	*e*P	**P**	**02 58 25.3**	**-0.4**
	18nm,0.5s						
PKIN	**Phulchoki**	**14.88**	**123**	*e*P	**Pn**	**02 58 27.1**	**-0.2**
	11nm,0.3s						
KURBB	**Kurchatov Arra**	**15.06**	**18**	P	**Pn**	**02 58 28.9**	**0.0**
	0.1nm,0.3s,baz=210,slow=8.7,SNR=5.8						
AB31	**Akbulak array**	**15.21**	**331**	⇓P	**P**	**02 58

HRT	**Hereke**	**1.79**	**16**	*e*Pn	**Pn**	**03 17 24.4**	**+0.3**
KRBG	**Karabiga-Canak**	**1.86**	**315**	*e*PN	**Pn**	**03 17 26.1**	**+1.1**
KRBG	**Karabiga-Canak**	**1.86**	**315**	*e*Pn	**Pn**	**03 17 26.1**	**+1.1**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*PN	**Pb**	**03 17 26.6**	**-0.6**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*Pn	**Pb**	**03 17 26.6**	**-0.6**
SPNC	**Sapanca-Adapaz**	**1.87**	**31**	*e*PN	**Pb**	**03 17 26.3**	**-1.0**
SPNC	**Sapanca-Adapaz**	**1.87**	**31**	*e*Pn	**Pb**	**03 17 26.3**	**-1.0**
ISK	**Istanbul-Kandi**	**1.97**	**1**	*e*PN	**Pn**	**03 17 27.4**	**+1.0**
ISK	**Istanbul-Kandi**	**1.97**	**1**	*e*Pn	**Pn**	**03 17 27.4**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*PN	**Pn**	**03 17 27.7**	**+1.1**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*Pn	**Pn**	**03 17 27.7**	**+1.1**
SILT	**Sile**	**2.11**	**13**	*e*PN	**Pn**	**03 17 29.4**	**+1.0**
SILT	**Sile**	**2.11**	**13**	*e*Pn	**Pn**	**03 17 29.4**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*PN	**Pn**	**03 17 29.6**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*Pn	**Pn**	**03 17 29.7**	**+0.9**
KLYT	**Kilyos**	**2.15**	**0**	*e*PN	**Pb**	**03 17 30.8**	**-1.3**
KLYT	**Kilyos**	**2.15**	**0**	*e*Pn	**Pb**	**03 17 30.8**	**-1.3**
MDUB	**Mudurnu**	**2.16**	**50**	*e*PN	**Pn**	**03 17 29.9**	**+0.6**
MDUB	**Mudurnu**	**2.16**	**50**	*e*Pn	**Pn**	**03 17 29.9**	**+0.6**
CTKS	**Kestanelik-??a**	**2.17**	**350**	*e*PN	**Pn**	**03 17 30.2**	**+0.9**
CTKS	**Kestanelik-??a**	**2.17**	**350**	*e*Pn	**Pn**	**03 17 30.2**	**+0.9**
KIZT	**Kizilcal**	**2.23**	**95**	*e*PN	**Pn**	**03 17 31.3**	**+1.0**
KIZT	**Kizilcal**	**2.23**	**95**	*e*Pn	**Pn**	**03 17 31.3**	**+1.0**

NIED ***22*** *03:17:00,37.80N×141.80E,h11km,Mw3.8 Best double couple: M₀5.02000×10¹⁴ NP1:φs267.00000°,δ51.00000°, λ-156.00000°. NP2:φs161.00000°,δ72.00000°, λ-41.00000°.*

IDC ***22*** *03:17:40.8±0.8,37.73N×142.04E,h0km,mb3.7/7, mb1 4.0/11,mb1mx3.8/41,mbtmp3.9/11,ML4.3/3,MS3.2/7, Ms1 3.2/7,ms1mx2.9/44,Error ellipse: s-maj=21.2km s-min=15.4km az=132.0*

ISCJB ***22*** *03:17:42.2±1.0,37.75N±0.03×141.92E±0.06,h19km±7km, mb3.6/7,MS3.5/3,Error ellipse: s-maj=8.2km s-min=5.3km az=21.4*

JMA ***22*** *03:17:44.2±0.1,37.79N×141.81E,h32km±3km,M4.1*

JMA Felt II J1.

ISC 22 03:17:41.9±3.1,37.78N±0.04×141.87E±0.06,h8km±20km, n37,σ0°95/34,mb3.7/7,MS3.4/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.79**	**329**	P	**Pb**	**03 17 58.5**	**+0.6**
JIO				*e*S	**Sb**	**03 18 07.8**	**-0.9**
JMM	**Marumori**	**0.86**	**276**	P	**Pb**	**03 17 58.8**	**-0.2**
JMM				S	**Sb**	**03 18 09.7**	**-1.0**
JFK	**Kawauchi**	**0.89**	**243**	P	**Pb**	**03 18 00.0**	**+0.4**
JFK				*e*S	**Sb**	**03 18 10.9**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.09**	**232**	P	**Pb**	**03 18 02.9**	**-0.1**
ONAJ				*e*S	**Sb**	**03 18 15.9**	**-1.5**
JOU	**Okura**	**1.12**	**302**	P	**Pn**	**03 18 03.7**	**-0.2**
JOU				S	**Sb**	**03 18 17.3**	**-0.9**
JFT	**Otama**	**1.25**	**258**	P	**Pn**	**03 18 05.3**	**-0.3**
JFT				*e*S	**Sb**	**03 18 21.0**	**-0.9**
JMK	**Ichinoseki**	**1.28**	**337**	P	**Pn**	**03 18 05.9**	**-0.1**
JYS	**Shirataka**	**1.49**	**288**	P	**Pn**	**03 18 09.3**	**+0.3**
JYS				S	**Sn**	**03 18 27.6**	**-1.1**
JYK	**Kaneyama**	**1.65**	**314**	P	**Pn**	**03 18 11.1**	**0.0**
JOM	**Ohasama**	**1.75**	**345**	P	**Pn**	**03 18 12.8**	**+0.3**
JFY	**Yanaizu**	**1.76**	**258**	P	**Pn**	**03 18 13.2**	**+0.5**
JFY				*e*S	**Sn**	**03 18 34.3**	**-1.0**
MJAR	**Matsushiro Arr** 14nm,0.3s,baz=87,slow=16,SNR=91	**3.18**	**248**	Pn	**Pn**	**03 18 33.6**	**+1.4**
MJAR	7.6nm,0.3s,baz=90,slow=28,SNR=7.0			Lg	Lg	03 19 24.0	
MJAR	comp=Z,180nm,18.7s,baz=65,slow=44			LR	LR	03 20 03.5	
MAT	**Matsushiro**	**3.18**	**248**	P	**Pn**	**03 18 33.7**	**+1.5**
MAT				S	**Sn**	**03 19 11.7**	**+1.4**
JHJ	**Hachijo jima 2** 45nm,0.3s,baz=315,slow=22,SNR=18	**4.95**	**201**	Pn	**Pn**	**03 18 57.6**	**+1.1**
JHJ	49nm,0.3s,baz=304,slow=22,SNR=6.9			Sn	**Sn**	**03 19 53.5**	**-0.6**
ASAJ	**Asahikawa**	**6.35**	**5**	Pn	**Pn**	**03 19 16.3**	**+0.5**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=141,slow=14,SNR=4.8	**9.84**	**314**	Pn	Pn	03 20 09.6	+6.0
JNU	**Nakatsue** comp=Z,81nm,18.4s,baz=298,slow=43	**10.10**	**246**	LR	LR	03 25 02.8	
JCJ	**Chichijima** 4.3nm,0.3s,baz=81,slow=20,SNR=6.0	**10.66**	**178**	Pn	**Pn**	**03 20 13.5**	**-1.3**
KSRS	**Korea Array** comp=Z,81nm,18.4s,baz=40,slow=35	**11.07**	**273**	LR	LR	03 24 10.2	
KLR	**Kul'dur** comp=Z,87nm,18.3s,baz=86,slow=40	**13.58**	**331**	LR	LR	03 26 55.8	
YAK	**Yakutsk** comp=Z,42nm,19.2s,baz=316,slow=40	**25.43**	**347**	LR	LR	03 34 33.1	
SONM	**Songino Array** 0.3nm,0.3s,baz=106,slow=9.4,SNR=3.8	**27.68**	**303**	P	**P**	**03 23 32.8**	**+2.3**
H11N2	**WAKE ISLAND Hy** baz=315,slow=75,SNR=399	**28.23**	**123**	T	T	03 53 51.2	
H11N1	**WAKE ISLAND Hy** baz=315,slow=75,SNR=445	**28.24**	**123**	T	T	03 53 50.2	
H11N3	**WAKE ISLAND Hy** baz=315,slow=75,SNR=453	**28.25**	**123**	T	T	03 53 52.5	
H11S1	**WAKE ISLAND Hy** baz=317,slow=76,SNR=289	**28.97**	**125**	T	T	03 54 45.0	
H11S3	**WAKE ISLAND Hy** baz=317,slow=76,SNR=228	**28.97**	**125**	T	T	03 54 44.4	
H11S2	**WAKE ISLAND Hy** baz=317,slow=76,SNR=166	**28.99**	**125**	T	T	03 54 44.2	
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=125,slow=49,SNR=2.6	**41.69**	**312**	P	**P**	**03 25 31.0**	**+0.2**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=90,slow=9.7,SNR=3.6	**44.04**	**302**	P	**P**	**03 25 51.0**	**+1.0**
ARU	**Arti** comp=Z,27nm,18.6s,baz=129,slow=36	**56.05**	**318**	LR	LR	03 51 48.6	
WRA	**Warramunga Arr** 0.8nm,0.4s,baz=5.8,slow=7.2,SNR=23	**57.85**	**188**	P	**P**	**03 27 33.9**	**-0.2**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=303,slow=6.8,SNR=3.4	**62.98**	**30**	P	**P**	**03 28 08.5**	**-0.3**
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=275,slow=8.2,SNR=3.2	**76.88**	**46**	P	**P**	**03 29 34.9**	**0.0**
DAVOX	**Davos/Dischmat** comp=Z,83nm,18.3s,baz=66,slow=38	**85.48**	**329**	LR	LR	04 12 36.6	
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=271,slow=2.7,SNR=6.1	**89.38**	**53**	P	**P**	**03 30 39.6**	**+0.2**
LPAZ	**La Paz** 0.7nm,0.6s,baz=338,slow=6.8,SNR=4.2	**146.00**	**59**	PKPbc	**PKPbc**	**03 37 22.7**	**-0.8**

WEL 22 03:19:40.2±0.1,43.57S×172.42E,h9km±1km,ML3.5/10, 4C-3D,Error ellipse: s-maj=0.7km s-min=0.7km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.15**	**94**	⇑PG	Pg	03 19 43.3	-0.1
CRLZ				SG	Sg	03 19 45.7	0.0
CRLZ				AML	AML	03 19 46.0	
CRLZ				AML	AML	03 19 46.1	
CRLZ				AML	AML	03 19 46.1	
MQZ	**McQueen's Vall**	**0.22**	**130**	⇓PG	Pg	03 19 44.6	-0.1
MQZ				SG	Sg	03 19 48.1	+0.3
MQZ				AML	AML	03 19 48.1	
OXZ	**Oxford**	**0.37**	**311**	PG	Pg	03 19 47.1	-0.3
OXZ				SG	Sg	03 19 52.6	+0.3
LTZ	**Lake Taylor**	**0.79**	**352**	P*	Pg	03 19 55.4	0.0
LTZ				S*	Sg	03 20 06.3	+0.6
LTZ				AML	AML	03 20 06.5	
RPZ	**Rata Peaks**	**1.00**	**261**	⇑P*	Pg	03 19 58.9	-0.6
RPZ				S*	Sg	03 20 12.2	-0.3
RPZ				AML	AML	03 20 18.7	
INZ	**Inchbonnie**	**1.10**	**319**	⇑P*	Pg	03 20 00.8	-0.6
KHZ	**Kahutara**	**1.41**	**36**	⇑PN	Pn	03 20 03.9	-2.1
LBZ	**Lake Benmore**	**1.81**	**242**	PN	Pn	03 20 10.4	-1.1
LBZ				AML	AML	03 20 44.3	
LBZ				AML	AML	03 20 45.7	
THZ	**Tophouse**	**1.84**	**11**	⇓PN	Pn	03 20 10.2	-1.7
THZ				AML	AML	03 20 47.7	
THZ				AML	AML	03 20 49.2	
DSZ	**Denniston Nort**	**1.88**	**346**	AML	AML	03 20 38.5	
DSZ				AML	AML	03 20 43.0	
FOZ	**Fox Glacier**	**1.89**	**270**	PN	Pn	03 20 12.8	+0.2
ODZ	**Otahua Downs**	**1.95**	**220**	PN	Pn	03 20 11.6	-1.9
ODZ				AML	AML	03 20 17.2	
ODZ				AML	AML	03 20 44.0	
ODZ				AML	AML	03 20 46.2	
ODZ				AML	AML	03 20 50.1	
BSWZ	**Blackbirch Sta**	**2.14**	**31**	PN	Pn	03 20 14.9	-1.1
NNZ	**Nelson**	**2.45**	**17**	PN	Pn	03 20 19.1	-1.3
EAZ	**Earnscleugh**	**2.78**	**232**	⇓PN	Pn	03 20 23.2	-1.7
EAZ				AML	AML	03 21 11.4	
TUZ	**Tuapeka**	**3.11**	**219**	PN	Pn	03 20 27.4	-1.9
TUZ				AML	AML	03 21 25.5	
TUZ				AML	AML	03 21 27.4	

NEIC ***22*** *03:20:24.1,59.77N×136.57W,h1km,ML3.3(OTT), ML3.2(AEIC),After OTT.*

PGC 22 03:20:24.1±0.0,59.77N×136.58W,h1km,ML3.3/9, 105km Wnw of Haines, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.33**	**161**	P	Pg	03 20 30.1	-0.3
PLBC				S	Sg	03 20 34.5	-0.3
PLBC	**Pleasant Camp**	**0.33**	**161**	P	Pg	03 20 30.1	-0.3
PLBC				S	Sg	03 20 34.4	-0.3
SKAG	**Skagway**	**0.71**	**116**	P	Pg	03 20 36.8	-0.8
SKAG				S	Sg	03 20 45.7	-1.0
DHAK	**Deception Hill**	**1.08**	**232**	P	Pg	03 20 43.4	-1.4
DHAK				S	Sg	03 20 57.8	-0.9
YUK7	**Dusty Glacier**	**1.09**	**315**	P	Pg	03 20 43.1	-1.9
YUK7				S	Sg	03 20 57.9	-1.2
HYT	**Haines Junctio**	**1.15**	**337**	P	Pg	03 20 43.9	-2.3
HYT				S	Sg	03 21 00.3	-0.8
HYT	**Haines Junctio**	**1.15**	**337**	P	Pg	03 20 43.9	-2.3
YUK6	**Outpost Mounta**	**1.47**	**324**	Pn	Pn	03 20 49.9	-2.1
YUK6				Sg	Sg	03 21 09.9	-1.4
BESE	**Bessie Mountai**	**1.49**	**143**	P	Pn	03 20 50.5	-1.5
BESE				S	Sg	03 21 10.8	-1.0
YUK5	**Granite Creek**	**1.50**	**336**	Pn	Pn	03 20 50.9	-1.4
YUK5				Sg	Sg	03 21 11.9	-0.5
YKU2	**Yakutat**	**1.59**	**262**	P	Pn	03 20 51.9	-1.5
YKU2				S	Sg	03 21 15.2	0.0
TABL	**Table Mountain**	**2.38**	**288**	P	Pn	03 21 02.6	-1.8
LOGN	**Logan Glacier**	**2.44**	**298**	P	Pn	03 21 04.0	-1.2
RKAV	**Rock Avalanche**	**2.45**	**285**	P	Pn	03 21 04.6	-0.8
CTGM	**Chitina Glacie**	**2.65**	**299**	Pn	Pn	03 21 08.0	0.0
CTGM				Sg	Sb	03 21 45.5	+0.1
MESA	**MESA**	**2.73**	**281**	P	Pn	03 21 07.8	-1.5
GRNC	**Granite Creek**	**2.76**	**293**	P	Pn	03 21 08.6	-0.9
YUK3	**Moose Creek**	**2.77**	**318**	Pn	Pn	03 21 08.8	-1.0
YUK3				Sg	Sb	03 21 49.4	+0.5
BAGL	**Bagley Icefiel**	**2.85**	**287**	P	Pn	03 21 09.4	-1.2
YUK2	**White River**	**2.91**	**316**	Pn	Pn	03 21 10.6	-0.9
ISLE	**Juniper Island**	**3.00**	**289**	P	Pn	03 21 11.6	-1.2
BARK	**Barkley Ridge**	**3.03**	**285**	P	Pn	03 21 12.4	-0.8
YUK1	**Sand Pete Hill**	**3.07**	**323**	Pn	Pn	03 21 13.8	0.0
YUK1				Sg	Sb	03 21 59.4	+1.9
KIAG	**Kiagna River**	**3.10**	**294**	P	Pn	03 21 13.6	-0.6
KULT	**Kultieth River**	**3.12**	**281**	P	Pn	03 21 13.7	-0.8
BALM	**Baldy**	**3.13**	**296**	Pn	Pn	03 21 14.3	-0.3
BALM				Sg	Sb	03 21 57.4	-1.8
BVCY	**Beaver Creek**	**3.37**	**324**	Pg	Pb	03 21 24.6	0.0
BVCY				Sg	Sb	03 22 09.1	+3.0
KHIT	**Khitrov Hills**	**3.41**	**284**	P	Pn	03 21 17.0	-1.4
BERG	**Berg Lake**	**3.62**	**283**	P	Pn	03 21 20.6	-0.7
DLBC	**Dease Lake**	**3.63**	**109**	Pn	Pn	03 21 19.8	-1.7
DLBC				Sg	Sb	03 22 16.3	+2.7
DLBC	**Dease Lake**	**3.63**	**109**	*e*Pn	Pn	03 21 20.1	-1.3
DLBC				*e*Pg	Pb	03 21 30.8	+1.8
DLBC				*e*Sn	Sn	03 22 03.6	-1.3
DLBC				*e*Sg	Sb	03 22 17.0	+3.4
WRAK	**Wrangell Islan**	**4.04**	**144**	*e*Pn	Pn	03 21 28.3	+1.3
WRAK				*e*S	Sg	03 22 29.7	-4.0
BCA3	**Beaver Creek A**	**4.14**	**325**	P	Pn	03 21 27.9	-0.6
BMRM	**Bremner River**	**4.16**	**290**	*e*Pn	Pn	03 21 27.9	-0.8
BMRM				*e*Pg	Pb	03 21 40.0	+1.9
BMRM				*e*S	Sb	03 22 29.1	+0.2
CRAG	**Craig**	**4.70**	**155**	*e*Pn	Pn	03 21 37.3	+1.4
CRAG				*e*S	Sb	03 22 47.3	+3.2
DIV	**Divide**	**4.75**	**291**	*e*Pn	Pn	03 21 35.9	-1.0
KLU	**Klutina**	**4.91**	**295**	P	Pn	03 21 38.4	-0.6
DOT	**Dot Lake**	**5.27**	**321**	Pn	Pn	03 21 43.3	-0.6
DOT	**Dot Lake** 18nm,0.7s	**5.27**	**321**	*e*Pn	Pn	03 21 43.8	-0.2
DOT				*e*S	Sg	03 23 10.4	-2.8
PAX	**Paxson** 2.3nm,0.6s	**5.35**	**311**	*e*Pn	Pn	03 21 45.1	+0.1
PAX				*e*Pg	Pb	03 22 01.7	+3.5
PAX				*e*S	Sg	03 23 12.9	-2.7
EGAK	**Eagle** 22nm,0.4s	**5.46**	**339**	*e*Pn	Pn	03 21 46.2	-0.2
EGAK				*e*S	Sg	03 23 15.5	-3.8
SCM	**Sheep Creek Mo**	**5.66**	**296**	P	Pn	03 21 48.6	-0.6
SML	**Sawmill**	**6.11**	**295**	*e*Pn	Pn	03 21 55.9	+0.4
SML				*e*S	Sb	03 23 23.5	-1.2
RC01	**Rabbit Creek A**	**6.65**	**287**	*e*Pn	Pn	03 22 03.2	+0.4
RC01				*e*S	Sn	03 23 22.3	+3.2
FNBB	**Fort Nelson**	**7.00**	**91**	Sg	Sg	03 24 00.1	-8.4
TRF	**Thorofare Moun** 2.3nm,0.6s	**7.50**	**305**	*e*Pn	Pn	03 22 14.1	-0.5
KTH	**Kantishna Hill** 2.7nm,0.7s	**7.80**	**305**	*e*Pn	Pn	03 22 19.3	+0.6

JMA 22 03:49:07.1±0.1,38.47N×142.23E,h41km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.69**	**269**	P	Pn	03 49 20.5	+0.1
JIO				S	Sn	03 49 29.8	-0.2
OFUJ	**Ofunato**	**0.75**	**324**	P	Pn	03 49 21.5	+0.2
OFUJ				S	Sn	03 49 31.7	+0.2
JMK	**Ichinoseki**	**0.93**	**302**	P	Pn	03 49 23.9	+0.3
JMK				S	Sn	03 49 36.0	+0.3
JOU	**Okura**	**1.23**	**266**	P	Pn	03 49 28.7	+0.8
JOU				S	Sn	03 49 43.9	+0.5
JOM	**Ohasama**	**1.24**	**324**	P	Pn	03 49 28.6	+0.6
JOM				S	Sn	03 49 44.3	+0.8
JMM	**Marumori**	**1.28**	**242**	*e*S	Sn	03 49 44.4	-0.1
JYK	**Kaneyama**	**1.53**	**288**	P	Pn	03 49 32.7	+0.8
JYK				S	Sn	03 49 52.1	+1.9
JRG	**Rokugo**	**1.55**	**307**	P	Pn	03 49 33.2	+1.0
JRG				*e*S	Sn	03 49 52.6	+1.5

IDC ***22*** *03:59:13.7±0.7,57.89S×25.27W,h0km,mb4.2/7, mb1 4.3/8,mb1mx4.1/24,mbtmp4.3/8,ML5.5/1,MS3.5/1, Ms1 3.5/1,ms1mx2.9/17,Error ellipse: s-maj=26.1km s-min=19.7km az=77.0*

ISCJB ***22*** *03:59:18.5±0.6,57.89S±0.09×25.3W±0.2,h49km,mb4.2/9, MS3.4/1,Error ellipse: s-maj=17.9km s-min=10.7km az=146.1*

NEIC ***22*** *03:59:20.5±2.8,57.92S×25.25W,h49km±25km,mb4.4/2, Error ellipse: s-maj=18.0km s-min=10.2km az=221.0*

ISC 22 03:59:20.2±0.6,58.04S±0.10×25.3W±0.1,h49km,n26, σ1°59/20,mb4.2/9,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.56**	**157**	P	**Pn**	**04 02 45.1**	**+2.1**
SNAA	**Sanae**	**16.50**	**155**	P	**P**	**04 03 09.6**	**-0.4**
SNAA	**Sanae** 163nm,0.4s	**16.50**	**155**	*e*Pn	**P**	**04 03 09.3**	**-0.7**
SNAA				*e*S	**Sn**	**04 06 04.7**	**-5.2**
PMSA	**Palmer Station** 1.3nm,0.3s,baz=77,slow=12,SNR=3.6	**19.44**	**234**	P	**Pn**	**04 03 43.6**	**-0.1**
EFI	**East Falkland** 6.5nm,0.5s	**19.74**	**275**	*e*P	**Pn**	**04 03 47.4**	**0.0**
MAW	**Mawson** 1.3nm,0.6s,baz=242,slow=9.1,SNR=6.0	**37.95**	**141**	P	**P**	**04 06 32.8**	**+0.4**
CPUP	**Villa Florida** 0.8nm,0.5s,baz=170,slow=8.8,SNR=4.2	**38.88**	**311**	P	**P**	**04 06 39.4**	**-1.3**
VNDA	**Vanda** 2.6nm,0.7s,baz=186,slow=6.6,SNR=18	**44.62**	**182**	P	**P**	**04 07 29.1**	**+2.1**
VNDA	comp=Z,46nm,18.2s,baz=280,slow=35			LR	LR	04 25 17.1	
BOSA	**Boshof** 2.3nm,0.9s,baz=219,slow=12,SNR=3.5	**45.55**	**72**	P	P	04 07 41.8	+6.7
H10S2	**ASCENSION HYDR** baz=188,slow=75,SNR=50	**49.66**	**14**	T	T	05 01 41.3	
H10S3	**ASCENSION HYDR** baz=188,slow=75,SNR=45	**49.66**	**14**	T	T	05 01 41.6	
H10S1	**ASCENSION HYDR** baz=188,slow=75,SNR=49	**49.68**	**14**	T	T	05 01 42.7	
H10N1	**ASCENSION HYDR** baz=191,slow=72,SNR=17	**50.78**	**14**	T	T	05 03 07.4	
H10N3	**ASCENSION HYDR** baz=191,slow=72,SNR=27	**50.78**	**14**	T	T	05 03 06.0	
H10N2	**ASCENSION HYDR** baz=191,slow=72,SNR=18	**50.79**	**14**	T	T	05 03 07.9	
LPAZ	**La Paz** 1.3nm,0.4s,baz=158,slow=5.4,SNR=22	**52.35**	**305**	P	**P**	**04 08 27.3**	**-0.5**
SAML	**Samuel** 3.6nm,0.6s	**56.92**	**314**	*e*P	**P**	**04 08 59.2**	**-0.9**
DBIC	**Dimbokro** 3.7nm,0.8s,baz=228,slow=14,SNR=3.5	**66.60**	**22**	P	**P**	**04 10 04.6**	**-0.6**
TORD	**Torodi Ar. Bea** 1.4nm,0.5s,baz=200,slow=6.1,SNR=43	**74.33**	**27**	P	**P**	**04 10 52.7**	**+0.4**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=177,slow=9.3,SNR=4.4	**96.78**	**161**	P	**P**	**04 12 44.6**	**-0.9**
FINES	**FINESS Array B** 3.1nm,0.9s,baz=159,slow=8.0,SNR=4.2	**125.68**	**28**	PKP	**PKPdf**	**04 18 14.8**	**+0.3**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=234,slow=4.8,SNR=2.8	**136.55**	**72**	PKP	**PKPdf**	**04 18 36.3**	**+0.7**
YKA	**Yellowknife Ar** 0.6nm,0.5s,baz=132,slow=2.1,SNR=19	**138.32**	**316**	PKP	**PKPdf**	**04 18 38.7**	**+0.4**
SONM	**Songino Array** 1.4nm,0.5s,baz=248,slow=2.7,SNR=7.8	**149.81**	**88**	PKPbc	**PKPbc**	**04 19 03.9**	**+0.1**
DOT	**Dot Lake**	**150.68**	**307**	*e*PKPbc	**PKPbc**	**04 19 06.1**	**+0.8**
ILAR	**Eielson Array** 1.2nm,0.4s,baz=140,slow=2.4,SNR=23	**152.18**	**309**	PKPbc	**PKPbc**	**04 19 08.8**	**+0.2**

TIR ***22*** *04:15:53.5±5.5,40.55N×21.65E,h17km±54km,ML3.6*

SKO ***22*** *04:15:58.1,40.37N×21.56E,h20km,M3.4,ML3.8*

ATH ***22*** *04:15:59.3,40.56N×21.63E,h24km,ML3.7/8,Error ellipse: s-maj=1.2km s-min=0.8km az=321.0*

PDG ***22*** *04:15:59.3±0.4,40.56N×21.65E,h13km,ML3.5/10,Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

ISCJB ***22*** *04:15:59.9±0.3,40.57N±0.01×21.63E±0.02,h21km±3km, mb3.6/6,Error ellipse: s-maj=2.5km s-min=1.8km az=142.8*

THE ***22*** *04:16:00.2,40.52N×21.60E,h6km±1km,ML3.8/14,Error ellipse: s-maj=1.2km s-min=0.3km az=338.0*

CSEM ***22*** *04:16:00.0±0.1,40.54N×21.64E,h10km,ML3.8,Error ellipse: s-maj=2.0km s-min=1.5km az=52.0*

IDC ***22*** *04:16:02.4±1.9,40.51N×21.54E,h41km±23km,mb3.4/7, mb1 3.6/12,mb1mx3.4/39,mbtmp3.6/12,ML3.2/5,MS2.7/4, Ms1 2.7/4,ms1mx2.3/39,Error ellipse: s-maj=19.3km s-min=12.2km az=81.0*

ISC 22 04:15:59.7±0.8,40.51N±0.01×21.61E±0.02,h16km±6km, n345,σ1°33/432,mb3.7/6,31C-11D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.24**	**148**	P	**Pb**	**04 16 05.7**	**0.0**
KZN				S	**Sb**	**04 16 09.2**	**-0.4**
KZN	**Kozani**	**0.24**	**148**	P	**Pb**	**04 16 05.7**	**0.0**
KZN				S	**Sb**	**04 16 09.2**	**-0.4**
FNA	**Florina**	**0.33**	**327**	P	**Pg**	**04 16 06.4**	**-0.3**
FNA				S	**Sg**	**04 16 10.6**	**-0.8**
FNA	**Florina**	**0.33**	**327**	P	**Pg**	**04 16 06.4**	**-0.3**
FNA				S	**Sg**	**04 16 11.2**	**-0.2**
FNA	**Florina**	**0.33**	**327**	P	**Pg**	**04 16 06.3**	**-0.3**
FNA				S	**Sg**	**04 16 11.2**	**-0.2**
FNA				AML	AML	04 16 12.6	
FNA	comp=N,83108μm,0.4s			AML	AML	04 16 13.4	
FNA	comp=E,61204μm,0.3s			AML	AML	04 16 13.4	
KTI	**Kastanea**	**0.40**	**106**	P	**Pb**	**04 16 08.1**	**-0.5**
KTI	**Kastanea**	**0.40**	**106**	P	**Pb**	**04 16 08.1**	**-0.5**
NEST	**Nestorio**	**0.44**	**258**	P	**Pg**	**04 16 08.6**	**0.0**
NEST				S	**Sg**	**04 16 15.1**	**+0.5**
NEST	**Nestorio**	**0.44**	**258**	P	**Pg**	**04 16 08.6**	**0.0**
NEST				S	**Sg**	**04 16 15.1**	**+0.5**
NEST	**Nestorio**	**0.44**	**258**	P	**Pg**	**04 16 08.6**	**0.0**
NEST				S	**Sg**	**04 16 14.7**	**+0.1**
NEST				AML	AML	04 16 17.2	
NEST	comp=E,21357μm,0.4s			AML	AML	04 16 20.1	
PENT	**Pentalofos**	**0.48**	**229**	P	**Pg**	**04 16 09.4**	**+0.1**
PENT				S	**Sg**	**04 16 16.2**	**+0.4**
PENT	**Pentalofos**	**0.48**	**229**	P	**Pg**	**04 16 09.4**	**+0.1**
PENT				S	**Sb**	**04 16 17.9**	**+1.3**
PENT	**Pentalofos**	**0.48**	**229**	P	**Pg**	**04 16 09.1**	**-0.2**
PENT				S	**Sb**	**04 16 17.9**	**+1.3**
PENT				AML	AML	04 16 23.0	
PENT	comp=E,11667μm,0.3s			AML	AML	04 16 23.1	
KPRO	**Kipourio**	**0.58**	**199**	P	**Pg**	**04 16 11.3**	**0.0**
KPRO				S	**Sb**	**04 16 19.7**	**+0.1**
KPRO	**Kipourio**	**0.58**	**199**	P	**Pg**	**04 16 11.3**	**0.0**
KPRO				S	**Sb**	**04 16 19.7**	**+0.1**
KPRO	**Kipourio**	**0.58**	**199**	P	**Pg**	**04 16 10.9**	**-0.4**
KPRO				S	**Sn**	**04 16 22.6**	**-0.1**
KPRO				AML	AML	04 16 24.3	
KPRO	comp=N,23015μm,0.4s			AML	AML	04 16 25.7	
GRG	comp=E,18699μm,0.3s			AML	AML	04 16 29.5	
GRG	**Griva**	**0.75**	**53**	*e*PG	**Pg**	**04 16 13.9**	**-0.5**
GRG	**Griva**	**0.75**	**53**	P	**Pg**	**04 16 13.9**	**-0.5

SOH	Sokhos	1.36	76	P	Pb	04 16 24.7 -0.2
SOH	Sokhos	1.36	76	P	Pb	04 16 24.7 -0.2
SOH	Sokhos	1.36	76	P	Pb	04 16 24.5 -0.4
SGD	Sagiada	1.38	230	P	Pg	04 16 25.9 -0.5
SGD				S	Sg	04 16 44.0 -0.4
SGD	Sagiada	1.38	230	P	Pg	04 16 25.9 -0.5
SGD				S	Sg	04 16 44.0 -0.4
SGD	Sagiada	1.38	230	P	Pg	04 16 27.7 +1.3
PLG	Polygyros	1.41	95	P	Pb	04 16 25.6 0.0
PLG	Polygyros	1.41	95	P	Pb	04 16 25.6 0.0
PLG	Polygyros	1.41	95	P	Pn	04 16 25.0 +0.2
DSL	Palaion Diasel	1.43	196	P	Pg	04 16 26.7 -0.5
DSL				S	Sg	04 16 46.0 +0.2
DSL	Palaion Diasel	1.43	196	P	Pg	04 16 26.7 -0.5
DSL				S	Sg	04 16 46.0 +0.2
DSL	Palaion Diasel	1.43	196	P	Pg	04 16 26.7 -0.5
SKO	Skopje	1.47	355	P	Pb	04 16 26.2 -0.5
SKO	Skopje	1.47	355	*e*Pn	Pn	04 16 26.0 +0.4
SKO				*e*Pn	Pb	04 16 26.1 -0.6
SKO	Skopje	1.47	355	P	Pb	04 16 26.2 -0.5
FYTO	Fytoko, Volos	1.50	137	P	Pb	04 16 26.7 -0.4
FYTO				S	Sg	04 16 48.6 +0.5
FYTO	Fytoko, Volos	1.50	137	P	Pb	04 16 26.8 -0.4
FYTO				S	Sg	04 16 48.6 +0.5
FYTO	Fytoko, Volos	1.50	137	P	Pb	04 16 26.8 -0.4
TIR	Tirane	1.56	303	*i* PN	Pg	04 16 29.4 -0.4
TIR				*i* PN	Sn	04 16 51.0 +4.2
TIR	Tirane	1.56	303	*i* Pn	Pg	04 16 29.5 -0.4
	SNR=40					
AGG	Agios Georgios	1.58	159	*e*PN	Pb	04 16 28.3 -0.4
AGG	Agios Georgios	1.58	159	P	Pb	04 16 28.4 -0.2
AGG				S	Sg	04 16 50.2 -0.6
AGG	Agios Georgios	1.58	159	P	Pb	04 16 28.4 -0.2
AGG				S	Sg	04 16 50.2 -0.6
AGG	Agios Georgios	1.58	159	P	Pb	04 16 27.9 -0.7
EVR	Evrytania	1.60	174	P	Pb	04 16 28.8 -0.1
EVR				S	Sg	04 16 50.8 -0.4
EVR	Evrytania	1.60	174	P	Pb	04 16 28.8 -0.1
EVR				S	Sg	04 16 50.8 -0.4
EVR	Evrytania	1.60	174	P	Pb	04 16 28.8 -0.1
EVR				AML	AML	04 16 57.7
	comp=N,3542µm,0.5s					
KEK	Kerkira	1.60	241	P	Pg	04 16 29.9 -0.6
KEK	Kerkira	1.60	241	P	Pg	04 16 29.9 -0.6
SRS	Serrai	1.62	67	P	Pn	04 16 27.6 -0.1
SRS	Serrai	1.62	67	P	Pn	04 16 27.6 -0.1
SRS	Serrai	1.62	67	P	Pn	04 16 27.7 -0.6
NEO	Neokhori	1.73	134	P	Pn	04 16 29.7 +0.6
NEO	Neokhori	1.73	134	P	Pn	04 16 29.7 +0.6
NEO	Neokhori	1.73	134	P	Pn	04 16 28.6 -0.5
OUR	Ouranopolis	1.82	95	*e*PN	Pn	04 16 30.8 +0.4
OUR	Ouranopolis	1.82	95	P	Pn	04 16 30.9 +0.6
OUR	Ouranopolis	1.82	95	P	Pn	04 16 30.9 +0.6
OUR	Ouranopolis	1.82	95	P	Pn	04 16 30.2 -0.1
LKD2	Lefkada island	1.87	203	*i* PN	Pg	04 16 35.5 -0.1
LKD2	Lefkada island	1.87	203	P	Pb	04 16 33.5 0.0
LKD2	Lefkada island	1.87	203	P	Pb	04 16 33.5 0.0
LKD2	Lefkada island	1.87	203	*i* Pn	Pg	04 16 35.5 -0.1
LKD2	Lefkada island	1.87	203	P	Pg	04 16 35.1 -0.5
PVO	Paravola	1.89	182	P	Pb	04 16 33.8 0.0
PVO	Paravola	1.89	182	P	Pb	04 16 33.8 0.0
PVO	Paravola	1.89	182	P	Pn	04 16 34.3 +0.5
NVR	Nevrokopi	1.90	63	P	Pn	04 16 31.7 +0.2
NVR	Nevrokopi	1.90	63	P	Pn	04 16 31.7 +0.2
ANX	Ano Chora	1.93	173	P	Pb	04 16 33.5 -1.0
ANX	Ano Chora	1.93	173	P	Pb	04 16 33.5 -1.0
PDO	Prodromos	1.94	190	P	Pg	04 16 36.0 -0.9
PDO	Prodromos	1.94	190	P	Pb	04 16 35.2 +0.6
PDO	Prodromos	1.94	190	P	Pb	04 16 35.2 +0.6
SKIA	Skiathos	1.96	133	P	Pn	04 16 32.8 +0.5
SKIA	Skiathos	1.96	133	P	Pn	04 16 32.8 +0.5
SKIA	Skiathos	1.96	133	P	Pn	04 16 31.9 -0.3
SMIA	Simia	2.04	142	P	Pb	04 16 35.0 -1.4
SMIA	Simia	2.04	142	P	Pb	04 16 35.0 -1.4
SMIA	Simia	2.04	142	P	Pb	04 16 36.1 -0.4
EFP	Efpalio	2.09	174	P	Pb	04 16 36.1 -1.1
EFP	Efpalio	2.09	174	P	Pb	04 16 36.1 -1.1
EFP	Efpalio	2.09	174	P	Pb	04 16 36.3 -1.0
ATAL	Atalanti	2.12	149	P	Pb	04 16 36.1 -1.6
ATAL	Atalanti	2.12	149	P	Pb	04 16 36.1 -1.6
ATAL	Atalanti	2.12	149	P	Pb	04 16 36.3 -1.4
SERG	Sergoula	2.12	170	P	Pb	04 16 36.1 -1.7
SERG	Sergoula	2.12	170	P	Pb	04 16 36.1 -1.7
LKR	Lokris	2.14	149	P	Pn	04 16 36.1 +1.3
LKR	Lokris	2.14	149	P	Pn	04 16 36.1 +1.3
LKR	Lokris	2.14	149	P	Pn	04 16 35.6 +0.8
KALE	Kalithea	2.15	169	P	Pn	04 16 36.3 +1.3
KALE	Kalithea	2.15	169	P	Pn	04 16 36.3 +1.3
KALE	Kalithea	2.15	169	P	Pn	04 16 35.9 +0.9
TRIZ	Trizonia	2.17	170	P	Pn	04 16 36.6 +1.5
DSF	Desfina	2.21	161	P	Pn	04 16 37.1 +1.3
DSF	Desfina	2.21	161	P	Pn	04 16 37.1 +1.3
DSF	Desfina	2.21	161	P	Pn	04 16 36.9 +1.1
KAVA	Kavala	2.26	77	P	Pn	04 16 36.5 +0.1
KAVA	Kavala	2.26	77	P	Pn	04 16 36.5 +0.1
KAVA	Kavala	2.26	77	P	Pn	04 16 35.8 -0.5
LAKA	Lakka	2.28	173	P	Pb	04 16 38.8 -1.7
LAKA	Lakka	2.28	173	P	Pb	04 16 38.8 -1.7
LAKA	Lakka	2.28	173	P	Pb	04 16 39.8 -0.8
BARS	Barje	2.31	4	*e*Pn	Pn	04 16 37.8 +0.7
AXS	Araxos	2.32	185	P	Pb	04 16 41.7 +0.6
AXS	Araxos	2.32	185	P	Pb	04 16 41.7 +0.6
PVY	Plav	2.42	330	*e*Pn	Pn	04 16 39.6 +0.8
PVY				*e*Sn	Sn	04 17 10.2 +2.0
PVY	Plav	2.42	330	*e*Pn	Pn	04 16 39.6 +0.8
PVY				*e*Sn	Sn	04 17 10.2 +2.0
VLS	Valsamata	2.46	199	P	Pb	04 16 42.0 -1.5
VLS	Valsamata	2.46	199	P	Pn	04 16 41.1 +2.0
PROD	Prodromos	2.46	156	P	Pn	04 16 39.8 +0.7
PROD	Prodromos	2.46	156	P	Pn	04 16 39.8 +0.7
DRME	Dracevica, Mon	2.48	313	⇓*i* Pn	Pn	04 16 40.9 +1.5
DRME				*e*Sn	Sn	04 17 12.0 +2.7
DRME	Dracevica, Mon	2.48	313	⇓*i* Pn	Pn	04 16 40.9 +1.5
DRME				*e*Sn	Sn	04 17 12.0 +2.7
KFL	Anninata	2.48	195	P	Pb	04 16 42.6 -1.3
KFL	Anninata	2.48	195	P	Pb	04 16 42.6 -1.3
KFL	Anninata	2.48	195	P	Pb	04 16 42.6 -1.3
KLV	Kalavryta, Ach	2.50	170	P	Pn	04 16 41.3 +1.5
KLV	Kalavryta, Ach	2.50	170	P	Pn	04 16 41.2 +1.5
KLV	Kalavryta, Ach	2.50	170	P	Pn	04 16 41.2 +1.4
DRO	Drossia	2.55	178	P	Pb	04 16 44.0 -1.2
DRO	Drossia	2.55	178	P	Pb	04 16 44.0 -1.2
DRO	Drossia	2.55	178	P	Pb	04 16 44.6 -0.5
THAL	Thalero	2.60	161	P	Pn	04 16 42.0 +0.9
THAL	Thalero	2.60	161	P	Pn	04 16 42.0 +0.9
PDG	Podgorica	2.61	318	P	Pn	04 16 43.4 +2.2
PDG	Podgorica	2.61	318	⇓*i* Pn	Pn	04 16 42.9 +1.7
PDG	Podgorica	2.61	318	P	Pn	04 16 43.4 +2.2
PDG				*e*Sn	Sb	04 17 17.2 -0.7
TTG	Podgorica	2.61	318	⇓*i* Pn	Pn	04 16 42.9 +1.7
TTG				*e*Sn	Sb	04 17 17.2 -0.7
VILL	Villia	2.69	150	P	Pn	04 16 44.0 +1.7
VILL	Villia	2.69	150	P	Pn	04 16 44.0 +1.7
BEY	Berane	2.69	332	⇑*i* Pn	Sn	04 16 43.2 +0.8
BEY				*e*Sn	Sn	04 17 16.8 +2.2
IVA	Berane	2.69	332	⇑*i* Pn	Sn	04 16 43.2 +0.8
IVA				*e*Sn	Sn	04 17 16.8 +2.2
LTK	Loutraki	2.70	157	P	Pn	04 16 43.6 +1.2
LTK	Loutraki	2.70	157	P	Pn	04 16 43.6 +1.2
LTK	Loutraki	2.70	157	P	Pn	04 16 43.0 +0.6
BUM	Brajici-Budva	2.72	312	*e*Pn	Pn	04 16 43.9 +1.1
BUM				*e*Sn	Sn	04 17 17.7 +2.4
BUM	Brajici-Budva	2.72	312	*e*Pn	Pn	04 16 43.9 +1.1
BUM				*e*Sn	Sn	04 17 17.7 +2.4
EREA	Eretria	2.75	138	P	Pn	04 16 44.6 +1.3
EREA	Eretria	2.75	138	P	Pn	04 16 44.5 +1.3
EREA	Eretria	2.75	138	P	Pn	04 16 44.5 +1.3
LIA	Limnos Island	2.80	101	P	Pn	04 16 43.5 -0.4
CEME	Cevo	2.87	316	*e*Pn	Pn	04 16 46.3 +1.5
CEME				*e*Sn	Sn	04 17 21.6 +2.5
CEME	Cevo	2.87	316	*e*Pn	Pn	04 16 46.3 +1.5
CEME				*e*Sn	Sn	04 17 21.6 +2.5
ZKS	Zakynthos	2.88	193	P	Pb	04 16 48.2 -2.0
ZKS	Zakynthos	2.88	193	P	Pb	04 16 48.2 -2.5
ZKS	Zakynthos	2.88	193	P	Pb	04 16 48.7 -2.0
SMTH	Samothraki Isl	2.99	89	P	Pn	04 16 45.0 -1.4
SMTH	Samothraki Isl	2.99	89	P	Pn	04 16 45.0 -1.4
NKME	Niksic	3.01	319	⇓*i* Pn	Pn	04 16 47.9 +1.1
NKME				*e*Sn	Sn	04 17 24.6 +2.1
NKME	Niksic	3.01	319	⇓*i* Pn	Pn	04 16 47.9 +1.1
NKME				*e*Sn	Sn	04 17 24.6 +2.1
PTL	Penteli	3.02	144	P	Pn	04 16 47.0 +0.2
PTL	Penteli	3.02	144	P	Pn	04 16 47.0 +0.2
NKY	Niksic	3.02	320	⇑*i* Pn	Pn	04 16 47.9 +0.9
NKY				*e*Sn	Sn	04 17 24.9 +2.0
NKY	Niksic	3.02	320	⇑*i* Pn	Pn	04 16 47.9 +0.9
NKY				*e*Sn	Sn	04 17 24.9 +2.0
HCY	Herceg Novi	3.04	311	⇑*i* Pn	Pn	04 16 47.9 +0.8
HCY				*e*Sn	Sn	04 17 25.2 +2.1
HCY	Herceg Novi	3.04	311	⇑*i* Pn	Pn	04 16 47.9 +0.8
HCY				*e*Sn	Sn	04 17 25.2 +2.1
BOVS	Bovan	3.13	1	*e*Pn	Pn	04 16 48.6 +0.3
VLY	Voula,Athens	3.15	147	P	Pn	04 16 50.1 +1.5
VLY	Voula,Athens	3.15	147	P	Pn	04 16 50.1 +1.5
IVAS	Ivanjica	3.25	341	*e*Pn	Pn	04 16 50.2 +0.1
DID	Didima	3.25	157	P	Pn	04 16 51.7 +1.6
DID	Didima	3.25	157	P	Pn	04 16 51.7 +1.6
DID	Didima	3.25	157	P	Pn	04 16 50.5 +0.4
PLE	Pljevlja	3.27	330	⇓*i* Pn	Pn	04 16 51.1 +0.7
PLE				*e*Sn	Sn	04 17 30.9 +1.9
PLE	Pljevlja	3.27	330	⇓*i* Pn	Pn	04 16 51.1 +0.7
PLE				*e*Sn	Sn	04 17 30.9 +1.9
GADA	Gvkgeada	3.29	94	*e*PN	Pn	04 16 51.1 +0.5
GADA	Gvkgeada	3.29	94	*e*Pn	Pn	04 16 51.1 +0.5
TREB	Trebinje	3.29	313	*e*Pn	Pn	04 16 51.7 +1.1
TAR1	Taranto	3.30	272	*e*Pn	Pn	04 16 51.1 +0.5
BRY	Bratogost	3.32	317	⇑*i* Pn	Pn	04 16 52.4 +1.3
BRY				*e*Sn	Sn	04 17 32.1 +1.9
BRY	Bratogost	3.32	317	⇑*i* Pn	Pn	04 16 52.4 +1.3
BRY				*e*Sn	Sn	04 17 32.1 +1.9
BOLS	Boljevac	3.33	4	*e*Pn	Pn	04 16 49.9 -1.2
KRND	KRANIDI	3.34	158	P	Pn	04 16 52.2 +0.9
KRND	KRANIDI	3.34	158	P	Pn	04 16 52.1 +0.9
UPM	Unac-Piva	3.37	324	⇓*i* Pn	Pn	04 16 53.5 +1.7
UPM				*e*Sn	Sn	04 17 33.5 +2.0
UPM	Unac-Piva	3.37	324	⇓*i* Pn	Pn	04 16 53.5 +1.7
UPM				*e*Sn	Sn	04 17 33.5 +2.0
ALN	Alexandroupoli	3.40	82	*e*PN	Pn	04 16 52.5 +0.5
ALN	Alexandroupoli	3.40	82	P	Pn	04 16 51.5 -0.5
ALN	Alexandroupoli	3.40	82	*e*Pn	Pn	04 16 52.5 +0.5
ALN	Alexandroupoli	3.40	82	P	Pn	04 16 51.5 -0.5
GRUS	Gruza	3.44	349	*e*Pn	Pn	04 16 53.3 +0.6
ENEZ	Enez	3.47	85	*e*PN	Pn	04 16 53.6 +0.6
ENEZ	Enez	3.47	85	*e*Pn	Pn	04 16 53.6 +0.6
BOZC	Bozcaada	3.47	100	*i* P	Pn	04 16 51.0 -2.0
BOZC				*i* S	Sn	04 17 28.7 -5.1
SIGR	SIGRI	3.52	110	*e*PN	Pn	04 16 54.7 +1.1
SIGR	SIGRI	3.52	110	P	Pn	04 16 54.0 +0.4
SIGR	SIGRI	3.52	110	*e*Pn	Pn	04 16 54.7 +1.1
SIGR	SIGRI	3.52	110	P	Pn	04 16 54.0 +0.4
PYL	PYLOS	3.61	178	P	Pn	04 16 57.2 +2.2
PYL	PYLOS	3.61	178	P	Pn	04 16 57.2 +2.2
PYL	PYLOS	3.61	178	P	Pn	04 16 57.3 +2.4
BAI	Bari	3.64	281	*e*Pn	Pn	04 16 56.1 +0.8
BAI				*e*Sn	Sn	04 17 36.5 -1.4
EZN	Ezine	3.68	99	*e*PN	Pn	04 16 56.4 +0.5
EZN	Ezine	3.68	99	*e*Pn	Pn	04 16 56.4 +0.5
GELI	Tayfur-Gelibol	3.71	90	*e*PN	Pn	04 16 57.0 +0.6
GELI	Tayfur-Gelibol	3.71	90	*e*Pn	Pn	04 16 57.0 +0.6
BBLS	Lazići	3.73	335	*e*Pn	Pn	04 16 57.5 +0.8
ERIK	Erikli-Kesan	3.74	86	*e*PN	Pn	04 16 57.1 +0.5
ERIK	Erikli-Kesan	3.74	86	*e*Pn	Pn	04 16 57.2 +0.5
SG1	Sgolgore (BA)	3.76	277	*e*Pn	Pn	04 16 58.1 +1.0
SG1				*e*Sn	Sn	04 17 40.6 -0.5
DIVS	Divibare	3.78	342	P	Pn	04 16 58.1 +0.7
DIVS	Divibare	3.78	342	P	Pn	04 16 58.1 +0.7
TRUS	Trudelj	3.82	347	*e*Pn	Pn	04 16 58.2 +0.4
KESN	Edirne-Kesan	3.87	84	P	Pn	04 16 58.8 -0.1
KESN				S	Sn	04 17 41.1 -3.0
KESN	Edirne-Kesan	3.87	84	*i* P	Pn	04 16 58.8 -0.1
KESN				*i* S	Sn	04 17 41.1 -3.0
KUBS	Kucevo	3.90	1	*e*Pn	Pn	04 16 57.4 -1.6
VLI	Veliai	3.92	164	P	Pn	04 16 59.2 -0.1
VLI	Veliai	3.92	164	P	Pn	04 16 59.2 -0.1
CHOS	Chios island	4.04	120	*e*PN	Pn	04 17 02.0 +1.0
CHOS	Chios island	4.04	120	*e*Pn	Pn	04 17 02.0 +1.0
CDT	Castel del Mon	4.09	280	*e*Pn	Pn	04 17 02.5 +0.9
CDT				*e*Sn	Sn	04 17 48.8 -0.3
RKY	Sarkoy-Tekirda	4.24	86	*e*PN	Pn	04 17 04.7 +1.0
RKY	Sarkoy-Tekirda	4.24	86	*e*Pn	Pn	04 17 04.7 +1.0
MDVR	Moldovita	4.27	1	⇑*i* P	Pn	04 17 03.6 -0.5
MDVR	Moldovita	4.27	1	⇑*i* P	Pn	04 17 03.6 -0.5
TEKS	Tekeris	4.32	340	*e*Pn	Pn	04 17 05.4 +0.6
DKL	Dikili	4.33	108	*e*PN	Pn	04 17 05.8 +1.1
DKL	Dikili	4.33	108	*e*Pn	Pn	04 17 05.8 +1.1
MS1	Monte Sant'Ang	4.45	287	*e*Pn	Pn	04 17 06.7 +0.2
MS1				*e*Sn	Sn	04 17 55.5 -2.4
MRMT	Marmara Adasi	4.56	87	*e*PN	Pn	04 17 08.9 +0.8
MRMT	Marmara Adasi	4.56	87	*e*Pn	Pn	04 17 08.9 +0.8
APE	Apeiranthos	4.60	137	*e*PN	Pn	04 17 10.4 +1.7
APE	Apeiranthos	4.60	137	*e*Pn	Pn	04 17 10.4 +1.7
BALY	Balya	4.67	98	P	Pn	04 17 10.8 +1.2
BALY	Balya	4.67	98	*i* P	Pn	04 17 10.8 +1.2
FGSL	Fruska Gora	4.83	345	*e*Pn	Pn	04 17 12.1 +0.3
BALB	Balikesir	4.89	98	*e*PN	Pn	04 17 13.8 +1.3
BALB	Balikesir	4.89	98	*e*Pn	Pn	04 17 13.8 +1.3
BZS	Buzias	5.11	0	⇑*i* P	Pn	04 17 15.6 +0.1
BZS	Buzias	5.11	0	⇑*i* P	Pn	04 17 15.6 +0.1
KCTX	Karacabey (Bur	5.16	91	*e*PN	Pn	04 17 17.4 +1.1
KCTX	Karacabey (Bur	5.16	91	*e*Pn	Pn	04 17 17.4 +1.1
LOT	Lotru	5.18	17	⇑*i* P	Pn	04 17 19.2 +2.5
LOT	Lotru	5.18	17	⇑*i* P	Pn	04 17 19.2 +2.5
ARR	Arges	5.34	24	⇑*i* P	Pn	04 17 19.0 +0.2
ARR	Arges	5.34	24	⇑*i* P	Pn	04 17 19.0 +0.2
BLY	Banja Luka	5.35	324	*e*Pn	Pn	04 17 20.1 +1.3
MTUR	Matau	5.35	27	⇑*i* P	Pn	04 17 21.0 +2.0
MTUR	Matau	5.35	27	⇑*i* P	Pn	04 17 21.0 +2.0
AYDB	Zeytinkoy-Aydi	5.51	116	*e*PN	Pn	04 17 22.7 +1.6
AYDB	Zeytinkoy-Aydi	5.51	116	*e*Pn	Pn	04 17 22.7 +1.6
VOIR		5.54	26	⇑*i* P	Pn	04 17 22.0 +0.5
VOIR		5.54	26	⇑*i* P	Pn	04 17 22.0 +0.5
BODT	Bodrum	5.63	126	*e*PN	Pn	04 17 24.5 +1.8
BODT	Bodrum	5.63	126	*e*Pn	Pn	04 17 24.5 +1.8
KULA	Kula-Manisa	5.80	108	*e*PN	Pn	04 17 26.7 +1.5
KULA	Kula-Manisa	5.80	108	*e*Pn	Pn	04 17 26.7 +1.5
IDI	Anoyia	5.82	153	P	Pn	04 17 27.1 +1.6
	comp=N,0.8nm,0.3s,baz=336,slow=10.0,SNR=5.1					
IDI				S	Sn	04 18 32.0 +0.1
	comp=N,1.2nm,0.3s,baz=342,slow=20,SNR=3.3					
UDBI	Udbina	5.90	315	*i* Pn	Pn	04 17 27.9 +1.5
UDBI				S	Sn	04 18 32.7 -1.1
UDBI	Udbina	5.90	315	*i* Pn	Pn	04 17 27.9 +1.5
UDBI				S	Sn	04 18 32.6 -1.1
MLR	Muntele Rosu	5.91	31	P	Pn	04 17 28.1 +1.4
	comp=N,0.2nm,0.3s,baz=274,slow=20,SNR=9.4					
MLR				S	Sn	04 18 36.3 +2.3
	comp=N,0.0nm,0.3s,baz=136,slow=18,SNR=3.3					
MLR	Muntele Rosu	5.91	31	⇑*i* P	Pn	04 17 29.5 +2.9
MLR	Muntele Rosu	5.91	31	⇑*i* P	Pn	04 17 29.5 +2.9
DRGR		6.33	7	⇑*i* P	Pn	04 17 33.2 +0.8
DRGR		6.33	7	⇑*i* P	Pn	04 17 33.2 +0.8
NVLJ	Novalja	6.42	311	*i* Pn	Pn	04 17 33.6 +0.1
NVLJ				S	Sn	04 18 45.0 -1.3
NVLJ	Novalja	6.42	311	*i* Pn	Pn	04 17 33.5 +0.1
PLOR	Plostina	6.49	33	⇑*i* P	Pn	04 17 37.0 +2.5
PLOR	Plostina	6.49	33	⇑*i* P	Pn	04 17 37.0 +2.5
VRI	Vrincioaia	6.53	33	⇑*i* P	Pn	04 17 37.3 +2.2
VRI	Vrincioaia	6.53	33	⇑*i* P	Pn	04 17 37.3 +2.2
GULT	Gulveren	6.79	88	*e*PN	Pn	04 17 40.6 +1.9
GULT	Gulveren	6.79	88	*e*Pn	Pn	04 17 40.6 +1.9
BOJS	Bojanci	6.83	319	*i* Pn	Pn	04 17 39.7 +0.6
BOJS				*i* Sn	Sn	04 18 53.7 -2.8
BOJS	Bojanci	6.83	319	*i* Pn	Pn	04 17 39.7 +0.6
CRES	Cresnjev	6.96	322	*e*Pn	Pn	04 17 41.3 +0.3
BUD	Budapest	7.22	346	⇓*e*PKiKP	Pn	04 17 45.9 +1.4
VISS	Visnje	7.24	319	*i* Pn	Pn	04 17 45.4 +0.5
VISS				*i* Sn	Sn	04 19 01.1 -5.6
VISS	Visnje	7.24	319	*i* Pn	Pn	04 17 45.4 +0.5
CEY	Cerknica	7.41	317	*e*Pn	Pn	04 17 47.1 -0.1
PSZ	Piszkesteto	7.51	351	⇑*i* P	Pn	04 17 49.5 +0.9
PSZ	Piszkesteto	7.51	351	⇑*e*PKiKP	Pn	04 17 49.3 +0.7
PSZ	Piszkesteto	7.51	351	⇑*e*P	Pn	04 17 49.3 +0.7
JAVS	Javornik	7.70	317	*i* Pn	Pn	04 17 51.2 0.0
JAVS	Javornik	7.70	317	*i* Pn	Pn	04 17 51.2 0.0
SOKA	Soboth	7.80	324	*e*Pn	Pn	04 17 53.0 +0.5
	comp=N,1.9nm,0.2s					
SOKA	Soboth	7.80	324	Pn	Pn	04 17 53.0 +0.5
	comp=N,1.9nm,0.2s					
OBKA	Obir	7.89	322	*e*Pn	Pn	04 17 55.5 +1.7
	comp=N,2.1nm,0.4s					
OBKA				*e*Sn	Sn	04 19 26.4 +3.6
	comp=N,6.6nm,0.4s					
OBKA	Obir	7.89	322	Pn	Pn	04 17 55.5 +1.7
	comp=N,2.1nm,0.4s					
OBKA				Sn	Sn	04 19 26.4 +3.6
	comp=N,6.6nm,0.4s					
KECS	Kecovo	8.01	355	*e*Pn	Pn	04 17 55.1 -0.3
KECS	Kecovo	8.01	355	*e*PN	Pn	04 17 55.1 -0.3
ARSA	Arzberg	8.04	329	*i* Pn	Pn	04 17 57.9 +2.0
	comp=N,3.1nm,0.4s					
ARSA	Arzberg	8.04	329	Pn	Pn	04 17 57.9 +2.0
	comp=N,3.1nm,0.4s					
KIZT	Kizilcal	8.09	98	*e*Pn	Pn	04 17 58.5 +2.0
VYHS	Vyhne	8.23	347	*e*Pn	Pn	04 18 00.0 +1.7
VYHS	Vyhne	8.23	347	*e*PN	Pn	04 18 00.0 +1.7
VYHS				*e*SN	Sn	04 19 25.6 -5.3
CONA	Conrad Observa	8.49	333	Pn	Pn	04 18 05.6 +3.7
	comp=N,0.5nm,0.3s					
KBA	Koelnbreinsper	8.88	320	*i* Pn	Pn	04 18 08.4 +1.0
	comp=N,1.0nm,0.3s					
KBA				*i* Sn	Sn	04 19 43.6 -3.6
	comp=N,1.1nm,0.4s					
KBA	Koelnbreinsper	8.88	320	Pn	Pn	04 18 08.4 +1.0
	comp=N,1.0nm,0.3s					
MOA	Molln	9.04	327	*i* Pn	Pn	04 18 11.0 +1.5
MOA				*i* Sn	Sn	04 19 53.0 +2.2
	comp=N,1.5nm,0.4s					
MOA	Molln	9.04	327	Pn	Pn	04 18 11.0 +1.5
MOA				Sn	Sn	04 19 53.0 +2.2
	comp=N,1.5nm,0.4s					
ABTA	Abfaltersbach	9.07	316	*i* Pn	Pn	04 18 10.4 +0.4
	comp=N,1.5nm,0.3s					
ABTA	Abfaltersbach	9.07	316	Pn	Pn	04 18 10.4 +0.4
	comp=N,1.5nm,0.3s					
BRTR	Keskin Array B	9.25	91	P	Pn	04 18 14.0 +1.5
	comp=N,0.2nm,0.3s,baz=262,slow=11,SNR=7.5					
VRAC	Vranov	9.49	340	LR	LR	04 23 13.0
	comp=N,45nm,18.3s,baz=175,slow=46					
WTTA	Wattenberg	9.87	316	*e*Pn	Pn	04 18 21.1 +0.1
	comp=N,0.7nm,0.3s					
WTTA				*e*Sn	Sn	04 20 08.5 -2.9
	comp=N,5.6nm,0.5s					
WTTA	Wattenberg	9.87	316	Pn	Pn	04 18 21.1 +0.1
	comp=N,0.7nm,0.3s					
WATA	Walderalm	9.94	317	*e*Pn	Pn	04 18 23.4 +1.4
	comp=N,1.6nm,0.2s					
WATA	Walderalm	9.94	317	Pn	Pn	04 18 23.4 +1.4
	comp=N,1.6nm,0.2s					
GERES	GERESS Array B	10.05	329	P	Pn	04 18 24.2 +0.8
	comp=N,0.1nm,0.3s,baz=150,slow=14,SNR=10					
GERES				LR	LR	04 23 18

AGG	Agios Georgios	1.61	160	P		Pn	04 19 25.1	+0.7
AGG	Agios Georgios	1.61	160	P		Pn	04 19 25.1	+0.7
EVR	Evrytania	1.63	175	P		Pn	04 19 24.9	+0.2
EVR	Evrytania	1.63	175	P		Pn	04 19 24.9	+0.2
NEO	Neokhori	1.74	134	P		Pn	04 19 25.5	-0.7
NEO	Neokhori	1.74	134	P		Pn	04 19 25.5	-0.7
OUR	Ouranopolis	1.81	96	P		Pn	04 19 27.6	+0.5
OUR	Ouranopolis	1.81	96	P		Pn	04 19 27.6	+0.5
LKD2	Lefkada island	1.90	203	P		Pb	04 19 30.6	-0.2
LKD2	Lefkada island	1.90	203	P		Pb	04 19 30.6	-0.2
PVO	Paravola	1.92	182	P		Pn	04 19 30.1	+1.5
PVO	Paravola	1.92	182	P		Pn	04 19 30.1	+1.5
ANX	Ano Chora	1.96	173	P		Pn	04 19 30.3	+1.0
ANX	Ano Chora	1.96	173	P		Pn	04 19 30.3	+1.0
PDO	Prodromos	1.97	190	P		Pn	04 19 28.0	-1.3
PDO	Prodromos	1.97	190	P		Pn	04 19 28.0	-1.3
SKIA	Skiathos	1.98	133	P		Pn	04 19 29.1	-0.3
SKIA	Skiathos	1.98	133	P		Pn	04 19 29.1	-0.3
EFP	Efpalio	2.12	174	P		Pn	04 19 33.0	+1.6
EFP	Efpalio	2.12	174	P		Pn	04 19 33.0	+1.6
KALE	Kalithea	2.19	169	P		Pn	04 19 32.9	+0.6
KALE	Kalithea	2.19	169	P		Pn	04 19 32.9	+0.6
TRIZ	Trizonia	2.20	171	P		Pn	04 19 33.5	+1.0
DSF	Desfina	2.24	161	P		Pn	04 19 33.2	+0.1
DSF	Desfina	2.24	161	P		Pn	04 19 33.1	+0.1
LAKA	Lakka	2.31	173	P		Pn	04 19 34.9	+0.8
LAKA	Lakka	2.31	173	P		Pn	04 19 34.9	+0.8
PROD	Prodromos	2.49	156	P		Pn	04 19 36.8	+0.4
PROD	Prodromos	2.49	156	P		Pn	04 19 36.8	+0.4
DRO	Drossia	2.59	178	P		Pn	04 19 40.5	+2.7
DRO	Drossia	2.59	178	P		Pn	04 19 40.5	+2.7
UDBI	Udbina	5.88	315	*e*Pn		Pn	04 20 24.8	+1.7
UDBI				Sn		Sn	04 21 30.1	-0.3
UDBI	Udbina	5.88	315	*e*Pn		Pn	04 20 24.7	+1.7
UDBI				Sn		Sn	04 21 30.0	-0.3
NVLJ	Novalja	6.40	311	*i* Pn		Pn	04 20 30.0	-0.2
NVLJ				Sn		Sn	04 21 39.7	-3.4
NVLJ	Novalja	6.40	311	*i* Pn		Pn	04 20 29.9	-0.2

ISCJB **22** *04:25:59.3±0.5, 70.°93N±0.°06×6.°56W±0.°09, h16km, mb3.2/2, MS2.9/2, Error ellipse: s-maj=8.1km s-min=4.0km az=179.7*

NAO **22** *04:25:59.0±2.0, 70.°78N×6.°69W, ML3.7*

CSEM **22** *04:26:00.1±0.3, 70.°83N×6.°71W, h10km, ML4.0, Error ellipse: s-maj=10.4km s-min=4.9km az=8.0*

BER **22** *04:26:01.1±2.6, 70.°75N×6.°85W, h10km, ML4.0, ML3.7(NAO)*

IDC **22** *04:26:01.8±1.5, 70.°71N×6.°32W, h0km, mb3.2/2, mb1 3.6/5, mb1mx3.3/36, mbtmp3.5/5, ML3.2/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/25, Error ellipse: s-maj=58.8km s-min=23.8km az=48.0*

ISC 22 04:26:00.9±0.7, 70.°86N±0.°09×6.°73W±0.°04, h16km, n46, σ1°29/48, 6C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.53**	**285**	⇑*i*P		**Pg**		**04 26 11.0**	**-0.3**
JNE				*e*S		**Sg**		**04 26 18.3**	**-0.2**
JNE				IAML				04 26 20.2	
	comp=Z,14μm,0.3s								
JNE	**Jan Mayen East**	**0.53**	**285**	⇑*i*P		**Pg**		**04 26 11.0**	**-0.3**
	SNR=100								
JNE				*e*S		**Sg**		**04 26 18.3**	**-0.2**
	SNR=100								
JNW	**Jan Mayen West**	**0.58**	**287**	⇑*i*P		**Pg**		**04 26 11.6**	**-0.7**
JNW				*e*S		**Sg**		**04 26 18.9**	**-1.1**
JNW				IAML				04 26 19.8	
	comp=Z,12μm,0.2s								
JNW	**Jan Mayen West**	**0.58**	**287**	⇑*i*P		**Pg**		**04 26 11.6**	**-0.7**
	SNR=99								
JNW				*e*S		**Sg**		**04 26 18.9**	**-1.1**
	SNR=99								
JMIC	**Jan Mayen**	**0.60**	**283**	Lg		Lg		04 26 20.0	
JMIC	**Jan Mayen**	**0.60**	**283**	Lg		Lg		04 26 20.0	
JMIC	**Jan Mayen**	**0.60**	**283**	Lg		Lg		04 26 20.0	
	SNR=70								
JMI	**Jan Mayen**	**0.66**	**277**	⇑*i*P		**Pb**		**04 26 13.4**	**-0.6**
JMI				*e*S		**Sg**		**04 26 21.6**	**-1.0**
JMI				IAML				04 26 26.4	
	comp=Z,5μm,0.4s								
JMI	**Jan Mayen**	**0.66**	**277**	⇑*i*P		**Pb**		**04 26 13.4**	**-0.6**
	SNR=70								
JMI				*e*S		**Sg**		**04 26 21.6**	**-1.0**
	SNR=70								
DAG	**Danmarks Havn**	**6.79**	**336**	*i* P		**Pn**		**04 27 37.9**	**-1.7**
DAG				*i* S		Sn		04 28 47.4	-9.0
LOF	**Lofoten**	**7.61**	**101**	*e*Pn		**Pn**		**04 27 50.1**	**-0.7**
LOF	**Lofoten**	**7.61**	**101**	*e*Pn		**Pn**		**04 27 50.1**	**-0.7**
	SNR=50								
HSPB	**Hornsund (broa**	**8.64**	**35**	*e*Pn		**Pn**		**04 28 06.2**	**+1.2**
HSPB	**Hornsund (broa**	**8.64**	**35**	*e*Pn		**Pn**		**04 28 06.2**	**+1.2**
	SNR=50								
HSP	**Hornsund**	**8.65**	**35**	Pn		**Pn**		**04 28 06.2**	**+1.1**
TRO	**Tromso**	**8.74**	**86**	*e*Pn		**Pn**		**04 28 05.0**	**-1.4**
TRO	**Tromso**	**8.74**	**86**	*e*Pn		**Pn**		**04 28 05.0**	**-1.4**
	SNR=50								
BRBA	**Barentsburg A**	**9.07**	**28**	Pn		**Pn**		**04 28 11.5**	**+0.7**
	SNR=50								
KBS	**Kingsbay**	**9.37**	**22**	Pn		**Pn**		**04 28 15.6**	**+0.6**
KBS	**Kingsbay**	**9.37**	**22**	*e*Pn		**Pn**		**04 28 16.0**	**+1.0**
KBS	**Kingsbay**	**9.37**	**22**	*i* P		**Pn**		**04 28 15.2**	**+0.2**
	SNR=46								
KBS	**Kingsbay**	**9.37**	**22**	*e*Pn		**Pn**		**04 28 16.0**	**+1.0**
	SNR=50								
SPA0	**Spitsbergen Ar**	**9.49**	**29**	Pn		**Pn**		**04 28 18.4**	**+1.8**
	baz=216,slow=16								
SPA0	**Spitsbergen Ar**	**9.49**	**29**	Pn		**Pn**		**04 28 18.4**	**+1.8**
	baz=216,slow=16								
SPA0	**Spitsbergen Ar**	**9.49**	**29**	Pn		**Pn**		**04 28 18.4**	**+1.8**
	SNR=50								
SUMG	**Summit**	**10.03**	**295**	*i* P		**Pn**		**04 28 26.1**	**+1.7**
SUMG	**Summit**	**10.03**	**295**	*e*P		**Pn**		**04 28 26.1**	**+1.7**
HOPEN	**Hopen**	**10.42**	**43**	Pn		**Pn**		**04 28 31.4**	**+2.1**
HOPEN	**Hopen**	**10.42**	**43**	*e*Pn		**Pn**		**04 28 31.0**	**+1.7**
HOPEN	**Hopen**	**10.42**	**43**	*e*Pn		**Pn**		**04 28 31.0**	**+1.7**
	SNR=50								
ARA0	**ARCESS Array S**	**10.93**	**82**	Pn		**Pn**		**04 28 36.5**	**+0.1**
	baz=294,slow=12								
ARA0				Sn		**Sn**		**04 30 35.2**	**-2.9**
	baz=277,slow=22								
ARA0	**ARCESS Array S**	**10.93**	**82**	Pn		**Pn**		**04 28 36.5**	**+0.1**
	baz=294,slow=12								
ARA0				Sn		**Sn**		**04 30 35.2**	**-2.9**
	baz=277,slow=22								
ARA0	**ARCESS Array S**	**10.93**	**82**	Pn		**Pn**		**04 28 36.5**	**+0.1**
	SNR=50								
HFS	**Hagfors**	**13.59**	**132**	Pn		**Pn**		**04 29 13.5**	**+0.8**
	baz=326,slow=14								
HFS	**Hagfors**	**13.59**	**132**	Pn		**Pn**		**04 29 13.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=338,slow=12,SNR=7.6								
HFS	**Hagfors**	**13.59**	**132**	Pn		**Pn**		**04 29 13.5**	**+0.8**
	baz=326,slow=14								
HFS	**Hagfors**	**13.59**	**132**	Pn		**Pn**		**04 29 13.5**	**+0.8**
	SNR=50								
EKA	**Eskdalemuir Ar**	**15.67**	**172**	Pn		**P**		**04 29 42.5**	**-2.2**
	baz=6.3,slow=14,SNR=3.3								
FIA0	**FINESS Array S**	**16.03**	**109**	P		**Pn**		**04 29 45.4**	**+0.1**
	baz=315,slow=10								
FIA0	**FINESS Array S**	**16.03**	**109**	Pn		**Pn**		**04 29 45.4**	**+0.1**
	baz=315,slow=10								
FIA0	**FINESS Array S**	**16.03**	**109**	Pn		**Pn**		**04 29 45.4**	**+0.1**
	SNR=50								
FINES	**FINESS Array B**	**16.03**	**109**	Pn		**Pn**		**04 29 45.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=317,slow=10,SNR=3.9								
FINES				LR		LR		04 34 51.4	
	comp=Z,40nm,19.5s,baz=34,slow=33								
GERES	**GERESS Array B**	**24.09**	**146**	LR		LR		04 40 46.5	
	comp=Z,30nm,18.1s,baz=310,slow=37								
NRIK	**Noril'sk**	**29.09**	**47**	LR		LR		04 45 45.8	
	comp=Z,36nm,18.1s,baz=327,slow=41								
YKA	**Yellowknife Ar**	**37.90**	**314**	P		P		04 33 21.7	+5.2
	comp=Z,0.2nm,0.6s,baz=30,slow=8.5,SNR=3.6								
TORD	**Torodi Ar. Bea**	**57.92**	**170**	P		**P**		**04 35 53.8**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=354,slow=6.4,SNR=3.2								

IDC **22** *04:28:01.1±2.5, 37.°65N×141.°89E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.2/31, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=48.5km s-min=37.4km az=40.0*

JMA **22** *04:28:09.8±0.1, 37.°52N×141.°38E, h50km±1km, M3.5*

JMA Felt I J1.

ISC 22 04:28:07.2±1.9, 37.°53N±0.°05×141.°59E±0.°09, h27km±12km, n14, σ1°45/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.59**	**254**	P		**Pn**		**04 28 20.2**	**+0.3**
JFK				S		**Sb**		**04 28 27.3**	**+0.2**
JMM	**Marumori**	**0.72**	**298**	P		**Pn**		**04 28 22.1**	**+0.5**
JMM				S		**Sb**		**04 28 30.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.76**	**236**	P		**Pn**		**04 28 22.5**	**+0.2**
ONAJ				S		**Sb**		**04 28 31.2**	**-0.8**
JIO	**Ouri**	**0.94**	**348**	P		**Pn**		**04 28 26.4**	**+1.7**
JIO				S		**Sn**		**04 28 38.0**	**+0.7**
JFT	**Otama**	**1.00**	**270**	P		**Pb**		**04 28 25.8**	**-0.1**
JFT				S		**Sb**		**04 28 37.4**	**-1.2**
JOU	**Okura**	**1.11**	**319**	P		**Pn**		**04 28 27.5**	**+0.5**
JOU				S		**Sb**		**04 28 41.5**	**-0.4**
JYS	**Shirataka**	**1.39**	**300**	P		**Pn**		**04 28 31.3**	**+0.4**
JYS				S		**Sn**		**04 28 48.2**	**-0.2**
JMK	**Ichinoseki**	**1.45**	**349**	P		**Pb**		**04 28 33.7**	**+0.1**
JMK				S		**Sn**		**04 28 50.6**	**+0.8**
JFY	**Yanaizu**	**1.50**	**266**	P		**Pn**		**04 28 32.3**	**-0.2**
JFY				*e*S		**Sn**		**04 28 49.7**	**-1.5**
JYK	**Kaneyama**	**1.69**	**325**	P		**Pn**		**04 28 36.2**	**+1.2**
JYK				*e*S		**Sn**		**04 28 55.8**	**0.0**
MJAR	**Matsushiro Arr**	**2.88**	**251**	Pn		**Pn**		**04 28 52.5**	**+1.1**
	1.1nm,0.3s,baz=61,slow=9.3,SNR=5.5								
MJAR				Sn		**Sn**		**04 29 29.3**	**+4.1**
	1.6nm,0.3s,baz=44,slow=14,SNR=4.6								
MAT	**Matsushiro**	**2.88**	**251**	P		**Pn**		**04 28 53.1**	**+1.7**
MAT				S		**Sn**		**04 29 28.6**	**+3.4**
MKAR	**Makanchi Array**	**43.98**	**302**	P		**P**		**04 36 10.8**	**-1.2**
	0.2nm,0.5s,baz=80,slow=9.2,SNR=3.8								
WRA	**Warramunga Arr**	**57.57**	**188**	P		**P**		**04 37 53.5**	**-1.1**
	0.3nm,0.7s,baz=4.5,slow=7.3,SNR=4.0								

ISCJB **22** *04:44:11.3±0.6, 4.°09S±0.°09×152.°7E±0.°1, h33km, mb4.0/12, MS3.2/1, Error ellipse: s-maj=18.5km s-min=8.6km az=36.9*

IDC **22** *04:44:14.4±2.6, 4.°14S×152.°71E, h45km±23km, mb3.8/10, mb1 4.0/11, mb1mx3.7/40, mbtmp4.1/11, ML2.0/1, MS3.3/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=25.0km s-min=16.2km az=110.0*

NEIC **22** *04:44:17.4±2.5, 4.°21S×152.°69E, h74km±22km, mb4.3/2, Error ellipse: s-maj=19.0km s-min=15.1km az=92.0*

ISC 22 04:44:13.1±0.7, 4.°1S±0.°1×152.°8E±0.°1, h35km, n17, σ1°64/22, mb4.1/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.68**	**227**	P		**Pn**		**04 46 02.7**	**+0.2**
	1.4nm,0.3s,baz=266,slow=15,SNR=1.8								
PMG				S		**Sn**		**04 47 30.0**	**+1.7**
	2.0nm,0.3s,baz=243,slow=18,SNR=3.1								
PMG	**Port Moresby**	**7.68**	**227**	*e*Pn		**Pn**		**04 46 05.1**	**+2.6**
PMG				S		**Sn**		**04 47 30.0**	**+1.7**
DZM	**Mont Dzumac**	**22.22**	**145**	P		**P**		**04 49 06.7**	**-0.2**
	3.3nm,0.7s,baz=277,slow=8.1,SNR=4.8								
WRAB	**Tennant Creek**	**23.89**	**227**	*e*P		**P**		**04 49 22.8**	**-0.9**
	7.3nm,0.6s								
WRA	**Warramunga Arr**	**23.90**	**227**	P		**P**		**04 49 23.1**	**-0.7**
	6.5nm,0.5s,baz=53,slow=9.9,SNR=65								
WRA				PcP		**PcP**		**04 53 06.0**	**-0.2**
	1.0nm,0.6s,baz=51,slow=2.3,SNR=4.8								
WRA				S		**S**		**04 53 33.4**	**-4.6**
	2.4nm,0.9s,baz=45,slow=15,SNR=8.7								
WRA				ScP		**ScP**		**04 56 41.0**	**-1.2**
	0.6nm,1.0s,baz=46,slow=3.0,SNR=2.8								
ASAR	**Alice Springs**	**26.66**	**221**	P		**P**		**04 49 48.2**	**-0.7**
	0.7nm,0.3s,baz=54,slow=8.9,SNR=9.0								
ASAR				PcP		**PcP**		**04 53 12.3**	**-0.1**
	0.4nm,0.6s,baz=46,slow=2.7,SNR=3.8								
STKA	**Stephens Creek**	**29.55**	**200**	LR		LR		05 01 20.6	
	comp=Z,59nm,19.0s,baz=19,slow=35								
FITZ	**Fitzroy Crossi**	**29.99**	**240**	P		**P**		**04 50 17.2**	**-1.4**
	3.1nm,0.8s,baz=48,slow=8.4,SNR=16								
KLR	**Kul'dur**	**56.19**	**344**	P		**P**		**04 53 50.9**	**+1.4**
	2.2nm,0.7s,baz=168,slow=3.7,SNR=7.1								
PETK	**Petropavlovsk-**	**57.16**	**4**	P		**P**		**04 53 58.3**	**+2.0**
	2.5nm,0.6s,baz=161,slow=9.2,SNR=3.1								
VNDA	**Vanda**	**73.51**	**178**	P		**P**		**04 55 43.6**	**+1.8**
	0.5nm,0.7s,baz=354,slow=8.2,SNR=4.2								
MKAR	**Makanchi Array**	**79.81**	**319**	P		**P**		**04 56 16.9**	**-1.0**
	0.4nm,0.7s,baz=101,slow=6.0,SNR=3.0								
ILAR	**Eielson Array**	**81.53**	**22**	P		**P**		**04 56 25.9**	**-0.9**
	1.5nm,0.8s,baz=251,slow=5.5,SNR=9.9								
QSPA	**South Pole Qui**	**85.84**	**180**	*e*P		**P**		**04 56 48.2**	**-0.8**
	2.1nm,0.7s								
BVAR	**Borovoye Array**	**88.69**	**323**	P		**P**		**04 57 02.3**	**-0.6**
	0.6nm,0.6s,baz=97,slow=6.0,SNR=2.7								
LPAZ	**La Paz**	**134.74**	**118**	PKP		**PKPdf**		**05 03 30.2**	**+0.2**
	1.2nm,0.8s,baz=360,slow=1.9,SNR=6.7								
TORD	**Torodi Ar. Bea**	**150.09**	**289**	PKPbc		**PKPbc**		**05 04 00.6**	**-0.7**
	1.3nm,0.3s,baz=81,slow=2.3,SNR=54								

NIED **22** *04:45:00, 26.°00N×128.°70E, h14km, Mw4.5 Best double couple: M0 6.31000×10^15 NP1: φs 214.00000°, δ 38.00000°, λ 86.00000°. NP2: φs 39.00000°, δ 52.00000°, λ 93.00000°.*

BJI **22** *04:45:10.2, 25.°82N×128.°54E, h5km, mb4.5/38, mB4.6/27, Ms4.3/30, Ms7 4.2/30*

IDC **22** *04:45:12.9±0.6, 26.°09N×128.°50E, h0km, mb4.1/20, mb1 4.2/23, mb1mx4.1/54, mbtmp4.1/23, ML3.7/2, MS3.7/13, Ms1 3.7/13, ms1mx3.5/35, Error ellipse: s-maj=21.8km s-min=12.6km az=81.0*

ISCJB **22** *04:45:13.4±0.8, 26.°00N±0.°03×128.°65E±0.°03, h18km±5km, mb4.3/40, MS3.9/14, Error ellipse: s-maj=5.6km s-min=4.0km az=135.5*

JMA **22** *04:45:14.7±0.3, 26.°01N×128.°68E, h37km, M4.2*

MOS **22** *04:45:16.5±1.2, 26.°08N×128.°43E, h33km, mb4.5/28, Error ellipse: s-maj=15.0km s-min=7.0km az=108.6*

NEIC **22** *04:45:18.1±0.5, 26.°02N×128.°36E, h35km, mb4.6/12, Error ellipse: s-maj=10.6km s-min=7.5km az=117.0*

ISC 22 04:45:14.0±1.3, 26.°04N±0.°04×128.°57E±0.°04, h9km±7km, n120, σ2°36/147, mb4.4/40, MS3.9/14, 5C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.68**	**314**	P		**Pn**		**04 45 28.9**	**-1.0**
JJT2	**Tamagusuku 2**	**0.75**	**278**	P		**Pn**		**04 45 30.7**	**-0.1**
JJT2				*e*S		**Sn**		**04 45 41.8**	**-0.5**
JOW	**Kunigami**	**0.83**	**342**	P		**Pn**		**04 45 31.2**	**-0.8**
JOW	**Kunigami**	**0.83**	**342**	*e*Pg		**Pn**		**04 45 31.1**	**-0.8**
JOW				*e*S		**Sg**		**04 45 37.2**	**-3.7**
JIH	**Iheya**	**1.13**	**332**	P		**Pn**		**04 45 35.9**	**-0.2**
JIH				*e*S		**Sb**		**04 45 50.5**	**0.0**
JAGN	**Aguni-jima**	**1.31**	**295**	P		**Pg**		**04 45 38.8**	**-0.4**
JOKE	**Okinoerabujima**	**1.31**	**0**	P		**Pn**		**04 45 38.2**	**-0.5**
JKE	**Kume jima 2**	**1.63**	**280**	P		**Pn**		**04 45 42.6**	**-0.3**
JTK	**Tokunoshima**	**1.77**	**11**	P		**Pn**		**04 45 44.3**	**-0.6**
JTK				*e*S		**Sn**		**04 46 04.3**	**-3.3**
JAMN	**Amaminishikomi**	**2.26**	**14**	P		**Pn**		**04 45 51.0**	**-0.6**
JMZ	**Minamidaito 2**	**2.40**	**95**	P		**Pn**		**04 45 51.6**	**-1.9**
JMZ				S		**Sn**		**04 46 17.7**	**-5.4**
JAM	**Amami Oshima**	**2.54**	**21**	P		**Pn**		**04 45 54.3**	**-1.1**
JAM				*e*S		**Sn**		**04 46 24.2**	**-2.3**
JZK	**Kikaishima**	**2.59**	**29**	P		**Pn**		**04 45 57.0**	**+0.9**
JZK				*e*S		**Sn**		**04 46 26.7**	**-1.1**
JTAJ	**Takarajima**	**3.15**	**10**	P		**Pn**		**04 46 02.9**	**-1.0**
JIKM	**Ikemajima**	**3.20**	**250**	P		**Pn**		**04 46 03.4**	**-1.2**
JIRB	**Irabujima**	**3.30**	**249**	P		**Pn**		**04 46 06.0**	**+0.1**
JTJ	**Tarama**	**3.77**	**249**	P		**Pn**		**04 46 11.6**	**-0.7**
JTJ				S		**Sn**		**04 46 53.7**	**-3.1**
JNN	**Nakanoshima**	**3.96**	**17**	P		**Pn**		**04 46 15.1**	**+0.1**
JNN				*e*S		**Sn**		**04 46 59.9**	**-1.7**
JISG	**Ishigakijimahi**	**4.12**	**250**	P		**Pn**		**04 46 15.5**	**-1.7**
JISG				*e*S		**Sn**		**04 47 00.7**	**-4.8**
NACB	**Ninganchiao**	**6.59**	**255**	*e*Pn		**Pn**		**04 46 48.7**	**-2.4**
YHNB	**Yeheng**	**6.65**	**260**	*e*Pn		**Pn**		**04 46 52.5**	**+0.4**
YULB	**Yu-li**	**7.12**	**250**	*e*Pn		**Pn**		**04 46 54.2**	**-4.2**
SSLB	**Suanglung**	**7.27**	**254**	*e*Pn		**Pn**		**04 46 58.0**	**-2.5**
SSLB				*e*S		Sn		04 48 13.8	-9.4
JNU	**Nakatsue**	**7.34**	**15**	Pn		**Pn**		**04 47 02.3**	**+0.8**
	2.7nm,0.3s,baz=40,slow=19,SNR=20								
JNU				Sn		**Sn**		**04 48 21.6**	**-3.3**
	0.6nm,0.3s,baz=7.6,slow=15,SNR=1.7								
JNU				LR		LR		04 50 19.4	
	comp=Z,461nm,19.2s,baz=145,slow=42								
TWG	**Pinlang**	**7.55**	**246**	*e*Pn		**Pn**		**04 47 00.4**	**-3.9**

NJ2	**Nanjing**	**10.39**	**307**	*e*P		**Pn**	**04 47 40.1**	**-3.3**
NJ2				PMZ				
	16nm,0.5s							
NJ2				PMZ				
	460nm,3.8s							
NJ2				LN				
	1μm,11.4s							
NJ2				LE				
	2μm,13.0s							
NJ2				LZ				
	2μm,11.9s							
KSAR	**Wonju Array Be**	**11.38**	**357**	P		**Pn**	**04 47 57.7**	**+0.8**
KSAR	**Wonju Array Be**	**11.38**	**357**	Pn		**Pn**	**04 47 57.6**	**+0.8**
KSRS	**Korea Array**	**11.39**	**357**	Pn		**Pn**	**04 47 57.6**	**+0.7**
	baz=179,slow=15,SNR=5.0							
KSRS				LR		LR	04 52 41.1	
	comp=Z,365nm,18.3s,baz=176,slow=40							
MJAR	**Matsushiro Arr**	**13.31**	**36**	LR		LR	04 52 16.4	
	comp=Z,21nm,21.4s,baz=235,slow=32							
DL2	**Dalian**	**14.10**	**337**	*e*P		Pn	04 48 24.9	-9.0
DL2				S		**Sn**	**04 51 02.3**	**-8.2**
DL2				pmax		pmax		
	comp=Z,31nm,1.6s							
DL2				pmax		pmax		
	comp=Z,110nm,7.8s							
DL2				LR		LR		
	comp=N,640nm,12.7s							
DL2				LR		LR		
	comp=Z,730nm,12.3s							
BJI	**Beijing**	**17.38**	**327**	P		**P**	**04 49 17.6**	**-0.5**
BJI				S		**Sn**	**04 52 29.8**	**-0.5**
BJI				PMZ				
	comp=Z,6.0nm,0.9s							
BJI				PMZ				
	comp=Z,200nm,6.3s							
BJI				LN				
	comp=Z,1μm,13.0s							
BJI				LE				
	comp=Z,460nm,14.0s							
BJI				LZ				
	comp=Z,360nm,14.2s							
USRK	**Ussuriysk Ar.**	**18.33**	**8**	P		**P**	**04 49 29.8**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=189,slow=10,SNR=8.7							
MDJ	**Mudanjiang**	**18.55**	**2**	P		**Pn**	**04 49 32.1**	**+0.8**
MDJ				S		**Sn**	**04 52 57.0**	**-1.7**
MDJ				PMZ				
	comp=Z,3.0nm,0.7s							
MDJ				PMZ				
	comp=Z,73nm,6.5s							
MDJ				LN				
	comp=Z,130nm,13.7s							
MDJ				LE				
	comp=Z,180nm,11.0s							
MDJ				LZ				
	comp=Z,220nm,11.0s							
QIZ	**Qiongzhong**	**18.64**	**252**	P		**P**	**04 49 29.6**	**-2.6**
QIZ				S		**Sn**	**04 52 59.8**	**-1.4**
QIZ				LZ				
	comp=Z,280nm,19.6s							
XAN	**Xi'an**	**18.77**	**300**	P		**Pn**	**04 49 34.4**	**+0.4**
XAN				pP		sP	04 49 42.3	+5.2
XAN				sP		pP	04 49 46.1	+10
XAN				PMZ				
	comp=Z,11nm,0.7s							
XAN				LE				
	comp=Z,500nm,13.7s							
XAN				LZ				
	comp=Z,610nm,13.7s							
GYA	**Guiyang**	**19.65**	**276**	P		**P**	**04 49 42.6**	**-0.8**
GYA				PP		**PnPn**	**04 50 01.3**	**+3.0**
GYA				S		**S**	**04 53 17.8**	**-7.6**
GYA				SS		**SnSn**	**04 53 43.4**	**+3.4**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,4.8s							
GYA				LN				
	comp=Z,460nm,12.8s							
GYA				LE				
	comp=Z,430nm,13.2s							
GYA				LZ				
	comp=Z,450nm,13.8s							
GUMO	**Guam**	**19.68**	**126**	LR		LR	04 55 41.3	
	comp=Z,72nm,19.7s,baz=267,slow=32							
HHC	**Hu-ho-hao-te**	**20.43**	**321**	*e*P		Pn	04 49 53.4	-0.4
HHC				PP		**PnPn**	**04 50 16.6**	**+7.8**
HHC				S		**S**	**04 53 38.6**	**-2.0**
HHC				SS		**SnSn**	**04 54 09.0**	**+10**
HHC				PMZ

comp=Z,5.2nm,0.9s,baz=139,slow=11,SNR=18
SONA1 Songino Array 27.88 327 *e*P **P 04 51 06.0 +1.7**
CMAR Chiang Mai Arr 28.39 261 P **P 04 51 09.9 +0.9**
comp=Z,1.4nm,0.6s,baz=52,slow=7.4,SNR=7.6
PETK Petropavlovsk- 34.70 31 LR LR 05 09 29.4
comp=Z,47nm,18.1s,baz=246,slow=42
RAMN Ramite 37.45 281 *e*P **P 04 52 28.6 +0.3**
comp=Z,14nm,0.8s
WMQ Urumqi 37.47 309 P **P 04 52 29.4 +1.3**
WMQ PMZ
comp=Z,8.0nm,0.6s
WMQ PMZ
comp=Z,71nm,4.0s
WMQ LN
comp=Z,120nm,17.2s
WMQ LE
comp=Z,170nm,13.8s
WMQ LZ
comp=Z,65nm,15.8s
GUN Gumba 37.95 283 *e*P **P 04 52 33.0 +0.3**
comp=Z,25nm,0.8s
KKN Kakani 38.49 283 *e*P **P 04 52 37.3 +0.2**
comp=Z,22nm,0.6s
DMN Daman 38.67 282 *e*P **P 04 52 38.8 +0.2**
comp=Z,8.9nm,0.4s
GKN Gorkha 39.03 283 *e*P **P 04 52 41.7 +0.2**
comp=Z,23nm,0.6s
KOLN Koldanda 39.97 283 *e*P **P 04 52 49.8 +0.4**
comp=Z,21nm,0.9s
SEY Seymchan 40.11 17 P **P 04 52 50.1 +0.3**
comp=Z,1.1nm,0.5s,baz=177,slow=7.7,SNR=6.2
SEY Seymchan 40.11 17⇑ *e*P **P 04 52 52.7 +2.9**
PYUN Piuthan 40.46 284 *e*P **P 04 52 54.0 +0.5**
comp=Z,30nm,0.8s
MK01 Makanchi Array 41.87 312 *e*P **P 04 53 03.3 -1.4**
MK31 Makanchi Array 41.89 312 *e*P **P 04 53 04.8 0.0**
MK31 Makanchi Array 41.89 312 *e*P **P 04 53 04.8 0.0**
MKAR Makanchi Array 41.89 312 P **P 04 53 03.8 -1.0**
comp=Z,1.4nm,0.6s,baz=99,slow=11,SNR=12
MKAR PcP **PcP 04 55 00.3 -0.1**
comp=Z,0.8nm,0.7s,baz=103,slow=3.9,SNR=3.5
MKAR Makanchi Array 41.89 312 *e*P **P 04 53 04.2 -0.6**
MKAR PcP **PcP 04 55 00.3 -0.1**
MAKZ Makanchi 42.10 312 *e*P **P 04 53 06.1 -0.4**
MAKZ pmax pmax
comp=Z,10.0nm,1.3s
MAKZ Makanchi 42.10 312 *e*P **P 04 53 06.1 -0.4**
comp=Z,10nm,1.3s
ZALV Zalesovo Beam 42.58 323 P **P 04 53 08.5 -1.8**
comp=Z,0.6nm,0.3s,baz=107,slow=9.8,SNR=3.2
ZALV LR LR 05 12 14.1
comp=Z,107nm,19.2s,baz=76,slow=38
FITZ Fitzroy Crossi 43.97 184 P **P 04 53 21.2 -0.6**
comp=Z,2.9nm,0.9s,baz=37,slow=10,SNR=3.6
KURK Kurchatov 45.16 317 *e*P **P 04 53 30.5 -0.6**
KURK pmax pmax
comp=Z,33nm,1.2s
KURK Kurchatov 45.16 317 *e*P **P 04 53 30.4 -0.6**
comp=Z,33nm,1.2s
KSH Kashi 45.62 301 *e*P **P 04 53 39.1 +4.1**
KSH PcP **PcP 04 55 17.9 +4.6**
KSH PP **PP 04 55 27.3 +5.6**
KSH S **S 05 00 23.9 +6.0**
KSH ScS **ScS 05 03 33.9 +1.9**
KSH SS **SS 05 03 39.3 -2.3**
KSH PMZ
comp=Z,2.0nm,0.3s
KSH LN
comp=Z,340nm,7.9s
KSH LE
comp=Z,330nm,13.7s
KSH LZ
comp=Z,270nm,9.8s
TIXI Tiksi 45.65 0⇓ *e*P **P 04 53 34.1 -0.4**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TKM2 Tokmak 2 46.03 305 *e*P **P 04 53 38.4 +0.1**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
TKM2 Tokmak 2 46.03 305 *e*P **P 04 53 38.4 +0.1**
comp=Z,4.7nm,0.9s
WRAB Tennant Creek 46.04 172⇑ *e*P **P 04 53 33.9 -4.4**
WRAB pmax pmax
comp=Z,23nm,1.2s
WRA Warramunga Arr 46.05 172 P **P 04 53 38.5 +0.2**
comp=Z,3.0nm,0.6s,baz=353,slow=8.4,SNR=9.8
BILL Bilibino 47.76 18⇑ *e*P **P 04 53 53.6 +2.4**
BILL *e* 04 55 19.8
BILL *e* 04 55 45.4
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,140nm,20.0s
CTA Charters Tower 48.96 158 P **P 04 54 01.8 +0.8**
comp=Z,2.4nm,0.8s,baz=333,slow=6.8,SNR=3.1
NRIK Noril'sk 49.52 342 LR LR 05 17 29.7
comp=Z,103nm,18.3s,baz=114,slow=39
ASAR Alice Springs 49.68 174 P **P 04 54 07.4 +0.9**
comp=Z,1.7nm,0.7s,baz=10,slow=13,SNR=11
ASAR Alice Springs 49.68 174 P **P 04 54 07.4 +0.9**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
AS01 Alice Springs 49.69 174 *e*P **P 04 54 06.8 +0.3**
KKAR Karatay Array 49.77 306 *e*P **P 04 54 07.3 +0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 49.77 306 *e*P **P 04 54 07.3 +0.3**
comp=Z,0.6nm,0.6s
BVAR Borovoye Array 50.62 318 P **P 04 54 13.8 +0.5**
comp=Z,0.9nm,0.4s,baz=90,slow=8.9,SNR=11
BRVK Borovoye 50.69 318⇓ *e*P **P 04 54 14.2 +0.4**
BRVK pmax pmax
comp=Z,33nm,2.5s
BRVK Borovoye 50.69 318 *e*P **P 04 54 13.4 -0.4**
comp=Z,17nm,1.0s
ZRNK Zerenda 51.44 318 *e*P **P 04 54 19.5 0.0**
ZRNK Zerenda 51.44 318 *e*P **P 04 54 19.5 0.0**
comp=Z,5.7nm,0.9s
ABKAR Akbulak array 57.00 313 *e*P **P 04 54 59.4 -0.7**
comp=Z,1.9nm,0.5s
ARU Arti 57.73 322*d i*P **P 04 55 05.0 -0.1**
ARU 04 57 10.2
ARU S **S 05 03 05.0 +1.1**
ARU SS **SS 05 06 46.7 -7.2**
ARU pmax pmax
comp=Z,6.0nm,1.7s
ARU MLR MLR
comp=Z,261nm,17.0s
AKTO Aktyubinsk 58.18 315 P **P 04 55 08.3 -0.1**
comp=Z,0.8nm,0.5s,baz=68,slow=11,SNR=3.0
GEYT Alibeck 59.65 300 LR LR 05 23 58.3
comp=Z,101nm,19.2s,baz=200,slow=39
RND Reindeer 63.76 30 *e*P **P 04 55 46.6 +0.5**
RND pmax pmax
comp=Z,15nm,1.6s
RND Reindeer 63.76 30 *e*P **P 04 55 46.6 +0.5**
comp=Z,15nm,1.6s
MDM Murphy Dome 63.87 28 *e*P **P 04 55 48.2 +1.4**
comp=Z,9.8nm,1.0s
ILAR Eielson Array 64.46 28 P **P 04 55 50.5 -0.2**
comp=Z,0.3nm,0.6s,baz=254,slow=3.4,SNR=5.1
ILAR LR LR 05 26 04.2
comp=Z,31nm,18.5s,baz=301,slow=38
KIV Kislovodsk 69.59 310 *e*P **P 04 56 24.9 +1.1**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,52nm,17.0s
OBN Obninsk 70.16 322⇓ *e*P **P 04 56 26.7 -0.2**
OBN *e* 04 56 49.0
OBN *e* 04 58 58.1
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,111nm,14.0s
FINES FINESS Array B 73.18 331 P **P 04 56 44.6 -0.3**
comp=Z,5.0nm,0.9s,baz=54,slow=4.9,SNR=7.3
FINES LR LR 05 32 33.7
comp=Z,68nm,18.1s,baz=53,slow=39
DAG Danmarks Havn 75.48 353 *i*P **P 04 56 57.5 -0.6**
DAG pmax pmax
comp=Z,4.0nm,1.1s
DAG Danmarks Havn 75.48 353 *i*P **P 04 56 57.5 -0.6**
comp=Z,3.0nm,1.1s
AKASG Malin Array Be 75.87 320 P **P 04 57 00.1 -0.8**
comp=Z,4.1nm,0.7s,baz=54,slow=5.8,SNR=8.3
AKASG LR LR 05 34 08.9
comp=Z,82nm,18.2s,baz=70,slow=39
KIEV Kiev 75.88 320*c i*P **P 04 57 00.2 -0.7**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 75.88 320 *e*P **P 04 56 59.7 -1.2**
comp=Z,5.2nm,0.9s
BR131 Keskin Array S 77.39 308 *e*P **P 04 57 10.4 +0.6**
BRTR Keskin Array B 77.39 308 P **P 04 57 10.2 +0.3**
comp=Z,4.5nm,0.9s,baz=101,slow=5.2,SNR=18
BRTR LR LR 05 35 27.3
comp=Z,25nm,18.2s,baz=94,slow=39
BR231 Keskin MP Arra 77.95 308 *e*P **P 04 57 11.0 -2.0**
YKA Yellowknife Ar 78.57 25 P **P 04 57 16.2 +0.5**
comp=Z,1.0nm,0.8s,baz=302,slow=5.7,SNR=8.9
NB2 NORSAR Subarra 79.62 334 P **P 04 57 20.8 -0.8**
comp=Z,1.3nm,0.8s,baz=50,slow=5.6
NOA NORSAR Array B 79.62 334 P **P 04 57 21.1 -0.5**
comp=Z,2.2nm,0.8s,baz=51,slow=5.6,SNR=6.7
MLR Muntele Rosu 80.09 316 P **P 04 57 25.5 +0.9**
comp=Z,0.7nm,0.7s,baz=131,slow=2.4,SNR=6.0
MLR Muntele Rosu 80.09 316 *e*P **P 04 57 25.5 +0.9**
comp=Z,13nm,0.9s
SUMG Summit 81.24 356 *e*P **P 04 57 31.1 +0.5**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 81.24 356 *i*P **P 04 57 31.7 +1.1**
comp=Z,10nm,0.9s
SUMG Summit 81.24 356 *e*P **P 04 57 31.1 +0.5**
comp=Z,9.2nm,0.8s
GERES GERESS Array B 85.53 323 P **P 04 57 53.1 +0.3**
comp=Z,0.6nm,0.7s,baz=56,slow=5.3,SNR=3.9
GERES LR LR 05 39 26.4
comp=Z,116nm,19.4s,baz=64,slow=38
SCHQ Schefferville 98.38 9 LR LR 05 48 40.6
comp=Z,29nm,18.0s,baz=336,slow=39

ISCJB ***22*** *04:53:31.6±0.6, 36°.47N±0°.03×35°.49E±0°.05, h0km, Error ellipse: s-maj=6.5km s-min=3.4km az=137.2*
DDA ***22*** *04:53:36.1, 37°.03N×35°.59E, h10km, Md2.6, Suspected Mining explosion.*
NSSC ***22*** *04:53:39.4±1.0, 36°.29N×35°.92E, h0km±5km, ML1.2*
ISC 22 04:53:30.2±0.9, 36°.57N±0°.04×35°.55E±0°.04, h0km, n9, σ1§50/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.26**	**15**	*i* P		**Pn**		**04 53 40.6**	**-0.7**
YURE				*i* S		**Sb**		**04 53 44.5**	**+1.6**
DED	**Mersin**	**0.72**	**303**	*i* P		**Pn**		**04 53 48.3**	**+0.7**
DED				*i* S		**Sn**		**04 53 57.3**	**-2.1**
ARNB	**Al Arnab**	**0.79**	**154**	*e*P		**Pb**		**04 53 47.4**	**+0.6**
ARNB				*e*S		**Sg**		**04 53 54.8**	**-0.7**
ARNB					AML	AML		04 54 11.7	
	comp=N,8.1nm,0.4s								
ARNB					AML	AML		04 54 12.3	
	comp=E,20nm,0.5s								
DRWC	**Darouich**	**0.90**	**87**	*e*P		**Pn**		**04 53 52.9**	**+2.8**
DRWC				*e*S		**Sn**		**04 54 03.0**	**-0.9**
DRWC					AML	AML		04 54 06.6	
	comp=E,17nm,0.2s								
DRWC					AML	AML		04 54 08.1	
	comp=N,14nm,0.4s								
BTCH	**Batrach**	**0.91**	**126**	*e*P		**Pb**		**04 53 49.0**	**+0.2**
BTCH				*e*S		**Sg**		**04 53 56.5**	**-2.9**
BTCH					AML	AML		04 54 14.6	
	comp=E,23nm,0.3s								
BTCH					AML	AML		04 54 17.2	
	comp=N,19nm,0.3s								
GULE	**Gulek**	**0.94**	**319**	*i* P		**Pn**		**04 53 50.9**	**+0.1**
GULE				*i* S		**Sb**		**04 54 02.2**	**-0.4**
KAMA	**Osmaniye**	**1.08**	**55**	*i* P		**Pn**		**04 53 52.4**	**-0.4**
KAMA				*i* S		**Sg**		**04 54 04.5**	**-0.6**
WRDH	**Warideh**	**1.27**	**146**	*e*P		**Pn**		**04 53 56.6**	**+1.3**
WRDH				*e*S		**Sg**		**04 54 09.5**	**-1.5**
WRDH					AML	AML		04 54 27.3	
	comp=N,7.2nm,0.2s								
WRDH					AML	AML		04 54 27.8	
	comp=E,8.2nm,0.4s								
KERG	**Konya-Eregli**	**1.42**	**307**	*i* P		**Pb**		**04 53 59.3**	**+1.7**
KERG				*i* S		**Sn**		**04 54 16.0**	**-0.8**

BUC 22 04:58:04.3±0.7, 45°.84N×26°.26E, h11km±12km, MD2.1/2, 4C-4D, Error ellipse: s-maj=8.9km s-min=1.3km az=326.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.27**	**88**⇑	*i*P		Pg		04 58 10.3	+0.4
PLOR	**Plostina**	**0.27**	**88**	S		Sb		04 58 14.8	-1.1
PLOR	**Plostina**	**0.27**	**88**⇑	*i*P		Pg		04 58 10.3	+0.4
PLOR				*i* S		Sb		04 58 14.8	-1.1
VRI	**Vrincioaia**	**0.33**	**86**⇑	*i*P		Pg		04 58 11.3	+0.4
VRI	**Vrincioaia**	**0.33**	**86**	S		Sb		04 58 16.8	-0.7
VRI	**Vrincioaia**	**0.33**	**86**⇑	*i*P		Pg		04 58 11.3	+0.4
VRI				*i* S		Sb		04 58 16.8	-0.7
MLR	**Muntele Rosu**	**0.42**	**212**⇓	*i*P		Pb		04 58 13.3	-0.4
MLR	**Muntele Rosu**	**0.42**	**212**	S		Sb		04 58 19.5	-0.6
MLR	**Muntele Rosu**	**0.42**	**212**⇓	*i*P		Pb		04 58 13.3	-0.4
MLR				*i* S		Sb		04 58 19.5	-0.6
ISR	**Istrita**	**0.75**	**165**⇓	*i*P		Pb		04 58 19.8	+0.4
ISR	**Istrita**	**0.75**	**165**⇓	*i*P		Pb		04 58 19.8	+0.4
VOIR		**0.94**	**245**	S		Sn		04 58 37.5	+0.5
VOIR		**0.94**	**245**	*i* S		Sn		04 58 37.5	+0.5

TIR ***22*** *04:59:59.9±5.6, 40°.65N×21°.66E, h17km±56km, ML3.1*
ISCJB ***22*** *05:00:05.7±0.3, 40°.55N±0°.01×21°.62E±0°.02, h8km±2km, mb3.3/3, MS3.2/1, Error ellipse: s-maj=2.5km s-min=1.9km az=142.7*
ATH ***22*** *05:00:05.4, 40°.53N×21°.62E, h25km, ML3.2/18, Error ellipse: s-maj=1.2km s-min=0.7km az=319.0*
PDG ***22*** *05:00:06.1±0.5, 40°.57N×21°.64E, h15km, ML3.2/10, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
THE ***22*** *05:00:06.5, 40°.54N×21°.61E, h5km±1km, ML3.4/18, Error ellipse: s-maj=1.4km s-min=0.3km az=272.0*
SKO ***22*** *05:00:06.9, 40°.53N×21°.58E, h7km, M3.0, ML3.3*
CSEM ***22*** *05:00:06.2±0.1, 40°.53N×21°.63E, h8km, ML3.2, Error ellipse: s-maj=2.4km s-min=1.8km az=61.0*
IDC ***22*** *05:00:12.2±2.2, 40°.60N×21°.49E, h78km±27km, mb3.0/3, mb1 3.1/7, mb1mx3.0/42, mbtmpg3.2/7, MS3.1/2, Ms1 3.1/2, ms1mx2.3/22, Error ellipse: s-maj=25.5km s-min=20.5km az=101.0*
ISC 22 05:00:06.0±0.8, 40°.52N±0°.01×21°.63E±0°.01, h14km±6km, n203, σ1§30/287, mb3.4/3, 18C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.24**	**153**	P		**Pb**		**05 00 12.0**	**-0.2**
KZN				S		**Sg**		**05 00 16.5**	**+1.6**
KZN	**Kozani**	**0.24**	**153**	P		**Pb**		**05 00 12.0**	**-0.2**
KZN				S		**Sg**		**05 00 15.4**	**+0.5**
FNA	**Florina**	**0.33**	**324**	P		**Pg**		**05 00 12.7**	**0.0**
FNA				S		**Sg**		**05 00 16.4**	**-0.9**
FNA	**Florina**	**0.33**	**324**	P		**Pg**		**05 00 12.8**	**0.0**
FNA				S		**Sg**		**05 00 17.0**	**-0.3**
FNA	**Florina**	**0.33**	**324**	P		**Pg**		**05 00 12.8**	**0.0**
FNA				S		**Sg**		**05 00 17.0**	**-0.3**
FNA					AML	AML		05 00 18.2	
	comp=N,37621μm,0.3s								
FNA					AML	AML		05 00 18.4	
	comp=E,24305μm,0.4s								
KTI	**Kastanea**	**0.39**	**109**	P		**Pb**		**05 00 14.6**	**-0.3**
KTI	**Kastanea**	**0.39**	**109**	P		**Pb**		**05 00 14.6**	**-0.3**
NEST	**Nestorio**	**0.46**	**257**	P		**Pg**		**05 00 14.9**	**-0.2**
NEST				S		**Sg**		**05 00 21.4**	**+0.1**
NEST	**Nestorio**	**0.46**	**257**	P		**Pg**		**05 00 14.9**	**-0.2**
NEST				S		**Sg**		**05 00 21.4**	**+0.1**
NEST	**Nestorio**	**0.46**	**257**	P		**Pg**		**05 00 14.7**	**-0.5**
NEST				S		**Sg**		**05 00 20.9**	**-0.4**
NEST					AML	AML		05 00 23.8	
	comp=E,8734μm,0.5s								
NEST					AML	AML		05 00 25.4	
	comp=N,6589μm,0.2s								
PENT	**Pentalofos**	**0.50**	**229**	P		**Pg**		**05 00 15.7**	**-0.2**
PENT				S		**Sg**		**05 00 22.8**	**+0.2**
PENT	**Pentalofos**	**0.50**	**229**	P		**Pg**		**05 00 15.7**	**-0.2**
PENT				S		**Sg**		**05 00 22.8**	**+0.2**
PENT	**Pentalofos**	**0.50**	**229**	P		**Pg**		**05 00 15.6**	**-0.3**
PENT				S		**Sg**		**05 00 22.2**	**-0.3**
PENT					AML	AML		05 00 28.1	
	comp=E,4940μm,0.4s								
PENT					AML	AML		05 00 29.9	
	comp=N,9498μm,0.6s								
KPRO	**Kipourio**	**0.60**	**200**	P		**Pg**		**05 00 17.7**	**-0.2**
KPRO				S		**Sb**		**05 00 27.3**	**+0.6**
KPRO	**Kipourio**	**0.60**	**200**	P		**Pg**		**05 00 17.7**	**-0.2**
KPRO				S		**Sb**		**05 00 26.8**	**+0.1**
KPRO	**Kipourio**	**0.60**	**200**	P		**Pg**		**05 00 17.0**	**-0.9**
KPRO				S		**Sb**		**05 00 26.8**	**+0.1**
KPRO					AML	AML		05 00 30.6	
	comp=N,9539μm,0.4s								
KPRO					AML	AML		05 00 32.9	
	comp=E,7768μm,0.4s								
GRG	**Griva**	**0.73**	**53**	P		**Pb**		**05 00 20.5**	**0.0**
GRG				S		**Sb**		**05 00 31.2**	**+0.8**
GRG	**Griva**	**0.73**	**53**	P		**Pb**		**05 00 20.5**	**0.0**
GRG				S		**Sb**		**05 00 31.1**	**+0.7**
GRG	**Griva**	**0.73**	**53**	P		**Pb**		**05 00 20.6**	**0.0**
GRG				S		**Sb**		**05 00 31.1**	**+0.7**
GRG					AML	AML		05 00 35.5	
	comp=N,2949μm,0.4s								
GRG					AML	AML		05 00 36.4	
	comp=E,3063μm,0.4s								
LIT	**Litokhoron**	**0.78**	**122**	P		**Pb**		**05 00 21.5**	**+0.1**
LIT				S		**Sb**		**05 00 32.9**	**+1.0**
LIT	**Litokhoron**	**0.78**	**122**	P		**Pb**		**05 00 21.3**	**-0.1**
LIT				S		**Sb**		**05 00 32.5**	**+0.6**
LIT	**Litokhoron**	**0.78**	**122**	P		**Pb**		**05 00 21.3**	**-0.1**
LIT				S		**Sb**		**05 00 32.5**	**+0.6**
LIT					AML	AML		05 00 36.0	
	comp=E,5688μm,0.2s								
LIT					AML	AML		05 00 36.7	
	comp=N,5882μm,0.2s								
OHR	**Ohrid**	**0.86**	**313**	*e*Pg		**Pg**		**05 00 21.6**	**-1.2**
OHR				*i* Sg		**Sn**		**05 00 36.3**	**+0.1**
OHR				*e*Lg		Lg		05 00 38.2	
	comp=E,1μm,0.6s								
OHR				*e*Lg		Lg		05 00 38.3	
	comp=N,1μm,0.6s								
OHR	**Ohrid**	**0.86**	**313**	*e*Pg		**Pg**		**05 00 21.6**	**-1.2**
OHR				*i* Sg		**Sn**		**05 00 36.3**	**+0.1**
OHR				*e*Lg		Lg		05 00 38.2	
	comp=N,1μm,0.6s								
THL	**Klokotos Trika**	**1.00**	**163**	P		**Pb**		**05 00 24.6**	**-0.5**
THL				S		**Sn**		**05 00 40.4**	**+0.9**
THL	**Klokotos Trika**	**1.00**	**163**	P		**Pb**		**05 00 24.6**	**-0.5**
THL				S		**Sb**		**05 00 38.2**	**+0.1**
THE	**Thessaloniki**	**1.02**	**83**	P		**Pn**		**05 00 26.1**	**+0.2**
THE				S		**Sn**		**05 00 40.6**	**+0.5**
THE	**Thessaloniki**	**1.02**	**83**	P		**Pn**		**05 00 26.1**	**+0.2**
THE				S		**Sn**		**05 00 40.6**	**+0.5**
THE	**Thessaloniki**	**1.02**	**83**	P		**Pn**		**05 00 26.1**	**+0.2**
THE					AML	AML		05 00 44.0	
	comp=N,1186μm,0.5s								
THE					AML	AML		05 00 44.5	
	comp=E,550μm,0.5s								
JAN	**Janina**	**1.05**	**215**	P		**Pb**		**05 00 26.1**	**+0.1**
JAN				S		**Sn**		**05 00 41.9**	**+1.1**
JAN	**Janina**	**1.05**	**215**	P		**Pg**		**05 00 26.5**	**+0.2**
JAN				S		**Sb**		**05 00 39.3**	**+0.3**
JAN	**Janina**	**1.05**	**215**	P		**Pg**		**05 00 26.5**	**+0.2**
JAN					AML	AML		05 00 49.5	
	comp=E,1652μm,0.4s								
VAY	**Valandovo**	**1.07**	**41**	P		**Pn**		**05 00 26.9**	**+0.3**
VAY	**Valandovo**	**1.07**	**41**	*e*Pg		**Pn**		**05 00 26.7**	**0.0**
VAY				*i* Sg		**Sn**		**05 00 45.3**	**+4.1**
VAY				*e*Lg		Lg		05 00 45.4	
	comp=E,690nm,0.6s								
VAY				*e*Lg		Lg		05 00 45.6	
	comp=N,334nm,0.5s								
VAY	**Valandovo**	**1.07**	**41**	*e*Pg		**Pn**		**05 00 26.6**	**0.0**
VAY	**Valandovo**	**1.07**	**41**	P		**Pn**		**05 00 26.9**	**+0.3**
VAY				*i* Sg		**Sn**		**05 00 45.3**	**+4.1**
VAY				*e*Lg		Lg		05 00 45.4	
	comp=N,690nm,0.6s								
HORT	**Hortiatis**	**1.12**	**86**	P		**Pn**		**05 00 27.5**	**+0.2**
HORT				S		**Sn**		**05 00 43.5**	**+0.8**
HORT	**Hortiatis**	**1.12**	**86**	P		**Pn**		**05 00 27.6**	**+0.2**
HORT				S		**Sg**		**05 00 42.0**	**-0.3**
HORT	**Hortiatis**	**1.12**	**86**	P		**Pn**		**05 00 27.6**	**+0.2**
HORT				S		**Sg**		**05 00 42.0**	**-0.3**
HORT					AML	AML		05 00 45.5	
	comp=E,1111μm,0.6s								
HORT					AML	AML		05 00 47.3	
	comp=N,1403μm,0.5s								
KNT	**Kendrikon**	**1.16**	**56**	P		**Pg**		**05 00 27.9**	**-0.4**
KNT				S		**Sn**		**05 00 44.4**	**+1.0**
KNT	**Kendrikon**	**1.16**	**56**	P		**Pg**		**05 00 27.9**	**-0.4**
KNT				S		**Sg**		**05 00 42.7**	**-0.7**
KNT	**Kendrikon**	**1.16**	**56**	P		**Pg**		**05 00 27.9**	**-0.4**
KNT				S		**Sg**		**05 00 42.7**	**-0.7**
KNT					AML	AML		05 00 46.2	
	comp=E,398μm,0.4s								
KNT					AML	AML		05 00 47.4	
	comp=N,707μm,0.4s								
SOH	**Sokhos**	**1.34**	**77**	P		**Pg**		**05 00 31.2**	**-0.7**
SOH				S		**Sg**		**05 00 50.8**	**+1.4**
SOH	**Sokhos**	**1.34**	**77**	P		**Pg**		**05 00 31.2**	**-0.7**
SOH				S		**Sn**		**05 00 48.0**	**-0.1**
SOH	**Sokhos**	**1.34**	**77**	P		**Pb**		**05 00 31.0**	**-0.1**
SOH				S		**Sn**		**05 00 48.0**	**-0.1**
SOH					AML	AML		05 00 55.2	
	comp=E,1299μm,0.3s								
SOH					AML	AML		05 00 55.4	
	comp=N,980μm,0.5s								
PLG	**Polygyros**	**1.39**	**96**	P		**Pb**		**05 00 32.1**	**+0.2**
PLG	**Polygyros**	**1.39**	**96**	P		**Pb**		**05 00 31.8**	**-0.1**
PLG				S		**Sn**		**05 00 49.0**	**-0.3**
PLG	**Polygyros**	**1.39**	**96**	P		**Pb**		**05 00 31.8**	**-0.1**
PLG				S		**Sn**		**05 00 49.0**	**-0.3**
PLG					AML	AML		05 00 51.9	
	comp=E,1183μm,0.4s								
PLG					AML	AML		05 00 52.1	
	comp=N,1437μm,0.4s								
SGD	**Sagiada**	**1.40**	**230**	P		**Pn**		**05 00 31.5**	**+0.3**
SGD	**Sagiada**	**1.40**	**230**	P		**Pn**		**05 00 31.8**	**+0.6**
SGD	**Sagiada**	**1.40**	**230**	P		**Pn**		**05 00 31.8**	**+0.6**
DSL	**Palaion Diasel**	**1.45**	**197**	P		**Pb**		**05 00 32.9**	**+0.2**
DSL				S		**Sg**		**05 00 53.8**	**+1.2**
DSL	**Palaion Diasel**	**1.45**	**197**	P		**Pn**		**05 00 32.6**	**+0.8**
DSL				S		**Sn**		**05 00 51.4**	**+0.8**
DSL	**Palaion Diasel**	**1.45**	**197**	P		**Pn**		**05 00 32.6**	**+0.8**
DSL				S		**Sn**		**05 00 51.4**	**+0.8**
DSL					AML	AML		05 01 00.7	
	comp=N,1514μm,0.5s								
DSL					AML	AML		05 01 02.6	
	comp=E,2162μm,0.5s								
SKO	**Skopje**	**1.46**	**354**	P		**Pn**		**05 00 31.9**	**0.0**
SKO	**Skopje**	**1.46**	**354**	*e*Pg		**Pb**		**05 00 32.7**	**-0.2**
SKO	**Skopje**	**1.46**	**354**	P		**Pn**		**05 00 31.9**	**0.0**
SKO	**Skopje**	**1.46**	**354**	*e*Pg		**Pb**		**05 00 32.7**	**-0.2**
FYTO	**Fytoko, Volos**	**1.50**	**137**	P		**Pn**		**05 00 33.1**	**+0.6**
FYTO				S		**Sg**		**05 00 54.8**	**+0.4**
FYTO	**Fytoko, Volos**	**1.50**	**137**	P		**Pn**		**05 00 33.1**	**+0.6**
FYTO				S		**Sg**		**05 00 54.8**	**+0.4**
TIR	**Tirane**	**1.57**	**302**	*i* PN		**Pg**		**05 00 35.7**	**-0.5**
TIR				*i* PN		**Sn**		**05 00 57.4**	**+3.8**
TIR	**Tirane** SNR=40	**1.57**	**302**	*i* Pn		**Pg**		**05 00 35.7**	**-0.5**
AGG	**Agios Georgios**	**1.59**	**160**	P		**Pn**		**05 00 34.5**	**+0.7**
AGG				S		**Sg**		**05 00 56.6**	**-0.7**
AGG	**Agios Georgios**	**1.59**	**160**	P		**Pn**		**05 00 34.5**	**+0.7**
AGG				S		**Sg**		**05 00 56.6**	**-0.7**
AGG	**Agios Georgios**	**1.59**	**160**	P		**Pn**		**05 00 34.4**	**+0.7**
AGG					AML	AML		05 01 08.2	
	comp=N,3360μm,0.6s								
AGG					AML	AML		05 01 14.1	
	comp=E,2404μm,1.5s								
SRS	**Serrai**	**1.60**	**68**	P		**Pn**		**05 00 34.0**	**0.0**
SRS	**Serrai**	**1.60**	**68**	P		**Pn**		**05 00 34.0**	**0.0**
SRS	**Serrai**	**1.60**	**68**	P		**Pn**		**05 00 33.1**	**-0.9**
EVR	**Evrytania**	**1.61**	**175**	P		**Pn**		**05 00 34.7**	**+0.6**
EVR				S		**Sg**		**05 00 57.4**	**-0.5**
EVR	**Evrytania**	**1.61**	**175**	P		**Pn**		**05 00

NEO			S	Sb	05 00 59.8	+0.8
NEO	**Neokhori**	**1.73**	134	P	Pn	05 00 36.1	+0.5
NEO			S	Sb	05 00 59.8	+0.8
NEO	**Neokhori**	**1.73**	134	P	Pn	05 00 35.1	-0.5
NEO			AML	AML	05 01 08.4		
	comp=E,1666μm,0.5s						
NEO			AML	AML	05 01 10.5		
	comp=N,1720μm,0.9s						
OUR	**Ouranopolis**	**1.81**	95	P	Pn	05 00 37.2	+0.5
OUR	**Ouranopolis**	**1.81**	95	P	Pn	05 00 37.2	+0.5
OUR				S	Sn	05 00 59.8	+0.4
OUR	**Ouranopolis**	**1.81**	95	P	Pn	05 00 36.5	-0.2
OUR				S	Sn	05 00 59.8	+0.4
OUR			AML	AML	05 01 02.5		
	comp=N,1396μm,0.6s						
OUR			AML	AML	05 01 06.3		
	comp=E,866μm,1.0s						
NVR	**Nevrokopi**	**1.88**	63	P	Pn	05 00 38.1	+0.3
NVR	**Nevrokopi**	**1.88**	63	P	Pn	05 00 38.1	+0.3
LKD2	**Lefkada island**	**1.89**	204	P	Pb	05 00 40.3	+0.1
LKD2	**Lefkada island**	**1.89**	204	P	Pb	05 00 39.6	-0.7
LKD2	**Lefkada island**	**1.89**	204	P	Pb	05 00 39.6	-0.7
LKD2				AML	AML	05 01 14.2	
	comp=N,773μm,0.9s						
LKD2			AML	AML	05 01 15.4		
	comp=E,861μm,1.0s						
PVO	**Paravola**	**1.91**	182	P	Pb	05 00 40.9	+0.4
PVO	**Paravola**	**1.91**	182	P	Pn	05 00 39.3	+1.2
PVO	**Paravola**	**1.91**	182	P	Pn	05 00 39.3	+1.2
ANX	**Ano Chora**	**1.94**	173	P	Pn	05 00 39.9	+1.3
ANX	**Ano Chora**	**1.94**	173	P	Pn	05 00 39.9	+1.3
PDO	**Prodromos**	**1.95**	190	P	Pg	05 00 43.2	-0.3
PDO	**Prodromos**	**1.95**	190	P	Pg	05 00 43.2	-0.3
SKIA	**Skiathos**	**1.96**	133	P	Pn	05 00 39.0	+0.2
SKIA	**Skiathos**	**1.96**	133	P	Pn	05 00 39.0	+0.2
SKIA	**Skiathos**	**1.96**	133	P	Pn	05 00 38.1	-0.7
ZATK	**Zatriq**	**2.07**	339	P	Pn	05 00 41.1	+0.7
EFP	**Efpalio**	**2.10**	174	P	Pn	05 00 41.6	+0.8
EFP	**Efpalio**	**2.10**	174	P	Pn	05 00 41.6	+0.8
ATAL	**Atalanti**	**2.12**	149	P	Pn	05 00 42.0	+0.9
ATAL	**Atalanti**	**2.12**	149	P	Pn	05 00 42.0	+0.9
SERG	**Sergoula**	**2.13**	171	P	Pn	05 00 42.1	+0.9
SERG	**Sergoula**	**2.13**	171	P	Pn	05 00 42.1	+0.9
LKR	**Lokris**	**2.15**	150	P	Pn	05 00 42.5	+1.1
LKR	**Lokris**	**2.15**	150	P	Pn	05 00 42.5	+1.1
KALE	**Kalithea**	**2.16**	169	P	Pn	05 00 42.4	+0.7
KALE	**Kalithea**	**2.16**	169	P	Pn	05 00 42.4	+0.7
KALE	**Kalithea**	**2.16**	169	P	Pn	05 00 42.7	+1.0
DSF	**Desfina**	**2.22**	161	P	Pn	05 00 43.1	+0.6
DSF	**Desfina**	**2.22**	161	P	Pn	05 00 43.1	+0.6
KAVA	**Kavala**	**2.24**	77	P	Pn	05 00 42.8	+0.1
KAVA	**Kavala**	**2.24**	77	P	Pn	05 00 42.8	+0.1
KAVA	**Kavala**	**2.24**	77	P	Pn	05 00 42.2	-0.4
LAKA	**Lakka**	**2.29**	173	P	Pn	05 00 45.2	+1.7
LAKA	**Lakka**	**2.29**	173	P	Pn	05 00 45.2	+1.7
BARS	**Barje**	**2.30**		*e*Pn	Pn	05 00 44.2	+0.7
ULC	**Ulcinj**	**2.30**	309	⇑*i*Pn	Pn	05 00 44.5	+0.9
ULC				*e*Sn	Sb	05 01 14.5	-1.2
ULC	**Ulcinj**	**2.30**	309	⇑*i*Pn	Pn	05 00 44.5	+0.9
ULC	**Ulcinj**	**2.30**	309	P	Pn	05 00 45.3	+1.7
ULC				*e*Sn	Sb	05 01 14.5	-1.2
AXS	**Araxos**	**2.33**	185	P	Pb	05 00 46.4	-1.4
AXS	**Araxos**	**2.33**	185	P	Pb	05 00 46.4	-1.4
PEJK	**Peje**	**2.35**	335	P	Pn	05 00 45.2	+1.0
PVY	**Plav**	**2.42**	329	⇑*i*Pn	Pn	05 00 46.1	+0.8
PVY				*e*Sn	Sn	05 01 16.8	+2.0
PVY	**Plav**	**2.42**	329	⇑*i*Pn	Pn	05 00 46.1	+0.8
PVY				*e*Sn	Sn	05 01 16.8	+2.0
VLS	**Valsamata**	**2.48**	199	P	Pn	05 00 47.4	+1.5
VLS	**Valsamata**	**2.48**	199	P	Pn	05 00 47.4	+1.5
DRME	**Dracevica, Mon**	**2.48**	313	*e*Pn	Pn	05 00 47.6	+1.6
DRME				*e*Sn	Sn	05 01 18.6	+2.5
DRME	**Dracevica, Mon**	**2.48**	313	*e*Pn	Pn	05 00 47.6	+1.6
DRME				*e*Sn	Sn	05 01 18.6	+2.5
KFL	**Anninata**	**2.50**	195	P	Pn	05 00 48.0	+1.8
KFL	**Anninata**	**2.50**	195	P	Pn	05 00 48.0	+1.8
KLV	**Kalavryta, Ach**	**2.51**	171	P	Pn	05 00 47.5	+1.1
KLV	**Kalavryta, Ach**	**2.51**	171	P	Pn	05 00 47.5	+1.1
PDG	**Podgorica**	**2.61**	318	*e*Pn	Pn	05 00 49.1	+1.3
PDG				*e*Sn	Sn	05 01 21.8	+2.6
TTG	**Podgorica**	**2.61**	318	*e*Pn	Pn	05 00 49.1	+1.3
TTG				*e*Sn	Sn	05 01 21.8	+2.6
GUR	**Goura**	**2.64**	168	P	Pn	05 00 45.8	-2.5
GUR	**Goura**	**2.64**	168	P	Pn	05 00 45.8	-2.5
BEY	**Berane**	**2.68**	332	⇑*i*Pn	Pn	05 00 49.9	+1.0
BEY				*e*Sn	Sn	05 01 23.1	+1.9
IVA	**Berane**	**2.68**	332	⇑*i*Pn	Pn	05 00 49.9	+1.0
IVA				*e*Sn	Sn	05 01 23.1	+1.9
BUM	**Brajici-Budva**	**2.72**	312	*e*Pn	Pn	05 00 50.5	+1.2
BUM				*e*Sn	Sn	05 01 24.4	+2.4
BUM	**Brajici-Budva**	**2.72**	312	*e*Pn	Pn	05 00 50.5	+1.2
BUM				*e*Sn	Sn	05 01 24.4	+2.4
CEME	**Cevo**	**2.87**	316	*e*Pn	Pn	05 00 52.6	+1.2
CEME				*e*Sn	Sn	05 01 28.0	+2.2
CEME	**Cevo**	**2.87**	316	*e*Pn	Pn	05 00 52.6	+1.2
CEME				*e*Sn	Sn	05 01 28.0	+2.2
NKME	**Niksic**	**3.01**	319	⇑*i*Pn	Pn	05 00 54.4	+1.1
NKME				*e*Sn	Sn	05 01 31.0	+1.8
NKME	**Niksic**	**3.01**	319	⇑*i*Pn	Pn	05 00 54.4	+1.1
NKME				*e*Sn	Sn	05 01 31.0	+1.8
NKY	**Niksic**	**3.02**	320	⇑*i*Pn	Pn	05 00 54.7	+1.1
NKY				*e*Sn	Sn	05 01 31.6	+2.0
NKY	**Niksic**	**3.02**	320	⇑*i*Pn	Pn	05 00 54.7	+1.1
NKY				*e*Sn	Sn	05 01 31.6	+2.0
HCY	**Herceg Novi**	**3.04**	310	⇑*i*Pn	Pn	05 00 54.4	+0.7
HCY				*e*Sn	Sn	05 01 32.1	+2.2
HCY	**Herceg Novi**	**3.04**	310	⇑*i*Pn	Pn	05 00 54.4	+0.7
HCY				*e*Sn	Sn	05 01 32.1	+2.2
BOVS	**Bovan**	**3.11**	1	*e*Pn	Pn	05 00 54.9	+0.2
IVAS	**Ivanjica**	**3.24**	341	*e*Pn	Pn	05 00 56.8	+0.2
PLE	**Pljevlja**	**3.27**	330	⇓*i*Pn	Pn	05 00 57.8	+0.9
PLE				*e*Sn	Sn	05 01 37.4	+1.8
PLE	**Pljevlja**	**3.27**	330	⇓*i*Pn	Pn	05 00 57.8	+0.9
PLE				*e*Sn	Sn	05 01 37.4	+1.8
TREB	**Trebinje**	**3.29**	313	*e*Pn	Pn	05 00 58.1	+0.9
BOLS	**Boljevac**	**3.31**	4	*e*Pn	Pn	05 00 56.3	-1.1
BRY	**Bratogost**	**3.32**	317	⇓*i*Pn	Pn	05 00 58.6	+1.0
BRY				*e*Sn	Sn	05 01 38.6	+1.7
BRY	**Bratogost**	**3.32**	317	⇓*i*Pn	Pn	05 00 58.6	+1.0
BRY				*e*Sn	Sn	05 01 38.6	+1.7
UPM	**Unac-Piva**	**3.36**	324	*e*Pn	Pn	05 00 59.5	+1.2
UPM				*e*Sn	Sn	05 01 39.6	+1.5
UPM	**Unac-Piva**	**3.36**	324	*e*Pn	Pn	05 00 59.5	+1.2
UPM	**Unac-Piva**	**3.36**	324	P	Pn	05 01 00.9	+2.6
UPM				*e*Sn	Sn	05 01 39.6	+1.5
GRUS	**Gruza**	**3.43**	349	*e*Pn	Pn	05 00 59.7	+0.6
BBLS	**Lazići**	**3.73**	334	*e*Pn	Pn	05 01 00.9	+0.7
DIVS	**Divibare**	**3.77**	342	P	Pn	05 01 03.7	-0.2
DIVS	**Divibare**	**3.77**	342	P	Pn	05 01 03.7	-0.2
DIVS	**Divibare**	**3.77**	342	⇑*i*Pn	Pn	05 01 04.3	+0.4
SG1	**Sgolgore (BA)**	**3.78**	276	*e*Pn	Pn	05 01 04.3	+0.5
SG1				Sn	Sn	05 01 47.0	-1.1
TRUS	**Trudelj**	**3.81**	347	*e*Pn	Pn	05 01 04.8	+0.6
KUBS	**Kucevo**	**3.89**	0	*e*Pn	Pn	05 01 03.8	-1.5
CDT	**Castel del Mon**	**4.10**	280	*e*Pn	Pn	05 01 08.8	+0.5
MDVR	**Moldovita**	**4.26**	1	⇑*i*P	Pb	05 01 18.7	-2.0
TEKS	**Tekeris**	**4.31**	340	*e*Pn	Pn	05 01 11.9	+0.7
MS1	**Monte Sant'Ang**	**4.46**	287	*e*Pn	Pn	05 01 13.0	-0.2
MS1				Sn	Sn	05 02 02.5	-2.4
FGSL	**Fruska Gora**	**4.82**	345	*e*Pn	Pn	05 01 18.4	+0.2
GZR	**Gura Zlata**	**4.94**	9	⇑*i*P	Pn	05 01 22.7	+2.8
GZR	**Gura Zlata**	**4.94**	9	⇑*i*P	Pn	05 01 22.7	+2.8
BZS	**Buzias**	**5.09**	360	⇓*i*P	Pn	05 01 21.3	-0.6
BZS	**Buzias**	**5.09**	360	⇓*i*P	Pn	05 01 21.3	-0.6
VOIR		**5.51**	26	⇓*i*P	Pn	05 01 30.6	+2.8
VOIR		**5.51**	26	⇓*i*P	Pn	05 01 30.6	+2.8
IDI	**Anoyia**	**5.83**	153	P	Pn	05 01 36.0	+3.9
	comp=E,0.5nm,0.3s,baz=327,slow=17,SNR=3.4						
IDI				S	Sn	05 02 38.3	-0.3
	comp=E,0.6nm,0.3s,baz=311,slow=20,SNR=2.5						
MLR	**Muntele Rosu**	**5.89**	31	P	Pn	05 01 36.3	+3.4
	comp=E,0.1nm,0.3s,baz=234,slow=17,SNR=5.2						
MLR				S	Sn	05 02 36.1	-4.1
	comp=E,0.1nm,0.3s,baz=140,slow=16,SNR=2.0						
MLR	**Muntele Rosu**	**5.89**	31	⇓*i*P	Pn	05 01 36.4	+3.4
UDBI	**Udbina**	**5.90**	315	*e*Pn	Pn	05 01 34.0	+1.0
UDBI				Sn	Sn	05 02 40.9	+0.4
UDBI	**Udbina**	**5.90**	315	*e*Pn	Pn	05 01 34.0	+1.0
UDBI				Sn	Sn	05 02 40.8	+0.4
NVLJ	**Novalja**	**6.42**	311	*i*Pn	Pn	05 01 40.0	-0.1
NVLJ				Sn	Sn	05 02 49.7	-3.3
NVLJ	**Novalja**	**6.42**	311	*i*Pn	Pn	05 01 39.9	-0.1
PLOR	**Plostina**	**6.47**	33	⇑*i*P	Pn	05 01 43.8	+3.0
PLOR	**Plostina**	**6.47**	33	⇑*i*P	Pn	05 01 43.8	+3.0
VRI	**Vrincioaia**	**6.51**	33	⇓*i*P	Pn	05 01 44.0	+2.6
VRI	**Vrincioaia**	**6.51**	33	⇓*i*P	Pn	05 01 44.0	+2.6
CRES	**Cresnjev**	**6.96**	322	*e*Pn	Pn	05 01 46.4	-1.1
CEY	**Cerknica**	**7.41**	317	*e*Pn	Pn	05 01 53.7	0.0
PSZ	**Piszkesteto**	**7.50**	351	⇓*i*P	Pn	05 01 46.4	-8.6
KECS	**Kecovo**	**8.00**	355	*e*Pn	Pn	05 02 04.9	+3.1
KECS	**Kecovo**	**8.00**	355	*e*PN	Pn	05 02 04.9	+3.1
VYHS	**Vyhne**	**8.22**	347	*e*Pn	Pn	05 02 06.3	+1.5
VYHS	**Vyhne**	**8.22**	347	*e*PN	Pn	05 02 06.3	+1.5
BRTR	**Keskin Array B**	**9.24**	91	P	Pn	05 02 26.0	+7.1
	comp=E,0.1nm,0.3s,baz=282,slow=13,SNR=3.1						
GERES	**GERESS Array B**	**10.05**	329	P	Pn	**05 02 32.8**	**+2.9**
	comp=E,0.1nm,0.3s,baz=154,slow=14,SNR=3.6						
MMAI	**Mount Meron Ar**	**13.33**	120	LR	LR	05 09 33.5	
	comp=E,44nm,19.2s,baz=150,slow=42						
NB2	**NORSAR Subarra**	**21.52**	346	P	P	**05 04 53.4**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=160,slow=12						
NB2	**NORSAR Subarra**	**21.52**	346	P	P	**05 04 53.4**	**-1.0**
	comp=Z,0.8nm,0.5s,SNR=4.8						
NOA	**NORSAR Array B**	**21.52**	346	P	P	**05 04 53.0**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=159,slow=9.2,SNR=4.7						
ARU	**Arti**	**28.76**	44	LR	LR	05 18 27.6	
	comp=Z,60nm,18.0s,baz=80,slow=38						
TORD	**Torodi Ar. Bea**	**32.40**	218	P	P	**05 06 35.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=36,slow=8.8,SNR=8.5						
MKAR	**Makanchi Array**	**43.37**	61	P	P	**05 08 06.6**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=272,slow=7.1,SNR=2.6						

NIED ***22*** *05:18:00,37.˚40N×141.˚60E,h5km,Mw3.6 Best double couple: M₀3.26000×10¹⁴ NP1:φ₀238.00000°, δ49.00000°, λ-51.00000°. NP2:φ₀7.00000°, δ54.00000°, λ-126.00000°.*

IDC ***22*** *05:18:39.6±0.8, 37.˚29N×141.˚65E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.7/42, mbtmp3.6/10, ML3.6/2, MS2.9/3, Ms1 2.9/3, ms1mx2.5/45, Error ellipse: s-maj=25.5km s-min=17.0km az=107.0*

ISCJB ***22*** *05:18:40.0±1.8, 37.˚36N±0.˚03×141.˚64E±0.˚05, h14km±12km, mb3.6/8, MS3.9/1, Error ellipse: s-maj=6.8km s-min=5.6km az=13.4*

JMA ***22*** *05:18:41.2±0.2, 37.˚41N×141.˚58E, h23km±2km, M3.7*

ISC 22 05:18:39.7±2.1, 37.˚38N±0.˚04×141.˚62E±0.˚07, h2km±13km, n27, σ1°02/27, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.59**	**268**	P		Pg		**05 18 52.0**	**+1.0**
JFK				S		Sg		05 18 59.7	+1.0
ONAJ	**Iwakimizuishiy**	**0.71**	**247**	P		Pb		**05 18 54.3**	**-0.5**
ONAJ				S		Sb		05 19 03.6	-1.5
JMM	**Marumori**	**0.81**	**307**	P		Pg		**05 18 55.5**	**+0.2**
JMM				S		Sg		05 19 06.1	+0.3
JFT	**Otama**	**1.03**	**278**	P		Pg		**05 18 59.8**	**+0.4**
JFT				S		Sg		05 19 13.1	+0.4
JIO	**Ouri**	**1.09**	**349**	P		Pb		**05 19 00.1**	**-1.2**
JIO				S		Sb		05 19 13.7	-2.2
JHO	**Hitachi**	**1.14**	**228**	P		Pb		**05 19 00.3**	**-1.8**
JOU	**Okura**	**1.23**	**323**	P		Pn		**05 19 03.2**	**-0.8**
JOU				S		Sb		05 19 19.3	-0.9
MJAR	**Matsushiro Arr**	**2.85**	**254**	Pn		Pn		**05 19 26.9**	**+0.6**
	5.3nm,0.3s,baz=85,slow=16,SNR=20								
MJAR				Sn		Sg		**05 20 11.3**	**-0.1**
	2.5nm,0.3s,baz=316,slow=40,SNR=7.4								
MJAR				LR		LR		05 20 35.9	
	comp=Z,44nm,20.4s,baz=175,slow=41								
MAT	**Matsushiro**	**2.86**	**254**	P		Pn		**05 19 27.0**	**+0.7**
MAT				S		Sn		05 20 00.1	-1.2
JHJ	**Hachijo jima 2**	**4.51**	**200**	Pn		Pn		**05 19 47.7**	**-1.3**
	13nm,0.3s,baz=93,slow=17,SNR=3.7								
JHJ				Sn		Sn		**05 20 42.7**	**+0.6**
	7.9nm,0.3s,baz=73,slow=19,SNR=2.5								
USRK	**Ussuriysk Ar.**	**9.98**	**316**	Pn		Pn		05 21 08.9	+4.9
	0.2nm,0.3s,baz=102,slow=13,SNR=2.4								
KSRS	**Korea Array**	**10.89**	**275**	LR		LR		05 25 06.3	
	comp=Z,34nm,20.4s,baz=235,slow=35								
H11N2	**WAKE ISLAND Hy**	**28.19**	**122**	T		T		05 54 02.6	
	baz=314,slow=75,SNR=302								
H11N1	**WAKE ISLAND Hy**	**28.20**	**122**	T		T		05 54 02.1	
	baz=314,slow=75,SNR=258								
H11N3	**WAKE ISLAND Hy**	**28.21**	**122**	T		T		05 54 03.4	
	baz=314,slow=75,SNR=352								
H11S1	**WAKE ISLAND Hy**	**28.92**	**124**	T		T		05 54 58.8	
	baz=316,slow=76,SNR=102								
H11S3	**WAKE ISLAND Hy**	**28.92**	**124**	T		T		05 54 56.8	
	baz=316,slow=76,SNR=111								
H11S2	**WAKE ISLAND Hy**	**28.93**	**124**	T		T		05 55 02.6	
	baz=316,slow=76,SNR=80								
ZALV	**Zalesovo Beam**	**41.80**	**312**	P		P		**05 26 31.3**	**+0.8**
	0.7nm,0.3s,baz=90,slow=5.8,SNR=2.2								
MKAR	**Makanchi Array**	**44.07**	**302**	P		P		**05 26 49.0**	**0.0**
	0.5nm,0.6s,baz=90,slow=7.6,SNR=4.3								
ILAR	**Eielson Array**	**49.11**	**33**	P		P		**05 27 29.0**	**+0.7**
	0.2nm,0.7s,baz=271,slow=6.0,SNR=4.1								
INK	**Inuvik**	**54.00**	**27**	LR		LR		05 52 45.0	
	comp=Z,99nm,19.6s,baz=305,slow=38								
WRA	**Warramunga Arr**	**57.43**	**188**	P		P		**05 28 29.4**	**-0.5**
	1.1nm,0.6s,baz=5.8,slow=7.4,SNR=16								
ASAR	**Alice Springs**	**61.16**	**188**	P		P		**05 28 55.0**	**-0.6**
	0.7nm,0.8s,baz=9.6,slow=7.4,SNR=6.2								
YKA	**Yellowknife Ar**	**63.42**	**30**	P		P		**05 29 10.9**	**+0.5**
	0.1nm,0.5s,baz=301,slow=6.6,SNR=2.7								
FINES	**FINESS Array B**	**68.58**	**332**	P		P		**05 29 44.7**	**+1.1**
	1.3nm,0.6s,baz=338,slow=3.0,SNR=3.1								
TXAR	**Lajitas Array**	**89.78**	**52**	P		P		**05 31 40.8**	**+0.7**
	0.1nm,0.6s,baz=279,slow=1.7,SNR=2.4								

ATH ***22*** *05:26:45.8, 40.˚54N×21.˚61E, h24km±1km, ML2.5/7, Error ellipse: s-maj=1.5km s-min=0.9km az=207.0*

ISCJB ***22*** *05:26:46.8±0.4, 40.˚54N±0.˚03×21.˚57E±0.˚03, h18km±7km, Error ellipse: s-maj=4.6km s-min=3.9km az=151.1*

CSEM ***22*** *05:26:46.6±0.1, 40.˚53N×21.˚61E, h10km, ML2.6, Error ellipse: s-maj=2.4km s-min=1.9km az=144.0*

THE ***22*** *05:26:46.8, 40.˚52N×21.˚59E, h15km±1km, ML2.6/9, Error ellipse: s-maj=1.1km s-min=0.4km az=261.0*

ISC 22 05:26:46.5±0.9, 40.˚53N±0.˚02×21.˚61E±0.˚02, h15km±7km, n42, σ0°49/68, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.25**	**151**	P		Pg		**05 26 52.2**	**+0.1**
KZN				S		Sb		05 26 56.9	-0.1
KZN	**Kozani**	**0.25**	**151**	P		Pg		**05 26 52.2**	**+0.1**
KZN				S		Sb		05 26 56.6	-0.4
FNA	**Florina**	**0.31**	**326**	P		Pg		**05 26 52.9**	**-0.2**
FNA				S		Sg		05 26 58.2	+0.5
FNA	**Florina**	**0.31**	**326**	P		Pg		**05 26 53.0**	**-0.2**
FNA				S		Sg		05 26 57.2	-0.5
FNA	**Florina**	**0.31**	**326**	P		Pg		**05 26 53.0**	**-0.2**
FNA				S		Sg		**05 26 57.2**	**-0.5**
FNA				AML		AML		05 26 59.3	
	comp=E,4628μm,0.3s								
FNA				AML		AML		05 27 00.2	
	comp=N,4244μm,0.2s								
KTI	**Kastanea**	**0.41**	**109**	P		Pg		**05 26 55.0**	**+0.1**
KTI	**Kastanea**	**0.41**	**109**	P		Pg		**05 26 55.0**	**+0.1**
NEST	**Nestorio**	**0.44**	**256**	P		Pg		**05 26 55.2**	**-0.3**
NEST				S		Sg		**05 27 01.6**	**+0.1**
NEST	**Nestorio**	**0.44**	**256**	P		Pg		**05 26 55.2**	**-0.3**
NEST				S		Sg		**05 27 01.6**	**+0.1**
NEST	**Nestorio**	**0.44**	**256**	P		Pg		**05 26 55.1**	**-0.3**
NEST				S		Sg		**05 27 01.9**	**+0.4**
NEST				AML		AML		05 27 03.7	
	comp=E,1947μm,0.4s								
NEST				AML		AML		05 27 06.5	
	comp=N,2221μm,0.3s								
PENT	**Pentalofos**	**0.49**	**228**	P		Pg		**05 26 56.0**	**-0.3**
PENT				S		Sg		**05 27 03.1**	**+0.2**
PENT	**Pentalofos**	**0.49**	**228**	P		Pg		**05 26 56.0**	**-0.3**
PENT				S		Sg		**05 27 03.1**	**+0.2**
PENT	**Pentalofos**	**0.49**	**228**	P		Pg		**05 26 55.6**	**-0.7**
PENT				S		Sb		**05 27 03.7**	**-0.1**
PENT				AML		AML		05 27 08.9	
	comp=E,896μm,0.3s								
PENT				AML		AML		05 27 08.9	
	comp=N,969μm,0.3s								
KPRO	**Kipourio**	**0.60**	**198**	P		Pg		**05 26 57.7**	**-0.7**
KPRO				S		Sb		**05 27 07.4**	**+0.4**
KPRO	**Kipourio**	**0.60**	**198**	P		Pg		**05 26 58.6**	**+0.2**
KPRO				S		Sb		**05 27 07.5**	**+0.4**
KPRO				AML		AML		05 27 11.0	
	comp=N,1120μm,0.7s								
KPRO				AML		AML		05 27 14.2	
	comp=E,815μm,0.5s								
GRG	**Griva**	**0.74**	**54**	P		Pg		**05 27 00.8**	**-0.2**
GRG				S		Sn		**05 27 12.9**	**-0.6**
GRG	**Griva**	**0.74**	**54**	P		Pg		**05 27 00.8**	**-0.2**
GRG				S		Sb		**05 27 11.8**	**+0.7**
GRG	**Griva**	**0.74**	**54**	P		Pg		**05 27 00.6**	**-0.4**
GRG				S		Sb		**05 27 11.8**	**+0.7**
GRG				AML		AML		05 27 16.0	
	comp=N,432μm,0.5s								
GRG				AML		AML		05 27 16.4	
	comp=E,342μm,0.5s								
LIT	**Litokhoron**	**0.80**	**122**	P		Pb		**05 27 02.2**	**+0.1**
LIT				S		Sb		**05 27 13.5**	**+0.8**
LIT	**Litokhoron**	**0.80**	**122**	P		Pb		**05 27 02.2**	**+0.1**
LIT				S		Sb		**05 27 13.4**	**+0.8**
LIT	**Litokhoron**	**0.80**	**122**	P		Pg		**05 27 02.1**	**+0.1**
LIT				S		Sb		**05 27 13.4**	**+0.8**
LIT				AML		AML		05 27 16.4	
	comp=E,1003μm,0.2s								
LIT				AML		AML		05 27 20.3	
	comp=N,561μm,0.3s								
THL	**Klokotos Trika**	**1.01**	**162**	P		Pb		**05 27 05.0**	**-0.7**
THL				S		Sn		**05 27 20.2**	**+0.2**
THL	**Klokotos Trika**	**1.01**	**162**	P		Pb		**05 27 05.0**	**-0.7**
THL				S		Sb		**05 27 19.0**	**+0.3**
HORT	**Hortiatis**	**1.14**	**86**	P		Pb		**05 27 07.8**	**-0.1**
HORT	**Hortiatis**	**1.14**	**86**	P		Pb		**05 27 07.8**	**-0.1**
HORT				S		Sn		**05 27 23.1**	**-0.2**
HORT	**Hortiatis**	**1.14**	**86**	P		Pb		**05 27 07.3**	**-0.7**
HORT				S		Sn		**05 27 23.1**	**-0.2**
HORT				AML		AML		05 27 27.2	
	comp=E,150μm,0.5s								
HORT				AML		AML		05 27 27.7	
	comp=N,183μm,0.4s								
KNT	**Kendrikon**	**1.17**	**57**	P		Pn		**05 27 08.3**	**0.0**
KNT				S		Sg		**05 27 24.2**	**-0.1**
KNT	**Kendrikon**	**1.17**	**57**	P		Pn		**05 27 08.3**	**0.0**
KNT				S		Sg		**05 27 24.2**	**-0.1**
SOH	**Sokhos**	**1.36**	**77**	P		Pb		**05 27 11.5**	**-0.2**
SOH	**Sokhos**	**1.36**	**77**	P		Pb		**05 27 11.5**	**-0.2**
SGD	**Sagiada**	**1.39**	**230**	P		Pb		**05 27 12.2**	**0.0**
SGD	**Sagiada**	**1.39**	**230**	P		Pb		**05 27 12.2**	**0.0**
PLG	**Polygyros**	**1.41**	**96**	P		Pn		**05 27 12.1**	**+0.4**
PLG	**Polygyros**	**1.41**	**96**	P		Pn		**05 27 12.1**	**+0.4**
DSL	**Palaion Diasel**	**1.44**	**196**	P		Pg		**05 27 13.9**	**-0.5**
DSL	**Palaion Diasel**	**1.44**	**196**	P		Pg		**05 27 13.9**	**-0.5**
SRS	**Serrai**	**1.62**	**68**	P		Pn		**05 27 13

NIED ***22*** *05:47:00, 37˚.40N× 141˚.60E, h5km, Mw3.7 Best double couple: M₀3.45000×10¹⁴ NP1:φ₀31.00000°, δ30.00000°, λ-95.00000°. NP2:φ₀217.00000°, δ60.00000°, λ-87.00000°.*

IDC ***22*** *05:47:19.8±1.1, 37˚.49N× 141˚.73E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/52, mbtmp3.6/9, ML3.1/1, MS3.0/5, Ms1 3.0/5, ms1mx2.7/43, Error ellipse: s-maj=28.1km s-min=22.9km az=156.0*

ISCJB ***22*** *05:47:21.1±1.3, 37˚.38N±0˚.05× 141˚.70E±0˚.08, h17km±8km, mb3.6/8, MS3.3/2, Error ellipse: s-maj=11.3km s-min=6.5km az=29.5*

JMA ***22*** *05:47:22.6±0.2, 37˚.40N× 141˚.59E, h24km±2km, M3.6*

ISC 22 05:47:20.0±2.0, 37˚44N±0˚.06× 141˚.70E±0˚.07, h2km±12km, n27, σ0$97/25, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.66**	**264**	P	**Pg**	**05 47 33.6**	**+0.9**
JFK				S	**Sg**	**05 47 41.4**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.79**	**245**	P	**Pg**	**05 47 35.9**	**+0.7**
ONAJ				S	**Sg**	**05 47 45.5**	**0.0**
JMM	**Marumori**	**0.83**	**301**	P	**Pb**	**05 47 37.1**	**-0.1**
JMM				S	**Sb**	**05 47 47.8**	**-1.1**
JIO	**Ouri**	**1.05**	**345**	P	**Pn**	**05 47 41.7**	**0.0**
JIO				S	**Sb**	**05 47 55.3**	**+0.2**
JFT	**Otama**	**1.09**	**275**	P	**Pb**	**05 47 41.4**	**-0.1**
JFT				S	**Sg**	**05 47 54.7**	**-0.2**
JHO	**Hitachi**	**1.23**	**228**	P	**Pg**	**05 47 42.1**	**-1.4**
JOU	**Okura**	**1.23**	**319**	P	**Pn**	**05 47 44.7**	**+0.4**
JOU				S	**Sn**	**05 48 00.9**	**-0.7**
MJAR	**Matsushiro Arr**	**2.93**	**253**	Pn	**Pn**	**05 48 08.5**	**+0.8**
	2.8nm,0.3s,baz=86,slow=16,SNR=13						
MJAR				Sn	**Sb**	**05 48 48.5**	**-0.9**
	3.1nm,0.3s,baz=78,slow=18,SNR=5.5						
MJAR				LR	LR	05 49 24.9	
	comp=Z,83nm,18.0s,baz=85,slow=42						
MAT	**Matsushiro**	**2.94**	**253**	P	**Pn**	**05 48 08.7**	**+1.0**
MAT				S	**Sn**	**05 48 43.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.98**	**316**	LR	LR	05 52 47.3	
	comp=Z,70nm,19.2s,baz=184,slow=33						
KSRS	**Korea Array**	**10.95**	**274**	LR	LR	05 53 57.7	
	comp=Z,42nm,19.6s,baz=30,slow=36						
SONM	**Songino Array**	**27.75**	**303**	P	**P**	**05 53 08.6**	**-1.5**
	0.3nm,0.4s,baz=90,slow=8.8,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	06 22 47.0	
	baz=314,slow=75,SNR=128						
H11N1	**WAKE ISLAND Hy**	**28.17**	**122**	T	T	06 22 46.5	
	baz=314,slow=75,SNR=154						
H11N3	**WAKE ISLAND Hy**	**28.18**	**122**	T	T	06 22 48.4	
	baz=314,slow=75,SNR=132						
H11S1	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	06 23 40.8	
	baz=316,slow=76,SNR=136						
H11S3	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	06 23 41.9	
	baz=316,slow=76,SNR=96						
H11S2	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	06 23 43.0	
	baz=316,slow=76,SNR=90						
TLY	**Talaya**	**36.24**	**310**	LR	LR	06 07 02.1	
	comp=Z,46nm,18.5s,baz=176,slow=39						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**05 55 30.4**	**+0.9**
	0.7nm,0.7s,baz=85,slow=10,SNR=6.0						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**05 55 44.4**	**+0.4**
	1.0nm,0.5s,baz=82,slow=8.0,SNR=12						
ILAR	**Eielson Array**	**49.03**	**33**	P	**P**	**05 56 09.1**	**+1.1**
	0.3nm,0.8s,baz=287,slow=5.7,SNR=4.4						
WRA	**Warramunga Arr**	**57.49**	**188**	P	**P**	**05 57 10.6**	**0.0**
	0.8nm,0.6s,baz=5.4,slow=7.3,SNR=5.7						
YKA	**Yellowknife Ar**	**63.34**	**30**	P	**P**	**05 57 47.9**	**-2.3**
	0.2nm,0.7s,baz=303,slow=6.0,SNR=2.6						
FINES	**FINESS Array B**	**68.56**	**332**	P	**P**	**05 58 23.7**	**0.0**
	2.2nm,0.8s,baz=35,slow=10,SNR=2.8						
ULM	**Lac du Bonnet**	**79.04**	**34**	LR	LR	06 38 13.9	
	comp=Z,20nm,18.2s,baz=349,slow=39						
TXAR	**Lajitas Array**	**89.69**	**53**	P	**P**	**06 00 21.6**	**+1.6**
	0.1nm,0.5s,baz=322,slow=3.8,SNR=3.4						

IDC ***22*** *05:52:03.9±2.4, 0˚.84S× 132˚.53E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/39, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=105.5km s-min=24.9km az=77.0*

ISCJB ***22*** *05:52:05.2±1.4, 0˚.65S±0˚.09× 133˚.27E±0˚.09, h33km, mb3.8/2, Error ellipse: s-maj=14.2km s-min=11.8km az=136.3*

DJA ***22*** *05:52:07.2±2.1, 1˚S±8˚× 13˚3E±˚, h19km±23km, M4.0/4, MLv4.0/4*

ISC 22 05:52:07.7±1.3, 0˚.7S±0˚.1× 133˚.12E±0˚.08, h35km, n7, σ1$78/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**1.32**	**127**	P	**Pn**	**05 52 30.9**	**+1.2**
SWI	**Sorong**	**1.87**	**265**	P	**Pn**	**05 52 37.6**	**+0.4**
SWI				S	**Sn**	**05 53 01.5**	**+1.9**
FAKI	**Fak Fak**	**2.36**	**202**	P	**Pn**	**05 52 44.8**	**+0.8**
FAKI				S	**Sn**	**05 53 13.1**	**+1.3**
FITZ	**Fitzroy Crossi**	**18.79**	**203**	Pn	**P**	**05 56 20.8**	**-3.4**
	0.2nm,0.3s,baz=29,slow=11,SNR=5.0						
FITZ				Sn	Sn	05 59 37.0	-17
	0.1nm,0.3s,baz=30,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**19.15**	**177**	Pn	**P**	**05 56 28.0**	**-0.2**
	0.3nm,0.3s,baz=355,slow=11,SNR=15						
WRA				Sn	Sn	05 59 50.9	-12
	0.2nm,0.3s,baz=358,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**22.84**	**178**	P	**P**	**05 57 08.0**	**0.0**
	1.2nm,0.5s,baz=356,slow=8.9,SNR=15						
MKAR	**Makanchi Array**	**64.85**	**324**	P	**P**	**06 02 43.3**	**0.0**
	0.9nm,0.6s,baz=114,slow=8.5,SNR=12						

IDC ***22*** *05:53:38.6±1.3, 26˚.61N× 144˚.15E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.7/47, mbtmp3.9/7, ML3.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/34, Error ellipse: s-maj=38.9km s-min=22.5km az=64.0*

ISCJB ***22*** *05:53:41.1±1.2, 26˚.7N±0˚.1× 144˚.2E±0˚.1, h31km, mb4.0/6, Error ellipse: s-maj=20.3km s-min=14.1km az=17.1*

ISC 22 05:53:43.2±1.2, 26˚.7N±0˚.2× 144˚.1E±0˚.1, h31km, n9, σ1$00/10, mb4.1/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.74**	**285**	Pn	**Pn**	**05 54 11.1**	**-0.3**
	19nm,0.3s,baz=270,slow=23,SNR=14						
JCJ				Sn	**Sn**	**05 54 32.4**	**-0.1**
	73nm,0.3s,baz=97,slow=23,SNR=10						
MJAR	**Matsushiro Arr**	**11.05**	**335**	Pn	**Pn**	**05 56 18.2**	**-1.0**
	0.8nm,0.3s,baz=156,slow=12,SNR=3.8						
MJAR				LR	LR	06 02 52.5	
	comp=Z,27nm,18.6s,baz=265,slow=50						
KLR	**Kul'dur**	**24.48**	**340**	P	**P**	**05 58 59.7**	**+0.2**
	0.9nm,0.6s,baz=142,slow=19,SNR=2.7						
SONM	**Songino Array**	**36.20**	**316**	P	**P**	**06 00 44.8**	**+1.6**
	2.0nm,0.6s,baz=112,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**47.27**	**193**	P	**P**	**06 02 13.4**	**-0.4**
	2.5nm,0.8s,baz=13,slow=8.3,SNR=9.9						
MKAR	**Makanchi Array**	**52.05**	**310**	P	**P**	**06 02 51.2**	**+1.2**
	1.2nm,0.7s,baz=94,slow=8.2,SNR=9.0						
KURBB	**Kurchatov Arra**	**54.55**	**315**	P	**P**	**06 03 08.8**	**+0.5**
	1.1nm,0.5s,baz=86,slow=6.4,SNR=20						
BVAR	**Borovoye Array**	**59.51**	**318**	P	**P**	**06 03 42.1**	**-1.2**
	1.1nm,0.6s,baz=100,slow=7.7,SNR=6.1						
LPAZ	**La Paz**	**148.39**	**78**	PKPbc	**PKPbc**	**06 13 28.1**	**0.0**
	0.9nm,0.8s,baz=246,slow=7.7,SNR=3.1						

IDC ***22*** *05:55:07.6±0.9, 48˚.72S× 31˚.06E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.8/34, mbtmp3.8/8, ML3.3/1, MS3.4/4, Ms1 3.3/4, ms1mx3.1/28, Error ellipse: s-maj=53.0km s-min=17.3km az=63.0*

ISC 22 05:55:08.3±0.8, 48˚.7S±0˚.2× 30˚.5E±0˚.3, h10km, n17, σ2$88/13, mb4.0/6, MS3.2/4, 2D, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.86**	**332**	P	**P**	**05 59 20.4**	**+2.7**
	0.1nm,0.3s,baz=136,slow=9.9,SNR=22						
SUR				S	**Sn**	**06 02 29.0**	**-7.0**
	0.0nm,0.3s,baz=219,slow=18,SNR=2.6						
SUR				LR	LR	06 04 59.8	
	comp=Z,6.8nm,21.0s,baz=130,slow=33						
BOSA	**Boshof**	**20.45**	**347**	P	**P**	**05 59 46.4**	**+0.4**
	2.7nm,0.9s,baz=160,slow=12,SNR=5.0						
BOSA				LR	LR	06 06 07.1	
	comp=Z,83nm,20.8s,baz=146,slow=32						
SYO	**Syowa Base**	**20.87**	**171**	*e*P	**P**	**05 59 47.8**	**-2.3**
SYO	**Syowa Base**	**20.87**	**171**	⇓*e*P	Pn	05 59 54.2	+1.6
LBTB	**Lobatse**	**23.94**	**349**	P	**P**	**06 00 22.8**	**+0.2**
	0.9nm,0.6s,baz=281,slow=19,SNR=2.6						
LBTB				LR	LR	06 08 30.8	
	comp=Z,76nm,19.8s,baz=142,slow=33						
MAW	**Mawson**	**25.01**	**151**	P	**P**	**06 00 31.0**	**-0.9**
	2.3nm,0.7s,baz=302,slow=10,SNR=9.5						
MAW				LR	LR	06 07 55.3	
	comp=Z,68nm,20.2s,baz=236,slow=31						
MATP	**Matopo**	**28.24**	**356**	LR	LR	06 11 05.3	
	comp=Z,113nm,18.4s,baz=145,slow=34						
VNDA	**Vanda**	**50.52**	**168**	P	**P**	**06 04 05.5**	**-0.6**
	1.1nm,0.7s,baz=250,slow=6.2,SNR=7.0						
H10S2	**ASCENSION HYDR**	**54.73**	**301**	T	T	07 04 07.0	
	baz=140						
H10S3	**ASCENSION HYDR**	**54.74**	**301**	T	T	07 04 09.0	
	baz=140						
H10S1	**ASCENSION HYDR**	**54.74**	**301**	T	T	07 04 07.9	
	baz=140						
TORD	**Torodi Ar. Bea**	**66.65**	**329**	P	**P**	**06 06 03.0**	**+3.9**
	0.6nm,0.7s,baz=162,slow=6.9,SNR=6.2						
ASAR	**Alice Springs**	**80.89**	**115**	P	**P**	**06 07 22.0**	**-0.8**
	1.3nm,0.7s,baz=215,slow=4.9,SNR=10						
WRA	**Warramunga Arr**	**83.97**	**113**	P	**P**	**06 07 37.6**	**-1.3**
	0.7nm,0.7s,baz=210,slow=3.6,SNR=6.5						
TXAR	**Lajitas Array**	**140.21**	**258**	PKP	**PKPdf**	**06 14 37.1**	**-0.1**
	0.4nm,0.9s,baz=161,slow=5.7,SNR=3.8						
SEY	**Seymchan**	**145.68**	**44**	PKPbc	**PKPab**	**06 14 47.4**	**+1.0**
	0.9nm,0.5s,baz=83,slow=2.5,SNR=5.1						
PDAR	**Pinedale Array**	**151.76**	**273**	PKPbc	**PKPbc**	**06 15 03.8**	**+1.0**
	0.6nm,0.6s,baz=98,slow=2.7,SNR=5.1						

IDC ***22*** *05:59:52.9±1.6, 33˚.72N× 89˚.02E, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.5/41, mbtmp3.7/6, ML2.8/2, MS2.8/3, Ms1 2.9/3, ms1mx2.6/41, Error ellipse: s-maj=56.0km s-min=23.0km az=63.0*

ISCJB ***22*** *05:59:55.6±1.0, 33˚.8N±0˚.1× 89˚.1E±0˚.3, h33km, mb3.9/2, MS3.2/1, Error ellipse: s-maj=33.3km s-min=12.2km az=154.1*

ISC 22 05:59:58.0±1.2, 33˚.8N±0˚.2× 89˚.1E±0˚.2, h35km, n8, σ0$61/8, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.99**	**340**	Pn	**Pn**	**06 03 13.3**	**-0.3**
	0.1nm,0.3s,baz=134,slow=10,SNR=3.0						
MKAR				LR	LR	06 09 01.7	
	comp=Z,35nm,18.6s,baz=180,slow=39						
CMAR	**Chiang Mai Arr**	**17.61**	**148**	P	**Pn**	**06 04 00.4**	**-0.3**
	baz=329,slow=14,SNR=2.0						
CMAR				LR	LR	06 10 49.5	
	comp=Z,14nm,18.3s,baz=200,slow=37						
KURBB	**Kurchatov Arra**	**18.53**	**338**	P	**Pn**	**06 04 11.1**	**-0.7**
	0.0nm,0.3s,baz=146,slow=12,SNR=8.0						
SONM	**Songino Array**	**19.11**	**38**	P	**Pn**	**06 04 19.3**	**+0.3**
	0.1nm,0.3s,baz=229,slow=12,SNR=4.1						
ZALV	**Zalesovo Beam**	**20.39**	**353**	P	**P**	**06 04 31.3**	**-0.2**
	3.2nm,0.7s,baz=170,slow=9.0,SNR=9.4						
NB2	**NORSAR Subarra**	**55.36**	**325**	P	**P**	**06 09 29.2**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=82,slow=7.4						
NOA	**NORSAR Array B**	**55.36**	**325**	P	**P**	**06 09 28.4**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=82,slow=7.3,SNR=4.7						
NOA				LR	LR	06 33 52.2	
	comp=Z,21nm,19.9s,baz=100,slow=37						
WRA	**Warramunga Arr**	**68.64**	**134**	P	**P**	**06 10 57.8**	**0.0**
	comp=Z,0.8nm,0.8s,baz=331,slow=6.5,SNR=5.0						

NNC ***22*** *06:08:34.2±1.1, 44˚.74N× 82˚.14E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=15.7km s-min=2.4km az=117.0*

SOME ***22*** *06:08:46.5, 44˚.63N× 79˚.35E, h10km*

ISC 22 06:08:38.0±1.5, 44˚.92N±0˚.06× 80˚.34E±0˚.09, h10km, n10, σ3$19/13, 3C-5D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.70**	**214**	⇓*i*P	**Pb**	**06 08 54.7**	**+2.3**
	3.9nm,0.2s						
DJR				⇓*i*S	**Sg**	**06 09 00.6**	**-0.2**
	49nm,0.3s						
KAPS	**Kapalarasan**	**0.79**	**298**	⇓*i*P	**Pn**	**06 08 58.0**	**+2.8**
	2.9nm,0.1s						
KAPS				⇑*i*S	**Sb**	**06 09 06.1**	**+1.6**
	14nm,0.2s						
PDGK	**Podgornoye**	**1.70**	**201**	⇑Sn	Sg	06 09 45.5	+13
	4.7nm,0.5s						
ARXS	**Arharly**	**1.93**	**249**	*e*P	**Pn**	**06 09 08.3**	**-2.6**
	7.3nm,0.1s						
ARXS				*e*S	Sn	06 09 23.9	-11
	11nm,0.2s						
UZB	**Uzymbulak**	**2.01**	**209**	*e*P	**Pn**	**06 09 14.3**	**+2.2**
	1.1nm,0.2s						
UZB				*e*S	**Sn**	**06 09 34.5**	**-2.8**
	3.0nm,0.1s						
MAKZ	**Makanchi**	**2.21**	**31**	⇑Pn	Pn	06 09 10.2	-4.6
	3.4nm,0.5s						
MAKZ				⇓Sn	**Sn**	**06 09 37.6**	**-4.6**
	9.5nm,0.5s						
MK31	**Makanchi Array**	**2.32**	**35**	Pn	Pn	06 09 10.2	-6.1
	6.3nm,0.3s,baz=179,slow=13,SNR=110						
MK31				Sn	Sn	06 09 37.5	-7.3
	4.8nm,0.4s,baz=182,slow=27,SNR=17						
SATY	**Saty**	**2.32**	**218**	*e*P	**Pn**	**06 09 18.0**	**+1.6**
	3.8nm,0.1s						
SATY				*e*S	**Sn**	**06 09 40.7**	**-4.4**
	21nm,0.1s						
CHKK	**Chushkaly**	**2.61**	**248**	*e*P	**Pn**	**06 09 19.9**	**-0.3**
	2.5nm,0.4s						
CHKK				*e*S	Sn	06 09 44.4	-7.7
	8.6nm,0.2s						
MDOK	**Medeo**	**2.95**	**235**	*e*P	**Pn**	**06 09 27.2**	**+2.2**
	1.8nm,0.2s						
MDOK				⇓*i*S	**Sn**	**06 09 56.2**	**-4.4**
	8.2nm,0.4s						

IDC 22 06:13:54.2±2.3, 6˚.35S× 131˚.10E, h0km, mb3.7/1, mb1 3.7/4, mb1mx3.5/30, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=85.3km s-min=29.4km az=79.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.84**	**204**	Pn	Pn	06 16 58.8	+0.7
	0.2nm,0.3s,baz=46,slow=13,SNR=4.6						
FITZ				Sn	Sn	06 19 13.1	-8.8
	0.1nm,0.3s,baz=132,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**13.87**	**167**	Pn	Pn	06 17 10.2	-2.1
	0.1nm,0.3s,baz=350,slow=14,SNR=7.9						
WRA				Sn	Sn	06 19 37.8	-9.4
	0.1nm,0.3s,baz=355,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**17.43**	**171**	P	P	06 18 00.1	-0.3
	0.1nm,0.3s,baz=357,slow=14,SNR=4.3						
MKAR	**Makanchi Array**	**68.29**	**326**	P	P	06 24 57.2	0.0
	0.6nm,0.6s,baz=128,slow=7.9,SNR=5.1						

DDA ***22*** *06:14:04.8, 39˚.12N× 29˚.01E, h7km, Md2.8*

ISCJB ***22*** *06:14:05.6±0.6, 39˚.12N±0˚.04× 29˚.03E±0˚.03, h2km±8km, Error ellipse: s-maj=6.6km s-min=4.5km az=172.3*

CSEM ***22*** *06:14:05.7±0.1, 39˚.10N× 29˚.04E, h2km, ML2.5, Error ellipse: s-maj=3.3km s-min=2.7km az=171.0*

ISK ***22*** *06:14:05.1, 39˚.10N× 29˚.02E, h4km, ML2.5*

ISC 22 06:14:05.6±0.9, 39˚.10N±0˚.03× 29˚.03E±0˚.02, h11km±8km, n35, σ0$67/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**256**	P	**Pg**	**06 14 10.8**	**+0.1**
DEMI				S	**Sg**	**06 14 14.2**	**-0.1**
DEMI	**Demirci**	**0.25**	**256**	*i* P	**Pg**	**06 14 10.8**	**+0.1**
DEMI				*i* S	**Sg**	**06 14 14.2**	**-0.1**
GEDZ	**Gediz**	**0.30**	**101**	*e*PG	**Pb**	**06 14 12.2**	**-0.9**
GEDZ	**Gediz**	**0.30**	**101**	*e*Pg	**Pb**	**06 14 12.2**	**-0.9**
GDZ	**Gediz**	**0.35**	**92**	P	**Pg**	**06 14 12.7**	**0.0**
GDZ				S	**Sg**	**06 14 17.7**	**+0.2**
GDZ	**Gediz**	**0.35**	**92**	*i* P	**Pg**	**06 14 12.7**	**0.0**
GDZ				*i* S	**Sg**	**06 14 17.7**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**44**	*e*PG	**Pg**	**06 14 14.6**	**-0.5**
TVSB	**Tavsanli**	**0.48**	**44**	*e*Pg	**Pg**	**06 14 14.6**	**-0.5**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**06 14 18.0**	**-0.3**
KULA				*e*SG	**Sb**	**06 14 27.9**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**06 14 18.0**	**-0.3**
KULA				*e*Sg	**Sb**	**06 14 27.9**	**-0.3**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pn**	**06 14 25.9**	**-0.1**
BALB				*e*SG	**Sn**	**06 14 40.6**	**0.0**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pn**	**06 14 26.0**	**-0.1**
BALB				*e*Sg	**Sn**	**06 14 40.6**	**0.0**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pg**	**06 14 26.1**	**-1.9**
IGD				*i* S	**Sg**	**06 14 42.8**	**-0.4**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pn**	**06 14 30.4**	**+1.1**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pn**	**06 14 30.4**	**+1.1**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pn**	**06 14 30.1**	**+0.8**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pn**	**06 14 30.1**	**+0.8**
IZI	**Iznik**	**1.28**	**16**	*e*PN	**Pb**	**06 14 29.8**	**+0.1**
IZI	**Iznik**	**1.28**	**16**	*e*Pn	**Pb**	**06 14 29.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*PN	**Pb**	**06 14 31.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*Pn	**Pb**	**06 14 31.7**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pg**	**06 14 33.0**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*Pn	**Pg**	**06 14 33.0**	**-0.6**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pg**	**06 14 33.6**	**-0.1**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pg**	**06 14 33.6**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**73**	*e*PN	**Pb**	**06 14 33.3**	**+0.2**
ESKT	**Eskisehir**	**1.48**	**73**	*e*Pn	**Pb**	**06 14 33.3**	**+0.2**
EDC	**Edincik**	**1.53**	**325**	*e*PN	**Pg**	**06 14 34.4**	**-0.6**
EDC	**Edincik**	**1.53**	**325**	*e*Pn	**Pg**	**06 14 34.4**	**-0.6**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pb**	**06 14 37.5**	**-0.3**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pb**	**06 14 37.5**	**-0.3**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*PN	**Pb**	**06 14 39.4**	**-0.2**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*Pn	**Pb**	**06 14 39.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*PN	**Pn**	**06 14 42.8**	**+1.7**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*Pn	**Pn**	**06 14 42.8**	**+1.7**

BEO ***22*** *06:24:40.8±1.2, 43˚.96N× 16˚.84E, h0km, M1.3/3*

CSEM 22 06:24:27.7±1.0, 43˚.88N× 15˚.61E, h2km, ML1.3, Error ellipse: s-maj=26.8km s-min=12.7km az=45.0, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDBI	**Udbina**	**0.66**	**10**	*i* Pg	Pg	06 24 38.4	-2.0
UDBI				Sg	Sg	06 24 48.4	-0.6
UDBI	**Udbina**	**0.66**	**10**	*i* Pg	Pg	06 24 38.3	-2.1
UDBI				Sg	Sg	06 24 48.4	-0.6
NVLJ	**Novalja**	**0.87**	**323**	*e*Pg	Pg	06 24 44.3	-0.1
NVLJ				Sg	Sn	06 25 01.2	+1.1
NVLJ	**Novalja**	**0.87**	**323**	*e*Pg	Pg	06 24 44.2	-0.1
BLY	**Banja Luka**	**1.43**	**52**	*e*Pg	Pg	06 24 56.1	+1.0
BLY				*e*Sg	Sg	06 25 08.0	-5.6
BLY	**Banja Luka**	**1.43**	**52**	*e*Pg	Pg	06 24 56.1	+1.0
BOJS	**Bojanci**	**1.65**	**351**	*i* Pn	Pn	06 24 57.7	+0.1
BOJS				*i* Sn	Sg	06 25 21.8	+1.1
	comp=Z,6.0nm,0.2s						
BOJS	**Bojanci**	**1.65**	**351**	Pn	Pn	06 24 57.7	0.0
BOJS				*i* Sn	Sg	06 25 21.8	+1.2
	comp=Z,6.0nm,0.2s						
VISS	**Visnje**	**2.00**	**344**	*i* Pn	Pn	06 25 03.5	+0.9
VISS				*i* Sn	Sg	06 25 31.8	-0.3
	comp=Z,1.0nm,0.1s						
VISS	**Visnje**	**2.00**	**344**	*i* Pn	Pn	06 25 03.5	+0.9
VISS				*i* Sn	Sg	06 25 31.8	-0.2
	comp=Z,1.0nm,0.1s						
TREB	**Trebinje**	**2.31**	**119**	*e*Pg	Pb	06 25 10.9	+0.8
TREB				*e*Sg	Sn	06 25 32.8	-3.0
TREB	**Trebinje**	**2.31**	**119**	*e*Pg	Pb	06 25 10.9	+0.8
BBLS	**Lazići**	**2.75**	**89**	*e*Pn	Pn	06 25 14.1	+1.3
BBLS				*e*Sn	Sn	06 25 38.2	-8.4
BBLS	**Lazići**	**2.75**	**89**	*e*Pn	Pn	06 25 14.1	+1.3

NNC ***22*** *06:35:13.7±1.6, 40˚.76N× 77˚.56E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=15.1km s-min=6.2km az=175.0*

KRNET ***22*** *06:35:13.3±0.1, 40˚.66N× 77˚.49E, mb3.9*

SOME ***22*** *06:35:15.3, 40˚.67N× 77˚.52E, h20km*

ISC 22 06:35:14.1±3.2, 40˚.66N±0˚.09× 77˚.62E±0˚.05, h2km±24km, n31, σ1$06/58, 27C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**1.89**	**327**	⇑*i*P	**Pn**	**06 35 46.9**	**-0.7**
	baz=329						
ULHL				⇑*i*S	**Sn**	**06 36 10.8**	**-1.3**
	baz=329						
ANVS	**Anan'yevo**	**2.12**	**1**	⇓*e*P	**Pb**	**06 35 52.2**	**-1.1**
	baz=3.0

AAK				⇑Lg	Lg	06 36 47.8		
	68nm,0.6s							
FRU1	**Bishkek**	**3.10**	**315**	⇑*eP*	**Pn**	**06 36 04.4**	**+0.3**
	baz=316							
FRU1				⇑*eS*	**Sn**	**06 36 42.7**	**+0.9**
	baz=316							
CHMS	**Chumysh**	**3.17**	**318**	⇑*iP*	**Pn**	**06 36 05.9**	**+0.9**
	baz=320							
CHMS				⇑*iS*	**Sn**	**06 36 43.4**	**0.0**
	baz=320							
CHKK	**Chushkaly**	**3.24**	**352**	*eP*	**Pb**	**06 36 12.0**	**-0.3**
	14nm,0.6s							
CHKK				*eS*	**Sb**	**06 36 52.7**	**+0.5**
	43nm,0.6s							
MNBS	**Baschi**	**3.46**	**9**	*eP*	**Pb**	**06 36 16.4**	**+0.2**
	0.3nm,0.3s							
MNBS				*eS*	**Sb**	**06 37 00.1**	**+1.4**
	72nm,0.6s							
ARXS	**Arharly**	**3.55**	**2**	*eP*	**Pb**	**06 36 18.2**	**+0.5**
	7.1nm,0.5s							
ARXS				*eS*	**Sb**	**06 37 03.1**	**+1.9**
	25nm,0.5s							
ARSB	**Arslanbob**	**3.58**	**282**	⇑*eP*	**Pn**	**06 36 10.4**	**-0.3**
	baz=283							
ARSB				⇑*eS*	**Sn**	**06 36 52.7**	**-0.9**
	baz=283							
MNAS	**Manas**	**4.25**	**297**	⇓*eP*	**Pn**	**06 36 19.7**	**-0.3**
	baz=298							
MNAS				⇓*eS*	**Sn**	**06 37 09.3**	**-0.9**
	baz=298							
MNAS	**Manas**	**4.25**	**297**	⇑Pg	**Pb**	**06 36 31.0**	**+1.3**
	8.3nm,0.5s							
MNAS				⇓Lg	Lg	06 37 24.3		
	13nm,0.6s							
KK31	**Karatay Array**	**5.84**	**297**	Pg	**Pb**	**06 36 58.3**	**+1.6**
	4.4nm,0.7s,baz=105,slow=15,SNR=30							
KK31				Lg	Lg	06 38 15.4		
	3.4nm,0.6s,baz=116,slow=28,SNR=6.2							

IDC 22 06:43:16.9±6.2, 7.°12S×147.°86E, h75km±43km, mb3.5/3, mb1 3.8/5, mb1mx3.4/37, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=58.8km s-min=43.4km az=10.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.38**	**197**	P	Pn	06 43 53.7	0.0
	8.9nm,0.3s,baz=9.6,slow=8.7,SNR=28						
PMG				S	Sn	06 44 32.6	+11
	9.3nm,0.3s,baz=133,slow=19,SNR=8.7						
WRA	**Warramunga Arr**	**18.29**	**224**	P	P	06 47 25.0	+0.1
	0.3nm,0.3s,baz=51,slow=11,SNR=14						
ASAR	**Alice Springs**	**21.22**	**218**	P	P	06 47 57.4	+0.6
	1.9nm,0.6s,baz=54,slow=9.0,SNR=39						
FITZ	**Fitzroy Crossi**	**24.25**	**241**	P	P	06 48 26.7	-0.4
	2.3nm,0.5s,baz=56,slow=8.4,SNR=18						
VNDA	**Vanda**	**70.75**	**177**	P	P	06 54 24.6	0.0
	0.5nm,0.9s,baz=334,slow=7.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**146.19**	**283**	PKPbc	PKPdf	07 02 48.9	+0.3
	0.6nm,1.0s,baz=97,slow=4.8,SNR=5.4						

DJA 22 06:48:37.1±0.5, 9.°5S×10.°6E±, h10km, M4.4/8, mb4.7/3, MLv4.3/8
IDC 22 06:48:38.1±3.5, 8.°10S×106.°18E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/54, mbtmp3.8/5, Error ellipse: s-maj=163.1km s-min=20.7km az=50.0

ISC 22 06:48:40.1±1.3, 8.°4S±0.°1×105.°84E±0.°09, h22km, n15, σ1§58/15, mb3.9/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**1.66**	**50**	P	**Pb**	**06 49 09.9**	**-0.1**
CGJI	**Cibinong**	**1.76**	**355**	P	**Pb**	**06 49 10.8**	**-0.9**
CISI	**Cisompet, Garu**	**2.12**	**67**	P	**Pb**	**06 49 15.8**	**-2.0**
CMJI	**Cimerak**	**2.65**	**77**	P	**Pn**	**06 49 23.1**	**+1.6**
KASI	**Kota Agung**	**3.13**	**335**	P	**Pn**	**06 49 29.1**	**+0.9**
KPJI	**Karang Pucung**	**3.23**	**71**	P	**Pb**	**06 49 34.2**	**-2.6**
MNAI	**Manna**	**4.91**	**324**	P	**Pn**	**06 49 52.6**	**-0.1**
PCJI	**Pacitan**	**5.28**	**88**	P	**Pn**	**06 50 00.8**	**+3.1**
	48nm,1.5s						
NGJI	**Ngawi**	**5.66**	**80**	P	**Pn**	**06 50 03.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.54**	**119**	P	**P**	**06 53 28.6**	**+0.6**
	3.8nm,0.8s,baz=299,slow=10,SNR=5.2						
CMAR	**Chiang Mai Arr**	**27.52**	**346**	P	**P**	**06 54 25.1**	**-0.2**
	1.0nm,0.3s,baz=173,slow=8.2,SNR=4.2						
WRA	**Warramunga Arr**	**29.87**	**116**	P	**P**	**06 54 46.1**	**-0.2**
	0.9nm,0.6s,baz=288,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**30.87**	**123**	P	**P**	**06 54 54.9**	**-0.2**
	0.5nm,0.7s,baz=308,slow=9.8,SNR=5.1						
MKAR	**Makanchi Array**	**58.80**	**341**	P	**P**	**06 58 37.8**	**+1.0**
	0.4nm,0.4s,baz=153,slow=7.9,SNR=5.7						
TXAR	**Lajitas Array**	**145.33**	**49**	PKP	**PKPbc**	**07 08 15.2**	**-1.7**
	0.3nm,0.8s,baz=259,slow=0.9,SNR=4.0						

ISCJB 22 06:53:53.8±0.4, 6.°81N±0.°03×73.°06W±0.°04, h162km±4km, mb3.2/2, Error ellipse: s-maj=7.4km s-min=3.3km az=41.5
IDC 22 06:53:54.7±1.4, 6.°79N×73.°03W, h158km±41km, mb2.9/2, mb1 3.4/4, mb1mx3.1/34, mbtmp3.6/4, Error ellipse: s-maj=110.9km s-min=9.2km az=133.0
FUNV 22 06:53:55.3, 6.°81N×73.°17W, h162km, MW3.2
RSNC 22 06:53:56.5±0.7, 6.°77N×73.°13W, h146km±3km, ML3.3

ISC 22 06:53:54.3±0.9, 6.°82N±0.°04×73.°06W±0.°04, h162km±6km, n34, σ1§55/59, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.23**	**295**	*eP*	**Pn**	**06 54 16.4**	**0.0**
BTLC				*eS*	**Sn**	**06 54 31.0**	**-2.3**
BARC	**Barichara**	**0.26**	**209**	*iP*	**Pn**	**06 54 16.2**	**-0.3**
BARC				*eS*	**Sn**	**06 54 30.9**	**-2.5**
BARC				*i*		06 54 34.2	
	comp=Z,441nm,0.6s						
GIRC	**Giron, Santand**	**0.29**	**332**	*iP*	**Pn**	**06 54 16.4**	**-0.1**
PAMC	**Pamplona, Colo**	**0.63**	**34**	*eP*	**Pn**	**06 54 19.0**	**+0.7**
PAMC				*eS*	**Sn**	**06 54 36.1**	**-0.5**
BRRC	**Barranca, Sant**	**0.71**	**294**	⇑*iP*	**Pn**	**06 54 18.1**	**-0.1**
BRRC				*eS*	**Sn**	**06 54 35.0**	**-1.4**
BRRC				*i*		06 54 39.2	
	comp=Z,259nm,0.2s						
RUSC	**La Rusia**	**0.92**	**182**	⇓*iP*	**Pn**	**06 54 20.1**	**-0.1**
RUSC				*eS*	**Sn**	**06 54 38.8**	**-1.3**
GRMC	**Gramalote, San**	**0.93**	**16**	*iP*	**Pn**	**06 54 22.0**	**+2.1**
GRMC				*eS*	**Sn**	**06 54 41.8**	**+2.2**
GRMC				*i*		06 54 44.6	
	comp=Z,124nm,0.4s						
CBRI	**Barrientos, No**	**0.93**	**16**	*iP*	**Pn**	**06 54 20.7**	**+0.8**
CAPV	**Capacho**	**1.27**	**35**	⇑*iP*	**Pn**	**06 54 24.1**	**+1.2**
CAPV				*eS*	**Sn**	**06 54 44.9**	**0.0**
OCAC	**Ocana**	**1.44**	**350**	*eP*	**Pn**	**06 54 24.8**	**+0.5**
OCAC				*eS*	**Sn**	**06 54 48.2**	**+0.7**
OCAC				*i*		06 54 52.3	
	comp=Z,231nm,0.4s						
NORC	**Norcasia**	**2.19**	**235**	*eP*	**Pn**	**06 54 32.0**	**-0.4**
NORC				*eS*	**Sn**	**06 55 00.1**	**-1.7**
CHIC	**Chingaza**	**2.28**	**197**	*eP*	**Pn**	**06 54 33.9**	**+0.1**
CHIC				*eS*	**Sn**	**06 55 03.1**	**-1.2**
CHIC				*i*		06 55 12.2	
	comp=Z,59nm,0.3s						
ROSC	**El Rosal**	**2.33**	**213**	P	**Pn**	**06 54 36.0**	**+1.5**
	comp=Z,31nm,0.3s,baz=300,slow=1.2,SNR=96						
ROSC				S	**Sn**	**06 55 05.0**	**-0.4**
	comp=Z,8.9nm,0.3s,baz=148,slow=19,SNR=4.3						
ROSC	**El Rosal**	**2.33**	**213**	*eS*	**Sn**	**06 55 04.4**	**-1.1**
ROSC				*i*		06 55 14.3	
	comp=Z,255nm,0.4s						
HELC	**Santa Helena**	**2.53**	**256**	*eP*	**Pn**	**06 54 36.2**	**-0.6**
HELC				*eS*	**Sn**	**06 55 08.0**	**-1.6**
HELC				*i*		06 55 15.2	
	comp=Z,134nm,0.2s						
VIGV	**El Vigia**	**2.62**	**40**	*eP*	**Pn**	**06 54 38.5**	**+1.0**
VIGV				*eS*	**Sn**	**06 55 10.6**	**-0.3**
SOCV	**Socops**	**2.62**	**56**	*eP*	**Pn**	**06 54 38.4**	**+0.8**
SOCV				*eS*	**Sn**	**06 55 10.6**	**-0.5**
VILC	**Villavicencio,**	**2.76**	**193**	*eP*	**Pn**	**06 54 39.9**	**+0.5**
VILC				*eS*	**Sn**	**06 55 13.1**	**-1.3**
VILC				*i*		06 55 18.3	
	comp=Z,62nm,0.5s						
GUYC	**Guyana, Colomb**	**2.81**	**236**	*eP*	**Pn**	**06 54 40.6**	**+0.4**
GUYC				*eS*	**Sn**	**06 55 14.8**	**-1.0**
GUYC				*i*		06 55 24.4	
	comp=Z,223nm,0.4s						

DBBC	**Dabeiba**	**3.14**	**274**	*eP*	**Pn**	**06 54 44.2**	**+0.2**
SDV	**Santo Domingo**	**3.16**	**49**	P	**Pn**	**06 54 45.8**	**+1.4**
	comp=Z,12nm,0.3s,baz=201,slow=18,SNR=5.9							
SDV				S	**Sn**	**06 55 23.2**	**0.0**
	comp=Z,6.9nm,0.3s,baz=2.9,slow=13,SNR=6.5							
TOLC	**Tolima**	**3.16**	**226**	*eP*	**Pn**	**06 54 45.2**	**+0.7**
ELOV	**Elorza**	**3.55**	**87**	*eP*	**Pn**	**06 54 50.1**	**+1.0**
ELOV				*eS*	**Sn**	**06 55 31.2**	**-0.6**
PRAC	**Prado**	**3.58**	**211**	*eP*	**Pn**	**06 54 49.5**	**0.0**
PRAC				*eS*	**Sn**	**06 55 32.1**	**-0.5**
SJAC	**San Juan de Ar**	**3.63**	**194**	*eP*	**Pn**	**06 54 50.0**	**-0.3**
VIRV	**Villa del Rosa**	**3.72**	**10**	*eP*	**Pn**	**06 54 51.0**	**-0.3**
VIRV				*eS*	**Sn**	**06 55 32.4**	**-3.3**
CURV	**Curarigua**	**4.41**	**44**	*eP*	**Pn**	**06 55 00.8**	**+0.5**
CURV				*eS*	**Sn**	**06 55 49.1**	**-2.8**
DABV	**Dabajuro**	**4.73**	**30**	*eP*	**Pn**	**06 55 05.2**	**+0.8**
DABV				*eS*	**Sn**	**06 55 56.8**	**-2.4**
TEPV	**Terepaima**	**4.94**	**50**	*eP*	**Pn**	**06 55 07.8**	**+0.6**
TEPV				*eS*	**Sn**	**06 56 01.1**	**-3.1**
BAUV	**El Baul**	**5.40**	**67**	*eS*	**Sn**	**06 56 11.8**	**-3.2**
MAPV	**Macapo**	**5.45**	**56**	*eP*	**Pn**	**06 55 14.1**	**+0.2**
MAPV				*eS*	**Sn**	**06 56 12.5**	**-3.6**
MONV	**Montecano**	**5.94**	**31**	*eP*	**Pn**	**06 55 20.3**	**-0.1**
MONV				*eS*	**Sn**	**06 56 23.1**	**-4.8**
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**07 00 45.6**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=124,slow=8.8,SNR=4.3							
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**07 04 06.3**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=135,slow=6.7,SNR=10							

NIED 22 06:56:00, 36.°60N×141.°50E, h26km, Mw3.8 Best double couple: M0 5.94000×10^14 NP1: φs 31.00000°, δ28.00000°, λ -82.00000°. NP2: φs 201.00000°, δ63.00000°, λ -94.00000°.
IDC 22 06:56:51.2±0.8, 36.°52N×141.°98E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.7/46, mbtmp3.7/10, ML3.8/3, MS2.8/4, Ms1 2.8/4, ms1mx2.7/45, Error ellipse: s-maj=22.7km s-min=18.8km az=124.0
ISCJB 22 06:56:52.1±0.7, 36.°48N±0.°06×141.°86E±0.°06, h19km, mb3.6/7, MS3.0/1, Error ellipse: s-maj=8.8km s-min=7.3km az=174.4
JMA 22 06:56:57.1±0.1, 36.°58N×141.°50E, h38km±3km, M3.6

ISC 22 06:56:54.0±0.8, 36.°53N±0.°08×141.°80E±0.°07, h19km, n23, σ1§64/18, mb3.7/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.98**	**306**	P	**Pb**	**06 57 11.3**	**-1.2**
JHO	**Hitachi**	**0.99**	**275**	P	**Pb**	**06 57 11.2**	**-1.4**
JYT	**Yasato**	**1.33**	**257**	*eS*	**Sn**	**06 57 30.8**	**-4.0**
MJAR	**Matsushiro Arr**	**2.89**	**271**	P	**Pn**	**06 57 39.7**	**+0.6**
	35nm,0.3s,baz=88,slow=9.5,SNR=165						
MJAR				Sn	**Sn**	**06 58 14.6**	**+1.2**
	7.2nm,0.3s,baz=102,slow=14,SNR=5.7						
MJAR				LR	LR	06 58 46.5	
	comp=Z,45nm,19.3s,baz=100,slow=38						
MAT	**Matsushiro**	**2.89**	**271**	P	**Pn**	**06 57 39.9**	**+0.8**
MAT				S	**Sn**	**06 58 12.8**	**-0.6**
JHJ	**Hachijo jima 2**	**3.79**	**207**	Pn	**Pn**	**06 57 52.1**	**+0.7**
	14nm,0.3s,baz=105,slow=22,SNR=9.1						
JHJ				Sn	**Sn**	**06 58 34.0**	**-1.4**
	23nm,0.3s,baz=239,slow=19,SNR=4.2						
JNU	**Nakatsue**	**9.60**	**252**	LR	LR	07 03 45.4	
	comp=Z,63nm,19.7s,baz=117,slow=43						
KSRS	**Korea Array**	**11.14**	**279**	Pn	**Pn**	**06 59 35.3**	**+3.1**
	0.3nm,0.3s,baz=99,slow=15,SNR=3.2						
KSRS				LR	LR	07 03 37.1	
	comp=Z,69nm,20.2s,baz=131,slow=36						
YAK	**Yakutsk**	**26.63**	**347**	LR	LR	07 12 37.6	
	comp=Z,45nm,19.0s,baz=287,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.63**	**120**	T	T	07 31 31.0	
	baz=313,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.63**	**121**	T	T	07 31 34.0	
	baz=313,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.64**	**120**	T	T	07 31 33.9	
	baz=313,slow=75						
SONM	**Songino Array**	**28.32**	**305**	P	**P**	**07 02 47.8**	**+1.2**
	1.1nm,0.7s,baz=98,slow=8.1,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**28.33**	**123**	T	T	07 32 30.5	
	baz=315,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**28.33**	**123**	T	T	07 32 27.7	
	baz=315,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.34**	**123**	T	T	07 32 29.4	
	baz=315,slow=76,SNR=7.9						
MKAR	**Makanchi Array**	**44.65**	**303**	P	**P**	**07 05 05.8**	**+0.5**
	0.8nm,0.7s,baz=87,slow=8.8,SNR=6.7						
ILAR	**Eielson Array**	**49.75**	**32**	P	**P**	**07 05 44.2**	**-0.6**
	0.2nm,0.6s,baz=273,slow=6.2,SNR=4.1						
WRA	**Warramunga Arr**	**56.61**	**188**	P	**P**	**07 06 35.6**	**-0.1**
	1.4nm,0.7s,baz=7.1,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**60.34**	**188**	P	**P**	**07 07 02.0**	**+0.3**
	1.1nm,0.8s,baz=9.9,slow=7.4,SNR=6.8						
YKA	**Yellowknife Ar**	**64.09**	**30**	P	**P**	**07 07 26.8**	**+0.4**
	0.3nm,0.6s,baz=303,slow=6.7,SNR=3.2						
TXAR	**Lajitas Array**	**90.18**	**53**	P	**P**	**07 09 51.4**	**-2.1**
	0.1nm,0.6s,baz=284,slow=3.6,SNR=2.1						
LPAZ	**La Paz**	**146.67**	**61**	PKPbc	**PKPab**	**07 16 36.7**	**-0.1**
	1.0nm,0.5s,baz=301,slow=1.7,SNR=9.5						

ISCJB 22 07:06:29.9±1.8, 34.°52S±0.°04×71.°9W±0.°1, h12km±13km, Error ellipse: s-maj=21.1km s-min=5.0km az=15.7
GUC 22 07:06:30.2±0.7, 34.°53S×71.°91W, h5km±4km, ML3.2

ISC 22 07:06:27.9±2.2, 34.°52S±0.°06×72.°1W±0.°1, h12km±12km, n14, σ2§38/24, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.96**	**157**	*iP*	**Pg**	**07 06 46.1**	**-0.4**
TALC				*iS*	**Sg**	**07 06 59.0**	**+0.1**
ANTU	**Antumapu**	**1.54**	**53**	*iP*	**Pn**	**07 06 55.0**	**-0.3**
ANTU				*iS*	**Sb**	**07 07 13.4**	**-2.5**
COCH	**Cobquecura**	**1.71**	**199**	*eP*	Pn	07 06 50.8	-6.7
COCH				*iS*	**Sn**	**07 07 15.3**	**-3.9**
CLCH	**Cerro Calan**	**1.71**	**50**	*iP*	**Pn**	**07 06 58.0**	**+0.3**
CLCH				*iS*	**Sn**	**07 07 18.6**	**-1.0**
CLCH				IAML		07 07 24.6	
	comp=E,625nm,0.8s						
ROC1	**El Roble**	**1.78**	**31**	*iP*	**Pn**	**07 06 59.0**	**+0.2**
ROC1				*iS*	**Sg**	**07 07 27.3**	**+2.0**
ROCH	**El Roble**	**1.79**	**31**	*eP*	**Pn**	**07 06 58.9**	**0.0**
ROCH				*iS*	**Sn**	**07 07 22.4**	**+0.8**
ROCH				IAML		07 07 29.9	
	comp=E,423nm,0.5s						
PEL	**Peldehue**	**1.81**	**41**	*iP*	**Pn**	**07 06 59.5**	**+0.6**
PEL				*iS*	**Sn**	**07 07 22.3**	**+0.5**
PEL				IAML		07 07 27.7	
	comp=N,345nm,0.5s						
FCH	**Farellones**	**1.92**	**52**	*iP*	**Pn**	**07 07 01.5**	**+0.8**
FCH				*iS*	**Sn**	**07 07 24.9**	**-0.1**
FCH				IAML		07 07 34.0	
	comp=N,339nm,0.3s						
CCHI	**Chillan**	**2.08**	**179**	*iP*	**Pn**	**07 07 04.9**	**+2.2**
CCHI				*iS*	**Sn**	**07 07 31.5**	**+3.0**
AAGR	**Agrelo**	**3.08**	**63**	*iP*	**Pb**	**07 07 20.7**	**-2.0**
AUSP	**Uspallata**	**3.22**	**46**	*iP*	**Pn**	**07 07 22.3**	**+3.6**
AUSP				*iS*	**Sb**	**07 08 06.4**	**+1.8**
ASAL	**Salagasta**	**3.33**	**56**	*iP*	**Pn**	**07 07 24.3**	**+4.3**
RTLS	**Leoncito**	**3.59**	**42**	*iP*	**Pn**	**07 07 27.1**	**+3.4**
RTLL	**Cerro Villicun**	**4.40**	**45**	*iP*	**Pn**	**07 07 37.1**	**+2.4**
RTLL				*iS*	**Sb**	**07 08 34.6**	**-3.8**

NEIC 22 07:18:47.3, 19.°51N×66.°30W, h38km, MD3.7(RSPR), After RSPR.
RSPR 22 07:18:47.3, 19.°51N×66.°30W, h38km±21km, MD3.7/8
IDC 22 07:18:49.6±2.0, 19.°29N×66.°30W, h53km±19km, mb3.6/11, mb1 3.9/14, mb1mx3.7/36, mbtmp4.0/14, ML3.2/3, MS3.4/7, Ms1 3.4/7, ms1mx3.1/31, Error ellipse: s-maj=22.5km s-min=13.6km az=52.0

ISC 22 07:18:46.7±1.4, 19.°38N±0.°05×66.°29W±0.°03, h32km±10km, n84, σ1§49/96, mb3.8/10, MS3.4/7, 24C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.12**	**203**	*eS*	**Sb**	**07 19 22.5**	**+0.6**
AOPR	**Arecibo Observ**	**1.12**	**203**	⇑*eP*	**Pn**	**07 19 06.6**	**+0.3**
AOPR	**Arecibo Observ**	**1.12**	**203**	⇑*eP*	**Pn**	**07 19 06.6**	**+0.3**
AOPR				*eS*	**Sb**	**07 19 22.5**	**+0.6**
CBYP	**Canovanas**	**1.18**	**160**	*eS*	**Sb**	**07 19 24.4**	**+0.8**
CBYP	**Canovanas**	**1.18**	**160**	⇑*eP*	**Pn**	**07 19 07.9**	**+0.8**
CBYP				*eS*	**Sb**	**07 19 24.4**	**+0.8**
AGPR	**Aguadilla, PR**	**1.20**	**221**	⇑*eP*	**Pn**	**07 19 07.8**	**+0.5**
AGPR	**Aguadilla, PR**	**1.20**	**221**	⇑*eP*	**Pn**	**07 19 07.8**	**+0.5**
LRS	**Lares**	**1.21**	**206**	⇑*iP*	**Pn**	**07 19 07.6**	**+0.2**
LRS	**Lares**	**1.21**	**206**	*i* Pu	**Pn**	**07 19 07.6**	**+0.2**
SJG	**San Juan**	**1.27**	**174**	⇑*eP*	**Pb**	**07 19 09.6**	**-0.5**
SJG				*eS*	**Sb**	**07 19 26.0**	**-0.1**
SJG	**San Juan**	**1.27**	**174**	P	**Pn**	**07 19 08.7**	**+0.5**
	87nm,0.3s,baz=359,slow=8.2,SNR=115						
SJG				S	**Sn**	**07 19 25.1**	**+0.9**
	380nm,0.3s,baz=288,slow=20,SNR=40						
SJG				LR	LR	07 19 56.9	
	comp=Z,476nm,21.0s,baz=11,slow=57						
SJG	**San Juan**	**1.27**	**174**	P	**Pn**	**07 19 08.7**	**+0.5**
SJG				⇑*eP*	**Pb**	**07 19 09.6**	**-0.5**
SJG				S	**Sn**	**07 19 25.1**	**+0.9**
HUMP	**Col San Antoni**	**1.30**	**161**	⇑*eP*	**Pn**	**07 19 09.2**	**+0.5**
HUMP	**Col San Antoni**	**1.30**	**161**	⇑*eP*	**Pn**	**07 19 09.5**	**+0.8**
HUMP				*eS*	**Sb**	**07 19 27.2**	**+0.2**
HUMP	**Col San Antoni**	**1.30**	**161**	⇑*eP*	**Pn**	**07 19 09.2**	**+0.5**
HUMP				⇑*eP*	**Pn**	**07 19 09.5**	**+0.8**
HUMP				*eS*	**Sb**	**07 19 27.2**	**+0.2**
CELP	**Cerrillos**	**1.33**	**192**	⇑*iP*	**Pn**	**07 19 09.7**	**+0.6**
CELP	**Cerrillos**	**1.33**	**192**	*i* Pu	**Pn**	**07 19 09.7**	**+0.6**
OBIP	**Obispado Ponce**	**1.37**	**193**	⇓*eP*	**Pb**	**07 19 10.9**	**-0.9**
OBIP	**Obispado Ponce**	**1.37**	**193**	*eS*	**Sb**	**07 19 29.0**	**+0.1**
OBIP	**Obispado Ponce**	**1.37**	**193**	⇓*eP*	**Pb**	**07 19 10.9**	**-0.9**
OBIP				*eS*	**Sb**	**07 19 29.0**	**+0.1**
MPR	**Mayaguez**	**1.42**	**215**	⇑*eP*	**Pn**	**07 19 11.2**	**+0.9**
MPR	**Mayaguez**	**1.42**	**215**	⇑*eP*	**Pn**	**07 19 11.2**	**+0.9**
LSP	**Las Mesas**	**1.42**	**212**	⇑*eP*	**Pn**	**07 19 11.2**	**+0.8**
LSP	**Las Mesas**	**1.42**	**212**	*eS*	**Sb**	**07 19 29.6**	**-0.8**
LSP	**Las Mesas**	**1.42**	**212**	⇑*eP*	**Pn**	**07 19 11.2**	**+0.8**
LSP				*eS*	**Sb**	**07 19 29.6**	**-0.8**
IDE	**Isla Desecheo**	**1.50**	**229**	⇓*eP*	**Pn**	**07 19 12.3**	**+0.9**
IDE	**Isla Desecheo**	**1.50**	**229**	⇓*eP*	**Pn**	**07 19 12.3**	**+0.9**
GBPR	**Guanica, Bosqu**	**1.51**	**202**	⇑*eP*	**Pn**	**07 19 12.8**	**+1.3**
GBPR	**Guanica, Bosqu**	**1.51**	**202**	⇑*eP*	**Pn**	**07 19 12.8**	**+1.3**
CRPR	**Cabo Rojo, PR**	**1.58**	**210**	⇑*eP*	**Pn**	**07 19 13.5**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.58**	**210**	*eS*	**Sn**	**07 19 33.3**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.58**	**210**	⇑*eP*	**Pn**	**07 19 13.5**	**+1.0**
CRPR				*eS*	**Sn**	**07 19 33.3**	**+1.6**
STVI	**Saint Thomas**	**1.63**	**129**	⇑*eP*	**Pn**	**07 19 13.8**	**+0.6**
STVI				*eS*	**Sn**	**07 19 34.0**	**+1.0**
STVI	**Saint Thomas**	**1.63**	**129**	⇑*eP*	**Pn**	**07 19 14.1**	**+1.0**
STVI	**Saint Thomas**	**1.63**	**129**	⇑*eP*	**Pn**	**07 19 13.8**	**+0.6**
STVI				⇑*eP*	**Pn**	**07 19 14.1**	**+1.0**
STVI				*eS*	**Sb**	**07 19 34.8**	**-1.5**
ABVI	**Anegada Island**	**1.96**	**109**	⇓*eP*	**Pn**	**07 19 18.0**	**+0.3**
ABV	**Anegada**	**1.96**	**109**	⇓*eP*	**Pn**	**07 19 18.0**	**+0.3**
DR12	**Loma Pena Alta**	**2.98**	**259**	⇓*eP*	**Pn**	**07 19 32.4**	**+0.4**
DR12	**Loma Pena Alta**	**2.98**	**259**	⇓*eP*	**Pn**	**07 19 32.4**	**+0.4**
SMRT	**St. Maarten**	**3.32**	**113**	*eP*	**Pn**	**07 19 40.1**	**+3.6**
SMRT				*eS*	**Sb**	**07 20 22.2**	**-2.8**
SABA	**Saba**	**3.38**	**121**	*eP*	**Pn**	**07 19 39.9**	**+2.6**
ANWB	**Willy Bob**	**4.60**	**111**	*eP*	**Pb**	**07 20 04.3**	**-2.4**
ANWB	**Willy Bob**	**4.60**	**111**	*eS*	**Sb**	**07 21 02.2**	**+0.6**
SDDR	**Presa de Saban**	**4.74**	**266**	*ePn*	**Pn**	**07 19 58.0**	**+1.8**
BBL	**Barber's Block**	**5.99**	**129**	*eP*	**Pn**	**07 20 14.3**	**+1.1**
PCRV	**Puerto La Cruz**	**9.29**	**170**	P	**Pn**	**07 21 01.1**	**+2.5**
	0.8nm,0.3s,baz=9.1,slow=7.0,SNR=5.2						
PCRV				S	**Sn**	**07 22 37.7**	**-4.4**
	0.3nm,0.3s,baz=254,slow=7.4,SNR=1.8						
SDV	**Santo Domingo**	**11.25**	**203**	P	**Pn**	**07 21 27.2**	**+1.6**
	2.5nm,0.3s,baz=116,slow=1.3,SNR=4.3						
SJCC	**San Jacinto, C**	**12.76**	**224**	*eP*	**Pn**	**07 21 45.1**	**-1.0**
OCAC	**Oc

ISC 22 07:21:20.6±1.6, 44°38N±0°.04×81°.13E±0°.06, h5km±12km, n18, σ1°08/30, 8C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DJR	**Jarkent**	**0.96**	**268**	⇑*i*P		**Pg**	**07 21 38.7**	**-0.3**
	92nm,0.4s							
DJR				⇓*i*S		**Sg**	**07 21 49.9**	**-1.5**
	89nm,0.2s							
KTMS	**Ketmen**	**1.09**	**211**	*e*P		**Pb**	**07 21 42.0**	**+0.2**
	30nm,0.1s							
KTMS				*e*S		**Sg**	**07 21 54.7**	**-0.8**
	46nm,0.4s							
SHLS	**Shalkode**	**1.52**	**217**	*e*P		**Pg**	**07 21 49.5**	**-0.2**
	55nm,0.2s							
SHLS				*e*S		**Sn**	**07 22 08.2**	**-0.5**
	45nm,0.3s							
KAPS	**Kapalarasan**	**1.55**	**306**	*e*P		**Pg**	**07 21 50.9**	**+0.6**
	37nm,0.2s							
KAPS				*e*S		**Sg**	**07 22 12.1**	**+1.6**
	120nm,0.6s							
PDGK	**Podgornoye**	**1.58**	**229**	⇑P		**Pn**	**07 21 49.6**	**+0.4**
	5.8nm,0.2s							
PDGK				⇑S		**Sb**	**07 22 10.8**	**+0.2**
	40nm,0.4s							
UZB	**Uzynbulak**	**1.96**	**232**	*e*P		**Pb**	**07 21 57.1**	**+0.3**
	32nm,0.1s							
UZB				*e*S		**Sb**	**07 22 21.1**	**-0.5**
	47nm,0.5s							
MNBS	**Baschi**	**1.98**	**262**	*e*P		**Pb**	**07 21 56.1**	**-1.1**
	1.9nm,0.2s							
MNBS				*e*S		**Sn**	**07 22 18.6**	**-1.5**
	198nm,0.5s							
KPKS	**Kokpek**	**1.99**	**244**	*e*P		**Pb**	**07 21 57.5**	**+0.3**
	205nm,0.2s							
KPKS				*e*S		**Sb**	**07 22 22.2**	**-0.1**
	268nm,0.5s							
TDK	**Taldyqorghan**	**2.04**	**289**	*e*P		**Pg**	**07 21 59.0**	**-0.6**
	48nm,0.3s							
TDK				*e*S		**Sg**	**07 22 25.1**	**-1.0**
	142nm,0.8s							
SATY	**Saty**	**2.37**	**237**	*e*P		**Pb**	**07 22 04.7**	**+0.9**
	76nm,0.3s							
SATY				*e*S		**Sb**	**07 22 34.3**	**+0.9**
	136nm,0.1s							
ARXS	**Arharly**	**2.38**	**267**	*e*P		**Pb**	**07 22 03.8**	**0.0**
	41nm,0.4s							
ARXS				*e*S		**Sb**	**07 22 32.1**	**-1.3**
	72nm,0.5s							
MAKZ	**Makanchi**	**2.50**	**14**	⇑Pg		**Pb**	**07 22 06.1**	**+0.1**
	1.2nm,0.2s							
MAKZ				⇓Lg		Lg	07 22 41.4	
	10nm,0.5s							
MK31	**Makanchi Array**	**2.55**	**18**	Pg		**Pb**	**07 22 06.7**	**-0.2**
	0.9nm,0.2s,baz=198,slow=14,SNR=3.5							
MK31				⇑Lg		Lg	07 22 41.1	
	1.6nm,0.3s,baz=195,slow=27,SNR=7.0							
KOTS	**Kotyrbulak**	**3.12**	**250**	*e*P		**Pb**	**07 22 16.8**	**+0.2**
KOTS				*e*S		**Sb**	**07 22 54.0**	**-1.0**
DGS	**Degeres**	**4.04**	**256**	*e*P		**Pb**	**07 22 34.1**	**+1.9**
	16nm,0.4s							
DGS				*e*S		**Sb**	**07 23 23.8**	**+2.5**
	24nm,0.5s							
TKM2	**Tokmak 2**	**4.27**	**252**	⇑Pg		**Pb**	**07 22 38.0**	**+1.8**
	7.6nm,0.5s							
TKM2				⇑Lg		Lg	07 23 35.9	
	13nm,0.8s							
AAK	**Ala-Archa**	**5.13**	**252**	Pg		**Pb**	**07 22 51.9**	**+1.1**
	2.6nm,0.5s							
AAK				⇓Lg		Lg	07 24 00.5	
	4.9nm,0.6s							
KK31	**Karatay Array**	**7.79**	**264**	⇑Lg		Lg	07 25 27.1	
	1.5nm,0.6s,baz=82,slow=27,SNR=6.4							

IDC 22 07:24:27.2±2.1, 13°.47N×92°.56E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/42, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=63.6km s-min=27.3km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CMAR	**Chiang Mai Arr**	**7.89**	**50**		Pn	Pn	07 26 23.5	+0.2
	0.2nm,0.3s,baz=231,slow=13,SNR=4.6							
H08S3	**Diego Garcia H**	**28.93**	**225**		T	T	08 00 55.6	
	baz=46							
H08S2	**Diego Garcia H**	**28.93**	**225**		T	T	08 00 54.5	
	baz=46,slow=74							
H08S1	**Diego Garcia H**	**28.95**	**225**		T	T	08 00 54.5	
	baz=46,slow=74							
MKAR	**Makanchi Array**	**34.33**	**347**		P	P	07 31 15.2	-0.3
	0.8nm,0.8s,baz=163,slow=8.5,SNR=6.0							
WRA	**Warramunga Arr**	**52.84**	**128**		P	P	07 33 44.9	-0.1
	0.7nm,0.7s,baz=304,slow=10,SNR=10							
ASAR	**Alice Springs**	**54.74**	**132**		P	P	07 33 58.9	+0.1
	0.3nm,0.6s,baz=312,slow=7.3,SNR=4.6							

ISCJB 22 07:52:09.3±0.5, 11°.30S×107°.05×73°.39W±0°.04, h10km, mb3.9/7, Error ellipse: s-maj=7.2km s-min=5.7km az=17.7
IDC 22 07:52:09.7±1.0, 11°.17S×73°.33W, h0km, mb3.8/6, mb1 4.1/11, mb1mx3.9/35, mbtmp3.9/11, ML3.9/4, MS3.1/5, Ms1 3.1/5, ms1mx2.9/27, Error ellipse: s-maj=30.4km s-min=16.7km az=34.0
NEIC 22 07:52:11.8±0.6, 11°.27S×73°.40W, h15km±18km, mb4.5/1, Error ellipse: s-maj=9.9km s-min=6.4km az=220.0
ISC 22 07:52:11.4±0.6, 11°29S±0°.06×73°39W±0°.06, h10km, n24, σ1°26/27, mb3.7/7, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NNA	**Nana**	**3.46**	**258**	Pn		**Pn**	**07 53 05.6**	**+0.1**
	16nm,0.3s,baz=90,slow=9.3,SNR=25							
NNA				Sn		**Sn**	**07 53 46.4**	**-0.1**
	30nm,0.3s,baz=36,slow=14,SNR=6.1							
NNA				LR		LR	07 54 35.0	
	comp=Z,105nm,20.9s,baz=78,slow=41							
ATAH	**Atahualpa**	**6.44**	**309**	Pn		**Pn**	**07 53 46.3**	**-0.5**
	0.1nm,0.3s,baz=97,slow=17,SNR=1.9							
ATAH				Sn		**Sn**	**07 54 59.9**	**-0.7**
	baz=238,slow=13,SNR=1.4							
ATAH				LR		LR	07 56 25.4	
	comp=Z,158nm,19.1s,baz=162,slow=40							
LPAZ	**La Paz**	**7.12**	**135**	Pn		**Pn**	**07 53 56.8**	**+0.5**
	0.6nm,0.3s,baz=327,slow=11,SNR=30							
LPAZ				Pg		**Pb**	**07 54 17.4**	**+1.8**
	1.5nm,0.3s,baz=300,slow=8.1,SNR=14							
LPAZ				Lg		Lg	07 55 50.8	
	3.3nm,0.3s,baz=212,slow=21,SNR=3.9							
SAML	**Samuel**	**10.31**	**78**	*e*Pn		**Pn**	**07 54 41.0**	**+1.4**
	0.1nm,0.4s							
LVC	**Limon Verde**	**12.04**	**160**	LR		LR	07 59 29.2	
	comp=Z,452nm,22.0s,baz=304,slow=36							
LVC	**Limon Verde**	**12.04**	**160**	*e*Pn		**Pn**	**07 55 03.2**	**-0.4**
OTAV	**Otavalo**	**12.51**	**336**	Pn		**Pn**	**07 55 09.0**	**-1.1**
	3.3nm,0.8s							
SIV	**San Ignacio**	**12.85**	**113**	Pn		**Pn**	**07 55 12.4**	**-1.9**
	0.7nm,0.3s,baz=307,slow=11,SNR=8.8							
SIV				Lg		Lg	07 58 47.1	
	1.7nm,0.3s,baz=2.3,slow=23,SNR=3.9							
SIV				LR		LR	07 59 41.8	
	comp=Z,69nm,18.6s,baz=192,slow=35							
POPC	**Popayan, Colom**	**14.12**	**346**	*e*P		**P**	**07 55 43.3**	**+3.6**
SJAC	**San Juan de Ar**	**14.48**	**358**	*e*P		**Pn**	**07 55 36.7**	**0.0**
PRAC	**Prado**	**14.98**	**354**	*e*P		**Pn**	**07 55 46.1**	**+2.6**
CHIC	**Chingaza**	**15.82**	**359**	*e*P		**Pn**	**07 55 56.0**	**+1.1**
PTGA	**Pitinga**	**16.96**	**53**	Pn		**Pn**	**07 56 08.8**	**-0.2**
	1.3nm,0.3s,baz=228,slow=12,SNR=7.9							
PTGA				Sn		**Sn**	**07 59 16.5**	**-1.2**
	1.2nm,0.3s,baz=330,slow=20,SNR=4.3							
PTGA				Lg		Lg	08 01 10.8	
	0.3nm,0.3s,baz=319,slow=11,SNR=4.0							
PTGA				LR		LR	08 03 25.4	
	comp=Z,66nm,18.6s,baz=226,slow=40							
CBRI	**Barrientos, No**	**18.89**	**2**	*e*P		**P**	**07 56 32.3**	**-0.2**
CPUP	**Villa Florida**	**21.29**	**137**	P		**P**	**07 56 59.4**	**+1.1**
	1.5nm,0.6s,baz=322,slow=12,SNR=7.5							
TRQA	**Tornquist**	**28.55**	**161**	P		**P**	**07 58 07.3**	**-0.1**
	19nm,2.0s							
TXAR	**Lajitas Array**	**49.85**	**325**	P		**P**	**08 01 05.0**	**-0.2**
	0.4nm,0.7s,baz=148,slow=8.7,SNR=6.9							
PDAR	**Pinedale Array**	**63.16**	**331**	P		**P**	**08 02 39.1**	**-0.8**
	0.2nm,0.4s,baz=128,slow=10,SNR=2.5							
ULM	**Lac du Bonnet**	**64.36**	**344**	P		**P**	**08 02 46.5**	**-0.9**
	2.9nm,0.4s,baz=145,slow=4.2,SNR=5.7							
TORD	**Torodi Ar. Bea**	**78.34**	**74**	P		**P**	**08 04 11.5**	**-1.2**
	0.5nm,0.6s,baz=242,slow=4.4,SNR=7.6							

YKA	**Yellowknife Ar**	**80.19**	**342**	P		**P**	**08 04 21.3**	**-0.5**
	0.6nm,0.6s,baz=138,slow=6.8,SNR=6.7							
ZALV	**Zalesovo Beam**	**134.05**	**18**	PKP		**PKPdf**	**08 11 28.8**	**-0.3**
	0.7nm,0.4s,baz=300,slow=1.2,SNR=3.6							
KURK	**Kurchatov**	**134.49**	**25**	PKP		**PKPdf**	**08 11 29.6**	**-0.4**
KURBB	**Kurchatov Arra**	**134.52**	**25**	PKP		**PKPdf**	**08 11 29.6**	**-0.4**
	0.3nm,0.6s,baz=315,slow=2.4,SNR=3.0							

ISCJB 22 07:57:23.7±1.1, 37°.84N±0°.05×143°.85E±0°.08, h33km, mb3.4/3, Error ellipse: s-maj=9.1km s-min=7.3km az=4.5
JMA 22 07:57:24.4±0.2, 37°.84N×143°.79E, h45km, M3.2
IDC 22 07:57:25.1±2.7, 37°.17N×143°.80E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/50, mbtmp3.4/4, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/31, Error ellipse: s-maj=71.8km s-min=31.5km az=63.0
ISC 22 07:57:25.1±1.6, 37°.85N±0°.06×143°.87E±0°.09, h35km, n16, σ0°94/21, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JIO	**Ouri**	**2.08**	**288**	P		**Pn**	**07 57 57.1**	**-0.3**
JIO				*e*S		**Sn**	**07 58 21.3**	**-0.8**
OFUJ	**Ofunato**	**2.12**	**306**	P		**Pn**	**07 57 58.0**	**0.0**
OFUJ				*e*S		**Sn**	**07 58 22.5**	**-0.6**
JMK	**Ichinoseki**	**2.36**	**299**	P		**Pn**	**07 58 01.4**	**+0.2**
JMK				*e*S		**Sn**	**07 58 28.8**	**-0.1**
JOU	**Okura**	**2.58**	**282**	P		**Pn**	**07 58 04.9**	**+0.5**
JOM	**Ohasama**	**2.59**	**310**	P		**Pn**	**07 58 04.9**	**+0.4**
JOM				*e*S		**Sn**	**07 58 34.8**	**+0.1**
JFT	**Otama**	**2.82**	**264**	*e*S		**Sn**	**07 58 39.5**	**-1.0**
JYK	**Kaneyama**	**2.96**	**292**	P		**Pn**	**07 58 10.4**	**+0.9**
JYK				*e*S		**Sn**	**07 58 44.4**	**+0.6**
JANG	**Nango**	**3.12**	**325**	*e*S		**Sn**	**07 58 46.6**	**-1.1**
JRY	**Ryogami san**	**4.38**	**247**	P		**Pn**	**07 58 28.5**	**-0.6**
JRY				*e*S		**Sn**	**07 59 16.5**	**-2.5**
MJAR	**Matsushiro Arr**	**4.71**	**256**	Pn		**Pn**	**07 58 34.4**	**+0.9**
	2.0nm,0.3s,baz=73,slow=9.5,SNR=11							
MAT	**Matsushiro**	**4.71**	**256**	P		**Pn**	**07 58 34.9**	**+1.3**
MAT				S		**Sn**	**07 59 27.4**	**+0.4**
JCH	**Churui**	**4.78**	**355**	P		**Pn**	**07 58 34.8**	**+0.3**
JCH				*e*S		**Sn**	**07 59 27.3**	**-1.3**
KLR	**Kul'dur**	**14.35**	**326**	LR		LR	08 07 21.3	
	comp=Z,44nm,18.1s,baz=50,slow=40							
MKAR	**Makanchi Array**	**45.35**	**302**	P		P	08 05 46.9	+7.2
	0.2nm,0.6s,baz=75,slow=8.6,SNR=2.6							
KURBB	**Kurchatov Arra**	**47.05**	**308**	P		P	08 06 01.3	+8.3
	0.5nm,0.7s,baz=80,slow=8.6,SNR=4.7							
WRA	**Warramunga Arr**	**58.18**	**191**	P		**P**	**08 07 16.0**	**+0.5**
	0.4nm,0.7s,baz=8.8,slow=7.3,SNR=3.5							

JMA 22 08:03:41.1±0.2, 37°.90N×142°.31E, h34km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JIO	**Ouri**	**0.94**	**306**	P		Pb	08 03 58.4	-0.5
JIO				*e*S		Sn	08 04 10.1	0.0
JMM	**Marumori**	**1.20**	**269**	P		Pn	08 04 02.1	+0.6
JMM				*e*S		Sn	08 04 16.5	-0.1
JFK	**Kawauchi**	**1.26**	**245**	P		Pn	08 04 02.6	+0.3
JFK				*e*S		Sn	08 04 18.0	-0.1
JMK	**Ichinoseki**	**1.35**	**321**	P		Pn	08 04 04.6	+1.0
JMK				*e*S		Sn	08 04 21.2	+0.8
JOU	**Okura**	**1.38**	**290**	P		Pb	08 04 05.4	-0.9
JOU				*e*S		Sb	08 04 22.6	-1.1
JFT	**Otama**	**1.61**	**257**	P		Pn	08 04 08.3	+1.2
JFT				*e*S		Sn	08 04 28.3	+1.6
JOM	**Ohasama**	**1.76**	**333**	P		Pb	08 04 11.1	-1.7
JYK	**Kaneyama**	**1.84**	**304**	P		Pn	08 04 11.6	+1.3
JRG	**Rokugo**	**1.99**	**319**	P		Pb	08 04 14.5	-2.1
JRG				*e*S		Sb	08 04 39.4	-1.6

IDC 22 08:06:31.9±2.0, 26°.49N×143°.93E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/47, mbtmp3.7/4, Error ellipse: s-maj=56.1km s-min=26.0km az=57.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JCJ	**Chichijima**	**1.67**	**292**	Pn		Pb	08 07 03.2	-0.4
	15nm,0.3s,baz=270,slow=24,SNR=2.9							
JCJ				Sn		Sn	08 07 24.4	-0.2
	14nm,0.3s,baz=270,slow=24,SNR=2.7							
SONM	**Songino Array**	**36.23**	**316**	P		P	08 13 37.0	+0.3
	0.9nm,0.7s,baz=116,slow=6.7,SNR=6.7							
WRA	**Warramunga Arr**	**47.08**	**192**	P		P	08 15 05.5	-0.2
	0.6nm,0.8s,baz=12,slow=8.1,SNR=6.5							
MKAR	**Makanchi Array**	**52.06**	**310**	P		P	08 15 43.9	+0.3
	0.4nm,0.6s,baz=89,slow=9.4,SNR=3.7							
KURBB	**Kurchatov Arra**	**54.58**	**315**	P		P	08 16 00.9	-1.0
	0.3nm,0.4s,baz=92,slow=8.5,SNR=5.1							

IDC 22 08:19:26.7±2.9, 55°.46N×86°.17E, h0km, mb1 3.2/3, mb1mx3.1/44, mbtmp3.2/3, ML3.1/3, 1C-1D, Error ellipse: s-maj=28.1km s-min=17.9km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**208**	*i*			08 30 50.0	
	baz=23,slow=324,SNR=11							
ZALV	**Zalesovo Beam**	**1.71**	**208**	Pn		Pn	08 19 56.0	-1.7
	11nm,0.3s,baz=27,slow=16,SNR=61							
ZALV				Lg		Lg	08 20 21.3	
	4.6nm,0.3s,baz=27,slow=30,SNR=9.0							
KURBB	**Kurchatov Arra**	**6.69**	**227**	Pn		Pn	08 21 06.0	-0.1
	0.1nm,0.3s,baz=46,slow=14,SNR=7.2							
MK31	**Makanchi Array**	**9.02**	**197**	⇓Pg		Pn	08 22 08.2	+30
	0.2nm,0.3s,baz=130,slow=15,SNR=7.3							
MK31				⇑Lg		Lg	08 23 00.8	
	1.0nm,0.6s,baz=131,slow=27,SNR=4.8							
MKAR	**Makanchi Array**	**9.02**	**197**	Pn		Pn	08 21 38.3	+0.3
	0.2nm,0.3s,baz=22,slow=12,SNR=4.4							
MKAR				Lg		Lg	08 24 12.2	
	baz=22,slow=29,SNR=4.1							
BVAR	**Borovoye Array**	**9.56**	**262**	Pn		Pn	08 21 44.8	-0.6
	0.5nm,0.3s,baz=64,slow=15,SNR=6.7							

NIED 22 08:23:00, 36°.50N×141°.90E, h23km, Mw3.6 Best double couple: M◎2.83000×10^14 NP1:φs355.00000°, δ32.00000°, λ-111.00000°. NP2:φs198.00000°, δ60.00000°, λ-78.00000°.
IDC 22 08:23:24.0±1.3, 36°.58N×141°.73E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/39, mbtmp3.6/8, ML3.7/2, MS1.9/1, Ms1 1.9/1, ms1mx1.9/46, Error ellipse: s-maj=33.5km s-min=19.3km az=62.0
JMA 22 08:23:25.4±0.5, 36°.46N×141°.86E, h29km, M3.5
ISC 22 08:23:24.5±2.2, 36°.56N±0°.07×141°.80E±0°.09, h8km±13km, n23, σ1°09/23, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.97**	**304**	P		**Pn**	**08 23 44.7**	**+0.2**
JHO	**Hitachi**	**0.99**	**273**	P		**Pb**	**08 23 43.6**	**-0.4**
JFK	**Kawauchi**	**1.09**	**318**	P		**Pn**	**08 23 46.8**	**+0.6**
JFT	**Otama**	**1.51**	**310**	P		**Pg**	**08 23 53.6**	**+0.1**
JFT				*e*S		**Sg**	**08 24 13.4**	**+0.3**
JFY	**Yanaizu**	**1.88**	**297**	P		**Pb**	**08 23 57.9**	**-1.2**
JFY				*e*S		**Sn**	**08 24 21.0**	**+0.1**
JAG	**Ashikaga**	**1.90**	**267**	P		**Pn**	**08 23 57.7**	**+0.5**
JRY	**Ryogami san**	**2.40**	**258**	P		**Pn**	**08 24 03.9**	**-0.3**
JRY				*e*S		**Sn**	**08 24 33.9**	**0.0**
MJAR	**Matsushiro Arr**	**2.89**	**271**	Pn		**Pn**	**08 24 11.7**	**+0.8**
	16nm,0.3s,baz=83,slow=9.7,SNR=126							
MJAR				Sn		**Sn**	**08 24 45.0**	**-0.9**
	0.8nm,0.3s,baz=74,slow=12,SNR=1.0							
MJAR				LR		LR	08 25 00.7	
	comp=Z,20nm,18.2s,baz=105,slow=34							
MAT	**Matsushiro**	**2.89**	**271**	P		**Pn**	**08 24 12.2**	**+1.3**
MAT				S		**Sn**	**08 24 48.1**	**+2.1**
JHJ	**Hachijo jima 2**	**3.81**	**206**	Pn		**Pn**	**08 24 25.1**	**+1.5**
	9.0nm,0.3s,baz=265,slow=22,SNR=9.1							
JHJ				Sn		**Sn**	**08 25 06.5**	**-2.0**
	22nm,0.3s,baz=111,slow=22,SNR=1.8							
H11N2	**WAKE ISLAND Hy**	**27.64**	**121**	T		T	08 58 06.0	
	baz=313,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**27.65**	**121**	T		T	08 58 05.0	
	baz=313,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy**	**27.66**	**121**	T		T	08 58 06.3	
	baz=313,slow=75,SNR=10							
SONM	**Songino Array**	**28.31**	**305**	P		**P**	**08 29 18.1**	**-0.6**
	0.3nm,0.5s,baz=98,slow=8.9,SNR=2.6							
H11S1	**WAKE ISLAND Hy**	**28.34**	**123**	T		T	08 59 03.3	
	baz=314,slow=76,SNR=7.3							
H11S3	**WAKE ISLAND Hy**	**28.34**	**123**	T		T	08 59 04.7	
	baz=314,slow=76,SNR=8.7							
H11S2	**WAKE ISLAND Hy**	**28.36**	**123**	T		T	08 59 04.4	
	baz=314,slow=76,SNR=5.9							
ZALV	**Zalesovo Beam**	**42.46**	**313**	P		**P**	**08 31 21.0**	**+1.2**
	0.7nm,0.5s,baz=45,slow=4.3,SNR=2.5							
MKAR	**Makanchi Array**	**44.63**	**303**	P		**P**	**08 31 35.8**	**-1.7**
	0.2nm,0.6s,baz=96,slow=12,SNR=2.7							
KURBB	**Kurchatov Arra**	**46.54**	**308**	P		**P**	**08 31 53.2**	**+0.8**
	0.5nm,0.7s,baz=84,slow=8.1,SNR=4.2							
WRA	**Warramunga Arr**	**56.63**	**188**	P		**P**	**08 33 08.1**	**-0.1**
	0.8nm,0.7s,baz=7.6,slow=7.5,SNR=9.3							
ASAR	**Alice Springs**	**60.36**	**188**	P		**P**	**08 33 35.0**	**+0.8**
	0.5nm,0.8s,baz=0.1,slow=5.6,SNR=4.0							
LPAZ	**La Paz**	**146.66**	**61**	PKPbc		**PKPab**	**08 43 09.0**	**-0.2**
	0.4nm,0.7s,baz=7.1,slow=8.1,SNR=1.4							

NEIC 22 08:26:57.5, 43°.50S×172°.16E, h5km, ML3.8(WEL), After WEL.
NEIC Felt in Canterbury.
WEL 22 08:26:57.8±0.1, 43°.51S×172°.16E, h10km±1km, ML3.8/20, 5C-6D, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
OXZ	**Oxford**	**0.20**	**335**	⇓PG		Pg	08 27 01.6	-0.4
OXZ				SG		Sg	08 27 04.8	-0.2
OXZ				SG			08 27 04.8	
OXZ	**Oxford**	**0.20**	**335**	⇓Pg		Pg	08 27 01.6	-0.4
OXZ				Sg		Sg	08 27 04.8	-0.2
CRLZ	**Canterbury Las**	**0.34**	**101**	⇓PG		Pg	08 27 04.5	-0.1
CRLZ				AML		AML	08 27 09.9	
CRLZ				AML		AML	08 27 10.2	
CRLZ	**Canterbury Las**	**0.34**	**101**	Pg		Pg	08 27 04.5	-0.1
MQZ	**McQueen's Vall**	**0.41**	**118**	⇓P*		Pg	08 27 05.6	-0.2
MQZ				AML		AML	08 27 12.2	
MQZ				AML		AML	08 27 13.4	
MQZ	**McQueen's Vall**	**0.41**	**118**	⇓Pg		Pg	08 27 05.6	-0.2
LTZ	**Lake Taylor**	**0.73**	**7**	⇓P*		Pg	08 27 11.9	-0.1
LTZ				S*		Sg	08 27 21.9	+0.4
LTZ				AML		AML	08 27 23.8	
LTZ	**Lake Taylor**	**0.73**	**7**	P*		Pg	08 27 11.9	-0.1
LTZ				S*		Sg	08 27 21.9	+0.4
RPZ	**Rata Peaks**	**0.83**	**255**	P*		Pg	08 27 13.5	-0.2
RPZ				AML		AML	08 27 30.6	
RPZ				AML		AML	08 27 32.1	
RPZ	**Rata Peaks**	**0.83**	**255**	P*		Pg	08 27 13.5	-0.2
INZ	**Inchbonnie**	**0.94**	**326**	⇑P*		Pg	08 27 15.4	-0.5
WVZ	**Waitaha Valley**	**1.13**	**292**	P*		Pb	08 27 18.6	-0.7
WVZ				S*		Sn	08 27 35.3	+0.2
WVZ				AML		AML	08 27 35.8	
WVZ	**Waitaha Valley**	**1.13**	**292**	P*		Pn	08 27 18.6	-0.7
KHZ	**Kahutara**	**1.49**	**43**	⇑PN		Pn	08 27 23.0	-1.6
KHZ	**Kahutara**	**1.49**	**43**	Pn		Pn	08 27 23.0	-1.6
LBZ	**Lake Benmore**	**1.67**	**238**	PN		Pn	08 27 26.3	-0.9
LBZ				AML		AML	08 27 51.5	
LBZ				AML		AML	08 27 52.9	
LBZ				AML		AML	08 27 52.9	
LBZ				AML		AML	08 27 56.6	
LBZ	**Lake Benmore**	**1.67**	**238**	Pn		Pn	08 27 26.3	-0.9
FOZ	**Fox Glacier**	**1.70**	**269**	PN		Pn	08 27 27.8	+0.3
FOZ				AML		AML	08 27 51.2	
FOZ				AML		AML	08 27 58.5	
FOZ				AML		AML	08 27 58.7	
FOZ	**Fox Glacier**	**1.70**	**269**	Pn		Pn	08 27 27.8	+0.3
DSZ	**Denniston Nort**	**1.79**	**351**	⇑PN		Pn	08 27 27.5	-1.2
DSZ				AML		AML	08 27 56.2	
DSZ				AML		AML	08 27 57.2	
DSZ				AML		AML	08 27 57.2	
DSZ				AML		AML	08 28 06.6	
DSZ	**Denniston Nort**	**1.79**	**351**	Pn		Pn	08 27 27.5	-1.2
THZ	**Tophouse**	**1.83**	**18**	⇑PN		Pn	08 27 27.9	-1.5
THZ				AML		AML	08 28 03.8	
THZ				AML		AML	08 28 04.1	
THZ	**Tophouse**	**1.83**	**18**	Pn		Pn	08 27 27.9	-1.5
ODZ	**Otahua Downs**	**1.88**	**215**	⇑PN		Pn	08 27 28.4	-1.5
ODZ				AML		AML	08 27 59.5	
ODZ				AML		AML	08 28 00.9	
ODZ				AML		AML	08 28 01.3	
ODZ				AML		AML	08 28 05.2	
ODZ	**Otahua Downs**	**1.88**	**215**	Pn		Pn	08 27 28.4	-1.5
BSWZ	**Blackbirch Sta**	**2.20**	**36**	PN		Pn	08 27 33.2	-1.2
BSWZ				AML		A

GIRC	**Giron, Santand**	**0.33**	**333**	*i* P		**Pn**	**08 32 38.6**	**+0.3**
PAMC	**Pamplona, Colo**	**0.65**	**32**	*e*P		**Pn**	**08 32 41.4**	**+1.3**
PAMC				*e*S		**Sn**	**08 32 58.2**	**-0.5**
BRRC	**Barranca, Sant**	**0.74**	**296**	*e*P		**Pn**	**08 32 40.4**	**+0.3**
BRRC				*e*S		**Sn**	**08 32 56.7**	**-1.9**
BRRC				*i*			08 33 02.6	
	comp=Z,130nm,0.1s							
RUSC	**La Rusia**	**0.88**	**183**	*e*P		**Pn**	**08 32 42.3**	**+0.6**
RUSC				*e*S		**Sn**	**08 33 00.2**	**-1.3**
RUSC				*i*			08 33 02.0	
	comp=Z,88nm,0.3s							
CBRI	**Barrientos, No**	**0.96**	**15**	*e*P		**Pn**	**08 32 43.2**	**+1.3**
CBRI				*e*S		**Sn**	**08 33 00.7**	**-1.2**
GRMC	**Gramalote, San**	**0.96**	**14**	*e*P		**Pn**	**08 32 44.5**	**+2.6**
GRMC				*e*S		**Sn**	**08 33 03.1**	**+1.3**
GRMC				*i*			08 33 05.1	
	comp=Z,116nm,0.3s							
CAPV	**Capacho**	**1.30**	**34**	⇓*i* P		**Pn**	**08 32 46.6**	**+1.8**
CAPV				*e*S		**Sn**	**08 33 07.8**	**+0.8**
OCAC	**Ocana**	**1.47**	**349**	*e*P		**Pn**	**08 32 47.1**	**+0.7**
OCAC				*e*S		**Sn**	**08 33 09.4**	**-0.6**
OCAC				*i*			08 33 10.4	
	comp=Z,90nm,0.4s							
NORC	**Norcasia**	**2.18**	**236**	*e*P		**Pn**	**08 32 54.4**	**+0.4**
NORC				*e*S		**Sn**	**08 33 22.4**	**-1.1**
CHIC	**Chingaza**	**2.25**	**198**	*e*P		**Pn**	**08 32 56.7**	**+1.5**
CHIC				*e*S		**Sn**	**08 33 25.4**	**0.0**
CHIC				*i*			08 33 30.4	
	comp=Z,16nm,0.3s							
HELC	**Santa Helena**	**2.54**	**257**	*e*P		**Pn**	**08 33 00.2**	**+1.7**
HELC				*e*S		**Sn**	**08 33 30.7**	**-0.8**
HELC				*i*			08 33 37.3	
	comp=Z,27nm,0.3s							
SOCV	**Socops**	**2.63**	**55**	*e*P		**Pn**	**08 33 01.1**	**+1.8**
SOCV				*e*S		**Sn**	**08 33 33.0**	**+0.1**
VIGV	**El Vigia**	**2.64**	**39**	*e*P		**Pn**	**08 33 01.1**	**+1.8**
VIGV				*e*S		**Sn**	**08 33 32.9**	**-0.2**
VILC	**Villavicencio,**	**2.73**	**194**	*e*P		**Pn**	**08 33 01.7**	**+1.1**
VILC				*e*S		**Sn**	**08 33 35.5**	**+0.1**
VILC				*i*			08 33 41.3	
	comp=Z,20nm,0.6s							
DBBC	**Dabeiba**	**3.15**	**274**	*e*P		**Pn**	**08 33 07.5**	**+1.7**
PRAC	**Prado**	**3.56**	**211**	*e*P		**Pn**	**08 33 12.6**	**+1.7**
SJAC	**San Juan de Ar**	**3.60**	**195**	*e*P		**Pn**	**08 33 13.5**	**+1.9**
VIRV	**Villa del Rosa**	**3.75**	**10**	*e*P		**Pn**	**08 33 13.7**	**+0.4**
VIRV				*e*S		**Sn**	**08 33 56.6**	**-1.5**
QARV	**Quebrada Arrib**	**4.22**	**36**	*e*P		**Pn**	**08 33 20.7**	**+1.3**
QARV				*e*S		**Sn**	**08 34 07.7**	**-1.3**
SANV	**Sanarito**	**4.40**	**52**	*e*P		**Pn**	**08 33 23.1**	**+1.3**
SANV				*e*S		**Sn**	**08 34 12.2**	**-1.1**
CURV	**Curarigua**	**4.43**	**43**	*e*P		**Pn**	**08 33 23.6**	**+1.4**
CURV				*e*S		**Sn**	**08 34 12.2**	**-1.6**
SIQV	**Siquisique**	**5.00**	**40**	*e*P		**Pn**	**08 33 30.0**	**+0.4**
SIQV				*e*S		**Sn**	**08 34 25.0**	**-2.3**
BAUV	**El Baul**	**5.40**	**66**	*e*P		**Pn**	**08 33 35.0**	**+0.2**
BAUV				*e*S		**Sn**	**08 34 34.0**	**-2.6**
MAPV	**Macapo**	**5.46**	**56**	*e*P		**Pn**	**08 33 36.9**	**+1.3**
MAPV				*e*S		**Sn**	**08 34 35.0**	**-3.0**
MONV	**Montecano**	**5.97**	**30**	*e*P		**Pn**	**08 33 43.0**	**+0.7**
CUPV	**Cœpira**	**7.88**	**65**	*e*P		**Pn**	**08 34 08.3**	**+0.6**

*ISCJB **22** 08:41:24.3±0.7,30.82S±0.04×71.72W±0.09,h53km, mb4.1/8,Error ellipse: s-maj=11.6km s-min=6.2km az=170.5*
*NEIC **22** 08:41:25.3±1.1,30.82S×71.37W,h44km±11km,mb4.2/2, Error ellipse: s-maj=17.8km s-min=8.1km az=89.0*
*IDC **22** 08:41:25.8±1.0,30.82S×71.34W,h48km±8km, mb4.0/6, mb1 3.9/11,mb1mx3.8/25,mbtmp4.1/11, ML3.8/4, MS3.1/1, Ms1 3.0/1,ms1mx2.6/23,Error ellipse: s-maj=22.9km s-min=17.4km az=91.0*
*SJA **22** 08:41:27.7±0.7,30.88S×71.18W,h23km±999km,ML4.1, MW4.3*

ISC 22 08:41:25.8±0.7,**30.82S**±0.06×**71.57W**±0.09,**h53**km,**n27,** σ1§**57**/32,**mb4.1**/8,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.95**	**23**	*e*Pn		**Pn**	**08 41 56.4**	**-0.4**
RTLS	**Leoncito**	**2.18**	**117**	*i* P		**Pn**	**08 42 00.7**	**+0.9**
AUSP	**Uspallata**	**2.33**	**127**	*i* P		**Pn**	**08 42 03.3**	**+1.3**
SJA	**San Juan**	**2.67**	**106**	*i* P		**Pn**	**08 42 07.5**	**+1.1**
SJA				IAML			08 42 59.6	
	comp=Z,1μm,0.3s							
RTLL	**Cerro Villicun**	**2.71**	**102**	*i* P		**Pn**	**08 42 07.2**	**+0.4**
RTCV	**Cerro Valdivia**	**2.79**	**113**	*i* P		**Pn**	**08 42 09.2**	**+1.2**
ASAL	**Salagasta**	**2.92**	**128**	*i* P		**Pn**	**08 42 11.6**	**+1.7**
AGUA	**GUANDACOL**	**2.98**	**64**	*i* P		**Pn**	**08 42 12.9**	**+2.2**
ARCO	**CERRO ARCO**	**3.02**	**133**	*i* P		**Pn**	**08 42 13.1**	**+1.9**
ARCO				IAML			08 42 30.9	
	comp=Z,694nm,0.3s							
VCA	**Vinchina**	**3.59**	**55**	*i* P		**Pn**	**08 42 21.7**	**+2.7**
LVC	**Limon Verde**	**8.52**	**17**	P		**Pn**	**08 43 24.0**	**-2.8**
	comp=Z,32nm,0.3s,baz=177,slow=8.2,SNR=11							
LVC				S		**Sn**	**08 45 04.1**	**+2.4**
	comp=Z,82nm,0.3s,baz=185,slow=16,SNR=2.1							
LVC	**Limon Verde**	**8.52**	**17**	P		**Pn**	**08 43 24.0**	**-2.8**
LVC				*e*Pn		Pn	08 43 25.6	-1.2
LVC				S		**Sn**	**08 45 04.1**	**+2.4**
PLCA	**Paso Flores**	**9.93**	**175**	P		**Pn**	**08 43 45.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=260,slow=14,SNR=1.4							
PLCA				LR		LR	08 47 17.1	
	comp=Z,94nm,18.9s,baz=296,slow=36							
TRQA	**Tornquist**	**10.71**	**135**	*e*Pn		**Pn**	**08 43 54.9**	**-1.6**
	comp=Z,6.9nm,0.5s							
CPUP	**Villa Florida**	**13.29**	**74**	P		Pn	08 44 27.1	-4.6
	comp=Z,0.2nm,0.3s,baz=243,slow=11,SNR=4.6							
CPUP				S		**Sn**	**08 46 55.4**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=255,slow=15,SNR=2.0							
LPAZ	**La Paz**	**14.80**	**13**	P		**Pn**	**08 44 53.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=176,slow=7.2,SNR=8.7							
SIV	**San Ignacio**	**17.61**	**35**	P		**Pn**	**08 45 27.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=222,slow=11,SNR=11							
SIV				pP		**pP**	**08 45 38.1**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=261,slow=4.9,SNR=2.3							
SAML	**Samuel**	**23.12**	**22**	P		**P**	**08 46 26.9**	**-0.5**
	comp=Z,4.7nm,1.7s							
USHA	**Ushuaia**	**24.11**	**176**	P		**P**	**08 46 36.4**	**+0.2**
	comp=Z,17nm,0.5s,baz=298,slow=14,SNR=1.2							
ATAH	**Atahualpa**	**24.41**	**343**	P		**P**	**08 46 39.2**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=202,slow=16,SNR=1.8							
RCBR	**Riachuelo**	**41.69**	**61**	P		**P**	**08 49 09.9**	**+0.4**
	comp=Z,22nm,1.4s							
TXAR	**Lajitas Array**	**67.18**	**330**	P		**P**	**08 52 16.3**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=157,slow=7.7,SNR=3.9							
TXAR				pP		**pP**	**08 52 29.6**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=153,slow=6.7,SNR=3.8							
DBIC	**Dimbokro**	**73.80**	**72**	P		**P**	**08 52 54.5**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=205,slow=6.8,SNR=9.9							
MAW	**Mawson**	**76.11**	**164**	P		**P**	**08 53 07.9**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=191,slow=5.2,SNR=3.4							
TORD	**Torodi Ar. Bea**	**82.76**	**70**	P		**P**	**08 53 44.1**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=276,slow=6.2,SNR=30							
TORD				pP		**pP**	**08 53 57.9**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=279,slow=6.3,SNR=2.6							
WRA	**Warramunga Arr**	**123.72**	**210**	PKP		**PKPdf**	**09 00 18.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=152,slow=1.9,SNR=9.3							
ZALV	**Zalesovo Beam**	**151.30**	**30**	PKPbc		**PKPbc**	**09 01 13.2**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=316,slow=4.0,SNR=2.5							

*MOS **22** 08:57:34.1±1.2,44.63N×148.63E,h30km,mb4.1/3,Error ellipse: s-maj=16.2km s-min=14.9km az=65.8*
*JMA **22** 08:57:35.1±0.3,44.23N×148.38E,h0km,M4.2*
*SKHL **22** 08:57:36.0±0.6,44.59N×148.61E,h54km±4km,mb4.3/1*

ISC 22 08:57:32.4±3.4,**44.5N**±0.1×**148.62E**±0.09,**h10**km±19km, **n30,**σ1§**70**/45,**mb3.6**/3,**2C-1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.93**	**325**	*c i*PN		**Pb**	**08 57 50.6**	**+0.1**
KUR				*i* S		**Sg**	**08 58 01.6**	**-0.8**
KUR				pmax		pmax		
	comp=N,75nm,0.1s							
KUR				pmax		pmax		
	comp=E,171nm,0.1s							
KUR				pmax		pmax		
	comp=Z,1μm,0.1s							
KUR				smax		smax		
	comp=N,212nm,0.3s							
KUR				smax		smax		
	comp=E,448nm,0.3s							
KUR	**Kuril'sk**	**0.93**	**325**	*i* P		**Pb**	**08 57 50.6**	**+0.1**
KUR				AMB		AMB	08 57 51.3	
	comp=E,123nm,0.2s							
KUR				*e*S		**Sg**	**08 58 01.5**	**-0.8**
KUR				A		A	08 58 03.1	
	comp=E,900nm,0.3s							
KUR				A		A	08 58 03.1	
	comp=E,420nm,0.3s							
SHO	**Shikotan**	**1.43**	**245**	*c i*PN		**Pn**	**08 57 58.8**	**+0.5**
SHO				*i* S		**Sn**	**08 58 16.0**	**-1.1**
SHO				smax		smax		
	comp=N,324nm,0.4s							
SHO				smax		smax		
	comp=E,639nm,0.4s							
SHO	**Shikotan**	**1.43**	**245**	*e*P		**Pn**	**08 57 58.8**	**+0.5**
SHO				*i* S		**Sn**	**08 58 16.0**	**-1.1**
SHO				A		A	08 58 17.9	
	comp=E,640nm,0.4s							
SHO				A		A	08 58 17.9	
	comp=E,320nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.03**	**258**	*e*PN		**Pn**	**08 58 06.9**	**+0.3**
YUK				*i* S		**Sn**	**08 58 32.9**	**+0.8**
YUK				smax		smax		
	comp=N,502nm,0.2s							
YUK				smax		smax		
	comp=E,600nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.03**	**258**	*e*P		**Pn**	**08 58 06.9**	**+0.3**
YUK				*i* S		**Sn**	**08 58 30.6**	**-1.5**
YUK				A		A	08 58 35.8	
	comp=E,500nm,0.4s							
YUK				A		A	08 58 35.8	
	comp=E,600nm,0.4s							
NEM2	**Nemuro 2**	**2.36**	**243**	P		**Pn**	**08 58 12.3**	**+1.2**
NEM2				*e*S		**Sn**	**08 58 39.1**	**-1.0**
JRA	**Rausu**	**2.57**	**259**	P		**Pn**	**08 58 16.2**	**+2.1**
JRA				*e*S		**Sn**	**08 58 46.2**	**+0.8**
JNK	**Nakash**	**2.95**	**254**	P		**Pn**	**08 58 21.5**	**+2.2**
JNK				*e*S		**Sn**	**08 58 55.3**	**+0.5**
JAK	**Akkeshi**	**3.21**	**244**	P		**Pn**	**08 58 24.1**	**+1.3**
JAK				*e*S		**Sn**	**08 59 00.6**	**-0.4**
JTKR	**Abashiri--Toko**	**3.43**	**263**	P		**Pn**	**08 58 28.0**	**+2.2**
JAR	**Ashorobuto**	**3.70**	**253**	P		**Pn**	**08 58 32.3**	**+2.7**
JAR				*e*S		**Sn**	**08 59 14.8**	**+1.6**
JCH	**Churui**	**4.25**	**246**	P		**Pn**	**08 58 38.8**	**+1.6**
JCH				*e*S		**Sn**	**08 59 26.4**	**-0.4**
JKK2	**Kamakawa 2**	**4.27**	**264**	P		**Pn**	**08 58 40.0**	**+2.6**
ERM	**Erimo**	**4.69**	**240**	*d*PN		**Pn**	**08 58 46.7**	**+3.5**
ERM	**Erimo**	**4.69**	**240**	*e*P		**Pn**	**08 58 46.7**	**+3.5**
YSS	**Yuzh-Sakhalins**	**4.80**	**303**	*i* PN		**Pn**	**08 58 45.3**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.80**	**303**	*e*P		**Pn**	**08 58 45.5**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.81**	**245**	P		**Pn**	**08 58 46.0**	**+1.2**
JNBK				*e*S		**Sn**	**08 59 39.6**	**-0.9**
JKB	**Kayabe**	**6.12**	**248**	P		**Pn**	**08 59 03.8**	**+1.0**
JKB				*e*S		**Sn**	**09 00 09.1**	**-3.8**
JOT	**Ohata**	**6.36**	**244**	P		**Pn**	**08 59 06.6**	**+0.5**
JOT				*e*S		**Sn**	**09 00 14.0**	**-4.8**
SKR	**Severo-Kuril's**	**8.01**	**37**	*e*PN		**Pn**	**08 59 28.1**	**-0.6**
KLR	**Kul'dur**	**12.48**	**298**	*e*PN		**Pn**	**09 00 30.6**	**+0.6**
BILL	**Bilibino**	**25.37**	**15**	*e*P		**P**	**09 02 58.5**	**-0.8**
BILL				pmax		pmax		
	comp=Z,1.0nm,1.1s							
BILL	**Bilibino**	**25.37**	**15**	*e*P		**P**	**09 02 58.5**	**-0.8**
ULN	**Ulaanbaatar**	**28.73**	**292**	*e*P		**P**	**09 03 30.3**	**+0.3**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ULN	**Ulaanbaatar**	**28.73**	**292**	*e*P		**P**	**09 03 30.3**	**+0.3**
OBN	**Obninsk**	**65.35**	**324**	*e*P		**P**	**09 08 13.5**	**-0.9**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.7s							
OBN	**Obninsk**	**65.35**	**324**	*e*P		**P**	**09 08 13.5**	**-0.9**
ESK	**Eskdalemuir**	**77.75**	**344**	*i* P		**P**	**09 09 30.9**	**+1.7**

*KRNET **22** 08:58:45.0±0.1,39.21N×72.28E,h15km,mb2.9*
*ISCJB **22** 08:58:46.4±1.3,39.21N±0.07×72.26E±0.06,h10km, Error ellipse: s-maj=10.7km s-min=5.8km az=163.4*
*NNC **22** 08:58:47.5±2.2,39.26N×72.42E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=23.0km s-min=7.3km az=135.0*

ISC 22 08:58:45.6±1.9,**39.20N**±0.10×**72.25E**±0.06,**h10**km,**n10,** σ1§**96**/20,**9C-10D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.45**	**309**	⇑*e*P		**Pg**	**08 58 53.8**	**-0.7**
DRK	baz=307			⇑*e*S		**Sb**	**08 59 01.6**	**-1.1**
OHH	**Osh**	**1.39**	**17**	⇓*e*P		**Pb**	**08 59 10.6**	**-1.1**
OHH	baz=16			⇓*e*S		**Sb**	**08 59 28.3**	**-1.2**
BTK	**Batken**	**1.40**	**308**	⇑*i*P		**Pb**	**08 59 11.2**	**-0.7**
BTK	baz=307			⇑*i*S		**Sb**	**08 59 29.7**	**-0.2**
ARSB	**Arslanbob**	**2.20**	**15**	⇑*e*P		**Pb**	**08 59 23.2**	**-2.3**
ARSB	baz=14			⇑*e*S		**Sb**	**08 59 52.2**	**-0.6**
DZET	**Dzherino**	**2.70**	**263**	⇓Pn		**Pb**	**08 59 33.0**	**-1.0**
DZET	6.4nm,0.5s			⇑Sn		**Sg**	**09 00 10.7**	**-1.5**
ARLS	**Aral**	**3.09**	**30**	⇓*e*P		**Pn**	**08 59 35.7**	**+1.1**
ARLS	baz=30			⇓*e*S		**Sn**	**09 00 12.7**	**+0.9**
MNAS	**Manas**	**3.29**	**3**	⇓*e*P		**Pn**	**08 59 38.9**	**+1.5**
MNAS	baz=3.0			⇓*e*S		**Sn**	**09 00 18.5**	**+1.9**
MNAS	**Manas**	**3.29**	**3**	⇓Pn		**Pn**	**08 59 38.7**	**+1.4**
MNAS	6.5nm,0.5s			⇑Sn		**Sb**	**09 00 20.5**	**-3.8**
AAK	**Ala-Archa**	**3.83**	**26**	⇓Pn		**Pn**	**08 59 46.9**	**+2.2**
AAK	2.3nm,0.4s			⇓Sn		**Sn**	**09 00 32.6**	**+2.6**
KK31	**Karatay Array**	**4.12**	**342**	Pn		**Pn**	**08 59 50.8**	**+2.2**
KK31	1.0nm,0.2s,baz=142,slow=11,SNR=23			⇑Sn		**Sn**	**09 00 40.1**	**+3.3**
	2.5nm,0.4s,baz=149,slow=21,SNR=6.8							

*IDC **22** 09:10:31.7±5.5,36.31N×70.73E,h170km±51km,mb3.3/4, mb1 3.3/9,mb1mx3.0/49,mbtmp3.9/9, Error ellipse: s-maj=39.1km s-min=26.3km az=18.0*
*ISCJB **22** 09:10:35.5±0.6,36.62N±0.05×70.79E±0.08,h200km, mb3.2/3, Error ellipse: s-maj=9.5km s-min=5.6km az=156.4*
*NNC **22** 09:10:41.6±1.1,37.01N×70.74E,h208km±8km,mb2.9, mpv3.8,Error ellipse: s-maj=12.2km s-min=6.6km az=147.0*

ISC 22 09:10:35.9±0.8,**36.61N**±0.07×**70.79E**±0.08,**h200**km,**n26,** σ1§**36**/33,**mb3.1**/3,**8C-8D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.69**	**325**	⇓P		**Pn**	**09 11 24.3**	**+2.2**
DZET	5.0nm,0.4s			S		**Sn**	**09 11 58.3**	**+0.2**
MNAS	76nm,0.6s **Manas**	**6.01**	**12**	⇑P		**Pn**	**09 12 05.3**	**+1.8**
MNAS	3.4nm,0.4s			⇓S		**Sn**	**09 13 10.6**	**-2.1**
KK31	100nm,0.8s **Karatay Array**	**6.49**	**358**	P		**Pn**	**09 12 11.0**	**+1.6**
KK31	1.9nm,0.3s,baz=192,slow=14,SNR=18			⇓S		**Sn**	**09 13 19.6**	**-3.9**
AAK	4.9nm,0.4s,baz=179,slow=19,SNR=16 **Ala-Archa**	**6.66**	**24**	P		**Pn**	**09 12 13.0**	**+1.2**
AAK	4.1nm,0.3s,baz=203,slow=7.9,SNR=20			S		**Sn**	**09 13 27.8**	**-0.1**
AAK	2.7nm,0.3s,baz=123,slow=23,SNR=20 **Ala-Archa**	**6.66**	**24**	⇓P		**Pn**	**09 12 13.6**	**+1.8**
AAK	8.4nm,0.5s			⇑S		**Sn**	**09 13 26.6**	**-1.3**
TKM2	26nm,0.6s **Tokmak 2**	**7.30**	**29**	⇓P		**Pn**	**09 12 21.4**	**+1.1**
TKM2	13nm,0.5s			⇓S		**Sn**	**09 13 41.9**	**-1.2**
MAKZ	12nm,1.0s **Makanchi**	**13.16**	**36**	⇑P		**Pn**	**09 13 35.4**	**+0.1**
	4.6nm,0.6s							
MK31	**Makanchi Array**	**13.30**	**37**	⇓P		**Pn**	**09 13 37.7**	**+0.7**
	2.5nm,0.9s,baz=220,slow=17,SNR=12							
MKAR	**Makanchi Array**	**13.30**	**37**	P		**Pn**	**09 13 38.1**	**+1.1**
	0.4nm,0.3s,baz=218,slow=9.1,SNR=12							
PYUN	**Piuthan**	**13.35**	**126**	*e*P		**Pn**	**09 13 37.7**	**-0.3**
	9.7nm,0.4s							
KOLN	**Koldanda**	**13.96**	**126**	*e*P		**Pn**	**09 13 46.0**	**+0.3**
	6.5nm,0.4s							
GKN	**Gorkha**	**14.51**	**122**	*e*P		**P**	**09 13 53.5**	**0.0**
	16nm,0.3s							
AB31	**Akbulak array**	**14.90**	**331**	⇑P		**Pn**	**09 13 56.5**	**-0.2**
	1.6nm,0.8s,baz=146,slow=11,SNR=15							
AB31				⇑S		**S**	**09 16 40.9**	**-1.2**
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**15.07**	**19**	P		**Pn**	**09 13 59.1**	**+0.3**
	0.1nm,0.3s,baz=209,slow=12,SNR=8.3							
KKN	**Kakani**	**15.08**	**122**	*e*P		**P**	**09 14 00.0**	**0.0**
	11nm,0.4s							
PKIN	**Phulchoki**	**15.29**	**122**	*e*P		**P**	**09 14 02.6**	**+0.2**
	10nm,0.3s							
VOSK	**Vostochnaya**	**16.11**	**0**	⇑P		**Pn**	**09 14 12.1**	**+0.7**
	4.5nm,1.1s							
BVA0	**Borovoye Array**	**16.41**	**359**	⇓P		**Pn**	**09 14 16.3**	**+1.3**
	5.0nm,1.2s,baz=170,slow=9.7,SNR=10							
BVAR	**Borovoye Array**	**16.41**	**359**	P		**Pn**	**09 14 15.2**	**+0.2**
	0.5nm,0.3s,baz=168,slow=8.5,SNR=8.1							
AKTO	**Aktyubinsk**	**16.60**	**330**	P		**P**	**09 14 16.8**	**+0.6**
	0.5nm,0.3s,baz=148,slow=13,SNR=7.9							
AKTO	**Aktyubinsk**	**16.60**	**330**	⇑P		**P**	**09 14 16.9**	**+0.6**
	3.2nm,0.7s							
CHKZ	**Chkalovo**	**17.06**	**360**	⇑P		**Pn**	**09 14 22.3**	**-0.3**
	0.7nm,0.6s							
ZALV	**Zalesovo Beam**	**19.88**	**25**	P		**P**	**09 14 52.7**	**+0.9**
	2.7nm,0.4s,baz=221,slow=12,SNR=10							
ARCES	**ARCESS Array B**	**40.98**	**338**	P		**P**	**09 18 00.3**	**+1.6**
	2.7nm,1.3s,baz=108,slow=7.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**65.55**	**268**	P		**P**	**09 20 56.6**	**-1.8**
	0.2nm,0.6s,baz=53,slow=6.1,SNR=4.1							
ASAR	**Alice Springs**	**84.46**	**125**	P		**P**	**09 22 44.8**	**-1.5**
	0.3nm,0.8s,baz=316,slow=5.2,SNR=3.9							

*IDC **22** 09:22:53.4±0.7,33.77N×89.32E,h0km,mb4.0/19, mb1 4.1/23,mb1mx4.0/53,mbtmp4.0/23,ML3.6/4,MS3.2/7, Ms1 3.3/7,ms1mx3.0/33,Error ellipse: s-maj=20.0km s-min=13.6km az=34.0*
*ISCJB **22** 09:22:54.9±0.4,33.93N±0.04×89.40E±0.07,h17km, mb3.9/18,MS3.2/5,Error ellipse: s-maj=8.5km s-min=5.8km az=8.7*
*BJI **22** 09:22:54.1,33.44N×89.59E,h3km,mb4.2/5,mB4.3/2, Ms3.7/3,Ms7 3.6/3*

ISC 22 09:22:56.8±0.5,**33.92N**±0.07×**89.22E**±0.06,**h17**km,**n40,** σ1§**88**/39,**mb4.0**/18,**MS3.3**/5,**Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.52**	**158**	Pg		**Pn**	**09 24 08.9**	**+4.1**
GUN	**Gumba**	**6.64**	**206**	*e*P		**Pn**	**09 24 37.4**	**+3.5**
	25nm,0.6s							
KKN	**Kakani**	**6.98**	**210**	*e*P		**Pn**	**09 24 41.6**	**+3.1**
	19nm,0.5s							
GKN	**Gorkha**	**7.09**	**215**	*e*P		**Pn**	**09 24 42.8**	**+2.9**
	11nm,0.5s							
PKIN	**Phulchoki**	**7.12**	**208**	*e*P		**Pn**	**09 24 43.3**	**+2.8**
	9.0nm,0.5s							
RAMN	**Ramite**	**7.30**	**199**	*e*P		**Pn**	**09 24 43.8**	**+0.9**
	34nm,0.5s							
KOLN	**Koldanda**	**7.80**	**220**	*e*P		**Pn**	**09 24 51.1**	**+1.4**
	11nm,0.7s							
PYUN	**Piuthan**	**7.88**	**224**	*e*P		**Pn**	**09 24 51.2**	**+0.3**
	16nm,0.6s							
SHL	**Shillong**	**8.64**	**164**	*e*P		**Pn**	**09 25 02.0**	**+0.8**
WMQ	**Urumqi**	**9.96**	**354**	P		Pn	09 25 28.5	+9.4
WMQ				LN				
	110nm,6.2s							
WMQ				LE				
	140nm,6.6s							
WMQ				LZ				
	120nm,5.2s							
GTA	**Gaotai**	**10.12**	**54**	*e*P		**Pn**	**09 25 24.8**	**+3.4**
GTA				pP			09 25 30.9	
GTA				sP			09 25 34.3	
GTA				PMZ				
	4.0nm,1.1s							
CD2	**Chengdu**	**12.65**	**100**	*e*P		**Pn**	**09 25 52.6**	**-3.3**
MKAR	**Makanchi Array**	**13.89**	**340**	Pn		**Pn**	**09 26 11.6**	**-1.2**
	0.1nm,0.3s,baz=152,slow=13,SNR=3.9							
MKAR				LR		LR	09 31 37.7	
	comp=Z,22nm,18.6s,baz=172,slow=37							
AAK	**Ala-Archa**	**14.46**	**311**	Pn		**P**	**09 26 25.1**	**-2.3**
	baz=145,slow=12,SNR=3.1							
CMAR	**Chiang Mai Arr**	**17.68**	**148**	P		**Pn**	**09 27 00.6**	**-1.7**
	0.6nm,0.3s,baz=327,slow=11,SNR=8.5							
CMAR				LR		LR	09 34 33.7	
	comp=Z,156nm,19.3s,baz=250,slow=40							
KURBB	**Kurchatov Arra**	**18.44**	**338**	P		**P**	**09 27 11.2**	**-0.1**
	0.0nm,0.3s,baz=134,slow=9.3,SNR=13							
SONM	**Songino Array**	**18.96**	**38**	P		**Pn**	**09 27 18.9**	**+1.0**
	0.1nm,0.3s,baz=223,slow=11,SNR=17							
HHC	**Hu-ho-hao-te**	**19.03**	**62**

n35,σ1$19/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.27**	**103**	*e*PG	**Pg**	**09 25 21.1**	**+0.2**
GEDZ	**Gediz**	**0.27**	**103**	*e*Pg	**Pg**	**09 25 21.2**	**+0.2**
DEMI	**Demirci**	**0.28**	**257**	P	**Pb**	**09 25 22.4**	**-1.1**
DEMI				S	**Sg**	**09 25 26.1**	**+1.3**
DEMI	**Demirci**	**0.28**	**257**	*i* P	**Pb**	**09 25 22.4**	**-1.1**
DEMI				*i* S	**Sg**	**09 25 26.1**	**+1.3**
GDZ	**Gediz**	**0.32**	**93**	P	**Pg**	**09 25 22.7**	**+0.8**
GDZ				S	**Sg**	**09 25 27.2**	**+1.0**
GDZ	**Gediz**	**0.32**	**93**	*i* P	**Pg**	**09 25 22.7**	**+0.8**
GDZ				*i* S	**Sg**	**09 25 27.2**	**+1.0**
TVSB	**Tavsanli**	**0.46**	**42**	*e*PG	**Pb**	**09 25 25.5**	**-1.0**
TVSB				*e*SG	**Sg**	**09 25 30.7**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**42**	*e*Pg	**Pb**	**09 25 25.5**	**-1.0**
TVSB				*e*Sg	**Sg**	**09 25 30.7**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*PG	**Pb**	**09 25 29.5**	**-0.6**
KULA				*e*SG	**Sb**	**09 25 38.8**	**-1.0**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*Pg	**Pb**	**09 25 29.5**	**-0.6**
KULA				*e*Sg	**Sb**	**09 25 38.8**	**-1.0**
KHL	**Karahalli**	**0.86**	**155**	*e*PG	**Pn**	**09 25 33.1**	**-1.7**
KHL	**Karahalli**	**0.86**	**155**	*e*Pg	**Pn**	**09 25 33.1**	**-1.7**
BALB	**Balikesir**	**1.06**	**300**	*e*PN	**Pg**	**09 25 37.2**	**+1.1**
BALB	**Balikesir**	**1.06**	**300**	*e*Pn	**Pg**	**09 25 37.2**	**+1.1**
IGD	**Bursa**	**1.16**	**5**	*i* P	**Pb**	**09 25 37.0**	**-1.4**
IGD				*i* S	**Sg**	**09 25 53.5**	**+0.5**
CAVI	**Cavuskoy**	**1.25**	**28**	*e*PN	**Pg**	**09 25 39.6**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**28**	*e*Pn	**Pg**	**09 25 39.6**	**0.0**
IZI	**Iznik**	**1.27**	**14**	*e*PN	**Pg**	**09 25 40.7**	**+0.7**
IZI	**Iznik**	**1.27**	**14**	*e*Pn	**Pg**	**09 25 40.7**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN	**Pg**	**09 25 40.4**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn	**Pg**	**09 25 40.4**	**+0.4**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pg**	**09 25 40.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pg**	**09 25 40.4**	**+0.1**
BALY	**Balya**	**1.29**	**300**	P	**Pg**	**09 25 40.9**	**+0.5**
BALY				S	**Sg**	**09 25 57.4**	**+0.3**
BALY	**Balya**	**1.29**	**300**	*i* P	**Pg**	**09 25 40.9**	**+0.5**
BALY				*i* S	**Sg**	**09 25 57.4**	**+0.3**
BORA	**Eskisehir**	**1.32**	**54**	*i* P	**Sn**	**09 26 04.3**	**+5.0**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*PN	**Pg**	**09 25 43.1**	**+0.1**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*Pn	**Pg**	**09 25 43.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*PN	**Pg**	**09 25 43.4**	**+0.4**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*Pn	**Pg**	**09 25 43.4**	**+0.4**
ESKT	**Eskisehir**	**1.44**	**73**	*i* P	**Sn**	**09 26 04.6**	**+2.2**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	**Pg**	**09 25 44.0**	**+0.1**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	**Pg**	**09 25 44.0**	**+0.1**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pb**	**09 25 46.9**	**-1.3**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pb**	**09 25 46.9**	**-1.3**

*NNC **22** 09:38:33.1±0.5, 42.°12N×70.°28E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=4.7km s-min=3.3km az=109.0*
*SOME **22** 09:38:33.1, 42.°15N×70.°33E, h0km*
*ISCJB **22** 09:38:34.8±0.7, 42.°13N±0.°03×70.°26E±0.°04, h12km±5km, Error ellipse: s-maj=5.0km s-min=4.5km az=24.7*
*KRNET **22** 09:38:35.0±0.1, 42.°05N×70.°40E, mb3.0*

ISC 22 09:38:33.8±1.1, 42.°12N±0.°04×70.°33E±0.°03, h8km±9km, n22,σ1$95/42, 26C-11D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**0.23**	**277**	*e*P	**Pg**	**09 38 38.1**	**-0.3**
	796nm,0.1s						
IUG				*e*S	**Sg**	**09 38 41.9**	**+0.4**
	8µm,0.3s						
CHM	**Chimkent**	**0.58**	**290**	*e*P	**Pg**	**09 38 45.0**	**+0.1**
	132nm,0.1s						
CHM				⇑*i*S	**Sg**	**09 38 53.3**	**+0.7**
	973nm,0.1s						
BRLS	**Borolday**	**0.82**	**324**	*e*P	**Pg**	**09 38 49.3**	**-0.3**
	41nm,0.1s						
BRLS				*e*S	**Sb**	**09 39 00.8**	**-0.8**
	99nm,0.3s						
KK31	**Karatay Array**	**0.99**	**8**	⇓P	**Pg**	**09 38 52.2**	**-0.6**
	17nm,0.2s,baz=188,slow=18,SNR=9.0						
KK31				S	**Sb**	**09 39 06.0**	**-0.5**
	100nm,0.2s,baz=194,slow=28,SNR=17						
ARK	**Arkit**	**1.26**	**104**	⇓*e*P	**Pb**	**09 38 57.7**	**-0.2**
	baz=102						
ARK				⇓*e*S	**Sn**	**09 39 15.4**	**+0.3**
	baz=102						
MNAS	**Manas**	**1.65**	**77**	⇑*e*P	**Pb**	**09 39 04.3**	**-0.3**
	baz=74						
MNAS				⇑*e*S	**Sg**	**09 39 26.4**	**-0.6**
	baz=74						
MNAS	**Manas**	**1.65**	**77**	⇓P	**Pb**	**09 39 04.6**	**0.0**
MNAS				⇓S	**Sg**	**09 39 26.3**	**-0.6**
BTK	**Batken**	**2.09**	**170**	⇓*e*P	**Pb**	**09 39 10.9**	**-1.2**
	baz=171						
BTK				⇓*e*S	**Sn**	**09 39 37.0**	**+1.4**
	baz=171						
ARSB	**Arslanbob**	**2.14**	**111**	⇑*e*P	**Pb**	**09 39 11.5**	**-1.4**
	baz=110						
ARSB				⇑*e*S	**Sb**	**09 39 38.8**	**-0.8**
	baz=110						
MRKS	**Merke**	**2.23**	**73**	*e*P	**Pb**	**09 39 14.8**	**+0.4**
	12nm,0.4s						
MRKS				*e*S	**Sg**	**09 39 44.1**	**-1.4**
	65nm,0.4s						
EKS2	**Erkin-Say**	**2.61**	**77**	⇑*i*P	**Pb**	**09 39 19.6**	**-1.3**
	baz=75						
EKS2				⇑*i*S	**Sb**	**09 39 51.7**	**-1.5**
	baz=75						
DRK	**Karamyk**	**2.87**	**157**	⇑*e*P	**Pn**	**09 39 21.9**	**+1.8**
	baz=157						
DRK				⇑*e*S	**Sn**	**09 39 56.5**	**+1.6**
	baz=157						
ARLS	**Aral**	**2.99**	**94**	⇑*e*P	**Pn**	**09 39 23.7**	**+2.0**
	baz=92						
ARLS				⇑*e*S	**Sn**	**09 39 59.3**	**+1.6**
	baz=92						
UCH	**Uchtor**	**3.11**	**87**	⇑*i*P	**Pn**	**09 39 25.9**	**+2.3**
	baz=85						
UCH				⇑*i*S	**Sn**	**09 40 02.2**	**+1.0**
	baz=85						
AAK	**Ala-Archa**	**3.13**	**79**	⇓*i*P	**Pn**	**09 39 26.5**	**+2.9**
	baz=78						
AAK				⇓*i*S	**Sn**	**09 40 03.2**	**+2.0**
	baz=78						
AAK	**Ala-Archa**	**3.13**	**79**	⇑Pg	**Pg**	**09 39 32.0**	**-1.7**
	4.4nm,0.4s						
AAK				⇓Lg	Lg	09 40 12.0	
	5.0nm,0.3s						
USP	**Ospenovka**	**3.28**	**68**	⇑*i*P	**Pn**	**09 39 28.6**	**+3.0**
	baz=67						
USP				⇑*i*S	**Sn**	**09 40 07.8**	**+3.0**
	baz=67						
CHMS	**Chumysh**	**3.38**	**73**	⇑*i*P	**Pn**	**09 39 30.0**	**+3.0**
	baz=72						
CHMS				⇑*i*S	**Sn**	**09 40 09.6**	**+2.3**
	baz=72						
DZET	**Dzherino**	**3.51**	**200**	⇑Pg	**Pb**	**09 39 36.2**	**0.0**
	6.5nm,0.4s						
DZET				⇑Sn	**Sn**	**09 40 12.0**	**+1.5**
	12nm,0.5s						
DZET				⇓Lg	Lg	09 40 23.3	
	40nm,0.8s						
KZA	**Kyzart**	**3.66**	**89**	⇑*i*P	**Pn**	**09 39 33.6**	**+2.5**
	baz=88						
KZA				⇑*i*S	**Sn**	**09 40 15.7**	**+1.0**
	baz=88						
TKM2	**Tokmak 2**	**3.97**	**77**	⇑Pg	**Pb**	**09 39 46.2**	**+2.0**
	3.2nm,0.8s						
TKM2				⇑Lg	Lg	09 40 38.4	
	3.0nm,0.3s						
AB31	**Akbulak array**	**10.18**	**318**	⇑Pn	**Pn**	**09 41 00.1**	**0.0**
	0.1nm,0.3s,baz=131,slow=13,SNR=4.0						
AB31				⇑Sn	**Sn**	**09 42 47.4**	**-7.0**
	0.5nm,0.5s,baz=126,slow=24,SNR=4.8						

IDC 22 09:51:25.1±1.6, 2.°17N×124.°82E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/39, mbtmp3.6/5, Error ellipse: s-maj=121.0km s-min=22.6km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.16**	**178**	P	Pn	09 56 02.3	-0.7
	1.6nm,0.8s,baz=7.1,slow=16,SNR=1.5						
WRA	**Warramunga Arr**	**23.88**	**157**	P	P	09 56 40.4	-0.2
	0.8nm,0.4s,baz=334,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.16**	**162**	P	P	09 57 10.3	-0.1
	0.2nm,0.3s,baz=346,slow=14,SNR=5.2						
STKA	**Stephens Creek**	**37.42**	**156**	P	P	09 58 39.8	-0.3
	1.7nm,1.0s,baz=328,slow=13,SNR=3.4						
MKAR	**Makanchi Array**	**57.77**	**327**	P	P	10 01 18.0	-0.2
	0.5nm,0.4s,baz=122,slow=8.0,SNR=7.3						

*IDC **22** 09:53:01.9±1.2, 6.°75N×77.°03W, h0km, mb3.3/1, mb1 4.0/4, mb1mx3.6/29, mbtmp3.9/4, ML3.3/3, Error ellipse: s-maj=39.4km s-min=28.0km az=36.0*
*ISCJB **22** 09:53:12.6±0.4, 6.°84N±0.°03×73.°05W±0.°04, h166km±4km, mb3.2/1, Error ellipse: s-maj=7.8km s-min=3.1km az=38.3*
*FUNV **22** 09:53:13.0, 6.°71N×73.°21W, h166km, MW3.2*
*RSNC **22** 09:53:15.6±0.6, 6.°79N×73.°11W, h148km±3km, ML3.1*

ISC 22 09:53:13.0±0.9, 6.°82N±0.°04×73.°05W±0.°04, h165km±5km, n37,σ1$22/63, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.23**	**295**	*i* P	**Pn**	**09 53 35.6**	**+0.2**
BTLC				*e*S	**Sn**	**09 53 51.0**	**-1.6**
BARC	**Barichara**	**0.26**	**209**	*e*P	**Pn**	**09 53 35.5**	**-0.1**
BARC				*i*		09 53 36.7	
	comp=Z,162nm,0.4s						
BARC				*e*S	**Sn**	**09 53 50.9**	**-1.9**
GIRC	**Giron, Santand**	**0.29**	**332**	*i* P	**Pn**	**09 53 35.5**	**0.0**
PAMC	**Pamplona, Colo**	**0.62**	**34**	*e*P	**Pn**	**09 53 38.2**	**+0.9**
PAMC				*e*S	**Sn**	**09 53 55.8**	**-0.1**
BRRC	**Barranca, Sant**	**0.71**	**294**	⇑*i*P	**Pn**	**09 53 37.4**	**+0.2**
BRRC				*e*S	**Sn**	**09 53 54.4**	**-1.4**
BRRC				*i*		09 53 57.0	
	comp=Z,283nm,0.1s						
RUSC	**La Rusia**	**0.92**	**182**	*e*P	**Pn**	**09 53 39.3**	**+0.1**
RUSC				*e*S	**Sn**	**09 53 57.9**	**-1.5**
RUSC				*i*		09 53 59.3	
	comp=Z,114nm,0.2s						
GRMC	**Gramalote, San**	**0.93**	**16**	*i* P	**Pn**	**09 53 41.3**	**+2.4**
GRMC				*e*S	**Sn**	**09 54 00.7**	**+1.9**
GRMC				*i*		09 54 02.0	
	comp=Z,274nm,0.2s						
CBRI	**Barrientos, No**	**0.93**	**16**	*e*P	**Pn**	**09 53 40.0**	**+1.1**
CBRI				*e*S	**Sn**	**09 53 58.5**	**-0.4**
CBRI				*i*		09 54 01.8	
	comp=Z,171nm,0.2s						
CAPV	**Capacho**	**1.27**	**35**	⇓*i*P	**Pn**	**09 53 43.3**	**+1.5**
CAPV				*e*S	**Sn**	**09 54 04.8**	**+0.8**
OCAC	**Ocana**	**1.43**	**349**	*e*P	**Pn**	**09 53 44.0**	**+0.8**
OCAC				*e*S	**Sn**	**09 54 05.9**	**-0.8**
OCAC				*i*		09 54 11.9	
	comp=Z,166nm,0.3s						
NORC	**Norcasia**	**2.19**	**235**	*e*P	**Pn**	**09 53 51.2**	**-0.2**
NORC				*e*S	**Sn**	**09 54 20.3**	**-0.7**
CHIC	**Chingaza**	**2.28**	**197**	*e*P	**Pn**	**09 53 53.4**	**+0.7**
CHIC				*e*S	**Sn**	**09 54 22.5**	**-0.9**
ROSC	**El Rosal**	**2.33**	**213**	Pn	**Pn**	**09 53 55.2**	**+1.8**
	comp=Z,12nm,0.3s,baz=300,slow=23,SNR=35						
ROSC				Sn	**Sn**	**09 54 23.6**	**-1.0**
	comp=Z,10nm,0.3s,baz=102,slow=20,SNR=12						
ROSC	**El Rosal**	**2.33**	**213**	*e*S	**Sn**	**09 54 24.1**	**-0.5**
ROSC				*i*		09 54 32.3	
	comp=Z,81nm,0.6s						
HELC	**Santa Helena**	**2.54**	**256**	*e*P	**Pn**	**09 53 56.7**	**+1.1**
HELC				*e*S	**Sn**	**09 54 28.1**	**-0.6**
HELC				*i*		09 54 33.8	
	comp=Z,78nm,0.5s						
VIGV	**El Vigia**	**2.61**	**40**	*e*P	**Pn**	**09 53 57.5**	**+1.3**
VIGV				*e*S	**Sn**	**09 54 30.1**	**+0.3**
SOCV	**Socops**	**2.62**	**56**	*e*P	**Pn**	**09 53 57.7**	**+1.4**
SOCV				*e*S	**Sn**	**09 54 30.2**	**+0.2**
VILC	**Villavicencio,**	**2.76**	**193**	*e*P	**Pn**	**09 53 59.1**	**+0.9**
VILC				*e*S	**Sn**	**09 54 32.3**	**-1.1**
VILC				*i*		09 54 41.3	
	comp=Z,30nm,0.5s						
DBBC	**Dabeiba**	**3.14**	**274**	*e*P	**Pn**	**09 54 03.5**	**+0.7**
SDV	**Santo Domingo**	**3.16**	**49**	Pn	**Sn**	**09 54 41.8**	**-0.3**
	comp=Z,11nm,0.3s,baz=252,slow=20,SNR=8.9						
TOLC	**Tolima**	**3.16**	**226**	*e*P	**Pn**	**09 54 04.6**	**+1.3**
ELOV	**Elorza**	**3.55**	**87**	*e*P	**Pn**	**09 54 09.3**	**+1.5**
PRAC	**Prado**	**3.58**	**211**	*e*P	**Pn**	**09 54 09.1**	**+0.7**
PRAC				*e*S	**Sn**	**09 54 51.4**	**-0.1**
SJAC	**San Juan de Ar**	**3.63**	**194**	*e*P	**Pn**	**09 54 10.2**	**+1.1**
VIRV	**Villa del Rosa**	**3.71**	**10**	*e*P	**Pn**	**09 54 10.2**	**+0.2**
VIRV				*e*S	**Sn**	**09 54 52.8**	**-1.8**
QARV	**Quebrada Arrib**	**4.19**	**36**	*e*S	**Sn**	**09 55 05.4**	**-0.2**
SANV	**Sanarito**	**4.38**	**52**	*e*P	**Pn**	**09 54 19.8**	**+1.0**
SANV				*e*S	**Sn**	**09 55 08.9**	**-1.2**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**09 54 20.0**	**+1.0**
CURV				*e*S	**Sn**	**09 55 09.9**	**-0.7**
DABV	**Dabajuro**	**4.72**	**30**	*e*P	**Pn**	**09 54 24.2**	**+1.1**
DABV				*e*S	**Sn**	**09 55 15.9**	**-2.1**
TEPV	**Terepaima**	**4.94**	**50**	*e*P	**Pn**	**09 54 26.8**	**+1.0**
TEPV				*e*S	**Sn**	**09 55 21.1**	**-1.8**
SIQV	**Siquisique**	**4.98**	**40**	*e*P	**Pn**	**09 54 26.4**	**0.0**
SIQV				*e*S	**Sn**	**09 55 22.5**	**-1.4**
BAUV	**El Baul**	**5.39**	**67**	*e*P	**Pn**	**09 54 31.6**	**-0.3**
BAUV				*e*S	**Sn**	**09 55 31.4**	**-2.3**
MAPV	**Macapo**	**5.44**	**56**	⇑*i*P	**Pn**	**09 54 33.3**	**+0.8**
MAPV				*e*S	**Sn**	**09 55 32.4**	**-2.5**
MONV	**Montecano**	**5.94**	**31**	*e*P	**Pn**	**09 54 39.5**	**+0.4**
MONV				*e*S	**Sn**	**09 55 43.6**	**-3.1**
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**10 03 23.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=128,slow=6.7,SNR=3.0						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**10 12 43.5**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=125,slow=3.5,SNR=5.8						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**10 12 46.5**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=107,slow=2.7,SNR=9.5						

*IDC **22** 10:10:50.8±1.1, 26.°61N×144.°21E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/45, mbtmp3.8/11, ML3.4/2, Error ellipse: s-maj=29.2km s-min=19.3km az=74.0*
*ISCJB **22** 10:10:53.4±0.8, 26.°6N±0.°1×144.°2E±0.°1, h31km, mb3.8/9, Error ellipse: s-maj=18.7km s-min=11.6km az=27.7*

ISC 22 10:10:55.5±1.1, 26.°7N±0.°1×144.°1E±0.°1, h31km, n12, σ0$92/13, mb3.9/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.79**	**284**	Pn	**Pn**	**10 11 23.7**	**-0.6**
	14nm,0.3s,baz=270,slow=20,SNR=3.9						
JCJ				Sn	**Sn**	**10 11 46.4**	**+0.4**
	40nm,0.3s,baz=270,slow=24,SNR=5.8						
MJAR	**Matsushiro Arr**	**11.05**	**334**	Pn	**Pn**	**10 13 29.6**	**-1.8**
	0.3nm,0.3s,baz=158,slow=12,SNR=3.8						
KSRS	**Korea Array**	**17.42**	**312**	P	**P**	**10 14 57.3**	**+0.1**
	0.1nm,0.3s,baz=120,slow=11,SNR=4.0						
SONM	**Songino Array**	**36.22**	**316**	P	**P**	**10 17 57.3**	**+1.7**
	1.8nm,0.7s,baz=115,slow=7.1,SNR=11						
CMAR	**Chiang Mai Arr**	**42.35**	**269**	P	**P**	**10 18 47.3**	**+0.2**
	0.9nm,0.4s,baz=54,slow=6.8,SNR=3.2						
WRA	**Warramunga Arr**	**47.31**	**193**	P	**P**	**10 19 25.9**	**-0.5**
	2.1nm,0.8s,baz=18,slow=8.6,SNR=16						
ZALV	**Zelesovo Beam**	**50.94**	**319**	P	**P**	**10 19 54.3**	**+0.5**
	0.5nm,0.3s,baz=97,slow=8.2,SNR=1.9						
ASAR	**Alice Springs**	**51.02**	**192**	P	**P**	**10 19 54.0**	**-0.8**
	0.4nm,0.8s,baz=12,slow=7.9,SNR=4.2						
MKAR	**Makanchi Array**	**52.08**	**310**	P	**P**	**10 20 03.4**	**+0.8**
	0.7nm,0.7s,baz=87,slow=11,SNR=6.3						
KURBB	**Kurchatov Arra**	**54.57**	**315**	P	**P**	**10 20 20.6**	**-0.1**
	0.8nm,0.5s,baz=90,slow=7.7,SNR=11						
BVAR	**Borovoye Array**	**59.52**	**318**	P	**P**	**10 20 56.1**	**+0.3**
	0.7nm,0.5s,baz=125,slow=9.3,SNR=4.6						
YKA	**Yellowknife Ar**	**71.67**	**29**	P	**P**	**10 22 14.3**	**+0.4**
	0.2nm,0.5s,baz=142,slow=7.8,SNR=2.5						

*IDC **22** 10:15:14.8±0.8, 26.°51N×144.°18E, h0km, mb4.1/12, mb1 4.2/13, mb1mx3.9/42, mbtmp4.1/13, ML3.4/1, MS3.1/2, Ms1 3.3/2, ms1mx2.5/51, Error ellipse: s-maj=27.7km s-min=15.6km az=69.0*
*NEIC **22** 10:15:16.2±0.4, 26.°48N×144.°16E, h10km, mb4.5/3, Error ellipse: s-maj=12.8km s-min=8.6km az=59.0*
*ISCJB **22** 10:15:17.5±0.6, 26.°43N±0.°09×144.°13E±0.°08, h31km, mb4.2/16, MS3.8/1, Error ellipse: s-maj=14.1km s-min=8.0km az=29.2*

ISC 22 10:15:19.6±0.7, 26.°5N±0.°1×144.°1E±0.°1, h31km, n28, σ0$84/27, mb4.3/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.80**	**290**	Pn	**Pn**	**10 15 47.1**	**-1.5**
CBIJ				Sn	**Sn**	**10 16 10.7**	**+0.3**
JCJ	**Chichijima**	**1.80**	**290**	Pn	**Pn**	**10 15 47.1**	**-1.5**
	24nm,0.3s,baz=270,slow=24,SNR=5.5						
JCJ				Sn	**Sn**	**10 16 10.7**	**+0.3**
	61nm,0.3s,baz=90,slow=20,SNR=6.3						
GUMO	**Guam**	**12.87**	**177**	LR	LR	10 22 37.1	
	comp=Z,18nm,18.6s,baz=126,slow=34						
KSRS	**Korea Array**	**17.51**	**313**	P	**Pn**	**10 19 21.5**	**+0.2**
	0.1nm,0.3s,baz=122,slow=12,SNR=6.6						
KSAR	**Wonju Array Be**	**17.52**	**312**	P	**Pn**	**10 19 21.6**	**0.0**
USRK	**Ussuriysk Ar.**	**20.19**	**334**	P	Pn	10 19 54.9	+1.2
	1.3nm,0.5s,baz=145,slow=7.4,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**22.32**	**106**	T	T	10 43 28.1	
	baz=295						
H11S1	**WAKE ISLAND Hy**	**22.33**	**106**	T	T	10 43 24.2	
	baz=295						
H11S2	**WAKE ISLAND Hy**	**22.34**	**106**	T	T	10 43 27.1	
	baz=295						
KLR	**Kul'dur**	**24.63**	**340**	P	**P**	**10 20 36.8**	**-0.4**
	1.6nm,0.8s,baz=134,slow=11,SNR=4.1						
ULN	**Ulaanbaatar**	**35.93**	**316**	*e*P	**P**	**10 22 16.9**	**-0.4**
	15nm,1.1s						
SONM	**Songino Array**	**36.32**	**316**	P	**P**	**10 22 20.3**	**-0.4**
	4.1nm,0.7s,baz=124,slow=6.7,SNR=22						
CMAR	**Chiang Mai Arr**	**42.30**	**269**	P	**P**	**10 23 11.2**	**+0.4**
	0.9nm,0.4s,baz=60,slow=8.3,SNR=5.7						
CMAR				LR	LR	10 39 57.0	
	comp=Z,110nm,18.1s,baz=222,slow=35						
WRA	**Warramunga Arr**	**47.13**	**193**	P	**P**	**10 23 48.5**	**-0.6**
	4.3nm,0.8s,baz=14,slow=8.3,SNR=18						
WRA				PcP	**PcP**	**10 25 22.2**	**+1.6**
	0.5nm,0.8s,baz=8.4,slow=3.4,SNR=3.1						
ASAR	**Alice Springs**	**50.84**	**192**	P	**P**	**10 24 17.4**	**0.0**
	0.4nm,0.7s,baz=8.9,slow=8.1,SNR=7.6						
ASAR				PcP	**PcP**	**10 25 34.8**	**+0.8**
	0.5nm,0.8s,baz=3.3,slow=4.8,SNR=4.1						
MKAR	**Makanchi Array**	**52.16**	**310**	P	**P**	**10 24 28.2**	**+1.0**
	2.7nm,0.8s,baz=92,slow=8.6,SNR=7.8						
KURK	**Kurchatov**	**54.61**	**315**	P	**P**	**10 24 46.4**	**+1.3**
KURBB	**Kurchatov Arra**	**54.67**	**315**	P	**P**	**10 24 46.4**	**+0.9**
	1.5nm,0.5s,baz=89,slow=8.4,SNR=7.4						
STKA	**Stephens Creek**	**58.10**	**183**	P	**P**	**10 25 09.6**	**-0.5**
	1.4nm,0.7s,baz=338,slow=8.7,SNR=3.8						
EKS2	**Erkin-Say**	**58.51**	**305**	*e*P	**P**	**10 25 13.9**	**+0.7**
	8.3nm,0.4s						
BVAR	**Borovoye Array**	**59.63**	**318**	P	**P**	**10 25 20.6**	**0.0**
	1.9nm,0.6s,baz=83,slow=8.8,SNR=8.2						
KKAR	**Karatay Array**	**60.81**	**306**	*e*P	**P**	**10 25 29.4**	**+0.5**
	2.8nm,0.7s						
AKTO	**Aktyubinsk**	**67.64**	**316**	P	**P**	**10 26 13.3**	**-0.2**
	1.3nm,0.6s,baz=77,slow=17,SNR=4.6						
YKA	**Yellowknife Ar**	**71.85**	**29**	P	**P**	**10 26 38.7**	**-0.4**
	0.4nm,0.5s,baz=296,slow=6.5,SNR=4.2						
KBZ	**Khabaz**	**79.65**	**314**	P	**P**	**10 27 25.7**	**+1.6**
	2.8nm,0.8s,baz=162,slow=6.0,SNR=4.2						
FFC	**Flin Flon**	**81.34**	**32**	*e*P	**P**	**10 27 32.7**	**-0.2**
	3.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**126.25**	**313**	PKP	**PKPdf**	**10 34 20.1**	**+0.1**
	0.2nm,0.5s,baz=16,slow=3.9,SNR=2.6						
LPAZ	**La Paz**	**148.41**	**78**	PKPbc	**PKPbc**	**10 35 03.4**	**-1.1**
	1.6nm,0.8s,baz=340,slow=2.8,SNR=6.9						

*NIED **22** 10:16:00, 38.°60N×141.°90E, h50km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φs166.00000°, δ21.00000°, λ52.00000°. NP2:φs27.00000°, δ74.00000°, λ103.00000°.*
*ISCJB **22** 10:16:01.5±0.8, 38.°64N±0.°05×141.°9E±0.°1, h61km±5km, mb3.8/11, Error ellipse: s-maj=14.7km s-min=6.7km az=27.7*
*JMA **22** 10:16:02.3±0.1, 38.°64N×141.°91E, h49km±1km, M3.9*
JMA Felt II J1.
*IDC **22** 10:16:03.9±2.5, 38.°63N×141.°87E, h67km±21km, mb3.6/11, mb1 3.6/15, mb1mx3.4/46, mbtmp3.8/15, MS2.9/5, Ms1 2.9/5, ms1mx2.6/51, Error ellipse: s-maj=21.9km s-min=18.0km az=125.0*

ISC 22 10:16:01.6±1.3, 38.°59N±0.°06×141.°98E±0.°10, h48km±10km, n34,σ1$06/31, mb3.8/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.51**	**255**	P	**Pn**	**10 16 13.1**	**+0.3**
JIO				S	**Sn**	**10 16 20.6**	**-0.2**
OFUJ	**Ofunato**	**0.55**	**334**	P

KST				*e*S	Sg	10 24 59.6	+0.6		
	80nm,0.4s								
TKM2	**Tokmak 2**	**0.42**	**191**	⇓*i*P	Pg	10 24 56.2	+0.3		
	baz=187								
TKM2				⇓*i*S	Sg	10 25 01.9	+0.5		
	baz=187								
TKM2	**Tokmak 2**	**0.42**	**191**	⇓P	Pg	10 24 55.9	+0.1		
	3.5nm,0.3s								
TKM2				⇑S	Sg	10 25 01.6	+0.3		
	15nm,0.3s								
TKM2	**Tokmak 2**	**0.42**	**191**	*e*P	Pg	10 24 56.2	+0.4		
	46nm,0.3s								
MTBS	**Maitube**	**0.57**	**110**	⇓*i*P	Pb	10 24 59.5	-0.3		
	31nm,0.2s								
MTBS				⇑*i*S	Sb	10 25 07.3	-0.7		
	68nm,0.2s								
IZV	**Izvestkoviy**	**0.73**	**114**	*e*P	Pg	10 25 01.8	+0.1		
	20nm,0.1s								
IZV				*e*S	Sg	10 25 11.3	+0.1		
	70nm,0.2s								
KUU	**Kurty**	**0.73**	**39**	*e*P	Pb	10 25 02.3	-0.2		
	6.4nm,0.2s								
KUU				*e*S	Sg	10 25 11.7	+0.5		
	25nm,0.2s								
CHMS	**Chumysh**	**0.77**	**245**	⇑*i*P	Pg	10 25 02.7	+0.2		
	baz=246								
CHMS				⇑*i*S	Sg	10 25 12.6	0.0		
	baz=246								
KTBS	**Karatobe**	**0.81**	**61**	*e*P	Pg	10 25 03.4	+0.2		
KTBS				*e*S	Sg	10 25 14.0	+0.3		
BOOM	**Boomskoye usch**	**0.86**	**168**	⇓*e*P	Pg	10 25 04.3	+0.1		
	baz=166								
BOOM				⇓*e*S	Sb	10 25 16.0	-0.4		
	baz=166								
KBK	**Karagaybulak**	**0.87**	**220**	⇑*i*P	Pg	10 25 04.5	+0.1		
	baz=220								
KBK				⇑*i*S	Sg	10 25 16.2	+0.4		
	baz=220								
USP	**Ospenovka**	**0.88**	**266**	⇑*i*P	Pg	10 25 04.5	-0.1		
	baz=269								
USP				⇑*i*S	Sg	10 25 16.0	-0.1		
	baz=269								
TNSS	**Tian-Shan**	**0.95**	**107**	*e*P	Pg	10 25 06.0	0.0		
	21nm,0.1s								
TNSS				*e*S	Sg	10 25 18.5	+0.1		
	38nm,0.1s								
MDOK	**Medeo**	**1.00**	**99**	⇑*i*P	Pb	10 25 07.4	+0.2		
	16nm,0.3s								
MDOK				⇓*i*S	Sb	10 25 20.8	+0.4		
	16nm,0.2s								
KOTS	**Kotyrbulak**	**1.03**	**95**	*e*P	Pg	10 25 07.5	0.0		
KOTS				*e*S	Sg	10 25 20.9	0.0		
CHKK	**Chushkaly**	**1.08**	**60**	*e*P	Pg	10 25 08.2	-0.2		
	12nm,0.2s								
CHKK				*e*S	Sg	10 25 22.3	-0.3		
	117nm,0.2s								
AAK	**Ala-Archa**	**1.13**	**232**	⇑*i*P	Pg	10 25 09.3	0.0		
	baz=233								
AAK				⇑*i*S	Sg	10 25 23.7	-0.3		
	baz=233								
AAK	**Ala-Archa**	**1.13**	**232**	⇓P	Pn	10 25 10.6	+0.8		
	1.2nm,0.2s								
AAK				⇑S	Sg	10 25 23.3	-0.7		
	3.9nm,0.3s								
AAK	**Ala-Archa**	**1.13**	**232**	*e*P	Pg	10 25 09.1	-0.3		
	7.2nm,0.4s								
ULHL	**Ulahol**	**1.15**	**160**	⇓*i*P	Pg	10 25 09.8	0.0		
	baz=159								
ULHL				⇓*i*S	Sb	10 25 25.2	+0.2		
	baz=159								
KZA	**Kyzart**	**1.30**	**195**	⇑*i*P	Pn	10 25 12.3	0.0		
	baz=194								
KZA				⇑*i*S	Sg	10 25 29.5	+0.1		
	baz=194								
UCH	**Uchtor**	**1.41**	**219**	⇑*i*P	Pb	10 25 14.4	+0.1		
	baz=219								
UCH				⇑*i*S	Sb	10 25 32.6	0.0		
	baz=219								
ANVS	**Anan'yevo**	**1.54**	**110**	⇓*e*P	Pg	10 25 17.4	+0.2		
	baz=109								
ANVS				⇓*e*S	Sg	10 25 37.1	0.0		
	baz=109								
EKS2	**Erkin-Say**	**1.56**	**245**	⇑*i*P	Pn	10 25 16.1	+0.4		
	baz=246								
EKS2				⇑*i*S	Sb	10 25 36.8	+0.1		
	baz=246								
ARXS	**Arharly**	**1.77**	**59**	*e*P	Pb	10 25 20.7	+0.4		
	24nm,0.3s								
ARXS				*e*S	Sg	10 25 43.8	-0.9		
	89nm,0.3s								
MRKS	**Merke**	**1.91**	**253**	⇓*i*P	Pb	10 25 22.2	-0.5		
	12nm,0.2s								
MRKS				⇓*i*S	Sb	10 25 46.8	+0.2		
	40nm,0.3s								
MNBS	**Baschi**	**2.09**	**68**	*e*P	Pb	10 25 26.2	+0.4		
	0.9nm,0.2s								
MNBS				*e*S	Sb	10 25 53.1	+1.1		
	80nm,0.4s								
MNAS	**Manas**	**2.50**	**251**	⇑Pg	Pg	10 25 34.6	-0.9		
	1.0nm,0.5s								
MNAS				⇓Lg	Lg	10 26 05.2			
	8.2nm,0.6s								
PDGK	**Podgornoye**	**2.76**	**89**	⇓*e*P	Pb	10 25 36.2	-0.9		
	baz=88								
PDGK				⇓*e*S	Sb	10 26 09.0	-2.0		
	baz=88								
KK31	**Karatay Array**	**3.80**	**268**	Pg	Pg	10 26 00.5	+0.1		
	1.8nm,0.3s,baz=85,slow=15,SNR=6.9								
KK31				⇑Lg	Lg	10 26 52.9			
	4.1nm,0.5s,baz=91,slow=30,SNR=6.7								

*ECX **22** 10:30:27.0±1.1,31.°86N×115.°09W,h8km, MD3.4, ML3.6*
*MEX **22** 10:30:28.6±1.0,31.°93N×115.°29W,h16km±12km, MD3.7*
ISC 22 10:30:22.3±1.5,31.°90N±0.°03×114.°99W±0.°04,h3km±12km, n31,σ0°88/48,2C,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.43**	**187**	*e*P	**Pb**	**10 30 32.8**	**+0.4**
ECBX				*e*S	**Sb**	**10 30 38.6**	**-0.6**
ECBX				IAML		10 30 40.9	
	comp=E,3μm,0.4s						
MBIG	**Mexicali**	**0.54**	**341**	*e*P	**Pn**	**10 30 36.5**	**-0.3**
MBIG				*e*S	**Sb**	**10 30 42.3**	**-0.1**
MBIG	**Mexicali**	**0.54**	**341**	*e*P	**Pn**	**10 30 36.4**	**-0.4**
CPBX	**Cerro Prieto**	**0.58**	**333**	*e*P	**Pn**	**10 30 37.4**	**0.0**
CPBX				*e*S	**Sb**	**10 30 45.1**	**+1.3**
CPBX				⇑*e*		10 30 48.8	
CPBX				IAML		10 30 48.8	
	comp=N,15μm,0.6s						
SPIG	**San Pedro Mart**	**0.94**	**206**	*e*P	**Pn**	**10 30 42.4**	**-0.2**
SPIG				*e*S	**Sb**	**10 30 54.1**	**-0.2**
SPIG	**San Pedro Mart**	**0.94**	**206**	*e*P	**Pn**	**10 30 42.5**	**-0.2**
SPIG				*e*S	**Sb**	**10 30 54.4**	**0.0**
SPX	**San Pedro Mart**	**0.94**	**206**	*e*P	**Pn**	**10 30 42.5**	**-0.2**
SPX				*e*S	**Sb**	**10 30 55.0**	**+0.6**
SPX				IAML		10 30 56.7	
	comp=E,1μm,0.4s						
GLA	**Glamis**	**1.16**	**7**	P	**Pb**	**10 30 45.2**	**+0.3**
	baz=184,SNR=122						
GLA				S	**Sg**	**10 31 00.1**	**+0.6**
	baz=184						
RMX	**La Rumorosa**	**1.16**	**308**	*e*P	**Pn**	**10 30 46.3**	**+0.8**
RMX				*e*S	**Sn**	**10 31 01.2**	**-0.7**
IKP	**In-Ko-Pah, Jac**	**1.21**	**309**	P	**Pn**	**10 30 46.1**	**0.0**
	baz=128,SNR=249						
IKP				S	**Sn**	**10 31 03.9**	**+0.8**
	baz=128						
IKP	**In-Ko-Pah, Jac**	**1.21**	**309**	*e*P	**Pn**	**10 30 47.1**	**+1.0**
SWSC	**Sam W. Stewart**	**1.25**	**327**	P	**Pb**	**10 30 46.2**	**-0.3**
	baz=145,SNR=62						
ECNX	**Esteban Cantu**	**1.39**	**260**	*e*P	**Pb**	**10 30 48.9**	**0.0**
ECNX				*e*P	**Pg**	**10 30 50.0**	**+1.1**
CBX	**Cerro Bola**	**1.48**	**287**	*e*P	**Pg**	**10 30 50.8**	**+0.2**
CBX				*e*S	**Sg**	**10 31 10.2**	**+0.3**
CBX	**Cerro Bola**	**1.48**	**287**	*e*P	**Pb**	**10 30 50.6**	**+0.2**
CBX				*e*S	**Sg**	**10 31 10.0**	**+0.1**
CBX				⇑*e*		10 31 16.6	
CBX				IAML		10 31 16.6	
	comp=N,1μm,0.5s						
PBX	**Punta Banda**	**1.48**	**264**	*e*P	**Pb**	**10 30 50.3**	**-0.2**
TJIG	**Tijuana**	**1.52**	**291**	*e*P	**Pb**	**10 30 51.0**	**-0.1**
TJIG				*e*S	**Sb**	**10 31 10.5**	**-0.4**
MONP2	**Monument Peak**	**1.57**	**310**	P	**Pn**	**10 30 51.4**	**+0.3**
	baz=129,SNR=97						
MONP2				S	**Sg**	**10 31 12.8**	**+0.2**
	baz=129						
BC3	**Big Chuckawall**	**1.80**	**348**	P	**Pn**	**10 30 54.6**	**+0.4**
	baz=166,SNR=21						
BC3				S	**Sn**	**10 31 16.6**	**-1.0**
	baz=166						
214A	**Organ Pipe Nat**	**1.85**	**88**	P	**Pn**	**10 30 54.5**	**-0.4**
	baz=268,SNR=68						
Y12C	**Blythe**	**1.89**	**12**	P	**Pn**	**10 30 55.7**	**+0.3**
	baz=190,SNR=9.1						
Y12C				S	**Sn**	**10 31 20.4**	**+0.7**
	baz=190						
109C	**Camp Elliot, M**	**2.04**	**299**	P	**Pn**	**10 30 58.3**	**+0.8**
	baz=118,SNR=54						
109C				Sb	**Sg**	**10 31 28.5**	**+0.5**
	baz=118						
TPFO	**Pinon Flats**	**2.10**	**324**	P	**Pn**	**10 30 58.5**	**0.0**
	baz=143,SNR=23						
PFO	**Pinyon Flats O**	**2.11**	**324**	P	**Pn**	**10 30 58.7**	**+0.1**
	baz=143,SNR=18						
IRM	**Iron Mountain**	**2.26**	**357**	P	**Pn**	**10 31 01.1**	**+0.6**
	baz=176,SNR=35						
MURC	**Murrieta**	**2.52**	**313**	P	**Pn**	**10 31 04.9**	**+0.9**
	baz=132,SNR=30						
NEE2	**Needles Airpor**	**2.88**	**6**	S	**Sn**	**10 31 43.9**	**-0.3**
	baz=185						
SCI2	**San Clemente I**	**3.19**	**291**	Sb	**Sg**	**10 32 03.3**	**-1.6**
	baz=109						
BFSC	**Mount Baldy Ra**	**3.24**	**317**	Sb	**Sg**	**10 32 04.1**	**-2.1**
	baz=135						
FMP	**Fort Macarthur**	**3.32**	**304**	Sb	**Sg**	**10 32 06.9**	**-2.0**
	baz=122						
EDW2	**Edwards Air Fo**	**3.89**	**321**	Sb	**Sg**	**10 32 24.1**	**-3.2**
	baz=139						

IDC 22 10:30:24.6±2.1,26.°46N×144.°03E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/39,mbtmp3.5/4,Error ellipse: s-maj=57.8km s-min=21.3km az=58.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.77**	**291**	Pn	Pn	10 30 56.6	+0.1
	8.0nm,0.3s,baz=270,slow=20,SNR=2.7						
JCJ				Sn	Sn	10 31 18.8	-0.9
	14nm,0.3s,baz=270,slow=20,SNR=3.0						
SONM	**Songino Array**	**36.31**	**316**	P	P	10 37 30.3	+0.2
	0.7nm,0.6s,baz=119,slow=9.6,SNR=5.8						
WRA	**Warramunga Arr**	**47.08**	**192**	P	P	10 38 58.1	-0.3
	0.8nm,0.8s,baz=18,slow=8.4,SNR=6.1						
ASAR	**Alice Springs**	**50.79**	**192**	P	P	10 39 26.9	0.0
	0.5nm,1.0s,baz=0.0,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**52.15**	**310**	P	P	10 39 36.7	-0.1
	0.5nm,0.9s,baz=93,slow=7.7,SNR=4.4						

*IDC **22** 10:35:59.1±1.3,25.°89N×141.°92E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.5/39,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=47.8km s-min=16.2km az=93.0*
ISC 22 10:35:57.1±1.8,26.°5N±0.°2×143.°9E±0.°2,h35km,n6, σ0°46/6,mb3.7/4,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.63**	**292**	Pn	**Pn**	**10 36 22.7**	**-0.5**
	baz=90,slow=20						
JCJ				Sn	**Sn**	**10 36 43.5**	**+0.5**
	baz=90,slow=20						
MJAR	**Matsushiro Arr**	**11.11**	**336**	Pn	Pn	10 38 39.4	+5.9
	0.3nm,0.3s,baz=167,slow=13,SNR=4.1						
SONM	**Songino Array**	**36.19**	**316**	P	**P**	**10 42 56.6**	**+0.2**
	1.2nm,0.7s,baz=108,slow=7.3,SNR=8.3						
WRA	**Warramunga Arr**	**47.09**	**192**	P	**P**	**10 44 25.6**	**-0.1**
	1.6nm,0.7s,baz=12,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**50.80**	**192**	P	**P**	**10 44 54.4**	**+0.3**
	0.2nm,0.6s,baz=13,slow=5.4,SNR=3.7						
MKAR	**Makanchi Array**	**52.02**	**310**	P	**P**	**10 45 03.1**	**0.0**
	0.4nm,0.6s,baz=96,slow=8.7,SNR=3.8						

*ISCJB **22** 10:44:19.7±0.4,51.°49N±0.°02×6.°47E±0.°03,h0km, Error ellipse: s-maj=3.4km s-min=2.5km az=37.0*
*CSEM **22** 10:44:20.9±0.2,51.°48N×6.°54E,h1km,ML3.1/12, Error ellipse: s-maj=4.3km s-min=3.6km az=137.0*
*BNS **22** 10:44:20.2±1.1,51.°56N×6.°46E,h1km,ML2.3*
*BUG **22** 10:44:20.4,51.°44N×6.°55E,h1km,ML2.1*
*LDG **22** 10:44:21.5±0.1,51.°50N×6.°53E,h1km,Md3.0/2,Ml3.0/11, Error ellipse: s-maj=2.0km s-min=1.6km az=139.0, Suspected Mining induced.*
*BGR **22** 10:44:21.8±0.2,51.°49N×6.°56E,h1km,ML2.6/9,Error ellipse: s-maj=3.3km s-min=3.3km az=122.0*
*UCC **22** 10:44:22.4,51.°55N×6.°47E,h10km,ML3.0*
ISC 22 10:44:19.8±0.7,51.°48N±0.°02×6.°46E±0.°02,h0km,n92, σ1°13/147,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.33**	**113**	*e*Pg	**Pg**	**10 44 26.9**	**+0.8**
LAUG	**Laupendahl**	**0.33**	**113**	Pg	**Pg**	**10 44 26.9**	**+0.8**
HES	**Velbert-Hesper**	**0.38**	**107**	*e*Pg	**Pg**	**10 44 27.0**	**-0.1**
HES	**Velbert-Hesper**	**0.38**	**107**	Pg	**Pg**	**10 44 27.0**	**-0.1**
OPLO	**Oploo**	**0.42**	**285**	*e*Pg	**Pb**	**10 44 31.4**	**+1.3**
OPLO				*e*Sg	**Sb**	**10 44 36.7**	**-0.3**
OPLO	**Oploo**	**0.42**	**285**	Pg	**Pb**	**10 44 31.4**	**+1.3**
OPLO				Sg	**Sb**	**10 44 36.7**	**-0.3**
RWB	**Wassenberg**	**0.42**	**207**	*e*Pg	**Pb**	**10 44 29.9**	**-0.3**
RWB				*e*Sg	**Sb**	**10 44 36.4**	**-0.7**
	136nm,0.1s						
RWB	**Wassenberg**	**0.42**	**207**	Pg	**Pb**	**10 44 29.9**	**-0.3**
RWB				Sg	**Sb**	**10 44 36.4**	**-0.7**
	136nm,0.1s						
BUG	**Bochum--Univer**	**0.51**	**94**	*e*Pg	**Pg**	**10 44 29.8**	**+0.3**
BUG				Sg	**Sg**	**10 44 36.7**	**+0.6**
PLH	**Pulheim**	**0.53**	**155**	*e*Pg	**Pg**	**10 44 30.8**	**+0.9**
PLH				*e*Sg	**Sg**	**10 44 38.4**	**+1.7**
	468nm,0.2s						
PLH	**Pulheim**	**0.53**	**155**	Pg	**Pg**	**10 44 30.8**	**+0.9**
PLH				Sg	**Sg**	**10 44 38.4**	**+1.7**
	468nm,0.2s						
WTSB	**Winterswijk**	**0.53**	**23**	*e*Pg	**Pg**	**10 44 30.3**	**+0.3**
WTSB				*e*Sg	**Sg**	**10 44 37.2**	**+0.3**
WTSB	**Winterswijk**	**0.53**	**23**	*e*Pg	**Pg**	**10 44 30.3**	**+0.3**
WTSB				*e*Sg	**Sg**	**10 44 37.3**	**+0.5**
WTSB	**Winterswijk**	**0.53**	**23**	Pg	**Pg**	**10 44 30.3**	**+0.3**
WTSB				Sg	**Sg**	**10 44 37.3**	**+0.5**
HOBG	**Hohbusch**	**0.74**	**132**	*e*Pg	**Pb**	**10 44 35.5**	**-0.1**
HOBG	**Hohbusch**	**0.74**	**132**	Pg	**Pb**	**10 44 35.5**	**-0.1**
GSH	**Grosshau**	**0.75**	**184**	*e*Pg	**Pb**	**10 44 35.6**	**-0.1**
GSH				*e*Sg	**Sb**	**10 44 46.4**	**-0.1**
	47nm,0.1s						
GSH	**Grosshau**	**0.75**	**184**	Pg	**Pb**	**10 44 35.6**	**-0.1**
GSH				Sg	**Sb**	**10 44 46.4**	**-0.1**
	47nm,0.1s						
HGN	**Heimansgroeve**	**0.79**	**205**	*e*Pn	**Pb**	**10 44 36.6**	**+0.2**
HGN				*e*Pg	**Pn**	**10 44 37.9**	**-0.3**
HGN				*e*Sn	**Sb**	**10 44 47.8**	**+0.1**
HGN				*e*Sg	**Sn**	**10 44 50.2**	**-0.5**
	350nm,0.2s						
HGN	**Heimansgroeve**	**0.79**	**205**	*e*Pg	**Pb**	**10 44 36.6**	**+0.2**
HGN				*e*Sg	**Sb**	**10 44 47.9**	**+0.2**
HGN	**Heimansgroeve**	**0.79**	**205**	Pg	**Pb**	**10 44 36.6**	**+0.2**
HGN				*e*Sn	**Sb**	**10 44 47.8**	**+0.1**
DREG	**Dreilaegerbach**	**0.83**	**190**	*e*Pg	**Pb**	**10 44 37.2**	**+0.1**
DREG	**Dreilaegerbach**	**0.83**	**190**	Pg	**Pb**	**10 44 37.2**	**+0.1**
KLL	**Kalltalsperre**	**0.84**	**187**	*e*Pg	**Pb**	**10 44 37.4**	**+0.1**
KLL	**Kalltalsperre**	**0.84**	**187**	Pg	**Pb**	**10 44 37.4**	**+0.1**
BEBN	**Eben Emael**	**0.84**	**216**	P	**Pn**	**10 44 40.8**	**+1.8**
BEBN	**Eben Emael**	**0.84**	**216**	P	**Pn**	**10 44 40.7**	**+1.8**
WBS	**Wahnbachtalspe**	**0.85**	**142**	*e*Pg	**Pg**	**10 44 36.6**	**+0.5**
WBS				*e*Sg	**Sg**	**10 44 48.1**	**+1.0**
	47nm,0.3s						
WBS	**Wahnbachtalspe**	**0.85**	**142**	Pg	**Pg**	**10 44 36.6**	**+0.5**
WBS				Sg	**Sg**	**10 44 48.1**	**+1.0**
	47nm,0.3s						
BMOL	**Mol**	**0.90**	**253**	P	**Pn**	**10 44 40.8**	**+1.1**
BMOL	**Mol**	**0.90**	**253**	P	**Pn**	**10 44 40.8**	**+1.1**
BDSL	**Dessel**	**0.92**	**254**	P	**Pn**	**10 44 40.7**	**+0.8**
BDSL	**Dessel**	**0.92**	**254**	P	**Pn**	**10 44 40.7**	**+0.8**
MEM	**Membach**	**0.92**	**198**	P	**Pb**	**10 44 39.4**	**+0.7**
MEM	**Membach**	**0.92**	**198**	*e*Pg	**Pb**	**10 44 38.9**	**+0.3**
MEM				*e*Sg	**Sb**	**10 44 51.8**	**+0.4**
MEM	**Membach**	**0.92**	**198**	Pg	**Pb**	**10 44 38.9**	**+0.3**
MEM				Sg	**Sb**	**10 44 51.8**	**+0.4**
STB	**Steinbach**	**0.92**	**165**	*e*Pg	**Pb**	**10 44 39.1**	**+0.5**
STB				*e*Sg	**Sn**	**10 44 53.0**	**-0.9**
	85nm,0.5s						
STB	**Steinbach**	**0.92**	**165**	Pg	**Pb**	**10 44 39.1**	**+0.5**
STB				Sg	**Sn**	**10 44 53.0**	**-0.9**
	85nm,0.5s						
OLFT	**Oleftalsperre**	**0.99**	**182**	*e*Pg	**Pb**	**10 44 40.0**	**+0.2**
OLFT				*e*Sg	**Sb**	**10 44 53.6**	**+0.2**
OLFT	**Oleftalsperre**	**0.99**	**182**	Pg	**Pb**	**10 44 40.0**	**+0.2**
OLFT				Sg	**Sb**	**10 44 53.6**	**+0.2**
AHRW	**Bad Neuenahr-A**	**1.02**	**157**	*e*Pg	**Pn**	**10 44 41.3**	**0.0**
AHRW				*e*Sg	**Sn**	**10 44 56.0**	**-0.3**
IBBN	**Ibbenburen**	**1.15**	**44**	*e*Pg	**Pg**	**10 44 42.2**	**+0.3**
IBBN				*e*Sg	**Sb**	**10 44 58.5**	**+0.4**
IBBN	**Ibbenburen**	**1.15**	**44**	Pg	**Pg**	**10 44 42.2**	**+0.3**
IBBN				Sg	**Sb**	**10 44 58.5**	**+0.4**
HILG	**Hillesheim**	**1.20**	**173**	*e*Pg	**Pn**	**10 44 44.2**	**+0.3**
HILG	**Hillesheim**	**1.20**	**173**	Pg	**Pn**	**10 44 44.2**	**+0.3**
BCLA	**Clavier**	**1.29**	**215**	P	**Pn**	**10 44 46.4**	**+1.3**
BCLA	**Clavier**	**1.29**	**215**	P	**Pn**	**10 44 46.3**	**+1.3**
LOH	**Wallersheim-Lo**	**1.30**	**178**	*e*Sg	**Sn**	**10 45 03.1**	**-0.3**
	40nm,0.2s						
LOH	**Wallersheim-Lo**	**1.30**	**178**	Sg	**Sn**	**10 45 03.1**	**-0.3**
	40nm,0.2s						
KOE	**Koeppel**	**1.33**	**142**	*e*Pg	**Pb**	**10 44 45.9**	**+0.3**
KOE	**Koeppel**	**1.33**	**142**	Pg	**Pb**	**10 44 45.9**	**+0.3**
GIVF	**Givet**	**1.73**	**218**	*e*Pn	**Pn**	**10 44 51.4**	**+0.3**
GIVF				*e*Sg	**Sg**	**10 45 17.1**	**+1.8**
	82nm,0.3s						
GIVF	**Givet**	**1.73**	**218**	*e*Pn	**Pn**	**10 44 51.4**	**+0.3**
GIVF				*e*Sg	**Sg**	**10 45 17.1**	**+1.8**
	41nm,0.3s						
TNS	**Taunus Mts**	**1.78**	**134**	*e*Pg	**Pg**	**10 44 54.4**	**+0.5**
TNS				*e*Sg	**Sg**	**10 45 17.2**	**+0.2**
TNS	**Taunus Mts**	**1.78**	**134**	Pg	**Pg**	**10 44 54.4**	**+0.5**
TNS				Sg	**Sg**	**10 45 17.2**	**+0.2**
WLF	**Walferdange**	**1.83**	**186**	P	**Pg**	**10 44 56.4**	**+1.5**
WLF	**Walferdange**	**1.83**	**186**	*e*Pg	**Pg**	**10 44 55.9**	**+1.1**
WLF				*e*Sg	**Sg**	**10 45 18.6**	**+0.1**
WLF	**Walferdange**	**1.83**	**186**	Pg	**Pg**	**10 44 55.9**	**+1.1**
WLF	**Walferdange**	**1.83**	**186**	P	**Pg**	**10 44 56.3**	**+1.5**
WLF				Sg	**Sg**	**10 45 18.6**	**+0.1**
BAIF	**Baives**	**2.02**	**226**	*e*Pn	**Pn**	**10 44 55.4**	**+0.3**
BAIF				*e*Sg	**Sg**	**10 45 26.4**	**+1.8**
	21nm,0.3s						
BAIF	**Baives**	**2.02**	**226**	*e*Pn	**Pn**	**10 44 55.4**	**+0.3**
BAIF				*e*Sg	**Sg**	**10 45 26.4**	**+1.8**
	11nm,0.3s						
CLZ	**Clausthal**	**2.46**	**80**	*e*Pg	**Pg**	**10 45 06.3**	**-0.7**
CLZ				*e*Sg	**Sb**	**10 45 37.2**	**+1.3**
CLZ	**Clausthal**	**2.46**	**80**	Pg	**Pg**	**10 45 06.3**	**-0.7**
CLZ				Sg	**Sb**	**10 45 37.2**	**+1.3**
PAGF	**Fort de Pagny**	**2.97**	**189**	*e*P	**Pn**	**10 45 10.7**	**+2.6**
PAGF				*e*Sg	**Sg**	**10 45 55.5**	**+0.4**
	0.9nm,0.4s						
PAGF	**Fort de Pagny**	**2.97**	**189**	*e*P	**Pn**	**10 45 10.7**	**+2.6**
PAGF				*e*Sg	**Sg**	**10 45 55.5**	**+0.4**
	0.4nm,0.4s						
CDF	**Champ du Feu**	**3.12**	**170**	*e*Pn	**Pn**	**10 45 10.1**	**-0.2**
CDF	**Champ du Feu**	**3.12**	**170**	*e*Pg	**Pg**	**10 45 20.0**	**+0.5**
CDF				*e*Sg	**Sg**	**10 46 00.1**	**+0.2**
	12nm,0.5s						
CDF	**Champ du Feu**	**3.12**	**170**	*e*Pn	**Pn**	**10 45 10.1**	**-0.2**
CDF	**Champ du Feu**	**3.12**	**170**	*e*Pg	**Pg**	**10 45 20.0**	**+0.5**
CDF				*e*Sg	**Sg**	**10 46 00.1**	**+0.2**
	6.1nm,0.5s						
MEZF	**Maizieres J'vi**	**3.12**	**198**	*e*Pn	**Pn**	**10 45 10.1**	**-0.1**
	baz=25						
MEZF				*e*Sg	**Sg**	**10 45 59.9**	**0.0**
	13nm,0.3s						
MEZF	**Maizieres J'vi**	**3.12**	**198**	*e*Pn	**Pn**	**10 45 10.1**	**-0.1**
MEZF				*e*Sg	**Sg**	**10 45 59.9**	**0.0**
	6.4nm,0.3s						
HINF	**Hinteralfeld**	**3.68**	**176**	*e*Sg	**Sg**	**10 46 17.1**	**-0.8**
	3.5nm,0.3s						
HINF	**Hinteralfeld**	**3.68**	**176**	*e*Sg	**Sg**	**10 46 17.1**	**-0.8**
	1.8nm,0.3s						
LOR	**Lormes**	**4.55**	**203**	*e*Pn	**Pn**	**10 45 29.7**	**-0.2**
	baz=35						
LOR				*e*Sn	**Sn**	**10 46 20.9**	**-2.5**
LOR				*e*Sg	**Sg**	**10 46 45.0**	**-0.8**
	9.1nm,0.4s						
LOR	**Lormes**	**4.55**	**203**	*e*Pn	**Pn**	**10 45 29.7**	**-0.2**
LOR				*e*Sn	**Sn**	**10 46 20.9**	**-2.5**
LOR				*e*Sg	**Sg**	**10 46 45.0**	**-0.8**
	4.6nm,0.4s						
SSF	**Saint Saulge**	**4.83**	**205**	*e*Pn	**Pn**	**10 45 33.6**	**-0.1**
SSF				*e*Sn	**Sn**	**10 46 27.7**	**-2.6**
SSF				*e*Sg	**Sg**	**10 46 54.0**	**-0.8**
	4.3nm,0.3s						
**SS

DPC	**Dobruska-Polom**	**1.37**	**283**	Pg	Pg	11 05 21.5	-1.2
DPC				Sg	Sg	11 05 40.5	+0.1
	6.1nm,0.4s						
VRAC	**Vranov**	**1.39**	**238**	*e*Pg	Pg	11 05 22.1	-1.0
VRAC				*e*Sg	Sg	11 05 40.4	-0.7
	5.5nm,0.2s						
VYHS	**Vyhne**	**1.58**	**169**	*e*Sn	Sn	11 05 45.1	-1.9
VYHS	**Vyhne**	**1.58**	**169**	*e*SN	Sn	11 05 45.1	-1.9
UPC	**Upice**	**1.60**	**288**	⇑*e*SG	Sg	11 05 47.9	+0.1
UPC	**Upice**	**1.60**	**288**	Sg	Sg	11 05 47.9	+0.1
KRUC	**Moravsky**	**1.64**	**234**	*e*Pg	Pn	11 05 26.2	-0.4
KRUC				*e*Sg	Sn	11 05 48.2	-0.1
	4.7nm,0.3s						
STHS	**Stebnicka Huta**	**1.95**	**108**	*e*Pn	Pb	11 05 32.3	-0.6
STHS	**Stebnicka Huta**	**1.95**	**108**	*e*PN	Pb	11 05 32.3	-0.6
STHS				*e*LG	Lg	11 06 01.6	
KHC	**Kasperske Hory**	**3.27**	**255**	*e*SG	Sg	11 06 40.5	-1.0
	2.4nm,0.4s						
KHC	**Kasperske Hory**	**3.27**	**255**	Sg	Sg	11 06 40.5	-1.0
	2.4nm,0.4s						

BUC 22 11:06:15.2±0.5, 45°18′N×25°05′E, h36$^{km}_{\pm 7}$, MD2.5/2, 16C-6D, Error ellipse: s-maj=6.7km s-min=5.9km az=338.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUR	**Matau**	**0.05**	**8**	⇓*i*P	Pn	11 06 22.1	+0.7
MTUR	**Matau**	**0.05**	**8**	⇓*i*P	Pn	11 06 22.1	+0.7
VOIR		**0.26**	**359**	⇑*i*P	Pn	11 06 23.4	-0.2
VOIR		**0.26**	**359**	⇑*i*P	Pn	11 06 23.4	-0.2
VOIR				*i* S	Sn	11 06 29.3	-1.8
HUMR	**Humele**	**0.65**	**185**	⇓*i*P	Pn	11 06 28.5	+0.5
HUMR	**Humele**	**0.65**	**185**	⇓*i*P	Pn	11 06 28.5	+0.5
HUMR				*i* S	Sn	11 06 39.3	+2.3
MLR	**Muntele Rosu**	**0.70**	**63**	⇑*i*P	Pn	11 06 29.2	+0.4
MLR	**Muntele Rosu**	**0.70**	**63**	⇑*i*P	Pn	11 06 29.2	+0.4
MLR				*i* S	Sn	11 06 40.6	+2.2
DOPR	**Dopca**	**0.82**	**16**	⇑*i*P	Pn	11 06 31.1	+0.8
DOPR	**Dopca**	**0.82**	**16**	⇑*i*P	Pn	11 06 31.1	+0.8
DOPR				*i* S	Sn	11 06 42.0	+0.7
LOT	**Lotru**	**0.95**	**287**	⇑*i*P	Pn	11 06 32.6	+0.6
LOT	**Lotru**	**0.95**	**287**	⇑*i*P	Pn	11 06 32.6	+0.6
LOT				*i* S	Sn	11 06 46.2	+1.8
SULR		**0.99**	**120**	S	Sn	11 06 47.0	+1.8
SULR		**0.99**	**120**	*i* S	Sn	11 06 47.0	+1.8
ISR	**Istrita**	**1.05**	**93**	⇑*i*P	Pn	11 06 33.7	+0.2
ISR	**Istrita**	**1.05**	**93**	⇑*i*P	Pn	11 06 33.7	+0.2
PLOR	**Plostina**	**1.31**	**58**	⇑*i*P	Pn	11 06 38.2	+1.3
PLOR	**Plostina**	**1.31**	**58**	⇑*i*P	Pn	11 06 38.2	+1.3
PLOR				*i* S	Sn	11 06 54.6	+1.4
GZR	**Gura Zlata**	**1.62**	**278**	⇑*i*P	Pn	11 06 43.0	+1.7
GZR	**Gura Zlata**	**1.62**	**278**	⇑*i*P	Pn	11 06 43.0	+1.7
GZR				*i* S	Sn	11 07 02.2	+1.3
DRGR		**2.30**	**315**	⇑*i*P	Pn	11 06 50.3	-0.2
DRGR		**2.30**	**315**	⇑*i*P	Pn	11 06 50.3	-0.2
DRGR				*i* S	Sn	11 07 18.4	+0.8
BURAR	**Bucovina Array**	**2.44**	**3**	⇓*i*P	Pn	11 06 53.3	+0.7
BURAR	**Bucovina Array**	**2.44**	**3**	⇓*i*P	Pn	11 06 53.3	+0.7

IDC 22 11:09:40.5±2.6, 26°61′N×144°16′E, h0^{km}, mb3.6/4, mb1 3.7/4, mb1mx3.4/44, mbtmp3.6/4, Error ellipse: s-maj=73.6km s-min=23.6km az=64.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.83**	**286**	Pn	Pn	11 10 13.3	+0.1
JCJ	baz=270,slow=20			Sn	Sn	11 10 33.9	-3.1
	baz=270,slow=20						
SONM	**Songino Array**	**36.29**	**316**	P	P	11 16 46.5	+0.8
	1.0nm,0.8s,baz=108,slow=9.5,SNR=6.4						
WRA	**Warramunga Arr**	**47.25**	**193**	P	P	11 18 15.9	+0.4
	1.4nm,0.8s,baz=13,slow=8.6,SNR=8.1						
ASAR	**Alice Springs**	**50.96**	**192**	P	P	11 18 43.5	-0.5
	0.3nm,0.8s,baz=14,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**52.14**	**310**	P	P	11 18 51.3	-1.4
	0.2nm,0.5s,baz=88,slow=10,SNR=3.6						

*ISCJB **22** 11:13:52.5±0.5, 23°88′N±0°03′×122°39′E±0°02, h15$^{km}_{\pm 6}$, Error ellipse: s-maj=5.0km s-min=2.5km az=161.0*
*JMA **22** 11:13:52.3±0.2, 23°90′N×122°38′E, h15$^{km}_{\pm 4}$, M2.4*
*TAP **22** 11:13:54.1, 23°98′N×122°20′E, h9$^{km}_{\pm 1}$, ML2.9, D*
ISC 22 11:13:51.5±1.1, 23°91′N±0°03′×122°39′E±0°02, h9$^{km}_{\pm 2}$9km, n37, σ0°75/69, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.72**	**276**	*e*P	**Pb**	**11 14 07.1**	**+0.9**
	baz=252						
TWD	**Chiawan**	**0.74**	**284**	P	**Pb**	**11 14 06.6**	**0.0**
	baz=259						
TWD				*e*S	**Sg**	**11 14 15.9**	**+0.4**
	baz=259						
JYNG	**Yonagunijimaku**	**0.74**	**43**	P	**Pb**	**11 14 06.6**	**-0.1**
JYNG				*e*S	**Sg**	**11 14 15.7**	**+0.1**
ENA	**Nanau**	**0.78**	**312**	P	**Pb**	**11 14 07.5**	**+0.1**
	baz=334						
ENA				*e*S	**Sg**	**11 14 17.2**	**+0.4**
	baz=334						
YOJ	**Yonaguni jima**	**0.80**	**46**	P	**Pb**	**11 14 07.7**	**+0.1**
YOJ				*e*S	**Sg**	**11 14 17.1**	**-0.1**
TWC	**Suao**	**0.85**	**325**	P	**Pb**	**11 14 08.2**	**-0.3**
	baz=345						
TWC				*e*S	**Sb**	**11 14 19.3**	**-0.8**
	baz=345						
ESL	**Shilin**	**0.88**	**264**	*e*P	**Pg**	**11 14 08.1**	**-0.4**
	baz=256						
ESL				*e*S	**Sg**	**11 14 19.7**	**-0.2**
	baz=256						
EGS		**1.02**	**336**	P	**Pn**	**11 14 12.5**	**+0.4**
	baz=344						
EGS				*e*S	**Sn**	**11 14 25.8**	**-0.7**
	baz=344						
TWE	**Neicheng**	**1.04**	**321**	P	**Pn**	**11 14 12.2**	**-0.2**
	baz=338						
TWE				*e*S	**Sb**	**11 14 25.0**	**-0.5**
	baz=338						
ENTT	**Nioudou**	**1.04**	**314**	P	**Pn**	**11 14 12.4**	**0.0**
	baz=318						
ENTT				*e*S	**Sb**	**11 14 26.2**	**+0.6**
	baz=318						
WHF	**Hehuan Shan**	**1.05**	**283**	P	**Pg**	**11 14 11.9**	**+0.1**
	baz=280						
WHF				S	**Sg**	**11 14 24.6**	**-0.9**
	baz=280						
EHY	**Hungye**	**1.05**	**248**	*e*P	**Pn**	**11 14 13.6**	**+1.1**
	baz=239						
EHY				*e*S	**Sg**	**11 14 25.7**	**+0.2**
	baz=239						
NNS	**Nan Shan**	**1.06**	**300**	*e*P	**Pb**	**11 14 12.2**	**0.0**
	baz=300						
TWB1	**Santiao Chiao**	**1.15**	**342**	P	**Pn**	**11 14 14.9**	**+1.0**
	baz=349						
TWB1				S	**Sn**	**11 14 30.2**	**+0.3**
	baz=349						
WDT	**Danda**	**1.16**	**263**	*e*P	**Pg**	**11 14 13.6**	**-0.2**
	baz=256						
WDT				*e*S	**Sg**	**11 14 27.8**	**-1.0**
	baz=256						
TWT	**Tachien**	**1.16**	**288**	*e*P	**Pn**	**11 14 14.4**	**+0.3**
	baz=285						
TWT				*e*S	**Sg**	**11 14 28.1**	**-0.7**
	baz=285						
NSK	**Sanguang**	**1.21**	**309**	*e*P	**Pg**	**11 14 14.6**	**-0.2**
	baz=311						
NSK				*e*S	**Sg**	**11 14 29.2**	**-1.3**
	baz=311						
NWF	**Wu-fen Shan**	**1.28**	**335**	*e*P	**Pg**	**11 14 17.0**	**+0.8**
	baz=340						
NWF				*e*S	**Sn**	**11 14 33.1**	**-0.1**
	baz=340						
IRIF	**Iriomote-Funau**	**1.30**	**71**	P	**Pn**	**11 14 15.9**	**0.0**
IRIF				*e*S	**Sb**	**11 14 32.6**	**-0.4**
SMLT	**Sun Moon Lake**	**1.36**	**269**	*e*P	**Pb**	**11 14 17.6**	**+0.3**
	baz=264						
SMLT				*e*S	**Sb**	**11 14 34.4**	**-0.4**
	baz=264						
YUS	**Yu-Shan**	**1.38**	**253**	*e*P	**Pb**	**11 14 18.4**	**+0.6**
	baz=246						
YUS				*e*S	**Sb**	**11 14 34.7**	**-1.1**
	baz=246						
TYC	**Yuchr**	**1.40**	**270**	*e*P	**Pb**	**11 14 18.0**	**+0.1**
	baz=266						
ELDTW	**Lidau**	**1.44**	**241**	*e*P	**Pb**	**11 14 19.2**	**+0.5**
	baz=233						
ELDTW				*e*S	**Sn**	**11 14 34.9**	**-2.3**
	baz=233						
NSTT	**Nanjuang**	**1.45**	**300**	⇑P	**Pb**	**11 14 19.1**	**+0.3**
	baz=282						
NSTT				S	**Sn**	**11 14 37.4**	**+0.1**
	baz=282						
ALS	**Alishan**	**1.50**	**255**	P	**Pb**	**11 14 20.1**	**+0.3**
	baz=249						
ALS				S	**Sn**	**11 14 38.0**	**-0.9**
	baz=249						
JKRS	**Kuro-shima**	**1.52**	**77**	P	**Pb**	**11 14 19.9**	**0.0**
JKRS				S	**Sb**	**11 14 39.4**	**0.0**
TWQ1	**Liyutan**	**1.54**	**287**	P	**Pb**	**11 14 20.5**	**+0.3**
	baz=284						
TWQ1				*e*S	**Sn**	**11 14 39.8**	**+0.4**
	baz=284						
CHN5	**Tsauling**	**1.59**	**259**	P	**Pb**	**11 14 22.1**	**+0.8**
	baz=254						
CHN5				*e*S	**Sn**	**11 14 40.8**	**-0.1**
	baz=254						
TWG	**Pinlang**	**1.62**	**228**	*e*P	**Pn**	**11 14 20.8**	**+0.5**
	baz=235						
TWG				*e*S	**Sn**	**11 14 38.5**	**-2.8**
	baz=235						
STYT	**Tauyuan**	**1.67**	**244**	*e*P	**Pb**	**11 14 23.2**	**+0.7**
	baz=222						
JIJ	**Ishigaki jima**	**1.67**	**74**	P	**Pn**	**11 14 21.9**	**+0.9**
JIJ				*e*S	**Sn**	**11 14 42.9**	**+0.3**
CHN4	**Tsaushan**	**1.73**	**252**	*e*P	**Pb**	**11 14 24.0**	**+0.4**
	baz=246						
CHN4				S	**Sb**	**11 14 45.7**	**+0.2**
	baz=246						
WTP	**Ta-pu**	**1.75**	**248**	*e*P	**Pb**	**11 14 24.1**	**+0.1**
	baz=242						
WTP				*e*S	**Sn**	**11 14 45.9**	**+1.1**
	baz=242						
SGST	**Jiashian**	**1.85**	**244**	*e*P	**Pn**	**11 14 24.4**	**+0.9**
	baz=224						
SGST				*e*S	**Sn**	**11 14 48.1**	**+1.1**
	baz=224						
CHN1	**Nanshi**	**1.85**	**247**	*e*P	**Pb**	**11 14 25.2**	**-0.4**
	baz=241						
CHN1				S	**Sn**	**11 14 48.5**	**+1.5**
	baz=241						
JISG	**Ishigakijimahi**	**1.88**	**69**	P	**Pn**	**11 14 24.1**	**+0.1**
JISG				*e*S	**Sb**	**11 14 49.0**	**-0.8**
EAST	**Anshuo**	**2.07**	**223**	*e*P	**Pn**	**11 14 26.9**	**+0.2**
	baz=217						

*NIED **22** 11:13:00, 38°60′N×144°60′E, h5^{km}, Mw3.6 Best double couple: M$_0$2.44000×10^{14} NP1:ϕ_s13.00000°, δ25.00000°, λ-84.00000°. NP2:ϕ_s186.00000°, δ65.00000°, λ-93.00000°.*
*IDC **22** 11:13:51.0±1.3, 38°41′N×144°91′E, h0^{km}, mb3.7/4, mb1 3.8/6, mb1mx3.5/53, mbtmp3.6/6, ML2.8/2, Error ellipse: s-maj=35.3km s-min=23.0km az=95.0*
*ISCJB **22** 11:13:53.1±0.8, 38°63′N±0°05′×144°73′E±0°06, h29^{km}, mb3.7/4, Error ellipse: s-maj=6.9km s-min=6.3km az=162.9*
*JMA **22** 11:13:55.2±0.2, 38°57′N×144°59′E, h39^{km}, M3.7*
ISC 22 11:13:54.8±1.2, 38°60′N±0°06′×144°73′E±0°08, h29km, n26, σ2$^{s}_{\pm}$26/35, mb3.8/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.44**	**282**	P	**Pn**	**11 14 32.7**	**0.0**
MIYJ	**Miyakonagasawa**	**2.47**	**294**	P	**Pn**	**11 14 33.0**	**-0.1**
MIYJ				*e*S	**Sn**	**11 15 01.1**	**-1.2**
JMK	**Ichinoseki**	**2.77**	**278**	P	**Pn**	**11 14 37.5**	**+0.3**
JMK				*e*S	**Sn**	**11 15 08.5**	**-1.1**
JOM	**Ohasama**	**2.82**	**289**	P	**Pn**	**11 14 38.4**	**+0.5**
JOM				*e*S	**Sn**	**11 15 09.9**	**-1.0**
JANG	**Nango**	**3.06**	**307**	P	**Pn**	**11 14 40.7**	**-0.5**
JOU	**Okura**	**3.20**	**267**	P	**Pn**	**11 14 42.7**	**-0.5**
JOU				*e*S	**Sn**	**11 15 19.2**	**-1.2**
JRG	**Rokugo**	**3.29**	**285**	P	**Pn**	**11 14 45.5**	**+1.1**
JRG				*e*S	**Sn**	**11 15 22.6**	**0.0**
JYK	**Kaneyama**	**3.44**	**277**	P	**Pn**	**11 14 47.1**	**+0.7**
JYK				*e*S	**Sn**	**11 15 25.7**	**-0.4**
JAH	**Hinai**	**3.55**	**298**	*e*S	**Sn**	**11 15 29.0**	**+0.1**
JTM	**Tenmabayashi**	**3.58**	**309**	P	**Pn**	**11 14 48.5**	**+0.2**
JTM				*e*S	**Sn**	**11 15 28.7**	**-0.8**
JFT	**Otama**	**3.63**	**254**	*e*S	**Sn**	**11 15 30.1**	**-0.9**
JOT	**Ohata**	**3.97**	**316**	*e*S	**Sn**	**11 15 37.1**	**-2.1**
NEM2	**Nemuro 2**	**4.83**	**9**	P	**Pn**	**11 15 02.9**	**-2.5**
NEM2				*e*S	**Sn**	**11 15 54.4**	**-5.9**
JRY	**Ryogami san**	**5.31**	**243**	P	**Pn**	**11 15 11.6**	**-0.6**
JRY				*e*S	**Sn**	**11 16 08.7**	**-3.8**
JTKR	**Abashiri--Toko**	**5.41**	**354**	P	**Pn**	**11 15 12.5**	**-0.9**
JTKR				*e*S	**Sn**	**11 16 11.8**	**-2.8**
MJAR	**Matsushiro Arr**	**5.57**	**250**	Pn	**Pn**	**11 15 16.5**	**+0.7**
	1.0nm,0.3s,baz=54,slow=10,SNR=6.9						
MJAR				Sn	**Sn**	**11 16 21.0**	**+2.2**
	0.9nm,0.3s,baz=63,slow=27,SNR=3.7						
MAT	**Matsushiro**	**5.57**	**250**	P	**Pn**	**11 15 16.4**	**+0.6**
MAT				S	**Sn**	**11 16 13.2**	**-5.7**
JOD2	**Odawara 2**	**5.61**	**235**	*e*S	**Sn**	**11 16 14.9**	**-4.9**
USRK	**Ussuriysk Ar.**	**11.09**	**304**	Pn	**Pn**	**11 16 34.8**	**+3.5**
	0.2nm,0.3s,baz=108,slow=14,SNR=3.6						
SEY	**Seymchan**	**24.81**	**8**	P	**P**	**11 19 16.5**	**+2.5**
	0.7nm,0.7s,baz=190,slow=17,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**27.67**	**130**	T	T	11 48 25.2	
	baz=312,slow=75,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**27.67**	**130**	T	T	11 48 19.7	
	baz=312,slow=75,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**27.69**	**130**	T	T	11 48 21.9	
	baz=312,slow=75,SNR=3.6						
WRA	**Warramunga Arr**	**59.04**	**191**	P	**P**	**11 23 51.5**	**-0.6**
	0.6nm,0.7s,baz=13,slow=7.1,SNR=6.0						
ASAR	**Alice Springs**	**62.76**	**191**	P	**P**	**11 24 17.2**	**-0.2**
	0.6nm,1.0s,baz=9.3,slow=6.8,SNR=5.0						
FINES	**FINESS Array B**	**68.64**	**333**	P	**P**	**11 24 56.5**	**+1.7**
	1.2nm,0.8s,baz=44,slow=7.6,SNR=2.7						

*IDC **22** 11:22:10.6±1.3, 15°78′N×120°55′E, h0^{km}, mb3.4/5, mb1 3.7/5, mb1mx3.4/52, mbtmp3.4/5, Error ellipse: s-maj=59.2km s-min=20.7km az=59.0*
*ISCJB **22** 11:22:20.2±0.9, 15°56′N±0°05′×119°77′E±0°08, h45$^{km}_{\pm}$9km, mb3.3/4, Error ellipse: s-maj=13.5km s-min=8.0km az=179.7*
*MAN **22** 11:22:20, 15°54′N×119°93′E, h20^{km}, mb4.7, ML3.6, MS3.5*
ISC 22 11:22:18.5±1.3, 15°54′N±0°05′×119°62′E±0°10, h48km±11km, n15, σ2$^{s}_{\pm}$36/19, mb3.3/4, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.37**	**50**	*e*P	**Pn**	**11 22 28.0**	**-0.1**
SCZP				*e*S	**Sn**	**11 22 34.1**	**-0.8**
BOLP	**Bolinao**	**0.88**	**19**	*e*P	**Pn**	**11 22 35.1**	**+0.4**
BOLP				*e*S	**Sn**	**11 22 46.6**	**+0.2**
LUBP	**Lubang**	**1.89**	**161**	*e*P	**Pn**	**11 22 50.8**	**+2.3**
BALP	**Baler**	**1.90**	**84**	*e*P	**Pn**	**11 22 47.0**	**-1.4**
BALP				*e*S	**Sn**	**11 23 08.3**	**-2.8**
TGY	**Tagaytay City**	**1.91**	**138**	Pg	**Pn**	**11 22 50.3**	**+1.5**
	157nm,0.3s,baz=149,slow=5.0,SNR=8.2						
TGY				Lg	Lg	11 23 12.9	
	169nm,0.3s,baz=144,slow=23,SNR=10						
LQP	**Lukban**	**2.34**	**127**	⇓*e*P	Pn	11 23 02.5	+7.8
ABRA	**Dolores**	**2.34**	**26**	*e*P	**Pn**	**11 22 55.7**	**+1.1**
ABRA				*e*S	**Sn**	**11 23 24.5**	**+2.3**
CAUP	**Cauayan**	**2.54**	**56**	*e*P	**Pn**	**11 22 57.8**	**+0.6**
CAUP				*e*S	**Sn**	**11 23 31.5**	**+4.6**
APYP	**Conner**	**2.79**	**34**	*e*P	**Pn**	**11 23 03.1**	**+2.5**
APYP				*e*S	**Sn**	**11 23 34.9**	**+1.9**
GQP	**Guinayangan**	**3.18**	**120**	⇓*e*P	**Pn**	**11 23 09.9**	**+3.9**
CMAR	**Chiang Mai Arr**	**19.98**	**281**	P	Pn	11 26 54.2	+5.0
	1.5nm,0.8s,baz=106,slow=8.6,SNR=6.8						
SONM	**Songino Array**	**34.01**	**344**	P	**P**	**11 28 57.5**	**-0.4**
	0.2nm,0.5s,baz=172,slow=2.9,SNR=3.2						
WRA	**Warramunga Arr**	**38.11**	**157**	P	**P**	**11 29 30.4**	**-2.7**
	0.7nm,0.5s,baz=342,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**41.39**	**160**	P	**P**	**11 29 58.2**	**-2.1**
	0.3nm,0.5s,baz=337,slow=7.3,SNR=9.9						
MKAR	**Makanchi Array**	**43.94**	**323**	P	**P**	**11 30 20.9**	**0.0**
	0.2nm,0.6s,baz=118,slow=8.6,SNR=2.6						

*ISCJB **22** 11:33:50.6±0.9, 31°86′N±0°04′×115°1′W±0°2, h9$^{km}_{\pm}$13^{km}, Error ellipse: s-maj=22.5km s-min=4.2km az=168.0*
*MEX **22** 11:33:51.9±0.8, 31°88′N×114°94′W, h8^{km}, MD3.7*
*ECX **22** 11:33:52.3±0.8, 31°85′N×115°12′W, h8^{km}, MD2.7, ML2.9*
ISC 22 11:33:50.8±1.4, 31°85′N±0°03′×115°1′W±0°1, h14km±13km, n13, σ0°69/21, 3C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.38**	**174**	*e*P	**Pg**	**11 33 57.8**	**-0.7**
ECBX				*e*S	**Sg**	**11 34 03.3**	**-0.2**
ECBX				IAML		11 34 04.8	
	comp=N,1μm,0.2s						
ECBX				⇑*e*		11 34 04.8	
MBIG	**Mexicali**	**0.56**	**351**	*e*P	**Pg**	**11 34 02.6**	**+0.7**
MBIG				*e*S	**Sg**	**11 34 09.5**	**0.0**
CPBX	**Cerro Prieto**	**0.60**	**343**	*e*P	**Pg**	**11 34 02.4**	**-0.2**
CPBX				*e*S	**Sg**	**11 34 11.0**	**+0.6**
CPBX				IAML		11 34 14.7	
	comp=N,2μm,0.1s						
CPBX				⇓*e*		11 34 14.7	
SPIG	**San Pedro Mart**	**0.86**	**202**	*e*P	**Pg**	**11 34 07.5**	**0.0**
SPIG				*e*S	**Sg**	**11 34 20.9**	**+2.0**
SPIG	**San Pedro Mart**	**0.86**	**202**	*e*P	**Pg**	**11 34 07.3**	**-0.2**
SPX	**San Pedro Mart**	**0.86**	**202**	*e*P	**Pg**	**11 34 07.0**	**-0.5**
SPX				*e*S	**Sg**	**11 34 19.1**	**+0.2**
SPX				IAML		11 34 20.5	
	comp=N,319nm,0.2s						
YUH	**Yuha Desert**	**1.06**	**319**	⇑*i*P	**Pg**	**11 34 10.7**	**-0.6**
RMX	**La Rumorosa**	**1.12**	**312**	*e*P	**Pg**	**11 34 11.6**	**-0.9**
ECNX	**Esteban Cantu**	**1.29**	**262**	*e*P	**Pn**	**11 34 14.7**	**+0.1**
PBX	**Punta Banda**	**1.39**	**266**	*e*P	**Pn**	**11 34 15.8**	**0.0**
CBX	**Cerro Bola**	**1.41**	**290**	*e*P	**Pn**	**11 34 15.9**	**-0.2**
CBX				*e*S	**Sn**	**11 34 35.2**	**+0.6**
CBX	**Cerro Bola**	**1.41**	**290**	*e*P	**Pn**	**11 34 15.7**	**-0.4**
CBX				*e*S	**Sn**	**11 34 34.9**	**+0.3**
CBX				IAML		11 34 39.0	
	comp=N,288nm,0.5s						
CBX				IAML		11 34 40.1	
	comp=E,251nm,0.3s						
CBX				⇑*e*		11 34 40.1	
TJIG	**Tijuana**	**1.46**	**294**	*e*P	**Pn**	**11 34 16.0**	**-0.8**
TJIG				*e*S	**Sn**	**11 34 35.6**	**-0.1**

*NIED **22** 11:35:00, 35°60′N×141°00′E, h47^{km}, Mw4.5 Best double couple: M$_0$6.79000×10^{15} NP1:ϕ_s200.00000°, δ20.00000°, λ100.00000°. NP2:ϕ_s9.00000°, δ71.00000°, λ87.00000°.*
*BJI **22** 11:35:06.0, 35°44′N×141°16′E, h35^{km}, mb4.6/30, mB4.9/19, Ms4.7/12, Ms7 4.3/11*
*MOS **22** 11:35:07.7±1.1, 35°55′N×141°14′E, h33^{km}, mb4.6/30, Error ellipse: s-maj=10.4km s-min=6.0km az=115.8*
*ISCJB **22** 11:35:08.1±0.5, 35°55′N±0°03′×141°14′E±0°05, h36$^{km}_{\pm}$4^{km}, mb4.3/41, MS3.6/10, Error ellipse: s-maj=7.3km s-min=4.7km az=11.9*
*JMA **22** 11:35:09.6±0.1, 35°56′N×141°03′E, h38$^{km}_{\pm}$1^{km}, M3.9*
JMA Felt I J1.
*NEIC **22** 11:35:10.0±0.7, 35°52′N×141°09′E, h36$^{km}_{\pm}$5^{km}, mb4.6/10, Error ellipse: s-maj=7.5km s-min=6.0km az=111.0*
NEIC Felt at Chiba. Recorded [1 JMA] in Chiba.
*IDC **22** 11:35:11.2±1.6, 35°47′N×140°97′E, h45$^{km}_{\pm}$15^{km}, mb4.0/22, mb1 4.1/27, mb1mx4.0/44, mbtmp4.2/27, ML3.8/4, MS3.6/13, Ms1 3.6/13, ms1mx3.3/49, Error ellipse: s-maj=18.6km s-min=9.4km az=90.0*
ISC 22 11:35:09.6±0.9, 35°54′N±0°04′×141°10′E±0°05, h33$^{km}_{\pm}$6^{km}, n128, σ1$^{s}_{\pm}$35/131, mb4.4/41, MS3.6/10, 3C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.26**	**308**	⇓P	**Pb**	**11 35 16.5**	**-0.3**
CHOJ				S	**Sb**	**11 35 21.4**	**-0.3**
JCN	**Nagara**	**0.75**	**261**	⇓P	**Pn**	**11 35 23.9**	**+0.2**
KTR	**Katsuura**	**0.76**	**239**	P	**Pn**	**11 35 23.4**	**-0.5**
BSO4	**Boso 4**	**0.84**	**229**	⇓P	**Pn**	**11 35 24.5**	**-0.4**
BSO4				*eX*		11 35 38.6	
BSO3	**Boso 3**	**0.89**	**213**	⇓P	**Pn**	**11 35 25.0**	**-0.4**
BSO3				X		11 35 36.8	
BSO1	**Boso 1**	**0.90**	**187**	P	**Pn**	**11 35 25.2**	**-0.1**
JYT	**Yasato**	**1.01**	**313**	⇓P	**Pn**	**11 35 26.5**	**-0.8**
MJAR	**Matsushiro Arr**	**2.55**	**294**	P	**Pn**	**11 35 49.4**	**+0.8**
	37nm,0.3s,baz=98,slow=8.0,SNR=274						
MJAR				LR	LR	11 36 55.2	
	comp=Z,1μm,19.7s,baz=120,slow=43						
MAJO	**Matsushiro**	**2.55**	**294**	*d*iP	**Pn**	**11 35 49.5**	**+0.9**
MAJO	**Matsushiro**	**2.55**	**294**	*e*Pn	**Pn**	**11 35 49.9**	**+1.3**
MAJO				*e*Sn	**Sn**	**11 36 16.2**	**-2.3**
MAT	**Matsushiro**	**2.55**	**294**	P	**Pn**	**11 35 50.0**	**+1.4**
MAT				S	**Sb**	**11 36 25.6**	**0.0**
MJB9	**Matsu-Tunnel**	**2.55**	**294**	*e*Pn	**Pn**	**11 35 50.0**	**+1.3**
MJB9				*e*Sn	**Sn**	**11 36 16.2**	**-2.4**
JHJ2	**Mitsune**	**2.65**	**204**	*e*Pn	**Pn**	**11 35 50.6**	**+0.7**
JHJ2				*e*Sn	**Sn**	**11 36 20.0**	**-0.9**
JHJ	**Hachijo jima 2**	**2.65**	**205**	P	**Pn**	**11 35 50.6**	**+0.6**
	90nm,0.3s,baz=152,slow=2.4,SNR=21						
JHJ				S	**Sn**	**11 36 19.8**	**-1.2**
	126nm

baz=312,slow=75,SNR=181
H11S1 WAKE ISLAND Hy 28.30 120 T T 12 10 43.6
baz=312,slow=75,SNR=242
SEY Seymchan 28.30 11 P **P** **11 41 00.6 +1.0**
comp=Z,3.3nm,0.7s,baz=195,slow=12,SNR=10
SEY Seymchan 28.30 11 *eP* **P** **11 41 00.2 +0.5**
H11S2 WAKE ISLAND Hy 28.31 120 T T 12 10 44.8
baz=312,slow=75,SNR=106
SONA1 Songino Array 28.43 306 *eP* **P** **11 41 01.1 -0.1**
SONM Songino Array 28.44 306 *eP* **P** **11 41 00.5 -0.8**
comp=Z,2.7nm,0.6s,baz=106,slow=8.9,SNR=16
SONM LR LR 11 52 02.1
comp=Z,121nm,21.9s,baz=90,slow=36
BOD Bodaibo 28.67 329 *eP* **P** **11 41 01.6 -1.4**
BOD pmax pmax
comp=Z,3.0nm,1.0s
GYA Guiyang 30.75 263 *eP* **P** **11 41 22.8 +0.8**
GYA PMZ
comp=Z,10.0nm,0.8s
ZAK Zakamensk 31.02 310 *eP* **P** **11 41 22.0 -2.1**
ZAK pmax pmax
comp=Z,2.0nm,1.5s
TLY Talaya 31.14 313 LR LR 11 54 08.9
comp=Z,102nm,19.9s,baz=121,slow=37
CD2 Chengdu 31.45 272 *eP* **P** **11 41 27.5 -0.5**
KMI Kunming 34.51 263 P **P** **11 41 55.8 +0.8**
KMI PMZ
comp=Z,8.0nm,0.6s
KMI PMZ
comp=Z,170nm,4.0s
BILL Bilibino 35.52 16 *i* P **P** **11 42 03.2 +0.2**
BILL *e* 11 43 18.6
BILL *e* PPP PPP 11 43 40.5
BILL pmax pmax
comp=Z,2.0nm,1.1s
TIXI Tiksi 36.74 354 P **P** **11 42 13.2 0.0**
comp=Z,2.5nm,0.7s,baz=142,slow=7.5,SNR=6.7
TIXI Tiksi 36.74 354 *eP* **P** **11 42 12.9 -0.3**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
TIXI Tiksi 36.74 354 *eP* **P** **11 42 14.0 +0.7**
comp=Z,5.8nm,1.1s
KRAR Krasnoyarsk 38.38 318 *eP* **P** **11 42 27.8 +0.5**
CMAR Chiang Mai Arr 40.89 257 P **P** **11 42 49.5 +0.8**
comp=Z,1.1nm,0.5s,baz=44,slow=7.6,SNR=4.7
WMQ Urumqi 41.31 298 P **P** **11 42 53.3 +1.4**
WMQ pP sP 11 43 03.8 -1.9
WMQ sP pP 11 43 07.8 +6.1
WMQ PMZ
comp=Z,4.0nm,1.0s
WMQ PMZ
comp=Z,52nm,4.8s
WMQ LN
comp=Z,400nm,12.6s
WMQ LE
comp=Z,930nm,9.8s
WMQ LZ
comp=Z,140nm,15.6s
ZALV Zalesovo Beam 42.74 314 P **P** **11 43 03.4 0.0**
comp=Z,4.7nm,0.5s,baz=86,slow=7.2,SNR=17
NVS Novosibirsk 43.70 315 *eP* **P** **11 43 09.3 -1.8**
NRIK Noril'sk 44.52 336 P **P** **11 43 18.1 +0.7**
comp=Z,3.1nm,0.7s,baz=88,slow=7.8,SNR=4.6
MK01 Makanchi Array 44.71 303 *eP* **P** **11 43 18.9 -0.4**
MK31 Makanchi Array 44.71 303 *eP* **P** **11 43 19.2 -0.2**
MK31 Makanchi Array 44.71 303 *eP* **P** **11 43 19.2 -0.2**
MKAR Makanchi Array 44.71 303 P **P** **11 43 19.1 -0.3**
comp=Z,2.9nm,0.6s,baz=88,slow=9.8,SNR=30
MAKZ Makanchi 44.92 303 *eP* **P** **11 43 21.0 -0.1**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 44.92 303 *eP* **P** **11 43 21.0 -0.1**
comp=Z,4.7nm,0.8s
KURK Kurchatov 46.66 309 *eP* **P** **11 43 34.2 -0.5**
KURK pmax pmax
comp=Z,41nm,0.9s
KURK Kurchatov 46.66 309 *eP* **P** **11 43 34.2 -0.5**
comp=Z,41nm,0.9s
RAMN Ramite 46.88 275 *eP* **P** **11 43 35.9 -1.1**
comp=Z,23nm,0.7s
GUN Gumba 47.07 277 *eP* **P** **11 43 39.4 +0.8**
comp=Z,9.8nm,0.5s
GKN Gorkha 48.04 278 *eP* **P** **11 43 45.7 -0.2**
comp=Z,18nm,0.6s
KOLN Koldanda 48.97 278 *eP* **P** **11 43 52.2 -1.0**
comp=Z,5.3nm,0.4s
PYUN Piuthan 49.33 278 *eP* **P** **11 43 55.6 -0.3**
comp=Z,38nm,0.6s
TKM2 Tokmak 2 50.13 299 *eP* **P** **11 44 01.4 -0.4**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s
TKM2 Tokmak 2 50.13 299 *eP* **P** **11 44 01.4 -0.4**
comp=Z,5.8nm,0.6s
MDM Murphy Dome 50.31 31 *eP* **P** **11 44 04.0 +1.4**
comp=Z,2.6nm,0.8s
KSH Kashi 50.80 295 *eP* **P** **11 44 09.1 +2.3**
KSH pP sP 11 44 19.5 -1.2
KSH PcP **PcP** **11 45 25.8 +2.4**
KSH PP **PP** **11 46 06.3 +3.3**
KSH S **S** **11 51 21.3 +0.8**
KSH ScS **ScS** **11 53 52.3 -2.9**
KSH SS **SS** **11 54 55.0 0.0**
KSH PMZ
comp=Z,2.0nm,0.3s
KSH PMZ
comp=Z,110nm,4.5s
KSH LN
comp=Z,270nm,7.3s
KSH LE
comp=Z,310nm,7.6s
KSH LZ
comp=Z,860nm,6.7s
ILAR Eielson Array 50.89 32 P **P** **11 44 08.6 +1.6**
comp=Z,0.9nm,0.7s,baz=266,slow=5.8,SNR=14
ILB Eielson Array 50.89 32 *eP* **P** **11 44 08.6 +1.6**
AAK Ala-Archa 50.99 299 LR LR 12 06 41.8
comp=Z,152nm,19.8s,baz=112,slow=37
AAK Ala-Archa 50.99 299 *eP* **P** **11 44 07.9 -0.4**
AAK pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 51.40 313 P **P** **11 44 10.9 -0.1**
comp=Z,1.9nm,0.5s,baz=70,slow=8.7,SNR=11
BRVK Borovoye 51.45 313 *ce*P **P** **11 44 11.5 +0.1**
BRVK pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye 51.45 313 *eP* **P** **11 44 11.6 +0.3**
comp=Z,17nm,1.1s
KKAR Karatay Array 53.66 301 *eP* **P** **11 44 28.0 +0.1**
KKAR Karatay Array 53.66 301 *eP* **P** **11 44 28.0 +0.1**
FITZ Fitzroy Crossi 55.33 198 P **P** **11 44 39.7 -0.3**
comp=Z,2.6nm,0.5s,baz=14,slow=7.3,SNR=16
WRA Warramunga Arr 55.55 188 P **P** **11 44 41.2 -0.5**
comp=Z,4.7nm,0.7s,baz=6.3,slow=8.0,SNR=52
INK Inuvik 55.83 27 P **P** **11 44 44.6 +1.6**
comp=Z,0.9nm,0.5s,baz=299,slow=11,SNR=4.0
INK LR LR 12 11 01.1
comp=Z,36nm,18.6s,baz=54,slow=38
SVE Sverdlovsk 56.10 319 *eP* **P** **11 44 45.8 +0.5**
SVE pmax pmax
comp=Z,14nm,1.1s
ARU Arti 57.31 319 *c i*P **P** **11 44 53.6 -0.3**
ARU 11 46 59.2
ARU S **S** **11 52 49.2 +1.5**
ARU SS **SS** **11 56 34.6 -2.2**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 57.31 319 *eP* **P** **11 44 53.7 -0.2**
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 58.71 311 *eP* **P** **11 45 03.5 -0.3**
ASAR Alice Springs 59.28 188 P **P** **11 45 07.5 -0.5**
comp=Z,0.6nm,0.5s,baz=18,slow=12,SNR=14
DZM Mont Dzumac 62.13 153 LR LR 12 12 17.7
comp=Z,38nm,18.6s,baz=294,slow=36
KLMR Klimovskoe 64.88 328 *eP* **P** **11 45 44.5 -0.6**
KLMR pmax pmax
comp=Z,8.0nm,0.9s
ARCES ARCESS Array B 65.30 340 P **P** **11 45 47.9 +0.2**
comp=Z,5.5nm,1.1s,baz=60,slow=7.2,SNR=7.4
ARCES ARCESS Array B 65.30 340 *eP* **P** **11 45 47.3 -0.4**
OBN Obninsk 69.14 323 *eP* **P** **11 46 13.6 +1.4**
OBN *e* 11 46 41.0
OBN pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 70.01 332 P **P** **11 46 17.7 +0.2**
comp=Z,2.6nm,0.4s,baz=62,slow=5.5,SNR=17
FINES FINESS Array B 70.01 332 *eP* **P** **11 46 17.2 -0.3**

KBZ Khabaz 71.68 311 P **P** **11 46 30.1 +2.1**
comp=Z,2.8nm,0.9s,baz=310,slow=3.9,SNR=7.0
KIV Kislovodsk 71.69 311 *eP* **P** **11 46 28.7 +0.5**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,71nm,17.0s
SUMG Summit 72.17 360 *eP* **P** **11 46 32.6 +1.6**
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 72.17 360 *eP* **P** **11 46 32.6 +1.6**
comp=Z,4.8nm,1.0s
AKASG Malin Array Be 75.32 322 P **P** **11 46 48.5 -0.8**
comp=Z,3.1nm,0.5s,baz=46,slow=6.0,SNR=7.4
KIEV Kiev 75.33 322 *eP* **P** **11 46 49.3 0.0**
KIEV pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 75.33 322 *eP* **P** **11 46 49.2 0.0**
comp=Z,4.4nm,0.6s
NC204 NORSAR Array S 75.42 338 *eP* **P** **11 46 50.1 +0.3**
NB2 NORSAR Subarra 75.46 337 P **P** **11 46 50.2 +0.2**
comp=Z,3.1nm,0.6s,baz=40,slow=6.2
NOA NORSAR Array B 75.46 337 P **P** **11 46 50.5 +0.5**
comp=Z,3.4nm,0.7s,baz=40,slow=5.8,SNR=12
PDAR Pinedale Array 78.89 45 P **P** **11 47 12.1 +2.3**
comp=Z,0.5nm,0.5s,baz=242,slow=2.9,SNR=4.2
BRTR Keskin Array B 79.65 312 P **P** **11 47 13.9 +0.1**
comp=Z,2.1nm,0.9s,baz=94,slow=3.7,SNR=7.9
BRTR Keskin Array B 79.65 312 P **P** **11 47 14.0 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
PFO Pinyon Flats O 80.08 56 LR LR 12 17 03.9
comp=Z,48nm,19.6s,baz=310,slow=31
BR231 Keskin MP Arra 80.10 312 *eP* **P** **11 47 14.8 -1.5**
CLL Collm 82.26 330 *i* P **P** **11 47 27.4 0.0**
comp=Z,7.0nm,1.1s
CLL Collm 82.26 330 *i* P **P** **11 47 27.4 0.0**
CLL pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 83.84 328 P **P** **11 47 35.3 -0.4**
comp=Z,1.0nm,0.7s,baz=18,slow=5.7,SNR=6.4
GEA0 GERESS Array S 83.85 328 *eP* **P** **11 47 35.7 0.0**
PPT Papeete 84.20 116 LR LR 12 16 13.7
comp=Z,39nm,20.8s,baz=305,slow=29
ANMO Albuquerque 85.74 50 *eP* **P** **11 47 46.3 +0.6**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
BFO Black Forest 86.48 331 *i* P **P** **11 47 50.1 +1.2**
TXAR Lajitas Array 91.23 52 LR LR 12 24 41.4
comp=Z,30nm,20.2s,baz=0.0,slow=32
LPAZ La Paz 147.65 61 PKPbc **PKPbc** **11 54 50.7 -1.1**
comp=Z,1.4nm,0.9s,baz=199,slow=1.8,SNR=4.3

*CSEM **22** 11:36:32.2,41.°20N×41.°97E,h2km,MD2.3,Suspected Mining explosion.*
DDA 22 11:36:32.1,41.°20N×41.°97E,h2km,Md2.3,Suspected Mining explosion.,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARTV	**Artvin**	**0.03**	**237**	P	Pg	11 36 33.7	+0.8
ARTV				S	Sg	11 36 35.0	+1.5
ARTV	**Artvin**	**0.03**	**237**	*i* P	Pg	11 36 33.7	+0.7
ARTV				*i* S	Sg	11 36 35.0	+1.5
DAGI	**Agillar**	**0.13**	**197**	*i* P	Pg	11 36 35.3	+0.6
DAGI				*i* S	Sg	11 36 39.0	+2.6
DBOC	**Borcka**	**0.27**	**302**	P	Pg	11 36 37.9	+0.6
DBOC				S	Sg	11 36 42.3	+1.6
DBOC	**Borcka**	**0.27**	**302**	*i* P	Pg	11 36 37.9	+0.7
DBOC				*i* S	Sg	11 36 42.3	+1.6
DBAD	**Bademkaya**	**0.28**	**228**	P	Pg	11 36 38.2	+0.8
DBAD	**Bademkaya**	**0.28**	**228**	*i* P	Pg	11 36 38.2	+0.8
DDEM	**Demirkent**	**0.35**	**208**	P	Pg	11 36 39.5	+0.6
DDEM	**Demirkent**	**0.35**	**208**	*i* P	Pg	11 36 39.5	+0.6

*TIF **22** 11:36:34.5,43.°25N×46.°63E,h11km±1km*
*AZER **22** 11:36:35.5±3.1,43.°15N×46.°13E,h12km,Error ellipse: s-maj=4.0km s-min=2.5km az=13.0*
*MOS **22** 11:36:36.4±1.0,43.°22N×46.°56E,h18km,mb4.3/1,Error ellipse: s-maj=6.6km s-min=5.8km az=30.7*
*CSEM **22** 11:36:42.5±0.7,42.°85N×46.°33E,h10km,ML3.2,Error ellipse: s-maj=16.3km s-min=9.8km az=7.0*
ISC 22 11:36:35.6±1.2,43.°23N±0.°03×46.°52E±0.°02,h2km±10km,n72,σ1s16/122,25C-15D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBC	**Dubki**	**0.31**	**132**	*i* PG	**Pn**	**11 36 50.2**	**+3.0**
DBC				pmax	pmax		
comp=Z,180nm,0.2s							
GROC	**Groznyy**	**0.53**	**268**	*e*PG	**Pg**	**11 36 46.1**	**+0.3**
GROC				*e*S	**Sb**	**11 36 55.0**	**-0.7**
UNCR	**Uncukul**	**0.55**	**158**	*e*PG	**Pg**	**11 36 46.0**	**-0.2**
UNCR				*i* S	**Sb**	**11 36 56.0**	**-0.4**
UNCR				pmax	pmax		
comp=Z,357nm,0.2s							
BUJR	**Buynaksk**	**0.59**	**133**	*e*PG	**Pb**	**11 36 47.8**	**-0.9**
BUJR				*e*S	**Sb**	**11 36 58.3**	**+0.8**
BUJR				pmax	pmax		
comp=Z,72nm,0.1s							
XNZR	**Khunzakh**	**0.70**	**169**	⇑*i*PG	**Pg**	**11 36 49.0**	**0.0**
XNZR				S	**Sb**	**11 37 00.0**	**-0.8**
XNZR				pmax	pmax		
comp=Z,145nm,0.2s							
ARKR	**Arakani**	**0.71**	**151**	*e*PG	**Pg**	**11 36 49.5**	**+0.2**
ARKR				*e*S	**Sg**	**11 36 58.0**	**-0.6**
GNBR	**Gunib**	**0.90**	**159**	⇑*i*PG	**Pg**	**11 36 53.0**	**+0.1**
GNBR				*e*		11 37 06.6	
GNBR				pmax	pmax		
comp=Z,137nm,0.8s							
GNBR				smax	smax		
comp=N,636nm,0.7s							
GNBR				smax	smax		
comp=N,811nm,0.5s							
GNBR				smax	smax		
comp=E,708nm,0.7s							
KMKR	**Kumukh**	**1.18**	**158**	⇑*i*PG	**Pn**	**11 36 59.0**	**-0.3**
KMKR				*e*S	**Sn**	**11 37 16.0**	**0.0**
KMKR				pmax	pmax		
comp=Z,117nm,0.2s							
URKR	**Urkarakh**	**1.34**	**142**	*e*PG	**Pg**	**11 37 01.5**	**+0.2**
URKR				*i* S	**Sn**	**11 37 20.0**	**0.0**
URKR				pmax	pmax		
comp=Z,149nm,0.2s							
VLKR	**Vladikavkaz**	**1.36**	**263**	*ce*PG	**Pn**	**11 37 01.1**	**-0.6**
VLKR				*e*S	**Sg**	**11 37 22.1**	**+2.8**
TRKR	**Terskaya**	**1.39**	**291**	*ce*PG	**Pn**	**11 37 00.6**	**-1.5**
TRKR				*e*S	**Sg**	**11 37 22.5**	**+2.1**
BTKR	**Batakoyurt**	**1.45**	**276**	⇓*i*PG	**Pb**	**11 37 03.2**	**-0.2**
BTKR				*e*S	**Sg**	**11 37 24.0**	**+1.8**
ZKTA	**Zakatala**	**1.59**	**177**	⇓Pg	**Pn**	**11 37 04.6**	**-0.3**
SNR=18							
ZKTA				⇑Sg	**Sb**	**11 37 26.1**	**-0.2**
ARNR	**Ardon**	**1.64**	**269**	*ce*PN	**Pn**	**11 37 05.0**	**-0.4**
ARNR				*e*S	**Sb**	**11 37 28.2**	**+0.6**
LACR	**Lac**	**1.68**	**257**	⇓*i*PN	**Pn**	**11 37 05.0**	**-1.1**
LACR				*i* S	**Sb**	**11 37 28.8**	**-0.1**
PRTR	**Priterechnaya**	**1.71**	**289**	*ce*PN	**Pb**	**11 37 07.3**	**-0.5**
PRTR				*e*S	**Sg**	**11 37 31.5**	**+0.9**
DUS	**Dusheti**	**1.76**	**230**	P	**Pb**	**11 37 08.6**	**0.0**
DUS				S	**Sg**	**11 37 33.3**	**+1.2**
DUS	**Dusheti**	**1.76**	**230**	PN	**Pb**	**11 37 08.9**	**+0.3**
DUS				S	**Sb**	**11 37 31.5**	**+0.4**
DUS	**Dusheti**	**1.76**	**230**	P	**Pb**	**11 37 08.9**	**+0.3**
DUS				S	**Sb**	**11 37 31.6**	**+0.4**
DRN	**Derbent**	**1.79**	**131**	*e*PN	**Pb**	**11 37 08.7**	**-0.5**
DRN				*e*		11 37 33.4	
KORR	**Kora**	**1.80**	**266**	*e*PN	**Pb**	**11 37 08.6**	**-0.7**
KORR				*e*S	**Sg**	**11 37 33.4**	**0.0**
STDR	**Stavd-Durt**	**1.80**	**275**	⇓*i*PN	**Pg**	**11 37 10.4**	**+0.3**
STDR				*e*S	**Sg**	**11 37 35.6**	**+2.2**
LSNR	**Lesken**	**1.97**	**272**	*e*PN	**Pb**	**11 37 11.5**	**-0.7**
ZEI	**Tsey**	**1.97**	**258**	*e*PN	**Pn**	**11 37 10.3**	**+0.1**
TBLG	**Delisi**	**1.99**	**222**	P	**Pb**	**11 37 11.6**	**-1.0**
TBLG				S	**Sg**	**11 37 39.3**	**-0.3**
TBLG	**Delisi**	**1.99**	**222**	PN	**Pb**	**11 37 11.5**	**-1.1**
TBLG				S	**Sg**	**11 37 39.6**	**0.0**
TBLG	**Delisi**	**1.99**	**222**	P	**Pb**	**11 37 11.5**	**-1.1**
TBLG				S	**Sg**	**11 37 39.6**	**0.0**
SEKA	**Sheki**	**2.08**	**166**	⇓Pg	**Pb**	**11 37 12.8**	**-1.3**
SNR=38							
SEKA				⇓Sg	**Sg**	**11 37 41.4**	**-1.0**
SEKA	**Sheki**	**2.08**	**166**	Pg	**Pb**	**11 37 12.8**	**-1.3**
SNR=38							
SEKA				Sg	**Sg**	**11 37 41.4**	**-1.0**
QSAR	**Qusar**	**2.14**	**142**	⇑Pg	**Pb**	**11 37 15.5**	**+0.3**
SNR=5.8							
QSAR				⇑Sg	**Sg**	**11 37 47.6**	**+3.1**
NCK	**Nalchik**	**2.15**	**278**	*e*PN	**Pb**	**11 37 14.6**	**-0.7**
NCK				*e*S	**Sg**	**11 37 43.9**	**-0.8**
DIGR	**Digorskoe uzhe**	**2.18**	**262**	*e*PN	**Pn**	**11 37 13.0**	**-0.1**
DIGR				*e*S	**Sb**	**11 37 42.3**	**-1.1**
QZX	**Qazax, Azerbai**	**2.33**	**202**	⇑Pg	**Pn**	**11 37 15.3**	**+0.3**
SNR=12							
QZX				⇑Sg	**Sb**	**11 37 46.0**	**-1.6**
QZX	**Qazax, Azerbai**	**2.33**	**202**	Pg	**Pn**	**11 37 15.3**	**+0.3**
SNR=12							
QZX				Sg	**Sb**	**11 37 46.0**	**-1.6**
ONI	**Oni**	**2.34**	**255**	P	**Pn**	**11 37 16.5**	**+1.3**
ONI				S	**Sb**	**11 37 48.0**	**0.0**
ONI	**Oni**	**2.34**	**255**	PN	**Pn**	**11 37 15.9**	**+0.7**
ONI				S	**Sb**	**11 37 48.9**	**+0.9**
QUBA	**Quba, Azerbaij**	**2.38**	**141**	⇓Pn	**Pb**	**11 37 19.9**	**+0.8**
SNR=4.1							
QUBA				⇓Sn	**Sg**	**11 37 52.1**	**+0.2**
QUBA	**Quba, Azerbaij**	**2.38**	**141**	Pn	**Pb**	**11 37 19.9**	**+0.8**
SNR=4.1							
QUBA				Sn	**Sg**	**11 37 52.1**	**+0.2**
XNQ	**Khinaliq**	**2.38**	**149**	⇓Pn	**Pb**	**11 37 19.1**	**-0.3**
SNR=7.9							
XNQ				⇑Sn	**Sg**	**11 37 53.3**	**+1.2**
XNQ	**Khinaliq**	**2.38**	**149**	Pn	**Pb**	**11 37 19.1**	**-0.3**
SNR=7.9							
XNQ				Sn	**Sg**	**11 37 53.3**	**+1.2**
KZR	**Kazreti**	**2.42**	**221**	P	**Pn**	**11 37 17.1**	**+0.8**
KZR				S	**Sb**	**11 37 49.3**	**-0.8**
QBL	**Gabala**	**2.48**	**156**	⇑Pn	**Pb**	**11 37 18.9**	**-2.1**
QBL				⇑Sn	**Sg**	**11 37 54.5**	**-0.8**
QBL	**Gabala**	**2.48**	**156**	Pn	**Pb**	**11 37 18.9**	**-2.1**
QBL				Sn	**Sg**	**11 37 54.5**	**-0.8**
GDB	**GEDABAY**	**2.57**	**193**	⇓Pn	**Pn**	**11 37 18.6**	**+0.2**
SNR=10							
GDB				⇓Sn	**Sn**	**11 37 51.3**	**+1.0**
GDB	**GEDABAY**	**2.57**	**193**	Pn	**Pn**	**11 37 18.6**	**+0.2**
SNR=10							
GDB				Sn	**Sn**	**11 37 51.3**	**+1.0**
GANJ	**Ganja**	**2.58**	**183**	⇓Pn	**Pn**	**11 37 19.0**	**+0.5**
SNR=6.1							
GANJ				⇑Sn	**Sn**	**11 37 51.6**	**+1.1**
GANJ	**Ganja**	**2.58**	**183**	Pn	**Pn**	**11 37 19.0**	**+0.5**
SNR=6.1							
GANJ				Sn	**Sn**	**11 37 51.6**	**+1.1**
PYA1	**Pyatigorsk**	**2.62**	**290**	*e*PN	**Pn**	**11 37 20.4**	**+1.4**
NEY	**Neytrino**	**2.77**	**272**	*e*PN	**Pn**	**11 37 19.1**	**-2.2**
SIZA	**Siyzn**	**2.78**	**140**	⇑Pn	**Pb**	**11 37 24.8**	**-1.3**
SIZA				⇓Sn	**Sb**	**11 38 02.1**	**+1.4**
SIZA	**Siyzn**	**2.78**	**140**	Pn	**Pb**	**11 37 24.8**	**-1.3**
SIZA				Sn	**Sb**	**11 38 02.1**	**+1.4**
KIV	**Kislovodsk**	**2.88**	**286**	*e*PN	**Pn**	**11 37 22.8**	**+0.2**
PQL	**Pirkuli**	**2.88**	**147**	⇑Pn	**Pb**	**11 37 25.4**	**-2.5**
PQL				⇑Sn	**Sb**	**11 38 05.6**	**+1.9**
PQL	**Pirkuli**	**2.88**	**147**	Pn	**Pb**	**11 37 25.4**	**-2.5**
PQL				Sn	**Sb**	**11 38 05.6**	**+1.9**
AKH	**Akhalkalaki**	**2.89**	**232**	P	**Pn**	**11 37 24.4**	**+1.6**
AKH				S	**Sb**	**11 38 04.3**	**+0.5**
AKH	**Akhalkalaki**	**2.89**	**232**	PN	**Pn**	**11 37 24.4**	**+1.6**
AKH				S	**Sb**	**11 38 04.3**	**+0.5**
AKH	**Akhalkalaki**	**2.89**	**232**	P	**Pn**	**11 37 24.4**	**+1.6**
AKH				S	**Sb**	**11 38 04.3**	**+0.5**
BGD	**Bogdanovka**	**2.92**	**229**	P	**Pb**	**11 37 28.4**	**-0.2**
BGD				S	**Sb**	**11 38 05.9**	**+1.0**
BGD	**Bogdanovka**	**2.92**	**229**	P	**Pb**	**11 37 28.4**	**-0.2**
BGD				S	**Sb**	**11 38 05.9**	**+1.0**
ATGJ	**Altiaghaj**	**2.97**	**142**	⇑Pn	**Pb**	**11 37 28.6**	**-0.7**
SNR=3.2							
ATGJ	**Altiaghaj**	**2.97**	**142**	Pn	**Pb**	**11 37 28.6**	**-0.7**
SNR=3.2							
GOF	**Gofitskoye**	**3.10**	**307**	⇑*e*PN	Pn	11 37 17.7	-7.9
GOF				*e*S	**Sg**	**11 38 14.1**	**-1.1**
GOF				pmax	pmax		
comp=Z,17nm,0.4s							
GOF				smax	smax		
comp=E,138nm,0.6s							
GNI	**Garni**	**3.35**	**204**	*e*PN	**Pn**	**11 37 29.2**	**0.0**
LRK	**Lerik**	**4.78**	**163**	⇑Pn	**Pn**	**11 37 49.5**	**+0.6**
SNR=2.8							
LRK	**Lerik**	**4.78**	**163**	Pn	**Pn**	**11 37 49.5**	**+0.6**
SNR=2.8							
SOC	**Sochi**	**4.97**	**276**	*e*PN	**Pn**	**11 37 51.5**	**+0.3**
AKTO	**Aktyubinsk**	**10.67**	**44**	⇓Pn	**Pn**	**11 39 06.3**	**-3.1**
comp=E,1.3nm,0.6s							
AKTO				⇑Sn	Sn	11 40 55.8	-14
comp=E,1.7nm,0.4s							
AB31	**Akbulak array**	**11.07**	**52**	⇑Pn	**Pn**	**11 39 12.2**	**-2.7**
comp=E,0.1nm,0.2s,baz=244,slow=14							
AB31				⇑Sn	Sn	11 41 07.7	-12
comp=E,3.6nm,0.6s,baz=245,slow=21							
OBN	**Obninsk**	**13.54**	**335**	*i* P	**Pn**	**11 39 49.9**	**+1.3**
OBN				pmax	pmax		
comp=Z,19nm,0.3s							
ARU	**Arti**	**15.30**	**26**	*e*P	**Pn**	**11 40 11.6**	**-0.8**
ARU				pmax	pmax		
comp=Z,1.0nm,0.9s							
BRVK	**Borovoye**	**18.58**	**50**	*e*P	**Pn**	**11 40 53.8**	**-0.1**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.9s							
AAK	**Ala-Archa**	**20.46**	**82**	*e*P	Pn	11 41 17.0	+0.3

IDC 22 11:41:51.1±26.0,3.°98N×124.°08E,h650km±449km,mb2.6/5,mb1 2.7/5,mb1mx2.4/41,mbtmp3.7/5,Error ellipse: s-maj=187.8km s-min=68.8km az=36.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.99**	**176**	P	P	11 46 00.7	+0.2
1.3nm,0.8s,baz=356,slow=12,SNR=2.4							
WRA	**Warramunga Arr**	**25.82**	**157**	P	P	11 46 34.1	-0.3
0.3nm,0.3s,baz=337,slow=9.2,SNR=6.0							
ASAR	**Alice Springs**	**29.10**	**161**	P	P	11 47 03.4	+0.7
0.3nm,0.5s,baz=336,slow=6.5,SNR=3.4							
MKAR	**Makanchi Array**	**55.87**	**326**	P	P	11 50 29.7	0.0
1.0nm,0.3s,baz=122,slow=8.5,SNR=9.3							
KURBB	**Kurchatov Arra**	**60.12**	**328**	P	P	11 50 58.2	+0.2
1.1nm,0.5s,baz=134,slow=6.6,SNR=14							

*SKO **22** 11:50:03.7,40.°35N×21.°57E,h3km,M2.5,ML2.8*
*ATH **22** 11:50:05.0,40.°54N×21.°62E,h25km,ML2.5/17,Error ellipse: s-maj=1.4km s-min=0.8km az=321.0*
*CSEM **22** 11:50:05.7±0.1,40.°54N×21.°63E,h10km,ML2.5,Error ellipse: s-maj=2.6km s-min=2.5km az=71.0*
*ISCJB **22** 11:50:06.1±0.3,40.°55N±0.°02×21.°59E±0.°03,h18km±4km,Error ellipse: s-maj=3.3km s-min=3.1km az=43.4*
*THE **22** 11:50:06.0,40.°54N×21.°60E,h12km±1km,ML2.8/7,Error ellipse: s-maj=1.2km s-min=0.4km az=254.0*
ISC 22 11:50:05.8±0.8,40.°53N±0.°02×21.°62E±0.°02,h15km±6km,n65,σ0s69/113,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.25**	**153**	P	**Pg**	**11 50 11.6**	**+0.1**
KZN				S	**Sg**	**11 50 15.7**	**+0.5**
KZN	**Kozani**	**0.25**	**153**	P	**Pg**	**11 50 11.5**	**+0.1**
KZN				S	**Sg**	**11 50 15.7**	**+0.5**
FNA	**Florina**	**0.31**	**324**	P	**Pg**	**11 50 12.2**	**-0.2**
FNA				S	**Sg**	**11 50 16.7**	**-0.3**
FNA	**Florina**	**0.31**	**324**	P	**Pg**	**11 50 12.3**	**-0.2**
FNA				S	**Sg**	**11 50 16.7**	**-0.3**
FNA	**Florina**	**0.31**	**324**	P	**Pg**	**11 50 12.3**	**-0.2**
FNA				S	**Sg**	**11 50 16.9**	**0.0**
FNA				AML	AML	11 50 17.4	
comp=N,12554μm,0.4s							
FNA				AML	AML	11 50 17.9	
comp=E,8918μm,0.2s							
KTI	**Kastanea**	**0.40**	**110**	P	**Pg**	**11 50 14.0**	**-0.1**
KTI	**Kastanea**	**0.40**	**110**	P	**Pg**	**11 50 14.0**	**-0.1**
NEST	**Nestorio**	**0.45**	**255**	P	**Pg**	**11 50 14.6**	**-0.3**
NEST

NEST				S	Sg	11 50 20.5	-0.6	
NEST				AML	AML	11 50 23.6		
	comp=E,2347μm,0.5s							
NEST				AML	AML	11 50 25.8		
	comp=N,2150μm,0.6s							
PENT	**Pentalofos**	**0.50**	**228**	P	**Pg**	**11 50 15.4**	**-0.4**	
PENT				S	**Sg**	**11 50 22.7**	**+0.2**	
PENT	**Pentalofos**	**0.50**	**228**	P	**Pg**	**11 50 15.4**	**-0.4**	
PENT				S	**Sg**	**11 50 22.7**	**+0.2**	
PENT	**Pentalofos**	**0.50**	**228**	P	**Pg**	**11 50 15.1**	**-0.7**	
PENT				S	**Sb**	**11 50 24.4**	**+1.0**	
PENT				AML	AML	11 50 29.7		
	comp=N,1662μm,0.8s							
PENT				AML	AML	11 50 29.9		
	comp=E,871μm,0.4s							
KPRO	**Kipourio**	**0.61**	**199**	P	**Pg**	**11 50 17.4**	**-0.4**	
KPRO				S	**Sb**	**11 50 27.1**	**+0.5**	
KPRO	**Kipourio**	**0.61**	**199**	P	**Pg**	**11 50 17.4**	**-0.4**	
KPRO				S	**Sg**	**11 50 25.6**	**-0.3**	
KPRO	**Kipourio**	**0.61**	**199**	P	**Pg**	**11 50 16.9**	**-0.9**	
KPRO				S	**Sg**	**11 50 25.6**	**-0.3**	
KPRO				AML	AML	11 50 31.2		
	comp=E,1258μm,0.5s							
KPRO				AML	AML	11 50 33.9		
	comp=N,943μm,0.4s							
GRG	**Griva**	**0.73**	**54**	P	**Pg**	**11 50 19.8**	**-0.3**	
GRG				S	**Sb**	**11 50 30.5**	**+0.5**	
GRG	**Griva**	**0.73**	**54**	P	**Pg**	**11 50 20.0**	**-0.1**	
GRG				S	**Sb**	**11 50 30.5**	**+0.5**	
GRG	**Griva**	**0.73**	**54**	P	**Pg**	**11 50 20.1**	**-0.1**	
GRG				S	**Sb**	**11 50 30.6**	**+0.5**	
GRG				AML	AML	11 50 35.8		
	comp=E,641μm,0.4s							
GRG				AML	AML	11 50 36.0		
	comp=N,927μm,0.5s							
LIT	**Litokhoron**	**0.79**	**123**	P	**Pg**	**11 50 21.3**	**0.0**	
LIT				S	**Sb**	**11 50 33.3**	**+1.5**	
LIT	**Litokhoron**	**0.79**	**123**	P	**Pb**	**11 50 22.0**	**+0.7**	
LIT				S	**Sb**	**11 50 33.0**	**+1.2**	
LIT	**Litokhoron**	**0.79**	**123**	P	**Pb**	**11 50 22.0**	**+0.7**	
LIT				S	**Sb**	**11 50 33.0**	**+1.2**	
LIT				AML	AML	11 50 37.0		
	comp=E,1736μm,0.4s							
LIT				AML	AML	11 50 37.5		
	comp=N,1404μm,0.6s							
OHR	**Ohrid**	**0.85**	**313**	*i* Pg	**Pg**	**11 50 21.5**	**-0.9**	
OHR				*i* Sg	**Sn**	**11 50 35.1**	**-0.5**	
OHR				*e*Lg	Lg	11 50 37.2		
	comp=N,222nm,0.6s							
OHR				*e*Lg	Lg	11 50 37.8		
	comp=E,295nm,0.5s							
OHR	**Ohrid**	**0.85**	**313**	*i* Pg	**Pg**	**11 50 21.5**	**-0.9**	
OHR				*i* Sg	**Sn**	**11 50 35.0**	**-0.5**	
OHR				*e*Lg	Lg	11 50 37.1		
	comp=E,222nm,0.6s							
THL	**Klokotos Trika**	**1.01**	**162**	P	**Pb**	**11 50 24.3**	**-0.7**	
THL	**Klokotos Trika**	**1.01**	**162**	P	**Pb**	**11 50 24.3**	**-0.7**	
THL				S	**Sn**	**11 50 40.8**	**+1.4**	
THE	**Thessaloniki**	**1.03**	**84**	P	**Pb**	**11 50 23.4**	**-1.9**	
THE				S	**Sb**	**11 50 38.1**	**-0.5**	
THE	**Thessaloniki**	**1.03**	**84**	P	**Pb**	**11 50 23.4**	**-1.9**	
THE				S	**Sb**	**11 50 38.1**	**-0.5**	
THE				AML	AML	11 50 43.3		
	comp=N,271μm,0.7s							
THE				AML	AML	11 50 43.9		
	comp=E,156μm,0.5s							
VAY	**Valandovo**	**1.07**	**42**	*i* Pg	**Pg**	**11 50 26.2**	**-0.3**	
VAY				*i* Sg	**Sn**	**11 50 42.3**	**+1.5**	
VAY				*e*Lg	Lg	11 50 44.2		
	comp=E,204nm,0.6s							
VAY				*e*Lg	Lg	11 50 44.7		
	comp=N,129nm,0.7s							
HORT	**Hortiatis**	**1.13**	**86**	P	**Pb**	**11 50 26.8**	**-0.4**	
HORT	**Hortiatis**	**1.13**	**86**	P	**Pb**	**11 50 26.7**	**-0.4**	
HORT				S	**Sn**	**11 50 42.9**	**+0.5**	
HORT	**Hortiatis**	**1.13**	**86**	P	**Pb**	**11 50 26.7**	**-0.4**	
HORT				S	**Sn**	**11 50 42.9**	**+0.5**	
HORT				AML	AML	11 50 46.6		
	comp=N,294μm,0.4s							
HORT				AML	AML	11 50 52.0		
	comp=E,187μm,0.6s							
KNT	**Kendrikon**	**1.16**	**57**	P	**Pb**	**11 50 27.4**	**-0.1**	
KNT	**Kendrikon**	**1.16**	**57**	P	**Pn**	**11 50 27.7**	**+0.2**	
KNT				S	**Sn**	**11 50 44.0**	**+1.0**	
KNT	**Kendrikon**	**1.16**	**57**	P	**Pn**	**11 50 27.7**	**+0.2**	
KNT				S	**Sn**	**11 50 44.0**	**+1.0**	
KNT				AML	AML	11 50 48.2		
	comp=N,164μm,0.4s							
KNT				AML	AML	11 50 50.8		
	comp=E,80μm,0.5s							
SOH	**Sokhos**	**1.35**	**77**	P	**Pn**	**11 50 30.6**	**+0.4**	
SOH	**Sokhos**	**1.35**	**77**	P	**Pn**	**11 50 30.4**	**+0.2**	
SOH				S	**Sg**	**11 50 49.2**	**-0.3**	
SOH	**Sokhos**	**1.35**	**77**	P	**Pn**	**11 50 30.4**	**+0.2**	
SOH				S	**Sg**	**11 50 49.2**	**-0.3**	
SOH				AML	AML	11 50 54.6		
	comp=E,306μm,0.5s							
SOH				AML	AML	11 50 59.1		
	comp=N,184μm,0.5s							
PLG	**Polygyros**	**1.40**	**96**	P	**Pb**	**11 50 31.6**	**-0.1**	
PLG	**Polygyros**	**1.40**	**96**	P	**Pb**	**11 50 31.7**	**-0.1**	
PLG				S	**Sn**	**11 50 49.0**	**-0.1**	
PLG	**Polygyros**	**1.40**	**96**	P	**Pb**	**11 50 31.7**	**-0.1**	
PLG				S	**Sn**	**11 50 49.0**	**-0.1**	
PLG				AML	AML	11 50 51.3		
	comp=E,232μm,0.4s							
PLG				AML	AML	11 50 51.5		
	comp=N,342μm,0.4s							
SKO	**Skopje**	**1.45**	**355**	*e*Pn	**Pn**	**11 50 31.4**	**0.0**	
SKO	**Skopje**	**1.45**	**355**	*e*Pn	**Pn**	**11 50 31.4**	**0.0**	
DSL	**Palaion Diasel**	**1.45**	**196**	P	**Pb**	**11 50 32.4**	**-0.2**	
DSL				S	**Sg**	**11 50 52.2**	**-0.5**	
DSL	**Palaion Diasel**	**1.45**	**196**	P	**Pb**	**11 50 32.4**	**-0.2**	
DSL				S	**Sg**	**11 50 52.2**	**-0.5**	
DSL				AML	AML	11 51 00.6		
	comp=N,357μm,0.5s							
DSL				AML	AML	11 51 02.3		
	comp=E,333μm,0.8s							
FYTO	**Fytoko, Volos**	**1.51**	**137**	P	**Pb**	**11 50 33.4**	**-0.2**	
FYTO				S	**Sg**	**11 50 53.9**	**-0.7**	
FYTO	**Fytoko, Volos**	**1.51**	**137**	P	**Pb**	**11 50 33.4**	**-0.2**	
FYTO				S	**Sg**	**11 50 53.9**	**-0.7**	
AGG	**Agios Georgios**	**1.60**	**160**	P	**Pn**	**11 50 34.1**	**+0.5**	
AGG	**Agios Georgios**	**1.60**	**160**	P	**Pn**	**11 50 34.1**	**+0.5**	
AGG				S	**Sg**	**11 50 56.7**	**-0.8**	
AGG	**Agios Georgios**	**1.60**	**160**	P	**Pn**	**11 50 33.9**	**+0.3**	
AGG				S	**Sg**	**11 50 56.7**	**-0.8**	
AGG				AML	AML	11 51 07.8		
	comp=N,464μm,0.4s							
AGG				AML	AML	11 51 09.3		
	comp=E,550μm,1.0s							
EVR	**Evrytania**	**1.62**	**175**	P	**Pn**	**11 50 34.1**	**+0.2**	
EVR				S	**Sb**	**11 50 56.1**	**+0.4**	
EVR	**Evrytania**	**1.62**	**175**	P	**Pn**	**11 50 34.1**	**+0.2**	
EVR				S	**Sb**	**11 50 56.1**	**+0.4**	
EVR				AML	AML	11 51 05.4		
	comp=N,209μm,0.6s							
PAIG	**Paliouri**	**1.69**	**110**	P	**Pn**	**11 50 33.3**	**-1.4**	
PAIG				S	**Sn**	**11 50 54.7**	**-1.4**	
PAIG	**Paliouri**	**1.69**	**110**	P	**Pn**	**11 50 33.3**	**-1.4**	
PAIG				S	**Sn**	**11 50 54.7**	**-1.4**	
PAIG				AML	AML	11 51 02.4		
	comp=E,116μm,0.9s							
PAIG				AML	AML	11 51 03.3		
	comp=N,133μm,0.8s							
OUR	**Ouranopolis**	**1.81**	**95**	P	**Pn**	**11 50 36.1**	**-0.4**	
OUR				S	**Sn**	**11 50 59.0**	**-0.1**	
OUR	**Ouranopolis**	**1.81**	**95**	P	**Pn**	**11 50 36.1**	**-0.4**	
OUR				S	**Sn**	**11 50 59.0**	**-0.1**	
OUR				AML	AML	11 51 01.9		
	comp=N,290μm,0.6s							
OUR				AML	AML	11 51 05.3		
	comp=E,148μm,0.5s							
PDO	**Prodromos**	**1.96**	**190**	P	**Pb**	**11 50 40.2**	**-1.0**	
PDO				S	**Sn**	**11 51 03.8**	**+1.0**	
PDO	**Prodromos**	**1.96**	**190**	P	**Pb**	**11 50 40.2**	**-1.0**	
PDO				S	**Sn**	**11 51 03.8**	**+1.0**	
PDO				AML	AML	11 51 12.5		
	comp=E,291μm,0.7s							
PDO				AML	AML	11 51 17.9		
	comp=N,152μm,0.4s							
BARS	**Barje**	**2.29**	**4**	*e*Pn	**Pn**	**11 50 43.6**	**+0.6**	
BOVS	**Bovan**	**3.10**	**1**	*e*Pn	**Pn**	**11 50 54.5**	**+0.3**	
GRUS	**Gruza**	**3.42**	**349**	*e*Pn	**Pn**	**11 50 59.1**	**+0.5**	
DIVS	**Divibare**	**3.76**	**342**	*e*Pn	**Pn**	**11 51 04.1**	**+0.7**	
TEKS	**Tekeris**	**4.30**	**340**	*e*Pn	**Pn**	**11 51 11.7**	**+1.0**	
UDBI	**Udbina**	**5.89**	**315**	*e*Pn	**Pn**	**11 51 33.4**	**+0.9**	
UDBI	**Udbina**	**5.89**	**315**	*e*Pn	**Pn**	**11 51 33.4**	**+0.9**	

IDC ***22*** *11:52:56.9±0.7,33.81N×89.26E,h0km,mb4.0/17, mb1 4.1/22,mb1mx3.9/61,mbtmp4.0/22,ML3.6/4, Error ellipse: s-maj=21.4km s-min=14.8km az=42.0*

BJI ***22*** *11:52:58.8,33.57N×89.57E,h8km,mb4.1/10,ML4.0/2, Ms3.8/3,Ms7 3.7/3*

ISCJB ***22*** *11:52:59.9±0.6,33.77N±0.08×89.26E±0.07,h33km, mb4.0/18,Error ellipse: s-maj=10.9km s-min=8.2km az=176.0*

ISC 22 11:53:01.5±0.7,33.66N±0.09×89.32E±0.06,h35km,n29,
σ1s82/30,mb4.1/18,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.24**	**158**	Pg	Pn	Pn	11 54 12.3	+8.3
GTA	**Gaotai**	**10.21**	**53**	*e*P	**Pn**	**Pn**	**11 55 26.4**	**+0.8**
GTA				pP			11 55 29.6	
GTA				sP			11 55 32.4	
GTA				S	**Sn**	**Sn**	**11 57 22.0**	**+3.1**
GTA				PMZ				
	4.0nm,0.7s							
GTA				LN				
	400nm,17.6s							
GTA				LE				
	160nm,12.8s							
GTA				LZ				
	310nm,11.5s							
WMQ	**Urumqi**	**10.23**	**353**	P	**Pn**	**Pn**	**11 55 27.8**	**+2.0**
WMQ				pP			11 55 30.8	
WMQ				sP			11 55 33.8	
WMQ				PMZ				
	7.0nm,0.6s							
CD2	**Chengdu**	**12.52**	**99**	*e*P	**Pn**	**Pn**	**11 55 54.8**	**-2.4**
CD2				S	**Sn**	**Sn**	**11 58 12.3**	**-3.2**
CD2				PMZ				
	10.0nm,0.5s							
CD2				LN				
	290nm,15.7s							
CD2				LE				
	500nm,18.6s							
CD2				LZ				
	590nm,18.6s							
MKAR	**Makanchi Array**	**14.17**	**340**	Pn		**Pn**	**11 56 15.9**	**-3.7**
	baz=146,slow=13,SNR=7.7							
AAK	**Ala-Archa**	**14.69**	**312**	Pn		**Pn**	**11 56 24.6**	**-2.2**
	0.4nm,0.3s,baz=289,slow=6.9,SNR=2.8							
CMAR	**Chiang Mai Arr**	**17.41**	**148**	P		**P**	**11 57 04.5**	**+1.8**
	0.1nm,0.3s,baz=328,slow=13,SNR=11							
KURBB	**Kurchatov Arra**	**18.71**	**338**	P		**P**	**11 57 14.3**	**-2.4**
	0.1nm,0.3s,baz=146,slow=12,SNR=16							
SONM	**Songino Array**	**19.12**	**37**	P		**Pn**	**11 57 22.1**	**-0.4**
	0.4nm,0.3s,baz=227,slow=12,SNR=7.4							
ZALV	**Zalesovo Beam**	**20.54**	**352**	P		**P**	**11 57 35.8**	**-0.9**
	12nm,0.9s,baz=170,slow=12,SNR=24							
BVAR	**Borovoye Array**	**23.62**	**331**	P		**P**	**11 58 08.6**	**-0.5**
	1.9nm,0.8s,baz=131,slow=11,SNR=8.3							
GEYT	**Alibeck**	**25.60**	**289**	P		**P**	**11 58 28.7**	**+1.3**
	12nm,1.1s,baz=138,slow=6.9,SNR=5.6							
NRIK	**Noril'sk**	**35.75**	**359**	P		**P**	**11 59 59.1**	**+2.6**
	3.1nm,0.6s,baz=168,slow=3.3,SNR=3.5							
TIXI	**Tiksi**	**43.37**	**17**	P		**P**	**12 00 59.6**	**-0.3**
	2.6nm,0.7s,baz=180,slow=3.0,SNR=6.3							
BRTR	**Keskin Array B**	**44.45**	**295**	P		**P**	**12 01 09.3**	**0.0**
	2.2nm,0.9s,baz=76,slow=5.2,SNR=8.3							
AKASG	**Malin Array Be**	**46.35**	**310**	P		**P**	**12 01 22.6**	**-1.4**
	2.3nm,0.7s,baz=78,slow=7.4,SNR=4.2							
FINES	**FINESS Array B**	**48.38**	**325**	P		**P**	**12 01 38.8**	**-0.7**
	1.4nm,0.7s,baz=228,slow=1.7,SNR=3.2							
SEY	**Seymchan**	**48.44**	**33**	P		**P**	**12 01 40.1**	**+0.1**
	1.3nm,0.8s,baz=276,slow=8.4,SNR=4.7							
MLR	**Muntele Rosu**	**49.08**	**304**	P		**P**	**12 01 45.2**	**-0.1**
	1.9nm,0.9s,baz=128,slow=2.0,SNR=8.6							
HFS	**Hagfors**	**54.46**	**323**	P		**P**	**12 02 23.2**	**-1.9**
	1.9nm,0.7s,baz=82,slow=11,SNR=4.3							
NB2	**NORSAR Subarra**	**55.56**	**325**	P		**P**	**12 02 31.9**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=81,slow=7.4							
NOA	**NORSAR Array B**	**55.56**	**325**	P		**P**	**12 02 32.0**	**-1.1**
	comp=Z,4.8nm,1.0s,baz=82,slow=7.2,SNR=7.0							
BRG	**Berggiesshubel**	**55.93**	**312**	*e*P		**P**	**12 02 37.8**	**+1.9**
	comp=Z,4.9nm,0.9s							
GERES	**GERESS Array B**	**56.56**	**310**	P		**P**	**12 02 40.5**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=77,slow=6.0,SNR=17							
WRA	**Warramunga Arr**	**68.43**	**134**	P		**P**	**12 04 02.5**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=325,slow=6.7,SNR=7.0							
ASAR	**Alice Springs**	**71.07**	**137**	P		**P**	**12 04 17.6**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=331,slow=6.3,SNR=6.8							
ILAR	**Eielson Array**	**72.57**	**22**	P		**P**	**12 04 23.6**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=292,slow=5.7,SNR=5.3							
TORD	**Torodi Ar. Bea**	**80.89**	**280**	P		**P**	**12 05 11.9**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=63,slow=2.8,SNR=4.0							
YKA	**Yellowknife Ar**	**82.27**	**11**	P		**P**	**12 05 18.2**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=347,slow=5.8,SNR=4.5							

IDC ***22*** *11:55:51.5±0.5,33.79N×89.26E,h0km,mb4.2/28, mb1 4.4/33,mb1mx4.2/61,mbtmp4.2/33,ML3.6/4,MS3.8/21, Ms1 3.8/21,ms1mx3.7/32,Error ellipse: s-maj=14.6km s-min=11.6km az=26.0*

BJI ***22*** *11:55:54.5,33.45N×89.59E,h7km,mb4.3/29,mB4.6/22, Ms4.3/27,Ms7 4.1/29*

MOS ***22*** *11:55:55.5±0.9,33.92N×89.28E,h37km,mb4.6/36, MS4.0/11,Error ellipse: s-maj=9.1km s-min=5.0km az=116.4*

ISCJB ***22*** *11:55:55.4±0.2,33.89N±0.02×89.19E±0.03,h35km, mb4.5/57,MS3.9/22,Error ellipse: s-maj=3.5km s-min=3.2km az=36.0*

NEIC ***22*** *11:55:57.2±0.2,33.91N×89.22E,h35km,mb4.7/18,Error ellipse: s-maj=6.8km s-min=4.4km az=224.0*

NDI ***22*** *11:56:01.4±3.4,33.49N×88.93E,h35km,mb4.7, mb4.7(NEIC)*

ISC 22 11:55:57.3±0.3,33.82N±0.04×89.21E±0.04,h35km,n187,
σ2s28/194,mb4.5/57,MS4.0/22,3C-4D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.43**	**158**	Pg		Pn	11 57 07.3	+4.8
LSA	**Lhasa**	**4.43**	**158**	*e*P		**Pn**	**11 57 06.3**	**+3.9**
LSA	**Lhasa**	**4.43**	**158**	*e*Pn		**Pn**	**11 57 06.3**	**+3.9**
GUN	**Gumba**	**6.55**	**207**	*e*P		**Pn**	**11 57 33.7**	**+2.2**
	102nm,0.8s							
KKN	**Kakani**	**6.89**	**210**	*e*P		**Pn**	**11 57 38.6**	**+2.5**
	68nm,0.7s							
GKN	**Gorkha**	**7.00**	**215**	*e*P		**Pn**	**11 57 39.7**	**+2.2**
	76nm,1.0s							
PKIN	**Phulchoki**	**7.03**	**209**	*e*P		**Pn**	**11 57 40.2**	**+2.1**
	44nm,0.6s							
DMN	**Daman**	**7.13**	**211**	*e*P		**Pn**	**11 57 41.4**	**+2.1**
	100nm,0.9s							
RAMN	**Ramite**	**7.21**	**199**	*e*P		**Pn**	**11 57 41.6**	**+1.1**
	119nm,0.8s							
KOLN	**Koldanda**	**7.72**	**220**	*e*P		**Pn**	**11 57 48.6**	**+1.2**
	32nm,0.7s							
PYUN	**Piuthan**	**7.81**	**225**	*e*P		**Pn**	**11 57 48.5**	**-0.2**
	49nm,0.7s							
SHL	**Shillong**	**8.55**	**164**	*e*P		**Pn**	**11 57 58.9**	**+0.1**
WMQ	**Urumqi**	**10.05**	**354**	P		**Pn**	**11 58 21.8**	**+2.5**
WMQ				PP		**PnPn**	**11 58 30.8**	**+3.8**
WMQ				sP			11 58 38.4	
WMQ				S		**Sn**	**12 00 13.5**	**+2.7**
WMQ				pmax		pmax		
	comp=Z,11nm,1.2s							
WMQ				pmax		pmax		
	comp=Z,68nm,3.8s							
WMQ				LR		LR		
	comp=N,400nm,13.2s							
WMQ				LR		LR		
	comp=E,920nm,10.4s							
WMQ				LR		LR		
	comp=Z,140nm,14.0s							
WMQ	**Urumqi**	**10.05**	**354**	P		Pn	11 58 25.5	+6.2
WMQ				pP			11 58 28.8	
WMQ				sP			11 58 31.6	
WMQ				S		Sn	12 00 24.3	+13
WMQ				PMZ				
	comp=Z,10.0nm,1.0s							
WMQ				PMZ				
	comp=Z,68nm,3.6s							
WMQ				LN				
	comp=Z,400nm,12.2s							
WMQ				LE				
	comp=Z,930nm,9.4s							
WMQ				LZ				
	comp=Z,400nm,8.8s							
GTA	**Gaotai**	**10.19**	**54**	*e*P		**Pn**	**11 58 23.5**	**+2.4**
GTA				pP			11 58 26.8	
GTA				sP			11 58 29.3	
GTA				S		**Sn**	**12 00 21.4**	**+7.3**
GTA				sS			12 00 26.1	
GTA				SS		**SnSn**	**12 00 34.3**	**+8.4**
GTA				PMZ				
	comp=Z,5.0nm,1.2s							
GTA				PMZ				
	comp=Z,61nm,4.7s							
GTA				LN				
	comp=Z,2μm,17.1s							
GTA				LE				
	comp=Z,850nm,15.7s							
GTA				LZ				
	comp=Z,1μm,16.5s							
BOK	**Bokaro**	**10.40**	**197**	*e*P		**Pn**	**11 58 23.4**	**-0.6**
SMLA	**Simla**	**10.52**	**258**	*e*P		**Pn**	**11 58 26.4**	**+0.8**
DHRM	**DHARAMSHALA**	**10.95**	**265**	*e*P		**Pn**	**11 58 31.5**	**-0.1**
KSH	**Kashi**	**12.05**	**302**	*e*P		**Pn**	**11 58 50.0**	**+3.4**
KSH				pP		P	11 58 57.9	-1.1
KSH				PP		**PnPn**	**11 59 01.0**	**+6.7**
KSH				S		**Sn**	**12 01 02.3**	**+2.6**
KSH				SS		**SnSn**	**12 01 21.8**	**+10**
KSH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KSH				pmax		pmax		
	comp=Z,110nm,5.1s							
KSH				LR		LR		
	comp=N,910nm,7.1s							
KSH				LR		LR		
	comp=E,740nm,9.4s							
KSH				LR		LR		
	comp=Z,860nm,6.7s							
LZH	**Lanzhou**	**12.22**	**75**	*e*P		**Pn**	**11 58 50.0**	**+1.0**
LZH				pP		P	11 58 58.8	-2.2
LZH				PMZ				
	comp=Z,12nm,1.0s							
CD2	**Chengdu**	**12.64**	**99**	*e*P		Pn	11 58 48.4	-6.3
CD2				S		**Sn**	**12 01 06.3**	**-7.9**
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,4.2s							
CD2				LN				
	comp=Z,830nm,7.1s							
CD2				LE				
	comp=Z,2μm,6.9s							
CD2				LZ				
	comp=Z,2μm,7.2s							
BWNR	**Bhubaneshwar**	**13.81**	**193**	*e*P		**Pn**	**11 59 08.6**	**-1.9**
BWNR				IAmb		IAmb	11 59 13.6	
	comp=Z,32nm,1.0s							
MK31	**Makanchi Array**	**13.98**	**340**	*e*P		**Pn**	**11 59 10.0**	**-2.9**
MK31	**Makanchi Array**	**13.98**	**340**	*e*Pn		**Pn**	**11 59 10.0**	**-2.9**
MKAR	**Makanchi Array**	**13.98**	**340**	Pn		**Pn**	**11 59 09.7**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=155,slow=15,SNR=9.3							
MKAR				LR		LR	12 05 52.6	
	comp=Z,93nm,19.7s,baz=156,slow=43							
MKAR	**Makanchi Array**	**13.98**	**340**	*e*P		**Pn**	**11 59 10.0**	**-2.9**
MKAR	**Makanchi Array**	**13.98**	**340**	*e*Pn		**Pn**	**11 59 10.0**	**-2.9**
TKM2	**Tokmak 2**	**14.00**	**314**	*e*P		**Pn**	**11 59 11.2**	**-2.2**
TKM2	**Tokmak 2**	**14.00**	**314**	*e*Pn		**Pn**	**11 59 11.2**	**-2.2**
MAKZ	**Makanchi**	**14.09**	**339**	*e*P		**Pn**	**11 59 13.5**	**-0.8**
MAKZ	**Makanchi**	**14.09**	**339**	*e*Pn		**Pn**	**11 59 13.5**	**-0.8**
AAK	**Ala-Archa**	**14.52**	**312**	Pn		**Pn**	**11 59 20.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=94,slow=22,SNR=8.3							
AAK	**Ala-Archa**	**14.52**	**312**	*e*P		**Pn**	**11 59 21.6**	**+1.3**
AAK	**Ala-Archa**	**14.52**	**312**	*e*Pn		**Pn**	**11 59 21.4**	**+1.1**
FRU	**Bishkek**	**14.55**	**312**	*i* P		**P**	**11 59 26.5**	**-0.2**
FRU				pmax		pmax		
	comp=Z,80nm,1.8s							
KMI	**Kunming**	**14.62**	**123**	P		**Pn**	**11 59 24.3**	**+2.5**
KMI				pmax		pmax		
	comp=Z,14nm,0.7s							
KMI				pmax		pmax		
	comp=Z,150nm,4.2s							
KMI				LR		LR		
	comp=N,810nm,13.5s							
KMI				LR		LR		
	comp=E,800nm,13.1s							
KMI				LR		LR		
	comp=Z,950nm,17.5s							
BHPL	**Bhopal**	**14.76**	**227**	*e*P		**Pn**	**11 59 21.9**	**-1.8**
BHPL				IAmb		IAmb	11 59 30.8	
	comp=Z,33nm,1.2s							
EKS2	**Erkin-Say**	**14.98**	**311**	*e*P		**Pn**	**11 59 25.3**	**-1.2**
EKS2				pmax		pmax		
	comp=Z,13nm,0.9s							
EKS2	**Erkin-Say**	**14.98**	**311**	*e*Pn		**Pn**	**11 59 25.3**	**-1.2**
	comp=Z,13nm,0.9s							
XAN	**Xi'an**	**16.37**	**84**	P		**P**	**11 59 47.8**	**+0.8**
XAN				PMZ				
	comp=Z,8.0nm,1.5s							
XAN				PMZ				
	comp=Z,67nm,5.3s							
XAN				LN				
	comp=Z,1μm,15.3s							
XAN				LZ				
	comp=Z,700nm,12.4s							
GYA	**Guiyang**	**16.78**	**111**	*e*P		**P**	**11 59 51.4**	**-0.2**
GYA				S		**Sn**	**12 02 54.3**	**-0.8**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
GYA				PMZ				
	comp=Z,110nm,4.9s							
GYA				LN				
	comp=Z,520nm,13.8s							
GYA				LE				
	comp=Z,480nm,14.0s							
GYA				LZ				
	comp=Z,500nm,14.2s							
CHTO	**Chiang Mai**	**17.29**	**147**	P		**P**	**11 59 57.7**	**+0.5**
	comp=Z,52nm,1.4s							
CHTO	**Chiang Mai**	**17.29**	**147**	*e*P		**P**	**11 59 57.0**	**-0.2**
CHTO				pmax		pmax		
	comp=Z,13nm,1.3s							
CHTO	**Chiang Mai**	**17.29**	**147**	*e*P		**P**	**11 59 57.0**	**-0.2**
	comp=Z,13nm,1.3s							
CMMT	**Chiang Mai**	**17.29**	**147**	P	

HHC LZ
comp=Z,350nm,14.9s
ULN Ulaanbaatar 19.41 38 *de*P **P 12 00 20.3 -0.2**
ULN pmax pmax
comp=Z,9.0nm,1.2s
ULN Ulaanbaatar 19.41 38 *e*P **P 12 00 20.0 -0.4**
comp=Z,8.0nm,1.0s
ZAK Zakamensk 19.51 28 *e*P **P 12 00 21.4 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.8s
LOEI Loei 19.52 143 P **Pn 12 00 29.1 +6.0**
comp=Z,12nm,1.1s,comp=Z,723nm
MOY Mondy 19.78 22 *e*P **Pn 12 00 25.2 -0.9**
NONG Nongkai 20.05 138 P Pn 12 00 28.7 -0.7
comp=Z,35nm,0.7s
PBKT Sadao Pong 20.18 145 P Pn 12 00 30.7 -0.2
comp=Z,17nm,1.1s,comp=Z,1μm
ZALV Zalesovo Beam 20.36 353 P **P 12 00 29.9 -0.7**
comp=Z,18nm,1.0s,baz=170,slow=11,SNR=21
ZALV LR LR 12 09 24.6
comp=Z,145nm,20.8s,baz=247,slow=40
POO Poona 20.50 226 *e*P **P 12 00 29.8 -2.6**
POO IAmb IAmb 12 00 35.7
comp=Z,38nm,1.1s
TLY Talaya 20.69 26 *e*P Pn 12 00 37.9 +1.2
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,23nm,7.0s
CHAI Chaiyaphum 21.24 144 P **P 12 00 44.1 +3.7**
comp=Z,4.8nm,1.0s
KHON Khomkaen 21.29 142 P **P 12 00 43.6 +2.6**
comp=Z,12nm,1.1s
SKNT Sakolnakorn 21.39 138 P **P 12 00 44.8 +2.8**
comp=Z,36nm,1.8s
NVS Novosibirsk 21.43 351 *e*P **P 12 00 40.5 -1.6**
WHN Wuhan 21.52 92 P **P 12 00 47.0 +3.8**
WHN LZ
comp=Z,2μm,22.2s
BJI Beijing 22.39 66 P **P 12 00 53.0 +0.5**
BJI pP **pP 12 01 02.5 +0.7**
BJI S **S 12 04 51.5 -4.8**
BJI PMZ
comp=Z,10.0nm,1.5s
BJI PMZ
comp=Z,140nm,5.3s
BJI LN
comp=Z,770nm,15.6s
BJI LE
comp=Z,470nm,14.0s
BJI LZ
comp=Z,290nm,16.8s
SRAK Srakaew 22.91 146 P **P 12 01 02.8 +4.6**
comp=Z,38nm,1.0s
BVAR Borovoye Array 23.43 331 P **P 12 01 02.9 -0.3**
comp=Z,2.0nm,0.8s,baz=145,slow=11,SNR=11
BVAR LR LR 12 11 25.0
comp=Z,473nm,20.6s,baz=124,slow=40
BRVK Borovoye 23.50 331 *ce*P **P 12 01 03.2 -0.6**
BRVK pmax pmax
comp=Z,33nm,1.7s
BRVK Borovoye 23.50 331 *e*P **P 12 01 03.7 -0.2**
comp=Z,13nm,0.9s
QIZ Qiongzhong 23.57 123 P **P 12 01 05.1 +0.3**
QIZ S **S 12 05 17.6 +1.0**
QIZ LZ
comp=Z,370nm,18.9s
GEYT Alibeck 25.46 288 P **P 12 01 22.8 +0.7**
comp=Z,7.2nm,0.8s,baz=99,slow=9.2,SNR=8.4
DL2 Dalian 26.51 70 *e*P **P 12 01 32.9 +1.4**
DL2 S **S 12 06 10.3 +7.0**
DL2 PMZ
comp=Z,170nm,3.7s
DL2 LE
comp=Z,400nm,11.4s
DL2 LZ
comp=Z,420nm,14.7s
ABKAR Akbulak array 26.57 314 *e*P **P 12 01 32.1 +0.2**
AKTO Aktyubinsk 28.19 315 LR LR 12 14 29.0
comp=Z,417nm,19.4s,baz=116,slow=40
WSAR Wadi Sarin 28.76 257 LR LR 12 14 21.3
comp=Z,144nm,21.1s,baz=92,slow=38
BOD Bodaibo 29.25 27 *e*P **P 12 01 53.4 -2.4**
BOD pmax pmax
comp=Z,4.0nm,1.3s
ARU Arti 30.84 326 *d i*P **P 12 02 09.5 -0.4**
ARU *PP **sP 12 02 22.4 -1.8**
ARU 12 03 10.7
ARU S **S 12 07 09.7 -1.4**
ARU SS **ScP 12 08 46.8 +0.7**
ARU pmax pmax
comp=Z,8.0nm,1.7s
KSAR Wonju Array Be 31.50 72 P **P 12 02 14.6 -1.2**
KSAR Wonju Array Be 31.50 72 P **P 12 02 14.6 -1.2**
KSRS Korea Array 31.52 72 P **P 12 02 14.5 -1.5**
comp=Z,0.6nm,0.5s,baz=272,slow=9.7,SNR=3.4
KSRS LR LR 12 15 48.5
comp=Z,152nm,19.2s,baz=272,slow=38
MDJ Mudanjiang 32.79 59 P **P 12 02 25.4 -1.7**
MDJ PMZ
comp=Z,10.0nm,1.1s
MDJ PMZ
comp=Z,40nm,5.3s
MDJ LN
comp=Z,320nm,14.8s
MDJ LE
comp=Z,79nm,10.3s
MDJ LZ
comp=Z,220nm,10.3s
VLA Vladivostok 34.36 62 ⇓ *i*P **P 12 02 39.5 -1.3**
VLA *e**PP **pP 12 02 52.6 +1.7**
VLA *i* 12 05 17.7
VLA *eS* **S 12 08 01.8 -4.3**
VLA pmax pmax
comp=Z,12nm,0.9s
USRK Ussuriysk Ar. 34.48 60 P **P 12 02 40.5 -1.3**
comp=Z,3.3nm,0.9s,baz=208,slow=6.5,SNR=4.0
USRK LR LR 12 17 59.8
comp=Z,183nm,20.4s,baz=261,slow=39
KLR Kul'dur 34.87 51 P **P 12 02 44.7 -0.4**
comp=Z,4.1nm,1.0s,baz=258,slow=8.5,SNR=4.3
NRIK Noril'sk 35.58 359 P **P 12 02 51.3 +0.3**
comp=Z,7.1nm,0.7s,baz=155,slow=5.6,SNR=7.3
NRIK LR LR 12 18 54.8
comp=Z,70nm,20.6s,baz=236,slow=39
KBZ Khabaz 37.01 299 LR LR 12 21 00.6
comp=Z,117nm,19.6s,baz=68,slow=41
YAK Yakutsk 38.08 30 *e*P **P 12 03 13.0 +0.7**
YAK pmax pmax
comp=Z,6.0nm,0.8s
VRH Novokhopyorsk 38.32 312 *e*P **P 12 03 13.0 -1.4**
VRH pmax pmax
comp=Z,9.0nm,0.5s
MJAR Matsushiro Arr 39.80 72 LR LR 12 20 44.5
comp=Z,101nm,18.6s,baz=245,slow=38
VSR Storozhevoye 39.91 311 *e*P **P 12 03 27.3 -0.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
ANN Anapa 40.91 301 *e*P **P 12 03 35.5 -0.6**
ANN *e* 12 05 09.2
ANN pmax pmax
comp=Z,47nm,1.0s
KLMR Klimovskoe 41.69 326 *e*P **P 12 03 40.3 -2.0**
KLMR *e* 12 05 36.9
KLMR pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 41.95 317 *e*P **P 12 03 43.1 -1.4**
OBN pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 43.24 17 P **P 12 03 54.2 -0.5**
comp=Z,4.2nm,0.8s,baz=202,slow=3.1,SNR=7.5
TIXI Tiksi 43.24 17 *ce*P **P 12 03 53.1 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 43.24 17 *e*P **P 12 03 53.9 -0.8**
comp=Z,5.8nm,1.0s
ASF Jabal al Asfar 43.51 283 P **P 12 03 58.5 +0.9**
comp=Z,5.5nm,1.1s,baz=67,slow=4.8,SNR=5.3
BR131 Keskin Array S 44.30 294 *e*P **P 12 04 04.3 +0.4**
BRTR Keskin Array B 44.30 294 P **P 12 04 04.0 +0.1**
comp=Z,4.2nm,1.0s,baz=96,slow=6.2,SNR=17
ANTO Ankara 44.91 295 *e*P **P 12 04 09.8 +1.1**
ANTO pmax pmax
comp=Z,22nm,1.1s
ANTO Ankara 44.91 295 *e*P **P 12 04 09.8 +1.1**
comp=Z,22nm,1.1s

AKASG Malin Array Be 46.18 310 P **P 12 04 17.9 -0.6**
comp=Z,2.7nm,0.7s,baz=80,slow=6.4,SNR=11
AKASG LR LR 12 25 47.5
comp=Z,258nm,20.5s,baz=80,slow=39
KIEV Kiev 46.19 310 *e*P **P 12 04 17.7 -0.8**
KIEV pmax pmax
comp=Z,9.0nm,1.1s
KIEV Kiev 46.19 310 *e*P **P 12 04 17.9 -0.7**
comp=Z,8.6nm,1.1s
FINES FINESS Array B 48.19 325 P **P 12 04 34.3 +0.4**
comp=Z,2.7nm,0.8s,baz=100,slow=7.9,SNR=5.0
FINES LR LR 12 26 34.7
comp=Z,195nm,19.5s,baz=102,slow=38
SEY Seymchan 48.36 33 P **P 12 04 35.2 0.0**
comp=Z,1.2nm,0.4s,baz=259,slow=7.0,SNR=6.0
SEY Seymchan 48.36 33 *e*P **P 12 04 34.9 -0.3**
MLR Muntele Rosu 48.91 304 P **P 12 04 40.6 +0.7**
comp=Z,4.9nm,1.0s,baz=68,slow=3.1,SNR=18
MLR Muntele Rosu 48.91 304 *e*P **P 12 04 40.3 +0.4**
MLR pmax pmax
comp=Z,33nm,1.1s
MLR Muntele Rosu 48.91 304 *e*P **P 12 04 40.3 +0.4**
comp=Z,33nm,1.1s
BUR08 Bucovina Ar. S 49.09 306 *e*P **P 12 04 40.2 -1.0**
ARCES ARCESS Array B 49.58 336 LR LR 12 27 55.2
comp=Z,107nm,19.4s,baz=74,slow=39
PETK Petropavlovsk- 51.24 46 LR LR 12 28 20.5
comp=Z,82nm,18.6s,baz=281,slow=38
CRVS Cervenica-Dubn 51.37 309 *e*P **P 12 04 59.5 +1.2**
CRVS Cervenica-Dubn 51.37 309 *e*P **P 12 04 59.5 +1.2**
STHS Stebnicka Huta 51.42 309 *e*P **P 12 04 58.0 -0.8**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 51.42 309 *e*P **P 12 04 58.0 -0.8**
KECS Kecovo 52.08 308 *e*P **P 12 05 03.2 -0.4**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 52.08 308 *e*P **P 12 05 03.1 -0.5**
VYHS Vyhne 53.15 308 *e*P **P 12 05 11.9 +0.3**
VYHS pmax pmax
comp=Z,9.0nm,1.5s
VYHS Vyhne 53.15 308 *e*P **P 12 05 11.9 +0.3**
OKC Ostrava-Krasne 53.33 310 *e*P **P 12 05 13.7 +0.8**
OKC Ostrava-Krasne 53.33 310 *e*P **P 12 05 13.7 +0.8**
MORC Moravsky Berou 53.73 310 *e*P **P 12 05 16.2 +0.4**
MORC pmax pmax
comp=Z,44nm,1.2s
MORC Moravsky Berou 53.73 310 *e*P **P 12 05 16.2 +0.4**
comp=Z,44nm,1.2s
HFS Hagfors 54.28 323 P **P 12 05 19.5 -0.1**
comp=Z,3.8nm,0.6s,baz=98,slow=8.1,SNR=6.5
BILL Bilibino 54.31 27 *e*P **P 12 05 19.4 -0.3**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 54.31 27 *e*P **P 12 05 20.4 +0.7**
comp=Z,9.7nm,1.5s
DPC Dobruska-Polom 54.38 311 *e*P **P 12 05 20.9 +0.3**
DPC AMS AMS 12 30 30.0
comp=Z,200nm,15.0s
DPC Dobruska-Polom 54.38 311 *e*P **P 12 05 20.9 +0.3**
DPC MLR MLR
comp=Z,200nm,15.0s
VRAC Vranov 54.43 310 P **P 12 05 20.6 -0.4**
comp=Z,1.8nm,0.4s,baz=89,slow=6.9,SNR=5.3
UPC Upice 54.55 311 *e*P **P 12 05 22.2 +0.5**
UPC AMS AMS 12 30 20.0
comp=Z,200nm,23.6s
UPC Upice 54.55 311 *e*P **P 12 05 22.2 +0.5**
UPC MLR MLR
comp=Z,200nm,23.6s
SOEI Soe 54.66 136 *e*P **P 12 05 22.2 -0.8**
comp=Z,66nm,0.9s
NC405 NORSAR Array S 55.12 325 *e*P **P 12 05 25.6 -0.1**
NC303 NORSAR Array S 55.27 325 *e*P **P 12 05 26.1 -0.7**
NB2 NORSAR Subarra 55.37 325 P **P 12 05 26.2 -1.4**
comp=Z,11nm,1.0s,baz=81,slow=7.4
NOA NORSAR Array B 55.37 325 P **P 12 05 26.7 -0.9**
comp=Z,7.2nm,1.0s,baz=82,slow=7.2,SNR=13
NOA LR LR 12 30 55.5
comp=Z,180nm,18.4s,baz=45,slow=38
GOPC GO Pecny, Ondr 55.44 311 *e*P **P 12 05 28.2 -0.1**
GOPC AMS AMS 12 31 00.0
comp=Z,200nm,18.0s
GOPC GO Pecny, Ondr 55.44 311 *e*P **P 12 05 28.2 -0.1**
GOPC MLR MLR
comp=Z,200nm,18.0s
PRU Pruhonice 55.58 311 *e*P **P 12 05 29.9 +0.7**
PRU AMS AMS 12 30 50.0
comp=Z,200nm,15.9s
PRU Pruhonice 55.58 311 *e*P **P 12 05 29.9 +0.7**
PRU MLR MLR
comp=Z,200nm,15.9s
BRG Berggiesshubel 55.75 312 *e*P **P 12 05 30.6 +0.1**
comp=Z,13nm,1.3s
BRG Berggiesshubel 55.75 312 *e*P **P 12 05 30.5 +0.1**
BRG pmax pmax
comp=Z,13nm,1.3s
CLL Collm 56.23 313 *i* P **P 12 05 33.6 -0.2**
comp=Z,9.0nm,1.1s
CLL Collm 56.23 313 *i* P **P 12 05 33.6 -0.2**
CLL pmax pmax
comp=Z,9.0nm,1.1s
GEC2 GERESS Array S 56.39 310 *e*P **P 12 05 35.4 +0.3**
GEC2 pmax pmax
comp=Z,13nm,1.0s
GEC2 GERESS Array S 56.39 310 *e*P **P 12 05 35.4 +0.3**
comp=Z,13nm,1.0s
GERES GERESS Array B 56.39 310 P **P 12 05 35.0 -0.1**
comp=Z,4.4nm,0.8s,baz=79,slow=6.9,SNR=18
GERES LR LR 12 31 58.0
comp=Z,157nm,21.9s,baz=82,slow=38
GEA0 GERESS Array S 56.39 310 *e*P **P 12 05 34.6 -0.5**
KONO Kongsberg 56.39 323 *e*P **P 12 05 36.3 +1.5**
KONO pmax pmax
comp=Z,196nm,2.5s
KHC Kasperske Hory 56.39 310 *e*P **P 12 05 34.6 -0.6**
KHC AMS AMS 12 31 20.0
comp=Z,200nm,20.1s
KHC Kasperske Hory 56.39 310 *e*P **P 12 05 34.5 -0.6**
KHC pmax pmax
comp=Z,7.0nm,1.7s
KHC Kasperske Hory 56.39 310 *e*P **P 12 05 34.5 -0.7**
comp=Z,7.1nm,1.7s
DAVOX Davos/Dischmat 59.44 308 LR LR 12 34 15.7
comp=Z,152nm,20.8s,baz=84,slow=39
KMBO Kilima Mbogo 59.86 246 P **P 12 06 00.0 0.0**
comp=Z,2.3nm,0.8s,baz=38,slow=19,SNR=3.5
BFO Black Forest 59.95 310 *ce*P **P 12 06 00.2 +0.2**
BFO Black Forest 59.95 310 *e*P **P 12 05 59.5 -0.5**
comp=Z,30nm,0.7s
KEST Kesra 63.81 297 P **P 12 06 25.6 -0.6**
comp=Z,5.2nm,1.1s,baz=248,slow=5.4,SNR=4.1
SUMG Summit 67.97 345 *e*P **P 12 06 52.7 0.0**
SUMG pmax pmax
comp=Z,16nm,1.5s
SUMG Summit 67.97 345 *e*P **P 12 06 52.7 0.0**
comp=Z,16nm,1.5s
WRA Warramunga Arr 68.61 134 P **P 12 06 56.1 -0.9**
comp=Z,1.9nm,0.7s,baz=328,slow=6.3,SNR=15
COLD Coldfoot 69.80 21 *e*P **P 12 07 03.7 +0.1**
comp=Z,5.8nm,1.4s
ASAR Alice Springs 71.25 137 P **P 12 07 12.9 -0.2**
comp=Z,1.7nm,0.9s,baz=316,slow=6.4,SNR=13
ASAR LR LR 12 44 17.4
comp=Z,42nm,19.2s,baz=320,slow=41
AS01 Alice Springs 71.28 137 *e*P **P 12 07 12.6 -0.7**
ESDC Sonseca Array 71.53 306 P **P 12 07 13.7 -1.1**
comp=Z,0.2nm,0.3s,baz=55,slow=5.4,SNR=5.4
IL1 Eielson Array 72.45 22 *e*P **P 12 07 17.8 -1.9**
ILAR Eielson Array 72.45 22 P **P 12 07 18.1 -1.7**
comp=Z,1.6nm,1.1s,baz=295,slow=5.4,SNR=7.5
RND Reindeer 72.75 24 *e*P **P 12 07 20.8 -0.9**
RND pmax pmax
comp=Z,5.0nm,0.8s
RND Reindeer 72.75 24 *e*P **P 12 07 20.8 -0.9**
comp=Z,4.9nm,0.8s
TOA0 Torodi Ar. Sit 80.77 280 *e*P **P 12 08 06.7 -0.9**
TORD Torodi Ar. Bea 80.77 280 P **P 12 08 06.8 -0.9**
comp=Z,1.5nm,0.9s,baz=42,slow=3.7,SNR=6.6
STKA Stephens Creek 81.89 137 P **P 12 08 13.2 +0.1**
comp=Z,4.9nm,1.0s,baz=215,slow=8.5,SNR=4.1
YKA Yellowknife Ar 82.12 11 P **P 12 08 13.1 -0.9**
comp=Z,1.2nm,1.0s,baz=340,slow=5.0,SNR=6.0
BOSA Boshof 86.70 232 P **P 12 08 37.0 -0.8**
comp=Z,6.2nm,0.9s,baz=23,slow=0.7,SNR=5.3
BOSA Boshof 86.70 232 *e*P **P 12 08 37.8 0.0**

BOSA pmax pmax
comp=Z,53nm,1.7s
BOSA Boshof 86.70 232 *e*P **P 12 08 37.8 0.0**
comp=Z,53nm,1.7s
DBIC Dimbokro 89.69 278 LR LR 12 52 17.9
comp=Z,71nm,18.5s,baz=60,slow=38
CPUP Villa Florida 150.19 275 PKPbc **PKPbc 12 15 43.4 -1.4**
comp=Z,2.7nm,0.9s,baz=59,slow=3.6,SNR=3.6

*IDC **22** 11:56:26.2±1.0, 26.78N×144.37E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/59, mbtmp3.7/11, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/39, Error ellipse: s-maj=24.2km s-min=19.3km az=83.0*
*ISCJB **22** 11:56:29.3±0.8, 26.8N±0.1×144.28E±0.09, h33km, mb3.7/9, MS3.5/1, Error ellipse: s-maj=17.0km s-min=11.1km az=12.3*
ISC 22 11:56:31.7±1.0, 26.9N±0.1×144.2E±0.1, h35km, n13, σ1s39/13, mb3.6/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.83**	**278**	Pn	**Pn**		**11 56 59.2**	**-1.5**
	17nm,0.3s,baz=270,slow=20,SNR=5.0							
JCJ				Sn	**Sn**		**11 57 22.6**	**-0.1**
	71nm,0.3s,baz=270,slow=24,SNR=7.3							
MJAR	**Matsushiro Arr**	**10.93**	**334**	Pn	**Pn**		**11 59 03.6**	**-2.0**
	0.3nm,0.3s,baz=142,slow=12,SNR=4.3							
KSRS	**Korea Array**	**17.36**	**312**	P	**P**		**12 00 32.7**	**+0.5**
	0.1nm,0.3s,baz=135,slow=10,SNR=3.3							
SONM	**Songino Array**	**36.15**	**316**	P	**P**		**12 03 33.0**	**+2.2**
	1.7nm,0.9s,baz=120,slow=8.0,SNR=7.4							
PMG	**Port Moresby**	**36.16**	**175**	LR	LR		12 18 32.5	
	comp=Z,74nm,19.2s,baz=178,slow=37							
CMAR	**Chiang Mai Arr**	**42.43**	**268**	P	**P**		**12 04 23.7**	**+0.4**
	0.5nm,0.6s,baz=74,slow=6.7,SNR=3.7							
WRA	**Warramunga Arr**	**47.49**	**193**	P	**P**		**12 05 02.3**	**-1.1**
	1.9nm,0.8s,baz=13,slow=8.1,SNR=12							
ASAR	**Alice Springs**	**51.20**	**192**	P	**P**		**12 05 31.7**	**0.0**
	0.3nm,0.8s,baz=8.0,slow=9.6,SNR=3.9							
MKAR	**Makanchi Array**	**52.03**	**310**	P	**P**		**12 05 39.5**	**+1.7**
	1.1nm,0.8s,baz=99,slow=7.5,SNR=6.3							
KURBB	**Kurchatov Arra**	**54.51**	**315**	P	**P**		**12 05 55.1**	**-0.7**
	0.2nm,0.3s,baz=92,slow=9.0,SNR=3.5							
ILAR	**Eielson Array**	**57.06**	**28**	P	**P**		**12 06 13.1**	**-0.9**
	0.7nm,1.1s,baz=233,slow=4.8,SNR=4.6							
BVAR	**Borovoye Array**	**59.45**	**318**	P	**P**		**12 06 32.4**	**+1.6**
	0.7nm,0.7s,baz=69,slow=8.1,SNR=3.8							
YKA	**Yellowknife Ar**	**71.48**	**29**	P	**P**		**12 07 48.4**	**-0.1**
	0.4nm,0.7s,baz=296,slow=6.3,SNR=3.0							

JMA 22 12:05:46.4±0.2, 37.85N×144.16E, h44km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.30**	**286**	P	**Pn**		12 06 22.9	+1.2
JIO				*eS*	Sn		12 06 50.5	+1.7
OFUJ	**Ofunato**	**2.31**	**303**	P	Pn		12 06 23.3	+1.4
JMK	**Ichinoseki**	**2.56**	**296**	P	Pn		12 06 27.0	+1.7
JOM	**Ohasama**	**2.77**	**307**	P	Pn		12 06 29.9	+1.7
JOM				*eS*	Sn		12 07 03.0	+2.6
JJU	**Okura**	**2.81**	**282**	P	Pn		12 06 30.9	+2.1
JFT	**Otama**	**3.05**	**265**	*eS*	Sn		12 07 09.9	+2.5
JRG	**Rokugo**	**3.16**	**300**	P	Pn		12 06 35.4	+1.7
JRG				*eS*	Sn		12 07 12.4	+2.2
JYK	**Kaneyama**	**3.17**	**291**	P	Pn		12 06 36.0	+2.2
JYK				*eS*	Sn		12 07 13.3	+2.9
JANG	**Nango**	**3.25**	**322**	P	Pn		12 06 36.0	+1.1
JTM	**Tenmabayashi**	**3.79**	**322**	*eS*	Sn		12 07 25.1	-0.4
JRY	**Ryogami san**	**4.59**	**248**	P	Pn		12 06 54.8	+1.5
JRY				*eS*	Sn		12 07 45.7	+0.3
JCH	**Churui**	**4.80**	**353**	P	Pn		12 06 55.1	-1.0
JCH				*eS*	Sn		12 07 46.8	-3.6
MAT	**Matsushiro**	**4.93**	**256**	P	Pn		12 07 01.1	+3.2
MAT				S	Sn		12 07 54.2	+0.5

*ATH **22** 12:46:47.8, 41.44N×19.62E, h25km±1km, ML3.0/15, Error ellipse: s-maj=2.5km s-min=1.3km az=350.0*
*SKO **22** 12:46:48.2, 41.24N×19.53E, h11km, M3.1, ML3.4*
*CSEM **22** 12:46:49.3±0.1, 41.31N×19.64E, h10km, ML3.0, Error ellipse: s-maj=3.9km s-min=2.3km az=50.0*
*PDG **22** 12:46:49.3±0.6, 41.32N×19.66E, h17km±1km, MD3.4/2, ML3.4/11, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*THE **22** 12:46:50.5, 41.38N×19.76E, h8km±4km, ML3.4/3, Error ellipse: s-maj=5.5km s-min=1.1km az=306.0*
*ISCJB **22** 12:46:50.1±0.4, 41.29N±0.02×19.66E±0.03, h20km±3km, Error ellipse: s-maj=4.2km s-min=2.1km az=135.3*
ISC 22 12:46:49.4±0.9, 41.28N±0.02×19.64E±0.02, h15km±6km, n142, σ0s96/224, 22C-26D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.18**	**68**	P	**Pg**		**12 46 53.6**	**-0.2**
TIR				S	**Sg**		**12 46 56.4**	**-0.3**
TIR	**Tirane**	**0.18**	**68**	P	**Pg**		**12 46 53.8**	**0.0**
TIR				S	**Sg**		**12 46 56.4**	**-0.3**
TIR				AML	AML		12 46 57.6	
	comp=N,59844μm,0.5s							
TIR				AML	AML		12 46 57.7	
	comp=E,46687μm,0.2s							
ULC	**Ulcinj**	**0.74**	**337**	⇓ *i*Pg	**Pg**		**12 47 03.2**	**-0.7**
ULC				*eS*g	**Sb**		**12 47 14.4**	**+0.3**
ULC	**Ulcinj**	**0.74**	**337**	⇓ *i*Pg	**Pg**		**12 47 03.2**	**-0.7**
ULC				*eS*g	**Sb**		**12 47 14.4**	**+0.3**
OHR	**Ohrid**	**0.89**	**101**	*i* Pg	**Pb**		**12 47 05.3**	**-1.3**
OHR				*i* Sg	**Sn**		**12 47 19.8**	**-0.3**
OHR				*eL*g	Lg		12 47 20.0	
	comp=N,3μm,1.0s							
OHR				*eL*g	Lg		12 47 21.1	
	comp=E,721nm,0.4s							
OHR	**Ohrid**	**0.89**	**101**	*i* Pg	**Pb**		**12 47 05.2**	**-1.3**
OHR				*i* Sg	**Sn**		**12 47 19.7**	**-0.3**
OHR				*eL*g	Lg		12 47 20.0	
	comp=E,3μm,1.0s							
DRME	**Dracevica, Mon**	**0.97**	**339**	⇓ *i*Pg	**Pb**		**12 47 07.1**	**-0.8**
DRME				*eS*g	**Sn**		**12 47 22.1**	**+0.1**
DRME	**Dracevica, Mon**	**0.97**	**339**	⇓ *i*Pg	**Pb**		**12 47 07.1**	**-0.8**
DRME				*eS*g	**Sn**		**12 47 22.1**	**+0.1**
BUM	**Brajici-Budva**	**1.16**	**331**	⇑ *i*Pg	**Pn**		**12 47 11.2**	**0.0**
BUM				*eS*g	**Sg**		**12 47 28.6**	**+1.6**
BUM	**Brajici-Budva**	**1.16**	**331**	⇑ *i*Pg	**Pn**		**12 47 11.2**	**0.0**
BUM				*eS*g	**Sg**		**12 47 28.6**	**+1.6**
PDG	**Podgorica**	**1.19**	**346**	P	**Pn**		**12 47 11.6**	**+0.2**
PDG				S	**Sg**		**12 47 28.2**	**+0.5**
PDG	**Podgorica**	**1.19**	**346**	⇑ *i*Pg	**Pn**		**12 47 11.1**	**-0.3**
PDG	**Podgorica**	**1.19**	**346**	P	**Pn**		**12 47 11.6**	**+0.2**
PDG				S	**Sg**		**12 47 28.2**	**+0.5**
PDG				*eS*g	**Sg**		**12 47 29.2**	**+1.5**
TTG	**Podgorica**	**1.19**	**346**	⇑ *i*Pg	**Pn**		**12 47 11.1**	**-0.3**
TTG				*eS*g	**Sg**		**12 47 29.2**	**+1.5**
PVY	**Plav**	**1.33**	**10**	⇑ *i*Pg	**Pn**		**12 47 13.1**	**-0.5**
PVY				*eS*g	**Sg**		**12 47 32.9**	**+0.4**
PVY	**Plav**	**1.33**	**10**	⇑ *i*Pg	**Pn**		**12 47 13.1**	**-0.5**
PVY				*eS*g	**Sg**		**12 47 32.9**	**+0.4**
NEST	**Nestorio**	**1.37**	**129**	P	**Pg**		**12 47 15.6**	**-0.2**
NEST				S	**Sg**		**12 47 34.8**	**+1.1**
NEST	**Nestorio**	**1.37**	**129**	P	**Pg**		**12 47 15.6**	**-0.2**
NEST				S	**Sg**		**12 47 34.8**	**+1.1**
NEST	**Nestorio**	**1.37**	**129**	P	**Pg**		**12 47 16.4**	**+0.5**
NEST				S	**Sg**		**12 47 35.9**	**+2.1**
NEST				AML	AML		12 47 37.8	
	comp=E,1133μm,0.9s							
NEST				AML	AML		12 47 42.3	
	comp=N,684μm,0.8s							
CEME	**Cevo**	**1.38**	**337**	⇓ *i*Pg	**Pb**		**12 47 14.8**	**-0.1**
CEME				*eS*g	**Sg**		**12 47 34.3**	**+0.5**
CEME	**Cevo**	**1.38**	**337**	⇓ *i*Pg	**Pb**		**12 47 14.8**	**-0.1**
CEME				*eS*g	**Sg**		**12 47 34.3**	**+0.5**
ZATK	**Zatriq**	**1.38**	**32**	P	**Pb**		**12 47 15.2**	**+0.3**
ZATK				S	**Sg**		**12 47 35.1**	**+1.2**
FNA	**Florina**	**1.40**	**110**	P	**Pb**		**12 47 15.1**	**-0.2**
FNA				S	**Sg**		**12 47 34.3**	**-0.3**
FNA	**Florina**	**1.40**	**110**	P	**Pb**		**12 47 15.1**	**-0.2**
FNA				S	**Sg**		**12 47 34.3**	**-0.3**
FNA	**Florina**	**1.40**	**110**	P	**Pb**		**12 47 15.4**	**+0.1**
FNA				S	**Sg**		**12 47 34.9**	**+0.2**
FNA				AML	AML		12 47 35.5	
	comp=N,5916μm,0.5s							
FNA				AML	AML		12 47 37.4	

comp=E,3521µm,0.4s
PEJK Peje 1.44 19 P **Pn** **12 47 15.6 +0.6**
PEJK S **Sg** **12 47 37.5 +1.6**
HCY Herceg Novi 1.45 324 ⇑*i* Pg **Pn** **12 47 15.4 +0.4**
HCY *e*Sg **Sg** **12 47 36.0 -0.1**
HCY Herceg Novi 1.45 324 ⇓*i* Pn **Pn** **12 47 15.2 +0.2**
HCY *e*Sg **Sg** **12 47 36.0 -0.1**
SKO Skopje 1.51 62 P **Pn** **12 47 15.5 -0.5**
SKO S **Sb** **12 47 36.6 +0.4**
SKO Skopje 1.51 62 *i* Pg **Pn** **12 47 16.5 +0.5**
SKO *i* Sg **Sg** **12 47 37.8 -0.4**
SKO Skopje 1.51 62 P **Pn** **12 47 15.5 -0.5**
SKO Skopje 1.51 62 *i* Pg **Pn** **12 47 16.5 +0.5**
SKO S **Sb** **12 47 36.6 +0.4**
SKO *i* Sg **Sg** **12 47 37.8 -0.4**
KEK Kerkira 1.57 176 P **Pb** **12 47 17.8 -0.3**
KEK S **Sg** **12 47 41.1 +1.1**
KEK Kerkira 1.57 176 P **Pn** **12 47 17.3 +0.6**
KEK S **Sg** **12 47 41.1 +1.1**
PENT Pentalofos 1.57 133 P **Pg** **12 47 19.5 -0.1**
PENT S **Sg** **12 47 42.2 +2.2**
PENT Pentalofos 1.57 133 P **Pg** **12 47 19.5 -0.1**
PENT S **Sg** **12 47 39.9 -0.1**
PENT Pentalofos 1.57 133 P **Pg** **12 47 19.6 -0.1**
PENT S **Sg** **12 47 39.9 -0.1**
PENT AML AML 12 47 43.3
comp=E,754µm,0.9s
PENT AML AML 12 47 49.1
comp=N,734µm,0.8s
NKME Niksic 1.57 341 ⇑*i* Pg **Pn** **12 47 17.0 +0.2**
NKME *e*Sg **Sb** **12 47 38.5 +0.6**
NKME Niksic 1.57 341 ⇑*i* Pg **Pn** **12 47 17.0 +0.2**
NKME *e*Sg **Sb** **12 47 38.5 +0.6**
BEY Berane 1.60 7 ⇑*i* Pg **Pn** **12 47 17.7 +0.5**
BEY Berane 1.60 7 P **Pb** **12 47 19.2 +0.5**
BEY *e*Sg **Sb** **12 47 39.2 +0.4**
IVA Berane 1.60 7 ⇑*i* Pg **Pn** **12 47 17.7 +0.5**
IVA *e*Sg **Sb** **12 47 39.2 +0.4**
NKY Niksic 1.61 343 ⇑*i* Pn **Pn** **12 47 17.4 +0.1**
NKY *e*Sn **Sb** **12 47 39.5 +0.6**
NKY Niksic 1.61 343 ⇑*i* Pn **Pn** **12 47 17.4 +0.1**
NKY *e*Sn **Sb** **12 47 39.5 +0.6**
SGD Sagiada 1.73 165 P **Pb** **12 47 20.9 +0.1**
SGD S **Sg** **12 47 45.4 +0.4**
SGD Sagiada 1.73 165 P **Sb** **12 47 20.9 +0.1**
SGD S **Sg** **12 47 45.4 +0.4**
TREB Trebinje 1.73 327 ⇓*i* Pn **Pn** **12 47 18.9 0.0**
BRY Bratogost 1.82 333 ⇑*i* Pn **Pn** **12 47 20.4 +0.2**
BRY *e*Sn **Sb** **12 47 44.6 -0.4**
BRY Bratogost 1.82 333 ⇑*i* Pn **Pn** **12 47 20.4 +0.2**
BRY *e*Sn **Sb** **12 47 44.6 -0.4**
KPRO Kipourio 1.86 135 P **Pb** **12 47 23.4 +0.2**
KPRO Kipourio 1.86 135 P **Pb** **12 47 22.9 -0.2**
KPRO S **Sb** **12 47 46.9 +0.6**
KPRO Kipourio 1.86 135 P **Pb** **12 47 22.9 -0.2**
KPRO S **Sb** **12 47 46.9 +0.6**
KPRO AML AML 12 47 59.9
comp=E,392µm,0.4s
KPRO AML AML 12 48 02.9
comp=N,321µm,0.5s
JAN Janina 1.87 150 P **Pb** **12 47 23.7 +0.5**
JAN S **Sg** **12 47 48.0 -1.4**
JAN Janina 1.87 150 P **Pb** **12 47 23.7 +0.5**
JAN S **Sg** **12 47 48.0 -1.4**
KZN Kozani 1.89 120 P **Pb** **12 47 23.7 +0.1**
KZN Kozani 1.89 120 P **Pb** **12 47 23.0 -0.6**
KZN S **Sb** **12 47 46.1 -0.9**
TAR1 Taranto 1.94 248 *e*Pn **Pn** **12 47 21.9 +0.1**
UPM Unac-Piva 2.00 344 ⇓*i* Pn **Pn** **12 47 23.4 +0.6**
UPM *e*Sn **Sb** **12 47 49.2 -1.1**
UPM Unac-Piva 2.00 344 ⇓*i* Pn **Pn** **12 47 23.4 +0.6**
UPM *e*Sn **Sb** **12 47 49.2 -1.1**
NOCI Noci 2.01 257 P **Pn** **12 47 23.2 +0.4**
NOCI Noci 2.01 257 P **Pn** **12 47 23.2 +0.4**
PLE Pljevlja 2.06 355 ⇓*i* Pn **Pn** **12 47 24.3 +0.8**
PLE *e*Sn **Sn** **12 47 50.4 +1.4**
PLE Pljevlja 2.06 355 ⇓*i* Pn **Pn** **12 47 24.3 +0.8**
PLE *e*Sn **Sn** **12 47 50.4 +1.4**
GRG Griva 2.11 98 P **Pn** **12 47 24.2 0.0**
GRG Griva 2.11 98 P **Pn** **12 47 24.5 +0.3**
GRG S **Sb** **12 47 52.4 -1.0**
GRG Griva 2.11 98 P **Pn** **12 47 24.5 +0.3**
GRG S **Sb** **12 47 52.4 -1.0**
GRG AML AML 12 47 54.2
comp=N,511µm,0.3s
GRG AML AML 12 47 57.2
comp=E,491µm,0.4s
VAY Valandovo 2.21 88 *i* Pn **Pn** **12 47 26.1 +0.6**
VAY *e*Sg **Sn** **12 47 53.2 +0.7**
VAY *e*Lg Lg 12 47 59.7
comp=N,169nm,0.7s
VAY *e*Lg Lg 12 47 59.9
comp=E,148nm,0.8s
VAY Valandovo 2.21 88 *i* Pn **Pn** **12 47 26.0 +0.6**
VAY *e*Lg Lg 12 47 59.8
comp=E,148nm,0.8s
BARS Barje 2.23 46 *e*Pn **Pn** **12 47 26.0 +0.2**
IVAS Ivanjica 2.33 9 *e*Pn **Pb** **12 47 30.6 -0.5**
KNT Kendrikon 2.46 92 P **Pn** **12 47 29.5 +0.5**
KNT Kendrikon 2.46 92 P **Pn** **12 47 29.5 +0.5**
KNT S **Sn** **12 47 58.3 -0.4**
KNT Kendrikon 2.46 92 P **Pn** **12 47 29.6 +0.7**
KNT S **Sn** **12 47 58.4 -0.4**
KNT AML AML 12 48 00.2
comp=E,263µm,0.4s
KNT AML AML 12 48 01.5
comp=N,161µm,0.3s
LIT Litokhoron 2.46 118 P **Pn** **12 47 30.9 +1.8**
LIT Litokhoron 2.46 118 P **Pn** **12 47 28.8 -0.2**
LIT S **Sn** **12 48 00.9 +2.0**
LIT Litokhoron 2.46 118 P **Pn** **12 47 28.8 -0.2**
LIT S **Sn** **12 48 00.9 +2.0**
LIT AML AML 12 48 11.6
comp=N,163µm,0.7s
LIT AML AML 12 48 13.8
comp=E,176µm,0.6s
THL Klokotos Trika 2.49 133 P **Pn** **12 47 29.8 +0.4**
THL Klokotos Trika 2.49 133 P **Pn** **12 47 29.8 +0.4**
CDT Castel del Mon 2.55 267 *e*Pn **Pn** **12 47 30.6 +0.4**
BBLS Lazići 2.59 356 *e*Pn **Pn** **12 47 33.0 +2.2**
THE Thessaloniki 2.60 103 P **Pn** **12 47 30.8 0.0**
THE S **Sn** **12 48 02.4 +0.3**
THE Thessaloniki 2.60 103 P **Pn** **12 47 30.8 0.0**
THE S **Sn** **12 48 02.4 +0.3**
THE AML AML 12 48 06.1
comp=E,206µm,0.4s
THE AML AML 12 48 07.2
comp=N,262µm,0.6s
LKD2 Lefkada island 2.61 162 P **Pn** **12 47 31.6 +0.6**
LKD2 S **Sb** **12 48 05.9 -1.8**
LKD2 Lefkada island 2.61 162 P **Pn** **12 47 31.6 +0.6**
LKD2 S **Sb** **12 48 05.9 -1.8**
LKD2 AML AML 12 48 20.4
comp=N,215µm,0.8s
LKD2 AML AML 12 48 22.6
comp=E,400µm,0.8s
HORT Hortiatis 2.71 103 P **Pn** **12 47 32.5 +0.1**
HORT Hortiatis 2.71 103 P **Pn** **12 47 32.5 +0.1**
HORT S **Sn** **12 48 05.0 +0.1**
HORT Hortiatis 2.71 103 P **Pn** **12 47 32.5 +0.1**
HORT S **Sn** **12 48 05.0 +0.1**
HORT AML AML 12 48 09.6
comp=E,130µm,0.5s
HORT AML AML 12 48 09.9
comp=N,146µm,0.5s
GRUS Gruza 2.72 17 *e*Pn **Pn** **12 47 33.5 +0.9**
BOVS Bovan 2.81 32 *e*Pn **Pn** **12 47 34.0 +0.3**
MS1 Monte Sant'Ang 2.81 280 *e*Pn **Pn** **12 47 33.9 0.0**
DIVS Divibare 2.83 5 *e*Pn **Pn** **12 47 34.0 -0.1**
SOH Sokhos 2.84 98 P **Pn** **12 47 34.8 +0.5**
SOH Sokhos 2.84 98 P **Pn** **12 47 34.8 +0.5**
SOH S **Sn** **12 48 07.5 -0.8**
SOH Sokhos 2.84 98 P **Pn** **12 47 35.2 +0.9**
SOH S **Sn** **12 48 07.5 -0.8**
SOH AML AML 12 48 16.5
comp=E,124µm,0.5s
SOH AML AML 12 48 18.2
comp=N,176µm,0.5s
ZAPS Zavoj 2.98 47 *e*Pn **Pn** **12 47 37.2 +1.0**
SRS Serrai 2.98 92 P **Pn** **12 47 36.6 +0.4**
SRS Serrai 2.98 92 P **Pn** **12 47 36.6 +0.4**
SRS S **Sn** **12 48 10.8 -0.9**
SRS Serrai 2.98 92 P **Pn** **12 47 35.7 -0.5**
SRS S **Sn** **12 48 10.8 -0.9**
SRS AML AML 12 48 14.0
comp=E,116µm,0.6s
SRS AML AML 12 48 17.5
comp=N,129µm,0.4s
PLG Polygyros 3.02 106 P **Pn** **12 47 37.2 +0.4**
PLG Polygyros 3.02 106 P **Pn** **12 47 37.2 +0.4**
PLG S **Sn** **12 48 13.9 +1.1**
PLG Polygyros 3.02 106 P **Pn** **12 47 38.1 +1.3**
PLG S **Sn** **12 48 13.9 +1.1**
PLG AML AML 12 48 15.9
comp=N,155µm,0.6s
PLG AML AML 12 48 19.0
comp=E,127µm,0.6s
TIP Timpagrande 3.05 227 P **Pn** **12 47 36.1 -1.0**
TIP Timpagrande 3.05 227 P **Pn** **12 47 36.1 -1.0**
BOLS Boljevac 3.07 33 *e*Pn **Pn** **12 47 36.0 -1.3**
TEKS Tekeris 3.27 359 *e*Pn **Pn** **12 47 40.0 -0.1**
PAIG Paliouri 3.36 112 P **Pn** **12 47 41.2 -0.1**
PAIG Paliouri 3.36 112 P **Pn** **12 47 41.2 -0.1**
OUR Ouranopolis 3.43 105 P **Pn** **12 47 42.5 +0.3**
OUR S **Sn** **12 48 22.4 -0.2**
OUR Ouranopolis 3.43 105 P **Pn** **12 47 42.5 +0.3**
OUR S **Sn** **12 48 22.4 -0.2**
OUR AML AML 12 48 26.8
comp=N,219µm,0.5s
OUR AML AML 12 48 27.2
comp=E,196µm,0.5s
KUBS Kucevo 3.47 25 *e*Pn **Pn** **12 47 41.7 -1.1**
KAVA Kavala 3.69 93 P **Pn** **12 47 46.3 +0.4**
KAVA Kavala 3.69 93 P **Pn** **12 47 46.3 +0.4**
KAVA S **Sn** **12 48 27.7 -1.4**
KAVA Kavala 3.69 93 P **Pn** **12 47 46.5 +0.6**
MDVR Moldovita 3.81 23 ⇑*i* P **Pn** **12 47 47.8 +0.2**
MDVR Moldovita 3.81 23 ⇑*i* P **Pn** **12 47 47.8 +0.2**
FGSL Fruska Gora 3.88 2 *e*Pn **Pn** **12 47 47.9 -0.6**
BLV Banja Luka 3.91 333 *e*Pn **Pn** **12 47 47.8 -1.0**
SRE Strehaia 4.27 37 ⇓*i* P **Pn** **12 47 54.4 +0.9**
UDBI Udbina 4.32 320 *e*Pn **Pn** **12 47 55.7 +1.2**
UDBI Sn **Sn** **12 48 45.7 +1.1**
UDBI Udbina 4.32 320 *e*Pn **Pn** **12 47 55.7 +1.2**
UDBI Sn **Sn** **12 48 45.7 +1.1**
BZS Buzias 4.57 18 ⇑*i* P **Pn** **12 47 58.8 +0.9**
BZS Buzias 4.57 18 ⇑*i* P **Pn** **12 47 58.8 +0.9**
GZR Gura Zlata 4.70 28 ⇓*i* P **Pn** **12 48 01.0 +1.1**
GZR Gura Zlata 4.70 28 ⇓*i* P **Pn** **12 48 01.0 +1.1**
NVLJ Novalja 4.80 315 *e*Pn **Pn** **12 48 00.9 -0.2**
NVLJ Sn **Sn** **12 48 54.0 -2.4**
NVLJ Novalja 4.80 315 *e*Pn **Pn** **12 48 00.9 -0.2**
NVLJ Sn **Sn** **12 48 54.0 -2.4**
LOT Lotru 5.14 34 ⇑*i* P **Pn** **12 48 05.8 -0.1**
LOT Lotru 5.14 34 ⇑*i* P **Pn** **12 48 05.8 -0.1**
CRES Cresnjev 5.47 328 *e*Pn **Pn** **12 48 09.6 -0.7**
VOIR 5.73 42 ⇓*i* P **Pn** **12 48 16.5 +2.6**
VOIR 5.73 42 ⇓*i* P **Pn** **12 48 16.5 +2.6**
CEV Cerknica 5.85 321 *i* Pn **Pn** **12 48 15.5 -0.1**
DRGR 5.94 21 ⇓*i* P **Pn** **12 48 19.6 +2.8**
DRGR 5.94 21 ⇓*i* P **Sn** **12 49 22.0 -2.5**
DRGR 5.94 21 S **Sb** **12 49 39.9 -3.6**
DRGR 5.94 21 ⇓*i* P **Pn** **12 48 19.6 +2.8**
MLR Muntele Rosu 6.23 45 ⇓*i* P **Pn** **12 48 23.5 +2.7**
MLR Muntele Rosu 6.23 45 ⇓*i* P **Pn** **12 48 23.5 +2.7**
PLOR Plostina 6.84 46 ⇓*i* P **Pn** **12 48 30.7 +1.6**
PLOR Plostina 6.84 46 ⇓*i* P **Pn** **12 48 30.7 +1.6**
BURAR Bucovina Array 7.48 30 ⇓*i* P **Pn** **12 48 36.3 -1.7**
BURAR Bucovina Array 7.48 30 ⇓*i* P **Pn** **12 48 36.3 -1.7**

SJA 22 12:47:25.7±0.7, 32.92S×69.42W, h4km, ML3.0, MW3.9, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.42**	**80**	*e*P		Pg		12 47 34.7	+0.9
ARCO				*i* S		Sb		12 47 42.4	-0.1
ARCO				IAML				12 47 42.8	
comp=Z,1µm,0.3s									
AAGR	**Agrelo**	**0.53**	**109**	*e*P			Pb	12 47 37.1	-0.4
ASAL	**Salagasta**	**0.59**	**57**	*e*P			Pb	12 47 37.9	-0.8
AUSP	**Uspallata**	**0.69**	**2**	*i* P			Pb	12 47 40.7	+0.2
RTLS	**Leoncito**	**1.12**	**5**	*i* P			Pb	12 47 48.0	+0.2
ROC1	**El Roble**	**1.34**	**267**	*i* P			Pb	12 47 52.0	+0.5
RTLL	**Cerro Villicun**	**1.77**	**27**	*i* P			Pg	12 47 59.8	0.0
AVFE	**Valle Fertil**	**2.80**	**37**	IAML				12 48 26.0	
comp=Z,78nm,0.4s									

*ISCJB **22** 12:49:26.8±0.8, 22.20S±0.05×68.64W±0.10, h116km±6km, mb3.6/4, Error ellipse: s-maj=15.1km s-min=8.0km az=179.8*
*IDC **22** 12:49:27.2±0.8, 22.28S×68.61W, h106km±9km, mb3.4/4, mb1 3.7/5, mb1mx3.5/27, mbtmp3.7/5, Error ellipse: s-maj=32.1km s-min=26.9km az=72.0*
*GUC **22** 12:49:28.0±1.0, 22.18S×68.68W, h102km±6km, ML3.6*
ISC 22 12:49:27.7±0.8, 22.19S±0.05×68.63W±0.08, h108km±6km, n20, σ1°05/30, mb3.6/4, 8C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.50**	**212**	P			**Pn**	**12 49 44.8**	**0.0**
7µm,0.3s,baz=1.4,slow=3.4,SNR=3836									
LVC				S			**Sn**	**12 49 57.3**	**-0.3**
25µm,0.3s,baz=194,slow=19,SNR=155									
LVC	**Limon Verde**	**0.50**	**212**	⇑*i* P			**Pn**	**12 49 45.0**	**+0.2**
LVC				*i* S			**Sn**	**12 49 57.2**	**-0.5**
PB09	**IPOC Station P**	**0.69**	**304**	⇑*i* P			**Pn**	**12 49 46.5**	**+0.5**
PB09				*i* S			**Sn**	**12 49 59.1**	**-0.7**
PB07	**IPOC Station P**	**1.25**	**291**	⇑*i* P			**Pn**	**12 49 51.8**	**+0.1**
PB07				*i* S			**Sn**	**12 50 09.6**	**-0.3**
PB07				IAML				12 50 10.8	
comp=E,2µm,1.0s									
PB01	**IPOC Station P**	**1.39**	**325**	⇑*i* P			**Pn**	**12 49 53.3**	**+0.1**
PB01				*i* S			**Sn**	**12 50 12.3**	**-0.3**
PB01				IAML				12 50 14.0	
comp=E,1µm,0.2s									
PB04	**IPOC Station P**	**1.42**	**264**	⇑*i* P			**Pn**	**12 49 53.3**	**-0.3**
PB04				*i* S			**Sn**	**12 50 13.2**	**-0.1**
PB04				IAML				12 50 16.3	
comp=N,2µm,0.4s									
PB08	**IPOC Station P**	**2.09**	**346**	⇑*i* P			**Pn**	**12 50 03.2**	**+1.0**
PB08				*i* S			**Sn**	**12 50 29.8**	**+1.3**
PB08				IAML				12 50 32.6	
comp=N,292nm,0.6s									
PB10	**IPOC Station P**	**2.21**	**233**	*e*P			**Pn**	**12 50 03.9**	**+0.5**
HMBC	**Humberstone**	**2.23**	**328**	⇑*i* P			**Pn**	**12 50 03.0**	**-0.7**
HMBC				*i* S			**Sn**	**12 50 31.8**	**+0.5**
PB11	**IPOC Station P**	**2.60**	**338**	⇑*i* P			**Pn**	**12 50 08.0**	**-0.5**
PB11				*i* S			**Sn**	**12 50 39.1**	**-0.7**
LPAZ	**La Paz**	**5.88**	**5**	P			**Pn**	**12 50 55.6**	**+2.5**
comp=N,0.7nm,0.3s,baz=200,slow=6.7,SNR=15									
SIV	**San Ignacio**	**9.43**	**51**	P			**Pn**	**12 51 37.2**	**-3.5**
comp=N,2.0nm,0.3s,baz=248,slow=13,SNR=23									
SIV				S			Sn	12 53 15.9	-9.1
comp=N,0.3nm,0.3s,baz=150,slow=20,SNR=3.0									
TXAR	**Lajitas Array**	**61.34**	**325**	P			**P**	**12 59 32.6**	**+0.4**
comp=N,0.2nm,0.6s,baz=147,slow=8.5,SNR=3.8									
PDAR	**Pinedale Array**	**74.83**	**330**	P			**P**	**13 00 55.8**	**-0.7**
comp=N,0.2nm,0.4s,baz=116,slow=4.1,SNR=2.5									
TORD	**Torodi Ar. Bea**	**77.34**	**70**	P			**P**	**13 01 10.2**	**-0.8**
comp=N,0.8nm,0.4s,baz=259,slow=5.4,SNR=15									
TORD				pP			**pP**	**13 01 39.5**	**+0.9**
comp=N,1.0nm,0.6s,baz=246,slow=5.8,SNR=4.0									
YKA	**Yellowknife Ar**	**91.92**	**340**	P			**P**	**13 02 23.1**	**-0.3**
comp=N,0.5nm,0.6s,baz=138,slow=5.0,SNR=4.1									
ASAR	**Alice Springs**	**129.43**	**207**	PKP			**PKPdf**	**13 08 24.4**	**+0.1**
comp=N,0.3nm,0.7s,baz=159,slow=2.8,SNR=4.1									
WRA	**Warramunga Arr**	**132.50**	**210**	PKP			**PKPdf**	**13 08 31.2**	**+0.9**
comp=N,0.5nm,1.0s,baz=144,slow=1.3,SNR=5.1									
ZALV	**Zalesovo Beam**	**142.46**	**26**	PKP			**PKPdf**	**13 08 48.0**	**+0.6**
comp=N,0.8nm,0.6s,baz=325,slow=1.8,SNR=3.2									
MKAR	**Makanchi Array**	**146.03**	**37**	PKPbc			**PKPdf**	**13 08 54.9**	**+0.9**
comp=N,1.1nm,0.6s,baz=316,slow=2.8,SNR=11									

MAN 22 12:49:32, 12.23N×124.11E, h32km, mb4.4, ML3.2, MS3.0, 3C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**1.27**	**157**	*e*P			Pn	12 49 51.7	-1.8
OCLP				*e*S			Sb	12 50 11.8	+0.5
PLP	**Palo**	**1.36**	**141**	⇑*i* P			Pn	12 49 55.1	+0.3
PLP				*e*S			Sn	12 50 12.0	+0.4
BESP	**Borongan**	**1.45**	**115**	*e*P			Pb	12 49 58.4	+0.1
BESP				*e*S			Sb	12 50 17.2	+0.9
RCP	**Roxas**	**1.49**	**244**	⇑*e*P			Pn	12 49 57.2	+0.7
RCP				*e*S			Sn	12 50 15.9	+1.1
LLP	**Lapu-Lapu**	**1.90**	**184**	⇑*e*P			Pn	12 50 03.5	+1.2
LLP				*e*S			Sn	12 50 26.7	+1.6
GUIM	**Jordan**	**2.18**	**223**	*e*P			Pn	12 50 06.5	+0.5
GUIM				*e*S			Sn	12 50 34.0	+2.2

*ISCJB **22** 12:53:14.5±0.3, 43.89N±0.03×11.96E±0.03, h11km±3km, Error ellipse: s-maj=4.7km s-min=2.8km az=28.3*
*CSEM **22** 12:53:14.8±0.1, 43.87N×11.95E, h10km, ML2.8/8, Error ellipse: s-maj=2.5km s-min=1.7km az=37.0*
*ROM **22** 12:53:14.4±0.1, 43.88N×11.97E, h8km±1km, Md2.7/13, Ml2.3/10, Error ellipse: s-maj=1.9km s-min=1.0km az=35.0*
*GEN **22** 12:53:16.0, 43.83N×11.91E, h7km, ML2.2*
ISC 22 12:53:14.9±0.8, 43.88N±0.02×11.95E±0.02, h11km±5km, n51, σ0°68/82, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.08**	**293**	Pg			**Pg**	**12 53 17.0**	**-0.4**
SFI				Sg			**Sg**	**12 53 18.8**	**-0.4**
SFI	**Santa Sofia**	**0.08**	**293**	Pg			**Pg**	**12 53 17.0**	**-0.4**
SFI				Sg			**Sg**	**12 53 18.8**	**-0.4**
ASQU	**Asqua**	**0.14**	**236**	Pg			**Pg**	**12 53 18.3**	**0.0**
ASQU				Sg			**Sg**	**12 53 21.2**	**+0.6**
ASQU	**Asqua**	**0.14**	**236**	Pg			**Pg**	**12 53 18.3**	**0.0**
ASQU				Sg			**Sg**	**12 53 21.2**	**+0.6**
CRE	**Caprese Michel**	**0.26**	**179**	Pg			**Pg**	**12 53 20.3**	**+0.1**
CRE				Sg			**Sb**	**12 53 25.0**	**-1.1**
CRE	**Caprese Michel**	**0.26**	**179**	Pg			**Pg**	**12 53 20.3**	**+0.1**
CRE				Sg			**Sb**	**12 53 25.0**	**-1.1**
CPGN	**Carpegna, Ital**	**0.28**	**105**	Pg			**Pg**	**12 53 20.9**	**+0.2**
CPGN	**Carpegna, Ital**	**0.28**	**105**	Pg			**Pg**	**12 53 20.9**	**+0.2**
PARC	**Parchiule**	**0.31**	**137**	Pg			**Pg**	**12 53 20.9**	**-0.3**
PARC				Sg			**Sb**	**12 53 26.4**	**-1.2**
PARC	**Parchiule**	**0.31**	**137**	Pg			**Pg**	**12 53 20.9**	**-0.3**
PARC				Sg			**Sb**	**12 53 26.4**	**-1.2**
BADI	**Badiali**	**0.42**	**149**	Pg			**Pg**	**12 53 22.9**	**-0.4**
BADI				Sg			**Sb**	**12 53 30.3**	**-0.6**
BADI	**Badiali**	**0.42**	**149**	Pg			**Pg**	**12 53 22.9**	**-0.4**
BADI				Sg			**Sb**	**12 53 30.3**	**-0.6**
ATMC	**Monte Cedrone**	**0.46**	**157**	Pg			**Pg**	**12 53 23.8**	**-0.2**
ATMC				Sg			**Sg**	**12 53 30.9**	**+0.7**
256nm,0.4s									
ATMC	**Monte Cedrone**	**0.46**	**157**	Pg			**Pg**	**12 53 23.8**	**-0.2**
ATMC				Sg			**Sg**	**12 53 30.9**	**+0.7**
256nm,0.4s									
ATPC	**Poggio Castell**	**0.54**	**137**	Pg			**Pg**	**12 53 25.0**	**-0.5**
ATPC				Sg			**Sb**	**12 53 34.0**	**-0.3**
ATPC	**Poggio Castell**	**0.54**	**137**	Pg			**Pg**	**12 53 25.0**	**-0.5**
ATPC				Sg			**Sb**	**12 53 34.0**	**-0.3**
PIEI	**Pieia**	**0.54**	**128**	Pg			**Pg**	**12 53 24.8**	**-0.8**
PIEI				Sg			**Sg**	**12 53 33.3**	**+0.5**
PIEI	**Pieia**	**0.54**	**128**	Pg			**Pg**	**12 53 24.8**	**-0.8**
PIEI				Sg			**Sg**	**12 53 33.3**	**+0.5**
CAFI	**Castiglion Fio**	**0.55**	**179**	Pg			**Pg**	**12 53 25.5**	**-0.1**
CAFI				Sg			**Sb**	**12 53 34.0**	**-0.4**
CAFI	**Castiglion Fio**	**0.55**	**179**	Pg			**Pg**	**12 53 25.5**	**-0.1**
CAFI				Sg			**Sb**	**12 53 34.0**	**-0.4**
ATVO	**AVT- Monte Val**	**0.59**	**146**	Pg			**Pg**	**12 53 26.0**	**-0.5**
ATVO				Sg			**Sg**	**12 53 34.6**	**+0.3**
215nm,0.9s									
ATVO	**AVT- Monte Val**	**0.59**	**146**	Pg			**Pg**	**12 53 26.0**	**-0.5**
ATVO				Sg			**Sg**	**12 53 34.6**	**+0.3**
215nm,0.9s									
MTRZ	**Monterenzio**	**0.61**	**326**	Pg			**Pg**	**12 53 26.4**	**-0.4**
MTRZ				Sg			**Sb**	**12 53 35.7**	**-0.6**
370nm,0.5s									
MTRZ	**Monterenzio**	**0.61**	**326**	Pg			**Pg**	**12 53 26.4**	**-0.4**
MTRZ				Sg			**Sb**	**12 53 35.7**	**-0.6**
370nm,0.5s									
CRMI	**Carmignano**	**0.71**	**264**	Pg			**Pg**	**12 53 28.7**	**0.0**
CRMI				Sg			**Sg**	**12 53 38.4**	**+0.3**
76nm,0.4s									
CRMI	**Carmignano**	**0.71**	**264**	Pg			**Pg**	**12 53 28.7**	**0.0**
CRMI				Sg			**Sg**	**12 53 38.4**	**+0.3**
76nm,0.4s									
ATTE	**AVT- Monte Tez**	**0.74**	**156**	Pg			**Pg**	**12 53 29.0**	**-0.2**
108nm,0.4s									
ATTE	**AVT- Monte Tez**	**0.74**	**156**	Pg			**Pg**	**12 53 29.0**	**-0.2**
108nm,0.4s									
ATCC	**AVT- Casa Cast**	**0.85**	**144**	Pg			**Pg**	**12 53 30.9**	**-0.5**
97nm,0.4s									
ATCC	**AVT- Casa Cast**	**0.85**	**144**	Pg			**Pg**	**12 53 30.9**	**-0.5**
97nm,0.4s									
POPM	**Popiglio**	**0.88**	**282**	P			**Pb**	**12 53 32.1**	**-0.1**
POPM				S			**Sg**	**12 53 42.9**	**-0.4**
FROS	**Frosini**	**0.88**	**221**	Pg			**Pb**	**12 53 32.3**	**+0.1**
113nm,0.4s									
FROS	**Frosini**	**0.88**	**221**	Pg			**Pb**	**12 53 32.3**	**+0.1**
113nm,0.4s									
MGAB	**Montegabbione**	**0.97**	**173**	Pg			**Pg**	**12 53 33.4**	**-0.2**
174nm,0.7s									
MGAB	**Montegabbione**	**0.97**	**173**	Pg			**Pg**	**12 53 33.4**	**-0.2**
174nm,0.7s									
MAIM	**Mastiano**	**1.05**	**273**	Pg			**Pg**	**12 53 34.5**	**-0.7**
39nm,0.7s									
MAIM	**Mastiano**	**1.05**	**273**	Pg			**Pg**	**12 53 34.5**	**-0.7**
39nm,0.7s									
MAIM	**Mastiano**	**1.05**	**273**	P			**Pg**	**12 53 34.9**	**-0.3**
MAIM				S			**Sg**	**12 53 47.5**	**-1.4**
SARO	**Sassorosso**	**1.16**	**286**	P			**Pg**	**12 53 37.0**	**-0.2**
SARO				S			**Sg**	**12 53 52.1**	**-0.2**
FDMO	**Fiordimonte**	**1.18**	**135**	Pg			**Pg**	**12 53 36.2**	**-1.4**
43nm,1.0s									
FDMO	**Fiordimonte**	**1.18**	**135**	Pg			**Pg**	**12 53 36.2**	**-1.4**
43nm,1.0s									
NVLJ	**Novalja**	**2.21**	**71**	*e*Pn			**Pn**	**12 53 51.5**	**-0.1**
NVLJ				Sn			**Sn**	**12 54 18.3**	**-0.7**
NVLJ	**Novalja**	**2.21**	**71**	*e*Pn			**Pn**	**12 53 51.4**	**-0.1**
NVLJ				Sn			**Sn**	**12 54 18.2**	**-0.7**
MYKA	**Terra Mystica**	**3.00**	**23**	*i* Sn			**Sn**	**12 54 39.2**	**+0.6**
1.6nm,0.3s									
MYKA	**Terra Mystica**	**3.00**	**23**	Sn			**Sn**	**12 54 39.2**	**+0.6**
1.6nm,0.3s									
OBKA	**Obir**	**3.21**	**34**	*e*Pn			**Pn**	**12 54 06.6**	**+1.2**
1.9nm,0.3s									
OBKA				*i* Sn			**Sn**	**12 54 45.3**	**+1.5**
7.3

*IDC **22** 12:59:03.1±0.8, 33.84N×89.45E, h0km, mb3.7/10, mb1 3.9/13, mb1mx3.7/51, mbtmp3.7/13, MS3.3/17, Ms1 3.3/17, ms1mx3.1/46, Error ellipse: s-maj=29.1km s-min=15.8km az=48.0*

*BJI **22** 12:59:06.1, 33.39N×89.64E, h7km, mb4.1/8, Ms3.6/5, Ms7 3.5/6*

ISC 22 12:59:07.7±0.7, 33.52N±0.09×89.32E±0.07, h35km, n29, σ2§49/21, mb3.7/9, MS3.3/14, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**10.29**	**52**	***e*P**	**Pn**	**13 01 34.0**	**+1.1**
GTA				pP		13 01 37.3	
GTA				sP		13 01 40.0	
GTA				S	**Sn**	**13 03 29.1**	**+2.0**
GTA				sS		13 03 34.3	
GTA				SS	**SnSn**	**13 03 41.9**	**+3.0**
GTA				PMZ			
	2.0nm,0.8s						
GTA				LN			
	360nm,16.6s						
GTA				LE			
	170nm,14.3s						
GTA				LZ			
	230nm,11.9s						
WMQ	**Urumqi**	**10.37**	**353**	P	**Pn**	**13 01 37.9**	**+4.0**
WMQ				LN			
	150nm,11.0s						
WMQ				LE			
	160nm,9.4s						
WMQ				LZ			
	140nm,13.6s						
CD2	**Chengdu**	**12.50**	**98**	***e*P**	**Pn**	**13 02 00.4**	**-2.7**
CD2				S	**Sn**	**13 04 17.8**	**-3.3**
CD2				PMZ			
	10.0nm,0.5s						
CD2				LN			
	300nm,16.0s						
CD2				LZ			
	600nm,18.0s						
MKAR	**Makanchi Array**	**14.30**	**340**	LR	LR	13 07 47.7	
	comp=Z,17nm,21.3s,baz=163,slow=37						
AAK	**Ala-Archa**	**14.79**	**312**	LR	LR	13 08 43.8	
	comp=Z,356nm,21.5s,baz=244,slow=40						
GYA	**Guiyang**	**16.58**	**111**	*i*P	**P**	**13 03 02.3**	**+2.5**
GYA				PMZ			
	30nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.29**	**148**	P	**P**	**13 03 09.8**	**+2.2**
	baz=334,slow=12,SNR=13						
CMAR				LR	LR	13 09 44.4	
	comp=Z,21nm,20.8s,baz=305,slow=37						
KURBB	**Kurchatov Arra**	**18.84**	**338**	P	**P**	**13 03 19.7**	**-4.7**
	baz=149,slow=12,SNR=11						
HHC	**Hu-ho-hao-te**	**19.14**	**61**	***e*P**	**P**	**13 03 27.3**	**-0.7**
HHC				PMZ			
	12nm,0.9s						
SONM	**Songino Array**	**19.23**	**37**	P	**P**	**13 03 26.6**	**-2.3**
	baz=226,slow=13,SNR=8.1						
ZALV	**Zalesovo Beam**	**20.68**	**352**	P	**P**	**13 03 41.2**	**-3.2**
	1.1nm,0.6s,baz=153,slow=10.0,SNR=8.1						
ZALV				LR	LR	13 12 50.4	
	comp=Z,38nm,18.8s,baz=241,slow=41						
BVAR	**Borovoye Array**	**23.75**	**331**	P	**P**	**13 04 15.7**	**-0.9**
	0.8nm,0.5s,baz=241,slow=37,SNR=3.9						
GEYT	**Alibeck**	**25.65**	**289**	P	**P**	**13 04 34.1**	**0.0**
	1.2nm,0.3s,baz=116,slow=9.8,SNR=3.8						
GEYT				LR	LR	13 16 39.7	
	comp=Z,144nm,18.2s,baz=50,slow=41						
AKTO	**Aktyubinsk**	**28.48**	**316**	LR	LR	13 17 42.8	
	comp=Z,109nm,18.3s,baz=121,slow=40						
ARU	**Arti**	**31.15**	**327**	LR	LR	13 17 19.6	
	comp=Z,34nm,18.6s,baz=168,slow=35						
KSRS	**Korea Array**	**31.53**	**72**	LR	LR	13 19 29.0	
	comp=Z,50nm,20.2s,baz=205,slow=39						
NRIK	**Noril'sk**	**35.89**	**359**	LR	LR	13 21 34.4	
	comp=Z,42nm,21.0s,baz=116,slow=38						
GNI	**Garni**	**35.99**	**294**	LR	LR	13 22 28.5	
	comp=Z,34nm,20.3s,baz=94,slow=39						
OBN	**Obninsk**	**42.24**	**317**	LR	LR	13 26 03.3	
	comp=Z,53nm,19.5s,baz=322,slow=38						
BRTR	**Keskin Array B**	**44.51**	**295**	P	**P**	**13 07 17.1**	**+1.2**
	0.8nm,0.7s,baz=101,slow=6.5,SNR=5.9						
AKASG	**Malin Array Be**	**46.45**	**310**	P	**P**	**13 07 29.8**	**-1.1**
	0.2nm,0.3s,baz=77,slow=7.9,SNR=2.8						
AKASG				LR	LR	13 29 11.3	
	comp=Z,51nm,18.8s,baz=70,slow=39						
FINES	**FINESS Array B**	**48.49**	**325**	LR	LR	13 29 37.6	
	comp=Z,49nm,18.6s,baz=230,slow=38						
ARCES	**ARCESS Array B**	**49.90**	**336**	LR	LR	13 30 46.0	
	comp=Z,28nm,18.2s,baz=80,slow=38						
NOA	**NORSAR Array B**	**55.67**	**325**	P	**P**	**13 08 40.2**	**0.0**
	0.7nm,0.8s,baz=86,slow=6.7,SNR=2.5						
NOA				LR	LR	13 33 22.1	
	comp=Z,16nm,20.0s,baz=115,slow=37						
GERES	**GERESS Array B**	**56.66**	**310**	P	**P**	**13 08 46.3**	**-1.1**
	1.0nm,0.7s,baz=79,slow=5.1,SNR=8.8						
GERES				LR	LR	13 35 19.6	
	comp=Z,54nm,18.9s,baz=102,slow=38						
WRA	**Warramunga Arr**	**68.33**	**134**	P	**P**	**13 10 07.5**	**+2.0**
	1.1nm,0.9s,baz=324,slow=6.2,SNR=8.5						
ASAR	**Alice Springs**	**70.96**	**137**	P	**P**	**13 10 23.1**	**+1.4**
	0.9nm,0.8s,baz=311,slow=5.8,SNR=8.1						
ILAR	**Eielson Array**	**72.70**	**22**	P	**P**	**13 10 29.8**	**-1.8**
	0.4nm,0.9s,baz=302,slow=5.2,SNR=3.9						
MDT	**Midelt**	**75.63**	**300**	LR	LR	13 52 25.4	
	comp=Z,17nm,18.7s,slow=42						

*NEIC **22** 13:05:32.8, 17.24N×100.19W, h50km, MD4.0(MEX), After MEX.*

MEX 22 13:05:32.8±0.4, 17.24N×100.19W, h50km±5km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.21**	**201**	***e*P**	Pn	13 05 39.5	-1.7
CAIG				*e*S	Sn	13 05 45.5	-1.7
CAIG	**El Cayaco**	**0.21**	**201**	***e*P**	Pn	13 05 39.5	-1.7
CAIG				*e*S	Sn	13 05 45.5	-1.7
ACP2	**Acapulco**	**0.47**	**142**	***e*P**	Pn	13 05 42.4	-1.3
ACP2				*e*S	Sn	13 05 49.2	-2.3
ACX	**Acapulco**	**0.49**	**139**	*i* P	Pn	13 05 41.2	-2.7
ACX				*e*S	Sn	13 05 48.6	-3.3
ACX	**Acapulco**	**0.49**	**139**	*i* P	Pn	13 05 41.2	-2.7
ACX				*e*S	Sn	13 05 48.6	-3.3
MEIG	**Mezcala**	**0.87**	**38**	***e*P**	Pn	13 05 47.1	-1.8
MEIG				*e*S	Sn	13 05 58.6	-2.1
MEIG	**Mezcala**	**0.87**	**38**	***e*P**	Pn	13 05 47.1	-1.8
MEIG				*e*S	Sn	13 05 58.6	-2.1
ARIG	**Puente Sto Nin**	**1.04**	**352**	***e*P**	Pn	13 05 49.4	-1.8
ARIG				*e*S	Sn	13 06 02.9	-1.9
ZIIG	**Zihuatanejo**	**1.27**	**287**	***e*P**	Pn	13 05 52.9	-1.3
ZIIG				*e*S	Sn	13 06 08.2	-1.9
ZIIG	**Zihuatanejo**	**1.27**	**287**	***e*P**	Pn	13 05 52.9	-1.3
ZIIG				*e*S	Sn	13 06 08.2	-1.9
PLIG	**Platanillo**	**1.32**	**30**	***e*P**	Pn	13 05 53.8	-1.2
PLIG				*e*S	Sn	13 06 09.5	-2.0
PLIG	**Platanillo**	**1.32**	**30**	***e*P**	Pn	13 05 53.8	-1.2
PLIG				*e*S	Sn	13 06 09.5	-2.0
TLIG	**Tlapa**	**1.58**	**78**	***e*P**	Pn	13 05 56.8	-1.7
TLIG				*e*S	Sn	13 06 15.8	-2.1
YAIG	**Yautepec**	**1.93**	**33**	***e*P**	Pn	13 06 02.0	-1.4
YAIG				*e*S	Sn	13 06 24.7	-1.9
YAIG	**Yautepec**	**1.93**	**33**	***e*P**	Pn	13 06 02.0	-1.4
YAIG				*e*S	Sn	13 06 24.7	-1.9
PNIG	**Pinotepa**	**2.15**	**113**	***e*P**	Pn	13 06 04.0	-2.2
PNIG				*e*S	Sn	13 06 29.8	-1.9
PNIG	**Pinotepa**	**2.15**	**113**	***e*P**	Pn	13 06 04.0	-2.2
PNIG				*e*S	Sn	13 06 29.8	-1.9
PPM	**Popocatepetl**	**2.35**	**39**	***e*P**	Pn	13 06 10.9	+1.5
PPM				*i* S	Sn	13 06 35.9	-1.4
PPM	**Popocatepetl**	**2.35**	**39**	***e*P**	Pn	13 06 10.9	+1.5
PPM				*i* S	Sn	13 06 35.9	-1.4

IDC 22 13:11:39.6±1.1, 33.71N×89.15E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/40, mbtmp3.5/6, MS3.2/4, Ms1 3.2/4, ms1mx2.7/44, Error ellipse: s-maj=43.2km s-min=22.1km az=52.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**14.55**	**312**	LR	LR	13 20 23.5	
	comp=Z,32nm,18.6s,baz=192,slow=36						
SONM	**Songino Array**	**19.17**	**37**	P	Pn	13 16 05.6	+0.1
	baz=230,slow=11,SNR=6.1						
ZALV	**Zalesovo Beam**	**20.47**	**353**	P	P	13 16 17.5	-1.1
	0.6nm,0.4s,baz=170,slow=12,SNR=6.2						
AKTO	**Aktyubinsk**	**28.24**	**316**	LR	LR	13 30 27.6	
	comp=Z,41nm,18.8s,baz=151,slow=40						
USRK	**Ussuriysk Ar.**	**34.57**	**60**	LR	LR	13 34 38.5	
	comp=Z,51nm,20.3s,baz=269,slow=40						
EIL	**Elat**	**45.86**	**280**	LR	LR	13 40 28.7	
	comp=Z,72nm,18.8s,baz=242,slow=38						
AKASG	**Malin Array Be**	**46.22**	**310**	P	P	13 20 05.7	-0.5
	0.2nm,0.2s,baz=74,slow=6.8,SNR=4.5						
GERES	**GERESS Array B**	**56.42**	**310**	P	P	13 21 23.6	+0.6
	1.0nm,0.6s,baz=77,slow=5.1,SNR=5.8						
WRA	**Warramunga Arr**	**68.57**	**134**	P	P	13 22 43.0	-1.3
	0.2nm,0.6s,baz=326,slow=6.5,SNR=5.6						
ASAR	**Alice Springs**	**71.20**	**137**	P	P	13 23 01.5	+1.0
	0.4nm,0.8s,baz=334,slow=6.2,SNR=3.4						

IDC 22 13:33:28.1±7.3, 15.64S×176.78W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/31, mbtmp3.7/3, Error ellipse: s-maj=323.4km s-min=36.3km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.61**	**257**	P	P	13 41 58.0	-0.5
	0.3nm,0.8s,baz=91,slow=6.7,SNR=5.5						
ASAR	**Alice Springs**	**46.94**	**252**	P	P	13 42 01.1	+0.1
	1.2nm,0.5s,baz=86,slow=8.1,SNR=10						
ILAR	**Eielson Array**	**83.34**	**12**	P	P	13 45 56.6	+0.1
	0.3nm,0.4s,baz=220,slow=5.3,SNR=6.3						

*IDC **22** 13:42:34.0±1.8, 36.15N×142.17E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/44, mbtmp3.6/7, ML3.5/2, MS2.7/1, Ms1 2.7/1, ms1mx2.0/43, Error ellipse: s-maj=39.2km s-min=20.9km az=67.0*

*JMA **22** 13:42:35.9±0.3, 36.33N×142.22E, h79km, M3.1*

ISC 22 13:42:37.1±1.2, 36.29N±0.05×142.01E±0.09, h23km, n18, σ2§24/20, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.10**	**238**	P	**Pb**	**13 42 58.5**	**+1.0**
JHO	**Hitachi**	**1.21**	**286**	P	**Pb**	**13 42 59.4**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.27**	**310**	P	**Pb**	**13 42 59.8**	**-0.6**
BSO1	**Boso 1**	**1.84**	**208**	P	**Pb**	**13 43 08.0**	**-1.7**
BSO1				S	**Sb**	**13 43 32.3**	**+0.3**
JMM	**Marumori**	**1.85**	**329**	P	**Pb**	**13 43 07.1**	**-3.2**
BSO3	**Boso 3**	**1.93**	**220**	P	**Pb**	**13 43 09.8**	**-1.5**
JAG	**Ashikaga**	**2.07**	**275**	P	**Pb**	**13 43 12.3**	**-1.7**
JRY	**Ryogami san**	**2.53**	**265**	P	**Pb**	**13 43 18.5**	**-3.4**
JOD2	**Odawara 2**	**2.59**	**248**	P	**Pb**	**13 43 19.7**	**-3.1**
MJAR	**Matsushiro Arr**	**3.08**	**276**	Pn	**Pn**	**13 43 25.7**	**+1.4**
	3.5nm,0.3s,baz=87,slow=16,SNR=31						
MJAR				Sn	**Sn**	**13 44 04.3**	**+3.9**
	baz=75,slow=19,SNR=3.7						
MAT	**Matsushiro**	**3.08**	**276**	P	**Pb**	**13 43 27.1**	**-4.1**
MAT				S	**Sb**	**13 44 05.8**	**-2.6**
JHJ	**Hachijo jima 2**	**3.66**	**211**	Pn	**Pn**	**13 43 32.1**	**-0.2**
	16nm,0.3s,baz=323,slow=22,SNR=10						
JHJ				Sn	**Sn**	**13 44 14.2**	**-0.5**
	34nm,0.3s,baz=255,slow=23,SNR=7.4						
KSRS	**Korea Array**	**11.35**	**280**	LR	LR	13 49 57.3	
	comp=Z,32nm,18.9s,baz=50,slow=38						
SONM	**Songino Array**	**28.60**	**305**	P	**P**	**13 48 33.1**	**+1.4**
	0.9nm,0.6s,baz=104,slow=8.4,SNR=5.3						
MKAR	**Makanchi Array**	**44.92**	**303**	P	P	13 50 53.1	+3.1
	0.7nm,0.5s,baz=100,slow=8.1,SNR=6.5						
KURBB	**Kurchatov Arra**	**46.84**	**309**	P	**P**	**13 51 06.2**	**+1.2**
	0.6nm,0.5s,baz=82,slow=8.8,SNR=2.7						
WRA	**Warramunga Arr**	**56.40**	**189**	P	**P**	**13 52 15.9**	**-0.8**
	0.7nm,0.9s,baz=6.0,slow=7.4,SNR=3.3						
ASAR	**Alice Springs**	**60.12**	**189**	P	**P**	**13 52 42.6**	**-0.1**
	0.2nm,0.8s,baz=358,slow=5.6,SNR=4.1						

*IDC **22** 13:45:22.1±0.7, 33.75N×89.23E, h0km, mb3.9/15, mb1 4.1/20, mb1mx3.9/49, mbtmp3.9/20, ML3.4/4, MS3.3/14, Ms1 3.4/14, ms1mx3.2/40, Error ellipse: s-maj=22.0km s-min=14.5km az=47.0*

*BJI **22** 13:45:24.8, 33.43N×89.61E, h7km, mb4.3/10, ML4.0/2, Ms3.9/6, Ms7 3.6/6*

*ISCJB **22** 13:45:25.2±0.5, 33.79N±0.06×89.23E±0.07, h33km, mb3.9/17, MS3.4/12, Error ellipse: s-maj=10.3km s-min=7.5km az=39.5*

*NEIC **22** 13:45:27.6±0.5, 33.87N×89.24E, h35km, mb4.1/2, Error ellipse: s-maj=12.9km s-min=7.8km az=56.0*

ISC 22 13:45:27.3±0.7, 33.73N±0.09×89.11E±0.07, h35km, n42, σ1§67/34, mb3.9/17, MS3.5/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.38**	**156**	Pg	Pn	13 46 37.3	+5.6
LSA	**Lhasa**	**4.38**	**156**	*e*Pn	Pn	13 46 37.2	+5.5
WMQ	**Urumqi**	**10.14**	**354**	P	Pn	13 47 56.6	+6.2
WMQ				LN			
	250nm,12.2s						
WMQ				LE			
	330nm,11.0s						
WMQ				LZ			
	260nm,10.0s						
GTA	**Gaotai**	**10.31**	**54**	***e*P**	**Pn**	**13 47 54.3**	**+1.5**
GTA				pP		13 47 57.5	
GTA				sP		13 48 00.3	
GTA				S	**Sn**	**13 49 50.5**	**+3.4**
GTA				sS		13 49 55.0	
GTA				SS	**SnSn**	**13 50 04.0**	**+5.1**
GTA				PMZ			
	3.0nm,0.7s						
GTA				LN			
	450nm,17.1s						
GTA				LE			
	240nm,15.7s						
GTA				LZ			
	250nm,9.0s						
CD2	**Chengdu**	**12.71**	**99**	***e*P**	Pn	13 48 19.8	-5.7
MKAR	**Makanchi Array**	**14.04**	**340**	Pn	**Pn**	**13 48 40.7**	**-3.0**
	0.1nm,0.3s,baz=163,slow=14,SNR=4.8						
MKAR				LR	LR	13 53 45.9	
	comp=Z,32nm,19.5s,baz=162,slow=38						
AAK	**Ala-Archa**	**14.51**	**312**	Pn	**Pn**	**13 48 50.7**	**+0.5**
	0.4nm,0.3s,baz=104,slow=18,SNR=3.1						
EKS2	**Erkin-Say**	**14.98**	**311**	*e*Pn	**Pn**	**13 48 57.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**17.57**	**148**	P	**Pn**	**13 49 28.8**	**-0.7**
	baz=332,slow=11,SNR=11						
CMAR				LR	LR	13 56 06.8	
	comp=Z,16nm,18.9s,baz=330,slow=37						
CM01	**Chiang Mai Arr**	**17.61**	**148**	*e*Pn	**Pn**	**13 49 28.6**	**-1.3**
KURBB	**Kurchatov Arra**	**18.58**	**338**	P	**P**	**13 49 40.4**	**-0.8**
	0.1nm,0.3s,baz=146,slow=11,SNR=13						
KURK	**Kurchatov**	**18.64**	**339**	P	**P**	**13 49 40.4**	**-1.4**
SONM	**Songino Array**	**19.17**	**38**	P	**P**	**13 49 47.2**	**-0.6**
	0.2nm,0.3s,baz=225,slow=12,SNR=13						
SONA1	**Songino Array**	**19.18**	**38**	*e*P	**P**	**13 49 46.0**	**-2.0**
HHC	**Hu-ho-hao-te**	**19.20**	**62**	*e*P	**Pn**	**13 49 49.3**	**0.0**
HHC				PMZ			
	17nm,0.9s						
ULN	**Ulaanbaatar**	**19.53**	**38**	*e*P	**P**	**13 49 51.4**	**-0.4**
	3.6nm,0.9s						
ZALV	**Zalesovo Beam**	**20.44**	**353**	P	**P**	**13 50 00.8**	**-0.7**
	8.3nm,0.8s,baz=172,slow=9.3,SNR=25						
ZALV				LR	LR	13 59 09.5	
	comp=Z,45nm,20.4s,baz=250,slow=40						
TLY	**Talaya**	**20.81**	**26**	LR	LR	13 58 40.4	
	comp=Z,49nm,19.2s,baz=194,slow=38						
VOSK	**Vostochnaya**	**23.01**	**331**	*e*P	**P**	**13 50 28.9**	**-0.1**
	6.0nm,1.0s						
BVAR	**Borovoye Array**	**23.48**	**331**	P	**P**	**13 50 34.7**	**+1.1**
	2.1nm,0.8s,baz=128,slow=9.7,SNR=9.1						
GEYT	**Alibeck**	**25.41**	**288**	P	**P**	**13 50 55.2**	**+3.7**
	1.2nm,0.4s,baz=79,slow=7.6,SNR=3.8						
GEYT				LR	LR	14 02 59.0	
	comp=Z,190nm,19.9s,baz=55,slow=42						
KLR	**Kul'dur**	**34.99**	**51**	P	**P**	**13 52 15.6**	**-0.6**
	1.9nm,0.8s,baz=284,slow=9.2,SNR=6.0						
NRIK	**Noril'sk**	**35.67**	**359**	P	**P**	**13 52 21.5**	**-0.2**
	2.4nm,0.6s,baz=195,slow=6.9,SNR=3.7						
NRIK				LR	LR	14 07 52.2	
	comp=Z,54nm,18.9s,baz=166,slow=38						
MJAR	**Matsushiro Arr**	**39.91**	**72**	LR	LR	14 10 42.5	
	comp=Z,40nm,18.4s,baz=265,slow=38						
OBN	**Obninsk**	**41.96**	**317**	LR	LR	14 12 23.2	
	comp=Z,60nm,19.5s,baz=78,slow=39						
DAV	**Davao City (W)**	**42.88**	**120**	LR	LR	14 11 52.7	
	comp=Z,97nm,18.7s,baz=293,slow=37						
TIXI	**Tiksi**	**43.35**	**17**	*e*P	**P**	**13 53 23.6**	**-2.0**
	4.2nm,1.1s						
BRTR	**Keskin Array B**	**44.26**	**294**	P	**P**	**13 53 34.2**	**+0.6**
	1.0nm,0.8s,baz=80,slow=7.7,SNR=4.9						
AKASG	**Malin Array Be**	**46.18**	**310**	P	**P**	**13 53 48.6**	**+0.3**
	0.9nm,0.6s,baz=80,slow=7.2,SNR=3.1						
AKASG				LR	LR	14 15 19.9	
	comp=Z,49nm,18.3s,baz=80,slow=39						
FINES	**FINESS Array B**	**48.22**	**325**	P	**P**	**13 54 04.6**	**+0.4**
	1.9nm,0.8s,baz=101,slow=4.4,SNR=2.9						
SEY	**Seymchan**	**48.48**	**33**	P	**P**	**13 54 06.1**	**-0.1**
	1.2nm,0.7s,baz=269,slow=12,SNR=4.5						
HFS	**Hagfors**	**54.30**	**323**	LR	LR	14 19 24.8	
	comp=Z,70nm,19.2s,baz=93,slow=38						
VRAC	**Vranov**	**54.43**	**310**	LR	LR	14 20 10.2	
	comp=Z,53nm,19.8s,baz=66,slow=38						
NB2	**NORSAR Subarra**	**55.40**	**325**	P	**P**	**13 54 57.4**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=82,slow=6.9						
NOA	**NORSAR Array B**	**55.40**	**325**	P	**P**	**13 54 57.0**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=83,slow=6.9,SNR=4.1						
NOA				LR	LR	14 18 22.1	
	comp=Z,23nm,18.8s,baz=155,slow=36						
GERES	**GERESS Array B**	**56.38**	**310**	P	**P**	**13 55 06.1**	**+1.0**
	comp=Z,2.4nm,0.7s,baz=77,slow=7.0,SNR=12						
GERES				LR	LR	14 21 39.7	
	comp=Z,66nm,18.5s,baz=72,slow=39						
GEA0	**GERESS Array S**	**56.39**	**310**	*e*P	**P**	**13 55 05.2**	**+0.1**
WRA	**Warramunga Arr**	**68.61**	**134**	P	**P**	**13 56 26.9**	**0.0**
	comp=Z,1.1nm,0.9s,baz=328,slow=6.4,SNR=13						
ASAR	**Alice Springs**	**71.24**	**137**	P	**P**	**13 56 43.2**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=314,slow=5.8,SNR=9.7						
ILAR	**Eielson Array**	**72.57**	**22**	P	**P**	**13 56 49.1**	**-1.4**
	comp=Z,0.7nm,1.0s,baz=292,slow=4.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**80.70**	**280**	P	**P**	**13 57 37.6**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=57,slow=5.3,SNR=2.8						
YKA	**Yellowknife Ar**	**82.23**	**11**	P	**P**	**13 57 43.1**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=339,slow=4.9,SNR=3.6						

*IDC **22** 13:50:50.1±1.2, 38.63N×142.51E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.4/37, mbtmp3.4/7, ML2.7/3, MS2.2/1, Ms1 2.2/1, ms1mx2.0/26, Error ellipse: s-maj=27.8km s-min=24.4km az=108.0*

*ISCJB **22** 13:50:54.5±1.3, 38.78N±0.05×142.2E±0.1, h42km±12km, mb3.4/4, Error ellipse: s-maj=15.1km s-min=7.3km az=20.7*

*JMA **22** 13:50:54.5±0.1, 38.79N×142.20E, h36km±1km, M3.4*

JMA Felt I J1

ISC 22 13:50:55.7±1.4, 38.81N±0.06×142.2E±0.2, h36km±5km, n23, σ1§44/23, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.50**	**303**	P	**Pn**	**13 51 05.3**	**-1.0**
OFUJ				*e*S	**Sn**	**13 51 12.5**	**-1.2**
JIO	**Ouri**	**0.76**	**243**	P	**Pn**	**13 51 08.3**	**-1.5**
JIO				*e*S	**Sn**	**13 51 17.6**	**-2.4**
JMK	**Ichinoseki**	**0.78**	**281**	P	**Pn**	**13 51 09.3**	**-0.9**
JMK				*e*S	**Sn**	**13 51 19.5**	**-1.2**
JOM	**Ohasama**	**0.97**	**313**	P	**Pn**	**13 51 12.4**	**-0.4**
JOM				*e*S	**Sn**	**13 51 25.0**	**-0.4**
JTH	**Tanohata**	**1.16**	**347**	P	**Pn**	**13 51 15.2**	**-0.2**
JOU	**Okura**	**1.29**	**250**	P	**Pn**	**13 51 16.7**	**-0.4**
JOU				*e*S	**Sn**	**13 51 32.4**	**-0.7**
JRG	**Rokugo**	**1.36**	**296**	P	**Pn**	**13 51 18.0**	**-0.1**
JYK	**Kaneyama**	**1.45**	**275**	P	**Pn**	**13 51 18.9**	**-0.4**
JMM	**Marumori**	**1.46**	**230**	P	**Pn**	**13 51 18.6**	**-0.8**
MJAR	**Matsushiro Arr**	**3.89**	**236**	Pn	**Pn**	**13 51 53.8**	**+0.8**
	0.6nm,0.3s,baz=41,slow=12,SNR=4.4						
MJAR				Sn	**Sn**	**13 52 39.7**	**+2.3**
	1.2nm,0.3s,baz=260,slow=16,SNR=8.0						
MJAR				LR	LR	13 53 41.8	
	comp=Z,32nm,19.6s,baz=145,slow=43						
MAT	**Matsushiro**	**3.90**	**236**	P	**Pn**	**13 51 55.0**	**+2.0**
MAT				S	**Sn**	**13 52 37.5**	**0.0**
USRK	**Ussuriysk Ar.**	**9.37**	**308**	Pn	Pn	13 53 12.4	+4.3
	0.2nm,0.3s,baz=117,slow=15,SNR=4.9						
KSRS	**Korea Array**	**11.33**	**268**	Pn	**Pn**	**13 53 38.5**	**+3.5**
	0.1nm,0.3s,baz=75,slow=13,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.58**	**125**	T	T	14 27 13.1	
	baz=317,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	14 27 13.8	
	baz=317,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**28.59**	**125**	T	T	14 27 11.7	
	baz=317,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.35**	**127**	T	T	14 28 08.7	
	baz=318,slow=76,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	14 28 09.2	
	baz=318,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**29.37**	**127**	T	T	14 28 11.4	
	baz=318,slow=76,SNR=6.6						
MKAR	**Makanchi Array**	**43.73**	**301**	P	**P**	**13 58 57.3**	**-0.1**
	0.2nm,0.4s,baz=88,slow=8.6,SNR=4.1						
ILAR	**Eielson Array**	**47.67**	**33**	P	**P**	**13 59 28.4**	**+0.3**
	0.3nm,0.7s,baz=268,slow=5.4,SNR=4.7						
WRA	**Warramunga Arr**	**58.90**	**189**	P	**P**	**14 00 49.8**	**-1.3**
	0.3nm,0.4s,baz=

and Tierra Amarilla, Chile.
MOS ***22*** *13:57:31.6±1.1,27°.76S×66°.64W,h168km,mb5.3/47,*
Error ellipse: s-maj=13.1km s-min=6.8km az=107.0
GUC ***22*** *13:57:31.1±0.7,27°.99S×66°.79W,h126km±146km, MW5.7*
BJI ***22*** *13:57:32.0,27°.90S×66°.50W,h153km,mb5.2/25*
ISC 22 13:57:30.9±0.3,**28°.00S**±0.03×**66.67W**±0.04,**h163**km±2km,
h163km:pP-P,n1098,σ**1°17**/1183,**mb5.3**/259,**29C-6D,**
Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**0.88**	**120**	*i* P	**Pn**	**13 57 57.1**	**+1.0**
CYA				*i* S	**Sn**	**13 58 16.4**	**+1.0**
CYA				IAML		13 58 16.9	
	comp=Z,12μm,0.7s						
VCA	**Vinchina**	**1.54**	**241**	*i* P	**Pn**	**13 58 02.1**	**0.0**
VCA				*e*S	**Sn**	**13 58 26.7**	**+0.6**
VCA				IAML		13 58 30.2	
	comp=Z,40μm,0.5s						
VCA				IAML		13 58 30.2	
	comp=Z,41μm,0.5s						
AHML	**Horco Molle**	**1.69**	**45**	*i* P	**Pn**	**13 58 04.8**	**+1.2**
AHML				*i* S	**Sn**	**13 58 30.6**	**+1.9**
FSA	**Cafayete**	**1.98**	**18**	*i* P	**Pn**	**13 58 08.9**	**+2.1**
FSA				IAML		13 58 09.5	
	comp=Z,3μm,0.4s						
FSA				*i* S	**Sn**	**13 58 37.4**	**+2.9**
AGUA	**GUANDACOL**	**2.19**	**227**	*i* P	**Pn**	**13 58 08.6**	**-0.5**
AVFE	**Valle Fertil**	**2.74**	**194**	IAML		13 58 17.4	
	comp=Z,5μm,0.6s						
CPCH	**Copiapo**	**3.33**	**280**	⇓*i* P	**Pn**	**13 58 22.2**	**-0.8**
CPCH				*i* S	**Sn**	**13 59 00.2**	**-3.2**
SLA	**San Lorenzo**	**3.42**	**18**	IAML		13 58 29.2	
	comp=Z,1μm,0.6s						
VACH	**Vallenar**	**3.66**	**260**	⇑*i* P	**Pn**	**13 58 25.8**	**-1.3**
VACH				*i* S	**Sn**	**13 59 06.8**	**-4.1**
LCO	**Las Campanas**	**3.69**	**253**	⇑*i* P	**Pn**	**13 58 26.6**	**-1.3**
LCO				*i* S	**Sn**	**13 59 08.7**	**-3.4**
LCO	**Las Campanas**	**3.69**	**253**	*e*Pn	**Pn**	**13 58 26.6**	**-1.3**
LCO				*e*Sn	**Sn**	**13 59 07.8**	**-4.3**
TCA	**Tanti**	**3.79**	**152**	IAML		13 59 12.2	
	comp=Z,4μm,0.6s						
CDCH	**Caldera**	**3.81**	**283**	*e*P	**Pn**	**13 58 27.5**	**-1.5**
CDCH				*e*S	**Sn**	**13 59 09.7**	**-4.5**
TLL	**Tololo Astrono**	**4.22**	**238**	⇑*i* P	**Pn**	**13 58 32.7**	**-1.9**
TLL				*i* S	**Sn**	**13 59 20.7**	**-3.5**
MRA	**San Martin**	**4.48**	**170**	IAML		13 59 49.3	
	comp=Z,6μm,0.8s						
PB14	**IPOC Station P**	**4.75**	**314**	⇓*i* P	**Pn**	**13 58 41.2**	**-0.3**
PB14				*i* S	**Sn**	**13 59 34.6**	**-2.1**
ARCO	**CERRO ARCO**	**5.21**	**202**	IAML		13 59 47.0	
	comp=Z,3μm,0.5s						
SUCO	**SUCO**	**5.55**	**164**	IAML		14 00 22.9	
	comp=Z,1μm,0.4s						
PB10	**IPOC Station P**	**5.68**	**321**	*e*Pn	**Pn**	**13 58 52.9**	**-0.6**
LVC	**Limon Verde**	**5.74**	**339**	P	**Pn**	**13 58 54.8**	**+0.2**
	comp=Z,9μm,0.3s,baz=168,slow=9.5,SNR=1038						
LVC				S	**Sn**	**13 59 51.3**	**-8.9**
	comp=Z,2μm,0.3s,baz=77,slow=4.9,SNR=3.3						
LVC	**Limon Verde**	**5.74**	**339**	*e*Pn	**Pn**	**13 58 55.1**	**+0.5**
LVC				S	**Sn**	**13 59 51.3**	**-8.9**
PB06	**IPOC Station P**	**5.89**	**333**	⇓*i* P	**Pn**	**13 58 56.3**	**-0.2**
FCH	**Farellones**	**6.16**	**210**	⇑*i* P	**Pn**	**13 58 59.0**	**-1.2**
PEL	**Peldehue**	**6.19**	**213**	⇑*i* P	**Pn**	**13 58 57.0**	**-3.3**
ROC1	**El Roble**	**6.22**	**216**	*e*Pn	**Pn**	**13 58 56.9**	**-3.9**
PB04	**IPOC Station P**	**6.46**	**330**	*e*Pn	**Pn**	**13 59 03.1**	**-1.0**
PB01	**IPOC Station P**	**7.38**	**339**	*e*Pn	**Pn**	**13 59 14.7**	**-1.6**
CPUP	**Villa Florida**	**8.48**	**81**	P	**Pn**	**13 59 29.6**	**-1.1**
	comp=Z,3.1nm,0.3s,baz=264,slow=12,SNR=118						
CPUP				S	**Sn**	**14 00 60.0**	**-5.2**
	comp=Z,3.2nm,0.3s,baz=252,slow=17,SNR=1.6						
CPUP	**Villa Florida**	**8.48**	**81**	*e*Pn	**Pn**	**13 59 29.2**	**-1.4**
CPUP				S	**Sn**	**14 00 60.0**	**-5.2**
PB11	**IPOC Station P**	**8.64**	**341**	*e*Pn	**Pn**	**13 59 29.9**	**-3.2**
LPA	**La Plata**	**10.15**	**135**	*de*P	**Pn**	**13 59 52.0**	**-0.6**
LPA				sP	sP	14 00 30.0	
LPA				sP(2)		14 01 10.0	
LPA				S	**Sn**	**14 01 40.0**	**-5.1**
LPA				PCP	**PcP**	**14 05 42.0**	**-4.0**
TRQA	**Tornquist**	**10.77**	**160**	*e*Pn	**Pn**	**13 59 57.9**	**-2.9**
LPAZ	**La Paz**	**11.73**	**353**	P	**Pn**	**14 00 13.7**	**-0.3**
	comp=Z,12nm,0.3s,baz=149,slow=5.2,SNR=82						
LPAZ				S	**Sn**	**14 02 17.8**	**-6.5**
	comp=Z,1.7nm,0.3s,baz=38,slow=19,SNR=3.6						
LPAZ	**La Paz**	**11.73**	**353**	*e*Pn	**Pn**	**14 00 12.5**	**-1.5**
LPAZ				S	**Sn**	**14 02 17.8**	**-6.5**
SIV	**San Ignacio**	**13.02**	**25**	P	**Pn**	**14 00 29.0**	**-1.1**
	comp=Z,9.3nm,0.3s,baz=226,slow=14,SNR=231						
PLCA	**Paso Flores**	**13.10**	**193**	P	**Pn**	**14 00 28.7**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=21,slow=13,SNR=14						
PLCA				S	**Sn**	**14 03 00.1**	**+3.9**
	baz=131,slow=20,SNR=1.7						
PLCA	**Paso Flores**	**13.10**	**193**	*e*Pn	**Pn**	**14 00 28.0**	**-2.9**
PLCA				S	**Sn**	**14 03 00.1**	**+3.9**
SPB	**Sao Paulo**	**17.86**	**80**	*e*P	**P**	**14 01 27.8**	**0.0**
	comp=Z,153nm,0.8s						
NNA	**Nana**	**18.56**	**327**	P	**Pn**	**14 01 37.6**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=173,slow=11,SNR=10						
NNA	**Nana**	**18.56**	**327**	*c*eP	**Pn**	**14 01 41.7**	**+4.0**
NNA	**Nana**	**18.56**	**327**	*e*Pn	**Pn**	**14 01 37.8**	**+0.1**
	comp=Z,319nm,1.2s						
SAML	**Samuel**	**19.23**	**10**	*e*P	**P**	**14 01 42.2**	**-0.5**
	comp=Z,516nm,1.4s						
CHRN	**Cochrane**	**19.77**	**192**	*e*P	**P**	**14 01 47.6**	**-0.7**
	comp=Z,318nm,0.9s						
ATAH	**Atahualpa**	**23.54**	**330**	P	**P**	**14 02 27.4**	**+0.4**
	comp=Z,11nm,0.7s,baz=154,slow=11,SNR=6.2						
EFI	**East Falkland**	**24.52**	**167**	*d*i P	**P**	**14 02 34.4**	**-0.6**
EFI				pmax	pmax		
	comp=Z,443nm,1.1s						
EFI	**East Falkland**	**24.52**	**167**	*e*P	**P**	**14 02 34.2**	**-0.8**
	comp=Z,468nm,1.1s						
USHA	**Ushuaia**	**26.84**	**182**	P	**P**	**14 02 54.7**	**-1.2**
	comp=Z,44nm,0.4s,baz=354,slow=8.1,SNR=13						
PTGA	**Pitinga**	**27.86**	**14**	P	**P**	**14 03 05.5**	**+0.1**
	comp=Z,115nm,0.4s,baz=198,slow=10,SNR=257						
PTGA	**Pitinga**	**27.86**	**14**	*e*P	**P**	**14 03 05.0**	**-0.4**
	comp=Z,186nm,0.6s						
OTAV	**Otavalo**	**30.27**	**336**	*e*P	**P**	**14 03 27.5**	**+0.3**
OTAV	**Otavalo**	**30.27**	**336**	*e*P	**P**	**14 03 28.4**	**+1.2**
	comp=Z,22nm,1.1s						
CRUC	**La Cruz**	**31.01**	**340**	*e*P	**P**	**14 03 34.8**	**+1.2**
POPC	**Popayan, Colom**	**31.85**	**341**	*e*P	**P**	**14 03 42.8**	**+1.9**
SJAC	**San Juan de Ar**	**31.87**	**346**	*e*P	**P**	**14 03 39.4**	**-1.5**
PRAC	**Prado**	**32.51**	**345**	*e*P	**P**	**14 03 46.0**	**-0.3**
	comp=Z,18nm,0.8s						
VILC	**Villavicencio,**	**32.63**	**347**	*e*P	**P**	**14 03 46.7**	**-0.9**
CHIC	**Chingaza**	**33.15**	**347**	*e*P	**P**	**14 03 51.2**	**-1.1**
TOLC	**Tolima**	**33.45**	**344**	*e*P	**P**	**14 03 53.0**	**-1.9**
ROSC	**El Rosal**	**33.47**	**346**	P	**P**	**14 03 55.4**	**+0.2**
	comp=Z,6.8nm,0.4s,baz=143,slow=10,SNR=5.3						
ROSC				LR	LR	14 18 24.9	
	comp=Z,231nm,18.7s,baz=217,slow=38						
GUYC	**Guyana, Colomb**	**34.08**	**344**	*e*P	**P**	**14 04 01.4**	**+0.9**
RUSC	**La Rusia**	**34.26**	**349**	*e*P	**P**	**14 04 00.9**	**-1.2**
NORC	**Norcasia**	**34.29**	**345**	*e*P	**P**	**14 03 59.2**	**-2.7**
BARC	**Barichara**	**34.96**	**349**	*e*P	**P**	**14 04 05.4**	**-2.4**
HELC	**Santa Helena**	**35.05**	**345**	*e*P	**P**	**14 04 07.7**	**-1.0**
HELC	**Santa Helena**	**35.05**	**345**	*e*P	**P**	**14 04 07.3**	**-1.4**
PAMC	**Pamplona, Colo**	**35.61**	**350**	*e*P	**P**	**14 04 11.6**	**-2.0**
CBRI	**Barrientos, No**	**35.99**	**350**	*e*P	**P**	**14 04 14.4**	**-2.1**
GRMC	**Gramalote, San**	**36.00**	**350**	*e*P	**P**	**14 04 15.0**	**-1.5**
DBBC	**Dabeiba**	**36.01**	**344**	*e*P	**P**	**14 04 14.4**	**-2.1**
RCBR	**Riachuelo**	**36.58**	**59**	P	**P**	**14 04 20.0**	**-1.4**
	comp=Z,66nm,0.7s,baz=226,slow=12,SNR=23						
RCBR	**Riachuelo**	**36.58**	**59**	*e*P	**P**	**14 04 20.2**	**-1.2**
	comp=Z,65nm,0.7s						
OCAC	**Ocana**	**36.59**	**349**	*e*P	**P**	**14 04 19.0**	**-2.6**
PMSA	**Palmer Station**	**36.83**	**178**	P	**P**	**14 04 23.4**	**+0.6**
	comp=Z,31nm,0.7s,baz=350,slow=6.1,SNR=6.2						
SDV	**Santo Domingo**	**36.87**	**353**	P	**P**	**14 04 22.3**	**-1.6**
	comp=Z,39nm,0.4s,baz=181,slow=7.1,SNR=36						
SDV	**Santo Domingo**	**36.87**	**353**	*e*P	**P**	**14 04 22.4**	**-1.6**
SDV	**Santo Domingo**	**36.87**	**353**	*e*P	**P**	**14 04 22.5**	**-1.4**
	comp=Z,144nm,1.1s						
MOTC	**Monteria, Cord**	**37.58**	**345**	*e*P	**P**	**14 04 28.0**	**-1.7**
PCRV	**Puerto La Cruz**	**38.00**	**3**	P	**P**	**14 04 32.9**	**-0.4**
	comp=Z,98nm,1.1s,baz=176,slow=2.0,SNR=17						
SJCC	**San Jacinto, C**	**38.56**	**346**	*e*P	**P**	**14 04 37.1**	**-0.9**
BCIP	**Isla Barro Col**	**39.08**	**339**	*e*P	**P**	**14 04 41.6**	**-0.7**
BCIP	**Isla Barro Col**	**39.08**	**339**	*e*P	**P**	**14 04 43.0**	**+0.7**
	comp=Z,236nm,1.9s						
SVB	**Belmont**	**41.36**	**8**	*e*P	**P**	**14 05 00.1**	**-0.9**
	comp=Z,154nm,0.9s						
FDF	**Fort de France**	**42.81**	**8**	*e*P	**P**	**14 05 11.4**	**-1.4**
FDF				pmax	pmax		
	comp=Z,230nm,0.9s						
FDF	**Fort de France**	**42.81**	**8**	*e*P	**P**	**14 05 11.4**	**-1.4**
	comp=Z,230nm,0.9s						
SABA	**Saba**	**45.47**	**5**	*e*P	**P**	**14 05 31.5**	**-2.3**
	comp=Z,330nm,1.0s						
ANWB	**Willy Bob**	**45.64**	**7**	*e*P	**P**	**14 05 33.2**	**-2.0**
CELP	**Cerrillos**	**45.80**	**0**	*e*P	**P**	**14 05 33.9**	**-2.5**
SJG	**San Juan**	**45.84**	**1**	P	**P**	**14 05 35.1**	**-1.6**
	comp=Z,20nm,0.2s,baz=214,slow=2.3,SNR=9.5						
SJG	**San Juan**	**45.84**	**1**	*e*P	**P**	**14 05 34.4**	**-2.3**
	comp=Z,96nm,1.1s						
HUMP	**Col San Antoni**	**45.87**	**1**	*e*P	**P**	**14 05 34.3**	**-2.7**
	comp=Z,36nm,1.0s						
CBYP	**Canovanas**	**46.00**	**1**	*e*P	**P**	**14 05 35.6**	**-2.4**
	comp=Z,144nm,1.2s						
STVI	**Saint Thomas**	**46.10**	**2**	*e*P	**P**	**14 05 37.2**	**-1.6**
	comp=Z,73nm,1.1s						
TGUH	**Tegucigalpa,Un**	**46.33**	**332**	*e*P	**P**	**14 05 40.8**	**+0.2**
	comp=Z,142nm,0.8s						
ABVI	**Anegada Island**	**46.51**	**3**	*e*P	**P**	**14 05 39.4**	**-2.5**
	comp=Z,178nm,0.9s						
MTDJ	**Mount Denham**	**47.14**	**346**	*e*P	**P**	**14 05 47.6**	**+0.6**
	comp=Z,274nm,0.9s						
GTBY	**Guantanamo Bay**	**48.34**	**349**	*e*P	**P**	**14 05 55.6**	**-0.4**
	comp=Z,113nm,0.9s						
GRTK	**Grand Turk**	**49.41**	**355**	*e*P	**P**	**14 06 03.3**	**-0.8**
CCIG	**Comitan**	**50.46**	**328**	*e*P	**P**	**14 06 12.6**	**+0.2**
	comp=Z,59nm,1.1s						
TEIG	**Tepich**	**52.30**	**334**	P	**P**	**14 06 25.5**	**-0.3**
	comp=Z,28nm,0.4s,baz=165,slow=12,SNR=60						
TEIG	**Tepich**	**52.30**	**334**	*e*P	**P**	**14 06 25.8**	**0.0**
	comp=Z,92nm,1.1s						
CMIG	**Matias Romero**	**52.50**	**325**	P	**P**	**14 06 27.6**	**+0.3**
	comp=Z,18nm,1.0s,baz=127,slow=3.7,SNR=15						
VNA1	**Neumayer--Stat**	**53.51**	**159**	P	**P**	**14 06 34.9**	**+0.8**
TLIG	**Tlapa**	**54.82**	**322**	*e*P	**P**	**14 06 45.3**	**+0.9**
	comp=Z,31nm,1.0s						
SNAA	**Sanae**	**55.50**	**160**	P	**P**	**14 06 48.7**	**+0.2**
SNAA	**Sanae**	**55.50**	**160**	*e*P	**P**	**14 06 48.3**	**-0.3**
SNAA				*e*PP	**pP**	**14 07 25.5**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,54nm,0.7s						
SNAA	**Sanae**	**55.50**	**160**	*e*P	**P**	**14 06 48.2**	**-0.3**
	comp=Z,54nm,0.7s						
SNAA				*e*pP	**pP**	**14 07 25.5**	**-0.5**
DWPF	**Disney Wildern**	**57.56**	**345**	*e*P	**P**	**14 07 03.5**	**+0.1**
	comp=Z,104nm,0.9s						
NVL	**N'lazarevskaya**	**60.06**	**158**	*e*P	**P**	**14 07 22.6**	**+2.4**
NVL				*e*		14 08 00.2	
ZAIG	**Zacatecas**	**61.22**	**322**	*e*P	**P**	**14 07 30.1**	**+1.1**
	comp=Z,40nm,1.0s						
TIGA	**Tifton**	**61.27**	**344**	P	**P**	**14 07 28.5**	**-0.3**
	baz=163						
TIGA	**Tifton**	**61.27**	**344**	*e*P	**P**	**14 07 28.3**	**-0.5**
	comp=Z,50nm,0.8s						
BRAL	**Brewton**	**61.97**	**340**	*e*P	**P**	**14 07 33.2**	**-0.2**
	comp=Z,124nm,0.8s						
448A	**Bay Minette**	**61.99**	**339**	P	**P**	**14 07 33.5**	**-0.2**
	baz=159						
035Z	**Hargill**	**61.99**	**328**	P	**P**	**14 07 34.5**	**+0.7**
	baz=149						
NHSC	**New Hope**	**62.11**	**347**	*e*P	**P**	**14 07 34.9**	**+0.5**
	comp=Z,168nm,0.9s						
447A	**Lucedale**	**62.12**	**339**	P	**P**	**14 07 34.9**	**+0.5**
	baz=158						
QSPA	**South Pole Qui**	**62.22**	**180**	*e*P	**P**	**14 07 35.4**	**+0.4**
	comp=Z,63nm,0.6s						
348A	**Jackson**	**62.45**	**340**	P	**P**	**14 07 36.7**	**0.0**
	baz=159						
445A	**Amite**	**62.62**	**337**	P	**P**	**14 07 38.3**	**+0.5**
	baz=156						
347A	**Saraland**	**62.64**	**339**	P	**P**	**14 07 38.0**	**0.0**
	baz=158						
444A	**Pine Grove**	**62.75**	**337**	P	**P**	**14 07 39.6**	**+0.9**
	baz=156						
034A	**Hebbronville**	**62.79**	**328**	P	**P**	**14 07 40.4**	**+1.3**
	baz=148,SNR=11						
346A	**Big Creek Wild**	**62.93**	**338**	P	**P**	**14 07 39.9**	**0.0**
	baz=157						
248A	**Dixon Mills**	**63.03**	**340**	P	**P**	**14 07 40.5**	**0.0**
	baz=159						
345A	**Thompson Farm,**	**63.04**	**338**	P	**P**	**14 07 40.8**	**+0.2**
	baz=157						
GOGA	**Godfrey**	**63.12**	**344**	*e*P	**P**	**14 07 40.5**	**-0.6**
GOGA				pmax	pmax		
	comp=Z,36nm,0.8s						
GOGA	**Godfrey**	**63.12**	**344**	*e*P	**P**	**14 07 40.5**	**-0.6**
	comp=Z,36nm,0.8s						
443A	**Delano Plantat**	**63.16**	**336**	P	**P**	**14 07 42.5**	**+1.2**
	baz=155						
934A	**Benavides**	**63.17**	**328**	P	**P**	**14 07 43.1**	**+1.5**
	baz=148,SNR=6.1						
247A	**Quitman**	**63.27**	**339**	P	**P**	**14 07 42.0**	**0.0**
	baz=158,SNR=6.8						
246A	**Jackson Lee, B**	**63.40**	**339**	P	**P**	**14 07 42.8**	**-0.1**
	baz=158						
344A	**Westbrook Farm**	**63.41**	**337**	P	**P**	**14 07 43.6**	**+0.5**
	baz=156,SNR=6.3						
835A	**Beeville**	**63.44**	**329**	P	**P**	**14 07 45.1**	**+1.8**
	baz=149,SNR=6.1						
JSC	**Jenkinsville**	**63.46**	**347**	*e*P	**P**	**14 07 43.1**	**-0.2**
JSC				pmax	pmax		
	comp=Z,42nm,0.8s						
JSC	**Jenkinsville**	**63.46**	**347**	*e*P	**P**	**14 07 43.1**	**-0.2**
	comp=Z,42nm,0.8s						
540A	**Vidor**	**63.49**	**334**	P	**P**	**14 07 45.1**	**+1.6**
	baz=153						
933A	**Laredo**	**63.53**	**328**	P	**P**	**14 07 45.0**	**+1.1**
	baz=148,SNR=17						
834A	**Tilden**	**63.63**	**329**	P	**P**	**14 07 46.0**	**+1.4**
	baz=149,SNR=16						
245A	**Little AP, Sta**	**63.66**	**338**	P	**P**	**14 07 44.8**	**+0.2**
	baz=157,SNR=8.6						
441A	**DeRidder**	**63.67**	**335**	P	**P**	**14 07 46.3**	**+1.5**
	baz=154						
736A	**Circle Diamond**	**63.67**	**330**	P	**P**	**14 07 46.7**	**+1.8**
	baz=150,SNR=9.9						
147A	**Livingston**	**63.74**	**340**	P	**P**	**14 07 44.6**	**-0.5**
	baz=159,SNR=5.7						
637A	**Eagle Lake**	**63.78**	**331**	P	**P**	**14 07 47.0**	**+1.6**
	baz=151						
342A	**Flagon Creek P**	**63.91**	**336**	P	**P**	**14 07 47.6**	**+1.4**
	baz=155,SNR=15						
735A	**Kenedy**	**63.91**	**330**	P	**P**	**14 07 47.4**	**+1.0**
	baz=149,SNR=7.4						
244A	**Avery, Jackson**	**63.94**	**337**	P	**P**	**14 07 46.8**	**+0.4**
	baz=156,SNR=10						
146A	**Union**	**63.95**	**339**	P	**P**	**14 07 46.5**	**0.0**
	baz=158						
440A	**Kirbyville**	**63.96**	**334**	P	**P**	**14 07 46.6**	**0.0**
	baz=153						
243A	**Waterproof**	**64.06**	**337**	P	**P**	**14 07 47.9**	**+0.6**
	baz=156,SNR=5.8						
538A	**Harpers Horsep**	**64.11**	**332**	P	**P**	**14 07 49.1**	**+1.5**
	baz=152						
636A	**Smothers Creek**	**64.12**	**331**	P	**P**	**14 07 48.6**	**+0.9**
	baz=150						
Z47A	**Carrollton**	**64.16**	**340**	P	**P**	**14 07 47.3**	**-0.6**
	baz=159,SNR=17						
Z48A	**Northport**	**64.18**	**341**	P	**P**	**14 07 47.4**	**-0.6**
	baz=160,SNR=19						
341A	**Kurthwood**	**64.18**	**335**	P	**P**	**14 07 49.2**	**+1.1**
	baz=154,SNR=12						
833A	**Chaparral WMA,**	**64.19**	**328**	P	**P**	**14 07 49.3**	**+1.1**
	baz=148,SNR=26						
145A	**Houston Renfro**	**64.20**	**338**	P	**P**	**14 07 48.6**	**+0.4**
	baz=157,SNR=6.8						
734A	**La Parita Cree**	**64.25**	**329**	P	**P**	**14 07 49.4**	**+0.9**
	baz=149,SNR=8.9						
KMSC	**Kings Mountain**	**64.31**	**347**	P	**P**	**14 07 48.9**	**+0.1**
	baz=166,SNR=11						
KMSC	**Kings Mountain**	**64.31**	**347**	*e*P	**P**	**14 07 48.3**	**-0.6**
	comp=Z,47nm,0.9s						
439A	**Center Grove,**	**64.32**	**333**	P	**P**	**14 07 50.4**	**+1.4**
	baz=152,SNR=14						
537A	**Green Hill Far**	**64.33**	**332**	P	**P**	**14 07 49.9**	**+0.8**
	baz=151						
635A	**Leesville**	**64.36**	**330**	P	**P**	**14 07 49.7**	**+0.4**
	baz=150						
144A	**Alexander Plac**	**64.39**	**338**	P	**P**	**14 07 50.0**	**+0.6**
	baz=157						
Z46A	**Louisville**	**64.42**	**339**	P	**P**	**14 07 49.9**	**+0.3**
	baz=158,SNR=7.4						
832A	**Faith Ranch, C**	**64.43**	**328**	P	**P**	**14 07 50.5**	**+0.7**
	baz=147						
242A	**Grayson**	**64.47**	**336**	P	**P**	**14 07 50.8**	**+0.9**
	baz=155						
733A	**Divot King Ran**	**64.48**	**328**	P	**P**	**14 07 50.6**	**+0.5**
	baz=148,SNR=8.2						
340A	**Bronson**	**64.53**	**334**	P	**P**	**14 07 51.3**	**+0.9**
	baz=153						
438A	**Sam Houston St**	**64.56**	**333**	P	**P**	**14 07 51.8**	**+1.2**
	baz=152,SNR=6.7						
634A	**China Grove, S**	**64.61**	**330**	P	**P**	**14 07 51.3**	**+0.4**
	baz=149						
536A	**Bastrop**	**64.64**	**331**	P	**P**	**14 07 51.7**	**+0.6**
	baz=150,SNR=10						
241A	**Mo Tay, Goldon**	**64.71**	**335**	P	**P**	**14 07 52.9**	**+1.4**
	baz=154,SNR=14						
339A	**Huntington**	**64.71**	**334**	P	**P**	**14 07 52.6**	**+1.0**
	baz=153,SNR=7.7						
Y47A	**UCPARC, Winfie**	**64.75**	**341**	P	**P**	**14 07 51.5**	**-0.2**
	baz=159,SNR=38						
143A	**Socs Landing,**	**64.78**	**337**	P	**P**	**14 07 52.6**	**+0.7**
	baz=156						
535A	**Dale**	**64.82**	**331**	P	**P**	**14 07 52.7**	**+0.4**
	baz=150,SNR=11						
Z45A	**Winona**	**64.83**	**339**	P	**P**	**14 07 52.4**	**+0.2**
	baz=158						
142A	**Monroe**	**64.83**	**337**	P	**P**	**14 07 53.3**	**+1.1**
	baz=155,SNR=14						
437A	**Phantom Ranch,**	**64.91**	**332**	P	**P**	**14 07 53.6**	**+0.8**
	baz=151						
Z44A	**Pea Ridge, Bel**	**64.98**	**338**	P	**P**	**14 07 53.7**	**+0.5**
	baz=157						
338A	**Crockett**	**65.03**	**333**	P	**P**	**14 07 54.8**	**+1.2**
	baz=152,SNR=5.8						
240A	**Hunter Patters**	**65.04**	**335**	P	**P**	**14 07 54.5**	**+0.9**
	baz=154,SNR=7.1						
Y46A	**Houston**	**65.04**	**340**	P	**P**	**14 07 53.1**	**-0.5**
	baz=158,SNR=18						
633A	**Saathoff Ranch**	**65.05**	**329**	P	**P**	**14 07 54.5**	**+0.7**
	baz=148,SNR=43						
436A	**Wall Ranch, Ga**	**65.13**	**332**	P	**P**	**14 07 55.2**	**+0.9**
	baz=151,SNR=6.2						
NATX	**Nacogdoches**	**65.13**	**334**	P	**P**	**14 07 55.4**	**+1.1**
	baz=153,SNR=10						
NATX	**Nacogdoches**	**65.13**	**334**	*e*P	**P**	**14 07 55.2**	**+1.0**
	comp=Z,144nm,0.9s						
Z43A	**Armstrong Fami**	**65.19**	**337**	P	**P**	**14 07 54.8**	**+0.2**
	baz=156						
534A	**Blanco**	**65.22**	**330**	P	**P**	**14 07 54.9**	**0.0**
	baz=149,SNR=19						
141A	**Papa Simpson,**	**65.23**	**336**	P	**P**	**14 07 56.0**	**+1.2**
	baz=154,SNR=15						
337A	**Centerville**	**65.23**	**333**	P	**P**	**14 07 56.3**	**+1.4**
	baz=152,SNR=16						
Y45A	**Yeager Farm, C**	**65.24**	**339**	P	**P**	**14 07 55.1**	**+0.2**
	baz=158,SNR=7.2						
239A	**Gary**	**65.29**	**334**	P	**P**	**14 07 56.3**	**+1.1**
	baz=153,SNR=14						
CPCT	**Cooper Cave**	**65.32**	**344**	*e*P	**P**	**14 07 54.9**	**-0.5**
	comp=Z,43nm,1.0s						
TKL	**Tuckaleechee C**	**65.34**	**345**	*e*P	**P**	**14 07 54.9**	**-0.6**
TKL				pmax	pmax		
	comp=Z,58nm,0.9s						
TKL	**Tuckaleechee C**	**65.34**	**345**	*e*P	**P**	**14 07 54.9**	**-0.6**
	comp=Z,58nm,0.9s						
SWET	**Sewanee**	**65.45**	**343**	*e*P	**P**	**14 07 55.9**	**-0.4**
	comp=Z,36nm,0.9s						
435B	**Jarrell**	**65.48**	**331**	P	**P**	**14 07 57.0**	**+0.5**
	baz=150						
Z42A	**Norrel Spur, H**	**65.49**	**337**	P	**P**	**14 07 56.7**	**+0.2**
	baz=156						
140A	**Cam and Jess,**	**65.50**	**335**	P	**P**	**14 07 57.8**	**+1.2**
	baz=154,SNR=9.9						
533A	**Kerrville**	**65.50**	**329**	P	**P**	**14 07 57.2**	**+0.5**
	baz=149,SNR=14						
238A	**Jacksonville**	**65.53**	**334**	P	**P**	**14 07 57.9**	**+1.1**
	baz=152,SNR=6.3						
Y44A	**Strider, Charl**	**65.54**	**339**	P	**P**	**14 07 56.5**	**-0.2**
	baz=157						
336A	**Riesel**	**65.69**	**332**	P	**P**	**14 07 58.5**	**+0.7**
	baz=151,SNR=22						
X45A	**UM Field Stati**	**65.70**	**339**	P	**P**	**14 07 57.5**	**-0.4**
	baz=158						
**

TXAR **Lajitas Array** 67.11 325 P P 14 08 07.7 +0.6
comp=Z,13nm,0.9s,baz=145,slow=7.9,SNR=87
TX31 **Lajitas Ar. Si** 67.11 325 eP P 14 08 07.5 +0.5
233A **Rising Star** 67.11 331 P P 14 08 07.4 +0.5
baz=149,SNR=12
V44A **Blytheville** 67.16 340 P P 14 08 07.0 -0.1
baz=158
Z36A **Blue Ridge** 67.16 333 P P 14 08 07.8 +0.6
baz=152,SNR=47
MIAR **Mount Ida** 67.21 336 P P 14 08 07.7 +0.2
baz=154,SNR=40
MIAR **Mount Ida** 67.21 336 eP P 14 08 07.6 +0.2
MIAR pmax pmax
comp=Z,87nm,1.0s
MIAR **Mount Ida** 67.21 336 eP P 14 08 07.6 +0.2
comp=Z,87nm,1.0s
134A **White-Moore Ra** 67.23 331 P P 14 08 07.9 +0.2
baz=150,SNR=7.4
GNAR **Gosnell** 67.32 340 eP P 14 08 08.5 +0.4
UTMT **University of** 67.33 341 eP P 14 08 08.2 +0.1
comp=Z,442nm,1.0s
X39A **Fountain Ranch** 67.38 336 P P 14 08 09.4 +0.9
baz=154,SNR=54
GLAT **Glass** 67.38 340 eP P 14 08 08.5 0.0
X301 **Greenbrier Sit** 67.43 337 eP P 14 08 08.8 +0.1
comp=Z,91nm,1.1s
WHAR **Wooly Hollow** 67.44 337 eP P 14 08 08.8 -0.1
comp=Z,69nm,0.9s
X201 **Greenbrier Sit** 67.47 337 eP P 14 08 09.0 0.0
comp=Z,121nm,1.2s
Y37A **Hugo** 67.47 334 P P 14 08 10.1 +1.0
baz=152,SNR=8.4
Z35A **Perchaven, San** 67.55 333 P P 14 08 10.3 +0.7
baz=151,SNR=33
V42A **Cord** 67.61 338 P P 14 08 09.5 -0.4
baz=156,SNR=12
W40A **Ferguson Farm,** 67.62 337 P P 14 08 10.8 +0.9
baz=155,SNR=18
133A **Hamilton Ranch** 67.62 331 P P 14 08 10.5 +0.4
baz=149,SNR=20
Y36A **Durant** 67.66 334 P P 14 08 10.6 +0.4
baz=152,SNR=8.1
X38A **Whitesboro** 67.78 335 P P 14 08 11.9 +0.8
baz=153,SNR=48
V41A **Mountainview** 67.84 338 P P 14 08 11.4 0.0
baz=156,SNR=62
Z34A **Collier Ranch,** 67.86 332 P P 14 08 12.1 +0.6
baz=150,SNR=24
W39A **Magazine** 67.87 336 P P 14 08 12.4 +0.9
baz=154,SNR=44
PARMO **Parma** 67.89 340 eP P 14 08 11.5 -0.1
X37A **Clayton** 67.91 335 P P 14 08 12.5 +0.7
baz=153,SNR=37
ABTX **Abilene, Hawle** 67.95 330 P P 14 08 12.5 +0.3
baz=149,SNR=30
ABTX **Abilene, Hawle** 67.95 330 eP P 14 08 12.1 -0.1
comp=Z,99nm,1.1s
Y35A **Marietta** 67.96 333 P P 14 08 12.9 +0.7
baz=151,SNR=23
W38A **Poteau** 68.03 336 P P 14 08 13.3 +0.8
baz=154,SNR=34
Z33A **Whitaker Ranch** 68.14 331 P P 14 08 13.9 +0.6
baz=150,SNR=26
PBMO **Poplar Bluff** 68.20 340 eP P 14 08 13.4 -0.2
comp=Z,212nm,0.9s
X36A **Centrahoma** 68.27 334 P P 14 08 14.2 +0.1
baz=152,SNR=34
Y34A **Reagan Ranch,** 68.30 332 P P 14 08 14.7 +0.4
baz=151,SNR=45
X35A **Drake** 68.37 333 P P 14 08 14.6 -0.1
baz=151,SNR=17
WCI **Wyandotte Cave** 68.40 343 eP P 14 08 12.6 -2.2
WCI pmax pmax
comp=Z,37nm,0.7s
WCI **Wyandotte Cave** 68.40 343 eP P 14 08 12.6 -2.2
comp=Z,37nm,0.7s
MCWV **Mont Chateau** 68.42 349 eP P 14 08 14.9 0.0
comp=Z,44nm,0.8s
W37B **Quinton** 68.42 335 P P 14 08 15.7 +0.6
baz=153,SNR=63
LIC **Lamto** 68.45 70 eP P 14 08 14.4 -1.3
comp=Z,67nm,1.0s
S45A **Carrier Mills** 68.49 341 P P 14 08 14.8 -0.6
baz=159,SNR=10
U40A **Yellville** 68.60 338 P P 14 08 16.2 +0.1
baz=155,SNR=54
TIC **Toumodi** 68.69 70 eP P 14 08 16.2 -0.9
V38A **Canehill** 68.69 336 P P 14 08 16.8 +0.2
baz=154,SNR=43
S44A **Carbondale** 68.69 341 P P 14 08 16.0 -0.6
baz=159,SNR=13
Y33A **Hilltop Ranch,** 68.70 332 P P 14 08 17.0 +0.2
baz=150,SNR=20
SIUC **Southern Illin** 68.70 341 eP P 14 08 15.8 -0.8
comp=Z,51nm,0.7s
W36A **Wetumka** 68.73 334 P P 14 08 16.6 -0.3
baz=152,SNR=25
KIC **Kosan Boka** 68.76 70 eP P 14 08 16.4 -1.2
comp=Z,319nm,1.1s
O56A **Blue Knob Stat** 68.81 350 P P 14 08 18.2 +0.8
baz=169,SNR=21
S43A **Fulton Ridge,** 68.82 340 P P 14 08 16.8 -0.6
baz=158,SNR=21
DBIC **Dimbokro** 68.83 70 P P 14 08 17.0 -1.1
comp=Z,36nm,0.4s,baz=212,slow=6.0,SNR=90
DBIC **Dimbokro** 68.83 70 P P 14 08 17.0 -1.1
DBIC pmax pmax
comp=Z,36nm,0.4s
DBIC **Dimbokro** 68.83 70 eP P 14 08 16.8 -1.2
comp=Z,62nm,0.8s
U39A **Green Forest** 68.83 337 P P 14 08 17.7 +0.1
baz=155,SNR=68
T41A **Mountain View** 68.86 339 P P 14 08 17.8 +0.1
baz=156,SNR=110
X34A **Smith Ranch, M** 68.89 333 P P 14 08 18.5 +0.5
baz=151,SNR=45
HHAR **Hobbs** 68.90 337 eP P 14 08 17.7 -0.3
comp=Z,120nm,1.2s
W35A **Tecumseh** 68.99 334 P P 14 08 18.2 -0.4
baz=152,SNR=10
SSPA **Standing Stone** 69.08 351 eP P 14 08 18.8 -0.2
comp=Z,60nm,1.0s
X33A **Lawton** 69.11 332 P P 14 08 19.0 -0.3
baz=150,SNR=5.2
R44A **Waltonville** 69.16 341 P P 14 08 18.7 -0.8
baz=159,SNR=10.0
V36A **Jenks** 69.19 335 P P 14 08 20.0 +0.3
baz=152,SNR=48
U38A **Gravette** 69.20 336 P P 14 08 20.0 +0.2
baz=154,SNR=19
T40A **Mansfield** 69.21 338 P P 14 08 19.9 +0.1
baz=156,SNR=32
YLE **Yale** 69.21 355 eP P 14 08 20.3 +0.6
comp=Z,67nm,0.9s
TUL1 **Leonard** 69.24 335 P P 14 08 20.2 +0.2
baz=153,SNR=17
TUL1 **Leonard** 69.24 335 eP P 14 08 19.9 -0.2
comp=Z,132nm,1.1s
X32A **Elmer** 69.33 332 P P 14 08 21.0 +0.3
baz=149,SNR=7.9
OLIL **Olney** 69.34 342 eP P 14 08 18.9 -1.7
comp=Z,57nm,1.0s
BLO **Bloomington** 69.35 344 eP P 14 08 19.4 -1.2
BLO pmax pmax
comp=Z,36nm,0.6s
BLO **Bloomington** 69.35 344 eP P 14 08 19.4 -1.2
comp=Z,36nm,0.6s
T39A **Clever** 69.38 337 P P 14 08 21.2 +0.3
baz=155,SNR=40
WMOK **Wichita Mounta** 69.39 332 P P 14 08 20.9 -0.2
baz=150,SNR=38
WMOK **Wichita Mounta** 69.39 332 eP P 14 08 20.4 -0.7
WMOK pmax pmax
comp=Z,61nm,1.3s
WMOK **Wichita Mounta** 69.39 332 eP P 14 08 20.4 -0.7
comp=Z,61nm,1.3s
W34A **Bridge Creek,** 69.42 333 P P 14 08 21.5 +0.3
baz=151,SNR=6.8
W34A **Bridge Creek,** 69.42 333 eP P 14 08 20.9 -0.3
comp=Z,112nm,1.1s
U37A **Salina** 69.44 336 P P 14 08 21.5 +0.3
baz=153,SNR=29
V35A **Meyer Ranch, C** 69.51 334 P P 14 08 21.8 +0.1
baz=152,SNR=20
ACSO **Alum Creek Sta** 69.56 347 eP P 14 08 21.2 -0.7
comp=Z,32nm,0.6s
S40A **Lebanon** 69.61 338 P P 14 08 22.6 +0.3
baz=156,SNR=68

W33A **Caddo, Fort Co** 69.62 333 P P 14 08 23.5 +1.0
baz=150,SNR=39
U36A **Oologah** 69.65 335 P P 14 08 22.5 0.0
baz=153,SNR=7.0
T38A **Diamond** 69.70 337 P P 14 08 23.2 +0.3
baz=154,SNR=58
BRYW **Bryant College** 69.71 356 eP P 14 08 23.3 +0.5
comp=Z,106nm,0.8s
SYO **Syowa Base** 69.73 158⇑ eP P 14 08 20.4 -2.3
SYO **Syowa Base** 69.73 158⇓ pP pP 14 09 00.0 -1.8
Q44A **Meyer Farm, Va** 69.75 342 P P 14 08 22.1 -1.0
baz=159,SNR=11
SBA **Scott Base** 69.83 190 eP P 14 08 24.6 +1.4
SBA pmax pmax
comp=Z,14nm,0.9s
SBA **Scott Base** 69.83 190 eP P 14 08 24.6 +1.4
comp=Z,14nm,0.9s
V34A **Guthrie** 69.84 334 P P 14 08 23.8 +0.1
baz=151,SNR=6.0
V34A **Guthrie** 69.84 334 eP P 14 08 24.0 +0.3
comp=Z,128nm,1.0s
MNTX **Cornudas Mount** 69.88 325 P P 14 08 23.9 -0.2
baz=144,SNR=52
MNTX **Cornudas Mount** 69.88 325 eP P 14 08 23.4 -0.7
comp=Z,29nm,0.9s
W32A **Sentinel** 69.92 332 P P 14 08 24.8 +0.5
baz=150,SNR=43
S39A **Bolivar** 69.96 338 P P 14 08 24.8 +0.4
baz=155,SNR=151
Q43A **New Douglas** 69.98 341 P P 14 08 24.0 -0.5
baz=158,SNR=17
T37A **Cheneyville 18** 70.00 336 P P 14 08 25.0 +0.3
baz=154,SNR=48
U35A **Pawnee** 70.00 335 P P 14 08 25.0 +0.3
baz=152,SNR=22
BCX **Boston College** 70.11 356 eP P 14 08 25.2 +0.1
comp=Z,57nm,1.0s
S38A **Stockton** 70.11 337 P P 14 08 25.5 +0.2
baz=154,SNR=99
QUA2 **Belchertown** 70.12 356 eP P 14 08 24.6 -0.7
comp=Z,33nm,1.0s
V33A **Lossen Ranch,** 70.13 333 P P 14 08 25.9 +0.4
baz=150,SNR=15
R40A **Maddies Statio** 70.16 339 P P 14 08 25.5 -0.1
baz=156,SNR=48
WES **Weston** 70.16 356 eP P 14 08 26.2 +0.7
WES pmax pmax
comp=Z,34nm,0.8s
WES **Weston** 70.16 356 eP P 14 08 26.2 +0.7
comp=Z,34nm,0.8s
M54A **Oil Creek Stat** 70.19 350 P P 14 08 26.1 +0.3
baz=168,SNR=16
Q42A **Golden Eagle** 70.20 340 P P 14 08 25.6 -0.3
baz=158,SNR=22
SRIG **Santa Rosalia** 70.27 318 eP P 14 08 26.4 -0.1
comp=Z,50nm,1.1s
T36A **Boggs Farm, Ca** 70.30 335 P P 14 08 26.6 +0.1
baz=153,SNR=18
HRV **Adam Dziewonsk** 70.30 356 eP P 14 08 26.5 +0.2
HRV pmax pmax
comp=Z,62nm,0.9s
HRV **Adam Dziewonsk** 70.30 356 eP P 14 08 26.5 +0.2
comp=Z,62nm,0.9s
V32A **Arapaho** 70.35 332 P P 14 08 27.6 +0.7
baz=150,SNR=6.9
U34A **Anderson Ranch** 70.37 334 P P 14 08 27.2 +0.2
baz=151,SNR=10
U34A **Anderson Ranch** 70.37 334 eP P 14 08 26.9 -0.1
comp=Z,83nm,1.0s
BINY **Binghamton** 70.37 353 eP P 14 08 27.3 +0.4
comp=Z,66nm,1.0s
T35A **Sooner Cattle** 70.40 335 P P 14 08 27.5 +0.4
baz=152,SNR=17
MSTX **Muleshoe** 70.49 329 P P 14 08 28.2 +0.4
baz=146,SNR=31
MSTX **Muleshoe** 70.49 329 eP P 14 08 27.8 0.0
comp=Z,115nm,1.0s
S37A **Fort Scott** 70.54 337 P P 14 08 28.1 +0.1
baz=154,SNR=44
U33A **Lingo Farm, Me** 70.59 334 P P 14 08 28.3 -0.1
baz=151,SNR=5.4
R38A **Fenwick Farm,** 70.61 338 P P 14 08 28.5 +0.1
baz=155,SNR=39
SFIN **Lafette** 70.63 344 P P 14 08 27.3 -1.1
baz=161,SNR=14
SFIN **Lafayette** 70.63 344 eP P 14 08 27.2 -1.2
comp=Z,107nm,1.1s
TRY **Troy** 70.67 355 eP P 14 08 29.4 +0.8
comp=Z,163nm,1.0s
Q40A **Laux Farm, Aux** 70.75 339 P P 14 08 29.1 -0.1
baz=156,SNR=8.2
T34A **McClaskey Farm** 70.75 334 P P 14 08 29.8 +0.6
baz=152,SNR=16
AMTX **Amarillo** 70.76 330 P P 14 08 29.7 +0.3
baz=148
AMTX **Amarillo** 70.76 330 eP P 14 08 29.9 +0.4
comp=Z,46nm,0.9s
S36A **Lake Cedric, C** 70.78 336 P P 14 08 29.8 +0.3
baz=153,SNR=20
HSIG 70.79 320 eP P 14 08 30.1 +0.4
comp=Z,86nm,1.1s
VNDA **Vanda** 70.83 190 P P 14 08 30.6 +1.4
comp=Z,9.2nm,0.8s,baz=138,slow=5.6,SNR=54
VNDA pP pP 14 09 08.3 -0.2
comp=Z,7.1nm,0.8s,baz=139,slow=7.6,SNR=5.3
VNDA **Vanda** 70.83 190 eP P 14 08 30.3 +1.0
VNDA epP pP 14 09 08.4 -0.2
ERPA **Erie** 70.84 350 eP P 14 08 29.5 -0.1
comp=Z,130nm,0.8s
U32A **Winter Ranch,** 70.90 333 P P 14 08 30.8 +0.5
baz=150,SNR=9.3
S35A **Otter Creek Ra** 71.01 335 P P 14 08 31.1 +0.3
baz=152,SNR=13
R37A **Teagarden Farm** 71.04 337 P P 14 08 31.0 +0.1
baz=154,SNR=12
P41A **Barry, Barry** 71.06 340 P P 14 08 30.6 -0.4
baz=157,SNR=23
Q39A **Willow Grove F** 71.08 339 P P 14 08 31.2 0.0
baz=156,SNR=24
Q38A **Cooks Store, C** 71.21 338 P P 14 08 32.3 +0.3
baz=155,SNR=32
T33A **Paterson Ranc** 71.21 334 P P 14 08 32.9 +0.8
baz=151,SNR=5.1
P40A **Paris** 71.23 340 P P 14 08 32.0 0.0
baz=156,SNR=18
FFD **Franklin Falls** 71.26 356 eP P 14 08 32.9 +0.8
comp=Z,72nm,0.7s
R36A **Gordon, Harris** 71.28 336 P P 14 08 32.4 0.0
baz=153,SNR=21
S34A **Willow Spring** 71.32 335 P P 14 08 32.7 +0.1
baz=152,SNR=5.7
HDIL **Hopedale** 71.37 342 P P 14 08 32.4 -0.4
baz=159,SNR=11
HDIL **Hopedale** 71.37 342 eP P 14 08 32.1 -0.8
comp=Z,111nm,0.5s
P39B **Salisbury** 71.41 339 P P 14 08 33.0 -0.1
baz=156,SNR=25
O41A **Passleys Farm,** 71.41 341 P P 14 08 32.5 -0.6
baz=158,SNR=10
Q37A **Longview Farm,** 71.41 337 P P 14 08 32.9 -0.3
baz=154,SNR=6.9
R35A **Emporia Munici** 71.53 336 P P 14 08 34.3 +0.3
baz=153,SNR=19
HNH **Hanover** 71.54 356 eP P 14 08 34.6 +0.8
comp=Z,127nm,1.0s
S33A **Kaszmaul Farm,** 71.56 334 P P 14 08 34.6 +0.4
baz=151,SNR=8.2
319A **Douglas** 71.66 322 eP P 14 08 36.3 +1.3
comp=Z,113nm,1.0s
121A **Cookes Peak, D** 71.77 324 P P 14 08 37.3 +1.6
baz=142,SNR=32
121A **Cookes Peak, D** 71.77 324 eP P 14 08 37.0 +1.3
comp=Z,66nm,1.0s
P38A **Dawn** 71.78 338 P P 14 08 35.3 -0.1
baz=155,SNR=10
Q36A **Arnold C. Orve** 71.84 337 P P 14 08 35.5 -0.2
baz=153
R34A **Isabella, Hill** 71.90 335 P P 14 08 36.6 +0.5
baz=152,SNR=15
Q35A **Mercer Eighty,** 71.95 336 P P 14 08 36.3 -0.1
baz=153,SNR=12
P37A **Lathrop** 72.02 338 P P 14 08 36.4 -0.3
baz=154,SNR=7.9
S32A **Newby Ranch, P** 72.02 334 P P 14 08 37.4 +0.5
baz=150
O39A **Kirksville** 72.04 339 P P 14 08 36.8 -0.1
baz=156
R33A **Olander Ranch,** 72.18 335 P P 14 08 38.1 +0.3
baz=151,SNR=10
O38A **Galt** 72.21 339 P P 14 08 37.7 -0.2
baz=155,SNR=7.9
WVL **Waterville** 72.26 358 eP P 14 08 38.9 +0.8
comp=Z,53nm,0.9s
Q34A **Chapman** 72.33 336 P P 14 08 38.8 +0.1
baz=152,SNR=5.2
P36A **Good Intent, A** 72.34 337 P P 14 08 38.2 -0.5
baz=154,SNR=20
EMMW **East Machias** 72.36 359 eP P 14 08 38.4 -0.2
comp=Z,46nm,0.8s
O37A **Wolven Farm, M** 72.47 338 P P 14 08 39.2 -0.2
baz=155,SNR=5.6
BNM **Barren Site** 72.47 326 eP P 14 08 40.7 +0.8
P35A **Duane Minner,** 72.54 337 P P 14 08 39.7 -0.2
baz=153,SNR=13
R32A **Long Quarter,** 72.56 334 P P 14 08 40.5 +0.4
baz=150,SNR=8.2
Y22D **IRIS PASSCAL I** 72.56 326 P P 14 08 41.5 +1.2
baz=143
N39A **Derby Farms, D** 72.60 340 P P 14 08 39.9 -0.3
baz=156,SNR=32
LPM **Los Pinos Moun** 72.61 326 eP P 14 08 41.3 +0.7
LONY **Lake Ozonia** 72.63 354 eP P 14 08 40.5 +0.2
comp=Z,52nm,1.0s
O36A **Bolckow** 72.71 338 P P 14 08 40.5 -0.4
baz=154,SNR=19
Q33A **Connelly Farm,** 72.73 335 P P 14 08 41.4 +0.4
baz=151,SNR=7.3
N38A **Joes South For** 72.75 339 P P 14 08 40.8 -0.3
baz=156,SNR=9.6
P34A **Walnut Farm, R** 72.84 336 P P 14 08 42.1 +0.4
baz=152,SNR=24
LAZ **Ladron** 72.93 326 eP P 14 08 43.3 +0.8
PKME **Peaks-Kenny Pk** 72.95 358 eP P 14 08 42.8 +0.7
comp=Z,42nm,0.8s
Q32A **Meitler Ranch,** 73.00 334 P P 14 08 43.0 +0.4
baz=151,SNR=7.5
ANMO **Albuquerque** 73.03 327 P P 14 08 44.3 +1.2
baz=144
ANMO **Albuquerque** 73.03 327 ceP P 14 08 44.2 +1.1
ANMO pmax pmax
comp=Z,45nm,1.1s
ANMO **Albuquerque** 73.03 327 eP P 14 08 44.0 +0.9
comp=Z,34nm,0.9s
N37A **Lee Faris, Mou** 73.03 338 P P 14 08 42.7 0.0
baz=155,SNR=11
P33A **Williams Farm,** 73.06 335 P P 14 08 43.5 +0.5
baz=152
L41A **Preston** 73.11 342 P P 14 08 42.6 -0.6
baz=158,SNR=13
O35A **Humboldt** 73.16 337 P P 14 08 42.9 -0.6
baz=153
TUC **Tucson** 73.19 322 P P 14 08 45.0 +1.0
baz=140
TUC **Tucson** 73.19 322 eP P 14 08 44.8 +0.8
TUC pmax pmax
comp=Z,52nm,1.4s
TUC **Tucson** 73.19 322 eP P 14 08 44.8 +0.8
comp=Z,52nm,1.4s
CBKS **Cedar Bluff** 73.30 334 P P 14 08 45.3 +0.9
baz=150,SNR=10
CBKS **Cedar Bluff** 73.30 334 eP P 14 08 44.9 +0.5
CBKS pmax pmax
comp=Z,104nm,0.9s
CBKS **Cedar Bluff** 73.30 334 eP P 14 08 44.9 +0.5
comp=Z,104nm,0.9s
M38A **Pleasantville** 73.31 339 P P 14 08 44.0 -0.3
baz=156,SNR=16
SADO **Sadowa** 73.31 351 eP P 14 08 43.9 -0.4
comp=Z,36nm,0.8s
N36A **Muff Farm, Cla** 73.33 338 P P 14 08 44.5 0.0
baz=154,SNR=6.5
O34A **Beatrice** 73.36 336 P P 14 08 44.6 -0.1
baz=152,SNR=20
LMN **Caledonia Moun** 73.52 1 eP P 14 08 46.1 +0.6
comp=Z,104nm,1.1s
P32A **Huiting Farm,** 73.56 335 P P 14 08 46.4 +0.5
baz=151,SNR=7.0
M37A **Trindle Farm,** 73.56 339 P P 14 08 46.3 +0.5
baz=155,SNR=29
O33A **Hebron** 73.58 336 P P 14 08 46.3 +0.3
baz=152,SNR=21
L39A **Vinton** 73.59 341 P P 14 08 45.9 0.0
baz=157,SNR=20
N35A **Tabor** 73.60 337 P P 14 08 46.0 -0.1
baz=154,SNR=12
SUR **Sutherland** 73.63 118 P P 14 08 47.5 +0.6
comp=Z,1.8nm,0.5s,baz=231,slow=6.1,SNR=52
SCIA **State Center** 73.76 340 eP P 14 08 46.6 -0.3
comp=Z,55nm,0.8s
JFWS **Jewell Farm** 73.83 342 eP P 14 08 47.1 -0.2
JFWS pmax pmax
comp=Z,62nm,0.6s
JFWS **Jewell Farm** 73.83 342 eP P 14 08 47.1 -0.2
comp=Z,62nm,0.6s
M36A **Felix, Anita** 73.85 338 P P 14 08 47.6 +0.1
baz=154,SNR=9.6
T25A **Trinidad** 73.86 329 P P 14 08 49.2 +1.3
baz=146,SNR=28
T25A **Trinidad** 73.86 329 eP P 14 08 49.0 +1.1
comp=Z,53nm,0.9s
N34A **Lincoln** 73.87 337 P P 14 08 47.4 -0.3
baz=153,SNR=14
K40A **Colesburg** 73.87 341 P P 14 08 47.2 -0.4
baz=158,SNR=16
L38A **Oak Wood Farm,** 73.89 340 P P 14 08 47.5 -0.2
baz=156,SNR=11
O32A **Brockman Farm,** 74.00 335 P P 14 08 48.9 +0.4
baz=151,SNR=12
214A **Organ Pipe Nat** 74.05 320 P P 14 08 50.6 +1.7
baz=138,SNR=35
214A **Organ Pipe Nat** 74.05 320 eP P 14 08 50.2 +1.3
comp=Z,268nm,1.1s
K39A **Oelwein** 74.09 341 P P 14 08 48.4 -0.5
baz=157,SNR=25
N33A **J Bar K, Exete** 74.12 336 P P 14 08 49.3 +0.2
baz=152,SNR=6.1
L37A **Phoenix Point,** 74.12 339 P P 14 08 48.9 -0.2
baz=155
M35A **Neola** 74.16 338 P P 14 08 49.2 -0.1
baz=154,SNR=6.6
TRQ **Mont Tremblant** 74.21 354 eP P 14 08 49.5 -0.1
O31A **Woolen Ranch,** 74.30 335 P P 14 08 50.8 +0.7
baz=150,SNR=7.3
K38A **Parkersburg** 74.30 340 P P 14 08 49.7 -0.3
baz=156,SNR=7.6
L36A **Harm Buss Farm** 74.39 339 P P 14 08 50.6 -0.1
baz=154,SNR=11
N32A **Stulken Farm,** 74.44 336 P P 14 08 51.3 +0.3
baz=151
X18A **Snowflake** 74.46 324 eP P 14 08 52.7 +1.3
comp=Z,43nm,1.1s
M34A **Aspy Farms, Fr** 74.49 337 P P 14 08 51.2 0.0
baz=153,SNR=5.5
J39A **Decorah** 74.62 341 P P 14 08 51.6 -0.3
baz=157,SNR=20
KSCO **Kaye Shedlock'** 74.64 332 P P 14 08 53.3 +1.0
baz=147
KSCO **Kaye Shedlock'** 74.64 332 eP P 14 08 53.6 +1.3
comp=Z,162nm,1.3s
K37A **Belmond** 74.67 340 P P 14 08 51.6 -0.6
baz=155,SNR=8.7
L35A **Bielow Farm, R** 74.68 338 P P 14 08 52.4 +0.1
baz=154,SNR=19
N31A **Bailey Ranch,** 74.74 335 P P 14 08 53.2 +0.4
baz=151,SNR=6.4
H07S1 **FLORES T-PHASE** 74.74 28 eP P 14 08 53.1 +0.3
M33A **Taylor Creek F** 74.76 337 P P 14 08 52.6 -0.3
baz=152,SNR=9.0
W18A **Petrified Fore** 74.80 325 P P 14 08 54.8 +1.4
baz=141,SNR=6.9
W18A **Petrified Fore** 74.80 325 eP P 14 08 54.6 +1.2
comp=Z,131nm,1.7s
K36A **Gilmore City** 74.80 339 P P 14 08 53.0 0.0
baz=155,SNR=12
J38A **Wedel Dairy, R** 74.83 341 P P 14 08 52.5 -0.6
baz=156,SNR=10.0
L34A **Svendsen Farm,** 74.83 337 P P 14 08 53.0 -0.1
baz=153,SNR=6.7
SDCO **Great Sand Dun** 74.85 329 P P 14 08 54.8 +1.1
baz=145,SNR=56
SDCO **Great Sand Dun** 74.85 329 eP P 14 08 54.7 +0.9
comp=Z,28nm,1.0s
BGNE **Belgrade** 74.96 336 P P 14 08 54.4 +0.4
baz=151,SNR=12
BGNE **Belgrade** 74.96 336 eP P 14 08 54.3 +0.4
comp=Z,361nm,0.9s

K35A **Storm Lake** 75.13 339 P P 14 08 54.7 -0.2
baz=154
J37A **Redenius Farm,** 75.14 340 P P 14 08 54.6 -0.3
baz=156,SNR=12
PCAN **Candelaria** 75.14 30 eP P 14 08 55.1 0.0
comp=Z,106nm,0.9s
X16A **Lo Mia Camp, P** 75.16 323 eP P 14 08 56.9 +1.5
comp=Z,46nm,0.9s
113A **Mohawk Valley,** 75.19 320 eP P 14 08 56.4 +1.0
comp=Z,30nm,1.0s
PICO **Pico** 75.20 30 eP P 14 08 55.6 +0.1
comp=Z,135nm,1.0s
M31A **Lambtecht Ranc** 75.20 335 P P 14 08 56.4 +1.1
baz=151,SNR=8.5
LMQ **La Malbaie** 75.27 357 eP P 14 08 56.0 +0.4
L33A **Hoskins** 75.31 337 P P 14 08 55.6 -0.4
baz=152
K34A **Le Mars** 75.38 338 P P 14 08 56.2 -0.1
baz=153
J36A **Seneca 1, Swea** 75.39 339 P P 14 08 56.3 -0.1
baz=155,SNR=27
L32A **Elgin** 75.43 336 P P 14 08 56.7 +0.1
baz=152
I38A **Scanlan Farm,** 75.44 341 P P 14 08 56.6 0.0
baz=157,SNR=24
PMAN **Manadas** 75.46 30 eP P 14 08 58.2 +1.4
comp=Z,246nm,1.3s
ROSA **Rosais** 75.46 30 eP P 14 08 58.6 +1.7
comp=Z,201nm,1.5s
ROSA **Rosais** 75.46 30 eP P 14 08 59.5 +2.6
comp=Z,292nm,1.5s
S22A **4UR Ranch, Cre** 75.46 328 P P 14 08 58.5 +1.2
baz=144,SNR=25
S22A **4UR Ranch, Cre** 75.46 328 eP P 14 08 58.1 +0.9
comp=Z,13nm,0.8s
PSMA **Santa Maria** 75.51 33 eP P 14 08 58.6 +1.4
comp=Z,159nm,1.4s
PSMN **Pico do Norte,** 75.55 33 eP P 14 08 58.1 +0.7
comp=Z,181nm,1.4s
K33A **Hardington** 75.61 337 P P 14 08 58.0 +0.3
baz=152
Y14A **Wickenburg** 75.64 322 eP P 14 08 59.0 +1.0
comp=Z,162nm,1.0s
Q24A **Divide** 75.69 330 P P 14 08 59.9 +1.3
baz=145,SNR=41
Q24A **Divide** 75.69 330 eP P 14 08 59.7 +1.1
comp=Z,79nm,0.9s
J35A **Milford** 75.70 339 P P 14 08 57.9 -0.2
baz=154
I37A **Lemond, Waseca** 75.73 340 P P 14 08 58.2 0.0
baz=156,SNR=26
MVCO **Mesa Verde** 75.83 327 P P 14 09 00.6 +1.3
baz=143,SNR=29
MVCO **Mesa Verde** 75.83 327 eP P 14 09 00.3 +1.0
comp=Z,57nm,1.0s
J34A **George** 75.87 338 P P 14 08 59.1 0.0
baz=154,SNR=11
L31A **Butterfield Fa** 75.88 336 P P 14 08 59.9 +0.7
baz=151,SNR=8.5
I36A **Fitzsimmons Fa** 75.92 340 P P 14 08 59.2 -0.1
baz=155,SNR=8.7
WUAZ **Wupatki** 75.96 324 P P 14 09 01.6 +1.6
baz=140,SNR=37
WUAZ **Wupatki** 75.96 324 eP P 14 09 01.3 +1.3
comp=Z,64nm,1.0s
K32A **Verdigre** 75.99 337 P P 14 08 59.6 -0.2
baz=152
GLA **Glamis** 76.00 320 P P 14 09 01.5 +1.4
baz=137,SNR=6.7
GLA **Glamis** 76.00 320 eP P 14 09 01.2 +1.1
GLA pmax pmax
comp=Z,132nm,1.9s
GLA **Glamis** 76.00 320 eP P 14 09 01.2 +1.1
comp=Z,132nm,1.9s
OGNE **Ogallala** 76.03 333 P P 14 09 01.2 +1.0
baz=148
I35A **Creekview Farm** 76.07 339 P P 14 09 00.2 0.0
baz=154,SNR=22
H37A **Dierke Farm, C** 76.11 341 P P 14 09 00.3 -0.1
baz=156,SNR=9.0
J33A **Davis** 76.23 338 P P 14 09 01.1 0.0
baz=153,SNR=11
K31A **O'Neill** 76.24 336 P P 14 09 01.5 +0.3
baz=151,SNR=7.8
TSUM **Tsumeb** 76.33 105 P P 14 09 02.7 +0.2
comp=Z,26nm,0.9s,baz=241,slow=6.8,SNR=41
TSUM pP pP 14 09 41.1 -1.2
comp=Z,5.2nm,0.8s,baz=284,slow=8.7,SNR=2.2
TSUM **Tsumeb** 76.33 105 eP P 14 09 02.2 -0.3
comp=Z,29nm,0.9s
TSUM pP pP 14 09 41.1 -1.2
Y12C **Blythe** 76.34 321 P P 14 09 03.6 +1.6
baz=138,SNR=14
Y12C **Blythe** 76.34 321 eP P 14 09 03.1 +1.1
comp=Z,58nm,1.0s
Y12C epP pP 14 09 46.2 +4.4
H36A **Jessenland, He** 76.40 340 P P 14 09 02.2 +0.2
baz=155,SNR=7.5
IKP **In-Ko-Pah, Jac** 76.45 319 P P 14 09 04.3 +1.6
baz=136,SNR=17
SWSC **Sam W. Stewart** 76.48 319 P P 14 09 03.9 +1.1
baz=137
ECSD **EROS Data Cent** 76.48 338 P P 14 09 02.8 +0.2
baz=153,SNR=80
ECSD **EROS Data Cent** 76.48 338 eP P 14 09 02.5 0.0
comp=Z,84nm,0.8s
I34A **Hadley** 76.51 339 P P 14 09 02.7 0.0
baz=154
COWI **Conover** 76.52 344 eP P 14 09 02.5 -0.1
comp=Z,36nm,0.8s
PDMCI **Parker Dam,Lak** 76.54 321 P P 14 09 04.1 +1.0
baz=138,SNR=8.1
J32A **Parkston** 76.58 337 P P 14 09 03.1 +0.1
baz=152,SNR=8.9
ISCO **Idaho Springs** 76.58 330 P P 14 09 04.8 +1.3
baz=145,SNR=36
ISCO **Idaho Springs** 76.58 330 eP P 14 09 04.5 +0.9
ISCO pmax pmax
comp=Z,50nm,1.0s
ISCO **Idaho Springs** 76.58 330 eP P 14 09 04.5 +0.9
comp=Z,50nm,1.0s
PMOZ **Porto Moniz, M** 76.59 41 eLR LR 15 19 53.9
comp=Z,609nm,20.0s
K30A **Basset** 76.59 336 P P 14 09 03.9 +0.6
baz=150,SNR=16
PV01 **Paradox Valley** 76.60 327 eP P 14 09 04.6 +1.0
SPMN **Marine on St.** 76.67 341 P P 14 09 03.3 -0.2
baz=156,SNR=9.1
SPMN **Marine on St.** 76.67 341 eP P 14 09 03.2 -0.2
SMCO **Snowmass** 76.68 329 eP P 14 09 05.6 +1.3
comp=Z,48nm,0.9s
H35A **Sunnyside Ranc** 76.78 340 P P 14 09 04.2 0.0
baz=155,SNR=46
BAR **Barrett** 76.80 318 eP P 14 09 05.5 +0.9
comp=Z,32nm,1.0s
BC3 **Big Chuckawall** 76.80 320 P P 14 09 05.9 +1.2
baz=137,SNR=41
PV05 **Paradox Valley** 76.81 327 eP P 14 09 05.2 +0.5
MONP2 **Monument Peak** 76.81 319 P P 14 09 06.1 +1.2
baz=136,SNR=17
J31A **Geddes** 76.82 337 P P 14 09 04.6 +0.1
baz=151,SNR=8.1
I33A **Coleman** 76.82 338 P P 14 09 04.4 0.0
baz=153
G36A **St. Michael** 76.95 341 P P 14 09 05.0 -0.1
baz=156,SNR=6.8
PV04 **Paradox Valley** 76.96 327 eP P 14 09 06.4 +0.9
W13A **Hualapai Mount** 76.99 322 eP P 14 09 07.2 +1.3
comp=Z,65nm,0.3s
IRM **Iron Mountain** 76.99 320 P P 14 09 07.0 +1.3
baz=137,SNR=36
PV10 **Paradox Valley** 77.01 327 eP P 14 09 06.3 +0.4
I32A **Karley and Nic** 77.03 338 P P 14 09 05.7 +0.1
baz=152,SNR=7.0
H34A **Spellman Lake,** 77.05 339 P P 14 09 05.6 0.0
baz=154,SNR=27
J30A **Dallas** 77.11 336 P P 14 09 06.4 +0.3
baz=150,SNR=5.3
U15A **North Rim** 77.14 324 eP P 14 09 07.6 +0.9
comp=Z,49nm,1.0s
NEE2 **Needles Airpor** 77.14 321 P P 14 09 07.3 +0.9
baz=138
G35A **Watkins** 77.15 340 P P 14 09 06.2 0.0
baz=155,SNR=7.9
PV09 **Paradox Valley** 77.15 327 eP P 14 09 06.7 -0.1
109C **Camp Elliot, M** 77.20 318 P P 14 09 08.0 +1.2
baz=136
DRLN **Deer Lake** 77.34 6 eP P 14 09 07.8 +0.6
comp=Z,89nm,0.6s
TPFO **Pinon Flats** 77.34 319 P P 14 09 09.0 +1.2
baz=136,SNR=18
PFO **Pinyon Flats O** 77.34 319 P P 14 09 09.1 +1.4
baz=136,SNR=19
PFO **Pinyon Flats O** 77.34 319 eP P 14 09 08.9 +1.1
PFO pmax pmax
comp=Z,28nm,1.0s
PFO **Pinyon Flats O** 77.34 319 eP P 14 09 08.9 +1.1
comp=Z,28nm,1.0s
BELC **Belle Mtn. Jos** 77.36 320 P P 14 09 09.3 +1.5
baz=137,SNR=7.3
H33A **Prehn Over Nor** 77.37 339 P P 14 09 07.9 +0.4
baz=153,SNR=39
H32A **Carlson Farm,** 77.44 338 P P 14 09 07.9 0.0
baz=152,SNR=7.3
F36A **Milaca** 77.45 341 P P 14 09 07.7 -0.2
baz=156,SNR=30
G34A **Benson** 77.52 339 P P 14 09 08.1 -0.2
baz=154,SNR=14
MAW **Mawson** 77.55 162 P P 14 09 08.3 0.0
comp=Z,16nm,0.8s,baz=212,slow=6.5,SNR=30
MAW pP pP 14 09 47.0 -1.1
comp=Z,19nm,0.7s,baz=207,slow=7.6,SNR=8.1
MAW **Mawson** 77.55 162 eP P 14 09 08.5 +0.3
MAW e*PP pP 14 09 47.7 -0.5
MAW **Mawson** 77.55 162 eP P 14 09 08.5 +0.3
MAW epP pP 14 09 47.7 -0.5
I30A **Oacoma** 77.60 336 P P 14 09 09.1 +0.3
baz=151
N23A **Red Feather La** 77.62 331 P P 14 09 10.5 +1.2
baz=145,SNR=23
N23A **Red Feather La** 77.62 331 eP P 14 09 10.2 +0.9
comp=Z,42nm,1.0s
LDFC **Landfair** 77.65 321 eP P 14 09 10.7 +1.3
comp=Z,168nm,0.3s
G33A **Ortonville** 77.73 339 P P 14 09 09.2 -0.2
baz=153,SNR=7.3
GMRC **Granite Mounta** 77.74 321 P P 14 09 11.3 +1.4
baz=137,SNR=41
PHWY **Pilot Hill** 77.75 331 eP P 14 09 10.7 +0.7
comp=Z,51nm,1.1s
TOA0 **Torodi Ar. Sit** 77.75 68 eP P 14 09 09.4 -0.8
comp=Z,90nm,0.8s
TORD **Torodi Ar. Bea** 77.75 68 P P 14 09 09.2 -1.0
comp=Z,55nm,0.5s,baz=251,slow=4.8,SNR=319
TORD pP pP 14 09 49.9 -0.3
comp=Z,16nm,0.8s,baz=258,slow=5.3,SNR=1.7
F35A **Swanville** 77.75 340 P P 14 09 09.4 -0.1
baz=155,SNR=18
MURC **Murrieta** 77.76 319 P P 14 09 11.4 +1.4
baz=136,SNR=7.3
H31A **Wolsey** 77.77 337 P P 14 09 09.5 -0.2
baz=152
E37A **Wrenshall** 77.78 342 P P 14 09 09.7 0.0
baz=157
KNB **Kanab** 77.86 324 eP P 14 09 12.2 +1.6
KNB pmax pmax
comp=Z,124nm,1.1s
KNB **Kanab** 77.86 324 eP P 14 09 12.2 +1.6
comp=Z,124nm,1.1s
SUSD **Miller** 77.90 337 P P 14 09 10.5 0.0
baz=151
F34A **Alexandria** 77.90 340 P P 14 09 10.4 0.0
baz=154
PKCU **Pink Cliffs** 77.92 324 eP P 14 09 11.8 +0.7
comp=Z,19nm,1.0s
BTU **Barney Top** 77.93 325 eP P 14 09 12.5 +1.3
E36A **McGregor** 77.98 342 P P 14 09 10.8 0.0
baz=156,SNR=18
MMU **Miners Mountai** 77.98 326 eP P 14 09 12.7 +1.3
I29A **Vivian Onida** 78.01 336 P P 14 09 11.2 +0.2
baz=150,SNR=9.2
O20A **White River Ci** 78.03 329 P P 14 09 12.8 +1.3
baz=143,SNR=12
O20A **White River Ci** 78.03 329 eP P 14 09 12.5 +1.0
comp=Z,116nm,1.1s
LCMT **Little Creek M** 78.08 324 eP P 14 09 12.8 +1.0
comp=Z,30nm,1.1s
BBRC **Big Bear Solar** 78.08 319 P P 14 09 13.1 +1.1
baz=136
SCI2 **San Clemente I** 78.12 317 P P 14 09 12.8 +0.9
baz=135
HEC **Hector,Ludlow** 78.15 320 P P 14 09 13.6 +1.5
baz=136,SNR=27
F33A **5 Mile Ranch,** 78.26 339 P P 14 09 12.1 -0.3
baz=153,SNR=10
SRU **San Rafael Swe** 78.31 327 eP P 14 09 13.8 +0.8
SRU pmax pmax
comp=Z,51nm,0.9s
SRU **San Rafael Swe** 78.31 327 eP P 14 09 13.8 +0.8
comp=Z,51nm,0.9s
MTPU **Mount Pierson** 78.31 325 eP P 14 09 14.2 +0.9
comp=Z,25nm,0.8s
G31A **Cede** 78.33 338 P P 14 09 12.6 -0.2
baz=152,SNR=6.8
D37A **Cotton** 78.34 342 P P 14 09 12.6 -0.1
baz=157,SNR=9.3
E35A **Pequot Lakes** 78.34 341 P P 14 09 12.6 -0.1
baz=155,SNR=12
TUQ **Turquoise Moun** 78.36 321 P P 14 09 14.7 +1.3
baz=137,SNR=28
FMP **Fort Macarthur** 78.49 318 P P 14 09 15.1 +1.2
baz=135
BFSC **Mount Baldy Ra** 78.49 319 P P 14 09 14.9 +0.8
baz=136,SNR=9.2
H29A **Onida** 78.50 336 P P 14 09 14.0 +0.3
baz=150,SNR=6.3
E34A **Wadena** 78.53 340 P P 14 09 13.6 -0.2
baz=154
CCUT **Cedar City** 78.54 324 eP P 14 09 16.0 +1.6
comp=Z,61nm,1.0s
F32A **Veblen** 78.55 339 P P 14 09 13.6 -0.3
baz=153
C38A **Sawbill Land.** 78.55 343 P P 14 09 13.5 -0.4
baz=158,SNR=6.4
D36A **Goodland** 78.55 342 P P 14 09 13.8 -0.2
baz=156
G30A **Faulkton** 78.57 337 P P 14 09 14.1 0.0
baz=151
P18A **Preston Nutter** 78.58 327 eP P 14 09 15.9 +1.3
comp=Z,82nm,1.1s
MSU **Marysvale** 78.66 325 eP P 14 09 16.3 +1.2
MSU **Marysvale** 78.66 325 eP P 14 09 16.3 +1.2
BOSA **Boshof** 78.67 116 *i* P P 14 09 15.2 -0.2
BOSA *i* 14 09 15.3
baz=330,slow=16
BOSA **Boshof** 78.67 116 P P 14 09 15.4 0.0
comp=Z,53nm,0.6s,baz=255,slow=3.9,SNR=85
BOSA pP pP 14 09 54.3 -1.1
comp=Z,17nm,0.8s,baz=220,slow=4.9,SNR=3.6
BOSA **Boshof** 78.67 116 eP P 14 09 15.1 -0.3
BOSA e*PP pP 14 09 54.2 -1.2
BOSA pmax pmax
comp=Z,59nm,0.8s
BOSA **Boshof** 78.67 116 eP P 14 09 15.1 -0.3
comp=Z,59nm,0.8s
BOSA epP pP 14 09 54.2 -1.2
P17A **Butcher Ranch,** 78.69 327 eP P 14 09 16.1 +1.0
comp=Z,83nm,1.1s
MWC **Mount Wilson** 78.71 319 eP P 14 09 16.0 +0.6
MWC pmax pmax
comp=Z,42nm,1.3s
MWC **Mount Wilson** 78.71 319 eP P 14 09 16.0 +0.6
comp=Z,42nm,1.3s
D35A **Remer** 78.72 341 P P 14 09 15.0 +0.2
baz=156,SNR=33
SHPR **Sheep Range** 78.72 322 eP P 14 09 16.5 +1.2
comp=Z,37nm,0.4s
PASC **Pasadena Art C** 78.75 319 eP P 14 09 16.6 +1.2
comp=Z,37nm,1.1s
GSC **Goldstone, Bar** 78.76 320 P P 14 09 16.9 +1.4
baz=136,SNR=25
GSC **Goldstone, Bar** 78.76 320 eP P 14 09 16.7 +1.2
GSC pmax pmax
comp=Z,44nm,1.3s
GSC **Goldstone, Bar** 78.76 320 eP P 14 09 16.7 +1.2
comp=Z,44nm,1.3s
E33A **Westby DABS, E** 78.77 340 P P 14 09 14.8 -0.3
baz=154,SNR=5.1
TMUT **Trail Mountain** 78.78 326 eP P 14 09 16.8 +1.0
comp=Z,41nm,1.2s
C37A **Embarrass** 78.80 343 P P 14 09 15.1 -0.2
baz=157,SNR=9.6
EYMN **Ely** 78.82 343 P P 14 09 15.2 -0.1
baz=158,SNR=5.7
EYMN **Ely** 78.82 343 eP P 14 09 15.3 -0.1
comp=Z,40nm,1.2s
G29A **Hoven** 78.89 337 P P 14 09 16.1 +0.2
baz=150
DECC **Green Verdugo** 78.89 319 P P 14 09 16.7 +0.6
baz=135
SHOC **Shoshone, Teco** 78.89 321 P P 14 09 16.8 +0.7
baz=137
SNCC **San Nicolas Is** 78.90 317 P P 14 09 17.1 +1.0
baz=134
F31A **Hecla** 78.91 338 P P 14 09 16.0 +0.1
baz=152,SNR=12
C36A **Pine Crest Far** 79.00 342 P P 14 09 16.1 -0.3
baz=157,SNR=17
D34A **Park Rapids** 79.05 341 P P 14 09 16.4 -0.3
baz=154,SNR=5.1
EDW2 **Edwards Air Fo** 79.14 319 P P 14 09 18.2 +0.7
baz=135,SNR=15
F30A **Leola** 79.14 338 P P 14 09 17.4 +0.2
baz=151
E32A **Braaten, Kindr** 79.18 339 P P 14 09 17.4 +0.1
baz=153
BLG **Laguna Peak, P** 79.22 318 P P 14 09 18.7 +0.7
baz=134
C35A **Jirik Farms, M** 79.26 342 P P 14 09 17.9 +0.1
baz=156,SNR=23
D33A **AnnSam, Waubun** 79.29 340 P P 14 09 18.0 0.0
baz=154,SNR=6.9
K22A **Casper** 79.31 331 P P 14 09 19.5 +1.1
baz=145,SNR=26
K22A **Casper** 79.31 331 eP P 14 09 19.1 +0.7
comp=Z,107nm,1.2s
OSI **Osito Audit: C** 79.38 319 P P 14 09 19.7 +0.9
baz=135
OSI **Osito Audit: C** 79.38 319 eP P 14 09 19.6 +0.9
comp=Z,25nm,1.0s
LRMC **Laurel Mtn Rad** 79.39 320 P P 14 09 19.9 +1.0
baz=136,SNR=20
E31A **Nome** 79.41 339 P P 14 09 18.9 +0.3
baz=152,SNR=10.0
F29A **Eureka** 79.42 337 P P 14 09 19.2 +0.5
baz=150,SNR=9.7
C34A **RKJ Ranch, Bem** 79.48 341 P P 14 09 19.0 0.0
baz=155
SCZ2 **Santa Cruz Isl** 79.48 318 P P 14 09 20.4 +1.0
baz=134,SNR=8.5
RSSD **Black Hills** 79.50 334 P P 14 09 20.4 +1.0
baz=147
RSSD **Black Hills** 79.50 334 eP P 14 09 19.8 +0.3
RSSD pmax pmax
comp=Z,57nm,1.0s
RSSD **Black Hills** 79.50 334 eP P 14 09 19.8 +0.3
comp=Z,57nm,1.0s
PSUT **Pine Spring** 79.54 324 eP P 14 09 20.9 +1.1
comp=Z,40nm,0.9s
FURC **Furnace Creek,** 79.63 321 P P 14 09 21.4 +1.4
baz=136,SNR=11
TPNV **Topopah Spring** 79.64 322 P P 14 09 21.6 +1.3
baz=137,SNR=39
TPNV **Topopah Spring** 79.64 322 eP P 14 09 21.6 +1.3
TPNV pmax pmax
comp=Z,33nm,1.0s
TPNV **Topopah Spring** 79.64 322 eP P 14 09 21.6 +1.3
comp=Z,33nm,1.0s
D32A **Dogwood Acres,** 79.64 339 P P 14 09 20.1 +0.2
baz=153,SNR=7.8
DAU **Daniels Canyon** 79.67 327 eP P 14 09 21.3 +0.7
DAU **Daniels Canyon** 79.67 327 eP P 14 09 21.3 +0.7
MPMC **Manual Prospec** 79.69 320 P P 14 09 21.2 +0.5
baz=136,SNR=14
E30A **Jud** 79.69 338 P P 14 09 20.4 +0.3
baz=151,SNR=6.2
H25A **Fruitdale** 79.75 334 P P 14 09 21.1 +0.5
baz=147,SNR=7.0
D31A **Mcclaflin, Tow** 79.79 339 P P 14 09 20.9 +0.2
baz=152,SNR=8.9
B35A **Bob, Littlefor** 79.79 342 P P 14 09 20.5 -0.1
baz=156,SNR=26
ARVC **Arvin** 79.80 319 P P 14 09 22.0 +1.0
baz=135
C33A **Trail** 79.83 341 P P 14 09 20.8 0.0
baz=154,SNR=12
SBC **Santa Barbara** 79.84 318 P P 14 09 20.7 -0.5
baz=134
DAC **Darwin (Calif)** 79.91 320 eP P 14 09 22.5 +0.7
DAC pmax pmax
comp=Z,34nm,1.1s
DAC **Darwin (Calif)** 79.91 320 eP P 14 09 22.5 +0.7
comp=Z,34nm,1.1s
JLU **Jordanelle** 79.91 327 eP P 14 09 22.8 +1.0
comp=Z,34nm,0.8s
ISA **Isabella, Lake** 79.97 319 P P 14 09 23.3 +1.3
baz=135
ISA **Isabella, Lake** 79.97 319 eP P 14 09 23.1 +1.1
ISA pmax pmax
comp=Z,27nm,1.1s
ISA **Isabella, Lake** 79.97 319 eP P 14 09 23.1 +1.1
comp=Z,27nm,1.1s
E29A **Napoleon** 79.99 338 P P 14 09 22.4 +0.6
baz=151
C32A **Crookston** 80.11 340 P P 14 09 22.8 +0.5
baz=153
CTU **Camp Tracy** 80.13 327 eP P 14 09 23.3 +0.4
comp=Z,41nm,0.8s
B34A **Aery, Baudette** 80.16 342 P P 14 09 22.5 -0.1
baz=155,SNR=13
D30A **Buchanan** 80.17 338 P P 14 09 23.4 +0.7
baz=152,SNR=25
PKM **Mcpherson Peak** 80.21 318 P P 14 09 24.7 +1.3
baz=134,SNR=18
B33A **Robert and Kas** 80.23 341 P P 14 09 23.0 0.0
baz=154,SNR=17
DUG **Dugway, Tooele** 80.27 326 P P 14 09 24.6 +1.1
baz=140,SNR=23
DUG **Dugway, Tooele** 80.27 326 eP P 14 09 24.5 +0.9
DUG pmax pmax
comp=Z,28nm,0.9s
DUG **Dugway, Tooele** 80.27 326 eP P 14 09 24.5 +0.9
comp=Z,28nm,0.9s
TCUT **Toone Canyon** 80.29 327 eP P 14 09 24.5 +0.7
comp=Z,71nm,1.0s
GRAC **Grapevine Rang** 80.29 321 P P 14 09 24.9 +1.2
baz=136,SNR=5.5
CWC **Cottonwood Cre** 80.30 320 P P 14 09 25.1 +1.3
baz=136
R11A **Troy Canyon, C** 80.31 323 P P 14 09 25.4 +1.5
baz=138,SNR=54
R11A **Troy Canyon, C** 80.31 323 eP P 14 09 25.0 +1.2
comp=Z,39nm,1.2s
AGMN **Agassiz Nation** 80.34 341 P P 14 09 23.6 0.0
baz=154,SNR=36
AGMN **Agassiz Nation** 80.34 341 eP P 14 09 23.5 0.0
comp=Z,64nm,0.8s
D29A **Pettibone, Tap** 80.41 338 P P 14 09 24.7 +0.7
baz=151
F26A **Lodgepole** 80.44 335 P P 14 09 24.9 +0.6
baz=148,SNR=28
VES **Vestal, Richgr** 80.45 319 P P 14 09 25.3 +0.9
baz=135,SNR=5.4
C31A **Landman Farms,** 80.45 339 P P 14 09 24.4 +0.2
baz=152,SNR=24
LBTB **Lobatse** 80.52 113 eP P 14 09 25.3 -0.1
LBTB pmax pmax
comp=Z,79nm,0.7s
LBTB **Lobatse** 80.52 113 eP P 14 09 25.3 -0.1
comp=Z,79nm,0.7s
MOUT **Mount Ogden** 80.57 327 eP P 14 09 30.1 +4.7
MCU **Monte Cristo P** 80.61 328 eP P 14 09 26.6 +1.0
C30A **Mose, Pekin** 80.61 339 P P 14 09 25.7 +0.7
baz=152,SNR=16
NAIU **Northern Antel** 80.61 327 eP P 14 09 26.0 +0.6
SMMC **Simmler** 80.61 318 P P 14 09 26.9 +1.5
baz=134
B32A **Ashes, Strandq** 80.62 340 P P 14 09 25.3 +0.2
baz=153,SNR=93
RSUT **Red Spur Mount** 80.70 328 eP P 14 09 26.8 +0.8
BW06 **Boulder Array** 80.73 329 P P 14 09 26.5 +0.4
baz=142,SNR=43
BW06 **Boulder Array** 80.73 329 eP P 14 09 26.2 +0.2
comp=Z,1.5nm,0.7s
PD31 **Pinedale Array** 80.73 329 eP P 14 09 26.1 0.0
PDAR **Pinedale Array** 80.73 329 P P 14 09 26.3 +0.2
comp=Z,17nm,0.6s,baz=146,slow=6.6,SNR=74
PDAR pP pP 14 10 08.6 +2.3
comp=Z,7.3nm,0.9s,baz=149,slow=6.9,SNR=2.9
HWUT **Hardware Ranch** 80.75 328 eP P 14 09 26.5 +0.4
comp=Z,73nm,0.9s
A33A **Warroad** 80.78 341 P P 14 09 26.2 +0.4
baz=154,SNR=22
F25A **Bowman** 80.80 335 P P 14 09 26.7 +0.6

baz=148,SNR=12
TIN Tinemaha, Big 80.82 321 P P 14 09 27.9 +1.4
baz=136
D28A Regan 80.85 337 P P 14 09 27.1 +0.7
baz=150,SNR=12
BMUT Black Mountain 80.86 328 *e*P P 14 09 27.6 +0.7
RCTC Rector, Farmer 80.86 319 P P 14 09 27.0 +0.4
baz=135
E26A Carlson Angus 80.90 336 P P 14 09 27.1 +0.5
baz=148,SNR=13
BGU Big Grassy Mou 80.93 326 *e*P P 14 09 27.5 +0.4
comp=Z,50nm,1.2s
SPUT South Promonto 80.94 327 *e*P P 14 09 27.8 +0.6
comp=Z,58nm,0.9s
B31A Greenbush Farm 80.98 340 P P 14 09 27.0 0.0
baz=152,SNR=13
A32A Rocking H Ranc 81.08 341 P P 14 09 27.3 -0.1
baz=154,SNR=11
MDND Maddock 81.10 338 P P 14 09 28.4 +0.8
baz=151,SNR=22
MDND Maddock 81.10 338 *e*P P 14 09 28.1 +0.5
comp=Z,444nm,1.0s
MDND *e*pP **pP** 14 10 09.2 +1.3
B30A Myrvik Farm, E 81.22 339 P P 14 09 28.8 +0.6
baz=152,SNR=45
C28A Hausauer Farms 81.24 338 P P 14 09 29.0 +0.6
baz=150
A31A Linda, St. Vin 81.30 340 P P 14 09 28.8 +0.2
baz=153
D26A Manning 81.36 336 P P 14 09 29.7 +0.7
baz=148,SNR=15
AHID Auburn Hatcher 81.43 329 *e*P P 14 09 30.4 +0.6
comp=Z,101nm,1.1s
HVU Hansel Valley 81.46 327 *e*P P 14 09 30.0 +0.1
HVU pmax pmax
comp=Z,41nm,0.9s
HVU Hansel Valley 81.46 327 *e*P P 14 09 30.0 +0.1
comp=Z,40nm,0.9s
B29A Wagenman Farm, 81.56 339 P P 14 09 30.8 +0.8
baz=151,SNR=29
MLAC Mammoth, Mammo 81.57 321 P P 14 09 31.7 +1.1
baz=135,SNR=6.1
A30A Hoffart Farm, 81.64 340 P P 14 09 30.8 +0.4
baz=152,SNR=9.4
REDW Red Top Meadow 81.78 329 *e*P P 14 09 32.0 +0.4
comp=Z,49nm,1.0s
SNOW Snow King Moun 81.81 329 *e*P P 14 09 32.1 +0.3
comp=Z,38nm,1.0s
LOHW Long Hollow 81.86 329 *e*P P 14 09 32.3 +0.2
comp=Z,28nm,0.9s
B28A Dugan Ranch, T 81.87 338 P P 14 09 32.3 +0.6
baz=150,SNR=20
ELK Elko 81.90 325 *e*P P 14 09 32.6 +0.3
ELK *e**PP **pP** 14 10 14.3 +1.6
ELK pmax pmax
comp=Z,22nm,0.9s
ELK Elko 81.90 325 *e*P P 14 09 32.6 +0.3
comp=Z,22nm,0.9s
ELK *e*pP **pP** 14 10 14.3 +1.6
A29A Manning Farm, 81.92 339 P P 14 09 32.2 +0.3
baz=151,SNR=52
TPAW Teton Pass 81.92 329 *e*P P 14 09 32.8 +0.4
comp=Z,44nm,1.1s
MOOW Moose Ponds 82.03 329 *e*P P 14 09 33.2 +0.3
comp=Z,23nm,1.1s
ULM Lac du Bonnet 82.10 342 P P 14 09 32.4 -0.3
comp=Z,50nm,0.9s,baz=146,slow=3.8,SNR=36
ULM Lac du Bonnet 82.10 342 *e*P P 14 09 32.5 -0.3
ULM pmax pmax
comp=Z,93nm,1.0s
ULM Lac du Bonnet 82.10 342 *e*P P 14 09 32.5 -0.3
comp=Z,92nm,1.0s
IMW Indian Meadow 82.24 329 *e*P P 14 09 34.8 +0.7
comp=Z,56nm,0.9s
A28A Rude Farm, Bot 82.24 338 P P 14 09 33.9 +0.3
baz=150,SNR=5.3
FLWY Flagg Ranch 82.28 330 *e*P P 14 09 35.0 +0.9
comp=Z,42nm,0.8s
B26A Jensen Ranch, 82.44 337 P P 14 09 35.5 +0.8
baz=149
H17A Grant Village 82.47 330 P P 14 09 36.7 +1.6
baz=142
H17A Grant Village 82.47 330 *e*P P 14 09 35.7 +0.5
comp=Z,18nm,0.9s
YPP Pitchstone Pla 82.47 330 *e*P P 14 09 36.2 +0.9
comp=Z,24nm,1.4s
RLMT Red Lodge 82.47 331 P P 14 09 36.1 +1.0
baz=143,SNR=32
RLMT Red Lodge 82.47 331 *e*P P 14 09 35.6 +0.5
comp=Z,54nm,0.9s
SCHQ Schefferville 82.49 360 P P 14 09 34.6 -0.1
comp=Z,28nm,0.9s,baz=149,slow=6.0,SNR=12
SCHQ Schefferville 82.49 360 *e*P P 14 09 34.8 +0.1
comp=Z,53nm,1.1s
LAO LASA Array 82.50 334 P P 14 09 35.6 +0.5
baz=145,SNR=14
LAO LASA Array 82.50 334 *e*P P 14 09 35.2 +0.2
comp=Z,65nm,0.8s
WAKR Walker 82.52 321 *e*P P 14 09 36.3 +0.8
comp=Z,46nm,1.3s
LKWY Lake 82.52 330 *e*P P 14 09 36.8 +1.3
LKWY pmax pmax
comp=Z,33nm,1.0s
LKWY Lake 82.52 330 *e*P P 14 09 36.8 +1.3
comp=Z,33nm,1.0s
MCID Moose Creek 82.58 329 *e*P P 14 09 37.1 +1.4
A27A Ledoux Ranch, 82.60 338 P P 14 09 36.3 +0.8
baz=150,SNR=7.2
YFT Old Faithful 82.62 330 *e*P P 14 09 37.4 +1.4
comp=Z,32nm,0.9s
B25A Knox Farm, Ray 82.68 336 P P 14 09 37.0 +1.1
baz=148
BMN Battle Mountai 82.69 324 *e*P P 14 09 35.6 -0.7
BMN pmax pmax
comp=Z,10.0nm,1.0s
BMN Battle Mountai 82.69 324 *e*P P 14 09 35.6 -0.7
comp=Z,10nm,1.0s
A26A Wade Farm, Ken 82.82 337 P P 14 09 37.2 +0.6
baz=149,SNR=11
YMR Madison River 82.85 330 *e*P P 14 09 37.8 +0.7
comp=Z,95nm,0.9s
YHH Holmes Hill 82.90 330 *e*P P 14 09 38.5 +1.0
comp=Z,72nm,0.9s
GCMT Greycliff 83.17 331 *e*P P 14 09 39.3 +0.7
QLMT Earthquake Lak 83.19 330 *e*P P 14 09 40.3 +1.5
DGMT Dagmar 83.22 336 P P 14 09 39.4 +0.8
baz=147,SNR=24
DGMT Dagmar 83.22 336 *e*P P 14 09 39.2 +0.6
comp=Z,162nm,0.9s
A25A Svangstu Ranch 83.23 337 P P 14 09 39.5 +0.8
baz=148,SNR=10
PAHR Pah Rah Range 83.33 322 *e*P P 14 09 40.5 +0.8
comp=Z,47nm,1.1s
PAHR *e*pP **pP** 14 10 21.9 +1.8
HLID Hailey 83.60 327 P P 14 09 42.3 +1.4
baz=139,SNR=85
HLID Hailey 83.60 327 *e*P P 14 09 41.8 +0.9
comp=Z,54nm,0.9s
HLID *e*pP **pP** 14 10 23.8 +2.4
AFDM Forest Hills D 83.69 320 *e*P P 14 09 41.3 0.0
comp=Z,29nm,1.3s
MCMT McKenzie Canyo 83.83 329 P P 14 09 43.4 +1.3
BOZ Bozeman (W) 83.91 330 P P 14 09 42.8 +0.4
baz=141,SNR=20
BOZ Bozeman (W) 83.91 330 *e*P P 14 09 42.5 +0.1
BOZ pmax pmax
comp=Z,17nm,1.0s
BOZ Bozeman (W) 83.91 330 *e*P P 14 09 42.5 +0.1
comp=Z,18nm,1.0s
DLMT Dillon 84.12 329 *e*P P 14 09 44.0 +0.5
comp=Z,49nm,1.0s
MFID Camas Ranch 84.17 326 *e*P P 14 09 44.0 +0.2
comp=Z,36nm,1.3s
ORV Oroville 84.40 321 *e*P P 14 09 45.5 +0.6
ORV pmax pmax
comp=Z,44nm,1.1s
ORV Oroville 84.40 321 *e*P P 14 09 45.5 +0.6
comp=Z,44nm,1.1s
LRM Limekiln Ridge 84.41 330 *e*P P 14 09 45.5 +0.4
PFVI Vila Bisbo 84.52 43 *e*P P 14 09 47.4 +1.9
comp=Z,118nm,1.8s
MORF Marmelete 84.74 43 *e*P P 14 09 46.5 -0.2
MORF AMb AMB 14 09 50.3
comp=Z,107nm,1.8s
MORF Marmelete 84.74 43⇑*i*P P 14 09 47.9 +1.2
comp=Z,106nm,1.8s
MORF Marmelete 84.74 43 *e*P P 14 09 46.4 -0.2

HRY Holter Researc 84.83 331 *e*P P 14 09 48.0 +1.0
PTEO Sao Teotonio 84.85 43 *e*P P 14 09 48.6 +1.5
comp=Z,161nm,1.5s
WVOR Wild Horse Val 84.87 324 *e*P P 14 09 47.5 +0.2
WVOR pmax pmax
comp=Z,29nm,1.4s
WVOR Wild Horse Val 84.87 324 *e*P P 14 09 47.5 +0.2
comp=Z,29nm,1.4s
MATP Matopo 84.99 110 *i* P P 14 09 49.5 +1.0
MATP *i* 14 09 49.8
baz=234,slow=5.6
O03D Paynes Creek 85.08 321 P P 14 09 47.9 -0.4
baz=133,SNR=8.7
PBDV Barranco-do-Ve 85.13 43⇑*i*P P 14 09 50.2 +1.6
comp=Z,149nm,1.5s
PCVE Castro Verde 85.32 43⇑*i*P P 14 09 51.0 +1.5
comp=Z,97nm,1.7s
PNCL Nicolau / Gran 85.34 42⇑*i*P P 14 09 50.9 +1.3
comp=Z,76nm,1.7s
MESJ Messejana 85.35 43 *e*P P 14 09 49.3 -0.4
MESJ AMb AMB 14 09 53.9
comp=Z,99nm,1.4s
MESJ Messejana 85.35 43⇑*i*P P 14 09 51.0 +1.4
comp=Z,97nm,1.3s
MESJ Messejana 85.35 43 *e*P P 14 09 49.2 -0.4
PVAQ Vaqueiros 85.37 43⇑*i*P P 14 09 51.1 +1.4
comp=Z,123nm,1.5s
PVAQ Vaqueiros 85.37 43 *e*LR LR 15 17 38.7
comp=Z,4µm,20.0s
MOD Modoc Plateau 85.37 323 *e*P P 14 09 50.1 +0.3
comp=Z,33nm,1.1s
CHMT Chamberlain Mo 85.60 330 *e*P P 14 09 51.4 +0.4
PBEJ Beja 85.68 43 *e*P P 14 09 52.6 +1.3
comp=Z,101nm,1.8s
WDC Whiskeytown Da 85.69 321 *e*P P 14 09 50.3 -0.9
WDC pmax pmax
comp=Z,16nm,1.0s
WDC Whiskeytown Da 85.69 321 *e*P P 14 09 50.3 -0.9
comp=Z,16nm,1.0s
MSO Missoula 85.84 330 P P 14 09 52.9 +0.9
baz=139,SNR=12
MSO Missoula 85.84 330 *e*P P 14 09 52.1 +0.1
comp=Z,26nm,1.1s
MSO *e*pP **pP** 14 10 33.5 +0.8
EVO Evora 85.92 42⇑*i*P P 14 09 53.4 +1.0
comp=Z,52nm,1.8s
BMO Blue Mountains 85.95 327 *e*P P 14 09 52.5 0.0
BMO pmax pmax
comp=Z,14nm,0.9s
BMO Blue Mountains 85.95 327 *e*P P 14 09 52.5 0.0
comp=Z,14nm,0.9s
CASY Casey 86.00 179 *e*P P 14 09 52.4 -0.1
CASY *e*pP **pP** 14 10 33.5 +0.3
TAM Tamanrasset 86.00 62 *e*P P 14 09 53.8 +0.4
TAM pmax pmax
comp=Z,120nm,1.2s
TAM Tamanrasset 86.00 62 *e*P P 14 09 53.8 +0.4
comp=Z,120nm,1.2s
N02D Trinity Center 86.04 321 P P 14 09 52.9 -0.2
baz=133,SNR=6.7
KMRM Mail Ridge 86.10 320 *e*P P 14 09 55.0 +1.6
comp=Z,63nm,1.3s
M04C Macdoel 86.12 322 P P 14 09 54.1 +0.6
baz=133,SNR=14
K05A Summer Lake 86.26 323 P P 14 09 55.4 +1.2
PBAR Barrancos 86.28 43 *e*P P 14 09 55.2 +1.0
SWMT Swartz Lake 86.39 330 *e*P P 14 09 55.0 +0.4
PESTR Estremoz 86.39 42⇑*e*P P 14 09 55.8 +1.0
comp=Z,104nm,1.5s
PTOM Tomar 86.40 41 *e*P P 14 09 55.8 +1.1
comp=Z,152nm,1.5s
M02C Callahan 86.41 321 P P 14 09 55.2 +0.3
baz=133,SNR=5.5
YBH Yreka Blue Hor 86.56 322 *e*P P 14 09 54.9 -0.7
YBH pmax pmax
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 86.56 322 *e*P P 14 09 54.9 -0.7
comp=Z,16nm,0.8s
K04D Chiloquin, OR 86.65 323 P P 14 09 56.7 +0.7
baz=133
YBMT Yellow Bay 86.66 330 *e*P P 14 09 56.3 +0.3
JTMT Jette 86.69 330 *e*P P 14 09 56.5 +0.3
J05D Fort Rock, OR 86.83 323 P P 14 09 57.7 +0.8
baz=134,SNR=36
PMRV Marv??o 86.87 42 *e*P P 14 09 57.6 +0.5
comp=Z,46nm,1.2s
PMRV Marv??o 86.87 42 *e*LR LR 15 16 48.6
comp=Z,2µm,18.0s
BLMT Blacktail Moun 86.93 330 *e*P P 14 09 57.8 +0.4
BSMT Bassoo Peak 87.00 330 P P 14 09 58.4 +0.7
G08A Pilot Rock 87.08 326 *e*P P 14 09 58.1 0.0
comp=Z,53nm,1.1s
PCBR Castelo Branco 87.09 41 *e*P P 14 09 59.0 +0.9
comp=Z,80nm,1.6s
HUMO Hull Mountain 87.29 322 *e*P P 14 09 58.6 -0.4
comp=Z,17nm,1.3s
L02D Cave Junction, 87.34 321 P P 14 10 00.3 +1.0
baz=132,SNR=6.6
MTE Manteigas 87.42 41 *e*P P 14 10 00.1 +0.4
comp=Z,13nm,1.0s
MTE Manteigas 87.42 41 *e*LR LR 15 16 10.5
comp=Z,2µm,18.0s
MTE Manteigas 87.42 41 *e*P P 14 09 59.8 0.0
comp=Z,119nm,1.2s
WALA Waterton Lakes 87.53 331 *e*P P 14 10 00.3 +0.2
comp=Z,98nm,0.9s
I05D Terrebonne, OR 87.61 324 P P 14 10 01.7 +1.1
baz=134,SNR=13
I04A Tendick Farm, 87.80 323 P P 14 10 01.6 +0.2
baz=133,SNR=9.6
G06A Carlson Farm, 87.88 325 *e*P P 14 10 00.8 -1.0
comp=Z,48nm,1.3s
PVRL Vila Real 87.89 40 *e*P P 14 10 02.9 +1.0
comp=Z,82nm,1.2s
POLO Lamas de Olo 87.91 40 *e*P P 14 10 03.9 +1.8
comp=Z,22nm,1.4s
PGAV Gavieira, Arco 88.02 39 *e*P P 14 10 04.8 +2.2
comp=Z,47nm,1.5s
PGAV Gavieira, Arco 88.02 39 *e*LR LR 15 15 37.5
comp=Z,2µm,20.0s
HAWA Hanford 88.14 326 *e*P P 14 10 02.0 -0.9
comp=Z,48nm,1.1s
MVO Moncorvo 88.21 41 *e*P P 14 10 04.7 +1.2
comp=Z,70nm,1.3s
MVO Moncorvo 88.21 41 *e*LR LR 15 15 55.4
comp=Z,3µm,20.0s
G05D Wamic, OR 88.23 325 P P 14 10 04.5 +1.1
baz=134,SNR=5.2
I03D Drain, OR 88.23 323 P P 14 10 04.0 +0.6
baz=132,SNR=7.8
NEW Newport 88.35 329 P P 14 10 03.9 0.0
baz=137
NEW Newport 88.35 329 *e*P P 14 10 03.3 -0.6
NEW pmax pmax
comp=Z,28nm,1.4s
NEW Newport 88.35 329 *e*P P 14 10 03.3 -0.6
comp=Z,28nm,1.4s
C09A Chisman Ranch 88.55 328 *e*P P 14 10 05.2 +0.4
comp=Z,65nm,1.0s
PAB San Pablo 88.77 43 *e*P P 14 10 06.2 0.0
PAB pmax pmax
comp=Z,107nm,1.8s
PAB San Pablo 88.77 43 *e*P P 14 10 06.2 0.0
comp=Z,107nm,1.8s
PBRG Braganca 88.78 40 *e*P P 14 10 07.3 +1.2
comp=Z,32nm,1.1s
G04A Mulino 88.80 324 *e*P P 14 10 06.3 +0.3
COR Corvallis 88.81 323 *e*P P 14 10 07.1 +1.1
COR pmax pmax
comp=Z,99nm,1.1s
COR Corvallis 88.81 323 *e*P P 14 10 07.1 +1.1
comp=Z,99nm,1.1s
ESDC Sonseca Array 89.08 43 P P 14 10 08.3 +0.7
comp=Z,11nm,0.8s,baz=241,slow=4.2,SNR=37
ESLA Sonseca Array 89.08 43 *e*P P 14 10 08.1 +0.5
comp=Z,24nm,1.1s
ES19 SONSECA Array 89.14 43 *e*P P 14 10 07.9 +0.1
G03D McMinnville, O 89.21 324 P P 14 10 08.9 +0.9
baz=132
FCC Fort Churchill 89.40 346 *e*P P 14 10 08.4 0.0
FCC pmax pmax
comp=Z,47nm,0.7s
FCC Fort Churchill 89.40 346 *e*P P 14 10 08.4 0.0
comp=Z,47nm,0.7s
B08A Colville Reser 89.44 328 *e*P P 14 10 08.7 -0.3
comp=Z,25nm,1.4s
LON Longmire 89.52 326 *e*P P 14 10 09.2 -0.2

LON pmax pmax
comp=Z,18nm,1.0s
LON Longmire 89.52 326 *e*P P 14 10 09.2 -0.2
comp=Z,18nm,1.0s
F04D Rainier, OR 89.67 325 P P 14 10 11.0 +0.9
baz=133
D05A Enumclaw 89.91 326 *e*P P 14 10 11.2 0.0
comp=Z,54nm,1.0s
E03A Lebam 90.26 325 *e*P P 14 10 13.5 +0.7
comp=Z,42nm,0.9s
B05A Bryant 90.70 327 P P 14 10 14.6 -0.2
baz=133,SNR=6.4
NLWA Neilton Lookou 90.98 325 *e*P P 14 10 16.5 +0.3
comp=Z,27nm,1.0s
A04D Lummi Island 91.31 327 P P 14 10 18.2 +0.6
baz=133
PGC Sidney 91.62 326 *e*P P 14 10 19.9 +0.9
KEST Kesra 95.60 52 P P 14 10 39.3 +1.5
comp=Z,9.9nm,1.0s,baz=252,slow=3.9,SNR=9.1
KEST Kesra 95.60 52 *e*P P 14 10 39.5 +1.7
comp=Z,14nm,0.8s
SSB Saint Sauveur 97.44 42 *e*P Pdif 14 10 46.0 +0.1
SSB pmax pmax
comp=Z,24nm,1.1s
SSB Saint Sauveur 97.44 42 *e*P Pdif 14 10 46.0 +0.1
comp=Z,24nm,1.1s
YKA Yellowknife Ar 97.96 340 P P 14 10 47.3 -0.3
comp=Z,3.5nm,0.5s,baz=136,slow=4.6,SNR=40
YKA pP **pP** 14 11 28.8 0.0
comp=Z,2.2nm,0.8s,baz=134,slow=4.7,SNR=2.2
EKA Eskdalemuir Ar 99.08 31 P **Pdif** 14 10 53.0 +0.1
comp=Z,0.8nm,0.4s,baz=235,slow=3.8,SNR=4.9
SENIN Lac Senin/Sane 99.66 42 *e*Pdif **Pdif** 14 10 57.3 +1.3
comp=Z,8.9nm,1.0s
DLBC Dease Lake 100.87 331 *e*Pdif **Pdif** 14 11 01.3 +0.4
TUE Stuetta 100.94 43 *e*Pdif **Pdif** 14 11 02.3 +0.6
BFO Black Forest 101.25 41 *i* P **Pdif** 14 11 05.1 +2.4
DAVOX Davos/Dischmat 101.41 43 P **Pdif** 14 11 05.1 +1.4
comp=Z,9.3nm,0.8s,baz=309,slow=5.3,SNR=9.7
FUORN Ofenpass-Fuorn 101.56 43 *e*Pdif **Pdif** 14 11 05.7 +1.2
DAVA Damuels 101.65 43 *i* Pdiff **Pdif** 14 11 05.7 +0.9
comp=Z,12nm,1.2s
FETA Feichten 102.04 43 *i* Pdiff **Pdif** 14 11 07.2 +0.7
comp=Z,12nm,1.0s
RETA Reutte 102.28 43 *i* Pdiff **Pdif** 14 11 09.3 +1.9
comp=Z,11nm,1.2s
MOTA Moosalm 102.41 43 *i* Pdiff **Pdif** 14 11 08.9 +0.8
comp=Z,11nm,1.0s
WATA Walderalm 102.69 43 *i* Pdiff **Pdif** 14 11 10.8 +1.4
comp=Z,3.7nm,0.6s
WTTA Wattenberg 102.70 43 *i* Pdiff **Pdif** 14 11 10.9 +1.5
comp=Z,8.1nm,1.3s
ABTA Abfaltersbach 103.00 44 *i* Pdiff **Pdif** 14 11 11.2 +0.6
comp=Z,9.4nm,1.0s
MYKA Terra Mystica 103.64 44 *i* Pdiff **Pdif** 14 11 15.0 +1.5
comp=Z,5.9nm,1.3s
KBA Koelnbreinsper 103.65 44 *i* Pdiff **Pdif** 14 11 14.8 +1.2
comp=Z,5.3nm,1.2s
OBKA Obir 104.15 45 *i* Pdiff **Pdif** 14 11 16.6 +0.9
comp=Z,6.3nm,1.1s
SOKA Soboth 104.52 45 *i* Pdiff **Pdif** 14 11 18.9 +1.5
comp=Z,1.9nm,0.9s
MOA Molln 104.55 43 *i* Pdiff **Pdif** 14 11 19.1 +1.6
comp=Z,3.6nm,0.8s
GEA0 GERESS Array S 104.64 42 *e*PKiKP **PKiKP** 14 15 33.1 +0.4
GERES GERESS Array B 104.64 42 Pdiff **Pdif** 14 11 19.0 +1.1
comp=Z,0.3nm,0.3s,baz=236,slow=4.5,SNR=4.3
GERES PKiKP **PKiKP** 14 15 32.4 -0.4
comp=Z,0.3nm,0.2s,baz=180,slow=3.6,SNR=4.9
GERES GERESS Array B 104.64 42 P **Pdif** 14 11 19.0 +1.1
VYHS Vyhne 107.61 44 *e*P **Pdif** 14 11 33.7 +2.7
VYHS Vyhne 107.61 44 *e*PDIFF **Pdif** 14 11 33.7 +2.7
ILAR Eielson Array 110.95 333 PKiKP **PKiKP** 14 15 43.3 -0.6
comp=Z,0.6nm,0.4s,baz=173,slow=0.5,SNR=12
ILAR PP PP 14 16 13.0 -12
comp=Z,2.8nm,1.3s,baz=100,slow=6.8,SNR=5.1
CCB Clear Creek Bu 111.27 333 *e*PKiKP **PKiKP** 14 15 44.5 0.0
COLD Coldfoot 113.04 335 *e*PKiKP **PKiKP** 14 15 49.0 +1.1
BR231 Keskin MP Arra 114.18 56 *e*PKiKP **PKiKP** 14 15 51.8 +0.8
TT01 Tatalina 114.24 330 *e*PKiKP **PKiKP** 14 15 51.0 +0.7
AK11 Malin Array Si 114.67 44 *e*PKiKP PKdf 14 15 51.4 0.0
KIEV Kiev 114.70 44 *e*PKiKP PKdf 14 15 51.2 -0.3
KIEV Kiev 114.70 44 *e*PKiKP PKdf 14 15 51.2 -0.3
AKASG Malin Array Be 114.71 44 PKP PKdf 14 15 50.8 -0.7
AKASG pPKP pPKiKP 14 16 33.6 -0.8
comp=Z,1.6nm,0.5s,baz=261,slow=2.9,SNR=3.9
BRTR Keskin Array B 114.79 57 PKP PKPdf 14 15 52.0 -0.2
comp=Z,2.8nm,0.8s,baz=225,slow=2.6,SNR=11
BRTR pPKP pPKiKP 14 16 36.1 +0.9
comp=Z,3.1nm,0.8s,baz=188,slow=3.0,SNR=7.7
VSU Vasula 115.14 35*c* *i* PKiKP **PKPdf** 14 15 53.1 +1.1
VSU pmax pmax
comp=Z,67nm,1.7s
FINES FINESS Array B 115.46 32 PKP **PKPdf** 14 15 52.4 -0.1
comp=Z,1.0nm,0.4s,baz=325,slow=2.2,SNR=10
SPITS Spitsbergen Ar 115.77 13 PKP **PKPdf** 14 15 52.7 -0.2
comp=Z,3.4nm,0.8s,baz=189,slow=8.2,SNR=5.1
ARCES ARCESS Array B 116.67 23 PKP **PKPdf** 14 15 54.6 -0.1
comp=Z,0.8nm,0.4s,baz=253,slow=3.5,SNR=13
LVZ Lovozero 119.86 25 *e*PKiKP **PKPdf** 14 16 01.3 +0.3
LVZ Lovozero 119.86 25 *e*PKPdf **PKPdf** 14 16 01.3 +0.3
OBN Obninsk 119.90 40 PKP **PKPdf** 14 16 01.1 -0.2
comp=Z,25nm,0.3s,baz=342,slow=3.2,SNR=5.9
OBN pPKP **pPKPdf** 14 16 44.2 0.0
comp=Z,17nm,0.4s,baz=219,slow=3.3,SNR=1.3
OBN Obninsk 119.90 40 *i* PKiKP **PKPdf** 14 16 00.5 -0.8
OBN *e* 14 16 43.6
OBN pmax pmax
comp=Z,32nm,1.2s
VSR Storozhevoye 120.98 45 *e*PKiKP **PKPdf** 14 16 03.7 +0.2
VSR pmax pmax
comp=Z,20nm,1.5s
KLMR Klimovskoe 121.86 34 *e*PKiKP **PKPdf** 14 16 03.8 -1.1
KLMR *e* 14 16 46.9
KLMR pmax pmax
comp=Z,29nm,0.7s
KIV Kislovodsk 122.32 54 *e*PKiKP **PKPdf** 14 16 07.3 +0.8
KIV *e* 14 16 50.9
KIV pmax pmax
comp=Z,27nm,1.0s
KVAR Kislovodsk Arr 122.32 54 PKP **PKPdf** 14 16 06.7 +0.1
comp=Z,12nm,0.7s,baz=265,slow=0.8,SNR=7.2
KBZ Khabaz 122.43 54 PKP **PKPdf** 14 16 07.0 +0.4
comp=Z,10.0nm,0.8s,baz=206,slow=2.5,SNR=11
KBZ pPKP **pPKPdf** 14 16 50.3 +0.8
comp=Z,12nm,1.0s,baz=216,slow=1.6,SNR=5.8
VRH Novokhopyorsk 122.58 45 *e*PKiKP **PKPdf** 14 16 06.3 -0.3
VRH pmax pmax
comp=Z,20nm,0.8s
GOF Gofitskoye 122.74 52⇑*e*PKiKP **PKPdf** 14 16 07.1 0.0
NCK Nalchik 122.90 54 *e*PKiKP **PKPdf** 14 16 07.0 -0.5
ZEI Tsey 123.01 55 *i* PKiKP **PKPdf** 14 16 08.2 +0.2
ZEI *e* 14 16 48.3
AS01 Alice Springs 124.92 203 *e*PKPdf **PKPdf** 14 16 11.3 -0.9
ASAR Alice Springs 124.94 203 PKP **PKPdf** 14 16 11.4 -0.8
comp=Z,3.8nm,0.4s,baz=134,slow=1.7,SNR=146
ASAR pPKP **pPKPdf** 14 16 53.5 -1.6
comp=Z,5.6nm,0.6s,baz=144,slow=1.9,SNR=9.6
ASAR PKKPab **PKKPbc** 14 25 52.9 +0.1
comp=Z,1.2nm,0.5s,baz=333,slow=3.3,SNR=29
ASAR pPKP **PKKPdf** 14 26 32.0 -0.9
comp=Z,0.3nm,0.4s,baz=358,slow=1.9,SNR=6.3
AS31 Alice Springs 124.94 203 *e*PKPdf **PKPdf** 14 16 11.3 -1.0
WB2 Warramunga Arr 128.19 205 *e*PKPdf **PKPdf** 14 16 17.8 -0.6
WRA Warramunga Arr 128.19 205 PKP **PKPdf** 14 16 18.1 -0.4
comp=Z,3.4nm,0.3s,baz=154,slow=2.0,SNR=187
WRA pPKP **pPKPdf** 14 16 59.7 -1.7
comp=Z,9.7nm,0.6s,baz=162,slow=1.6,SNR=12
WRA SKPbc SKPbc 14 19 21.4
comp=Z,2.1nm,0.8s,baz=154,slow=3.7,SNR=8.2
WRAB Tennant Creek 128.19 205*c* *i* PKiKP **PKPdf** 14 16 18.5 0.0
WRAB pmax pmax
comp=Z,58nm,1.7s
WRAB Tennant Creek 128.19 205 *e*PKPdf **PKPdf** 14 16 18.0 -0.5
BILL Bilibino 129.28 337 *e*PKiKP **PKPdf** 14 16 19.5 +0.5
BILL Bilibino 129.28 337 *e*PKPdf **PKPdf** 14 16 19.4 +0.5
MBWA Marble Bar 130.74 188 *e*SKPbc **SKPab** 14 19 32.5 +0.2
ARU Arti 132.19 38 PKP **PKPdf** 14 16 26.1 +1.2
comp=Z,12nm,0.4s,baz=222,slow=1.1,SNR=22
ARU pPKP **pPKPdf** 14 17 08.8 +1.0
comp=Z,8.0nm,0.6s,baz=297,slow=2.6,SNR=4.7
ARU SKPbc **SKPab** 14 19 37.7 +0.4
comp=Z,3.0nm,0.7s,baz=280,slow=5.7,SNR=6.1
ARU Arti 132.19 38 *i* PKiKP **PKPdf** 14 16 26.0 +1.2
ARU 14 18 50.3

ARU					SS	SS		14 36 18.0	+4.2
ARU	**Arti**	**132.19**	**38**	*e*PKPdf	**PKPdf**	**14 16 26.1**	**+1.2**
ARU				pPKP	**pPKPdf**	**14 17 08.8**	**+1.0**
ARU				*e*SKPbc	**SKPab**	**14 19 39.0**	**+1.7**
FITZ	**Fitzroy Crossi**	**132.65**	**196**	*e*SKPbc	**SKPbc**	**14 19 39.1**	**+0.1**
AKTO	**Aktyubinsk**	**132.91**	**46**	PKP	**PKPdf**	**14 16 27.6**	**+1.3**
	comp=Z,3.7nm,0.5s,baz=290,slow=3.4,SNR=18								
AKTO				pPKP	**pPKPdf**	**14 17 10.4**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=294,slow=3.5,SNR=4.2								
AKTO				SKPbc	**SKPab**	**14 19 40.0**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=348,slow=3.7,SNR=4.3								
GEYT	**Alibeck**	**133.22**	**63**	PKP	**PKPdf**	**14 16 27.8**	**+0.4**
	comp=Z,2.5nm,0.4s,baz=298,slow=3.1,SNR=7.5								
GEYT				pPKP	**pPKPdf**	**14 17 11.4**	**+1.0**
	comp=Z,2.1nm,0.4s,baz=250,slow=4.3,SNR=2.6								
GEYT				SKPbc	**SKPab**	**14 19 42.0**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=270,slow=4.3,SNR=4.4								
AB31	**Akbulak array**	**134.29**	**47**	PKIKP	**PKPdf**	**14 16 30.1**	**+1.1**
AB31				pmax	pmax				
	comp=Z,5.0nm,0.5s								
ABKAR	**Akbulak array**	**134.29**	**47**	*e*PKPpre	PKPpre	14 16 15.9			
ABKAR				*e*PKPdf	**PKiKP**	**14 16 30.0**	**-0.3**		
TIXI	**Tiksi**	**135.46**	**353**	*c i*PKIKP	**PKPdf**	**14 16 31.1**	**+0.6**		
TIXI				pmax	pmax				
	comp=Z,10.0nm,1.2s								
TIXI	**Tiksi**	**135.46**	**353**	*e*PKPdf	**PKPdf**	**14 16 29.5**	**-1.0**		
NRIK	**Noril'sk**	**135.99**	**13**	PKP	**PKPdf**	**14 16 31.8**	**+0.2**		
	comp=Z,3.1nm,0.6s,baz=56,slow=1.5,SNR=8.3								
SEY	**Seymchan**	**136.84**	**335**	PKP	**PKPdf**	**14 16 34.6**	**+1.3**		
	comp=Z,21nm,0.9s,baz=66,slow=3.6,SNR=35								
SEY				pPKP	**pPKPdf**	**14 17 18.1**	**+1.8**		
	comp=Z,7.2nm,0.6s,baz=121,slow=3.2,SNR=4.3								
SEY				SKP		14 19 51.9			
	comp=Z,2.3nm,0.6s,baz=73,slow=2.2,SNR=5.6								
SEY	**Seymchan**	**136.84**	**335**	*c i*PKIKP	**PKPdf**	**14 16 34.8**	**+1.5**		
PEA0	**Petropavlovsk-**	**138.91**	**320**	*e*PKPdf	**PKPdf**	**14 16 38.6**	**+1.2**		
PETK	**Petropavlovsk-**	**138.91**	**320**	PKP	**PKPdf**	**14 16 37.2**	**-0.2**		
	comp=Z,9.9nm,0.9s,baz=63,slow=6.3,SNR=11								
PETK				pPKP	**pPKPdf**	**14 17 19.8**	**-0.6**		
	comp=Z,7.9nm,0.8s,baz=72,slow=4.7,SNR=4.7								
PETK	**Petropavlovsk-**	**138.91**	**320**	PKIKP	**PKPdf**	**14 16 37.2**	**-0.2**		
PETK						14 17 19.8			
PETK				pmax	pmax				
	comp=Z,11nm,0.9s								
PETK				pmax	pmax				
	comp=Z,8.0nm,0.8s								
BRVK	**Borovoye**	**139.67**	**40**	*c i*PKIKP	**PKPdf**	**14 16 40.8**	**+2.0**		
BRVK				pmax	pmax				
	comp=Z,74nm,1.7s								
BRVK	**Borovoye**	**139.67**	**40**	*e*PKPdf	**PKPdf**	**14 16 39.8**	**+1.0**		
BVA0	**Borovoye Array**	**139.74**	**40**	*i*PKIKP	**PKPdf**	**14 16 39.1**	**+0.1**		
BVA0				pmax	pmax				
	comp=Z,5.0nm,0.5s								
BVAR	**Borovoye Array**	**139.74**	**40**	PKhKP	PKPpre	14 16 31.0			
	comp=Z,0.8nm,0.3s,baz=247,slow=3.0,SNR=6.3								
BVAR				PKP	**PKPdf**	**14 16 39.3**	**+0.3**		
	comp=Z,7.3nm,0.6s,baz=270,slow=2.9,SNR=21								
BVAR				pPKP	pPKPdf	14 17 23.5	+1.6		
	comp=Z,6.8nm,0.7s,baz=267,slow=2.9,SNR=4.5								
GENI	**Genyem**	**140.11**	**225**	P	**PKPdf**	**14 16 41.2**	**+0.3**		
GENI				PKP	**PKiKP**	**14 16 44.1**	**+0.7**		
VOSK	**Vostochnaya**	**140.19**	**40**	*e*PKHKP	PKPpre	14 16 33.0			
VOSK	**Vostochnaya**	**140.19**	**40**	*e*PKPpre	PKPpre	14 16 33.0			
KK31	**Karatay Array**	**142.46**	**55**	*i*PKHKP	PKPpre	14 16 40.5			
KK31				pmax	pmax				
	comp=Z,3.0nm,0.5s								
KKAR	**Karatay Array**	**142.46**	**55**	*e*PKHKP	PKPpre	14 16 39.8			
KKAR	**Karatay Array**	**142.46**	**55**	*e*PKPpre	PKPpre	14 16 39.8			
PALK	**Pallekele**	**142.89**	**118**	*c i*PKIKP	**PKPdf**	**14 16 48.5**	**+2.6**		
MNAS	**Manas**	**144.01**	**55**	PKIKP	PKPbc	14 16 45.7	+0.2		
MNAS				pmax	pmax				
	comp=Z,12nm,0.6s								
YAK	**Yakutsk**	**144.28**	**347**	*c i*PKIKP	PKPbc	14 16 45.4	0.0		
YAK				*e*		14 17 26.9			
YAK				pmax	pmax				
	comp=Z,182nm,0.9s								
YAK				pmax	pmax				
	comp=E,16nm,0.9s								
YAK				pmax	pmax				
	comp=N,35nm,1.2s								
YAK	**Yakutsk**	**144.28**	**347**	*e*PKPdf	PKPbc	14 16 45.5	+0.1		
KPJI	**Karang Pucung**	**144.62**	**172**	P	**PKPab**	**14 16 45.9**	**-1.9**		
KPJI				PKP	**PKPdf**	**14 16 48.8**	**0.0**		
EKS2	**Erkin-Say**	**144.90**	**55**	*e*PKIKP	**PKPdf**	**14 16 48.9**	**+0.3**		
EKS2	**Erkin-Say**	**144.90**	**55**	*e*PKPbc	**PKPdf**	**14 16 48.9**	**+0.3**		
KURBB	**Kurchatov Arra**	**145.33**	**40**	PKPbc	**PKPab**	**14 16 50.1**	**+0.7**		
	comp=N,47nm,0.4s,baz=304,slow=3.4,SNR=323								
KURBB				pPKPbc	pPKPbc	14 17 31.8	+0.3		
	comp=N,18nm,0.7s,baz=297,slow=3.6,SNR=3.4								
KURK	**Kurchatov**	**145.34**	**40**	PKIKP	**PKPab**	**14 16 49.8**	**+0.3**		
KURK				pmax	pmax				
	comp=Z,410nm,0.6s								
KURK	**Kurchatov**	**145.34**	**40**	*e*PKPdf	**PKPab**	**14 16 50.0**	**+0.5**		
KURK				pPKPbc	pPKPbc	14 17 31.8	+0.3		
AAK	**Ala-Archa**	**145.43**	**55**	*c i*PKP2	**PKPab**	**14 16 51.1**	**+0.8**		
AAK				pmax	pmax				
	comp=Z,274nm,0.9s								
AAK	**Ala-Archa**	**145.43**	**55**	*e*PKPdf	**PKPab**	**14 16 51.2**	**+0.9**		
AAK				*e*PKPdf	**PKPbc**	**14 16 51.4**	**+1.5**		
NVS	**Novosibirsk**	**145.43**	**31**	⇑*i*PKP2	**PKPab**	**14 16 50.3**	**+0.6**		
NVS				*e*		14 20 06.5			
NVS				pmax	pmax				
	comp=Z,256nm,1.1s								
NVS				pmax	pmax				
	comp=E,67nm,1.4s								
FRU	**Bishkek**	**145.47**	**54**	⇑*i*PKP2	**PKPab**	**14 16 51.0**	**+0.7**		
FRU				pmax	pmax				
	comp=Z,910nm,1.7s								
TKM2	**Tokmak 2**	**146.15**	**54**	*e*PKP2	**PKPbc**	**14 16 52.0**	**-0.2**		
TKM2	**Tokmak 2**	**146.15**	**54**	*e*PKPdf	**PKPbc**	**14 16 52.0**	**-0.2**		
HYB	**Hyderabad**	**146.34**	**101**	*i*PKP	**PKPbc**	**14 16 53.0**	**-0.2**		
HYB				*e*		14 17 36.0			
ZAA0	**Zalesovo Array**	**146.71**	**31**	*e*PKPdf	**PKPdf**	**14 16 51.6**	**+0.4**		
ZAA0				*e*PKPdf	**PKPbc**	**14 16 51.8**	**-1.3**		
ZAA0				*e*PKPbc	**PKPab**	**14 16 54.2**	**-0.4**		
ZAA0				*e*PKPbc	**PKiKP**	**14 16 54.4**	**-1.3**		
ZALV	**Zalesovo Beam**	**146.71**	**31**	PKPbc	**PKPdf**	**14 16 52.0**	**+0.8**		
	comp=Z,96nm,0.4s,baz=303,slow=1.7,SNR=142								
ZALV				pPKPbc	pPKPbc	14 17 35.4	-0.1		
	comp=Z,55nm,0.9s,baz=312,slow=4.2,SNR=3.0								
KDI	**Kendari**	**147.00**	**197**	P	**PKPdf**	**14 16 52.4**	**-0.5**		
KDI				PKP	**PKiKP**	**14 16 57.3**	**-0.2**		
KSH	**Kashi**	**147.10**	**60**	PKPbc	**PKPdf**	**14 16 53.4**	**+0.9**		
KSH				pPKP	pPKPdf	14 17 36.6	+1.1		
KSH				PP	**PP**	**14 20 25.5**	**+4.0**		
KSH				SKS	**SKSdf**	**14 23 44.3**	**-1.6**		
KSH				SKKS	**SKKSac**	**14 26 56.8**	**-0.3**		
KSH				PPMZ					
	comp=Z,140nm,4.7s								
KSH				LN					
	comp=Z,120nm,6.3s								
KSH				LE					
	comp=Z,140nm,5.4s								
KSH				LZ					
	comp=Z,580nm,11.3s								
THN	**Thein Dam**	**147.31**	**73**	*e*P	**PKPdf**	**14 16 52.0**	**-0.8**		
NKL	**Nikolayevsk**	**147.76**	**329**	*e*PKIKP	**PKPdf**	**14 16 53.0**	**+0.1**		
NKL				pmax	pmax				
	comp=Z,110nm,1.0s								
SDNR	**Sundarnagar**	**148.33**	**75**	*ex*	**PKPbc**	**14 16 58.0**	**-0.2**		
MAKZ	**Makanchi**	**149.10**	**44**	*e*PKIKP	**PKPdf**	**14 16 55.7**	**+0.4**		
MAKZ	**Makanchi**	**149.10**	**44**	*e*PKPdf	**PKPdf**	**14 16 55.7**	**+0.4**		
MAKZ				*e*PKPbc	**PKPbc**	**14 17 00.2**	**+0.5**		
PPI	**Padang Panjang**	**149.10**	**154**	P	**PKPdf**	**14 16 58.4**	**+2.0**		
PPI				PKP	**PKiKP**	**14 17 02.8**	**+1.0**		
MK31	**Makanchi Array**	**149.30**	**44**	*e*PKPdf	**PKPdf**	**14 16 55.8**	**+0.1**		
MK31				*e*PKPbc	**PKiKP**	**14 17 00.7**	**-0.5**		
MKAR	**Makanchi Array**	**149.30**	**44**	PKPbc	**PKPbc**	**14 17 00.4**	**+0.2**		
	comp=Z,66nm,0.6s,baz=262,slow=0.9,SNR=198								
MKAR				pPKPbc	**pPKPbc**	**14 17 42.7**	**-0.2**		
	comp=Z,20nm,0.7s,baz=281,slow=3.5,SNR=2.3								
MKAR	**Makanchi Array**	**149.30**	**44**	*e*PKIKP	**PKPdf**	**14 16 56.1**	**+0.4**		
MKAR				*e*		14 17 00.9			
MKAR						14 17 42.7			
MKAR	**Makanchi Array**	**149.30**	**44**	*e*PKPdf	**PKPdf**	**14 16 56.1**	**+0.4**		
MKAR				*e*PKPbc	**PKiKP**	**14 17 00.9**	**-0.4**		
MKAR				pPKPbc	**pPKPbc**	**14 17 42.7**	**-0.2**		
MK01	**Makanchi Array**	**149.31**	**44**	*e*PKPdf	**PKPdf**	**14 16 55.5**	**-0.2**		
MK01				*e*PKPbc	**PKPbc**	**14 17 00.8**	**+0.5**		
MNSI	**Mandailing Nat**	**149.91**	**152**	P	**PKPbc**	**14 17 02.1**	**-0.5**		
MNSI				PKP	**PKiKP**	**14 17 02.8**	**-0.7**		
CLNS	**Chul'man**	**150.03**	**347**	*e*PKHKP	PKPpre	14 16 57.7			
CLNS				pmax	pmax				
	comp=Z,68nm,0.9s								
CLNS				pmax	pmax				
	comp=N,20nm,1.0s								
CLNS				pmax	pmax				
	comp=E,11nm,1.1s								
BOD	**Bodaibo**	**150.19**	**359**	*e*PKIKP	**PKPdf**	**14 16 56.3**	**-0.4**		
BOD				pmax	pmax				
	comp=Z,58nm,1.3s								
YSS	**Yuzh-Sakhalins**	**150.21**	**317**	⇑*i*PKIKP	**PKPbc**	**14 17 02.7**	**+0.4**		
YSS				*e*		14 17 45.8			
YSS				pmax	pmax				
	comp=Z,80nm,1.1s								
YSS	**Yuzh-Sakhalins**	**150.21**	**317**	*e*PKPbc	**PKPbc**	**14 17 02.3**	**0.0**		
LGTI	**Lohaghat**	**151.00**	**79**	*ex*	**PKPbc**	**14 17 08.4**	**+3.7**		
PSI	**Prapat**	**151.41**	**149**	*e*PKIKP	**PKPbc**	**14 17 05.2**	**-1.1**		
PSI	**Prapat**	**151.41**	**149**	*e*PKPbc	**PKPbc**	**14 17 05.2**	**-1.1**		
ASAJ	**Asahikawa**	**151.59**	**312**	*e*PKPbc	**PKPbc**	**14 17 05.5**	**-0.2**		
SGSI	**Sangihe**	**153.17**	**208**	P	**PKPbc**	**14 17 05.0**	**-5.1**		
SGSI				PKP	**PKPdf**	**14 16 58.1**	**-4.5**		
PYUN	**Piuthan**	**153.25**	**83**	*e*P	**PKPdf**	**14 17 02.8**	**+0.3**		
KOLN	**Koldanda**	**153.74**	**83**	*e*P	**PKPdf**	**14 17 03.5**	**+0.3**		
IPM	**Ipoh**	**153.84**	**151**	*e*PKPbc	**PKPbc**	**14 17 11.1**	**-0.5**		
KLR	**Kul'dur**	**154.51**	**331**	PKP	**PKPdf**	**14 17 02.9**	**-0.5**		
	comp=Z,6.1nm,0.9s,baz=19,slow=4.0,SNR=14								
KLR				PKPbc	**PKiKP**	**14 17 11.9**	**0.0**		
	comp=Z,5.3nm,0.4s,baz=11,slow=2.7,SNR=25								
KLR				pPKP	**pPKPdf**	**14 17 45.4**	**-1.1**		
	comp=Z,7.6nm,1.0s,baz=18,slow=0.9,SNR=3.1								
KLR				pPKPbc	**pPKPbc**	**14 17 55.4**	**+0.6**		
	comp=Z,6.3nm,0.5s,baz=54,slow=2.4,SNR=3.9								
KLR	**Kul'dur**	**154.51**	**331**	PKIKP	**PKPdf**	**14 17 02.9**	**-0.5**		
KLR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
MOY	**Mondy**	**154.60**	**18**	*e*PKIKP	**PKPdf**	**14 17 05.1**	**+1.5**		
MOY				pmax	pmax				
	comp=Z,46nm,2.1s								
GKN	**Gorkha**	**154.68**	**83**	*e*P	**PKPdf**	**14 17 04.6**	**+0.1**		
DMN	**Daman**	**155.05**	**84**	*e*P	**PKPdf**	**14 17 05.4**	**+0.3**		
KKN	**Kakani**	**155.22**	**84**	*e*P	**PKPdf**	**14 17 05.6**	**+0.3**		
TLY	**Talaya**	**155.25**	**14**	PKPab	**PKPab**	**14 17 31.0**	**+1.0**		
	comp=Z,10nm,0.5s,baz=323,slow=5.0,SNR=18								
TLY				pPKPab	**pPKPab**	**14 18 13.8**	**+2.3**		
	comp=Z,2.1nm,0.6s,baz=243,slow=2.3,SNR=1.4								
TLY	**Talaya**	**155.25**	**14**	*i*PKIKP	PKPab	14 17 21.9	-8.2		
TLY				pmax	pmax				
	comp=Z,46nm,1.1s								
TLY	**Talaya**	**155.25**	**14**	*e*PKPab	**PKPab**	**14 17 31.4**	**+1.3**		
TLY				pPKPab	**pPKPab**	**14 18 13.8**	**+2.3**		
GUN	**Gumba**	**155.76**	**84**	*e*P	**PKPdf**	**14 17 06.6**	**+0.4**		
RAMN	**Ramite**	**156.27**	**86**	*e*P	**PKPdf**	**14 17 07.3**	**+0.5**		
ZAK	**Zakamensk**	**156.37**	**16**	*e*PKIKP	**PKPdf**	**14 17 06.6**	**+0.6**		
ZAK				*e*		14 17 34.8			
ZAK				pmax	pmax				
	comp=Z,7.0nm,1.7s								
ZAK				pmax	pmax				
	comp=Z,10.0nm,1.3s								
MJAR	**Matsushiro Arr**	**157.35**	**298**	PKP	**PKPdf**	**14 17 05.3**	**-2.2**		
	comp=Z,1.2nm,0.8s,baz=135,slow=0.7,SNR=4.1								
MJAR				PKPab	**PKPab**	**14 17 39.6**	**-0.2**		
	comp=Z,8.8nm,0.9s,baz=76,slow=4.1,SNR=15								
MJAR				pPKPab	**pPKPab**	**14 18 22.1**	**+1.0**		
	comp=Z,4.6nm,0.7s,baz=78,slow=4.6,SNR=6.2								
MAJO	**Matsushiro**	**157.35**	**298**	*e*PKP2	**PKPab**	**14 17 39.9**	**+0.1**		
MAJO	**Matsushiro**	**157.35**	**298**	*e*PKPab	**PKPab**	**14 17 39.9**	**+0.1**		
MJB9	**Matsu-Tunnel**	**157.36**	**298**	*e*PKPab	**PKPab**	**14 17 39.8**	**0.0**		
MDJ	**Mudanjiang**	**158.93**	**326**	PKP	**PKPdf**	**14 17 08.9**	**-0.3**		
MDJ				pPKP	pPKPdf	14 17 51.1	-1.2		
MDJ				sPKP		14 18 08.4			
MDJ				PKS	**PKSdf**	**14 20 42.1**	**-0.5**		
MDJ				PP	**PP**	**14 21 28.6**	**+1.4**		
MDJ				SKS	**SKSdf**	**14 23 59.1**	**-0.2**		
MDJ				PPMZ					
	comp=Z,62nm,4.5s								
SONA1	**Songino Array**	**159.46**	**13**	*e*PKPdf	**PKPdf**	**14 17 10.2**	**+0.3**		
SONA1				*e*PKPab	**PKPab**	**14 17 49.1**	**+0.6**		
SONM	**Songino Array**	**159.47**	**13**	PKP	**PKPdf**	**14 17 10.6**	**+0.7**		
	comp=Z,14nm,1.1s,baz=313,slow=0.8,SNR=63								
SONM				PKPab	**PKPab**	**14 17 49.1**	**+0.5**		
	comp=Z,16nm,0.9s,baz=327,slow=4.0,SNR=21								
SONM				PP	**PP**	**14 21 28.4**	**-1.5**		
	comp=Z,2.0nm,0.9s,baz=340,slow=8.0,SNR=5.0								
ULN	**Ulaanbaatar**	**159.57**	**12**	*e*PKIKP	**PKPdf**	**14 17 10.7**	**+0.7**		
ULN				*e*		14 17 49.2			
ULN	**Ulaanbaatar**	**159.57**	**12**	*e*PKPdf	**PKPdf**	**14 17 10.7**	**+0.7**		
ULN				*e*PKPab	**PKPab**	**14 17 49.2**	**+0.1**		
LSA	**Lhasa**	**160.49**	**80**	*e*PKIKP	**PKPdf**	**14 17 12.8**	**+0.8**		
LSA				*e*		14 17 55.0			
LSA	**Lhasa**	**160.49**	**80**	*e*PKPdf	**PKPdf**	**14 17 12.8**	**+0.8**		
LSA				*e*PKPab	**PKPab**	**14 17 55.0**	**+0.8**		
CM01	**Chiang Mai Arr**	**163.72**	**123**	*e*PKPdf	**PKPdf**	**14 17 14.9**	**-0.1**		
CMAR	**Chiang Mai Arr**	**163.73**	**123**	PKP	**PKPdf**	**14 17 15.1**	**+0.1**		
	comp=Z,5.0nm,1.1s,baz=261,slow=2.5,SNR=22								
CMAR				pPKP	**pPKPdf**	**14 17 57.7**	**-0.5**		
	comp=Z,8.9nm,1.0s,baz=252,slow=1.1,SNR=13								
CMAR				PP	**PP**	**14 21 54.5**	**+0.8**		
	comp=Z,0.5nm,0.3s,baz=257,slow=6.8,SNR=6.0								
PBKT	**Sadao Pong**	**163.88**	**132**	P	**PKPdf**	**14 17 16.3**	**+1.2**		
	comp=Z,16nm,2.0s								
CHTO	**Chiang Mai**	**163.95**	**122**	P	**PKPdf**	**14 17 16.2**	**+1.0**		
	comp=Z,46nm,1.1s								
CHTO	**Chiang Mai**	**163.95**	**122**	*e*PKIKP	**PKPdf**	**14 17 15.6**	**+0.4**		
CHTO				*e*		14 17 59.7			
CHTO	**Chiang Mai**	**163.95**	**122**	*e*PKPdf	**PKPdf**	**14 17 15.6**	**+0.4**		
CHTO				*e*pPKPdf	**pPKPdf**	**14 17 59.7**	**+1.3**		
CMMT	**Chiang Mai**	**163.95**	**122**	P	**PKPdf**	**14 17 16.1**	**+0.9**		
	comp=Z,20nm,0.9s,comp=Z,526nm								
GTA	**Gaotai**	**164.02**	**41**	⇑PKP	**PKPdf**	**14 17 15.0**	**+0.2**		
GTA				pPKP	pPKPdf	14 17 59.0	+0.9		
GTA				PKPab	**PKPab**	**14 18 10.1**	**+1.3**		
GTA				sPKP		14 18 15.8			
KSRS	**Korea Array**	**164.54**	**311**	PKP	**PKPdf**	**14 17 15.2**	**0.0**		
	comp=Z,3.9nm,1.0s,baz=130,slow=1.3,SNR=16								
KSRS				pPKP	**pPKPdf**	**14 17 58.6**	**+0.3**		
	comp=Z,4.7nm,1.0s,baz=109,slow=1.3,SNR=7.0								
KSRS				PKPab	**PKPab**	**14 18 12.2**	**+1.2**		
	comp=Z,7.4nm,0.9s,baz=60,slow=4.3,SNR=14								
KSRS				pPKPab	**pPKPab**	**14 18 53.5**	**+1.3**		
	comp=Z,2.8nm,0.9s,baz=64,slow=4.1,SNR=3.6								
KS01	**Wonju Array Si**	**164.54**	**311**	*e*PKPdf	**PKPdf**	**14 17 14.2**	**-1.0**		
KSAR	**Wonju Array Be**	**164.57**	**311**	PKIKP	**PKPdf**	**14 17 15.2**	**0.0**		
KSAR						14 17 58.7			
KSAR						14 18 12.2			
KSAR	**Wonju Array Be**	**164.57**	**311**	PKP	**PKPdf**	**14 17 15.2**	**0.0**		
KSAR				pPKP	**pPKPdf**	**14 17 58.6**	**+0.2**		
KSAR				PKPab	**PKPab**	**14 18 12.2**	**+1.0**		
KSAR				pPKPab	**pPKPab**	**14 18 53.5**	**+1.1**		
LOEI	**Loei**	**164.75**	**131**	P	**PKPdf**	**14 17 16.8**	**+0.9**		
HHC	**Hu-ho-hao-te**	**167.10**	**6**	*e*PKP	**PKPdf**	**14 17 19.0**	**+1.7**		
HHC				PP	**PP**	**14 22 16.6**	**+6.8**		
HHC				SKKS		14 28 49.5			
HHC				PPMZ					
	comp=Z,56nm,7.2s								
LZH	**Lanzhou**	**168.61**	**43**	*e*PKP	**PKPdf**	**14 17 20.8**	**+2.3**		
LZH				SKKS		14 28 49.3			
LZH				PPMZ					
	comp=Z,300nm,5.7s								
KMI	**Kunming**	**170.09**	**104**	PKP	**PKPdf**	**14 17 18.6**	**-1.2**		
CD2	**Chengdu**	**171.16**	**69**	PKP	**PKPdf**	**14 17 19.4**	**-0.6**		
CD2				pPKP	pPKPdf	14 18 02.8	-0.5		
CD2				sPKP		14 18 19.6			
CD2				PP	**PP**	**14 22 30.6**	**-1.4**		
CD2				SKS	**SKSdf**	**14 24 07.4**	**-0.9**		
CD2				SKKS	**SKKSac**	**14 29 00.9**	**-2.0**		
CD2				SS	**SS**	**14 43 21.8**	**-2.1**		
CD2				PPMZ					
	comp=Z,160nm,6.4s								
XAN	**Xi'an**	**172.89**	**31**	PKP	**PKPdf**	**14 17 21.3**	**+0.6**		
XAN				pPKP	pPKPdf	14 18 05.3	+1.3		
XAN				PKPab	**PKPab**	**14 18 48.3**	**+0.3**		
GYA	**Guiyang**	**173.87**	**103**	*e*PKP	**PKPdf**	**14 17 20.0**	**-1.4**		
GYA				pPKP	pPKPdf	14 18 04.3	-0.4		
GYA				sPKP		14 18 20.0			
GYA				PKPab	**PKPab**	**14 18 52.8**	**-0.1**		
GYA				PKS	**PKSdf**	**14 20 51.0**	**-2.8**		
GYA				PP	**PP**	**14 22 45.6**	**+0.1**		
GYA				PPMZ					
	comp=Z,120nm,8.4s								
ENH	**Enshi**	**175.94**	**55**	*e*pPKPdf	**pPKPdf**	**14 18 05.4**	**+0.3**		
ENH				*e*PKPab	**PKPab**	**14 19 02.4**	**+0.6**		

*ISK **22** 14:00:52.4, 40.57N×31.11E, h2km, MD3.0*
*DDA **22** 14:00:52.7, 40.54N×31.08E, h5km, Md2.2, Suspected Mining explosion.*

*ISCJB **22** 14:00:53.1±0.5, 40.57N±0.03×31.11E±0.04, h0km, Error ellipse: s-maj=4.3km s-min=3.4km az=147.7*
*CSEM **22** 14:00:53.1±0.2, 40.56N×31.12E, h2km, MD2.2, Error ellipse: s-maj=3.6km s-min=2.9km az=67.0, Suspected Mining explosion.*
ISC 22 14:00:51.6±0.9, **40.64N**±0.03×**31.18E**±0.03, **h0**km, **n43, s0.53/58, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTAS	**Taskesti**	**0.15**	**243**	P	**Pg**	**14 00 54.8**	**+0.3**
BTAS				S	**Sg**	**14 00 57.0**	**+0.5**
BTAS	**Taskesti**	**0.15**	**243**	*i* P	**Pg**	**14 00 54.8**	**+0.3**
BTAS				*i* S	**Sg**	**14 00 57.0**	**+0.5**
MDUB	**Mudurnu**	**0.17**	**175**	*e*PG	**Pg**	**14 00 55.3**	**+0.4**
MDUB				*e*SG	**Sg**	**14 00 57.7**	**+0.7**
MDUB	**Mudurnu**	**0.17**	**175**	*e*Pg	**Pg**	**14 00 55.3**	**+0.4**
MDUB				*e*Sg	**Sg**	**14 00 57.7**	**+0.7**
SAHE	**Sakarya_HENDEK**	**0.33**	**311**	P	**Pb**	**14 01 00.3**	**-0.1**
SAHE				S	**Sb**	**14 01 06.2**	**0.0**
SAHE	**Sakarya_HENDEK**	**0.33**	**311**	*i* P	**Pb**	**14 01 00.3**	**-0.1**
SAHE				*i* S	**Sb**	**14 01 06.2**	**0.0**
GULT	**Gulveren**	**0.55**	**248**	*e*PG	**Pg**	**14 01 02.2**	**+0.1**
GULT	**Gulveren**	**0.55**	**248**	*e*Pg	**Pg**	**14 01 02.2**	**+0.1**
SPNC	**Sapanca-Adapaz**	**0.66**	**274**	*e*PG	**Pb**	**14 01 05.5**	**-0.6**
SPNC	**Sapanca-Adapaz**	**0.66**	**274**	*e*Pg	**Pb**	**14 01 05.5**	**-0.6**
BCAM	**Yenicaga**	**0.70**	**75**	P	**Pn**	**14 01 08.1**	**-0.8**
BCAM	**Yenicaga**	**0.70**	**75**	*i* P	**Pn**	**14 01 08.1**	**-0.8**
BCAM				*i* S	**Sn**	**14 01 21.6**	**+1.2**
KDZE	**Karadeniz Ereo**	**0.70**	**16**	*e*PG	**Pn**	**14 01 08.4**	**-0.5**
KDZE	**Karadeniz Ereo**	**0.70**	**16**	*e*Pg	**Pn**	**14 01 08.4**	**-0.5**
GPA	**Golpazari**	**0.75**	**242**	*e*PG	**Pg**	**14 01 06.3**	**+0.3**
GPA	**Golpazari**	**0.75**	**242**	*e*Pg	**Pg**	**14 01 06.3**	**+0.3**
KAND	**Kocaeli-Kandir**	**0.88**	**302**	P	**Pb**	**14 01 10.1**	**+0.4**
KAND	**Kocaeli-Kandir**	**0.88**	**302**	*i* P	**Pb**	**14 01 10.1**	**+0.4**
KAND				*i* S	**Sg**	**14 01 18.1**	**-1.6**
BORA	**Eskisehir**	**0.94**	**216**

VYHS	**Vyhne**	**1.63 170**	*e*Pn	Pn	14 07 08.1	-2.0
VYHS	**Vyhne**	**1.63 170**	*e*PN	Pn	14 07 08.1	-2.0
VYHS			*e*LG	Lg	14 09 00.7	
KRUC	**Moravsky**	**1.67 232**	*e*Pn	Pn	14 07 10.3	-0.3
	baz=52					
KRUC			*e*Sg	Sn	14 07 32.4	-0.4
	2.1nm,0.2s,baz=52					
KHC	**Kasperske Hory**	**3.29 255**	*e*SG	Sg	14 08 25.2	-0.5
KHC	**Kasperske Hory**	**3.29 255**	Sg	Sg	14 08 25.2	-0.5

JMA 22 14:11:18.1±0.2, 38°.06N×144°.31E, h37km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.31**	**297**	P	Pn	14 11 55.1	+1.6
OFUJ				*e*S	Sn	14 12 22.8	+2.2
JIO	**Ouri**	**2.36**	**280**	P	Pn	14 11 55.9	+1.6
JIO				*e*S	Sn	14 12 23.4	+1.4
JMK	**Ichinoseki**	**2.58**	**291**	P	Pn	14 11 59.3	+2.0
JOM	**Ohasama**	**2.75**	**302**	P	Pn	14 12 01.7	+2.1
JOM				*e*S	Sn	14 12 34.2	+2.7
JOU	**Okura**	**2.89**	**277**	P	Pn	14 12 03.9	+2.4
JOU				*e*S	Sn	14 12 37.5	+2.5
JANG	**Nango**	**3.17**	**318**	P	Pn	14 12 07.1	+1.7
JRG	**Rokugo**	**3.17**	**296**	P	Pn	14 12 08.4	+3.0
JRG				*e*S	Sn	14 12 45.3	+3.4
JFT	**Otama**	**3.19**	**261**	P	Pn	14 12 08.0	+2.3
JFT				*e*S	Sn	14 12 44.5	+1.9
JYK	**Kaneyama**	**3.22**	**287**	P	Pn	14 12 08.6	+2.6
JYK				*e*S	Sn	14 12 46.2	+3.1
JTM	**Tenmabayashi**	**3.70**	**318**	P	Pn	14 12 14.9	+2.2
JTM				*e*S	Sn	14 12 55.4	+0.3
JCH	**Churui**	**4.61**	**351**	P	Pn	14 12 25.4	+0.3
JCH				*e*S	Sn	14 13 15.1	-2.2
JRY	**Ryogami san**	**4.78**	**246**	P	Pn	14 12 28.6	+1.9
JRY				*e*S	Sn	14 13 19.9	-1.9
NEM2	**Nemuro 2**	**5.41**	**11**	P	Pn	14 12 34.1	-2.0
NEM2				*e*S	Sn	14 13 33.0	-4.1
JTKR	**Abashiri--Toko**	**5.91**	**357**	P	Pn	14 12 43.3	+0.3
JTKR				*e*S	Sn	14 13 47.7	-1.8

*ATH **22** 14:28:31.4, 40°.53N×21°.60E, h23km±3km, ML1.8/3, Error ellipse: s-maj=3.2km s-min=1.1km az=304.0*
*CSEM **22** 14:28:31.6±0.2, 40°.55N×21°.60E, h15km, ML1.8, Error ellipse: s-maj=4.3km s-min=3.8km az=177.0*

THE 22 14:28:32.2, 40.54N×21.61E, h13km±3km, ML1.8/5, Error ellipse: s-maj=3.2km s-min=0.5km az=343.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.26**	**152**	P	Pg	14 28 37.5	-0.3
KZN				S	Sg	14 28 41.9	+0.4
KZN	**Kozani**	**0.26**	**152**	P	Pg	14 28 37.5	-0.3
KZN				S	Sg	14 28 41.9	+0.4
FNA	**Florina**	**0.30**	**324**	P	Pg	14 28 38.2	-0.3
FNA				S	Sg	14 28 43.2	+0.5
FNA	**Florina**	**0.30**	**324**	P	Pg	14 28 38.2	-0.3
FNA				S	Sg	14 28 43.1	+0.4
FNA	**Florina**	**0.30**	**324**	P	Pg	14 28 38.2	-0.3
FNA				S	Sg	14 28 43.1	+0.4
FNA				AML	AML	14 28 43.7	
	comp=N,594μm,0.2s						
FNA				AML	AML	14 28 44.1	
	comp=E,672μm,0.2s						
NEST	**Nestorio**	**0.45**	**254**	P	Pg	14 28 40.6	-0.5
NEST				S	Sb	14 28 47.9	-0.6
NEST	**Nestorio**	**0.45**	**254**	P	Pg	14 28 40.7	-0.4
NEST				S	Sg	14 28 47.3	+0.2
NEST	**Nestorio**	**0.45**	**254**	P	Pg	14 28 40.7	-0.4
NEST				S	Sg	14 28 47.3	+0.3
NEST				AML	AML	14 28 49.4	
	comp=N,163μm,0.2s						
NEST				AML	AML	14 28 49.4	
	comp=E,214μm,0.3s						
PENT	**Pentalofos**	**0.50**	**227**	P	Pg	14 28 41.5	-0.5
PENT				S	Sg	14 28 49.2	+0.5
PENT	**Pentalofos**	**0.50**	**227**	P	Pg	14 28 41.5	-0.5
PENT				S	Sg	14 28 49.2	+0.5
PENT	**Pentalofos**	**0.50**	**227**	P	Pg	14 28 41.3	-0.7
PENT				S	Sg	14 28 49.3	+0.6
PENT				AML	AML	14 28 53.3	
	comp=N,114μm,0.2s						
PENT				AML	AML	14 28 54.2	
	comp=E,119μm,0.5s						
KPRO	**Kipourio**	**0.61**	**198**	P	Pg	14 28 44.1	-0.1
KPRO				S	Sb	14 28 53.5	+0.2
KPRO	**Kipourio**	**0.61**	**198**	P	Pg	14 28 44.1	-0.1
KPRO				S	Sb	14 28 53.5	+0.2
KPRO	**Kipourio**	**0.61**	**198**	P	Pg	14 28 43.4	-0.8
GRG	**Griva**	**0.73**	**55**	P	Pg	14 28 46.5	+0.1
GRG	**Griva**	**0.73**	**55**	P	Pg	14 28 46.5	0.0
LIT	**Litokhoron**	**0.80**	**123**	P	Pg	14 28 47.4	-0.4
LIT				S	Sb	14 28 59.4	+0.7
LIT	**Litokhoron**	**0.80**	**123**	P	Pg	14 28 47.4	-0.4
LIT				S	Sb	14 28 59.4	+0.7
LIT	**Litokhoron**	**0.80**	**123**	P	Pg	14 28 47.9	+0.1
THL	**Klokotos Trika**	**1.02**	**162**	P	Pb	14 28 49.9	-1.8
THL				S	Sn	14 29 05.8	-0.5
AGG	**Agios Georgios**	**1.61**	**160**	P	Pn	14 28 59.7	-0.7
AGG	**Agios Georgios**	**1.61**	**160**	P	Pn	14 28 59.7	-0.7

*NIED **22** 14:28:00, 40°.10N×142°.90E, h32km, Mw5.6 Best double couple: M0 2.74000×10^17 NP1:φs 181.00000°, δ25.00000°, λ62.00000°. NP2:φs 31.00000°, δ68.00000°, λ102.00000°.*
*IDC **22** 14:28:52.7±0.4, 40°.03N×142°.91E, h0km, mb5.0/29, mb1 5.1/33, mb1mx5.0/46, mbtmp5.0/33, ML4.5/4, MS5.3/32, Ms1 5.3/32, ms1mx5.2/38, Error ellipse: s-maj=14.0km s-min=10.6km az=97.0*
*JMA **22** 14:28:55.7±0.2, 40°.06N×142°.91E, h23km±2km, M5.5 JMA Felt III J1.*
*ISCJB **22** 14:28:57.0±0.3, 40°.04N±0°.02×142°.89E±0°.02, h37km±2km, mb5.2/295, MS5.4/219, Error ellipse: s-maj=3.1km s-min=2.2km az=151.9*
*BJI **22** 14:28:56.2, 39°.97N×142°.79E, h41km, mb5.4/80, mB5.5/67, Ms5.6/91, Ms7 5.4/84*
*MOS **22** 14:28:57.7±0.8, 40°.24N×142°.75E, h34km, mb5.5/112, MS5.6/60, Error ellipse: s-maj=5.8km s-min=3.7km az=104.9*
*NEIC **22** 14:28:59.2±0.4, 40°.05N×142°.78E, h43km±3km, mb5.2/207, MS5.3/150, Error ellipse: s-maj=3.5km s-min=2.3km az=142.0*
NEIC Felt at Sendai. Recorded [3 JMA] in Aomori and Iwate.
*GCMT **22** 14:28:59.2±0.1, 40°.13N×142°.89E, h32km, MW5.7/128, Moment Tensor Solution. s107,c199; s128,c301; Duration: 1s6 Moment tensor: Scale 10^17Nm; Mrr 2.28±.04; Mθθ -0.12±.03; Mφφ -2.16±.03; Mrθ 1.35±.05; Mθφ -0.52±.02; Mφr 2.75±.06; Best double couple: Ms 3.82000×10^17 NP1:φs 24.00000°, δ72.00000°, λ96.00000°. NP2:φs 184.00000°, δ19.00000°, λ72.00000°. Principal axes: T 3.8520, Plg63.0000°, Azm303.0000°; N -0.0610, Plg6.0000°, Azm202.0000°; P -3.7880, Plg27.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 22 14:28:57.7±0.4, 40°.01N±0°.03×142°.91E±0°.03, h34km±1km, h34km:pP-P, n1197, σ1.58/1221, mb5.2/309, MS5.3/223, 102C-23D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.81**	**265**	∥P	Pn	14 29 11.3	-1.3
JTH				*e*S	Sn	14 29 21.7	-1.7
MIYJ	**Miyakonagasawa**	**0.94**	**243**	∥P	Pn	14 29 13.5	-1.0
JANG	**Nango**	**1.13**	**289**	∥P	Pn	14 29 15.6	-1.4
JKZ	**Kuzumaki**	**1.21**	**269**	∥P	Pn	14 29 17.4	-0.9
JOM	**Ohasama**	**1.36**	**247**	∥P	Pn	14 29 20.0	-0.2
JOM				*e*S	Sb	14 29 38.4	-1.2
JTM	**Tenmabayashi**	**1.60**	**299**	∥P	Pn	14 29 23.5	-0.1
JTM				*e*S	Sn	14 29 44.4	+1.3
JMK	**Ichinoseki**	**1.68**	**231**	∥P	Pn	14 29 25.5	+0.8
JMK				*e*S	Sb	14 29 47.3	-1.5
JAH	**Hinai**	**1.75**	**276**	∥P	Pn	14 29 26.0	+0.4
JAH				*e*S	Sn	14 29 48.1	+1.4
JRG	**Rokugo**	**1.86**	**251**	∥P	Pn	14 29 27.5	+0.4
JOT	**Ohata**	**1.97**	**315**	P	Pn	14 29 28.6	0.0
JOT				*e*S	Sn	14 29 53.6	+1.5
JIO	**Ouri**	**1.97**	**218**	⇑P	Pn	14 29 29.0	+0.4
ERM	**Erimo**	**2.01**	**5**	*de*P	Pn	14 29 28.9	-0.3
ERM				pmax	pmax		
	comp=Z,267nm,0.7s						
ERM	**Erimo**	**2.01**	**5**	*e*Pn	Pn	14 29 29.1	0.0
JEM	**Erimo**	**2.01**	**5**	⇑P	Pn	14 29 28.9	-0.3
JSI2	**Shiura 2**	**2.17**	**300**	∥P	Pn	14 29 32.1	+0.7
JYK	**Kaneyama**	**2.26**	**242**	∥P	Pn	14 29 33.6	+1.0
JKB	**Kayabe**	**2.35**	**323**	⇑P	Pn	14 29 33.9	+0.1
JFT	**Otama**	**3.20**	**220**	⇑P	Pn	14 29 46.4	+0.8
JAR	**Ashorobuto**	**3.34**	**11**	⇑P	Pn	14 29 46.7	-0.8
JNS	**Sasagawa**	**3.56**	**233**	⇑P	Pn	14 29 52.2	+1.8
JFY	**Yanaizu**	**3.61**	**225**	⇑P	Pn	14 29 53.1	+1.9
JMP	**Maruseppu**	**4.00**	**5**	⇑P	Pn	14 29 56.3	-0.3
JTKR	**Abashiri--Toko**	**4.03**	**10**	⇑P	Pn	14 29 56.4	-0.5
ASAJ	**Asahikawa**	**4.11**	**357**	*e*Pn	Pn	14 29 58.1	+0.1
JHK	**Hiroka**	**4.11**	**229**	⇑P	Pn	14 30 00.0	+1.9
JKT	**Katashina**	**4.33**	**223**	⇑P	Pn	14 30 03.6	+2.4
JAG	**Ashikaga**	**4.50**	**218**	P	Pn	14 30 04.7	+1.3
YUK	**Yuzh-Kuril'sk**	**4.58**	**28**	*i* P	Pn	14 30 03.9	-0.6
JJN	**Nakama**	**4.72**	**234**	P	Pn	14 30 09.2	+2.8
JGK	**Kuni**	**4.81**	**226**	⇑P	Pn	14 30 10.5	+2.8
MAJO	**Matsushiro**	**5.07**	**228**	*c i*P	Pn	14 30 13.7	+2.5
MAJO	**Matsushiro**	**5.07**	**228**	*e*Pn	Pn	14 30 13.8	+2.5
MAT	**Matsushiro**	**5.07**	**228**	P	Pn	14 30 13.6	+2.4
MAT				S	Sn	14 31 11.1	+2.5
MAT	**Matsushiro**	**5.07**	**228**	P	Pn	14 30 13.8	+2.6
MJAR	**Matsushiro Arr**	**5.07**	**228**	Pn	Pn	14 30 13.6	+2.4
	comp=Z,32nm,0.3s,baz=29,slow=14,SNR=674						
MJAR				Sn	Sn	14 31 11.2	+2.6
	baz=179,slow=31,SNR=2.5						
MJAR				LR	LR	14 32 26.7	
	comp=Z,34μm,20.0s,baz=60,slow=42						
MJB9	**Matsu-Tunnel**	**5.07**	**228**	*e*Pn	Pn	14 30 13.8	+2.6
JRY	**Ryogami san**	**5.09**	**220**	⇑P	Pn	14 30 12.6	+1.0
JTT	**Ttatey**	**5.55**	**234**	⇑P	Pn	14 30 20.8	+3.0
JYN	**Shimob**	**5.68**	**219**	P	Pn	14 30 21.0	+1.3
JJH	**Hakui**	**5.71**	**239**	P	Pn	14 30 22.4	+2.4
JGN	**Niukaw**	**5.81**	**231**	⇑P	Pn	14 30 24.3	+2.8
JNY	**Yasuok**	**6.13**	**222**	P	Pn	14 30 27.9	+2.0
SHZ3	**Shizuoka 3**	**6.19**	**219**	P	Pn	14 30 27.9	+1.2
JGF	**Kuroka**	**6.22**	**227**	P	Pn	14 30 29.4	+2.3
KUR	**Kuril'sk**	**6.37**	**33**	*e*P	Pn	14 30 28.8	-0.3
KUR				*e*S	Sn	14 31 36.7	-3.8
KUR				pmax	pmax		
	comp=N,86nm,0.6s						
KUR				pmax	pmax		
	comp=E,101nm,0.6s						
KUR				pmax	pmax		
	comp=Z,344nm,0.6s						
KUR				pmax	pmax		
	comp=Z,2μm,3.3s						
KUR				smax	smax		
	comp=E,299nm,0.4s						
KUR				smax	smax		
	comp=N,7μm,2.8s						
KUR				smax	smax		
	comp=E,3μm,2.8s						
JAO	**Obara**	**6.52**	**225**	P	Pn	14 30 33.0	+1.8
INU	**Inuyama**	**6.59**	**227**	*e*Pn	Pn	14 30 34.0	+1.8
YSS	**Yuzh-Sakhalins**	**6.94**	**359**	*e*P	Pn	14 30 37.5	+0.6
YSS				*e*S	Sn	14 31 53.4	-1.2
YSS				pmax	pmax		
	comp=Z,70nm,0.9s						
YSS				MLR	MLR		
	comp=N,10μm,11.0s						
YSS				MLR	MLR		
	comp=Z,15μm,11.0s						
YSS				MLR	MLR		
	comp=E,16μm,17.0s						
YSS	**Yuzh-Sakhalins**	**6.94**	**359**	*e*Pn	Pn	14 30 36.9	0.0
JHJ2	**Mitsune**	**7.32**	**201**	*e*Pn	Pn	14 30 41.5	-0.7
JHJ	**Hachijo jima 2**	**7.32**	**201**	Pn	Pn	14 30 41.4	-0.8
	comp=E,75nm,0.3s,baz=259,slow=20,SNR=21						
JHJ				Sn	Sn	14 31 57.3	-6.8
	comp=E,30nm,0.3s,baz=282,slow=21,SNR=2.3						
VLA	**Vladivostok**	**8.83**	**294**	*e*P	Pn	14 31 05.1	+2.3
USRK	**Ussuriysk Ar.**	**9.13**	**301**	Pn	Pn	14 31 09.7	+2.8
	comp=E,6.4nm,0.3s,baz=100,slow=14,SNR=103						
USRK				Sn	Sn	14 32 54.5	+6.1
	baz=108,slow=28,SNR=1.5						
USRK				LR	LR	14 34 33.6	
	comp=E,37μm,18.8s,baz=107,slow=37						
MSHR	**Mys Shultsa**	**9.21**	**290**	*e*P	Pn	14 31 09.5	+1.5
HABR	**Khabarovsk**	**10.16**	**329**	*ce*P	Pn	14 31 18.0	-3.0
HABR				*e*S	Sn	14 33 09.6	-4.0
HABR				pmax	pmax		
	comp=Z,74nm,2.1s						
HABR				pmax	pmax		
	comp=N,68nm,2.1s						
HABR				pmax	pmax		
	comp=E,97nm,2.1s						
HABR				MLR	MLR		
	comp=Z,22μm,16.0s						
TYV	**Tymovskoe**	**10.85**	**359**	*e*P	Pn	14 31 31.0	+0.5
TYV				*e*S	Sn	14 33 21.0	-10
TYV				pmax	pmax		
	comp=Z,53nm,0.8s						
TYV				pmax	pmax		
	comp=Z,2μm,8.0s						
TYV				smax	smax		
	comp=E,4μm,9.0s						
TYV				MLR	MLR		
	comp=N,24μm,20.0s						
TYV				MLR	MLR		
	comp=Z,27μm,18.0s						
MDJ	**Mudanjiang**	**10.88**	**299**	P	Pn	14 31 33.5	+2.6
MDJ				S	Sn	14 33 35.8	+4.5
MDJ				PcP	PcP	14 37 31.8	+2.6
MDJ				ScP	ScP	14 40 59.8	+0.8
MDJ				PcS	PcS	14 41 03.1	+0.3
MDJ				ScS	ScS	14 44 31.9	-2.2
MDJ				PMZ			
	comp=Z,72nm,1.5s						
MDJ				PMZ			
	comp=Z,4μm,7.3s						
MDJ				LN			
	comp=Z,9μm,15.0s						
MDJ				LE			
	comp=Z,23μm,15.5s						
MDJ				LZ			
	comp=Z,37μm,16.4s						
MDJ	**Mudanjiang**	**10.88**	**299**	*e*Pn	Pn	14 31 33.4	+2.6
JNU	**Nakatsue**	**11.86**	**238**	Pn	Pn	14 31 45.0	+0.6
	comp=E,1.5nm,0.3s,baz=42,slow=6.9,SNR=25						
JNU				Sn	Sn	14 34 11.0	+15
	comp=Z,0.3nm,0.3s,baz=43,slow=18,SNR=1.2						
JNU				LR	LR	14 36 30.8	
	comp=Z,11μm,20.9s,baz=47,slow=39						
KSRS	**Korea Array**	**11.98**	**262**	Pn	Pn	14 31 47.9	+1.9
	comp=Z,0.5nm,0.3s,baz=74,slow=13,SNR=48						
KSRS				LR	LR	14 36 09.6	
	comp=Z,19μm,19.3s,baz=74,slow=36						
KS01	**Wonju Array Si**	**11.99**	**263**	*e*Pn	Pn	14 31 50.2	+4.0
KS15	**Wonju Array Si**	**12.01**	**262**	*e*Pn	Pn	14 31 50.2	+3.8
KSAR	**Wonju Array Be**	**12.01**	**262**	P	Pn	14 31 47.9	+1.5
KSAR	**Wonju Array Be**	**12.01**	**262**	Pn	Pn	14 31 47.9	+1.5
KLR	**Kul'dur**	**12.16**	**323**	Pn	Pn	14 31 48.1	-0.2
	comp=Z,0.7nm,0.3s,baz=132,slow=12,SNR=22						
KLR				Sn	Sn	14 34 09.6	+7.0
	baz=229,slow=18,SNR=1.8						
KLR				LR	LR	14 36 42.6	
	comp=Z,24μm,18.7s,baz=134,slow=39						
TJN	**Taejon**	**12.76**	**258**	*ce*P	Pn	14 31 58.0	+1.4
CBIJ	**Chichi jima**	**12.90**	**183**	*e*Pn	Pn	14 31 55.0	-3.5
CBIJ				Sn	Sn	14 34 10.4	-10
JCJ	**Chichijima**	**12.90**	**183**	Pn	Pn	14 31 56.9	-1.7
	comp=Z,9.0nm,0.3s,baz=270,slow=20,SNR=3.3						
JCJ				Sn	Sn	14 34 10.4	-10
	comp=Z,11nm,0.3s,baz=270,slow=24,SNR=2.4						
INCN	**Inchon**	**12.96**	**264**	*e*Pn	Pn	14 31 59.8	+0.5
NKL	**Nikolayevsk**	**13.23**	**354**	*i* P	Pn	14 32 02.0	-0.9
NKL				*e*S	Sn	14 34 23.0	-5.7
NKL				pmax	pmax		
	comp=N,1μm,5.0s						
NKL				pmax	pmax		
	comp=E,400nm,5.0s						
NKL				pmax	pmax		
	comp=Z,1μm,7.0s						
NKL				pmax	pmax		
	comp=E,39nm,0.9s						
NKL				pmax	pmax		
	comp=Z,34nm,0.9s						
NKL				smax	smax		
	comp=E,2μm,8.0s						
NKL				MLR	MLR		
	comp=Z,16μm,18.0s						
NKL				MLR	MLR		
	comp=N,6μm,17.0s						
NKL				MLR	MLR		
	comp=E,14μm,17.0s						
CN2	**Changchun**	**13.54**	**292**	⇑P	Pn	14 32 08.3	+1.0
CN2				PMZ			
	comp=E,20nm,1.0s						
CN2				PMZ			
	comp=E,1μm,7.0s						
CN2				LN			
	comp=E,12μm,19.0s						
CN2				LE			
	comp=E,16μm,19.0s						
CN2				LZ			
	comp=E,18μm,19.0s						
OKH	**Okha**	**13.54**	**0**	*e*P	Pn	14 32 07.0	-0.2
OKH				pmax	pmax		
	comp=Z,1μm,4.0s						
SKR	**Severo-Kuril's**	**14.12**	**37**	*e*P	P	14 32 29.3	+7.0
SKR				pmax	pmax		
	comp=Z,600nm,3.9s						
SKR				MLR	MLR		
	comp=Z,6μm,16.0s						
SNY	**Shenyang**	**14.73**	**283**	∥P	Pn	14 32 25.0	+1.6
SNY				S	Sn	14 35 07.8	+2.5
SNY				PMZ			
	comp=Z,22nm,1.1s						
SNY				PMZ			
	comp=Z,3μm,10.6s						
SNY				LN			
	comp=Z,7μm,13.2s						
SNY				LE			
	comp=Z,19μm,17.7s						
SNY				LZ			
	comp=Z,29μm,18.6s						
DL2	**Dalian**	**16.47**	**273**	P	Pn	14 32 45.8	-0.3
DL2				PMZ			
	comp=Z,130nm,1.0s						
DL2				PMZ			
	comp=Z,3μm,8.3s						
DL2				LE			
	comp=Z,9μm,21.1s						
DL2				LZ			
	comp=Z,12μm,21.1s						
PEA0	**Petropavlovsk-**	**16.54**	**33**	*e*Pn	Pn	14 32 42.7	-4.2
PETK	**Petropavlovsk-**	**16.54**	**33**	Pn	Pn	14 32 43.0	-3.8
	comp=Z,0.7nm,0.3s,baz=208,slow=9.7,SNR=18						
PETK				LR	LR	14 39 36.2	
	comp=Z,4μm,20.5s,baz=220,slow=39						
PETK	**Petropavlovsk-**	**16.54**	**33**	P	Pn	14 32 43.0	-3.8
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,4μm,20.5s						
PET	**Petropavlovsk**	**16.88**	**34**	*d i*P	P	14 32 54.9	+2.0
PET				*e*S	Sn	14 36 01.0	+3.5
PET				pmax	pmax		
	comp=Z,60μm,0.8s						
PET				pmax	pmax		
	comp=Z,700nm,14.8s						
PET				pmax	pmax		
	comp=Z,400nm,12.9s						
PET				MLR	MLR		
	comp=Z,7μm,19.0s						
PET				MLR	MLR		
	comp=Z,6μm,19.0s						
JOW	**Kunigami**	**17.91**	**227**	*e*Pn	Pn	14 33 01.7	-2.4
	comp=Z,61nm,1.0s						
HIA	**Hailar**	**18.84**	**307**	*c i*P	P	14 33 12.0	-2.6
HIA				pmax	pmax		
	comp=Z,68nm,1.0s						
HIA	**Hailar**	**18.84**	**307**	*e*P	P	14 33 11.8	-2.8
	comp=Z,94nm,0.8s						
SSE	**Sheshan**	**19.75**	**250**	P	P	14 33 24.5	-0.1
SSE				pP	pP	14 33 32.8	-0.7
SSE				S	S	14 37 05.8	+0.5
SSE				PMZ			
	comp=Z,37nm,0.9s						
SSE				PMZ			
	comp=Z,880nm,10.5s						
SSE				LN			
	comp=Z,5μm,18.4s						
SSE				LE			
	comp=Z,3μm,18.3s						
SSE				LZ			
	comp=Z,6μm,15.6s						
MA2	**Magadan**	**20.20**	**12**	P	P	14 33 27.8	-1.5
	comp=Z,51nm,0.7s,baz=220,slow=9.4,SNR=59						
MA2	**Magadan**	**20.20**	**12**	*e*P	P	14 33 28.0	-1.3
MA2				pmax	pmax		
	comp=Z,233nm,0.8s						
MA2				MLR	MLR		
	comp=Z,6μm,20.0s						
MA2	**Magadan**	**20.20**	**12**	*e*P	P	14 33 28.0	-1.3
	comp=Z,233nm,0.8s						
MA2				LR	LR		
	comp=Z,6μm,20.0s						
BJI	**Beijing**	**20.45**	**279**	P	P	14 33 29.8	-2.3
BJI				S	S	14 37 17.1	-2.1
BJI				sS	sS	14 37 33.5	0.0
BJI				PMZ			
	comp=Z,30nm,1.4s						
BJI				PMZ			
	comp=Z,1μm,5.1s						
BJI				LN			
	comp=Z,5μm,16.2s						
BJI				LE			
	comp=Z,12μm,18.4s						
BJI				LZ			
	comp=Z,10μm,19.7s						
BJT	**Baijiatuau**	**20.46**	**279**	*e*P	P	14 33 29.7	-2.5
BJT				pmax	pmax		
	comp=Z,130nm,0.9s						
BJT				MLR	MLR		
	comp=Z,14μm,19.0s						
BJT	**Baijiatuau**	**20.46**	**279**	*e*P	P	14 33 29.7	-2.5
	comp=Z,130nm,0.9s						
BJT				LR	LR		
	comp=Z,14μm,19.0s						
CLNS	**Chul'man**	**20.54**	**331**	*e*P	P	14 33 31.1	-1.9
CLNS				*e*		14 33 46.8	
CLNS				*e*S	S	14 37 17.8	-3.0
CLNS				*e*		14 37 42.9	
CLNS				*e*SS	SS	14 38 00.4	
CLNS				pmax	pmax		
	comp=Z,106nm,0.8s						
CLNS				pmax	pmax		
	comp=N,53nm,0.7s						
CLNS				pmax	pmax		
	comp=E,34nm,0.8s						
CLNS				pmax	pmax		
	comp=E,34nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,54nm,0.8s						
CLNS				pmax	pmax		
	comp=N,32nm,0.9s						
CLNS				smax	smax		
	comp=N,1μm,10.3s						
CLNS				smax	smax		
	comp=E,1μm,16.5s						
CLNS				MLR	MLR		
	comp=N,13μm,15.0s						
CLNS				MLR	MLR		
	comp=Z,13μm,14.0s						
CLNS				MLR	MLR		
	comp=E,6μm,14.0s						
TIA	**Tai'an**	**20.61**	**268**	⇑P	P	14 33 31.8	-2.2
TIA				S	S	14 37 14.1	-8.4
TIA				PMZ			
	comp=E,90nm,1.1s						
TIA				PMZ			
	comp=E,840nm,3.5s						
TIA				LN			
	comp=E,6μm,16.4s						
TIA				LE			
	comp=E,16μm,17.0s						
TIA				LZ			
	comp=E,19μm,16.1s						
NJ2	**Nanjing**	**20.97**	**255**	*e*P	P	14 33 36.8	-1.0
NJ2				pP	pP	14 33 47.3	+0.5
NJ2				sP	sP	14 33 51.9	+0.8

NJ2 S **S** **14 37 27.3 -2.3**
NJ2 PMZ
comp=E,170nm,0.9s
NJ2 LN
comp=E,5μm,16.8s
NJ2 LE
comp=E,9μm,15.5s
NJ2 LZ
comp=E,10μm,18.4s
TATO Taipei 23.39 237 *e*P **P 14 34 01.9 -1.6**
comp=E,77nm,0.8s
TATO LR LR
comp=Z,9μm,19.0s
YAK Yakutsk 23.47 344*c i*P **P 14 34 01.2 -2.7**
YAK *e**PP **pP 14 34 13.8 +0.5**
YAK *e*PPP PPP 14 34 35.1
YAK *e*S **S 14 38 10.6 -4.2**
YAK *e**SS **sS 14 38 27.9 -3.0**
YAK *e*SSS SSS 14 38 55.2
YAK pmax pmax
comp=E,25nm,0.8s
YAK pmax pmax
comp=Z,209nm,0.8s
YAK pmax pmax
comp=N,45nm,0.9s
YAK pmax pmax
comp=Z,128nm,0.6s
YAK pmax pmax
comp=N,76nm,0.7s
YAK pmax pmax
comp=E,51nm,0.8s
YAK smax smax
comp=N,2μm,2.3s
YAK smax smax
comp=E,922nm,1.9s
YAK MLR MLR
comp=N,5μm,18.0s
YAK MLR MLR
comp=E,4μm,19.0s
YAK MLR MLR
comp=Z,5μm,17.0s
YAK Yakutsk 23.47 344 *e*P **P 14 34 01.1 -2.7**
comp=Z,269nm,0.8s
YAK LR LR
comp=Z,5μm,19.0s
CIT Chita 23.48 311 *e*P **P 14 33 58.9 -5.3**
CIT *e* 14 34 12.3
CIT *e* 14 34 35.5
CIT *e* 14 34 45.3
CIT *e*S **S 14 38 11.2 -4.2**
CIT pmax pmax
comp=Z,400nm,2.2s
SEY Seymchan 23.65 11 P **P 14 34 04.2 -1.4**
comp=Z,75nm,0.8s,baz=196,slow=7.7,SNR=72
SEY Seymchan 23.65 11*ce*P **P 14 34 04.4 -1.2**
YHNB Yeheng 23.68 236 *e*P **P 14 34 03.4 -2.9**
comp=Z,52nm,0.7s
YHNB LR LR
comp=Z,8μm,19.0s
TIY Taiyuan 23.79 274 *e*P **P 14 34 07.6 +0.4**
TIY S S 14 38 07.1 -13
TIY SS **SnSn 14 39 06.3 +5.9**
TIY PMZ
comp=Z,500nm,8.0s
TIY LN
comp=Z,3μm,15.2s
TIY LE
comp=Z,5μm,16.6s
TIY LZ
comp=Z,6μm,17.6s
HHC Hu-ho-hao-te 23.81 282 *e*P **P 14 34 04.9 -2.6**
HHC S S 14 38 09.3 -12
HHC pmax pmax
comp=Z,48nm,1.4s
HHC pmax pmax
comp=Z,640nm,5.0s
HHC LR LR
comp=N,3μm,15.5s
HHC LR LR
comp=E,14μm,18.6s
HHC LR LR
comp=Z,17μm,14.9s
HHC Hu-ho-hao-te 23.81 282 *e*P **P 14 34 04.5 -3.0**
HHC pP pP 14 34 17.4 +0.3
HHC PP **PnPn 14 34 38.0 +2.0**
HHC S **S 14 38 14.6 -6.4**
HHC sS sS 14 38 30.6 -6.4
HHC PMZ
comp=Z,50nm,1.0s
HHC PMZ
comp=Z,1μm,7.5s
HHC LN
comp=Z,3μm,15.5s
HHC LE
comp=Z,14μm,18.6s
HHC LZ
comp=Z,17μm,17.1s
NACB Ninganchiao 23.90 235 *e*P **P 14 34 04.6 -3.6**
comp=Z,35nm,0.7s
SSLB Suanglung 24.58 235 *e*P **P 14 34 12.2 -2.3**
comp=Z,36nm,0.8s
YULB Yu-li 24.65 234 *e*P **P 14 34 12.0 -3.2**
comp=Z,47nm,0.8s
BTO Baotou 25.01 282 *e*P **P 14 34 16.1 -2.3**
WHN Wuhan 25.07 257 ⇑P **P 14 34 18.8 -0.1**
WHN pP **pP 14 34 29.3 +0.7**
WHN S **S 14 38 40.6 -0.4**
WHN PMZ
comp=Z,200nm,0.7s
WHN LN
comp=Z,16μm,15.8s
WHN LE
comp=Z,7μm,14.9s
WHN LZ
comp=Z,25μm,18.6s
TPUB Ta-pu 25.14 235 *e*P **P 14 34 17.9 -1.7**
comp=Z,61nm,0.8s
TWG Pinlang 25.21 234 *e*P **P 14 34 18.8 -1.4**
comp=Z,345nm,0.9s
QZH Quanzhou 25.32 241 ⇑*i*P P 14 34 12.8 -8.4
QZH pP pP 14 34 23.8 -7.1
QZH S **S 14 38 36.3 -8.8**
QZH pmax pmax
comp=Z,2μm,3.8s
QZH LR LR
comp=N,11μm,17.6s
QZH LR LR
comp=E,4μm,12.8s
QZH LR LR
comp=Z,12μm,14.5s
BOD Bodaibo 25.73 323 ⇓*i*P **P 14 34 24.0 -0.7**
BOD pmax pmax
comp=Z,168nm,0.9s
GUMO Guam 26.38 176 LR LR 14 44 13.2
comp=Z,4μm,21.8s,baz=12,slow=35
ULN Ulaanbaatar 26.80 299*ce*P **P 14 34 34.2 -0.4**
ULN pmax pmax
comp=Z,114nm,2.5s
ULN Ulaanbaatar 26.80 299 *e*P **P 14 34 34.2 -0.4**
comp=Z,33nm,0.8s
ULN LR LR
comp=Z,16μm,20.0s
SONA1 Songino Array 27.23 299 *e*P **P 14 34 37.8 -0.7**
SONM Songino Array 27.23 299 P **P 14 34 38.1 -0.4**
comp=Z,32nm,0.8s,baz=101,slow=9.8,SNR=122
SONM LR LR 14 45 59.6
comp=Z,19μm,18.9s,baz=98,slow=38
XAN Xi'an 27.67 268 P **P 14 34 40.8 -1.6**
XAN pP pP 14 34 51.6 -0.6
XAN sP sP 14 34 57.0 +0.7
XAN PP **PnPn 14 35 29.1 +0.4**
XAN S **S 14 39 16.9 -5.3**
XAN SS **SnSn 14 40 35.4 +0.1**
XAN PMZ
comp=Z,36nm,1.0s
XAN PMZ
comp=Z,860nm,8.6s
XAN LE
comp=Z,8μm,16.7s
XAN LZ
comp=Z,8μm,16.7s
H11N2 WAKE ISLAND Hy 28.85 127 T T 15 05 40.1
baz=318,slow=75,SNR=1312
H11N1 WAKE ISLAND Hy 28.86 127 T T 15 05 43.4
baz=318,slow=75,SNR=6295
ENH Enshi 28.86 261 *e*P **P 14 34 52.5 -0.6**
comp=Z,138nm,0.9s
ENH LR LR
comp=Z,665nm,20.0s
H11N3 WAKE ISLAND Hy 28.86 127 T T 15 05 39.8
baz=318,slow=75,SNR=1889
IRK Irkutsk 29.08 308 *e*P **P 14 34 53.4 -1.4**
IRK pmax pmax
comp=Z,129nm,2.9s
TLY Talaya 29.38 307 P **P 14 34 57.4 -0.1**
comp=Z,22nm,0.9s,baz=108,slow=5.1,SNR=19
TLY LR LR 14 47 27.6
comp=Z,10μm,18.2s,baz=100,slow=38
TLY Talaya 29.38 307*c i*P **P 14 34 55.4 -2.1**
TLY *e* 14 36 07.7
TLY *e*S **S 14 39 50.1 +1.3**
TLY *e*SS **SnSn 14 41 19.5 +2.9**
TLY pmax pmax
comp=Z,16nm,0.6s
TLY MLR MLR
comp=Z,11μm,18.0s
TLY Talaya 29.38 307 *e*P **P 14 34 56.7 -0.7**
comp=Z,26nm,0.9s
ZAK Zakamensk 29.46 304 *e*P **P 14 34 57.6 -0.7**
ZAK pmax pmax
comp=Z,27nm,1.1s
H11S1 WAKE ISLAND Hy 29.67 129 T T 15 06 24.8
baz=322
H11S3 WAKE ISLAND Hy 29.67 129 T T 15 06 21.0
baz=322,slow=74
H11S2 WAKE ISLAND Hy 29.68 129 T T 15 06 23.5
baz=322,slow=74
GZH Guangzhou 30.13 245 P P 14 34 57.5 -6.8
GZH S **S 14 39 53.0 -8.0**
GZH LR LR
comp=Z,13μm,19.6s
BILL Bilibino 30.84 17 *e*P **P 14 35 10.3 +0.1**
BILL pmax pmax
comp=Z,28nm,0.8s
BILL MLR MLR
comp=Z,4μm,21.0s
BILL Bilibino 30.84 17 *e*P **P 14 35 10.3 +0.1**
comp=Z,28nm,0.8s
BILL LR LR
comp=Z,4μm,21.0s
LZH Lanzhou 30.84 275 *e*P **P 14 35 10.5 -0.2**
LZH pP sP 14 35 22.8 -1.8
LZH sP pP 14 35 28.0 +7.5
LZH S **S 14 40 06.3 -6.0**
LZH sS sS 14 40 23.6 -4.9
LZH SS **ScP 14 41 48.5 +1.3**
LZH PMZ
comp=Z,99nm,1.4s
LZH PMZ
comp=Z,440nm,4.3s
LZH LN
comp=Z,4μm,14.0s
LZH LE
comp=Z,6μm,14.8s
LZH LZ
comp=Z,6μm,15.4s
MOY Mondy 31.02 306 *e*P **P 14 35 12.3 +0.2**
MOY pmax pmax
comp=Z,119nm,3.1s
TIXI Tiksi 32.49 352*ce*P **P 14 35 23.8 -0.8**
TIXI pmax pmax
comp=Z,36nm,1.7s
TIXI MLR MLR
comp=Z,3μm,21.0s
TIXI Tiksi 32.49 352 *e*P **P 14 35 23.4 -1.2**
comp=Z,28nm,0.9s
TIXI LR LR
comp=Z,4μm,22.0s
GTA Gaotai 32.92 283 ⇑P **P 14 35 28.4 -0.5**
GTA pP sP 14 35 41.6 -1.2
GTA sP pP 14 35 46.4 +7.7
GTA PP **PnPn 14 36 39.4 +1.1**
GTA PcP **PcP 14 38 13.0 +0.3**
GTA S **S 14 40 42.3 -2.3**
GTA sS sS 14 41 03.0 +2.2
GTA PcS **PcS 14 41 59.1 +1.0**
GTA SS **SnSn 14 42 44.4 +1.3**
GTA PMZ
comp=Z,54nm,1.6s
GTA PMZ
comp=Z,630nm,5.5s
GTA LN
comp=Z,5μm,19.5s
GTA LE
comp=Z,15μm,18.1s
GTA LZ
comp=Z,18μm,18.5s
CD2 Chengdu 32.94 266 ⇑P **P 14 35 27.8 -1.2**
CD2 pP pP 14 35 39.0 +0.1
CD2 sP sP 14 35 44.3 +1.3
CD2 S **S 14 40 42.5 -2.3**
CD2 sS sS 14 41 01.9 +0.8
CD2 PMZ
comp=Z,70nm,0.7s
CD2 PMZ
comp=Z,780nm,7.2s
CD2 LN
comp=Z,5μm,15.4s
CD2 LE
comp=Z,5μm,21.0s
CD2 LZ
comp=Z,7μm,20.5s
GYA Guiyang 32.96 257 P **P 14 35 29.8 +0.5**
GYA S **S 14 40 42.3 -3.0**
GYA sS sS 14 41 03.0 +1.4
GYA SS **SnSn 14 42 42.8 -1.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,560nm,17.8s
GYA LE
comp=Z,520nm,18.0s
MIDW Midway 34.66 97 PFAKE 14 36 00.0 +16
MIDW LR LR
comp=Z,3μm,21.0s
QIZ Qiongzhong 35.27 243 P **P 14 35 49.9 +0.6**
QIZ PP **PP 14 37 09.4 -0.2**
QIZ S **S 14 41 19.6 -1.3**
QIZ LN
comp=Z,4μm,19.8s
QIZ LZ
comp=Z,5μm,17.2s
KRAR Krasnoyarsk 36.20 313 *i*P **P 14 35 57.2 +0.3**
DAV Davao City (W) 36.30 210 PFAKE 14 36 10.0 +12
DAV LR LR
comp=Z,2μm,19.0s
KMI Kunming 36.64 258 P **P 14 36 01.4 +0.2**
KMI pP sP 14 36 13.3 -1.9
KMI sP pP 14 36 18.1 +7.0
KMI PP **PP 14 37 26.8 +1.9**
KMI S **S 14 41 36.8 -5.5**
KMI PMZ
comp=Z,140nm,0.9s
KMI PMZ
comp=Z,760nm,6.8s
KMI LN
comp=Z,8μm,15.5s
KMI LE
comp=Z,8μm,17.1s
KMI LZ
comp=Z,11μm,17.3s
WMQ Urumqi 40.62 294 P **P 14 36 34.1 -0.2**
WMQ pP sP 14 36 46.4 -1.9
WMQ sP pP 14 36 51.8 +7.5
WMQ PP **PnPn 14 38 11.8 -0.3**
WMQ S **S 14 42 39.6 -2.1**
WMQ SS **SS 14 45 35.3 -6.9**
WMQ PMZ
comp=Z,86nm,0.6s
WMQ PMZ
comp=Z,600nm,4.2s
WMQ LN
comp=Z,2μm,14.6s
WMQ LE
comp=Z,2μm,14.6s
WMQ LZ
comp=Z,2μm,19.2s
SKNT Sakolnakorn 40.75 247 P **P 14 36 36.0 +0.5**
comp=Z,75nm,0.8s
ZAA0 Zalesovo Array 40.84 310 *e*P **P 14 36 35.5 -0.3**
ZALV Zalesovo Beam 40.84 310 P **P 14 36 35.8 -0.1**
comp=Z,98nm,0.7s,baz=88,slow=7.5,SNR=266
ZALV PcP **PcP 14 38 36.3 +0.2**
comp=Z,19nm,0.7s,baz=123,slow=2.5,SNR=4.2
ZALV LR LR 14 54 20.7
comp=Z,11μm,18.9s,baz=76,slow=37
ZALV Zalesovo Beam 40.84 310 P **P 14 36 35.8 -0.1**
ZALV 14 38 36.3
ZALV pmax pmax
comp=Z,99nm,0.7s
ZALV pmax pmax
comp=Z,19nm,0.7s
ZALV MLR MLR
comp=Z,11μm,18.9s
MYLDM Lahad Datu 41.06 219 ⇑P **P 14 36 40.8 +2.7**
MYLDM Lahad Datu 41.06 219 *e*P **P 14 36 40.2 +2.2**
comp=Z,189nm,1.3s
NRIK Noril'sk 41.09 334 P **P 14 36 37.2 -0.4**
comp=Z,21nm,0.7s,baz=107,slow=11,SNR=29
NRIK LR LR 14 54 43.3
comp=Z,14μm,19.7s,baz=104,slow=38
KKM Kota Kinabalu 41.46 222 *e*P **P 14 36 43.1 +1.6**
comp=Z,58nm,1.2s
KKM LR LR
comp=Z,3μm,19.0s
NVS Novosibirsk 41.69 311 *i*P **P 14 36 42.9 +0.1**
NVS *e*S **S 14 42 57.6 +0.5**
NVS pmax pmax
comp=E,92nm,1.8s
NVS pmax pmax
comp=Z,159nm,1.8s
NVS smax smax
comp=E,34nm,1.8s
KHON Khomkaen 41.99 248 P **P 14 36 46.1 +0.4**
comp=E,38nm,0.7s,comp=E,884nm
TSM Tawau 42.13 219 ⇓*e*P **P 14 36 48.1 +1.3**
TT01 Tatalina 42.31 37 *e*P **P 14 36 49.0 +1.2**
TTA Tatalina 42.32 36 *e*P pP 14 37 00.3 +2.3
TTA Tatalina 42.32 36 *e*pP pP 14 37 00.3 +2.3
LOEI Loei 42.34 250 P **P 14 36 46.1 -2.4**
comp=E,35nm,1.3s
JAY Jayapura 42.37 183 LR LR 14 53 42.0
comp=E,22nm,20.9s,baz=0.0,slow=35
SVW2 Sparrevohn 42.46 39 *e*P **P 14 36 48.0 -1.0**
comp=E,23nm,0.8s
UTTA Uttaradit 42.70 251 P **P 14 36 51.8 +0.4**
comp=E,13nm,0.9s,comp=E,147nm
KMSI Cibinong 42.88 208 P **P 14 36 55.7 +2.9**
CHAI Chaiyaphum 42.88 248 P **P 14 36 52.9 0.0**
comp=E,29nm,0.8s,comp=E,243nm
LAMP Lampang 42.88 253 P **P 14 36 53.6 +0.7**
comp=E,21nm,0.7s,comp=E,173nm
PBKT Sadao Pong 43.16 250 P **P 14 36 55.6 +0.4**
comp=E,40nm,1.1s,comp=E,2μm
LSA Lhasa 43.17 273 *e*P **P 14 36 56.0 +0.3**
LSA pmax pmax
comp=Z,49nm,0.8s
LSA MLR MLR
comp=Z,9μm,20.0s
LSA Lhasa 43.17 273 *e*P **P 14 36 56.0 +0.3**
comp=Z,49nm,0.8s
LSA LR LR
comp=Z,9μm,20.0s
CMMT Chiang Mai 43.20 254 P **P 14 36 55.7 +0.2**
comp=Z,41nm,1.0s,comp=Z,1μm
CHTO Chiang Mai 43.20 254 P **P 14 36 55.7 +0.1**
comp=Z,153nm,0.9s,comp=Z,4μm
CHTO Chiang Mai 43.20 254 *e*P **P 14 36 55.7 +0.1**
CHTO pmax pmax
comp=Z,27nm,0.7s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 43.20 254 *e*P **P 14 36 55.7 +0.1**
comp=Z,27nm,0.7s
CHTO LR LR
comp=Z,2μm,20.0s
CM31 Chiang Mai Arr 43.43 253 *e*P **P 14 36 57.2 -0.1**
CMAR Chiang Mai Arr 43.43 253 P **P 14 36 57.8 +0.4**
comp=Z,9.7nm,0.7s,baz=45,slow=7.3,SNR=78
CMAR LR LR 14 54 47.2
comp=Z,1μm,19.1s,baz=66,slow=36
CM01 Chiang Mai Arr 43.44 253 *e*P **P 14 36 57.5 0.0**
SUKH Sukhothai 43.54 252 P **P 14 36 58.8 +0.6**
comp=Z,22nm,0.8s,comp=Z,172nm
MK01 Makanchi Array 43.59 300 *e*P **P 14 36 58.3 -0.1**
MK31 Makanchi Array 43.59 300 *i*P **P 14 36 58.1 -0.3**
MK31 pmax pmax
comp=Z,63nm,0.9s
MK31 Makanchi Array 43.59 300 *e*P **P 14 36 58.3 -0.1**
MKAR Makanchi Array 43.59 300 P **P 14 36 58.3 -0.1**
comp=Z,40nm,0.8s,baz=84,slow=9.6,SNR=304
MKAR LR LR 14 56 06.8
comp=Z,10μm,18.9s,baz=80,slow=38
MKAR Makanchi Array 43.59 300 P **P 14 36 58.3 -0.1**
MKAR pmax pmax
comp=Z,40nm,0.8s
MKAR MLR MLR
comp=Z,10μm,18.9s
MRSI Marisa 43.74 211 P **P 14 37 00.8 +1.0**
comp=Z,104nm,1.2s,comp=Z,3μm
OHAK Old Harbor 43.80 45 *e*P **P 14 36 59.8 0.0**
comp=Z,32nm,1.0s
MAKZ Makanchi 43.80 300 *e*P **P 14 37 00.0 -0.1**
MAKZ pmax pmax
comp=Z,102nm,1.1s
MAKZ Makanchi 43.80 300 *e*P **P 14 37 00.0 -0.1**
comp=Z,102nm,1.1s
RSO Redoubt South 43.86 40 *e*P **P 14 37 01.1 +0.6**
PPLA Purkeypile 44.07 37 *e*P **P 14 37 04.0 +1.8**
comp=Z,30nm,0.9s
CAST Castle Rocks 44.12 36 *e*P **P 14 37 03.9 +1.5**
comp=Z,28nm,1.0s
KDAK Kodiak Island 44.12 44 *i*P **P 14 37 04.3 +1.9**
KDAK Kodiak Island 44.12 44 *e*P **P 14 37 02.8 +0.3**
comp=Z,39nm,0.9s
KDAK LR LR
comp=Z,3μm,22.0s
SRAK Srakaew 44.12 246 P **P 14 37 00.3 -2.6**
SPU Mount Spurr 44.17 39 *e*P **P 14 37 03.3 +0.4**
BPAW Bear Paw Mtn. 44.60 35 *e*P **P 14 37 07.6 +1.3**
comp=Z,22nm,0.9s
KTH Kantishna Hill 44.64 36 *e*P **P 14 37 07.4 +0.8**
comp=Z,64nm,1.0s
SANI Sanana 44.64 204 P **P 14 37 07.7 +0.7**
CNPM China Poot 44.67 41 *e*P **P 14 37 07.7 +0.8**
comp=Z,25nm,0.9s
MLY Manley 44.71 34 *e*P **P 14 37 08.5 +1.4**
comp=Z,20nm,0.8s
SUA Susitna One 44.79 39 *e*P **P 14 37 08.4 +0.5**
comp=Z,39nm,0.8s
CHBT CHBT 44.80 244 P **P 14 37 12.9 +4.6**
comp=E,653nm,0.8s,comp=Z,135μm
TRF Thorofare Moun 44.92 36 *e*P **P 14 37 09.6 +0.6**
comp=Z,27nm,0.9s
UMPA Umpang Tak 44.93 251 P **P 14 37 11.7 +2.3**
comp=Z,16nm,1.0s
COLD Coldfoot 44.99 30 *e*P **P 14 37 10.3 +1.1**
comp=Z,32nm,1.0s
KURK Kurchatov 45.08 306 P **P 14 37 09.8 -0.3**
KURK pmax pmax
comp=Z,2μm,0.8s
KURK Kurchatov 45.08 306 *e*P **P 14 37 10.0 -0.1**
comp=Z,823nm,0.8s
KURK LR LR
comp=Z,5μm,19.0s
BWN Browne 45.27 35 *e*P **P 14 37 13.0 +1.5**
comp=Z,135nm,0.9s
RC01 Rabbit Creek A 45.30 39 *e*P **P 14 37 12.0 +0.2**
comp=Z,40nm,0.7s
MCK McKinley 45.52 35 *e*P **P 14 37 14.7 +1.2**
MCK pmax pmax
comp=Z,31nm,0.8s
MCK McKinley 45.52 35 *e*P **P 14 37 14.7 +1.2**
comp=Z,31nm,0.8s
SEW Seward 45.52 40 *e*P **P 14 37 14.2 +0.7**
comp=Z,33nm,0.9s
PMR Palmer 45.55 38 *e*P **P 14 37 14.2 +0.5**
PMR pmax pmax
comp=Z,26nm,0.7s
PMR Palmer 45.55 38 *e*P **P 14 37 14.2 +0.5**
comp=Z,26nm,0.7s
RND Reindeer 45.57 36 *e*P **P 14 37 14.0 0.0**
RND pmax pmax
comp=Z,51nm,1.2s
RND Reindeer 45.57 36 *e*P **P 14 37 14.0 0.0**
comp=Z,51nm,1.2s

PATY	**Pattaya**	**45.70**	**246**	P		**P**		**14 37 16.7**	**+1.2**
	comp=Z,17nm,0.9s,comp=Z,2µm								
MDM	**Murphy Dome**	**45.78**	**34**	*e*P		**P**		**14 37 16.6**	**+1.0**
	comp=Z,29nm,0.8s								
WRH	**Wood River Hil**	**45.86**	**34**	*e*P		**P**		**14 37 17.5**	**+1.3**
	comp=Z,28nm,1.1s								
SML	**Sawmill**	**45.91**	**38**	*e*P		**P**		**14 37 16.8**	**+0.1**
SML				pmax		pmax			
	comp=Z,45nm,0.9s								
SML	**Sawmill**	**45.91**	**38**	*e*P		**P**		**14 37 16.8**	**+0.1**
	comp=Z,45nm,0.9s								
COLA	**College**	**45.95**	**34**	*c i*P		**P**		**14 37 16.8**	**0.0**
COLA	**College**	**45.95**	**34**	*e*P		**P**		**14 37 17.9**	**+1.1**
	comp=Z,34nm,0.8s								
COLA				LR		LR			
	comp=Z,1µm,20.0s								
SRDT	**SRDT**	**45.97**	**249**	P		P		14 37 26.1	+8.5
CCB	**Clear Creek Bu**	**45.97**	**34**	*e*P		**P**		**14 37 18.3**	**+1.3**
	comp=Z,19nm,1.1s								
DHY	**Denali Highway**	**46.26**	**36**	*e*P		**P**		**14 37 19.7**	**+0.1**
	comp=Z,31nm,0.8s								
HDA	**Harding Lake**	**46.36**	**34**	*e*P		**P**		**14 37 19.8**	**-0.3**
	comp=Z,28nm,0.8s								
ILAR	**Eielson Array**	**46.36**	**34**	P		**P**		**14 37 20.6**	**+0.5**
	comp=Z,5.4nm,0.7s,baz=263,slow=5.9,SNR=64								
ILAR				LR		LR		14 59 02.5	
	comp=Z,2µm,19.3s,baz=286,slow=39								
ILB	**Eielson Array**	**46.36**	**34**	*e*P		**P**		**14 37 20.0**	**-0.1**
IL1	**Eielson Array**	**46.36**	**34**	*e*P		**P**		**14 37 20.3**	**+0.1**
SCM	**Sheep Creek Mo**	**46.39**	**38**	*e*P		**P**		**14 37 20.7**	**+0.2**
SCM				pmax		pmax			
	comp=Z,65nm,0.8s								
SCM	**Sheep Creek Mo**	**46.39**	**38**	*e*P		**P**		**14 37 20.7**	**+0.2**
	comp=Z,65nm,0.8s								
PHET	**Kaeng Krachan**	**46.58**	**247**	P		**P**		**14 37 23.8**	**+1.4**
	comp=Z,43nm,0.9s,comp=Z,351nm								
SBUM	**Sibu**	**46.60**	**225**	⇑P		**P**		**14 37 23.6**	**+1.0**
SBUM	**Sibu**	**46.60**	**225**	*e*P		**P**		**14 37 22.9**	**+0.4**
	comp=Z,10nm,0.8s								
FYU	**Fort Yukon**	**46.95**	**31**	*e*P		**P**		**14 37 26.0**	**+1.3**
	comp=Z,127nm,1.3s								
KLU	**Klutina**	**47.09**	**38**	*e*P		**P**		**14 37 26.8**	**+0.9**
	comp=Z,80nm,1.2s								
PAX	**Paxson**	**47.13**	**36**	*e*P		**P**		**14 37 26.5**	**+0.2**
PAX				pmax		pmax			
	comp=Z,12nm,0.8s								
PAX	**Paxson**	**47.13**	**36**	*e*P		**P**		**14 37 26.5**	**+0.2**
	comp=Z,12nm,0.8s								
TARA	**Tarawa**	**47.16**	**137**	PFAKE				14 37 40.0	+13
TARA				LR		LR			
	comp=Z,305nm,20.0s								
JOHN	**Johnston Islan**	**47.17**	**105**	PFAKE				14 37 40.0	+13
JOHN				LR		LR			
	comp=Z,378nm,19.0s								
DIV	**Divide**	**47.21**	**39**	*e*P		**P**		**14 37 28.0**	**+1.1**
	comp=Z,48nm,0.7s								
EYAK	**Cordova Ski Ar**	**47.30**	**40**	*e*P		**P**		**14 37 28.6**	**+1.1**
	comp=Z,38nm,0.8s								
DOT	**Dot Lake**	**47.69**	**35**	*e*P		**P**		**14 37 31.3**	**+0.7**
	comp=Z,50nm,0.8s								
BMRM	**Bremner River**	**47.80**	**39**	*e*P		**P**		**14 37 32.5**	**+1.0**
	comp=Z,42nm,0.8s								
RAGM	**Ragged Mountai**	**47.85**	**40**	*e*P		**P**		**14 37 33.3**	**+1.4**
	comp=Z,31nm,0.8s								
MENT	**Mentasta**	**47.93**	**36**	*e*P		**P**		**14 37 33.5**	**+1.1**
	comp=Z,36nm,1.0s								
RAMN	**Ramite**	**48.01**	**272**	*e*P		**P**		**14 37 34.2**	**+0.4**
	comp=Z,330nm,0.9s								
GUN	**Gumba**	**48.08**	**274**	*e*P		**P**		**14 37 35.0**	**+0.6**
	comp=Z,297nm,0.6s								
AAA	**Alma-Ata**	**48.25**	**297**	*e*P		**P**		**14 37 36.6**	**+1.4**
AAA				*e*S		S		14 44 42.1	+10
AAA				pmax		pmax			
	comp=Z,800nm,3.5s								
AAA				smax		smax			
	comp=E,2µm,11.1s								
AAA				MLR		MLR			
	comp=Z,12µm,17.0s								
KSM	**Kuching**	**48.46**	**226**	*e*P		**P**		**14 37 37.7**	**+0.7**
	comp=Z,29nm,1.0s								
KSM				LR		LR			
	comp=Z,901nm,20.0s								
CRQM	**Cirque**	**48.54**	**39**	*e*P		**P**		**14 37 38.8**	**+1.5**
	comp=Z,80nm,1.0s								
KKN	**Kakani**	**48.60**	**274**	*e*P		**P**		**14 37 38.7**	**+0.4**
	comp=Z,227nm,0.7s								
PKIN	**Phulchoki**	**48.62**	**274**	*e*P		**P**		**14 37 39.1**	**+0.6**
	comp=Z,55nm,0.7s								
EGAK	**Eagle**	**48.80**	**34**	*e*P		**P**		**14 37 39.6**	**+0.5**
	comp=Z,30nm,0.8s								
EGAK				LR		LR			
	comp=Z,2µm,20.0s								
DMN	**Daman**	**48.82**	**274**	*e*P		**P**		**14 37 40.4**	**+0.3**
	comp=Z,170nm,1.0s								
BALM	**Baldy**	**48.87**	**39**	*e*P		**P**		**14 37 41.0**	**+1.2**
BALM				pmax		pmax			
	comp=Z,27nm,0.9s								
BALM	**Baldy**	**48.87**	**39**	*e*P		**P**		**14 37 41.0**	**+1.2**
	comp=Z,27nm,0.9s								
GKN	**Gorkha**	**48.98**	**275**	*e*P		**P**		**14 37 41.4**	**+0.2**
	comp=Z,195nm,0.9s								
STKI	**Sintang**	**49.00**	**224**	P		**P**		**14 37 42.4**	**+1.3**
CHKZ	**Chkalovo**	**49.18**	**312**	*i*P		**P**		**14 37 41.2**	**-0.9**
CHKZ				pmax		pmax			
	comp=Z,96nm,1.0s								
SURA	**Surathani**	**49.20**	**243**	P		**P**		**14 37 45.6**	**+2.9**
	comp=Z,35nm,1.3s								
VOSK	**Vostochnaya**	**49.21**	**310**	*e*P		**P**		**14 37 42.2**	**-0.2**
VOSK				pmax		pmax			
	comp=Z,87nm,1.0s								
VOSK	**Vostochnaya**	**49.21**	**310**	*e*P		**P**		**14 37 42.2**	**-0.2**
	comp=Z,86nm,1.0s								
TKM2	**Tokmak 2**	**49.30**	**297**	*e*P		**P**		**14 37 44.0**	**+0.5**
TKM2				pmax		pmax			
	comp=Z,141nm,0.8s								
TKM2				MLR		MLR			
	comp=Z,9µm,20.0s								
TKM2	**Tokmak 2**	**49.30**	**297**	*e*P		**P**		**14 37 44.0**	**+0.5**
	comp=Z,141nm,0.8s								
TKM2				LR		LR			
	comp=Z,9µm,20.0s								
PMG	**Port Moresby**	**49.33**	**174**	LR		LR		14 57 01.6	
	comp=Z,759nm,20.9s,baz=355,slow=34								
BVA0	**Borovoye Array**	**49.48**	**311**	*i*P		**P**		**14 37 44.5**	**+0.1**
BVA0				pmax		pmax			
	comp=Z,54nm,0.6s								
BRVK	**Borovoye**	**49.53**	**311**	*ce*P		**P**		**14 37 45.1**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,171nm,0.8s								
BRVK	**Borovoye**	**49.53**	**311**	*e*P		**P**		**14 37 45.0**	**+0.3**
	comp=Z,193nm,0.8s								
BRVK				LR		LR			
	comp=Z,4µm,19.0s								
KAPI	**Kappang**	**49.62**	**211**	P		**P**		**14 37 47.0**	**+1.2**
	comp=Z,8.6nm,0.4s,baz=309,slow=11,SNR=3.8								
KAPI	**Kappang**	**49.62**	**211**	*e*P		**P**		**14 37 47.0**	**+1.2**
	comp=Z,106nm,1.4s								
KAPI				LR		LR			
	comp=Z,624nm,21.0s								
KOLN	**Koldanda**	**49.90**	**275**	*e*P		**P**		**14 37 48.6**	**+0.4**
	comp=Z,141nm,1.0s								
SURT	**Suratani**	**49.92**	**244**	P		**P**		**14 37 51.6**	**+3.4**
	comp=Z,29nm,1.3s								
SKLT	**Songkhla**	**49.97**	**241**	P		**P**		**14 37 50.8**	**+2.2**
	comp=Z,42nm,1.1s								
FRU	**Bishkek**	**50.00**	**297**	⇑*i*P		**P**		**14 37 49.0**	**+0.4**
FRU				*e*S		**S**		**14 44 57.5**	**+0.5**
FRU				pmax		pmax			
	comp=Z,310nm,2.8s								
FRU				smax		smax			
	comp=E,4µm,15.0s								
TRTT	**Trang**	**50.11**	**242**	P		**P**		**14 37 51.7**	**+2.0**
	comp=E,62nm,0.7s								
AAK	**Ala-Archa**	**50.16**	**297**	*ce*P		**P**		**14 37 50.1**	**+0.2**
AAK				pmax		pmax			
	comp=Z,28nm,0.7s								
AAK	**Ala-Archa**	**50.16**	**297**	*e*P		**P**		**14 37 49.9**	**0.0**
	comp=Z,54nm,1.0s								
AAK				LR		LR			
	comp=Z,8µm,20.0s								
PYUN	**Piuthan**	**50.20**	**276**	*e*P		**P**		**14 37 50.9**	**+0.4**
	comp=Z,301nm,1.0s								
KSH	**Kashi**	**50.31**	**292**	P		**P**		**14 37 55.3**	**+4.2**
KSH				pP		sP		14 38 06.9	+1.6
KSH				PcP		**PcP**		**14 39 13.9**	**+4.4**
KSH				PP		**PP**		**14 39 52.3**	**+5.8**
KSH				S		**S**		**14 45 03.6**	**+2.0**
KSH					ScS	**ScS**		**14 47 40.3**	**+0.7**
KSH					SS	**SS**		**14 48 35.0**	**-0.1**
KSH					PMZ				
	comp=Z,33nm,0.8s								
KSH					PMZ				
	comp=Z,450nm,3.7s								
KSH					LN				
	comp=Z,2µm,12.8s								
KSH					LE				
	comp=Z,3µm,16.9s								
KSH					LZ				
	comp=Z,10µm,16.5s								
EKS2	**Erkin-Say**	**50.64**	**297**	*e*P		**P**		**14 37 53.6**	**+0.1**
EKS2				pmax		pmax			
	comp=Z,59nm,0.8s								
EKS2				MLR		MLR			
	comp=Z,6µm,20.0s								
EKS2	**Erkin-Say**	**50.64**	**297**	*e*P		**P**		**14 37 53.6**	**+0.1**
	comp=Z,59nm,0.8s								
EKS2				LR		LR			
	comp=Z,6µm,20.0s								
PKDT	**Phuket**	**51.00**	**243**	P		**P**		**14 37 58.6**	**+2.3**
	comp=Z,103nm,0.9s								
INK	**Inuvik**	**51.21**	**28**	*e*P		**P**		**14 37 57.9**	**+0.7**
INK				pmax		pmax			
	comp=Z,37nm,1.0s								
INK	**Inuvik**	**51.21**	**28**	*e*P		**P**		**14 37 57.9**	**+0.7**
	comp=Z,37nm,1.0s								
KULM	**Kulim**	**51.34**	**239**	*e*P		**P**		**14 37 59.7**	**+0.8**
	comp=Z,51nm,1.1s								
KULM				LR		LR			
	comp=Z,2µm,20.0s								
MNAS	**Manas**	**51.57**	**297**	P		**P**		**14 38 00.8**	**+0.2**
MNAS				pmax		pmax			
	comp=Z,140nm,0.8s								
HNR	**Honiara**	**51.67**	**158**	LR		LR		14 58 12.5	
	comp=Z,2µm,21.5s,baz=336,slow=34								
IPM	**Ipoh**	**51.70**	**238**	*e*P		**P**		**14 38 01.6**	**-0.1**
	comp=Z,60nm,1.3s								
MYKOM	**Kota Tinggi**	**51.98**	**233**	*e*P		**P**		**14 38 03.8**	**+0.1**
	comp=Z,21nm,0.9s								
SOEI	**Soe**	**52.44**	**203**	*e*P		**P**		**14 38 07.5**	**+0.3**
	comp=Z,117nm,0.9s								
KK31	**Karatay Array**	**52.69**	**299**	*i* P		**P**		**14 38 08.5**	**-0.2**
KK31				pmax		pmax			
	comp=Z,50nm,0.8s								
KKAR	**Karatay Array**	**52.69**	**299**	*e*P		**P**		**14 38 08.1**	**-0.6**
KKAR	**Karatay Array**	**52.69**	**299**	*e*P		**P**		**14 38 08.1**	**-0.6**
SDNR	**Sundarnagar**	**53.10**	**283**	*e*P		**P**		**14 38 11.6**	**-0.3**
KIP	**Kipapa**	**53.11**	**92**	*e*P		**P**		**14 38 07.7**	**-4.3**
KIP				pmax		pmax			
	comp=Z,65nm,0.8s								
KIP				MLR		MLR			
	comp=Z,3µm,20.0s								
KIP	**Kipapa**	**53.11**	**92**	*e*P		**P**		**14 38 07.7**	**-4.3**
	comp=Z,65nm,0.8s								
KIP				LR		LR			
	comp=Z,3µm,20.0s								
COEN	**Coen**	**53.69**	**180**	*e*P		**P**		**14 38 16.3**	**+0.1**
	comp=Z,42nm,1.0s								
MTN	**Manton Dam**	**53.71**	**194**	*e*P		**P**		**14 38 16.4**	**0.0**
	comp=Z,64nm,1.0s								
SVE	**Sverdlovsk**	**53.72**	**317**	*d i*P		**P**		**14 38 16.8**	**+0.8**
SVE				*e*				14 40 18.3	
SVE				*e*S		**S**		**14 45 45.4**	**-2.2**
SVE				pmax		pmax			
	comp=Z,118nm,0.7s								
SVE				MLR		MLR			
	comp=Z,18µm,16.0s								
SVE				MLR		MLR			
	comp=E,13µm,16.0s								
NDI	**New Delhi**	**54.30**	**280**	*e*P		P		14 38 12.0	-8.7
BKNI	**Bangkinang**	**54.86**	**235**	*e*P		**P**		**14 38 25.6**	**+0.7**
	comp=E,157nm,0.9s								
ARU	**Arti**	**54.93**	**318**	*c i*P		**P**		**14 38 25.1**	**+0.2**
ARU								14 39 23.4	
ARU								14 40 26.0	
ARU				PPP		PPP		14 41 36.3	
ARU				S		**S**		**14 46 05.7**	**+1.8**
ARU								14 48 15.1	
ARU				SS		**SS**		**14 49 38.8**	**-8.3**
ARU				pmax		pmax			
	comp=Z,75nm,1.0s								
ARU				MLR		MLR			
	comp=Z,17µm,17.0s								
ARU	**Arti**	**54.93**	**318**	*e*P		**P**		**14 38 25.0**	**+0.2**
	comp=Z,51nm,0.8s								
ARU				LR		LR			
	comp=Z,12µm,19.0s								
WRAK	**Wrangell Islan**	**55.14**	**42**	PFAKE				14 38 40.0	+14
WRAK				LR		LR			
	comp=Z,995nm,19.0s								
DLBC	**Dease Lake**	**55.57**	**40**	*e*P		**P**		**14 38 31.9**	**+2.3**
	comp=Z,14nm,1.0s								
POHA	**Pohakuloa**	**55.97**	**92**	PFAKE				14 38 50.0	+17
POHA				LR		LR			
	comp=Z,2µm,20.0s								
GSI	**Gunungsitoli**	**56.34**	**239**	*e*P		**P**		**14 38 36.0**	**+0.5**
	comp=Z,114nm,1.1s								
AB31	**Akbulak array**	**56.95**	**309**	P		**P**		**14 38 39.5**	**+0.1**
AB31				pmax		pmax			
	comp=Z,26nm,0.6s								
ABKAR	**Akbulak array**	**56.95**	**309**	*e*P		**P**		**14 38 39.5**	**+0.1**
HOPEN	**Hopen**	**57.44**	**346**	*e*P		**P**		**14 38 44.5**	**+2.0**
HOPEN				IAmb		IAmb		14 39 04.7	
	comp=Z,348nm,1.7s								
KBL	**Kabul**	**57.48**	**290**	*e*P		**P**		**14 38 42.9**	**-0.7**
KBL				pmax		pmax			
	comp=Z,209nm,0.9s								
KBL	**Kabul**	**57.48**	**290**	*e*P		**P**		**14 38 42.9**	**-0.7**
	comp=Z,209nm,0.9s								
AKTO	**Aktyubinsk**	**57.58**	**311**	P		**P**		**14 38 43.4**	**-0.5**
AKTO				pmax		pmax			
	comp=Z,55nm,0.8s								
SPA0	**Spitsbergen Ar**	**57.83**	**349**	*e*P		**P**		**14 38 47.1**	**+1.9**
SPA0				*e*S		**S**		**14 46 43.7**	**+1.8**
SPA0				IAMs_20		IAMs_20		15 03 02.0	
	comp=Z,2µm,20.5s								
KBS	**Kingsbay**	**57.93**	**350**	*e*P		**P**		**14 38 47.4**	**+1.5**
KBS				IAmb		IAmb		14 38 49.2	
	comp=Z,46nm,1.0s								
KBS				*e*S		**S**		**14 46 49.2**	**+6.2**
KBS	**Kingsbay**	**57.93**	**350**	*e*P		**P**		**14 38 46.5**	**+0.6**
KBS				pmax		pmax			
	comp=Z,42nm,0.9s								
KBS				MLR		MLR			
	comp=Z,1µm,19.0s								
KBS	**Kingsbay**	**57.93**	**350**	*e*P		**P**		**14 38 46.5**	**+0.6**
	comp=Z,42nm,0.9s								
KBS				LR		LR			
	comp=Z,1µm,19.0s								
HSPB	**Hornsund (broa**	**58.78**	**348**	*e*P		**P**		**14 38 51.5**	**-0.3**
HSPB				IAMs_20		IAMs_20		15 06 01.3	
	comp=Z,2µm,20.9s								
FUNA	**Funafuti**	**58.80**	**137**	PFAKE				14 39 10.0	+17
FUNA				LR		LR			
	comp=Z,10µm,20.0s								
RES	**Resolute Bay**	**59.43**	**15**	*e*P		**P**		**14 38 56.2**	**-0.1**
RES				pmax		pmax			
	comp=Z,30nm,0.8s								
RES	**Resolute Bay**	**59.43**	**15**	*e*P		**P**		**14 38 56.2**	**-0.1**
	comp=Z,30nm,0.8s								
HYB	**Hyderabad**	**59.48**	**268**	*i* P		**P**		**14 38 57.0**	**-0.5**
CTAO	**Charters Tower**	**59.87**	**176**	PFAKE				14 39 10.0	+10
CTAO				LR		LR			
	comp=Z,2µm,20.0s								
LVZ	**Lovozero**	**59.88**	**335**	PFAKE				14 39 10.0	+10
LVZ				LR		LR			
	comp=Z,2µm,19.0s								
FITZ	**Fitzroy Crossi**	**60.02**	**199**	P		**P**		**14 39 01.2**	**+0.2**
	comp=Z,8.7nm,0.7s,baz=19,slow=7.0,SNR=15								
FITZ	**Fitzroy Crossi**	**60.02**	**199**	*e*P		**P**		**14 39 01.0**	**0.0**
WRAB	**Tennant Creek**	**60.17**	**189**	*ce*P		**P**		**14 39 02.5**	**+0.5**
WRAB				pmax		pmax			
	comp=Z,69nm,1.2s								
WRAB	**Tennant Creek**	**60.17**	**189**	*e*P		**P**		**14 39 01.5**	**-0.5**
	comp=Z,58nm,0.9s								
WRAB				LR		LR			
	comp=Z,2µm,22.0s								
WB2	**Warramunga Arr**	**60.18**	**189**	*e*P		**P**		**14 39 01.7**	**-0.4**
	comp=Z,60nm,0.9s								
WRA	**Warramunga Arr**	**60.18**	**189**	P		**P**		**14 39 01.6**	**-0.5**
	comp=Z,24nm,1.1s,baz=7.5,slow=6.9,SNR=89								
WRA				LR		LR		15 06 07.0	
	comp=Z,457nm,18.5s,baz=10.0,slow=37								
APA	**Apatity**	**60.46**	**335**	⇓*i*P		**P**		**14 39 03.2**	**-0.3**
APA				*i*				14 41 16.0	
APA				*i* S		**S**		**14 47 12.0**	**-4.1**
APA				pmax		pmax			
	comp=Z,18nm,0.8s								
APA				MLR		MLR			
	comp=Z,3µm,16.0s								
YKA	**Yellowknife Ar**	**60.65**	**31**	P		**P**		**14 39 05.2**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=301,slow=6.4,SNR=16								
KEV	**Kevo**	**61.08**	**339**	*e*P		**P**		**14 39 07.7**	**0.0**
KEV				pmax		pmax			
	comp=Z,31nm,0.9s								
KEV				MLR		MLR			
	comp=Z,2µm,21.0s								
KEV	**Kevo**	**61.08**	**339**	*e*P		**P**		**14 39 07.7**	**0.0**
	comp=Z,31nm,0.9s								
KEV				LR		LR			
	comp=Z,2µm,21.0s								
HAMF	**Hammerfest**	**61.40**	**341**	*e*P		**P**		**14 39 10.8**	**+1.0**
HAMF				*e*S		**S**		**14 47 29.7**	**+1.9**
ARA0	**ARCESS Array S**	**61.63**	**339**	*e*P		**P**		**14 39 11.4**	**0.0**
ARCES	**ARCESS Array B**	**61.63**	**339**	P		**P**		**14 39 11.8**	**+0.4**
	comp=Z,12nm,0.8s,baz=46,slow=6.2,SNR=23								
ARCES				LR		LR		15 09 23.0	
	comp=Z,2µm,20.7s,baz=44,slow=39								
ARE0	**ARCESS Array S**	**61.63**	**339**	*e*P		**P**		**14 39 12.7**	**+1.3**
ARE0				IAmb		IAmb		14 39 13.9	
	comp=Z,21nm,1.0s								
ARE0				*e*S		**S**		**14 47 34.2**	**+3.3**
ARE0				*e*SS		**SS**		**14 51 38.5**	**+6.8**
ARE0	**ARCESS Array S**	**61.63**	**339**	*e*P		**P**		**14 39 11.3**	**-0.2**
	comp=Z,19nm,0.9s								
KLMR	**Klimovskoe**	**61.88**	**327**	*e*P		**P**		**14 39 12.3**	**-0.9**
KLMR				*e*				14 39 52.7	
KLMR				*e*				14 41 28.2	
KLMR				pmax		pmax			
	comp=Z,36nm,0.9s								
KTK1	**Kautokeino**	**62.58**	**339**	*e*P		**P**		**14 39 16.3**	**-1.5**
DAG	**Danmarks Havn**	**62.91**	**355**	⇑*i*P		**P**		**14 39 20.1**	**+0.2**
DAG				pmax		pmax			
	comp=Z,38nm,0.9s								
DAG				MLR		MLR			
	comp=Z,2µm,23.0s								
DAG	**Danmarks Havn**	**62.91**	**355**	⇑*i*P		**P**		**14 39 20.1**	**+0.2**
	comp=Z,45nm,0.9s								
	comp=Z,2µm,23.0s								
TRO	**Tromso**	**63.28**	**341**	*e*P		**P**		**14 39 23.2**	**+0.8**
TRO				IAmb		IAmb		14 39 24.7	
	comp=Z,62nm,1.2s								
GEYT	**Alibeck**	**63.44**	**298**	P		**P**		**14 39 23.9**	**-0.1**
	comp=Z,38nm,0.8s,baz=36,slow=2.8,SNR=53								
GEYT				LR		LR		15 08 59.7	
	comp=Z,4µm,18.5s,baz=60,slow=38								
NLWA	**Neilton Lookou**	**63.86**	**49**	PFAKE				14 39 40.0	+13
NLWA				LR		LR			
	comp=Z,1µm,22.0s								
AS01	**Alice Springs**	**63.90**	**189**	*e*P		**P**		**14 39 26.9**	**-0.1**
AS31	**Alice Springs**	**63.90**	**189**	*e*P		**P**		**14 39 26.8**	**-0.3**
	comp=Z,5.5nm,0.8s								
ASAR	**Alice Springs**	**63.90**	**189**	P		**P**		**14 39 26.9**	**-0.2**
	comp=Z,8.5nm,0.8s,baz=5.5,slow=6.2,SNR=80								
ASAR				PcP		**PcP**		**14 40 05.7**	**+3.2**
	comp=Z,5.2nm,0.9s,baz=32,slow=3.8,SNR=4.3								
ASAR				LR		LR		15 06 28.1	
	comp=Z,1µm,21.9s,baz=2.0,slow=35								
PALK	**Pallekele**	**64.16**	**257**	*i* P		**P**		**14 39 32.1**	**+3.0**
B05A	**Bryant**	**64.42**	**48**	P		**P**		**14 39 29.6**	**-0.6**
	baz=302								
MBWA	**Marble Bar**	**64.58**	**204**	*e*P		**P**		**14 39 31.4**	**-0.1**
MBWA				LR		LR			
	comp=Z,1µm,22.0s								
KULLO	**Kullorsuaq**	**64.90**	**6**	⇑*i*P		**P**		**14 39 33.2**	**+0.2**
KULLO				pmax		pmax			
	comp=Z,28nm,1.0s								
KULLO				MLR		MLR			
	comp=Z,3µm,18.0s								
KULLO	**Kullorsuaq**	**64.90**	**6**	⇑*i*P		**P**		**14 39 33.2**	**+0.2**
	comp=Z,28nm,1.0s								
	comp=Z,3µm,18.0s								
F04D	**Rainier, OR**	**65.05**	**50**	P		**P**		**14 39 33.1**	**-1.4**
	baz=302								
EIDS	**Eidsvold**	**65.49**	**172**	*e*P		**P**		**14 39 37.8**	**+0.5**
	comp=Z,18nm,0.7s								
DZM	**Mont Dzumac**	**65.55**	**156**	*e*P		**P**		**14 39 40.0**	**+2.1**
	comp=Z,87nm,1.1s								
DZM				*e*S		**S**		**14 48 21.4**	**+0.6**
	comp=Z,2µm,30.3s								
DZM	**Mont Dzumac**	**65.55**	**156**	*e*LR		LR		14 59 32.9	
	comp=Z,4µm,22.0s								
DZM	**Mont Dzumac**	**65.55**	**156**	*e*P		**P**		**14 39 39.9**	**+2.1**
	comp=Z,34nm,1.0s								
MOS	**Moscow**	**65.56**	**323**	*e*P		**P**		**14 39 36.5**	**-1.1**
MOS				*e*				14 40 09.0	
MOS				*e*				14 42 00.1	
MOS				*e*S		**S**		**14 48 18.5**	**-1.7**
MOS				*e*				14 48 38.1	
MOS				pmax		pmax			
	comp=Z,57nm,0.9s								
MOS				pmax		pmax			
	comp=Z,300nm,2.3s								
MOS				MLR		MLR			
	comp=Z,7µm,15.0s								
MOS				MLR		MLR			
	comp=N,5µm,16.0s								
MOS				MLR		MLR			
	comp=E,5µm,16.0s								
MSVF	**Nonsavu**	**66.13**	**143**	*e*P		**P**		**14 39 40.2**	**-1.5**
MSVF				pmax		pmax			
	comp=Z,50nm,1.1s								
MSVF				MLR		MLR			
	comp=Z,3µm,20.0s								
MSVF	**Nonsavu**	**66.13**	**143**	*e*P		**P**		**14 39 40.2**	**-1.5**
	comp=Z,50nm,1.1s								

	comp=Z,33nm,0.8s									
SUMG	**Summit**	**67.71**		**0**	⇑*iP*		**P**	**14 39 52.8**	**+1.3**
	comp=Z,33nm,0.8s									
SUMG	**Summit**	**67.71**		**0**	*eP*		**P**	**14 39 52.5**	**+1.0**
	comp=Z,94nm,1.2s									
M02C	**Callahan**	**67.72**	**54**		P		**P**	**14 39 49.9**	**-1.8**
	baz=304									
N02D	**Trinity Center**	**68.05**	**54**		P		**P**	**14 39 53.3**	**-0.4**
	baz=304									
M04C	**Macdoel**	**68.13**	**53**		P		**P**	**14 39 54.0**	**-0.3**
	baz=305									
AFI	**Afiamalu**	**68.19**	**132**		PFAKE			14 40 10.0	+15	
AFI					LR	LR				
	comp=Z,2µm,22.0s									
WALA	**Waterton Lakes**	**68.46**	**44**		*eP*		**P**	**14 39 57.2**	**+1.0**
	comp=Z,15nm,1.0s									
VSU	**Vasula**	**68.48**	**330**		*ceP*		**P**	**14 39 56.4**	**+0.4**
VSU					pmax	pmax				
	comp=Z,195nm,1.7s									
BSMT	**Bassoo Peak**	**68.71**	**45**		*eP*		**P**	**14 39 56.7**	**-1.3**
BLMT	**Blacktail Moun**	**68.84**	**45**		*eP*		**P**	**14 39 58.9**	**+0.1**
GOF	**Gofitskoye**	**68.99**	**312**		⇑*iP*		**P**	**14 40 00.3**	**+0.8**
GOF					pmax	pmax				
	comp=Z,111nm,0.7s									
O03D	**Paynes Creek**	**69.00**	**55**		P		**P**	**14 39 59.5**	**-0.2**
	baz=305									
MOD	**Modoc Plateau**	**69.00**	**53**		*eP*		**P**	**14 39 59.2**	**-0.6**
	comp=Z,28nm,1.5s									
JTMT	**Jette**	**69.04**	**45**		*eP*		**P**	**14 39 56.6**	**-3.3**
BMO	**Blue Mountains**	**69.06**	**49**		*eP*		**P**	**14 40 01.8**	**+1.7**
BMO					pmax	pmax				
	comp=Z,7.0nm,0.8s									
BMO					MLR	MLR				
	comp=Z,606nm,22.0s									
BMO	**Blue Mountains**	**69.06**	**49**		*eP*		**P**	**14 40 01.8**	**+1.7**
	comp=Z,7.4nm,0.8s									
BMO					LR	LR				
	comp=Z,606nm,22.0s									
YBMT	**Yellow Bay**	**69.12**	**45**		*eP*		**P**	**14 40 01.8**	**+1.4**
SCO	**Scoresbysund**	**69.27**	**355**		⇑*iP*		**P**	**14 40 01.7**	**+1.0**
SCO					pmax	pmax				
	comp=Z,11nm,1.0s									
SCO	**Scoresbysund**	**69.27**	**355**		⇑*iP*		**P**	**14 40 01.7**	**+1.0**
	comp=Z,11nm,1.0s									
SWMT	**Swartz Lake**	**69.34**	**45**		*eP*		**P**	**14 40 03.0**	**+1.3**
NCK	**Nalchik**	**69.59**	**310**		*eP*		**P**	**14 40 04.1**	**+0.9**
NCK					pmax	pmax				
	comp=Z,45nm,1.0s									
WVOR	**Wild Horse Val**	**69.70**	**51**		*eP*		**P**	**14 40 05.9**	**+1.8**
WVOR					pmax	pmax				
	comp=Z,15nm,1.1s									
WVOR					MLR	MLR				
	comp=Z,557nm,20.0s									
WVOR	**Wild Horse Val**	**69.70**	**51**		*eP*		**P**	**14 40 05.9**	**+1.8**
	comp=Z,15nm,1.1s									
WVOR					LR	LR				
	comp=Z,557nm,20.0s									
DUS	**Dusheti**	**69.75**	**308**		P		**P**	**14 40 07.7**	**+3.3**
DUS	**Dusheti**	**69.75**	**308**		P		**P**	**14 40 07.7**	**+3.3**
MSO	**Missoula**	**69.78**	**45**		P		**P**	**14 40 04.3**	**-0.2**
	baz=307									
MSO	**Missoula**	**69.78**	**45**		*eP*		**P**	**14 40 05.2**	**+0.7**
	comp=Z,13nm,1.0s									
ZEI	**Tsey**	**69.82**	**309**		*eP*		**P**	**14 40 02.4**	**-2.5**
ZEI					pmax	pmax				
	comp=Z,109nm,0.8s									
KIV	**Kislovodsk**	**69.85**	**311**		P		**P**	**14 40 05.9**	**+1.1**
KIV	**Kislovodsk**	**69.85**	**311**		*eP*		**P**	**14 40 06.0**	**+1.1**
KIV					*e*			14 42 39.4		
KIV					*e*PPP	PPP		14 44 22.7		
KIV					*e*S	S		**14 49 12.8**	**+0.7**
KIV					*e*SS	SS		**14 53 42.2**	**+1.8**
KIV					pmax	pmax				
	comp=Z,160nm,0.9s									
KIV					pmax	pmax				
	comp=Z,277nm,4.9s									
KIV					MLR	MLR				
	comp=Z,5µm,17.0s									
KIV	**Kislovodsk**	**69.85**	**311**		*eP*		**P**	**14 40 05.1**	**+0.2**
	comp=Z,205nm,1.1s									
KIV					LR	LR				
	comp=Z,5µm,19.0s									
KBZ	**Khabaz**	**69.86**	**310**		P		**P**	**14 40 05.7**	**+0.9**
	comp=Z,53nm,0.9s,baz=52,slow=4.9,SNR=73									
KBZ					LR	LR		15 13 23.3		
	comp=Z,4µm,20.0s,baz=35,slow=38									
TBLG	**Delisi**	**69.94**	**308**		P		**P**	**14 40 06.9**	**+1.5**
TBLG	**Delisi**	**69.94**	**308**		P		**P**	**14 40 06.9**	**+1.5**
CHMT	**Chamberlain Mo**	**70.10**	**45**		*eP*		**P**	**14 40 05.7**	**-0.9**
ONI	**Oni**	**70.20**	**309**		P		**P**	**14 40 08.2**	**+1.0**
ONI	**Oni**	**70.20**	**309**		P		**P**	**14 40 08.1**	**+1.0**
NEY	**Neytrino**	**70.25**	**310**		⇑*iP*		**P**	**14 40 08.9**	**+1.4**
NEY					pmax	pmax				
	comp=Z,8.0nm,0.9s									
IZAR	**Zarasai**	**70.53**	**328**		*eP*		**P**	**14 40 09.4**	**+0.7**
IZAR					IAmb	IAmb		14 40 10.5		
	comp=Z,18nm,0.6s									
FFC	**Flin Flon**	**70.58**	**34**		PFAKE			14 40 20.0	+11	
FFC					LR	LR				
	comp=Z,977nm,20.0s									
ILULI	**Ilulissat**	**70.60**		**5**	⇑*iP*		**P**	**14 40 09.3**	**+0.4**
ILULI					pmax	pmax				
	comp=Z,37nm,1.0s									
ILULI					MLR	MLR				
	comp=Z,3µm,22.0s									
ILULI	**Ilulissat**	**70.60**		**5**	⇑*iP*		**P**	**14 40 09.3**	**+0.4**
	comp=Z,37nm,1.0s									
	comp=Z,3µm,22.0s									
IDID	**Didziasalis**	**70.62**	**327**		*eP*		**P**	**14 40 10.1**	**+0.8**
IDID					IAmb	IAmb		14 40 11.3		
	comp=Z,23nm,0.8s									
MICGM	**Minsk**	**70.69**	**326**		*eP*		**P**	**14 40 08.0**	**-1.7**
MICGM					*e*LQ	LQ		15 07 02.0		
MICGM					*e*LR	LR		15 10 50.0		
MICGM					LRM	MLR		15 14 00.0		
	comp=Z,8.3nm,16.0s									
MICGM					LRM	MLR		15 14 04.0		
	comp=N,9,1nm,16.0s									
MNK	**Minsk**	**70.69**	**326**		*eP*		**P**	**14 40 08.0**	**-1.7**
MNK					MLR	MLR				
	comp=Z,8µm,16.0s									
MNK					MLR	MLR				
	comp=N,9µm,16.0s									
ISAL	**Salakas**	**70.70**	**328**		*eP*		**P**	**14 40 10.5**	**+0.8**
ISAL					IAmb	IAmb		14 40 11.8		
	comp=Z,40nm,1.0s									
MFID	**Camas Ranch**	**70.78**	**49**		*eP*		**P**	**14 40 12.0**	**+1.4**
FCC	**Fort Churchill**	**70.82**	**28**		*eP*		**P**	**14 40 10.4**	**0.0**
FCC					pmax	pmax				
	comp=Z,19nm,0.9s									
FCC	**Fort Churchill**	**70.82**	**28**		*eP*		**P**	**14 40 10.4**	**0.0**
	comp=Z,19nm,0.9s									
PAHR	**Pah Rah Range**	**70.85**	**54**		*eP*		**P**	**14 40 11.4**	**+0.2**
	comp=Z,20nm,1.2s									
GNI	**Garni**	**70.87**	**307**		PFAKE			14 40 20.0	+8.7	
GNI					LR	LR				
	comp=Z,5µm,20.0s									
NACGM	**Naroch**	**70.88**	**327**		*eP*		**P**	**14 40 11.0**	**+0.1**
NACGM					*e*LQ	LQ		15 06 34.0		
NACGM					*e*LR	LR		15 10 56.0		
NACGM					LRM	MLR		15 13 50.0		
	comp=Z,6.8nm,18.0s									
BGD	**Bogdanovka**	**70.91**	**308**		P		**P**	**14 40 13.5**	**+1.9**
CMB	**Columbia Colle**	**71.21**	**56**		*eP*		**P**	**14 40 14.6**	**+1.3**
CMB					pmax	pmax				
	comp=Z,13nm,0.9s									
CMB	**Columbia Colle**	**71.21**	**56**		*eP*		**P**	**14 40 14.6**	**+1.3**
	comp=Z,13nm,0.9s									
LRM	**Limekiln Ridge**	**71.21**	**46**		*eP*		**P**	**14 40 14.6**	**+1.1**
DLMT	**Dillon**	**71.42**	**46**		*eP*		**P**	**14 40 16.0**	**+1.4**
	comp=Z,26nm,1.1s									
HLID	**Hailey**	**71.50**	**48**		P		**P**	**14 40 15.3**	**+0.1**
	baz=308									
HLID	**Hailey**	**71.50**	**48**		*eP*		**P**	**14 40 15.9**	**+0.8**
	comp=Z,8.4nm,0.9s									
HLID					LR	LR				
	comp=Z,914nm,21.0s									
STKA	**Stephens Creek**	**71.54**	**181**		P		**P**	**14 40 15.6**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=12,slow=4.0,SNR=8.2									
STKA					LR	LR		15 10 42.6		
	comp=Z,796nm,22.0s,baz=14,slow=35									
NC405	**NORSAR Array S**	**71.69**	**337**		*eP*		**P**	**14 40 15.8**	**+0.2**
NC303	**NORSAR Array S**	**71.70**	**338**		*eP*		**P**	**14 40 15.7**	**0.0**
BMN	**Battle Mountai**	**71.75**	**52**		*eP*		**P**	**14 40 19.7**	**+3.1**
BMN					pmax	pmax				
	comp=Z,10.0nm,0.9s									
BMN	**Battle Mountai**	**71.75**	**52**		*eP*		**P**	**14 40 19.7**	**+3.1**
	comp=Z,10nm,0.9s									
BOZ	**Bozeman (W)**	**71.77**	**45**		P		**P**	**14 40 16.3**	**-0.4**
	baz=309									
BOZ	**Bozeman (W)**	**71.77**	**45**		*eP*		**P**	**14 40 17.8**	**+1.1**
BOZ					pmax	pmax				
	comp=Z,11nm,0.7s									
BOZ					MLR	MLR				
	comp=Z,901nm,20.0s									
BOZ	**Bozeman (W)**	**71.77**	**45**		*eP*		**P**	**14 40 17.8**	**+1.1**
	comp=Z,11nm,0.7s									
BOZ					LR	LR				
	comp=Z,901nm,20.0s									
SOC	**Sochi**	**71.78**	**312**		*cP*		**P**	**14 40 16.9**	**+0.3**
SOC					*e*			14 42 57.8		
SOC					*e*PPP	PPP		14 44 45.3		
SOC					*e*S	S		**14 49 32.9**	**-1.5**
SOC					pmax	pmax				
	comp=Z,37nm,0.8s									
NC204	**NORSAR Array S**	**71.83**	**338**		*eP*		**P**	**14 40 17.2**	**+0.6**
NB201	**NORSAR Array S**	**71.86**	**337**		*eP*		**P**	**14 40 16.9**	**+0.1**
NB2	**NORSAR Subarra**	**71.89**	**338**		P		**P**	**14 40 17.2**	**+0.2**
	comp=Z,64nm,0.9s,baz=38,slow=6.2									
NB2	**NORSAR Subarra**	**71.89**	**338**		P		**P**	**14 40 17.2**	**+0.2**
	baz=38,slow=6.2									
NOA	**NORSAR Array B**	**71.89**	**338**		P		**P**	**14 40 17.1**	**+0.1**
	comp=Z,46nm,0.8s,baz=38,slow=6.0,SNR=136									
NOA					LR	LR		15 16 39.3		
	comp=Z,2µm,18.7s,baz=30,slow=40									
NBO02	**NORSAR Array S**	**71.99**	**338**		*eP*		**P**	**14 40 17.6**	**+0.1**
UOSS	**Minazif**	**72.02**	**288**		*eP*		**P**	**14 40 18.0**	**-0.3**
	comp=Z,4.1nm,0.9s									
NBO00	**NORSAR Array S**	**72.03**	**338**		*eP*		**P**	**14 40 17.7**	**0.0**
NC602	**NORSAR Array S**	**72.04**	**337**		*eP*		**P**	**14 40 17.8**	**0.0**
NC602					IAmb	IAmb		14 40 19.9		
	comp=Z,19nm,0.9s									
NC602					*e*S	S		**14 49 37.4**	**+0.7**
NC602	**NORSAR Array S**	**72.04**	**337**		*eP*		**P**	**14 40 17.5**	**-0.3**
AKN	**Aaknes**	**72.14**	**340**		*eP*		**P**	**14 40 21.1**	**+2.7**
HATD	**Hatta, Dubai**	**72.14**	**288**		*iP*		**P**	**14 40 19.3**	**+0.3**
	SNR=7.8									
NAO01	**NORSAR Array S**	**72.14**	**338**		*eP*		**P**	**14 40 18.4**	**-0.1**
ASHO	**Ashiyiah**	**72.28**	**288**		*iP*		**P**	**14 40 20.3**	**+0.4**
	SNR=7.2									
ANN	**Anapa**	**72.31**	**314**		*eP*		**P**	**14 40 19.1**	**-0.6**
ANN					*e*			14 43 02.4		
ANN					*e*PPP	PPP		14 44 43.0		
ANN					*e*S	S		**14 49 38.1**	**-2.3**
ANN					*e*			14 50 20.5		
ANN					*e*SS	SS		**14 54 19.9**	**+2.0**
ANN					pmax	pmax				
	comp=Z,51nm,0.9s									
ANN					MLR	MLR				
	comp=Z,4µm,18.0s									
NAZ	**Nazd, Dubai**	**72.39**	**288**		P		**P**	**14 40 20.6**	**+0.1**
MLAC	**Mammoth, Mammo**	**72.43**	**56**		P		**P**	**14 40 21.5**	**+0.6**
	baz=307									
FAQ	**Al Faqa, Dubai**	**72.58**	**288**		P		**P**	**14 40 22.1**	**+0.4**
AKASG	**Malin Array Be**	**72.66**	**322**		P		**P**	**14 40 21.4**	**-0.2**
	comp=Z,27nm,0.7s,baz=44,slow=6.1,SNR=58									
AKASG					LR	LR		15 15 52.4		
	comp=Z,3µm,19.1s,baz=50,slow=39									
AKBB	**Malin Array Si**	**72.66**	**322**		*eP*		**P**	**14 40 21.5**	**-0.2**
AKBB					pmax	pmax				
	comp=Z,45nm,1.0s									
AKBB	**Malin Array Si**	**72.66**	**322**		*eP*		**P**	**14 40 21.5**	**-0.2**
	comp=Z,45nm,1.0s									
KIEV	**Kiev**	**72.67**	**322**		*ciP*		**P**	**14 40 21.6**	**-0.1**
KIEV					pmax	pmax				
	comp=Z,32nm,0.8s									
KIEV	**Kiev**	**72.67**	**322**		*eP*		**P**	**14 40 21.2**	**-0.5**
	comp=Z,45nm,1.0s									
KIEV					LR	LR				
	comp=Z,2µm,20.0s									
AK11	**Malin Array Si**	**72.70**	**322**		*eP*		**P**	**14 40 21.0**	**-0.9**
YHH	**Holmes Hill**	**72.74**	**46**		*eP*		**P**	**14 40 24.1**	**+1.5**
	comp=Z,11nm,1.2s									
ELK	**Elko**	**72.75**	**51**		*eP*		**P**	**14 40 24.6**	**+1.9**
ELK					pmax	pmax				
	comp=Z,5.0nm,1.0s									
ELK	**Elko**	**72.75**	**51**		*eP*		**P**	**14 40 24.6**	**+1.9**
	comp=Z,5.4nm,1.0s									
SFJD	**Kangerlussuaq**	**72.82**		**6**	⇑*iP*		**P**	**14 40 22.9**	**+0.6**
SFJD					pmax	pmax				
	comp=Z,30nm,0.8s									
SFJD					MLR	MLR				
	comp=Z,3µm,21.0s									
SFJD	**Kangerlussuaq**	**72.82**		**6**	⇑*iP*		**P**	**14 40 22.9**	**+0.6**
	comp=Z,30nm,0.8s									
	comp=Z,3µm,21.0s									
SFJD	**Kangerlussuaq**	**72.82**		**6**	*eP*		**P**	**14 40 22.6**	**+0.3**
	comp=Z,36nm,0.9s									
SFJD					LR	LR				
	comp=Z,3µm,21.0s									
OSL	**Oslo**	**72.92**	**337**		*eP*		**P**	**14 40 21.1**	**-2.0**
SUW	**Suwalki**	**73.01**	**328**		*eP*		**P**	**14 40 23.6**	**0.0**
SUW	**Suwalki**	**73.01**	**328**		*eP*		**P**	**14 40 23.6**	**0.0**
YPP	**Pitchstone Pla**	**73.10**	**46**		*eP*		**P**	**14 40 24.3**	**-0.5**
	comp=Z,29nm,1.8s									
LKWY	**Lake**	**73.13**	**46**		PFAKE			14 40 40.0	+15	
LKWY					LR	LR				
	comp=Z,2µm,22.0s									
H17A	**Grant Village**	**73.14**	**46**		P		**P**	**14 40 25.6**	**+0.6**
	baz=310									
H17A	**Grant Village**	**73.14**	**46**		*eP*		**P**	**14 40 28.6**	**+3.6**
	comp=Z,18nm,1.0s									
TIN	**Tinemaha, Big**	**73.17**	**56**		P		**P**	**14 40 26.3**	**+1.2**
	baz=308									
IMW	**Indian Meadow**	**73.26**	**46**		*eP*		**P**	**14 40 27.0**	**+1.3**
	comp=Z,8.8nm,0.8s									
VES	**Vestal, Richgr**	**73.36**	**57**		P		**P**	**14 40 26.4**	**+0.4**
	baz=308									
RLMT	**Red Lodge**	**73.39**	**45**		P		**P**	**14 40 26.7**	**+0.3**
	baz=310									
RLMT	**Red Lodge**	**73.39**	**45**		*eP*		**P**	**14 40 27.7**	**+1.4**
	comp=Z,14nm,1.2s									
RLMT					LR	LR				
	comp=Z,921nm,21.0s									
PKM	**Mcpherson Peak**	**73.46**	**58**		P		**P**	**14 40 28.1**	**+1.2**
	baz=308									
MOOW	**Moose Ponds**	**73.46**	**47**		*eP*		**P**	**14 40 28.1**	**+1.3**
	comp=Z,12nm,1.1s									
KONO	**Kongsberg**	**73.49**	**337**		*eP*		**P**	**14 40 26.6**	**+0.2**
KONO					IAmb	IAmb		14 40 28.3		
	comp=Z,20nm,0.9s									
KONO					*e*S		**SKiKP**	**14 49 55.2**	**+1.3**
KONO	**Kongsberg**	**73.49**	**337**		*eP*		**P**	**14 40 26.6**	**+0.2**
KONO					pmax	pmax				
	comp=Z,20nm,0.9s									
KONO					MLR	MLR				
	comp=Z,2µm,19.0s									
KONO	**Kongsberg**	**73.49**	**337**		*eP*		**P**	**14 40 26.6**	**+0.2**
	comp=Z,20nm,0.9s									
KONO					LR	LR				
	comp=Z,2µm,19.0s									
TPAW	**Teton Pass**	**73.51**	**47**		*eP*		**P**	**14 40 27.8**	**+0.5**
	comp=Z,18nm,1.1s									
HVU	**Hansel Valley**	**73.56**	**49**		*eP*		**P**	**14 40 30.3**	**+2.9**
HVU					pmax	pmax				
	comp=Z,20nm,1.1s									
HVU	**Hansel Valley**	**73.56**	**49**		*eP*		**P**	**14 40 30.3**	**+2.9**
	comp=Z,20nm,1.1s									
CWC	**Cottonwood Cre**	**73.64**	**56**		P		**P**	**14 40 27.0**	**-0.9**
	baz=308									
SUE	**Sulen**	**73.66**	**340**		*eP*		**P**	**14 40 29.3**	**+2.0**
GRAC	**Grapevine Rang**	**73.75**	**55**		P		**P**	**14 40 30.3**	**+1.8**
	baz=308,SNR=11									
DGMT	**Dagmar**	**73.79**	**40**		P		**P**	**14 40 28.7**	**+0.3**
	baz=313									
DGMT	**Dagmar**	**73.79**	**40**		*eP*		**P**	**14 40 29.4**	**+1.0**
	comp=Z,22nm,0.8s									
DGMT					LR	LR				
	comp=Z,1µm,19.0s									
SBC	**Santa Barbara**	**73.80**	**59**		P		**P**	**14 40 30.7**	**+2.1**
	baz=308									
ISA	**Isabella, Lake**	**73.86**	**57**		P		**P**	**14 40 28.4**	**-0.8**
	baz=308									
AHID	**Auburn Hatcher**	**73.89**	**47**		PFAKE			14 40 40.0	+11	
AHID					LR	LR				
	comp=Z,799nm,20.0s									
BGU	**Big Grassy Mou**	**73.95**	**50**		*eP*		**P**	**14 40 30.2**	**+0.6**
	comp=Z,7.9nm,1.0s									
ARVC	**Arvin**	**73.96**	**58**		P		**P**	**14 40 28.9**	**-0.7**
	baz=308									
LAO	**LASA Array**	**73.97**	**42**		P		**P**	**14 40 28.0**	**-1.5**
	baz=312									
LAO	**LASA Array**	**73.97**	**42**		*eP*		**P**	**14 40 30.9**	**+1.3**
	comp=Z,18nm,0.9s									
LAO					LR	LR				
	comp=Z,895nm,19.0s									
A25A	**Svangstu Ranch**	**74.00**	**39**		P		**P**	**14 40 29.5**	**-0.1**
	baz=313									
R11A	**Troy Canyon, C**	**74.02**	**53**		P		**P**	**14 40 30.9**	**+0.7**
	baz=309,SNR=14									
R11A	**Troy Canyon, C**	**74.02**	**53**		*eP*		**P**	**14 40 30.9**	**+0.7**
	comp=Z,12nm,1.3s									
SIM	**Simferopol'**	**74.02**	**316**		*ciP*		**P**	**14 40 28.9**	**-0.9**
SIM					*e*			14 40 43.0		
SIM					*e*PPP	PPP		14 45 03.0		
SIM					*e*S	S		**14 50 01.0**	**+1.2**
SIM					pmax	pmax				
	comp=Z,63nm,0.8s									
SIM					pmax	pmax				
	comp=Z,170nm,17.7s									
SIM					MLR	MLR				
	comp=Z,6µm,20.1s									
ASK	**Askoy**	**74.04**	**340**		*eP*		**P**	**14 40 29.3**	**-0.2**
ASK					IAmb	IAmb		14 40 32.0		
	comp=Z,31nm,0.8s									
DAC	**Darwin (Calif)**	**74.05**	**56**		*eP*		**P**	**14 40 32.2**	**+1.8**
DAC					pmax	pmax				
	comp=Z,7.0nm,1.0s									
DAC	**Darwin (Calif)**	**74.05**	**56**		*eP*		**P**	**14 40 32.2**	**+1.8**
	comp=Z,7.2nm,1.0s									
BER	**Bergen**	**74.08**	**340**		*eP*		**P**	**14 40 29.3**	**-0.5**
BER					IAmb	IAmb		14 40 32.2		
	comp=Z,41nm,0.9s									
BER					*e*S	S		**14 50 01.9**	**+2.0**
MPMC	**Manual Prospec**	**74.25**	**56**		P		**P**	**14 40 31.0**	**-0.6**
	baz=308,SNR=7.3									
OSI	**Osito Audit: C**	**74.34**	**58**		P		**P**	**14 40 31.9**	**0.0**
	baz=308									
HWUT	**Hardware Ranch**	**74.37**	**49**		*eP*		**P**	**14 40 32.7**	**+0.5**
	comp=Z,16nm,1.3s									
HWUT					LR	LR				
	comp=Z,857nm,20.0s									
FURC	**Furnace Creek,**	**74.39**	**55**		P		**P**	**14 40 33.2**	**+1.1**
	baz=308									
BLG	**Laguna Peak, P**	**74.42**	**59**		P		**P**	**14 40 32.7**	**+0.4**
	baz=308									
LRMC	**Laurel Mtn Rad**	**74.48**	**57**		P		**P**	**14 40 33.0**	**+0.2**
	baz=308									
TPNV	**Topopah Spring**	**74.48**	**55**		P		**P**	**14 40 34.0**	**+1.1**
	baz=309,SNR=20									
TPNV	**Topopah Spring**	**74.48**	**55**		*eP*		**P**	**14 40 34.1**	**+1.3**
TPNV					pmax	pmax				
	comp=Z,13nm,0.8s									
TPNV	**Topopah Spring**	**74.48**	**55**		*eP*		**P**	**14 40 34.1**	**+1.3**
	comp=Z,13nm,0.8s									
DUG	**Dugway, Tooele**	**74.54**	**50**		P		**P**	**14 40 33.2**	**+0.1**
	baz=310,SNR=11									
DUG	**Dugway, Tooele**	**74.54**	**50**		*eP*		**P**	**14 40 34.5**	**+1.4**
DUG					pmax	pmax				
	comp=Z,12nm,0.8s									
DUG					MLR	MLR				
	comp=Z,582nm,20.0s									
DUG	**Dugway, Tooele**	**74.54**	**50**		*eP*		**P**	**14 40 34.5**	**+1.4**
	comp=Z,12nm,0.8s									
DUG					LR	LR				
	comp=Z,582nm,20.0s									
A26A	**Wade Farm, Ken**	**74.54**	**38**		P		**P**	**14 40 33.6**	**+0.8**
	baz=314									
EDW2	**Edwards Air Fo**	**74.65**	**57**		P		**P**	**14 40 34.0**	**+0.3**
	baz=308,SNR=12									
SNCC	**San Nicolas Is**	**74.65**	**59**		P		**P**	**14 40 34.4**	**+0.7**
	baz=308									
BW06	**Boulder Array**	**74.76**	**47**		P		**P**	**14 40 35.6**	**+1.1**
	baz=311									
BW06	**Boulder Array**	**74.76**	**47**		*eP*		**P**	**14 40 34.7**	**+0.2**
BW06					LR	LR				
	comp=Z,942nm,22.0s									
PD31	**Pinedale Array**	**74.76**	**47**		*eP*		**P**	**14 40 34.8**	**+0.3**
PDAR	**Pinedale Array**	**74.76**	**47**		P		**P**	**14 40 35.3**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=267,slow=3.0,SNR=18									
PDAR					LR	LR		15 09 57.7		
	comp=Z,600nm,21.8s,baz=342,slow=33									
B26A	**Jensen Ranch,**	**74.81**	**39**		P		**P**	**14 40 35.3**	**+0.9**
	baz=314									
SORM	**Soroca**	**74.83**	**321**		⇑*iP*		**P**	**14 40 34.5**	**+0.1**
BORG	**Borgarnes**	**74.84**	**353**		*eP*		**P**	**14 40 36.5**	**+2.3**
BORG					pmax	pmax				
	comp=Z,48nm,1.0s									
BORG					MLR	MLR				
	comp=Z,852nm,22.0s									
BORG	**Borgarnes**	**74.84**	**353**		*eP*		**P**	**14 40 36.5**	**+2.3**
	comp=Z,48nm,1.0s									
BORG					LR	LR				
	comp=Z,852nm,22.0s									
HOMB	**Homborsund**	**74.95**	**337**		*eP*		**P**	**14 40 36.3**	**+1.4**
HOMB					IAmb	IAmb		14 40 36.5		
	comp=Z,20nm,0.9s									
HOMB					*e*PP	PP		**14

baz=309
COP Copenhagen 75.79 334 *i* P **P 14 40 40.0 +0.2**
COP MLR MLR
comp=Z,3μm,21.0s
COP Copenhagen 75.79 334 *i* P **P 14 40 40.0 +0.2**
comp=Z,3μm,21.0s
A29A Manning Farm, 75.84 37 P **P 14 40 40.5 +0.2**
baz=316
CCUT Cedar City 75.89 53 *e*P **P 14 40 42.3 +1.2**
comp=Z,13nm,1.2s
F25A Bowman 75.89 41 P **P 14 40 41.9 +1.2**
baz=314
MURC Murrieta 75.96 58 P **P 14 40 41.9 +0.7**
baz=309
MSU Marysvale 75.99 51 *e*P **P 14 40 43.3 +1.7**
MSU Marysvale 75.99 51 *e*P **P 14 40 43.3 +1.7**
E26A Carlson Angus 76.02 40 P **P 14 40 42.2 +0.9**
baz=314
B29A Wagenman Farm, 76.11 37 P **P 14 40 43.1 +1.3**
baz=316
LLD Lille Linde 76.15 333 *i* P **P 14 40 42.4 +0.6**
LLD pmax pmax
comp=Z,90nm,0.8s
LLD Lille Linde 76.15 333 *i* P **P 14 40 42.4 +0.6**
comp=Z,90nm,0.8s
C28A Hausauer Farms 76.16 38 P **P 14 40 42.4 +0.3**
baz=315
GMRC Granite Mounta 76.21 56 P **P 14 40 44.0 +1.2**
baz=309,SNR=10
MUD Monsted U'grnd 76.24 336 *e*P **sP 14 40 58.1 +1.2**
MUD pmax pmax
comp=Z,20nm,0.7s
MUD MLR MLR
comp=Z,3μm,18.0s
MUD Monsted U'grnd 76.24 336 *i* P **sP 14 40 58.1 +1.2**
comp=Z,20nm,0.7s
comp=Z,3μm,18.0s
A30A Hoffart Farm, 76.25 37 P **P 14 40 43.4 +0.8**
baz=316,SNR=7.2
MTPU Mount Pierson 76.29 52 *e*P **P 14 40 45.0 +1.5**
comp=Z,8.8nm,0.9s
LCMT Little Creek M 76.31 53 *e*P **P 14 40 45.0 +1.8**
comp=Z,10nm,1.0s
F26A Lodgepole 76.34 41 P **P 14 40 43.8 +0.5**
baz=314
NWAO Narrogin (SRO) 76.37 202 LR LR 15 12 44.5
comp=Z,46nm,21.6s,slow=34
LDFC Landfair 76.37 56 *e*P **P 14 40 44.8 +1.2**
comp=Z,17nm,0.9s
ULM Lac du Bonnet 76.38 34 P **P 14 40 43.6 +0.3**
comp=Z,9.2nm,0.8s,baz=309,slow=8.6,SNR=9.2
ULM Lac du Bonnet 76.38 34 *e*P **P 14 40 43.1 -0.2**
ULM pmax pmax
comp=Z,15nm,0.9s
ULM Lac du Bonnet 76.38 34 *e*P **P 14 40 43.1 -0.2**
comp=Z,15nm,0.9s
KWP Kalwaria Pacla 76.39 325 *e*P **P 14 40 44.6 +1.3**
KWP Kalwaria Pacla 76.39 325⇑*i*P **P 14 40 43.9 +0.6**
KWP Kalwaria Pacla 76.39 325 *e*P **P 14 40 44.6 +1.3**
PFO Pinyon Flats O 76.43 58 P **P 14 40 44.3 +0.2**
baz=309
PFO Pinyon Flats O 76.43 58 *e*P **P 14 40 45.0 +1.0**
PFO pmax pmax
comp=Z,11nm,1.2s
PFO MLR MLR
comp=Z,1μm,20.0s
PFO Pinyon Flats O 76.43 58 *e*P **P 14 40 45.0 +1.0**
comp=Z,11nm,1.2s
PFO LR LR
comp=Z,1μm,20.0s
MDND Maddock 76.43 38 P **P 14 40 43.9 +0.3**
baz=316
MDND Maddock 76.43 38 *e*P **P 14 40 44.0 +0.3**
comp=Z,36nm,0.9s
TPFO Pinon Flats 76.44 58 P **P 14 40 44.4 +0.3**
baz=309
D28A Regan 76.44 39 P **P 14 40 44.0 +0.3**
baz=315
109C Camp Elliot, M 76.47 58 P **P 14 40 44.1 +0.1**
baz=309
BELC Belle Mtn. Jos 76.48 57 P **P 14 40 45.2 +0.9**
baz=309,SNR=5.9
K22A Casper 76.51 45 P **P 14 40 45.0 +0.6**
baz=312
K22A Casper 76.51 45 *e*P **P 14 40 45.5 +1.1**
comp=Z,22nm,1.2s
KNB Kanab 76.56 53 *e*P **P 14 40 46.3 +1.5**
KNB pmax pmax
comp=Z,30nm,1.4s
KNB Kanab 76.56 53 *e*P **P 14 40 46.3 +1.5**
comp=Z,30nm,1.4s
SRU San Rafael Swe 76.59 50 *e*P **P 14 40 45.9 +1.0**
SRU pmax pmax
comp=Z,18nm,0.9s
SRU San Rafael Swe 76.59 50 *e*P **P 14 40 45.9 +1.0**
comp=Z,18nm,0.9s
B30A Myrvik Farm, E 76.60 37 P **P 14 40 45.2 +0.6**
baz=316,SNR=6.3
TLCR 76.64 318⇑*i*P **P 14 40 45.9 +1.1**
BUR08 Bucovina Ar. S 76.68 322 *e*P **P 14 40 45.6 +0.4**
BURAR Bucovina Array 76.70 322⇓*i*P **P 14 40 45.6 +0.3**
H25A Fruitdale 76.72 42 P **P 14 40 45.6 +0.2**
baz=314
TESR Tescani 76.79 320⇑*i*P **P 14 40 46.3 +0.6**
RSSD Black Hills 76.84 43 P **P 14 40 45.8 -0.4**
baz=314
RSSD Black Hills 76.84 43 *e*P **P 14 40 45.8 -0.5**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD Black Hills 76.84 43 *e*P **P 14 40 45.8 -0.5**
comp=Z,10nm,0.9s
MONP2 Monument Peak 76.91 58 P **P 14 40 47.0 +0.2**
baz=309
B31A Greenbush Farm 76.93 37 P **P 14 40 45.9 -0.4**
baz=317
IRM Iron Mountain 76.93 56 P **P 14 40 47.4 +0.7**
baz=310,SNR=6.9
CFR Carcaliu 76.99 319⇑*i*P **P 14 40 47.3 +0.5**
BC3 Big Chuckawall 77.05 57 P **P 14 40 48.3 +0.8**
baz=310,SNR=6.2
C30A Mose, Pekin 77.07 37 P **P 14 40 47.4 +0.2**
baz=316
A32A Rocking H Ranc 77.09 36 P **P 14 40 47.7 +0.4**
baz=318,SNR=6.9
KOLS Kolonicke sedl 77.09 324 *e*P **P 14 40 48.0 +0.7**
KOLS *e* 14 40 58.2
KOLS *e* 14 43 47.3
KOLS pmax pmax
comp=Z,16nm,0.8s
KOLS MLR MLR
comp=Z,6μm,16.6s
KOLS Kolonicke sedl 77.09 324 *e*P **P 14 40 48.0 +0.7**
KOLS *e* 14 40 58.2
KOLS *e*PP **PP 14 43 47.3 +6.8**
KOLS *e*L L 15 18 00.7
ODBI Odobesti 77.12 320⇓*i*P **P 14 40 48.3 +0.8**
W13A Hualapai Mount 77.13 55 *e*P **P 14 40 49.4 +1.3**
comp=Z,5.4nm,1.0s
STHS Stebnicka Huta 77.19 325 *e*P **P 14 40 49.8 +1.9**
STHS pmax pmax
comp=Z,19nm,0.8s
STHS Stebnicka Huta 77.19 325 *e*P **P 14 40 49.8 +1.9**
OJC Ojcow 77.21 327 *e*P **P 14 40 48.9 +0.9**
OJC Ojcow 77.21 327 *e*P **P 14 40 48.5 +0.5**
OJC pmax pmax
comp=Z,46nm,0.9s
OJC Ojcow 77.21 327 *e*P **P 14 40 48.5 +0.5**
comp=Z,46nm,0.9s
O20A White River Ci 77.23 48 P **P 14 40 49.7 +1.2**
baz=312
PLOR Plostina 77.26 320⇓*i*P **P 14 40 49.7 +1.3**
IKP In-Ko-Pah, Jac 77.27 58 P **P 14 40 48.5 -0.2**
baz=310
U15A North Rim 77.27 53 *e*P **P 14 40 50.1 +1.2**
comp=Z,12nm,0.9s
SWSC Sam W. Stewart 77.28 58 P **P 14 40 49.1 +0.5**
baz=310
UZH Uzhgorod 77.31 324 *e*P **P 14 40 50.1 +1.6**
UZH *e* 14 40 57.5
UZH *e* 14 41 07.7
UZH *e*S **S 14 50 34.5 -1.4**
UZH *e*SP **SKSac 14 50 58.3 -0.4**
UZH MLR MLR
comp=N,10μm,15.0s
UZH MLR MLR
comp=E,8μm,15.0s
UZH MLR MLR
comp=Z,7μm,15.0s
C31A Landman Farms, 77.35 37 P **P 14 40 48.5 -0.2**
baz=317
TIRR Tirgusor 77.35 318⇓*i*P **P 14 40 49.7 +0.9**
TIRR Tirgusor 77.35 318 *e*P **P 14 40 49.0 +0.2**
TIRR pmax pmax
comp=Z,24nm,0.9s
TIRR Tirgusor 77.35 318 *e*P **P 14 40 49.0 +0.2**
comp=Z,24nm,0.9s
HARR Harsova 77.44 319⇑*i*P **P 14 40 50.9 +1.6**
B32A Ashes, Strandq 77.45 36 P **P 14 40 49.5 +0.2**
baz=318,SNR=11
CRVS Cervenica-Dubn 77.48 325 *e*P **P 14 40 50.1 +0.6**
CRVS Cervenica-Dubn 77.48 325 *e*P **P 14 40 50.1 +0.6**
PDMCI Parker Dam,Lak 77.48 56 P **P 14 40 50.8 +1.1**
baz=310,SNR=5.4
ARCR ARCALIA 77.48 322⇑*i*P **P 14 40 51.4 +1.8**
A33A Warroad 77.56 35 P **P 14 40 49.8 -0.1**
baz=318,SNR=8.0
TRPA Tarpa 77.56 324⇑*e*P **P 14 40 51.0 +1.1**
Y12C Blythe 77.59 56 P **P 14 40 51.4 +1.0**
baz=310
Y12C Blythe 77.59 56 *e*P **P 14 40 51.5 +1.1**
comp=Z,12nm,0.9s
NIE Niedzica 77.60 326 *e*P **P 14 40 51.5 +1.3**
NIE Niedzica 77.60 326 *e*P **P 14 40 51.5 +1.3**
BR131 Keskin Array S 77.75 312 *e*P **P 14 40 51.4 0.0**
BRTR Keskin Array B 77.75 312 P **P 14 40 51.4 0.0**
comp=Z,12nm,0.8s,baz=57,slow=4.6,SNR=52
BRTR PP **PP 14 43 51.2 +4.8**
comp=Z,6.1nm,1.0s,baz=68,slow=6.8,SNR=4.0
BRTR LR LR 15 19 20.2
comp=Z,1μm,18.4s,baz=46,slow=39
F29A Eureka 77.77 39 P **P 14 40 50.9 -0.3**
baz=316
DOPR Dopca 77.79 321⇓*i*P **P 14 40 52.8 +1.5**
PV09 Paradox Valley 77.81 50 *e*P **P 14 40 53.1 +1.2**
AGMN Agassiz Nation 77.83 36 P **P 14 40 52.0 +0.5**
baz=318,SNR=6.8
AGMN Agassiz Nation 77.83 36 *e*P **P 14 40 50.3 -1.2**
AGMN comp=Z,12nm,0.9s
comp=Z,1μm,22.0s
ISR Istrita 77.83 320⇑*i*P **P 14 40 53.1 +1.5**
MLR Muntele Rosu 77.86 320⇑*i*P **P 14 40 52.7 +0.8**
MLR Muntele Rosu 77.86 320 *e*P **P 14 40 52.1 +0.2**
MLR pmax pmax
comp=Z,27nm,1.1s
MLR Muntele Rosu 77.86 320 *e*P **P 14 40 52.1 +0.2**
comp=Z,27nm,1.1s
C32A Crookston 77.88 36 P **P 14 40 50.6 -1.1**
baz=318
RAO Raoul Island 77.94 146 PFAKE 14 41 00.0 +7.9
RAO LR LR
comp=Z,2μm,20.0s
PV10 Paradox Valley 77.94 50 *e*P **P 14 40 53.9 +1.3**
B33A Robert and Kas 77.97 36 P **P 14 40 51.4 -0.8**
baz=318
PV04 Paradox Valley 78.01 50 *e*P **P 14 40 53.9 +1.0**
N23A Red Feather La 78.02 46 P **P 14 40 53.3 +0.3**
baz=313,SNR=5.2
N23A Red Feather La 78.02 46 *e*P **P 14 40 54.8 +1.8**
comp=Z,18nm,1.1s
PV05 Paradox Valley 78.11 50 *e*P **P 14 40 54.8 +1.3**
ANTO Ankara 78.13 312 *e*P **P 14 40 54.1 +0.7**
ANTO pmax pmax
comp=Z,60nm,0.8s
ANTO MLR MLR
comp=Z,2μm,19.0s
ANTO Ankara 78.13 312 *e*P **P 14 40 54.1 +0.7**
comp=Z,60nm,0.8s
ANTO LR LR
comp=Z,2μm,19.0s
D32A Dogwood Acres, 78.16 37 P **P 14 40 51.5 -1.8**
baz=317
BR231 Keskin MP Arra 78.16 312 *e*P **P 14 40 52.3 -1.3**
LANS Liptovska Anna 78.16 326 *e*P **P 14 40 54.8 +1.5**
LANS Liptovska Anna 78.16 326 *e*P **P 14 40 54.8 +1.5**
E31A Nome 78.17 38 P **P 14 40 52.9 -0.5**
baz=317,SNR=6.3
KSP Ksiaz 78.18 329 *e*P **P 14 40 54.0 +0.6**
KSP Ksiaz 78.18 329 *e*P **P 14 40 54.0 +0.6**
OKC Ostrava-Krasne 78.20 327⇑*e*P **P 14 40 54.5 +1.0**
OKC *e*pP **sP 14 41 08.2 +0.1**
OKC AMS AMS 15 18 20.0
comp=Z,5μm,18.3s
OKC Ostrava-Krasne 78.20 327 *e*P **P 14 40 54.5 +1.0**
OKC *e* 14 41 08.2
OKC MLR MLR
comp=Z,5μm,18.3s
KECS Kecovo 78.22 325 *e*P **P 14 40 54.7 +1.1**
KECS pmax pmax
comp=Z,6.0nm,0.9s
KECS Kecovo 78.22 325 *e*P **P 14 40 54.7 +1.1**
KECS *e*PP **PP 14 43 46.1 -3.8**
B34A Aery, Baudette 78.23 35 P **P 14 40 52.8 -0.8**
baz=319
C33A Trail 78.27 36 P **P 14 40 52.0 -1.9**
baz=318
VOIR 78.34 321⇑*i*P **P 14 40 56.2 +1.7**
PV01 Paradox Valley 78.38 50 *e*P **P 14 40 55.1 +0.1**
WUAZ Wupatki 78.42 53 P **P 14 40 55.3 +0.1**
baz=311,SNR=12
WUAZ Wupatki 78.42 53 *e*P **P 14 40 55.6 +0.4**
WUAZ comp=Z,14nm,0.9s
comp=Z,1μm,22.0s
Y14A Wickenburg 78.44 55 *e*P **P 14 40 56.0 +0.9**
comp=Z,31nm,0.8s
DRGR 78.47 323⇑*i*P **P 14 40 56.0 +0.9**
MORC Moravsky Berou 78.50 327⇑*i*P **P 14 40 56.1 +0.9**
MORC Moravsky Berou 78.50 327 *e*P **P 14 40 55.9 +0.7**
MORC pmax pmax
comp=Z,102nm,0.8s
MORC Moravsky Berou 78.50 327 *e*P **P 14 40 55.9 +0.7**
comp=Z,102nm,0.8s
F31A Hecla 78.51 39 P **P 14 40 54.5 -0.8**
baz=317
DPC Dobruska-Polom 78.55 328⇑*i*P **P 14 40 56.7 +1.2**
DPC *e*pP **sP 14 41 10.4 +0.3**
DPC *e*S **S 14 50 48.5 -0.9**
DPC AMS AMS 15 18 30.0
comp=Z,4μm,18.1s
DPC Dobruska-Polom 78.55 328⇑*i*P **P 14 40 56.7 +1.2**
DPC *e* 14 41 10.4
DPC *e*S **S 14 50 48.5 -0.9**
DPC MLR MLR
comp=Z,4μm,18.1s
UPC Upice 78.55 329⇑*i*P **P 14 40 56.5 +1.1**
UPC *e*S **S 14 50 50.2 +0.8**
UPC AMS AMS 15 18 40.0
comp=Z,5μm,17.4s
UPC Upice 78.55 329⇑*i*P **P 14 40 56.5 +1.1**
UPC *e*S **S 14 50 50.2 +0.8**
UPC MLR MLR
comp=Z,5μm,17.4s
G30A Faulkton 78.61 40 P **P 14 40 55.4 -0.5**
baz=316
D33A AnnSam, Waubun 78.70 37 P **P 14 40 55.8 -0.5**
baz=318
113A Mohawk Valley, 78.71 57 *e*P **P 14 40 57.5 +0.9**
comp=Z,15nm,1.5s
B35A Bob, Littlefor 78.73 35 P **P 14 40 57.0 +0.6**
baz=319,SNR=7.0
PRD Provadia 78.76 318 P **P 14 40 57.7 +1.1**
I29A Vivian Onida 78.83 41 P **P 14 40 57.3 +0.2**
baz=316
PSZ Piszkesteto 78.91 325⇑*i*P **P 14 40 58.9 +1.4**
PSZ Piszkesteto 78.91 325⇑*e*P **P 14 40 58.6 +1.1**
PSZ Piszkesteto 78.91 325 *e*P **P 14 40 58.1 +0.6**
PSZ pmax pmax
comp=Z,36nm,1.1s
PSZ MLR MLR
comp=Z,3μm,19.0s
PSZ Piszkesteto 78.91 325 *e*P **P 14 40 58.1 +0.6**
comp=Z,36nm,1.1s
PSZ LR LR
comp=Z,3μm,19.0s
VYHS Vyhne 78.93 326 *e*P **P 14 40 58.6 +1.0**
VYHS *e* 14 41 13.2
VYHS *e* 14 43 57.2
VYHS *e*S **SKSac 14 51 13.0 +2.5**
VYHS pmax pmax
comp=Z,10.0nm,1.0s
VYHS MLR MLR
comp=Z,2μm,18.7s
VYHS Vyhne 78.93 326 *e*P **P 14 40 58.6 +1.0**
VYHS *e* 14 41 13.2
VYHS *e*PP **PP 14 43 57.2 +1.3**
VYHS *e*S **SKSac 14 51 13.0 +2.5**
VYHS *e*L L 15 18 53.3
ISCO Idaho Springs 78.95 47 P **P 14 40 59.2 +1.0**
baz=314
ISCO Idaho Springs 78.95 47 *e*P **P 14 40 59.0 +0.8**
ISCO pmax pmax
comp=Z,9.0nm,1.0s
ISCO MLR MLR
comp=Z,1μm,22.0s
ISCO Idaho Springs 78.95 47 *e*P **P 14 40 59.0 +0.8**
comp=Z,9.3nm,1.0s
ISCO LR LR
comp=Z,1μm,22.0s
NRS Narsarsuaq 78.95 4⇑*i*P **P 14 40 57.6 +0.2**
NRS pmax pmax
comp=Z,21nm,0.9s
NRS Narsarsuaq 78.95 4⇑*i*P **P 14 40 57.6 +0.2**
comp=Z,21nm,0.9s
LOT Lotru 78.95 321⇑*i*P **P 14 40 59.1 +1.2**
G31A Conde 78.99 39 P **P 14 40 58.8 +0.8**
baz=317
D34A Park Rapids 79.03 36 P **P 14 40 58.9 +0.8**
baz=319,SNR=7.0
MVCO Mesa Verde 79.04 50 P **P 14 41 00.1 +1.4**
baz=312,SNR=5.3
MVCO Mesa Verde 79.04 50 *e*P **P 14 41 00.2 +1.6**
comp=Z,11nm,0.9s
MVCO LR LR
comp=Z,658nm,20.0s
BRG Berggiesshubel 79.08 330 *e*P **P 14 40 58.8 +0.5**
comp=Z,20nm,1.0s
BRG *e* 14 41 13.1
comp=Z,18nm,1.1s
BRG PP **PP 14 43 55.0 -2.0**
BRG S **S 14 50 58.0 +3.1**
comp=N,3μm,16.8s
comp=E,2μm,16.5s
comp=Z,4μm,16.9s
BRG Berggiesshubel 79.08 330 *e*P **P 14 40 58.8 +0.5**
BRG *e* 14 41 13.1
BRG 14 43 55.0
BRG S **S 14 50 58.0 +3.1**
BRG pmax pmax
comp=Z,20nm,1.0s
BRG pmax pmax
comp=Z,18nm,1.2s
BRG MLR MLR
comp=N,3μm,16.8s
BRG MLR MLR
comp=E,2μm,16.5s
BRG MLR MLR
comp=Z,4μm,16.9s
CLL Collm 79.09 331⇑*i*P **P 14 40 58.6 +0.3**
comp=Z,27nm,0.8s
CLL *e*Plp 14 40 59.0
CLL *i* 14 41 13.0
CLL *e*PP **PP 14 43 57.0 0.0**
CLL *e*PPP PPP 14 45 44.0
CLL *e*S **S 14 50 54.0 -1.0**
CLL *e*SKSac **SKKSac 14 51 15.0 +2.2**
CLL *e*SP **SPn 14 51 46.0 +10**
CLL *e*SS **SS 14 56 03.0 +3.0**
CLL LmH 15 15 00.0
comp=N,3μm,21.5s
CLL LmH 15 15 00.0
comp=E,4μm,20.4s
CLL Collm 79.09 331⇑*i*P **P 14 40 58.6 +0.3**
CLL *e*S **S 14 50 54.0 -1.0**
CLL *e* 14 51 15.0
CLL pmax pmax
comp=Z,27nm,0.8s
CLL MLR MLR
comp=Z,4μm,17.7s
CLL Collm 79.09 331 *e*P **P 14 40 58.4 +0.1**
comp=Z,29nm,0.9s
E33A Westby DABS, E 79.09 37 P **P 14 40 57.1 -1.3**
baz=318
X16A Lo Mia Camp, P 79.10 54 *e*P **P 14 40 59.4 +0.4**
comp=Z,8.2nm,0.9s
PVCC Panska Ves 79.11 329⇑*i*P **P 14 40 59.6 +1.1**
PVCC AMS AMS 15 19 10.0
comp=Z,5μm,17.0s
PVCC Panska Ves 79.11 329⇑*i*P **P 14 40 59.6 +1.1**
PVCC MLR MLR
comp=Z,5μm,17.0s
C35A Jirik Farms, M 79.12 35 P **P 14 40 58.4 -0.2**
baz=319
VRAC Vranov 79.25 328⇑*i*P **P 14 41 00.7 +1.4**
SIRR Siria 79.35 323⇑*i*P **P 14 41 01.3 +1.4**
F33A 5 Mile Ranch, 79.45 38 P **P 14 41 01.4 +1.0**
baz=318,SNR=5.8
SZH Strazhica 79.46 319 P **P 14 41 00.5 0.0**
GOPC GO Pecny, Ondr 79.51 329⇑*e*P **P 14 41 01.6 +0.9**
GOPC *e*pP **sP 14 41 15.3 0.0**
GOPC *e*S **S 14 50 58.9 -0.7**
GOPC AMS AMS 15 19 00.0
comp=Z,5μm,18.2s
GOPC GO Pecny, Ondr 79.51 329 *e*P **P 14 41 01.6 +0.9**
GOPC *e* 14 41 15.3
GOPC *e*S **S 14 50 58.9 -0.7**
GOPC MLR MLR
comp=Z,5μm,18.2s
PRU Pruhonice 79.55 329⇑*e*P **P 14 41 01.9 +1.0**
PRU *e*pP **sP 14 41 15.6 +0.1**
PRU *e*PP **PP 14 44 01.5 +0.6**
PRU *e*S **S 14 50 59.5 -0.4**
PRU AMS AMS 15 19 10.0
comp=Z,5μm,18.1s
PRU Pruhonice 79.55 329 *e*P **P 14 41 01.9 +1.0**
PRU *e* 14 41 15.6
PRU *e* 14 44 01.5
PRU *e*S **S 14 50 59.5 -0.4**
PRU MLR MLR
comp=Z,5μm,18.1s
D35A Remer 79.55 36 P **P 14 41 00.7 -0.3**
baz=319
C36A Pine Crest Far 79.57 35 P **P 14 41 01.6 +0.5**
baz=320
S22A 4UR Ranch, Cre 79.66 49 P **P 14 41 03.4 +1.3**
baz=313,SNR=8.9
S22A 4UR Ranch, Cre 79.66 49 *e*P **P 14 41 04.2 +2.1**
comp=Z,13nm,1.4s
W18A Petrified Fore 79.69 53 P **P 14 41 00.9 -1.3**
baz=312
TREC Trest 79.71 328⇑*e*P **P 14 41 02.8 +1.0**
TREC AMS AMS 15 19 10.0
comp=Z,4μm,17.9s
TREC Trest 79.71 328 *e*P **P 14 41 02.8 +1.0**
TREC MLR MLR
comp=Z,4μm,17.9s
Q24A Divide 79.78 47 P **P 14 41 02.3 -0.5**
baz=314
E35A Pequot Lakes 79.79 36 P **P 14 41 00.7 -1.5**
baz=319
214A Organ Pipe Nat 79.85 57 P **P 14 41 01.5 -1.4**
baz=311
214A Organ Pipe Nat 79.85 57 *e*P **P 14 41 04.3 +1.5**
comp=Z,20nm,0.8s
BZS Buzias 79.85 322⇑*i*P **P 14 41 03.2 +0.6**
G33A Ortonville 79.86 38 P **P 14 41 00.3 -2.4**
baz=318
F34A Alexandria 79.97 37 P **P 14 41 01.0 -2.2**
baz=319
EYMN Ely 80.01 34 P **P 14 41 02.6 -0.8**
baz=321
EYMN Ely 80.01 34 PFAKE 14 41 20.0 +17
EYMN LR LR
comp=Z,946nm,22.0s
DGAR Diego Garcia 80.05 252 PFAKE 14 41 20.0 +16
DGAR LR LR
comp=Z,1μm,19.0s
H33A Prehn Over Nor 80.10 39 P **P 14 41 03.8 -0.2**
baz=318,SNR=5.8
OGNE Ogallala 80.11 44 P **P 14 41 04.4 +0.2**
baz=315
OGNE Ogallala 80.11 44 PFAKE 14 41 20.0 +16
OGNE LR LR
comp=Z,831nm,19.0s
K30A Basset 80.14 42 P **P 14 41 04.0 -0.3**
baz=316
NKC Novy Kostel 80.16 330⇑*e*P **P 14 41 05.0 +0.8**

NKC AMS AMS 15 21 20.0
comp=Z,3µm,16.1s
NKC Novy Kostel 80.16 330 *e*P **P 14 41 05.0 +0.8**
NKC MLR MLR
comp=Z,3µm,16.1s
G34A Benson 80.21 38 P **P 14 41 03.7 -0.8**
baz=318
I32A Karley and Nic 80.23 40 P **P 14 41 04.4 -0.3**
baz=318
F35A Swanville 80.24 37 P **P 14 41 03.5 -1.2**
baz=319
C38A Sawbill Land. 80.28 34 P **P 14 41 03.5 -1.4**
baz=321
E36A McGregor 80.33 36 P **P 14 41 04.7 -0.5**
baz=320,SNR=5.7
SDCO Great Sand Dun 80.42 48 P **P 14 41 06.1 -0.1**
baz=314
SDCO Great Sand Dun 80.42 48 *e*P **P 14 41 07.2 +1.0**
comp=Z,5.9nm,0.9s
SDCO LR LR
comp=Z,664nm,19.0s
MDVR Moldovita 80.43 322⇑ *i*P **P 14 41 06.4 +0.6**
MPEP Malo Peshtene 80.50 320 P **P 14 41 06.5 +0.4**
SOP Sopron 80.53 327⇑ *e*P **P 14 41 07.5 +1.3**
I33A Coleman 80.54 39 P **P 14 41 06.6 +0.2**
baz=318
H34A Spellman Lake, 80.57 38 P **P 14 41 06.8 +0.3**
baz=318
KHC Kasperske Hory 80.61 329⇑ *i*P **P 14 41 07.5 +0.8**
KHC *e*pP **sP 14 41 20.2 -1.1**
KHC *e*PP **PP 14 44 10.3 +0.5**
KHC *e*S **S 14 51 11.3 +0.1**
KHC AMS AMS 15 19 40.0
comp=Z,5µm,17.3s
KHC Kasperske Hory 80.61 329⇑ *i*P **P 14 41 07.5 +0.8**
KHC *e* 14 41 20.2
KHC *e* 14 44 10.3
KHC *e*S **S 14 51 11.3 +0.1**
KHC MLR MLR
comp=Z,5µm,17.3s
KHC Kasperske Hory 80.61 329 *e*P **P 14 41 07.2 +0.6**
comp=Z,12nm,0.8s
K31A O'Neill 80.62 41 P **P 14 41 06.0 -0.8**
baz=317
CONA Conrad Observa 80.63 327 *i*P **P 14 41 08.0 +1.1**
SNR=15
CONA *i*P **PcP 14 41 08.4 -5.2**
comp=Z,15nm,0.8s
ESK Eskdalemuir 80.73 341 *i*P **P 14 41 09.6 +2.5**
ESK Eskdalemuir 80.73 341 PFAKE 14 41 20.0 +13
ESK LR LR
comp=Z,2µm,19.0s
G35A Watkins 80.76 37 P **P 14 41 07.2 -0.3**
baz=319
GEC2 GERESS Array S 80.79 329 *e*P **P 14 41 07.6 -0.1**
GEC2 pmax pmax
comp=Z,17nm,0.9s
GEC2 GERESS Array S 80.79 329 *e*P **P 14 41 07.6 -0.1**
comp=Z,17nm,0.9s
GERES GERESS Array B 80.79 329 P **P 14 41 07.9 +0.2**
comp=Z,13nm,0.9s,baz=34,slow=5.0,SNR=58
GERES LR LR 15 20 22.8
comp=Z,4µm,18.6s,baz=30,slow=38
GEA0 GERESS Array S 80.80 329 *e*P **P 14 41 07.8 +0.1**
ECSD EROS Data Cent 80.86 39 P **P 14 41 08.1 0.0**
baz=318,SNR=7.9
ECSD EROS Data Cent 80.86 39 *e*P **P 14 41 07.9 -0.2**
comp=Z,10nm,0.9s
ECSD LR LR
comp=Z,1µm,22.0s
PGB Panagyurishte 80.88 319 P **P 14 41 08.7 +0.5**
L31A Butterfield Fa 80.90 42 P **P 14 41 08.2 -0.2**
baz=317
TUC Tucson 80.91 55 P **P 14 41 08.5 -0.1**
baz=312
TUC Tucson 80.91 55 *e*P **P 14 41 09.1 +0.4**
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC Tucson 80.91 55 *e*P **P 14 41 09.1 +0.4**
comp=Z,7.7nm,1.1s
RAR Rarotonga 80.99 127 PFAKE 14 41 20.0 +11
RAR LR LR
comp=Z,2µm,19.0s
H35A Sunnyside Ranc 80.99 38 P **P 14 41 09.0 +0.3**
baz=319
GRFO Grafenberg 81.07 331 *e*P **P 14 41 10.0 +0.9**
GRFO pmax pmax
comp=Z,36nm,0.8s
GRFO Grafenberg 81.07 331 *e*P **P 14 41 10.0 +0.9**
comp=Z,36nm,0.8s
ALN Alexandroupoli 81.11 317 P **P 14 41 09.8 +0.4**
ALN Alexandroupoli 81.11 317 P **P 14 41 09.8 +0.4**
ALN Alexandroupoli 81.11 317 P **P 14 41 09.8 +0.4**
CSS Mathiatis 81.14 308 P **P 14 41 08.1 -1.7**
CSS Mathiatis 81.14 308 *e*P **P 14 41 09.6 -0.2**
comp=Z,6.3nm,0.9s
CSS LR LR
comp=Z,401nm,20.0s
ARSA Arzberg 81.31 327 *i*P **P 14 41 11.0 +0.6**
comp=Z,10.0nm,1.0s
ARSA *i*P **PcP 14 41 11.4 -5.1**
SNR=5.9
MOA Molln 81.35 328 *i*P **P 14 41 11.5 +0.9**
comp=Z,6.9nm,0.7s
KULA Kula-Manisa 81.39 314 P **P 14 41 11.2 +0.1**
KULA Kula-Manisa 81.39 314 P **P 14 41 11.2 +0.1**
T25A Trinidad 81.47 48 P **P 14 41 12.4 +0.7**
baz=314,SNR=7.5
T25A Trinidad 81.47 48 *e*P **P 14 41 11.2 -0.5**
comp=Z,13nm,1.0s
K33A Hardington 81.51 40 P **P 14 41 09.7 -1.9**
baz=316
SMTH Samothraki Isl 81.68 317 P **P 14 41 12.2 -0.3**
SMTH Samothraki Isl 81.68 317 P **P 14 41 12.2 -0.3**
LAZ Ladron 81.75 52 *e*P **P 14 41 15.3 +2.1**
ANMO Albuquerque 81.79 51 P **P 14 41 14.6 +1.2**
baz=314
ANMO Albuquerque 81.79 51 *e*P **P 14 41 15.1 +1.7**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO MLR MLR
comp=Z,773nm,22.0s
ANMO Albuquerque 81.79 51 *e*P **P 14 41 15.1 +1.7**
comp=Z,10nm,1.0s
ANMO LR LR
comp=Z,773nm,22.0s
MMB Musomiste 81.80 319 P **P 14 41 14.0 +0.9**
BGNE Belgrade 81.81 42 P **P 14 41 12.4 -0.8**
baz=317
I36A Fitzsimmons Fa 81.89 38 P **P 14 41 13.2 -0.3**
baz=320
NVR Nevrokopi 81.91 318 P **P 14 41 14.2 +0.5**
NVR Nevrokopi 81.91 318 P **P 14 41 14.2 +0.5**
KKB Krupnik 81.92 319 P **P 14 41 14.1 +0.4**
PERS Pernice 81.96 327 *i*P **P 14 41 14.4 +0.5**
PERS Pernice 81.96 327 *i*P **P 14 41 14.4 +0.5**
SOKA Soboth 81.97 327 *i*P **P 14 41 14.7 +0.7**
SNR=37
SOKA *i*P **P 14 41 14.9 +1.0**
comp=Z,38nm,0.9s
H37A Dierke Farm, C 81.97 37 P **P 14 41 12.6 -1.4**
baz=320
SCHQ Schefferville 82.15 17 P **P 14 41 14.8 0.0**
comp=Z,13nm,0.8s,baz=350,slow=5.7,SNR=9.6
SCHQ LR LR 15 22 56.1
comp=Z,899nm,18.0s,baz=350,slow=40
SCHQ Schefferville 82.15 17 *e*P **P 14 41 15.0 +0.3**
comp=Z,14nm,0.8s
MEM Membach 82.17 334 P **P 14 41 15.1 +0.3**
PRK Paraskevi 82.17 316 P **P 14 41 15.4 +0.3**
PRK Paraskevi 82.17 316 P **P 14 41 15.4 +0.3**
PRK Paraskevi 82.17 316 P **P 14 41 15.4 +0.3**
M33A Taylor Creek F 82.18 41 P **P 14 41 14.3 -0.8**
baz=318
I37A Lemond, Waseca 82.18 37 P **P 14 41 13.7 -1.4**
baz=320
N32A Stulken Farm, 82.21 42 P **P 14 41 15.0 -0.3**
baz=317
SRS Serrai 82.22 318 P **P 14 41 15.5 +0.2**
SRS Serrai 82.22 318 P **P 14 41 15.5 +0.2**
SRS Serrai 82.22 318 P **P 14 41 15.5 +0.2**
BNM Barren Site 82.23 52 *e*P **P 14 41 16.1 +0.3**
J36A Seneca 1, Swea 82.26 38 P **P 14 41 15.7 +0.2**
baz=320
OBKA Obir 82.30 327 *i*P **P 14 41 16.1 +0.3**
comp=Z,14nm,0.6s
OBKA *i*P **P 14 41 16.3 +0.5**
SNR=11
KBA Koelnbreinsper 82.35 328 *i*P **P 14 41 16.5 +0.4**
SNR=24
KBA *i*PcP **P 14 41 17.5 +1.4**
comp=Z,27nm,1.0s
COWI Conover 82.46 34 PFAKE 14 41 30.0 +14
COWI LR LR
comp=Z,976nm,19.0s
319A Douglas 82.48 55 *e*P **P 14 41 19.0 +2.0**
comp=Z,18nm,0.8s
KNT Kendrikon 82.54 319 P **P 14 41 12.2 -4.8**
KNT Kendrikon 82.54 319 P **P 14 41 12.2 -4.8**
KNT Kendrikon 82.54 319 P **P 14 41 12.2 -4.8**
CWF Charnwood Fore 82.55 339 *e*P **P 14 41 16.6 -0.2**
comp=Z,65nm,1.6s
SOH Sokhos 82.56 318 P **P 14 41 17.1 0.0**
SOH Sokhos 82.56 318 P **P 14 41 17.1 0.0**
SOH Sokhos 82.56 318 P **P 14 41 17.1 0.0**
BCLA Clavier 82.56 334 P **P 14 41 17.1 +0.2**
comp=Z,20nm,1.1s
BCLA AP **sP 14 41 30.4 -1.2**
STU Stuttgart 82.58 331 *e*P **P 14 41 17.5 +0.4**
STU pmax pmax
comp=Z,49nm,0.9s
STU Stuttgart 82.58 331 *e*P **P 14 41 17.4 +0.4**
comp=Z,49nm,0.9s
MYKA Terra Mystica 82.58 327 *i*P **P 14 41 17.3 +0.1**
SNR=14
MYKA *i*P **PcP 14 41 17.5 -4.7**
comp=Z,15nm,0.7s
121A Cookes Peak, D 82.63 54 P **P 14 41 18.6 +0.8**
baz=313,SNR=6.2
TAU Tasmania Unive 82.64 177 PFAKE 14 41 30.0 +13
TAU LR LR
comp=Z,3µm,20.0s
SKO Skopje 82.66 320 P **P 14 41 18.7 +1.1**
SKO Skopje 82.66 320 P **P 14 41 18.7 +1.1**
SKO Skopje 82.66 320 P **P 14 41 18.7 +1.1**
K36A Gilmore City 82.73 39 P **P 14 41 17.6 -0.3**
baz=320
VISS Visnje 82.74 326 *i*P **P 14 41 17.9 0.0**
VISS Visnje 82.74 326 *i*P **P 14 41 17.9 0.0**
BOJS Bojanci 82.80 326 *i*P **P 14 41 18.4 +0.2**
BOJS Bojanci 82.80 326 *i*P **P 14 41 18.4 +0.2**
SNF Seneffe 82.83 335 P **P 14 41 19.2 +1.0**
SNF XP **sP 14 41 33.2 +0.3**
PLG Polygyros 82.84 318 P **P 14 41 18.7 +0.1**
PLG Polygyros 82.84 318 P **P 14 41 18.7 +0.1**
PLG Polygyros 82.84 318 P **P 14 41 18.7 +0.1**
WATA Walderalm 82.85 329 *i*PcP **P 14 41 19.8 +1.2**
comp=Z,8.8nm,0.6s
HORT Hortiatis 82.85 318 P **P 14 41 18.1 -0.6**
HORT Hortiatis 82.85 318 P **P 14 41 18.1 -0.6**
CBKS Cedar Bluff 82.87 44 P **P 14 41 18.5 -0.3**
baz=317
CBKS Cedar Bluff 82.87 44 PFAKE 14 41 30.0 +11
CBKS LR LR
comp=Z,934nm,20.0s
WTTA Wattenberg 82.88 329 *i*P **P 14 41 19.6 +0.7**
comp=Z,10nm,0.8s
P32A Huiting Farm, 82.89 43 P **P 14 41 18.0 -0.8**
baz=317
LANF Langenberg 82.91 332⇑ *e*P **P 14 41 19.1 +0.3**
WLF Walferdange 82.92 333 P **P 14 41 20.1 +1.3**
WLF Walferdange 82.92 333 PFAKE 14 41 30.0 +11
WLF LR LR
comp=Z,5µm,22.0s
GRG Griva 82.94 319 P **P 14 41 19.3 +0.2**
GRG Griva 82.94 319 P **P 14 41 19.3 +0.2**
GRG Griva 82.94 319 P **P 14 41 19.3 +0.2**
ABTA Abfaltersbach 82.95 328 *i*P **P 14 41 19.2 +0.1**
comp=Z,14nm,0.9s
ABTA *i*P **PcP 14 41 19.4 -4.4**
SNR=7.1
JAVS Javornik 83.00 327 *i*P **P 14 41 18.9 -0.5**
JAVS Javornik 83.00 327 *i*P **P 14 41 18.9 -0.5**
M35A Neola 83.01 40 P **P 14 41 20.3 +0.9**
baz=319
K37A Belmond 83.02 38 P **P 14 41 18.6 -0.8**
baz=320
MOTA Moosalm 83.03 329 *i*PcP **P 14 41 20.6 +1.0**
SNR=15
MOTA *i*PcP **P 14 41 20.6 +1.0**
comp=Z,33nm,0.8s
RETA Reutte 83.05 330 *i*P **P 14 41 20.3 +0.8**
comp=Z,20nm,0.7s
RETA *i*PcP **P 14 41 20.4 +0.8**
SNR=7.8
PAIG Paliouri 83.05 317 P **P 14 41 19.6 0.0**
PAIG Paliouri 83.05 317 P **P 14 41 19.6 0.0**
PAIG Paliouri 83.05 317 P **P 14 41 19.6 0.0**
N34A Lincoln 83.07 41 P **P 14 41 18.9 -0.8**
baz=318
DOU Dourbes 83.08 334 P **P 14 41 20.8 +1.3**
BFO Black Forest 83.27 331 *e*P **P 14 41 20.5 -0.2**
BFO pmax pmax
comp=Z,18nm,0.8s
BFO MLR MLR
comp=Z,2µm,20.0s
BFO Black Forest 83.27 331 *e*P **P 14 41 20.5 -0.2**
comp=Z,18nm,0.8s
BFO LR LR
comp=Z,2µm,20.0s
TRI Trieste 83.27 327 *e*P **P 14 41 19.8 -0.9**
TRI pmax pmax
comp=Z,27nm,0.9s
TRI Trieste 83.27 327 *e*P **P 14 41 19.8 -0.9**
comp=Z,27nm,0.9s
Q32A Meitler Ranch, 83.37 44 P **P 14 41 20.5 -0.9**
baz=317
FETA Feichten 83.44 329 *i*P **P 14 41 22.0 +0.3**
comp=Z,14nm,0.9s
FETA *i*PcP **PcP 14 41 22.5 -3.6**
SNR=12
L37A Phoenix Point, 83.45 39 P **P 14 41 20.8 -0.9**
baz=320
M36A Felix, Anita 83.46 40 P **P 14 41 20.9 -0.9**
baz=319
O34A Beatrice 83.46 42 P **P 14 41 22.0 +0.2**
baz=318
N35A Tabor 83.49 41 P **P 14 41 22.1 +0.2**
baz=319
J39A Decorah 83.49 37 P **P 14 41 22.0 +0.2**
baz=321
LIT Litokhoron 83.53 318 P **P 14 41 21.9 -0.3**
LIT Litokhoron 83.53 318 P **P 14 41 21.9 -0.3**
LIT Litokhoron 83.53 318 P **P 14 41 21.9 -0.3**
DAVA Damuels 83.55 330 *i*PcP **P 14 41 23.0 +0.7**
SNR=8.5
DAVA *i*PcP **P 14 41 23.0 +0.7**
comp=Z,26nm,0.9s
R32A Long Quarter, 83.71 44 P **P 14 41 23.3 +0.2**
baz=317
SKIA Skiathos 83.72 317 P **P 14 41 22.7 -0.4**
KZN Kozani 83.75 319 P **P 14 41 22.9 -0.4**
KZN Kozani 83.75 319 P **P 14 41 22.9 -0.4**
KZN Kozani 83.75 319 P **P 14 41 22.9 -0.4**
Q33A Connelly Farm, 83.75 43 P **P 14 41 24.1 +0.8**
baz=318
ECH Echery 83.79 332⇑ *e*P **P 14 41 23.7 +0.4**
M37A Trindle Farm, 83.86 39 P **P 14 41 24.0 +0.2**
baz=320
N36A Muff Farm, Cla 83.86 40 P **P 14 41 24.3 +0.5**
baz=319
P34A Walnut Farm, R 83.87 42 P **P 14 41 24.0 +0.2**
baz=318
SCIA State Center 83.88 39 PFAKE 14 41 40.0 +16
SCIA LR LR
comp=Z,1µm,19.0s
TIR Tirane 83.91 321 *e*P **P 14 41 24.2 +0.2**
TIR pmax pmax
comp=Z,55nm,1.0s
TIR MLR MLR
comp=Z,4µm,20.0s
TIR Tirane 83.91 321 *e*P **P 14 41 24.1 +0.2**
comp=Z,54nm,1.0s
TIR LR LR
comp=Z,4µm,20.0s
FUORN Ofenpass-Fuorn 83.95 329 *e*P **P 14 41 24.5 +0.1**
comp=Z,62nm,1.0s
NEST Nestorio 84.03 319 P **P 14 41 24.8 0.0**
MOF Molkenrain 84.11 332⇑ *e*P **P 14 41 25.2 +0.2**
M38A Pleasantville 84.27 39 P **P 14 41 26.0 +0.2**
baz=320
N37A Lee Faris, Mou 84.28 40 P **P 14 41 26.1 +0.2**
baz=320
L39A Vinton 84.29 38 P **P 14 41 25.8 -0.2**
baz=321
KSU1 Kansas State U 84.31 42 PFAKE 14 41 40.0 +14
KSU1 LR LR
comp=Z,929nm,19.0s
O36A Bolckow 84.38 41 P **P 14 41 27.2 +0.8**
baz=319
TUE Stuetta 84.43 330 *e*P **P 14 41 27.1 +0.3**
comp=Z,26nm,0.9s
TUE LR LR
comp=Z,3µm,19.0s
JFWS Jewell Farm 84.48 36 PFAKE 14 41 40.0 +13
JFWS LR LR
comp=Z,1µm,21.0s
AMTX Amarillo 84.62 48 P **P 14 41 28.1 +0.2**
baz=316
AMTX Amarillo 84.62 48 *e*P **P 14 41 28.9 +0.9**
comp=Z,30nm,1.3s
LOMF Lomont 84.64 332⇑ *e*P **P 14 41 28.3 +0.6**
P36A Good Intent, A 84.64 41 P **P 14 41 28.0 +0.2**
baz=319
MSTX Muleshoe 84.64 50 P **P 14 41 28.8 +0.8**
baz=316,SNR=5.4
MSTX Muleshoe 84.64 50 *e*P **P 14 41 28.6 +0.6**
comp=Z,13nm,0.8s
MNTX Cornudas Mount 84.68 53 P **P 14 41 29.6 +1.5**
baz=314,SNR=13
MNTX Cornudas Mount 84.68 53 *e*P **P 14 41 28.4 +0.3**
comp=Z,6.1nm,0.8s
MNTX LR LR
comp=Z,706nm,19.0s
S33A Kaszmaul Farm, 84.70 44 P **P 14 41 28.6 +0.5**
baz=318
SANT Santorini 84.70 314 PFAKE 14 41 40.0 +12
SANT LR LR
comp=Z,2µm,19.0s
N38A Joes South For 84.72 39 P **P 14 41 28.4 +0.2**
baz=320
O37A Wolven Farm, M 84.76 40 P **P 14 41 28.6 +0.2**
baz=320
Q35A Mercer Eighty, 84.79 42 P **P 14 41 28.7 +0.2**
baz=319
T33A Patterson Ranc 84.94 45 P **P 14 41 28.9 -0.5**
baz=318
PPT Papeete 84.95 118 LR LR 15 12 01.2
comp=Z,3µm,21.9s,baz=282,slow=30
ANX Ano Chora 84.95 318 P **P 14 41 29.1 -0.4**
PPT2 Papeete2 84.96 118 *e*S **S 14 51 54.6 -1.7**
comp=Z,501nm,25.2s
PPT2 Papeete2 84.96 118 *e*LR LR 15 08 03.0
comp=Z,6µm,22.5s,baz=318
PPT2 Papeete2 84.96 118 *e*T T 16 15 09.9
comp=Z,11nm,0.3s
PPT2 Papeete2 84.96 118 *e*LR LR 14 41 31.7
comp=Z,153nm,27.2s
N39A Derby Farms, D 85.02 39 P **P 14 41 29.8 +0.2**
baz=321
SGD Sagiada 85.04 319 P **P 14 41 29.8 0.0**
U32A Winter Ranch, 85.05 46 P **P 14 41 30.1 +0.2**
baz=317
S34A Willow Spring 85.09 44 P **P 14 41 30.3 +0.2**
baz=318
P37A Lathrop 85.10 41 P **P 14 41 29.9 -0.2**
baz=320
TIAR Tiarei 85.10 118 *e*T T 16 15 19.3
comp=Z,5.1nm,0.3s
R35A Emporia Munici 85.11 43 P **P 14 41 31.2 +1.1**
baz=319,SNR=9.1
O38A Galt 85.12 40 P **P 14 41 29.9 -0.3**
baz=320
PVO Paravola 85.14 318 P P 14 41 22.4 -7.9
LAKA Lakka 85.19 317 P **P 14 41 29.5 -1.1**
LAKA Lakka 85.19 317 P **P 14 41 29.5 -1.1**
SENIN Lac Senin/Sane 85.30 331 *e*P **P 14 41 31.3 +0.1**
comp=Z,18nm,0.8s
R36A Gordon, Harris 85.47 42 P **P 14 41 32.8 +0.8**
baz=319,SNR=8.5
P38A Dawn 85.47 40 P **P 14 41 31.7 -0.3**
baz=320
O39A Kirksville 85.48 39 P **P 14 41 32.2 +0.2**
baz=321
VAL Valentia 85.48 344 *e*P **P 14 41 31.9 +0.2**
VAL Valentia 85.48 344⇑ *i*S S 14 52 09.6 +9.2
U33A Lingo Farm, Me 85.49 45 P **P 14 41 32.4 +0.2**
baz=318
V32A Arapaho 85.50 46 P **P 14 41 31.7 -0.5**
baz=317
S35A Otter Creek Ra 85.52 43 P **P 14 41 32.8 +0.6**
baz=319,SNR=15
T34A McClaskey Farm 85.55 44 P **P 14 41 31.2 -1.2**
baz=318
LAST Lasithi 85.57 313 *e*P **P 14 41 33.4 +0.8**
comp=Z,58nm,1.0s
Q37A Longview Farm, 85.58 41 P **P 14 41 32.0 -0.5**
baz=320
TAOE Nuku Hiva Isla 85.78 105 *e*S **S 14 52 01.1 -3.6**
comp=Z,440nm,25.6s
TAOE Nuku Hiva Isla 85.78 105 *e*LR LR 15 08 35.5
comp=Z,4µm,21.0s,baz=318
U34A Anderson Ranch 85.80 45 P **P 14 41 33.5 -0.2**
baz=318
U34A Anderson Ranch 85.80 45 *e*P **P 14 41 35.4 +1.7**
IDI Anoyia 85.80 314 *e*P **P 14 41 33.6 -0.2**
W32A Sentinel 85.83 47 P **P 14 41 33.5 -0.3**
baz=317
V33A Lossen Ranch, 85.85 46 P **P 14 41 34.2 +0.2**
baz=318
S36A Lake Cedric, C 85.87 43 P **P 14 41 34.1 +0.2**
baz=319
VLC Villacollemand 85.93 328 PFAKE 14 41 50.0 +16
VLC LR LR
comp=Z,2µm,22.0s
Q38A Cooks Store, C 85.94 41 P **P 14 41 34.5 +0.2**
baz=320,SNR=7.2
SNZO South Karori 85.95 157 PFAKE 14 41 50.0 +16
SNZO LR LR
comp=Z,2µm,21.0s
VLS Valsamata 85.95 318 P **P 14 41 33.6 -0.8**
VLS Valsamata 85.95 318 P **P 14 41 33.6 -0.8**
VLS Valsamata 85.95 318 P **P 14 41 33.6 -0.8**
P39B Salisbury 85.97 40 P **P 14 41 34.1 -0.3**
baz=321
T35A Sooner Cattle 85.99 44 P **P 14 41 35.4 +0.8**
baz=319
ITM Ithomi 86.01 317 P **P 14 41 33.8 -0.9**
ITM Ithomi 86.01 317 P **P 14 41 33.8 -0.9**
AQU L'Aquila 86.12 325 PFAKE 14 41 50.0 +15
AQU LR LR
comp=Z,5µm,19.0s
MEH Mehetia 86.19 117 *e*T T 16 16 41.4
comp=Z,63nm,0.3s
Q39A Willow Grove F 86.19 40 P **P 14 41 36.1 +0.6**
baz=321,SNR=9.6
T36A Boggs Farm, Ca 86.22 43 P **P 14 41 36.3 +0.6**
baz=319,SNR=7.7
S37A Fort Scott 86.24 42 P **P 14 41 36.1 +0.3**
baz=320,SNR=9.6
W33A Caddo, Fort Co 86.24 46 P **P 14 41 36.1 +0.2**
baz=318
V34A Guthrie 86.26 45 P **P 14 41 36.2 +0.2**
baz=318
V34A Guthrie 86.26 45 *e*P **P 14 41 36.0 +0.1**
comp=Z,22nm,0.9s
P40A Paris 86.28 39 P **P 14 41 35.1 -0.8**
baz=321
U35A Pawnee 86.28 44 P **P 14 41 36.3 +0.2**
baz=319
X32A Elmer 86.32 47 P **P 14 41 36.7 +0.5**
baz=317,SNR=5.6
WMOK Wichita Mounta 86.37 47 P **P 14 41 36.8 +0.3**
baz=318,SNR=10.0
WMOK Wichita Mounta 86.37 47 *e*P **P 14 41 37.2 +0.7**
WMOK pmax pmax
comp=Z,6.0nm,0.8s
WMOK MLR MLR
comp=Z,820nm,20.0s
WMOK Wichita Mounta 86.37 47 *e*P **P 14 41 37.2 +0.7**
comp=Z,6.3nm,0.8s
WMOK LR LR
comp=Z,820nm,20.0s
O41A Passleys Farm, 86.38 38 P **P 14 41 35.6 -0.9**
baz=322
R38A Fenwick Farm, 86.39 41 P **P 14 41 36.6 +0.1**
baz=320,SNR=5.8
W34A Bridge Creek, 86.56 46 P **P 14 41 37.3 -0.2**

baz=318
BNI Bardonecchia 86.64 331 PFAKE 14 41 50.0 +12
BNI LR LR
comp=Z,4μm,20.0s
P41A Barry, Barry 86.64 39 P P 14 41 36.9 -0.9
baz=322
T37A Cheneyville 18 86.68 43 P P 14 41 37.6 -0.3
baz=320
Q40A Laux Farm, Aux 86.68 40 P P 14 41 37.6 -0.3
baz=321
HDIL Hopedale 86.78 37 P P 14 41 38.9 +0.5
baz=323
HDIL Hopedale 86.78 37 PFAKE 14 41 50.0 +12
HDIL LR LR
comp=Z,1μm,20.0s
U36A Oologah 86.80 44 P P 14 41 39.4 +0.9
baz=319
CUC Castrocucco 86.90 322 PFAKE 14 41 50.0 +11
CUC LR LR
comp=Z,3μm,21.0s
PLDF La Plantade 86.97 333 eP P 14 41 40.6 +1.3
Y33A Hilltop Ranch, 86.99 47 P P 14 41 39.8 +0.3
baz=318
X34A Smith Ranch, M 87.00 46 P P 14 41 38.4 -1.2
baz=318
S39A Bolivar 87.06 41 P P 14 41 40.0 +0.2
baz=320,SNR=10
AGO Saint Agoulin 87.06 333 eP P 14 41 41.7 +2.0
T38A Diamond 87.07 42 P P 14 41 40.5 +0.6
baz=320,SNR=11
TIP Timpagrande 87.09 321 P P 14 41 40.0 0.0
TIP Timpagrande 87.09 321 eP P 14 41 39.3 -0.7
comp=Z,25nm,1.4s
TIP LR LR
comp=Z,3μm,19.0s
W35A Tecumseh 87.11 45 P P 14 41 41.4 +1.3
baz=319
R40A Maddies Statio 87.13 40 P P 14 41 40.5 +0.4
baz=321,SNR=7.6
TUL1 Leonard 87.13 44 P P 14 41 40.7 +0.5
baz=319
SSB Saint Sauveur 87.23 332 eP P 14 41 41.1 +0.5
SSB pmax pmax
comp=Z,17nm,0.9s
SSB MLR MLR
comp=Z,2μm,20.0s
SSB Saint Sauveur 87.23 332 eP P 14 41 41.1 +0.5
comp=Z,17nm,0.9s
SSB LR LR
comp=Z,2μm,20.0s
TX31 Lajitas Ar. Si 87.39 53 eP P 14 41 42.5 +0.8
TXAR Lajitas Array 87.39 53 P P 14 41 42.1 +0.4
comp=Z,2.6nm,0.8s,baz=291,slow=3.4,SNR=23
ABTX Abilene, Hawle 87.43 49 P P 14 41 42.2 +0.5
baz=317
ABTX Abilene, Hawle 87.43 49 eP P 14 41 43.2 +1.5
comp=Z,15nm,1.0s
Z33A Whitaker Ranch 87.44 48 P P 14 41 42.0 +0.3
baz=318
U38A Gravette 87.47 43 P P 14 41 41.0 -0.9
baz=320
W36A Wetumka 87.48 45 P P 14 41 41.0 -0.8
baz=319
Q42A Golden Eagle 87.49 39 P P 14 41 42.4 +0.5
baz=322
V37A Hulbert 87.50 44 P P 14 41 42.7 +0.8
baz=320
Y34A Reagan Ranch, 87.52 46 P P 14 41 43.3 +1.2
baz=318
T39A Clever 87.55 42 P P 14 41 40.8 -1.4
baz=320
S40A Lebanon 87.55 41 P P 14 41 42.5 +0.4
baz=321,SNR=7.1
X35A Drake 87.62 46 P P 14 41 42.8 +0.3
baz=319
LBL Lubilhac 87.74 333 eP P 14 41 45.0 +2.0
HHAR Hobbs 87.83 43 eP P 14 41 43.3 -0.2
comp=Z,11nm,0.8s
X36A Centrahoma 87.83 45 P P 14 41 44.4 +0.8
baz=319
AAM Ann Arbor 87.84 33 PFAKE 14 42 00.0 +17
AAM LR LR
comp=Z,1μm,20.0s
TRQ Mont Tremblant 87.84 25 eP P 14 41 42.6 -0.9
133A Hamilton Ranch 87.86 48 P P 14 41 42.9 -0.8
baz=318
Q43A New Douglas 87.87 38 P P 14 41 43.8 +0.1
baz=323
T40A Mansfield 87.89 41 P P 14 41 43.9 +0.1
baz=321,SNR=6.3
V38A Canehill 87.90 43 P P 14 41 42.0 -1.9
baz=320
W37B Quinton 87.91 44 P P 14 41 43.6 -0.3
baz=319
LMQ La Malbaie 87.94 22 eP P 14 41 43.8 0.0
Y35A Marietta 87.95 46 P P 14 41 41.7 -2.4
baz=318
U39A Green Forest 87.99 42 P P 14 41 44.2 -0.1
baz=320,SNR=8.3
Q44A Meyer Farm, Va 88.22 38 P P 14 41 44.5 -0.9
baz=323
CEL Celeste 88.23 321 PFAKE 14 42 00.0 +15
CEL LR LR
comp=Z,3μm,19.0s
Z35A Perchaven, San 88.26 47 P P 14 41 45.4 -0.3
baz=318
233A Rising Star 88.30 49 P P 14 41 46.1 +0.2
baz=318
U40A Yellville 88.33 42 P P 14 41 45.7 -0.2
baz=321,SNR=13
T41A Mountain View 88.35 41 P P 14 41 46.5 +0.5
baz=321,SNR=7.1
X37A Clayton 88.35 45 P P 14 41 45.7 -0.3
baz=319
134A White-Moore Ra 88.36 48 P P 14 41 45.8 -0.3
baz=318
Y36A Durant 88.37 46 P P 14 41 44.8 -1.3
baz=319
W38A Poteau 88.44 44 P P 14 41 47.2 +0.8
baz=320
X38A Whitesboro 88.58 44 P P 14 41 47.4 +0.2
baz=320
R44A Waltonville 88.72 38 P P 14 41 45.7 -1.9
baz=323
234A Clairette 88.75 48 P P 14 41 48.8 +0.8
baz=318
333A Richland Sprin 88.76 49 P P 14 41 48.3 +0.2
baz=318
Z36A Blue Ridge 88.76 46 P P 14 41 47.2 -0.8
baz=319
S43A Fulton Ridge, 88.77 39 P P 14 41 48.1 +0.2
baz=322,SNR=5.6
JCT Junction City 88.90 50 P P 14 41 49.5 +0.8
baz=317
JCT Junction City 88.90 50 eP P 14 41 48.9 +0.2
JCT pmax pmax
comp=Z,9.0nm,0.8s
JCT MLR MLR
comp=Z,1μm,21.0s
JCT Junction City 88.90 50 eP P 14 41 48.9 +0.2
comp=Z,8.6nm,0.8s
JCT LR LR
comp=Z,1μm,21.0s
TBI Tubuai 89.07 122 eS S 14 52 34.5 -1.1
comp=Z,652nm,25.0s
TBI Tubuai 89.07 122 eLR LR 15 10 00.9
comp=Z,3μm,26.2s,baz=319
TBI Tubuai 89.07 122 eT T 16 20 17.4
comp=Z,41nm,0.3s
S44A Carbondale 89.07 39 P P 14 41 49.0 -0.3
baz=323
SIUC Southern Illin 89.07 39 eP P 14 41 49.9 +0.5
comp=Z,30nm,0.8s
X39A Fountain Ranch 89.09 44 P P 14 41 49.7 +0.2
baz=320
W40A Ferguson Farm, 89.11 43 P P 14 41 49.8 +0.2
baz=321
433A Art 89.11 49 P P 14 41 48.9 -0.8
baz=318
V41A Mountainview 89.13 42 P P 14 41 49.7 0.0
baz=321,SNR=9.6
334A Lometa 89.18 49 P P 14 41 49.2 -0.8
baz=318
PBMO Poplar Bluff 89.22 40 eP P 14 41 49.9 -0.2
comp=Z,20nm,0.9s
LONY Lake Ozonia 89.25 26 PFAKE 14 42 00.0 +10
LONY LR LR
comp=Z,1μm,20.0s

MIAR Mount Ida 89.34 43 P P 14 41 51.6 +0.9
baz=320,SNR=7.2
MIAR Mount Ida 89.34 43 eP P 14 41 51.7 +1.0
MIAR pmax pmax
comp=Z,15nm,0.8s
MIAR MLR MLR
comp=Z,870nm,19.0s
MIAR Mount Ida 89.34 43 eP P 14 41 51.6 +1.0
comp=Z,15nm,0.8s
MIAR LR LR
comp=Z,870nm,19.0s
X201 Greenbrier Sit 89.40 42 eP P 14 41 50.9 0.0
comp=Z,14nm,0.9s
S45A Carrier Mills 89.41 38 P P 14 41 50.1 -0.9
baz=323
X301 Greenbrier Sit 89.42 42 eP P 14 41 52.2 +1.2
comp=Z,22nm,0.3s
WHAR Wooly Hollow 89.44 42 eP P 14 41 51.7 +0.6
comp=Z,23nm,0.9s
V42A Cord 89.50 41 P P 14 41 51.1 -0.3
baz=322
Y39A Lockesburg 89.53 44 P P 14 41 51.8 +0.2
baz=320
434A Burnet 89.55 49 P P 14 41 52.5 +0.8
baz=318
137A Heron Place, G 89.64 46 P P 14 41 52.4 +0.3
baz=319
X40A Basin Creek Fa 89.78 43 P P 14 41 53.5 +0.8
baz=321
ACSO Alum Creek Sta 89.84 33 eP P 14 41 53.7 +0.8
comp=Z,26nm,0.9s
ACSO LR LR
comp=Z,1μm,20.0s
336A Riesel 89.94 48 P P 14 41 54.9 +1.3
baz=319
138A Matatall Enter 89.96 46 P P 14 41 54.9 +1.3
baz=320
534A Blanco 90.01 50 P P 14 41 53.4 -0.5
baz=318
CLTB Caltabellotta 90.05 322 PFAKE 14 42 10.0 +16
CLTB LR LR
comp=Z,2μm,19.0s
M54A Oil Creek Stat 90.11 31 P P 14 41 53.9 -0.3
baz=329
VSL Villasalto 90.21 326 PFAKE 14 42 10.0 +15
VSL LR LR
comp=Z,3μm,19.0s
PKME Peaks-Kenny Pk 90.32 22 eP P 14 41 56.3 +1.2
comp=Z,22nm,1.3s
PKME LR LR
comp=Z,2μm,20.0s
WDD Wied Dalam 90.79 320 PFAKE 14 42 10.0 +13
WDD LR LR
comp=Z,2μm,19.0s
NATX Nacogdoches 90.88 46 PFAKE 14 42 10.0 +12
NATX LR LR
comp=Z,1μm,22.0s
BINY Binghamton 90.89 28 eP P 14 41 58.8 +1.0
comp=Z,16nm,0.9s
BINY LR LR
comp=Z,1μm,19.0s
LMN Caledonia Moun 90.98 19 eP P 14 41 59.0 +0.8
comp=Z,14nm,0.9s
WVT Waverly 91.00 39 eP P 14 41 58.9 +0.5
WVT pmax pmax
comp=Z,8.0nm,0.9s
WVT Waverly 91.00 39 eP P 14 41 58.9 +0.5
comp=Z,7.7nm,0.9s
636A Smothers Creek 91.24 49 P P 14 41 57.4 -2.2
baz=319
SSPA Standing Stone 91.55 30 eP P 14 42 03.5 +2.7
KVTX Kingsville 92.18 51 PFAKE 14 42 20.0 +16
KVTX LR LR
comp=Z,855nm,19.0s
SWET Sewanee 92.65 38 eP P 14 42 06.7 +0.6
244A Avery, Jackson 92.81 43 P P 14 42 08.3 +1.5
baz=322
035Z Hargill 92.88 52 P P 14 42 07.8 +0.6
baz=318
CPCT Cooper Cave 93.12 37 eP P 14 42 08.4 +0.2
comp=Z,4.7nm,0.9s
TKL Tuckaleechee C 93.29 36 eP P 14 42 09.6 +0.6
TKL pmax pmax
comp=Z,11nm,0.7s
TKL Tuckaleechee C 93.29 36 eP P 14 42 09.6 +0.6
comp=Z,11nm,0.7s
542A Morse 93.30 46 P P 14 42 08.9 -0.2
baz=321
KEST Kesra 93.34 324 P P 14 42 09.0 -0.4
comp=Z,2.2nm,0.7s,baz=326,slow=3.6,SNR=3.3
KEST LR LR 15 28 56.9
comp=Z,3μm,18.7s,baz=348,slow=39
BLA Blacksburg 93.46 33 PFAKE 14 42 20.0 +10
BLA LR LR
comp=Z,2μm,21.0s
CBN Corbin Frederi 93.85 31 PFAKE 14 42 20.0 +8.5
CBN LR LR
comp=Z,1μm,20.0s
ES19 SONSECA Array 95.07 335 eP P 14 42 16.8 -0.3
ESDC Sonseca Array 95.11 335 P P 14 42 17.4 0.0
comp=Z,5.0nm,0.8s,baz=16,slow=4.3,SNR=19
ESDC LR LR 15 30 15.5
comp=Z,2μm,19.4s,baz=15,slow=39
ESLA Sonseca Array 95.11 335 eP P 14 42 18.0 +0.6
GOGA Godfrey 95.29 37 PFAKE 14 42 30.0 +12
GOGA LR LR
comp=Z,1μm,20.0s
PAB San Pablo 95.36 335 PFAKE 14 42 30.0 +11
PAB LR LR
comp=Z,2μm,20.0s
BRAL Brewton 95.38 41 PFAKE 14 42 30.0 +11
BRAL LR LR
comp=Z,908nm,19.0s
MTE Manteigas 95.56 338 PFAKE 14 42 30.0 +11
MTE LR LR
comp=Z,2μm,19.0s
CNNC Cliffs of the 96.20 33 PFAKE 14 42 30.0 +7.7
CNNC LR LR
comp=Z,865nm,20.0s
NHSC New Hope 97.04 35 PFAKE 14 42 40.0 +14
NHSC LR LR
comp=Z,2μm,21.0s
LIS Lisbon 97.58 338 eP Pdif 14 42 29.0 +0.5
LIS AMS AMS 15 31 48.6
comp=Z,3μm,23.8s
LIS Lisbon 97.58 338 eP Pdif 14 42 28.9 +0.4
MESJ Messejana 98.12 337 eP Pdif 14 42 31.1 +0.2
MESJ ePP PP **14 46 30.3 +1.1**
MESJ AMS AMS 15 32 48.3
comp=Z,2μm,20.1s
MESJ Messejana 98.12 337 eP Pdif 14 42 31.1 +0.2
MESJ e 14 46 30.3
MORF Marmelete 98.74 337 ePP PP 14 46 34.9 +0.8
MORF AMS AMS 15 32 57.5
comp=Z,2μm,19.6s
RKT Rikitea 98.81 113 eSP SP 14 55 28.1 +0.7
comp=Z,512nm,30.0s
RKT eSS **SS** **15 00 50.5 +1.4**
comp=Z,569nm,26.2s
RKT Rikitea 98.81 113 eLR LR 15 14 34.4
comp=Z,3μm,22.5s,baz=309
RTC Rabat Centre 101.24 335 PFAKE 14 43 00.0 +15
RTC LR LR
comp=Z,6μm,20.0s
CMLA Cha da Macela 101.87 351 PFAKE 14 43 00.0 +12
CMLA LR LR
comp=Z,719nm,22.0s
KMBO Kilima Mbogo 102.69 279 P Pdif 14 42 51.5 -0.5
comp=Z,2.1nm,0.6s,baz=40,slow=8.7,SNR=5.6
KMBO Kilima Mbogo 102.69 279 P Pdif 14 42 51.5 -0.5
KMBO LR LR
comp=Z,804nm,22.0s
TEIG Tepich 103.41 49 PFAKE 14 43 10.0 +15
TEIG LR LR
comp=Z,237nm,19.0s
BBSR BB Station 103.57 24 PFAKE 14 43 10.0 +15
BBSR LR LR
comp=Z,2μm,21.0s
TAM Tamanrasset 105.96 319 PFAKE 14 47 30.0
TAM LR LR
comp=Z,1μm,21.0s
ABPO Ambohimpanom 106.22 259 PFAKE 14 47 30.0
ABPO LR LR
comp=Z,397nm,22.0s
GTBY Guantanamo Bay 110.63 38 PFAKE 14 47 40.0
GTBY LR LR
comp=Z,786nm,22.0s
MTDJ Mount Denham 110.88 41 PFAKE 14 47 40.0
MTDJ LR LR
comp=Z,709nm,21.0s
GRTK Grand Turk 111.05 34 PFAKE 14 47 40.0
GRTK LR LR
comp=Z,898nm,20.0s
SDDR Presa de Saban 113.21 35 PFAKE 14 47 40.0
SDDR LR LR
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 116.00 317 PKP PKPdf 14 47 36.8 -0.6
comp=Z,1.1nm,0.6s,baz=17,slow=1.5,SNR=6.6
SJG San Juan 116.14 31 PFAKE 14 47 50.0 +12
SJG LR LR
comp=Z,850nm,20.0s
BCIP Isla Barro Col 117.10 49 PFAKE 14 47 50.0 +10
BCIP LR LR
comp=Z,660nm,19.0s
VNDA Vanda 117.84 175 PKP PKPdf 14 47 38.7 -0.4
comp=Z,0.7nm,0.6s,baz=343,slow=6.1,SNR=6.2
ANWB Willy Bob 118.17 27 PFAKE 14 47 50.0 +8.5
ANWB LR LR
comp=Z,769nm,21.0s
SBA Scott Base 118.50 174 PFAKE 14 47 50.0 +10
SBA LR LR
comp=Z,305nm,19.0s
LSZ Lusaka 118.53 274 PFAKE 14 47 50.0 +7.6
LSZ LR LR
comp=Z,1μm,19.0s
RPN Rapa Nui 119.95 102 PFAKE 14 48 00.0 +15
RPN LR LR
comp=Z,522nm,19.0s
FDF Fort de France 121.11 27 PFAKE 14 48 00.0 +13
FDF LR LR
comp=Z,1μm,22.0s
SDV Santo Domingo 122.30 40 PFAKE 14 48 00.0 +10
SDV LR LR
comp=Z,561nm,21.0s
GRGR Grenville 123.33 29 PFAKE 14 48 00.0 +8.4
GRGR LR LR
comp=Z,1μm,21.0s
SACV Santiago Islan 123.88 344 PFAKE 14 48 00.0 +7.4
SACV LR LR
comp=Z,544nm,19.0s
DBIC Dimbokro 124.85 320 PKP PKPdf 14 47 54.8 +0.3
comp=Z,3.6nm,0.6s,baz=22,slow=2.9,SNR=7.2
OTAV Otavalo 125.02 54 PFAKE 14 48 10.0 +15
OTAV LR LR
comp=Z,506nm,22.0s
LBTB Lobatse 126.09 266 ePKIKP PKPdf 14 47 56.9 +0.3
LBTB Lobatse 126.09 266 ePKPdf PKPdf 14 47 56.9 +0.3
BOSA Boshof 128.21 262 PKP PKPdf 14 48 01.0 +0.4
comp=Z,3.8nm,0.8s,baz=328,slow=3.0,SNR=4.3
BOSA Boshof 128.21 262 PKIKP PKPdf 14 48 01.0 +0.4
BOSA pmax pmax
comp=Z,4.0nm,0.9s
TSUM Tsumeb 128.98 277 ePKPdf PKPdf 14 48 02.4 +0.1
TSUM LR LR
comp=Z,788nm,19.0s
QSPA South Pole Qui 129.75 180 PFAKE 14 48 10.0 +7.8
QSPA LR LR
comp=Z,611nm,19.0s
ATAH Atahualpa 130.66 60 PKP PKPdf 14 48 08.2 +2.2
comp=Z,7.4nm,0.8s,baz=67,slow=6.7,SNR=4.4
SUR Sutherland 133.36 260 PFAKE 14 48 20.0 +10
SUR LR LR
comp=Z,2μm,21.0s
NNA Nana 135.23 63 PFAKE 14 48 30.0 +16
NNA LR LR
comp=Z,255nm,19.0s
PTGA Pitinga 135.70 34 PKP PKPdf 14 48 15.8 +0.7
comp=Z,4.5nm,0.8s,baz=315,slow=2.8,SNR=7.1
PTGA Pitinga 135.70 34 PKP PKPdf 14 48 15.8 +0.7
PTGA LR LR
comp=Z,37μm,20.0s
SAML Samuel 141.30 44 ePKPpre PKPpre 14 48 20.6
SAML LR LR
comp=Z,488nm,20.0s
SNAA Sanae 143.94 198 P PKPbc 14 48 26.2 0.0
SNAA Sanae 143.94 198 ePKHKP PKPab 14 48 25.9 +0.3
SNAA Sanae 143.94 198 ePKPpre PKPab 14 48 25.9 +0.3
LPAZ La Paz 144.14 58 PKP PKPdf 14 48 30.3 -0.7
comp=Z,7.4nm,0.9s,baz=350,slow=5.0,SNR=19
LPAZ La Paz 144.14 58 ePKIKP PKPbc 14 48 29.8 +0.7
LPAZ La Paz 144.14 58 ePKPdf PKPbc 14 48 29.8 +0.7
PB11 IPOC Station P 145.57 64 ePKPdf PKPab 14 48 33.7 +0.4
VNA1 Neumayer--Stat 145.90 197 P PKPbc 14 48 32.5 +0.2
RCBR Riachuelo 145.95 358 PKPbc PKPab 14 48 34.5 -0.2
baz=6.0,slow=3.2
RCBR Riachuelo 145.95 358 PKPbc PKPab 14 48 34.5 -0.2
RCBR LR LR
comp=Z,770nm,21.0s
PB01 IPOC Station P 146.55 65 ePKPdf PKPab 14 48 36.4 -0.5
LVC Limon Verde 147.98 67 PKPbc PKPbc 14 48 40.9 +0.8
comp=Z,39nm,0.7s,baz=285,slow=4.3,SNR=10
LVC Limon Verde 147.98 67 ePKPbc PKPbc 14 48 40.8 +0.6
LVC LR LR
comp=Z,596nm,20.0s
SIV San Ignacio 148.24 48 PKPbc PKPdf 14 48 38.6 +1.4
comp=Z,8.3nm,0.9s,baz=196,slow=0.5,SNR=11
LCO Las Campanas 150.37 79 ePKPbc PKPbc 14 48 46.5 +0.7
LCO LR LR
comp=Z,2μm,20.0s
TRQA Tornquist 160.58 92 PFAKE 14 49 10.0 +16
TRQA LR LR
comp=Z,1μm,22.0s

WBNET 22 14:29:47.1, 50°.20N×12°.45E, h10km, MI0.5, 6C-10D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.04**	**360**	⇓	P		Pg	14 29 48.6	-0.5
NKC					S		Sg	14 29 50.0	-0.6
NKC	**Novy Kostel**	**0.04**	**360**	⇓	P		Pg	14 29 48.9	-0.2
NKC					S		Sg	14 29 50.3	-0.3
KVC	**Kvetna**	**0.04**	**78**	⇓	P		Pg	14 29 48.5	-0.6
KVC					S		Sg	14 29 49.8	-0.8
KVC	**Kvetna**	**0.04**	**78**	⇓	P		Pg	14 29 48.9	-0.3
KVC					S		Sg	14 29 50.1	-0.5
VAC	**Vackov**	**0.06**	**310**	⇓	P		Pg	14 29 48.8	-0.5
VAC					S		Sg	14 29 50.3	-0.6
VAC	**Vackov**	**0.06**	**310**	⇓	P		Pg	14 29 49.1	-0.1
VAC					S		Sg	14 29 50.6	-0.3
SKC	**Skalna**	**0.06**	**244**	⇑	P		Pg	14 29 48.8	-0.5
SKC					S		Sg	14 29 50.3	-0.6
SKC	**Skalna**	**0.06**	**244**	⇑	P		Pg	14 29 49.1	-0.2
SKC					S		Sg	14 29 50.6	-0.3
KACW	**Kace˘ov**	**0.07**	**140**		S		Sg	14 29 50.4	-0.6
KACW	**Kace˘ov**	**0.07**	**140**		S		Sg	14 29 50.8	-0.3
STCW	**Studenec**	**0.08**	**36**	⇑	P		Pg	14 29 49.0	-0.5
STCW					S		Sg	14 29 50.5	-0.8
STCW	**Studenec**	**0.08**	**36**	⇑	P		Pg	14 29 49.3	-0.2
STCW					S		Sg	14 29 50.8	-0.5
POCW	**Po˘¡tky**	**0.12**	**354**	⇓	P		Pg	14 29 49.7	-0.4
POCW					S		Sg	14 29 51.8	-0.5
POCW	**Po˘¡tky**	**0.12**	**354**	⇓	P		Pg	14 29 50.0	-0.1
POCW					S		Sg	14 29 52.1	-0.2
KRCW	**Kraslice**	**0.14**	**21**		S		Sg	14 29 52.2	-0.7
KRCW	**Kraslice**	**0.14**	**21**		S		Sg	14 29 52.5	-0.3
KOCW	**Kopaniny**	**0.15**	**296**	⇓	P		Pg	14 29 50.1	-0.4
KOCW					S		Sg	14 29 52.4	-0.5
KOCW	**Kopaniny**	**0.15**	**296**	⇓	P		Pg	14 29 50.4	-0.1
KOCW					S		Sg	14 29 52.7	-0.2
ZHC	**Zelena Hora**	**0.15**	**215**	⇑	P		Pg	14 29 50.1	-0.5
ZHC					S		Sg	14 29 52.4	-0.6
ZHC	**Zelena Hora**	**0.15**	**215**	⇑	P		Pg	14 29 50.4	-0.1
ZHC					S		Sg	14 29 52.7	-0.3

WEL 22 14:35:26.9±0.1, 43°.60S×172°.53E, h10km, ML3.7/19, 1C-7D, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.07**	**73**	⇓	PG		Pg	14 35 29.0	-0.1
CRLZ					SG		Sg	14 35 30.7	0.0
CRLZ					AML		AML	14 35 30.9	
CRLZ					AML		AML	14 35 30.9	
CRLZ					AML		AML	14 35 31.2	
MQZ	**McQueen's Vall**	**0.14**	**141**	⇓	PG		Pg	14 35 30.2	+0.1
MQZ					SG		Sg	14 35 32.7	+0.3

MOZ				AML	AML	14 35 32.8	
OXZ	**Oxford**	**0.45**	**307**	⇓P*	Pg	14 35 35.3	-0.3
LTZ	**Lake Taylor**	**0.84**	**347**	⇓P*	Pg	14 35 42.8	-0.2
LTZ				AML	AML	14 35 55.9	
LTZ				AML	AML	14 35 58.1	
RPZ	**Rata Peaks**	**1.08**	**263**	⇓P*	Pb	14 35 46.6	-0.9
RPZ				AML	AML	14 36 06.5	
RPZ				AML	AML	14 36 07.6	
INZ	**Inchbonnie**	**1.18**	**317**	⇓P*	Pb	14 35 47.8	-1.4
KHZ	**Kahutara**	**1.39**	**32**	PN	Pn	14 35 50.4	-1.8
WVZ	**Waitaha Valley**	**1.41**	**291**	PN	Pn	14 35 52.0	-0.5
WVZ				AML	AML	14 36 15.3	
WVZ				AML	AML	14 36 16.5	
THZ	**Tophouse**	**1.85**	**9**	⇑PN	Pn	14 35 57.1	-1.5
THZ				AML	AML	14 36 26.6	
THZ				AML	AML	14 36 35.3	
LBZ	**Lake Benmore**	**1.87**	**244**	PN	Pn	14 35 58.3	-0.5
LBZ				AML	AML	14 36 33.4	
LBZ				AML	AML	14 36 33.8	
LBZ				AML	AML	14 36 33.8	
LBZ				AML	AML	14 36 34.4	
DSZ	**Denniston Nort**	**1.93**	**344**	PN	Pn	14 35 58.5	-1.1
DSZ				AML	AML	14 36 26.9	
DSZ				AML	AML	14 36 26.9	
DSZ				AML	AML	14 36 32.4	
DSZ				AML	AML	14 36 32.4	
FOZ	**Fox Glacier**	**1.98**	**271**	PN	Pn	14 36 00.7	+0.4
FOZ				AML	AML	14 36 36.3	
FOZ				AML	AML	14 36 37.9	
FOZ				AML	AML	14 36 39.9	
ODZ	**Otahua Downs**	**1.98**	**222**	PN	Pn	14 35 59.0	-1.4
ODZ				AML	AML	14 36 37.5	
ODZ				AML	AML	14 36 37.5	
ODZ				AML	AML	14 36 38.9	
BSWZ	**Blackbirch Sta**	**2.13**	**28**	PN	Pn	14 36 01.1	-1.3
TUWZ	**Tuamarina**	**2.40**	**26**	PN	Pn	14 36 05.1	-1.1
NNZ	**Nelson**	**2.46**	**15**	PN	Pn	14 36 05.9	-1.0
TCW	**Tory Channel**	**2.71**	**29**	AML	AML	14 36 46.4	
QRZ	**Quartz Range**	**2.77**	**360**	PN	Pn	14 36 09.7	-1.5
QRZ				AML	AML	14 36 23.3	
QRZ				AML	AML	14 36 23.3	
QRZ				AML	AML	14 37 00.2	
QRZ				AML	AML	14 37 00.2	
WKZ	**Wanaka**	**2.81**	**243**	PN	Pn	14 36 10.8	-1.0
WKZ				AML	AML	14 37 05.2	
WKZ				AML	AML	14 37 07.0	
EAZ	**Earnscleugh**	**2.83**	**234**	⇓PN	Pn	14 36 10.7	-1.4
EAZ				AML	AML	14 36 59.4	
EAZ				AML	AML	14 36 59.4	
EAZ				AML	AML	14 36 59.5	
EAZ				AML	AML	14 36 59.5	
MSWZ	**Moikau Station**	**2.96**	**44**	AML	AML	14 36 46.3	
DUWZ	**D'Urville Isla**	**2.98**	**21**	PN	Pn	14 36 14.9	+0.8
CAW	**Cannon Point**	**3.12**	**38**	PN	Pn	14 36 13.5	-2.5
CAW				AML	AML	14 36 51.4	
CAW				AML	AML	14 36 52.1	
TUZ	**Tuapeka**	**3.13**	**220**	PN	Pn	14 36 14.7	-1.5
TUZ				AML	AML	14 37 18.4	
TUZ				AML	AML	14 37 19.2	
MTW	**Mount Morrison**	**3.28**	**43**	PN	Pn	14 36 15.7	-2.6
MTW				AML	AML	14 36 53.8	
MLZ	**Mavora Lakes**	**3.62**	**239**	PN	Pn	14 36 21.6	-1.4
MRZ	**Mangatainoka R**	**3.71**	**39**	PN	Pn	14 36 21.7	-2.5
SYZ	**Scrubby Hill**	**3.80**	**218**	PN	Pn	14 36 24.5	-0.8
SYZ				AML	AML	14 37 45.6	
WHZ	**Wether Hill Ro**	**3.99**	**233**	PN	Pn	14 36 26.3	-1.7
BFZ	**Birch Farm**	**4.01**	**45**	PN	Pn	14 36 25.3	-3.0
ANWZ	**Angora Road**	**4.29**	**44**	PN	Pn	14 36 29.0	-3.2
VRZ	**Vera Road**	**4.77**	**21**	PN	Pn	14 36 40.0	+1.3

*CSEM **22** 14:38:35.3, 43.29N×12.51E, h11km, MD1.6/5*
ROM 22 14:38:35.3±0.1, 43.29N×12.51E, h11km±1km, Md1.6/5, Ml1.1/4, Error ellipse: s-maj=4.3km s-min=1.0km az=58.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.03**	**155**	Pg	Pg	14 38 37.4	0.0
MURB				Sg	Sg	14 38 38.8	-0.1
	278nm,0.3s						
MURB	**Monte Urbino**	**0.03**	**155**	Pg	Pg	14 38 37.4	0.0
MURB				Sg	Sg	14 38 38.8	-0.1
	278nm,0.3s						
ATVO	**AVT- Monte Val**	**0.12**	**322**	Pg	Pg	14 38 38.9	+0.5
ATVO				Sg	Sg	14 38 41.5	+0.9
	49nm,0.2s						
ATVO	**AVT- Monte Val**	**0.12**	**322**	Pg	Pg	14 38 38.9	+0.5
ATVO				Sg	Sg	14 38 41.5	+0.9
	49nm,0.2s						
ATCC	**AVT- Casa Cast**	**0.14**	**137**	Pg	Pg	14 38 39.1	+0.5
ATCC				Sg	Sg	14 38 42.2	+1.2
	35nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.14**	**137**	Pg	Pg	14 38 39.1	+0.5
ATCC				Sg	Sg	14 38 42.2	+1.2
	35nm,0.3s						
ATPC	**Poggio Castell**	**0.20**	**349**	Pg	Pg	14 38 40.2	+0.6
ATPC				Sg	Sg	14 38 43.7	+1.2
	28nm,0.1s						
ATPC	**Poggio Castell**	**0.20**	**349**	Pg	Pg	14 38 40.2	+0.6
ATPC				Sg	Sg	14 38 43.7	+1.2
	28nm,0.1s						
PIEI	**Pieia**	**0.25**	**4**	Pg	Pg	14 38 40.8	+0.3
PIEI				Sg	Sg	14 38 45.1	+1.1
	26nm,0.3s						
PIEI	**Pieia**	**0.25**	**4**	Pg	Pg	14 38 40.8	+0.3
PIEI				Sg	Sg	14 38 45.1	+1.1
	26nm,0.3s						

WBNET 22 14:39:01.9, 50.20N×12.45E, h10km, Ml0.1, 2C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**357**	⇓P	Pg	14 39 03.6	-0.1
KVC	**Kvetna**	**0.04**	**82**	⇓P	Pg	14 39 03.5	-0.3
VAC	**Vackov**	**0.06**	**307**	⇓P	Pg	14 39 03.8	-0.2
LBCW	**Luby**	**0.07**	**339**	⇓P	Pg	14 39 04.0	-0.1
STCW	**Studenec**	**0.07**	**37**	⇑P	Pg	14 39 04.0	-0.2
POCW	**Po¯¡tky**	**0.12**	**353**	⇓P	Pg	14 39 04.7	-0.1
POCW				S	Sg	14 39 06.8	-0.1
KRCW	**Kraslice**	**0.14**	**21**	S	Sg	14 39 07.1	-0.2
KOCW	**Kopaniny**	**0.15**	**295**	⇓P	Pg	14 39 05.1	-0.2
KOCW				S	Sg	14 39 07.4	-0.2
ZHC	**Zelena Hora**	**0.16**	**215**	⇑P	Pg	14 39 05.1	-0.2

WBNET 22 14:39:03.2, 50.20N×12.45E, h10km, Ml1.0, 3C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.04**	**2**	⇓P	Pg	14 39 05.0	-0.2
NKC				S	Sg	14 39 06.3	-0.3
KVC	**Kvetna**	**0.04**	**80**	⇓P	Pg	14 39 04.9	-0.3
KVC				S	Sg	14 39 06.2	-0.5
VAC	**Vackov**	**0.06**	**310**	⇓P	Pg	14 39 05.2	-0.2
VAC				S	Sg	14 39 06.7	-0.3
KACW	**Kace¯ov**	**0.07**	**140**	S	Sg	14 39 06.9	-0.3
LBCW	**Luby**	**0.07**	**342**	⇓P	Pg	14 39 05.4	-0.1
LBCW				S	Sg	14 39 07.1	-0.1
STCW	**Studenec**	**0.08**	**38**	⇑P	Pg	14 39 05.4	-0.2
STCW				S	Sg	14 39 06.8	-0.5
POCW	**Po¯¡tky**	**0.12**	**354**	⇓P	Pg	14 39 06.1	-0.1
POCW				S	Sg	14 39 08.2	-0.2
KRCW	**Kraslice**	**0.14**	**22**	⇑P	Pg	14 39 06.3	-0.2
KRCW				S	Sg	14 39 08.5	-0.4
KOCW	**Kopaniny**	**0.15**	**296**	⇓P	Pg	14 39 06.5	-0.1
KOCW				S	Sg	14 39 08.8	-0.2
ZHC	**Zelena Hora**	**0.15**	**215**	⇑P	Pg	14 39 06.5	-0.2
ZHC				S	Sg	14 39 08.8	-0.3

WBNET 22 14:46:04.9, 50.19N×12.46E, h11km, Ml1.5, 2C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRCW	**Trojmez˜›**	**0.23**	**299**	⇑P	Pg	14 46 08.5	-1.2
TRCW				S	Sg	14 46 11.6	-1.3
TRCW	**Trojmez˜›**	**0.23**	**299**	⇑P	Pg	14 46 09.6	-0.2
TRCW				S	Sg	14 46 12.7	-0.2
BRG	**Berggiesshubel**	**1.17**	**54**	PG	Pb	14 46 26.8	-0.4
BRG				SG	Sb	14 46 41.4	-1.0
	3.1nm,0.3s						
CLL	**Collm**	**1.17**	**17**	*i* Sg	Sb	14 46 42.1	-0.3

WBNET 22 14:54:03.8, 50.20N×12.45E, h10km, Ml1.1, 3C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVC	**Kvetna**	**0.04**	**77**	⇓P	Pg	14 54 05.5	-0.2
KVC				S	Sg	14 54 06.8	-0.4
VAC	**Vackov**	**0.06**	**308**	⇓P	Pg	14 54 05.8	-0.1
VAC				S	Sg	14 54 07.3	-0.2
SKC	**Skalna**	**0.07**	**245**	⇑P	Pg	14 54 05.8	-0.2
SKC				S	Sg	14 54 07.3	-0.3
KACW	**Kace¯ov**	**0.07**	**142**	⇓P	Pg	14 54 05.9	-0.1
KACW				S	Sg	14 54 07.4	-0.2
LBCW	**Luby**	**0.07**	**339**	⇓P	Pg	14 54 06.0	-0.1
STCW	**Studenec**	**0.08**	**35**	⇓P	Pg	14 54 06.0	-0.2
STCW				S	Sg	14 54 07.5	-0.4
POCW	**Po¯¡tky**	**0.12**	**352**	⇓P	Pg	14 54 06.7	-0.1
POCW				S	Sg	14 54 08.8	-0.1
KRCW	**Kraslice**	**0.14**	**20**	⇑P	Pg	14 54 06.9	-0.2
KRCW				S	Sg	14 54 09.1	-0.3
ZHC	**Zelena Hora**	**0.16**	**216**	⇑P	Pg	14 54 07.1	-0.1
ZHC				S	Sg	14 54 09.4	-0.2
CLL	**Collm**	**1.17**	**17**	*i* Sg	Sb	14 54 40.8	-0.3
BRG	**Berggiesshubel**	**1.17**	**54**	PG	Pb	14 54 25.4	-0.6
BRG				SG	Sb	14 54 40.7	-0.5
	1.4nm,0.5s						

WBNET 22 14:54:05.1, 50.20N×12.45E, h10km, Ml0.6, 1C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVC	**Kvetna**	**0.04**	**80**	S	Sg	14 54 08.2	-0.4
VAC	**Vackov**	**0.06**	**306**	S	Sg	14 54 08.7	-0.2
SKC	**Skalna**	**0.07**	**244**	S	Sg	14 54 08.6	-0.3
KACW	**Kace¯ov**	**0.07**	**144**	S	Sg	14 54 08.8	-0.2
LBCW	**Luby**	**0.07**	**338**	⇓P	Pg	14 54 07.4	-0.1
LBCW				S	Sg	14 54 09.1	-0.1
LBCW	**Luby**	**0.07**	**338**	S	Pg	14 54 07.7	+0.3
STCW	**Studenec**	**0.07**	**35**	S	Sg	14 54 08.8	-0.4
POCW	**Po¯¡tky**	**0.12**	**352**	⇓P	Pg	14 54 08.1	0.0
ZHC	**Zelena Hora**	**0.16**	**216**	⇑P	Pg	14 54 08.5	-0.1
ZHC				S	Sg	14 54 10.8	-0.3

*ISK **22** 15:03:15.4, 38.70N×37.50E, h5km, MD2.7*
*ISCJB **22** 15:03:17.7±0.6, 38.63N±0.04×37.46E±0.05, h8km±5km, Error ellipse: s-maj=7.4km s-min=5.4km az=41.7*
*CSEM **22** 15:03:17.4±0.3, 38.61N×37.44E, h8km, MD2.7, Error ellipse: s-maj=10.5km s-min=7.3km az=60.0*
*DDA **22** 15:03:19.3, 38.71N×37.71E, h7km, Md2.6*
ISC 22 15:03:17.0±1.0, 38.66N±0.04×37.48E±0.04, h6km±9km, n15, σ0963/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.09**	**176**	*e*PG	**Pg**	**15 03 18.4**	**-0.6**
DARE				*e*SG	**Sg**	**15 03 21.0**	**+0.6**
DARE	**Darende-Malaty**	**0.09**	**176**	*e*Pg	**Pg**	**15 03 18.4**	**-0.6**
DARE				*e*Sg	**Sg**	**15 03 21.0**	**+0.6**
CUGUR	**Gurin_S¨VAS**	**0.17**	**292**	S	**Sg**	**15 03 23.7**	**+0.8**
CUGUR	**Gurin_S¨VAS**	**0.17**	**292**	*i* P	Pg	15 03 14.6	-6.0
CUGUR				*i* S	**Sg**	**15 03 23.7**	**+0.8**
AKCD	**Akcadag**	**0.50**	**136**	P	**Pg**	**15 03 27.2**	**+0.4**
AKCD				S	**Sb**	**15 03 35.7**	**-0.4**
AKCD	**Akcadag**	**0.50**	**136**	*i* P	**Pg**	**15 03 27.2**	**+0.4**
AKCD				*i* S	**Sb**	**15 03 35.7**	**-0.4**
CUKAN	**kangal_SIVAS**	**0.66**	**359**	P	**Pn**	**15 03 32.1**	**-1.0**
CUKAN				S	**Sb**	**15 03 41.0**	**+0.5**
CUKAN	**kangal_SIVAS**	**0.66**	**359**	*i* P	**Pn**	**15 03 32.1**	**-1.0**
CUKAN				*i* S	**Sb**	**15 03 41.0**	**+0.5**
SARI	**SarD1z-Kayseri**	**0.87**	**253**	*e*PG	**Pg**	**15 03 33.7**	**+0.1**
SARI				*e*SG	**Sb**	**15 03 47.4**	**+0.8**
KMRS	**Kahramanmaras**	**1.24**	**202**	*e*PN	**Pb**	**15 03 41.0**	**+0.1**
KMRS	**Kahramanmaras**	**1.24**	**202**	*e*Pn	**Pb**	**15 03 41.0**	**+0.1**
BNN	**Bunyan**	**1.29**	**279**	*e*PN	**Pg**	**15 03 41.3**	**-0.4**
BNN	**Bunyan**	**1.29**	**279**	*e*Pn	**Pg**	**15 03 41.3**	**-0.4**
PTK	**Pertek**	**1.52**	**81**	*e*PN	**Pn**	**15 03 44.7**	**-0.2**
PTK	**Pertek**	**1.52**	**81**	*e*Pn	**Pn**	**15 03 44.7**	**-0.2**

*LJU **22** 15:06:28.5, 46.39N×15.07E, h0km, ML0.9 Rockburst*
CSEM 22 15:06:28.5±99.0, 46.39N×15.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

*ISK **22** 15:06:23.3, 41.07N×36.51E, h9km, MD2.8*
*CSEM **22** 15:06:23.7±0.7, 40.71N×36.15E, h10km, MD2.7, Error ellipse: s-maj=17.8km s-min=8.4km az=35.0*
*ISCJB **22** 15:06:28.8±1.4, 40.96N±0.08×36.02E±0.08, h17km±7km, Error ellipse: s-maj=13.7km s-min=8.7km az=150.3*
*DDA **22** 15:06:31.6, 41.22N×35.79E, h7km, Md2.7*
ISC 22 15:06:28.4±1.3, 41.06N±0.07×36.09E±0.06, h20km±4km, n13, σ0979/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.04**	**311**	*e*PG	**Pg**	**15 06 31.6**	**-0.4**
KVT				*e*SG	**Sg**	**15 06 35.6**	**+1.2**
KVT	**Kavak**	**0.04**	**311**	*e*Pg	**Pg**	**15 06 31.6**	**-0.4**
KVT				*e*Sg	**Sg**	**15 06 35.6**	**+1.2**
HAVZ	**Havza**	**0.28**	**274**	P	**Pg**	**15 06 34.5**	**-0.2**
HAVZ				S	**Sg**	**15 06 38.5**	**-0.6**
HAVZ	**Havza**	**0.28**	**274**	*i* P	**Pg**	**15 06 34.5**	**-0.2**
HAVZ				*i* S	**Sg**	**15 06 38.5**	**-0.6**
SAMS	**Samsun-Alacam**	**0.32**	**14**	P	**Pn**	**15 06 37.8**	**-0.1**
SAMS				S	**Sn**	**15 06 44.0**	**0.0**
SAMS	**Samsun-Alacam**	**0.32**	**14**	*i* P	**Pn**	**15 06 37.8**	**-0.1**
SAMS				*i* S	**Sn**	**15 06 44.0**	**0.0**
BOYT	**Boyabat**	**0.96**	**293**	P	**Pb**	**15 06 45.4**	**-1.0**
BOYT				S	**Sb**	**15 06 59.8**	**+1.0**
BOYT	**Boyabat**	**0.96**	**293**	*i* P	**Pb**	**15 06 45.4**	**-1.0**
BOYT				*i* S	**Sb**	**15 06 59.8**	**+1.0**
BYBT	**Boyabat**	**1.08**	**293**	*e*PN	**Pg**	**15 06 49.4**	**+0.1**
BYBT	**Boyabat**	**1.08**	**293**	*e*Pn	**Pg**	**15 06 49.4**	**+0.1**
SNOP	**Sinop**	**1.17**	**326**	*e*PN	**Pn**	**15 06 49.1**	**-0.5**
SNOP				*e*SN	**Sg**	**15 07 07.5**	**+1.1**
SNOP	**Sinop**	**1.17**	**326**	*e*Pn	**Pn**	**15 06 49.1**	**-0.5**
SNOP				*e*Sn	**Sg**	**15 07 07.5**	**+1.1**
CORM	**Corum**	**1.41**	**232**	*e*PN	**Pn**	**15 06 53.9**	**+0.8**

*IDC **22** 15:29:46.5±2.2, 26.53N×144.37E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/35, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=67.9km s-min=21.3km az=70.0*
*ISCJB **22** 15:29:50.3±1.2, 26.5N±0.2×144.1E±0.2, h33km, mb3.6/5, Error ellipse: s-maj=27.4km s-min=12.8km az=37.9*
ISC 22 15:29:52.3±1.4, 26.6N±0.2×144.1E±0.2, h35km, n7, σ122/8, mb3.6/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.80**	**287**	Pn	**Pn**	**15 30 21.0**	**+0.1**
	baz=270,slow=20						
JCJ				Sn	**Sn**	**15 30 42.0**	**-0.5**
	baz=270,slow=20						
MJAR	**Matsushiro Arr**	**11.14**	**335**	Pn	**Pn**	**15 32 27.6**	**-1.5**
	0.2nm,0.3s,baz=148,slow=12,SNR=3.3						
SONM	**Songino Array**	**36.28**	**316**	P	**P**	**15 36 53.7**	**+1.2**
	0.6nm,0.5s,baz=113,slow=8.7,SNR=7.0						
WRA	**Warramunga Arr**	**47.20**	**193**	P	**P**	**15 38 21.9**	**+0.1**
	0.2nm,0.5s,baz=17,slow=8.5,SNR=4.5						
ASAR	**Alice Springs**	**50.91**	**192**	P	**P**	**15 38 48.9**	**-1.3**
	0.3nm,0.9s,baz=9.7,slow=6.6,SNR=2.9						
MKAR	**Makanchi Array**	**52.13**	**310**	P	**P**	**15 39 00.4**	**+1.2**
	0.6nm,0.9s,baz=98,slow=8.7,SNR=4.3						
KURBB	**Kurchatov Arra**	**54.63**	**315**	P	**P**	**15 39 18.0**	**+0.6**
	0.4nm,0.2s,baz=89,slow=7.7,SNR=3.6						

MEX 22 15:31:12.4±0.5, 15.14N×91.87W, h172km±7km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.17**	**347**	*e*P	Pn	15 31 39.7	-1.1
CCIG				*e*S	Sn	15 32 00.1	-2.7
PCIG		**1.42**	**293**	*e*P	Pn	15 31 41.7	-1.1
PCIG				*e*S	Sn	15 32 04.0	-2.4

JMA 22 15:43:42.7±0.2, 40.11N×142.91E, h17km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.82**	**258**	P	Pb	15 43 58.3	-0.2
JTH				S	Sb	15 44 09.3	0.0
MIYJ	**Miyakonagasawa**	**0.99**	**238**	P	Pb	15 44 00.8	-0.7
JANG	**Nango**	**1.10**	**284**	P	Pb	15 44 02.5	-0.8
JKZ	**Kuzumaki**	**1.22**	**265**	P	Pn	15 44 04.7	-0.3
JOM	**Ohasama**	**1.40**	**243**	P	Pn	15 44 07.4	0.0
JTM	**Tenmabayashi**	**1.56**	**296**	P	Pn	15 44 10.3	+0.7
JTM				*e*S	Sb	15 44 30.4	-0.1
JAH	**Hinai**	**1.75**	**273**	P	Pn	15 44 13.0	+0.8
JMK	**Ichinoseki**	**1.75**	**229**	P	Pn	15 44 13.1	+0.9
JMK				S	Sb	15 44 35.1	-0.8

*IDC **22** 15:48:21.7±0.5, 33.83N×89.35E, h0km, mb4.3/23, mb1 4.4/28, mb1mx4.2/52, mbtmp4.3/28, ML3.4/5, MS3.7/8, Ms1 3.7/8, ms1mx3.3/46, Error ellipse: s-maj=15.7km s-min=11.3km az=41.0*
*BJI **22** 15:48:24.2, 33.56N×89.56E, h6km, mb4.4/38, mB4.8/21, ML4.5/2, Ms4.3/29, Ms7 4.1/28*
*ISCJB **22** 15:48:25.5±0.2, 33.89N±0.03×89.32E±0.03, h33km, mb4.4/48, MS3.7/8, Error ellipse: s-maj=4.0km s-min=3.5km az=135.3*
*MOS **22** 15:48:25.3±1.2, 33.89N×89.45E, h33km, mb4.6/33, Error ellipse: s-maj=9.3km s-min=5.1km az=116.9*
*NEIC **22** 15:48:27.4±0.7, 33.93N×89.33E, h39km±7km, mb4.7/11, Error ellipse: s-maj=8.0km s-min=4.5km az=49.0*
ISC 22 15:48:26.9±0.4, 33.88N±0.05×89.35E±0.04, h33km, n180, σ292/180, mb4.4/48, MS3.8/8, 8C-6D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.44**	**159**	Pg	**Pn**	**15 49 37.1**	**+4.7**
LSA	**Lhasa**	**4.44**	**159**	*e*P	**Pn**	**15 49 36.4**	**+4.0**
LSA	**Lhasa**	**4.44**	**159**	*e*Pn	**Pn**	**15 49 36.4**	**+4.0**
GUN	**Gumba**	**6.65**	**208**	*e*P	**Pn**	**15 50 05.8**	**+3.1**
	37nm,0.5s						
KKN	**Kakani**	**7.00**	**211**	*e*P	**Pn**	**15 50 09.2**	**+1.8**
	43nm,0.7s						
GKN	**Gorkha**	**7.12**	**216**	*e*P	**Pn**	**15 50 10.7**	**+1.8**
	17nm,0.5s						
PKIN	**Phulchoki**	**7.14**	**209**	*e*P	**Pn**	**15 50 11.0**	**+1.7**
	15nm,0.5s						
RAMN	**Ramite**	**7.30**	**200**	*e*P	**Pn**	**15 50 11.0**	**-0.5**
	47nm,0.5s						
KOLN	**Koldanda**	**7.84**	**221**	*e*P	**Pn**	**15 50 18.4**	**-0.5**
	21nm,0.6s						
PYUN	**Piuthan**	**7.93**	**225**	*e*P	**Pn**	**15 50 19.0**	**-1.1**
	36nm,0.7s						
SHL	**Shillong**	**8.57**	**164**	*e*P	**Pn**	**15 50 27.8**	**-1.1**
SHL				IAmb	IAmb	15 50 34.2	
	comp=Z,14nm,0.7s						
WMQ	**Urumqi**	**10.01**	**353**	P	**Pn**	**15 50 49.5**	**+1.1**
WMQ				pP		15 50 59.5	
WMQ				sP		15 51 04.1	
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,98nm,4.6s						
WMQ				LR	LR		
	comp=N,250nm,13.4s						
WMQ				LR	LR		
	comp=E,360nm,9.6s						
WMQ				LR	LR		
	comp=Z,61nm,16.6s						
WMQ	**Urumqi**	**10.01**	**353**	P	**Pn**	**15 50 52.8**	**+4.4**
WMQ				LN			
	comp=Z,260nm,12.8s						
WMQ				LE			
	comp=Z,370nm,9.4s						
WMQ				LZ			
	comp=Z,150nm,8.6s						
GTA	**Gaotai**	**10.06**	**54**	*e*P	**Pn**	**15 50 52.1**	**+3.0**
GTA				S	Sn	15 52 47.8	+7.0
GTA				sS		15 52 55.3	
GTA				SS	**SnSn**	**15 53 03.4**	**+11**
GTA				PMZ			
	comp=Z,5.0nm,1.4s						
GTA				PMZ			
	comp=Z,73nm,4.7s						
GTA				LN			
	comp=Z,810nm,16.2s						
GTA				LE			
	comp=Z,720nm,9.0s						
GTA				LZ			
	comp=Z,850nm,11.4s						
BOK	**Bokaro**	**10.50**	**198**	*e*P	**Pn**	**15 50 52.8**	**-2.3**
SMLA	**Simla**	**10.64**	**258**	*e*P	**Pn**	**15 50 55.6**	**-1.5**
DHRM	**DHARAMSHALA**	**11.07**	**265**	*e*P	Pn	15 50 59.5	-3.6
LZH	**Lanzhou**	**12.09**	**75**	*e*P	Pn	15 51 21.0	+4.0
LZH				PMZ			
	comp=Z,17nm,1.0s						
KSH	**Kashi**	**12.11**	**302**	*e*P	Pn	15 51 22.5	+5.2
KSH				pP	P	15 51 30.8	+1.2
KSH				PP	**PnPn**	**15 51 34.1**	**+9.1**
KSH				PMZ			
	comp=Z,4.0nm,0.3s						
KSH				PMZ			
	comp=Z,110nm,4.8s						
KSH				LN			
	comp=Z,370nm,11.1s						
KSH				LE			
	comp=Z,790nm,10.8s						
KSH				LZ			
	comp=Z,700nm,14.7s						
CD2	**Chengdu**	**12.54**	**100**	*e*P	**Pn**	**15 51 19.5**	**-3.5**
CD2				S	**Sn**	**15 53 37.5**	**-4.0**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,4.2s						
CD2				LN			
	comp=Z,730nm,7.3s						
CD2				LE			
	comp=Z,1μm,8.6s						
CD2				LZ			
	comp=Z,1μm,9.0s						
MK01	**Makanchi Array**	**13.94**	**340**	*e*Pn	**Pn**	**15 51 40.1**	**-2.0**
MK31	**Makanchi Array**	**13.97**	**340**	*e*P	**Pn**	**15 51 41.5**	**-0.9**
MK31	**Makanchi Array**	**13.97**	**340**	*e*Pn	**Pn**	**15 51 41.5**	**-0.9**
MKAR	**Makanchi Array**	**13.97**	**340**	Pn	**Pn**	**15 51 39.9**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=143,slow=12,SNR=11						
MKAR				LR	LR	15 57 19.7	
	comp=Z,137nm,20.4s,baz=304,slow=38						
MKAR	**Makanchi Array**	**13.97**	**340**	*e*P

EKS2 Erkin-Say 15.03 310 *e*Pn Pn 15 51 56.5 -0.4
XAN Xi'an 16.25 84 P Pn 15 52 12.3 -0.4
XAN pP pP 15 52 21.8 -2.3
XAN PMZ
comp=Z,5.0nm,1.6s
XAN LN
comp=Z,420nm,10.8s
XAN LE
comp=Z,710nm,11.8s
XAN LZ
comp=Z,770nm,13.7s
GYA Guiyang 16.69 112 P P 15 52 20.0 -0.5
GYA PMZ
comp=Z,10.0nm,0.8s
AKL Akola 17.08 223 *ex* P 15 52 36.4 +12
AKL IAmb IAmb 15 52 56.3
comp=Z,1μm,4.4s
CHTO Chiang Mai 17.28 148 *e*P Pn 15 52 25.1 -0.6
CHTO pmax pmax
comp=Z,16nm,1.5s
CHTO Chiang Mai 17.28 148 *e*Pn Pn 15 52 25.1 -0.6
comp=Z,16nm,1.5s
CMMT Chiang Mai 17.28 148 P P 15 52 35.8 +8.9
KKAR Karatay Array 17.35 308 *e*P Pn 15 52 25.1 -1.4
KKAR Karatay Array 17.35 308 *e*Pn Pn 15 52 25.1 -1.4
ENH Enshi 17.44 96 *e*Pn P 15 52 27.8 -0.9
comp=Z,118nm,1.9s
CM31 Chiang Mai Arr 17.59 148 *e*Pn P 15 52 30.3 -0.1
CMAR Chiang Mai Arr 17.59 148 P Pn 15 52 28.4 -1.1
comp=Z,0.1nm,0.3s,baz=333,slow=11,SNR=18
CMAR LR LR 15 59 24.7
comp=Z,125nm,21.6s,baz=340,slow=38
CM01 Chiang Mai Arr 17.63 148 *e*Pn P 15 52 31.2 +0.4
KURBB Kurchatov Arra 18.51 338 P P 15 52 39.0 -1.3
comp=Z,0.0nm,0.3s,baz=149,slow=12,SNR=18
KURK Kurchatov 18.57 338 P P 15 52 39.0 -1.9
KURK Kurchatov 18.57 338 P P 15 52 39.0 -1.9
SUKH Sukhothai 18.75 148 P Pn 15 52 52.1 +8.3
SONM Songino Array 18.93 38 P Pn 15 52 46.1 +0.3
comp=Z,0.4nm,0.3s,baz=228,slow=12,SNR=30
SONA1 Songino Array 18.94 37 *e*P Pn 15 52 45.9 -0.1
HHC Hu-ho-hao-te 18.95 62 *e*P Pn 15 52 47.8 +1.6
HHC S S 15 56 16.0 -2.8
HHC sS sS 15 56 29.8 -3.0
HHC SS SnSn 15 56 44.6 +13
HHC PMZ
comp=Z,19nm,1.0s
HHC PMZ
comp=Z,220nm,4.7s
HHC LN
comp=Z,220nm,9.3s
HHC LE
comp=Z,270nm,9.8s
HHC LZ
comp=Z,230nm,13.7s
HYB Hyderabad 19.04 213 *e*P P 15 52 47.6 +1.3
ULN Ulaanbaatar 19.29 38 *ce*P Pn 15 52 50.4 +0.2
ULN pmax pmax
comp=Z,12nm,0.9s
ULN Ulaanbaatar 19.29 38 *e*Pn Pn 15 52 49.5 -0.6
comp=Z,19nm,1.1s
ZAK Zakamensk 19.40 28 *e*P Pn 15 52 50.3 -1.2
ZAK pmax pmax
comp=Z,7.0nm,1.2s
MOY Mondy 19.68 22 *e*P Pn 15 52 54.9 +0.1
MOY pmax pmax
comp=Z,33nm,3.6s
NONG Nongkai 20.02 138 P Pn 15 52 58.4 -0.4
comp=Z,65nm,1.0s
PBKT Sadao Pong 20.16 146 P Pn 15 53 00.1 -0.4
comp=Z,18nm,1.5s,comp=Z,2μm
ZAA0 Zalesovo Array 20.32 352 *e*P P 15 52 59.2 -0.8
ZALV Zalesovo Beam 20.32 352 P P 15 52 59.4 -0.6
comp=Z,9.5nm,0.8s,baz=171,slow=12,SNR=23
ZALV LR LR 16 01 18.5
comp=Z,162nm,19.0s,baz=248,slow=38
TLY Talaya 20.59 26 *e*P Pn 15 53 05.9 +0.6
TLY pmax pmax
comp=Z,11nm,1.5s
POO Poona 20.62 226 *e*P P 15 53 04.6 +1.0
CHAI Chaiyaphum 21.22 144 P P 15 53 13.8 +3.8
comp=Z,4.2nm,0.9s
KHON Khomkaen 21.27 142 P P 15 53 11.5 +1.0
comp=Z,11nm,0.9s,comp=Z,858nm
SKNT Sakolnakorn 21.36 138 P P 15 53 15.4 +3.9
comp=Z,28nm,2.0s
NVS Novosibirsk 21.39 350 *e*P P 15 53 08.7 -2.8
WHN Wuhan 21.40 92 ||P P 15 53 14.9 +3.1
BJI Beijing 22.26 66 P P 15 53 22.5 +1.6
BJI S S 15 57 22.4 -1.5
BJI PMZ
comp=Z,10.0nm,0.9s
BJI PMZ
comp=Z,330nm,8.3s
BJI LN
comp=Z,220nm,15.7s
BJI LE
comp=Z,440nm,11.2s
BJI LZ
comp=Z,150nm,14.3s
TIA Tai'an 22.83 76 ||P P 15 53 27.5 +0.4
TIA PMZ
comp=Z,10.0nm,0.6s
SRAK Srakaew 22.89 147 P P 15 53 32.7 +4.9
comp=Z,56nm,1.0s
VOSK Vostochnaya 22.98 331 *e*P P 15 53 28.3 -0.1
VOSK pmax pmax
comp=Z,11nm,0.9s
VOSK Vostochnaya 22.98 331 *e*P P 15 53 28.3 -0.1
comp=Z,11nm,0.9s
BVAR Borovoye Array 23.44 330 P P 15 53 33.4 +0.3
comp=Z,4.0nm,0.9s,baz=128,slow=9.6,SNR=14
BRVK Borovoye 23.51 330 *i* P P 15 53 34.8 +1.1
BRVK pmax pmax
comp=Z,13nm,0.9s
GEYT Alibeck 25.55 288 P P 15 53 53.1 +0.3
comp=Z,9.9nm,0.9s,baz=118,slow=8.9,SNR=12
GEYT LR LR 16 05 59.2
comp=Z,341nm,18.4s,baz=80,slow=41
ABKAR Akbulak array 26.61 314 *e*P P 15 54 00.8 -1.4
AKTO Aktyubinsk 28.23 315 LR LR 16 07 01.2
comp=Z,249nm,19.1s,baz=110,slow=40
BOD Bodaibo 29.15 27 *e*P P 15 54 22.8 -1.9
BOD pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 30.86 326 *d*/*i*P P 15 54 40.5 +0.7
ARU 15 57 32.8
ARU S S 15 59 42.8 +1.5
ARU SS SnSn 16 01 20.7 -1.3
ARU pmax pmax
comp=Z,5.0nm,1.2s
KSAR Wonju Array Be 31.37 72 P P 15 54 44.9 +0.4
KSAR Wonju Array Be 31.37 72 P P 15 54 44.9 +0.4
KS01 Wonju Array Si 31.37 72 *e*P P 15 54 44.4 -0.2
KSRS Korea Array 31.40 72 P P 15 54 44.9 +0.1
comp=Z,1.8nm,0.7s,baz=275,slow=9.4,SNR=8.1
VLA Vladivostok 34.23 62 /*i*P P 15 55 08.5 -1.0
VLA *i* *PP pP 15 55 18.2 -0.9
VLA pmax pmax
comp=Z,7.0nm,0.9s
USRK Ussuriysk Ar. 34.34 60 P P 15 55 11.1 +0.6
comp=Z,4.2nm,0.8s,baz=263,slow=7.5,SNR=9.2
KLR Kul'dur 34.74 51 P P 15 55 14.5 +0.6
comp=Z,4.5nm,0.9s,baz=274,slow=9.5,SNR=7.3
NRIK Noril'sk 35.52 359 P P 15 55 20.4 +0.1
comp=Z,5.7nm,0.7s,baz=166,slow=5.6,SNR=7.8
YAK Yakutsk 37.97 30 *i* P P 15 55 41.1 -0.1
YAK pmax pmax
comp=Z,5.0nm,0.9s
VRH Novokhopyorsk 38.37 312 *e*P P 15 55 45.9 +1.2
VRH pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 39.96 311 *e*P P 15 55 59.1 +1.1
VSR pmax pmax
comp=Z,10.0nm,1.3s
KLMR Klimovskoe 41.71 326 *e*P P 15 56 10.4 -1.9
KLMR *e* 15 57 45.7
KLMR pmax pmax
comp=Z,11nm,0.9s
OBN Obninsk 41.99 317 *e*P P 15 56 15.2 +0.6
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,69nm,16.0s
DAV Davao City (W) 42.79 120 LR LR 16 14 50.5
comp=Z,148nm,18.6s,baz=325,slow=37

TIXI Tiksi 43.15 17 P P 15 56 23.5 -0.4
comp=Z,6.0nm,0.8s,baz=233,slow=3.9,SNR=15
TIXI Tiksi 43.15 17 *i* P P 15 56 23.2 -0.6
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 43.15 17 *e*P P 15 56 23.2 -0.6
comp=Z,5.9nm,0.8s
BR131 Keskin Array S 44.38 294 *e*P P 15 56 35.7 +1.3
BRTR Keskin Array B 44.38 294 P P 15 56 35.4 +1.0
comp=Z,4.2nm,0.8s,baz=96,slow=7.6,SNR=25
BRTR PcP PP 15 58 19.1 +1.0
comp=Z,0.7nm,1.0s,baz=66,slow=4.9,SNR=3.8
ANTO Ankara 44.99 295 *e*P P 15 56 40.6 +1.4
ANTO pmax pmax
comp=Z,74nm,1.7s
ANTO Ankara 44.99 295 *e*P P 15 56 40.6 +1.4
comp=Z,74nm,1.7s
BR231 Keskin MP Arra 45.01 295 *e*P P 15 56 36.6 -2.8
AKASG Malin Array Be 46.23 310 P P 15 56 49.3 +0.6
comp=Z,5.5nm,0.8s,baz=79,slow=7.4,SNR=7.6
AKASG LR LR 16 18 20.6
comp=Z,117nm,19.8s,baz=65,slow=39
KIEV Kiev 46.24 310 *e*P P 15 56 48.8 0.0
KIEV pmax pmax
comp=Z,14nm,1.3s
KIEV Kiev 46.24 310 *e*P P 15 56 48.8 0.0
comp=Z,14nm,1.3s
SORM Soroca 46.98 307 ||*i*P P 15 56 55.3 +0.7
FINES FINESS Array B 48.21 325 P P 15 57 03.6 -0.4
comp=Z,2.7nm,0.7s,baz=79,slow=12,SNR=7.4
TESR Tescani 48.33 305 ||*i*P P 15 57 06.4 +1.2
VRI Vrincioaia 48.37 304 ||*i*P P 15 57 08.5 +3.0
PLOR Plostina 48.43 304 ||*i*P P 15 57 08.6 +2.6
MLR Muntele Rosu 48.97 304 ||*i*P P 15 57 12.0 +1.7
MLR Muntele Rosu 48.97 304 *e*P P 15 57 10.7 +0.4
MLR pmax pmax
comp=Z,35nm,1.0s
MLR Muntele Rosu 48.97 304 *e*P P 15 57 10.7 +0.4
comp=Z,35nm,1.0s
BURAR Bucovina Array 49.14 306 ||*i*P P 15 57 13.1 +1.6
BUR08 Bucovina Ar. S 49.15 306 *e*P P 15 57 11.7 +0.1
DOPB Dopca 49.28 304 ||*i*P P 15 57 15.4 +2.9
ARCES ARCESS Array B 49.58 336 P P 15 57 14.1 -0.2
comp=Z,8.8nm,1.2s,baz=105,slow=6.6,SNR=3.2
VOIR 49.60 304 ||*i*P P 15 57 17.3 +2.3
ARCR ARCALIA 49.80 306 ||*i*P P 15 57 18.6 +2.2
KOLS Kolonicke sedl 50.89 308 *e*P P 15 57 26.1 +1.5
KOLS pmax pmax
comp=Z,6.0nm,1.3s
KOLS Kolonicke sedl 50.89 308 *e*P P 15 57 26.1 +1.5
CRVS Cervenica-Dubn 51.42 309 *e*P P 15 57 31.1 +2.5
CRVS Cervenica-Dubn 51.42 309 *e*P P 15 57 31.1 +2.5
STHS Stebnicka Huta 51.48 309 *e*P P 15 57 30.5 +1.5
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 51.48 309 *e*P P 15 57 30.5 +1.5
KECS Kecovo 52.13 308 *e*P P 15 57 36.3 +2.4
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 52.13 308 *e*P P 15 57 36.3 +2.4
OJC Ojcow 52.27 310 *e*P P 15 57 37.5 +2.6
OJC Ojcow 52.27 310 *e*P P 15 57 37.5 +2.6
VYHS Vyhne 53.21 308 *e*P P 15 57 43.2 +1.3
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 53.21 308 *e*P P 15 57 43.2 +1.3
MORC Moravsky Berou 53.78 310 *e*P P 15 57 45.0 -1.1
MORC pmax pmax
comp=Z,33nm,1.1s
MORC Moravsky Berou 53.78 310 *e*P P 15 57 45.0 -1.1
comp=Z,33nm,1.1s
BILL Bilibino 54.20 27 *e*P P 15 57 48.5 -0.3
BILL *e* 15 58 54.6
BILL *e* 15 59 51.8
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,69nm,17.0s
KSP Ksiaz 54.35 312 *e*P P 15 57 52.4 +2.2
KSP Ksiaz 54.35 312 *e*P P 15 57 52.4 +2.2
DPC Dobruska-Polom 54.43 311 *e*P P 15 57 53.2 +2.4
DPC Dobruska-Polom 54.43 311 *e*P P 15 57 53.2 +2.4
UPC Upice 54.59 311 *e*P P 15 57 54.3 +2.3
UPC Upice 54.59 311 *e*P P 15 57 54.3 +2.3
SOEI Soe 54.62 136 *e*P P 15 57 51.6 -1.0
comp=Z,92nm,0.9s
NC405 NORSAR Array S 55.14 325 *e*P P 15 57 54.9 -0.8
NB2 NORSAR Subarra 55.39 325 P P 15 57 56.6 -0.9
comp=Z,6.6nm,0.8s,baz=81,slow=7.4
NOA NORSAR Array B 55.39 325 P P 15 57 56.7 -0.9
comp=Z,5.1nm,0.8s,baz=82,slow=7.2,SNR=17
NOA LR LR 16 21 10.8
comp=Z,28nm,19.2s,baz=30,slow=36
PVCC Panska Ves 55.49 312 *e*P P 15 58 00.6 +2.2
PVCC Panska Ves 55.49 312 *e*P P 15 58 00.6 +2.2
GOPC GO Pecny, Ondr 55.49 311 *e*P P 15 58 00.6 +2.1
GOPC GO Pecny, Ondr 55.49 311 *e*P P 15 58 00.6 +2.1
NC204 NORSAR Array S 55.57 325 *e*P P 15 57 58.5 -0.3
PRU Pruhonice 55.63 311 *e*P P 15 58 01.4 +2.0
PRU Pruhonice 55.63 311 *e*P P 15 58 01.4 +2.0
CLL Collm 56.27 313 *i* P P 15 58 04.9 +0.9
comp=Z,10.0nm,1.5s
CLL Collm 56.27 313 *i* P P 15 58 04.9 +0.9
CLL pmax pmax
comp=Z,10.0nm,1.5s
GEC2 GERESS Array S 56.44 310 *e*P P 15 58 05.1 -0.3
GEC2 pmax pmax
comp=Z,12nm,0.9s
GEC2 GERESS Array S 56.44 310 *e*P P 15 58 05.0 -0.3
comp=Z,12nm,0.9s
GERES GERESS Array B 56.44 310 P P 15 58 05.5 +0.1
comp=Z,6.4nm,0.8s,baz=73,slow=4.6,SNR=33
GEA0 GERESS Array S 56.44 310 *e*P P 15 58 05.2 -0.2
KHC Kasperske Hory 56.45 310 *e*P P 15 58 07.3 +2.0
KHC *e*PCP PcP 15 59 02.0 0.0
KHC Kasperske Hory 56.45 310 *e*P P 15 58 07.3 +2.0
NKC Novy Kostel 56.88 312 *e*P P 15 58 10.4 +2.0
NKC Novy Kostel 56.88 312 *e*P P 15 58 10.4 +2.0
KMBO Kilima Mbogo 59.99 246 P P 15 58 31.1 +0.3
comp=Z,1.1nm,0.6s,baz=39,slow=11,SNR=3.7
FITZ Fitzroy Crossi 62.20 140 P P 15 58 45.1 -0.2
comp=Z,4.3nm,1.0s,baz=310,slow=7.9,SNR=3.2
WRA Warramunga Arr 68.57 134 P P 15 59 26.5 -0.1
comp=Z,2.7nm,1.0s,baz=327,slow=6.6,SNR=24
ASAR Alice Springs 71.21 137 P P 15 59 42.3 -0.5
comp=Z,1.9nm,0.7s,baz=327,slow=5.5,SNR=18
AS01 Alice Springs 71.24 137 *e*P P 15 59 42.7 -0.2
ESDC Sonseca Array 71.59 306 P P 15 59 45.3 +0.3
comp=Z,0.2nm,0.3s,baz=15,slow=5.3,SNR=4.1
ILAR Eielson Array 72.35 22 P P 15 59 48.1 -0.9
comp=Z,1.0nm,1.0s,baz=297,slow=5.6,SNR=5.7
SML Sawmill 73.91 25 *e*P P 15 59 58.5 +0.1
SML pmax pmax
comp=Z,8.0nm,0.6s
SML Sawmill 73.91 25 *e*P P 15 59 58.5 +0.1
comp=Z,8.2nm,0.6s
TOA0 Torodi Ar. Sit 80.87 280 *e*P P 16 00 36.0 -2.0
TORD Torodi Ar. Bea 80.87 280 P P 16 00 36.3 -1.7
comp=Z,1.4nm,0.9s,baz=53,slow=4.4,SNR=7.3
STKA Stephens Creek 81.85 137 P P 16 00 41.1 -1.7
comp=Z,3.4nm,0.8s,baz=315,slow=9.0,SNR=4.1
YKA Yellowknife Ar 82.04 11 P P 16 00 42.0 -1.4
comp=Z,0.3nm,0.7s,baz=340,slow=4.6,SNR=3.8
YKA Yellowknife Ar 82.04 11 P P 16 00 42.0 -1.4
SAML Samuel 144.59 308 *e*PKPdf PKPab 16 07 58.0 -1.1
CPUP Villa Florida 150.30 276 PKPbc PKPbc 16 08 15.7 +0.7
comp=Z,2.8nm,0.8s,baz=74,slow=3.9,SNR=5.3

*ISCJB **22** 15:53:26.2±0.7, 57.53S±0.08×147.9E±0.3, h10km, mb4.9/6, MS3.8/4, Error ellipse: s-maj=22.6km s-min=11.0km az=2.9*
*NEIC **22** 15:53:30.6±0.8, 57.76S×147.92E, h10km, mb5.2/2, Error ellipse: s-maj=42.4km s-min=13.9km az=91.0*
*IDC **22** 15:53:30.2±1.0, 57.13S×147.70E, h0km, mb4.4/4, mb1 4.5/4, mb1mx4.1/25, mbtmp4.4/4, MS3.8/4, Ms1 3.9/4, ms1mx3.5/21, Error ellipse: s-maj=38.3km s-min=28.2km az=95.0*
ISC 22 15:53:29.4±0.6, 57.51S±0.09×148.0E±0.2, h10km, n26, σ1s86/23, mb4.7/6, MS3.8/4, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAU	**Tasmania Unive**	**14.62**	**358**	*e*P	**P**	**15 57 01.6**	**-0.9**
CASY	**Casey**	**19.42**	**228**	*e*P	**P**	**15 57 54.2**	**-1.2**
	3.2nm,1.3s						
VNDA	**Vanda**	**20.66**	**172**	P	**P**	**15 58 07.0**	**-1.8**
	8.4nm,1.2s,baz=344,slow=13,SNR=15						
VNDA				LR	LR	16 04 23.9	
	comp=Z,193nm,21.0s,baz=302,slow=31						
STKA	**Stephens Creek**	**26.01**	**347**	P	**P**	**15 59 02.8**	**+0.5**
	14nm,1.3s,baz=151,slow=9.1,SNR=5.6						
URZ	**Urewera**	**27.07**	**57**	P	**P**	**15 59 13.0**	**+1.2**
	16nm,1.0s,baz=175,slow=4.3,SNR=5.7						
URZ				LR	LR	16 09 27.9	
	comp=Z,297nm,18.5s,baz=218,slow=35						
URZ	**Urewera**	**27.07**	**57**	*e*P	**P**	**15 59 10.3**	**-1.5**
	68nm,1.7s						
H01W1	**Cape Leeuwin H**	**32.03**	**300**	T	T	16 33 52.5	
	baz=145,slow=75,SNR=27						
H01W2	**Cape Leeuwin H**	**32.04**	**300**	T	T	16 33 46.3	
	baz=145,slow=75,SNR=20						
H01W3	**Cape Leeuwin H**	**32.05**	**300**	T	T	16 33 47.2	
	baz=145,slow=75,SNR=28						
QSPA	**South Pole Qui**	**32.59**	**180**	*e*P	**P**	**15 59 59.3**	**-1.4**
ASAR	**Alice Springs**	**35.32**	**337**	P	**P**	**16 00 22.3**	**-2.3**
	1.7nm,1.1s,baz=163,slow=9.1,SNR=12						
ASAR				PcP	PcP	16 02 57.2	+2.4
	1.3nm,1.0s,baz=161,slow=4.0,SNR=4.7						
MAW	**Mawson**	**37.34**	**219**	LR	LR	16 14 53.0	
	comp=Z,295nm,21.6s,baz=54,slow=34						
CTAO	**Charters Tower**	**37.39**	**357**	*e*P	**P**	**16 00 41.2**	**-1.1**
	65nm,1.1s						
WRA	**Warramunga Arr**	**38.85**	**339**	P	**P**	**16 00 52.1**	**-2.4**
	9.6nm,1.0s,baz=165,slow=7.5,SNR=14						
WRA				PcP	PcP	16 03 06.2	+0.7
	1.4nm,0.9s,baz=166,slow=2.9,SNR=5.1						
WRAB	**Tennant Creek**	**38.86**	**339**	*e*P	**P**	**16 00 52.4**	**-2.2**
SNAA	**Sanae**	**49.50**	**192**	*e*P	**P**	**16 02 18.6**	**-0.8**
	436nm,1.3s						
CMAR	**Chiang Mai Arr**	**85.95**	**314**	LR	LR	16 43 36.6	
	comp=Z,33nm,19.5s,baz=165,slow=35						
TORD	**Torodi Ar. Bea**	**128.89**	**224**	PKP	**PKPdf**	**16 12 39.5**	**+2.4**
	0.7nm,0.9s,baz=167,slow=2.5,SNR=3.6						
BRTR	**Keskin Array B**	**135.06**	**276**	PKP	**PKPdf**	**16 12 49.1**	**+1.0**
	0.3nm,0.5s,baz=126,slow=3.7,SNR=2.8						
AKASG	**Malin Array Be**	**144.60**	**286**	PKP	**PKPdf**	**16 13 05.7**	**+0.8**
	2.4nm,0.8s,baz=104,slow=2.4,SNR=6.3						
CUC	**Castrocucco**	**144.84**	**261**	PKP	**PKPab**	**16 13 04.2**	**-0.6**
KEST	**Kesra**	**145.01**	**250**	PKP	**PKPdf**	**16 13 08.0**	**+1.8**
	21nm,1.0s,baz=247,slow=2.6,SNR=9.4						
FINES	**FINESS Array B**	**151.11**	**302**	PKPbc	**PKPbc**	**16 13 22.7**	**+1.6**
	1.9nm,0.7s,baz=48,slow=2.8,SNR=5.0						
GERES	**GERESS Array B**	**151.78**	**272**	PKPbc	**PKPbc**	**16 13 26.3**	**+3.1**
	0.9nm,0.5s,baz=169,slow=0.7,SNR=7.3						
ARCES	**ARCESS Array B**	**152.89**	**319**	PKPbc	**PKPbc**	**16 13 28.2**	**+3.3**
	1.7nm,0.8s,baz=33,slow=3.5,SNR=3.6						
ESDC	**Sonseca Array**	**154.57**	**238**	PKPab	**PKPab**	**16 13 44.7**	**+0.4**
	0.4nm,0.4s,baz=164,slow=2.5,SNR=4.7						

*IDC **22** 16:00:00.4±1.2, 30.35S×177.57W, h0km, mb4.3/5, mb1 4.4/7, mb1mx4.0/30, mbtmp4.3/7, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/28, Error ellipse: s-maj=34.0km s-min=20.8km az=111.0*
*ISCJB **22** 16:00:04.5±1.0, 30.37S±0.05×177.9W±0.2, h35km, mb4.4/7, Error ellipse: s-maj=23.8km s-min=6.4km az=10.3*
*NEIC **22** 16:00:06.4±2.2, 30.22S×177.64W, h38km±17km, mb4.5/3, Error ellipse: s-maj=20.7km s-min=15.4km az=127.0*
ISC 22 16:00:06.1±0.9, 30.29S±0.07×177.9W±0.2, h35km, n28, σ1s23/25, mb4.4/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.04**	**357**	Pn	**Pn**	**16 00 23.7**	**-0.4**
	697nm,0.3s,baz=115,slow=9.1,SNR=64						
RAO				Sn	**Sn**	**16 00 37.0**	**-0.5**
	2μm,0.3s,baz=86,slow=19,SNR=32						
RAO	**Raoul Island**	**1.04**	**357**	Pn	**Pn**	**16 00 23.7**	**-0.4**
RAO				*e*Sg	**Sn**	**16 00 36.5**	**-1.0**
RAO				Sn	Sn	16 00 37.0	-0.5
URZ	**Urewera**	**8.97**	**206**	Pn	**Pn**	**16 02 11.3**	**-1.8**
	0.4nm,0.3s,baz=263,slow=5.9,SNR=6.7						
URZ				Sn	**Sn**	**16 03 52.2**	**-0.6**
	2.0nm,0.3s,baz=18,slow=19,SNR=5.5						
URZ	**Urewera**	**8.97**	**206**	*e*Pn	**Pn**	**16 02 12.6**	**-0.5**
URZ				Sn	**Sn**	**16 03 52.2**	**-0.6**
KHZ	**Kahutara**	**13.93**	**207**	*e*Pn	**Pn**	**16 03 18.9**	**-2.1**
RPZ	**Rata Peaks**	**16.04**	**210**	Pn	**Pn**	**16 03 48.0**	**-0.9**
	0.2nm,0.3s,baz=180,slow=20,SNR=2.2						
RPZ				Sn	Sn	16 06 31.9	-14
	0.2nm,0.3s,baz=97,slow=19,SNR=1.8						
DZM	**Mont Dzumac**	**16.29**	**296**	LR	LR	16 08 47.5	
	comp=Z,194nm,20.2s,baz=177,slow=32						
DZM	**Mont Dzumac**	**16.29**	**296**	Pn	**Pn**	**16 03 50.2**	**-2.1**
	15nm,1.0s						
STKA	**Stephens Creek**	**34.62**	**257**	P	**P**	**16 06 54.6**	**+2.6**
	5.5nm,0.8s,baz=107,slow=9.6,SNR=9.3						
ASAR	**Alice Springs**	**43.24**	**267**	P	**P**	**16 08 05.2**	**+0.9**
	1.2nm,0.6s,baz=104,slow=6.9,SNR=37						
WRAB	**Tennant Creek**	**44.21**	**272**	*e*P	**P**	**16 08 14.1**	**+2.0**
	3.1nm,0.5s						
WRA	**Warramunga Arr**	**44.22**	**272**	P	**P**	**16 08 13.3**	**+1.1**
	2.4nm,0.5s,baz=110,slow=8.1,SNR=56						
FITZ	**Fitzroy Crossi**	**52.48**	**270**	P	**P**	**16 09 16.5**	**+0.7**
	2.6nm,0.8s,baz=112,slow=5.4,SNR=3.0						
QSPA	**South Pole Qui**	**59.82**	**180**	*e*P	**P**	**16 10 08.4**	**+0.7**
	19nm,0.8s						
PETK	**Petropavlovsk-**	**85.74**	**346**	P	**P**	**16 12 41.4**	**+0.2**
	4.2nm,0.7s,baz=91,slow=9.1,SNR=4.1						
H10S3	**ASCENSION HYDR**	**87.77**	**155**	T	T	18 53 59.9	
	baz=205,slow=74,SNR=5.4						
H10S2	**ASCENSION HYDR**	**87.77**	**155**	T	T	18 53 59.8	
	baz=205,slow=74,SNR=4.6						
H10S1	**ASCENSION HYDR**	**87.79**	**155**	T	T	18 54 01.0	
	baz=205,slow=74,SNR=5.1						
H10N3	**ASCENSION HYDR**	**88.85**	**154**	T	T	18 55 22.0	
	baz=203,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**88.86**	**154**	T	T	18 55 23.8	
	baz=203,slow=75,SNR=4.9						
H10N2	**ASCENSION HYDR**	**88.87**	**154**	T	T	18 55 12.9	
	baz=203,slow=75,SNR=7.0						
FINES	**FINESS Array B**	**145.09**	**340**	PKPbc	**PKPab**	**16 19 38.3**	**-0.3**
	6.0nm,0.8s,baz=43,slow=3.4,SNR=16						
NB2	**NORSAR Subarra**	**148.66**	**352**	PKP	**PKPbc**	**16 19 48.7**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**148.66**	**352**	PKPbc	**PKPbc**	**16 19 48.3**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=13,slow=4.4,SNR=5.0						
AKASG	**Malin Array Be**	**151.29**	**323**	PKPbc	**PKPbc**	**16 19 54.5**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=46,slow=2.7,SNR=3.8						
BRTR	**Keskin Array B**	**152.66**	**299**	PKPbc	**PKPbc**	**16 19 59.3**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=134,slow=5.3,SNR=5.9						
GERES	**GERESS Array B**	**159.48**	**338**	PKPab	**PKPab**	**16 20 40.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=13,slow=9.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**162.93**	**179**	PKPab	**PKPab**	**16 20 54.7**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=303,slow=38,SNR=2.6						

*NIED **22** 16:01:00, 40.10N×142.90E, h38km, Mw3.8 Best double couple: M0 5.98000×10^14 NP1: φ=137.00000°, δ=38.00000°, λ=18.00000°. NP2: φ=33.00000°, δ=79.00000°, λ=127.00000°.*
JMA 22 16:01:04.2±0.2, 40.11N×142.91E, h24km±3km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.82**	**258**	P	Pb	16 01 19.7	-0.1
JTH				*e*S	Sb	16 01 30.7	+0.2
MIYJ	**Miyakonagasawa**	**0.99**	**238**	P	Pn	16 01 22.2	-0.4
JANG	**Nango**	**1.10**	**284**	P	Pn	16 01 23.9	-0.2
JKZ	**Kuzumaki**	**1.22**	**265**	P	Pn	16 01 25.8	0.0
JOM	**Ohasama**	**1.40**	**243**	P	Pn	16 01 28.7	+0.5
JTM	**Tenmabayashi**	**1.56**	**296**	P	Pb	16 01 31.6	-0.8
JTM				*e*S	Sb	16 01 51.3	-0.4
JAH	**Hinai**	**1.75**	**273**	P	Pb	16 01 34.3	-1.2
JOT	**Ohata**	**1.90**	**313**	P	Pn	16 01 36.4	+1.3
JEM	**Erimo**	**1.91**	**6**	*e*S	Sn	16 01 59.8	+1.2

IDC 22 16:09:35.4±3.2, 4.88S×133.78E, h0km, mb3.5/1, mb1 4.0/4, mb1mx3.6/28, mbtmp3.8/4, ML3.9/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=129.3km s-min=30.1km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**14.01**	**109**	LR	LR	16 19 55.3	
	comp=Z,136nm,19.1s,baz=182,slow=44						

WRA	**Warramunga Arr**	**14.98**	**178**	Pn	Pn	16 13 06.9	-1.7
	0.4nm,0.3s,baz=360,slow=13,SNR=25							
WRA				Sn	Sn	16 15 47.7	-7.7
	0.2nm,0.3s,baz=3.7,slow=20,SNR=4.8							
FITZ	**Fitzroy Crossi**	**15.37**	**211**	Pn	Pn	16 13 12.8	-0.9
	0.3nm,0.3s,baz=39,slow=13,SNR=11							
FITZ				Sn	Sn	16 15 55.9	-8.8
	0.6nm,0.3s,baz=148,slow=15,SNR=6.9							
ASAR	**Alice Springs**	**18.68**	**180**	P	Pn	16 13 56.4	+0.8
	0.7nm,0.3s,baz=6.8,slow=12,SNR=38							
ASAR				S	Sn	16 17 14.0	-11
	0.0nm,0.3s,baz=4.1,slow=31,SNR=3.3							
KSRS	**Korea Array**	**42.47**	**353**	LR	LR	16 34 10.9		
	comp=Z,47nm,20.0s,baz=336,slow=35							
MKAR	**Makanchi Array**	**68.60**	**325**	P	P	16 20 40.3	0.0
	0.3nm,0.5s,baz=118,slow=7.7,SNR=4.6							

IDC 22 16:32:45.8±5.2, 29°69S×178°50W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/29, mbtmp3.5/2, Error ellipse: s-maj=223.7km s-min=18.1km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.67**	**49**	Pn	Pn	16 33 02.5	-0.1
	126nm,0.3s,baz=67,slon=23,SNR=11						
RAO				Sn	Sn	16 33 17.1	+3.3
	225nm,0.3s,baz=35,slow=19,SNR=9.1						
ASAR	**Alice Springs**	**42.72**	**266**	P	P	16 40 44.7	-0.3
	0.2nm,0.5s,baz=107,slow=7.2,SNR=7.3						
WRA	**Warramunga Arr**	**43.64**	**272**	P	P	16 40 52.2	-0.3
	0.4nm,0.3s,baz=110,slow=8.1,SNR=17						
FINES	**FINESS Array B**	**144.33**	**340**	PKP	PKPdf	16 52 23.8	+0.6
	1.0nm,0.8s,baz=23,slow=4.5,SNR=3.4						

*IDC **22** 16:39:41.1±1.6, 38°.46N×144°.85E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.5/46, mbtmp3.8/7, ML3.6/3, Error ellipse: s-maj=36.6km s-min=23.6km az=70.0*
*ISCJB **22** 16:39:42.7±0.7, 38°.69N±0°.03×144°.76E±0°.05, h29km, mb3.8/4, Error ellipse: s-maj=6.2km s-min=4.8km az=18.3*
*JMA **22** 16:39:46.4±0.1, 38°.63N×144°.54E, h36km, M3.8*
ISC 22 16:39:44.7±1.1, 38°59N±0°.05×144°71E±0°.09, h29km, n25, σ2°28/35, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.42**	**283**	P	Pn	16 40 23.2	+0.8
OFUJ				eS	Sn	16 40 49.7	-1.4
MIYJ	**Miyakonagasawa**	**2.45**	**295**	P	Pn	16 40 23.5	+0.7
MIYJ				eS	Sn	16 40 50.5	-1.3
JMK	**Ichinoseki**	**2.75**	**279**	P	Pn	16 40 28.0	+1.1
JMK				eS	Sn	16 40 58.5	-0.6
JOM	**Ohasama**	**2.80**	**289**	P	Pn	16 40 28.8	+1.2
JOM				S	Sn	16 41 00.6	+0.2
JANG	**Nango**	**3.04**	**307**	S	Sn	16 41 05.6	-0.8
JYK	**Kaneyama**	**3.42**	**277**	P	Pn	16 40 37.8	+1.7
JYK				S	Sn	16 41 15.9	+0.3
JFT	**Otama**	**3.61**	**254**	P	Pn	16 40 40.4	+1.6
JFT				S	Sn	16 41 20.8	+0.3
JOT	**Ohata**	**3.96**	**316**	S	Sn	16 41 27.9	-1.0
JNBK	**Urakawa-nobuka**	**3.98**	**339**	S	Sn	16 41 28.8	-0.5
JCH	**Churui**	**4.15**	**346**	S	Sn	16 41 30.8	-2.7
JKB	**Kayabe**	**4.33**	**321**	P	Pn	16 40 51.2	+2.6
JKB				S	Sn	16 41 36.9	-1.2
NEM2	**Nemuro 2**	**4.83**	**9**	P	Pn	16 40 53.8	-1.7
NEM2				S	Sn	16 41 45.3	-5.1
JRY	**Ryogami san**	**5.29**	**243**	P	Pn	16 41 02.5	+0.6
JRY				S	Sn	16 41 59.3	-2.7
JTKR	**Abashiri--Toko**	**5.41**	**354**	P	Pn	16 41 03.2	-0.2
JTKR				S	Sn	16 42 01.2	-3.4
MJAR	**Matsushiro Arr**	**5.55**	**250**	Pn	Pn	16 41 06.7	+1.3
	1.2nm,0.3s,baz=50,slow=9.8,SNR=12						
MJAR				Sn	Sn	16 42 10.5	+2.2
	1.0nm,0.3s,baz=152,slow=7.0,SNR=4.4						
JOD2	**Odawara 2**	**5.59**	**235**	eS	Sn	16 42 05.9	-3.5
ASAJ	**Asahikawa**	**5.74**	**345**	Pn	Pn	16 41 10.0	+2.0
	1.2nm,0.3s,baz=166,slow=14,SNR=30						
ASAJ				Sn	Sn	16 42 10.3	-2.6
	0.7nm,0.3s,baz=90,slow=16,SNR=4.2						
JHJ	**Hachijo jima 2**	**6.77**	**218**	Pn	Pn	16 41 20.6	-1.5
	5.8nm,0.3s,baz=241,slow=19,SNR=2.9						
JHJ				Sn	Sn	16 42 30.9	-7.3
	5.6nm,0.3s,baz=252,slow=20,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**26.87**	**128**	T	T	17 13 18.1	
	baz=320,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**26.88**	**128**	T	T	17 13 20.2	
	baz=320,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**26.89**	**128**	T	T	17 13 19.7	
	baz=320,slow=75,SNR=6.9						
MKAR	**Makanchi Array**	**45.52**	**301**	P	P	16 48 03.1	+1.6
	0.3nm,0.7s,baz=78,slow=13,SNR=3.3						
CTA	**Charters Tower**	**58.39**	**178**	P	P	16 49 36.8	-0.7
	6.6nm,1.1s,baz=9.5,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**59.03**	**191**	P	P	16 49 42.2	+0.2
	0.7nm,0.7s,baz=13,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**62.75**	**191**	P	P	16 50 07.9	+0.6
	0.3nm,0.7s,baz=17,slow=6.9,SNR=4.5						

*ISCJB **22** 16:40:03.9±0.5, 40°.54N±0°.02×35°.09E±0°.04, h5km±5km, Error ellipse: s-maj=4.8km s-min=3.4km az=24.2*
*DDA **22** 16:40:03.2, 40°.49N×35°.08E, h7km, Md3.1*
*ISK **22** 16:40:03.4, 40°.55N×35°.10E, h6km, MD2.8*
*CSEM **22** 16:40:04.2±0.1, 40°.54N×35°.06E, h10km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.2km az=103.0*
ISC 22 16:40:03.4±1.2, 40°52N±0°.02×35°09E±0°.02, h4km±12km, n38, σ0°45/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COAL	**Corum-Alaca**	**0.28**	**197**	P	Pb	16 40 10.4	-0.6
COAL				S	Sb	16 40 14.8	-1.2
COAL	**Corum-Alaca**	**0.28**	**197**	*i* P	Pb	16 40 10.4	-0.6
COAL				*i* S	Sb	16 40 14.8	-1.2
CORM	**Corum**	**0.49**	**226**	*e*Pg	Pb	16 40 14.4	-0.2
CORM				*e*Sg	Sb	16 40 21.4	-0.8
CORM	**Corum**	**0.49**	**226**	*e*Pg	Pb	16 40 14.4	-0.2
CORM				*e*Sg	Sb	16 40 21.4	-0.8
HAVZ	**Havza**	**0.73**	**40**	P	Pb	16 40 19.0	+0.3
HAVZ				S	Sb	16 40 28.9	-0.1
HAVZ	**Havza**	**0.73**	**40**	*i* P	Pb	16 40 18.9	+0.3
HAVZ				*i* S	Sb	16 40 28.9	-0.1
YOZ	**Yozgat**	**0.90**	**169**	*e*Pg	Pb	16 40 21.9	+0.3
YOZ	**Yozgat**	**0.90**	**169**	*e*Pg	Pb	16 40 21.9	+0.3
BOYT	**Boyabat**	**0.91**	**351**	P	Pb	16 40 21.1	-0.7
BOYT				S	Sb	16 40 33.6	-0.7
BOYT	**Boyabat**	**0.91**	**351**	*i* P	Pb	16 40 21.1	-0.7
BOYT				*i* S	Sb	16 40 33.6	-0.7
KVT	**Kavak**	**0.92**	**52**	*e*PG	Pg	16 40 21.0	+0.1
TOS	**Tosya**	**0.96**	**303**	*e*PG	Pg	16 40 21.8	0.0
TOS	**Tosya**	**0.96**	**303**	*e*Pg	Pg	16 40 21.8	0.0
BYBT	**Boyabat**	**0.98**	**346**	*e*PG	Pg	16 40 22.1	0.0
BYBT	**Boyabat**	**0.98**	**346**	*e*Pg	Pg	16 40 22.1	0.0
CDAG	**Cicekdag**	**1.05**	**212**	P	Pb	16 40 24.1	0.0
CDAG				S	Sb	16 40 38.1	-0.2
CDAG	**Cicekdag**	**1.05**	**212**	*i* P	Pb	16 40 24.1	0.0
CDAG				*i* S	Sb	16 40 38.1	-0.2
CANT	**Cankiri**	**1.12**	**275**	*e*PN	Pb	16 40 25.1	-0.3
TOKT	**Tokat**	**1.13**	**100**	*e*PN	Pg	16 40 24.8	-0.2
ILGA	**Ilgaz**	**1.17**	**297**	P	Pb	16 40 26.1	-0.2
ILGA				S	Sb	16 40 41.8	-0.1
ILGA	**Ilgaz**	**1.17**	**297**	*i* P	Pb	16 40 26.1	-0.2
ILGA				*i* S	Sb	16 40 41.8	-0.1
SAMS	**Samsun-Alacam**	**1.18**	**44**	P	Pg	16 40 26.1	+0.1
SAMS				S	Sn	16 40 43.3	+0.2
SAMS	**Samsun-Alacam**	**1.18**	**44**	*i* P	Pg	16 40 26.1	+0.1
SAMS				*i* S	Sn	16 40 43.4	+0.2
ELDT	**Eldivan**	**1.27**	**269**	P	Pb	16 40 27.8	-0.1
ELDT				S	Sb	16 40 44.8	+0.1
ELDT	**Eldivan**	**1.27**	**269**	*i* P	Pb	16 40 27.8	-0.1
ELDT				*i* S	Sb	16 40 44.8	+0.1
CUSAR	**Sarkisla-SIVAS**	**1.41**	**141**	P	Pn	16 40 30.0	0.0
CUSAR				S	Sg	16 40 48.6	-0.2
CUSAR	**Sarkisla-SIVAS**	**1.41**	**141**	*i* P	Pn	16 40 30.0	0.0
CUSAR				*i* S	Sg	16 40 48.6	-0.2
SNOP	**Sinop**	**1.50**	**3**	*e*PN	Pb	16 40 31.4	-0.4
SNOP	**Sinop**	**1.50**	**3**	*e*Pn	Pb	16 40 31.4	-0.4
KAMT	**Kaman**	**1.56**	**223**	*e*PN	Pb	16 40 32.8	-0.1
KAMT	**Kaman**	**1.56**	**223**	*e*Pn	Pb	16 40 32.8	-0.1
BZK	**Bozkurt**	**1.66**	**331**	*e*PN	Pn	16 40 33.3	+0.2
BZK	**Bozkurt**	**1.66**	**331**	*e*Pn	Pn	16 40 33.3	+0.2
AVNS	**Nevsehir-Avano**	**1.72**	**186**	P	Pn	16 40 34.5	+0.3
AVNS				S	Sg	16 40 59.1	+0.4
AVNS	**Nevsehir-Avano**	**1.72**	**186**	*i* P	Pn	16 40 34.5	+0.3
AVNS				*i* S	Sg	16 40 59.1	+0.4
AFSR	**Af˙ar-Bala (A**	**1.89**	**236**	*e*PN	Pn	16 40 37.2	+0.8
SERE	**Sereflikochisa**	**1.96**	**217**	*e*PN	Pn	16 40 38.4	+0.9
SERE	**Sereflikochisa**	**1.96**	**217**	*e*Pn	Pn	16 40 38.4	+0.9

IDC 22 16:43:01.6±3.1, 5.76S×151.12E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/36, mbtmp3.8/4, ML1.0/1, Error ellipse: s-maj=110.9km s-min=40.6km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.34**	**227**	Pn	Pn	16 44 24.3	+1.6
	0.3nm,0.3s,baz=48,slow=15,SNR=1.6						
PMG				Sn	Sn	16 45 26.0	+1.0
	0.9nm,0.3s,baz=180,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**21.56**	**228**	P	P	16 47 53.1	+0.1
	1.2nm,0.5s,baz=54,slow=11,SNR=13						
ASAR	**Alice Springs**	**24.32**	**221**	P	P	16 48 21.0	-0.3
	1.5nm,0.7s,baz=56,slow=9.4,SNR=29						
FITZ	**Fitzroy Crossi**	**27.74**	**242**	P	P	16 48 51.9	-0.3
	1.2nm,0.6s,baz=48,slow=12,SNR=1.5						
TORD	**Torodi Ar. Bea**	**148.99**	**286**	PKPbc	PKPbc	17 02 52.1	-0.6
	1.1nm,1.1s,baz=91,slow=1.6,SNR=2.7						

*DDA **22** 16:51:34.9, 39°.17N×29°.00E, h7km, Md2.6*
*ISK **22** 16:51:34.9, 39°.09N×29°.06E, h8km, MD2.5*
*ISCJB **22** 16:51:35.5±0.6, 39°.10N±0°.04×29°.03E±0°.05, h9km, Error ellipse: s-maj=6.8km s-min=4.0km az=146.7*
*CSEM **22** 16:51:35.5±0.1, 39°.11N×29°.02E, h5km, MD2.5, Error ellipse: s-maj=3.6km s-min=2.7km az=136.0*
ISC 22 16:51:35.1±1.0, 39°10N±0°.03×29°06E±0°.03, h9km, n18, σ0°37/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**258**	P	Pg	16 51 40.8	+0.2
DEMI				S	Sg	16 51 44.0	-0.3
DEMI	**Demirci**	**0.27**	**258**	*i* P	Pg	16 51 40.8	+0.2
DEMI				*i* S	Sg	16 51 44.0	-0.3
GEDZ	**Gediz**	**0.28**	**101**	*e*PG	Pg	16 51 40.9	+0.1
GEDZ	**Gediz**	**0.28**	**101**	*e*Pg	Pg	16 51 40.9	+0.1
GDZ	**Gediz**	**0.33**	**92**	P	Pb	16 51 42.9	-0.4
GDZ				S	Sb	16 51 48.5	-0.3
GDZ	**Gediz**	**0.33**	**92**	*i* P	Pb	16 51 42.9	-0.4
GDZ				*i* S	Sb	16 51 48.5	-0.3
TVSB	**Tavsanli**	**0.47**	**42**	*e*PG	Pb	16 51 45.4	-0.3
TVSB				*e*SG	Sg	16 51 51.2	+0.6
TVSB	**Tavsanli**	**0.47**	**42**	*e*Pg	Pb	16 51 45.4	-0.3
TVSB				*e*Sg	Sg	16 51 51.2	+0.6
KULA	**Kula-Manisa**	**0.66**	**208**	*e*PG	Pg	16 51 48.2	+0.3
KULA				*e*SG	Sg	16 51 57.2	+0.6
KULA	**Kula-Manisa**	**0.66**	**208**	*e*Pg	Pg	16 51 48.2	+0.3
KULA				*e*Sg	Sg	16 51 57.2	+0.6
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN	Pg	16 51 59.5	+0.2
CAVI	**Cavuskoy**	**1.26**	**29**	*e*Pn	Pg	16 51 59.5	+0.2
IZI	**Iznik**	**1.28**	**14**	*e*PN	Pg	16 51 59.8	+0.1
IZI	**Iznik**	**1.28**	**14**	*e*Pn	Pg	16 51 59.8	+0.1
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	Pg	16 52 00.1	+0.3
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	Pg	16 52 00.1	+0.3
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	Pb	16 52 02.4	-0.3
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	Pb	16 52 02.4	-0.3

*ISCJB **22** 16:51:39.2±0.3, 6°.85N±0°.03×73°.07W±0°.03, h162km±3km, mb3.8/4, Error ellipse: s-maj=6.5km s-min=3.2km az=41.9*
*IDC **22** 16:51:40.3±0.7, 6°.73N×72°.95W, h167km±9km, mb3.5/4, mb1 3.9/7, mb1mx3.4/31, mbtmp4.1/7, Error ellipse: s-maj=26.5km s-min=8.3km az=132.0*
*FUNV **22** 16:51:40.5, 6°.82N×73°.15W, h174km, MW3.5*
*RSNC **22** 16:51:42.0±1.1, 6°.78N×73°.14W, h146km±5km, ML4.0*
ISC 22 16:51:40.0±0.8, 6°84N±0°.04×73°06W±0°.04, h162km±5km, n48, σ1°50/71, mb3.8/4, 9C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.22**	**291**	*e*S	Sn	16 52 16.4	-2.6
GIRC	**Giron, Santand**	**0.27**	**331**	*e*S	Sn	16 52 16.8	-2.4
BARC	**Barichara**	**0.27**	**206**	*i* P	Pn	16 52 01.7	-0.6
BARC				*e*S	Sn	16 52 16.4	-3.0
BARC				*i*		16 52 19.6	
	comp=Z,2μm,0.2s						
PAMC	**Pamplona, Colo**	**0.61**	**36**	*i* P	Pn	16 52 04.5	+0.5
PAMC				*e*S	Sn	16 52 21.7	-0.6
BRRC	**Barranca, Sant**	**0.70**	**292**	↓*i*P	Pn	16 52 03.5	-0.4
BRRC				*e*S	Sn	16 52 20.1	-1.9
BRRC				*i*		16 52 23.0	
	comp=Z,1μm,0.2s						
CBRI	**Barrientos, No**	**0.91**	**17**	*i* P	Pn	16 52 06.2	+0.7
CBRI				*e*S	Sn	16 52 25.5	+0.3
GRMC	**Gramalote, San**	**0.91**	**16**	*i* P	Pn	16 52 07.5	+2.0
GRMC				*e*S	Sn	16 52 26.8	+1.7
GRMC				*i*		16 52 28.1	
	comp=Z,784nm,0.5s						
RUSC	**La Rusia**	**0.94**	**181**	↓*i*P	Pn	16 52 05.6	-0.6
RUSC				*e*S	Sn	16 52 23.8	-2.4
RUSC				*i*		16 52 25.6	
	comp=Z,777nm,0.4s						
CAPV	**Capacho**	**1.26**	**36**	*e*S	Sn	16 52 31.2	+0.8
OCAC	**Ocana**	**1.41**	**350**	*i* P	Pn	16 52 10.1	+0.2
OCAC				*e*S	Sn	16 52 33.2	+0.3
OCAC				*i*		16 52 40.5	
	comp=Z,891nm,0.3s						
NORC	**Norcasia**	**2.20**	**235**	*e*P	Pn	16 52 17.3	-1.0
NORC				*e*S	Sn	16 52 45.3	-2.6
CHIC	**Chingaza**	**2.29**	**197**	*e*P	Pn	16 52 19.6	-0.2
CHIC				*e*S	Sn	16 52 49.3	-1.2
CHIC				*i*		16 52 53.0	
	comp=Z,736nm,0.6s						
ROSC	**El Rosal**	**2.35**	**212**	P	Pn	16 52 21.8	+1.4
	comp=Z,103nm,0.3s,baz=344,slow=5.8,SNR=102						
ROSC				S	Sn	16 52 51.6	+0.1
	comp=Z,66nm,0.3s,baz=71,slow=22,SNR=7.0						
ROSC	**El Rosal**	**2.35**	**212**	↓*i*P	Pn	16 52 21.4	+1.0
ROSC				*i*		16 52 56.3	
	comp=Z,2μm,0.4s						
HELC	**Santa Helena**	**2.54**	**255**	*e*P	Pn	16 52 21.5	-1.1
HELC				*e*S	Sn	16 52 53.6	-1.7
HELC				*i*		16 53 00.3	
	comp=Z,416nm,0.4s						
VIGV	**El Vigia**	**2.60**	**40**	↑*e*P	Pn	16 52 24.1	+1.1
VIGV				*e*S	Sn	16 52 55.9	-0.5
SOCV	**Socops**	**2.62**	**57**	↑*e*P	Pn	16 52 24.0	+0.8
SOCV				*e*S	Sn	16 52 56.8	+0.2
VILC	**Villavicencio,**	**2.78**	**193**	*e*P	Pn	16 52 24.8	-0.6
VILC				*e*S	Sn	16 52 58.9	-1.6
VILC				*i*		16 53 09.6	
	comp=Z,472nm,0.3s						
GUYC	**Guyana, Colomb**	**2.82**	**235**	*e*P	Pn	16 52 26.2	+0.1
GUYC				*e*S	Sn	16 53 01.4	-0.4
GUYC				*i*		16 53 09.4	
	comp=Z,1μm,0.4s						
DBBC	**Dabeiba**	**3.13**	**273**	*i* P	Pn	16 52 29.4	-0.2
SDV	**Santo Domingo**	**3.15**	**50**	P	Pn	16 52 31.1	+1.2
	comp=Z,89nm,0.3s,baz=231,slow=11,SNR=54						
SDV				S	Sn	16 53 09.0	+0.3
	comp=Z,28nm,0.3s,baz=88,slow=19,SNR=6.5						
SDV	**Santo Domingo**	**3.15**	**50**	*e*P	Pn	16 52 31.1	+1.2
TOLC	**Tolima**	**3.17**	**225**	*e*P	Pn	16 52 30.4	0.0
ELOV	**Elorza**	**3.56**	**87**	↑*e*P	Pn	16 52 35.9	+1.0
ELOV				*e*S	Sn	16 53 16.7	-0.9
PRAC	**Prado**	**3.60**	**210**	*e*P	Pn	16 52 34.4	-1.2
SJAC	**San Juan de Ar**	**3.65**	**194**	*e*P	Pn	16 52 35.5	-0.8
SJAC				*i*		16 53 21.0	
	comp=Z,924nm,0.5s						
SJCC	**San Jacinto, C**	**3.69**	**326**	*e*P	Pn	16 52 35.1	-1.6
SJCC				*i*		16 53 31.7	
	comp=Z,167nm,0.5s						
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P	Pn	16 52 36.4	-0.4
VIRV				*e*S	Sn	16 53 18.5	-2.5
QARV	**Quebrada Arrib**	**4.18**	**37**	*e*S	Sn	16 53 29.8	-2.4
GUVC	**San Jose del G**	**4.29**	**174**	*e*P	Pn	16 52 44.5	0.0
SANV	**Sanarito**	**4.38**	**53**	↑*e*P	Pn	16 52 45.9	+0.3
SANV				*e*S	Sn	16 53 34.6	-2.3
CURV	**Curarigua**	**4.40**	**44**	*e*P	Pn	16 52 46.4	+0.5
CURV				*e*S	Sn	16 53 34.3	-3.0
DABV	**Dabajuro**	**4.71**	**30**	*e*P	Pn	16 52 50.4	+0.5
DABV				*e*S	Sn	16 53 41.3	-3.2
TEPV	**Terepaima**	**4.93**	**51**	↑*e*P	Pn	16 52 53.3	+0.5
SIQV	**Siquisique**	**4.97**	**40**	↑*e*P	Pn	16 52 52.6	-0.7
SIQV				*e*S	Sn	16 53 46.8	-3.8
BAUV	**El Baul**	**5.39**	**67**	↑*i*P	Pn	16 52 57.8	-1.0
BAUV				*e*S	Sn	16 53 56.6	-4.0
MAPV	**Macapo**	**5.44**	**57**	↑*e*P	Pn	16 52 59.6	+0.1
MONV	**Montecano**	**5.93**	**31**	*e*P	Pn	16 53 05.5	-0.4
TURV	**Turiamo**	**6.29**	**55**	*e*P	Pn	16 53 10.3	-0.3
BIRV	**Birongo**	**7.62**	**61**	*e*P	Pn	16 53 27.6	-0.9
PCRV	**Puerto La Cruz**	**8.97**	**68**	P	Pn	16 53 47.8	+1.4
	comp=Z,1.3nm,0.3s,baz=66,slow=3.6,SNR=4.0						
TXAR	**Lajitas Array**	**36.49**	**312**	P	P	16 58 31.3	+1.4
	comp=Z,0.4nm,0.5s,baz=125,slow=9.1,SNR=8.3						
ULM	**Lac du Bonnet**	**47.29**	**340**	P	P	16 59 57.3	+0.3
	comp=Z,2.3nm,0.4s,baz=180,slow=15,SNR=3.7						
PDAR	**Pinedale Array**	**48.10**	**324**	P	P	17 00 04.8	+1.2
	comp=Z,0.5nm,0.4s,baz=123,slow=10.0,SNR=2.0						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	P	17 01 52.1	+1.1
	comp=Z,1.6nm,0.5s,baz=134,slow=6.6,SNR=18						
MKAR	**Makanchi Array**	**122.28**	**20**	PKP	PKPdf	17 10 14.6	-1.4
	comp=Z,0.3nm,0.6s,baz=324,slow=3.0,SNR=2.7						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	PKPbc	17 11 09.7	-0.5
	comp=Z,0.2nm,0.4s,baz=115,slow=3.9,SNR=4.6						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	PKPbc	17 11 13.0	-0.2
	comp=Z,0.4nm,0.4s,baz=103,slow=3.2,SNR=4.9						

*NIED **22** 16:58:00, 42°.70N×138°.60E, h260km, Mw4.3 Best double couple: M0 2.83000×10^15 NP1:φ=309.00000°, δ=50.00000°, λ=-48.00000°. NP2:φ=74.00000°, δ=55.00000°, λ=-129.00000°.*
*MOS **22** 16:58:49.9±0.8, 42°.86N×138°.49E, h244km, mb4.3/36, Error ellipse: s-maj=8.1km s-min=5.2km az=106.8*
*ISCJB **22** 16:58:49.6±0.2, 42°.74N±0°.02×138°.56E±0°.04, h247km±2km, mb4.2/68, Error ellipse: s-maj=4.5km s-min=3.4km az=13.2*
*IDC **22** 16:58:50.5±0.7, 42°.80N×138°.52E, h238km±7km, mb3.8/29, mb1 3.8/38, mb1mx3.8/49, mbtmp4.3/38, Error ellipse: s-maj=8.4km s-min=7.3km az=157.0*
*JMA **22** 16:58:50.9±0.2, 42°.75N×138°.57E, h242km±2km, M4.3*
*NEIC **22** 16:58:50.7±0.4, 42°.77N×138°.47E, h240km±5km, mb4.3/24, Error ellipse: s-maj=6.3km s-min=5.2km az=142.0*
ISC 22 16:58:50.1±0.6, 42°73N±0°.04×138°54E±0°.05, h240km±5km, n186, σ1°46/230, mb4.2/68, 5C-18D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.95**	**133**	↓P	Pn	16 59 24.7	+0.8
JOSM				eS	S	16 59 51.9	+1.6
JYM2	**Yakumo 2**	**1.49**	**114**	↓P	Pn	16 59 28.6	+1.2
JSK	**Shakotan**	**1.55**	**66**	↓P	Pn	16 59 28.7	+0.9
JSK				eS	S	16 59 57.9	+0.4
JKB	**Kayabe**	**2.04**	**114**	↓P	Pn	16 59 32.9	+0.8
JEW	**Eniwo**	**2.15**	**86**	↓P	Pn	16 59 34.3	+1.1
JOT	**Ohata**	**2.31**	**125**	↓P	Pn	16 59 35.2	+0.5
JHR	**Hokuryu**	**2.54**	**65**	↓P	Pn	16 59 38.4	+1.4
JHR				eS	S	17 00 15.2	+1.2
JYG	**Yagishiri**	**2.70**	**50**	P	Pn	16 59 39.5	+0.8
JYG				eS	S	17 00 16.4	-0.5
JNBK	**Urakawa-nobuka**	**3.15**	**97**	↓P	Pn	16 59 43.6	-0.1
JANG	**Nango**	**3.25**	**136**	↓P	Pn	16 59 44.3	-0.5
JANG				eS	S	17 00 27.2	-0.7
ASAJ	**Asahikawa**	**3.27**	**64**	P	Pn	16 59 45.9	+0.9
	9.4nm,0.3s,baz=255,slow=10,SNR=136						
ASAJ				S	S	17 00 28.4	+0.2
	4.2nm,0.3s,baz=14,slow=25,SNR=16						
JKK2	**Kamakawa 2**	**3.28**	**68**	↓P	Pn	16 59 46.1	+1.0
JKK2				eS	S	17 00 28.3	-0.2
ERM	**Erimo**	**3.50**	**100**	*e*P	Pn	16 59 48.1	+0.5
ERM	**Erimo**	**3.50**	**100**	*e*Pn	Pn	16 59 48.1	+0.5
JWK2	**Keihoku**	**3.54**	**42**	P	Pn	16 59 49.9	+1.9
JCH	**Churui**	**3.56**	**90**	P	Pn	16 59 47.7	-0.6
JCH				eS	S	17 00 31.0	-3.3
**

comp=E,62nm,2.0s
YAK smax smax
comp=N,115nm,1.8s
YAK Yakutsk 20.04 348 *e*P **P 17 03 03.4 -1.4**
comp=N,10nm,0.7s
YAK *e*S **S 17 06 34.4 -1.7**
HHC Hu-ho-hao-te 20.17 274 *e*P **P 17 03 04.9 -1.7**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,65nm,5.9s
BOD Bodaibo 21.59 323 *e*P **P 17 03 19.1 -1.6**
BOD pmax pmax
comp=Z,4.0nm,0.7s
SEY Seymchan 21.80 17 P **P 17 03 21.1 -1.6**
comp=E,8.3nm,0.7s,baz=201,slow=7.2,SNR=23
SEY Seymchan 21.80 17⇓*e*P **P 17 03 21.7 -1.0**
ULN Ulaanbaatar 22.64 294*ce*P **P 17 03 29.4 -1.3**
ULN pmax pmax
comp=Z,4.0nm,0.6s
ULN Ulaanbaatar 22.64 294 *e*P **P 17 03 29.0 -1.7**
comp=Z,4.7nm,0.6s
SONM Songino Array 23.08 294 P **P 17 03 33.5 -1.2**
comp=Z,3.0nm,0.6s,baz=102,slow=9.6,SNR=19
SONM PcP **PcP 17 07 16.0 +0.1**
comp=Z,0.3nm,0.4s,baz=116,slow=1.7,SNR=3.9
XAN Xi'an 24.68 259 P **P 17 03 51.3 +2.0**
XAN pmax pmax
comp=Z,10.0nm,0.7s
TLY Talaya 25.13 303 P **P 17 03 52.0 -1.2**
comp=Z,2.5nm,0.6s,baz=79,slow=1.9,SNR=7.5
TLY Talaya 25.13 303 *e*P **P 17 03 51.9 -1.2**
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 25.13 303 *e*P **P 17 03 51.9 -1.2**
comp=Z,3.7nm,0.8s
GTA Gaotai 29.21 277 *e*P **P 17 04 28.9 -0.7**
GTA pP pP 17 04 33.0 -44
GTA sP sP 17 04 35.9 -69
GTA pmax pmax
comp=Z,3.0nm,0.7s
BILL Bilibino 29.34 21⇓*i*P **P 17 04 30.9 +0.7**
BILL pmax pmax
comp=Z,6.0nm,1.7s
BILL Bilibino 29.34 21 *e*P **P 17 04 30.7 +0.5**
comp=Z,7.2nm,1.4s
TIXI Tiksi 29.38 354 P **P 17 04 28.3 -2.3**
comp=Z,0.8nm,0.6s,baz=167,slow=5.6,SNR=2.8
TIXI PcP **PcP 17 07 30.9 +0.9**
comp=Z,0.8nm,0.4s,baz=121,slow=2.4,SNR=3.2
TIXI Tiksi 29.38 354 P **P 17 04 28.3 -2.3**
TIXI 17 07 30.9
TIXI pmax pmax
comp=Z,1.0nm,0.6s
TIXI pmax pmax
comp=Z,1.0nm,0.4s
KRAR Krasnoyarsk 31.94 311 *e*P **P 17 04 54.2 +1.0**
KRAR pmax pmax
comp=Z,711nm,1.0s
WMQ Urumqi 36.55 290 P **P 17 05 34.5 +1.5**
ZAA0 Zalesovo Array 36.57 307 *e*P **P 17 05 32.8 -0.1**
ZAA0 *e*PcP **PcP 17 07 51.0 +0.5**
ZALV Zalesovo Beam 36.57 307 P **P 17 05 33.2 +0.3**
comp=Z,27nm,0.5s,baz=88,slow=8.1,SNR=122
ZALV PcP **PcP 17 07 51.1 +0.6**
comp=Z,6.8nm,0.5s,baz=92,slow=2.2,SNR=21
ZALV ScP **ScP 17 11 14.1 +0.2**
comp=Z,0.9nm,0.6s,baz=50,slow=3.0,SNR=5.2
NVS Novosibirsk 37.43 309 *e*P **P 17 05 39.6 -0.4**
MK01 Makanchi Array 39.42 296 *e*P **P 17 05 56.5 -0.2**
MK01 *e*PcP **PcP 17 07 59.6 +0.1**
MK31 Makanchi Array 39.42 296 *e*P **P 17 05 56.9 +0.1**
MK31 Makanchi Array 39.42 296 *e*P **P 17 05 56.9 +0.1**
MKAR Makanchi Array 39.42 296 P **P 17 05 57.1 +0.4**
comp=Z,5.4nm,0.5s,baz=84,slow=10.0,SNR=64
MKAR PcP **PcP 17 07 59.9 +0.3**
comp=Z,0.7nm,0.6s,baz=63,slow=4.8,SNR=3.8
MAKZ Makanchi 39.62 296 *e*P **P 17 05 58.7 +0.3**
MAKZ pmax pmax
comp=Z,13nm,0.8s
MAKZ Makanchi 39.62 296 *e*P **P 17 05 58.7 +0.3**
comp=Z,13nm,0.8s
KURK Kurchatov 40.83 303 P **P 17 06 08.9 +0.7**
KURK 17 08 04.8
KURK pmax pmax
comp=Z,29nm,0.7s
KURK pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 40.83 303 P **P 17 06 08.9 +0.7**
KURK PcP **PcP 17 08 04.8 +0.8**
KURBB Kurchatov Arra 40.90 303 P **P 17 06 08.9 +0.1**
comp=Z,28nm,0.7s,baz=79,slow=8.9,SNR=210
KURBB PcP **PcP 17 08 04.8 +0.5**
comp=Z,3.0nm,0.5s,baz=81,slow=3.3,SNR=13
CHTO Chiang Mai 41.01 247 *e*P **P 17 06 10.9 +0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO Chiang Mai 41.01 247 *e*P **P 17 06 10.9 +0.8**
comp=Z,4.9nm,0.6s
CMAR Chiang Mai Arr 41.26 247 P **P 17 06 13.0 +0.9**
comp=Z,1.1nm,0.7s,baz=35,slow=7.5,SNR=12
CMAR PcP **PcP 17 08 06.5 +0.5**
comp=Z,0.5nm,0.5s,baz=20,slow=1.6,SNR=4.6
CAST Castle Rocks 43.90 37 *e*P **P 17 06 34.9 +2.2**
comp=Z,3.0nm,0.7s
KTH Kantishna Hill 44.40 37 *e*P **P 17 06 38.5 +1.8**
GUN Gumba 44.74 268 *e*P **P 17 06 40.3 +0.1**
comp=Z,42nm,0.6s
RAMN Ramite 44.74 267 *e*P **P 17 06 40.5 +0.4**
comp=Z,11nm,0.4s
CHKZ Chkalovo 44.91 309 *i*P **P 17 06 40.6 -0.2**
CHKZ pmax pmax
comp=Z,16nm,0.8s
VOSK Vostochnaya 44.95 307 *e*P **P 17 06 41.6 +0.5**
VOSK *e* 17 08 18.7
VOSK pmax pmax
comp=Z,12nm,0.8s
VOSK Vostochnaya 44.95 307 *e*P **P 17 06 41.6 +0.5**
comp=Z,12nm,0.8s
VOSK *e*PcP **PcP 17 08 18.6 +0.8**
TKM2 Tokmak 2 45.17 293 *e*P **P 17 06 44.2 +0.9**
TKM2 pmax pmax
comp=Z,33nm,0.6s
TKM2 Tokmak 2 45.17 293 *e*P **P 17 06 44.2 +0.9**
comp=Z,33nm,0.6s
BVA0 Borovoye Array 45.21 308 *i*P **P 17 06 43.4 +0.2**
BVA0 pmax pmax
comp=Z,5.0nm,0.5s
BVAR Borovoye Array 45.21 308 P **P 17 06 43.8 +0.6**
comp=Z,7.4nm,0.5s,baz=82,slow=8.1,SNR=63
BVAR PcP **PcP 17 08 19.7 +0.9**
comp=Z,4.2nm,0.5s,baz=105,slow=3.4,SNR=13
KKN Kakani 45.24 269 *e*P **P 17 06 44.3 +0.3**
comp=Z,23nm,0.7s
BRVK Borovoye 45.26 308*ce*P **P 17 06 44.2 +0.6**
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK Borovoye 45.26 308 *e*P **P 17 06 43.5 -0.1**
comp=Z,22nm,0.8s
BRVK *e*PcP **PcP 17 08 19.8 +0.8**
PKIN Phulchoki 45.28 268 *e*P **P 17 06 44.7 +0.4**
comp=Z,18nm,0.8s
OTUK Ortayu 45.44 301 P **P 17 06 45.3 +0.2**
OTUK pmax pmax
comp=Z,13nm,1.2s
DMN Daman 45.47 269 *e*P **P 17 06 46.5 +0.6**
comp=Z,32nm,0.9s
GKN Gorkha 45.60 269 *e*P **P 17 06 47.0 +0.3**
comp=Z,26nm,0.6s
IL1 Eielson Array 45.99 35 *e*P **P 17 06 50.2 +1.1**
ILAR Eielson Array 45.99 35 P **P 17 06 50.2 +1.2**
comp=Z,1.4nm,0.6s,baz=269,slow=4.8,SNR=17
ILB Eielson Array 45.99 35 *e*P **P 17 06 50.6 +1.5**
AAK Ala-Archa 46.03 293 P **P 17 06 49.6 -0.3**
comp=Z,5.7nm,0.5s,baz=108,slow=5.6,SNR=11
AAK Ala-Archa 46.03 293 *e*P **P 17 06 50.2 +0.3**
AAK pmax pmax
comp=Z,12nm,0.6s
AAK Ala-Archa 46.03 293 *e*P **P 17 06 49.9 0.0**
comp=Z,6.3nm,0.6s
SCM Sheep Creek Mo 46.31 39 *e*P **P 17 06 54.8 +3.1**
SCM pmax pmax
comp=Z,18nm,1.6s
SCM Sheep Creek Mo 46.31 39 *e*P **P 17 06 54.8 +3.1**
comp=Z,18nm,1.6s
KOLN Koldanda 46.49 270 *e*P **P 17 06 54.4 +0.7**
comp=Z,37nm,0.5s
EKS2 Erkin-Say 46.51 293 *e*P **P 17 06 53.9 +0.3**
EKS2 pmax pmax
comp=Z,10.0nm,0.6s
EKS2 Erkin-Say 46.51 293 *e*P **P 17 06 53.9 +0.3**
comp=Z,10nm,0.6s
PYUN Piuthan 46.76 271 *e*P **P 17 06 56.5 +0.7**
comp=Z,38nm,0.4s
MNAS Manas 47.44 293 P **P 17 07 01.2 +0.4**
MNAS pmax pmax
comp=Z,11nm,0.5s
EGAK Eagle 48.39 34 *e*P **P 17 07 08.5 +1.0**
comp=Z,2.5nm,0.6s
KK31 Karatay Array 48.53 295 *i*P **P 17 07 08.8 -0.1**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 48.53 295 *e*P **P 17 07 08.9 0.0**
KKAR Karatay Array 48.53 295 *e*P **P 17 07 08.9 0.0**
SVE Sverdlovsk 49.48 315⇓*i*P **P 17 07 17.4 +1.5**
SVE pmax pmax
comp=Z,19nm,0.8s
INK Inuvik 50.40 29 P **P 17 07 24.1 +1.6**
comp=Z,4.4nm,0.4s,baz=285,slow=7.0,SNR=19
INK Inuvik 50.40 29 *e*P **P 17 07 25.9 +3.3**
comp=Z,4.8nm,0.5s
ARU Arti 50.70 315 P **P 17 07 25.2 +0.2**
comp=Z,3.8nm,0.4s,baz=74,slow=2.9,SNR=11
ARU PcP **PcP 17 08 39.1 +0.6**
comp=Z,2.1nm,0.4s,baz=292,slow=19,SNR=3.0
ARU Arti 50.70 315*d*P **P 17 07 25.4 +0.4**
ARU *PP **pP 17 08 16.9 -0.1**
ARU 17 08 38.4
ARU 17 09 21.0
ARU S **S 17 14 23.2 +2.2**
ARU SS **SS 17 17 56.6 -1.4**
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 50.70 315 *e*P **P 17 07 24.8 -0.2**
comp=Z,6.9nm,0.8s
ARU PcP **PcP 17 08 39.1 +0.6**
AB31 Akbulak array 52.68 306 P **P 17 07 39.6 -0.1**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 52.68 306 *e*P **P 17 07 40.3 +0.6**
AKTO Aktyubinsk 53.32 308 P **P 17 07 44.3 -0.1**
comp=Z,3.7nm,0.5s,baz=79,slow=9.9,SNR=12
AKTO PcP **PcP 17 08 48.8 +0.3**
comp=Z,0.9nm,0.5s,baz=0.0,slow=4.0,SNR=3.6
SPITS Spitsbergen Ar 54.50 348 P **P 17 07 52.2 -0.4**
comp=Z,1.1nm,0.5s,baz=60,slow=20,SNR=4.1
KLMR Klimovskoe 57.79 325 *e*P **P 17 08 14.9 -1.0**
KLMR pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 57.89 338 P **P 17 08 15.2 -1.3**
comp=Z,1.1nm,0.6s,baz=47,slow=9.2,SNR=5.8
GEYT Alibeck 59.28 295 P **P 17 08 26.8 +0.2**
comp=Z,5.1nm,0.7s,baz=52,slow=2.4,SNR=6.8
DAG Danmarks Havn 59.90 354 *i*P **P 17 08 30.3 +0.2**
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 59.90 354 *i*P **P 17 08 30.3 +0.2**
comp=Z,2.5nm,0.7s
YKA Yellowknife Ar 60.03 31 P **P 17 08 30.1 -1.1**
comp=Z,0.4nm,0.6s,baz=305,slow=6.5,SNR=4.3
YKA PcP **PcP 17 09 15.2 +0.6**
comp=Z,0.6nm,0.6s,baz=309,slow=3.4,SNR=4.2
VRH Novokhopyorsk 61.93 315 *e*P **P 17 08 44.6 +0.5**
VRH pmax pmax
comp=Z,9.0nm,0.7s
OBN Obninsk 62.25 321*ce*P **P 17 08 46.6 +0.4**
OBN *e* 17 09 23.3
OBN *e* 17 11 06.7
OBN pmax pmax
comp=Z,10.0nm,0.6s
WRA Warramunga Arr 62.48 184 P **P 17 08 47.7 -0.4**
comp=Z,0.6nm,0.6s,baz=1.0,slow=6.9,SNR=13
WRA PcP **PcP 17 09 26.1 +1.1**
comp=Z,1.1nm,0.6s,baz=359,slow=4.7,SNR=9.7
FINES FINESS Array B 62.76 330 P **P 17 08 49.7 +0.2**
comp=Z,8.2nm,0.5s,baz=54,slow=7.5,SNR=54
VSR Storozhevoye 63.24 316 *e*P **P 17 08 52.1 -0.7**
VSR pmax pmax
comp=Z,8.0nm,0.6s
VSU Vasula 64.45 327 *e*P **P 17 09 01.5 +1.0**
VSU pmax pmax
comp=Z,23nm,0.9s
SUMG Summit 64.97 359 *i*P **P 17 09 05.5 +1.3**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 64.97 359 *i*P **P 17 09 05.5 +1.3**
comp=Z,7.5nm,0.9s
SUMG Summit 64.97 359 *e*P **P 17 09 05.2 +0.9**
comp=Z,7.7nm,0.9s
KIV Kislovodsk 65.58 308 *e*P **P 17 09 09.7 +1.5**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV Kislovodsk 65.58 308 *e*P **P 17 09 08.9 +0.7**
comp=Z,12nm,0.7s
KBZ Khabaz 65.59 308 P **P 17 09 09.1 +1.0**
comp=Z,3.0nm,0.5s,baz=63,slow=4.5,SNR=6.4
ASAR Alice Springs 66.20 185 P **P 17 09 13.5 +1.3**
comp=Z,0.3nm,0.4s,baz=359,slow=5.7,SNR=8.7
NC204 NORSAR Array S 68.04 336 *e*P **P 17 09 23.2 -0.2**
NB2 NORSAR Subarra 68.09 335 P **P 17 09 23.9 +0.3**
comp=Z,4.2nm,0.5s,baz=37,slow=6.5
NOA NORSAR Array B 68.09 335 P **P 17 09 23.9 +0.3**
comp=Z,0.7nm,0.4s,baz=43,slow=4.5,SNR=27
NBO02 NORSAR Array S 68.19 335 *e*P **P 17 09 24.2 0.0**
AKASG Malin Array Be 68.48 320 P **P 17 09 26.2 +0.1**
comp=Z,2.3nm,0.4s,baz=45,slow=6.4,SNR=12
KIEV Kiev 68.49 320 *e*P **P 17 09 26.1 -0.1**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 68.49 320 *e*P **P 17 09 25.8 -0.4**
comp=Z,5.0nm,0.6s
EGMT Eagleton 71.45 41 *e*P **P 17 09 46.3 +2.0**
comp=Z,1μm,1.9s
BUR08 Bucovina Ar. S 72.50 319 *e*P **P 17 09 51.3 +0.7**
BURAR Bucovina Array 72.51 319⇓*i*P **P 17 09 51.4 +0.7**
KOLS Kolonicke sedl 72.95 322 *e*P **P 17 09 54.0 +0.9**
KOLS Kolonicke sedl 72.95 322 *e*P **P 17 09 54.0 +0.9**
STHS Stebnicka Huta 73.06 323 *e*P **P 17 09 55.4 +1.7**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 73.06 323 *e*P **P 17 09 55.4 +1.7**
OJC Ojcow 73.11 324 *e*P **P 17 09 54.8 +0.8**
OJC pmax pmax
comp=Z,10.0nm,1.0s
OJC Ojcow 73.11 324 *e*P **P 17 09 54.8 +0.8**
comp=Z,10nm,1.0s
CRVS Cervenica-Dubn 73.34 322 *e*P **P 17 09 56.2 +0.8**
CRVS Cervenica-Dubn 73.34 322 *e*P **P 17 09 56.2 +0.8**
BRTR Keskin Array B 73.48 309 P **P 17 09 57.1 +0.6**
comp=Z,1.9nm,0.6s,baz=86,slow=4.2,SNR=10
BR231 Keskin MP Arra 73.90 310 *e*P **P 17 09 57.6 -1.3**
VOIR 74.14 318⇓*i*P **P 17 10 01.6 +1.5**
MORC Moravsky Berou 74.41 325 *e*P **P 17 10 02.7 +1.1**
MORC pmax pmax
comp=Z,22nm,0.8s
MORC Moravsky Berou 74.41 325 *e*P **P 17 10 02.7 +1.1**
comp=Z,22nm,0.8s
VYHS Vyhne 74.81 323 *e*P **P 17 10 04.9 +1.0**
VYHS pmax pmax
comp=Z,4.0nm,1.4s
VYHS Vyhne 74.81 323 *e*P **P 17 10 04.9 +1.0**
CLL Collm 75.08 328 *i*P **P 17 10 05.8 +0.5**
comp=Z,6.0nm,0.6s
CLL Collm 75.08 328 *i*P **P 17 10 05.8 +0.5**
CLL pmax pmax
comp=Z,6.0nm,0.6s
PDAR Pinedale Array 75.23 45 P **P 17 10 06.8 +0.2**
comp=Z,1.6nm,0.7s,baz=321,slow=2.7,SNR=10
ULM Lac du Bonnet 75.93 33 P **P 17 10 10.2 0.0**
comp=Z,3.5nm,0.6s,baz=297,slow=7.3,SNR=3.8
KHC Kasperske Hory 76.56 326 *e*P **P 17 10 15.5 +1.7**
GERES GERESS Array B 76.73 326 P **P 17 10 15.3 +0.5**
comp=Z,0.8nm,0.5s,baz=32,slow=5.2,SNR=6.8
U15A North Rim 78.19 51 *e*P **P 17 10 25.5 +2.1**
comp=Z,2.8nm,0.8s
TXAR Lajitas Array 88.31 51 P **P 17 11 15.4 +0.7**
comp=Z,0.4nm,0.5s,baz=282,slow=2.4,SNR=3.8
TORD Torodi Ar. Bea 111.76 314 PKiKP **PKiKP 17 16 55.8 -0.8**
comp=Z,0.7nm,1.0s,baz=204,slow=24,SNR=2.9
TORD PP **PP 17 17 40.0 -2.0**
comp=Z,0.6nm,1.0s,baz=28,slow=6.5,SNR=3.0
VNDA Vanda 120.85 174 PKP **PKPdf 17 17 12.8 +0.7**
comp=Z,0.3nm,0.5s,baz=341,slow=5.3,SNR=5.0
LPAZ La Paz 145.16 49 PKPbc **PKPdf 17 18 00.2 +0.3**
comp=Z,0.6nm,0.3s,baz=292,slow=6.0,SNR=4.4
SIV San Ignacio 148.50 38 PKPbc **PKPdf 17 18 06.9 +2.1**
comp=Z,2.9nm,0.6s,baz=18,slow=1.9,SNR=6.3

IDC 22 17:14:29.2±1.7, 4.67S×81.31W, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.6/31, mbtmp3.8/3, ML4.0/2, MS3.1/2, Ms1 3.2/2, ms1mx2.7/22, Error ellipse: s-maj=134.0km s-min=29.0km az=49.0, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.80**	**130**	Pn	Pn	17 15 30.1	+0.8
	22nm,0.3s,baz=322,slow=9.7,SNR=51						
ATAH				Sn	Sn	17 16 10.8	-4.2
	13nm,0.3s,baz=110,slow=20,SNR=7.7						
ATAH				LR	LR	17 16 57.1	
	comp=Z,216nm,19.3s,baz=315,slow=39						
LPAZ	**La Paz**	**17.34**	**133**	P	Pn	17 18 32.2	-1.3
	0.1nm,0.3s,baz=326,slow=11,SNR=2.4						
LPAZ				LR	LR	17 26 42.0	
	comp=Z,70nm,19.9s,baz=50,slow=42						
PDAR	**Pinedale Array**	**53.71**	**334**	P	P	17 23 53.2	-0.1
	0.3nm,0.4s,baz=124,slow=7.9,SNR=4.8						
ASAR	**Alice Springs**	**135.59**	**229**	PKP	PKPdf	17 33 52.0	-0.5
	0.4nm,0.9s,baz=123,slow=2.3,SNR=2.3						
WRA	**Warramunga Arr**	**137.27**	**234**	PKP	PKPdf	17 33 55.3	-0.3
	0.5nm,0.7s,baz=112,slow=2.2,SNR=5.1						

IDC 22 17:19:43.6±1.2, 0.79S×132.83E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.7/34, mbtmp3.9/6, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/29, Error ellipse: s-maj=58.4km s-min=16.6km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.60**	**202**	P	P	17 24 02.2	-0.4
	0.3nm,0.3s,baz=30,slow=12,SNR=12						
FITZ				S	Sn	17 27 17.6	-14
	0.1nm,0.3s,baz=192,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**19.09**	**176**	P	P	17 24 07.2	-0.8
	0.3nm,0.3s,baz=355,slow=11,SNR=21						
WRA				S	Sn	17 27 31.6	-12
	0.1nm,0.3s,baz=356,slow=23,SNR=2.3						
ASAR	**Alice Springs**	**22.76**	**177**	P	P	17 24 47.1	-0.6
	6.0nm,0.9s,baz=357,slow=11,SNR=76						
ASAR				S	S	17 29 00.7	+2.8
	0.7nm,0.9s,baz=358,slow=20,SNR=4.2						
STKA	**Stephens Creek**	**32.01**	**166**	P	P	17 26 10.3	-1.5
	1.6nm,0.5s,baz=352,slow=8.7,SNR=6.0						
NWAO	**Narrogin (SRO)**	**35.17**	**203**	LR	LR	17 43 37.9	
	comp=Z,56nm,18.3s,slow=41						
H11S3	**WAKE ISLAND Hy**	**38.40**	**58**	T	T	18 07 45.3	
	baz=256,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.42**	**58**	T	T	18 07 44.5	
	baz=256,slow=74						
H11S1	**WAKE ISLAND Hy**	**38.42**	**58**	T	T	18 07 46.3	
	baz=256						
H11N1	**WAKE ISLAND Hy**	**39.12**	**57**	T	T	18 08 11.6	
	baz=243,slow=75,SNR=25						
H11N2	**WAKE ISLAND Hy**	**39.14**	**57**	T	T	18 08 12.6	
	baz=243,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**39.14**	**57**	T	T	18 08 13.0	
	baz=243,slow=75,SNR=27						
MKAR	**Makanchi Array**	**64.74**	**324**	P	P	17 30 23.8	-0.1
	0.6nm,0.6s,baz=112,slow=8.3,SNR=8.0						
ILAR	**Eielson Array**	**86.56**	**25**	P	P	17 32 29.8	+1.3
	0.2nm,0.6s,baz=270,slow=5.4,SNR=2.4						

*ISK **22** 17:22:33.7, 39.10N×28.99E, h11km, MD2.7*
*ISCJB **22** 17:22:34.3±0.5, 39.12N±0.04×28.99E±0.04, h9km, Error ellipse: s-maj=6.4km s-min=4.0km az=144.7*
*DDA **22** 17:22:34.0, 39.16N×28.98E, h7km, Md2.7*
*CSEM **22** 17:22:34.4±0.1, 39.11N×28.98E, h11km, MD2.7, Error ellipse: s-maj=2.4km s-min=1.6km az=157.0*
ISC 22 17:22:34.2±0.9, 39.12N±0.03×28.99E±0.03, h9km, n22, σ0 59/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**250**	P	**Pg**	**17 22 39.6**	**+0.8**
DEMI				S	**Sg**	**17 22 42.7**	**+0.8**
DEMI	**Demirci**	**0.23**	**250**	*i* P	**Pg**	**17 22 39.6**	**+0.8**
DEMI				*i* S	**Sg**	**17 22 42.7**	**+0.8**
GDZ	**Gediz**	**0.39**	**95**	P	**Pb**	**17 22 42.4**	**-0.9**
GDZ				S	**Sg**	**17 22 47.8**	**+0.9**
GDZ	**Gediz**	**0.39**	**95**	*i* P	**Pb**	**17 22 42.4**	**-0.9**
GDZ				*i* S	**Sg**	**17 22 47.8**	**+0.9**
TVSB	**Tavsanli**	**0.49**	**48**	*e*PG	**Pb**	**17 22 44.6**	**-0.5**
TVSB				*e*SG	**Sg**	**17 22 51.1**	**+0.8**
TVSB	**Tavsanli**	**0.49**	**48**	*e*Pg	**Pb**	**17 22 44.6**	**-0.5**
TVSB				*e*Sg	**Sg**	**17 22 51.1**	**+0.8**
KULA	**Kula-Manisa**	**0.66**	**203**	*e*PG	**Pb**	**17 22 47.4**	**-0.5**
KULA				*e*SG	**Sg**	**17 22 55.4**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**203**	*e*Pg	**Pb**	**17 22 47.4**	**-0.5**
KULA				*e*Sg	**Sg**	**17 22 55.4**	**-0.1**
BALB	**Balikesir**	**1.00**	**301**	*e*PG	**Pn**	**17 22 53.9**	**-0.5**
BALB	**Balikesir**	**1.00**	**301**	*e*Pg	**Pn**	**17 22 53.9**	**-0.5**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*PN	**Pg**	**17 22 58.0**	**0.0**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*Pn	**Pg**	**17 22 58.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*PN	**Pg**	**17 22 58.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*Pn	**Pg**	**17 22 58.1**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*PN	**Pn**	**17 22 57.9**	**-0.2**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*Pn	**Pn**	**17 22 57.9**	**-0.2**
IZI	**Iznik**	**1.27**	**17**	*e*PN	**Pb**	**17 22 58.1**	**-0.2**
IZI	**Iznik**	**1.27**	**17**	*e*Pn	**Pb**	**17 22 58.1**	**-0.2**
ARMT	**Armutlu**	**1.45**	**356**	*e*PN	**Pb**	**17 23 00.8**	**-0.5**
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn	**Pb**	**17 23 00.8**	**-0.5**
GULT	**Gulveren**	**1.76**	**41**	*e*PN	**Pn**	**17 23 05.0**	**+0.1**
GULT	**Gulveren**	**1.76**	**41**	*e*Pn	**Pn**	**17 23 05.0**	**+0.1**

IDC 22 17:24:09.3±1.1, 33.74N×88.84E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.4/53, mbtmp3.3/7, ML3.2/2, Error ellipse: s-maj=38.3km s-min=21.7km az=51.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.96**	**341**	Pn	Pn	17 27 27.7	-0.7
	0.1nm,0.3s,baz=152,slow=16,SNR=2.5						
SONM	**Songino Array**	**19.30**	**38**	P	P	17 28 34.5	-1.5
	0.1nm,0.3s,baz=236,slow=11,SNR=3.8						
ZALV	**Zalesovo Beam**	**20.41**	**353**	P	P	17 28 48.6	+0.9
	1.4nm,0.7s,baz=167,slow=11,SNR=8.6						
BRTR	**Keskin Array B**	**44.05**	**294**	P	P	17 32 18.6	-0.5
	0.3nm,0.5s,baz=83,slow=4.5,SNR=2.7						
GERES	**GERESS Array B**	**56.20**	**310**	P	P	17 33 50.7	-0.5
	0.3nm,0.5s,baz=60,slow=5.8,SNR=4.8						
WRA	**Warramunga Arr**	**68.78**	**134**	P	P	17 35 14.1	-1.3
	0.2nm,0.5s,baz=324,slow=6.3,SNR=1.4						
ASAR	**Alice Springs**	**71.40**	**137**	P	P	17 35 32.7	+1.2
	0.4nm,1.1s,baz=314,slow=6.1,SNR=2.9						

*ISCJB **22** 17:24:30.7±0.6, 26.43S±0.03×27.40E±0.03, h12km±4km, Error ellipse: s-maj=5.4km s-min=3.7km az=139.0*
*PRE **22** 17:24:30.8±2.0, 26.46S×27.38E, h2km, ML2.7*
ISC 22 17:24:30.8±0.8, 26.45S±0.03×27.38E±0.03, h10km±6km, n16, σ1 843/32, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.04**	**55**	*e*P	**Pg**	**17 24 33.0**	**+0.1**
WDLM				*e*S	**Sg**	**17 24 33.6**	**-0.8**
WDLM				AML	AML	17 24 33.7	
	comp=Z,24μm,0.1s						
KLOF	**Kloof**	**0.22**	**64**	*e*P	**Pg**	**17 24 35.8**	**+0.3**
KLOF				*e*S	**Sg**	**17 24 38.3**	**-0.4**
KLOF				AML	AML	17 24 40.0	
	comp=Z,2μm,0.2s						
PRYS	**Parys**	**0.48**	**183**	*e*P	**Pg**	**17 24 40.4**	**+0.3**
PRYS				*e*S	**Sg**	**17 24 46.7**	**+0.2**
PRYS				AML	AML	17 24 50.9	
	comp=Z,280nm,0.4s						
BFSD	**Buffelsfontein**	**0.68**	**232**	*e*P	**Pg**	**17 24 44.5**	**+0.5**
BFSD				*e*S	**Sg**	**17 24 53.0**	**+0.2**
BFSD				AML	AML	17 24 58.6	
	comp=Z,129nm,0.1s						
KSR	**Koster**	**0.74**	**323**	*e*P	**Pg**	**17 24 44.7**	**-0.3**
KSR				*e*S	**Sg**	**17 24 54.6**	**-0.1**
KSR				AML	AML	17 25 03.7	

	comp=Z,39nm,0.1s							
MOAB	**Moab Khotsong**	**0.75**	**224**	*e*P		**Pb**	**17 24 46.2**	**+0.2**
MOAB				*e*S		**Sg**	**17 24 55.4**	**+0.3**
MOAB				AML		AML	17 24 56.0	
	comp=Z,160nm,0.2s							
ERPM	**east rand prop**	**0.78**	**83**	*e*P		**Pg**	**17 24 46.3**	**+0.5**
ERPM				*e*S		**Sg**	**17 24 55.6**	**-0.3**
ERPM				AML		AML	17 25 05.6	
	comp=Z,74nm,0.3s							
TLEK	**Tau Lekoa**	**0.82**	**231**	*e*P		**Pb**	**17 24 47.9**	**+0.7**
TLEK				*e*S		**Sg**	**17 24 57.3**	**0.0**
TLEK				AML		AML	17 25 03.8	
	comp=Z,77nm,0.2s							
SEK	**Senekal**	**1.88**	**174**	*e*P		**Pb**	**17 25 05.3**	**0.0**
SEK				*e*S		**Sn**	**17 25 29.1**	**+2.0**
SEK				AML		AML	17 25 30.9	
	comp=Z,78nm,0.3s							
SWZ	**Schweizer**	**1.98**	**248**	*e*P		**Pn**	**17 25 05.7**	**+1.3**
SWZ				*e*S		**Sn**	**17 25 30.8**	**+1.4**
SWZ				AML		AML	17 25 33.7	
	comp=Z,168nm,0.2s							
BOSA	**Boshof**	**2.87**	**221**	*i* P		**Pb**	**17 25 20.4**	**-1.7**
BOSA				*i*			17 25 20.5	
	baz=53,slow=7.4							
BOSA				*i* S		**Sb**	**17 25 56.3**	**-1.1**
KSD	**Kokstad**	**4.45**	**157**	*e*P		**Pn**	**17 25 39.3**	**+0.8**
KSD				*e*S		**Sn**	**17 26 30.1**	**-0.5**
KSD				AML		AML	17 26 51.6	
	comp=Z,6.1nm,0.4s							
UPI	**Upington**	**5.77**	**249**	*e*P		**Pn**	**17 25 58.3**	**+1.6**
UPI				*e*S		**Sn**	**17 27 02.2**	**-0.8**
UPI				AML		AML	17 27 36.0	
	comp=Z,9.4nm,0.6s							
MATP	**Matopo**	**6.08**	**10**	*i* P		**Pn**	**17 26 02.7**	**+1.8**
MATP				*i*			17 26 02.8	
	baz=201,slow=16							
MATP				*i* S		**Sn**	**17 27 10.7**	**0.0**
BUFB	**Buffelsbos**	**8.01**	**196**	*e*P		**Pn**	**17 26 28.0**	**+0.7**
BUFB				*e*S		**Sn**	**17 27 53.3**	**-4.6**
BUFB				AML		AML	17 27 56.4	
	comp=Z,3.1nm,0.7s							
KOMG	**Komaggas**	**9.36**	**247**	*e*P		**Pn**	**17 26 46.7**	**+1.0**
KOMG				*e*S		**Sn**	**17 28 27.5**	**-3.5**
KOMG				AML		AML	17 28 44.3	
	comp=Z,3.4nm,0.6s							

ISK ***22*** *17:32:52.8, 39°.05N×29°.12E, h8km, MD2.6*
ISCJB ***22*** *17:32:53.6±0.6, 39°.09N±0°.04×29°.02E±0°.05, h9km, Error ellipse: s-maj=7.0km s-min=4.1km az=146.6*
DDA ***22*** *17:32:53.7, 39°.08N×29°.01E, h7km, Md2.5*
CSEM ***22*** *17:32:53.7±0.1, 39°.11N×29°.01E, h5km, MD2.6, Error ellipse: s-maj=4.2km s-min=2.8km az=136.0*
ISC 22 17:32:53.9±1.0, 39°.10N±0°.04×29°.01E±0°.03, h9km, n18, σ0§45/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**256**	P		**Pg**	**17 32 58.7**	**-0.1**
DEMI				S		**Sg**	**17 33 01.7**	**-0.3**
DEMI	**Demirci**	**0.24**	**256**	*i* P		**Pg**	**17 32 58.6**	**-0.1**
DEMI				*i* S		**Sg**	**17 33 01.7**	**-0.3**
GDZ	**Gediz**	**0.36**	**92**	P		**Pg**	**17 33 01.3**	**+0.2**
GDZ				S		**Sg**	**17 33 06.8**	**+0.8**
GDZ	**Gediz**	**0.36**	**92**	*i* P		**Pg**	**17 33 01.3**	**+0.2**
GDZ				*i* S		**Sg**	**17 33 06.8**	**+0.8**
TVSB	**Tavsanli**	**0.49**	**45**	*e*PG		**Pg**	**17 33 03.0**	**-0.5**
TVSB				*e*SG		**Sg**	**17 33 09.4**	**-0.6**
TVSB	**Tavsanli**	**0.49**	**45**	*e*Pg		**Pg**	**17 33 03.0**	**-0.5**
TVSB				*e*Sg		**Sg**	**17 33 09.4**	**-0.6**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*PG		**Pg**	**17 33 06.1**	**-0.3**
KULA				*e*SG		**Sg**	**17 33 14.7**	**-0.2**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*Pg		**Pg**	**17 33 06.1**	**-0.3**
KULA				*e*Sg		**Sg**	**17 33 14.7**	**-0.2**
BALB	**Balikesir**	**1.03**	**302**	*e*PN		**Pn**	**17 33 15.0**	**+0.5**
BALB	**Balikesir**	**1.03**	**302**	*e*Pn		**Pn**	**17 33 15.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*PN		**Pg**	**17 33 18.6**	**+0.3**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*Pn		**Pg**	**17 33 18.6**	**+0.3**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN		**Pn**	**17 33 17.6**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn		**Pn**	**17 33 17.6**	**-0.3**
IZI	**Iznik**	**1.28**	**16**	*e*PN		**Pn**	**17 33 17.8**	**-0.3**
IZI	**Iznik**	**1.28**	**16**	*e*Pn		**Pn**	**17 33 17.8**	**-0.3**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN		**Pn**	**17 33 21.1**	**+0.5**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn		**Pn**	**17 33 21.1**	**+0.5**

ISCJB ***22*** *18:19:00.6±0.4, 36°.41N±0°.03×140°.67E±0°.06, h62km±3km, mb4.0/23, Error ellipse: s-maj=7.8km s-min=5.0km az=13.9*
NIED ***22*** *18:19:00, 36°.40N×140°.60E, h59km, Mw4.1 Best double couple: Mo1.64000×10¹⁵ NP1:φ=132.00000°, δ=43.00000°, λ=21.00000°. NP2:φ=26.00000°, δ=76.00000°, λ=131.00000°.*
NEIC ***22*** *18:19:01.9±0.8, 36°.42N×140°.71E, h60km±7km, mb4.6/2, Error ellipse: s-maj=9.8km s-min=7.5km az=92.0*
NEIC Recorded [3 JMA] in Ibaraki.
JMA ***22*** *18:19:02.4±0.1, 36°.43N×140°.55E, h53km±1km, M3.8*
JMA Felt III J1.
IDC ***22*** *18:19:03.1±1.6, 36°.40N×140°.61E, h69km±16km, mb3.8/21, mb1 3.9/25, mb1mx3.8/39, mbtmp4.0/25, MS3.0/8, Ms1 3.1/8, ms1mx2.8/49, Error ellipse: s-maj=16.3km s-min=10.3km az=88.0*
ISC 22 18:19:01.6±0.8, 36°.42N±0°.04×140°.70E±0°.06, h57km±6km, n51, σ1§33/54, mb4.1/23, MS3.1/4, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.21**	**330**	P		**Pn**	**18 19 11.0**	**+0.2**
JHO				S		**Sn**	**18 19 17.0**	**-0.5**
JYT	**Yasato**	**0.45**	**245**	P		**Pn**	**18 19 12.6**	**-0.2**
JYT				S		**Sn**	**18 19 19.4**	**-1.5**
ONAJ	**Iwakimizuishiy**	**0.68**	**7**	S		**Sn**	**18 19 26.0**	**+0.3**
JSB	**Shiboa**	**0.83**	**311**	⇓P		**Pn**	**18 19 16.9**	**-0.5**
JSB				S		**Sn**	**18 19 27.5**	**-1.4**
JFK	**Kawauchi**	**0.95**	**8**	P		**Pn**	**18 19 19.6**	**+0.6**
JFK				S		**Sn**	**18 19 32.0**	**+0.3**
JAG	**Ashikaga**	**1.01**	**270**	⇓P		**Pn**	**18 19 18.9**	**-0.7**
JAG				S		**Sn**	**18 19 30.4**	**-2.5**
JFT	**Otama**	**1.13**	**345**	P		**Pn**	**18 19 21.9**	**+0.6**
JFT				S		**Sn**	**18 19 35.7**	**-0.2**
JKT	**Katashina**	**1.22**	**287**	P		**Pn**	**18 19 22.3**	**-0.2**
JKT				S		**Sn**	**18 19 36.6**	**-1.5**
MJAR	**Matsushiro Arr**	**2.01**	**274**	P		**Pn**	**18 19 33.2**	**0.0**
	42nm,0.3s,baz=99,slow=9.0,SNR=279							
MJAR				S		**Sn**	**18 20 01.1**	**+3.9**
	36nm,0.3s,baz=114,slow=30,SNR=6.3							
MJAR				LR		LR	18 20 15.2	
	comp=Z,170nm,21.7s,baz=100,slow=38							
MAJO	**Matsushiro**	**2.01**	**274**	*e*P		**Pn**	**18 19 33.0**	**-0.2**
JHJ	**Hachijo jima 2**	**3.38**	**193**	P		**Pn**	**18 19 53.4**	**+1.4**
	18nm,0.3s,baz=327,slow=23,SNR=7.5							
JHJ				S		**Sn**	**18 20 31.9**	**+1.1**
	53nm,0.3s,baz=70,slow=23,SNR=9.4							
JHJ2	**Mitsune**	**3.38**	**193**	*e*P		**Pn**	**18 19 53.7**	**+1.8**
ASAJ	**Asahikawa**	**7.82**	**10**	P		**Pn**	**18 20 51.8**	**-0.9**
	1.3nm,0.3s,baz=237,slow=9.6,SNR=13							
ASAJ				S		**Sn**	**18 22 16.1**	**-3.6**
	0.4nm,0.3s,baz=72,slow=20,SNR=2.2							
JNU	**Nakatsue**	**8.73**	**251**	P		**Pn**	**18 21 05.2**	**+0.1**
	0.3nm,0.3s,baz=37,slow=20,SNR=2.5							
JNU				LR		LR	18 24 51.2	
	comp=Z,74nm,18.1s,baz=138,slow=40							
CBIJ	**Chichi jima**	**9.38**	**172**	P		**Pn**	**18 21 12.8**	**-1.4**
CBIJ				S		Sn	18 22 46.4	-12
JCJ	**Chichijima**	**9.38**	**172**	P		**Pn**	**18 21 12.8**	**-1.4**
	baz=0.0,slow=13							
JCJ				S		Sn	18 22 46.4	-12
	baz=90,slow=20							
USRK	**Ussuriysk Ar.**	**10.22**	**322**	P		**Pn**	**18 21 27.4**	**+1.9**
	0.4nm,0.3s,baz=142,slow=13,SNR=9.4							
USRK				LR		LR	18 25 16.9	
	comp=Z,74nm,18.8s,baz=141,slow=37							
KSRS	**Korea Array**	**10.28**	**280**	P		**Pn**	**18 21 29.6**	**+3.3**
	0.3nm,0.3s,baz=90,slow=15,SNR=12							
KSRS				LR		LR	18 25 11.8	
	comp=Z,46nm,21.3s,baz=95,slow=36							
KSAR	**Wonju Array Be**	**10.31**	**279**	P		**Pn**	**18 21 29.6**	**+2.8**
KLR	**Kul'dur**	**14.37**	**336**	P		**Pn**	**18 22 22.2**	**+0.4**
	0.1nm,0.3s,baz=132,slow=12,SNR=3.6							
KLR				LR		LR	18 27 29.9	
	comp=Z,98nm,18.2s,baz=170,slow=35							
MA2	**Magadan**	**24.07**	**13**	P		**P**	**18 24 11.6**	**+0.3**
	7.8nm,0.6s,baz=220,slow=13,SNR=13							
MA2				LR		LR	18 33 47.4	
	comp=Z,21nm,18.6s,baz=104,slow=37							
SEY	**Seymchan**	**27.50**	**12**	P		**P**	**18 24 43.8**	**+1.5**
	6.9nm,0.8s,baz=208,slow=6.7,SNR=21							
SONM	**Songino Array**	**27.66**	**305**	P		**P**	**18 24 43.2**	**-0.8**
	1.3nm,0.6s,baz=105,slow=9.0,SNR=10							
H11N2	**WAKE ISLAND Hy**	**28.34**	**119**	T		T	18 54 35.0	
	baz=312,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**28.35**	**119**	T		T	18 54 48.4	
	baz=312,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**28.36**	**119**	T		T	18 54 55.4	
	baz=312,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**29.02**	**121**	T		T	18 55 40.8	
	baz=314,slow=75,SNR=41							
H11S3	**WAKE ISLAND Hy**	**29.02**	**121**	T		T	18 55 45.2	
	baz=314,slow=75,SNR=36							
H11S2	**WAKE ISLAND Hy**	**29.04**	**121**	T		T	18 55 43.6	
	baz=314,slow=75,SNR=27							
TLY	**Talaya**	**30.30**	**312**	LR		LR	18 38 04.2	
	comp=Z,33nm,18.2s,baz=134,slow=38							
TIXI	**Tiksi**	**35.83**	**354**	P		**P**	**18 25 55.0**	**-0.2**
	2.6nm,0.5s,baz=150,slow=7.7,SNR=9.1							
CMAR	**Chiang Mai Arr**	**40.79**	**255**	P		**P**	**18 26 36.9**	**-0.6**
	0.4nm,0.6s,baz=38,slow=12,SNR=3.5							
CMAR				LR		LR	18 45 03.0	
	comp=Z,41nm,19.6s,baz=195,slow=38							
ZALV	**Zalesovo Beam**	**41.91**	**313**	P		**P**	**18 26 46.4**	**+0.2**
	6.1nm,0.7s,baz=88,slow=6.6,SNR=26							
MKAR	**Makanchi Array**	**43.96**	**303**	P		**P**	**18 27 03.2**	**+0.2**
	1.5nm,0.7s,baz=94,slow=9.1,SNR=14							
MKAR				LR		LR	18 44 13.9	
	comp=Z,29nm,20.0s,baz=158,slow=34							
KURK	**Kurchatov**	**45.86**	**308**	*e*P		**P**	**18 27 16.9**	**-1.0**
	15nm,0.5s							
ILAR	**Eielson Array**	**50.31**	**32**	P		**P**	**18 27 54.2**	**+2.1**
	1.7nm,0.8s,baz=271,slow=6.8,SNR=21							
INK	**Inuvik**	**55.19**	**27**	P		**P**	**18 28 27.8**	**-0.2**
	2.2nm,0.8s,baz=240,slow=8.2,SNR=5.0							
WRA	**Warramunga Arr**	**56.38**	**187**	P		**P**	**18 28 36.8**	**-0.3**
	0.6nm,0.5s,baz=3.2,slow=7.5,SNR=21							
ABKAR	**Akbulak array**	**57.90**	**310**	*e*P		**P**	**18 28 47.2**	**-0.4**
	0.8nm,0.5s							
ASAR	**Alice Springs**	**60.11**	**187**	P		**P**	**18 29 03.7**	**+0.7**
	0.5nm,0.8s,baz=10,slow=5.7,SNR=6.3							
GEYT	**Alibeck**	**63.63**	**299**	P		**P**	**18 29 27.0**	**+0.2**
	1.3nm,0.6s,baz=45,slow=2.9,SNR=3.4							
ARCES	**ARCESS Array B**	**64.36**	**339**	P		**P**	**18 29 31.8**	**+0.8**
	1.9nm,0.7s,baz=56,slow=8.0,SNR=6.9							
YKA	**Yellowknife Ar**	**64.62**	**30**	P		**P**	**18 29 32.2**	**-0.5**
	0.5nm,0.7s,baz=301,slow=6.4,SNR=3.7							
FINES	**FINESS Array B**	**69.09**	**332**	P		**P**	**18 30 01.5**	**+0.3**
	3.2nm,0.8s,baz=123,slow=10,SNR=9.5							
KBZ	**Khabaz**	**70.86**	**311**	P		**P**	**18 30 12.1**	**-0.3**
	2.2nm,0.8s,baz=60,slow=7.0,SNR=3.8							
AKASG	**Malin Array Be**	**74.43**	**322**	P		**P**	**18 30 33.5**	**+0.1**
	1.4nm,0.5s,baz=47,slow=5.6,SNR=7.5							
NB2	**NORSAR Subarra**	**74.53**	**337**	P		**P**	**18 30 33.9**	**0.0**
	comp=Z,1.6nm,0.7s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**74.53**	**337**	P		**P**	**18 30 34.1**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=38,slow=5.8,SNR=13							
BRTR	**Keskin Array B**	**76.83**	**311**	P		**P**	**18 30 59.0**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=136,slow=4.0,SNR=4.6							
GERES	**GERESS Array B**	**82.93**	**328**	P		**P**	**18 31 19.0**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=15,slow=8.6,SNR=4.8							
TXAR	**Lajitas Array**	**90.95**	**52**	P		**P**	**18 31 59.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=241,slow=0.9,SNR=2.9							

IDC 22 18:29:49.5±66.0, 15°.28S×173°.44W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.7/36, mbtmp4.3/3, Error ellipse: s-maj=1261.0km s-min=184.8km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.06**	**240**	P		P	18 37 59.6	+0.1
	2.9nm,0.7s,baz=94,slow=11,SNR=11							
WRA	**Warramunga Arr**	**49.84**	**257**	P		P	18 38 44.5	-0.4
	0.5nm,0.3s,baz=95,slow=7.0,SNR=4.9							
ASAR	**Alice Springs**	**50.11**	**252**	P		P	18 38 46.8	-0.2
	6.9nm,0.5s,baz=88,slow=7.8,SNR=182							

IDC ***22*** *18:42:06.5±1.2, 3°.46N×126°.87E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/43, mbtmp4.0/7, Error ellipse: s-maj=107.7km s-min=17.5km az=71.0*
ISCJB ***22*** *18:42:10.6±1.0, 3°.5N±0°.2×126°.8E±0°.6, h48km, mb3.9/8, Error ellipse: s-maj=83.3km s-min=13.1km az=160.7*
NEIC ***22*** *18:42:11.5±0.8, 3°.45N×126°.88E, h35km, mb4.1/1, Error ellipse: s-maj=72.7km s-min=12.1km az=72.0*
ISC 22 18:42:13.0±1.0, 3°.4N±0°.2×126°.9E±0°.6, h48km, n9, σ1§24/9, mb4.1/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.44**	**183**	P		**P**	**18 46 57.7**	**+0.4**
	3.5nm,0.8s,baz=2.6,slow=9.6,SNR=10							
WRAB	**Tennant Creek**	**24.35**	**163**	*e*P		**P**	**18 47 25.6**	**-1.0**
	3.9nm,0.8s							
WRA	**Warramunga Arr**	**24.36**	**163**	P		**P**	**18 47 26.2**	**-0.5**
	3.9nm,0.8s,baz=340,slow=11,SNR=39							
ASAR	**Alice Springs**	**27.79**	**166**	P		**P**	**18 47 57.4**	**-0.3**
	0.3nm,0.3s,baz=346,slow=7.3,SNR=16							
STKA	**Stephens Creek**	**37.80**	**159**	P		**P**	**18 49 24.8**	**0.0**
	2.5nm,0.6s,baz=329,slow=10,SNR=5.7							
SONM	**Songino Array**	**47.63**	**341**	P		**P**	**18 50 44.1**	**-0.4**
	0.4nm,0.6s,baz=168,slow=7.4,SNR=2.8							
MKAR	**Makanchi Array**	**57.89**	**325**	P		**P**	**18 51 59.2**	**-1.0**
	0.8nm,0.4s,baz=122,slow=7.7,SNR=13							
KURK	**Kurchatov**	**62.08**	**328**	*e*P		**P**	**18 52 27.5**	**-1.3**
ARCES	**ARCESS Array B**	**90.78**	**340**	P		**P**	**18 55 13.0**	**+2.2**
	1.8nm,0.8s,baz=89,slow=6.4,SNR=3.8							

ISCJB ***22*** *18:56:54.4±0.7, 36°.80N±0°.04×138°.58E±0°.04, h13km±5km, mb3.7/1, MS2.9/1, Error ellipse: s-maj=6.1km s-min=5.4km az=149.3*
JMA ***22*** *18:56:54.6±0.2, 36°.80N×138°.59E, h1km±3km, M3.2 Broadband fault plane solution: P waves. NP1: φ=17.00000°, δ=84.00000°, λ=-8.00000°. NP2:φ=107.00000°, δ=82.00000°, λ=-174.00000°. Principal axes: T Plg1.0000°, Azm62.0000°; N Plg80.0000°, Azm158.0000°; P Plg10.0000°, Azm332.0000°;*
JMA Felt II J1.
IDC ***22*** *18:56:54.4±2.0, 36°.80N×138°.61E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.2/52, mbtmp3.6/3, ML3.2/2, MS2.9/3, Ms1 2.9/3, ms1mx2.5/43 Error ellipse: s-maj=12.7km s-min=12.1km az=57.0*
ISC 22 18:56:54.9±1.2, 36°.80N±0°.04×138°.59E±0°.03, h2km±12km, n16, σ0§71/21, 3C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JGK	**Kuni**	**0.24**	**171**	⇓P		**Pg**	**18 57 00.0**	**+0.4**
JGK				S		**Sg**	**18 57 03.4**	**+0.7**
MJAR	**Matsushiro Arr**	**0.40**	**230**	Pg		**Pg**	**18 57 02.4**	**-0.2**
	299nm,0.3s,baz=44,slow=19,SNR=2329							
MJAR				Lg		Lg	18 57 07.2	
	684nm,0.3s,baz=43,slow=22,SNR=54							
MJAR				LR		LR	18 57 30.8	
	comp=Z,336nm,20.5s,baz=40,slow=92							
MAT	**Matsushiro**	**0.40**	**230**	P		**Pg**	**18 57 02.4**	**-0.3**
MAT				S		**Sg**	**18 57 07.6**	**-0.3**
MAT	**Matsushiro**	**0.40**	**230**	P		**Pg**	**18 57 02.4**	**-0.3**
MAT				S		**Sg**	**18 57 07.6**	**-0.3**
JKT	**Katashina**	**0.53**	**94**	⇑P		**Pg**	**18 57 04.9**	**-0.2**
JKT				S		**Sg**	**18 57 12.0**	**0.0**
JNG	**Nsakai**	**0.56**	**225**	⇑P		**Pg**	**18 57 05.3**	**-0.3**
JNG				S		**Sg**	**18 57 12.5**	**-0.4**
JHK	**Hiroka**	**0.56**	**37**	⇑P		**Pg**	**18 57 05.4**	**-0.3**
JHK				S		**Sg**	**18 57 13.0**	**0.0**
JIZZ	**Izumozaki**	**0.73**	**7**	⇓P		**Pb**	**18 57 10.0**	**-0.5**
JAG	**Ashikaga**	**0.79**	**118**	P		**Pg**	**18 57 09.9**	**-0.2**
JAG				S		**Sg**	**18 57 20.5**	**+0.2**
JRY	**Ryogami san**	**0.82**	**162**	⇓P		**Pg**	**18 57 10.1**	**-0.6**
JRY				S		**Sg**	**18 57 21.4**	**0.0**
JNU	**Nakatsue**	**7.32**	**242**	LR		LR	19 01 54.0	
	comp=Z,95nm,19.4s,baz=117,slow=41							
KSRS	**Korea Array**	**8.55**	**278**	Pn		**Pn**	**18 59 01.7**	**+2.0**
	0.6nm,0.3s,baz=94,slow=14,SNR=7.9							
USRK	**Ussuriysk Ar.**	**8.94**	**328**	LR		LR	19 02 17.7	
	comp=Z,45nm,19.3s,baz=78,slow=36							
KLR	**Kul'dur**	**13.38**	**340**	Pn		**Pn**	**19 00 06.2**	**+0.4**
	0.1nm,0.3s,baz=138,slow=12,SNR=2.5							
GUMO	**Guam**	**23.79**	**165**	LR		LR	19 09 56.4	
	comp=Z,39nm,20.9s,baz=52,slow=33							
WRA	**Warramunga Arr**	**56.58**	**185**	P		**P**	**19 06 37.6**	**-1.5**
	0.5nm,0.6s,baz=0.3,slow=7.8,SNR=6.6							

IDC ***22*** *19:04:26.4±5.1, 21°.22S×178°.51W, h526km±57km, mb3.3/7, mb1 3.6/8, mb1mx3.2/36, mbtmp4.2/8, Error ellipse: s-maj=38.0km s-min=23.2km az=169.0*
ISCJB ***22*** *19:04:27.8±0.8, 21°.3S±0°.2×178°.6W±0°.2, h550km, mb3.7/7, Error ellipse: s-maj=27.2km s-min=17.7km az=42.5*
ISC 22 19:04:28.1±0.8, 21°.2S±0°.2×178°.7W±0°.2, h550km, n29, σ1§57/30, mb3.8/7, 12C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.38**	**191**	P		**P**	**19 07 59.1**	**-1.0**
	2.0nm,0.3s,baz=17,slow=7.4,SNR=9.8							
ASAR	**Alice Springs**	**43.70**	**258**	P		**P**	**19 11 46.6**	**+1.6**
	3.0nm,0.5s,baz=93,slow=8.1,SNR=102							
ASAR				PcP		**pP**	**19 13 21.4**	**-2.4**
	1.0nm,0.6s,baz=104,slow=4.1,SNR=12							
WRA	**Warramunga Arr**	**43.83**	**263**	P		**P**	**19 11 47.2**	**+1.1**
	1.2nm,0.3s,baz=96,slow=7.5,SNR=121							
WRA				PcP		**PcP**	**19 13 22.1**	**+1.7**
	0.4nm,0.6s,baz=96,slow=3.4,SNR=3.9							
SEY	**Seymchan**	**86.89**	**347**	P		**P**	**19 16 14.8**	**+0.6**
	1.3nm,0.5s,baz=192,slow=20,SNR=5.7							
TXAR	**Lajitas Array**	**88.00**	**58**	P		**P**	**19 16 21.4**	**+1.0**
	0.7nm,0.8s,baz=302,slow=2.4,SNR=5.0							
ILAR	**Eielson Array**	**89.14**	**13**	P		**P**	**19 16 23.8**	**-0.9**
	0.7nm,0.6s,baz=221,slow=6.0,SNR=7.7							
CMAR	**Chiang Mai Arr**	**89.70**	**290**	P		**P**	**19 16 30.9**	**+2.5**
	0.6nm,0.7s,baz=120,slow=1.8,SNR=5.5							
PDAR	**Pinedale Array**	**89.93**	**43**	P		**P**	**19 16 30.0**	**+0.8**
	0.6nm,0.5s,baz=224,slow=5.0,SNR=3.1							
NRIK	**Noril'sk**	**110.94**	**338**	PKiKP		**PKiKP**	**19 21 56.6**	**-1.7**
	5.1nm,0.5s,baz=90,slow=3.4,SNR=3.3							
MKAR	**Makanchi Array**	**111.17**	**313**	PKiKP		**PKiKP**	**19 21 59.0**	**-0.4**
	0.2nm,0.4s,baz=207,slow=1.6,SNR=4.5							
SPITS	**Spitsbergen Ar**	**122.51**	**356**	PKP		**PKPdf**	**19 22 20.9**	**+0.5**
	3.2nm,0.7s,baz=76,slow=6.1,SNR=2.7							
ARCES	**ARCESS Array B**	**129.47**	**349**	PKP		**PKPdf**	**19 22 33.6**	**-0.3**
	2.0nm,0.9s,baz=70,slow=1.4,SNR=6.8							
FINES	**FINESS Array B**	**136.24**	**343**	PKP		**PKPdf**	**19 22 46.0**	**-0.7**
	1.3nm,0.9s,baz=72,slow=4.5,SNR=5.6							
AKASG	**Malin Array Be**	**143.28**	**330**	PKhKP		PKPpre	19 22 58.1	
	4.3nm,0.4s,baz=43,slow=4.1,SNR=20							
SORM	**Soroca**	**145.43**	**327**	⇑P		**PKPab**	**19 23 05.1**	**-1.1**
BRTR	**Keskin Array B**	**146.79**	**311**	PKPbc		**PKPab**	**19 23 09.6**	**-2.5**
	2.0nm,0.6s,baz=136,slow=4.9,SNR=12							
KWP	**Kalwaria Pacla**	**146.91**	**334**	⇑*i*P		**PKPab**	**19 23 09.6**	**-2.5**
BURAR	**Bucovina Array**	**147.32**	**329**	⇑*i*P		**PKPab**	**19 23 12.4**	**-1.5**
CFR	**Carcaliu**	**147.44**	**324**	⇑*i*P		**PKPab**	**19 23 11.3**	**-3.0**
VRI	**Vrincioaia**	**147.76**	**326**	⇑*i*P		**PKPab**	**19 23 12.3**	**-3.4**
DOPR	**Dopca**	**148.39**	**327**	⇑*i*P		**PKPbc**	**19 23 14.1**	**+1.2**
MLR	**Muntele Rosu**	**148.42**	**326**	⇑*i*P		**PKPbc**	**19 23 13.8**	**+0.7**
VOIR		**148.92**	**327**	⇑*i*P		**PKPbc**	**19 23 15.2**	**+0.9**
DRGR		**149.09**	**331**	⇑*i*P		**PKPbc**	**19 23 14.7**	**+0.1**
LOT	**Lotru**	**149.56**	**328**	⇑*i*P		**PKPbc**	**19 23 16.1**	**+0.2**
GZR	**Gura Zlata**	**150.09**	**329**	⇑*i*P		**PKPbc**	**19 23 17.1**	**+0.1**
BZS	**Buzias**	**150.47**	**330**	⇑*i*P		**PKPbc**	**19 23 17.9**	**+0.1**
GERES	**GERESS Array B**	**156.57**	**343**	PKPbc		**PKPbc**	**19 23 18.6**	**+0.3**
	1.2nm,0.6s,baz=29,slow=3.0,SNR=10							
MDVR	**Moldovita**

Error ellipse: s-maj=17.1km s-min=7.9km az=153.9
ISC 22 19:47:50.2±1.6,**48°3S**×0.1×**165°26E**×0.0?09,**h35**km,**n19**,
σ1**903/25**,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**2.37**	**25**	PN	**Pn**	**19 48 25.8**	**-0.7**
PYZ				SN	**Sn**	**19 48 52.2**	**-2.1**
APZ	**The Paps**	**2.38**	**52**	PN	**Pn**	**19 48 27.2**	**+0.5**
APZ				SN	**Sn**	**19 48 54.8**	**+0.2**
WHZ	**Wether Hill Ro**	**3.05**	**38**	PN	**Pn**	**19 48 36.5**	**+0.7**
WHZ				SN	**Sn**	**19 49 11.1**	**0.0**
DCZ	**Deep Cove**	**3.14**	**25**	PN	**Pn**	**19 48 38.3**	**+1.2**
SYZ	**Scrubby Hill**	**3.18**	**57**	PN	**Pn**	**19 48 38.4**	**+0.7**
SYZ				SN	**Sn**	**19 49 13.5**	**-0.9**
MLZ	**Mavora Lakes**	**3.55**	**35**	PN	**Pn**	**19 48 43.9**	**+1.1**
TUZ	**Tuapeka**	**3.81**	**53**	PN	**Pn**	**19 48 47.1**	**+0.8**
TUZ				SN	**Sn**	**19 49 29.9**	**0.0**
EAZ	**Earnscleugh**	**4.16**	**43**	PN	**Pn**	**19 48 51.6**	**+0.5**
WKZ	**Wanaka**	**4.36**	**38**	PN	**Pn**	**19 48 55.2**	**+1.4**
WKZ				SN	**Sn**	**19 49 44.0**	**+0.7**
HHSZ	**Highcliff Hill**	**4.39**	**58**	PN	**Pn**	**19 48 55.5**	**+1.3**
JCZ	**Jackson Bay**	**4.91**	**31**	PN	**Pn**	**19 49 03.7**	**+2.3**
ODZ	**Otahua Downs**	**4.95**	**50**	PN	**Pn**	**19 49 01.5**	**-0.5**
LBZ	**Lake Benmore**	**5.21**	**43**	PN	**Pn**	**19 49 04.4**	**-1.1**
FOZ	**Fox Glacier**	**5.75**	**35**	PN	**Pn**	**19 49 13.7**	**+0.8**
MQZ	**McQueen's Vall**	**6.92**	**51**	PN	**Pn**	**19 49 28.0**	**-1.0**
THZ	**Tophouse**	**8.50**	**42**	PN	**Pn**	**19 49 51.1**	**+0.3**
ASAR	**Alice Springs**	**34.94**	**304**	P	**P**	**19 54 39.1**	**+0.4**
	0.4nm,0.6s,baz=136,slow=8.5,SNR=8.6						
WRA	**Warramunga Arr**	**37.71**	**308**	P	**P**	**19 55 01.8**	**-0.6**
	0.5nm,0.5s,baz=143,slow=9.0,SNR=11						
BRTR	**Keskin Array B**	**144.68**	**274**	PKPbc	**PKPab**	**20 07 21.1**	**-0.4**
	1.3nm,0.8s,baz=144,slow=5.1,SNR=6.7						

*ROM **22** 19:48:21.8±0.2,39°.83N×15°.07E,h342km±3km,MI3.5/52,*
Error ellipse: s-maj=4.7km s-min=2.4km az=94.0
*CSEM **22** 19:48:23.0±0.3,39°.90N×15°.09E,h344km±3km,ML3.7/13,*
Error ellipse: s-maj=10.2km s-min=5.9km az=91.0
*ISCJB **22** 19:48:24.4±0.2,39°.87N±0°.02×14°.84E±0°.03,h326km±2km,*
mb3.4/13,Error ellipse: s-maj=4.1km s-min=3.7km
az=168.5
*LDG **22** 19:48:24.8±0.1,39°.86N×14°.81E,h322km,Error ellipse:*
s-maj=4.0km s-min=3.0km az=9.0
*IDC **22** 19:48:25.7±0.9,39°.98N×14°.77E,h331km±11km,mb3.1/14,*
mb1 3.2/27,mb1mx3.2/45,mbtmp3.8/27,Error ellipse:
s-maj=11.6km s-min=10.3km az=23.0
ISC 22 19:48:24.9±0.5,**39°90N**±0°.05×**14°87E**±0°.05,**h321**km±5km,
n246,σ1**§10**/277,**mb3.5**/13,**6C-60D**,**Tyrrhenian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULG	**Bulgheria - Ca**	**0.43**	**66**	⇓*i*Pg	**Pn**	**19 49 06.7**	**+1.0**
	147nm,0.4s						
BULG	**Bulgheria - Ca**	**0.43**	**66**	⇓*i*Pg	**Pn**	**19 49 06.7**	**+1.0**
	147nm,0.4s						
CMPR	**Campora**	**0.53**	**39**	⇓*i*Pg	**Pn**	**19 49 06.7**	**+0.8**
	45nm,0.7s						
CMPR	**Campora**	**0.53**	**39**	⇓*i*Pg	**Pn**	**19 49 06.7**	**+0.8**
	45nm,0.7s						
CDRU	**Civita di Ruta**	**0.68**	**30**	⇓*i*Pg	**Pn**	**19 49 07.0**	**+0.7**
	17nm,0.4s						
CDRU	**Civita di Ruta**	**0.68**	**30**	⇓*i*Pg	**Pn**	**19 49 07.0**	**+0.7**
	17nm,0.4s						
CUC	**Castrocucco**	**0.74**	**83**	⇓*i*Pg	**Pn**	**19 49 07.0**	**+0.5**
CUC				Sg	**S**	**19 49 39.5**	**-0.2**
	65nm,0.6s						
CUC	**Castrocucco**	**0.74**	**83**	⇓*i*Pg	**Pn**	**19 49 07.0**	**+0.5**
CUC				Sg	**S**	**19 49 39.5**	**-0.2**
	65nm,0.6s						
SLCN	**Sala Consilina**	**0.76**	**50**	⇓*i*Pg	**Pn**	**19 49 07.4**	**+0.8**
	93nm,0.4s						
SLCN	**Sala Consilina**	**0.76**	**50**	⇓*i*Pg	**Pn**	**19 49 07.4**	**+0.8**
	93nm,0.4s						
SIRI	**Monte Sirino -**	**0.82**	**70**	⇓*i*Pg	**Pn**	**19 49 07.2**	**+0.4**
	65nm,0.3s						
SIRI	**Monte Sirino -**	**0.82**	**70**	⇓*i*Pg	**Pn**	**19 49 07.2**	**+0.4**
	65nm,0.3s						
MCEL	**Monticello**	**0.83**	**59**	Pg	**Pn**	**19 49 07.9**	**+1.0**
MCEL				Sg	**S**	**19 49 41.5**	**+1.1**
	73nm,0.5s						
MCEL	**Monticello**	**0.83**	**59**	Pg	**Pn**	**19 49 07.9**	**+1.0**
MCEL				Sg	**S**	**19 49 41.5**	**+1.1**
	73nm,0.5s						
MMN	**Mormanno**	**0.86**	**90**	⇓*i*Pg	**Pn**	**19 49 07.4**	**+0.5**
	29nm,0.2s						
MMN	**Mormanno**	**0.86**	**90**	⇓*i*Pg	**Pn**	**19 49 07.4**	**+0.5**
	29nm,0.2s						
MCRV	**Calabrutti - M**	**0.91**	**15**	⇓*i*Pg	**Pn**	**19 49 08.1**	**+0.9**
MCRV				Sg	**S**	**19 49 41.8**	**+0.9**
	40nm,0.7s						
MCRV	**Calabrutti - M**	**0.91**	**15**	⇓*i*Pg	**Pn**	**19 49 08.1**	**+0.9**
MCRV				Sg	**S**	**19 49 41.8**	**+0.9**
	40nm,0.7s						
SCHR	**S. Chirico Rap**	**0.97**	**72**	⇓*i*Pg	**Pn**	**19 49 08.0**	**+0.6**
	30nm,0.5s						
MRLC	**Muro Lucano**	**0.98**	**29**	⇓*i*Pg	**Pn**	**19 49 08.2**	**+0.8**
MRLC				Sg	**S**	**19 49 41.9**	**+0.6**
	27nm,0.7s						
MRLC	**Muro Lucano**	**0.98**	**29**	⇓*i*Pg	**Pn**	**19 49 08.2**	**+0.8**
MRLC				Sg	**S**	**19 49 41.9**	**+0.6**
	27nm,0.7s						
SNAL	**S. Angelo Dei**	**1.05**	**14**	Pg	**Pn**	**19 49 08.6**	**+0.9**
	63nm,1.0s						
SNAL	**S. Angelo Dei**	**1.05**	**14**	Pg	**Pn**	**19 49 08.6**	**+0.9**
	63nm,1.0s						
SALB	**San Lorenzo Be**	**1.14**	**91**	⇓*i*Pg	**Pn**	**19 49 08.5**	**+0.2**
	85nm,0.4s						
SALB	**San Lorenzo Be**	**1.14**	**91**	⇓*i*Pg	**Pn**	**19 49 08.5**	**+0.2**
	85nm,0.4s						
ACER	**Acerenza**	**1.21**	**43**	Pg	**Pn**	**19 49 08.3**	**-0.1**
	52nm,0.8s						
ACER	**Acerenza**	**1.21**	**43**	Pg	**Pn**	**19 49 08.3**	**-0.1**
	52nm,0.8s						
CAR1	**CAROLEI**	**1.23**	**121**	Pg	**Pn**	**19 49 08.2**	**-0.5**
	129nm,0.4s						
CAR1	**CAROLEI**	**1.23**	**121**	Pg	**Pn**	**19 49 08.2**	**-0.5**
	129nm,0.4s						
PALZ	**Palazzo San Ge**	**1.33**	**38**	Pg	**Pn**	**19 49 09.2**	**+0.1**
	93nm,1.3s						
PALZ	**Palazzo San Ge**	**1.33**	**38**	Pg	**Pn**	**19 49 09.2**	**+0.1**
	93nm,1.3s						
MIGL	**Miglionico**	**1.40**	**59**	Pg	**Pn**	**19 49 09.1**	**-0.3**
MIGL				Sg	**S**	**19 49 44.0**	**-1.0**
	208nm,0.9s						
MIGL	**Miglionico**	**1.40**	**59**	Pg	**Pn**	**19 49 09.1**	**-0.3**
MIGL				Sg	**S**	**19 49 44.0**	**-1.0**
	208nm,0.9s						
LLI	**Lipari**	**1.46**	**177**	Pg	**Pn**	**19 49 11.3**	**+1.4**
	390nm,0.8s						
LLI	**Lipari**	**1.46**	**177**	Pg	**Pn**	**19 49 11.3**	**+1.4**
	390nm,0.8s						
JOPP	**Joppolo**	**1.52**	**148**	⇓*i*Pg	**Pn**	**19 49 09.9**	**-0.4**
	154nm,0.6s						
JOPP	**Joppolo**	**1.52**	**148**	⇓*i*Pg	**Pn**	**19 49 09.9**	**-0.4**
	154nm,0.6s						
VPL	**Vulcano Piano**	**1.52**	**177**	Pg	**Pn**	**19 49 11.3**	**+0.9**
	397nm,0.3s						
VPL	**Vulcano Piano**	**1.52**	**177**	Pg	**Pn**	**19 49 11.3**	**+0.9**
	397nm,0.3s						
PIPA	**Pietrapaola**	**1.56**	**105**	⇓*i*Pg	**Pn**	**19 49 10.8**	**+0.3**
	154nm,0.3s						
PIPA	**Pietrapaola**	**1.56**	**105**	⇓*i*Pg	**Pn**	**19 49 10.8**	**+0.3**
	154nm,0.3s						
VAGA	**Valle Agricola**	**1.59**	**343**	Pg	**Pn**	**19 49 12.3**	**+1.7**
	17nm,0.8s						
VAGA	**Valle Agricola**	**1.59**	**343**	Pg	**Pn**	**19 49 12.3**	**+1.7**
	17nm,0.8s						
MATE	**Matera**	**1.59**	**61**	⇓*i*Pg	**Pn**	**19 49 10.2**	**-0.4**
	72nm,0.5s						
MATE	**Matera**	**1.59**	**61**	⇓*i*Pg	**Pn**	**19 49 10.2**	**-0.4**
	72nm,0.5s						
GRI	**Girifalco**	**1.62**	**131**	Pg	**Pn**	**19 49 11.1**	**+0.2**
	107nm,0.4s						
GRI	**Girifalco**	**1.62**	**131**	Pg	**Pn**	**19 49 11.1**	**+0.2**
	107nm,0.4s						
TIP	**Timpagrande**	**1.63**	**116**	⇓*i*Pg	**Pn**	**19 49 11.1**	**+0.1**
TIP				Sg	**S**	**19 49 46.8**	**-1.1**
	121nm,0.3s						
TIP	**Timpagrande**	**1.63**	**116**	⇓*i*Pg	**Pn**	**19 49 11.1**	**+0.1**
TIP				Sg	**S**	**19 49 46.8**	**-1.1**
	121nm,0.3s						
LTRZ	**Laterza**	**1.65**	**64**	⇓*i*Pg	**Pn**	**19 49 10.6**	**-0.4**
LTRZ				Sg	**S**	**19 49 46.2**	**-1.6**
	44µm,20.0s						
LTRZ	**Laterza**	**1.65**	**64**	⇓*i*Pg	**Pn**	**19 49 10.6**	**-0.4**
LTRZ				Sg	**S**	**19 49 46.2**	**-1.6**
	44µm,20.0s						
MILZ	**Milazzo**	**1.65**	**170**	Pg	**Pn**	**19 49 11.4**	**+0.3**
	196nm,0.4s						
MILZ	**Milazzo**	**1.65**	**170**	Pg	**Pn**	**19 49 11.4**	**+0.3**
	196nm,0.4s						
SERS	**Sersale**	**1.66**	**121**	⇓*e*Pg	**Pn**	**19 49 11.1**	**-0.2**
SERS				Sg	**S**	**19 49 47.3**	**-1.0**
	126nm,0.3s						
SERS	**Sersale**	**1.66**	**121**	⇓*e*Pg	**Pn**	**19 49 11.1**	**-0.2**
SERS				Sg	**S**	**19 49 47.3**	**-1.0**
	126nm,0.3s						
AMUR	**Altamura**	**1.66**	**52**	Pg	**Pn**	**19 49 11.0**	**-0.1**
AMUR				Sg	**S**	**19 49 46.4**	**-1.6**
	125nm,1.2s						
AMUR	**Altamura**	**1.66**	**52**	Pg	**Pn**	**19 49 11.0**	**-0.1**
AMUR				Sg	**S**	**19 49 46.4**	**-1.6**
	125nm,1.2s						
MSRU	**Castanea**	**1.71**	**163**	⇓*i*Pg	**Pn**	**19 49 11.3**	**-0.2**
MSRU				Sg	**S**	**19 49 47.6**	**-1.2**
	360nm,0.4s						
MSRU	**Castanea**	**1.71**	**163**	⇓*i*Pg	**Pn**	**19 49 11.3**	**-0.2**
MSRU				Sg	**S**	**19 49 47.6**	**-1.2**
	360nm,0.4s						
LADO	**San Nicola del**	**1.75**	**110**	⇓*i*Pg	**Pn**	**19 49 11.6**	**-0.1**
	259nm,0.3s						
LADO	**San Nicola del**	**1.75**	**110**	⇓*i*Pg	**Pn**	**19 49 11.6**	**-0.1**
	259nm,0.3s						
MPNC	**Port Mandanici**	**1.79**	**168**	⇓*i*Pg	**Pn**	**19 49 11.9**	**-0.2**
MPNC				Sg	**S**	**19 49 49.0**	**-0.9**
	275nm,0.7s						
MPNC	**Port Mandanici**	**1.79**	**168**	⇓*i*Pg	**Pn**	**19 49 11.9**	**-0.2**
MPNC				Sg	**S**	**19 49 49.0**	**-0.9**
	275nm,0.7s						
MIDA	**Miranda**	**1.80**	**345**	Pg	**Pn**	**19 49 13.4**	**+1.4**
	11nm,0.6s						
MIDA	**Miranda**	**1.80**	**345**	Pg	**Pn**	**19 49 13.4**	**+1.4**
	11nm,0.6s						
MSCL	**Scilla**	**1.82**	**156**	Pg	**Pn**	**19 49 11.7**	**-0.6**
	367nm,0.5s						
MSCL	**Scilla**	**1.82**	**156**	Pg	**Pn**	**19 49 11.7**	**-0.6**
	367nm,0.5s						
CEL	**Celeste**	**1.82**	**154**	Pg	**Pn**	**19 49 11.5**	**-0.9**
	160nm,0.5s						
CEL	**Celeste**	**1.82**	**154**	Pg	**Pn**	**19 49 11.5**	**-0.9**
	160nm,0.5s						
MUCR	**Ucria**	**1.86**	**180**	Pg	**Pn**	**19 49 12.8**	**+0.1**
	68nm,0.6s						
MUCR	**Ucria**	**1.86**	**180**	Pg	**Pn**	**19 49 12.8**	**+0.1**
	68nm,0.6s						
MCSR	**Castroreale**	**1.86**	**171**	⇓*i*Pg	**Pn**	**19 49 12.9**	**+0.2**
	263nm,0.3s						
MCSR	**Castroreale**	**1.86**	**171**	⇓*i*Pg	**Pn**	**19 49 12.9**	**+0.2**
	263nm,0.3s						
NOV	**Novara**	**1.88**	**173**	⇓*i*Pg	**Pn**	**19 49 13.5**	**+0.7**
	314nm,0.9s						
NOV	**Novara**	**1.88**	**173**	⇓*i*Pg	**Pn**	**19 49 13.5**	**+0.7**
	314nm,0.9s						
PLAC	**Placanica**	**1.90**	**139**	⇓*i*Pg	**Pn**	**19 49 12.5**	**-0.4**
	182nm,0.6s						
PLAC	**Placanica**	**1.90**	**139**	⇓*i*Pg	**Pn**	**19 49 12.5**	**-0.4**
	182nm,0.6s						
NOCI	**Noci**	**1.90**	**62**	⇓*i*Pg	**Pn**	**19 49 12.8**	**+0.1**
	79nm,0.4s						
NOCI	**Noci**	**1.90**	**62**	⇓*i*Pg	**Pn**	**19 49 12.8**	**+0.1**
	79nm,0.4s						
SOI	**Samo**	**2.05**	**153**	⇓*i*Pg	**Pn**	**19 49 13.4**	**-0.6**
SOI				Sg	**S**	**19 49 50.3**	**-2.9**
	223nm,0.7s						
SOI	**Samo**	**2.05**	**153**	⇓*i*Pg	**Pn**	**19 49 13.4**	**-0.6**
SOI				Sg	**S**	**19 49 50.3**	**-2.9**
	223nm,0.7s						
SOLUN	**Solunto**	**2.08**	**210**	Pg	**Pn**	**19 49 14.9**	**+0.7**
	49nm,1.3s						
SOLUN	**Solunto**	**2.08**	**210**	Pg	**Pn**	**19 49 14.9**	**+0.7**
	49nm,1.3s						
MPG	**Monte Pellegri**	**2.10**	**214**	Pg	**Pn**	**19 49 15.1**	**+0.7**
	72nm,0.4s						
MPG	**Monte Pellegri**	**2.10**	**214**	Pg	**Pn**	**19 49 15.1**	**+0.7**
	72nm,0.4s						
MPAZ	**Palizzi**	**2.14**	**155**	Pg	**Pn**	**19 49 14.2**	**-0.5**
	181nm,0.3s						
MPAZ	**Palizzi**	**2.14**	**155**	Pg	**Pn**	**19 49 14.2**	**-0.5**
	181nm,0.3s						
ALJA	**Alia**	**2.32**	**202**	Pg	**Pn**	**19 49 17.3**	**+1.1**
	170nm,1.0s						
ALJA	**Alia**	**2.32**	**202**	Pg	**Pn**	**19 49 17.3**	**+1.1**
	170nm,1.0s						
VAE	**Valguarnera**	**2.45**	**188**	P	**Pn**	**19 49 19.2**	**+2.0**
	3.0nm,0.3s,baz=341,slow=9.9,SNR=8.0						
HLNI	**Lentini**	**2.55**	**180**	Pg	**Pn**	**19 49 18.1**	**+0.1**
HLNI				Sg	**S**	**19 49 59.8**	**-0.8**
	54nm,0.2s						
HLNI	**Lentini**	**2.55**	**180**	Pg	**Pn**	**19 49 18.1**	**+0.1**
HLNI				Sg	**S**	**19 49 59.8**	**-0.8**
	54nm,0.2s						
CRJA	**Costa Raja**	**2.55**	**215**	Pg	**Pn**	**19 49 19.1**	**+1.0**
	82nm,0.9s						
CRJA	**Costa Raja**	**2.55**	**215**	Pg	**Pn**	**19 49 19.1**	**+1.0**
	82nm,0.9s						
MTGR	**Montagna Grand**	**2.59**	**220**	Pg	**Pn**	**19 49 19.3**	**+0.8**
	15nm,0.4s						
MTGR	**Montagna Grand**	**2.59**	**220**	Pg	**Pn**	**19 49 19.3**	**+0.8**
	15nm,0.4s						
MFNL	**Monte Finestre**	**2.60**	**216**	Pg	**Pn**	**19 49 19.5**	**+1.0**
	33nm,0.3s						
MFNL	**Monte Finestre**	**2.60**	**216**	Pg	**Pn**	**19 49 19.5**	**+1.0**
	33nm,0.3s						
HCRL	**Carlentini**	**2.62**	**177**	⇓*i*Pg	**Pn**	**19 49 18.7**	**0.0**
HCRL				Sg	**S**	**19 50 01.0**	**-0.7**
	158nm,0.3s						
HCRL	**Carlentini**	**2.62**	**177**	⇓*i*Pg	**Pn**	**19 49 18.7**	**0.0**
HCRL				Sg	**S**	**19 50 01.0**	**-0.7**
	158nm,0.3s						
HAGA	**Augusta**	**2.62**	**175**	Pg	**Pn**	**19 49 18.2**	**-0.5**
HAGA				Sg	**S**	**19 49 59.9**	**-1.8**
	118nm,1.1s						
HAGA	**Augusta**	**2.62**	**175**	Pg	**Pn**	**19 49 18.2**	**-0.5**
HAGA				Sg	**S**	**19 49 59.9**	**-1.8**
	118nm,1.1s						
AGST	**Augusta-Monte**	**2.66**	**174**	Pg	**Pn**	**19 49 18.3**	**-0.7**
	11µm,10.0s						
AGST	**Augusta-Monte**	**2.66**	**174**	Pg	**Pn**	**19 49 18.3**	**-0.7**
	11µm,10.0s						
MMGO	**Monte Magaggia**	**2.68**	**214**	Pg	**Pn**	**19 49 19.4**	**+0.2**
	24nm,0.4s						
MMGO	**Monte Magaggia**	**2.68**	**214**	Pg	**Pn**	**19 49 19.4**	**+0.2**
	24nm,0.4s						
RAFF	**Raffo Rosso**	**2.71**	**189**	Pg	**Pn**	**19 49 19.7**	**+0.3**
	175nm,1.3s						
RAFF	**Raffo Rosso**	**2.71**	**189**	Pg	**Pn**	**19 49 19.7**	**+0.3**
	175nm,1.3s						
HVZN	**Vizzini**	**2.72**	**183**	Pg	**Pn**	**19 49 20.2**	**+0.5**
	129nm,0.4s						
HVZN	**Vizzini**	**2.72**	**183**	Pg	**Pn**	**19 49 20.2**	**+0.5**
	129nm,0.4s						
SSY	**Sortino**	**2.75**	**177**	⇓*i*Pg	**Pn**	**19 49 19.6**	**-0.3**
	117nm,0.3s						
SSY	**Sortino**	**2.75**	**177**	⇓*i*Pg	**Pn**	**19 49 19.6**	**-0.3**
	117nm,0.3s						
HMDC	**Modica**	**2.94**	**181**	Pg	**Pn**	**19 49 22.0**	**+0.4**
	178nm,1.2s						
HMDC	**Modica**	**2.94**	**181**	Pg	**Pn**	**19 49 22.0**	**+0.4**
	178nm,1.2s						
NVLJ	**Novalja**	**4.66**	**0**	P	**Pn**	**19 49 39.4**	**+0.2**
UDBI	**Udbina**	**4.67**	**8**	P	**Pn**	**19 49 40.2**	**+0.7**
PGF	**Pioggiola**	**5.15**	**303**	*e*P	**Pn**	**19 49 45.3**	**+0.3**
PGF	**Pioggiola**	**5.15**	**303**	*e*P	**Pn**	**19 49 45.3**	**+0.3**
BOJS	**Bojanci**	**5.61**	**3**	*i* P	**Pn**	**19 49 50.4**	**+0.4**
SISC	**Sisak**	**5.67**	**11**	P	**Pn**	**19 49 51.5**	**+0.7**
VISS	**Visnje**	**5.90**	**360**	*i* P	**Pn**	**19 49 53.5**	**+0.1**
JAVS	**Javornik**	**6.02**	**355**	*i* P	**Pn**	**19 49 55.1**	**+0.2**
KEST	**Kesra**	**6.03**	**228**	P	**Pn**	**19 49 56.6**	**+1.3**
	0.7nm,0.3s,baz=85,slow=5.6,SNR=12						
OBKA	**Obir**	**6.61**	**358**	*i* Pn	**Pn**	**19 50 04.4**	**+2.6**
	2.6nm,0.5s						
SOKA	**Soboth**	**6.77**	**1**	*i* Pn	**Pn**	**19 50 04.6**	**+0.7**
	2.2nm,0.4s						
MYKA	**Terra Mystica**	**6.78**	**353**	*i* Pn	**Pn**	**19 50 05.3**	**+1.4**
	1.4nm,0.4s						
SBF	**Sospel**	**6.81**	**308**	*e*P	**Pn**	**19 50 04.7**	**+0.4**
SBF	**Sospel**	**6.81**	**308**	*e*P	**Pn**	**19 50 04.7**	**+0.4**
ABTA	**Abfaltersbach**	**7.05**	**347**	*i* Pn	**Pn**	**19 50 08.6**	**+1.5**
	14nm,1.1s						
LMR	**La Mourre**	**7.14**	**301**	*e*P	**Pn**	**19 50 08.3**	**+0.2**
LMR	**La Mourre**	**7.14**	**301**	*e*P	**Pn**	**19 50 08.3**	**+0.2**
FRF	**La Foret Royal**	**7.15**	**303**	*e*P	**Pn**	**19 50 08.5**	**+0.2**
FRF	**La Foret Royal**	**7.15**	**303**	*e*P	**Pn**	**19 50 08.5**	**+0.2**
KBA	**Koelnbreinsper**	**7.26**	**352**	*i* Pn	**Pn**	**19 50 11.9**	**+2.2**
	3.8nm,1.0s						
ARSA	**Arzberg**	**7.36**	**3**	*i* Pn	**Pn**	**19 50 11.9**	**+1.1**
	4.7nm,0.5s						
BZS	**Buzias**	**7.57**	**39**	⇓*i*P	**Pn**	**19 50 13.7**	**+0.4**
MBDF	**Montbardon**	**7.69**	**311**	*e*P	**Pn**	**19 50 17.3**	**+2.3**
MBDF	**Montbardon**	**7.69**	**311**	*e*P	**Pn**	**19 50 17.3**	**+2.3**
WTTA	**Wattenberg**	**7.72**	**343**	*i* Pn	**Pn**	**19 50 16.8**	**+1.5**
	1.8nm,0.5s						
FETA	**Feichten**	**7.72**	**338**	*i* Pn	**Pn**	**19 50 17.9**	**+2.6**
	19nm,1.0s						
DAVOX	**Davos/Dischmat**	**7.77**	**334**	P	**Pn**	**19 50 17.3**	**+1.4**
	2.0nm,0.3s,baz=258,slow=15,SNR=17						
DAVOX				S	**S**	**19 51 41.4**	**-4.8**
	baz=338,slow=19,SNR=1.6						
WATA	**Walderalm**	**7.80**	**343**	*i* Pn	**Pn**	**19 50 17.8**	**+1.5**
	3.3nm,0.6s						
MOTA	**Moosalm**	**7.92**	**341**	*i* Pn	**Pn**	**19 50 19.6**	**+1.9**
	2.7nm,0.5s						
SMRF	**Simiane la Rot**	**8.03**	**303**	*e*P	**Pn**	**19 50 20.1**	**+1.2**
SMRF	**Simiane la Rot**	**8.03**	**303**	*e*P	**Pn**	**19 50 20.1**	**+1.2**
CONA	**Conrad Observa**	**8.06**	**5**	Pn	**Pn**	**19 50 20.1**	**+0.9**
	2.8nm,0.9s						
RETA	**Reutte**	**8.14**	**340**	*i* Pn	**Pn**	**19 50 21.4**	**+1.1**
	2.9nm,0.5s						
LPG	**La Plagne**	**8.18**	**316**	*e*P	**Pn**	**19 50 22.7**	**+1.7**
LPG	**La Plagne**	**8.18**	**316**	*e*P	**Pn**	**19 50 22.7**	**+1.7**
LPL	**La Plagne**	**8.20**	**316**	*e*P	**Pn**	**19 50 22.8**	**+1.6**
LPL	**La Plagne**	**8.20**	**316**	*e*P	**Pn**	**19 50 22.8**	**+1.6**
DAVA	**Damuels**	**8.22**	**336**	*i* Pn	**Pn**	**19 50 22.8**	**+1.5**
	5.1nm,0.6s						
ORIF	**Oris-en-Rattie**	**8.32**	**310**	*e*P	**Pn**	**19 50 23.0**	**+0.5**
ORIF	**Oris-en-Rattie**	**8.32**	**310**	*e*P	**Pn**	**19 50 23.0**	**+0.5**
DRGR		**8.95**	**37**	⇓*i*P	**Pn**	**19 50 30.1**	**+0.1**
GERES	**GERESS Array B**	**8.98**	**355**	P	**Pn**	**19 50 29.1**	**-1.4**
	0.2nm,0.3s,baz=172,slow=12,SNR=6.1						
VIVF	**Saint-Julien-l**	**9.02**	**307**	*e*P	**P**	**19 50 32.5**	**-2.1**
VIVF	**Saint-Julien-l**	**9.02**	**307**	*e*P	**P**	**19 50 32.5**	**-2.1**
VYHS	**Vyhne**	**9.05**	**17**	*e*	**Pn**	**19 50 30.9**	**-0.3**
VYHS	**Vyhne**	**9.05**	**17**	*e*PN	**Pn**	**19 50 31.3**	**+0.1**
IDI	**Anoyia**	**9.19**	**117**	P	**Pn**	**19 50 35.1**	**+2.0**
	5.1nm,0.3s,baz=301,slow=11,SNR=10						
LASF	**Ste Croix**	**9.20**	**301**	*e*P	**Pn**	**19 50 32.8**	**-0.2**
LASF	**Ste Croix**	**9.20**	**301**	*e*P	**Pn**	**19 50 32.8**	**-0.2**
CABF	**La Chapelle**	**9.27**	**319**	*e*P	**Pn**	**19 50 32.9**	**-1.0**
CABF	**La Chapelle**	**9.27**	**319**	*e*P	**Pn**	**19 50 32.9**	**-1.0**
KHC	**Kasperske Hory**	**9.27**	**355**	*e*P	**Pn**	**19 50 34.0**	**+0.1**
KHC				*ex*	x	19 50 41.6	
KHC				*ex*	x	19 50 46.0	
VOIR		**9.32**	**50**	⇑*i*P	**Pn**	**19 50 36.5**	**+2.0**
KECS	**Kecovo**	**9.48**	**23**	*e*	**P**	**19 50 41.6**	**+2.0**
KECS	**Kecovo**	**9.48**	**23**	*e*PN	**P**	**19 50 41.4**	**+1.8**
VRAC	**Vranov**	**9.48**	**7**	P	**Pn**	**19 50 37.3**	**+0.8**
	0.6nm,0.3s,baz=196,slow=14,SNR=8.9						
VRAC	**Vranov**	**9.48**	**7**	⇓*i*P	**Pn**	**19 50 37.3**	**+0.8**
HINF	**Hinteralfeld**	**9.80**	**326**	*e*P	**Pn**	**19 50 39.0**	**-1.3**
HINF	**Hinteralfeld**	**9.80**	**326**	*e*P	**Pn**	**19 50 39.0**	**-1.3**
DOPR	**Dopca**	**9.81**	**48**	⇑*i*P	**Pn**	**19 50 41.2**	**+0.8**
LANS	**Liptovska Anna**	**9.81**	**18**	*e*	**P**	**19 50 45.0**	**+1.7**
LANS	**Liptovska Anna**	**9.81**	**18**	*e*PN	**P**	**19 50 45.0**	**+1.7**
**

	0.7nm,0.6s,baz=40,slow=5.8,SNR=4.6								
CMAR	**Chiang Mai Arr**	**73.95**	**79**	P		**P**		**19 59 25.9**	**0.0**
	0.5nm,0.7s,baz=301,slow=7.4,SNR=4.7								
PDAR	**Pinedale Array**	**83.57**	**322**	P		**P**		**20 00 17.8**	**0.0**
	0.3nm,0.5s,baz=40,slow=10.0,SNR=2.5								

IDC 22 19:51:04.9±829.0, 30°.68N×13°.14E, h0km, Error ellipse: s-maj=366.9km s-min=130.8km az=136.0, Near coast of Libya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I48TN	**KESRA INFRASON**	**6.03**	**329**	*i*		20 26 00.0	
	baz=146,slow=319,SNR=5.7						
I42PT	**GRACIOSA ISLAN**	**34.54**	**295**	*i*		23 21 10.0	
	baz=94,slow=315,SNR=0.6						
I11CV	**MAIO ISLAND IN**	**36.61**	**253**	*i*		23 39 00.0	
	baz=57,slow=314,SNR=1.4						

KRSC 22 19:55:25.5±1.2, 56°.06N×163°.92E, h15km±10km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.71**	**287**	*eP*	Pg	19 55 38.7	-0.6
KBG				*eS*	Sg	19 55 48.4	-0.3
BKI	**Bering**	**1.44**	**126**	*i* P	Pb	19 55 52.1	+0.1
BKI				*i* S	Sb	19 56 11.0	+0.8
SMKR	**Semkarok**	**1.47**	**292**	*eP*	Pn	19 55 51.2	-0.3
SMKR				*eS*	Sn	19 56 09.7	-0.8
BDR	**Baidarnaya**	**1.60**	**290**	*eP*	Pn	19 55 53.7	+0.4
BDR				*eS*	Sn	19 56 13.6	-0.1
SRKR	**Sorokina**	**1.65**	**292**	*i* P	Pn	19 55 53.8	-0.2
SRKR				*eS*	Sn	19 56 14.1	-0.8
ZLN	**Zelenaya**	**1.75**	**270**	*i* P	Pb	19 55 57.0	-0.4
ZLN				*i* S	Sb	19 56 19.5	+0.3
CIRR	**Tsirk**	**1.78**	**273**	*eP*	Pb	19 55 57.4	-0.5
CIRR				S	Sb	19 56 20.3	+0.2
LGNR	**Loginova**	**1.81**	**272**	*eP*	Pb	19 55 57.9	-0.7
LGNR				*eS*	Sb	19 56 20.7	-0.5
KLY	**Klyuchi**	**1.85**	**279**	*i* P	Pn	19 55 56.2	-0.4
KLY				*i* S	Sn	19 56 17.4	-2.3
KRSR	**Krestovskiy**	**1.89**	**276**	*eP*	Pn	19 55 58.1	+0.8
KRSR				*eS*	Sn	19 56 21.3	+0.4
BZMR	**Bezymyannaya**	**1.93**	**268**	*eP*	Pb	19 55 59.8	-0.7
BZMR				*eS*	Sb	19 56 24.9	+0.4
KPT	**Kopyto**	**2.08**	**269**	*eP*	Pb	19 56 02.1	-0.9
KPT				*eS*	Sb	19 56 27.7	-1.0
KMNR	**Kamenistaya**	**2.10**	**263**	*eP*	Pb	19 56 02.6	-0.7
KMNR				S	Sb	19 56 29.6	+0.4
KOZ	**Kozyrevsk**	**2.27**	**272**	*eP*	Pb	19 56 05.1	-1.1
KOZ				*eS*	Sb	19 56 33.4	-0.7
TUMR	**Tumrok**	**2.28**	**252**	*eP*	Pb	19 56 05.2	-1.2
ESO	**Esso**	**2.94**	**270**	P	Pn	19 56 14.6	+2.9
NLC	**Nalychevo**	**3.93**	**225**	*eS*	Sn	19 57 13.9	+2.8
SDLR	**Sedlovina**	**4.04**	**228**	*eP*	Pn	19 56 30.5	+3.6
KRER	**Koryakskii**	**4.08**	**230**	*eP*	Pn	19 56 31.7	+4.2
UGLR	**Uglovaya**	**4.11**	**228**	*eP*	Pn	19 56 31.8	+3.9
GNL	**Ganaly**	**4.19**	**238**	*eP*	Pn	19 56 32.2	+3.3
RUS	**Russkaya**	**4.82**	**223**	P	Pn	19 56 41.1	+3.6
ASAK	**Asacha**	**5.10**	**226**	P	Pn	19 56 44.6	+3.1

IDC 22 19:59:23.6±47.0, 15°.61S×173°.20W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, Error ellipse: s-maj=909.8km s-min=185.3km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.10**	**240**	P	P	20 07 33.6	-0.2
	0.8nm,0.4s,baz=97,slow=15,SNR=4.7						
WRA	**Warramunga Arr**	**49.99**	**257**	P	P	20 08 20.0	0.0
	0.2nm,0.4s,baz=92,slow=7.1,SNR=7.8						
ASAR	**Alice Springs**	**50.23**	**252**	P	P	20 08 21.8	-0.1
	2.8nm,0.5s,baz=89,slow=8.2,SNR=56						

IDC 22 20:01:34.0±976.0, 30°.39N×13°.40E, h0km, Error ellipse: s-maj=424.9km s-min=160.7km az=128.0, Near coast of Libya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I48TN	**KESRA INFRASON**	**6.39**	**329**	*i*		20 41 30.0	
	baz=143,slow=317,SNR=4.7						
I42PT	**GRACIOSA ISLAN**	**34.87**	**296**	*i*		23 30 20.0	
	baz=94,slow=316,SNR=3.5						
I11CV	**MAIO ISLAND IN**	**36.74**	**254**	*i*		23 51 12.1	
	baz=58,slow=320						

*ISCJB **22** 20:11:57.9±0.5, 2°.37S±0°.06×128°.0E±0°.1, h32km, mb3.8/9, MS3.6/2, Error ellipse: s-maj=15.4km s-min=7.3km az=161.4*

*NEIC **22** 20:11:59.3±6.7, 2°.37S×128°.04E, h28km±51km, mb4.4/2, Error ellipse: s-maj=27.6km s-min=9.4km az=61.0*

*IDC **22** 20:12:00.6±3.0, 2°.45S×128°.12E, h40km±28km, mb3.5/8, mb1 3.7/10, mb1mx3.6/28, mbtmp3.8/10, ML3.9/3, MS3.5/4, Ms1 3.5/4, ms1mx3.0/23, Error ellipse: s-maj=36.9km s-min=9.5km az=73.0*

ISC 22 20:11:59.8±0.8, 2°.39S±0°.08×128°.2E±0°.2, h32km, n15, σ0s68/16, mb3.9/9, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**5.57**	**284**	*e*Pn	Pn	20 13 15.9	-4.6
KAPI	**Kappang**	**8.81**	**253**	Pn	**Pn**	**20 14 05.3**	**+0.3**
	3.7nm,0.3s,baz=109,slow=6.1,SNR=31						
FITZ	**Fitzroy Crossi**	**15.81**	**189**	Pn	**Pn**	**20 15 40.7**	**+0.5**
	0.1nm,0.3s,baz=360,slow=9.8,SNR=2.7						
FITZ				LR	LR	20 22 22.6	
	comp=Z,136nm,18.1s,baz=10.0,slow=40						
WRAB	**Tennant Creek**	**18.45**	**161**	*e*P	**P**	**20 16 13.2**	**+0.3**
	10nm,1.0s						
WRA	**Warramunga Arr**	**18.45**	**161**	P	**P**	**20 16 13.2**	**+0.2**
	0.6nm,0.3s,baz=340,slow=12,SNR=29						
WRA				S	**Sn**	**20 19 37.4**	**-1.2**
	0.0nm,0.3s,baz=339,slow=22,SNR=2.6						
WRA				LR	LR	20 24 38.2	
	comp=Z,121nm,18.9s,baz=320,slow=41						
ASAR	**Alice Springs**	**21.86**	**166**	P	**P**	**20 16 50.2**	**+0.2**
	2.7nm,0.6s,baz=342,slow=9.9,SNR=65						
ASAR				S	**S**	**20 20 49.6**	**-0.5**
	1.7nm,0.9s,baz=342,slow=16,SNR=6.2						
STKA	**Stephens Creek**	**31.93**	**158**	P	**P**	**20 18 23.2**	**+0.5**
	2.0nm,0.9s,baz=29,slow=7.5,SNR=3.3						
STKA				LR	LR	20 31 32.6	
	comp=Z,62nm,19.2s,baz=30,slow=37						
KSAR	**Wonju Array Be**	**39.63**	**360**	P	**P**	**20 19 29.4**	**+0.7**
KSRS	**Korea Array**	**39.65**	**360**	P	**P**	**20 19 29.4**	**+0.7**
	1.4nm,0.7s,baz=178,slow=9.6,SNR=6.0						
MJAR	**Matsushiro Arr**	**39.85**	**13**	P	**P**	**20 19 31.2**	**+0.8**
	0.9nm,0.5s,baz=187,slow=9.7,SNR=3.8						
SONM	**Songino Array**	**53.53**	**342**	P	**P**	**20 21 16.7**	**-0.8**
	0.3nm,0.5s,baz=126,slow=7.5,SNR=3.0						
MKAR	**Makanchi Array**	**63.41**	**327**	P	**P**	**20 22 25.5**	**-0.9**
	0.7nm,0.6s,baz=124,slow=7.4,SNR=5.2						
ZALV	**Zalesovo Beam**	**66.68**	**334**	P	**P**	**20 22 46.8**	**-0.6**
	0.2nm,0.3s,baz=227,slow=12,SNR=2.3						
KURK	**Kurchatov**	**67.67**	**328**	*eP*	**P**	**20 22 53.3**	**-0.5**
	5.0nm,0.6s						
VNDA	**Vanda**	**77.21**	**173**	P	**P**	**20 23 50.1**	**0.0**
	0.2nm,0.3s,baz=304,slow=3.5,SNR=3.0						
VNDA				LR	LR	20 58 43.4	
	comp=Z,46nm,18.2s,baz=331,slow=36						

*CSEM **22** 20:14:14.8, 43°.63N×12°.58E, h11km, MD1.7/6*

ROM 22 20:14:14.8±0.1, 43°.63N×12°.58E, h11km, Md1.7/6, MI1.0/5, Error ellipse: s-maj=0.9km s-min=0.8km az=149.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIEI	**Pieia**	**0.10**	**197**	Pg	Pg	20 14 18.0	+0.4
PIEI				Sg	Sg	20 14 20.2	+0.6
	68nm,0.1s						
PIEI	**Pieia**	**0.10**	**197**	Pg	Pg	20 14 18.0	+0.4
PIEI				Sg	Sg	20 14 20.2	+0.6
	68nm,0.1s						
FRON	**Frontone**	**0.16**	**136**	Pg	Pg	20 14 18.9	+0.5
FRON				Sg	Sg	20 14 22.3	+1.4
	14nm,0.1s						
FSSB	**Fossombrone**	**0.16**	**68**	Pg	Pg	20 14 19.1	+0.7
FSSB				Sg	Sg	20 14 22.2	+1.2
	43nm,0.3s						
FSSB	**Fossombrone**	**0.16**	**68**	Pg	Pg	20 14 19.1	+0.7
FSSB				Sg	Sg	20 14 22.2	+1.2
	43nm,0.3s						
PARC	**Parchiule**	**0.25**	**274**	Pg	Pg	20 14 20.4	+0.5
PARC				Sg	Sg	20 14 24.6	+1.2
	11nm,1.3s						
PARC	**Parchiule**	**0.25**	**274**	Pg	Pg	20 14 20.4	+0.5
PARC				Sg	Sg	20 14 24.6	+1.2
	11nm,1.3s						
SSFR	**Montelago di S**	**0.25**	**142**	Pg	Pg	20 14 20.3	+0.4
SSFR				Sg	Sg	20 14 24.5	+1.1
	25nm,0.2s						
SSFR	**Montelago di S**	**0.25**	**142**	Pg	Pg	20 14 20.3	+0.4
SSFR				Sg	Sg	20 14 24.5	+1.1
	25nm,0.2s						
ATVO	**AVT- Monte Val**	**0.28**	**206**	Pg	Pb	20 14 21.2	-0.6
ATVO				Sg	Sb	20 14 25.7	-0.8
ATVO	**AVT- Monte Val**	**0.28**	**206**	Pg	Pb	20 14 21.2	-0.6
ATVO				Sg	Sb	20 14 25.7	-0.8

*SKO **22** 20:15:43.8, 40°.42N×21°.61E, h0km, M2.5, ML2.8*

*ISCJB **22** 20:15:44.4±0.4, 40°.56N±0°.02×21°.60E±0°.03, h12km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=20.3*

*THE **22** 20:15:44.9, 40°.53N×21°.61E, h12km, ML2.9/9, Error ellipse: s-maj=0.7km s-min=0.3km az=243.0*

*ATH **22** 20:15:44.2, 40°.55N×21°.64E, h24km, ML2.6/23, Error ellipse: s-maj=1.4km s-min=1.0km az=312.0*

*CSEM **22** 20:15:44.5±0.1, 40°.55N×21°.64E, h10km, ML2.9, Error ellipse: s-maj=3.4km s-min=2.9km az=98.0*

ISC 22 20:15:44.6±0.9, 40°.54N±0°.02×21°.61E±0°.02, h15km±7km, n96, σ0s68/128, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.27**	**152**	P	**Pg**	**20 15 50.3**	**-0.1**
KZN				S	**Sg**	**20 15 54.7**	**+0.4**
KZN	**Kozani**	**0.27**	**152**	P	**Pg**	**20 15 50.0**	**-0.4**
KZN				S	**Sg**	**20 15 54.7**	**+0.4**
FNA	**Florina**	**0.30**	**324**	P	**Pg**	**20 15 51.0**	**+0.1**
FNA				S	**Sb**	**20 15 56.2**	**-0.3**
FNA	**Florina**	**0.30**	**324**	P	**Pg**	**20 15 51.0**	**+0.1**
FNA				S	**Sb**	**20 15 56.2**	**-0.3**
FNA	**Florina**	**0.30**	**324**	P	**Pg**	**20 15 50.9**	**0.0**
FNA				S	**Sb**	**20 15 56.2**	**-0.3**
FNA				AML	AML	20 15 56.8	
	comp=N,9772μm,0.2s						
FNA				AML	AML	20 15 57.6	
	comp=E,10277μm,0.3s						
KTI	**Kastanea**	**0.42**	**111**	P	**Pg**	**20 15 52.9**	**-0.1**
KTI	**Kastanea**	**0.42**	**111**	P	**Pg**	**20 15 52.9**	**-0.1**
NEST	**Nestorio**	**0.45**	**253**	P	**Pg**	**20 15 53.1**	**-0.5**
NEST				S	**Sg**	**20 16 00.0**	**+0.4**
NEST	**Nestorio**	**0.45**	**253**	P	**Pg**	**20 15 53.1**	**-0.5**
NEST				S	**Sg**	**20 16 00.0**	**+0.4**
NEST	**Nestorio**	**0.45**	**253**	P	**Pg**	**20 15 52.5**	**-1.1**
NEST				AML	AML	20 16 02.3	
	comp=E,3165μm,0.5s						
NEST				AML	AML	20 16 04.7	
	comp=N,2526μm,0.4s						
PENT	**Pentalofos**	**0.50**	**226**	P	**Pg**	**20 15 54.0**	**-0.6**
PENT				S	**Sg**	**20 16 01.7**	**+0.4**
PENT	**Pentalofos**	**0.50**	**226**	P	**Pg**	**20 15 54.0**	**-0.6**
PENT				S	**Sg**	**20 16 01.7**	**+0.4**
PENT	**Pentalofos**	**0.50**	**226**	P	**Pg**	**20 15 52.9**	**-1.7**
PENT				S	**Sb**	**20 16 02.7**	**+0.4**
PENT				AML	AML	20 16 07.0	
	comp=E,1072μm,0.3s						
PENT				AML	AML	20 16 08.1	
	comp=N,1622μm,0.6s						
KPRO	**Kipourio**	**0.62**	**198**	P	**Pg**	**20 15 55.9**	**-0.9**
KPRO				S	**Sg**	**20 16 05.4**	**+0.4**
KPRO	**Kipourio**	**0.62**	**198**	P	**Pg**	**20 15 55.9**	**-0.9**
KPRO				S	**Sg**	**20 16 05.4**	**+0.4**
KPRO	**Kipourio**	**0.62**	**198**	P	**Pg**	**20 15 56.5**	**-0.2**
KPRO				AML	AML	20 16 09.0	
	comp=N,1832μm,0.5s						
KPRO				AML	AML	20 16 12.2	
	comp=E,1343μm,0.4s						
GRG	**Griva**	**0.73**	**55**	P	**Pg**	**20 15 58.7**	**-0.1**
GRG	**Griva**	**0.73**	**55**	P	**Pg**	**20 15 58.7**	**-0.1**
GRG	**Griva**	**0.73**	**55**	P	**Pb**	**20 15 59.3**	**+0.2**
GRG				AML	AML	20 16 13.8	
	comp=N,1077μm,0.4s						
GRG				AML	AML	20 16 16.7	
	comp=E,647μm,0.5s						
LIT	**Litokhoron**	**0.81**	**123**	P	**Pg**	**20 15 59.8**	**-0.5**
LIT				S	**Sb**	**20 16 11.4**	**+0.3**
LIT	**Litokhoron**	**0.81**	**123**	P	**Pg**	**20 15 59.8**	**-0.5**
LIT				S	**Sb**	**20 16 11.4**	**+0.3**
LIT	**Litokhoron**	**0.81**	**123**	P	**Pb**	**20 16 00.7**	**+0.3**
LIT				S	**Sb**	**20 16 11.8**	**+0.7**
LIT				AML	AML	20 16 14.1	
	comp=E,1590μm,0.3s						
LIT				AML	AML	20 16 18.4	
	comp=N,1355μm,0.6s						
OHR	**Ohrid**	**0.84**	**313**	*i* Pg	**Pg**	**20 15 59.9**	**-1.0**
OHR				*e*Sg	**Sn**	**20 16 14.2**	**+0.1**
OHR				*e*Lg	Lg	20 16 16.5	
	comp=N,472nm,0.6s						
OHR				*e*Lg	Lg	20 16 16.6	
	comp=E,546nm,0.7s						
OHR	**Ohrid**	**0.84**	**313**	*i* Pg	**Pg**	**20 15 59.8**	**-1.0**
OHR				*e*Sg	**Sn**	**20 16 14.1**	**+0.1**
OHR				*e*Lg	Lg	20 16 16.4	
	comp=E,472nm,0.6s						
THL	**Klokotos Trika**	**1.03**	**162**	P	**Pb**	**20 16 03.0**	**-1.1**
THL				S	**Sn**	**20 16 18.7**	**+0.1**
THL	**Klokotos Trika**	**1.03**	**162**	P	**Pb**	**20 16 03.0**	**-1.1**
THL				S	**Sb**	**20 16 17.5**	**+0.1**
THE	**Thessaloniki**	**1.04**	**85**	P	**Pn**	**20 16 05.4**	**+0.8**
THE				AML	AML	20 16 20.3	
	comp=E,179μm,0.8s						
THE				AML	AML	20 16 22.3	
	comp=N,357μm,0.5s						
VAY	**Valandovo**	**1.06**	**43**	P	**Pg**	**20 16 05.1**	**-0.1**
VAY				S	**Sn**	**20 16 20.2**	**+0.6**
VAY	**Valandovo**	**1.06**	**43**	*i* Pg	**Pg**	**20 16 05.1**	**-0.1**
VAY				*e*Sg	**Sn**	**20 16 20.5**	**+0.9**
VAY				*e*Lg	Lg	20 16 23.7	
	comp=E,132nm,0.6s						
VAY				*e*Lg	Lg	20 16 23.8	
	comp=N,81nm,0.5s						
VAY	**Valandovo**	**1.06**	**43**	*i* Pg	**Pg**	**20 16 05.0**	**-0.1**
VAY				*e*Sg	**Sn**	**20 16 20.4**	**+0.9**
VAY				*e*Lg	Lg	20 16 23.7	
	comp=N,81nm,0.5s						
HORT	**Hortiatis**	**1.14**	**87**	P	**Pb**	**20 16 05.6**	**-0.4**
HORT	**Hortiatis**	**1.14**	**87**	P	**Pb**	**20 16 05.6**	**-0.4**
HORT	**Hortiatis**	**1.14**	**87**	P	**Pb**	**20 16 05.8**	**-0.3**
HORT				AML	AML	20 16 23.8	
	comp=E,460μm,0.6s						
HORT				AML	AML	20 16 25.6	
	comp=N,468μm,0.5s						
KNT	**Kendrikon**	**1.16**	**57**	P	**Pb**	**20 16 06.1**	**-0.2**
KNT				S	**Sn**	**20 16 22.4**	**+0.5**
KNT	**Kendrikon**	**1.16**	**57**	P	**Pg**	**20 16 06.7**	**-0.2**
KNT				S	**Sn**	**20 16 22.4**	**+0.5**
KNT	**Kendrikon**	**1.16**	**57**	P	**Pg**	**20 16 06.7**	**-0.2**
KNT				AML	AML	20 16 24.6	
	comp=N,217μm,0.4s						
KNT				AML	AML	20 16 27.9	
	comp=E,192μm,0.5s						
SOH	**Sokhos**	**1.36**	**78**	P	**Pb**	**20 16 09.4**	**-0.3**
SOH	**Sokhos**	**1.36**	**78**	P	**Pb**	**20 16 09.4**	**-0.3**
SOH	**Sokhos**	**1.36**	**78**	P	**Pb**	**20 16 09.9**	**+0.2**
SOH				AML	AML	20 16 33.5	
	comp=E,515μm,0.6s						
SOH				AML	AML	20 16 36.6	
	comp=N,378μm,0.5s						
SGD	**Sagiada**	**1.41**	**229**	P	**Pn**	**20 16 09.6**	**-0.1**
SGD	**Sagiada**	**1.41**	**229**	P	**Pn**	**20 16 09.6**	**-0.1**
PLG	**Polygyros**	**1.41**	**96**	P	**Pn**	**20 16 10.0**	**+0.2**
PLG				S	**Sb**	**20 16 28.8**	**+0.3**
PLG	**Polygyros**	**1.41**	**96**	P	**Pn**	**20 16 10.0**	**+0.2**
PLG				S	**Sb**	**20 16 28.3**	**-0.2**
PLG				AML	AML	20 16 30.2	
	comp=E,429μm,0.4s						
PLG				AML	AML	20 16 32.4	
	comp=N,435μm,0.4s						
SKO	**Skopje**	**1.43**	**355**	*e*Pg	**Pn**	**20 16 10.1**	**0.0**
SKO	**Skopje**	**1.43**	**355**	*e*Pg	**Pn**	**20 16 10.1**	**0.0**
DSL	**Palaion Diasel**	**1.46**	**196**	P	**Pb**	**20 16 11.5**	**-0.1**
DSL	**Palaion Diasel**	**1.46**	**196**	P	**Pb**	**20 16 11.5**	**-0.1**
DSL	**Palaion Diasel**	**1.46**	**196**	P	**Pg**	**20 16 12.7**	**-0.1**
DSL				AML	AML	20 16 39.2	
	comp=N,407μm,0.6s						
DSL				AML	AML	20 16 45.4	
	comp=E,557μm,0.5s						
SRS	**Serrai**	**1.61**	**69**	P	**Pn**	**20 16 12.2**	**-0.3**
SRS	**Serrai**	**1.61**	**69**	P	**Pn**	**20 16 12.2**	**-0.3**
SRS	**Serrai**	**1.61**	**69**	P	**Pn**	**20 16 11.6**	**-1.0**
SRS				AML	AML	20 16 36.9	
	comp=N,127μm,0.8s						
SRS				AML	AML	20 16 45.6	
	comp=E,112μm,0.6s						
KEK	**Kerkira**	**1.62**	**240**	P	**Pg**	**20 16 15.7**	**0.0**
KEK				S	**Sg**	**20 16 36.5**	**-0.2**
AGG	**Agios Georgios**	**1.62**	**160**	P	**Pn**	**20 16 12.5**	**-0.2**
AGG	**Agios Georgios**	**1.62**	**160**	P	**Pn**	**20 16 12.5**	**-0.2**
AGG	**Agios Georgios**	**1.62**	**160**	P	**Pn**	**20 16 12.0**	**-0.6**
AGG				AML	AML	20 16 51.6	
	comp=N,660μm,0.9s						
AGG				AML	AML	20 16 52.4	
	comp=E,865μm,1.1s						
EVR	**Evrytania**	**1.63**	**175**	P	**Pb**	**20 16 13.7**	**-0.8**
EVR				S	**Sb**	**20 16 35.0**	**+0.1**
EVR	**Evrytania**	**1.63**	**175**	P	**Pb**	**20 16 13.7**	**-0.8**
EVR				S	**Sb**	**20 16 35.0**	**+0.1**
EVR	**Evrytania**	**1.63**	**175**	P	**Pn**	**20 16 12.1**	**-0.9**
EVR				AML	AML	20 16 42.2	
	comp=N,360μm,0.5s						
PAIG	**Paliouri**	**1.70**	**111**	P	**Pn**	**20 16 13.1**	**-0.6**
PAIG	**Paliouri**	**1.70**	**111**	P	**Pn**	**20 16 13.1**	**-0.6**
PAIG	**Paliouri**	**1.70**	**111**	P	**Pn**	**20 16 12.4**	**-1.4**
PAIG				AML	AML	20 16 41.4	
	comp=E,151μm,0.5s						
PAIG				AML	AML	20 16 41.5	
	comp=N,124μm,0.4s						
KKB	**Krupnik**	**1.73**	**40**	*i* P	**Pn**	**20 16 14.6**	**+0.5**
NEO	**Neokhori**	**1.75**	**134**	P	**Pn**	**20 16 14.1**	**-0.4**
NEO	**Neokhori**	**1.75**	**134**	P	**Pn**	**20 16 14.1**	**-0.4**
NEO	**Neokhori**	**1.75**	**134**	P	**Pn**	**20 16 12.9**	**-1.6**
NEO				AML	AML	20 16 47.4	
	comp=E,363μm,0.7s						
NEO				AML	AML	20 16 48.8	
	comp=N,324μm,0.5s						
OUR	**Ouranopolis**	**1.82**	**96**	P	**Pn**	**20 16 15.5**	**+0.1**
OUR	**Ouranopolis**	**1.82**	**96**	P	**Pn**	**20 16 15.5**	**+0.1**
OUR	**Ouranopolis**	**1.82**	**96**	P	**Pn**	**20 16 15.1**	**-0.4**
OUR				AML	AML	20 16 40.8	
	comp=N,414μm,0.7s						
OUR				AML	AML	20 16 45.5	
	comp=E,210μm,0.8s						
NVR	**Nevrokopi**	**1.89**	**64**	P	**Pn**	**20 16 16.4**	**0.0**
NVR	**Nevrokopi**	**1.89**	**64**	P	**Pn**	**20 16 16.4**	**0.0**
NVR				S	**Sb**	**20 16 41.2**	**-1.0**
LKD2	**Lefkada island**	**1.90**	**203**	P	**Pb**	**20 16 19.8**	**+0.8**
LKD2	**Lefkada island**	**1.90**	**203**	P	**Pb**	**20 16 19.8**	**+0.8**
LKD2				AML	AML	20 16 53.7	
	comp=E,255μm,1.0s						
LKD2				AML	AML	20 16 59.6	
	comp=N,229μm,0.7s						
MMB	**Musomiste**	**1.91**	**56**	*i* P	**Pn**	**20 16 17.0**	**+0.3**
PDO	**Prodromos**	**1.97**	**190**	P	**Pb**	**20 16 21.1**	**+0.9**
PDO	**Prodromos**	**1.97**	**190**	P	**Pb**	**20 16 21.1**	**+0.9**
PDO				AML	AML	20 16 51.2	
	comp=E,443μm,0.7s						
PDO				AML	AML	20 16 55.2	
	comp=N,303μm,0.7s						
SMIA	**Simia**	**2.07**	**143**	P	**Pn**	**20 16 18.5**	**-0.4**
SMIA	**Simia**	**2.07**	**143**	P	**Pn**	**20 16 18.5**	**-0.4**
EFP	**Efpalio**	**2.13**	**174**	P	**Pn**	**20 16 20.8**	**+1.2**
EFP	**Efpalio**	**2.13**	**174**	P	**Pn**	**20 16 20.8**	**+1.2**
EFP				AML	AML	20 16 55.2	
	comp=E,443μm,0.7s						
EFP				AML	AML	20 17 02.0	
	comp=N,328μm,0.7s						
DSF	**Desfina**	**2.25**	**161**	P	**Pn**	**20 16 20.7**	**-0.6**
DSF				AML	AML	20 16 58.3	
	comp=N,126μm,0.7s						
DSF				AML	AML	20 17 03.0	
	comp=E,99μm,0.6s						
KAVA	**Kavala**	**2.25**	**77**	P	**Pn**	**20 16 20.4**	**-0.9**
BARS	**Barje**	**2.27**	**4**	*e*Pn	**Pn**	**20 16 22.5**	**+0.8**
KLV	**Kalavryta, Ach**	**2.53**	**170**	P	**Pn**	**20 16 25.5**	**+0.2**
KLV	**Kalavryta, Ach**	**2.53**	**170**	P	**Pn**	**20 16 25.5**	**+0.2**
KLV				AML	AML	20 17 08.5	
	comp=N,57μm,0.9s						
KLV				AML	AML	20 17 09.3	
	comp=E,69μm,0.7s						
RZN	**Rozhen**	**2.61**	**63**	*i* P	**Pn**	**20 16 28.5**	**+2.1**
BOVS	**Bovan**	**3.09**	**1**	*e*Pn	**Pn**	**20 16 33.3**	**+0.5**
MPEP	**Malo Peshtene**	**3.23**	**29**	*i* P	**Pb**	**20 16 38.9**	**-2.7**
BOLS	**Boljevac**	**3.29**	**4**	*e*Pn	**Pn**	**20 16 34.7**	**-0.9**
GRUS	**Gruza**	**3.41**	**349**	*e*Pn	**Pn**	**20 16 38.0**	**+0.8**
DIVS	**Divibare**	**3.75**	**342**	*e*Pn	**Pn**	**20 16 43.1**	**+1.1**
TRUS	**Trudelj**	**3.78**	**347**	*e*Pn	**Pn**	**20 16 43.3**	**+0.9**
KUBS	**Kucevo**	**3.87**	**1**	*e*Pn	**Pn**	**20 16 42.2**	**-1.3**
TEKS	**Tekeris**	**4.29**	**340**	*e*Pn	**Pn**	**20 16 50.4**	**+1.1**
FGSL	**Fruska Gora**	**4.80**	**345**	*e*Pn	**Pn**	**20 16 57.1**	**+0.8**
UDBI	**Udbina**	**5.87**	**315**	*e*Pn	**Pn**	**20 17 12.2**	**+1.1**
UDBI				Sn	**Sn**	**20 18 17.9**	**-0.3**

**IDC 22 20:22:57.7±2.0, 10°.15S×113°.05E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/28, mbtmp3.8/5, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/29, Error ell

KHL	**Karahalli**	**0.87**	**153**	*e*PG	**Pg**	**20**	**36**	**57.4**	**-0.5**
KHL				*e*SG	**Sb**	**20**	**37**	**09.9**	**+0.8**
KHL	**Karahalli**	**0.87**	**153**	*e*Pg	**Pg**	**20**	**36**	**57.4**	**-0.5**
KHL				*e*Sg	**Sb**	**20**	**37**	**10.0**	**+0.8**
AKS	**Akhisar**	**0.97**	**257**	*e*PG	**Pg**	**20**	**36**	**58.8**	**-0.9**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg	**Pg**	**20**	**36**	**58.8**	**-0.9**
BALB	**Balikesir**	**1.03**	**302**	*e*PG	**Pb**	**20**	**37**	**00.6**	**+0.1**
BALB				*e*SG	**Sb**	**20**	**37**	**14.8**	**+1.0**
BALB	**Balikesir**	**1.03**	**302**	*e*Pg	**Pb**	**20**	**37**	**00.5**	**+0.1**
BALB				*e*Sg	**Sb**	**20**	**37**	**14.8**	**+1.0**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pg**	**20**	**37**	**01.9**	**-1.6**
IGD				*i* S	**Sg**	**20**	**37**	**17.0**	**-1.8**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pg**	**20**	**37**	**06.0**	**+0.6**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pg**	**20**	**37**	**06.0**	**+0.6**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pg**	**20**	**37**	**05.1**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pg**	**20**	**37**	**05.1**	**-0.3**
IZI	**Iznik**	**1.28**	**16**	*e*PN	**Pg**	**20**	**37**	**06.0**	**+0.3**
IZI	**Iznik**	**1.28**	**16**	*e*Pn	**Pg**	**20**	**37**	**06.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*PN	**Pb**	**20**	**37**	**07.1**	**+0.5**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*Pn	**Pb**	**20**	**37**	**07.1**	**+0.5**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pg**	**20**	**37**	**08.8**	**-0.4**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pg**	**20**	**37**	**08.8**	**-0.4**
GULT	**Gulveren**	**1.76**	**40**	*e*PN	**Pb**	**20**	**37**	**12.8**	**0.0**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn	**Pb**	**20**	**37**	**12.8**	**0.0**

NIED ***22*** *20:43:00, 37.°60N×144.°20E, h20km, Mw4.7 Best double couple: M0 1.15000×10^16 NP1:φs 70.00000°, δ 76.00000°, λ -3.00000°. NP2:φs 161.00000°, δ 87.00000°, λ -166.00000°.*

IDC ***22*** *20:43:45.3±0.7, 37.°49N×144.°42E, h0km, mb4.4/30, mb1 4.6/36, mb1mx4.5/52, mbtmp4.5/36, ML4.0/6, MS3.8/24, Ms1 3.8/24, ms1mx3.7/40, Error ellipse: s-maj=18.8km s-min=11.7km az=157.0*

ISCJB ***22*** *20:43:45.7±0.8, 37.°71N±0.°03×144.°28E±0.°02, h5km±5km, mb4.8/134, MS3.9/22, Error ellipse: s-maj=4.8km s-min=2.5km az=176.4*

BJI ***22*** *20:43:48.2, 37.°76N×144.°00E, h11km, mb4.8/67, mB5.0/45, Ms4.4/53, Ms7 4.2/54*

JMA ***22*** *20:43:49.1±0.2, 37.°59N×144.°17E, h57km, M4.7*

NEIC ***22*** *20:43:49.2±1.7, 37.°70N×144.°26E, h14km±10km, mb5.1/73, Error ellipse: s-maj=5.7km s-min=2.7km az=157.0*

NEIC Felt at Tokyo.

MOS ***22*** *20:43:51.2±1.0, 37.°89N×144.°22E, h36km, mb4.9/59, Error ellipse: s-maj=6.4km s-min=4.5km az=102.1*

ISC 22 20:43:48.0±0.9, 37.°68N±0.°05×144.°35E±0.°04, h12km±4km, n567, σ1§58/592, mb4.9/137, **MS3.9**/23, **24C-18D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.49**	**289**	P	**Pn**	**20 44 27.2**	**-1.2**
JIO				*e*S	**Sn**	**20 44 54.9**	**-3.9**
OFUJ	**Ofunato**	**2.53**	**304**	P	**Pn**	**20 44 27.9**	**-1.0**
OFUJ				*e*S	**Sn**	**20 44 56.6**	**-3.1**
MIYJ	**Miyakonagasawa**	**2.74**	**314**	P	**Pn**	**20 44 30.9**	**-0.9**
JMK	**Ichinoseki**	**2.77**	**298**	P	**Pn**	**20 44 31.3**	**-0.9**
JMK				*e*S	**Sn**	**20 45 02.7**	**-2.9**
JFK	**Kawauchi**	**2.78**	**265**	P	**Pn**	**20 44 30.3**	**-2.1**
JFK				*e*S	**Sn**	**20 45 00.5**	**-5.5**
JMM	**Marumori**	**2.83**	**275**	P	**Pn**	**20 44 31.2**	**-1.8**
JMM				S	**Sn**	**20 45 02.1**	**-4.9**
ONAJ	**Iwakimizuishiy**	**2.89**	**260**	P	**Pn**	**20 44 31.7**	**-2.2**
ONAJ				S	**Sn**	**20 45 02.8**	**-5.8**
JOM	**Ohasama**	**2.99**	**308**	P	**Pn**	**20 44 34.8**	**-0.5**
JOM				*e*S	**Sn**	**20 45 08.6**	**-2.5**
JFT	**Otama**	**3.19**	**268**	P	**Pn**	**20 44 36.5**	**-1.6**
JFT				S	**Sn**	**20 45 11.9**	**-4.2**
JYK	**Kaneyama**	**3.37**	**293**	P	**Pn**	**20 44 39.8**	**-0.8**
JYK				*e*S	**Sn**	**20 45 17.1**	**-3.5**
JANG	**Nango**	**3.48**	**321**	P	**Pn**	**20 44 41.4**	**-0.6**
JANG				*e*S	**Sn**	**20 45 19.2**	**-3.9**
BSO1	**Boso 1**	**4.07**	**223**	P	**Pn**	**20 44 46.7**	**-2.9**
BSO1				*e*S	**Sn**	**20 45 32.0**	**-5.0**
ERM	**Erimo**	**4.42**	**348**	*de*P	**Pn**	**20 44 54.7**	**-0.3**
ERM				pmax	pmax		
	comp=Z,209nm,1.2s						
ERM	**Erimo**	**4.42**	**348**	*e*Pn	**Pn**	**20 44 54.8**	**-0.1**
ERM				*e*Sn	**Sn**	**20 45 37.8**	**-8.7**
JOT	**Ohata**	**4.49**	**326**	P	**Pn**	**20 44 55.9**	**0.0**
JOT				S	**Sn**	**20 45 43.3**	**-4.8**
JRY	**Ryogami san**	**4.67**	**251**	P	**Pn**	**20 44 56.3**	**-2.2**
JOD2	**Odawara 2**	**4.88**	**242**	P	**Pn**	**20 44 58.5**	**-2.8**
JOD2				*e*S	**Sn**	**20 45 49.7**	**-8.0**
JKB	**Kayabe**	**4.92**	**330**	P	**Pn**	**20 45 01.8**	**+0.1**
JKB				*e*S	**Sn**	**20 45 54.0**	**-4.6**
JCH	**Churui**	**4.99**	**352**	P	**Pn**	**20 45 02.1**	**-0.6**
JCH				S	**Sn**	**20 45 55.6**	**-4.6**
MJAR	**Matsushiro Arr**	**5.04**	**259**	Pn	**Pn**	**20 45 02.7**	**-0.7**
	comp=Z,30nm,0.3s,baz=84,slow=15,SNR=387						
MJAR				Sn	**Sn**	**20 45 58.4**	**-3.2**
	comp=Z,25nm,0.3s,baz=51,slow=24,SNR=12						
MJAR				LR	LR	20 46 54.9	
	comp=Z,498nm,19.2s,baz=70,slow=38						
MAJO	**Matsushiro**	**5.04**	**259**	*c i*P	**Pn**	**20 45 03.0**	**-0.5**
MAJO	**Matsushiro**	**5.04**	**259**	*e*Pn	**Pn**	**20 45 03.3**	**-0.2**
MAT	**Matsushiro**	**5.04**	**259**	P	**Pn**	**20 45 03.1**	**-0.4**
MAT				S	**Sn**	**20 45 57.3**	**-4.4**
MJB9	**Matsu-Tunnel**	**5.04**	**259**	*e*Pn	**Pn**	**20 45 03.3**	**-0.2**
MJB9				*e*Sn	**Sn**	**20 45 54.4**	**-7.3**
NEM2	**Nemuro 2**	**5.78**	**10**	P	**Pn**	**20 45 11.3**	**-2.2**
JOSM	**Okushiri--Mats**	**5.78**	**321**	P	**Pn**	**20 45 14.2**	**+0.7**
JHJ2	**Mitsune**	**5.87**	**220**	P	**Pn**	**20 45 11.0**	**-3.9**
JHJ2	**Mitsune**	**5.87**	**220**	*e*Pn	**Pn**	**20 45 11.5**	**-3.4**
JHJ2				*e*Sn	Sn	20 46 11.0	-11
JHJ	**Hachijo jima 2**	**5.88**	**221**	Pn	**Pn**	**20 45 11.1**	**-4.0**
	comp=Z,42nm,0.3s,baz=160,slow=23,SNR=39						
JHJ				Sn	Sn	20 46 12.3	-10
	comp=Z,228nm,0.3s,baz=228,slow=22,SNR=14						
JHJ				LR	LR	20 47 57.6	
	comp=Z,349nm,20.3s,baz=360,slow=44						
JTKR	**Abashiri--Toko**	**6.29**	**357**	P	**Pn**	**20 45 19.9**	**-0.7**
JTKR				*e*S	**Sn**	**20 46 27.5**	**-4.9**
JHR	**Hokuryu**	**6.38**	**343**	P	**Pn**	**20 45 23.0**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**6.45**	**10**	*i* P	**Pn**	**20 45 20.7**	**-2.1**
ASAJ	**Asahikawa**	**6.56**	**349**	*e*Pn	**Pn**	**20 45 24.6**	**+0.3**
JIE	**Ise**	**7.01**	**244**	P	**Pn**	**20 45 29.1**	**-1.4**
KUR	**Kuril'sk**	**7.99**	**18**	*d i*P	**Pn**	**20 45 42.8**	**-1.1**
KUR				*i* S	**Sn**	**20 47 07.3**	**-7.0**
KUR				pmax	pmax		
	comp=Z,117nm,0.4s						
KUR				smax	smax		
	comp=N,85nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.34**	**353**	*e*P	**Pn**	**20 46 02.3**	**-0.1**
YSS	**Yuzh-Sakhalins**	**9.34**	**353**	*e*Pn	**Pn**	**20 46 02.3**	**-0.1**
CBIJ	**Chichi jima**	**10.71**	**190**	*e*Pn	Pn	20 46 13.9	-7.4
CBIJ				*e*Sn	Sn	20 48 03.4	-18
JCJ	**Chichijima**	**10.71**	**190**	Pn	Pn	20 46 14.4	-6.9
	comp=N,9.1nm,0.3s,baz=90,slow=24,SNR=5.2						
JCJ				Sn	Sn	20 48 06.8	-14
VLA	**Vladivostok**	**10.94**	**304**	*e*P	**Pn**	**20 46 25.4**	**+1.0**
MSHR	**Mys Shultsa**	**11.22**	**300**	*ce*P	**Pn**	**20 46 30.1**	**+1.9**
USRK	**Ussuriysk Ar.**	**11.39**	**309**	Pn	**Pn**	**20 46 31.9**	**+1.4**
	comp=N,3.4nm,0.3s,baz=120,slow=11,SNR=46						
USRK				LR	LR	20 50 59.9	
	comp=N,542nm,18.1s,baz=124,slow=38						
JNU	**Nakatsue**	**11.89**	**252**	Pn	**Pn**	**20 46 36.3**	**-1.2**
	comp=N,0.6nm,0.3s,baz=65,slow=7.0,SNR=9.6						
JNU				LR	LR	20 51 42.5	
	comp=N,582nm,18.7s,baz=102,slow=40						
JNU	**Nakatsue**	**11.89**	**252**	*e*Pn	**Pn**	**20 46 35.3**	**-2.2**
HABR	**Khabarovsk**	**12.74**	**331**	*e*P	**Pn**	**20 46 47.0**	**-1.9**
HABR				*e*S	**Sn**	**20 49 09.7**	**-0.9**
HABR				pmax	pmax		
	comp=Z,21nm,1.5s						
HABR				MLR	MLR		
	comp=Z,169nm,14.0s						
KSRS	**Korea Array**	**13.04**	**274**	Pn	**Pn**	**20 46 53.7**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=93,slow=12,SNR=47						
KSRS				LR	LR	20 51 48.6	
	comp=Z,466nm,19.6s,baz=78,slow=37						
KS01	**Wonju Array Si**	**13.06**	**274**	*e*Pn	**Pn**	**20 46 52.2**	**-1.1**
KS15	**Wonju Array Si**	**13.07**	**274**	*e*Pn	**Pn**	**20 46 54.4**	**+0.9**
KSAR	**Wonju Array Be**	**13.07**	**274**	P	**Pn**	**20 46 53.7**	**+0.2**
KSAR	**Wonju Array Be**	**13.07**	**274**	Pn	**Pn**	**20 46 53.7**	**+0.2**
MDJ	**Mudanjiang**	**13.09**	**307**	P	**Pn**	**20 46 54.1**	**+0.3**
MDJ				S	**Sn**	**20 49 20.9**	**+1.6**
MDJ				PcP	**PcP**	**20 52 25.4**	**-0.3**
MDJ				ScP	**ScP**	**20 55 58.1**	**-0.6**
MDJ				PcS	**PcS**	**20 56 00.4**	**+0.4**
MDJ				ScS	**ScS**	**20 59 35.4**	**+0.2**
MDJ				PMZ			
	comp=Z,110nm,1.2s						
MDJ				PMZ			
	comp=Z,95nm,3.7s						
MDJ				LN			
	comp=Z,520nm,12.3s						
MDJ				LE			
	comp=Z,180nm,10.3s						
MDJ				LZ			
	comp=Z,390nm,11.7s						
MDJ	**Mudanjiang**	**13.09**	**307**	*e*P	**Pn**	**20 46 54.2**	**+0.3**
	comp=Z,116nm,1.0s						
TYV	**Tymovskoe**	**13.23**	**355**	*e*P	**Pn**	**20 46 53.2**	**-2.5**
TYV				pmax	pmax		
	comp=Z,26nm,1.0s						
TJN	**Taejon**	**13.64**	**270**	*ce*P	**Pn**	**20 47 02.7**	**+1.5**
INCN	**Inchon**	**14.06**	**275**	*e*Pn	**Pn**	**20 47 08.0**	**+1.0**
KLR	**Kul'dur**	**14.71**	**326**	Pn	**Pn**	**20 47 14.3**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=130,slow=12,SNR=29						
KLR				LR	LR	20 53 36.9	
	comp=Z,278nm,18.3s,baz=142,slow=40						
SNY	**Shenyang**	**16.50**	**291**	⇓P	**Pn**	**20 47 37.9**	**-1.3**
SNY				S	**Sn**	**20 50 42.8**	**+0.6**
SNY				PMZ			
	comp=Z,10.0nm,1.0s						
SNY				PMZ			
	comp=Z,120nm,4.9s						
SNY				LN			
	comp=Z,560nm,12.6s						
SNY				LE			
	comp=Z,700nm,18.4s						
SNY				LZ			
	comp=Z,1μm,16.7s						
JOW	**Kunigami**	**17.35**	**236**	*e*Pn	**Pn**	**20 47 49.8**	**-0.3**
	comp=Z,30nm,0.9s						
DL2	**Dalian**	**17.88**	**281**	P	**Pn**	**20 47 54.8**	**-1.7**
DL2				PMZ			
	comp=Z,72nm,0.9s						
DL2				PMZ			
	comp=Z,270nm,4.7s						
DL2				LN			
	comp=Z,250nm,16.1s						
DL2				LE			
	comp=Z,450nm,13.2s						
DL2				LZ			
	comp=Z,400nm,16.5s						
PEA0	**Petropavlovsk-**	**18.00**	**27**	*e*Pn	**P**	**20 47 58.6**	**+0.1**
PETK	**Petropavlovsk-**	**18.00**	**27**	P	**Pn**	**20 47 57.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=175,slow=8.1,SNR=8.7						
PETK				LR	LR	20 57 06.7	
	comp=Z,275nm,18.1s,baz=211,slow=44						
PET	**Petropavlovsk**	**18.29**	**28**	*e*P	**P**	**20 48 02.4**	**+0.9**
PET				*e*S	**Sn**	**20 51 21.2**	**-4.2**
PET				pmax	pmax		
	comp=Z,100nm,11.5s						
PET				MLR	MLR		
	comp=Z,400nm,19.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
HIA	**Hailar**	**21.18**	**311**	*e*P	**P**	**20 48 30.8**	**-2.4**
HIA				pmax	pmax		
	comp=Z,15nm,0.7s						
HIA	**Hailar**	**21.18**	**311**	*e*P	**P**	**20 48 30.8**	**-2.4**
	comp=Z,15nm,0.7s						
TIA	**Tai'an**	**21.79**	**274**	⇓P	**P**	**20 48 38.8**	**-1.0**
TIA				PMZ			
	comp=Z,30nm,0.8s						
TIA				LN			
	comp=Z,230nm,11.5s						
TIA				LE			
	comp=Z,680nm,12.8s						
TIA				LZ			
	comp=Z,670nm,13.5s						
BJI	**Beijing**	**22.03**	**285**	P	**P**	**20 48 40.8**	**-1.6**
BJI				S	**S**	**20 52 39.8**	**-5.4**
BJI				PMZ			
	comp=Z,35nm,0.8s						
BJI				PMZ			
	comp=Z,260nm,3.6s						
BJI				LN			
	comp=Z,230nm,17.0s						
BJI				LE			
	comp=Z,340nm,15.1s						
BJT	**Baijiatuau**	**22.04**	**285**	*e*P	**P**	**20 48 41.2**	**-1.2**
BJT				pmax	pmax		
	comp=Z,50nm,0.8s						
BJT	**Baijiatuau**	**22.04**	**285**	*e*P	**P**	**20 48 41.2**	**-1.2**
	comp=Z,50nm,0.8s						
MA2	**Magadan**	**22.30**	**9**	P	**P**	**20 48 46.4**	**+1.4**
	comp=Z,7.3nm,0.5s,baz=208,slow=10,SNR=8.8						
MA2				LR	LR	20 57 35.0	
	comp=Z,122nm,21.2s,baz=212,slow=37						
CLNS	**Chul'man**	**23.12**	**332**	*e*P	**P**	**20 49 00.2**	**+6.4**
CLNS				*e**PP	sP	20 49 08.2	+10
CLNS				*e*		20 49 25.8	
CLNS				*e*		20 52 47.3	
CLNS				*e*SS	Sn	20 53 40.9	+19
CLNS				pmax	pmax		
	comp=Z,43nm,0.8s						
CLNS				pmax	pmax		
	comp=N,43nm,0.9s						
CLNS				pmax	pmax		
	comp=E,16nm,0.9s						
CLNS				pmax	pmax		
	comp=N,20nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,20nm,1.1s						
CLNS				pmax	pmax		
	comp=E,16nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,195nm,15.0s						
CLNS				MLR	MLR		
	comp=E,238nm,16.0s						
CLNS				MLR	MLR		
	comp=N,115nm,15.0s						
GUMO	**Guam**	**24.00**	**179**	LR	LR	20 56 05.7	
	comp=N,212nm,21.2s,baz=22,slow=31						
SSLB	**Suanglung**	**24.33**	**242**	*e*P	**P**	**20 49 06.5**	**+0.7**
	comp=N,38nm,1.4s						
TPUB	**Ta-pu**	**24.87**	**242**	*e*P	**P**	**20 49 10.8**	**+0.2**
	comp=N,53nm,1.2s						
SEY	**Seymchan**	**25.75**	**8**	P	**P**	**20 49 19.8**	**+1.6**
	comp=N,28nm,0.8s,baz=185,slow=6.6,SNR=78						
WHN	**Wuhan**	**25.77**	**263**	⇓P	**P**	**20 49 19.3**	**+0.6**
WHN				PMZ			
	comp=N,62nm,1.0s						
WHN				LZ			
	comp=N,1μm,12.6s						
CIT	**Chita**	**25.88**	**314**	*e*P	**P**	**20 49 21.1**	**+1.5**
CIT				*e*		20 49 34.2	
CIT				*e*		20 49 56.8	
CIT				pmax	pmax		
	comp=Z,87nm,1.8s						
YAK	**Yakutsk**	**26.02**	**344**	*e*P	**P**	**20 49 20.5**	**-0.1**
YAK				*e**PP	**sP**	**20 49 28.1**	**+2.5**
YAK				*e*		20 50 04.5	
YAK				*e*PPP	PPP	20 50 13.9	
YAK				*e*SS		20 55 04.4	
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
YAK				MLR	MLR		
	comp=Z,292nm,18.0s						
YAK				MLR	MLR		
	comp=N,251nm,17.0s						
YAK				MLR	MLR		
	comp=E,136nm,16.0s						
YAK	**Yakutsk**	**26.02**	**344**	*e*P	**P**	**20 49 21.1**	**+0.4**
	comp=E,30nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**26.55**	**126**	T	T	21 16 27.3	
	baz=317,slow=75,SNR=146						
H11N1	**WAKE ISLAND Hy**	**26.56**	**126**	T	T	21 16 28.7	
	baz=317,slow=75,SNR=63						
H11N3	**WAKE ISLAND Hy**	**26.57**	**126**	T	T	21 16 23.3	
	baz=317,slow=75,SNR=128						
BTO	**Baotou**	**26.69**	**287**	*e*P	**P**	**20 49 27.5**	**+0.4**
H11S1	**WAKE ISLAND Hy**	**27.33**	**128**	T	T	21 17 24.0	
	baz=318,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**27.33**	**128**	T	T	21 17 27.5	
	baz=318,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**27.35**	**128**	T	T	21 17 28.3	
	baz=318,slow=76,SNR=27						
BOD	**Bodaibo**	**28.28**	**325**	*e*P	**P**	**20 49 41.0**	**-0.1**
BOD				pmax	pmax		
	comp=Z,25nm,1.2s						
XAN	**Xi'an**	**28.84**	**274**	P	**P**	**20 49 48.3**	**+2.0**
XAN				pP	sP	20 49 54.1	+2.8
XAN				PMZ			
	comp=Z,11nm,0.8s						
XAN				LN			
	comp=Z,350nm,16.7s						
XAN				LZ			
	comp=Z,270nm,16.7s						
ULN	**Ulaanbaatar**	**28.95**	**303**	*e*P	**P**	**20 49 47.4**	**0.0**
ULN				pmax	pmax		
	comp=Z,35nm,1.3s						
ULN	**Ulaanbaatar**	**28.95**	**303**	*e*P	**P**	**20 49 47.4**	**0.0**
	comp=Z,35nm,1.3s						
SONA1	**Songino Array**	**29.39**	**302**	*e*P	**P**	**20 49 52.0**	**+0.8**
SONM	**Songino Array**	**29.39**	**302**	P	**P**	**20 49 52.5**	**+1.3**
	comp=Z,5.5nm,0.8s,baz=92,slow=8.4,SNR=21						
SONM				LR	LR	21 02 53.1	
	comp=Z,313nm,18.1s,baz=60,slow=39						
SONM	**Songino Array**	**29.39**	**302**	P	**P**	**20 49 52.5**	**+1.3**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,313nm,18.1s						
ENH	**Enshi**	**29.72**	**266**	*e*P	**P**	**20 49 57.2**	**+3.1**
	comp=Z,70nm,0.8s						
TLY	**Talaya**	**31.70**	**309**	*e*P	P	20 50 19.3	+7.9
TLY				*e*S	**S**	**20 55 21.6**	**+0.9**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,397nm,20.0s						
ZAK	**Zakamensk**	**31.73**	**307**	*e*P	**P**	**20 50 15.7**	**+3.9**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
LZH	**Lanzhou**	**32.27**	**280**	*e*P	**P**	**20 50 19.3**	**+2.6**
LZH				pP	sP	20 50 25.3	+3.6
LZH				sP	pP	20 50 28.8	+8.6
LZH				PP	**PnPn**	**20 51 17.6**	**-5.2**
LZH				S	**S**	**20 55 33.5**	**+3.4**
LZH				PMZ			
	comp=Z,31nm,1.2s						
LZH				PMZ			
	comp=Z,140nm,4.3s						
LZH				LN			
	comp=Z,1μm,14.0s						
LZH				LE			
	comp=Z,740nm,13.5s						
LZH				LZ			
	comp=Z,1μm,16.4s						
BILL	**Bilibino**	**32.77**	**15**	*e*P	**P**	**20 50 20.8**	**+0.2**
BILL				*e*		20 51 28.2	
BILL				*e*PPP	PPP	20 51 39.3	
BILL				pmax	pmax		
	comp=Z,39nm,1.7s						
BILL				MLR	MLR		
	comp=Z,173nm,21.0s						
BILL	**Bilibino**	**32.77**	**15**	*e*P	**P**	**20 50 21.0**	**+0.5**
	comp=Z,18nm,0.9s						
MOY	**Mondy**	**33.33**	**309**	*e*P	P	20 50 31.1	+5.3
GYA	**Guiyang**	**33.63**	**262**	⇑*i*P	**P**	**20 50 31.9**	**+3.2**
GYA				PP	**PnPn**	**20 51 42.0**	**+1.6**
GYA				S	**S**	**20 55 50.8**	**-0.6**
GYA				ScP	**ScP**	**20 56 53.4**	**+0.2**
GYA				SS	**SnSn**	**20 57 54.3**	**-0.4**
GYA				PMZ			
	comp=Z,30nm,0.9s						
GYA				PMZ			
	comp=Z,130nm,5.0s						
GYA				LN			
	comp=Z,590nm,17.8s						
GYA				LE			
	comp=Z,560nm,18.0s						
GYA				LZ			
	comp=Z,580nm,18.2s						
CD2	**Chengdu**	**34.01**	**271**	*e*P	**P**	**20 50 31.5**	**-0.4**
CD2				pP	pP	20 50 34.8	-0.6
CD2				sP	sP	20 50 36.1	-0.7
CD2				S	**S**	**20 55 57.0**	**0.0**
CD2				sS	sS	20 56 02.5	-0.3
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
CD2				LN			
	comp=Z,620nm,13.5s						
CD2				LE			
	comp=Z,560nm,15.0s						
CD2				LZ			
	comp=Z,490nm,17.0s						
GTA	**Gaotai**	**34.61**	**287**	*e*P	**P**	**20 50 37.4**	**+0.3**
GTA				pP	sP	20 50 46.8	+4.7
GTA				sP	pP	20 50 50.5	+10
GTA				S	**S**	**20 56 08.3**	**+1.9**
GTA				PMZ			
	comp=Z,5.0nm,1.8s						
GTA				PMZ			
	comp=Z,190nm,4.6s						
GTA				LN			
	comp=Z,230nm,13.8s						
GTA				LE			
	comp=Z,290nm,16.2s						
GTA				LZ			
	comp=Z,330nm,18.1s						
TIXI	**Tiksi**	**34.96**	**352**	P	**P**	**20 50 39.4**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=147,slow=7.0,SNR=9.1						
TIXI	**Tiksi**	**34.96**	**352**	*e*P	**P**	**20 50 39.7**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
QIZ	**Qiongzhong**	**35.33**	**248**	P	**P**	**20 50 42.3**	**-1.0**
QIZ				S	**S**	**20 56 17.5**	**0.0**
QIZ				LN			
	comp=Z,270nm,28.1s						
KMI	**Kunming**	**37.37**	**263**	P	**P**	**20 51 01.6**	**+0.6**
KMI				PMZ			
	comp=Z,14nm,0.5s						
KMI				PMZ			
	comp=Z,150nm,4.3s						
KMI				LN			
	comp=Z,480nm,11.2s						
KMI				LE			
	comp=Z,420nm,10.2s						
KMI				LZ			
	comp=Z,370nm,15.9s						
NONG	**Nongkai**	**40.93**	**253**	P	**P**	**20 51 35.3**	**+4.7**
	comp=Z,54nm,1.0s						
WMQ	**Urumqi**	**42.64**	**297**	P	**P**	**20 51 46.0**	**+1.6**
WMQ				pP	sP	20 51 51.0	+1.6
WMQ				sP	pP	20 51 53.0	+5.1
WMQ				S	**S**	**20 58 08.8**	**+1.6**
WMQ				PMZ			
	comp=Z,9.0nm,1.0s						
WMQ				PMZ			
	comp=Z,71nm,3.8s						
WMQ				LN			
	comp=Z,97nm,17.4s						
WMQ				LE			
	comp=Z,89nm,19.4s						
WMQ				LZ			
	comp=Z,48nm,18.8s						
LOEI	**Loei**	**42.70**	**254**	P	**P**	**20 51 42.9**	**-2.1**
	comp=Z,12nm,0.

comp=Z,12nm,1.0s
SVW2 Sparrevohn 43.58 38 *e*P **P 20 51 52.7 +1.0**
comp=Z,26nm,1.0s
NRIK Noril'sk 43.67 335 P **P 20 51 51.8 -0.5**
comp=Z,4.5nm,0.7s,baz=113,slow=7.7,SNR=4.0
NRIK LR LR 21 11 10.2
comp=Z,299nm,19.6s,baz=108,slow=38
CMMT Chiang Mai 43.72 257 P **P 20 51 53.5 +0.2**
comp=Z,13nm,1.1s
CHTO Chiang Mai 43.72 257 P **P 20 51 53.5 +0.2**
comp=Z,60nm,1.2s
CHTO Chiang Mai 43.72 257 *e*P **P 20 51 53.5 +0.2**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 43.72 257 *e*P **P 20 51 53.5 +0.2**
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 43.92 257 P **P 20 51 55.2 +0.3**
comp=Z,2.7nm,0.8s,baz=45,slow=6.6,SNR=30
CMAR LR LR 21 11 46.0
comp=Z,147nm,18.8s,baz=85,slow=38
CM01 Chiang Mai Arr 43.93 257 *e*P **P 20 51 54.3 -0.7**
NVS Novosibirsk 44.09 313 *e*P P 20 52 00.8 +5.0
NVS pmax pmax
comp=Z,13nm,1.1s
NVS pmax pmax
comp=E,7.0nm,1.2s
LSA Lhasa 44.48 276 *e*P P 20 52 06.0 +6.2
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 44.48 276 *e*P P 20 52 06.0 +6.2
comp=Z,7.2nm,0.8s
KDAK Kodiak Island 45.05 42 *ce*P **P 20 52 03.5 +0.1**
KDAK Kodiak Island 45.05 42 *e*P **P 20 52 03.3 -0.1**
comp=Z,27nm,0.8s
PPLA Purkeypile 45.30 35 *e*P **P 20 52 07.1 +1.6**
comp=Z,48nm,1.3s
SPU Mount Spurr 45.30 38 *e*P **P 20 52 06.6 +1.2**
CAST Castle Rocks 45.37 34 *e*P **P 20 52 07.5 +1.6**
comp=Z,16nm,0.8s
SHL Shillong 45.75 270 *e*P P 20 52 17.0 +7.4
MK01 Makanchi Array 45.76 302 *e*P **P 20 52 09.5 +0.2**
MKAR Makanchi Array 45.76 302 P **P 20 52 09.4 +0.1**
comp=Z,1.7nm,0.6s,baz=82,slow=10,SNR=18
MKAR LR LR 21 12 55.9
comp=Z,110nm,18.2s,baz=81,slow=38
MKAR Makanchi Array 45.76 302 *e*P **P 20 52 09.6 +0.3**
MKAR Makanchi Array 45.76 302 *e*P **P 20 52 09.6 +0.3**
BPAW Bear Paw Mtn. 45.90 34 *e*P **P 20 52 11.1 +1.0**
comp=Z,54nm,1.8s
KTH Kantishna Hill 45.90 34 *e*P **P 20 52 11.3 +1.1**
comp=Z,39nm,1.0s
SUA Susitna One 45.93 37 *e*P **P 20 52 10.9 +0.4**
comp=Z,17nm,1.1s
MAKZ Makanchi 45.97 302 *e*P **P 20 52 11.6 +0.7**
MAKZ pmax pmax
comp=Z,10.0nm,0.9s
MAKZ Makanchi 45.97 302 *e*P **P 20 52 11.6 +0.7**
comp=Z,10nm,0.9s
MLY Manley 46.06 32 *e*P **P 20 52 12.8 +1.4**
comp=Z,30nm,0.8s
TRF Thorofare Moun 46.18 34 *e*P **P 20 52 13.5 +1.0**
comp=Z,13nm,0.8s
RC01 Rabbit Creek A 46.42 38 *e*P **P 20 52 14.8 +0.5**
comp=Z,32nm,1.2s
COLD Coldfoot 46.45 29 *e*P **P 20 52 11.5 -2.8**
comp=Z,6.1nm,0.9s
BWN Browne 46.56 33 *e*P **P 20 52 17.5 +2.2**
comp=Z,86nm,1.0s
PMR Palmer 46.70 37 *e*P **P 20 52 16.9 +0.5**
PMR pmax pmax
comp=Z,32nm,1.1s
PMR Palmer 46.70 37 *e*P **P 20 52 16.9 +0.5**
comp=Z,32nm,1.1s
MCK McKinley 46.79 34 *e*P **P 20 52 18.0 +0.9**
MCK pmax pmax
comp=Z,22nm,0.9s
MCK McKinley 46.79 34 *e*P **P 20 52 18.0 +0.9**
comp=Z,22nm,0.9s
RND Reindeer 46.82 35 *e*P **P 20 52 17.7 +0.2**
RND pmax pmax
comp=Z,33nm,0.9s
RND Reindeer 46.82 35 *e*P **P 20 52 17.7 +0.2**
comp=Z,33nm,0.9s
SML Sawmill 47.08 37 *e*P **P 20 52 20.0 +0.6**
SML pmax pmax
comp=Z,35nm,1.0s
SML Sawmill 47.08 37 *e*P **P 20 52 20.0 +0.6**
comp=Z,35nm,1.0s
MDM Murphy Dome 47.12 32 *e*P **P 20 52 20.8 +1.1**
comp=Z,50nm,0.9s
WRH Wood River Hil 47.17 33 *e*P **P 20 52 20.9 +0.9**
comp=Z,14nm,0.8s
CCB Clear Creek Bu 47.30 33 *e*P **P 20 52 21.7 +0.7**
comp=Z,5.5nm,0.9s
KURK Kurchatov 47.38 308 *e*P **P 20 52 21.3 -0.5**
KURK pmax pmax
comp=Z,184nm,0.7s
KURK Kurchatov 47.38 308 *e*P **P 20 52 21.3 -0.5**
comp=Z,184nm,0.7s
DHY Denali Highway 47.49 35 *e*P **P 20 52 23.5 +0.7**
comp=Z,12nm,1.0s
SCM Sheep Creek Mo 47.56 37 *e*P **P 20 52 24.0 +0.8**
SCM pmax pmax
comp=Z,38nm,1.0s
SCM Sheep Creek Mo 47.56 37 *e*P **P 20 52 24.0 +0.8**
comp=Z,38nm,1.0s
HDA Harding Lake 47.67 33 *e*P **P 20 52 24.2 +0.3**
comp=Z,26nm,0.9s
IL1 Eielson Array 47.69 33 *e*P **P 20 52 23.9 -0.2**
ILAR Eielson Array 47.69 33 P **P 20 52 24.1 0.0**
comp=Z,22nm,0.8s,baz=263,slow=6.4,SNR=197
ILAR LR LR 21 13 10.9
comp=Z,48nm,20.8s,baz=275,slow=37
ILB Eielson Array 47.69 33 *e*P **P 20 52 24.3 +0.2**
KLU Klutina 48.24 37 *e*P **P 20 52 29.5 +1.0**
comp=Z,36nm,1.1s
DIV Divide 48.34 38 *e*P **P 20 52 30.3 +1.0**
comp=Z,55nm,1.2s
EYAK Cordova Ski Ar 48.40 38 *e*P **P 20 52 31.1 +1.5**
comp=Z,28nm,1.2s
BMRM Bremner River 48.92 38 *e*P **P 20 52 35.2 +1.4**
comp=Z,33nm,1.2s
RAGM Ragged Mountai 48.95 39 *e*P **P 20 52 35.6 +1.7**
comp=Z,51nm,1.4s
DOT Dot Lake 48.96 34 *e*P **P 20 52 34.5 +0.5**
comp=Z,30nm,0.8s
MENT Mentasta 49.17 35 *e*P **P 20 52 37.4 +1.8**
comp=Z,20nm,1.0s
RAMN Ramite 49.28 275 *e*P P 20 52 44.5 +7.3
comp=Z,37nm,0.7s
GUN Gumba 49.41 277 *e*P P 20 52 46.2 +7.9
comp=Z,59nm,0.7s
CRQM Cirque 49.66 38 *e*P **P 20 52 40.6 +1.1**
comp=Z,54nm,1.1s
KKN Kakani 49.94 277 *e*P P 20 52 49.2 +7.0
comp=Z,25nm,0.6s
PKIN Phulchoki 49.95 277 *e*P P 20 52 49.6 +7.3
comp=Z,9.0nm,0.6s
BALM Baldy 50.01 37 *e*P **P 20 52 43.0 +0.9**
BALM pmax pmax
comp=Z,20nm,1.1s
BALM Baldy 50.01 37 *e*P **P 20 52 43.0 +0.9**
comp=Z,20nm,1.1s
EGAK Eagle 50.14 33 *e*P **P 20 52 43.4 +0.5**
comp=Z,31nm,1.6s
GKN Gorkha 50.35 277 *e*P P 20 52 51.9 +6.7
comp=Z,37nm,0.8s
DAWY Dawson 50.98 33 *e*P **P 20 52 50.2 +0.9**
comp=Z,39nm,2.0s
PCA Pinnacle 51.17 38 *e*P **P 20 52 53.1 +2.3**
comp=Z,22nm,1.2s
TKM2 Tokmak 2 51.38 299 *e*P **P 20 52 53.8 +1.0**
TKM2 pmax pmax
comp=Z,65nm,1.6s
TKM2 Tokmak 2 51.38 299 *e*P **P 20 52 53.8 +1.0**
comp=Z,64nm,1.6s
PYUN Piuthan 51.60 278 *e*P P 20 53 00.7 +6.0
comp=Z,46nm,0.8s
BVAR Borovoye Array 51.87 312 P **P 20 52 56.5 +0.4**
comp=Z,0.9nm,0.5s,baz=66,slow=7.9,SNR=9.5
BRVK Borovoye 51.92 312 *ce*P **P 20 52 58.1 +1.7**
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 51.92 312 *e*P **P 20 52 57.3 +0.9**
comp=Z,15nm,0.8s
FRU Bishkek 52.09 299 *e*P **P 20 53 01.0 +3.1**
FRU *e* 20 53 11.0

AAK Ala-Archa 52.24 299 *e*P **P 20 53 00.0 +0.8**
AAK pmax pmax
comp=Z,32nm,0.7s
AAK Ala-Archa 52.24 299 *e*P **P 20 52 60.0 +0.8**
comp=Z,32nm,0.7s
KSH Kashi 52.27 295 *e*P P 20 53 04.3 +4.9
KSH pP sP 20 53 07.5 +3.0
KSH PcP **PcP 20 54 15.3 +4.6**
KSH PP PP 20 55 05.8 +8.1
KSH S **S 21 00 29.8 +5.3**
KSH ScS **ScS 21 02 52.0 +2.5**
KSH SS **SS 21 04 06.8 +5.1**
KSH PMZ
comp=Z,2.0nm,0.5s
KSH PMZ
comp=Z,95nm,4.2s
KSH LN
comp=Z,110nm,9.3s
KSH LE
comp=Z,170nm,5.9s
KSH LZ
comp=Z,190nm,12.9s
ZRNK Zerenda 52.69 313 *e*P **P 20 53 02.8 +0.6**
ZRNK pmax pmax
comp=Z,15nm,0.9s
ZRNK Zerenda 52.69 313 *e*P **P 20 53 02.8 +0.6**
comp=Z,15nm,0.9s
EKS2 Erkin-Say 52.73 299 *e*P **P 20 53 03.7 +1.0**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 52.73 299 *e*P **P 20 53 03.7 +1.0**
comp=Z,4.8nm,0.8s
INK Inuvik 52.74 28 P **P 20 53 03.0 +0.8**
comp=Z,10nm,0.8s,baz=282,slow=6.1,SNR=19
INK Inuvik 52.74 28 *e*P **P 20 53 03.5 +1.2**
INK pmax pmax
comp=Z,16nm,0.9s
INK Inuvik 52.74 28 *e*P **P 20 53 03.5 +1.2**
comp=Z,16nm,0.9s
SKAG Skagway 53.74 39 *e*P **P 20 53 11.7 +2.0**
comp=Z,22nm,1.3s
KKAR Karatay Array 54.82 301 *e*P **P 20 53 18.3 +0.4**
KKAR Karatay Array 54.82 301 *e*P **P 20 53 18.3 +0.4**
WRAK Wrangell Islan 56.12 42 *e*P **P 20 53 28.6 +1.6**
comp=Z,9.4nm,0.9s
SVE Sverdlovsk 56.20 319 *e*P **P 20 53 28.5 +0.9**
SVE pmax pmax
comp=Z,21nm,1.1s
DLBC Dease Lake 56.66 39 P **P 20 53 31.9 +0.9**
comp=Z,4.9nm,0.8s,baz=304,slow=11,SNR=9.3
DLBC Dease Lake 56.66 39 *e*P **P 20 53 33.1 +2.1**
comp=Z,18nm,1.3s
ARU Arti 57.42 319 *d*iP **P 20 53 36.3 0.0**
ARU 20 54 27.2
ARU 20 55 41.3
ARU S **S 21 01 34.9 +2.1**
ARU SS **SS 21 05 16.2 -5.6**
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 57.42 319 *e*P **P 20 53 36.8 +0.5**
comp=Z,10nm,0.8s
WRAB Tennant Creek 58.07 191 *ce*P **P 20 53 39.6 -1.6**
WRAB pmax pmax
comp=Z,80nm,1.7s
WRA Warramunga Arr 58.09 191 P **P 20 53 38.1 -3.2**
comp=Z,10nm,0.8s,baz=12,slow=7.3,SNR=5.8
ABKAR Akbulak array 59.30 311 *e*P **P 20 53 49.6 0.0**
AKTO Aktyubinsk 59.97 313 P **P 20 53 53.9 -0.3**
comp=Z,3.3nm,0.8s,baz=68,slow=10,SNR=7.6
RES Resolute Bay 61.38 15 P **P 20 54 02.0 -1.3**
comp=Z,12nm,0.9s,baz=334,slow=5.3,SNR=8.3
RES Resolute Bay 61.38 15 *e*P **P 20 54 03.4 0.0**
comp=Z,15nm,0.9s
ASAR Alice Springs 61.81 191 LR LR 21 19 35.7
comp=Z,48nm,21.5s,baz=17,slow=35
YKA Yellowknife Ar 62.06 31 P **P 20 54 08.2 +0.1**
comp=Z,2.9nm,0.8s,baz=302,slow=6.7,SNR=15
ARCES ARCESS Array B 64.20 340 P **P 20 54 21.9 -0.3**
comp=Z,1.9nm,0.8s,baz=7.6,slow=3.7,SNR=3.7
ARCES LR LR 21 27 07.3
comp=Z,123nm,18.5s,baz=47,slow=40
OSR Olympics--Salm 64.43 49 P **P 20 54 26.2 +2.0**
KLMR Klimovskoe 64.45 328 *e*P **P 20 54 22.3 -1.6**
KLMR *e* 20 56 45.5
KLMR pmax pmax
comp=Z,7.0nm,1.2s
NLWA Neilton Lookou 64.54 49 *e*P **P 20 54 26.9 +2.0**
comp=Z,47nm,0.8s
A04D Lummi Island 64.59 47 P **P 20 54 25.8 +0.7**
baz=299
E03A Lebam 65.13 49 *e*P **P 20 54 30.4 +1.8**
comp=Z,34nm,0.9s
B05A Bryant 65.17 47 P **P 20 54 29.7 +0.9**
baz=299
DAG Danmarks Havn 65.32 356 *i*P **P 20 54 29.1 -0.3**
DAG pmax pmax
comp=Z,14nm,1.1s
DAG Danmarks Havn 65.32 356 *i*P **P 20 54 29.1 -0.3**
comp=Z,11nm,1.1s
GEYT Alibeck 65.56 300 P **P 20 54 31.4 -0.2**
comp=Z,1.2nm,0.6s,baz=84,slow=30,SNR=3.1
GEYT LR LR 21 25 50.0
comp=Z,136nm,18.2s,baz=35,slow=38
D05A Enumclaw 65.76 48 *e*P **P 20 54 34.6 +1.9**
comp=Z,30nm,0.9s
G03D McMinnville, O 65.97 51 P **P 20 54 35.4 +1.3**
baz=300
C06D Leavenworth 66.03 47 P **P 20 54 35.4 +0.9**
baz=300
LON Longmire 66.08 49 *e*P **P 20 54 36.0 +1.1**
LON pmax pmax
comp=Z,16nm,1.4s
LON Longmire 66.08 49 *e*P **P 20 54 36.0 +1.1**
comp=Z,16nm,1.4s
COCO West Island 66.66 232 *i*P **P 20 54 39.5 +0.7**
I03D Drain, OR 66.68 52 P **P 20 54 39.8 +1.2**
baz=300
VFP Flag Point 67.01 50 P **P 20 54 42.2 +1.1**
G05D Wamic, OR 67.14 50 P **P 20 54 42.6 +1.0**
baz=301
I04A Tendick Farm, 67.21 52 P **P 20 54 42.8 +0.7**
baz=301,SNR=5.5
L02D Cave Junction, 67.30 54 P **P 20 54 43.3 +0.6**
baz=301
I05D Terrebonne, OR 67.59 51 P **P 20 54 45.1 +0.5**
baz=301
VTHM Trough 67.63 50 P **P 20 54 45.7 +0.9**
KHMM Horse Mountain 67.87 55 *e*P **P 20 54 48.5 +2.0**
comp=Z,23nm,0.9s
NEW Newport 68.02 45 P **P 20 54 48.1 +0.9**
comp=Z,8.9nm,0.9s,baz=312,slow=6.2,SNR=7.3
NEW Newport 68.02 45 P **P 20 54 47.6 +0.4**
baz=302
NEW Newport 68.02 45 *e*P **P 20 54 48.1 +0.9**
comp=Z,16nm,1.0s
YBH Yreka Blue Hor 68.09 54 *e*P **P 20 54 49.0 +1.2**
YBH pmax pmax
comp=Z,21nm,1.0s
YBH Yreka Blue Hor 68.09 54 *e*P **P 20 54 49.0 +1.2**
comp=Z,21nm,1.0s
BUOR Burton Butte 68.10 53 P **P 20 54 49.2 +1.3**
M02C Callahan 68.17 54 P **P 20 54 49.8 +1.5**
baz=302
J05D Fort Rock, OR 68.21 52 P **P 20 54 49.9 +1.3**
baz=302,SNR=8.9
K04D Chiloquin, OR 68.23 52 P **P 20 54 49.5 +0.8**
baz=302
M04C Macdoel 68.61 53 P **P 20 54 52.2 +1.1**
baz=302
K05A Summer Lake 68.71 52 *e*P **P 20 54 53.2 +1.4**
WDC Whiskeytown Da 68.80 55 *e*P **P 20 54 52.9 +0.8**
WDC pmax pmax
comp=Z,14nm,1.0s
WDC Whiskeytown Da 68.80 55 *e*P **P 20 54 52.9 +0.8**
comp=Z,14nm,1.0s
OBN Obninsk 68.96 324 *e*P **P 20 54 52.6 -0.2**
OBN *e* 20 55 23.4
OBN *e* 20 57 28.7
OBN pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 69.31 333 P **P 20 54 54.8 -0.2**
comp=Z,4.1nm,0.7s,baz=45,slow=8.4,SNR=12
FINES LR LR 21 26 55.0
comp=Z,106nm,21.7s,baz=56,slow=37
WALA Waterton Lakes 69.37 43 *e*P **P 20 54 56.5 +0.8**
O03D Paynes Creek 69.43 55 P **P 20 54 56.5 +0.3**
baz=302
BMO Blue Mountains 69.76 49 *e*P **P 20 54 58.8 +0.7**
BMO pmax pmax
comp=Z,13nm,1.0s
BMO Blue Mountains 69.76 49 *e*P **P 20 54 58.8 +0.7**
comp=Z,13nm,1.0s
ORV Oroville 70.02 55 *e*P **P 20 55 00.2 +0.5**
ORV Oroville 70.02 55 *e*P **P 20 55 00.2 +0.5**
SUMG Summit 70.02 1 *i*P **P 20 55 00.0 +0.4**
SUMG pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 70.02 1 *i*P **P 20 55 00.0 +0.4**
comp=Z,9.5nm,0.9s
SUMG Summit 70.02 1 *e*P **P 20 55 00.1 +0.4**
SWMT Swartz Lake 70.19 45 *e*P **P 20 55 01.6 +0.8**
WVOR Wild Horse Val 70.28 51 *e*P **P 20 55 02.0 +0.6**
WVOR pmax pmax
comp=Z,15nm,1.1s
WVOR Wild Horse Val 70.28 51 *e*P **P 20 55 02.0 +0.6**
comp=Z,15nm,1.1s
PAHR Pah Rah Range 71.31 54 *e*P **P 20 55 08.7 +0.9**
CMB Columbia Colle 71.58 56 *e*P **P 20 55 10.3 +1.0**
CMB Columbia Colle 71.58 56 *e*P **P 20 55 10.3 +1.0**
FFC Flin Flon 71.88 34 *e*P **P 20 55 10.7 0.0**
FFC pmax pmax
comp=Z,22nm,1.3s
FFC Flin Flon 71.88 34 *e*P **P 20 55 10.7 0.0**
comp=Z,22nm,1.3s
WAKR Walker 71.94 55 *e*P **P 20 55 13.0 +1.4**
LRM Limekiln Ridge 72.03 46 *e*P **P 20 55 12.5 +0.4**
HLID Hailey 72.20 48 P **P 20 55 13.8 +0.7**
baz=305
HLID Hailey 72.20 48 *e*P **P 20 55 14.1 +1.0**
DLMT Dillon 72.22 46 *e*P **P 20 55 13.8 +0.7**
KIV Kislovodsk 72.23 312 *e*P **P 20 55 13.9 +0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 72.23 312 *e*P **P 20 55 17.1 +4.0**
KBZ Khabaz 72.24 312 P **P 20 55 14.5 +1.5**
comp=Z,3.0nm,1.0s,baz=350,slow=5.9,SNR=4.2
KBZ LR LR 21 32 28.7
comp=Z,72nm,18.5s,baz=48,slow=40
BMN Battle Mountai 72.27 52 *e*P **P 20 55 14.4 +0.8**
BMN Battle Mountai 72.27 52 *e*P **P 20 55 14.4 +0.8**
BOZ Bozeman (W) 72.60 45 P **P 20 55 16.0 +0.5**
baz=306
BOZ Bozeman (W) 72.60 45 *e*P **P 20 55 15.9 +0.5**
BOZ Bozeman (W) 72.60 45 *e*P **P 20 55 15.9 +0.5**
NEY Neytrino 72.62 311 *i*P **P 20 55 15.2 -0.4**
RCTC Rector, Farmer 73.30 57 P **P 20 55 20.1 +0.6**
baz=305
ELK Elko 73.33 51 *e*P **P 20 55 20.8 +0.9**
ELK pmax pmax
comp=Z,7.0nm,1.4s
ELK Elko 73.33 51 *e*P **P 20 55 20.8 +0.9**
comp=Z,6.6nm,1.4s
SMMC Simmler 73.36 58 P **P 20 55 20.5 +0.6**
baz=305
TIN Tinemaha, Big 73.55 56 P **P 20 55 21.5 +0.4**
baz=305
GCMT Greycliff 73.62 45 *e*P **P 20 55 21.9 +0.5**
VES Vestal, Richgr 73.67 57 P **P 20 55 21.7 0.0**
baz=305
PKM Mcpherson Peak 73.72 58 P **P 20 55 23.1 +0.9**
baz=305,SNR=5.9
YPP Pitchstone Pla 73.89 46 *e*P **P 20 55 25.2 +2.0**
H17A Grant Village 73.95 46 P **P 20 55 25.4 +1.9**
baz=307
H17A Grant Village 73.95 46 *e*P **P 20 55 25.8 +2.3**
comp=Z,6.0nm,0.8s
CWC Cottonwood Cre 74.00 56 P **P 20 55 24.1 +0.3**
baz=305
IMW Indian Meadow 74.04 47 *e*P **P 20 55 25.3 +1.2**
comp=Z,7.5nm,0.9s
FLWY Flagg Ranch 74.07 46 *e*P **P 20 55 26.0 +1.8**
GRAC Grapevine Rang 74.14 55 P **P 20 55 25.2 +0.7**
baz=306
FXWY Fox Creek 74.15 47 *e*P **P 20 55 25.7 +1.1**
ISA Isabella, Lake 74.18 57 P **P 20 55 24.3 -0.5**
baz=305
MOOW Moose Ponds 74.24 47 *e*P **P 20 55 26.5 +1.3**
RLMT Red Lodge 74.25 45 P **P 20 55 25.4 +0.2**
baz=308
ARVC Arvin 74.25 58 P **P 20 55 25.0 -0.1**
baz=305
TPAW Teton Pass 74.28 47 *e*P **P 20 55 26.9 +1.5**
DAC Darwin (Calif) 74.41 56 *e*P **P 20 55 26.8 +0.5**
DAC Darwin (Calif) 74.41 56 *e*P **P 20 55 26.8 +0.5**
REDW Red Top Meadow 74.42 47 *e*P **P 20 55 27.4 +1.2**
NB2 NORSAR Subarra 74.47 338 P **P 20 55 25.6 -0.3**
comp=Z,4.4nm,0.8s,baz=39,slow=5.9
NOA NORSAR Array B 74.47 338 P **P 20 55 25.7 -0.3**
comp=Z,4.6nm,0.8s,baz=38,slow=5.8,SNR=15
NOA LR LR 21 33 37.6
comp=Z,111nm,20.1s,baz=55,slow=40
R11A Troy Canyon, C 74.51 53 P **P 20 55 27.1 +0.3**
baz=306,SNR=24
R11A Troy Canyon, C 74.51 53 *e*P **P 20 55 27.1 +0.3**
BGU Big Grassy Mou 74.58 50 *e*P **P 20 55 28.2 +1.1**
MPMC Manual Prospec 74.61 56 P **P 20 55 27.5 +0.1**
baz=306,SNR=6.4
OSI Osito Audit: C 74.62 58 P **P 20 55 27.5 +0.2**
baz=305
BLG Laguna Peak, P 74.68 59 P **P 20 55 27.5 -0.1**
baz=305
FURC Furnace Creek, 74.78 56 P **P 20 55 28.8 +0.7**
baz=306
LRMC Laurel Mtn Rad 74.81 57 P **P 20 55 28.6 0.0**
baz=306,SNR=5.4
DGMT Dagmar 74.86 40 P **P 20 55 28.2 -0.2**
baz=310
SNCC San Nicolas Is 74.86 60 P **P 20 55 28.8 +0.1**
baz=305
TPNV Topopah Spring 74.90 55 P **P 20 55 29.3 +0.3**
baz=306,SNR=12
TPNV Topopah Spring 74.90 55 *e*P **P 20 55 29.5 +0.4**
TPNV Topopah Spring 74.90 55 *e*P **P 20 55 29.4 +0.4**
LAO LASA Array 74.94 42 P **P 20 55 29.0 0.0**
baz=309
LAO LASA Array 74.94 42 *e*P **P 20 55 30.2 +1.3**
EDW2 Edwards Air Fo 74.95 58 P **P 20 55 29.5 +0.2**
baz=306,SNR=8.1
HWUT Hardware Ranch 75.06 49 *e*P **P 20 55 31.0 +1.1**
A25A Svangstu Ranch 75.10 39 P **P 20 55 29.6 -0.3**
baz=311
DUG Dugway, Tooele 75.15 51 P **P 20 55 30.8 +0.4**
baz=307
DUG Dugway, Tooele 75.15 51 *e*P **P 20 55 31.1 +0.7**
DUG Dugway, Tooele 75.15 51 *e*P **P 20 55 31.1 +0.7**
AKASG Malin Array Be 75.19 323 P **P 20 55 30.9 +0.6**
comp=Z,1.3nm,0.4s,baz=263,slow=24,SNR=6.7
AKASG LR LR 21 30 14.2
comp=Z,64nm,20.2s,baz=40,slow=37
KIEV Kiev 75.21 323 *e*P **P 20 55 30.1 -0.2**
KIEV pmax pmax
comp=Z,5.0nm,1.1s
GSC Goldstone, Bar 75.50 57 P **P 20 55 32.4 0.0**
baz=306
GSC Goldstone, Bar 75.50 57 *e*P **P 20 55 33.1 +0.7**
GSC Goldstone, Bar 75.50 57 *e*P **P 20 55 33.1 +0.7**
BW06 Boulder Array 75.53 47 P **P 20 55 32.5 -0.2**
baz=308
BW06 Boulder Array 75.53 47 *e*P **P 20 55 32.3 -0.3**
PD31 Pinedale Array 75.53 47 *e*P **P 20 55 32.9 +0.2**
PDAR Pinedale Array 75.53 47 P **P 20 55 32.5 -0.2**
comp=Z,2.2nm,0.7s,baz=275,slow=3.2,SNR=17
BFSC Mount Baldy Ra 75.55 58 P **P 20 55 33.1 +0.3**
baz=306
FRB Frobisher Bay 75.59 14 P **P 20 55 32.1 -0.1**
comp=Z,9.2nm,1.0s,baz=314,slow=5.3,SNR=4.4
RRX Edison Barstow 75.62 57 P **P 20 55 33.4 +0.4**
baz=306
A26A Wade Farm, Ken 75.66 39 P **P 20 55 33.0 -0.1**
baz=312
C25A Freed Ranch, W 75.83 40 P **P 20 55 33.7 -0.4**
baz=311
B26A Jensen Ranch, 75.91 39 P **P 20 55 34.5 0.0**
baz=312
TUQ Turquoise Moun 76.00 56 P **P 20 55 35.4 +0.1**
baz=306
A27A Ledoux Ranch, 76.02 38 P **P 20 55 35.1 0.0**
baz=312
HEC Hector,Ludlow 76.09 57 P **P 20 55 35.7 -0.1**
baz=306,SNR=6.0
MURC Murrieta 76.24 58 P **P 20 55 36.4 -0.2**
baz=306

CCUT	Cedar City	76.40	53	*eP*		P		20 55 38.8	+1.1
A28A	Rude Farm, Bot	76.52	38	P		P		20 55 37.9	-0.1
	baz=313								
GMRC	Granite Mounta	76.56	56	P		P		20 55 38.6	0.0
	baz=307,SNR=5.5								
D26A	Manning	76.70	40	P		P		20 55 38.6	-0.3
	baz=312								
109C	Camp Elliot, M	76.72	59	P		P		20 55 39.3	0.0
	baz=306								
PFO	Pinyon Flats O	76.72	58	P		P		20 55 39.1	-0.4
	comp=Z,5.8nm,1.1s,baz=290,slow=4.1,SNR=5.9								
PFO	Pinyon Flats O	76.72	58	P		P		20 55 39.4	-0.1
	baz=307								
TPFO	Pinon Flats	76.73	58	P		P		20 55 39.5	-0.1
	baz=307,SNR=6.3								
B28A	Dugan Ranch, T	76.79	38	P		P		20 55 39.4	0.0
	baz=313								
LCMT	Little Creek M	76.80	53	*eP*		P		20 55 41.0	+1.1
BELC	Belle Mtn. Jos	76.80	57	P		P		20 55 39.5	-0.4
	baz=307								
MTPU	Mount Pierson	76.84	52	*eP*		P		20 55 41.8	+1.4
P17A	Butcher Ranch,	76.86	50	*eP*		P		20 55 41.3	+1.1
F25A	Bowman	76.90	42	P		P		20 55 39.9	-0.3
	baz=311								
A29A	Manning Farm,	77.02	37	P		P		20 55 40.3	-0.4
	baz=313								
E26A	Carlson Angus	77.06	41	P		P		20 55 40.8	-0.2
	baz=312								
BAR	Barrett	77.13	59	*eP*		P		20 55 42.2	+0.6
MONP2	Monument Peak	77.18	58	P		P		20 55 42.2	0.0
	baz=307								
B29A	Wagenman Farm,	77.27	38	P		P		20 55 41.7	-0.4
	baz=313								
C28A	Hausauer Farms	77.27	39	P		P		20 55 42.1	-0.1
	baz=313								
IRM	Iron Mountain	77.28	57	P		P		20 55 42.4	-0.1
	baz=307,SNR=5.9								
K22A	Casper	77.34	46	P		P		20 55 42.6	-0.3
	baz=310								
SORM	Soroca	77.35	322	⇑	*iP*	P		20 55 42.5	0.0
SORM	Soroca	77.35	322	⇑	P	P		20 55 42.5	0.0
F26A	Lodgepole	77.36	41	P		P		20 55 42.5	-0.3
	baz=312								
BC3	Big Chuckawall	77.37	57	P		P		20 55 42.7	-0.4
	baz=307								
A30A	Hoffart Farm,	77.45	37	P		P		20 55 42.8	-0.4
	baz=314								
IKP	In-Ko-Pah, Jac	77.53	58	P		P		20 55 43.7	-0.2
	baz=307,SNR=5.1								
D28A	Regan	77.54	39	P		P		20 55 43.1	-0.6
	baz=313								
SWSC	Sam W. Stewart	77.56	58	P		P		20 55 43.9	-0.2
	baz=307								
MDND	Maddock	77.57	38	P		P		20 55 43.6	-0.2
	baz=313								
ULM	Lac du Bonnet	77.66	35	P		P		20 55 44.4	+0.2
	comp=Z,2.4nm,0.7s,baz=291,slow=9.7,SNR=4.0								
H25A	Fruitdale	77.68	43	P		P		20 55 43.6	-0.9
	baz=311								
RSSD	Black Hills	77.77	43	P		P		20 55 44.5	-0.8
	baz=311								
B30A	Myrvik Farm, E	77.78	37	P		P		20 55 44.4	-0.6
	baz=314								
PDMCI	Parker Dam,Lak	77.85	56	P		P		20 55 45.4	-0.2
	baz=308								
A31A	Linda, St. Vin	77.98	36	P		P		20 55 45.3	-0.8
	baz=315								
B31A	Greenbush Farm	78.12	37	P		P		20 55 46.3	-0.5
	baz=314								
C30A	Mose, Pekin	78.22	38	P		P		20 55 46.9	-0.6
	baz=314								
E29A	Napoleon	78.43	39	P		P		20 55 47.9	-0.7
	baz=314								
C31A	Landman Farms,	78.52	37	P		P		20 55 48.4	-0.7
	baz=314								
PV10	Paradox Valley	78.58	50	*eP*		P		20 55 51.0	+1.1
PV05	Paradox Valley	78.73	50	*eP*		P		20 55 51.7	+0.9
N23A	Red Feather La	78.80	47	P		P		20 55 50.4	-0.7
	baz=311								
A33A	Warroad	78.81	35	P		P		20 55 49.7	-0.9
	baz=316								
E30A	Jud	78.84	39	P		P		20 55 50.3	-0.6
	baz=314								
WUAZ	Wupatki	78.91	54	P		P		20 55 51.7	0.0
	baz=309								
WUAZ	Wupatki	78.91	54	*eP*		P		20 55 53.2	+1.6
KWP	Kalwaria Pacla	78.94	326	⇑	*iP*	P		20 55 52.3	+0.9
KWP	Kalwaria Pacla	78.94	326	⇑	P	P		20 55 52.3	+0.9
AGMN	Agassiz Nation	79.05	36	P		P		20 55 51.8	-0.2
	baz=316								
C32A	Crookston	79.07	37	P		P		20 55 51.2	-0.9
	baz=315								
BUR08	Bucovina Ar. S	79.22	323	*eP*		P		20 55 53.6	+0.5
G29A	Hoven	79.23	40	P		P		20 55 52.3	-0.8
	baz=314								
BURAR	Bucovina Array	79.23	323	⇑	*iP*	P		20 55 53.5	+0.4
BURAR	Bucovina Array	79.23	323	⇑	P	P		20 55 53.5	+0.4
E31A	Nome	79.31	38	P		P		20 55 52.5	-1.0
	baz=315								
TESR	Tescani	79.31	322	⇑	*iP*	P		20 55 53.8	+0.3
D32A	Dogwood Acres,	79.33	38	P		P		20 55 52.4	-1.1
	baz=315								
CFR	Carcaliu	79.49	320	⇑	*iP*	P		20 55 54.6	+0.2
CFR	Carcaliu	79.49	320	⇑	P	P		20 55 54.6	+0.2
KOLS	Kolonicke sedl	79.65	325	*eP*		P		20 55 55.8	+0.5
KOLS					pmax	pmax			
	comp=Z,5.0nm,1.1s								
KOLS	Kolonicke sedl	79.65	325	*eP*		P		20 55 55.8	+0.5
G30A	Faulkton	79.67	40	P		P		20 55 54.7	-0.8
	baz=314								
VRI	Vrincioaia	79.72	321	⇓	*iP*	P		20 55 57.5	+1.8
VRI	Vrincioaia	79.72	321	⇓	P	P		20 55 57.5	+1.8
STHS	Stebnicka Huta	79.75	326	*eP*		P		20 55 56.6	+0.8
STHS					pmax	pmax			
	comp=Z,4.0nm,1.1s								
STHS	Stebnicka Huta	79.75	326	*eP*		P		20 55 56.6	+0.8
PLOR	Plostina	79.77	321	⇑	*iP*	P		20 55 57.4	+1.4
PLOR	Plostina	79.77	321	⇑	P	P		20 55 57.4	+1.4
OJC	Ojcow	79.78	327	*eP*		P		20 55 56.0	+0.1
OJC	Ojcow	79.78	327	*eP*		P		20 55 56.0	+0.1
UZH	Uzhgorod	79.86	325	*eP*		P		20 55 56.1	-0.3
UZH				*e*				20 56 02.3	
UZH				*e*				20 56 07.5	
B35A	Bob, Littlefor	79.99	35	P		P		20 55 55.7	-1.5
	baz=317								
CRVS	Cervenica-Dubn	80.03	326	*eP*		P		20 55 57.7	+0.3
CRVS	Cervenica-Dubn	80.03	326	*eP*		P		20 55 57.7	+0.3
BRTR	Keskin Array B	80.15	313	P		P		20 55 58.1	-0.2
	comp=Z,0.6nm,0.8s,baz=52,slow=8.0,SNR=6.3								
BRTR					LR	LR		21 38 16.9	
	comp=Z,22nm,18.3s,baz=32,slow=41								
NIE	Niedzica	80.16	327	*eP*		P		20 55 58.4	+0.3
NIE	Niedzica	80.16	327	*eP*		P		20 55 58.4	+0.3
214A	Organ Pipe Nat	80.17	57	P		P		20 55 58.2	-0.3
	baz=308								
D34A	Park Rapids	80.24	37	P		P		20 55 57.5	-1.0
	baz=316								
E33A	Westby DABS, E	80.27	38	P		P		20 55 57.9	-0.7
	baz=316								
C35A	Jirik Farms, M	80.36	36	P		P		20 55 58.9	-0.2
	baz=317								
MLR	Muntele Rosu	80.38	321	⇓	*iP*	P		20 56 00.5	+1.1
MLR	Muntele Rosu	80.38	321	⇓	P	P		20 56 00.5	+1.1
MLR	Muntele Rosu	80.38	321	*eP*		P		20 55 59.7	+0.3
BR231	Keskin MP Arra	80.57	313	*eP*		P		20 55 59.0	-1.6
F33A	5 Mile Ranch,	80.60	38	P		P		20 55 59.9	-0.5
	baz=316								
LANS	Liptovska Anna	80.72	327	*eP*		P		20 56 02.8	+1.7
LANS	Liptovska Anna	80.72	327	*eP*		P		20 56 02.8	+1.7
KSP	Ksiaz	80.76	330	*eP*		P		20 56 00.6	-0.6
KSP	Ksiaz	80.76	330	*eP*		P		20 56 00.6	-0.6
OKC	Ostrava-Krasne	80.77	328	*eP*		P		20 56 02.2	+0.9
OKC	Ostrava-Krasne	80.77	328	*eP*		P		20 56 02.2	+0.9
VOIR		80.86	322	⇓	*iP*	P		20 56 03.1	+1.1
VOIR		80.86	322	⇓	P	P		20 56 03.1	+1.1
OGNE	Ogallala	80.99	45	P		P		20 56 01.8	-0.9
	baz=313								
DRGR		81.01	324	⇑	*iP*	P		20 56 03.0	+0.3
DRGR		81.01	324	⇑	P	P		20 56 03.0	+0.3
MORC	Moravsky Berou	81.07	328	⇓	*iP*	P		20 56 03.5	+0.6
MORC	Moravsky Berou	81.07	328	⇓	P	P		20 56 03.5	+0.6
MORC	Moravsky Berou	81.07	328	*eP*		P		20 56 03.5	+0.6
DPC	Dobruska-Polom	81.13	329	*eP*		P		20 56 03.8	+0.6
DPC	Dobruska-Polom	81.13	329	*eP*		P		20 56 03.8	+0.6
K30A	Basset	81.13	42	P		P		20 56 02.7	-0.6
	baz=314								
C37A	Embarrass	81.16	35	P		P		20 56 02.5	-0.9
	baz=318								
H33A	Prehn Over Nor	81.20	39	P		P		20 56 03.0	-0.7
	baz=316								
PSZ	Piszkesteto	81.46	326	⇓	*iP*	P		20 56 06.2	+1.1
PSZ	Piszkesteto	81.46	326	⇓	P	P		20 56 06.2	+1.1
PSZ	Piszkesteto	81.46	326	*eP*		P		20 56 05.7	+0.6
D37A	Cotton	81.47	35	P		P		20 56 05.2	+0.1
	baz=318								
VYHS	Vyhne	81.49	327	*eP*		P		20 56 04.9	-0.3
VYHS					pmax	pmax			
	comp=Z,3.0nm,1.2s								
VYHS	Vyhne	81.49	327	*eP*		P		20 56 04.9	-0.3
I33A	Coleman	81.62	40	P		P		20 56 05.3	-0.7
	baz=316								
BRG	Berggiesshubel	81.66	331	*e*	PKP	P		20 56 05.8	-0.2
	comp=Z,5.6nm,1.0s								
BRG	Berggiesshubel	81.66	331	*eP*		P		20 56 05.8	-0.2
BRG					pmax	pmax			
	comp=Z,6.0nm,1.0s								
CLL	Collm	81.67	332	*i*	P	P		20 56 06.0	0.0
	comp=Z,10.0nm,0.9s								
CLL					L	L		21 36 00.0	
	comp=Z,100nm,19.2s								
CLL	Collm	81.67	332	*i*	P	P		20 56 06.0	0.0
CLL					pmax	pmax			
	comp=Z,10.0nm,0.9s								
PVCC	Panska Ves	81.69	330	*eP*		P		20 56 06.7	+0.6
PVCC	Panska Ves	81.69	330	*eP*		P		20 56 06.7	+0.6
VRAC	Vranov	81.82	328	⇑	*iP*	P		20 56 07.7	+0.8
VRAC	Vranov	81.82	328	⇑	P	P		20 56 07.7	+0.8
L31A	Butterfield Fa	81.89	42	P		P		20 56 06.8	-0.6
	baz=314								
F36A	Milaca	81.92	37	P		P		20 56 06.3	-1.1
	baz=317								
ECSD	EROS Data Cent	81.94	40	P		P		20 56 07.0	-0.6
	baz=316								
ECSD	EROS Data Cent	81.94	40	*eP*		P		20 56 07.2	-0.5
GZR	Gura Zlata	82.00	323	⇑	*iP*	P		20 56 07.3	-0.7
GZR	Gura Zlata	82.00	323	⇑	P	P		20 56 07.3	-0.7
C39A	Grand Marais	82.01	34	P		P		20 56 07.1	-0.8
	baz=320								
GOPC	GO Pecny, Ondr	82.08	330	*eP*		P		20 56 08.4	+0.1
GOPC	GO Pecny, Ondr	82.08	330	*eP*		P		20 56 08.4	+0.1
PRU	Pruhonice	82.12	330	*eP*		P		20 56 08.5	+0.1
PRU					AMS	AMS		21 35 00.0	
	comp=Z,100nm,15.6s								
PRU	Pruhonice	82.12	330	*eP*		P		20 56 08.5	+0.1
PRU					MLR	MLR			
	comp=Z,100nm,15.6s								
H35A	Sunnyside Ranc	82.14	38	P		P		20 56 08.2	-0.5
	baz=317								
ANMO	Albuquerque	82.37	52	*eP*		P		20 56 11.0	+0.7
ANMO					pmax	pmax			
	comp=Z,7.0nm,1.2s								
BZS	Buzias	82.39	323	⇓	*iP*	P		20 56 09.4	-0.5
BZS	Buzias	82.39	323	⇓	P	P		20 56 09.4	-0.5
PPT	Papeete	82.86	119	LR		LR		21 25 46.4	
	comp=Z,36nm,20.6s,baz=336,slow=30								
121A	Cookes Peak, D	83.10	54	P		P		20 56 14.0	-0.1
	baz=311								
KHC	Kasperske Hory	83.19	330	*eP*		P		20 56 14.4	+0.4
KHC				*ex*		x		20 56 26.7	
KHC	Kasperske Hory	83.19	330	*eP*		P		20 56 14.4	+0.4
KHC				*e*				20 56 26.7	
KHC	Kasperske Hory	83.19	330	*eP*		P		20 56 14.5	+0.4
CONA	Conrad Observa	83.20	328	*i*	P	P		20 56 15.0	+0.8
	comp=Z,5.2nm,0.8s								
I37A	Lemond, Waseca	83.34	38	P		P		20 56 14.5	-0.4
	baz=318								
GERES	GERESS Array B	83.36	330	P		P		20 56 15.2	+0.1
	comp=Z,1.2nm,0.7s,baz=346,slow=0.6,SNR=5.9								
J36A	Seneca 1, Swea	83.38	39	P		P		20 56 14.6	-0.5
	baz=317								
J37A	Redenius Farm,	83.78	38	P		P		20 56 16.7	-0.5
	baz=318								
K36A	Gilmore City	83.83	39	P		P		20 56 16.8	-0.7
	baz=317								
I38A	Scanlan Farm,	83.84	37	P		P		20 56 16.6	-0.9
	baz=318								
ARSA	Arzberg	83.87	328	*i*	P	P		20 56 18.0	+0.4
	comp=Z,2.6nm,0.7s								
MOA	Mohn	83.93	329	*i*	P	P		20 56 18.6	+0.7
	comp=Z,4.7nm,1.1s								
M35A	Neola	84.04	41	P		P		20 56 17.8	-0.7
	baz=318								
K37A	Belmond	84.14	39	P		P		20 56 18.0	-1.0
	baz=318								
SOKA	Soboth	84.53	328	*i*	P	P		20 56 21.1	0.0
	comp=Z,4.9nm,0.7s								
J39A	Decorah	84.66	37	P		P		20 56 20.4	-1.3
	baz=319								
P34A	Walnut Farm, R	84.82	43	P		P		20 56 21.8	-0.7
	baz=316								
OBKA	Obir	84.87	328	*i*	P	P		20 56 22.3	-0.4
	comp=Z,1.9nm,0.6s								
KBA	Koelnbreinsper	84.92	329	*i*	PcP	P		20 56 23.9	+0.8
	comp=Z,2.6nm,0.6s								
L38A	Oak Wood Farm,	84.94	39	P		P		20 56 21.9	-1.2
	baz=318								
K39A	Oelwein	85.05	38	P		P		20 56 22.1	-1.5
	baz=319								
MYKA	Terra Mystica	85.16	328	*i*	P	P		20 56 23.4	-0.7
	comp=Z,2.9nm,0.9s								
MNTX	Cornudas Mount	85.18	53	P		P		20 56 24.0	-0.5
	baz=312								
M38A	Pleasantville	85.36	40	P		P		20 56 24.5	-0.7
	baz=318								
K40A	Colesburg	85.42	38	P		P		20 56 24.3	-1.1
	baz=319								
WATA	Wzderalm	85.43	330	*i*	P	P		20 56 25.7	+0.1
	comp=Z,1.4nm,0.6s								
L39A	Vinton	85.43	38	P		P		20 56 24.6	-0.9
	baz=319								
WTTA	Wattenberg	85.46	330	*i*	P	P		20 56 24.2	-1.6
	comp=Z,2.9nm,0.5s								
R34A	Isabella, Hill	85.48	44	P		P		20 56 24.6	-1.3
	baz=316								
S33A	Kaszmaul Farm,	85.56	45	P		P		20 56 25.4	-0.9
	baz=315								
MOTA	Moosalm	85.61	330	*i*	PcP	P		20 56 27.0	+0.4
	comp=Z,1.5nm,0.5s								
RETA	Reutte	85.62	330	*i*	P	P		20 56 26.7	+0.2
	comp=Z,7.7nm,1.0s								
P36A	Good Intent, A	85.64	42	P		P		20 56 25.5	-1.1
	baz=317								
Q35A	Mercer Eighty,	85.74	43	P		P		20 56 26.3	-0.8
	baz=316								
BFO	Black Forest	85.85	332	*i*	P	P		20 56 28.1	+0.6
S34A	Willow Spring	85.98	44	P		P		20 56 27.5	-0.9
	baz=316								
FETA	Feichten	86.02	330	*i*	P	P		20 56 27.8	-0.8
	comp=Z,4.6nm,1.0s								
R35A	Emporia Munici	86.04	43	P		P		20 56 28.0	-0.6
	baz=316								
N39A	Derby Farms, D	86.11	40	P		P		20 56 28.0	-0.9
	baz=318								
DAVA	Damuels	86.13	331	*i*	PcP	P		20 56 29.1	0.0
	comp=Z,8.9nm,1.0s								
L41A	Preston	86.20	38	P		P		20 56 27.9	-1.5
	baz=320								
R36A	Gordon, Harris	86.42	43	P		P		20 56 29.7	-0.8
	baz=317								
T34A	McClaskey Farm	86.43	45	P		P		20 56 29.8	-0.7
	baz=316								
S35A	Otter Creek Ra	86.44	44	P		P		20 56 30.2	-0.4
	baz=316								
P38A	Dawn	86.51	41	P		P		20 56 30.7	-0.2
	baz=318								
FUORN	Ofenpass-Fuorn	86.53	330	*eP*		P		20 56 31.5	+0.3
W32A	Sentinel	86.59	47	P		P		20 56 30.7	-0.7
	baz=315								
U34A	Anderson Ranch	86.65	45	P		P		20 56 31.0	-0.6
	baz=316								
T35A	Sooner Cattle	86.88	45	P		P		20 56 32.3	-0.5
	baz=316								
O40A	La Belle	86.99	40	P		P		20 56 32.7	-0.6
	baz=319								
P39B	Salisbury	87.02	41	P		P		20 56 32.6	-0.8
	baz=318								
S37A	Fort Scott	87.19	43	P		P		20 56 33.6	-0.7
	baz=317								
Q39A	Willow Grove F	87.23	41	P		P		20 56 33.6	-0.8
	baz=318								
O41A	Passleys Farm,	87.50	39	P		P		20 56 35.0	-0.7
	baz=320								
P41A	Barry, Barry	87.74	39	P		P		20 56 36.4	-0.5
	baz=319								
TXAR	Lajitas Array	87.86	54	P		P		20 56 37.8	0.0
	comp=Z,1.2nm,0.8s,baz=300,slow=2.7,SNR=6.1								
T38A	Diamond	88.01	43	P		P		20 56 37.3	-0.9
	baz=318								
U37A	Salina	88.02	44	P		P		20 56 37.2	-1.1
	baz=317								
V37A	Hulbert	88.39	44	P		P		20 56 40.0	-0.1
	baz=317								
U39A	Green Forest	88.93	43	P		P		20 56 41.5	-1.1
	baz=318								
SFIN	Lafayette	89.14	37	P		P		20 56 42.8	-0.7
	baz=322								
U40A	Yellville	89.29	43	P		P		20 56 43.8	-0.5
	baz=318								
T41A	Mountain View	89.36	42	P		P		20 56 43.5	-1.1
	baz=319								
333A	Richland Sprin	89.42	50	P		P		20 56 44.1	-0.9
	baz=315								
334A	Lometa	89.86	49	P		P		20 56 46.8	-0.3
	baz=315								
X39A	Fountain Ranch	89.97	45	P		P		20 56 46.6	-0.9
	baz=318								
V41A	Mountainview	90.09	43	P		P		20 56 47.6	-0.5
	baz=319								
MIAR	Mount Ida	90.24	44	P		P		20 56 48.2	-0.6
	baz=318								
Z38A	Mt. Pleasant	90.39	46	P		P		20 56 49.1	-0.4
	baz=317								
236A	Katherine and	90.40	48	P		P		20 56 49.0	-0.6
	baz=316								
LPAZ	La Paz	144.33	62	PKP		PKPab		21 03 21.7	-1.6
	comp=Z,0.7nm,0.5s,baz=2.0,slow=6.6,SNR=4.3								

IDC 22 20:46:18.8±13.0, 6°.38S×130°.17E, h250km±163km, mb3.9/1, mb1 3.2/4, mb1mx2.9/35, mbtmp3.9/4, Error ellipse: s-maj=102.9km s-min=56.9km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.46	200	P		Pn	20 49 08.7	+0.6
	0.1nm,0.3s,baz=45,slow=2.9,SNR=4.5							
WRA	Warramunga Arr	14.08	164	P		Pn	20 49 28.2	+0.3
	0.1nm,0.3s,baz=346,slow=13,SNR=6.6							
ASAR	Alice Springs	17.56	169	P		P	20 50 06.5	-0.2
	0.5nm,0.3s,baz=348,slow=11,SNR=50							
PETK	Petropavlovsk-	63.69	18	P		P	20 56 23.5	-0.1
	5.2nm,0.9s,baz=224,slow=8.3,SNR=4.2							

IDC 22 20:49:09.0±4.2, 1°.28S×134°.23E, h158km±41km, mb3.4/5, mb1 3.6/7, mb1mx3.3/29, mbtmp3.9/7, Error ellipse: s-maj=28.5km s-min=11.6km az=92.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.55	180	P		P	20 53 12.9	-0.9
	0.4nm,0.3s,baz=360,slow=12,SNR=26							
WRA				S		S	20 56 38.9	+1.7
	0.1nm,0.3s,baz=355,slow=23,SNR=3.2							
FITZ	Fitzroy Crossi	18.72	206	P		P	20 53 16.4	+0.7
	0.3nm,0.3s,baz=33,slow=9.1,SNR=8.8							
FITZ				S		S	20 56 39.4	-1.2
	0.3nm,0.3s,baz=156,slow=20,SNR=5.6							
CTA	Charters Tower	22.08	149	P		P	20 53 50.6	-1.0
	3.6nm,0.6s,baz=323,slow=11,SNR=6.8							
ASAR	Alice Springs	22.25	181	P		P	20 53 53.5	+0.2
	2.1nm,0.6s,baz=8.0,slow=11,SNR=36							
STKA	Stephens Creek	31.22	168	P		P	20 55 15.6	+2.0
	2.5nm,0.8s,baz=340,slow=8.6,SNR=5.3							
CMAR	Chiang Mai Arr	39.86	301	P		P	20 56 33.9	+6.3
	0.3nm,0.6s,baz=111,slow=4.9,SNR=4.1							
MKAR	Makanchi Array	65.96	324	P		P	20 59 39.1	+0.7
	0.7nm,0.5s,baz=112,slow=7.8,SNR=11							
ILAR	Eielson Array	86.42	25	P		P	21 01 31.6	-1.8
	0.3nm,0.8s,baz=264,slow=6.0,SNR=5.3							

NAM 22 21:02:39.6±143.0, 28°.46S×23°.40E, h26km±999km, MD4.4
ISCJB 22 21:02:50.3±0.6, 28°.62S±0°.04×20°.45E±0°.03, h13km±4km, Error ellipse: s-maj=6.3km s-min=4.3km az=14.4
PRE 22 21:02:50.6±2.2, 28°.57S×20°.44E, h5km, ML3.5
ISC 22 21:02:50.7±1.0, 28°.60S±0°.05×20°.44E±0°.03, h9km±6km, n11, σ1s47/22, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AUGR	Augrabies	0.09	271	*eP*		Pg	21 02 52.9	-0.1
AUGR				*eS*		Sg	21 02 54.7	0.0
AUGR				AML		AML	21 02 54.9	
	comp=Z,3μm,0.2s							
KEIM	Keimoes	0.48	103	*eP*		Pg	21 02 59.9	-0.2
KEIM				*eS*		Sg	21 03 06.6	+0.2
KEIM				AML		AML	21 03 09.9	
	comp=Z,334nm,0.1s							
UPI	Upington	0.76	72	*eP*		Pg	21 03 05.5	+0.2
UPI				*eS*		Sb	21 03 16.2	-0.4
UPI				AML		AML	21 03 16.7	
	comp=Z,612nm,0.7s							
ARMS	Ukamas	0.83	312	*i*	P	Pg	21 03 06.6	-0.1
ARMS				*i*	S	Sb	21 03 18.2	-0.4
KOMG	Komaggas	2.85	244	*eP*		Pn	21 03 37.5	+1.0
KOMG				*eS*		Sn	21 04 10.3	-0.5
KOMG				AML		AML	21 04 20.3	
	comp=Z,258nm,0.3s							
CVNA	Calvinia	2.94	191	*eP*		Pn	21 03 36.9	-0.9
CVNA				*eS*		Sn	21 04 14.4	+1.2
CVNA				AML	

KEIM					*e*S		**Sg**	**21 10 20.6**	**+0.5**
KEIM					AML	AML		21 10 22.4	
	comp=Z,1μm,0.3s								
UPI	**Upington**	**0.78**	**67**	*e*P			**Pg**	**21 10 19.9**	**0.0**
UPI				*e*S			**Sg**	**21 10 29.8**	**-0.3**
UPI				AML		AML		21 10 31.1	
	comp=Z,993nm,0.6s								
UPI	**Upington**	**0.78**	**67**	*e*P			**Pb**	**21 10 20.1**	**-0.6**
UPI				*e*S			**Sg**	**21 10 29.7**	**-0.3**
UPI				AML		AML		21 10 31.3	
	comp=Z,999nm,0.6s								
KOMG	**Komaggas**	**2.81**	**246**	*e*P			**Pn**	**21 10 50.0**	**0.0**
KOMG				*e*S			**Sn**	**21 11 21.2**	**-3.0**
KOMG				AML		AML		21 11 28.5	
	comp=Z,182nm,0.8s								
KOMG	**Komaggas**	**2.81**	**246**	*e*P			**Pn**	**21 10 50.2**	**+0.1**
KOMG				*e*S			**Sn**	**21 11 24.6**	**+0.4**
KOMG				AML		AML		21 11 29.1	
	comp=Z,182nm,0.8s								
CVNA	**Calvinia**	**2.86**	**192**	*e*P			**Pn**	**21 10 50.7**	**-0.1**
CVNA				*e*S			**Sn**	**21 11 23.6**	**-1.9**
CVNA				AML		AML		21 11 32.5	
	comp=Z,653nm,0.6s								
CVNA	**Calvinia**	**2.86**	**192**	*e*P			**Pn**	**21 10 50.5**	**-0.3**
CVNA				*e*S			**Sn**	**21 11 28.1**	**+2.6**
CVNA				AML		AML		21 11 33.0	
	comp=Z,653nm,0.6s								
BOSA	**Boshof**	**4.24**	**90**	*i* P			**Pb**	**21 11 18.4**	**-1.2**
BOSA				*i*				21 11 18.5	
	baz=270,slow=18								
BOSA				*i* S			**Sb**	**21 12 15.0**	**+3.9**
SWZ	**Schweizer**	**4.58**	**72**	*e*P			**Pn**	**21 11 15.7**	**+1.2**
SWZ				*e*S			**Sn**	**21 12 08.5**	**+0.5**
SWZ				AML		AML		21 12 30.1	
	comp=Z,262nm,0.8s								
SWZ	**Schweizer**	**4.58**	**72**	*e*P			**Pn**	**21 11 14.9**	**+0.4**
SWZ				*e*S			**Sn**	**21 12 05.0**	**-3.1**
SWZ				AML		AML		21 12 30.6	
	comp=Z,262nm,0.8s								
HVD	**Gariep Dam**	**4.81**	**115**	*e*P			**Pn**	**21 11 18.4**	**+0.7**
HVD				*e*S			**Sn**	**21 12 12.2**	**-1.5**
HVD				AML		AML		21 12 46.0	
	comp=Z,137nm,0.5s								
SEK	**Senekal**	**6.34**	**89**	*e*P			**Pn**	**21 11 38.0**	**-0.7**
SEK				*e*S			**Sn**	**21 12 48.2**	**-3.2**
SEK				AML		AML		21 13 23.3	
	comp=Z,126nm,0.5s								
PRYS	**Parys**	**6.38**	**76**	*e*P			**Pn**	**21 11 38.0**	**-1.2**
PRYS				*e*S			**Sn**	**21 12 48.5**	**-3.8**
PRYS				AML		AML		21 13 31.2	
	comp=Z,101nm,0.6s								
GRM	**Grahamstown**	**6.97**	**133**	*e*P			**Pn**	**21 11 49.8**	**+2.5**
GRM				*e*S			**Sn**	**21 13 05.7**	**-1.0**
GRM				AML		AML		21 13 53.5	
	comp=Z,60nm,0.6s								
MATP	**Matopo**	**11.01**	**44**	*i* P			**Pn**	**21 12 44.4**	**+1.6**
MATP				*i*				21 12 44.5	
	baz=199,slow=10								
MATP				*i* S			**Sn**	**21 14 47.1**	**+0.9**

PRE 22 21:11:19.7±2.3, 29°67'S×22°80'E, h5km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
HVD	**Gariep Dam**	**2.52**	**112**	*e*P	Pn	21	12	02.7	+1.2
HVD				*e*S	Sn	21	12	32.5	-0.1
SEK	**Senekal**	**4.43**	**74**	*e*P	Pn	21	12	29.7	+1.9
SEK				*e*S	Sn	21	13	17.7	-2.2
BUFB	**Buffelsbos**	**4.77**	**160**	*e*P	Pn	21	12	31.0	-1.2
BUFB				*e*S	Sn	21	13	27.1	-0.7
BUFB				AML	AML	21	13	33.2	
	comp=Z,83nm,0.5s								

IDC 22 21:16:10.8±3.3, 5°26S×147°33E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/28, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=74.7km s-min=40.2km az=93.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
PMG	**Port Moresby**	**4.12**	**182**	Pn	Pn	21	17	14.3	-0.7
	2.9nm,0.3s,baz=231,slow=14,SNR=4.3								
PMG				Sn	Sn	21	18	00.5	-3.5
	2.7nm,0.3s,baz=211,slow=22,SNR=4.3								
WRA	**Warramunga Arr**	**19.31**	**220**	P	P	21	20	37.2	-0.4
	0.1nm,0.3s,baz=42,slow=12,SNR=3.9								
ASAR	**Alice Springs**	**22.41**	**214**	P	P	21	21	11.4	+0.2
	0.7nm,0.6s,baz=50,slow=8.5,SNR=12								
FITZ	**Fitzroy Crossi**	**24.74**	**237**	P	P	21	21	34.9	+0.7
	2.6nm,0.8s,baz=38,slow=7.2,SNR=5.6								
TORD	**Torodi Ar. Bea**	**145.22**	**285**	PKPbc	PKPbc	21	35	50.0	-1.2
	0.4nm,0.9s,baz=66,slow=4.9,SNR=2.5								

IDC 22 21:26:22.2±6.7, 21°24S×178°83W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/34, mbtmp3.6/2, Error ellipse: s-maj=301.6km s-min=68.0km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
ASAR	**Alice Springs**	**43.60**	**258**	P	P	21	34	27.6	-1.0
	0.2nm,0.3s,baz=94,slow=7.4,SNR=6.4								
WRA	**Warramunga Arr**	**43.74**	**263**	P	P	21	34	30.2	+0.6
	0.5nm,0.4s,baz=99,slow=7.6,SNR=15								
BRTR	**Keskin Array B**	**146.75**	**31**	PKPbc	PKPbc	21	46	05.8	-0.8
	0.6nm,0.5s,baz=107,slow=4.3,SNR=4.3								

NIED ***22*** *21:33:00, 37.50N×142.40E, h5km, Mw3.4 Best double couple: M0 1.20000×10^14 NP1:φs 67.00000°, δ 44.00000°, λ -45.00000°. NP2:φs 193.00000°, δ 60.00000°, λ -124.00000°.*

IDC ***22*** *21:33:47.0±2.3, 37.42N×142.78E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/38, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=51.5km s-min=28.5km az=47.0*

ISCJB ***22*** *21:33:48.8±1.1, 37.4N±0.1×142.55E±0.09, h21km, mb3.4/3, Error ellipse: s-maj=14.7km s-min=10.1km az=14.1*

JMA ***22*** *21:33:49.0±0.5, 37.45N×142.37E, h1km±4km, M3.6*

ISC 22 21:33:50.7±1.5, 37°38N±0°08×142°35E±0°09, h21km, n17, σ1ᵍ58/14, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
JFK	**Kawauchi**	**1.17**	**270**	P	**Pn**	**21**	**34**	**12.0**	**+0.1**
JFK				*e*S	**Sn**	**21**	**34**	**28.7**	**+1.5**
ONAJ	**Iwakimizuishiy**	**1.27**	**258**	P	**Pn**	**21**	**34**	**13.5**	**+0.3**
JMM	**Marumori**	**1.33**	**292**	P	**Pn**	**21**	**34**	**13.6**	**-0.3**
JIO	**Ouri**	**1.33**	**324**	P	**Pn**	**21**	**34**	**13.2**	**-0.8**
JFT	**Otama**	**1.60**	**276**	P	**Pb**	**21**	**34**	**19.2**	**-0.4**
JFT				*e*S	**Sb**	**21**	**34**	**40.9**	**+1.5**
JOU	**Okura**	**1.66**	**307**	P	**Pb**	**21**	**34**	**19.2**	**-1.3**
JYK	**Kaneyama**	**2.19**	**315**	P	**Pb**	**21**	**34**	**27.7**	**-1.9**
MJAR	**Matsushiro Arr**	**3.42**	**257**	Pn	**Pb**	**21**	**34**	**47.0**	**-3.5**
	0.5nm,0.3s,baz=90,slow=16,SNR=3.7								
MJAR				Sn	**Sb**	**21**	**35**	**30.4**	**-1.1**
	0.3nm,0.3s,baz=78,slow=23,SNR=3.5								
H11N2	**WAKE ISLAND Hy**	**27.70**	**123**	T	T	22	08	24.5	
	baz=315,slow=75,SNR=36								
H11N1	**WAKE ISLAND Hy**	**27.70**	**123**	T	T	22	08	24.2	
	baz=315,slow=75,SNR=27								
H11N3	**WAKE ISLAND Hy**	**27.71**	**123**	T	T	22	08	24.8	
	baz=315,slow=75,SNR=24								
SONM	**Songino Array**	**28.21**	**303**	P	**P**	**21**	**39**	**43.7**	**+1.7**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=2.9								
H11S1	**WAKE ISLAND Hy**	**28.43**	**125**	T	T	22	09	15.6	
	baz=317,slow=76,SNR=26								
H11S3	**WAKE ISLAND Hy**	**28.43**	**125**	T	T	22	09	17.9	
	baz=317,slow=76,SNR=26								
H11S2	**WAKE ISLAND Hy**	**28.45**	**125**	T	T	22	09	24.8	
	baz=317,slow=76,SNR=22								
WRA	**Warramunga Arr**	**57.51**	**189**	P	**P**	**21**	**43**	**38.8**	**+0.3**
	0.5nm,0.6s,baz=7.6,slow=7.5,SNR=7.3								
ASAR	**Alice Springs**	**61.23**	**189**	P	**P**	**21**	**44**	**04.5**	**+0.4**
	0.3nm,0.8s,baz=18,slow=9.2,SNR=3.3								

DDA ***22*** *21:43:39.5, 39.14N×29.03E, h11km, Md2.7*

ISCJB ***22*** *21:43:40.2±0.5, 39.10N±0.04×29.03E±0.03, h5km±7km, Error ellipse: s-maj=6.3km s-min=4.1km az=2.9*

CSEM ***22*** *21:43:40.4±0.1, 39.09N×29.04E, h5km, MD2.7, Error ellipse: s-maj=2.3km s-min=2.0km az=7.0*

ISK ***22*** *21:43:40.0, 39.08N×29.01E, h8km, MD2.9*

ISC 22 21:43:40.3±1.0, 39°10N±0°02×29°04E±0°02, h9km±9km, n49, σ0ᵍ69/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
DEMI	**Demirci**	**0.26**	**257**	P	**Pg**	**21**	**43**	**45.5**	**0.0**
DEMI				S	**Sg**	**21**	**43**	**49.1**	**+0.2**
DEMI	**Demirci**	**0.26**	**257**	*i* P	**Pg**	**21**	**43**	**45.5**	**0.0**
DEMI				*i* S	**Sg**	**21**	**43**	**49.1**	**+0.2**
GEDZ	**Gediz**	**0.30**	**101**	*e*PG	**Pb**	**21**	**43**	**47.1**	**-0.8**
GEDZ	**Gediz**	**0.30**	**101**	*e*Pg	**Pb**	**21**	**43**	**47.1**	**-0.8**
GDZ	**Gediz**	**0.35**	**92**	P	**Pg**	**21**	**43**	**47.1**	**-0.1**
GDZ				S	**Sg**	**21**	**43**	**52.1**	**+0.3**
GDZ	**Gediz**	**0.35**	**92**	*i* P	**Pg**	**21**	**43**	**47.1**	**-0.1**
GDZ				*i* S	**Sg**	**21**	**43**	**52.1**	**+0.3**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG	**Pg**	**21**	**43**	**52.8**	**-0.1**
KULA				*e*SG	**Sg**	**21**	**44**	**01.4**	**-0.2**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg	**Pg**	**21**	**43**	**52.8**	**-0.1**
KULA				*e*Sg	**Sg**	**21**	**44**	**01.4**	**-0.2**
KHL	**Karahalli**	**0.87**	**154**	*e*PG	**Pb**	**21**	**43**	**56.9**	**-0.6**
KHL	**Karahalli**	**0.87**	**154**	*e*Pg	**Pb**	**21**	**43**	**56.9**	**-0.6**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pn**	**21**	**44**	**01.0**	**-0.1**
BALB				*e*SG	**Sn**	**21**	**44**	**15.3**	**-0.5**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pn**	**21**	**44**	**01.0**	**-0.1**
BALB				*e*Sg	**Sn**	**21**	**44**	**15.3**	**-0.5**
IGD	**Bursa**	**1.17**	**6**	*i* P	**Pb**	**21**	**44**	**00.2**	**-2.5**
IGD				*i* S	**Sg**	**21**	**44**	**16.2**	**-1.7**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN	**Pg**	**21**	**44**	**04.7**	**+0.1**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*Pn	**Pg**	**21**	**44**	**04.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pg**	**21**	**44**	**04.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn	**Pg**	**21**	**44**	**04.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pb**	**21**	**44**	**04.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pb**	**21**	**44**	**04.4**	**-0.1**
IZI	**Iznik**	**1.28**	**15**	*e*PN	**Pb**	**21**	**44**	**04.7**	**+0.1**
IZI	**Iznik**	**1.28**	**15**	*e*Pn	**Pb**	**21**	**44**	**04.7**	**+0.1**
BORA	**Eskisehir**	**1.34**	**54**	P	**Pn**	**21**	**44**	**05.0**	**-0.3**
BORA				S	**Sg**	**21**	**44**	**23.8**	**+0.2**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pn**	**21**	**44**	**05.0**	**-0.3**
BORA				*i* S	**Sg**	**21**	**44**	**23.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*PN	**Pg**	**21**	**44**	**07.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*Pn	**Pg**	**21**	**44**	**07.1**	**-0.2**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*PN	**Pb**	**21**	**44**	**07.3**	**+0.1**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*Pn	**Pb**	**21**	**44**	**07.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pb**	**21**	**44**	**07.3**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*Pn	**Pb**	**21**	**44**	**07.3**	**-0.4**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pb**	**21**	**44**	**07.9**	**+0.1**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pb**	**21**	**44**	**07.9**	**+0.1**
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN	**Pb**	**21**	**44**	**07.6**	**-0.3**
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn	**Pb**	**21**	**44**	**07.6**	**-0.3**
EDC	**Edincik**	**1.54**	**324**	*e*PN	**Pb**	**21**	**44**	**08.7**	**-0.3**
EDC	**Edincik**	**1.54**	**324**	*e*Pn	**Pb**	**21**	**44**	**08.7**	**-0.3**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**21**	**44**	**11.6**	**+0.7**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**	**21**	**44**	**11.6**	**+0.7**
HRT	**Hereke**	**1.79**	**16**	*e*PN	**Pb**	**21**	**44**	**12.4**	**-0.8**
HRT	**Hereke**	**1.79**	**16**	*e*Pn	**Pb**	**21**	**44**	**12.4**	**-0.8**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*PN	**Pn**	**21**	**44**	**13.2**	**+0.8**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*Pn	**Pn**	**21**	**44**	**13.3**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*PN	**Pn**	**21**	**44**	**14.5**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*Pn	**Pn**	**21**	**44**	**14.5**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*PN	**Pn**	**21**	**44**	**17.4**	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*Pn	**Pn**	**21**	**44**	**17.4**	**+1.3**
KIZT	**Kizilcal**	**2.23**	**95**	*e*PN	**Pn**	**21**	**44**	**18.9**	**+1.4**
KIZT	**Kizilcal**	**2.23**	**95**	*e*Pn	**Pn**	**21**	**44**	**18.9**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.36**	**304**	*e*PN	**Pn**	**21**	**44**	**20.3**	**+1.1**
GELI	**Tayfur-Gelibol**	**2.36**	**304**	*e*Pn	**Pn**	**21**	**44**	**20.3**	**+1.1**

IDC 22 21:47:36.9±1.1, 4°35N×127°28E, h0km, mb3.6/10, mb1 3.7/10, mb1mx3.7/43, mbtmp3.6/10, Error ellipse: s-maj=70.1km s-min=14.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
FITZ	**Fitzroy Crossi**	**22.37**	**184**	P	P	21	52	37.9	+1.0
	2.1nm,0.9s,baz=56,slow=7.3,SNR=3.3								
WRA	**Warramunga Arr**	**25.11**	**164**	P	P	21	53	03.3	-0.4
	0.5nm,0.6s,baz=343,slow=10.0,SNR=7.4								
ASAR	**Alice Springs**	**28.58**	**167**	P	P	21	53	34.2	-0.8
	0.2nm,0.6s,baz=346,slow=7.2,SNR=2.9								
CMAR	**Chiang Mai Arr**	**31.05**	**299**	P	P	21	53	56.8	-0.1
	0.5nm,0.6s,baz=119,slow=9.3,SNR=4.3								
STKA	**Stephens Creek**	**38.52**	**160**	P	P	21	55	01.5	+0.4
	1.9nm,0.9s,baz=342,slow=10,SNR=3.9								
SONM	**Songino Array**	**46.90**	**341**	P	P	21	56	10.5	+1.3
	0.5nm,0.5s,baz=159,slow=11,SNR=3.6								
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	21	57	26.8	-0.3
	0.6nm,0.5s,baz=116,slow=7.5,SNR=8.6								
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	P	21	57	46.9	-0.4
	0.3nm,0.5s,baz=96,slow=13,SNR=1.9								
KURBB	**Kurkutov Arra**	**61.52**	**327**	P	P	21	57	55.4	-0.3
	0.6nm,0.5s,baz=127,slow=6.5,SNR=11								
BVAR	**Borovoye Array**	**67.11**	**327**	P	P	21	58	32.3	0.0
	0.4nm,0.6s,baz=136,slow=9.3,SNR=4.4								

MEX 22 21:48:03.6±0.6, 16°38N×98°52W, h13km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
PNIG	**Pinotepa**	**0.38**	**89**	*e*P	Pg	21	48	11.0	-0.2
PNIG				*e*S	Sg	21	48	16.0	-0.4
TLIG	**Tlapa**	**1.17**	**358**	*e*P	Pb	21	48	21.7	-4.2
TLIG				*e*S	Sb	21	48	36.5	-4.5
ACX	**Acapulco**	**1.37**	**291**	*e*P	Pn	21	48	25.9	-2.5
ACX				*e*S	Sn	21	48	42.3	-4.2
VHO	**Vista Hermosa**	**1.84**	**68**	*e*P	Pn	21	48	30.8	-4.3
VHO				*e*S	Sn	21	48	53.7	-4.7
MEIG	**Mezcala**	**1.86**	**326**	*e*P	Pn	21	48	31.9	-3.4
MEIG				*e*S	Sn	21	48	54.1	-4.6
PLIG	**Platanillo**	**2.21**	**335**	*e*P	Pn	21	48	34.3	-5.7
PLIG				*e*S	Sn	21	49	03.5	-3.8
YAIG	**Yautepec**	**2.52**	**348**	*e*P	Pn	21	48	41.5	-2.9
YAIG				*e*S	Sn	21	49	11.0	-4.1

NIED ***22*** *21:50:00, 39.90N×142.60E, h41km, Mw6.7 Best double couple: M0 1.23000×10^19 NP1:φs 196.00000°, δ 20.00000°, λ 92.00000°. NP2:φs 14.00000°, δ 70.00000°, λ 89.00000°.*

BJI ***22*** *21:50:46.6, 39.85N×142.60E, h20km, mb6.2/72, mB6.8/65, Ms7.0/90, Ms7 6.9/86*

NEIC ***22*** *21:50:48.0±0.0, 40.08N×142.77E, h35km, Moment Tensor Solution. s99 Moment tensor: Scale 10^19Nm; Mrr 0.94; Mθθ -0.04; Mφφ -0.90; Mrθ 0.26; Mrφ -0.13; Mθφ 1.17; Best double couple: M0 1.50000×10^19 NP1:φs 12.00000°, δ 71.00000°, λ 92.00000°. NP2:φs 185.00000°, δ 19.00000°, λ 84.00000°. Principal axes: T 1.5200, Plg63.0000°, Azm284.0000°; N -0.0200, Plg1.0000°, Azm190.0000°; P -1.5000, Plg25.0000°, Azm100.0000°;*

MOS ***22*** *21:50:49.9±0.9, 40.04N×142.35E, h24km, mb6.3/136, MS6.9/122 Error ellipse: s-maj=5.4km s-min=3.4km az=101.1 Broadband fault plane solution: P waves. M0 4.00000×10^19 NP1:φs 360.00000°, δ 84.00000°, λ 90.00000°. NP2:φs 180.00000°, δ 6.00000°, λ 90.00000°. Principal axes: T Plg51.0000°, Azm270.0000°; N Plg0.0000°, Azm180.0000°; P Plg39.0000°, Azm90.0000°;*

MOS Fault plane solution: P-wave C169, D85 . Felt (II) at Yuzhno-Kuril'sk, Malokuril'skoye.

JMA ***22*** *21:50:50.7, 39.95N×142.59E, h36km±1km, M6.9 Broadband fault plane solution: P waves. NP1: φs 346.00000°, δ 62.00000°, λ 81.00000°. NP2: φs 186.00000°, δ 29.00000°, λ 108.00000°. Principal axes: T Plg71.0000°, Azm235.0000°; N Plg8.0000°, Azm350.0000°; P Plg17.0000°, Azm83.0000°;*

ISCJB ***22*** *21:50:52.8±0.2, 39.99N±0.01×142.28E±0.01, h48km±1km, mb6.1/497, MS6.7/525 Error ellipse: s-maj=2.5km s-min=1.7km az=153.9*

GCMT ***22*** *21:50:52.3±0.0, 39.99N×142.51E, h41km, MW6.7/142, Moment Tensor Solution. s142,c373; s141,c650; Duration: 5ᵉ6 Moment tensor: Scale 10^19Nm; Mrr 1.05±.01; Mθθ 0.04±.00; Mφφ -1.09±.00; Mrθ 0.12±.01; Mθφ -0.03±.00; Mφr 1.12±.01; Best double couple: M0 1.55400×10^19 NP1:φs 5.00000°, δ 68.00000°, λ 93.00000°. NP2:φs 178.00000°, δ 22.00000°, λ 83.00000°. Principal axes: T 1.5360, Plg67.0000°, Azm280.0000°; N 0.0420, Plg2.0000°, Azm184.0000°; P -1.5730, Plg23.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***22*** *21:50:52.4±0.1, 39.96N×142.21E, h33km, mb6.1/299, ME6.6, MS6.7/297, MW6.7, MW6.7, MW6.6 Error ellipse: s-maj=2.9km s-min=2.1km az=150.0 Best double couple: NP1:φs 156.00000°, δ 25.00000°, λ 59.00000°. NP2: φs 10.00000°, δ 69.00000°, λ 103.00000°. Principal axes: T 0.9800, Plg63.0000°, Azm301.0000°; N 0.1200, Plg12.0000°, Azm185.0000°; P -1.1000, Plg23.0000°, Azm90.0000°; Broadband fault plane solution: P waves. NP1:φs 185.00000°, δ 10.00000°, λ 90.00000°. NP2: φs 5.00000°, δ 80.00000°, λ 90.00000°. Principal axes: T Plg55.0000°, Azm275.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm95.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] at Misawa and [II] at Morioka. Also felt at Ichinoseki, Kawasaki, Kizukuri, Narita, Ota, Sendai, Tokyo and Yokohama. Felt [II] at Sapporo, Hokkaido. Also felt at Obihiro. Recorded [5L JMA] in Aomori and Iwate, Honshu.

IDC ***22*** *21:50:55.0±0.8, 39.96N×142.37E, h60km±6km, mb5.4/41, mb1 5.5/47, mb1mx5.5/47, mbtmp5.7/47, MS6.7/45, Ms1 6.7/45, ms1mx6.7/48 Error ellipse: s-maj=7.3km s-min=5.7km az=100.0*

NEIC ***22*** *21:51:11.2±0.0, 40.16N×142.30E, h36km, Moment Tensor Solution. s146 Moment tensor: Scale 10^19Nm; Mrr 1.00; Mθθ -0.01; Mφφ -0.99; Mrθ 0.14; Mθφ -0.06; Mφr 1.19; Best double couple: M0 1.60000×10^19 NP1:φs 181.00000°, δ 20.00000°, λ 86.00000°. NP2:φs 6.00000°, δ 70.00000°, λ 92.00000°. Principal axes: T 1.5600, Plg65.0000°, Azm279.0000°; N -0.0100, Plg1.0000°, Azm185.0000°; P -1.5600, Plg25.0000°, Azm95.0000°;*

ISC 22 21:50:51.6±0.3, 39°98N±0°02×142°46E±0°02, h32km±1km, h32km:pP-P, n2293, σ1ᵍ89/2470, mb6.1/515, MS6.7/529, 300C-50D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op	ISC	h	m	s	ISC
JTH	**Tanohata**	**0.46**	**266**	⇓P	**Pn**	**21**	**51**	**02.1**	**+0.1**
JTH				*e*S	**Sn**	**21**	**51**	**10.1**	**+1.0**
MIYJ	**Miyakonagasawa**	**0.64**	**231**	⇓P	**Pb**	**21**	**51**	**03.9**	**-0.4**
MIYJ				*e*S	**Sn**	**21**	**51**	**13.7**	**+0.3**
JANG	**Nango**	**0.83**	**299**	⇓P	**Pb**	**21**	**51**	**07.3**	**-0.2**
JANG				*e*S	**Sb**	**21**	**51**	**19.7**	**+1.3**
JKZ	**Kuzumaki**	**0.87**	**271**	⇓P	**Pb**	**21**	**51**	**08.4**	**+0.1**
JKZ				*e*S	**Sb**	**21**	**51**	**21.0**	**+1.4**
JOM	**Ohasama**	**1.03**	**241**	⇓P	**Pn**	**21**	**51**	**10.1**	**+0.3**
JOM				*e*S	**Sb**	**21**	**51**	**24.4**	**+0.2**
OFUJ	**Ofunato**	**1.08**	**215**	⇓P	**Pn**	**21**	**51**	**10.4**	**-0.1**
JTM	**Tenmabayashi**	**1.34**	**308**	⇓P	**Pb**	**21**	**51**	**15.5**	**-0.6**
JTM				*e*S	**Sb**	**21**	**51**	**33.0**	**+0.1**
JMK	**Ichinoseki**	**1.40**	**224**	⇓P	**Pn**	**21**	**51**	**15.2**	**+0.3**
JAH	**Hinai**	**1.42**	**279**	⇓P	**Pb**	**21**	**51**	**16.6**	**-0.8**
JAH				*e*S	**Sb**	**21**	**51**	**36.2**	**+1.1**
JRG	**Rokugo**	**1.52**	**248**	⇓P	**Pn**	**21**	**51**	**17.3**	**+0.7**
JIO	**Ouri**	**1.75**	**210**	⇓P	**Pn**	**21**	**51**	**19.7**	**0.0**
JOT	**Ohata**	**1.77**	**323**	⇓P	**Pn**	**21**	**51**	**21.5**	**+1.6**
JSI2	**Shiura 2**	**1.90**	**305**	⇓P	**Pb**	**21**	**51**	**23.8**	**-1.8**
JIW	**Iwasaki**	**1.98**	**289**	⇓P	**Pb**	**21**	**51**	**24.7**	**-2.2**
JOG2	**Oga 2**	**2.06**	**269**	⇓P	**Pn**	**21**	**51**	**25.3**	**+1.4**
ERM	**Erimo**	**2.10**	**14**	*c* *i*P	**Pn**	**21**	**51**	**25.9**	**+1.4**
ERM	**Erimo**	**2.10**	**14**	*e*Pn	**Pn**	**21**	**51**	**25.4**	**+0.8**
ERM				*e*Sn	**Sn**	**21**	**51**	**46.2**	**-3.4**
JOU	**Okura**	**2.13**	**222**	⇓P	**Pn**	**21**	**51**	**25.6**	**+0.6**
JYA	**Atsumi**	**2.54**	**238**	⇓P	**Pn**	**21**	**51**	**31.7**	**+1.1**
JYS	**Shirataka**	**2.56**	**228**	⇓P	**Pn**	**21**	**51**	**32.3**	**+1.5**
JNB	**Noboribetsu**	**2.71**	**337**	⇑P	**Pn**	**21**

JHJ2	**Mitsune**	**7.17**	**198**	*e*Pn		**Pn**	**21**	**52**	**33.2 -1.0**
JHJ2				*e*Sn		**Sn**	**21**	**53**	**52.6 -2.0**
JHJ	**Hachijo jima 2**	**7.17**	**198**	P		**Pn**	**21**	**52**	**32.7 -1.5**
	comp=N,102nm,0.3s,baz=72,slow=23,SNR=24								
JHJ				S		**Sn**	**21**	**53**	**54.3 -0.4**
	comp=N,442nm,0.3s,baz=24,slow=22,SNR=3.3								
VLA	**Vladivostok**	**8.53**	**295***c*	*i*P		**Pn**	**21**	**52**	**55.4 +2.6**
USRK	**Ussuriysk Ar.**	**8.86**	**302**	P		**Pn**	**21**	**52**	**59.6 +2.4**
	comp=N,37nm,0.3s,baz=112,slow=13,SNR=158								
USRK				S		Sn	21	54	47.3 +11
	baz=103,slow=21,SNR=2.1								
USRK				LR	LR		21	56	21.0
	comp=N,976µm,18.4s,baz=115,slow=37								
HABR	**Khabarovsk**	**10.02**	**330***c*	*i*P		**Pn**	**21**	**53**	**11.0 -2.1**
HABR				*e*S		**Sn**	**21**	**55**	**02.2 -2.1**
HABR				pmax	pmax				
	comp=E,165nm,3.0s								
HABR				pmax	pmax				
	comp=N,261nm,3.0s								
HABR				pmax	pmax				
	comp=Z,393nm,3.0s								
HABR				MLR	MLR				
	comp=Z,347µm,13.0s								
MDJ	**Mudanjiang**	**10.60**	**300**	P		**Pn**	**21**	**53**	**25.3 +4.2**
MDJ				S		**Sn**	**21**	**55**	**27.3 +8.7**
MDJ				PcP		**PcP**	**21**	**59**	**19.3 -3.8**
MDJ				ScP		**ScP**	**22**	**02**	**49.6 -3.5**
MDJ				PcS		**PcS**	**22**	**02**	**54.8 -1.8**
MDJ				ScS		**ScS**	**22**	**06**	**25.5 -2.5**
MDJ				PMZ					
	comp=Z,490nm,1.3s								
MDJ				LN					
	comp=Z,267µm,14.2s								
MDJ				LE					
	comp=Z,612µm,17.0s								
MDJ				LZ					
	comp=Z,871µm,17.0s								
MDJ	**Mudanjiang**	**10.60**	**300**	*e*Pn		**Pn**	**21**	**53**	**25.1 +4.0**
TYV	**Tymovskoe**	**10.89**	**1**	*e*P		**Pn**	**21**	**53**	**26.0 +1.0**
TYV				pmax	pmax				
	comp=Z,389nm,0.8s								
JNU	**Nakatsue**	**11.55**	**237**	P		**Pn**	**21**	**53**	**36.9 +2.7**
	comp=Z,6.9nm,0.3s,baz=57,slow=9.0,SNR=2.0								
JNU				LR	LR		21	58	14.6
	comp=Z,464µm,18.1s,baz=44,slow=38								
KSRS	**Korea Array**	**11.63**	**262**	P		**Pn**	**21**	**53**	**38.6 +3.3**
	comp=Z,1.5nm,0.3s,baz=72,slow=6.8,SNR=69								
KSRS				LR	LR		21	57	54.1
	comp=Z,732µm,18.4s,baz=88,slow=36								
KS01	**Wonju Array Si**	**11.65**	**262**	*e*Pn		**Pn**	**21**	**53**	**37.6 +2.1**
KS01				*e*Sn		**Sn**	**21**	**55**	**42.0 -2.5**
KS15	**Wonju Array Si**	**11.67**	**262**	*e*Pn		**Pn**	**21**	**53**	**38.6 +2.9**
KSAR	**Wonju Array Be**	**11.67**	**262**	P		**Pn**	**21**	**53**	**38.7 +2.9**
KSAR	**Wonju Array Be**	**11.67**	**262**	P		**Pn**	**21**	**53**	**38.6 +2.9**
KLR	**Kul'dur**	**11.98**	**324**	P		**Pn**	**21**	**53**	**41.1 +1.0**
	comp=Z,1.5nm,0.3s,baz=128,slow=13,SNR=84								
KLR				LR	LR		21	58	32.9
	comp=Z,662µm,18.3s,baz=139,slow=38								
TJN	**Taejon**	**12.41**	**258***ce*	P		**Pn**	**21**	**53**	**49.0 +3.0**
INCN	**Inchon**	**12.61**	**264**	Pn		P	21	53	54.3 -5.4
	SNR=45								
INCN	**Inchon**	**12.61**	**264**	*e*Pn		**Pn**	**21**	**53**	**51.9 +3.2**
CBIJ	**Chichi jima**	**12.85**	**181**	*e*Pn		**Pn**	**21**	**53**	**48.8 -3.2**
JCJ	**Chichijima**	**12.85**	**181**	P		**Pn**	**21**	**53**	**48.8 -3.2**
	comp=Z,81nm,0.3s,baz=270,slow=24,SNR=8.6								
NKL	**Nikolayevsk**	**13.23**	**355**	*i*P		**Pn**	**21**	**53**	**58.0 +0.9**
NKL				*i*S		**Sn**	**21**	**56**	**23.0 0.0**
NKL				pmax	pmax				
	comp=Z,290nm,0.8s								
NKL				pmax	pmax				
	comp=N,19µm,9.0s								
NKL				pmax	pmax				
	comp=E,5µm,9.0s								
NKL				pmax	pmax				
	comp=Z,14µm,8.0s								
NKL				smax	smax				
	comp=E,70µm,10.0s								
CN2	**Changchun**	**13.24**	**292**	⇑P		**Pn**	**21**	**53**	**58.3 +1.1**
CN2				*e*S		**Sn**	**21**	**56**	**31.3 +8.1**
CN2				PMZ					
	comp=E,2µm,1.3s								
CN2				PMZ					
	comp=E,25µm,7.0s								
CN2				LN					
	comp=E,22µm,18.0s								
CN2				LE					
	comp=E,51µm,18.0s								
CN2				LZ					
	comp=E,53µm,21.0s								
OKH	**Okha**	**13.58**	**1**	*e*P		**Pn**	**21**	**54**	**02.5 +0.7**
OKH				*e*S		**Sn**	**21**	**56**	**34.0 +2.6**
OKH				pmax	pmax				
	comp=E,8µm,8.0s								
OKH				smax	smax				
	comp=N,48µm,8.0s								
SKR	**Severo-Kuril's**	**14.36**	**37***d*	*i*P		**Pn**	**21**	**54**	**08.3 -4.1**
SKR				*e*S		**Sn**	**21**	**56**	**43.9 -6.4**
SKR				pmax	pmax				
	comp=Z,10µm,9.8s								
SKR				pmax	pmax				
	comp=Z,775nm,1.0s								
SKR				MLR	MLR				
	comp=Z,222µm,15.0s								
SNY	**Shenyang**	**14.40**	**283**	⇑P		**Pn**	**21**	**54**	**14.4 +1.3**
SNY				PMZ					
	comp=Z,28µm,8.2s								
SNY				LN					
	comp=Z,180µm,14.7s								
SNY				LE					
	comp=Z,573µm,18.6s								
SNY				LZ					
	comp=Z,923µm,18.1s								
DL2	**Dalian**	**16.13**	**273**	⇑P		**Pn**	**21**	**54**	**36.3 +0.5**
DL2				S		**S**	**21**	**57**	**39.8 -6.4**
DL2				PMZ					
	comp=Z,1µm,1.1s								
DL2				PMZ					
	comp=Z,137µm,9.8s								
DL2				LE					
	comp=Z,322µm,20.6s								
DL2				LZ					
	comp=Z,400µm,27.0s								
PEA0	**Petropavlovsk-**	**16.75**	**33**	*e*Pn		**Pn**	**21**	**54**	**39.6 -4.0**
PEA0B	**Petropavlovsk-**	**16.75**	**33**	*e*Pn		**Pn**	**21**	**54**	**40.5 -3.1**
	comp=Z,622nm,0.9s								
PETK	**Petropavlovsk-**	**16.75**	**33**	P		**Pn**	**21**	**54**	**40.0 -3.6**
	comp=Z,1.5nm,0.3s,baz=203,slow=6.4,SNR=42								
PETK				S		**S**	**21**	**57**	**57.8 -1.0**
	comp=Z,2.2nm,0.3s,baz=126,slow=12,SNR=3.0								
PETK				LR	LR		22	01	02.8
	comp=Z,107µm,22.0s,baz=217,slow=36								
PEA1	**Petropavlovsk-**	**16.76**	**33**	*e*Pn		**Pn**	**21**	**54**	**40.0 -3.7**
PEA1				*e*S		**S**	**21**	**57**	**57.8 -1.1**
PET	**Petropavlovsk**	**17.11**	**35***d*	*i*P		**Pn**	**21**	**54**	**42.3 -5.7**
PET				*e*S		**Sn**	**21**	**57**	**49.0 -8.1**
PET				pmax	pmax				
	comp=Z,446nm,1.3s								
PET				pmax	pmax				
	comp=Z,20µm,11.4s								
PET				pmax	pmax				
	comp=Z,22µm,11.1s								
PET				smax	smax				
	comp=E,72µm,9.2s								
PET				smax	smax				
	comp=E,54µm,14.0s								
PET				MLR	MLR				
	comp=Z,226µm,16.0s								
PET				MLR	MLR				
	comp=Z,241µm,17.0s								
PET	**Petropavlovsk**	**17.11**	**35**	*e*Pn		**Pn**	**21**	**54**	**43.6 -4.4**
	comp=Z,968nm,1.3s								
JOW	**Kunigami**	**17.64**	**226**	*e*Pn		**Pn**	**21**	**54**	**51.1 -3.7**
	comp=Z,876nm,1.0s								
HIA	**Hailar**	**18.59**	**307***c*	*i*P		**P**	**21**	**55**	**03.4 -2.5**
HIA				pmax	pmax				
	comp=Z,427nm,0.8s								
HIA				MLR	MLR				
	comp=Z,638µm,18.0s								
HIA	**Hailar**	**18.59**	**307**	*e*P		**P**	**21**	**55**	**04.4 -1.5**
	comp=Z,491nm,0.9s								
SSE	**Sheshan**	**19.41**	**249**	P		**P**	**21**	**55**	**13.3 -1.8**
SSE				sP		**sP**	**21**	**55**	**25.5 -2.1**
SSE				S		**S**	**21**	**58**	**49.9 -2.9**
SSE				PMZ					
	comp=Z,20µm,10.2s								
SSE				LN					
	comp=Z,178µm,21.9s								
SSE				LE					
	comp=Z,70µm,21.8s								
SSE				LZ					
	comp=Z,194µm,23.3s								
BJI	**Beijing**	**20.12**	**279**	P		**P**	**21**	**55**	**20.9 -1.7**
BJI				S		**S**	**21**	**58**	**59.8 -7.0**
BJI				PMZ					
	comp=Z,330nm,1.8s								
BJI				PMZ					
	comp=Z,97µm,14.4s								
BJI				LN					
	comp=Z,284µm,16.7s								
BJI				LE					
	comp=Z,370µm,17.8s								
BJI				LZ					
	comp=Z,340µm,28.0s								
BJT	**Baijiatuan**	**20.13**	**279**	*e*P		**P**	**21**	**55**	**20.9 -1.8**
BJT				pmax	pmax				
	comp=E,617nm,0.9s								
BJT	**Baijiatuan**	**20.13**	**279**	*e*P		**P**	**21**	**55**	**20.9 -1.8**
	comp=E,617nm,0.9s								
TIA	**Tai'an**	**20.27**	**267**	⇑P		**P**	**21**	**55**	**22.4 -2.0**
TIA				S		**S**	**21**	**59**	**00.3 -10**
TIA				PMZ					
	comp=Z,360nm,2.0s								
TIA				PMZ					
	comp=Z,98µm,12.0s								
TIA				LN					
	comp=Z,141µm,17.2s								
TIA				LE					
	comp=Z,593µm,16.6s								
TIA				LZ					
	comp=Z,746µm,17.8s								
MA2	**Magadan**	**20.31**	**12**	P		**P**	**21**	**55**	**25.0 +0.4**
	comp=Z,168nm,0.8s,baz=218,slow=9.8,SNR=90								
MA2				S		**S**	**21**	**59**	**04.6 -5.8**
	comp=Z,76nm,1.0s,baz=1.4,slow=17,SNR=1.5								
MA2				LR	LR		22	04	36.5
	comp=Z,210µm,18.2s,baz=214,slow=40								
CLNS	**Chul'man**	**20.41**	**332**	*e*P		**P**	**21**	**55**	**25.6 -0.1**
CLNS				*e**PP		**pP**	**21**	**55**	**35.0 +0.7**
CLNS				*e*			21	55	41.0
CLNS				*e*S		**S**	**21**	**59**	**09.8 -2.6**
CLNS				*e*			21	59	38.1
CLNS				*e*			22	06	55.4
CLNS				pmax	pmax				
	comp=Z,973nm,0.9s								
CLNS				pmax	pmax				
	comp=N,343nm,0.9s								
CLNS				pmax	pmax				
	comp=E,334nm,1.0s								
CLNS				pmax	pmax				
	comp=E,547nm,1.2s								
CLNS				pmax	pmax				
	comp=Z,887nm,1.0s								
CLNS				pmax	pmax				
	comp=N,736nm,1.1s								
CLNS				smax	smax				
	comp=N,34µm,10.7s								
CLNS				smax	smax				
	comp=E,30µm,10.7s								
CLNS				MLR	MLR				
	comp=Z,239µm,18.0s								
CLNS				MLR	MLR				
	comp=N,180µm,16.0s								
CLNS				MLR	MLR				
	comp=E,183µm,17.0s								
NJ2	**Nanjing**	**20.63**	**255**	⇑*i*P		**P**	**21**	**55**	**26.4 -1.9**
NJ2				pP		**pP**	**21**	**55**	**36.3 -0.5**
NJ2				sP		**sP**	**21**	**55**	**39.6 -1.3**
NJ2				S		**S**	**21**	**59**	**07.1 -10**
NJ2				PMZ					
	comp=E,1µm,1.0s								
NJ2				LN					
	comp=E,96µm,15.2s								
NJ2				LE					
	comp=E,293µm,16.8s								
NJ2				LZ					
	comp=E,324µm,17.1s								
YOJ	**Yonaguni jima**	**22.51**	**232**	*e*P		**P**	**21**	**55**	**44.1 -4.5**
YOJ				pmax	pmax				
	comp=Z,745nm,1.3s								
YOJ				MLR	MLR				
	comp=Z,337µm,22.0s								
YOJ	**Yonaguni jima**	**22.51**	**232**	*e*P		**P**	**21**	**55**	**44.1 -4.5**
	comp=Z,745nm,1.3s								
YOJ				LR	LR				
	comp=Z,337µm,22.0s								
TATO	**Taipei**	**23.09**	**236**	P		**P**	**21**	**55**	**53.3 -1.2**
	SNR=17								
TATO				P		**P**	**21**	**55**	**53.3 -1.2**
	SNR=17								
TATO	**Taipei**	**23.09**	**236**	P		**P**	**21**	**55**	**53.3 -1.2**
	SNR=17								
TATO	**Taipei**	**23.09**	**236**	*e*P		**P**	**21**	**55**	**51.6 -2.9**
	comp=Z,643nm,0.8s								
TATO				LR	LR				
	comp=Z,435µm,18.0s								
CIT	**Chita**	**23.25**	**311**	*e*P		**P**	**21**	**55**	**53.6 -2.4**
CIT				*e*			21	56	19.2
CIT				*e*			21	56	36.2
CIT				*e*S		**S**	**22**	**00**	**03.7 -2.2**
CIT				pmax	pmax				
	comp=Z,3µm,1.7s								
SARN	**Sarigan**	**23.37**	**172**	*e*P		**P**	**21**	**55**	**55.3 -2.1**
YHNB	**Yeheng**	**23.38**	**236**	*e*P		**P**	**21**	**55**	**53.5 -4.1**
	comp=Z,542nm,0.9s								
YHNB				LR	LR				
	comp=Z,375nm,19.0s								
YAK	**Yakutsk**	**23.41**	**345***c*	*i*P		**P**	**21**	**55**	**55.7 -1.8**
YAK				*e**PP		**sP**	**21**	**56**	**08.5 -1.9**
YAK				*e*			21	56	21.3
YAK				*e*S		**S**	**22**	**00**	**00.8 -7.4**
YAK				pmax	pmax				
	comp=Z,459nm,0.8s								
YAK				pmax	pmax				
	comp=N,431nm,1.1s								
YAK				pmax	pmax				
	comp=E,173nm,0.9s								
YAK				pmax	pmax				
	comp=E,233nm,0.6s								
YAK				pmax	pmax				
	comp=Z,743nm,0.6s								
YAK				pmax	pmax				
	comp=N,4µm,1.5s								
YAK				smax	smax				
	comp=E,34µm,2.6s								
YAK				smax	smax				
	comp=N,38µm,2.3s								
YAK				MLR	MLR				
	comp=N,114µm,16.0s								
YAK				MLR	MLR				
	comp=Z,163µm,16.0s								
YAK				MLR	MLR				
	comp=E,122µm,18.0s								
YAK	**Yakutsk**	**23.41**	**345**	*e*P		**P**	**21**	**55**	**55.8 -1.6**
	comp=E,2µm,0.8s								
YAK				LR	LR				
	comp=Z,170µm,18.0s								
TIY	**Taiyuan**	**23.45**	**274**	*e*P		**P**	**21**	**55**	**54.6 -3.5**
TIY				S		**S**	**22**	**00**	**01.8 -7.6**
TIY				SS		**SnSn**	**22**	**00**	**51.5 +5.2**
TIY				PMZ					
	comp=Z,12µm,8.5s								
TIY				LN					
	comp=Z,179µm,16.6s								
TIY				LE					
	comp=Z,163µm,17.1s								
TIY				LZ					
	comp=Z,215µm,17.6s								
HHC	**Hu-ho-hao-te**	**23.49**	**282**	P		**P**	**21**	**55**	**55.8 -2.7**
HHC				sP		sP	21	56	11.5 0.0
HHC				S		**S**	**22**	**00**	**04.3 -5.8**
HHC				sS		sS	22	00	17.4 -8.0
HHC				SS		**SnSn**	**22**	**00**	**54.6 +7.4**
HHC				PMZ					
	comp=Z,18µm,8.5s								
HHC				LN					
	comp=Z,94µm,15.5s								
HHC				LE					
	comp=Z,444µm,18.7s								
HHC				LZ					
	comp=Z,548µm,17.7s								
NACB	**Ninganchiao**	**23.60**	**234**	*e*P		**P**	**21**	**55**	**55.8 -3.8**
	comp=Z,473nm,1.1s								
NACB				LR	LR				
	comp=Z,179µm,22.0s								
SEY	**Seymchan**	**23.75**	**11**	P		**P**	**21**	**56**	**01.2 +0.5**
	comp=Z,301nm,0.9s,baz=205,slow=8.2,SNR=251								
SEY				S		**S**	**22**	**00**	**15.2 +1.6**
	comp=Z,97nm,1.1s,baz=17,slow=20,SNR=10.0								
SEY				LR	LR		22	06	38.6
	comp=Z,190µm,18.7s,baz=212,slow=40								
SEY	**Seymchan**	**23.75**	**11***ce*	P		**P**	**21**	**56**	**01.3 +0.6**
SSLB	**Suanglung**	**24.28**	**235**	*e*P		**P**	**21**	**56**	**02.4 -3.5**
SSLB				*ep*P		**P**	**21**	**56**	**02.5 -3.5**
SSLB				LR	LR				
	comp=Z,278µm,18.0s								
YULB	**Yu-li**	**24.35**	**234**	*e*P		**P**	**21**	**56**	**02.2 -4.4**
	comp=Z,313nm,0.9s								
YULB				LR	LR				
	comp=Z,189µm,22.0s								
WHN	**Wuhan**	**24.72**	**256**⇑	*i*P		**P**	**21**	**56**	**06.9 -3.0**
WHN				S		**S**	**22**	**00**	**24.3 -5.6**
WHN				PMZ					
	comp=Z,28µm,5.3s								
WHN				LN					
	comp=Z,353µm,20.3s								
WHN				LE					
	comp=Z,512µm,15.8s								
WHN				LZ					
	comp=Z,827µm,18.6s								
TPUB	**Ta-pu**	**24.84**	**234**	*e*P		**P**	**21**	**56**	**07.8 -3.2**
	comp=Z,654nm,0.7s								
TPUB				LR	LR				
	comp=Z,255µm,18.0s								
TWG	**Pinlang**	**24.91**	**233**	*e*P		**P**	**21**	**56**	**09.8 -2.0**
	comp=Z,6µm,1.3s								
TWG				LR	LR				
	comp=Z,536µm,21.0s								
QZH	**Quanzhou**	**25.00**	**240**⇑	*i*P		P	21	56	03.4 -9.1
QZH				S		S	22	00	23.1 -11
QZH				pmax	pmax				
	comp=Z,860nm,0.9s								
QZH				pmax	pmax				
	comp=Z,30µm,9.1s								
QZH				LR	LR				
	comp=N,385µm,17.6s								
QZH				LR	LR				
	comp=E,91µm,14.2s								
QZH				LR	LR				
	comp=Z,413µm,15.4s								
SMY	**Shemya**	**25.06**	**49**	*e*P		**P**	**21**	**56**	**14.4 +1.6**
SMY				pmax	pmax				
	comp=Z,1µm,1.1s								
SMY				MLR	MLR				
	comp=Z,94µm,21.0s								
SMY	**Shemya**	**25.06**	**49**	*e*P		**P**	**21**	**56**	**14.4 +1.6**
	comp=Z,1µm,1.1s								
SMY				LR	LR				
	comp=Z,94µm,21.0s								
BOD	**Bodaibo**	**25.56**	**324**⇑	*i*P		**P**	**21**	**56**	**17.4 +0.1**
BOD				pmax	pmax				
	comp=Z,962nm,1.0s								
GUMO	**Guam**	**26.37**	**175**	P		**P**	**21**	**56**	**28.8 +3.9**
	comp=Z,93nm,0.9s,baz=320,slow=2.2,SNR=3.1								
GUMO				S		**S**	**22**	**00**	**56.1 0.0**
	comp=Z,18nm,0.3s,baz=21,slow=13,SNR=1.9								
GUMO				LR	LR		22	05	37.7
	comp=Z,99µm,22.0s,baz=9.5,slow=34								
GUMO	**Guam**	**26.37**	**175**	*e*P		**P**	**21**	**56**	**28.8 +3.9**
	comp=Z,2µm,1.1s								
GUMO				*e*S		**S**	**22**	**00**	**56.1 0.0**
GUMO				LR	LR				
	comp=Z,110µm,22.0s								
ULN	**Ulaanbaatar**	**26.51**	**299***ce*	P		**P**	**21**	**56**	**25.8 -0.4**
ULN				pmax	pmax				
	comp=Z,423nm,2.5s								
ULN				MLR	MLR				
	comp=Z,485µm,16.0s								
ULN	**Ulaanbaatar**	**26.51**	**299**	P		**P**	**21**	**56**	**26.3 +0.1**
	SNR=97								
ULN	**Ulaanbaatar**	**26.51**	**299**	*e*P		**P**	**21**	**56**	**25.9 -0.3**
ULN				*ep*P		**P**	**21**	**56**	**26.9 +0.7**
ULN				LR	LR				
	comp=Z,493µm,18.0s								
SONA1	**Songino Array**	**26.95**	**299**	*e*P		**P**	**21**	**56**	**28.6 -1.5**
SONA0	**Songino Array**	**26.95**	**299**	*e*P		**P**	**21**	**56**	**30.1 0.0**
SONM	**Songino Array**	**26.95**	**299**	P		**P**	**21**	**56**	**30.1 0.0**
	comp=Z,68nm,0.7s,baz=98,slow=9.2,SNR=204								
SONM				LR	LR		22	07	46.3
	comp=Z,501µm,18.7s,baz=102,slow=38								
SONM	**Songino Array**	**26.95**	**299**	P		**P**	**21**	**56**	**30.1 0.0**
SONM				pmax	pmax				
	comp=Z,67nm,0.7s								
SONM				MLR	MLR				
	comp=Z,501µm,18.7s								
XAN	**Xi'an**	**27.33**	**268**	P		**P**	**21**	**56**	**31.6 -1.9**
XAN				pP		pP	21	56	39.3 -3.5
XAN				PP		**PnPn**	**21**	**57**	**24.8 +6.7**
XAN				S		**S**	**22**	**01**	**07.8 -3.4**
XAN				SS		**SnSn**	**22**	**02**	**29.3 +8.2**
XAN				PMZ					
	comp=Z,150nm,1.1s								
XAN				LE					
	comp=Z,282µm,15.7s								
XAN				LZ					
	comp=Z,273µm,16.7s								
CVP	**Callao Caves**	**28.49**	**225**	*e*P		**P**	**21**	**56**	**42.8 -1.2**
ENH	**Enshi**	**28.52**	**260**	*e*P		**P**	**21**	**56**	**42.7 -1.5**
	comp=Z,772nm,1.0s								
ENH				LR	LR				
	comp=Z,322µm,18.0s								
IRK	**Irkutsk**	**28.83**	**308**	*e*P		**P**	**21**	**56**	**47.0 +0.2**
IRK				*e*S		**S**	**22**	**01**	**36.8 +2.3**
IRK				pmax	pmax				
	comp=Z,1µm,3.2s								
H11N1	**WAKE ISLAND Hy**	**29.11**	**127**	T		T	22	27	42.4
	SNR=5212								
TLY	**Talaya**	**29.13**	**307**	P		**P**	**21**	**56**	**50.1 +0.7**
	comp=Z,32nm,0.6s,baz=111,slow=6.8,SNR=44								
TLY				S		**S**	**22**	**01**	**39.0 -0.1**
	comp=Z,8.5nm,0.7s,baz=213,slow=5.7,SNR=2.1								
TLY				LR	LR		22	09	15.4
	comp=Z,295µm,18.1s,baz=98,slow=38								
TLY	**Talaya**	**29.13**	**307***c*	*i*P		**P**	**21**	**56**	**50.1 +0.7**
TLY				*e*			21	57	46.9
TLY				*e*PPP		PPP	21	57	58.8
TLY				*e*S		**S**	**22**	**01**	**32.4 -6.8**
TLY				*e*SSS		SSS	22	03	07.3
TLY				pmax	pmax				
	comp=Z,435nm,1.4s								
TLY				MLR	MLR				
	comp=Z,294µm,19.0s								
TLY	**Talaya**	**29.13**	**307**	*e*P		**P**	**21**	**56**	**50.1 +0.7**
TLY				*ep*P		**pP**	**21**	**56**	**50.9 -7.8**
TLY				*e*S		**S**	**22**	**01**	**39.0 -0.1**
TLY				LR	LR				
	comp=Z,302nm,19.0s								
ZAK	**Zakamensk**	**29.20**	**304**	*e*P		**P**	**21**	**56**	**50.0 -0.1**
ZAK				pmax	pmax				
	comp=Z,360nm,1.4s								
HKC	**Hong Kong Obse**	**29.76**	**242**	⇑P		**P**	**21**	**56**	**56.0 +0.8**
GZH	**Guangzhou**	**29.81**	**244**	P		P	21	56	50.6 -5.0
GZH				PcP		**PcP**	**22**	**00**	**00.8 +2.2**
GZH				PMZ					
	comp=Z,37µm,9.3s								
H11S1	**WAKE ISLAND Hy**	**29.91**	**129**	T		T	22	28	25.8
	baz=320,slow=76,SNR=989								
H11S3	**WAKE ISLAND Hy**	**29.91**	**129**	T		T	22	28	28.9
	baz=320,slow=76,SNR=1150								
H11S2	**WAKE ISLAND Hy**	**29.93**	**129**	T		T	22	28	47.1
	baz=320,slow=76,SNR=828								
MCO	**Taipa Grande**	**30.30**	**243**	P		**P**	**21**	**57**	**00.0 0.0**
LZH	**Lanzhou**	**30.50**	**275**	⇑P		**P**	**21**	**57**	**01.0 -0.9**
LZH				pP		pP	21	57	07.9 -3.3
LZH				sP		sP	21	57	11.8 -3.3
LZH				PP		**PnPn**	**21**	**58**	**04.0 +2.7**
LZH				S		**S**	**22**	**02**	**01.0 -0.3**
LZH				sS		sS	22	02	12.0 -4.7
LZH				SS		**ScP**	**22**	**03**	**48.0 +7.6**
LZH				PMZ					
	comp=Z,720nm,1.3s								
LZH				PMZ					
	comp=Z,8µ

MOY pmax pmax
comp=Z,1μm,1.8s
GSTR Great Sitkin T 30.82 53 *e*P **P** **21 57 04.0 -0.3**
BILL Bilibino 30.98 17 *ce*P **P** **21 57 07.2 +1.7**
BILL *e**PP **sP** **21 57 18.0 -0.7**
BILL *e* 21 58 04.3
BILL *e*PPP PPP 21 58 18.9
BILL *i* S **S** **22 02 06.7 -1.0**
BILL *e*SS **SnSn** **22 03 50.4 +1.2**
BILL pmax pmax
comp=Z,582nm,1.7s
BILL MLR MLR
comp=Z,208μm,20.0s
BILL Bilibino 30.98 17 *e*P **P** **21 57 06.1 +0.6**
BILL *e*pP **P** **21 57 07.5 +2.1**
BILL LR LR
comp=Z,213μm,20.0s
GQP Guinayangan 31.36 220⇓ *e*P **P** **21 57 09.3 0.0**
LQP Lukban 31.63 221⇑ *e*P sP 21 57 26.2 +1.0
TGY Tagaytay City 31.95 222 P **P** **21 57 13.9 -0.7**
comp=Z,123nm,0.4s,baz=125,slow=15,SNR=1.8
TIXI Tiksi 32.48 352 P **P** **21 57 18.6 -0.1**
comp=Z,70nm,0.7s,baz=147,slow=8.9,SNR=39
TIXI Tiksi 32.48 352 *ce*P **P** **21 57 18.4 -0.2**
TIXI pmax pmax
comp=Z,117nm,1.0s
TIXI MLR MLR
comp=Z,128μm,17.0s
TIXI Tiksi 32.48 352 *e*P **P** **21 57 18.4 -0.2**
TIXI *e*pP pP 21 57 19.2 -8.8
TIXI LR LR
comp=Z,123μm,19.0s
CD2 Chengdu 32.59 266⇑ *i*P **P** **21 57 18.4 -1.8**
CD2 S **S** **22 02 33.9 +0.1**
CD2 PMZ
comp=Z,250nm,0.9s
CD2 PMZ
comp=Z,25μm,13.0s
CD2 LN
comp=Z,153μm,15.4s
CD2 LE
comp=Z,196μm,22.1s
CD2 LZ
comp=Z,233μm,22.1s
GTA Gaotai 32.59 283⇑ P **P** **21 57 19.9 -0.3**
GTA PP **PnPn** **21 58 30.6 +2.4**
GTA PcP **PcP** **22 00 05.8 -0.2**
GTA S **S** **22 02 36.8 +3.0**
GTA sS sS 22 02 47.3 -1.9
GTA ScP **ScP** **22 03 46.4 -1.0**
GTA SS **SnSn** **22 04 35.0 +5.6**
GTA PMZ
comp=Z,110nm,1.8s
GTA PMZ
comp=Z,13μm,7.8s
GTA LN
comp=Z,158μm,18.5s
GTA LE
comp=Z,484μm,19.0s
GTA LZ
comp=Z,598μm,19.5s
GYA Guiyang 32.62 257⇑ *i*P **P** **21 57 19.3 -1.2**
GYA pP pP 21 57 26.0 -3.8
GYA PcP **PcP** **22 00 04.0 -2.2**
GYA sS S 22 02 44.3 +10
GYA ScP **ScP** **22 03 44.4 -3.2**
GYA ScS **ScS** **22 07 41.8 -5.7**
GYA PMZ
comp=Z,500nm,1.1s
GYA PMZ
comp=Z,11μm,10.8s
GYA LN
comp=Z,108μm,17.7s
GYA LE
comp=Z,217μm,18.3s
GYA LZ
comp=Z,264μm,19.9s
RCP Roxas 33.25 217⇓ *e*P **P** **21 57 29.0 +3.1**
LLP Lapu-Lapu 33.80 214 *e*P **P** **21 57 29.5 -1.2**
LLP *e*S **S** **22 02 51.8 -0.8**
SPIA Saint Paul Isl 34.86 44 *e*P **P** **21 57 41.0 +1.5**
comp=Z,965nm,1.4s
SPIA LR LR
comp=Z,29μm,20.0s
QIZ Qiongzhong 34.95 243 P **P** **21 57 36.3 -4.4**
QIZ pP **pP** **21 57 44.8 -5.2**
QIZ PP **PnPn** **21 58 54.8 -3.2**
QIZ S **S** **22 03 05.0 -5.3**
QIZ ScS **ScS** **22 07 53.1 -6.5**
QIZ PMZ
comp=Z,12μm,13.0s
QIZ LN
comp=Z,131nm,18.8s
QIZ LZ
comp=Z,146μm,21.2s
QIZ Qiongzhong 34.95 243 *e*P **P** **21 57 42.6 +1.9**
comp=Z,308nm,1.4s
QIZ LR LR
comp=Z,159μm,21.0s
MIDW Midway 35.00 97 *e*P **P** **21 57 42.2 +1.2**
comp=Z,524nm,1.3s
MIDW LR LR
comp=Z,88μm,22.0s
CGP Cagayan de Oro 35.17 212⇓ *e*P **P** **21 57 44.0 +1.4**
NIKH Nikolski High 35.27 52 *e*P **P** **21 57 41.6 -1.5**
comp=Z,109nm,0.9s
NIKH LR LR
comp=Z,85μm,22.0s
GAMB Gambell 35.79 33 *e*P **P** **21 57 46.7 -0.7**
comp=Z,230nm,1.1s
GAMB LR LR
comp=Z,80μm,21.0s
PATS Pohnpei 35.93 152 *e*P **P** **21 57 50.3 +1.2**
comp=Z,284nm,1.0s
PATS LR LR
comp=Z,104μm,21.0s
KRAR Krasnoyarsk 35.98 313 *c i*P **P** **21 57 49.7 +0.6**
DAV Davao City (W) 36.09 209 P **P** **21 57 51.4 +0.9**
comp=Z,131nm,0.3s,baz=222,slow=17,SNR=2.7
DAV Davao City (W) 36.09 209 *e*P **P** **21 57 51.5 +0.9**
comp=Z,511nm,1.1s
DAV LR LR
comp=Z,49μm,19.0s
KMI Kunming 36.30 258 P **P** **21 57 52.1 -0.4**
KMI pP pP 21 57 57.8 -4.1
KMI sP sP 21 58 01.4 -4.3
KMI PP **PnPn** **21 59 12.4 -2.4**
KMI S **S** **22 03 31.3 -0.1**
KMI sS sS 22 03 43.1 -3.7
KMI SS **SnSn** **22 05 51.3 -8.3**
KMI PMZ
comp=Z,530nm,1.1s
KMI PMZ
comp=Z,17μm,6.7s
KMI LN
comp=Z,224μm,16.9s
KMI LE
comp=Z,257μm,17.8s
KMI LZ
comp=Z,334μm,18.5s
CTBH Cotabato--PC H 36.48 211⇑ *e*P **P** **21 57 54.0 +0.3**
UNV Unalaska Valle 36.70 50 *e*P **P** **21 57 52.9 -2.3**
comp=Z,153nm,1.4s
UNV LR LR
comp=Z,44μm,22.0s
AKUT Akutan 37.13 50 *e*P **P** **21 57 56.9 -2.1**
comp=Z,70nm,0.9s
AKUT LR LR
comp=Z,60μm,22.0s
KWAJ Kwajalein Atol 38.30 137 PFAKE 21 58 20.0 +11
KWAJ LR LR
comp=Z,166μm,22.0s
SDPT Sand Point 40.19 48 *e*P **P** **21 58 21.7 -2.9**
comp=Z,130nm,0.7s
SDPT LR LR
comp=Z,70μm,21.0s
NONG Nongkai 40.29 249 P **P** **21 58 25.8 0.0**
comp=Z,592nm,1.0s,comp=Z,11μm
WMQ Urumqi 40.32 294 P **P** **21 58 26.8 +0.8**
WMQ pP pP 21 58 29.8 -5.6
WMQ sP sP 21 58 32.9 -6.4
WMQ PP **PnPn** **22 00 04.5 +1.7**
WMQ PcS **PcS** **22 04 19.3 -0.2**
WMQ S **S** **22 04 31.8 +0.2**
WMQ SS **SS** **22 07 23.6 -7.0**

WMQ PMZ
comp=Z,400nm,1.0s
WMQ PMZ
comp=Z,13μm,6.6s
WMQ LN
comp=Z,36μm,13.0s
WMQ LE
comp=Z,42μm,16.4s
WMQ LZ
comp=Z,56μm,28.8s
SKNT Sakolnakorn 40.42 247 P **P** **21 58 26.7 -0.2**
comp=Z,1μm,1.8s,comp=Z,15μm
ZAA1 Zalesovo Array 40.60 310 *e*P **P** **21 58 28.2 +0.1**
ZAA1 *e*PcP **PcP** **22 00 30.4 +0.9**
ZAA1 *e*ScP **ScP** **22 04 15.8 -0.8**
ZAA1 *e*S **S** **22 04 32.3 -3.0**
ZAA0 Zalesovo Array 40.60 310 *e*P **P** **21 58 28.1 +0.1**
ZALV Zalesovo Beam 40.60 310 P **P** **21 58 28.2 +0.1**
comp=Z,94nm,0.4s,baz=86,slow=7.5,SNR=389
ZALV PcP **PcP** **22 00 30.4 +0.9**
comp=Z,52nm,0.6s,baz=112,slow=2.9,SNR=6.7
ZALV ScP **ScP** **22 04 15.8 -0.8**
comp=Z,33nm,1.1s,baz=316,slow=12,SNR=2.6
ZALV S **S** **22 04 32.3 -3.0**
comp=Z,8.2nm,0.8s,baz=52,slow=2.4,SNR=2.2
ZALV LR LR 22 16 08.9
comp=Z,301μm,18.8s,baz=87,slow=37
MYLDM Lahad Datu 40.82 218⇑ *e*P **P** **21 58 32.5 +2.3**
MYLDM Lahad Datu 40.82 218 *e*P **P** **21 58 32.3 +2.0**
comp=Z,1μm,1.2s
NRIK Noril'sk 40.97 334 P **P** **21 58 31.1 +0.3**
comp=Z,189nm,0.9s,baz=111,slow=8.6,SNR=55
NRIK PP **PnPn** **22 00 08.1 -1.8**
comp=Z,195nm,0.9s,baz=90,slow=20,SNR=2.2
NRIK S **S** **22 04 37.5 -2.9**
comp=Z,26nm,0.9s,baz=177,slow=21,SNR=2.7
NRIK LR LR 22 16 34.5
comp=Z,333μm,19.1s,baz=106,slow=38
SDKM Sandakan 41.05 220⇓ P **P** **21 58 33.0 +0.8**
KKM Kota Kinabalu 41.20 222⇑ P **P** **21 58 34.6 +1.0**
KKM Kota Kinabalu 41.20 222 *e*P **P** **21 58 34.2 +0.7**
comp=Z,527nm,1.4s
KKM LR LR
comp=Z,107μm,20.0s
NVS Novosibirsk 41.46 311⇑ *i*P **P** **21 58 35.6 +0.5**
NVS *e*S **S** **22 04 48.8 +0.8**
NVS *e*SSS SSS 22 08 24.1
NVS pmax pmax
comp=Z,595nm,1.6s
NVS pmax pmax
comp=N,170nm,1.5s
NVS pmax pmax
comp=E,265nm,1.7s
NVS smax smax
comp=E,516nm,2.0s
KHON Khomkaen 41.66 247 P **P** **21 58 37.2 0.0**
comp=E,206nm,0.8s,comp=E,2μm
TSM Tawau 41.89 218⇓ P **P** **21 58 39.8 +0.8**
LOEI Loei 42.00 250 P **P** **21 58 37.0 -3.0**
comp=E,591nm,1.9s,comp=E,10μm
MANU Manus Island 42.06 173 *e*P **P** **21 58 39.6 -0.7**
comp=E,126nm,0.9s
MANU LR LR
comp=Z,27μm,20.0s
UTTA Uttaradit 42.37 251 P **P** **21 58 42.7 -0.2**
comp=Z,131nm,1.0s,comp=Z,904nm
GENI Genyem 42.41 183 P **P** **21 58 44.0 +0.8**
LAMP Lampang 42.54 253 P **P** **21 58 44.7 +0.4**
comp=Z,140nm,1.0s,comp=Z,1μm
TT01 Tatalina 42.55 37 *e*P **P** **21 58 45.5 +1.6**
TTA Tatalina 42.55 36 *e*P **P** **21 58 44.1 +0.1**
TTA MLR MLR
comp=Z,42μm,20.0s
TTA Tatalina 42.55 36 *e*P **P** **21 58 44.1 +0.1**
TTA LR LR
comp=Z,42μm,20.0s
SVW2 Sparrevohn 42.70 39 *e*P **P** **21 58 47.3 +2.1**
comp=Z,290nm,1.0s
SVW2 LR LR
comp=Z,56μm,20.0s
LSA Lhasa 42.83 273 P **P** **21 58 48.4 +1.2**
LSA S **S** **22 05 14.0 +4.2**
LSA PMZ
comp=Z,260nm,1.9s
LSA PMZ
comp=Z,18μm,9.3s
LSA LN
comp=Z,62μm,19.3s
LSA LE
comp=Z,130μm,17.8s
LSA LZ
comp=Z,297μm,18.6s
LSA Lhasa 42.83 273 *e*P **P** **21 58 48.2 +1.1**
LSA pmax pmax
comp=Z,659nm,1.4s
LSA MLR MLR
comp=Z,312μm,19.0s
LSA Lhasa 42.83 273 *e*P **P** **21 58 48.2 +1.1**
comp=Z,659nm,1.4s
LSA LR LR
comp=Z,312μm,19.0s
PBKT Sadao Pong 42.83 249 P **P** **21 58 46.4 -0.3**
comp=Z,637nm,1.9s,comp=Z,12μm
CMMT Chiang Mai 42.86 253 P **P** **21 58 46.7 -0.3**
comp=Z,463nm,1.1s,comp=Z,15μm
CHTO Chiang Mai 42.87 253 P **P** **21 58 46.8 -0.2**
comp=Z,2μm,1.2s,comp=Z,68μm
CHTO Chiang Mai 42.87 253 *e*P **P** **21 58 47.0 0.0**
CHTO pmax pmax
comp=Z,460nm,1.0s
CHTO MLR MLR
comp=Z,54μm,19.0s
CHTO Chiang Mai 42.87 253 P **P** **21 58 47.5 +0.5**
SNR=122
CHTO Chiang Mai 42.87 253 P **P** **21 58 47.5 +0.5**
SNR=122
CHTO Chiang Mai 42.87 253 *e*P **P** **21 58 47.0 0.0**
comp=Z,460nm,1.0s
CHTO LR LR
comp=Z,54μm,19.0s
CM31 Chiang Mai Arr 43.09 253 *e*P **P** **21 58 49.1 +0.3**
CM31 *e*ScP **ScP** **22 04 26.5 -0.6**
CM31 *e*S **S** **22 05 08.9 -4.0**
CMAR Chiang Mai Arr 43.09 253 P **P** **21 58 49.1 +0.3**
comp=Z,55nm,0.8s,baz=47,slow=6.2,SNR=211
CMAR ScP **ScP** **22 04 26.5 -0.6**
comp=Z,6.5nm,1.0s,baz=10,slow=6.1,SNR=2.9
CMAR S **S** **22 05 08.9 -4.0**
comp=Z,2.5nm,0.9s,baz=340,slow=3.1,SNR=2.6
CMAR LR LR 22 18 35.2
comp=Z,48μm,19.8s,baz=61,slow=39
CM01 Chiang Mai Arr 43.10 253 *e*P **P** **21 58 47.4 -1.4**
SUKH Sukhothai 43.21 251 P **P** **21 58 49.8 +0.1**
comp=Z,122nm,1.0s,comp=Z,1μm
MK01 Makanchi Array 43.31 300 *e*P **P** **21 58 49.1 -1.2**
MK31 Makanchi Array 43.32 300 *e*P **P** **21 58 50.5 +0.1**
MK31 Makanchi Array 43.32 300 *e*P **P** **21 58 50.5 +0.1**
MK32 Makanchi Array 43.32 300 *e*P **P** **21 58 50.8 +0.4**
MK32 *e*S **S** **22 05 12.1 -3.6**
MKAR Makanchi Array 43.32 300 P **P** **21 58 50.8 +0.4**
comp=Z,107nm,0.6s,baz=84,slow=9.4,SNR=272
MKAR S **S** **22 05 12.1 -3.6**
comp=Z,9.8nm,0.9s,baz=337,slow=40,SNR=2.8
MKAR LR LR 22 17 44.5
comp=Z,242μm,19.8s,baz=72,slow=37
MKAR PKPPKP **P'P'df** **22 30 50.1 +1.4**
comp=Z,2.0nm,1.1s,baz=170,slow=3.3,SNR=3.9
MKAR Makanchi Array 43.32 300 P **P'P'df** **22 30 50.2 +1.4**
MKAR pmax pmax
comp=Z,2.0nm,1.1s
MKAR Makanchi Array 43.32 300 *e*P **P** **21 58 50.0 -0.3**
MKAR Makanchi Array 43.32 300 P'P' **P'P'df** **22 30 50.1 +1.4**
MAKZ Makanchi 43.52 300 *e*P **P** **21 58 52.4 +0.4**
MAKZ pmax pmax
comp=Z,394nm,0.9s
MAKZ MLR MLR
comp=Z,307μm,19.0s
MAKZ Makanchi 43.52 300 *e*P **P** **21 58 52.4 +0.4**
comp=Z,394nm,0.9s
MAKZ LR LR
comp=Z,307μm,19.0s
FAKI Fak Fak 43.70 195 *e*P **P** **21 58 53.3 -0.4**
comp=Z,933nm,1.6s
FAKI LR LR
comp=Z,105μm,22.0s
SRAK Srakaew 43.80 245 P **P** **21 58 51.3 -3.2**
comp=Z,2μm,1.1s,comp=Z,19μm

OHAK Old Harbor 44.06 45 *e*P **P** **21 58 56.6 +0.5**
comp=Z,298nm,0.9s
OHAK LR LR
comp=Z,125μm,22.0s
RSO Redoubt South 44.10 40 *e*P **P** **21 58 57.2 +0.5**
PPLA Purkeypile 44.30 37 *e*P **P** **21 59 00.5 +2.3**
comp=Z,1μm,1.4s
SHL Shillong 44.32 267 *e*P **P** **21 58 58.3 -0.6**
SHL lAmb lAmb 21 58 59.8
comp=Z,124nm,0.6s
SHL *e*S **S** **22 05 30.0 -1.1**
CAST Castle Rocks 44.35 36 *e*P **P** **21 59 00.4 +2.0**
comp=Z,354nm,0.9s
KDAK Kodiak Island 44.39 44 *ce*P **P** **21 58 59.2 +0.5**
KDAK Kodiak Island 44.39 44 *e*P **P** **21 58 59.3 +0.6**
comp=Z,602nm,1.2s
KDAK *e*S **S** **22 05 28.9 -2.0**
KDAK LR LR
comp=Z,135μm,22.0s
SPU Mount Spurr 44.41 39 *e*P **P** **21 59 00.8 +1.8**
SANI Sanana 44.46 204 P **P** **21 58 59.8 0.0**
CHBT CHBT 44.47 244 P **P** **21 59 00.4 +0.5**
comp=Z,1μm,1.4s,comp=Z,17μm
UMPA Umpang Tak 44.59 251 P **P** **21 59 02.5 +1.6**
comp=Z,176nm,1.0s,comp=Z,1μm
LUWI Luwuk 44.62 209 *e*P **P** **21 58 59.6 -1.3**
comp=Z,1μm,1.1s
HOM Homer 44.71 41 *e*P **P** **21 59 05.0 +3.7**
comp=Z,729nm,1.0s
KURK Kurchatov 44.82 306 *e*P **P** **21 59 02.2 -0.1**
KURK pmax pmax
comp=Z,823nm,0.8s
KURK MLR MLR
comp=Z,95μm,19.0s
KURK Kurchatov 44.82 306 *e*P **P** **21 59 02.2 -0.1**
comp=Z,823nm,0.8s
KURK LR LR
comp=Z,95μm,19.0s
BPAW Bear Paw Mtn. 44.83 35 *e*P **P** **21 59 03.9 +1.7**
comp=Z,620nm,1.5s
BPAW LR LR
comp=Z,85μm,21.0s
RABL Rabaul 44.85 166 *e*P **P** **21 59 03.7 +0.9**
comp=Z,370nm,0.8s
RABL LR LR
comp=Z,26μm,20.0s
KTH Kantishna Hill 44.87 36 *e*P **P** **21 59 04.4 +1.8**
comp=Z,949nm,1.1s
KURBB Kurchatov Arra 44.89 306 P **P** **21 59 03.0 +0.1**
comp=Z,346nm,0.7s,baz=81,slow=8.4,SNR=1208
CNPM China Poot 44.93 41 *e*P **P** **21 59 04.5 +1.4**
comp=Z,219nm,0.8s
MLY Manley 44.93 34 *e*P **P** **21 59 05.0 +1.9**
comp=Z,350nm,1.0s
SUA Susitna One 45.03 39 *e*P **P** **21 59 04.9 +0.9**
comp=Z,322nm,1.0s
BRLK Bradley Lake 45.09 41 *e*P **P** **21 59 04.9 +0.6**
comp=Z,416nm,1.2s
BRLK LR LR
comp=Z,37μm,21.0s
TRF Thorofare Moun 45.15 36 *e*P **P** **21 59 07.0 +2.0**
comp=Z,408nm,1.2s
COLD Coldfoot 45.19 30 *e*P **P** **21 59 06.7 +1.6**
comp=Z,241nm,0.9s
COLD LR LR
comp=Z,51μm,21.0s
PATY Pattaya 45.37 245 P **P** **21 59 08.0 +0.9**
comp=Z,121nm,0.9s,comp=Z,984nm
BWN Browne 45.49 35 *e*P **P** **21 59 11.0 +3.6**
comp=Z,4μm,1.5s
BWN LR LR
comp=Z,93μm,21.0s
RC01 Rabbit Creek A 45.54 39 *e*P **P** **21 59 09.2 +1.3**
comp=Z,522nm,1.1s
SRDT SRDT 45.63 249 P **P** **21 59 09.6 +0.5**
comp=Z,2μm,1.4s,comp=Z,34μm
KHLT Khaolaem Dam 45.72 249 P **P** **21 59 11.0 +1.2**
comp=Z,183nm,1.4s,comp=Z,5μm
MCK McKinley 45.75 35 *e*P **P** **21 59 10.8 +1.3**
MCK pmax pmax
comp=Z,314nm,1.0s
MCK MLR MLR
comp=Z,66μm,22.0s
MCK McKinley 45.75 35 *e*P **P** **21 59 10.8 +1.3**
comp=Z,314nm,1.0s
MCK LR LR
comp=Z,66μm,22.0s
SEW Seward 45.77 40 *e*P **P** **21 59 11.2 +1.5**
comp=Z,545nm,1.1s
SEW LR LR
comp=Z,63μm,22.0s
PMR Palmer 45.79 38 *e*P **P** **21 59 10.6 +0.7**
PMR pmax pmax
comp=Z,245nm,1.0s
PMR MLR MLR
comp=Z,68μm,22.0s
PMR Palmer 45.79 38 *e*P **P** **21 59 10.6 +0.7**
comp=Z,245nm,1.0s
PMR LR LR
comp=Z,68μm,22.0s
RND Reindeer 45.80 36 *e*P **P** **21 59 10.9 +0.9**
RND pmax pmax
comp=Z,501nm,1.1s
RND MLR MLR
comp=Z,55μm,22.0s
RND Reindeer 45.80 36 *e*P **P** **21 59 10.9 +0.9**
comp=Z,501nm,1.1s
RND LR LR
comp=Z,55μm,22.0s
MDM Murphy Dome 46.00 34 *e*P **P** **21 59 13.1 +1.5**
comp=Z,531nm,1.0s
WRH Wood River Hil 46.08 34 *e*P **P** **21 59 13.2 +1.1**
comp=Z,319nm,1.2s
SML Sawmill 46.15 38 *e*P **P** **21 59 12.8 0.0**
SML pmax pmax
comp=Z,872nm,1.1s
SML MLR MLR
comp=Z,57μm,21.0s
SML Sawmill 46.15 38 *e*P **P** **21 59 12.8 0.0**
comp=Z,872nm,1.1s
SML LR LR
comp=Z,57μm,21.0s
COLA College 46.17 34 *d i*P **P** **21 59 14.4 +1.7**
COLA pmax pmax
comp=Z,391nm,1.8s
COLA MLR MLR
comp=Z,60μm,23.0s
COLA College 46.17 34 *e*P **P** **21 59 15.3 +2.6**
comp=Z,564nm,0.9s
CCB Clear Creek Bu 46.20 34 *e*P **P** **21 59 14.4 +1.4**
comp=Z,304nm,1.2s
PHET Kaeng Krachan 46.25 247 P **P** **21 59 14.8 +0.8**
comp=Z,266nm,0.8s,comp=Z,2μm
SBUM Sibu 46.34 224 *e*P **P** **21 59 14.0 -0.7**
comp=Z,115nm,1.0s
SBUM LR LR
comp=Z,85μm,20.0s
DHY Denali Highway 46.49 36 *e*P **P** **21 59 17.3 +1.8**
comp=Z,275nm,0.9s
DHY LR LR
comp=Z,53μm,20.0s
HDA Harding Lake 46.58 34 *e*P **P** **21 59 16.8 +0.8**
comp=Z,329nm,1.0s
HDA LR LR
comp=Z,87μm,21.0s
ILAR Eielson Array 46.58 34 P **P** **21 59 16.8 +0.7**
comp=Z,51nm,0.7s,baz=265,slow=6.2,SNR=564
ILAR S **S** **22 06 01.4 -1.0**
comp=Z,2.7nm,1.1s,baz=325,slow=3.8,SNR=2.1
ILAR LR LR 22 20 09.7
comp=Z,38μm,21.4s,baz=286,slow=38
ILB Eielson Array 46.58 34 *e*P **P** **21 59 16.8 +0.7**
ILB *e*S **S** **22 06 01.4 -1.0**
IL1 Eielson Array 46.58 34 *e*P **P** **21 59 16.0 0.0**
SCM Sheep Creek Mo 46.63 38 PFAKE 21 59 30.0 +13
SCM LR LR
comp=Z,72μm,22.0s
FYU Fort Yukon 47.16 31 *e*P **P** **21 59 23.5 +3.0**
comp=Z,1μm,1.4s
KLU Klutina 47.33 38 *e*P **P** **21 59 23.5 +1.4**
comp=Z,502nm,1.2s
PAX Paxson 47.37 36 *e*P **P** **21 59 24.0 +1.7**
PAX pmax pmax
comp=Z,279nm,1.2s
PAX MLR MLR
comp=Z,63μm,21.0s
PAX Paxson 47.37 36 *e*P **P** **21 59 24.0 +1.7**

comp=Z,279nm,1.2s
PAX LR LR

comp=Z,63µm,21.0s
KDI Kendari 47.37 207 P P 21 59 23.2 +0.5
TARA Tarawa 47.37 136 PFAKE 21 59 40.0 +17
TARA LR LR

comp=Z,94µm,20.0s
MID Middleton Isla 47.42 41 *eP* **P 21 59 25.3 +2.7**
MID pmax pmax

comp=Z,375nm,1.0s
MID Middleton Isla 47.42 41 *eP* **P 21 59 25.3 +2.7**
comp=Z,375nm,1.0s
DIV Divide 47.45 39 *eP* **P 21 59 24.6 +1.6**
comp=Z,548nm,1.0s
DIV LR LR

comp=Z,101µm,21.0s
JOHN Johnston Islan 47.49 105 PFAKE 21 59 40.0 +16
JOHN LR LR

comp=Z,122µm,21.0s
EYAK Cordova Ski Ar 47.55 40 *eP* **P 21 59 25.4 +1.9**
comp=Z,459nm,1.2s
EYAK LR LR

comp=Z,127µm,22.0s
RAMN Ramite 47.67 272 *eP* **P 21 59 24.5 -0.8**
comp=Z,2µm,1.0s
GUN Gumba 47.74 274 *eP* **P 21 59 25.1 -0.9**
comp=Z,2µm,0.8s
DOT Dot Lake 47.92 35 *eP* **P 21 59 27.2 +0.7**
comp=Z,432nm,0.8s
AAA Alma-Ata 47.96 296 *eP* **P 21 59 28.8 +1.7**
AAA *eS* **S 22 06 20.5 -2.2**
AAA pmax pmax

comp=Z,22µm,5.2s
AAA smax smax

comp=E,40µm,11.8s
AAA MLR MLR

comp=Z,300µm,17.0s
BMRM Bremner River 48.04 39 *eP* **P 21 59 29.2 +1.7**
comp=Z,386nm,0.9s
BMRM LR LR

comp=Z,59µm,21.0s
RAGM Ragged Mountai 48.10 40 *eP* **P 21 59 30.1 +2.2**
comp=Z,494nm,1.2s
MENT Mentasta 48.16 36 *eP* **P 21 59 29.7 +1.3**
comp=Z,620nm,1.2s
MENT LR LR

comp=Z,81µm,22.0s
KSM Kuching 48.19 226 *eP* **P 21 59 29.5 +0.4**
comp=Z,229nm,0.9s
KKN Kakani 48.26 274 *eP* **P 21 59 29.2 -0.6**
comp=Z,1µm,0.8s
PKIN Phulchoki 48.28 273 *eP* **P 21 59 29.4 -0.6**
comp=Z,192nm,0.6s
DMN Daman 48.48 274 *eP* **P 21 59 30.7 -0.9**
comp=Z,696nm,0.9s
GKN Gorkha 48.65 274 *eP* **P 21 59 31.8 -0.9**
comp=Z,673nm,0.6s
CRQM Cirque 48.78 39 *eP* **P 21 59 35.3 +2.0**
comp=Z,554nm,0.9s
SURA Surathani 48.88 243 P **P 21 59 35.4 +1.0**
comp=Z,199nm,1.5s,comp=Z,9µm
VOSK Vostochnaya 48.98 310 PFAKE 21 59 50.0 +15
VOSK LR LR

comp=Z,168µm,19.0s
TKM2 Tokmak 2 49.01 296 *eP* **P 21 59 36.3 +0.9**
TKM2 pmax pmax

comp=Z,638nm,0.8s
TKM2 MLR MLR

comp=Z,237µm,19.0s
TKM2 Tokmak 2 49.01 296 *eP* **P 21 59 36.3 +0.9**
comp=Z,638nm,0.8s
TKM2 LR LR

comp=Z,237µm,19.0s
EGAK Eagle 49.02 33 *eP* **P 21 59 35.9 +0.9**
comp=Z,311nm,0.9s
BALM Baldy 49.11 38 *eP* **P 21 59 37.4 +1.6**
BALM pmax pmax

comp=Z,286nm,0.9s
BALM MLR MLR

comp=Z,60µm,22.0s
BALM Baldy 49.11 38 *eP* **P 21 59 37.4 +1.6**
comp=Z,286nm,0.9s
BALM LR LR

comp=Z,60µm,22.0s
BVAR Borovoye Array 49.24 311 P **P 21 59 37.2 +0.4**
comp=Z,324nm,0.9s,baz=79,slow=8.3,SNR=580
BVAR Borovoye Array 49.24 311 P **P 21 59 37.2 +0.4**
BVAR pmax pmax

comp=Z,322nm,0.9s
BRVK Borovoye 49.30 311 *ce*P **P 21 59 37.5 +0.3**
BRVK pmax pmax

comp=Z,1µm,1.0s
BRVK MLR MLR

comp=Z,553µm,16.0s
BRVK Borovoye 49.30 311 *eP* **P 21 59 37.9 +0.7**
comp=Z,878nm,0.8s
BRVK LR LR

comp=Z,230µm,18.0s
PMG Port Moresby 49.32 174 P **P 21 59 37.8 +0.1**
comp=Z,65nm,0.8s,baz=0.9,slow=6.9,SNR=12
PMG Port Moresby 49.32 174 *ce*P **P 21 59 37.4 -0.3**
PMG pmax pmax

comp=Z,721nm,1.7s
PMG Port Moresby 49.32 174 *eP* **P 21 59 37.8 +0.1**
comp=Z,137nm,0.9s
KAPI Kappang 49.41 210 P **P 21 59 38.5 +0.1**
comp=Z,108nm,1.1s,baz=35,slow=6.9,SNR=46
KAPI Kappang 49.41 210 *eP* **P 21 59 38.5 +0.1**
comp=Z,468nm,1.0s
KOLN Koldanda 49.56 275 *eP* **P 21 59 38.9 -0.9**
comp=Z,832nm,0.8s
SURT Suratani 49.60 244 P **P 21 59 40.7 +0.8**
comp=Z,355nm,1.2s,comp=Z,6µm
SKLT Songkhla 49.65 240 P **P 21 59 41.3 +1.0**
comp=Z,805nm,1.8s
FRU Bishkek 49.71 297⇑ *i*P **P 21 59 41.0 +0.4**
FRU *i* S **S 22 06 46.0 -1.3**
FRU pmax pmax

comp=Z,1µm,2.4s
FRU smax smax

comp=N,3µm,3.5s
KRAB Krabi 49.85 243 P **P 21 59 43.5 +1.7**
comp=N,664nm,0.8s,comp=N,6µm
PYUN Piuthan 49.86 275 *eP* **P 21 59 41.4 -0.7**
comp=N,2µm,0.9s
AAK Ala-Archa 49.87 297 *c i*P **P 21 59 42.0 +0.1**
AAK pmax pmax

comp=Z,693nm,1.6s
AAK MLR MLR

comp=Z,426µm,19.0s
AAK Ala-Archa 49.87 297 P **P 21 59 42.6 +0.7**
SNR=148
AAK P **P 21 59 42.6 +0.7**
SNR=148
AAK Ala-Archa 49.87 297 P **P 21 59 42.6 +0.7**
SNR=148
AAK Ala-Archa 49.87 297 *eP* **P 21 59 42.2 +0.4**
comp=Z,197nm,0.9s
AAK LR LR

comp=Z,202µm,21.0s
BOK Bokaro 49.88 269 *eP* **P 21 59 42.1 +0.1**
BOK IAmb IAmb 21 59 44.5

comp=Z,132nm,0.9s
DAWY Dawson 49.90 34 *eP* **P 21 59 43.6 +1.9**
comp=Z,124nm,0.9s
DAWY LR LR

comp=Z,33µm,22.0s
KSH Kashi 50.01 292 P **P 21 59 47.4 +4.4**
KSH pP sP 21 59 57.5 +1.0
KSH PcP **PcP 22 01 07.4 +4.8**
KSH PP **PP 22 01 43.8 +5.9**
KSH S **S 22 06 59.8 +8.1**
KSH ScS **ScS 22 09 38.0 +6.0**
KSH SS **SS 22 10 26.3 +1.7**
KSH PMZ

comp=Z,180nm,0.9s
KSH PMZ

comp=Z,14µm,7.2s
KSH LN

comp=Z,22µm,12.6s
KSH LE

comp=Z,20µm,11.5s
KSH LZ

comp=Z,287µm,17.2s
ZRNK Zerenda 50.07 311 *eP* **P 21 59 43.6 +0.5**
ZRNK pmax pmax

comp=Z,622nm,0.8s
ZRNK LR LR

comp=Z,224µm,18.0s
ZRNK Zerenda 50.07 311 *eP* **P 21 59 43.5 +0.5**
comp=Z,622nm,0.8s
ZRNK LR LR

comp=Z,224µm,18.0s
BSSI Bau Bau, Buton 50.17 209 P **P 21 59 44.8 +0.6**
PCA Pinnacle 50.31 39 *eP* **P 21 59 46.5 +1.6**
comp=Z,415nm,1.1s
PCA LR LR

comp=Z,80µm,21.0s
EKS2 Erkin-Say 50.35 297 *eP* **P 21 59 45.9 +0.4**
EKS2 pmax pmax

comp=Z,195nm,0.7s
EKS2 MLR MLR

comp=Z,141µm,18.0s
EKS2 Erkin-Say 50.35 297 *eP* **P 21 59 45.9 +0.4**
comp=Z,195nm,0.7s
EKS2 LR LR

comp=Z,141µm,18.0s
PKDT Phuket 50.68 243 P **P 21 59 49.1 +1.0**
comp=Z,1µm,0.9s,comp=Z,17µm
KULM Kulim 51.03 239 *eP* **P 21 59 51.3 +0.6**
comp=Z,201nm,0.8s
KULM LR LR

comp=Z,38µm,20.0s
PTH Pithoragarh 51.26 279 *eP* **P 21 59 51.9 -0.7**
PTH *eS* **S 22 07 10.2 +0.8**
LGTI Lohaghat 51.28 279 *eP* **P 21 59 53.1 +0.6**
LGTI *ex* x 22 00 15.1
IPM Ipoh 51.39 238 *eP* **P 21 59 53.1 -0.3**
comp=Z,274nm,1.1s
IPM LR LR

comp=Z,65µm,19.0s
INK Inuvik 51.40 28 P **P 21 59 54.1 +1.3**
comp=Z,92nm,0.7s,baz=294,slow=6.7,SNR=151
INK LR LR 22 23 52.2

comp=Z,74µm,20.0s,baz=280,slow=38
INK PKP2bc 22 30 44.5

comp=Z,1.2nm,0.6s,baz=89,slow=6.9,SNR=3.5
INK Inuvik 51.40 28 *eP* **P 21 59 54.1 +1.3**
comp=Z,297nm,0.9s
INK ⇑*e* 22 30 44.5
INK LR LR

comp=Z,109µm,22.0s
DHAK Deception Hill 51.57 40 *eP* **P 21 59 57.3 +3.0**
comp=Z,251nm,1.0s
DHAK LR LR

comp=Z,38µm,22.0s
MYKOM Kota Tinggi 51.68 233 *eP* **P 21 59 55.9 +0.3**
comp=Z,116nm,0.9s
MYKOM LR LR

comp=Z,45µm,20.0s
HNR Honiara 51.76 158 P **P 21 59 57.4 +1.3**
comp=Z,36nm,0.3s,baz=147,slow=5.6,SNR=7.2
HNR LR 22 22 39.7

comp=Z,21µm,19.0s,baz=324,slow=37
HNR Honiara 51.76 158 *eP* **P 22 00 00.0 +3.9**
HNR Honiara 51.76 158 *eP* P 22 00 01.3 +5.2
HNR MLR MLR

comp=Z,61µm,22.0s
HNR Honiara 51.76 158 *eP* P 22 00 01.3 +5.2
HNR LR LR

comp=Z,61µm,22.0s
KEKH Kekaha 51.83 92 PFAKE 22 00 10.0 +13
KEKH LR LR

comp=Z,38µm,22.0s
MMRI Maumere 51.86 206 *eP* **P 21 59 56.4 -0.5**
comp=Z,2µm,1.6s
BWNR Bhubaneshwar 51.89 265 *eP* **P 21 59 57.5 +0.3**
BWNR IAmb IAmb 21 59 59.8

comp=Z,161nm,0.7s
PBA Port Blair 52.04 251 *eP* P 21 59 58.4 +0.1
SOEI Soe 52.28 203 *eP* **P 21 59 59.2 -0.8**
comp=Z,818nm,0.9s
SOEI LR LR

comp=Z,46µm,22.0s
KKAR Karatay Array 52.40 298 *eP* **P 22 00 00.8 0.0**
KKAR Karatay Array 52.40 298 *eP* **P 22 00 00.8 0.0**
DDI Dehra Dun 52.52 281 *eP* **P 22 00 01.8 0.0**
DDI *ex* x 22 00 14.0
SDNR Sundarnagar 52.77 283 *eP* **P 22 00 03.0 -0.6**
SDNR *ex* x 22 07 34.0
SMLA Simla 52.80 282 *eP* **P 22 00 03.9 +0.1**
SKAG Skagway 52.89 39 *eP* **P 22 00 07.0 +3.0**
comp=Z,290nm,1.1s
DHRM DHARAMSHALA 52.92 284 *eP* **P 22 00 04.8 -0.1**
JWA Jwalamukhi 53.07 283 *eP* **P 22 00 04.0 -1.8**
JWA *ex* x 22 00 38.0
BHK Bhakra 53.23 283 *eP* **P 22 00 07.6 +0.6**
BHK *ex* x 22 00 34.2
THN Thein Dam 53.26 284 *eP* **P 22 00 05.6 -1.6**
THN *ex* x 22 07 31.0
OPA Opana 53.31 91 *eP* **P 22 00 09.7 +2.1**
OPA pmax pmax

comp=Z,229nm,0.9s
OPA MLR MLR

comp=Z,39µm,21.0s
OPA Opana 53.31 91 *eP* **P 22 00 09.7 +2.1**
comp=Z,229nm,0.9s
OPA LR LR

comp=Z,39µm,21.0s
KIP Kipapa 53.45 92 *eP* **P 22 00 10.2 +1.5**
KIP pmax pmax

comp=Z,221nm,0.9s
KIP MLR MLR

comp=Z,124µm,24.0s
KIP Kipapa 53.45 92 PFAKE 22 00 20.0 +11
KIP LR LR

comp=Z,37µm,22.0s
SVE Sverdlovsk 53.51 317 *d i*P **P 22 00 09.8 +1.1**
SVE *e* 22 02 11.6
SVE *i* S **S 22 07 39.0 -0.2**
SVE *e* 22 09 50.3
SVE *e*SS **SKiKP 22 11 25.5 +4.1**
SVE *e*SSS SSS 22 13 05.0
SVE pmax pmax

comp=Z,1µm,1.0s
SVE pmax pmax

comp=Z,9µm,10.6s
SVE MLR MLR

comp=N,88µm,17.0s
SVE MLR MLR

comp=Z,449µm,16.0s
SVE MLR MLR

comp=E,308µm,16.0s
LHMI Lhok Sumawe 53.55 242 *eP* **P 22 00 11.4 +2.0**
comp=E,469nm,1.0s
LHMI LR LR

comp=Z,87µm,22.0s
MTN Manton Dam 53.59 194 *eP* **P 22 00 09.1 -0.6**
comp=Z,397nm,1.0s
MTN LR LR

comp=Z,24µm,22.0s
COEN Coen 53.66 179 *eP* **P 22 00 10.1 0.0**
comp=Z,171nm,0.9s
COEN LR LR

comp=Z,30µm,22.0s
PSI Prapat 54.02 238 *eP* **P 22 00 12.8 -0.3**
PSI pmax pmax

comp=Z,198nm,1.0s
PSI MLR MLR

comp=Z,61µm,19.0s
PSI Prapat 54.02 238 *eP* **P 22 00 12.8 -0.3**
comp=Z,198nm,1.0s
PSI LR LR

comp=Z,61µm,19.0s
CHLP Challavanipeta 54.27 265 *eP* **P 22 00 14.8 +0.1**
CHLP IAmb IAmb 22 00 16.0

comp=Z,2µm,2.4s
CHLP *eS* **S 22 07 47.2 -3.1**
CHLP IVMs_BB IVMs_BB 22 25 39.4

comp=Z,24µm,20.6s
CMBY CAMPBELL BAY 54.36 246 *eP* **P 22 00 15.2 -0.2**
CMBY IAmb IAmb 22 00 24.9

comp=Z,339nm,1.0s
BKNI Bangkinang 54.56 234 *eP* **P 22 00 17.4 +0.6**
comp=Z,692nm,0.9s
BKNI LR LR

comp=Z,45µm,18.0s
ARU Arti 54.73 317 *c i*P **P 22 00 17.9 +0.4**
ARU 22 01 17.3
ARU 22 02 20.9
ARU PPP PPP 22 03 29.1
ARU S **S 22 07 57.8 +2.3**
ARU 22 10 00.4
ARU SS **SS 22 11 42.2 +4.0**
ARU SSS SSS 22 13 42.9
ARU pmax pmax

comp=Z,809nm,1.0s
ARU pmax pmax

comp=Z,10µm,11.1s
ARU MLR MLR

comp=Z,371µm,16.0s
ARU Arti 54.73 317 *eP* **P 22 00 18.1 +0.6**
comp=Z,2µm,1.3s
ARU LR LR

comp=Z,306µm,18.0s
JAGI Jajag, Banyuwa 54.86 215 PFAKE 22 00 30.0 +11
JAGI LR LR

comp=Z,14µm,21.0s
HLK Haleakala 55.18 91 PFAKE 22 00 40.0 +18
HLK LR LR

comp=Z,50µm,22.0s
VIS Vishakhapatnam 55.29 264 *eP* **P 22 00 22.5 +0.4**
VIS IAmb IAmb 22 00 24.7

comp=Z,209nm,1.1s
CRAG Craig 55.34 44 *eP* **P 22 00 24.3 +2.4**
comp=Z,178nm,1.1s
WRAK Wrangell Islan 55.40 42 *eP* **P 22 00 25.6 +3.2**
comp=Z,206nm,1.2s
WRAK LR LR

comp=Z,39µm,22.0s
DLBC Dease Lake 55.82 39 P **P 22 00 27.9 +2.4**
comp=Z,79nm,1.0s,baz=296,slow=6.7,SNR=65
DLBC LR LR 22 26 42.1

comp=Z,23µm,19.0s,baz=312,slow=38
DLBC PKP2bc 22 30 42.9

comp=Z,1.9nm,0.3s,baz=120,slow=3.3,SNR=4.6
DLBC Dease Lake 55.82 39 *eP* **P 22 00 27.9 +2.4**
comp=Z,220nm,1.1s
DLBC LR LR

comp=Z,37µm,20.0s
HPAH Hawaii Prepara 56.02 92 PFAKE 22 00 40.0 +13
HPAH LR LR

comp=Z,38µm,21.0s
GSI Gunungsitoli 56.03 238 *eP* **P 22 00 27.2 -0.2**
comp=Z,832nm,1.1s
GSI LR LR

comp=Z,53µm,19.0s
POHA Pohakuloa 56.31 92 PFAKE 22 00 40.0 +10
POHA LR LR

comp=Z,42µm,22.0s
H02N1 VAN INLET T-PH 56.51 46 P **P 22 00 32.2 +1.7**
H02S1 DAWSON INLET T 56.56 46 P **P 22 00 32.4 +1.7**
BHPL Bhopal 56.68 274 *eP* **P 22 00 31.4 -0.6**
UWE Uwekahuna 56.68 92 PFAKE 22 00 50.0 +18
UWE LR LR

comp=Z,42µm,22.0s
ABKAR Akbulak array 56.70 309 *eP* **P 22 00 32.0 +0.2**
PVM Polavaram 56.88 265 *eP* **P 22 00 32.8 -0.7**
PVM IAmb IAmb 22 00 35.1

comp=Z,177nm,1.0s
PVM *eS* **S 22 08 25.0 -0.1**
PVM IVMs_BB IVMs_BB 22 26 35.0

comp=Z,24µm,22.5s
CISI Cisompet, Garu 57.10 222 *eP* **P 22 00 37.5 +2.5**
comp=Z,167nm,0.9s
CISI LR LR

comp=Z,36µm,22.0s
KBL Kabul 57.17 290 *eP* **P 22 00 35.2 -0.4**
KBL pmax pmax

comp=Z,646nm,0.9s
KBL MLR MLR

comp=Z,134µm,20.0s
KBL Kabul 57.17 290 *eP* **P 22 00 35.2 -0.4**
comp=Z,646nm,0.9s
KBL LR LR

comp=Z,134µm,20.0s
HOPEN Hopen 57.39 346⇑ *iP* **P 22 00 37.5 +1.2**
HOPEN *eS* **S 22 08 34.4 +4.0**
RPR Rampur 57.72 268 *eP* **P 22 00 38.2 -1.2**
RPR IAmb IAmb 22 00 41.3

comp=Z,381nm,1.0s
RPR *eS* **S 22 08 34.9 -1.3**
RPR IVMs_BB IVMs_BB 22 27 41.8

comp=Z,20µm,18.3s
SPA0 Spitsbergen Ar 57.80 349⇑ *iP* **P 22 00 40.0 +0.8**
SPA0 *eS* **S 22 08 36.9 +1.1**
SPA0 IVMs_BB IVMs_BB 22 29 56.6

comp=Z,16µm,18.0s
SPA0 Spitsbergen Ar 57.80 349 *eP* **P 22 00 39.2 0.0**
KBS Kingsbay 57.90 350⇑ *iP* **P 22 00 40.9 +1.0**
KBS *eS* **S 22 08 41.0 +4.0**
KBS IVMs_BB IVMs_BB 22 28 01.1

comp=Z,16µm,20.5s
KBS Kingsbay 57.90 350 *eP* **P 22 00 41.3 +1.4**
KBS pmax pmax

comp=Z,2µm,2.0s
KBS MLR MLR

comp=Z,49µm,20.0s
KBS Kingsbay 57.90 350 *eP* **P 22 00 41.3 +1.4**
comp=Z,2µm,2.0s
KBS LR LR

comp=Z,49µm,20.0s
SRSP Sriramsagar 58.41 269 *eP* **P 22 00 42.8 -1.5**
SRSP IAmb IAmb 22 00 45.8

comp=Z,587nm,1.1s
SRSP *eS* **S 22 08 42.9 -2.4**
SRSP IVMs_BB IVMs_BB 22 30 28.0

comp=Z,21µm,17.9s
HSPB Hornsund (broa 58.75 348⇑ *iP* **P 22 00 46.9 +1.2**
HSPB *eS* **S 22 08 51.2 +3.1**
HSPB IVMs_BB IVMs_BB 22 24 18.0

comp=Z,15µm,27.5s
HSPB Hornsund (broa 58.75 348 *eP* **P 22 00 47.0 +1.2**
HSPB *eS* **S 22 08 47.1 -1.0**
ADKI Addanki 58.99 265 *eP* **P 22 00 47.7 -0.6**
ADKI IAmb IAmb 22 00 50.6

comp=Z,222nm,1.1s
ADKI *eS* **S 22 08 51.1 -1.6**
ADKI IVMs_BB IVMs_BB 22 28 10.8

comp=Z,26µm,21.7s
FUNA Funafuti 59.01 136 PFAKE 22 01 00.0 +12
FUNA LR LR

comp=Z,124µm,22.0s
NJS Nagarjunasagar 59.07 266 *eP* **P 22 00 47.7 -1.1**
NJS IAmb IAmb 22 00 50.5

comp=Z,260nm,1.4s
NJS *eS* **S 22 08 52.4 -1.4**
NJS IVMs_BB IVMs_BB 22 28 16.3

comp=Z,20µm,20.1s
HYB Hyderabad 59.13 267 *i* P **P 22 00 46.0 -3.3**
comp=Z,343nm,1.5s
HYB *ep*P **sP 22 01 04.0 +1.1**
HYB *e*PP **PP 22 02 58.0 -2.1**
HYB *e*PPP PPP 22 04 12.0
HYB *eS* **S 22 08 50.0 -4.7**
HYB *e* 22 09 20.0
HYB *e*ScS **ScS 22 10 36.0 -1.3**
HYB *e*SS **SS 22 12 48.0 -1.1**
HYB LR LR

comp=Z,59nm,14.0s
HYB Hyderabad 59.13 267 *eP* **P 22 00 49.0 -0.3**
HYB IAmb IAmb 22 00 51.2

comp=Z,183nm,0.9s
HYBB Hyderabad (bro 59.13 267 *eP* **P 22 00 48.5 -0.9**
HYBB IAmb IAmb 22 00 50.9

comp=Z,190nm,1.0s
HYBB *eS* **S 22 08 50.9 -3.8**
HYBB IVMs_BB IVMs_BB 22 33 13.4

comp=Z,15µm,17.0s
RES Resolute Bay 59.55 15 P **P 22 00 51.9 +0.6**
comp=Z,98nm,0.8s,baz=310,slow=6.3,SNR=55
RES Resolute Bay 59.55 15 *eP* **P 22 00 52.0 +0.7**
RES pmax pmax

comp=Z,410nm,1.0s
RES Resolute Bay 59.55 15 *eP* **P 22 00 51.9 +0.6**
comp=Z,412nm,1.0s
RES LR LR

comp=Z,66µm,20.0s
SRLM Srisailam 59.66 266 *eP* **P 22 00 52.4 -0.6**
SRLM IAmb IAmb 22 00 54.4

comp=Z,153nm,1.0s
SRLM *eS* **S 22 09 00.0 -1.5**
SRLM IVMs_BB IVMs_BB 22 28 33.3

comp=Z,19µm,18.8s
LVZ Lovozero 59.77 335 *c i*P **P 22 00 52.9 -0.1**
LVZ pmax pmax

comp=Z,105nm,1.0s
LVZ MLR MLR

comp=Z,63µm,17.0s

LVZ	**Lovozero**	**59.77**	**335**	*e*P		**P**	**22 00 53.5**	**+0.4**
	comp=Z,177nm,1.1s							
LVZ				LR		LR		
	comp=Z,68µm,18.0s							
BJO	**Bjornoya**	**59.80**	**345**	⇑*i*P		**P**	**22 00 54.1**	**+1.0**
BJO				*e*S		**S**	**22 09 04.3**	**+2.6**
BJO				IVMs_BB	IVMs_BB		22 30 47.1	
	comp=Z,33µm,16.1s							
CTA	**Charters Tower**	**59.86**	**176**	P		**P**	**22 00 54.7**	**+0.6**
	comp=Z,19nm,0.5s,baz=0.3,slow=6.4,SNR=27							
CTA				LR		LR	22 25 15.8	
	comp=Z,6µm,21.7s,baz=344,slow=34							
CTAO	**Charters Tower**	**59.86**	**176**	*e*P		**P**	**22 00 53.3**	**-0.8**
CTAO				pmax		pmax		
	comp=Z,387nm,1.8s							
CTAO	**Charters Tower**	**59.86**	**176**	*e*P		**P**	**22 00 53.3**	**-0.8**
	comp=Z,387nm,1.8s							
FITZ	**Fitzroy Crossi**	**59.87**	**199**	P		**P**	**22 00 54.0**	**-0.1**
	comp=Z,83nm,0.8s,baz=13,slow=7.0,SNR=63							
FITZ	**Fitzroy Crossi**	**59.87**	**199**	*e*P		**P**	**22 00 54.0**	**-0.1**
	comp=Z,322nm,1.4s							
RCLA	**Racherla**	**60.00**	**265**	*e*P		**P**	**22 00 54.5**	**-0.8**
RCLA				IAmb		IAmb	22 00 57.0	
	comp=Z,233nm,1.1s							
RCLA				*e*S		**S**	**22 09 04.0**	**-1.9**
RCLA				IVMs_BB	IVMs_BB		22 28 51.0	
	comp=Z,25µm,21.6s							
WB5	**Warramunga Arr**	**60.02**	**189**	PFAKE			22 01 10.0	+15
WB5				LR		LR		
	comp=Z,18µm,22.0s							
WRAB	**Tennant Creek**	**60.08**	**189**	*ce*P		**P**	**22 00 54.4**	**-1.1**
WRAB				pmax		pmax		
	comp=Z,617nm,0.7s							
WRAB	**Tennant Creek**	**60.08**	**189**	*e*P		**P**	**22 00 54.5**	**-1.1**
	comp=Z,250nm,0.8s							
WB2	**Warramunga Arr**	**60.09**	**189**	*e*P		**P**	**22 00 54.5**	**-1.1**
	comp=Z,238nm,0.8s							
WR1	**Warramunga Arr**	**60.09**	**189**	*e*P		**P**	**22 00 54.3**	**-1.3**
	comp=Z,264nm,0.9s							
WR1				*e*S		**S**	**22 09 01.2**	**-5.3**
WR1				⇑*e*			22 30 31.8	
WRA	**Warramunga Arr**	**60.09**	**189**	P		**P**	**22 00 54.3**	**-1.4**
	comp=Z,172nm,0.8s,baz=6.4,slow=7.1,SNR=235							
WRA				S		**S**	**22 09 01.2**	**-5.3**
	comp=Z,16nm,1.3s,baz=356,slow=12,SNR=4.5							
WRA				LR		LR	22 26 35.5	
	comp=Z,17µm,21.4s,baz=15,slow=36							
WRA				PKP2bc			22 30 31.8	
	comp=Z,12nm,0.9s,baz=208,slow=1.3,SNR=9.0							
WRA	**Warramunga Arr**	**60.09**	**189**	P		**P**	**22 00 54.3**	**-1.4**
WRA				S		**S**	**22 09 01.3**	**-5.3**
WRA				pmax		pmax		
	comp=Z,175nm,0.8s							
WRA				smax		smax		
	comp=N,16nm,1.3s							
WRA				MLR		MLR		
	comp=Z,17µm,21.4s							
KLRI	**Killari**	**60.25**	**269**	*e*P		**P**	**22 00 55.9**	**-1.2**
KLRI				IAmb		IAmb	22 00 58.3	
	comp=Z,568nm,1.1s							
KLRI				*e*S		**S**	**22 09 06.9**	**-2.3**
KLRI				IVMs_BB	IVMs_BB		22 31 31.1	
	comp=Z,25µm,17.5s							
APA	**Apatity**	**60.35**	**335**	⇓*i*P		**P**	**22 00 57.0**	**+0.1**
APA				*i*			22 03 09.0	
APA				*i* S		**S**	**22 09 07.0**	**-2.0**
APA				pmax		pmax		
	comp=Z,99nm,1.1s							
APA				MLR		MLR		
	comp=Z,79µm,21.0s							
MDRS	**Chennai**	**60.47**	**262**	*e*P		**P**	**22 00 59.4**	**+0.9**
YKA	**Yellowknife Ar**	**60.86**	**31**	P		**P**	**22 01 01.4**	**+0.9**
	comp=Z,22nm,0.7s,baz=302,slow=6.6,SNR=97							
YKA				S		**S**	**22 09 14.0**	**-1.6**
	comp=Z,1.6nm,0.9s,baz=74,slow=19,SNR=2.9							
YKA				PKP2bc			22 30 28.8	
	comp=Z,3.4nm,1.0s,baz=125,slow=2.4,SNR=5.3							
YKA				LR		LR	22 31 38.4	
	comp=Z,2µm,18.1s,baz=0.0,slow=40							
YKB5	**Yellowknife Ar**	**60.86**	**31**	*e*P		**P**	**22 01 01.4**	**+0.9**
YKB5				*e*S		**S**	**22 09 14.0**	**-1.6**
YKB5				⇑*e*			22 30 28.8	
KEV	**Kevo**	**60.99**	**339**	*e*P		**P**	**22 01 01.8**	**+0.6**
KEV				pmax		pmax		
	comp=Z,185nm,0.9s							
KEV				MLR		MLR		
	comp=Z,69µm,22.0s							
KEV	**Kevo**	**60.99**	**339**	*e*P		**P**	**22 01 01.8**	**+0.6**
	comp=Z,184nm,0.9s							
KEV				LR		LR		
	comp=Z,69µm,22.0s							
HAMF	**Hammerfest**	**61.32**	**341**	⇑*i*P		**P**	**22 01 03.8**	**+0.4**
HAMF				*e*S		**S**	**22 09 22.7**	**+1.5**
HAMF				IVMs_BB	IVMs_BB		22 34 38.1	
	comp=Z,26µm,15.3s							
ARA0	**ARCESS Array S**	**61.54**	**339**	*e*P		**P**	**22 01 05.4**	**+0.4**
ARA0				*e*S		**S**	**22 09 22.1**	**-2.0**
ARA0				⇑*e*			22 30 31.2	
ARCES	**ARCESS Array B**	**61.54**	**339**	P		**P**	**22 01 05.4**	**+0.4**
	comp=Z,38nm,0.6s,baz=52,slow=7.9,SNR=47							
ARCES				S		**S**	**22 09 22.1**	**-2.0**
	comp=Z,4.2nm,0.8s,baz=133,slow=27,SNR=2.4							
ARCES				PKP2bc			22 30 31.2	
	comp=Z,4.5nm,1.0s,baz=347,slow=2.7,SNR=3.8							
ARCES				LR		LR	22 33 42.3	
	comp=Z,54µm,18.9s,baz=48,slow=42							
ARE0	**ARCESS Array S**	**61.54**	**339**	⇑*i*P		**P**	**22 01 05.6**	**+0.6**
ARE0				*e*S		**S**	**22 09 25.5**	**+1.3**
ARE0				*e*SS		**SS**	**22 13 30.2**	**+5.6**
ARE0				IVMs_BB	IVMs_BB		22 33 54.9	
	comp=Z,34µm,14.6s							
ARE0	**ARCESS Array S**	**61.54**	**339**	*e*P		**P**	**22 01 05.6**	**+0.6**
	comp=Z,226nm,1.1s							
ARE0				LR		LR		
	comp=Z,52µm,18.0s							
KLMR	**Klimovskoe**	**61.72**	**327**	*ce*P		**P**	**22 01 06.5**	**+0.2**
KLMR				*e*			22 03 22.6	
KLMR				*e*S		**S**	**22 09 25.2**	**-1.4**
KLMR				pmax		pmax		
	comp=Z,481nm,1.2s							
POO	**Poona**	**62.09**	**271**	*e*P		**P**	**22 01 09.3**	**-0.2**
KTK1	**Kautokeino**	**62.50**	**339**	⇑*i*P		**P**	**22 01 11.8**	**+0.4**
KTK1				*e*S		**S**	**22 09 35.8**	**-0.4**
BHJ	**Bhuj**	**62.60**	**278**	*e*P		**P**	**22 01 10.3**	**-2.5**
BHJ				IAmb		IAmb	22 01 14.3	
	comp=Z,131nm,0.6s							
BOM	**Bombay**	**62.68**	**272**	*i* P		**P**	**22 01 10.1**	**-3.2**
BOM				*ex*		x	22 09 35.7	
DAG	**Danmarks Havn**	**62.92**	**355**	⇑*i*P		**P**	**22 01 14.6**	**+0.5**
DAG				*i* S		**S**	**22 09 39.7**	**-1.5**
DAG				*i*			22 10 07.5	
DAG				pmax		pmax		
	comp=Z,190nm,1.0s							
DAG				MLR		MLR		
	comp=Z,32µm,21.0s							
DAG	**Danmarks Havn**	**62.92**	**355**	⇑*i*P		**P**	**22 01 14.6**	**+0.5**
	comp=Z,189nm,1.0s							
DAG				*i* S		**S**	**22 09 39.7**	**-1.5**
DAG				*i*			22 10 07.5	
ASHT	**Ashkhabad**	**62.97**	**298**	*i* P		**P**	**22 01 14.5**	**-0.6**
ASHT				pmax		pmax		
	comp=Z,211nm,0.6s							
GEYT	**Alibeck**	**63.15**	**298**	P		**P**	**22 01 16.5**	**+0.2**
	comp=Z,239nm,0.9s,baz=29,slow=3.4,SNR=201							
GEYT				S		**S**	**22 09 43.9**	**-1.6**
	comp=Z,3.5nm,0.9s,baz=198,slow=4.4,SNR=3.6							
GEYT				PKP2bc			22 30 25.8	
	comp=Z,0.6nm,0.4s,baz=202,slow=2.7,SNR=3.5							
GEYT				LR		LR	22 31 44.2	
	comp=Z,59µm,18.7s,baz=35,slow=39							
TRO	**Tromso**	**63.20**	**341**	⇑*i*P		**P**	**22 01 16.3**	**+0.2**
TRO				*e*PP		**PP**	**22 03 33.8**	**-1.0**
TRO				*e*S		**S**	**22 09 47.4**	**+2.4**
TRO				IVMs_BB	IVMs_BB		22 33 29.4	
	comp=Z,29µm,17.4s							
PGC	**Sidney**	**63.73**	**48**	*e*P		**P**	**22 01 22.0**	**+2.1**
	comp=Z,120nm,0.9s							
PGC				LR		LR		
	comp=Z,36µm,22.0s							
AS01	**Alice Springs**	**63.81**	**189**	*e*P		**P**	**22 01 18.5**	**-2.1**
AS31	**Alice Springs**	**63.81**	**189**	*e*P		**P**	**22 01 20.0**	**-0.7**
	comp=Z,42nm,0.7s							
AS31				*e*S		**S**	**22 09 48.2**	**-5.3**
AS31				LR		LR		
	comp=Z,400nm,22.0s							
ASAR	**Alice Springs**	**63.81**	**189**	P		**P**	**22 01 20.0**	**-0.7**
	comp=Z,75nm,0.8s,baz=11,slow=6.6,SNR=306							
ASAR				S		**S**	**22 09 48.2**	**-5.4**
	comp=Z,2.7nm,1.0s,baz=19,slow=5.3,SNR=3.2							
ASAR				LR		LR	22 28 50.3	
	comp=Z,32µm,21.9s,baz=2.5,slow=36							
ASAR				PKP2bc			22 30 23.4	
	comp=Z,4.9nm,0.9s,baz=194,slow=2.7,SNR=6.2							
PALK	**Pallekele**	**63.82**	**257**	*i* P		**P**	**22 01 20.9**	**-0.1**
	SNR=11							
PALK	**Pallekele**	**63.82**	**257**	*ce*P		**P**	**22 01 22.7**	**+1.7**
PALK	**Pallekele**	**63.82**	**257**	*e*P		**P**	**22 01 21.1**	**0.0**
	comp=Z,244nm,1.4s							
PALK				LR		LR		
	comp=Z,72µm,20.0s							
GOA	**Goa**	**63.91**	**269**	*e*P		**P**	**22 01 22.0**	**+0.4**
A04D	**Lummi Island**	**64.11**	**47**	P		**P**	**22 01 24.4**	**+2.0**
	baz=302							
A04D				S		**S**	**22 09 59.0**	**+2.2**
	baz=302							
NLWA	**Neilton Lookou**	**64.14**	**49**	*e*P		**P**	**22 01 25.4**	**+2.7**
	comp=Z,317nm,1.4s							
MBWA	**Marble Bar**	**64.41**	**204**	P		**P**	**22 01 24.3**	**-0.3**
	SNR=13							
MBWA	**Marble Bar**	**64.41**	**204**	P		**P**	**22 01 24.3**	**-0.3**
	SNR=13							
MBWA	**Marble Bar**	**64.41**	**204**	*e*P		**P**	**22 01 23.8**	**-0.7**
	comp=Z,184nm,0.9s							
MBW	**Mount Baker**	**64.53**	**47**	P		**P**	**22 01 26.8**	**+1.4**
GNW	**Green Mountain**	**64.65**	**48**	*e*P		**P**	**22 01 27.8**	**+1.9**
B05A	**Bryant**	**64.70**	**47**	P		**P**	**22 01 27.8**	**+1.5**
	baz=302,SNR=34							
E03A	**Lebam**	**64.77**	**50**	*e*P		**P**	**22 01 28.8**	**+2.1**
	comp=Z,334nm,1.0s							
E03A				LR		LR		
	comp=Z,33µm,22.0s							
KULLO	**Kullorsuaq**	**64.97**	**6**	*i* P		**P**	**22 01 27.9**	**+0.3**
KULLO				pmax		pmax		
	comp=Z,160nm,1.1s							
KULLO				MLR		MLR		
	comp=Z,45µm,18.0s							
KULLO	**Kullorsuaq**	**64.97**	**6**	*i* P		**P**	**22 01 27.9**	**+0.3**
	comp=Z,161nm,1.1s							
F03A	**Seaside**	**65.10**	**50**	*e*P		**P**	**22 01 31.9**	**+2.9**
	comp=Z,918nm,1.6s							
F03A				LR		LR		
	comp=Z,32µm,22.0s							
HTW	**Haystack Looko**	**65.13**	**48**	P		**P**	**22 01 31.2**	**+2.0**
D05A	**Enumclaw**	**65.33**	**48**	P		**P**	**22 01 32.8**	**+2.3**
D05A				LR		LR		
	comp=Z,21µm,22.0s							
F04D	**Rainier, OR**	**65.34**	**50**	P		**P**	**22 01 32.7**	**+2.3**
	baz=303							
STEI	**Steigen**	**65.37**	**341**	*e*P		**P**	**22 01 30.5**	**+0.2**
STEI				*e*S		**S**	**22 10 16.2**	**+4.5**
MOS	**Moscow**	**65.39**	**323**	*α i*P		**P**	**22 01 31.5**	**+0.9**
MOS				*e*			22 02 05.0	
MOS				*e*			22 03 53.9	
MOS				*e*PPP		PPP	22 05 29.4	
MOS				*i* S		**S**	**22 10 11.4**	**-1.0**
MOS				*i*			22 11 27.6	
MOS				*e*SS		**SS**	**22 14 22.5**	**-2.5**
MOS				pmax		pmax		
	comp=Z,10µm,4.8s							
MOS				pmax		pmax		
	comp=N,4µm,4.1s							
MOS				pmax		pmax		
	comp=E,5µm,5.0s							
MOS				pmax		pmax		
	comp=Z,579nm,1.1s							
MOS				pmax		pmax		
	comp=N,383nm,1.2s							
MOS				pmax		pmax		
	comp=E,286nm,1.0s							
MOS				smax		smax		
	comp=N,16µm,5.0s							
MOS				smax		smax		
	comp=E,5µm,5.3s							
MOS				MLR		MLR		
	comp=N,88µm,16.0s							
MOS				MLR		MLR		
	comp=E,116µm,16.0s							
MOS				MLR		MLR		
	comp=Z,170µm,16.0s							
EIDS	**Eidsvold**	**65.50**	**171**	*e*P		**P**	**22 01 32.1**	**+0.5**
	comp=Z,101nm,0.9s							
EIDS				LR		LR		
	comp=Z,26µm,21.0s							
PNT	**Penticton**	**65.51**	**45**	*e*P		**P**	**22 01 32.9**	**+1.4**
PNT	**Penticton**	**65.51**	**45**	*e*P		**P**	**22 01 32.9**	**+1.4**
C06D	**Leavenworth**	**65.56**	**47**	P		**P**	**22 01 33.9**	**+2.0**
	baz=303							
OBSR	**Observation Ro**	**65.59**	**49**	*e*P		**P**	**22 01 34.6**	**+2.1**
LOF	**Lofoten**	**65.64**	**341**	⇑*i*P		**P**	**22 01 32.1**	**+0.1**
LOF				*e*S		**S**	**22 10 17.3**	**+2.2**
LOF				IVMs_BB	IVMs_BB		22 35 38.4	
	comp=Z,29µm,16.9s							
DZM	**Mont Dzumac**	**65.66**	**156**	*e*P		**P**	**22 01 33.0**	**+0.2**
	comp=Z,225nm,1.2s							
DZM				*ep*P		**sP**	**22 01 44.7**	**-1.8**
	comp=Z,836nm,1.1s							
DZM				*e*S		**S**	**22 10 15.3**	**-1.2**
	comp=Z,47µm,29.3s							
DZM				*e*LQ		LQ	22 18 34.4	
	comp=Z,61µm,33.0s							
DZM				*e*LR		LR	22 21 20.5	
	comp=Z,92µm,23.1s							
DZM	**Mont Dzumac**	**65.66**	**156**	LR		LR	22 26 27.7	
	comp=Z,42µm,21.8s,baz=326,slow=32							
DZM				PKP2bc			22 30 17.3	
	comp=Z,2.7nm,0.8s,baz=211,slow=7.8,SNR=3.9							
DZM	**Mont Dzumac**	**65.66**	**156**	*e*P		**P**	**22 01 32.9**	**+0.1**
	comp=Z,513nm,1.2s							
G03D	**McMinnville, O**	**65.66**	**51**	P		**P**	**22 01 34.8**	**+2.3**
	baz=303							
LON	**Longmire**	**65.68**	**49**	*e*P		**P**	**22 01 34.7**	**+2.0**
LON				pmax		pmax		
	comp=Z,120nm,1.1s							
LON	**Longmire**	**65.68**	**49**	P		**P**	**22 01 34.2**	**+1.5**
F04A	**Amboy**	**65.77**	**50**	PFAKE			22 01 50.0	+17
F04A				LR		LR		
	comp=Z,20µm,22.0s							
TRD	**Trivandrum**	**65.84**	**261**	*e*P		**P**	**22 01 34.1**	**0.0**
TRD				IAmb		IAmb	22 01 36.5	
	comp=Z,258nm,1.2s							
VRH	**Novokhopyorsk**	**65.96**	**317**	*e*P		**P**	**22 01 34.3**	**-0.1**
VRH				*e*			22 03 57.4	
VRH				*e*S		**S**	**22 10 17.6**	**-1.9**
VRH				*e*SS		**SS**	**22 14 34.0**	**-0.2**
VRH				pmax		pmax		
	comp=Z,900nm,1.2s							
VRH				pmax		pmax		
	comp=Z,800nm,1.4s							
VRH				smax		smax		
	comp=N,11µm,7.2s							
VRH				MLR		MLR		
	comp=Z,139µm,19.0s							
COR	**Corvallis**	**65.97**	**51**	*e*P		**P**	**22 01 37.9**	**+3.3**
COR				pmax		pmax		
	comp=Z,314nm,1.0s							
COR	**Corvallis**	**65.97**	**51**	*e*P		**P**	**22 01 37.9**	**+3.3**
	comp=Z,314nm,1.0s							
TWW	**Teanaway**	**66.00**	**48**	P		**P**	**22 01 37.4**	**+2.5**
LTY	**Liberty**	**66.05**	**48**	*e*P		**P**	**22 01 36.3**	**+1.1**
	comp=Z,404nm,1.5s							
LTY				LR		LR		
	comp=Z,36µm,21.0s							
XMAS	**Kiritimati**	**66.07**	**109**	*e*P		P	22 01 41.9	+6.3
	comp=Z,365nm,1.3s							
XMAS				LR		LR		
	comp=Z,203µm,22.0s							
G04A	**Mulino**	**66.13**	**50**	*e*P		**P**	**22 01 37.6**	**+2.0**
TBM	**Table Mountain**	**66.14**	**48**	*e*P		**P**	**22 01 37.7**	**+2.0**
B08A	**Colville Reser**	**66.19**	**46**	*e*P		**P**	**22 01 37.0**	**+1.0**
	comp=Z,276nm,1.4s							
B08A				LR		LR		
	comp=Z,33µm,22.0s							
WTV	**Waterville**	**66.21**	**47**	*e*P		**P**	**22 01 37.6**	**+1.4**
OBN	**Obninsk**	**66.24**	**323**	*ce*P		**P**	**22 01 36.3**	**+0.2**
OBN				*i* *PP		**sP**	**22 01 48.7**	**-1.1**
OBN				*e*			22 02 09.1	
OBN				*e*PPP		PPP	22 05 35.3	
OBN				*i* S		**S**	**22 10 20.9**	**-1.9**
OBN				*e*SS		**SS**	**22 14 32.9**	**-5.4**
OBN				pmax		pmax		
	comp=Z,436nm,1.0s							
OBN				MLR		MLR		
	comp=Z,191µm,16.0s							
OBN	**Obninsk**	**66.24**	**323**	*e*P		**P**	**22 01 36.5**	**+0.4**
	comp=Z,411nm,1.0s							
OBN				LR		LR		
	comp=Z,58µm,21.0s							
NAC	**Naches**	**66.25**	**48**	P		**P**	**22 01 38.7**	**+2.3**
MSVF	**Nonsavu**	**66.31**	**143**	*e*P		**P**	**22 01 39.3**	**+2.3**
MSVF				pmax		pmax		
	comp=Z,374nm,1.8s							
MSVF				MLR		MLR		
	comp=Z,42µm,21.0s							
MSVF	**Nonsavu**	**66.31**	**143**	*e*P		**P**	**22 01 39.3**	**+2.3**
	comp=Z,374nm,1.8s							
MSVF				LR		LR		
	comp=Z,42µm,21.0s							
I03D	**Drain, OR**	**66.43**	**52**	P		**P**	**22 01 39.8**	**+2.2**
	baz=304,SNR=36							
FIA1	**FINESS Array S**	**66.60**	**332**	*e*P		**P**	**22 01 38.4**	**+0.1**
FIA0	**FINESS Array S**	**66.60**	**332**	*e*P		**P**	**22 01 38.5**	**+0.2**
FIA0				*e*			22 04 03.5	
FIA0				*e*S		**S**	**22 10 25.5**	**-1.5**
FIA0	**FINESS Array S**	**66.60**	**332**	*e*P		**P**	**22 01 38.5**	**+0.2**
FIA0				*e*PP		**PP**	**22 04 03.5**	**-1.1**
FIA0				*e*S		**S**	**22 10 25.4**	**-1.5**
FINES	**FINESS Array B**	**66.60**	**332**	P		**P**	**22 01 38.5**	**+0.2**
	comp=Z,82nm,0.6s,baz=57,slow=7.0,SNR=171							
FINES				PP		**PP**	**22 04 03.5**	**-1.1**
	comp=Z,94nm,0.9s,baz=32,slow=11,SNR=3.2							
FINES				S		**S**	**22 10 25.4**	**-1.5**
	comp=Z,7.2nm,0.8s,baz=123,slow=9.4,SNR=2.6							
FINES				PKP2ab			22 30 21.1	
	comp=Z,3.2nm,1.0s,baz=126,slow=2.6,SNR=4.1							
FINES				LR		LR	22 33 38.4	
	comp=Z,161µm,18.2s,baz=43,slow=38							
VFP	**Flag Point**	**66.66**	**50**	P		**P**	**22 01 41.4**	**+2.2**
G05D	**Wamic, OR**	**66.79**	**50**	P		**P**	**22 01 41.7**	**+1.8**
	baz=304,SNR=12							
E07A	**Sunnyside**	**66.90**	**48**	*e*P		**P**	**22 01 42.4**	**+1.9**
	comp=Z,210nm,1.2s							
E07A				LR		LR		
	comp=Z,33µm,22.0s							
I04A	**Tendick Farm,**	**66.95**	**52**	P		**P**	**22 01 42.7**	**+1.8**
	baz=304,SNR=60							
COCO	**West Island**	**66.97**	**229**	*e*P		**P**	**22 01 43.7**	**+2.5**
COCO				pmax		pmax		
	comp=Z,1µm,1.6s							
COCO				MLR		MLR		
	comp=Z,23µm,19.0s							
COCO	**West Island**	**66.97**	**229**	*e*P		**P**	**22 01 43.7**	**+2.5**
	comp=Z,1µm,1.6s							
COCO				LR		LR		
	comp=Z,23µm,19.0s							
VORR	**Voronezh**	**66.98**	**319**	⇑*i*P		**P**	**22 01 40.0**	**-0.9**
VORR				*e*S		**S**	**22 10 28.0**	**-3.9**
VORR				pmax		pmax		
	comp=Z,600nm,1.0s							
KONS	**Konsvik**	**66.99**	**340**	*e*P		**P**	**22 01 41.3**	**+0.6**
C09A	**Chrisman Ranch**	**67.09**	**46**	*e*P		**P**	**22 01 43.5**	**+1.7**
	comp=Z,217nm,1.0s							
L02D	**Cave Junction,**	**67.13**	**54**	P		**P**	**22 01 43.8**	**+1.8**
	baz=304,SNR=13							
D08A	**Wollman Farm,**	**67.15**	**47**	*e*P		**P**	**22 01 44.0**	**+1.9**
	comp=Z,338nm,1.5s							
D08A				LR		LR		
	comp=Z,28µm,21.0s							
HAWA	**Hanford**	**67.18**	**48**	*e*P		**P**	**22 01 44.7**	**+2.4**
	comp=Z,268nm,1.3s							
G06A	**Carlson Farm,**	**67.19**	**50**	*e*P		**P**	**22 01 44.9**	**+2.4**
	comp=Z,272nm,1.4s							
VTHM	**Trough**	**67.27**	**50**	P		**P**	**22 01 45.1**	**+2.2**
VSR	**Storozhevoye**	**67.27**	**318**	*e*P		**P**	**22 01 43.5**	**+0.8**
VSR				*e*			22 04 06.3	
VSR				*e*S		**S**	**22 10 31.9**	**-3.5**
VSR				pmax		pmax		
	comp=Z,380nm,1.2s							
VSR				pmax		pmax		
	comp=Z,2µm,1.8s							
VSR				smax		smax		
	comp=E,7µm,6.8s							
VSR				MLR		MLR		
	comp=Z,176µm,21.0s							
HUMO	**Hull Mountain**	**67.27**	**53**	*e*P		**P**	**22 01 45.2**	**+2.2**
	comp=Z,316nm,1.8s							
I05D	**Terrebonne, OR**	**67.28**	**51**	P		**P**	**22 01 44.9**	**+1.9**
	baz=304,SNR=12							
JMIC	**Jan Mayen**	**67.39**	**350**	⇑*i*P		**P**	**22 01 44.7**	**+1.5**
JMIC				*e*S		**S**	**22 10 39.6**	**+3.3**
JMIC				IVMs_BB	IVMs_BB		22 34 48.4	
	comp=Z,8µm,17.2s							
NEW	**Newport**	**67.46**	**45**	P		**P**	**22 01 45.8**	**+1.7**
NEW				PKP2bc			22 30 06.4	
	comp=Z,2.8nm,0.7s,baz=146,slow=14,SNR=2.1							
NEW	**Newport**	**67.46**	**45**	P		**P**	**22 01 45.3**	**+1.2**
	baz=305,SNR=40							
NEW	**Newport**	**67.46**	**45**	*e*P		**P**	**22 01 45.8**	**+1.7**
	comp=Z,364nm,1.4s							
JCC	**Jacoby Creek,**	**67.61**	**55**	*e*P		**P**	**22 01 48.0**	**+3.0**
	comp=Z,261nm,1.3s							
SUMG	**Summit**	**67.75**	**0**	⇑*i*P		**P**	**22 01 47.3**	**+1.4**
SUMG				*i* S		**S**	**22 10 41.5**	**+0.2**
SUMG				*i*			22 11 07.5	
SUMG				pmax		pmax		
	comp=Z,360nm,1.1s							
SUMG				MLR		MLR		
	comp=Z,62µm,19.0s							
SUMG	**Summit**	**67.75**	**0**	⇑*i*P		**P**	**22 01 47.3**	**+1.4**
	comp=Z,365nm,1.1s							
SUMG				*i* S		**S**	**22 10 41.5**	**+0.2**
SUMG				*i*			22 11 07.5	
SUMG	**Summit**	**67.75**	**0**	*e*P		**P**	**22 01 47.3**	**+1.4**
	comp=Z,955nm,1.3s							
SUMG				LR		LR		
	comp=Z,64µm,20.0s							
KHMM	**Horse Mountain**	**67.76**	**55**	*e*P		**P**	**22 01 49.3**	**+3.1**
	comp=Z,237nm,1.1s							
E09A	**Wood Farm, Sta**	**67.90**	**47**	*e*P		**P**	**22 01 49.1**	**+2.3**
	comp=Z,239nm,1.1s							
E09A				LR		LR		
	comp=Z,29µm,22.0s							
YBH	**Yreka Blue Hor**	**67.92**	**54**	*e*P		**P**	**22 01 49.3**	**+2.2**
YBH				pmax		pmax		
	comp=Z,284nm,1.4s							
YBH	**Yreka Blue Hor**	**67.92**	**54**	*e*P		**P**	**22 01 49.3**	**+2.2**
	comp=Z,284nm,1.4s							
J05D	**Fort Rock, OR**	**67.94**	**52**	P		**P**	**22 01 49.6**	**+2.2**

GOF	**Gofitskoye**	**68.76**	**311**	⇑	*i*	P	**P**	**22 01 53.1**	**+0.9**
GOF					*e*	S	**S**	**22 10 52.8**	**-0.6**
GOF						pmax	pmax		
	comp=Z,497nm,0.8s								
GOF						smax	smax		
	comp=E,345nm,1.9s								
NSS	**Namsos**	**68.82**	**339**	⇑	*i*	P	**P**	**22 01 52.2**	**-0.1**
NSS					*e*	S	**S**	**22 10 51.5**	**-1.9**
NSS						IVMsBB		22 36 38.3	
	comp=Z,25μm,17.5s								
HOPS	**Hopland Field**	**69.24**	**56**			PFAKE		22 02 10.0	+15
HOPS						LR	LR		
	comp=Z,43μm,22.0s								
SCO	**Scoresbysund**	**69.27**	**354**	⇑	*i*	P	**P**	**22 01 56.1**	**+1.2**
SCO					*i*	S	**S**	**22 11 00.4**	**+1.8**
SCO					*i*			22 11 26.6	
SCO						MLR	MLR		
	comp=Z,41μm,22.0s								
SCO	**Scoresbysund**	**69.27**	**354**	⇑	*i*	P	**P**	**22 01 56.1**	**+1.2**
SCO					*i*	S	**S**	**22 11 00.4**	**+1.8**
SCO					*i*			22 11 26.6	
MOD	**Modoc Plateau**	**69.30**	**52**		*e*	P	**P**	**22 01 57.3**	**+1.5**
	comp=Z,78nm,0.9s								
O03D	**Paynes Creek**	**69.30**	**54**			P	**P**	**22 01 57.0**	**+1.2**
	baz=305,SNR=28								
O03D	**Paynes Creek**	**69.30**	**54**		*e*	P	**P**	**22 01 57.0**	**+1.2**
BMO	**Blue Mountains**	**69.35**	**48**		*e*	P	**P**	**22 01 57.2**	**+1.2**
BMO						pmax	pmax		
	comp=Z,115nm,1.0s								
BMO	**Blue Mountains**	**69.35**	**48**		*e*	P	**P**	**22 01 57.2**	**+1.2**
	comp=Z,115nm,1.0s								
NCK	**Nalchik**	**69.35**	**310**		*i*	P	**P**	**22 01 56.5**	**+0.6**
NCK						pmax	pmax		
	comp=Z,459nm,1.2s								
DUS	**Dusheti**	**69.50**	**308**			P	**P**	**22 01 59.9**	**+2.9**
DUS	**Dusheti**	**69.50**	**308**			P	**P**	**22 01 59.9**	**+2.9**
GDXM	**Geysers**	**69.53**	**56**			PFAKE		22 02 10.0	+13
GDXM						LR	LR		
	comp=Z,49μm,22.0s								
ZEI	**Tsey**	**69.58**	**309**		*e*	P	**P**	**22 01 55.2**	**-2.4**
ZEI					*e*			22 04 27.7	
ZEI					*e*	S	**S**	**22 11 00.1**	**-3.5**
ZEI					*e*			22 11 53.3	
ZEI						pmax	pmax		
	comp=Z,643nm,0.9s								
ZEI						pmax	pmax		
	comp=E,270nm,0.7s								
ZEI						pmax	pmax		
	comp=N,216nm,0.7s								
ZEI						MLR	MLR		
	comp=Z,108μm,14.0s								
ZEI						MLR	MLR		
	comp=E,44μm,14.0s								
ZEI						MLR	MLR		
	comp=N,92μm,15.0s								
KIV	**Kislovodsk**	**69.61**	**311**		*i*	P	**P**	**22 01 58.8**	**+1.1**
	SNR=308								
KIV	**Kislovodsk**	**69.61**	**311**		*e*	P	**P**	**22 01 58.3**	**+0.7**
KIV					*e*			22 04 31.4	
KIV					*e*	PPP	PPP	22 06 14.3	
KIV					*e*	S	**S**	**22 11 03.9**	**+0.2**
KIV					*e*	SS	**SS**	**22 15 31.5**	**+0.4**
KIV						pmax	pmax		
	comp=Z,9μm,5.9s								
KIV						pmax	pmax		
	comp=Z,1μm,1.1s								
KIV						MLR	MLR		
	comp=Z,144μm,17.0s								
KIV	**Kislovodsk**	**69.61**	**311**			P	**P**	**22 01 58.9**	**+1.2**
	SNR=315								
KIV						P	**P**	**22 01 58.9**	**+1.2**
	SNR=315								
KIV	**Kislovodsk**	**69.61**	**311**			P	**P**	**22 01 58.9**	**+1.2**
	SNR=315								
KIV	**Kislovodsk**	**69.61**	**311**		*e*	P	**P**	**22 01 58.6**	**+1.0**
	comp=Z,2μm,1.2s								
KIV						LR	LR		
	comp=Z,170μm,19.0s								
TBLG	**Delisi**	**69.69**	**308**			P	**P**	**22 01 58.9**	**+0.8**
TBLG	**Delisi**	**69.69**	**308**			P	**P**	**22 01 58.9**	**+0.8**
MCCM	**Marconi Confer**	**69.85**	**57**			PFAKE		22 02 10.0	+11
MCCM						LR	LR		
	comp=Z,42μm,22.0s								
ORV	**Oroville**	**69.92**	**55**		*e*	P	**P**	**22 02 00.9**	**+1.4**
ORV						pmax	pmax		
	comp=Z,165nm,1.3s								
ORV	**Oroville**	**69.92**	**55**		*e*	P	**P**	**22 02 00.9**	**+1.4**
	comp=Z,165nm,1.3s								
ONI	**Oni**	**69.96**	**309**			P	**P**	**22 02 01.2**	**+1.4**
ONI	**Oni**	**69.96**	**309**			P	**P**	**22 02 01.2**	**+1.4**
WVOR	**Wild Horse Val**	**69.99**	**51**		*e*	P	**P**	**22 02 02.2**	**+2.1**
WVOR						pmax	pmax		
	comp=Z,243nm,1.3s								
WVOR						MLR	MLR		
	comp=Z,20μm,21.0s								
WVOR	**Wild Horse Val**	**69.99**	**51**		*e*	P	**P**	**22 02 02.2**	**+2.1**
	comp=Z,243nm,1.3s								
WVOR						LR	LR		
	comp=Z,20μm,21.0s								
NEY	**Neytrino**	**70.01**	**310**		*i*	P	**P**	**22 02 01.2**	**+1.0**
NEY						pmax	pmax		
	comp=Z,39nm,0.8s								
NEY						MLR	MLR		
	comp=Z,68μm,15.0s								
MSO	**Missoula**	**70.05**	**45**			P	**P**	**22 02 01.5**	**+1.2**
	baz=308,SNR=62								
MSO	**Missoula**	**70.05**	**45**		*e*	P	**P**	**22 02 01.8**	**+1.4**
	comp=Z,137nm,0.9s								
TBLU	**Trondheim**	**70.30**	**339**	⇑	*i*	P	**P**	**22 02 00.6**	**-0.8**
TBLU					*e*	S	**S**	**22 11 09.0**	**-1.9**
TBLU						IVMs_BB	IVMs_BB	22 37 47.2	
	comp=Z,24μm,17.2s								
CHMT	**Chamberlain Mo**	**70.37**	**45**		*e*	P	**P**	**22 02 00.1**	**-2.3**
IZAR	**Zarasai**	**70.37**	**327**		*e*	P	**P**	**22 02 02.9**	**+0.9**
IZAR						IAmb	IAmb	22 02 11.3	
	comp=Z,89nm,0.7s								
MICGM	**Minsk**	**70.53**	**326**	⇑	*i*	P	**P**	**22 02 05.0**	**+2.1**
MICGM				⇑	*i*	P	**P**	**22 02 05.0**	**+2.1**
MICGM						PM		22 02 06.0	
	comp=Z,1.0nm,0.8s								
MICGM						PM		22 02 06.0	
	comp=Z,20nm,4.0s								
MICGM						PM		22 02 07.0	
	comp=E,0.3nm,1.5s								
MICGM					*e*	PcP	**sP**	**22 02 18.0**	**+1.3**
MICGM					*e*	PP	PP	22 04 28.0	-11
MICGM					*e*	PPP	PPP	22 06 14.0	
MICGM					*e*	S	**S**	**22 11 11.0**	**-2.8**
MICGM						SM		22 11 12.0	
	comp=N,24nm,16.0s								
MICGM						SM		22 11 12.0	
	comp=E,13nm,12.0s								
MICGM					*e*	PS	**PnS**	**22 11 40.0**	**-3.5**
MICGM					*e*	SS	SS	22 15 32.0	-12
MICGM					*e*	SSS	SSS	22 18 52.0	
MICGM					*e*	LQ	LQ	22 20 50.0	
MICGM						LQM		22 27 56.0	
	comp=E,102nm,24.0s								
MICGM						LQM		22 28 16.0	
	comp=N,98nm,24.0s								
MICGM					*e*	LR	LR	22 29 30.0	
MICGM						LRM	MLR	22 35 12.0	
	comp=E,179nm,24.0s								
MICGM						LRM	MLR	22 35 24.0	
	comp=Z,213nm,18.0s								
MICGM						LRM	MLR	22 35 36.0	
	comp=N,224nm,18.0s								
MICGM						LRM	MLR	22 35 36.0	
	comp=E,100nm,18.0s								
MNK	**Minsk**	**70.53**	**326**	*c*	*i*	P	**P**	**22 02 05.0**	**+2.1**
ISAL	**Salakas**	**70.55**	**327**		*e*	P	**P**	**22 02 04.0**	**+1.0**
ISAL						IAmb	IAmb	22 02 11.7	
	comp=Z,196nm,0.8s								
ARMA	**Armidale**	**70.55**	**172**		*e*	P	**P**	**22 02 04.1**	**+0.7**
	comp=Z,132nm,0.9s								
ARMA						LR	LR		
	comp=Z,25μm,19.0s								
AFDM	**Forest Hills D**	**70.60**	**55**		*e*	P	**P**	**22 02 05.6**	**+1.8**
	comp=Z,91nm,1.1s								
AFDM						LR	LR		
	comp=Z,29μm,22.0s								
GNI	**Garni**	**70.62**	**306**		*e*	P	**P**	**22 02 05.3**	**+1.3**
GNI						pmax	pmax		
	comp=Z,952nm,1.4s								
GNI						MLR	MLR		
	comp=Z,117μm,20.0s								
GNI	**Garni**	**70.62**	**306**		*e*	P	**P**	**22 02 05.3**	**+1.3**
	comp=Z,952nm,1.4s								
GNI						LR	LR		
	comp=Z,117μm,20.0s								
AKH	**Akhalkalaki**	**70.64**	**308**			P	**P**	**22 02 05.1**	**+1.0**
AKH	**Akhalkalaki**	**70.64**	**308**			P	**P**	**22 02 05.1**	**+1.0**
BGD	**Bogdanovka**	**70.66**	**308**			P	**P**	**22 02 05.8**	**+1.6**
ILULI	**Ilulissat**	**70.67**	**5**	⇑	*i*	P	**P**	**22 02 04.2**	**+0.7**
ILULI						pmax	pmax		
	comp=Z,140nm,1.0s								
ILULI						MLR	MLR		
	comp=Z,69μm,22.0s								
ILULI	**Ilulissat**	**70.67**	**5**	⇑	*i*	P	**P**	**22 02 04.2**	**+0.7**
	comp=Z,145nm,1.0s								
NACGM	**Naroch**	**70.72**	**327**		*e*	P	**P**	**22 02 04.0**	**-0.1**
NACGM					*e*	P	**P**	**22 02 04.0**	**-0.1**
NACGM					*e*	PcP	PcP	22 02 36.0	+11
NACGM					*e*	PP	**PP**	**22 04 40.0**	**-0.4**
NACGM					*e*	PPP	PPP	22 06 16.0	
NACGM					*e*	S	**S**	**22 11 14.0**	**-2.1**
NACGM					*e*	PS	**PnS**	**22 11 56.0**	**+10**
NACGM					*e*	SS	**SS**	**22 15 42.0**	**-5.4**
NACGM					*e*	SSS	SSS	22 18 56.0	
NACGM					*e*	LQ	LQ	22 26 20.0	
NACGM					*e*	LR	LR	22 29 52.0	
NACGM						LRM	MLR	22 36 42.0	
	comp=Z,78nm,16.0s								
FFC	**Flin Flon**	**70.80**	**34**		*e*	P	**P**	**22 02 05.3**	**+0.7**
FFC						pmax	pmax		
	comp=Z,343nm,1.3s								
FFC						MLR	MLR		
	comp=Z,24μm,18.0s								
FFC	**Flin Flon**	**70.80**	**34**		*e*	P	**P**	**22 02 05.3**	**+0.7**
	comp=Z,343nm,1.3s								
FFC						LR	LR		
	comp=Z,24μm,18.0s								
EAK	**Akyaka**	**71.00**	**307**		*i*	P	**P**	**22 02 01.9**	**-4.4**
FCC	**Fort Churchill**	**71.01**	**27**		*e*	P	**P**	**22 02 06.3**	**+0.6**
FCC						pmax	pmax		
	comp=Z,385nm,1.3s								
FCC						MLR	MLR		
	comp=Z,49μm,20.0s								
FCC	**Fort Churchill**	**71.01**	**27**		*e*	P	**P**	**22 02 06.3**	**+0.6**
	comp=Z,385nm,1.3s								
FCC						LR	LR		
	comp=Z,49μm,20.0s								
EPOS	**Posof**	**71.04**	**308**		*i*	P	**P**	**22 02 04.5**	**-2.0**
MFID	**Camas Ranch**	**71.06**	**49**		*e*	P	**P**	**22 02 08.1**	**+1.5**
	comp=Z,303nm,1.6s								
MFID						LR	LR		
	comp=Z,18μm,21.0s								
BANOM	**Banah**	**71.06**	**288**		*i*	P	**P**	**22 02 07.1**	**+0.4**
	SNR=32								
BANOM	**Banah**	**71.06**	**288**			P	**P**	**22 02 08.7**	**+2.0**
	SNR=20								
BANOM						P	**P**	**22 02 08.7**	**+2.0**
	SNR=20								
BANOM	**Banah**	**71.06**	**288**			P	**P**	**22 02 08.7**	**+2.0**
	SNR=20								
BIDO	**Bidbid**	**71.12**	**285**			P	**P**	**22 02 08.0**	**+0.9**
	SNR=35								
BIDO						P	**P**	**22 02 08.0**	**+0.9**
	SNR=35								
BIDO	**Bidbid**	**71.12**	**285**			P	**P**	**22 02 08.0**	**+0.9**
	SNR=35								
PAHR	**Pah Rah Range**	**71.15**	**54**		*e*	P	**P**	**22 02 09.1**	**+1.9**
	comp=Z,200nm,1.1s								
HRY	**Holter Researc**	**71.27**	**44**		*e*	P	**P**	**22 02 09.7**	**+2.0**
DIGO	**Kars**	**71.30**	**307**		*i*	P	**P**	**22 02 04.5**	**-3.7**
PNTR	**Pine Nut**	**71.38**	**54**		*e*	P	**P**	**22 02 10.5**	**+1.8**
	comp=Z,232nm,1.1s								
SMDO	**Samad**	**71.45**	**285**			P	**P**	**22 02 10.4**	**+1.2**
	SNR=23								
SMDO	**Samad**	**71.45**	**285**			P	**P**	**22 02 10.4**	**+1.2**
	SNR=23								
LRM	**Limekiln Ridge**	**71.48**	**45**		*e*	P	**P**	**22 02 10.8**	**+1.5**
STKA	**Stephens Creek**	**71.50**	**181**			P	**P**	**22 02 09.0**	**+0.1**
	comp=Z,16nm,0.7s,baz=336,slow=7.0,SNR=24								
STKA						S	**S**	**22 11 21.4**	**-3.9**
	comp=Z,5.2nm,1.0s,baz=43,slow=8.4,SNR=2.0								
STKA						LR	LR	22 38 02.3	
	comp=Z,11μm,19.4s,baz=6.7,slow=40								
STKA	**Stephens Creek**	**71.50**	**181**		*e*	P	**P**	**22 02 09.0**	**+0.1**
	comp=Z,14nm,1.0s								
STKA					*e*	S	**S**	**22 11 21.4**	**-3.9**
STKA						LR	LR		
	comp=Z,5μm,21.0s								
CMB	**Columbia Colle**	**71.51**	**56**		*e*	P	**P**	**22 02 11.5**	**+2.2**
CMB						pmax	pmax		
	comp=Z,164nm,1.1s								
CMB						MLR	MLR		
	comp=Z,47μm,22.0s								
CMB	**Columbia Colle**	**71.51**	**56**		*e*	P	**P**	**22 02 11.5**	**+2.2**
	comp=Z,164nm,1.1s								
CMB						LR	LR		
	comp=Z,47μm,22.0s								
SOC	**Sochi**	**71.55**	**312**	*c*	*i*	P	**P**	**22 02 09.9**	**+0.5**
SOC					*e*	*PP	**pP**	**22 02 18.7**	**-0.7**
SOC					*e*	*SP	**sP**	**22 02 22.5**	**-0.6**
SOC					*e*			22 02 26.6	
SOC					*e*	PPP	PPP	22 06 28.9	
SOC					*i*	S	**S**	**22 11 24.7**	**-1.4**
SOC						pmax	pmax		
	comp=Z,291nm,1.1s								
SOC						MLR	MLR		
	comp=Z,84μm,18.0s								
MOL	**Molde**	**71.58**	**340**	⇑	*i*	P	**P**	**22 02 10.0**	**+0.9**
MOL					*e*	S	**S**	**22 11 27.8**	**+2.1**
SAO	**San Andreas Ge**	**71.58**	**57**		*e*	P	**P**	**22 02 11.6**	**+1.9**
SAO						pmax	pmax		
	comp=Z,66nm,1.0s								
SAO						MLR	MLR		
	comp=Z,37μm,22.0s								
SAO	**San Andreas Ge**	**71.58**	**57**		*e*	P	**P**	**22 02 11.6**	**+1.9**
	comp=Z,66nm,1.0s								
SAO						LR	LR		
	comp=Z,37μm,22.0s								
NC405	**NORSAR Array S**	**71.59**	**337**		*e*	P	**P**	**22 02 09.9**	**+0.6**
NC303	**NORSAR Array S**	**71.60**	**337**		*e*	P	**P**	**22 02 09.8**	**+0.5**
DYDN	**Diyadin**	**71.63**	**306**		*i*	P	**P**	**22 02 08.4**	**-1.8**
YERR	**Yerington**	**71.67**	**54**		*e*	P	**P**	**22 02 11.8**	**+1.4**
	comp=Z,232nm,1.0s								
DLMT	**Dillon**	**71.69**	**46**		*e*	P	**P**	**22 02 12.1**	**+1.7**
	comp=Z,485nm,1.4s								
DLMT						LR	LR		
	comp=Z,15μm,19.0s								
UOSS	**Minazif**	**71.70**	**287**		*e*	P	**P**	**22 02 10.6**	**0.0**
	comp=Z,270nm,0.9s								
UOSS						LR	LR		
	comp=Z,47μm,20.0s								
ARTV	**Artvin**	**71.71**	**309**		*i*	P	**P**	**22 02 07.1**	**-3.6**
NC204	**NORSAR Array S**	**71.74**	**338**		*e*	P	**P**	**22 02 10.4**	**+0.1**
NB201	**NORSAR Array S**	**71.76**	**337**		*e*	P	**P**	**22 02 09.9**	**-0.5**
DBOC	**Borcka**	**71.77**	**309**		*i*	P	**P**	**22 02 08.4**	**-2.4**
HLID	**Hailey**	**71.78**	**48**			P	**P**	**22 02 12.7**	**+1.7**
	baz=308,SNR=42								
HLID	**Hailey**	**71.78**	**48**		*e*	P	**P**	**22 02 13.0**	**+2.0**
	comp=Z,88nm,1.1s								
DAGI	**Agillar**	**71.79**	**309**		*i*	P	**P**	**22 02 09.7**	**-1.3**
NB2	**NORSAR Subarra**	**71.79**	**337**			P	**P**	**22 02 10.9**	**+0.3**
	comp=Z,179nm,0.8s,baz=37,slow=6.2								
NB2	**NORSAR Subarra**	**71.79**	**337**			P	**P**	**22 02 10.9**	**+0.3**
	baz=37,slow=6.2								
NB200	**NORSAR Array S**	**71.79**	**337**		*e*	P	**P**	**22 02 10.8**	**+0.2**
NB200					*e*	S	**S**	**22 11 25.5**	**-2.9**
NOA	**NORSAR Array B**	**71.79**	**337**			P	**P**	**22 02 10.8**	**+0.2**
	comp=Z,105nm,0.8s,baz=38,slow=6.0,SNR=276								
NOA						S	**S**	**22 11 25.5**	**-2.9**
	comp=Z,2.4nm,0.9s,baz=113,slow=3.8,SNR=2.2								
NOA						LR	LR	22 36 37.4	
	comp=Z,94μm,21.8s,baz=35,slow=38								
HATD	**Hatta, Dubai**	**71.83**	**287**		*i*	P	**P**	**22 02 11.6**	**+0.2**
	SNR=78								
WAKR	**Walker**	**71.83**	**55**		*e*	P	**P**	**22 02 14.0**	**+2.6**
	comp=Z,555nm,1.9s								
WAKR						LR	LR		
	comp=Z,38μm,22.0s								
MCMT	**McKenzie Canyo**	**71.88**	**46**		*e*	P	**P**	**22 02 12.7**	**+1.1**
NBO02	**NORSAR Array S**	**71.89**	**337**		*e*	P	**P**	**22 02 10.8**	**-0.3**
NBO00	**NORSAR Array S**	**71.93**	**338**		*e*	P	**P**	**22 02 11.8**	**+0.4**
NC602	**NORSAR Array S**	**71.94**	**337**	⇑	*i*	P	**P**	**22 02 11.7**	**+0.3**
NC602					*e*	S	**S**	**22 11 30.3**	**+0.3**
NC602						IVMs_BB	IVMs_BB	22 36 18.3	
	comp=Z,40μm,22.3s								
NC602	**NORSAR Array S**	**71.94**	**337**		*e*	P	**P**	**22 02 11.4**	**+0.1**
DBAD	**Bademkaya**	**71.96**	**309**		*i*	P	**P**	**22 02 08.4**	**-3.6**
ASHO	**Ashiyiah**	**71.96**	**287**		*i*	P	**P**	**22 02 12.3**	**+0.2**
	SNR=59								
ASHO	**Ashiyiah**	**71.96**	**287**			P	**P**	**22 02 12.7**	**+0.5**
	SNR=34								
ASHO	**Ashiyiah**	**71.96**	**287**			P	**P**	**22 02 12.7**	**+0.5**
	SNR=34								
DDEM	**Demirkent**	**72.00**	**308**		*i*	P	**P**	**22 02 08.4**	**-3.9**
BMN	**Battle Mountai**	**72.04**	**52**		*e*	P	**P**	**22 02 14.9**	**+2.3**
BMN						pmax	pmax		
	comp=Z,130nm,1.0s								
BMN	**Battle Mountai**	**72.04**	**52**		*e*	P	**P**	**22 02 14.9**	**+2.3**
	comp=Z,130nm,1.0s								
BOZ	**Bozeman (W)**	**72.04**	**45**			P	**P**	**22 02 14.5**	**+2.0**
	baz=309,SNR=78								
BOZ	**Bozeman (W)**	**72.04**	**45**		*e*	P	**P**	**22 02 13.6**	**+1.1**
BOZ						pmax	pmax		
	comp=Z,198nm,0.9s								
BOZ	**Bozeman (W)**	**72.04**	**45**		*e*	P	**P**	**22 02 13.6**	**+1.1**
	comp=Z,198nm,0.9s								
NAO01	**NORSAR Array S**	**72.05**	**337**		*e*	P	**P**	**22 02 12.3**	**+0.2**
AKN	**Aaknes**	**72.05**	**340**	⇑	*i*	P	**P**	**22 02 12.5**	**+0.4**
AKN					*e*	S	**S**	**22 11 33.8**	**+2.5**
NAZ	**Nazwa, Dubai**	**72.08**	**288**		*i*	P	**P**	**22 02 13.0**	**+0.2**
	SNR=30								
ANN	**Anapa**	**72.09**	**314**	*c*	*i*	P	**P**	**22 02 12.6**	**+0.1**
ANN					*i*	PPP	PPP	22 06 35.4	
ANN					*e*	S	**S**	**22 11 30.5**	**-1.7**
ANN					*i*			22 12 12.8	
ANN					*i*	SS	**SS**	**22 16 09.8**	**+1.0**
ANN						pmax	pmax		
	comp=N,4μm,8.1s								
ANN						pmax	pmax		
	comp=N,89nm,0.9s								
ANN						pmax	pmax		
	comp=Z,267nm,0.9s								
ANN						pmax	pmax		
	comp=E,67nm,0.9s								
ANN						pmax	pmax		
	comp=E,3μm,8.1s								
ANN						pmax	pmax		
	comp=Z,10μm,8.2s								
ANN						smax	smax		
	comp=N,11μm,11.1s								
ANN						smax	smax		
	comp=E,6μm,11.1s								
ANN						smax	smax		
	comp=Z,9μm,11.1s								
ANN						MLR	MLR		
	comp=E,51μm,19.0s								
ANN						MLR	MLR		
	comp=N,168μm,19.0s								
ANN						MLR	MLR		
	comp=Z,85μm,19.0s								
EATA	**Eleskirt**	**72.17**	**307**		*i*	P	**P**	**22 02 12.3**	**-1.3**
FAQ	**Al Faqa, Dubai**	**72.27**	**288**		*i*	P	**P**	**22 02 13.8**	**-0.1**
	SNR=36								
TVH1	**TV Hill, Hawth**	**72.28**	**55**		*e*	P	**P**	**22 02 16.7**	**+2.4**
	comp=Z,161nm,1.1s								
TVH1						LR	LR		
	comp=Z,32μm,22.0s								
TVH3	**East Aurora ar**	**72.31**	**55**		*e*	P	**P**	**22 02 16.9**	**+2.6**
	comp=Z,136nm,1.0s								
TVH3						LR	LR		
	comp=Z,25μm,22.0s								
PMPB	**Monarch Peak**	**72.33**	**57**		*e*	P	**P**	**22 02 16.6**	**+2.3**
	comp=Z,238nm,1.4s								
PMPB						LR	LR		
	comp=Z,17μm,19.0s								
TVH2	**Borealis Mine**	**72.33**	**55**		*e*	P	**P**	**22 02 17.1**	**+2.6**
	comp=Z,123nm,1.3s								
TVH2						LR	LR		
	comp=Z,26μm,22.0s								
ARQ	**Araqi**	**72.42**	**286**			P	**P**	**22 02 15.5**	**+0.6**
	SNR=48								
ARQ	**Araqi**	**72.42**	**286**			P	**P**	**22 02 15.5**	**+0.6**
	SNR=48								
AKASG	**Malin Array Be**	**72.48**	**322**			P	**P**	**22 02 14.9**	**+0.2**
	comp=Z,78nm,0.4s,baz=44,slow=6.3,SNR=228								
AKASG						S	**S**	**22 11 35.0**	**-1.4**
	comp=Z,3.5nm,0.9s,baz=45,slow=11,SNR=6.5								
AKASG						PKKP	PKKPdf	22 21 31.6	-8.7
	comp=Z,0.5nm,0.3s,baz=159,slow=0.8,SNR=4.5								
AKASG						LR	LR	22 37 11.1	
	comp=Z,98μm,18.0s,baz=65,slow=38								
AKBB	**Malin Array Si**	**72.48**	**322**		*e*	P	**P**	**22 02 14.9**	**+0.2**
AKBB					*e*	S	**S**	**22 11 35.0**	**-1.4**
AKBB						pmax	pmax		
	comp=Z,253nm,0.9s								
AKBB						MLR	MLR		
	comp=Z,100μm,19.0s								
AKBB	**Malin Array Si**	**72.48**	**322**		*e*	P	**P**	**22 02 14.9**	**+0.2**
	comp=Z,253nm,0.9s								
AKBB					*e*	S	**S**	**22 11 35.0**	**-1.4**
AKBB					*e*	PKKPdf	PKKPdf	22 21 31.6	-8.7
AKBB						LR	LR		
	comp=Z,100μm,19.0s								
KIEV	**Kiev**	**72.49**	**322**	*c*	*i*	P	**P**	**22 02 14.7**	**-0.1**
KIEV						pmax	pmax		
	comp=Z,210nm,0.8s								
KIEV						MLR	MLR		
	comp=Z,112μm,16.0s								
KIEV	**Kiev**	**72.49**	**322**		*e*	P	**P**	**22 02 14.9**	**+0.1**
	comp=Z,270nm,1.0s								
KIEV						LR	LR		
	comp=Z,97μm,19.0s								
AK11	**Malin Array Si**	**72.52**	**322**		*e*	P	**P**	**22 02 14.9**	**0.0**
BBOO	**Buckleboo**	**72.67**	**186**		*e*	P	**P**	**22 02 16.1**	**+0.3**
	comp=Z,134nm,0.9s								
BBOO						LR	LR		
	comp=Z,23μm,22.0s								
QLMT	**Earthquake Lak**	**72.67**	**46**		*e*	P	**P**	**22 02 18.7**	**+2.4**
MLAC	**Mammoth, Mammo**	**72.74**	**55**			P	**P**	**22 02 19.0**	**+2.1**
	baz=308								
OSL	**Oslo**	**72.82**	**337**		*e*	P	**P**	**22 02 17.2**	**+0.6**
YHB	**Horse Butte**	**72.85**	**46**		*e*	P	**P**	**22 02 19.5**	**+2.1**
	comp=Z,201nm,1.0s								
YHB						LR	LR		
	comp=Z,34μm,22.0s								
SUW	**Suwalki**	**72.86**	**327**		*e*	P	**P**	**22 02 17.1**	**+0.2**
SUW					*e*	S	**S**	**22 11 38.4**	**-2.3**
SUW					*e*	SS	**SS**	**22 16 15.1**	**-5.0**

KONO IVMs_BB IVMs_BB 22 37 22.8
comp=Z,36µm,20.9s
KONO Kongsberg 73.39 337 *e*P **P 22 02 20.3 +0.3**
KONO pmax pmax
comp=Z,304nm,1.5s
KONO MLR MLR
comp=Z,118µm,22.0s
KONO Kongsberg 73.39 337 *e*P **P 22 02 20.3 +0.3**
comp=Z,304nm,1.5s
KONO LR LR
comp=Z,118µm,22.0s
SMMC Simmler 73.39 58 P **P 22 02 22.2 +1.7**
baz=308,SNR=10.0
H17A Grant Village 73.41 46 P **P 22 02 24.0 +3.2**
baz=310,SNR=34
H17A Grant Village 73.41 46 *e*P **P 22 02 24.4 +3.6**
comp=Z,262nm,1.0s
TIN Tinemaha, Big 73.47 55 P **P 22 02 22.9 +1.8**
baz=308
IMW Indian Meadow 73.53 46 *e*P **P 22 02 24.0 +2.5**
comp=Z,194nm,1.1s
IMW LR LR
comp=Z,18µm,19.0s
FLWY Flagg Ranch 73.55 46 *e*P **P 22 02 24.3 +2.8**
comp=Z,365nm,1.4s
FLWY LR LR
comp=Z,24µm,21.0s
BNGL BINGOL 73.55 307 *i*P **P 22 02 22.6 +1.0**
SUE Sulen 73.58 340⇑*i*P **P 22 02 22.3 +1.3**
SUE IVMs_BB IVMs_BB 22 38 39.7
comp=Z,26µm,18.7s
FXWY Fox Creek 73.65 47 *e*P **P 22 02 24.3 +2.1**
comp=Z,109nm,1.1s
FXWY LR LR
comp=Z,16µm,21.0s
RLMT Red Lodge 73.66 44 P **P 22 02 23.9 +1.8**
baz=311,SNR=46
RLMT Red Lodge 73.66 44 *e*P **P 22 02 24.1 +1.9**
comp=Z,232nm,1.3s
VES Vestal, Richgr 73.66 57 P **P 22 02 23.0 +1.0**
baz=308,SNR=8.6
MOOW Moose Ponds 73.74 46 *e*P **P 22 02 24.6 +2.0**
comp=Z,306nm,1.4s
MOOW LR LR
comp=Z,18µm,21.0s
PKM Mcpherson Peak 73.77 58 P **P 22 02 24.3 +1.4**
baz=308,SNR=31
TPAW Teton Pass 73.79 47 *e*P **P 22 02 25.4 +2.4**
comp=Z,360nm,1.4s
TPAW LR LR
comp=Z,27µm,22.0s
SIM Simferopol' 73.81 315*c i*P **P 22 02 21.4 -1.4**
SIM *e* 22 05 03.0
SIM *e*PPP PPP 22 06 50.0
SIM *i*S **SKiKP 22 11 49.0 -0.3**
SIM *e*PS PnS 22 12 49.0 +22
SIM pmax pmax
comp=Z,238nm,0.8s
SIM pmax pmax
comp=Z,5µm,18.8s
SIM MLR MLR
comp=N,59µm,18.9s
BGOL Bingol 73.82 307 *i*P **P 22 02 22.6 -0.4**
HVU Hansel Valley 73.84 49 *e*P **P 22 02 25.4 +2.2**
HVU pmax pmax
comp=Z,108nm,1.1s
HVU MLR MLR
comp=Z,19µm,20.0s
HVU Hansel Valley 73.84 49 *e*P **P 22 02 25.4 +2.2**
comp=Z,108nm,1.1s
HVU LR LR
comp=Z,19µm,20.0s
LOHW Long Hollow 73.90 46 *e*P **P 22 02 26.0 +2.4**
comp=Z,288nm,1.8s
LOHW LR LR
comp=Z,17µm,21.0s
SNOW Snow King Moun 73.91 47 *e*P **P 22 02 26.6 +2.9**
comp=Z,148nm,1.1s
SNOW LR LR
comp=Z,20µm,21.0s
REDW Red Top Meadow 73.92 47 *e*P **P 22 02 26.0 +2.2**
comp=Z,319nm,1.3s
REDW LR LR
comp=Z,24µm,21.0s
CWC Cottonwood Cre 73.94 56 P **P 22 02 25.1 +1.2**
baz=308
ASK Askoy 73.95 340⇑*i*P **P 22 02 24.1 +0.9**
BER Bergen 74.00 339⇑*i*P **P 22 02 24.2 +0.7**
BER *e*S **S 22 11 53.8 +0.5**
BER IVMs_BB IVMs_BB 22 38 30.6
comp=Z,22µm,16.9s
ODD1 Odda 74.04 339⇑*i*P **P 22 02 24.6 +0.8**
ODD1 *e*S **S 22 11 56.2 +2.3**
ODD1 IVMs_BB IVMs_BB 22 38 25.6
comp=Z,39µm,19.4s
DGMT Dagmar 74.04 39 P **P 22 02 25.3 +1.2**
baz=313,SNR=6.3
DGMT Dagmar 74.04 39 *e*P **P 22 02 25.9 +1.9**
comp=Z,341nm,1.1s
GRAC Grapevine Rang 74.05 55 P **P 22 02 26.0 +1.7**
baz=308,SNR=9.7
SBC Santa Barbara 74.11 58 P **P 22 02 26.3 +1.7**
baz=308
BTMN Batman 74.14 306 *i*P P 22 02 17.5 -7.4
ISA Isabella, Lake 74.17 57 P **P 22 02 25.9 +0.8**
baz=308,SNR=8.4
ISA Isabella, Lake 74.17 57 *e*P **P 22 02 26.3 +1.2**
ISA pmax pmax
comp=Z,75nm,1.1s
ISA MLR MLR
comp=Z,21µm,22.0s
ISA Isabella, Lake 74.17 57 *e*P **P 22 02 26.3 +1.2**
comp=Z,75nm,1.1s
ISA LR LR
comp=Z,21µm,22.0s
AHID Auburn Hatcher 74.17 47 *e*P **P 22 02 27.0 +1.8**
comp=Z,83nm,1.0s
AHID LR LR
comp=Z,32µm,21.0s
LAO LASA Array 74.22 42 P **P 22 02 26.9 +1.6**
baz=312,SNR=48
LAO LASA Array 74.22 42 *e*P **P 22 02 27.0 +1.8**
comp=Z,286nm,1.0s
BGU Big Grassy Mou 74.23 50 *e*P **P 22 02 27.6 +2.1**
comp=Z,68nm,1.0s
BGU LR LR
comp=Z,15µm,20.0s
A25A Svangstu Ranch 74.24 39 P **P 22 02 26.9 +1.7**
baz=314,SNR=18
ARVC Arvin 74.27 57 P **P 22 02 26.6 +1.0**
baz=308,SNR=8.2
R11A Troy Canyon, C 74.32 53 P **P 22 02 27.4 +1.4**
baz=309,SNR=81
R11A Troy Canyon, C 74.32 53 *e*P **P 22 02 27.9 +1.8**
comp=Z,202nm,1.3s
R11A LR LR
comp=Z,17µm,21.0s
SPUT South Promonto 74.33 49 *e*P **P 22 02 28.5 +2.5**
comp=Z,147nm,1.3s
SPUT LR LR
comp=Z,22µm,20.0s
DAC Darwin (Calif) 74.35 56 *e*P **P 22 02 28.0 +1.7**
DAC pmax pmax
comp=Z,91nm,1.0s
DAC Darwin (Calif) 74.35 56 *e*P **P 22 02 28.0 +1.7**
comp=Z,91nm,1.0s
SCZ2 Santa Cruz Isl 74.43 59 P **P 22 02 27.7 +1.1**
baz=308,SNR=5.2
BLS5 Blasjo 74.49 338⇑*i*P **P 22 02 26.6 +0.1**
BLS5 IVMs_BB IVMs_BB 22 38 20.0
comp=Z,30µm,20.2s
MPMC Manual Prospec 74.55 56 P **P 22 02 28.8 +1.3**
baz=308,SNR=60
SORM Soroca 74.64 321⇑*i*P **P 22 02 27.7 +0.2**
HWUT Hardware Ranch 74.65 48 *e*P **P 22 02 30.0 +2.1**
comp=Z,199nm,1.1s
HWUT LR LR
comp=Z,27µm,21.0s
OSI Osito Audit: C 74.65 58 P **P 22 02 29.6 +1.7**
baz=308
OSI Osito Audit: C 74.65 58 PFAKE 22 02 40.0 +12
OSI LR LR
comp=Z,36µm,22.0s
B25A Knox Farm, Ray 74.68 39 P **P 22 02 29.5 +1.7**
baz=314
FURC Furnace Creek, 74.69 55 P **P 22 02 29.7 +1.7**
baz=309,SNR=68

RSUT Red Spur Mount 74.71 48 *e*P **P 22 02 30.7 +2.2**
BLG Laguna Peak, P 74.74 58 P **P 22 02 29.5 +1.1**
baz=308,SNR=6.0
TPNV Topopah Spring 74.78 55 P **P 22 02 30.4 +1.6**
baz=309,SNR=32
TPNV Topopah Spring 74.78 55 *e*P **P 22 02 30.8 +2.0**
TPNV pmax pmax
comp=Z,225nm,1.1s
TPNV MLR MLR
comp=Z,554µm,19.0s
TPNV Topopah Spring 74.78 55 *e*P **P 22 02 30.8 +2.0**
comp=Z,225nm,1.1s
TPNV LR LR
comp=Z,554µm,19.0s
A26A Wade Farm, Ken 74.78 38 P **P 22 02 30.0 +1.6**
baz=314,SNR=25
LRMC Laurel Mtn Rad 74.79 56 P **P 22 02 29.7 +0.9**
baz=308,SNR=10
DIYA Diyarbakir 74.82 307 *i*P **P 22 02 26.5 -2.3**
DUG Dugway, Tooele 74.82 50 P **P 22 02 30.6 +1.6**
baz=310,SNR=70
DUG Dugway, Tooele 74.82 50 *e*P **P 22 02 31.0 +2.1**
DUG pmax pmax
comp=Z,276nm,1.4s
DUG Dugway, Tooele 74.82 50 *e*P **P 22 02 31.0 +2.1**
comp=Z,276nm,1.4s
BORG Borgarnes 74.84 353*ce*P **P 22 02 31.1 +2.8**
BORG Borgarnes 74.84 353 *e*P **P 22 02 30.9 +2.5**
comp=Z,193nm,1.0s
BORG LR LR
comp=Z,19µm,21.0s
HOMB Homborsund 74.85 337⇑*i*P **P 22 02 29.0 +0.6**
HOMB *e*S **S 22 12 02.2 -0.7**
HOMB IVMs_BB IVMs_BB 22 37 43.2
comp=Z,37µm,22.1s
EDW2 Edwards Air Fo 74.96 57 P **P 22 02 31.3 +1.6**
baz=308,SNR=54
SNCC San Nicolas Is 74.96 59 P **P 22 02 30.8 +1.1**
baz=308,SNR=5.7
SNCC San Nicolas Is 74.96 59 *e*P **P 22 02 32.0 +2.3**
comp=Z,335nm,1.2s
SNCC LR LR
comp=Z,38µm,20.0s
CUZAR Zara_SIVAS 75.00 310 *i*P **P 22 02 25.2 -4.7**
KMY Karmoy 75.01 339 *e*P **P 22 02 30.4 +1.0**
KMY *e*S **S 22 12 05.4 +0.8**
C25A Freed Ranch, W 75.02 40 P **P 22 02 31.6 +1.9**
baz=314
BW06 Boulder Array 75.03 46 P **P 22 02 31.4 +1.1**
baz=311,SNR=47
BW06 Boulder Array 75.03 46 *e*P **P 22 02 31.3 +1.1**
BW06 LR LR
comp=Z,36µm,22.0s
PD31 Pinedale Array 75.03 46 *e*P **P 22 02 31.3 +1.1**
PD31 *e*S **S 22 12 05.3 -0.8**
PDAR Pinedale Array 75.03 46 P **P 22 02 31.3 +1.1**
comp=Z,11nm,0.6s,baz=263,slow=2.4,SNR=74
PDAR S **S 22 12 05.3 -0.8**
comp=Z,0.7nm,0.3s,baz=133,slow=10,SNR=4.3
B26A Jensen Ranch, 75.05 39 P **P 22 02 31.8 +1.8**
baz=314,SNR=15
TCUT Toone Canyon 75.05 49 PFAKE 22 02 40.0 +10
TCUT LR LR
comp=Z,34µm,22.0s
ERBA Erbaa 75.09 311 *i*P **P 22 02 26.5 -3.8**
STAV Stavanger 75.11 338⇑*i*P **P 22 02 30.4 +0.4**
STAV *e*S **S 22 12 07.5 +1.7**
STAV IVMs_BB IVMs_BB 22 38 37.2
comp=Z,29µm,22.1s
A27A Ledoux Ranch, 75.12 38 P **P 22 02 32.0 +1.7**
baz=315,SNR=28
DECC Green Verdugo 75.12 58 P **P 22 02 31.9 +1.2**
baz=308
CTU Camp Tracy 75.13 49 *e*P **P 22 02 32.7 +2.0**
comp=Z,393nm,1.3s
CTU LR LR
comp=Z,20µm,20.0s
KBSD Kabsdagh 75.14 306 *e*P **P 22 02 31.2 +0.5**
ELZG Elazig 75.16 308 *i*P **P 22 02 30.4 -0.5**
SNART Snartemo 75.18 337⇑*i*P **P 22 02 31.3 +0.9**
SNART *e*S **S 22 12 08.1 +1.5**
KIS Kishinev 75.19 320 *i*P **P 22 02 30.5 -0.2**
comp=Z,3µm,3.5s
KIS Kishinev 75.19 320 *i*PcP **PcP 22 02 41.0 -3.1**
KIS Kishinev 75.19 320 *i*PP PP 22 05 22.0 +3.3
comp=Z,3µm,10.0s
KIS *e*S **S 22 12 04.0 -3.1**
comp=Z,1µm,2.3s
KIS *e*ScS SKSac 22 12 24.0 -14
KIS Kishinev 75.19 320 *e*PS 22 12 32.0
KIS *e*SS SS 22 16 38.0 -18
KIS *e*SSS SSS 22 19 54.0
KIS *e*LQ LQ 22 27 00.0
KIS LRM MLR 22 38 08.0
comp=Z,130µm,20.0s
KIS Kishinev 75.19 320*a i*P **P 22 02 30.5 -0.2**
KIS *i* 22 02 41.0
KIS *i* 22 05 22.0
KIS *e*S **S 22 12 04.0 -3.1**
KIS *e*PS **PnS 22 12 32.0 -13**
KIS pmax pmax
comp=Z,3µm,3.5s
KIS pmax pmax
comp=Z,11µm,10.0s
KIS pmax pmax
comp=N,4µm,14.0s
KIS pmax pmax
comp=E,3µm,13.0s
KIS pmax pmax
comp=Z,10µm,23.0s
KIS MLR MLR
comp=Z,130µm,20.0s
BSD Bornholm Skovb 75.24 332⇑*i*P **P 22 02 31.1 +0.3**
BSD pmax pmax
comp=Z,240nm,1.1s
BSD MLR MLR
comp=Z,140µm,20.0s
BSD Bornholm Skovb 75.24 332⇑*i*P **P 22 02 31.1 +0.3**
comp=Z,236nm,1.1s
PSUT Pine Spring 75.26 52 *e*P **P 22 02 33.9 +2.3**
comp=Z,195nm,1.2s
PSUT LR LR
comp=Z,6µm,22.0s
PASC Pasadena Art C 75.27 58 *e*P **P 22 02 33.4 +1.9**
comp=Z,184nm,1.2s
PASC LR LR
comp=Z,46µm,22.0s
MWC Mount Wilson 75.32 58 *e*P **P 22 02 33.8 +1.8**
MWC pmax pmax
comp=Z,199nm,1.1s
MWC MLR MLR
comp=Z,49µm,22.0s
MWC Mount Wilson 75.32 58 *e*P **P 22 02 33.8 +1.8**
comp=Z,199nm,1.1s
MWC LR LR
comp=Z,49µm,22.0s
JLU Jordanelle 75.36 49 *e*P **P 22 02 34.1 +2.0**
comp=Z,135nm,1.2s
NLU North Lily Min 75.41 50 *e*P **P 22 02 34.8 +2.4**
comp=Z,139nm,1.1s
SHOC Shoshone, Teco 75.42 55 P **P 22 02 33.7 +1.4**
baz=309
BEL Belsk 75.43 327 *e*P **P 22 02 33.3 +1.3**
BEL *e*PP **PP 22 05 21.0 +0.4**
BEL *e*S **S 22 12 09.5 -0.2**
BEL LMZ LR 22 37 54.0
comp=Z,133µm,21.3s
BEL Belsk 75.43 327⇑*e*P **P 22 02 33.3 +1.3**
BEL *e* 22 05 21.0
BEL *e*S **S 22 12 09.5 -0.2**
BEL MLR MLR
comp=Z,133µm,21.3s
GSC Goldstone, Bar 75.46 56 P **P 22 02 34.1 +1.5**
baz=309,SNR=27
GSC Goldstone, Bar 75.46 56 *e*P **P 22 02 33.7 +1.1**
GSC pmax pmax
comp=Z,137nm,1.0s
GSC Goldstone, Bar 75.46 56 *e*P **P 22 02 33.7 +1.1**
comp=Z,137nm,1.0s
FMP Fort Macarthur 75.48 58 P **P 22 02 33.7 +1.0**
baz=309
LVV L'vov 75.49 324⇓*i*P **P 22 02 33.0 +0.6**
LVV *e* 22 05 17.0
LVV *i*S **S 22 12 08.0 -2.4**
LVV pmax pmax
comp=Z,4µm,6.0s
LVV smax smax
comp=N,5µm,5.4s
LVV MLR MLR
comp=N,64µm,16.0s
LVV MLR MLR
comp=E,104µm,16.0s
LVV MLR MLR
comp=Z,124µm,16.0s
CUKAN kangal_SIVAS 75.55 309 *i*P **P 22 02 30.4 -2.7**
BFSC Mount Baldy Ra 75.57 57 P **P 22 02 34.5 +1.2**
baz=309,SNR=29
RRX Edison Barstow 75.60 57 P **P 22 02 34.7 +1.4**
baz=309
A28A Rude Farm, Bot 75.61 37 P **P 22 02 34.6 +1.5**
baz=315
COP Copenhagen 75.67 333⇑*i*P **P 22 02 34.2 +0.9**
COP MLR MLR
comp=Z,80µm,19.0s
COP Copenhagen 75.67 333⇑*i*P **P 22 02 34.2 +0.9**
IAS Iasi 75.68 320⇓*i*P **P 22 02 34.3 +0.8**
SHPR Sheep Range 75.74 54 *e*P **P 22 02 36.4 +2.1**
comp=Z,163nm,1.0s
SCI2 San Clemente I 75.77 59 P **P 22 02 35.7 +1.4**
baz=309
MZRK Al-Mazaregh 75.81 305 *e*P **P 22 02 32.0 -2.5**
LEOM Leova 75.84 319⇑*i*P **P 22 02 35.0 +0.6**
LRW Lerwick 75.86 342⇓*e*P **P 22 02 34.9 +0.6**
LRW AMS AMS 22 37 37.0
comp=Z,28µm,23.5s
B28A Dugan Ranch, T 75.89 38 P **P 22 02 36.3 +1.6**
baz=315,SNR=16
D26A Manning 75.89 40 P **P 22 02 36.2 +1.4**
baz=314,SNR=13
AKCD Akcadag 75.93 308 *i*P **P 22 02 35.3 0.0**
TUQ Turquoise Moun 75.93 56 P **P 22 02 36.8 +1.4**
baz=309,SNR=69
CUALT Altinyayla-SIV 75.99 310 *i*P **P 22 02 35.6 -0.1**
LLD Lille Linde 76.03 333 *i*P **P 22 02 36.5 +1.2**
LLD MLR MLR
comp=Z,69µm,20.0s
LLD Lille Linde 76.03 333 *i*P **P 22 02 36.5 +1.2**
BBRC Big Bear Solar 76.03 57 P **P 22 02 36.7 +0.6**
baz=309
HEC Hector,Ludlow 76.05 56 P **P 22 02 37.3 +1.3**
baz=309,SNR=7.3
TCRU Three Creeks R 76.06 51 PFAKE 22 02 50.0 +14
TCRU LR LR
comp=Z,23µm,22.0s
A29A Manning Farm, 76.07 37 P **P 22 02 36.8 +1.0**
baz=316,SNR=74
MUD Monsted U'grnd 76.13 335⇑*i*P **P 22 02 36.8 +0.9**
MUD MLR MLR
comp=Z,85µm,17.0s
MUD Monsted U'grnd 76.13 335⇑*i*P **P 22 02 36.8 +0.9**
F25A Bowman 76.15 41 P **P 22 02 37.8 +1.5**
baz=314,SNR=21
CCUT Cedar City 76.18 53 *e*P **P 22 02 39.1 +2.2**
comp=Z,119nm,1.1s
CCUT LR LR
comp=Z,20µm,21.0s
CUSAR Sarkisla-SIVAS 76.20 310 *i*P **P 22 02 33.0 -3.8**
NWAO Narrogin (SRO) 76.21 202 *e*P **P 22 02 36.2 -0.3**
NWAO pmax pmax
comp=Z,135nm,1.0s
NWAO MLR MLR
comp=Z,8µm,21.0s
NWAO Narrogin (SRO) 76.21 202 *e*P **P 22 02 36.2 -0.3**
comp=Z,135nm,1.0s
NWAO LR LR
comp=Z,8µm,21.0s
PRAR RASCA 76.21 321⇓*i*P **P 22 02 37.3 +0.7**
KWP Kalwaria Pacla 76.22 324 *e*P **P 22 02 37.9 +1.3**
KWP *e*S **S 22 12 18.0 -0.5**
KWP *e*ScS **SKSac 22 12 40.9 -4.3**
KWP LMZ LR 22 39 15.5
comp=Z,192µm,16.6s
KWP Kalwaria Pacla 76.22 324⇑*i*P **P 22 02 37.9 +1.3**
KWP Kalwaria Pacla 76.22 324⇑*e*P **P 22 02 37.9 +1.3**
KWP *e*S **S 22 12 18.0 -0.5**
KWP *e* 22 12 40.9
KWP MLR MLR
comp=Z,192µm,16.6s
ATAB Bozova 76.23 307 *i*P **P 22 02 34.3 -2.6**
RGN Rugen 76.26 332 PFAKE 22 02 50.0 +13
RGN LR LR
comp=Z,170µm,20.0s
E26A Carlson Angus 76.27 40 P **P 22 02 38.1 +1.2**
baz=314,SNR=13
MURC Murrieta 76.27 58 P **P 22 02 38.3 +1.1**
baz=309,SNR=7.0
SZCU Shurtz Canyon 76.32 52 *e*P **P 22 02 36.2 -1.4**
comp=Z,134nm,1.1s
SZCU LR LR
comp=Z,20µm,21.0s
B29A Wagenman Farm, 76.35 37 P **P 22 02 38.4 +1.1**
baz=316,SNR=27
TMUT Trail Mountain 76.35 50 PFAKE 22 02 50.0 +12
TMUT LR LR
comp=Z,19µm,22.0s
C28A Hausauer Farms 76.40 38 P **P 22 02 38.9 +1.2**
baz=316,SNR=8.3
TLCR 76.44 318⇑*i*P **P 22 02 38.6 +0.7**
A30A Hoffart Farm, 76.49 36 P **P 22 02 39.0 +0.8**
baz=317,SNR=21
BUR08 Bucovina Ar. S 76.50 322 *e*P **P 22 02 39.1 +0.8**
P17A Butcher Ranch, 76.51 50 *e*P **P 22 02 40.8 +2.2**
comp=Z,241nm,1.2s
P17A LR LR
comp=Z,21µm,20.0s
GMRC Granite Mounta 76.51 56 P **P 22 02 39.9 +1.2**
baz=310,SNR=60
BURAR Bucovina Array 76.51 322⇑*i*P **P 22 02 39.2 +0.8**
MTPU Mount Pierson 76.58 52 *e*P **P 22 02 41.7 +2.4**
comp=Z,326nm,1.6s
MTPU LR LR
comp=Z,19µm,20.0s
F26A Lodgepole 76.60 41 P **P 22 02 39.9 +1.0**
baz=314,SNR=11
LCMT Little Creek M 76.60 53 PFAKE 22 02 50.0 +11
LCMT LR LR
comp=Z,25µm,22.0s
TESR Tescani 76.60 320⇑*i*P **P 22 02 39.5 +0.7**
ULM Lac du Bonnet 76.60 34 P **P 22 02 39.5 +0.7**
comp=Z,34nm,0.8s,baz=320,slow=5.9,SNR=32
ULM S **S 22 12 19.9 -2.7**
comp=Z,4.9nm,0.9s,baz=157,slow=3.0,SNR=2.7
ULM LR LR 22 36 26.5
comp=Z,11µm,21.2s,baz=322,slow=36
ULM Lac du Bonnet 76.60 34 *e*P **P 22 02 39.4 +0.7**
comp=Z,167nm,1.1s
ULM LR LR
comp=Z,23µm,20.0s
MDND Maddock 76.67 38 P **P 22 02 40.4 +1.2**
baz=316,SNR=13
MDND Maddock 76.67 38 *e*P **P 22 02 40.8 +1.6**
comp=Z,457nm,1.0s
MDND LR LR
comp=Z,46µm,22.0s
LDFC Landfair 76.67 55 *e*P **P 22 02 41.8 +2.2**
comp=Z,389nm,1.3s
D28A Regan 76.68 39 P **P 22 02 40.5 +1.2**
baz=316,SNR=12
P18A Preston Nutter 76.70 49 *e*P **P 22 02 41.9 +2.0**
comp=Z,136nm,1.0s
P18A LR LR
comp=Z,24µm,22.0s
PFO Pinyon Flats O 76.74 57 P **P 22 02 40.4 +0.4**
comp=Z,20nm,0.9s,baz=320,slow=5.7,SNR=6.0
PFO LR LR 22 29 37.4
comp=Z,48µm,22.0s,baz=312,slow=30
PFO Pinyon Flats O 76.74 57 P **P 22 02 41.1 +1.1**
baz=309,SNR=22
PFO Pinyon Flats O 76.74 57 *e*P **P 22 02 41.2 +1.2**
PFO pmax pmax
comp=Z,100nm,1.0s
PFO Pinyon Flats O 76.74 57 *e*P **P 22 02 40.4 +0.4**
comp=Z,104nm,1.0s
PFO LR LR
comp=Z,55µm,22.0s
TPFO Pinon Flats 76.75 57 P **P 22 02 41.2 +1.2**
baz=309,SNR=32
109C Camp Elliot, M 76.78 58 P **P 22 02 41.3 +1.3**
baz=309
K22A Casper 76.78 45 P **P 22 02 41.5 +1.4**
baz=313,SNR=48
K22A Casper 76.78 45 *e*P **P 22 02 41.3 +1.2**
comp=Z,276nm,1.1s

K22A LR LR
comp=Z,21µm,22.0s
CFR Carcaliu 76.79 319⇑*iP* P 22 02 40.2 +0.4
BELC Belle Mtn. Jos 76.79 57 P P 22 02 41.1 +0.8
baz=310,SNR=17
KSRV Kasrt alli 76.82 306 *eP* P 22 02 38.6 -1.6
B30A Myrvik Farm, E 76.83 37 P P 22 02 41.3 +1.2
baz=317,SNR=32
KNB Kanab 76.86 53 *eP* P 22 02 43.0 +2.4
KNB pmax pmax
comp=Z,227nm,1.1s
KNB MLR MLR
comp=Z,22µm,20.0s
KNB Kanab 76.86 53 *eP* P 22 02 43.0 +2.4
comp=Z,227nm,1.1s
KNB LR LR
comp=Z,22µm,20.0s
SRU San Rafael Swe 76.87 50 *eP* P 22 02 42.5 +1.8
SRU pmax pmax
comp=Z,137nm,0.9s
SRU MLR MLR
comp=Z,20µm,22.0s
SRU San Rafael Swe 76.87 50 *eP* P 22 02 42.5 +1.8
comp=Z,137nm,0.9s
SRU LR LR
comp=Z,20µm,22.0s
PKCU Pink Cliffs 76.89 52 *eP* P 22 02 44.1 +3.1
comp=Z,192nm,1.1s
KOLS Kolonicke sedl 76.92 324 *eP* P 22 02 41.3 +0.7
KOLS pmax pmax
comp=Z,128nm,1.0s
KOLS Kolonicke sedl 76.92 324 *eP* P 22 02 41.3 +0.7
KOLS *ePP* **PP 22 05 29.8 -3.4**
KOLS *eS* **S 22 12 25.2 -1.0**
KOLS *eSS* SS 22 17 35.8 +14
KOLS *eL* L 22 39 49.3
ODBI Odobesti 76.93 320⇑*iP* P 22 02 42.5 +1.9
H25A Fruitdale 76.98 42 P P 22 02 42.3 +1.3
baz=314,SNR=16
A31A Linda, St. Vin 77.00 36 P P 22 02 42.9 +1.9
baz=317
VRI Vrincioaia 77.02 320⇑*iP* P 22 02 42.3 +1.1
STHS Stebnicka Huta 77.03 325 *eP* P 22 02 42.1 +0.9
STHS pmax pmax
comp=Z,171nm,0.9s
STHS Stebnicka Huta 77.03 325 *eP* P 22 02 42.1 +0.9
OJC Ojcow 77.06 326 *eP* P 22 02 42.4 +1.0
OJC *eS* **S 22 12 25.9 -1.7**
OJC *eScS* **SKSac 22 12 49.1 -2.2**
OJC LMZ LR 22 39 19.2
comp=Z,138µm,19.8s
OJC Ojcow 77.06 326⇑*eP* P 22 02 42.3 +1.0
OJC *eS* **S 22 12 25.9 -1.7**
OJC *e* 22 12 49.1
OJC MLR MLR
comp=Z,138µm,19.8s
OJC Ojcow 77.06 326 *eP* P 22 02 42.2 +0.9
comp=Z,1µm,1.8s
PLOR Plostina 77.07 320⇑*iP* P 22 02 42.6 +1.1
RSSD Black Hills 77.10 43 P P 22 02 43.5 +1.6
baz=314
RSSD Black Hills 77.10 43 *eP* P 22 02 43.1 +1.2
RSSD pmax pmax
comp=Z,294nm,1.4s
RSSD MLR MLR
comp=Z,22µm,22.0s
RSSD Black Hills 77.10 43 *eP* P 22 02 43.1 +1.2
comp=Z,294nm,1.4s
RSSD LR LR
comp=Z,22µm,22.0s
ELDT Eldivan 77.13 312 *i* P P 22 02 39.5 -2.6
UZH Uzhgorod 77.14 324 *eP* P 22 02 37.6 -4.1
UZH *e* 22 02 45.8
UZH *e* 22 02 50.4
UZH *ePPP* PPP 22 07 19.2
UZH *i* S **S 22 12 21.4 -7.1**
UZH *i* SP **ScS 22 12 55.8 -0.8**
UZH *ePS* **PnS 22 13 21.6 +12**
UZH *eSS* **SS 22 17 32.6 +7.5**
UZH MLR MLR
comp=N,190µm,16.0s
UZH MLR MLR
comp=E,180µm,16.0s
UZH MLR MLR
comp=Z,200µm,16.0s
TIRR Tirgusor 77.15 318⇑*iP* P 22 02 42.7 +0.8
TIRR Tirgusor 77.15 318 *eP* P 22 02 42.3 +0.4
TIRR pmax pmax
comp=Z,93nm,0.9s
TIRR MLR MLR
comp=Z,223µm,18.0s
TIRR Tirgusor 77.15 318 *eP* P 22 02 42.3 +0.4
comp=Z,93nm,0.9s
TIRR LR LR
comp=Z,223µm,18.0s
B31A Greenbush Farm 77.16 36 P P 22 02 42.9 +1.0
baz=317,SNR=21
CDAG Cicekdag 77.16 311 *i* P P 22 02 38.2 -4.0
NEE2 Needles Airpor 77.18 55 P P 22 02 43.8 +1.5
baz=310
BAR Barrett 77.19 58 *eP* P 22 02 44.1 +1.7
comp=Z,91nm,1.1s
BAR LR LR
comp=Z,23µm,20.0s
MONP2 Monument Peak 77.22 58 P P 22 02 43.8 +1.0
baz=310,SNR=18
HARR Harsova 77.23 318⇑*iP* P 22 02 43.8 +1.4
GRER 77.24 319⇓*iP* P 22 02 44.4 +2.0
IRM Iron Mountain 77.24 56 P P 22 02 44.1 +1.4
baz=310,SNR=47
D29A Pettibone, Tap 77.24 38 P P 22 02 43.9 +1.5
baz=316
BMR Baia Mare 77.28 323⇑*iP* P 22 02 44.0 +1.4
EFOR EFORIE 77.30 317⇑*iP* P 22 02 44.5 +1.8
ARCR ARCALIA 77.30 322⇑*iP* P 22 02 44.7 +2.0
C30A Mose, Pekin 77.30 37 P P 22 02 43.5 +0.7
baz=317,SNR=14
CRVS Cervenica-Dubn 77.31 325 *eP* P 22 02 43.7 +0.9
CRVS *e* 22 05 34.9
CRVS *eS* **S 22 12 29.3 -1.2**
CRVS Cervenica-Dubn 77.31 325 *eP* P 22 02 43.7 +0.9
CRVS *ePP* **PP 22 05 34.9 -1.6**
CRVS *eS* **S 22 12 29.2 -1.2**
A32A Rocking H Ranc 77.32 35 P P 22 02 43.3 +0.5
baz=318,SNR=9.2
BC3 Big Chuckawall 77.36 57 P P 22 02 44.8 +1.4
baz=310,SNR=26
TRPA Tarpa 77.39 323⇑*eP* P 22 02 44.6 +1.4
AVNS Nevsehir-Avano 77.42 310 *i* P P 22 02 34.3 -9.4
CVDA Cernavoda 77.43 318⇑*iP* P 22 02 44.4 +1.0
W13A Hualapai Mount 77.43 55 *eP* P 22 02 45.7 +1.7
comp=Z,74nm,1.0s
NIE Niedzica 77.44 326 *eP* P 22 02 44.7 +1.2
NIE *eS* **S 22 12 31.5 -0.3**
NIE *eScS* **SKKSac 22 12 55.2 +0.3**
NIE LMZ LR 22 39 41.4
comp=Z,87µm,19.2s
NIE Niedzica 77.44 326⇑*eP* P 22 02 44.7 +1.2
NIE *eS* **S 22 12 31.5 -0.3**
NIE *e* 22 12 55.2
NIE MLR MLR
comp=Z,87µm,19.2s
MANR Mangalia 77.50 317⇑*iP* P 22 02 44.9 +1.0
O20A White River Ci 77.51 48 P P 22 02 45.5 +1.2
baz=312,SNR=13
O20A White River Ci 77.51 48 *eP* P 22 02 46.2 +1.9
comp=Z,173nm,1.1s
O20A LR LR
comp=Z,17µm,22.0s
BR101 Keskin Array S 77.52 312 *eP* P 22 02 44.7 +0.4
BR101 *ePP* **PP 22 05 43.5 +4.8**
BR101 *eS* **S 22 12 32.8 -0.5**
BR101 *ePKKPbc* **PKKPbc 22 21 48.4 +1.8**
BR101 *eP'P'df* **P'P'df 22 29 55.0 -0.6**
BR131 Keskin Array S 77.52 312 *eP* P 22 02 44.7 +0.5
BRTR Keskin Array B 77.52 312 P P 22 02 44.7 +0.5
comp=Z,75nm,0.9s,baz=37,slow=5.0,SNR=83
BRTR PP **PP 22 05 43.5 +4.8**
comp=Z,20nm,0.9s,baz=57,slow=4.6,SNR=6.3
BRTR S **S 22 12 32.8 -0.5**
comp=Z,0.4nm,0.8s,baz=321,slow=26,SNR=2.1
BRTR PKKPbc **PKKPbc 22 21 48.4 +1.8**
comp=Z,0.6nm,0.5s,baz=181,slow=5.2,SNR=3.6
BRTR PKPPKP **P'P'df 22 29 55.0 -0.6**
comp=Z,0.6nm,0.9s,baz=165,slow=5.1,SNR=3.7

BRTR LR LR 22 42 19.5
comp=Z,42µm,19.2s,baz=41,slow=40
U15A North Rim 77.56 53 *eP* P 22 02 47.0 +2.3
comp=Z,310nm,1.1s
U15A LR LR
comp=Z,33µm,22.0s
PGOR Pogoanele 77.56 319⇑*iP* P 22 02 46.2 +2.0
E29A Napoleon 77.57 39 P P 22 02 45.3 +1.0
baz=316
IKP In-Ko-Pah, Jac 77.58 58 P P 22 02 45.9 +1.3
baz=310,SNR=23
C31A Landman Farms, 77.58 37 P P 22 02 45.0 +0.7
baz=317,SNR=34
SWSC Sam W. Stewart 77.59 57 P P 22 02 45.8 +1.3
baz=310,SNR=9.2
AMRR Amara 77.59 319⇑*iP* P 22 02 44.8 +0.4
D30A Buchanan 77.60 38 P P 22 02 45.0 +0.6
baz=317,SNR=13
DOPR Dopca 77.61 321⇑*iP* P 22 02 46.1 +1.6
ISR Istrita 77.64 319⇑*iP* P 22 02 46.2 +1.5
MLR Muntele Rosu 77.67 320⇑*iP* P 22 02 45.9 +0.9
MLR Muntele Rosu 77.67 320 *eP* P 22 02 45.5 +0.5
MLR pmax pmax
comp=Z,520nm,1.6s
MLR MLR MLR
comp=Z,147µm,19.0s
MLR Muntele Rosu 77.67 320 *eP* P 22 02 45.5 +0.5
comp=Z,520nm,1.6s
MLR LR LR
comp=Z,147µm,19.0s
BCAM Yenicaga 77.68 313 *i* P P 22 02 43.4 -1.7
B32A Ashes, Strandq 77.68 36 P P 22 02 45.6 +0.7
baz=318,SNR=29
DRWC Darouich 77.77 308 *eP* P 22 02 46.0 +0.4
PDMCI Parker Dam,Lak 77.78 55 P P 22 02 47.3 +1.6
baz=310,SNR=41
A33A Warroad 77.79 35 P P 22 02 45.8 +0.4
baz=318,SNR=39
PSN Preselentsi 77.81 317 *i* P P 22 02 46.7 +1.1
RAC Raciborz 77.83 327 *eP* P 22 02 47.0 +1.4
RAC *e* 22 05 37.4
RAC *eS* **S 22 12 35.0 -1.0**
RAC MLR MLR
comp=Z,175µm,19.8s
Y12C Blythe 77.89 56 P P 22 02 47.8 +1.5
baz=310,SNR=29
Y12C Blythe 77.89 56 *eP* P 22 02 48.2 +2.0
comp=Z,198nm,1.1s
Y12C LR LR
comp=Z,36µm,22.0s
ANTO Ankara 77.90 312 *eP* P 22 02 47.2 +0.9
ANTO pmax pmax
comp=Z,558nm,1.3s
ANTO MLR MLR
comp=Z,49µm,20.0s
ANTO Ankara 77.90 312 P P 22 02 47.5 +1.2
SNR=80
ANTO P P 22 02 47.5 +1.2
SNR=80
ANTO Ankara 77.90 312 P P 22 02 47.5 +1.2
SNR=80
ANTO Ankara 77.90 312 *eP* P 22 02 47.2 +0.9
comp=Z,558nm,1.3s
ANTO LR LR
comp=Z,49µm,20.0s
CJR Cluj-Napoca 77.93 322⇑*iP* P 22 02 48.1 +1.8
BR231 Keskin MP Arra 77.93 312 *eP* P 22 02 47.6 +1.1
SECR 77.93 319⇑*iP* P 22 02 48.3 +2.0
BBAL Bala 77.94 312 *i* P P 22 02 44.7 -1.9
AKO Adana 77.96 309 *i* P P 22 02 46.0 -0.6
BIGH Upper Bighouse 77.96 343⇑*eP* P 22 02 46.3 +0.2
BIGH AMS AMS 22 41 21.4
comp=Z,46µm,19.6s
E30A Jud 77.97 38 P P 22 02 47.7 +1.2
baz=317
LANS Liptovska Anna 78.00 326 *eP* P 22 02 48.2 +1.6
LANS Liptovska Anna 78.00 326 *eP* P 22 02 48.2 +1.6
MLA1 Latheron 78.00 342⇑*eP* P 22 02 46.8 +0.4
F29A Eureka 78.01 39 P P 22 02 47.4 +0.7
baz=316,SNR=12
KSP Ksiaz 78.03 328 *eP* P 22 02 47.9 +1.1
KSP *eS* **S 22 12 37.3 -0.8**
KSP LMZ LR 22 39 49.5
comp=Z,118µm,19.2s
KSP Ksiaz 78.03 328⇑*eP* P 22 02 47.8 +1.1
KSP *eS* **S 22 12 37.3 -0.8**
KSP MLR MLR
comp=Z,118µm,19.2s
OKC Ostrava-Krasne 78.04 327⇑*iP* P 22 02 47.7 +0.9
OKC *ePP* **PP 22 05 38.5 -4.0**
OKC *eS* **S 22 12 38.1 -0.1**
OKC *ex* x 22 13 01.1
OKC AMS AMS 22 40 00.0
comp=Z,130µm,19.4s
OKC Ostrava-Krasne 78.04 327⇑*iP* P 22 02 47.7 +0.9
OKC *e* 22 05 38.5
OKC *eS* **S 22 12 38.1 -0.1**
OKC *e* 22 13 01.1
OKC MLR MLR
comp=Z,130µm,19.4s
KECS Kecovo 78.05 325 *eP* P 22 02 48.1 +1.2
KECS pmax pmax
comp=Z,50nm,0.9s
KECS Kecovo 78.05 325 *eP* P 22 02 48.1 +1.2
AGMN Agassiz Nation 78.06 36 P P 22 02 47.3 +0.4
baz=318,SNR=36
AGMN Agassiz Nation 78.06 36 *eP* P 22 02 47.0 +0.1
comp=Z,262nm,1.4s
PV09 Paradox Valley 78.09 50 *eP* P 22 02 49.5 +1.8
SULR 78.09 319⇑*iP* P 22 02 48.2 +1.1
RAO Raoul Island 78.10 145 LR LR 22 31 52.7
comp=Z,26µm,21.8s,baz=353,slow=32
RAO Raoul Island 78.10 145 PFAKE 22 03 00.0 +13
RAO LR LR
comp=Z,35µm,20.0s
C32A Crookston 78.11 36 P P 22 02 47.5 +0.3
baz=318,SNR=7.7
D31A Mcclaflin, Tow 78.13 37 P P 22 02 47.8 +0.5
baz=317,SNR=7.0
GLA Glamis 78.15 57 P P 22 02 49.4 +1.7
baz=310,SNR=38
GLA Glamis 78.15 57 *eP* P 22 02 49.7 +1.9
GLA pmax pmax
comp=Z,141nm,1.0s
GLA MLR MLR
comp=Z,36µm,21.0s
GLA Glamis 78.15 57 *eP* P 22 02 49.7 +1.9
comp=Z,141nm,1.0s
GLA LR LR
comp=Z,36µm,21.0s
VOIR 78.15 320⇑*iP* P 22 02 48.5 +0.9
AKSY AKSARAY - Alti 78.16 311 *i* P P 22 02 47.3 -0.5
B33A Robert and Kas 78.20 35 P P 22 02 47.7 0.0
baz=318,SNR=15
PV10 Paradox Valley 78.23 50 *eP* P 22 02 50.5 +2.1
BTCH Batrach 78.28 307 *eP* P 22 02 49.7 +1.3
PHWY Pilot Hill 78.28 45 *eP* P 22 02 50.0 +1.4
comp=Z,394nm,1.8s
PHWY LR LR
comp=Z,17µm,22.0s
DRGR 78.29 322⇑*iP* P 22 02 49.5 +1.2
N23A Red Feather La 78.29 46 P P 22 02 50.1 +1.4
baz=313,SNR=54
N23A Red Feather La 78.29 46 *eP* P 22 02 50.8 +2.1
comp=Z,291nm,1.2s
N23A LR LR
comp=Z,18µm,20.0s
BTMR Bucharest-Geot 78.34 319⇑*iP* P 22 02 49.9 +1.4
MORC Moravsky Berou 78.34 327⇑*iP* P 22 02 49.8 +1.3
MORC Moravsky Berou 78.34 327 *eP* P 22 02 49.4 +0.9
MORC pmax pmax
comp=Z,734nm,1.0s
MORC MLR MLR
comp=Z,529µm,20.0s
MORC Moravsky Berou 78.34 327 *eP* P 22 02 49.4 +0.9
comp=Z,734nm,1.0s
MORC LR LR
comp=Z,529µm,20.0s
RSC Scourie 78.38 343⇑*eP* P 22 02 49.2 +0.8
PV05 Paradox Valley 78.39 50 *eP* P 22 02 51.2 +2.0
D32A Dogwood Acres, 78.40 37 P P 22 02 49.9 +1.1
baz=318
F30A Leola 78.40 39 P P 22 02 50.0 +1.1
baz=317
DPC Dobruska-Polom 78.40 328⇑*iP* P 22 02 50.3 +1.5

DPC *ex* x 22 03 09.0
DPC *eS* **S 22 12 42.1 -0.1**
DPC *ex* x 22 13 05.6
DPC AMS AMS 22 40 00.0
comp=Z,97µm,19.1s
DPC Dobruska-Polom 78.40 328⇑*iP* P 22 02 50.3 +1.5
DPC *eS* **S 22 12 42.1 -0.1**
DPC *e* 22 13 05.6
DPC MLR MLR
comp=Z,97µm,19.1s
UPC Upice 78.41 328⇑*iP* P 22 02 49.9 +1.1
UPC *ePP* **PP 22 05 41.3 -4.3**
UPC *eS* **S 22 12 42.0 -0.2**
UPC *ex* x 22 13 05.2
UPC AMS AMS 22 40 00.0
comp=Z,120µm,17.6s
UPC Upice 78.41 328⇑*iP* P 22 02 49.9 +1.1
UPC *e* 22 05 41.3
UPC *eS* **S 22 12 42.0 -0.2**
UPC *e* 22 13 05.2
UPC MLR MLR
comp=Z,120µm,17.6s
E31A Nome 78.41 38 P P 22 02 49.4 +0.5
baz=317,SNR=22
G29A Hoven 78.42 40 P P 22 02 50.4 +1.3
baz=316
BTAS Taskesti 78.44 314 *i* P P 22 02 47.3 -1.9
B34A Aery, Baudette 78.45 35 P P 22 02 49.3 +0.2
baz=319,SNR=21
C33A Trail 78.50 36 P P 22 02 49.5 +0.1
baz=318,SNR=13
PRD Provadia 78.55 317 *i* P P 22 02 50.8 +1.1
MCD Coleburn Disti 78.63 342⇑*iP* P 22 02 50.3 +0.5
PV01 Paradox Valley 78.66 50 *eP* P 22 02 52.6 +1.8
DED Mersin 78.67 309 *i* P P 22 02 47.3 -3.3
H29A Onida 78.69 40 P P 22 02 51.2 +0.7
baz=316,SNR=7.0
ARNB Al Arnab 78.69 307 *eP* P 22 02 55.3 +4.6
WUAZ Wupatki 78.72 53 P P 22 02 52.9 +1.9
baz=311,SNR=82
WUAZ Wupatki 78.72 53 *eP* P 22 02 53.2 +2.2
comp=Z,225nm,1.0s
WUAZ LR LR
comp=Z,32µm,22.0s
Y14A Wickenburg 78.74 55 *eP* P 22 02 53.0 +1.9
comp=Z,787nm,1.1s
PSZ Piszkesteto 78.74 325⇑*iP* P 22 02 52.3 +1.5
PSZ Piszkesteto 78.74 325⇑*eP* P 22 02 51.9 +1.1
PSZ Piszkesteto 78.74 325 *eP* P 22 02 51.7 +0.9
PSZ pmax pmax
comp=Z,321nm,1.1s
PSZ MLR MLR
comp=Z,225µm,18.0s
PSZ Piszkesteto 78.74 325 *eP* P 22 02 51.7 +0.9
comp=Z,321nm,1.1s
PSZ LR LR
comp=Z,225µm,18.0s
F31A Hecla 78.75 38 P P 22 02 51.0 +0.2
baz=317,SNR=14
LOT Lotru 78.77 321⇑*iP* P 22 02 51.9 +0.9
VYHS Vyhne 78.77 326 *eP* P 22 02 52.0 +1.1
VYHS pmax pmax
comp=Z,103nm,1.3s
VYHS Vyhne 78.77 326 *eP* P 22 02 52.0 +1.1
VYHS *ePP* **PP 22 05 46.7 -2.0**
VYHS *eS* S 22 12 45.1 -1.0
VYHS *eSS* SS 22 18 06.2 +16
VYHS *eL* L 22 40 07.4
E32A Braaten, Kindr 78.77 37 P P 22 02 51.8 +0.9
baz=318
HUMR Humele 78.84 320⇑*iP* P 22 02 52.6 +1.3
G30A Faulkton 78.85 39 P P 22 02 52.2 +0.8
baz=317,SNR=27
DEV Deva 78.86 322⇑*iP* P 22 02 52.4 +1.0
SMCO Snowmass 78.88 48 *eP* P 22 02 51.2 -0.9
comp=Z,82nm,1.0s
SMCO LR LR
comp=Z,20µm,20.0s
D33A AnnSam, Waubun 78.93 36 P P 22 02 51.7 0.0
baz=318,SNR=8.3
BRG Berggiesshubel 78.94 330⇑*iP* P 22 02 52.3 +0.6
comp=Z,302nm,1.7s
BRG *i* PCP **pP 22 03 01.7 -0.1**
comp=Z,129nm,1.0s
BRG PP **PP 22 05 48.0 -2.0**
BRG S **S 22 12 47.0 -0.8**
BRG SS **SS 22 17 46.0 -6.1**
BRG Berggiesshubel 78.94 330⇑*iP* P 22 02 52.3 +0.6
BRG *i* 22 03 01.7
BRG 22 05 48.0
BRG S **S 22 12 47.0 -0.8**
BRG pmax pmax
comp=Z,302nm,1.7s
BRG MLR MLR
comp=N,52µm,15.7s
BRG MLR MLR
comp=E,63µm,17.1s
BRG MLR MLR
comp=Z,92µm,17.6s
H01W3 Cape Leeuwin H 78.94 203 P P 22 02 52.7 +1.3
H01W1 Cape Leeuwin H 78.95 203 P P 22 02 52.7 +1.3
B35A Bob, Littlefor 78.95 34 P P 22 02 52.3 +0.5
baz=320,SNR=22
CLL Collm 78.95 330⇑*iP* P 22 02 51.9 +0.1
comp=Z,296nm,1.4s
CLL *ePmax* 22 02 52.0
CLL *ePlp* 22 02 52.0
CLL *i* 22 03 01.8
CLL *ePP* **PP 22 05 49.0 -1.1**
CLL *ePP* **PP 22 05 49.0 -1.1**
CLL *ePP* **PP 22 05 49.0 -1.1**
CLL *ePPP* PPP 22 07 33.0
CLL *eS* **S 22 12 46.0 -1.9**
CLL *eS* **S 22 12 46.0 -1.9**
comp=E,6µm,11.9s
CLL *eSKSac* **SKSac 22 13 05.0 +0.1**
CLL *eSP* **SPn 22 13 29.0 +0.7**
CLL *eSS* **SS 22 17 47.0 -5.3**
CLL LmH 22 39 00.0
comp=N,32µm,21.7s
CLL LmH 22 39 00.0
comp=E,108µm,19.7s
CLL L L 22 40 00.0
comp=Z,44µm,20.9s
CLL Lmax 22 43 00.0
CLL Collm 78.95 330⇑*iP* P 22 02 51.9 +0.1
CLL *e* 22 05 49.0
CLL *eS* **S 22 12 46.0 -1.9**
CLL pmax pmax
comp=Z,296nm,1.4s
CLL MLR MLR
comp=Z,44µm,20.9s
CLL Collm 78.95 330 *eP* P 22 02 52.1 +0.4
comp=Z,184nm,1.0s
CLL LR LR
comp=Z,53µm,22.0s
H01W2 Cape Leeuwin H 78.96 203 P P 22 02 52.8 +1.3
PVCC Panska Ves 78.96 329⇑*iP* P 22 02 53.0 +1.1
PVCC *ePP* **PP 22 05 42.4 -7.8**
PVCC *eS* **S 22 12 47.5 -0.6**
PVCC AMS AMS 22 40 30.0
comp=Z,141µm,18.3s
PVCC Panska Ves 78.96 329⇑*iP* P 22 02 53.0 +1.1
PVCC *eS* **S 22 12 47.5 -0.6**
PVCC MLR MLR
comp=Z,141µm,18.3s
RRR Rubha Reidh 78.96 343⇑*eP* P 22 02 52.0 +0.4
C34A RKJ Ranch, Bem 78.97 35 P P 22 02 52.4 +0.5
baz=319
ROOS tl_alroos 78.99 305 *eP* P 22 02 53.4 +1.0
NRS Narsarsuaq 79.01 4⇑*iP* P 22 02 52.2 +0.3
NRS *i* S **S 22 12 43.9 -4.3**
NRS *i* 22 13 11.6
NRS pmax pmax
comp=Z,90nm,1.1s
NRS MLR MLR
comp=Z,40µm,20.0s
NRS Narsarsuaq 79.01 4⇑*iP* P 22 02 52.2 +0.3
comp=Z,90nm,1.1s
NRS *i* S **S 22 12 43.9 -4.3**
NRS *i* 22 13 11.6
113A Mohawk Valley, 79.01 56 *eP* P 22 02 51.5 -1.0
comp=Z,104nm,1.0s
113A LR LR

MDO **Dochfour** 79.02 342⇑ *e*P P 22 02 52.1 +0.1
DRUM **Mains of Drumt** 79.04 341⇑ *e*P P 22 02 52.7 +0.5
DRUM AMS AMS 22 42 22.6
comp=Z,38µm,18.0s
I29A **Vivian Onida** 79.08 41 P P 22 02 53.3 +0.7
baz=316,SNR=11
VRAC **Vranov** 79.10 327 LR LR 22 40 59.2
comp=Z,157µm,19.3s,baz=24,slow=38
VRAC **Vranov** 79.10 327⇑ *i*P P 22 02 53.9 +1.3
RRH **Rhenigidale** 79.10 344⇑ *e*P P 22 02 52.9 +0.5
ISK **Istanbul-Kandi** 79.16 315 P P 22 02 53.0 -0.1
ISK **Istanbul-Kandi** 79.16 315 P P 22 02 53.0 -0.1
ISK **Istanbul-Kandi** 79.16 315 P P 22 02 53.0 -0.1
SIRR **Siria** 79.17 323⇑ *i*P P 22 02 54.2 +1.1
KAC **Achnashellach** 79.18 343⇑ *i*P P 22 02 53.6 +0.7
BORA **Eskisehir** 79.22 313 *i* P P 22 02 51.2 -2.4
G31A **Conde** 79.24 39 P P 22 02 54.2 +0.7
baz=317,SNR=6.6
SZH **Strazhica** 79.26 318 *i* P P 22 02 54.1 +0.5
D34A **Park Rapids** 79.26 36 P P 22 02 53.8 +0.2
baz=319,SNR=17
ZIMR 79.27 319⇑ *i*P P 22 02 54.6 +1.0
F32A **Veblen** 79.28 38 P P 22 02 54.4 +0.7
baz=318
BUY **Buyukada** 79.28 315 *i* P P 22 02 51.2 -2.6
GZR **Gura Zlata** 79.28 321⇑ *i*P P 22 02 54.6 +0.8
HAWK **Haweek** 79.31 306 *e*P P 22 02 55.1 +0.9
MVCO **Mesa Verde** 79.33 50 P P 22 02 55.9 +1.5
baz=313,SNR=28
MVCO **Mesa Verde** 79.33 50 *e*P P 22 02 56.2 +1.8
comp=Z,414nm,1.6s
E33A **Westby DABS, E** 79.33 37 P P 22 02 54.4 +0.5
baz=318,SNR=16
C35A **Jirik Farms, M** 79.34 35 P P 22 02 54.0 0.0
baz=320,SNR=21
SMOL **Smolenice** 79.36 326 *e*P P 22 02 55.6 +1.5
SMOL **Smolenice** 79.36 326 *e*P P 22 02 55.6 +1.5
GOPC **GO Pecny, Ondr** 79.36 329⇑ *i*P P 22 02 55.1 +1.0
GOPC *ex* x 22 13 18.7
GOPC AMS AMS 22 40 20.0
comp=Z,126µm,18.8s
GOPC **GO Pecny, Ondr** 79.36 329⇑ *i*P P 22 02 55.1 +1.0
GOPC *e* 22 13 18.7
GOPC MLR MLR
comp=Z,126µm,18.8s
PRU **Pruhonice** 79.40 329⇑ *i*P P 22 02 55.2 +0.9
PRU *e*PP PP 22 05 56.1 +2.3
PRU *e*S S 22 12 52.6 -0.2
PRU *ex* x 22 13 17.1
PRU AMS AMS 22 40 50.0
comp=Z,130µm,18.1s
PRU **Pruhonice** 79.40 329⇑ *i*P P 22 02 55.2 +0.9
PRU *e* 22 05 56.1
PRU *e*S S 22 12 52.6 -0.2
PRU *e* 22 13 17.1
PRU MLR MLR
comp=Z,130µm,18.1s
X16A **Lo Mia Camp, P** 79.40 54 *e*P P 22 02 57.0 +2.2
comp=Z,162nm,1.1s
KPL **Plockton** 79.40 343⇑ *e*P P 22 02 55.0 +0.9
KPL AMS AMS 22 38 17.7
comp=Z,20µm,22.5s
SUSD **Miller** 79.44 40 P P 22 02 55.9 +1.2
baz=317
ELBA **Catalca** 79.45 315 *i* P P 22 02 51.2 -3.5
BUD **Budapest** 79.45 325⇑ *e*P P 22 02 55.9 +1.3
KSB **Sheil Bridge** 79.47 343⇑ *i*P P 22 02 54.9 +0.5
JMB **Yambol** 79.50 317 *i* P P 22 02 55.7 +0.8
EDU **Dundee** 79.50 341⇑ *e*P P 22 02 55.1 +0.5
G32A **Webster** 79.55 38 P P 22 02 56.8 +1.6
baz=318
CRAR **CRAIOVA** 79.57 320⇓ *i*P P 22 02 56.5 +1.2
MARH **Ras Al Marh** 79.59 306 *e*P P 22 02 56.5 +0.6
I30A **Oacoma** 79.59 40 P P 22 02 56.7 +1.2
baz=317
PVL **Pavlikeni** 79.60 319 *i* P P 22 02 56.7 +1.2
SRE **Strehaia** 79.61 321⇑ *i*P P 22 02 57.4 +1.9
H31A **Wolsey** 79.65 40 P P 22 02 57.1 +1.4
baz=317
BZS **Buzias** 79.67 322⇑ *i*P P 22 02 56.3 +0.5
F33A **5 Mile Ranch,** 79.69 37 P P 22 02 56.3 +0.4
baz=318,SNR=41
E34A **Wadena** 79.71 36 P P 22 02 56.9 +0.9
baz=319,SNR=7.5
DGAR **Diego Garcia** 79.72 251 PFAKE 22 03 10.0 +14
DGAR LR LR
comp=Z,26µm,18.0s
BOLV **Bolvadin** 79.73 312 *i* P P 22 02 55.1 -1.4
HWQ **Hawqa** 79.75 306 *e*P P 22 02 56.9 +0.2
ZALF **Zalf** 79.78 304 *e*P P 22 02 54.0 -2.6
D35A **Remer** 79.78 35 P P 22 02 57.0 +0.6
baz=320,SNR=14
C36A **Pine Crest Far** 79.80 34 P P 22 02 57.1 +0.6
baz=320,SNR=23
H08S3 **Diego Garcia H** 79.84 251 P P 22 02 57.9 +1.1
H08S2 **Diego Garcia H** 79.84 251 P P 22 02 57.9 +1.1
EDRB **Edirne** 79.85 317 P P 22 02 58.1 +1.2
EDRB **Edirne** 79.85 317 P P 22 02 58.1 +1.2
H08S1 **Diego Garcia H** 79.86 251 P P 22 02 58.0 +1.1
S22A **4UR Ranch, Cre** 79.94 49 P P 22 02 59.6 +1.8
baz=313,SNR=64
S22A **4UR Ranch, Cre** 79.94 49 *e*P P 22 02 60.0 +2.1
comp=Z,121nm,1.1s
S22A LR LR
comp=Z,19µm,21.0s
I31A **Royce, Wessing** 79.95 40 P P 22 02 59.1 +1.7
baz=317
ESY **Stoneypath** 79.97 341⇑ *e*P P 22 02 57.7 +0.5
W18A **Petrified Fore** 79.99 52 P P 22 03 00.2 +2.2
baz=312
W18A **Petrified Fore** 79.99 52 PFAKE 22 03 10.0 +12
W18A LR LR
comp=Z,39µm,22.0s
J30A **Dallas** 79.99 41 P P 22 02 58.3 +0.7
baz=317,SNR=9.9
ERMK **Ermenek** 80.01 310 *i* P P 22 02 56.4 -1.7
E35A **Pequot Lakes** 80.02 36 P P 22 02 58.2 +0.5
baz=319,SNR=7.2
NKC **Novy Kostel** 80.02 330⇑ *i*P P 22 02 58.3 +0.6
NKC *e*S S 22 12 56.0 -3.4
NKC AMS AMS 22 39 00.0
comp=Z,68µm,22.9s
NKC **Novy Kostel** 80.02 330⇑ *i*P P 22 02 58.3 +0.6
NKC *e*S S 22 12 56.0 -3.4
NKC MLR MLR
comp=Z,68µm,22.9s
H08N2 **Diego Garcia H** 80.05 253 P P 22 03 00.3 +2.5
H08N1 **Diego Garcia H** 80.05 253 P P 22 03 00.3 +2.5
TOTH **TOTAH** 80.06 305 *e*P P 22 02 58.8 +0.6
Q24A **Divide** 80.06 47 P P 22 02 59.9 +1.4
baz=314,SNR=27
Q24A **Divide** 80.06 47 *e*P P 22 03 00.1 +1.6
comp=Z,84nm,1.0s
Q24A LR LR
comp=Z,21µm,21.0s
H08N3 **Diego Garcia H** 80.07 253 P P 22 02 57.9 0.0
BANR **Banloc** 80.07 322⇑ *i*P P 22 02 59.2 +1.3
D36A **Goodland** 80.10 35 P P 22 02 58.7 +0.6
baz=320,SNR=6.2
C37A **Embarrass** 80.10 34 P P 22 02 58.3 +0.2
baz=321,SNR=14
G33A **Ortonville** 80.10 38 P P 22 02 59.7 +1.5
baz=318
EDI **Edinburgh** 80.11 341⇑ *e*P P 22 02 58.1 +0.1
EDI AMS AMS 22 42 56.8
comp=Z,37µm,18.5s
H32A **Carlson Farm,** 80.14 39 P P 22 03 00.1 +1.7
baz=318
OUZ **Omahuta** 80.15 155 PFAKE 22 03 10.0 +12
OUZ LR LR
comp=Z,39µm,21.0s
EAB **Aberfoyle** 80.15 342⇑ *i*P P 22 02 58.7 +0.6
214A **Organ Pipe Nat** 80.15 57 P P 22 02 59.9 +1.2
baz=311,SNR=6.5
BHL **Bhannes** 80.18 306 *e*P P 22 02 59.0 +0.1
F34A **Alexandria** 80.20 37 P P 22 02 59.3 +0.6
baz=319,SNR=11
EYMN **Ely** 80.23 33 P P 22 02 59.0 +0.2
baz=321,SNR=9.5
EYMN **Ely** 80.23 33 *e*P P 22 02 59.5 +0.6
comp=Z,154nm,1.0s
MDVR **Moldovita** 80.24 322⇑ *i*P P 22 02 59.4 +0.4
X18A **Snowflake** 80.25 53 *e*P P 22 03 01.6 +2.2
comp=Z,363nm,1.9s
X18A LR LR
comp=Z,25µm,22.0s
SALA **Sala** 80.30 305 *e*P P 22 02 59.8 +0.2
BEYL **Beirut** 80.30 306 *e*P P 22 02 59.4 0.0
MPEP **Malo Peshtene** 80.30 320 *i* P P 22 03 00.1 +0.8
BRBR **Barbar** 80.33 306 *e*P P 22 02 57.1 -2.7
DIM **Dimitrovgrad** 80.34 318 *i* P P 22 03 00.6 +1.1
H33A **Prehn Over Nor** 80.34 38 P P 22 03 00.4 +0.9
baz=318,SNR=23
RCY **Rachaya** 80.34 306 *e*P P 22 03 00.4 +0.5
DQRL **Deir Qamar** 80.37 306 *e*P P 22 03 00.5 +0.6
SOP **Sopron** 80.37 326⇑ *e*P P 22 03 01.0 +1.4
OGNE **Ogallala** 80.38 44 P P 22 03 00.6 +0.7
baz=316,SNR=19
OGNE **Ogallala** 80.38 44 *e*P P 22 03 01.2 +1.3
comp=Z,688nm,1.4s
J31A **Geddes** 80.39 40 P P 22 03 00.5 +0.7
baz=317
K30A **Basset** 80.40 41 P P 22 03 00.9 +1.0
baz=317,SNR=15
D37A **Cotton** 80.44 34 P P 22 03 00.5 +0.6
baz=321,SNR=5.8
G34A **Benson** 80.44 37 P P 22 03 00.7 +0.7
baz=319,SNR=19
PHNC **Paralimni** 80.44 308 P P 22 03 00.5 +0.3
KHC **Kasperske Hory** 80.46 329⇑ *i*P P 22 03 01.0 +0.9
KHC *e*pP pP 22 03 10.5 +0.3
KHC *e*PP PP 22 06 02.5 -0.2
KHC *e*S S 22 13 04.3 +0.2
KHC *ex* x 22 13 28.3
KHC AMS AMS 22 41 20.0
comp=Z,145µm,18.9s
KHC **Kasperske Hory** 80.46 329⇑ *i*P P 22 03 01.0 +0.9
KHC *e* 22 06 02.5
KHC *e*S S 22 13 04.3 +0.2
KHC MLR MLR
comp=Z,145µm,18.9s
KHC **Kasperske Hory** 80.46 329 *e*P P 22 03 00.8 +0.7
comp=Z,100nm,1.0s
KHC LR LR
comp=Z,59µm,19.0s
F35A **Swanville** 80.47 36 P P 22 03 00.9 +0.7
baz=319,SNR=16
CONA **Conrad Observa** 80.48 327 *i* P P 22 03 01.4 +1.2
comp=Z,63nm,0.9s,SNR=87
I32A **Karley and Nic** 80.48 39 P P 22 03 01.1 +0.8
baz=318
C38A **Sawbill Land.** 80.50 34 P P 22 03 00.5 +0.2
baz=321,SNR=11
PGBU **Glenifferbraes** 80.52 342⇑ *e*P P 22 03 01.2 +1.0
PGBU AMS AMS 22 40 00.9
comp=Z,24µm,21.3s
E36A **McGregor** 80.56 35 P P 22 03 01.0 +0.3
baz=320,SNR=21
WTSB **Winterswijk** 80.64 334 *e*P P 22 03 01.2 +0.3
comp=Z,2µm,3.0s
GEC2 **GERESS Array S** 80.64 329 *e*P P 22 03 01.5 +0.4
GEC2 pmax pmax
comp=Z,102nm,1.1s
GEC2 MLR MLR
comp=Z,107µm,20.0s
GEC2 **GERESS Array S** 80.64 329 *e*P P 22 03 01.5 +0.4
comp=Z,102nm,1.1s
GEC2 LR LR
comp=Z,107µm,20.0s
GERES **GERESS Array B** 80.64 329 P P 22 03 01.5 +0.4
comp=Z,23nm,0.4s,baz=34,slow=5.0,SNR=99
GERES PP PP 22 06 04.9 +0.6
comp=Z,17nm,0.8s,baz=33,slow=7.9,SNR=4.3
GERES S S 22 13 04.5 -1.6
comp=Z,0.9nm,0.8s,baz=358,slow=20,SNR=2.4
GERES LR LR 22 41 55.2
comp=Z,105µm,19.9s,baz=27,slow=38
GEA0 **GERESS Array S** 80.65 329 *e*P P 22 03 00.1 -1.0
ESK **Eskdalemuir** 80.66 341⇑ *e*P P 22 03 00.9 -0.1
ESK AMS AMS 22 43 12.5
comp=Z,53µm,18.8s
ESK **Eskdalemuir** 80.66 341 *ce*P P 22 03 02.1 +1.2
ESK **Eskdalemuir** 80.66 341 *e*P P 22 03 01.7 +0.7
comp=Z,103nm,0.8s
ESK LR LR
comp=Z,67µm,19.0s
PGB **Panagyurishte** 80.68 319 *i* P P 22 03 02.4 +1.0
KDZ **Kurdzhali** 80.69 317 *i* P P 22 03 02.6 +1.2
SDCO **Great Sand Dun** 80.70 48 P P 22 03 02.6 +0.7
baz=314,SNR=40
SDCO **Great Sand Dun** 80.70 48 *e*P P 22 03 03.4 +1.4
comp=Z,130nm,1.4s
PLD **Plovdiv** 80.73 318 *i* P P 22 03 02.3 +0.7
ECK **Cauldkaine Hil** 80.76 341⇑ *i*P P 22 03 02.1 +0.6
DEMI **Demirci** 80.76 314 *i* P P 22 02 57.7 -4.3
J32A **Parkston** 80.77 40 P P 22 03 02.3 +0.5
baz=318,SNR=5.8
I33A **Coleman** 80.78 39 P P 22 03 02.4 +0.6
baz=318,SNR=10
TCHB **Talchebab** 80.81 305 *e*P P 22 02 58.0 -4.2
H34A **Spellman Lake,** 80.81 38 P P 22 03 03.2 +1.2
baz=319,SNR=8.3
MAMC **Mammari** 80.82 308 P P 22 03 02.7 +0.5
BHH **Howats Hill** 80.86 341⇑ *i*P P 22 03 02.8 +0.8
K31A **O'Neill** 80.87 41 P P 22 03 02.7 +0.3
baz=317,SNR=9.0
BALY **Balya** 80.88 315 *i* P P 22 03 01.6 -0.9
ALN **Alexandroupoli** 80.90 317 P P 22 03 03.5 +1.0
ALN **Alexandroupoli** 80.90 317 P P 22 03 03.5 +1.0
ALN **Alexandroupoli** 80.90 317 P P 22 03 03.5 +1.0
CSS **Mathiatis** 80.90 308 P P 22 03 03.3 +0.6
CSS **Mathiatis** 80.90 308 P P 22 03 03.2 +0.6
CSS **Mathiatis** 80.90 308 *e*P P 22 03 03.2 +0.6
comp=Z,41nm,0.7s
CSS *e*S S 22 13 07.4 -1.6
CSS LR LR
comp=Z,13µm,22.0s
C39A **Grand Marais** 80.90 33 P P 22 03 02.8 +0.4
baz=322
E37A **Wrenshall** 80.91 35 P P 22 03 03.2 +0.7
baz=321
GRFO **Grafenberg** 80.93 330 *e*P P 22 03 03.7 +1.2
GRFO pmax pmax
comp=Z,460nm,1.1s
GRFO MLR MLR
comp=Z,46µm,20.0s
GRFO **Grafenberg** 80.93 330 *e*P P 22 03 03.7 +1.2
comp=Z,460nm,1.1s
GRFO LR LR
comp=Z,46µm,20.0s
F36A **Milaca** 80.94 36 P P 22 03 03.8 +1.1
baz=320,SNR=8.9
ENEZ **Enez** 80.96 316 P P 22 03 02.9 +0.1
G35A **Watkins** 81.00 37 P P 22 03 03.9 +1.0
baz=320
RZN **Rozhen** 81.02 318 *i* P P 22 03 04.7 +1.3
ECSD **EROS Data Cent** 81.11 39 P P 22 03 04.3 +0.7
baz=318,SNR=67
ECSD **EROS Data Cent** 81.11 39 *e*P P 22 03 04.0 +0.4
comp=Z,419nm,1.4s
ARSA **Arzberg** 81.15 327 *i* P P 22 03 04.6 +0.8
comp=Z,22nm,0.8s,SNR=50
L31A **Butterfield Fa** 81.15 41 P P 22 03 04.4 +0.5
baz=317,SNR=20
KULA **Kula-Manisa** 81.17 313 P P 22 03 04.9 +0.8
KULA **Kula-Manisa** 81.17 313 P P 22 03 04.9 +0.8
MOA **Molln** 81.20 328 *i* P P 22 03 04.9 +0.9
comp=Z,91nm,1.3s,SNR=25
ALFC **Alefka** 81.21 309 P P 22 03 05.1 +0.8
TUC **Tucson** 81.21 55 P P 22 03 06.1 +1.7
baz=312
TUC **Tucson** 81.21 55 PFAKE 22 03 20.0 +16
TUC LR LR
comp=Z,31µm,22.0s
BEHE **Becsehely** 81.22 325⇑ *e*P P 22 03 04.8 +0.7
H35A **Sunnyside Ranc** 81.23 37 P P 22 03 04.9 +0.7
baz=319,SNR=62
K32A **Verdigre** 81.23 40 P P 22 03 05.1 +0.8
baz=318
I34A **Hadley** 81.24 38 P P 22 03 04.9 +0.6
baz=319
RAR **Rarotonga** 81.24 127 LR LR 22 32 29.1
comp=Z,43µm,21.4s,baz=314,slow=31
RAR **Rarotonga** 81.24 127 PFAKE 22 03 20.0 +16
RAR LR LR
comp=Z,44µm,21.0s
J33A **Davis** 81.24 39 P P 22 03 05.3 +1.0
baz=318
KESW **Keswick, Cumbr** 81.29 341⇑ *e*P P 22 03 03.9 -0.4
KESW AMS AMS 22 43 39.0
comp=Z,45µm,19.1s
SZAC **Souni** 81.31 308 P P 22 03 05.5 +0.7
G36A **St. Michael** 81.32 36 P P 22 03 05.0 +0.3
baz=320,SNR=5.4
KSCO **Kaye Shedlock'** 81.43 46 P P 22 03 06.2 +0.7
baz=315,SNR=7.7
KSCO **Kaye Shedlock'** 81.43 46 *e*P P 22 03 07.4 +1.8
comp=Z,433nm,1.4s
KSCO LR LR
comp=Z,22µm,20.0s
GAL1 **Galloway** 81.44 342⇑ *e*P P 22 03 05.6 +0.5
GAL1 AMS AMS 22 45 02.9
comp=Z,13µm,17.1s
AKMC **Akamas** 81.45 309 P P 22 03 06.1 +0.5
HPK **Haverah Park** 81.46 339⇑ *e*P P 22 03 06.2 +0.9
HPK AMS AMS 22 43 03.8
comp=Z,45µm,20.8s
GADA **Gvkgeada** 81.48 316 P P 22 03 05.6 0.0
GADA **Gvkgeada** 81.48 316 *e*P P 22 03 05.6 0.0
EZN **Ezine** 81.52 316 P P 22 03 05.9 +0.1
EZN **Ezine** 81.52 316 *e*P P 22 03 05.9 +0.1
EZN **Ezine** 81.52 316 *e*P P 22 03 05.9 +0.1
DNZL **Cakiroluk** 81.53 313 *i* P P 22 03 00.2 -5.9
PPCY **Paphos** 81.54 309 P P 22 03 06.0 0.0
LMK **Market Rasen** 81.55 339⇑ *e*P P 22 03 05.4 -0.3
DIVS **Divibare** 81.57 322 P P 22 03 06.2 +0.1
MMB **Musomiste** 81.60 318 *i* P P 22 03 07.2 +0.9
KAVA **Kavala** 81.63 317 P P 22 03 05.6 -0.8
KAVA **Kavala** 81.63 317 *e*P P 22 03 05.6 -0.8
BOZC **Bozcaada** 81.65 316 *i* P P 22 03 04.2 -2.4
M31A **Lambtecht Nanc** 81.69 42 P P 22 03 07.2 +0.4
baz=317
L32A **Elgin** 81.70 41 P P 22 03 07.1 +0.3
baz=318,SNR=7.7
NVR **Nevrokopi** 81.71 318 P P 22 03 06.7 -0.1
NVR **Nevrokopi** 81.71 318 P P 22 03 06.7 -0.1
KKB **Krupnik** 81.72 319 *i* P P 22 03 07.7 +0.8
H36A **Jessenland, He** 81.74 37 P P 22 03 07.9 +1.0
baz=320,SNR=17
T25A **Trinidad** 81.75 48 P P 22 03 09.1 +1.7
baz=315,SNR=47
T25A **Trinidad** 81.75 48 *e*P P 22 03 08.6 +1.2
comp=Z,189nm,1.0s
T25A LR LR
comp=Z,17µm,22.0s
K33A **Hardington** 81.76 40 P P 22 03 07.8 +0.7
baz=318
SPMN **Marine on St.** 81.76 36 P P 22 03 07.2 +0.2
baz=321,SNR=16
SPMN **Marine on St.** 81.76 36 *e*P P 22 03 07.4 +0.4
comp=Z,93nm,1.0s
SPMN LR LR
comp=Z,30µm,19.0s
J34A **George** 81.76 39 P P 22 03 08.2 +1.1
baz=319
I35A **Creekview Farm** 81.80 38 P P 22 03 07.9 +0.7
baz=319,SNR=5.4
PERS **Pernice** 81.80 326 *i* P P 22 03 07.8 +0.6
SOKA **Soboth** 81.81 326 *i* P P 22 03 07.9 +0.6
comp=Z,293nm,1.1s,SNR=207
IDGL **Inch Island, C** 81.90 343⇑ *e*P P 22 03 08.2 +0.7
HGN **Heimansgroeve** 81.94 334 *i* P P 22 03 08.2 +0.3
comp=Z,2µm,3.2s
HGN *e*PP PP 22 06 17.6 +2.8
HGN *e*S S 22 13 16.5 -2.7
HGN *e*SS SS 22 18 36.4 -0.4
L33A **Hoskins** 81.95 40 P P 22 03 09.0 +0.9
baz=318
PRK **Paraskevi** 81.96 315 P P 22 03 08.4 +0.3
PRK **Paraskevi** 81.96 315 P P 22 03 08.4 +0.3
PRK **Paraskevi** 81.96 315 P P 22 03 08.4 +0.3
BEBN **Eben Emael** 82.00 334 P P 22 03 08.4 +0.3
SRS **Serrai** 82.02 318 P P 22 03 07.9 -0.5
SRS **Serrai** 82.02 318 *e*P P 22 03 07.9 -0.5
SRS **Serrai** 82.02 318 *e*P P 22 03 07.9 -0.5
LAZ **Ladron** 82.04 51 *e*P P 22 03 11.1 +2.1
LAZ *e*S S 22 13 26.2 +4.8
MEM **Membach** 82.05 334 P P 22 03 08.7 +0.3
J35A **Milford** 82.06 38 P P 22 03 09.7 +1.1
baz=319
BGNE **Belgrade** 82.07 41 P P 22 03 09.9 +1.2
baz=318,SNR=8.5
BGNE **Belgrade** 82.07 41 *e*P P 22 03 09.7 +0.9
comp=Z,604nm,1.3s
BGNE LR LR
comp=Z,57µm,22.0s
LIA **Limnos Island** 82.07 316 P P 22 03 08.4 -0.3
LIA **Limnos Island** 82.07 316 P P 22 03 08.4 -0.3
ANMO **Albuquerque** 82.08 51 P P 22 03 10.9 +1.8
baz=314
ANMO **Albuquerque** 82.08 51 *e*P P 22 03 11.2 +2.1
ANMO pmax pmax
comp=Z,179nm,1.3s
ANMO MLR MLR
comp=Z,25µm,22.0s
ANMO **Albuquerque** 82.08 51 *e*P P 22 03 11.2 +2.1
comp=Z,179nm,1.3s
ANMO LR LR
comp=Z,25µm,22.0s
WIM **Isle of Man** 82.08 341⇑ *i*P P 22 03 09.2 +0.7
N31A **Bailey Ranch,** 82.08 42 P P 22 03 09.2 +0.4
baz=317,SNR=8.3
I36A **Fitzsimmons Fa** 82.13 37 P P 22 03 09.9 +1.0
baz=320
K34A **Le Mars** 82.14 39 P P 22 03 09.5 +0.4
baz=319
OBKA **Obir** 82.14 327 *i* P P 22 03 09.4 +0.2
comp=Z,181nm,1.4s,SNR=58
SISC **Sisak** 82.17 325 P P 22 03 09.7 +0.6
KBA **Koelnbreinsper** 82.19 328 *i* P P 22 03 10.0 +0.5
SNR=83
H37A **Dierke Farm, C** 82.20 36 P P 22 03 10.2 +0.9
baz=321
SIGR **SIGRI** 82.21 315 P P 22 03 08.6 -0.8
SIGR **SIGRI** 82.21 315 *e*P P 22 03 08.6 -0.8
AKAS **Kas** 82.23 311 *i* P P 22 03 01.6 -8.2
SCHQ **Schefferville** 82.29 17 P P 22 03 09.8 +0.2
comp=Z,63nm,0.8s,baz=349,slow=4.2,SNR=1.3
SCHQ S S 22 13 24.3 +1.6
comp=Z,6.7nm,1.0s,baz=113,slow=14,SNR=6.5
SCHQ LR LR 22 41 21.7
comp=Z,60µm,21.9s,baz=342,slow=37
SCHQ **Schefferville** 82.29 17 *e*P P 22 03 09.8 +0.2
comp=Z,327nm,1.5s
SCHQ *e*S S 22 13 24.3 +1.6
SCHQ LR LR
comp=Z,65µm,22.0s
KSL **Kastellorizon** 82.30 311 P P 22 03 08.8 -1.2
KSL **Kastellorizon** 82.30 311 *e*P P 22 03 08.8 -1.2
GMM **Mts of Mourne** 82.31 342⇑ *e*P P 22 03 10.0 +0.4
KNT **Kendrikon** 82.34 318 P P 22 03 10.9 +0.8
KNT **Kendrikon** 82.34 318 P P 22 03 10.9 +0.8
KNT **Kendrikon** 82.34 318 P P 22 03 10.9 +0.8
YER **Yerkesik** 82.35 313 P P 22 03 10.4 +0.1
YER **Yerkesik** 82.35 313 *e*P P 22 03 10.4 +0.1
YER **Yerkesik** 82.35 313 *e*P P 22 03 10.4 +0.1
SOH **Sokhos** 82.36 318 P P 22 03 09.8 -0.5
SOH **Sokhos** 82.36 318 *e*P P 22 03 09.8 -0.5
SOH **Sokhos** 82.36 318 *e*P P 22 03 09.8 -0.5
O31A **Woolen Ranch,** 82.38 43 P P 22 03 11.5 +1.1
baz=317
OUR **Ouranopolis** 82.39 317 P P 22 03 09.8 -0.5
OUR **Ouranopolis** 82.39 317 *e*P P 22 03 09.8 -0.5
OUR **Ouranopolis** 82.39 317 *e*P P 22 03 09.8 -0.5
VAY **Valandovo** 82.39 319 P P 22 03 10.4 +0.1
VAY **Valandovo** 82.39 319 *i*P P 22 03 10.9 +0.6
VAY **Valandovo** 82.39 319 *e*P P 22 03 10.4 +0.1
VAY **Valandovo** 82.39 319 *e*P P 22 03 10.4 +0.1
STNC **Stoke** 82.39 339⇑ *e*P P 22 03 11.0 +0.9
STNC AMS AMS 22 43 43.0
comp=Z,38µm,20.8s
Y22D **IRIS PASSCAL I** 82.40 52 P P 22 03 13.0 +2.2
baz=314
Y22D **IRIS PASSCAL I** 82.40 52 PFAKE 22 03 20.0 +9.2
Y22D LR LR
comp=Z,37µm,22.0s
LPM **Los Pinos Moun** 82.41 51 *e*P P 22 03 12.7 +1.9
I37A **Lemond, Wasaca** 82.42 37 P P 22 03 11.2 +0.7
baz=320,SNR=40
M33A **Taylor Creek F** 82.43 41 P P 22 03 10.9 +0.3
baz=318,SNR=7.5
MYKA **Terra Mystica** 82.43 327 *i* P P 22 03 10.6 0.0
comp=Z,298nm,1.5s,SNR=67
UCC **Uccle** 82.44 335 P P 22 03 10.9 +0.5
PLE **Pljevlja** 82.44 322⇑ *i*P P 22 03 11.1 +0.3

STU	**Stuttgart**	**82.45**	**331**	*e*P		**P**		**22 03 11.2**	**+0.6**
STU				pmax		pmax			
	comp=Z,299nm,1.0s								
STU				MLR		MLR			
	comp=Z,70µm,18.0s								
STU	**Stuttgart**	**82.45**	**331**	*e*P		**P**		**22 03 11.2**	**+0.6**
	comp=Z,299nm,1.0s								
STU				LR		LR			
	comp=Z,70µm,18.0s								
BCLA	**Clavier**	**82.45**	**334**	P		**P**		**22 03 10.7**	**+0.2**
CWF	**Charnwood Fore**	**82.46**	**339⇑**	*e*P		**P**		**22 03 10.1**	**-0.4**
CWF				AMS		AMS		22 43 51.9	
	comp=Z,40µm,19.9s								
CWF	**Charnwood Fore**	**82.46**	**339**	*e*P		**P**		**22 03 11.2**	**+0.6**
	comp=Z,166nm,1.0s								
CWF				LR		LR			
	comp=Z,52µm,20.0s								
N32A	**Stulken Farm,**	**82.47**	**42**	P		**P**		**22 03 11.4**	**+0.5**
	baz=318								
SKO	**Skopje**	**82.47**	**320**	P		**P**		**22 03 11.8**	**+1.0**
SKO	**Skopje**	**82.47**	**320⇑**	*i*P		**P**		**22 03 11.9**	**+1.1**
SKO	**Skopje**	**82.47**	**320**	*e*P		**P**		**22 03 11.8**	**+1.0**
SKO	**Skopje**	**82.47**	**320**	*e*P		**P**		**22 03 11.8**	**+1.0**
DGB	**˜zmir**	**82.48**	**314**	*i* P		**P**		**22 03 06.7**	**-4.1**
J36A	**Seneca 1, Swea**	**82.50**	**38**	P		**P**		**22 03 11.3**	**+0.3**
	baz=320,SNR=10								
BNM	**Barren Site**	**82.52**	**51**	*e*P		**P**		**22 03 13.4**	**+1.9**
LJU	**Ljubljana**	**82.52**	**326**	*i* P		**P**		**22 03 11.0**	**0.0**
LJU				*i* PP		**PP**		**22 06 22.4**	**+2.7**
LJU				*e*				22 08 10.7	
LJU				*i* S		**S**		**22 13 22.0**	**-3.4**
LJU				*e*SS		SS		22 18 59.3	+14
K35A	**Storm Lake**	**82.53**	**39**	P		**P**		**22 03 11.6**	**+0.4**
	baz=319								
L34A	**Svendsen Farm,**	**82.54**	**40**	P		**P**		**22 03 11.4**	**+0.2**
	baz=319								
IVA	**Berane**	**82.55**	**321⇑**	*i*P		**P**		**22 03 12.1**	**+0.8**
TAU	**Tasmania Unive**	**82.62**	**176⇑**	*e*P		**PcP**		**22 03 19.3**	**+3.3**
TAU				MLR		MLR			
	comp=Z,23µm,21.0s								
TAU	**Tasmania Unive**	**82.62**	**176**	*e*PcP		**PcP**		**22 03 19.3**	**+3.3**
TAU				LR		LR			
	comp=Z,23µm,21.0s								
BOJS	**Bojanci**	**82.64**	**326**	*i* P		**P**		**22 03 11.8**	**+0.2**
BOJS				*e*S		**S**		**22 13 23.4**	**-3.2**
PLG	**Polygyros**	**82.64**	**318**	P		**P**		**22 03 10.9**	**-0.8**
PLG	**Polygyros**	**82.64**	**318**	P		**P**		**22 03 10.9**	**-0.8**
PLG	**Polygyros**	**82.64**	**318**	P		**P**		**22 03 10.9**	**-0.8**
HORT	**Hortiatis**	**82.65**	**318**	P		**P**		**22 03 11.0**	**-0.9**
HORT	**Hortiatis**	**82.65**	**318**	P		**P**		**22 03 11.0**	**-0.9**
COWI	**Conover**	**82.67**	**33**	*e*P		**P**		**22 03 12.3**	**+0.5**
	comp=Z,93nm,1.1s								
WPM1	**Penmaenmawr**	**82.69**	**340⇑**	*e*P		**P**		**22 03 12.2**	**+0.5**
CHOS	**Chios island**	**82.69**	**315**	P		**P**		**22 03 12.2**	**+0.1**
CHOS	**Chios island**	**82.69**	**315**	P		**P**		**22 03 12.2**	**+0.1**
THE	**Thessaloniki**	**82.69**	**318**	P		**P**		**22 03 11.6**	**-0.3**
THE	**Thessaloniki**	**82.69**	**318**	*e*P		**P**		**22 03 11.6**	**-0.3**
THE	**Thessaloniki**	**82.69**	**318**	*e*P		**P**		**22 03 11.6**	**-0.3**
WATA	**Walderalm**	**82.70**	**329**	*i* P		**P**		**22 03 12.6**	**+0.5**
	comp=Z,48nm,0.5s,SNR=74								
SNF	**Seneffe**	**82.71**	**335**	P		**P**		**22 03 12.3**	**+0.5**
WPS	**Cemaes, Angles**	**82.72**	**341⇑**	*e*P		**P**		**22 03 11.7**	**-0.1**
WPS				AMS		AMS		22 44 33.3	
	comp=Z,40µm,18.5s								
PVY	**Plav**	**82.72**	**321⇑**	*i*P		**P**		**22 03 12.3**	**0.0**
WTTA	**Wattenberg**	**82.74**	**329**	*i* P		**P**		**22 03 12.9**	**+0.6**
	comp=Z,59nm,0.7s,SNR=34								
GRG	**Griva**	**82.74**	**319**	P		**P**		**22 03 12.0**	**-0.3**
GRG	**Griva**	**82.74**	**319**	*e*P		**P**		**22 03 12.0**	**-0.3**
GRG	**Griva**	**82.74**	**319**	*e*P		**P**		**22 03 12.0**	**-0.3**
SMG	**Samos**	**82.75**	**314**	P		**P**		**22 03 12.2**	**-0.1**
SMG	**Samos**	**82.75**	**314**	P		**P**		**22 03 12.2**	**-0.1**
UPM	**Unac-Piva**	**82.77**	**322⇑**	*i*P		**P**		**22 03 12.4**	**-0.1**
319A	**Douglas**	**82.78**	**55**	PFAKE				22 03 30.0	+17
319A				LR		LR			
	comp=Z,28µm,20.0s								
LANF	**Langenberg**	**82.78**	**332⇑**	*e*P		**P**		**22 03 12.9**	**+0.6**
M34A	**Aspy Farms, Fr**	**82.79**	**40**	P		**P**		**22 03 12.8**	**+0.3**
	baz=319,SNR=7.3								
WLF1	**Llynfaes**	**82.79**	**341⇑**	*e*P		**P**		**22 03 12.7**	**+0.5**
WLF1				AMS		AMS		22 44 35.7	
	comp=Z,77µm,18.5s								
WLF	**Walferdange**	**82.80**	**333**	P		**P**		**22 03 13.0**	**+0.7**
WLF	**Walferdange**	**82.80**	**333**	*e*P		**P**		**22 03 12.8**	**+0.5**
WLF				pmax		pmax			
	comp=Z,140nm,1.1s								
WLF				MLR		MLR			
	comp=Z,114µm,20.0s								
WLF	**Walferdange**	**82.80**	**333**	*e*P		**P**		**22 03 12.8**	**+0.5**
	comp=Z,140nm,1.1s								
WLF				LR		LR			
	comp=Z,114µm,20.0s								
ABTA	**Abfaltersbach**	**82.80**	**328**	*i* P		**P**		**22 03 12.1**	**-0.4**
	comp=Z,107nm,1.0s,SNR=46								
JAVS	**Javornik**	**82.84**	**327**	*i* P		**P**		**22 03 12.2**	**-0.6**
FOEL	**Foel Wylfa**	**82.84**	**340⇑**	*e*P		**P**		**22 03 13.5**	**+1.0**
FOEL				AMS		AMS		22 43 57.1	
	comp=Z,46µm,20.9s								
L35A	**Bielow Farm, R**	**82.84**	**39**	P		**P**		**22 03 13.3**	**+0.6**
	baz=319								
PAIG	**Paliouri**	**82.84**	**317**	P		**P**		**22 03 11.4**	**-1.3**
PAIG	**Paliouri**	**82.84**	**317**	*e*P		**P**		**22 03 11.4**	**-1.3**
PAIG	**Paliouri**	**82.84**	**317**	*e*P		**P**		**22 03 11.4**	**-1.3**
O32A	**Brockman Farm,**	**82.85**	**42**	P		**P**		**22 03 12.9**	**0.0**
	baz=318								
YLL	**Llanberis**	**82.87**	**340⇑**	*e*P		**P**		**22 03 13.3**	**+0.7**
BDRM	**Kayabasi**	**82.87**	**313**	*i* P		**P**		**22 03 09.3**	**-3.6**
MOTA	**Moosalm**	**82.88**	**329**	*i* P		**P**		**22 03 13.6**	**+0.5**
	comp=Z,149nm,0.9s,SNR=140								
J37A	**Redenius Farm,**	**82.89**	**38**	P		**P**		**22 03 13.4**	**+0.4**
	baz=320,SNR=22								
I38A	**Scanlan Farm,**	**82.89**	**36**	P		**P**		**22 03 12.9**	**-0.1**
	baz=321,SNR=18								
RETA	**Reutte**	**82.90**	**329**	*i* P		**P**		**22 03 13.8**	**+0.8**
	comp=Z,155nm,0.9s,SNR=60								
121A	**Cookes Peak, D**	**82.93**	**53**	P		**P**		**22 03 15.1**	**+1.5**
	baz=314,SNR=21								
BODT	**Bodrum**	**82.95**	**313**	P		**P**		**22 03 12.6**	**-0.8**
BODT	**Bodrum**	**82.95**	**313**	*e*P		**P**		**22 03 12.6**	**-0.8**
DOU	**Dourbes**	**82.96**	**334**	P		**P**		**22 03 13.2**	**+0.1**
K36A	**Gilmore City**	**82.97**	**39**	P		**P**		**22 03 14.1**	**+0.7**
	baz=320,SNR=16								
NKY	**Niksic**	**83.02**	**322⇑**	*i*P		**P**		**22 03 13.8**	**0.0**
NKME	**Niksic**	**83.08**	**322⇑**	*i*P		**P**		**22 03 13.9**	**-0.1**
YRE	**Yr Eifl**	**83.08**	**341⇑**	*e*P		**P**		**22 03 14.1**	**+0.4**
ARG	**Arkhangelos**	**83.09**	**312**	P		**P**		**22 03 14.2**	**+0.1**
ARG	**Arkhangelos**	**83.09**	**312**	P		**P**		**22 03 14.2**	**+0.1**
ARG	**Arkhangelos**	**83.09**	**312**	P		**P**		**22 03 14.2**	**+0.1**
HLM1	**Long Mynd**	**83.09**	**340⇑**	*e*P		**P**		**22 03 14.3**	**+0.5**
TRI	**Trieste**	**83.11**	**327**	*e*P		**P**		**22 03 13.5**	**-0.5**
TRI				pmax		pmax			
	comp=Z,260nm,1.2s								
TRI				MLR		MLR			
	comp=Z,102µm,19.0s								
TRI	**Trieste**	**83.11**	**327**	*e*P		**P**		**22 03 13.5**	**-0.5**
	comp=Z,260nm,1.2s								
TRI				LR		LR			
	comp=Z,102µm,19.0s								
BFO	**Black Forest**	**83.14**	**331**	*e*P		**P**		**22 03 14.5**	**+0.3**
BFO				pmax		pmax			
	comp=Z,170nm,1.1s								
BFO				MLR		MLR			
	comp=Z,53µm,20.0s								
BFO	**Black Forest**	**83.14**	**331**	*e*P		**P**		**22 03 14.5**	**+0.3**
	comp=Z,170nm,1.1s								
BFO				LR		LR			
	comp=Z,53µm,20.0s								
CBKS	**Cedar Bluff**	**83.14**	**44**	P		**P**		**22 03 14.6**	**+0.3**
	baz=317,SNR=12								
CBKS	**Cedar Bluff**	**83.14**	**44**	*e*P		**P**		**22 03 14.9**	**+0.5**
CBKS				pmax		pmax			
	comp=Z,372nm,1.3s								
CBKS	**Cedar Bluff**	**83.14**	**44**	*e*P		**P**		**22 03 14.9**	**+0.5**
	comp=Z,372nm,1.3s								
P32A	**Huiting Farm,**	**83.15**	**43**	P		**P**		**22 03 14.4**	**0.0**
	baz=318,SNR=14								
ELSH	**Elham, Standar**	**83.16**	**337⇑**	*e*P		**P**		**22 03 13.9**	**-0.2**
ELSH				AMS		AMS		22 42 44.7	
	comp=Z,56µm,22.2s								
BRY	**Bratogost**	**83.17**	**322⇑**	*i*P		**P**		**22 03 14.3**	**-0.3**
UDBI	**Udbina**	**83.18**	**325**	P		**P**		**22 03 14.3**	**-0.2**
PDG	**Podgorica**	**83.19**	**321**	P		**P**		**22 03 14.4**	**-0.1**
TTG	**Podgorica**	**83.19**	**321⇑**	*i*P		**P**		**22 03 14.8**	**+0.3**
TTG	**Podgorica**	**83.19**	**321**	P		**P**		**22 03 14.4**	**-0.1**
TTG	**Podgorica**	**83.19**	**321**	P		**P**		**22 03 14.4**	**-0.1**
M35A	**Neola**	**83.25**	**40**	P		**P**		**22 03 15.7**	**+0.8**
	baz=319,SNR=19								
CEME	**Cevo**	**83.26**	**322⇑**	*i*P		**P**		**22 03 14.8**	**-0.2**
K37A	**Belmond**	**83.26**	**38**	P		**P**		**22 03 15.4**	**+0.6**
	baz=320,SNR=38								
L36A	**Harm Buss Farm**	**83.28**	**39**	P		**P**		**22 03 15.4**	**+0.4**
	baz=320								
FETA	**Feichten**	**83.30**	**329**	*i* P		**P**		**22 03 15.7**	**+0.5**
	comp=Z,218nm,1.1s,SNR=72								
HSIG		**83.30**	**58**	*e*P		**P**		**22 03 16.7**	**+1.4**
	comp=Z,82nm,1.1s								
SSW	**Stow on the Wo**	**83.30**	**339⇑**	*i*P		**P**		**22 03 15.5**	**+0.6**
DSB	**Dublin**	**83.32**	**342**	*e*P		**P**		**22 03 15.8**	**+0.8**
	comp=Z,457nm,1.7s								
DSB				LR		LR			
	comp=Z,32µm,20.0s								
N34A	**Lincoln**	**83.33**	**41**	P		**P**		**22 03 15.1**	**-0.2**
	baz=319,SNR=12								
LIT	**Litokhoron**	**83.33**	**318**	P		**P**		**22 03 14.8**	**-0.5**
LIT	**Litokhoron**	**83.33**	**318**	*e*P		**P**		**22 03 14.8**	**-0.5**
LIT	**Litokhoron**	**83.33**	**318**	*e*P		**P**		**22 03 14.8**	**-0.5**
O33A	**Hebron**	**83.34**	**42**	P		**P**		**22 03 15.4**	**+0.1**
	baz=318,SNR=7.6								
NISR	**Nisiros**	**83.37**	**313**	P		**P**		**22 03 15.3**	**-0.2**
NISR	**Nisiros**	**83.37**	**313**	*e*P		**P**		**22 03 15.3**	**-0.2**
J38A	**Wedel Dairy, R**	**83.38**	**37**	P		**P**		**22 03 15.8**	**+0.3**
	baz=321,SNR=22								
FNA	**Florina**	**83.39**	**319**	P		**P**		**22 03 15.2**	**-0.4**
FNA	**Florina**	**83.39**	**319**	P		**P**		**22 03 15.2**	**-0.4**
FNA	**Florina**	**83.39**	**319**	P		**P**		**22 03 15.2**	**-0.4**
DRME	**Dracevica, Mon**	**83.41**	**321⇑**	*i*P		**P**		**22 03 16.1**	**+0.5**
DAVA	**Damuels**	**83.41**	**330**	*i* P		**P**		**22 03 16.3**	**+0.5**
	comp=Z,230nm,1.1s,SNR=83								
OHR	**Ohrid**	**83.43**	**320⇑**	*i*P		**P**		**22 03 15.8**	**-0.1**
BUM	**Brajici-Budva**	**83.46**	**322⇑**	*i*P		**P**		**22 03 15.9**	**-0.1**
SKIA	**Skiathos**	**83.51**	**317**	P		**P**		**22 03 15.9**	**-0.3**
HCY	**Herceg Novi**	**83.54**	**322⇑**	*i*P		**P**		**22 03 16.0**	**-0.3**
NEO	**Neokhori**	**83.54**	**317**	P		**P**		**22 03 15.3**	**-1.1**
NEO	**Neokhori**	**83.54**	**317**	P		**P**		**22 03 15.3**	**-1.1**
NVLJ	**Novalja**	**83.55**	**325**	P		**P**		**22 03 15.9**	**-0.4**
KZN	**Kozani**	**83.55**	**319**	P		**P**		**22 03 15.8**	**-0.7**
KZN	**Kozani**	**83.55**	**319**	P		**P**		**22 03 15.8**	**-0.7**
KZN	**Kozani**	**83.55**	**319**	P		**P**		**22 03 15.8**	**-0.7**
ULC	**Ulcinj**	**83.55**	**321⇑**	*i*P		**P**		**22 03 16.4**	**0.0**
HIZ	**Hauiti**	**83.56**	**155**	PFAKE				22 03 30.0	+14
HIZ				LR		LR			
	comp=Z,20µm,20.0s								
STRD	**Stroud**	**83.56**	**339⇑**	*e*P		**P**		**22 03 17.0**	**+0.7**
MCH1	**Michaelchurch**	**83.59**	**339⇑**	*i*P		**P**		**22 03 16.7**	**+0.4**
MCH1				AMS		AMS		22 44 29.8	
	comp=Z,47µm,19.7s								
FYTO	**Fytoko, Volos**	**83.61**	**317**	P		**P**		**22 03 16.0**	**-0.7**
FYTO	**Fytoko, Volos**	**83.61**	**317**	*e*P		**P**		**22 03 16.0**	**-0.7**
Q32A	**Meitler Ranch,**	**83.63**	**43**	P		**P**		**22 03 17.2**	**+0.3**
	baz=318,SNR=14								
HMNX	**Herstmonceux**	**83.64**	**337⇑**	*e*P		**P**		**22 03 17.3**	**+0.6**
HMNX				AMS		AMS		22 43 24.6	
	comp=Z,54µm,21.2s								
ECH	**Echery**	**83.66**	**332⇑**	*e*P		**P**		**22 03 17.2**	**+0.3**
MONM	**Monmouth**	**83.68**	**339⇑**	*e*P		**P**		**22 03 16.4**	**-0.4**
MONM				AMS		AMS		22 44 42.8	
	comp=Z,46µm,19.9s								
SWN1	**Swindon**	**83.69**	**338⇑**	*e*P		**P**		**22 03 17.8**	**+0.9**
SWN1				AMS		AMS		22 43 48.4	
	comp=Z,39µm,22.6s								
L37A	**Phoenix Point,**	**83.70**	**38**	P		**P**		**22 03 17.5**	**+0.3**
	baz=320,SNR=18								
M36A	**Felix, Anita**	**83.70**	**40**	P		**P**		**22 03 17.7**	**+0.6**
	baz=320,SNR=14								
WOL	**Wolverton**	**83.71**	**338⇑**	*e*P		**P**		**22 03 16.9**	**-0.1**
WOL				AMS		AMS		22 43 59.0	
	comp=Z,65µm,19.5s								
TIR	**Tirane**	**83.72**	**320**	*e*P		**P**		**22 03 17.6**	**+0.4**
TIR				pmax		pmax			
	comp=Z,398nm,0.9s								
TIR				MLR		MLR			
	comp=Z,129µm,21.0s								
TIR	**Tirane**	**83.72**	**320**	*e*P		**P**		**22 03 17.6**	**+0.4**
	comp=Z,398nm,0.9s								
TIR				LR		LR			
	comp=Z,129µm,21.0s								
O34A	**Beatrice**	**83.72**	**41**	P		**P**		**22 03 17.2**	**-0.1**
	baz=319,SNR=22								
J39A	**Decorah**	**83.72**	**37**	P		**P**		**22 03 17.1**	**-0.2**
	baz=321,SNR=24								
N35A	**Tabor**	**83.74**	**40**	P		**P**		**22 03 17.9**	**+0.6**
	baz=319,SNR=6.4								
P33A	**Williams Farm,**	**83.76**	**43**	P		**P**		**22 03 17.8**	**+0.3**
	baz=318								
K38A	**Parkersburg**	**83.76**	**38**	P		**P**		**22 03 17.8**	**+0.3**
	baz=321,SNR=8.9								
LPW	**Lampeter**	**83.77**	**340⇑**	*e*P		**P**		**22 03 17.9**	**+0.6**
LPW				AMS		AMS		22 44 13.0	
	comp=Z,39µm,22.0s								
OLDB	**Oldbury-Upon-S**	**83.77**	**339⇑**	*e*P		**P**		**22 03 16.7**	**-0.5**
OLDB				AMS		AMS		22 43 19.5	
	comp=Z,40µm,21.9s								
FUORN	**Ofenpass-Fuorn**	**83.81**	**329**	*e*P		**P**		**22 03 18.8**	**+0.8**
	comp=Z,770nm,1.3s								
FUORN				LR		LR			
	comp=Z,78µm,18.0s								
DAVOX	**Davos/Dischmat**	**83.83**	**329**	LR		LR		22 45 52.1	
	comp=Z,112µm,18.4s,baz=20,slow=39								
NEST	**Nestorio**	**83.83**	**319**	P		**P**		**22 03 17.4**	**-0.6**
IGLA	**Glengowla, Co**	**83.85**	**343⇑**	*e*P		**P**		**22 03 17.8**	**+0.2**
SMIA	**Simia**	**83.86**	**317**	P		**P**		**22 03 17.2**	**-0.9**
MXZ	**Matakaoa Point**	**83.89**	**152**	PFAKE				22 03 30.0	+12
MXZ				LR		LR			
	comp=Z,35µm,21.0s								
BATH	**Bath**	**83.91**	**339⇑**	*e*P		**P**		**22 03 17.9**	**0.0**
BATH				AMS		AMS		22 43 56.6	
	comp=Z,40µm,22.1s								
APE	**Apeiranthos**	**83.93**	**314**	P		**P**		**22 03 16.1**	**-2.4**
APE	**Apeiranthos**	**83.93**	**314**	*e*P		**P**		**22 03 16.1**	**-2.4**
APE	**Apeiranthos**	**83.93**	**314**	*e*P		**P**		**22 03 16.1**	**-2.4**
PENT	**Pentalofos**	**83.95**	**319**	P		**P**		**22 03 17.8**	**-0.8**
R32A	**Long Quarter,**	**83.97**	**44**	P		**P**		**22 03 18.9**	**+0.3**
	baz=318								
THL	**Klokotos Trika**	**83.97**	**318**	P		**P**		**22 03 17.1**	**-1.5**
MOF	**Molkenrain**	**83.98**	**332⇑**	*e*P		**P**		**22 03 18.7**	**+0.1**
Q33A	**Connelly Farm,**	**84.01**	**43**	P		**P**		**22 03 19.2**	**+0.4**
	baz=318,SNR=18								
KPRO	**Kipourio**	**84.02**	**319**	P		**P**		**22 03 17.8**	**-1.1**
O35A	**Humboldt**	**84.05**	**41**	P		**P**		**22 03 19.3**	**+0.3**
	baz=319								
L38A	**Oak Wood Farm,**	**84.06**	**38**	P		**P**		**22 03 19.3**	**+0.3**
	baz=321,SNR=16								
URZ	**Urewera**	**84.09**	**153**	LR		LR		22 37 50.9	
	comp=Z,26µm,20.6s,baz=334,slow=34								
URZ	**Urewera**	**84.09**	**153**	*e*P		**P**		**22 03 19.9**	**+1.1**
	comp=Z,81nm,1.0s								
URZ				LR		LR			
	comp=Z,32µm,21.0s								
ATAL	**Atalanti**	**84.10**	**317**	P		**P**		**22 03 18.1**	**-1.1**
ATAL	**Atalanti**	**84.10**	**317**	*e*P		**P**		**22 03 18.1**	**-1.1**
M37A	**Trindle Farm,**	**84.10**	**39**	P		**P**		**22 03 20.3**	**+1.1**
	baz=320								
N36A	**Muff Farm, Cla**	**84.11**	**40**	P		**P**		**22 03 20.4**	**+1.1**
	baz=320								
KARP	**Karpathos**	**84.11**	**312**	P		**P**		**22 03 19.3**	**-0.1**
KARP	**Karpathos**	**84.11**	**312**	P		**P**		**22 03 19.3**	**-0.1**
SCIA	**State Center**	**84.12**	**38**	*e*P		**P**		**22 03 20.3**	**+1.0**
	comp=Z,392nm,1.1s								
P34A	**Walnut Farm, R**	**84.12**	**42**	P		**P**		**22 03 19.6**	**+0.2**
	baz=319,SNR=21								
PTL	**Penteli**	**84.12**	**316**	P		**P**		**22 03 17.9**	**-1.5**
PTL	**Penteli**	**84.12**	**316**	*e*P		**P**		**22 03 17.9**	**-1.5**
K39A	**Oelwein**	**84.13**	**37**	P		**P**		**22 03 19.3**	**-0.1**
	baz=321,SNR=25								
LKR	**Lokris**	**84.14**	**317**	P		**P**		**22 03 18.4**	**-1.0**
LKR	**Lokris**	**84.14**	**317**	P		**P**		**22 03 18.4**	**-1.0**
AGG	**Agios Georgios**	**84.22**	**317**	P		**P**		**22 03 18.0**	**-1.9**
AGG	**Agios Georgios**	**84.22**	**317**	*e*P		**P**		**22 03 18.8**	**-1.1**
AGG				pmax		pmax			
	comp=Z,580nm,1.0s								
IWEX	**Carrickbyrne,**	**84.22**	**342⇑**	*e*P		**P**		**22 03 20.3**	**+0.8**
ATHU	**Athens Univers**	**84.23**	**316**	P		**P**		**22 03 18.3**	**-1.6**
ATHU	**Athens Univers**	**84.23**	**316**	*e*P		**P**		**22 03 18.3**	**-1.6**
ATH	**Athens Observa**	**84.26**	**316**	P		**P**		**22 03 18.9**	**-1.1**
ATH	**Athens Observa**	**84.26**	**316**	P		**P**		**22 03 18.9**	**-1.1**
ATH	**Athens Observa**	**84.26**	**316**	P		**P**		**22 03 18.9**	**-1.1**
TUE	**Stuetta**	**84.29**	**330**	*e*P		**P**		**22 03 19.7**	**-0.7**
	comp=Z,247nm,1.1s								
TUE				LR		LR			
	comp=Z,99µm,18.0s								
VLY	**Voula,Athens**	**84.31**	**316**	P		**P**		**22 03 18.6**	**-1.7**
VLY	**Voula,Athens**	**84.31**	**316**	*e*P		**P**		**22 03 18.6**	**-1.7**
VILL	**Villia**	**84.33**	**316**	P		**P**		**22 03 18.8**	**-1.7**
S32A	**Newby Ranch, P**	**84.38**	**44**	P		**P**		**22 03 21.3**	**+0.5**
	baz=318								
R33A	**Olander Ranch,**	**84.44**	**43**	P		**P**		**22 03 21.4**	**+0.4**
	baz=318								
K40A	**Colesburg**	**84.48**	**37**	P		**P**		**22 03 21.4**	**+0.3**
	baz=322,SNR=30								
SANT	**Santorini**	**84.48**	**314**	*e*P		**P**		**22 03 20.1**	**-1.1**
	comp=Z,340nm,1.2s								
SANT				LR		LR			
	comp=Z,55µm,19.0s								
JAN	**Janina**	**84.50**	**319**	P		**P**		**22 03 20.9**	**-0.4**
JAN	**Janina**	**84.50**	**319**	P		**P**		**22 03 20.9**	**-0.4**
JAN	**Janina**	**84.50**	**319**	P		**P**		**22 03 20.9**	**-0.4**
M38A	**Pleasantville**	**84.51**	**39**	P		**P**		**22 03 22.0**	**+0.7**
	baz=321,SNR=13								
LOMF	**Lomont**	**84.51**	**331⇑**	*e*P		**P**		**22 03 21.9**	**+0.6**
N37A	**Lee Faris, Mou**	**84.52**	**40**	P		**P**		**22 03 22.2**	**+0.8**
	baz=320,SNR=14								
THR6	**Thira Island,**	**84.52**	**314**	P		**P**		**22 03 21.1**	**-0.3**
THR6	**Thira Island,**	**84.52**	**314**	*e*P		**P**		**22 03 21.1**	**-0.3**
L39A	**Vinton**	**84.53**	**37**	P		**P**		**22 03 21.8**	**+0.5**
	baz=321,SNR=48								
Q34A	**Chapman**	**84.53**	**42**	P		**P**		**22 03 21.6**	**+0.2**
	baz=319,SNR=9.4								
P35A	**Duane Minner,**	**84.55**	**41**	P		**P**		**22 03 22.2**	**+0.7**
	baz=319,SNR=17								
EVR	**Evrytania**	**84.56**	**318**	P		**P**		**22 03 20.6**	**-1.1**
EVR	**Evrytania**	**84.56**	**318**	P		**P**		**22 03 20.6**	**-1.1**
DSF	**Desfina**	**84.57**	**317**	P		**P**		**22 03 19.9**	**-1.8**
DSF	**Desfina**	**84.57**	**317**	*e*P		**P**		**22 03 19.9**	**-1.8**
KSU1	**Kansas State U**	**84.57**	**42**	P		**P**		**22 03 21.9**	**+0.3**
	baz=319,SNR=12								
KSU1	**Kansas State U**	**84.57**	**42**	*e*P		**P**		**22 03 22.3**	**+0.7**
	comp=Z,271nm,1.4s								
LTK	**Loutraki**	**84.62**	**316**	P		**P**		**22 03 19.5**	**-2.4**
LTK	**Loutraki**	**84.62**	**316**	*e*P		**P**		**22 03 19.5**	**-2.4**
BKZ	**Black Stump Fm**	**84.69**	**154**	*e*P		**P**		**22 03 25.2**	**+3.3**
	comp=Z,215nm,1.7s								
BKZ				LR		LR			
	comp=Z,22µm,20.0s								
JFWS	**Jewell Farm**	**84.71**	**36**	*e*P		**P**		**22 03 22.2**	**-0.1**
JFWS				pmax		pmax			
	comp=Z,94nm,0.9s								
JFWS	**Jewell Farm**	**84.71**	**36**	*e*P		**P**		**22 03 22.2**	**-0.1**
	comp=Z,94nm,0.9s								
ANX	**Ano Chora**	**84.75**	**317**	P		**P**		**22 03 21.5**	**-1.2**
DSL	**Palaion Diasel**	**84.77**	**318**	P		**P**		**22 03 22.3**	**-0.4**
DSL	**Palaion Diasel**	**84.77**	**318**	*e*P		**P**		**22 03 22.3**	**-0.4**
T32A	**Huddler Ranch,**	**84.77**	**45**	P		**P**		**22 03 23.2**	**+0.5**
	baz=318,SNR=37								
THAL	**Thalero**	**84.77**	**317**	P		**P**		**22

comp=Z,21nm,0.3s
VLDQ Val d'Or 85.41 26 eP P 22 03 24.8 -0.8
comp=Z,239nm,1.0s
VLDQ LR LR
comp=Z,37µm,22.0s
VLX Vlachokerasia 85.42 316 P P 22 03 24.8 -1.2
VLX Vlachokerasia 85.42 316 eP P 22 03 24.8 -1.2
VAL Valentia 85.42 343 ⇓iP P 22 03 24.0 -1.6
VAL ePP PP 22 06 43.4 +0.4
VAL Valentia 85.42 343 ⇓iS S 22 13 51.7 -2.5
OG01 Vacheresse 85.42 331⇑eP P 22 03 26.1 +0.2
IDI Anoyia 85.58 313 LR LR 22 46 31.0
comp=Z,33µm,18.8s,baz=46,slow=39
IDI Anoyia 85.58 313 P P 22 03 25.7 -1.1
IDI Anoyia 85.58 313 eP P 22 03 25.7 -1.1
comp=Z,310nm,1.1s
IDI eS S 22 13 58.3 +1.7
IDI LR LR
comp=Z,42µm,20.0s
TVO Taravao 85.61 117 eP P 22 03 27.2 +0.2
comp=Z,32nm,1.1s
TVO Taravao 85.61 117 eT T 23 38 00.2
comp=Z,6.0nm,0.3s
KFL Anninata 85.70 318 P P 22 03 27.1 -0.2
O39A Kirksville 85.72 39 P P 22 03 28.2 +0.8
baz=321,SNR=11
R36A Gordon, Harris 85.72 42 P P 22 03 27.8 +0.4
baz=320,SNR=64
P38A Dawn 85.72 40 P P 22 03 28.2 +0.8
baz=321,SNR=18
VLS Valsamata 85.75 318 P P 22 03 26.9 -0.7
VLS Valsamata 85.75 318 P P 22 03 26.9 -0.7
VLS Valsamata 85.75 318 P P 22 03 26.9 -0.7
U33A Lingo Farm, Me 85.76 45 P P 22 03 28.3 +0.7
baz=318,SNR=6.1
V32A Arapaho 85.78 46 P P 22 03 28.7 +0.9
baz=318,SNR=20
VLC Villacollemand 85.78 328 eP P 22 03 30.0 +2.4
comp=Z,86nm,1.0s
VLC LR LR
comp=Z,50µm,21.0s
S35A Otter Creek Ra 85.78 43 P P 22 03 28.4 +0.7
baz=319,SNR=96
ITM Ithomi 85.80 316 P P 22 03 26.9 -0.9
ITM Ithomi 85.80 316 P P 22 03 26.9 -0.9
T34A McClaskey Farm 85.82 44 P P 22 03 28.6 +0.7
baz=319,SNR=37
SIVA Sivas 85.82 313 P P 22 03 28.1 +0.2
SIVA Sivas 85.82 313 P P 22 03 28.1 +0.2
CCA1 Carnmenellis 85.83 340⇑eP P 22 03 26.9 -0.8
CCA1 AMS AMS 22 45 58.3
comp=Z,36µm,21.3s
JQE Queens East 85.83 338⇑eP P 22 03 27.7 0.0
JRS Jersey 85.85 338⇑eP P 22 03 28.2 +0.4
KYTH Kithira 85.88 315 P P 22 03 26.9 -1.4
KYTH Kithira 85.88 315 eP P 22 03 26.9 -1.4
VAM Vamos 85.88 314 P P 22 03 27.3 -0.9
VAM Vamos 85.88 314 P P 22 03 27.3 -0.9
VAM Vamos 85.88 314 P P 22 03 27.3 -0.9
JSA Saint Aubin 85.88 338⇑eP P 22 03 27.9 0.0
JSA AMS AMS 22 44 31.9
comp=Z,50µm,22.0s
THZ Tophouse 85.93 158 PFAKE 22 03 40.0 +12
THZ LR LR
comp=Z,33µm,21.0s
AQU L'Aquila 85.95 325 eP P 22 03 28.2 -0.4
AQU pmax pmax
comp=Z,382nm,1.1s
AQU L'Aquila 85.95 325 eP P 22 03 28.1 -0.4
comp=Z,382nm,1.1s
IMMV Iera Moni Meta 85.96 314 P P 22 03 27.9 -0.7
BFZ Birch Farm 85.98 155 eP P 22 03 30.6 +2.4
comp=Z,82nm,0.9s
BFZ LR LR
comp=Z,28µm,20.0s
ZKS Zakynthos 86.01 317 P P 22 03 27.6 -1.3
ANKY Antikythira Is 86.03 315 P P 22 03 28.1 -0.9
ANKY Antikythira Is 86.03 315 eP P 22 03 28.1 -0.9
SNZO South Karori 86.06 156 PFAKE 22 03 40.0 +11
SNZO LR LR
comp=Z,29µm,21.0s
U34A Anderson Ranch 86.07 44 P P 22 03 30.0 +0.8
baz=318,SNR=20
U34A Anderson Ranch 86.07 44 eP P 22 03 30.6 +1.4
comp=Z,1µm,1.7s
U34A LR LR
comp=Z,25µm,22.0s
R37A Teagarden Farm 86.08 42 P P 22 03 29.5 +0.3
baz=320,SNR=31
W32A Sentinel 86.10 46 P P 22 03 30.2 +0.8
baz=318,SNR=23
TAOE Nuku Hiva Isla 86.11 105 eS S 22 13 59.5 -2.7
comp=Z,30µm,24.4s
TAOE Nuku Hiva Isla 86.11 105 eLR LR 22 30 39.4
comp=Z,113µm,21.2s,baz=315
TAOE Nuku Hiva Isla 86.11 105 eT T 23 38 41.5
comp=Z,87nm,0.2s
PYL PYLOS 86.11 316 P P 22 03 27.9 -1.4
PYL PYLOS 86.11 316 eP P 22 03 27.9 -1.4
V33A Lossen Ranch, 86.12 45 P P 22 03 30.0 +0.5
baz=318,SNR=11
S36A Lake Cedric, C 86.13 42 P P 22 03 30.0 +0.6
baz=319,SNR=31
O40A La Belle 86.15 39 P P 22 03 30.2 +0.7
baz=322,SNR=25
Q38A Cooks Store, C 86.19 40 P P 22 03 30.3 +0.6
baz=320,SNR=28
P39B Salisbury 86.21 40 P P 22 03 30.6 +0.8
baz=321,SNR=31
T35A Sooner Cattle 86.26 43 P P 22 03 30.8 +0.7
baz=319,SNR=39
GVD Gavdhos 86.36 314 P P 22 03 29.2 -1.4
GVD Gavdhos 86.36 314 eP P 22 03 29.2 -1.4
Q39A Willow Grove F 86.44 40 P P 22 03 31.9 +0.9
baz=321,SNR=36
MEH Mehetia 86.48 117 eT T 23 39 05.5
comp=Z,484nm,0.3s
T36A Boggs Farm, Ca 86.48 43 P P 22 03 32.0 +0.8
baz=319,SNR=38
S37A Fort Scott 86.50 42 P P 22 03 31.7 +0.4
baz=320,SNR=50
BNI Bardonecchia 86.50 330 PFAKE 22 03 40.0 +8.7
BNI LR LR
comp=Z,71µm,20.0s
W33A Caddo, Fort Co 86.51 46 P P 22 03 32.6 +1.2
baz=318,SNR=11
P40A Paris 86.52 39 P P 22 03 32.3 +0.9
baz=321,SNR=51
V34A Guthrie 86.53 45 P P 22 03 32.6 +1.2
baz=318,SNR=14
V34A Guthrie 86.53 45 eP P 22 03 32.8 +1.4
comp=Z,994nm,1.8s
V34A LR LR
comp=Z,21µm,20.0s
U35A Pawnee 86.55 44 P P 22 03 32.2 +0.7
baz=319,SNR=12
GDM Grand'Maison 86.59 331⇑eP P 22 03 32.2 +0.5
OG22 Abries 86.59 330 eP P 22 03 33.4 +1.6
X32A Elmer 86.59 47 P P 22 03 32.7 +0.9
baz=318,SNR=18
O41A Passleys Farm, 86.62 38 P P 22 03 32.5 +0.7
baz=322,SNR=13
R38A Fenwick Farm, 86.64 41 P P 22 03 32.1 +0.2
baz=320,SNR=23
WMOK Wichita Mounta 86.64 46 P P 22 03 32.8 +0.8
baz=318,SNR=48
WMOK Wichita Mounta 86.64 46 eP P 22 03 32.7 +0.7
WMOK pmax pmax
comp=Z,105nm,1.0s
WMOK MLR MLR
comp=Z,22µm,21.0s
WMOK Wichita Mounta 86.64 46 eP P 22 03 32.7 +0.7
comp=Z,105nm,1.0s
WMOK LR LR
comp=Z,22µm,21.0s
LTZ Lake Taylor 86.69 158 PFAKE 22 03 40.0 +8.3
LTZ LR LR
comp=Z,22µm,20.0s
GRN Grenoble 86.69 331⇑eP P 22 03 33.0 +0.8
CUC Castrocucco 86.72 322 eP P 22 03 31.0 -1.3
comp=Z,115nm,1.3s
CUC LR LR
comp=Z,63µm,19.0s
KHZ Kahutara 86.72 157 PFAKE 22 03 40.0 +8.2
KHZ LR LR
comp=Z,59µm,22.0s
FOZ Fox Glacier 86.72 160 PFAKE 22 03 40.0 +8.2
FOZ LR LR
comp=Z,29µm,22.0s
DAMY Dhamar 86.82 286 eP P 22 03 34.8 +1.2
comp=Z,295nm,1.2s
DAMY LR LR
comp=Z,61µm,20.0s
W34A Bridge Creek, 86.83 45 P P 22 03 33.5 +0.5
baz=318,SNR=6.9
W34A Bridge Creek, 86.83 45 eP P 22 03 34.5 +1.6
comp=Z,180nm,1.0s
W34A LR LR
comp=Z,19µm,20.0s
PLDF La Plantade 86.84 333⇑eP P 22 03 33.7 +0.8
P41A Barry, Barry 86.88 38 P P 22 03 33.9 +0.8
baz=322,SNR=52
TIP Timpagrande 86.90 321 P P 22 03 33.0 -0.3
Q40A Laux Farm, Aux 86.93 39 P P 22 03 33.9 +0.6
baz=321,SNR=6.4
T37A Cheneyville 18 86.94 42 P P 22 03 34.3 +0.9
baz=320,SNR=32
AGO Saint Agoulin 86.94 333⇑eP P 22 03 34.2 +0.9
X33A Lawton 86.94 46 P P 22 03 34.3 +0.8
baz=318,SNR=8.0
V35A Meyer Ranch, C 86.95 44 P P 22 03 35.5 +2.0
baz=319
HDIL Hopedale 87.02 37 P P 22 03 34.2 +0.4
baz=323,SNR=20
HDIL Hopedale 87.02 37 eP P 22 03 34.7 +1.0
comp=Z,768nm,1.7s
U36A Oologah 87.06 43 P P 22 03 34.8 +0.8
baz=319,SNR=12
S38A Stockton 87.07 41 P P 22 03 34.0 -0.1
baz=320,SNR=18
SSB Saint Sauveur 87.11 332 eP P 22 03 34.4 +0.3
SSB pmax pmax
comp=Z,101nm,1.0s
SSB MLR MLR
comp=Z,68µm,19.0s
SSB Saint Sauveur 87.11 332 eP P 22 03 34.4 +0.3
comp=Z,102nm,1.0s
SSB LR LR
comp=Z,68µm,19.0s
OXZ Oxford 87.12 159 eP P 22 03 39.1 +5.2
comp=Z,83nm,0.9s
OXZ LR LR
comp=Z,23µm,21.0s
RPZ Rata Peaks 87.22 160 PKKPbc PKKPbc 22 21 25.1 -1.4
comp=Z,5.7nm,0.3s,baz=16,slow=4.4,SNR=6.9
RPZ LR LR 22 40 46.1
comp=Z,30µm,19.9s,baz=339,slow=34
RPZ Rata Peaks 87.22 160 ePKKPdf PKKPdf 22 21 25.1 +3.8
RPZ LR LR
comp=Z,36µm,20.0s
PYM Petit Puy Mans 87.25 333⇑eP P 22 03 35.6 +0.8
Y33A Hilltop Ranch, 87.27 47 P P 22 03 35.6 +0.6
baz=318,SNR=17
X34A Smith Ranch, M 87.27 46 P P 22 03 36.0 +0.9
baz=318,SNR=25
S39A Bolivar 87.32 41 P P 22 03 35.2 -0.1
baz=321,SNR=52
T38A Diamond 87.32 42 P P 22 03 36.0 +0.7
baz=320,SNR=56
U37A Salina 87.38 43 P P 22 03 36.2 +0.7
baz=320,SNR=26
R40A Maddies Statio 87.38 40 P P 22 03 35.8 +0.3
baz=321,SNR=62
W35A Tecumseh 87.38 45 P P 22 03 36.1 +0.4
baz=319,SNR=17
TUL1 Leonard 87.39 44 P P 22 03 36.5 +0.8
baz=319,SNR=18
TUL1 Leonard 87.39 44 eP P 22 03 36.5 +0.8
comp=Z,236nm,1.3s
TUL1 LR LR
comp=Z,44µm,20.0s
V36A Jenks 87.41 44 P P 22 03 36.3 +0.6
baz=319,SNR=16
VERF Verneugheol 87.43 333 eP P 22 03 37.1 +1.4
CRLZ Canterbury Las 87.52 159 PFAKE 22 03 50.0 +14
CRLZ LR LR
comp=Z,18µm,20.0s
SLBS Sierra La Lagu 87.55 61 eP P 22 03 40.3 +3.6
comp=Z,106nm,1.1s
SLBS LR LR
comp=Z,16µm,20.0s
LBL Lubilhac 87.61 332⇑eP P 22 03 37.5 +0.9
LBZ Lake Benmore 87.61 160 eP P 22 03 38.6 +2.4
comp=Z,172nm,1.2s
LBZ LR LR
comp=Z,33µm,21.0s
MQZ McQueen's Vall 87.65 159 PFAKE 22 03 50.0 +14
MQZ LR LR
comp=Z,16µm,20.0s
LTX Lajitas 87.69 53 eP P 22 03 37.5 +0.2
LTX Lajitas 87.69 53 eP P 22 03 37.5 +0.2
LTX eSKSac SKSac 22 13 59.9 -3.4
LTX ePKKPbc PKKPbc 22 21 26.4 +3.1
TXAR Lajitas Array 87.69 53 P P 22 03 37.5 +0.2
comp=Z,23nm,0.9s,baz=292,slow=3.3,SNR=64
TXAR S SKSac 22 13 59.8 -3.4
comp=Z,0.8nm,0.8s,baz=318,slow=44,SNR=3.0
TXAR PKKPbc PKKPbc 22 21 26.4 +3.1
comp=Z,1.1nm,0.8s,baz=149,slow=5.1,SNR=3.8
ABTX Abilene, Hawle 87.71 48 P P 22 03 37.7 +0.4
baz=317,SNR=27
ABTX Abilene, Hawle 87.71 48 eP P 22 03 38.1 +0.9
comp=Z,365nm,1.5s
ABTX LR LR
comp=Z,20µm,22.0s
SADO Sadowa 87.72 28 eP P 22 03 36.8 -0.2
comp=Z,48nm,1.1s
SADO LR LR
comp=Z,41µm,21.0s
Z33A Whitaker Ranch 87.72 47 P P 22 03 37.7 +0.4
baz=318,SNR=19
U38A Gravette 87.73 43 P P 22 03 37.7 +0.4
baz=320,SNR=25
WKZ Wanaka 87.73 161 PFAKE 22 03 50.0 +13
WKZ LR LR
comp=Z,29µm,22.0s
W36A Wetumka 87.74 44 P P 22 03 37.8 +0.4
baz=319,SNR=20
V37A Hulbert 87.76 43 P P 22 03 37.8 +0.5
baz=320,SNR=39
Y34A Reagan Ranch, 87.79 46 P P 22 03 38.2 +0.6
baz=318,SNR=14
S40A Lebanon 87.80 41 P P 22 03 37.9 +0.3
baz=321,SNR=50
T39A Clever 87.80 42 P P 22 03 37.9 +0.3
baz=321,SNR=24
X35A Drake 87.89 45 P P 22 03 39.0 +1.0
baz=319
DCZ Deep Cove 87.90 163 PFAKE 22 03 50.0 +13
DCZ LR LR
comp=Z,13µm,21.0s
TRQ Mont Tremblant 88.02 25 eP P 22 03 38.6 +0.1
MLZ Mavora Lakes 88.03 162 PFAKE 22 03 50.0 +12
MLZ LR LR
comp=Z,34µm,21.0s
CEL Celeste 88.04 321 eP P 22 03 38.4 -0.4
comp=Z,112nm,0.9s
CEL LR LR
comp=Z,95µm,20.0s
AAM Ann Arbor 88.05 32 eP P 22 03 39.7 +1.0
AAM pmax pmax
comp=Z,127nm,1.0s
AAM Ann Arbor 88.05 32 eP P 22 03 39.7 +1.0
comp=Z,128nm,1.0s
HHAR Hobbs 88.08 42 eP P 22 03 39.6 +0.7
comp=Z,276nm,1.7s
HHAR LR LR
comp=Z,56µm,22.0s
SLM Saint Louis 88.10 39 eP P 22 03 39.9 +1.0
SLM pmax pmax
comp=Z,153nm,0.8s
SLM MLR MLR
comp=Z,30µm,21.0s
SLM Saint Louis 88.10 39 eP P 22 03 39.9 +1.0
comp=Z,153nm,0.8s
SLM LR LR
comp=Z,30µm,21.0s
LMQ La Malbaie 88.10 22 eP P 22 03 39.5 +0.7
LMQ LR LR
comp=Z,42µm,22.0s
X36A Centrahoma 88.10 45 P P 22 03 39.6 +0.6
baz=319,SNR=19
Q43A New Douglas 88.11 38 P P 22 03 39.6 +0.6
baz=323,SNR=19
HPIG 88.12 56 eP P 22 03 40.3 +0.7
comp=Z,139nm,1.3s
133A Hamilton Ranch 88.14 48 P P 22 03 39.9 +0.7
baz=318,SNR=11
Z34A Collier Ranch, 88.14 47 P P 22 03 40.1 +0.8
baz=318
T40A Mansfield 88.14 41 P P 22 03 39.6 +0.4
baz=321,SNR=33
SFIN Lafayette 88.16 36 P P 22 03 39.3 +0.1
baz=324,SNR=10.0
SFIN Lafayette 88.16 36 eP P 22 03 40.3 +1.1
comp=Z,128nm,1.0s
SFIN LR LR
comp=Z,34µm,22.0s
V38A Canehill 88.16 43 P P 22 03 39.6 +0.3
baz=320,SNR=50
W37B Quinton 88.17 44 P P 22 03 40.2 +0.8
baz=320,SNR=22
Y35A Marietta 88.23 46 P P 22 03 40.2 +0.6
baz=319,SNR=8.8
U39A Green Forest 88.24 42 P P 22 03 40.0 +0.3
baz=321,SNR=51
ODZ Otahua Downs 88.35 160 PFAKE 22 03 50.0 +10
ODZ LR LR
comp=Z,35µm,22.0s
PYZ Puysegur Point 88.46 163 PFAKE 22 03 50.0 +10
PYZ LR LR
comp=Z,14µm,20.0s
Q44A Meyer Farm, Va 88.46 38 P P 22 03 41.0 +0.3
baz=323,SNR=24
WHZ Wether Hill Ro 88.48 163 PFAKE 22 03 50.0 +10
WHZ LR LR
comp=Z,22µm,21.0s
Z35A Perchaven, San 88.54 46 P P 22 03 41.6 +0.4
baz=319,SNR=13
V39A Pettigrew 88.58 42 P P 22 03 41.7 +0.3
baz=321,SNR=43
233A Rising Star 88.58 48 P P 22 03 42.1 +0.7
baz=318,SNR=18
U40A Yellville 88.58 42 P P 22 03 41.9 +0.5
baz=321,SNR=80
T41A Mountain View 88.60 40 P P 22 03 41.8 +0.4
baz=322,SNR=53
X37A Clayton 88.62 44 P P 22 03 42.1 +0.6
baz=320,SNR=16
134A White-Moore Ra 88.64 47 P P 22 03 42.4 +0.8
baz=318,SNR=13
Y36A Durant 88.64 45 P P 22 03 41.8 +0.2
baz=319,SNR=16
W38A Poteau 88.71 43 P P 22 03 42.5 +0.6
baz=320,SNR=19
X38A Whitesboro 88.85 44 P P 22 03 43.6 +1.1
baz=320,SNR=29
Y37A Hugo 88.94 45 P P 22 03 44.1 +1.1
baz=320
R44A Waltonville 88.95 38 P P 22 03 43.6 +0.6
baz=323,SNR=24
W39A Magazine 89.00 43 P P 22 03 43.9 +0.7
baz=320,SNR=25
S43A Fulton Ridge, 89.02 39 P P 22 03 43.9 +0.5
baz=323,SNR=30
135A Vickery Place, 89.03 47 P P 22 03 44.7 +1.2
baz=319
234A Clairette 89.03 48 P P 22 03 44.3 +0.8
baz=318,SNR=23
OLIL Olney 89.03 37 eP P 22 03 44.3 +1.0
comp=Z,187nm,1.0s
OLIL LR LR
comp=Z,27µm,19.0s
Z36A Blue Ridge 89.03 46 P P 22 03 44.0 +0.6
baz=319,SNR=17
333A Richland Sprin 89.04 49 P P 22 03 44.4 +0.8
baz=318,SNR=48
JCT Junction City 89.18 50 P P 22 03 44.9 +0.7
baz=317,SNR=20
JCT Junction City 89.18 50 eP P 22 03 45.0 +0.7
JCT pmax pmax
comp=Z,99nm,1.0s
JCT Junction City 89.18 50 eP P 22 03 45.0 +0.7
comp=Z,98nm,1.0s
S44A Carbondale 89.31 39 P P 22 03 45.5 +0.8
baz=320,SNR=19
SIUC Southern Illin 89.31 38 eP P 22 03 45.7 +1.0
comp=Z,331nm,0.9s
SIUC LR LR
comp=Z,37µm,22.0s
TBI Tubuai 89.34 121 eSKSac SKSac 22 14 08.0 -4.5
comp=Z,13µm,33.5s
TBI eS SKKSac 22 14 28.5 +3.7
comp=Z,28µm,29.0s
TBI eSS SS 22 20 28.7 +0.4
comp=Z,9µm,29.0s
TBI Tubuai 89.34 121 eLR LR 22 31 48.2
comp=Z,80µm,26.5s,baz=322
TBI Tubuai 89.34 121 eT T 23 42 38.9
comp=Z,230nm,0.3s
X39A Fountain Ranch 89.35 44 P P 22 03 45.9 +0.9
baz=320,SNR=43
W40A Ferguson Farm, 89.37 42 P P 22 03 45.2 +0.2
baz=321,SNR=12
VAE Valguarnera 89.37 321 LR LR 22 47 25.3
comp=Z,53µm,20.0s,baz=82,slow=38
V41A Mountainview 89.38 42 P P 22 03 45.2 +0.1
baz=322,SNR=55
BLO Bloomington 89.39 36 eP P 22 03 46.2 +1.1
BLO pmax pmax
comp=Z,239nm,1.4s
BLO MLR MLR
comp=Z,33µm,22.0s
BLO Bloomington 89.39 36 eP P 22 03 46.2 +1.1
comp=Z,239nm,1.4s
BLO LR LR
comp=Z,33µm,22.0s
433A Art 89.40 49 P P 22 03 45.6 +0.3
baz=318,SNR=24
BUF Buffalo 89.41 29 eP P 22 03 46.4 +1.4
DRLN Deer Lake 89.41 13 eP P 22 03 47.9 +2.9
comp=Z,221nm,1.5s
DRLN LR LR
comp=Z,66µm,20.0s
WHTX Lake Whitney, 89.42 47 eP P 22 03 46.7 +1.4
comp=Z,391nm,1.6s
WHTX LR LR
comp=Z,27µm,22.0s
LONY Lake Ozonia 89.43 25 eP P 22 03 45.7 +0.5
comp=Z,158nm,1.6s
LONY LR LR
comp=Z,37µm,20.0s
Y38A Idabel 89.46 44 P P 22 03 45.8 +0.3
baz=320
334A Lometa 89.47 48 P P 22 03 46.1 +0.5
baz=318,SNR=18
PBMO Poplar Bluff 89.47 40 eP P 22 03 46.5 +1.1
comp=Z,217nm,1.1s
PBMO LR LR
comp=Z,22µm,22.0s
Z37A Pogue Cattle C 89.53 45 P P 22 03 46.1 +0.3
baz=320,SNR=9.2
FRNY Flat Rock 89.56 25 eP P 22 03 46.0 +0.3
comp=Z,154nm,1.8s
FRNY LR LR
comp=Z,38µm,20.0s
136A Ennis 89.58 46 P P 22 03 46.7 +0.7
baz=319
MIAR Mount Ida 89.61 43 P P 22 03 46.9 +0.8
baz=321,SNR=38
MIAR Mount Ida 89.61 43 eP P 22 03 46.9 +0.8
MIAR pmax pmax
comp=Z,196nm,1.1s
MIAR Mount Ida 89.61 43 eP P 22 03 46.9 +0.8
comp=Z,196nm,1.1s
S45A Carrier Mills 89.65 38 P P 22 03 46.8 +0.6
baz=324,SNR=24
X201 Greenbrier Sit 89.66 42 eP P 22 03 47.1 +0.8
comp=Z,442nm,1.5s
X201 LR LR
comp=Z,45µm,21.0s
ERPA Erie 89.67 30 eP P 22 03 45.9 -0.4
comp=Z,306nm,1.2s
ERPA LR LR
comp=Z,24µm,22.0s
X301 Greenbrier Sit 89.68 42 eP P 22 03 47.2 +0.8
comp=Z,242nm,1.3s
X301 LR LR
comp=Z,46µm,22.0s
WHAR Wooly Hollow 89.70 42 eP P 22 03 47.4 +0.8
comp=Z,296nm,1.2s

WHAR LR LR
comp=Z,47µm,22.0s
V42A Cord 89.75 41 P P 22 03 47.1 +0.3
baz=322,SNR=23
Y39A Lockesburg 89.80 44 P P 22 03 47.9 +0.8
baz=320
434A Burnet 89.83 49 P P 22 03 47.8 +0.5
baz=318,SNR=21
Z38A Mt. Pleasant 89.84 45 P P 22 03 48.2 +0.9
baz=320
USIN University of 89.85 37 eP P 22 03 48.5 +1.3
comp=Z,231nm,1.2s
USIN LR LR
comp=Z,26µm,21.0s
CLTB Caltabellotta 89.86 322 epP pP 22 03 59.0 +1.4
PARMO Parma 89.89 39 eP P 22 03 49.6 +2.2
137A Heron Place, G 89.92 46 P P 22 03 49.2 +1.6
baz=320
MMNY Mt. Morris Dam 89.93 29 eP P 22 03 48.4 +1.0
533A Kerrville 89.93 50 P P 22 03 48.2 +0.4
baz=318,SNR=13
236A Katherine and 89.94 47 P P 22 03 48.9 +1.2
baz=319
335A Moody 89.97 48 P P 22 03 48.4 +0.6
baz=319,SNR=5.3
ALLY Alegheny Colle 90.01 30 eP P 22 03 48.9 +1.0
comp=Z,248nm,1.0s
ALLY LR LR
comp=Z,33µm,21.0s
X40A Basin Creek Fa 90.04 43 P P 22 03 48.8 +0.7
baz=321,SNR=27
VSL Villasalto 90.04 326 eP P 22 03 47.6 -0.5
comp=Z,86nm,1.1s
VSL LR LR
comp=Z,64µm,18.0s
ACSO Alum Creek Sta 90.06 33 eP P 22 03 49.0 +0.8
comp=Z,151nm,0.8s
UALR University of 90.07 42 eP P 22 03 49.4 +1.1
comp=Z,102nm,1.1s
UALR LR LR
comp=Z,47µm,22.0s
H06N1 SOCORRO T-PHAS 90.09 65 T T 23 44 50.3
SNR=215
PVMO Portageville 90.12 40 PFAKE 22 04 00.0 +12
PVMO LR LR
comp=Z,21µm,21.0s
Y40A Okolona 90.17 43 P P 22 03 50.0 +1.2
baz=321
H06E1 SOCORRO T-PHAS 90.19 65 P P 22 03 53.5 +4.4
X41A Kaden, Bauxite 90.20 43 P P 22 03 50.1 +1.2
baz=321
336A Riesel 90.22 47 P P 22 03 49.6 +0.6
baz=319,SNR=6.5
138A Matatall Enter 90.23 45 P P 22 03 50.4 +1.4
baz=320
435B Jarrell 90.25 48 P P 22 03 50.1 +1.0
baz=318
WCI Wyandotte Cave 90.27 36 eP P 22 03 50.0 +0.8
WCI pmax pmax
comp=Z,87nm,0.8s
WCI MLR MLR
comp=Z,34µm,21.0s
WCI Wyandotte Cave 90.27 36 eP P 22 03 50.0 +0.8
comp=Z,87nm,0.8s
WCI LR LR
comp=Z,34µm,21.0s
Z39A Irene McRaven, 90.28 44 P P 22 03 50.8 +1.5
baz=320
534A Blanco 90.29 49 P P 22 03 50.0 +0.5
baz=318,SNR=36
633A Saathoff Ranch 90.30 50 P P 22 03 50.2 +0.7
baz=318,SNR=32
M54A Oil Creek Stat 90.32 30 P P 22 03 50.1 +0.7
baz=329,SNR=30
237A Washetta, Mont 90.34 46 P P 22 03 50.4 +0.8
baz=319
MDV Middlebury 90.44 25 eP P 22 03 50.4 +0.5
PKME Peaks-Kenny Pk 90.48 22 eP P 22 03 51.3 +1.4
comp=Z,79nm,0.9s
PKME LR LR
comp=Z,36µm,21.0s
V44A Blytheville 90.48 40 P P 22 03 51.0 +0.8
baz=323
VALF Valcebollere 90.51 332⇑ eP P 22 03 51.0 +0.6
WLAR White Oak Lake 90.51 43 eP P 22 03 51.9 +1.5
comp=Z,293nm,1.3s
WLAR LR LR
comp=Z,53µm,21.0s
WDD Wied Dalam 90.62 320 eP P 22 03 50.1 -0.7
comp=Z,72nm,0.8s
WDD LR LR
comp=Z,44µm,22.0s
Y41A Eaglette Beard 90.62 43 P P 22 03 52.1 +1.2
baz=321
832A Faith Ranch, C 90.68 51 P P 22 03 51.8 +0.6
baz=317,SNR=8.7
Z40A Long Farm, Mag 90.69 44 P P 22 03 52.0 +0.8
baz=321,SNR=9.4
436A Wall Ranch, Ga 90.71 48 P P 22 03 52.1 +0.8
baz=319,SNR=9.2
238A Jacksonville 90.72 46 P P 22 03 52.7 +1.4
baz=320
RESF Ens 90.75 333 eP P 22 03 52.8 +1.3
733A Divot King Ran 90.77 51 P P 22 03 52.7 +1.1
baz=318,SNR=10
VIEF Viey 90.79 333⇑ eP P 22 03 52.7 +1.1
337A Centerville 90.81 47 P P 22 03 53.3 +1.5
baz=319
535A Dale 90.81 49 P P 22 03 52.7 +0.8
baz=318
ORDF Ordiarp 90.83 334 eP P 22 03 52.0 +0.4
ACCN Adirondack Com 90.83 25 eP P 22 03 52.4 +0.7
comp=Z,157nm,1.3s
ACCN LR LR
comp=Z,36µm,20.0s
634A China Grove, S 90.84 50 P P 22 03 52.9 +1.0
baz=318
HNH Hanover 90.99 24 eP P 22 03 53.9 +1.5
comp=Z,158nm,1.3s
HNH LR LR
comp=Z,85µm,22.0s
LARF Larrau 91.00 334 eP P 22 03 53.3 +0.8
833A Chaparral WMA, 91.00 51 P P 22 03 53.8 +1.1
baz=318
Z41A Richland Creek 91.01 44 P P 22 03 53.7 +1.1
baz=321
V45A Humboldt 91.01 40 P P 22 03 53.5 +0.8
baz=323
WVL Waterville 91.01 22 eP P 22 03 53.8 +1.3
comp=Z,382nm,1.7s
WVL LR LR
comp=Z,69µm,20.0s
X43A Marvell 91.02 41 P P 22 03 53.9 +1.2
baz=322
MET Memphis--Engin 91.02 41 PFAKE 22 04 10.0 +17
MET LR LR
comp=Z,21µm,22.0s
437A Phantom Ranch, 91.03 47 P P 22 03 54.2 +1.4
baz=319
CCAR Cane Creek 91.03 42 eP P 22 03 55.0 +2.3
comp=Z,160nm,0.8s
CCAR LR LR
comp=Z,41µm,21.0s
239A Gary 91.06 45 P P 22 03 54.5 +1.6
baz=320
W44A Shelby Farms P 91.07 40 P P 22 03 54.0 +1.1
baz=323
140A Cam and Jess, 91.07 44 P P 22 03 54.4 +1.5
baz=321
536A Bastrop 91.07 48 P P 22 03 54.5 +1.5
baz=319
BINY Binghamton 91.08 28 eP P 22 03 53.6 +0.7
comp=Z,162nm,1.2s
BINY LR LR
comp=Z,31µm,18.0s
Y42A Garnett, Star 91.09 43 P P 22 03 54.0 +0.9
baz=322,SNR=7.1
338A Crockett 91.10 46 P P 22 03 54.9 +1.7
baz=320
734A La Parita Cree 91.11 50 P P 22 03 55.0 +1.8
baz=318
LMN Caledonia Moun 91.13 19 eP P 22 03 53.8 +0.8
comp=Z,80nm,0.9s
LMN LR LR
comp=Z,37µm,22.0s
NATX Nacogdoches 91.15 46 P P 22 03 54.8 +1.5
baz=320
NATX Nacogdoches 91.15 46 eP P 22 03 56.6 +3.2
comp=Z,105nm,1.1s
635A Leesville 91.17 49 P P 22 03 55.1 +1.6
baz=318
WVT Waverly 91.25 39 eP P 22 03 54.3 +0.6
WVT pmax pmax
comp=Z,96nm,1.1s
WVT MLR MLR
comp=Z,25µm,20.0s
WVT Waverly 91.25 39 eP P 22 03 54.3 +0.6
comp=Z,96nm,1.1s
WVT LR LR
comp=Z,25µm,20.0s
GGN Saint George 91.29 20 eP P 22 03 54.9 +1.2
comp=Z,78nm,1.1s
GGN LR LR
comp=Z,59µm,22.0s
W45A Hickory Valley 91.37 40 P P 22 03 54.8 +0.5
baz=323,SNR=5.9
FFD Franklin Falls 91.40 24 eP P 22 03 55.8 +1.5
comp=Z,210nm,1.2s
FFD LR LR
comp=Z,83µm,21.0s
X44A Crenshaw 91.41 41 P P 22 03 56.0 +1.5
baz=323
TRY Troy 91.41 26 eP P 22 03 55.6 +1.3
comp=Z,244nm,1.4s
TRY LR LR
comp=Z,66µm,20.0s
240A Hunter Patters 91.43 45 P P 22 03 56.2 +1.6
baz=321
Z42A Norrel Spur, H 91.44 43 P P 22 03 55.6 +0.9
baz=322,SNR=11
141A Papa Simpson, 91.46 44 P P 22 03 56.9 +2.1
baz=321
438A Sam Houston St 91.47 47 P P 22 03 56.3 +1.5
baz=320
Y43A Makayla and Ka 91.47 42 P P 22 03 56.4 +1.6
baz=322
537A Green Hill Far 91.50 48 P P 22 03 57.1 +2.1
baz=319
EMMW East Machias 91.50 21 eP P 22 03 55.5 +0.8
comp=Z,105nm,1.1s
EMMW LR LR
comp=Z,52µm,22.0s
636A Smothers Creek 91.52 49 P P 22 03 55.8 +0.7
baz=319,SNR=12
339A Huntington 91.54 46 P P 22 03 56.6 +1.5
baz=320
735A Kenedy 91.55 50 P P 22 03 56.1 +0.8
baz=318,SNR=7.4
933A Laredo 91.59 51 P P 22 03 56.7 +1.2
baz=318,SNR=15
834A Tilden 91.65 51 P P 22 03 57.6 +1.9
baz=318
KSPA Keystone Colle 91.72 28 PFAKE 22 04 10.0 +14
KSPA LR LR
comp=Z,34µm,20.0s
SSPA Standing Stone 91.75 30 eP P 22 03 57.2 +1.2
comp=Z,166nm,1.0s
SSPA LR LR
comp=Z,26µm,21.0s
OXF Oxford 91.77 41 eP P 22 03 57.5 +1.4
OXF pmax pmax
comp=Z,260nm,1.1s
OXF Oxford 91.77 41 eP P 22 03 57.5 +1.4
comp=Z,260nm,1.1s
Y44A Strider, Charl 91.80 41 P P 22 03 58.3 +2.0
baz=323
O56A Blue Knob Stat 91.81 30 P P 22 03 57.2 +0.9
baz=330,SNR=21
MCWV Mont Chateau 91.83 31 eP P 22 03 57.9 +1.5
comp=Z,133nm,1.4s
MCWV LR LR
comp=Z,13µm,20.0s
439A Center Grove, 91.83 46 P P 22 03 58.6 +2.1
baz=320
340A Bronson 91.84 45 P P 22 03 58.3 +1.7
baz=320
538A Harpers Horsep 91.86 47 P P 22 03 58.8 +2.1
baz=320
Z43A Armstrong Fami 91.86 43 P P 22 03 59.0 +2.4
baz=322
241A Mc Tay, Goldon 91.90 44 P P 22 03 59.3 +2.5
baz=321
736A Circle Diamond 91.91 49 P P 22 03 58.1 +1.2
baz=319,SNR=9.6
835A Beeville 91.96 50 P P 22 03 59.4 +2.3
baz=318
637A Eagle Lake 91.97 48 P P 22 03 59.6 +2.4
baz=319
142A Monroe 92.01 43 P P 22 03 59.5 +2.2
baz=322
934A Benavides 92.06 51 P P 22 03 59.9 +2.3
baz=318
143A Socs Landing, 92.17 43 P P 22 04 00.2 +2.1
baz=322
Y45A Yeager Farm, C 92.22 41 P P 22 03 59.3 +1.0
baz=323,SNR=16
QUA2 Belchertown 92.25 25 eP P 22 03 59.3 +1.1
comp=Z,55nm,1.0s
QUA2 LR LR
comp=Z,36µm,19.0s
242A Grayson 92.28 44 P P 22 04 01.1 +2.5
baz=321
N59A State Game Lan 92.29 28 P P 22 03 58.9 +0.4
baz=332,SNR=39
341A Kurthwood 92.30 45 P P 22 04 01.2 +2.5
baz=321
HRV Adam Dziewonsk 92.30 24 eP P 22 03 59.6 +1.1
HRV pmax pmax
comp=Z,108nm,1.0s
HRV MLR MLR
comp=Z,60µm,22.0s
HRV Adam Dziewonsk 92.30 24 eP P 22 03 59.6 +1.1
comp=Z,108nm,1.0s
HRV LR LR
comp=Z,60µm,22.0s
440A Kirbyville 92.31 46 P P 22 04 01.0 +2.2
baz=320
034A Hebbronville 92.35 51 P P 22 04 01.1 +2.1
baz=318
737A Port Lavaca 92.41 49 P P 22 04 01.6 +2.4
baz=319
WES Weston 92.49 24 eP P 22 04 00.7 +1.4
WES pmax pmax
comp=Z,180nm,1.0s
WES MLR MLR
comp=Z,89µm,22.0s
WES Weston 92.49 24 eP P 22 04 00.7 +1.4
comp=Z,180nm,1.0s
WES LR LR
comp=Z,89µm,22.0s
638A Rosharon 92.49 48 P P 22 04 02.0 +2.4
baz=320
Z45A Winona 92.53 41 P P 22 04 01.8 +2.1
baz=323
Y46A Houston 92.55 41 P P 22 03 59.9 +0.2
baz=323,SNR=21
ODNJ Ogdensburg 92.56 27 eP P 22 04 00.5 +0.8
comp=Z,202nm,2.0s
ODNJ LR LR
comp=Z,34µm,20.0s
BCX Boston College 92.58 24 eP P 22 04 01.1 +1.3
comp=Z,191nm,1.1s
BCX LR LR
comp=Z,102µm,21.0s
LUPA Lehigh Univers 92.71 28 eP P 22 04 01.8 +1.4
comp=Z,63nm,1.0s
LUPA LR LR
comp=Z,36µm,21.0s
342A Flagon Creek P 92.72 44 P P 22 04 02.8 +2.2
baz=321
441A DeRidder 92.73 45 P P 22 04 02.8 +2.1
baz=321
144A Alexander Plac 92.74 42 P P 22 04 03.2 +2.5
baz=322
243A Waterproof 92.78 44 P P 22 04 03.2 +2.4
baz=322
035A Encino 92.80 51 P P 22 04 03.3 +2.3
baz=318
738A Farr-Stevens R 92.81 48 P P 22 04 03.2 +2.1
baz=320
BRYW Bryant College 92.84 25 eP P 22 04 02.2 +1.2
comp=Z,104nm,1.1s
BRYW LR LR
comp=Z,95µm,21.0s
PAL Palisades 92.87 27 eP P 22 04 02.8 +1.7
PAL pmax pmax
comp=Z,82nm,1.1s
PAL MLR MLR
comp=Z,35µm,20.0s
PAL Palisades 92.87 27 eP P 22 04 02.8 +1.7
comp=Z,82nm,1.1s
PAL LR LR
comp=Z,35µm,20.0s
MVL Millersville 92.88 29 eP P 22 04 02.1 +0.9
comp=Z,50nm,1.1s
MVL LR LR
comp=Z,23µm,21.0s
TZTN Tazewell 92.89 35 eP P 22 04 01.9 +0.6
comp=Z,78nm,1.0s
TZTN LR LR
comp=Z,26µm,20.0s
SWET Sewanee 92.89 38 eP P 22 04 01.8 +0.4
comp=Z,19nm,0.9s
SWET LR LR
comp=Z,11µm,19.0s
YLE Yale 92.92 26 PFAKE 22 04 10.0 +8.7
YLE LR LR
comp=Z,45µm,20.0s
BRNJ Basking Ridge 92.92 27 eP P 22 04 02.6 +1.3
comp=Z,110nm,1.0s
BRNJ LR LR
comp=Z,41µm,20.0s
145A Houston Renfro 93.02 42 P P 22 04 03.5 +1.6
baz=323
Y47A UCPARC, Winfie 93.03 40 P P 22 04 01.8 -0.2
baz=324,SNR=8.2
CPNY Central Park 93.04 27 eP P 22 04 04.2 +2.3
comp=Z,92nm,1.1s
CPNY LR LR
comp=Z,34µm,20.0s
ZAIG Zacatecas 93.05 57 eP P 22 04 04.6 +2.0
comp=Z,113nm,1.4s
ZAIG LR LR
comp=Z,44µm,20.0s
Z46A Louisville 93.05 41 P P 22 04 02.6 +0.5
baz=323,SNR=6.0
244A Avery, Jackson 93.07 43 P P 22 04 04.0 +1.8
baz=322
035Z Hargill 93.17 51 P P 22 04 04.6 +1.9
baz=318
KEST Kesra 93.17 324 P P 22 04 02.3 -0.4
comp=Z,17nm,0.9s,baz=324,slow=4.0,SNR=14
KEST PP PP 22 07 48.0 +2.6
comp=Z,28nm,0.9s,baz=259,slow=5.0,SNR=4.8
KEST S SKSac 22 14 33.1 -1.6
comp=Z,3.2nm,1.0s,baz=341,slow=19,SNR=2.8
KEST LR LR 22 50 47.5
comp=Z,64µm,18.8s,baz=335,slow=39
KEST Kesra 93.17 324 eP P 22 04 02.3 -0.4
comp=Z,69nm,1.2s
KEST ePP PP 22 07 48.0 +2.6
KEST eSKSac SKSac 22 14 33.1 -1.6
KEST LR LR
comp=Z,66µm,20.0s
343A Vidalia 93.17 44 P P 22 04 04.1 +1.5
baz=322
SDMD Soldier's Deli 93.21 29 eP P 22 04 03.4 +0.7
comp=Z,31nm,1.2s
SDMD LR LR
comp=Z,18µm,20.0s
PSUB Penn St. - Bra 93.27 28 eP P 22 04 03.5 +0.6
comp=Z,56nm,1.0s
PSUB LR LR
comp=Z,34µm,20.0s
CPCT Cooper Cave 93.35 37 eP P 22 04 04.2 +0.7
comp=Z,32nm,0.9s
CPCT LR LR
comp=Z,22µm,22.0s
146A Union 93.44 41 P P 22 04 05.2 +1.3
baz=323,SNR=5.9
443A Delano Plantat 93.49 44 P P 22 04 06.8 +2.6
baz=322
Z47A Carrollton 93.49 40 P P 22 04 05.8 +1.7
baz=324
245A Little AP, Sta 93.49 42 P P 22 04 06.6 +2.5
baz=323
344A Westbrook Farm 93.51 43 P P 22 04 06.3 +2.1
baz=322
TKL Tuckaleechee C 93.52 36 eP P 22 04 05.1 +0.8
TKL pmax pmax
comp=Z,97nm,1.2s
TKL MLR MLR
comp=Z,29µm,22.0s
TKL Tuckaleechee C 93.52 36 eP P 22 04 05.1 +0.8
comp=Z,97nm,1.2s
TKL LR LR
comp=Z,29µm,22.0s
Z48A Northport 93.60 40 P P 22 04 05.7 +1.0
baz=324
BLA Blacksburg 93.68 33 eP P 22 04 05.9 +0.9
BLA pmax pmax
comp=Z,81nm,1.0s
BLA Blacksburg 93.68 33 eP P 22 04 05.9 +0.9
comp=Z,81nm,1.0s
147A Livingston 93.81 41 P P 22 04 06.1 +0.5
baz=324,SNR=9.4
VWCC Virginia Weste 93.83 33 eP P 22 04 08.0 +2.3
246A Jackson Lee, B 93.90 42 P P 22 04 07.8 +1.8
baz=323
PBRG Braganca 93.93 337⇑ iP P 22 04 06.1 0.0
comp=Z,99nm,1.5s
PBRG Braganca 93.93 337 ePP PP 22 07 54.3 +3.3
PBRG eSKS SKSac 22 14 43.2 +4.6
PBRG eSS SS 22 21 46.1 +14
CBN Corbin Frederi 94.06 30 PFAKE 22 04 20.0 +13
CBN LR LR
comp=Z,30µm,18.0s
444A Pine Grove 94.08 44 P P 22 04 08.8 +1.9
baz=322
247A Quitman 94.13 41 P P 22 04 09.0 +1.9
baz=323
346A Big Creek Wild 94.22 42 P P 22 04 09.2 +1.7
baz=323
PGAV Gavieira, Arco 94.22 339⇑ iP P 22 04 07.6 +0.1
comp=Z,68nm,2.5s
PGAV Gavieira, Arco 94.22 339 ePP PP 22 07 56.3 +2.9
PGAV eSKS SKSac 22 14 41.2 +0.9
PGAV eSS SS 22 21 36.9 +1.0
PGAV Gavieira, Arco 94.22 339 eLQ LQ 22 32 45.8
PGAV eLR LR 22 38 54.4
comp=Z,30µm,20.0s
445A Amite 94.28 43 P P 22 04 09.4 +1.6
baz=322
544A White Castle 94.33 44 P P 22 04 09.6 +1.6
baz=322
PCAB Cabril 94.39 338 eP P 22 04 09.2 +1.0
PCAB Cabril 94.39 338 ePP PP 22 07 59.8 +5.2
248A Dixon Mills 94.54 41 P P 22 04 10.9 +1.9
baz=324
URVA University of 94.54 31 eP P 22 04 11.4 +2.6
MVO Moncorvo 94.60 337⇑ iP P 22 04 09.1 -0.1
comp=Z,65nm,2.0s
MVO Moncorvo 94.60 337 ePP PP 22 07 59.2 +2.9
MVO eSKS SKSac 22 14 42.6 +0.3
MVO eSS SS 22 21 47.6 +6.3
MVO Moncorvo 94.60 337 eLQ LQ 22 32 20.0
MVO eLR LR 22 38 28.9
comp=Z,52µm,18.0s
POLO Lamas de Olo 94.63 338⇑ iP P 22 04 08.3 -1.1
comp=Z,38nm,1.2s
POLO Lamas de Olo 94.63 338 ePP PP 22 07 58.7 +2.1
POLO eSKS SKSac 22 14 43.4 +0.9
POLO eSS SS 22 21 48.3 +6.5
PVRL Vila Real 94.70 338 eP P 22 04 09.8 +0.2
comp=Z,61nm,1.2s
PVRL Vila Real 94.70 338 ePP PP 22 08 01.9 +4.8
FURI Furi 94.74 286 P P 22 04 11.3 +0.8
FURI S PP 22 07 58.5 -0.5
FURI Furi 94.74 286 eP P 22 04 13.4 +2.8
comp=Z,224nm,1.6s
FURI LR LR
comp=Z,46µm,20.0s
ES19 SONSECA Array 94.96 335 eP P 22 04 10.8 -0.1
348A Jackson 95.00 41 P P 22 04 13.3 +2.2
baz=324
ESDC Sonseca Array 95.00 335 P P 22 04 11.0 -0.1
comp=Z,3.4nm,0.4s,baz=19,slow=4.0,SNR=47
ESDC PP PP 22 07 58.5 -1.0
comp=Z,14nm,1.0s,baz=18,slow=6.8,SNR=3.3
ESDC LR LR 22 52 23.0
comp=Z,60µm,19.1s,baz=35,slow=39
ESLA Sonseca Array 95.00 335 eP P 22 04 11.5 +0.4
comp=Z,28nm,0.9s

ESLA LR LR
comp=Z,73µm,19.0s
KMSC Kings Mountain 95.04 35 P **P 22 04 11.7 +0.4**
baz=328,SNR=11
KMSC Kings Mountain 95.04 35 *e*P **P 22 04 11.9 +0.7**
comp=Z,73nm,1.4s
KMSC LR LR
comp=Z,32µm,20.0s
447A Lucedale 95.11 42 P **P 22 04 13.5 +1.9**
baz=323
645A Chauvin 95.14 44 P **P 22 04 13.6 +1.8**
baz=322
PAB San Pablo 95.25 335 *e*P **P 22 04 12.2 0.0**
PAB pmax pmax
comp=Z,47nm,1.1s
PAB MLR MLR
comp=Z,83µm,19.0s
PAB San Pablo 95.25 335 *e*P **P 22 04 12.2 0.0**
comp=Z,47nm,1.1s
PAB LR LR
comp=Z,83µm,19.0s
PVIS Viseu 95.27 338⇑*i*P **P 22 04 11.8 -0.4**
comp=Z,64nm,2.0s
PVIS Viseu 95.27 338 *e*PP PP 22 08 05.5 +4.0
448A Bay Minette 95.41 42 P **P 22 04 14.2 +1.3**
baz=324
646A Port Sulphur 95.46 44 P **P 22 04 14.2 +1.0**
baz=323
MTE Manteigas 95.46 337⇑*i*P **P 22 04 12.8 -0.3**
comp=Z,64nm,1.2s
MTE Manteigas 95.46 337 *e*PP PP 22 08 06.5 +3.5
MTE *e*SKS **SKSac 22 14 51.0 +4.1**
MTE *e*SS SS 22 22 11.0 +17
MTE Manteigas 95.46 337 *e*LQ LQ 22 33 16.1
MTE *e*LR LR 22 38 28.8
comp=Z,50µm,18.0s
MTE Manteigas 95.46 337 *e*P **P 22 04 13.4 +0.3**
comp=Z,63nm,1.0s
MTE LR LR
comp=Z,54µm,19.0s
GOGA Godfrey 95.53 37 *e*P **P 22 04 14.4 +0.9**
GOGA pmax pmax
comp=Z,118nm,1.8s
GOGA Godfrey 95.53 37 *e*P **P 22 04 14.4 +0.9**
comp=Z,118nm,1.8s
JSC Jenkinsville 95.80 35 *e*P **P 22 04 15.5 +0.8**
JSC pmax pmax
comp=Z,36nm,1.1s
JSC Jenkinsville 95.80 35 *e*P **P 22 04 15.4 +0.8**
comp=Z,36nm,1.1s
PCBR Castelo Branco 95.95 337 *e*P **P 22 04 16.1 +0.8**
PCAS Casmilo, Conde 96.06 338⇑*i*P **P 22 04 15.3 -0.5**
PCAS Casmilo, Conde 96.06 338 *e*PP PP 22 08 09.7 +2.2
PCAS *e*SKS **SKSac 22 14 50.6 +0.7**
PCAS *e*SS SS 22 22 18.6 +17
MOIG Morelia 96.15 58 PFAKE 22 04 30.0 +13
MOIG LR LR
comp=Z,18µm,20.0s
PMRV Marv??o 96.31 337⇑*i*P **P 22 04 16.6 -0.3**
PMRV Marv??o 96.31 337 *e*PP PP 22 08 12.6 +3.1
PMRV *e*SKS **SKSac 22 14 53.9 +2.6**
PMRV *e*SS SS 22 22 18.6 +13
PMRV Marv??o 96.31 337 *e*LQ LQ 22 33 34.5
PMRV *e*LR LR 22 37 01.1
comp=Z,40µm,22.0s
CNNC Cliffs of the 96.42 32 PFAKE 22 04 30.0 +13
CNNC LR LR
comp=Z,52µm,21.0s
PESTR Estremoz 96.88 337⇑*i*P **P 22 04 19.9 +0.3**
PESTR Estremoz 96.88 337 *e*PP PP 22 08 17.0 +3.0
PESTR *e*SKS **SKSac 22 14 55.9 +1.6**
PESTR *e*SS SS 22 22 26.0 +12
TIGA Tifton 97.11 38 P Pdif 22 04 22.2 +1.5
baz=326
TIGA Tifton 97.11 38 *e*P Pdif 22 04 22.1 +1.3
comp=Z,100nm,1.3s
TIGA LR LR
comp=Z,31µm,21.0s
NHSC New Hope 97.27 35 PFAKE 22 04 30.0 +8.6
NHSC LR LR
comp=Z,30µm,20.0s
PMAFR Mafra 97.30 338⇑*i*P **P 22 04 20.6 -0.8**
PMAFR Mafra 97.30 338 *e*PP PP 22 08 20.4 +3.3
PMAFR *e*SKS **SKSac 22 14 59.3 +2.9**
PMAFR *e*SS **SS 22 22 30.1 +11**
EVO Evora 97.32 337⇑*i*P **P 22 04 21.5 0.0**
EVO Evora 97.32 337 *e*PP PP 22 08 20.1 +2.8
PBAR Barrancos 97.35 336⇑*i*P **P 22 04 21.5 -0.2**
PBAR Barrancos 97.35 336 *e*PP PP 22 08 20.3 +2.8
PBAR *e*SKS **SKSac 22 14 56.9 +0.2**
PBAR *e*SS SS 22 22 35.9 +16
PMST Lisbon--Monsan 97.47 338⇑*e*P Pdif 22 04 22.4 +0.1
PMST Lisbon--Monsan 97.47 338 *e*PP PP 22 08 21.6 +3.2
LIS Lisbon 97.48 338 *e*P **P 22 04 18.2 -4.1**
LIS *e*PP **PP 22 08 15.3 -3.2**
LIS *e*S **SKSac 22 14 53.0 -4.3**
LIS AMS AMS 22 53 39.9
comp=Z,65µm,14.9s
LIS Lisbon 97.48 338 *e*P Pdif 22 04 23.2 +0.9
LIS Lisbon 97.48 338 *e*PP PP 22 08 21.6 +3.1
LIS Lisbon 97.48 338 *e*P **P 22 04 18.1 -4.1**
LIS *e* 22 08 15.3
LIS *e*S **SKSac 22 14 53.0 -4.3**
UNM Universidad Na 97.71 57 PFAKE 22 04 40.0 +16
UNM LR LR
comp=Z,22µm,20.0s
PBEJ Beja 97.74 337 *e*P **P 22 04 23.0 -0.4**
PNCL Nicolau / Gran 97.86 337⇑*i*P Pdif 22 04 24.1 +0.1
PNCL Nicolau / Gran 97.86 337 *e*PP PP 22 08 25.3 +3.9
PNCL *e*SKS **SKSac 22 15 00.9 +1.7**
PNCL *e*SS SS 22 22 44.2 +17
MESJ Messejana 98.02 337 *e*P **P 22 04 20.6 -4.1**
MESJ *e*PP **PP 22 08 19.4 -3.2**
MESJ *e*S **SKSac 22 14 55.8 -4.3**
MESJ AMS AMS 22 51 26.9
comp=Z,40µm,17.4s
MESJ Messejana 98.02 337⇑*i*P Pdif 22 04 24.9 +0.2
MESJ Messejana 98.02 337 *e*PP PP 22 08 25.1 +2.4
MESJ Messejana 98.02 337 *e*P **P 22 04 20.5 -4.1**
MESJ *e* 22 08 19.4
MESJ *e*S **SKSac 22 14 55.8 -4.3**
PCVE Castro Verde 98.16 337⇑*i*P Pdif 22 04 25.6 +0.3
PCVE Castro Verde 98.16 337 *e*PP PP 22 08 19.5 -4.2
PCVE *e*SKS **SKSac 22 15 01.6 +0.8**
PCVE *e*SS **SS 22 22 41.8 +10**
PVAQ Vaqueiros 98.27 336⇑*i*P Pdif 22 04 26.0 +0.2
PVAQ Vaqueiros 98.27 336 *e*PP PP 22 08 27.4 +2.8
PVAQ *e*SKS **SKSac 22 15 01.8 +0.4**
PVAQ *e*SS **SS 22 22 38.1 +5.0**
PVAQ Vaqueiros 98.27 336 *e*LQ LQ 22 33 45.0
PVAQ *e*LR LR 22 40 15.5
comp=Z,137µm,20.0s
PTEO Sao Teotonio 98.44 337 *e*P Pdif 22 04 28.1 +1.5
PTEO Sao Teotonio 98.44 337 *e*PP PP 22 08 27.8 +1.9
PBDV Barranco-do-Ve 98.48 337⇑*i*P Pdif 22 04 27.3 +0.5
PBDV Barranco-do-Ve 98.48 337 *e*PP PP 22 08 29.5 +3.2
PBDV *e*SKS **SKSac 22 15 04.2 +1.7**
PBDV *e*SS **SS 22 22 43.8 +7.6**
MORF Marmelete 98.64 337 *e*P **P 22 04 23.4 -4.2**
MORF *e*PP **PP 22 08 24.3 -3.2**
MORF *e*S **SKSac 22 14 59.0 -4.4**
MORF AMS AMS 22 52 53.0
comp=E,37µm,20.6s
MORF Marmelete 98.64 337⇑*i*P **P 22 04 27.3 -0.3**
MORF Marmelete 98.64 337 *e*PP PP 22 08 30.7 +3.2
MORF *e*SKS **SKSac 22 15 07.5 +4.1**
MORF *e*SS SS 22 22 52.7 +14
MORF Marmelete 98.64 337 *e*P **P 22 04 23.4 -4.2**
MORF *e* 22 08 24.3
MORF *e*S **SKSac 22 14 58.9 -4.4**
PFVI Vila Bisbo 98.86 337⇑*i*P **P 22 04 28.1 -0.3**
PFVI Vila Bisbo 98.86 337 *e*PP PP 22 08 31.9 +2.8
PFVI *e*SKS **SKSac 22 15 04.7 +0.4**
PFVI *e*SS SS 22 22 58.9 +18
PFVI Vila Bisbo 98.86 337 PFAKE 22 04 40.0 +12
PFVI LR LR
comp=Z,58µm,20.0s
RKT Rikitea 99.11 112 *e*SKSac **SKSac 22 15 01.2 -4.4**
comp=Z,17µm,29.2s
RKT *e*SP **SP 22 17 25.9 +0.9**
comp=Z,19µm,32.5s
RKT *e*SS **SS 22 22 49.7 +2.0**
comp=Z,18µm,28.8s

RKT Rikitea 99.11 112 *e*LR LR 22 36 21.7
comp=Z,85µm,32.0s,baz=304
TLIG Tlapa 99.39 58 PFAKE 22 04 40.0 +8.7
TLIG LR LR
comp=Z,11µm,20.0s
H07S1 FLORES T-PHASE 100.81 355 *e*Pdif **Pdif 22 04 31.8 -5.3**
RER Riviere de l'E 100.87 252 PFAKE 22 04 50.0 +12
RER LR LR
comp=Z,26µm,21.0s
PGRA Graciosa 100.89 352 *e*Pdif **Pdif 22 04 34.8 -2.6**
PGRA Graciosa 100.89 352 *e*SS SS 22 23 11.1 +1.8
PGRA Graciosa 100.89 352 *e*LQ LQ 22 33 50.7
PGRA *e*LR LR 22 38 00.3
comp=Z,2µm,21.4s
DWPF Disney Wildern 100.91 39 PFAKE 22 04 50.0 +12
DWPF LR LR
comp=Z,31µm,20.0s
RTC Rabat Centre 101.13 334 PFAKE 22 04 50.0 +11
RTC LR LR
comp=Z,122µm,20.0s
ROSA Rosais 101.22 353 *e*Pdif **Pdif 22 04 38.9 0.0**
ROSA Rosais 101.22 353 *e*SS SS 22 23 14.6 +0.6
ROSA Rosais 101.22 353 *e*LQ LQ 22 33 32.5
ROSA Rosais 101.22 353 PFAKE 22 04 50.0 +11
ROSA LR LR
comp=Z,27µm,22.0s
PMAN Manadas 101.29 352 *e*Pdif **Pdif 22 04 39.4 +0.2**
PCED Cedros 101.35 353 *e*Pdif **Pdif 22 04 40.9 +1.4**
MDT Midelt 101.42 332 S **SKSac 22 15 16.6 -0.8**
comp=Z,1.1nm,0.8s,baz=48,slow=13,SNR=1.5
PICO Pico 101.45 353 *e*Pdif **Pdif 22 04 39.9 -0.2**
PCAN Candelaria 101.50 353 *e*Pdif **Pdif 22 04 42.5 +2.3**
BART Pico Bartolome 101.79 350 *e*Pdif **Pdif 22 04 42.0 +0.4**
PSET Sete Cidades 101.82 350 *e*Pdif **Pdif 22 04 42.5 +0.8**
PSET Sete Cidades 101.82 350 *e*SS SS 22 23 23.2 +0.8
PSET *e*LQ LQ 22 33 02.0
PSET *e*LR LR 22 38 15.5
comp=Z,1µm,19.6s
CMLA Cha da Macela 101.85 350 *e*Pdif **Pdif 22 04 41.8 0.0**
CMLA Cha da Macela 101.85 350 *e*SS SS 22 23 22.8 0.0
CMLA *e*LQ LQ 22 32 56.7
CMLA *e*LR LR 22 38 06.4
comp=Z,525nm,21.8s
CMLA Cha da Macela 101.85 350 PFAKE 22 04 50.0 +8.2
CMLA LR LR
comp=Z,22µm,21.0s
PDA Ponta Delgada 101.89 350 *e*Pdif **Pdif 22 04 41.4 -0.5**
KMBO Kilima Mbogo 102.36 279 P **Pdif 22 04 44.2 -0.4**
comp=Z,6.7nm,0.9s,baz=38,slow=7.0,SNR=16
KMBO PP **PP 22 08 53.4 -3.9**
comp=Z,5.1nm,1.0s,baz=27,slow=6.5,SNR=3.2
KMBO Kilima Mbogo 102.36 279 *e*P **Pdif 22 04 44.5 -0.2**
KMBO *e* 22 08 53.4
KMBO MLR MLR
comp=Z,25µm,21.0s
KMBO Kilima Mbogo 102.36 279 *e*Pdif **Pdif 22 04 44.5 -0.2**
KMBO *e*PP **PP 22 08 53.4 -3.9**
KMBO LR LR
comp=Z,25µm,21.0s
PSMN Pico do Norte, 102.54 350 *e*Pdif **Pdif 22 04 42.5 -2.4**
PSMN Pico do Norte, 102.54 350 *e*SS SS 22 23 23.8 -8.5
PSMN Pico do Norte, 102.54 350 *e*LQ LQ 22 34 21.2
PSMN *e*LR LR 22 38 12.4
comp=Z,1µm,18.2s
TEIG Tepich 103.69 48 PFAKE 22 05 00.0 +10
TEIG LR LR
comp=Z,17µm,21.0s
BBSR BB Station 103.74 23 PFAKE 22 05 00.0 +10
BBSR LR LR
comp=Z,14µm,19.0s
PTCN Pitcairn Islan 103.80 111 PFAKE 22 05 00.0 +10
PTCN LR LR
comp=Z,25µm,20.0s
CCIG Comitan 104.43 54 PFAKE 22 05 10.0 +16
CCIG LR LR
comp=Z,27µm,22.0s
PMOZ Porto Moniz, M 105.16 342⇑*i*P **Pdif 22 04 58.3 +1.6**
PMOZ Porto Moniz, M 105.16 342 *e*PP PP 22 09 20.7 +4.2
PMOZ *e*SKS SKSac 22 15 47.3 +13
PMOZ *e*SS SKKPbc 22 24 27.5 +15
PMOZ Porto Moniz, M 105.16 342 *e*LR LR 22 40 44.8
comp=Z,14µm,18.0s
PMAR Madeira 105.18 342 *e*PP PP 22 09 22.6 +5.8
TAM Tamanrasset 105.76 319 PFAKE 22 09 20.0
TAM LR LR
comp=Z,30µm,20.0s
ABPO Ambohimpanom 105.88 258 PFAKE 22 09 20.0
ABPO LR LR
comp=Z,28µm,21.0s
CASY Casey 108.75 193 PFAKE 22 09 30.0
CASY LR LR
comp=Z,6µm,20.0s
TGUH Tegucigalpa,Un 109.12 52 PFAKE 22 09 30.0
TGUH LR LR
comp=Z,22µm,22.0s
PAF Port-aux-Franc 109.33 221 PFAKE 22 09 30.0
PAF LR LR
comp=Z,10µm,19.0s
GTBY Guantanamo Bay 110.87 38 PFAKE 22 09 30.0
GTBY LR LR
comp=Z,22µm,21.0s
MTDJ Mount Denham 111.14 41 PFAKE 22 09 30.0
MTDJ LR LR
comp=Z,24µm,22.0s
GRTK Grand Turk 111.27 34 PFAKE 22 09 30.0
GRTK LR LR
comp=Z,25µm,20.0s
SDDR Presa de Saban 113.44 35 PFAKE 22 09 40.0
SDDR LR LR
comp=Z,42µm,21.0s
HDC Heredia 114.20 52 PFAKE 22 09 40.0 +12
HDC LR LR
comp=Z,10µm,21.0s
SDD Santo Domingo 114.50 34 PFAKE 22 09 40.0 +11
SDD LR LR
comp=Z,84µm,22.0s
TOC1 Torodi Ar. Sit 115.77 317 PFAKE 22 09 40.0 +8.8
TOC1 LR LR
comp=Z,44µm,18.0s
TOC2 Torodi Ar. Sit 115.78 317 PFAKE 22 09 40.0 +8.8
TOC2 LR LR
comp=Z,41µm,19.0s
TOB2 Torodi Ar. Sit 115.78 317 PFAKE 22 09 40.0 +8.8
TOB2 LR LR
comp=Z,39µm,19.0s
TOB1 Torodi Ar. Sit 115.79 317 PFAKE 22 09 40.0 +8.7
TOB1 LR LR
comp=Z,43µm,19.0s
TOC7 Torodi Ar. Sit 115.79 317 PFAKE 22 09 40.0 +8.7
TOC7 LR LR
comp=Z,39µm,19.0s
TOC3 Torodi Ar. Sit 115.79 317 PFAKE 22 09 40.0 +8.7
TOC3 LR LR
comp=Z,40µm,18.0s
TOA2 Torodi Ar. Sit 115.79 317 PFAKE 22 09 40.0 +8.7
TOA2 LR LR
comp=Z,200nm,18.0s
TOA1 Torodi Ar. Sit 115.79 317 *e*PKPdf **PKPdf 22 09 30.9 -0.4**
TOA1 *e*PP **PP 22 10 31.3 -2.5**
TOA1 *e*PKKPbc **PKKPbc 22 20 04.6 +3.0**
TOA1 LR LR
comp=Z,39µm,19.0s
TOA0 Torodi Ar. Sit 115.80 317 *e*PKPdf **PKPdf 22 09 30.2 -1.0**
TOA0 *e*PKPdf **PKiKP 22 09 30.7 -0.5**
TOA0 LR LR
comp=Z,39µm,18.0s
TORD Torodi Ar. Bea 115.80 317 PKP **PKPdf 22 09 30.9 -0.4**
comp=Z,11nm,0.9s,baz=4.3,slow=1.6,SNR=14
TORD PP **PP 22 10 31.3 -2.6**
comp=Z,59nm,1.0s,baz=22,slow=4.9,SNR=9.5
TORD PKKPbc **PKKPbc 22 20 04.6 +3.0**
comp=Z,2.5nm,1.0s,baz=210,slow=2.6,SNR=6.8
TOB5 Torodi Ar. Sit 115.80 317 PFAKE 22 09 40.0 +8.7
TOB5 LR LR
comp=Z,38µm,20.0s
TOB3 Torodi Ar. Sit 115.80 317 PFAKE 22 09 40.0 +8.7
TOB3 LR LR
comp=Z,39µm,18.0s
TOA3 Torodi Ar. Sit 115.80 317 PFAKE 22 09 40.0 +8.7
TOA3 LR LR
comp=Z,300nm,18.0s
TOB4 Torodi Ar. Sit 115.81 317 PFAKE 22 09 40.0 +8.7
TOB4 LR LR
comp=Z,39µm,18.0s

TOC4 Torodi Ar. Sit 115.82 317 PFAKE 22 09 40.0 +8.7
TOC4 LR LR
comp=Z,41µm,19.0s
TOC5 Torodi Ar. Sit 115.82 317 PFAKE 22 09 40.0 +8.7
TOC5 LR LR
comp=Z,44µm,19.0s
MPR Mayaguez 115.87 31 PFAKE 22 09 40.0 +8.7
MPR LR LR
comp=Z,12µm,21.0s
CBYP Canovanas 116.32 30 PFAKE 22 09 40.0 +7.7
CBYP LR LR
comp=Z,17µm,20.0s
SJG San Juan 116.35 31 *e*P PKPdf 22 09 49.4 +17
SJG San Juan 116.35 31 PFAKE 22 09 40.0 +7.8
SJG LR LR
comp=Z,12µm,20.0s
HUMP Col San Antoni 116.44 30 PFAKE 22 09 40.0 +7.6
HUMP LR LR
comp=Z,18µm,21.0s
ABVI Anegada Island 116.47 29 PFAKE 22 09 40.0 +7.5
ABVI LR LR
comp=Z,24µm,21.0s
STVI Saint Thomas 116.59 29 PFAKE 22 09 50.0 +17
STVI LR LR
comp=Z,21µm,22.0s
BCIP Isla Barro Col 117.38 48 *e*P PKPdf 22 10 16.4 +42
BCIP Isla Barro Col 117.38 48 PFAKE 22 09 50.0 +16
BCIP LR LR
comp=Z,11µm,22.0s
SMRT St. Maarten 117.55 28 PFAKE 22 09 50.0 +15
SMRT LR LR
comp=Z,33µm,21.0s
VNDA Vanda 117.83 175 PKP **PKPdf 22 09 32.7 -0.5**
comp=Z,5.5nm,0.8s,baz=314,slow=4.5,SNR=16
VNDA PP **PP 22 10 49.8 +1.7**
comp=Z,9.0nm,1.1s,baz=324,slow=8.1,SNR=6.0
VNDA PKKPbc **PKKPbc 22 19 57.2 +1.6**
comp=Z,3.4nm,1.0s,baz=174,slow=1.6,SNR=5.0
CRZF Crozet Islands 117.89 231 PFAKE 22 09 50.0 +16
CRZF LR LR
comp=Z,12µm,19.0s
SABA Saba 117.89 28 PFAKE 22 09 50.0 +15
SABA LR LR
comp=Z,29µm,22.0s
SEUS St. Eustatius 118.10 28 PFAKE 22 09 50.0 +14
SEUS LR LR
comp=Z,25µm,22.0s
LSZ Lusaka 118.19 273 *e*PKIKP **PKPdf 22 09 36.5 +0.6**
LSZ MLR MLR
comp=Z,26µm,20.0s
LSZ Lusaka 118.19 273 *e*PKPdf **PKPdf 22 09 36.5 +0.6**
LSZ LR LR
comp=Z,26µm,20.0s
PAYG Puerto Ayora 118.20 65 PFAKE 22 09 50.0 +14
PAYG LR LR
comp=Z,23µm,22.0s
ANWB Willy Bob 118.36 26 PFAKE 22 09 50.0 +14
ANWB LR LR
comp=Z,16µm,22.0s
SBA Scott Base 118.49 174 *e*PKIKP **PKPdf 22 09 34.6 +0.1**
SBA MLR MLR
comp=Z,7µm,22.0s
SBA Scott Base 118.49 174 *e*PKPdf **PKPdf 22 09 34.6 +0.1**
SBA LR LR
comp=Z,7µm,22.0s
SJCC San Jacinto, C 119.36 44 *e*P PKPdf 22 09 49.4 +11
MOTC Monteria, Cord 120.03 45 *e*P **PKPdf 22 09 36.5 -2.9**
CXM Morne La Croix 121.22 27 *e*P PP 22 11 21.0 +10
FDF Fort de France 121.30 27 *e*P **PP 22 11 19.0 +7.4**
FDF Fort de France 121.30 27 PFAKE 22 09 50.0 +8.1
FDF LR LR
comp=Z,12µm,20.0s
BIM Bigot 121.53 27 *e*P **PP 22 11 13.4 +0.3**
OCAC Ocana 121.73 43 *e*P **PKPdf 22 09 46.0 +3.1**
HELC Santa Helena 122.25 46 PFAKE 22 10 00.0 +16
HELC LR LR
comp=Z,34µm,21.0s
GRMC Gramalote, San 122.44 43 *e*P **PKPdf 22 09 42.4 -1.9**
CBRI Barrientos, No 122.44 43 *e*P PKPpre 22 09 40.0
BRRC Barranca, Sant 122.48 44 *e*P **PKPdf 22 09 41.2 -2.9**
MAW Mawson 122.54 207 PKP **PKPdf 22 09 42.1 -0.4**
comp=Z,12nm,0.7s,baz=58,slow=1.5,SNR=18
MAW PKKPbc **PKKPbc 22 19 40.0 +2.2**
comp=Z,5.9nm,1.0s,baz=301,slow=6.2,SNR=5.8
MAW Mawson 122.54 207 PKIKP **PKPdf 22 09 42.1 -0.4**
MAW pmax pmax
comp=Z,10.0nm,0.9s
MAW Mawson 122.54 207 *e*PKPdf **PKPdf 22 09 42.1 -0.4**
MAW *e*PKKPbc **PKKPbc 22 19 40.0 +2.2**
MAW LR LR
comp=Z,2µm,22.0s
SDV Santo Domingo 122.54 40 *e*P **PKPdf 22 09 42.4 -2.1**
SDV Santo Domingo 122.54 40 *e*PKPdf **PKPdf 22 09 44.9 +0.4**
SDV LR LR
comp=Z,21µm,22.0s
SVB Belmont 122.62 28 PFAKE 22 10 00.0 +16
SVB LR LR
comp=Z,17µm,22.0s
NORC Norcasia 123.13 46 *e*P **PKPdf 22 09 42.4 -3.1**
BARC Barichara 123.19 44 *e*P **PKPdf 22 09 45.9 +0.1**
BBGH Gun Hill 123.32 26 PFAKE 22 10 00.0 +14
BBGH LR LR
comp=Z,16µm,20.0s
SACV Santiago Islan 123.82 344 *e*PKPdf **PKPdf 22 09 47.9 +1.2**
RUSC La Rusia 123.83 44 *e*P PKPpre 22 09 42.4
RUSC La Rusia 123.83 44 *e*PKPdf **PKPdf 22 09 47.6 +0.2**
ROSC El Rosal 124.03 46 PKP **PKPdf 22 09 48.6 +0.9**
comp=Z,18nm,0.9s,baz=146,slow=6.3,SNR=7.8
ROSC El Rosal 124.03 46 *e*P PKPpre 22 09 40.0
ROSC El Rosal 124.03 46 *e*PKPdf **PKPdf 22 09 48.6 +0.9**
ROSC LR LR
comp=Z,5µm,22.0s
CHIC Chingaza 124.53 46 *e*P **PKPdf 22 09 45.9 -2.7**
POPC Popayan, Colom 124.56 50 *e*P **PKPdf 22 09 48.3 -0.2**
PRAC Prado 124.64 47 *e*P **PKPdf 22 09 48.3 -0.1**
PRAC Prado 124.64 47 *e*PKPdf **PKPdf 22 09 48.5 +0.2**
PRAC LR LR
comp=Z,8µm,22.0s
DBIC Dimbokro 124.65 319 PKP **PKPdf 22 09 48.2 -0.1**
comp=Z,20nm,0.7s,baz=20,slow=2.7,SNR=22
DBIC PP **PP 22 11 33.4 -1.1**
comp=Z,29nm,0.9s,baz=12,slow=6.4,SNR=6.3
VILC Villavicencio, 124.98 46 *e*P PKPpre 22 09 42.1
CMBC Cumbal 125.14 52 *e*P **PKPdf 22 09 49.4 -0.4**
OTAV Otavalo 125.31 53 *e*P **PKPdf 22 09 53.0 +2.8**
OTAV Otavalo 125.31 53 *e*PKPdf **PKPdf 22 09 53.2 +3.0**
OTAV LR LR
comp=Z,8µm,21.0s
SJAC San Juan de Ar 125.53 47 *e*P **PKPdf 22 09 50.7 +0.5**
LBTB Lobatse 125.74 266 *e*PKIKP **PKPdf 22 09 50.8 +0.6**
LBTB Lobatse 125.74 266 *e*PKPdf **PKPdf 22 09 50.8 +0.6**
BOSA Boshof 127.86 262 PKP **PKPdf 22 09 54.6 +0.5**
comp=Z,22nm,1.0s,baz=9.9,slow=2.7,SNR=9.7
BOSA PKKPab PKKPab 22 19 18.1
comp=Z,3.3nm,1.0s,baz=119,slow=2.3,SNR=3.2
BOSA Boshof 127.86 262 *e*PKPdf **PKPdf 22 09 54.6 +0.5**
BOSA *e*PKPdf **PKiKP 22 09 54.7 0.0**
TSUM Tsumeb 128.64 277 *e*PKPdf **PKPdf 22 09 56.7 +0.8**
TSUM LR LR
comp=Z,17µm,20.0s
QSPA South Pole Qui 129.71 180 *e*PKPdf **PKPdf 22 09 55.5 -0.9**
QSPA LR LR
comp=Z,24µm,21.0s
SYO Syowa Base 131.19 208⇑*i*P PKPpre 22 09 48.4
SYO Syowa Base 131.19 208⇑*i*P **PKPdf 22 09 58.1 -0.9**
SUR Sutherland 133.02 260 PKhKP PKPpre 22 09 59.2
comp=Z,0.4nm,0.9s,baz=46,slow=21,SNR=2.9
SUR PKP **PKPdf 22 10 04.4 +0.5**
comp=Z,1.1nm,1.0s,baz=6.3,slow=5.7,SNR=3.3
SUR Sutherland 133.02 260 *e*PKPpre PKPpre 22 09 59.2
SUR *e*PKPdf **PKPdf 22 10 04.4 +0.5**
SUR LR LR
comp=Z,20µm,21.0s
NNA Nana 135.55 62 PFAKE 22 10 20.0 +11
NNA LR LR
comp=Z,18µm,21.0s
PTGA Pitinga 135.92 33 PP PP 22 12 46.0 -1.6
comp=Z,14nm,1.0s,baz=347,slow=3.6,SNR=3.5
PTGA Pitinga 135.92 33 *e*PKPdf **PKPdf 22 10 10.2 +0.5**
PTGA *e*PP **PP 22 12 46.0 -1.6**
PTGA LR LR
comp=Z,11µm,22.0s
NVL N'lazarevskaya 140.32 203 *e*PKHKP PKPpre 22 10 10.9
NVL *e*SS SS 22 31 33.6 -2.3

NVL					*e*SSS	SSS	22 36 47.6		
NVL					MLR	MLR			
	comp=Z,20µm,28.0s								
SAML	**Samuel**	**141.56**	**43**		*e*PKPpre	PKPpre	22 10 13.9		
SAML					LR	LR			
	comp=Z,7µm,22.0s								
ASCN	**Ascension**	**141.95**	**321**		PFAKE		22 10 30.0	+9.3	
ASCN					LR	LR			
	comp=Z,17µm,20.0s								
SNAA	**Sanae**	**143.80**	**198**		P	PKPab	22 10 19.3	0.0	
SNAA	**Sanae**	**143.80**	**198**		*e*PKHKP	PKPpre	22 10 18.5		
SNAA					MLR	MLR			
	comp=Z,10µm,19.0s								
SNAA	**Sanae**	**143.80**	**198**		*e*PKPpre	PKPpre	22 10 18.4		
SNAA					LR	LR			
	comp=Z,10µm,19.0s								
LPAZ	**La Paz**	**144.45**	**57**		PKP	**PKPab**	**22 10 23.0**	**-1.0**	
	comp=Z,18nm,0.8s,baz=341,slow=4.2,SNR=47								
LPAZ	**La Paz**	**144.45**	**57**		*e*PKPdf	**PKPab**	**22 10 23.9**	**-0.1**	
VNA1	**Neumayer--Stat**	**145.77**	**197**		P	**PKPbc**	**22 10 26.3**	**+0.2**	
PB11	**IPOC Station P**	**145.90**	**63**		*e*PKPdf	**PKPab**	**22 10 28.8**	**+0.1**	
PB11					LR	LR			
	comp=Z,28µm,21.0s								
RCBR	**Riachuelo**	**145.97**	**357**		*e*PKPdf	**PKPbc**	**22 10 28.5**	**0.0**	
RCBR					LR	LR			
	comp=Z,18µm,22.0s								
PB01	**IPOC Station P**	**146.88**	**65**		*e*PKPdf	**PKPdf**	**22 10 29.8**	**+0.7**	
PB01					LR	LR			
	comp=Z,20µm,22.0s								
PB04	**IPOC Station P**	**147.25**	**67**		*e*PKPdf	**PKPbc**	**22 10 32.2**	**0.0**	
PB04					LR	LR			
	comp=Z,24µm,21.0s								
PB10	**IPOC Station P**	**147.71**	**69**		*e*PKPbc	**PKPab**	**22 10 34.8**	**-0.7**	
PB10					LR	LR			
	comp=Z,37µm,22.0s								
LVC	**Limon Verde**	**148.31**	**66**		*e*PKPdf	**PKPbc**	**22 10 33.6**	**-1.6**	
LVC					LR	LR			
	comp=Z,26µm,22.0s								
LCO	**Las Campanas**	**150.72**	**78**		*e*PKPbc	**PKPbc**	**22 10 41.3**	**+0.5**	
LCO					LR	LR			
	comp=Z,43µm,21.0s								
PMSA	**Palmer Station**	**150.79**	**157**		PKP	**PKPdf**	**22 10 33.1**	**-0.8**	
	comp=Z,47nm,1.1s,baz=74,slow=8.6,SNR=2.3								
PMSA	**Palmer Station**	**150.79**	**157**		*e*PKPdf	**PKPdf**	**22 10 33.1**	**-0.8**	
PMSA					LR	LR			
	comp=Z,18µm,20.0s								
HJA	**Humahuaca**	**151.13**	**63**		*e*P	**PKPbc**	**22 10 41.3**	**-0.9**	
AZAP	**Zapla**	**152.03**	**64**		*e*P	**PKPdf**	**22 10 40.0**	**+2.5**	
SLA	**San Lorenzo**	**152.05**	**65**		*e*P	**PKPdf**	**22 10 35.9**	**-1.4**	
ASTB	**Santa Barbara**	**152.28**	**63**		*e*P	**PKPdf**	**22 10 38.6**	**+0.9**	
ROC1	**El Roble**	**152.30**	**86**		*e*P	**PKPdf**	**22 10 39.9**	**+2.3**	
ROC1	**El Roble**	**152.30**	**86**		*e*PKPdf	**PKPdf**	**22 10 38.6**	**+1.0**	
VCA	**Vinchina**	**152.44**	**75**		*e*P	**PKPdf**	**22 10 38.4**	**+0.6**	
FSA	**Cafayete**	**152.58**	**68**		*e*P	**PKPdf**	**22 10 39.8**	**+1.7**	
AGUA	**GUANDACOL**	**152.62**	**77**		*e*P	**PKPdf**	**22 10 40.2**	**+2.3**	
RTLS	**Leoncito**	**153.11**	**82**		*e*P	**PKPdf**	**22 10 39.4**	**+0.5**	
AUSP	**Uspallata**	**153.23**	**83**		*e*P	**PKPdf**	**22 10 39.7**	**+0.7**	
AMOG	**MOGNA**	**153.33**	**80**		*e*P	**PKPdf**	**22 10 39.8**	**+0.9**	
AHML	**Horco Molle**	**153.44**	**69**		*e*P	**PKPdf**	**22 10 39.2**	**0.0**	
RTLL	**Cerro Villicun**	**153.53**	**81**		*e*P	**PKPdf**	**22 10 39.8**	**+0.6**	
RTCV	**Cerro Valdivia**	**153.72**	**82**		*e*P	**PKPbc**	**22 10 49.1**	**+1.8**	
CHRN	**Cochrane**	**153.77**	**118**		*e*PKPbc	**PKPbc**	**22 10 48.9**	**+2.1**	
ASAL	**Salagasta**	**153.81**	**84**		*e*P	**PKPdf**	**22 10 39.6**	**0.0**	
ARCO	**CERRO ARCO**	**153.84**	**84**		*e*P	**PKPdf**	**22 10 39.7**	**0.0**	
CANA	**Caviahue**	**153.92**	**96**		*e*P	**PKPdf**	**22 10 39.7**	**0.0**	
CANA					*e*P	**PKPbc**	**22 10 43.4**	**-4.3**	
AAGR	**Agrelo**	**154.02**	**85**⇓		*e*P	**PKPdf**	**22 10 40.4**	**+0.4**	
CYA	**Choya**	**154.06**	**72**		*e*P	**PKPdf**	**22 10 40.5**	**+0.5**	
PLCA	**Paso Flores**	**154.91**	**102**		PKP	**PKPdf**	**22 10 41.6**	**+0.7**	
	comp=Z,3.0nm,0.8s,baz=7.2,slow=5.5,SNR=2.9								
PLCA					PKPab	**PKPab**	**22 11 03.6**	**-1.4**	
	comp=Z,17nm,0.8s,baz=281,slow=9.2,SNR=5.7								
ACAN	**Cantantal**	**154.93**	**81**		*e*P	**PKPdf**	**22 10 40.9**	**-0.2**	
TCA	**Tanti**	**156.45**	**77**		*e*P	**PKPdf**	**22 10 42.7**	**-0.5**	
SUCO	**SUCO**	**157.14**	**82**		*e*P	**PKPdf**	**22 10 43.8**	**-0.2**	
CPUP	**Villa Florida**	**158.62**	**56**		PKP	**PKPdf**	**22 10 45.5**	**-0.5**	
	comp=Z,10nm,1.1s,baz=20,slow=2.9,SNR=12								
CPUP					PKPab	**PKPab**	**22 11 20.4**	**-0.8**	
	comp=Z,9.1nm,0.8s,baz=314,slow=4.0,SNR=3.9								
TRQA	**Tornquist**	**160.92**	**92**		*e*PKPdf	**PKPdf**	**22 10 50.5**	**+2.2**	
LPA	**La Plata**	**163.04**	**79***ce*		PKIKP	**PKPdf**	**22 10 52.0**	**+1.6**	
LPA	**La Plata**	**163.04**	**79**		PKP	**PKPab**	**22 11 40.0**	**-0.4**	
LPA					SKIKP		22 14 19.0		
LPA					PP	**PP**	**22 15 24.0**	**-1.8**	
LPA					PPP	PPP	22 23 02.0		

JMA 22 21:51:49.9±0.1, 31.76N×131.99E, h27km±1km, M3.5, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.64**	**320**	⇓P	Pb	21 52 02.0	-0.5
JTSN				S	Sb	21 52 10.3	-0.7
JNAR	**Kushima--Naru**	**0.66**	**249**	⇓P	Pb	21 52 02.5	-0.3
JNAR				*e*S	Sb	21 52 11.5	0.0
JTZ	**Takazaki**	**0.78**	**281**	⇑P	Pb	21 52 04.3	-0.6
JTZ				S	Sb	21 52 14.5	-0.6
JZO	**Okuchi**	**1.24**	**288**	P	Pn	21 52 11.6	+0.1
JZO				*e*S	Sb	21 52 28.3	0.0
JIU2	**Izumi 2**	**1.27**	**308**	⇑P	Pn	21 52 12.3	+0.4
JIU2				S	Sb	21 52 29.4	+0.3
JTO	**Tosashimizu**	**1.29**	**32**	P	Pn	21 52 11.5	-0.7
JTN	**Tanegashima 3**	**1.40**	**218**	P	Pn	21 52 13.4	-0.3
JTN				*e*S	Sn	21 52 31.6	+0.3

JMA 22 21:56:54.9±0.1, 39.99N×142.50E, h32km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.49**	**264**	P	Pb	21 57 05.3	0.0
JTH				*e*S	Sn	21 57 12.8	-0.4
MIYJ	**Miyakonagasawa**	**0.67**	**232**	P	Pn	21 57 07.6	-0.5
MIYJ				*e*S	Sb	21 57 16.6	-0.6
JANG	**Nango**	**0.85**	**297**	P	Pn	21 57 10.2	-0.4
JANG				*e*S	Sn	21 57 21.1	-0.8
JKZ	**Kuzumaki**	**0.90**	**270**	P	Pb	21 57 11.8	-0.3
JOM	**Ohasama**	**1.06**	**241**	P	Pb	21 57 14.2	-0.6
OFUJ	**Ofunato**	**1.11**	**216**	P	Pn	21 57 14.4	+0.2
OFUJ				*e*S	Sn	21 57 28.5	0.0
JTM	**Tenmabayashi**	**1.35**	**307**	P	Pn	21 57 18.5	+1.0
JMK	**Ichinoseki**	**1.43**	**224**	P	Pn	21 57 19.8	+1.1
JMK				*e*S	Sb	21 57 38.0	-0.9

JMA 22 22:00:33.9±0.1, 40.01N×142.46E, h33km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.46**	**261**	P	Pb	22 00 43.9	0.0
JTH				*e*S	Sn	22 00 51.1	-0.2
MIYJ	**Miyakonagasawa**	**0.66**	**229**	P	Pn	22 00 46.5	-0.4
MIYJ				*e*S	Sb	22 00 55.3	-0.6
JANG	**Nango**	**0.81**	**297**	P	Pn	22 00 48.6	-0.4
JANG				*e*S	Sn	22 00 58.8	-1.1
JKZ	**Kuzumaki**	**0.87**	**269**	P	Pb	22 00 50.4	-0.2
JKZ				*e*S	Sn	22 01 01.0	-0.4
JOM	**Ohasama**	**1.05**	**240**	P	Pn	22 00 52.6	+0.3
OFUJ	**Ofunato**	**1.11**	**214**	P	Pn	22 00 53.2	+0.1
OFUJ				*e*S	Sn	22 01 07.0	-0.3
JTM	**Tenmabayashi**	**1.32**	**307**	*e*S	Sn	22 01 13.4	+1.0
JAH	**Hinai**	**1.41**	**278**	P	Pn	22 00 58.4	+1.2
JAH				*e*S	Sn	22 01 15.9	+1.2
JMK	**Ichinoseki**	**1.43**	**223**	P	Pn	22 00 58.0	+0.5

*ISCJB **22** 22:16:54.3±0.5,21.79S±0.03×179.17W±0.03, h546km±5km, mb5.1/236, Error ellipse: s-maj=4.5km s-min=3.3km az=137.6*
*IDC **22** 22:16:54.6±0.8,21.73S×179.17W, h541km±7km, mb4.4/32, mb1 4.5/35, mb1mx4.5/40, mbtmp5.3/35, Error ellipse: s-maj=9.2km s-min=7.5km az=154.0*
*BJI **22** 22:16:54.8,21.47S×178.71W, h559km, mb4.8/36, mB5.1/7*
*MOS **22** 22:16:54.4±0.9,21.70S×179.15W, h545km, mb5.2/36, Error ellipse: s-maj=9.6km s-min=7.8km az=67.5*
*NEIC **22** 22:16:56.8±0.4,21.74S×179.24W, h567km±4km, mb5.2/195, Error ellipse: s-maj=5.5km s-min=3.3km*

az=149.0
ISC 22 22:16:55.0±0.3, 21.78S±0.04×179.02W±0.04, h550km±3km, h550km:pP-P, n909, σ1§37/1018, mb5.2/234, 61C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.88**	**325**	*e*P	**P**	**22 18 24.6**	**+0.5**
MSVF				*e*S	**S**	**22 19 35.5**	**-1.1**
MSVF	**Nonsavu**	**4.88**	**325**	*e*P	**P**	**22 18 24.6**	**+0.5**
MSVF				*e*S	**S**	**22 19 35.5**	**-1.1**
RAO	**Raoul Island**	**7.50**	**173**	P	**P**	**22 18 46.7**	**-1.0**
	162nm,0.3s,baz=80,slow=9.5,SNR=9.5						
RAO	**Raoul Island**	**7.50**	**173**	*e*P	**P**	**22 18 47.1**	**-0.6**
RAO	**Raoul Island**	**7.50**	**173**	*e*P	**P**	**22 18 47.1**	**-0.6**
NIUE	**Niue**	**8.94**	**74**	P	**P**	**22 19 01.5**	**-0.7**
	baz=8.9,SNR=32						
AFI	**Afiamalu**	**10.43**	**43**	P	**P**	**22 19 15.5**	**-2.1**
	27nm,0.3s,baz=29,slow=3.5,SNR=14						
AFI				*e*S	**S**	**22 21 07.8**	**-6.9**
	14nm,0.3s,baz=232,slow=20,SNR=10						
AFI	**Afiamalu**	**10.43**	**43**	*e*P	**P**	**22 19 14.6**	**-3.0**
AFI				*e*S	**S**	**22 21 07.8**	**-6.9**
AFI	**Afiamalu**	**10.43**	**43**	*e*P	**P**	**22 19 14.6**	**-3.0**
AFI				*e*S	**S**	**22 21 07.8**	**-6.9**
DZM	**Mont Dzumac**	**13.49**	**266**	*e*P	**P**	**22 19 47.4**	**-1.7**
	516nm,0.9s						
DZM	**Mont Dzumac**	**13.49**	**266**	P	**P**	**22 19 48.4**	**-0.7**
	7.5nm,0.3s,baz=81,slow=19,SNR=93						
DZM				ScP	**ScP**	**22 27 16.2**	**+3.2**
	0.2nm,0.3s,baz=48,slow=17,SNR=6.9						
NFK	**Norfolk Island**	**13.82**	**236**	P	**P**	**22 19 53.7**	**+1.4**
	baz=14,SNR=6.3						
MXZ	**Matakaoa Point**	**15.89**	**188**	*e*P	**P**	**22 20 12.0**	**-1.3**
	97nm,1.3s						
HAZ	**Te Kaha**	**16.16**	**189**	PN	**P**	**22 20 14.8**	**-1.0**
HAZ				SN	**S**	**22 22 52.4**	**-7.4**
PUZ	**Puketiti**	**16.40**	**188**	SN	**S**	**22 23 01.8**	**-2.1**
TWGZ	**Tauwhareparae**	**16.54**	**188**	PN	**P**	**22 20 19.3**	**-0.2**
TWGZ				SN	**S**	**22 23 06.3**	**+0.1**
URZ	**Urewera**	**16.76**	**191**	P	**P**	**22 20 19.6**	**-1.7**
	2.5nm,0.3s,baz=268,slow=4.1,SNR=18						
URZ	**Urewera**	**16.76**	**191**	*e*P	**P**	**22 20 20.2**	**-1.1**
URZ	**Urewera**	**16.76**	**191**	PN	**P**	**22 20 19.5**	**-1.8**
URZ				SN	**S**	**22 23 03.0**	**-6.5**
MWZ	**Matawai**	**16.76**	**189**	PN	**P**	**22 20 20.4**	**-1.1**
MWZ				SN	**S**	**22 23 04.6**	**-5.2**
CNGZ	**Carnagh Statio**	**16.82**	**188**	PN	**P**	**22 20 22.3**	**+0.5**
KNZ	**Kokohu**	**17.41**	**189**	PN	**P**	**22 20 26.3**	**-1.0**
KNZ				SN	**S**	**22 23 16.8**	**-3.5**
RAR	**Rarotonga**	**17.92**	**92**	P	**P**	**22 20 31.9**	**-0.4**
	2.7nm,0.3s,baz=263,slow=7.2,SNR=11						
RAR	**Rarotonga**	**17.92**	**92**	*e*P	**P**	**22 20 31.9**	**-0.4**
RAR				pmax	pmax		
	comp=Z,518nm,1.8s						
RAR	**Rarotonga**	**17.92**	**92**	*e*P	**P**	**22 20 31.9**	**-0.4**
	comp=Z,518nm,1.8s						
PNHZ	**Pukenui**	**18.53**	**192**	*e*PN	**P**	**22 20 35.8**	**-1.8**
PNHZ				SN	**S**	**22 23 38.7**	**+0.2**
DVHZ	**Dannevirke**	**18.91**	**191**	*e*PN	**P**	**22 20 40.6**	**-0.4**
DVHZ				SN	**S**	**22 23 44.2**	**-0.5**
ANWZ	**Angora Road**	**19.01**	**191**	*e*PN	**P**	**22 20 40.5**	**-1.4**
ANWZ				SN	**S**	**22 23 42.4**	**-3.8**
MRZ	**Mangatainoka R**	**19.37**	**192**	PN	**P**	**22 20 42.9**	**-2.3**
MRZ				SN	**S**	**22 23 53.2**	**+1.2**
TUWZ	**Tuamarina**	**20.47**	**195**	*e*PN	**P**	**22 20 55.1**	**0.0**
THZ	**Tophouse**	**21.05**	**197**	*e*PN	**P**	**22 20 59.0**	**-1.5**
THZ				SN	**S**	**22 24 12.3**	**-6.6**
KHZ	**Kahutara**	**21.50**	**195**	PN	**P**	**22 21 03.1**	**-1.2**
LHI	**Lord Howe Isla**	**21.82**	**239**	*e*P	**P**	**22 21 10.1**	**+2.6**
	comp=Z,230nm,1.2s						
LTZ	**Lake Taylor**	**22.17**	**197**	*e*P	**P**	**22 21 11.5**	**+1.0**
	comp=Z,32nm,0.8s						
MQZ	**McQueen's Vall**	**22.93**	**196**	PN	**P**	**22 21 15.8**	**-1.4**
HNR	**Honiara**	**23.65**	**298**	P	**P**	**22 21 22.5**	**-1.5**
	comp=Z,41nm,0.4s,baz=218,slow=4.7,SNR=7.3						
WHZ	**Wether Hill Ro**	**26.30**	**201**	*e*P	**P**	**22 21 48.2**	**+1.2**
	comp=Z,51nm,1.0s						
TBI	**Tubuai**	**27.32**	**99**	*e*P	**P**	**22 21 56.8**	**+0.5**
	comp=Z,289nm,1.3s						
EIDS	**Eidsvold**	**27.61**	**257**	P	**P**	**22 21 58.6**	**-0.2**
	baz=28,SNR=49						
EIDS	**Eidsvold**	**27.61**	**257**	*e*P	**P**	**22 21 59.0**	**+0.2**
	comp=Z,69nm,0.6s						
EIDS				*e*S	**S**	**22 26 02.6**	**+0.4**
ARMA	**Armidale**	**27.66**	**246**	P	**P**	**22 22 00.1**	**+0.8**
	baz=28,SNR=78						
ARMA	**Armidale**	**27.66**	**246**	*e*P	**P**	**22 22 00.3**	**+0.9**
	comp=Z,100nm,0.8s						
PPT2	**Papeete2**	**28.01**	**87**	*e*P	**P**	**22 22 02.6**	**+0.1**
	comp=Z,120nm,1.4s						
MGCD	**Mangrove Creek**	**28.74**	**240**	P	**P**	**22 22 09.5**	**+0.9**
	baz=29,SNR=17						
RMQ	**Roma**	**29.73**	**254**	P	**P**	**22 22 17.9**	**+0.6**
	baz=30,SNR=57						
CNB	**Canberra Magne**	**30.73**	**237**	P	**P**	**22 22 26.2**	**+0.4**
	baz=31,SNR=51						
YNG	**Young**	**31.21**	**239**	P	**P**	**22 22 30.2**	**+0.4**
	baz=31,SNR=9.4						
XMAS	**Kiritimati**	**31.71**	**44**	*e*P	**P**	**22 22 34.5**	**+0.2**
	comp=Z,253nm,0.9s						
CTA	**Charters Tower**	**32.44**	**267**	P	**P**	**22 22 40.4**	**-0.2**
	comp=Z,76nm,0.4s,baz=92,slow=11,SNR=74						
CTA				ScP	**ScP**	**22 28 05.3**	**+2.1**
	comp=Z,4.6nm,0.6s,baz=22,slow=2.8,SNR=3.6						
CTAO	**Charters Tower**	**32.44**	**267**	*e*P	**P**	**22 22 40.3**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,89nm,0.9s						
CTAO	**Charters Tower**	**32.44**	**267**	*e*P	**P**	**22 22 40.3**	**-0.2**
	comp=Z,89nm,0.9s						
CMSA	**Cobar Meteorol**	**32.88**	**245**	P	**P**	**22 22 43.9**	**-0.1**
	baz=33,SNR=132						
QLP	**Quilpie**	**33.78**	**254**	P	**P**	**22 22 51.4**	**-0.3**
	baz=34,SNR=62						
TOO	**Toolangi**	**34.38**	**235**	P	**P**	**22 22 57.0**	**+0.3**
	baz=34,SNR=46						
MTSU	**Mount Surprise**	**34.60**	**269**	P	**P**	**22 22 58.4**	**-0.4**
	baz=35,SNR=99						
PMG	**Port Moresby**	**34.73**	**285**	*ce*P	**P**	**22 22 59.5**	**-0.3**
PMG				pmax	pmax		
	comp=Z,546nm,0.8s						
PMG	**Port Moresby**	**34.73**	**285**	*e*P	**P**	**22 22 59.8**	**0.0**
	comp=Z,135nm,0.8s						
STKA	**Stephens Creek**	**36.38**	**246**	P	**P**	**22 23 13.5**	**+0.2**
	comp=Z,43nm,0.6s,baz=92,slow=9.9,SNR=122						
STKA				S	**S**	**22 28 13.6**	**-2.3**
	comp=Z,7.7nm,1.0s,baz=231,slow=22,SNR=5.5						
STKA				ScP	**ScP**	**22 28 19.4**	**+2.2**
	comp=Z,17nm,0.9s,baz=332,slow=22,SNR=4.1						
STKA	**Stephens Creek**	**36.38**	**246**	P	**P**	**22 23 13.3**	**0.0**
	baz=36,SNR=20						
STKA	**Stephens Creek**	**36.38**	**246**	*e*P	**P**	**22 23 13.5**	**+0.2**
STKA				*e*S	**S**	**22 28 13.6**	**-2.3**
STKA				pmax	pmax		
	comp=Z,30nm,1.4s						
STKA	**Stephens Creek**	**36.38**	**246**	*e*P	**P**	**22 23 13.5**	**+0.2**
	comp=Z,30nm,1.4s						
STKA				*e*S	**S**	**22 28 13.6**	**-2.3**
STKA				*e*ScP	**ScP**	**22 28 19.4**	**+2.2**
COEN	**Coen**	**36.74**	**276**	P	**P**	**22 23 16.5**	**+0.1**
	baz=37,SNR=36						
COEN	**Coen**	**36.74**	**276**	*e*P	**P**	**22 23 16.9**	**+0.4**
	comp=Z,50nm,0.8s						
ARPS	**Mount Arapiles**	**36.99**	**237**	P	**P**	**22 23 18.2**	**0.0**
	baz=37,SNR=8.6						
MANU	**Manus Island**	**38.13**	**296**	*e*P	**P**	**22 23 27.8**	**0.0**
	comp=Z,65nm,1.0s						
QIS	**Mount Isa**	**38.52**	**264**	P	**P**	**22 23 29.9**	**-1.1**
	baz=38,SNR=22						
HTT	**Hallett**	**38.79**	**243**	P	**P**	**22 23 33.0**	**0.0**
	baz=39,SNR=25						
BBOO	**Buckleboo**	**41.13**	**245**	P	**P**	**22 23 51.0**	**-0.7**
	baz=41,SNR=105						
AS01	**Alice Springs**	**43.27**	**258**	*e*P	**P**	**22 24 06.7**	**-1.9**
AS31	**Alice Springs**	**43.31**	**258**	*e*P	**P**	**22 24 08.3**	**-0.7**
	comp=Z,29nm,0.5s						
AS31				*e*PcP	**PcP**	**22 25 45.4**	**-0.1**
AS31				*e*ScP	**ScP**	**22 28 47.2**	**+2.6**
AS31				*e*S	**S**	**22 29 54.2**	**-2.8**
ASAR	**Alice Springs**	**43.31**	**258**	P	**P**	**22 24 08.3**	**-0.7**
	comp=Z,98nm,0.7s,baz=92,slow=8.2,SNR=638						
ASAR				PcP	**PcP**	**22 25 45.4**	**-0.1**
	comp=Z,7.3nm,0.8s,baz=109,slow=3.4,SNR=7.0						
ASAR				ScP	**ScP**	**22 28 47.2**	**+2.6**
	comp=Z,11nm,0.9s,baz=113,slow=4.0,SNR=11						
ASAR				S	**S**	**22 29 54.2**	**-2.8**
	comp=Z,15nm,1.1s,baz=93,slow=15,SNR=19						
WB2	**Warramunga Arr**	**43.48**	**264**	*e*P	**P**	**22 24 09.1**	**-1.3**
	comp=Z,81nm,0.6s						
WRAB	**Tennant Creek**	**43.49**	**264**⇑	*e*P	**P**	**22 24 09.3**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,194nm,0.8s						
WRAB	**Tennant Creek**	**43.49**	**264**	*e*P	**P**	**22 24 09.0**	**-1.4**
	comp=Z,90nm,0.9s						
WR1	**Warramunga Arr**	**43.49**	**264**	*e*P	**P**	**22 24 09.2**	**-1.2**
	comp=Z,141nm,1.0s						
WR1				*e*PcP	**PcP**	**22 25 46.6**	**+0.5**
WR1				*e*ScP	**ScP**	**22 28 48.2**	**+2.8**
WR1				*e*S	**S**	**22 29 55.9**	**-3.8**
WRA	**Warramunga Arr**	**43.49**	**264**	P	**P**	**22 24 09.2**	**-1.2**
	comp=Z,39nm,0.3s,baz=93,slow=8.0,SNR=674						
WRA				PcP	**PcP**	**22 25 46.6**	**+0.5**
	comp=Z,8.3nm,0.9s,baz=100,slow=3.4,SNR=6.3						
WRA				ScP	**ScP**	**22 28 48.2**	**+2.8**
	comp=Z,13nm,0.9s,baz=93,slow=4.5,SNR=11						
WRA				S	**S**	**22 29 55.9**	**-3.8**
	comp=Z,17nm,1.1s,baz=101,slow=14,SNR=9.3						
WRA				PKiKP	**PKiKP**	**22 32 44.7**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=78,slow=0.6,SNR=14						
GENI	**Genyem**	**44.00**	**290**	P	**P**	**22 24 14.5**	**+0.1**
KDU	**Kakadu**	**47.04**	**273**	P	**P**	**22 24 36.6**	**-0.9**
	baz=47,SNR=16						
POHA	**Pohakuloa**	**47.24**	**31**	*e*P	**P**	**22 24 39.6**	**+0.5**
	comp=Z,137nm,1.0s						
KIP	**Kipapa**	**47.59**	**27***ce*	P	**P**	**22 24 41.5**	**+0.1**
KIP				pmax	pmax		
	comp=Z,1µm,1.1s						
KIP	**Kipapa**	**47.59**	**27**	*e*P	**P**	**22 24 41.6**	**+0.1**
	comp=Z,155nm,1.0s						
WRKA	**Warakurna**	**48.21**	**255**	P	**P**	**22 24 45.5**	**-0.8**
	baz=48,SNR=330						
MTN	**Manton Dam**	**48.24**	**272**	P	**P**	**22 24 45.6**	**-0.9**
	baz=48,SNR=39						
MTN	**Manton Dam**	**48.24**	**272**	*e*P	**P**	**22 24 45.5**	**-0.9**
	comp=Z,81nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.93**	**264**	ScP	**ScP**	**22 29 23.3**	**+2.1**
	comp=Z,5.8nm,0.9s,baz=110,slow=7.5,SNR=3.2						
FITZ				S	**S**	**22 31 54.8**	**-1.0**
	comp=Z,11nm,1.1s,baz=244,slow=20,SNR=6.8						
FITZ	**Fitzroy Crossi**	**51.93**	**264**	P	**P**	**22 25 13.1**	**-0.4**
	baz=52,SNR=21						
FITZ	**Fitzroy Crossi**	**51.93**	**264**	*e*P	**P**	**22 25 13.1**	**-0.4**
	comp=Z,26nm,0.6s						
FITZ				*e*ScP	**ScP**	**22 29 23.3**	**+2.1**
FITZ				*e*S	**S**	**22 31 54.8**	**-1.0**
KMBL	**Kambalda**	**53.17**	**246**	P	**P**	**22 25 21.1**	**-1.1**
	baz=53,SNR=9.0						
SOEI	**Soe**	**55.60**	**273**	P	**P**	**22 25 40.2**	**+0.6**
SOEI	**Soe**	**55.60**	**273**	*e*P	**P**	**22 25 39.8**	**+0.1**
	comp=Z,123nm,0.7s						
VNDA	**Vanda**	**56.55**	**185**	P	**P**	**22 25 46.8**	**+1.8**
	comp=Z,8.2nm,0.8s,baz=358,slow=7.4,SNR=34						
VNDA				PcP	**PcP**	**22 26 35.1**	**+1.5**
	comp=Z,7.3nm,1.0s,baz=341,slow=6.7,SNR=5.2						
VNDA				ScP	**ScP**	**22 29 41.3**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=345,slow=4.0,SNR=4.8						
VNDA				PKP2bc		22 55 42.6	
	comp=Z,0.3nm,0.4s,baz=226,slow=9.2,SNR=3.1						
VNDA	**Vanda**	**56.55**	**185**	*e*P	**P**	**22 25 46.8**	**+1.8**
VNDA				*e*		22 26 35.1	
VNDA				*e*		22 29 41.3	
VNDA				pmax	pmax		
	comp=Z,56nm,1.8s						
VNDA	**Vanda**	**56.55**	**185**	*e*P	**P**	**22 25 46.8**	**+1.8**
	comp=Z,56nm,1.8s						
VNDA				*e*PcP	**PcP**	**22 26 35.1**	**+1.5**
VNDA				*e*ScP	**ScP**	**22 29 41.3**	**+0.9**
MBWA	**Marble Bar**	**56.65**	**258**	*e*P	**P**	**22 25 45.9**	**-0.8**
	comp=Z,57nm,0.6s						
KLBR	**Kellerberrin**	**56.66**	**246**	P	**P**	**22 25 44.6**	**-1.9**
	baz=57,SNR=11						
NWAO	**Narrogin (SRO)**	**56.95**	**244**	P	**P**	**22 25 47.8**	**-0.7**
	baz=57,SNR=4.6						
BLDU	**Ballidu**	**57.67**	**247

MAW Mawson 80.04 200 eP P 22 28 07.9 +0.7
comp=Z,4.3nm,0.9s
KCPM Cahto Peak 80.08 40 eP P 22 28 08.9 +0.9
comp=Z,13µm,0.6s
KCPM epP pP 22 30 02.1 -3.3
PASC Pasadena Art C 80.25 47 eP P 22 28 10.1 +1.1
comp=Z,31nm,0.8s
109C Camp Elliot, M 80.28 49 P P 22 28 10.0 +0.9
baz=236
KMRM Mail Ridge 80.35 40 eP P 22 28 11.6 +2.2
comp=Z,226nm,0.9s
ARVC Arvin 80.36 46 P P 22 28 10.9 +1.4
baz=235
MWC Mount Wilson 80.37 47 eP P 22 28 10.9 +1.1
MWC pmax pmax
comp=Z,37nm,0.9s
MWC Mount Wilson 80.37 47 eP P 22 28 10.9 +1.1
comp=Z,37nm,0.9s
BAR Barrett 80.47 49 eP P 22 28 11.4 +1.3
comp=Z,99nm,1.9s
PMSA Palmer Station 80.49 157 P P 22 28 10.8 +1.2
comp=Z,31nm,0.9s,baz=172,slow=5.0,SNR=3.4
VES Vestal, Richgr 80.61 45 P P 22 28 11.6 +0.9
baz=235,SNR=11
MURC Murrieta 80.62 48 P P 22 28 11.6 +0.8
baz=236,SNR=8.5
BFSC Mount Baldy Ra 80.65 47 P P 22 28 11.9 +0.8
baz=236,SNR=12
KHMM Horse Mountain 80.75 39 eP P 22 28 12.8 +1.3
comp=Z,107nm,1.1s
MONP2 Monument Peak 80.77 49 P P 22 28 12.6 +0.7
baz=237,SNR=21
RCTC Rector, Farmer 80.77 45 P P 22 28 12.2 +0.7
baz=234
EDW2 Edwards Air Fo 80.79 47 P P 22 28 13.0 +1.2
baz=236,SNR=18
IKP In-Ko-Pah, Jac 80.85 50 P P 22 28 13.2 +1.0
baz=237,SNR=18
ISA Isabella, Lake 80.91 46 P P 22 28 13.5 +1.1
baz=235,SNR=12
ISA Isabella, Lake 80.91 46 eP P 22 28 13.5 +1.1
ISA pmax pmax
comp=Z,56nm,1.0s
ISA Isabella, Lake 80.91 46 eP P 22 28 13.5 +1.1
comp=Z,56nm,1.0s
SLBS Sierra La Lagu 80.97 60 eP P 22 28 14.7 +1.7
comp=Z,130nm,1.8s
MDJ Mudanjiang 81.03 326 P P 22 28 13.1 +0.4
MDJ PMZ
comp=Z,22nm,1.6s
MDJ PMZ
comp=Z,9µm,13.1s
CMB Columbia Colle 81.05 43 eP P 22 28 13.8 +0.8
CMB pmax pmax
comp=Z,55nm,1.1s
CMB Columbia Colle 81.05 43 eP P 22 28 13.8 +0.8
comp=Z,54nm,1.1s
HABR Khabarovsk 81.09 331 eP P 22 28 12.1 -0.8
HABR e*PP pP 22 30 09.6 -1.0
HABR e*SP sP 22 31 05.7 -0.9
HABR e 22 31 26.6
HABR ePPP PPP 22 33 21.5
HABR eS S 22 37 36.5 -0.7
HABR eSS SS 22 43 06.7 -2.2
HABR eSSS SSS 22 46 41.2
HABR pmax pmax
comp=Z,70nm,1.1s
HABR pmax pmax
comp=Z,48nm,1.1s
HABR pmax pmax
comp=Z,20nm,0.9s
HABR pmax pmax
comp=N,15nm,0.9s
HABR MLR MLR
comp=Z,5µm,20.0s
PFO Pinyon Flats O 81.13 49 P P 22 28 14.7 +1.0
comp=Z,12nm,0.8s,baz=257,slow=3.4,SNR=20
PFO Pinyon Flats O 81.13 49 P P 22 28 14.4 +0.7
baz=237,SNR=9.8
PFO Pinyon Flats O 81.13 49 eP P 22 28 14.7 +1.0
PFO pmax pmax
comp=Z,26nm,1.1s
PFO Pinyon Flats O 81.13 49 eP P 22 28 14.7 +1.0
comp=Z,26nm,1.1s
TPFO Pinon Flats 81.13 49 P P 22 28 14.4 +0.7
baz=237,SNR=11
AFDM Forest Hills D 81.22 42 eP P 22 28 14.8 +0.9
comp=Z,46nm,1.1s
SWSC Sam W. Stewart 81.23 49 P P 22 28 15.2 +1.2
baz=237,SNR=14
WDC Whiskeytown Da 81.27 40 eP P 22 28 15.2 +1.2
WDC pmax pmax
comp=Z,102nm,1.1s
WDC Whiskeytown Da 81.27 40 eP P 22 28 15.2 +1.2
comp=Z,102nm,1.1s
LRMC Laurel Mtn Rad 81.34 46 P P 22 28 15.7 +1.1
baz=236
O03D Paynes Creek 81.53 41 P P 22 28 16.8 +1.3
baz=232,SNR=37
M02C Callahan 81.59 39 P P 22 28 17.5 +1.8
baz=231,SNR=59
CWC Cottonwood Cre 81.61 45 P P 22 28 17.1 +1.0
baz=235
OHAK Old Harbor 81.61 14 eP P 22 28 15.4 +0.1
comp=Z,67nm,1.3s
L02D Cave Junction, 81.63 38 P P 22 28 17.3 +1.5
baz=231,SNR=8.6
BELC Belle Mtn. Jos 81.67 48 P P 22 28 17.6 +1.2
baz=237,SNR=33
MPMC Manual Prospec 81.79 46 P P 22 28 18.1 +1.1
baz=236,SNR=47
GSC Goldstone, Bar 81.83 47 P P 22 28 17.8 +0.7
baz=236,SNR=22
GSC Goldstone, Bar 81.83 47 eP P 22 28 18.0 +0.9
GSC pmax pmax
comp=Z,52nm,1.2s
GSC Goldstone, Bar 81.83 47 eP P 22 28 18.0 +0.9
comp=Z,52nm,1.2s
DAC Darwin (Calif) 81.84 46 eP P 22 28 18.0 +0.7
DAC pmax pmax
comp=Z,17nm,0.8s
DAC Darwin (Calif) 81.84 46 eP P 22 28 18.0 +0.7
comp=Z,17nm,0.8s
BC3 Big Chuckawall 81.86 49 P P 22 28 18.6 +1.2
baz=237,SNR=18
TIN Tinemaha, Big 81.87 45 P P 22 28 18.4 +1.1
baz=235,SNR=7.6
YBH Yreka Blue Hor 81.88 39 eP P 22 28 18.6 +1.4
YBH pmax pmax
comp=Z,109nm,1.0s
YBH Yreka Blue Hor 81.88 39 eP P 22 28 18.6 +1.4
comp=Z,108nm,1.0s
HEC Hector,Ludlow 81.89 48 P P 22 28 18.4 +0.9
baz=237,SNR=36
WAKR Walker 81.93 43 eP P 22 28 19.0 +1.3
comp=Z,62nm,0.9s
GLA Glamis 81.98 50 P P 22 28 19.5 +1.6
baz=238,SNR=27
GLA Glamis 81.98 50 eP P 22 28 19.5 +1.6
GLA pmax pmax
comp=Z,77nm,1.0s
GLA Glamis 81.98 50 eP P 22 28 19.5 +1.6
comp=Z,77nm,1.0s
PNTR Pine Nut 82.17 43 eP P 22 28 20.0 +1.1
comp=Z,128nm,0.9s
TVH3 East Aurora ar 82.23 44 eP P 22 28 20.4 +1.1
comp=Z,31nm,0.9s
KDAK Kodiak Island 82.28 14 ceP P 22 28 18.8 +0.1
KDAK Kodiak Island 82.28 14 eP P 22 28 18.5 -0.2
comp=Z,76nm,1.4s
HUMO Hull Mountain 82.29 38 eP P 22 28 20.9 +1.7
comp=Z,123nm,1.2s
TVH2 Borealis Mine 82.29 44 eP P 22 28 20.2 +0.7
comp=Z,24nm,0.8s
TVH1 TV Hill, Hawth 82.33 43 eP P 22 28 20.9 +1.0
comp=Z,178nm,1.9s
GMRC Granite Mounta 82.33 48 P P 22 28 20.8 +1.1
baz=237,SNR=27
YERR Yerington 82.33 43 eP P 22 28 16.8 -3.0
comp=Z,57nm,0.7s
IRM Iron Mountain 82.35 49 P P 22 28 21.1 +1.4
baz=237,SNR=26
GRAC Grapevine Rang 82.40 45 P P 22 28 21.0 +1.0
baz=236,SNR=6.1
M04C Macdoel 82.42 39 P P 22 28 21.2 +1.1
baz=232,SNR=16
FURC Furnace Creek, 82.44 46 P P 22 28 21.0 +1.0
baz=236,SNR=17
WHN Wuhan 82.44 307 ⇑P P 22 28 21.1 +0.9
TUQ Turquoise Moun 82.50 47 P P 22 28 21.6 +1.0
baz=237
SHOC Shoshone, Teco 82.52 47 P P 22 28 21.5 +1.0
baz=236,SNR=12
Y12C Blythe 82.56 49 P P 22 28 21.7 +1.0
baz=238,SNR=13
Y12C Blythe 82.56 49 eP P 22 28 22.1 +1.3
comp=Z,43nm,0.9s
PAHR Pah Rah Range 82.67 42 eP P 22 28 22.2 +0.9
comp=Z,58nm,1.0s
I03D Drain, OR 82.75 37 P P 22 28 22.8 +1.4
baz=231,SNR=15
HSIG 82.77 55 eP P 22 28 22.5 +0.6
comp=Z,53nm,1.0s
214A Organ Pipe Nat 82.86 52 P P 22 28 23.7 +1.3
baz=239
K04D Chiloquin, OR 82.99 39 P P 22 28 24.5 +1.7
baz=232
NEE2 Needles Airpor 83.04 48 P P 22 28 24.4 +1.3
baz=238
TPNV Topopah Spring 83.12 46 eP P 22 28 24.7 +0.9
baz=236,SNR=46
TPNV Topopah Spring 83.12 46 eP P 22 28 24.6 +0.9
TPNV pmax pmax
comp=Z,44nm,0.9s
TPNV Topopah Spring 83.12 46 eP P 22 28 24.6 +0.9
comp=Z,44nm,0.9s
PDMCI Parker Dam,Lak 83.13 49 P P 22 28 24.9 +1.3
baz=238,SNR=24
KLR Kul'dur 83.15 330 P P 22 28 23.9 +0.5
comp=Z,7.2nm,0.9s,baz=106,slow=2.7,SNR=17
MPOR Mary's Peak 83.15 36 P P 22 28 25.1 +1.5
I04A Tendick Farm, 83.34 37 P P 22 28 25.6 +1.2
baz=232,SNR=21
MOD Modoc Plateau 83.41 40 eP P 22 28 25.9 +0.9
comp=Z,45nm,1.0s
K05A Summer Lake 83.56 39 eP P 22 28 27.1 +1.3
comp=Z,114nm,1.0s
USHA Ushuaia 83.58 147 P P 22 28 27.4 +1.9
comp=Z,45nm,0.8s,baz=232,slow=4.7,SNR=3.6
SHPR Sheep Range 83.61 47 eP P 22 28 27.3 +1.2
comp=Z,46nm,1.3s
J05D Fort Rock, OR 83.70 38 P P 22 28 27.7 +1.3
baz=232,SNR=73
W13A Hualapai Mount 83.73 48 eP P 22 28 27.9 +1.1
comp=Z,26nm,0.9s
Y14A Wickenburg 83.74 50 eP P 22 28 27.8 +1.1
comp=Z,126nm,1.0s
G03D McMinnville, O 83.76 36 P P 22 28 28.0 +1.5
baz=231
F03A Seaside 84.06 35 eP P 22 28 29.6 +1.7
comp=Z,143nm,1.2s
CNPM China Poot 84.17 14 eP P 22 28 28.3 +0.2
comp=Z,70nm,1.0s
I05D Terrebonne, OR 84.28 38 P P 22 28 30.3 +1.1
baz=232,SNR=8.5
R11A Troy Canyon, C 84.33 45 P P 22 28 30.2 +0.5
baz=237,SNR=9.3
R11A Troy Canyon, C 84.33 45 eP P 22 28 30.3 +0.6
comp=Z,5.8nm,0.9s
BMN Battle Mountai 84.44 43 epP pP 22 30 34.2 +5.1
E03A Lebam 84.45 35 eP P 22 28 31.4 +1.6
comp=Z,125nm,1.1s
F04D Rainier, OR 84.45 35 P P 22 28 31.8 +2.0
baz=231
BRLK Bradley Lake 84.46 14 eP P 22 28 29.2 -0.3
comp=Z,76nm,1.0s
TUC Tucson 84.52 52 P P 22 28 32.6 +2.0
baz=240
TUC Tucson 84.52 52 eP P 22 28 32.3 +1.7
TUC pmax pmax
comp=Z,41nm,0.9s
TUC Tucson 84.52 52 eP P 22 28 32.3 +1.7
comp=Z,41nm,0.9s
SKNT Sakolnakorn 84.66 291 P P 22 28 32.1 +0.6
comp=Z,108nm,1.6s
F04A Amboy 84.67 36 eP P 22 28 32.3 +1.4
comp=Z,135nm,1.4s
RSO Redoubt South 84.69 13 eP P 22 28 30.4 -0.5
WVOR Wild Horse Val 84.72 40 eP P 22 28 32.4 +1.0
WVOR pmax pmax
comp=Z,51nm,1.2s
WVOR Wild Horse Val 84.72 40 eP P 22 28 32.4 +1.0
comp=Z,51nm,1.2s
SVW2 Sparrevohn 84.73 11 eP P 22 28 28.5 -2.4
comp=Z,17nm,1.0s
MA2 Magadan 84.77 345 P P 22 28 29.7 -1.4
comp=Z,7.1nm,0.3s,baz=166,slow=4.5,SNR=14
NLWA Neilton Lookou 84.83 34 eP P 22 28 33.0 +1.3
comp=Z,78nm,1.1s
G05D Wamic, OR 84.85 37 P P 22 28 33.2 +1.3
baz=232
CROR Criterion Ridg 84.88 37 P P 22 28 32.9 +0.8
X16A Lo Mia Camp, P 85.10 50 eP P 22 28 35.2 +1.7
comp=Z,36nm,1.1s
319A Douglas 85.17 54 eP P 22 28 35.6 +1.7
comp=Z,76nm,0.9s
LCMT Little Creek M 85.18 47 eP P 22 28 34.8 +1.0
comp=Z,23nm,0.9s
G06A Carlson Farm, 85.23 37 eP P 22 28 34.9 +1.2
comp=Z,77nm,1.3s
VTHM Trough 85.24 37 P P 22 28 35.1 +1.3
SYO Syowa Base 85.27 193 ⇑P P 22 28 31.2 -2.3
SYO Syowa Base 85.27 193 ⇓PcP PcP 22 28 36.2 +0.7
CCUT Cedar City 85.38 47 eP P 22 28 36.1 +1.3
comp=Z,21nm,0.9s
KHON Khomkaen 85.41 289 P P 22 28 37.4 +2.3
comp=Z,14nm,0.8s
KNB Kanab 85.47 47 eP P 22 28 36.4 +1.2
KNB pmax pmax
comp=Z,38nm,1.1s
KNB Kanab 85.47 47 eP P 22 28 36.4 +1.2
comp=Z,38nm,1.1s
SPU Mount Spurr 85.49 13 eP P 22 28 33.2 -1.4
LON Longmire 85.51 35 eP P 22 28 35.9 +0.8
LON pmax pmax
comp=Z,14nm,1.0s
LON Longmire 85.51 35 eP P 22 28 35.9 +0.8
comp=Z,14nm,1.0s
U15A North Rim 85.53 48 eP P 22 28 36.9 +1.2
comp=Z,51nm,0.8s
PSUT Pine Spring 85.57 46 eP P 22 28 36.8 +1.0
comp=Z,14nm,0.9s
SZCU Shurtz Canyon 85.59 47 eP P 22 28 37.3 +1.5
comp=Z,28nm,0.9s
D05A Enumclaw 85.69 35 eP P 22 28 37.7 +1.9
comp=Z,191nm,1.3s
WUAZ Wupatki 85.70 49 P P 22 28 37.4 +1.1
baz=240
WUAZ Wupatki 85.70 49 eP P 22 28 37.6 +1.2
comp=Z,34nm,1.1s
JBO Jordan Butte 85.81 37 P P 22 28 37.6 +1.1
NONG Nongkai 85.83 291 P P 22 28 38.3 +1.2
comp=Z,274nm,1.6s
PGC Sidney 85.85 33 eP P 22 28 37.8 +1.3
comp=Z,60nm,0.9s
ELK Elko 85.86 43 eP P 22 28 36.2 -0.9
ELK pmax pmax
comp=Z,11nm,0.9s
ELK Elko 85.86 43 eP P 22 28 36.2 -0.9
comp=Z,11nm,0.9s
RC01 Rabit Creek A 85.90 14 eP P 22 28 36.5 0.0
comp=Z,82nm,1.1s
HPIG 85.90 59 eP P 22 28 38.5 +1.0
comp=Z,26nm,0.9s
BBB Bella Bella 85.98 29 P P 22 28 37.8 +0.8
comp=Z,30nm,0.8s,baz=256,slow=6.3,SNR=9.3
SUA Susitna One 86.02 13 eP P 22 28 36.4 -0.7
comp=Z,49nm,0.6s
PKCU Pink Cliffs 86.04 47 eP P 22 28 40.4 +2.2
comp=Z,27nm,1.0s
NAC Naches 86.04 36 P P 22 28 38.7 +1.1
BJT Baijiatuau 86.13 316 eP P 22 28 38.9 +0.8
BJT Baijiatuau 86.13 316 eP P 22 28 38.9 +0.8
BJI Beijing 86.14 316 P P 22 28 37.9 -0.2
BJI PMZ
comp=Z,24nm,1.6s
G08A Pilot Rock 86.21 38 eP P 22 28 39.5 +1.0
comp=Z,108nm,1.3s
X18A Snowflake 86.22 51 eP P 22 28 40.0 +1.1
comp=Z,19nm,0.8s
TWW Teanaway 86.26 36 P P 22 28 40.3 +1.6
CRAG Craig 86.27 24 eP P 22 28 39.8 +1.5
comp=Z,42nm,1.0s
A04D Lummi Island 86.28 34 P P 22 28 40.2 +1.7
baz=231,SNR=6.2
B05A Bryant 86.31 34 P P 22 28 39.8 +1.2
baz=231,SNR=13
TT01 Tatalina 86.35 10 eP P 22 28 36.3 -2.2
TTA Tatalina 86.37 10 eP P 22 28 39.3 +0.5
TTA pmax pmax
comp=Z,44nm,1.2s
TTA Tatalina 86.37 10 eP P 22 28 39.3 +0.5
comp=Z,44nm,1.2s
EYAK Cordova Ski Ar 86.37 16 eP P 22 28 38.8 +0.1
comp=Z,70nm,1.1s
CMW Cultus Mountai 86.39 34 P P 22 28 40.6 +1.4
TBM Table Mountain 86.43 36 eP P 22 28 40.3 +0.9
GYA Guiyang 86.46 300 eP P 22 28 41.0 +0.9
GYA pP pP 22 30 42.3 +2.5
GYA sP sP 22 31 37.4 +2.1
GYA PP PP 22 32 15.0 +2.8
GYA SKS SKSac 22 38 13.8 -0.8
GYA S S 22 38 30.6 -0.3
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,6.2s
E07A Sunnyside 86.46 36 eP P 22 28 41.0 +1.5
comp=Z,80nm,0.9s
PMR Palmer 86.48 14 eP P 22 28 38.7 -0.5
PMR pmax pmax
comp=Z,96nm,1.2s
PMR Palmer 86.48 14 eP P 22 28 38.7 -0.5
comp=Z,96nm,1.2s
RAGM Ragged Mountai 86.51 16 eP P 22 28 39.8 +0.4
comp=Z,82nm,1.2s
HAWA Hanford 86.54 37 eP P 22 28 41.1 +1.2
comp=Z,104nm,1.1s
H2OWA Water 86.61 37 P P 22 28 41.5 +1.4
ZAIG Zacatecas 86.62 64 eP P 22 28 42.7 +1.6
comp=Z,27nm,1.0s
W18A Petrified Fore 86.66 50 P P 22 28 41.9 +1.0
baz=241
W18A Petrified Fore 86.66 50 eP P 22 28 42.4 +1.4
comp=Z,37nm,1.3s
SNAA Sanae 86.76 179 eP P 22 28 39.7 -1.0
SNAA pmax pmax
comp=Z,19nm,1.2s
SNAA Sanae 86.76 179 eP P 22 28 39.6 -1.0
comp=Z,19nm,1.2s
B06A Marblemount 86.78 34 eP P 22 28 42.0 +1.0
comp=Z,67nm,1.1s
121A Cookes Peak, D 86.84 53 P P 22 28 43.0 +1.1
baz=242
SML Sawmill 86.85 14 eP P 22 28 40.5 -0.5
SML pmax pmax
comp=Z,127nm,1.9s
SML Sawmill 86.85 14 eP P 22 28 40.5 -0.5
comp=Z,127nm,1.9s
DIV Divide 86.87 15 eP P 22 28 41.0 -0.2
comp=Z,62nm,0.9s
PHET Kaeng Krachan 86.88 285 P P 22 28 45.2 +3.0
comp=Z,11nm,1.2s
BMO Blue Mountains 86.91 39 eP P 22 28 42.3 +0.5
BMO pmax pmax
comp=Z,32nm,1.0s
BMO Blue Mountains 86.91 39 eP P 22 28 42.3 +0.5
comp=Z,32nm,1.0s
MFID Camas Ranch 86.97 41 eP P 22 28 42.8 +0.7
comp=Z,49nm,1.0s
BMRM Bremner River 87.02 16 eP P 22 28 41.8 -0.1
comp=Z,84nm,1.0s
PPLA Purkeypile 87.03 12 eP P 22 28 40.5 -1.5
comp=Z,18nm,1.1s
SCM Sheep Creek Mo 87.11 14 eP P 22 28 42.2 -0.1
SCM pmax pmax
comp=Z,99nm,0.7s
SCM Sheep Creek Mo 87.11 14 eP P 22 28 42.2 -0.1
comp=Z,99nm,0.7s
PBKT Sadao Pong 87.13 289 P P 22 28 45.1 +1.8
comp=Z,22nm,1.4s
DUG Dugway, Tooele 87.13 45 P P 22 28 43.6 +0.6
baz=238
DUG Dugway, Tooele 87.13 45 eP P 22 28 43.6 +0.6
DUG pmax pmax
comp=Z,18nm,1.3s
DUG Dugway, Tooele 87.13 45 eP P 22 28 43.6 +0.6
comp=Z,18nm,1.3s
KLU Klutina 87.14 15 eP P 22 28 42.3 -0.2
comp=Z,38nm,1.0s
CRQM Cirque 87.23 17 eP P 22 28 43.1 +0.1
LOEI Loei 87.25 290 P P 22 28 43.7 -0.1
comp=Z,195nm,0.8s
WRAK Wrangell Islan 87.27 24 eP P 22 28 44.0 +1.1
comp=Z,64nm,1.0s
D08A Wollman Farm, 87.28 36 eP P 22 28 44.4 +1.1
comp=Z,82nm,0.9s
BGU Big Grassy Mou 87.38 44 eP P 22 28 44.9 +0.8
comp=Z,16nm,1.4s
NVL N'lazarevskaya 87.39 184 eP P 22 28 44.8 +1.3
E09A Wood Farm, Sta 87.39 37 eP P 22 28 44.5 +0.7
comp=Z,80nm,1.1s
SEY Seymchan 87.41 347 P P 22 28 43.9 +0.4
comp=Z,38nm,1.1s,baz=152,slow=5.0,SNR=49
SEY Seymchan 87.41 347 ceP P 22 28 43.5 0.0
PCA Pinnacle 87.49 18 eP P 22 28 44.5 +0.4
comp=Z,71nm,0.9s
CAST Castle Rocks 87.52 12 eP P 22 28 42.5 -1.6
comp=Z,83nm,1.1s
F10A Beach Ranch, E 87.60 38 eP P 22 28 45.2 +0.3
comp=Z,99nm,0.9s
BALM Baldy 87.68 17 eP P 22 28 45.1 +0.1
BALM pmax pmax
comp=Z,58nm,0.7s
BALM Baldy 87.68 17 eP P 22 28 45.1 +0.1
comp=Z,58nm,0.7s
TMUT Trail Mountain 87.73 46 eP P 22 28 47.5 +1.4
comp=Z,43nm,0.9s
MPU Maple Canyon 87.81 45 eP P 22 28 47.6 +1.3
comp=Z,67nm,1.8s
B08A Colville Reser 87.82 35 eP P 22 28 46.2 +0.3
comp=Z,59nm,0.8s
KTH Kantishna Hill 87.87 12 eP P 22 28 44.4 -1.4
comp=Z,47nm,0.9s
TLIG Tlapa 87.92 70 eP P 22 28 48.4 +1.3
comp=Z,35nm,1.2s
HLID Hailey 87.92 41 P P 22 28 47.6 +1.0
baz=237,SNR=54
HLID Hailey 87.92 41 eP P 22 28 47.8 +1.1
comp=Z,40nm,0.9s
SPUT South Promonto 87.95 44 eP P 22 28 48.1 +1.3
comp=Z,49nm,1.2s
UTTA Uttaradit 87.96 290 P P 22 28 49.0 +1.9
comp=Z,4.7nm,1.2s
HVU Hansel Valley 87.99 43 eP P 22 28 47.7 +0.7
HVU pmax pmax
comp=Z,73nm,1.4s
HVU Hansel Valley 87.99 43 eP P 22 28 47.7 +0.7
comp=Z,73nm,1.4s
C09A Chrisman Ranch 88.07 36 eP P 22 28 47.8 +0.8
comp=Z,53nm,0.9s
CTU Camp Tracy 88.08 45 eP P 22 28 48.7 +1.2
comp=Z,79nm,1.0s
SRU San Rafael Swe 88.09 46 eP P 22 28 48.3 +0.7
SRU pmax pmax
comp=Z,50nm,1.0s
SRU San Rafael Swe 88.09 46 eP P 22 28 48.3 +0.7
comp=Z,50nm,1.0s
P17A Butcher Ranch, 88.13 46 eP P 22 28 49.1 +1.4
comp=Z,55nm,1.2s
RND Reindeer 88.16 13 eP P 22 28 43.8 -3.3
RND pmax pmax
comp=Z,128nm,1.0s
RND Reindeer 88.16 13 eP P 22 28 43.8 -3.3
comp=Z,128nm,1.0s
XAN Xi'an 88.16 308 P P 22 28 48.4 +0.6
XAN PMZ
comp=Z,20nm,1.3s
DHY Denali Highway 88.19 14 eP P 22 28 45.8 -1.6
comp=Z,34nm,1.1s
LAZ Ladron 88.19 52 eP P 22 28 49.2 +1.0
Y22D IRIS PASSCAL I 88.20 52 P P 22 28 50.1 +1.9
baz=242
JLU Jordanelle 88.23 45 eP P 22 28 49.4 +1.1
comp=Z,70nm,1.6s
MNTX Cornudas Mount 88.27 55 P P 22 28 49.7 +1.4
baz=243
MNTX Cornudas Mount 88.27 55 eP P 22 28 49.3 +1.0
comp=Z,35nm,0.8s
MNTX epP pP 22 30 51.5 +2.9
MCK McKinley 88.43 13 eP P 22 28 47.9 -0.4

MCK pmax pmax
comp=Z,63nm,1.0s
MCK McKinley 88.43 13 *e*P **P 22 28 47.9 -0.4**
comp=Z,64nm,1.0s
BNM Barren Site 88.45 52 *e*P **P 22 28 50.1 +0.7**
SKAG Skagway 88.51 21 *e*P **P 22 28 50.0 +1.3**
comp=Z,85nm,1.5s
TCUT Toone Canyon 88.52 44 *e*P **P 22 28 50.2 +0.6**
comp=Z,59nm,1.0s
LPM Los Pinos Moun 88.53 52 *e*P **P 22 28 50.6 +0.9**
PAX Paxson 88.53 15 *e*P **P 22 28 48.6 -0.3**
PAX pmax pmax
comp=Z,26nm,1.1s
PAX Paxson 88.53 15 *e*P **P 22 28 48.6 -0.3**
comp=Z,26nm,1.1s
P18A Preston Nutter 88.54 46 *e*P **P 22 28 50.6 +0.8**
comp=Z,35nm,1.2s
TX31 Lajitas Ar. Si 88.55 58 *e*P **P 22 28 51.0 +1.2**
LTX Lajitas 88.55 58 *e*P **P 22 28 51.2 +1.4**
LTX Lajitas 88.55 58 *e*P **P 22 28 51.1 +1.4**
LTX *e*PKKPdf **PKKPbc 22 46 28.9 +0.6**
TXAR Lajitas Array 88.55 58 P **P 22 28 51.1 +1.4**
comp=Z,29nm,0.9s,baz=223,slow=5.1,SNR=111
TXAR PKKPbc **PKKPbc 22 46 28.9 +0.6**
comp=Z,0.5nm,0.6s,baz=79,slow=2.7,SNR=4.8
MVCO Mesa Verde 88.55 49 P **P 22 28 51.0 +1.2**
baz=241
PV05 Paradox Valley 88.56 48 *e*P **P 22 28 51.2 +1.4**
SUKH Sukhothai 88.67 289 P **P 22 28 52.5 +2.1**
comp=Z,5.5nm,1.2s
HWUT Hardware Ranch 88.67 44 *e*P **P 22 28 50.6 +0.4**
comp=Z,19nm,0.8s
BWN Browne 88.71 12 *e*P **P 22 28 49.1 -0.5**
comp=Z,94nm,1.0s
PV09 Paradox Valley 88.74 47 *e*P **P 22 28 51.8 +1.1**
PV10 Paradox Valley 88.74 48 *e*P **P 22 28 51.2 +0.5**
MENT Mentasta 88.92 15 *e*P **P 22 28 50.8 +0.2**
comp=Z,31nm,0.9s
ANMO Albuquerque 88.94 52 P **P 22 28 52.7 +1.0**
baz=242
ANMO Albuquerque 88.94 52 *e*P **P 22 28 52.3 +0.7**
ANMO pmax pmax
comp=Z,35nm,1.1s
ANMO Albuquerque 88.94 52 *e*P **P 22 28 52.3 +0.7**
comp=Z,35nm,1.1s
PV01 Paradox Valley 88.95 48 *e*P **P 22 28 52.3 +0.6**
NEW Newport 88.97 36 P **P 22 28 51.8 +0.6**
comp=Z,9.2nm,0.9s,baz=270,slow=3.3,SNR=9.6
NEW Newport 88.97 36 P **P 22 28 51.7 +0.5**
baz=235,SNR=6.2
NEW Newport 88.97 36 *e*P **P 22 28 51.7 +0.5**
NEW pmax pmax
comp=Z,25nm,1.3s
NEW Newport 88.97 36 *e*P **P 22 28 51.7 +0.5**
comp=Z,25nm,1.3s
LAMP Lampang 89.07 290 P **P 22 28 54.4 +2.1**
comp=Z,10.0nm,1.0s
PLCA Paso Flores 89.08 134 P **P 22 28 53.7 +1.5**
comp=Z,12nm,0.9s,baz=270,slow=4.0,SNR=13
PLCA Paso Flores 89.08 134 *e*P **P 22 28 53.7 +1.5**
PLCA pmax pmax
comp=Z,22nm,1.0s
PLCA Paso Flores 89.08 134 *e*P **P 22 28 53.7 +1.5**
comp=Z,22nm,1.0s
KMI Kunming 89.09 297 P **P 22 28 53.6 +1.0**
KMI PMZ
comp=Z,14nm,1.3s
KMI PMZ
comp=Z,12µm,13.4s
HIA Hailar 89.19 325 *i* P **P 22 28 51.7 -0.5**
HIA pmax pmax
comp=Z,11nm,0.5s
MLY Manley 89.23 12 *e*P **P 22 28 50.7 -1.4**
comp=Z,38nm,1.2s
WRH Wood River Hil 89.26 13 *e*P **P 22 28 51.3 -0.8**
comp=Z,64nm,1.0s
GDL2 Guadalupe Moun 89.26 55 *e*P **P 22 28 55.9 +2.8**
GDL2 *e*pP **pP 22 30 50.4 -3.3**
DOT Dot Lake 89.44 15 *e*P **P 22 28 52.7 -0.3**
comp=Z,91nm,0.9s
HDA Harding Lake 89.44 13 *e*P **P 22 28 52.3 -0.7**
comp=Z,67nm,1.4s
CCB Clear Creek Bu 89.47 13 *e*P **P 22 28 52.0 -1.1**
comp=Z,55nm,1.0s
MCMT McKenzie Canyo 89.54 41 *e*P **P 22 28 55.1 +0.8**
AHID Auburn Hatcher 89.56 43 *e*P **P 22 28 55.3 +1.0**
comp=Z,37nm,0.8s
HHC Hu-ho-hao-te 89.57 315 *e*P **P 22 28 55.9 +1.6**
HHC PMZ
comp=Z,10.0nm,1.1s
HHC PMZ
comp=Z,730nm,5.0s
DLBC Dease Lake 89.60 23 P **P 22 28 54.8 +0.8**
comp=Z,14nm,0.8s,baz=220,slow=6.1,SNR=23
DLBC Dease Lake 89.60 23 *e*P **P 22 28 54.8 +0.8**
comp=Z,23nm,0.9s
CM01 Chiang Mai Arr 89.62 290 *e*P **P 22 28 55.7 +0.8**
CM31 Chiang Mai Arr 89.65 290 *e*P **P 22 28 56.4 +1.3**
CM31 *e*PKKPdf **PKKPbc 22 46 26.1 +0.9**
CMAR Chiang Mai Arr 89.65 290 P **P 22 28 56.4 +1.3**
comp=Z,18nm,1.1s,baz=123,slow=3.1,SNR=49
CMAR PKKPbc **PKKPbc 22 46 26.1 +0.9**
comp=Z,1.2nm,0.5s,baz=281,slow=4.4,SNR=5.2
MDM Murphy Dome 89.66 13 *e*P **P 22 28 52.7 -1.3**
comp=Z,65nm,1.1s
COLA College 89.66 13 *e*P **P 22 28 53.4 -0.5**
COLA pmax pmax
comp=Z,52nm,0.8s
COLA College 89.66 13 *e*P **P 22 28 53.4 -0.5**
comp=Z,52nm,0.8s
IL1 Eielson Array 89.77 13 *e*P **P 22 28 52.7 -1.8**
ILAR Eielson Array 89.77 13 P **P 22 28 53.8 -0.7**
comp=Z,7.5nm,0.4s,baz=216,slow=5.3,SNR=108
ILAR PKiKP **PKiKP 22 33 46.1 -1.1**
comp=Z,0.6nm,0.3s,baz=276,slow=2.7,SNR=9.7
ILAR PKKP **PKKPdf 22 46 23.1 +0.7**
comp=Z,0.3nm,0.3s,baz=322,slow=2.8,SNR=5.5
ILAR PKPPKP **P'P'df 22 54 26.2 -4.5**
comp=Z,0.4nm,0.9s,baz=303,slow=1.3,SNR=4.8
ILB Eielson Array 89.77 13 *e*P **P 22 28 53.8 -0.7**
ILB *e*PKiKP **PKiKP 22 33 46.1 -1.1**
ILB *e*PKKPdf **PKKPdf 22 46 23.1 +0.7**
ILB *e*P'P'df **P'P'df 22 54 26.2 -4.5**
CMMT Chiang Mai 89.78 290 P **P 22 28 56.6 +0.9**
comp=Z,189nm,1.4s
CHTO Chiang Mai 89.79 290 P **P 22 28 56.7 +1.0**
comp=Z,669nm,3.4s
MSO Missoula 89.96 39 P **P 22 28 56.5 +0.5**
baz=238
MSO Missoula 89.96 39 *e*P **P 22 28 56.0 0.0**
comp=Z,68nm,1.9s
DLMT Dillon 89.98 40 *e*P **P 22 28 57.3 +1.2**
comp=Z,25nm,1.1s
S22A 4UR Ranch, Cre 89.98 49 P **P 22 28 57.4 +0.9**
baz=242,SNR=32
S22A 4UR Ranch, Cre 89.98 49 *e*P **P 22 28 57.3 +0.9**
comp=Z,50nm,1.4s
REDW Red Top Meadow 90.02 43 *e*P **P 22 28 57.2 +0.8**
comp=Z,66nm,1.0s
TPAW Teton Pass 90.02 42 *e*P **P 22 28 57.4 +0.9**
comp=Z,36nm,1.0s
FXWY Fox Creek 90.05 42 *e*P **P 22 28 57.5 +0.8**
comp=Z,19nm,0.9s
SNOW Snow King Moun 90.13 43 *e*P **P 22 28 58.0 +1.0**
comp=Z,55nm,0.9s
O20A White River Ci 90.13 46 P **P 22 28 57.8 +0.8**
baz=241
BILL Bilibino 90.21 355 *e*P **P 22 28 56.2 -0.3**
BILL *e*'PP **pP 22 30 58.1 +0.9**
BILL *e* 22 32 40.9
BILL pmax pmax
comp=Z,32nm,1.1s
BILL Bilibino 90.21 355 *e*P **P 22 28 56.6 +0.2**
comp=Z,29nm,1.1s
IMW Indian Meadow 90.24 42 *e*P **P 22 28 58.5 +0.9**
comp=Z,41nm,0.9s
MOOW Moose Ponds 90.28 42 *e*P **P 22 28 58.8 +1.1**
comp=Z,53nm,1.8s
LOHW Long Hollow 90.30 42 *e*P **P 22 28 58.4 +0.7**
comp=Z,17nm,0.8s
LRM Limekiln Ridge 90.30 40 *e*P **P 22 28 58.5 +0.7**
CHMT Chamberlain Mo 90.41 39 *e*P **P 22 28 58.5 +0.3**
QLMT Earthquake Lak 90.41 41 *e*P **P 22 28 60.0 +1.7**
FLWY Flagg Ranch 90.48 42 *e*P **P 22 28 59.7 +1.1**
comp=Z,44nm,1.0s
YPP Pitchstone Pla 90.51 42 *e*P **P 22 29 00.6 +1.7**
comp=Z,20nm,1.5s
YHB Horse Butte 90.51 41 *e*P **P 22 29 00.4 +1.7**
comp=Z,46nm,1.5s
BW06 Boulder Array 90.54 44 P **P 22 28 59.3 +0.3**
baz=241,SNR=32
BW06 Boulder Array 90.54 44 *e*P **P 22 28 59.1 +0.2**
PD31 Pinedale Array 90.55 44 *e*P **P 22 28 58.9 0.0**
PD31 *e*PKKPdf **PKKPbc 22 46 23.2 -1.0**
PDAR Pinedale Array 90.55 44 P **P 22 28 58.9 0.0**
comp=Z,23nm,0.9s,baz=205,slow=3.1,SNR=90
PDAR PKKP **PKKPbc 22 46 23.2 -1.0**
comp=Z,0.8nm,0.8s,baz=65,slow=8.4,SNR=5.0
YFT Old Faithful 90.58 42 *e*P **P 22 29 01.6 +2.6**
comp=Z,19nm,0.9s
CD2 Chengdu 90.68 303 *e*P **P 22 29 00.5 +0.9**
CD2 pP pP 22 31 01.9 +1.6
CD2 sP sP 22 31 57.9 +2.4
CD2 SKS **SKSac 22 38 38.5 -0.4**
CD2 S **S 22 39 09.8 +0.6**
CD2 sS sS 22 42 47.8 +2.7
CD2 SS **SS 22 45 30.3 +1.8**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.6s
BOZ Bozeman (W) 90.70 40 P **P 22 29 00.1 +0.6**
baz=239,SNR=16
BOZ Bozeman (W) 90.70 40 *e*P **P 22 29 00.1 +0.6**
BOZ pmax pmax
comp=Z,19nm,0.9s
BOZ Bozeman (W) 90.70 40 *e*P **P 22 29 00.1 +0.6**
comp=Z,19nm,0.9s
H17A Grant Village 90.71 42 P **P 22 29 01.9 +2.2**
baz=240,SNR=6.6
YHH Holmes Hill 90.74 41 *e*P **P 22 29 02.4 +2.5**
comp=Z,17nm,1.1s
SDCO Great Sand Dun 90.91 49 P **P 22 29 01.4 +0.5**
baz=243,SNR=26
SDCO Great Sand Dun 90.91 49 *e*P **P 22 29 00.6 -0.2**
comp=Z,19nm,1.0s
DAWY Dawson 90.95 16 *e*P **P 22 29 00.1 0.0**
comp=Z,40nm,1.1s
CMIG Matias Romero 90.97 72 P **P 22 29 01.6 +0.4**
comp=Z,6.1nm,0.8s
832A Faith Ranch, C 91.04 60 P **P 22 29 01.7 +0.5**
baz=246,SNR=16
EGAK Eagle 91.09 15 *e*P **P 22 29 00.3 -0.3**
comp=Z,26nm,0.8s
WALA Waterton Lakes 91.18 37 *e*P **P 22 29 02.1 +0.6**
comp=Z,50nm,1.4s
MSTX Muleshoe 91.24 54 P **P 22 29 02.8 +0.6**
baz=245,SNR=9.6
COLD Coldfoot 91.31 11 *e*P **P 22 29 02.1 +0.5**
comp=Z,26nm,1.1s
933A Laredo 91.33 61 P **P 22 29 04.0 +1.4**
baz=246,SNR=5.2
T25A Trinidad 91.42 50 P **P 22 29 03.5 +0.5**
baz=244,SNR=8.4
T25A Trinidad 91.42 50 *e*P **P 22 29 03.7 +0.6**
comp=Z,17nm,0.9s
833A Chaparral WMA, 91.52 60 P **P 22 29 04.2 +0.7**
baz=246
034A Hebbronville 91.60 62 P **P 22 29 05.6 +1.8**
baz=246
Q24A Divide 91.71 49 P **P 22 29 05.0 +0.5**
baz=243,SNR=6.5
733A Divot King Ran 91.76 60 P **P 22 29 05.5 +1.0**
baz=246
RLMT Red Lodge 91.88 42 P **P 22 29 05.9 +0.9**
baz=241,SNR=5.9
RLMT Red Lodge 91.88 42 *e*P **P 22 29 06.1 +1.1**
comp=Z,8.8nm,0.9s
934A Benavides 91.94 61 P **P 22 29 06.8 +1.4**
baz=247
035A Encino 92.02 62 P **P 22 29 07.4 +1.7**
baz=247
N23A Red Feather La 92.03 47 P **P 22 29 06.8 +0.9**
baz=243,SNR=10.0
N23A Red Feather La 92.03 47 *e*P **P 22 29 06.8 +0.9**
comp=Z,22nm,1.1s
JCT Junction City 92.07 58 P **P 22 29 06.3 +0.3**
baz=246
JCT Junction City 92.07 58 *e*P **P 22 29 06.5 +0.5**
JCT pmax pmax
comp=Z,9.0nm,0.8s
JCT Junction City 92.07 58 *e*P **P 22 29 06.5 +0.5**
comp=Z,8.7nm,0.8s
834A Tilden 92.12 61 P **P 22 29 07.8 +1.6**
baz=247
633A Saathoff Ranch 92.16 59 P **P 22 29 07.3 +0.9**
baz=246,SNR=16
AMTX Amarillo 92.44 53 P **P 22 29 08.2 +0.5**
baz=245
AMTX Amarillo 92.44 53 *e*P **P 22 29 08.1 +0.4**
comp=Z,15nm,1.0s
K22A Casper 92.45 45 P **P 22 29 08.0 +0.3**
baz=243,SNR=7.1
K22A Casper 92.45 45 *e*P **P 22 29 07.8 +0.1**
comp=Z,22nm,1.0s
533A Kerrville 92.51 59 P **P 22 29 08.6 +0.5**
baz=246,SNR=13
433A Art 92.74 58 P **P 22 29 09.4 +0.3**
baz=246,SNR=18
835A Beeville 92.77 61 P **P 22 29 11.0 +1.8**
baz=247
634A China Grove, S 92.78 60 P **P 22 29 10.7 +1.4**
baz=247
LZH Lanzhou 92.79 308 *e*P **P 22 29 10.5 +1.2**
LZH pP pP 22 31 11.3 +1.0
LZH sP sP 22 32 06.1 +0.7
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,91nm,4.8s
534A Blanco 92.94 59 P **P 22 29 10.6 +0.6**
baz=247,SNR=32
YAK Yakutsk 92.95 338 *e*P **P 22 29 08.3 -0.8**
YAK pmax pmax
comp=Z,22nm,0.8s
735A Kenedy 93.01 60 P **P 22 29 11.7 +1.4**
baz=247
333A Richland Sprin 93.05 58 P **P 22 29 10.4 0.0**
baz=246,SNR=5.3
ABTX Abilene, Hawle 93.06 56 P **P 22 29 10.8 +0.4**
baz=246,SNR=6.8
ABTX Abilene, Hawle 93.06 56 *e*pP pP 22 31 13.6 +2.1
635A Leesville 93.25 60 P **P 22 29 11.9 +0.6**
baz=247
233A Rising Star 93.39 57 P **P 22 29 12.7 +0.7**
baz=247
434A Burnet 93.41 58 P **P 22 29 12.3 +0.2**
baz=247,SNR=14
KSCO Kaye Shedlock' 93.49 49 P **P 22 29 13.5 +1.1**
baz=245
133A Hamilton Ranch 93.62 56 P **P 22 29 13.1 +0.1**
baz=247,SNR=6.4
334A Lometa 93.64 58 P **P 22 29 13.6 +0.4**
baz=247,SNR=7.3
736A Circle Diamond 93.65 60 P **P 22 29 14.2 +1.0**
baz=247
535A Dale 93.66 59 P **P 22 29 14.4 +1.2**
baz=247
636A Smothers Creek 93.86 60 P **P 22 29 15.3 +1.2**
baz=247
435B Jarrell 93.94 59 P **P 22 29 15.1 +0.6**
baz=247
234A Clairette 93.98 57 P **P 22 29 14.9 +0.2**
baz=247
Z33A Whitaker Ranch 94.00 56 P **P 22 29 15.1 +0.4**
baz=247
134A White-Moore Ra 94.25 57 P **P 22 29 16.5 +0.6**
baz=247
W32A Sentinel 94.36 54 P **P 22 29 17.0 +0.7**
baz=247
LAO LASA Array 94.50 41 P **P 22 29 18.5 +1.7**
baz=243
LAO LASA Array 94.50 41 *e*P **P 22 29 17.7 +1.0**
comp=Z,19nm,0.8s
RSSD Black Hills 94.73 44 P **P 22 29 18.4 +0.3**
baz=244
RSSD Black Hills 94.73 44 *e*P **P 22 29 17.9 -0.2**
RSSD pmax pmax
comp=Z,125nm,2.0s
RSSD Black Hills 94.73 44 *e*P **P 22 29 17.9 -0.2**
comp=Z,124nm,2.0s
V32A Arapaho 94.75 54 P **P 22 29 19.5 +1.4**
baz=247
336A Riesel 94.76 58 P **P 22 29 19.1 +0.9**
baz=248
X34A Smith Ranch, M 95.23 55 P **P 22 29 21.5 +1.2**
baz=247
H25A Fruitdale 95.23 44 P **P 22 29 21.1 +1.0**
baz=245
ULN Ulaanbaatar 95.71 319 *ce*P **P 22 29 22.3 0.0**
ULN pmax pmax
comp=Z,2.0nm,1.1s
INK Inuvik 95.76 15 P **P 22 29 20.8 -1.0**
comp=Z,8.7nm,1.0s,baz=218,slow=6.5,SNR=9.8
INK Inuvik 95.76 15 *e*P **P 22 29 20.8 -1.0**
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 95.76 15 *e*P **P 22 29 20.8 -1.0**
comp=Z,12nm,1.1s
X35A Drake 95.81 55 P **P 22 29 23.5 +0.6**
baz=248
F25A Bowman 95.88 43 P **P 22 29 24.1 +1.1**
baz=245
R32A Long Quarter, 96.05 51 P **P 22 29 25.0 +1.0**
baz=247
SONA0 Songino Array 96.10 319 *e*P **P 22 29 24.1 +0.1**
comp=Z,5.5nm,1.2s
SONA0 *e*PKKPdf **PKKPbc 22 46 08.8 -1.0**
SONA1 Songino Array 96.10 319 *e*P **P 22 29 22.9 -1.1**
SONM Songino Array 96.10 319 P **P 22 29 24.1 +0.1**
comp=Z,3.3nm,1.1s,baz=106,slow=9.4,SNR=5.7
SONM PKKP **PKKPbc 22 46 08.8 -1.0**
comp=Z,1.2nm,0.6s,baz=271,slow=3.0,SNR=8.2
Y36A Durant 96.15 56 P **P 22 29 25.1 +0.7**
baz=248
U34A Anderson Ranch 96.15 53 P **P 22 29 25.3 +0.9**
baz=248
W35A Tecumseh 96.17 55 P **P 22 29 25.3 +0.8**
baz=248
O31A Woolen Ranch, 96.29 49 Pdiff **P 22 29 25.5 +0.6**
baz=247
X36A Centrahoma 96.35 55 Pdiff **P 22 29 25.5 +0.2**
baz=248
Q32A Meitler Ranch, 96.38 51 Pdiff **P 22 29 26.4 +1.0**
baz=247
P32A Huiting Farm, 96.60 50 Pdiff **P 22 29 26.6 +0.3**
baz=247
T34A McClaskey Farm 96.63 53 Pdiff **P 22 29 27.4 +0.9**
baz=248
E26A Carlson Angus 96.74 43 Pdiff **P 22 29 28.1 +1.2**
baz=246
D26A Manning 96.98 42 Pdiff **P 22 29 28.8 +0.9**
baz=246
GTA Gaotai 97.05 310 *e*P Pdif 22 29 29.3 +0.8
GTA pP pP 22 31 31.0 +1.2
GTA sP sP 22 32 23.8 -1.0
GTA PMZ
comp=Z,7.0nm,1.5s
T35A Sooner Cattle 97.10 53 Pdiff Pdif 22 29 29.3 +0.7
baz=248
X37A Clayton 97.10 56 Pdiff Pdif 22 29 29.5 +0.8
baz=249
W37B Quinton 97.26 55 Pdiff **P 22 29 30.5 +1.2**
baz=249
A25A Svangstu Ranch 97.36 40 Pdiff **P 22 29 30.7 +1.2**
baz=246
O33A Hebron 97.49 50 Pdiff **P 22 29 31.1 +0.8**
baz=248
S35A Otter Creek Ra 97.52 53 Pdiff **P 22 29 31.2 +0.7**
baz=248
Q34A Chapman 97.52 51 Pdiff **P 22 29 31.5 +1.0**
baz=248
Z39A Irene McRaven, 97.54 57 Pdiff **P 22 29 31.7 +1.1**
baz=249
X38A Whitesboro 97.55 56 Pdiff **P 22 29 31.7 +1.0**
baz=249
P34A Walnut Farm, R 97.84 51 Pdiff **P 22 29 32.9 +1.0**
baz=248
YKA Yellowknife Ar 98.07 25 P Pdif 22 29 32.1 -0.1
comp=Z,2.7nm,0.7s,baz=244,slow=4.3,SNR=11
YKA PKiKP **PKiKP 22 34 01.4 -0.2**
comp=Z,0.3nm,0.4s,baz=256,slow=1.6,SNR=6.2
YKA PKKPbc **PKKPbc 22 46 01.9 -2.9**
comp=Z,0.3nm,0.3s,baz=37,slow=2.5,SNR=7.1
YKB5 Yellowknife Ar 98.07 25 *e*Pdif Pdif 22 29 32.1 -0.1
YKB5 *e*PKiKP **PKiKP 22 34 01.4 -0.2**
YKB5 *e*PKKPbc **PKKPbc 22 46 01.9 -2.9**
241A Mo Tay, Goldon 98.11 59 Pdiff **P 22 29 34.1 +0.9**
baz=250
O34A Beatrice 98.17 50 Pdiff **P 22 29 34.6 +1.3**
baz=249
P35A Duane Minner, 98.41 51 Pdiff **P 22 29 35.5 +1.1**
baz=249
S37A Fort Scott 98.65 53 Pdiff **P 22 29 36.0 +0.4**
baz=249
T38A Diamond 98.80 54 Pdiff **P 22 29 36.4 +0.1**
baz=250
V39A Pettigrew 98.87 55 Pdiff **P 22 29 36.8 +0.1**
baz=250
MDND Maddock 99.08 42 Pdiff **Pdif 22 29 37.7 +0.5**
baz=248
H32A Carlson Farm, 99.23 46 Pdiff **Pdif 22 29 38.6 +0.6**
baz=249
T39A Clever 99.48 54 Pdiff **Pdif 22 29 39.6 +0.4**
baz=250
R38A Fenwick Farm, 99.48 53 Pdiff **Pdif 22 29 39.7 +0.5**
baz=250
ECSD EROS Data Cent 99.50 47 Pdiff **Pdif 22 29 39.9 +0.7**
baz=249
ECSD EROS Data Cent 99.50 47 *e*Pdif **Pdif 22 29 40.4 +1.2**
comp=Z,32nm,1.7s
A29A Manning Farm, 99.71 41 Pdiff **Pdif 22 29 40.7 +0.8**
baz=248
S39A Bolivar 99.75 53 Pdiff **Pdif 22 29 41.2 +0.8**
baz=250
H33A Prehn Over Nor 99.76 46 Pdiff **Pdif 22 29 41.8 +1.5**
baz=249
646A Port Sulphur 99.78 62 Pdiff **Pdif 22 29 41.8 +1.1**
baz=251
P38A Dawn 100.25 51 Pdiff **Pdif 22 29 43.4 +0.9**
baz=250
F33A 5 Mile Ranch, 100.46 45 Pdiff **Pdif 22 29 44.4 +1.1**
baz=250
B31A Greenbush Farm 100.50 42 Pdiff **Pdif 22 29 44.4 +0.9**
baz=249
T41A Mountain View 100.70 54 Pdiff **Pdif 22 29 45.7 +1.0**
baz=251
R40A Maddies Statio 100.73 53 Pdiff **Pdif 22 29 45.8 +1.1**
baz=251
A32A Rocking H Ranc 101.39 42 Pdiff **Pdif 22 29 48.3 +0.9**
baz=250
L38A Oak Wood Farm, 101.49 49 Pdiff **Pdif 22 29 48.5 +0.6**
baz=251
A33A Warroad 102.09 42 Pdiff **Pdif 22 29 51.7 +1.2**
baz=251
ULM Lac du Bonnet 102.22 41 P **Pdif 22 29 52.0 +1.0**
comp=Z,1.9nm,0.7s,baz=39,slow=6.0,SNR=3.1
D35A Remer 102.33 44 Pdiff **Pdif 22 29 53.4 +1.8**
baz=252
LPAZ La Paz 102.44 113 P **Pdif 22 29 55.8 +2.2**
comp=Z,1.1nm,0.4s,baz=203,slow=1.1,SNR=4.8
C35A Jirik Farms, M 102.58 44 Pdiff **Pdif 22 29 53.9 +1.2**
baz=252
D37A Cotton 103.42 44 Pdiff **Pdif 22 29 57.8 +1.4**
baz=253
ZALV Zalesovo Beam 110.89 321 PKiKP **PKiKP 22 34 23.9 -1.6**
comp=Z,1.3nm,0.3s,baz=206,slow=0.9,SNR=9.4
ZAA1 Zalesovo Array 110.89 321 *e*PKiKP **PKiKP 22 34 23.9 -1.6**
MK32 Makanchi Array 111.38 313 *e*PKiKP **PKiKP 22 34 25.3 -1.4**
MK32 *e*PKKPbc **PKKPbc 22 45 23.9 -0.6**
MK32 *e*PKKPab **PKKPab 22 45 35.2 +1.2**
MKAR Makanchi Array 111.38 313 PKiKP **PKiKP 22 34 25.3 -1.4**
comp=Z,1.5nm,0.3s,baz=210,slow=0.8,SNR=54
MKAR PKKPbc **PKKPbc 22 45 23.9 -0.6**
comp=Z,2.8nm,0.9s,baz=272,slow=4.2,SNR=10.0
MKAR PKKPab **PKKPab 22 45 35.2 +1.2**
comp=Z,1.6nm,0.8s,baz=274,slow=3.4,SNR=6.4
MKAR Makanchi Array 111.38 313 PKiKP **PKiKP 22 34 25.3 -1.4**
KSH Kashi 114.83 305 *e*PKP PKPdf 22 34 34.8 +1.1
KSH PP **PP 22 35 49.3 +6.4**
KSH sPKP 22 37 32.9
KSH SKS **SKSdf 22 40 54.8 +0.8**
KSH SKKS **SKKSac 22 41 46.5 -0.2**
KSH SS **SS 22 51 02.8 +6.0**
KSH PPMZ
comp=Z,130nm,7.1s
PTGA Pitinga 116.53 102 *e*PKPdf **PKPdf 22 34 36.5 -1.1**
PKME Peaks-Kenny Pk 118.87 49 *e*PKPdf **PKPdf 22 34 40.6 -0.5**
VOSK Vostochnaya 119.09 319 *e*PKiKP **PKPdf 22 34 39.8 -1.5**
VOSK Vostochnaya 119.09 319 *e*PKPdf **PKPdf 22 34 39.8 -1.5**

KULLO Kullorsuaq 119.11 15 *i* PKIKP **PKPdf** 22 34 39.1 -1.7
KULLO pmax pmax
comp=Z,12nm,0.6s
KULLO Kullorsuaq 119.11 15 *i* P **PKPdf** 22 34 39.1 -1.7
comp=Z,12nm,0.6s
KKAR Karatay Array 119.29 308 *e*PKIKP **PKPdf** 22 34 41.1 -1.0
KKAR Karatay Array 119.29 308 *e*PKPdf **PKPdf** 22 34 41.1 -1.0
BRVK Borovoye 119.50 320 *c* PKIKP **PKPdf** 22 34 41.1 -1.0
BRVK pmax pmax
comp=Z,33nm,1.0s
BRVK Borovoye 119.50 320 *e*PKPdf **PKPdf** 22 34 41.0 -1.1
KBL Kabul 119.66 298 *e*PKIKP **PKPdf** 22 34 43.0 -0.3
KBL Kabul 119.66 298 *e*PKPdf **PKPdf** 22 34 43.0 -0.3
SCHQ Schefferville 120.27 38 PKP **PKPdf** 22 34 41.8 -1.7
comp=Z,2.8nm,0.5s,baz=282,slow=3.4,SNR=14
ZRNK Zerenda 120.28 319 *e*PKIKP **PKPdf** 22 34 42.3 -1.3
ZRNK Zerenda 120.28 319 *e*PKPdf **PKPdf** 22 34 42.3 -1.3
LMN Caledonia Moun 122.03 49 *e*PKPdf **PKPdf** 22 34 46.3 -0.9
SUR Sutherland 122.90 200 PKP **PKPdf** 22 34 49.3 -0.4
comp=Z,0.6nm,0.4s,baz=214,slow=2.3,SNR=16
SPA0 Spitsbergen Ar 123.08 356 *e*PKPdf **PKPdf** 22 34 48.4 0.0
SPITS Spitsbergen Ar 123.08 356 PKP **PKPdf** 22 34 47.9 -0.5
comp=Z,17nm,0.5s,baz=79,slow=4.3,SNR=46
ILULI Ilulissat 123.27 20 *i* PKIKP **PKPdf** 22 34 47.8 -1.0
ILULI Ilulissat 123.27 20 *i* P **PKPdf** 22 34 47.8 -1.0
DAG Danmarks Havn 124.10 5 *i* PKIKP **PKPdf** 22 34 48.7 -1.6
DAG pmax pmax
comp=Z,11nm,0.6s
DAG Danmarks Havn 124.10 5 *i* P **PKPdf** 22 34 48.7 -1.6
comp=Z,16nm,0.6s
SFJD Kangerlussuaq 124.48 22 *i* PKIKP **PKPdf** 22 34 50.3 -0.9
SFJD Kangerlussuaq 124.48 22 *i* P **PKPdf** 22 34 50.3 -0.9
SVE Sverdlovsk 124.49 325 *e*PKIKP **PKPdf** 22 34 51.2 -0.4
SVE pmax pmax
comp=Z,21nm,1.0s
SUMG Summit 124.62 13 *e*PKIKP **PKPdf** 22 34 51.3 -0.6
SUMG Summit 124.62 13 *i* P **PKPdf** 22 34 51.6 -0.3
comp=Z,53nm,1.1s
SUMG Summit 124.62 13 *e*PKPdf **PKPdf** 22 34 51.3 -0.6
BOSA Boshof 124.69 206 PKP **PKPdf** 22 34 52.9 -0.3
comp=Z,3.3nm,0.3s,baz=164,slow=2.8,SNR=13
BOSA PKKPbc **PKKPbc** 22 44 37.1 -0.8
comp=Z,6.9nm,0.9s,baz=319,slow=4.8,SNR=9.8
ARU Arti 125.70 325 *i* PKIKP **PKPdf** 22 34 53.3 -0.6
ARU 22 36 53.5
ARU 22 41 12.2
ARU Arti 125.70 325 *e*PKPdf **PKPdf** 22 34 53.4 -0.6
ABKAR Akbulak array 126.35 316 *e*PKPdf **PKPdf** 22 34 54.7 -0.7
GEYT Alibeck 128.66 302 PKP **PKPdf** 22 35 00.1 -0.1
comp=Z,7.0nm,0.7s,baz=242,slow=3.2,SNR=19
GEYT SKP 22 37 42.5
comp=Z,0.5nm,0.5s,baz=335,slow=30,SNR=2.2
SCO Scoresbysund 129.43 10 *i* PKIKP **PKPdf** 22 35 00.9 +0.3
SCO Scoresbysund 129.43 10 *i* P **PKPdf** 22 35 00.9 +0.3
ARA0 ARCESS Array S 130.00 349 *e*PKPpre PKPpre 22 34 48.7
ARA0 *e*PKPdf **PKPdf** 22 35 00.7 -1.1
ARA0 *e*PKPdf **PKiKP** 22 35 01.1 -1.5
ARCES ARCESS Array B 130.00 349 PKhKP PKPpre 22 34 48.7
comp=Z,5.1nm,1.0s,baz=28,slow=1.7,SNR=12
ARCES PKP **PKPdf** 22 35 01.1 -0.6
comp=Z,9.8nm,0.4s,baz=106,slow=1.1,SNR=6.8
ARCES PKKP **PKKPdf** 22 45 03.2 -3.4
comp=Z,2.7nm,0.8s,baz=224,slow=1.8,SNR=7.8
KLMR Klimovskoe 132.66 335 *e*PKIKP **PKPdf** 22 35 05.9 -1.0
KLMR *e* 22 37 39.3
KLMR pmax pmax
comp=Z,28nm,1.4s
LSZ Lusaka 134.52 218 *e*PKIKP **PKPdf** 22 35 12.2 +0.2
LSZ Lusaka 134.52 218 *e*PKPdf **PKPdf** 22 35 12.2 +0.2
BORG Borgarnes 134.60 13 PKP **PKPdf** 22 35 10.6 +0.2
comp=Z,14nm,0.9s
TSUM Tsumeb 136.15 203 PKP **PKPdf** 22 35 15.1 +0.1
comp=Z,5.1nm,0.8s,baz=150,slow=2.9,SNR=7.5
FIA1 FINESS Array S 136.72 343 *e*PKPpre PKPpre 22 35 04.6
FIA1 *e*PKPdf **PKPdf** 22 35 13.8 -0.7
FIA0 FINESS Array S 136.72 343 *e*PKHKP PKPpre 22 35 01.5
FIA0 *e* 22 35 13.9
FIA0 FINESS Array S 136.72 343 *e*PKPpre PKPpre 22 35 01.5
FIA0 *e*PKPdf **PKPdf** 22 35 13.9 -0.6
FIA0 *e*SKPbc **SKPbc** 22 37 56.4 +0.6
FINES FINESS Array B 136.72 343 PKhKP PKPpre 22 35 01.5
comp=Z,1.1nm,0.3s,baz=68,slow=2.4,SNR=16
FINES PKP **PKPdf** 22 35 13.9 -0.6
comp=Z,5.0nm,0.3s,baz=34,slow=3.2,SNR=30
FINES SKPbc **SKPbc** 22 37 56.4 +0.6
comp=Z,6.6nm,0.7s,baz=62,slow=4.5,SNR=13
VRH Novokhopyorsk 136.87 323 *e*PKIKP **PKPdf** 22 35 16.0 +0.9
VRH pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 137.41 330 *e*PKIKP **PKPdf** 22 35 14.3 -1.6
OBN pmax pmax
comp=Z,14nm,1.0s
KMBO Kilima Mbogo 137.90 242 PKhKP PKPpre 22 35 09.5
comp=Z,0.8nm,0.6s,baz=28,slow=4.3,SNR=4.2
KMBO PKP **PKPdf** 22 35 17.9 -0.6
comp=Z,5.0nm,0.8s,baz=44,slow=5.5,SNR=11
KMBO SKP 22 38 02.6
comp=Z,6.9nm,1.0s,baz=231,slow=0.9,SNR=9.3
VSR Storozhevoye 138.27 324 *e*PKIKP **PKPdf** 22 35 16.9 -0.8
VSR pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 139.14 313 *e*PKIKP **PKPdf** 22 35 19.2 -0.5
KIV pmax pmax
comp=Z,11nm,1.0s
NC303 NORSAR Array S 139.93 352 *e*PKPpre PKPpre 22 35 12.9
NC405 NORSAR Array S 139.99 352 *e*PKPpre PKPpre 22 35 13.9
NB201 NORSAR Array S 140.11 352 *e*PKPpre PKPpre 22 35 13.6
NB2 NORSAR Subarra 140.13 352 PKP PKPpre 22 35 13.3
comp=Z,2.2nm,0.3s,baz=16,slow=3.2
NB200 NORSAR Array S 140.13 352 *e*PKPpre PKPpre 22 35 13.3
NB200 *e*PKPdf **PKPdf** 22 35 21.3 +0.5
NB200 *e*SKPbc **SKPbc** 22 38 06.1 +0.8
NOA NORSAR Array B 140.13 352 PKhKP PKPpre 22 35 13.3
comp=Z,8.5nm,0.8s,baz=16,slow=4.6,SNR=25
NOA PKP **PKPdf** 22 35 21.3 +0.5
comp=Z,4.8nm,0.4s,baz=14,slow=4.0,SNR=12
NOA SKPbc **SKPbc** 22 38 06.1 +0.8
comp=Z,2.2nm,0.6s,baz=16,slow=4.3,SNR=7.3
NBO02 NORSAR Array S 140.16 353 *e*PKPpre PKPpre 22 35 14.1
NBO00 NORSAR Array S 140.19 353 *e*PKPpre PKPpre 22 35 14.2
NAO01 NORSAR Array S 140.36 352 *e*PKPpre PKPpre 22 35 15.2
NACGM Naroch 141.67 336 *e* **PKPdf** 22 35 20.0 -3.7
KONO Kongsberg 141.68 353 *e*PKHKP PKPpre 22 35 19.0
KONO Kongsberg 141.68 353 *e*PKPpre PKPpre 22 35 19.0
BIGH Upper Bighouse 143.16 4 *e*P PKPab 22 35 23.6 -0.4
RSC Scourie 143.20 5 *e*P PKPab 22 35 24.1 -0.2
MLA1 Latheron 143.38 4 *e*P PKPab 22 35 23.6 -1.4
RRH Rhenigidale 143.48 7 *e*P PKPab 22 35 24.2 -1.1
RRH Rubha Reidh 143.63 6 *e*P PKPab 22 35 24.1 -1.7
AKASG Malin Array Be 143.65 329 PKP PKPab 22 35 24.9 -1.3
comp=Z,12nm,0.3s,baz=42,slow=4.2,SNR=97
AKASG SKPbc **SKPbc** 22 38 14.3 +0.1
comp=Z,2.1nm,0.6s,baz=43,slow=3.2,SNR=4.0
AKBB Malin Array Si 143.65 329 *e*PKIKP PKPab 22 35 24.9 -1.3
AKBB Malin Array Si 143.65 329 *e*PKPbc PKPab 22 35 24.9 -1.3
AKBB *e*SKPbc **SKPbc** 22 38 14.3 +0.1
KIEV Kiev 143.66 329 *e*PKHKP PKPab 22 35 24.8 -1.4
KIEV Kiev 143.66 329 *e*PKPbc PKPab 22 35 24.8 -1.4
AK11 Malin Array Si 143.69 329 *e*PKPbc PKPab 22 35 24.9 -1.5
KAC Achnashellach 144.03 6 *e*P PKPbc 22 35 25.9 -1.3
MCD Coleburn Disti 144.11 4 *e*P PKPbc 22 35 26.5 -1.0
KPL Plockton 144.17 6 *e*P PKPbc 22 35 26.6 -0.9
MDO Dochfour 144.17 5 *e*P PKPbc 22 35 26.0 -1.7
KSB Sheil Bridge 144.31 6 *e*P PKPbc 22 35 27.1 -0.9
SIM Simferopol' 144.34 318 *i* PKIKP PKPbc 22 35 26.9 -1.7
SIM pmax pmax
comp=Z,65nm,1.1s
MUD Monsted U'grnd 144.85 352 *i* PKIKP **PKPdf** 22 35 29.1 -0.1
MUD Monsted U'grnd 144.85 352 *i* P **PKPdf** 22 35 29.1 -0.1
COP Copenhagen 145.08 349 *e*PKIKP **PKPbc** 22 35 30.1 -0.4
COP pmax pmax
comp=Z,47nm,0.6s
COP Copenhagen 145.08 349 *i* P **PKPbc** 22 35 30.1 -0.4
comp=Z,47nm,0.6s
BSD Bornholm Skovb 145.11 346 *i* PKIKP **PKPdf** 22 35 29.9 +0.2
BSD pmax pmax
comp=Z,72nm,0.9s
BSD Bornholm Skovb 145.11 346 *i* P **PKPdf** 22 35 29.9 +0.2
comp=Z,72nm,0.9s
EDU Dundee 145.16 4 *e*P **PKPdf** 22 35 29.8 0.0
EAB Aberfoyle 145.41 5 *e*P **PKPdf** 22 35 30.3 +0.1
PGBU Glenifferbraes 145.78 5 *e*P **PKPbc** 22 35 31.7 -0.8
SORM Soroca 145.78 327 ⇑*i*P **PKPbc** 22 35 32.3 -0.4
SORM Soroca 145.78 327 ⇑PKIKP **PKPbc** 22 35 32.3 -0.4
GMK Mull of Kintyr 146.12 7 *e*P **PKPbc** 22 35 32.4 -1.0
KIS Kishinev 146.26 325 ⇓*i*PKP **PKPbc** 22 35 34.0 -0.1
KIS XM 22 35 35.0
comp=Z,200nm,1.4s
KIS Kishinev 146.26 325 *e*PKP2 **PKPbc** 22 35 34.0 -0.1
KIS pmax pmax
comp=Z,220nm,1.4s
MILM Milestii Mici 146.31 325 ⇑*i*P **PKPbc** 22 35 33.8 -0.5
EKA Eskdalemuir Ar 146.35 4 PKPbc **PKPbc** 22 35 33.7 -0.4
comp=Z,37nm,0.8s,baz=350,slow=2.5,SNR=61
ESK Eskdalemuir 146.37 4 *i* PKIKP **PKPbc** 22 35 33.8 -0.4
ESK Eskdalemuir 146.37 4 *e*PKPdf **PKPbc** 22 35 33.7 -0.4
ECK Cauldkaine Hil 146.51 4 *e*P **PKPbc** 22 35 33.5 -1.1
LVV L'vov 146.62 333 *e*PKIKP **PKPbc** 22 35 33.8 -1.3
GAL1 Galloway 146.69 6 *e*P **PKPbc** 22 35 33.9 -1.2
ASCN Ascension 146.85 151 *e*PKPbc **PKPbc** 22 35 38.1 +1.4
LEOM Leova 146.89 325 ⇑*i*P **PKPbc** 22 35 35.8 0.0
LEOM Leova 146.89 325 ⇑PKP2 **PKPbc** 22 35 35.8 0.0
BR101 Keskin Array S 146.97 310 *e*PKPdf **PKPdf** 22 35 32.5 -1.1
BR101 *e*PKPbc **PKPbc** 22 35 35.7 -0.8
BR101 *e*SKPbc **SKiKP** 22 38 22.6 0.0
BR131 Keskin Array S 146.97 310 *e*PKPdf **PKPdf** 22 35 33.1 -0.5
BRTR Keskin Array B 146.97 310 PKP **PKPdf** 22 35 32.5 -1.1
comp=Z,12nm,0.7s,baz=132,slow=2.1,SNR=48
BRTR PKPbc **PKPbc** 22 35 35.7 -0.8
comp=Z,12nm,0.7s,baz=139,slow=4.3,SNR=56
BRTR SKPbc **SKiKP** 22 38 22.6 0.0
comp=Z,1.7nm,0.9s,baz=157,slow=3.7,SNR=2.4
KESW Keswick, Cumbr 147.10 4 *e*P **PKPbc** 22 35 35.7 -0.5
GMM Mts of Mourne 147.17 8 *e*P **PKPbc** 22 35 35.9 -0.4
KWP Kalwaria Pacla 147.32 334 ⇓*i*P **PKPbc** 22 35 36.4 -0.5
KWP Kalwaria Pacla 147.32 334 ⇓PKP2 **PKPbc** 22 35 36.4 -0.5
TLCR 147.36 322 ⇑*i*P **PKPbc** 22 35 37.0 -0.1
TLCR 147.36 322 ⇑PKP2 **PKPbc** 22 35 37.0 -0.1
WIM Isle of Man 147.40 6 *e*P **PKPbc** 22 35 35.9 -1.1
ANTO Ankara 147.50 311 *e*PKIKP **PKPdf** 22 35 35.3 +1.0
ANTO Ankara 147.50 311 *e*PKPdf **PKPdf** 22 35 35.3 +1.0
BR231 Keskin MP Arra 147.53 311 *e*PKPdf **PKPdf** 22 35 33.1 -1.3
BR231 *e*PKPbc **PKPbc** 22 35 37.8 -0.2
BUR08 Bucovina Ar. S 147.67 329 *e*PKPdf **PKPdf** 22 35 35.8 +1.4
BURAR Bucovina Array 147.68 329 ⇓*i*P **PKPbc** 22 35 38.8 +0.7
BURAR Bucovina Array 147.68 329 ⇓PKP2 **PKPbc** 22 35 38.8 +0.7
TESR Tescani 147.71 326 ⇑*i*P **PKPbc** 22 35 37.8 -0.2
CFR Carcaliu 147.75 323 ⇓*i*P **PKPdf** 22 35 33.5 -0.9
CFR Carcaliu 147.75 323 ⇓PKHKP **PKPdf** 22 35 33.5 -0.9
HPK Haverah Park 147.81 3 *e*P **PKPbc** 22 35 37.6 -0.4
TIRR Tirgusor 148.02 321 ⇑*i*P **PKPbc** 22 35 38.7 -0.1
TIRR Tirgusor 148.02 321 ⇑PKP2 **PKPbc** 22 35 38.7 -0.1
KOLS Kolonicke sedl 148.04 333 *e*PKP2 **PKPbc** 22 35 39.5 +0.7
KOLS Kolonicke sedl 148.04 333 *e*PKP **PKPbc** 22 35 39.5 +0.7
STHS Stebnicka Huta 148.09 335 *e*PKP2 **PKPbc** 22 35 39.3 +0.3
STHS Stebnicka Huta 148.09 335 *e*PKP **PKPbc** 22 35 39.2 +0.3
DSB Dublin 148.09 8 *e*PKPbc **PKPbc** 22 35 38.4 -0.3
VRI Vrincioaia 148.09 325 ⇑*i*P **PKPbc** 22 35 38.9 -0.1
VRI Vrincioaia 148.09 325 ⇑PKP2 **PKPbc** 22 35 38.9 -0.1
PLOR Plostina 148.14 325 ⇑*i*P **PKPbc** 22 35 38.4 -0.8
PLOR Plostina 148.14 325 ⇑PKHKP **PKPbc** 22 35 38.4 -0.8
WPS Cemaes, Angles 148.16 6 *e*P **PKPbc** 22 35 38.0 -0.9
HARR Harsova 148.16 322 ⇑*i*P **PKPbc** 22 35 40.2 +1.0
HARR Harsova 148.16 322 ⇑PKP2 **PKPbc** 22 35 40.2 +1.0
LHO Holmfirth 148.22 3 *e*P **PKPbc** 22 35 38.7 -0.4
PHNC Paralimni 148.24 302 P **PKPbc** 22 35 38.9 -0.8
UZH Uzhgorod 148.27 333 ⇑*i*PKHKP **PKPbc** 22 35 39.0 -0.3
WLF1 Llynfaes 148.28 6 *e*P **PKPbc** 22 35 37.3 -1.8
MANR Mangalia 148.29 320 ⇓*i*P **PKPbc** 22 35 39.8 +0.3
WPM1 Penmaenmawr 148.36 6 *e*P **PKPbc** 22 35 38.2 -1.2
LMK Market Rasen 148.36 1 *e*P **PKPbc** 22 35 38.3 -1.1
CRVS Cervenica-Dubn 148.40 334 *e*PKP2 **PKPbc** 22 35 39.7 0.0
CRVS Cervenica-Dubn 148.40 334 *e*PKP **PKPbc** 22 35 39.7 0.0
YLL Llanberis 148.45 6 *e*P **PKPbc** 22 35 39.0 -0.6
BMR Baia Mare 148.45 330 ⇓*i*P **PKPbc** 22 35 40.3 +0.5
BMR Baia Mare 148.45 330 ⇓PKP2 **PKPbc** 22 35 40.3 +0.5
ARCR ARCALIA 148.47 329 ⇑*i*P **PKPbc** 22 35 40.3 +0.4
STNC Stoke 148.65 4 *e*P **PKPbc** 22 35 40.0 -0.1
ISR Istrita 148.67 324 ⇑*i*P **PKPbc** 22 35 40.8 +0.3
ISR Istrita 148.67 324 ⇑PKP2 **PKPbc** 22 35 40.8 +0.3
DOPR Dopca 148.73 326 ⇑*i*P **PKPbc** 22 35 41.2 +0.6
MLR Muntele Rosu 148.75 325 PKP **PKPdf** 22 35 34.8 -1.4
comp=Z,2.1nm,0.5s,baz=42,slow=4.0,SNR=9.9
MLR PKPbc **PKPbc** 22 35 40.0 -0.8
comp=Z,17nm,1.1s,baz=11,slow=3.9,SNR=49
MLR Muntele Rosu 148.75 325 ⇑*i*P **PKPbc** 22 35 40.3 -0.5
FOEL Foel Wylfa 148.78 5 *e*P **PKPdf** 22 35 35.0 -0.9
CSS Mathiatis 148.80 302 P **PKPbc** 22 35 40.3 -0.8
CSS Mathiatis 148.80 302 *e*PKPdf **PKPdf** 22 35 36.1 -0.4
MAMC Mammari 148.83 302 P **PKPbc** 22 35 41.0 -0.2
OKC Ostrava-Krasne 148.89 338 ⇑*i*PKP **PKPbc** 22 35 41.2 +0.4
OKC *e*PKPAB **PKPab** 22 35 47.7 +0.7
OKC Ostrava-Krasne 148.89 338 ⇑*i*PKHKP **PKPbc** 22 35 41.2 +0.4
OKC *e* 22 35 47.7
SECR 148.98 324 ⇑*i*P **PKPbc** 22 35 40.1 -1.1
LANS Liptovska Anna 148.99 336 *e*PKP2 **PKPbc** 22 35 41.9 +0.7
LANS Liptovska Anna 148.99 336 *e*PKP **PKPbc** 22 35 41.8 +0.6
UPC Upice 148.99 341 ⇑*i*PKP **PKPbc** 22 35 41.6 +0.5
UPC Upice 148.99 341 *i* PKHKP **PKPbc** 22 35 41.6 +0.5
DPC Dobruska-Polom 149.04 341 *e*PKPDF **PKPdf** 22 35 36.6 +0.2
DPC ⇑*i*PKP **PKPbc** 22 35 41.5 +0.2
DPC *e*PKPAB **PKPab** 22 35 48.6 +0.9
DPC *e*pPKP **pPKPdf** 22 37 54.5 +9.0
DPC Dobruska-Polom 149.04 341 *e*PKHKP **PKPdf** 22 35 36.6 +0.2
DPC *e* 22 35 48.6
CWF Charnwood Fore 149.05 3 *e*P **PKPbc** 22 35 40.3 -0.8
CWF Charnwood Fore 149.05 3 *e*PKPbc **PKPbc** 22 35 40.7 -0.4
CLL Collm 149.07 345 *i* PKPdf **PKPdf** 22 35 36.2 -0.2
comp=Z,21nm,1.6s
CLL *i* PKPbc **PKPbc** 22 35 41.5 +0.3
comp=Z,171nm,1.1s
CLL *i* PKPab **PKPab** 22 35 47.3 -0.4
comp=Z,32nm,1.1s
CLL *i* pPKPbc **pPKPbc** 22 37 51.5 +2.8
comp=Z,17nm,1.1s
CLL Collm 149.07 345 *i* PKIKP **PKPdf** 22 35 36.2 -0.2
CLL *i* 22 35 47.3
CLL pmax pmax
comp=Z,21nm,1.6s
CLL pmax pmax
comp=Z,171nm,1.1s
CLL pmax pmax
comp=Z,32nm,1.1s
CLL Collm 149.07 345 *e*PKPdf **PKPdf** 22 35 36.4 0.0
CJR Cluj-Napoca 149.10 329 ⇑*i*P **PKPbc** 22 35 41.8 +0.3
CJR Cluj-Napoca 149.10 329 ⇑PKHKP **PKPbc** 22 35 41.8 +0.3
KECS Kecovo 149.13 334 *e*PKP2 **PKPbc** 22 35 42.2 +0.7
KECS Kecovo 149.13 334 *e*PKP **PKPbc** 22 35 42.2 +0.7
MORC Moravsky Berou 149.15 339 ⇑*i*P **PKPbc** 22 35 41.6 +0.1
MORC Moravsky Berou 149.15 339 ⇑PKHKP **PKPbc** 22 35 41.6 +0.1
MORC Moravsky Berou 149.15 339 *e*PKPdf **PKPdf** 22 35 36.6 0.0
HLM1 Long Mynd 149.18 5 *e*P **PKPbc** 22 35 35.7 -0.8
SZAC Souni 149.21 302 P **PKPbc** 22 35 41.5 -0.7
BRG Berggiesshubel 149.24 344 *i* PKP **PKPdf** 22 35 36.5 -0.2
comp=Z,24nm,1.5s
BRG *i* 22 35 41.6
comp=Z,125nm,1.1s
BRG *e*pPKP **pPKPdf** 22 37 47.2 +1.4
comp=Z,19nm,1.6s
BRG Berggiesshubel 149.24 344 *i* PKIKP **PKPdf** 22 35 36.5 -0.2
BRG pmax pmax
comp=Z,24nm,1.5s
BRG pmax pmax
comp=Z,125nm,1.2s
BRG pmax pmax
comp=Z,19nm,1.6s
VOIR 149.26 326 ⇑*i*P **PKPbc** 22 35 42.7 +0.7
VOIR 149.26 326 ⇑PKP2 **PKPbc** 22 35 42.7 +0.7
ALFC Alefka 149.32 303 P **PKPbc** 22 35 41.5 -0.9
PVCC Panska Ves 149.39 343 *e*PKPDF **PKPdf** 22 35 37.4 +0.5
PVCC ⇑*i*PKP **PKPbc** 22 35 42.1 +0.1
PVCC *e*pPKP **pPKPdf** 22 37 55.3 +9.3
PVCC Panska Ves 149.39 343 *e*PKHKP **PKPdf** 22 35 37.4 +0.5
DRGR 149.46 330 ⇑*i*P **PKPbc** 22 35 42.5 +0.1
DRGR 149.46 330 ⇑PKHKP **PKPbc** 22 35 42.5 +0.1
WTSB Winterswijk 149.53 353 *e*PKP **PKPbc** 22 35 42.0 -0.3
comp=Z,291nm,1.3s
PPCY Paphos 149.60 302 P **PKPbc** 22 35 42.0 -1.0
MCH1 Michaelchurch 149.68 5 *e*P **PKPbc** 22 35 41.9 -0.8
VYHS Vyhne 149.76 336 *e*PKHKP **PKPbc** 22 35 42.8 -0.2
VYHS Vyhne 149.76 336 *e*PKP **PKPbc** 22 35 42.8 -0.2
SSW Stow on the Wo 149.79 3 *e*P **PKPbc** 22 35 42.0 -1.0
ROSA Rosais 149.81 49 *e*PKPbc **PKPbc** 22 35 42.8 -0.7
ROSA Rosais 149.81 49 *e*P **PKPab** 22 35 55.5 +4.2
PSZ Piszkesteto 149.82 334 *e*PKIKP **PKPdf** 22 35 37.7 -0.1
PSZ Piszkesteto 149.82 334 *e*PKPdf **PKPdf** 22 35 37.7 -0.1
VRAC Vranov 149.86 339 PKP **PKPdf** 22 35 37.6 -0.1
comp=Z,1.2nm,0.4s,baz=60,slow=5.7,SNR=3.1
VRAC PKPbc **PKiKP** 22 35 43.6 -0.2
comp=Z,30nm,1.0s,baz=24,slow=0.8,SNR=33
VRAC Vranov 149.86 339 ⇑*i*P **PKPbc** 22 35 43.5 +0.3
VRAC Vranov 149.86 339 ⇑PKHKP **PKPbc** 22 35 43.5 +0.3
GOPC GO Pecny, Ondr 149.88 342 ⇑*i*PKP **PKPbc** 22 35 43.3 +0.1
GOPC *e*PKPAB **PKPab** 22 35 51.6 +0.4
GOPC GO Pecny, Ondr 149.88 342 *i* PKHKP **PKPbc** 22 35 43.3 +0.1
GOPC *e* 22 35 51.6
PRU Pruhonice 149.88 342 *e*PKPDF **PKPdf** 22 35 37.5 -0.2
PRU ⇑*i*PKP **PKPbc** 22 35 43.1 -0.1
PRU *e*PKPAB **PKPab** 22 35 50.5 -0.7
PRU *e*pPKP **pPKPdf** 22 37 53.7 +6.9
PRU Pruhonice 149.88 342 *e*PKIKP **PKPdf** 22 35 37.5 -0.2
PRU *e* 22 35 50.5
HUMR Humele 149.90 325 ⇑*i*P **PKPbc** 22 35 42.9 -0.5
LOT Lotru 149.91 327 ⇓*i*P **PKPbc** 22 35 43.0 -0.6
STRD Stroud 149.96 4 *e*P **PKPbc** 22 35 42.4 -0.9
NKC Novy Kostel 150.20 345 *e*PKPDF **PKPdf** 22 35 38.2 0.0
NKC ⇑*i*PKP **PKPbc** 22 35 43.9 -0.1
NKC *e*PKPAB **PKPab** 22 35 52.7 +0.2
NKC Novy Kostel 150.20 345 *e*PKIKP **PKPdf** 22 35 38.2 0.0
NKC *e* 22 35 52.7
SWN1 Swindon 150.25 4 *e*P **PKPbc** 22 35 43.2 -0.7
SMOL Smolenice 150.26 338 *e*PKIKP **PKPbc** 22 35 44.8 +0.6
SMOL Smolenice 150.26 338 *e*PKP **PKPbc** 22 35 44.8 +0.6
SIRR Siria 150.34 330 ⇓*i*P **PKPbc** 22 35 45.0 +0.6
GZR Gura Zlata 150.45 328 ⇑*i*P **PKPbc** 22 35 44.3 -0.5
GZR Gura Zlata 150.45 328 ⇑PKIKP **PKPbc** 22 35 44.3 -0.5
WOL Wolverton 150.48 3 *e*P **PKPbc** 22 35 44.0 -0.5
HTL Hartland 150.53 7 *e*P **PKPbc** 22 35 43.6 -1.0
SRE Strehaia 150.75 326 ⇑*i*P **PKPbc** 22 35 44.7 -0.7
SRE Strehaia 150.75 326 ⇑PKIKP **PKPbc** 22 35 44.7 -0.7
BEBN Eben Emael 150.81 354 PKPbc **PKPbc** 22 35 45.1 -0.2
BEBN PKPab **PKPab** 22 35 54.8 -0.2
HGN Heimansgroeve 150.82 354 *e*PKP **PKPbc** 22 35 45.1 -0.2
comp=Z,60nm,1.0s
HGN *e*L L 22 42 29.7
comp=Z,134µm,20.6s
BZS Buzias 150.84 329 ⇑*i*P **PKPbc** 22 35 45.4 -0.2
BZS Buzias 150.84 329 ⇑PKIKP **PKPbc** 22 35 45.4 -0.2
UCC Sicle 150.92 356 PKPbc **PKPbc** 22 35 45.8 -0.2
KHC Kasperske Hory 150.93 343 *e*PKPDF **PKPdf** 22 35 38.6 -0.8
KHC ⇑*i*PKP **PKPbc** 22 35 45.6 -0.1
KHC *e*PKPAB **PKPab** 22 35 56.0 +0.4
KHC *e*pPKP **pPKPdf** 22 37 57.6 +9.0
KHC Kasperske Hory 150.93 343 *e*PKIKP **PKPdf** 22 35 38.6 -0.8
KHC *e* 22 35 56.0
KHC Kasperske Hory 150.93 343 *e*PKPdf **PKPdf** 22 35 39.1 -0.3
MEM Membach 150.96 353 PKPbc **PKPbc** 22 35 45.4 -0.3
MEM PKPab **PKPab** 22 35 55.7 +0.1
HMNX Herstmonceux 150.97 1 *e*P **PKPbc** 22 35 44.7 -0.9
DYA Yadsworthy 151.15 7 *e*P **PKPbc** 22 35 45.3 -0.8
DYA Yadsworthy 151.15 7 *e*PKPbc **PKPbc** 22 35 45.6 -0.5
GEC2 GERESS Array S 151.15 342 *e*PKIKP **PKPdf** 22 35 39.4 -0.4
GEC2 GERESS Array S 151.15 342 *e*PKPdf **PKPdf** 22 35 39.4 -0.4
GEC2 *e*PKPbc **PKPbc** 22 35 46.0 -0.3
GERES GERESS Array B 151.15 342 PKP **PKPdf** 22 35 38.5 -1.4
comp=Z,3.2nm,1.1s,baz=119,slow=1.7,SNR=6.1
GERES PKPbc **PKPbc** 22 35 45.9 -0.5
comp=Z,37nm,1.0s,baz=48,slow=2.0,SNR=48
GEA0 GERESS Array S 151.16 342 *e*PKPdf **PKPdf** 22 35 38.8 -1.1
GEA0 *e*PKPbc **PKPbc** 22 35 45.7 -0.6
SNF Seneffe 151.21 356 PKPbc **PKPbc** 22 35 45.8 -0.4
SNF PKPab **PKPab** 22 35 56.6 -0.1
BCLA Clavier 151.22 354 PKPbc **PKPbc** 22 35 45.7 -0.5
BCLA PKPab **PKPab** 22 35 56.1 -0.6
CCA1 Carnmenellis 151.23 8 *e*P **PKPbc** 22 35 45.6 -0.6
BANR Banloc 151.24 330 ⇑*i*P **PKPbc** 22 35 47.1 +0.6
SOP Sopron 151.28 338 ⇓*e*PKKPdf **PKPbc** 22 35 46.3 -0.2
CONA Conrad Observa 151.30 339 *i* PKPbc **PKPbc** 22 35 46.3 -0.4
SNR=18
DOU Dourbes 151.60 355 PKPbc **PKPbc** 22 35 46.8 -0.3
WLF Walferdange 151.88 353 PKPbc **PKPbc** 22 35 48.0 +0.2
WLF PKPab **PKPab** 22 35 59.6 +0.1
MOA Molln 151.88 341 *i* PKPbc **PKPbc** 22 35 47.3 -0.5
SNR=6.3
BEHE Becsehely 152.22 336 ⇓*e*PKKPdf **PKPbc** 22 35 48.2 -0.4
SOKA Soboth 152.67 339 *i* PKPbc **PKPbc** 22 35 49.2 -0.5
SNR=6.7
PERS Pernice 152.68 338 *i* PKPbc **PKPbc** 22 35 48.7 -1.0
PERS *i* PKPab **PKPab** 22 36 03.0 -0.1
MOTA Moosalm 153.22 345 *i* PKPdf **PKPdf** 22 35 42.5 -0.5
SNR=9.0
KARP Karpathos 153.34 307 *e*PKPbc **PKPbc** 22 35 51.2 -0.3
ABTA Abfaltersbach 153.39 342 *i* PKPdf **PKPdf** 22 35 42.1 -1.1
SNR=8.6
BOJS Bojanci 153.61 337 *i* PKPdf **PKPdf** 22 35 42.9 -0.4
BOJS *i* PKPbc **PKPbc** 22 35 51.5 -0.1
BOJS *i* PKPab **PKPab** 22 36 07.0 0.0
BOJS *i* pPKPbc **pPKPbc** 22 38 03.5 +3.7
FETA Feichten 153.61 345 *i* PKPdf **PKPdf** 22 35 42.8 -0.7
SNR=8.8
JAVS Javornik 153.68 339 *i* PKPdf **PKPdf** 22 35 43.0 -0.6
JAVS *i* PKPbc **PKPbc** 22 35 51.3 -0.6
JAVS *i* PKPab **PKPab** 22 36 05.9 -1.6
DAVOX Davos/Dischmat 154.04 346 PKP **PKPdf** 22 35 43.1 -1.1
comp=Z,7.7nm,0.9s,baz=52,slow=0.3,SNR=8.6
DAVOX PKPbc **PKPbc** 22 35 52.3 -0.5
comp=Z,9.8nm,0.5s,baz=290,slow=2.0,SNR=20
FUORN Ofenpass-Fuorn 154.10 345 *e*PKPdf **PKPdf** 22 35 44.0 -0.3
TUE Stuetta 154.45 347 *e*PKPdf **PKPdf** 22 35 44.4 -0.4
SENIN Lac Senin/Sane 154.95 350 *e*PKPab **PKPab** 22 36

comp=Z,6.0nm,0.9s,baz=327,slow=4.5,SNR=9.5
TOA0 Torodi Ar. Sit 171.38 185 *e*PKPdf **PKPdf 22 35 59.9 -1.5**
TOA0 *e*PKPab **PKPab 22 37 25.3 -0.3**
TORD Torodi Ar. Bea 171.38 185 PKP **PKPdf 22 35 59.9 -1.5**
comp=Z,12nm,0.9s,baz=318,slow=0.8,SNR=52
TORD PKPab **PKPab 22 37 25.3 -0.3**
comp=Z,7.4nm,0.8s,baz=170,slow=4.2,SNR=20
TOA1 Torodi Ar. Sit 171.39 185 *e*PKPdf **PKPdf 22 35 59.9 -1.5**
TOA1 *e*PKPab **PKPab 22 37 25.3 -0.3**
TAM Tamanrasset 175.67 284 *e*PKIKP **PKPdf 22 36 03.0 +0.1**
TAM Tamanrasset 175.67 284 *e*PKPdf **PKPdf 22 36 03.0 +0.1**

*ISCJB **22** 22:18:52.4±1.7,31.00S±0.05×177.6W±0.3, h33km, mb4.9/10, Error ellipse: s-maj=33.1km s-min=5.0km az=7.8*
*IDC **22** 22:18:53.3±1.1,30.68S×177.94W, h0km, mb4.9/6, mb1 4.9/6, mb1mx4.4/38, mbtmp4.9/6, Error ellipse: s-maj=30.7km s-min=20.5km az=116.0*
*NEIC **22** 22:18:59.0±0.8,30.62S×178.10W, h35km, mb4.7/5, Error ellipse: s-maj=21.9km s-min=15.3km az=139.0*
ISC 22 22:18:58.3±0.9, 30.85S±0.06×178.0W±0.2, h46km, n36, σ2s86/42, mb4.8/10, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RAO	**Raoul Island**	**1.60**	**3**	Pn			**Pn**	**22 19 21.1**	**-3.0**
	449nm,0.3s,baz=98,slow=10,SNR=16								
RAO				Sn			**Sn**	22 19 39.5	-4.1
	4µm,0.3s,baz=173,slow=22,SNR=19								
RAO	**Raoul Island**	**1.60**	**3**	*e*Pn			**Pn**	22 19 21.4	-2.7
RAO				*e*Sg			**Sn**	22 19 39.2	-4.3
HAZ	**Te Kaha**	**7.71**	**206**	PN			**Pn**	22 20 46.8	-1.2
HAZ				SN			**Sn**	22 22 15.7	+1.8
PUZ	**Puketiti**	**7.83**	**202**	*e*PN			**Pn**	22 20 48.6	-1.1
PUZ				SN			**Sn**	22 22 14.7	-2.2
TWGZ	**Tauwhareparae**	**8.02**	**203**	SN			**Sn**	22 22 20.5	-1.1
CNGZ	**Carnagh Statio**	**8.22**	**201**	*e*PN			**Pn**	22 20 52.2	-2.7
CNGZ				SN			**Sn**	22 22 29.1	+2.6
MWZ	**Matawai**	**8.32**	**205**	*e*PN			**Pn**	22 20 55.0	-1.3
MWZ				SN			**Sn**	22 22 27.4	-1.5
URZ	**Urewera**	**8.41**	**207**	*e*PN			**Pn**	22 20 54.6	-3.0
URZ				SN			**Sn**	22 22 30.8	-0.3
KNZ	**Kokohu**	**8.88**	**202**	*e*PN			**Pn**	22 21 01.2	-2.8
KNZ				SN			**Sn**	22 22 38.5	-4.2
PNHZ	**Pukenui**	**10.20**	**206**	SN			**Sn**	22 22 13.0	-5.0
DVHZ	**Dannevirke**	**10.54**	**205**	SN			**Sn**	22 22 18.3	-5.2
ANWZ	**Angora Road**	**10.58**	**204**	SN			**Sn**	22 22 19.7	-4.6
HOWZ	**Holdsworth Sta**	**11.31**	**206**	SN			**Sn**	22 23 34.2	-8.0
AFI	**Afiamalu**	**17.82**	**20**	*e*Pn			Pn	22 22 55.1	-7.9
	56nm,0.9s								
HNR	**Honiara**	**29.59**	**311**	P			**P**	22 25 00.3	+1.2
	28nm,0.3s,baz=165,slow=18,SNR=3.6								
CTA	**Charters Tower**	**33.86**	**280**	P			**P**	22 25 38.5	+1.9
	8.0nm,0.7s,baz=121,slow=13,SNR=3.4								
STKA	**Stephens Creek**	**34.36**	**258**	P			**P**	22 25 43.9	+2.9
	23nm,0.9s,baz=102,slow=9.9,SNR=8.1								
STKA	**Stephens Creek**	**34.36**	**258**	*e*P			**P**	22 25 43.9	+2.9
	5.7nm,0.9s								
RABL	**Rabaul**	**38.63**	**307**	*e*P			**P**	22 26 15.7	-1.7
	157nm,0.4s								
COEN	**Coen**	**39.38**	**286**	*e*P			**P**	22 26 23.9	+0.2
	57nm,1.4s								
AS31	**Alice Springs**	**43.07**	**267**	*e*P			**P**	22 26 55.4	+1.3
	2.7nm,0.8s								
ASAR	**Alice Springs**	**43.07**	**267**	P			**P**	22 26 55.4	+1.3
	10nm,0.8s,baz=106,slow=7.9,SNR=5.4								
WB2	**Warramunga Arr**	**44.09**	**273**	*e*P			**P**	22 27 02.7	+0.5
WR1	**Warramunga Arr**	**44.10**	**273**	*e*P			**P**	22 27 02.9	+0.6
	13nm,0.8s								
WRA	**Warramunga Arr**	**44.10**	**273**	P			**P**	22 27 02.9	+0.6
	12nm,0.9s,baz=112,slow=7.9,SNR=7.1								
SYO	**Syowa Base**	**76.67**	**193**	‖*e*P			P	22 30 31.6	-12
PETK	**Petropavlovsk-**	**86.25**	**346**	P			**P**	22 31 37.4	+2.8
	3.0nm,0.6s,baz=115,slow=5.2,SNR=3.6								
PEA1	**Petropavlovsk-**	**86.25**	**346**	*e*P			**P**	22 31 37.4	+2.8
MKAR	**Makanchi Array**	**118.05**	**310**	PKP			**PKPdf**	22 37 41.2	+1.3
	0.7nm,0.8s,baz=158,slow=2.1,SNR=3.2								
SCHQ	**Schefferville**	**126.59**	**42**	PKP			**PKPdf**	22 37 57.7	+1.7
	2.6nm,0.8s,baz=231,slow=19,SNR=3.4								
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc			**PKPbc**	22 38 30.6	-0.3
	11nm,0.6s,baz=50,slow=3.7,SNR=14								
NB2	**NORSAR Subarra**	**149.19**	**351**	PKP			**PKPbc**	22 38 41.1	0.0
	comp=Z,5.4nm,0.9s,baz=21,slow=2.7								
NOA	**NORSAR Array B**	**149.19**	**351**	PKPbc			**PKPbc**	22 38 42.2	+1.1
	comp=Z,3.3nm,0.8s,baz=14,slow=4.2,SNR=5.7								
AKASG	**Malin Array Be**	**151.65**	**322**	PKPbc			**PKPbc**	22 38 47.7	+0.5
	comp=Z,7.1nm,0.7s,baz=50,slow=2.9,SNR=7.1								
BRTR	**Keskin Array B**	**152.80**	**298**	PKPbc			**PKPbc**	22 38 50.1	-0.2
	comp=Z,3.3nm,0.9s,baz=111,slow=5.4,SNR=3.0								
TORD	**Torodi Ar. Bea**	**162.38**	**179**	PKPab			**PKPab**	22 39 46.7	+3.8
	comp=Z,3.2nm,1.0s,baz=175,slow=2.4,SNR=3.6								

*ISCJB **22** 22:20:53.7±0.6,21.88S±0.04×68.34W±0.10, h118km±10km, mb4.1/3, Error ellipse: s-maj=15.0km s-min=7.4km az=179.9*
*GUC **22** 22:20:54.5±0.7,21.83S×68.52W, h124km±6km, ML3.8*
*IDC **22** 22:20:54.3±0.7,21.97S×68.19W, h103km±10km, mb4.0/3, mb1 3.8/6, mb1mx3.5/40, mbtmp4.2/6, Error ellipse: s-maj=31.0km s-min=17.9km az=127.0*
ISC 22 22:20:54.5±0.8, 21.89S±0.05×68.38W±0.08, h114km±8km, n19, σ1s20/28, mb4.1/3, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PB09	**IPOC Station P**	**0.81**	**276**	⇑*i*P			**Pn**	**22 21 15.0**	**+0.7**
PB09				*i* S			**Sn**	**22 21 30.0**	**+0.6**
PB09				IAML				22 21 35.0	
	comp=E,6µm,0.5s								
LVC	**Limon Verde**	**0.87**	**214**	P			**Pn**	**22 21 16.3**	**+1.1**
	comp=E,5µm,0.3s,baz=16,slow=7.4,SNR=886								
LVC				S			**Sn**	**22 21 30.0**	**-0.8**
	comp=E,4µm,0.3s,baz=268,slow=21,SNR=16								
PB01	**IPOC Station P**	**1.33**	**309**	⇑*i*P			**Pn**	**22 21 19.6**	**-0.1**
PB01				*i* S			**Sn**	**22 21 38.1**	**-0.7**
PB01				IAML				22 21 39.7	
	comp=E,2µm,0.2s								
PB06	**IPOC Station P**	**1.37**	**233**	⇑*i*P			**Pn**	**22 21 20.8**	**+0.6**
PB06				*i* S			**Sn**	**22 21 40.6**	**+0.8**
PB06				IAML				22 21 41.3	
	comp=N,2µm,0.5s								
PB07	**IPOC Station P**	**1.41**	**276**	⇑*i*P			**Pn**	**22 21 20.7**	**0.0**
PB07				*i* S			**Sn**	**22 21 40.6**	**+0.1**
PB07				IAML				22 21 41.0	
	comp=E,1µm,0.3s								
PB04	**IPOC Station P**	**1.70**	**255**	⇑*i*P			**Pn**	**22 21 24.0**	**-0.1**
PB04				*i* S			**Sn**	**22 21 46.6**	**-0.1**
PB04				IAML				22 21 51.4	
	comp=N,936nm,0.7s								
PB08	**IPOC Station P**	**1.88**	**337**	⇑*i*P			**Pn**	**22 21 27.7**	**+1.1**
PB08				*i* S			**Sn**	**22 21 51.5**	**+0.5**
PB08				IAML				22 21 52.8	
	comp=N,597nm,0.3s								
PB11	**IPOC Station P**	**2.43**	**330**	⇑*i*P			**Pn**	**22 21 32.8**	**-0.5**
PB11				*i* S			**Sn**	**22 22 01.7**	**-1.4**
PB10	**IPOC Station P**	**2.58**	**231**	⇑*i*P			**Pn**	**22 21 35.9**	**+0.8**
PB10				*i* S			**Sn**	**22 22 02.7**	**-3.6**
PB10				IAML				22 22 16.7	
	comp=N,787nm,0.7s								
LPAZ	**La Paz**	**5.57**	**2**	P			**Pn**	**22 22 17.4**	**+1.7**
	comp=N,0.7nm,0.3s,baz=154,slow=4.2,SNR=18								
SIV	**San Ignacio**	**9.06**	**51**	P			**Pn**	**22 23 00.1**	**-2.4**
	comp=N,4.6nm,0.3s,baz=245,slow=12,SNR=38								
CPUP	**Villa Florida**	**11.02**	**116**	P			**Pn**	**22 23 27.6**	**-1.2**
	comp=N,0.1nm,0.3s,baz=176,slow=14,SNR=2.5								
PTGA	**Pitinga**	**22.57**	**22**	P			**P**	**22 25 45.8**	**+0.4**
	comp=N,2.8nm,0.3s,baz=183,slow=23,SNR=4.7								
DBIC	**Dimbokro**	**68.37**	**73**	P			**P**	**22 31 44.3**	**+0.1**
	comp=N,2.6nm,0.7s,baz=212,slow=6.5,SNR=5.5								
TORD	**Torodi Ar. Bea**	**77.02**	**70**	P			**P**	**22 32 35.0**	**-0.3**
	comp=N,2.8nm,0.8s,baz=257,slow=5.6,SNR=63								
ASAR	**Alice Springs**	**129.80**	**207**	PKP			**PKPdf**	**22 39 52.2**	**+1.1**
	comp=N,0.3nm,0.6s,baz=126,slow=3.9,SNR=2.6								
WRA	**Warramunga Arr**	**132.87**	**210**	PKP			**PKPdf**	**22 39 58.0**	**+1.0**
	comp=N,0.5nm,0.6s,baz=157,slow=1.7,SNR=5.1								
ZALV	**Zalesovo Beam**	**142.09**	**26**	PKP			**PKPdf**	**22 40 13.6**	**+0.8**
	comp=N,0.7nm,0.6s,baz=64,slow=3.4,SNR=3.5								
MKAR	**Makanchi Array**	**145.65**	**37**	PKPbc			**PKPab**	**22 40 20.5**	**+0.2**
	comp=N,0.6nm,0.8s,baz=339,slow=3.7,SNR=3.6								

*IDC **22** 23:03:14.8±2.4,22.06S×176.49W, h0km, mb4.6/5, mb1 4.8/5, mb1mx4.2/22, mbtmp4.5/5, Error ellipse: s-maj=124.4km s-min=25.8km az=145.0*
ISC 22 23:03:40.2±1.8, 21.66S±0.05×177.1W±0.4, h200km, n35, σ2s43/36, mb4.2/5, 6C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STKA	**Stephens Creek**	**38.08**	**246**	P			**P**	**23 10 38.4**	**-1.3**
	5.5nm,0.5s,baz=95,slow=10,SNR=24								
ASAR	**Alice Springs**	**45.08**	**258**	P			**P**	**23 11 36.5**	**-0.2**
	6.2nm,0.8s,baz=92,slow=8.1,SNR=47								
ASAR				PcP			**PcP**	23 13 17.1	+3.2
	2.0nm,0.8s,baz=107,slow=3.8,SNR=8.2								
WRA	**Warramunga Arr**	**45.27**	**263**	P			**P**	23 11 38.4	+0.2
	6.0nm,0.9s,baz=99,slow=8.5,SNR=26								
ILAR	**Eielson Array**	**89.16**	**12**	P			**P**	**23 16 14.8**	**+2.3**
	1.9nm,0.5s,baz=224,slow=5.8,SNR=21								
CMAR	**Chiang Mai Arr**	**91.23**	**289**	P			**P**	**23 16 26.1**	**+2.9**
	0.8nm,0.3s,baz=156,slow=4.6,SNR=4.9								
MKAR	**Makanchi Array**	**112.51**	**313**	PKiKP			**PKiKP**	**23 21 52.4**	**-0.1**
	0.7nm,0.9s,baz=79,slow=1.9,SNR=3.7								
ARCES	**ARCESS Array B**	**130.10**	**350**	PKP			**PKPdf**	**23 22 26.8**	**+1.3**
	0.9nm,0.5s,baz=140,slow=0.6,SNR=10.0								
FINES	**FINESS Array B**	**137.01**	**344**	PKP			**PKPdf**	**23 22 40.5**	**+1.9**
	1.1nm,0.6s,baz=31,slow=4.4,SNR=6.6								
AKASG	**Malin Array Be**	**144.32**	**331**	PKPbc			**PKPdf**	**23 22 51.8**	**-0.4**
	3.9nm,0.6s,baz=44,slow=4.3,SNR=14								
SORM	**Soroca**	**146.52**	**329**	‖*i*P			**PKPab**	**23 22 58.9**	**-0.3**
BRTR	**Keskin Array B**	**148.15**	**312**	PKPbc			**PKPab**	**23 23 03.5**	**-2.7**
	0.9nm,0.6s,baz=143,slow=5.3,SNR=7.5								
BURAR	**Bucovina Array**	**148.38**	**331**	‖*i*P			**PKPab**	**23 23 05.9**	**-0.8**
TESR	**Tescani**	**148.48**	**328**	⇑*i*P			**PKPab**	**23 23 04.3**	**-2.8**
CFR	**Carcaliu**	**148.61**	**325**	⇑*i*P			**PKPbc**	**23 23 03.2**	**-0.3**
VRI	**Vrincioaia**	**148.89**	**327**	⇑*i*P			**PKPab**	**23 23 05.7**	**-3.1**
PLOR	**Plostina**	**148.94**	**327**	‖*i*P			**PKPbc**	**23 23 05.2**	**+0.8**
CLL	**Collm**	**149.27**	**348**	*i* P			**PKPab**	**23 23 06.8**	**-3.3**
	comp=Z,13nm,1.1s								
BRG	**Berggiesshubel**	**149.48**	**346**	*i* PKP			**PKPab**	**23 23 07.2**	**-3.7**
	comp=Z,7.3nm,0.7s								
	comp=N,2µm,21.4s								
	comp=E,1µm,23.4s								
	comp=Z,3µm,19.9s								
MORC	**Moravsky Berou**	**149.53**	**341**	‖*i*P			**PKPab**	**23 23 07.6**	**-3.7**
MLR	**Muntele Rosu**	**149.55**	**327**	⇑*i*P			**PKPab**	**23 23 08.3**	**-3.3**
VOIR		**150.03**	**328**	⇑*i*P			**PKPbc**	**23 23 08.6**	**+1.5**
DRUR		**150.12**	**332**	‖*i*P			**PKPbc**	**23 23 08.6**	**+1.4**
VRAC	**Vranov**	**150.23**	**342**	‖*i*P			**PKPab**	**23 23 09.5**	**-4.7**
PSZ	**Piszkesteto**	**150.34**	**337**	⇑*i*P			**PKPab**	**23 23 10.0**	**-4.8**
GZR	**Gura Zlata**	**151.16**	**330**	‖*i*P			**PKPbc**	**23 23 10.8**	**+1.1**
GERES	**GERESS Array B**	**151.43**	**345**	PKPbc			**PKPbc**	**23 23 11.5**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=1.9,slow=4.0,SNR=9.8								
BZS	**Buzias**	**151.51**	**332**	‖*i*P			**PKPbc**	**23 23 11.8**	**+1.4**
CONA	**Conrad Observa**	**151.69**	**341**	*i* PKPbc			**PKPbc**	**23 23 10.9**	**0.0**
	comp=Z,4.5nm,0.7s								
SOKA	**Soboth**	**153.06**	**341**	*i* PKPbc			**PKPbc**	**23 23 13.1**	**-0.8**
	comp=Z,1.7nm,0.9s								
WATA	**Walderalm**	**153.33**	**347**	*i* PKiKP			**PKiKP**	**23 23 15.3**	**+0.6**
	comp=Z,1.8nm,0.5s								
RETA	**Rette**	**153.35**	**348**	*i* PKPbc			**PKPbc**	**23 23 10.8**	**-3.8**
	comp=Z,2.4nm,1.1s								
WTTA	**Wattenberg**	**153.39**	**347**	*i* PKiKP			**PKiKP**	**23 23 15.3**	**+0.4**
	comp=Z,5.2nm,0.9s								
MOTA	**Moosalm**	**153.42**	**347**	*i* PKiKP			**PKiKP**	**23 23 12.7**	**-2.2**
	comp=Z,0.3nm,0.4s								
DAVA	**Damuels**	**153.71**	**349**	*i* PKPab			**PKPab**	**23 23 30.8**	**+1.8**
	comp=Z,3.0nm,0.6s								
FETA	**Feichten**	**153.81**	**348**	*i* PKPdf			**PKPdf**	**23 23 04.2**	**-3.5**
	comp=Z,1.5nm,0.4s								

MEX 22 23:07:54.4±0.8, 27.99N×112.10W, h10km±11km, MD3.9, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SRIG	**Santa Rosalia**	**0.68**	**191**	*e*P			Pg	23 08 05.6	-1.9
SRIG				*e*S			Sg	23 08 15.2	-1.1
GUYB	**Guaymas**	**1.09**	**94**	*e*P			Pb	23 08 11.9	-3.4
GUYB				*e*S			Sg	23 08 25.6	-3.8
HSIG		**1.44**	**44**	*i* P			Pn	23 08 16.8	-3.8
HSIG				*e*S			Sn	23 08 35.0	-4.7
SPIG	**San Pedro Mart**	**4.23**	**317**	*e*P			Pb	23 09 06.6	-2.6
SPIG				*e*S			Sg	23 10 08.9	-1.4

JMA 22 23:08:37.5±0.2, 37.96N×143.16E, h21km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JIO	**Ouri**	**1.51**	**290**	P			Pn	23 09 03.8	+0.5
JIO				*e*S			Sb	23 09 23.0	-0.5
OFUJ	**Ofunato**	**1.62**	**314**	P			Pn	23 09 05.4	+0.6
OFUJ				*e*S			Sb	23 09 26.0	-0.6
JMK	**Ichinoseki**	**1.82**	**304**	P			Pn	23 09 08.4	+0.9
JMM	**Marumori**	**1.87**	**268**	P			Pn	23 09 08.7	+0.4
JFK	**Kawauchi**	**1.91**	**253**	P			Pn	23 09 09.1	+0.3
JOU	**Okura**	**2.01**	**282**	P			Pb	23 09 12.1	-1.2
JOM	**Ohasama**	**2.10**	**317**	P			Pn	23 09 12.9	+1.5
JFT	**Otama**	**2.28**	**260**	P			Pn	23 09 15.5	+1.6

*IDC **22** 23:21:52.3±11.0, 32.48N×143.07E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=397.9km s-min=29.3km az=66.0*
*JMA **22** 23:21:54.2±0.4, 32.69N×142.46E, h0km, M3.9*
*ISCJB **22** 23:21:57.0±1.3, 32.9N±0.1×142.8E±0.2, h87km, mb3.5/3, Error ellipse: s-maj=24.5km s-min=8.8km az=145.0*
ISC 22 23:21:59.7±1.9, 32.9N±0.1×142.8E±0.2, h87km, n14, σ1s28/20, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BSO1	**Boso 1**	**2.32**	**320**	P			**Pn**	**23 22 34.3**	**-1.3**
BSO3	**Boso 3**	**2.69**	**316**	P			**Pn**	**23 22 39.9**	**-0.9**
BSO3				S			**Sn**	**23 23 14.4**	**+2.0**
BSO4	**Boso 4**	**2.93**	**316**	P			**Pn**	**23 22 43.2**	**-0.9**
BSO4				*e*S			**Sn**	**23 23 20.0**	**+1.7**
JOD2	**Odawara 2**	**3.88**	**309**	P			**Pn**	**23 22 54.8**	**-2.3**
JOD2				*e*S			**Sn**	**23 23 41.6**	**0.0**
JYN	**Shimok**	**4.38**	**308**	P			**Pn**	**23 23 04.0**	**+0.1**
JYN				S			**Sn**	**23 23 54.9**	**+1.1**
JAG	**Ashikaga**	**4.47**	**323**	P			**Pn**	**23 23 06.3**	**+1.1**
JAG				*e*S			**Sn**	**23 23 56.9**	**+0.9**
JRY	**Ryogami san**	**4.48**	**315**	P			**Pn**	**23 23 05.0**	**-0.3**
JRY				S			**Sn**	**23 23 57.0**	**+0.8**
JFT	**Otama**	**5.04**	**337**	*e*S			**Sn**	**23 24 08.8**	**-0.9**
MJAR	**Matsushiro Arr**	**5.25**	**315**	Pn			**Pn**	**23 23 16.2**	**+0.5**
	1.4nm,0.3s,baz=160,slow=12,SNR=6.6								
MAT	**Matsushiro**	**5.25**	**315**	P			**Pn**	**23 23 16.2**	**+0.5**
MAT				S			**Sn**	**23 24 12.4**	**-2.5**
MAT	**Matsushiro**	**5.25**	**315**	P			**Pn**	**23 23 15.0**	**-0.7**
MAT				S			**Sn**	**23 24 14.7**	**-0.2**
SONM	**Songino Array**	**31.17**	**309**	P			P	23 28 17.4	+7.0
	0.2nm,0.3s,baz=97,slow=9.1,SNR=1.8								
MKAR	**Makanchi Array**	**47.37**	**306**	P			P	23 30 31.4	+6.4
	0.2nm,0.6s,baz=88,slow=9.0,SNR=1.7								
WRA	**Warramunga Arr**	**53.15**	**190**	P			**P**	**23 31 09.1**	**+0.3**
	1.1nm,0.7s,baz=9.3,slow=7.8,SNR=5.9								

LJU 22 23:32:00.0, 46.39N×15.07E, h0km, ML0.0 Rockburst, Northwestern Balkan Peninsula

JMA 22 23:34:21.2, 36.23N×141.07E, h36km±1km, M3.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CHOJ	**Chosi**	**0.55**	**198**	P			Pn	23 34 32.5	-0.2
CHOJ				S			Sn	23 34 40.4	-0.2
JHO	**Hitachi**	**0.56**	**313**	P			Pn	23 34 32.5	-0.2
JHO				S			Sn	23 34 40.2	-0.5
JYT	**Yasato**	**0.71**	**270**	P			Pn	23 34 34.9	+0.2
JYT				S			Sn	23 34 44.4	+0.1
ONAJ	**Iwakimizuishiy**	**0.90**	**346**	P			Pn	23 34 37.3	0.0
ONAJ				S			Sn	23 34 48.5	-0.7
JFK	**Kawauchi**	**1.15**	**352**	P			Pn	23 34 40.4	-0.3
JAG	**Ashikaga**	**1.32**	**279**	P			Pn	23 34 43.8	+0.7
JAG				*e*S			Sn	23 34 59.8	+0.4
JFT	**Otama**	**1.41**	**336**	P			Pn	23 34 45.9	+1.5
JFT				S			Sn	23 35 03.2	+1.4
MAT	**Matsushiro**	**2.33**	**279**	P			Pn	23 34 59.2	+2.2
MAT				S			Sn	23 35 25.4	+1.0

*KRNET **22** 23:35:36.7±0.1, 39.60N×73.47E, mb3.6*
*NNC **22** 23:35:40.1±2.1, 39.80N×73.42E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=18.3km s-min=12.3km az=162.0*
*IDC **22** 23:35:43.2±3.3, 39.33N×71.56E, h0km, mb3.8/2, mb1 3.6/3, mb1mx3.3/50, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=89.4km s-min=23.0km az=151.0*
ISC 22 23:35:38.1±1.6, 39.56N±0.06×73.41E±0.05, h14km±9km, n26, σ1s98/44, 32C-15D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
OHH	**Osh**	**1.08**	**334**	⇑*e*P			**Pg**	**23 35 57.9**	**-1.0**
	baz=331								
OHH				⇑*e*S			**Sg**	**23 36 13.0**	**0.0**
	baz=331								
DRK	**Karamyk**	**1.25**	**267**	⇑*e*P			**Pg**	**23 36 01.6**	**-0.5**
	baz=265								
DRK				⇑*e*S			**Sg**	**23 36 19.9**	**+1.5**
	baz=265								
BTK	**Batken**	**2.06**	**285**	⇑*e*P			**Pn**	**23 36 13.6**	**+1.2**
	baz=284								
BTK				⇑*e*S			**Sb**	**23 36 43.3**	**+2.5**
	baz=284								
ARLS	**Aral**	**2.40**	**16**	⇓*e*P			**Pn**	**23 36 19.0**	**+1.8**
	baz=16								
ARLS				⇓*e*S			**Sn**	**23 36 49.7**	**+3.1**
	baz=16								
TOKL	**Toktogul**	**2.42**	**350**	⇑*e*P			**Pn**	**23 36 19.6**	**+2.3**
	baz=349								
TOKL				⇑*e*S			**Sb**	**23 36 51.1**	**0.0**
	baz=349								
ARK	**Arkit**	**2.50**	**334**	⇑*e*P			**Pn**	**23 36 19.8**	**+1.4**
	baz=333								
ARK				⇑*e*S			**Sn**	**23 36 52.1**	**+3.4**
	baz=333								
UCH	**Uchtor**	**2.80**	**17**	⇓*i*P			**Pn**	**23 36 23.9**	**+1.0**
	baz=16								
UCH				⇓*i*S			**Sn**	**23 36 58.4**	**+1.8**
	baz=16								
KZA	**Kyzart**	**2.88**	**28**	⇑*i*P			**Pn**	**23 36 25.6**	**+1.6**
	baz=28								
KZA				⇑*i*S			**Sn**	**23 37 00.7**	**+2.1**
	baz=28								
MNAS	**Manas**	**3.01**	**347**	⇓*e*P			**Pn**	**23 36 27.0**	**+1.5**
	baz=346								
MNAS				⇓*e*S			**Sn**	**23 37 04.7**	**+3.3**
	baz=346								
MNAS	**Manas**	**3.01**	**347**	⇑Pn			**Pn**	**23 36 26.6**	**+1.1**
	6.8nm,0.4s								
MNAS				⇓Lg			Lg	23 37 09.2	
	35nm,0.4s								
EKS2	**Erkin-Say**	**3.11**	**5**	⇑*i*P			**Pn**	**23 36 28.8**	**+1.9**
	baz=4.0								
EKS2				⇑*i*S			**Sn**	**23 37 05.2**	**+1.2**
	baz=4.0								
AAK	**Ala-Archa**	**3.18**	**15**	⇑*i*P			**Pn**	**23 36 29.2**	**+1.3**
	baz=14								
AAK				⇑*i*S			**Sn**	**23 37 06.9**	**+1.2**
	baz=14								
AAK	**Ala-Archa**	**3.18**	**15**	⇑Pn			**Pn**	**23 36 28.9**	**+1.0**
	9.0nm,0.4s								
AAK				⇑Lg			Lg	23 37 14.1	
	22nm,0.4s								
KBK	**Karagaybulak**	**3.31**	**20**	⇑*i*P			**Pn**	**23 36 31.4**	**+1.8**
	baz=20								
KBK				⇑*i*S			**Sn**	**23 37 10.0**	**+1.1**
	baz=20								
FRU1	**Bishkek**	**3.38**	**15**	⇓*e*P			**Pn**	**23 36 31.9**	**+1.4**
	baz=15								
FRU1				⇓*e*S			**Sn**	**23 37 12.3**	**+1.9**
	baz=15								
**

24nm,0.3s

*ISCJB **22** 23:43:13.8±0.6,26˚.71N±0˚.07×35˚.02E±0˚.07,h12km, mb4.0/18, Error ellipse: s-maj=10.5km s-min=8.4km az=168.3*
*CSEM **22** 23:43:14.1±0.4,26˚.72N×35˚.04E,h2km,mb4.3/9, Error ellipse: s-maj=12.0km s-min=9.7km az=163.0*
*IDC **22** 23:43:14.1±1.2,26˚.83N×34˚.94E, h0km,mb3.8/10, mb1 3.9/15,mb1mx3.7/53,mbtmp3.7/15,ML3.4/5, Error ellipse: s-maj=21.9km s-min=18.2km az=127.0*
*NEIC **22** 23:43:15.5±0.6,26˚.80N×34˚.99E,h10km,mb4.3/12, Error ellipse: s-maj=10.6km s-min=8.5km az=154.0*

ISC 22 23:43:15.8±0.9,26˚.8N±0˚.1×34˚.99E±0˚.08,h12km,n94, σ1°62/77,mb4.0/18,6C-10D,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**2.87**	**359**	Pn	**Pn**	**23 43 59.4**	**-2.0**
	7.9nm,0.3s,baz=161,slow=5.5,SNR=104						
EIL				Lg	Lg	23 44 41.8	
	8.8nm,0.3s,baz=44,slow=19,SNR=6.7						
ASF	**Jabal al Asfar**	**5.62**	**17**	Pn	**Pn**	**23 44 37.9**	**-1.4**
	2.4nm,0.3s,baz=339,slow=1.1,SNR=24						
ASF				Lg	Lg	23 46 07.0	
	3.9nm,0.3s,baz=118,slow=20,SNR=8.2						
MMAI	**Mount Meron Ar**	**6.22**	**3**	Pn	**Pn**	**23 44 47.2**	**-0.3**
	2.1nm,0.3s,baz=168,slow=16,SNR=7.5						
CSS	**Mathiatis**	**8.27**	**350**	*e*Pn	**Pn**	**23 45 12.8**	**-2.8**
IDI	**Anoyia**	**12.11**	**317**	*e*Pn	**Pn**	**23 46 06.2**	**-2.0**
IDI	**Anoyia**	**12.11**	**317**	*e*Pn	**Pn**	**23 46 06.2**	**-2.0**
BRTR	**Keskin Array B**	**12.95**	**355**	Pn	**Pn**	**23 46 20.7**	**+0.9**
	0.1nm,0.3s,baz=170,slow=16,SNR=19						
BR101	**Keskin Array S**	**12.95**	**355**	*e*Pn	**Pn**	**23 46 20.7**	**+0.9**
BR101	**Keskin Array S**	**12.95**	**355**	*e*Pn	**Pn**	**23 46 20.7**	**+0.9**
BR131	**Keskin Array S**	**12.95**	**355**	*e*Pn	Pn	23 46 14.0	-5.9
GNI	**Garni**	**15.60**	**29**	Pn	**P**	**23 46 59.2**	**-0.7**
	0.1nm,0.3s,baz=240,slow=19,SNR=1.8						
GNI	**Garni**	**15.60**	**29**	*e*Pn	**Pn**	**23 46 53.8**	**-1.9**
	17nm,1.0s						
GNI	**Garni**	**15.60**	**29**	*e*Pn	**Pn**	**23 46 53.8**	**-1.9**
	17nm,1.0s						
AGG	**Agios Georgios**	**16.16**	**322**	*e*Pn	**Pn**	**23 46 57.8**	**-5.0**
	29nm,0.9s						
CFR	**Carcaliu**	**19.16**	**345**	||*i*P	**Pn**	**23 47 41.8**	**+1.9**
CFR	**Carcaliu**	**19.16**	**345**	||*i*P	**Pn**	**23 47 41.8**	**+1.9**
UOSS	**Minazif**	**19.18**	**91**	*e*P	**P**	**23 47 39.5**	**+0.1**
	12nm,1.0s						
UOSS	**Minazif**	**19.18**	**91**	*e*P	**P**	**23 47 39.5**	**+0.1**
	12nm,1.0s						
TIP	**Timpagrande**	**19.62**	**314**	*e*P	**Pn**	**23 47 44.9**	**-0.7**
	9.4nm,1.0s						
TIP	**Timpagrande**	**19.62**	**314**	*e*P	**Pn**	**23 47 44.9**	**-0.7**
	9.4nm,1.0s						
MLR	**Muntele Rosu**	**20.02**	**341**	P	Pn	23 47 49.9	-0.4
	0.0nm,0.3s,baz=151,slow=16,SNR=2.4						
MLR	**Muntele Rosu**	**20.02**	**341**	||*i*P	Pn	23 47 50.8	+0.5
MLR	**Muntele Rosu**	**20.02**	**341**	*e*P	Pn	23 47 49.9	-0.4
	17nm,1.8s						
MLR	**Muntele Rosu**	**20.02**	**341**	*e*P	Pn	23 47 49.9	-0.4
	17nm,1.8s						
VRI	**Vrincioaia**	**20.15**	**343**	||*i*P	Pn	23 47 54.8	+3.1
VOIR		**20.24**	**339**	||*i*P	Pn	23 47 58.1	+5.2
VAE	**Valguarnera**	**20.39**	**307**	P	Pn	23 48 01.4	+6.7
	6.6nm,1.0s,baz=100,slow=7.8,SNR=3.5						
LOT	**Lotru**	**20.67**	**337**	||*i*P	Pn	23 47 59.7	+1.7
CUC	**Castrocucco**	**20.68**	**314**	*e*P	**P**	**23 47 56.0**	**+0.3**
	12nm,0.9s						
CUC	**Castrocucco**	**20.68**	**314**	*e*P	**P**	**23 47 56.0**	**+0.3**
	12nm,0.9s						
TESR	**Tescani**	**20.77**	**344**	⇑*i*P	**P**	**23 47 57.3**	**+0.7**
TESR	**Tescani**	**20.77**	**344**	⇑*i*P	**P**	**23 47 57.3**	**+0.7**
MDVR	**Moldovita**	**20.89**	**333**	⇑*i*P	Pn	23 48 04.0	+3.6
GZR	**Gura Zlata**	**20.98**	**335**	||*i*P	Pn	23 48 00.5	-1.1
GZR	**Gura Zlata**	**20.98**	**335**	||*i*P	Pn	23 48 00.5	-1.1
BZS	**Buzias**	**21.61**	**334**	⇑*i*P	**P**	**23 48 05.7**	**0.0**
BZS	**Buzias**	**21.61**	**334**	⇑*i*P	**P**	**23 48 05.7**	**0.0**
BURAR	**Bucovina Array**	**22.16**	**342**	⇑*i*P	**P**	**23 48 17.7**	**+6.0**
BUR08	**Bucovina Ar. S**	**22.19**	**342**	*e*P	**P**	**23 48 12.5**	**+0.5**
BUR08	**Bucovina Ar. S**	**22.19**	**342**	*e*P	**P**	**23 48 12.5**	**+0.5**
DRGR		**22.20**	**337**	||*i*P	**P**	**23 48 15.0**	**+2.9**
DRGR		**22.20**	**337**	||*i*P	**P**	**23 48 15.0**	**+2.9**
GEYT	**Alibeck**	**22.41**	**55**	P	**P**	**23 48 14.7**	**+0.3**
	2.0nm,0.9s,baz=318,slow=6.4,SNR=5.4						
KOLS	**Kolonicke sedl**	**24.21**	**339**	*e*P	**P**	**23 48 32.9**	**+0.6**
	29nm,2.2s						
KOLS	**Kolonicke sedl**	**24.21**	**339**	*e*P	**P**	**23 48 32.9**	**+0.6**
AKASG	**Malin Array Be**	**24.28**	**351**	P	**P**	**23 48 32.2**	**-0.6**
	0.1nm,0.3s,baz=169,slow=7.6,SNR=4.7						
KECS	**Kecovo**	**24.43**	**336**	*e*P	**P**	**23 48 35.5**	**+1.2**
	3.3nm,1.1s						
KECS	**Kecovo**	**24.43**	**336**	*e*P	**P**	**23 48 35.5**	**+1.2**
CRVS	**Cervenica-Dubn**	**24.45**	**338**	*e*P	**P**	**23 48 35.8**	**+1.3**
CRVS	**Cervenica-Dubn**	**24.45**	**338**	*e*P	**P**	**23 48 35.8**	**+1.3**
VYHS	**Vyhne**	**25.06**	**334**	*e*P	**P**	**23 48 40.5**	**+0.5**
	2.7nm,1.4s						
VYHS	**Vyhne**	**25.06**	**334**	*e*P	**P**	**23 48 40.5**	**+0.5**
OKC	**Ostrava-Krasne**	**26.42**	**335**	AMS	AMS	00 18 30.0	
	2µm,18.7s						
VRAC	**Vranov**	**26.61**	**333**	P	**P**	**23 48 54.1**	**+0.1**
	1.6nm,0.6s,baz=144,slow=17,SNR=3.8						
TAM	**Tamanrasset**	**27.02**	**268**	*e*P	**P**	**23 48 59.7**	**+1.6**
	12nm,2.0s						
TAM	**Tamanrasset**	**27.02**	**268**	*e*P	**P**	**23 48 59.7**	**+1.6**
	12nm,2.0s						
TREC	**Trest**	**27.06**	**331**	AMS	AMS	00 18 50.0	
	3µm,20.9s						
GEA0	**GERESS Array S**	**27.53**	**329**	*e*P	**P**	**23 49 03.1**	**+0.8**
GEA0	**GERESS Array S**	**27.53**	**329**	*e*P	**P**	**23 49 03.1**	**+0.8**
GEC2	**GERESS Array S**	**27.53**	**329**	*e*P	**P**	**23 49 04.3**	**+1.9**
	4.3nm,1.0s						
GEC2	**GERESS Array S**	**27.53**	**329**	*e*P	**P**	**23 49 04.3**	**+1.9**
	4.3nm,1.0s						
GERES	**GERESS Array B**	**27.53**	**329**	P	**P**	**23 49 03.2**	**+0.8**
	2.0nm,0.9s,baz=140,slow=7.0,SNR=8.7						
DPC	**Dobruska-Polom**	**27.53**	**334**	*e*P	**P**	**23 49 03.7**	**+1.3**
DPC				*ep*P	**sP**	**23 49 11.3**	**+3.8**
DPC				AMS	AMS	00 17 10.0	
	2µm,21.9s						
DPC	**Dobruska-Polom**	**27.53**	**334**	P	**P**	**23 49 03.7**	**+1.3**
UPC	**Upice**	**27.78**	**334**	AMS	AMS	00 13 40.0	
	3µm,20.3s						
KHC	**Kasperske Hory**	**27.79**	**329**	*e*P	**P**	**23 49 01.5**	**-3.2**
KHC				*ep*P	**P**	**23 49 07.1**	**+2.4**
KHC				AMS	AMS	00 12 20.0	
	3µm,19.5s						
KHC	**Kasperske Hory**	**27.79**	**329**	P	**P**	**23 49 07.1**	**+2.4**
GOPC	**GO Pecny, Ondr**	**27.83**	**331**	AMS	AMS	00 19 30.0	
	3µm,19.0s						
PRU	**Pruhonice**	**27.99**	**331**	AMS	AMS	00 18 50.0	
	3µm,20.0s						
PVCC	**Panska Ves**	**28.39**	**332**	AMS	AMS	00 21 50.0	
	2µm,20.4s						
NKC	**Novy Kostel**	**29.09**	**330**	AMS	AMS	00 12 50.0	
	3µm,20.9s						
SENIN	**Lac Senin/Sane**	**29.36**	**319**	*e*P	**P**	**23 49 19.4**	**+0.5**
	4.5nm,0.8s						
SENIN	**Lac Senin/Sane**	**29.36**	**319**	*e*P	**P**	**23 49 19.4**	**+0.5**
	4.5nm,0.8s						
TOA0	**Torodi Ar. Sit**	**33.99**	**253**	*e*P	**P**	**23 49 58.6**	**-1.0**
	25nm,1.8s						
TOA0	**Torodi Ar. Sit**	**33.99**	**253**	*e*P	**P**	**23 49 58.6**	**-1.0**
	25nm,1.8s						
TOA1	**Torodi Ar. Sit**	**33.99**	**253**	*e*P	**P**	**23 49 58.2**	**-1.5**
	22nm,1.8s						
TOA1	**Torodi Ar. Sit**	**33.99**	**253**	*e*P	**P**	**23 49 58.1**	**-1.5**
	22nm,1.8s						
TORD	**Torodi Ar. Bea**	**33.99**	**253**	P	**P**	**23 49 58.1**	**-1.5**
	0.4nm,0.5s,baz=68,slow=8.7,SNR=8.1						
ESDC	**Sonseca Array**	**34.76**	**302**	P	**P**	**23 50 05.5**	**-0.6**
	1.1nm,0.8s,baz=96,slow=8.9,SNR=6.6						
MK32	**Makanchi Array**	**42.08**	**49**	*e*P	**P**	**23 51 08.0**	**+0.4**
MK32	**Makanchi Array**	**42.08**	**49**	*e*P	**P**	**23 51 08.0**	**+0.4**
MKAR	**Makanchi Array**	**42.08**	**49**	P	**P**	**23 51 08.0**	**+0.4**
	2.7nm,0.8s,baz=261,slow=6.0,SNR=15						
MKAR	**Makanchi Array**	**42.08**	**49**	P	**P**	**23 51 08.0**	**+0.4**
MK01	**Makanchi Array**	**42.08**	**49**	*e*P	**P**	**23 51 08.0**	**+0.4**
MK01	**Makanchi Array**	**42.08**	**49**	*e*P	**P**	**23 51 08.0**	**+0.4**
ARA0	**ARCESS Array S**	**43.14**	**355**	*e*P	**P**	**23 51 15.5**	**-0.3**
ARA0	**ARCESS Array S**	**43.14**	**355**	*e*P	**P**	**23 51 15.5**	**-0.3**
ARCES	**ARCESS Array B**	**43.14**	**355**	P	**P**	**23 51 15.5**	**-0.3**
	1.5nm,0.7s,baz=163,slow=4.7,SNR=4.9						
SONA0	**Songino Array**	**58.45**	**49**	*e*P	**P**	**23 53 11.5**	**-0.2**
	6.8nm,1.4s						
SONA0	**Songino Array**	**58.45**	**49**	*e*P	**P**	**23 53 11.5**	**-0.2**
	6.8nm,1.4s						
SONM	**Songino Array**	**58.45**	**49**	P	**P**	**23 53 11.5**	**-0.1**
	1.2nm,0.8s,baz=270,slow=7.3,SNR=11						
ILAR	**Eielson Array**	**88.73**	**1**	P	**P**	**23 56 09.2**	**+0.2**
	0.8nm,0.8s,baz=329,slow=3.3,SNR=8.3						
ILB	**Eielson Array**	**88.73**	**1**	*e*P	**P**	**23 56 09.2**	**+0.2**
ILB	**Eielson Array**	**88.73**	**1**	*e*P	**P**	**23 56 09.2**	**+0.2**

CASC 22 23:46:10.4±2.4,12°.20N×87°.44W,h35±26km,MD4.0, ML3.5,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.82**	**91**	*e*P	Pn	23 46 25.4	-0.2
COPN				AML	AML	23 46 41.0	
	comp=Z,1µm,0.5s						
MOMN	**Momotombo**	**0.90**	**77**	*e*P	Pn	23 46 26.3	-0.3
APYN	**Apoyeque**	**1.06**	**88**	*e*P	Pn	23 46 28.6	-0.2
XAVN	**Gruta Xavier**	**1.08**	**93**	*e*P	Pn	23 46 29.1	-0.1
CNCH	**Conchagua**	**1.14**	**340**	*e*P	Pb	23 46 30.9	-0.8
CNCH				*e*S	Sb	23 46 45.6	-0.7
BOAB	**BOACO BROADBAN**	**1.75**	**82**	*e*P	Pn	23 46 38.0	-0.2
LFRS	**El Faro**	**2.12**	**312**	*e*P	Pn	23 46 43.9	+0.3
LFRS				*e*S	Sn	23 47 08.4	-0.4
LBRS	**Las Brisas**	**2.19**	**314**	*e*P	Pn	23 46 44.3	-0.1
SBLS	**San Blas**	**2.68**	**308**	*e*P	Pn	23 46 52.5	+1.1
SBLS				*e*S	Sn	23 47 23.7	+0.9
JCR	**Jicaral**	**3.27**	**135**	*e*P	Pn	23 46 59.1	-0.2
JCR				*e*S	Sn	23 47 34.5	-2.4
CGA2	**Cerro Gallo 2**	**3.63**	**126**	*e*P	Pn	23 47 06.2	+1.8
URSC	**Urasca**	**4.29**	**123**	*e*P	Pn	23 47 16.6	+3.2

JMA 22 23:47:49.8,37°.37N×141°.14E,h34km±1km,M3.8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.21**	**269**	P	Pb	23 47 56.4	-0.3
JFK				S	Sb	23 48 00.9	-0.5
ONAJ	**Iwakimizuishiy**	**0.38**	**226**	P	Pb	23 47 58.3	-0.5
ONAJ				S	Sn	23 48 04.2	-0.7
JMM	**Marumori**	**0.57**	**331**	P	Pn	23 48 01.0	-0.4
JMM				S	Sb	23 48 09.2	-0.3
JFT	**Otama**	**0.66**	**283**	P	Pb	23 48 03.0	0.0
JFT				S	Sb	23 48 12.1	+0.1
JHO	**Hitachi**	**0.89**	**211**	*e*S	Sn	23 48 16.4	-1.1
JSB	**Shiboa**	**1.05**	**248**	P	Pn	23 48 08.7	+0.5
JSB				S	Sb	23 48 23.1	0.0
JOU	**Okura**	**1.06**	**339**	P	Pn	23 48 08.7	+0.4
JOU				S	Sb	23 48 23.4	0.0
JIO	**Ouri**	**1.09**	**9**	P	Pn	23 48 08.7	0.0
JFY	**Yanaizu**	**1.14**	**272**	P	Pn	23 48 09.9	+0.5
JYS	**Shirataka**	**1.20**	**315**	P	Pn	23 48 11.1	+0.9
MAT	**Matsushiro**	**2.49**	**252**	P	Pn	23 48 29.7	+1.8
MAT				S	Sb	23 49 01.5	-2.6

*LJU **22** 23:55:30.7,46˚.39N×15˚.07E,h0km,ML0.0 Rockburst*
*VIE **22** 23:55:32.0±3.0,46˚.47N×15˚.08E,h0km,ML0.4/2, Error ellipse: s-maj=17.5km s-min=3.2km az=137.0, Suspected Mining induced.*

CSEM 22 23:55:30.7±2.0,46°.89N×14°.78E,h2km,ML0.4,Error ellipse: s-maj=32.3km s-min=19.5km az=172.0, Suspected Mining induced.,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.28**	**141**	Pg	Pg	23 55 36.1	+0.1
	1.1nm,0.3s						
SOKA				Sg	Sg	23 55 39.1	-0.5
	1.3nm,0.3s						
OBKA	**Obir**	**0.41**	**203**	Pg	Pg	23 55 38.9	+0.2
	0.4nm,0.2s						
OBKA				Sg	Sg	23 55 44.5	+0.5
NVLJ	**Novalja**	**2.33**	**178**	*e*Pg	Sg	23 56 40.2	-5.3
NVLJ				Sg	Sb	23 56 43.3	+0.7
NVLJ	**Novalja**	**2.33**	**178**	Sg	Sb	23 56 43.3	+0.7
UDBI	**Udbina**	**2.46**	**163**	Sg	Sg	23 56 52.6	+2.8
UDBI	**Udbina**	**2.46**	**163**	Sg	Sg	23 56 52.5	+2.7

IDC 23 00:03:53.9±2.5,5°.10S×153°.17E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.4/37,mbtmp3.5/3,Error ellipse: s-maj=187.1km s-min=27.6km az=127.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.53**	**230**	P	P	00 09 05.5	-0.5
	0.8nm,0.7s,baz=56,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**26.18**	**223**	P	P	00 09 31.4	+1.0
	0.6nm,0.7s,baz=64,slow=8.3,SNR=7.9						
ILAR	**Eielson Array**	**82.30**	**22**	P	P	00 16 17.6	+0.5
	0.5nm,0.8s,baz=256,slow=5.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.75**	**288**	PKPbc	PKPbc	00 23 47.9	-1.4
	0.7nm,0.6s,baz=88,slow=2.2,SNR=7.1						

*IDC **23** 00:16:54.1±1.2,34˚.11N×25˚.05E,h0km,mb3.8/5, mb1 3.8/3,mb1mx3.5/39,mbtmp3.7/8,ML3.8/3,Error ellipse: s-maj=23.2km s-min=21.5km az=63.0*
*ISCJB **23** 00:16:55.9±0.7,34˚.01N±0˚.05×25˚.31E±0˚.05,h20km, mb3.6/5,Error ellipse: s-maj=7.9km s-min=5.6km az=7.7*
*CSEM **23** 00:17:00.8,34˚.25N×25˚.10E,h42km,ML2.8/4*
*ATH **23** 00:17:00.8,34˚.25N×25˚.10E,h42km±3km,ML2.8/3, Error ellipse: s-maj=5.4km s-min=2.4km az=359.0*

ISC 23 00:16:57.2±1.0,34°.08N±0°.08×25°.15E±0°.04,h20km,n37, σ1°88/46,mb3.7/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.98**	**343**	P	**Pn**	**00 17 16.8**	**+0.9**
SIVA	**Sivas**	**0.98**	**343**	P	**Pn**	**00 17 16.8**	**+0.9**
SIVA				AML	AML	00 17 37.9	
	comp=E,6158µm,0.8s						
SIVA				AML	AML	00 17 46.0	
	comp=N,6165µm,0.6s						
LAST	**Lasithi**	**1.12**	**14**	P	**Pb**	**00 17 20.5**	**+2.6**
LAST	**Lasithi**	**1.12**	**14**	P	**Pb**	**00 17 20.4**	**+2.6**
GVD	**Gavdhos**	**1.17**	**311**	P	**Pb**	**00 17 19.9**	**+1.2**
GVD	**Gavdhos**	**1.17**	**311**	P	**Pb**	**00 17 19.9**	**+1.2**
IDI	**Anoyia**	**1.23**	**350**	Pn	**Pb**	**00 17 19.9**	**+0.1**
	comp=N,9.7nm,0.3s,baz=177,slow=9.7,SNR=233						
IDI				Sn	**Sn**	**00 17 38.7**	**+3.3**
	comp=N,17nm,0.3s,baz=297,slow=16,SNR=7.4						
IDI	**Anoyia**	**1.23**	**350**	P	**Pb**	**00 17 20.5**	**+0.7**
IDI	**Anoyia**	**1.23**	**350**	P	**Pb**	**00 17 20.5**	**+0.7**
NPS	**Neapolis**	**1.24**	**18**	P	**Pn**	**00 17 19.4**	**-0.1**
NPS	**Neapolis**	**1.24**	**18**	P	**Pn**	**00 17 19.4**	**-0.1**
ZKR	**Zakros**	**1.36**	**40**	P	**Pb**	**00 17 24.0**	**+2.0**
ZKR	**Zakros**	**1.36**	**40**	P	**Pb**	**00 17 24.0**	**+2.0**
ZKR				AML	AML	00 17 59.0	
	comp=N,599µm,0.8s						
ZKR				AML	AML	00 18 00.7	
	comp=E,652µm,0.7s						
VAM	**Vamos**	**1.54**	**330**	P	**Pb**	**00 17 25.1**	**0.0**
IMMV	**Iera Moni Meta**	**1.69**	**325**	P	**Pb**	**00 17 27.5**	**-0.1**
IMMV	**Iera Moni Meta**	**1.69**	**325**	P	**Pb**	**00 17 27.5**	**-0.1**
APE	**Apeiranthos**	**3.00**	**6**	P	**Pn**	**00 17 43.9**	**+0.2**
APE				S	**Sn**	**00 18 18.6**	**-0.5**
APE	**Apeiranthos**	**3.00**	**6**	P	**Pn**	**00 17 43.9**	**+0.2**
APE				S	**Sn**	**00 18 18.6**	**-0.5**
APE				AML	AML	00 18 19.6	
	comp=N,68µm,0.5s						
APE				AML	AML	00 18 20.0	
	comp=E,101µm,0.4s						
VLI	**Veliai**	**3.20**	**326**	P	**Pn**	**00 17 46.4**	**0.0**
VLI				S	**Sn**	**00 18 22.5**	**-1.4**
VLI	**Veliai**	**3.20**	**326**	P	**Pn**	**00 17 46.4**	**0.0**
VLI				S	**Sn**	**00 18 22.5**	**-1.4**
ARG	**Arkhangelos**	**3.24**	**48**	P	**Pn**	**00 17 50.1**	**+3.2**
SMG	**Samos**	**3.87**	**20**	P	**Pn**	**00 17 56.0**	**+0.3**
SMG	**Samos**	**3.87**	**20**	P	**Pn**	**00 17 56.0**	**+0.3**
PYL	**PYLOS**	**3.96**	**316**	P	**Pn**	**00 17 58.1**	**+1.3**
PYL	**PYLOS**	**3.96**	**316**	P	**Pn**	**00 17 58.1**	**+1.3**
TURN	**Turunc**	**3.96**	**44**	*i* P	**Pn**	**00 17 54.6**	**-2.3**
TURN				*i* S	**Sn**	**00 18 34.7**	**-8.1**
AKAS	**Kas**	**4.24**	**58**	*i* P	**Pn**	**00 18 01.4**	**+0.6**
AKAS				*i* S	**Sn**	**00 18 47.5**	**-2.2**
GOLH	**Golhisar**	**4.78**	**47**	*i* P	**Pn**	**00 18 10.5**	**+2.3**
GOLH				*i* S	**Sn**	**00 19 02.1**	**-0.9**
KORT	**Korkueli**	**5.14**	**54**	*i* P	**Pn**	**00 18 15.3**	**+2.1**
KORT				*i* S	**Sn**	**00 19 10.8**	**-1.3**
MMAI	**Mount Meron Ar**	**8.62**	**94**	Pn	**Pn**	**00 19 01.9**	**+0.9**
	comp=E,1.1nm,0.3s,baz=266,slow=12,SNR=4.1						
EIL	**Elat**	**9.42**	**115**	Pn	**Pn**	**00 19 11.0**	**-0.8**
	comp=E,1.0nm,0.3s,baz=151,slow=1.4,SNR=9.7						
GERES	**GERESS Array B**	**17.04**	**333**	Pn	**Pn**	**00 20 54.2**	**-0.1**
	comp=E,0.1nm,0.3s,baz=140,slow=14,SNR=4.0						
HFS	**Hagfors**	**27.13**	**347**	P	**P**	**00 22 36.8**	**-1.9**
	comp=E,1.2nm,0.7s,baz=170,slow=10,SNR=5.0						
FINES	**FINESS Array B**	**27.39**	**1**	P	**P**	**00 22 39.1**	**-1.9**
	comp=E,1.4nm,0.8s,baz=198,slow=18,SNR=3.3						
TORD	**Torodi Ar. Bea**	**29.80**	**231**	P	**P**	**00 23 03.0**	**+0.1**
	comp=E,0.3nm,0.4s,baz=33,slow=8.6,SNR=9.7						
MKAR	**Makanchi Array**	**44.38**	**56**	P	**P**	**00 25 07.3**	**+1.0**
	comp=E,0.5nm,0.5s,baz=271,slow=7.2,SNR=8.4						
ZALV	**Zalesovo Beam**	**45.76**	**45**	P	**P**	**00 25 17.2**	**+0.1**
	comp=E,0.5nm,0.4s,baz=270,slow=8.1,SNR=2.6						

*ISCJB **23** 00:28:05.7±0.5,39˚.11N±0˚.04×29˚.05E±0˚.04,h9km, Error ellipse: s-maj=6.0km s-min=4.0km az=150.3*
*DDA **23** 00:28:05.8,39˚.09N×29˚.05E,h7km,Md2.7*
*ISK **23** 00:28:05.2,39˚.12N×29˚.05E,h5km,MD2.7*
*CSEM **23** 00:28:05.8±0.1,39˚.12N×29˚.06E,h6km±1km,MD2.7, Error ellipse: s-maj=2.0km s-min=1.6km az=160.0*

ISC 23 00:28:06.1±1.1,39°.12N±0°.03×29°.05E±0°.02,h9km,n20, σ0°34/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**253**	P	**Pg**	**00 28 11.7**	**+0.1**
DEMI				S	**Sg**	**00 28 15.3**	**0.0**
DEMI	**Demirci**	**0.27**	**253**	*i* P	**Pg**	**00 28 11.7**	**+0.1**
DEMI				*i* S	**Sg**	**00 28 15.3**	**0.0**
GEDZ	**Gediz**	**0.29**	**106**	*e*PG	**Pg**	**00 28 11.5**	**-0.4**
GEDZ	**Gediz**	**0.29**	**106**	*e*Pg	**Pg**	**00 28 11.5**	**-0.4**
GDZ	**Gediz**	**0.34**	**96**	P	**Pg**	**00 28 12.6**	**-0.2**
GDZ				S	**Sg**	**00 28 18.1**	**+0.8**
GDZ	**Gediz**	**0.34**	**96**	*i* P	**Pg**	**00 28 12.6**	**-0.2**
GDZ				*i* S	**Sg**	**00 28 18.1**	**+0.8**
TVSB	**Tavsanli**	**0.46**	**44**	*e*PG	**Pg**	**00 28 14.6**	**-0.4**
TVSB				*e*SG	**Sg**	**00 28 21.0**	**0.0**
TVSB	**Tavsanli**	**0.46**	**44**	*e*Pg	**Pg**	**00 28 14.6**	**-0.4**
TVSB				*e*Sg	**Sg**	**00 28 21.0**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**207**	*e*PG	**Pg**	**00 28 19.2**	**0.0**
KULA				*e*SG	**Sg**	**00 28 27.9**	**-0.2**
KULA	**Kula-Manisa**	**0.68**	**207**	*e*Pg	**Pg**	**00 28 19.2**	**0.0**
KULA				*e*Sg	**Sg**	**00 28 27.9**	**-0.2**
KHL	**Karahalli**	**0.88**	**155**	*e*PG	**Pg**	**00 28 22.7**	**-0.3**
KHL	**Karahalli**	**0.88**	**155**	*e*Pg	**Pg**	**00 28 22.7**	**-0.3**
BALB	**Balikesir**	**1.04**	**300**	*e*PG	**Pg**	**00 28 26.0**	**-0.2**
BALB	**Balikesir**	**1.04**	**300**	*e*Pg	**Pg**	**00 28 26.0**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**354**	*e*PN	**Pn**	**00 28 29.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**354**	*e*Pn	**Pn**	**00 28 29.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*PN	**Pg**	**00 28 30.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*Pn	**Pg**	**00 28 30.3**	**0.0**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pn**	**00 28 36.7**	**+0.3**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pn**	**00 28 36.7**	**+0.3**

*ATH **23** 00:28:15.4,37˚.58N×22˚.06E,h25km±2km,ML1.4/9, Error ellipse: s-maj=2.8km s-min=0.8km az=117.0*
*CSEM **23** 00:28:15.7±0.1,37˚.58N×22˚.06E,h15km,ML1.4, Error ellipse: s-maj=2.8km s-min=2.1km az=81.0*

THE 23 00:28:16.0,37°.59N×22°.07E,h13km±1km,ML1.6/10,Error ellipse: s-maj=1.4km s-min=0.4km az=267.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIP	**Tripoli**	**0.17**	**109**	P	Pb	00 28 20.7	-0.4
TRIP				S	Sg	00 28 23.3

KALE				S	Sn	00 28 43.9	-1.1
KALE				AML	AML	00 28 45.3	
	comp=E,74μm,0.4s						
KALE				AML	AML	00 28 45.3	
	comp=N,87μm,0.2s						
SERG	**Sergoula**	**0.83**	**359**	P	Pg	00 28 31.3	-0.8
SERG				S	Sb	00 28 44.1	+0.8
SERG	**Sergoula**	**0.83**	**359**	P	Pg	00 28 31.3	-0.8
SERG				S	Sb	00 28 44.1	+0.8
LTK	**Loutraki**	**0.84**	**58**	P	Pb	00 28 32.7	+0.3
LTK	**Loutraki**	**0.84**	**58**	P	Pb	00 28 32.7	+0.3
EFP	**Efpalio**	**0.85**	**351**	P	Pg	00 28 32.2	-0.3
EFP	**Efpalio**	**0.85**	**351**	P	Pg	00 28 32.2	-0.2
DID	**Didima**	**0.93**	**94**	P	Pb	00 28 33.8	-0.2
DID				S	Sn	00 28 47.2	-0.8
DID	**Didima**	**0.93**	**94**	P	Pb	00 28 33.8	-0.2
DID				S	Sn	00 28 47.2	-0.8
DID	**Didima**	**0.93**	**94**	P	Pn	00 28 34.9	+0.1
ANX	**Ano Chora**	**1.01**	**354**	P	Pb	00 28 34.4	-1.1
ANX	**Ano Chora**	**1.01**	**354**	P	Pb	00 28 34.4	-1.1
ZKS	**Zakynthos**	**1.02**	**277**	P	Pb	00 28 35.3	-0.3
ZKS	**Zakynthos**	**1.02**	**277**	P	Pb	00 28 35.4	-0.2
PDO	**Prodromos**	**1.23**	**326**	P	Pn	00 28 38.5	-0.3
PDO	**Prodromos**	**1.23**	**326**	P	Pn	00 28 38.5	-0.3

*IDC **23** 00:31:54.6±1.5,36°.78S×176°.98E,h288km±13km, mb3.6/2, mb1 3.9/3, mb1mx3.3/28, mbtmp4.3/3, Error ellipse: s-maj=42.1km s-min=25.6km az=16.0*
*ISCJB **23** 00:31:56.5±0.4, 37°.04S±0°.05×176°.71E±0°.07, h312km±4km, mb3.9/4, Error ellipse: s-maj=10.4km s-min=6.1km az=29.8*
*NEIC **23** 00:31:58.9, 36°.86S×176°.88E, h276km, mb4.0/2, After WEL.*
*WEL **23** 00:31:58.8±0.6, 36°.87S×176°.88E, h278km±4km, ML5.1/20, Error ellipse: s-maj=6.6km s-min=3.6km az=0.0*

ISC 23 00:31:56.5±0.7,**37°.03S**±0°.06×**176°.68E**±0°.06,**h303**km±5km, **n130,**σ1§82/158,**mb3.8/4,25C-6D,North Island**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.82**	**187**	PN		**Pn**	**00 32 37.0**	**+0.7**
HAZ	**Te Kaha**	**1.14**	**130**	⇑PN		**Pn**	**00 32 37.2**	**-0.6**
HAZ				SN		**S**	**00 33 07.3**	**-3.3**
TOZ	**Tahuroa Road**	**1.17**	**233**	PN		**Pn**	**00 32 39.4**	**+1.5**
TOZ	**Tahuroa Road**	**1.17**	**233**	*e*Pn		**Pn**	**00 32 39.4**	**+1.5**
TARZ	**Mount Tarawera**	**1.22**	**186**	PN		**Pn**	**00 32 39.8**	**+1.5**
URZ	**Urewera**	**1.28**	**165**	P		**Pn**	**00 32 37.7**	**-0.7**
	58nm,0.3s,baz=260,slow=5.9,SNR=774							
URZ				S		**S**	**00 33 09.7**	**-2.1**
	104nm,0.3s,baz=245,slow=2.2,SNR=36							
URZ	**Urewera**	**1.28**	**165**	PN		**Pn**	**00 32 38.3**	**-0.1**
URZ				SN		**S**	**00 33 10.2**	**-1.7**
URZ				AML	AML		00 33 14.1	
URZ	**Urewera**	**1.28**	**165**	*e*Pn		**Pn**	**00 32 38.6**	**+0.1**
URZ				*e*S		**S**	**00 33 10.9**	**-0.9**
RRRZ	**Republican Roa**	**1.32**	**186**	⇑PN		**Pn**	**00 32 40.2**	**+1.4**
MXZ	**Matakaoa Point**	**1.40**	**113**	PN		**Pn**	**00 32 38.5**	**-0.7**
MXZ				SN		**S**	**00 33 10.1**	**-3.2**
MXZ				AML	AML		00 33 12.7	
MXZ	**Matakaoa Point**	**1.40**	**113**	*e*Pn		**Pn**	**00 32 38.7**	**-0.5**
MXZ				*e*S		**S**	**00 33 06.6**	**-6.6**
MXZ				*e*S		S	00 33 10.1	-3.2
MUGZ	**Murupara**	**1.45**	**177**	PN		**Pn**	**00 32 40.1**	**+0.5**
MWZ	**Matawai**	**1.47**	**153**	⇑PN		**Pn**	**00 32 39.9**	**+0.2**
MWZ				AML	AML		00 33 15.3	
MWZ				AML	AML		00 33 15.4	
MWZ				AML	AML		00 33 15.9	
MWZ				AML	AML		00 33 15.9	
MWZ	**Matawai**	**1.47**	**153**	*e*Pn		**Pn**	**00 32 39.9**	**+0.2**
MWZ				*e*S		**S**	**00 33 15.4**	**+1.3**
PRRZ	**Plateau Road**	**1.49**	**189**	PN		**Pn**	**00 32 41.2**	**+1.5**
PRRZ	**Plateau Road**	**1.49**	**189**	Sn		**Pn**	**00 32 42.8**	**+3.1**
TWGZ	**Tauwhareparae**	**1.55**	**138**	⇑PN		**Pn**	**00 32 41.0**	**+0.8**
WPRZ	**Whakapapatarin**	**1.55**	**195**	PN		**Pn**	**00 32 42.0**	**+1.9**
RAGZ	**Rawiri**	**1.58**	**159**	PN		**Pn**	**00 32 41.2**	**+0.8**
TLZ	**Tolley Road**	**1.59**	**214**	PN		**Pn**	**00 32 42.4**	**+2.0**
WMGZ	**Waiomatatini S**	**1.59**	**120**	⇑PN		**Pn**	**00 32 40.5**	**+0.1**
WMGZ				SN		**S**	**00 33 12.9**	**-2.5**
KUTZ	**Kaahu Road**	**1.61**	**205**	PN		**Pn**	**00 32 42.6**	**+2.0**
PUZ	**Puketiti**	**1.63**	**130**	PN		**Pn**	**00 32 40.5**	**-0.2**
PUZ				AML	AML		00 33 16.4	
PUZ				AML	AML		00 33 17.3	
TKGZ	**Te Karaka**	**1.69**	**147**	⇑PN		**Pn**	**00 32 41.7**	**+0.7**
MRHZ	**Matea Rd**	**1.82**	**186**	PN		**Pn**	**00 32 43.2**	**+1.2**
SNGZ	**Shannon Statio**	**1.83**	**164**	⇑PN		**Pn**	**00 32 43.2**	**+1.1**
RIGZ	**Rimuhau**	**1.88**	**153**	⇑PN		**Pn**	**00 32 43.1**	**+1.1**
CNGZ	**Carnagh Statio**	**1.89**	**141**	⇑PN		**Pn**	**00 32 43.6**	**+1.0**
RAHZ	**Arahi**	**1.92**	**170**	⇑PN		**Pn**	**00 32 44.3**	**+1.5**
RAHZ				SN		**S**	**00 33 20.0**	**+0.3**
RATZ	**Rangitukua**	**1.97**	**201**	PN		**Pn**	**00 32 44.9**	**+1.7**
RITZ	**Rihia Road**	**2.05**	**198**	⇑PN		**Pn**	**00 32 46.0**	**+2.1**
NMHZ	**Naumai**	**2.07**	**177**	⇑PN		**Pn**	**00 32 46.0**	**+1.9**
NMHZ				SN		**S**	**00 33 23.4**	**+1.5**
HIZ	**Hauiti**	**2.07**	**224**	PN		**Pn**	**00 32 46.7**	**+2.8**
HIZ	**Hauiti**	**2.07**	**224**	*e*Pn		**Pn**	**00 32 46.8**	**+2.8**
WHHZ	**Waihua**	**2.09**	**168**	⇑PN		**Pn**	**00 32 45.6**	**+1.4**
PRGZ	**Paritu Road**	**2.12**	**154**	⇓PN		**Pn**	**00 32 45.6**	**+1.2**
BKZ	**Black Stump Fm**	**2.14**	**184**	⇑PN		**Pn**	**00 32 45.7**	**+1.1**
BKZ				AML	AML		00 33 25.9	
BKZ				AML	AML		00 33 27.0	
BKZ	**Black Stump Fm**	**2.14**	**184**	*e*Pn		**Pn**	**00 32 45.7**	**+1.1**
BKZ				*e*S		**S**	**00 33 18.6**	**-4.3**
BKZ				*e*S		S	00 33 27.0	+4.1
KNZ	**Kokohu**	**2.14**	**159**	PN		**Pn**	**00 32 45.7**	**+0.6**
KNZ				AML	AML		00 33 24.5	
KNZ				AML	AML		00 33 25.0	
KNZ	**Kokohu**	**2.14**	**159**	*e*Pn		**Pn**	**00 32 45.1**	**+0.6**
KNZ				*e*S		**S**	**00 33 25.0**	**+2.2**
KRVZ	**Karewarewa**	**2.22**	**201**	PN		**Pn**	**00 32 46.6**	**+1.3**
ARHZ	**Aropaoanui**	**2.25**	**174**	⇑PN		**Pn**	**00 32 47.0**	**+1.6**
WTVZ	**West Tongariro**	**2.26**	**202**	PN		**Pn**	**00 32 45.5**	**-0.2**
OTVZ	**Oturere**	**2.28**	**200**	PN		**Pn**	**00 32 47.8**	**+2.0**
OTVZ	**Oturere**	**2.28**	**200**	*e*Pn		**Pn**	**00 32 47.9**	**+2.0**
MHGZ	**Mahia Peninsul**	**2.33**	**156**	PN		**Pn**	**00 32 47.3**	**+1.2**
FWVZ	**Far West T-bar**	**2.40**	**201**	PN		**Pn**	**00 32 48.5**	**+1.5**
KWHZ	**Kaweka Forest**	**2.40**	**185**	⇑PN		**Pn**	**00 32 48.3**	**+1.5**
DRZ	**Dome Shelter**	**2.41**	**201**	PN		**Pn**	**00 32 49.0**	**+1.8**
DRZ	**Dome Shelter**	**2.41**	**201**	*e*Pn		**Pn**	**00 32 49.0**	**+1.8**
WHVZ	**Whangaehu Hut**	**2.41**	**201**	⇓PN		**Pn**	**00 32 48.8**	**+1.7**
MCHZ	**McNeill Hill**	**2.42**	**180**	⇑PN		**Pn**	**00 32 48.6**	**+1.7**
WNHZ	**Wahianoa**	**2.45**	**200**	⇑PN		**Pn**	**00 32 49.0**	**+1.6**
MOVZ	**Moawhango**	**2.49**	**197**	⇑PN		**Pn**	**00 32 48.8**	**+1.3**
MOVZ	**Moawhango**	**2.49**	**197**	*e*Pn		**Pn**	**00 32 48.8**	**+1.3**
MTVZ	**Mangateitei**	**2.54**	**202**	PN		**Pn**	**00 32 50.0**	**+1.9**
VRZ	**Vera Road**	**2.59**	**215**	PN		**Pn**	**00 32 51.2**	**+2.8**
KRHZ	**Kereru**	**2.62**	**185**	⇑PN		**Pn**	**00 32 49.9**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.65**	**173**	PN		**Pn**	**00 32 50.2**	**+1.3**
CKHZ				SN		**S**	**00 33 31.7**	**+0.9**
KAHZ	**Kahuranaki**	**2.77**	**177**	⇑PN		**Pn**	**00 32 51.5**	**+1.4**
PNHZ	**Pukenui**	**2.91**	**187**	⇑PN		**Pn**	**00 32 52.5**	**+1.0**
PXZ	**Pawanui**	**3.00**	**177**	PN		**Pn**	**00 32 53.3**	**+1.0**
PXZ				AML	AML		00 33 39.9	
PXZ				AML	AML		00 33 41.8	
PXZ	**Pawanui**	**3.00**	**177**	*e*Pn		**Pn**	**00 32 53.3**	**+1.0**
PXZ				*e*S		**S**	**00 33 39.9**	**+2.9**
WAZ	**Wanganui**	**3.03**	**206**	PN		**Pn**	**00 32 54.7**	**+2.0**
WPHZ	**Waipukurau**	**3.04**	**183**	PN		**Pn**	**00 32 53.8**	**+1.1**
OUZ	**Omahuta**	**3.08**	**305**	*e*Pn		**Pn**	**00 32 53.7**	**+0.5**
TSZ	**Takapari Road**	**3.08**	**190**	⇑PN		**Pn**	**00 32 54.1**	**+1.0**
TSZ				AML	AML		00 33 40.6	
TSZ				AML	AML		00 33 41.4	
PRHZ	**Porangahau**	**3.24**	**181**	PN		**Pn**	**00 32 55.8**	**+1.1**
DVHZ	**Dannevirke**	**3.29**	**187**	PN		**Pn**	**00 32 56.1**	**+0.8**
DVHZ				SN		**S**	**00 33 42.5**	**+0.2**
ANWZ	**Angora Road**	**3.43**	**183**	⇓PN		**Pn**	**00 32 57.9**	**+1.3**
ANWZ				SN		**S**	**00 33 45.4**	**+0.6**
POWZ	**Post Office Ro**	**3.44**	**192**	PN		**Pn**	**00 32 57.8**	**+1.1**
PRWZ	**Pori Road**	**3.57**	**189**	PN		**Pn**	**00 32 59.1**	**+1.0**
BFZ	**Birch Farm**	**3.67**	**185**	PN		**Pn**	**00 32 59.9**	**+0.8**
BFZ				AML	AML		00 33 51.5	
BFZ				AML	AML		00 33 52.2	
BFZ				AML	AML		00 33 52.4	
BFZ				AML	AML		00 33 53.2	
MRZ	**Mangatainoka R**	**3.73**	**193**	⇑PN		**Pn**	**00 33 00.4**	**+0.6**
TIWZ	**Tintock**	**3.80**	**189**	PN		**Pn**	**00 33 01.6**	**+1.0**
TIWZ				AML	AML		00 33 54.3	
TIWZ				AML	AML		00 33 55.5	
CPWZ	**Castlepoint**	**3.90**	**185**	PN		**Pn**	**00 33 03.1**	**+1.6**
OGWZ	**Otaki Gorge**	**3.96**	**197**	PN		**Pn**	**00 33 03.1**	**+0.8**
HOWZ	**Holdsworth Sta**	**3.97**	**193**	⇓PN		**Pn**	**00 33 02.9**	**+0.5**
HOWZ				SN		**S**	**00 33 54.6**	**-0.7**
KIW	**Kapiti Island**	**4.07**	**199**	PN		**Pn**	**00 33 04.3**	**+0.8**
KIW				AML	AML		00 33 59.6	
KIW				AML	AML		00 33 59.9	
KIW	**Kapiti Island**	**4.07**	**199**	*e*Pn		**Pn**	**00 33 04.3**	**+0.8**
KIW				*e*S		**S**	**00 33 60.0**	**+2.7**
TMWZ	**Te Maipa**	**4.12**	**188**	PN		**Pn**	**00 33 04.7**	**+0.7**
MTW	**Mount Morrison**	**4.23**	**192**	PN		**Pn**	**00 33 05.5**	**+0.3**
MTW				AML	AML		00 34 02.2	
MTW				AML	AML		00 34 03.3	
MTW	**Mount Morrison**	**4.23**	**192**	*e*Pn		**Pn**	**00 33 05.5**	**+0.3**
MTW				*e*S		**S**	**00 34 02.2**	**+1.8**
CAW	**Cannon Point**	**4.26**	**197**	PN		**Pn**	**00 33 06.5**	**+0.8**
CAW				AML	AML		00 34 03.6	
CAW				AML	AML		00 34 03.6	
TRWZ	**Traveller**	**4.43**	**190**	PN		**Pn**	**00 33 08.4**	**+0.9**
TRWZ				AML	AML		00 34 07.0	
TRWZ				AML	AML		00 34 08.6	
TRWZ	**Traveller**	**4.43**	**190**	*e*Pn		**Pn**	**00 33 08.4**	**+0.9**
TRWZ				*e*S		**S**	**00 34 07.0**	**+2.4**
PAWZ	**Paruwai Farm**	**4.46**	**192**	PN		**Pn**	**00 33 08.2**	**+0.4**
PAWZ				AML	AML		00 34 07.6	
PAWZ				AML	AML		00 34 07.8	
MSWZ	**Moikau Station**	**4.52**	**194**	PN		**Pn**	**00 33 08.8**	**+0.3**
MSWZ				AML	AML		00 34 08.7	
MSWZ				AML	AML		00 34 08.8	
SNZO	**South Karori**	**4.55**	**199**	*e*Pn		**Pn**	**00 33 09.5**	**+0.8**
SNZO				*e*S		**S**	**00 34 00.5**	**-6.3**
TCW	**Tory Channel**	**4.58**	**203**	PN		**Pn**	**00 33 09.9**	**+0.8**
TCW				AML	AML		00 34 09.0	
TCW				AML	AML		00 34 09.9	
BHW	**Baring Head**	**4.60**	**197**	PN		**Pn**	**00 33 09.8**	**+0.5**
BHW				AML	AML		00 34 10.0	
BHW				AML	AML		00 34 10.0	
PLWZ	**Palliser**	**4.67**	**193**	PN		**Pn**	**00 33 10.6**	**+0.4**
TUWZ	**Tuamarina**	**4.88**	**205**	⇓PN		**Pn**	**00 33 13.1**	**+0.5**
TUWZ				AML	AML		00 34 16.2	
TUWZ				AML	AML		00 34 16.4	
NNZ	**Nelson**	**4.91**	**210**	⇑PN		**Pn**	**00 33 13.2**	**+0.3**
QRZ	**Quartz Range**	**4.99**	**219**	PN		**Pn**	**00 33 14.6**	**+0.8**
BSWZ	**Blackbirch Sta**	**5.16**	**204**	PN		**Pn**	**00 33 16.7**	**+0.9**
BSWZ				AML	AML		00 34 21.8	
BSWZ				AML	AML		00 34 23.5	
THZ	**Tophouse**	**5.56**	**211**	⇑PN		**Pn**	**00 33 21.3**	**+0.7**
THZ	**Tophouse**	**5.56**	**211**	*e*Pn		**Pn**	**00 33 21.3**	**+0.7**
THZ				*e*S		**S**	**00 34 27.4**	**-0.9**
KHZ	**Kahutara**	**5.90**	**203**	PN		**Pn**	**00 33 25.5**	**+0.9**
KHZ	**Kahutara**	**5.90**	**203**	*e*Pn		**Pn**	**00 33 25.5**	**+0.9**
KHZ				*e*S		**S**	**00 34 30.2**	**-5.3**
DSZ	**Denniston Nort**	**6.04**	**217**	PN		**Pn**	**00 33 27.1**	**+0.9**
DSZ	**Denniston Nort**	**6.04**	**217**	*e*Pn		**Pn**	**00 33 27.1**	**+0.9**
LTZ	**Lake Taylor**	**6.67**	**209**	PN		**Pn**	**00 33 34.1**	**+0.3**
LTZ	**Lake Taylor**	**6.67**	**209**	*e*Pn		**Pn**	**00 33 34.1**	**+0.3**
LTZ				*e*S		**S**	**00 34 47.4**	**-5.1**
INZ	**Inchbonnie**	**6.97**	**214**	PN		**Pn**	**00 33 37.7**	**+0.4**
OXZ	**Oxford**	**7.22**	**208**	PN		**Pn**	**00 33 40.2**	**-0.3**
OXZ	**Oxford**	**7.22**	**208**	*e*Pn		**Pn**	**00 33 40.7**	**+0.2**
OXZ				*e*S		**S**	**00 35 02.6**	**-2.1**
CRLZ	**Canterbury Las**	**7.24**	**204**	*e*Pn		**Pn**	**00 33 40.8**	**+0.2**
CRLZ				*e*S		**S**	**00 34 59.6**	**-5.3**
MQZ	**McQueen's Vall**	**7.35**	**203**	*e*Pn		**Pn**	**00 33 42.7**	**+0.8**
RPZ	**Rata Peaks**	**7.94**	**211**	P		**Pn**	**00 33 49.5**	**+0.3**
	2.7nm,0.3s,baz=100,slow=2.2,SNR=7.8							
RPZ				S		**S**	**00 35 15.0**	**-5.7**
	16nm,0.3s,baz=101,slow=22,SNR=28							
RPZ	**Rata Peaks**	**7.94**	**211**	*e*Pn		**Pn**	**00 33 47.3**	**-1.9**
RPZ				*e*S		**S**	**00 35 18.6**	**-2.1**
FOZ	**Fox Glacier**	**8.35**	**217**	*e*Pn		**Pn**	**00 33 54.1**	**-0.1**
ODZ	**Otahua Downs**	**9.21**	**208**	*e*Pn		**Pn**	**00 34 06.6**	**+1.8**
WKZ	**Wanaka**	**9.71**	**214**	*e*Pn		**Pn**	**00 34 09.7**	**-1.2**
MLZ	**Mavora Lakes**	**10.53**	**215**	*e*Pn		**Pn**	**00 34 18.7**	**-2.2**
AS01	**Alice Springs**	**38.89**	**278**	*e*P		**P**	**00 38 53.1**	**-0.5**
AS31	**Alice Springs**	**38.93**	**278**	*e*P		**P**	**00 38 55.6**	**+1.7**
	1.3nm,0.5s							
ASAR	**Alice Springs**	**38.93**	**278**	P		**P**	**00 38 55.2**	**+1.3**
	2.5nm,0.6s,baz=121,slow=8.0,SNR=30							
WB2	**Warramunga Arr**	**40.54**	**283**	*e*P		**P**	**00 39 08.2**	**+1.1**
	41nm,1.9s							
WRA	**Warramunga Arr**	**40.55**	**283**	P		**P**	**00 39 07.9**	**+0.7**
	2.3nm,0.4s,baz=120,slow=7.9,SNR=22							
QSPA	**South Pole Qui**	**53.10**	**180**	*e*P		**P**	**00 40 44.1**	**+0.9**
KCPM	**Cahto Peak**	**94.02**	**42**	*e*P		**P**	**00 44 41.3**	**+0.9**
KCPM				*ep*P		**pP**	**00 45 49.2**	**-3.3**
ISA	**Isabella, Lake**	**94.07**	**48**	*e*P		**P**	**00 44 43.4**	**+2.8**
Y14A	**Wickenburg**	**96.26**	**52**	*e*P		**P**	**00 44 49.6**	**-1.1**
ARCES	**ARCESS Array B**	**143.89**	**343**	PKP	PKPab		00 50 52.2	-0.6
	2.4nm,0.7s,baz=36,slow=2.3,SNR=10							
FINES	**FINESS Array B**	**149.41**	**332**	PKPbc	**PKPbc**		**00 51 07.7**	**-1.2**
	1.9nm,0.5s,baz=35,slow=4.9,SNR=20							
BR131	**Keskin Array S**	**151.03**	**287**	*e*PKPbc	**PKPbc**		**00 51 13.4**	**-0.2**
BRTR	**Keskin Array B**	**151.03**	**287**	PKPbc	**PKPbc**		**00 51 13.4**	**-0.3**
	1.8nm,0.9s,baz=150,slow=4.2,SNR=9.7							
BR231	**Keskin MP Arra**	**151.70**	**287**	*e*PKPbc	**PKPbc**		**00 51 14.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**155.80**	**192**	PKPbc	PKPbc		00 51 24.1	
	0.5nm,0.9s,baz=190,slow=3.3,SNR=4.9							
TORD				PKPab	**PKPab**		**00 51 44.8**	**+1.8**
	0.3nm,0.5s,baz=167,slow=2.6,SNR=5.7							
CTKS	**Kestanelik-??a**	**2.18**	**348**	*e*PN		**Pn**	**00 33 04.9**	**+0.4**
CTKS	**Kestanelik-??a**	**2.18**	**348**	*e*Pn		**Pn**	**00 33 04.9**	**+0.4**

*ISCJB **23** 00:32:27.5±0.6, 39°.10N±0°.04×29°.09E±0°.04, h3km±7km, Error ellipse: s-maj=7.9km s-min=4.0km az=159.0*
*CSEM **23** 00:32:27.7±0.1, 39°.10N×29°.10E, h5km, MD2.9, Error ellipse: s-maj=2.4km s-min=2.0km az=161.0*
*ISK **23** 00:32:27.1, 39°.09N×29°.12E, h5km, MD2.9*
*DDA **23** 00:32:27.6, 39°.10N×29°.08E, h7km, Md3.1*

ISC 23 00:32:27.8±1.0,**39°.10N**±0°.03×**29°.10E**±0°.02,**h7**km±10km, **n38,**σ0§42/50,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.25**	**102**	*e*PG		**Pg**	**00 32 32.6**	**-0.2**
GEDZ	**Gediz**	**0.25**	**102**	*e*Pg		**Pg**	**00 32 32.6**	**-0.2**
DEMI	**Demirci**	**0.30**	**260**	P		**Pg**	**00 32 33.8**	**0.0**
DEMI				S		**Sg**	**00 32 37.8**	**0.0**
DEMI	**Demirci**	**0.30**	**260**	*i* P		**Pg**	**00 32 33.8**	**0.0**
DEMI				*i* S		**Sg**	**00 32 37.8**	**0.0**
GDZ	**Gediz**	**0.30**	**92**	P		**Pg**	**00 32 34.1**	**+0.3**
GDZ				S		**Sg**	**00 32 38.8**	**+1.0**
GDZ	**Gediz**	**0.30**	**92**	*i* P		**Pg**	**00 32 34.1**	**+0.3**
GDZ				*i* S		**Sg**	**00 32 38.8**	**+1.0**
TVSB	**Tavsanli**	**0.45**	**39**	*e*PG		**Pg**	**00 32 36.0**	**-0.6**
TVSB				*e*SG		**Sg**	**00 32 42.2**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**39**	*e*Pg		**Pg**	**00 32 36.0**	**-0.6**
TVSB				*e*Sg		**Sg**	**00 32 42.2**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**210**	*e*PG		**Pg**	**00 32 40.4**	**-0.4**
KULA				*e*SG		**Sg**	**00 32 49.7**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**210**	*e*Pg		**Pg**	**00 32 40.4**	**-0.4**
KULA				*e*Sg		**Sg**	**00 32 49.7**	**+0.1**
KHL	**Karahalli**	**0.84**	**156**	*e*PG		**Pb**	**00 32 44.4**	**-0.5**
KHL	**Karahalli**	**0.84**	**156**	*e*Pg		**Pb**	**00 32 44.4**	**-0.5**
BALB	**Balikesir**	**1.09**	**300**	*e*PN		**Pb**	**00 32 49.0**	**+0.1**
BALB				*e*SN		**Sn**	**00 33 05.4**	**+0.6**
BALB	**Balikesir**	**1.09**	**300**	*e*Pn		**Pb**	**00 32 49.1**	**+0.1**
BALB				*e*Sn		**Sn**	**00 33 05.4**	**+0.6**
CAVI	**Cavuskoy**	**1.25**	**27**	*e*PN		**Pg**	**00 32 51.0**	**-0.7**
CAVI	**Cavuskoy**	**1.25**	**27**	*e*Pn		**Pg**	**00 32 51.0**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*PN		**Pn**	**00 32 52.0**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*Pn		**Pn**	**00 32 52.0**	**-0.2**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*PN		**Pb**	**00 32 52.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.30**	**334**	*e*Pn		**Pb**	**00 32 52.9**	**+0.3**
BORA	**Eskisehir**	**1.31**	**53**	P		**Pn**	**00 32 52.4**	**-0.3**
BORA				S		**Sb**	**00 33 09.9**	**0.0**
BORA	**Eskisehir**	**1.31**	**53**	*i* P		**Pn**	**00 32 52.4**	**-0.3**
BORA				*i* S		**Sb**	**00 33 09.9**	**0.0**
BALY	**Balya**	**1.31**	**300**	P		**Pn**	**00 32 52.2**	**-0.5**
BALY	**Balya**	**1.31**	**300**	*i* P		**Pn**	**00 32 52.2**	**-0.5**
ESKT	**Eskisehir**	**1.43**	**72**	*e*PN		**Pn**	**00 32 54.1**	**-0.2**
ESKT	**Eskisehir**	**1.43**	**72**	*e*Pn		**Pn**	**00 32 54.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.44**	**311**	*e*PN		**Pb**	**00 32 55.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.44**	**311**	*e*Pn		**Pb**	**00 32 55.0**	**-0.1**
EDC	**Edincik**	**1.57**	**323**	*e*PN		**Pb**	**00 32 56.9**	**-0.3**
EDC	**Edincik**	**1.57**	**323**	*e*Pn		**Pb**	**00 32 56.9**	**-0.3**
GULT	**Gulveren**	**1.72**	**39**	*e*PN		**Pn**	**00 32 58.5**	**+0.1**
GULT	**Gulveren**	**1.72**	**39**	*e*Pn		**Pn**	**00 32 58.5**	**+0.1**
HRT	**Hereke**	**1.78**	**14**	*e*PN		**Pn**	**00 32 59.3**	**+0.2**
HRT	**Hereke**	**1.78**	**14**	*e*Pn		**Pn**	**00 32 59.3**	**+0.2**
KLYT	**Kilyos**	**2.15**	**359**	*e*PN		**Pn**	**00 33 04.7**	**+0.5**
KLYT	**Kilyos**	**2.15**	**359**	*e*Pn		**Pn**	**00 33 04.7**	**+0.5**

JMA 23 00:32:32.4±0.1,**40°.01N**×**142°.45E**,**h37**km±1km,**M3.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.46**	**261**	P		Pn	00 32 42.5	+0.2
JTH				*e*S		Sn	00 32 49.8	+0.5
MIYJ	**Miyakonagasawa**	**0.65**	**228**	P		Pn	00 32 44.9	-0.3
MIYJ				*e*S		Sn	00 32 53.8	-0.4
JANG	**Nango**	**0.80**	**297**	P		Pn	00 32 47.0	-0.2
JANG				*e*S		Sn	00 32 57.2	-0.7
JKZ	**Kuzumaki**	**0.86**	**269**	P		Pn	00 32 48.6	+0.6
JOM	**Ohasama**	**1.04**	**239**	P		Pn	00 32 51.1	+0.7
OFUJ	**Ofunato**	**1.11**	**213**	P		Pn	00 32 51.8	+0.5
JTM	**Tenmabayashi**	**1.31**	**307**	P		Pn	00 32 54.9	+0.8
JTM				*e*S		Sn	00 33 11.9	+1.6
JMK	**Ichinoseki**	**1.42**	**222**	P		Pn	00 32 56.6	+1.0

*IDC **23** 00:40:28.2±0.9, 15°.25S×173°.34W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.1/28, mbtmp4.0/6, MS4.0/2, Ms1 4.0/2, ms1mx3.7/25, Error ellipse: s-maj=45.9km s-min=23.6km az=142.0*

ISC 23 00:40:34.9±0.8,**15°.2S**±0°.2×**172°.5W**±0°.3,**h35**km,**n20,** σ1§28/18,**mb3.8/6,2C-6D,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.41**	**28**	Pn		**Pn**	**00 40 56.7**	**-1.5**
	139nm,0.3s,baz=135,slow=2.9,SNR=32							
AFI				Sn		**Sn**	**00 41 14.9**	**-0.6**
	476nm,0.3s,baz=174,slow=18,SNR=24							
AFI				LR	LR		00 41

LADK	**Ladik-KONYA**	**2.51**	**43**	*e*PN	**Pn**	**00 53 57.1 +0.4**
LADK	**Ladik-KONYA**	**2.51**	**43**	*e*Pn	**Pn**	**00 53 57.1 +0.4**
LEF	**Lefka**	**2.51**	**119**	*e*PN	**Pn**	**00 53 55.6 -1.0**
LEF	**Lefka**	**2.51**	**119**	*e*Pn	**Pn**	**00 53 55.6 -1.0**
KARP	**Karpathos**	**2.61**	**253**	*e*PN	**Pn**	**00 53 58.6 +0.6**
KARP	**Karpathos**	**2.61**	**253**	P	**Pn**	**00 53 58.6 +0.6**
KARP	**Karpathos**	**2.61**	**253**	P	**Pn**	**00 53 58.6 +0.6**
KIZT	**Kizilcal**	**2.83**	**27**	*e*PN	**Pn**	**00 54 01.9 +0.7**
KIZT	**Kizilcal**	**2.83**	**27**	*e*Pn	**Pn**	**00 54 01.9 +0.7**
SMG	**Samos**	**3.02**	**297**	P	**Pn**	**00 54 02.9 -0.7**
SMG				S	**Sn**	**00 54 36.0 -2.6**
SMG	**Samos**	**3.02**	**297**	P	**Pn**	**00 54 02.9 -0.7**
SMG				S	**Sn**	**00 54 36.0 -2.6**
CHBY	**Cihanbeyli**	**3.07**	**43**	*e*PN	**Pn**	**00 54 05.7 +1.3**
CHBY	**Cihanbeyli**	**3.07**	**43**	*e*Pn	**Pn**	**00 54 05.7 +1.3**
TVSB	**Tavsanli**	**3.13**	**349**	*e*PN	**Pn**	**00 54 05.5 +0.2**
TVSB	**Tavsanli**	**3.13**	**349**	*e*Pn	**Pn**	**00 54 05.5 +0.2**
ESKT	**Eskisehir**	**3.19**	**9**	*e*PN	**Pn**	**00 54 06.6 +0.6**
ESKT	**Eskisehir**	**3.19**	**9**	*e*Pn	**Pn**	**00 54 06.6 +0.6**
SVRH	**Sivrihisar-ESK**	**3.24**	**18**	*e*PN	**Pn**	**00 54 07.8 +1.0**
SVRH	**Sivrihisar-ESK**	**3.24**	**18**	*e*Pn	**Pn**	**00 54 07.8 +1.0**

CASC 23 00:58:27.8±1.9, **8°.94N**×**83°.53W, h25**km±8km, **MD3.6, 1C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.45**	**129**	*e*P	Pb	00 58 37.6	+0.3
ACR				*e*S	Sn	00 58 45.0	-1.1
BUS	**Buena Vista**	**0.66**	**340**	*e*P	Pn	00 58 43.0	+1.0
BUS				*e*S	Sn	00 58 51.9	+0.2
QCR	**Quepos**	**0.79**	**308**	*i*P	Pb	00 58 42.2	-0.7
QCR				*e*S	Sb	00 58 52.6	-0.8
TBS2		**0.87**	**99**	*e*S	Sb	00 58 56.2	+0.4
URSC	**Urasca**	**0.93**	**344**	*e*P	Pb	00 58 44.8	-0.5
URSC				*e*S	Sn	00 58 57.8	-0.2
CGA2	**Cerro Gallo 2**	**1.42**	**319**	*e*P	Pn	00 58 52.4	+0.2
CGA2				*e*S	Sb	00 59 10.9	-0.4
JCR	**Jicaral**	**1.81**	**300**	*e*P	Pn	00 58 57.0	-0.5

JMA 23 01:01:37.8±0.2, **25°.80N**×**130°.15E, h40**km, **M3.8, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**0.96**	**89**	P	Pn	01 01 55.4	+0.5
JMZ				S	Sn	01 02 06.8	-0.6
JOW	**Kunigami**	**1.97**	**302**	P	Pn	01 02 09.8	+1.1
JOW				S	Sn	01 02 31.7	-0.5
JNTH	**Nagotoyohara**	**2.04**	**291**	P	Pn	01 02 10.3	+0.6
JNTH				*e*S	Sn	01 02 32.4	-1.5
JOKE	**Okinoerabujima**	**2.10**	**318**	P	Pn	01 02 12.2	+1.7
JOKE				*e*S	Sn	01 02 34.7	-0.7
JJT2	**Tamagusuku 2**	**2.19**	**279**	P	Pn	01 02 13.0	+1.3
JJT2				*e*S	Sn	01 02 37.8	+0.2
JTK	**Tokunoshima**	**2.25**	**332**	P	Pn	01 02 14.3	+1.8
JTK				S	Sn	01 02 38.8	-0.3
JIH	**Iheya**	**2.31**	**303**	P	Pn	01 02 15.1	+1.7
JIH				S	Sn	01 02 39.6	-1.0
JZK	**Kikaishima**	**2.51**	**356**	P	Pn	01 02 18.4	+2.3
JAMN	**Amaminishikomi**	**2.58**	**341**	P	Pn	01 02 18.7	+1.6
JAMN				S	Sn	01 02 46.5	-0.8
JAM	**Amami Oshima**	**2.65**	**350**	P	Pn	01 02 19.6	+1.6
JAM				S	Sn	01 02 48.1	-0.7
JAGN	**Aguni-jima**	**2.73**	**287**	P	Pn	01 02 20.1	+1.0
JAGN				S	Sn	01 02 49.8	-1.0
JKE	**Kume jima 2**	**3.07**	**281**	P	Pn	01 02 23.5	-0.3
JKE				S	Sn	01 02 57.6	-1.7
JTAJ	**Takarajima**	**3.44**	**346**	P	Pn	01 02 30.2	+1.3
JTAJ				S	Sn	01 03 06.6	-1.9

*DDA **23** 01:03:24.8, 39°.06N×29°.10E, h7km, Md2.7*
*ISK **23** 01:03:24.2, 39°.04N×29°.21E, h8km, MD2.7*
*ISCJB **23** 01:03:25.1±0.6, 39°.07N±0°.05×29°.11E±0°.04, h4km±8km, Error ellipse: s-maj=8.7km s-min=4.5km az=152.9*
*CSEM **23** 01:03:25.0±0.2, 39°.04N×29°.14E, h8km, MD2.7, Error ellipse: s-maj=5.1km s-min=3.5km az=132.0*

ISC 23 01:03:25.2±0.9, **39°.05N**±0°.03×**29°.13E**±0°.03, **h14**km±8km, **n20**, σ=**0.73**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.28**	**83**	P	**Pg**	**01 03 31.5**	**+0.3**
GDZ				S	**Sg**	**01 03 35.9**	**+0.7**
GDZ	**Gediz**	**0.28**	**83**	*i*P	**Pg**	**01 03 31.5**	**+0.3**
GDZ				*i*S	**Sg**	**01 03 35.9**	**+0.7**
DEMI	**Demirci**	**0.32**	**268**	P	**Pg**	**01 03 31.6**	**-0.2**
DEMI				S	**Sg**	**01 03 35.8**	**-0.6**
DEMI	**Demirci**	**0.32**	**268**	*i*P	**Pg**	**01 03 31.6**	**-0.2**
DEMI				*i*S	**Sg**	**01 03 35.8**	**-0.6**
TVSB	**Tavsanli**	**0.47**	**33**	*e*PG	**Pg**	**01 03 33.9**	**-0.7**
TVSB				*e*SG	**Sg**	**01 03 39.9**	**-1.1**
TVSB	**Tavsanli**	**0.47**	**33**	*e*Pg	**Pg**	**01 03 33.9**	**-0.7**
TVSB				*e*Sg	**Sg**	**01 03 39.9**	**-1.1**
KULA	**Kula-Manisa**	**0.65**	**214**	*e*PG	**Pg**	**01 03 37.8**	**-0.1**
KULA				*e*SG	**Sb**	**01 03 47.6**	**+0.3**
KULA	**Kula-Manisa**	**0.65**	**214**	*e*Pg	**Pg**	**01 03 37.8**	**-0.1**
KULA				*e*Sg	**Sb**	**01 03 47.6**	**+0.3**
KHL	**Karahalli**	**0.79**	**157**	*e*PG	**Pg**	**01 03 39.1**	**-1.5**
KHL	**Karahalli**	**0.79**	**157**	*e*Pg	**Pg**	**01 03 39.1**	**-1.5**
BALB	**Balikesir**	**1.13**	**302**	*e*PN	**Pn**	**01 03 47.6**	**+1.0**
BALB	**Balikesir**	**1.13**	**302**	*e*Pn	**Pn**	**01 03 47.6**	**+1.0**
CAVI	**Cavuskoy**	**1.27**	**26**	*e*PN	**Pn**	**01 03 48.6**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**26**	*e*Pn	**Pn**	**01 03 48.6**	**0.0**
BORA	**Eskisehir**	**1.32**	**51**	P	**Pn**	**01 03 50.0**	**+0.8**
BORA				S	**Sg**	**01 04 07.7**	**0.0**
BORA	**Eskisehir**	**1.32**	**51**	*i*P	**Pn**	**01 03 50.0**	**+0.8**
BORA				*i*S	**Sg**	**01 04 07.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.33**	**352**	*e*PN	**Pg**	**01 03 50.3**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.33**	**352**	*e*Pn	**Pg**	**01 03 50.3**	**-0.4**
KCTX	**Karacabey (Bur**	**1.35**	**334**	*e*PN	**Pb**	**01 03 50.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.35**	**334**	*e*Pn	**Pb**	**01 03 50.2**	**0.0**

JMA 23 01:06:32.3±0.1, **40°.00N**×**142°.47E, h35**km±1km, **M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.47**	**263**	P	Pn	01 06 42.4	-0.1
JTH				*e*S	Sn	01 06 49.8	+0.2
MIYJ	**Miyakonagasawa**	**0.66**	**230**	P	Pn	01 06 44.7	-0.4
MIYJ				*e*S	Sn	01 06 53.5	-0.7
JANG	**Nango**	**0.82**	**297**	P	Pn	01 06 47.2	-0.2
JANG				*e*S	Sn	01 06 57.7	-0.6
JKZ	**Kuzumaki**	**0.88**	**269**	P	Pn	01 06 48.0	+0.4
JOM	**Ohasama**	**1.05**	**240**	P	Pn	01 06 51.0	+0.5
OFUJ	**Ofunato**	**1.11**	**214**	P	Pn	01 06 51.7	+0.4
OFUJ				*e*S	Sn	01 07 05.8	+0.5
JTM	**Tenmabayashi**	**1.33**	**307**	P	Pn	01 06 55.0	+0.7
JTM				*e*S	Sn	01 07 11.9	+1.1
JAH	**Hinai**	**1.42**	**278**	P	Pn	01 06 56.7	+1.1
JAH				*e*S	Sn	01 07 14.7	+1.7
JMK	**Ichinoseki**	**1.43**	**223**	P	Pn	01 06 56.5	+0.8

JMA 23 01:15:38.4±0.1, **36°.25N**×**141°.09E, h32**km±1km, **M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.55**	**311**	P	Pb	01 15 49.6	-0.2
JHO				S	Sb	01 15 57.4	-0.2
CHOJ	**Chosi**	**0.58**	**199**	P	Pb	01 15 49.7	-0.5
CHOJ				S	Sb	01 15 57.6	-0.6
JYT	**Yasato**	**0.72**	**269**	P	Pn	01 15 52.1	-0.3
JYT				S	Sb	01 16 01.4	-0.9
ONAJ	**Iwakimizuishiy**	**0.88**	**345**	P	Pn	01 15 54.4	-0.2
ONAJ				*e*S	Sn	01 16 05.7	-0.7
JFK	**Kawauchi**	**1.13**	**351**	P	Pn	01 15 57.5	-0.5
MAT	**Matsushiro**	**2.34**	**278**	P	Pn	01 16 16.1	+1.4
MAT				*e*S	Sn	01 16 43.2	+0.8

*IDC **23** 02:21:53.4±1.6, 8°.66S×68°.16E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/36, mbtmp3.8/6, Error ellipse: s-maj=38.9km s-min=25.9km az=38.0*

ISC 23 02:21:57.1±1.5, **8°.3S**±0°.2×**68°.4E**±0°.1, **h10**km, **n16, σ=1°08**/12, **mb3.9/6, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**3.19**	**53**	Pn	**Pb**	**02 22 52.8**	**-0.9**
H08N2	**Diego Garcia H**	**3.21**	**53**	Pn	**Pb**	**02 22 53.0**	**-0.9**
H08N1	**Diego Garcia H**	**3.21**	**54**	Pn	**Pb**	**02 22 53.0**	**-0.9**
H08S1	**Diego Garcia H**	**4.07**	**82**	Pn	**Pn**	**02 22 59.2**	**+0.1**
	baz=291,slow=15,SNR=154						
H08S1				T	T	02 28 04.3	
	baz=235						
H08S3	**Diego Garcia H**	**4.08**	**81**	Pn	**Pn**	**02 22 59.4**	**+0.1**
	baz=291,slow=15,SNR=97						
H08S3				T	T	02 28 01.9	
	baz=235						
H08S2	**Diego Garcia H**	**4.08**	**82**	Pn	**Pn**	**02 22 59.9**	**+0.5**
	baz=291,slow=15,SNR=178						
H08S2				T	T	02 28 04.6	
	baz=235						
CMAR	**Chiang Mai Arr**	**40.16**	**48**	P	**P**	**02 29 36.0**	**+2.3**
	1.4nm,0.7s,baz=237,slow=9.6,SNR=7.9						
H01W3	**Cape Leeuwin H**	**49.50**	**129**	T	T	03 23 54.4	
	baz=291,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**49.51**	**129**	T	T	03 23 54.9	
	baz=291,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**49.52**	**129**	T	T	03 23 55.8	
	baz=291,slow=75,SNR=13						
MKAR	**Makanchi Array**	**56.19**	**11**	P	**P**	**02 31 36.7**	**-0.5**
	0.6nm,0.7s,baz=186,slow=9.8,SNR=4.0						
BRTR	**Keskin Array B**	**57.59**	**329**	P	**P**	**02 31 46.7**	**-0.7**
	0.8nm,0.9s,baz=108,slow=4.0,SNR=3.9						
ASAR	**Alice Springs**	**64.31**	**112**	P	P	02 32 31.9	-1.5
	0.7nm,0.7s,baz=269,slow=5.4,SNR=6.3						
WRA	**Warramunga Arr**	**64.64**	**108**	P	**P**	**02 32 34.5**	**-1.0**
	1.8nm,1.0s,baz=286,slow=6.8,SNR=6.2						
SONM	**Songino Array**	**65.16**	**27**	P	**P**	**02 32 39.3**	**+0.8**
	0.7nm,0.6s,baz=223,slow=6.6,SNR=4.7						
TXAR	**Lajitas Array**	**157.76**	**341**	PKPab	**PKPab**	**02 42 27.0**	**-0.1**
	0.3nm,0.7s,baz=69,slow=4.9,SNR=3.6						

*DDA **23** 02:33:05.0, 40°.25N×26°.05E, h7km, Md2.8*
*ISCJB **23** 02:33:05.6±0.4, 40°.39N±0°.02×25°.96E±0°.04, h10km±4km, Error ellipse: s-maj=4.9km s-min=3.5km az=25.7*
*ATH **23** 02:33:05.1, 40°.40N×25°.94E, h21km±9km, ML1.5/2, Error ellipse: s-maj=9.8km s-min=1.1km az=304.0*
*CSEM **23** 02:33:05.6±0.1, 40°.39N×25°.95E, h15km, MD2.7, Error ellipse: s-maj=3.1km s-min=2.0km az=113.0*
*ISK **23** 02:33:05.5, 40°.37N×26°.00E, h14km, MD2.7*

ISC 23 02:33:05.4±0.8, **40°.40N**±0°.02×**25°.98E**±0°.03, **h17**km±7km, **n37**, σ=**0°55/58, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.21**	**197**	*e*PG	**Pg**	**02 33 10.4**	**0.0**
GADA				*e*SG	**Sg**	**02 33 14.1**	**+0.2**
GADA	**Gvkgeada**	**0.21**	**197**	*e*Pg	**Pg**	**02 33 10.4**	**0.0**
GADA				*e*Sg	**Sg**	**02 33 14.1**	**+0.2**
SMTH	**Samothraki Isl**	**0.35**	**283**	P	**Pg**	**02 33 12.9**	**+0.1**
SMTH				S	**Sg**	**02 33 16.8**	**-1.0**
SMTH	**Samothraki Isl**	**0.35**	**283**	P	**Pg**	**02 33 12.8**	**+0.1**
SMTH				S	**Sg**	**02 33 16.8**	**-1.0**
SMTH				AML	AML	02 33 17.8	
	comp=E,367μm,0.1s						
SMTH				AML	AML	02 33 18.0	
	comp=N,473μm,0.1s						
ENEZ	**Enez**	**0.37**	**21**	*e*PG	**Pb**	**02 33 13.6**	**+0.1**
ENEZ				*e*SG	**Sb**	**02 33 19.6**	**+0.6**
ENEZ	**Enez**	**0.37**	**21**	*e*Pg	**Pb**	**02 33 13.6**	**+0.1**
ENEZ				*e*Sg	**Sb**	**02 33 19.6**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.38**	**89**	*e*PG	**Pb**	**02 33 13.3**	**-0.4**
GELI				*e*SG	**Sb**	**02 33 19.1**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.38**	**89**	*e*Pg	**Pb**	**02 33 13.3**	**-0.4**
GELI				*e*Sg	**Sb**	**02 33 19.1**	**-0.2**
ERIK	**Erikli-Kesan**	**0.49**	**56**	*e*PG	**Pb**	**02 33 15.7**	**0.0**
ERIK	**Erikli-Kesan**	**0.49**	**56**	*e*Pg	**Pb**	**02 33 15.7**	**0.0**
ALN	**Alexandroupoli**	**0.51**	**6**	*e*PG	**Pg**	**02 33 15.8**	**+0.3**
ALN				*e*SG	**Sb**	**02 33 24.5**	**+1.6**
ALN	**Alexandroupoli**	**0.51**	**6**	P	**Pg**	**02 33 14.6**	**-0.9**
ALN	**Alexandroupoli**	**0.51**	**6**	*e*Pg	**Pg**	**02 33 15.8**	**+0.3**
ALN				S	**Sb**	**02 33 22.9**	**0.0**
ALN				*e*Sg	**Sb**	**02 33 24.5**	**+1.6**
ALN	**Alexandroupoli**	**0.51**	**6**	P	**Pg**	**02 33 14.6**	**-0.9**
ALN				S	**Sb**	**02 33 22.9**	**0.0**
ALN				AML	AML	02 33 23.6	
	comp=N,46μm,0.3s						
ALN				AML	AML	02 33 24.2	
	comp=E,57μm,0.3s						
EZN	**Ezine**	**0.63**	**155**	*e*PG	**Pg**	**02 33 17.6**	**-0.2**
EZN				*e*SG	**Sb**	**02 33 26.2**	**-0.2**
EZN	**Ezine**	**0.63**	**155**	*e*Pg	**Pg**	**02 33 17.6**	**-0.2**
EZN				*e*Sg	**Sb**	**02 33 26.2**	**-0.2**
KESN	**Edirne-Kesan**	**0.69**	**51**	P	**Pb**	**02 33 20.0**	**+0.8**
KESN				S	**Sn**	**02 33 30.6**	**-0.6**
KESN	**Edirne-Kesan**	**0.69**	**51**	*i*P	**Pb**	**02 33 20.0**	**+0.8**
KESN				*i*S	**Sn**	**02 33 30.6**	**-0.6**
LIA	**Limnos Island**	**0.79**	**231**	P	**Pg**	**02 33 19.7**	**-1.1**
LIA				S	**Sg**	**02 33 31.1**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.96**	**72**	*e*PG	**Pn**	**02 33 24.1**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.96**	**72**	*e*Pg	**Pn**	**02 33 24.1**	**-0.1**
PRK	**Paraskevi**	**1.17**	**169**	P	**Pg**	**02 33 27.9**	**-0.1**
PRK				S	**Sg**	**02 33 43.1**	**-0.2**
PRK	**Paraskevi**	**1.17**	**169**	P	**Pg**	**02 33 27.9**	**-0.1**
PRK				S	**Sg**	**02 33 43.1**	**-0.2**
SIGR	**SIGRI**	**1.19**	**185**	*e*PN	**Pb**	**02 33 27.8**	**+0.4**
SIGR	**SIGRI**	**1.19**	**185**	P	**Pn**	**02 33 27.5**	**+0.2**
SIGR	**SIGRI**	**1.19**	**185**	*e*Pn	**Pb**	**02 33 27.8**	**+0.4**
SIGR				S	**Sg**	**02 33 44.2**	**+0.4**
SIGR	**SIGRI**	**1.19**	**185**	P	**Pn**	**02 33 27.5**	**+0.2**
SIGR				S	**Sg**	**02 33 44.2**	**+0.4**
MRMT	**Marmara Adasi**	**1.25**	**80**	*e*PN	**Pb**	**02 33 28.6**	**-0.1**
MRMT	**Marmara Adasi**	**1.25**	**80**	*e*Pn	**Pb**	**02 33 28.6**	**-0.1**
EDC	**Edincik**	**1.44**	**91**	*e*PN	**Pb**	**02 33 31.8**	**0.0**
EDC	**Edincik**	**1.44**	**91**	*e*Pn	**Pb**	**02 33 31.8**	**0.0**
EDRB	**Edirne**	**1.56**	**21**	*e*PN	**Pb**	**02 33 33.5**	**-0.4**
EDRB	**Edirne**	**1.56**	**21**	*e*Pn	**Pb**	**02 33 33.5**	**-0.4**
BALB	**Balikesir**	**1.64**	**117**	*e*PN	**Pn**	**02 33 34.3**	**+0.8**
BALB	**Balikesir**	**1.64**	**117**	*e*Pn	**Pn**	**02 33 34.3**	**+0.8**
CTKS	**Kestanelik-??a**	**2.10**	**66**	*e*PN	**Pn**	**02 33 40.4**	**+0.6**
CTKS	**Kestanelik-??a**	**2.10**	**66**	*e*Pn	**Pn**	**02 33 40.4**	**+0.6**

*ISCJB **23** 02:40:56.8±0.7, 36°.84S±0°.07×179°.09W±0°.07, h18km, mb4.5/6, Error ellipse: s-maj=12.0km s-min=6.6km az=146.2*
*IDC **23** 02:40:57.0±1.5, 36°.67S×179°.29W, h0km, mb4.6/4, mb1 4.6/5, mb1mx4.2/20, mbtmp4.5/5, ML3.7/1, Error ellipse: s-maj=47.7km s-min=29.6km az=155.0*
*NEIC **23** 02:40:58.4, 36°.79S×178°.94W, h33km, mb4.4/2, ML4.3(WEL), After WEL.*
*WEL **23** 02:40:58.0±0.7, 36°.76S×178°.93W, h33km, ML4.3/5, Error ellipse: s-maj=6.8km s-min=6.4km az=0.0*

ISC 23 02:40:59.2±1.1, **36°.92S**±0°.09×**179°.21W**±0°.07, **h18**km, **n48, σ=1°38**/62, **mb4.5/6, 1C-3D, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.08**	**251**	⇓PN	**Pn**	**02 41 33.2**	**0.0**
MXZ				SN	**Sn**	**02 41 59.7**	**+1.0**
MXZ				AML	AML	02 42 01.2	
MXZ	**Matakaoa Point**	**2.08**	**251**	Pn	**Pn**	**02 41 33.2**	**0.0**
MXZ				Sn	**Sn**	**02 41 59.7**	**+1.0**
WMGZ	**Waiomatatini S**	**2.10**	**244**	PN	**Pn**	**02 41 34.4**	**+1.0**
WMGZ				SN	**Sb**	**02 42 01.9**	**-0.4**
WMGZ	**Waiomatatini S**	**2.10**	**244**	Pn	**Pn**	**02 41 34.4**	**+1.0**
WMGZ				Sn	**Sb**	**02 42 01.9**	**-0.4**
PUZ	**Puketiti**	**2.32**	**240**	PN	**Pn**	**02 41 37.3**	**+0.8**
PUZ				SN	**Sn**	**02 42 05.2**	**+0.6**
PUZ				AML	AML	02 42 13.7	
PUZ	**Puketiti**	**2.32**	**240**	Pn	**Pn**	**02 41 37.3**	**+0.8**
HAZ	**Te Kaha**	**2.54**	**250**	PN	**Pn**	**02 41 40.6**	**+1.2**
HAZ				SN	**Sb**	**02 42 13.1**	**-1.9**
TWGZ	**Tauwhareparae**	**2.56**	**240**	PN	**Pn**	**02 41 41.1**	**+1.2**
TWGZ	**Tauwhareparae**	**2.56**	**240**	Pn	**Pn**	**02 41 41.1**	**+1.2**
CNGZ	**Carnagh Statio**	**2.58**	**232**	PN	**Pn**	**02 41 41.7**	**+1.8**
CNGZ	**Carnagh Statio**	**2.58**	**232**	Pn	**Pn**	**02 41 41.8**	**+1.8**
TKGZ	**Te Karaka**	**2.78**	**236**	PN	**Pn**	**02 41 43.6**	**+0.8**
TKGZ				SN	**Sn**	**02 42 18.7**	**+2.8**
TKGZ	**Te Karaka**	**2.78**	**236**	Pn	**Pn**	**02 41 43.6**	**+0.8**
TKGZ				Sn	**Sn**	**02 42 18.7**	**+2.8**
MWZ	**Matawai**	**2.95**	**241**	⇑PN	**Pn**	**02 41 45.7**	**+0.5**
MWZ				SN	**Sn**	**02 42 22.3**	**+2.2**
MWZ				AML	AML	02 42 26.9	
MWZ	**Matawai**	**2.95**	**241**	Pn	**Pn**	**02 41 45.7**	**+0.5**
MWZ				Sn	**Sn**	**02 42 22.4**	**+2.2**
RIGZ	**Rimuhau**	**2.99**	**233**	PN	**Pn**	**02 41 46.5**	**+0.8**
MHGZ	**Mahia Peninsul**	**3.19**	**225**	PN	**Pn**	**02 41 49.0**	**+0.6**
MHGZ	**Mahia Peninsul**	**3.19**	**225**	Pn	**Pn**	**02 41 49.0**	**+0.6**
URZ	**Urewera**	**3.21**	**244**	Pn	**Pn**	**02 41 49.2**	**+0.5**
	8.1nm,0.3s,baz=289,slow=0.9,SNR=30						
URZ				Sn	**Sn**	**02 42 28.5**	**+1.9**
	53nm,0.3s,baz=195,slow=21,SNR=33						
URZ	**Urewera**	**3.21**	**244**	PN	**Pn**	**02 41 49.5**	**+0.7**
URZ				AML	AML	02 42 29.1	
URZ				AML	AML	02 42 29.2	
KNZ	**Kokohu**	**3.23**	**229**	PN	**Pn**	**02 41 49.1**	**+0.1**
KNZ	**Kokohu**	**3.23**	**229**	Pn	**Pn**	**02 41 49.1**	**+0.1**
ARHZ	**Aropaoanui**	**3.80**	**231**	PN	**Pn**	**02 41 58.1**	**+1.3**
ARHZ	**Aropaoanui**	**3.80**	**231**	Pn	**Pn**	**02 41 58.0**	**+1.3**
NMHZ	**Naumai**	**3.82**	**234**	PN	**Pn**	**02 41 57.8**	**+0.6**
NMHZ	**Naumai**	**3.82**	**234**	Pn	**Pn**	**02 41 57.8**	**+0.6**
BKZ	**Black Stump Fm**	**4.07**	**235**	PN	**Pn**	**02 42 00.8**	**+0.2**
BKZ				SN	**Sn**	**02 42 49.0**	**+1.3**
BKZ				AML	AML	02 42 50.8	
BKZ	**Black Stump Fm**	**4.07**	**235**	Pn	**Pn**	**02 42 00.8**	**+0.2**
BKZ				Sn	**Sn**	**02 42 49.0**	**+1.3**
KWHZ	**Kaweka Forest**	**4.25**	**233**	⇓PN	**Pn**	**02 42 03.3**	**+0.2**
WNVZ	**Wahianoa**	**4.75**	**238**	PN	**Pn**	**02 42 10.8**	**+0.9**
WNVZ	**Wahianoa**	**4.75**	**238**	Pn	**Pn**	**02 42 10.8**	**+0.9**
MRZ	**Mangatainoka R**	**5.52**	**226**	PN	**Pn**	**02 42 19.4**	**-1.1**
MRZ	**Mangatainoka R**	**5.52**	**226**	Pn	**Pn**	**02 42 19.4**	**-1.1**
OUZ	**Omahuta**	**6.07**	**284**	*e*Pn	**Pn**	**02 42 26.9**	**-1.1**
SNZO	**South Karori**	**6.45**	**225**	Pn	**Pn**	**02 42 34.8**	**+1.6**
SNZO				*e*S	**Sn**	**02 43 44.1**	**-2.1**
CTZ	**Chatham Island**	**7.09**	**165**	⇓PN	**Pn**	**02 42 43.0**	**+1.1**
CTZ	**Chatham Island**	**7.09**	**165**	Pn	**Pn**	**02 42 43.0**	**+1.1**
KHZ	**Kahutara**	**7.83**	**223**	*e*Pn	**Pn**	**02 42 49.7**	**-2.5**
KHZ				*e*S	**Sn**	**02 44 16.1**	**-4.2**
STKA	**Stephens Creek**	**32.57**	**267**	P	**P**	**02 47 30.4**	**+1.0**
	1.7nm,0.7s,baz=114,slow=9.0,SNR=3.2						
ASAR	**Alice Springs**	**42.19**	**275**	P	**P**	**02 48 50.9**	**-0.2**
	9.1nm,0.8s,baz=117,slow=7.6,SNR=86						
WRAB	**Tennant Creek**	**43.76**	**280**	*e*P	**P**	**02 49 02.8**	**-1.0**
	5.3nm,0.8s						
WRA	**Warramunga Arr**	**43.76**	**280**	P	**P**	**02 49 03.2**	**-0.6**
	4.5nm,0.5s,baz=120,slow=7.8,SNR=68						
FITZ	**Fitzroy Crossi**	**51.67**	**276**	*e*P	**P**	**02 50 02.7**	**-2.4**
	4.5nm,1.0s						
KSRS	**Korea Array**	**88.70**	**321**	P	**P**	**02 53 51.6**	**+0.3**
	7.1nm,0.5s,baz=143,slow=6.0,SNR=4.7						
KSAR	**Wonju Array Be**	**88.71**	**321**	P	**P**	**02 53 51.5**	**+0.3**
ARCES	**ARCESS Array B**	**144.69**	**345**	PKP	PKPbc	03 00 33.0	+0.4
	2.8nm,0.9s,baz=56,slow=3.1,SNR=4.5						
FINES	**FINESS Array B**	**150.78**	**335**	PKPbc	**PKPbc**	**03 00 48.6**	**-0.9**
	1.3nm,0.6s,baz=29,slow=4.4,SNR=9.5						
TORD	**Torodi Ar. Bea**	**156.31**	**182**	PKPab	**PKPab**	**03 01 23.2**	**+2.0**
	0.3nm,0.5s,baz=166,slow=3.4,SNR=5.4						

*ISK **23** 03:00:13.6, 39°.10N×29°.09E, h5km, MD3.0*
*ISCJB **23** 03:00:14.1±0.5, 39°.10N±0°.04×29°.08E±0°.03, h6km±6km, Error ellipse: s-maj=6.4km s-min=4.0km az=171.5*
*CSEM **23** 03:00:14.2±0.1, 39°.11N×29°.09E, h5km, MD3.0, Error ellipse: s-maj=2.5km s-min=2.2km az=143.0*
*DDA **23** 03:00:15.7, 39°.03N×29°.00E, h7km, Md2.8*

ISC 23 03:00:14.6±1.0, **39°.11N**±0°.03×**29°.09E**±0°.

mb3.9/3, Error ellipse: s-maj=20.0km s-min=8.5km az=167.8
JMA 23 03:11:46.9±0.1, 39°.98N × 142°.39E, h40km ± 1km, M3.8
JMA Felt I J1.
IDC 23 03:11:52.0±3.0, 39°.91N × 142°.24E, h88km ± 25km, mb3.5/3, mb1 3.5/5, mb1mx3.2/47, mbtmp3.8/5, Error ellipse: s-maj=51.5km s-min=22.4km az=93.0
ISC 23 03:11:48.6±1.3, **39°.94N**±0°.05 × **142°.2E**±0°.1, **h44**km ± 9km, **n16**, σ1§**73**/22, **mb3.9**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.26**	**270**	P	**Pn**	**03 11 56.5**	**-0.4**
JTH				S	**Sn**	**03 12 03.3**	**+0.6**
MIYJ	**Miyakonagasawa**	**0.47**	**220**	P	**Pn**	**03 11 58.8**	**-0.3**
MIYJ				S	**Sn**	**03 12 07.1**	**+0.5**
JKZ	**Kuzumaki**	**0.67**	**274**	P	**Pn**	**03 12 02.5**	**+0.6**
JKZ				S	**Sn**	**03 12 13.1**	**+1.7**
JANG	**Nango**	**0.68**	**310**	P	**Pn**	**03 12 01.1**	**-0.9**
JANG				S	**Sn**	**03 12 11.2**	**-0.4**
JOM	**Ohasama**	**0.84**	**237**	P	**Pn**	**03 12 04.5**	**+0.4**
JOM				S	**Sn**	**03 12 17.2**	**+1.8**
OFUJ	**Ofunato**	**0.95**	**206**	P	**Pn**	**03 12 05.3**	**-0.3**
JTM	**Tenmabayashi**	**1.21**	**315**	P	**Pn**	**03 12 09.0**	**-0.1**
JTM				S	**Sn**	**03 12 25.7**	**+1.3**
JAH	**Hinai**	**1.23**	**282**	P	**Pn**	**03 12 10.2**	**+0.8**
JMK	**Ichinoseki**	**1.25**	**218**	P	**Pn**	**03 12 10.0**	**+0.4**
JRG	**Rokugo**	**1.33**	**246**	P	**Pn**	**03 12 11.6**	**+0.9**
ASAJ	**Asahikawa** baz=185,slow=15	**4.18**	**4**	P	**Pn**	**03 12 53.6**	**+3.7**
MAT	**Matsushiro**	**4.62**	**224**	P	**Pn**	**03 12 59.2**	**+3.2**
MJAR	**Matsushiro Arr** 2.2nm,0.3s,baz=30,slow=14,SNR=20	**4.62**	**224**	P	**Pn**	**03 12 59.5**	**+3.5**
KURBB	**Kurchatov Arra** 1.4nm,0.5s,baz=80,slow=8.6,SNR=13	**44.76**	**306**	P	**P**	**03 19 56.8**	**-0.7**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=5.4,slow=6.9,SNR=4.7	**60.02**	**189**	P	**P**	**03 21 49.0**	**-1.8**
FINES	**FINESS Array B** 0.7nm,0.7s,baz=49,slow=9.4,SNR=4.2	**66.54**	**332**	P	**P**	**03 22 32.4**	**-1.2**

IDC 23 03:13:54.2±1.7, 38°.37N × 142°.92E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/46, mbtmp3.5/6, ML2.8/1, Error ellipse: s-maj=44.7km s-min=22.8km az=67.0
JMA 23 03:14:02.3±0.1, 38°.27N × 142°.11E, h37km ± 1km, M3.4
ISC 23 03:13:58.3±2.9, **38°.14N**±0°.05 × **142°.07E**±0°.09, **h6**km ± 17km, **n19**, σ1§**14**/19, **mb3.6**/5, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.65**	**299**	P	**Pn**	**03 14 14.7**	**+0.7**
JIO				S	**Sn**	**03 14 23.2**	**-1.3**
OFUJ	**Ofunato**	**0.99**	**342**	P	**Pb**	**03 14 18.2**	**+0.4**
JMK	**Ichinoseki**	**1.05**	**321**	P	**Pn**	**03 14 19.9**	**+0.4**
JMK				S	**Sb**	**03 14 32.5**	**-0.2**
JMM	**Marumori**	**1.05**	**255**	P	**Pn**	**03 14 21.1**	**+1.7**
JMM				S	**Sn**	**03 14 34.5**	**+0.1**
JOU	**Okura**	**1.13**	**282**	P	**Pn**	**03 14 22.6**	**+2.0**
JOU				S	**Sn**	**03 14 36.9**	**+0.4**
JFK	**Kawauchi**	**1.23**	**231**	P	**Pn**	**03 14 23.7**	**+1.8**
JFK				S	**Sn**	**03 14 39.1**	**+0.3**
JOM	**Ohasama**	**1.46**	**336**	P	**Pb**	**03 14 25.9**	**+0.1**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=57,slow=12,SNR=3.0	**3.47**	**244**	Pn	**Pb**	**03 14 59.1**	**-1.0**
MJAR				Sn	**Sg**	**03 15 48.9**	**-0.7**
H11N2	**WAKE ISLAND Hy 28.29** 1.3nm,0.3s,baz=98,slow=29,SNR=3.7	**123**		T	T	03 48 27.7	
H11N1	**WAKE ISLAND Hy 28.30** baz=319,slow=75,SNR=103	**123**		T	T	03 48 29.2	
H11N3	**WAKE ISLAND Hy 28.31** baz=319,slow=75,SNR=116	**123**		T	T	03 48 29.8	
H11S1	**WAKE ISLAND Hy 29.05** baz=321,slow=76,SNR=29	**125**		T	T	03 49 31.6	
H11S3	**WAKE ISLAND Hy 29.05** baz=321,slow=76,SNR=23	**126**		T	T	03 49 30.3	
H11S2	**WAKE ISLAND Hy 29.07** baz=321,slow=76,SNR=20	**125**		T	T	03 49 31.6	
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=72,slow=9.3,SNR=3.1	**41.56**	**311**	P	**P**	**03 21 46.4**	**-0.1**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=94,slow=8.7,SNR=2.8	**43.98**	**301**	P	**P**	**03 22 19.3**	**-0.8**
KURBB	**Kurchatov Arra** 0.5nm,0.4s,baz=82,slow=8.1,SNR=7.7	**45.74**	**307**	P	**P**	**03 22 19.3**	**+1.1**
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=6.5,slow=7.3,SNR=4.0	**58.23**	**189**	P	**P**	**03 23 51.5**	**-1.9**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=360,slow=5.9,SNR=2.8	**61.96**	**188**	P	**P**	**03 24 19.0**	**0.0**

IDC 23 03:14:01.0±0.9, 37°.03N × 112°.36W, h0km, mb3.8/2, mb1 3.8/5, mb1mx3.5/43, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=16.1km s-min=10.7km az=107.0
NEIC 23 03:14:01.0, 36°.96N × 112°.09W, h1km, ML3.4(SLC), After SLC.
NEIC Felt at Marble Canyon.
ISCJB 23 03:14:03.1±0.2, 36°.96N±0°.02 × 112°.22W±0°.03, h10km, mb3.6/2, Error ellipse: s-maj=3.0km s-min=2.7km az=7.8
ISC 23 03:14:04.6±0.7, **36°.99N**±0°.02 × **112°.25W**±0°.03, **h10**km, **n84**, σ1§**89**/116, **Western Arizona**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKU	**East Kanab**	**0.22**	**293**	*e*Pg	**Pg**	**03 14 08.9**	**-0.3**
PKCU	**Pink Cliffs**	**0.46**	**353**	*e*Pg	**Pg**	**03 14 12.3**	**-1.3**
KNB	**Kanab**	**0.46**	**273**	*e*Pg	**Pg**	**03 14 13.4**	**-0.3**
U15A	**North Rim**	**0.56**	**184**	*e*Pg	**Pg**	**03 14 12.9**	**-2.6**
BHU	**Blowhard Mount**	**0.77**	**321**	*e*Pg	**Pg**	**03 14 19.3**	**-0.3**
LCMT	**Little Creek M**	**0.80**	**272**	*e*Pg	**Pg**	**03 14 19.1**	**-0.9**
BTU	**Barney Top**	**0.82**	**21**	*e*Pg	**Pg**	**03 14 19.0**	**-1.5**
MTLAZ	**Mount Logan**	**1.00**	**231**	*e*Pg	**Pg**	**03 14 22.7**	**-1.1**
MTPU	**Mount Pierson**	**1.05**	**3**	*e*Pg	**Pg**	**03 14 22.3**	**-2.6**
CCUT	**Cedar City**	**1.05**	**302**	*e*Pg	**Pg**	**03 14 24.1**	**-0.7**
ARUT	**Antelope Range**	**1.24**	**310**	*e*Pg	**Pn**	**03 14 27.5**	**-0.7**
DWU	**Dry Willow Pea**	**1.26**	**332**	*e*Pg	**Pn**	**03 14 27.6**	**-0.9**
ICU	**Indian Springs**	**1.35**	**277**	*e*Pn	**Pn**	**03 14 29.1**	**-0.6**
MMU	**Miners Mountai**	**1.42**	**32**	*e*Pn	**Pn**	**03 14 29.0**	**-1.8**
WUAZ	**Wupatki**	**1.63**	**154**	*e*Pn	**Pn**	**03 14 31.4**	**-2.1**
WUAZ				*e*S	**Sn**	**03 14 52.4**	**-2.3**
IMU	**Iron Mountain**	**1.79**	**336**	*e*Pn	**Pn**	**03 14 35.4**	**-0.3**
OWUT	**Old Woman Plat**	**1.90**	**20**	*e*Pn	**Pn**	**03 14 36.3**	**-1.1**
WCU	**Willow Creek**	**1.98**	**4**	*e*Pn	**Pn**	**03 14 37.7**	**-0.7**
PSUT	**Pine Spring**	**2.00**	**321**	*e*Pn	**Pn**	**03 14 39.1**	**+0.5**
SGU	**Sterling**	**2.24**	**12**	*e*Pn	**Pn**	**03 14 41.5**	**-0.5**
W13A	**Hualapai Mount**	**2.31**	**216**	*e*Pn	**Pn**	**03 14 42.7**	**-0.2**
FLU	**Fool Peak**	**2.38**	**1**	*e*Pn	**Pn**	**03 14 43.8**	**-0.1**
SNO	**Snow College**	**2.39**	**13**	*e*Pn	**Pn**	**03 14 43.7**	**-0.3**
SHPR	**Sheep Range**	**2.39**	**259**	*e*Pn	**Pn**	**03 14 44.6**	**+0.7**
TMUT	**Trail Mountain**	**2.44**	**19**	*e*Pn	**Pn**	**03 14 44.6**	**-0.2**
SRU	**San Rafael Swe**	**2.52**	**32**	*e*Pn	**Pn**	**03 14 45.9**	**+0.1**
X16A	**Lo Mia Camp, P**	**2.65**	**165**	*e*Pn	**Pn**	**03 14 46.8**	**-0.7**
PV05	**Paradox Valley**	**2.73**	**66**	*e*Pn	**Pn**	**03 14 49.2**	**+0.6**
P17A	**Butcher Ranch,**	**2.75**	**25**	*e*Pn	**Pn**	**03 14 48.8**	**-0.1**
W18A	**Petrified Fore**	**2.76**	**132**	*e*Pn	**Pn**	**03 14 48.8**	**-0.2**
W18A				*e*S	**Sn**	**03 15 25.9**	**+3.3**
ELU	**Electric Lake**	**2.77**	**17**	*e*Pn	**Pn**	**03 14 49.0**	**-0.4**
FSU	**Fish Springs**	**2.87**	**342**	*e*Pn	**Pn**	**03 14 51.0**	**+0.4**
PV09	**Paradox Valley**	**2.89**	**58**	*e*Pn	**Pn**	**03 14 50.1**	**-0.9**
PV10	**Paradox Valley**	**2.90**	**60**	*e*Pn	**Pn**	**03 14 49.5**	**-1.5**
R11A	**Troy Canyon, C**	**2.98**	**298**	*e*Pn	**Pn**	**03 14 52.8**	**+0.7**
R11A				*e*Pg	**Pb**	**03 14 59.9**	**+2.1**
R11A				*e*S	**Sg**	**03 15 39.2**	**-1.1**
PV04	**Paradox Valley**	**3.00**	**61**	*e*Pn	**Pn**	**03 14 51.3**	**-1.0**
PV04				*e*S	**Sb**	**03 15 33.0**	**-1.9**
DCM	**Dugout Coal Mi**	**3.00**	**25**	*e*Pn	**Pn**	**03 14 52.0**	**-0.4**
MVCO	**Mesa Verde**	**3.00**	**85**	*e*Pn	**Pn**	**03 14 52.3**	**-0.2**
MVCO				*e*S	**Sn**	**03 15 30.8**	**+2.1**
LDFC	**Landfair**	**3.00**	**231**	*e*Pn	**Pn**	**03 14 52.6**	**+0.3**
P18A	**Preston Nutter**	**3.07**	**30**	*e*Pn	**Pn**	**03 14 54.1**	**+0.7**
X18A	**Snowflake**	**3.08**	**142**	*e*Pn	**Pn**	**03 14 52.5**	**-1.0**
Y14A	**Wickenburg**	**3.11**	**192**	*e*Pn	**Pn**	**03 14 52.8**	**-0.9**
ARGU	**Argyle Ridge**	**3.13**	**25**	*e*Pn	**Pn**	**03 14 53.8**	**-0.4**
PV01	**Paradox Valley**	**3.14**	**68**	*e*Pn	**Pn**	**03 14 53.2**	**-1.1**
PV01				*e*S	**Sn**	**03 15 32.5**	**+0.5**
TPNV	**Topopah Spring**	**3.21**	**270**	*e*Pn	**Pn**	**03 14 56.2**	**+1.0**
DUG	**Dugway, Tooele**	**3.23**	**352**	*e*Pn	**Pn**	**03 14 55.5**	**0.0**
DUG				*e*Pg	**Pb**	**03 15 02.2**	**+0.1**
DUG				*e*S	**Sg**	**03 15 48.5**	**+0.1**
JLU	**Jordanelle**	**3.66**	**10**	*e*Pn	**Pn**	**03 15 01.9**	**+0.4**
JLU				*e*Pg	**Pb**	**03 15 10.4**	**+0.9**
CTU	**Camp Tracy**	**3.72**	**6**	*e*Pn	**Pn**	**03 15 02.1**	**-0.1**
Y12C	**Blythe**	**3.73**	**211**	*e*Pn	**Pn**	**03 15 02.6**	**+0.4**
Y12C				*e*Pg	**Pb**	**03 15 11.5**	**+1.0**
HTU	**Hoyt Peak**	**3.77**	**12**	*e*Pn	**Pn**	**03 15 03.1**	**+0.1**
GSC	**Goldstone, Bar**	**4.06**	**247**	*e*Pn	**Pn**	**03 15 06.7**	**-0.1**
SPUT	**South Promonto**	**4.32**	**358**	*e*Pn	**Pn**	**03 15 10.7**	**+0.3**
SPUT				*e*Lg	Lg	03 16 27.0	
DAC	**Darwin (Calif)**	**4.36**	**262**	*e*Pn	**Pn**	**03 15 10.9**	**-0.2**
DAC				*e*Pg	**Pb**	**03 15 23.2**	**+1.8**
DAC				*e*S	**Sg**	**03 16 21.6**	**-3.0**
S22A	**4UR Ranch, Cre**	**4.38**	**78**	*e*Pn	**Pn**	**03 15 10.7**	**-0.7**
ELK	**Elko**	**4.42**	**329**	*e*Pn	**Pn**	**03 15 12.0**	**+0.1**
ELK				*e*Pg	**Pb**	**03 15 25.9**	**+3.4**
ELK				*e*S	**Sg**	**03 16 23.8**	**-2.7**
O20A	**White River Ci**	**4.44**	**44**	*e*Pn	**Pn**	**03 15 12.8**	**+0.7**
O20A				*e*S	**Sb**	**03 16 13.9**	**-2.5**
GLA	**Glamis**	**4.46**	**209**	*e*Pn	**Pn**	**03 15 12.4**	**0.0**
HWUT	**Hardware Ranch**	**4.64**	**6**	*e*Pn	**Pn**	**03 15 14.7**	**-0.2**
HWUT				*e*S	**Sg**	**03 16 30.1**	**-3.5**
RSUT	**Red Spur Mount**	**4.69**	**8**	*e*Pn	**Pn**	**03 15 16.1**	**+0.4**
SMCO	**Snowmass**	**4.70**	**61**	*e*Pn	**Pn**	**03 15 15.7**	**-0.2**
SMCO				*e*S	**Sb**	**03 16 27.4**	**+3.4**
HVU	**Hansel Valley**	**4.80**	**355**	*e*Pn	**Pn**	**03 15 17.2**	**+0.1**
PFO	**Pinyon Flats O** 0.2nm,0.3s,baz=27,slow=14,SNR=3.6	**4.82**	**227**	Pn	**Pn**	**03 15 16.4**	**-1.0**
PFO				Lg	Lg	03 16 31.4	
TUC	**Tucson** 0.2nm,0.3s,baz=25,slow=16,SNR=2.4	**4.82**	**165**	*e*Pn	**Pn**	**03 15 16.7**	**-0.6**
TUC				*e*S	**Sb**	**03 16 29.9**	**+2.6**
LAZ	**Ladron**	**4.89**	**120**	*e*Pn	**Pn**	**03 15 17.8**	**-0.6**
214A	**Organ Pipe Nat** 84nm,0.8s	**5.04**	**185**	*e*Pn	**Pn**	**03 15 18.7**	**-1.6**
214A				*e*Pg	**Pb**	**03 15 35.0**	**+2.0**
214A				*e*S	**Sb**	**03 16 38.1**	**+4.5**
ANMO	**Albuquerque**	**5.12**	**112**	*e*Pn	**Pn**	**03 15 19.9**	**-1.6**
ANMO				*e*S	**Sb**	**03 16 36.0**	**0.0**
BMN	**Battle Mountai**	**5.19**	**313**	*e*Pn	**Pn**	**03 15 23.2**	**+0.8**
BMN				*e*Pg	**Pg**	**03 15 41.9**	**-2.1**
BMN				*e*S	**Sg**	**03 16 47.5**	**-3.7**
LPM	**Los Pinos Moun**	**5.29**	**119**	*e*Pn	**Pn**	**03 15 22.6**	**-1.3**
BNM	**Barren Site**	**5.38**	**120**	*e*Pn	**Pn**	**03 15 26.0**	**+0.8**
SDCO	**Great Sand Dun**	**5.42**	**80**	*e*Pn	**Pn**	**03 15 25.1**	**-0.7**
SDCO				*e*S	**Sb**	**03 16 41.7**	**-3.1**
BAR	**Barrett**	**5.63**	**222**	*e*Pn	**Pn**	**03 15 28.5**	**+0.1**
121A	**Cookes Peak, D** 34nm,0.6s	**5.77**	**139**	*e*Pn	**Pn**	**03 15 29.7**	**-0.7**
121A				*e*Pg	**Pb**	**03 15 47.2**	**+1.9**
121A				*e*Sg	**Sb**	**03 17 01.7**	**+7.1**
BW06	**Boulder Array** 10nm,0.9s	**6.13**	**19**	*e*Pn	**Pn**	**03 15 35.5**	**+0.1**
BW06				*e*Pg	**Pb**	**03 15 54.8**	**+3.2**
BW06				*e*Sg	**Sb**	**03 17 09.2**	**+4.1**
PD31	**Pinedale Array**	**6.13**	**19**	*e*Pn	**Pn**	**03 15 35.2**	**-0.2**
PDAR	**Pinedale Array** 0.4nm,0.3s,baz=208,slow=12,SNR=7.3	**6.13**	**19**	Pn	**Pn**	**03 15 35.0**	**-0.3**
PDAR				Pg	**Pb**	**03 15 52.8**	**+1.3**
PDAR	1.0nm,0.3s,baz=200,slow=12,SNR=18			Lg	Lg	03 17 12.6	
TPAW	**Teton Pass** 0.0nm,0.3s,baz=208,slow=32,SNR=3.0	**6.57**	**8**	*e*Pn	**Pn**	**03 15 42.4**	**+0.9**
FXWY	**Fox Creek**	**6.71**	**8**	*e*Pn	**Pn**	**03 15 45.1**	**+1.7**
PHWY	**Pilot Hill** 1.9nm,0.7s	**6.81**	**49**	Pn	**Pn**	**03 15 45.2**	**+0.4**
PHWY				*e*S	**Sb**	**03 17 27.8**	**+3.1**
K22A	**Casper**	**7.16**	**36**	*e*Pn	**Pn**	**03 15 49.0**	**-0.5**
K22A				*e*Sg	**Sb**	**03 17 43.6**	**+8.9**
YMS	**Mount Sheridan**	**7.38**	**10**	*e*Pn	**Pn**	**03 15 54.0**	**+1.3**
MNTX	**Cornudas Mount** 2.7nm,0.7s	**7.75**	**131**	*e*Pn	**Pn**	**03 15 54.8**	**-2.7**
MNTX				*e*Pg	Pg	03 16 26.8	-6.1
MNTX				*e*Sg	Sg	03 18 03.6	-10
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=320,slow=12,SNR=8.7	**10.48**	**134**	Pn	**Pn**	**03 16 37.3**	**+2.3**
TXAR	0.1nm,0.3s,baz=313,slow=15,SNR=4.4			Pg		03 17 19.6	
TXAR	0.1nm,0.3s,baz=314,slow=23,SNR=3.6			Lg	Lg	03 19 32.5	
YKA	**Yellowknife Ar** 0.6nm,0.6s,baz=173,slow=10,SNR=4.0	**25.57**	**357**	P	**P**	**03 19 32.8**	**-0.7**
ARCES	**ARCESS Array B** 2.5nm,1.0s,baz=317,slow=6.6,SNR=3.5	**69.37**	**15**	P	**P**	**03 25 09.6**	**-2.4**

IDC 23 03:19:47.2±4.4, 36°.23N × 71°.09E, h79km ± 31km, mb3.6/6, mb1 3.6/12, mb1mx3.4/46, mbtmp3.9/12, Error ellipse: s-maj=45.9km s-min=18.9km az=148.0
ISCJB 23 03:19:50.3±0.8, 36°.53N±0°.06 × 70°.88E±0°.07, h100km, mb3.8/5, Error ellipse: s-maj=9.7km s-min=6.5km az=143.5
NNC 23 03:19:55.5±3.3, 36°.79N × 70°.62E, h109km ± 74km, mb3.5, mpv4.1, Error ellipse: s-maj=26.1km s-min=24.4km az=58.0
ISC 23 03:19:51.2±0.7, **36°.54N**±0°.06 × **70°.82E**±0°.06, **h100**km, **n22**, σ3§**20**/32, **mb3.9**/5, **4C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**4.10**	**125**	*e*S	**Sn**	**03 21 46.5**	**+7.9**
THN	**Thein Dam**	**5.76**	**134**	*e*P	**Pn**	**03 21 12.8**	**-1.4**
THN				*e*x	**Sn**	**03 22 12.0**	**-6.8**
MNAS	**Manas** 10.0nm,0.6s	**6.08**	**12**	⇑P	**Pn**	**03 21 20.4**	**+1.6**
MNAS				⇓S	**Sn**	**03 22 27.0**	**0.0**
KK31	**Karatay Array** 15nm,0.4s,baz=180,slow=12,SNR=331	**6.56**	**358**	⇓P	**Pn**	**03 21 27.1**	**+2.0**
KK31				⇓S	**Sn**	**03 22 38.7**	**+0.2**
AAK	**Ala-Archa** 8.1nm,0.3s,baz=152,slow=4.0,SNR=26	**6.72**	**24**	P	**Pn**	**03 21 27.7**	**+0.4**
AAK	1.9nm,0.3s,baz=343,slow=21,SNR=11			S	**Sn**	**03 22 41.2**	**-1.2**
AAK	**Ala-Archa** 10nm,0.5s	**6.72**	**24**	⇓P	**Pn**	**03 21 29.4**	**+2.1**
AAK	14nm,0.6s			⇑S	**Sn**	**03 22 42.5**	**+0.1**
SDNR	**Sundarnagar**	**7.16**	**133**	*ex*	**Pn**	**03 21 32.0**	**-1.4**
SDNR				*ex*	x	03 22 45.6	
TKM2	**Tokmak 2** 3.2nm,0.7s	**7.36**	**29**	⇑P	**Pn**	**03 21 37.1**	**+1.0**
TKM2	6.8nm,0.6s			⇓S	**Sn**	**03 23 00.8**	**+2.7**
GEYT	**Alibeck** 1.6nm,0.3s,baz=96,slow=14,SNR=3.9	**10.22**	**282**	P	**Pn**	**03 22 15.1**	**+0.2**
GEYT	2.5nm,0.3s,baz=104,slow=18,SNR=3.9			S	**Sn**	**03 24 10.2**	**+2.6**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=220,slow=13,SNR=2.6	**13.35**	**36**	P	**Pn**	**03 22 55.6**	**-0.9**
AB31	**Akbulak array** 0.5nm,0.3s	**14.98**	**331**	⇓P	**Pn**	**03 23 18.6**	**+1.1**
AB31	4.4nm,0.7s,baz=161,slow=24,SNR=13			⇓S	**Sn**	**03 25 56.3**	**-6.4**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=209,slow=10,SNR=8.8	**15.13**	**19**	P	**Pn**	**03 23 20.2**	**+0.8**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=155,slow=11,SNR=2.6	**16.49**	**359**	P	**P**	**03 23 37.5**	**+0.3**
AKTO	**Aktyubinsk** 0.6nm,0.3s,baz=146,slow=5.8,SNR=14	**16.67**	**330**	P	**P**	**03 23 40.4**	**+1.1**
AKTO	0.1nm,0.3s,baz=180,slow=20,SNR=4.4			S	**Sn**	**03 26 35.3**	**-8.2**
AKTO	**Aktyubinsk** 5.9nm,0.8s	**16.67**	**330**	⇓P	**P**	**03 23 40.5**	**+1.2**
AKTO	3.0nm,0.7s			⇑S	**Sn**	**03 26 38.1**	**-5.4**
ZALV	**Zalesovo Beam** 3.5nm,0.5s,baz=222,slow=11,SNR=15	**19.94**	**25**	P	**P**	**03 24 14.3**	**-0.6**
AKASG	**Malin Array Be** 0.6nm,0.4s,baz=82,slow=6.8,SNR=4.5	**32.81**	**309**	P	**P**	**03 26 16.0**	**+1.2**
FINES	**FINESS Array B** 0.6nm,0.4s,baz=106,slow=6.8,SNR=6.6	**37.37**	**326**	P	**P**	**03 26 55.9**	**+2.1**
ARCES	**ARCESS Array B** 1.9nm,0.8s,baz=115,slow=8.4,SNR=5.9	**41.05**	**338**	P	**P**	**03 27 25.1**	**+0.7**
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.5s,baz=97,slow=7.9	**44.26**	**323**	P	**P**	**03 27 51.9**	**+1.5**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.5s,baz=98,slow=7.8,SNR=6.6	**44.26**	**323**	P	**P**	**03 27 52.0**	**+1.5**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.5s,baz=50,slow=5.9,SNR=22	**65.57**	**269**	P	**P**	**03 30 23.4**	**-1.2**

IDC 23 03:46:32.1±1.4, 5°.57S × 151°.08E, h0km, mb4.2/5, mb1 4.4/6, mb1mx3.8/35, mbtmp4.2/6, ML1.8/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/31, Error ellipse: s-maj=62.9km s-min=22.0km az=125.0
ISCJB 23 03:46:39.0±1.3, 5°.75S±0°.3 × 151°.0E±0°.3, h65km, mb3.9/5, Error ellipse: s-maj=56.1km s-min=13.7km az=41.9
ISC 23 03:46:40.6±1.4, **5.7S**±0°.3 × **151°.0E**±0°.4, **h65**km, **n7**, σ0§**95**/8, **mb4.1**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 2.1nm,0.3s,baz=69,slow=15,SNR=3.9	**5.31**	**225**	Pn	**Pn**	**03 47 56.0**	**-1.4**
PMG	2.7nm,0.3s,baz=65,slow=16,SNR=3.0			Sn	**Sn**	**03 48 57.9**	**+0.7**
PMG	comp=Z,129nm,20.7s,baz=56,slow=36			LR	LR	03 49 45.5	
WRA	**Warramunga Arr** 8.1nm,0.9s,baz=53,slow=11,SNR=43	**21.52**	**227**	P	**P**	**03 51 24.6**	**+0.1**
ASAR	**Alice Springs** 12nm,0.9s,baz=55,slow=9.5,SNR=78	**24.30**	**221**	P	**P**	**03 51 52.9**	**+0.6**
STKA	**Stephens Creek** 3.9nm,0.9s,baz=18,slow=9.6,SNR=5.3	**27.52**	**197**	P	**P**	**03 52 21.5**	**+0.3**
FITZ	**Fitzroy Crossi** 4.6nm,0.6s,baz=73,slow=6.8,SNR=14	**27.66**	**241**	P	**P**	**03 52 22.9**	**+0.4**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=241,slow=5.6,SNR=3.0	**83.64**	**22**	P	**P**	**03 59 01.2**	**-0.5**
TORD	**Torodi Ar. Bea** 0.7nm,0.6s,baz=98,slow=2.5,SNR=11	**148.83**	**286**	PKPbc	**PKPbc**	**04 06 23.1**	**+1.1**

IDC 23 03:47:09.9±4.0, 25°.46S × 69°.57W, h0km, mb3.9/1, mb1 4.0/2, mb1mx3.6/16, mbtmp3.9/2, ML4.0/1, Error ellipse: s-maj=128.8km s-min=58.8km az=79.0
ISCJB 23 03:47:21.3±1.0, 24°.22S±0°.06 × 69°.9W±0°.2, h92km ± 13km, mb3.6/1, Error ellipse: s-maj=27.2km s-min=8.6km az=13.1
GUC 23 03:47:21.9±0.5, 24°.19S × 69°.79W, h69km ± 10km, ML3.7
ISC 23 03:47:22.2±1.2, **24°.21S**±0°.07 × **69°.9W**±0°.2, **h82**km ± 14km, **n9**, σ0§**43**/14, **4C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.64**	**230**	⇑*i*P	**Pn**	**03 47 37.8**	**0.0**
PB14				*i* S	**Sn**	**03 47 49.4**	**+0.1**
PB14	comp=N,3μm,0.5s			IAML		03 47 50.9	
PB10	**IPOC Station P**	**0.94**	**318**	⇓*i*P	**Pn**	**03 47 40.4**	**-0.2**
PB10				*i* S	**Sn**	**03 47 54.4**	**+0.1**
PB10	comp=E,3μm,0.2s			IAML		03 48 01.0	
PB06	**IPOC Station P**	**1.52**	**10**	⇑*i*P	**Pn**	**03 47 47.8**	**-0.2**
PB06				*i* S	**Sn**	**03 48 07.1**	**-0.4**
PB06	comp=N,2μm,0.1s			IAML		03 48 09.6	
PB04	**IPOC Station P**	**1.89**	**352**	*i* P	**Pn**	**03 47 52.8**	**-0.1**
PB04				*i* S	**Sn**	**03 48 16.3**	**+0.3**
PB04	comp=N,980nm,0.8s			IAML		03 48 22.8	
PB09	**IPOC Station P**	**2.47**	**14**	⇑*i*P	**Pn**	**03 48 00.9**	**+0.3**
PB09				*i* S	**Sn**	**03 48 30.4**	**+0.4**
PB07	**IPOC Station P**	**2.47**	**360**	⇑*i*P	**Pn**	**03 48 00.1**	**-0.5**
PB07				*i* S	**Sn**	**03 48 30.6**	**+0.6**
PB07	comp=E,422nm,0.4s			IAML		03 48 48.1	
LPAZ	**La Paz** comp=E,0.7nm,0.3s,baz=197,slow=7.2,SNR=18	**8.05**	**12**	Pn	**Pn**	03 49 24.9	+7.9
TORD	**Torodi Ar. Bea** comp=E,0.4nm,0.4s,baz=256,slow=4.7,SNR=11	**79.10**	**70**	P	**P**	**03 59 17.7**	**-0.5**
MKAR	**Makanchi Array** comp=E,0.4nm,0.6s,baz=323,slow=2.2,SNR=3.4	**148.32**	**38**	PKPbc	**PKPbc**	**04 06 59.7**	**+0.7**

TAP 23 03:58:27.0, 25°.03N × 121°.82E, h141km, ML3.5, 6D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWF	**Wu-fen Shan** baz=335	**0.05**	**318**	P	Pn	03 58 46.4	+0.3
NWF				S	Sn	03 59 00.2	-0.3
TWB1	**Santiao Chiao** baz=116	**0.15**	**99**	*e*P	Pn	03 58 46.2	+0.1
TWB1				S	Sn	03 59 00.3	-0.1
TWA	**Mucha** baz=266	**0.22**	**256**

baz=217
CHKT Chengkung 1.97 192 *e*P Pn 03 58 59.6 -1.6
baz=185
CHKT *e*S Sn 03 59 26.4 -1.0
baz=185
CHN4 Tsaushan 2.01 214 P Pn 03 59 01.8 +0.1
baz=213
CHN4 *e*S Sn 03 59 28.5 +0.1
baz=213
WTP Ta-pu 2.09 212 ||P Pn 03 59 02.5 -0.2
baz=211
STYT Tauyuan 2.10 208 *e*P Pn 03 59 02.8 -0.1
baz=206
TWK Hsinying 2.14 215 *e*P Pn 03 59 04.0 +0.7
baz=213
TWK *e*S Sn 03 59 30.6 -0.5
baz=213
CHN1 Nanshi 2.19 213 *e*P Pn 03 59 03.4 -0.5
baz=212
CHN1 S Sn 03 59 31.4 -0.8
baz=212
SGST Jiashian 2.25 210 *e*P Pn 03 59 04.8 +0.2
baz=213

IDC 23 04:00:48.1±4.3, 17°31'N×144°95'E, h120km±37km, mb3.6/4, mb1 3.9/5, mb1mx3.3/38, mbtmp4.0/5, Error ellipse: s-maj=105.1km s-min=25.0km az=106.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.70**	**181**	P	Pn	04 01 44.9	+1.2
	11nm,0.3s,baz=187,slow=8.1,SNR=3.9						
GUMO				S	Sn	04 02 26.8	+0.1
	15nm,0.3s,baz=45,slow=19,SNR=2.4						
H11N1	**WAKE ISLAND Hy**	**20.94**	**80**	T	T	04 26 33.0	
	baz=264,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**20.95**	**80**	T	T	04 26 34.5	
	baz=264,slow=74,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**20.96**	**80**	T	T	04 26 33.8	
	baz=264,slow=74,SNR=11						
WRA	**Warramunga Arr**	**38.46**	**196**	P	P	04 07 58.6	0.0
	0.3nm,0.3s,baz=16,slow=8.7,SNR=4.6						
ILAR	**Eielson Array**	**65.20**	**26**	P	P	04 11 15.8	-0.6
	0.5nm,0.4s,baz=250,slow=5.9,SNR=10						
INK	**Inuvik**	**70.92**	**23**	P	P	04 11 52.4	+0.4
	1.3nm,0.6s,baz=256,slow=6.8,SNR=4.9						
YKA	**Yellowknife Ar**	**79.54**	**28**	P	P	04 12 41.8	+0.3
	1.0nm,0.7s,baz=287,slow=5.4,SNR=6.0						
LPAZ	**La Paz**	**148.33**	**93**	PKPbc	PKPbc	04 20 21.5	-0.6
	1.8nm,0.8s,baz=346,slow=4.2,SNR=7.9						

*ISCJB **23** 04:10:15.8±0.8, 21°.63N±0°.08×143°.3E±0°.2, h311km, mb3.5/10, Error ellipse: s-maj=30.6km s-min=10.8km az=174.9*
*IDC **23** 04:10:16.3±2.0, 21°.64N×143°.24E, h301km±18km, mb3.2/11, mb1 3.4/12, mb1mx3.2/35, mbtmp4.0/12, Error ellipse: s-maj=27.9km s-min=13.1km az=88.0*
ISC 23 04:10:17.3±1.0, 21°.7N±0°.1×143°.2E±0°.2, h311km, n12, σ0s88/13, mb3.5/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.47**	**350**	P	**Pn**	**04 11 40.5**	**-0.1**
JCJ				S	**S**	**04 12 46.6**	**-1.3**
	32nm,0.3s,baz=257,slow=1.1,SNR=3.5						
KSRS	**Korea Array**	**20.54**	**323**	P	**P**	**04 14 32.6**	**-0.3**
	2.7nm,0.6s,baz=145,slow=8.9,SNR=11						
USRK	**Ussuriysk Ar.**	**24.30**	**340**	P	**P**	**04 15 08.8**	**+1.6**
	1.9nm,0.6s,baz=141,slow=9.3,SNR=6.0						
KLR	**Kul'dur**	**28.96**	**344**	P	**P**	**04 15 48.9**	**+0.3**
	4.1nm,0.5s,baz=164,slow=5.9,SNR=15						
SONM	**Songino Array**	**39.37**	**320**	P	**P**	**04 17 18.6**	**+1.1**
	0.4nm,0.5s,baz=134,slow=8.3,SNR=3.6						
WRA	**Warramunga Arr**	**42.27**	**192**	P	**P**	**04 17 40.5**	**-0.7**
	1.0nm,0.4s,baz=22,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**45.98**	**192**	P	**P**	**04 18 10.3**	**0.0**
	0.3nm,0.6s,baz=12,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**54.73**	**313**	P	**P**	**04 19 14.7**	**-0.5**
	0.6nm,0.6s,baz=96,slow=10.0,SNR=4.9						
ILAR	**Eielson Array**	**62.04**	**27**	P	**P**	**04 20 05.1**	**0.0**
	0.4nm,0.6s,baz=256,slow=5.4,SNR=5.4						
YKA	**Yellowknife Ar**	**76.45**	**28**	P	**P**	**04 21 33.0**	**+0.1**
	0.6nm,0.5s,baz=290,slow=6.1,SNR=5.5						
ARCES	**ARCESS Array B**	**78.94**	**342**	P	**P**	**04 21 47.1**	**+0.7**
	1.3nm,0.5s,baz=75,slow=8.2,SNR=15						
FINES	**FINESS Array B**	**83.21**	**334**	P	**P**	**04 22 08.0**	**-0.9**
	1.1nm,0.5s,baz=57,slow=5.0,SNR=14						

*GUC **23** 04:21:14.9±0.4, 35°.27S×71°.18W, h69km±1km, ML4.3*
*NEIC **23** 04:21:14.0, 35°.27S×71°.18W, h69km, MG4.3(GUC), After GUC.*
NEIC Felt [III] at Lolol, Molina, Romeral, San Fernando, San Javier, Santa Cruz and Talca; [II] at Constitucion, Curico, Iloca, Linares, Maule, Paredones, Pencahue and Rancagua.
*IDC **23** 04:21:18.1±3.9, 34°.93S×71°.26W, h54km±33km, mb3.8/3, mb1 3.8/5, mb1mx3.5/28, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=84.1km s-min=26.9km az=92.0*
ISC 23 04:21:08.6±1.4, 35°.41S±0°.04×70°.74W±0°.05, h4km±10km, n32, σ2s49/42, mb4.4/3, 6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.57**	**315**	*i* P	**Pn**	**04 21 25.6**	**+2.0**
NICH				*i* S	**Sn**	**04 21 33.8**	**+0.3**
TALC	**Talca**	**0.73**	**270**	*i* P	**Pn**	**04 21 26.2**	**+0.4**
TALC				*i* S	**Sb**	**04 21 34.9**	**+0.5**
TALC				IAML		04 21 35.9	
	comp=E,38μm,0.1s						
CCHI	**Chillan**	**1.61**	**222**	*i* P	**Pg**	**04 21 39.6**	**+0.1**
CCHI				*i* S	**Sb**	**04 21 59.0**	**-0.8**
COCH	**Cobquecura**	**1.82**	**246**	*i* P	**Pn**	**04 21 40.4**	**-0.3**
COCH				*i* S	**Sn**	**04 22 00.1**	**-4.2**
ANTU	**Antumapu**	**1.83**	**3**	*i* P	**Pb**	**04 21 43.2**	**+0.5**
ANTU				*i* S	**Sn**	**04 22 04.5**	**-0.2**
ANTU				IAML		04 22 09.3	
	comp=N,5μm,0.4s						
FSR	**Penalolen**	**1.93**	**5**	*i* P	**Pb**	**04 21 44.5**	**+0.1**
FSR				*i* S	**Sn**	**04 22 07.3**	**+0.2**
STL	**Santa Lucia**	**1.97**	**2**	*i* P	**Pb**	**04 21 44.9**	**-0.1**
STL				*i* S	**Sn**	**04 22 07.7**	**-0.2**
CLCH	**Cerro Calan**	**2.01**	**5**	*i* P	**Pb**	**04 21 45.8**	**-0.1**
CLCH				*i* S	**Sn**	**04 22 09.2**	**+0.1**
CLCH				IAML		04 22 11.5	
	comp=E,3μm,0.3s						
PEL	**Peldehue**	**2.26**	**1**	*i* P	**Pb**	**04 21 48.6**	**-1.4**
PEL				*i* S	**Sn**	**04 22 14.4**	**-0.8**
PEL				IAML		04 22 21.8	
	comp=N,2μm,0.2s						
CANA	**Caviahue**	**2.49**	**186**	*e*P	Pg	04 22 05.1	+8.8
AAGR	**Agrelo**	**2.80**	**35**	*e*P	**Pg**	**04 22 03.6**	**+1.3**
ARCO	**CERRO ARCO**	**2.96**	**31**	*e*P	**Pg**	**04 22 07.1**	**+1.7**
ARCO				IAML		04 22 28.9	
	comp=Z,120nm,0.5s						
ASAL	**Salagasta**	**3.22**	**30**	*e*P	**Pg**	**04 22 10.2**	**-0.1**
AUSP	**Uspallata**	**3.37**	**20**	*e*P	**Pb**	**04 22 09.1**	**0.0**
AUSP				||*e*S	**Sg**	**04 22 56.4**	**-0.4**
RTLS	**Leoncito**	**3.79**	**19**	*e*P	**Pb**	**04 22 14.4**	**-1.9**
RTLS				||*e*S	**Sb**	**04 23 05.4**	**+2.6**
RTCV	**Cerro Valdivia**	**3.98**	**28**	*e*P	**Pb**	**04 22 17.4**	**-2.0**
SJA	**San Juan**	**4.27**	**26**	||*e*S	**Sb**	**04 23 18.1**	**+1.7**
ACAN	**Cantantal**	**4.30**	**44**	*e*P	**Pb**	**04 22 25.5**	**+0.7**
RTLL	**Cerro Villicun**	**4.48**	**26**	||*e*P	**Pb**	**04 22 23.7**	**-4.3**
RTLL				||*e*S	**Sb**	**04 23 19.4**	**-3.0**
MRA	**San Martin**	**5.13**	**56**	||*e*P	**Pb**	**04 22 38.9**	**0.0**
MRA				IAML		04 23 15.1	
	comp=Z,19nm,0.6s						
PLCA	**Paso Flores**	**5.32**	**178**	P	**Pb**	**04 22 41.9**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=358,slow=14,SNR=16						
AGUA	**GUANDACOL**	**6.20**	**18**	*e*S	**Sb**	**04 24 04.4**	**-7.4**
LCO	**Las Campanas**	**6.38**	**0**	*e*Pn	**Pn**	**04 22 43.0**	**-0.6**
LCO				*e*S	**Sn**	**04 23 48.3**	**-8.8**
TCA	**Tanti**	**6.54**	**53**	*e*P	Pb	04 22 55.5	-7.6
TRQA	**Tornquist**	**7.51**	**113**	*e*Pn	**Pb**	**04 23 17.1**	**-2.4**
LPAZ	**La Paz**	**19.18**	**8**	P	**Pn**	**04 25 34.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=172,slow=7.8,SNR=5.6						
SIV	**San Ignacio**	**21.18**	**27**	P	**P**	**04 25 56.3**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=208,slow=9.2,SNR=5.9						
BOSA	**Boshof**	**78.47**	**117**	P	P	04 33 17.1	+5.8
	comp=Z,3.8nm,1.1s,baz=233,slow=2.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**83.69**	**69**	P	**P**	**04 33 42.9**	**+3.9**
	comp=Z,1.7nm,0.7s,baz=235,slow=5.1,SNR=21						
BVAR	**Borovoye Array**	**147.54**	**45**	PKPbc	**PKPab**	**04 40 55.1**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=278,slow=4.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**153.11**	**46**	PKPbc	**PKPbc**	**04 41 08.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=283,slow=2.2,SNR=5.2						
KURK	**Kurchatov**	**153.13**	**46**	PKPbc	**PKPbc**	**04 41 08.4**	**+1.3**

IDC 23 04:31:52.7±1.1, 8°.76N×39°.48W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/54, mbtmp3.8/6, MS3.4/4, Ms1 3.4/4, ms1mx3.0/29, 1C, Error ellipse: s-maj=43.8km s-min=21.2km az=166.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**14.93**	**166**	LR	LR	04 39 48.1	
	comp=Z,114nm,18.7s,baz=337,slow=32						
PTGA	**Pitinga**	**22.49**	**246**	P	P	04 36 54.8	+0.8
	1.1nm,0.4s,baz=69,slow=18,SNR=3.6						
H10N3	**ASCENSION HYDR**	**29.86**	**123**	T	T	05 09 26.6	
	baz=302,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**29.86**	**123**	T	T	05 09 26.9	
	baz=302,slow=75,SNR=22						
H10N1	**ASCENSION HYDR**	**29.88**	**123**	T	T	05 09 28.1	
	baz=302,slow=75,SNR=23						
H10S3	**ASCENSION HYDR**	**30.34**	**125**	T	T	05 10 00.5	
	baz=304,slow=75,SNR=5.4						
H10S1	**ASCENSION HYDR**	**30.34**	**125**	T	T	05 09 59.9	
	baz=304,slow=75,SNR=5.3						
H10S2	**ASCENSION HYDR**	**30.36**	**125**	T	T	05 10 00.8	
	baz=304,slow=75,SNR=4.5						
DBIC	**Dimbokro**	**34.36**	**91**	P	P	04 38 43.0	+1.2
	9.5nm,1.0s,baz=278,slow=3.8,SNR=3.6						
DBIC				LR	LR	04 50 54.2	
	comp=Z,40nm,18.4s,baz=269,slow=33						
LPAZ	**La Paz**	**37.74**	**229**	P	P	04 39 10.7	-0.6
	1.6nm,0.9s,baz=24,slow=12,SNR=6.9						
TORD	**Torodi Ar. Bea**	**40.62**	**80**	P	P	04 39 33.7	-1.1
	1.3nm,0.9s,baz=274,slow=9.4,SNR=5.4						
TORD				LR	LR	04 54 29.2	
	comp=Z,110nm,20.2s,baz=230,slow=33						
ESDC	**Sonseca Array**	**44.17**	**40**	LR	LR	04 55 25.5	
	comp=Z,28nm,20.0s,baz=190,slow=32						
TXAR	**Lajitas Array**	**63.29**	**298**	P	P	04 42 23.7	-0.2
	0.1nm,0.3s,baz=111,slow=6.9,SNR=4.4						
ILAR	**Eielson Array**	**89.43**	**336**	P	P	04 44 51.5	+0.2
	0.6nm,1.0s,baz=59,slow=2.8,SNR=5.2						
SYO	**Syowa Base**	**94.22**	**159**	||*e*P	P	04 45 06.9	-6.4

*IDC **23** 04:33:44.6±0.6, 15°.11S×173°.47W, h0km, mb4.3/15, mb1 4.5/15, mb1mx4.4/28, mbtmp4.3/15, MS4.9/24, Ms1 4.9/24, ms1mx4.9/28, Error ellipse: s-maj=24.6km s-min=16.9km az=131.0*
*NEIC **23** 04:33:46.2±0.2, 14°.97S×173°.50W, h10km, mb5.1/94, Error ellipse: s-maj=9.7km s-min=5.0km az=146.0*
*GCMT **23** 04:33:46.2±0.1, 14°.85S×173°.13W, h12km, MW5.4/128, Moment Tensor Solution. s93,c142; s128,c232; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.23±.02; Mθθ0.72±.02; Mϕϕ-0.94±.02; Mrθ0.62±.07; Mθϕ0.94±.02; Mϕr0.90±.09; Best double couple: M0 1.67400×10^17 NP1:ϕs19.00000°, δ82.00000°, λ140.00000°. NP2:ϕs115.00000°, δ51.00000°, λ10.00000°. Principal axes: T 1.7600, Plg33.0000°, Azm329.0000°; N -0.1730, Plg49.0000°, Azm189.0000°; P -1.5870, Plg21.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **23** 04:33:47.6±0.2, 15°.05S±0°.06×173°.28W±0°.05, h30km, mb5.0/116, MS5.0/31 Error ellipse: s-maj=9.3km s-min=6.1km az=164.1*
*BJI **23** 04:33:48.2, 15°.19S×172°.63W, h57km, mb4.9/27, mB5.6/29, Ms5.3/21, Ms7 5.0/23*
*MOS **23** 04:33:49.8±1.1, 14°.89S×173°.28W, h37km, mb5.2/32, MS5.0/7, Error ellipse: s-maj=14.3km s-min=9.3km az=65.2*
ISC 23 04:33:49.0±0.3, 15°.03S±0°.07×173°.29W±0°.06, h30km, n643, σ1s29/620, mb5.0/116, MS5.0/31, 20C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.84**	**53**	Pn	Pn	04 34 11.2	-7.4
	228nm,0.3s,baz=75,slow=1.3,SNR=134						
AFI				Sn	Sn	04 34 29.8	-11
	955nm,0.3s,baz=37,slow=20,SNR=29						
AFI	**Afiamalu**	**1.84**	**53**	*e*P	Pn	04 34 11.1	-7.5
AFI				*e*S	Sn	04 34 30.6	-10
AFI	**Afiamalu**	**1.84**	**53**	*e*Pn	Pn	04 34 11.1	-7.5
AFI				*e*S	Sn	04 34 30.6	-10
MSVF	**Nonsavu**	**8.74**	**251**	*c i*P	**Pn**	**04 35 55.9**	**+2.4**
MSVF	**Nonsavu**	**8.74**	**251**	*e*Pn	Pn	04 35 58.8	+5.3
RAR	**Rarotonga**	**14.24**	**118**	Pn	Pn	04 37 02.0	-6.7
	1.4nm,0.3s,baz=222,slow=5.0,SNR=3.9						
RAR				LR	LR	04 41 00.7	
	comp=Z,5μm,21.4s,baz=302,slow=30						
RAR	**Rarotonga**	**14.24**	**118**	*e*P	**Pn**	**04 37 05.4**	**-3.3**
RAR	**Rarotonga**	**14.24**	**118**	*e*Pn	**Pn**	**04 37 05.3**	**-3.3**
RAO	**Raoul Island**	**14.79**	**196**	LR	LR	04 41 35.6	
	comp=Z,4μm,18.5s,baz=335,slow=32						
DZM	**Mont Dzumac**	**20.44**	**247**	*e*P	**P**	**04 38 24.0**	**-0.2**
DZM	316nm,1.6s			*e*LR	LR	04 43 26.6	
	12μm,25.7s						
DZM	**Mont Dzumac**	**20.44**	**247**	P	**P**	**04 38 23.4**	**-0.8**
	19nm,1.1s,baz=54,slow=12,SNR=6.7						
DZM				LR	LR	04 44 58.6	
	comp=Z,7μm,20.6s,baz=82,slow=33						
DZM	**Mont Dzumac**	**20.44**	**247**	*e*P	**P**	**04 38 23.9**	**-0.4**
PPT	**Papeete**	**22.90**	**100**	LR	LR	04 45 09.4	
	comp=Z,3μm,21.5s,baz=268,slow=30						
PPT2	**Papeete2**	**22.90**	**100**	*e*P	P	04 38 42.8	-7.8
	88nm,1.3s						
PPT2				*e*LQ	LQ	04 43 14.0	
	13μm,28.0s						
PPT2				*e*LR	LR	04 44 16.8	
	9μm,25.2s,baz=264						
PPT2	**Papeete2**	**22.90**	**100**	*e*T	T	05 02 11.0	
	4.2nm,0.3s						
PAE	**Paea**	**22.90**	**100**	*e*T	T	05 02 09.8	
	2.5nm,0.2s						
TIAR	**Tiarei**	**23.12**	**100**	*e*T	T	05 02 26.5	
	3.8nm,0.3s						
TVO	**Taravao**	**23.22**	**100**	*e*P	P	04 38 45.7	-8.1
	63nm,1.5s						
TVO	**Taravao**	**23.22**	**100**	*e*T	T	05 02 33.9	
	2.8nm,0.4s						
TBI	**Tubuai**	**23.95**	**114**	*e*LQ	LQ	04 43 43.1	
	10μm,28.5s						
TBI				*e*LR	LR	04 44 38.7	
	9μm,26.0s,baz=289						
TBI	**Tubuai**	**23.95**	**114**	*e*T	T	05 03 28.5	
	10nm,0.3s						
URZ	**Urewera**	**24.65**	**198**	LR	LR	04 47 49.2	
	comp=Z,5μm,20.6s,baz=16,slow=34						
VAH	**Vaihoa**	**24.77**	**94**	*e*P	P	04 38 59.7	-8.6
	139nm,1.3s						
HNR	**Honiara**	**26.73**	**279**	LR	LR	04 48 18.1	
	comp=Z,4μm,18.7s,baz=125,slow=33						
TAOE	**Nuku Hiva Isla**	**32.97**	**83**	*e*LR	LR	04 48 51.2	
	7μm,26.4s,baz=259						
RKT	**Rikitea**	**37.01**	**109**	*e*LQ	LQ	04 49 11.2	
	2μm,26.5s						
RKT				*e*LR	LR	04 50 51.2	
	4μm,24.2s,baz=281						
RKT	**Rikitea**	**37.01**	**109**	*e*T	T	05 19 47.6	
	3.8nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	05 22 17.4	
	baz=149,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**38.71**	**329**	T	T	05 22 11.9	
	baz=149,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**38.72**	**329**	T	T	05 22 15.8	
	baz=149,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**39.64**	**330**	T	T	05 23 36.7	
	baz=150,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**39.65**	**330**	T	T	05 23 52.8	
	baz=150,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**39.66**	**330**	T	T	05 23 40.2	
	baz=150,slow=76,SNR=15						
STKA	**Stephens Creek**	**44.32**	**240**	P	**P**	**04 41 53.5**	**-2.9**
	2.0nm,0.6s,baz=339,slow=5.8,SNR=4.2						
STKA				LR	LR	04 58 08.8	
	comp=Z,1μm,21.2s,baz=72,slow=33						
STKA	**Stephens Creek**	**44.32**	**240**	*e*P	**P**	**04 41 54.5**	**-2.0**
STKA	**Stephens Creek**	**44.32**	**240**	*e*P	**P**	**04 41 54.5**	**-2.0**
WB2	**Warramunga Arr**	**50.02**	**256**	*e*P	**P**	**04 42 37.9**	**-3.3**
	27nm,1.0s						
WRAB	**Tennant Creek**	**50.02**	**256**	*e*P	**P**	**04 42 37.5**	**-3.7**
WRAB				pmax	pmax		
	comp=Z,53nm,1.3s						
WRAB	**Tennant Creek**	**50.02**	**256**	*e*P	**P**	**04 42 37.9**	**-3.3**
	comp=Z,36nm,1.3s						
WRA	**Warramunga Arr**	**50.03**	**256**	P	**P**	**04 42 37.9**	**-3.4**
	comp=Z,5.7nm,0.9s,baz=90,slow=7.0,SNR=21						
WRA				LR	LR	05 01 28.9	
	comp=Z,2μm,20.9s,baz=85,slow=33						
AS01	**Alice Springs**	**50.29**	**252**	*e*P	**P**	**04 42 39.3**	**-3.8**
AS31	**Alice Springs**	**50.33**	**252**	*e*P	**P**	**04 42 40.7**	**-2.8**
	comp=Z,9.1nm,0.8s						
ASAR	**Alice Springs**	**50.33**	**252**	P	**P**	**04 42 40.3**	**-3.2**
	comp=Z,31nm,0.8s,baz=86,slow=8.2,SNR=92						
ASAR				LR	LR	05 02 00.9	
	comp=Z,4μm,21.5s,baz=92,slow=34						
SBA	**Scott Base**	**63.63**	**185**	*e*P	**P**	**04 44 18.6**	**+1.8**
SBA				pmax	pmax		
	comp=Z,49nm,1.8s						
SBA	**Scott Base**	**63.63**	**185**	*e*P	**P**	**04 44 18.6**	**+1.8**
	comp=Z,49nm,1.8s						
VNDA	**Vanda**	**63.76**	**186**	P	**P**	**04 44 18.3**	**+0.7**
	comp=Z,3.5nm,0.9s,baz=6.6,slow=6.5,SNR=22						
VNDA				LR	LR	05 11 43.1	
	comp=Z,419nm,18.0s,baz=20,slow=36						
JHJ	**Hachijo jima 2**	**65.56**	**318**	LR	LR	05 10 22.1	
	comp=Z,400nm,19.1s,baz=81,slow=34						
MJAR	**Matsushiro Arr**	**68.72**	**320**	P	**P**	**04 44 50.3**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=153,slow=5.7,SNR=10						
MJAR				LR	LR	05 09 23.4	
	comp=Z,1μm,21.8s,baz=130,slow=31						
MAT	**Matsushiro**	**68.72**	**320**	P	**P**	**04 44 50.0**	**-0.1**
MAT				S	**S**	**04 53 48.6**	**-3.0**
SCZ2	**Santa Cruz Isl**	**70.59**	**45**	P	**P**	**04 45 02.0**	**+0.4**
	baz=236						
SCI2	**San Clemente I**	**70.78**	**47**	P	**P**	**04 45 02.9**	**+0.2**
	baz=237						
SBC	**Santa Barbara**	**70.78**	**45**	P	**P**	**04 45 03.0**	**+0.2**
	baz=236						
CASY	**Casey**	**70.79**	**205**	*e*P	**P**	**04 45 04.2**	**+1.9**
	comp=Z,33nm,1.0s						
PKM	**Mcpherson Peak**	**70.97**	**44**	P	**P**	**04 45 04.0**	**-0.1**
	baz=235						
BLG	**Laguna Peak, P**	**71.04**	**45**	P	**P**	**04 45 04.3**	**-0.1**
	baz=236						
FMP	**Fort Macarthur**	**71.36**	**46**	P	**P**	**04 45 06.3**	**+0.1**
	baz=237						
OSI	**Osito Audit: C**	**71.56**	**45**	P	**P**	**04 45 07.5**	**0.0**
	baz=236						
DECC	**Green Verdugo**	**71.62**	**46**	P	**P**	**04 45 07.8**	**-0.1**
	baz=236						
109C	**Camp Elliot, M**	**71.75**	**47**	P	**P**	**04 45 08.6**	**0.0**
	baz=238						
ARVC	**Arvin**	**71.77**	**45**	P	**P**	**04 45 08.6**	**-0.2**
	baz=236						
PET	**Petropavlovsk**	**71.95**	**343**	*e*P	**P**	**04 45 09.5**	**+0.1**
PET				*e*S	**S**	**04 54 25.8**	**-2.7**
PET				pmax	pmax		
	comp=Z,200nm,17.0s						
PET				MLR	MLR		
	comp=Z,600nm,19.0s						
PET				MLR	MLR		
	comp=Z,700nm,20.0s						
VES	**Vestal, Richgr**	**72.00**	**44**	P	**P**	**04 45 10.2**	**+0.1**
	baz=236						
MURC	**Murrieta**	**72.06**	**47**	P	**P**	**04 45 10.5**	**-0.1**
	baz=238						
BFSC	**Mount Baldy Ra**	**72.08**	**46**	P	**P**	**04 45 10.5**	**-0.3**
	baz=237						
RCTC	**Rector, Farmer**	**72.16**	**43**	P	**P**	**04 45 11.1**	**+0.1**
	baz=235						
EDW2	**Edwards Air Fo**	**72.20**	**45**	P	**P**	**04 45 11.5**	**+0.1**
	baz=237						
MONP2	**Monument Peak**	**72.23**	**48**	P	**P**	**04 45 11.9**	**+0.1**
	baz=238						
ISA	**Isabella, Lake**	**72.31**	**44**	P	**P**	**04 45 12.4**	**+0.4**
	baz=236						
IKP	**In-Ko-Pah, Jac**	**72.33**	**48**	P	**P**	**04 45 12.3**	**+0.1**
	baz=238						
CMB	**Columbia Colle**	**72.41**	**41**	*e*P	**P**	**04 45 12.6**	**0.0**
CMB				pmax	pmax		
	comp=Z,35nm,1.3s						
CMB	**Columbia Colle**	**72.41**	**41**	*e*P	**P**	**04 45 12.6**	**0.0**
	comp=Z,35nm,1.3s						
PFO	**Pinyon Flats O**	**72.59**	**47**	P	**P**	**04 45 13.8**	**-0.1**
	baz=238						
TPFO	**Pinon Flats**	**72.59**	**47**	P	**P**	**04 45 13.9**	**+0.1**
	baz=238						
SWSC	**Sam W. Stewart**	**72.71**	**48**	P	**P**	**04 45 14.3**	**0.0**
	baz=239						
O03D	**Paynes Creek**	**72.89**	**39**	P	**P**	**04 45 15.4**	**0.0**
	baz=232						
RRX	**Edison Barstow**	**72.89**	**46**	P	**P**	**04 45 15.3**	**-0.1**
	baz=237						
M02C	**Callahan**	**72.94**	**37**	P	**P**	**04 45 16.6**	**+0.9**
	baz=231						
L02D	**Cave Junction,**	**72.99**	**36**	P	**P**	**04 45 16.9**	**+1.0**
	baz=230						
MLAC	**Mammoth, Mammo**	**73.18**	**42**	P	**P**	**04 45 17.8**	**+0.4**
	baz=235						
MPMC	**Manual Prospec**	**73.19**	**44**	P	**P**	**04 45 17.9**	**+0.4**
	baz=237						
YSS	**Yuzh-Sakhalins**	**73.21**	**330**	*e*P	**P**	**04 45 12.6**	**-4.4**
GSC	**Goldstone, Bar**	**73.25**	**45**	P	**P**	**04 45 17.9**	**+0.3**
	baz=237						
GSC	**Goldstone, Bar**	**73.25**	**45**	*e*P	**P**	**04 45 18.1**	**+0.4**
GSC				pmax	pmax		
	comp=Z,13nm,0.3s						
GSC	**Goldstone, Bar**	**73.25**	**45**	*e*P	**P**	**04 45 18.1**	**+0.4**
	comp=Z,12nm,0.3s						
HEC	**Hector,Ludlow**	**73.32**	**46**	P	**P**	**04 45 18.1**	**0.0**
	baz=238						
BC3	**Big Chuckawall**	**73.33**	**47**	P	**P**	**04 45 18.2**	**0.0**
	baz=239						
GLA	**Glamis**	**73.46**	**48**	P	**P**	**04 45 19.4**	**+0.5**
	baz=

comp=Z,36nm,1.9s
J05D Fort Rock, OR 75.06 37 P P 04 45 28.5 +0.4
baz=232
G03D McMinnville, O 75.13 34 P P 04 45 28.8 +0.5
baz=230
W13A Hualapai Mount 75.18 47 eP P 04 45 30.1 +1.0
comp=Z,14nm,1.4s
Y14A Wickenburg 75.22 48 eP P 04 45 29.9 +0.7
I05D Terrebonne, OR 75.65 36 P P 04 45 31.7 +0.3
baz=232
R11A Troy Canyon, C 75.72 43 P P 04 45 32.3 +0.3
baz=238,SNR=5.9
R11A Troy Canyon, C 75.72 43 eP P 04 45 32.4 +0.4
comp=Z,8.0nm,1.3s
BMN Battle Mountai 75.80 41 eP P 04 45 33.4 +0.9
BMN pmax pmax
comp=Z,9.0nm,0.9s
BMN Battle Mountai 75.80 41 eP P 04 45 33.4 +0.9
comp=Z,8.7nm,0.9s
KSRS Korea Array 75.97 315 P P 04 45 34.2 +1.0
comp=Z,4.3nm,1.0s,baz=127,slow=5.5,SNR=11
KSRS LR LR 05 12 57.8
comp=Z,466nm,22.0s,baz=110,slow=31
KSAR Wonju Array Be 75.99 315 P P 04 45 34.3 +0.9
KSAR Wonju Array Be 75.99 315 P P 04 45 34.2 +0.9
KS01 Wonju Array Si 76.00 315 eP P 04 45 33.5 0.0
TUC Tucson 76.07 51 eP P 04 45 34.8 +0.7
TUC Tucson 76.07 51 eP P 04 45 34.8 +0.7
WVOR Wild Horse Val 76.08 38 eP P 04 45 34.8 +0.9
WVOR pmax pmax
comp=Z,18nm,1.2s
WVOR Wild Horse Val 76.08 38 eP P 04 45 34.8 +0.9
comp=Z,18nm,1.2s
G05D Wamic, OR 76.22 35 P P 04 45 36.5 +2.0
baz=232
X16A Lo Mia Camp, P 76.59 49 eP P 04 45 38.3 +1.2
319A Douglas 76.78 52 eP P 04 45 38.4 +0.3
comp=Z,16nm,1.1s
CCUT Cedar City 76.79 45 eP P 04 45 39.6 +1.3
comp=Z,18nm,1.5s
KNB Kanab 76.89 46 eP P 04 45 40.1 +1.3
KNB pmax pmax
comp=Z,25nm,1.4s
KNB Kanab 76.89 46 eP P 04 45 40.1 +1.3
comp=Z,25nm,1.4s
U15A North Rim 76.97 46 eP P 04 45 40.5 +1.1
comp=Z,27nm,1.4s
USRK Ussuriysk Ar. 77.15 323 P P 04 45 41.4 +1.6
comp=Z,3.5nm,1.0s,baz=72,slow=12,SNR=6.2
WUAZ Wupatki 77.17 48 P P 04 45 40.8 +0.5
baz=241
WUAZ Wupatki 77.17 48 eP P 04 45 41.5 +1.2
comp=Z,22nm,1.4s
ELK Elko 77.23 41 eP P 04 45 41.4 +0.7
ELK pmax pmax
comp=Z,17nm,1.5s
ELK Elko 77.23 41 eP P 04 45 41.4 +0.7
comp=Z,17nm,1.5s
QZH Quanzhou 77.36 300 P P 04 45 35.5 -5.9
QZH S S **04 55 28.4 -1.7**
QZH pmax pmax
comp=Z,1μm,6.1s
QZH LR LR
comp=Z,1μm,24.0s
X18A Snowflake 77.72 49 eP P 04 45 44.6 +1.1
HPIG 77.74 58 eP P 04 45 45.1 +1.4
comp=Z,38nm,1.7s
MTPU Mount Pierson 77.84 45 eP P 04 45 46.0 +1.7
comp=Z,44nm,1.9s
MSU Marysvale 78.08 45 eP P 04 45 47.0 +1.5
MSU Marysvale 78.08 45 eP P 04 45 47.0 +1.5
W18A Petrified Fore 78.16 49 P P 04 45 46.3 +0.4
baz=242
BMO Blue Mountains 78.26 37 eP P 04 45 46.4 +0.3
BMO pmax pmax
comp=Z,21nm,1.6s
BMO Blue Mountains 78.26 37 eP P 04 45 46.4 +0.3
comp=Z,21nm,1.6s
MFID Camas Ranch 78.33 39 eP P 04 45 47.2 +0.6
comp=Z,17nm,1.4s
121A Cookes Peak, D 78.43 52 P P 04 45 47.8 +0.4
baz=244
121A Cookes Peak, D 78.43 52 eP P 04 45 48.0 +0.5
comp=Z,12nm,1.0s
DUG Dugway, Tooele 78.51 43 P P 04 45 47.7 0.0
baz=239
DUG Dugway, Tooele 78.51 43 eP P 04 45 47.9 +0.2
DUG pmax pmax
comp=Z,7.0nm,0.9s
DUG Dugway, Tooele 78.51 43 eP P 04 45 47.9 +0.2
comp=Z,7.0nm,0.9s
PMR Palmer 78.73 12 eP P 04 45 49.0 +0.8
PMR pmax pmax
comp=Z,26nm,1.4s
PMR Palmer 78.73 12 eP P 04 45 49.0 +0.8
comp=Z,26nm,1.4s
TTA Tatalina 78.87 8 eP P 04 45 51.3 +2.3
TTA pmax pmax
comp=Z,14nm,1.3s
TTA Tatalina 78.87 8 eP P 04 45 51.3 +2.3
comp=Z,14nm,1.3s
DIV Divide 79.01 13 eP P 04 45 49.9 0.0
comp=Z,38nm,1.5s
DIV ePcP PcP **04 45 57.6 -0.7**
BMRM Bremner River 79.13 14 eP P 04 45 51.4 +0.9
comp=Z,13nm,1.4s
BMRM ePcP PcP **04 45 58.6 -0.1**
TMUT Trail Mountain 79.13 44 eP P 04 45 53.5 +2.2
comp=Z,22nm,1.1s
HLID Hailey 79.27 39 P P 04 45 52.0 +0.1
baz=237
HLID Hailey 79.27 39 eP P 04 45 51.7 -0.2
comp=Z,18nm,1.3s
SPUT South Promonto 79.32 42 eP P 04 45 53.7 +1.6
comp=Z,13nm,1.1s
SRU San Rafael Swe 79.50 45 eP P 04 45 54.1 +0.9
SRU pmax pmax
comp=Z,13nm,1.1s
SRU San Rafael Swe 79.50 45 eP P 04 45 54.1 +0.9
comp=Z,12nm,1.1s
P17A Butcher Ranch, 79.53 44 eP P 04 45 55.2 +1.9
comp=Z,66nm,2.0s
BALM Baldy 79.73 15 eP P 04 45 55.0 +1.2
BALM pmax pmax
comp=Z,15nm,1.2s
BALM Baldy 79.73 15 eP P 04 45 55.0 +1.2
comp=Z,15nm,1.2s
Y22D IRIS PASSCAL I 79.76 51 P P 04 45 55.2 +0.5
baz=244
MA2 Magadan 79.84 342 eP P 04 45 54.9 +0.6
MNTX Cornudas Mount 79.92 53 P P 04 45 55.6 +0.2
baz=246
MNTX Cornudas Mount 79.92 53 eP P 04 45 56.1 +0.7
comp=Z,54nm,2.0s
P18A Preston Nutter 79.94 44 eP P 04 45 57.3 +1.6
comp=Z,13nm,0.7s
BNM Barren Site 80.01 51 eP P 04 45 57.4 +1.3
MVCO Mesa Verde 80.01 47 P P 04 45 56.2 +0.2
baz=243
MVCO Mesa Verde 80.01 47 eP P 04 45 56.9 +0.8
comp=Z,40nm,1.9s
HWUT Hardware Ranch 80.05 42 eP P 04 45 56.4 +0.3
comp=Z,6.2nm,1.0s
PV10 Paradox Valley 80.17 46 eP P 04 45 58.0 +1.1
comp=Z,149nm,0.8s
TRF Thorofare Moun 80.24 10 eP P 04 45 55.8 -0.8
comp=Z,35nm,1.5s
KLR Kul'dur 80.26 327 P P 04 45 56.4 -0.5
comp=Z,2.2nm,0.9s,baz=93,slow=3.2,SNR=4.2
KLR Kul'dur 80.26 327 eP P 04 45 57.3 +0.5
PV04 Paradox Valley 80.28 46 eP P 04 45 57.8 +0.4
TX31 Lajitas Ar. Si 80.31 56 eP P 04 45 58.0 +0.3
TXAR Lajitas Array 80.31 56 P P 04 45 58.3 +0.6
comp=Z,2.1nm,1.1s,baz=224,slow=6.5,SNR=14
TXAR LR LR 05 13 43.9
comp=Z,995nm,21.2s,baz=0.0,slow=30
NEW Newport 80.34 34 P P 04 45 57.0 -0.3
baz=235
SKAG Skagway 80.36 19 eP P 04 45 58.3 +1.3
comp=Z,12nm,1.0s
PV01 Paradox Valley 80.39 46 eP P 04 45 58.4 +0.3
DHY Denali Highway 80.43 12 eP P 04 45 59.1 +1.5
comp=Z,10nm,0.7s
ANMO Albuquerque 80.48 50 P P 04 45 58.8 +0.2
baz=244
ANMO Albuquerque 80.48 50 eP P 04 45 59.2 +0.6
ANMO pmax pmax
comp=Z,24nm,2.0s
ANMO Albuquerque 80.48 50 eP P 04 45 59.0 +0.4
comp=Z,44nm,1.8s
MCK McKinley 80.74 11 eP P 04 45 58.8 -0.3
MCK pmax pmax
comp=Z,14nm,0.9s
MCK McKinley 80.74 11 eP P 04 45 58.8 -0.3
comp=Z,14nm,0.9s
CN2 Changchun 80.87 320 eP P 04 46 01.1 +0.9
CN2 eS S **04 56 04.3 -2.4**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,400nm,8.0s
CN2 LN
comp=Z,500nm,19.0s
CN2 LE
comp=Z,700nm,19.0s
CN2 LZ
comp=Z,600nm,17.0s
MCMT McKenzie Canyo 80.90 39 eP P 04 46 01.5 +0.8
DL2 Dalian 81.00 314 P P 04 46 00.6 -0.4
DL2 S S **04 56 05.3 -2.9**
DL2 PMZ
comp=Z,450nm,4.5s
DL2 LN
comp=Z,440nm,23.2s
DL2 LE
comp=Z,430nm,25.3s
DL2 LZ
comp=Z,420nm,21.2s
BWN Browne 81.05 10 eP P 04 46 02.3 +1.6
comp=Z,34nm,1.1s
MENT Mentasta 81.07 13 eP P 04 46 01.8 +0.9
comp=Z,34nm,0.2s
MSO Missoula 81.32 37 P P 04 46 02.0 -0.6
baz=237
MSO Missoula 81.32 37 eP P 04 46 03.3 +0.6
comp=Z,26nm,1.6s
DLMT Dillon 81.33 38 eP P 04 46 03.4 +0.6
comp=Z,19nm,1.5s
REDW Red Top Meadow 81.38 41 eP P 04 46 03.9 +0.6
comp=Z,17nm,1.2s
TPAW Teton Pass 81.38 41 eP P 04 46 04.0 +0.6
comp=Z,18nm,1.3s
S22A 4UR Ranch, Cre 81.44 47 P P 04 46 04.3 +0.5
baz=244,SNR=12
S22A 4UR Ranch, Cre 81.44 47 eP P 04 46 05.0 +1.2
comp=Z,68nm,1.9s
SNOW Snow King Moun 81.49 41 eP P 04 46 04.9 +1.1
comp=Z,72nm,1.8s
O20A White River Ci 81.54 45 P P 04 46 04.2 +0.1
baz=242
O20A White River Ci 81.54 45 eP P 04 46 03.7 -0.5
comp=Z,49nm,1.8s
WRH Wood River Hil 81.57 11 eP P 04 46 03.4 0.0
comp=Z,28nm,1.1s
IMW Indian Meadow 81.60 40 eP P 04 46 04.5 0.0
comp=Z,14nm,1.2s
DOT Dot Lake 81.62 13 eP P 04 46 04.0 +0.2
comp=Z,63nm,1.4s
DOT ePcP PcP **04 46 10.8 +1.2**
MLY Manley 81.63 9 eP P 04 46 04.0 +0.1
comp=Z,14nm,1.2s
MOOW Moose Ponds 81.64 41 eP P 04 46 04.4 -0.3
comp=Z,9.1nm,1.3s
LOHW Long Hollow 81.66 41 eP P 04 46 05.6 +0.8
comp=Z,18nm,1.4s
CCB Clear Creek Bu 81.78 11 eP P 04 46 04.3 -0.3
comp=Z,18nm,1.1s
BW06 Boulder Array 81.92 42 P P 04 46 05.7 -0.4
baz=241
BW06 Boulder Array 81.92 42 eP P 04 46 04.9 -1.2
PDAR Pinedale Array 81.92 42 P P 04 46 06.3 +0.2
comp=Z,1.3nm,0.9s,baz=199,slow=3.1,SNR=8.0
PDAR LR LR 05 17 55.7
comp=Z,791nm,18.7s,baz=248,slow=32
SMCO Snowmass 81.97 46 eP P 04 46 07.5 +0.8
comp=Z,27nm,1.4s
COLA College 81.98 11 eP P 04 46 05.3 -0.2
COLA pmax pmax
comp=Z,23nm,1.0s
COLA College 81.98 11 eP P 04 46 05.3 -0.2
comp=Z,23nm,1.0s
BOZ Bozeman (W) 82.06 39 P P 04 46 06.6 0.0
baz=239
BOZ Bozeman (W) 82.06 39 eP P 04 46 06.8 +0.2
BOZ pmax pmax
comp=Z,21nm,1.4s
BOZ Bozeman (W) 82.06 39 eP P 04 46 06.8 +0.2
comp=Z,21nm,1.4s
IL1 Eielson Array 82.06 11 eP P 04 46 05.5 -0.5
ILAR Eielson Array 82.06 11 P P 04 46 06.0 0.0
comp=Z,1.7nm,0.8s,baz=212,slow=5.7,SNR=16
ILAR LR LR 05 20 29.5
comp=Z,275nm,18.2s,baz=214,slow=34
ILB Eielson Array 82.06 11 eP P 04 46 06.6 +0.6
H17A Grant Village 82.07 40 P P 04 46 08.2 +1.3
baz=240
LKWY Lake 82.27 40 eP P 04 46 09.8 +1.9
LKWY pmax pmax
comp=Z,18nm,1.1s
LKWY Lake 82.27 40 eP P 04 46 09.8 +1.9
comp=Z,18nm,1.1s
SDCO Great Sand Dun 82.38 48 P P 04 46 08.6 -0.2
baz=245,SNR=9.8
SDCO Great Sand Dun 82.38 48 eP P 04 46 09.4 +0.7
comp=Z,19nm,1.4s
MSTX Muleshoe 82.84 52 P P 04 46 10.8 -0.2
baz=247,SNR=8.1
MSTX Muleshoe 82.84 52 eP P 04 46 11.2 +0.2
comp=Z,59nm,1.4s
QIZ Qiongzhong 82.87 292 P P 04 46 12.3 +1.0
QIZ S S **04 56 24.1 -4.2**
QIZ SS SS **05 01 54.8 +2.8**
QIZ LZ
comp=Z,540nm,24.6s
T25A Trinidad 82.91 49 P P 04 46 11.4 0.0
baz=245
T25A Trinidad 82.91 49 eP P 04 46 12.7 +1.3
comp=Z,40nm,1.7s
832A Faith Ranch, C 82.92 58 P P 04 46 11.2 -0.2
baz=249
DAWY Dawson 83.03 14 eP P 04 46 11.8 +0.6
comp=Z,5.4nm,1.0s
Q24A Divide 83.16 47 P P 04 46 13.0 +0.2
baz=245,SNR=7.3
Q24A Divide 83.16 47 eP P 04 46 14.4 +1.7
comp=Z,47nm,1.5s
EGAK Eagle 83.23 13 eP P 04 46 12.7 +0.6
comp=Z,11nm,1.3s
RLMT Red Lodge 83.24 40 eP P 04 46 13.9 +1.0
comp=Z,38nm,1.8s
933A Laredo 83.26 59 P P 04 46 13.3 +0.2
baz=249
N23A Red Feather La 83.45 45 P P 04 46 14.2 0.0
baz=244
N23A Red Feather La 83.45 45 eP P 04 46 15.8 +1.7
comp=Z,58nm,1.6s
034A Hebbronville 83.56 60 P P 04 46 14.6 -0.1
baz=250
733A Divot King Ran 83.64 58 P P 04 46 14.6 -0.4
baz=249
COLD Coldfoot 83.76 9 eP P 04 46 15.9 +1.1
comp=Z,13nm,1.3s
K22A Casper 83.84 43 P P 04 46 16.0 0.0
baz=243
K22A Casper 83.84 43 eP P 04 46 16.0 0.0
comp=Z,27nm,1.3s
JCT Junction City 83.85 56 P P 04 46 15.6 -0.6
baz=249
035Z Hargill 83.87 61 P P 04 46 16.0 -0.3
baz=250
PHWY Pilot Hill 83.95 45 eP P 04 46 16.9 +0.2
comp=Z,39nm,1.8s
633A Saathoff Ranch 83.99 58 P P 04 46 17.1 +0.2
baz=249
AMTX Amarillo 84.03 52 P P 04 46 16.7 -0.3
baz=247
AMTX Amarillo 84.03 52 eP P 04 46 17.7 +0.6
comp=Z,78nm,1.8s
834A Tilden 84.04 59 P P 04 46 16.5 -0.6
baz=250
BILL Bilibino 84.15 352 iP P 04 46 17.3 +0.5
BILL e 04 49 35.7
BILL ePPP PPP 04 51 23.6
BILL eS S **04 56 38.5 -0.8**
BILL pmax pmax
comp=Z,12nm,1.2s
BILL Bilibino 84.15 352 eP P 04 46 16.4 -0.3
comp=Z,8.8nm,1.0s
734A La Parita Cree 84.28 58 P P 04 46 18.4 0.0
baz=250
533A Kerrville 84.33 57 P P 04 46 18.4 -0.2
baz=249
433A Art 84.52 56 P P 04 46 19.2 -0.3
baz=249,SNR=12
634A China Grove, S 84.64 58 P P 04 46 20.0 -0.1
baz=250
835A Beeville 84.69 59 P P 04 46 21.7 +1.3
baz=250
ABTX Abilene, Hawle 84.76 54 P P 04 46 20.6 -0.1
baz=249,SNR=6.9
ABTX Abilene, Hawle 84.76 54 eP P 04 46 20.9 +0.2
comp=Z,65nm,1.2s
534A Blanco 84.77 57 P P 04 46 20.6 -0.2
baz=250,SNR=12
333A Richland Sprin 84.81 56 P P 04 46 20.5 -0.5
baz=249,SNR=7.2
735A Kenedy 84.91 58 P P 04 46 21.1 -0.4
baz=250
KSCO Kaye Shedlock' 84.96 48 P P 04 46 21.5 -0.2
baz=246
KSCO Kaye Shedlock' 84.96 48 eP P 04 46 22.4 +0.7
comp=Z,85nm,1.8s
635A Leesville 85.11 58 P P 04 46 22.4 -0.1
baz=250
233A Rising Star 85.13 55 P P 04 46 22.2 -0.3
baz=249,SNR=5.7
434A Burnet 85.21 57 P P 04 46 22.4 -0.6
baz=250,SNR=9.4
BJT Baijiatuau 85.29 313 eP P 04 46 23.4 +0.3
BJT Baijiatuau 85.29 313 eP P 04 46 23.4 +0.3
BJI Beijing 85.29 313 P P 04 46 24.1 +1.0
BJI S S **04 56 48.4 -3.3**
BJI PMZ
comp=Z,22nm,1.7s
BJI PMZ
comp=Z,560nm,4.3s
BJI LN
comp=Z,340nm,21.2s
BJI LE
comp=Z,360nm,24.9s
BJI LZ
comp=Z,580nm,26.6s
133A Hamilton Ranch 85.32 55 P P 04 46 23.3 -0.2
baz=249,SNR=6.2
334A Lometa 85.41 56 P P 04 46 23.9 -0.1
baz=250,SNR=11
535A Dale 85.50 57 P P 04 46 24.5 0.0
baz=250
736A Circle Diamond 85.55 59 P P 04 46 25.8 +1.1
baz=250
Z33A Whitaker Ranch 85.69 54 P P 04 46 25.3 0.0
baz=249,SNR=9.7
X32A Elmer 85.69 53 P P 04 46 25.3 0.0
baz=249
234A Clairette 85.73 55 P P 04 46 25.3 -0.2
baz=250,SNR=9.5
435B Jarrell 85.75 57 P P 04 46 25.9 +0.3
baz=250
LAO LASA Array 85.85 39 P P 04 46 26.6 +0.7
baz=243
LAO LASA Array 85.85 39 eP P 04 46 27.1 +1.2
comp=Z,65nm,1.7s
536A Bastrop 85.93 58 P P 04 46 26.8 +0.3
baz=250
134A White-Moore Ra 85.97 55 P P 04 46 26.8 +0.1
baz=250,SNR=7.5
W32A Sentinel 85.97 52 P P 04 46 26.6 -0.1
baz=249,SNR=9.2
335A Moody 86.05 56 P P 04 46 26.9 -0.2
baz=250
Y33A Hilltop Ranch, 86.05 53 P P 04 46 26.7 -0.4
baz=249
RSSD Black Hills 86.11 42 P P 04 46 26.9 -0.6
baz=245
RSSD Black Hills 86.11 42 eP P 04 46 27.5 +0.1
RSSD pmax pmax
comp=Z,35nm,1.7s
RSSD Black Hills 86.11 42 eP P 04 46 27.5 +0.1
comp=Z,35nm,1.7s
OGNE Ogallala 86.16 46 P P 04 46 26.9 -0.6
baz=247
WMOK Wichita Mounta 86.19 53 P P 04 46 27.0 -0.8
baz=249
WMOK Wichita Mounta 86.19 53 eP P 04 46 27.5 -0.3
WMOK pmax pmax
comp=Z,15nm,1.5s
WMOK Wichita Mounta 86.19 53 eP P 04 46 27.5 -0.3
comp=Z,14nm,1.5s
WHTX Lake Whitney, 86.27 56 P P 04 46 28.2 0.0
baz=250,SNR=7.6
WHTX Lake Whitney, 86.27 56 eP P 04 46 28.7 +0.5
comp=Z,27nm,1.2s
637A Eagle Lake 86.32 58 P P 04 46 28.3 -0.1
baz=251
X33A Lawton 86.34 53 P P 04 46 27.7 -0.8
baz=249
Z34A Collier Ranch, 86.38 54 P P 04 46 28.2 -0.5
baz=250
436A Wall Ranch, Ga 86.38 57 P P 04 46 29.0 +0.3
baz=250
135A Vickery Place, 86.50 55 P P 04 46 29.4 0.0
baz=250
537A Green Hill Far 86.54 58 P P 04 46 30.3 +0.8
baz=251,SNR=5.8
336A Riesel 86.55 56 P P 04 46 29.1 -0.5
baz=250
W33A Caddo, Fort Co 86.58 52 P P 04 46 29.8 +0.1
baz=249
H25A Fruitdale 86.61 42 P P 04 46 29.8 +0.1
baz=245
U32A Winter Ranch, 86.62 51 P P 04 46 29.6 -0.2
baz=249
Y34A Reagan Ranch, 86.71 54 P P 04 46 30.4 +0.1
baz=250
X34A Smith Ranch, M 86.87 53 P P 04 46 31.3 +0.2
baz=250
Z35A Perchaven, San 86.89 54 P P 04 46 31.3 +0.1
baz=250
437A Phantom Ranch, 86.93 57 P P 04 46 32.0 +0.5
baz=251
V33A Lossen Ranch, 86.96 52 P P 04 46 31.7 +0.2
baz=249
CBKS Cedar Bluff 86.97 49 P P 04 46 31.3 -0.2
baz=248
236A Katherine and 87.01 56 P P 04 46 31.8 0.0
baz=250
638A Rosharon 87.04 59 P P 04 46 32.8 +0.8
baz=251
W34A Bridge Creek, 87.14 53 P P 04 46 32.9 +0.4
baz=250
S32A Newby Ranch, P 87.14 50 P P 04 46 33.8 +1.4
baz=249
136A Ennis 87.17 55 P P 04 46 32.5 -0.1
baz=250
F25A Bowman 87.25 41 P P 04 46 32.6 -0.1
baz=245
Y35A Marietta 87.25 54 P P 04 46 33.0 +0.1
baz=250
337A Centerville 87.30 57 P P 04 46 33.7 +0.5
baz=251
U33A Lingo Farm, Me 87.30 51 P P 04 46 32.7 -0.5
baz=249
T33A Patterson Ranc 87.44 51 P P 04 46 33.8 0.0
baz=249
438A Sam Houston St 87.45 57 P P 04 46 34.4 +0.4
baz=251
X35A Drake 87.47 54 P P 04 46 33.6 -0.5
baz=250
Z36A Blue Ridge 87.51 55 P P 04 46 34.2 0.0
baz=250
R32A Long Quarter, 87.57 49 P P 04 46 34.4 0.0
baz=249
237A Washetta, Mont 87.59 56 P P 04 46 35.0 +0.3
baz=251
F26A Lodgepole 87.72 41 P P 04 46 34.7 -0.3
baz=246
U34A Anderson Ranch 87.74 51 P P 04 46 34.5 -0.8
baz=250
338A Crockett 87.78 57 P P 04 46 35.8 +0.3
baz=251
S33A Kaszmaul Farm, 87.80 50 P P 04 46 35.1 -0.4
baz=249

W35A Tecumseh 87.80 53 P P 04 46 35.4 -0.2
baz=250
137A Heron Place, G 87.83 56 P P 04 46 36.3 +0.6
baz=251
Y36A Durant 87.84 54 P P 04 46 35.7 -0.1
baz=250
DGMT Dagmar 87.87 38 P P 04 46 36.1 +0.4
baz=245
INK Inuvik 87.88 14 eP P 04 46 35.4 +0.2
INK pmax pmax
comp=Z,17nm,1.6s
INK Inuvik 87.88 14 eP P 04 46 35.4 +0.2
comp=Z,18nm,1.6s
Q32A Meitler Ranch, 87.89 49 P P 04 46 35.9 0.0
baz=249
GYA Guiyang 87.96 298 eP P 04 46 37.6 +0.9
GYA pP sP 04 46 55.8 +6.0
GYA PP **PP** **04 50 07.3 +3.8**
GYA SKS **SKSac** **04 56 57.0 -6.5**
GYA S **SKKSac** **04 57 13.4 -0.2**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,6.9s
X36A Centrahoma 88.01 54 P P 04 46 36.2 -0.4
baz=250
439A Center Grove, 88.04 58 P P 04 46 37.2 +0.4
baz=251
V35A Meyer Ranch, C 88.04 52 P P 04 46 36.5 -0.2
baz=250
E26A Carlson Angus 88.10 41 P P 04 46 37.4 +0.6
baz=246
Z37A Pogue Cattle C 88.13 55 P P 04 46 37.4 +0.2
baz=251
238A Jacksonville 88.14 56 P P 04 46 38.2 +0.9
baz=251
MAW Mawson 88.18 199 P P 04 46 35.1 -1.6
comp=Z,1.7nm,0.7s,baz=108,slow=13,SNR=3.8
MAW LR LR 05 23 09.1
comp=Z,765nm,20.3s,baz=98,slow=34
MAW Mawson 88.18 199 eP P 04 46 38.0 +1.2
MAW Mawson 88.18 199 eP P 04 46 38.0 +1.2
W36A Wetumka 88.30 53 P P 04 46 38.3 +0.4
baz=250
138A Matatall Enter 88.38 56 P P 04 46 38.8 +0.4
baz=251
339A Huntington 88.38 57 P P 04 46 39.1 +0.7
baz=252
Y37A Hugo 88.39 54 P P 04 46 38.6 +0.2
baz=251
Q33A Connelly Farm, 88.42 49 P P 04 46 39.2 +0.7
baz=249
NATX Nacogdoches 88.43 57 P P 04 46 38.9 +0.3
baz=251
NATX Nacogdoches 88.43 57 eP P 04 46 39.8 +1.2
comp=Z,131nm,1.8s
K30A Basset 88.49 45 P P 04 46 38.9 +0.2
baz=248
XAN Xi'an 88.50 306 P P 04 46 39.8 +0.8
XAN pP sP 04 46 59.3 +7.2
XAN PMZ
comp=Z,9.0nm,1.9s
XAN LZ
comp=Z,450nm,20.3s
Z38A Mt. Pleasant 88.65 55 P P 04 46 40.0 +0.4
baz=251
239A Gary 88.67 56 P P 04 46 39.8 0.0
baz=252
P33A Williams Farm, 88.67 49 P P 04 46 39.4 -0.3
baz=250
T35A Sooner Cattle 88.68 51 P P 04 46 39.5 -0.2
baz=250
440A Kirbyville 88.68 58 P P 04 46 39.1 -0.7
baz=252
A25A Svangstu Ranch 88.72 38 P P 04 46 40.2 +0.5
baz=246
V36A Jenks 88.73 53 P P 04 46 39.6 -0.3
baz=251
X37A Clayton 88.78 54 P P 04 46 40.2 0.0
baz=251
HHC Hu-ho-hao-te 88.85 313 eP P 04 46 41.3 +0.7
HHC S **S** **04 57 29.3 +2.9**
HHC SS **SS** **05 03 23.6 +4.2**
HHC PMZ
comp=Z,29nm,0.9s
HHC PMZ
comp=Z,360nm,7.3s
HHC LN
comp=Z,270nm,18.3s
HHC LE
comp=Z,520nm,17.7s
HHC LZ
comp=Z,390nm,19.3s
TUL1 Leonard 88.89 52 P P 04 46 40.6 -0.1
baz=251
W37B Quinton 88.91 53 P P 04 46 40.8 0.0
baz=251
139A Bunkhouse Ranc 88.94 56 P P 04 46 41.2 +0.2
baz=252
340A Bronson 88.95 57 P P 04 46 41.1 0.0
baz=252
B26A Jensen Ranch, 89.02 39 P P 04 46 41.7 +0.6
baz=246
Q34A Chapman 89.04 49 P P 04 46 41.4 0.0
baz=250
Y38A Idabel 89.07 55 P P 04 46 41.6 0.0
baz=251
U36A Oologah 89.09 52 P P 04 46 41.4 -0.2
baz=251
X38A Whitesboro 89.23 54 P P 04 46 42.2 -0.1
baz=251
A26A Wade Farm, Ken 89.35 39 P P 04 46 42.4 -0.2
baz=246
V37A Hulbert 89.38 53 P P 04 46 43.0 0.0
baz=251
341A Kurthwood 89.51 57 P P 04 46 43.5 -0.3
baz=252
U37A Salina 89.57 52 P P 04 46 44.0 +0.1
baz=251
Y39A Lockesburg 89.57 55 P P 04 46 43.3 -0.7
baz=252
140A Cam and Jess, 89.58 56 P P 04 46 43.9 -0.1
baz=252
S36A Lake Cedric, C 89.64 51 P P 04 46 44.6 +0.4
baz=251
O34A Beatrice 89.65 48 P P 04 46 44.3 +0.1
baz=250
PLCA Paso Flores 89.68 132 LR LR 05 19 05.1
comp=Z,773nm,20.4s,baz=294,slow=30
YKA Yellowknife Ar 89.71 23 P P 04 46 43.0 -0.9
comp=Z,1.3nm,0.9s,baz=233,slow=4.1,SNR=8.2
YKA LR LR 05 19 26.3
comp=Z,31nm,21.2s,baz=180,slow=30
YKA Yellowknife Ar 89.71 23 P P 04 46 43.0 -0.9
YKA Yellowknife Ar 89.71 23 P P 04 46 43.0 -0.9
A27A Ledoux Ranch, 89.85 39 P P 04 46 45.3 +0.4
baz=247
Z40A Long Farm, Mag 89.91 56 P P 04 46 45.9 +0.3
baz=252
241A Mo Tay, Goldon 89.92 57 P P 04 46 46.1 +0.5
baz=252
V38A Canehill 89.94 53 P P 04 46 46.1 +0.5
baz=252
T37A Chenoyville 18 89.95 52 P P 04 46 46.1 +0.4
baz=251
141A Papa Simpson, 90.11 56 P P 04 46 46.9 +0.4
baz=252
B28A Dugan Ranch, T 90.19 40 P P 04 46 46.5 0.0
baz=248
342A Flagon Creek P 90.21 58 P P 04 46 47.3 +0.4
baz=253
W39A Magazine 90.21 54 P P 04 46 46.4 -0.5
baz=252
S37A Fort Scott 90.22 51 P P 04 46 48.0 +1.0
baz=251
Y40A Okolona 90.24 55 P P 04 46 47.2 +0.2
baz=252
Z41A Richland Creek 90.39 56 P P 04 46 47.9 +0.2
baz=252
T38A Diamond 90.40 52 P P 04 46 48.1 +0.4
baz=252
R37A Teagarden Farm 90.40 50 P P 04 46 47.5 -0.2
baz=251
J33A Davis 90.54 45 P P 04 46 48.2 -0.1
baz=250
Y41A Eaglette Beard 90.73 55 P P 04 46 49.6 +0.3
baz=253
X40A Basin Creek Fa 90.74 55 P P 04 46 49.7 +0.3
baz=252
U39A Green Forest 90.81 53 P P 04 46 49.8 +0.1
baz=252
B29A Wagenman Farm, 90.82 40 P P 04 46 49.8 +0.3
baz=248
S38A Stockton 90.87 51 P P 04 46 50.5 +0.5
baz=252
X41A Kaden, Bauxite 90.99 55 P P 04 46 50.0 -0.6
baz=253
243A Waterproof 91.05 57 P P 04 46 50.7 -0.1
baz=253
R38A Fenwick Farm, 91.05 51 P P 04 46 50.4 -0.3
baz=252
A29A Manning Farm, 91.06 39 P P 04 46 50.9 +0.3
baz=248
Z42A Norrel Spur, H 91.08 56 P P 04 46 50.0 -1.0
baz=253
P37A Lathrop 91.16 49 P P 04 46 50.2 -1.0
baz=252
U40A Yellville 91.29 53 P P 04 46 51.5 -0.4
baz=252
X301 Greenbrier Sit 91.30 54 eP P 04 46 53.5 +1.6
comp=Z,38nm,1.5s
S39A Bolivar 91.33 51 P P 04 46 51.2 -0.9
baz=252
143A Socs Landing, 91.35 57 P P 04 46 52.1 -0.1
baz=253
X201 Greenbrier Sit 91.35 54 eP P 04 46 53.6 +1.4
comp=Z,43nm,1.7s
Y42A Garnett, Star 91.37 55 P P 04 46 52.7 +0.4
baz=253
W41B Gary Mavity, V 91.40 54 P P 04 46 52.6 +0.2
baz=253
WHAR Wooly Hollow 91.41 54 eP P 04 46 54.4 +2.0
comp=Z,54nm,1.8s
Q38A Cooks Store, C 91.50 50 P P 04 46 52.8 -0.1
baz=252
344A Westbrook Farm 91.53 58 P P 04 46 53.2 +0.1
baz=254
Z43A Armstrong Fami 91.62 56 P P 04 46 53.3 -0.2
baz=253
A30A Hoffart Farm, 91.64 40 P P 04 46 54.0 +0.7
baz=249
V41A Mountainview 91.66 53 P P 04 46 52.9 -0.7
baz=253
CD2 Chengdu 91.71 301 eP P 04 46 53.5 -0.5
CD2 pP sP 04 47 11.9 +4.7
CD2 sP pP 04 47 19.3 +16
CD2 SKS **SKSac** **04 57 19.8 -5.2**
CD2 S **S** **04 57 48.8 -4.2**
CD2 sS sS 04 58 20.8 +12
CD2 SS **SS** **05 03 58.6 -2.5**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
L36A Harm Buss Farm 91.73 47 P P 04 46 53.6 -0.2
baz=252
244A Avery, Jackson 91.74 57 P P 04 46 54.4 +0.3
baz=254
P38A Dawn 91.77 49 P P 04 46 53.9 -0.2
baz=252
T40A Mansfield 91.78 52 P P 04 46 53.3 -0.9
baz=253
F33A 5 Mile Ranch, 91.85 43 P P 04 46 53.8 -0.5
baz=250
B31A Greenbush Farm 91.86 40 P P 04 46 54.6 +0.3
baz=250
S40A Lebanon 91.93 52 P P 04 46 54.4 -0.4
baz=253
M37A Trindle Farm, 91.94 48 P P 04 46 54.4 -0.4
baz=252
O38A Galt 91.97 49 P P 04 46 54.0 -0.9
baz=252
Q39A Willow Grove F 92.01 50 P P 04 46 54.2 -1.0
baz=252
K36A Gilmore City 92.05 46 P P 04 46 54.8 -0.5
baz=252
Y43A Makayla and Ka 92.08 56 P P 04 46 55.7 +0.1
baz=254
V42A Cord 92.26 54 P P 04 46 55.7 -0.7
baz=253
X43A Marvell 92.29 55 P P 04 46 57.1 +0.5
baz=254
P39B Salisbury 92.30 50 P P 04 46 56.7 +0.2
baz=253
R40A Maddies Statio 92.31 51 P P 04 46 56.7 +0.1
baz=253
T41A Mountain View 92.33 52 P P 04 46 56.1 -0.6
baz=253
J36A Seneca 1, Swea 92.35 46 P P 04 46 55.8 -0.9
baz=252
C32A Crookston 92.36 41 P P 04 46 56.9 +0.3
baz=250
L37A Phoenix Point, 92.38 47 P P 04 46 57.4 +0.6
baz=252
145A Houston Renfro 92.51 57 P P 04 46 57.8 +0.2
baz=254
B32A Ashes, Strandq 92.55 40 P P 04 46 56.2 -1.2
baz=250
M38A Pleasantville 92.56 48 P P 04 46 57.1 -0.5
baz=252
CMAR Chiang Mai Arr 92.60 288 LR LR 05 23 26.8
comp=Z,347nm,22.0s,baz=108,slow=32
Q40A Laux Farm, Aux 92.66 50 P P 04 46 57.8 -0.4
baz=253
K37A Belmond 92.66 46 P P 04 46 57.5 -0.6
baz=252
Y44A Strider, Charl 92.66 56 P P 04 46 56.7 -1.6
baz=254
O39A Kirksville 92.69 49 P P 04 46 57.2 -1.1
baz=253
A32A Rocking H Ranc 92.75 40 P P 04 46 58.4 +0.1
baz=250
I36A Fitzsimmons Fa 92.79 45 P P 04 46 57.9 -0.7
baz=252
P40A Paris 92.84 50 P P 04 46 58.8 -0.2
baz=253
G35A Watkins 92.85 44 P P 04 46 59.1 +0.2
baz=252
X44A Crenshaw 92.86 55 P P 04 46 58.7 -0.5
baz=254
J37A Redenius Farm, 92.89 46 P P 04 46 59.0 -0.1
baz=252
N39A Derby Farms, D 92.90 49 P P 04 46 58.4 -0.8
baz=253
Z45A Winona 92.92 56 P P 04 46 58.7 -0.8
baz=254
AGMN Agassiz Nation 92.94 41 P P 04 46 59.3 0.0
baz=251
F35A Swanville 92.99 43 P P 04 46 59.1 -0.4
baz=252
H36A Jessenland, He 93.02 45 P P 04 46 59.1 -0.6
baz=252
LZH Lanzhou 93.09 306 eP P 04 47 04.4 +3.9
LZH PP **PP** **04 50 44.0 0.0**
LZH SKS **SKSac** **04 57 31.5 -1.3**
LZH eS **S** **04 58 00.6 -4.8**
LZH sS sS 04 58 29.3 +7.8
LZH SS **SS** **05 04 27.0 +6.1**
LZH PMZ
comp=Z,24nm,1.1s
LZH PMZ
comp=Z,120nm,5.2s
LZH LN
comp=Z,1μm,14.7s
LZH LE
comp=Z,1μm,13.4s
LZH LZ
comp=Z,2μm,17.7s
O40A La Belle 93.14 49 P P 04 46 59.4 -1.0
baz=253
Y45A Yeager Farm, C 93.17 56 P P 04 46 59.7 -0.9
baz=254
146A Union 93.23 57 P P 04 47 01.0 0.0
baz=254
SNAA Sanae 93.27 177 eP P 04 47 02.1 +1.6
SNAA pmax pmax
comp=Z,11nm,1.4s
SNAA Sanae 93.27 177 eP P 04 47 02.1 +1.6
comp=Z,11nm,1.4s
X45A UM Field Stati 93.44 55 P P 04 47 01.4 -0.5
baz=254
Z46A Louisville 93.47 57 P P 04 47 01.9 -0.2
baz=254
ULM Lac du Bonnet 93.58 39 LR LR 05 24 25.6
comp=Z,1μm,19.1s,baz=258,slow=32
P41A Barry, Barry 93.61 50 P P 04 47 02.3 -0.3
baz=254
L39A Vinton 93.63 47 P P 04 47 01.9 -0.7
baz=253
F36A Milaca 93.69 44 P P 04 47 02.5 -0.2
baz=252
Y46A Houston 93.72 56 P P 04 47 03.3 +0.1
baz=255
S43A Fulton Ridge, 93.77 52 P P 04 47 02.9 -0.5
baz=254
Q42A Golden Eagle 93.79 51 P P 04 47 03.5 +0.1
baz=254
W45A Hickory Valley 93.80 55 P P 04 47 02.8 -0.8
baz=254
348A Jackson 93.85 59 P P 04 47 03.4 -0.4
baz=255
O41A Passleys Farm, 93.87 50 P P 04 47 03.1 -0.6
baz=254
K39A Oelwein 93.88 47 P P 04 47 02.7 -1.1
baz=253
VNA1 Neumayer--Stat 93.91 175 P P 04 47 04.0 +0.6
Z47A Carrollton 94.18 57 P P 04 47 04.6 -0.7
baz=255
J39A Decorah 94.18 46 P P 04 47 04.2 -0.9
baz=254
ULN Ulaanbaatar 94.22 318 eP P 04 47 04.9 -0.5
ULN pmax pmax
comp=Z,5.0nm,1.4s
ULN Ulaanbaatar 94.22 318 eP P 04 47 05.0 -0.3
comp=Z,22nm,1.8s
Q43A New Douglas 94.42 51 P P 04 47 06.4 +0.1
baz=254
S44A Carbondale 94.43 52 P P 04 47 06.0 -0.3
baz=255
Y47A UCPARC, Winfie 94.54 56 P P 04 47 06.8 -0.1
baz=255
SONA1 Songino Array 94.64 318 eP P 04 47 06.5 -0.8
SONM Songino Array 94.64 318 P P 04 47 06.6 -0.7
comp=Z,0.4nm,0.6s,baz=119,slow=1.9,SNR=6.6
SONM LR LR 05 24 29.8
comp=Z,560nm,22.0s,baz=128,slow=32
TIXI Tiksi 94.67 344 eP P 04 47 06.9 +0.2
TIXI pmax pmax
comp=Z,3.0nm,1.1s
D37A Cotton 94.80 43 P P 04 47 07.2 -0.7
baz=253
WVT Waverly 95.12 54 eP P 04 47 08.3 -1.3
WVT pmax pmax
comp=Z,17nm,1.5s
WVT Waverly 95.12 54 eP P 04 47 08.3 -1.3
comp=Z,17nm,1.5s
HDIL Hopedale 95.15 50 P P 04 47 08.8 -0.8
baz=255
ZAK Zakamensk 97.30 320 eP P 04 47 18.6 -0.7
ZAK pmax pmax
comp=Z,2.0nm,1.6s
TLY Talaya 97.41 321 LR LR 05 28 08.4
comp=Z,553nm,20.0s,baz=91,slow=34
TKL Tuckaleechee C 98.21 55 LR LR 05 24 46.8
comp=Z,836nm,21.6s,slow=31
LPAZ La Paz 99.84 110 LR LR 05 25 16.6
comp=Z,327nm,19.5s,baz=264,slow=31
WMQ Urumqi 106.70 312 Pdif **Pdif** **04 48 01.3 0.0**
WMQ PP **PP** **04 52 30.5 +3.3**
WMQ S **Sdif** **05 00 03.1 +2.9**
WMQ PPMZ
comp=Z,95nm,5.0s
KSH Kashi 115.34 307 ePKP **PKPdf** **04 52 25.8 -2.4**
KSH PP **PP** **04 53 34.3 +4.8**
KSH PKS **PKSdf** **04 56 00.1 -4.9**
KSH SKS SKSdf 04 59 25.5 -13
KSH SKKS SKKSac 05 00 16.9 -12
KSH PPMZ
comp=Z,110nm,6.0s
KSH LN
comp=Z,100nm,5.9s
KSH LE
comp=Z,98nm,5.1s
KSH LZ
comp=Z,320nm,13.4s
BVAR Borovoye Array 117.65 322 PKP **PKPdf** **04 52 32.3 +0.3**
comp=Z,0.5nm,0.5s,baz=79,slow=4.8,SNR=4.7
ARU Arti 123.08 329 i PKIKP **PKPdf** **04 52 41.3 -1.1**
ARU 04 54 21.6
ARU 04 59 45.4
ARU MLR MLR
comp=Z,534nm,21.0s
ARCES ARCESS Array B 124.25 352 PKP **PKPdf** **04 52 45.4 +1.1**
comp=Z,2.3nm,0.8s,baz=10,slow=5.5,SNR=3.2
AKTO Aktyubinsk 125.76 322 PKP **PKPdf** **04 52 48.2 +0.6**
comp=Z,0.5nm,0.3s,baz=198,slow=3.2,SNR=3.3
KLMR Klimovskoe 128.48 340 ePKIKP **PKPdf** **04 52 51.7 -0.8**
KLMR pmax pmax
comp=Z,13nm,1.5s
OBN Obninsk 133.81 337 ePKIKP **PKPdf** **04 53 02.8 0.0**
OBN eSSS SSS 05 18 18.5
OBN pmax pmax
comp=Z,5.0nm,0.6s
KIV Kislovodsk 137.98 321 i PKIKP **PKPdf** **04 53 10.4 -0.7**
KIV ePS PS 05 06 25.9 -2.2
KIV eSS SS 05 14 02.2 -5.5
KIV eSSS SSS 05 19 10.8
KIV pmax pmax
comp=Z,8.0nm,1.1s
AKASG Malin Array Be 140.04 338 PKP **PKPdf** **04 53 16.6 +2.1**
comp=Z,0.5nm,0.5s,baz=5.7,slow=1.0,SNR=4.8
KIEV Kiev 140.05 338 ePKIKP **PKPdf** **04 53 15.0 +0.5**
ANN Anapa 140.56 325 i PKIKP PKPdf 04 53 24.4 +8.8
ANN pmax pmax
comp=Z,35nm,0.9s
ANN MLR MLR
comp=Z,209nm,20.0s
ANN MLR MLR
comp=E,311nm,20.0s
ANN MLR MLR
comp=N,968nm,20.0s
KIS Kishinev 143.18 335 ePKP **PKPdf** **04 53 19.0 -1.2**
KIS eSKP 04 57 08.0
KIS eSKKS 05 03 30.0
KIS LRM MLR 05 55 08.0
comp=N,600nm,22.0s
KIS Kishinev 143.18 335 ePKIKP **PKPdf** **04 53 19.0 -1.2**
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,600nm,22.0s
STHS Stebnicka Huta 143.70 344 ePKIKP **PKPdf** **04 53 24.1 +3.0**
STHS Stebnicka Huta 143.70 344 ePKP **PKPdf** **04 53 24.1 +3.0**
UPC Upice 143.82 350 eSS SS 05 15 12.2 -1.8
UPC AMS AMS 05 55 50.0
comp=Z,500nm,21.2s
KOLS Kolonicke sedl 143.85 343 ePKIKP **PKPdf** **04 53 22.8 +1.4**
KOLS Kolonicke sedl 143.85 343 ePKP **PKPdf** **04 53 22.8 +1.4**
DPC Dobruska-Polom 143.91 350 ePKP **PKPdf** **04 53 22.0 +0.5**
DPC AMS AMS 05 52 20.0
comp=Z,400nm,25.4s
DPC Dobruska-Polom 143.91 350 ePKIKP **PKPdf** **04 53 22.0 +0.5**
DPC MLR MLR
comp=Z,400nm,25.4s
PVCC Panska Ves 144.02 351 AMS AMS 05 55 40.0
comp=Z,500nm,22.9s
OKC Ostrava-Krasne 144.05 347 eSS SS 05 15 15.2 -1.5
OKC AMS AMS 05 52 20.0
comp=Z,400nm,23.1s
BURAR Bucovina Array 144.06 339 ||| i P **PKPdf** **04 53 28.5 +6.6**
BURAR Bucovina Array 144.06 339 ||| PKIKP **PKPdf** **04 53 28.5 +6.6**
CRVS Cervenica-Dubn 144.11 343 ePKIKP PKPbc 04 53 20.9 +1.0
CRVS Cervenica-Dubn 144.11 343 ePKP PKPbc 04 53 20.9 +1.0
UZH Uzhgorod 144.12 342 ||| ePKIKP **PKPdf** **04 53 27.0 +5.2**
UZH i 04 53 34.8
LANS Liptovska Anna 144.40 346 ePKIKP **PKPdf** **04 53 25.1 +2.7**
LANS Liptovska Anna 144.40 346 ePKP **PKPdf** **04 53 25.1 +2.7**
MEM Membach 144.50 1 PKP **PKPdf** **04 53 25.1 +2.7**
PRU Pruhonice 144.55 351 ePKP **PKPab** **04 53 21.2 +0.2**
PRU eSS SS 05 15 17.9 -4.5
PRU AMS AMS 05 56 10.0
comp=Z,600nm,21.9s
PRU Pruhonice 144.55 351 ePKIKP **PKPab** **04 53 21.2 +0.2**
PRU eSS SS 05 15 17.9 -4.5
PRU MLR MLR
comp=Z,600nm,21.9s
GOPC GO Pecny, Ondr 144.59 351 AMS AMS 05 56 20.0
comp=Z,500nm,19.7s
BCLA Clavier 144.68 2 PKP **PKPdf** **04 53 25.8 +3.0**
KECS Kecovo 144.76 344 ePKIKP **PKPdf** **04 53 24.6 +1.6**
KECS Kecovo 144.76 344 ePKP **PKPdf** **04 53 24.6 +1.6**

ARCR	ARCALIA	144.82	339	⇑	*i*P		PKPbc	04 53 22.4	+0.2
CFR	Carcaliu	144.91	333	⇑	*i*P		**PKPdf**	**04 53 24.9**	**+1.6**
CFR	Carcaliu	144.91	333	⇑	PKIKP		**PKPdf**	**04 53 24.9**	**+1.6**
VRI	Vrincioaia	144.95	335	⇓	*i*P		**PKPab**	**04 53 21.6**	**-1.0**
VRI	Vrincioaia	144.95	335	⇓	PKIKP		**PKPab**	**04 53 21.6**	**-1.0**
TREC	Trest	145.08	350		AMS		AMS	06 02 10.0	
	comp=Z,600nm,20.1s								
VYHS	Vyhne	145.16	346		*e*PKIKP		**PKPdf**	**04 53 23.7**	**0.0**
VYHS					*e*			04 53 32.5	
VYHS	Vyhne	145.16	346		*e*PKP		**PKPdf**	**04 53 23.7**	**0.0**
VYHS					*e*			04 53 32.5	
GRFO	Grafenberg	145.23	355		*e*PKIKP		**PKPdf**	**04 53 26.7**	**+2.9**
GRFO	Grafenberg	145.23	355		*e*PKPdf		**PKPdf**	**04 53 26.7**	**+2.9**
TIRR	Tirgusor	145.36	332	⇑	*i*P		**PKPab**	**04 53 25.1**	**+1.0**
TIRR	Tirgusor	145.36	332	⇑	PKIKP		**PKPab**	**04 53 25.1**	**+1.0**
TIRR	Tirgusor	145.36	332	⇑	*e*PKPdf		**PKPab**	**04 53 24.5**	**+0.4**
DOPR	Dopca	145.39	337	⇑	*i*P		**PKPab**	**04 53 25.7**	**+1.4**
PSZ	Piszkesteto	145.43	344	⇑	*i*P		**PKPbc**	**04 53 24.1**	**-0.1**
PSZ	Piszkesteto	145.43	344	⇑	*e*PKPbc		**PKPbc**	**04 53 24.2**	**0.0**
PSZ	Piszkesteto	145.43	344	⇑	PKIKP		**PKPbc**	**04 53 24.1**	**-0.1**
PSZ	Piszkesteto	145.43	344		*e*PKPdf		**PKPbc**	**04 53 23.9**	**-0.3**
WLF	Walferdange	145.45	1		PKP		**PKPab**	**04 53 25.0**	**+0.7**
WLF	Walferdange	145.45	1		*e*PKIKP		**PKPab**	**04 53 24.6**	**+0.3**
WLF	Walferdange	145.45	1		*e*PKPdf		**PKPab**	**04 53 24.6**	**+0.3**
KHC	Kasperske Hory	145.53	352		*e*PKP		**PKPab**	**04 53 24.8**	**+0.2**
KHC					*ex*		x	04 53 42.3	
KHC					*e*SS		SS	05 15 32.8	-0.8
KHC					AMS		AMS	05 56 30.0	
	comp=Z,500nm,23.6s								
KHC	Kasperske Hory	145.53	352		*e*PKIKP		**PKPab**	**04 53 24.8**	**+0.2**
KHC					*e*			04 53 42.3	
KHC					*e*SS		SS	05 15 32.8	-0.8
KHC					MLR		MLR		
	comp=Z,500nm,23.6s								
KHC	Kasperske Hory	145.53	352		*e*PKPdf		**PKPab**	**04 53 24.9**	**+0.2**
MLR	Muntele Rosu	145.57	336	⇑	*i*P		**PKPab**	**04 53 25.5**	**+0.4**
MLR	Muntele Rosu	145.57	336	⇑	PKIKP		**PKPab**	**04 53 25.5**	**+0.4**
DRGR		145.62	340	⇑	*i*P		**PKPab**	**04 53 25.5**	**+0.3**
DRGR		145.62	340	⇑	PKIKP		**PKPab**	**04 53 25.5**	**+0.3**
ISR	Istrita	145.64	335	⇓	*i*P		**PKPab**	**04 53 27.3**	**+2.1**
ISR	Istrita	145.64	335	⇓	PKIKP		**PKPab**	**04 53 27.3**	**+2.1**
GERES	GERESS Array B	145.79	352		PKPbc		**PKPbc**	**04 53 25.5**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=5.7,slow=5.4,SNR=23								
KMBO	Kilima Mbogo	145.79	245		PKPbc		**PKPbc**	**04 53 26.7**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=348,slow=2.9,SNR=5.8								
KMBO	Kilima Mbogo	145.79	245		*e*PKP2		**PKPab**	**04 53 27.3**	**+0.3**
KMBO	Kilima Mbogo	145.79	245		*e*PKPbc		**PKPab**	**04 53 27.3**	**+0.3**
BRTR	Keskin Array B	145.93	321		PKPbc		**PKPbc**	**04 53 26.2**	**+0.1**
	comp=Z,10nm,0.8s,baz=106,slow=2.7,SNR=48								
PSN	Preselentsi	146.06	332		*e*P		**PKPbc**	**04 53 26.7**	**+0.5**
STU	Stuttgart	146.29	357		*e*PKP2		**PKPbc**	**04 53 26.8**	**+0.1**
STU	Stuttgart	146.29	357		*e*PKPbc		**PKPbc**	**04 53 26.8**	**+0.1**
CONA	Conrad Observa	146.33	349		*i* pPKPdf		**PKPab**	**04 53 27.9**	**+0.1**
	comp=Z,44nm,1.7s								
ANTO	Ankara	146.35	322		*e*PKP2		**PKPbc**	**04 53 27.3**	**0.0**
ANTO	Ankara	146.35	322		*e*PKPbc		**PKPbc**	**04 53 27.3**	**0.0**
SOP	Sopron	146.43	348	⇑	*e*PKPdf		**PKPbc**	**04 53 27.1**	**-0.1**
MOA	Molln	146.68	351		*i* pPKPdf		**PKPab**	**04 53 29.2**	**+0.1**
	comp=Z,19nm,1.3s								
BFO	Black Forest	146.76	358		*e*PKIKP		**PKPdf**	**04 53 25.3**	**-1.1**
BFO					*e*			04 53 28.4	
BFO	Black Forest	146.76	358		*e*PKPdf		**PKPdf**	**04 53 25.3**	**-1.1**
BFO					*e*PKPbc		**PKPbc**	**04 53 28.4**	**+0.3**
PRD	Provadia	146.80	332		*e*P		**PKPbc**	**04 53 28.6**	**+0.3**
GZR	Gura Zlata	146.83	339	⇑	*i*P		**PKPbc**	**04 53 29.1**	**+0.6**
GZR	Gura Zlata	146.83	339	⇑	PKP2		**PKPbc**	**04 53 29.2**	**+0.7**
BZS	Buzias	147.02	341	⇑	*i*P		**PKPdf**	**04 53 27.7**	**+0.8**
BZS	Buzias	147.02	341	⇑	PKIKP		**PKPdf**	**04 53 27.7**	**+0.8**
ARSA	Arzberg	147.04	349		*i* pPKPdf		**PKPbc**	**04 53 29.9**	**+0.9**
	comp=Z,9.5nm,1.1s								
SZH	Strazhica	147.40	333		*e*P		**PKPbc**	**04 53 29.9**	**-0.2**
RETA	Reutte	147.46	355		*i* pPKPdf		**PKPbc**	**04 53 30.1**	**-0.1**
	comp=Z,18nm,1.2s								
WATA	Walderalm	147.53	354		*i* sPKPbc		**PKPab**	**04 53 33.6**	**+1.0**
	comp=Z,6.0nm,0.6s								
KBA	Koelnbreinsper	147.57	352		*i* pPKiKP		**PKPab**	**04 53 35.6**	**+2.9**
	comp=Z,21nm,1.5s								
MOTA	Moosalm	147.57	354		*i* sPKPdf		**PKPbc**	**04 53 31.7**	**+1.1**
	comp=Z,19nm,1.0s								
WTTA	Wattenberg	147.60	354		*i* sPKPbc		**PKPab**	**04 53 34.1**	**+1.2**
	comp=Z,22nm,1.2s								
ASF	Jabal al Asfar	147.65	307		PKPbc		**PKPbc**	**04 53 31.6**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=324,slow=1.0,SNR=5.7								
SOKA	Soboth	147.68	349		*i* pPKPdf		**PKPbc**	**04 53 30.7**	**-0.1**
	comp=Z,26nm,1.6s								
PERS	Pernice	147.71	349		*i* PKPdf		**PKPab**	**04 53 34.2**	**+1.0**
DAVA	Damuels	147.73	356		*i* pPKPdf		**PKPbc**	**04 53 31.4**	**+0.3**
	comp=Z,25nm,1.3s								
FETA	Feichten	147.92	355		*i* pPKiKP		**PKPab**	**04 53 36.9**	**+2.8**
	comp=Z,23nm,1.3s								
OBKA	Obir	147.93	350		*i* sPKPdf		**PKPbc**	**04 53 31.8**	**+0.3**
	comp=Z,10nm,1.2s								
MYKA	Terra Mystica	147.96	351		*i* pPKPdf		**PKPbc**	**04 53 31.2**	**-0.4**
	comp=Z,22nm,1.6s								
ABTA	Abfaltersbach	148.00	352		*i* pPKPdf		**PKPbc**	**04 53 31.5**	**-0.2**
	comp=Z,25nm,1.9s								
MPEP	Malo Peshtene	148.22	336		*e*P		**PKPbc**	**04 53 31.1**	**-1.2**
MMAI	Mount Meron Ar	148.41	310		PKPbc		**PKPbc**	**04 53 34.0**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=42,slow=5.1,SNR=5.8								
VISS	Visnje	148.56	349		*i* PKPdf		**PKPbc**	**04 53 34.8**	**+1.7**
TUE	Stuetta	148.57	357		*e*PKPbc		**PKPbc**	**04 53 34.6**	**+1.2**
TUE					*e*PKPab		**PKPab**	**04 53 37.2**	**+0.4**
JAVS	Javornik	148.61	350		*i* PKPdf		**PKPab**	**04 53 35.4**	**-1.5**
PGB	Panagyurishte	148.73	335		*e*P		**PKPbc**	**04 53 33.3**	**-0.4**
BOJS	Bojanci	148.77	348		*i* PKPdf		**PKPbc**	**04 53 34.5**	**+0.8**
CSS	Mathiatis	148.92	315		*e*PKPbc		**PKPdf**	**04 53 32.5**	**+2.1**
MMB	Musomiste	149.71	334		*e*P		**PKPdf**	**04 53 28.7**	**-2.8**
PGAV	Gavieira, Arco	150.20	23		*e*LR		LR	05 51 22.3	
	comp=Z,448nm,22.0s								
VAY	Valandovo	150.41	335		*e*PKP		**PKPab**	**04 53 46.9**	**+2.7**
POLO	Lamas de Olo	150.89	23		*e*PKPab		**PKPab**	**04 53 46.1**	**-0.2**
PBRG	Braganca	150.89	21		*e*PKPbc		**PKPbc**	**04 53 39.0**	**0.0**
PBRG	Braganca	150.89	21		*e*PKPab		**PKPab**	**04 53 45.9**	**-0.3**
OHR	Ohrid	151.27	338		*e*PKP		**PKPbc**	**04 53 40.5**	**+0.6**
MVO	Moncorvo	151.35	22		*e*PKPab		**PKPab**	**04 53 47.4**	**-0.8**
MVO	Moncorvo	151.35	22		*e*SS		SS	05 16 50.5	+11
MVO	Moncorvo	151.35	22		*e*LR		LR	05 51 53.5	
	comp=Z,319nm,20.0s								
TIR	Tirane	151.40	339		*e*PKIKP		**PKPbc**	**04 53 40.5**	**+0.4**
TIR	Tirane	151.40	339		*e*PKPbc		**PKPbc**	**04 53 40.5**	**+0.4**
MTE	Manteigas	151.82	23		*e*SS		SS	05 16 56.5	+12
MTE	Manteigas	151.82	23		*e*LR		LR	05 50 34.1	
	comp=Z,419nm,20.0s								
PMOZ	Porto Moniz, M	151.98	47		*e*LR		LR	05 44 54.7	
	comp=Z,242nm,22.0s								
PMRV	Marv??o	152.72	24		*e*SS		SS	05 17 02.7	+8.1
PMRV	Marv??o	152.72	24		*e*LR		LR	05 52 48.0	
	comp=Z,571nm,20.0s								
PNCL	Nicolau / Gran	153.34	28		*e*PKPdf		**PKPdf**	**04 53 39.8**	**+2.8**
ESDC	Sonseca Array	153.72	19		PKPbc		**PKPbc**	**04 53 48.0**	**+2.5**
	comp=Z,0.2nm,0.4s,baz=257,slow=0.2,SNR=3.9								
PCVE	Castro Verde	153.96	27		*e*PKPdf		**PKPdf**	**04 53 35.8**	**-2.1**
PVAQ	Vaqueiros	154.29	27		*e*LR		LR	05 50 28.4	
	comp=Z,592nm,20.0s								
TORD	Torodi Ar. Bea	174.79	110		PKP		**PKPdf**	**04 53 59.3**	**+2.4**
	comp=Z,1.4nm,1.0s,baz=289,slow=1.3,SNR=5.8								

*IDC **23** 04:42:53.8±0.9, 33°.84N×89°.30E, h0km, mb3.8/8, mb1 4.0/13, mb1mx3.7/46, mbtmp3.8/13, ML4.0/4, MS4.2/1, Ms1 4.2/1, ms1mx2.8/42, Error ellipse: s-maj=31.9km s-min=16.2km az=54.0*
*ISCJB **23** 04:42:56.6±0.7, 33°.94N×0°.10×89°.3E±0°.1, h33km, mb3.7/7, MS4.2/1, Error ellipse: s-maj=19.7km s-min=10.3km az=146.6*

ISC 23 04:42:58.4±0.8, 33°.9N±0°.1×89°.3E±0°.1, h33km, n15, σ0°90/14, mb3.8/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	13.92	339	Pn		Pn	**Pn**	**04 46 11.8**	**-1.5**
	0.1nm,0.3s,baz=169,slow=16,SNR=2.7								
AAK	Ala-Archa	14.52	311	Pn		Pn	**Pn**	**04 46 20.9**	**-0.8**
	1.5nm,0.3s,baz=223,slow=5.8,SNR=3.6								
CMAR	Chiang Mai Arr	17.64	148	P		P	**Pn**	**04 47 00.8**	**-0.8**
	0.8nm,0.3s,baz=327,slow=10,SNR=9.2								
CMAR	Chiang Mai Arr	17.64	148	P		P	**Pn**	**04 47 00.9**	**-0.8**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KURBB	Kurchatov Arra	18.47	338	P		P	**P**	**04 47 10.4**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=151,slow=12,SNR=11								
SONM	Songino Array	18.90	38	P		P	**Pn**	**04 47 17.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=224,slow=10,SNR=7.7								
ZALV	Zalesovo Beam	20.27	352	P		P	**P**	**04 47 32.0**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=172,slow=12,SNR=11								
BVAR	Borovoye Array	23.39	330	P		P	**P**	**04 48 05.7**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=148,slow=8.6,SNR=4.8								
TIXI	Tiksi	43.11	17	P		P	**P**	**04 50 55.2**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=356,slow=6.4,SNR=4.5								
BRTR	Keskin Array B	44.35	294	P		P	**P**	**04 51 05.8**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=98,slow=5.1,SNR=5.4								
MA2	Magadan	47.11	38	LR		LR		05 14 31.6	
	comp=Z,257nm,20.7s,baz=158,slow=40								
NOA	NORSAR Array B	55.35	325	P		P	**P**	**04 52 29.4**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=75,slow=5.3,SNR=3.3								
GERES	GERESS Array B	56.40	310	P		P	**P**	**04 52 36.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=61,slow=6.4,SNR=12								
WRA	Warramunga Arr	68.61	134	P		P	**P**	**04 53 58.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=326,slow=6.2,SNR=7.1								
ASAR	Alice Springs	71.25	137	P		P	**P**	**04 54 14.9**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=320,slow=5.6,SNR=6.1								

*IDC **23** 04:49:59.9±0.7, 33°.85N×89°.44E, h0km, mb4.1/14, mb1 4.1/19, mb1mx4.0/48, mbtmp4.0/19, ML3.6/5, MS3.5/4, Ms1 3.6/4, ms1mx3.1/40, Error ellipse: s-maj=24.1km s-min=14.1km az=50.0*
*ISCJB **23** 04:50:03.1±0.4, 33°.92N±0°.04×89°.52E±0°.08, h33km, mb4.0/13, MS3.4/3, Error ellipse: s-maj=9.8km s-min=5.8km az=2.0*

ISC 23 04:50:04.8±0.6, 33°.95N±0°.08×89°.52E±0°.09, h33km, n38, σ1°14/37, mb4.1/13, MS3.5/3, 6C-1D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUN	Gumba	6.78	208	*e*P		P	**Pn**	**04 51 44.1**	**+1.8**
	30nm,0.6s								
KKN	Kakani	7.14	212	*e*P		P	**Pn**	**04 51 48.0**	**+0.9**
	15nm,0.6s								
GKN	Gorkha	7.26	217	*e*P		P	**Pn**	**04 51 49.6**	**+0.9**
	14nm,0.5s								
PKIN	Phulchoki	7.27	210	*e*P		P	**Pn**	**04 51 50.5**	**+1.5**
	14nm,0.6s								
DMN	Daman	7.37	212	*e*P		P	**Pn**	**04 51 51.4**	**+1.1**
	26nm,0.6s								
RAMN	Ramite	7.42	201	*e*P		P	**Pn**	**04 51 50.6**	**-0.3**
	33nm,0.7s								
KOLN	Koldanda	7.99	221	*e*P		P	**Pn**	**04 51 58.1**	**-0.6**
	8.8nm,0.6s								
PYUN	Piuthan	8.08	226	*e*P		P	**Pn**	**04 51 58.3**	**-1.7**
	15nm,0.7s								
SHL	Shillong	8.60	166	*e*P		P	**Pn**	**04 52 07.0**	**-0.2**
GTA	Gaotai	9.90	54	*e*P		P	Pn	04 52 33.5	+8.6
GTA				pP				04 52 37.8	
GTA				sP				04 52 40.5	
GTA				S			Sn	04 54 28.3	+13
GTA				pmax		pmax			
	comp=Z,7.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,100nm,4.3s								
GTA				LR		LR			
	comp=N,360nm,16.6s								
GTA				LR		LR			
	comp=E,190nm,13.9s								
GTA				LR		LR			
	comp=Z,230nm,10.7s								
MKAR	Makanchi Array	13.95	339	Pn		Pn	**Pn**	**04 53 17.9**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=141,slow=14,SNR=6.1								
AAK	Ala-Archa	14.62	311	Pn		Pn	**Pn**	**04 53 28.1**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=125,slow=6.5,SNR=2.6								
CMAR	Chiang Mai Arr	17.58	149	P		P	**Pn**	**04 54 04.7**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=325,slow=11,SNR=2.0								
CMAR				LR		LR		05 01 32.7	
	comp=Z,159nm,21.4s,baz=12,slow=40								
KURBB	Kurchatov Arra	18.50	338	P		P	**P**	**04 54 17.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=146,slow=12,SNR=16								
SONM	Songino Array	18.79	37	P		P	**Pn**	**04 54 23.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=230,slow=12,SNR=10								
ZALV	Zalesovo Beam	20.27	352	P		P	**P**	**04 54 38.2**	**+0.9**
	comp=Z,11nm,0.9s,baz=170,slow=10,SNR=19								
ZALV				LR		LR		05 03 31.7	
	comp=Z,107nm,19.2s,baz=69,slow=40								
BVAR	Borovoye Array	23.45	330	P		P	**P**	**04 55 12.2**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=126,slow=7.5,SNR=6.2								
GEYT	Alibeck	25.66	288	P		P	**P**	**04 55 32.2**	**+0.6**
	comp=Z,2.7nm,0.4s,baz=140,slow=7.2,SNR=5.1								
GEYT				LR		LR		05 07 37.1	
	comp=Z,155nm,20.7s,baz=70,slow=41								
TIXI	Tiksi	43.04	17	P		P	**P**	**04 58 00.9**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=120,slow=1.6,SNR=6.2								
BRTR	Keskin Array B	44.48	294	P		P	**P**	**04 58 13.1**	**0.0**
	comp=Z,2.9nm,0.9s,baz=99,slow=7.6,SNR=6.9								
AKASG	Malin Array Be	46.29	310	P		P	**P**	**04 58 26.4**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=80,slow=7.1,SNR=6.2								
AKASG				LR		LR		05 20 06.5	
	comp=Z,65nm,20.2s,baz=25,slow=39								
FINES	FINESS Array B	48.23	325	P		P	**P**	**04 58 42.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=114,slow=9.2,SNR=4.4								
VRI	Vrincioaia	48.45	304	⇑	*i*P		**P**	**04 58 45.0**	**+1.0**
ISR	Istrita	48.70	303	⇑	*i*P		**P**	**04 58 48.6**	**+2.7**
MLR	Muntele Rosu	49.05	303	⇑	*i*P		**P**	**04 58 50.0**	**+1.3**
BURAR	Bucovina Array	49.21	306	⇑	*i*P		**P**	**04 58 49.7**	**-0.2**
DOPR	Dopca	49.36	304	⇑	*i*P		**P**	**04 58 51.8**	**+0.9**
VOIR		49.68	304	⇑	*i*P		**P**	**04 58 54.3**	**+0.8**
DRGR		51.03	306	⇓	*i*P		**P**	**04 59 04.1**	**+0.4**
NB2	NORSAR Subarra	55.41	325	P		P	**P**	**04 59 35.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=83,slow=7.4								
NOA	NORSAR Array B	55.41	325	P		P	**P**	**04 59 35.5**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=82,slow=7.2,SNR=6.3								
GERES	GERESS Array B	56.50	310	P		P	**P**	**04 59 44.2**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=75,slow=5.7,SNR=22								
WRA	Warramunga Arr	68.52	135	P		P	**P**	**05 01 04.8**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=325,slow=6.0,SNR=8.8								
ASAR	Alice Springs	71.17	137	P		P	**P**	**05 01 21.0**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=326,slow=6.1,SNR=6.6								
ILAR	Eielson Array	72.24	22	P		P	**P**	**05 01 26.9**	**+0.7**
	comp=Z,0.5nm,1.0s,baz=308,slow=6.0,SNR=5.3								
TORD	Torodi Ar. Bea	81.00	280	P		P	**P**	**05 02 16.2**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=30,slow=3.4,SNR=4.1								
STKA	Stephens Creek	81.81	137	P		P	**P**	**05 02 19.9**	**-0.5**
	comp=Z,3.9nm,1.0s,baz=208,slow=8.0,SNR=3.8								
CPUP	Villa Florida	150.43	276	PKPbc			**PKPbc**	**05 09 52.8**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=52,slow=7.6,SNR=3.8								

*ISCJB **23** 04:56:25.9±0.6, 36°.49N±0°.03×28°.34E±0°.03, h6km±5km, Error ellipse: s-maj=4.7km s-min=3.9km az=155.3*
*ATH **23** 04:56:25.2, 36°.53N×28°.33E, h17km±5km, ML2.7/3, Error ellipse: s-maj=6.3km s-min=1.3km az=189.0*
*DDA **23** 04:56:26.4, 36°.51N×28°.37E, h7km, Md3.0*
*ISK **23** 04:56:26.3, 36°.52N×28°.36E, h11km, MD3.1*
*CSEM **23** 04:56:26.2±0.2, 36°.49N×28°.35E, h10km, ML2.7, Error ellipse: s-maj=4.1km s-min=3.3km az=173.0*

ISC 23 04:56:26.0±1.1, 36°.51N±0°.02×28°.33E±0°.02, h4km±10km, n45, σ1°90/63, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.34	209	P		P	**Pg**	**04 56 31.9**	**-0.6**
ARG				S		S	**Sg**	**04 56 37.8**	**+0.9**
DALY	Dalyan (Mu˘la	0.40	41	*e*PG		Pg	**Pg**	**04 56 33.5**	**-0.2**
DALY				*e*SG		Sg	**Sg**	**04 56 40.7**	**+1.7**
DALY	Dalyan (Mu˘la	0.40	41	*e*Pg		Pg	**Pg**	**04 56 33.5**	**-0.2**
DALY				*e*Sg		Sg	**Sg**	**04 56 40.7**	**+1.7**
TURN	Turunc	0.42	31	*i*P		Pg	**Pg**	**04 56 30.6**	**-3.6**
TURN				*i*S		Sg	**Sg**	**04 56 37.5**	**-2.2**
YER	Yerkesik	0.62	357	*e*PG		Pg	**Pg**	**04 56 38.2**	**+0.2**
YER				*e*SG		Sb	**Sb**	**04 56 48.1**	**-0.5**
YER	Yerkesik	0.62	357	*e*Pg		Pg	**Pg**	**04 56 38.2**	**+0.2**
YER				*e*Sg		Sg	**Sg**	**04 56 48.1**	**-0.5**
BDRM	Kayabasi	0.90	308	P		Pg	**Pg**	**04 56 43.6**	**+0.3**
BDRM				S		Sn	**Sn**	**04 56 58.4**	**-0.6**
BDRM	Kayabasi	0.90	308	*i*P		Pg	**Pg**	**04 56 43.6**	**+0.3**
BDRM				*i*S		Sn	**Sn**	**04 56 58.4**	**-0.6**
NIS1	Nisyros Isl.	0.93	276	*e*PG		Pn	**Pn**	**04 56 45.5**	**-0.4**
NIS1	Nisyros Isl.	0.93	276	P		Pg	**Pg**	**04 56 43.3**	**-0.5**
NIS1	Nisyros Isl.	0.93	276	*e*Pg		Pn	**Pn**	**04 56 45.5**	**-0.4**
NIS1				S		Sg	**Sg**	**04 56 55.3**	**-0.6**
NIS1	Nisyros Isl.	0.93	276	P		Pg	**Pg**	**04 56 43.3**	**-0.5**
NIS1				S		Sg	**Sg**	**04 56 55.4**	**-0.6**
NIS1				AML		AML		04 57 03.3	
	comp=E,1719μm,0.4s								
NIS1				AML		AML		04 57 06.9	
	comp=N,2650μm,0.5s								
BODT	Bodrum	0.98	304	*e*PG		Pg	**Pg**	**04 56 45.6**	**+0.7**
BODT				*e*SG		Sn	**Sn**	**04 57 00.3**	**-0.7**
BODT	Bodrum	0.98	304	*e*Pg		Pg	**Pg**	**04 56 45.6**	**+0.7**
BODT				*e*Sg		Sn	**Sn**	**04 57 00.3**	**-0.7**
AKAS	Kas	1.07	105	P		Pn	**Pn**	**04 56 47.1**	**-0.8**
AKAS	Kas	1.07	105	*i*P		Pn	**Pn**	**04 56 47.1**	**-0.8**
AKAS				*i*S		Sn	**Sn**	**04 57 04.9**	**+1.6**
KSL	Kastellorizon	1.08	109	P		Pg	**Pg**	**04 56 45.8**	**-0.9**
KSL				S		Sb	**Sb**	**04 57 00.7**	**-0.9**
KSL				AML		AML		04 57 13.3	
	comp=E,382μm,0.7s								
KSL				AML		AML		04 57 13.9	
	comp=N,313μm,0.9s								
GLHS	Glhisar (BURDU	1.14	55	*e*PN		Pn	**Pn**	**04 56 48.4**	**-0.4**
GLHS	Glhisar (BURDU	1.14	55	*e*Pn		Pn	**Pn**	**04 56 48.4**	**-0.4**
GOLH	Golhisar	1.23	53	P		Pn	**Pn**	**04 56 49.0**	**-1.0**
GOLH				S		Sn	**Sn**	**04 57 08.6**	**+1.5**
GOLH	Golhisar	1.23	53	*i*P		Pn	**Pn**	**04 56 49.0**	**-1.0**
GOLH				*i*S		Sn	**Sn**	**04 57 08.6**	**+1.5**
ELL	Elmali	1.29	79	*e*PN		Pg	**Pn**	**04 56 50.7**	**-0.1**
ELL	Elmali	1.29	79	*e*Pn		Pg	**Pn**	**04 56 50.7**	**-0.1**
DNZL	Cakiroluk	1.31	26	P		Pn	**Pn**	**04 56 51.0**	**-0.2**
DNZL				S		Sg	**Sg**	**04 57 10.4**	**+2.3**
DNZL	Cakiroluk	1.31	26	*i*P		Pn	**Pn**	**04 56 51.0**	**-0.2**
DNZL				*i*S		Sg	**Sg**	**04 57 10.4**	**+2.3**
KARP	Karpathos	1.35	225	*e*PN		Pg	**Pn**	**04 56 52.6**	**+0.7**
KARP	Karpathos	1.35	225	P		Pn	**Pn**	**04 56 51.3**	**-0.4**
KARP	Karpathos	1.35	225	*e*Pn		Pg	**Pn**	**04 56 52.6**	**+0.7**
KARP	Karpathos	1.35	225	P		Pn	**Pn**	**04 56 51.3**	**-0.4**
AYDB	Zeytinkoy-Aydi	1.47	346	*e*PN		Pb	**Pn**	**04 56 54.2**	**+0.1**
AYDB	Zeytinkoy-Aydi	1.47	346	*e*Pn		Pb	**Pn

WNVZ	**Wahianoa**	**1.48 263**	PN	Pn	05 21 49.0	-0.2
WHVZ	**Whangaehu Hut**	**1.48 264**	PN	Pn	05 21 49.1	-0.3
TSZ	**Takapari Road**	**1.49 232**	PN	Pn	05 21 48.4	-0.9
OPRZ	**Ohinepanea**	**1.50 330**	PN	Pn	05 21 48.5	-0.8
FWVZ	**Far West T-bar**	**1.50 265**	PN	Pn	05 21 49.2	-0.5
FWVZ			AML	AML	05 22 15.6	
FWVZ			AML	AML	05 22 22.4	
TRVZ	**Turoa**	**1.51 264**	PN	Pn	05 21 49.6	-0.3
TRVZ			AML	AML	05 22 14.2	
TRVZ			AML	AML	05 22 22.3	
WMGZ	**Waiomatatini S**	**1.52 29**	PN	Pn	05 21 49.0	-0.7
WMGZ			SN	Sn	05 22 09.1	+0.7
ANWZ	**Angora Road**	**1.52 210**	PN	Pn	05 21 48.2	-1.5
DVHZ	**Dannevirke**	**1.53 221**	PN	Pn	05 21 48.7	-1.2
PKVZ	**Pokaka**	**1.67 265**	PN	Pn	05 21 51.7	-0.1
PKVZ			AML	AML	05 22 44.4	
BFZ	**Birch Farm**	**1.80 212**	PN	Pn	05 21 51.6	-2.0
BFZ			SN	Sn	05 22 14.1	-1.3
MRZ	**Mangatainoka R**	**2.10 224**	PN	Pn	05 21 56.4	-1.3
HIZ	**Hauiti**	**2.15 286**	AML	AML	05 22 21.4	
HOWZ	**Holdsworth Sta**	**2.31 220**	PN	Pn	05 21 58.8	-1.7
HOWZ			SN	Sn	05 22 26.6	-1.4
OGWZ	**Otaki Gorge**	**2.44 226**	PN	Pn	05 22 00.7	-1.6

IDC ***23*** *05:23:09.1±1.2, 7.45N×59.57E, h0km, mb3.8/14, mb1 3.9/14, mb1mx3.7/48, mbtmp3.8/14, MS3.5/3, Ms1 3.5/3, ms1mx3.2/32, Error ellipse: s-maj=29.4km s-min=20.0km az=151.0*

NEIC ***23*** *05:23:10.7±0.9, 7.43N×59.57E, h10km, mb4.0/2, Error ellipse: s-maj=23.7km s-min=15.3km az=143.0*

ISCJB ***23*** *05:23:11.4±1.0, 7.5N±0.1×59.6E±0.1, h25km, mb3.8/16, MS3.5/2, Error ellipse: s-maj=24.3km s-min=15.1km az=142.8*

ISC 23 05:23:13.1±1.2, **7.4N**±0.2×**59.6E**±0.2, **h25**km, **n23**, σ1§**10**/17, **mb3.9**/16, **Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**16.97**	**285**	LR	LR	05 32 37.5	
	comp=Z,152nm,20.8s,baz=12,slow=34						
H08N2	**Diego Garcia H**	**17.81**	**140**	T	T	05 45 33.8	
	baz=320,slow=76,SNR=84						
H08N3	**Diego Garcia H**	**17.82**	**140**	T	T	05 45 37.9	
	baz=320,slow=76,SNR=67						
H08N1	**Diego Garcia H**	**17.83**	**140**	T	T	05 45 35.5	
	baz=320,slow=76,SNR=80						
KMBO	**Kilima Mbogo**	**23.81**	**250**	P	**P**	**05 28 25.1**	**+0.5**
	3.0nm,0.6s,baz=50,slow=17,SNR=5.4						
KKAR	**Karatay Array**	**36.82**	**13**	*eP*	**P**	**05 30 20.8**	**+1.7**
	2.8nm,0.9s						
AAK	**Ala-Archa**	**37.46**	**18**	P	**P**	**05 30 26.1**	**+1.4**
	1.1nm,0.4s,baz=185,slow=12,SNR=4.4						
BRTR	**Keskin Array B**	**39.67**	**328**	P	**P**	**05 30 44.5**	**+1.1**
	0.5nm,0.6s,baz=128,slow=9.3,SNR=3.1						
CMAR	**Chiang Mai Arr**	**39.84**	**70**	LR	LR	05 45 25.8	
	comp=Z,50nm,19.9s,baz=310,slow=34						
ABKAR	**Akbulak array**	**41.69**	**0**	*eP*	**P**	**05 31 00.4**	**+0.8**
	1.9nm,0.5s						
AKTO	**Aktyubinsk**	**42.88**	**359**	P	**P**	**05 31 09.4**	**0.0**
	2.1nm,0.8s,baz=201,slow=7.8,SNR=6.9						
MKAR	**Makanchi Array**	**43.80**	**23**	P	**P**	**05 31 15.5**	**-1.4**
	0.8nm,0.9s,baz=242,slow=11,SNR=4.4						
KURBB	**Kurchatov Arra**	**45.86**	**17**	P	**P**	**05 31 32.5**	**-0.6**
	1.5nm,0.9s,baz=215,slow=8.1,SNR=13						
KURK	**Kurchatov**	**45.97**	**17**	P	**P**	**05 31 32.5**	**-1.5**
BVAR	**Borovoye Array**	**46.31**	**9**	P	**P**	**05 31 36.3**	**-0.4**
	0.8nm,0.7s,baz=210,slow=13,SNR=3.4						
ZALV	**Zalesovo Beam**	**50.67**	**19**	P	**P**	**05 32 09.5**	**-0.8**
	1.2nm,0.6s,baz=225,slow=8.2,SNR=5.5						
GERES	**GERESS Array B**	**56.44**	**325**	P	**P**	**05 32 50.8**	**-2.0**
	0.3nm,0.6s,baz=183,slow=5.5,SNR=2.5						
SONM	**Songino Array**	**56.50**	**36**	P	**P**	**05 32 53.2**	**-0.1**
	0.2nm,0.3s,baz=258,slow=6.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**57.11**	**281**	P	**P**	**05 32 58.3**	**+0.3**
	0.5nm,0.9s,baz=100,slow=8.2,SNR=3.1						
ESDC	**Sonseca Array**	**64.97**	**310**	P	**P**	**05 33 50.7**	**-0.4**
	0.2nm,0.4s,baz=107,slow=6.6,SNR=3.6						
ARCES	**ARCESS Array B**	**65.84**	**348**	P	**P**	**05 33 55.7**	**-0.4**
	1.4nm,0.6s,baz=142,slow=4.6,SNR=5.3						
KSRS	**Korea Array**	**68.37**	**53**	LR	LR	06 04 06.2	
	comp=Z,36nm,18.5s,baz=175,slow=36						
ASAR	**Alice Springs**	**78.82**	**116**	P	**P**	**05 35 14.6**	**+0.1**
	0.4nm,0.9s,baz=296,slow=5.5,SNR=4.5						

CSEM ***23*** *05:25:32.7±1.8, 40.01N×35.49E, h2km, MD2.7, Error ellipse: s-maj=38.6km s-min=11.3km az=67.0*

DDA ***23*** *05:25:38.3, 40.15N×34.73E, h8km, Md2.7*

ISC 23 05:25:31.5±2.5, **40.02N**±0.07×**35.5E**±0.1, **h15**km±13km, **n10**, σ0§**53**/18, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOZ	**Yozgat**	**0.42**	**204**	PG	**Pb**	**05 25 40.4**	**-0.3**
YOZ				SG	**Sg**	**05 25 46.0**	**+0.3**
YOZ	**Yozgat**	**0.42**	**204**	*i* Pg	**Pb**	**05 25 40.4**	**-0.3**
YOZ				*i* Sg	**Sg**	**05 25 46.1**	**+0.3**
COAL	**Corum-Alaca**	**0.48**	**299**	P	**Pg**	**05 25 41.2**	**0.0**
COAL				S	**Sb**	**05 25 48.5**	**-0.3**
COAL	**Corum-Alaca**	**0.48**	**299**	*i* P	**Pg**	**05 25 41.1**	**0.0**
COAL				*i* S	**Sb**	**05 25 48.5**	**-0.3**
CORM	**Corum**	**0.71**	**283**	*e*PG	**Pb**	**05 25 45.7**	**-0.1**
CORM				*e*SG	**Sb**	**05 25 56.3**	**+0.9**
CORM	**Corum**	**0.71**	**283**	*e*Pg	**Pb**	**05 25 45.7**	**-0.1**
CORM				*e*Sg	**Sb**	**05 25 56.3**	**+0.9**
CDAG	**Cicekdag**	**0.98**	**246**	P	**Pb**	**05 25 49.6**	**-0.7**
CDAG	**Cicekdag**	**0.98**	**246**	*i* P	**Pb**	**05 25 49.6**	**-0.7**
CDAG				*i* S	**Sg**	**05 26 02.8**	**-0.6**
KKUL	**Konya-Kulu**	**2.20**	**248**	P	**Pb**	**05 26 11.4**	**+0.4**
KKUL	**Konya-Kulu**	**2.20**	**248**	*i* P	**Pb**	**05 26 11.4**	**+0.4**
KKUL				*i* S	**Sg**	**05 25 41.9**	**-0.3**

ISCJB ***23*** *05:34:45.7±0.6, 4.68S±0.08×152.69E±0.10, h55km, mb4.2/14, MS3.6/2, Error ellipse: s-maj=15.3km s-min=8.9km az=34.2*

IDC ***23*** *05:34:51.9±3.8, 4.83S×152.64E, h98km±34km, mb3.8/12, mb1 4.0/14, mb1mx3.9/33, mbtmp4.2/14, MS3.2/5, Ms1 3.2/5, ms1mx2.9/30, Error ellipse: s-maj=21.2km s-min=17.9km az=72.0*

NEIC ***23*** *05:34:52.7±1.8, 4.83S×152.60E, h105km±15km, mb4.5/3, Error ellipse: s-maj=13.2km s-min=10.9km az=67.0*

ISC 23 05:34:47.1±0.7, **4.69S**±0.10×**152.8E**±0.1, **h55**km, **n24**, σ1§**23**/24, **mb4.1**/14, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.28**	**230**	P	**Pn**	**05 36 33.0**	**+2.1**
	6.1nm,0.3s,baz=27,slow=7.9,SNR=8.1						
PMG				S	**Sn**	**05 37 52.2**	**0.0**
	11nm,0.3s,baz=126,slow=6.7,SNR=5.1						
PMG				LR	LR	05 39 18.4	
	comp=Z,147nm,19.0s,baz=18,slow=38						
PMG	**Port Moresby**	**7.28**	**230**	P	**Pn**	**05 36 33.0**	**+2.1**
	25nm,0.7s						
PMG				*e*Sn	**Sn**	**05 37 51.9**	**-0.3**
PMG				S	**Sn**	**05 37 52.2**	**0.0**
HNR	**Honiara**	**8.54**	**124**	LR	LR	05 39 23.6	
	comp=Z,19nm,20.9s,baz=302,slow=32						
COEN	**Coen**	**13.20**	**225**	Pn	**Pn**	**05 37 53.4**	**+1.4**
CTA	**Charters Tower**	**16.57**	**202**	P	**P**	**05 38 37.2**	**-0.4**
	0.5nm,0.3s,baz=25,slow=10,SNR=3.9						
GUMO	**Guam**	**19.78**	**337**	LR	LR	05 46 31.4	
	comp=Z,59nm,19.4s,baz=120,slow=35						
EIDS	**Eidsvold**	**20.63**	**184**	*e*P	**P**	**05 39 22.1**	**0.0**
	6.4nm,0.8s						
DZM	**Mont Dzumac**	**21.77**	**144**	P	**P**	**05 39 36.5**	**+2.0**
	5.0nm,0.5s,baz=276,slow=10,SNR=16						
WRAB	**Tennant Creek**	**23.48**	**228**	*e*P	**P**	**05 39 50.7**	**-1.5**
	17nm,0.8s						
WRA	**Warramunga Arr**	**23.50**	**228**	P	**P**	**05 39 50.8**	**-1.4**
	15nm,0.7s,baz=52,slow=9.5,SNR=70						
ASAR	**Alice Springs**	**26.21**	**222**	P	**P**	**05 40 16.1**	**-1.0**
	8.1nm,0.7s,baz=55,slow=9.3,SNR=44						
STKA	**Stephens Creek**	**29.01**	**200**	P	**P**	**05 40 40.9**	**-1.0**
	3.0nm,0.6s,baz=25,slow=13,SNR=8.9						
STKA				LR	LR	05 51 12.5	
	comp=Z,112nm,18.7s,baz=57,slow=34						
FITZ	**Fitzroy Crossi**	**29.69**	**241**	P	**P**	**05 40 46.3**	**-1.8**
	5.5nm,0.5s,baz=64,slow=7.5,SNR=28						
MBWA	**Marble Bar**	**36.00**	**240**	*e*P	**P**	**05 41 41.7**	**-1.4**
	165nm,1.6s						

NWAO	**Narrogin (SRO)**	**43.45**	**225**	LR	LR	06 01 45.5	
	comp=Z,76nm,18.9s,baz=326,slow=37						
CMAR	**Chiang Mai Arr**	**57.80**	**295**	P	**P**	**05 44 34.2**	**+0.9**
	1.6nm,0.8s,baz=115,slow=5.9,SNR=7.4						
SONM	**Songino Array**	**66.21**	**328**	P	**P**	**05 45 30.4**	**+1.0**
	0.3nm,0.4s,baz=149,slow=3.0,SNR=3.7						
VNDA	**Vanda**	**72.94**	**178**	P	**P**	**05 46 09.7**	**-0.5**
	1.3nm,0.8s,baz=321,slow=5.0,SNR=8.8						
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**05 46 52.5**	**+0.6**
	0.3nm,0.7s,baz=106,slow=9.2,SNR=2.7						
ZALV	**Zalesovo Beam**	**81.04**	**326**	P	**P**	**05 46 55.7**	**-0.4**
	0.5nm,0.5s,baz=127,slow=6.6,SNR=2.7						
ILAR	**Eielson Array**	**82.07**	**22**	P	**P**	**05 47 00.6**	**-0.7**
	1.1nm,0.7s,baz=244,slow=5.9,SNR=15						
YKA	**Yellowknife Ar**	**95.34**	**28**	P	**P**	**05 48 05.4**	**+0.3**
	0.4nm,0.7s,baz=276,slow=4.7,SNR=3.5						
GERES	**GERESS Array B**	**123.94**	**329**	PKP	**PKPdf**	**05 53 39.2**	**-0.2**
	0.3nm,0.5s,baz=106,slow=4.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**150.24**	**288**	PKPbc	**PKPbc**	**05 54 31.7**	**-1.4**
	0.8nm,0.5s,baz=83,slow=2.5,SNR=14						

NIED ***23*** *05:54:00.40˚10N×142˚40E, h50km, Mw3.6 Best double couple: M0 2.53000×10^14 NP1:φ=235.00000°, δ=11.00000°, λ=128.00000°. NP2:φ=17.00000°, δ=81.00000°, λ=83.00000°.*

JMA 23 05:54:33.2±0.1, **40˚09N**×**142˚41E**, **h35**km±1km, **M3.5**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.45**	**250**	P	Pn	05 54 43.0	-0.1
JTH				S	Sn	05 54 49.5	-0.4
MIYJ	**Miyakonagasawa**	**0.69**	**222**	P	Pn	05 54 46.0	-0.4
MIYJ				S	Sn	05 54 55.1	-0.7
JANG	**Nango**	**0.74**	**293**	P	Pn	05 54 46.8	-0.4
JANG				S	Sn	05 54 56.3	-0.9
JKZ	**Kuzumaki**	**0.84**	**263**	P	Pn	05 54 48.8	+0.3
JKZ				S	Sn	05 54 59.5	-0.1
JOM	**Ohasama**	**1.06**	**235**	P	Pn	05 54 52.0	+0.5
JOM				S	Sn	05 55 05.8	+0.8
OFUJ	**Ofunato**	**1.16**	**210**	P	Pn	05 54 53.3	+0.4
OFUJ				*e*S	Sn	05 55 09.1	+1.6
JTM	**Tenmabayashi**	**1.24**	**305**	P	Pn	05 54 54.5	+0.5
JTM				S	Sn	05 55 10.2	+0.7
JAH	**Hinai**	**1.36**	**275**	P	Pn	05 54 56.7	+1.0
JAH				S	Sn	05 55 14.2	+1.6
JMK	**Ichinoseki**	**1.46**	**219**	P	Pn	05 54 57.8	+0.7
JMK				S	Sn	05 55 17.2	+2.2

ISCJB ***23*** *06:02:00.1±0.8, 56.2S±0.1×26.7W±0.3, h100km, mb4.2/6, Error ellipse: s-maj=23.0km s-min=15.1km az=151.3*

IDC ***23*** *06:02:01.5±9.1, 56.45S×26.65W, h105km±83km, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, mbtmp4.2/6, Error ellipse: s-maj=25.6km s-min=21.1km az=24.0*

ISC 23 06:02:01.7±0.7, **56.3S**±0.1×**26.8W**±0.2, **h100**km, **n10**, σ1§**97**/12, **mb4.2**/6, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.46**	**158**	PKP	**P**	**06 05 46.7**	**-0.4**
SNAA	**Sanae**	**18.40**	**156**	PKP	**Pn**	**06 06 13.0**	**+3.2**
CPUP	**Villa Florida**	**37.16**	**311**	P	**P**	**06 09 02.4**	**-0.3**
	1.0nm,0.5s,baz=155,slow=5.8,SNR=6.7						
BOSA	**Boshof**	**45.81**	**75**	P	**P**	**06 10 12.4**	**-1.0**
	4.6nm,0.9s,baz=191,slow=6.6,SNR=3.6						
VNDA	**Vanda**	**46.32**	**183**	P	**P**	**06 10 15.1**	**-1.6**
	0.5nm,0.6s,baz=187,slow=12,SNR=4.3						
LPAZ	**La Paz**	**50.72**	**305**	P	**P**	**06 10 52.4**	**+0.5**
	7.8nm,0.6s,baz=130,slow=5.5,SNR=61						
LSZ	**Lusaka**	**58.25**	**68**	P	**P**	**06 11 45.0**	**-0.7**
	2.6nm,0.5s,baz=238,slow=5.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**73.18**	**29**	P	**P**	**06 13 21.4**	**+0.1**
	0.8nm,0.4s,baz=200,slow=6.4,SNR=18						
TORD				pP	**pP**	**06 13 50.4**	**+3.7**
	1.2nm,0.6s,baz=200,slow=6.6,SNR=5.0						
ILAR	**Eielson Array**	**150.47**	**311**	PKPbc	**PKPbc**	**06 21 39.6**	**-0.3**
	0.2nm,0.5s,baz=129,slow=1.3,SNR=3.1						
ILAR				pPKPbc	**pPKPbc**	**06 22 08.1**	**+0.9**
	0.8nm,0.8s,baz=113,slow=1.3,SNR=5.7						
SONM	**Songino Array**	**150.51**	**87**	PKPbc	**PKPbc**	**06 21 38.4**	**-2.3**
	1.3nm,0.6s,baz=217,slow=2.9,SNR=6.8						

SJA ***23*** *06:35:57.4±0.9, 37.56S×72.23W, h185km±14km, ML4.1, MW4.7*

ISCJB ***23*** *06:36:02.1±0.3, 37.58S±0.03×70.64W±0.05, h156km±2km, mb4.7/129, Error ellipse: s-maj=6.6km s-min=4.3km az=172.5*

IDC ***23*** *06:36:04.5±0.6, 37.79S×70.69W, h171km±5km, mb4.3/20, mb1 4.4/22, mb1mx4.3/35, mbtmp4.8/22, MS3.5/2, Ms1 3.5/2, ms1mx3.0/27, Error ellipse: s-maj=15.0km s-min=7.7km az=90.0*

BJI ***23*** *06:36:04.1, 37.60S×70.60W, h160km, mB5.1/5*

NEIC ***23*** *06:36:04.6±0.2, 37.58S×70.48W, mb4.7/116, Error ellipse: s-maj=7.2km s-min=4.2km az=80.0*

NEIC Felt [IV] at Angol, Cobquecura and Puerto Saavedra; [III] at Concepcion, Coronel, Lota, Penco, San Pedro de la Paz, Talcahuano and Tome; [II] at Constitucion and Talca. Also felt at Chillan.

GUC ***23*** *06:36:05.1±0.7, 37.70S×70.81W, h125km±11km, ML4.7*

ISC 23 06:36:04.0±0.4, **37.60S**±0.03×**70.81W**±0.05, **h165**km±3km, **h165**km:**pP-P**, **n609**, σ1§**31**/646, **mb4.7**/129, **9C**, **Southern Argentina**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CANA	**Caviahue**	**0.35**	**215**	*i* P	**Pn**	**06 36 26.3**	**-0.4**
CANA				*i* S	**Sn**	**06 36 47.2**	**+2.9**
CANA				IAML		06 36 47.4	
	comp=Z,2μm,0.6s						
CCHI	**Chillan**	**1.42**	**314**	*i* P	**Pn**	**06 36 33.6**	**-0.3**
CCHI				*i* S	**Sn**	**06 36 55.4**	**-1.6**
CCHI				IAML		06 37 05.8	
	comp=N,10μm,0.9s						
CCHI	**Chillan**	**1.42**	**314**	↑*i* P	**Pn**	**06 36 33.8**	**-0.2**
CCHI				*e*S	**Sn**	**06 36 55.0**	**-2.0**
CCHI				IAML		06 37 05.8	
	comp=N,10μm,0.9s						
CCSP	**San Pedro de C**	**1.99**	**292**	*i* P	**Pn**	**06 36 38.4**	**-1.6**
CCSP				*i* S	**Sn**	**06 37 03.9**	**-3.7**
CCSP				IAML		06 37 07.9	
	comp=N,8μm,0.4s						
CCSP	**San Pedro de C**	**1.99**	**292**	*e*P	**Pn**	**06 36 38.6**	**-1.4**
CCSP				*i* S	**Sn**	**06 37 04.0**	**-3.5**
CCSP				IAML		06 37 07.9	
	comp=N,8μm,0.4s						
COCH	**Cobquecura**	**2.16**	**312**	*i* P	**Pn**	**06 36 40.2**	**-1.7**
COCH				*i* S	**Sn**	**06 37 06.9**	**-4.3**
COCH	**Cobquecura**	**2.16**	**312**	↑*i* P	**Pn**	**06 36 41.6**	**-0.3**
COCH				*i* S	**Sn**	**06 37 08.8**	**-2.3**
TALC	**Talca**	**2.30**	**343**	*i* P	**Pn**	**06 36 42.2**	**-1.4**
TALC				*i* S	**Sn**	**06 37 10.4**	**-3.6**
TALC	**Talca**	**2.30**	**343**	↑*i* P	**Pn**	**06 36 43.1**	**-0.4**
TALC				*i* S	**Sn**	**06 37 12.3**	**-1.8**
NICH	**Los Niches**	**2.61**	**352**	*i* P	**Pn**	**06 36 46.4**	**-0.9**
NICH				*i* S	**Sn**	**06 37 18.1**	**-2.7**
NICH	**Los Niches**	**2.61**	**352**	↑*i* P	**Pn**	**06 36 47.4**	**+0.1**
NICH				*i* S	**Sn**	**06 37 20.4**	**-0.4**
VLCH	**Valdivia**	**2.92**	**220**	↑*i* P	**Pn**	**06 36 49.3**	**-1.6**
PLCA	**Paso Flores**	**3.13**	**176**	*i* P	**Pn**	**06 36 51.7**	**-2.0**
PLCA				IAML		06 36 53.6	
	comp=Z,212nm,0.4s						
PLCA				*i* S	**Sn**	**06 37 33.2**	**+0.8**
PLCA	**Paso Flores**	**3.13**	**176**	P	**Pn**	**06 36 52.5**	**-1.2**
	comp=Z,44nm,0.3s,baz=18,slow=11,SNR=1048						
PLCA				S	**Sn**	**06 37 25.6**	**-6.8**
	comp=Z,6.5nm,0.3s,baz=14,slow=19,SNR=1.9						
PLCA				LR	LR	06 38 11.1	
	comp=Z,754nm,21.3s,baz=168,slow=43						
PLCA	**Paso Flores**	**3.13**	**176**	↑*i* P	**Pn**	**06 36 52.5**	**-1.2**
PLCA				*i* S	**Sn**	**06 37 27.7**	**-4.8**
PLCA	**Paso Flores**	**3.13**	**176**	*e*Pn	**Pn**	**06 36 52.6**	**-1.1**
PLCA				*e*Sn	**Sn**	**06 37 28.4**	**-4.1**
CLCH	**Cerro Calan**	**4.20**	**3**	*i* P	**Pn**	**06 37 06.3**	**-1.1**
CLCH				*i* S	**Sn**	**06 37 53.5**	**-3.3**
CLCH	**Cerro Calan**	**4.20**	**3**	↑*i* P	**Pn**	**06 37 06.3**	**-1.1**
CLCH				*i* S	**Sn**	**06 37 55.0**	**-1.8**
PMCH	**Puerto Montt**	**4.21**	**202**	*e*P	**Pn**	**06 37 05.2**	**-2.1**
PMCH				*e*S	**Sn**	**06 37 52.1**	**-4.6**
PEL	**Peldehue**	**4.45**	**1**	*i* P	**Pn**	**06 37 09.2**	**-1.3**
PEL				*i* S	**Sn**	**06 37 58.8**	**-3.7**
PEL	**Peldehue**	**4.45**	**1**	*i* P	**Pn**	**06 37 09.2**	**-1.3**
PEL				*i* S	**Sn**	**06 37 58.8**	**-3.7**
PEL				*i* S	**Sn**	**06 38 00.1**	**-2.4**
ROC1	**El Roble**	**4.62**	**358**	*e*Pn	**Pn**	**06 37 11.1**	**-1.9**
ARCO	**CERRO ARCO**	**4.99**	**18**	*i* P	**Pn**	**06 37 17.4**	**-0.4**
ASAL	**Salagasta**	**5.25**	**18**	*i* P	**Pn**	**06 37 20.9**	**-0.3**
AUSP	**Uspallata**	**5.49**	**13**	*i* P	**Pn**	**06 37 24.1**	**-0.3**
RTLS	**Leoncito**	**5.92**	**13**	*i* P	**Pn**	**06 37 29.4**	**-0.7**
TRQA	**Tornquist**	**7.00**	**96**	*e*Pn	**Pn**	**06 37 43.0**	**-1.1**
TRQA				*e*Sn	**Sn**	**06 38 59.0**	**-3.9**
LCO	**Las Campanas**	**8.57**	**1**	*e*Pn	**Pn**	**06 38 01.3**	**-3.9**
LCO				*e*Sn	**Sn**	**06 39 33.5**	**-7.4**
CHRN	**Cochrane**	**9.73**	**187**	*e*Pn	**Pn**	**06 38 17.8**	**-2.4**
CHRN				*e*Sn	**Sn**	**06 40 02.2**	**-5.9**
PB10	**IPOC Station P**	**14.04**	**1**	*e*Pn	**Pn**	**06 39 14.4**	**-1.5**
LVC	**Limon Verde**	**15.03**	**7**	P	**Pn**	**06 39 26.9**	**-1.6**
	comp=Z,85nm,0.3s,baz=188,slow=10,SNR=20						
LVC	**Limon Verde**	**15.03**	**7**	*e*Pn	**Pn**	**06 39 26.1**	**-2.4**
PB04	**IPOC Station P**	**15.22**	**2**	*e*Pn	**Pn**	**06 39 29.0**	**-1.7**
	comp=Z,54nm,0.9s						
CPUP	**Villa Florida**	**16.01**	**49**	P	**P**	**06 39 41.1**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=234,slow=8.3,SNR=7.8						
CPUP				LR	LR	06 47 02.6	
	comp=Z,171nm,18.6s,baz=13,slow=41						
CPUP	**Villa Florida**	**16.01**	**49**	*e*Pn	**Pn**	**06 39 38.0**	**-2.2**
PB01	**IPOC Station P**	**16.54**	**4**	*e*P	**P**	**06 39 45.6**	**-0.7**
	comp=Z,45nm,0.7s						
USHA	**Ushuaia**	**17.31**	**175**	P	**P**	**06 39 53.5**	**-0.9**
	comp=Z,183nm,0.3s,baz=342,slow=9.9,SNR=26						
LPAZ	**La Paz**	**21.36**	**7**	P	**P**	**06 40 40.1**	**+1.0**
	comp=Z,4.6nm,0.5s,baz=156,slow=5.3,SNR=30						
LPAZ	**La Paz**	**21.36**	**7**	*e*P	**P**	**06 40 39.8**	**+0.7**
	comp=Z,11nm,0.7s						
SIV	**San Ignacio**	**23.18**	**24**	P	**P**	**06 40 55.6**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=200,slow=9.6,SNR=5.3						
SIV				pP	**pP**	**06 41 29.9**	**+2.8**
	comp=Z,8.2nm,0.9s,baz=232,slow=12,SNR=5.4						
NNA	**Nana**	**26.07**	**346**	P	**P**	**06 41 22.4**	**0.0**
	comp=Z,15nm,0.9s,baz=250,slow=19,SNR=3.8						
PTGA	**Pitinga**	**38.03**	**18**	P	**P**	**06 43 05.7**	**-0.6**
	comp=Z,2.9nm,0.5s,baz=13,slow=22,SNR=9.9						
PTGA				pP	**pP**	**06 43 43.2**	**+1.4**
	comp=Z,5.5nm,0.7s,baz=200,slow=7.0,SNR=3.5						
PTGA	**Pitinga**	**38.03**	**18**	*e*P	**P**	**06 43 05.6**	**-0.8**
PTGA				*e*pP	**pP**	**06 43 43.6**	**+1.8**
OTAV	**Otavalo**	**38.31**	**348**	*e*P	**P**	**06 43 10.8**	**+1.5**
OTAV	**Otavalo**	**38.31**	**348**	*e*P	**P**	**06 43 09.9**	**+0.7**
	comp=Z,34nm,1.5s						
CMBC	**Cumbal**	**38.90**	**349**	*e*P	**P**	**06 43 15.6**	**+1.5**
SJAC	**San Juan de Ar**	**40.77**	**355**	*e*P	**P**	**06 43 28.3**	**-0.9**
PRAC	**Prado**	**41.28**	**354**	*e*P	**P**	**06 43 33.2**	**-0.1**
CHIC	**Chingaza**	**42.10**	**356**	*e*P	**P**	**06 43 39.8**	**-0.5**
ROSC	**El Rosal**	**42.35**	**355**	P	**P**	**06 43 43.7**	**+1.4**
	comp=Z,6.6nm,0.4s,baz=234,slow=23,SNR=7.1						
NORC	**Norcasia**	**43.11**	**354**	*e*P	**P**	**06 43 47.1**	**-1.0**
RUSC	**La Rusia**	**43.32**	**357**	*e*P	**P**	**06 43 48.3**	**-2.0**
HELC	**Santa Helena**	**43.79**	**353**	*e*P	**P**	**06 43 52.5**	**-1.3**
HELC	**Santa Helena**	**43.79**	**353**	*e*P	**P**	**06 43 54.0**	**+0.1**
	comp=Z,74nm,1.2s						
HELC				*e*pP	**pP**	**06 44 30.9**	**+0.7**
BARC	**Barichara**	**44.02**	**357**	*e*P	**P**	**06 43 52.5**	**-3.0**
CBRI	**Barrientos, No**	**45.12**	**357**	*e*P	**P**	**06 44 01.6**	**-2.6**
GRMC	**Gramalote, San**	**45.12**	**357**	*e*P	**P**	**06 44 03.4**	**-0.8**
VNA1	**Neumayer--Stat**	**45.98**	**156**	P	**P**	**06 44 10.8**	**+0.7**
MOTC	**Monteria, Cord**	**46.36**	**353**	*e*P	P	06 44 06.6	-7.1
SNAA	**Sanae**	**47.88**	**157**	P	**P**	**06 44 25.2**	**+0.3**
SNAA	**Sanae**	**47.88**	**157**	*e*P	**P**	**06 44 25.2**	**+0.3**
	comp

baz=165
340A **Bronson** 71.97 339 P P 06 47 10.2 +0.8
baz=161
HPIG **** 72.06 328 eP P 06 47 10.8 +0.6
comp=Z,10nm,0.7s
145A **Houston Renfro** 72.08 343 P P 06 47 11.3 +1.3
baz=164
242A **Grayson** 72.11 341 P P 06 47 11.7 +1.5
baz=162,SNR=10.0
436A **Wall Ranch, Ga** 72.23 337 P P 06 47 11.9 +1.0
baz=158
Z47A **Carrollton** 72.25 345 P P 06 47 11.8 +0.8
baz=166,SNR=21
241A **Mo Tay, Goldon** 72.28 340 P P 06 47 12.3 +1.1
baz=162
Z48A **Northport** 72.32 345 P P 06 47 11.8 +0.5
baz=166,SNR=7.2
533A **Kerrville** 72.32 335 P P 06 47 12.6 +1.0
baz=157,SNR=15
338A **Crockett** 72.32 338 P P 06 47 12.9 +1.4
baz=160,SNR=7.9
Z46A **Louisville** 72.43 344 P P 06 47 13.4 +1.3
baz=165,SNR=5.0
337A **Centerville** 72.45 338 P P 06 47 14.0 +1.7
baz=159,SNR=7.1
435B **Jarrell** 72.49 336 P P 06 47 13.5 +1.0
baz=158
NATX **Nacogdoches** 72.51 339 P P 06 47 13.8 +1.2
baz=160
240A **Hunter Patters** 72.52 340 P P 06 47 13.7 +1.1
baz=161
142A **Monroe** 72.52 341 P P 06 47 13.6 +1.0
baz=162
143A **Socs Landing,** 72.53 342 P P 06 47 13.8 +1.1
baz=163,SNR=6.1
239A **Gary** 72.70 339 P P 06 47 14.7 +1.0
baz=160
434A **Burnet** 72.74 335 P P 06 47 14.9 +0.8
baz=157,SNR=11
Z45A **Winona** 72.77 344 P P 06 47 14.8 +0.8
baz=164
336A **Riesel** 72.82 337 P P 06 47 15.4 +1.0
baz=158,SNR=14
141A **Papa Simpson,** 72.82 341 P P 06 47 15.4 +1.0
baz=162
Z44A **Pea Ridge, Bel** 72.85 343 P P 06 47 15.4 +0.9
baz=164
238A **Jacksonville** 72.87 339 P P 06 47 15.5 +0.8
baz=160
Y47A **UCPARC, Winfie** 72.89 345 P P 06 47 15.4 +0.7
baz=166,SNR=16
335A **Moody** 72.90 336 P P 06 47 15.9 +1.0
baz=158,SNR=5.3
JCT **Junction City** 72.96 334 P P 06 47 16.1 +0.8
baz=156,SNR=12
JCT **Junction City** 72.96 334 eP P 06 47 16.5 +1.2
comp=Z,28nm,0.8s
433A **Art** 72.96 335 P P 06 47 15.9 +0.6
baz=157,SNR=13
KMSC **Kings Mountain** 73.03 351 P P 06 47 15.5 -0.1
baz=171
KMSC **Kings Mountain** 73.03 351 eP P 06 47 15.8 +0.2
comp=Z,10nm,0.7s
140A **Cam and Jess,** 73.04 340 P P 06 47 16.7 +1.1
baz=161
237A **Washetta, Mont** 73.07 338 P P 06 47 17.0 +1.1
baz=159
Y46A **Houston** 73.08 344 P P 06 47 16.1 +0.3
baz=165,SNR=6.7
Y45A **Yeager Farm, C** 73.21 344 P P 06 47 17.5 +0.8
baz=164
334A **Lometa** 73.21 336 P P 06 47 17.5 +0.7
baz=157,SNR=18
Z42A **Norrel Spur, H** 73.21 342 P P 06 47 17.2 +0.5
baz=162
139A **Bunkhouse Ranc** 73.30 339 P P 06 47 18.2 +1.0
baz=160
TXAR **Lajitas Array** 73.36 330 P P 06 47 18.8 +1.1
comp=Z,4.0nm,0.6s,baz=155,slow=8.5,SNR=28
TXAR ep P pP 06 47 58.2 +0.5
comp=Z,2.1nm,0.7s,baz=143,slow=8.5,SNR=2.9
TX31 **Lajitas Ar. Si** 73.36 330 eP P 06 47 18.8 +1.1
Z41A **Richland Creek** 73.42 341 P P 06 47 19.0 +1.1
baz=162,SNR=5.2
333A **Richland Sprin** 73.45 335 P P 06 47 18.7 +0.5
baz=157,SNR=8.1
138A **Matatall Enter** 73.48 339 P P 06 47 19.2 +1.0
baz=160
WHTX **Lake Whitney,** 73.57 337 P P 06 47 19.5 +0.6
baz=158
WHTX **Lake Whitney,** 73.57 337 eP P 06 47 19.1 +0.3
comp=Z,20nm,0.9s
WHTX ep P pP 06 48 03.5 +4.8
Y43A **Makayla and Ka** 73.57 343 P P 06 47 19.4 +0.7
baz=163
Z40A **Long Farm, Mag** 73.57 340 P P 06 47 19.8 +1.0
baz=161
137A **Heron Place, G** 73.61 338 P P 06 47 20.2 +1.2
baz=159,SNR=5.3
Y42A **Garnett, Star** 73.71 342 P P 06 47 20.1 +0.5
baz=163
X45A **UM Field Stati** 73.71 344 P P 06 47 19.6 0.0
baz=164,SNR=8.2
136A **Ennis** 73.73 338 P P 06 47 20.4 +0.7
baz=159
Z39A **Irene McRaven,** 73.77 340 P P 06 47 20.7 +0.7
baz=161
CPCT **Cooper Cave** 73.79 348 eP P 06 47 20.0 0.0
comp=Z,9.5nm,0.6s
234A **Clairette** 73.80 336 P P 06 47 20.7 +0.6
baz=158
SWET **Sewanee** 73.80 347 eP P 06 47 20.5 +0.4
comp=Z,7.1nm,0.5s
OXF **Oxford** 73.80 344 eP P 06 47 20.1 0.0
comp=Z,32nm,0.9s
TKL **Tuckaleechee C** 73.88 349 P P 06 47 20.1 -0.4
comp=Z,8.2nm,0.7s,baz=185,slow=7.2,SNR=7.1
TKL **Tuckaleechee C** 73.88 349 eP P 06 47 19.9 -0.7
comp=Z,9.9nm,0.8s
WLAR **White Oak Lake** 73.90 341 eP P 06 47 22.2 +1.5
comp=Z,43nm,1.0s
X44A **Crenshaw** 73.95 343 P P 06 47 21.3 +0.3
baz=164
Y41A **Eaglette Beard** 73.96 341 P P 06 47 21.9 +0.9
baz=162,SNR=12
Z38A **Mt. Pleasant** 74.00 339 P P 06 47 22.4 +1.2
baz=160
233A **Rising Star** 74.06 335 P P 06 47 22.2 +0.5
baz=157,SNR=11
135A **Vickery Place,** 74.08 337 P P 06 47 22.2 +0.4
baz=158
X43A **Marvell** 74.14 343 P P 06 47 22.6 +0.6
baz=163
Y40A **Okolona** 74.25 341 P P 06 47 23.2 +0.5
baz=161
134A **White-Moore Ra** 74.30 336 P P 06 47 23.4 +0.3
baz=158
W45A **Hickory Valley** 74.38 344 P P 06 47 23.6 +0.2
baz=165
Y39A **Lockesburg** 74.40 340 P P 06 47 24.1 +0.5
baz=161
Z36A **Blue Ridge** 74.44 338 P P 06 47 24.5 +0.7
baz=159,SNR=8.1
Y38A **Idabel** 74.57 340 P P 06 47 25.1 +0.6
baz=160,SNR=8.2
133A **Hamilton Ranch** 74.61 336 P P 06 47 25.4 +0.5
baz=157,SNR=6.6
TZTN **Tazewell** 74.71 349 eP P 06 47 25.5 +0.2
comp=Z,38nm,1.6s
Z35A **Perchaven, San** 74.75 337 P P 06 47 26.1 +0.5
baz=158,SNR=7.1
MIAR **Mount Ida** 74.84 341 P P 06 47 26.5 +0.4
baz=161
ABTX **Abilene, Hawle** 74.86 335 P P 06 47 26.9 +0.6
baz=156,SNR=7.6
ABTX **Abilene, Hawle** 74.86 335 eP P 06 47 27.1 +0.7
comp=Z,22nm,0.8s
Y37A **Hugo** 74.87 339 P P 06 47 27.0 +0.7
baz=160,SNR=6.0
V45A **Humboldt** 74.89 345 P P 06 47 26.5 +0.2
baz=165
X39A **Fountain Ranch** 74.95 340 P P 06 47 27.4 +0.6
baz=161,SNR=7.0
Y36A **Durant** 74.98 338 P P 06 47 27.5 +0.6
baz=159
WVT **Waverly** 75.04 346 eP P 06 47 27.1 -0.1
comp=Z,17nm,0.9s
W41B **Gary Mavity, V** 75.09 342 P P 06 47 27.8 +0.2
baz=162
Z33A **Whitaker Ranch** 75.18 336 P P 06 47 28.7 +0.6
baz=157,SNR=15
X301 **Greenbrier Sit** 75.19 342 eP P 06 47 28.8 +0.6
comp=Z,25nm,0.8s
WHAR **Wooly Hollow** 75.22 342 eP P 06 47 28.9 +0.7
comp=Z,21nm,1.1s
Y35A **Marietta** 75.22 338 P P 06 47 28.9 +0.7
baz=159
X201 **Greenbrier Sit** 75.24 342 eP P 06 47 29.2 +0.8
comp=Z,28nm,0.9s
X38A **Whitesboro** 75.29 340 P P 06 47 29.4 +0.7
baz=160
W40A **Ferguson Farm,** 75.32 341 P P 06 47 29.6 +0.8
baz=162
X37A **Clayton** 75.37 339 P P 06 47 29.7 +0.6
baz=160
DBIC **Dimbokro** 75.44 70 P P 06 47 30.1 +0.1
comp=Z,6.5nm,0.6s,baz=212,slow=6.0,SNR=10
UTMT **University of** 75.45 345 eP P 06 47 29.7 +0.1
comp=Z,72nm,0.4s
Y34A **Reagan Ranch,** 75.48 337 P P 06 47 30.1 +0.3
baz=158,SNR=6.0
V42A **Cord** 75.49 343 P P 06 47 29.5 -0.3
baz=163,SNR=6.2
W39A **Magazine** 75.51 341 P P 06 47 30.8 +0.9
baz=161,SNR=14
W38A **Poteau** 75.58 340 P P 06 47 31.0 +0.7
baz=161,SNR=6.0
X36A **Centrahoma** 75.63 338 P P 06 47 30.5 -0.1
baz=159,SNR=7.4
V41A **Mountainview** 75.65 342 P P 06 47 30.9 +0.1
baz=162,SNR=20
X35A **Drake** 75.65 338 P P 06 47 30.8 0.0
baz=159
Y33A **Hilltop Ranch,** 75.80 336 P P 06 47 32.2 +0.6
baz=157,SNR=8.2
W37B **Quinton** 75.90 339 P P 06 47 32.4 +0.2
baz=160,SNR=5.4
PARMO **Parma** 75.95 344 eP P 06 47 32.9 +0.6
V39A **Pettigrew** 76.08 341 P P 06 47 33.5 +0.3
baz=161,SNR=6.6
X34A **Smith Ranch, M** 76.10 337 P P 06 47 33.9 +0.6
baz=158,SNR=7.4
W36A **Wetumka** 76.12 339 P P 06 47 33.2 -0.2
baz=159
MNTX **Cornudas Mount** 76.13 330 P P 06 47 33.4 -0.2
baz=152,SNR=7.3
MNTX **Cornudas Mount** 76.13 330 eP P 06 47 33.4 -0.2
comp=Z,6.3nm,0.8s
PBMO **Poplar Bluff** 76.20 344 eP P 06 47 33.9 +0.1
comp=Z,32nm,0.5s
X33A **Lawton** 76.25 337 P P 06 47 34.1 -0.1
baz=158
V38A **Canehill** 76.30 340 P P 06 47 34.3 -0.1
baz=161,SNR=7.1
W35A **Tecumseh** 76.33 338 P P 06 47 34.4 -0.1
baz=159
U40A **Yellville** 76.37 342 P P 06 47 35.0 +0.2
baz=162,SNR=13
X32A **Elmer** 76.39 336 P P 06 47 35.4 +0.4
baz=157,SNR=6.1
CASY **Casey** 76.44 181 eP P 06 47 35.5 +0.6
comp=Z,5.6nm,1.0s
V37A **Hulbert** 76.52 340 P P 06 47 35.8 +0.2
baz=160
WMOK **Wichita Mounta** 76.52 337 P P 06 47 35.8 0.0
baz=157,SNR=9.7
WMOK **Wichita Mounta** 76.52 337 eP P 06 47 35.7 0.0
comp=Z,15nm,1.1s
U39A **Green Forest** 76.55 341 P P 06 47 36.0 +0.2
baz=162,SNR=11
HHAR **Hobbs** 76.57 341 eP P 06 47 35.6 -0.3
comp=Z,12nm,0.8s
V36A **Jenks** 76.65 339 P P 06 47 36.4 +0.1
baz=160,SNR=9.7
W34A **Bridge Creek,** 76.67 338 P P 06 47 36.8 +0.3
baz=158
W34A **Bridge Creek,** 76.67 338 eP P 06 47 36.7 +0.2
comp=Z,16nm,0.6s
S45A **Carrier Mills** 76.68 346 P P 06 47 36.1 -0.4
baz=165
TUL1 **Leonard** 76.72 339 P P 06 47 36.9 +0.1
baz=160,SNR=6.4
TUL1 **Leonard** 76.72 339 eP P 06 47 36.9 +0.1
comp=Z,20nm,0.8s
T41A **Mountain View** 76.76 343 P P 06 47 37.2 +0.2
baz=163,SNR=14
W33A **Caddo, Fort Co** 76.81 337 P P 06 47 38.4 +1.1
baz=158,SNR=10
S44A **Canonsdale** 76.83 345 P P 06 47 37.2 -0.2
baz=165
U38A **Gravette** 76.84 341 P P 06 47 37.7 +0.2
baz=161
V35A **Meyer Ranch, C** 76.88 338 P P 06 47 37.8 +0.1
baz=159,SNR=6.4
S43A **Fulton Ridge,** 76.89 344 P P 06 47 37.6 -0.1
baz=164,SNR=29
U37A **Salina** 77.00 340 P P 06 47 38.5 +0.2
baz=160
W32A **Sentinel** 77.03 336 P P 06 47 39.2 +0.7
baz=157,SNR=13
T40A **Mansfield** 77.04 342 P P 06 47 38.7 +0.2
baz=162,SNR=8.5
T39A **Clever** 77.13 342 P P 06 47 39.3 +0.2
baz=162,SNR=7.7
V34A **Guthrie** 77.15 338 P P 06 47 39.5 +0.3
baz=158,SNR=5.6
V34A **Guthrie** 77.15 338 eP P 06 47 39.5 +0.3
comp=Z,19nm,0.8s
U36A **Oologah** 77.16 340 P P 06 47 39.2 0.0
baz=160
MSTX **Muleshoe** 77.17 333 P P 06 47 39.9 +0.5
baz=154,SNR=9.0
MSTX **Muleshoe** 77.17 333 eP P 06 47 39.8 +0.4
comp=Z,26nm,1.0s
MCWV **Mont Chateau** 77.33 353 eP P 06 47 40.7 +0.6
comp=Z,12nm,0.8s
V33A **Loess Ranch,** 77.37 337 P P 06 47 41.0 +0.6
baz=158,SNR=7.9
T38A **Diamond** 77.38 341 P P 06 47 40.7 +0.3
baz=161,SNR=8.5
U35A **Pawnee** 77.42 339 P P 06 47 41.2 +0.5
baz=159,SNR=11
319A **Douglas** 77.46 327 eP P 06 47 43.4 +2.2
comp=Z,16nm,1.1s
S40A **Lebanon** 77.46 342 P P 06 47 41.2 +0.3
baz=162,SNR=16
V32A **Arapaho** 77.51 337 P P 06 47 42.0 +0.8
baz=157
BOSA **Boshof** 77.54 116 P P 06 47 41.0 -1.0
comp=Z,24nm,0.7s,baz=230,slow=4.6,SNR=30
BOSA **Boshof** 77.54 116 eP P 06 47 41.4 -0.5
comp=Z,26nm,0.8s
AMTX **Amarillo** 77.61 334 P P 06 47 42.4 +0.5
baz=155
AMTX **Amarillo** 77.61 334 eP P 06 47 42.8 +0.9
comp=Z,33nm,1.0s
T37A **Cheneyville 18** 77.62 340 P P 06 47 41.8 0.0
baz=160,SNR=8.3
U34A **Anderson Ranch** 77.71 338 P P 06 47 42.8 +0.5
baz=158
S39A **Bolivar** 77.75 342 P P 06 47 42.8 +0.3
baz=162,SNR=8.5
BLO **Bloomington** 77.75 348 eP P 06 47 42.3 -0.1
comp=Z,11nm,0.8s
O56A **Blue Knob Stat** 77.82 354 P P 06 47 43.5 +0.7
baz=174
T36A **Boggs Farm, Ca** 77.82 340 P P 06 47 43.0 +0.1
baz=160,SNR=6.7
S38A **Stockton** 77.84 341 P P 06 47 43.0 0.0
baz=161,SNR=22
T35A **Sooner Cattle** 77.87 339 P P 06 47 43.6 +0.5
baz=159,SNR=6.4
U33A **Lingo Farm, Me** 77.88 338 P P 06 47 43.5 +0.2
baz=158
Q44A **Meyer Farm, Va** 77.95 346 P P 06 47 43.9 +0.3
baz=165
R40A **Maddies Statio** 78.07 343 P P 06 47 44.4 +0.2
baz=162,SNR=12
U32A **Winter Ranch,** 78.11 337 P P 06 47 45.1 +0.6
baz=157
Q43A **New Douglas** 78.13 345 P P 06 47 44.6 +0.1
baz=165,SNR=8.7
SSPA **Standing Stone** 78.13 354 eP P 06 47 45.3 +0.8
comp=Z,9.4nm,0.8s
T34A **McClaskey Farm** 78.16 339 P P 06 47 45.4 +0.7
baz=159,SNR=5.9
S37A **Fort Scott** 78.20 341 P P 06 47 45.1 +0.2
baz=160,SNR=7.7
ACSO **Alum Creek Sta** 78.26 351 eP P 06 47 45.3 +0.1
comp=Z,30nm,0.7s
N59A **State Game Lan** 78.27 356 P P 06 47 46.5 +1.2
baz=176,SNR=5.4
Q42A **Golden Eagle** 78.28 344 P P 06 47 45.6 +0.3
baz=164,SNR=8.7
R38A **Fenwick Farm,** 78.37 342 P P 06 47 45.8 -0.1
baz=161,SNR=8.0
S36A **Lake Cedric, C** 78.37 340 P P 06 47 46.1 +0.2
baz=160,SNR=5.7
ODNJ **Ogdensburg** 78.38 357 eP P 06 47 46.8 +1.0
comp=Z,7.7nm,0.6s
T33A **Patterson Ranc** 78.52 338 P P 06 47 47.9 +1.2
baz=158
S35A **Otter Creek Ra** 78.53 340 P P 06 47 47.1 +0.4
baz=159,SNR=7.5
Q40A **Laux Farm, Aux** 78.69 343 P P 06 47 48.0 +0.4
baz=163,SNR=16
R37A **Teagarden Farm** 78.72 341 P P 06 47 47.8 0.0
baz=161,SNR=7.3
S34A **Willow Spring** 78.77 339 P P 06 47 48.3 +0.2
baz=159
BNM **Barren Site** 78.78 330 eP P 06 47 50.8 +2.3
T32A **Huddler Ranch,** 78.82 337 P P 06 47 49.1 +0.8
baz=157
LPM **Los Pinos Moun** 78.92 330 eP P 06 47 50.9 +1.7
S33A **Kaszmaul Farm,** 78.93 338 P P 06 47 50.0 +1.1
baz=158
Q39A **Willow Grove F** 78.95 343 P P 06 47 49.1 +0.1
baz=162,SNR=6.5
Q38A **Cooks Store, C** 79.03 342 P P 06 47 49.7 +0.3
baz=162,SNR=17
SFIN **Lafayette** 79.03 347 eP P 06 47 48.9 -0.5
comp=Z,60nm,1.9s
SFIN ep P pP 06 48 25.5 -4.4
R35A **Emporia Munici** 79.09 340 P P 06 47 50.2 +0.4
baz=160
P41A **Barry, Barry** 79.12 344 P P 06 47 49.8 -0.1
baz=164
M54A **Oil Creek Stat** 79.15 353 P P 06 47 50.0 0.0
baz=173
Q37A **Longview Farm,** 79.16 341 P P 06 47 50.0 -0.2
baz=161
P40A **Paris** 79.20 343 P P 06 47 50.7 +0.4
baz=163,SNR=20
LAZ **Ladron** 79.20 330 eP P 06 47 52.8 +2.1
S32A **Newby Ranch, P** 79.30 338 P P 06 47 51.7 +0.7
baz=157
P39B **Salisbury** 79.32 343 P P 06 47 51.1 +0.1
baz=162,SNR=6.4
R34A **Isabella, Hill** 79.36 339 P P 06 47 51.9 +0.6
baz=159,SNR=9.4
ANMO **Albuquerque** 79.41 331 P P 06 47 53.3 +1.5
baz=152
ANMO **Albuquerque** 79.41 331 eP P 06 47 53.3 +1.5
comp=Z,7.4nm,0.8s
ANMO ep P pP 06 48 34.1 +1.7
O41A **Passleys Farm,** 79.50 344 P P 06 47 51.8 -0.2
baz=164,SNR=7.3
214A **Organ Pipe Nat** 79.53 325 P P 06 47 54.4 +2.1
baz=147,SNR=6.9
214A **Organ Pipe Nat** 79.53 325 eP P 06 47 53.6 +1.2
comp=Z,58nm,1.3s
214A ep P pP 06 48 35.0 +2.1
Q35A **Mercer Eighty,** 79.55 340 P P 06 47 52.4 +0.1
baz=160
R33A **Olander Ranch,** 79.58 339 P P 06 47 52.5 0.0
baz=158
HDIL **Hopedale** 79.61 346 P P 06 47 52.7 +0.2
baz=165,SNR=11
HDIL **Hopedale** 79.61 346 eP P 06 47 52.6 +0.2
comp=Z,45nm,0.8s
P38A **Dawn** 79.64 342 P P 06 47 52.6 -0.1
baz=162
O40A **La Belle** 79.73 344 P P 06 47 53.2 0.0
baz=163,SNR=8.1
P37A **Lathrop** 79.80 342 P P 06 47 53.2 -0.4
baz=161,SNR=6.7
Q34A **Chapman** 79.86 340 P P 06 47 54.6 +0.7
baz=159,SNR=10
R32A **Long Quarter,** 79.90 338 P P 06 47 55.0 +0.8
baz=158
LBTB **Lobatse** 79.91 114 eP P 06 47 54.8 -0.2
comp=Z,17nm,0.8s
KSU1 **Kansas State U** 79.94 340 P P 06 47 54.5 +0.2
baz=159
KSU1 **Kansas State U** 79.94 340 eP P 06 47 54.5 +0.2
comp=Z,10nm,0.8s
O39A **Kirksville** 80.00 343 P P 06 47 54.9 +0.2
baz=162
P36A **Good Intent, A** 80.05 341 P P 06 47 54.7 -0.2
baz=160
O38A **Galt** 80.09 343 P P 06 47 55.2 0.0
baz=162
P35A **Duane Minner,** 80.18 340 P P 06 47 55.7 0.0
baz=160
Q33A **Connelly Farm,** 80.18 339 P P 06 47 56.2 +0.6
baz=158
MMNY **Mt. Morris Dam** 80.22 355 eP P 06 47 56.3 +0.6
O37A **Wolven Farm, M** 80.30 342 P P 06 47 56.1 -0.2
baz=161,SNR=6.7
Q32A **Meitler Ranch,** 80.38 338 P P 06 47 57.4 +0.6
baz=158
P34A **Walnut Farm, R** 80.41 340 P P 06 47 57.5 +0.7
baz=159,SNR=7.2
X18A **Snowflake** 80.46 328 eP P 06 47 57.5 0.0
comp=Z,4.4nm,0.8s
O36A **Bolckow** 80.47 341 P P 06 47 56.7 -0.5
baz=161
P33A **Williams Farm,** 80.55 339 P P 06 47 58.2 +0.6
baz=158
CBKS **Cedar Bluff** 80.57 337 P P 06 47 58.7 +0.9
baz=157
CBKS **Cedar Bluff** 80.57 337 eP P 06 47 58.0 +0.2
comp=Z,15nm,0.6s
N39A **Derby Farms, D** 80.59 343 P P 06 47 57.8 0.0
baz=162,SNR=11
T25A **Trinidad** 80.60 333 P P 06 47 59.8 +1.6
baz=153,SNR=20
T25A **Trinidad** 80.60 333 eP P 06 47 59.8 +1.6
comp=Z,24nm,0.8s
N38A **Joes South For** 80.68 343 P P 06 47 58.2 0.0
baz=162
N37A **Lee Faris, Mou** 80.88 342 P P 06 47 59.3 0.0
baz=161
O34A **Beatrice** 80.97 340 P P 06 48 00.3 +0.5
baz=159,SNR=11
P32A **Huiting Farm,** 80.98 339 P P 06 48 00.6 +0.7
baz=158,SNR=5.4
X16A **Lo Mia Camp, P** 81.00 327 eP P 06 48 02.3 +1.9
comp=Z,9.2nm,1.0s
O33A **Hebron** 81.11 340 P P 06 48 01.2 +0.6
baz=159,SNR=5.3
N36A **Muff Farm, Cla** 81.11 342 P P 06 48 00.6 +0.1
baz=161
M38A **Pleasantville** 81.26 343 P P 06 48 01.3 0.0
baz=162
Y14A **Wickenburg** 81.28 326 eP P 06 48 03.5 +1.8
comp=Z,21nm,0.8s
L41A **Preston** 81.31 345 P P 06 48 01.4 -0.1
baz=164
N35A **Tabor** 81.33 341 P P 06 48 01.9 +0.2
baz=160,SNR=7.7
M37A **Trindle Farm,** 81.45 343 P P 06 48 02.7 +0.4
baz=161,SNR=5.3
O32A **Brockman Farm,** 81.48 339 P P 06 48 03.3 +0.8
baz=158,SNR=5.1
SDCO **Great Sand Dun** 81.53 333 P P 06 48 04.4 +1.2
baz=153,SNR=9.9
SDCO **Great Sand Dun** 81.53 333 eP P 06 48 04.0 +0.8
comp=Z,6.4nm,0.9s
N34A **Lincoln** 81.53 341 P P 06 48 03.0 +0.2
baz=159,SNR=7.4
KSCO **Kaye Shedlock'** 81.67 335 P P 06 48 04.9 +1.2
baz=155
KSCO **Kaye Shedlock'** 81.67 335 eP P 06 48 05.2 +1.4
L39A **Vinton** 81.67 344 P P 06 48 03.0 -0.5
baz=163
Y12C **Blythe** 81.82 324 P P 06 48 06.5 +2.0
baz=146
Y12C **Blythe** 81.82 324 eP P 06 48 05.0 +0.5
comp=Z,16nm,1.1s
L38A **Oak Wood Farm,** 81.90 344 P P 06 48 04.3 -0.3
baz=162
WUAZ **Wupatki** 81.91 328 P P 06 48 06.9 +1.8
baz=148

WUAZ **Wupatki** 81.91 328 *e*P P 06 48 06.7 +1.6
comp=Z,12nm,1.1s
M35A **Neola** 81.91 341 P P 06 48 05.3 +0.5
baz=160
N32A **Stulken Farm,** 81.95 339 P P 06 48 05.8 +0.8
baz=158
BAR **Barrett** 81.96 322 *e*P P 06 48 07.2 +2.0
comp=Z,12nm,1.4s
MONP2 **Monument Peak** 82.01 323 P P 06 48 07.3 +1.6
baz=145
S22A **4UR Ranch, Cre** 82.02 332 P P 06 48 07.2 +1.4
baz=152,SNR=9.4
S22A **4UR Ranch, Cre** 82.02 332 *e*P P 06 48 06.8 +1.1
comp=Z,5.7nm,0.6s
K40A **Colesburg** 82.04 345 P P 06 48 05.2 -0.2
baz=164
L37A **Phoenix Point,** 82.06 343 P P 06 48 05.4 -0.1
baz=162
JFWS **Jewell Farm** 82.07 346 *e*P P 06 48 05.9 +0.4
comp=Z,26nm,1.4s
FRNY **Flat Rock** 82.09 358 *e*P P 06 48 06.6 +1.1
comp=Z,7.1nm,0.9s
BC3 **Big Chuckawall** 82.17 324 P P 06 48 07.9 +1.5
baz=146
MVCO **Mesa Verde** 82.19 330 P P 06 48 07.9 +1.4
baz=150,SNR=6.7
MVCO **Mesa Verde** 82.19 330 *e*P P 06 48 08.0 +1.4
comp=Z,20nm,1.3s
K39A **Oelwein** 82.20 344 P P 06 48 06.1 -0.1
baz=163
K38A **Parkersburg** 82.34 344 P P 06 48 06.9 0.0
baz=162
SADO **Sadowa** 82.34 354 P P 06 48 07.2 +0.3
comp=Z,10nm,0.7s,baz=205,slow=5.9,SNR=8.5
M33A **Taylor Creek F** 82.40 340 P P 06 48 07.6 +0.3
baz=159
IRM **Iron Mountain** 82.44 324 P P 06 48 09.8 +2.0
baz=146,SNR=5.6
L35A **Bielow Farm, R** 82.48 342 P P 06 48 08.0 +0.3
baz=160
Q24A **Divide** 82.49 334 P P 06 48 09.6 +1.4
baz=153,SNR=6.9
Q24A **Divide** 82.49 334 *e*P P 06 48 09.7 +1.4
comp=Z,18nm,1.2s
BGNE **Belgrade** 82.51 340 P P 06 48 08.6 +0.7
baz=158
BGNE **Belgrade** 82.51 340 *e*P P 06 48 09.0 +1.1
comp=Z,26nm,0.9s
L34A **Svendsen Farm,** 82.56 341 P P 06 48 08.5 +0.4
baz=160
TPFO **Pinon Flats** 82.61 323 P P 06 48 10.9 +2.2
baz=145,SNR=10
PFO **Pinyon Flats O** 82.61 323 P P 06 48 10.2 +1.5
comp=Z,3.3nm,0.7s,baz=133,slow=3.3,SNR=20
PFO **Pinyon Flats O** 82.61 323 P P 06 48 10.9 +2.2
baz=145,SNR=11
PFO **Pinyon Flats O** 82.61 323 *e*P P 06 48 11.1 +2.4
comp=Z,10nm,0.8s
K37A **Belmond** 82.64 343 P P 06 48 08.4 -0.2
baz=162
M31A **Lambtecht Ranc** 82.68 339 P P 06 48 10.2 +1.4
baz=158,SNR=5.6
K36A **Gilmore City** 82.71 343 P P 06 48 08.9 0.0
baz=161
BELC **Belle Mtn. Jos** 82.71 324 P P 06 48 10.9 +1.6
baz=145
J39A **Decorah** 82.77 345 P P 06 48 08.9 -0.2
baz=163,SNR=7.5
MURC **Murrieta** 82.96 322 P P 06 48 12.3 +1.9
baz=144
PV01 **Paradox Valley** 83.02 331 *e*P P 06 48 12.6 +1.8
U15A **North Rim** 83.07 327 *e*P P 06 48 13.2 +1.9
comp=Z,6.8nm,0.9s
J37A **Redenius Farm,** 83.14 343 P P 06 48 11.4 +0.4
baz=162
PV05 **Paradox Valley** 83.18 330 *e*P P 06 48 13.2 +1.5
GMRC **Granite Mounta** 83.20 324 P P 06 48 13.8 +2.1
baz=146,SNR=7.4
LMN **Caledonia Moun** 83.25 4 *e*P P 06 48 12.4 +0.9
comp=Z,16nm,0.8s
K33A **Hardington** 83.32 341 P P 06 48 12.1 +0.1
baz=159
SMCO **Snowmass** 83.33 332 *e*P P 06 48 14.3 +1.7
comp=Z,8.8nm,0.9s
SMCO *e*pP pP 06 49 00.1 +6.6
J36A **Seneca 1, Swea** 83.34 343 P P 06 48 12.4 +0.3
baz=161,SNR=6.4
PV04 **Paradox Valley** 83.37 331 *e*P P 06 48 14.2 +1.5
PV10 **Paradox Valley** 83.41 331 *e*P P 06 48 13.9 +1.0
L31A **Butterfield Fa** 83.41 339 P P 06 48 13.7 +1.2
baz=158,SNR=14
TRQ **Mont Tremblant** 83.51 357 *e*P P 06 48 13.5 +0.5
PV09 **Paradox Valley** 83.55 331 *e*P P 06 48 15.4 +1.7
I38A **Scanlan Farm,** 83.57 345 P P 06 48 13.2 0.0
baz=163,SNR=8.5
BFSC **Mount Baldy Ra** 83.70 323 P P 06 48 16.0 +1.7
baz=144,SNR=6.4
I37A **Lemond, Waseca** 83.78 344 P P 06 48 14.6 +0.3
baz=162,SNR=9.4
KNB **Kanab** 83.79 327 *e*P P 06 48 11.1 -3.7
comp=Z,11nm,0.9s
K31A **O'Neill** 83.80 340 P P 06 48 15.5 +1.0
baz=158
TUQ **Turquoise Moun** 83.86 324 P P 06 48 16.6 +1.5
baz=145
MWC **Mount Wilson** 83.88 322 *e*P P 06 48 17.3 +2.0
comp=Z,13nm,1.1s
I36A **Fitzsimmons Fa** 83.92 343 P P 06 48 15.2 +0.2
baz=162
LCMT **Little Creek M** 83.97 327 *e*P P 06 48 16.5 +0.9
comp=Z,3.6nm,1.0s
J33A **Davis** 83.97 341 P P 06 48 15.6 +0.3
baz=159
I35A **Creekview Farm** 83.99 343 P P 06 48 15.5 +0.2
baz=161
K30A **Basset** 84.09 339 P P 06 48 16.9 +0.9
baz=157,SNR=10
GSC **Goldstone, Bar** 84.16 324 P P 06 48 18.6 +2.0
baz=145
GSC **Goldstone, Bar** 84.16 324 *e*P P 06 48 18.6 +2.0
comp=Z,5.7nm,0.9s
H37A **Dierke Farm, C** 84.21 344 P P 06 48 16.3 -0.2
baz=162
J32A **Parkston** 84.25 341 P P 06 48 17.2 +0.4
baz=158,SNR=7.0
ECSD **EROS Data Cent** 84.27 342 P P 06 48 17.3 +0.5
baz=160,SNR=32
ECSD **EROS Data Cent** 84.27 342 *e*P P 06 48 17.5 +0.7
comp=Z,29nm,0.6s
EDW2 **Edwards Air Fo** 84.38 323 P P 06 48 19.0 +1.4
baz=144
SHPR **Sheep Range** 84.39 326 *e*P P 06 48 19.3 +1.5
comp=Z,34nm,1.9s
J31A **Geddes** 84.42 340 P P 06 48 18.1 +0.6
baz=158,SNR=6.0
H36A **Jessenland, He** 84.43 344 P P 06 48 18.1 +0.5
baz=162,SNR=5.9
N23A **Red Feather La** 84.48 334 P P 06 48 19.6 +1.3
baz=152,SNR=12
N23A **Red Feather La** 84.48 334 *e*P P 06 48 19.7 +1.4
comp=Z,14nm,0.8s
TOA0 **Torodi Ar. Sit** 84.53 69 *e*P P 06 48 18.8 0.0
TOA0 *e*pP pP 06 48 59.2 -0.5
TORD **Torodi Ar. Bea** 84.53 69 P P 06 48 18.4 -0.3
comp=Z,0.8nm,0.4s,baz=227,slow=4.5,SNR=12
TORD pP pP 06 48 59.3 -0.4
comp=Z,2.9nm,1.1s,baz=257,slow=3.1,SNR=3.8
I33A **Coleman** 84.61 341 P P 06 48 19.0 +0.4
baz=159
SRU **San Rafael Swe** 84.63 330 *e*P P 06 48 19.7 +0.7
comp=Z,13nm,0.8s
O20A **White River Ci** 84.64 332 P P 06 48 20.1 +1.1
baz=151,SNR=5.6
O20A **White River Ci** 84.64 332 *e*P P 06 48 19.1 +0.1
comp=Z,5.5nm,0.7s
J30A **Dallas** 84.66 339 P P 06 48 19.4 +0.6
baz=157,SNR=8.2
PHWY **Pilot Hill** 84.67 335 *e*P P 06 48 20.3 +1.1
comp=Z,22nm,1.0s
H35A **Sunnyside Ranc** 84.75 343 P P 06 48 19.5 +0.3
baz=161,SNR=38
I32A **Karley and Nic** 84.77 341 P P 06 48 19.5 +0.2
baz=159
MSU **Marysvale** 84.79 329 *e*P P 06 48 21.5 +1.7
SPMN **Marine on St.** 84.80 345 P P 06 48 19.2 -0.2
baz=162,SNR=5.6
SPMN **Marine on St.** 84.80 345 *e*P P 06 48 19.2 -0.2
comp=Z,19nm,1.0s

H34A **Spellman Lake,** 84.94 342 P P 06 48 20.5 +0.3
baz=160,SNR=10.0
P18A **Preston Nutter** 84.96 330 *e*P P 06 48 22.2 +1.5
comp=Z,18nm,0.9s
G36A **St. Michael** 85.02 344 P P 06 48 20.9 +0.5
baz=162
P17A **Butcher Ranch,** 85.03 330 *e*P P 06 48 22.3 +1.4
comp=Z,12nm,1.0s
TMUT **Trail Mountain** 85.06 330 *e*P P 06 48 23.0 +1.7
comp=Z,13nm,0.7s
MPMC **Manual Prospec** 85.10 324 P P 06 48 22.9 +1.6
baz=144,SNR=6.0
FURC **Furnace Creek,** 85.14 324 P P 06 48 23.3 +2.1
baz=145,SNR=5.8
G35A **Watkins** 85.17 343 P P 06 48 21.9 +0.7
baz=161
I30A **Oacoma** 85.18 340 P P 06 48 21.7 +0.3
baz=157
H33A **Prehn Over Nor** 85.19 342 P P 06 48 21.9 +0.5
baz=159,SNR=15
H32A **Carlson Farm,** 85.20 341 P P 06 48 21.8 +0.3
baz=159
ISA **Isabella, Lake** 85.24 323 P P 06 48 23.9 +1.9
baz=144
ISA **Isabella, Lake** 85.24 323 *e*P P 06 48 24.6 +2.7
comp=Z,7.6nm,0.9s
TPNV **Topopah Spring** 85.25 325 P P 06 48 24.3 +2.2
baz=145,SNR=10
TPNV **Topopah Spring** 85.25 325 *e*P P 06 48 24.3 +2.2
comp=Z,14nm,1.2s
PKM **Mcpherson Peak** 85.28 321 P P 06 48 24.4 +2.2
baz=143
DAC **Darwin (Calif)** 85.32 324 *e*P P 06 48 24.5 +2.0
comp=Z,15nm,0.9s
H31A **Wolsey** 85.45 341 P P 06 48 23.0 +0.3
baz=158,SNR=9.3
G34A **Benson** 85.45 343 P P 06 48 22.6 -0.1
baz=160,SNR=6.9
VLDQ **Val d'Or** 85.54 356 *e*P P 06 48 23.7 +0.8
comp=Z,10nm,1.0s
F36A **Milaca** 85.56 344 P P 06 48 23.2 0.0
baz=162,SNR=7.7
VES **Vestal, Richgr** 85.68 323 P P 06 48 25.9 +1.9
baz=143,SNR=6.4
CWC **Cottonwood Cre** 85.68 324 P P 06 48 26.0 +1.7
baz=144
SMMC **Simmler** 85.70 322 P P 06 48 26.2 +2.0
baz=143
F35A **Swanville** 85.79 344 P P 06 48 24.4 +0.1
baz=161
GRAC **Grapevine Rang** 85.80 324 P P 06 48 26.7 +2.1
baz=145,SNR=7.6
F34A **Alexandria** 85.89 343 P P 06 48 25.2 +0.4
baz=161,SNR=6.9
G31A **Conde** 86.07 341 P P 06 48 26.3 +0.6
baz=158
R11A **Troy Canyon, C** 86.11 326 P P 06 48 28.2 +1.9
baz=146,SNR=13
R11A **Troy Canyon, C** 86.11 326 *e*P P 06 48 24.7 -1.6
comp=Z,9.1nm,0.9s
E36A **McGregor** 86.13 345 P P 06 48 26.0 +0.1
baz=162,SNR=7.1
F33A **5 Mile Ranch,** 86.17 342 P P 06 48 26.0 -0.1
baz=160,SNR=5.5
G30A **Faulkton** 86.23 340 P P 06 48 26.9 +0.4
baz=158
K22A **Casper** 86.24 334 P P 06 48 27.8 +1.0
baz=152,SNR=12
K22A **Casper** 86.24 334 *e*P P 06 48 27.8 +1.0
comp=Z,19nm,0.9s
TIN **Tinemaha, Big** 86.25 324 P P 06 48 28.5 +1.6
baz=144
JLU **Jonnelle** 86.27 330 *e*P P 06 48 28.6 +1.4
comp=Z,11nm,0.7s
F32A **Veblen** 86.40 342 P P 06 48 27.5 +0.2
baz=159
E35A **Pequot Lakes** 86.42 344 P P 06 48 27.8 +0.4
baz=161
DUG **Dugway, Tooele** 86.47 329 P P 06 48 29.2 +1.2
baz=148,SNR=7.7
DUG **Dugway, Tooele** 86.47 329 *e*P P 06 48 29.3 +1.3
comp=Z,4.4nm,0.7s
G29A **Hoven** 86.50 340 P P 06 48 28.4 +0.6
baz=157
E34A **Wadena** 86.54 343 P P 06 48 28.0 0.0
baz=161
D37A **Cotton** 86.57 345 P P 06 48 28.0 -0.1
baz=163
TCUT **Toone Canyon** 86.70 330 *e*P P 06 48 30.6 +1.4
comp=Z,17nm,0.7s
E33A **Ruthy DABS, E** 86.73 343 P P 06 48 29.0 +0.1
baz=160
RSSD **Black Hills** 86.73 337 P P 06 48 30.1 +0.9
baz=154
RSSD **Black Hills** 86.73 337 *e*P P 06 48 29.4 +0.2
comp=Z,18nm,0.6s
D35A **Remer** 86.84 344 P P 06 48 29.8 +0.4
baz=162,SNR=19
MLAC **Mammoth, Mammo** 87.00 324 P P 06 48 32.3 +1.6
baz=144
H25A **Fruitdale** 87.05 337 P P 06 48 31.4 +0.8
baz=154,SNR=9.4
E32A **Braaten, Kindr** 87.06 342 P P 06 48 31.1 +0.6
baz=159,SNR=5.3
F29A **Eureka** 87.07 340 P P 06 48 31.1 +0.6
baz=157,SNR=6.5
C37A **Embarrass** 87.07 346 P P 06 48 30.2 -0.3
baz=163
D34A **Park Rapids** 87.09 344 P P 06 48 30.8 +0.2
baz=161,SNR=6.6
EYMN **Ely** 87.15 346 P P 06 48 31.4 +0.5
baz=164
HWUT **Hardware Ranch** 87.18 331 *e*P P 06 48 31.9 +0.4
comp=Z,19nm,0.8s
HWUT *e*pP pP 06 49 14.0 +1.3
C36A **Pine Crest Far** 87.23 345 P P 06 48 31.5 +0.2
baz=162
E31A **Nome** 87.23 342 P P 06 48 32.0 +0.7
baz=159,SNR=7.5
SPUT **South Promonto** 87.27 330 *e*P P 06 48 33.1 +1.3
comp=Z,12nm,1.1s
D33A **AnnSam, Waubun** 87.29 343 P P 06 48 31.8 +0.2
baz=160,SNR=5.4
C35A **Jirik Farms, M** 87.41 345 P P 06 48 32.3 +0.2
baz=162,SNR=6.3
BW06 **Boulder Array** 87.42 333 P P 06 48 33.0 +0.5
baz=150
BW06 **Boulder Array** 87.42 333 *e*P P 06 48 33.2 +0.7
PDAR **Pinedale Array** 87.42 333 P P 06 48 33.1 +0.6
comp=Z,1.6nm,0.6s,baz=123,slow=5.5,SNR=9.7
E30A **Jud** 87.44 341 P P 06 48 32.9 +0.6
baz=158
D32A **Dogwood Acres,** 87.56 342 P P 06 48 33.3 +0.5
baz=159,SNR=6.1
D31A **Mcclaflin, Tow** 87.65 342 P P 06 48 33.8 +0.6
baz=159,SNR=6.4
E29A **Napoleon** 87.69 341 P P 06 48 34.0 +0.4
baz=157
HVU **Hansel Valley** 87.80 330 *e*P P 06 48 35.1 +0.8
comp=Z,11nm,0.7s
C33A **Trail** 87.86 343 P P 06 48 34.4 +0.2
baz=160
F26A **Lodgepole** 87.88 338 P P 06 48 35.0 +0.5
baz=155,SNR=10
ELK **Elko** 87.94 328 *e*P P 06 48 35.3 +0.1
comp=Z,11nm,1.5s
D30A **Buchanan** 87.97 341 P P 06 48 35.3 +0.5
baz=158,SNR=5.5
B35A **Bob, Littlefor** 87.98 345 P P 06 48 35.1 +0.3
baz=162,SNR=9.4
WAKR **Walker** 87.98 324 *e*P P 06 48 37.1 +1.8
comp=Z,7.7nm,0.9s
D29A **Pettibone, Tap** 88.14 341 P P 06 48 36.0 +0.4
baz=157
F25A **Bowman** 88.18 338 P P 06 48 36.6 +0.7
baz=154,SNR=7.2
B34A **Aery, Baudette** 88.30 344 P P 06 48 36.5 +0.2
baz=161,SNR=7.1
B33A **Robert and Kas** 88.30 344 P P 06 48 36.6 +0.3
baz=160
C31A **Landman Farms,** 88.35 342 P P 06 48 36.9 +0.3
baz=159,SNR=13
AGMN **Agassiz Nation** 88.38 344 P P 06 48 37.1 +0.4
baz=160,SNR=18
AGMN **Agassiz Nation** 88.38 344 *e*P P 06 48 37.1 +0.4
comp=Z,23nm,0.6s
E26A **Carlson Angus** 88.39 339 P P 06 48 37.3 +0.5
baz=155,SNR=14

C30A **Mose, Pekin** 88.45 342 P P 06 48 37.7 +0.7
baz=158,SNR=7.6
D28A **Regan** 88.52 340 P P 06 48 38.0 +0.6
baz=157
BMN **Battle Mountai** 88.54 326 *e*P P 06 48 38.0 +0.1
comp=Z,2.6nm,0.6s
TPAW **Teton Pass** 88.56 332 *e*P P 06 48 38.0 0.0
comp=Z,6.3nm,1.2s
B32A **Ashes, Strandq** 88.63 343 P P 06 48 38.1 +0.3
baz=160,SNR=11
FXWY **Fox Creek** 88.71 332 *e*P P 06 48 39.5 +0.8
comp=Z,2.1nm,0.8s
MDND **Maddock** 88.87 341 P P 06 48 39.6 +0.6
baz=157,SNR=7.1
MDND **Maddock** 88.87 341 *e*P P 06 48 39.8 +0.8
comp=Z,40nm,0.7s
A33A **Warroad** 88.88 344 P P 06 48 39.4 +0.4
baz=160,SNR=9.0
D26A **Manning** 88.89 339 P P 06 48 39.9 +0.8
baz=155,SNR=13
IMW **Indian Meadow** 88.90 332 *e*P P 06 48 40.1 +0.5
comp=Z,17nm,0.3s
B31A **Greenbush Farm** 88.92 342 P P 06 48 39.3 +0.1
baz=159,SNR=6.3
PAHR **Pah Rah Range** 88.92 325 *e*P P 06 48 41.4 +1.8
comp=Z,3.6nm,1.0s
C28A **Hausauer Farms** 88.95 341 P P 06 48 39.9 +0.6
baz=157
FLWY **Flagg Ranch** 88.97 332 *e*P P 06 48 40.7 +0.8
comp=Z,7.1nm,0.7s
B30A **Myrvik Farm, E** 89.11 342 P P 06 48 40.5 +0.4
baz=158,SNR=9.9
RLMT **Red Lodge** 89.36 334 P P 06 48 42.1 +0.5
baz=150,SNR=5.3
RLMT **Red Lodge** 89.36 334 *e*P P 06 48 42.5 +0.9
comp=Z,6.7nm,0.6s
B29A **Wagenman Farm,** 89.37 341 P P 06 48 41.6 +0.3
baz=158
A30A **Hoffart Farm,** 89.56 342 P P 06 48 42.4 +0.2
baz=158
YMR **Madison River** 89.57 333 *e*P P 06 48 43.6 +0.9
comp=Z,12nm,0.8s
B28A **Dugan Ranch, T** 89.62 341 P P 06 48 43.1 +0.6
baz=157,SNR=7.3
YHH **Holmes Hill** 89.63 333 *e*P P 06 48 43.8 +0.7
comp=Z,8.2nm,0.9s
LAO **LASA Array** 89.72 336 P P 06 48 43.5 +0.4
baz=152,SNR=5.4
LAO **LASA Array** 89.72 336 *e*P P 06 48 43.5 +0.4
comp=Z,7.6nm,1.0s
C25A **Freed Ranch, W** 89.74 339 P P 06 48 44.0 +0.9
baz=155
A29A **Manning Farm,** 89.77 342 P P 06 48 43.2 +0.1
baz=158
HLID **Hailey** 89.95 330 P P 06 48 45.6 +1.2
baz=147,SNR=5.9
HLID **Hailey** 89.95 330 *e*P P 06 48 45.8 +1.4
comp=Z,4.0nm,1.0s
A28A **Rude Farm, Bot** 90.02 341 P P 06 48 44.6 +0.2
baz=157
B25A **Knox Farm, Ray** 90.22 339 P P 06 48 46.2 +0.9
baz=155
ULM **Lac du Bonnet** 90.23 344 P P 06 48 45.5 +0.3
comp=Z,6.3nm,0.6s,baz=157,slow=5.5,SNR=6.9
A27A **Ledoux Ranch,** 90.31 340 P P 06 48 46.3 +0.6
baz=156
MFID **Camas Ranch** 90.40 329 *e*P P 06 48 47.6 +1.2
comp=Z,4.3nm,0.9s
MCMT **McKenzie Canyo** 90.41 332 *e*P P 06 48 48.3 +1.7
A26A **Wade Farm, Ken** 90.48 340 P P 06 48 46.8 +0.3
baz=156,SNR=5.3
DGMT **Dagmar** 90.70 339 P P 06 48 48.2 +0.6
baz=154,SNR=6.1
DGMT **Dagmar** 90.70 339 *e*P P 06 48 48.6 +1.0
comp=Z,21nm,0.8s
DLMT **Dillon** 90.77 332 *e*P P 06 48 49.2 +1.1
comp=Z,6.2nm,1.1s
WVOR **Wild Horse Val** 90.78 327 *e*P P 06 48 50.0 +1.8
comp=Z,7.9nm,1.3s
A25A **Svangstu Ranch** 90.81 339 P P 06 48 48.9 +0.8
baz=155
MOD **Modoc Plateau** 91.10 325 *e*P P 06 48 51.1 +1.3
comp=Z,4.6nm,0.6s
LRM **Limekiln Ridge** 91.10 332 *e*P P 06 48 50.9 +1.1
M04C **Macdoel** 91.70 324 P P 06 48 53.7 +1.1
baz=142
BMO **Blue Mountains** 92.19 329 *e*P P 06 48 55.9 +1.2
comp=Z,3.7nm,0.8s
NEW **Newport** 94.90 331 P P 06 49 06.2 -0.8
comp=Z,2.3nm,0.5s,baz=117,slow=8.6,SNR=3.3
GERES **GERESS Array B** 113.95 46 PKP PKiKP 06 54 21.9 -0.9
comp=Z,4.0nm,0.4s,baz=207,slow=1.2,SNR=6.0
ASAR **Alice Springs** 114.78 205 PKP PKPdf 06 54 24.7 -0.6
comp=Z,0.7nm,0.6s,baz=150,slow=1.9,SNR=7.7
ILAR **Eielson Array** 117.84 332 PKP PKPdf 06 54 29.8 0.0
comp=Z,0.9nm,0.7s,baz=149,slow=2.2,SNR=8.5
WRA **Warramunga Arr** 118.06 207 PKP PKPdf 06 54 31.3 -0.4
comp=Z,1.7nm,0.4s,baz=155,slow=1.6,SNR=51
FITZ **Fitzroy Crossi** 122.47 199 PKP PKPdf 06 54 39.9 -0.3
comp=Z,3.8nm,0.9s,baz=231,slow=6.5,SNR=7.7
BRTR **Keskin Array B** 122.65 63 PKP PKPdf 06 54 39.6 -0.3
comp=Z,0.7nm,0.6s,baz=197,slow=3.8,SNR=4.7
AKASG **Malin Array Be** 123.84 49 PKP PKPdf 06 54 41.0 -0.7
comp=Z,1.0nm,0.4s,baz=264,slow=2.7,SNR=4.7
FINES **FINESS Array B** 125.35 36 PKP PKPdf 06 54 44.7 +0.5
comp=Z,0.3nm,0.3s,baz=222,slow=2.6,SNR=5.0
ARCES **ARCESS Array B** 126.83 26 PKP PKPdf 06 54 46.5 -0.4
comp=Z,1.9nm,0.8s,baz=225,slow=5.0,SNR=8.3
ABKAR **Akbulak array** 143.00 56 *e*PKPpre PKPpre 06 55 14.1
PETK **Petropavlovsk-** 143.32 311 PKP PKPbc 06 55 15.8 +0.2
comp=Z,8.8nm,0.7s,baz=84,slow=8.3,SNR=7.4
SEY **Seymchan** 143.63 328 PKP PKPbc 06 55 16.0 -0.1
comp=Z,7.2nm,0.7s,baz=101,slow=3.2,SNR=28
TIXI **Tiksi** 144.41 349 PKP PKPab 06 55 17.6 -0.4
comp=Z,16nm,0.6s,baz=29,slow=3.5,SNR=27
MA2 **Magadan** 145.63 323 PKPbc PKPbc 06 55 22.6 +0.2
comp=Z,18nm,0.6s,baz=94,slow=6.4,SNR=11
ZRNK **Zerenda** 148.31 48 *e*PKPdf PKPdf 06 55 27.5 +1.0
BRVK **Borovoye** 149.03 47 *e*PKPdf PKPdf 06 55 27.0 -0.6
AAK **Ala-Archa** 153.11 68 *e*PKPbc PKPbc 06 55 42.6 +0.7
KSH **Kashi** 154.03 75 *e*PKPbc PKPdf 06 55 36.1 +0.3
KSH pPKP pPKPdf 06 56 18.1 -1.2
KSH PP PP 06 59 38.5 +4.3
KSH SKS SKSdf 07 02 25.4 -1.7
KSH SKKS SKKSac 07 06 09.1 +1.5
KSH PPMZ
comp=Z,73nm,4.1s
KSH LN
comp=Z,97nm,6.5s
KSH LE
comp=Z,78nm,6.1s
KSH LZ
comp=Z,530nm,11.8s
ZALV **Zalesovo Beam** 156.59 38 PKP PKPdf 06 55 38.5 -0.1
comp=Z,0.9nm,0.5s,baz=217,slow=1.5,SNR=6.2
MJAR **Matsushiro Arr** 156.86 276 PKPab PKPab 06 56 11.4 +1.1
comp=Z,3.3nm,0.6s,baz=128,slow=3.0,SNR=6.6
MK31 **Makanchi Array** 158.14 57 *e*PKPdf PKPdf 06 55 41.4 +0.5
MKAR **Makanchi Array** 158.14 57 PKP PKPdf 06 55 39.9 -0.9
comp=Z,1.4nm,0.7s,baz=330,slow=0.2,SNR=14
MKAR PKPab PKPab 06 56 15.4 -0.2
comp=Z,1.0nm,0.4s,baz=282,slow=2.9,SNR=15
MKAR pPKPab pPKPab 06 56 57.0 -0.2
comp=Z,0.9nm,0.7s,baz=294,slow=3.9,SNR=2.3
MK01 **Makanchi Array** 158.15 57 *e*PKPdf PKPdf 06 55 41.0 +0.1
WMQ **Urumqi** 162.58 62 PKP PKPdf 06 55 45.9 0.0
WMQ LN
comp=Z,280nm,21.8s
WMQ LE
comp=Z,200nm,14.6s
WMQ LZ
comp=Z,84nm,20.6s
KSRS **Korea Array** 165.13 275 PKPab PKPab 06 56 47.6 +1.2
comp=Z,2.3nm,0.8s,baz=113,slow=3.5,SNR=5.7
KSAR **Wonju Array Be** 165.16 275 PKPab PKPab 06 56 47.6 +1.1
SONM **Songino Array** 169.57 10 PKP PKPdf 06 55 50.7 -0.7
comp=Z,0.6nm,0.8s,baz=235,slow=0.4,SNR=3.8
SONM PKPab PKPab 06 57 06.6 +1.0
comp=Z,1.5nm,0.7s,baz=327,slow=4.2,SNR=7.5
HHC **Hu-ho-hao-te** 176.27 331 *e*PKP PKPdf 06 55 54.4 +0.1
XAN **Xi'an** 176.44 176 PKP PKPdf 06 55 52.3 -2.1

*ISCJB **23** 06:36:07.1±0.7, 4°.5N±0°.2×122°.8E±0°.3, h582km, mb3.7/7,*
Error ellipse: s-maj=41.4km s-min=12.6km az=149.2
*IDC **23** 06:36:08.8±1.7, 4°.47N×122°.85E, h584km±21km, mb3.1/7,*

mb1 3.1/8,mb1mx2.9/53,mbtmp4.1/8,Error ellipse: s-maj=42.1km s-min=10.7km az=61.0

ISC 23 06:36:08.6±0.8, **4°.5N**±0°.2×**122°.9E**±0°.3, **h582**km, **n8,** σ0§**69**/13, **mb3.8**/7, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**19.14**	**111**	P	**P**	**06 39 56.0**	**+0.4**
	0.1nm,0.3s,baz=84,slow=24,SNR=5.6						
WRA	**Warramunga Arr**	**26.77**	**155**	P	**P**	**06 41 02.6**	**-0.8**
	0.7nm,0.4s,baz=335,slow=7.5,SNR=2.9						
WRA				PcP	**PcP**	**06 44 06.2**	**-0.5**
	0.6nm,0.7s,baz=323,slow=2.6,SNR=2.6						
WRA				ScP	**ScP**	**06 46 51.5**	**-1.0**
	1.1nm,0.7s,baz=341,slow=2.9,SNR=5.4						
ASAR	**Alice Springs**	**29.99**	**159**	P	**P**	**06 41 31.4**	**+0.1**
	1.6nm,0.3s,baz=336,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**06 44 14.7**	**-0.3**
	0.3nm,0.3s,baz=333,slow=2.4,SNR=2.0						
ASAR				ScP	**ScP**	**06 47 02.3**	**-0.3**
	1.1nm,0.5s,baz=344,slow=3.1,SNR=13						
STKA	**Stephens Creek**	**40.33**	**155**	P	**P**	**06 42 57.4**	**+0.6**
	1.0nm,0.3s,baz=322,slow=8.7,SNR=3.8						
SONM	**Songino Array**	**45.44**	**344**	P	**P**	**06 43 36.8**	**+0.3**
	0.7nm,0.7s,baz=154,slow=6.3,SNR=3.4						
MKAR	**Makanchi Array**	**54.77**	**327**	P	**P**	**06 44 45.1**	**+0.7**
	2.4nm,0.3s,baz=122,slow=7.6,SNR=38						
MKAR				PcP	**PcP**	**06 45 37.5**	**-0.3**
	0.8nm,0.6s,baz=117,slow=4.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**58.21**	**335**	P	**P**	**06 45 06.6**	**-1.1**
	0.7nm,0.4s,baz=144,slow=6.3,SNR=3.3						
AKTO	**Aktyubinsk**	**70.68**	**322**	P	**P**	**06 46 27.0**	**+0.5**
	1.4nm,0.3s,baz=98,slow=8.5,SNR=10						

*MEX **23** 06:41:46.8±0.6, 13°.20N×91°.70W, h15km, MD3.9*
*IDC **23** 06:41:59.9±5.8, 14°.35N×91°.51W, h84km±34km, mb3.8/5, mb1 3.9/8, mb1mx3.6/49, mbtmp4.0/8, MS3.6/4, Ms1 3.6/4, ms1mx3.0/37, Error ellipse: s-maj=62.4km s-min=31.8km az=162.0*

ISC 23 06:41:54.0±1.6, **13°.8N**±0°.2×**91°.6W**±0°.1, **h61**km, **n13,** σ2§**16**/14, **mb4.1**/5, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**2.50**	**320**	*eP*	**Pn**	**06 42 29.9**	**-2.3**
PCIG				*eS*	Sn	06 42 49.3	-12
CCIG	**Comitan**	**2.54**	**347**	*eP*	**Pn**	**06 42 35.2**	**+2.2**
CCIG				*eS*	Sn	06 43 12.1	+9.2
CMIG	**Matias Romero**	**4.59**	**316**	P	**Pn**	**06 43 00.3**	**-0.7**
	1.5nm,0.3s,baz=115,slow=7.8,SNR=20						
CMIG				S	**Sn**	**06 43 55.4**	**+2.4**
	3.0nm,0.3s,baz=48,slow=3.6,SNR=4.8						
TEIG	**Tepich**	**7.12**	**26**	P	**Pn**	**06 43 35.5**	**0.0**
	2.6nm,0.3s,baz=106,slow=23,SNR=15						
TEIG				LR	LR	06 46 52.6	
	comp=Z,216nm,19.6s,baz=98,slow=44						
TXAR	**Lajitas Array**	**19.11**	**326**	P	**Pn**	**06 46 13.3**	**-0.2**
	0.2nm,0.3s,baz=156,slow=13,SNR=34						
TKL	**Tuckaleechee C**	**22.87**	**16**	P	**P**	**06 46 51.6**	**-0.8**
	6.0nm,0.6s,baz=181,slow=12,SNR=13						
TKL				LR	LR	06 57 42.1	
	comp=Z,104nm,18.2s,baz=182,slow=42						
SJG	**San Juan**	**24.79**	**77**	LR	LR	06 57 43.8	
	comp=Z,160nm,19.5s,baz=346,slow=38						
SCHQ	**Schefferville**	**45.27**	**20**	P	**P**	**06 50 02.7**	**-2.7**
	4.2nm,0.9s,baz=232,slow=6.9,SNR=4.2						
SCHQ				LR	LR	07 10 05.8	
	comp=Z,159nm,19.2s,baz=285,slow=38						
YKA	**Yellowknife Ar**	**51.33**	**347**	P	**P**	**06 50 51.3**	**-0.5**
	1.0nm,0.6s,baz=150,slow=7.4,SNR=6.8						
YKA				PcP	**PcP**	**06 52 05.7**	**-0.2**
	0.6nm,0.6s,baz=144,slow=3.7,SNR=5.3						
INK	**Inuvik**	**60.76**	**343**	P	**P**	**06 51 58.2**	**-0.9**
	1.1nm,0.7s,baz=132,slow=7.0,SNR=4.1						
ILAR	**Eielson Array**	**63.20**	**337**	P	**P**	**06 52 15.9**	**+0.3**
	1.6nm,0.9s,baz=147,slow=4.3,SNR=16						
WRA	**Warramunga Arr**	**135.77**	**256**	PKP	**PKPdf**	**07 01 13.7**	**+5.1**
	0.7nm,1.0s,baz=98,slow=1.2,SNR=3.5						
CMAR	**Chiang Mai Arr**	**146.33**	**342**	PKPbc	**PKPab**	**07 01 29.7**	**+0.1**
	1.0nm,0.3s,baz=353,slow=4.3,SNR=4.7						

*ISCJB **23** 06:42:29.1±1.3, 22°.4S×0°.1×65°.8W×0°.1, h251km, mb3.6/2, Error ellipse: s-maj=16.4km s-min=12.4km az=143.2*
*IDC **23** 06:42:30.1±1.5, 22°.33S×65°.89W, h256km±16km, mb3.5/2, mb1 3.3/4, mb1mx3.1/35, mbtmp3.9/4, Error ellipse: s-maj=26.4km s-min=18.8km az=121.0*

ISC 23 06:42:30.4±1.2, **22°.3S**±0°.1×**65°.9W**±0°.1, **h251**km, **n6,** σ1§**15**/8, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.80**	**263**	P	**Pn**	**06 43 21.2**	**0.0**
	1µm,0.3s,baz=78,slow=7.2,SNR=192						
LVC				S	**S**	**06 44 02.0**	**+0.7**
	597nm,0.3s,baz=249,slow=21,SNR=18						
LPAZ	**La Paz**	**6.35**	**340**	P	**Pn**	**06 44 04.3**	**+0.8**
	0.5nm,0.3s,baz=182,slow=6.4,SNR=8.6						
LPAZ				S	**S**	**06 45 17.2**	**-0.8**
	0.1nm,0.3s,baz=292,slow=18,SNR=7.4						
SIV	**San Ignacio**	**7.76**	**37**	P	**Pn**	**06 44 22.5**	**+1.7**
	0.7nm,0.3s,baz=231,slow=11,SNR=7.2						
CMIG	**Matias Romero**	**48.36**	**322**	P	**P**	**06 50 47.2**	**0.0**
	1.3nm,0.6s,baz=153,slow=6.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**75.02**	**69**	P	**P**	**06 53 43.5**	**-1.4**
	0.9nm,0.4s,baz=252,slow=5.3,SNR=16						
MKAR	**Makanchi Array**	**144.58**	**39**	PKP	**PKPdf**	**07 01 36.6**	**-0.3**
	0.8nm,0.7s,baz=320,slow=4.3,SNR=6.1						

*IDC **23** 06:50:05.2±3.4, 5°.49S×153°.94E, h49km±30km, mb4.0/15, mb1 4.2/17, mb1mx4.0/43, mbtmp4.4/17, ML3.2/2, MS3.5/9, Ms1 3.5/9, ms1mx3.3/34, Error ellipse: s-maj=22.1km s-min=14.6km az=70.0*
*NEIC **23** 06:50:05.5±1.6, 5°.51S×153°.96E, h54km±14km, mb4.7/3, Error ellipse: s-maj=11.4km s-min=7.5km az=69.0*
*ISCJB **23** 06:50:06.4±0.5, 5°.58S±0°.06×153°.90E±0°.07, h74km, mb4.3/21, Error ellipse: s-maj=10.9km s-min=8.4km az=24.5*

ISC 23 06:50:08.0±0.6, **5°.57S**±0°.09×**153°.90E**±0°.09, **h74**km, **n38,** σ1§**12**/34, **mb4.4**/21, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.11**	**123**	LR	LR	06 54 37.1	
	comp=Z,399nm,20.6s,baz=284,slow=38						
PMG	**Port Moresby**	**7.69**	**240**	P	**Pn**	**06 51 55.9**	**-1.6**
	9.0nm,0.3s,baz=65,slow=5.3,SNR=22						
PMG				S	**Sn**	**06 53 23.4**	**+0.3**
	8.6nm,0.3s,baz=323,slow=21,SNR=5.7						
PMG	**Port Moresby**	**7.69**	**240**	P	**Pn**	**06 51 55.9**	**-1.6**
	40nm,0.8s						
PMG				S	**Sn**	**06 53 23.4**	**+0.3**
CTA	**Charters Tower**	**16.23**	**207**	P	**Pn**	**06 53 52.0**	**+0.4**
	0.1nm,0.3s,baz=23,slow=14,SNR=3.7						
DZM	**Mont Dzumac**	**20.40**	**145**	P	**P**	**06 54 39.4**	**+0.2**
	19nm,0.5s,baz=200,slow=18,SNR=46						
DZM	**Mont Dzumac**	**20.40**	**145**	*eP*	**P**	**06 54 37.9**	**-1.3**
	20nm,0.6s						
GUMO	**Guam**	**21.05**	**335**	LR	LR	07 02 16.0	
	comp=Z,38nm,20.0s,baz=106,slow=35						
WRA	**Warramunga Arr**	**23.79**	**231**	P	**P**	**06 55 13.8**	**-0.4**
	3.5nm,0.8s,baz=54,slow=9.5,SNR=17						
WRA				PcP	**PcP**	**06 58 57.0**	**+0.9**
	2.6nm,0.7s,baz=55,slow=2.4,SNR=10						
WRA				LR	LR	07 04 32.8	
	comp=Z,188nm,20.6s,baz=50,slow=36						
ASAR	**Alice Springs**	**26.35**	**225**	P	**P**	**06 55 37.6**	**+0.2**
	1.8nm,0.7s,baz=58,slow=8.9,SNR=15						
ASAR				PcP	**PcP**	**06 59 03.0**	**+1.1**
	3.1nm,0.6s,baz=61,slow=2.5,SNR=21						
ASAR				LR	LR	07 06 08.7	
	comp=Z,209nm,18.5s,baz=19,slow=36						
H11S3	**WAKE ISLAND Hy**	**27.04**	**28**	T	T	07 24 03.3	
	baz=208,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**27.04**	**28**	T	T	07 24 03.5	
	baz=208,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**27.05**	**28**	T	T	07 24 02.9	
	baz=208,slow=76,SNR=25						
STKA	**Stephens Creek**	**28.59**	**202**	P	**P**	**06 55 57.2**	**-0.1**
	0.9nm,0.6s,baz=66,slow=12,SNR=2.2						
STKA				PcP	**PcP**	**06 59 07.6**	**+0.6**
	3.3nm,0.9s,baz=22,slow=4.3,SNR=3.8						
STKA				LR	LR	07 07 38.8	
	comp=Z,162nm,18.9s,baz=38,slow=37						
FITZ	**Fitzroy Crossi**	**30.28**	**243**	P	**P**	**06 56 12.0**	**-0.4**
	7.2nm,0.9s,baz=62,slow=7.3,SNR=6.1						
DAV	**Davao City (W)**	**30.93**	**294**	LR	LR	07 06 38.4	
	comp=Z,96nm,21.0s,baz=131,slow=32						
AFI	**Afiamalu**	**34.78**	**106**	LR	LR	07 10 20.6	
	comp=Z,58nm,19.4s,baz=108,slow=35						
URZ	**Urewera**	**38.77**	**150**	P	**P**	**06 57 25.3**	**-0.1**
	9.3nm,0.6s,baz=62,slow=5.2,SNR=6.2						
JNU	**Nakatsue**	**44.25**	**332**	P	**P**	**06 58 10.1**	**-0.3**
	5.5nm,0.6s,baz=156,slow=1.6,SNR=4.3						
MJAR	**Matsushiro Arr**	**44.40**	**342**	LR	LR	07 13 51.9	
	comp=Z,29nm,21.9s,baz=45,slow=32						
KSRS	**Korea Array**	**49.19**	**333**	P	**P**	**06 58 47.9**	**-0.8**
	1.8nm,0.7s,baz=157,slow=10,SNR=4.7						
KSAR	**Wonju Array Be**	**49.19**	**333**	P	**P**	**06 58 47.9**	**-0.9**
NONG	**Nongkai**	**55.30**	**296**	P	**P**	**06 59 35.9**	**+1.5**
	30nm,1.1s,8µm						
LOEI	**Loei**	**56.80**	**295**	P	**P**	**06 59 44.2**	**-1.0**
	16nm,0.9s						
UTTA	**Uttaradit**	**57.52**	**295**	P	**P**	**06 59 52.4**	**+2.2**
	7.2nm,0.8s,102nm						
SUKH	**Sukhothai**	**58.27**	**294**	P	**P**	**06 59 57.9**	**+2.4**
	7.1nm,0.8s						
PETK	**Petropavlovsk-**	**58.55**	**3**	LR	LR	07 20 29.0	
	comp=Z,22nm,20.1s,baz=245,slow=31						
LAMP	**Lampang**	**58.60**	**296**	P	**P**	**06 59 59.9**	**+2.1**
	9.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**59.20**	**295**	P	**P**	**07 00 01.7**	**-0.3**
	3.1nm,0.3s,baz=112,slow=5.0,SNR=24						
CMMT	**Chiang Mai**	**59.31**	**296**	P	**P**	**07 00 05.2**	**+2.5**
SONM	**Songino Array**	**67.56**	**327**	P	**P**	**07 00 57.0**	**+0.2**
	0.8nm,0.4s,baz=133,slow=6.0,SNR=6.0						
VNDA	**Vanda**	**72.02**	**178**	P	**P**	**07 01 24.2**	**+0.6**
	0.4nm,0.5s,baz=347,slow=10,SNR=6.2						
MCK	**McKinley**	**81.16**	**22**	*eP*	**P**	**07 02 14.8**	**-0.5**
	3.8nm,0.8s						
MKAR	**Makanchi Array**	**81.63**	**319**	P	**P**	**07 02 18.5**	**+0.3**
	2.4nm,0.7s,baz=99,slow=6.8,SNR=20						
ZALV	**Zalesovo Beam**	**82.40**	**326**	P	**P**	**07 02 21.3**	**-0.7**
	1.0nm,0.4s,baz=112,slow=6.6,SNR=4.6						
ILAR	**Eielson Array**	**82.46**	**22**	P	**P**	**07 02 20.8**	**-1.3**
	0.9nm,0.7s,baz=242,slow=5.5,SNR=11						
QSPA	**South Pole Qui**	**84.39**	**180**	*eP*	**P**	**07 02 32.5**	**+0.3**
	23nm,0.7s						
MAW	**Mawson**	**85.28**	**203**	P	**P**	**07 02 36.6**	**+0.1**
	1.5nm,0.7s,baz=94,slow=4.7,SNR=10						
TORD	**Torodi Ar. Bea**	**151.59**	**287**	PKPbc	**PKPbc**	**07 09 54.6**	**-0.3**
	2.8nm,0.8s,baz=45,slow=2.1,SNR=17						

*ISCJB **23** 06:57:29.0±0.6, 21°.89N±0°.06×143°.4E±0°.2, h200km, mb3.6/13, Error ellipse: s-maj=24.7km s-min=8.2km az=175.2*
*IDC **23** 06:57:33.5±2.4, 21°.96N×143°.22E, h227km±23km, mb3.5/14, mb1 3.6/15, mb1mx3.4/43, mbtmp4.1/15, Error ellipse: s-maj=22.8km s-min=9.9km az=94.0*

ISC 23 06:57:31.0±0.7, **21°.92N**±0°.08×**143°.2E**±0°.2, **h200**km, **n19,** σ1§**35**/20, **mb3.7**/13, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.24**	**350**	P	**Pn**	**06 58 50.0**	**+1.6**
	312nm,0.3s,baz=284,slow=0.4,SNR=3.6						
JCJ				S	**Sn**	**06 59 48.5**	**-1.1**
	baz=216,slow=0.5						
MJAR	**Matsushiro Arr**	**15.21**	**344**	P	**Pn**	**07 00 57.1**	**+1.3**
	1.9nm,0.3s,baz=162,slow=8.0,SNR=8.9						
MAT	**Matsushiro**	**15.21**	**344**	P	**Pn**	**07 00 56.3**	**+0.5**
KSRS	**Korea Array**	**20.36**	**323**	P	**P**	**07 01 53.0**	**+0.8**
	1.7nm,0.5s,baz=144,slow=8.3,SNR=5.8						
KLR	**Kul'dur**	**28.74**	**344**	P	**P**	**07 03 09.4**	**-0.2**
	3.0nm,0.5s,baz=165,slow=7.8,SNR=11						
SONM	**Songino Array**	**39.19**	**320**	P	**P**	**07 04 39.5**	**-0.2**
	0.5nm,0.4s,baz=118,slow=7.3,SNR=3.8						
SEY	**Seymchan**	**41.46**	**6**	P	**P**	**07 04 57.7**	**-0.2**
	0.4nm,0.4s,baz=160,slow=15,SNR=5.7						
WRA	**Warramunga Arr**	**42.50**	**192**	P	**P**	**07 05 07.0**	**+0.1**
	1.6nm,0.3s,baz=15,slow=9.2,SNR=25						
FITZ	**Fitzroy Crossi**	**43.34**	**205**	P	**P**	**07 05 14.1**	**+0.6**
	1.1nm,0.4s,baz=28,slow=8.6,SNR=3.7						
ASAR	**Alice Springs**	**46.21**	**192**	P	**P**	**07 05 36.1**	**0.0**
	0.8nm,0.4s,baz=15,slow=9.8,SNR=13						
STKA	**Stephens Creek**	**53.51**	**182**	P	**P**	**07 06 30.5**	**-0.5**
	2.9nm,1.0s,baz=350,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**54.57**	**313**	P	**P**	**07 06 38.1**	**-0.5**
	0.4nm,0.4s,baz=98,slow=7.0,SNR=6.5						
ILAR	**Eielson Array**	**61.83**	**27**	P	**P**	**07 07 27.4**	**-1.1**
	0.6nm,0.7s,baz=259,slow=5.9,SNR=7.3						
INK	**Inuvik**	**67.35**	**24**	P	**P**	**07 08 04.0**	**-0.1**
	0.7nm,0.5s,baz=296,slow=6.1,SNR=6.4						
YKA	**Yellowknife Ar**	**76.25**	**28**	P	**P**	**07 08 56.7**	**-0.4**
	1.4nm,0.5s,baz=292,slow=5.9,SNR=13						
ARCES	**ARCESS Array B**	**78.72**	**341**	P	**P**	**07 09 10.1**	**-0.7**
	1.5nm,0.8s,baz=81,slow=8.7,SNR=5.7						
FINES	**FINESS Array B**	**83.00**	**334**	P	**P**	**07 09 32.1**	**-1.4**
	1.1nm,0.3s,baz=63,slow=4.9,SNR=16						
TORD	**Torodi Ar. Bea**	**128.63**	**309**	PKP	**PKPdf**	**07 16 13.4**	**-1.7**
	0.3nm,0.8s,baz=127,slow=2.3,SNR=3.2						
LPAZ	**La Paz**	**149.88**	**85**	PKPbc	**PKPdf**	**07 16 58.1**	**+4.1**
	1.9nm,0.5s,baz=348,slow=2.8,SNR=14						

*NEIC **23** 07:26:11.8, 16°.56N×94°.52W, h104km, MD4.1(MEX), After MEX.*

MEX 23 07:26:11.8±1.1, **16°.56N×94°.52W, h104**km±29km, **MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.51**	**124**	*eP*	Pn	07 26 37.0	-1.4
PCIG				*eS*	Sn	07 26 56.8	-1.9
PCIG		**1.51**	**124**	*eP*	Pn	07 26 37.0	-1.4
PCIG				*eS*	Sn	07 26 56.8	-1.9
HUIG	**Huatulco**	**1.71**	**243**	*eP*	Pn	07 26 38.8	-2.1
HUIG				*eS*	Sn	07 27 02.3	-0.8
HUIG	**Huatulco**	**1.71**	**243**	*eP*	Pn	07 26 38.8	-2.1
HUIG				*eS*	Sn	07 27 02.3	-0.8
PANG	**Puerto Angel**	**2.07**	**245**	*eP*	Pn	07 26 42.9	-2.6
PANG				*i S*	Sn	07 27 08.8	-2.4
OXBJ	**Oaxaca**	**2.17**	**284**	*i P*	Pn	07 26 46.7	-0.3
VHO	**Vista Hermosa**	**2.18**	**284**	*eP*	Pn	07 26 47.8	+0.7
VHO				*eS*	Sn	07 27 12.2	-1.8
VHO	**Vista Hermosa**	**2.18**	**284**	*eP*	Pn	07 26 47.8	+0.7
VHO				*eS*	Sn	07 27 12.2	-1.8
CCIG	**Comitan**	**2.31**	**97**	*eP*	Pn	07 26 47.0	-1.6
CCIG				*eS*	Sn	07 27 14.9	-2.0
CCIG	**Comitan**	**2.31**	**97**	*eP*	Pn	07 26 47.0	-1.6
CCIG				*eS*	Sn	07 27 14.9	-2.0
PNIG	**Pinotepa**	**3.46**	**268**	*eP*	Pn	07 27 02.7	-1.1
PNIG				*eS*	Sn	07 27 41.9	-2.3
PNIG	**Pinotepa**	**3.46**	**268**	*eP*	Pn	07 27 02.7	-1.1
PNIG				*eS*	Sn	07 27 41.9	-2.3

*GCMT **23** 07:34:42.7±0.1, 38°.53N×39°.57E, h19km, MW5.4/127, Moment Tensor Solution. s87,c134; s127,c246; Duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr0.14±.02; Mθθ-0.86±.02; Mϕϕ0.71±.02; Mrθ0.23±.04; Mθϕ1.11±.02; Mϕr-0.15±.04; Best double couple: Mo1.38600×10¹⁷ NP1:ϕs343.00000°, δ84.00000°, λ-172.00000°. NP2:ϕs252.00000°, δ82.00000°, λ-6.00000°. Principal axes: T 1.2930, Plg1.0000°, Azm117.0000°; N 0.1860, Plg80.0000°, Azm20.0000°; P -1.4790, Plg10.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 07:34:42.7, 38°.58N×39°.64E, h6km, mb5.2/119, MW5.2, ML5.4(ISK), Moment Tensor Solution. s23 Moment tensor: Scale 10¹⁶Nm; Mrr0.60; Mθθ-4.93; Mϕϕ4.33; Mrθ1.03; Mθϕ5.06; Mϕr-3.84; Best double couple: Mo7.90000×10¹⁶ NP1:ϕs250.00000°, δ60.00000°, λ5.00000°. NP2:ϕs157.00000°, δ86.00000°, λ150.00000°. Principal axes: T 7.9400, Plg24.0000°, Azm110.0000°; N 0.0000, Plg60.0000°, Azm330.0000°; P -7.9500, Plg17.0000°, Azm208.0000°; After ISK.*
NEIC Felt at Diyarbakir, Elazig and Gaziantep.
*ISK **23** 07:34:42.9, 38°.57N×39°.62E, h6km, ML5.4*
*SFS **23** 07:34:43.0, 38°.58N×39°.96E, h5km, ML5.2*
*DDA **23** 07:34:43.3, 38°.56N×39°.63E, h13km, Ml5.3*
*IDC **23** 07:34:43.7±0.4, 38°.53N×39°.65E, h0km, mb4.6/33, mb1 4.7/48, mb1mx4.7/54, mbtmp4.7/48, ML4.1/14, MS4.8/40, Ms1 4.8/40, ms1mx4.7/46, Error ellipse: s-maj=9.2km s-min=7.0km az=163.0*
*DSN **23** 07:34:44.8±1.4, 38°.38N×39°.54E, h10km, mb5.1, Error ellipse: s-maj=21.6km s-min=5.8km az=90.0*
*BJI **23** 07:34:44.4, 38°.50N×39°.70E, h10km, mb5.0/68, mB5.4/50, Ms5.2/54, Ms7 4.9/56*
*ISCJB **23** 07:34:44.2±0.1, 38°.54N±0°.01×39°.67E±0°.01, h10km, mb5.0/192, MS4.8/51, Error ellipse: s-maj=1.8km s-min=1.2km az=178.0*
*MOS **23** 07:34:44.2±1.1, 38°.57N×39°.64E, h10km, mb5.3/71, MS4.6/53, Error ellipse: s-maj=4.4km s-min=2.9km az=108.9*
*CSEM **23** 07:34:44.5±0.1, 38°.54N×39°.70E, h2km, mb5.2/99, Mw5.4*
*ISN **23** 07:34:51.1±0.5, 38°.27N×40°.32E, h0km±1km, ML5.4*
*NSSC **23** 07:34:52.7±2.0, 38°.00N×39°.02E, h36km±41km, ML5.0*

ISC 23 07:34:45.6±0.4, **38°.55N**±0°.01×**39°.61E**±0°.01, **h10**km±2km, **h9**km:**pP-P**, **n1313,** σ1§**72**/1460, **mb5.2**/191, **MS4.8**/51, **104C-42D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.29**	**235**	PG	**Pg**	**07 34 49.6**	**-2.0**
SVRC				SG	**Sg**	**07 34 55.3**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.29**	**235**	*i* Pg	**Pg**	**07 34 49.6**	**-2.0**
SVRC				*i* Sg	**Sg**	**07 34 55.3**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.29**	**235**	*e*Pg	**Pg**	**07 34 49.5**	**-2.0**
SVRC				*e*Sg	**Sg**	**07 34 55.5**	**-0.1**
PTK	**Pertek**	**0.39**	**334**	PG	**Pg**	**07 34 51.0**	**-2.4**
PTK				SG	**Sg**	**07 34 56.4**	**-2.1**
PTK	**Pertek**	**0.39**	**334**	*e*Pg	**Pg**	**07 34 51.1**	**-2.2**
PTK				*e*Sg	**Sg**	**07 34 56.1**	**-2.4**
PTK	**Pertek**	**0.39**	**334**	*e*Pg	**Pg**	**07 34 51.1**	**-2.2**
PTK				*e*Sg	**Sg**	**07 34 56.1**	**-2.4**
ELZG	**Elazig**	**0.49**	**265**	P	**Pg**	**07 34 52.6**	**-2.7**
ELZG				S	**Sg**	**07 35 02.2**	**+0.4**
ELZG	**Elazig**	**0.49**	**265**	↑*i* P	**Pg**	**07 34 52.6**	**-2.7**
ELZG				*i* S	**Sg**	**07 35 02.2**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.57**	**355**	P	**Pg**	**07 34 53.8**	**-2.9**
TNCL				S	**Sg**	**07 35 01.8**	**-2.5**
TNCL	**Tunceli-Merkez**	**0.57**	**355**	↓*i* P	**Pg**	**07 34 53.8**	**-2.9**
TNCL				*i* S	**Sg**	**07 35 01.8**	**-2.5**
DIYA	**Diyarbakir**	**0.74**	**147**	P	**Pg**	**07 34 58.8**	**-1.1**
DIYA	**Diyarbakir**	**0.74**	**147**	↑*i* P	**Pg**	**07 34 58.8**	**-1.1**
DIYA				*i* S	**Sb**	**07 35 11.3**	**+0.5**
BINT	**Bingol**	**0.76**	**64**	*i* Pg	**Pb**	**07 35 00.6**	**-0.5**
BGOL	**Bingol**	**0.94**	**62**	P	**Pg**	**07 35 00.4**	**-3.3**
BGOL				S	**Sb**	**07 35 17.0**	**+0.3**
BGOL	**Bingol**	**0.94**	**62**	↓*i* P	**Pg**	**07 35 00.5**	**-3.3**
BGOL				*i* S	**Sb**	**07 35 17.0**	**+0.3**
BNGB	**Bing¯¶l**	**0.95**	**62**	PG	**Pg**	**07 35 00.6**	**-3.3**
BNGB				SG	**Sg**	**07 35 14.6**	**-1.6**
BNGB	**Bing¯¶l**	**0.95**	**62**	*e*Pg	**Pg**	**07 35 00.5**	**-3.3**
BNGB	**Bing¯¶l**	**0.95**	**62**	*e*Pg	**Pg**	**07 35 00.5**	**-3.3**
ERZN	**Erzincan**	**1.04**	**5**	PG	**Pg**	**07 35 02.4**	**-3.3**
ERZN	**Erzincan**	**1.04**	**5**	*e*Pg	**Pg**	**07 35 02.5**	**-3.3**
ERZN	**Erzincan**	**1.04**	**5**	*e*Pg	**Pg**	**07 35 02.5**	**-3.3**
YEDI	**Yedisu-Bingol**	**1.15**	**39**	PN	**Pb**	**07 35 04.1**	**-3.7**
EUZM	**Uzumlu**	**1.16**	**3**	P	**Pb**	**07 35 04.7**	**-3.2**
EUZM				S	**Sb**	**07 35 21.8**	**-1.3**
EUZM	**Uzumlu**	**1.16**	**3**	↓*i* P	**Pb**	**07 35 04.7**	**-3.2**
EUZM				*i* S	**Sb**	**07 35 21.8**	**-1.3**
ILIC	**ilic-Erzincan**	**1.22**	**318**	PN	**Pn**	**07 35 05.2**	**-3.6**
ILIC	**ilic-Erzincan**	**1.22**	**318**	*e*Pn	**Pn**	**07 35 05.4**	**-3.5**
ILIC	**ilic-Erzincan**	**1.22**	**318**	*e*Pn	**Pn**	**07 35 05.4**	**-3.5**
URFA	**Urfa**	**1.27**	**210**	PN	**Pn**	**07 35 08.4**	**-1.1**
URFA	**Urfa**	**1.27**	**210**	*i* Pn	**Pn**	**07 35 08.4**	**-1.1**
BNGL	**BINGOL**	**1.27**	**71**	↓*i* P	**Pn**	**07 35 06.7**	**-3.0**
BNGL				*i* S	**Sn**	**07 35 29.3**	**+2.4**
MAZI	**Mazidag**	**1.27**	**148**	PN	**Pn**	**07 35 07.6**	**-2.0**
MAZI	**Mazidag**	**1.27**	**148**	*i* Pn	**Pn**	**07 35 07.6**	**-2.0**
SVAN	**Silvan-Diyarba**	**1.31**	**107**	PN	**Pn**	**07 35 08.5**	**-1.5**
SVAN	**Silvan-Diyarba**	**1.31**	**107**	*i* Pn	**Pn**	**07 35 08.5**	**-1.5**
BTMN	**Batman**	**1.46**	**116**	P	**Pn**	**07 35 10.9**	**-1.3**
BTMN				S	**Sb**	**07

RSDY Resadiye-TOKAT 2.56 317 ePn Pn 07 35 26.6 -0.6
GRSN GIRESUNGRSN 2.59 337 P Pn 07 35 27.5 -0.2
GRSN GIRESUNGRSN 2.59 337 iP Pn 07 35 27.5 -0.2
EATA Eleskirt 2.59 59 P Pn 07 35 27.1 -0.9
EATA Eleskirt 2.59 59 ⇓iP Pn 07 35 27.1 -0.9
EATA iS Sg 07 36 15.0 +6.0
TUTA Tutak 2.64 70 P Pn 07 35 28.0 -0.5
TUTA Tutak 2.64 70 ⇓iP Pn 07 35 27.9 -0.5
TUTA iS Sg 07 36 16.3 +5.8
KUZU Kuzuini 2.68 229 P Pn 07 35 27.6 -1.3
KUZU Kuzuini 2.68 229 ⇓iP Pn 07 35 27.6 -1.3
KUZU iS Sg 07 36 11.7 0.0
KAMA Osmaniye 2.70 241 ⇓iP Pn 07 35 27.3 -1.9
KAMA iS Sg 07 36 10.0 -2.2
GEVA Gevas 2.72 94 P Pn 07 35 29.2 -0.3
GEVA Gevas 2.72 94 ⇑iP Pn 07 35 29.2 -0.3
GEVA iS Sg 07 36 12.0 -0.9
KSRV Kasrt alli 2.72 190 eP Pb 07 35 33.2 -1.2
KSRV eS Sb 07 36 05.5 -2.3
KSRV AML AML 07 36 11.9
comp=Z,30µm,0.7s
CUSAR Sarkisla-SIVAS 2.77 289 P Pn 07 35 28.8 -1.3
CUSAR Sarkisla-SIVAS 2.77 289 ⇑iP Pn 07 35 28.8 -1.3
CUSAR iS Sb 07 36 11.7 +2.4
ORDU Ordu-Boztepe 2.79 332 P Pn 07 35 31.6 +1.2
ORDU Ordu-Boztepe 2.79 332 iP Pn 07 35 31.6 +1.2
ORDU iS Sg 07 36 13.1 -2.2
AGRB Hanur-Agry 2.83 68 ePN Pn 07 35 30.4 -0.7
AGRB Hanur-Agry 2.83 68 ePn Pn 07 35 30.4 -0.7
MZRK Al-Mazaregh 2.84 163 eP Pn 07 35 31.1 0.0
MZRK eS Sn 07 35 59.9 -5.4
MZRK AML AML 07 36 11.8
comp=Z,11µm,0.7s
DDEM Demirkent 2.87 34 P Pn 07 35 30.3 -1.2
DDEM Demirkent 2.87 34 ⇓iP Pn 07 35 30.3 -1.2
DDEM iS Sg 07 36 24.9 +7.2
SENK Senkaya-Erzuru 2.92 46 ePN Pn 07 35 31.0 -1.4
SENK Senkaya-Erzuru 2.92 46 ePn Pn 07 35 31.0 -1.4
DBAD Bademkaya 2.94 32 P Pn 07 35 31.4 -1.2
DBAD Bademkaya 2.94 32 ⇓iP Pn 07 35 31.4 -1.2
DBAD iS Sg 07 36 19.7 -0.5
BNN Bunyan 2.96 277 ePN Pn 07 35 32.4 -0.5
BNN Bunyan 2.96 277 ePn Pn 07 35 32.4 -0.5
VANB Van 2.96 88 ePN Pn 07 35 32.5 -0.3
VANB Van 2.96 88 ePn Pn 07 35 32.5 -0.3
TOKT Tokat 2.96 308 ePN Pn 07 35 31.7 -1.1
TOKT Tokat 2.96 308 ePn Pn 07 35 31.7 -1.1
TVAN Van 2.98 89 P Pn 07 35 32.4 -0.8
TVAN Van 2.98 89 ⇑iP Pn 07 35 32.4 -0.8
TVAN iS Sg 07 36 23.1 +1.8
TOKA Tokat 3.01 307 P Pn 07 35 32.4 -1.0
TOKA Tokat 3.01 307 ⇑iP Pn 07 35 32.4 -1.0
TOKA iS Sg 07 36 19.4 -2.8
ERBA Erbaa 3.07 315 P Pn 07 35 33.2 -1.0
ERBA Erbaa 3.07 315 ⇑iP Pn 07 35 33.2 -1.0
ERBA iS Sg 07 36 25.7 +1.5
DAGI Agillar 3.09 34 ⇓iP Pn 07 35 33.3 -1.3
DAGI iS Sg 07 36 28.7 +3.8
VMUR Van-Muradiye 3.13 81 P Pn 07 35 34.8 -0.4
VMUR Van-Muradiye 3.13 81 ⇑iP Pn 07 35 34.8 -0.4
VMUR iS Sg 07 36 31.2 +5.1
KOZT Kozan 3.17 252 ePN Pn 07 35 34.5 -1.1
KOZT Kozan 3.17 252 ePn Pn 07 35 34.5 -1.1
ARTV Artvin 3.18 33 P Pn 07 35 34.2 -1.8
ARTV Artvin 3.18 33 ⇓iP Pn 07 35 34.2 -1.8
ARTV iS Sg 07 36 35.6 +7.7
DBOC Borcka 3.21 29 P Pn 07 35 34.7 -1.5
DBOC Borcka 3.21 29 ⇓iP Pn 07 35 34.7 -1.5
DBOC iS Sg 07 36 34.9 +6.1
DYDN Diyadin 3.33 71 P Pn 07 35 37.5 -0.5
DYDN Diyadin 3.33 71 iP Pn 07 35 37.5 -0.5
DYDN iS Sg 07 36 34.2 +1.7
YAHY KAYSERI_Yahyal 3.37 264 P Pn 07 35 38.9 +0.4
YAHY KAYSERI_Yahyal 3.37 264 ⇓iP Pn 07 35 38.9 +0.4
YAHY iS Sg 07 36 35.9 +2.0
HAKT HAKKARI 3.38 106 P Pn 07 35 37.9 -0.8
HAKT HAKKARI 3.38 106 ⇑iP Pn 07 35 37.9 -0.8
HAKT iS Sg 07 36 35.0 +0.7
KARS Kars 3.39 51 ePN Pn 07 35 37.9 -0.9
KARS Kars 3.39 51 ePn Pn 07 35 37.9 -0.9
CLDR Caldiran 3.42 79 ePN Pn 07 35 39.1 -0.1
CLDR Caldiran 3.42 79 ePn Pn 07 35 39.1 -0.1
CUKT Cukurca 3.42 111 ePN Pn 07 35 37.7 -1.4
CUKT Cukurca 3.42 111 ePn Pn 07 35 37.7 -1.4
DIGO Kars 3.46 56 P Pn 07 35 39.2 -0.6
DIGO Kars 3.46 56 ⇓iP Pn 07 35 39.2 -0.6
DIGO iS Sg 07 36 36.5 -0.2
TAHT Tahtakopru-Hat 3.48 233 ePN Pn 07 35 39.5 -0.4
TAHT Tahtakopru-Hat 3.48 233 ePn Pn 07 35 39.5 -0.4
YOZ Yozgat 3.51 289 ePN Pn 07 35 39.9 -0.5
YOZ Yozgat 3.51 289 ePn Pn 07 35 39.9 -0.5
YURE YUREGIR 3.59 243 P Pn 07 35 41.1 -0.3
YURE YUREGIR 3.59 243 iP Pn 07 35 41.1 -0.3
YURE iS Sg 07 36 43.9 +2.9
KVT Kavak 3.73 314 ePN Pn 07 35 42.6 -0.8
KVT Kavak 3.73 314 ePn Pn 07 35 42.6 -0.8
AVNS Nevsehir-Avano 3.74 275 P Pn 07 35 43.0 -0.5
AVNS Nevsehir-Avano 3.74 275 iP Pn 07 35 43.0 -0.5
AVNS iS Sg 07 36 46.1 +0.5
EAK Akyaka 3.75 54 P Pn 07 35 42.5 -1.3
EAK Akyaka 3.75 54 ⇓iP Pn 07 35 42.5 -1.3
YAYL Yayladag 3.75 229 P Pn 07 35 40.3 -3.4
YAYL Yayladag 3.75 229 ⇓iP Pn 07 35 40.3 -3.4
YAYL iS Sg 07 36 43.2 -3.0
EPOS Posof 3.80 38 P Pn 07 35 43.2 -1.2
EPOS Posof 3.80 38 ⇓iP Pn 07 35 43.2 -1.2
EPOS iS Sg 07 36 46.9 -0.8
KARA Karaisali 3.83 252 ePN Pn 07 35 44.5 -0.1
KARA Karaisali 3.83 252 ePn Pn 07 35 44.5 -0.1
SAMS Samsun-Alacam 3.85 318 P Pn 07 35 43.9 -1.0
SAMS Samsun-Alacam 3.85 318 iP Pn 07 35 43.9 -1.0
SAMS iS Sg 07 36 47.5 -1.8
KRTS Karatas 3.90 241 ePN Pn 07 35 45.4 -0.2
KRTS Karatas 3.90 241 ePn Pn 07 35 45.4 -0.2
HAVZ Havza 3.92 311 P Pn 07 35 45.9 0.0
HAVZ Havza 3.92 311 ⇑iP Pn 07 35 45.9 0.0
HAVZ iS Sg 07 36 51.9 +0.4
ARNB Al Arnab 3.95 228 eP Pn 07 35 42.4 -4.0
ARNB AML AML 07 36 00.5
comp=N,6µm,0.7s
ARNB AML AML 07 36 04.1
comp=E,7µm,0.6s
NIG Nigde 3.96 265 ePN Pn 07 35 46.2 -0.5
NIG Nigde 3.96 265 ePn Pn 07 35 46.2 -0.5
COAL Corum-Alaca 3.97 297 P Pn 07 35 46.1 -0.6
COAL Corum-Alaca 3.97 297 ⇑iP Pn 07 35 46.1 -0.6
COAL iS Sg 07 36 50.6 -2.5
BGD Bogdanovka 4.10 47 P Pn 07 35 49.2 +0.7
AKH Akhalkalaki 4.13 45 P Pn 07 35 48.9 -0.1
AKH iS Sg 07 36 55.9 -2.4
AKH Akhalkalaki 4.13 45 P Pn 07 35 48.9 -0.1
CORM Corum 4.19 294 ePN Pn 07 35 49.2 -0.6
CORM Corum 4.19 294 ePn Pn 07 35 49.2 -0.6
CDAG Cicekdag 4.22 286 P Pn 07 35 49.2 -0.9
CDAG Cicekdag 4.22 286 ⇑iP Pn 07 35 49.2 -0.9
CDAG iS Sg 07 36 56.7 -4.3
GULA Gulagac 4.22 269 ePN Pn 07 35 49.7 -0.5
GULA Gulagac 4.22 269 ePn Pn 07 35 49.7 -0.5
GNI Garni 4.29 66 Pn Pn 07 35 50.6 -0.5
comp=E,31nm,0.3s,baz=290,slow=5.1,SNR=31
GNI Garni 4.29 66 P Pn 07 35 51.8 +0.7
GNI Garni 4.29 66 eP Pn 07 35 51.8 +0.7
GNI e 07 36 41.7
GNI Garni 4.29 66 P Pn 07 35 51.8 +0.7
GNI eSn Sn 07 36 41.7 +0.4
GNI Garni 4.29 66 ePn Pn 07 35 51.8 +0.7
GNI eSn Sn 07 35 41.7 +0.4
MERS Mersin 4.37 249 ePN Pn 07 35 51.8 -0.4
MERS Mersin 4.37 249 ePn Pn 07 35 51.8 -0.4
KAMT Kaman 4.67 282 ePN Pn 07 35 56.0 -0.3
KAMT Kaman 4.67 282 ePn Pn 07 35 56.0 -0.3
YESY Yesilyurt 4.69 262 ePN Pn 07 35 57.1 +0.5
YESY Yesilyurt 4.69 262 ePn Pn 07 35 57.1 +0.5
BYBT Boyabat 4.73 310 ePN Pn 07 35 57.0 0.0
BYBT Boyabat 4.73 310 ePn Pn 07 35 57.0 0.0
SERE Sereflikochisa 4.75 277 ePN Pn 07 35 57.2 -0.1
SERE Sereflikochisa 4.75 277 ePn Pn 07 35 57.2 -0.1
BR101 Keskin Array S 4.79 286 eP Pn 07 35 57.5 -0.5
BR101 eLg Lg 07 37 18.7
BR101 Keskin Array S 4.79 286 ePn Pn 07 35 57.5 -0.5
BR101 eLg Lg 07 37 18.7
BR131 Keskin Array S 4.79 286 ePn Pn 07 35 57.6 -0.4
BR131 Keskin Array S 4.79 286 ePn Pn 07 35 57.6 -0.4
BRTR Keskin Array B 4.79 286 Pn Pn 07 35 57.5 -0.4
comp=E,18nm,0.3s,baz=106,slow=12,SNR=269
BRTR Lg Lg 07 37 18.7
baz=108,slow=23,SNR=2.3
BRTR LR LR 07 38 04.3
comp=E,20µm,18.4s,baz=93,slow=42
SNOP Sinop 4.83 317 ePN Pn 07 35 59.3 +0.8
SNOP Sinop 4.83 317 ePn Pn 07 35 59.3 +0.8
TOS Tosya 4.97 302 ePN Pn 07 36 00.3 -0.1
TOS Tosya 4.97 302 ePn Pn 07 36 00.3 -0.1
ONI Oni 4.99 35 P Pn 07 36 00.6 0.0
ONI S Sg 07 37 21.7 -4.0
ONI Oni 4.99 35 P Pn 07 36 00.6 0.0
SOC Sochi 5.03 1c iP Pn 07 36 00.4 -0.8
SOC e 07 36 57.3
SOC pmax pmax
comp=Z,42nm,0.6s
SOC MLR MLR
comp=Z,6µm,10.0s
TBLG Delisi 5.05 49 P Pn 07 36 01.8 +0.3
TBLG S Sg 07 37 24.4 -3.5
TBLG Delisi 5.05 49 P Pn 07 36 01.8 +0.3
CANT Cankiri 5.07 296 ePN Pn 07 36 01.2 -0.5
AFSR Af˘ar-Bala (A 5.17 282 ePN Pn 07 36 03.2 0.0
AFSR Af˘ar-Bala (A 5.17 282 ePn Pn 07 36 03.2 0.0
NEY Neytrino 5.26 26⇑ eP Pn 07 36 04.2 -0.2
DUS Dusheti 5.26 46 P Pg 07 36 25.0 -1.3
ZEI Tsey 5.35 36 eP Pn 07 36 05.8 +0.1
ZEI pmax pmax
comp=Z,523nm,0.8s
ANTO Ankara 5.46 286 eP Pn 07 36 07.6 +0.5
ANTO Ankara 5.46 286 P Pn 07 36 07.5 +0.4
SNR=70
ANTO Ankara 5.46 286 Pn Pn 07 36 07.5 +0.4
SNR=70
ANTO Ankara 5.46 286 ePn Pn 07 36 07.6 +0.5
ANTO Ankara 5.46 286 ePn Pn 07 36 07.6 +0.5
BR231 Keskin MP Arra 5.46 286 ePn Pn 07 36 06.7 -0.5
BR231 Keskin MP Arra 5.46 286 ePn Pn 07 36 06.7 -0.5
BZK Bozkurt 5.48 310 ePN Pn 07 36 08.2 +0.9
BZK Bozkurt 5.48 310 ePn Pn 07 36 08.2 +0.9
LOD Lodumlu 5.48 286 ePN Pn 07 36 08.0 +0.5
LOD Lodumlu 5.48 286 ePn Pn 07 36 08.0 +0.5
BHL Bhannes 5.63 216 eP Pn 07 36 09.1 -0.4
LADK Ladik-KONYA 5.71 269 ePN Pn 07 36 10.7 +0.2
LADK Ladik-KONYA 5.71 269 ePn Pn 07 36 10.7 +0.2
KONT Konya--Tatoy 5.74 266 ePN Pn 07 36 11.7 +0.8
KONT Konya--Tatoy 5.74 266 ePn Pn 07 36 11.7 +0.8
KBZ Khabaz 5.74 25 Pn Pn 07 36 12.2 +1.3
comp=Z,0.7nm,0.3s,baz=195,slow=6.4,SNR=30
KBZ LR LR 07 38 39.5
comp=Z,20µm,18.8s,baz=212,slow=41
NCK Nalchik 5.79 30⇑ eP Pn 07 36 11.8 +0.2
DQRL Deir Qamar 5.83 215 eP Pn 07 36 13.7 +1.5
LFK Lefkose 5.86 238 ePN Pn 07 36 13.1 +0.5
LFK Lefkose 5.86 238 ePn Pn 07 36 13.1 +0.5
KIV Kislovodsk 5.88 22 ePN Pn 07 36 12.9 0.0
KIV Kislovodsk 5.88 22 iP Pn 07 36 14.1 +1.2
SNR=21
KIV Kislovodsk 5.88 22 eP Pn 07 36 14.0 +1.1
KIV eS Sn 07 37 21.3 +0.9
KIV pmax pmax
comp=Z,43nm,0.9s
KIV MLR MLR
comp=Z,2µm,6.0s
KIV Kislovodsk 5.88 22 Pn Pn 07 36 12.5 -0.4
SNR=28
KIV Kislovodsk 5.88 22 ePn Pn 07 36 12.9 0.0
KIV Kislovodsk 5.88 22 P Pn 07 36 14.1 +1.2
SNR=21
KIV Kislovodsk 5.88 22 ePn Pn 07 36 14.1 +1.2
KVAR Kislovodsk Arr 5.88 22 Pn Pn 07 36 14.6 +1.6
baz=34,slow=7.8,SNR=12
KVAR LR LR 07 38 52.7
comp=Z,18µm,18.9s,baz=188,slow=42
RCY Rachaya 5.89 212 eP Pn 07 36 13.7 +0.6
SAFT Safranbolu 5.96 299 ePN Pn 07 36 14.5 +0.5
SAFT Safranbolu 5.96 299 ePn Pn 07 36 14.5 +0.5
KIZT Kizilcal 6.06 276 ePN Pn 07 36 16.1 +0.7
KIZT Kizilcal 6.06 276 ePn Pn 07 36 16.1 +0.7
CSS Mathiatis 6.18 237 P Pn 07 36 17.6 +0.6
CSS Mathiatis 6.18 237 ePn Pn 07 36 16.3 -0.7
CSS Mathiatis 6.18 237 ePn Pn 07 36 16.3 -0.7
SVRH Sivrihisar-ESK 6.36 281 ePN Pn 07 36 20.1 +0.6
SVRH Sivrihisar-ESK 6.36 281 ePn Pn 07 36 20.2 +0.6
LEF Lefka 6.38 240 ePN Pn 07 36 21.1 +1.4
LEF Lefka 6.38 240 ePn Pn 07 36 21.1 +1.4
ANN Anapa 6.46 346 eP Pn 07 36 21.8 +1.1
ANN eS Sn 07 37 34.9 +0.5
ANN pmax pmax
comp=Z,42nm,1.1s
ANN MLR MLR
comp=N,8µm,9.0s
ANN MLR MLR
comp=E,3µm,9.0s
ANN MLR MLR
comp=Z,8µm,9.0s
MMAI Mount Meron Ar 6.49 213 Pn Pn 07 36 21.0 -0.3
comp=Z,30nm,0.3s,baz=55,slow=14,SNR=220
MMAI Lg Lg 07 38 18.5
comp=Z,68nm,0.3s,baz=352,slow=30,SNR=6.4
MMAI LR LR 07 38 56.9
comp=Z,11µm,21.7s,baz=30,slow=39
ALFC Alefka 6.56 241 P Pn 07 36 19.6 -2.6
SZAC Souni 6.60 237 P Pn 07 36 23.4 +0.6
ASF Jabal al Asfar 6.73 200 Pn Pn 07 36 24.2 -0.5
comp=Z,6.8nm,0.3s,baz=341,slow=8.7,SNR=175
ASF Lg Lg 07 38 26.3
comp=Z,48nm,0.3s,baz=92,slow=18,SNR=7.9
ASF LR LR 07 39 24.9
comp=Z,7µm,19.4s,baz=330,slow=42
AKMC Akamas 6.82 241 P Pn 07 36 25.1 -0.6
PPCY Paphos 6.88 240 P Pn 07 36 28.3 +1.7
GOF Gofitskoye 6.99 20cePn 07 36 24.1 -4.0
KERU Kerch 7.16 342 eP Pn 07 36 36.0 +5.7
FEO Feodosiya 7.20 335 eP Pn 07 36 32.1 +1.3
FEO eS Sn 07 37 58.0 +5.4
YAL Yalta 7.21 327 eP Pn 07 36 32.7 +1.7
YAL eS Sn 07 38 01.7 +8.8
SUDU Sudak 7.21 333 eP Pn 07 36 32.7 +1.6
SUDU eS Sn 07 37 59.7 +6.6
ALU Alushta 7.27 329 eP Pn 07 36 35.2 +3.4
ALU eS Sn 07 38 06.1 +12
SEV Sevastopol' 7.47 325 eP Pn 07 36 35.3 +0.7
SIM Simferopol' 7.60 329 eP Pn 07 36 44.7 +8.3
SIM eS Sn 07 38 14.3 +12
SIM pmax pmax
comp=Z,89nm,1.0s
SIM smax smax
comp=N,460nm,2.2s
SIM smax smax
comp=E,960nm,2.4s
SIM MLR MLR
comp=Z,4µm,20.1s
EIL Elat 9.66 205 Pn Pn 07 37 04.4 -0.3
comp=Z,0.7nm,0.3s,baz=14,slow=8.8,SNR=19
EIL Lg Lg 07 40 00.3
comp=Z,7.6nm,0.3s,baz=109,slow=5.4,SNR=4.1
EIL LR LR 07 41 18.9
comp=Z,8µm,19.3s,baz=5.0,slow=41
EFOR EFORIE 9.94 307 iP Pn 07 37 09.5 +1.1
PSN Preselentsi 10.03 304 iP Pn 07 37 10.9 +1.2
TIRR Tirgusor 10.26 309 ⇓iP Pn 07 37 12.9 0.0
TIRR Tirgusor 10.26 309 ⇓P Pn 07 37 12.9 0.0
TIRR Tirgusor 10.26 309 ePn Pn 07 37 12.1 -0.8
TIRR Tirgusor 10.26 309 ePn Pn 07 37 12.1 -0.8
KARP Karpathos 10.39 257 ePn Pn 07 37 15.7 +0.9
KARP Karpathos 10.39 257 ePn Pn 07 37 15.7 +0.9
HARR Harsova 10.68 309 ⇑iP Pn 07 37 19.1 +0.5
HARR Harsova 10.68 309 ⇑P Pn 07 37 19.1 +0.5
CFR Carcaliu 10.82 311 ⇑iP Pn 07 37 20.7 +0.2
CFR Carcaliu 10.82 311 ⇑P Pn 07 37 20.7 +0.2
APE Apeiranthos 11.24 267 ⇑iP Pn 07 37 29.9 +3.5
SZH Strazhica 11.37 299 iP Pn 07 37 30.3 +2.2
KIS Kishinev 11.58 320 ⇑iP Pn 07 37 34.0 +3.1
comp=Z,400nm,2.0s
KIS eS Sn 07 39 50.0 +10
KIS iLi 07 41 00.0
KIS iLQ LQ 07 41 38.0
KIS iLR LR 07 42 19.0
comp=Z,4µm,14.0s
KIS Kishinev 11.58 320ceP Pn 07 37 34.0 +3.1
KIS eS Sn 07 39 50.0 +10
KIS pmax pmax
comp=Z,400nm,2.0s
KIS pmax pmax
comp=Z,400nm,2.0s
KIS MLR MLR
comp=E,3µm,13.0s
KIS MLR MLR
comp=Z,4µm,13.0s
KIS MLR MLR
comp=Z,4µm,14.0s
KIS Kishinev 11.58 320⇑iP Pn 07 37 34.0 +3.1
comp=Z,400nm,2.0s
ISR Istrita 11.75 308⇑iP Pn 07 37 34.7 +1.4
ISR Istrita 11.75 308 ⇑P Pn 07 37 34.7 +1.4
ISR Istrita 11.75 308⇑iP Pn 07 37 34.7 +1.4
PVL Pavlikeni 11.77 298 iP Pn 07 37 37.0 +3.5
LAST Lasithi 11.81 258 ePn Pn 07 37 35.7 +1.4
LAST Lasithi 11.81 258 ePn Pn 07 37 35.7 +1.4
PLOR Plostina 12.06 311⇑iP Pn 07 37 38.8 +1.3
PLOR Plostina 12.06 311 ⇑P Pn 07 37 38.8 +1.3
PLOR Plostina 12.06 311⇑iP Pn 07 37 38.8 +1.3
IDI Anoyia 12.22 259 Pn Pn 07 37 40.3 +0.5
comp=Z,3.0nm,0.3s,baz=100,slow=13,SNR=25
IDI LR LR 07 42 58.6
comp=Z,2µm,20.5s,baz=72,slow=40
IDI Anoyia 12.22 259 P Pn 07 37 40.2 +0.4
IDI Anoyia 12.22 259 P Pn 07 37 40.2 +0.4
IDI Anoyia 12.22 259 ePn Pn 07 37 40.1 +0.3
MLR Muntele Rosu 12.30 309 Pn Pn 07 37 41.4 +0.5
comp=Z,0.1nm,0.3s,baz=181,slow=3.8,SNR=10
MLR LR LR 07 43 34.4
comp=Z,2µm,19.5s,baz=119,slow=43
MLR Muntele Rosu 12.30 309⇑iP Pn 07 37 41.6 +0.7
MLR Muntele Rosu 12.30 309 ⇑P Pn 07 37 41.6 +0.7
MLR Muntele Rosu 12.30 309⇑iP Pn 07 37 41.6 +0.7
PGB Panagyurishte 12.41 294 iP Pn 07 37 44.8 +2.5
TESR Tescani 12.43 314⇑iP Pn 07 37 42.5 -0.1
TESR Tescani 12.43 314⇑iP Pn 07 37 42.5 -0.1
ATHU Athens Univers 12.46 272 P Pn 07 37 47.6 +4.6
ATH Athens Observa 12.51 272 P Pn 07 37 45.6 +1.9
ATH Athens Observa 12.51 272 P Pn 07 37 45.6 +1.9
MMB Musomiste 12.54 289 iP Pn 07 37 46.2 +2.0
SRS Serrai 12.58 287 P Pn 07 37 47.0 +2.3
SRS Serrai 12.58 287 P Pn 07 37 47.0 +2.3
PLG Polygyros 12.63 283 P Pn 07 37 48.0 +2.7
PLG Polygyros 12.63 283 P Pn 07 37 48.0 +2.7
VSR Storozhevoye 12.67 359 eP Pn 07 37 48.6 +2.8
VSR eS Sn 07 40 08.2 +1.3
VSR pmax pmax
comp=Z,150nm,1.8s
VSR smax smax
comp=E,830nm,2.8s
VSR MLR MLR
comp=Z,4µm,17.0s
SOH Sokhos 12.73 285 P Pn 07 37 49.3 +2.6
SOH Sokhos 12.73 285 P Pn 07 37 49.3 +2.6
VRH Novokhopyorsk 12.74 6 eP Pn 07 37 47.6 +0.8
VRH pmax pmax
comp=Z,100nm,1.7s
VRH MLR MLR
comp=Z,4µm,24.0s
NEO Neokhori 12.79 279 P Pn 07 37 48.5 +1.0
NEO Neokhori 12.79 279 P Pn 07 37 48.5 +1.0
VILL Villia 12.80 273 P Pn 07 37 51.1 +3.3
SMIA Simia 12.82 277 P Pn 07 37 52.5 +4.6
VOIR 12.82 307 ⇓iP Pn 07 37 49.2 +1.2
VOIR 12.82 307 ⇓P Pn 07 37 49.2 +1.2
VOIR 12.82 307 ⇓iP Pn 07 37 49.2 +1.2
IMMV Iera Moni Meta 12.87 261 P Pn 07 37 50.2 +1.6
IMMV Iera Moni Meta 12.87 261 P Pn 07 37 50.2 +1.6
DOPR Dopca 12.87 310⇑iP Pn 07 37 49.3 +0.7
DOPR Dopca 12.87 310⇑iP Pn 07 37 49.3 +0.7
HORT Hortiatis 12.91 284 P Pn 07 37 51.8 +2.6
HORT Hortiatis 12.91 284 P Pn 07 37 51.8 +2.6
DID Didima 12.96 270 P Pn 07 37 52.3 +2.5
DID Didima 12.96 270 P Pn 07 37 52.3 +2.5
ATAL Atalanti 12.98 276 P Pn 07 37 51.4 +1.3
ATAL Atalanti 12.98 276 P Pn 07 37 51.4 +1.3
GVD Gavdhos 13.00 258 P Pn 07 37 52.5 +2.2
GVD Gavdhos 13.00 258 P Pn 07 37 52.5 +2.2
LKR Lokris 13.00 276 P Pn 07 37 52.8 +2.4
LKR Lokris 13.00 276 P Pn 07 37 52.8 +2.4
FYTO Fytoko, Volos 13.01 279 P Pn 07 37 52.1 +1.7
FYTO Fytoko, Volos 13.01 279 P Pn 07 37 52.1 +1.7
THE Thessaloniki 13.01 284 P Pn 07 37 53.1 +2.6
THE Thessaloniki 13.01 284 P Pn 07 37 53.1 +2.6
KRND KRANIDI 13.04 270 P Pn 07 37 55.9 +4.9
KKB Krupnik 13.06 290 iP Pn 07 37 52.9 +1.7
LTK Loutraki 13.09 273 P Pn 07 37 55.8 +4.2
KNT Kendrikon 13.11 287 P Pn 07 37 52.9 +1.1
KNT Kendrikon 13.11 287 P Pn 07 37 52.9 +1.1
VORR Voronezh 13.13 359 eP Pn 07 37 53.0 +0.9
VORR pmax pmax
comp=Z,250nm,1.2s
PRAR RASCA 13.16 316⇑iP Pn 07 37 50.2 -2.4
ANKY Antikythira Is 13.28 263 P P 07 37 59.2 -4.8
THAL Thalero 13.33 273 P Pn 07 37 59.0 +4.2
VLI Veliai 13.34 267 P Pn 07 37 58.4 +3.3
LIT Litokhoron 13.35 282 P Pn 07 37 57.4 +2.2
LIT Litokhoron 13.35 282 P Pn 07 37 57.4 +2.2
VAY Valandovo 13.37 287⇑iP Pn 07 37 58.9 +3.5
DSF Desfina 13.39 275 P Pn 07 37 59.7 +3.9
GRG Griva 13.46 286 P Pn 07 37 59.1 +2.4
GRG Griva 13.46 286 P Pn 07 37 59.1 +2.4
AGG Agios Georgios 13.49 277 P Pn 07 37 56.9 -0.3
AGG Agios Georgios 13.49 277 eP Pn 07 37 58.3 +1.1
AGG Agios Georgios 13.49 277 P Pn 07 37 56.9 -0.3
AGG Agios Georgios 13.49 277 ePn Pn 07 37 58.3 +1.1
AGG Agios Georgios 13.49 277 ePn Pn 07 37 58.3 +1.1
GUR Goura 13.59 273 P Pn 07 38 02.8 +4.2
LOT Lotru 13.64 305⇑iP Pn 07 37 59.9 +0.7
LOT Lotru 13.64 305⇑iP Pn 07 37 59.9 +0.7
VLX Vlachokerasia 13.65 270 P Pn 07 38 00.9 +1.5
VLX Vlachokerasia 13.65 270 P Pn 07 38 00.9 +1.5
KALE Kalithea 13.70 275 P Pn 07 38 01.9 +2.0
KALE Kalithea 13.70 275 P Pn 07 38 01.9 +2.0
THL Klokotos Trika 13.72 280 P Pn 07 38 00.3 +0.2
THL Klokotos Trika 13.72 280 P Pn 07 38 00.3 +0.2
KLV Kalavryta, Ach 13.73 273 P Pn 07 38 01.2 +0.8
KLV Kalavryta, Ach 13.73 273 P Pn 07 38 01.2 +0.8
LAKA Lakka 13.84 274 P Pn 07 38 02.2 +0.4
LAKA Lakka 13.84 274 P Pn 07 38 02.2 +0.4
ANX Ano Chora 13.85 276 P Pn 07 38 03.2 +1.2
ANX Ano Chora 13.85 276 P Pn 07 38 03.2 +1.2
BURAR Bucovina Array 13.87 315⇑iP Pn 07 38 02.9 +0.6
BURAR Bucovina Array 13.87 315 ⇑P Pn 07 38 02.9 +0.6
BURAR Bucovina Array 13.87 315⇑iP Pn 07 38 02.9 +0.6
BUR08 Bucovina Ar. S 13.89 316 ePn Pn 07 38 02.5 -0.1
BUR08 Bucovina Ar. S 13.89 316 ePn Pn 07 38 02.5 -0.1
KZN Kozani 13.90 283 P Pn 07 38 04.7 +1.9
KZN Kozani 13.90 283 P Pn 07 38 04.7 +1.9
EVR Evrytania 13.91 277 P Pn 07 38 05.0 +2.1
EVR Evrytania 13.91 277 P Pn 07 38 05.0 +2.1
ITM Ithomi 14.04 270 P Pn 07 38 06.6 +2.0
ITM Ithomi 14.04 270 P Pn 07 38 06.6 +2.0
ARCR ARCALIA 14.06 312⇑iP P 07 38 19.1 +6.4
DRO Drossia 14.08 273 P Pn 07 38 08.6 +3.4
DRO Drossia 14.08 273 P Pn 07 38 08.6 +3.4
PVO Paravola 14.15 276 P P 07 38 10.7 -3.0
PVO Paravola 14.15 276 P P 07 38 10.7 -3.0
AKASG Malin Array Be 14.21 332 Pn Pn 07 38 04.5 -2.2
comp=Z,0.7nm,0.3s,baz=151,slow=9.8,SNR=15
AKBB Malin Array Si 14.21 332 eP Pn 07 38 07.9 +1.1
AKBB Malin Array Si 14.21 332 ePn Pn 07 38 07.9 +1.1
AKBB Malin Array Si 14.21 332 ePn Pn 07 38 07.9 +1.1
KIEV Kiev 14.21 332 ⇓iP Pn 07 38 05.4 -1.4
KIEV Kiev 14.21 332 ePn Pn 07 38 05.8 -1.0
KIEV Kiev 14.21 332 ePn Pn 07 38 05.8 -1.0
AK11 Malin Array Si 14.21 332 ePn Pn 07 38 07.9 +1.1
AK11 Malin Array Si 14.21 332 ePn Pn 07 38 07.9 +1.1
KPRO Kipourio 14.21 281 P Pn 07 38 07.7 +0.7
FNA Florina 14.22 285 P Pn 07 38 08.9 +1.7
PYL PYLOS 14.24 269 P Pn 07 38 09.8 +2.4
GZR Gura Zlata 14.26 304⇑iP Pn 07 38 08.9 +1.3
RLS Riolos of Patr 14.26 274 P P 07 38 13.2 -1.7
RLS Riolos of Patr 14.26 274 P P 07 38 13.2 -1.7
SKO Skopje 14.29 290⇑iP Pn 07 38 11.4 +3.4
CJR Cluj-Napoca 14.32 310⇑iP P 07 38 15.3 -0.3

CJR	Cluj-Napoca	14.32 310	⇑	P		P	07 38 15.3	-0.3
CJR	Cluj-Napoca	14.32 310	⇑	iP		P	07 38 15.3	-0.3
PENT	Pentalofos	14.39 282		P		Pn	07 38 10.1	+0.7
PDO	Prodromos	14.42 276		P		P	07 38 13.3	-3.4
BOVS	Bovan	14.42 296		ePn		Pn	07 38 12.0	+2.2
DSL	Palaion Diasel	14.45 278		P		Pn	07 38 12.4	+2.2
NEST	Nestorio	14.46 283		P		Pn	07 38 13.5	+3.1
GEYT	Alibeck	14.56 87		Pn		Pn	07 38 10.2	-1.6
	comp=Z,0.5nm,0.3s,baz=224,slow=4.1,SNR=7.8							
JAN	Janina	14.61 280		P		P	07 38 15.7	-3.2
KUBS	Kucevo	14.66 299		ePn		Pn	07 38 14.8	+1.8
OHR	Ohrid	14.68 286	⇑	iP		P	07 38 17.3	-2.3
MDVR	Medvodnita	14.74 301	⇓	iP		Pn	07 38 14.1	+1.4
KFL	Anninata	14.79 274		P		P	07 38 18.7	-2.1
LKD2	Lefkada island	14.81 277		P		Pn	07 38 16.9	+1.7
ZKS	Zakynthos	14.85 273		P		Pn	07 38 15.7	+0.1
BMR	Baia Mare	14.87 313	⇑	iP		P	07 38 28.6	+7.0
DRGR		14.89 309	⇑	iP		Pn	07 38 16.1	-0.2
DRGR		14.89 309	⇑	P		Pn	07 38 16.2	-0.1
VLS	Valsamata	14.93 275		P		P	07 38 19.4	-3.0
SGD	Sagiada	15.09 280		P		Pn	07 38 18.1	-0.8
BZS	Buzias	15.10 304	⇑	iP		Pn	07 38 17.3	-1.6
BZS	Buzias	15.10 304	⇑	P		Pn	07 38 17.3	-1.6
TIR	Tirane	15.40 287		eP		P	07 38 25.3	-2.3
TIR				pmax		pmax		
	comp=Z,596nm,1.9s							
TIR	Tirane	15.40 287		ePn		P	07 38 25.3	-2.3
	comp=Z,596nm,1.9s							
TIR	Tirane	15.40 287		ePn		P	07 38 25.3	-2.3
	comp=Z,596nm,1.9s							
KEK	Kerkira	15.42 281		P		Pn	07 38 21.5	-1.8
PVY	Plav	15.47 291	⇑	iP		Pn	07 38 24.5	+0.5
BEY	Berane	15.56 292		eP		Pn	07 38 26.1	+1.0
IVA	Berane	15.56 292		eP		Pn	07 38 26.1	+1.0
TRPA	Tarpa	15.65 313		ePn		Pn	07 38 26.5	+0.3
DIVS	Divibare	15.74 297		ePn		P	07 38 29.2	-2.2
LVV	L'vov	15.84 320		eP		Pn	07 38 27.9	-0.7
LVV				eS		Sn	07 41 24.2	+0.2
LVV				MLR		MLR		
	comp=N,1μm,15.0s							
LVV				MLR		MLR		
	comp=Z,2μm,15.0s							
LVV				MLR		MLR		
	comp=E,600nm,14.0s							
ULC	Ulcinj	15.92 289		eP		Pn	07 38 30.8	+1.1
PDG	Podgorica	15.96 291		eP		Pn	07 38 31.2	+1.0
TTG	Podgorica	15.96 291		eP		Pn	07 38 31.2	+1.0
DRME	Dracevica, Mon	15.98 290		eP		Pn	07 38 31.8	+1.3
DRME	Dracevica, Mon	15.98 290		eP		Pn	07 38 31.8	+1.3
PLE	Pljevlja	16.00 294	⇑	iP		Pn	07 38 31.3	+0.4
PLE	Pljevlja	16.00 294	⇑	iP		Pn	07 38 31.3	+0.4
UZH	Uzhgorod	16.06 314		eP		Pn	07 38 28.8	-2.6
UZH				eS		Sn	07 41 25.2	-4.3
UZH				MLR		MLR		
	comp=N,5μm,13.0s							
UZH				MLR		MLR		
	comp=E,3μm,13.0s							
UZH				MLR		MLR		
	comp=Z,2μm,13.0s							
BBLS	Lazići	16.10 296		ePn		P	07 38 33.9	-1.5
FGSL	Fruska Gora	16.15 300		ePn		Pn	07 38 33.9	+1.3
TEKS	Tekeris	16.17 298		ePn		Pn	07 38 34.2	+1.3
NKY	Niksic	16.20 292		eP		Pn	07 38 34.1	+0.6
NKY	Niksic	16.20 292		eP		Pn	07 38 34.2	+0.7
BUM	Brajici-Budva	16.21 290		eP		Pn	07 38 34.3	+0.8
BUM	Brajici-Budva	16.21 290		eP		Pn	07 38 34.4	+0.9
CEME	Cevo	16.22 291		eP		Pn	07 38 34.4	+0.8
CEME	Cevo	16.22 291		eP		Pn	07 38 34.5	+0.8
NKME	Niksic	16.23 292		eP		Pn	07 38 34.3	+0.6
NKME	Niksic	16.23 292		eP		Pn	07 38 34.4	+0.7
KOLS	Kolonicke sedl	16.23 315		eP		P	07 38 36.5	-0.3
KOLS	Kolonicke sedl	16.23 315		ePn		P	07 38 36.5	-0.3
KOLS	Kolonicke sedl	16.23 315		ePN		P	07 38 36.5	-0.3
UPM	Unac-Piva	16.33 293		eP		Pn	07 38 35.1	0.0
KWP	Kalwaria Pacla	16.40 318		eP		Pn	07 38 36.5	+0.7
KWP				LMZ		LR	07 46 02.8	
	comp=Z,2μm,20.0s							
KWP	Kalwaria Pacla	16.40 318	⇑	iP		Pn	07 38 36.4	+0.6
KWP	Kalwaria Pacla	16.40 318	⇑	P		Pn	07 38 36.4	+0.6
HCY	Herceg Novi	16.52 290		eP		Pn	07 38 37.3	-0.1
HCY	Herceg Novi	16.52 290		eP		Pn	07 38 37.4	0.0
BRY	Bratogost	16.55 292	⇑	iP		Pn	07 38 37.9	0.0
CRVS	Cervenica-Dubn	16.67 314		eP		P	07 38 40.5	-1.1
CRVS	Cervenica-Dubn	16.67 314		ePn		P	07 38 40.5	-1.1
CRVS	Cervenica-Dubn	16.67 314		ePN		P	07 38 40.5	-1.1
OBN	Obninsk	16.70 354		Pn		Pn	07 38 38.6	-0.9
	comp=Z,8.0nm,0.3s,baz=190,slow=7.1,SNR=17							
OBN				LR		LR	07 46 46.5	
	comp=Z,2μm,18.7s,baz=175,slow=43							
OBN	Obninsk	16.70 354	c	iP		Pn	07 38 37.5	-2.1
OBN				eS		Sn	07 41 50.1	+5.2
OBN				pmax		pmax		
	comp=Z,249nm,2.5s							
OBN				MLR		MLR		
	comp=Z,2μm,16.0s							
OBN	Obninsk	16.70 354		ePn		Pn	07 38 39.3	-0.3
	comp=Z,239nm,1.3s							
OBN	Obninsk	16.70 354		ePn		Pn	07 38 39.3	-0.3
	comp=Z,239nm,1.3s							
KECS	Kecovo	17.02 312		eP		P	07 38 48.8	+3.3
KECS	Kecovo	17.02 312		ePN		P	07 38 48.8	+3.3
STHS	Stebnicka Huta	17.06 315		eP		P	07 38 47.6	+1.6
STHS	Stebnicka Huta	17.06 315		ePn		P	07 38 47.6	+1.6
STHS	Stebnicka Huta	17.06 315		ePN		P	07 38 47.6	+1.6
PSZ	Piszkesteto	17.11 310	⇑	iP		P	07 38 46.5	-0.1
PSZ	Piszkesteto	17.11 310		ePn		P	07 38 46.0	-0.6
PSZ	Piszkesteto	17.11 310	⇑	P		P	07 38 46.5	-0.1
PSZ	Piszkesteto	17.11 310		ePn		P	07 38 46.2	-0.4
	comp=Z,82nm,1.1s							
PSZ	Piszkesteto	17.11 310		ePn		P	07 38 46.2	-0.4
	comp=Z,82nm,1.1s							
MOS	Moscow	17.25 356		eP		Pn	07 38 41.2	-5.3
BUD	Budapest	17.46 307		ePn		P	07 38 50.9	+0.5
BUD	Budapest	17.46 307		eP		P	07 38 50.9	+0.5
NIE	Niedzica	17.59 314		eP		P	07 38 51.2	-0.6
NIE				eS		S	07 42 20.1	+5.6
NIE				LMZ		LR	07 46 09.7	
	comp=Z,1μm,24.4s							
NIE	Niedzica	17.59 314		eP		P	07 38 51.2	-0.6
NIE				MLR		MLR		
	comp=Z,1μm,24.4s							
NIE	Niedzica	17.59 314		eP		P	07 38 51.2	-0.6
AKTO	Aktyubinsk	17.65 42		Pn		Pn	07 38 47.3	-4.3
	comp=Z,0.1nm,0.3s,baz=227,slow=12,SNR=22							
AKTO				LR		LR	07 47 20.3	
	comp=Z,2μm,18.7s,baz=225,slow=43							
AKTO	Aktyubinsk	17.65 42		iP		Pn	07 38 48.1	-3.5
AKTO				pmax		pmax		
	comp=Z,183nm,1.8s							
TIP	Timpagrande	17.81 279		ePn		Pn	07 38 52.1	-1.5
	comp=Z,192nm,1.1s							
TIP	Timpagrande	17.81 279		ePn		Pn	07 38 52.1	-1.5
	comp=Z,192nm,1.1s							
MICGM	Minsk	17.84 337		eP		Pn	07 38 52.0	-1.8
MICGM				ePP		PnPn	07 39 04.0	-0.5
MICGM				eS		Sn	07 42 05.0	-7.6
MICGM				eSS		SnSn	07 42 36.0	+10
MICGM				eLQ		LQ	07 44 08.0	
MICGM				eLR		LR	07 46 16.0	
MICGM				LRM		MLR	07 47 28.0	
	comp=E,3.5nm,10.0s							
MICGM				LRM		MLR	07 47 34.0	
	comp=Z,3.3nm,13.0s							
MNK	Minsk	17.84 337		eP		Pn	07 38 52.0	-1.8
MNK				eS		Sn	07 42 05.0	-7.6
MNK				MLR		MLR		
	comp=E,4μm,10.0s							
MNK				MLR		MLR		
	comp=Z,3μm,13.0s							
BLY	Banja Luka	17.84 297		eP		P	07 38 56.4	+1.8
LANS	Liptovska Anna	17.93 313		eP		P	07 38 57.3	+1.7
LANS	Liptovska Anna	17.93 313		ePn		P	07 38 57.3	+1.7
LANS	Liptovska Anna	17.93 313		ePN		P	07 38 57.3	+1.7
VYHS	Vyhne	18.00 310		eP		P	07 38 56.8	+0.5
VYHS	Vyhne	18.00 310		ePn		P	07 38 56.8	+0.5
VYHS	Vyhne	18.00 310		ePN		P	07 38 56.8	+0.5
AB31	Akbulak array	18.09 47	c	eP		Pn	07 38 53.6	-3.3
AB31				pmax		pmax		
	comp=Z,64nm,1.4s							
ABKAR	Akbulak array	18.09 47		ePn		Pn	07 38 53.8	-3.1
CDT	Castel del Mon	18.10 285		eP		Pn	07 38 56.4	-0.7
OJC	Ojcow	18.29 316		eP		Pn	07 38 57.6	-1.7
OJC				eS		S	07 42 33.2	+4.7
OJC				LMZ		LR	07 47 26.0	
	comp=Z,3μm,19.9s							
OJC	Ojcow	18.29 316		eP		Pn	07 38 57.6	-1.7
OJC				MLR		MLR		
	comp=Z,3μm,19.9s							
OJC	Ojcow	18.29 316		ePn		Pn	07 38 58.7	-0.6
	comp=Z,113nm,1.4s							
OJC				eS		S	07 42 33.2	+4.7
OJC	Ojcow	18.29 316		ePn		Pn	07 38 58.7	-0.6
	comp=Z,113nm,1.4s							
CUC	Castrocucco	18.47 282		eP		Pn	07 39 01.6	-0.1
	comp=Z,192nm,1.3s							
CUC	Castrocucco	18.47 282		eP		Pn	07 39 01.6	-0.1
	comp=Z,192nm,1.3s							
NACGM	Naroch	18.52 336		eP		Pn	07 39 03.0	+0.8
NACGM				eS		Sn	07 42 26.0	-3.1
NACGM				eSS		SnSn	07 42 54.0	+11
NACGM				ePcP		PcP	07 43 30.0	-1.4
NACGM				eLR		LR	07 46 36.0	
NACGM				LRM		MLR	07 48 17.0	
	comp=Z,4.0nm,12.0s							
NACGM	Naroch	18.52 336		eP		Pn	07 39 03.0	+0.8
BEHE	Becsehely	18.56 303		eP		Pn	07 39 03.6	+0.9
BEHE	Becsehely	18.56 303		eP		Pn	07 39 03.6	+0.9
CEL	Celeste	18.59 277		eP		Pn	07 39 03.9	+0.8
	comp=Z,173nm,1.1s							
CEL	Celeste	18.59 277		eP		Pn	07 39 03.9	+0.8
	comp=Z,173nm,1.1s							
BEL	Belsk	18.70 321		eP		P	07 39 01.8	-2.2
BEL	Belsk	18.70 321		eP		P	07 39 01.8	-2.2
UDBI	Udbina	18.79 296		P		Pn	07 39 06.1	+0.4
UDBI	Udbina	18.79 296		iP		Pn	07 39 06.0	+0.4
BANOM	Banah	18.88 127		iP		P	07 39 04.3	-1.9
	SNR=6.7							
BANOM	Banah	18.88 127		P		P	07 39 03.1	-3.1
	SNR=7.7							
BANOM	Banah	18.88 127		P		P	07 39 04.3	-1.9
	SNR=6.7							
IDID	Didziasalis	18.88 337		eP		P	07 39 03.5	-2.5
IDID				IAmb		IAmb	07 39 20.1	
	comp=Z,38nm,1.0s							
IDID	Didziasalis	18.88 337		eP		P	07 39 03.5	-2.5
	SNR=34							
ZAG	Zagreb	18.92 300		eP		Pn	07 39 07.3	+0.3
OKC	Ostrava-Krasne	19.01 313		eP		Pn	07 39 08.5	+0.3
OKC				epP		sP	07 39 11.3	-0.2
OKC				eS		S	07 42 44.9	+1.7
OKC				AMS		AMS	07 48 40.0	
	comp=Z,3μm,15.5s							
OKC	Ostrava-Krasne	19.01 313		eP		Pn	07 39 08.5	+0.3
OKC				eS		S	07 42 44.9	+1.7
OKC				MLR		MLR		
	comp=Z,3μm,15.5s							
OKC	Ostrava-Krasne	19.01 313		P		Pn	07 39 08.5	+0.3
OKC				S		S	07 42 44.9	+1.7
SOP	Sopron	19.09 306		eP		Pn	07 39 10.1	+1.0
SOP	Sopron	19.09 306		eP		Pn	07 39 10.1	+1.0
RAC	Raciborz	19.11 314		eP		Pn	07 39 09.0	-0.3
RAC				eS		S	07 42 46.8	+1.8
RAC				MLR		MLR		
	comp=Z,3μm,17.2s							
RAC	Raciborz	19.11 314		eP		Pn	07 39 09.0	-0.3
RAC				eS		S	07 42 46.8	+1.8
SUW	Suwalki	19.11 329		eP		Pn	07 39 09.3	0.0
SUW				eS		S	07 43 02.9	+18
SUW				LMZ		LR	07 47 24.9	
	comp=Z,2μm,22.1s							
SUW	Suwalki	19.11 329		eP		Pn	07 39 09.3	0.0
SUW				MLR		MLR		
	comp=Z,2μm,22.1s							
SUW	Suwalki	19.11 329		eP		Pn	07 39 09.3	0.0
NAZ	Nazwa, Dubai	19.17 130		iP		P	07 39 07.9	-1.4
	SNR=9.1							
NAZ	Nazwa, Dubai	19.17 130		P		P	07 39 08.1	-1.3
	SNR=30							
NAZ	Nazwa, Dubai	19.17 130		P		P	07 39 08.1	-1.3
	SNR=30							
NAZ	Nazwa, Dubai	19.17 130		P		P	07 39 07.9	-1.4
	SNR=9.1							
CRES	Cresnjev	19.27 300		eP		P	07 39 10.0	-0.4
ISAL	Salakas	19.29 336		eP		P	07 39 08.0	-2.4
ISAL				IAmb		IAmb	07 39 22.7	
	comp=Z,40nm,1.1s							
ISAL	Salakas	19.29 336		eP		P	07 39 08.0	-2.4
	SNR=34							
FAQ	Al Faqa, Dubai	19.31 131		iP		P	07 39 09.7	-1.2
	SNR=11							
FAQ	Al Faqa, Dubai	19.31 131		P		P	07 39 10.4	-0.5
	SNR=18							
FAQ	Al Faqa, Dubai	19.31 131		P		P	07 39 10.4	-0.5
	SNR=18							
FAQ	Al Faqa, Dubai	19.31 131		P		P	07 39 09.7	-1.2
	SNR=11							
MORC	Moravsky Berou	19.33 313	⇓	iP		Pn	07 39 14.0	+1.9
MORC	Moravsky Berou	19.33 313	⇓	P		Pn	07 39 14.0	+1.9
MORC	Moravsky Berou	19.33 313		eP		Pn	07 39 12.3	+0.2
	comp=Z,305nm,1.4s							
MORC	Moravsky Berou	19.33 313		eP		Pn	07 39 12.3	+0.2
	comp=Z,305nm,1.4s							
BOJS	Bojanci	19.34 299		eP		P	07 39 11.4	+0.3
BOJS				eS		Sn	07 42 46.7	-2.3
	comp=Z,2μm,7.1s							
BOJS	Bojanci	19.34 299		eP		P	07 39 11.4	+0.3
IZAR	Zarasai	19.40 337		eP		P	07 39 09.1	-2.6
IZAR				IAmb		IAmb	07 39 22.1	
	comp=Z,28nm,1.0s							
NVLJ	Novalja	19.43 296		P		Pn	07 39 12.9	-0.4
NVLJ	Novalja	19.43 296		iP		Pn	07 39 12.8	-0.4
UOSS	Minazif	19.53 129		P		P	07 39 11.9	-1.4
UOSS	Minazif	19.53 129		eP		P	07 39 11.2	-2.1
	comp=Z,14nm,0.9s							
HATD	Hatta, Dubai	19.57 130		iP		P	07 39 12.6	-1.1
	SNR=37							
HATD	Hatta, Dubai	19.57 130		P		P	07 39 12.7	-1.1
	SNR=17							
HATD	Hatta, Dubai	19.57 130		P		P	07 39 12.7	-1.1
	SNR=17							
HATD	Hatta, Dubai	19.57 130		P		P	07 39 12.6	-1.1
	SNR=37							
ARSA	Arzberg	19.61 304		P		Pn	07 39 15.0	-0.4
	comp=Z,11nm,0.8s,SNR=13							
ARSA	Arzberg	19.61 304		P		Pn	07 39 15.0	-0.4
	comp=Z,11nm,0.8s,SNR=13							
CONA	Conrad Observa	19.61 306		eP		Pn	07 39 15.2	-0.3
	comp=Z,31nm,0.9s,SNR=46							
CONA	Conrad Observa	19.61 306		P		Pn	07 39 15.2	-0.3
	comp=Z,31nm,0.9s,SNR=46							
ASHO	Ashiyiah	19.63 130		iP		P	07 39 12.9	-1.6
	SNR=58							
ASHO	Ashiyiah	19.63 130		P		P	07 39 13.5	-1.0
	SNR=29							
ASHO	Ashiyiah	19.63 130		P		P	07 39 13.5	-1.0
	SNR=29							
ASHO	Ashiyiah	19.63 130		P		P	07 39 12.9	-1.6
	SNR=58							
VRAC	Vranov	19.68 311		P		P	07 39 14.1	-0.7
	comp=Z,0.4nm,0.3s,baz=96,slow=12,SNR=10							
VRAC				LR		LR	07 48 11.9	
	comp=Z,3μm,19.5s,baz=106,slow=41							
VRAC	Vranov	19.68 311	⇑	iP		Pn	07 39 18.0	+1.7
VRAC	Vranov	19.68 311	⇑	P		Pn	07 39 18.0	+1.7
VRAC	Vranov	19.68 311		eP		Pn	07 39 16.3	0.0
VISS	Visnje	19.69 300		eP		Pn	07 39 15.5	-0.9
VISS	Visnje	19.69 300		eP		Pn	07 39 15.5	-0.9
PERS	Pernice	19.71 302		iP		Pn	07 39 18.1	+1.5
PERS	Pernice	19.71 302		iP		Pn	07 39 18.1	+1.5
SOKA	Soboth	19.77 302		iP		P	07 39 16.4	+0.5
	comp=Z,39nm,1.0s,SNR=19							
SOKA	Soboth	19.77 302		P		P	07 39 16.4	+0.5
	comp=Z,39nm,1.0s,SNR=19							
VAE	Valguarnera	19.87 275		P		Pn	07 39 18.4	-0.3
	comp=Z,3.6nm,0.3s,baz=56,slow=4.0,SNR=33							
VAE				LR		LR	07 46 40.2	
	comp=Z,1μm,21.3s,baz=142,slow=36							
LJU	Ljubljana	19.96 300		eP		Pn	07 39 19.0	-0.5
LJU	Ljubljana	19.96 300		eP		Pn	07 39 18.5	-1.0
CEY	Cerknica	19.96 299		eP		P	07 39 18.1	+0.2
OBKA	Obir	20.05 301		iP		Pn	07 39 20.1	-0.6
	comp=Z,65nm,1.1s,SNR=16							
OBKA	Obir	20.05 301		P		Pn	07 39 20.1	-0.6
	comp=Z,65nm,1.1s,SNR=16							
WDD	Wied Dalam	20.14 270		eP		Pn	07 39 21.7	-0.1
	comp=Z,583nm,1.5s							
WDD	Wied Dalam	20.14 270		eP		Pn	07 39 21.7	-0.1
	comp=Z,583nm,1.5s							
JAVS	Javornik	20.24 299		iP		P	07 39 21.2	+0.2
JAVS	Javornik	20.24 299		iP		P	07 39 21.2	+0.2
AQU	L'Aquila	20.27 289		eP		P	07 39 22.1	+0.7
AQU				pmax		pmax		
	comp=Z,282nm,1.0s							
AQU	L'Aquila	20.27 289		eP		P	07 39 22.1	+0.7
	comp=Z,282nm,1.0s							
AQU	L'Aquila	20.27 289		eP		P	07 39 22.1	+0.7
	comp=Z,282nm,1.0s							
DPC	Dobruska-Polom	20.29 313		eP		P	07 39 21.9	+0.4
DPC				ex		x	07 39 41.3	
DPC				eS		S	07 43 09.8	+0.9
DPC				AMS		AMS	07 49 40.0	
	comp=Z,2μm,13.9s							
DPC	Dobruska-Polom	20.29 313		eP		P	07 39 21.9	+0.4
DPC				e			07 39 41.3	
DPC				eS		S	07 43 09.8	+0.9
DPC				MLR		MLR		
	comp=Z,2μm,13.9s							
DPC	Dobruska-Polom	20.29 313		P		P	07 39 21.9	+0.4
DPC				S		S	07 43 09.8	+0.9
TREC	Trest	20.34 310		eP		Pn	07 39 23.0	-1.1
TREC				epP		sP	07 39 28.7	+2.6
TREC				eS		Sn	07 43 11.6	-1.5
TREC				AMS		AMS	07 49 00.0	
	comp=Z,3μm,15.1s							
TREC	Trest	20.34 310		eP		Pn	07 39 23.0	-1.1
TREC				e			07 39 28.7	
TREC				eS		Sn	07 43 11.6	-1.5
TREC				MLR		MLR		
	comp=Z,3μm,15.1s							
TREC	Trest	20.34 310		P		Pn	07 39 23.0	-1.1
TREC				S		Sn	07 43 11.6	-1.5
GORS	Gorjuse	20.38 301		eP		P	07 39 22.7	+0.2
GORS				eS		S	07 43 09.5	-1.3
GORS	Gorjuse	20.38 301		eP		P	07 39 22.7	+0.2
TRI	Trieste	20.41 299		eP		Pn	07 39 23.5	-1.3
TRI				pmax		pmax		
	comp=Z,46nm,0.9s							
TRI	Trieste	20.41 299		eP		Pn	07 39 23.5	-1.3
	comp=Z,46nm,0.9s							
TRI	Trieste	20.41 299		eP		Pn	07 39 23.5	-1.3
	comp=Z,46nm,0.9s							
KSP	Ksiaz	20.54 314		eP		P	07 39 24.5	+0.4
KSP				eS		Sn	07 43 21.2	+3.6
KSP				LMZ		LR	07 48 55.8	
	comp=Z,3μm,21.0s							
KSP	Ksiaz	20.54 314		eP		P	07 39 24.5	+0.4
KSP				MLR		MLR		
	comp=Z,3μm,21.0s							
KSP	Ksiaz	20.54 314		eP		P	07 39 24.5	+0.4
UPC	Upice	20.54 313		eP		Pn	07 39 27.1	+0.8
UPC				eS		S	07 43 14.4	+0.6
UPC				AMS		AMS	07 48 50.0	
	comp=Z,2μm,19.4s							
UPC	Upice	20.54 313		eP		Pn	07 39 27.1	+0.8
UPC				eS		S	07 43 14.4	+0.6
UPC				MLR		MLR		
	comp=Z,2μm,19.4s							
UPC	Upice	20.54 313		P		Pn	07 39 27.1	+0.8
UPC				S		S	07 43 14.4	+0.6
MOA	Molln	20.61 305		eP		Pn	07 39 26.7	-0.5
	comp=Z,16nm,0.8s,SNR=72							
MOA	Molln	20.61 305		P		Pn	07 39 26.7	-0.5
	comp=Z,16nm,0.8s,SNR=72							
MYKA	Terra Mystica	20.69 301		iP		Pn	07 39 27.0	-1.2
	comp=Z,143nm,1.7s,SNR=32							
MYKA	Terra Mystica	20.69 301		P		Pn	07 39 27.0	-1.2
	comp=Z,143nm,1.7s,SNR=32							
CLTB	Caltabellotta	20.79 276		eP		Pn	07 39 28.1	-1.3
	comp=Z,326nm,1.5s							
CLTB	Caltabellotta	20.79 276		eP		Pn	07 39 28.1	-1.3
	comp=Z,326nm,1.5s							
ARQ	Araqi	20.93 132		P		P	07 39 27.9	-0.7
	SNR=48							
ARQ	Araqi	20.93 132		P		P	07 39 27.9	-0.7
	SNR=48							
ARQ	Araqi	20.93 132		P		P	07 39 27.9	-0.7
	SNR=48							
KBA	Koelnbreinsper	21.00 302		iP		P	07 39 29.9	+0.6
	comp=Z,109nm,0.8s,SNR=74							
KBA	Koelnbreinsper	21.00 302		P		P	07 39 29.9	+0.6
	comp=Z,109nm,0.8s,SNR=74							
GOPC	GO Pecny, Ondr	21.00 311		eP		P	07 39 30.6	+1.4
GOPC				epP		sP	07 39 35.5	+2.2
GOPC				ex		x	07 39 39.8	
GOPC				eS		Sn	07 43 26.8	-2.2
GOPC				AMS		AMS	07 48 40.0	
	comp=Z,3μm,18.0s							
GOPC	GO Pecny, Ondr	21.00 311		eP		P	07 39 30.6	+1.4
GOPC				e			07 39 35.5	
GOPC				eS		Sn	07 43 26.8	-2.2
GOPC				MLR		MLR		
	comp=Z,3μm,18.0s							
GOPC	GO Pecny, Ondr	21.00 311		P		P	07 39 30.6	+1.4
GOPC				S		Sn	07 43 26.8	-2.2
PRU	Pruhonice	21.18 311		eP		P	07 39 31.8	+0.8
PRU				epP		sP	07 39 35.6	+0.5
PRU				eS		Sn	07 43 31.5	-1.7
PRU				AMS		AMS	07 49 40.0	
	comp=Z,3μm,15.8s							
PRU	Pruhonice	21.18 311		eP		P	07 39 31.8	+0.8
PRU				e			07 39 35.6	
PRU				eS		Sn	07 43 31.5	-1.7
PRU				MLR		MLR		
	comp=Z,3μm,15.8s							
PRU	Pruhonice	21.18 311		P		P	07 39 31.8	+0.8
GEA0	GERESS Array S	21.27 307		eP		P	07 39 30.9	-1.2
GEA0	GERESS Array S	21.27 307		e

VSU pmax pmax
comp=Z,201nm,1.0s
BIDO Bidbid 21.76 128 P **P** **07 39 36.0 -1.4**
SNR=18
BIDO Bidbid 21.76 128 P **P** **07 39 36.0 -1.4**
SNR=18
BIDO Bidbid 21.76 128 P **P** **07 39 36.0 -1.4**
SNR=18
ARU Arti 21.87 29 P **P** **07 39 36.4 -2.0**
comp=Z,26nm,0.5s,baz=222,slow=8.4,SNR=44
ARU LR LR 07 49 27.5
comp=Z,4μm,21.5s,baz=219,slow=40
ARU Arti 21.87 29 *d i* P **P** **07 39 36.4 -2.0**
ARU PPP PPP 07 40 04.5
ARU S **S** **07 43 37.2 -2.7**
ARU pmax pmax
comp=Z,116nm,1.7s
ARU MLR MLR
comp=Z,4μm,22.0s
ARU Arti 21.87 29 *e* P **P** **07 39 36.9 -1.5**
comp=Z,160nm,1.0s
ARU Arti 21.87 29 *e* P **P** **07 39 36.9 -1.5**
comp=Z,160nm,1.0s
BRG Berggiesshubel 21.89 313 *e* P **P** **07 39 39.7 +1.1**
comp=Z,34nm,1.6s
BRG *i* 07 39 46.1
comp=Z,194nm,1.9s
BRG S **S** **07 43 43.0 +2.7**
comp=N,2μm,14.2s
comp=E,2μm,17.4s
comp=Z,3μm,14.1s
BRG Berggiesshubel 21.89 313 *e* P **P** **07 39 39.7 +1.1**
BRG *i* 07 39 46.1
BRG S **S** **07 43 43.0 +2.7**
BRG pmax pmax
comp=Z,34nm,1.6s
BRG pmax pmax
comp=Z,194nm,1.9s
BRG MLR MLR
comp=N,2μm,14.2s
BRG MLR MLR
comp=E,2μm,17.4s
BRG MLR MLR
comp=Z,3μm,14.1s
SMDO Samad 22.05 129 P **P** **07 39 39.3 -1.4**
SNR=44
SMDO Samad 22.05 129 P **P** **07 39 39.3 -1.4**
SNR=44
SMDO Samad 22.05 129 P **P** **07 39 39.3 -1.4**
SNR=44
WTTA Wattenberg 22.17 302 *i* sP **P** **07 39 44.3 +2.4**
comp=Z,92nm,0.9s,SNR=39
WTTA Wattenberg 22.17 302 P **P** **07 39 44.3 +2.4**
comp=Z,92nm,0.9s,SNR=39
WATA Walderalm 22.23 302 *i* sP **P** **07 39 43.7 +1.2**
comp=Z,80nm,0.9s,SNR=27
WATA Walderalm 22.23 302 P **P** **07 39 43.7 +1.2**
comp=Z,80nm,0.9s,SNR=27
WSAR Wadi Sarin 22.28 128 P **P** **07 39 40.9 -2.1**
comp=Z,26nm,1.0s,baz=337,slow=13,SNR=15
WSAR LR LR 07 49 26.4
comp=Z,5μm,19.2s,baz=330,slow=40
KLMR Klimovskoe 22.33 360 *d i* P **P** **07 39 42.4 -0.9**
KLMR pmax pmax
comp=Z,420nm,1.5s
NKC Novy Kostel 22.52 310 *e* P **P** **07 39 45.7 +0.2**
NKC *ex* x 07 39 50.6
NKC AMS AMS 07 50 10.0
comp=Z,3μm,16.1s
NKC Novy Kostel 22.52 310 *e* P **P** **07 39 45.7 +0.2**
NKC *e* 07 39 50.6
NKC MLR MLR
comp=Z,3μm,16.1s
NKC Novy Kostel 22.52 310 P **P** **07 39 45.7 +0.2**
MOTA Moosalm 22.54 302 *i* pP **P** **07 39 46.3 +0.4**
comp=Z,169nm,0.9s,SNR=135
MOTA Moosalm 22.54 302 P **P** **07 39 46.3 +0.4**
comp=Z,169nm,0.9s,SNR=135
VLC Villacollemand 22.58 294 *e* P **P** **07 39 50.0 +3.9**
comp=Z,179nm,1.6s
JMDO Jabal Madar 22.60 130 P **P** **07 39 44.9 -1.6**
SNR=21
JMDO Jabal Madar 22.60 130 P **P** **07 39 44.9 -1.6**
SNR=21
JMDO Jabal Madar 22.60 130 P **P** **07 39 44.9 -1.6**
SNR=21
CLL Collm 22.61 313 *i* P **P** **07 39 47.4 +1.1**
comp=Z,91nm,1.2s
CLL *e* Plp 07 39 48.0
CLL *i* 07 39 53.0
CLL *e* S **S** **07 43 54.0 +0.2**
comp=N,1μm,11.2s
CLL *e* S **S** **07 43 54.0 +0.2**
CLL *e* S **S** **07 43 54.0 +0.2**
CLL L L 07 50 00.0
comp=Z,2μm,20.3s
CLL Collm 22.61 313 *i* P **P** **07 39 47.4 +1.1**
CLL *e* S **S** **07 43 54.0 +0.2**
CLL pmax pmax
comp=Z,91nm,1.2s
CLL MLR MLR
comp=Z,2μm,20.3s
CLL Collm 22.61 313 *e* P **P** **07 39 48.5 +2.2**
comp=Z,65nm,1.0s
CLL Collm 22.61 313 *e* P **P** **07 39 48.5 +2.2**
comp=Z,65nm,1.0s
FETA Feichten 22.73 301 *i* sP **P** **07 39 49.1 +1.3**
comp=Z,111nm,1.0s,SNR=50
FETA Feichten 22.73 301 P **P** **07 39 49.1 +1.3**
comp=Z,111nm,1.0s,SNR=50
RETA Reutte 22.80 302 *i* sP **P** **07 39 49.3 +0.8**
comp=Z,114nm,1.4s,SNR=29
RETA Reutte 22.80 302 P **P** **07 39 49.3 +0.8**
comp=Z,114nm,1.4s,SNR=29
TAS Tashkent 22.88 74 *e* P **P** **07 39 50.4 +1.1**
WBK Wadi Bani Khal 22.95 128 P **P** **07 39 49.8 -0.4**
SNR=13
WBK Wadi Bani Khal 22.95 128 P **P** **07 39 49.8 -0.4**
SNR=13
WBK Wadi Bani Khal 22.95 128 P **P** **07 39 49.8 -0.4**
SNR=13
SVE Sverdlovsk 22.96 30⍰ *e* P **P** **07 39 48.3 -1.7**
SVE *e* S **S** **07 43 56.2 -3.9**
SVE pmax pmax
comp=Z,196nm,1.5s
SVE MLR MLR
comp=Z,3μm,14.0s
FUORN Ofenpass-Fuorn 22.97 300 *e* P **P** **07 39 50.9 +0.5**
comp=Z,107nm,1.1s
FUORN Ofenpass-Fuorn 22.97 300 *e* P **P** **07 39 50.9 +0.5**
comp=Z,107nm,1.1s
GRFO Grafenberg 23.09 308 *e* P **P** **07 39 53.0 +1.6**
GRFO pmax pmax
comp=Z,131nm,1.1s
GRFO Grafenberg 23.09 308 *e* P **P** **07 39 53.0 +1.6**
comp=Z,131nm,1.1s
GRFO Grafenberg 23.09 308 *e* P **P** **07 39 53.0 +1.6**
comp=Z,131nm,1.1s
DAVOX Davos/Dischmat 23.25 300 P **P** **07 39 52.4 -1.0**
comp=Z,43nm,0.9s,baz=120,slow=7.8,SNR=22
DAVOX LR LR 07 51 05.8
comp=Z,2μm,19.5s,baz=80,slow=42
DAVA Damuels 23.35 302 *i* sP **P** **07 39 54.2 0.0**
comp=Z,108nm,0.8s,SNR=35
DAVA Damuels 23.35 302 P **P** **07 39 54.2 0.0**
comp=Z,108nm,0.8s,SNR=35
VSL Villasalto 23.46 282 *e* P **P** **07 39 56.0 +0.8**
comp=Z,98nm,1.1s
VSL Villasalto 23.46 282 *e* P **P** **07 39 56.0 +0.8**
comp=Z,98nm,1.1s
BSD Bornholm Skovb 23.47 323 *e* P **P** **07 39 56.9 +1.7**
BSD *i* 07 44 13.5
BSD MLR MLR
comp=Z,2μm,13.0s
BSD Bornholm Skovb 23.47 323 *i* P **P** **07 39 56.9 +1.7**
BSD *i* 07 44 13.5
comp=Z,2μm,13.0s
BSD Bornholm Skovb 23.47 323 *e* P **P** **07 39 56.9 +1.7**
TUE Stuetta 23.57 299 *e* P **P** **07 39 57.1 +0.6**
comp=Z,109nm,1.2s
TUE Stuetta 23.57 299 *e* P **P** **07 39 57.1 +0.6**
comp=Z,109nm,1.2s
KK31 Karatay Array 23.75 69 *ce* P **P** **07 39 56.8 -1.3**
KK31 pmax pmax
comp=Z,120nm,1.4s
KKAR Karatay Array 23.75 69 *e* P **P** **07 39 58.3 +0.3**
KKAR Karatay Array 23.75 69 *e* P **P** **07 39 58.3 +0.3**
KKAR Karatay Array 23.75 69 *e* P **P** **07 39 58.3 +0.3**
KBL Kabul 23.93 91 *e* P **P** **07 40 01.1 +1.0**
KBL pmax pmax
comp=Z,138nm,1.5s
KBL Kabul 23.93 91 *e* P **P** **07 40 01.1 +1.0**
comp=Z,138nm,1.5s
KBL Kabul 23.93 91 *e* P **P** **07 40 01.1 +1.0**
comp=Z,138nm,1.5s
STU Stuttgart 24.11 305 *e* P **P** **07 40 02.8 +1.3**
STU pmax pmax
comp=Z,241nm,1.9s
STU Stuttgart 24.11 305 *e* P **P** **07 40 02.8 +1.3**
comp=Z,241nm,1.9s
STU Stuttgart 24.11 305 *e* P **P** **07 40 02.8 +1.3**
comp=Z,241nm,1.9s
SPAK Spaichingen-Ko 24.23 303 *e* P **P** **07 40 02.0 -0.6**
KEST Kesra 24.24 273 P **P** **07 40 03.8 +0.9**
comp=Z,67nm,0.9s,baz=29,slow=4.6,SNR=69
KEST LR LR 07 51 13.9
comp=Z,2μm,20.6s,baz=25,slow=41
KEST Kesra 24.24 273 *e* P **P** **07 40 04.2 +1.4**
comp=Z,2μm,1.8s
KEST Kesra 24.24 273 *e* P **P** **07 40 04.2 +1.4**
comp=Z,2μm,1.8s
FIA0 FINESS Array S 24.42 344 *e* P **P** **07 40 02.5 -1.6**
FIA0 FINESS Array S 24.42 344 *e* P **P** **07 40 02.5 -1.6**
FIA0 FINESS Array S 24.42 344 *e* P **P** **07 40 02.5 -1.6**
FIA1 FINESS Array S 24.42 344 *e* P **P** **07 40 05.1 +1.0**
FIA1 FINESS Array S 24.42 344 *e* P **P** **07 40 05.0 +1.0**
FINES FINESS Array B 24.42 344 P **P** **07 40 02.5 -1.6**
comp=Z,20nm,0.7s,baz=140,slow=12,SNR=33
FINES LR LR 07 51 17.6
comp=Z,3μm,18.9s,baz=155,slow=41
TOD Tromm 24.57 307⍰ *e* P **P** **07 40 06.3 +0.7**
BFO Black Forest 24.58 304 *e* P **P** **07 40 06.4 +0.7**
BFO pmax pmax
comp=Z,47nm,1.1s
BFO Black Forest 24.58 304 *e* P **P** **07 40 06.4 +0.7**
comp=Z,47nm,1.1s
BFO Black Forest 24.58 304 *e* P **P** **07 40 06.4 +0.7**
comp=Z,47nm,1.1s
FELD Feldberg im Sc 24.70 302⍰ *e* P **P** **07 40 08.1 +1.1**
ZRNK Zerenda 24.84 45 *e* P **P** **07 40 07.8 -0.2**
ZRNK pmax pmax
comp=Z,46nm,1.1s
ZRNK Zerenda 24.84 45 *e* P **P** **07 40 07.8 -0.2**
comp=Z,46nm,1.1s
ZRNK Zerenda 24.84 45 *e* P **P** **07 40 07.8 -0.2**
comp=Z,46nm,1.1s
KTD Kalmit 24.95 306⍰ *e* P **P** **07 40 10.5 +1.4**
SENIN Lac Senin/Sane 24.96 299 *e* P **P** **07 40 10.0 +0.6**
comp=Z,57nm,0.9s
SENIN Lac Senin/Sane 24.96 299 *e* P **P** **07 40 10.0 +0.6**
comp=Z,57nm,0.9s
BBS Basel-Blauen 24.96 301 *e* P **P** **07 40 10.0 +0.8**
COP Copenhagen 24.97 322 *e* P **P** **07 40 13.7 +4.6**
COP *i* 07 44 37.8
COP MLR MLR
comp=Z,930nm,12.0s
COP Copenhagen 24.97 322 *i* P **P** **07 40 13.7 +4.6**
COP *i* 07 44 37.8
comp=Z,920nm,12.0s
LIBD Limburg 25.02 303 *e* P **P** **07 40 11.1 +1.5**
LANF Langenberg 25.06 305⍰ *e* P **P** **07 40 10.5 +0.5**
LANF Langenberg 25.06 305⍰ *e* P **P** **07 40 10.5 +0.5**
MNAS Manas 25.22 70 *i* P **P** **07 40 10.9 -0.8**
MNAS pmax pmax
comp=Z,28nm,1.2s
MOF Molkenrain 25.28 302 *e* P **P** **07 40 13.3 +1.2**
MOF Molkenrain 25.28 302 *e* P **P** **07 40 13.3 +1.2**
ECH Echery 25.32 303 *e* P **P** **07 40 12.8 +0.3**
ECH Echery 25.32 303 *e* P **P** **07 40 12.8 +0.3**
RSL Roselend 25.36 297⍰ *e* P **P** **07 40 13.9 +1.0**
RSL Roselend 25.36 297⍰ *e* P **P** **07 40 13.9 +1.0**
OG01 Vacheresse 25.38 298⍰ *e* P **P** **07 40 14.5 +1.5**
OG01 Vacheresse 25.38 298⍰ *e* P **P** **07 40 14.5 +1.5**
LOMF Lomont 25.41 301⍰ *e* P **P** **07 40 14.8 +1.5**
LOMF Lomont 25.41 301⍰ *e* P **P** **07 40 14.8 +1.5**
OTUK Ortayu 25.51 57 P **P** **07 40 13.5 -0.6**
OTUK pmax pmax
comp=Z,53nm,1.1s
CMAH Djebel Manchou 25.52 276 P **P** **07 40 16.2 +1.8**
CMAH Djebel Manchou 25.52 276 P **P** **07 40 16.2 +1.8**
ABSA Djebel Ababsia 25.56 275 P **P** **07 40 17.4 +2.6**
ABSA Djebel Ababsia 25.56 275 P **P** **07 40 17.4 +2.6**
BRVK Borovoye 25.59 45 *ce* P **P** **07 40 14.3 -0.5**
BRVK *i* *PP **sP** **07 40 19.8 +0.7**
BRVK pmax pmax
comp=Z,110nm,1.7s
BRVK Borovoye 25.59 45 *e* P **P** **07 40 14.5 -0.3**
comp=Z,98nm,1.1s
BRVK Borovoye 25.59 45 *e* P **P** **07 40 14.5 -0.3**
comp=Z,98nm,1.1s
BVAR Borovoye Array 25.64 46 P **P** **07 40 14.1 -1.1**
comp=Z,9.7nm,1.1s,baz=235,slow=7.0,SNR=42
BVAR LR LR 07 52 02.7
comp=Z,3μm,20.3s,baz=252,slow=40
BVAR Borovoye Array 25.64 46 P **P** **07 40 14.1 -1.1**
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BVAR MLR MLR
comp=Z,3μm,20.3s
GDM Grand'Maison 25.68 296 *e* P **P** **07 40 18.4 +2.5**
GDM Grand'Maison 25.68 296 *e* P **P** **07 40 18.4 +2.5**
RUP Ruppelstein 25.69 306⍰ *e* P **P** **07 40 16.9 +1.1**
VOSK Vostochnaya 25.86 47 *e* P **P** **07 40 16.2 -1.1**
VOSK pmax pmax
comp=Z,24nm,1.1s
VOSK Vostochnaya 25.86 47 *e* P **P** **07 40 16.2 -1.1**
comp=Z,24nm,1.1s
VOSK Vostochnaya 25.86 47 *e* P **P** **07 40 16.2 -1.1**
comp=Z,24nm,1.1s
CAEH 'Ain El Ouahch 25.92 276 P **P** **07 40 20.3 +2.3**
CAEH 'Ain El Ouahch 25.92 276 P **P** **07 40 20.3 +2.3**
GRN Grenoble 25.95 296 *e* P **P** **07 40 19.4 +1.2**
GRN Grenoble 25.95 296 *e* P **P** **07 40 19.4 +1.2**
CHKZ Chkalovo 26.02 44 *i* P **P** **07 40 17.0 -1.6**
CHKZ pmax pmax
comp=Z,55nm,1.4s
EKS2 Erkin-Say 26.16 70 *e* P **P** **07 40 21.0 +0.8**
EKS2 pmax pmax
comp=Z,62nm,1.3s
EKS2 Erkin-Say 26.16 70 *e* P **P** **07 40 21.0 +0.8**
comp=Z,62nm,1.3s
EKS2 Erkin-Say 26.16 70 *e* P **P** **07 40 21.0 +0.8**
comp=Z,62nm,1.3s
OG26 St.-Nazaire-De 26.24 294 *e* P **P** **07 40 21.5 +0.7**
OG26 St.-Nazaire-De 26.24 294 *e* P **P** **07 40 21.5 +0.7**
WLF Walferdange 26.26 306 P **P** **07 40 23.4 +2.5**
comp=Z,36nm,1.5s
WLF Walferdange 26.26 306 *e* P **P** **07 40 23.0 +2.1**
WLF pmax pmax
comp=Z,54nm,1.2s
WLF Walferdange 26.26 306 *e* P **P** **07 40 23.0 +2.1**
comp=Z,54nm,1.2s
WLF Walferdange 26.26 306 *e* P **P** **07 40 23.0 +2.1**
comp=Z,54nm,1.2s
CASM Ain Smara 26.33 275 P **P** **07 40 24.9 +3.1**
CTEI Djebel Teioual 26.45 275 P **P** **07 40 25.4 +2.5**
CTEI Djebel Teioual 26.45 275 P **P** **07 40 25.4 +2.5**
AAK Ala-Archa 26.68 70 P **P** **07 40 24.9 -0.1**
comp=Z,16nm,1.0s,baz=244,slow=8.9,SNR=26
AAK LR LR 07 51 50.9
comp=Z,1μm,20.9s,baz=274,slow=38
AAK Ala-Archa 26.68 70 *ce* P **P** **07 40 25.0 -0.1**
AAK *i* *PP **sP** **07 40 30.2 +0.9**
AAK pmax pmax
comp=Z,56nm,1.4s
AAK Ala-Archa 26.68 70 P **P** **07 40 26.1 +1.0**
SNR=26
AAK Ala-Archa 26.68 70 P **P** **07 40 26.1 +1.0**
SNR=26
AAK Ala-Archa 26.68 70 P **P** **07 40 25.7 +0.7**
SNR=16
AAK Ala-Archa 26.68 70 *ep* P **P** **07 40 26.2 +1.2**
DFRA Djebel Bou Aff 26.74 276 P **P** **07 40 28.9 +3.4**
FRU Bishkek 26.77 70 *ep* P **P** **07 40 25.0 -0.6**
FRU *e* 07 41 24.0
FRU *e* 07 46 08.0
FRU pmax pmax
comp=Z,280nm,2.0s
SSB Saint Sauveur 26.80 296 *e* P **P** **07 40 28.0 +2.1**
SSB pmax pmax
comp=Z,24nm,1.1s
SSB Saint Sauveur 26.80 296 *e* P **P** **07 40 28.0 +2.1**
comp=Z,24nm,1.1s
SSB Saint Sauveur 26.80 296 *e* P **P** **07 40 27.9 +2.1**
comp=Z,24nm,1.1s
MUD Monsted U'grnd 26.94 322 *i* P **P** **07 40 30.2 +3.3**
MUD MLR MLR
comp=Z,2μm,12.0s
MUD Monsted U'grnd 26.94 322 *i* P **P** **07 40 30.2 +3.3**
comp=Z,2μm,12.0s
MUD Monsted U'grnd 26.94 322 *i* P **P** **07 40 30.2 +3.3**
ATD Arta Tunnel 27.06 173 LR LR 07 50 18.6
comp=Z,2μm,18.2s,baz=357,slow=35
HFS Hagfors 27.09 331 P **P** **07 40 30.0 +1.7**
comp=Z,20nm,0.8s,baz=126,slow=7.5,SNR=10
CKHR Kef el Ahmar 27.16 275 P **P** **07 40 32.6 +3.3**
SET Setif 27.20 276 P **P** **07 40 34.0 +4.4**
MAHO Mahon 27.31 284 *i* P **P** **07 40 32.6 +2.2**
DOU Dourbes 27.33 306 P **P** **07 40 35.5 +4.9**
comp=Z,15nm,1.6s
PLDF La Plantade 27.47 297 *e* P **P** **07 40 33.0 +1.1**
PLDF La Plantade 27.47 297 *e* P **P** **07 40 33.0 +1.1**
TKM2 Tokmak 2 27.48 69 *i* P **P** **07 40 32.5 +0.3**
TKM2 pmax pmax
comp=Z,30nm,1.2s
TKM2 Tokmak 2 27.48 69 *e* P **P** **07 40 32.9 +0.7**
comp=Z,86nm,1.6s
TKM2 Tokmak 2 27.48 69 *e* P **P** **07 40 32.9 +0.7**
comp=Z,86nm,1.6s
LBL Lubilhac 27.71 296 *e* P **P** **07 40 36.0 +1.9**
LBL Lubilhac 27.71 296 *e* P **P** **07 40 36.0 +1.9**
AGO Saint Agoulin 27.82 297 *e* P **P** **07 40 36.0 +1.0**
AGO Saint Agoulin 27.82 297 *e* P **P** **07 40 36.0 +1.0**
KSH Kashi 28.15 76 P **P** **07 40 36.6 -1.5**
KSH pP pP 07 40 39.8 -1.3
KSH PP **PnPn** **07 41 24.8 -0.9**
KSH PcP **PcP** **07 43 51.6 -0.4**
KSH S **S** **07 45 17.6 -5.8**
KSH PMZ
comp=Z,7.0nm,0.5s
KSH PMZ
comp=Z,310nm,4.2s
KSH LN
comp=Z,2μm,14.4s
KSH LE
comp=Z,620nm,11.3s
KSH LZ
comp=Z,1μm,13.2s
ATAF Djebel Tarf 28.16 276 P **P** **07 40 38.8 +0.5**
ATAF Djebel Tarf 28.16 276 P **P** **07 40 38.8 +0.5**
AAA Alma-Ata 28.45 68 *ep* P **P** **07 40 43.6 +2.9**
AAA pmax pmax
comp=Z,100nm,0.3s
AAA MLR MLR
comp=Z,2μm,14.0s
NB2 NORSAR Subarra 28.62 331 P **P** **07 40 44.3 +2.3**
comp=Z,9.4nm,0.9s,baz=129,slow=9.3
NB2 NORSAR Subarra 28.62 331 P **P** **07 40 44.3 +2.3**
comp=Z,9.4nm,0.9s,SNR=3.7
NB200 NORSAR Array S 28.62 331 *e* P **P** **07 40 43.5 +1.6**
NB200 NORSAR Array S 28.62 331 *e* P **P** **07 40 43.5 +1.6**
NOA NORSAR Array B 28.62 331 P **P** **07 40 43.5 +1.6**
comp=Z,3.9nm,0.8s,baz=126,slow=9.0,SNR=8.7
NOA LR LR 07 53 38.0
comp=Z,2μm,21.9s,baz=135,slow=40
NAO01 NORSAR Array S 28.62 331 *e* P **P** **07 40 44.2 +2.3**
NAO01 NORSAR Array S 28.62 331 *e* P **P** **07 40 44.2 +2.3**
ADJB Djebel Djouab 28.74 277 P **P** **07 40 43.3 -0.1**
ADJB Djebel Djouab 28.74 277 P **P** **07 40 43.3 -0.1**
EMHD Djebel Mahouad 29.11 277 P **P** **07 40 49.5 +2.8**
EMHD Djebel Mahouad 29.11 277 P **P** **07 40 49.5 +2.8**
APA Apatity 29.28 355‖ *i* P **P** **07 40 51.0 +3.3**
APA *i* S **S** **07 45 44.0 +3.6**
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,2μm,26.0s
KURBB Kurchatov Arra 29.89 53 P **P** **07 40 53.7 +0.4**
comp=Z,8.3nm,0.6s,baz=270,slow=9.3,SNR=64
KURBB PcP **PcP** **07 43 55.8 -0.2**
comp=Z,5.9nm,0.7s,baz=261,slow=3.7,SNR=6.8
KURK Kurchatov 29.96 53 *ce* P **P** **07 40 54.2 +0.3**
KURK pmax pmax
comp=Z,184nm,1.7s
KURK Kurchatov 29.96 53 *e* P **P** **07 40 54.0 +0.1**
KURK Kurchatov 29.96 53 *e* PcP **PcP** **07 43 55.8 -0.3**
KURK Kurchatov 29.96 53 *e* P **P** **07 40 54.0 +0.1**
KURK *e* PcP **PcP** **07 43 55.8 -0.3**
PDGK Podgornoye 30.29 68 *i* P **P** **07 40 56.9 0.0**
PDGK pmax pmax
comp=Z,36nm,1.4s
SDNR Sundarnagar 31.23 92 *e* P **P** **07 41 04.0 -1.4**
MAKZ Makanchi 31.90 61 *e* P **P** **07 41 12.0 +0.9**
MAKZ pmax pmax
comp=Z,47nm,1.6s
MAKZ Makanchi 31.90 61 *e* P **P** **07 41 12.0 +0.9**
comp=Z,47nm,1.6s
MAKZ Makanchi 31.90 61 *e* P **P** **07 41 12.0 +0.9**
comp=Z,47nm,1.6s
ARA0 ARCESS Array S 31.96 351 *e* P **P** **07 41 12.6 +1.2**
ARA0 ARCESS Array S 31.96 351 *e* P **P** **07 41 12.6 +1.2**
ARCES ARCESS Array B 31.96 351 P **P** **07 41 12.6 +1.2**
comp=Z,4.4nm,0.7s,baz=153,slow=8.2,SNR=11
ARCES LR LR 07 55 35.7
comp=Z,2μm,18.2s,baz=154,slow=39
MK31 Makanchi Array 32.12 61 *ce* P **P** **07 41 13.1 +0.1**
MK31 pmax pmax
comp=Z,17nm,1.0s
MK31 Makanchi Array 32.12 61 *e* P **P** **07 41 13.4 +0.4**
MK31 Makanchi Array 32.12 61 *e* P **P** **07 41 13.3 +0.4**
MK32 Makanchi Array 32.12 61 *e* P **P** **07 41 13.0 0.0**
MK32 Makanchi Array 32.12 61 *e* PcP **PcP** **07 44 02.5 +0.5**
MK32 Makanchi Array 32.12 61 *e* P **P** **07 41 13.0 0.0**
MK32 *e* PcP **PcP** **07 44 02.5 +0.5**
MKAR Makanchi Array 32.12 61 P **P** **07 41 13.0 0.0**
comp=Z,4.2nm,0.6s,baz=273,slow=7.4,SNR=23
MKAR PcP **PcP** **07 44 02.5 +0.5**
comp=Z,9.5nm,1.1s,baz=236,slow=0.4,SNR=3.7
MKAR LR LR 07 56 41.0
comp=Z,999nm,19.8s,baz=264,slow=41
MKAR Makanchi Array 32.12 61 *e* P **P** **07 41 13.4 +0.4**
MKAR Makanchi Array 32.12 61 *e* P **P** **07 41 13.3 +0.4**
MK01 Makanchi Array 32.12 61 *e* P **P** **07 41 12.9 -0.2**
MK01 Makanchi Array 32.12 61 *e* P **P** **07 41 12.9 -0.2**
NDI New Delhi 32.63 96 *ex* P 07 41 10.0 -7.7
TAM Tamanrasset 33.03 252 *e* P **P** **07 41 22.4 +1.0**
TAM pmax pmax
comp=Z,95nm,1.3s
TAM Tamanrasset 33.03 252 *e* P **P** **07 41 22.4 +1.0**
comp=Z,95nm,1.3s
TAM Tamanrasset 33.03 252 *e* P **P** **07 41 22.4 +1.0**
comp=Z,95nm,1.3s
NVS Novosibirsk 33.43 46 *e* P **P** **07 41 24.0 -0.3**
NVS *e* S **S** **07 46 42.8 -2.7**
NVS pmax pmax
comp=Z,105nm,1.7s
NVS pmax pmax
comp=N,42nm,1.6s
NVS pmax pmax
comp=E,31nm,1.6s
NVS smax smax
comp=E,47nm,2.1s
ES19 SONSECA Array 33.53 286 *e* P **P** **07 41 25.7 +0.2**
ES19 SONSECA Array 33.53 286 *e* P **P** **07 41 25.7 +0.2**
ESDC Sonseca Array 33.59 286 P **P** **07 41 26.1 +0.1**
comp=E,8.2nm,0.8s,baz=66,slow=8.9,SNR=23
ESDC LR LR 07 58 06.6
comp=E,570nm,18.1s,baz=70,slow=42
ESLA Sonseca Array 33.59 286 *e* P **P** **07 41 26.5 +0.5**
comp=E,74nm,1.9s
ESLA Sonseca Array 33.59 286 *e* P **P** **07 41 26.5 +0.5**
comp=E,74nm,1.9s
PAB San Pablo 33.90 286 *e* P **P** **07 41 29.8 +1.0**
PAB pmax pmax
comp=Z,36nm,1.4s
PAB San Pablo 33.90 286 *e* P **P** **07 41 29.8 +1.0**
comp=Z,36nm,1.4s
PAB San Pablo 33.90 286 *e* P **P** **07 41 29.8 +1.0**
comp=Z,36nm,1.4s
ZAA0 Zalesovo Array 34.20 48 *e* P **P** **07 41 30.5 -0.5**
ZAA0 Zalesovo Array 34.20 48 *e* P **P** **07 41 30.5 -0.5**
ZALV Zalesovo Beam 34.20 48 P **P** **07 41 29.7 -1.4**
comp=Z,6.7nm,0.7s,baz=269,slow=9.6,SNR=23
ZALV LR LR 07 57 26.1
comp=Z,2μm,19.6s,baz=258,slow=40
ZALV Zalesovo Beam 34.20 48 P **P** **07 41 29.7 -1.4**
ZALV pmax pmax

	comp=Z,3.0nm,0.5s								
ZALV					MLR	MLR			
	comp=Z,2µm,19.6s								
ZAA1	**Zalesovo Array**	**34.20**	**48**	*eP*	**P**		**07 41 29.7**	**-1.4**	
ZAA1	**Zalesovo Array**	**34.20**	**48**	*eP*	**P**		**07 41 29.7**	**-1.4**	
PBRG	**Braganca**	**35.24**	**290**	*eP*	**P**		**07 41 40.9**	**+0.6**	
	comp=Z,30nm,1.7s								
PBRG	**Braganca**	**35.24**	**290**	*eP*	**P**		**07 41 40.9**	**+0.6**	
MVO	**Moncorvo**	**35.57**	**289**	*eP*	**P**		**07 41 44.6**	**+1.4**	
	comp=Z,19nm,1.9s								
MVO				*eS*	**S**		**07 47 23.5**	**+4.5**	
MVO	**Moncorvo**	**35.57**	**289**	*eP*	**P**		**07 41 44.6**	**+1.4**	
MVO				*eS*	**S**		**07 47 23.5**	**+4.5**	
POLO	**Lamas de Olo**	**36.09**	**290**	*eP*	**P**		**07 41 49.0**	**+1.3**	
	comp=Z,12nm,1.4s								
POLO	**Lamas de Olo**	**36.09**	**290**	*eP*	**P**		**07 41 49.0**	**+1.3**	
MTE	**Manteigas**	**36.11**	**288**	*eP*	**P**		**07 41 49.4**	**+1.6**	
MTE				*eS*	**S**		**07 47 30.1**	**+2.8**	
MTE	**Manteigas**	**36.11**	**288**	*eP*	**P**		**07 41 49.0**	**+1.2**	
	comp=Z,56nm,1.2s								
MTE				*eS*	**S**		**07 47 30.1**	**+2.8**	
MTE	**Manteigas**	**36.11**	**288**	*eP*	**P**		**07 41 49.0**	**+1.2**	
	comp=Z,56nm,1.2s								
WMQ	**Urumqi**	**36.16**	**66**	P	**P**		**07 41 49.3**	**+1.1**	
WMQ				pP	sP		07 41 53.3	+0.8	
WMQ				sP	pP		07 41 55.4	+4.2	
WMQ				PP	**PP**		**07 43 11.3**	**+1.0**	
WMQ				S	**S**		**07 47 27.5**	**-0.5**	
WMQ				SS	**SnSn**		**07 49 50.3**	**-3.0**	
WMQ				PMZ					
	comp=Z,30nm,1.2s								
WMQ				PMZ					
	comp=Z,300nm,4.0s								
WMQ				LN					
	comp=Z,1µm,20.2s								
WMQ				LE					
	comp=Z,1µm,15.4s								
WMQ				LZ					
	comp=Z,710nm,15.8s								
PCBR	**Castelo Branco**	**36.19**	**287**	*eP*	**P**		**07 41 50.3**	**+1.9**	
	comp=Z,56nm,1.4s								
PCBR	**Castelo Branco**	**36.19**	**287**	*eP*	**P**		**07 41 50.3**	**+1.9**	
PCAB	**Cabril**	**36.20**	**290**	*eP*	**P**		**07 41 50.0**	**+1.5**	
	comp=Z,45nm,2.0s								
PCAB	**Cabril**	**36.20**	**290**	*eP*	**P**		**07 41 50.0**	**+1.5**	
PMRV	**Marv??o**	**36.22**	**287**	*eP*	**P**		**07 41 50.3**	**+1.6**	
	comp=Z,30nm,1.7s								
PMRV				*eS*	**S**		**07 47 32.6**	**+3.7**	
PMRV	**Marv??o**	**36.22**	**287**	*eP*	**P**		**07 41 50.3**	**+1.6**	
PMRV				*eS*	**S**		**07 47 32.6**	**+3.7**	
PBAR	**Barrancos**	**36.27**	**284**	*eP*	**P**		**07 41 50.7**	**+1.6**	
	comp=Z,74nm,1.6s								
PBAR	**Barrancos**	**36.27**	**284**	*eP*	**P**		**07 41 50.7**	**+1.6**	
PVIS	**Viseu**	**36.30**	**289**	*eP*	**P**		**07 41 51.0**	**+1.6**	
PVIS	**Viseu**	**36.30**	**289**	*eP*	**P**		**07 41 51.0**	**+1.6**	
PESTR	**Estremoz**	**36.51**	**286**	*eP*	**P**		**07 41 52.4**	**+1.2**	
	comp=Z,33nm,1.0s								
PESTR	**Estremoz**	**36.51**	**286**	*eP*	**P**		**07 41 52.4**	**+1.2**	
EVO	**Evora**	**36.92**	**285**	*eP*	**P**		**07 41 56.0**	**+1.4**	
EVO	**Evora**	**36.92**	**285**	*eP*	**P**		**07 41 56.0**	**+1.4**	
PBEJ	**Beja**	**36.94**	**284**	*eP*	**P**		**07 41 56.9**	**+2.1**	
	comp=Z,38nm,1.2s								
PBEJ	**Beja**	**36.94**	**284**	*eP*	**P**		**07 41 56.9**	**+2.1**	
PVAQ	**Vaqueiros**	**37.00**	**283**	*eP*	**P**		**07 41 56.9**	**+1.5**	
PVAQ				*eS*	**S**		**07 47 43.1**	**+2.3**	
PVAQ	**Vaqueiros**	**37.00**	**283**	*eP*	**P**		**07 41 56.9**	**+1.5**	
PVAQ				*eS*	**S**		**07 47 43.1**	**+2.3**	
PCVE	**Castro Verde**	**37.18**	**284**	*eP*	**P**		**07 41 58.2**	**+1.3**	
	comp=Z,50nm,1.3s								
PCVE	**Castro Verde**	**37.18**	**284**	*eP*	**P**		**07 41 58.2**	**+1.3**	
KIB	**El Ksiba**	**37.31**	**275**	*i P*	**P**		**07 42 00.0**	**+1.9**	
PYUN	**Piuthan**	**37.41**	**93**	*eP*	**P**		**07 41 58.6**	**-0.6**	
	comp=Z,185nm,1.5s								
PNCL	**Nicolau / Gran**	**37.42**	**285**	*eP*	**P**		**07 42 00.7**	**+1.8**	
	comp=Z,37nm,1.3s								
PNCL	**Nicolau / Gran**	**37.42**	**285**	*eP*	**P**		**07 42 00.7**	**+1.8**	
MORF	**Marmelete**	**37.74**	**284**	*eP*	**P**		**07 42 02.3**	**+0.6**	
	comp=Z,74nm,1.7s								
MORF	**Marmelete**	**37.74**	**284**	*eP*	**P**		**07 42 02.3**	**+0.6**	
PMST	**Lisbon--Monsan**	**37.75**	**286**	*eP*	**P**		**07 42 04.3**	**+2.7**	
	comp=Z,114nm,1.2s								
PMST	**Lisbon--Monsan**	**37.75**	**286**	*eP*	**P**		**07 42 04.3**	**+2.7**	
PFVI	**Vila Bisbo**	**37.93**	**283**	*eP*	**P**		**07 42 04.8**	**+1.6**	
	comp=Z,119nm,1.9s								
PFVI	**Vila Bisbo**	**37.93**	**283**	*eP*	**P**		**07 42 04.8**	**+1.6**	
KOLN	**Koldanda**	**38.04**	**93**	*eP*	**P**		**07 42 03.6**	**-0.9**	
	comp=Z,46nm,0.8s								
GKN	**Gorkha**	**38.75**	**92**	*eP*	**P**		**07 42 09.9**	**-0.5**	
	comp=Z,68nm,0.7s								
OUK	**Oukaimeden**	**39.28**	**274**	*i P*	**P**		**07 42 17.0**	**+2.0**	
DMN	**Daman**	**39.30**	**92**	*eP*	**P**		**07 42 14.7**	**-0.4**	
	comp=Z,180nm,1.2s								
KKN	**Kakani**	**39.35**	**92**	*eP*	**P**		**07 42 14.7**	**-0.8**	
	comp=Z,47nm,0.8s								
KMBO	**Kilima Mbogo**	**39.54**	**184**	P	**P**		**07 42 16.4**	**-0.8**	
	comp=Z,7.1nm,1.1s,baz=24,slow=9.1,SNR=8.6								
KMBO				LR	LR		07 57 58.6		
	comp=Z,3µm,18.4s,baz=351,slow=35								
KMBO	**Kilima Mbogo**	**39.54**	**184**	*eP*	**P**		**07 42 16.3**	**-0.8**	
KMBO				pmax	pmax				
	comp=Z,10.0nm,1.1s								
KMBO	**Kilima Mbogo**	**39.54**	**184**	*eP*	**P**		**07 42 16.3**	**-0.8**	
	comp=Z,10nm,1.1s								
KMBO	**Kilima Mbogo**	**39.54**	**184**	*eP*	**P**		**07 42 16.3**	**-0.8**	
	comp=Z,10nm,1.1s								
PKIN	**Phulchoki**	**39.54**	**92**	*eP*	**P**		**07 42 16.7**	**-0.5**	
	comp=Z,44nm,1.0s								
GUN	**Gumba**	**39.77**	**91**	*eP*	**P**		**07 42 18.5**	**-0.6**	
	comp=Z,177nm,1.2s								
HYB	**Hyderabad**	**39.92**	**111**	*i P*	**P**		**07 42 19.0**	**-1.1**	
HYB				*eS*	**S**		**07 48 24.0**	**-1.3**	
NRIK	**Noril'sk**	**39.95**	**24**	P	**P**		**07 42 20.1**	**+0.4**	
	comp=Z,7.8nm,0.9s,baz=247,slow=7.9,SNR=12								
NRIK				LR	LR		08 02 27.4		
	comp=Z,2µm,18.6s,baz=248,slow=42								
RAMN	**Ramite**	**40.78**	**92**	*eP*	**P**		**07 42 26.5**	**-0.9**	
	comp=Z,105nm,0.9s								
SPA0	**Spitsbergen Ar**	**40.90**	**353**	*eP*	**P**		**07 42 28.2**	**+0.7**	
SPA0	**Spitsbergen Ar**	**40.90**	**353**	*eP*	**P**		**07 42 28.2**	**+0.7**	
TOA1	**Torodi Ar. Sit**	**42.02**	**243**	*eP*	**P**		**07 42 35.7**	**-1.7**	
	comp=Z,64nm,1.1s								
TOA1	**Torodi Ar. Sit**	**42.02**	**243**	*eP*	**P**		**07 42 35.6**	**-1.7**	
	comp=Z,64nm,1.1s								
TOA0	**Torodi Ar. Sit**	**42.02**	**243**	*eP*	**P**		**07 42 36.4**	**-1.0**	
TOA0	**Torodi Ar. Sit**	**42.02**	**243**	*eP*	**P**		**07 42 36.4**	**-1.0**	
TORD	**Torodi Ar. Bea**	**42.02**	**243**	P	**P**		**07 42 35.6**	**-1.8**	
	comp=Z,27nm,0.9s,baz=46,slow=7.5,SNR=112								
TORD				LR	LR		08 03 16.9		
	comp=Z,382nm,18.7s,baz=10.0,slow=41								
LSA	**Lhasa**	**43.09**	**86**	*eP*	**P**		**07 42 46.9**	**+0.4**	
LSA				pmax	pmax				
	comp=Z,29nm,1.4s								
LSA	**Lhasa**	**43.09**	**86**	*eP*	**P**		**07 42 46.9**	**+0.4**	
	comp=Z,29nm,1.4s								
LSA	**Lhasa**	**43.09**	**86**	*eP*	**P**		**07 42 46.9**	**+0.4**	
	comp=Z,29nm,1.4s								
MOY	**Mondy**	**43.99**	**52**	*eP*	**P**		**07 42 54.3**	**+1.2**	
MOY				pmax	pmax				
	comp=Z,118nm,2.2s								
SCO	**Scoresbysund**	**44.77**	**335**	*i P*	**P**		**07 43 02.3**	**+3.4**	
SCO				pmax	pmax				
	comp=Z,18nm,1.1s								
SCO	**Scoresbysund**	**44.77**	**335**	*i P*	**P**		**07 43 02.3**	**+3.4**	
	comp=Z,18nm,1.1s								
SCO	**Scoresbysund**	**44.77**	**335**	*i P*	**P**		**07 43 02.3**	**+3.4**	
	comp=Z,18nm,1.1s								
SHL	**Shillong**	**45.59**	**91**	*ex*	**P**		**07 43 07.0**	**+0.7**	
ZAK	**Zakamensk**	**45.62**	**53**	*eP*	**P**		**07 43 06.2**	**+0.1**	
ZAK				*e*			07 44 45.0		
ZAK				pmax	pmax				
	comp=Z,28nm,1.8s								
ZAK				pmax	pmax				
	comp=Z,13nm,1.3s								
TLY	**Talaya**	**45.62**	**52**	P	**P**		**07 43 06.7**	**+0.7**	
	comp=Z,5.7nm,0.7s,baz=260,slow=8.8,SNR=12								
TLY	**Talaya**	**45.62**	**52**	*eP*	**P**		**07 43 07.2**	**+1.2**	
TLY				*e*			07 44 47.1		
TLY				*eS*	**S**		**07 49 46.5**	**-1.9**	
TLY				*eSS*	**SS**		**07 53 10.1**	**-1.9**	
TLY				pmax	pmax				
	comp=Z,72nm,1.7s								
TLY				MLR	MLR				
	comp=Z,431nm,13.0s								
TLY	**Talaya**	**45.62**	**52**	*eP*	**P**		**07 43 07.8**	**+1.8**	
TLY	**Talaya**	**45.62**	**52**	*eP*	**P**		**07 43 07.8**	**+1.8**	
DAG	**Danmarks Havn**	**45.66**	**344**	*i P*	**P**		**07 43 06.5**	**+0.6**	
DAG				pmax	pmax				
	comp=Z,39nm,1.2s								
DAG				MLR	MLR				
	comp=Z,870nm,19.0s								
DAG	**Danmarks Havn**	**45.66**	**344**	*i P*	**P**		**07 43 06.5**	**+0.6**	
	comp=Z,25nm,1.2s								
	comp=Z,830nm,19.0s								
IRK	**Irkutsk**	**45.91**	**51**	*eP*	**P**		**07 43 07.4**	**-0.9**	
IRK				*e*			07 44 58.6		
IRK				pmax	pmax				
	comp=Z,142nm,1.6s								
GTA	**Gaotai**	**46.03**	**69**	P	**P**		**07 43 09.8**	**+0.3**	
GTA				pP	sP		07 43 18.4	+4.6	
GTA				sP	pP		07 43 21.8	+9.2	
GTA				PcP	**PcP**		**07 44 50.1**	**+4.1**	
GTA				ScP	**ScP**		**07 48 35.9**	**-3.2**	
GTA				S	**S**		**07 49 55.1**	**+0.3**	
GTA				sS	sS		07 50 07.3	+7.4	
GTA				SS	**SS**		**07 53 12.6**	**-6.9**	
GTA				PMZ					
	comp=Z,12nm,1.4s								
GTA				PMZ					
	comp=Z,250nm,5.3s								
GTA				LN					
	comp=Z,1µm,21.9s								
GTA				LE					
	comp=Z,1µm,20.0s								
GTA				LZ					
	comp=Z,870nm,13.3s								
SONA0	**Songino Array**	**48.18**	**56**	*eP*	**P**		**07 43 26.2**	**+0.1**	
	comp=Z,26nm,1.5s								
SONA0	**Songino Array**	**48.18**	**56**	*eP*	**P**		**07 44 54.2**	**+0.8**	
SONA0	**Songino Array**	**48.18**	**56**	*eP*	**P**		**07 43 26.2**	**+0.1**	
	comp=Z,28nm,1.5s								
SONA0				*eP*	**P**		**07 44 54.2**	**+0.8**	
SONM	**Songino Array**	**48.18**	**56**	P	**P**		**07 43 26.2**	**+0.1**	
	comp=Z,2.6nm,0.8s,baz=282,slow=7.6,SNR=20								
SONM				PcP	**PcP**		**07 44 54.2**	**+0.8**	
	comp=Z,5.1nm,1.0s,baz=271,slow=3.1,SNR=6.2								
SONM				LR	LR		08 06 14.6		
	comp=Z,5µm,18.6s,baz=290,slow=39								
SONA1	**Songino Array**	**48.18**	**56**	*eP*	**P**		**07 43 26.6**	**+0.4**	
SONA1	**Songino Array**	**48.18**	**56**	*eP*	**P**		**07 43 26.6**	**+0.4**	
ULN	**Ulaanbaatar**	**48.60**	**56**	*ceP*	**P**		**07 43 29.2**	**-0.2**	
ULN				pmax	pmax				
	comp=Z,107nm,1.7s								
ULN	**Ulaanbaatar**	**48.60**	**56**	P	**P**		**07 43 30.0**	**+0.6**	
	SNR=42								
ULN	**Ulaanbaatar**	**48.60**	**56**	P	**P**		**07 43 30.0**	**+0.6**	
	SNR=42								
ULN	**Ulaanbaatar**	**48.60**	**56**	P	**P**		**07 43 30.0**	**+0.6**	
	SNR=42								
ULN	**Ulaanbaatar**	**48.60**	**56**	*eP*	**P**		**07 43 30.6**	**+1.2**	
	comp=Z,102nm,1.4s								
SUMG	**Summit**	**50.16**	**337**	*i P*	**P**		**07 43 44.6**	**+3.3**	
SUMG				pmax	pmax				
	comp=Z,30nm,1.2s								
SUMG				MLR	MLR				
	comp=Z,840nm,16.0s								
SUMG	**Summit**	**50.16**	**337**	*i P*	**P**		**07 43 44.6**	**+3.3**	
	comp=Z,30nm,1.2s								
	comp=Z,840nm,16.0s								
SUMG	**Summit**	**50.16**	**337**	*eP*	**P**		**07 43 42.0**	**+0.7**	
	comp=Z,31nm,1.2s								
SUMG	**Summit**	**50.16**	**337**	*eP*	**P**		**07 43 42.0**	**+0.7**	
	comp=Z,31nm,1.2s								
LZH	**Lanzhou**	**50.21**	**72**	*eP*	**P**		**07 43 42.3**	**+0.4**	
LZH				pP	sP		07 43 47.0	+0.8	
LZH				sP	pP		07 43 49.3	+4.3	
LZH				PcP	**PcP**		**07 45 00.6**	**-0.4**	
LZH				PP	**PP**		**07 45 40.8**	**+3.8**	
LZH				*eS*	**S**		**07 50 52.0**	**-2.1**	
LZH				sS	sS		07 51 02.1	+2.9	
LZH				SS	**SS**		**07 54 22.1**	**-5.1**	
LZH				PMZ					
	comp=Z,110nm,1.3s								
LZH				PMZ					
	comp=Z,410nm,5.4s								
LZH				LN					
	comp=Z,960nm,14.2s								
LZH				LE					
	comp=Z,2µm,16.7s								
LZH				LZ					
	comp=Z,2µm,17.0s								
BOD	**Bodaibo**	**50.42**	**42**	*eP*	**P**		**07 43 42.0**	**-1.0**	
BOD				pmax	pmax				
	comp=Z,40nm,0.8s								
DBIC	**Dimbokro**	**51.14**	**243**	P	**P**		**07 43 47.1**	**-1.8**	
	comp=Z,28nm,0.7s,baz=18,slow=7.5,SNR=24								
DBIC				LR	LR		08 10 08.8		
	comp=Z,844nm,18.1s,baz=20,slow=42								
DBIC	**Dimbokro**	**51.14**	**243**	*eP*	**P**		**07 43 48.0**	**-0.9**	
DBIC				pmax	pmax				
	comp=Z,46nm,0.8s								
DBIC	**Dimbokro**	**51.14**	**243**	*eP*	**P**		**07 43 48.0**	**-0.9**	
	comp=Z,46nm,0.8s								
DBIC	**Dimbokro**	**51.14**	**243**	*eP*	**P**		**07 43 48.0**	**-0.9**	
	comp=Z,46nm,0.8s								
TIC	**Toumodi**	**51.27**	**243**	*eP*	**P**		**07 43 48.5**	**-1.4**	
KIC	**Kosan Boka**	**51.27**	**243**	*eP*	**P**		**07 43 48.8**	**-1.2**	
	comp=Z,241nm,1.1s								
LIC	**Lamto**	**51.57**	**243**	*eP*	**P**		**07 43 50.9**	**-1.3**	
	comp=Z,185nm,1.5s								
CD2	**Chengdu**	**52.33**	**78**	*eP*	**P**		**07 43 57.0**	**-0.8**	
CD2				pP	pP		07 44 00.3	-0.6	
CD2				PP	**PP**		**07 45 55.4**	**-0.8**	
CD2				PcS	**PcS**		**07 49 06.8**	**-0.6**	
CD2				S	**S**		**07 51 22.3**	**-1.1**	
CD2				sS	sS		07 51 27.8	-0.7	
CD2				SS	**SS**		**07 55 01.3**	**+0.5**	
CD2				PMZ					
	comp=Z,20nm,0.5s								
CD2				PMZ					
	comp=Z,180nm,5.4s								
CD2				LN					
	comp=Z,1µm,22.4s								
CD2				LE					
	comp=Z,1µm,23.4s								
CD2				LZ					
	comp=Z,890nm,16.4s								
TIXI	**Tiksi**	**53.71**	**23**	*c iP*	**P**		**07 44 07.5**	**+0.2**	
TIXI				pmax	pmax				
	comp=Z,34nm,1.7s								
TIXI				MLR	MLR				
	comp=Z,1µm,18.0s								
TIXI	**Tiksi**	**53.71**	**23**	*eP*	**P**		**07 44 07.1**	**-0.2**	
	comp=Z,78nm,1.9s								
TIXI	**Tiksi**	**53.71**	**23**	*eP*	**P**		**07 44 07.1**	**-0.2**	
	comp=Z,78nm,1.9s								
HHC	**Hu-ho-hao-te**	**53.94**	**63**	*eP*	**P**		**07 44 10.1**	**+0.5**	
HHC				S	**S**		**07 51 47.8**	**+2.6**	
HHC				PMZ					
	comp=Z,41nm,1.1s								
HHC				PMZ					
	comp=Z,310nm,6.6s								
HHC				LN					
	comp=Z,1µm,16.4s								
HHC				LE					
	comp=Z,1µm,16.3s								
HHC				LZ					
	comp=Z,1µm,16.4s								
KMI	**Kunming**	**54.32**	**85**	P	**P**		**07 44 11.8**	**-0.9**	
KMI				pP	pP		07 44 15.9	+0.1	
KMI				S	**S**		**07 51 47.8**	**-3.0**	
KMI				SS	**SS**		**07 55 31.6**	**-1.1**	
KMI				PMZ					
	comp=Z,26nm,1.6s								
KMI				LN					
	comp=Z,670nm,18.6s								
KMI				LE					
	comp=Z,630nm,16.3s								
KMI				LZ					
	comp=Z,590nm,23.8s								
LSZ	**Lusaka**	**54.60**	**194**	*eP*	**P**		**07 44 16.3**	**+1.8**	
LSZ				pmax	pmax				
	comp=Z,25nm,1.1s								
LSZ	**Lusaka**	**54.60**	**194**	*eP*	**P**		**07 44 16.3**	**+1.8**	
	comp=Z,25nm,1.1s								
LSZ	**Lusaka**	**54.60**	**194**	*eP*	**P**		**07 44 16.3**	**+1.8**	
	comp=Z,25nm,1.1s								
CHTO	**Chiang Mai**	**54.71**	**93**	P	**P**		**07 44 14.6**	**-0.7**	
	comp=Z,191nm,1.0s								
CHTO	**Chiang Mai**	**54.71**	**93**	*eP*	**P**		**07 44 14.3**	**-1.0**	
CHTO				pmax	pmax				
	comp=Z,40nm,1.5s								
CHTO	**Chiang Mai**	**54.71**	**93**	*eP*	**P**		**07 44 14.3**	**-1.0**	
	comp=Z,40nm,1.5s								
CMMT	**Chiang Mai**	**54.71**	**93**	P	**P**		**07 44 14.6**	**-0.7**	
	comp=Z,40nm,1.0s								
XAN	**Xi'an**	**54.84**	**72**	P	**P**		**07 44 15.6**	**-0.6**	
XAN				pP	sP		07 44 20.5	0.0	
XAN				PMZ					
	comp=Z,25nm,1.4s								
XAN				LN					
	comp=Z,850nm,21.8s								
XAN				LE					
	comp=Z,980nm,23.3s								
XAN				LZ					
	comp=Z,940nm,15.5s								
CMAR	**Chiang Mai Arr**	**54.91**	**94**	P	**P**		**07 44 14.6**	**-2.2**	
	comp=Z,8.7nm,1.0s,baz=300,slow=7.7,SNR=24								
CMAR				LR	LR		08 10 24.5		
	comp=Z,409nm,21.2s,baz=286,slow=39								
CM01	**Chiang Mai Arr**	**54.94**	**94**	*eP*	**P**		**07 44 15.3**	**-1.7**	
CM01	**Chiang Mai Arr**	**54.94**	**94**	*eP*	**P**		**07 44 15.3**	**-1.7**	
LAMP	**Lampang**	**55.41**	**93**	P	**P**		**07 44 20.4**	**0.0**	
	comp=Z,11nm,1.0s,comp=Z,91nm								
SUKH	**Sukhothai**	**56.00**	**94**	P	**P**		**07 44 25.2**	**+0.6**	
	comp=Z,5.7nm,1.1s								
UMPA	**Umpang Tak**	**56.13**	**96**	P	P		07 44 31.4	+5.8	
HIA	**Hailar**	**56.16**	**51**	*eP*	**P**		**07 44 25.8**	**+0.4**	
HIA				pmax	pmax				
	comp=Z,48nm,1.2s								
HIA	**Hailar**	**56.16**	**51**	*eP*	**P**		**07 44 25.8**	**+0.4**	
	comp=Z,48nm,1.2s								
HIA	**Hailar**	**56.16**	**51**	*eP*	**P**		**07 44 25.8**	**+0.4**	
	comp=Z,48nm,1.2s								
GYA	**Guiyang**	**56.70**	**81**	P	**P**		**07 44 31.0**	**+1.4**	
GYA				PP	**PP**		**07 46 38.6**	**+3.0**	
GYA				S	**S**		**07 52 20.8**	**-1.6**	
GYA				SS	**SS**		**07 56 08.9**	**-1.0**	
GYA				PMZ					
	comp=Z,20nm,1.0s								
GYA				PMZ					
	comp=Z,120nm,5.8s								
GYA				LN					
	comp=Z,540nm,17.8s								
GYA				LE					
	comp=Z,520nm,18.0s								
GYA				LZ					
	comp=Z,500nm,18.2s								
YAK	**Yakutsk**	**56.85**	**34**	*eP*	**P**		**07 44 30.5**	**+0.5**	
YAK				pmax	pmax				
	comp=Z,12nm,0.9s								
YAK				pmax	pmax				
	comp=E,14nm,1.9s								
YAK				pmax	pmax				
	comp=N,7.0nm,1.5s								
ENH	**Enshi**	**57.00**	**76**	*eP*	**P**		**07 44 30.9**	**-0.7**	
	comp=N,60nm,1.0s								
ENH	**Enshi**	**57.00**	**76**	*eP*	**P**		**07 44 30.9**	**-0.7**	
	comp=N,60nm,1.0s								
LOEI	**Loei**	**57.26**	**93**	P	**P**		**07 44 36.4**	**+2.8**	
	comp=N,10.0nm,1.1s								
SRDT	**SRDT**	**57.42**	**98**	P	P		07 44 39.5	+4.8	
	comp=N,111nm,1.0s								
BJI	**Beijing**	**57.48**	**62**	P	**P**		**07 44 33.8**	**-1.1**	
BJI				S	**S**		**07 52 30.5**	**-1.6**	
BJI				PMZ					
	comp=N,27nm,1.7s								
BJI				PMZ					
	comp=N,320nm,4.2s								
BJI				LN					
	comp=N,2µm,16.8s								
BJI				LE					
	comp=N,1µm,20.1s								
BJI				LZ					
	comp=N,820nm,25.7s								
BJT	**Baijiatuau**	**57.49**	**62**	*eP*	**P**		**07 44 37.4**	**+2.5**	
BJT	**Baijiatuau**	**57.49**	**62**	*eP*	**P**		**07 44 37.4**	**+2.5**	
PBKT	**Sadao Pong**	**57.56**	**94**	P	**P**		**07 44 35.3**	**-0.4**	
	comp=N,24nm,1.3s,comp=N,1µm								
ABPO	**Ambohimpanom**	**57.70**	**171**	*eP*	**P**		**07 44 37.5**	**+0.8**	
ABPO				pmax	pmax				
	comp=Z,18nm,1.1s								
ABPO	**Ambohimpanom**	**57.70**	**171**	*eP*	**P**		**07 44 37.5**	**+0.8**	
	comp=Z,18nm,1.1s								
ABPO	**Ambohimpanom**	**57.70**	**171**	*eP*	**P**		**07 44 37.5**	**+0.8**	
	comp=Z,18nm,1.1s								
NONG	**Nongkai**	**58.42**	**91**	P	**P**		**07 44 41.3**	**-0.4**	
	comp=Z,12nm,1.2s								
PHET	**Kaeng Krachan**	**58.68**	**99**	P	**P**		**07 44 46.8**	**+3.3**	
	comp=Z,10.0nm,1.0s								
CHAI	**Chaiyaphum**	**58.75**	**94**	P	P		07 44 48.9	+4.9	
	comp=Z,4.3nm,1.4s								
KHON	**Khomkaen**	**59.15**	**93**	P	**P**		**07 44 49.9**	**+3.1**	
	comp=Z,16nm,0.9s								
SKNT	**Sakolnakorn**	**59.69**	**92**	P	**P**		**07 44 49.6**	**-1.0**	
	comp=Z,28nm,1.4s								
WHN	**Wuhan**	**60.54**	**73**	*⇓iP*	**P**		**07 44 56.1**	**-0.1**	
WHN				pP	**sP**		**07 45 00.3**	**-0.3**	
WHN				S	**S**		**07 53 13.8**	**+1.8**	
WHN				PMZ					
	comp=Z,350nm,1.9s								
WHN				LZ					
	comp=Z,2µm,14.7s								
CN2	**Changchun**	**62.01**	**55**	*eP*	**P**		**07 45 04.8**	**-1.2**	
CN2				*eS*	**S**		**07 53 26.4**	**-4.1**	
CN2				PMZ					
	comp=Z,10.0nm,0.7s								
CN2				LN					
	comp=Z,3µm,

TJN Taejon 66.97 61 ⇓P P 07 45 38.7 +0.2
MA2 Magadan 67.04 31 ⇓/P P 07 45 39.4 +0.8
SCHQ Schefferville 67.81 323 P P 07 45 44.5 +0.9
comp=Z,9.9nm,0.8s,baz=45,slow=5.7,SNR=11
SCHQ Schefferville 67.81 323 eP P 07 45 44.5 +0.9
comp=Z,54nm,1.6s
SCHQ Schefferville 67.81 323 eP P 07 45 44.5 +0.9
comp=Z,54nm,1.6s
BOSA Boshof 68.15 194 P P 07 45 45.3 -0.7
comp=Z,6.5nm,0.7s,baz=16,slow=5.2,SNR=10
BOSA LR LR 08 16 57.3
comp=Z,831nm,20.3s,baz=22,slow=37
TYV Tymovskoe 68.42 42 eP P 07 45 49.0 +1.6
TYV pmax pmax
comp=Z,22nm,1.0s
TYV MLR MLR
comp=E,3µm,20.0s
TYV MLR MLR
comp=Z,2µm,18.0s
YSS Yuzh-Sakhalins 70.73 45 eP P 07 46 03.6 +1.8
YSS MLR MLR
comp=Z,700nm,19.0s
YSS Yuzh-Sakhalins 70.73 45 eP P 07 46 01.4 -0.4
comp=Z,90nm,1.5s
YSS Yuzh-Sakhalins 70.73 45 eP P 07 46 01.4 -0.4
comp=Z,90nm,1.5s
LMN Caledonia Moun 72.10 315 eP P 07 46 12.1 +2.0
comp=Z,21nm,1.0s
LMN Caledonia Moun 72.10 315 eP P 07 46 12.1 +2.0
comp=Z,21nm,1.0s
INK Inuvik 73.34 357 P P 07 46 17.4 +0.3
comp=Z,8.5nm,1.1s,baz=22,slow=4.4,SNR=6.8
INK Inuvik 73.34 357 eP P 07 46 16.6 -0.4
INK pmax pmax
comp=Z,13nm,1.1s
INK Inuvik 73.34 357 eP P 07 46 16.6 -0.4
comp=Z,13nm,1.1s
INK Inuvik 73.34 357 eP P 07 46 16.6 -0.4
comp=Z,13nm,1.1s
GGN Saint George 73.68 315 eP P 07 46 21.6 +2.2
comp=Z,13nm,0.9s
GGN Saint George 73.68 315 eP P 07 46 21.6 +2.2
comp=Z,13nm,0.9s
MJB9 Matsu-Tunnel 74.12 56 eP P 07 46 21.4 -0.9
comp=Z,9.2nm,1.3s
MJB9 Matsu-Tunnel 74.12 56 eP P 07 46 21.4 -0.9
comp=Z,9.2nm,1.3s
MAJO Matsushiro 74.13 56 ⇓/P P 07 46 23.9 +1.6
MAJO pmax pmax
comp=Z,90nm,1.0s
MAJO Matsushiro 74.13 56 eP P 07 46 21.4 -0.9
comp=Z,36nm,1.3s
MAJO Matsushiro 74.13 56 eP P 07 46 21.4 -0.9
comp=Z,36nm,1.3s
MAT Matsushiro 74.13 56 P P 07 46 22.1 -0.2
MAT S S 07 55 55.0 -0.4
MJAR Matsushiro Arr 74.13 56 P P 07 46 21.9 -0.4
comp=Z,14nm,1.0s,baz=307,slow=6.6,SNR=16
MJAR Matsushiro Arr 74.13 56 P P 07 46 21.9 -0.4
MJAR pmax pmax
comp=Z,13nm,0.9s
PEA1 Petropavlovsk- 74.18 34 eP P 07 46 22.7 +0.4
PEA1 Petropavlovsk- 74.18 34 eP P 07 46 22.7 +0.4
PETK Petropavlovsk- 74.19 34 P P 07 46 22.7 +0.4
comp=Z,3.5nm,0.9s,baz=275,slow=17,SNR=3.2
PETK LR LR 08 22 50.4
comp=Z,844nm,21.2s,baz=303,slow=39
COLD Coldfoot 74.29 4 eP P 07 46 23.2 +0.6
comp=Z,26nm,1.0s
COLD Coldfoot 74.29 4 eP P 07 46 23.2 +0.6
comp=Z,26nm,1.0s
PKME Peaks-Kenny Pk 74.93 316 eP P 07 46 26.9 +0.2
comp=Z,30nm,1.3s
PKME Peaks-Kenny Pk 74.93 316 eP P 07 46 26.9 +0.2
comp=Z,30nm,1.3s
MLY Manley 76.44 4 eP P 07 46 35.8 +0.7
comp=Z,15nm,0.9s
MLY Manley 76.44 4 eP P 07 46 35.8 +0.7
comp=Z,15nm,0.9s
MDM Murphy Dome 76.65 3 eP P 07 46 36.2 -0.1
comp=Z,63nm,1.6s
MDM Murphy Dome 76.65 3 eP P 07 46 36.2 -0.1
comp=Z,63nm,1.6s
COLA College 76.75 3 eP P 07 46 37.3 +0.6
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 76.75 3 eP P 07 46 37.3 +0.6
comp=Z,33nm,0.9s
COLA College 76.75 3 eP P 07 46 37.3 +0.6
comp=Z,33nm,0.9s
IL1 Eielson Array 76.89 3 eP P 07 46 37.2 -0.4
IL1 Eielson Array 76.89 3 eP P 07 46 37.2 -0.4
ILAR Eielson Array 76.89 3 P P 07 46 37.2 -0.4
comp=Z,3.2nm,0.9s,baz=299,slow=2.3,SNR=18
ILAR PP PP 07 49 38.3 +8.5
comp=Z,1.3nm,0.9s,baz=353,slow=7.1,SNR=5.0
ILAR LR LR 08 27 19.3
comp=Z,270nm,18.8s,baz=353,slow=41
ILB Eielson Array 76.89 3 eP P 07 46 37.5 -0.1
ILB Eielson Array 76.89 3 eP P 07 46 37.5 -0.1
CCB Clear Creek Bu 76.98 3 eP P 07 46 38.1 0.0
comp=Z,33nm,1.4s
CCB Clear Creek Bu 76.98 3 eP P 07 46 38.1 0.0
comp=Z,33nm,1.4s
EGAK Eagle 77.01 0 eP P 07 46 38.5 +0.3
comp=Z,15nm,0.9s
EGAK Eagle 77.01 0 eP P 07 46 38.5 +0.3
comp=Z,15nm,0.9s
WRH Wood River Hil 77.14 3 eP P 07 46 38.8 -0.2
comp=Z,46nm,1.7s
WRH Wood River Hil 77.14 3 eP P 07 46 38.8 -0.2
comp=Z,46nm,1.7s
YKA Yellowknife Ar 77.19 348 P P 07 46 38.8 -0.4
comp=Z,2.9nm,0.8s,baz=20,slow=6.1,SNR=19
YKA LR LR 08 22 26.4
comp=Z,61nm,21.0s,baz=0.0,slow=37
YKB5 Yellowknife Ar 77.19 348 eP P 07 46 38.8 -0.4
YKB5 Yellowknife Ar 77.19 348 eP P 07 46 38.9 -0.4
VLDQ Val d'Or 77.20 322 eP P 07 46 41.4 +1.8
comp=Z,17nm,1.0s
VLDQ Val d'Or 77.20 322 eP P 07 46 41.4 +1.8
comp=Z,17nm,1.0s
HDA Harding Lake 77.25 3 eP P 07 46 39.2 -0.4
comp=Z,18nm,0.8s
HDA Harding Lake 77.25 3 eP P 07 46 39.2 -0.4
comp=Z,18nm,0.8s
BPAW Bear Paw Mtn. 77.35 5 eP P 07 46 40.2 0.0
comp=Z,29nm,1.2s
BPAW Bear Paw Mtn. 77.35 5 eP P 07 46 40.2 0.0
comp=Z,29nm,1.2s
DAWY Dawson 77.72 360 eP P 07 46 42.8 +0.4
comp=Z,20nm,1.1s
DAWY Dawson 77.72 360 eP P 07 46 42.8 +0.4
comp=Z,20nm,1.1s
MCK McKinley 77.83 4 eP P 07 46 42.1 -0.8
MCK pmax pmax
comp=Z,18nm,1.0s
MCK McKinley 77.83 4 eP P 07 46 42.1 -0.8
comp=Z,18nm,1.0s
MCK McKinley 77.83 4 eP P 07 46 42.1 -0.8
comp=Z,18nm,1.0s
KTH Kantishna Hill 77.90 5 eP P 07 46 43.8 +0.5
comp=Z,23nm,0.8s
KTH Kantishna Hill 77.90 5 eP P 07 46 43.8 +0.5
comp=Z,23nm,0.8s
CAST Castle Rocks 77.95 5 eP P 07 46 43.7 +0.1
comp=Z,25nm,0.8s
CAST Castle Rocks 77.95 5 eP P 07 46 43.7 +0.1
comp=Z,25nm,0.8s
TRF Thorofare Moun 78.04 5 eP P 07 46 44.3 0.0
comp=Z,72nm,2.0s
TRF Thorofare Moun 78.04 5 eP P 07 46 44.3 0.0
comp=Z,72nm,2.0s
DOT Dot Lake 78.10 2 eP P 07 46 44.6 +0.1
comp=Z,59nm,1.0s
DOT Dot Lake 78.10 2 eP P 07 46 44.6 +0.1
comp=Z,59nm,1.0s
TT01 Tatalina 78.11 7 eP P 07 46 45.0 +0.5
TT01 Tatalina 78.11 7 eP P 07 46 45.0 +0.5
RND Reindeer 78.17 4 eP P 07 46 43.9 -0.9
RND pmax pmax
comp=Z,23nm,1.1s
RND Reindeer 78.17 4 eP P 07 46 43.9 -0.9
comp=Z,22nm,1.1s
RND Reindeer 78.17 4 eP P 07 46 43.9 -0.9
comp=Z,22nm,1.1s
LONY Lake Ozonia 78.18 318 eP P 07 46 45.2 0.0
comp=Z,20nm,1.3s
LONY Lake Ozonia 78.18 318 eP P 07 46 45.2 0.0
comp=Z,20nm,1.3s
PPLA Purkeypile 78.46 5 eP P 07 46 47.6 +1.0
comp=Z,17nm,1.2s
PPLA Purkeypile 78.46 5 eP P 07 46 47.6 +1.0
comp=Z,17nm,1.2s
DHY Denali Highway 78.57 3 eP P 07 46 48.3 +1.2
comp=Z,12nm,0.8s
DHY Denali Highway 78.57 3 eP P 07 46 48.3 +1.2
comp=Z,12nm,0.8s
MENT Mentasta 78.82 2 eP P 07 46 49.0 +0.6
comp=Z,34nm,1.4s
MENT Mentasta 78.82 2 eP P 07 46 49.0 +0.6
comp=Z,34nm,1.4s
SML Sawmill 79.79 4 eP P 07 46 53.9 +0.2
SML pmax pmax
comp=Z,33nm,0.9s
SML Sawmill 79.79 4 eP P 07 46 53.9 +0.2
comp=Z,33nm,0.9s
SML Sawmill 79.79 4 eP P 07 46 53.9 +0.2
comp=Z,33nm,0.9s
SCM Sheep Creek Mo 79.81 3 eP P 07 46 54.3 +0.4
SCM pmax pmax
comp=Z,27nm,0.9s
SCM Sheep Creek Mo 79.81 3 eP P 07 46 54.3 +0.4
comp=Z,27nm,0.9s
SCM Sheep Creek Mo 79.81 3 eP P 07 46 54.3 +0.4
comp=Z,27nm,0.9s
SVW2 Sparrevohn 79.93 7 eP P 07 46 55.3 +0.8
comp=Z,26nm,1.2s
SVW2 Sparrevohn 79.93 7 eP P 07 46 55.3 +0.8
comp=Z,26nm,1.2s
PMR Palmer 79.96 4 eP P 07 46 54.6 +0.1
PMR pmax pmax
comp=Z,80nm,1.8s
PMR Palmer 79.96 4 eP P 07 46 54.6 +0.1
comp=Z,80nm,1.8s
PMR Palmer 79.96 4 eP P 07 46 54.6 +0.1
comp=Z,80nm,1.8s
SUA Susitna One 79.98 5 eP P 07 46 56.1 +1.2
comp=Z,29nm,0.9s
SUA Susitna One 79.98 5 eP P 07 46 56.1 +1.2
comp=Z,29nm,0.9s
SPU Mount Spurr 80.17 6 eP P 07 46 56.3 +0.5
SPU Mount Spurr 80.17 6 eP P 07 46 56.3 +0.5
KLU Klutina 80.21 3 eP P 07 46 56.3 +0.3
comp=Z,30nm,1.1s
KLU Klutina 80.21 3 eP P 07 46 56.3 +0.3
comp=Z,30nm,1.1s
RC01 Rabbit Creek A 80.42 5 eP P 07 46 57.5 +0.4
comp=Z,19nm,0.8s
RC01 Rabbit Creek A 80.42 5 eP P 07 46 57.5 +0.4
comp=Z,19nm,0.8s
DIV Divide 80.58 3 eP P 07 46 58.5 +0.5
comp=Z,16nm,0.9s
DIV Divide 80.58 3 eP P 07 46 58.5 +0.5
comp=Z,16nm,0.9s
BALM Baldy 80.76 1 eP P 07 47 00.2 +1.2
BALM pmax pmax
comp=Z,59nm,1.7s
BALM Baldy 80.76 1 eP P 07 47 00.2 +1.2
comp=Z,59nm,1.7s
BALM Baldy 80.76 1 eP P 07 47 00.2 +1.2
comp=Z,59nm,1.7s
BMRM Brenner River 80.78 2 eP P 07 47 02.5 +3.5
comp=Z,11nm,1.0s
EYAK Cordova Ski Ar 81.16 3 eP P 07 47 01.8 +0.8
comp=Z,25nm,1.0s
EYAK Cordova Ski Ar 81.16 3 eP P 07 47 01.8 +0.8
comp=Z,25nm,1.0s
SEW Seward 81.42 5 eP P 07 47 01.5 -0.9
comp=Z,27nm,1.2s
SEW Seward 81.42 5 eP P 07 47 01.5 -0.9
comp=Z,27nm,1.2s
FFC Flin Flon 81.43 339 eP P 07 47 03.0 +0.4
FFC pmax pmax
comp=Z,20nm,1.3s
FFC Flin Flon 81.43 339 eP P 07 47 03.0 +0.4
comp=Z,20nm,1.3s
FFC Flin Flon 81.43 339 eP P 07 47 03.0 +0.4
comp=Z,20nm,1.3s
PCA Pinnacle 81.71 360 eP P 07 47 04.5 +0.4
comp=Z,38nm,1.0s
PCA Pinnacle 81.71 360 eP P 07 47 04.5 +0.4
comp=Z,38nm,1.0s
SKAG Skagway 82.26 357 eP P 07 47 06.5 -0.4
comp=Z,17nm,1.1s
SKAG Skagway 82.26 357 eP P 07 47 06.5 -0.4
comp=Z,17nm,1.1s
SSPA Standing Stone 82.70 317 eP P 07 47 10.8 +1.3
comp=Z,24nm,1.3s
SSPA Standing Stone 82.70 317 eP P 07 47 10.8 +1.3
comp=Z,24nm,1.3s
DLBC Dease Lake 82.99 355 eP P 07 47 11.4 +0.6
comp=Z,18nm,1.4s
DLBC Dease Lake 82.99 355 eP P 07 47 11.4 +0.6
comp=Z,18nm,1.4s
M54A Oil Creek Stat 83.01 319 P P 07 47 09.9 -1.2
baz=43
ULM Lac du Bonnet 83.29 333 P P 07 47 12.1 -0.3
comp=Z,4.7nm,0.7s,baz=49,slow=4.2,SNR=4.0
ULM LR LR 08 24 51.7
comp=Z,278nm,21.1s,baz=31,slow=36
O56A Blue Knob Stat 83.33 317 P P 07 47 13.9 +1.1
baz=44
KDAK Kodiak Island 83.49 7 /P P 07 47 14.6 +1.4
KDAK Kodiak Island 83.49 7 eP P 07 47 15.0 +1.8
comp=Z,29nm,0.9s
KDAK Kodiak Island 83.49 7 eP P 07 47 15.0 +1.8
comp=Z,29nm,0.9s
C37A Embarrass 83.97 330 P P 07 47 17.2 +1.3
baz=36
OHAK Old Harbor 83.97 7 eP P 07 47 14.6 -1.1
comp=Z,37nm,1.1s
OHAK Old Harbor 83.97 7 eP P 07 47 14.6 -1.1
comp=Z,37nm,1.1s
COWI Conover 84.02 327 eP P 07 47 18.1 +1.9
comp=Z,35nm,1.0s
COWI Conover 84.02 327 eP P 07 47 18.1 +1.9
comp=Z,35nm,1.0s
B35A Bob, Littlefor 84.06 331 P P 07 47 13.0 -3.4
baz=35
A33A Warroad 84.21 332 P P 07 47 14.0 -3.1
baz=34
C36A Pine Crest Far 84.21 330 P P 07 47 13.0 -4.2
baz=35
B34A Aery, Baudette 84.31 331 P P 07 47 16.3 -1.3
baz=34
A32A Rocking H Ranc 84.63 333 P P 07 47 19.0 -0.3
baz=33
D36A Goodland 84.81 330 P P 07 47 19.9 -0.3
baz=35
B32A Ashes, Strandq 85.08 332 P P 07 47 21.5 0.0
baz=33
WRAK Wrangell Islan 85.15 356 eP P 07 47 21.8 +0.1
comp=Z,28nm,1.7s
WRAK Wrangell Islan 85.15 356 eP P 07 47 21.8 +0.1
comp=Z,28nm,1.7s
A30A Hoffart Farm, 85.25 334 P P 07 47 21.8 -0.6
baz=32
C33A Trail 85.33 332 P P 07 47 22.5 -0.3
baz=33
E36A McGregor 85.38 329 P P 07 47 24.6 +1.5
baz=35
KAPI Kappang 85.42 100 eP P 07 47 22.9 -0.8
comp=Z,101nm,1.4s
KAPI Kappang 85.42 100 eP P 07 47 22.9 -0.8
comp=Z,101nm,1.4s
A29A Manning Farm, 85.58 334 P P 07 47 24.5 +0.4
baz=31
ACSO Alum Creek Sta 85.65 320 eP P 07 47 23.9 -0.6
ACSO Alum Creek Sta 85.65 320 eP P 07 47 23.9 -0.6
B30A Myrvik Farm, E 85.67 333 P P 07 47 23.4 -1.1
baz=32
D34A Park Rapids 85.67 331 P P 07 47 25.5 +1.0
baz=34
A28A Rude Farm, Bot 85.94 335 P P 07 47 26.2 +0.3
baz=30
C31A Landman Farms, 86.02 333 P P 07 47 26.2 0.0
baz=32
F36A Milaca 86.03 329 P P 07 47 26.4 +0.1
baz=35
SPMN Marine on St. 86.26 328 P P 07 47 28.3 +0.9
baz=35
SPMN Marine on St. 86.26 328 eP P 07 47 27.3 -0.2
comp=Z,20nm,1.1s
SPMN Marine on St. 86.26 328 eP P 07 47 27.3 -0.2
comp=Z,20nm,1.1s
B28A Dugan Ranch, T 86.37 335 P P 07 47 28.3 +0.3
baz=30
A26A Wade Farm, Ken 86.53 336 P P 07 47 29.0 +0.2
baz=29
D30A Buchanan 86.97 333 P P 07 47 30.8 -0.2
baz=31
C28A Hausauer Farms 87.01 334 P P 07 47 31.3 +0.2
baz=30
E31A Nome 87.12 332 P P 07 47 31.8 +0.1
baz=32
F33A 5 Mile Ranch, 87.13 331 P P 07 47 31.5 -0.3
baz=33
G34A Benson 87.38 330 P P 07 47 32.3 -0.6
baz=33
I37A Lemond, Waseca 87.49 328 P P 07 47 35.2 +1.7
baz=35
H35A Sunnyside Ranc 87.51 329 P P 07 47 34.0 +0.4
baz=34
L41A Preston 87.81 325 P P 07 47 35.0 -0.1
baz=37
L40A Anamosa 88.14 326 P P 07 47 35.1 -1.6
baz=36
OLIL Olney 89.34 322 eP P 07 47 44.6 +2.3
comp=Z,17nm,0.9s
OLIL Olney 89.34 322 eP P 07 47 44.6 +2.3
comp=Z,17nm,0.9s
LAO LASA Array 89.80 337 eP P 07 47 45.9 +1.4
comp=Z,32nm,1.2s
LAO LASA Array 89.80 337 eP P 07 47 45.9 +1.4
comp=Z,32nm,1.2s
GOGA Godfrey 91.02 315 eP P 07 47 52.2 +1.9
GOGA pmax pmax
comp=Z,17nm,1.5s
GOGA Godfrey 91.02 315 eP P 07 47 52.2 +1.9
comp=Z,17nm,1.5s
GOGA Godfrey 91.02 315 eP P 07 47 52.1 +1.9
comp=Z,17nm,1.5s
NEW Newport 91.12 345 P P 07 47 48.5 -2.1
baz=18
S43A Fulton Ridge, 91.21 322 P P 07 47 49.5 -1.6
baz=37
RSSD Black Hills 91.39 335 P P 07 47 50.4 -1.7
baz=28
RSSD Black Hills 91.39 335 eP P 07 47 52.0 -0.1
RSSD pmax pmax
comp=Z,25nm,1.7s
RSSD Black Hills 91.39 335 eP P 07 47 52.0 -0.1
comp=Z,25nm,1.7s
RSSD Black Hills 91.39 335 eP P 07 47 52.0 -0.1
comp=Z,25nm,1.7s
CHMT Chamberlain Mo 91.52 342 eP P 07 47 53.0 +0.3
CHMT Chamberlain Mo 91.52 342 eP P 07 47 53.0 +0.3
P37A Lathrop 91.53 326 P P 07 47 51.7 -0.9
baz=34
R40A Maddies Statio 91.66 324 P P 07 47 50.2 -3.0
baz=36
Q38A Cooks Store, C 91.72 325 P P 07 47 53.2 -0.3
baz=35
MSO Missoula 91.77 342 P P 07 47 53.4 -0.3
baz=20
MSO Missoula 91.77 342 eP P 07 47 56.9 +3.2
comp=Z,6.0nm,1.0s
P36A Good Intent, A 91.88 327 P P 07 47 54.1 0.0
baz=34
S41A Jillco Farms, 91.99 323 P P 07 47 53.9 -0.8
baz=36
PBMO Poplar Bluff 92.01 322 eP P 07 47 56.4 +1.6
comp=Z,21nm,1.1s
PBMO Poplar Bluff 92.01 322 eP P 07 47 56.4 +1.6
comp=Z,21nm,1.1s
RLMT Red Lodge 92.12 339 eP P 07 47 57.1 +1.6
RLMT Red Lodge 92.12 339 eP P 07 47 57.1 +1.6
P35A Duane Minner, 92.30 327 P P 07 47 56.3 +0.2
baz=33
T41A Mountain View 92.43 323 P P 07 47 55.3 -1.5
baz=36
P34A Walnut Farm, R 92.62 328 P P 07 47 56.6 -1.1
baz=33
S39A Bolivar 92.63 324 P P 07 47 57.1 -0.5
baz=35
T40A Mansfield 92.70 324 P P 07 47 57.0 -1.0
baz=36
U42A Reveden 92.74 322 P P 07 47 56.8 -1.3
baz=36
S38A Stockton 92.95 325 P P 07 47 57.7 -1.4
baz=35
Q34A Chapman 93.20 328 P P 07 47 59.9 -0.3
baz=32
S37A Fort Scott 93.25 325 P P 07 47 59.0 -1.5
baz=34
U40A Yellville 93.50 323 P P 07 48 01.8 +0.1
baz=35
Q33A Connelly Farm, 93.51 328 P P 07 48 01.5 -0.2
baz=32
K22A Casper 93.52 336 P P 07 48 00.6 -1.4
baz=26
K22A Casper 93.52 336 eP P 07 48 02.3 +0.4
comp=Z,8.6nm,0.9s
K22A Casper 93.52 336 eP P 07 48 02.3 +0.4
comp=Z,8.6nm,0.9s
Y46A Houston 93.52 319 P P 07 48 00.6 -1.2
baz=38
T38A Diamond 93.61 325 P P 07 48 00.7 -1.6
baz=34
S36A Lake Cedric, C 93.62 326 P P 07 48 01.0 -1.2
baz=34
V41A Mountainview 93.64 323 P P 07 48 00.9 -1.4
baz=36
U39A Green Forest 93.77 324 P P 07 48 00.3 -2.7
baz=35
T37A Cheneyville 18 93.82 325 P P 07 48 00.1 -3.0
baz=34
R34A Isabella, Hill 93.85 327 P P 07 48 02.3 -1.0
baz=32
FXWY Fox Creek 93.98 339 eP P 07 48 04.5 +0.4
comp=Z,12nm,1.5s
FXWY Fox Creek 93.98 339 eP P 07 48 04.5 +0.4
comp=Z,12nm,1.5s
WHAR Wooly Hollow 94.10 322 eP P 07 48 05.2 +0.7
comp=Z,12nm,1.0s
WHAR Wooly Hollow 94.10 322 eP P 07 48 05.2 +0.7
comp=Z,12nm,1.0s
X201 Greenbrier Sit 94.13 322 eP P 07 48 05.5 +0.9
comp=Z,13nm,1.1s
X201 Greenbrier Sit 94.13 322 eP P 07 48 05.5 +0.9
comp=Z,13nm,1.1s
W41B Gary Mavity, V 94.17 322 P P 07 48 03.1 -1.7
baz=36
REDW Red Top Meadow 94.19 339 eP P 07 48 03.8 -1.2
comp=Z,7.9nm,1.2s
REDW Red Top Meadow 94.19 339 eP P 07 48 03.8 -1.2
comp=Z,7.9nm,1.2s
T36A Boggs Farm, Ca 94.30 326 P P 07 48 01.8 -3.5
baz=33
BW06 Boulder Array 94.36 338 eP P 07 48 07.3 +1.5
BW06 Boulder Array 94.36 338 eP P 07 48 07.3 +1.5
PDAR Pinedale Array 94.36 338 P P 07 48 06.8 +0.9
comp=Z,0.3nm,0.4s,baz=72,slow=5.9,SNR=3.3
PDAR LR LR 08 34 42.8
comp=Z,419nm,18.3s,baz=30,slow=38
BMO Blue Mountains 94.41 344 eP P 07 48 06.6 +0.7
BMO Blue Mountains 94.41 344 eP P 07 48 06.6 +0.7
BMO Blue Mountains 94.41 344 eP P 07 48 06.6 +0.7
T34A McClaskey Farm 94.90 327 P P 07 48 05.7 -2.5
baz=32
N23A Red Feather La 94.91 335 P P 07 48 05.9 -2.5
baz=26
N23A Red Feather La 94.91 335 eP P 07 48 08.0 -0.5
comp=Z,7.7nm,1.0s
N23A Red Feather La 94.91 335 eP P 07 48 08.0 -0.5
comp=Z,7.7nm,1.0s
TUL1 Leonard 95.22 325 P P 07 48 07.8 -1.8
baz=33
MIAR Mount Ida 95.32 323 P P 07 48 08.8 -1.3
baz=35
MIAR Mount Ida 95.32 323 eP P 07 48 09.8 -0.3
MIAR Mount Ida 95.32 323 eP P 07 48 09.8 -0.3
MIAR Mount Ida 95.32 323 eP P 07 48 09.8 -0.3
MFID Camas Ranch 95.43 342 eP P 07 48 11.0 +0.4
comp=Z,5.8nm,1.2s
MFID Camas Ranch 95.43 342 eP P 07 48 11.0 +0.4
comp=Z,5.8nm,1.2s
HWUT Hardware Ranch 96.01 339 eP P 07 48 12.7 -0.6
comp=Z,19nm,1.8s
HWUT Hardware Ranch 96.01 339 eP P 07 48 12.7 -0.6
comp=Z,19nm,1.8s
TXAR Lajitas Array 104.26 327 PP PP 07 53 20.4 +13

comp=Z,0.7nm,1.0s,baz=43,slow=5.7,SNR=4.1
WRAB Tennant Creek 105.74 103 *e*P **Pdif 07 48 54.4 -2.4**
WRAB Tennant Creek 105.74 103 *e*Pdif **Pdif 07 48 54.4 -2.4**
SYO Syowa Base 107.24 180‖*e*X **Pdif 07 49 10.0 +7.8**
ASAR Alice Springs 107.55 106 PKiKP **PKiKP 07 53 14.3 +1.3**
comp=Z,0.5nm,0.8s,baz=311,slow=1.3,SNR=5.8
STKA Stephens Creek 117.69 110 PKP **PKPdf 07 53 31.8 -0.3**
comp=Z,1.3nm,0.8s,baz=329,slow=5.3,SNR=5.6
STKA Stephens Creek 117.69 110 *e*PKiKP **PKPdf 07 53 31.3 -0.7**
STKA Stephens Creek 117.69 110 *e*PKPdf **PKPdf 07 53 31.3 -0.7**
PLCA Paso Flores 127.50 244 PKP **PKPdf 07 53 52.0 +1.3**
comp=Z,5.1nm,0.9s,baz=178,slow=3.3,SNR=3.0
QSPA South Pole Qui 128.38 180 *e*PKPdf **PKPdf 07 53 51.2 -0.3**
DZM Mont Dzumac 131.90 86 *e*LR LR 08 35 57.9
comp=Z,586nm,24.7s
THZ Tophouse 144.50 110 *e*PKPdf **PKPdf 07 54 21.1 -0.9**
URZ Urewera 146.91 103 PKPbc **PKPbc 07 54 27.5 -0.6**
baz=212,slow=2.3
TAOE Nuku Hiva Isla 150.44 360 *e*LR LR 08 44 24.8
comp=Z,335nm,23.2s
PPT2 Papeete2 157.63 24 *e*LR LR 08 47 56.2
comp=Z,340nm,24.2s
TBI Tubuai 162.99 30 *e*LR LR 08 50 14.6
comp=Z,423nm,28.2s
RKT Rikitea 163.94 342 *e*LR LR 08 50 49.3
comp=Z,533nm,28.0s

IDC ***23*** *08:09:28.0±1.4, 36.°95N×140.°62E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/26, mbtmp3.5/3, Error ellipse: s-maj=28.9km s-min=23.7km az=138.0*
ISCJB ***23*** *08:09:29.6±0.5, 36.°99N±0.°03×140.°57E±0.°04, h16km±7km, mb3.5/3, Error ellipse: s-maj=6.3km s-min=5.1km az=39.2*
JMA ***23*** *08:09:29.7, 37.°00N×140.°51E, h5km±2km, M3.5 Broadband fault plane solution: P waves. NP1: ϕs136.00000°, δ52.00000°, λ-79.00000°. NP2: ϕs298.00000°, δ39.00000°, λ-104.00000°. Principal axes: T Plg7.0000°, Azm218.0000°; N Plg9.0000°, Azm309.0000°; P Plg79.0000°, Azm90.0000°;*
JMA Felt II J1.
ISC 23 08:09:29.4±1.1, 37.°00N±0.°04×140.°54E±0.°03, h13km±9km, n12, σ0.°87/21, mb3.3/3, 6C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.23**	**64**	⇑P	**Pb**	**08 09 34.9**	**-0.7**
ONAJ				S	**Sb**	**08 09 38.7**	**-1.1**
JHO	**Hitachi**	**0.39**	**176**	⇑P	**Pg**	**08 09 37.2**	**0.0**
JHO				S	**Sg**	**08 09 42.6**	**+0.1**
JFK	**Kawauchi**	**0.46**	**36**	⇑P	**Pg**	**08 09 38.7**	**+0.2**
JFK				S	**Sg**	**08 09 45.2**	**+0.6**
JSB	**Shiboa**	**0.49**	**266**	⇑P	**Pb**	**08 09 39.6**	**-0.5**
JSB				S	**Sg**	**08 09 46.5**	**+0.7**
JFT	**Otama**	**0.54**	**343**	⇑P	**Pb**	**08 09 40.1**	**-0.8**
JFT				S	**Sb**	**08 09 47.4**	**-1.2**
JFY	**Yanaizu**	**0.78**	**302**	⇑P	**Pb**	**08 09 44.3**	**-0.6**
JFY				S	**Sb**	**08 09 54.2**	**-1.2**
JMM	**Marumori**	**0.89**	**13**	P	**Pb**	**08 09 46.1**	**-0.7**
JMM				S	**Sb**	**08 09 57.7**	**-0.8**
MJAR	**Matsushiro Arr**	**1.92**	**257**	Pn	**Pb**	**08 10 03.1**	**-1.3**
	9.5nm,0.3s,baz=74,slow=12,SNR=61						
MJAR				Sn	**Sb**	**08 10 27.5**	**-0.9**
	26nm,0.3s,baz=76,slow=24,SNR=19						
MAT	**Matsushiro**	**1.93**	**257**	P	**Pb**	**08 10 03.5**	**-0.9**
MAT				S	**Sb**	**08 10 28.6**	**+0.2**
MKAR	**Makanchi Array**	**43.54**	**302**	P	**P**	**08 17 34.1**	**+1.2**
	0.4nm,0.7s,baz=92,slow=7.3,SNR=3.9						
ILAR	**Eielson Array**	**49.90**	**32**	P	**P**	**08 18 22.9**	**+0.5**
	0.3nm,0.8s,baz=269,slow=5.4,SNR=2.9						
WRA	**Warramunga Arr**	**56.94**	**187**	P	**P**	**08 19 14.4**	**0.0**
	1.2nm,0.8s,baz=2.8,slow=7.4,SNR=6.9						

ISK ***23*** *08:19:11.6, 38.°60N×39.°68E, h5km, ML2.2*
CSEM ***23*** *08:19:12.6±0.4, 38.°58N×39.°71E, h2km, ML2.2, Error ellipse: s-maj=8.3km s-min=5.9km az=92.0*
ISCJB ***23*** *08:19:13.0±1.1, 38.°59N±0.°04×39.°68E±0.°08, h11km, Error ellipse: s-maj=8.8km s-min=5.4km az=13.6*
DDA ***23*** *08:19:16.8, 38.°79N×39.°29E, h7km, Md2.5*
ISC 23 08:19:12.9±1.2, 38.°61N±0.°03×39.°69E±0.°05, h11km, n10, σ0.°77/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.37**	**321**	*e*PG	**Pg**	**08 19 19.4**	**-1.0**
PTK				*e*SG	**Sg**	**08 19 26.7**	**+1.3**
PTK	**Pertek**	**0.37**	**321**	*e*Pg	**Pg**	**08 19 19.4**	**-1.0**
PTK				*e*Sg	**Sg**	**08 19 26.7**	**+1.3**
SVRC	**Sivrice-ELAZID**	**0.38**	**233**	*e*PG	**Pg**	**08 19 20.1**	**-0.4**
SVRC				*e*SG	**Sg**	**08 19 26.1**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.38**	**233**	*e*Pg	**Pg**	**08 19 20.1**	**-0.4**
SVRC				*e*Sg	**Sg**	**08 19 26.1**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.52**	**347**	P	**Pb**	**08 19 24.0**	**-0.2**
TNCL				S	**Sg**	**08 19 31.1**	**+1.0**
TNCL	**Tunceli-Merkez**	**0.52**	**347**	*i* P	**Pb**	**08 19 24.0**	**-0.2**
TNCL				*i* S	**Sg**	**08 19 31.1**	**+1.0**
ELZG	**Elazig**	**0.56**	**259**	P	**Pg**	**08 19 23.8**	**-0.1**
ELZG				S	**Sg**	**08 19 31.6**	**+0.2**
ELZG	**Elazig**	**0.56**	**259**	*i* P	**Pg**	**08 19 23.8**	**-0.1**
ELZG				*i* S	**Sg**	**08 19 31.6**	**+0.2**
MAZI	**Mazidag**	**1.29**	**152**	*e*PN	**Pg**	**08 19 37.4**	**-0.3**
MAZI	**Mazidag**	**1.29**	**152**	*e*Pn	**Pg**	**08 19 37.4**	**-0.3**

JMA ***23*** *08:22:24.7±0.1, 39.°94N×142.°48E, h35km±1km, M4.0*
JMA Felt II J1.
IDC ***23*** *08:22:29.5±2.7, 39.°84N×142.°39E, h81km±23km, mb3.6/13, mb1 3.8/15, mb1mx3.6/50, mbtmp4.0/15, Error ellipse: s-maj=21.3km s-min=15.0km az=107.0*
ISC 23 08:22:21.7±1.5, 39.°95N±0.°04×142.°67E±0.°06, h16km±9km, n26, σ1.°50/37, mb4.0/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.62**	**269**	P	**Pg**	**08 22 35.0**	**+1.1**
JTH				S	**Sg**	**08 22 42.4**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.76**	**240**	P	**Pg**	**08 22 36.8**	**+0.4**
MIYJ				S	**Sg**	**08 22 45.4**	**-1.0**
JANG	**Nango**	**0.98**	**296**	P	**Pb**	**08 22 40.1**	**-0.2**
JANG				*e*S	**Sb**	**08 22 50.6**	**-2.4**
JKZ	**Kuzumaki**	**1.03**	**272**	P	**Pb**	**08 22 41.3**	**+0.1**
JKZ				S	**Sb**	**08 22 52.5**	**-1.9**
JOM	**Ohasama**	**1.17**	**246**	P	**Pn**	**08 22 43.1**	**-0.2**
JOM				S	**Sb**	**08 22 56.5**	**-1.8**
OFUJ	**Ofunato**	**1.17**	**222**	P	**Pn**	**08 22 43.4**	**+0.1**
OFUJ				S	**Sb**	**08 22 57.0**	**-1.3**
JTM	**Tenmabayashi**	**1.48**	**305**	P	**Pn**	**08 22 48.3**	**+0.7**
JTM				S	**Sn**	**08 23 05.7**	**-0.9**
JMK	**Ichinoseki**	**1.50**	**229**	P	**Pn**	**08 22 48.4**	**+0.4**
JMK				S	**Sn**	**08 23 06.0**	**-1.2**
JAH	**Hinai**	**1.58**	**279**	P	**Pn**	**08 22 49.5**	**+0.5**
JAH				S	**Sn**	**08 23 08.3**	**-0.8**
JRG	**Rokugo**	**1.67**	**251**	P	**Pn**	**08 22 51.1**	**+0.9**
JRG				*e*S	**Sn**	**08 23 11.6**	**+0.4**
ASAJ	**Asahikawa**	**4.16**	**359**	P	**Pb**	**08 23 30.7**	**-3.8**
	baz=356,slow=0.0						
ASAJ				S	**Sb**	**08 24 22.4**	**-2.1**
	5.8nm,0.3s,baz=288,slow=20,SNR=3.8						
USRK	**Ussuriysk Ar.**	**9.00**	**302**	P	**Pn**	**08 24 34.8**	**+3.8**
	1.2nm,0.3s,baz=112,slow=14,SNR=14						
SEY	**Seymchan**	**23.74**	**11**	P	**P**	**08 27 34.2**	**+1.4**
	1.6nm,0.6s,baz=159,slow=3.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**40.74**	**310**	P	**P**	**08 30 01.1**	**-0.4**
	1.5nm,0.4s,baz=90,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**43.47**	**300**	P	**P**	**08 30 23.6**	**-0.3**
	1.0nm,0.4s,baz=87,slow=11,SNR=12						
ILAR	**Eielson Array**	**46.51**	**34**	P	**P**	**08 30 49.6**	**+1.7**
	0.4nm,0.5s,baz=261,slow=5.9,SNR=7.5						
BVAR	**Borovoye Array**	**49.38**	**311**	P	**P**	**08 31 09.7**	**-0.5**
	0.9nm,0.4s,baz=90,slow=9.5,SNR=5.7						
INK	**Inuvik**	**51.35**	**28**	P	**P**	**08 31 26.9**	**+2.1**
	1.5nm,0.8s,baz=278,slow=6.4,SNR=7.5						
WRA	**Warramunga Arr**	**60.09**	**189**	P	**P**	**08 32 27.1**	**-1.0**
	4.0nm,0.7s,baz=6.3,slow=7.3,SNR=34						
YKA	**Yellowknife Ar**	**60.80**	**31**	P	**P**	**08 32 33.9**	**+1.4**
	0.4nm,0.8s,baz=292,slow=5.3,SNR=3.4						
ASAR	**Alice Springs**	**63.82**	**189**	P	**P**	**08 32 52.6**	**-0.5**
	1.6nm,0.8s,baz=0.5,slow=6.0,SNR=12						
HFS	**Hagfors**	**71.83**	**336**	P	**P**	**08 33 43.3**	**+0.1**
	0.9nm,0.3s,baz=26,slow=6.9,SNR=6.9						
NOA	**NORSAR Array B**	**71.88**	**337**	P	**P**	**08 33 43.4**	**-0.2**
	0.5nm,0.6s,baz=27,slow=2.7,SNR=3.5						
AKASG	**Malin Array Be**	**72.59**	**322**	P	**P**	**08 33 47.4**	**-0.5**
	0.8nm,0.4s,baz=49,slow=6.3,SNR=3.2						
TXAR	**Lajitas Array**	**87.57**	**53**	P	**P**	**08 35 10.6**	**+1.3**
	0.1nm,0.4s,baz=297,slow=4.2,SNR=5.5						
TORD	**Torodi Ar. Bea**	**115.92**	**317**	PKP	**PKPdf**	**08 41 02.0**	**-2.1**
	1.4nm,1.2s,baz=174,slow=1.4,SNR=2.8						

NIED ***23*** *08:22:00, 37.°10N×141.°20E, h11km, Mw4.7 Best double couple: M0 1.32000×10^16 NP1:ϕs108.00000°, δ53.00000°, λ-176.00000°. NP2:ϕs15.00000°, δ87.00000°, λ-37.00000°.*
MOS ***23*** *08:22:46.8±0.9, 37.°00N×141.°04E, h40km, mb4.8/44, Error ellipse: s-maj=10.2km s-min=5.7km az=109.1*
NEIC ***23*** *08:22:48.9±0.3, 37.°22N×141.°13E, h35km, mb4.7/34, Error ellipse: s-maj=8.6km s-min=5.2km az=155.0*
NEIC Felt at Ichinoseki and Niiza. Recorded [2 JMA] in Aomori and Iwate.
ISCJB ***23*** *08:22:48.5±0.4, 37.°03N±0.°02×141.°21E±0.°04, h55km±2km, mb4.6/78, MS3.8/5, Error ellipse: s-maj=5.2km s-min=3.7km az=31.4*
JMA ***23*** *08:22:49.3±0.1, 37.°07N×141.°17E, h50km±1km, M4.5*
JMA Felt IV J1.
BJI ***23*** *08:22:49.0, 36.°96N×141.°08E, h65km, mb4.7/47, mB5.0/25, Ms4.4/16, Ms7 4.3/13*
IDC ***23*** *08:22:49.7±0.4, 37.°01N×141.°25E, h54km±3km, mb4.2/28, mb1 4.3/33, mb1mx4.2/53, mbtmp4.4/33, MS3.6/4, Ms1 3.6/4, ms1mx3.2/37, Error ellipse: s-maj=10.0km s-min=7.1km az=139.0*
ISC 23 08:22:49.3±0.4, 36.°99N±0.°04×141.°25E±0.°04, h53km±3km, h52km:pP-P, n224, σ1.°49/272, mb4.6/78, MS3.9/5, 12C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**287**	P	**Pn**	**08 22 58.4**	**-1.1**
ONAJ				*i* S	**Sn**	**08 23 04.8**	**-2.0**
JFK	**Kawauchi**	**0.48**	**321**	P	**Pn**	**08 22 59.0**	**-1.6**
JFK				*i* S	**Sn**	**08 23 05.9**	**-2.8**
JHO	**Hitachi**	**0.67**	**236**	P	**Pn**	**08 23 02.1**	**-0.6**
JHO				S	**Sn**	**08 23 11.2**	**-1.3**
JFT	**Otama**	**0.90**	**306**	P	**Pn**	**08 23 05.3**	**-0.5**
JFT				S	**Sn**	**08 23 16.7**	**-1.2**
JMM	**Marumori**	**0.95**	**338**	P	**Pn**	**08 23 04.8**	**-1.6**
JMM				S	**Sn**	**08 23 16.2**	**-2.7**
JFY	**Yanaizu**	**1.30**	**289**	P	**Pn**	**08 23 10.4**	**-0.8**
JOU	**Okura**	**1.45**	**341**	P	**Pn**	**08 23 12.1**	**-1.1**
JOU				*e*S	**Sn**	**08 23 29.1**	**-2.0**
JIO	**Ouri**	**1.46**	**3**	P	**Pn**	**08 23 11.9**	**-1.4**
JYS	**Shirataka**	**1.55**	**323**	P	**Pn**	**08 23 13.9**	**-0.6**
JAG	**Ashikaga**	**1.55**	**249**	P	**Pn**	**08 23 14.3**	**-0.2**
JAG				S	**Sn**	**08 23 32.7**	**-0.8**
JKT	**Katashina**	**1.62**	**263**	P	**Pn**	**08 23 15.7**	**+0.2**
JKT				*e*S	**Sn**	**08 23 35.7**	**+0.3**
MJAR	**Matsushiro Arr**	**2.48**	**261**	P	**Pn**	**08 23 27.8**	**+0.5**
	56nm,0.3s,baz=82,slow=16,SNR=185						
MJAR				S	**Sn**	**08 23 58.1**	**+1.7**
	51nm,0.3s,baz=56,slow=24,SNR=8.8						
MAJO	**Matsushiro**	**2.48**	**261**	*e*P	**Pn**	**08 23 28.3**	**+1.0**
MAJO				*e*		08 23 57.7	
MAJO	**Matsushiro**	**2.48**	**261**	*e*Pn	**Pn**	**08 23 28.3**	**+1.0**
MAJO				*e*Sn	**Sn**	**08 23 57.7**	**+1.3**
MAT	**Matsushiro**	**2.48**	**261**	P	**Pn**	**08 23 28.2**	**+0.9**
MAT				*e*S	**Sn**	**08 23 59.5**	**+3.1**
MJB9	**Matsu-Tunnel**	**2.49**	**261**	*e*Pn	**Pn**	**08 23 28.3**	**+1.0**
MJB9				*e*Sn	**Sn**	**08 23 57.7**	**+1.2**
INU	**Inuyama**	**3.80**	**246**	*e*Pn	**Pn**	**08 23 46.8**	**+1.6**
INU				*e*Sn	**Sn**	**08 24 23.7**	**-5.0**
JHJ2	**Mitsune**	**4.04**	**197**	*e*Pn	**Pn**	**08 23 50.0**	**+1.4**
JHJ2				*e*Sn	**Sn**	**08 24 35.4**	**+0.7**
JHJ	**Hachijo jima 2**	**4.04**	**198**	P	**Pn**	**08 23 49.5**	**+0.8**
	154nm,0.3s,baz=72,slow=3.4,SNR=40						
JHJ				S	**Sn**	**08 24 34.7**	**0.0**
	187nm,0.3s,baz=224,slow=22,SNR=13						
ASAJ	**Asahikawa**	**7.19**	**8**	*e*Pn	**Pn**	**08 24 28.4**	**-3.3**
ASAJ				*e*Sn	**Sn**	**08 25 51.4**	**-0.6**
JNU	**Nakatsue**	**9.34**	**249**	P	**Pn**	**08 25 02.5**	**+1.3**
	1.2nm,0.3s,baz=201,slow=6.0,SNR=7.7						
JNU				LR	LR	08 28 51.9	
	comp=Z,288nm,20.1s,baz=115,slow=39						
JNU	**Nakatsue**	**9.34**	**249**	*e*Pn	**Pn**	**08 25 02.7**	**+1.5**
JNU				*e*Sn	**Sn**	**08 26 40.1**	**-4.7**
VLA	**Vladivostok**	**9.43**	**313**	‖*i*P	**Pn**	**08 25 05.4**	**+3.0**
VLA				*i* S	**Sn**	**08 26 49.4**	**+2.5**
VLA				pmax	pmax		
	comp=Z,109nm,1.1s						
KUR	**Kuril'sk**	**9.63**	**29**	P	**Pn**	**08 25 05.0**	**0.0**
CBIJ	**Chichi jima**	**9.90**	**175**	*e*Pn	**Pn**	**08 25 06.7**	**-2.2**
YSS	**Yuzh-Sakhalins**	**10.02**	**6**	*e*P	Pn	08 25 18.4	+8.0
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
USRK	**Ussuriysk Ar.**	**10.07**	**319**	P	**Pn**	**08 25 14.3**	**+3.2**
	comp=Z,1.1nm,0.3s,baz=137,slow=12,SNR=18						
USRK				LR	LR	08 28 47.1	
	comp=Z,405nm,19.2s,baz=139,slow=36						
KSRS	**Korea Array**	**10.64**	**277**	P	**Pn**	**08 25 21.3**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=91,slow=13,SNR=20						
TJN	**Taejon**	**11.17**	**271**	‖*e*P	**Pn**	**08 25 23.7**	**-2.5**
MDJ	**Mudanjiang**	**11.66**	**314**	P	**Pn**	**08 25 36.4**	**+3.6**
MDJ				PMZ			
	comp=Z,32nm,1.2s						
MDJ				PMZ			
	comp=Z,180nm,5.8s						
CN2	**Changchun**	**13.82**	**304**	*e*P	**Pn**	**08 26 03.4**	**+1.1**
CN2				LN			
	comp=Z,600nm,13.0s						
CN2				LE			
	comp=Z,400nm,13.0s						
TYV	**Tymovskoe**	**13.90**	**4**	*e*P	**Pn**	**08 26 04.0**	**+0.6**
TYV				pmax	pmax		
	comp=Z,22nm,0.8s						
KLR	**Kul'dur**	**14.05**	**334**	P	**Pn**	**08 26 06.2**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=154,slow=15,SNR=3.4						
KLR				LR	LR	08 30 51.8	
	comp=Z,469nm,20.5s,baz=156,slow=34						
KLR	**Kul'dur**	**14.05**	**334**	⇑*i*P	**Pn**	**08 26 05.4**	**0.0**
TIA	**Tai'an**	**19.38**	**275**	*e*P	**Pn**	**08 27 11.5**	**-0.7**
TIA				PMZ			
	comp=Z,40nm,1.1s						
WHN	**Wuhan**	**23.23**	**262**	P	**P**	**08 27 53.0**	**+1.2**
HHC	**Hu-ho-hao-te**	**23.36**	**289**	*e*P	**P**	**08 27 50.8**	**-2.4**
HHC				PMZ			
	comp=Z,17nm,0.9s						
HHC				PMZ			
	comp=Z,130nm,4.7s						
MA2	**Magadan**	**23.42**	**12**	P	**P**	**08 27 53.5**	**0.0**
	comp=Z,22nm,1.0s,baz=231,slow=9.5,SNR=7.7						
MA2				pP	**pP**	**08 28 05.9**	**-0.2**
	comp=Z,18nm,0.8s,baz=202,slow=8.8,SNR=6.3						
MA2	**Magadan**	**23.42**	**12**	*e*P	**P**	**08 27 53.3**	**-0.2**
YAK	**Yakutsk**	**26.08**	**348**	*e*P	**P**	**08 28 17.0**	**-0.6**
YAK				*e**PP	**pP**	**08 28 32.6**	**+1.7**
YAK				*e*		08 28 58.3	
YAK				*e*S	**S**	**08 32 44.8**	**-0.1**
YAK				*e**SS	**sS**	**08 33 05.6**	**-2.0**
YAK				*e*SS	**SnSn**	**08 33 52.8**	**+5.8**
YAK				*e*		08 39 08.8	
YAK				pmax	pmax		
	comp=Z,22nm,1.0s						
YAK				pmax	pmax		
	comp=N,15nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,22nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.3s						
YAK				smax	smax		
	comp=N,173nm,3.8s						
YAK				smax	smax		
	comp=E,117nm,4.3s						
YAK				MLR	MLR		
	comp=Z,235nm,18.0s						
YAK				MLR	MLR		
	comp=N,162nm,21.0s						
SEY	**Seymchan**	**26.86**	**11**	P	**P**	**08 28 25.3**	**+0.7**
	comp=N,7.9nm,0.8s,baz=203,slow=5.6,SNR=11						
SEY	**Seymchan**	**26.86**	**11**	⇑*i*P	**P**	**08 28 26.5**	**+1.9**
SEY				*i* *PP	**pP**	**08 28 38.4**	**+0.5**
ULN	**Ulaanbaatar**	**27.27**	**304**	⇑*i*P	**P**	**08 28 28.6**	**-0.1**
ULN				pmax	pmax		
	comp=Z,16nm,1.2s						
ULN	**Ulaanbaatar**	**27.27**	**304**	*e*P	**P**	**08 28 28.0**	**-0.7**
	comp=Z,9.7nm,0.8s						
SONA1	**Songino Array**	**27.70**	**304**	*e*P	**P**	**08 28 31.1**	**-1.4**
SONA0	**Songino Array**	**27.70**	**304**	*e*P	**P**	**08 28 31.6**	**-0.9**
	comp=Z,200nm,1.6s						
SONA0				*e*PcP	**PcP**	**08 31 49.1**	**+0.9**
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**08 28 31.6**	**-0.9**
	comp=Z,2.8nm,0.5s,baz=106,slow=9.5,SNR=13						
SONM				PcP	**PcP**	**08 31 49.1**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=155,slow=3.2,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**28.24**	**120**	T	T	08 58 23.6	
	baz=314,slow=75,SNR=508						
H11N1	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	08 58 23.6	
	baz=314,slow=75,SNR=978						
H11N3	**WAKE ISLAND Hy**	**28.26**	**120**	T	T	08 58 23.6	
	baz=314,slow=75,SNR=693						
H11S1	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	08 59 15.3	
	baz=315,slow=75,SNR=219						
H11S3	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	08 59 12.7	
	baz=315,slow=75,SNR=227						
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	08 59 15.3	
	baz=315,slow=75,SNR=157						
LZH	**Lanzhou**	**29.95**	**280**	*e*P	**P**	**08 28 52.9**	**+0.3**
LZH				pP	pP	08 29 06.3	+0.3
LZH				sP	sP	08 29 12.5	+0.2
LZH				*e*S	**S**	**08 33 41.5**	**-5.1**
LZH				SS	**SnSn**	**08 35 19.5**	**-2.3**
LZH				PMZ			
	comp=Z,80nm,1.4s						
LZH				PMZ			
	comp=Z,170nm,4.2s						
LZH				LN			
	comp=Z,1μm,14.2s						
LZH				LE			
	comp=Z,1μm,15.0s						
LZH				LZ			
	comp=Z,2μm,15.4s						
ZAK	**Zakamensk**	**30.19**	**308**	*e*P	**P**	**08 28 52.4**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GYA	**Guiyang**	**31.09**	**260**	*e*P	**P**	**08 29 03.8**	**+1.1**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**31.54**	**270**	*e*P	**P**	**08 29 06.0**	**-0.6**
CD2				pP	pP	08 29 20.8	+0.7
CD2				sP	sP	08 29 27.9	+1.6
CD2				S	**S**	**08 34 09.8**	**-1.7**
CD2				sS	sS	08 34 35.3	+1.0
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,160nm,5.2s						
GTA	**Gaotai**	**32.45**	**287**	*e*P	**P**	**08 29 14.1**	**-0.5**
GTA				pP	pP	08 29 28.9	+0.8
GTA				sP	sP	08 29 36.3	+2.0
GTA				S	**S**	**08 34 23.6**	**-2.0**
GTA				PMZ			
	comp=Z,4.0nm,0.8s						
GTA				LN			
	comp=Z,220nm,15.2s						
GTA				LE			
	comp=Z,170nm,13.8s						
BILL	**Bilibino**	**34.10**	**16**	‖*e*P	**P**	**08 29 28.2**	**-0.3**
BILL				*e*		08 30 51.7	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,184nm,18.0s						
KMI	**Kunming**	**34.83**	**261**	P	**P**	**08 29 32.5**	**-3.0**
KMI				PMZ			
	comp=Z,17nm,0.7s						
KMI				LZ			
	comp=Z,300nm,18.1s						
TIXI	**Tiksi**	**35.32**	**353**	P	**P**	**08 29 38.3**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=143,slow=11,SNR=3.8						
TIXI	**Tiksi**	**35.32**	**353**	⇑*i*P	**P**	**08 29 38.8**	**-0.1**
TIXI				*i* *PP	**pP**	**08 29 51.4**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s						
WMQ	**Urumqi**	**40.74**	**297**	P	**P**	**08 30 26.4**	**+1.4**
WMQ				pP	pP	08 30 39.3	+0.5
WMQ				sP	sP	08 30 48.9	+3.9
WMQ				PMZ			
	comp=Z,15nm,0.6s						
WMQ				PMZ			
	comp=Z,80nm,5.2s						
CMAR	**Chiang Mai Arr**	**41.36**	**255**	P	**P**	**08 30 29.3**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=47,slow=8.0,SNR=3.9						
CMAR				PcP	**PcP**	**08 32 29.1**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=345,slow=3.4,SNR=4.5						
ZAA1	**Zalesovo Array**	**41.85**	**312**	*e*P	**P**	**08 30 33.6**	**-0.2**
ZAA1				*e*PcP	**PcP**	**08 32 28.9**	**+0.1**
ZAA0	**Zalesovo Array**	**41.85**	**312**	*e*P	**P**	**08 30 33.6**	**-0.2**
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**08 30 33.6**	**-0.2**
	comp=Z,12nm,0.5s,baz=90,slow=6.6,SNR=28						
ZALV				PcP	**PcP**	**08 32 28.9**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=100,slow=2.0,SNR=3.9						
NVS	**Novosibirsk**	**42.78**	**314**	*e*P	**P**	**08 30 40.4**	**-0.9**
MK32	**Makanchi Array**	**44.03**	**302**	*e*P	**P**	**08 30 51.3**	**-0.3**
MK32				*e*PP	**PcP**	**08 32 36.3**	**0.0**
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**08 30 51.3**	**-0.3**
	comp=Z,8.1nm,0.9s,baz=89,slow=9.9,SNR=20						
MKAR				PcP	**PcP**	**08 32 36.3**	**0.0**
	comp=Z,1.5nm,0.7s,baz=71,slow=5.3,SNR=2.9						
MAKZ	**Makanchi**	**44.24**	**302**

KSH				ScS	**ScS**	**08 41 26.8**	**-0.4**
KSH				SS	**SS**	**08 42 25.5**	**+2.1**
KSH				PMZ			
	comp=Z,3.0nm,0.6s						
KSH				PMZ			
	comp=Z,130nm,4.4s						
KSH				LN			
	comp=Z,180nm,6.2s						
KSH				LE			
	comp=Z,94nm,5.9s						
KSH				LZ			
	comp=Z,260nm,7.2s						
AAK	**Ala-Archa**	**50.40**	**298**	*i* P	**P**	**08 31 41.6**	**+0.2**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BVAR	**Borovoye Array**	**50.51**	**312**	P	**P**	**08 31 41.6**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=76,slow=7.8,SNR=16						
BVAR				PcP	**PcP**	**08 32 59.4**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=81,slow=4.0,SNR=7.2						
BVAR	**Borovoye Array**	**50.51**	**312**	P	**P**	**08 31 41.6**	**-0.3**
BVAR						08 32 59.4	
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**50.56**	**312**	*c i* P	**P**	**08 31 42.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,24nm,0.8s						
BRVK	**Borovoye**	**50.56**	**312**	*e* P	**P**	**08 31 42.2**	**-0.1**
	comp=Z,9.4nm,0.9s						
MENT	**Mentasta**	**51.14**	**35**	*e* P	**P**	**08 31 48.5**	**+1.9**
	comp=Z,9.3nm,1.2s						
ZRNK	**Zerenda**	**51.34**	**312**	*e* P	**P**	**08 31 47.8**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,13nm,0.9s						
ZRNK	**Zerenda**	**51.34**	**312**	*e* P	**P**	**08 31 47.8**	**-0.3**
	comp=Z,13nm,0.9s						
KKAR	**Karatay Array**	**53.03**	**300**	*e* P	**P**	**08 32 00.6**	**-0.3**
KKAR	**Karatay Array**	**53.03**	**300**	*e* P	**P**	**08 32 00.6**	**-0.3**
INK	**Inuvik**	**54.48**	**27**	P	**P**	**08 32 12.1**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=297,slow=7.0,SNR=6.6						
INK	**Inuvik**	**54.48**	**27**	*e* P	**P**	**08 32 12.1**	**+1.1**
	comp=Z,5.8nm,1.1s						
SVE	**Sverdlovsk**	**55.09**	**319**	*e* P	**P**	**08 32 15.8**	**+0.2**
SVE				pmax	pmax		
	comp=Z,29nm,1.0s						
ARU	**Arti**	**56.31**	**319**	P	**P**	**08 32 24.1**	**-0.2**
	comp=Z,8.1nm,0.3s,baz=71,slow=3.0,SNR=26						
ARU	**Arti**	**56.31**	**319**	*c i* P	**P**	**08 32 23.9**	**-0.4**
ARU				*PP	**pP**	**08 32 39.7**	**+1.0**
ARU						08 34 27.9	
ARU				S	**S**	**08 40 08.9**	**-1.4**
ARU				SS	**SS**	**08 43 54.0**	**-3.1**
ARU				pmax	pmax		
	comp=Z,34nm,1.0s						
ARU	**Arti**	**56.31**	**319**	*e* P	**P**	**08 32 24.1**	**-0.2**
	comp=Z,32nm,1.0s						
WRAB	**Tennant Creek**	**56.99**	**188**	*i* P	**P**	**08 32 30.3**	**+0.8**
WRAB				*i* *PP	**pP**	**08 32 44.5**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,12nm,0.9s						
WR1	**Warramunga Arr**	**57.00**	**188**	*e* P	**P**	**08 32 30.1**	**+0.5**
WRA	**Warramunga Arr**	**57.00**	**188**	P	**P**	**08 32 30.1**	**+0.5**
	comp=Z,3.2nm,0.6s,baz=5.8,slow=7.3,SNR=28						
WRA				pP	**pP**	**08 32 44.4**	**+0.4**
	comp=Z,13nm,0.7s,baz=5.8,slow=7.4,SNR=16						
KBL	**Kabul**	**57.31**	**291**	*e* P	**P**	**08 32 31.8**	**-0.2**
KBL				pmax	pmax		
	comp=Z,15nm,1.0s						
KBL	**Kabul**	**57.31**	**291**	*e* P	**P**	**08 32 31.8**	**-0.2**
	comp=Z,15nm,1.0s						
HYB	**Hyderabad**	**58.07**	**268**	*i* P	**P**	**08 32 38.0**	**+0.6**
AKTO	**Aktyubinsk**	**58.61**	**312**	P	**P**	**08 32 39.7**	**-1.0**
	comp=Z,7.8nm,0.8s,baz=72,slow=5.6,SNR=16						
AKTO				PcP	**PcP**	**08 33 29.5**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=63,slow=4.5,SNR=4.4						
DLBC	**Dease Lake**	**58.74**	**38**	*e* P	**P**	**08 32 40.4**	**-1.1**
	comp=Z,8.1nm,1.0s						
AS01	**Alice Springs**	**60.72**	**188**	*e* P	**P**	**08 32 52.4**	**-2.9**
ASAR	**Alice Springs**	**60.73**	**188**	P	**P**	**08 32 55.8**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=14,slow=7.5,SNR=11						
ASAR				pP	**pP**	**08 33 10.5**	**+0.6**
	comp=Z,6.9nm,0.8s,baz=20,slow=6.9,SNR=22						
KLMR	**Klimovskoe**	**63.72**	**328**	*e* P	**P**	**08 33 13.4**	**-1.6**
KLMR				*e*		08 33 50.4	
KLMR				pmax	pmax		
	comp=Z,14nm,1.3s						
GEYT	**Alibeck**	**63.74**	**299**	P	**P**	**08 33 15.6**	**0.0**
	comp=Z,9.8nm,0.8s,baz=38,slow=2.6,SNR=13						
YKA	**Yellowknife Ar**	**63.91**	**30**	P	**P**	**08 33 16.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=298,slow=7.1,SNR=5.7						
YKA				pP	**pP**	**08 33 30.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=302,slow=6.6,SNR=7.0						
YKB5	**Yellowknife Ar**	**63.91**	**30**	*e* P	**P**	**08 33 16.5**	**+0.2**
VRH	**Novokhopyorsk**	**67.52**	**318**	*e* P	**P**	**08 33 38.6**	**-1.1**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
OBN	**Obninsk**	**68.05**	**323**	*e* P	**P**	**08 33 42.2**	**-0.7**
OBN				*e*		08 34 12.6	
OBN				*e*		08 36 15.8	
OBN				*e* PPP	PPP	08 37 49.4	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,76nm,18.0s						
FIA0	**FINESS Array S**	**68.79**	**332**	*e* P	**P**	**08 33 47.0**	**-0.5**
FIA0	**FINESS Array S**	**68.79**	**332**	*e* P	**P**	**08 33 47.0**	**-0.5**
FINES	**FINESS Array B**	**68.79**	**332**	P	**P**	**08 33 47.0**	**-0.4**
	comp=Z,6.0nm,0.7s,baz=56,slow=7.1,SNR=13						
FINES	**FINESS Array B**	**68.79**	**332**	P	**P**	**08 33 47.0**	**-0.4**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VSR	**Storozhevoye**	**68.88**	**319**	*e* P	**P**	**08 33 47.8**	**-0.4**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PAT2	**Paterson 2**	**70.04**	**47**	*e* P	**P**	**08 33 54.4**	**-1.1**
VSU	**Vasula**	**70.42**	**329**	*e* P	**P**	**08 33 59.7**	**+2.2**
VSU				pmax	pmax		
	comp=Z,26nm,1.2s						
KBZ	**Khabaz**	**70.83**	**311**	P	**P**	**08 34 00.8**	**+0.5**
	comp=Z,7.8nm,0.9s,baz=8.2,slow=2.3,SNR=10						
KIV	**Kislovodsk**	**70.84**	**311**	*e* P	**P**	**08 34 01.4**	**+0.9**
KIV				pmax	pmax		
	comp=Z,26nm,1.0s						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s						
KIV	**Kislovodsk**	**70.84**	**311**	*e* P	**P**	**08 34 00.6**	**+0.1**
	comp=Z,25nm,1.0s						
FFC	**Flin Flon**	**73.81**	**33**	*e* P	**P**	**08 34 18.7**	**+0.8**
FFC				pmax	pmax		
	comp=Z,12nm,1.5s						
FFC	**Flin Flon**	**73.81**	**33**	*e* P	**P**	**08 34 18.7**	**+0.8**
	comp=Z,12nm,1.5s						
HFS	**Hagfors**	**74.07**	**336**	P	**P**	**08 34 19.4**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=50,slow=4.8,SNR=4.6						
NC204	**NORSAR Array S**	**74.13**	**338**	*e* P	**P**	**08 34 19.6**	**-0.1**
NB2	**NORSAR Subarra**	**74.18**	**337**	P	**P**	**08 34 18.8**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=37,slow=5.9						
NB200	**NORSAR Array S**	**74.18**	**337**	*e* P	**P**	**08 34 20.0**	**0.0**
NOA	**NORSAR Array B**	**74.18**	**337**	P	**P**	**08 34 20.0**	**0.0**
	comp=Z,4.1nm,0.8s,baz=42,slow=5.4,SNR=12						
NOA	**NORSAR Array B**	**74.18**	**337**	P	**P**	**08 34 20.0**	**0.0**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**08 34 20.1**	**-0.4**
	comp=Z,3.9nm,0.6s,baz=45,slow=6.3,SNR=7.5						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	**08 34 20.1**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKBB	**Malin Array Si**	**74.25**	**322**	*e* P	**P**	**08 34 20.0**	**-0.5**
AKBB				pmax	pmax		
	comp=Z,12nm,1.0s						
AKBB	**Malin Array Si**	**74.25**	**322**	*e* P	**P**	**08 34 20.0**	**-0.5**
	comp=Z,12nm,1.0s						
KIEV	**Kiev**	**74.26**	**322**	*i* P	**P**	**08 34 20.1**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIEV	**Kiev**	**74.26**	**322**	*e* P	**P**	**08 34 20.0**	**-0.5**
	comp=Z,12nm,1.1s						
LRM	**Limekiln Ridge**	**74.27**	**44**	*e* P	**P**	**08 34 22.8**	**+1.8**
NBO02	**NORSAR Array S**	**74.28**	**337**	*e* P	**P**	**08 34 20.8**	**+0.3**
AK11	**Malin Array Si**	**74.29**	**322**	*e* P	**P**	**08 34 20.5**	**-0.3**
BOZ	**Bozeman (W)**	**74.83**	**44**	*e* P	**P**	**08 34 25.7**	**+1.5**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOZ	**Bozeman (W)**	**74.83**	**44**	*e* P	**P**	**08 34 25.7**	**+1.5**
	comp=Z,4.0nm,0.8s						
R11A	**Troy Canyon, C**	**76.89**	**52**	*e* P	**P**	**08 34 37.4**	**+1.3**
	comp=Z,7.9nm,1.3s						
HWUT	**Hardware Ranch**	**77.35**	**47**	*e* P	**P**	**08 34 40.7**	**+2.0**
	comp=Z,5.4nm,1.2s						
PD31	**Pinedale Array**	**77.79**	**45**	*e* P	**P**	**08 34 42.4**	**+1.3**
PDAR	**Pinedale Array**	**77.79**	**45**	P	**P**	**08 34 42.1**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=270,slow=4.4,SNR=5.7						
PDAR				pP	**pP**	**08 34 56.2**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=231,slow=2.5,SNR=5.3						
SSK	**Sunset Peak**	**77.99**	**56**	*e* P	**P**	**08 34 39.5**	**-2.9**
NLU	**North Lily Min**	**78.08**	**49**	*e* P	**P**	**08 34 44.6**	**+1.9**
	comp=Z,71nm,1.1s						
BUR08	**Bucovina Ar. S**	**78.25**	**322**	*e* P	**P**	**08 34 43.6**	**+0.2**
KOLS	**Kolonicke sedl**	**78.78**	**324**	*e* P	**P**	**08 34 47.2**	**+1.0**
KOLS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KOLS	**Kolonicke sedl**	**78.78**	**324**	*e* P	**P**	**08 34 47.2**	**+1.0**
BR101	**Keskin Array S**	**78.78**	**311**	*e* P	**P**	**08 34 46.8**	**+0.2**
BR131	**Keskin Array S**	**78.78**	**311**	*e* P	**P**	**08 34 47.4**	**+0.9**
BRTR	**Keskin Array B**	**78.78**	**311**	P	**P**	**08 34 46.8**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=82,slow=2.6,SNR=12						
BRTR				LR	LR	09 14 22.6	
	comp=Z,21nm,18.4s,baz=64,slow=39						
STHS	**Stebnicka Huta**	**78.92**	**325**	*e* P	**P**	**08 34 48.3**	**+1.3**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
STHS	**Stebnicka Huta**	**78.92**	**325**	*e* P	**P**	**08 34 48.3**	**+1.3**
OJC	**Ojcow**	**79.00**	**326**	*e* P	**P**	**08 34 48.2**	**+0.8**
OJC	**Ojcow**	**79.00**	**326**	*e* P	**P**	**08 34 48.2**	**+0.8**
OJC	**Ojcow**	**79.00**	**326**	*e* P	**P**	**08 34 47.9**	**+0.5**
	comp=Z,16nm,1.1s						
CRVS	**Cervenica-Dubn**	**79.18**	**324**	*e* P	**P**	**08 34 49.5**	**+1.1**
CRVS	**Cervenica-Dubn**	**79.18**	**324**	*e* P	**P**	**08 34 49.5**	**+1.1**
MTPU	**Mount Pierson**	**79.20**	**50**	*e* P	**P**	**08 34 51.6**	**+2.5**
	comp=Z,3.7nm,0.9s						
BR231	**Keskin MP Arra**	**79.22**	**312**	*e* P	**P**	**08 34 47.0**	**-1.9**
NIE	**Niedzica**	**79.35**	**325**	*e* P	**P**	**08 34 50.4**	**+1.1**
NIE	**Niedzica**	**79.35**	**325**	*e* P	**P**	**08 34 50.4**	**+1.1**
KNB	**Kanab**	**79.44**	**52**	*e* P	**P**	**08 34 52.5**	**+2.3**
KNB				pmax	pmax		
	comp=Z,12nm,1.5s						
KNB	**Kanab**	**79.44**	**52**	*e* P	**P**	**08 34 52.5**	**+2.3**
	comp=Z,12nm,1.5s						
KSP	**Ksiaz**	**80.07**	**328**	*e* P	**P**	**08 34 53.5**	**+0.4**
KSP	**Ksiaz**	**80.07**	**328**	*e* P	**P**	**08 34 53.5**	**+0.4**
U15A	**North Rim**	**80.14**	**52**	*e* P	**P**	**08 34 56.3**	**+2.2**
	comp=Z,12nm,1.6s						
MORC	**Moravsky Berou**	**80.32**	**327**	*e* P	**P**	**08 34 55.2**	**+0.6**
MORC				pmax	pmax		
	comp=Z,22nm,1.0s						
MORC	**Moravsky Berou**	**80.32**	**327**	*e* P	**P**	**08 34 55.2**	**+0.6**
	comp=Z,22nm,1.0s						
DPC	**Dobruska-Polom**	**80.42**	**328**	*e* P	**P**	**08 34 56.0**	**+0.9**
DPC	**Dobruska-Polom**	**80.42**	**328**	*e* P	**P**	**08 34 56.0**	**+0.9**
VYHS	**Vyhne**	**80.69**	**325**	*e* P	**P**	**08 34 56.9**	**+0.4**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.3s						
VYHS	**Vyhne**	**80.69**	**325**	*e* P	**P**	**08 34 56.9**	**+0.4**
VYHS				*e*		08 38 46.9	
PV10	**Paradox Valley**	**80.90**	**49**	*e* P	**P**	**08 35 00.4**	**+2.2**
BRG	**Berggiesshubel**	**81.02**	**329**	*e* P	**P**	**08 34 58.3**	**+0.1**
	comp=Z,5.9nm,1.0s						
BRG	**Berggiesshubel**	**81.02**	**329**	*e* P	**P**	**08 34 58.3**	**+0.1**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CLL	**Collm**	**81.07**	**330**	*i* P	**P**	**08 34 58.3**	**-0.2**
	comp=Z,18nm,1.4s						
CLL	**Collm**	**81.07**	**330**	*i* P	**P**	**08 34 58.3**	**-0.2**
CLL				pmax	pmax		
	comp=Z,18nm,1.4s						
VRAC	**Vranov**	**81.09**	**327**	P	**P**	**08 34 59.3**	**+0.7**
	comp=Z,3.4nm,0.6s,baz=49,slow=7.0,SNR=6.0						
VRAC	**Vranov**	**81.09**	**327**	P	**P**	**08 34 59.3**	**+0.7**
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
Y14A	**Wickenburg**	**81.24**	**54**	*e* P	**P**	**08 35 02.1**	**+2.3**
	comp=Z,12nm,0.9s						
PRU	**Pruhonice**	**81.45**	**328**	*e* P	**P**	**08 35 00.9**	**+0.4**
PRU	**Pruhonice**	**81.45**	**328**	*e* P	**P**	**08 35 00.9**	**+0.4**
TREC	**Trest**	**81.58**	**328**	*e* P	**P**	**08 35 02.1**	**+0.8**
TREC	**Trest**	**81.58**	**328**	*e* P	**P**	**08 35 02.1**	**+0.8**
X16A	**Lo Mia Camp, P**	**81.94**	**53**	*e* P	**P**	**08 35 06.4**	**+2.7**
	comp=Z,3.0nm,0.8s						
KHC	**Kasperske Hory**	**82.51**	**328**	*e* P	**P**	**08 35 06.2**	**0.0**
KHC	**Kasperske Hory**	**82.51**	**328**	*e* P	**P**	**08 35 06.2**	**0.0**
KHC	**Kasperske Hory**	**82.51**	**328**	*e* P	**P**	**08 35 05.7**	**-0.5**
	comp=Z,2.7nm,1.0s						
GERES	**GERESS Array B**	**82.68**	**328**	P	**P**	**08 35 07.0**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=35,slow=4.9,SNR=13						
GEA0	**GERESS Array S**	**82.69**	**328**	*e* P	**P**	**08 35 06.9**	**-0.3**
EKA	**Eskdalemuir Ar**	**83.13**	**340**	P	**P**	**08 35 09.4**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=198,slow=24,SNR=6.5						
ANMO	**Albuquerque**	**84.72**	**50**	*i* P	**P**	**08 35 20.5**	**+2.6**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ANMO	**Albuquerque**	**84.72**	**50**	*e* P	**P**	**08 35 20.6**	**+2.6**
	comp=Z,4.2nm,1.0s						
BFO	**Black Forest**	**85.28**	**331**	*i* P	**P**	**08 35 20.8**	**+0.5**
BFO	**Black Forest**	**85.28**	**331**	*e* P	**P**	**08 35 20.2**	**-0.1**
	comp=Z,13nm,1.2s						
TX31	**Lajitas Ar. Si**	**90.25**	**52**	*e* P	**P**	**08 35 45.5**	**+0.9**
LTX	**Lajitas**	**90.25**	**52**	*e* P	**P**	**08 35 46.0**	**+1.4**
LTX	**Lajitas**	**90.25**	**52**	*e* P	**P**	**08 35 46.0**	**+1.4**
TXAR	**Lajitas Array**	**90.25**	**52**	P	**P**	**08 35 46.0**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=300,slow=2.9,SNR=14						
TXAR				pP	**pP**	**08 36 00.6**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=310,slow=2.9,SNR=7.2						
ESDC	**Sonseca Array**	**97.27**	**334**	P	**P**	**08 36 15.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=329,slow=4.5,SNR=3.2						
TOA1	**Torodi Ar. Sit**	**117.27**	**315**	*e* PKPdf	**PKPdf**	**08 41 28.4**	**-0.8**
TOA1				*e* PP	**PP**	**08 42 37.7**	**-1.9**
TORD	**Torodi Ar. Bea**	**117.27**	**315**	PKP	**PKPdf**	**08 41 28.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=7.5,slow=0.3,SNR=4.5						
TORD				PP	**PP**	**08 42 37.7**	**-1.9**
	comp=Z,1.8nm,1.0s,baz=37,slow=3.5,SNR=5.5						
LPAZ	**La Paz**	**146.83**	**59**	PKPbc	**PKPab**	**08 42 27.5**	**-0.6**
	comp=Z,3.6nm,0.6s,baz=299,slow=1.8,SNR=20						
LPAZ				pPKPbc	pPKPbc	08 42 42.7	+0.2
	comp=Z,3.2nm,0.7s,baz=304,slow=2.9,SNR=6.2						
SIV	**San Ignacio**	**151.21**	**49**	PKPbc	**PKPbc**	**08 42 37.6**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=324,slow=2.1,SNR=4.8						
SIV				pPKPbc	**pPKPbc**	**08 42 53.4**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=329,slow=2.8,SNR=4.4						
PLCA	**Paso Flores**	**155.03**	**108**	PKPab	**PKPab**	**08 42 59.6**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=315,slow=4.1,SNR=3.0						
PLCA	**Paso Flores**	**155.03**	**108**	*e* PKPbc	PKPbc	08 42 45.7	

DDA ***23*** *08:24:27.9, 37.°74N×37.°89E, h4km, Md2.7*
ISK ***23*** *08:24:28.9, 37.°58N×37.°79E, h23km, ML2.3*
ISCJB ***23*** *08:24:29.6±0.7, 37.°70N±0.°04×37.°83E±0.°04, h7km±9km, Error ellipse: s-maj=6.7km s-min=5.8km az=155.5*
CSEM ***23*** *08:24:29.5±0.4, 37.°66N×37.°81E, h15km, ML2.3, Error ellipse: s-maj=11.2km s-min=8.8km az=4.0*

ISC 23 08:24:28.9±1.6, 37.°70N±0.°04×37.°80E±0.°03, h3km±13km, n12, σ0s67/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZT	**Gaziantep**	**0.39**	**209**	*i* P	**Pg**	**08 24 36.8**	**+0.4**
GZT				*i* S	**Sb**	**08 24 44.3**	**-0.7**
KMRS	**Kahramanmaras**	**0.74**	**255**	*e*Pg	**Pg**	**08 24 42.9**	**-0.1**
KMRS				*e*SG	**Sb**	**08 24 54.7**	**-0.3**
KMRS	**Kahramanmaras**	**0.74**	**255**	*e*Pg	**Pg**	**08 24 42.9**	**-0.1**
KMRS				*e*Sg	**Sb**	**08 24 54.7**	**-0.3**
URFA	**Urfa**	**0.85**	**107**	*e*PG	**Pg**	**08 24 44.9**	**-0.3**
URFA				*e*SG	**Sb**	**08 24 58.1**	**-0.2**
URFA	**Urfa**	**0.85**	**107**	*e*Pg	**Pg**	**08 24 44.9**	**-0.3**
URFA				*e*Sg	**Sb**	**08 24 58.1**	**-0.2**
DARE	**Darende-Malaty**	**0.91**	**344**	*e*PG	**Pb**	**08 24 48.4**	**+1.0**
DARE				*e*SG	**Sn**	**08 25 02.4**	**+0.1**
DARE	**Darende-Malaty**	**0.91**	**344**	*e*Pg	**Pb**	**08 24 48.4**	**+1.0**
DARE				*e*Sg	**Sn**	**08 25 02.4**	**+0.1**
KUZU	**Kuzuini**	**1.09**	**212**	P	**Pb**	**08 24 50.7**	**+0.3**
KUZU				S	**Sn**	**08 25 07.8**	**+1.0**
KUZU	**Kuzuini**	**1.09**	**212**	*i* P	**Pb**	**08 24 50.7**	**+0.3**
KUZU				*i* S	**Sn**	**08 25 07.8**	**+1.0**
SARI	**SarD1z-Kayseri**	**1.30**	**303**	*e*PN	**Pn**	**08 24 52.9**	**-1.2**
SVRC	**Sivrice-ELAZID**	**1.37**	**60**	*e*PN	**Pn**	**08 24 54.7**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.37**	**60**	*e*Pn	**Pn**	**08 24 54.7**	**-0.4**

ISK ***23*** *08:26:56.4, 37.°33N×28.°04E, h22km, ML1.8*
ISCJB ***23*** *08:26:57.4±0.8, 37.°33N±0.°04×28.°05E±0.°05, h11km±10km, Error ellipse: s-maj=7.0km s-min=6.8km az=169.0*
DDA ***23*** *08:26:57.0, 37.°33N×28.°07E, h7km, Md2.8*
CSEM ***23*** *08:26:57.5±0.2, 37.°33N×28.°05E, h10km, ML1.8, Error ellipse: s-maj=5.1km s-min=3.7km az=39.0*

ISC 23 08:26:56.9±1.4, 37.°32N±0.°03×28.°07E±0.°03, h12km±16km, n12, σ0s26/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.26**	**137**	*e*PG	**Pb**	**08 27 03.2**	**-0.3**
YER				*e*SG	**Sb**	**08 27 08.2**	**+0.3**
YER	**Yerkesik**	**0.26**	**137**	*e*Pg	**Pb**	**08 27 03.2**	**-0.3**
YER				*e*Sg	**Sb**	**08 27 08.2**	**+0.3**
BDRM	**Kayabasi**	**0.56**	**243**	P	**Pg**	**08 27 07.7**	**-0.2**
BDRM				S	**Sb**	**08 27 17.1**	**+0.5**
BDRM	**Kayabasi**	**0.56**	**243**	*i* P	**Pg**	**08 27 07.7**	**-0.2**
BDRM				*i* S	**Sb**	**08 27 17.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**348**	*e*PG	**Pg**	**08 27 09.6**	**+0.2**
AYDB				*e*SG	**Sb**	**08 27 18.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**348**	*e*Pg	**Pg**	**08 27 09.6**	**+0.2**
AYDB				*e*Sg	**Sb**	**08 27 18.9**	**-0.2**
BODT	**Bodrum**	**0.66**	**247**	*e*PG	**Pg**	**08 27 09.8**	**+0.1**
BODT				*e*SG	**Sb**	**08 27 19.3**	**-0.1**
BODT	**Bodrum**	**0.66**	**247**	*e*Pg	**Pg**	**08 27 09.8**	**+0.1**
BODT				*e*Sg	**Sb**	**08 27 19.3**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.69**	**137**	*e*PG	**Pb**	**08 27 10.8**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.69**	**137**	*e*Pg	**Pb**	**08 27 10.8**	**-0.1**
GCAM	**G?zelcaml?**	**0.76**	**300**	P	**Pb**	**08 27 12.0**	**-0.1**
GCAM				S	**Sb**	**08 27 22.5**	**+0.1**
GCAM	**G?zelcaml?**	**0.76**	**300**	*i* P	**Pb**	**08 27 12.0**	**-0.1**
GCAM				*i* S	**Sb**	**08 27 22.5**	**+0.1**

IDC 23 08:32:24.5±652.0, 13.°08N×41.°02E, h0km, Error ellipse: s-maj=347.0km s-min=232.3km az=75.0, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I32KE	**NAIROBI INFRAS**	**14.83**	**197**	*i*		10 06 40.0	
	baz=18,slow=312,SNR=0.5						
I48TN	**KESRA INFRASON**	**36.40**	**314**	*i*		12 20 00.0	
	baz=122,slow=315,SNR=0.9						
I26DE	**FREYUNG INFRAS**	**42.20**	**333**	*i*		12 50 00.0	
	baz=141,slow=324,SNR=1.4						

ISCJB ***23*** *08:43:40.4±0.7, 40.°55N±0.°03×34.°96E±0.°07, h0km, Error ellipse: s-maj=7.8km s-min=3.6km az=171.9*
DDA ***23*** *08:43:40.2, 40.°52N×34.°96E, h7km, Md2.7, Suspected Mining explosion.*
CSEM ***23*** *08:43:40.7±0.3, 40.°54N×34.°93E, h2km, MD2.7, Error ellipse: s-maj=8.7km s-min=4.2km az=79.0, Suspected Mining explosion.*
ISK ***23*** *08:43:40.1, 40.°59N×34.°95E, h18km, ML2.7*

ISC 23 08:43:38.6±1.3, 40.°60N±0.°03×35.°14E±0.°08, h0km, n16, σ0s44/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COAL	**Corum-Alaca**	**0.36**	**198**	P	**Pg**	**08 43 45.4**	**-0.2**
COAL				S	**Sg**	**08 43 50.0**	**-0.3**
COAL	**Corum-Alaca**	**0.36**	**198**	*i* P	**Pg**	**08 43 45.4**	**-0.2**
COAL				*i* S	**Sg**	**08 43 50.0**	**-0.3**
CORM	**Corum**	**0.57**	**223**	PG	**Pg**	**08 43 49.6**	**0.0**
CORM				*e*SG	**Sg**	**08 43 57.8**	**+0.8**
CORM	**Corum**	**0.57**	**223**	*i* Pg	**Pg**	**08 43 49.6**	**0.0**
CORM				*e*Sg	**Sg**	**08 43 57.8**	**+0.8**
BOYT	**Boyabat**	**0.84**	**348**	P	**Pn**	**08 43 57.8**	**+0.1**
BOYT				S	**Sn**	**08 44 11.4**	**+0.6**
BOYT	**Boyabat**	**0.84**	**348**	*i* P	**Pn**	**08 43 57.8**	**+0.1**
BOYT				*i* S	**Sn**	**08 44 11.

σ0$43/27, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58**	**170**	*e*Pg	**Pb**	**09 08 55.5**	**-0.7**
KSP				*e*Sg	**Sb**	**09 09 04.3**	**-0.7**
KSP	**Ksiaz**	**0.58**	**170**	*e*Pg	**Pb**	**09 08 55.5**	**-0.7**
KSP	**Ksiaz**	**0.58**	**170**	*e*Pg	**Pb**	**09 08 55.5**	**-0.7**
KSP				*e*Sg	**Sb**	**09 09 04.3**	**-0.7**
UPC	**Upice**	**0.91**	**185**	*e*PG	**Pg**	**09 09 01.2**	**+0.5**
UPC				*e*SG	**Sb**	**09 09 14.6**	**0.0**
	28nm,0.4s						
UPC	**Upice**	**0.91**	**185**	Pg	**Pg**	**09 09 01.2**	**+0.5**
DPC	**Dobruska-Polom**	**1.07**	**174**	*e*PG	**Pb**	**09 09 04.5**	**-0.1**
DPC				*e*SG	**Sb**	**09 09 19.2**	**0.0**
	8.6nm,0.5s						
DPC	**Dobruska-Polom**	**1.07**	**174**	Pg	**Pb**	**09 09 04.5**	**-0.1**
PVCC	**Panska Ves**	**1.33**	**229**	*e*SG	**Sn**	**09 09 27.3**	**-0.1**
	36nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**229**	Sg	**Sn**	**09 09 27.3**	**-0.1**
	36nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**249**	PG	**Pg**	**09 09 11.6**	**0.0**
BRG				SG	**Sn**	**09 09 31.5**	**+0.3**
	20nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.73**	**210**	*e*SG	**Sg**	**09 09 39.4**	**+0.6**
	4.9nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.73**	**210**	Sg	**Sg**	**09 09 39.4**	**+0.6**
	4.9nm,0.3s						
PRU	**Pruhonice**	**1.75**	**216**	*e*SG	**Sg**	**09 09 39.5**	**0.0**
	6.4nm,0.3s						
PRU	**Pruhonice**	**1.75**	**216**	Sg	**Sg**	**09 09 39.5**	**0.0**
	6.4nm,0.3s						
MORC	**Moravsky Berou**	**1.87**	**151**	*e*Pn	**Pn**	**09 09 16.7**	**+0.2**
MORC				*e*Sg	**Sg**	**09 09 43.7**	**+0.5**
CLL	**Collm**	**1.97**	**268**	*e*Sg	**Sb**	**09 09 45.0**	**+0.1**
	comp=Z,5.0nm,0.6s						
TREC	**Trest**	**2.17**	**191**	*e*SG	**Sg**	**09 09 52.7**	**0.0**
	comp=Z,4.9nm,0.3s						
TREC	**Trest**	**2.17**	**191**	Sg	**Sg**	**09 09 52.7**	**0.0**
	comp=Z,4.9nm,0.3s						
KHC	**Kasperske Hory**	**2.82**	**217**	*e*SN	**Sn**	**09 10 04.2**	**+0.1**
KHC				*e*SG	**Sg**	**09 10 13.4**	**-0.2**
	comp=Z,3.8nm,0.6s						
KHC	**Kasperske Hory**	**2.82**	**217**	Sn	**Sn**	**09 10 04.2**	**+0.1**

ISCJB ***23*** *09:29:07.9±0.6,37.°07N±0.°03×30.°98E±0.°04,h110km±6km, Error ellipse: s-maj=6.5km s-min=4.6km az=135.3*
ISK ***23*** *09:29:07.4,37.°05N×30.°98E,h110km,MD3.5*
DDA ***23*** *09:29:08.6,37.°13N×30.°94E,h100km,Ml3.5*
CSEM ***23*** *09:29:08.2±0.2,37.°08N×30.°97E,h110km±3km,MD3.5, Error ellipse: s-maj=4.1km s-min=3.0km az=45.0*
NIC ***23*** *09:29:12.3±0.2,36.°95N×31.°24E,h56km,mb4.0,ML3.6*
ISC 23 09:29:08.0±1.4,**37.°09N**±0.°03×**30.°98E**±0.°03,**h112**km±7km, **n61**,σ1$**02**/83, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.32**	**234**	*e*PG	**Pn**	**09 29 23.8**	**-0.2**
ANTB				*e*SG	**Sn**	**09 29 34.9**	**-1.1**
ANTB	**Antalya**	**0.32**	**234**	*e*Pg	**Pn**	**09 29 23.8**	**-0.2**
ANTB				*e*Sg	**Sn**	**09 29 34.9**	**-1.1**
SUTC	**Sutluce-Ispart**	**0.39**	**3**	*e*PG	**Pn**	**09 29 24.5**	**-0.1**
SUTC				*e*SG	**Sn**	**09 29 36.8**	**-0.3**
SUTC	**Sutluce-Ispart**	**0.39**	**3**	*e*Pg	**Pn**	**09 29 24.5**	**-0.1**
SUTC				*e*Sg	**Sn**	**09 29 36.8**	**-0.3**
BCK	**Bucak**	**0.48**	**321**	*e*PG	**Pn**	**09 29 25.0**	**-0.1**
BCK				*e*SG	**Sn**	**09 29 37.6**	**-0.3**
BCK	**Bucak**	**0.48**	**321**	*e*Pg	**Pn**	**09 29 25.0**	**-0.1**
BCK				*e*Sg	**Sn**	**09 29 37.6**	**-0.3**
KORT	**Korkueli**	**0.51**	**261**	P	**Pn**	**09 29 25.8**	**+0.5**
KORT				S	**Sn**	**09 29 37.2**	**-1.0**
KORT	**Korkueli**	**0.51**	**261**	*i* P	**Pn**	**09 29 25.8**	**+0.5**
KORT				*i* S	**Sn**	**09 29 37.2**	**-1.0**
ELL	**Elmali**	**0.92**	**249**	*e*PG	**Pn**	**09 29 29.2**	**+0.5**
ELL	**Elmali**	**0.92**	**249**	*e*Pg	**Pn**	**09 29 29.2**	**+0.5**
GOLH	**Golhisar**	**1.14**	**278**	P	**Pn**	**09 29 31.8**	**+0.9**
GOLH				S	**Sn**	**09 29 49.7**	**+1.4**
GOLH	**Golhisar**	**1.14**	**278**	*i* P	**Pn**	**09 29 31.8**	**+0.9**
GOLH				*i* S	**Sn**	**09 29 49.7**	**+1.4**
GLHS	**Glhisar (BURDU**	**1.18**	**274**	*e*PN	**Pn**	**09 29 31.8**	**+0.4**
GLHS	**Glhisar (BURDU**	**1.18**	**274**	*e*Pn	**Pn**	**09 29 31.8**	**+0.4**
GAZI	**Gazipasa**	**1.37**	**128**	P	**Pn**	**09 29 34.7**	**+1.3**
GAZI				S	**Sn**	**09 29 55.3**	**+2.6**
GAZI	**Gazipasa**	**1.37**	**128**	*i* P	**Pn**	**09 29 34.7**	**+1.3**
GAZI				*i* S	**Sn**	**09 29 55.3**	**+2.6**
AKAS	**Kas**	**1.39**	**233**	P	**Pn**	**09 29 34.5**	**+0.7**
AKAS				S	**Sn**	**09 29 53.0**	**-0.3**
AKAS	**Kas**	**1.39**	**233**	*i* P	**Pn**	**09 29 34.5**	**+0.7**
AKAS				*i* S	**Sn**	**09 29 53.0**	**-0.3**
KONT	**Konya--Tatoy**	**1.40**	**52**	*e*PN	**Pn**	**09 29 34.2**	**+0.4**
KONT	**Konya--Tatoy**	**1.40**	**52**	*e*Pn	**Pn**	**09 29 34.2**	**+0.4**
LADK	**Ladik-KONYA**	**1.57**	**44**	*e*PN	**Pn**	**09 29 36.0**	**+0.2**
LADK	**Ladik-KONYA**	**1.57**	**44**	*e*Pn	**Pn**	**09 29 36.0**	**+0.2**
ERMK	**Ermenek**	**1.62**	**105**	P	**Pn**	**09 29 38.3**	**+1.8**
ERMK	**Ermenek**	**1.62**	**105**	*i* P	**Pn**	**09 29 38.3**	**+1.8**
BOLV	**Bolvadin**	**1.63**	**359**	P	**Pn**	**09 29 37.2**	**+0.6**
BOLV				S	**Sn**	**09 29 57.9**	**-0.5**
BOLV	**Bolvadin**	**1.63**	**359**	*i* P	**Pn**	**09 29 37.2**	**+0.6**
BOLV				*i* S	**Sn**	**09 29 57.9**	**-0.5**
DNZL	**Cakiroluk**	**1.65**	**292**	P	**Pn**	**09 29 37.5**	**+0.6**
DNZL				S	**Sn**	**09 29 58.1**	**-0.8**
DNZL	**Cakiroluk**	**1.65**	**292**	*i* P	**Pn**	**09 29 37.5**	**+0.6**
DNZL				*i* S	**Sn**	**09 29 58.1**	**-0.8**
KHL	**Karahalli**	**1.69**	**317**	*e*PN	**Pn**	**09 29 37.1**	**-0.2**
KHL	**Karahalli**	**1.69**	**317**	*e*Pn	**Pn**	**09 29 37.1**	**-0.2**
KDHN	**Kadinhani**	**1.69**	**32**	P	**Pn**	**09 29 37.9**	**+0.5**
KDHN	**Kadinhani**	**1.69**	**32**	*i* P	**Pn**	**09 29 37.9**	**+0.5**
DALY	**Dalyan (Mu˘la**	**1.88**	**262**	*e*PN	**Pn**	**09 29 39.8**	**+0.3**
DALY	**Dalyan (Mu˘la**	**1.88**	**262**	*e*Pn	**Pn**	**09 29 39.8**	**+0.3**
TURN	**Turunc**	**1.91**	**264**	*i* P	**Pn**	**09 29 44.0**	**+4.1**
KIZT	**Kizilcal**	**1.93**	**21**	*e*PN	**Pn**	**09 29 40.7**	**+0.4**
KIZT	**Kizilcal**	**1.93**	**21**	*e*Pn	**Pn**	**09 29 40.7**	**+0.4**
YER	**Yerkesik**	**2.15**	**272**	*e*PN	**Pn**	**09 29 43.1**	**0.0**
YER	**Yerkesik**	**2.15**	**272**	*e*Pn	**Pn**	**09 29 43.1**	**0.0**
GEDZ	**Gediz**	**2.31**	**328**	*e*PN	**Pn**	**09 29 45.7**	**+0.6**
GEDZ	**Gediz**	**2.31**	**328**	*e*Pn	**Pn**	**09 29 45.7**	**+0.6**
GDZ	**Gediz**	**2.32**	**330**	P	**Pn**	**09 29 45.8**	**+0.5**
GDZ	**Gediz**	**2.32**	**330**	*i* P	**Pn**	**09 29 45.8**	**+0.5**
KULA	**Kula-Manisa**	**2.32**	**309**	*e*PN	**Pn**	**09 29 45.3**	**0.0**
KULA	**Kula-Manisa**	**2.32**	**309**	*e*Pn	**Pn**	**09 29 45.3**	**0.0**
AKMC	**Akamas**	**2.33**	**151**	P	**Pn**	**09 29 45.8**	**+0.5**
	baz=335						
AKMC	**Akamas**	**2.33**	**151**	P	**Pn**	**09 29 45.8**	**+0.5**
ALFC	**Alefka**	**2.33**	**145**	P	**Pn**	**09 29 45.9**	**+0.5**
	baz=328						
ALFC				S	**Sn**	**09 30 11.5**	**-2.5**
ALFC	**Alefka**	**2.33**	**145**	P	**Pn**	**09 29 45.9**	**+0.5**
ALFC				S	**Sn**	**09 30 11.5**	**-2.5**
ESKT	**Eskisehir**	**2.43**	**358**	*e*PN	**Pn**	**09 29 46.7**	**0.0**
ESKT	**Eskisehir**	**2.43**	**358**	*e*Pn	**Pn**	**09 29 46.7**	**0.0**
PPCY	**Paphos**	**2.46**	**153**	P	**Pn**	**09 29 47.2**	**+0.2**
	baz=336						
PPCY	**Paphos**	**2.46**	**153**	P	**Pn**	**09 29 47.2**	**+0.2**
LEF	**Lefka**	**2.50**	**141**	*e*PN	**Pn**	**09 29 46.5**	**-1.0**
LEF	**Lefka**	**2.50**	**141**	*e*Pn	**Pn**	**09 29 46.5**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**2.60**	**290**	*e*PN	**Pn**	**09 29 48.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**2.60**	**290**	*e*Pn	**Pn**	**09 29 48.9**	**0.0**
SZAC	**Souni**	**2.79**	**146**	P	**Pn**	**09 29 52.1**	**+0.7**
	baz=329						
SZAC	**Souni**	**2.79**	**146**	P	**Pn**	**09 29 52.1**	**+0.7**
CSS	**Mathiatis**	**2.85**	**137**	P	**Pn**	**09 29 52.2**	**+0.1**
	baz=320						
CSS				S	**Sn**	**09 30 24.2**	**-1.9**
CSS	**Mathiatis**	**2.85**	**137**	P	**Pn**	**09 29 52.2**	**+0.1**
CSS				S	**Sn**	**09 30 24.2**	**-1.9**

ISCJB ***23*** *09:41:56.4±0.3,1.°94N±0.°03×126.°68E±0.°04,h47km, mb4.5/38,MS3.4/4,Error ellipse: s-maj=5.8km s-min=4.5km az=177.8*
DJA ***23*** *09:41:58.3±1.7,2.°N±4.°×12.°7E±1.°0,h26km±19km,M5.2/5, mb5.2/1,MLv5.2/5*
BJI ***23*** *09:41:59.2, 1.°90N×126.°60E,h58km,mb4.6/21,mB4.9/16, Ms4.7/7,Ms7 4.4/8*
IDC ***23*** *09:42:00.5±2.9, 1.°86N×126.°51E,h68km±27km,mb4.1/23, mb1 4.2/26,mb1mx4.1/36,mbtmp4.3/26,MS3.5/5, Ms1 3.5/5,ms1mx3.0/33,Error ellipse: s-maj=19.3km s-min=10.1km az=77.0*
NEIC ***23*** *09:42:01.1±0.9, 1.°83N×126.°47E,h77km±8km,mb4.6/17,*

Error ellipse: s-maj=8.6km s-min=4.5km az=59.0
ISC 23 09:41:58.4±0.4,**1.°94N**±0.°05×**126.°68E**±0.°06,**h47**km,**n79**, σ1$**32**/82,**mb4.5**/38,**MS3.4**/4,**2C, Northern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.08**	**327**	P	**Pn**	**09 42 29.3**	**-1.5**
SGSI				S	**Sn**	**09 42 55.6**	**0.0**
LBMI	**Labuha**	**2.69**	**162**	P	**Pn**	**09 42 39.8**	**+0.6**
KMSI	**Cibinong**	**3.02**	**243**	P	**Pn**	**09 42 45.4**	**+1.7**
KMSI				S	**Sn**	**09 43 20.4**	**+1.8**
GTOI	**Gorontalo**	**3.89**	**251**	P	**Pn**	**09 42 54.9**	**-0.7**
SANI	**Sanana**	**4.02**	**190**	P	**Pn**	**09 42 59.5**	**+2.0**
LUWI	**Luwuk**	**4.90**	**233**	*e*Pn	**Pn**	**09 43 08.5**	**-1.0**
LUWI				*e*Sn	**Sn**	**09 44 05.3**	**+0.3**
MRSI	**Marisa**	**4.95**	**253**	P	**Pn**	**09 43 11.3**	**+1.0**
DAV	**Davao City (W)**	**5.21**	**348**	LR	LR	09 45 41.8	
	comp=Z,555nm,20.4s,baz=144,slow=42						
TTSI	**Tana Toraja**	**8.46**	**234**	P	**Pn**	**09 43 59.3**	**+1.0**
MYLDM	**Lahad Datu**	**8.77**	**292**	*e*Pn	**Pn**	**09 44 03.2**	**+0.6**
KAPI	**Kappang**	**9.78**	**225**	P	**Pn**	**09 44 15.9**	**-0.6**
	1.7nm,0.3s,baz=90,slow=2.3,SNR=4.7						
GENI	**Genyem**	**14.22**	**108**	P	**P**	**09 45 27.2**	**+3.8**
TWSI	**Taliwang, Sumb**	**14.41**	**222**	P	P	09 45 32.1	+6.5
SBUM	**Sibu**	**14.46**	**272**	*e*Pn	**Pn**	**09 45 19.5**	**-0.8**
JAY	**Jayapura**	**14.70**	**107**	P	**P**	**09 45 28.5**	**-0.3**
	0.1nm,0.3s,baz=94,slow=23,SNR=6.7						
JAY	**Jayapura**	**14.70**	**107**	P	P	09 45 35.8	+7.0
FITZ	**Fitzroy Crossi**	**19.94**	**183**	P	**P**	**09 46 26.5**	**0.0**
	1.2nm,0.3s,baz=8.2,slow=7.9,SNR=23						
GUMO	**Guam**	**21.40**	**56**	LR	LR	09 53 52.3	
	comp=Z,116nm,21.2s,baz=225,slow=33						
WRAB	**Tennant Creek**	**23.00**	**161**	*e*P	**P**	**09 46 58.5**	**-0.9**
	38nm,1.0s						
WRA	**Warramunga Arr**	**23.01**	**161**	P	**P**	**09 46 58.0**	**-1.5**
	12nm,0.5s,baz=340,slow=11,SNR=79						
WRA				PcP	**PcP**	**09 50 48.2**	**+0.1**
	0.4nm,0.5s,baz=340,slow=2.0,SNR=3.2						
WB2	**Warramunga Arr**	**23.01**	**161**	*e*P	**P**	**09 46 58.5**	**-1.0**
	44nm,1.1s						
QIZ	**Qiongzhong**	**23.67**	**317**	P	**P**	**09 47 08.8**	**+2.9**
QIZ				S	**S**	**09 51 17.3**	**-0.3**
AS31	**Alice Springs**	**26.40**	**165**	*e*P	**P**	**09 47 30.2**	**-0.5**
	3.3nm,0.7s						
ASAR	**Alice Springs**	**26.40**	**165**	P	**P**	**09 47 30.0**	**-0.8**
	8.2nm,0.8s,baz=351,slow=14,SNR=37						
ASAR				PcP	**PcP**	**09 50 55.4**	**-0.2**
	0.9nm,0.8s,baz=344,slow=1.8,SNR=4.5						
ASAR				LR	LR	09 57 32.7	
	comp=Z,76nm,21.9s,baz=261,slow=35						
AS01	**Alice Springs**	**26.41**	**165**	*e*P	**P**	**09 47 30.6**	**-0.2**
JNU	**Nakatsue**	**31.27**	**7**	P	**P**	**09 48 15.9**	**+2.0**
	8.9nm,0.8s,baz=180,slow=5.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**31.76**	**303**	P	**P**	**09 48 18.9**	**+0.5**
	1.3nm,0.3s,baz=108,slow=7.8,SNR=3.9						
KSAR	**Wonju Array Be**	**35.35**	**2**	P	**P**	**09 48 50.9**	**+1.6**
KSRS	**Korea Array**	**35.36**	**2**	P	**P**	**09 48 50.9**	**+1.5**
	1.7nm,0.6s,baz=179,slow=9.9,SNR=8.8						
NWAO	**Narrogin (SRO)**	**35.81**	**194**	P	**P**	**09 48 52.4**	**-1.0**
	16nm,1.1s,baz=45,slow=4.3,SNR=3.4						
EIDS	**Eidsvold**	**35.99**	**141**	*e*P	**P**	**09 48 54.6**	**-0.5**
	10nm,1.1s						
MJAR	**Matsushiro Arr**	**36.05**	**16**	P	**P**	**09 48 55.3**	**-0.1**
	3.9nm,0.7s,baz=186,slow=8.9,SNR=9.7						
CD2	**Chengdu**	**36.06**	**325**	*e*P	**P**	**09 48 56.0**	**+0.3**
STKA	**Stephens Creek**	**36.49**	**158**	P	**P**	**09 48 59.2**	**0.0**
	3.9nm,0.6s,baz=327,slow=10.0,SNR=9.4						
STKA	**Stephens Creek**	**36.49**	**158**	*e*P	**P**	**09 48 59.3**	**+0.2**
	2.5nm,1.1s						
HHC	**Hu-ho-hao-te**	**41.08**	**342**	*e*P	**P**	**09 49 40.1**	**+2.5**
HHC				PMZ			
	20nm,1.0s						
HHC				PMZ			
	140nm,6.4s						
USRK	**Ussuriysk Ar.**	**42.35**	**6**	P	**P**	**09 49 48.9**	**+1.1**
	5.2nm,0.8s,baz=180,slow=9.0,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**42.52**	**65**	T	T	10 35 41.7	
	baz=314,slow=75,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**42.53**	**65**	T	T	10 35 37.9	
	baz=314,slow=75,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**42.54**	**65**	T	T	10 35 38.1	
	baz=314,slow=75,SNR=4.2						
LSA	**Lhasa**	**43.59**	**313**	*e*P	**P**	**09 49 57.2**	**-1.5**
	6.1nm,0.6s						
DZM	**Mont Dzumac**	**45.57**	**124**	P	**P**	**09 50 15.2**	**+1.0**
	5.7nm,0.8s,baz=57,slow=5.8,SNR=4.1						
SONM	**Songino Array**	**48.97**	**342**	P	**P**	**09 50 40.8**	**+0.5**
	2.0nm,0.6s,baz=150,slow=9.0,SNR=8.3						
SONM				LR	LR	10 14 07.8	
	comp=Z,48nm,19.0s,baz=144,slow=39						
SONA1	**Songino Array**	**48.98**	**342**	*e*P	**P**	**09 50 40.3**	**-0.1**
WMQ	**Urumqi**	**54.16**	**326**	P	**P**	**09 51 19.9**	**+0.8**
WMQ				pP	sP	09 51 35.8	-1.8
WMQ				sP	pP	09 51 42.9	+11
WMQ				PMZ			
	7.0nm,1.0s						
WMQ				PMZ			
	56nm,4.2s						
PETK	**Petropavlovsk-**	**57.10**	**22**	P	**P**	**09 51 40.5**	**+0.6**
	5.0nm,0.9s,baz=191,slow=4.1,SNR=5.7						
MK01	**Makanchi Array**	**58.98**	**326**	*e*P	**P**	**09 51 52.3**	**-0.9**
MK31	**Makanchi Array**	**58.99**	**326**	*e*P	**P**	**09 51 52.1**	**-1.2**
MKAR	**Makanchi Array**	**58.99**	**326**	P	**P**	**09 51 52.4**	**-0.9**
	3.1nm,0.5s,baz=118,slow=8.1,SNR=38						
MKAR				LR	LR	10 17 43.6	
	comp=Z,47nm,21.9s,baz=108,slow=36						
MKAR	**Makanchi Array**	**58.99**	**326**	*e*P	**P**	**09 51 52.0**	**-1.3**
MAKZ	**Makanchi**	**59.18**	**326**	*e*P	**P**	**09 51 53.8**	**-0.8**
	3.8nm,0.7s						
KSH	**Kashi**	**59.28**	**316**	*e*P	**P**	**09 51 57.5**	**+2.0**
KSH				pP	sP	09 52 13.8	-0.4
KSH				PcP	**PcP**	**09 54 44.8**	**+1.4**
KSH				PP	**PP**	**09 54 10.3**	**+3.4**
KSH				S	**S**	**10 00 00.1**	**-0.5**
KSH				ScS	**ScS**	**10 01 38.4**	**-3.7**
KSH				SS	**SS**	**10 03 56.0**	**+0.1**
KSH				PMZ			
	5.0nm,0.4s						
KSH				PMZ			
	71nm,5.4s						
KSH				LN			
	150nm,10.4s						
KSH				LE			
	110nm,5.8s						
KSH				LZ			
	200nm,6.2s						
TKM2	**Tokmak 2**	**61.05**	**319**	*e*P	**P**	**09 52 07.0**	**-0.8**
	6.6nm,1.3s						
EKS2	**Erkin-Say**	**62.14**	**318**	*e*P	**P**	**09 52 14.3**	**-0.7**
	8.0nm,1.3s						
ZALV	**Zalesovo Beam**	**62.16**	**334**	P	**P**	**09 52 14.5**	**-0.2**
	0.8nm,0.5s,baz=130,slow=6.9,SNR=3.6						
KURK	**Kurchatov**	**63.22**	**328**	*e*P	**P**	**09 52 21.1**	**-0.7**
	28nm,0.6s						
BVAR	**Borovoye Array**	**68.79**	**327**	P	**P**	**09 52 57.2**	**-0.4**
	2.2nm,0.7s,baz=146,slow=8.6,SNR=9.1						
BRVK	**Borovoye**	**68.86**	**327**	*e*P	**P**	**09 52 57.8**	**-0.2**
	68nm,0.9s						
ZRNK	**Zerenda**	**69.50**	**327**	⇑Pn	**P**	**09 53 01.1**	**-0.9**
	3.0nm,0.5s						
ZRNK				⇑Lg	Lg	09 53 57.5	
	1.0nm,0.8s						
ZRNK	**Zerenda**	**69.50**	**327**	*e*P	**P**	**09 53 01.4**	**-0.6**
	4.9nm,0.5s						
GEYT	**Alibeck**	**71.97**	**309**	P	**P**	**09 53 16.7**	**-0.7**
	1.8nm,0.3s,baz=128,slow=2.4,SNR=2.5						
ABKAR	**Akbulak array**	**73.50**	**321**	*e*P	**P**	**09 53 25.7**	**-0.4**
ARU	**Arti**	**76.42**	**328**	*e*P	**P**	**09 53 41.8**	**-1.0**
	5.9nm,0.6s						
VNDA	**Vanda**	**81.67**	**173**	P	**P**	**09 54 11.1**	**0.0**
	4.2nm,0.9s,baz=304,slow=5.7,SNR=22						
VNDA	**Vanda**	**81.67**	**173**	*e*P	**P**	**09 54 10.6**	**-0.6**
	3.8nm,0.9s						
SBA	**Scott Base**	**82.58**	**172**	*e*P	**P**	**09 54 16.1**	**+0.2**
	3.5nm,0.9s						
KBZ	**Khabaz**	**84.17**	**314**	P	**P**	**09 54 23.4**	**-1.4**
	3.0nm,1.0s,baz=78,slow=5.6,SNR=2.9						
PMR	**Palmer**	**85.53**	**29**	*e*P	**P**	**09 54 31.7**	**+0.5**
	4.4nm,1.0s						
COLD	**Coldfoot**	**85.55**	**23**	*e*P	**P**	**09 54 31.1**	**-0.2**
	2.9nm,1.0s						
ILAR	**Eielson Array**	**86.73**	**25**	P	**P**	**09 54 35.7**	**-1.4**
	0.2nm,0.4s,baz=248,slow=5.0,SNR=3.4						
BRTR	**Keskin Array B**	**91.12**	**310**	P	**P**	**09 54 57.6**	**-1.0**
	0.8nm,0.6s,baz=123,slow=6.1,SNR=6.3						
BR231	**Keskin MP Arra**	**91.77**	**310**	*e*P	**P**	**09 54 58.1**	**-3.5**
ARCES	**ARCESS Array B**	**92.10**	**340**	P	**P**	**09 55 00.0**	**-2.3**
	2.5nm,0.9s,baz=79,slow=6.5,SNR=3.8						
AKASG	**Malin Array Be**	**93.24**	**321**	P	**P**	**09 55 06.7**	**-1.3**
	0.3nm,0.4s,baz=68,slow=4.0,SNR=3.1						
FINES	**FINESS Array B**	**93.38**	**332**	P	**P**	**09 55 06.9**	**-1.4**
	1.8nm,0.7s,baz=75,slow=10,SNR=3.8						
CLL	**Collm**	**103.05**	**324**	*e*PP	PP	10 00 04.0	-2.8
SCHQ	**Schefferville**	**122.33**	**9**	PKP	**PKPdf**	**10 00 48.7**	**+0.4**
	1.9nm,0.8s,baz=270,slow=3.0,SNR=5.3						
TXAR	**Lajitas Array**	**122.72**	**53**	PKP	**PKPdf**	**10 00 50.3**	**+0.3**
	0.1nm,0.7s,baz=205,slow=4.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**123.41**	**287**	PKP	**PKPdf**	**10 00 50.9**	**-0.6**
	1.1nm,0.9s,baz=42,slow=2.0,SNR=4.4						

NNC 23 09:52:00.3±2.4,**50.°11N**×**72.°99E**,**h0**km,**mb3.2,mpv2.8, 5C-3D,Error ellipse: s-maj=40.0km s-min=8.4km az=83.0,Suspected Mining explosion.,Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**1.92**	**193**	⇓Pn	**Pb**	**09 52 36.0**	**-0.1**
	3.1nm,0.7s						
OTUK				⇑Sn	**Sn**	**09 52 59.1**	**+0.2**
	1.0nm,0.5s						
VOSK	**Vostochnaya**	**2.91**	**335**	⇓Pg	**Pb**	**09 52 53.3**	**+0.4**
	1.6nm,0.5s						
VOSK				⇑Lg	Lg	09 53 29.4	
	8.5nm,0.8s						
BVA0	**Borovoye Array**	**3.34**	**332**	⇓Pg	**Pb**	**09 53 01.7**	**+1.3**
	3.2nm,0.8s,baz=150,slow=16,SNR=13						
BVA0				⇑Lg	Lg	09 53 45.6	
	26nm,1.1s,baz=146,slow=30,SNR=2.7						
BRVK	**Borovoye**	**3.40**	**331**	⇑Pg	**Pb**	**09 53 01.4**	**0.0**
BRVK				⇑Lg	Lg	09 53 48.0	

TIF ***23*** *10:00:18.8,43.°25N×46.°50E,h11km±1km*
MOS ***23*** *10:00:20.2±2.1,43.°12N×46.°40E,h11km,mb4.2/1,Error ellipse: s-maj=8.6km s-min=5.6km az=32.6*
ISC 23 10:00:18.7±1.3,**43.°24N**±0.°04×**46.°50E**±0.°03,**h3**km±10km, **n33**,σ1$**40**/63,**3C-3D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.33**	**132**	⇑*i*PG	**Pn**	**10 00 33.3**	**+2.8**
DBC				*i* S	**Sb**	**10 00 38.8**	**+5.9**
DBC				pmax	pmax		
	comp=Z,140nm,0.1s						
KRNR	**Karanay**	**0.51**	**144**	⇓*i*PG	**Pg**	**10 00 28.0**	**-0.5**
KRNR				*i* S	**Sb**	**10 00 35.6**	**-2.6**
KRNR				pmax	pmax		
	comp=Z,52nm,0.2s						
GROC	**Groznyy**	**0.52**	**266**	*e*PG	**Pg**	**10 00 29.0**	**+0.4**
GROC				*e*		10 00 37.5	
GROC				pmax	pmax		
	comp=Z,72nm,0.4s						
GROC				smax	smax		
	comp=E,194nm,0.5s						
GROC				smax	smax		
	comp=N,332nm,0.4s						
GROC				smax	smax		
	comp=E,413nm,0.6s						
UNCR	**Uncukul**	**0.57**	**158**	*e*PG	**Pg**	**10 00 28.5**	**-1.1**
UNCR				*i* S	**Sg**	**10 00 37.0**	**0.0**
UNCR				pmax	pmax		
	comp=Z,137nm,0.3s						
BUJR	**Buynaksk**	**0.61**	**133**	PG	**Pn**	**10 00 35.5**	**+1.2**
BUJR				*i* S	**Sn**	**10 00 45.8**	**+1.2**
XNZR	**Khunzakh**	**0.71**	**168**	*e*PG	**Pg**	**10 00 31.0**	**-1.4**
XNZR				*e*S	**Sb**	**10 00 42.5**	**-1.6**
ARKR	**Arakani**	**0.73**	**150**	*e*PG	**Pg**	**10 00 32

JYS	**Shirataka**	**1.61 269**	P	Pn	10 07 29.9	+0.9
JRG	**Rokugo**	**1.62 315**	P	Pn	10 07 30.9	+1.8
MAT	**Matsushiro**	**3.55 242**	P	Pn	10 07 58.9	+3.2
MAT			*e*S	Sn	10 08 40.3	+3.9

NIED ***23*** *10:15:00,40.00N×142.40E,h44km,Mw4.4 Best double couple: M₀4.72000×10¹⁵ NP1:φs187.00000°,δ18.00000°, λ72.00000°. NP2:φs26.00000°,δ73.00000°,λ96.00000°.*
MOS ***23*** *10:15:54.7±1.1,39.94N×142.27E,h32km,mb4.5/30, Error ellipse: s-maj=11.8km s-min=6.3km az=99.6*
ISCJB ***23*** *10:15:56.6±0.5,39.99N±0.03×142.42E±0.05,h49km±3km, mb4.3/44,MS3.6/2, Error ellipse: s-maj=7.1km s-min=4.4km az=25.5*
JMA ***23*** *10:15:56.8±0.1,39.97N×142.42E,h38km±1km,M4.3*
JMA Felt II J1.
BJI ***23*** *10:15:56.1,40.10N×142.20E,h35km,mb4.6/26,mB4.9/20, Ms4.5/9,Ms7 4.3/9*
NEIC ***23*** *10:15:57.2±0.5,40.04N×142.42E,h35km,mb4.7/12, Error ellipse: s-maj=11.1km s-min=6.6km az=121.0*
NEIC Recorded [2 JMA] in Aomori.
IDC ***23*** *10:15:59.1±2.1,39.98N×142.36E,h58km±17km,mb3.9/22, mb1 4.0/26,mb1mx3.9/38,mbtmp4.1/26,ML3.6/4,MS3.4/5, Ms1 3.4/5,ms1mx3.0/46, Error ellipse: s-maj=16.4km s-min=11.5km az=114.0*
ISC 23 10:15:57.7±0.9,39.97N±0.04×142.43E±0.05,h42km±7km, n124,σ1s70/141,mb4.3/44,12C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.44**	**267**	P		**Pn**		**10 16 06.6**	**-1.1**
JTH				S		**Sn**		**10 16 13.5**	**-1.2**
MIYJ	**Miyakonagasawa**	**0.61**	**231**	P		**Pn**		**10 16 08.8**	**-1.1**
MIYJ				S		**Sn**		**10 16 17.2**	**-1.5**
JANG	**Nango**	**0.81**	**301**	P		**Pn**		**10 16 11.4**	**-1.3**
JANG				S		**Sn**		**10 16 21.5**	**-2.1**
JKZ	**Kuzumaki**	**0.85**	**272**	P		**Pn**		**10 16 12.7**	**-0.5**
JKZ				S		**Sn**		**10 16 23.3**	**-1.2**
JOM	**Ohasama**	**1.00**	**241**	P		**Pn**		**10 16 14.7**	**-0.6**
JOM				S		**Sn**		**10 16 27.8**	**-0.5**
OFUJ	**Ofunato**	**1.06**	**214**	P		**Pn**		**10 16 15.4**	**-0.7**
OFUJ				S		**Sn**		**10 16 29.5**	**-0.1**
JTM	**Tenmabayashi**	**1.32**	**309**	P		**Pn**		**10 16 19.3**	**-0.4**
JTM				S		**Sn**		**10 16 36.2**	**+0.1**
JMK	**Ichinoseki**	**1.38**	**223**	P		**Pn**		**10 16 20.1**	**-0.3**
JAH	**Hinai**	**1.40**	**280**	P		**Pn**		**10 16 20.5**	**-0.1**
JRG	**Rokugo**	**1.50**	**248**	P		**Pn**		**10 16 21.7**	**-0.4**
ERM	**Erimo**	**2.12**	**15**	⇑*i*P		**Pn**		**10 16 31.7**	**+1.1**
ERM				pmax	pmax				
	comp=Z,17nm,0.5s								
ERM	**Erimo**	**2.12**	**15**	*e*Pn		**Pn**		**10 16 32.1**	**+1.5**
ASAJ	**Asahikawa**	**4.15**	**2**	P		**Pn**		**10 16 59.2**	**+0.8**
	comp=Z,6.7nm,0.3s,baz=239,slow=12,SNR=43								
ASAJ				S		**Sn**		**10 17 47.5**	**+1.8**
	baz=90,slow=16								
ASAJ	**Asahikawa**	**4.15**	**2**	*e*Pn		**Pn**		**10 16 59.7**	**+1.2**
ASAJ				S		**Sn**		**10 17 47.5**	**+1.8**
MJB9	**Matsu-Tunnel**	**4.76**	**226**	*e*Pn		**Pn**		**10 17 09.2**	**+2.3**
MAJO	**Matsushiro**	**4.77**	**226**	*c iP*		**Pn**		**10 17 09.5**	**+2.5**
MAJO	**Matsushiro**	**4.77**	**226**	*e*Pn		**Pn**		**10 17 09.2**	**+2.2**
MAT	**Matsushiro**	**4.77**	**226**	P		**Pn**		**10 17 09.5**	**+2.5**
MAT				*e*S		**Sn**		**10 18 09.9**	**+8.9**
MJAR	**Matsushiro Arr**	**4.77**	**226**	P		**Pn**		**10 17 09.0**	**+2.0**
	comp=Z,5.2nm,0.3s,baz=31,slow=13,SNR=49								
MJAR				LR		LR		10 19 15.2	
	comp=Z,402nm,20.6s,baz=55,slow=41								
MJAR	**Matsushiro Arr**	**4.77**	**226**	P		**Pn**		**10 17 09.0**	**+2.0**
MJAR				pmax	pmax				
	comp=Z,5.0nm,0.3s								
MJAR				MLR	MLR				
	comp=Z,402nm,20.7s								
YUK	**Yuzh-Kuril'sk**	**4.80**	**31**	⇓*i*P		**Pn**		**10 17 07.6**	**+0.2**
INU	**Inuyama**	**6.30**	**225**	*e*Pn		**Pn**		**10 17 30.1**	**+2.1**
KUR	**Kuril'sk**	**6.62**	**36**	*e*P		**Pn**		**10 17 30.9**	**-1.4**
KUR				*e*S		**Sn**		**10 18 42.6**	**-3.8**
KUR				smax	smax				
	comp=N,52nm,0.6s								
KUR				smax	smax				
	comp=E,37nm,0.6s								
YSS	**Yuzh-Sakhalins**	**6.99**	**2**	⇑*e*P		**Pn**		**10 17 37.6**	**+0.2**
YSS				*e*S		**Sn**		**10 18 57.7**	**+2.1**
YSS				pmax	pmax				
	comp=Z,20nm,0.9s								
YSS				smax	smax				
	comp=N,30nm,1.0s								
YSS				MLR	MLR				
	comp=Z,300nm,15.0s								
YSS	**Yuzh-Sakhalins**	**6.99**	**2**	*e*Pn		**Pn**		**10 17 37.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**8.84**	**302**	P		**Pn**		**10 18 04.4**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=103,slow=15,SNR=12								
USRK				LR		LR		10 21 22.0	
	comp=Z,358nm,18.4s,baz=129,slow=37								
MDJ	**Mudanjiang**	**10.58**	**300**	Pn		**Pn**		**10 18 27.7**	**+1.1**
	comp=Z,19nm,1.0s								
KSRS	**Korea Array**	**11.61**	**262**	P		**Pn**		**10 18 45.0**	**+4.3**
	comp=Z,0.7nm,0.3s,baz=74,slow=14,SNR=8.0								
KSRS				LR		LR		10 22 54.6	
	comp=Z,226nm,18.2s,baz=76,slow=36								
KSRS	**Korea Array**	**11.61**	**262**	P		**Pn**		**10 18 45.0**	**+4.3**
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KSRS				MLR	MLR				
	comp=Z,226nm,18.2s								
KSAR	**Wonju Array Be**	**11.64**	**262**	P		**Pn**		**10 18 45.0**	**+3.8**
KSAR	**Wonju Array Be**	**11.64**	**262**	P		**Pn**		**10 18 45.0**	**+3.8**
KLR	**Kul'dur**	**11.98**	**324**	P		**Pn**		**10 18 46.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=136,slow=15,SNR=3.5								
KLR				LR		LR		10 23 25.6	
	comp=Z,283nm,19.6s,baz=144,slow=37								
KLR	**Kul'dur**	**11.98**	**324**	⇑*i*P		**Pn**		**10 18 43.9**	**-1.8**
CN2	**Changchun**	**13.22**	**292**	*e*P		**Pn**		**10 19 05.6**	**+2.9**
PETK	**Petropavlovsk-**	**16.78**	**33**	LR		LR		10 26 43.2	
	comp=Z,29nm,19.2s,baz=223,slow=38								
YAK	**Yakutsk**	**23.42**	**345**	*e*P		**P**		**10 21 01.4**	**-1.2**
YAK				pmax	pmax				
	comp=Z,14nm,1.1s								
YAK				pmax	pmax				
	comp=N,8.0nm,1.5s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.2s								
YAK	**Yakutsk**	**23.42**	**345**	*e*P		**P**		**10 21 01.9**	**-0.7**
HHC	**Hu-ho-hao-te**	**23.46**	**282**	*e*P		**P**		**10 21 02.0**	**-1.5**
HHC				PMZ					
	comp=E,15nm,0.9s								
HHC				PMZ					
	comp=E,87nm,4.9s								
SEY	**Seymchan**	**23.77**	**11**	P		**P**		**10 21 04.9**	**-1.0**
	comp=E,7.9nm,1.0s,baz=188,slow=6.1,SNR=19								
SEY	**Seymchan**	**23.77**	**11**	⇓*i*P		**P**		**10 21 05.8**	**-0.1**
BOD	**Bodaibo**	**25.56**	**324**	*e*P		**P**		**10 21 20.9**	**-1.4**
BOD				pmax	pmax				
	comp=Z,8.0nm,1.1s								
ULN	**Ulaanbaatar**	**26.50**	**299**	⇑*i*P		**P**		**10 21 32.8**	**+1.7**
ULN				pmax	pmax				
	comp=Z,8.0nm,2.5s								
SONA1	**Songino Array**	**26.93**	**299**	*e*P		**P**		**10 21 33.4**	**-1.6**
SONM	**Songino Array**	**26.94**	**299**	P		**P**		**10 21 34.0**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=104,slow=9.7,SNR=7.1								
H11N2	**WAKE ISLAND Hy**	**29.11**	**127**	T		T		10 52 35.1	
	baz=319,slow=75,SNR=371								
H11N1	**WAKE ISLAND Hy**	**29.12**	**127**	T		T		10 52 36.8	
	baz=319,slow=75,SNR=219								
H11N3	**WAKE ISLAND Hy**	**29.13**	**127**	T		T		10 52 37.9	
	baz=319,slow=75,SNR=284								
ZAK	**Zakamensk**	**29.18**	**304**	*e*P		**P**		**10 21 52.4**	**-2.6**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.4s								
H11S1	**WAKE ISLAND Hy**	**29.92**	**129**	T		T		10 53 37.8	
	baz=320,slow=76,SNR=75								
H11S3	**WAKE ISLAND Hy**	**29.92**	**129**	T		T		10 53 38.0	
	baz=320,slow=76,SNR=51								
H11S2	**WAKE ISLAND Hy**	**29.94**	**129**	T		T		10 53 38.8	
	baz=320,slow=76,SNR=48								
BILL	**Bilibino**	**31.00**	**17**	⇑*e*P		**P**		**10 22 11.5**	**+0.8**
BILL				*e*				10 23 11.4	
BILL				*e*S		**S**		**10 27 11.0**	**-1.3**
BILL				pmax	pmax				
	comp=Z,3.0nm,1.1s								
BILL				MLR	MLR				
	comp=Z,53nm,16.0s								
TIXI	**Tiksi**	**32.49**	**352**	P		**P**		**10 22 22.0**	**-1.8**
	comp=Z,0.8nm,0.2s,baz=169,slow=4.5,SNR=2.7								
TIXI	**Tiksi**	**32.49**	**352**	⇑P		**P**		**10 22 23.7**	**-0.1**
TIXI				pmax	pmax				
	comp=Z,2.0nm,0.8s								
CD2	**Chengdu**	**32.57**	**266**	*e*P		**P**		**10 22 23.8**	**-1.2**
CD2				pP	pP			10 22 33.8	-2.6
CD2				sP	sP			10 22 38.3	-3.1
CD2				S		**S**		**10 27 35.9**	**-1.8**
CD2				sS	sS			10 27 53.0	-3.7
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
GTA	**Gaotai**	**32.57**	**283**	*e*P		**P**		**10 22 25.1**	**0.0**
GTA				pP	pP			10 22 34.4	-2.1
GTA				sP	sP			10 22 38.8	-2.7
GTA				S		**S**		**10 27 37.0**	**-0.8**
GTA				sS	sS			10 27 53.6	-3.2
GTA				SS		**SnSn**		**10 29 34.1**	**-0.2**
GTA				PMZ					
	comp=Z,5.0nm,1.0s								
GTA				PMZ					
	comp=Z,71nm,4.1s								
GTA				LN					
	comp=Z,100nm,16.6s								
GTA				LE					
	comp=Z,200nm,16.2s								
GTA				LZ					
	comp=Z,190nm,17.6s								
GYA	**Guiyang**	**32.59**	**257**	P		**P**		**10 22 25.6**	**+0.3**
GYA				PMZ					
	comp=Z,10.0nm,0.8s								
WMQ	**Urumqi**	**40.30**	**294**	P		**P**		**10 23 32.0**	**+1.2**
WMQ				pP	pP			10 23 41.6	-0.8
WMQ				sP	sP			10 23 46.0	-1.4
WMQ				PMZ					
	comp=Z,4.0nm,1.2s								
WMQ				PMZ					
	comp=Z,37nm,4.0s								
ZAA0	**Zalesovo Array**	**40.59**	**310**	*e*P		**P**		**10 23 31.4**	**-1.5**
ZAA0				*e*P		**P**		**10 23 31.6**	**-1.4**
ZALV	**Zalesovo Beam**	**40.59**	**310**	P		**P**		**10 23 31.0**	**-1.9**
	comp=Z,2.0nm,0.4s,baz=86,slow=7.5,SNR=8.0								
CMAR	**Chiang Mai Arr**	**43.06**	**253**	P		**P**		**10 23 53.7**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=46,slow=6.0,SNR=5.6								
MK01	**Makanchi Array**	**43.30**	**300**	*e*P		**P**		**10 23 54.5**	**-0.7**
MK31	**Makanchi Array**	**43.30**	**300**	*e*P		**P**		**10 23 54.3**	**-0.9**
MK31	**Makanchi Array**	**43.30**	**300**	*e*P		**P**		**10 23 54.3**	**-0.9**
MKAR	**Makanchi Array**	**43.30**	**300**	P		**P**		**10 23 54.6**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=87,slow=9.8,SNR=10								
MKAR	**Makanchi Array**	**43.30**	**300**	*e*P		**P**		**10 23 54.1**	**-1.1**
MAKZ	**Makanchi**	**43.51**	**300**	*e*P		**P**		**10 23 56.0**	**-0.9**
MAKZ				pmax	pmax				
	comp=Z,7.0nm,0.9s								
MAKZ	**Makanchi**	**43.51**	**300**	*e*P		**P**		**10 23 56.0**	**-0.9**
	comp=Z,7.2nm,0.9s								
KURK	**Kurchatov**	**44.81**	**306**	*c e*P		**P**		**10 24 06.7**	**-0.5**
KURK				pmax	pmax				
	comp=Z,33nm,0.8s								
KURK	**Kurchatov**	**44.81**	**306**	*e*P		**P**		**10 24 06.5**	**-0.7**
	comp=Z,39nm,1.0s								
KURBB	**Kurchatov Arra**	**44.88**	**306**	P		**P**		**10 24 07.1**	**-0.7**
	comp=Z,4.6nm,0.5s,baz=81,slow=8.3,SNR=35								
IL1	**Eielson Array**	**46.61**	**34**	*e*P		**P**		**10 24 21.3**	**+0.1**
ILAR	**Eielson Array**	**46.61**	**34**	P		**P**		**10 24 21.7**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=266,slow=6.4,SNR=16								
TKM2	**Tokmak 2**	**48.99**	**296**	*e*P		**P**		**10 24 40.2**	**0.0**
TKM2				pmax	pmax				
	comp=Z,9.0nm,0.9s								
TKM2	**Tokmak 2**	**48.99**	**296**	*e*P		**P**		**10 24 40.2**	**0.0**
	comp=Z,9.4nm,0.9s								
EGAK	**Eagle**	**49.05**	**33**	*e*P		**P**		**10 24 39.5**	**-0.6**
	comp=Z,5.7nm,1.3s								
BVAR	**Borovoye Array**	**49.23**	**311**	P		**P**		**10 24 41.4**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=72,slow=9.5,SNR=9.4								
BRVK	**Borovoye**	**49.28**	**311**	*c e*P		**P**		**10 24 42.4**	**+0.3**
BRVK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KSH	**Kashi**	**49.99**	**292**	*e*P		**P**		**10 24 51.0**	**+3.2**
KSH				pP	pP			10 25 01.6	+1.9
KSH				PcP	**PcP**			**10 26 11.1**	**+3.7**
KSH				PP	**PP**			**10 26 48.3**	**+5.5**
KSH				S	**S**			**10 31 57.8**	**+2.2**
KSH				ScS	**ScS**			**10 34 36.9**	**+1.2**
KSH				SS	**SS**			**10 35 28.8**	**+0.2**
KSH				PMZ					
	comp=Z,5.0nm,0.3s								
KSH				PMZ					
	comp=Z,78nm,4.1s								
KSH				LN					
	comp=Z,240nm,9.1s								
KSH				LE					
	comp=Z,280nm,8.2s								
KSH				LZ					
	comp=Z,210nm,8.3s								
ZRNK	**Zerenda**	**50.06**	**311**	*e*P		**P**		**10 24 47.4**	**-0.5**
ZRNK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
ZRNK	**Zerenda**	**50.06**	**311**	*e*P		**P**		**10 24 47.4**	**-0.5**
	comp=Z,6.9nm,0.8s								
INK	**Inuvik**	**51.42**	**28**	P		**P**		**10 24 57.9**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=286,slow=5.6,SNR=3.6								
INK	**Inuvik**	**51.42**	**28**	P		**P**		**10 24 57.9**	**-0.1**
INK				*e*P		**P**		**10 24 58.2**	**+0.3**
KKAR	**Karatay Array**	**52.39**	**298**	*e*P		**P**		**10 25 05.0**	**-0.6**
KKAR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
KKAR	**Karatay Array**	**52.39**	**298**	*e*P		**P**		**10 25 05.0**	**-0.6**
	comp=Z,6.8nm,0.8s								
ARU	**Arti**	**54.72**	**317**	*c iP*		**P**		**10 25 22.1**	**-0.3**
ARU								10 27 23.3	
ARU				S		**S**		**10 32 59.6**	**0.0**
ARU				pmax	pmax				
	comp=Z,15nm,1.0s								
ARU	**Arti**	**54.72**	**317**	*e*P		**P**		**10 25 21.9**	**-0.5**
	comp=Z,14nm,1.0s								
ABKAR	**Akbulak array**	**56.69**	**309**	*e*P		**P**		**10 25 36.2**	**-0.5**
KBL	**Kabul**	**57.15**	**290**	*e*P		**P**		**10 25 39.5**	**-0.9**
KBL				pmax	pmax				
	comp=Z,13nm,0.9s								
KBL	**Kabul**	**57.15**	**290**	*e*P		**P**		**10 25 39.5**	**-0.9**
	comp=Z,13nm,0.9s								
WRA	**Warramunga Arr**	**60.07**	**189**	P		**P**		**10 25 59.5**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=7.1,slow=6.9,SNR=16								
YKA	**Yellowknife Ar**	**60.88**	**31**	P		**P**		**10 26 05.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=302,slow=6.7,SNR=5.2								
KLMR	**Klimovskoe**	**61.72**	**327**	*e*P		**P**		**10 26 09.5**	**-1.7**
KLMR				pmax	pmax				
	comp=Z,7.0nm,1.3s								
GEYT	**Alibeck**	**63.14**	**298**	P		**P**		**10 26 21.0**	**-0.2**
	comp=Z,3.7nm,0.4s,baz=280,slow=8.9,SNR=4.2								
ASAR	**Alice Springs**	**63.80**	**189**	P		**P**		**10 26 25.1**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=4.4,slow=6.1,SNR=13								
OBN	**Obninsk**	**66.24**	**323**	⇑*e*P		**P**		**10 26 40.3**	**-0.7**
OBN				*e*				10 27 10.3	
OBN				*e*				10 29 04.0	
OBN				pmax	pmax				
	comp=Z,6.0nm,0.4s								
OBN				MLR	MLR				
	comp=Z,71nm,17.0s								
FINES	**FINESS Array B**	**66.60**	**332**	P		**P**		**10 26 42.6**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=33,slow=7.3,SNR=6.4								
FINES	**FINESS Array B**	**66.60**	**332**	P		**P**		**10 26 42.6**	**-0.6**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
SUMG	**Summit**	**67.76**	**0**	*e*P		**P**		**10 26 51.3**	**+0.4**
SUMG				pmax	pmax				
	comp=Z,6.0nm,0.9s								
SUMG	**Summit**	**67.76**	**0**	*e*P		**P**		**10 26 51.3**	**+0.4**
	comp=Z,6.0nm,0.9s								
KIV	**Kislovodsk**	**69.60**	**311**	*e*P		**P**		**10 27 04.0**	**+1.5**
KIV				pmax	pmax				
	comp=Z,19nm,0.9s								
KBZ	**Khabaz**	**69.61**	**310**	P		**P**		**10 27 02.9**	**+0.5**
	comp=Z,7.1nm,0.9s,baz=95,slow=2.7,SNR=11								
NB2	**NORSAR Subarra**	**71.79**	**337**	P		**P**		**10 27 14.9**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=38,slow=6.2								
NOA	**NORSAR Array B**	**71.79**	**337**	P		**P**		**10 27 15.1**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=39,slow=6.1,SNR=7.5								
AKASG	**Malin Array Be**	**72.47**	**322**	P		**P**		**10 27 19.1**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=44,slow=6.4,SNR=11								
KIEV	**Kiev**	**72.48**	**322**	*e*P		**P**		**10 27 18.9**	**-0.8**
KIEV				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KIEV	**Kiev**	**72.48**	**322**	*e*P		**P**		**10 27 18.9**	**-0.8**
	comp=Z,5.7nm,0.9s								
AK11	**Malin Array Si**	**72.51**	**322**	*e*P		**P**		**10 27 19.5**	**-0.4**
PDAR	**Pinedale Array**	**75.06**	**46**	P		**P**		**10 27 35.9**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=339,slow=9.7,SNR=2.3								
BUR08	**Bucovina Ar. S**	**76.50**	**322**	*e*P		**P**		**10 27 43.4**	**+0.2**
OJC	**Ojcow**	**77.05**	**326**	*e*P		**P**		**10 27 46.0**	**-0.1**
OJC				pmax	pmax				
	comp=Z,6.0nm,0.8s								
OJC	**Ojcow**	**77.05**	**326**	*e*P		**P**		**10 27 46.0**	**-0.1**
	comp=Z,6.3nm,0.8s								
BRTR	**Keskin Array B**	**77.51**	**312**	P		**P**		**10 27 48.5**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=131,slow=5.3,SNR=5.8								
BR231	**Keskin MP Arra**	**77.92**	**312**	*e*P		**P**		**10 27 49.9**	**-1.4**
SMCO	**Snowmass**	**78.91**	**48**	*e*P		**P**		**10 27 53.3**	**-3.9**
	comp=Z,2.0nm,0.6s								
CLL	**Collm**	**78.95**	**330**	*e*P		**P**		**10 27 58.0**	**+1.4**
	comp=Z,4.0nm,1.0s								
CLL	**Collm**	**78.95**	**330**	*e*P		**P**		**10 27 58.0**	**+1.4**
CLL				pmax	pmax				
	comp=Z,4.0nm,1.0s								
PRU	**Pruhonice**	**79.40**	**329**	*e*P		**P**		**10 27 59.7**	**+0.6**
PRU	**Pruhonice**	**79.40**	**329**	*e*P		**P**		**10 27 59.7**	**+0.6**
KHC	**Kasperske Hory**	**80.46**	**329**	*e*P		**P**		**10 28 05.6**	**+0.7**
KHC	**Kasperske Hory**	**80.46**	**329**	*e*P		**P**		**10 28 05.6**	**+0.7**
GERES	**GERESS Array B**	**80.64**	**329**	P		**P**		**10 28 05.5**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=16,slow=6.0,SNR=6.6								
ANMO	**Albuquerque**	**82.10**	**51**	*c e*P		**P**		**10 28 16.6**	**+2.5**
ANMO				pmax	pmax				
	comp=Z,2.0nm,1.2s								
TXAR	**Lajitas Array**	**87.71**	**53**	P		**P**		**10 28 42.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=273,slow=4.8,SNR=3.6								

ISCJB ***23*** *10:31:55.0±0.6,6.50N±0.08×125.83E±0.09,h149km±6km, mb3.6/6, Error ellipse: s-maj=14.9km s-min=12.9km az=165.6*
IDC ***23*** *10:31:55.9±1.2,6.62N×125.94E,h143km±5km,mb3.4/6, mb1 3.5/6,mb1mx3.3/40,mbtmp3.8/6, Error ellipse: s-maj=98.7km s-min=14.0km az=69.0*
ISC 23 10:31:56.2±0.8,6.50N±0.09×125.82E±0.09,h143km±8km, n13,σ0s75/20,mb3.8/6,1C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.61**	**338**	P		**Pn**		**10 32 17.2**	**-0.2**
	294nm,0.3s,baz=245,slow=3.5,SNR=26								
DAV				S		**Sn**		**10 32 34.0**	**+0.5**
	889nm,0.3s,baz=165,slow=20,SNR=39								
DMPH	**Davao City--Mi**	**0.66**	**332**	⇑*e*P		**Pn**		**10 32 17.5**	**-0.2**
DMPH				*e*S		**Sn**		**10 32 33.7**	**-0.4**
KCP	**Kidapawan**	**0.88**	**305**	⇓*e*P		**Pn**		**10 32 18.8**	**-0.6**
KCP				*i* S		**Sn**		**10 32 36.9**	**-0.1**
CTBH	**Cotabato--PC H**	**1.71**	**295**	⇓*i*P		**Pn**		**10 32 27.4**	**-0.2**
CTBH				*i* S		**Sn**		**10 32 52.3**	**+0.6**
BIPH	**Bislig**	**1.76**	**18**	⇓*e*P		**Pn**		**10 32 28.0**	**-0.2**
BIPH				*i* S		**Sn**		**10 32 53.0**	**+0.4**
CGP	**Cagayan de Oro**	**2.24**	**330**	⇓*e*P		**Pn**		**10 32 33.4**	**-0.4**
CGP				*e*S		**Sn**		**10 33 04.8**	**+2.1**
FITZ	**Fitzroy Crossi**	**24.45**	**180**	P		**P**		**10 37 02.9**	**+1.0**
	1.9nm,0.5s,baz=6.7,slow=5.8,SNR=11								
WRA	**Warramunga Arr**	**27.58**	**162**	P		**P**		**10 37 29.9**	**-0.3**
	0.2nm,0.3s,baz=345,slow=10,SNR=14								
ASAR	**Alice Springs**	**31.00**	**165**	P		**P**		**10 38 00.5**	**+0.1**
	0.3nm,0.3s,baz=343,slow=6.7,SNR=19								
ASAR				PcP		**PcP**		**10 40 53.6**	**+0.4**
	0.2nm,0.6s,baz=347,slow=2.9,SNR=3.4								
STKA	**Stephens Creek**	**41.02**	**159**	P		**P**		**10 39 26.1**	**+0.5**
	2.5nm,1.0s,baz=342,slow=13,SNR=5.1								
MKAR	**Makanchi Array**	**54.78**	**325**	P		**P**		**10 41 10.2**	**-1.0**
	0.5nm,0.5s,baz=128,slow=7.5,SNR=6.1								
ZALV	**Zalesovo Beam**	**57.72**	**333**	P		**P**		**10 41 31.3**	**-0.6**
	0.3nm,0.3s,baz=132,slow=6.0,SNR=2.7								
TORD	**Torodi Ar. Bea**	**121.17**	**290**	PKP		**PKPdf**		**10 50 32.7**	**-0.5**
	0.3nm,0.4s,baz=63,slow=2.0,SNR=7.5								

BJI ***23*** *10:34:57.8,38.37N×141.89E,h54km,mb5.3/71,mB5.1/55, Ms4.7/78,Ms7 4.6/75*
MOS ***23*** *10:34:57.8±0.8,38.47N×141.44E,h31km,mb5.6/89, MS4.6/35,Error ellipse: s-maj=6.1km s-min=3.7km az=100.5*
NEIC ***23*** *10:35:00.2±0.1,38.48N×141.44E,h35km,mb5.3/101, Error ellipse: s-maj=3.3km s-

JIZZ Izumozaki 2.53 248 ⇓P **Pn 10 35 41.6 +1.5**
JKT Katashina 2.58 229 ⇓P **Pn 10 35 42.6 +1.6**
JSD Sado 2.72 261 ⇓P **Pn 10 35 42.9 +0.2**
JOT Ohata 2.92 351 P **Pn 10 35 47.7 +2.2**
JGK Kuni 3.09 232 ⇓P **Pn 10 35 49.8 +2.0**
JJN Nakama 3.10 244 ⇓P **Pn 10 35 49.7 +1.7**
JRY Ryogami san 3.32 222 ⇓P **Pn 10 35 51.9 +0.9**
MJAR Matsushiro Arr 3.37 236 P **Pn 10 35 53.1 +1.4**
85nm,0.3s,baz=38,slow=12,SNR=596
MJAR LR LR 10 37 23.8
comp=Z,8μm,21.4s,baz=65,slow=44
MAJO Matsushiro 3.37 236*c iP* **Pn 10 35 53.5 +1.8**
MAJO Matsushiro 3.37 236 *e*Pn **Pn 10 35 53.6 +1.9**
MAT Matsushiro 3.37 236 P **Pn 10 35 53.5 +1.8**
MAT S Sn 10 36 41.0 +10
MAT Matsushiro 3.37 236 P **Pn 10 35 53.5 +1.8**
MJB9 Matsu-Tunnel 3.37 236 *e*Pn **Pn 10 35 53.3 +1.6**
JNG Nsakai 3.52 235 ⇓P **Pn 10 35 55.7 +1.8**
JSZ Suzu 3.56 254 P **Pn 10 35 54.7 +0.5**
ERM Erimo 3.69 18*d iP* **Pn 10 35 57.3 +1.2**
ERM pmax pmax
comp=Z,204nm,1.0s
ERM Erimo 3.69 18 *e*Pn **Pn 10 35 56.9 +0.8**
JHG Hegura jima 3.79 262 ⇓P **Pn 10 35 58.1 +0.6**
JTT Ttatey 3.93 243 P **Pn 10 36 01.5 +2.2**
JGN Niukaw 4.14 238 ⇓P **Pn 10 36 04.5 +2.1**
JNY Yasuok 4.37 225 ⇑P **Pn 10 36 08.1 +2.6**
JGF Kuroka 4.50 231 ⇓P **Pn 10 36 09.9 +2.7**
JKG Kaga 4.79 244 ⇓P **Pn 10 36 13.2 +2.0**
INU Inuyama 4.87 231 *e*Pn **Pn 10 36 14.7 +2.4**
JHJ Hachijo jima 2 5.58 196 P **Pn 10 36 21.4 -0.6**
comp=Z,125nm,0.3s,baz=87,slow=19,SNR=26
JHJ S Sn 10 37 22.1 -2.7
comp=Z,397nm,0.3s,baz=329,slow=23,SNR=7.7
JHJ2 Mitsune 5.58 196 *e*Pn **Pn 10 36 21.6 -0.4**
ASAJ Asahikawa 5.66 7 P **Pn 10 36 24.1 +1.1**
comp=Z,30nm,0.3s,baz=219,slow=9.5,SNR=260
ASAJ S Sn 10 37 28.1 +1.5
baz=138,slow=0.1
ASAJ Asahikawa 5.66 7 *e*Pn **Pn 10 36 23.6 +0.6**
ASAJ S Sn 10 37 28.1 +1.5
JKN2 Miekihoku 6.08 227 P **Pn 10 36 29.9 +1.0**
YUK Yuzh-Kuril'sk 6.37 28*i iP* **Pn 10 36 33.4 +0.7**
KUR Kuril'sk 8.16 33 *e*P **Pn 10 36 57.6 +0.3**
KUR *e*S **Sn 10 38 23.9 -4.2**
KUR smax smax
comp=N,166nm,0.4s
KUR smax smax
comp=E,574nm,0.4s
YSS Yuzh-Sakhalins 8.49 5*i iP* **Pn 10 37 02.5 +0.8**
YSS *e*S **Sn 10 38 36.6 +0.6**
YSS pmax pmax
comp=Z,90nm,0.9s
YSS MLR MLR
comp=Z,1μm,11.0s
YSS MLR MLR
comp=N,1μm,13.0s
YSS Yuzh-Sakhalins 8.49 5 *e*Pn **Pn 10 37 02.8 +1.0**
VLA Vladivostok 8.73 305*d iP* **Pn 10 37 08.7 +3.6**
VLA *e*S **Sn 10 38 48.6 +6.5**
VLA pmax pmax
comp=Z,776nm,1.5s
MSHR Mys Shultsa 8.98 300*d iP* **Pn 10 37 09.7 +1.2**
USRK Ussuriysk Ar. 9.23 311 P **Pn 10 37 13.3 +1.3**
comp=Z,19nm,0.3s,baz=129,slow=14,SNR=143
USRK LR LR 10 40 27.3
comp=Z,5μm,21.4s,baz=95,slow=36
JNU Nakatsue 10.27 242 P **Pn 10 37 27.5 +1.2**
comp=Z,5.4nm,0.3s,baz=56,slow=0.9,SNR=40
JNU LR LR 10 41 55.8
comp=Z,3μm,19.9s,baz=56,slow=41
JNU Nakatsue 10.27 242 *e*Pn **Pn 10 37 28.4 +2.2**
KSRS Korea Array 10.90 269 P **Pn 10 37 37.0 +2.2**
comp=Z,9.5nm,0.3s,baz=79,slow=14,SNR=119
KSRS LR LR 10 41 28.2
comp=Z,2μm,21.7s,baz=60,slow=36
KSRS Korea Array 10.90 269 P **Pn 10 37 37.0 +2.2**
KSRS pmax pmax
comp=Z,10.0nm,0.3s
KSRS MLR MLR
comp=Z,2μm,21.7s
MDJ Mudanjiang 10.91 308 P **Pn 10 37 37.6 +2.7**
MDJ S **Sn 10 39 43.3 +7.9**
MDJ LN
comp=Z,3μm,17.5s
MDJ LE
comp=Z,2μm,29.1s
MDJ Mudanjiang 10.91 308 *e*Pn **Pn 10 37 37.3 +2.4**
comp=Z,834nm,1.2s
KS01 Wonju Array Si 10.92 269 *e*Pn **Pn 10 37 37.4 +2.3**
KS01 *e* 10 37 37.8
KS15 Wonju Array Si 10.93 269 *e*Pn **Pn 10 37 38.4 +3.1**
KS15 *e* 10 37 38.5
KSAR Wonju Array Be 10.93 269 P **Pn 10 37 37.0 +1.8**
KSAR Wonju Array Be 10.93 269 P **Pn 10 37 37.0 +1.8**
HABR Khabarovsk 11.06 336 *e*P **Pn 10 37 34.8 -2.1**
HABR *e*S **Sn 10 39 36.9 -2.1**
HABR pmax pmax
comp=N,67nm,1.4s
HABR pmax pmax
comp=E,53nm,1.4s
HABR pmax pmax
comp=Z,122nm,1.4s
HABR MLR MLR
comp=Z,2μm,14.0s
CBIJ Chichi jima 11.38 178 *e*Pn **Pn 10 37 40.2 -1.2**
TJN Taejon 11.57 264*d iP* **Pn 10 37 46.6 +2.7**
INCN Inchon 11.91 270 *e*Pn **Pn 10 37 53.2 +4.7**
TYV Tymovskoe 12.38 3 *e*P **Pn 10 37 54.0 -0.9**
TYV *e*S **Sn 10 40 05.0 -6.2**
TYV pmax pmax
comp=Z,48nm,1.0s
TYV smax smax
comp=E,1μm,9.0s
TYV MLR MLR
comp=E,2μm,19.0s
TYV MLR MLR
comp=Z,2μm,20.0s
KLR Kul'dur 12.88 330 P **Pn 10 38 02.1 +0.3**
comp=Z,0.7nm,0.3s,baz=131,slow=11,SNR=20
KLR LR LR 10 42 56.9
comp=Z,3μm,20.0s,baz=142,slow=37
KLR ScP **ScP 10 47 00.2 -1.4**
comp=Z,0.1nm,0.3s,baz=306,slow=0.6,SNR=3.6
CN2 Changchun 13.31 299 *e*P **Pn 10 38 09.1 +1.4**
CN2 *e*sP sP 10 38 26.3
CN2 *e*S **Sn 10 40 35.0 +1.0**
CN2 PMZ
comp=Z,20nm,1.1s
CN2 PMZ
comp=Z,500nm,4.0s
CN2 LN
comp=Z,2μm,17.0s
CN2 LE
comp=Z,2μm,17.0s
CN2 LZ
comp=Z,2μm,25.0s
SNY Shenyang 14.22 289 ⇓P **Pn 10 38 20.1 +0.1**
SNY S **Sn 10 40 54.9 -1.3**
SNY PMZ
comp=Z,69nm,1.2s
SNY LN
comp=Z,2μm,17.7s
SNY LE
comp=Z,3μm,19.6s
SNY LZ
comp=Z,5μm,20.6s
NKL Nikolayevsk 14.67 358 *e*P Pn 10 38 20.0 -5.7
NKL *e*S **Sn 10 41 03.0 -3.8**
NKL pmax pmax
comp=Z,43nm,1.0s
NKL pmax pmax
comp=Z,450nm,5.0s
NKL smax smax
comp=E,800nm,12.0s
NKL MLR MLR
comp=N,500nm,12.0s
NKL MLR MLR
comp=Z,900nm,12.0s
DL2 Dalian 15.65 278 P **Pn 10 38 39.8 +1.2**
DL2 S **Sn 10 41 34.3 +3.4**
DL2 PMZ
comp=Z,280nm,1.2s
DL2 PMZ
comp=Z,460nm,4.1s
DL2 LN
comp=Z,1μm,11.6s
DL2 LE
comp=Z,2μm,15.5s
DL2 LZ
comp=Z,2μm,21.4s
SKR Severo-Kuril's 15.91 35 *e*P **P 10 38 44.0 -0.6**
SKR pmax pmax
comp=Z,127nm,1.0s
SKR MLR MLR
comp=Z,900nm,14.0s
JOW Kunigami 16.18 228 *e*Pn **Pn 10 38 45.2 -0.2**
comp=Z,56nm,1.0s
PEA0 Petropavlovsk- 18.33 32 *e*P **Pn 10 39 11.7 -0.1**
PEA0B Petropavlovsk- 18.33 32 *e*P **Pn 10 39 12.9 +1.1**
comp=Z,61nm,1.1s
PETK Petropavlovsk- 18.33 32 P **P 10 39 11.0 -0.3**
comp=Z,0.6nm,0.3s,baz=214,slow=6.2,SNR=18
PETK LR LR 10 47 14.6
comp=Z,664nm,19.1s,baz=218,slow=40
PETK Petropavlovsk- 18.33 32 P **P 10 39 11.0 -0.3**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK MLR MLR
comp=Z,664nm,19.1s
PETK Petropavlovsk- 18.33 32 P **P 10 39 11.0 -0.3**
SSE Sheshan 18.35 252 ⇓P **Pn 10 39 12.5 +0.4**
SSE sP **sP 10 39 30.4 +0.3**
SSE S **S 10 42 39.8 +1.3**
SSE PMZ
comp=Z,290nm,1.0s
SSE PMZ
comp=Z,320nm,4.0s
PET Petropavlovsk 18.68 33*ce*P **Pn 10 39 16.0 +0.1**
PET *e*S **Sn 10 42 40.4 -3.4**
PET pmax pmax
comp=Z,500nm,4.5s
PET pmax pmax
comp=Z,300nm,5.3s
PET pmax pmax
comp=Z,57nm,1.1s
PET MLR MLR
comp=Z,2μm,20.0s
PET MLR MLR
comp=Z,1μm,18.0s
PET Petropavlovsk 18.68 33 *e*P **Pn 10 39 15.8 -0.1**
comp=Z,50nm,1.0s
HIA Hailar 19.05 311 ⇓*i*P **Pn 10 39 20.2 -0.3**
HIA pmax pmax
comp=Z,10.0nm,0.6s
TIA Tai'an 19.63 271 ⇓P **P 10 39 24.8 -0.9**
TIA S **S 10 42 58.3 -6.0**
TIA PMZ
comp=Z,210nm,1.1s
TIA PMZ
comp=Z,620nm,3.5s
TIA LN
comp=Z,1μm,14.8s
TIA LE
comp=Z,1μm,22.1s
TIA LZ
comp=Z,2μm,25.1s
NJ2 Nanjing 19.68 258 *e*P **P 10 39 23.8 -2.4**
NJ2 pP **pP 10 39 38.3 +0.2**
NJ2 sP **sP 10 39 46.8 +2.0**
NJ2 S **S 10 43 04.3 -1.0**
NJ2 PMZ
comp=Z,59nm,1.2s
NJ2 PMZ
comp=Z,1μm,4.9s
NJ2 LN
comp=Z,970nm,21.1s
NJ2 LE
comp=Z,1μm,17.9s
NJ2 LZ
comp=Z,2μm,28.2s
BJI Beijing 19.78 282 P **P 10 39 25.4 -1.9**
BJI S **S 10 43 00.8 -6.4**
BJI PMZ
comp=Z,69nm,1.4s
BJI PMZ
comp=Z,330nm,3.5s
BJI LN
comp=Z,1μm,14.7s
BJI LE
comp=Z,1μm,24.9s
BJI LZ
comp=Z,2μm,29.4s
BJT Baijiatuau 19.79 282 *e*P **P 10 39 25.6 -1.7**
BJT pmax pmax
comp=Z,100nm,0.7s
BJT Baijiatuau 19.79 282 *e*P **P 10 39 25.6 -1.7**
comp=Z,100nm,0.7s
CLNS Chul'man 21.44 334 *e*P **P 10 39 43.5 -1.6**
CLNS *e**PP **pP 10 39 55.4 -1.7**
CLNS *e* 10 40 03.4
CLNS *e*S **S 10 43 36.1 -3.8**
CLNS *e* 10 43 42.7
CLNS *e*SS **SnSn 10 44 05.8 -0.2**
CLNS pmax pmax
comp=N,67nm,1.2s
CLNS pmax pmax
comp=Z,69nm,1.1s
CLNS pmax pmax
comp=E,17nm,1.1s
CLNS pmax pmax
comp=Z,111nm,0.9s
CLNS pmax pmax
comp=N,159nm,1.2s
CLNS pmax pmax
comp=E,50nm,0.9s
CLNS smax smax
comp=E,262nm,9.4s
CLNS smax smax
comp=N,517nm,10.2s
CLNS MLR MLR
comp=Z,1μm,17.0s
CLNS MLR MLR
comp=E,363nm,12.0s
CLNS MLR MLR
comp=N,588nm,14.0s
TATO Taipei 21.76 238 *e*P **P 10 39 48.1 -0.6**
comp=N,70nm,0.8s
MA2 Magadan 21.88 12 P **P 10 39 50.0 +0.3**
comp=N,137nm,0.9s,baz=222,slow=9.0,SNR=30
MA2 LR LR 10 48 01.0
comp=N,700nm,21.9s,baz=221,slow=36
MA2 Magadan 21.88 12 P **P 10 39 50.0 +0.3**
MA2 pmax pmax
comp=Z,137nm,0.9s
MA2 MLR MLR
comp=Z,700nm,21.9s
MA2 Magadan 21.88 12 P **P 10 39 50.0 +0.3**
MA2 *e*P **P 10 39 50.1 +0.4**
YHNB Yeheng 22.04 237 *e*P **P 10 39 49.6 -2.3**
comp=Z,39nm,0.7s
NACB Ninganchiao 22.25 236 *e*P **P 10 39 52.0 -2.0**
comp=Z,111nm,1.5s
SSLB Suanglung 22.93 236 *e*P **P 10 39 58.4 -2.9**
comp=Z,53nm,0.9s
TIY Taiyuan 22.98 277 *e*P **P 10 40 02.6 +0.9**
TIY S **S 10 44 10.3 +2.2**
TIY SS **SnSn 10 44 49.1 +5.2**
TIY PMZ
comp=Z,320nm,5.6s
TIY LN
comp=Z,760nm,14.1s
TIY LE
comp=Z,540nm,6.3s
TIY LZ
comp=Z,1μm,17.0s
YULB Yu-li 22.99 235 *e*P **P 10 39 58.8 -3.0**
comp=Z,108nm,1.5s
HHC Hu-ho-hao-te 23.23 285 *e*P **P 10 40 02.3 -1.9**
HHC pP pP 10 40 13.4 -3.2
HHC sP sP 10 40 19.5 -3.7
HHC PP **PnPn 10 40 32.0 +0.3**
HHC S **S 10 44 07.3 -5.0**
HHC sS Sn 10 44 30.4 -3.2
HHC PMZ
comp=Z,40nm,0.9s
HHC PMZ
comp=Z,160nm,6.2s
HHC LN
comp=Z,460nm,13.5s
HHC LE
comp=Z,1μm,14.1s
HHC LZ
comp=Z,2μm,17.5s
TPUB Ta-pu 23.48 236 *e*P **P 10 40 06.2 -0.4**
comp=Z,304nm,1.7s
TWG Pinlang 23.54 234 *e*P **P 10 40 05.7 -1.4**
comp=Z,373nm,0.6s
CIT Chita 23.78 314 *e*P **P 10 40 08.3 -0.9**
CIT *e* 10 40 18.2
CIT *e* 10 40 43.8
CIT pmax pmax
comp=Z,376nm,1.5s
WHN Wuhan 23.80 259⇓*i*P **P 10 40 08.8 -0.7**
WHN pP **pP 10 40 23.3 +0.8**
WHN S **S 10 44 20.5 -0.9**
WHN PMZ
comp=Z,160nm,0.7s
WHN LN
comp=Z,2μm,13.1s
WHN LE
comp=Z,2μm,14.2s
WHN LZ
comp=Z,4μm,19.0s
BTO Baotou 24.42 285 *e*P **P 10 40 14.0 -1.2**
YAK Yakutsk 24.69 346 P **P 10 40 16.4 -0.8**
comp=Z,99nm,0.5s,baz=16,slow=0.5,SNR=54
YAK LR LR 10 50 20.0
comp=Z,1μm,20.3s,baz=158,slow=37
YAK Yakutsk 24.69 346*c iP* **P 10 40 16.0 -1.2**
YAK *e**PP **pP 10 40 25.3 -5.3**
YAK *e*S **S 10 44 31.7 -3.4**
YAK *e**SS sS 10 44 48.2 -9.3
YAK *e* 10 51 16.0
YAK pmax pmax
comp=Z,207nm,1.0s
YAK pmax pmax
comp=N,214nm,1.4s
YAK pmax pmax
comp=E,87nm,1.4s
YAK pmax pmax
comp=Z,498nm,1.2s
YAK pmax pmax
comp=N,373nm,1.3s
YAK pmax pmax
comp=E,176nm,1.4s
YAK smax smax
comp=N,849nm,3.2s
YAK smax smax
comp=E,643nm,3.5s
YAK MLR MLR
comp=Z,1μm,18.0s
YAK MLR MLR
comp=E,383nm,13.0s
YAK MLR MLR
comp=N,889nm,16.0s
YAK Yakutsk 24.69 346 *e*P **P 10 40 15.8 -1.5**
comp=N,372nm,0.8s
GUMO Guam 24.97 173 LR LR 10 48 20.7
comp=N,366nm,21.8s,baz=24,slow=32
SEY Seymchan 25.32 11 P **P 10 40 24.2 +1.3**
comp=N,97nm,1.0s,baz=207,slow=6.7,SNR=156
SEY Seymchan 25.32 11*c iP* **P 10 40 24.9 +2.0**
BOD Bodaibo 26.41 326 *e*P **P 10 40 32.0 -0.9**
BOD pmax pmax
comp=Z,57nm,0.8s
XAN Xi'an 26.69 271 P **P 10 40 33.8 -1.9**
XAN S **S 10 45 03.6 -3.9**
XAN PMZ
comp=Z,88nm,1.0s
XAN PMZ
comp=Z,260nm,10.5s
XAN LN
comp=Z,590nm,21.6s
XAN LE
comp=Z,830nm,33.4s
XAN LZ
comp=Z,1μm,34.8s
ULN Ulaanbaatar 26.72 302*c iP* **P 10 40 34.7 -1.4**
ULN pmax pmax
comp=Z,53nm,1.2s
ULN Ulaanbaatar 26.72 302 P **P 10 40 34.8 -1.2**
SNR=18
ULN Ulaanbaatar 26.72 302 *e*P **P 10 40 35.7 -0.3**
comp=Z,119nm,1.6s
SONA1 Songino Array 27.16 302 *e*P **P 10 40 38.8 -1.2**
SONM Songino Array 27.16 302 P **P 10 40 39.1 -0.9**
comp=Z,12nm,0.8s,baz=96,slow=10,SNR=35
SONM sP **sP 10 40 59.9 +0.4**
comp=Z,20nm,0.9s,baz=95,slow=10,SNR=6.6
SONM PcP **PcP 10 43 59.4 +0.2**
comp=Z,3.4nm,0.6s,baz=123,slow=1.9,SNR=5.7
SONM ScP **ScP 10 47 34.5 -0.5**
comp=Z,5.8nm,1.1s,baz=95,slow=2.5,SNR=10
SONM LR LR 10 51 51.9
comp=Z,1μm,18.2s,baz=116,slow=37
ENH Enshi 27.69 263 *e*P **P 10 40 43.4 -1.3**
comp=Z,326nm,0.6s
H11N2 WAKE ISLAND Hy 28.76 123 T T 11 11 17.3
baz=316,slow=75,SNR=3533
H11N1 WAKE ISLAND Hy 28.77 123 T T 11 11 17.3
baz=316,slow=75,SNR=4942
H11N3 WAKE ISLAND Hy 28.77 123 T T 11 11 17.3
baz=316,slow=75,SNR=4155
IRK Irkutsk 29.28 310 *e*P **P 10 40 57.7 -1.0**
IRK pmax pmax
comp=Z,67nm,2.5s
H11S1 WAKE ISLAND Hy 29.52 125 T T 11 12 13.2
baz=318,slow=76,SNR=2050
H11S3 WAKE ISLAND Hy 29.52 125 T T 11 12 13.2
baz=318,slow=76,SNR=3328
H11S2 WAKE ISLAND Hy 29.53 125 T T 11 12 13.2
baz=318,slow=76,SNR=2359
ZAK Zakamensk 29.54 306 *e*P **P 10 40 59.5 -1.6**
ZAK *e* 10 44 04.8
ZAK pmax pmax
comp=Z,40nm,1.2s
ZAK pmax pmax
comp=Z,9.0nm,1.4s
TLY Talaya 29.54 309 P **P 10 41 01.0 0.0**
comp=Z,9.0nm,0.7s,baz=112,slow=5.3,SNR=16
TLY PcP **PcP 10 44 04.9 0.0**
comp=Z,5.8nm,0.8s,baz=214,slow=5.3,SNR=4.1
TLY LR LR 10 53 31.5
comp=Z,1μm,18.3s,baz=112,slow=38
TLY Talaya 29.54 309 *e*P **P 10 41 01.2 +0.2**
TLY *e* 10 42 13.4
TLY *e*S **S 10 45 50.9 -1.1**
TLY *e*SSS SSS 10 47 40.7
TLY pmax pmax
comp=Z,45nm,1.5s
TLY MLR MLR
comp=Z,1μm,17.0s
LZH Lanzhou 30.05 277 *e*P **P 10 41 05.1 -0.7**
LZH pP pP 10 41 17.5 -1.7
LZH sP sP 10 41 23.0 -2.5
LZH PP **PnPn 10 42 00.6 -3.7**
LZH *e*S **S 10 45 55.0 -5.5**
LZH sS sS 10 46 19.4 -3.8
LZH PMZ
comp=Z,33nm,1.0s
LZH PMZ
comp=Z,150nm,4.6s
LZH LN
comp=Z,2μm,12.7s
LZH LE
comp=Z,2μm,12.6s
LZH LZ
comp=Z,2μm,14.4s
TGY Tagaytay City 30.45 223 P **P 10 41 10.1 +0.8**
comp=Z,265nm,0.3s,baz=356,slow=13,SNR=2.5
MOY Mondy 31.16 308 *e*P **P 10 41 15.4 0.0**
MOY pmax pmax
comp=Z,56nm,2.9s
GYA Guiyang 31.69 258⇑*i*P **P 10 41 18.8 -1.5**
GYA pP pP 10 41 36.3 +2.6
GYA PP **PnPn 10 42 28.0 +2.3**
GYA S **S 10 46 27.0 +0.8**
GYA sS sS 10 46 50.6 +1.6
GYA ScP **ScP 10 47 51.8 +2.0**
GYA SS **SnSn 10 48 18.0 +1.4**
GYA PMZ
comp=Z,110nm,1.0s
GYA PMZ
comp=Z,240nm,4.7s
GYA LN
comp=Z,540nm,17.4s

GYA LE
comp=Z,690nm,18.9s
GYA LZ
comp=Z,1μm,18.4s
CD2 Chengdu 31.90 268 P P 10 41 21.0 -1.0
CD2 pP pP 10 41 34.6 -0.9
CD2 sP sP 10 41 41.3 -0.4
CD2 S **S 10 46 28.1 -1.2**
CD2 sS sS 10 46 51.8 -0.2
CD2 PMZ
comp=Z,100nm,0.9s
CD2 PMZ
comp=Z,360nm,4.8s
CD2 LN
comp=Z,1μm,17.4s
CD2 LE
comp=Z,1μm,19.4s
CD2 LZ
comp=Z,1μm,21.9s
GTA Gaotai 32.35 285 *e*P P **10 41 25.3 -0.7**
GTA PcP **PcP 10 44 13.3 +0.6**
GTA S **S 10 46 35.3 -1.0**
GTA ScP **ScP 10 47 51.6 -0.3**
GTA PcS **PcS 10 47 57.8 0.0**
GTA SS **SnSn 10 48 30.3 -2.1**
GTA ScS **ScS 10 51 49.4 -1.8**
GTA PMZ
comp=Z,9.0nm,0.9s
GTA PMZ
comp=Z,180nm,4.3s
GTA LN
comp=Z,730nm,20.4s
GTA LE
comp=Z,2μm,20.4s
GTA LZ
comp=Z,2μm,20.4s
BILL Bilibino 32.57 17*c i*P P **10 41 27.5 +0.1**
BILL *e* 10 42 36.3
BILL *i*S **S 10 46 31.7 -7.1**
BILL *e*SS **SS 10 49 03.9 +3.6**
BILL pmax pmax
comp=Z,49nm,1.2s
BILL MLR MLR
comp=Z,382nm,20.0s
BILL Bilibino 32.57 17 *e*P P **10 41 27.4 0.0**
comp=Z,34nm,1.0s
QIZ Qiongzhong 33.73 244 P P **10 41 39.4 +1.4**
QIZ S **S 10 46 59.6 +1.8**
TIXI Tiksi 33.86 353*c i*P P **10 41 37.9 -0.7**
TIXI pmax pmax
comp=Z,39nm,1.2s
TIXI Tiksi 33.86 353 *e*P P **10 41 38.1 -0.5**
comp=Z,40nm,1.0s
KMI Kunming 35.40 259 P P **10 41 51.6 -1.1**
KMI pP sP 10 42 11.0 -1.5
KMI PP **PP 10 43 17.0 +3.3**
KMI S **S 10 47 19.3 -4.6**
KMI SS **SnSn 10 49 44.9 -1.9**
KMI PMZ
comp=Z,84nm,1.1s
KMI PMZ
comp=Z,450nm,4.7s
KMI LN
comp=Z,620nm,16.7s
KMI LE
comp=Z,750nm,21.3s
KMI LZ
comp=Z,1μm,19.4s
KDM Kudat 38.63 222 ⇑P P **10 42 19.5 -0.4**
NONG Nongkai 39.19 250 P P **10 42 24.8 +0.3**
comp=Z,50nm,0.9s
SKNT Sakolnakorn 39.27 248 P P **10 42 25.2 -0.1**
comp=Z,39nm,1.3s
MYLDM Lahad Datu 39.28 218 *e*P P **10 42 26.0 +0.7**
comp=Z,103nm,1.2s
SDKM Sandakan 39.53 220 ⇓P P **10 42 28.0 +0.5**
SWI Sorong 40.33 196 P P 10 42 39.2 +5.3
WMQ Urumqi 40.37 295 P P **10 42 35.0 +0.8**
WMQ pP pP 10 42 50.3 +2.3
WMQ sP sP 10 42 57.5 +3.3
WMQ PcP **PcP 10 44 36.6 0.0**
WMQ S **S 10 48 37.9 -0.6**
WMQ PMZ
comp=Z,89nm,0.6s
WMQ PMZ
comp=Z,300nm,3.6s
WMQ LN
comp=Z,200nm,19.6s
WMQ LE
comp=Z,310nm,23.8s
WMQ LZ
comp=Z,610nm,26.0s
KHON Khomkaen 40.53 248 P P 10 42 41.3 +5.6
LOEI Loei 40.92 251 P P **10 42 36.1 -2.9**
comp=Z,25nm,0.9s,comp=Z,842nm
KMSI Cibinong 41.09 208 P P 10 42 51.4 +11
ZAA0 Zalesovo Array 41.09 311 *e*P P **10 42 38.5 -1.4**
ZAA0 *e*P P **10 42 39.5 -0.4**
ZALV Zalesovo Beam 41.09 311 P P **10 42 39.5 -0.4**
comp=Z,70nm,0.8s,baz=87,slow=6.5,SNR=212
ZALV sP **sP 10 42 60.0 +0.1**
comp=Z,91nm,0.9s,baz=77,slow=6.7,SNR=8.8
ZALV PcP **PcP 10 44 38.5 -0.1**
comp=Z,18nm,0.6s,baz=103,slow=3.3,SNR=8.6
ZALV LR LR 11 00 26.5
comp=Z,981nm,18.6s,baz=71,slow=37
ZALV Zalesovo Beam 41.09 311 P P **10 42 39.5 -0.4**
ZALV 10 44 38.5
ZALV pmax pmax
comp=Z,69nm,0.8s
ZALV pmax pmax
comp=Z,91nm,0.9s
ZALV pmax pmax
comp=Z,18nm,0.6s
ZALV MLR MLR
comp=Z,981nm,18.6s
UTTA Uttaradit 41.30 252 P P **10 42 42.6 +0.5**
comp=Z,11nm,0.8s,comp=Z,81nm
LAMP Lampang 41.52 253 P P **10 42 47.8 +4.0**
comp=Z,22nm,0.7s,comp=Z,147nm
PBKT Sadao Pong 41.73 250 P P **10 42 45.7 +0.1**
comp=Z,28nm,1.6s,comp=Z,2μm
CMMT Chiang Mai 41.86 254 P P **10 42 46.5 -0.1**
comp=Z,83nm,0.7s,comp=Z,693nm
CHTO Chiang Mai 41.86 254 P P **10 42 46.7 +0.1**
comp=Z,355nm,0.7s,comp=Z,3μm
CHTO Chiang Mai 41.86 254 *e*P P **10 42 46.1 -0.5**
CHTO pmax pmax
comp=Z,59nm,0.6s
CHTO Chiang Mai 41.86 254 *e*P P **10 42 46.1 -0.5**
comp=Z,59nm,0.6s
MRSI Marisa 41.95 210 P P **10 42 48.1 +0.8**
NVS Novosibirsk 41.98 313⇑*i*P P **10 42 47.1 -0.1**
NVS *i* 10 44 41.8
NVS pmax pmax
comp=Z,142nm,1.2s
NVS pmax pmax
comp=N,34nm,1.7s
NVS pmax pmax
comp=E,37nm,0.5s
CMAR Chiang Mai Arr 42.08 254 P P **10 42 47.2 -1.2**
comp=E,4.1nm,0.6s,baz=53,slow=3.9,SNR=14
CMAR PcP **PcP 10 44 42.8 +0.4**
comp=E,5.0nm,0.6s,baz=34,slow=1.5,SNR=5.3
CMAR LR LR 11 01 04.9
comp=E,274nm,20.1s,baz=45,slow=37
CMAR Chiang Mai Arr 42.08 254 P P **10 42 47.2 -1.2**
CMAR 10 44 42.8
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR MLR MLR
comp=Z,274nm,20.2s
CM01 Chiang Mai Arr 42.09 254 *e*P P **10 42 48.0 -0.5**
SUKH Sukhothai 42.16 252 P P **10 42 49.6 +0.6**
comp=Z,15nm,0.7s,comp=Z,112nm
LSA Lhasa 42.29 274 *e*P P **10 42 51.0 +0.4**
LSA pmax pmax
comp=Z,47nm,0.6s
LSA Lhasa 42.29 274 *e*P P **10 42 51.0 +0.4**
comp=Z,47nm,0.6s
MK01 Makanchi Array 43.52 301 *e*P P **10 42 58.7 -1.1**
MK31 Makanchi Array 43.52 301*ce*P P **10 42 59.3 -0.5**
MK31 pmax pmax
comp=Z,103nm,0.7s
MK31 Makanchi Array 43.52 301 *e*P P **10 42 59.9 0.0**
MKAR Makanchi Array 43.52 301 P P **10 42 59.8 -0.1**
comp=Z,87nm,0.8s,baz=83,slow=10.0,SNR=503
MKAR sP **sP 10 43 19.2 -0.6**
comp=Z,58nm,1.0s,baz=99,slow=7.5,SNR=5.5
MKAR LR LR 11 01 40.5
comp=Z,442nm,18.6s,baz=74,slow=37
MKAR Makanchi Array 43.52 301 *e*P P **10 42 59.9 0.0**
UMPA Umpang Tak 43.53 251 P P **10 43 02.2 +2.0**
comp=Z,16nm,1.2s,comp=Z,1μm
MAKZ Makanchi 43.73 301 *e*P P **10 43 01.4 -0.1**
MAKZ pmax pmax
comp=Z,199nm,1.2s
MAKZ Makanchi 43.73 301 *e*P P **10 43 01.4 -0.1**
comp=Z,199nm,1.2s
BTM Bintulu 43.75 224 ⇑P P **10 43 00.7 -1.3**
TT01 Tatalina 44.10 36 *e*P P **10 43 05.9 +1.7**
TTA Tatalina 44.11 36 *e*P P **10 43 06.1 +1.7**
TTA *e**PP **sP 10 43 21.7 -2.7**
TTA Tatalina 44.11 36 *e*P P **10 43 06.1 +1.7**
TTA *e*pP **sP 10 43 21.7 -2.7**
SVW2 Sparrevohn 44.24 38 *e*P P **10 43 07.6 +2.2**
comp=Z,21nm,1.0s
SRDT SRDT 44.52 249 P P **10 43 08.7 +0.6**
comp=Z,108nm,1.2s
SBUM Sibu 44.85 224 ⇑P P **10 43 10.0 -0.7**
SBUM Sibu 44.85 224 *e*P P **10 43 09.2 -1.5**
comp=Z,28nm,1.4s
KURK Kurchatov 45.20 307*ce*P P **10 43 12.6 -0.5**
KURK *i* *PP **pP 10 43 26.3 -0.7**
KURK pmax pmax
comp=Z,2μm,1.2s
KURK Kurchatov 45.20 307 *e*P P **10 43 12.8 -0.2**
comp=Z,1μm,0.8s
RSO Redoubt South 45.64 39 *e*P P **10 43 17.2 +0.5**
PPLA Purkeypile 45.86 36 *e*P P **10 43 21.0 +2.7**
comp=Z,42nm,1.2s
KDAK Kodiak Island 45.88 43*ce*P P **10 43 19.2 +0.8**
KDAK Kodiak Island 45.88 43 *e*P P **10 43 19.5 +1.1**
comp=Z,40nm,1.0s
CAST Castle Rocks 45.91 35 *e*P P **10 43 20.6 +2.1**
comp=Z,28nm,1.1s
SPU Mount Spurr 45.95 38 *e*P P **10 43 20.9 +1.9**
PDGK Podgornoye 46.28 297 P P **10 43 21.1 -0.6**
PDGK pmax pmax
comp=Z,71nm,0.7s
BPAW Bear Paw Mtn. 46.40 34 *e*P P **10 43 24.6 +2.2**
BPAW *ep*P **pP 10 43 37.6 +1.2**
KTH Kantishna Hill 46.43 35 *e*P P **10 43 24.3 +1.6**
comp=Z,44nm,1.1s
MLY Manley 46.51 33 *e*P P **10 43 25.7 +2.4**
comp=Z,21nm,1.0s
SUA Susitna One 46.57 38 *e*P P **10 43 25.3 +1.3**
comp=Z,30nm,0.9s
KSM Kuching 46.71 226 *e*P P **10 43 24.4 -1.0**
comp=Z,59nm,1.2s
TRF Thorofare Moun 46.71 35 *e*P P **10 43 26.8 +1.7**
comp=Z,21nm,1.2s
COLD Coldfoot 46.78 30 *e*P P **10 43 27.0 +1.7**
comp=Z,15nm,1.0s
BWN Browne 47.06 34 *e*P P **10 43 30.5 +2.9**
comp=Z,218nm,1.3s
RC01 Rabbit Creek A 47.08 38 *e*P P **10 43 29.0 +1.3**
comp=Z,26nm,0.9s
RAMN Ramite 47.11 273 *e*P P **10 43 28.7 -0.1**
comp=Z,634nm,1.1s
GUN Gumba 47.22 274 *e*P P **10 43 29.7 0.0**
comp=Z,449nm,0.8s
SEW Seward 47.30 39 *e*P P **10 43 30.5 +1.0**
comp=Z,23nm,0.9s
MCK McKinley 47.31 35 *e*P P **10 43 30.8 +1.3**
MCK pmax pmax
comp=Z,20nm,0.9s
MCK McKinley 47.31 35 *e*P P **10 43 30.8 +1.3**
comp=Z,20nm,0.9s
PMR Palmer 47.34 37 *e*P P **10 43 30.6 +0.9**
PMR pmax pmax
comp=Z,32nm,1.1s
PMR Palmer 47.34 37 *e*P P **10 43 30.6 +0.9**
comp=Z,32nm,1.1s
RND Reindeer 47.36 35 *e*P P **10 43 31.0 +1.0**
RND pmax pmax
comp=Z,42nm,1.2s
RND Reindeer 47.36 35 *e*P P **10 43 31.0 +1.0**
comp=Z,42nm,1.2s
MDM Murphy Dome 47.57 33 *e*P P **10 43 33.2 +1.6**
comp=Z,48nm,1.1s
WRH Wood River Hil 47.65 33 *e*P P **10 43 33.5 +1.4**
comp=Z,36nm,1.0s
SML Sawmill 47.70 37 *e*P P **10 43 33.6 +1.0**
SML pmax pmax
comp=Z,39nm,1.1s
SML Sawmill 47.70 37 *e*P P **10 43 33.6 +1.0**
comp=Z,39nm,1.1s
COLA College 47.74 33 *e*P P **10 43 34.4 +1.7**
COLA pmax pmax
comp=Z,19nm,0.8s
COLA College 47.74 33 *e*P P **10 43 34.4 +1.7**
comp=Z,19nm,0.8s
KKN Kakani 47.75 275 *e*P P **10 43 33.7 0.0**
comp=Z,374nm,0.7s
CCB Clear Creek Bu 47.77 33 *e*P P **10 43 34.0 +1.0**
comp=Z,22nm,1.2s
KAPI Kappang 47.83 210 P P **10 43 33.7 -0.3**
comp=Z,22nm,0.7s,baz=54,slow=2.7,SNR=13
KAPI Kappang 47.83 210 *e*P P **10 43 34.7 +0.7**
comp=Z,150nm,1.3s
DMN Daman 47.97 275 *e*P P **10 43 35.4 0.0**
comp=Z,100nm,0.7s
AAA Alma-Ata 48.07 297 *i* P P **10 43 36.6 +0.8**
AAA *e*S **S 10 50 30.8 +0.4**
AAA pmax pmax
comp=Z,600nm,4.3s
AAA smax smax
comp=E,5μm,13.2s
AAA MLR MLR
comp=Z,2μm,18.0s
GKN Gorkha 48.15 275 *e*P P **10 43 36.6 -0.1**
comp=Z,681nm,1.1s
IL1 Eielson Array 48.16 33 *e*P P **10 43 35.8 -0.2**
ILAR Eielson Array 48.16 33 P P **10 43 36.8 +0.7**
comp=Z,15nm,0.9s,baz=269,slow=5.9,SNR=131
ILAR LR LR 11 06 20.1
comp=Z,153nm,19.6s,baz=288,slow=39
ILB Eielson Array 48.16 33 *e*P P **10 43 36.9 +0.9**
SCM Sheep Creek Mo 48.17 37 *e*P P **10 43 37.6 +1.3**
SCM pmax pmax
comp=Z,31nm,0.9s
SCM Sheep Creek Mo 48.17 37 *e*P P **10 43 37.6 +1.3**
comp=Z,31nm,0.9s
SKLT Songkhla 48.39 241 P P **10 43 39.6 +1.2**
comp=Z,46nm,0.9s
SURT Suratani 48.39 244 P P **10 43 39.9 +1.5**
comp=Z,28nm,1.4s
TRTT Trang 48.55 242 P P **10 43 40.4 +0.7**
comp=Z,52nm,1.3s
BBKI Banjar Baru 48.57 217 P P **10 43 39.1 -0.6**
KRAB Krabi 48.62 243 P P **10 43 40.6 +0.4**
comp=Z,172nm,0.6s,comp=Z,2μm
FYU Fort Yukon 48.74 31 *e*P P **10 43 43.1 +2.6**
comp=Z,84nm,1.2s
KLU Klutina 48.88 37 *e*P P **10 43 43.3 +1.6**
comp=Z,22nm,0.9s
PAX Paxson 48.92 35 *e*P P **10 43 44.5 +2.4**
PAX pmax pmax
comp=Z,25nm,1.0s
PAX Paxson 48.92 35 *e*P P **10 43 44.5 +2.4**
comp=Z,25nm,1.0s
DIV Divide 48.99 38 *e*P P **10 43 44.6 +2.0**
comp=Z,35nm,1.0s
KOLN Koldanda 49.07 276 *e*P P **10 43 43.8 0.0**
comp=Z,200nm,0.9s
EYAK Cordova Ski Ar 49.08 39 *e*P P **10 43 45.0 +1.9**
comp=Z,26nm,1.0s
TKM2 Tokmak 2 49.12 297 *e*P P **10 43 44.4 +0.4**
TKM2 pmax pmax
comp=Z,254nm,1.2s
TKM2 Tokmak 2 49.12 297 *e*P P **10 43 44.4 +0.4**
comp=Z,254nm,1.2s
PYUN Piuthan 49.39 276 *e*P P **10 43 46.4 +0.1**
comp=Z,772nm,1.0s
PKDT Phuket 49.46 243 P P **10 43 47.5 +0.9**
comp=Z,214nm,1.0s
VOSK Vostochnaya 49.46 311 P P **10 43 44.9 -1.3**
VOSK pmax pmax
comp=Z,113nm,1.1s
CHKZ Chkalovo 49.47 312 P P **10 43 45.7 -0.5**
CHKZ pmax pmax
comp=Z,64nm,0.9s
DOT Dot Lake 49.48 34 *e*P P **10 43 47.5 +1.2**
comp=Z,29nm,0.9s
BMRM Bremner River 49.58 38 *e*P P **10 43 49.1 +2.1**
comp=Z,46nm,1.0s
RAGM Ragged Mountai 49.63 39 *e*P P **10 43 49.8 +2.4**
comp=Z,29nm,1.1s
MENT Mentasta 49.72 35 *e*P P **10 43 50.0 +1.9**
comp=Z,20nm,0.7s
KULM Kulim 49.73 239 *e*P P **10 43 49.0 +0.3**
comp=Z,131nm,1.4s
OTUK Ortayu 49.74 305 P P **10 43 47.4 -1.0**
OTUK pmax pmax
comp=Z,74nm,0.8s
BVA0 Borovoye Array 49.74 311 *i* P P **10 43 47.8 -0.6**
BVA0 pmax pmax
comp=Z,45nm,0.9s
BVAR Borovoye Array 49.74 311 LR LR 11 05 46.0
comp=Z,655nm,19.3s,baz=78,slow=37
BRVK Borovoye 49.80 312*c i*P P **10 43 48.6 -0.2**
BRVK pmax pmax
comp=Z,170nm,1.0s
BRVK Borovoye 49.80 312 *e*P P **10 43 48.8 0.0**
comp=Z,190nm,0.9s
FRU Bishkek 49.83 298 *e*P P **10 43 49.0 -0.2**
FRU *e* 10 44 07.0
FRU pmax pmax
comp=Z,110nm,2.0s
AAK Ala-Archa 49.98 297 LR LR 11 06 46.8
comp=Z,278nm,20.6s,baz=62,slow=38
AAK Ala-Archa 49.98 297*c i*P P **10 43 50.3 -0.2**
AAK *i* *PP **pP 10 44 05.6 +0.9**
AAK pmax pmax
comp=Z,53nm,1.0s
AAK Ala-Archa 49.98 297 P P **10 43 50.4 -0.1**
SNR=18
AAK Ala-Archa 49.98 297 P P **10 43 50.4 -0.1**
SNR=18
AAK Ala-Archa 49.98 297 *e*P P **10 43 50.5 -0.1**
comp=Z,51nm,1.1s
KSH Kashi 50.00 293 P P **10 43 54.5 +3.8**
KSH pP sP 10 44 08.9 -2.0
KSH PcP **PcP 10 45 13.6 +3.6**
KSH PP **PP 10 45 51.8 +6.0**
KSH S **S 10 51 00.8 +3.1**
KSH ScS **ScS 10 53 36.1 -1.3**
KSH SS **SS 10 54 31.8 +0.9**
KSH PMZ
comp=Z,26nm,0.7s
KSH PMZ
comp=Z,300nm,5.5s
KSH LN
comp=Z,600nm,8.3s
KSH LE
comp=Z,310nm,11.9s
KSH LZ
comp=Z,570nm,15.6s
IPM Ipoh 50.08 238 *e*P P **10 43 51.0 -0.4**
comp=Z,137nm,1.2s
MYKOM Kota Tinggi 50.30 233 *e*P P **10 43 53.4 +0.4**
comp=Z,159nm,1.6s
CRQM Cirque 50.32 38 *e*P P **10 43 54.7 +1.9**
comp=Z,35nm,1.0s
EKS2 Erkin-Say 50.47 298 *e*P P **10 43 53.9 -0.3**
EKS2 pmax pmax
comp=Z,28nm,0.7s
EKS2 Erkin-Say 50.47 298 *e*P P **10 43 53.9 -0.3**
comp=Z,28nm,0.7s
ZRNK Zerenda 50.57 312 *e*P P **10 43 54.6 0.0**
ZRNK pmax pmax
comp=Z,153nm,1.1s
ZRNK Zerenda 50.57 312 *e*P P **10 43 54.6 0.0**
comp=Z,153nm,1.1s
EGAK Eagle 50.60 33 *e*P P **10 43 55.3 +0.7**
comp=Z,14nm,0.8s
MNAS Manas 51.41 298 P P **10 44 00.7 -0.6**
MNAS pmax pmax
comp=Z,67nm,0.8s
MTN Manton Dam 52.02 193 *e*P P **10 44 05.9 +0.1**
comp=Z,64nm,0.9s
COEN Coen 52.20 178 *e*P P **10 44 08.2 +1.1**
comp=Z,54nm,0.9s
TWSI Taliwang, Sumb 52.36 212 P P **10 44 07.2 -1.2**
KK31 Karatay Array 52.57 299*ce*P P **10 44 09.0 -0.7**
KK31 pmax pmax
comp=Z,61nm,1.0s
KKAR Karatay Array 52.57 299 *e*P P **10 44 09.3 -0.4**
KKAR pmax pmax
comp=Z,75nm,1.1s
KKAR Karatay Array 52.57 299 *e*P P **10 44 09.3 -0.4**
comp=Z,74nm,1.1s
PSI Prapat 52.72 238 *e*P P **10 44 10.9 -0.3**
PSI pmax pmax
comp=Z,71nm,0.6s
PSI Prapat 52.72 238 *e*P P **10 44 10.9 -0.3**
comp=Z,71nm,0.6s
INK Inuvik 53.00 28 P P **10 44 13.6 +1.1**
comp=Z,27nm,0.9s,baz=284,slow=6.8,SNR=38
INK Inuvik 53.00 28 *e*P P **10 44 13.8 +1.4**
INK pmax pmax
comp=Z,48nm,1.1s
INK Inuvik 53.00 28 *e*P P **10 44 13.8 +1.4**
comp=Z,48nm,1.1s
BKNI Bangkinang 53.20 234 *e*P P **10 44 15.2 +0.6**
comp=Z,332nm,0.9s
MLSI Meulaboh, Aceh 53.37 242 P P **10 44 14.9 -1.0**
SVE Sverdlovsk 54.19 318*d i*P P **10 44 21.8 +0.5**
SVE pmax pmax
comp=Z,215nm,1.1s
SVE MLR MLR
comp=Z,1μm,18.0s
SKAG Skagway 54.42 39 *e*P P **10 44 25.4 +2.4**
comp=Z,17nm,1.0s
GSI Gunungsitoli 54.73 238 *e*P P **10 44 25.4 -0.3**
comp=Z,256nm,0.9s
KPJI Karang Pucung 54.82 221 P P **10 44 25.7 -0.7**
LHSI Lahat 54.92 229 P P **10 44 27.6 +0.4**
ARU Arti 55.40 318 LR LR 11 10 35.1
comp=Z,1μm,18.7s,baz=68,slow=38
ARU Arti 55.40 318*c i*P P **10 44 29.8 -0.3**
ARU *e**PP **pP 10 44 47.0 +2.6**
ARU 10 45 28.5
ARU 10 46 32.5
ARU S **S 10 52 10.8 +0.2**
ARU pmax pmax
comp=Z,323nm,1.7s
ARU MLR MLR
comp=Z,1μm,19.0s
ARU Arti 55.40 318 *e*P P **10 44 30.1 0.0**
comp=Z,267nm,1.2s
DZET Dzherino 55.40 295 P P **10 44 29.9 -0.6**
DZET pmax pmax
comp=Z,50nm,0.7s
WRAK Wrangell Islan 56.91 41 *e*P P **10 44 43.5 +2.7**
comp=Z,13nm,1.0s
KBL Kabul 57.09 290 *e*P P **10 44 42.1 -0.6**
KBL pmax pmax
comp=Z,79nm,1.0s
KBL Kabul 57.09 290 *e*P P **10 44 42.1 -0.6**
comp=Z,79nm,1.0s
AB31 Akbulak array 57.16 309*ce*P P **10 44 41.8 -0.9**
AB31 pmax pmax
comp=Z,24nm,0.5s
ABKAR Akbulak array 57.16 309 *e*P P **10 44 42.3 -0.5**
DLBC Dease Lake 57.35 39 P P **10 44 46.2 +2.1**
comp=Z,10nm,0.9s,baz=290,slow=8.2,SNR=25
DLBC Dease Lake 57.35 39 *e*P P **10 44 46.7 +2.6**
comp=Z,20nm,1.0s
AKTO Aktyubinsk 57.85 311 LR LR 11 10 43.7
comp=Z,445nm,18.6s,slow=37
AKTO Aktyubinsk 57.85 311 P P **10 44 45.5 -2.1**
AKTO pmax pmax
comp=Z,61nm,1.1s
FITZ Fitzroy Crossi 58.28 198 P P **10 44 50.9 +0.1**
comp=Z,11nm,0.9s,baz=7.0,slow=6.3,SNR=21
FITZ Fitzroy Crossi 58.28 198 *e*P P **10 44 51.2 +0.4**
comp=Z,59nm,1.2s
HYB Hyderabad 58.45 268⇑*i*P P **10 44 52.0 -0.3**
comp=Z,35nm,0.8s
WRAB Tennant Creek 58.53 188*c i*P P **10 44 52.1 -0.5**
WRAB *e**PP **pP 10 45 06.9 -0.1**
WRAB Tennant Creek 58.53 188 *e*P P **10 44 52.0 -0.6**
comp=Z,63nm,1.0s
WB2 Warramunga Arr 58.54 188 *e*P P **10 44 52.0 -0.6**
comp=Z,59nm,0.9s

WRA **Warramunga Arr** 58.54 188 P **P** 10 44 51.9 -0.7
comp=Z,17nm,0.4s,baz=5.7,slow=7.3,SNR=424
WRA pP **pP** 10 45 06.2 -0.9
comp=Z,36nm,0.8s,baz=5.9,slow=7.3,SNR=14
WRA LR LR 11 07 38.5
comp=Z,195nm,21.4s,baz=205,slow=34
KBS **Kingsbay** 59.25 350 *eP* **P** 10 44 58.2 +1.3
KBS pmax pmax
comp=Z,46nm,0.9s
KBS **Kingsbay** 59.25 350 *eP* **P** 10 44 58.2 +1.3
comp=Z,46nm,0.9s
LVZ **Lovozero** 60.86 336 *c iP* **P** 10 45 08.2 +0.1
LVZ pmax pmax
comp=Z,20nm,0.8s
LVZ **Lovozero** 60.86 336 *eP* **P** 10 45 07.2 -1.0
LVZ *epP* **pP** 10 45 23.2 +0.6
RES **Resolute Bay** 61.13 15 P **P** 10 45 10.1 +0.3
comp=Z,14nm,0.4s,baz=316,slow=5.8,SNR=43
RES **Resolute Bay** 61.13 15 *eP* **P** 10 45 10.3 +0.5
RES pmax pmax
comp=Z,54nm,1.1s
RES **Resolute Bay** 61.13 15 *eP* **P** 10 45 10.3 +0.5
comp=Z,54nm,1.1s
APA **Apatity** 61.44 335 ⇓ *iP* **P** 10 45 10.4 -1.6
APA pmax pmax
comp=Z,30nm,0.9s
APA MLR MLR
comp=Z,700nm,15.0s
KEV **Kevo** 62.15 339 *eP* **P** 10 45 16.5 -0.2
KEV pmax pmax
comp=Z,11nm,0.8s
KEV **Kevo** 62.15 339 *eP* **P** 10 45 16.4 -0.2
comp=Z,12nm,0.8s
AS01 **Alice Springs** 62.26 188 *eP* **P** 10 45 17.5 -0.5
AS31 **Alice Springs** 62.26 188 *eP* **P** 10 45 17.8 -0.3
comp=Z,8.6nm,1.1s
ASAR **Alice Springs** 62.27 188 P **P** 10 45 17.7 -0.3
comp=Z,11nm,0.7s,baz=5.3,slow=5.4,SNR=136
ASAR pP **pP** 10 45 32.5 -0.1
comp=Z,21nm,1.0s,baz=359,slow=2.7,SNR=11
ASAR LR LR 11 11 41.0
comp=Z,158nm,21.7s,baz=351,slow=35
YKA **Yellowknife Ar** 62.44 31 P **P** 10 45 19.4 +0.6
comp=Z,13nm,0.9s,baz=298,slow=6.7,SNR=71
YKA PKP2ab 11 14 39.5
comp=Z,0.9nm,0.9s,baz=125,slow=2.8,SNR=3.9
YKA LR LR 11 15 32.6
comp=Z,7.0nm,18.9s,baz=0.0,slow=39
KLMR **Klimovskoe** 62.63 327 *c iP* **P** 10 45 19.6 -0.4
KLMR *e* 10 45 57.8
KLMR pmax pmax
comp=Z,96nm,1.4s
ARA0 **ARCESS Array S** 62.70 339 *eP* **P** 10 45 19.8 -0.7
ARCES **ARCESS Array B** 62.70 339 P **P** 10 45 20.2 -0.2
comp=Z,6.6nm,0.5s,baz=59,slow=7.5,SNR=56
ARCES LR LR 11 17 34.9
comp=Z,358nm,18.2s,baz=50,slow=41
ARE0 **ARCESS Array S** 62.70 339 *eP* **P** 10 45 21.0 +0.5
comp=Z,208nm,1.9s
MBWA **Marble Bar** 62.81 203 *eP* **P** 10 45 21.6 -0.1
comp=Z,42nm,1.2s
PALK **Pallekele** 62.88 257 LR LR 11 14 49.7
comp=Z,156nm,19.9s,baz=115,slow=38
GEYT **Alibeck** 63.31 298 P **P** 10 45 25.0 0.0
comp=Z,17nm,0.6s,baz=31,slow=4.0,SNR=16
GEYT LR LR 11 14 40.7
comp=Z,556nm,20.2s,baz=75,slow=38
EIDS **Eidsvold** 64.14 171 *eP* P 10 45 36.1 +5.7
comp=Z,22nm,0.9s
DAG **Danmarks Havn** 64.33 355 ⇑ *iP* **P** 10 45 30.9 -0.2
DAG pmax pmax
comp=Z,56nm,1.1s
DAG **Danmarks Havn** 64.33 355 ⇑ *iP* **P** 10 45 30.9 -0.2
comp=Z,44nm,1.1s
DZM **Mont Dzumac** 64.58 155 *eP* P 10 45 48.8 +15
comp=Z,113nm,1.4s
DZM **Mont Dzumac** 64.58 155 *e*LR LR 11 04 55.8
comp=Z,929nm,21.8s
DZM **Mont Dzumac** 64.58 155 *eP* **P** 10 45 34.9 +1.4
A04D **Lummi Island** 65.57 46 P **P** 10 45 42.0 +2.5
baz=301
NLWA **Neilton Lookou** 65.58 48 *eP* **P** 10 45 42.2 +2.5
comp=Z,48nm,1.1s
B05A **Bryant** 66.16 47 P **P** 10 45 45.1 +1.8
baz=302
MOS **Moscow** 66.19 323 *eP* **P** 10 45 43.3 -0.1
E03A **Lebam** 66.20 49 *eP* **P** 10 45 46.3 +2.7
comp=Z,44nm,1.1s
JCW **Jim Creek** 66.29 47 P **P** 10 45 46.0 +1.7
KULLO **Kullorsuaq** 66.50 5 ⇑ *iP* **P** 10 45 45.1 0.0
KULLO pmax pmax
comp=Z,40nm,1.0s
KULLO **Kullorsuaq** 66.50 5 ⇑ *iP* **P** 10 45 45.1 0.0
comp=Z,40nm,1.0s
VRH **Novokhopyorsk** 66.63 318 *eP* **P** 10 45 45.9 -0.4
VRH pmax pmax
comp=Z,130nm,1.0s
VRH pmax pmax
comp=Z,70nm,0.6s
VRH MLR MLR
comp=Z,900nm,19.0s
F04D **Rainier, OR** 66.77 49 P **P** 10 45 48.9 +1.6
baz=302
D05A **Enumclaw** 66.78 48 *eP* **P** 10 45 50.1 +2.8
comp=Z,125nm,1.8s
OBSR **Observation Ro** 67.04 48 P **P** 10 45 51.3 +2.0
OBN **Obninsk** 67.04 323 *c iP* **P** 10 45 48.3 -0.5
OBN *i* *PP **pP** 10 46 04.0 +0.5
OBN *e* 10 48 16.8
OBN pmax pmax
comp=Z,161nm,1.7s
OBN MLR MLR
comp=Z,252nm,18.0s
OBN **Obninsk** 67.04 323 *eP* **P** 10 45 48.7 -0.1
comp=Z,282nm,1.6s
G03D **McMinnville, O** 67.08 50 P **P** 10 45 51.4 +2.1
baz=302
TDL **Tradedollar La** 67.09 48 P **P** 10 45 51.7 +2.1
LON **Longmire** 67.12 48 *eP* **P** 10 45 51.6 +2.0
LON pmax pmax
comp=Z,8.0nm,1.0s
LON **Longmire** 67.12 48 *eP* **P** 10 45 51.6 +2.0
comp=Z,7.5nm,1.0s
FIA1 **FINESS Array S** 67.61 332 *eP* **P** 10 45 52.1 -0.2
FIA1 *eP* **P** 10 45 52.3 -0.1
FINES **FINESS Array B** 67.61 332 P **P** 10 45 52.1 -0.2
comp=Z,26nm,0.7s,baz=46,slow=8.2,SNR=59
FINES pP **pP** 10 46 07.4 +0.4
comp=Z,35nm,0.8s,baz=55,slow=7.7,SNR=11
FINES sP **sP** 10 46 13.3 +0.3
comp=Z,63nm,0.8s,baz=36,slow=10.0,SNR=13
FINES LR LR 11 17 05.3
comp=Z,382nm,21.8s,baz=47,slow=37
NAC **Naches** 67.70 47 P **P** 10 45 55.1 +1.9
I03D **Drain, OR** 67.83 51 P **P** 10 45 56.4 +2.4
baz=303
VSR **Storozhevoye** 67.96 319 *eP* **P** 10 45 54.6 -0.1
VSR *e**SP **sP** 10 46 14.3 -1.1
VSR pmax pmax
comp=Z,90nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.3s
VSR MLR MLR
comp=Z,900nm,23.0s
SAW **Saint Andrews** 67.99 46 P **P** 10 45 56.5 +1.5
G05D **Wamic, OR** 68.22 49 P **P** 10 45 58.4 +1.9
baz=303
I04A **Tendick Farm,** 68.35 51 P **P** 10 45 59.1 +1.7
baz=303
L02D **Cave Junction,** 68.50 53 P **P** 10 46 00.3 +2.0
baz=303
C09A **Chrisman Ranch** 68.56 45 *eP* **P** 10 46 00.5 +1.9
comp=Z,46nm,1.3s
I05D **Terrebonne, OR** 68.70 50 P **P** 10 46 01.4 +1.8
baz=304
VTHM **Trough** 68.70 49 P **P** 10 46 01.6 +2.1
NEW **Newport** 68.94 45 P **P** 10 46 02.2 +1.2
baz=305,SNR=10
NEW **Newport** 68.94 45 *eP* **P** 10 46 02.7 +1.7
NEW pmax pmax
comp=Z,30nm,1.1s
NEW **Newport** 68.94 45 *eP* **P** 10 46 02.7 +1.7
comp=Z,30nm,1.1s
ARMA **Armidale** 69.19 171 *eP* **P** 10 46 04.4 +1.8
ARMA *epP* **pP** 10 46 18.7 +1.4
SUMG **Summit** 69.22 0 ⇑ *iP* **P** 10 46 03.6 +0.9
SUMG pmax pmax
comp=Z,56nm,0.9s
SUMG **Summit** 69.22 0 ⇑ *iP* **P** 10 46 03.6 +0.9
comp=Z,56nm,0.9s
SUMG **Summit** 69.22 0 *eP* **P** 10 46 03.7 +0.9
VSU **Vasula** 69.29 329 *c iP* **P** 10 46 02.8 -0.1
VSU *i* *PP **pP** 10 46 18.3 +0.7
VSU *i* 10 46 23.8
VSU pmax pmax
comp=Z,201nm,1.7s
J05D **Fort Rock, OR** 69.35 51 P **P** 10 46 05.7 +2.0
baz=304
M02C **Callahan** 69.39 53 P **P** 10 46 06.1 +2.2
baz=304
K04D **Chiloquin, OR** 69.40 52 P **P** 10 46 06.0 +2.0
baz=304
LHEM **Herd Peak** 69.66 53 P **P** 10 46 07.5 +1.7
N02D **Trinity Center** 69.72 53 P **P** 10 46 08.1 +2.2
baz=304
M04C **Macdoel** 69.81 52 P **P** 10 46 08.5 +1.9
baz=304
K05A **Summer Lake** 69.87 51 *eP* **P** 10 46 09.2 +2.2
STKA **Stephens Creek** 70.02 180 P **P** 10 46 06.5 -1.0
comp=Z,3.0nm,0.8s,baz=354,slow=5.0,SNR=8.2
STKA pP **pP** 10 46 22.5 +0.2
comp=Z,17nm,0.8s,baz=339,slow=7.7,SNR=17
STKA LR LR 11 15 44.0
comp=Z,151nm,21.7s,baz=16,slow=35
STKA **Stephens Creek** 70.02 180 P **P** 10 46 06.5 -1.0
STKA *epP* **pP** 10 46 22.1 -0.3
ZEI **Tsey** 70.03 309 *eP* **P** 10 46 03.7 -4.3
ZEI pmax pmax
comp=Z,72nm,1.0s
LASM **Arnica Sink** 70.08 52 P **P** 10 46 10.5 +2.2
KIV **Kislovodsk** 70.10 311 *i* P **P** 10 46 08.6 +0.3
SNR=13
KIV **Kislovodsk** 70.10 311 *eP* **P** 10 46 08.2 -0.1
KIV pmax pmax
comp=Z,196nm,1.1s
KIV MLR MLR
comp=Z,267nm,17.0s
KIV **Kislovodsk** 70.10 311 P **P** 10 46 08.8 +0.5
SNR=28
KIV **Kislovodsk** 70.10 311 P **P** 10 46 08.8 +0.5
SNR=28
KIV **Kislovodsk** 70.10 311 *eP* **P** 10 46 08.8 +0.5
KIV *epP* **PcP** 10 46 30.6 +0.5
KBZ **Khabaz** 70.10 310 P **P** 10 46 08.3 +0.2
comp=Z,46nm,0.9s,baz=57,slow=5.0,SNR=64
KBZ sP **PcP** 10 46 29.7 -0.2
comp=Z,35nm,1.0s,baz=56,slow=4.3,SNR=5.6
KBZ LR LR 11 21 38.2
comp=Z,302nm,18.2s,baz=48,slow=40
TBLG **Delisi** 70.11 308 P **P** 10 46 08.0 -0.2
TBLG **Delisi** 70.11 308 P **P** 10 46 08.0 -0.2
WALA **Waterton Lakes** 70.22 43 *eP* **P** 10 46 10.7 +1.8
ONI **Oni** 70.41 309 P **P** 10 46 10.6 +0.5
ONI **Oni** 70.41 309 P **P** 10 46 10.6 +0.5
NEY **Neytrino** 70.48 310 ⇓ *iP* **P** 10 46 11.2 +0.5
NEY pmax pmax
comp=Z,7.0nm,1.3s
SCO **Scoresbysund** 70.68 354 ⇑ *iP* **P** 10 46 11.9 +0.7
SCO pmax pmax
comp=Z,31nm,1.0s
SCO **Scoresbysund** 70.68 354 ⇑ *iP* **P** 10 46 11.9 +0.7
comp=Z,31nm,1.0s
WSAR **Wadi Sarin** 70.69 285 LR LR 11 20 05.9
comp=Z,133nm,20.1s,slow=38
WBK **Wadi Bani Khal** 70.78 284 P **P** 10 46 13.5 +0.8
SNR=6.4
WBK **Wadi Bani Khal** 70.78 284 P **P** 10 46 13.5 +0.8
SNR=6.4
BMO **Blue Mountains** 70.79 48 *eP* **P** 10 46 14.2 +1.7
BMO **Blue Mountains** 70.79 48 *eP* **P** 10 46 14.2 +1.7
BIDO **Bidbid** 70.91 285 P **P** 10 46 13.6 +0.2
SNR=5.5
BIDO **Bidbid** 70.91 285 P **P** 10 46 13.6 +0.2
SNR=5.5
GNI **Garni** 70.99 306 *eP* **P** 10 46 13.5 -0.4
GNI pmax pmax
comp=Z,520nm,1.4s
GNI **Garni** 70.99 306 *eP* **P** 10 46 13.4 -0.4
comp=Z,520nm,1.4s
AKH **Akhalkalaki** 71.06 308 ⇑ *iP* **P** 10 46 14.9 +0.7
AKH **Akhalkalaki** 71.06 308 P P 10 46 21.4 +7.1
AKH **Akhalkalaki** 71.06 308 P P 10 46 21.4 +7.2
SMDO **Samad** 71.23 285 P **P** 10 46 15.0 -0.4
SNR=7.7
SMDO **Samad** 71.23 285 P **P** 10 46 15.0 -0.4
SNR=7.7
IZAR **Zarasai** 71.28 327 *eP* **P** 10 46 15.5 +0.4
IZAR IAmb IAmb 10 46 15.9
comp=Z,18nm,0.7s
IDID **Didziasalis** 71.36 327 *eP* **P** 10 46 16.0 +0.5
IDID IAmb IAmb 10 46 17.2
comp=Z,23nm,0.7s
MICGM **Minsk** 71.39 326 ⇓ *eP* **P** 10 46 15.0 -0.8
MICGM PM 10 46 16.0
comp=Z,0.2nm,1.2s
MICGM *e* 10 46 35.0
MICGM *e*LR LR 11 19 08.0
MNK **Minsk** 71.39 326 ⇓ *eP* **P** 10 46 15.0 -0.8
MNK *e* 10 46 35.0
MNK pmax pmax
comp=Z,150nm,1.2s
WVOR **Wild Horse Val** 71.40 50 *eP* **P** 10 46 18.3 +2.0
WVOR *e**PP **pP** 10 46 27.9 -3.2
WVOR **Wild Horse Val** 71.40 50 *eP* **P** 10 46 18.3 +2.0
WVOR *epP* **pP** 10 46 27.9 -3.2
ISAL **Salakas** 71.45 327 *eP* **P** 10 46 16.6 +0.5
ISAL IAmb IAmb 10 46 18.1
comp=Z,77nm,1.2s
MSO **Missoula** 71.53 45 P **P** 10 46 17.8 +0.9
baz=307,SNR=12
MSO **Missoula** 71.53 45 *eP* **P** 10 46 17.9 +1.0
UOSS **Minazif** 71.55 287 *eP* **P** 10 46 16.9 -0.4
JMDO **Jabal Madar** 71.58 284 P **P** 10 46 17.3 -0.1
SNR=6.4
JMDO **Jabal Madar** 71.58 284 P **P** 10 46 17.3 -0.1
SNR=6.4
NACGM **Naroch** 71.61 326 *e* **P** 10 46 18.0 +0.9
NACGM *e*LR LR 11 19 16.0
HATD **Hatta, Dubai** 71.68 287 *i* P **P** 10 46 18.1 +0.1
SNR=8.9
ASHO **Ashiyiah** 71.81 287 *i* P **P** 10 46 18.8 -0.1
SNR=10
CHMT **Chamberlain Mo** 71.86 44 *eP* **P** 10 46 20.1 +1.1
SOC **Sochi** 72.07 312 *c iP* **P** 10 46 19.7 -0.4
SOC *e* 10 46 37.3
SOC *e**SP **sP** 10 46 40.4 -0.4
SOC *e* 10 48 56.8
SOC *e*S **S** 10 55 39.7 +1.8
SOC *e*SS **SS** 11 00 15.8 +0.9
SOC *e*SSS SSS 11 03 25.9
SOC pmax pmax
comp=Z,59nm,0.8s
SOC MLR MLR
comp=Z,377nm,18.0s
ILULI **Ilulissat** 72.19 5 ⇑ *iP* **P** 10 46 20.4 +0.1
ILULI pmax pmax
comp=Z,35nm,0.9s
ILULI **Ilulissat** 72.19 5 ⇑ *iP* **P** 10 46 20.4 +0.1
comp=Z,35nm,0.9s
ARQ **Araqi** 72.23 286 P **P** 10 46 21.2 -0.1
SNR=8.8
ARQ **Araqi** 72.23 286 P **P** 10 46 21.2 -0.1
SNR=8.8
FFC **Flin Flon** 72.37 33 *eP* **P** 10 46 22.1 +0.4
FFC pmax pmax
comp=Z,29nm,1.0s
FFC **Flin Flon** 72.37 33 *eP* **P** 10 46 22.1 +0.4
comp=Z,30nm,1.0s
MFID **Camas Ranch** 72.50 48 *eP* **P** 10 46 24.4 +1.6
PAHR **Pah Rah Range** 72.52 53 *eP* **P** 10 46 24.9 +1.9
FCC **Fort Churchill** 72.60 27 *eP* **P** 10 46 23.8 +0.9
FCC **Fort Churchill** 72.60 27 *eP* **P** 10 46 23.8 +0.9
ANN **Anapa** 72.66 314 *c iP* **P** 10 46 23.0 -0.5
ANN *e**PP **pP** 10 46 38.3 -0.1
ANN *e* 10 46 44.1
ANN *e*S **S** 10 55 43.7 -0.8
ANN pmax pmax
comp=Z,101nm,1.3s
ANN MLR MLR
comp=Z,255nm,16.0s
HRY **Holter Researc** 72.75 44 *eP* **P** 10 46 26.2 +1.9
CMB **Columbia Colle** 72.86 55 *eP* **P** 10 46 26.8 +1.9
CMB **Columbia Colle** 72.86 55 *eP* **P** 10 46 26.8 +1.9
NB2 **NORSAR Subarra** 72.91 337 P **P** 10 46 24.7 -0.1
comp=Z,104nm,1.1s,baz=38,slow=6.2
NB2 **NORSAR Subarra** 72.91 337 P **P** 10 46 24.7 -0.1
baz=38,slow=6.2
NOA **NORSAR Array B** 72.91 337 P **P** 10 46 24.8 -0.1
comp=Z,42nm,0.9s,baz=38,slow=5.9,SNR=70
NOA pP **pP** 10 46 39.9 +0.2
comp=Z,5.9nm,0.9s,baz=54,slow=6.6,SNR=8.7
NOA sP **sP** 10 46 46.1 +0.5
comp=Z,17nm,1.0s,baz=38,slow=4.6,SNR=10
NOA LR LR 11 21 04.6
comp=Z,657nm,21.6s,baz=35,slow=38
NOA **NORSAR Array B** 72.91 337 P **P** 10 46 24.8 -0.1
NOA *PP **pP** 10 46 39.9 +0.2
NOA *SP **sP** 10 46 46.1 +0.5
NOA pmax pmax
comp=Z,41nm,0.9s
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA pmax pmax
comp=Z,17nm,1.0s
NOA MLR MLR
comp=Z,657nm,21.6s
LRM **Limekiln Ridge** 72.96 45 *eP* **P** 10 46 27.0 +1.4
DLMT **Dillon** 73.17 45 *eP* **P** 10 46 28.4 +1.7
HLID **Hailey** 73.23 47 P **P** 10 46 29.0 +1.8
baz=308
HLID **Hailey** 73.23 47 *eP* **P** 10 46 28.8 +1.6
AKASG **Malin Array Be** 73.26 322 P **P** 10 46 26.5 -0.5
comp=Z,32nm,0.7s,baz=45,slow=6.4,SNR=124
AKASG pP **pP** 10 46 42.0 +0.1
comp=Z,16nm,0.8s,baz=46,slow=6.5,SNR=4.7
AKASG sP **sP** 10 46 47.6 -0.1
comp=Z,25nm,0.7s,baz=45,slow=6.4,SNR=6.6
AKASG LR LR 11 21 23.2
comp=Z,314nm,19.3s,baz=55,slow=38
AKASG **Malin Array Be** 73.26 322 P **P** 10 46 26.5 -0.5
AKASG *PP **pP** 10 46 42.0 +0.1
AKASG pmax pmax
comp=Z,12nm,0.4s
AKASG pmax pmax
comp=Z,16nm,0.8s
AKASG pmax pmax
comp=Z,25nm,0.7s
AKASG MLR MLR
comp=Z,314nm,19.3s
KIEV **Kiev** 73.27 322 *c iP* **P** 10 46 26.6 -0.4
KIEV *i* *PP **pP** 10 46 42.0 +0.1
KIEV pmax pmax
comp=Z,62nm,0.9s
KIEV **Kiev** 73.27 322 *eP* **P** 10 46 26.1 -1.0
MCMT **McKenzie Canyo** 73.35 46 *eP* **P** 10 46 29.4 +1.4
BMN **Battle Mountai** 73.44 51 *eP* **P** 10 46 30.4 +1.9
BMN **Battle Mountai** 73.44 51 *eP* **P** 10 46 30.4 +1.9
BOZ **Bozeman (W)** 73.52 44 P **P** 10 46 30.3 +1.5
baz=309,SNR=19
BOZ **Bozeman (W)** 73.52 44 *eP* **P** 10 46 30.5 +1.6
BOZ **Bozeman (W)** 73.52 44 *eP* **P** 10 46 30.5 +1.6
SUW **Suwalki** 73.76 327 *eP* **P** 10 46 29.5 -0.3
SUW **Suwalki** 73.76 327 *eP* **P** 10 46 29.5 -0.3
MLAC **Mammoth, Mammo** 74.09 55 P **P** 10 46 34.2 +1.8
baz=307
SFJD **Kangerlussuaq** 74.41 5 ⇑ *iP* **P** 10 46 33.7 +0.3
SFJD pmax pmax
comp=Z,40nm,1.1s
SFJD **Kangerlussuaq** 74.41 5 ⇑ *iP* **P** 10 46 33.7 +0.3
comp=Z,40nm,1.1s
SFJD **Kangerlussuaq** 74.41 5 *eP* **P** 10 46 33.8 +0.4
SIM **Simferopol'** 74.42 315 *c iP* **P** 10 46 33.8 -0.1
SIM *e* 10 46 50.0
SIM pmax pmax
comp=Z,70nm,0.9s
SIM MLR MLR
comp=Z,350nm,22.0s
ELK **Elko** 74.45 50 *eP* **P** 10 46 36.5 +2.0
ELK *e* 10 46 45.9
ELK **Elko** 74.45 50 *eP* **P** 10 46 36.5 +2.0
ELK *eP*cP **PcP** 10 46 45.9 -3.0
YHH **Holmes Hill** 74.49 45 *eP* **P** 10 46 36.8 +2.1
GCMT **Greycliff** 74.50 43 *eP* **P** 10 46 36.2 +1.7
KONO **Kongsberg** 74.51 337 *c iP* **P** 10 46 34.2 +0.1
KONO pmax pmax
comp=Z,90nm,1.7s
YFT **Old Faithful** 74.71 45 *eP* **P** 10 46 39.5 +3.5
YPP **Pitchstone Pla** 74.84 45 *eP* **P** 10 46 39.9 +3.2
H17A **Grant Village** 74.89 45 P **P** 10 46 40.2 +3.3
baz=310,SNR=22
H17A **Grant Village** 74.89 45 *eP* **P** 10 46 40.2 +3.3
VES **Vestal, Richgr** 74.99 56 P **P** 10 46 38.3 +0.9
baz=307
IMW **Indian Meadow** 75.00 46 *eP* **P** 10 46 40.4 +2.7
FLWY **Flagg Ranch** 75.02 45 *eP* **P** 10 46 40.6 +3.0
PKM **Mcpherson Peak** 75.08 57 P **P** 10 46 39.9 +1.7
baz=307
RLMT **Red Lodge** 75.15 44 P **P** 10 46 39.8 +1.4
baz=310,SNR=11
RLMT **Red Lodge** 75.15 44 *eP* **P** 10 46 40.1 +1.8
MOOW **Moose Ponds** 75.21 46 *eP* **P** 10 46 40.7 +1.9
TPAW **Teton Pass** 75.25 46 *eP* **P** 10 46 41.2 +2.1
HVU **Hansel Valley** 75.28 48 *eP* **P** 10 46 41.4 +2.2
HVU **Hansel Valley** 75.28 48 *eP* **P** 10 46 41.4 +2.2
LOHW **Long Hollow** 75.37 46 *eP* **P** 10 46 42.1 +2.4
LOHW *eP*cP **PcP** 10 46 50.2 -2.6
SNOW **Snow King Moun** 75.38 46 *eP* **P** 10 46 41.9 +2.1
SORM **Soroca** 75.39 321 ⇑ *iP* **P** 10 46 39.1 -0.3
REDW **Red Top Meadow** 75.39 46 *eP* **P** 10 46 41.8 +2.0
GRAC **Grapevine Rang** 75.41 54 P **P** 10 46 41.5 +1.7
baz=308
SBC **Santa Barbara** 75.42 58 P **P** 10 46 41.5 +1.7
baz=307
ISA **Isabella, Lake** 75.50 56 P **P** 10 46 41.1 +0.7
baz=307
DGMT **Dagmar** 75.57 39 P **P** 10 46 41.5 +1.0
baz=312
DGMT **Dagmar** 75.57 39 *eP* **P** 10 46 41.8 +1.2
ARVC **Arvin** 75.59 57 P **P** 10 46 41.9 +1.1
baz=307
BGU **Big Grassy Mou** 75.66 49 *eP* **P** 10 46 43.5 +2.1
DAC **Darwin (Calif)** 75.70 55 *eP* **P** 10 46 43.2 +1.5
DAC **Darwin (Calif)** 75.70 55 *eP* **P** 10 46 43.2 +1.5
R11A **Troy Canyon, C** 75.71 52 P **P** 10 46 43.3 +1.7
baz=308
R11A **Troy Canyon, C** 75.71 52 *eP* **P** 10 46 43.1 +1.4
LAO **LASA Array** 75.74 41 P **P** 10 46 42.9 +1.4
baz=312,SNR=24
LAO **LASA Array** 75.74 41 *eP* **P** 10 46 43.0 +1.4
A25A **Svangstu Ranch** 75.78 38 P **P** 10 46 42.9 +1.2
baz=313
MPMC **Manual Prospec** 75.90 55 P **P** 10 46 44.1 +1.3
baz=308
KIS **Kishinev** 75.91 319 *eP* **P** 10 46 40.0 -2.4
KIS **Kishinev** 75.91 319 *eP*cP PcP 10 47 03.0 +8.3
KIS **Kishinev** 75.91 319 *eP*P PP 10 49 28.0 -4.6
KIS **Kishinev** 75.91 319 *eP*S 10 56 44.0
KIS *eSS SS 11 01 06.0 -7.1
KIS LRM MLR 11 22 44.0
comp=Z,500nm,16.0s
KIS **Kishinev** 75.91 319 *eP* **P** 10 46 40.0 -2.4
KIS *e* 10 49 28.0
KIS *e* 10 51 20.0
KIS *e*PS PnS 10 56 44.0 -19
KIS MLR MLR
comp=Z,500nm,17.0s
KIS MLR MLR
comp=N,300nm,16.0s
KIS MLR MLR
comp=E,300nm,17.0s
KIS MLR MLR
comp=Z,500nm,16.0s
FURC **Furnace Creek,** 76.05 54 P **P** 10 46 45.1 +1.7
baz=308
HWUT **Hardware Ranch** 76.09 48 *eP* **P** 10 46 44.9 +1.1
TPNV **Topopah Spring** 76.15 54 P **P** 10 46 45.6 +1.4
baz=308
TPNV **Topopah Spring** 76.15 54 *eP* **P** 10 46 45.6 +1.4
TPNV **Topopah Spring** 76.15 54 *eP* **P** 10 46 45.6 +1.4
B25A **Knox Farm, Ray** 76.21 39 P **P** 10 46 45.4 +1.2
baz=313
BORG **Borgarnes** 76.22 353 *eP* **P** 10 46 46.4 +2.5
BORG **Borgarnes** 76.22 353 *eP* **P** 10 46 46.4 +2.5
BSD **Bornholm Skovb** 76.25 332 ⇑ *iP* **P** 10 46 43.7 -0.5
BSD *i* 10 47 04.4

BSD pmax pmax
comp=Z,84nm,1.1s
BSD Bornholm Skovb 76.25 332⇑ *i*P **P 10 46 43.7 -0.5**
comp=Z,84nm,1.1s
BSD *i* 10 47 04.4
DUG Dugway, Tooele 76.25 49 P **P 10 46 46.3 +1.6**
baz=309
DUG Dugway, Tooele 76.25 49 *e*P **P 10 46 46.5 +1.8**
DUG Dugway, Tooele 76.25 49 *e*P **P 10 46 46.5 +1.8**
SNCC San Nicolas Is 76.26 58 P **P 10 46 46.2 +1.5**
baz=307
EDW2 Edwards Air Fo 76.28 56 P **P 10 46 46.3 +1.5**
baz=308
LVV L'vov 76.31 324 *e*P **P 10 46 44.4 -0.3**
A26A Wade Farm, Ken 76.33 38 P **P 10 46 45.5 +0.7**
baz=314,SNR=6.4
BEL Belsk 76.33 327 *e*P **P 10 46 44.9 +0.2**
BEL Belsk 76.33 327 *e*P **P 10 46 44.9 +0.2**
DECC Green Verdugo 76.44 57 P **P 10 46 46.8 +1.1**
baz=308
TCUT Toone Canyon 76.50 48 *e*P **P 10 46 48.3 +2.1**
BW06 Boulder Array 76.50 46 P **P 10 46 47.2 +1.0**
baz=310
BW06 Boulder Array 76.50 46 *e*P **P 10 46 46.3 +0.2**
BW06 *e*P **P 10 46 47.1 +1.0**
PD31 Pinedale Array 76.50 46 *e*P **P 10 46 47.2 +1.0**
PDAR Pinedale Array 76.50 46 P **P 10 46 47.1 +1.0**
comp=Z,9.8nm,0.8s,baz=276,slow=3.1,SNR=48
PDAR pP **pP 10 47 02.9 +1.8**
comp=Z,9.3nm,0.9s,baz=270,slow=2.7,SNR=6.2
PDAR LR LR 11 18 35.0
comp=Z,66nm,21.5s,baz=326,slow=34
C25A Freed Ranch, W 76.55 39 P **P 10 46 47.3 +1.2**
baz=313
LEOM Leova 76.55 319⇑ *i*P **P 10 46 46.8 +0.8**
CTU Camp Tracy 76.56 49 *e*P **P 10 46 48.4 +1.9**
B26A Jensen Ranch, 76.59 38 P **P 10 46 47.4 +1.1**
baz=314,SNR=9.1
MWC Mount Wilson 76.64 57 *e*P **P 10 46 48.6 +1.6**
MWC Mount Wilson 76.64 57 *e*P **P 10 46 48.6 +1.6**
A27A Ledoux Ranch, 76.67 37 P **P 10 46 47.9 +1.2**
baz=314
COP Copenhagen 76.71 333 *e*P P 10 46 41.7 -5.0
COP Copenhagen 76.71 333 *i*P P 10 46 41.7 -5.0
SHOC Shoshone, Teco 76.77 55 P **P 10 46 48.9 +1.4**
baz=308
GSC Goldstone, Bar 76.80 55 P **P 10 46 49.2 +1.3**
baz=308
GSC Goldstone, Bar 76.80 55 *e*P **P 10 46 49.1 +1.3**
GSC Goldstone, Bar 76.80 55 *e*P **P 10 46 49.1 +1.3**
JLU Jordanelle 76.80 48 *e*P **P 10 46 49.9 +2.0**
BFSC Mount Baldy Ra 76.89 57 P **P 10 46 49.3 +0.9**
baz=308
KWP Kalwaria Pacla 77.06 324 *e*P **P 10 46 49.5 +0.6**
KWP Kalwaria Pacla 77.06 324⇑ *i*P **P 10 46 49.8 +0.9**
KWP Kalwaria Pacla 77.06 324 *e*P **P 10 46 49.5 +0.6**
SCI2 San Clemente I 77.07 58 P **P 10 46 50.5 +1.3**
baz=308
SHPR Sheep Range 77.11 54 *e*P **P 10 46 51.5 +1.8**
TLCR 77.12 318⇓ *i*P **P 10 46 49.3 0.0**
A28A Rude Farm, Bot 77.16 37 P **P 10 46 50.3 +0.8**
baz=315,SNR=6.1
MUD Monsted U'grnd 77.21 335⇑ *i*P **P 10 46 49.9 +0.4**
MUD pmax pmax
comp=Z,44nm,1.1s
MUD Monsted U'grnd 77.21 335⇑ *i*P **P 10 46 49.9 +0.4**
comp=Z,44nm,1.1s
RAO Raoul Island 77.25 144 LR LR 11 17 25.2
comp=Z,245nm,19.4s,baz=335,slow=33
BUR08 Bucovina Ar. S 77.27 322 *e*P **P 10 46 50.5 +0.3**
TUQ Turquoise Moun 77.28 55 P **P 10 46 52.0 +1.4**
baz=308
BURAR Bucovina Array 77.29 322⇑ *i*P **P 10 46 50.5 +0.2**
TESR Tescani 77.34 320⇑ *i*P **P 10 46 50.7 +0.2**
BBRC Big Bear Solar 77.36 56 P **P 10 46 52.0 +0.8**
baz=308
HEC Hector,Ludlow 77.39 56 P **P 10 46 52.3 +1.2**
baz=308
D26A Manning 77.42 39 P **P 10 46 51.9 +0.9**
baz=314
B28A Dugan Ranch, T 77.44 37 P **P 10 46 51.7 +0.7**
baz=315,SNR=6.2
CFR Carcaliu 77.48 318⇑ *i*P **P 10 46 51.3 0.0**
CCUT Cedar City 77.58 52 *e*P **P 10 46 54.2 +1.9**
MURC Murrieta 77.59 57 P **P 10 46 53.1 +0.9**
baz=308
A29A Manning Farm, 77.63 36 P **P 10 46 52.9 +0.8**
baz=316,SNR=14
F25A Bowman 77.67 40 P **P 10 46 53.4 +0.9**
baz=313
MSU Marysvale 77.69 50 *e*P **P 10 46 54.9 +2.0**
MSU Marysvale 77.69 50 *e*P **P 10 46 54.9 +2.0**
KOLS Kolonicke sedl 77.75 324 *e*P **P 10 46 52.8 0.0**
KOLS *e* 10 47 08.7
KOLS *e* 10 49 43.6
KOLS pmax pmax
comp=Z,33nm,1.3s
KOLS Kolonicke sedl 77.75 324 *e*P **P 10 46 52.8 0.0**
KOLS *e* 10 47 08.7
KOLS *e*PP **PP 10 49 43.6 -4.5**
TMUT Trail Mountain 77.78 49 *e*P **P 10 46 55.4 +1.9**
PLOR Plostina 77.79 320⇑ *i*P **P 10 46 53.7 +0.6**
E26A Carlson Angus 77.80 40 P **P 10 46 53.9 +0.8**
baz=314,SNR=6.6
TIRR Tirgusor 77.83 318⇑ *i*P **P 10 46 53.3 +0.1**
TIRR Tirgusor 77.83 318 *e*P **P 10 46 53.1 -0.1**
TIRR Tirgusor 77.83 318 *e*P **P 10 46 53.1 -0.1**
GMRC Granite Mounta 77.86 55 P **P 10 46 55.0 +1.2**
baz=309
STHS Stebnicka Huta 77.88 325 *e*P **P 10 46 54.2 +0.7**
STHS pmax pmax
comp=Z,26nm,1.1s
STHS Stebnicka Huta 77.88 325 *e*P **P 10 46 54.2 +0.7**
B29A Wagenman Farm, 77.90 37 P **P 10 46 54.3 +0.7**
baz=316
HARR Harsova 77.92 318⇑ *i*P **P 10 46 54.6 +0.8**
OJC Ojcow 77.94 326 *e*P **P 10 46 54.2 +0.4**
OJC Ojcow 77.94 326⇑ *e*P **P 10 46 54.2 +0.4**
P17A Butcher Ranch, 77.94 49 *e*P **P 10 46 56.1 +1.9**
C28A Hausauer Farms 77.94 38 P **P 10 46 55.0 +1.1**
baz=315
UZH Uzhgorod 77.96 324⇓ *i*P **P 10 46 53.0 -0.9**
UZH *e* 10 46 59.8
MTPU Mount Pierson 77.99 51 *e*P **P 10 46 56.9 +2.2**
LCMT Little Creek M 77.99 52 *e*P **P 10 46 56.4 +1.9**
BR131 Keskin Array S 78.03 311 *e*P **P 10 46 54.6 -0.1**
BRTR Keskin Array B 78.03 311 P **P 10 46 54.5 -0.1**
comp=Z,14nm,0.9s,baz=94,slow=4.1,SNR=65
BRTR pP **pP 10 47 10.0 +0.3**
comp=Z,21nm,1.2s,baz=140,slow=2.7,SNR=5.6
BRTR PP **PP 10 49 55.1 +4.3**
comp=Z,4.1nm,1.0s,baz=69,slow=6.8,SNR=3.7
BRTR LR LR 11 27 30.8
comp=Z,109nm,19.0s,baz=46,slow=40
A30A Hoffart Farm, 78.04 36 P **P 10 46 55.0 +0.6**
baz=316,SNR=11
PFO Pinyon Flats O 78.06 57 P **P 10 46 55.9 +1.0**
baz=308
PFO Pinyon Flats O 78.06 57 *e*P **P 10 46 52.4 -2.6**
PFO Pinyon Flats O 78.06 57 *e*P **P 10 46 52.4 -2.6**
TPFO Pinon Flats 78.07 57 P **P 10 46 56.1 +1.1**
baz=308
ARCR ARCALIA 78.08 322⇑ *i*P **P 10 46 56.0 +1.4**
109C Camp Elliot, M 78.08 58 P **P 10 46 55.9 +1.1**
baz=308
F26A Lodgepole 78.12 40 P **P 10 46 55.8 +0.8**
baz=314,SNR=12
BELC Belle Mtn. Jos 78.12 56 P **P 10 46 55.9 +0.7**
baz=309
CRVS Cervenica-Dubn 78.15 324 *e*P **P 10 46 55.0 0.0**
CRVS *e* 10 47 10.9
CRVS Cervenica-Dubn 78.15 324 *e*P **P 10 46 55.0 0.0**
CRVS *e* 10 47 10.9
ULM Lac du Bonnet 78.17 34 P **P 10 46 55.1 +0.1**
comp=Z,18nm,1.0s,baz=328,slow=6.5,SNR=13
ULM LR LR 11 24 53.7
comp=Z,113nm,18.9s,baz=320,slow=38
ULM Lac du Bonnet 78.17 34 *e*P **P 10 46 55.5 +0.5**
ULM Lac du Bonnet 78.17 34 *e*P **P 10 46 55.5 +0.5**
TRPA Tarpa 78.20 323⇓ *e*PKKPdf **P 10 46 55.9 +0.7**
TRPA *e*PKKPbc **sP 10 47 17.1 +1.0**
MDND Maddock 78.22 37 P **P 10 46 56.2 +0.8**
baz=316,SNR=5.8
MDND Maddock 78.22 37 *e*P **P 10 46 56.8 +1.4**
D28A Regan 78.22 38 P **P 10 46 56.3 +0.8**
baz=315
KNB Kanab 78.25 52 *e*P **P 10 46 58.0 +2.0**
KNB Kanab 78.25 52 *e*P **P 10 46 58.0 +2.0**
K22A Casper 78.26 44 P **P 10 46 56.6 +0.7**
baz=312
K22A Casper 78.26 44 *e*P **P 10 46 56.5 +0.5**
PKCU Pink Cliffs 78.29 51 *e*P **P 10 46 59.2 +2.8**
NIE Niedzica 78.30 325 *e*P **P 10 46 56.7 +0.8**
NIE Niedzica 78.30 325⇑ *e*P **P 10 46 56.7 +0.8**
SRU San Rafael Swe 78.30 49 *e*P **P 10 46 57.8 +1.5**
SRU San Rafael Swe 78.30 49 *e*P **P 10 46 57.8 +1.5**
DOPR Dopra 78.35 320⇑ *i*P **P 10 46 57.3 +1.2**
ISR Istrita 78.35 319⇑ *i*P **P 10 46 57.3 +1.1**
B30A Myrvik Farm, E 78.39 36 P **P 10 46 56.8 +0.5**
baz=316,SNR=9.0
MLR Muntele Rosu 78.40 320⇑ *i*P **P 10 46 56.7 +0.1**
MLR Muntele Rosu 78.40 320 *e*P **P 10 46 56.7 +0.1**
MLR *e*PP **pP 10 47 10.5 -1.1**
MLR Muntele Rosu 78.40 320 *e*P **P 10 46 56.7 +0.1**
MLR *e*pP **pP 10 47 10.5 -1.1**
MMU Miners Mountai 78.43 50 *e*P **P 10 46 59.0 +1.9**
ANTO Ankara 78.43 312 *e*P **P 10 46 57.6 +0.8**
ANTO Ankara 78.43 312 P **P 10 46 56.9 +0.1**
SNR=12
ANTO Ankara 78.43 312 P **P 10 46 56.9 +0.1**
SNR=12
ANTO Ankara 78.43 312 *e*P **P 10 46 57.6 +0.8**
BR231 Keskin MP Arra 78.46 312 *e*P **P 10 46 55.2 -1.8**
BR231 *e*P **P 10 46 57.9 +0.9**
PSN Preselentsi 78.47 317⇑ *i*P **P 10 46 57.6 +0.8**
PSN Preselentsi 78.47 317 *i*P **P 10 46 57.0 +0.2**
H25A Fruitdale 78.49 41 P **P 10 46 57.7 +0.6**
baz=314,SNR=5.2
MONP2 Monument Peak 78.53 57 P **P 10 46 58.7 +1.0**
baz=309
IRM Iron Mountain 78.58 55 P **P 10 46 58.7 +1.1**
baz=309
RSSD Black Hills 78.61 42 P **P 10 46 58.4 +0.6**
baz=313
RSSD Black Hills 78.61 42 *e*P **P 10 46 58.9 +1.0**
RSSD Black Hills 78.61 42 *e*P **P 10 46 58.9 +1.0**
BC3 Big Chuckawall 78.69 56 P **P 10 46 59.6 +1.2**
baz=309
B31A Greenbush Farm 78.72 36 P **P 10 46 58.5 +0.5**
baz=317,SNR=7.3
D29A Pettibone, Tap 78.78 38 P **P 10 46 58.9 +0.4**
baz=316
C30A Mose, Pekin 78.85 37 P **P 10 46 59.5 +0.6**
baz=316
LANS Liptovska Anna 78.87 326 *e*P **P 10 47 00.3 +1.3**
LANS *e* 10 47 16.5
LANS *e* 10 49 52.0
LANS Liptovska Anna 78.87 326 *e*P **P 10 47 00.3 +1.3**
LANS *e* 10 47 16.5
LANS *e*PP **PP 10 49 52.0 -5.4**
A32A Rocking H Ranc 78.88 35 P **P 10 46 59.1 +0.1**
baz=317
VOIR 78.89 320⇑ *i*P **P 10 47 00.5 +1.3**
IKP In-Ko-Pah, Jac 78.89 57 P **P 10 47 00.4 +1.0**
baz=309
KECS Kecovo 78.90 325 *e*P **P 10 46 59.6 +0.5**
KECS *e* 10 47 15.9
KECS pmax pmax
comp=Z,17nm,1.5s
KECS Kecovo 78.90 325 *e*P **P 10 46 59.6 +0.5**
KECS *e* 10 47 15.9
SWSC Sam W. Stewart 78.91 57 P **P 10 47 00.3 +0.9**
baz=309
OKC Ostrava-Krasne 78.94 327⇑ *e*P **P 10 46 59.5 +0.2**
OKC *e*pP **PcP 10 47 06.8 -0.9**
OKC *e*sP **pP 10 47 15.5 +1.2**
OKC *ex* x 10 47 21.3
OKC AMS AMS 11 25 00.0
comp=Z,400nm,18.1s
OKC Ostrava-Krasne 78.94 327 *e*P **P 10 46 59.5 +0.2**
OKC *e* 10 47 06.8
OKC *e*PP **pP 10 47 15.5 +1.2**
OKC MLR MLR
comp=Z,400nm,18.1s
KSP Ksiaz 78.96 328 *e*P **P 10 46 60.0 +0.6**
KSP Ksiaz 78.96 328⇑ *e*P **P 10 47 00.0 +0.6**
O20A White River Ci 78.97 47 P **P 10 47 00.9 +1.0**
baz=312
O20A White River Ci 78.97 47 *e*P **P 10 47 01.3 +1.4**
DRGR 79.08 322⇓ *i*P **P 10 47 00.6 +0.4**
E29A Napoleon 79.11 38 P **P 10 47 00.7 +0.3**
baz=316
PDMCI Parker Dam,Lak 79.13 55 P **P 10 47 01.8 +1.2**
baz=309
C31A Landman Farms, 79.14 36 P **P 10 47 00.6 +0.2**
baz=317,SNR=6.6
D30A Buchanan 79.15 37 P **P 10 47 00.9 +0.4**
baz=316,SNR=6.2
PRD Provadia 79.22 317 *i*P **P 10 47 01.3 +0.4**
Y12C Blythe 79.24 55 P **P 10 47 02.4 +1.2**
baz=309
MORC Moravsky Berou 79.24 327⇑ *i*P **P 10 47 01.5 +0.5**
MORC Moravsky Berou 79.24 327 *e*P **P 10 47 01.5 +0.5**
MORC Moravsky Berou 79.24 327 *e*P **P 10 47 01.4 +0.5**
B32A Ashes, Strandq 79.24 35 P **P 10 47 00.9 0.0**
baz=318,SNR=6.3
DPC Dobruska-Polom 79.32 328 *e*P **P 10 47 02.4 +0.9**
DPC *e*pP **PcP 10 47 09.7 +0.2**
DPC *e*sP **pP 10 47 17.8 +1.3**
DPC *ex* x 10 47 23.5
DPC *e*PP **PP 10 49 55.1 -6.0**
DPC AMS AMS 11 28 20.0
comp=Z,300nm,14.1s
DPC Dobruska-Polom 79.32 328 *e*P **P 10 47 02.4 +0.9**
DPC *e* 10 47 09.7
DPC *e*PP **pP 10 47 17.8 +1.3**
DPC MLR MLR
comp=Z,300nm,14.1s
UPC Upice 79.33 328⇑ *e*P **P 10 47 02.1 +0.7**
UPC *e*sP **pP 10 47 17.5 +1.0**
UPC *ex* x 10 47 23.3
UPC AMS AMS 11 23 40.0
comp=Z,500nm,20.1s
UPC Upice 79.33 328 *e*P **P 10 47 02.1 +0.7**
UPC *e*PP **pP 10 47 17.5 +1.0**
UPC MLR MLR
comp=Z,500nm,20.1s
A33A Warroad 79.36 34 P **P 10 47 01.7 +0.1**
baz=318,SNR=9.5
GLA Glamis 79.48 56 P **P 10 47 04.0 +1.4**
baz=309
E30A Jud 79.51 38 P **P 10 47 03.0 +0.4**
baz=316
LOT Lotru 79.52 321⇑ *i*P **P 10 47 02.7 0.0**
PV09 Paradox Valley 79.52 49 *e*P **P 10 47 05.0 +1.9**
F29A Eureka 79.55 39 P **P 10 47 03.4 +0.6**
baz=316
PSZ Piszkesteto 79.58 324⇑ *i*P **P 10 47 03.7 +0.8**
PSZ Piszkesteto 79.58 324⇑ *e*PKKPdf **P 10 47 03.5 +0.6**
PSZ *e*P **sP 10 47 24.8 +1.0**
PSZ Piszkesteto 79.58 324 *e*P **P 10 47 03.6 +0.6**
PSZ Piszkesteto 79.58 324 *e*P **P 10 47 03.6 +0.6**
AGMN Agassiz Nation 79.62 35 P **P 10 47 02.9 -0.1**
baz=318
AGMN Agassiz Nation 79.62 35 *e*P **P 10 47 02.7 -0.3**
VYHS Vyhne 79.63 325 *e*P **P 10 47 03.7 +0.6**
VYHS *e* 10 47 19.3
VYHS *e* 10 50 02.1
VYHS pmax pmax
comp=Z,27nm,1.4s
VYHS Vyhne 79.63 325 *e*P **P 10 47 03.7 +0.6**
VYHS *e* 10 47 19.3
VYHS *e*PP **PP 10 50 02.1 -1.6**
PV10 Paradox Valley 79.66 49 *e*P **P 10 47 05.7 +2.0**
C32A Crookston 79.67 36 P **P 10 47 03.5 +0.2**
baz=318
D31A Mcclaflin, Tow 79.68 37 P **P 10 47 03.8 +0.3**
baz=317
PHWY Pilot Hill 79.76 45 *e*P **P 10 47 05.3 +1.0**
B33A Robert and Kas 79.76 35 P **P 10 47 03.7 -0.1**
baz=318
N23A Red Feather La 79.76 45 P **P 10 47 05.8 +1.4**
baz=313
N23A Red Feather La 79.76 45 *e*P **P 10 47 05.9 +1.6**
PV05 Paradox Valley 79.82 49 *e*P **P 10 47 06.3 +1.7**
BRG Berggiesshubel 79.89 329 *i*P **P 10 47 04.6 +0.2**
comp=Z,33nm,0.9s
BRG *e*pP **pP 10 47 19.6 +0.1**
comp=Z,24nm,1.1s
BRG *i* sP **sP 10 47 25.9 +0.5**
comp=Z,40nm,1.1s
BRG Berggiesshubel 79.89 329 S **sS 10 57 29.0 0.0**
comp=N,432nm,20.0s
comp=E,304nm,14.8s
comp=Z,717nm,19.8s
BRG Berggiesshubel 79.89 329 *i*P **P 10 47 04.6 +0.2**
BRG *e**PP **pP 10 47 19.6 +0.1**
BRG S **sS 10 57 29.0 0.0**
BRG pmax pmax
comp=Z,33nm,0.9s
BRG pmax pmax
comp=Z,24nm,1.1s
BRG pmax pmax
comp=N,41nm,1.1s
BRG MLR MLR
comp=N,432nm,20.0s
BRG MLR MLR
comp=E,304nm,14.8s
BRG MLR MLR
comp=Z,717nm,19.8s
PVCC Panska Ves 79.91 329⇑ *e*P **P 10 47 05.3 +0.7**
PVCC *es*P **pP 10 47 20.8 +1.2**
PVCC *ex* x 10 47 26.8
PVCC AMS AMS 11 24 40.0
comp=Z,600nm,18.9s
PVCC Panska Ves 79.91 329 *e*P **P 10 47 05.3 +0.7**
PVCC *e**PP **pP 10 47 20.8 +1.2**
PVCC MLR MLR
comp=Z,600nm,18.9s
CLL Collm 79.93 330⇑ *i*P **P 10 47 04.3 -0.3**
comp=Z,51nm,0.9s
CLL *i* pP **pP 10 47 20.0 +0.3**
comp=Z,46nm,1.0s
CLL *i* sP **sP 10 47 26.2 +0.7**
comp=Z,71nm,1.0s
CLL LmV 11 25 00.0
comp=Z,400nm,20.3s
CLL Collm 79.93 330⇑ *i*P **P 10 47 04.3 -0.3**
CLL *i **PP **pP 10 47 20.0 +0.3**
CLL pmax pmax
comp=Z,51nm,0.9s
CLL MLR MLR
comp=Z,400nm,20.3s
CLL Collm 79.93 330 *e*P **P 10 47 04.5 -0.1**
F30A Leola 79.94 38 P **P 10 47 05.1 +0.2**
baz=316
SZH Strazhica 79.95 318 *i*P **P 10 47 04.5 -0.4**
D32A Dogwood Acres, 79.95 36 P **P 10 47 04.8 -0.1**
baz=317
G29A Hoven 79.96 39 P **P 10 47 05.4 +0.4**
baz=316
E31A Nome 79.96 37 P **P 10 47 05.2 +0.3**
baz=317,SNR=8.4
VRAC Vranov 80.00 327⇑ *i*P **P 10 47 05.8 +0.7**
B34A Aery, Baudette 80.02 34 P **P 10 47 05.2 0.0**
baz=319
PV01 Paradox Valley 80.10 49 *e*P **P 10 47 07.4 +1.3**
WUAZ Wupatki 80.11 52 P **P 10 47 07.7 +1.6**
baz=311
WUAZ Wupatki 80.11 52 *e*P **P 10 47 08.3 +2.2**
H29A Onida 80.22 40 P **P 10 47 07.2 +0.9**
baz=316
F31A Hecla 80.29 38 P **P 10 47 07.0 +0.3**
baz=317
GOPC GO Pecny, Ondr 80.29 328 *e*P **P 10 47 07.2 +0.5**
GOPC *e*pP **PcP 10 47 14.6 +0.9**
GOPC *e*sP **pP 10 47 22.8 +1.1**
GOPC *ex* x 10 47 28.5
GOPC AMS AMS 11 24 10.0
comp=Z,400nm,18.1s
GOPC GO Pecny, Ondr 80.29 328 *e*P **P 10 47 07.2 +0.5**
GOPC *e* 10 47 14.6
GOPC *e**PP **pP 10 47 22.8 +1.1**
GOPC MLR MLR
comp=Z,400nm,18.1s
BUD Budapest 80.30 325⇑ *e*PKKPbc **P 10 47 07.3 +0.6**
E32A Braaten, Kindr 80.32 37 P **P 10 47 07.3 +0.4**
baz=317
SMCO Snowmass 80.33 47 *e*P **P 10 47 08.9 +1.3**
PRU Pruhonice 80.34 329⇑ *e*P **P 10 47 07.4 +0.5**
PRU *e*pP **PcP 10 47 14.7 +0.8**
PRU *e*sP **pP 10 47 23.0 +1.1**
PRU *ex* x 10 47 28.8
PRU AMS AMS 11 24 50.0
comp=Z,500nm,21.7s
PRU Pruhonice 80.34 329 *e*P **P 10 47 07.4 +0.5**
PRU *e* 10 47 14.7
PRU *e**PP **pP 10 47 23.0 +1.1**
PRU MLR MLR
comp=Z,500nm,21.7s
G30A Faulkton 80.39 39 P **P 10 47 07.9 +0.6**
baz=316
BZS Buzias 80.45 322⇓ *i*P **P 10 47 07.4 -0.2**
TREC Trest 80.48 328⇑ *e*P **P 10 47 08.2 +0.5**
TREC *e*sP **pP 10 47 23.7 +1.0**
TREC *ex* x 10 47 29.8
TREC AMS AMS 11 27 10.0
comp=Z,300nm,19.2s
TREC Trest 80.48 328 *e*P **P 10 47 08.2 +0.5**
TREC *e**PP **pP 10 47 23.7 +1.0**
TREC MLR MLR
comp=Z,300nm,19.2s
B35A Bob, Littlefor 80.52 34 P **P 10 47 07.9 +0.1**
baz=319,SNR=5.3
NRS Narsarsuaq 80.52 3⇑ *i*P **P 10 47 07.2 -0.4**
NRS pmax pmax
comp=Z,19nm,1.2s
NRS Narsarsuaq 80.52 3⇑ *i*P **P 10 47 07.2 -0.4**
comp=Z,19nm,1.2s
I29A Vivian Onida 80.60 40 P **P 10 47 09.3 +0.8**
baz=316
MVCO Mesa Verde 80.75 50 P **P 10 47 11.0 +1.3**
baz=312
MVCO Mesa Verde 80.75 50 *e*P **P 10 47 11.2 +1.5**
G31A Conde 80.78 38 P **P 10 47 09.9 +0.6**
baz=317
D34A Park Rapids 80.82 35 P **P 10 47 09.6 0.0**
baz=318
F32A Veblen 80.82 37 P **P 10 47 09.7 +0.2**
baz=317
RAR Rarotonga 80.86 126 LR LR 11 14 06.5
comp=Z,279nm,21.0s,baz=274,slow=29
E33A Westby DABS, E 80.88 36 P **P 10 47 10.3 +0.4**
baz=318
C35A Jirik Farms, M 80.91 34 P **P 10 47 09.7 -0.3**
baz=319
SUSD Miller 80.97 39 P **P 10 47 10.8 +0.4**
baz=316
NKC Novy Kostel 80.99 330⇑ *e*P **P 10 47 10.8 +0.4**
NKC *e*pP **PcP 10 47 18.9 +2.2**
NKC *e*sP **pP 10 47 26.1 +0.6**
NKC *ex* x 10 47 32.3
NKC Novy Kostel 80.99 330 *e*P **P 10 47 10.8 +0.4**
NKC *e* 10 47 18.9
NKC *e**PP **pP 10 47 26.1 +0.6**
MDVR Moldovita 81.01 321⇑ *i*P **P 10 47 10.6 -0.1**
MPEP Malo Peshtene 81.02 319 *i*P **P 10 47 11.0 +0.3**
G32A Webster 81.10 38 P **P 10 47 11.6 +0.5**
baz=317
I30A Oacoma 81.12 40 P **P 10 47 11.7 +0.5**
baz=316
H31A Wolsey 81.19 39 P **P 10 47 11.8 +0.3**
baz=317
F33A 5 Mile Ranch, 81.24 37 P **P 10 47 12.2 +0.4**
baz=318
SOP Sopron 81.25 326⇑ *e*PKKPbc **P 10 47 12.6 +0.8**
SOP *e*P **sP 10 47 34.3 +1.6**
CSS Mathiatis 81.32 308 *e*P **P 10 47 12.3 -0.1**
D35A Remer 81.34 35 P **P 10 47 12.1 -0.2**
baz=319
C36A Pine Crest Far 81.36 34 P **P 10 47 12.4 0.0**
baz=320
CONA Conrad Observa 81.37 327 *i*P **P 10 47 13.2 +0.7**
comp=Z,36nm,1.0s,SNR=24
PGB Panagyurishte 81.37 318 *i*P **P 10 47 12.7 +0.1**
S22A 4UR Ranch, Cre 81.38 48 P **P 10 47 14.8 +1.8**
baz=313
S22A 4UR Ranch, Cre 81.38 48 *e*P **P 10 47 14.9 +1.8**
KHC Kasperske Hory 81.40 328 *e*P **P 10 47 13.0 +0.4**
KHC *e*pP **PcP 10 47 20.3 +1.7**
KHC *e*sP **pP 10 47 28.5 +0.8**
KHC *ex* x 10 47 34.4
KHC AMS AMS 11 25 20.0
comp=Z,600nm,20.4s

KHC Kasperske Hory 81.40 328 eP P 10 47 13.0 +0.4
KHC e 10 47 20.3
KHC e*PP pP 10 47 28.5 +0.8
KHC MLR MLR
comp=Z,600nm,20.4s
KHC Kasperske Hory 81.40 328 eP P 10 47 12.8 +0.2
PLD Plovdiv 81.41 318 i P P 10 47 12.4 -0.3
214A Organ Pipe Nat 81.49 56 P P 10 47 14.6 +1.2
baz=310
J30A Dallas 81.51 40 P P 10 47 13.8 +0.5
baz=316
Q24A Divide 81.52 46 P P 10 47 14.9 +1.2
baz=313
Q24A Divide 81.52 46 eP P 10 47 15.1 +1.2
GERES GERESS Array B 81.57 328 P P 10 47 13.5 -0.1
comp=Z,7.8nm,0.6s,baz=35,slow=4.9,SNR=71
GERES pP pP 10 47 28.9 +0.2
comp=Z,9.7nm,1.0s,baz=23,slow=4.8,SNR=6.0
GERES sP sP 10 47 34.9 +0.3
comp=Z,10nm,0.8s,baz=28,slow=6.0,SNR=8.6
GERES PP PP 10 50 20.4 +0.6
comp=Z,1.5nm,0.8s,baz=61,slow=11,SNR=4.6
GERES LR LR 11 26 10.1
comp=Z,457nm,21.8s,baz=32,slow=38
E35A Pequot Lakes 81.58 35 P P 10 47 13.4 -0.2
baz=319
D36A Goodland 81.67 34 P P 10 47 13.7 -0.3
baz=320
C37A Embarrass 81.67 33 P P 10 47 13.9 -0.1
baz=320
H32A Carlson Farm, 81.68 38 P P 10 47 14.2 +0.1
baz=317
RZN Rozhen 81.69 318 i P P 10 47 14.6 +0.1
F34A Alexandria 81.76 36 P P 10 47 14.6 +0.1
baz=319
EYMN Ely 81.80 33 P P 10 47 14.8 +0.1
baz=321
EYMN Ely 81.80 33 eP P 10 47 14.0 -0.7
comp=Z,12nm,1.1s
OGNE Ogallala 81.87 43 P P 10 47 15.9 +0.6
baz=315
OGNE Ogallala 81.87 43 eP P 10 47 16.5 +1.1
OGNE epP pP 10 47 33.0 +2.6
H33A Prehn Over Nor 81.88 38 P P 10 47 15.8 +0.6
baz=318
GRFO Grafenberg 81.90 330 eP P 10 47 16.0 +0.8
GRFO Grafenberg 81.90 330 eP P 10 47 16.0 +0.8
J31A Geddes 81.92 40 P P 10 47 15.9 +0.5
baz=317
K30A Basset 81.92 41 P P 10 47 16.4 +0.9
baz=316
G34A Benson 81.99 37 P P 10 47 16.2 +0.5
baz=318
I32A Karley and Nic 82.01 39 P P 10 47 16.4 +0.5
baz=317
F35A Swanville 82.03 36 P P 10 47 16.2 +0.2
baz=319
ARSA Arzberg 82.03 326 i P P 10 47 16.4 +0.5
comp=Z,41nm,1.3s,SNR=16
C38A Sawbill Land. 82.07 33 P P 10 47 16.4 +0.2
baz=321
BEHE Becsehely 82.08 325⇑ eP P 10 47 16.4 +0.2
MOA Molln 82.11 327 i P P 10 47 16.6 +0.3
comp=Z,35nm,1.3s,SNR=17
E36A McGregor 82.13 35 P P 10 47 16.6 +0.2
baz=320
SDCO Great Sand Dun 82.15 48 P P 10 47 18.5 +1.4
baz=313
SDCO Great Sand Dun 82.15 48 eP P 10 47 18.5 +1.4
MMB Musomiste 82.29 318 i P P 10 47 17.3 -0.1
J32A Parkston 82.30 39 P P 10 47 17.6 +0.2
baz=317
I33A Coleman 82.32 38 P P 10 47 17.8 +0.3
baz=318
H34A Spellman Lake, 82.36 37 P P 10 47 18.2 +0.5
baz=318
K31A O'Neill 82.39 40 P P 10 47 18.4 +0.5
baz=317
KKB Krupnik 82.42 319 i P P 10 47 18.4 +0.3
C39A Grand Marais 82.48 32 P P 10 47 18.1 -0.2
baz=322
F36A Milaca 82.50 35 P P 10 47 18.1 -0.3
baz=320
TUC Tucson 82.56 55 eP P 10 47 20.2 +1.1
TUC pmax pmax
comp=Z,8.0nm,1.0s
TUC Tucson 82.56 55 eP P 10 47 20.1 +1.1
comp=Z,7.9nm,1.0s
ECSD EROS Data Cent 82.64 38 P P 10 47 19.8 +0.5
baz=318
ECSD EROS Data Cent 82.64 38 eP P 10 47 19.6 +0.4
L31A Butterfield Fa 82.67 41 P P 10 47 20.0 +0.5
baz=317
PERS Pernice 82.69 326 i P P 10 47 19.3 -0.1
SOKA Soboth 82.69 326 i P P 10 47 19.6 +0.1
comp=Z,66nm,1.1s,SNR=49
H35A Sunnyside Ranc 82.78 37 P P 10 47 20.6 +0.7
baz=319
I34A Hadley 82.78 38 P P 10 47 20.4 +0.5
baz=318
G36A St. Michael 82.88 36 P P 10 47 20.6 +0.2
baz=320
KSCO Kaye Shedlock' 82.91 45 P P 10 47 21.5 +0.7
baz=315
OBKA Obir 83.03 326 i P P 10 47 20.8 -0.5
comp=Z,14nm,0.8s,SNR=7.7
BEBN Eben Emael 83.05 334 P P 10 47 21.1 0.0
URZ Urewera 83.06 153 LR LR 11 19 30.2
comp=Z,318nm,21.8s,baz=3.0,slow=32
VAY Valandovo 83.08 318 eP P 10 47 22.4 +0.9
MEM Membach 83.09 333 P P 10 47 21.6 +0.2
comp=Z,33nm,1.2s
KBA Koelnbreinsper 83.10 327 i P P 10 47 21.7 -0.1
comp=Z,36nm,0.9s,SNR=20
SKO Skopje 83.19 320 eP P 10 47 23.2 +1.1
T25A Trinidad 83.20 47 P P 10 47 23.8 +1.3
baz=314
T25A Trinidad 83.20 47 eP P 10 47 23.7 +1.2
M31A Lambtecht Ranc 83.20 41 P P 10 47 22.3 +0.1
baz=317
PLE Pljevlja 83.21 322⇑ iP P 10 47 21.6 -0.7
L32A Elgin 83.22 40 P P 10 47 22.5 +0.3
baz=317
H36A Jessenland, He 83.29 36 P P 10 47 23.5 +1.0
baz=320
IVA Berane 83.31 321 eP P 10 47 22.4 -0.4
SPMN Marine on St. 83.32 35 P P 10 47 22.6 0.0
baz=320
SPMN Marine on St. 83.32 35 eP P 10 47 23.2 +0.6
MYKA Terra Mystica 83.33 327 i P P 10 47 22.3 -0.5
comp=Z,76nm,1.6s,SNR=14
I35A Creekview Farm 83.34 37 P P 10 47 23.0 +0.2
baz=319
LJU Ljubljana 83.40 326 eP P 10 47 22.2 -0.9
STU Stuttgart 83.43 331 eP P 10 47 23.4 +0.2
STU Stuttgart 83.43 331 eP P 10 47 23.4 +0.2
LAZ Ladron 83.45 51 eP P 10 47 25.5 +1.7
VISS Visnje 83.45 326 eP P 10 47 22.7 -0.6
L33A Hoskins 83.47 40 P P 10 47 23.7 +0.1
baz=318
PVY Plav 83.48 321⇑ iP P 10 47 22.6 -1.1
ANMO Albuquerque 83.49 50 P P 10 47 25.6 +1.6
baz=313
ANMO Albuquerque 83.49 50c iP P 10 47 25.0 +1.0
ANMO pmax pmax
comp=Z,21nm,1.2s
ANMO Albuquerque 83.49 50 eP P 10 47 25.6 +1.6
BCLA Clavier 83.50 334 P P 10 47 23.3 -0.1
comp=Z,22nm,1.7s
BOJS Bojanci 83.50 325 i P P 10 47 23.2 -0.4
UPM Unac-Piva 83.54 322⇑ iP P 10 47 23.0 -1.1
BGNE Belgrade 83.58 41 P P 10 47 24.4 +0.3
baz=317
BGNE Belgrade 83.58 41 eP P 10 47 25.0 +0.9
N31A Bailey Ranch, 83.59 42 P P 10 47 24.6 +0.4
baz=317
J35A Milford 83.60 38 P P 10 47 24.3 +0.1
baz=319
CWF Charnwood Fore 83.61 338 eP P 10 47 24.4 +0.5
WATA Walderalm 83.64 328 i P P 10 47 24.5 0.0
comp=Z,8.9nm,0.7s,SNR=6.4
WTTA Wattenberg 83.67 328 i P P 10 47 24.3 -0.4
comp=Z,16nm,1.0s,SNR=7.9
K34A Le Mars 83.68 39 P P 10 47 24.8 +0.2
baz=318
I36A Fitzsimmons Fa 83.68 37 P P 10 47 24.8 +0.3
baz=320
ABTA Abfaltersbach 83.72 328 i P P 10 47 23.9 -0.9
comp=Z,28nm,1.2s,SNR=12
JAVS Javornik 83.72 326 i P P 10 47 23.7 -1.1
H37A Dierke Farm, C 83.76 36 P P 10 47 25.2 +0.3
baz=320
LANF Langenberg 83.79 331⇑ eP P 10 47 24.8 -0.2
LPM Los Pinos Moun 83.82 51 eP P 10 47 27.3 +1.6
MOTA Moksalm 83.83 329 i P P 10 47 25.5 +0.1
comp=Z,30nm,0.9s,SNR=15
WLF Walferdange 83.83 333 P P 10 47 25.8 +0.6
comp=Z,34nm,1.9s
WLF Walferdange 83.83 333 eP P 10 47 25.7 +0.6
WLF Walferdange 83.83 333 eP P 10 47 25.7 +0.6
NKME Niksic 83.85 321⇑ iP P 10 47 24.9 -0.6
RETA Reutte 83.85 329 i P P 10 47 25.7 +0.3
comp=Z,84nm,1.2s,SNR=33
SCHQ Schefferville 83.88 16 P P 10 47 25.7 +0.3
comp=Z,25nm,0.9s,baz=350,slow=4.9,SNR=20
SCHQ LR LR 11 27 13.6
comp=Z,143nm,21.1s,baz=330,slow=37
BNM Barren Site 83.93 51 eP P 10 47 27.9 +1.6
BRY Bratogost 83.95 322⇑ iP P 10 47 25.2 -0.9
PDG Podgorica 83.95 321⇑ iP P 10 47 26.0 +0.1
TTG Podgorica 83.95 321⇑ iP P 10 47 25.7 -0.2
M33A Taylor Creek F 83.95 40 P P 10 47 26.2 +0.2
baz=318
I37A Lemond, Waseca 83.97 36 P P 10 47 26.6 +0.6
baz=320
N32A Stulken Farm, 83.98 41 P P 10 47 26.1 -0.1
baz=317
DOU Dourbes 84.02 334 P P 10 47 26.0 -0.1
comp=Z,11nm,1.4s
CEME Cevo 84.03 321⇑ iP P 10 47 25.8 -0.6
J36A Seneca 1, Swea 84.05 37 P P 10 47 26.6 +0.2
baz=319
K35A Storm Lake 84.07 38 P P 10 47 26.6 0.0
baz=319
L34A Svendsen Farm, 84.07 40 P P 10 47 26.7 +0.1
baz=318
BFO Black Forest 84.12 331 ceP P 10 47 27.0 +0.3
BFO Black Forest 84.12 331 eP P 10 47 26.1 -0.6
OHR Ohrid 84.15 319 eP P 10 47 26.9 -0.2
DRME Dracevica, Mon 84.17 321⇑ iP P 10 47 27.1 +0.1
BUM Brajici-Budva 84.22 321⇑ iP P 10 47 26.8 -0.6
FETA Feichten 84.24 329 i P P 10 47 27.6 +0.1
comp=Z,33nm,1.1s,SNR=14
ULC Ulcinj 84.30 321⇑ iP P 10 47 27.2 -0.6
121A Cookes Peak, D 84.31 53 P P 10 47 29.8 +1.6
baz=313
121A Cookes Peak, D 84.31 53 eP P 10 47 29.7 +1.5
comp=Z,16nm,0.9s
HCY Herceg Novi 84.31 321⇑ iP P 10 47 27.1 -0.7
DAVA Damuels 84.37 329 i P P 10 47 28.2 0.0
comp=Z,71nm,1.1s,SNR=32
J37A Redenius Farm, 84.43 37 P P 10 47 28.9 +0.5
baz=320
N33A J Bar K, Exete 84.44 41 P P 10 47 28.4 0.0
baz=318
I38A Scanlan Farm, 84.44 36 P P 10 47 28.7 +0.2
baz=321
K36A Gilmore City 84.51 38 P P 10 47 28.9 +0.1
baz=319
CBKS Cedar Bluff 84.63 44 P P 10 47 29.4 -0.2
baz=316
CBKS Cedar Bluff 84.63 44 eP P 10 47 30.0 +0.5
CBKS e*PP pP 10 47 40.9 -3.8
CBKS Cedar Bluff 84.63 44 eP P 10 47 30.0 +0.5
CBKS epP pP 10 47 40.9 -3.8
P32A Huiting Farm, 84.65 42 P P 10 47 29.4 -0.2
baz=317
ECH Echery 84.66 331⇑ eP P 10 47 29.1 -0.4
FUORN Ofenpass-Fuorn 84.75 329 eP P 10 47 30.6 +0.3
M35A Neola 84.78 39 P P 10 47 30.7 +0.5
baz=319
K37A Belmond 84.81 37 P P 10 47 30.4 +0.1
baz=320
L36A Harm Buss Farm 84.81 38 P P 10 47 30.6 +0.3
baz=319
N34A Lincoln 84.85 40 P P 10 47 30.3 -0.2
baz=318
O33A Hebron 84.85 41 P P 10 47 30.3 -0.3
baz=318
AGG Agios Georgios 84.88 317 eP P 10 47 30.0 -0.8
AGG Agios Georgios 84.88 317 eP P 10 47 30.0 -0.8
J38A Wedel Dairy, R 84.93 36 P P 10 47 31.0 +0.1
baz=321
MOF Molkenrain 84.97 331⇑ eP P 10 47 30.9 -0.2
PPT Papeete 85.11 117 LR LR 11 17 51.9
comp=Z,194nm,21.3s,baz=316,slow=30
PPT2 Papeete2 85.13 117 eLR LR 11 14 26.6
comp=Z,1µm,25.2s,baz=317
PPT2 Papeete2 85.13 117 eT T 12 21 32.9
comp=Z,18nm,0.3s
Q32A Meitler Ranch, 85.13 43 P P 10 47 32.0 -0.1
baz=317
PAE Paea 85.17 117 eT T 12 21 35.9
comp=Z,2.7nm,0.2s
O34A Beatrice 85.23 41 P P 10 47 32.1 -0.4
baz=318
M36A Felix, Anita 85.24 39 P P 10 47 32.9 +0.4
baz=319
L37A Phoenix Point, 85.24 38 P P 10 47 32.7 +0.2
baz=320
N35A Tabor 85.26 40 P P 10 47 33.2 +0.6
baz=319
P33A Williams Farm, 85.27 42 P P 10 47 32.8 +0.1
baz=318
TIAR Tiarei 85.27 117 eT T 12 21 43.4
comp=Z,6.7nm,0.2s
J39A Decorah 85.28 36 P P 10 47 32.2 -0.5
baz=321
K38A Parkersburg 85.31 37 P P 10 47 33.2 +0.4
baz=320
R32A Long Quarter, 85.47 43 P P 10 47 33.6 -0.1
baz=317
LOMF Lomont 85.50 331⇑ eP P 10 47 33.5 -0.3
Q33A Connelly Farm, 85.52 42 P P 10 47 34.0 +0.1
baz=318
O35A Humboldt 85.57 40 P P 10 47 34.3 +0.2
baz=319
L38A Oak Wood Farm, 85.61 37 P P 10 47 34.7 +0.4
baz=320
P34A Walnut Farm, R 85.64 41 P P 10 47 34.3 -0.2
baz=318
N36A Muff Farm, Cla 85.64 39 P P 10 47 35.1 +0.6
baz=319
SCIA State Center 85.67 38 eP P 10 47 35.3 +0.8
K39A Oelwein 85.68 36 P P 10 47 34.4 -0.3
baz=321
S32A Newby Ranch, P 85.87 44 P P 10 47 36.0 +0.3
baz=317
LAST Lasithi 85.89 313 eP P 10 47 35.7 -0.2
R33A Olander Ranch, 85.94 43 P P 10 47 36.1 +0.1
baz=318
K40A Colesburg 86.03 36 P P 10 47 36.4 0.0
baz=321
Q34A Chapman 86.04 42 P P 10 47 36.9 +0.4
baz=318
M38A Pleasantville 86.05 38 P P 10 47 36.9 +0.4
baz=320
N37A Lee Faris, Mou 86.06 39 P P 10 47 37.2 +0.7
baz=320
RPZ Rata Peaks 86.06 159 LR LR 11 21 48.1
comp=Z,140nm,19.1s,baz=349,slow=33
P35A Duane Minner, 86.07 41 P P 10 47 36.7 +0.1
baz=319
L39A Vinton 86.08 37 P P 10 47 37.0 +0.4
baz=321
KSU1 Kansas State U 86.08 42 P P 10 47 36.8 +0.1
baz=318
KSU1 Kansas State U 86.08 42 eP P 10 47 37.3 +0.7
IDI Anoyia 86.14 313 eP P 10 47 36.5 -0.6
SENIN Lac Senin/Sane 86.14 330 eP P 10 47 36.7 -0.4
O36A Bolckow 86.15 40 P P 10 47 37.7 +0.7
baz=319
T32A Huddler Ranch, 86.26 44 P P 10 47 38.2 +0.5
baz=317
JFWS Jewell Farm 86.27 35 eP P 10 47 38.0 +0.4
JFWS Jewell Farm 86.27 35 eP P 10 47 38.0 +0.4
TAOE Nuku Hiva Isla 86.33 104 eLR LR 11 14 52.2
comp=Z,1µm,32.9s
TAOE Nuku Hiva Isla 86.33 104 eT T 12 23 11.1
comp=Z,107nm,0.2s
AMTX Amarillo 86.36 47 P P 10 47 39.1 +0.9
baz=316
MSTX Muleshoe 86.36 49 P P 10 47 39.0 +0.7
baz=315
MSTX Muleshoe 86.36 49 eP P 10 47 39.3 +1.0
MNTX Cornudas Mount 86.37 52 P P 10 47 39.1 +0.9
baz=314
MNTX Cornudas Mount 86.37 52 eP P 10 47 39.3 +1.0
MEH Mehetia 86.38 116 eT T 12 23 07.1
comp=Z,100nm,0.3s
OG01 Vacheresse 86.41 331⇑ eP P 10 47 38.0 -0.3
P36A Good Intent, A 86.41 40 P P 10 47 38.4 +0.1
baz=319
S33A Kaszmaul Farm, 86.45 43 P P 10 47 39.2 +0.6
baz=318
N38A Joes South For 86.51 38 P P 10 47 39.2 +0.4
baz=320
O37A Wolven Farm, M 86.53 39 P P 10 47 39.5 +0.6
baz=320
Q35A Mercer Eighty, 86.56 41 P P 10 47 39.5 +0.4
baz=319
Q36A Arnold C. Orve 86.78 41 P P 10 47 40.0 -0.1
baz=319
U32A Winter Ranch, 86.80 45 P P 10 47 41.0 +0.7
baz=317
N39A Derby Farms, D 86.80 38 P P 10 47 40.6 +0.4
baz=321
L41A Preston 86.82 36 P P 10 47 40.2 -0.1
baz=322
S34A Willow Spring 86.85 43 P P 10 47 41.1 +0.6
baz=318
P37A Lathrop 86.87 40 P P 10 47 41.0 +0.4
baz=320
R35A Emporia Munici 86.87 42 P P 10 47 41.5 +0.9
baz=318
O38A Galt 86.90 39 P P 10 47 41.2 +0.5
baz=320
RSL Roselend 86.96 330⇑ eP P 10 47 40.4 -0.7
R36A Gordon, Harris 87.23 41 P P 10 47 42.8 +0.5
baz=319
U33A Lingo Farm, Me 87.25 44 P P 10 47 43.2 +0.8
baz=318
V32A Arapaho 87.25 45 P P 10 47 43.5 +1.0
baz=317
P38A Dawn 87.25 39 P P 10 47 43.0 +0.6
baz=320
O39A Kirksville 87.26 38 P P 10 47 42.8 +0.4
baz=321
S35A Otter Creek Ra 87.29 42 P P 10 47 43.4 +0.8
baz=318
T34A McClaskey Farm 87.31 43 P P 10 47 43.5 +0.8
baz=318
Q37A Longview Farm, 87.36 40 P P 10 47 43.0 +0.1
baz=320
U34A Anderson Ranch 87.56 44 P P 10 47 44.9 +1.0
baz=318
U34A Anderson Ranch 87.56 44 eP P 10 47 45.3 +1.4
W32A Sentinel 87.57 46 P P 10 47 45.2 +1.1
baz=317
R37A Teagarden Farm 87.59 41 P P 10 47 44.0 0.0
baz=319
V33A Lossen Ranch, 87.60 45 P P 10 47 44.8 +0.7
baz=317
S36A Lake Cedric, C 87.64 42 P P 10 47 44.9 +0.6
baz=319
TIP Timpagrande 87.64 320 eP P 10 47 44.1 -0.3
O40A La Belle 87.69 38 P P 10 47 45.1 +0.7
baz=321
P39B Salisbury 87.75 39 P P 10 47 45.2 +0.5
baz=321
T35A Sooner Cattle 87.75 43 P P 10 47 45.6 +0.7
baz=318
PLDF La Plantade 87.86 332⇑ eP P 10 47 45.4 +0.1
AGO Saint Agoulin 87.97 333 eP P 10 47 46.1 +0.4
Q39A Willow Grove F 87.97 39 P P 10 47 46.4 +0.5
baz=320
T36A Boggs Farm, Ca 87.98 42 P P 10 47 46.6 +0.6
baz=319
W33A Caddo, Fort Co 87.99 45 P P 10 47 47.3 +1.3
baz=317
S37A Fort Scott 88.01 41 P P 10 47 46.4 +0.3
baz=319
V34A Guthrie 88.01 44 P P 10 47 47.0 +0.9
baz=318
V34A Guthrie 88.01 44 eP P 10 47 46.5 +0.4
comp=Z,30nm,1.1s
U35A Pawnee 88.04 43 P P 10 47 47.0 +0.8
baz=318
P40A Paris 88.06 39 P P 10 47 47.1 +0.8
baz=321
X32A Elmer 88.06 46 P P 10 47 46.9 +0.6
baz=317
SSB Saint Sauveur 88.11 331 eP P 10 47 46.6 +0.2
SSB Saint Sauveur 88.11 331 eP P 10 47 46.6 +0.2
WMOK Wichita Mounta 88.11 46 P P 10 47 47.3 +0.6
baz=317
WMOK Wichita Mounta 88.11 46 eP P 10 47 47.3 +0.6
WMOK Wichita Mounta 88.11 46 eP P 10 47 47.2 +0.6
R38A Fenwick Farm, 88.16 41 P P 10 47 46.5 -0.3
baz=320
O41A Passleys Farm, 88.17 38 P P 10 47 47.3 +0.6
baz=322
PYM Petit Puy Mans 88.27 332⇑ eP P 10 47 47.6 +0.3
W34A Bridge Creek, 88.31 45 P P 10 47 48.5 +1.0
baz=318
W34A Bridge Creek, 88.31 45 eP P 10 47 49.3 +1.7
comp=Z,13nm,0.8s
X33A Lawton 88.42 46 P P 10 47 48.8 +0.8
baz=317
P41A Barry, Barry 88.43 38 P P 10 47 48.7 +0.7
baz=322
V35A Meyer Ranch, C 88.44 44 P P 10 47 48.7 +0.6
baz=318
T37A Cheneyville 18 88.44 42 P P 10 47 48.6 +0.5
baz=319
Q40A Laux Farm, Aux 88.46 39 P P 10 47 48.7 +0.5
baz=321
U36A Oologah 88.56 43 P P 10 47 49.3 +0.6
baz=319
HDIL Hopedale 88.57 36 P P 10 47 49.1 +0.5
baz=323
HDIL Hopedale 88.57 36 eP P 10 47 49.3 +0.7
S38A Stockton 88.58 41 P P 10 47 48.6 -0.2
baz=320
LBL Lubilhac 88.63 332⇑ eP P 10 47 49.3 +0.4
Y33A Hilltop Ranch, 88.73 46 P P 10 47 50.1 +0.5
baz=317
X34A Smith Ranch, M 88.75 45 P P 10 47 50.8 +1.2
baz=318
CEL Celeste 88.78 320 eP P 10 47 49.7 -0.1
comp=Z,22nm,0.9s
T38A Diamond 88.84 42 P P 10 47 50.4 +0.4
baz=320
S39A Bolivar 88.84 41 P P 10 47 49.9 0.0
baz=320
W35A Tecumseh 88.87 44 P P 10 47 51.0 +0.8
baz=318
U37A Salina 88.88 42 P P 10 47 50.9 +0.7
baz=319
TUL1 Leonard 88.89 43 P P 10 47 50.9 +0.7
baz=319
TUL1 Leonard 88.89 43 eP P 10 47 50.6 +0.4
comp=Z,13nm,0.9s
V36A Jenks 88.90 43 P P 10 47 51.0 +0.7
baz=319
R40A Maddies Statio 88.91 40 P P 10 47 50.6 +0.4
baz=321
TX31 Lajitas Ar. Si 89.07 53 eP P 10 47 52.2 +0.8
TXAR Lajitas Array 89.07 53 P P 10 47 52.2 +0.9
comp=Z,5.5nm,0.8s,baz=294,slow=3.5,SNR=88
TXAR pP pP 10 48 08.0 +1.4
comp=Z,4.1nm,0.7s,baz=308,slow=3.6,SNR=8.3
TXAR LR LR 11 25 46.3
comp=Z,92nm,19.6s,baz=0.0,slow=34
TBI Tubuai 89.11 121 eS S 10 58 47.5 +12
comp=Z,139nm,27.0s
TBI Tubuai 89.11 121 eLR LR 11 15 48.9
comp=Z,661nm,34.5s,baz=313
TBI Tubuai 89.11 121 eT T 12 26 28.0
comp=Z,142nm,0.3s
ABTX Abilene, Hawle 89.16 48 P P 10 47 52.4 +0.8
baz=317
ABTX Abilene, Hawle 89.16 48 eP P 10 47 53.0 +1.4
Z33A Whitaker Ranch 89.18 47 P P 10 47 52.2 +0.6
baz=317
W36A Wetumka 89.23 44 P P 10 47 52.4 +0.5
baz=319
V37A Hulbert 89.26 43 P P 10 47 52.6 +0.6
baz=319

Y34A	**Reagan Ranch,** baz=318	**89.26**	**46**	P		**P**	**10 47 52.7 +0.6**
Q42A	**Golden Eagle** baz=322	**89.28**	**38**	P		**P**	**10 47 52.6 +0.6**
T39A	**Clever** baz=320	**89.32**	**41**	P		**P**	**10 47 52.8 +0.5**
S40A	**Lebanon** baz=321	**89.32**	**40**	P		**P**	**10 47 52.4 +0.2**
X35A	**Drake** baz=318	**89.37**	**45**	P		**P**	**10 47 53.0 +0.4**
HPIG		**89.47**	**55**	*e*P		**P**	**10 47 54.8 +1.4**
133A	**Hamilton Ranch** baz=317	**89.59**	**47**	P		**P**	**10 47 54.3 +0.7**
X36A	**Centrahoma** baz=318	**89.59**	**44**	P		**P**	**10 47 54.4 +0.8**
HHAR	**Hobbs**	**89.59**	**42**	*e*P		**P**	**10 47 53.7 +0.2**
Z34A	**Collier Ranch,** baz=318	**89.60**	**46**	P		**P**	**10 47 54.2 +0.6**
Q43A	**New Douglas** baz=322	**89.66**	**38**	P		**P**	**10 47 54.3 +0.5**
T40A	**Mansfield** baz=321	**89.66**	**40**	P		**P**	**10 47 54.0 +0.1**
W37B	**Quinton** baz=319	**89.66**	**43**	P		**P**	**10 47 54.8 +1.0**
V38A	**Canehill** baz=320	**89.67**	**42**	P		**P**	**10 47 54.3 +0.4**
Y35A	**Marietta** baz=318	**89.70**	**45**	P		**P**	**10 47 54.7 +0.6**
SFIN	**Lafayette** baz=324	**89.72**	**35**	P		**P**	**10 47 54.7 +0.7**
SFIN	**Lafayette**	**89.72**	**35**	*e*P		**P**	**10 47 55.1 +1.1**
U39A	**Green Forest** baz=320	**89.75**	**41**	P		**P**	**10 47 54.4 +0.1**
Z35A	**Perchaven, San** baz=318	**90.00**	**46**	P		**P**	**10 47 56.0 +0.5**
233A	**Rising Star** baz=317	**90.03**	**48**	P		**P**	**10 47 56.6 +0.9**
V39A	**Pettigrew** baz=320	**90.08**	**42**	P		**P**	**10 47 56.2 +0.2**
134A	**White-Moore Ra** baz=318	**90.09**	**47**	P		**P**	**10 47 56.7 +0.8**
U40A	**Yellville** baz=320	**90.10**	**41**	P		**P**	**10 47 56.3 +0.4**
X37A	**Clayton** baz=319	**90.11**	**44**	P		**P**	**10 47 56.6 +0.7**
Y36A	**Durant** baz=319	**90.12**	**45**	P		**P**	**10 47 56.5 +0.5**
T41A	**Mountain View** baz=321	**90.13**	**40**	P		**P**	**10 47 56.3 +0.2**
W38A	**Poteau** baz=320	**90.20**	**43**	P		**P**	**10 47 57.2 +0.8**
X38A	**Whitesboro** baz=319	**90.34**	**43**	P		**P**	**10 47 58.0 +0.9**
Y37A	**Hugo** baz=319	**90.43**	**44**	P		**P**	**10 47 58.1 +0.6**
234A	**Clairette** baz=318	**90.48**	**47**	P		**P**	**10 47 58.7 +1.0**
333A	**Richland Sprin** baz=317	**90.48**	**48**	P		**P**	**10 47 58.7 +0.9**
135A	**Vickery Place,** baz=318	**90.49**	**46**	P		**P**	**10 47 58.7 +0.9**
R44A	**Waltonville** baz=323	**90.50**	**38**	P		**P**	**10 47 58.3 +0.6**
W39A	**Magazine** baz=320	**90.50**	**42**	P		**P**	**10 47 58.2 +0.4**
Z36A	**Blue Ridge** baz=318	**90.51**	**45**	P		**P**	**10 47 58.4 +0.5**
S43A	**Fulton Ridge,** baz=322	**90.55**	**39**	P		**P**	**10 47 58.5 +0.5**
OLIL	**Olney**	**90.58**	**37**	*e*P		**P**	**10 47 59.3 +1.2**
OLIL				*e*pP		**sP**	**10 48 16.7 -2.4**
JCT	**Junction City** baz=317	**90.61**	**49**	P		**P**	**10 47 59.1 +0.7**
JCT	**Junction City**	**90.61**	**49**	*e*P		**P**	**10 47 59.1 +0.7**
JCT	**Junction City**	**90.61**	**49**	*e*P		**P**	**10 47 59.1 +0.7**
433A	**Art** baz=317	**90.83**	**49**	P		**P**	**10 48 00.0 +0.5**
X39A	**Fountain Ranch** baz=320	**90.85**	**43**	P		**P**	**10 48 00.3 +0.9**
S44A	**Carbondale** baz=323	**90.86**	**38**	P		**P**	**10 48 00.1 +0.7**
WHTX	**Lake Whitney,** baz=318	**90.88**	**47**	P		**P**	**10 48 00.5 +0.9**
WHTX	**Lake Whitney,** comp=Z,40nm,1.2s	**90.88**	**47**	*e*P		**P**	**10 48 00.3 +0.7**
W40A	**Ferguson Farm,** baz=320	**90.88**	**42**	P		**P**	**10 47 59.9 +0.4**
V41A	**Mountainview** baz=321	**90.90**	**41**	P		**P**	**10 47 59.8 +0.1**
334A	**Lometa** baz=318	**90.91**	**48**	P		**P**	**10 48 00.6 +0.8**
Y38A	**Idabel** baz=319	**90.95**	**44**	P		**P**	**10 48 00.1 +0.2**
Z37A	**Pogue Cattle C** baz=319	**91.01**	**45**	P		**P**	**10 48 01.0 +0.8**
136A	**Ennis** baz=318	**91.05**	**46**	P		**P**	**10 48 00.9 +0.6**
MIAR	**Mount Ida** baz=320	**91.11**	**43**	P		**P**	**10 48 01.4 +0.9**
MIAR	**Mount Ida**	**91.11**	**43**	*e*P		**P**	**10 48 01.5 +0.9**
MIAR	**Mount Ida**	**91.11**	**43**	*e*P		**P**	**10 48 01.5 +0.9**
FRNY	**Flat Rock**	**91.16**	**24**	*e*P		**P**	**10 48 01.0 +0.3**
S45A	**Carrier Mills** baz=323	**91.19**	**38**	P		**P**	**10 48 01.6 +0.7**
WHAR	**Wooly Hollow**	**91.21**	**41**	*e*P		**P**	**10 48 01.6 +0.5**
434A	**Burnet** baz=318	**91.27**	**48**	P		**P**	**10 48 01.8 +0.3**
V42A	**Cord** baz=321	**91.28**	**41**	P		**P**	**10 48 01.4 0.0**
Y39A	**Lockesburg** baz=320	**91.29**	**43**	P		**P**	**10 48 02.0 +0.5**
W41B	**Gary Mavity, V** baz=321	**91.32**	**41**	P		**P**	**10 48 01.9 +0.3**
Z38A	**Mt. Pleasant** baz=319	**91.33**	**44**	P		**P**	**10 48 02.2 +0.6**
533A	**Kerrville** baz=317	**91.36**	**49**	P		**P**	**10 48 02.6 +0.6**
236A	**Katherine and** baz=318	**91.40**	**46**	P		**P**	**10 48 02.6 +0.6**
335A	**Moody** baz=318	**91.42**	**47**	P		**P**	**10 48 02.8 +0.7**
X40A	**Basin Creek Fa** baz=320	**91.55**	**42**	P		**P**	**10 48 03.3 +0.7**
ACSO	**Alum Creek Sta**	**91.63**	**33**	*e*P		**P**	**10 48 04.0 +1.0**
Y40A	**Okolona** baz=320	**91.67**	**43**	P		**P**	**10 48 04.0 +0.8**
336A	**Riesel** baz=318	**91.67**	**47**	P		**P**	**10 48 04.1 +0.8**
435B	**Jarrell** baz=318	**91.69**	**48**	P		**P**	**10 48 03.8 +0.4**
X41A	**Kaden, Bauxite** baz=321	**91.71**	**42**	P		**P**	**10 48 04.0 +0.6**
138A	**Matatall Enter** baz=319	**91.71**	**45**	P		**P**	**10 48 04.3 +0.8**
633A	**Saathoff Ranch** baz=317	**91.72**	**50**	P		**P**	**10 48 04.5 +0.9**
534A	**Blanco** baz=317	**91.73**	**49**	P		**P**	**10 48 04.3 +0.7**
237A	**Washetta, Mont** baz=319	**91.81**	**46**	P		**P**	**10 48 04.8 +0.9**
M54A	**Oil Creek Stat** baz=329	**91.90**	**30**	P		**P**	**10 48 04.8 +0.6**
139A	**Bunkhouse Ranc** baz=320	**92.08**	**44**	P		**P**	**10 48 06.1 +0.9**
832A	**Faith Ranch, C** baz=316	**92.09**	**51**	P		**P**	**10 48 06.3 +1.0**
Y41A	**Eaglette Beard** baz=321	**92.13**	**43**	P		**P**	**10 48 06.3 +1.0**
436A	**Wall Ranch, Ga** baz=318	**92.16**	**47**	P		**P**	**10 48 06.8 +1.3**
Z40A	**Long Farm, Mag** baz=320	**92.18**	**43**	P		**P**	**10 48 06.8 +1.3**
238A	**Jacksonville** baz=319	**92.19**	**45**	P		**P**	**10 48 07.0 +1.4**
535A	**Dale** baz=318	**92.26**	**48**	P		**P**	**10 48 07.2 +1.2**
337A	**Centerville** baz=319	**92.27**	**46**	P		**P**	**10 48 06.7 +0.6**
833A	**Chaparral WMA,** baz=317	**92.42**	**51**	P		**P**	**10 48 08.0 +1.2**
Z41A	**Richland Creek** baz=320	**92.50**	**43**	P		**P**	**10 48 07.9 +0.9**
734A	**La Parita Cree** baz=317	**92.54**	**50**	P		**P**	**10 48 08.6 +1.3**
X43A	**Marvell** baz=322	**92.54**	**41**	P		**P**	**10 48 08.0 +0.8**
CCAR	**Cane Creek**	**92.54**	**42**	*e*P		**P**	**10 48 09.5 +2.3**
Y42A	**Garnett, Star** baz=321	**92.60**	**42**	P		**P**	**10 48 08.5 +1.0**
635A	**Leesville** baz=318	**92.61**	**49**	P		**P**	**10 48 08.6 +1.0**
WVT	**Waverly**	**92.79**	**38**	*e*P		**P**	**10 48 09.3 +0.9**
WVT	**Waverly**	**92.79**	**38**	*e*P		**P**	**10 48 09.3 +0.9**
W45A	**Hickory Valley** baz=323	**92.90**	**40**	P		**P**	**10 48 09.4 +0.5**
240A	**Hunter Patters** baz=320	**92.92**	**44**	P		**P**	**10 48 10.2 +1.2**
438A	**Sam Houston St** baz=319	**92.93**	**46**	P		**P**	**10 48 10.2 +1.1**
Z42A	**Norrel Spur, H** baz=321	**92.95**	**42**	P		**P**	**10 48 10.2 +1.1**
537A	**Green Hill Far** baz=318	**92.95**	**47**	P		**P**	**10 48 10.7 +1.5**
141A	**Papa Simpson,** baz=320	**92.95**	**44**	P		**P**	**10 48 10.3 +1.1**
636A	**Smothers Creek** baz=318	**92.96**	**48**	P		**P**	**10 48 10.9 +1.6**
735A	**Kenedy** baz=318	**92.98**	**49**	P		**P**	**10 48 11.2 +1.8**
933A	**Laredo** baz=317	**93.00**	**51**	P		**P**	**10 48 11.4 +1.9**
Y44A	**Strider, Charl** baz=322	**93.32**	**41**	P		**P**	**10 48 11.8 +1.0**
736A	**Circle Diamond** baz=318	**93.34**	**49**	P		**P**	**10 48 12.4 +1.4**
X45A	**UM Field Stati** baz=323	**93.37**	**40**	P		**P**	**10 48 12.1 +1.0**
835A	**Beeville** baz=318	**93.38**	**50**	P		**P**	**10 48 13.2 +1.9**
O56A	**Blue Knob Stat** baz=330	**93.39**	**30**	P		**P**	**10 48 11.7 +0.6**
637A	**Eagle Lake** baz=318	**93.42**	**48**	P		**P**	**10 48 12.9 +1.5**
Y45A	**Yeager Farm, C** baz=322	**93.74**	**41**	P		**P**	**10 48 13.8 +1.1**
Z44A	**Pea Ridge, Bel** baz=322	**93.74**	**41**	P		**P**	**10 48 13.5 +0.7**
034A	**Hebbronville** baz=317	**93.76**	**51**	P		**P**	**10 48 15.0 +2.0**
737A	**Port Lavaca** baz=318	**93.85**	**48**	P		**P**	**10 48 14.8 +1.4**
N59A	**State Game Lan** baz=332	**93.88**	**27**	P		**P**	**10 48 14.0 +0.6**
KEST	**Kesra** comp=Z,4.2nm,0.7s,baz=294,slow=5.3,SNR=5.8	**93.98**	**323**	P		**P**	**10 48 13.1 -0.8**
KEST					LR	LR	11 35 14.3
	comp=Z,498nm,19.9s,baz=326,slow=38						
Y46A	**Houston** baz=323	**94.07**	**40**	P		**P**	**10 48 15.2 +0.9**
ZAIG	**Zacatecas**	**94.38**	**56**	*e*P		**P**	**10 48 18.4 +2.2**
ZAIG				*e*			10 48 34.4
SWET	**Sewanee**	**94.44**	**37**	*e*P		**P**	**10 48 16.4 +0.3**
Y47A	**UCPARC, Winfie** baz=324	**94.56**	**39**	P		**P**	**10 48 16.8 +0.3**
244A	**Avery, Jackson** baz=322	**94.57**	**42**	P		**P**	**10 48 17.7 +1.1**
Z46A	**Louisville** baz=323	**94.57**	**41**	P		**P**	**10 48 17.7 +1.1**
CPCT	**Cooper Cave**	**94.91**	**36**	*e*P		**P**	**10 48 18.8 +0.7**
ESDC	**Sonseca Array** comp=Z,2.7nm,0.9s,baz=18,slow=4.1,SNR=10	**96.06**	**334**	P		**P**	**10 48 22.8 -0.6**
ESDC					LR	LR	11 36 21.5
	comp=Z,386nm,20.6s,baz=10.0,slow=38						
RKT	**Rikitea** comp=Z,622nm,27.5s,baz=310	**99.12**	**112**	*e*LR		LR	11 21 00.7
VNDA	**Vanda** comp=Z,1.2nm,1.0s,baz=2.1,slow=2.1,SNR=4.7	**116.42**	**175**	PKP		**PKPdf**	**10 53 37.2 -0.7**
VNDA					PKKPbc	**PKKPbc**	**11 04 09.7 +1.4**
	comp=Z,1.6nm,1.0s,baz=135,slow=1.6,SNR=3.2						
VNDA	**Vanda**	**116.42**	**175**	PKIKP		**PKPdf**	**10 53 37.2 -0.7**
VNDA	comp=Z,2.0nm,1.1s			pmax		pmax	
VNDA	comp=Z,2.0nm,1.0s			pmax		pmax	
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.6s,baz=20,slow=1.5,SNR=22	**116.43**	**316**	PKP		**PKPdf**	**10 53 39.1 -0.8**
SDV	**Santo Domingo**	**124.07**	**40**	*e*PKPdf		**PKPdf**	**10 53 55.0 +0.1**
DBIC	**Dimbokro** comp=Z,3.6nm,0.5s,baz=54,slow=3.9,SNR=7.4	**125.35**	**318**	PKP		**PKPdf**	**10 53 56.5 -0.6**
BOSA	**Boshof** comp=Z,3.3nm,1.0s,baz=241,slow=4.7,SNR=4.6	**127.03**	**261**	PKP		**PKPdf**	**10 53 58.5 -1.4**
BOSA	**Boshof**	**127.03**	**261**	PKIKP		**PKPdf**	**10 53 58.5 -1.4**
BOSA	comp=Z,6.0nm,1.0s			pmax		pmax	
QSPA	**South Pole Qui**	**128.24**	**180**	*e*PKPdf		**PKPdf**	**10 54 00.5 -0.5**
NVL	**N'lazarevskaya**	**138.72**	**203**	*e*PKIKP		**PKPdf**	**10 54 23.2 +2.8**
SNAA	**Sanae**	**142.21**	**197**	PKP		PKPpre	10 54 21.3
VNA1	**Neumayer--Stat**	**144.18**	**197**	PKP		**PKPab**	**10 54 28.1 0.0**
LPAZ	**La Paz** comp=Z,36nm,1.0s,baz=341,slow=3.8,SNR=88	**145.76**	**58**	PKPbc		**PKPab**	**10 54 36.1 -0.2**
RCBR	**Riachuelo**	**147.40**	**356**	*e*PKPbc		**PKPbc**	**10 54 39.9 -0.1**
PLCA	**Paso Flores** comp=Z,3.7nm,0.9s,baz=146,slow=0.9,SNR=3.3	**155.16**	**105**	PKPab		**PKPab**	**10 55 14.9 +1.3**
CPUP	**Villa Florida** comp=Z,4.0nm,1.0s,baz=19,slow=3.8,SNR=3.9	**159.94**	**58**	PKPab		**PKPab**	**10 55 34.8 +0.3**

*ISCJB **23** 10:38:46.0±0.8,38°.56N±0°.05×39°.86E±0°.07,h11km, Error ellipse: s-maj=7.8km s-min=6.4km az=144.3*
*ISK **23** 10:38:45.0,38°.60N×39°.92E,h7km,ML2.2*
*CSEM **23** 10:38:46.4±0.3,38°.54N×39°.82E,h10km,ML2.2, Error ellipse: s-maj=6.3km s-min=5.8km az=83.0*
*DDA **23** 10:38:49.7,38°.73N×39°.26E,h30km,Md2.2*

ISC 23 10:38:45.8±1.0,38°.61N±0°.06×39°.87E±0°.04,h11km,n14, σ0s81/18,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.47**	**307**		*e*PG		**Pb**	**10 38 56.0**	**-0.2**
PTK					*e*SG		**Sb**	**10 39 02.3**	**-0.9**
PTK	**Pertek**	**0.47**	**307**		*e*Pg		**Pb**	**10 38 56.0**	**-0.2**
PTK					*e*Sg		**Sb**	**10 39 02.3**	**-0.9**
SVRC	**Sivrice-ELAZID**	**0.50**	**242**		*e*PG		**Pg**	**10 38 55.7**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.50**	**242**		*e*Pg		**Pg**	**10 38 55.7**	**+0.1**
BINT	**Bingol**	**0.55**	**61**		*e*Pg		**Pb**	**10 38 59.1**	**+1.5**
TNCL	**Tunceli-Merkez**	**0.56**	**333**		P		**Pb**	**10 38 58.7**	**+0.9**
TNCL					S		**Sb**	**10 39 06.6**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.56**	**333**	*i*	P		**Pb**	**10 38 58.7**	**+0.9**
TNCL				*i*	S		**Sb**	**10 39 06.6**	**+0.7**
ELZG	**Elazig**	**0.70**	**261**		P		**Pg**	**10 38 58.9**	**-0.5**
ELZG	**Elazig**	**0.70**	**261**	*i*	P		**Pg**	**10 38 58.9**	**-0.5**
BNGB	**Bing¶ll**	**0.74**	**59**		*e*PG		**Pg**	**10 38 59.1**	**-1.0**
MAZI	**Mazidag**	**1.24**	**158**		*e*PN		**Pn**	**10 39 08.3**	**-0.9**
MAZI	**Mazidag**	**1.24**	**158**		*e*Pn		**Pn**	**10 39 08.3**	**-0.9**
URFA	**Urfa**	**1.43**	**216**		*e*PN		**Pn**	**10 39 12.3**	**+0.5**
URFA	**Urfa**	**1.43**	**216**		*e*Pn		**Pn**	**10 39 12.3**	**+0.5**

*ISCJB **23** 10:47:00.7±0.4,23°.88N±0°.02×122°.04E±0°.02,h25km±3km, Error ellipse: s-maj=3.9km s-min=2.3km az=149.6*
*JMA **23** 10:47:00.5±0.1,23°.88N×122°.01E,h29km±3km,M2.6*
*TAP **23** 10:47:01.6,23°.91N×121°.98E,h34km,ML3.0,C*

ISC 23 10:47:01.1±1.0,23°.88N±0°.03×122°.00E±0°.03,h32km±9km, n46,σ0s54/81,4C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=273	**0.37**	**285**		*e*P		**Pn**	**10 47 10.3**	**0.0**
HWA					*e*S		**Sn**	**10 47 16.3**	**-0.2**
TWD	**Chiawan** baz=296	**0.42**	**298**	⇑	*i*P		**Pb**	**10 47 10.4**	**0.0**
TWD					*i* S		**Sb**	**10 47 16.6**	**-0.1**
TEGC	**Jichi Village** baz=234	**0.46**	**248**		*e*P		**Pn**	**10 47 12.2**	**+0.8**
ESL	**Shilin** baz=258	**0.52**	**263**		P		**Pb**	**10 47 11.7**	**-0.3**
ESL					*e*S		**Sb**	**10 47 19.5**	**+0.1**
ENA	**Nanau** baz=326	**0.59**	**337**	⇑	*i*P		**Pb**	**10 47 13.0**	**-0.2**
ENA					S		**Sb**	**10 47 21.5**	**+0.1**
WHF	**Hehuan Shan** baz=289	**0.72**	**292**	⇑	P		**Pn**	**10 47 15.1**	**-0.4**
EHY	**Hungye** baz=247	**0.72**	**239**		*e*P		**Pn**	**10 47 14.8**	**-0.3**
EHY					*e*S		**Sn**	**10 47 25.5**	**+0.3**
TWC	**Suao** baz=351	**0.74**	**349**		P		**Pb**	**10 47 15.5**	**0.0**
TWC					S		**Sn**	**10 47 25.2**	**-0.3**
NNS	**Nan Shan** baz=314	**0.80**	**314**		P		**Pn**	**10 47 16.1**	**-0.2**
NNS					S		**Sb**	**10 47 26.8**	**-0.4**
WDT	**Danda** baz=258	**0.80**	**261**	*i*	P		**Pn**	**10 47 16.6**	**+0.1**
WDT					*e*S		**Sb**	**10 47 27.3**	**-0.2**
TWF1	**Yuli** baz=241	**0.83**	**231**	*i*	P		**Pn**	**10 47 16.8**	**+0.1**
TWF1					*e*S		**Sn**	**10 47 27.3**	**-0.5**
TWT	**Tachien** baz=294	**0.84**	**296**		P		**Pb**	**10 47 17.1**	**-0.2**
ENTT	**Nioudou** baz=333	**0.85**	**332**		P		**Pn**	**10 47 16.9**	**0.0**
ENTT					*e*S		**Sn**	**10 47 28.2**	**-0.2**
TWE	**Neicheng** baz=341	**0.89**	**340**		P		**Pn**	**10 47 17.6**	**+0.1**
TWE					S		**Sn**	**10 47 29.2**	**0.0**
EGS	baz=341	**0.96**	**356**	*e*P			**Pb**	**10 47 19.7**	**+0.5**
CHKT	**Chengkung** baz=204	**0.97**	**217**	*e*P			**Pb**	**10 47 19.2**	**-0.2**
CHKT					*e*S		**Sn**	**10 47 30.0**	**-1.3**
NSK	**Sanguang** baz=312	**0.98**	**324**	P			**Pn**	**10 47 18.9**	**0.0**
NSK					S		**Sn**	**10 47 31.0**	**-0.7**
SMLT	**Sun Moon Lake** baz=268	**1.01**	**270**	⇑	*i*P		**Pb**	**10 47 19.9**	**-0.2**
SMLT					*e*S		**Sb**	**10 47 33.0**	**0.0**
JYNG	**Yonagunijimaku**	**1.03**	**56**	P			**Pn**	**10 47 19.3**	**-0.1**
JYNG					*e*S		**Sn**	**10 47 32.7**	**-0.1**
YUS	**Yu-Shan** baz=245	**1.04**	**248**	*e*P			**Pb**	**10 47 20.4**	**-0.4**
YUS					*e*S		**Sn**	**10 47 33.7**	**+0.2**
TYC	**Yuchr** baz=269	**1.05**	**271**	P			**Pb**	**10 47 20.1**	**-0.5**
TYC					*e*S		**Sb**	**10 47 34.5**	**+0.4**
YOJ	**Yonaguni jima**	**1.09**	**58**	P			**Pn**	**10 47 20.2**	**0.0**
YOJ					*e*S		**Sn**	**10 47 33.8**	**-0.4**
TWB1	**Santiao Chiao** baz=1.0	**1.12**	**359**	*e*P			**Pn**	**10 47 21.1**	**+0.5**
TWB1					*e*S		**Sn**	**10 47 34.7**	**-0.3**
ELDTW	**Lidau** baz=219	**1.14**	**233**	*e*P			**Pn**	**10 47 20.6**	**-0.3**
ALS	**Alishan** baz=249	**1.16**	**252**	*e*P			**Pb**	**10 47 22.1**	**-0.7**
ALS					*e*S		**Sn**	**10 47 36.8**	**+0.5**
NSTT	**Nanjuang** baz=309	**1.18**	**310**	*e*P			**Pb**	**10 47 22.6**	**-0.3**
NSTT					*e*S		**Sb**	**10 47 37.2**	**-0.7**
NWF	**Wu-fen Shan** baz=351	**1.20**	**350**	*e*P			**Pn**	**10 47 22.3**	**+0.5**
NWF					*e*S		**Sn**	**10 47 37.4**	**+0.3**
TWQ1	**Liyutan** baz=292	**1.21**	**293**	*e*P			**Pb**	**10 47 23.3**	**-0.2**
TWQ1					*e*S		**Sb**	**10 47 38.9**	**0.0**
TCU	**Taichung** baz=281	**1.24**	**283**	*e*P			**Pb**	**10 47 24.3**	**+0.4**
CHN5	**Tsauling** baz=246	**1.24**	**257**	*e*P			**Pb**	**10 47 23.6**	**-0.4**
CHN5					*e*S		**Sb**	**10 47 40.4**	**+0.6**
NSY	**Sanyi** baz=294	**1.25**	**295**	*e*P			**Pb**	**10 47 24.1**	**0.0**
NSY					*e*S		**Sb**	**10 47 41.0**	**+1.0**
TWS1	**Kuangyinshan** baz=237	**1.33**	**337**	*e*P			**Pb**	**10 47 24.7**	**-0.7**
STYT	**Tauyuan** baz=235	**1.35**	**238**	*e*P			**Pn**	**10 47 24.7**	**+0.9**
STYT					*e*S		**Sb**	**10 47 41.9**	**-0.7**
CHN4	**Tsaushan** baz=246	**1.39**	**248**	*e*P			**Pb**	**10 47 25.8**	**-0.7**
CHN4					*e*S		**Sb**	**10 47 44.1**	**+0.1**
WTP	**Ta-pu** baz=241	**1.42**	**244**	*e*P			**Pb**	**10 47 26.5**	**-0.5**
WTP					*e*S		**Sb**	**10 47 45.1**	**+0.3**
TWK	**Hsinying** baz=244	**1.52**	**247**	*e*P			**Pb**	**10 47 27.9**	**-0.8**
TWK					*e*S		**Sb**	**10 47 47.6**	**0.0**
CHN1	**Nanshi** baz=241	**1.52**	**243**	*e*P			**Pb**	**10 47 27.7**	**-0.9**
CHN1					*e*S		**Sb**	**10 47 47.1**	**-0.4**
SGST	**Jiashian** baz=237	**1.52**	**239**	*e*P			**Pb**	**10 47 28.0**	**-0.7**
IRIF	**Iriomote-Funau**	**1.64**	**74**	P			**Pn**	**10 47 28.1**	**+0.3**
IRIF					S		**Sn**	**10 47 48.4**	**+0.6**
HATJ	**Hateruma jima**	**1.66**	**84**	*e*S			**Sn**	**10 47 48.9**	**+0.7**
SSD	**Sandimen** baz=220	**1.69**	**228**	*e*P			**Pn**	**10 47 29.8**	**+1.4**
EAST	**Anshuo** baz=204	**1.83**	**216**	*e*P			**Pn**	**10 47 31.3**	**+0.9**
JKRS	**Kuro-shima**	**1.87**	**79**	P			**Pn**	**10 47 31.3**	**+0.4**
JKRS					*e*S		**Sn**	**10 47 54.5**	**+1.1**
JIJ	**Ishigaki jima**	**2.02**	**76**	P			**Pn**	**10 47 32.9**	**0.0**
JIJ					*e*S		**Sn**	**10 47 56.4**	**-0.6**
JISG	**Ishigakijimahi**	**2.22**	**71**	P			**Pn**	**10 47 35.6**	**-0.1**
JISG					S		**Sn**	**10 48 01.1**	**-1.0**
PNG	**Penghu** baz=260	**2.26**	**263**	*e*P			**Pn**	**10 47 37.4**	**+1.1**
PNG	baz=260				*e*S		**Sn**	**10 48 04.0**	**+0.9**

*NEIC **23** 10:56:07.3,57°.92N×137°.50W,h10km,ML2.8(OTT), ML2.7(AEIC),After AEIC.*

PGC 23 10:56:05.1±0.1,57°.93N×137°.20W,h1km,ML2.8/8, 149km Wnw of Sitka, Ak Off Coast Of Southeastern Alaska,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DHAK	**Deception Hill**	**1.28**	**336**		P		**Pg**	**10 56 28.2**	**-1.4**
DHAK					S		Sg	10 56 45.6	-0.5
BESE	**Bessie Mountai**	**1.40**	**61**		P		**Pb**	**10 56 32.4**	**+0.4**
BESE					S		Sn	10 56 51.6	+0.7
PLBC	**Pleasant Camp**	**1.59**	**16**		Pn		Pn	10 56 34.0	-0.3
PLBC					Sg		Sn	10 56 54.2	-1.2
PLBC	**Pleasant Camp**	**1.59**	**16**		P		Pn	10 56 34.2	-0.1
PLBC					S		Sn	10 56 55.0	-0.5
SKAG	**Skagway**	**1.82**	**32**		P		Pb	10 56 38.5	-0.6
SKAG					S		Sg	10 57 03.3	-0.1
YUK7	**Dusty Glacier**	**2.65**	**350**		Pn		Pn	10 56 48.8	-0.3
YUK7					Sn		Sn	10 57 21.6	-0.4
YUK7					Sg		Sb	10 57 26.3	-0.2
PCA	**Pinnacle**	**2.69**	**325**		Pn		Pn	10 56 48.5	-0.9
PCA					Sn		Sn	10 57 21.0	-1.6
PCA	**Pinnacle**	**2.69**	**325**		P		Pn	10 56 47.8	-1.7
PCA					S		Sn	10 57 19.0	-3.7
HYT	**Haines Junctio**	**2.91**	**357**		Pn		Pn	10 56 52.6	+0.1
HYT					Sg		Sb	10 57 33.2	-0.6
HYT	**Haines Junctio**	**2.91**	**357**		P		Pn	10 56 52.4	-0.1
HYT					S		Sn	10 57 28.6	+0.4
WRAK	**Wrangell Islan**	**3.05**	**118**	*e*	Pn		Pb	10 57 00.2	+0.2
YUK6	**Outpost Mounta**	**3.08**	**349**		Pn		Pn	10 56 55.0	0.0
YUK6					Sg		Sb	10 57 38.3	-0.5
YUK5	**Granite Creek**	**3.23**	**354**		Sg		Sb	10 57 43.2	+0.2
TABL	**Table Mountain**	**3.23**	**323**		P		Pn	10 56 55.1	-2.0
CRAG	**Craig**	**3.34**	**136**		P		Pn	10 56 58.2	-0.2
BARK	**Barkley Ridge**	**3.68**	**315**		P		Pn	10 57 00.4	-2.8
CTGM	**Chitina Glacie**	**3.70**	**327**		Pn		Pn	10 57 03.0	-0.5
CTGM					Sn		Sn	10 57 44.8	-3.0
DLBC	**Dease Lake**	**3.83**	**79**		Pn		Pn	10 57 06.1	+0.9
DLBC					Sg		Sg	10 58 06.4	-1.6

DLBC	**Dease Lake**	**3.83**	**79**	P	Pn	10 57 06.3	+1.1
KHIT	**Khitrov Hills**	**4.00**	**312**	P	Pn	10 57 06.2	-1.4
BALM	**Baldy**	**4.07**	**322**	Pn	Pn	10 57 09.4	+0.9
YUK3	**Moose Creek**	**4.19**	**338**	Pn	Pn	10 57 09.1	-1.2
YUK3				Pg	Pb	10 57 21.4	+1.8
YUK3				Sg	Sg	10 58 18.4	-1.1
YUK2	**White River**	**4.28**	**336**	Pg	Pb	10 57 23.5	+2.4
RAGM	**Ragged Mountai**	**4.57**	**306**	P	Pn	10 57 13.8	-1.5
NDB	**Naden**	**4.65**	**147**	Pn	Pn	10 57 15.5	-0.9
NDB				Sn	Sn	10 58 07.1	-3.9
VIB	**Van Inlet**	**5.38**	**149**	Pn	Pn	10 57 25.3	-1.2
VIB				Sn	Sn	10 58 24.4	-4.7
HIN	**Hinchinbrook I**	**5.38**	**301**	P	Pn	10 57 24.4	-2.1
DIB	**Dawson Inlet,**	**5.45**	**149**	Pn	Pn	10 57 26.2	-1.1
DIB				Sn	Sn	10 58 25.6	-4.9
MOBC	**Moresby Island**	**5.64**	**146**	Pn	Pn	10 57 31.0	+0.9
MOBC				Sn	Sn	10 58 32.9	-2.6
BNB	**Barry Inlet**	**6.21**	**148**	Pn	Pn	10 57 36.2	-1.6

BKK ***23*** *11:06:11.5±0.6,24°N.9°×.9°1E±°, h10km, M4.8/11, mB4.8/6, mb4.8/11, MLv5.3/3, Mw(mB)4.0/6*

ISCJB ***23*** *11:06:37.6±0.4,24°.70N±0°.06×94°.85E±0°.05, h100km, mb4.0/16, Error ellipse: s-maj=10.4km s-min=3.4km az=32.5*

IDC ***23*** *11:06:40.8±2.5,24°.68N×95°.18E, h118km±22km, mb3.8/16, mb1 3.9/17, mb1mx3.5/68, mbtmp4.1/17, Error ellipse: s-maj=26.4km s-min=10.5km az=61.0*

ISC 23 11:06:38.7±0.5,**24°.66N**±0°.08×**94°.79E**±0°.07,**h100**km,**n38,** σ2§**22**/49,**mb4.0**/16,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.79**	**289**	*e*P	**Pn**	**11 07 23.9**	**+2.1**
SHL				*e*S	**Sn**	**11 07 56.6**	**+1.7**
SHL				IAML		11 07 57.3	
	comp=E,2μm,0.3s						
SHL				IAML		11 07 58.1	
	comp=N,3μm,0.1s						
CHTO	**Chiang Mai**	**6.98**	**146**	P	**Pn**	**11 08 18.7**	**+0.3**
	comp=N,249nm,0.8s,comp=N,3μmcomp=N,0.9nm						
CMMT	**Chiang Mai**	**6.99**	**146**	P	**Pn**	**11 08 18.6**	**+0.1**
	comp=N,57nm,0.8s,comp=N,787nmcomp=N,0.2nm						
CMAR	**Chiang Mai Arr**	**7.28**	**147**	P	**Pn**	**11 08 22.9**	**+0.3**
	comp=N,1.8nm,0.3s,baz=324,slow=13,SNR=61						
LAMP	**Lampang**	**7.59**	**143**	P	**Pn**	**11 08 26.8**	**+0.1**
	comp=N,28nm,0.8s,comp=N,213nm						
RAMN	**Ramite**	**7.73**	**289**	*e*Pn	**Pn**	**11 08 29.7**	**+1.0**
RAMN				*e*Sn	**Sn**	**11 09 54.3**	**-0.5**
BOK	**Bokaro**	**8.17**	**266**	*e*P	**Pn**	**11 08 35.5**	**+0.8**
BOK				*e*S	**Sn**	**11 10 03.0**	**-2.4**
BOK				IAML		11 10 25.2	
	comp=N,79nm,1.6s						
BOK				IAML		11 10 29.9	
	comp=E,61nm,0.6s						
SUKH	**Sukhothai**	**8.45**	**147**	P	**Pn**	**11 08 39.4**	**+1.0**
	comp=E,7.7nm,0.9s,comp=E,66nm						
GUN	**Gumba**	**8.63**	**294**	*e*Pn	**Pn**	**11 08 43.4**	**+2.3**
GUN				*e*Sn	**Sn**	**11 10 19.1**	**+2.2**
UTTA	**Uttaradit**	**8.73**	**141**	P	**Pn**	**11 08 42.2**	**0.0**
	comp=E,14nm,0.6s,comp=E,127nm						
PKIN	**Phulchoki**	**8.93**	**291**	*e*Pn	**Pn**	**11 08 46.7**	**+1.6**
PKIN				*e*Sn	**Sn**	**11 10 23.4**	**-0.7**
KKN	**Kakani**	**9.09**	**292**	*e*Pn	**Pn**	**11 08 48.7**	**+1.4**
KKN				*e*Sn	**Sn**	**11 10 29.1**	**+1.1**
DMN	**Daman**	**9.19**	**291**	*e*Pn	**Pn**	**11 08 50.0**	**+1.4**
DMN				*e*Sn	**Sn**	**11 10 30.9**	**+0.6**
LOEI	**Loei**	**9.33**	**138**	P	**Pn**	**11 08 53.9**	**+3.5**
	comp=E,34nm,0.8s						
BWNR	**Bhubaneshwar**	**9.37**	**244**	*e*P	**Pn**	**11 08 54.4**	**+3.5**
BWNR				*ex*	x	11 10 32.8	
BWNR				IAML		11 10 36.1	
	comp=E,40nm,0.3s						
BWNR				IAML		11 10 37.4	
	comp=N,45nm,0.3s						
GKN	**Gorkha**	**9.70**	**292**	*e*Pn	**Pn**	**11 08 57.0**	**+1.5**
GKN				*e*Sn	**Sn**	**11 10 42.0**	**-0.6**
	comp=N,370nm,0.6s						
PBKT	**Sadao Pong**	**9.91**	**143**	P	**Pn**	**11 08 59.9**	**+1.6**
	comp=N,24nm,0.8s						
KOLN	**Koldanda**	**10.51**	**290**	*e*Pn	**Pn**	**11 09 07.2**	**+0.5**
CHAI	**Chaiyaphum**	**11.02**	**141**	P	**Pn**	**11 09 14.9**	**+1.5**
	comp=N,5.3nm,1.1s						
PYUN	**Piuthan**	**11.12**	**290**	*e*Pn	**Pn**	**11 09 14.6**	**-0.3**
SMLA	**Simla**	**16.85**	**296**	*e*P	**Pn**	**11 10 27.8**	**-0.7**
SMLA				*e*S	**Sn**	**11 13 28.4**	**-7.3**
SMLA				IAML		11 13 32.3	
	comp=E,47nm,1.7s						
SMLA				IAML		11 13 36.9	
	comp=N,43nm,0.4s						
DHRM	**DHARAMSHALA**	**17.92**	**299**	*e*S	**Sn**	**11 13 53.9**	**-7.7**
DHRM				IAML		11 14 03.0	
	comp=N,60nm,1.1s						
DHRM				IAML		11 14 03.1	
	comp=E,38nm,0.8s						
MKAR	**Makanchi Array**	**24.25**	**339**	P	**P**	**11 11 48.4**	**+2.1**
	comp=E,3.8nm,0.5s,baz=149,slow=9.8,SNR=38						
SONM	**Songino Array**	**24.89**	**19**	P	**P**	**11 11 51.5**	**-0.8**
	comp=E,3.1nm,0.8s,baz=202,slow=9.2,SNR=14						
KURBB	**Kurchatov Arra**	**28.81**	**338**	P	**P**	**11 12 28.7**	**+1.5**
	comp=E,0.8nm,0.5s,baz=147,slow=9.7,SNR=6.6						
KURBB				ScP	**ScP**	**11 19 06.1**	**-0.8**
	comp=E,0.6nm,0.7s,baz=159,slow=2.7,SNR=5.8						
BVAR	**Borovoye Array**	**33.78**	**333**	P	**P**	**11 13 12.9**	**+2.0**
	comp=E,0.8nm,0.4s,baz=133,slow=12,SNR=4.1						
MJAR	**Matsushiro Arr**	**38.90**	**62**	P	**P**	**11 13 52.1**	**-2.6**
	comp=E,0.9nm,0.6s,baz=271,slow=9.2,SNR=3.2						
FITZ	**Fitzroy Crossi**	**52.06**	**142**	P	**P**	**11 15 37.3**	**-1.2**
	comp=E,2.3nm,0.6s,baz=332,slow=8.7,SNR=6.8						
FINES	**FINESS Array B**	**58.49**	**328**	P	**P**	**11 16 25.4**	**+1.3**
	comp=E,1.4nm,0.8s,baz=102,slow=8.0,SNR=4.2						
WRA	**Warramunga Arr**	**58.71**	**135**	P	**P**	**11 16 24.9**	**-1.4**
	comp=E,3.5nm,0.6s,baz=324,slow=7.3,SNR=64						
ARCES	**ARCESS Array B**	**59.89**	**338**	P	**P**	**11 16 34.9**	**+1.2**
	comp=E,2.5nm,0.9s,baz=118,slow=7.2,SNR=3.5						
NWAO	**Narrogin (SRO)**	**61.13**	**158**	P	**P**	**11 16 41.2**	**-1.3**
	comp=E,5.4nm,0.9s,baz=344,slow=7.4,SNR=3.7						
ASAR	**Alice Springs**	**61.21**	**139**	P	**P**	**11 16 42.2**	**-1.1**
	comp=E,2.7nm,0.6s,baz=321,slow=6.8,SNR=69						
ASAR				PcP	**PcP**	**11 17 23.4**	**-1.7**
	comp=E,0.7nm,0.5s,baz=320,slow=4.1,SNR=6.6						
HFS	**Hagfors**	**64.55**	**327**	P	**P**	**11 17 04.4**	**-0.6**
	comp=E,1.3nm,0.6s,baz=109,slow=7.8,SNR=7.6						
GERES	**GERESS Array B**	**66.13**	**314**	P	**P**	**11 17 18.4**	**+3.0**
	comp=E,0.3nm,0.3s,baz=64,slow=6.7,SNR=2.6						
STKA	**Stephens Creek**	**71.83**	**139**	P	**P**	**11 17 49.0**	**-1.8**
	comp=E,0.8nm,0.5s,baz=319,slow=9.2,SNR=4.2						
BOSA	**Boshof**	**85.30**	**236**	P	**P**	**11 19 06.5**	**+1.6**
	comp=E,1.2nm,0.4s,baz=23,slow=4.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**87.37**	**283**	P	**P**	**11 19 16.5**	**+1.2**
	comp=E,0.2nm,0.5s,baz=65,slow=5.2,SNR=2.3						

SJA 23 11:12:50.4±0.6,**27°.89S**×**66°.69W**,**h188**km±7km,**ML3.1, MW3.5,Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.96**	**125**	*i* P	Pn	11 13 19.3	+0.6
CYA				IAML		11 13 20.2	
	comp=Z,138nm,0.5s						
CYA				*i* S	Sn	11 13 40.2	-0.4
VCA	**Vinchina**	**1.58**	**237**	*i* P	Pn	11 13 24.1	+0.2
VCA				*i* S	Sn	11 13 49.9	-0.1
VCA				IAML		11 13 52.2	
	comp=Z,713nm,0.3s						
AHML	**Horco Molle**	**1.63**	**48**	*i* P	Pn	11 13 25.1	+0.7
AHML				IAML		11 13 25.5	
	comp=Z,68nm,0.2s						
AHML				*i* S	Sn	11 13 50.0	-0.7
FSA	**Cafayete**	**1.88**	**20**	*i* P	Pn	11 13 27.8	+0.7
FSA				IAML		11 13 28.4	
	comp=Z,18nm,0.3s						
FSA				*i* S	Sn	11 13 55.5	0.0

NIED ***23*** *11:13:00,39°.20N×142°.40E, h35km, Mw3.8 Best double couple: M₀5.38000×10¹⁴ NP1:ϕs285.00000°,δ27.00000°, λ-173.00000°. NP2:ϕs189.00000°,δ87.00000°, λ-63.00000°.*

ISCJB ***23*** *11:13:55.3±1.0,39°.16N±0°.04×142°.40E±0°.09, h39km±9km, mb3.6/8, Error ellipse: s-maj=11.8km s-min=6.6km az=9.4*

JMA ***23*** *11:13:55.1±0.1,39°.19N×142°.40E, h29km±1km, M3.9*

JMA Felt I J1.

IDC ***23*** *11:13:59.3±2.4,39°.12N×142°.51E, h66km±22km, mb3.3/8, mb1 3.5/13, mb1mx3.4/51, mbtmp3.7/13, Error ellipse: s-maj=25.1km s-min=16.6km az=87.0*

ISC 23 11:13:55.2±2.0,**39°.18N**±0°.04×**142°.39E**±0°.09,**h26**km±12km, **n29,**σ1§**49**/30,**mb3.6**/8,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.57**	**260**	P	**Pb**	**11 14 06.5**	**-0.1**
OFUJ				S	**Sb**	**11 14 14.4**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.59**	**312**	P	**Pb**	**11 14 06.6**	**-0.4**
MIYJ				S	**Sb**	**11 14 14.6**	**-0.4**
JTH	**Tanohata**	**0.86**	**332**	P	**Pn**	**11 14 11.1**	**-0.5**
JOM	**Ohasama**	**0.90**	**289**	P	**Pn**	**11 14 12.0**	**-0.1**
JOM				S	**Sb**	**11 14 23.8**	**+0.1**
JMK	**Ichinoseki**	**0.94**	**256**	P	**Pn**	**11 14 12.2**	**-0.4**
JMK				S	**Sn**	**11 14 24.7**	**-0.4**
JIO	**Ouri**	**1.09**	**228**	P	**Pn**	**11 14 13.8**	**-0.9**
JIO				S	**Sn**	**11 14 26.9**	**-2.0**
JKZ	**Kuzumaki**	**1.14**	**315**	P	**Pn**	**11 14 15.7**	**+0.1**
JKZ				S	**Sn**	**11 14 30.1**	**-0.3**
JANG	**Nango**	**1.37**	**331**	P	**Pn**	**11 14 18.5**	**-0.1**
JANG				S	**Sn**	**11 14 35.8**	**0.0**
JRG	**Rokugo**	**1.38**	**280**	P	**Pb**	**11 14 19.6**	**-0.7**
JRG				S	**Sb**	**11 14 37.5**	**+0.1**
MJAR	**Matsushiro Arr**	**4.23**	**233**	P	**Pn**	**11 15 01.4**	**+3.5**
	3.1nm,0.3s,baz=43,slow=11,SNR=29						
MAT	**Matsushiro**	**4.23**	**233**	P	**Pn**	**11 15 01.7**	**+3.8**
MAT				*e*S	**Sb**	**11 15 57.7**	**-1.7**
ASAJ	**Asahikawa**	**4.93**	**2**	P	**Pn**	**11 15 11.4**	**+3.8**
	1.4nm,0.3s,baz=209,slow=13,SNR=7.4						
JHJ	**Hachijo jima 2**	**6.40**	**200**	P	**Pn**	**11 15 29.7**	**+1.9**
	5.1nm,0.3s,baz=41,slow=19,SNR=2.5						
USRK	**Ussuriysk Ar.**	**9.25**	**306**	P	Pn	11 16 12.0	+5.2
	0.2nm,0.3s,baz=100,slow=15,SNR=2.8						
KSRS	**Korea Array**	**11.49**	**266**	P	Pn	11 16 43.6	+6.1
	0.1nm,0.3s,baz=80,slow=15,SNR=3.5						
SONM	**Songino Array**	**27.29**	**300**	P	**P**	**11 19 39.2**	**+1.6**
	0.3nm,0.5s,baz=93,slow=5.8,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	11 50 28.1	
	baz=318,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.69**	**126**	T	T	11 50 28.1	
	baz=318,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	11 50 28.1	
	baz=318,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	11 51 35.0	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.47**	**127**	T	T	11 51 16.1	
	baz=318,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	11 51 54.7	
	baz=318,slow=74						
MKAR	**Makanchi Array**	**43.66**	**300**	P	**P**	**11 21 57.9**	**+0.3**
	0.9nm,0.8s,baz=84,slow=8.8,SNR=5.6						
KURBB	**Kurchatov Arra**	**45.31**	**306**	P	**P**	**11 22 10.8**	**+0.2**
	1.8nm,0.5s,baz=80,slow=8.3,SNR=11						
ILAR	**Eielson Array**	**47.28**	**33**	P	**P**	**11 22 25.7**	**-0.2**
	0.4nm,0.8s,baz=259,slow=7.0,SNR=4.5						
BVAR	**Borovoye Array**	**49.72**	**311**	P	**P**	**11 22 45.0**	**+0.2**
	0.6nm,0.6s,baz=74,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**59.29**	**189**	P	**P**	**11 23 53.9**	**-0.7**
	0.6nm,0.6s,baz=6.5,slow=7.1,SNR=15						
ASAR	**Alice Springs**	**63.02**	**189**	P	**P**	**11 24 19.1**	**-0.7**
	0.2nm,0.7s,baz=10,slow=8.2,SNR=4.1						
TXAR	**Lajitas Array**	**88.21**	**53**	P	**P**	**11 26 43.4**	**-0.9**
	0.1nm,0.5s,baz=309,slow=5.7,SNR=2.5						

IDC ***23*** *11:20:45.4±1.9,37°.22N×141°.83E, h0km, mb3.1/2, mb1 3.3/4, mb1mx3.2/39, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=41.6km s-min=24.6km az=141.0*

ISCJB ***23*** *11:20:46.4±2.0,37°.20N±0°.05×141°.81E±0°.07, h15km±15km, mb3.2/2, Error ellipse: s-maj=9.7km s-min=8.3km az=5.6*

JMA ***23*** *11:20:48.9±0.2,37°.16N×141°.67E, h36km±3km, M3.5*

ISC 23 11:20:46.3±3.1,**37°.20N**±0°.05×**141°.66E**±0°.08,**h4**km±20km, **n11,**σ1§**01**/19,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.65**	**285**	P	**Pn**	**11 21 01.8**	**-0.4**
JFK				S	**Sb**	**11 21 10.5**	**+1.0**
ONAJ	**Iwakimizuishiy**	**0.69**	**262**	P	**Pn**	**11 21 02.3**	**-0.6**
ONAJ				S	**Sb**	**11 21 11.5**	**+0.6**
JMM	**Marumori**	**0.95**	**314**	P	**Pn**	**11 21 06.4**	**0.0**
JMM				S	**Sb**	**11 21 18.3**	**0.0**
JHO	**Hitachi**	**1.05**	**236**	P	**Pb**	**11 21 07.0**	**-0.1**
JHO				S	**Sg**	**11 21 19.6**	**-0.6**
JFT	**Otama**	**1.10**	**287**	P	**Pn**	**11 21 09.3**	**+0.9**
JFT				S	**Sb**	**11 21 23.1**	**+0.6**
JOU	**Okura**	**1.40**	**326**	P	**Pb**	**11 21 13.4**	**+0.4**
JOU				S	**Sn**	**11 21 31.6**	**0.0**
MJAR	**Matsushiro Arr**	**2.84**	**258**	Pn	**Pn**	**11 21 33.5**	**+1.1**
	1.3nm,0.3s,baz=80,slow=15,SNR=14						
MJAR				Sn	**Sb**	**11 22 10.9**	**-1.8**
	2.3nm,0.3s,baz=80,slow=18,SNR=4.4						
MAT	**Matsushiro**	**2.84**	**258**	P	**Pn**	**11 21 34.4**	**+1.9**
MAT				S	**Sb**	**11 22 11.7**	**-1.1**
JHJ	**Hachijo jima 2**	**4.35**	**201**	Pn	**Pn**	**11 21 54.3**	**+1.1**
	4.7nm,0.3s,baz=68,slow=19,SNR=1.7						
MKAR	**Makanchi Array**	**44.19**	**302**	P	**P**	**11 28 56.4**	**+0.2**
	0.3nm,0.8s,baz=72,slow=9.3,SNR=2.4						
ILAR	**Eielson Array**	**49.25**	**32**	P	**P**	**11 29 34.6**	**-1.0**
	0.2nm,0.7s,baz=269,slow=7.2,SNR=3.2						

TAP 23 11:24:51.3,24°.14N×121°.68E,h6km±1km,**ML1.9,D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.10**	**233**	P	Pg	11 24 53.6	+0.1
	baz=231						
TWD				*e*S	Sg	11 24 55.4	+0.4
	baz=231						
ENA	**Nanau**	**0.29**	**10**	P	Pg	11 24 57.8	+0.8
	baz=11						
ENA				*e*S	Sg	11 25 02.2	+1.3
	baz=11						
WHF	**Hehuan Shan**	**0.38**	**271**	*e*S	Sg	11 25 05.5	+1.5
	baz=270						
NNS	**Nan Shan**	**0.41**	**317**	P	Pg	11 24 59.9	+0.5
	baz=316						
NNS				*e*S	Sb	11 25 06.7	-0.9
	baz=316						
ENTT	**Nioudou**	**0.51**	**348**	P	Pb	11 25 02.3	-0.4
	baz=348						
ENTT				*e*S	Sb	11 25 10.0	-0.4
	baz=348						
NSK	**Sanguang**	**0.61**	**331**	P	Pb	11 25 04.4	0.0
	baz=331						
NSK				*e*S	Sb	11 25 13.4	+0.1
	baz=331						

MAN 23 11:26:43,11°.32N×125°.45E,h41km,**mb4.2,ML3.1,MS2.8, 1C,Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.28**	**358**	*e*P	Pn	11 26 53.2	+2.0
BESP				*e*S	Sn	11 27 00.7	+3.9
PLP	**Palo**	**0.49**	**252**	⇑P	Pn	11 26 55.6	+2.0
PLP				*i* S	Sn	11 27 04.6	+3.5
OCLP	**Ormoc**	**0.87**	**252**	*e*P	Pn	11 27 00.7	+1.9
OCLP				*e*S	Sn	11 27 14.8	+4.6

ISCJB ***23*** *11:28:41.1±1.2,22°.2S±0°.2×179°.7W±0°.2, h592km, mb3.8/8, Error ellipse: s-maj=32.2km s-min=21.3km az=28.8*

IDC ***23*** *11:28:44.5±4.8,22°.17S×179°.75W, h616km±53km, mb3.3/8, mb1 3.5/9, mb1mx3.3/31, mbtmp4.3/9, Error ellipse: s-maj=34.8km s-min=22.3km az=80.0*

ISC 23 11:28:42.0±1.1,**22°.2S**±0°.2×**179.5W**±0°.2,**h592**km,**n12,** σ1§**00**/12,**mb4.0**/8,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.03**	**268**	P	**P**	**11 31 33.1**	**+1.8**
	0.8nm,0.3s,baz=110,slow=20,SNR=13						
STKA	**Stephens Creek**	**35.83**	**246**	P	**P**	**11 34 52.6**	**-0.6**
	3.2nm,0.5s,baz=96,slow=11,SNR=14						
ASAR	**Alice Springs**	**42.80**	**259**	P	**P**	**11 35 48.1**	**-1.1**
	7.4nm,0.8s,baz=100,slow=7.8,SNR=92						
ASAR				PcP	**PcP**	**11 37 26.5**	**-0.2**
	0.5nm,0.7s,baz=113,slow=3.4,SNR=4.8						
WRA	**Warramunga Arr**	**43.02**	**264**	P	**P**	**11 35 49.2**	**-1.7**
	3.7nm,0.6s,baz=94,slow=8.0,SNR=190						
VNDA	**Vanda**	**56.14**	**185**	P	**P**	**11 37 26.7**	**+0.7**
	1.0nm,0.7s,baz=350,slow=6.7,SNR=7.9						
MJAR	**Matsushiro Arr**	**70.74**	**325**	P	**P**	**11 38 59.5**	**-0.1**
	1.6nm,0.6s,baz=152,slow=5.8,SNR=4.6						
PETK	**Petropavlovsk-**	**77.53**	**346**	P	**P**	**11 39 37.9**	**+0.5**
	3.6nm,0.7s,baz=139,slow=2.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**89.36**	**290**	P	**P**	**11 40 37.3**	**+0.4**
	1.4nm,0.7s,baz=112,slow=2.4,SNR=6.3						
ILAR	**Eielson Array**	**90.24**	**13**	P	**P**	**11 40 39.9**	**0.0**
	0.1nm,0.4s,baz=198,slow=2.7,SNR=3.7						
BVAR	**Borovoye Array**	**119.44**	**319**	PKP	**PKPdf**	**11 46 24.2**	**-0.6**
	0.6nm,0.4s,baz=186,slow=1.3,SNR=3.9						
AKASG	**Malin Array Be**	**143.75**	**329**	PKP	PKPbc	11 47 08.6	-0.9
	1.2nm,0.3s,baz=42,slow=4.6,SNR=8.1						
BRTR	**Keskin Array B**	**146.87**	**310**	PKPbc	**PKPbc**	**11 47 18.8**	**-0.4**
	0.7nm,0.5s,baz=130,slow=6.8,SNR=4.1						

NIED ***23*** *11:38:00,30°.20N×131°.60E, h14km, Mw5.0 Best double couple: M₀3.54000×10¹⁶ NP1:ϕs22.00000°,δ45.00000°, λ-116.00000°. NP2:ϕs237.00000°,δ51.00000°, λ-66.00000°.*

ISCJB ***23*** *11:38:31.3±0.6,30°.28N±0°.02×131°.53E±0°.02, h26km±4km, mb5.0/187, MS4.6/39, Error ellipse: s-maj=3.1km s-min=2.6km az=151.9*

JMA ***23*** *11:38:31.8±0.1,30°.25N×131°.61E, h50km±2km, M4.7*

JMA Felt II J1.

NEIC ***23*** *11:38:32.9±1.0,30°.28N×131°.47E, h26km±7km, mb5.2/128, Error ellipse: s-maj=3.8km s-min=3.0km az=148.0*

NEIC Recorded [2 JMA] in Kagoshima.

MOS ***23*** *11:38:32.9±0.9,30°.42N×131°.41E, h33km, mb5.1/80, MS4.6/24, Error ellipse: s-maj=6.7km s-min=4.3km az=99.0*

GCMT ***23*** *11:38:32.9±0.2,30°.37N×131°.58E, h13km, MW5.1/89, Moment Tensor Solution. s61,c80; s89,c165; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.42±.15; Mθθ=0.17±.09; Mϕϕ4.59±.11; Mrθ0.59±.27; Mθϕ 1.45±.07; Mϕr1.94±.25; Best double couple: M₀5.12600×10¹⁶ NP1:ϕs196.00000°,δ57.00000°,λ-89.00000°. NP2: ϕs15.00000°,δ33.00000°,λ-91.00000°. Principal axes: T 5.4150, Plg12.0000°, Azm286.0000°; N -0.5780, Plg1.0000°, Azm16.0000°; P -4.8380, Plg78.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***23*** *11:38:32.3,30°.04N×131°.73E, h55km, mb4.7/60, mB5.0/52, Ms4.8/65, Ms7 4.7/64*

IDC ***23*** *11:38:35.1±0.5,30°.36N×131°.48E, h46km±3km, mb4.4/29, mb1 4.5/35, mb1mx4.4/50, mbtmp4.6/35, MS4.6/30, Ms1 4.6/30, ms1mx4.3/48, Error ellipse: s-maj=11.6km s-min=7.6km az=71.0*

ISC 23 11:38:33.6±0.3,**30°.26N**±0°.04×**131°.59E**±0°.03,**h34**km, **h34**km:**pP-P,n558,**σ1§**48**/658,**mb5.0**/197,**MS4.7**/39, **40C-18D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.66**	**307**	⇑P	**Pn**	**11 38 45.2**	**-1.2**
JTN				S	**Sn**	**11 38 55.6**	**0.0**
JYAK	**Yakushimahirau**	**0.93**	**269**	P	**Pn**	**11 38 48.9**	**-1.3**
JYAK				*e*S	**Sn**	**11 39 01.8**	**-0.6**
JTSR	**Tashiro 2**	**1.07**	**328**	⇑P	**Pn**	**11 38 50.8**	**-1.4**
JTSR				*e*S	**Sn**	**11 39 04.9**	**-1.0**
JKC	**Kuchinoerabu**	**1.22**	**280**	⇑P	**Pn**	**11 38 53.1**	**-1.1**
JKC				*e*S	**Sn**	**11 39 09.6**	**+0.1**
JNAR	**Kushima--Naru**	**1.29**	**348**	⇑P	**Pn**	**11 38 54.1**	**-1.1**
JNAR				*e*S	**Sn**	**11 39 10.3**	**-1.0**
JNN	**Nakanoshima**	**1.54**	**255**	⇑P	**Pn**	**11 38 57.5**	**-1.1**
JNN				*e*S	**Sn**	**11 39 16.8**	**-0.7**
JSU	**Suzuyama**	**1.58**	**322**	⇑P	**Pn**	**11 38 58.2**	**-1.0**
JSU				*e*S	**Sn**	**11 39 18.0**	**-0.5**
JTZ	**Takazaki**	**1.69**	**345**	⇑P	**Pn**	**11 39 00.2**	**-0.5**
JTZ				*e*S	**Sn**	**11 39 20.7**	**-0.5**
JTSN	**Tsuno**	**1.98**	**358**	P	**Pn**	**11 39 03.9**	**-0.8**
JTSN				*e*S	**Sn**	**11 39 27.0**	**-1.4**
JZO	**Okuchi**	**2.06**	**336**	⇑P	**Pn**	**11 39 04.9**	**-0.9**
JZO				*e*S	**Sn**	**11 39 30.1**	**-0.2**
JSJ	**Shimokoshiki**	**2.14**	**312**	⇑P	**Pn**	**11 39 04.8**	**-2.1**
JSJ				*e*S	**Sn**	**11 39 30.0**	**-2.3**
JTAJ	**Takarajima**	**2.35**	**243**	P	**Pn**	**11 39 09.7**	**0.0**
JTAJ				*e*S	**Sn**	**11 39 38.9**	**+1.5**
JIU2	**Izumi 2**	**2.37**	**344**	⇑P	**Pn**	**11 39 09.6**	**-0.5**
JIU2				*e*S	**Sn**	**11 39 35.2**	**-2.8**
JZK	**Kikaishima**	**2.40**	**216**	P	**Pn**	**11 39 09.8**	**-0.6**
JZK				*e*S	**Sn**	**11 39 39.8**	**+1.2**
JNU	**Nakatsue**	**2.92**	**348**	P	**Pn**	**11 39 17.1**	**-0.5**
	45nm,0.3s,baz=21,slow=5.4,SNR=192						
JNU				S	**Sn**	**11 39 49.9**	**-1.6**
	46nm,0.3s,baz=160,slow=5.8,SNR=6.1

5µm,17.9s
USRK Ussuriysk Ar. 13.92 1 P Pn 11 41 49.6 +1.2
0.2nm,0.3s,baz=181,slow=9.0,SNR=3.6
CN2 Changchun 14.37 342 eP P 11 41 59.4 -1.6
CN2 esP sP 11 42 17.9
CN2 eS Sn 11 44 38.3 +5.7
CN2 PMZ
10.0nm,0.8s
CN2 PMZ
300nm,8.0s
CN2 LN
4µm,16.0s
CN2 LE
2µm,16.0s
CN2 LZ
4µm,17.0s
ERM Érimo 14.98 35c iP Pn 11 42 04.5 +1.8
BJT Baijiatuau 15.91 312 eP P 11 42 18.0 -0.2
BJT pmax pmax
comp=Z,69nm,0.8s
BJT Baijiatuau 15.91 312 eP P 11 42 17.9 -0.2
comp=Z,69nm,0.8s
BJI Beijing 15.92 312 P P 11 42 18.4 +0.1
BJI S Sn 11 45 11.5 +1.2
BJI PMZ
comp=Z,45nm,0.8s
BJI PMZ
comp=Z,910nm,8.4s
BJI LN
comp=Z,2µm,16.3s
BJI LE
comp=Z,3µm,15.7s
BJI LZ
comp=Z,2µm,18.0s
HABR Khabarovsk 18.38 7ceP P 11 42 43.5 -1.9
HABR eS Sn 11 46 08.8 -1.0
HABR pmax pmax
comp=E,38nm,2.0s
HABR pmax pmax
comp=Z,106nm,2.0s
HABR pmax pmax
comp=N,77nm,2.0s
HABR MLR MLR
comp=Z,2µm,15.0s
YSS Yuzh-Sakhalins 18.78 24⇓iP P 11 42 49.6 -0.2
YSS eS Sn 11 46 18.0 -1.5
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS pmax pmax
comp=Z,400nm,6.0s
YSS MLR MLR
comp=Z,1µm,16.0s
YSS MLR MLR
comp=N,900nm,13.0s
YSS MLR MLR
comp=E,800nm,16.0s
KLR Kul'dur 18.95 0 P P 11 42 51.6 0.0
comp=E,1.1nm,0.3s,baz=177,slow=7.4,SNR=46
KLR LR LR 11 50 46.4
comp=E,1µm,20.1s,baz=177,slow=39
ENH Enshi 19.09 276 eP P 11 42 52.6 -0.8
comp=E,32nm,0.8s
HHC Hu-ho-hao-te 19.38 308 eP P 11 42 56.1 -0.4
HHC pP sP 11 43 10.6 +0.7
HHC S S 11 46 26.8 -7.0
HHC sS sS 11 46 45.6 -2.6
HHC SS SnSn 11 46 56.9 +8.5
HHC PMZ
comp=E,24nm,0.8s
HHC PMZ
comp=E,350nm,7.5s
HHC LN
comp=E,2µm,14.7s
HHC LE
comp=E,2µm,10.0s
HHC LZ
comp=E,2µm,11.1s
XAN Xi'an 19.55 287 P P 11 42 58.6 +0.2
XAN PMZ
comp=E,59nm,0.7s
XAN PMZ
comp=E,310nm,12.8s
XAN LN
comp=E,930nm,13.9s
XAN LE
comp=E,3µm,15.5s
XAN LZ
comp=E,2µm,16.5s
KUR Kuril'sk 19.67 36 eP Pn 11 43 01.5 +0.4
KUR S S 11 46 36.9 -2.6
KUR MLR MLR
comp=N,1µm,17.0s
KUR MLR MLR
comp=E,1µm,17.0s
KUR MLR MLR
comp=Z,2µm,17.0s
GUMO Guam 20.63 141 P Pn 11 43 13.6 +1.0
comp=Z,52nm,0.6s,baz=177,slow=12,SNR=4.4
GUMO LR LR 11 50 04.5
comp=Z,691nm,19.1s,baz=335,slow=33
HIA Hailar 21.01 338 eP P 11 43 13.8 -0.3
HIA Hailar 21.01 338 eP P 11 43 13.8 -0.3
TYV Tymovskoe 22.19 19 eP P 11 43 26.8 +0.2
TYV eS S 11 47 32.0 +3.1
TYV pmax pmax
comp=Z,35nm,1.0s
TYV smax smax
comp=E,1µm,16.0s
TYV MLR MLR
comp=E,2µm,16.0s
TYV MLR MLR
comp=Z,1µm,14.0s
GYA Guiyang 22.24 266⇑iP P 11 43 26.9 -0.7
GYA pP sP 11 43 41.0 -0.1
GYA PP PnPn 11 43 57.3 +6.7
GYA S S 11 47 23.4 -7.2
GYA sS sS 11 47 46.8 +1.3
GYA SS SnSn 11 48 06.3 +7.4
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,3µm,16.4s
GYA LE
comp=Z,2µm,17.0s
GYA LZ
comp=Z,1µm,16.8s
QIZ Qiongzhong 22.66 245 P P 11 43 32.5 +0.5
QIZ sP sP 11 43 51.0 +5.5
QIZ PMZ
comp=Z,89nm,2.0s
QIZ PMZ
comp=Z,540nm,3.4s
QIZ LE
comp=Z,2µm,16.4s
QIZ LZ
comp=Z,2µm,15.7s
DAV Davao City (W) 23.75 195 LR LR 11 51 28.8
comp=Z,608nm,21.2s,baz=354,slow=32
NKL Nikolayevsk 23.82 14 eP P 11 43 43.0 -0.2
NKL e 11 43 54.5
NKL pmax pmax
comp=Z,34nm,0.9s
NKL pmax pmax
comp=Z,400nm,5.0s
NKL MLR MLR
comp=N,1µm,16.0s
NKL MLR MLR
comp=E,600nm,16.0s
NKL MLR MLR
comp=Z,2µm,16.0s
LZH Lanzhou 23.89 291 eP P 11 43 43.3 -1.0
LZH pP pP 11 43 55.0 +1.0
LZH sP sP 11 44 01.0 +2.8
LZH eS S 11 47 51.3 -7.2
LZH sS sS 11 48 16.3 +1.7
LZH PMZ
comp=Z,21nm,1.1s
LZH PMZ
comp=Z,98nm,4.8s
LZH LN
comp=Z,560nm,11.9s
LZH LE
comp=Z,2µm,11.9s
LZH LZ
comp=Z,4µm,12.0s
CD2 Chengdu 23.95 279 P P 11 43 44.6 -0.1
CD2 pP sP 11 43 57.8 -0.8
CD2 sP pP 11 44 04.3 +10
CD2 S S 11 47 57.8 -1.4
CD2 sS Sn 11 48 20.8 -3.0
CD2 PMZ
comp=Z,70nm,0.8s
CD2 PMZ
comp=Z,340nm,4.0s
CD2 LN
comp=Z,2µm,16.4s
CD2 LE
comp=Z,2µm,19.5s
CD2 LZ
comp=Z,3µm,16.9s
ULN Ulaanbaatar 25.75 320⇓iP P 11 44 00.8 -0.3
ULN pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 25.75 320 eP P 11 43 59.7 -1.4
comp=Z,9.7nm,0.9s
KMI Kunming 26.01 266 P P 11 44 04.3 +0.5
KMI pP pP 11 44 14.9 +1.4
KMI PMZ
comp=Z,29nm,0.7s
KMI PMZ
comp=Z,170nm,3.7s
KMI LN
comp=Z,930nm,15.4s
KMI LE
comp=Z,1µm,16.2s
KMI LZ
comp=Z,2µm,19.6s
SONM Songino Array 26.10 319 P P 11 44 02.8 -1.5
comp=Z,3.2nm,0.3s,baz=143,slow=10,SNR=21
SONM LR LR 11 56 02.0
comp=Z,2µm,19.1s,baz=132,slow=40
SONA1 Songino Array 26.11 319 eP P 11 44 03.2 -1.1
GTA Gaotai 27.52 298 eP P 11 44 17.4 +0.3
GTA pP sP 11 44 29.1 -2.0
GTA sP pP 11 44 35.3 +8.4
GTA S S 11 48 53.9 -2.0
GTA sS sS 11 49 14.0 +1.8
GTA SS SnSn 11 50 14.8 +7.1
GTA PMZ
comp=Z,8.0nm,1.1s
GTA PMZ
comp=Z,150nm,4.7s
GTA LN
comp=Z,1µm,17.6s
GTA LE
comp=Z,1µm,18.1s
GTA LZ
comp=Z,1µm,17.6s
ZAK Zakamensk 29.21 322 eP P 11 44 30.0 -2.0
ZAK pmax pmax
comp=Z,4.0nm,1.1s
PEA0 Petropavlovsk- 29.73 32 eP P 11 44 36.6 +0.2
PETK Petropavlovsk- 29.73 32 P P 11 44 36.8 +0.3
comp=Z,19nm,1.0s,baz=228,slow=3.8,SNR=10
PETK LR LR 11 58 15.8
comp=Z,814nm,18.1s,baz=221,slow=40
TLY Talaya 29.75 324 P P 11 44 35.8 -0.9
comp=Z,1.5nm,0.2s,baz=147,slow=15,SNR=3.2
PET Petropavlovsk 30.12 33 eP P 11 44 35.5 -4.4
PET eS S 11 49 33.9 -2.3
PET pmax pmax
comp=Z,200nm,9.6s
PET MLR MLR
comp=Z,800nm,20.0s
PET MLR MLR
comp=Z,900nm,21.0s
CHAI Chaiyaphum 30.64 249 P P 11 44 44.6 -0.2
comp=Z,8.1nm,0.6s
UTTA Uttaradit 30.86 253 P P 11 44 46.2 -0.6
comp=Z,9.5nm,0.8s
PBKT Sadao Pong 31.11 251 P P 11 44 48.8 -0.2
comp=Z,19nm,0.7s
LAMP Lampang 31.25 255 P P 11 44 49.9 -0.4
comp=Z,6.6nm,0.7s
SRAK Srakaew 31.65 246 P P 11 44 50.5 -3.3
comp=Z,73nm,0.9s,comp=Z,499nm
CMMT Chiang Mai 31.69 257 P P 11 44 53.2 -1.0
comp=Z,20nm,0.8s,comp=Z,401nm
CHTO Chiang Mai 31.70 257 P P 11 44 53.3 -0.9
comp=Z,88nm,0.8s
CHTO Chiang Mai 31.70 257 eP P 11 44 53.2 -0.9
CHTO pmax pmax
comp=Z,13nm,0.7s
CHTO Chiang Mai 31.70 257 eP P 11 44 53.2 -0.9
comp=Z,13nm,0.7s
YAK Yakutsk 31.80 358 eP P 11 44 54.1 -0.5
YAK e 11 45 05.3
YAK ePPP PPP 11 46 16.6
YAK e 11 47 44.7
YAK eS S 11 50 02.0 -0.4
YAK e*SS sS 11 50 16.7 -2.0
YAK e 11 55 22.8
YAK pmax pmax
comp=Z,42nm,1.2s
YAK pmax pmax
comp=N,27nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,31nm,0.7s
YAK pmax pmax
comp=E,5.0nm,0.6s
YAK pmax pmax
comp=N,18nm,1.1s
YAK smax smax
comp=N,116nm,3.3s
YAK smax smax
comp=E,119nm,3.6s
YAK MLR MLR
comp=Z,797nm,19.0s
YAK MLR MLR
comp=E,211nm,12.0s
YAK MLR MLR
comp=N,782nm,19.0s
YAK Yakutsk 31.80 358 eP P 11 44 54.1 -0.5
YAK epP pP 11 45 05.5 +1.0
CM31 Chiang Mai Arr 31.86 256 eP P 11 44 54.5 -1.2
CM31 epP sP 11 45 09.3 -0.3
CMAR Chiang Mai Arr 31.86 256 P P 11 44 54.4 -1.3
comp=N,3.2nm,0.6s,baz=55,slow=7.2,SNR=18
CMAR pP sP 11 45 07.9 -1.7
comp=N,3.3nm,0.5s,baz=50,slow=7.9,SNR=6.6
CMAR PcP PcP 11 47 46.8 +0.8
comp=N,1.8nm,0.6s,baz=34,slow=1.8,SNR=8.4
CMAR pPcP 11 48 00.9
comp=N,5.7nm,0.9s,baz=41,slow=1.5,SNR=14
CMAR LR LR 11 59 55.7
comp=N,1µm,19.3s,baz=70,slow=40
CM01 Chiang Mai Arr 31.87 256 eP P 11 44 54.2 -1.5
CM01 ePcP PcP 11 47 46.8 +0.8
MA2 Magadan 32.06 18 eP P 11 44 57.1 +0.2
MA2 pmax pmax
comp=Z,32nm,1.0s
MA2 Magadan 32.06 18 eP P 11 44 57.1 +0.2
comp=Z,32nm,1.0s
SEY Seymchan 35.33 16⇓iP P 11 45 26.3 +1.1
WMQ Urumqi 37.13 304 P P 11 45 41.4 +0.4
WMQ pP sP 11 45 57.5 +2.4
WMQ sP pP 11 46 04.4 +13
WMQ S S 11 51 23.6 -1.6
WMQ SS SnSn 11 53 56.3 -4.7
WMQ ScS ScS 11 55 48.8 -4.1
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,58nm,4.4s
WMQ LN
comp=Z,480nm,16.2s
WMQ LE
comp=Z,600nm,18.6s
WMQ LZ
comp=Z,540nm,19.8s
KULM Kulim 38.28 236 eP P 11 45 49.7 -1.2
comp=Z,16nm,0.8s
IPM Ipoh 38.58 234 eP P 11 45 54.3 +0.8
comp=Z,22nm,0.8s
RAMN Ramite 39.44 277 eP P 11 46 00.3 -0.6
comp=Z,11nm,0.4s
GUN Gumba 39.81 278 eP P 11 46 03.3 -0.8
comp=Z,60nm,0.4s
PKIN Phulchoki 40.31 278 eP P 11 46 07.2 -0.9
comp=Z,6.7nm,0.3s
KKN Kakani 40.35 278 eP P 11 46 07.8 -0.6
comp=Z,17nm,0.4s
GKN Gorkha 40.85 279 eP P 11 46 11.6 -0.8
comp=Z,13nm,0.4s
ZAA0 Zalesovo Array 41.00 319 eP P 11 46 11.6 -1.5
ZAA0 eP P 11 46 12.8 -0.3
ZAA0 ePcP PcP 11 48 12.0 -0.7
ZAA0 ePcP PcP 11 48 12.6 -0.1
ZALV Zalesovo Beam 41.00 319 P P 11 46 11.6 -1.5
comp=Z,3.5nm,0.7s,baz=97,slow=6.0,SNR=9.4
ZALV pP pP 11 46 24.0 +0.8
comp=Z,5.5nm,0.8s,baz=91,slow=8.9,SNR=6.1
ZALV PcP PcP 11 48 12.0 -0.6
comp=Z,5.8nm,0.7s,baz=102,slow=4.2,SNR=10
ZALV pPcP 11 48 26.5
comp=Z,9.2nm,0.9s,baz=90,slow=3.0,SNR=3.5
ZALV pScP 11 52 08.2
comp=Z,2.5nm,0.6s,baz=114,slow=4.2,SNR=9.3
ZALV LR LR 12 05 03.9
comp=Z,1µm,18.6s,baz=72,slow=39
MK01 Makanchi Array 41.23 308 eP P 11 46 13.7 -1.5
MK01 ePcP PcP 11 48 13.6 -0.1
MK31 Makanchi Array 41.24 308 ceP P 11 46 13.6 -1.7
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 41.24 308 eP P 11 46 14.2 -1.1
MKAR Makanchi Array 41.24 308 P P 11 46 13.8 -1.4
comp=Z,8.2nm,0.9s,baz=86,slow=10,SNR=16
MKAR pP pP 11 46 26.7 +1.4
comp=Z,7.7nm,0.8s,baz=97,slow=9.1,SNR=8.9
MKAR PcP PcP 11 48 13.6 -0.1
comp=Z,5.1nm,0.7s,baz=81,slow=3.8,SNR=9.6
MKAR pPcP 11 48 27.5
comp=Z,7.4nm,0.8s,baz=90,slow=3.6,SNR=9.0
MKAR pScP 11 52 09.0
comp=Z,1.8nm,0.7s,baz=90,slow=5.3,SNR=11
MKAR LR LR 12 05 26.3
comp=Z,871nm,18.7s,baz=93,slow=39
MKAR Makanchi Array 41.24 308 eP P 11 46 14.2 -1.1
MKAR pP pP 11 46 26.7 +1.4
MKAR PcP PcP 11 48 13.6 -0.1
PSI Prapat 41.25 235 eP P 11 46 16.0 +0.3
PSI e*PP sP 11 46 30.2 +0.3
PSI Prapat 41.25 235 eP P 11 46 16.0 +0.3
PSI epP sP 11 46 30.2 +0.3
MAKZ Makanchi 41.45 308 eP P 11 46 16.2 -0.8
MAKZ e*PP pP 11 46 28.9 +1.8
MAKZ e 11 48 14.6
MAKZ Makanchi 41.45 308 eP P 11 46 16.1 -0.8
MAKZ epP pP 11 46 28.9 +1.8
MAKZ ePcP PcP 11 48 14.6 +0.2
TIXI Tiksi 41.47 359c iP P 11 46 16.9 +0.2
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 41.47 359 eP P 11 46 15.8 -0.9
comp=Z,60nm,2.0s
KOLN Koldanda 41.80 279 eP P 11 46 20.3 0.0
comp=Z,10nm,0.4s
PYUN Piuthan 42.23 280 eP P 11 46 24.2 +0.4
comp=Z,69nm,1.0s
BILL Bilibino 42.93 18deP P 11 46 29.3 +0.6
BILL e 11 48 08.9
BILL pmax pmax
comp=Z,29nm,1.0s
BILL MLR MLR
comp=Z,474nm,19.0s
BILL Bilibino 42.93 18 eP P 11 46 29.2 +0.6
comp=Z,25nm,1.0s
PDGK Podgornoye 43.06 302 iP P 11 46 28.1 -2.0
PDGK pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 44.09 313 P P 11 46 37.4 -0.8
KURK *PP pP 11 46 49.3 +0.9
KURK 11 48 22.6
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 44.09 313 eP P 11 46 35.6 -2.6
comp=Z,59nm,1.1s
KURK pP pP 11 46 49.3 +0.9
KURK PcP PcP 11 48 22.6 -0.4
KURBB Kurchatov Arra 44.13 313 P P 11 46 37.4 -1.2
comp=Z,5.2nm,0.8s,baz=98,slow=9.0,SNR=18
KURBB pP pP 11 46 49.3 +0.6
comp=Z,9.0nm,0.9s,baz=98,slow=8.7,SNR=15
KURBB PcP PcP 11 48 22.6 -0.6
comp=Z,2.9nm,0.7s,baz=99,slow=3.5,SNR=7.5
KURBB pPcP 11 48 36.4
comp=Z,4.2nm,0.8s,baz=96,slow=3.7,SNR=7.6
KURBB pScP 11 52 19.9
comp=Z,0.7nm,0.7s,baz=96,slow=4.0,SNR=6.2
KSH Kashi 45.91 297 eP P 11 46 53.8 +0.7
KSH pP sP 11 47 09.5 +2.1
KSH PcP PcP 11 48 29.8 0.0
KSH S S 11 53 33.0 -2.5
KSH ScS ScS 11 56 39.6 -6.9
KSH PMZ
comp=Z,5.0nm,0.4s
KSH PMZ
comp=Z,120nm,5.6s
KSH LN
comp=Z,170nm,10.0s
KSH LE
comp=Z,560nm,16.2s
KSH LZ
comp=Z,1µm,19.2s
TKM2 Tokmak 2 45.92 302 eP P 11 46 52.9 -0.3
TKM2 pmax pmax
comp=Z,17nm,1.0s
TKM2 Tokmak 2 45.92 302 eP P 11 46 52.9 -0.3
comp=Z,16nm,1.0s
FRU Bishkek 46.64 302 eP P 11 46 56.5 -2.2
AAK Ala-Archa 46.75 302 P P 11 46 58.7 -0.9
comp=Z,3.3nm,0.6s,baz=80,slow=6.2,SNR=4.5
AAK PcP PcP 11 48 32.9 +0.3
comp=Z,3.2nm,0.7s,baz=135,slow=5.7,SNR=4.1
AAK Ala-Archa 46.75 302 eP P 11 46 59.1 -0.6
AAK e*PP pP 11 47 11.4 +1.6
AAK 11 48 32.9
AAK Ala-Archa 46.75 302 eP P 11 46 59.0 -0.6
AAK eP P 11 46 59.6 0.0
AAK epP pP 11 47 11.4 +1.6
AAK PcP PcP 11 48 32.9 +0.3
SPIA Saint Paul Isl 48.01 39 eP P 11 47 07.2 -1.8
comp=Z,52nm,1.1s
OTUK Ortayu 48.04 309 P P 11 47 09.2 -0.3
OTUK pmax pmax
comp=Z,14nm,1.0s
FITZ Fitzroy Crossi 48.42 188 eP P 11 47 12.9 +0.3
comp=Z,54nm,1.7s
VOSK Vostochnaya 48.98 315 P P 11 47 16.8 +0.2
VOSK pmax pmax
comp=Z,7.0nm,0.8s
VOSK Vostochnaya 48.98 315 eP P 11 47 15.9 -0.8
comp=Z,11nm,1.0s
CHKZ Chkalovo 49.25 317 iP P 11 47 16.9 -1.7
CHKZ pmax pmax
comp=Z,6.0nm,0.7s
BVA0 Borovoye Array 49.35 316 iP P 11 47 18.0 -1.5
BVA0 pmax pmax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 49.35 316 P P 11 47 18.7 -0.8
comp=Z,7.4nm,0.7s,baz=103,slow=9.5,SNR=23
BVAR PcP PcP 11 48 41.6 0.0
comp=Z,6.3nm,0.6s,baz=100,slow=3.3,SNR=7.3
BVAR pPcP 11 48 54.8
comp=Z,9.2nm,0.8s,baz=94,slow=4.5,SNR=7.4
BVAR LR LR 12 10 26.4
comp=Z,1µm,18.6s,baz=84,slow=39
BVAR Borovoye Array 49.35 316 P P 11 47 18.7 -0.8
BVAR 11 48 41.6
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BVAR pmax pmax
comp=Z,6.0nm,0.6s
BVAR pmax pmax
comp=Z,9.0nm,0.8s

BVAR MLR MLR
comp=Z,1μm,18.6s
BRVK Borovoye 49.42 316 *c iP* **P** 11 47 19.3 -0.6
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 49.42 316 *eP* **P** 11 47 19.1 -0.8
comp=Z,43nm,0.7s
KK31 Karatay Array 49.62 303 *ceP* **P** 11 47 20.9 -0.8
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 49.62 303 *eP* **P** 11 47 21.4 -0.3
KKAR Karatay Array 49.62 303 *eP* **P** 11 47 21.4 -0.3
WRAB Tennant Creek 49.97 177 *c iP* **P** 11 47 24.8 +0.4
WRAB pmax pmax
comp=Z,108nm,2.5s
WRAB Tennant Creek 49.97 177 *eP* **P** 11 47 24.4 0.0
comp=Z,12nm,0.8s
WB2 Warramunga Arr 49.98 177 *eP* **P** 11 47 24.6 0.0
comp=Z,14nm,0.8s
WRA Warramunga Arr 49.98 177 P **P** 11 47 24.4 -0.1
comp=Z,9.0nm,0.7s,baz=352,slow=8.1,SNR=88
WRA PcP **PcP** 11 48 44.9 +0.6
comp=Z,2.4nm,0.7s,baz=349,slow=4.2,SNR=5.6
ZRNK Zerenda 50.19 316 *eP* **P** 11 47 25.1 -0.7
ZRNK pmax pmax
comp=Z,16nm,0.8s
ZRNK Zerenda 50.19 316 *eP* **P** 11 47 25.1 -0.7
comp=Z,16nm,0.8s
DZET Dzherino 51.51 297 P **P** 11 47 35.5 -0.6
CTA Charters Tower 52.01 162 P **P** 11 47 40.1 +0.4
comp=Z,4.2nm,0.7s,baz=350,slow=7.6,SNR=3.4
KBL Kabul 52.24 292 *eP* **P** 11 47 41.6 -0.2
KBL *e**PP **sP** 11 47 55.3 -0.8
KBL Kabul 52.24 292 *eP* **P** 11 47 41.6 -0.2
KBL *ep*P **sP** 11 47 55.3 -0.8
AS31 Alice Springs 53.66 177 *eP* **P** 11 47 52.1 +0.2
comp=Z,5.1nm,0.6s
AS01 Alice Springs 53.66 177 *eP* **P** 11 47 52.0 +0.1
ASAR Alice Springs 53.66 177 P **P** 11 47 52.1 +0.2
comp=Z,12nm,0.6s,baz=10,slow=12,SNR=166
ASAR PcP **PcP** 11 48 58.6 +0.7
comp=Z,2.2nm,0.7s,baz=354,slow=4.0,SNR=6.0
ASAR LR LR 12 11 09.0
comp=Z,88nm,19.5s,baz=350,slow=36
ASAR Alice Springs 53.66 177 P **P** 11 47 52.1 +0.2
ASAR 11 48 58.7
ASAR pmax pmax
comp=Z,9.0nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR MLR MLR
comp=Z,88nm,19.5s
CHGN Chignik 54.46 40 *eP* **P** 11 47 57.4 0.0
CHGN *ep*P **sP** 11 48 09.9 -1.9
SVE Sverdlovsk 54.97 321 *eP* P 11 48 11.7 +11
SVE pmax pmax
comp=Z,12nm,0.6s
SVE MLR MLR
comp=Z,750nm,19.0s
TT01 Tatalina 55.56 32 *eP* **P** 11 48 05.0 -0.3
TTA Tatalina 55.56 32 *eP* **P** 11 48 05.7 +0.3
TTA pmax pmax
comp=Z,22nm,1.3s
TTA Tatalina 55.56 32 *eP* **P** 11 48 05.7 +0.3
comp=Z,22nm,1.3s
SVW2 Sparrevohn 55.78 34 *eP* **P** 11 48 07.1 +0.2
comp=Z,40nm,1.4s
AB31 Akbulak array 56.13 312 *ceP* **P** 11 48 09.0 -0.6
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 56.13 312 *eP* **P** 11 48 08.9 -0.7
ARU Arti 56.14 320 LR LR 12 15 12.8
comp=Z,2μm,18.4s,baz=83,slow=39
ARU Arti 56.14 320 *d iP* **P** 11 48 08.9 -0.6
ARU *PP **pP** 11 48 20.0 +0.1
ARU 11 49 06.5
ARU 11 50 10.8
ARU S **S** 11 55 56.9 +0.8
ARU SS **SS** 11 59 36.9 -5.4
ARU pmax pmax
comp=Z,14nm,1.7s
ARU MLR MLR
comp=Z,2μm,19.0s
ARU Arti 56.14 320 *eP* **P** 11 48 08.7 -0.8
comp=Z,71nm,1.9s
AKTO Aktyubinsk 57.18 313 LR LR 12 15 11.1
comp=Z,2μm,18.4s,slow=38
AKTO Aktyubinsk 57.18 313 *i* P **P** 11 48 17.2 +0.2
AKTO pmax pmax
comp=Z,7.0nm,0.8s
RSO Redoubt South 57.20 35 *eP* **P** 11 48 18.2 +1.0
OHAK Old Harbor 57.21 39 *eP* **P** 11 48 17.4 +0.4
comp=Z,92nm,1.8s
PPLA Purkeypile 57.31 32 *eP* **P** 11 48 19.3 +1.4
comp=Z,114nm,1.6s
CAST Castle Rocks 57.33 31 *eP* **P** 11 48 19.3 +1.4
comp=Z,32nm,1.1s
SPU Mount Spurr 57.49 34 *eP* **P** 11 48 20.0 +0.9
KDAK Kodiak Island 57.53 38 *eP* **P** 11 48 19.5 +0.2
KDAK pmax pmax
comp=Z,163nm,1.8s
KDAK Kodiak Island 57.53 38 *eP* **P** 11 48 19.5 +0.2
comp=Z,163nm,1.8s
BPAW Bear Paw Mtn. 57.78 30 *eP* **P** 11 48 21.6 +0.6
comp=Z,29nm,1.2s
MLY Manley 57.84 29 *eP* **P** 11 48 22.4 +1.0
comp=Z,45nm,1.4s
KTH Kantishna Hill 57.84 31 *eP* **P** 11 48 22.0 +0.4
comp=Z,58nm,1.5s
COLD Coldfoot 57.95 27 *eP* **P** 11 48 22.4 +0.2
comp=Z,39nm,1.8s
CNPM China Poot 58.05 36 *eP* **P** 11 48 24.4 +1.4
CNPM *ep*P **sP** 11 48 37.3 -0.1
SUA Susitna One 58.09 34 *eP* **P** 11 48 23.8 +0.4
comp=Z,41nm,1.0s
TRF Thorofare Moun 58.14 31 *eP* **P** 11 48 24.6 +0.9
comp=Z,13nm,1.1s
BRLK Bradley Lake 58.20 36 *eP* **P** 11 48 25.5 +1.4
comp=Z,29nm,1.0s
BRLK *ep*P **sP** 11 48 39.0 +0.5
EIDS Eidsvold 58.38 159 *eP* **P** 11 48 25.9 +0.3
comp=Z,5.9nm,0.8s
BWN Browne 58.44 30 *eP* **P** 11 48 27.4 +1.8
comp=Z,57nm,1.0s
RC01 Rabbit Creek A 58.62 34 *eP* **P** 11 48 26.9 0.0
comp=Z,42nm,1.2s
MCK McKinley 58.71 31 *eP* **P** 11 48 28.0 +0.4
MCK pmax pmax
comp=Z,61nm,1.4s
MCK McKinley 58.71 31 *eP* **P** 11 48 28.0 +0.4
comp=Z,62nm,1.4s
RND Reindeer 58.78 31 *eP* **P** 11 48 28.2 +0.1
RND pmax pmax
comp=Z,58nm,1.1s
RND Reindeer 58.78 31 *eP* **P** 11 48 28.2 +0.1
comp=Z,58nm,1.1s
PMR Palmer 58.85 33 *eP* **P** 11 48 28.4 -0.1
PMR pmax pmax
comp=Z,43nm,1.1s
PMR Palmer 58.85 33 *eP* **P** 11 48 28.4 -0.1
comp=Z,43nm,1.1s
SEW Seward 58.88 35 *eP* **P** 11 48 28.8 +0.1
comp=Z,31nm,0.9s
MDM Murphy Dome 58.90 29 *eP* **P** 11 48 29.7 +0.8
comp=Z,67nm,1.1s
WRH Wood River Hil 59.01 30 *eP* **P** 11 48 28.0 -1.6
comp=Z,16nm,1.0s
COLA College 59.07 29 *eP* **P** 11 48 30.9 +0.9
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 59.07 29 *eP* **P** 11 48 30.9 +0.9
comp=Z,10nm,0.8s
CCB Clear Creek Bu 59.12 30 *eP* **P** 11 48 30.6 +0.3
comp=Z,15nm,1.4s
SML Sawmill 59.20 33 *eP* **P** 11 48 31.4 +0.4
SML pmax pmax
comp=Z,48nm,1.4s
SML Sawmill 59.20 33 *eP* **P** 11 48 31.4 +0.4
comp=Z,48nm,1.4s
IL1 Eielson Array 59.49 29 *eP* **P** 11 48 32.3 -0.7
ILAR Eielson Array 59.49 29 P **P** 11 48 32.4 -0.5
comp=Z,3.4nm,0.7s,baz=269,slow=5.5,SNR=39
ILAR PcP **PcP** 11 49 19.2 -1.0
comp=Z,2.4nm,0.8s,baz=276,slow=4.0,SNR=5.1
ILAR LR LR 12 16 15.0
comp=Z,180nm,19.8s,baz=284,slow=38

ILB Eielson Array 59.49 29 *eP* **P** 11 48 32.6 -0.4
SCM Sheep Creek Mo 59.67 33 *eP* **P** 11 48 34.9 +0.6
SCM pmax pmax
comp=Z,81nm,1.4s
SCM Sheep Creek Mo 59.67 33 *eP* **P** 11 48 34.9 +0.6
comp=Z,81nm,1.4s
GEYT Alibeck 59.90 299 P **P** 11 48 36.6 +0.4
comp=Z,4.1nm,0.5s,baz=5.7,slow=4.5,SNR=3.8
GEYT pP **sP** 11 48 49.0 -1.7
comp=Z,6.7nm,0.7s,baz=90,slow=1.5,SNR=2.4
GEYT LR LR 12 18 46.1
comp=Z,682nm,18.1s,baz=55,slow=40
FYU Fort Yukon 59.96 27 *eP* **P** 11 48 38.2 +2.2
comp=Z,115nm,1.6s
PAX Paxson 60.36 31 *eP* **P** 11 48 39.4 +0.4
PAX pmax pmax
comp=Z,12nm,1.1s
PAX Paxson 60.36 31 *eP* **P** 11 48 39.4 +0.4
comp=Z,12nm,1.1s
KLU Klutina 60.39 33 *eP* **P** 11 48 39.9 +0.7
comp=Z,26nm,1.3s
DIV Divide 60.52 34 *eP* **P** 11 48 41.2 +1.1
comp=Z,79nm,1.6s
EYAK Cordova Ski Ar 60.63 34 *eP* **P** 11 48 41.5 +0.8
comp=Z,16nm,1.0s
DOT Dot Lake 60.88 31 *eP* **P** 11 48 42.5 0.0
comp=Z,138nm,1.5s
BMRM Bremner River 61.11 34 *eP* **P** 11 48 44.9 +0.8
comp=Z,72nm,1.4s
MENT Mentasta 61.15 31 *eP* **P** 11 48 44.7 +0.4
comp=Z,60nm,1.4s
RAGM Ragged Mountai 61.18 34 *eP* **P** 11 48 46.0 +1.4
comp=Z,78nm,1.5s
CRQM Cirque 61.85 34 *eP* **P** 11 48 50.0 +0.7
comp=Z,37nm,1.2s
DZM Mont Dzumac 61.88 143 P **P** 11 48 50.7 +0.9
comp=Z,6.8nm,0.6s,baz=296,slow=1.8,SNR=13
DZM pP **sP** 11 49 03.4 -0.8
comp=Z,9.7nm,0.6s,baz=346,slow=13,SNR=5.8
DZM Mont Dzumac 61.88 143 *eP* **P** 11 48 49.4 -0.4
DZM *ep*P **sP** 11 49 02.5 -1.7
EGAK Eagle 61.92 29 *eP* **P** 11 48 49.5 +0.1
comp=Z,7.4nm,0.9s
BALM Baldy 62.17 33 *eP* **P** 11 48 51.7 +0.4
BALM pmax pmax
comp=Z,19nm,1.2s
BALM Baldy 62.17 33 *eP* **P** 11 48 51.7 +0.4
comp=Z,19nm,1.2s
STKA Stephens Creek 62.52 170 P **P** 11 48 54.3 +0.5
comp=Z,14nm,0.7s,baz=343,slow=6.8,SNR=53
STKA LR LR 12 14 38.8
comp=Z,159nm,21.8s,baz=4.2,slow=34
STKA Stephens Creek 62.52 170 *eP* **P** 11 48 54.2 +0.5
comp=Z,2.9nm,0.7s
DAWY Dawson 62.82 30 *eP* **P** 11 48 56.5 +1.0
comp=Z,8.2nm,0.9s
PCA Pinnacle 63.40 34 *eP* **P** 11 49 00.5 +1.1
comp=Z,39nm,0.9s
INK Inuvik 64.02 24 *eP* **P** 11 49 03.8 +0.5
INK pmax pmax
comp=Z,38nm,1.5s
INK Inuvik 64.02 24 *eP* **P** 11 49 03.8 +0.5
comp=Z,38nm,1.5s
WSAR Wadi Sarin 64.53 283 LR LR 12 21 55.8
comp=Z,367nm,19.1s,baz=100,slow=40
KLMR Klimovskoe 65.05 327 *eP* **P** 11 49 09.4 -0.7
KLMR *e* 11 49 41.2
KLMR pmax pmax
comp=Z,4.0nm,0.7s
APA Apatity 65.44 335 *d iP* **P** 11 49 14.2 +1.7
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,600nm,17.0s
SPITS Spitsbergen Ar 65.51 348 LR LR 12 21 04.1
comp=Z,422nm,19.4s,baz=40,slow=39
SKAG Skagway 65.97 34 *eP* **P** 11 49 17.4 +1.4
comp=Z,30nm,1.0s
VRH Novokhopyorsk 66.98 317 *eP* **P** 11 49 23.2 +0.5
VRH pmax pmax
comp=Z,20nm,1.0s
ARCES ARCESS Array B 67.35 339 P **P** 11 49 24.2 -0.6
comp=Z,1.9nm,0.7s,baz=57,slow=8.8,SNR=12
ARCES LR LR 12 25 04.4
comp=Z,998nm,18.9s,baz=58,slow=42
OBN Obninsk 68.48 322 *d eP* **P** 11 49 33.5 +1.4
OBN *e* 11 52 03.5
OBN pmax pmax
comp=Z,8.0nm,1.1s
VSR Storozhevoye 68.48 318 *eP* **P** 11 49 34.0 +1.8
VSR pmax pmax
comp=Z,10.0nm,0.8s
CRAG Craig 68.49 38 *eP* **P** 11 49 33.6 +1.4
comp=Z,24nm,1.2s
WRAK Wrangell Islan 68.53 36 *eP* **P** 11 49 34.0 +1.6
comp=Z,14nm,1.0s
ZEI Tsey 68.59 308 *eP* **P** 11 49 32.3 -1.0
ZEI pmax pmax
comp=Z,58nm,0.9s
DLBC Dease Lake 68.90 34 *eP* **P** 11 49 36.2 +1.5
comp=Z,20nm,1.1s
KBZ Khabaz 68.92 309 P **P** 11 49 34.8 -0.3
comp=Z,7.4nm,0.7s,baz=71,slow=4.6,SNR=17
KBZ LR LR 12 23 42.8
comp=Z,640nm,19.1s,baz=64,slow=39
KIV Kislovodsk 68.97 309 *eP* **P** 11 49 36.3 +0.7
KIV *e* 11 49 52.7
KIV *eS* **S** 11 58 38.8 +0.8
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,408nm,17.0s
NEY Neytrino 69.22 309 ⇑P **P** 11 49 36.6 -0.6
NEY pmax pmax
comp=Z,1.0nm,0.8s
AKH Akhalkalaki 69.39 307 ⇑ *iP* **P** 11 49 40.3 +2.0
FIA1 FINESS Array S 70.82 331 *eP* **P** 11 49 46.3 -0.1
FINES FINESS Array B 70.82 331 P **P** 11 49 45.5 -0.9
comp=Z,2.6nm,0.3s,baz=65,slow=5.7,SNR=44
FINES LR LR 12 24 34.6
comp=Z,1μm,18.8s,baz=57,slow=39
RES Resolute Bay 71.03 12 *eP* **P** 11 49 47.8 +0.3
RES pmax pmax
comp=Z,29nm,1.3s
RES Resolute Bay 71.03 12 *eP* **P** 11 49 47.8 +0.3
comp=Z,29nm,1.3s
ANN Anapa 72.09 312 *eP* P 11 50 03.2 +8.8
ANN pmax pmax
comp=Z,63nm,1.2s
ANN MLR MLR
comp=Z,376nm,17.0s
YKA Yellowknife Ar 73.63 26 P **P** 11 50 03.0 -0.2
comp=Z,4.6nm,0.8s,baz=301,slow=5.7,SNR=34
YKA pP **sP** 11 50 17.5 -0.3
comp=Z,3.9nm,0.9s,baz=305,slow=5.5,SNR=8.2
AKASG Malin Array Be 74.39 320 P **P** 11 50 07.2 -0.6
comp=Z,1.9nm,0.4s,baz=55,slow=6.6,SNR=10
AKASG LR LR 12 26 20.1
comp=Z,511nm,19.3s,baz=30,slow=39
KIEV Kiev 74.40 320 ⇑ *iP* **P** 11 50 07.5 -0.4
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 74.40 320 *eP* **P** 11 50 07.9 0.0
comp=Z,15nm,1.2s
SUW Suwalki 75.91 325 *eP* sP 11 50 33.0 +1.9
SORM Soroca 76.14 318 *d iP* **P** 11 50 16.9 -1.0
SORM Soroca 76.14 318 *d iP* **P** 11 50 16.9 -1.0
BR131 Keskin Array S 76.89 308 *eP* **P** 11 50 23.1 +0.5
BRTR Keskin Array B 76.89 308 P **P** 11 50 22.2 -0.4
comp=Z,11nm,0.8s,baz=102,slow=5.1,SNR=45
BRTR pP **sP** 11 50 36.2 -1.0
comp=Z,20nm,0.8s,baz=100,slow=5.5,SNR=14
BRTR LR LR 12 30 25.9
comp=Z,149nm,18.9s,baz=76,slow=40
NB2 NORSAR Subarra 76.99 334 P **P** 11 50 21.7 -0.9
comp=Z,2.0nm,0.7s,baz=52,slow=5.9
NOA NORSAR Array B 76.99 334 P **P** 11 50 21.8 -0.9
comp=Z,1.8nm,0.6s,baz=51,slow=5.7,SNR=7.2
NC204 NORSAR Array S 77.01 335 *eP* **P** 11 50 23.6 +0.9
SUMG Summit 77.21 357 *eP* **P** 11 50 24.5 +0.4
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 77.21 357 *eP* **P** 11 50 24.5 +0.4
comp=Z,13nm,0.8s
ANTO Ankara 77.39 309 *eP* **P** 11 50 26.0 +0.7
ANTO pmax pmax
comp=Z,50nm,0.9s

ANTO Ankara 77.39 309 *eP* **P** 11 50 26.0 +0.7
comp=Z,50nm,0.9s
BR231 Keskin MP Arra 77.41 309 *eP* **P** 11 50 22.7 -2.8
CFR Carcaliu 77.75 315 ⇓ *iP* **P** 11 50 26.7 -0.4
CFR Carcaliu 77.75 315 ⇓P **P** 11 50 26.7 -0.4
TIRR Tirgusor 77.95 315 ⇑ *iP* **P** 11 50 28.5 +0.3
TIRR Tirgusor 77.95 315 ⇑P **P** 11 50 28.5 +0.3
TESR Tescani 77.96 317 ⇑ *iP* **P** 11 50 28.6 +0.3
BUR08 Bucovina Ar. S 78.21 318 *eP* **P** 11 50 30.2 +0.5
BURAR Bucovina Array 78.22 318 ⇓ *iP* **P** 11 50 30.3 +0.5
BURAR Bucovina Array 78.22 318 ⇓P **P** 11 50 30.3 +0.5
PLOR Plostina 78.31 316 ⇑ *iP* **P** 11 50 31.0 +0.8
PLOR Plostina 78.31 316 ⇑P **P** 11 50 31.0 +0.8
KWP Kalwaria Pacla 78.53 321 *eP* **P** 11 50 31.4 +0.1
KWP Kalwaria Pacla 78.53 321 ⇓ *iP* **P** 11 50 31.7 +0.3
KWP Kalwaria Pacla 78.53 321 ⇓P **P** 11 50 31.7 +0.3
MLR Muntele Rosu 78.92 316 ⇑ *iP* **P** 11 50 34.3 +0.6
MLR Muntele Rosu 78.92 316 ⇑P **P** 11 50 34.3 +0.6
DOPR Dopca 78.99 317 ⇑ *iP* **P** 11 50 34.8 +0.8
STHS Stebnicka Huta 79.44 321 *eP* **P** 11 50 37.5 +1.1
STHS *e* 11 50 53.7
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 79.44 321 *eP* **P** 11 50 37.5 +1.1
STHS *e* 11 50 53.7
I03D Drain, OR 79.51 45 P **P** 11 50 37.7 +0.9
baz=302
OJC Ojcow 79.75 323 *eP* **P** 11 50 38.2 +0.2
OJC Ojcow 79.75 323 *eP* **P** 11 50 38.2 +0.2
OJC Ojcow 79.75 323 *eP* **P** 11 50 38.0 0.0
comp=Z,19nm,0.9s
NIE Niedzica 79.95 322 *eP* **P** 11 50 40.1 +1.0
NIE Niedzica 79.95 322 *eP* **P** 11 50 40.1 +1.0
I04A Tendick Farm, 80.03 45 P **P** 11 50 40.4 +0.6
baz=303
L02D Cave Junction, 80.17 47 P **P** 11 50 41.1 +0.7
baz=302
HUMO Hull Mountain 80.33 46 *eP* **P** 11 50 42.7 +1.4
comp=Z,11nm,1.1s
I05D Terrebonne, OR 80.39 44 P **P** 11 50 41.5 -0.2
baz=303
NEW Newport 80.61 39 P **P** 11 50 43.1 +0.4
baz=305
NEW Newport 80.61 39 *eP* **P** 11 50 42.9 +0.1
NEW pmax pmax
comp=Z,22nm,1.4s
NEW Newport 80.61 39 *eP* **P** 11 50 42.9 +0.1
comp=Z,22nm,1.4s
OKC Ostrava-Krasne 80.84 323 AMS AMS 12 30 10.0
comp=Z,600nm,16.6s
GZR Gura Zlata 80.84 317 ⇑ *iP* **P** 11 50 44.7 +0.6
GZR Gura Zlata 80.84 317 ⇑P **P** 11 50 44.7 +0.6
J05D Fort Rock, OR 81.03 45 P **P** 11 50 46.3 +1.1
baz=303
KSP Ksiaz 81.18 325 *eP* **P** 11 50 47.2 +1.5
KSP Ksiaz 81.18 325 *eP* **P** 11 50 47.2 +1.5
MORC Moravsky Berou 81.19 323 ⇑ *iP* **P** 11 50 46.7 +0.9
MORC Moravsky Berou 81.19 323 ⇑P **P** 11 50 46.7 +0.9
VYHS Vyhne 81.27 322 *eP* **P** 11 50 46.7 +0.5
VYHS *e* 11 51 01.5
VYHS pmax pmax
comp=Z,62nm,3.1s
VYHS Vyhne 81.27 322 *eP* **P** 11 50 46.6 +0.4
VYHS *e* 11 51 01.5
N02D Trinity Center 81.37 47 P **P** 11 50 48.0 +1.0
baz=303
DPC Dobruska-Polom 81.47 324 *eP* **P** 11 50 49.7 +2.4
DPC AMS AMS 12 33 10.0
comp=Z,1μm,16.5s
DPC Dobruska-Polom 81.47 324 *eP* **P** 11 50 49.7 +2.4
DPC MLR MLR
comp=Z,1μm,16.5s
M04C Macdoel 81.48 46 P **P** 11 50 49.1 +1.5
baz=303
UPC Upice 81.53 324 AMS AMS 12 33 10.0
comp=Z,1μm,18.4s
K05A Summer Lake 81.55 45 *eP* **P** 11 50 49.5 +1.5
comp=Z,17nm,1.0s
WDC Whiskeytown Da 81.68 48 *eP* **P** 11 50 49.5 +0.9
WDC pmax pmax
comp=Z,25nm,1.4s
WDC Whiskeytown Da 81.68 48 *eP* **P** 11 50 49.5 +0.9
comp=Z,25nm,1.4s
YER Yerkesik 81.82 308 *eP* sP 11 51 05.0 +0.9
WALA Waterton Lakes 81.86 37 *eP* **P** 11 50 50.2 +0.8
comp=Z,58nm,1.8s
F10A Beach Ranch, E 81.88 41 *eP* **P** 11 50 50.5 +0.9
comp=Z,19nm,1.5s
VRAC Vranov 81.96 323 ⇑ *iP* **P** 11 50 49.9 0.0
VRAC Vranov 81.96 323 ⇑P **P** 11 50 49.9 0.0
PVCC Panska Ves 82.23 325 AMS AMS 12 32 10.0
comp=Z,800nm,17.6s
O03D Payne Creek 82.31 48 P **P** 11 50 51.7 -0.2
baz=303
BRG Berggiesshubel 82.33 326 *eP* **P** 11 50 53.9 +2.2
comp=Z,7.9nm,1.3s
BRG Berggiesshubel 82.33 326 *eP* **P** 11 50 53.9 +2.2
BRG pmax pmax
comp=Z,8.0nm,1.3s
BMO Blue Mountains 82.48 42 *eP* **P** 11 50 53.8 +1.0
BMO pmax pmax
comp=Z,42nm,1.8s
BMO Blue Mountains 82.48 42 *eP* **P** 11 50 53.8 +1.0
comp=Z,42nm,1.8s
CLL Collm 82.50 326 *i* P **P** 11 50 52.9 +0.3
comp=Z,10.0nm,0.7s
CLL *i* 11 51 03.9
CLL Collm 82.50 326 *eP* **P** 11 50 54.4 +1.8
CLL *e**PP **sP** 11 51 07.1 -0.3
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 82.50 326 *eP* **P** 11 50 54.4 +1.8
comp=Z,10nm,0.8s
CLL *ep*P **sP** 11 51 07.1 -0.3
GOPC GO Pecny, Ondr 82.51 324 AMS AMS 12 33 40.0
comp=Z,800nm,18.4s
TREC Trest 82.54 324 AMS AMS 12 33 40.0
comp=Z,1μm,17.8s
PRU Pruhonice 82.59 325 AMS AMS 12 34 50.0
comp=Z,700nm,15.8s
ORV Oroville 82.91 48 *eP* **P** 11 50 55.3 +0.3
ORV pmax pmax
comp=Z,14nm,1.3s
ORV Oroville 82.91 48 *eP* **P** 11 50 55.3 +0.3
comp=Z,14nm,1.3s
SFJD Kangerlussuaq 83.04 1 P **P** 11 50 56.2 +1.2
SFJD pmax pmax
comp=Z,8.0nm,0.7s
SFJD Kangerlussuaq 83.04 1 P **P** 11 50 56.2 +1.2
comp=Z,7.8nm,0.7s
WVOR Wild Horse Val 83.09 45 *eP* **P** 11 50 56.4 +0.4
WVOR Wild Horse Val 83.09 45 *eP* **P** 11 50 56.4 +0.4
CONA Conrad Observa 83.20 322 *i* P **P** 11 50 56.9 +0.5
comp=Z,8.1nm,0.7s,SNR=10
MSO Missoula 83.20 39 P **P** 11 50 56.9 +0.4
baz=308
MSO Missoula 83.20 39 *eP* **P** 11 50 56.9 +0.4
comp=Z,9.9nm,1.3s
KARP Karpathos 83.43 307 *eP* P 11 51 03.3 +5.6
comp=Z,501nm,0.5s
NKC Novy Kostel 83.47 326 AMS AMS 12 32 50.0
comp=Z,1μm,15.7s
CHMT Chamberlain Mo 83.52 39 *eP* **P** 11 50 58.6 +0.3
FCC Fort Churchill 83.52 22 *eP* **P** 11 50 58.2 +0.5
FCC pmax pmax
comp=Z,25nm,0.8s
FCC Fort Churchill 83.52 22 *eP* **P** 11 50 58.2 +0.5
comp=Z,25nm,0.8s
AFDM Forest Hills D 83.59 48 *eP* **P** 11 50 59.1 +0.5
comp=Z,19nm,1.5s
KHC Kasperske Hory 83.62 324 *eP* **P** 11 50 59.5 +1.0
KHC *ep*P **pP** 11 51 10.2 +0.9
KHC *ex* x 11 51 14.6
KHC AMS AMS 12 34 30.0
comp=Z,800nm,15.8s
KHC Kasperske Hory 83.62 324 *eP* **P** 11 50 59.5 +1.0
KHC *e* 11 51 10.2
KHC *e* 11 51 14.6
KHC MLR MLR
comp=Z,800nm,15.8s
KHC Kasperske Hory 83.62 324 *eP* **P** 11 50 58.7 +0.2
comp=Z,1.5nm,0.9s
FFC Flin Flon 83.67 28 *eP* **P** 11 50 58.7 +0.1
FFC pmax pmax
comp=Z,37nm,1.3s

FFC	Flin Flon	83.67	28	*e*P		P	11 50 58.7	+0.1
	comp=Z,37nm,1.3s							
GERES	GERESS Array B	83.74	324	P		P	11 50 59.0	-0.2
	comp=Z,1.8nm,0.7s,baz=46,slow=5.8,SNR=13							
GERES				LR		LR	12 32 45.1	
	comp=Z,497nm,18.1s,baz=52,slow=39							
GEA0	GERESS Array S	83.74	324	*e*P		P	11 50 58.3	-0.9
ARSA	Arzberg	83.80	322	*i* PcP		P	11 51 00.3	+0.9
	comp=Z,3.3nm,0.7s,SNR=5.7							
MOA	Molln	84.08	323	*i* PcP		P	11 51 02.0	+1.1
	comp=Z,1.6nm,0.5s							
PAHR	Pah Rah Range	84.18	47	*e*P		P	11 51 02.2	+0.5
	comp=Z,32nm,1.5s							
MFID	Camas Ranch	84.19	43	*e*P		P	11 51 02.5	+0.8
	comp=Z,17nm,1.1s							
PERS	Pernice	84.40	322	*i* P		P	11 51 03.1	+0.5
PERS				*i*			11 51 14.7	
SOKA	Soboth	84.42	322	*i* PcP		P	11 51 03.3	+0.6
	comp=Z,4.4nm,0.7s,SNR=9.3							
GRFO	Grafenberg	84.42	326	*e*P		P	11 51 03.1	+0.6
GRFO				pmax		pmax		
	comp=Z,9.0nm,0.8s							
GRFO	Grafenberg	84.42	326	*e*P		P	11 51 03.1	+0.6
	comp=Z,8.8nm,0.8s							
CMB	Columbia Colle	84.48	49	*e*P		P	11 51 03.4	+0.3
CMB				pmax		pmax		
	comp=Z,9.0nm,0.8s							
CMB	Columbia Colle	84.48	49	*e*P		P	11 51 03.4	+0.3
	comp=Z,9.3nm,0.8s							
PDG	Podgorica	84.63	317	ǁ*i*P		P	11 51 05.7	+2.0
LRM	Limekiln Ridge	84.63	39	*e*P		P	11 51 04.7	+0.7
OBKA	Obir	84.78	322	*i* PcP		P	11 51 05.3	+0.8
	comp=Z,7.9nm,0.7s							
WAKR	Walker	84.83	48	*e*P		P	11 51 06.2	+1.2
	comp=Z,10nm,0.8s							
WAKR				*e*pP		sP	11 51 19.9	+0.1
DLMT	Dillon	84.84	40	*e*P		P	11 51 05.6	+0.7
	comp=Z,39nm,1.4s							
HLID	Hailey	84.92	42	P		P	11 51 06.8	+1.3
	baz=308							
HLID	Hailey	84.92	42	*e*P		P	11 51 06.5	+1.1
	comp=Z,18nm,1.3s							
KBA	Koelnbreinsper	85.06	323	*i* PcP		P	11 51 07.6	+1.6
	comp=Z,9.2nm,0.8s,SNR=7.3							
VISS	Visnje	85.07	321	*i* P		P	11 51 04.2	-1.7
BMN	Battle Mountai	85.11	46	*e*P		P	11 51 07.5	+1.1
BMN				pmax		pmax		
	comp=Z,32nm,1.4s							
BMN	Battle Mountai	85.11	46	*e*P		P	11 51 07.5	+1.1
	comp=Z,32nm,1.4s							
MYKA	Terra Mystica	85.19	322	*i* PcP		P	11 51 08.1	+1.6
	comp=Z,6.0nm,0.5s,SNR=6.1							
BOZ	Bozeman (W)	85.19	39	P		P	11 51 07.8	+1.1
	baz=309							
BOZ	Bozeman (W)	85.19	39	*e*P		P	11 51 07.5	+0.8
BOZ				pmax		pmax		
	comp=Z,40nm,1.8s							
BOZ	Bozeman (W)	85.19	39	*e*P		P	11 51 07.5	+0.8
	comp=Z,40nm,1.8s							
JAVS	Javornik	85.43	322	*i* P		P	11 51 08.9	+1.0
JAVS				*i*			11 51 19.2	
ABTA	Abfaltersbach	85.70	323	*i* PcP		P	11 51 10.5	+1.4
	comp=Z,5.6nm,0.6s,SNR=5.3							
MLAC	Mammoth, Mammo	85.72	49	P		P	11 51 10.5	+0.9
	baz=305							
WATA	Walderalm	85.80	324	*i* PcP		P	11 51 12.1	+2.4
	comp=Z,1.9nm,0.4s							
WTTA	Wattenberg	85.82	324	*i* PcP		P	11 51 13.0	+3.2
	comp=Z,1.4nm,0.3s							
STU	Stuttgart	86.02	326	*e*P		P	11 51 12.9	+2.3
STU				pmax		pmax		
	comp=Z,18nm,0.8s							
STU	Stuttgart	86.02	326	*e*P		P	11 51 12.9	+2.3
	comp=Z,18nm,0.8s							
MOTA	Moosalm	86.04	324	*i* PcP		P	11 51 12.6	+1.7
	comp=Z,5.2nm,0.7s							
ELK	Elko	86.14	44	*e*P		P	11 51 13.0	+1.4
ELK				pmax		pmax		
	comp=Z,25nm,1.8s							
ELK	Elko	86.14	44	*e*P		P	11 51 13.0	+1.4
	comp=Z,25nm,1.8s							
GCMT	Greycliff	86.16	38	*e*P		P	11 51 12.6	+1.2
FETA	Feichten	86.44	324	*i* PcP		P	11 51 14.8	+1.9
	comp=Z,2.0nm,0.6s							
YPP	Pitchstone Pla	86.52	40	*e*P		P	11 51 16.1	+2.6
	comp=Z,39nm,1.9s							
H17A	Grant Village	86.56	39	P		P	11 51 15.7	+2.0
	baz=310							
H17A	Grant Village	86.56	39	*e*P		P	11 51 16.8	+3.2
	comp=Z,22nm,0.3s							
VES	Vestal, Richgr	86.58	50	P		P	11 51 13.4	-0.1
	baz=305							
PKM	Mcpherson Peak	86.64	51	P		P	11 51 13.1	-1.0
	baz=305							
IMW	Indian Meadow	86.68	40	*e*P		P	11 51 15.8	+1.5
	comp=Z,42nm,1.8s							
DAVA	Damuels	86.69	325	*i* P		P	11 51 10.6	-3.5
	comp=Z,2.0nm,0.5s							
FLWY	Flagg Ranch	86.70	40	*e*P		P	11 51 16.4	+2.2
	comp=Z,14nm,0.8s							
RLMT	Red Lodge	86.80	38	P		P	11 51 15.4	+0.6
	baz=311							
RLMT	Red Lodge	86.80	38	*e*P		P	11 51 16.1	+1.3
	comp=Z,22nm,1.3s							
RLMT				*e*pP		sP	11 51 30.0	+0.4
WLF	Walferdange	86.84	328	P		P	11 51 17.1	+2.6
WLF	Walferdange	86.84	328	*e*P		P	11 51 17.2	+2.6
WLF				*e**PP		sP	11 51 29.6	+0.3
WLF	Walferdange	86.84	328	*e*P		P	11 51 17.2	+2.6
WLF				*e*pP		sP	11 51 29.6	+0.3
MOOW	Moose Ponds	86.89	40	*e*P		P	11 51 16.5	+1.3
	comp=Z,31nm,1.9s							
TPAW	Teton Pass	86.94	40	*e*P		P	11 51 16.6	+1.1
	comp=Z,49nm,1.8s							
FUORN	Ofenpass-Fuorn	86.95	324	*e*P		P	11 51 18.5	+3.1
	comp=Z,11nm,1.0s							
HVU	Hansel Valley	86.97	42	*e*P		P	11 51 16.8	+1.2
HVU				pmax		pmax		
	comp=Z,6.0nm,0.8s							
HVU	Hansel Valley	86.97	42	*e*P		P	11 51 16.8	+1.2
	comp=Z,6.0nm,0.8s							
SNOW	Snow King Moun	87.06	40	*e*P		P	11 51 17.1	+1.0
	comp=Z,31nm,1.8s							
REDW	Red Top Meadow	87.07	40	*e*P		P	11 51 17.1	+1.0
	comp=Z,24nm,1.8s							
DGMT	Dagmar	87.11	33	*e*P		P	11 51 16.9	+1.0
	comp=Z,92nm,1.6s							
DOU	Dourbes	87.23	329	P		P	11 51 18.8	+2.4
A25A	Svangstu Ranch	87.29	33	P		P	11 51 17.2	+0.4
	baz=315							
DAC	Darwin (Calif)	87.31	49	*e*P		P	11 51 17.9	+0.5
DAC				pmax		pmax		
	comp=Z,20nm,1.8s							
DAC	Darwin (Calif)	87.31	49	*e*P		P	11 51 17.9	+0.5
	comp=Z,20nm,1.8s							
LAO	LASA Array	87.34	36	P		P	11 51 17.7	+0.6
	baz=313							
LAO	LASA Array	87.34	36	*e*P		P	11 51 18.4	+1.2
	comp=Z,34nm,1.0s							
LAO				*e*pP		sP	11 51 30.5	-1.4
BGU	Big Grassy Mou	87.36	43	*e*P		P	11 51 18.9	+1.5
	comp=Z,37nm,2.0s							
R11A	Troy Canyon, C	87.37	47	P		P	11 51 17.5	-0.1
	baz=307							
R11A	Troy Canyon, C	87.37	47	*e*P		P	11 51 17.4	-0.1
	comp=Z,43nm,2.0s							
MPMC	Manual Prospec	87.51	49	P		P	11 51 18.7	+0.4
	baz=306							
FURC	Furnace Creek,	87.68	49	P		P	11 51 18.9	+0.1
	baz=307							
B25A	Knox Farm, Ray	87.74	33	P		P	11 51 20.2	+1.2
	baz=315							
HWUT	Hardware Ranch	87.79	42	*e*P		P	11 51 20.6	+1.1
	comp=Z,55nm,1.8s							
TPNV	Topopah Spring	87.79	48	P		P	11 51 20.0	+0.4
	baz=307							
TPNV	Topopah Spring	87.79	48	*e*P		P	11 51 20.4	+0.8
TPNV				pmax		pmax		
	comp=Z,12nm,1.1s							
TPNV	Topopah Spring	87.79	48	*e*P		P	11 51 20.4	+0.8
	comp=Z,12nm,1.1s							
EDW2	Edwards Air Fo	87.86	50	P		P	11 51 20.6	+0.7
	baz=306							
DUG	Dugway, Tooele	87.94	44	P		P	11 51 20.6	+0.4
	baz=309							
DUG	Dugway, Tooele	87.94	44	*e*P		P	11 51 21.6	+1.4
DUG				pmax		pmax		
	comp=Z,38nm,1.6s							
DUG	Dugway, Tooele	87.94	44	*e*P		P	11 51 21.6	+1.4
	comp=Z,38nm,1.6s							
A27A	Ledoux Ranch,	88.14	32	P		P	11 51 21.0	+0.2
	baz=317							
BW06	Boulder Array	88.18	40	P		P	11 51 21.5	+0.1
	baz=311							
BW06	Boulder Array	88.18	40	*e*P		P	11 51 21.5	+0.1
BW06				*e*P		P	11 51 21.7	+0.3
PD31	Pinedale Array	88.18	40	*e*P		P	11 51 21.7	+0.2
PDAR	Pinedale Array	88.18	40	P		P	11 51 21.6	+0.2
	comp=Z,3.0nm,0.7s,baz=288,slow=1.7,SNR=22							
PDAR				pP		sP	11 51 35.0	-1.3
	comp=Z,3.4nm,0.8s,baz=225,slow=1.5,SNR=7.0							
TCUT	Toone Canyon	88.19	42	*e*P		P	11 51 23.0	+1.4
	comp=Z,58nm,1.7s							
SHOC	Shoshone, Teco	88.40	49	P		P	11 51 22.7	+0.4
	baz=307							
GSC	Goldstone, Bar	88.41	50	P		P	11 51 23.4	+0.9
	baz=307							
GSC	Goldstone, Bar	88.41	50	*e*P		P	11 51 23.2	+0.8
GSC				*e**PP		sP	11 51 36.7	-0.6
GSC	Goldstone, Bar	88.41	50	*e*P		P	11 51 23.2	+0.8
GSC				*e*pP		sP	11 51 36.7	-0.6
JLU	Jordanelle	88.49	43	*e*P		P	11 51 24.3	+1.3
	comp=Z,5.5nm,0.9s							
A28A	Rude Farm, Bot	88.61	31	P		P	11 51 23.8	+0.7
	baz=317							
SHPR	Sheep Range	88.75	48	*e*P		P	11 51 25.4	+1.2
	comp=Z,10nm,1.4s							
B28A	Dugan Ranch, T	88.91	32	P		P	11 51 25.1	+0.6
	baz=317							
D26A	Manning	88.97	34	P		P	11 51 25.3	+0.5
	baz=316							
A29A	Manning Farm,	89.07	31	P		P	11 51 25.9	+0.7
	baz=318							
F25A	Bowman	89.25	35	P		P	11 51 26.1	-0.1
	baz=315							
B29A	Wagenman Farm,	89.35	31	P		P	11 51 26.6	+0.1
	baz=318							
E26A	Carlson Angus	89.36	34	P		P	11 51 27.1	+0.4
	baz=316							
MSU	Marysvale	89.38	45	*e*P		P	11 51 28.7	+1.6
MSU				*e**PP		pP	11 51 39.7	+1.6
MSU	Marysvale	89.38	45	*e*P		P	11 51 28.7	+1.6
MSU				*e*pP		pP	11 51 39.7	+1.6
C28A	Hausauer Farms	89.44	32	P		P	11 51 27.4	+0.5
	baz=317							
A30A	Hoffart Farm,	89.46	30	P		P	11 51 27.5	+0.5
	baz=315							
PPT	Papeete	89.46	111	LR		LR	12 28 34.0	
	comp=Z,150nm,18.5s,baz=314,slow=34							
GMRC	Granite Mounta	89.47	49	P		P	11 51 28.5	+1.0
	baz=307							
PPT2	Papeete2	89.47	111	*e*LR		LR	12 19 46.3	
	comp=Z,146nm,21.0s							
ULM	Lac du Bonnet	89.49	28	P		P	11 51 27.3	+0.2
	comp=Z,16nm,0.9s,baz=329,slow=5.2,SNR=14							
ULM				LR		LR	12 34 59.9	
	comp=Z,88nm,18.9s,baz=325,slow=38							
ULM	Lac du Bonnet	89.49	28	*e*P		P	11 51 27.4	+0.2
ULM				*e**PP		sP	11 51 41.0	-0.9
ULM	Lac du Bonnet	89.49	28	*e*P		P	11 51 27.4	+0.2
ULM				*e*pP		sP	11 51 41.0	-0.9
P17A	Butcher Ranch,	89.63	43	*e*P		P	11 51 29.8	+1.6
	comp=Z,14nm,0.9s							
PFO	Pinyon Flats O	89.64	51	P		P	11 51 28.7	+0.3
	comp=Z,0.8nm,0.4s,baz=314,slow=7.6,SNR=4.6							
LCMT	Little Creek M	89.66	46	*e*P		P	11 51 29.7	+1.3
	comp=Z,24nm,1.9s							
MTPU	Mount Pierson	89.67	45	*e*P		P	11 51 30.2	+1.5
	comp=Z,7.7nm,1.1s							
F26A	Lodgepole	89.69	35	P		P	11 51 29.2	+0.9
	baz=316							
MDND	Maddock	89.70	32	P		P	11 51 29.2	+1.1
	baz=318							
MDND	Maddock	89.70	32	*e*P		P	11 51 29.5	+1.3
MDND				*e*pP		sP	11 51 43.3	+0.3
BELC	Belle Mtn. Jos	89.71	50	P		P	11 51 28.3	-0.4
	baz=307							
B30A	Myrvik Farm, E	89.82	31	P		P	11 51 29.2	+0.5
	baz=319							
KNB	Kanab	89.92	46	*e*P		P	11 51 31.3	+1.6
KNB				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KNB	Kanab	89.92	46	*e*P		P	11 51 31.3	+1.6
	comp=Z,8.6nm,0.9s							
K22A	Casper	89.93	39	P		P	11 51 29.6	0.0
	baz=313							
K22A	Casper	89.93	39	*e*P		P	11 51 30.4	+0.8
H25A	Fruitdale	90.10	36	P		P	11 51 30.4	+0.2
	baz=315							
B31A	Greenbush Farm	90.14	30	P		P	11 51 30.7	+0.5
	baz=319							
IRM	Iron Mountain	90.19	50	P		P	11 51 31.3	+0.5
	baz=308							
RSSD	Black Hills	90.23	36	P		P	11 51 31.5	+0.5
	baz=315							
RSSD	Black Hills	90.23	36	*e*P		P	11 51 31.9	+0.9
RSSD				*e**PP		sP	11 51 44.8	-1.1
RSSD				pmax		pmax		
	comp=Z,21nm,1.0s							
RSSD	Black Hills	90.23	36	*e*P		P	11 51 31.9	+0.9
	comp=Z,21nm,1.0s							
RSSD				*e*pP		sP	11 51 44.8	-1.1
D29A	Pettibone, Tap	90.28	32	P		P	11 51 31.5	+0.6
	baz=318							
BC3	Big Chuckawall	90.28	50	P		P	11 51 32.1	+0.8
	baz=307							
C30A	Mcc, Pekin	90.31	31	P		P	11 51 31.1	0.0
	baz=319							
W13A	Hualapai Mount	90.43	48	*e*P		P	11 51 33.0	+0.8
C31A	Landman Farms,	90.58	31	P		P	11 51 31.7	-0.5
	baz=319							
D30A	Buchanan	90.63	32	P		P	11 51 32.9	+0.4
	baz=318							
B32A	Ashes, Strandq	90.64	30	P		P	11 51 32.6	0.0
	baz=320							
O20A	White River Ci	90.66	42	P		P	11 51 33.2	+0.1
	baz=312							
O20A	White River Ci	90.66	42	*e*P		P	11 51 33.9	+0.8
O20A				*e*pP		pP	11 51 44.1	+0.1
A33A	Warroad	90.71	29	P		P	11 51 33.0	+0.2
	baz=321							
PDMCI	Parker Dam,Lak	90.75	49	P		P	11 51 33.9	+0.6
	baz=308							
AGMN	Agassiz Nation	91.00	29	P		P	11 51 34.0	-0.2
	baz=321							
AGMN	Agassiz Nation	91.00	29	*e*P		P	11 51 34.6	+0.3
	comp=Z,8.8nm,1.0s							
F29A	Eureka	91.08	33	P		P	11 51 35.5	+0.8
	baz=318							
PV09	Paradox Valley	91.22	43	*e*P		P	11 51 37.4	+1.6
PV10	Paradox Valley	91.35	43	*e*P		P	11 51 37.8	+1.4
B34A	Aery, Baudette	91.37	29	P		P	11 51 35.6	-0.3
	baz=322							
PV04	Paradox Valley	91.42	43	*e*P		P	11 51 37.8	+1.2
PHWY	Pilot Hill	91.43	39	*e*P		P	11 51 37.5	+0.7
	comp=Z,26nm,1.5s							
E31A	Nome	91.44	32	P		P	11 51 36.4	+0.1
	baz=319							
N23A	Red Feather La	91.44	40	P		P	11 51 37.8	+1.0
	baz=313							
N23A	Red Feather La	91.44	40	*e*P		P	11 51 38.0	+1.2
G29A	Hoven	91.50	34	P		P	11 51 37.1	+0.5
	baz=318							
PV05	Paradox Valley	91.51	44	*e*P		P	11 51 38.6	+1.5
WUAZ	Wupatki	91.77	47	P		P	11 51 39.1	+0.9
	baz=310							
WUAZ	Wupatki	91.77	47	*e*P		P	11 51 39.6	+1.4
	comp=Z,17nm,1.4s							
WUAZ				*e*pP		sP	11 51 53.2	+0.1
PV01	Paradox Valley	91.79	43	*e*P		P	11 51 39.3	+0.9
F31A	Hecla	91.80	32	P		P	11 51 38.4	+0.5
	baz=319							
B35A	Bob, Littlefor	91.85	28	P		P	11 51 38.2	+0.1
	baz=322							
G30A	Faulkton	91.92	33	P		P	11 51 39.2	+0.6
	baz=318							
SMCO	Snowmass	92.03	42	*e*P		P	11 51 40.9	+1.2
D34A	Park Rapids	92.23	30	P		P	11 51 40.3	+0.3
	baz=321							
C35A	Jirik Farms, M	92.26	29	P		P	11 51 40.3	+0.2
	baz=322							
MVCO	Mesa Verde	92.44	44	P		P	11 51 42.4	+0.9
	baz=312							
MVCO	Mesa Verde	92.44	44	*e*P		P	11 51 42.7	+1.2
	comp=Z,27nm,1.5s							
MVCO				*e*pP		sP	11 51 56.1	-0.2
TBI	Tubuai	92.59	115	*e*LR		LR	12 21 13.8	
	comp=Z,290nm,34.0s							
C36A	Pine Crest Far	92.69	28	P		P	11 51 42.2	+0.2
	baz=323							
F33A	5 Mile Ranch,	92.70	31	P		P	11 51 42.5	+0.3
	baz=320							
D35A	Remer	92.72	29	P		P	11 51 41.4	-0.8
	baz=322							
TAOE	Nuku Hiva Isla	92.91	98	*e*LR		LR	12 21 19.5	
	comp=Z,174nm,22.5s							
C37A	Embarrass	92.98	28	P		P	11 51 43.7	+0.3
	baz=323							
S22A	4UR Ranch, Cre	93.07	43	P		P	11 51 45.1	+0.7
	baz=313							
S22A	4UR Ranch, Cre	93.07	43	*e*P		P	11 51 45.5	+1.1
S22A				*e*pP		sP	11 51 59.5	+0.2
EYMN	Ely	93.08	27	P		P	11 51 44.3	+0.5
	baz=324							
214A	Organ Pipe Nat	93.08	50	P		P	11 51 44.3	0.0
	baz=309							
F34A	Alexandria	93.20	31	P		P	11 51 44.2	-0.3
	baz=321							
Q24A	Divide	93.21	41	P		P	11 51 44.6	-0.4
	baz=314							
Q24A	Divide	93.21	41	*e*P		P	11 51 45.7	+0.6
H33A	Prehn Over Nor	93.38	32	P		P	11 51 45.4	+0.1
	baz=320							
F35A	Swanville	93.45	30	P		P	11 51 45.8	+0.2
	baz=322							
G34A	Benson	93.46	31	P		P	11 51 46.1	+0.4
	baz=321							
E36A	McGregor	93.50	29	P		P	11 51 46.1	+0.3
	baz=322							
K30A	Basset	93.51	35	P		P	11 51 46.3	+0.3
	baz=318							
SCHQ	Schefferville	93.78	11	LR		LR	12 38 39.3	
	comp=Z,393nm,18.2s,baz=343,slow=38							
SDCO	Great Sand Dun	93.84	42	P		P	11 51 48.2	+0.3
	baz=314							
SDCO	Great Sand Dun	93.84	42	*e*P		P	11 51 49.1	+1.1
F36A	Milaca	93.90	30	P		P	11 51 47.6	-0.1
	baz=322							
ECSD	EROS Data Cent	94.17	33	P		P	11 51 49.3	+0.4
	baz=320							
ECSD	EROS Data Cent	94.17	33	*e*P		P	11 51 49.5	+0.5
TUC	Tucson	94.19	49	*e*P		P	11 51 50.3	+0.9
TUC				pmax		pmax		
	comp=Z,43nm,2.2s							
TUC	Tucson	94.19	49	*e*P		P	11 51 50.3	+0.9
	comp=Z,43nm,2.2s							
H35A	Sunnyside Ranc	94.24	31	P		P	11 51 49.9	+0.6
	baz=321							
KMBO	Kilima Mbogo	94.31	271	LR		LR	12 37 07.6	
	comp=Z,77nm,18.1s,baz=91,slow=37							
SPMN	Marine on St.	94.72	30	P		P	11 51 51.2	-0.2
	baz=323							
SPMN	Marine on St.	94.72	30	*e*P		P	11 51 52.0	+0.6
KEST	Kesra	94.82	316	LR		LR	12 40 53.0	
	comp=Z,332nm,19.6s,baz=330,slow=40							
ANMO	Albuquerque	95.18	44	*c i*P		P	11 51 55.9	+1.9
ANMO				pmax		pmax		
	comp=Z,4.0nm,1.2s							
ANMO	Albuquerque	95.18	44	*e*P		P	11 51 55.5	+1.5
ES19	SONSECA Array	99.03	327	*e*P		Pdif	11 52 13.6	+2.4
ES19				*e*pP		sP	11 52 25.8	-0.2
ESDC	Sonseca Array	99.08	327	P		Pdif	11 52 10.1	-1.3
	comp=Z,0.8nm,0.7s,baz=360,slow=6.5,SNR=3.6							
ESDC				LR		LR	12 43 30.1	
	comp=Z,198nm,18.6s,baz=30,slow=39							
TXAR	Lajitas Array	100.73	47	P		Pdif	11 52 20.0	+1.1
	comp=Z,0.3nm,0.6s,baz=299,slow=3.2,SNR=6.3							
TORD	Torodi Ar. Bea	115.29	304	PKKPbc		PKKPbc	12 07 47.8	+2.0
	comp=Z,0.8nm,0.8s,baz=235,slow=2.5,SNR=4.6							
BOSA	Boshof	116.92	251	PKP		PKPdf	11 57 15.2	+0.1
	comp=Z,1.2nm,0.5s,baz=131,slow=4.5,SNR=4.2							
SYO	Syowa Base	118.59	204	ǁ*e*X		Pdif	11 53 30.0	-7.1
QSPA	South Pole Qui	120.02	180	*e*PKPdf		PKPdf	11 57 19.6	-0.2
DBIC	Dimbokro	124.40	304	PKP		PKPdf	11 57 29.6	-0.2
	comp=Z,4.8nm,0.7s,baz=346,slow=2.9,SNR=4.2							
DBIC				pPKP		pPKPdf	11 57 43.8	+2.8
	comp=Z,10nm,1.0s,baz=309,slow=3.8,SNR=3.2							
SDV	Santo Domingo	135.61	32	*e*PKPdf		PKPdf	11 57 51.1	-0.2
SAML	Samuel	154.70	36	*e*PKPdf		PKPdf	11 58 23.4	+0.2
LPAZ	La Paz	157.22	57	PKP		PKPdf	11 58 27.8	+0.6
	comp=Z,4.2nm,1.3s,baz=31,slow=5.6,SNR=4.1							
LPAZ				PKPab		PKPab	11 58 57.3	-0.8
	comp=Z,1.7nm,0.8s,baz=315,slow=5.7,SNR=4.5							
SIV	San Ignacio	161.66	42	PKP		PKPdf	11 58 32.5	+0.9
	comp=Z,2.7nm,0.7s,baz=308,slow=1.3,SNR=5.2							

*ISCJB **23** 11:45:38.8±0.7,38.°78N±0.°03×39.°08E±0.°07,h11km, Error ellipse: s-maj=8.2km s-min=4.3km az=19.7*
*CSEM **23** 11:45:38.7±0.4,38.°74N×39.°12E,h20km,ML2.1, Error ellipse: s-maj=11.0km s-min=7.1km az=99.0*
*ISK **23** 11:45:38.5,38.°74N×39.°16E,h23km,ML2.1*
*DDA **23** 11:45:39.6,38.°71N×39.°22E,h4km,Md2.5*

ISC 23 11:45:38.2±1.0,38.°75N±0.°03×39.°11E±0.°05,h11km,n14, σ0°88/22,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTK	Pertek	0.26	57	PG		Pb		11 45 44.6	-0.5
PTK				*e*SG		Sg		11 45 49.4	+2.0
PTK	Pertek	0.26	57	*i* Pg		Pb		11 45 44.6	-0.5
PTK				*e*Sg		Sg		11 45 49.4	+2.0
ELZG	Elazig	0.27	202	P		Pb		11 45 45.0	-0.2
ELZG				S		Sb		11 45 50.5	+0.7
ELZG	Elazig	0.27	202	*i* P		Pb		11 45 45.0	-0.2
ELZG				*i* S		Sb		11 45 50.5	+0.7
SVRC	Sivrice-ELAZID	0.40	157	*e*PG		P

ZKR				AML	AML	11 52 09.7
	comp=E,706μm,0.6s					
NIS1	**Nisyros Isl.**	**1.32**	**338**	P	**Pn**	**11 51 41.0 -0.2**
NIS1	**Nisyros Isl.**	**1.32**	**338**	P	**Pn**	**11 51 41.0 -0.2**
TURN	**Turunc**	**1.64**	**24**	*i* P	**Pn**	**11 51 45.8 +0.2**
TURN				*i* S	**Sb**	**11 52 08.1 +0.4**
KSL	**Kastellorizon**	**1.66**	**62**	P	**Pg**	**11 51 47.2 -0.5**
BDRM	**Kayabasi**	**1.71**	**351**	P	**Pn**	**11 51 46.8 +0.2**
BDRM				S	**Sb**	**11 52 09.4 -0.5**
BDRM	**Kayabasi**	**1.71**	**351**	*i* P	**Pn**	**11 51 46.8 +0.2**
BDRM				*i* S	**Sb**	**11 52 09.3 -0.5**
AKAS	**Kas**	**1.71**	**60**	P	**Pg**	**11 51 48.5 -0.3**
AKAS				S	**Sg**	**11 52 11.6 +0.6**
AKAS	**Kas**	**1.71**	**60**	*i* P	**Pg**	**11 51 48.5 -0.3**
AKAS				*i* S	**Sg**	**11 52 11.6 +0.6**
NPS	**Neapolis**	**1.78**	**267**	P	**Pg**	**11 51 49.6 -0.4**
NPS				S	**Sn**	**11 52 10.6 0.0**
NPS	**Neapolis**	**1.78**	**267**	P	**Pg**	**11 51 49.6 -0.4**
NPS				S	**Sn**	**11 52 10.6 0.0**
NPS				AML	AML	11 52 19.3
	comp=E,499μm,0.7s					
NPS				AML	AML	11 52 21.1
	comp=N,535μm,0.8s					
LAST	**Lasithi**	**1.90**	**264**	P	**Pb**	**11 51 50.8 -0.4**
LAST				S	**Sb**	**11 52 15.6 +0.3**
LAST	**Lasithi**	**1.90**	**264**	P	**Pb**	**11 51 50.8 -0.4**
GOLH	**Golhisar**	**2.35**	**37**	P	**Pb**	**11 51 58.1 -0.8**
GOLH	**Golhisar**	**2.35**	**37**	*i* P	**Pb**	**11 51 58.1 -0.8**
IDI	**Anoyia**	**2.36**	**269**	P	**Pb**	**11 51 58.1 -1.1**
IDI	**Anoyia**	**2.36**	**269**	P	**Pb**	**11 51 58.1 -1.1**
DNZL	**Cakiroluk**	**2.52**	**23**	S	**Sg**	**11 52 37.3 +0.3**
DNZL	**Cakiroluk**	**2.52**	**23**	*i* P	**Pg**	**11 52 05.5 +1.1**
DNZL				*i* S	**Sg**	**11 52 37.3 +0.3**
GVD	**Gavdhos**	**3.07**	**261**	P	**Pn**	**11 52 05.8 +0.4**
GVD	**Gavdhos**	**3.07**	**261**	P	**Pn**	**11 52 05.8 +0.4**

MEX 23 11:55:52.5±0.4, 17.09N×99.86W, h20km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.21**	**188**	*eP*	Pb	11 55 56.8	-1.0
ACP2				*eS*	Sb	11 56 00.5	-1.0
ACX	**Acapulco**	**0.21**	**181**	*i* P	Pb	11 55 53.1	-4.8
ACX				*eS*	Sb	11 55 56.4	-5.1
CAIG	**El Cayaco**	**0.40**	**265**	*eP*	Pb	11 55 59.2	-1.6
CAIG				*eS*	Sb	11 56 05.1	-1.3
MEIG	**Mezcala**	**0.87**	**15**	*eP*	Pb	11 56 05.4	-3.5
MEIG				*eS*	Sb	11 56 17.0	-3.1
ARIG	**Puente Sto Nin**	**1.28**	**339**	*eP*	Pn	11 56 12.2	-3.1
ARIG				*eS*	Sn	11 56 27.8	-4.1
TLIG	**Tlapa**	**1.32**	**69**	*eP*	Pn	11 56 12.7	-3.3
TLIG				*eS*	Sn	11 56 29.1	-3.9
PLIG	**Platanillo**	**1.34**	**14**	*eP*	Pn	11 56 12.9	-3.3
PLIG				*eS*	Sn	11 56 29.5	-4.0
YAIG	**Yautepec**	**1.92**	**23**	*eP*	Pn	11 56 20.4	-3.8
YAIG				*eS*	Sn	11 56 44.8	-3.1

TRN 23 11:58:37.1, 16.91N×61.79W, h19km, MD3.5, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLYT	**Lee's Yard**	**0.42**	**244**	*eP*	Pn	11 58 48.6	+0.3
MLYT				*eS*	Sn	11 58 54.7	-0.9
SEG	**Port Louis**	**0.57**	**151**	⇑*iP*	Pn	11 58 50.9	+0.6
ANWB	**Willy Bob**	**0.76**	**1**	*eP*	Pn	11 58 54.1	+1.2
ANWB				*eS*	Sn	11 59 06.6	+2.8
LZG	**Guadaloupe-1**	**0.76**	**179**	⇑*eP*	Pg	11 58 52.3	+0.2
DEG	**La Desirade**	**0.92**	**130**	*eP*	Pn	11 58 56.9	+1.8
DEG				*eS*	Sn	11 59 10.3	+2.4
TBG	**Guadaloupe-3**	**1.06**	**172**	*eP*	Pg	11 58 57.9	+0.1
TBG				*eS*	Sg	11 59 14.5	+2.8
MGG	**Marie-Galante**	**1.08**	**155**	*eP*	Pg	11 58 58.6	+0.3
MGG				*eS*	Sg	11 59 15.1	+2.6
SEUS	**St. Eustatius**	**1.28**	**297**	*eP*	Pg	11 59 01.4	-0.4
SEUS				*eS*	Sg	11 59 19.9	+1.3
BBL	**Barber's Block**	**1.41**	**167**	*eP*	Pg	11 59 03.8	-0.6
BBL				*eS*	Sg	11 59 23.2	+0.4
DWS	**Wesley**	**1.41**	**161**	*eP*	Pb	11 59 02.6	-0.2
DWS				*eS*	Sg	11 59 22.4	-0.4
SABA	**Saba**	**1.56**	**297**	*eP*	Pb	11 59 04.8	-0.6
SABA				*eS*	Sg	11 59 26.5	-0.9
DLPL	**La Plaine**	**1.65**	**161**	*eP*	Pb	11 59 07.8	+0.7

*ISK **23** 12:00:04.6, 38.57N×39.64E, h5km, ML3.8*
*DDA **23** 12:00:06.1, 38.59N×39.60E, h19km, Ml4.0*
*CSEM **23** 12:00:06.3±0.2, 38.56N×39.64E, h2km, ML3.8, Error ellipse: s-maj=4.8km s-min=3.8km az=138.0*
ISC 23 12:00:06.6±1.1, 38.56N±0.02×39.61E±0.02, h4km±9km, n85, σ1§36/118, 8C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.30**	**233**	PG	**Pg**	**12 00 11.9**	**-0.5**
SVRC				*e*SG	**Sg**	**12 00 17.9**	**+1.6**
SVRC	**Sivrice-ELAZID**	**0.30**	**233**	*i* Pg	**Pg**	**12 00 11.9**	**-0.5**
SVRC				*e*Sg	**Sg**	**12 00 17.9**	**+1.6**
PTK	**Pertek**	**0.37**	**333**	PG	**Pg**	**12 00 13.3**	**-0.6**
PTK				*e*SG	**Sg**	**12 00 20.1**	**+1.3**
PTK	**Pertek**	**0.37**	**333**	*i* Pg	**Pg**	**12 00 13.3**	**-0.6**
PTK				*e*Sg	**Sg**	**12 00 20.1**	**+1.3**
ELZG	**Elazig**	**0.49**	**263**	P	**Pg**	**12 00 15.2**	**-0.9**
ELZG				S	**Sg**	**12 00 23.4**	**+0.9**
ELZG	**Elazig**	**0.49**	**263**	⇑*iP*	**Pg**	**12 00 15.2**	**-0.9**
ELZG				*i* S	**Sg**	**12 00 23.4**	**+0.9**
TNCL	**Tunceli-Merkez**	**0.56**	**355**	P	**Pg**	**12 00 16.5**	**-0.8**
TNCL				S	**Sg**	**12 00 24.4**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.56**	**355**	⇓*iP*	**Pg**	**12 00 16.5**	**-0.8**
TNCL				*i* S	**Sg**	**12 00 24.4**	**-0.2**
BGOL	**Bingol**	**0.94**	**62**	P	**Pg**	**12 00 23.0**	**-1.6**
BGOL	**Bingol**	**0.94**	**62**	⇓*iP*	**Pg**	**12 00 23.0**	**-1.6**
BGOL				*i* S	**Sn**	**12 00 40.4**	**-0.3**
BNGB	**Bing¶ll**	**0.94**	**62**	*e*PG	**Pg**	**12 00 22.7**	**-2.0**
ERZN	**Erzincan**	**1.03**	**5**	*e*PG	**Pg**	**12 00 25.0**	**-1.4**
YEDI	**Yedisu-Bingol**	**1.14**	**39**	*e*PN	**Pg**	**12 00 27.1**	**-1.4**
YEDI	**Yedisu-Bingol**	**1.14**	**39**	*e*Pn	**Pg**	**12 00 27.1**	**-1.4**
EUZM	**Uzumlu**	**1.15**	**4**	P	**Pg**	**12 00 27.4**	**-1.3**
EUZM				S	**Sb**	**12 00 43.9**	**-0.6**
EUZM	**Uzumlu**	**1.15**	**4**	⇓*iP*	**Pg**	**12 00 27.4**	**-1.3**
EUZM				*i* S	**Sb**	**12 00 43.9**	**-0.6**
ILIC	**ilic-Erzincan**	**1.20**	**318**	*e*PN	**Pg**	**12 00 28.3**	**-1.4**
ILIC	**ilic-Erzincan**	**1.20**	**318**	*e*Pn	**Pg**	**12 00 28.3**	**-1.4**
BNGL	**BINGOL**	**1.27**	**71**	⇑*iP*	**Pn**	**12 00 30.4**	**-1.0**
BNGL				*i* S	**Sn**	**12 00 54.2**	**+5.1**
URFA	**Urfa**	**1.28**	**209**	*e*PN	**Pb**	**12 00 31.0**	**-0.3**
URFA				*e*SN	**Sn**	**12 00 49.2**	**+0.2**
URFA	**Urfa**	**1.28**	**209**	*e*Pn	**Pb**	**12 00 31.0**	**-0.3**
URFA				*e*Sn	**Sn**	**12 00 49.2**	**+0.2**
MAZI	**Mazidag**	**1.28**	**149**	*e*PN	**Pg**	**12 00 30.0**	**-1.2**
MAZI	**Mazidag**	**1.28**	**149**	*e*Pn	**Pg**	**12 00 30.0**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.32**	**108**	*e*PN	**Pn**	**12 00 30.9**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.32**	**108**	*e*Pn	**Pn**	**12 00 30.9**	**-1.0**
AKCD	**Akcadag**	**1.35**	**259**	P	**Pn**	**12 00 30.1**	**-2.3**
AKCD				S	**Sn**	**12 00 51.6**	**+0.7**
AKCD	**Akcadag**	**1.35**	**259**	*i* P	**Pn**	**12 00 30.1**	**-2.3**
AKCD				*i* S	**Sn**	**12 00 51.6**	**+0.7**
BTMN	**Batman**	**1.47**	**116**	P	**Pb**	**12 00 33.5**	**-1.1**
BTMN				S	**Sg**	**12 00 55.0**	**+1.1**
BTMN	**Batman**	**1.47**	**116**	⇑*iP*	**Pb**	**12 00 33.5**	**-1.1**
BTMN				*i* S	**Sg**	**12 00 55.0**	**+1.1**
ECAT	**Cat-ERZURUM**	**1.49**	**45**	P	**Pg**	**12 00 35.2**	**-0.1**
ECAT	**Cat-ERZURUM**	**1.49**	**45**	*i* P	**Pg**	**12 00 35.2**	**-0.1**
ATAB	**Bozova**	**1.50**	**224**	P	**Pn**	**12 00 34.2**	**-0.2**
ATAB				S	**Sg**	**12 00 56.3**	**+1.5**
ATAB	**Bozova**	**1.50**	**224**	⇓*iP*	**Pn**	**12 00 34.2**	**-0.2**
ATAB				*i* S	**Sg**	**12 00 56.4**	**+1.5**
MARD	**Mardin**	**1.55**	**143**	⇑*iP*	**Pn**	**12 00 34.0**	**-1.1**
MARD				*i* S	**Sn**	**12 00 54.6**	**-1.2**
VRTB	**Varto-Mus**	**1.56**	**67**	*e*PN	**Pb**	**12 00 35.1**	**-1.1**
VRTB	**Varto-Mus**	**1.56**	**67**	*e*Pn	**Pb**	**12 00 35.1**	**-1.1**
KELT	**Kelkit**	**1.61**	**350**	P	**Pn**	**12 00 35.3**	**-0.8**
KELT				S	**Sg**	**12 01 00.7**	**+2.3**
KELT	**Kelkit**	**1.61**	**350**	⇓*iP*	**Pn**	**12 00 35.4**	**-0.8**
KELT				*i* S	**Sg**	**12 01 00.7**	**+2.3**
KOPT	**Kop Dagi**	**1.61**	**25**	P	**Pg**	**12 00 37.6**	**+0.1**
KOPT	**Kop Dagi**	**1.61**	**25**	⇑*iP*	**Pg**	**12 00 37.6**	**+0.1**
KOPT				*i* S	**Sg**	**12 01 04.8**	**+6.3**
DARE	**Darende-Malaty**	**1.67**	**271**	*e*PN	**Pn**	**12 00 36.3**	**-0.4**
DARE	**Darende-Malaty**	**1.67**	**271**	*e*Pn	**Pn**	**12 00 36.3**	**-0.4**
CUKAN	**kangal_SIVAS**	**1.83**	**295**	P	**Pn**	**12 00 38.6**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.83**	**295**	⇑*iP*	**Pn**	**12 00 38.6**	**-0.5**
CUKAN				*i* S	**Sg**	**12 01 08.2**	**+2.7**
GUMT	**Gumushane**	**1.90**	**357**	*e*PN	**Pn**	**12 00 39.1**	**-0.9**
GUMT	**Gumushane**	**1.90**	**357**	*e*Pn	**Pn**	**12 00 39.1**	**-0.9**
EZM	**Erzurum**	**1.92**	**45**	*e*PN	**Pn**	**12 00 39.7**	**-0.6**
ERZM	**Erzurum**	**1.92**	**45**	P	**Pb**	**12 00 41.3**	**-1.0**
ERZM	**Erzurum**	**1.92**	**45**	⇑*iP*	**Pb**	**12 00 41.3**	**-1.0**
ERZM				*i* S	**Sg**	**12 01 12.0**	**+3.8**
CUZAR	**Zara_SIVAS**	**1.95**	**314**	P	**Pb**	**12 00 41.3**	**-1.5**
CUZAR				S	**Sg**	**12 01 09.3**	**+0.1**
CUZAR	**Zara_SIVAS**	**1.95**	**314**	⇑*iP*	**Pb**	**12 00 41.3**	**-1.5**
CUZAR				*i* S	**Sg**	**12 01 09.3**	**+0.1**
SUSE	**Susehri**	**1.97**	**327**	P	**Pb**	**12 00 43.0**	**-0.2**
SUSE				S	**Sg**	**12 01 10.4**	**+0.3**
SUSE	**Susehri**	**1.97**	**327**	⇓*iP*	**Pb**	**12 00 43.0**	**-0.2**
SUSE				*i* S	**Sg**	**12 01 10.4**	**+0.3**
GZT	**Gaziantep**	**2.01**	**234**	⇓*iP*	**Pn**	**12 00 41.1**	**-0.5**
GZT				*i* S	**Sg**	**12 01 13.2**	**+2.0**
CUALT	**Altinyayla-SIV**	**2.33**	**289**	P	**Pb**	**12 00 47.7**	**-1.7**
CUALT	**Altinyayla-SIV**	**2.33**	**289**	*i* P	**Pb**	**12 00 47.7**	**-1.7**
CUALT				*i* S	**Sg**	**12 01 22.6**	**+1.0**
GAZ	**Gaziantep**	**2.35**	**235**	*e*PN	**Pn**	**12 00 45.4**	**-0.7**
GAZ	**Gaziantep**	**2.35**	**235**	*e*Pn	**Pn**	**12 00 45.4**	**-0.7**
KMRS	**Kahramanmaras**	**2.38**	**245**	*e*PN	**Pn**	**12 00 46.6**	**+0.1**
KMRS	**Kahramanmaras**	**2.38**	**245**	*e*Pn	**Pn**	**12 00 46.7**	**+0.1**
KTUT	**Trabzon**	**2.43**	**3**	*e*PN	**Pn**	**12 00 47.0**	**-0.1**
KTUT	**Trabzon**	**2.43**	**3**	*e*Pn	**Pn**	**12 00 47.0**	**-0.1**
ESPY	**Espiye-Giresun**	**2.45**	**344**	*e*PN	**Pn**	**12 00 47.3**	**-0.2**
ESPY	**Espiye-Giresun**	**2.45**	**344**	*e*Pn	**Pn**	**12 00 47.3**	**-0.2**
SIRT	**Sirnak**	**2.47**	**114**	*e*PN	**Pn**	**12 00 47.0**	**-0.9**
SIRT	**Sirnak**	**2.47**	**114**	*e*Pn	**Pn**	**12 00 47.0**	**-0.9**
SARI	**SarD1z-Kayseri**	**2.51**	**268**	*e*PN	**Pn**	**12 00 47.9**	**-0.4**
RSDY	**Resadiye-TOKAT**	**2.55**	**317**	*e*PN	**Pn**	**12 00 49.2**	**+0.4**
RSDY	**Resadiye-TOKAT**	**2.55**	**317**	*e*Pn	**Pn**	**12 00 49.2**	**+0.4**
KUZU	**Kuzuini**	**2.69**	**229**	P	**Pn**	**12 00 50.3**	**-0.4**
KUZU	**Kuzuini**	**2.69**	**229**	*i* P	**Pn**	**12 00 50.3**	**-0.4**
KUZU				*i* S	**Sg**	**12 01 35.3**	**+2.4**
AGRB	**Hanur-Agry**	**2.82**	**68**	*e*PN	**Pn**	**12 00 52.7**	**-0.1**
AGRB	**Hanur-Agry**	**2.82**	**68**	*e*Pn	**Pn**	**12 00 52.7**	**-0.1**
TOKT	**Tokat**	**2.95**	**308**	*e*PN	**Pn**	**12 00 55.5**	**+1.1**
TOKT	**Tokat**	**2.95**	**308**	*e*Pn	**Pn**	**12 00 55.5**	**+1.1**
BNN	**Bunyan**	**2.96**	**277**	*e*PN	**Pn**	**12 00 55.3**	**+0.8**
BNN	**Bunyan**	**2.96**	**277**	*e*Pn	**Pn**	**12 00 55.3**	**+0.8**
KOZT	**Kozan**	**3.17**	**251**	*e*PN	**Pn**	**12 00 57.7**	**+0.3**
KOZT	**Kozan**	**3.17**	**251**	*e*Pn	**Pn**	**12 00 57.7**	**+0.3**
TAHT	**Tahtakopru-Hat**	**3.49**	**232**	*e*PN	**Pn**	**12 01 02.5**	**+0.8**
TAHT	**Tahtakopru-Hat**	**3.49**	**232**	*e*Pn	**Pn**	**12 01 02.5**	**+0.8**
FKH	**Fakeheh**	**5.02**	**212**	*e*P	**Pn**	**12 01 23.9**	**+1.0**
FKH	**Fakeheh**	**5.02**	**212**	*e*P	**Pn**	**12 01 23.9**	**+1.0**
HWQ	**Hawqa**	**5.19**	**216**	*e*P	**Pn**	**12 01 26.8**	**+1.6**
HWQ	**Hawqa**	**5.19**	**216**	*e*P	**Pn**	**12 01 26.8**	**+1.6**

*IDC **23** 12:06:01.8±5.0, 23.52S×179.15W, h471km±40km, mb3.4/4, mb1 3.5/6, mb1mx3.1/32, mbtmp4.3/6, Error ellipse: s-maj=104.2km s-min=28.6km az=59.0*
ISC 23 12:06:04.0±2.7, 23.75S±0.2×180.0W±0.3, h417km, n7, σ1§05/7, mb3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.82**	**162**	P	**P**	**12 07 35.4**	**+0.5**
	106nm,0.3s,baz=78,slow=8.0,SNR=8.3						
DZM	**Mont Dzumac**	**12.63**	**275**	P	P	12 08 54.9	+4.5
	0.3nm,0.3s,baz=96,slow=18,SNR=4.7						
URZ	**Urewera**	**14.72**	**189**	P	**P**	**12 09 12.2**	**-0.6**
	1.7nm,0.3s,baz=286,slow=3.6,SNR=17						
URZ				S	**S**	**12 11 49.2**	**+0.3**
	1.0nm,0.3s,baz=90,slow=20,SNR=6.0						
RPZ	**Rata Peaks**	**21.28**	**198**	P	**P**	**12 10 17.2**	**-1.7**
	4.9nm,0.7s,baz=36,slow=8.7,SNR=3.7						
STKA	**Stephens Creek**	**34.82**	**248**	P	**P**	**12 12 18.9**	**+0.9**
	3.4nm,0.8s,baz=98,slow=9.4,SNR=9.6						
ASAR	**Alice Springs**	**42.10**	**260**	P	**P**	**12 13 17.8**	**0.0**
	2.0nm,0.6s,baz=100,slow=7.4,SNR=45						
WRA	**Warramunga Arr**	**42.45**	**266**	P	**P**	**12 13 20.1**	**-0.5**
	1.2nm,0.3s,baz=94,slow=8.4,SNR=123						

MEX 23 12:10:05.3±0.7, 16.89N×100.37W, h5km±5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**32**	*eP*	Pg	12 10 08.8	-0.3
CAIG				*eS*	Sg	12 10 11.7	+0.2
ACP2	**Acapulco**	**0.46**	**91**	*eP*	Pg	12 10 13.8	-0.4
ACP2				*eS*	Sg	12 10 20.5	+0.2
ACX	**Acapulco**	**0.49**	**92**	*eP*	Pg	12 10 11.0	-3.8
ACX				*eS*	Sg	12 10 16.8	-4.3
MEIG	**Mezcala**	**1.26**	**35**	*eP*	Pg	12 10 25.7	-3.8
MEIG				*i* P	Pb	12 10 25.8	-3.8
MEIG				*eS*	Sg	12 10 42.1	-3.7
ZIIG	**Zihuatanejo**	**1.27**	**305**	*eP*	Pg	12 10 24.0	-5.7
ZIIG				*eS*	Sg	12 10 42.0	-4.1
ARIG	**Puente Sto Nin**	**1.39**	**1**	*eP*	Pn	12 10 27.2	-4.2
ARIG				*eS*	Sb	12 10 44.6	-5.3
PLIG	**Platanillo**	**1.71**	**29**	*eP*	Pn	12 10 33.1	-2.8
PLIG				*eS*	Sn	12 10 53.5	-4.7
TLIG	**Tlapa**	**1.85**	**68**	*eP*	Pn	12 10 35.0	-2.9
TLIG				*eS*	Sn	12 10 57.3	-4.5
YAIG	**Yautepec**	**2.32**	**32**	*eP*	Pn	12 10 37.1	-7.3
YAIG				*eS*	Sn	12 11 08.8	-4.6

*KRNET **23** 12:23:36.3±0.1, 39.33N×72.81E, h30km, mb3.6*
*ISCJB **23** 12:23:37.4±1.4, 39.37N±0.07×72.81E±0.07, h23km±10km, Error ellipse: s-maj=13.1km s-min=7.2km az=149.5*
*NNC **23** 12:23:37.9±1.3, 39.60N×72.73E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=14.1km s-min=7.8km az=134.0*
ISC 23 12:23:37.3±1.9, 39.48N±0.10×72.77E±0.07, h8km±14km, n14, σ0§97/25, 18C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.75**	**270**	⇑*iP*	**Pg**	**12 23 51.8**	**-0.1**
	baz=281						
DRK				⇑*iS*	**Sg**	**12 24 02.3**	**+0.6**
	baz=281						
OHH	**Osh**	**1.04**	**0**	⇓*iP*	**Pn**	**12 23 59.2**	**+0.8**
	baz=359						
OHH				⇓*iS*	**Sn**	**12 24 13.6**	**+0.4**
	baz=359						
BTK	**Batken**	**1.61**	**291**	⇑*iP*	**Pn**	**12 24 06.5**	**+0.3**
	baz=296						
BTK				⇑*eS*	**Sn**	**12 24 27.4**	**+0.1**
	baz=296						
ARSB	**Arslanbob**	**1.85**	**5**	⇓*iP*	**Pn**	**12 24 09.2**	**-0.3**
	baz=3.0						
ARSB				⇓*eS*	**Sb**	**12 24 35.2**	**+0.4**
	baz=3.0						
TOKL	**Toktogul**	**2.46**	**2**	⇑*iP*	**Pn**	**12 24 18.4**	**+0.6**
	baz=1.0						
TOKL				⇑*iS*	**Sn**	**12 24 49.6**	**+1.5**
	baz=1.0						
ARLS	**Aral**	**2.65**	**26**	⇑*iP*	**Pn**	**12 24 20.5**	**-0.1**
	baz=24						
ARLS				⇑*eS*	**Sn**	**12 24 53.7**	**+0.6**
	baz=24						
MNAS	**Manas**	**3.01**	**356**	⇓*eP*	**Pn**	**12 24 26.1**	**+0.6**
	baz=356						
MNAS				⇓*iS*	**Sn**	**12 25 03.1**	**+1.3**
	baz=356						
MNAS	**Manas**	**3.01**	**356**	⇓Pn	**Pn**	**12 24 25.8**	**+0.3**
	7.9nm,0.3s						
MNAS				⇑Lg	Lg	12 25 07.5	
	9.8nm,0.3s						
UCH	**Uchtor**	**3.04**	**25**	⇑*iP*	**Pn**	**12 24 26.6**	**+0.4**
	baz=23						
UCH				⇑*iS*	**Sn**	**12 25 03.2**	**+0.1**
	baz=23						
DZET	**Dzherino**	**3.14**	**259**	⇑Pn	**Pn**	**12 24 28.2**	**+0.9**
	6.2nm,0.4s						
DZET				⇑Pg	**Pb**	**12 24 34.2**	**+0.6**
	31nm,0.5s						
DZET				⇓Lg	Lg	12 25 18.4	
	88nm,0.4s						
AAK	**Ala-Archa**	**3.41**	**22**	⇑Pn	**Pn**	**12 24 32.2**	**+1.3**
	13nm,0.3s						
AAK				⇓Lg	Lg	12 25 21.7	
	31nm,0.5s						
KK31	**Karatay Array**	**4.00**	**336**	Pn	**Pn**	**12 24 39.5**	**+0.5**
	2.1nm,0.3s,baz=135,slow=13,SNR=28						
KK31				⇑Sn	**Sn**	**12 25 26.9**	**+0.9**
	14nm,0.3s,baz=141,slow=19,SNR=6.8						
KK31				⇑Lg	Lg	12 25 39.1	
	11nm,0.4s						
TKM2	**Tokmak 2**	**4.04**	**31**	⇓Pn	**Pn**	**12 24 40.3**	**+0.6**
	2.7nm,0.4s						
TKM2				⇑Pg	**Pb**	**12 24 49.2**	**+0.3**
	2.2nm,0.3s						
TKM2				⇓Lg	Lg	12 25 41.6	
	26nm,0.8s						
AB31	**Akbulak array**	**13.39**	**321**	⇑P	**Pn**	**12 26 44.6**	**-3.0**
	1.8nm,0.8s,baz=130,slow=14,SNR=12						

IDC 23 12:29:05.0±2.1, 54.26N×86.10E, h0km, mb1 3.5/3, mb1mx3.2/47, mbtmp3.5/3, ML3.2/3, Error ellipse: s-maj=16.7km s-min=11.1km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.81**	**248**	*i*		12 34 20.0	
	baz=66,slow=319,SNR=2.8						
ZALV	**Zalesovo Beam**	**0.81**	**248**	Pg	Pg	12 29 18.7	-1.9
	1.8nm,0.3s,baz=66,slow=18,SNR=18						
ZALV				Lg	Lg	12 29 31.9	
	11nm,0.3s,baz=65,slow=28,SNR=29						
KURBB	**Kurchatov Arra**	**5.89**	**235**	Pn	Pn	12 30 33.9	+0.5
	0.3nm,0.3s,baz=52,slow=13,SNR=13						
KURBB				Sn	Sn	12 31 41.5	-0.1
	baz=169,slow=5.5,SNR=2.3						
KURBB				Lg	Lg	12 32 13.8	
	0.1nm,0.3s,baz=51,slow=32,SNR=5.9						
MKAR	**Makanchi Array**	**7.86**	**199**	Pn	Pn	12 31 00.9	+0.4
	0.7nm,0.3s,baz=25,slow=13,SNR=14						
MKAR				Sn	Sn	12 32 30.1	0.0
	0.2nm,0.3s,baz=24,slow=25,SNR=3.7						
MKAR				Lg	Lg	12 33 17.2	
	0.1nm,0.3s,baz=23,slow=32,SNR=6.7						
BVAR	**Borovoye Array**	**9.41**	**269**	Pn	Pn	12 31 23.0	+1.2
	0.3nm,0.3s,baz=71,slow=16,SNR=2.7						

*ISCJB **23** 12:33:02.0±0.9, 15.80S±0.08×71.86W±0.10, h150km, mb3.2/4, Error ellipse: s-maj=14.7km s-min=9.8km az=147.9*
*IDC **23** 12:33:06.2±2.4, 15.78S×71.58W, h171km±24km, mb3.1/4, mb1 3.4/7, mb1mx3.3/27, mbtmp3.7/7, MS2.8/1, Ms1 2.8/1, ms1mx2.4/12, Error ellipse: s-maj=30.7km s-min=26.3km az=171.0*
ISC 23 12:33:03.6±1.0, 15.82S±0.09×71.8W±0.1, h150km, n9, σ1§38/10, mb3.3/4, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.54**	**98**	P	**Pn**	**12 33 59.6**	**+1.2**
	1.2nm,0.3s,baz=295,slow=8.0,SNR=28						
LPAZ				S	**Sn**	**12 34 41.7**	**+0.8**
	0.6nm,0.3s,baz=198,slow=20,SNR=6.3						
LVC	**Limon Verde**	**7.28**	**159**	P	**Pn**	**12 34 48.9**	**+1.2**
	34nm,0.3s,baz=354,slow=9.2,SNR=20						
LVC				S	**Sn**	**12 36 08.0**	**-1.3**
	112nm,0.3s,baz=233,slow=20,SNR=19						
SIV	**San Ignacio**	**10.30**	**92**	LR	LR	12 38 50.9	
	comp=Z,46nm,18.9s,baz=138,slow=34						
PTGA	**Pitinga**	**18.99**	**39**	P	**P**	**12 37 12.4**	**-1.4**
	0.6nm,0.3s,baz=222,slow=16,SNR=6.8						
TXAR	**Lajitas Array**	**54.44**	**325**	P	**P**	**12 42 16.3**	**+0.6**
	0.2nm,0.6s,baz=153,slow=10,SNR=2.8						
TORD	**Torodi Ar. Bea**	**78.14**	**73**	P	**P**	**12 44 45.1**	**-1.7**
	0.7nm,

KSRS	**Korea Array**	**33.99**	**58**	P		**P**		**12 46 17.9**	**-1.5**
	comp=E,0.9nm,0.7s,baz=249,slow=9.6,SNR=4.0								
KSRS				LR		LR		13 03 00.6	
	comp=E,75nm,18.5s,baz=281,slow=41								
ABKAR	**Akbulak array**	**35.41**	**324**	*e*P		**P**		**12 46 31.9**	**+0.4**
	comp=E,2.4nm,0.6s								
AKTO	**Aktyubinsk**	**37.10**	**324**	pP		pP		12 46 56.0	+1.2
	comp=E,1.4nm,0.5s,baz=127,slow=11,SNR=2.3								
USRK	**Ussuriysk Ar.**	**38.79**	**48**	P		**P**		**12 46 60.0**	**-0.3**
	comp=E,1.9nm,0.7s,baz=271,slow=7.3,SNR=4.8								
FITZ	**Fitzroy Crossi**	**53.38**	**138**	P		**P**		**12 48 56.4**	**+1.0**
	comp=E,3.6nm,1.0s,baz=300,slow=14,SNR=2.2								
FINES	**FINESS Array B**	**57.62**	**329**	P		**P**		**12 49 24.8**	**-0.4**
	comp=E,6.2nm,1.1s,baz=108,slow=12,SNR=4.6								
FINES				pP		**pP**		**12 49 35.2**	**+0.7**
	comp=E,2.0nm,0.6s,baz=110,slow=8.5,SNR=2.5								
ARCES	**ARCESS Array B**	**59.52**	**338**	LR		LR		13 20 17.7	
	comp=E,42nm,18.1s,baz=247,slow=41								
WRA	**Warramunga Arr**	**60.33**	**133**	P		**P**		**12 49 45.6**	**+0.9**
	comp=E,5.9nm,0.6s,baz=323,slow=7.2,SNR=104								
BILL	**Bilibino**	**62.47**	**24**	*e*P		**P**		**12 49 58.2**	**-0.3**
	comp=E,3.0nm,0.7s								
ASAR	**Alice Springs**	**62.67**	**136**	P		**P**		**12 50 01.6**	**+1.1**
	comp=E,2.2nm,0.7s,baz=313,slow=6.6,SNR=31								
GERES	**GERESS Array B**	**64.53**	**314**	P		**P**		**12 50 11.5**	**-1.1**
	comp=E,0.2nm,0.4s,baz=68,slow=7.6,SNR=3.6								
GERES				pP		**pP**		**12 50 22.5**	**+0.5**
	comp=E,1.1nm,0.7s,baz=76,slow=5.6,SNR=5.8								
NB2	**NORSAR Subarra**	**64.76**	**328**	P		P		12 50 23.0	+9.2
	comp=Z,1.4nm,0.6s,baz=86,slow=6.9								
NOA	**NORSAR Array B**	**64.76**	**328**	P		**P**		**12 50 12.9**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=85,slow=6.6,SNR=3.0								
NOA				pP		**pP**		**12 50 23.2**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=86,slow=6.6,SNR=4.6								
NOA				LR		LR		13 23 06.9	
	comp=Z,18nm,19.9s,baz=45,slow=40								
STKA	**Stephens Creek**	**73.25**	**137**	P		**P**		**12 51 07.3**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=0.0,slow=19,SNR=3.1								
ESDC	**Sonseca Array**	**79.12**	**309**	P		**P**		**12 51 39.7**	**-0.6**
	comp=Z,0.1nm,0.2s,baz=66,slow=3.8,SNR=2.6								
ILAR	**Eielson Array**	**80.99**	**22**	P		**P**		**12 51 49.2**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=302,slow=5.5,SNR=7.9								
BMRM	**Bremner River**	**84.20**	**24**	*e*P		**P**		**12 52 06.7**	**0.0**
TORD	**Torodi Ar. Bea**	**84.56**	**282**	P		**P**		**12 52 10.0**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=72,slow=5.1,SNR=3.5								
TORD				pP		**pP**		**12 52 20.3**	**+1.4**
	comp=Z,2.0nm,0.6s,baz=71,slow=3.3,SNR=11								
YKA	**Yellowknife Ar**	**91.51**	**12**	P		**P**		**12 52 41.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=341,slow=5.3,SNR=3.3								
DBIC	**Dimbokro**	**93.06**	**279**	pP		pP		12 53 00.9	+1.5
	comp=Z,3.2nm,0.5s,baz=71,slow=6.0,SNR=1.9								
TXAR	**Lajitas Array**	**125.19**	**16**	PKP		**PKPdf**		**12 58 37.0**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=240,slow=2.5,SNR=4.7								
CPUP	**Villa Florida**	**151.63**	**258**	PKPbc		**PKPbc**		**12 59 30.1**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=35,slow=4.3,SNR=6.0								
CPUP				pPKPbc		**pPKPbc**		**12 59 41.0**	**+0.8**
	comp=Z,7.1nm,0.7s,baz=126,slow=3.2,SNR=9.0								

*ATH **23** 12:42:02.8,35.°32N×27.°74E,h23km±1km, ML3.1/9, Error ellipse: s-maj=2.1km s-min=0.9km az=329.0*
*DDA **23** 12:42:02.0,35.°26N×27.°61E,h80km, Md3.7*
*ISCJB **23** 12:42:03.6±0.8,35.°38N±0.°04×27.°72E±0.°03,h14km±4km, Error ellipse: s-maj=6.6km s-min=2.9km az=158.3*
*CSEM **23** 12:42:04.4±0.2,35.°40N×27.°72E,h15km, ML3.3, Error ellipse: s-maj=5.8km s-min=2.6km az=159.0*
*ISK **23** 12:42:04.7,35.°55N×27.°69E,h13km, ML3.3*
*THE **23** 12:42:05.1,35.°44N×27.°67E,h5km±1km, ML3.2/10, Error ellipse: s-maj=2.1km s-min=0.8km az=316.0*

ISC 23 12:42:03.9±1.2,35.°39N±0.°03×27.°72E±0.°02,h14km±8km, n101,σ0=86/146,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.48**	**289**			PG	**Pg**	**12 42 13.2**	**-0.2**
KARP						*e*SG	**Sb**	**12 42 21.0**	**-0.1**
KARP	**Karpathos**	**0.48**	**289**			P	**Pg**	**12 42 13.3**	**-0.2**
KARP						S	**Sg**	**12 42 19.9**	**0.0**
KARP	**Karpathos**	**0.48**	**289**			P	**Pg**	**12 42 13.3**	**-0.2**
KARP						S	**Sg**	**12 42 19.9**	**0.0**
KARP						*e*Sg	**Sb**	**12 42 21.0**	**-0.1**
KARP	**Karpathos**	**0.48**	**289**			P	**Pg**	**12 42 13.4**	**0.0**
KARP						S	**Sb**	**12 42 20.5**	**-0.5**
KARP					AML	AML		12 42 21.5	
	comp=N,11942μm,0.4s								
KARP					AML	AML		12 42 22.9	
	comp=E,12064μm,0.2s								
ARG	**Arkhangelos**	**0.89**	**22**	P		**Pb**		**12 42 21.3**	**+0.2**
ARG				S		**Sn**		**12 42 35.4**	**+0.8**
ARG	**Arkhangelos**	**0.89**	**22**	P		**Pb**		**12 42 21.3**	**+0.2**
ARG				S		**Sn**		**12 42 34.7**	**+0.1**
ZKR	**Zakros**	**1.26**	**258**	P		**Pg**		**12 42 26.6**	**-0.5**
ZKR				S		**Sg**		**12 42 44.8**	**+0.3**
ZKR	**Zakros**	**1.26**	**258**	P		**Pn**		**12 42 26.6**	**-0.5**
ZKR				S		**Sb**		**12 42 43.3**	**-0.2**
ZKR	**Zakros**	**1.26**	**258**	P		**Pn**		**12 42 26.5**	**-0.5**
ZKR				S		**Sb**		**12 42 43.3**	**-0.2**
ZKR					AML	AML		12 42 51.1	
	comp=E,1261μm,0.4s								
ZKR					AML	AML		12 42 51.4	
	comp=N,1590μm,0.6s								
NIS1	**Nisyros Isl.**	**1.28**	**340**	*e*PN		**Pn**		**12 42 27.4**	**0.0**
NIS1	**Nisyros Isl.**	**1.28**	**340**	P		**Pn**		**12 42 27.3**	**-0.1**
NIS1	**Nisyros Isl.**	**1.28**	**340**	*e*Pn		**Pn**		**12 42 27.4**	**0.0**
NIS1	**Nisyros Isl.**	**1.28**	**340**	P		**Pg**		**12 42 28.8**	**+0.1**
NIS1					AML	AML		12 42 50.8	
	comp=N,1996μm,0.6s								
NIS1					AML	AML		12 42 51.4	
	comp=E,1676μm,0.5s								
NISR	**Nisiros**	**1.31**	**339**	P		**Pg**		**12 42 29.2**	**+0.1**
NISR				S		**Sg**		**12 42 47.7**	**+1.6**
NISR	**Nisiros**	**1.31**	**339**	P		**Pg**		**12 42 29.2**	**+0.1**
NISR				S		**Sg**		**12 42 47.7**	**+1.6**
NISR					AML	AML		12 42 52.1	
	comp=E,1213μm,0.4s								
NISR					AML	AML		12 42 53.0	
	comp=N,784μm,0.5s								
DALY	**Dalyan (Mu¨la**	**1.61**	**28**	*e*PN		**Pn**		**12 42 31.9**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.61**	**28**	*e*Pn		**Pn**		**12 42 31.9**	**0.0**
TURN	**Turunc**	**1.64**	**26**	*i*P		**Pn**		**12 42 30.2**	**-2.2**
TURN				*i*S		**Sn**		**12 42 51.2**	**-2.0**
BDRM	**Kayabasi**	**1.69**	**353**	P		**Pn**		**12 42 32.4**	**-0.5**
BDRM				S		**Sn**		**12 42 54.9**	**+0.6**
BDRM	**Kayabasi**	**1.69**	**353**	*i*P		**Pn**		**12 42 32.4**	**-0.5**
BDRM				*i*S		**Sn**		**12 42 54.9**	**+0.6**
KSL	**Kastellorizon**	**1.70**	**63**	P		**Pn**		**12 42 33.2**	**+0.1**
KSL				S		**Sn**		**12 42 55.6**	**+1.1**
KSL	**Kastellorizon**	**1.70**	**63**	P		**Pn**		**12 42 33.2**	**+0.1**
KSL				S		**Sn**		**12 42 55.0**	**+0.5**
KSL	**Kastellorizon**	**1.70**	**63**	P		**Pn**		**12 42 33.0**	**-0.1**
KSL				S		**Sn**		**12 42 55.0**	**+0.5**
KSL					AML	AML		12 42 58.9	
	comp=N,353μm,0.4s								
KSL					AML	AML		12 42 59.6	
	comp=E,632μm,0.6s								
BODT	**Bodrum**	**1.70**	**349**	*e*PN		**Pn**		**12 42 32.1**	**-1.0**
BODT	**Bodrum**	**1.70**	**349**	P		**Pn**		**12 42 32.8**	**-0.3**
BODT				S		**Sn**		**12 42 54.4**	**-0.3**
BODT	**Bodrum**	**1.70**	**349**	*e*Pn		**Pn**		**12 42 32.1**	**-1.0**
BODT	**Bodrum**	**1.70**	**349**	P		**Pn**		**12 42 32.8**	**-0.3**
BODT				S		**Sn**		**12 42 54.4**	**-0.3**
NPS	**Neapolis**	**1.73**	**266**	P		**Pn**		**12 42 34.4**	**+0.9**
NPS				S		**Sn**		**12 42 55.4**	**+0.1**
NPS	**Neapolis**	**1.73**	**266**	P		**Pn**		**12 42 34.4**	**+0.9**
NPS				S		**Sn**		**12 42 55.4**	**+0.1**
NPS	**Neapolis**	**1.73**	**266**	P		**Pn**		**12 42 35.0**	**-0.3**
NPS				S		**Sg**		**12 42 58.2**	**-1.3**
NPS					AML	AML		12 43 04.8	
	comp=E,975μm,0.7s								
NPS					AML	AML		12 43 05.4	
	comp=N,812μm,0.5s								
AKAS	**Kas**	**1.75**	**61**	P		**Pn**		**12 42 33.8**	**-0.1**
AKAS				S		**Sn**		**12 42 56.6**	**+0.5**
AKAS	**Kas**	**1.75**	**61**	*i*P		**Pn**		**12 42 33.8**	**-0.1**
AKAS				*i*S		**Sn**		**12 42 56.6**	**+0.5**
YER	**Yerkesik**	**1.80**	**15**	*e*PN		**Pn**		**12 42 34.5**	**-0.1**
YER	**Yerkesik**	**1.80**	**15**	P		**Pn**		**12 42 35.0**	**+0.4**
YER				S		**Sn**		**12 42 58.3**	**+1.1**
YER	**Yerkesik**	**1.80**	**15**	*e*Pn		**Pn**		**12 42 34.5**	**-0.1**
YER	**Yerkesik**	**1.80**	**15**	P		**Pn**		**12 42 35.0**	**+0.4**
YER				S		**Sn**		**12 42 58.3**	**+1.1**
LAST	**Lasithi**	**1.85**	**264**	P		**Pn**		**12 42 36.1**	**+0.9**
LAST				S		**Sn**		**12 42 58.8**	**+0.4**
LAST	**Lasithi**	**1.85**	**264**	P		**Pb**		**12 42 36.8**	**-0.6**
SANT	**Santorini**	**2.08**	**299**	P		**Pn**		**12 42 38.3**	**0.0**
SANT	**Santorini**	**2.08**	**299**	P		**Pn**		**12 42 38.3**	**0.0**
THR6	**Thira Island,**	**2.12**	**298**	P		**Pn**		**12 42 39.0**	**+0.2**
THR6	**Thira Island,**	**2.12**	**298**	P		**Pn**		**12 42 39.0**	**+0.2**
THR2	**Thira Island,**	**2.13**	**300**	P		**Pn**		**12 42 38.7**	**-0.3**
THR2	**Thira Island,**	**2.13**	**300**	P		**Pn**		**12 42 38.7**	**-0.3**
THR3	**Thira Island,**	**2.14**	**299**	P		**Pn**		**12 42 39.3**	**+0.2**
THR3	**Thira Island,**	**2.14**	**299**	P		**Pn**		**12 42 39.3**	**+0.2**
CMBO	**Columbo, Santo**	**2.16**	**301**	P		**Pn**		**12 42 39.2**	**-0.3**
CMBO	**Columbo, Santo**	**2.16**	**301**	P		**Pn**		**12 42 39.8**	**+0.3**
CMBO	**Columbo, Santo**	**2.16**	**301**	P		**Pn**		**12 42 39.8**	**+0.3**
CMBO					AML	AML		12 43 14.3	
	comp=E,1591μm,0.6s								
CMBO					AML	AML		12 43 15.0	
	comp=N,1999μm,0.5s								
THR5	**Thira Island,**	**2.18**	**299**	*e*PN		**Pn**		**12 42 40.4**	**+0.7**
THR5	**Thira Island,**	**2.18**	**299**	P		**Pn**		**12 42 39.8**	**+0.1**
THR5	**Thira Island,**	**2.18**	**299**	P		**Pn**		**12 42 39.8**	**+0.1**
THR5	**Thira Island,**	**2.18**	**299**	*e*Pn		**Pn**		**12 42 40.4**	**+0.7**
ELL	**Elmali**	**2.23**	**52**	*e*PN		**Pn**		**12 42 41.4**	**+0.8**
ELL	**Elmali**	**2.23**	**52**	*e*Pn		**Pn**		**12 42 41.4**	**+0.8**
GLHS	**Gihisar (BURDU**	**2.27**	**39**	*e*PN		**Pn**		**12 42 42.0**	**+0.8**
GLHS	**Gihisar (BURDU**	**2.27**	**39**	*e*Pn		**Pn**		**12 42 42.0**	**+0.8**
IDI	**Anoyia**	**2.31**	**268**	P		**Pn**		**12 42 41.7**	**+0.1**
IDI				S		**Sn**		**12 42 43.1**	**+1.2**
IDI	**Anoyia**	**2.31**	**268**	P		**Pn**		**12 42 41.7**	**+0.1**
IDI				S		**Sn**		**12 43 09.8**	**-0.1**
IDI	**Anoyia**	**2.31**	**268**	P		**Pn**		**12 42 41.1**	**-0.5**
IDI				S		**Sn**		**12 43 09.8**	**-0.1**
IDI					AML	AML		12 43 19.7	
	comp=N,261μm,0.8s								
IDI					AML	AML		12 43 19.7	
	comp=E,237μm,0.6s								
GOLH	**Golhisar**	**2.37**	**38**	P		**Pn**		**12 42 43.1**	**+0.7**
GOLH	**Golhisar**	**2.37**	**38**	*i*P		**Pn**		**12 42 43.1**	**+0.7**
GOLH				*i*S		**Sb**		**12 43 16.9**	**+1.3**
SIVA	**Sivas**	**2.41**	**262**	P		**Pn**		**12 42 44.0**	**+1.1**
SIVA				S		**Sn**		**12 43 12.5**	**+0.4**
SIVA	**Sivas**	**2.41**	**262**	P		**Pn**		**12 42 43.6**	**+0.7**
SIVA				S		**Sn**		**12 43 12.5**	**+0.4**
SIVA	**Sivas**	**2.41**	**262**	P		**Pn**		**12 42 43.6**	**+0.7**
SMG	**Samos**	**2.42**	**343**	P		**Pn**		**12 42 42.8**	**-0.2**
SMG				S		**Sn**		**12 43 12.0**	**-0.4**
SMG	**Samos**	**2.42**	**343**	P		**Pn**		**12 42 42.8**	**-0.2**
SMG				S		**Sn**		**12 43 12.0**	**-0.4**
SMG	**Samos**	**2.42**	**343**	P		**Pn**		**12 42 42.6**	**-0.4**
APE	**Apeiranthos**	**2.44**	**314**	*e*PN		**Pn**		**12 42 43.3**	**0.0**
APE	**Apeiranthos**	**2.44**	**314**	*e*Pn		**Pn**		**12 42 43.3**	**0.0**
APE				S		**Sb**		**12 43 15.4**	**-2.0**
APE	**Apeiranthos**	**2.44**	**314**	P		**Pn**		**12 42 43.2**	**0.0**
APE				S		**Sb**		**12 43 15.3**	**-2.0**
APE					AML	AML		12 43 16.5	
	comp=N,170μm,0.3s								
APE					AML	AML		12 43 17.4	
	comp=E,275μm,0.4s								
DNZL	**Cakiroluk**	**2.53**	**25**	P		**Pb**		**12 42 48.7**	**-0.5**
DNZL	**Cakiroluk**	**2.53**	**25**	*i*P		**Pb**		**12 42 48.7**	**-0.5**
DNZL				*i*S		**Sg**		**12 43 24.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.55**	**3**	*e*PN		**Pn**		**12 42 44.4**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.55**	**3**	*e*Pn		**Pn**		**12 42 44.4**	**-0.6**
KORT	**Korkueli**	**2.67**	**52**	P		**Pn**		**12 42 47.4**	**+0.8**
KORT	**Korkueli**	**2.67**	**52**	*i*P		**Pn**		**12 42 47.4**	**+0.8**
KORT				*i*S		**Sn**		**12 43 20.6**	**+1.9**
VAM	**Vamos**	**2.87**	**271**	P		**Pn**		**12 42 50.8**	**+1.5**
MHLO	**Agia Marina, M**	**2.98**	**297**	P		**Pn**		**12 42 50.2**	**-0.6**
MHLO	**Agia Marina, M**	**2.98**	**297**	P		**Pn**		**12 42 50.2**	**-0.6**
GVD	**Gavdhos**	**3.03**	**261**	P		**Pn**		**12 42 51.6**	**+0.2**
GVD				S		**Sn**		**12 43 27.6**	**+0.2**
GVD	**Gavdhos**	**3.03**	**261**	P		**Pn**		**12 42 51.8**	**+0.4**
GVD	**Gavdhos**	**3.03**	**261**	P		**Pn**		**12 42 51.8**	**+0.4**
IMMV	**Iera Moni Meta**	**3.05**	**272**	P		**Pn**		**12 42 52.8**	**+1.1**
IMMV				S		**Sn**		**12 43 28.2**	**+0.2**
IMMV	**Iera Moni Meta**	**3.05**	**272**	P		**Pn**		**12 42 52.8**	**+1.1**
IMMV				S		**Sn**		**12 43 28.2**	**+0.2**
IMMV	**Iera Moni Meta**	**3.05**	**272**	P		**Pn**		**12 42 53.9**	**+2.2**
KULA	**Kula-Manisa**	**3.21**	**13**	*e*PN		**Pn**		**12 42 53.7**	**-0.2**
KULA	**Kula-Manisa**	**3.21**	**13**	*e*Pn		**Pn**		**12 42 53.7**	**-0.2**
CHOS	**Chios island**	**3.27**	**336**	*e*PN		**Pn**		**12 42 54.6**	**-0.2**
CHOS	**Chios island**	**3.27**	**336**	*e*Pn		**Pn**		**12 42 54.6**	**-0.2**
SUTC	**Sutluce-Ispart**	**3.37**	**51**	*e*PN		**Pn**		**12 42 57.9**	**+1.7**
SUTC	**Sutluce-Ispart**	**3.37**	**51**	*e*Pn		**Pn**		**12 42 57.9**	**+1.7**
ANKY	**Antikythira Is**	**3.63**	**279**	P		**Pn**		**12 42 59.4**	**-0.2**
ANKY	**Antikythira Is**	**3.63**	**279**	P		**Pn**		**12 42 59.4**	**-0.2**
GAZI	**Gazipasa**	**3.83**	**76**	P		**Pn**		**12 43 01.1**	**-1.3**
GAZI	**Gazipasa**	**3.83**	**76**	*i*P		**Pn**		**12 43 01.1**	**-1.3**
GAZI				*i*S		**Sn**		**12 43 43.7**	**-3.6**
VLI	**Veliai**	**4.09**	**290**	P		**Pn**		**12 43 07.5**	**+1.5**
VLI	**Veliai**	**4.09**	**290**	P		**Pn**		**12 43 07.5**	**+1.5**
ITM	**Ithomi**	**5.01**	**293**	P		**Pn**		**12 43 21.0**	**+2.4**
ITM	**Ithomi**	**5.01**	**293**	P		**Pn**		**12 43 21.0**	**+2.4**

*ISK **23** 13:04:02.6,38.°58N×39.°51E,h5km, ML2.0*
*ISCJB **23** 13:04:03.8±0.9,38.°59N±0.°04×39.°53E±0.°08,h9km, Error ellipse: s-maj=9.2km s-min=4.7km az=18.2*
*CSEM **23** 13:04:03.5±0.3,38.°58N×39.°53E,h2km, ML2.0, Error ellipse: s-maj=8.2km s-min=4.8km az=104.0*
*DDA **23** 13:04:10.8,38.°46N×39.°68E,h10km, Md2.8*

ISC 23 13:04:04.0±1.1,38.°58N±0.°03×39.°53E±0.°06,h9km,n10, σ0=79/18,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.27**	**220**	*e*PG		**Pg**		**13 04 08.6**	**-0.8**
SVRC				*e*SG		**Sg**		**13 04 13.9**	**+0.8**
SVRC	**Sivrice-ELAZID**	**0.27**	**220**	*e*Pg		**Pg**		**13 04 08.6**	**-0.8**
SVRC				*e*Sg		**Sg**		**13 04 13.9**	**+0.8**
PTK	**Pertek**	**0.33**	**341**	*e*PG		**Pg**		**13 04 10.1**	**-0.5**
PTK				*e*SG		**Sg**		**13 04 15.7**	**+0.7**
PTK	**Pertek**	**0.33**	**341**	*e*Pg		**Pg**		**13 04 10.1**	**-0.5**
PTK				*e*Sg		**Sg**		**13 04 15.7**	**+0.7**
ELZG	**Elazig**	**0.43**	**259**	P		**Pg**		**13 04 11.5**	**-1.0**
ELZG				S		**Sg**		**13 04 19.0**	**+0.8**
ELZG	**Elazig**	**0.43**	**259**	*i*P		**Pg**		**13 04 11.5**	**-1.0**
ELZG				*i*S		**Sg**		**13 04 19.0**	**+0.8**
TNCL	**Tunceli-Merkez**	**0.53**	**1**	P		**Pg**		**13 04 13.6**	**-0.8**
TNCL				S		**Sg**		**13 04 21.8**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.53**	**1**	*i*P		**Pg**		**13 04 13.6**	**-0.8**
TNCL				*i*S		**Sg**		**13 04 21.8**	**+0.4**
MAZI	**Mazidag**	**1.34**	**147**	*e*PN		**Pb**		**13 04 29.6**	**+0.3**
MAZI	**Mazidag**	**1.34**	**147**	*e*Pn		**Pb**		**13 04 29.6**	**+0.3**

MEX 23 13:13:18.9±0.4,14.°03N×92.°10W,h5km,MD3.9,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.99**	**327**	*e*P		Pn		13 13 50.5	-2.7

*NIED **23** 13:15:00,37.°10N×143.°80E,h11km, Mw3.9 Best double couple: M0=7.34000×10^14 NP1:φs=48.00000°,δ=29.00000°, λ=-90.00000°. NP2:φs=229.00000°,δ=61.00000°, λ=-90.00000°.*
*IDC **23** 13:15:39.0±0.8,36.°99N×144.°03E,h0km, mb3.8/8, mb1 4.1/13,mb1mx3.9/33,mbtmp3.9/13, ML3.7/5, MS2.9/6, Ms1 3.0/6,ms1mx2.7/37, Error ellipse: s-maj=22.6km s-min=17.8km az=88.0*
*ISCJB **23** 13:15:42.2±0.6,37.°15N±0.°03×143.°80E±0.°05,h33km, mb3.8/9,MS3.1/1, Error ellipse: s-maj=5.4km s-min=4.4km az=27.1*
*JMA **23** 13:15:43.2±0.2,37.°13N×143.°75E,h51km, M4.1*

ISC 23 13:15:44.7±0.8,37.°15N±0.°05×143.°81E±0.°07,h35km,n41, σ1=92/55,mb3.7/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.34**	**304**	P		**Pn**		**13 16 20.2**	**-0.4**
JIO				S		**Sn**		**13 16 47.1**	**-1.1**
JFK	**Kawauchi**	**2.35**	**276**	P		**Pn**		**13 16 20.0**	**-0.8**
JFK				S		**Sn**		**13 16 47.5**	**-0.9**
ONAJ	**Iwakimizuishiy**	**2.40**	**270**	P		**Pn**		**13 16 20.3**	**-1.3**
ONAJ				S		**Sn**		**13 16 48.1**	**-1.7**
JMM	**Marumori**	**2.50**	**287**	P		**Pn**		**13 16 22.2**	**-0.6**
JMM				S		**Sn**		**13 16 50.1**	**-2.0**
JMK	**Ichinoseki**	**2.72**	**312**	P		**Pn**		**13 16 25.4**	**-0.5**
JMK				*e*S		**Sn**		**13 16 57.0**	**-0.5**
JFT	**Otama**	**2.79**	**279**	P		**Pn**		**13 16 27.2**	**+0.4**
JFT				*e*S		**Sn**		**13 16 57.7**	**-1.6**
JOM	**Ohasama**	**3.05**	**320**	P		**Pn**		**13 16 29.9**	**-0.5**
JOM				S		**Sn**		**13 17 04.4**	**-1.2**
JYK	**Kaneyama**	**3.24**	**304**	P		**Pn**		**13 16 33.6**	**+0.5**
JYK				*e*S		**Sn**		**13 17 10.3**	**-0.1**
BSO1	**Boso 1**	**3.39**	**223**	P		**Pn**		**13 16 33.2**	**-1.4**
BSO1				S		**Sn**		**13 17 12.3**	**-1.0**
JAG	**Ashikaga**	**3.57**	**260**	P		**Pn**		**13 16 37.2**	**-0.4**
JAG				S		**Sn**		**13 17 17.3**	**-1.2**
JANG	**Nango**	**3.68**	**332**	P		**Pn**		**13 16 37.4**	**-1.7**
JANG				*e*S		**Sn**		**13 17 19.4**	**-1.9**
JRY	**Ryogami san**	**4.11**	**255**	P		**Pn**		**13 16 44.2**	**-0.8**
JRY				S		**Sn**		**13 17 29.3**	**-2.5**
JOD2	**Odawara 2**	**4.25**	**245**	P		**Pn**		**13 16 46.0**	**-1.0**
JOD2				S		**Sn**		**13 17 31.3**	**-4.2**
MJAR	**Matsushiro Arr**	**4.53**	**264**	Pn		**Pn**		**13 16 51.0**	**+0.2**
	3.6nm,0.3s,baz=75,slow=9.3,SNR=32								
MJAR						Sn		**13 17 43.5**	**+1.2**
	2.4nm,0.3s,baz=82,slow=28,SNR=5.0								
MJAR						LR	LR	13 19 28.2	
	comp=Z,103nm,18.9s,baz=90,slow=49								
MAT	**Matsushiro**	**4.53**	**264**	P		**Pn**		**13 16 51.8**	**+1.0**
MAT				S		**Sn**		**13 17 42.9**	**+0.6**
JOT	**Ohata**	**4.74**	**334**	P		**Pn**		**13 16 53.4**	**-0.2**
JOT				*e*S		**Sn**		**13 17 45.8**	**-1.4**
JKB	**Kayabe**	**5.19**	**336**	P		**Pn**		**13 16 59.5**	**-0.3**
JKB				S		**Sn**		**13 17 55.8**	**-2.7**
JHJ	**Hachijo jima 2**	**5.20**	**221**	Pn		**Pn**		**13 16 57.1**	**-2.8**
	9.4nm,0.3s,baz=145,slow=23,SNR=6.1								
JHJ						Sn		**13 17 52.9**	**-5.8**
	64nm,0.3s,baz=65,slow=22,SNR=7.4								
JCH	**Churui**	**5.47**	**357**	P		**Pn**		**13 17 01.4**	**-2.2**
JCH				S		**Sn**		**13 18 00.0**	**-5.2**
ASAJ	**Asahikawa**	**7.02**	**353**	Pn		**Pn**		**13 17 24.0**	**-0.9**
	5.3nm,0.3s,baz=203,slow=17,SNR=29								
ASAJ						Sn		**13 18 40.2**	**-3.2**
	1.6nm,0.3s,baz=283,slow=19,SNR=2.9								
USRK	**Ussuriysk Ar.**	**11.40**	**312**	Pn		**Pn**		**13 18 25.8**	**+0.9**
	0.6nm,0.3s,baz=115,slow=13,SNR=7.2								
USRK						LR	LR	13 23 30.8	
	comp=Z,108nm,18.2s,baz=194,slow=40								
KSRS	**Korea Array**	**12.65**	**276**	Pn		**Pn**		**13 18 45.2**	**+3.1**
	0.1nm,0.3s,baz=81,slow=35,SNR=2.9								
KSRS						LR	LR	13 24 12.3	
	comp=Z,57nm,18.2s,baz=169,slow=40								
KLR	**Kul'dur**	**14.91**	**328**	Pn		**Pn**		**13 19 11.5**	**-1.2**
	0.1nm,0.3s,baz=125,slow=14,SNR=4.0								
KLR						LR	LR	13 25 25.2	
	comp=Z,66nm,18.6s,baz=127,slow=39								
PETK	**Petropavlovsk-**	**18.67**	**27**	LR		LR	LR	13 27 29.9	
	comp=Z,12nm,18.3s,baz=29,slow=38								
SEY	**Seymchan**	**26.34**	**9**	P		**P**		**13 21 20.5**	**+3.4**
	2.4nm,0.8s,baz=196,slow=7.3,SNR=10.0								
H11N2	**WAKE ISLAND Hy**	**26.60**	**124**	T

n107,σ1$36/174,4D,United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYA	**Yadsworthy**	**0.19**	**244**	*e*P	**Pg**	**13 43 42.1**	**+0.1**
DYA				*e*S	**Sg**	**13 43 45.0**	**-0.4**
DYA				AML	AML	13 43 45.2	
	comp=N,2μm,0.1s						
DYA				AML	AML	13 43 45.3	
	comp=E,2μm,0.1s						
DYA	**Yadsworthy**	**0.19**	**244**	*e*P	**Pg**	**13 43 42.1**	**+0.1**
DYA				*e*S	**Sg**	**13 43 45.0**	**-0.4**
DYA				AML	AML	13 43 45.2	
	comp=N,2μm,0.1s						
DYA				AML	AML	13 43 45.3	
	comp=E,2μm,0.1s						
DYA	**Yadsworthy**	**0.19**	**244**	*e*P	**Pg**	**13 43 42.1**	**+0.1**
DYA				*e*S	**Sg**	**13 43 45.0**	**-0.4**
	comp=E,2μm,0.1s						
DYA	**Yadsworthy**	**0.19**	**244**	*e*P	**Pg**	**13 43 42.1**	**+0.1**
DYA				*e*S	**Sg**	**13 43 45.0**	**-0.4**
HEX	**Exmoor**	**0.56**	**351**	*e*P	**Pg**	**13 43 47.7**	**-0.5**
HEX	**Exmoor**	**0.56**	**351**	*e*P	**Pg**	**13 43 47.7**	**-0.5**
HEX	**Exmoor**	**0.56**	**351**	*e*P	**Pg**	**13 43 47.7**	**-0.5**
HEX	**Exmoor**	**0.56**	**351**	*e*P	**Pg**	**13 43 47.7**	**-0.5**
SBD	**Saint Breward**	**0.66**	**274**	*e*P	**Pg**	**13 43 49.8**	**-0.2**
SBD				*e*S	**Sg**	**13 43 58.0**	**-0.8**
HTL	**Hartland**	**0.71**	**313**	⫴*i*P	**Pb**	**13 43 50.5**	**-0.2**
HTL				*e*S	**Sb**	**13 43 59.5**	**-0.5**
HTL				AML	AML	13 44 02.7	
	comp=N,331nm,0.2s						
HTL				AML	AML	13 44 03.0	
	comp=E,226nm,0.5s						
HTL	**Hartland**	**0.71**	**313**	⫴*i*P	**Pb**	**13 43 50.5**	**-0.2**
HTL				*e*S	**Sb**	**13 43 59.5**	**-0.5**
HTL				AML	AML	13 44 02.7	
	comp=N,331nm,0.2s						
HTL				AML	AML	13 44 03.0	
	comp=E,226nm,0.5s						
HTL	**Hartland**	**0.71**	**313**	⫴*i*P	**Pb**	**13 43 50.5**	**-0.2**
HTL				*e*S	**Sb**	**13 43 59.5**	**-0.5**
	comp=E,226nm,0.5s						
HTL	**Hartland**	**0.71**	**313**	⫴*i*P	**Pb**	**13 43 50.5**	**-0.2**
HTL				*e*S	**Sb**	**13 43 59.5**	**-0.5**
CCA1	**Carnmenellis**	**1.06**	**252**	*e*P	**Pb**	**13 43 57.3**	**+0.6**
CCA1				*e*S	**Sb**	**13 44 11.2**	**+1.0**
CCA1				AML	AML	13 44 12.6	
	comp=N,228nm,0.1s						
CCA1				AML	AML	13 44 13.2	
	comp=E,140nm,0.1s						
CCA1	**Carnmenellis**	**1.06**	**252**	*e*P	**Pb**	**13 43 57.3**	**+0.6**
CCA1				*e*S	**Sb**	**13 44 11.2**	**+1.0**
CCA1				AML	AML	13 44 12.6	
	comp=N,228nm,0.1s						
CCA1				AML	AML	13 44 13.2	
	comp=E,140nm,0.1s						
CCA1	**Carnmenellis**	**1.06**	**252**	*e*P	**Pb**	**13 43 57.3**	**+0.6**
CCA1				*e*S	**Sb**	**13 44 11.1**	**+1.0**
	comp=E,140nm,0.1s						
CCA1	**Carnmenellis**	**1.06**	**252**	*e*P	**Pb**	**13 43 57.3**	**+0.6**
CCA1				*e*S	**Sb**	**13 44 11.2**	**+1.0**
BATH	**Bath**	**1.25**	**42**	*e*P	**Pb**	**13 44 00.8**	**+0.9**
BATH				*e*S	**Sg**	**13 44 17.6**	**0.0**
BATH				AML	AML	13 44 22.0	
	comp=E,487nm,0.3s						
BATH				AML	AML	13 44 25.1	
	comp=N,484nm,0.6s						
BATH	**Bath**	**1.25**	**42**	*e*P	**Pb**	**13 44 00.8**	**+0.9**
BATH				*e*S	**Sg**	**13 44 17.6**	**0.0**
BATH				AML	AML	13 44 22.0	
	comp=E,487nm,0.3s						
BATH				AML	AML	13 44 25.1	
	comp=N,484nm,0.6s						
BATH	**Bath**	**1.25**	**42**	*e*P	**Pb**	**13 44 00.8**	**+0.9**
BATH				*e*S	**Sg**	**13 44 17.6**	**0.0**
	comp=N,484nm,0.6s						
BATH	**Bath**	**1.25**	**42**	*e*P	**Pb**	**13 44 00.8**	**+0.9**
BATH				*e*S	**Sg**	**13 44 17.6**	**0.0**
OLDB	**Oldbury-Upon-S**	**1.34**	**31**	*e*P	**Pb**	**13 44 02.0**	**+0.5**
OLDB	**Oldbury-Upon-S**	**1.34**	**31**	*e*P	**Pb**	**13 44 02.0**	**+0.5**
OLDB	**Oldbury-Upon-S**	**1.34**	**31**	*e*P	**Pb**	**13 44 02.0**	**+0.5**
OLDB	**Oldbury-Upon-S**	**1.34**	**31**	*e*P	**Pb**	**13 44 02.0**	**+0.5**
MONM	**Monmouth**	**1.43**	**22**	*e*P	**Pn**	**13 44 02.8**	**+1.0**
MONM				*e*S	**Sn**	**13 44 20.9**	**+0.9**
MONM	**Monmouth**	**1.43**	**22**	*e*P	**Pn**	**13 44 02.8**	**+1.0**
MONM				*e*S	**Sn**	**13 44 20.9**	**+0.9**
MONM	**Monmouth**	**1.43**	**22**	*e*P	**Pn**	**13 44 02.8**	**+1.0**
MONM				*e*S	**Sn**	**13 44 21.0**	**+0.9**
MONM	**Monmouth**	**1.43**	**22**	*e*P	**Pn**	**13 44 02.8**	**+1.0**
MONM				*e*S	**Sn**	**13 44 20.1**	**+0.1**
MCH1	**Michaelchurch**	**1.54**	**15**	*e*P	**Pn**	**13 44 04.5**	**+1.1**
MCH1				*e*S	**Sn**	**13 44 23.5**	**+0.8**
MCH1				AML	AML	13 44 25.7	
	comp=E,61nm,0.2s						
MCH1				AML	AML	13 44 25.9	
	comp=N,92nm,0.2s						
MCH1	**Michaelchurch**	**1.54**	**15**	*e*P	**Pn**	**13 44 04.5**	**+1.1**
MCH1				*e*S	**Sn**	**13 44 23.5**	**+0.8**
MCH1				AML	AML	13 44 25.7	
	comp=E,61nm,0.2s						
MCH1				AML	AML	13 44 25.9	
	comp=N,92nm,0.2s						
MCH1	**Michaelchurch**	**1.54**	**15**	*e*P	**Pn**	**13 44 04.5**	**+1.1**
MCH1				*e*S	**Sn**	**13 44 23.5**	**+0.8**
	comp=N,92nm,0.2s						
MCH1	**Michaelchurch**	**1.54**	**15**	*e*P	**Pn**	**13 44 04.5**	**+1.1**
MCH1				*e*S	**Sn**	**13 44 23.5**	**+0.8**
STRD	**Stroud**	**1.57**	**36**	*e*P	**Pb**	**13 44 05.5**	**+0.1**
STRD				AML	AML	13 44 33.3	
	comp=E,158nm,0.7s						
STRD				AML	AML	13 44 34.7	
	comp=N,158nm,0.6s						
STRD	**Stroud**	**1.57**	**36**	*e*P	**Pb**	**13 44 05.5**	**+0.1**
STRD				AML	AML	13 44 33.3	
	comp=E,158nm,0.7s						
STRD				AML	AML	13 44 34.7	
	comp=N,158nm,0.6s						
STRD	**Stroud**	**1.57**	**36**	*e*P	**Pb**	**13 44 05.5**	**+0.1**
	comp=N,158nm,0.6s						
LPW	**Lampeter**	**1.62**	**351**	*e*P	**Pn**	**13 44 05.7**	**+1.3**
LPW				*e*S	**Sn**	**13 44 25.5**	**+0.8**
LPW				AML	AML	13 44 27.6	
	comp=E,98nm,0.4s						
LPW				AML	AML	13 44 27.8	
	comp=N,57nm,0.2s						
LPW	**Lampeter**	**1.62**	**351**	*e*P	**Pn**	**13 44 05.7**	**+1.3**
LPW				*e*S	**Sn**	**13 44 25.5**	**+0.8**
LPW				AML	AML	13 44 27.6	
	comp=E,98nm,0.4s						
LPW				AML	AML	13 44 27.8	
	comp=N,57nm,0.2s						
LPW	**Lampeter**	**1.62**	**351**	*e*P	**Pn**	**13 44 05.7**	**+1.3**
	comp=N,158nm,0.7s						
LPW				*e*S	**Sn**	**13 44 25.5**	**+0.8**
	comp=N,57nm,0.2s						
JSA	**Saint Aubin**	**1.65**	**144**	*e*P	**Pg**	**13 44 09.0**	**+0.3**
JSA				AML	AML	13 44 35.2	
	comp=N,70nm,0.3s						
JSA				AML	AML	13 44 37.1	
	comp=E,70nm,0.3s						
JSA	**Saint Aubin**	**1.65**	**144**	*e*P	**Pg**	**13 44 09.0**	**+0.3**
JSA				AML	AML	13 44 35.2	
	comp=N,70nm,0.3s						
JSA				AML	AML	13 44 37.1	
	comp=E,70nm,0.3s						
HLM1	**Long Mynd**	**2.06**	**13**	*e*P	**Pn**	**13 44 11.4**	**+0.8**
HLM1				AML	AML	13 44 44.4	
	comp=N,37nm,0.2s						
HLM1				AML	AML	13 44 46.1	
	comp=E,50nm,0.5s						
HLM1	**Long Mynd**	**2.06**	**13**	*e*P	**Pn**	**13 44 11.4**	**+0.8**
HLM1				AML	AML	13 44 44.4	
	comp=N,37nm,0.2s						
HLM1				AML	AML	13 44 46.1	
	comp=E,50nm,0.5s						
HLM1	**Long Mynd**	**2.06**	**13**	*e*P	**Pn**	**13 44 11.4**	**+0.8**
	comp=E,50nm,0.5s						
ROSF	**Rostrenen**	**2.20**	**173**	*e*Pn	**Pn**	**13 44 13.7**	**+1.2**
ROSF	**Rostrenen**	**2.20**	**173**	*e*Pg	**Pg**	**13 44 19.3**	**0.0**
ROSF				*e*Sn	**Sn**	**13 44 39.0**	**-0.1**
ROSF				*e*Sg	**Sg**	**13 44 47.6**	**-0.2**
	comp=E,43nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**2.20**	**173**	*e*Pn	**Pn**	**13 44 13.7**	**+1.2**
ROSF	**Rostrenen**	**2.20**	**173**	*e*Pg	**Pg**	**13 44 19.3**	**0.0**
ROSF				*e*Sn	**Sn**	**13 44 39.0**	**-0.1**
ROSF				*e*Sg	**Sg**	**13 44 47.6**	**-0.2**
	comp=E,21nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**2.38**	**162**	*e*Pn	**Pn**	**13 44 16.1**	**+1.2**
SGMF				*e*Sn	**Sn**	**13 44 43.4**	**-0.1**
SGMF				*e*Sg	**Sg**	**13 44 53.7**	**+0.2**
	comp=E,38nm,0.3s,SNR=1.0						
SGMF	**Saint Gilles**	**2.38**	**162**	*e*Pn	**Pn**	**13 44 16.1**	**+1.2**
SGMF				*e*Sn	**Sn**	**13 44 43.4**	**-0.1**
SGMF				*e*Sg	**Sg**	**13 44 53.7**	**+0.2**
	comp=E,19nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**2.62**	**173**	*e*Pn	**Pn**	**13 44 19.5**	**+1.2**
QUIF	**Quistinic**	**2.62**	**173**	*e*Pg	**Pg**	**13 44 27.1**	**-0.3**
QUIF				*e*Sg	**Sg**	**13 45 01.2**	**-0.2**
	comp=E,56nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**2.62**	**173**	*e*Pn	**Pn**	**13 44 19.5**	**+1.2**
QUIF	**Quistinic**	**2.62**	**173**	*e*Pg	**Pg**	**13 44 27.1**	**-0.3**
QUIF				*e*Sg	**Sg**	**13 45 01.2**	**-0.2**
	comp=E,28nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**2.71**	**129**	*e*Pn	**Pn**	**13 44 20.7**	**+1.2**
FLN	**La Foliniere**	**2.71**	**129**	*e*Pg	**Pg**	**13 44 29.1**	**+0.1**
FLN				*e*Sg	**Sg**	**13 45 05.2**	**+1.0**
	comp=E,37nm,0.3s						
FLN	**La Foliniere**	**2.71**	**129**	*e*Pn	**Pn**	**13 44 20.7**	**+1.2**
FLN	**La Foliniere**	**2.71**	**129**	*e*Pg	**Pg**	**13 44 29.1**	**+0.1**
FLN				*e*Sg	**Sg**	**13 45 05.2**	**+1.0**
	comp=E,18nm,0.3s						
GRR	**Gorron**	**2.81**	**138**	*e*Pn	**Pn**	**13 44 21.9**	**+1.1**
GRR	**Gorron**	**2.81**	**138**	*e*P	**Pn**	**13 44 24.4**	**+3.6**
GRR	**Gorron**	**2.81**	**138**	*e*Pg	**Pg**	**13 44 30.7**	**-0.2**
GRR				*e*Sn	**Sn**	**13 44 54.1**	**0.0**
GRR				*e*Sg	**Sg**	**13 45 07.9**	**+0.6**
	comp=E,34nm,0.2s						
GRR	**Gorron**	**2.81**	**138**	*e*Pn	**Pn**	**13 44 21.9**	**+1.1**
GRR	**Gorron**	**2.81**	**138**	*e*P	**Pn**	**13 44 24.4**	**+3.6**
GRR	**Gorron**	**2.81**	**138**	*e*Pg	**Pg**	**13 44 30.7**	**-0.2**
GRR				*e*Sn	**Sn**	**13 44 54.1**	**0.0**
GRR				*e*Sg	**Sg**	**13 45 07.9**	**+0.6**
	comp=E,17nm,0.2s						
LDF	**La Druitiere**	**3.00**	**129**	*e*P	**Pn**	**13 44 26.9**	**+3.4**
LDF	**La Druitiere**	**3.00**	**129**	*e*Pg	**Pg**	**13 44 34.5**	**-0.1**
LDF				*e*Sn	**Sn**	**13 44 59.1**	**+0.2**
LDF				*e*Sg	**Sg**	**13 45 14.2**	**+0.7**
	comp=E,19nm,0.3s						
LDF	**La Druitiere**	**3.00**	**129**	*e*P	**Pn**	**13 44 26.9**	**+3.4**
LDF	**La Druitiere**	**3.00**	**129**	*e*Pg	**Pg**	**13 44 34.5**	**-0.1**
LDF				*e*Sn	**Sn**	**13 44 59.1**	**+0.2**
LDF				*e*Sg	**Sg**	**13 45 14.2**	**+0.7**
	comp=E,9.6nm,0.3s						
DSB	**Dublin**	**3.21**	**329**	*e*P	**Pn**	**13 44 29.7**	**+3.4**
DSB	**Dublin**	**3.21**	**329**	*e*P	**Pn**	**13 44 29.7**	**+3.4**
MFF	**Saint Martin d** SNR=1.0	**4.56**	**148**	*e*Pn	**Pn**	**13 44 46.1**	**+1.2**
MFF				*e*Sn	**Sn**	**13 45 36.3**	**-1.1**
	comp=E,6.2nm,0.3s,SNR=1.0						
MFF	**Saint Martin d** SNR=1.0	**4.56**	**148**	*e*Pn	**Pn**	**13 44 46.1**	**+1.2**
MFF				*e*Sn	**Sn**	**13 45 36.3**	**-1.1**
	comp=E,3.1nm,0.3s,SNR=1.0						
ESK	**Eskdalemuir**	**4.81**	**3**	*e*Pn	**Pn**	**13 44 49.8**	**+1.4**
ESK				*e*Sn	**Sn**	**13 45 41.5**	**-2.0**
ESK	**Eskdalemuir**	**4.81**	**3**	*e*Pn	**Pn**	**13 44 49.8**	**+1.4**
ESK				*e*Sn	**Sn**	**13 45 41.5**	**-2.0**
BAIF	**Baives**	**5.07**	**92**	*e*Pn	**Pn**	**13 44 51.7**	**-0.1**
BAIF				*e*Sn	**Sn**	**13 45 48.0**	**-1.7**
	comp=E,3.1nm,0.2s						
BAIF	**Baives**	**5.07**	**92**	*e*Pn	**Pn**	**13 44 51.7**	**-0.1**
BAIF				*e*Sn	**Sn**	**13 45 48.0**	**-1.7**
	comp=E,1.5nm,0.2s						
GIVF	**Givet** SNR=1.0	**5.45**	**91**	*e*Pn	**Pn**	**13 44 57.3**	**+0.1**
GIVF				*e*Sn	**Sn**	**13 45 57.3**	**-2.0**
	comp=E,6.1nm,0.2s						
GIVF	**Givet** SNR=1.0	**5.45**	**91**	*e*Pn	**Pn**	**13 44 57.3**	**+0.1**
TCF	**Toulx Ste Croi** SNR=1.0	**5.76**	**135**	*e*Pn	**Pn**	**13 45 02.2**	**+0.8**
TCF				*e*Sn	**Sn**	**13 46 04.0**	**-3.0**
	comp=E,6.4nm,0.2s						
TCF	**Toulx Ste Croi** SNR=1.0	**5.76**	**135**	*e*Pn	**Pn**	**13 45 02.2**	**+0.8**
BGF	**Bois d'Agland**	**5.86**	**130**	*e*Pn	**Pn**	**13 45 03.3**	**+0.5**
BGF				*e*Sn	**Sn**	**13 46 07.6**	**-1.8**
	comp=E,14nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**5.86**	**130**	*e*Pn	**Pn**	**13 45 03.3**	**+0.5**
SSF	**Saint Saulge** SNR=1.0	**5.86**	**123**	*e*Pn	**Pn**	**13 45 03.1**	**+0.3**
SSF				*e*Sn	**Sn**	**13 46 06.5**	**-3.0**
	comp=E,2.3nm,0.2s						
SSF	**Saint Saulge** SNR=1.0	**5.86**	**123**	*e*Pn	**Pn**	**13 45 03.1**	**+0.3**
LOR	**Lormes** SNR=1.0	**5.93**	**120**	*e*Pn	**Pn**	**13 45 04.2**	**+0.5**
LOR				*e*Sn	**Sn**	**13 46 09.0**	**-2.1**
	comp=E,3.8nm,0.2s,SNR=1.0						
LOR	**Lormes** SNR=1.0	**5.93**	**120**	*e*Pn	**Pn**	**13 45 04.2**	**+0.5**
AVF	**Avril sur Loir** SNR=1.0	**5.96**	**126**	*e*Pn	**Pn**	**13 45 04.2**	**+0.1**
AVF				*e*Sn	**Sn**	**13 46 08.5**	**-3.2**
	comp=E,3.0nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir** SNR=1.0	**5.96**	**126**	*e*Pn	**Pn**	**13 45 04.2**	**+0.1**
SFTF	**Sexfontaines** comp=E,5.3nm,0.3s	**6.14**	**109**	*e*Sn	**Sn**	**13 46 13.8**	**-2.3**
RJF	**Les Rejaudoux** SNR=1.0	**6.27**	**144**	*e*Pn	**Pn**	**13 45 08.7**	**+0.3**
RJF				*e*Sn	**Sn**	**13 46 15.1**	**-4.4**
	comp=E,3.3nm,0.2s						
RJF	**Les Rejaudoux** SNR=1.0	**6.27**	**144**	*e*Pn	**Pn**	**13 45 08.7**	**+0.3**
SMF	**Signal de Mont** SNR=1.0	**6.31**	**125**	*e*Pn	**Pn**	**13 45 09.2**	**+0.3**
SMF	**Signal de Mont** SNR=1.0	**6.31**	**125**	*e*Pn	**Pn**	**13 45 09.2**	**+0.3**
LFF	**La Frestale**	**6.32**	**150**	*e*Pn	**Pn**	**13 45 09.5**	**+0.4**
LFF	**La Frestale**	**6.32**	**150**	*e*Pn	**Pn**	**13 45 09.5**	**+0.4**
CAF	**Calviac** SNR=1.0	**6.80**	**143**	*e*Pn	**Pn**	**13 45 15.2**	**-0.5**
CAF				*e*Sn	**Sn**	**13 46 27.5**	**-5.0**
	comp=E,3.2nm,0.2s,SNR=1.0						
CAF	**Calviac** SNR=1.0	**6.80**	**143**	*e*Pn	**Pn**	**13 45 15.2**	**-0.5**
HAU	**Haudompre** SNR=1.0	**7.02**	**107**	*e*Pn	**Pn**	**13 45 19.2**	**+0.5**
HAU				*e*Sn	**Sn**	**13 46 34.6**	**-3.2**
	comp=E,6.1nm,0.2s						
HAU	**Haudompre** SNR=1.0	**7.02**	**107**	*e*Pn	**Pn**	**13 45 19.2**	**+0.5**
CDF	**Champ du Feu** SNR=1.0	**7.43**	**102**	*e*Pn	**Pn**	**13 45 24.9**	**+0.5**
CDF				*e*Sn	**Sn**	**13 46 45.6**	**-2.6**
	comp=E,2.8nm,0.3s,SNR=1.0						
CDF	**Champ du Feu** SNR=1.0	**7.43**	**102**	*e*Pn	**Pn**	**13 45 24.9**	**+0.5**
CABF	**La Chapelle**	**7.56**	**117**	*e*Pn	**Pn**	**13 45 27.4**	**+1.3**
CABF				*e*Sn	**Sn**	**13 46 49.6**	**-1.6**
	comp=E,4.0nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**7.56**	**117**	*e*Pn	**Pn**	**13 45 27.4**	**+1.3**
SJPF	**Ste Jean** SNR=1.0	**7.59**	**166**	*e*Pn	**Pn**	**13 45 27.3**	**+0.7**
SJPF				*e*Sn	**Sn**	**13 46 46.6**	**-5.5**
	comp=E,1.7nm,0.2s,SNR=1.0						
SJPF	**Ste Jean** SNR=1.0	**7.59**	**166**	*e*Pn	**Pn**	**13 45 27.3**	**+0.7**
ETSF	**Etsaut** SNR=1.0	**7.92**	**163**	*e*Pn	**Pn**	**13 45 30.8**	**-0.2**
ETSF				*e*Sn	**Sn**	**13 46 55.6**	**-4.4**
	comp=E,1.1nm,0.2s,SNR=1.0						
ETSF	**Etsaut** SNR=1.0	**7.92**	**163**	*e*Pn	**Pn**	**13 45 30.8**	**-0.2**
FINB	**Finale Ligure**	**0.42**	**329**	Pg	**Pg**	**13 50 42.8**	**+0.1**
FINB				Sg	**Sg**	**13 50 47.9**	**-0.7**
	421nm,0.2s						
FINB	**Finale Ligure**	**0.42**	**329**	Pg	**Pg**	**13 50 42.8**	**+0.1**
FINB				Sg	**Sg**	**13 50 47.9**	**-0.7**
	421nm,0.2s						
RORO	**Rocca Rossa**	**0.51**	**306**	Pg	**Pg**	**13 50 43.9**	**-0.2**
RORO				Sg	**Sg**	**13 50 50.5**	**-0.5**
	19μm,0.1s						
RORO	**Rocca Rossa**	**0.51**	**306**	P	**Pg**	**13 50 43.9**	**-0.2**
RORO				S	**Sg**	**13 50 50.0**	**-1.0**
RORO				Sg	**Sg**	**13 50 50.5**	**-0.5**
	19μm,0.1s						
IMI	**Imperia**	**0.54**	**281**	Pg	**Pg**	**13 50 44.9**	**+0.1**
IMI				Sg	**Sg**	**13 50 52.3**	**+0.1**
	161nm,0.3s						
IMI	**Imperia**	**0.54**	**281**	P	**Pg**	**13 50 44.9**	**+0.1**
IMI				S	**Sg**	**13 50 52.0**	**-0.1**
IMI				Sg	**Sg**	**13 50 52.3**	**+0.1**
	161nm,0.3s						
QLNO	**Quiliano**	**0.55**	**338**	Pg	**Pg**	**13 50 45.0**	**0.0**
QLNO				Sg	**Sg**	**13 50 51.8**	**-0.6**
	148nm,0.4s						
QLNO	**Quiliano**	**0.55**	**338**	Pg	**Pg**	**13 50 45.0**	**0.0**
QLNO				Sg	**Sg**	**13 50 51.8**	**-0.6**
	148nm,0.4s						
NEGI	**Seborga**	**0.67**	**273**	Pg	**Pg**	**13 50 47.4**	**+0.2**
NEGI				Sg	**Sg**	**13 50 56.4**	**+0.2**
	99nm,0.2s						
NEGI	**Seborga**	**0.67**	**273**	P	**Pg**	**13 50 47.4**	**+0.2**
NEGI				S	**Sg**	**13 50 55.9**	**-0.3**
NEGI				Sg	**Sg**	**13 50 56.4**	**+0.2**
	99nm,0.2s						
PCP	**Piancastagn**	**0.73**	**355**	Pg	**Pg**	**13 50 48.1**	**-0.2**
PCP				Sg	**Sg**	**13 50 57.6**	**-0.4**
	39nm,0.3s						
PCP	**Piancastagn**	**0.73**	**355**	P	**Pg**	**13 50 48.2**	**-0.1**
PCP				Sg	**Sg**	**13 50 57.6**	**-0.4**
	39nm,0.3s						
MSSA	**Maissana**	**0.81**	**52**	Pg	**Pb**	**13 50 50.5**	**+1.0**
	42nm,0.7s						
MSSA	**Maissana**	**0.81**	**52**	Pg	**Pb**	**13 50 50.5**	**+1.0**
	42nm,0.7s						
SBF	**Sospel**	**0.87**	**274**	*e*Pg	**Pb**	**13 50 51.2**	**+0.8**
SBF				*e*Sn	**Sb**	**13 51 03.2**	**+1.6**
	180nm,0.2s						
SBF	**Sospel**	**0.87**	**274**	*e*Pg	**Pb**	**13 50 51.2**	**+0.8**
SBF				*e*Sn	**Sb**	**13 51 03.2**	**+1.6**
	90nm,0.2s						
SC2M	**Scurtabo**	**0.88**	**47**	Pg	**Pb**	**13 50 51.5**	**+0.9**
	64nm,0.3s						
SC2M	**Scurtabo**	**0.88**	**47**	Pg	**Pb**	**13 50 51.5**	**+0.9**
	64nm,0.3s						
ENR	**Entracque**	**0.96**	**296**	P	**Pg**	**13 50 52.4**	**-0.3**
GROG	**Isola di Gorgo**	**0.99**	**112**	Pg	**Pn**	**13 50 53.9**	**+1.0**
GROG	**Isola di Gorgo**	**0.99**	**112**	Pg	**Pn**	**13 50 53.9**	**+1.0**
STV	**Sant Anna di V**	**1.03**	**295**	Pg	**Pb**	**13 50 53.6**	**+0.3**
	35nm,0.3s						
STV	**Sant Anna di V**	**1.03**	**295**	P	**Pb**	**13 50 53.8**	**+0.5**
DOI	**San Damiano**	**1.21**	**305**	Pg	**Pn**	**13 50 56.7**	**+0.7**
	78nm,0.3s						
DOI	**San Damiano**	**1.21**	**305**	Pg	**Pn**	**13 50 56.7**	**+0.7**
	78nm,0.3s						
GRAM	**Graiana**	**1.24**	**56**	P	**Pg**	**13 50 58.8**	**+1.0**
PZZ	**Stroppo**	**1.29**	**303**	Pg	**Pb**	**13 50 58.1**	**+0.4**
	71nm,0.6s						
PZZ	**Stroppo**	**1.29**	**303**	P	**Pb**	**13 50 58.1**	**+0.4**
PGF	**Pioggiola**	**1.29**	**168**	*e*Pn	**Pn**	**13 50 57.2**	**+0.1**
PGF				*e*Sn	**Sb**	**13 51 12.5**	**-1.5**
	6.4nm,0.3s						
PGF	**Pioggiola**	**1.29**	**168**	*e*Pn	**Pn**	**13 50 57.2**	**+0.1**
PGF				*e*Sn	**Sb**	**13 51 12.5**	**-1.5**
	3.2nm,0.3s						
SARO	**Sassorosso**	**1.33**	**73**	P	**Pg**	**13 50 59.9**	**+0.3**
FRF	**La Foret Royal**	**1.46**	**261**	*e*Pn	**Pn**	**13 50 59.1**	**-0.2**
FRF	**La Foret Royal**	**1.46**	**261**	*e*P	**Pb**	**13 51 01.7**	**+1.2**
FRF				*e*Sn	**Sn**	**13 51 16.9**	**-1.0**
	13nm,0.3s						
FRF	**La Foret Royal**	**1.46**	**261**	*e*Pn	**Pn**	**13 50 59.1**	**-0.2**
FRF	**La Foret Royal**	**1.46**	**261**	*e*P	**Pb**	**13 51 01.7**	**+1.2**
FRF				*e*Sn	**Sn**	**13 51 16.9**	**-1.0**
	6.7nm,0.3s						
LMR	**La Mourre**	**1.61**	**253**	*e*Pn	**Pn**	**13 51 01.0**	**-0.4**
LMR	**La Mourre**	**1.61**	**253**	*e*P	**Pb**	**13 51 03.5**	**+0.4**
LMR				*e*Sn	**Sn**	**13 51 20.3**	**-1.4**
	11nm,0.2s						
LMR	**La Mourre**	**1.61**	**253**	*e*Pn	**Pn**	**13 51 01.0**	**-0.4**
LMR	**La Mourre**	**1.61**	**253**	*e*P	**Pb**	**13 51 03.5**	**+0.4**
LMR				*e*Sn	**Sn**	**13 51 20.3**	**-1.4**
	5.7nm,0.2s						
MBDF	**Montbardon**	**1.62**	**305**	*e*P	**Pb**	**13 51 03.5**	**+0.2**
MBDF				*e*Sn	**Sn**	**13 51 21.6**	**-0.4**
	29nm,0.5s						
MBDF	**Montbardon**	**1.62**	**305**	*e*P	**Pb**	**13 51 03.5**	**+0.2**
MBDF				*e*Sn	**Sn**	**13 51 21.6**	**-0.4**
	14nm,0.5s						
RSP	**Reno Superiore**	**1.65**	**324**	Pg	**Pb**	**13 51 04.4**	**+0.5**
	15nm,0.4s						
RSP	**Reno Superiore**	**1.65**	**324**	P	**Pb**	**13 51 03.8**	**-0.1**
RSP	**Reno Superiore**	**1.65**	**324**	Pg	**Pb**	**13 51 04.4**	**+0.5**
	15nm,0.4s						
LPG	**La Plagne**	**2.15**	**322**	*e*Pn	**Pn**	**13 51 09.2**	**+0.1**
LPG	**La Plagne**	**2.15**	**322**	*e*P	**Pb**	**13 51 12.2**	**-0.3**
LPG				*e*Sn	**Sn**	**13 51 33.9**	**-1.5**
	5.8nm,0.4s						
LPG	**La Plagne**	**2.15**	**322**	*e*Pn	**Pn**	**13 51 09.2**	**+0.1**
LPG	**La Plagne**	**2.15**	**322**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.26**	**341**	*e*P	Pn	14 24 04.1	-1.4
SKR				*e*S	Sg	14 24 21.4	-0.5
PAU	**Pauzhetka**	**1.97**	**1**	*e*P	Pb	14 24 16.6	-1.1
PAU				*e*S	Sb	14 24 42.6	+0.2
RUS	**Russkaya**	**3.14**	**20**	*e*P	Pn	14 24 34.2	+2.9
RUS				*e*S	Sb	14 25 13.0	-3.0
DALK	**Dalny**	**3.75**	**19**	*e*P	Pn	14 24 42.5	+2.8
DALK				*e*S	Sn	14 25 27.7	+3.6
AVH	**Avacha**	**3.97**	**17**	*e*P	Pb	14 24 47.3	-4.4
KRER	**Koryakskii**	**4.00**	**17**	*e*P	Pn	14 24 47.8	+4.4
SDLR	**Sedlovina**	**4.01**	**18**	*e*P	Pn	14 24 46.9	+3.5
GNL	**Ganaly**	**4.26**	**9**	*e*P	Pn	14 24 51.1	+4.2

ROM ***23*** *15:02:10.8±0.1, 45°.83N×9°.39E, h10km, Md2.5/15, Ml2.1/13, Error ellipse: s-maj=2.6km s-min=1.5km az=180.0*

ZUR ***23*** *15:02:10.3, 45°.81N×9°.44E, h10km±3km, ML2.4/10*

CSEM ***23*** *15:02:10.3±0.1, 45°.84N×9°.42E, h15km, ML2.5/12, Error ellipse: s-maj=3.1km s-min=2.2km az=163.0*

VIE ***23*** *15:02:11.5±0.7, 45°.83N×9°.58E, h8km, mb2.1/3, ML2.5/5, Error ellipse: s-maj=3.9km s-min=3.2km az=50.0*

LDG ***23*** *15:02:11.1±0.1, 45°.86N×9°.42E, h10km, Ml2.5/8, Error ellipse: s-maj=1.6km s-min=1.2km az=163.0*

GEN ***23*** *15:02:11.1, 45°.82N×9°.40E, h9km, ML2.2*

ISC 23 15:02:10.7±0.9, 45°.79N±0°.02×9°.41E±0°.02, h15km±7km, n80, σ1°.18/116, 1C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUGIO	**Muggio**	**0.29**	**297**	Pg	**Pg**	**15 02 16.3**	**-0.5**
MUGIO				Sg	**Sg**	**15 02 20.9**	**-0.1**
	490nm,0.2s						
MUGIO	**Muggio**	**0.29**	**297**	⇓*i*Pg	**Pg**	**15 02 16.3**	**-0.5**
	2µm,0.2s						
MUGIO				*e*Sg	**Sg**	**15 02 21.0**	**-0.1**
	2µm,0.2s						
MUGIO	**Muggio**	**0.29**	**297**	⇓*i*Pg	**Pg**	**15 02 16.3**	**-0.5**
	2µm,0.2s						
MUGIO				Sg	**Sg**	**15 02 20.9**	**-0.1**
	490nm,0.2s						
VDL	**Val di Lei**	**0.69**	**2**	*e*Pg	**Pb**	**15 02 23.6**	**-0.9**
	107nm,0.2s						
VDL	**Val di Lei**	**0.69**	**2**	*e*Pg	**Pb**	**15 02 23.6**	**-0.9**
	107nm,0.2s						
BERNI	**Berninapass**	**0.75**	**34**	Pg	**Pb**	**15 02 24.8**	**-0.8**
BERNI				Sg	**Sb**	**15 02 34.5**	**-1.3**
BERNI	**Berninapass**	**0.75**	**34**	*e*Pg	**Pb**	**15 02 24.9**	**-0.7**
	152nm,0.4s						
BERNI	**Berninapass**	**0.75**	**34**	Pg	**Pb**	**15 02 24.8**	**-0.8**
BERNI				Sg	**Sb**	**15 02 34.5**	**-1.3**
SALO	**Salr**	**0.80**	**102**	Pg	**Pb**	**15 02 26.8**	**+0.5**
	87nm,0.3s						
SALO	**Salr**	**0.80**	**102**	Pg	**Pb**	**15 02 26.8**	**+0.5**
	87nm,0.3s						
MABI	**Malga Bissina**	**0.82**	**71**	Pg	**Pb**	**15 02 25.6**	**-1.0**
	45nm,0.3s						
MABI	**Malga Bissina**	**0.82**	**71**	Pg	**Pb**	**15 02 25.6**	**-1.0**
	45nm,0.3s						
DOETR	**Doetra (Olivon**	**0.83**	**334**	*e*Pg	**Pb**	**15 02 26.2**	**-0.6**
	315nm,0.3s						
DOETR	**Doetra (Olivon**	**0.83**	**334**	*e*Pg	**Pb**	**15 02 26.2**	**-0.6**
	315nm,0.3s						
FUSIO	**Fusio**	**0.84**	**322**	Pg	**Pb**	**15 02 26.1**	**-0.9**
	64nm,0.3s						
FUSIO	**Fusio**	**0.84**	**322**	Pg	**Pb**	**15 02 26.1**	**-0.9**
	64nm,0.3s						
MAGA	**Magasa**	**0.85**	**91**	Pg	**Pb**	**15 02 26.7**	**-0.6**
	253nm,0.4s						
MAGA	**Magasa**	**0.85**	**91**	Pg	**Pb**	**15 02 26.7**	**-0.6**
	253nm,0.4s						
RNI	**Roncone**	**0.87**	**77**	*e*Pg	**Pb**	**15 02 26.7**	**-0.9**
RNI				*e*Sg	**Sb**	**15 02 38.4**	**-0.7**
BRMO	**Bormio**	**0.96**	**44**	Pg	**Pb**	**15 02 28.3**	**-0.7**
	12nm,0.4s						
BRMO	**Bormio**	**0.96**	**44**	Pg	**Pb**	**15 02 28.3**	**-0.7**
	12nm,0.4s						
CURA	**Stauanlage Cun**	**0.97**	**330**	⇓*i*Pg	**Pb**	**15 02 28.7**	**-0.6**
	228nm,0.2s						
CURA	**Stauanlage Cun**	**0.97**	**330**	⇓*i*Pg	**Pb**	**15 02 28.7**	**-0.6**
	228nm,0.2s						
BALD	**Monte Baldo**	**0.99**	**96**	*e*Pg	**Pb**	**15 02 29.8**	**+0.1**
BALD				*e*Sg	**Sg**	**15 02 43.8**	**+0.8**
BALD	**Monte Baldo**	**0.99**	**96**	*e*Pg	**Pb**	**15 02 29.8**	**+0.1**
BALD				*e*Sg	**Sg**	**15 02 43.8**	**+0.8**
FUORN	**Ofenpass-Fuorn**	**1.02**	**35**	Pg	**Pb**	**15 02 29.5**	**-0.7**
	19nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**1.02**	**35**	*e*Pg	**Pb**	**15 02 29.4**	**-0.7**
	54nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**1.02**	**35**	Pg	**Pb**	**15 02 29.5**	**-0.7**
	19nm,0.6s						
BOB	**Bobbio (Coli)**	**1.03**	**178**	Pg	**Pg**	**15 02 31.1**	**+0.6**
	31nm,0.3s						
BOB	**Bobbio (Coli)**	**1.03**	**178**	Pg	**Pg**	**15 02 31.1**	**+0.6**
	31nm,0.3s						
MMK	**Mattmark**	**1.04**	**285**	Pg	**Pb**	**15 02 29.8**	**-0.7**
MMK				Sg	**Sg**	**15 02 43.6**	**-0.9**
	48nm,0.5s						
MMK	**Mattmark**	**1.04**	**285**	*e*Pg	**Sg**	**15 02 43.6**	**-0.9**
	152nm,0.3s						
MMK	**Mattmark**	**1.04**	**285**	Pg	**Pb**	**15 02 29.8**	**-0.7**
MMK				Sg	**Sg**	**15 02 43.6**	**-0.9**
	48nm,0.5s						
DAVOX	**Davos/Dischmat**	**1.04**	**18**	Pg	**Pb**	**15 02 30.1**	**-0.4**
	65nm,0.3s						
DAVOX	**Davos/Dischmat**	**1.04**	**18**	⇓*i*Pg	**Pb**	**15 02 30.0**	**-0.4**
	238nm,0.3s						
DAVOX				*e*Sg	**Pb**	**15 02 30.1**	**-0.4**
	238nm,0.3s						
DAVOX	**Davos/Dischmat**	**1.04**	**18**	⇓*i*Pg	**Pb**	**15 02 30.0**	**-0.4**
	238nm,0.3s						
SATI	**Passo dei Sala**	**1.08**	**275**	Pg	**Pb**	**15 02 30.7**	**-0.5**
	39nm,0.3s						
SATI	**Passo dei Sala**	**1.08**	**275**	*e*Pg	**Pb**	**15 02 30.8**	**-0.5**
	366nm,0.1s						
SATI	**Passo dei Sala**	**1.08**	**275**	P	**Pb**	**15 02 30.7**	**-0.5**
SATI				S	**Sb**	**15 02 45.0**	**-0.2**
CARE	**Lago del Cares**	**1.10**	**54**	*e*Pg	**Pb**	**15 02 30.7**	**-0.8**
CARE				*e*Sg	**Sb**	**15 02 44.7**	**-1.0**
CARE	**Lago del Cares**	**1.10**	**54**	*e*Pg	**Pb**	**15 02 30.7**	**-0.8**
CARE				*e*Sg	**Sb**	**15 02 44.7**	**-1.0**
ROVR	**Rover˜¤ Verone**	**1.18**	**97**	Pg	**Pn**	**15 02 32.6**	**-0.1**
ROVR	**Rover˜¤ Verone**	**1.18**	**97**	Pg	**Pn**	**15 02 32.6**	**-0.1**
TRAV	**Traversella**	**1.20**	**257**	Pg	**Pn**	**15 02 32.7**	**-0.2**
	59nm,0.3s						
TRAV	**Traversella**	**1.20**	**257**	P	**Pn**	**15 02 32.7**	**-0.2**
TRAV				S	**Sb**	**15 02 47.2**	**-1.2**
DDS	**Dosso del Somm**	**1.25**	**85**	*e*Pg	**Pn**	**15 02 34.0**	**+0.3**
DDS	**Dosso del Somm**	**1.25**	**85**	*e*Pg	**Pn**	**15 02 34.0**	**+0.3**
PLONS	**Plons/SG**	**1.26**	**359**	Pg	**Pn**	**15 02 34.1**	**+0.3**
BNALP	**Bannalp**	**1.27**	**328**	Pg	**Pn**	**15 02 34.5**	**+0.5**
	15nm,0.4s						
BNALP	**Bannalp**	**1.27**	**328**	⇓*i*Pg	**Pn**	**15 02 34.6**	**+0.5**
	58nm,0.1s						
BNALP	**Bannalp**	**1.27**	**328**	Pg	**Pn**	**15 02 34.5**	**+0.5**
	15nm,0.4s						
PANI	**Panarotta**	**1.37**	**78**	*e*Pg	**Pn**	**15 02 36.0**	**+0.6**
PCP	**Piancastagn**	**1.39**	**206**	P	**Pn**	**15 02 35.7**	**+0.1**
DAVA	**Damuels**	**1.53**	**12**	Pg	**Pb**	**15 02 39.5**	**+0.7**
	1.2nm,0.1s						
DAVA				Sg	**Sg**	**15 03 02.1**	**+2.1**
	24nm,0.2s						
FETA	**Feichten**	**1.53**	**36**	Pg	**Pb**	**15 02 39.2**	**+0.4**
	0.3nm,0.1s						
FETA				Sg	**Sb**	**15 02 59.5**	**+1.4**
	3.5nm,0.2s						
LPG	**La Plagne**	**1.89**	**262**	*e*Pn	**Pn**	**15 02 42.1**	**-0.5**
LPG				*e*Sn	**Sn**	**15 03 05.6**	**-0.6**
	7.1nm,0.3s						
LPG	**La Plagne**	**1.89**	**262**	*e*Pn	**Pn**	**15 02 42.1**	**-0.5**
LPG				*e*Sn	**Sn**	**15 03 05.6**	**-0.6**
	3.5nm,0.3s						
LPL	**La Plagne**	**1.90**	**263**	*e*Pn	**Pn**	**15 02 42.6**	**-0.1**
LPL				*e*Sn	**Sn**	**15 03 05.2**	**-1.2**
	5.9nm,0.3s						
LPL	**La Plagne**	**1.90**	**263**	*e*Pn	**Pn**	**15 02 42.6**	**-0.1**
LPL				*e*Sn	**Sn**	**15 03 05.2**	**-1.2**
	3.0nm,0.3s						
MOTA	**Moosalm**	**1.94**	**36**	Pg	**Pb**	**15 02 46.3**	**+0.4**
	1.0nm,0.1s						
MOTA				Sg	**Sg**	**15 03 14.5**	**+1.3**
	5.6nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**2.15**	**241**	*e*Pn	**Pn**	**15 02 45.7**	**-0.3**
MBDF				*e*Sn	**Sn**	**15 03 12.0**	**-0.4**
	1.8nm,0.2s						
MBDF	**Montbardon**	**2.15**	**241**	*e*Pn	**Pn**	**15 02 45.7**	**-0.3**
MBDF				*e*Sn	**Sn**	**15 03 12.0**	**-0.4**
	0.9nm,0.2s						
SBF	**Sospel**	**2.39**	**217**	*e*Pn	**Pn**	**15 02 49.8**	**+0.6**
SBF				*e*Sn	**Sn**	**15 03 17.5**	**-0.7**
	5.8nm,0.3s						
SBF	**Sospel**	**2.39**	**217**	*e*Pn	**Pn**	**15 02 49.8**	**+0.6**
SBF				*e*Sn	**Sn**	**15 03 17.5**	**-0.7**
	2.9nm,0.3s						
CABF	**La Chapelle**	**2.45**	**291**	*e*P	**Pn**	**15 02 51.4**	**+1.3**
CABF	**La Chapelle**	**2.45**	**291**	*e*P	**Pn**	**15 02 51.4**	**+1.3**
ORIF	**Oris-en-Rattie**	**2.64**	**252**	*e*P	**Pn**	**15 02 55.1**	**+2.4**
ORIF				*e*Sn	**Sn**	**15 03 22.3**	**-2.1**
	4.6nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.64**	**252**	*e*P	**Pn**	**15 02 55.1**	**+2.4**
ORIF				*e*Sn	**Sn**	**15 03 22.3**	**-2.1**
	2.3nm,0.4s						
HINF	**Hinteralfeld**	**2.68**	**320**	*e*Pn	**Pn**	**15 02 51.8**	**-1.5**
HINF	**Hinteralfeld**	**2.68**	**320**	*e*Pg	**Pb**	**15 03 00.0**	**+1.7**
HINF				*e*Sn	**Sn**	**15 03 22.5**	**-2.9**
HINF				*e*Sg	**Sb**	**15 03 34.1**	**+3.1**
	5.0nm,0.3s						
HINF	**Hinteralfeld**	**2.68**	**320**	*e*Pn	**Pn**	**15 02 51.8**	**-1.5**
HINF	**Hinteralfeld**	**2.68**	**320**	*e*Pg	**Pb**	**15 03 00.0**	**+1.7**
HINF				*e*Sn	**Sn**	**15 03 22.5**	**-2.9**
HINF				*e*Sg	**Sb**	**15 03 34.1**	**+3.1**
	2.5nm,0.3s						
FRF	**La Foret Royal**	**2.98**	**222**	*e*Pn	**Pn**	**15 02 57.2**	**-0.1**
FRF				*e*Sn	**Sn**	**15 03 31.7**	**-1.0**
	2.8nm,0.3s						
FRF	**La Foret Royal**	**2.98**	**222**	*e*Pn	**Pn**	**15 02 57.2**	**-0.1**
FRF				*e*Sn	**Sn**	**15 03 31.7**	**-1.0**
	1.4nm,0.3s						
CDF	**Champ du Feu**	**3.00**	**332**	*e*P	**Pn**	**15 02 58.2**	**+0.5**
CDF				*e*Sg	**Sb**	**15 03 44.0**	**+3.8**
	3.0nm,0.3s						
CDF	**Champ du Feu**	**3.00**	**332**	*e*P	**Pn**	**15 02 58.2**	**+0.5**
CDF				*e*Sg	**Sb**	**15 03 44.0**	**+3.8**
	1.5nm,0.3s						
LMR	**La Mourre**	**3.21**	**221**	*e*Pn	**Pn**	**15 03 00.6**	**0.0**
LMR	**La Mourre**	**3.21**	**221**	*e*Pn	**Pn**	**15 03 00.6**	**0.0**
VIVF	**Saint-Julien-l**	**3.47**	**256**	*e*P	**Pn**	**15 03 06.1**	**+2.0**
VIVF	**Saint-Julien-l**	**3.47**	**256**	*e*P	**Pn**	**15 03 06.1**	**+2.0**

NIED ***23*** *15:06:00, 38°.00N×142°.90E, h14km, Mw3.7 Best double couple: M○3.36000×10^14 NP1:φ=163.00000°, δ37.00000°, λ150.00000°. NP2:φ=278.00000°, δ72.00000°, λ57.00000°.*

IDC ***23*** *15:06:42.4±1.1, 37°.67N×143°.16E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/58, mbtmp3.7/9, ML3.3/2, MS3.1/2, Ms1 3.3/2, ms1mx2.4/35, Error ellipse: s-maj=27.9km s-min=19.4km az=98.0*

ISCJB ***23*** *15:06:43.3±0.9, 37°.97N±0°.06×142°.87E±0°.08, h18km, mb3.6/7, MS3.6/1, Error ellipse: s-maj=9.5km s-min=7.8km az=151.1*

JMA ***23*** *15:06:44.1±0.3, 38°.03N×142°.89E, h33km, M3.9*

ISC 23 15:06:45.4±1.0, 37°.98N±0°.05×142°.92E±0°.09, h18km, n26, σ3°.09/22, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.33**	**292**	P	**Pn**	**15 07 06.0**	**-3.0**
JIO				*e*S	**Sn**	**15 07 22.6**	**-3.6**
OFUJ	**Ofunato**	**1.48**	**319**	P	**Pn**	**15 07 08.0**	**-3.1**
OFUJ				S	**Sn**	**15 07 25.0**	**-4.9**
JMK	**Ichinoseki**	**1.65**	**307**	P	**Pn**	**15 07 11.3**	**-2.2**
JMM	**Marumori**	**1.69**	**267**	P	**Pn**	**15 07 11.7**	**-2.2**
JFK	**Kawauchi**	**1.73**	**250**	P	**Pn**	**15 07 11.6**	**-3.0**
JOU	**Okura**	**1.82**	**283**	P	**Pn**	**15 07 14.5**	**-1.3**
JOM	**Ohasama**	**1.96**	**320**	S	**Sn**	**15 07 39.6**	**-2.4**
JFT	**Otama**	**2.10**	**258**	*e*S	**Sn**	**15 07 43.4**	**-1.9**
MJAR	**Matsushiro Arr**	**4.02**	**251**	Pn	**Pn**	**15 07 46.6**	**+0.5**
	0.9nm,0.3s,baz=48,slow=6.6,SNR=5.7						
MAT	**Matsushiro**	**4.02**	**251**	P	**Pn**	**15 07 47.6**	**+1.5**
MAT				S	**Sn**	**15 08 37.1**	**+4.3**
JHJ	**Hachijo jima 2**	**5.48**	**209**	Pn	**Pn**	**15 08 03.5**	**-2.5**
	5.7nm,0.3s,baz=307,slow=20,SNR=2.2						
JHJ				Sn	**Sn**	**15 09 03.3**	**-5.4**
	17nm,0.3s,baz=73,slow=19,SNR=3.8						
KLR	**Kul'dur**	**13.84**	**328**	LR	LR	15 14 44.7	
	comp=Z,21nm,18.4s,baz=182,slow=34						
SEY	**Seymchan**	**25.65**	**10**	P	**P**	**15 12 17.0**	**+3.3**
	1.8nm,0.6s,baz=174,slow=8.0,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**27.64**	**124**	T	T	15 41 36.3	
	baz=317,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**27.65**	**124**	T	T	15 41 36.9	
	baz=317,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.66**	**124**	T	T	15 41 32.8	
	baz=317,slow=76,SNR=16						
SONM	**Songino Array**	**28.28**	**302**	P	**P**	**15 12 41.2**	**+3.5**
	0.2nm,0.4s,baz=124,slow=7.7,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**28.41**	**126**	T	T	15 42 35.5	
	baz=318,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.41**	**127**	T	T	15 42 35.0	
	baz=318,slow=76,SNR=9.5						
H11S2	**WAKE ISLAND Hy**	**28.42**	**126**	T	T	15 42 34.4	
	baz=318,slow=76,SNR=8.6						
ZALV	**Zalesovo Beam**	**42.18**	**312**	P	**P**	**15 14 38.2**	**+1.5**
	0.5nm,0.3s,baz=86,slow=6.6,SNR=2.3						
CMAR	**Chiang Mai Arr**	**42.89**	**256**	LR	LR	15 35 40.0	
	comp=Z,76nm,18.1s,baz=206,slow=40						
MKAR	**Makanchi Array**	**44.64**	**302**	P	**P**	**15 14 59.0**	**+2.2**
	0.2nm,0.5s,baz=86,slow=10,SNR=2.5						
ILAR	**Eielson Array**	**48.06**	**33**	P	**P**	**15 15 23.9**	**+0.6**
	0.3nm,0.8s,baz=279,slow=6.0,SNR=3.1						
WRA	**Warramunga Arr**	**58.17**	**190**	P	**P**	**15 16 36.9**	**-1.3**
	1.3nm,0.8s,baz=7.0,slow=7.0,SNR=7.9						
ASAR	**Alice Springs**	**61.90**	**189**	P	**P**	**15 17 01.0**	**-2.7**
	0.5nm,0.5s,baz=14,slow=6.4,SNR=4.8						

CASC 23 15:08:36.9±1.0, 9°.60N×83°.79W, h79km±4km, MD3.5, 5C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.06**	**148**	*e*P	Pn	15 08 48.7	-0.2
BUS				*e*S	Sn	15 08 58.9	+1.3
URSC	**Urasca**	**0.23**	**3**	⇑*i*P	Pn	15 08 49.0	0.0
URSC				*e*S	Sn	15 08 57.9	+0.1
QCR	**Quepos**	**0.41**	**244**	⇑*e*P	Pn	15 08 50.0	+0.2
QCR				*e*S	Sn	15 09 00.3	+0.9
HDC	**Heredia**	**0.51**	**321**	⇑*e*P	Pn	15 08 51.0	+0.1
HDC				*e*S	Sn	15 09 01.7	+0.6
CGA2	**Cerro Gallo 2**	**0.78**	**302**	⇓*e*P	Pn	15 08 53.9	+0.3
CGA2				*e*S	Sn	15 09 06.5	+0.6
JCR	**Jicaral**	**1.33**	**281**	⇑*e*P	Pn	15 08 59.9	-0.2
JCR				*e*S	Sn	15 09 18.1	+0.6
TBS2		**1.38**	**126**	⇑*i*P	Pn	15 09 01.6	+0.8
TBS2				*e*S	Sn	15 09 19.3	+0.6

ISK ***23*** *15:19:35.8, 39°.52N×30°.08E, h12km, MD2.6*

ISCJB ***23*** *15:19:36.4±0.6, 39°.59N±0°.03×30°.09E±0°.03, h3km±6km, Error ellipse: s-maj=4.7km s-min=4.2km az=150.4*

CSEM ***23*** *15:19:36.3±0.2, 39°.59N×30°.09E, h5km, ML2.6, Error ellipse: s-maj=4.6km s-min=4.2km az=172.0*

DDA ***23*** *15:19:36.1, 39°.63N×30°.11E, h7km, Ml2.6*

ISC 23 15:19:36.0±1.1, 39°.59N±0°.03×30°.10E±0°.02, h6km±10km, n23, σ0°.56/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	**Eskisehir**	**0.40**	**42**	P	**Pg**	**15 19 43.1**	**-0.7**
BORA				S	**Sg**	**15 19 49.4**	**+0.4**
BORA	**Eskisehir**	**0.40**	**42**	*i* P	**Pg**	**15 19 43.1**	**-0.7**
BORA				*i* S	**Sg**	**15 19 49.4**	**+0.4**
TVSB	**Tavsanli**	**0.52**	**255**	*e*PG	**Pg**	**15 19 45.7**	**-0.3**
TVSB				*e*SG	**Sg**	**15 19 53.2**	**+0.5**
TVSB	**Tavsanli**	**0.52**	**255**	*e*Pg	**Pg**	**15 19 45.7**	**-0.3**
TVSB				*e*Sg	**Sg**	**15 19 53.2**	**+0.5**
ESKT	**Eskisehir**	**0.58**	**96**	*e*PG	**Pg**	**15 19 47.1**	**-0.1**
ESKT				*e*SG	**Sb**	**15 19 57.0**	**-0.3**
ESKT	**Eskisehir**	**0.58**	**96**	*e*Pg	**Pg**	**15 19 47.1**	**-0.1**
ESKT				*e*Sg	**Sb**	**15 19 57.0**	**-0.3**
ESKT	**Eskisehir**	**0.58**	**96**	*i* P	**Pg**	**15 19 47.2**	**-0.1**
ESKT				*i* S	**Sb**	**15 19 57.1**	**-0.1**
SEYT	**Eskypehyr**	**0.58**	**96**	P	**Pg**	**15 19 47.2**	**-0.1**
SEYT				S	**Sb**	**15 19 57.2**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.69**	**224**	P	**Pb**	**15 19 50.0**	**-0.6**
GDZ	**Gediz**	**0.69**	**224**	*i* P	**Pb**	**15 19 50.0**	**-0.6**
GDZ				*i* S	**Sb**	**15 20 01.3**	**+0.8**
IZI	**Iznik**	**0.89**	**327**	*e*PG	**Pb**	**15 19 53.6**	**-0.4**
IZI	**Iznik**	**0.89**	**327**	*e*Pg	**Pb**	**15 19 53.6**	**-0.4**
GULT	**Gulveren**	**0.90**	**20**	*e*PG	**Pn**	**15 19 55.0**	**-0.4**
GULT				*e*SG	**Sn**	**15 20 09.1**	**+0.3**
GULT	**Gulveren**	**0.90**	**20**	*e*Pg	**Pn**	**15 19 55.0**	**-0.4**
GULT				*e*Sg	**Sn**	**15 20 09.1**	**+0.3**
IGD	**Bursa**	**0.97**	**315**	*i* P	**Pg**	**15 19 54.3**	**-0.3**
IGD				*i* S	**Sb**	**15 20 08.7**	**+0.4**
BOLV	**Bolvadin**	**1.09**	**143**	P	**Pn**	**15 19 57.9**	**-0.1**
BOLV				S	**Sn**	**15 20 13.7**	**+0.3**
BOLV	**Bolvadin**	**1.09**	**143**	*i* P	**Pn**	**15 19 57.9**	**-0.1**
BOLV				*i* S	**Sn**	**15 20 13.7**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.11**	**97**	*e*PN	**Pn**	**15 19 58.4**	**+0.2**
SVRH				*e*SN	**Sn**	**15 20 13.5**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.11**	**97**	*e*Pn	**Pn**	**15 19 58.4**	**+0.2**
SVRH				*e*Sn	**Sn**	**15 20 13.5**	**-0.3**
SAHE	**Sakarya_HENDEK**	**1.39**	**24**	P	**Pn**	**15 20 02.2**	**+0.2**
SAHE				S	**Sg**	**15 20 22.6**	**+1.9**
SAHE	**Sakarya_HENDEK**	**1.39**	**24**	*i* P	**Pn**	**15 20 02.2**	**+0.2**
SAHE				*i* S	**Sg**	**15 20 22.6**	**+1.9**
KAND	**Kocaeli-Kandir**	**1.51**	**3**	P	**Pn**	**15 20 03.6**	**0.0**
KAND				S	**Sg**	**15 20 24.5**	**0.0**
KAND	**Kocaeli-Kandir**	**1.51**	**3**	*i* P	**Pn**	**15 20 03.6**	**0.0**
KAND				*i* S	**Sg**	**15 20 24.6**	**0.0**

MAN 23 15:27:16, 14°.07N×120°.43E, h91km, mb3.8, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.38**	**208**	*e*P	Pn	15 27 31.9	+1.9
LUBP				*e*S	Sn	15 27 44.0	+3.5
PGP	**Puerto Galera**	**0.76**	**138**	⇑*e*P	Pn	15 27 34.4	+1.1
PGP				*e*S	Sn	15 27 48.1	+2.0
SJMP	**San Jose**	**1.74**	**157**	*e*P	Pn	15 27 46.4	+1.5
SJMP				*e*S	Sn	15 28 08.2	+1.4
BUSP	**Coron**	**2.07**	**186**	*e*P	Pn	15 27 49.7	+0.5
BUSP				*e*S	Sn	15 28 14.5	-0.1

JMA 23 15:36:06.4±0.1, 38°.03N×143°.91E, h2km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.05**	**302**	P	Pn	15 36 42.8	+1.0
OFUJ				S	Sb	15 37 09.6	-0.6
JIO	**Ouri**	**2.06**	**283**	P	Pn	15 36 42.9	+0.9
JIO				S	Sn	15 37 09.1	+0.8
JMK	**Ichinoseki**	**2.30**	**294**	P	Pn	15 36 46.2	+0.8
JMK				*e*S	Sb	15 37 16.3	-1.2
JOM	**Ohasama**	**2.50**	**306**	P	Pn	15 36 48.8	+0.7
JOM				*e*S	Sn	15 37 20.5	+1.3
JOU	**Okura**	**2.58**	**278**	P	Pn	15 36 50.6	+1.4
JFT	**Otama**	**2.88**	**261**	P	Pn	15 36 54.1	+0.8
JFT				*e*S	Sn	15 37 29.4	+0.9
JRG	**Rokugo**	**2.90**	**299**	*e*S	Sb	15 37 32.6	-2.2
JYK	**Kaneyama**	**2.92**	**289**	P	Pn	15 36 55.9	+2.0
JYK				*e*S	Sn	15 37 31.9	+2.3
JANG	**Nango**	**2.99**	**322**	P	Pn	15 36 56.4	+1.6
JANG				S	Sn	15 37 31.0	-0.2
JTM	**Tenmabayashi**	**3.52**	**322**	P	Pn	15 37 04.4	+2.2
JTM				S	Sn	15 37 44.3	-0.1
JAG	**Ashikaga**	**3.90**	**247**	P	Pn	15 37 06.9	-0.4
JAG				*e*S	Sn	15 37 51.2	-2.5
JKB	**Kayabe**	**4.44**	**331**	*e*S	Sn	15 38 07.9	+0.9
JRY	**Ryogami san**	**4.48**	**245**	P	Pn	15 37 14.4	-1.0
JRY				S	Sn	15 38 04.5	-3.6
JCH	**Churui**	**4.60**	**355**	P	Pn	15 37 15.4	-1.5
JCH				*e*S	Sn	15 38 05.9	-5.0

**IDC 23 15:39:15.0±2.9, 7°.19S×129°.51E, h111km±35km, mb3

DRGR		**1.81**	**6**	*e*Pn	**Pb**	**15 48 37.3**	**-0.3**
DRGR				*e*Sn	**Sg**	**15 49 02.5**	**+0.4**
DRGR		**1.81**	**6**	*i*P	**Pb**	**15 48 37.5**	**-0.1**
DRGR				S	**Sg**	**15 49 02.0**	**-0.1**
VOIR		**1.91**	**76**	*i*P	**Pb**	**15 48 39.8**	**+0.4**
VOIR		**1.91**	**76**	*i*P	**Pb**	**15 48 39.8**	**+0.4**
VOIR				*i* S	**Sg**	**15 49 06.1**	**+0.6**
VOIR		**1.91**	**76**	*i*P	**Pb**	**15 48 39.8**	**+0.4**
VOIR				S	**Sg**	**15 49 06.1**	**+0.6**
DIVS	**Divibare**	**1.95**	**243**	*e*Pn	**Pn**	**15 48 38.6**	**+0.8**
DIVS				*e*Sg	**Sb**	**15 49 05.1**	**+0.4**
DIVS	**Divibare**	**1.95**	**243**	*e*Pn	**Pn**	**15 48 38.6**	**+0.8**
DIVS				*e*Sg	**Sb**	**15 49 05.1**	**+0.4**
TEKS	**Tekeris**	**2.10**	**259**	*e*Pn	**Pn**	**15 48 40.1**	**+0.3**
TEKS	**Tekeris**	**2.10**	**259**	*e*Pn	**Pn**	**15 48 40.1**	**+0.3**
BARS	**Barje**	**2.22**	**191**	*e*Pn	**Pb**	**15 48 44.0**	**-0.6**
BARS				*e*Sg	**Sg**	**15 49 14.8**	**-0.7**
BARS	**Barje**	**2.22**	**191**	*e*Pn	**Pb**	**15 48 44.0**	**-0.6**
BARS				*e*Sg	**Sg**	**15 49 14.8**	**-0.7**

IDC 23 15:54:27.4±1.8, 6°62.5′S×148°09.6′E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/35, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=72.0km s-min=26.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.92**	**198**	P	Pn	15 55 17.0	+1.8
	5.5nm,0.3s,baz=11,slow=5.5,SNR=7.1						
PMG				Lg	Lg	15 55 57.1	
	3.7nm,0.3s,baz=187,slow=18,SNR=7.2						
WRA	**Warramunga Ar**	**18.81**	**224**	P	P	15 58 48.9	+0.1
	0.1nm,0.3s,baz=52,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.76**	**217**	P	P	15 59 20.1	-0.8
	0.6nm,0.6s,baz=52,slow=9.3,SNR=13						
FITZ	**Fitzroy Crossi**	**24.59**	**240**	P	P	15 59 49.5	-0.9
	1.7nm,0.6s,baz=42,slow=8.2,SNR=11						
ILAR	**Eielson Array**	**85.62**	**23**	P	P	16 07 07.4	-0.1
	0.3nm,0.7s,baz=244,slow=3.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**146.29**	**284**	PKPbc	PKPbc	16 14 11.1	-0.1
	0.1nm,0.3s,baz=101,slow=1.5,SNR=3.7						

NIED ***23*** *16:25:00, 36°.20′N×141°.00′E, h23km, Mw3.3 Best double couple: M₀9.26000×10¹³ NP1:φs187.00000°, δ44.00000°, λ-87.00000°. NP2:φs4.00000°, δ46.00000°, λ-92.00000°.*
IDC ***23*** *16:25:30.1±1.4, 35°.93N×141°.05E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/42, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=29.1km s-min=26.3km az=84.0*
JMA ***23*** *16:25:33.6, 36°.17N×141°.00E, h38km±1km, M3.5*
JMA Felt I J1.

ISC 23 16:25:29.9±2.0, 36°08′N±0°.05×141°19′E±0°.07, h5km±13km, n17, σ1s76/17, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.46**	**215**	P	**Pn**	**16 25 43.8**	**+0.7**
CHOJ				S	**Sb**	**16 25 51.2**	**+3.6**
JHO	**Hitachi**	**0.73**	**317**	P	**Pb**	**16 25 45.0**	**0.0**
JHO				S	**Sg**	**16 25 53.4**	**+0.1**
JYT	**Yasato**	**0.82**	**281**	P	**Pb**	**16 25 46.5**	**0.0**
JYT				S	**Sg**	**16 25 56.3**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.07**	**343**	P	**Pg**	**16 25 50.3**	**-0.1**
JFK	**Kawauchi**	**1.31**	**349**	P	**Pn**	**16 25 53.5**	**-1.3**
MJAR	**Matsushiro Arr**	**2.45**	**282**	Pn	**Pn**	**16 26 10.3**	**-0.2**
	3.4nm,0.3s,baz=107,slow=7.8,SNR=26						
MJAR				Sn	**Sn**	**16 26 40.0**	**-0.8**
	4.9nm,0.3s,baz=223,slow=38,SNR=5.8						
MAT	**Matsushiro**	**2.45**	**282**	P	**Pn**	**16 26 10.6**	**+0.1**
MAT				S	**Sn**	**16 26 38.1**	**-2.8**
JHJ	**Hachijo jima 2**	**3.17**	**202**	Pn	**Pn**	**16 26 17.5**	**-2.9**
	8.4nm,0.3s,baz=70,slow=20,SNR=2.9						
JHJ				Sn	**Sb**	**16 27 03.8**	**-1.9**
	10nm,0.3s,baz=72,slow=23,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**27.83**	**119**	T	T	17 00 31.2	
	baz=312,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**27.84**	**119**	T	T	17 00 36.8	
	baz=312,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**27.85**	**119**	T	T	17 00 38.1	
	baz=312,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**28.51**	**121**	T	T	17 01 29.1	
	baz=314,slow=76,SNR=77						
H11S3	**WAKE ISLAND Hy**	**28.51**	**121**	T	T	17 01 26.3	
	baz=314,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**28.52**	**121**	T	T	17 01 31.2	
	baz=314,slow=76,SNR=53						
ILAR	**Eielson Array**	**50.40**	**32**	P	**P**	**16 34 29.7**	**+2.0**
	0.4nm,0.7s,baz=260,slow=7.3,SNR=4.2						
WRA	**Warramunga Arr**	**56.09**	**188**	P	**P**	**16 35 09.7**	**-0.4**
	0.3nm,0.5s,baz=4.9,slow=7.5,SNR=5.4						
ASAR	**Alice Springs**	**59.82**	**188**	P	**P**	**16 35 37.0**	**+0.7**
	0.7nm,1.1s,baz=359,slow=5.8,SNR=3.4						

ISCJB ***23*** *16:33:11.2±0.3, 3°.07N±0°.03×125°.72E±0°.05, h129km, mb4.4/34, Error ellipse: s-maj=6.9km s-min=4.2km az=162.0*
NEIC ***23*** *16:33:13.9±1.1, 3°.13N×125°.77E, h146km±13km, mb4.7/26, Error ellipse: s-maj=10.2km s-min=6.6km az=53.0*
IDC ***23*** *16:33:14.1±3.1, 3°.01N×125°.51E, h146km±30km, mb3.7/14, mb1 3.8/16, mb1mx3.7/40, mbtmp4.1/16, Error ellipse: s-maj=26.6km s-min=10.7km az=82.0*
DJA ***23*** *16:33:14.4±0.4, 3°.N±3°×12°.6E±°, h10km, M4.8/7, mB5.5/1, mb4.9/2, MLv4.7/7, Mw(mB)5.0/1*

ISC 23 16:33:12.6±0.4, 3°02′N±0°.04×125°55′E±0°.06, h129km, n64, σ2s26/70, mb4.5/33, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.67**	**350**	P	**Pn**	**16 33 31.5**	**-1.2**
SGSI				S	**Sn**	**16 33 45.9**	**-2.0**
KMSI	**Cibinong**	**2.95**	**214**	P	**Pn**	**16 34 00.0**	**+1.5**
MATI	**Mati**	**3.95**	**9**	*e*P	**Pn**	**16 34 10.2**	**-1.4**
MATI				*e*S	**Sn**	**16 34 59.9**	**+2.4**
KCP	**Kidapawan**	**4.00**	**352**	*i*P	**Pn**	**16 34 12.8**	**+0.4**
KCP				*i* S	**Sn**	**16 35 00.6**	**+1.8**
DMPH	**Davao City--Mi**	**4.04**	**358**	*i*P	**Pn**	**16 34 15.2**	**+2.4**
DMPH				*i* S	**Sn**	**16 35 05.9**	**+6.3**
CTBH	**Cotabato--PC H**	**4.40**	**342**	*e*P	**Pn**	**16 34 16.9**	**-0.8**
MRSI	**Marisa**	**4.49**	**236**	P	**Pn**	**16 34 20.2**	**+1.4**
BUKP	**Musuan**	**4.86**	**353**	*e*P	**Pn**	**16 34 23.2**	**-0.6**
BUKP				*e*S	**Sn**	**16 35 26.7**	**+7.3**
LUWI	**Luwuk**	**4.96**	**216**	P	**Pn**	**16 34 27.7**	**+2.6**
LUWI	**Luwuk**	**4.96**	**216**	*e*Pn	**Pn**	**16 34 29.7**	**+4.6**
SANI	**Sanana**	**5.05**	**176**	P	**Pn**	**16 34 23.8**	**-2.5**
SANI				S	**Sn**	**16 35 16.2**	**-7.5**
SWI	**Sorong**	**6.81**	**124**	P	**Pn**	**16 34 51.5**	**+1.5**
SIJI	**Sorong**	**6.82**	**124**	P	**Pn**	**16 34 52.1**	**+2.0**
	16nm,0.3s,baz=154,slow=0.8,SNR=2.4						
SIJI				S	**Sn**	**16 36 12.2**	**+5.8**
	19nm,0.3s,baz=11,slow=3.5,SNR=2.7						
MYLDM	**Lahad Datu**	**7.45**	**287**	*e*Pn	**Pn**	**16 35 01.4**	**+2.9**
FAKI	**Fak Fak**	**8.85**	**132**	*e*Pn	**Pn**	**16 35 17.5**	**0.0**
KKM	**Kota Kinabalu**	**9.87**	**288**	*e*Pn	**Pn**	**16 35 34.8**	**+3.5**
SBUM	**Sibu**	**13.43**	**268**	*e*Pn	**P**	**16 36 24.6**	**+1.8**
KSM	**Kuching**	**15.40**	**265**	*e*Pn	**P**	**16 36 46.8**	**+2.0**
	21nm,0.9s						
JAY	**Jayapura**	**16.02**	**110**	P	**P**	**16 36 53.0**	**+1.2**
	0.1nm,0.3s,baz=271,slow=23,SNR=4.2						
MTN	**Manton Dam**	**16.68**	**161**	*e*P	**Pn**	**16 36 57.6**	**-1.1**
	66nm,1.5s						
CISI	**Cisompet, Garu**	**20.66**	**239**	*e*P	Pn	16 37 46.0	-0.1
	36nm,0.9s						
YULB	**Yu-li**	**20.69**	**349**	*e*P	**P**	**16 37 40.7**	**-1.8**
	16nm,1.2s						
TPUB	**Ta-pu**	**20.74**	**347**	*e*P	**P**	**16 37 40.5**	**-2.6**
	108nm,2.0s						
FITZ	**Fitzroy Crossi**	**20.99**	**180**	P	**P**	**16 37 45.7**	**-0.1**
	5.1nm,0.5s,baz=4.4,slow=5.5,SNR=24						
FITZ	**Fitzroy Crossi**	**20.99**	**180**	*e*P	**P**	**16 37 45.6**	**-0.1**
	21nm,1.4s						
SSLB	**Suanglung**	**21.14**	**348**	*e*P	**P**	**16 37 45.3**	**-2.0**
	15nm,1.1s						
MYKOM	**Kota Tinggi**	**21.81**	**267**	*e*P	**P**	**16 37 54.7**	**0.0**
	15nm,1.2s						
YHNB	**Yeheng**	**21.91**	**350**	*e*P	**P**	**16 37 54.2**	**-1.5**
	101nm,1.9s						
MANU	**Manus Island**	**22.29**	**103**	*e*P	**P**	**16 37 59.4**	**-0.1**
	90nm,1.8s						
COEN	**Coen**	**24.22**	**135**	*e*P	**P**	**16 38 16.0**	**-1.6**
	17nm,0.9s						
WRAB	**Tennant Creek**	**24.36**	**160**	*e*P	**P**	**16 38 18.8**	**+0.1**
	40nm,0.7s						
WRA	**Warramunga Arr**	**24.36**	**160**	P	**P**	**16 38 18.8**	**0.0**
	40nm,0.9s,baz=342,slow=10.0,SNR=82						
WB2	**Warramunga Arr**	**24.37**	**160**	*e*P	**P**	**16 38 19.1**	**+0.3**
	51nm,0.8s						
IPM	**Ipoh**	**24.61**	**274**	*e*P	**P**	**16 38 23.0**	**+1.8**
	58nm,1.9s						
KULM	**Kulim**	**25.03**	**276**	*e*P	**P**	**16 38 27.2**	**+2.2**
	11nm,0.9s						
RABL	**Rabaul**	**27.45**	**105**	*e*P	**P**	**16 38 48.1**	**+1.4**
	81nm,0.5s						
AS31	**Alice Springs**	**27.72**	**164**	*e*P	**P**	**16 38 49.4**	**+0.5**
	4.3nm,1.4s						
ASAR	**Alice Springs**	**27.72**	**164**	P	**P**	**16 38 49.1**	**+0.2**
	2.6nm,0.6s,baz=342,slow=7.6,SNR=105						
AS01	**Alice Springs**	**27.73**	**163**	*e*P	**P**	**16 38 49.1**	**0.0**
GSI	**Gunungsitoli**	**28.10**	**267**	*e*P	**P**	**16 38 52.0**	**-0.5**
	24nm,1.3s						
CM01	**Chiang Mai Arr**	**30.29**	**302**	*e*P	**P**	**16 39 11.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.32**	**302**	P	**P**	**16 39 12.9**	**+0.8**
	0.6nm,0.7s,baz=115,slow=7.0,SNR=4.8						
KS15	**Wonju Array Si**	**34.32**	**3**	*e*P	**P**	**16 39 47.2**	**+0.5**
KSRS	**Korea Array**	**34.33**	**3**	P	**P**	**16 39 47.0**	**+0.2**
	4.9nm,0.8s,baz=182,slow=10,SNR=16						
KS01	**Wonju Array Si**	**34.35**	**3**	*e*P	**P**	**16 39 47.1**	**+0.1**
EIDS	**Eidsvold**	**37.48**	**140**	*e*P	**P**	**16 40 14.1**	**+0.2**
	18nm,1.1s						
STKA	**Stephens Creek**	**37.87**	**158**	P	**P**	**16 40 17.5**	**+0.5**
	13nm,0.7s,baz=345,slow=8.0,SNR=30						
STKA	**Stephens Creek**	**37.87**	**158**	*e*P	**P**	**16 40 17.6**	**+0.6**
	3.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**41.39**	**7**	P	**P**	**16 40 45.7**	**-0.4**
	1.8nm,0.7s,baz=191,slow=4.3,SNR=3.7						
MDJ	**Mudanjiang**	**41.57**	**4**	*e*P	**P**	**16 40 47.1**	**-0.3**
	49nm,1.9s						
KLR	**Kul'dur**	**46.33**	**6**	P	**P**	**16 41 24.8**	**-0.7**
	2.2nm,0.4s,baz=192,slow=8.4,SNR=17						
SONM	**Songino Array**	**47.63**	**343**	P	**P**	**16 41 34.0**	**-1.8**
	0.5nm,0.4s,baz=152,slow=9.4,SNR=2.2						
MKAR	**Makanchi Array**	**57.53**	**326**	PcP	**PcP**	**16 43 39.0**	**-1.6**
	1.7nm,0.7s,baz=118,slow=3.9,SNR=5.4						
MA2	**Magadan**	**59.65**	**14**	P	**P**	**16 43 04.4**	**+1.5**
	4.8nm,0.8s,baz=229,slow=6.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**60.73**	**334**	P	**P**	**16 43 08.1**	**-2.3**
	0.3nm,0.4s,baz=137,slow=6.2,SNR=2.4						
LBZ	**Lake Benmore**	**61.71**	**145**	*e*P	**P**	**16 43 17.2**	**0.0**
	65nm,1.5s						
THZ	**Tophouse**	**61.81**	**141**	*e*P	**P**	**16 43 19.2**	**+1.2**
	59nm,1.5s						
BKZ	**Black Stump Fm**	**62.79**	**137**	*e*P	**P**	**16 43 25.0**	**+0.5**
	77nm,1.6s						
SEY	**Seymchan**	**62.96**	**13**	P	**P**	**16 43 26.3**	**+1.1**
	0.7nm,0.7s,baz=207,slow=11,SNR=5.3						
ZRNK	**Zerenda**	**68.04**	**327**	*e*P	**P**	**16 43 55.9**	**-2.2**
	3.6nm,1.3s						
TIXI	**Tiksi**	**68.56**	**1**	*e*P	**P**	**16 43 60.0**	**-0.9**
	13nm,1.4s						
VNDA	**Vanda**	**82.86**	**173**	P	**P**	**16 45 22.0**	**-0.1**
	0.6nm,0.4s,baz=312,slow=6.0,SNR=8.2						
ILAR	**Eielson Array**	**86.20**	**25**	P	**P**	**16 45 38.6**	**-0.7**
	0.3nm,0.6s,baz=258,slow=4.5,SNR=3.5						
ARCES	**ARCESS Array B**	**90.74**	**340**	P	**P**	**16 45 58.5**	**-2.1**
	1.7nm,0.7s,baz=88,slow=4.0,SNR=9.2						

NIED ***23*** *16:33:00, 28°.10N×143°.00E, h5km, Mw3.9 Best double couple: M₀8.73000×10¹⁴ NP1:φs174.00000°, δ19.00000°, λ62.00000°. NP2:φs23.00000°, δ73.00000°, λ99.00000°.*
IDC ***23*** *16:33:29.1±1.0, 28°.20N×142°.96E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/42, mbtmp3.8/9, ML3.9/1, MS2.7/3, Ms1 2.8/3, ms1mx2.5/27, Error ellipse: s-maj=35.6km s-min=14.1km az=97.0*
ISCJB ***23*** *16:33:30.3±0.7, 28°.28N±0°.04×142°.9E±0°.1, h22km, mb4.1/13, MS2.6/1, Error ellipse: s-maj=15.2km s-min=5.4km az=4.2*
NEIC ***23*** *16:33:30.6±0.5, 28°.24N×142°.97E, h10km, mb4.4/7, Error ellipse: s-maj=14.1km s-min=5.5km az=81.0*

ISC 23 16:33:32.4±1.1, 28°20′N±0°.06×142°9′E±0°.2, h22km, n29, σ0s81/28, mb4.1/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.27**	**210**	*e*Pn	**Pb**	**16 33 55.2**	**-0.4**
CBIJ				*e*Sn	**Sn**	**16 34 09.9**	**-1.3**
JCJ	**Chichijima**	**1.27**	**210**	Pn	**Pb**	**16 33 55.4**	**-0.3**
	615nm,0.3s,baz=157,slow=0.3,SNR=3.2						
JCJ				Sn	**Sb**	**16 34 12.2**	**+0.7**
	1um,0.3s,baz=4.7,slow=1.6,SNR=15						
JHJ2	**Mitsune**	**5.58**	**332**	*e*Pn	**Pn**	**16 34 53.9**	**-0.1**
INU	**Inuyama**	**8.71**	**326**	*e*Pn	**Pn**	**16 35 37.0**	**-0.1**
MJAR	**Matsushiro Arr**	**9.22**	**336**	Pn	**Pn**	**16 35 42.6**	**-1.4**
	1.2nm,0.3s,baz=131,slow=27,SNR=10						
MAJO	**Matsushiro**	**9.22**	**336**	*e*Pn	**Pn**	**16 35 42.5**	**-1.6**
MJB9	**Matsu-Tunnel**	**9.22**	**336**	*e*Pn	**Pn**	**16 35 42.7**	**-1.4**
JNU	**Nakatsue**	**11.46**	**298**	LR	LR	16 39 56.2	
	comp=Z,42nm,21.5s,baz=125,slow=34						
KSRS	**Korea Array**	**15.60**	**310**	Pn	**P**	**16 37 15.2**	**+0.2**
	0.3nm,0.3s,baz=124,slow=10.0,SNR=7.5						
KSRS				LR	LR	16 43 05.1	
	comp=Z,26nm,19.4s,baz=125,slow=37						
KS15	**Wonju Array Si**	**15.62**	**310**	*e*Pn	**Pn**	**16 37 11.8**	**+0.7**
KSAR	**Wonju Array Be**	**15.62**	**310**	Pn	**P**	**16 37 15.2**	**0.0**
KS01	**Wonju Array Si**	**15.63**	**310**	*e*Pn	**Pn**	**16 37 10.8**	**-0.5**
YULB	**Yu-li**	**20.03**	**261**	*e*P	Pn	16 38 04.9	-0.8
	16nm,1.2s						
KLR	**Kul'dur**	**22.69**	**341**	P	**P**	**16 38 33.8**	**+1.5**
	1.6nm,0.5s,baz=203,slow=5.9,SNR=6.6						
SONA0	**Songino Array**	**34.38**	**315**	*e*P	**P**	**16 40 17.6**	**-0.4**
	3.5nm,1.1s						
SONM	**Songino Array**	**34.38**	**315**	P	**P**	**16 40 17.6**	**-0.4**
	1.3nm,0.8s,baz=125,slow=9.2,SNR=6.3						
CMAR	**Chiang Mai Arr**	**41.33**	**266**	LR	LR	16 57 45.0	
	comp=Z,9.9nm,21.7s,baz=190,slow=35						
WR1	**Warramunga Arr**	**48.57**	**191**	*e*P	**P**	**16 42 14.1**	**-0.2**
	44nm,1.9s						
WRA	**Warramunga Arr**	**48.57**	**191**	P	**P**	**16 42 14.1**	**-0.2**
	1.5nm,0.5s,baz=12,slow=8.5,SNR=6.8						
FITZ	**Fitzroy Crossi**	**48.97**	**202**	P	**P**	**16 42 17.8**	**+0.5**
	5.3nm,1.1s,baz=51,slow=6.5,SNR=3.9						
FITZ	**Fitzroy Crossi**	**48.97**	**202**	*e*P	**P**	**16 42 17.9**	**+0.6**
	39nm,1.9s						
ZAA1	**Zalesovo Array**	**49.09**	**318**	*e*P	**P**	**16 42 18.4**	**+0.5**
ZALV	**Zalesovo Beam**	**49.09**	**318**	P	**P**	**16 42 18.4**	**+0.5**
	0.5nm,0.4s,baz=97,slow=6.4,SNR=4.0						
AS31	**Alice Springs**	**52.28**	**190**	*e*P	**P**	**16 42 44.0**	**+1.7**
	1.3nm,1.1s						
ASAR	**Alice Springs**	**52.29**	**190**	P	**P**	**16 42 42.3**	**0.0**
	0.4nm,0.7s,baz=17,slow=9.7,SNR=3.9						
KURK	**Kurchatov**	**52.68**	**314**	*e*P	**P**	**16 42 44.8**	**-0.2**
	7.0nm,1.0s						
ILAR	**Eielson Array**	**56.44**	**29**	P	**P**	**16 43 12.0**	**-0.1**
	0.2nm,0.5s,baz=239,slow=8.2,SNR=2.7						
VOSK	**Vostochnaya**	**57.34**	**317**	*e*P	**P**	**16 43 19.3**	**+0.7**
	1.6nm,0.8s						
FINES	**FINESS Array B**	**77.25**	**334**	P	**P**	**16 45 24.3**	**-0.3**
	2.1nm,0.9s,baz=80,slow=3.2,SNR=2.6						

ISCJB ***23*** *16:50:04.6±0.4, 34°.56N±0°.09×36°.87W±0°.06, h12km, mb4.3/42, MS3.4/14, Error ellipse: s-maj=12.4km s-min=6.3km az=170.9*
IDC ***23*** *16:50:05.2±0.8, 34°.64N×36°.83W, h0km, mb3.9/17, mb1 4.1/17, mb1mx4.0/38, mbtmp3.9/17, MS3.4/14, Ms1 3.4/14, ms1mx3.2/29, Error ellipse: s-maj=25.9km s-min=17.6km az=163.0*
NEIC ***23*** *16:50:06.1±0.3, 34°.56N×36°.81W, h10km, mb4.6/25, Error ellipse: s-maj=11.1km s-min=5.8km az=170.0*
CSEM ***23*** *16:50:06.2±0.2, 34°.60N×36°.82W, h10km, mb4.6/23, Error ellipse: s-maj=13.1km s-min=6.7km az=169.0*

ISC 23 16:50:06.5±0.6, 34°6′N±0°.1×36°86′W±0°.08, h12km, n113, σ1s11/101, mb4.4/42, MS3.5/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDT	**Midelt**	**26.83**	**85**	LR	LR	17 03 44.7	
	comp=Z,59nm,19.2s,baz=338,slow=31						
SMRT	**St. Maarten**	**28.57**	**241**	*e*P	**P**	**16 56 02.3**	**-0.3**
	46nm,0.9s						
SMRT	**St. Maarten**	**28.57**	**241**	*e*P	**P**	**16 56 02.3**	**-0.3**
	46nm,0.9s						
SCHQ	**Schefferville**	**29.02**	**323**	LR	LR	17 06 29.6	
	comp=Z,143nm,21.5s,baz=113,slow=34						
YLE	**Yale**	**29.07**	**294**	*e*P	**P**	**16 56 07.0**	**+0.3**
	136nm,1.7s						
YLE	**Yale**	**29.07**	**294**	*e*P	**P**	**16 56 07.0**	**+0.3**
	136nm,1.7s						
MDV	**Middlebury**	**29.43**	**300**	*e*P	**P**	**16 56 09.3**	**-0.6**
MDV	**Middlebury**	**29.43**	**300**	*e*P	**P**	**16 56 09.3**	**-0.6**
FDF	**Fort de France**	**29.50**	**234**	*e*P	**P**	**16 56 10.4**	**-0.4**
	127nm,1.4s						
FDF	**Fort de France**	**29.50**	**234**	*e*P	**P**	**16 56 10.4**	**-0.4**
	127nm,1.4s						
PAL	**Palisades**	**29.80**	**293**	*e*P	**P**	**16 56 12.5**	**-0.7**
	17nm,0.9s						
PAL	**Palisades**	**29.80**	**293**	*e*P	**P**	**16 56 12.5**	**-0.7**
	17nm,0.9s						
GRFO	**Grafenberg**	**38.03**	**52**	*e*P	**P**	**16 57 22.8**	**-1.7**
	39nm,1.9s						
GRFO	**Grafenberg**	**38.03**	**52**	*e*P	**P**	**16 57 22.8**	**-1.7**
	39nm,1.9s						
SUMG	**Summit**	**38.06**	**359**	*e*P	**P**	**16 57 24.4**	**-0.5**
	11nm,1.2s						
SUMG	**Summit**	**38.06**	**359**	*e*P	**P**	**16 57 24.4**	**-0.5**
	11nm,1.2s						
CLL	**Collm**	**39.30**	**49**	*e*P	**P**	**16 57 34.1**	**-1.1**
	15nm,1.7s						
CLL	**Collm**	**39.30**	**49**	*e*P	**P**	**16 57 34.1**	**-1.1**
	15nm,1.7s						
KHC	**Kasperske Hory**	**39.53**	**53**	*e*P	**P**	**16 57 37.7**	**+0.5**
KHC	**Kasperske Hory**	**39.53**	**53**	*e*P	**P**	**16 57 37.3**	**+0.1**
	1.8nm,1.1s						
KHC	**Kasperske Hory**	**39.53**	**53**	*e*P	**P**	**16 57 37.3**	**+0.1**
	1.8nm,1.1s						
GEA0	**GERESS Array S**	**39.60**	**53**	*e*P	**P**	**16 57 37.6**	**-0.2**
GEA0	**GERESS Array S**	**39.60**	**53**	*e*P	**P**	**16 57 37.6**	**-0.2**
GEC2	**GERESS Array S**	**39.60**	**53**	*e*P	**P**	**16 57 37.8**	**-0.1**
	2.6nm,1.0s						
GEC2	**GERESS Array S**	**39.60**	**53**	*e*P	**P**	**16 57 37.8**	**-0.1**
	2.6nm,1.0s						
GERES	**GERESS Array B**	**39.60**	**53**	P	**P**	**16 57 37.5**	**-0.3**
	1.4nm,0.8s,baz=266,slow=5.4,SNR=12						
PRU	**Pruhonice**	**40.19**	**51**	*e*P	**P**	**16 57 43.6**	**+1.0**
PRU	**Pruhonice**	**40.19**	**51**	P	**P**	**16 57 43.6**	**+1.0**
NB200	**NORSAR Array S**	**40.36**	**34**	*e*P	**P**	**16 57 45.5**	**+1.6**
NB200	**NORSAR Array S**	**40.36**	**34**	*e*P	**P**	**16 57 45.5**	**+1.6**
NOA	**NORSAR Array B**	**40.36**	**34**	P	**P**	**16 57 45.5**	**+1.6**
	1.8nm,1.1s,baz=252,slow=8.6,SNR=2.5						
NOA				LR	LR	17 12 17.3	
	comp=Z,19nm,18.1s,baz=290,slow=33						
DBIC	**Dimbokro**	**40.53**	**126**	LR	LR	17 12 43.9	
	comp=Z,81nm,18.9s,baz=294,slow=34						
TOA1	**Torodi Ar. Sit**	**40.87**	**112**	*e*P	**P**	**16 57 47.8**	**-0.8**
	22nm,1.8s						
TOA1	**Torodi Ar. Sit**	**40.87**	**112**	*e*P	**P**	**16 57 47.8**	**-0.8**
	22nm,1.8s						
TOA0	**Torodi Ar. Sit**	**40.87**	**112**	*e*P	**P**	**16 57 47.7**	**-0.9**
TOA0	**Torodi Ar. Sit**	**40.87**	**112**	*e*P	**P**	**16 57 47.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**40.87**	**112**	P	**P**	**16 57 47.8**	**-0.8**
	1.9nm,1.1s,baz=292,slow=5.0,SNR=5.5						
TORD				LR	LR	17 13 13.8	
	comp=Z,168nm,19.6s,baz=285,slow=34						
DPC	**Dobruska-Polom**	**41.35**	**51**	*e*P	**P**	**16 57 53.0**	**+0.8**
DPC	**Dobruska-Polom**	**41.35**	**51**	P	**P**	**16 57 53.0**	**+0.8**
CUC	**Castrocucco**	**41.75**	**67**	*e*P	**P**	**16 57 54.9**	**-0.7**
	3.9nm,1.0s						
CUC	**Castrocucco**	**41.75**	**67**	*e*P	**P**	**16 57 54.9**	**-0.7**
	3.9nm,1.0s						
PSZ	**Piszkesteto**	**43.74**	**54**	*e*P	**P**	**16 58 10.5**	**-1.3**
	4.1nm,1.0s						
PSZ	**Piszkesteto**	**43.74**	**54**	*e*P	**P**	**16 58 10.5**	**-1.3**
	4.1nm,1.0s						
ULM	**Lac du Bonnet**	**45.09**	**309**	LR	LR	17 16 45.0	
	comp=Z,116nm,19.4s,baz=71,slow=36						
H10N2	**

	11nm,1.1s						
CPUP	**Villa Florida** comp=Z,22nm,19.8s,baz=167,slow=33	**63.63**	**201**	LR	LR	17 24 39.6	
ILAR	**Eielson Array** 0.4nm,0.7s,baz=44,slow=5.5,SNR=3.8	**67.07**	**334**	P	**P**	**17 01 00.6**	**+1.3**
ILAR				LR	LR	17 30 28.4	
	comp=Z,30nm,18.4s,baz=101,slow=36						
ZRNK	**Zerenda** 3.1nm,1.0s	**71.73**	**38**	*eP*	**P**	**17 01 28.2**	**-0.1**
ZRNK	**Zerenda** 3.1nm,1.0s	**71.73**	**38**	*eP*	**P**	**17 01 28.2**	**-0.1**
VOSK	**Vostochnaya** 3.8nm,0.9s	**72.85**	**37**	*eP*	**P**	**17 01 34.6**	**-0.4**
VOSK	**Vostochnaya** 3.8nm,0.9s	**72.85**	**37**	*eP*	**P**	**17 01 34.6**	**-0.4**
GEYT	**Alibeck** 0.8nm,0.4s,baz=302,slow=6.5,SNR=2.4	**73.18**	**55**	P	**P**	**17 01 38.3**	**+0.9**
ZAA1	**Zalesovo Array**	**78.47**	**31**	*eP*	**P**	**17 02 07.7**	**+0.5**
ZAA1	**Zalesovo Array**	**78.47**	**31**	*eP*	**P**	**17 02 07.7**	**+0.5**
ZALV	**Zalesovo Beam** 1.6nm,0.8s,baz=310,slow=9.2,SNR=7.6	**78.47**	**31**	P	**P**	**17 02 07.7**	**+0.5**
ZALV				LR	LR	17 35 21.6	
	comp=Z,19nm,18.8s,baz=73,slow=35						
MK32	**Makanchi Array**	**82.26**	**37**	*eP*	**P**	**17 02 27.6**	**-0.2**
MK32	**Makanchi Array**	**82.26**	**37**	*eP*	**P**	**17 02 27.6**	**-0.2**
MKAR	**Makanchi Array** 2.6nm,0.9s,baz=311,slow=4.5,SNR=16	**82.26**	**37**	P	**P**	**17 02 27.6**	**-0.2**
SONA0	**Songino Array** 9.3nm,2.0s	**91.59**	**24**	*eP*	**P**	**17 03 13.9**	**+0.4**
SONA0	**Songino Array** 9.3nm,2.0s	**91.59**	**24**	*eP*	**P**	**17 03 13.9**	**+0.4**
SONM	**Songino Array** 0.3nm,0.4s,baz=302,slow=3.2,SNR=3.0	**91.59**	**24**	P	**P**	**17 03 13.9**	**+0.4**
PETK	**Petropavlovsk-** comp=Z,41nm,19.3s,baz=26,slow=35	**91.74**	**351**	LR	LR	17 43 57.6	

*ISK **23** 16:59:26.8,38.˚58N×39.˚59E,h7km,MD3.2*
*DDA **23** 16:59:26.9,38.˚61N×39.˚59E,h7km,Md2.9*
*ISCJB **23** 16:59:27.2±0.6,38.˚60N±0.˚03×39.˚60E±0.˚04,h6km±5km, Error ellipse: s-maj=5.3km s-min=4.6km az=8.2*
*CSEM **23** 16:59:27.3±0.2,38.˚59N×39.˚58E,h8km,MD3.2,Error ellipse: s-maj=4.4km s-min=3.9km az=68.0*

ISC 23 16:59:27.3±1.1,38.˚61N±0.˚03×39.˚57E±0.˚03,h10km±10km, n28,σ0°65/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.32**	**334**	*e*P	**Pg**	**16 59 33.8**	**+0.1**
PTK				*e*SG	**Sb**	**16 59 39.5**	**-0.9**
PTK	**Pertek**	**0.32**	**334**	*e*Pg	**Pg**	**16 59 33.8**	**+0.1**
PTK				*e*Sg	**Sb**	**16 59 39.5**	**-0.9**
ELZG	**Elazig**	**0.47**	**257**	P	**Pg**	**16 59 36.2**	**-0.3**
ELZG				S	**Sb**	**16 59 44.2**	**-0.6**
ELZG	**Elazig**	**0.47**	**257**	*i* P	**Pg**	**16 59 36.2**	**-0.3**
ELZG				*i* S	**Sb**	**16 59 44.2**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.51**	**358**	P	**Pg**	**16 59 37.0**	**-0.2**
TNCL				S	**Sg**	**16 59 44.8**	**+0.9**
TNCL	**Tunceli-Merkez**	**0.51**	**358**	*i* P	**Pg**	**16 59 37.0**	**-0.2**
TNCL				*i* S	**Sg**	**16 59 44.8**	**+0.9**
DIYA	**Diyarbakir**	**0.81**	**147**	P	**Pb**	**16 59 42.9**	**-0.6**
DIYA				S	**Sb**	**16 59 54.7**	**+0.2**
DIYA	**Diyarbakir**	**0.81**	**147**	*i* P	**Pb**	**16 59 42.9**	**-0.6**
DIYA				*i* S	**Sb**	**16 59 54.7**	**+0.2**
BNGB	**Bing¯¶l**	**0.95**	**66**	*e*PG	**Pb**	**16 59 46.0**	**+0.1**
ERZN	**Erzincan**	**0.98**	**7**	*e*PG	**Pg**	**16 59 45.6**	**-0.6**
YEDI	**Yedisu-Bingol**	**1.12**	**42**	*e*PN	**Pg**	**16 59 48.3**	**-0.6**
YEDI				*e*SN	**Sn**	**17 00 05.6**	**+0.8**
YEDI	**Yedisu-Bingol**	**1.12**	**42**	*e*Pn	**Pg**	**16 59 48.3**	**-0.6**
YEDI				*e*Sn	**Sn**	**17 00 05.6**	**+0.8**
URFA	**Urfa**	**1.30**	**207**	*e*PN	**Pn**	**16 59 51.4**	**-0.2**
URFA				*e*SN	**Sn**	**17 00 10.8**	**+1.6**
URFA	**Urfa**	**1.30**	**207**	*e*Pn	**Pn**	**16 59 51.4**	**-0.2**
URFA				*e*Sn	**Sn**	**17 00 10.8**	**+1.6**
AKCD	**Akcadag**	**1.33**	**257**	P	**Pn**	**16 59 51.8**	**-0.2**
AKCD	**Akcadag**	**1.33**	**257**	*i* P	**Pn**	**16 59 51.8**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.36**	**109**	*e*PN	**Pn**	**16 59 52.1**	**-0.3**
SVAN				*e*SN	**Sn**	**17 00 10.9**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.36**	**109**	*e*Pn	**Pn**	**16 59 52.1**	**-0.3**
SVAN				*e*Sn	**Sn**	**17 00 10.9**	**+0.4**
BTMN	**Batman**	**1.52**	**118**	P	**Pn**	**16 59 54.4**	**-0.2**
BTMN	**Batman**	**1.52**	**118**	*i* P	**Pn**	**16 59 54.4**	**-0.2**
KELT	**Kelkit**	**1.56**	**351**	P	**Pb**	**16 59 56.5**	**+0.2**
KELT	**Kelkit**	**1.56**	**351**	*i* P	**Pb**	**16 59 56.5**	**+0.2**
MARD	**Mardin**	**1.61**	**143**	*i* P	**Pn**	**16 59 55.5**	**-0.4**
DARE	**Darende-Malaty**	**1.63**	**269**	*e*PN	**Pb**	**16 59 57.1**	**-0.4**
DARE	**Darende-Malaty**	**1.63**	**269**	*e*Pn	**Pb**	**16 59 57.1**	**-0.4**
GUMT	**Gumushane**	**1.85**	**358**	*e*PN	**Pb**	**17 00 00.4**	**-0.9**
GUMT	**Gumushane**	**1.85**	**358**	*e*Pn	**Pb**	**17 00 00.4**	**-0.9**
EZM	**Erzurum**	**1.90**	**47**	*e*PN	**Pn**	**17 00 00.4**	**+0.4**

*NEIC **23** 17:05:31.2,17.˚77N×102.˚14W,h20km,MD4.0(MEX),After MEX.*

MEX 23 17:05:31.2±1.0,17.˚77N×102.˚14W,h20km±36km,MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.66**	**104**	*e*P	Pb	17 05 38.8	-5.4
ZIIG				*e*S	Sb	17 05 48.0	-4.9
ZIIG	**Zihuatanejo**	**0.66**	**104**	*e*P	Pb	17 05 38.8	-5.4
ZIIG				*e*S	Sb	17 05 48.0	-4.9
ARIG	**Puente Sto Nin**	**1.78**	**73**	*e*P	Pn	17 05 56.1	-4.8
ARIG				*e*S	Sn	17 06 19.3	-3.7
CAIG	**El Cayaco**	**1.93**	**111**	*e*P	Pn	17 05 59.3	-3.6
CAIG				*e*S	Sn	17 06 23.4	-3.0
CAIG	**El Cayaco**	**1.93**	**111**	*e*P	Pn	17 05 59.3	-3.6
CAIG				*e*S	Sn	17 06 23.4	-3.0
MOIG	**Morelia**	**2.11**	**25**	*e*P	Pn	17 06 00.7	-4.9
MOIG				*e*S	Sn	17 06 25.1	-6.2
MOIG	**Morelia**	**2.11**	**25**	*e*P	Pn	17 06 00.7	-4.9
MOIG				*e*S	Sn	17 06 25.1	-6.2
EZ5V		**2.20**	**321**	*e*P	Pn	17 06 03.7	-3.2
EZ5V				*e*S	Sn	17 06 31.0	-2.6
R15V		**2.24**	**309**	*e*P	Pn	17 06 04.1	-3.1
R15V				*e*S	Sn	17 06 31.4	-2.9
ACX	**Acapulco**	**2.35**	**112**	*e*P	Pn	17 06 05.5	-3.3
ACX				*e*S	Sn	17 06 34.0	-3.2
ACX	**Acapulco**	**2.35**	**112**	*e*P	Pn	17 06 05.5	-3.3
ACX				*e*S	Sn	17 06 34.0	-3.2
MEIG	**Mezcala**	**2.41**	**86**	*e*P	Pn	17 06 06.7	-2.8
MEIG				*e*S	Sn	17 06 35.2	-3.3
MEIG	**Mezcala**	**2.41**	**86**	*e*P	Pn	17 06 06.7	-2.8
MEIG				*e*S	Sn	17 06 35.2	-3.3
SFJM	**Santa Fe**	**2.84**	**343**	*e*P	Pn	17 06 12.0	-3.6
SFJM				*e*S	Sn	17 06 46.2	-3.1
SFJM	**Santa Fe**	**2.84**	**343**	*e*P	Pn	17 06 12.0	-3.6
SFJM				*e*S	Sn	17 06 46.2	-3.1
YAIG	**Yautepec**	**3.12**	**69**	*e*P	Pn	17 06 17.0	-2.4
YAIG				*e*S	Sn	17 06 54.3	-1.8
YAIG	**Yautepec**	**3.12**	**69**	*e*P	Pn	17 06 17.0	-2.4
YAIG				*e*S	Sn	17 06 54.3	-1.8

*IDC **23** 17:36:04.7±0.9,4.˚06N×126.˚27E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.6/33,mbtmp3.7/8,ML4.6/1,Error ellipse: s-maj=73.6km s-min=14.3km az=68.0*
*ISCJB **23** 17:36:08.3±0.7,4.˚2N±0.˚1×126.˚6E±0.˚2,h45km,mb3.6/8, Error ellipse: s-maj=33.7km s-min=9.1km az=145.8*

ISC 23 17:36:10.4±0.9,4.˚1N±0.˚2×126.˚5E±0.˚2,h45km,n9, σ1°30/10,mb3.7/8,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 12nm,0.3s,baz=181,slow=9.5,SNR=1.7	**6.89**	**136**	Pn	**Pn**	**17 37 50.6**	**+1.7**
SIJI				Sn	**Sn**	**17 39 04.1**	**-2.0**
	14nm,0.3s,baz=182,slow=10,SNR=1.6						
FITZ	**Fitzroy Crossi** 1.9nm,0.7s,baz=356,slow=6.6,SNR=6.5	**22.08**	**182**	P	**P**	**17 41 01.0**	**-0.8**
WRA	**Warramunga Arr** 1.4nm,0.5s,baz=341,slow=11,SNR=22	**25.12**	**162**	P	**P**	**17 41 31.1**	**-0.2**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=342,slow=7.3,SNR=14	**28.54**	**166**	P	**P**	**17 42 01.9**	**-0.1**
STKA	**Stephens Creek** 1.1nm,0.7s,baz=353,slow=8.2,SNR=6.3	**38.57**	**159**	P	**P**	**17 43 29.6**	**+0.5**
SONM	**Songino Array** 0.2nm,0.6s,baz=156,slow=7.6,SNR=2.5	**46.86**	**342**	P	**P**	**17 44 34.9**	**-1.4**
MKAR	**Makanchi Array** 0.6nm,0.3s,baz=119,slow=7.5,SNR=16	**57.10**	**325**	P	**P**	**17 45 53.1**	**+0.8**
ZALV	**Zalesovo Beam**	**60.14**	**333**	P	**P**	**17 46 13.1**	**-0.2**
	0.5nm,0.5s,baz=132,slow=4.1,SNR=2.6						
BVAR	**Borovoye Array** 0.4nm,0.7s,baz=91,slow=7.2,SNR=3.5	**66.86**	**327**	P	**P**	**17 46 59.0**	**+1.2**

*JMA **23** 17:42:08.4±0.1,37.˚08N×141.˚16E,h51km±1km,M3.2*
*IDC **23** 17:42:10.5±2.4,37.˚87N×140.˚25E,h0km,mb3.4/4, mb1 3.5/5,mb1mx3.3/36,mbtmp3.3/5,ML2.7/1,Error ellipse: s-maj=57.9km s-min=27.4km az=76.0*

ISC 23 17:42:05.9±2.1,37.˚05N±0.˚07×141.˚5E±0.˚2,h38km±4km, n18,σ0°92/17,mb3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**276**	P	**Pn**	**17 42 17.5**	**+0.5**
ONAJ				S	**Sn**	**17 42 24.0**	**-0.7**
JFK	**Kawauchi**	**0.56**	**305**	P	**Pn**	**17 42 18.1**	**+0.6**
JFK				S	**Sn**	**17 42 24.8**	**-0.7**
JHO	**Hitachi**	**0.83**	**238**	P	**Pn**	**17 42 21.4**	**+0.3**
JHO				S	**Sn**	**17 42 30.6**	**-1.5**
JMM	**Marumori**	**0.97**	**328**	P	**Pn**	**17 42 23.8**	**+0.9**
JMM				S	**Sn**	**17 42 34.8**	**-0.6**
JFT	**Otama**	**1.00**	**298**	P	**Pn**	**17 42 24.2**	**+0.8**
JFT				S	**Sn**	**17 42 35.2**	**-1.1**
JFY	**Yanaizu**	**1.44**	**285**	P	**Pn**	**17 42 29.5**	**+0.1**
MJAR	**Matsushiro Arr** 2.6nm,0.3s,baz=53,slow=13,SNR=13	**2.65**	**260**	Pn	**Pn**	**17 42 46.9**	**+0.8**
MAT	**Matsushiro**	**2.65**	**260**	P	**Pn**	**17 42 47.2**	**+1.1**
MAT				S	**Sn**	**17 43 18.3**	**+1.3**
H11N2	**WAKE ISLAND Hy** baz=313,slow=75,SNR=15	**28.13**	**121**	T	T	18 17 52.8	
H11N1	**WAKE ISLAND Hy** baz=313,slow=75,SNR=22	**28.14**	**121**	T	T	18 17 53.2	
H11N3	**WAKE ISLAND Hy** baz=313,slow=75,SNR=14	**28.15**	**121**	T	T	18 17 54.7	
H11S1	**WAKE ISLAND Hy** baz=315,slow=76,SNR=6.3	**28.84**	**123**	T	T	18 18 50.3	
H11S3	**WAKE ISLAND Hy** baz=315,slow=76,SNR=4.7	**28.85**	**123**	T	T	18 18 46.4	
H11S2	**WAKE ISLAND Hy** baz=315,slow=76,SNR=3.9	**28.86**	**123**	T	T	18 18 52.2	
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=97,slow=6.5,SNR=3.7	**41.92**	**312**	P	**P**	**17 49 52.9**	**+0.4**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=88,slow=10,SNR=2.5	**44.13**	**302**	P	**P**	**17 50 10.1**	**-0.5**
BVAR	**Borovoye Array** 0.3nm,0.5s,baz=64,slow=11,SNR=2.8	**50.58**	**312**	P	**P**	**17 51 00.4**	**-0.2**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=2.9,slow=7.1,SNR=5.7	**57.08**	**188**	P	P	17 52 03.4	+15

*ISCJB **23** 17:59:47.5±0.7,35.˚96N±0.˚04×141.˚72E±0.˚06,h26km, mb3.5/6,MS2.5/1,Error ellipse: s-maj=7.5km s-min=6.0km az=11.5*
*JMA **23** 17:59:50.5±0.2,36.˚02N×141.˚54E,h40km±3km,M3.2*
*IDC **23** 17:59:50.6±3.1,35.˚86N×141.˚75E,h40km±28km,mb3.3/6, mb1 3.4/9,mb1mx3.2/62,mbtmp3.5/9,ML3.2/3,MS2.5/3, Ms1 2.5/3,ms1mx2.3/20,Error ellipse: s-maj=33.1km s-min=18.5km az=89.0*

ISC 23 17:59:48.8±1.0,35.˚94N±0.˚05×141.˚68E±0.˚09,h26km,n23, σ1°28/19,mb3.5/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.71**	**251**	P	**Pn**	**18 00 03.0**	**-0.1**
CHOJ				S	**Sn**	**18 00 12.2**	**-0.9**
JHO	**Hitachi**	**1.12**	**307**	*e*S	**Sn**	**18 00 21.0**	**-2.5**
JYT	**Yasato**	**1.24**	**284**	*e*S	**Sn**	**18 00 24.8**	**-1.5**
BSO3	**Boso 3**	**1.48**	**221**	P	**Pb**	**18 00 15.4**	**-0.1**
JFK	**Kawauchi**	**1.57**	**336**	P	**Pn**	**18 00 15.0**	**0.0**
JFK				S	**Sn**	**18 00 32.8**	**-1.7**
MJAR	**Matsushiro Arr** 2.0nm,0.3s,baz=97,slow=9.0,SNR=15	**2.87**	**283**	Pn	**Pn**	**18 00 33.6**	**+0.7**
MJAR				LR	LR	18 01 49.2	
	comp=Z,51nm,20.9s,baz=95,slow=41						
MAT	**Matsushiro**	**2.87**	**283**	P	**Pn**	**18 00 34.1**	**+1.2**
MAT				S	**Sn**	**18 01 07.7**	**+1.0**
JHJ	**Hachijo jima 2** 13nm,0.3s,baz=263,slow=22,SNR=5.7	**3.22**	**210**	Pn	**Pn**	**18 00 38.2**	**+0.6**
JHJ				Sn	**Sn**	**18 01 14.8**	**-0.3**
	34nm,0.3s,baz=72,slow=22,SNR=6.2						
ASAJ	**Asahikawa** 0.3nm,0.3s,baz=216,slow=24,SNR=2.5	**8.20**	**5**	Pn	**Pn**	**18 01 48.3**	**+2.2**
JNU	**Nakatsue** comp=Z,39nm,19.3s,baz=122,slow=40	**9.34**	**256**	LR	LR	18 06 00.9	
MA2	**Magadan** comp=Z,19nm,20.9s,baz=286,slow=39	**24.38**	**11**	LR	LR	18 15 34.8	
H11N2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=8.5	**27.41**	**119**	T	T	18 35 08.8	
H11N1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=7.3	**27.42**	**119**	T	T	18 35 09.7	
H11N3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=3.3	**27.43**	**119**	T	T	18 35 09.5	
H11S1	**WAKE ISLAND Hy** baz=311,slow=74	**28.09**	**122**	T	T	18 35 58.8	
H11S3	**WAKE ISLAND Hy** baz=311,slow=74	**28.09**	**122**	T	T	18 35 57.9	
H11S2	**WAKE ISLAND Hy** baz=311	**28.11**	**122**	T	T	18 35 48.6	
ZALV	**Zalesovo Beam** 0.4nm,0.5s,baz=90,slow=5.8,SNR=1.8	**42.82**	**313**	P	**P**	**18 07 45.6**	**+1.3**
KURBB	**Kurchatov Arra** 1.1nm,0.6s,baz=83,slow=7.6,SNR=13	**46.85**	**309**	P	**P**	**18 08 16.4**	**0.0**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=257,slow=6.2,SNR=3.4	**50.31**	**32**	P	**P**	**18 08 42.6**	**-0.2**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=61,slow=7.4,SNR=2.6	**51.47**	**313**	P	**P**	**18 08 52.6**	**+0.9**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=7.9,slow=7.6,SNR=3.7	**56.01**	**188**	P	**P**	**18 09 25.7**	**+0.5**
ASAR	**Alice Springs** 0.3nm,0.9s,baz=360,slow=6.4,SNR=3.4	**59.73**	**188**	P	**P**	**18 09 49.6**	**-1.7**

*ISCJB **23** 18:08:41.7±0.4,37.˚30N±0.˚05×74.˚58E±0.˚08,h10km, mb3.5/13,MS3.0/5,Error ellipse: s-maj=10.0km s-min=5.1km az=146.9*
*IDC **23** 18:08:42.0±0.8,37.˚21N×74.˚52E,h0km,mb3.7/13, mb1 3.8/20,mb1mx3.7/55,mbtmp3.7/20,ML3.4/7,MS3.0/8, Ms1 3.0/8,ms1mx2.8/40,Error ellipse: s-maj=17.6km s-min=14.3km az=68.0*
*BJI **23** 18:08:45.7,37.˚53N×74.˚74E,h8km,mb3.9/4,ML3.7/5, Ms3.6/1,Ms7 3.4/1*
*NNC **23** 18:08:49.5±6.4,37.˚71N×74.˚57E,h3km±27km,mb4.4, mpv4.0,Error ellipse: s-maj=49.6km s-min=28.7km az=38.0*

ISC 23 18:08:44.5±0.6,37.˚41N±0.˚05×74.˚57E±0.˚06,h10km,n41, σ2°19/38,mb3.6/13,MS3.0/5,4C-4D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.37**	**27**	Pg	Pn	18 09 16.3	-7.3
KSH				Sg	Sn	18 09 38.5	-14
KSH				SMN			
	870nm,1.3s						
KSH				SME			
	740nm,1.0s						
CHCP	**Chirah Chowk**	**3.90**	**196**	P	Pn	18 09 49.9	+5.4
CEP	**Cherat**	**4.19**	**212**	P	**Pn**	**18 09 53.2**	**+4.6**
THW	**Thamme Wali**	**5.16**	**208**	P	**Pn**	**18 10 05.3**	**+3.4**
AAK	**Ala-Archa** 2.5nm,0.3s,baz=166,slow=8.6,SNR=21	**5.21**	**359**	Pn	Pn	18 10 07.5	+4.7
AAK				Sn	**Sb**	**18 11 13.1**	**-5.5**
	baz=307,slow=13,SNR=2.0						
AAK				Lg	Lg	18 11 28.7	
	1.1nm,0.3s,baz=60,slow=20,SNR=3.2						
AAK				LR	LR	18 11 31.4	
	comp=Z,35nm,21.5s,baz=196,slow=31						
AAK	**Ala-Archa** 14nm,0.8s	**5.21**	**359**	⇓Pn	**Pn**	**18 10 06.5**	**+3.7**
AAK				⇑Pg	**Pb**	**18 10 18.9**	**+3.0**
	49nm,0.9s						
AAK				⇑Lg	Lg	18 11 26.4	
	76nm,1.3s						
SARP	**Sargodha**	**5.70**	**197**	P	**Pn**	**18 10 12.3**	**+3.0**
SDNR	**Sundarnagar**	**6.22**	**161**	*e*P	**Pn**	**18 10 19.0**	**+2.5**
KK31	**Karatay Array** 3.7nm,0.4s,baz=136,slow=13,SNR=66	**6.48**	**333**	Pn	**Pn**	**18 10 21.6**	**+1.7**
KK31				⇑Sn	**Sn**	**18 11 34.7**	**+0.8**
	12nm,0.6s,baz=142,slow=20,SNR=4.2						
PDGK	**Podgornoye** 6.4nm,0.7s	**7.00**	**31**	⇓Pn	**Pn**	**18 10 28.8**	**+1.8**
PDGK				⇓Lg	Lg	18 12 24.3	
	43nm,1.0s						
OTUK	**Ortayu** 6.2nm,0.9s	**10.95**	**352**	⇓Pn	**Pn**	**18 11 21.1**	**-0.1**
OTUK				⇑Lg	Lg	18 14 28.1	
	10nm,1.4s						
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=221,slow=12,SNR=9.3	**10.98**	**29**	Pn	**Pn**	**18 11 23.2**	**+1.5**
PYUN	**Piuthan** 52nm,0.3s	**11.67**	**140**	*e*P	**Pn**	**18 11 30.1**	**-1.3**
WMQ	**Urumqi**	**11.84**	**53**	P	**Pn**	**18 11 33.8**	**+0.3**
KOLN	**Koldanda** 22nm,0.4s	**12.26**	**139**	*e*P	**Pn**	**18 11 37.4**	**-2.0**
GKN	**Gorkha** 12nm,0.3s	**12.63**	**135**	*e*P	**Pn**	**18 11 42.8**	**-1.7**
GEYT	**Alibeck** 0.5nm,0.3s,baz=106,slow=11,SNR=3.0	**13.05**	**277**	Pn	**Pn**	**18 11 48.3**	**-1.7**
GEYT				Sn	**Sn**	**18 14 11.7**	**-3.6**
	0.6nm,0.3s,baz=102,slow=20,SNR=3.9						
GEYT				LR	LR	18 18 43.7	
	comp=Z,112nm,18.6s,baz=105,slow=46						
KKN	**Kakani** 9.9nm,0.5s	**13.16**	**134**	*e*P	**Pn**	**18 11 49.5**	**-2.3**
PKIN	**Phulchoki** 12nm,0.3s	**13.39**	**134**	*e*P	**Pn**	**18 11 52.8**	**-2.1**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=198,slow=12,SNR=14	**13.51**	**11**	Pn	**Pn**	**18 11 56.2**	**+0.1**
KURBB				Lg	Lg	18 15 56.2	
	baz=191,slow=25,SNR=5.8						
RAMN	**Ramite** 9.8nm,0.4s	**14.56**	**132**	*e*P	Pn	18 12 06.6	-4.4
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=154,slow=20,SNR=3.6	**15.88**	**351**	Pn	**Pn**	**18 12 27.9**	**-0.1**
BVAR				Lg	Lg	18 17 14.1	
	0.1nm,0.3s,baz=183,slow=25,SNR=3.3						
AKTO	**Aktyubinsk** 0.9nm,0.3s,baz=131,slow=10,SNR=7.4	**17.60**	**323**	P	**Pn**	**18 12 50.0**	**+0.2**
AKTO				LR	LR	18 20 06.8	
	comp=Z,38nm,18.1s,baz=149,slow=39						
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=209,slow=11,SNR=9.2	**17.98**	**20**	P	**P**	**18 12 54.3**	**-0.8**
GTA	**Gaotai**	**19.86**	**76**	P	**Pn**	**18 13 18.3**	**+0.8**
GTA				pP	sP	18 13 22.1	+2.1
GTA				sP	pP	18 13 25.3	+6.6
GTA				PMZ			
	6.0nm,1.2s						
ARU	**Arti** 1.1nm,0.4s,baz=94,slow=6.1,SNR=3.9	**21.84**	**336**	P	**P**	**18 13 38.2**	**+1.2**
ARU				LR	LR	18 22 29.9	
	comp=Z,53nm,20.9s,baz=136,slow=38						
KBZ	**Khabaz** comp=Z,32nm,21.0s,baz=152,slow=42	**24.78**	**295**	LR	LR	18 26 08.5	
SONM	**Songino Array** 1.7nm,0.8s,baz=265,slow=9.0,SNR=7.9	**25.46**	**56**	P	**P**	**18 14 14.8**	**+2.1**
SONM				LR	LR	18 25 06.8	
	comp=Z,52nm,19.0s,baz=278,slow=38						
CMAR	**Chiang Mai Arr** 0.3nm,0.8s,baz=306,slow=11,SNR=3.1	**28.50**	**125**	P	**P**	**18 14 38.0**	**-2.2**
BRTR	**Keskin Array B** 0.3nm,0.3s,baz=76,slow=5.7,SNR=4.1	**31.89**	**287**	P	**P**	**18 15 10.1**	**-0.1**
FINES	**FINESS Array B** 1.0nm,0.4s,baz=117,slow=11,SNR=9.4	**38.36**	**325**	P	**P**	**18 16 05.0**	**-0.4**
ARCES	**ARCESS Array B** 0.6nm,0.4s,baz=115,slow=8.1,SNR=13	**41.43**	**336**	P	**P**	**18 16 30.4**	**-0.4**
KSRS	**Korea Array** comp=Z,36nm,20.2s,baz=275,slow=40	**41.88**	**73**	LR	LR	18 36 20.3	
HFS	**Hagfors** 1.1nm,0.4s,baz=98,slow=11,SNR=11	**44.13**	**321**	P	**P**	**18 16 52.7**	**-0.2**
GERES	**GERESS Array B** comp=Z,20nm,21.6s,baz=259,slow=40	**44.75**	**305**	LR	LR	18 38 20.2	
NOA	**NORSAR Array B** 0.7nm,0.7s,baz=94,slow=7.7,SNR=2.8	**45.39**	**322**	P	**P**	**18 17 03.5**	**+0.6**
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=40,slow=5.7,SNR=9.0	**68.59**	**270**	P	**P**	**18 19 46.2**	**-1.7**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=328,slow=4.7,SNR=3.3	**73.09**	**17**	P	**P**	**18 20 15.0**	**+0.5**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=328,slow=5.3,SNR=5.2	**80.09**	**124**	P	**P**	**18 20 53.3**	**-1.5**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=347,slow=5.4,SNR=3.0	**80.16**	**4**	P	**P**	**18 20 55.9**	**+1.4**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=316,slow=5.8,SNR=5.3	**82.48**	**127**	P	**P**	**18 21 05.7**	**-1.7**

*ISCJB **23** 18:26:53.9±0.4,40.˚32N±0.˚03×26.˚98E±0.˚03,h2km±6km, Error ellipse: s-maj=4.5km s-min=3.4km az=5.5*
*DDA **23** 18:26:54.2±0.9,40.˚33N×26.˚96E,h7km,Ml2.8*
*CSEM **23** 18:26:54.5±0.1,40.˚34N×26.˚98E,h2km,MD2.4,Error ellipse: s-maj=2.4km s-min=1.6km az=14.0*
*ISK **23** 18:26:54.1,40.˚38N×26.˚97E,h6km,MD2.4*

ISC 23 18:26:54.2±0.9,40.˚34N±0.˚02×26.˚97E±0.˚02,h14km±7km, n33,σ0°55/52,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.17**	**282**	*e*PG	**Pg**	**18 26 58.1**	**-0.1**
LPK				*e*SG	**Sg**	**18 27 00.8**	**-0.1**
LPK	**Lapseki**	**0.17**	**282**	*e*Pg	**Pg**	**18 26 58.1**	**-0.1**
LPK				*e*Sg	**Sg**	**18 27 00.8**	**-0.1**
KRBG	**Karabiga-Canak**	**0.26**	**77**	*e*PG	**Pg**	**18 26 59.8**	**+0.1**
KRBG				*e*SG	**Sg**	**18 27 03.5**	**+0.2**
KRBG	**Karabiga-Canak**

0.2nm,0.3s,baz=121,slow=8.2,SNR=7.9

NIED ***23*** *18:48:00,34.60N×139.20E,h5km,Mw3.8 Best double couple: M₀5.41000×10¹⁴ NP1:φs190.00000°,δ62.00000°, λ-17.00000°. NP2:φs289.00000°,δ75.00000°, λ-151.00000°.*

IDC ***23*** *18:48:00.5±1.2,34.57N×139.32E,h0km,mb3.3/4, mb1 3.7/6,mb1mx3.4/42,mbtmp3.5/6,ML3.9/2,MS2.8/4, Ms1 2.9/4,ms1mx2.7/24,Error ellipse: s-maj=28.9km s-min=16.3km az=71.0*

ISCJB ***23*** *18:48:01.7±0.6,34.59N±0.03×139.25E±0.06,h12km±4km, mb3.2/4,MS2.8/2,Error ellipse: s-maj=8.1km s-min=4.7km az=162.1*

JMA ***23*** *18:48:02.1,34.62N×139.25E,h10km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φs1.00000°,δ71.00000°,λ-22.00000°. NP2:φs98.00000°, δ69.00000°,λ-159.00000°. Principal axes: T Plg1.0000°, Azm50.0000°; N Plg61.0000°, Azm142.0000°; P Plg29.0000°, Azm319.0000°;*

JMA Felt II J1.

ISC 23 18:48:02.1±1.1,34.60N±0.03×139.27E±0.04,h7km±8km, n25,σ1s06/23,mb3.3/4,4C-3D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.18**	**48**	⇑P	**Pg**	**18 48 06.0**	**+0.2**
JNIO	**Niijimaoohara**	**0.24**	**179**	P	**Pg**	**18 48 07.6**	**+0.8**
JIZS	**Izushimoda**	**0.35**	**291**	⇓P	**Pg**	**18 48 08.6**	**-0.3**
JIZS				S	**Sg**	**18 48 13.4**	**0.0**
KTJJ	**Kamata 2**	**0.37**	**333**	⇓P	**Pg**	**18 48 08.9**	**-0.4**
KTJJ				S	**Sg**	**18 48 13.9**	**-0.3**
JKO	**Kozu shima**	**0.42**	**195**	⇑P	**Pb**	**18 48 10.9**	**-0.9**
TATJ	**Tateyama 2**	**0.67**	**49**	⇑P	**Pb**	**18 48 15.5**	**-0.6**
JOD2	**Odawara 2**	**0.68**	**347**	⇓P	**Pg**	**18 48 14.5**	**-0.7**
JOD2				S	**Sg**	**18 48 23.7**	**-0.4**
JYO	**Yokosk**	**0.70**	**27**	⇑P	**Pb**	**18 48 16.1**	**-0.6**
JHJ	**Hachijo jima 2**	**1.53**	**164**	Pn	**Pn**	**18 48 29.0**	**-0.8**
JHJ	180nm,0.3s,baz=80,slow=23,SNR=33			Sn	**Sn**	**18 48 49.4**	**-0.5**
MJAR	**Matsushiro Arr**	**2.12**	**336**	Pn	**Pn**	**18 48 38.3**	**+0.3**
MJAR	119nm,0.3s,baz=215,slow=23,SNR=12 26nm,0.3s,baz=167,slow=15,SNR=268			Sn	**Sn**	**18 49 05.4**	**+0.8**
MAT	**Matsushiro**	**2.13**	**336**	P	**Pn**	**18 48 38.0**	**0.0**
MAT	40nm,0.3s,baz=214,slow=12,SNR=19			S	**Sb**	**18 49 05.9**	**-1.6**
JNU	**Nakatsue**	**7.13**	**260**	Pn	**Pn**	**18 49 47.0**	**+0.2**
JNU	2.2nm,0.3s,baz=42,slow=5.1,SNR=17 comp=Z,108nm,18.0s,baz=121,slow=39			LR	LR	18 52 39.5	
KSRS	**Korea Array**	**9.62**	**290**	LR	LR	18 53 19.2	
USRK	**Ussuriysk Ar.**	**11.12**	**332**	comp=Z,31nm,19.9s,baz=48,slow=33 Pn	**Pn**	**18 50 44.8**	**+3.4**
PETK	**Petropavlovsk-**	**22.66**	**30**	0.3nm,0.3s,baz=137,slow=22,SNR=3.7 LR	LR	19 01 56.7	
H11N2	**WAKE ISLAND Hy**	**28.57**	**114**	comp=Z,19nm,18.7s,baz=214,slow=37 T	T	19 23 54.6	
H11N1	**WAKE ISLAND Hy**	**28.58**	**114**	baz=308,slow=75,SNR=184 T	T	19 23 49.9	
H11N3	**WAKE ISLAND Hy**	**28.59**	**114**	baz=308,slow=75,SNR=170 T	T	19 23 54.4	
H11S3	**WAKE ISLAND Hy**	**29.17**	**116**	baz=308,slow=75,SNR=132 T	T	19 24 38.9	
H11S1	**WAKE ISLAND Hy**	**29.17**	**116**	baz=310,slow=76,SNR=37 T	T	19 24 34.0	
H11S2	**WAKE ISLAND Hy**	**29.19**	**116**	baz=310,slow=76,SNR=47 T	T	19 24 37.3	
CMAR	**Chiang Mai Arr**	**39.21**	**256**	baz=310,slow=76,SNR=12 P	**P**	**18 55 31.1**	**0.0**
CMAR	0.3nm,0.6s,baz=51,slow=7.1,SNR=2.6 comp=Z,24nm,18.2s,baz=220,slow=37			LR	LR	19 12 10.1	
ZALV	**Zalesovo Beam**	**42.32**	**314**	P	**P**	**18 55 56.6**	**+0.3**
MKAR	**Makanchi Array**	**43.98**	**304**	0.3nm,0.3s,baz=98,slow=6.4,SNR=3.5 P	**P**	**18 56 08.5**	**-1.4**
ILAR	**Eielson Array**	**52.48**	**31**	0.1nm,0.5s,baz=87,slow=8.8,SNR=2.5 P	**P**	**18 57 14.8**	**-0.4**
	0.5nm,0.8s,baz=264,slow=7.6,SNR=4.9						

WEL 23 18:49:02.0±0.4,38.87S×175.16E,h201km±3km,ML3.8/17, 6C-16D,Error ellipse: s-maj=2.5km s-min=2.4km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.29**	**132**	PN	Pn	18 49 28.7	-0.1
VRZ	**Vera Road**	**0.40**	**231**	PN	Pn	18 49 28.6	-0.3
FWVZ	**Far West T-bar**	**0.49**	**141**	PN	Pn	18 49 29.4	0.0
WNVZ	**Wahianoa**	**0.57**	**143**	PN	Pn	18 49 29.8	+0.2
MOVZ	**Moawhango**	**0.70**	**139**	PN	Pn	18 49 29.9	-0.3
MOVZ				SN	S	18 49 50.4	-1.7
WAZ	**Wanganui**	**0.89**	**189**	PN	Pn	18 49 31.1	0.0
NEZ	**North Egmont**	**0.92**	**244**	PN	Pn	18 49 31.1	-0.3
NEZ				SN	S	18 49 53.8	-0.3
MRHZ	**Matea Rd**	**0.98**	**88**	⇓PN	Pn	18 49 31.4	-0.4
MRHZ				SN	S	18 49 53.3	-1.4
BKZ	**Black Stump Fm**	**1.08**	**106**	⇓PN	Pn	18 49 32.3	-0.2
KWHZ	**Kaweka Forest**	**1.13**	**120**	PN	Pn	18 49 33.0	+0.2
KWHZ				SN	S	18 49 56.1	-0.4
KRHZ	**Kereru**	**1.21**	**130**	PN	Pn	18 49 33.4	0.0
NMHZ	**Naumai**	**1.30**	**100**	⇓PN	Pn	18 49 34.9	+0.7
PNHZ	**Pukenui**	**1.31**	**142**	PN	Pn	18 49 34.3	+0.1
MUGZ	**Murupara**	**1.32**	**73**	⇑PN	Pn	18 49 33.6	-0.6
MCHZ	**McNeill Hill**	**1.32**	**116**	⇓PN	Pn	18 49 34.9	+0.7
OHWZ	**Ohakea**	**1.33**	**175**	PN	Pn	18 49 34.4	+0.1
TSZ	**Takapari Road**	**1.34**	**153**	PN	Pn	18 49 34.2	-0.2
TSZ				AML	AML	18 49 58.6	
TSZ				AML	AML	18 49 59.6	
RTZ	**Ruatahuna**	**1.45**	**80**	⇓PN	Pn	18 49 35.0	-0.4
ARHZ	**Aropaoanui**	**1.48**	**106**	PN	Pn	18 49 35.9	+0.3
ARHZ				SN	S	18 50 01.6	+0.4
RAHZ	**Arahi**	**1.50**	**92**	PN	Pn	18 49 36.1	+0.3
RAHZ				SN	S	18 50 02.3	+0.7
WPHZ	**Waipukurau**	**1.55**	**141**	PN	Pn	18 49 36.1	-0.1
WPHZ				SN	S	18 50 01.6	-0.9
POWZ	**Post Office Ro**	**1.59**	**163**	PN	Pn	18 49 35.8	-0.7
KAHZ	**Kahuranaki**	**1.62**	**125**	⇓PN	Pn	18 49 37.1	+0.3
DVHZ	**Dannevirke**	**1.62**	**152**	PN	Pn	18 49 36.3	-0.6
WHHZ	**Waihua**	**1.63**	**98**	⇓PN	Pn	18 49 37.1	+0.1
URZ	**Urewera**	**1.65**	**69**	⇓PN	Pn	18 49 36.2	-0.9
CKHZ	**Cape Kidnapper**	**1.68**	**118**	PN	Pn	18 49 37.7	+0.3
SNGZ	**Shannon Statio**	**1.71**	**88**	⇓PN	Pn	18 49 37.6	-0.1
PXZ	**Pawanui**	**1.75**	**132**	⇓PN	Pn	18 49 37.8	-0.2
PXZ				AML	AML	18 50 06.7	
PRWZ	**Pori Road**	**1.79**	**160**	PN	Pn	18 49 37.8	-0.6
PRHZ	**Porangahau**	**1.80**	**141**	PN	Pn	18 49 38.3	-0.2
RAGZ	**Rawiri**	**1.81**	**79**	⇓PN	Pn	18 49 38.3	-0.4
MRZ	**Mangatainoka R**	**1.81**	**170**	⇑PN	Pn	18 49 37.6	-1.1
ANWZ	**Angora Road**	**1.88**	**148**	PN	Pn	18 49 38.9	-0.4
MWZ	**Matawai**	**1.93**	**75**	⇓PN	Pn	18 49 39.2	-0.7
OGWZ	**Otaki Gorge**	**1.94**	**180**	⇑PN	Pn	18 49 38.9	-1.0
OGWZ				SN	S	18 50 06.4	-2.7
KNZ	**Kokohu**	**1.97**	**95**	⇓PN	Pn	18 49 39.9	-0.3
TIWZ	**Tintock**	**1.98**	**164**	PN	Pn	18 49 39.2	-1.1
TIWZ				AML	AML	18 50 09.3	
TIWZ				AML	AML	18 50 09.6	
BFZ	**Birch Farm**	**1.99**	**155**	⇑PN	Pn	18 49 39.3	-1.1
BFZ				AML	AML	18 52 10.8	
KIW	**Kapiti Island**	**1.99**	**185**	PN	Pn	18 49 39.0	-1.5
HOWZ	**Holdsworth Sta**	**2.04**	**172**	PN	Pn	18 49 39.5	-1.4
HOWZ				SN	S	18 50 07.8	-3.1
RIGZ	**Rimuhau**	**2.04**	**86**	PN	Pn	18 49 40.8	-0.3
TKGZ	**Te Karaka**	**2.15**	**79**	PN	Pn	18 49 41.8	-0.3
MHGZ	**Mahia Peninsul**	**2.16**	**98**	PN	Pn	18 49 42.1	-0.1
CAW	**Cannon Point**	**2.23**	**182**	PN	Pn	18 49 41.4	-1.6
CAW				AML	AML	18 50 13.8	
MTW	**Mount Morrison**	**2.30**	**174**	PN	Pn	18 49 41.8	-1.9
TMWZ	**Te Maipa**	**2.30**	**166**	PN	Pn	18 49 42.1	-1.6
TWGZ	**Tauwhareparae**	**2.32**	**73**	PN	Pn	18 49 43.7	-0.3
HAZ	**Te Kaha**	**2.35**	**62**	⇓PN	Pn	18 49 42.6	-1.6
WEL	**Wellington**	**2.43**	**187**	PN	Pn	18 49 43.1	-2.0
TCW	**Tory Channel**	**2.43**	**196**	PN	Pn	18 49 43.4	-1.7
PAWZ	**Paruwai Farm**	**2.51**	**175**	PN	Pn	18 49 44.0	-2.1
MSWZ	**Moikau Station**	**2.54**	**178**	PN	Pn	18 49 44.2	-2.1
BHW	**Baring Head**	**2.54**	**185**	PN	Pn	18 49 44.1	-2.2
PUZ	**Puketiti**	**2.56**	**73**	⇓PN	Pn	18 49 45.4	-1.2
PLWZ	**Palliser**	**2.69**	**178**	PN	Pn	18 49 45.7	-2.3
NNZ	**Nelson**	**2.71**	**210**	⇑PN	Pn	18 49 45.8	-2.5
NNZ				SN	S	18 50 20.2	-3.6
TUWZ	**Tuamarina**	**2.72**	**200**	PN	Pn	18 49 46.3	-2.0
WMGZ	**Waiomatatini S**	**2.77**	**69**	PN	Pn	18 49 47.7	-1.2
WMGZ				SN	S	18 50 22.8	-2.2
QRZ	**Quartz Range**	**2.81**	**225**	⇑PN	Pn	18 49 46.2	-3.2
BSWZ	**Blackbirch Sta**	**3.00**	**199**	PN	Pn	18 49 49.5	-2.1
THZ	**Tophouse**	**3.36**	**210**	⇓PN	Pn	18 49 52.8	-3.1
KHZ	**Kahutara**	**3.75**	**199**	PN	Pn	18 49 57.9	-2.7
DSZ	**Denniston Nort**	**3.85**	**221**	PN	Pn	18 49 58.0	-3.9
LTZ	**Lake Taylor**	**4.48**	**208**	PN	Pn	18 50 05.8	-3.9
INZ	**Inchbonnie**	**4.77**	**215**	PN	Pn	18 50 09.2	-4.2
OXZ	**Oxford**	**5.03**	**207**	PN	Pn	18 50 12.1	-4.6

IDC ***23*** *18:53:35.3±0.5,2.88S×131.36E,h0km,mb4.1/17, mb1 4.2/17,mb1mx4.2/27,mbtmp4.1/17,ML2.4/1,MS3.3/5, Ms1 3.3/5,ms1mx2.9/39,Error ellipse: s-maj=25.3km s-min=11.6km az=81.0*

NEIC ***23*** *18:53:37.6±1.8,2.88S×131.29E,h14km±11km,mb4.7/4, Error ellipse: s-maj=10.4km s-min=7.3km az=93.0*

ISCJB ***23*** *18:53:38.3±0.3,2.91S±0.04×131.27E±0.05,h33km, mb4.2/19,MS3.3/3,Error ellipse: s-maj=7.4km s-min=5.0km az=175.3*

DJA ***23*** *18:53:41.0±0.4,3°S±4°×13°1E±°,h90km±57km,M4.8/5, mB4.7/1,mb5.0/2,MLv4.8/5,Mw(mB)3.9/1*

ISC 23 18:53:40.2±0.5,2.90S±0.05×131.33E±0.06,h35km,n43, σ1s86/43,mb4.2/19,MS3.3/3,1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**0.92**	**91**	P	**Pn**	**18 53 56.4**	**-0.3**
FAKI	**Fak Fak**	**0.92**	**91**	*e*Pg	**Pn**	**18 53 56.1**	**-0.6**
SIJI	**Sorong**	**2.02**	**358**	Pn	**Pn**	**18 54 11.6**	**-0.2**
SIJI				Sn	**Sn**	**18 54 35.7**	**-0.1**
BNDI	**Bandanaira**	**2.15**	**221**	P	**Pn**	**18 54 16.1**	**+2.6**
SAUI	**Saumlaki**	**5.05**	**180**	P	**Pn**	**18 54 54.4**	**+0.9**
SAUI				S	**Sn**	**18 55 51.9**	**+1.3**
SANI	**Sanana**	**5.40**	**279**	P	**Pn**	**18 54 59.6**	**+1.3**
SANI				S	**Sn**	**18 55 57.1**	**-2.2**
JAY	**Jayapura**	**9.38**	**88**	Pn	**Pn**	**18 55 52.9**	**-0.1**
SOEI	**Soe**	**9.77**	**226**	0.0nm,0.3s,baz=84,slow=23,SNR=2.8 *e*Pn	**Pn**	**18 55 57.8**	**-0.7**
KAPI	**Kappang**	**11.73**	**259**	76nm,1.0s LR	LR	19 02 45.9	
FITZ	**Fitzroy Crossi**	**16.10**	**200**	comp=Z,64nm,18.3s,baz=156,slow=47 Pn	**Pn**	**18 57 18.5**	**-5.6**
FITZ				1.5nm,0.3s,baz=32,slow=13,SNR=32 Sn	Sn	19 00 06.3	-15
FITZ	**Fitzroy Crossi**	**16.10**	**200**	1.7nm,0.3s,baz=158,slow=19,SNR=4.2 *e*Pn	**Pn**	**18 57 18.1**	**-5.9**
FITZ				8.3nm,0.6s Sn	Sn	19 00 06.3	-15
PMG	**Port Moresby**	**17.01**	**113**	LR	LR	19 06 52.1	
WRAB	**Tennant Creek**	**17.18**	**170**	comp=Z,139nm,19.3s,baz=302,slow=47 *e*P	**Pn**	**18 57 35.0**	**-2.8**
WRA	**Warramunga Arr**	**17.19**	**170**	16nm,0.6s P	**Pn**	**18 57 33.1**	**-4.7**
WRA				1.3nm,0.3s,baz=344,slow=14,SNR=36 S	Sn	19 00 31.9	-16
ASAR	**Alice Springs**	**20.79**	**173**	3.1nm,0.3s,baz=346,slow=24,SNR=7.1 P	**P**	**18 58 19.1**	**+0.5**
ASAR				24nm,0.5s,baz=352,slow=10,SNR=418 S	S	19 01 57.0	-12
MBWA	**Marble Bar**	**21.37**	**211**	2.6nm,0.6s,baz=356,slow=28,SNR=5.2 *e*P	**P**	**18 58 23.4**	**-1.4**
CTA	**Charters Tower**	**22.45**	**141**	112nm,1.3s P	**P**	**18 58 36.3**	**-0.1**
CTAO	**Charters Tower**	**22.45**	**141**	3.5nm,0.9s,baz=319,slow=12,SNR=4.0 P	**P**	**18 58 38.3**	**+1.8**
STKA	**Stephens Creek**	**30.40**	**163**	2.8nm,0.5s,baz=333,slow=9.6,SNR=12 P	**P**	**18 59 49.0**	**-0.3**
STKA				comp=Z,93nm,19.6s,baz=27,slow=38 LR	LR	19 12 34.3	
NWAO	**Narrogin (SRO)**	**32.66**	**202**	6.0nm,0.8s,baz=263,slow=7.2,SNR=6.1 P	**P**	**19 00 08.8**	**-0.3**
JNU	**Nakatsue**	**35.83**	**359**	11nm,1.1s,baz=74,slow=15,SNR=2.6 P	**P**	**19 00 36.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**38.30**	**305**	0.5nm,0.8s,baz=134,slow=7.7,SNR=3.2 P	**P**	**19 00 58.9**	**+1.2**
KSAR	**Wonju Array Be**	**40.27**	**356**	0.8nm,0.7s,baz=177,slow=8.5,SNR=3.2 P	**P**	**19 01 12.7**	**-1.2**
KSRS	**Korea Array**	**40.27**	**356**	P	**P**	**19 01 12.7**	**-1.2**
KSRS				comp=Z,43nm,18.8s,baz=172,slow=36 LR	LR	19 17 30.0	
USRK	**Ussuriysk Ar.**	**46.89**	**1**	1.6nm,0.6s,baz=175,slow=8.5,SNR=3.9 P	**P**	**19 02 06.6**	**-0.5**
SONM	**Songino Array**	**55.04**	**340**	0.3nm,0.5s,baz=152,slow=10,SNR=2.8 P	**P**	**19 03 09.0**	**+0.5**
PETK	**Petropavlovsk-**	**60.04**	**18**	2.5nm,0.8s,baz=238,slow=10.0,SNR=3.1 P	**P**	**19 03 45.2**	**+1.7**
MA2	**Magadan**	**64.15**	**11**	comp=Z,14nm,20.7s,baz=180,slow=34 LR	LR	19 30 01.6	
MKAR	**Makanchi Array**	**65.58**	**325**	0.8nm,0.6s,baz=116,slow=7.9,SNR=9.2 P	**P**	**19 04 21.8**	**+1.2**
SEY	**Seymchan**	**67.56**	**10**	1.2nm,0.7s,baz=191,slow=6.2,SNR=5.9 P	**P**	**19 04 33.2**	**+0.4**
ZALV	**Zalesovo Beam**	**68.54**	**333**	1.0nm,0.4s,baz=131,slow=4.5,SNR=4.8 P	**P**	**19 04 39.1**	**-0.1**
KURK	**Kurchatov**	**69.76**	**327**	26nm,0.8s *e*P	**P**	**19 04 47.5**	**+0.8**
VNDA	**Vanda**	**76.34**	**173**	2.1nm,0.8s,baz=318,slow=5.7,SNR=14 P	**P**	**19 05 25.7**	**+0.5**
SBA	**Scott Base**	**77.20**	**173**	*e*P	**P**	**19 05 31.9**	**+1.8**
GEYT	**Alibeck**	**78.61**	**309**	3.3nm,0.7s,baz=160,slow=4.7,SNR=7.4 P	**P**	**19 05 39.8**	**+1.0**
MAW	**Mawson**	**79.22**	**201**	1.0nm,0.4s,baz=21,slow=20,SNR=3.7 P	**P**	**19 05 43.0**	**+1.6**
QSPA	**South Pole Qui**	**87.05**	**180**	*e*P	**P**	**19 06 22.5**	**+0.5**
SYO	**Syowa Base**	**87.94**	**201**	⇓*e*P	**P**	**19 06 26.0**	**-0.1**
ILAR	**Eielson Array**	**89.10**	**25**	0.3nm,0.4s,baz=261,slow=4.1,SNR=3.6 P	**P**	**19 06 31.1**	**-0.5**
ARCES	**ARCESS Array B**	**98.21**	**340**	5.3nm,1.1s,baz=54,slow=9.1,SNR=3.5 P	**P**	**19 07 12.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**129.19**	**285**	0.4nm,0.7s,baz=70,slow=3.6,SNR=2.7 PKP	**PKPdf**	**19 12 45.7**	**-0.1**
CPUP	**Villa Florida**	**149.76**	**164**	1.2nm,0.6s,baz=106,slow=3.7,SNR=2.9 PKPbc	**PKPbc**	**19 13 26.7**	**-0.5**
LPAZ	**La Paz**	**152.92**	**135**	2.3nm,0.7s,baz=171,slow=4.7,SNR=8.9 PKPbc	**PKPbc**	**19 13 36.6**	**+1.0**

MEX ***23*** *19:11:23.2±0.3,32.93N×116.92W,h3km±3km,MD3.6*

ISC 23 19:11:20.5±0.9,33.00N±0.02×116.33W±0.03,h11km±8km, n17,σ0s70/29,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MONP2	**Monument Peak**	**0.13**	**214**	P	**Pg**	**19 11 24.1**	**+0.2**
MONP2	baz=28,SNR=1000			S	**Sg**	**19 11 26.0**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.40**	**152**	P	**Pg**	**19 11 28.5**	**0.0**
IKP	baz=329,SNR=62			S	**Sg**	**19 11 34.0**	**+0.2**
TPFO	**Pinon Flats**	**0.61**	**350**	P	**Pg**	**19 11 32.4**	**0.0**
TPFO	baz=172,SNR=12			S	**Sg**	**19 11 40.4**	**-0.1**
PFO	**Pinyon Flats O**	**0.61**	**350**	P	**Pg**	**19 11 32.5**	**0.0**
PFO	baz=172,SNR=12			S	**Sg**	**19 11 40.6**	**0.0**
TJIG	**Tijuana**	**0.64**	**207**	*e*P	**Pg**	**19 11 32.9**	**0.0**
TJIG				*e*S	**Sg**	**19 11 40.9**	**-0.4**
109C	**Camp Elliot, M**	**0.66**	**260**	P	**Pg**	**19 11 32.9**	**-0.4**
109C	baz=80,SNR=5.0			S	**Sg**	**19 11 41.4**	**-0.5**
CBX	**Cerro Bola**	**0.74**	**202**	*e*P	**Pg**	**19 11 34.7**	**-0.2**
CBX				*e*S	**Sg**	**19 11 44.6**	**-0.1**
MURC	**Murrieta**	**0.94**	**310**	P	**Pb**	**19 11 38.2**	**-0.6**
MURC	baz=131,SNR=7.5			S	**Sb**	**19 11 50.7**	**-0.5**
BC3	**Big Chuckawall**	**0.98**	**48**	P	**Pb**	**19 11 39.2**	**-0.4**
BC3	baz=229,SNR=14			S	**Sb**	**19 11 50.7**	**-1.9**
BELC	**Belle Mtn. Jos**	**1.03**	**16**	P	**Pb**	**19 11 40.4**	**-0.1**
BBRC	**Big Bear Solar**	**1.35**	**339**	Pg	**Pn**	**19 11 46.0**	**+0.5**
BBRC	baz=160			S	**Sn**	**19 12 03.0**	**-0.5**
IRM	**Iron Mountain**	**1.52**	**40**	P	**Pn**	**19 11 47.2**	**-0.4**
BFSC	**Mount Baldy Ra**	**1.66**	**318**	baz=221 Sb	**Sb**	**19 12 12.3**	**+0.3**
HEC	**Hector,Ludlow**	**1.82**	**360**	baz=139 Pg	**Pb**	**19 11 54.9**	**+1.0**
GMRC	**Granite Mounta**	**1.86**	**17**	baz=181,SNR=6.8 Pb	**Pb**	**19 11 55.0**	**+0.4**
GMRC	baz=198,SNR=9.4			Sb	**Sb**	**19 12 19.4**	**+1.4**
SPIG	**San Pedro Mart**	**2.09**	**159**	baz=198 *e*P	**Pb**	**19 11 58.6**	**+0.1**
SPIG				*e*S	**Sb**	**19 12 25.8**	**+1.2**
EDW2	**Edwards Air Fo**	**2.33**	**324**	Sb	**Sb**	**19 12 32.7**	**+1.4**
	baz=144						

NIED ***23*** *19:15:00,36.50N×141.00E,h5km,Mw3.6 Best double couple: M₀3.03000×10¹⁴ NP1:φs307.00000°,δ51.00000°, λ-140.00000°. NP2:φs189.00000°,δ60.00000°, λ-47.00000°.*

ISCJB ***23*** *19:15:40.4±1.2,36.43N±0.04×141.12E±0.06,h5km±7km, mb3.5/4,Error ellipse: s-maj=8.8km s-min=6.8km az=13.9*

IDC ***23*** *19:15:41.0±1.2,36.31N×141.15E,h0km,mb3.5/4, mb1 3.6/7,mb1mx3.5/46,mbtmp3.5/7,ML2.9/3,MS2.6/1, Ms1 2.6/1,ms1mx2.2/32,Error ellipse: s-maj=29.8km s-min=21.1km az=81.0*

JMA ***23*** *19:15:43.4,36.49N×140.96E,h17km±1km,M4.1*

JMA Felt I J1.

ISC 23 19:15:42.2±2.0,36.45N±0.05×141.04E±0.07,h5km±12km, n19,σ1s28/19,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.41**	**293**	P	**Pg**	**19 15 50.3**	**+0.1**
JHO				S	**Sg**	**19 15 55.3**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.68**	**343**	P	**Pg**	**19 15 55.3**	**0.0**
ONAJ				S	**Sg**	**19 16 04.4**	**+0.2**
JYT	**Yasato**	**0.72**	**252**	P	**Pg**	**19 15 56.2**	**+0.1**
JYT				*e*S	**Sg**	**19 16 05.9**	**+0.5**
JFK	**Kawauchi**	**0.93**	**352**	P	**Pg**	**19 15 59.1**	**-0.9**
JSB	**Shiboa**	**1.04**	**300**	P	**Pg**	**19 16 01.8**	**-0.4**
JSB				S	**Sg**	**19 16 15.0**	**-0.7**
MJAR	**Matsushiro Arr**	**2.29**	**273**	Pn	**Pn**	**19 16 19.8**	**-0.8**
MJAR	9.7nm,0.3s,baz=83,slow=10,SNR=74 comp=Z,124nm,18.4s,baz=155,slow=44			LR	LR	19 17 24.9	
MAT	**Matsushiro**	**2.29**	**273**	P	**Pn**	**19 16 20.0**	**-0.7**
MAT				S	**Sb**	**19 16 50.8**	**-1.8**
JHJ	**Hachijo jima 2**	**3.48**	**198**	Pn	**Pn**	**19 16 36.9**	**-0.1**
JHJ	3.9nm,0.3s,baz=61,slow=19,SNR=3.1 16nm,0.3s,baz=246,slow=20,SNR=2.8			Sn	**Sn**	**19 17 19.5**	**+0.9**
USRK	**Ussuriysk Ar.**	**10.37**	**321**	Pn	**Pn**	**19 18 15.0**	**+3.4**
SONM	**Songino Array**	**27.87**	**305**	0.2nm,0.3s,baz=106,slow=14,SNR=2.6 P	**P**	**19 21 33.7**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**28.11**	**119**	0.3nm,0.6s,baz=121,slow=9.2,SNR=2.6 T	T	19 51 02.3	
H11N1	**WAKE ISLAND Hy**	**28.12**	**119**	baz=312,slow=75,SNR=76 T	T	19 51 03.6	
H11N3	**WAKE ISLAND Hy**	**28.13**	**119**	baz=312,slow=75,SNR=80 T	T	19 51 04.4	
H11S1	**WAKE ISLAND Hy**	**28.80**	**121**	baz=312,slow=75,SNR=84 T	T	19 51 55.3	
H11S3	**WAKE ISLAND Hy**	**28.80**	**122**	baz=314,slow=76,SNR=703 T	T	19 51 52.3	
H11S2	**WAKE ISLAND Hy**	**28.82**	**121**	baz=314,slow=76,SNR=526 T	T	19 51 56.1	
ILAR	**Eielson Array**	**50.15**	**32**	baz=314,slow=76,SNR=386 P	**P**	**19 24 38.1**	**-0.1**
WRA	**Warramunga Arr**	**56.44**	**188**	0.2nm,0.4s,baz=294,slow=6.8,SNR=3.3 P	**P**	**19 25 23.1**	**-1.9**
ASAR	**Alice Springs**	**60.17**	**188**	0.4nm,0.4s,baz=5.5,slow=7.5,SNR=9.0 P	**P**	**19 25 49.6**	**-1.4**
	0.4nm,0.7s,baz=3.2,slow=5.4,SNR=6.9						

IDC ***23*** *19:18:35.2±0.8,40.15N×71.67E,h0km,mb4.0/15, mb1 4.1/23,mb1mx3.9/60,mbtmp4.0/23,ML3.4/8,MS3.0/8, Ms1 3.1/8,ms1mx2.8/43,Error ellipse: s-maj=15.0km s-min=9.9km az=157.0*

KRNET ***23*** *19:18:37.7±0.1,40.24N×71.60E,h20km,mb4.4*

BJI ***23*** *19:18:37.9,40.11N×71.56E,h16km,mb4.1/7,mB4.4/5, ML4.1/3,Ms3.7/2,Ms7 3.5/2*

MOS ***23*** *19:18:38.8±1.2,40.13N×71.56E,h33km,mb4.4/14,Error ellipse: s-maj=9.2km s-min=6.9km az=84.1*

SOME ***23*** *19:18:38.6,40.25N×71.78E,h10km,MS3.8*

ISCJB ***23*** *19:18:39.3±0.4,40.05N±0.02×71.54E±0.03,h43km±4km, mb4.1/28,MS3.0/6,Error ellipse: s-maj=3.9km s-min=3.2km az=137.3*

NEIC ***23*** *19:18:40.4±2.6,40.31N×71.51E,h29km±19km,mb4.4/8, Error ellipse: s-maj=11.5km s-min=7.0km az=175.0*

NNC ***23*** *19:18:40.2±2.1,40.33N×71.65E,h6km,8km,mb4.5, mpv4.2,Error ellipse: s-maj=15.8km s-min=9.0km az=178.0*

ISC 23 19:18:39.3±0.7,40.15N±0.03×71.51E±0.02,h25km±5km, n144,σ2s05/188,mb4.2/28,MS3.1/6,34C-47D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.54**	**261**	⇓*i*P	**Pb**	**19 18 50.5**	**+0.2**
BTK	baz=254			⇓*i*S	**Sn**	**19 19 00.3**	**+0.5**
DRK	**Karamyk**	**0.70**	**162**	⇓*i*P	**Pb**	**19 18 52.7**	**-0.5**
DRK	baz=168			⇓*i*S

EKS2	**Erkin-Say**	**3.03**	**33**	*e*PN		**Pn**	**19 19 26.4**	**+0.5**
EKS2	**Erkin-Say**	**3.03**	**33**	*e*Pn		**Pn**	**19 19 26.4**	**+0.5**
KK31	**Karatay Array**	**3.05**	**346**	Pn		**Pn**	**19 19 27.2**	**+1.3**
	12nm,0.3s,baz=160,slow=12,SNR=1321							
KK31				⇓Pg		**Pb**	**19 19 33.0**	**+0.2**
	290nm,0.8s,baz=159,slow=15,SNR=11							
KK31				⇓Lg		Lg	19 20 13.0	
	154nm,0.4s,baz=161,slow=30,SNR=4.5							
KKAR	**Karatay Array**	**3.05**	**346**	*e*PN		**Pn**	**19 19 26.8**	**+0.8**
KKAR	**Karatay Array**	**3.05**	**346**	*e*Pn		**Pn**	**19 19 26.8**	**+0.8**
UCH	**Uchtor**	**3.07**	**47**	⇓*i*P		**Pn**	**19 19 27.4**	**+0.7**
	baz=47							
UCH				⇓*i*S		**Sn**	**19 20 05.0**	**+2.1**
	baz=47							
AAK	**Ala-Archa**	**3.35**	**41**	Pn		**Pn**	**19 19 30.3**	**0.0**
	7.2nm,0.3s,baz=202,slow=6.0,SNR=24							
AAK				Lg		Lg	19 20 18.9	
	48nm,0.3s,baz=348,slow=21,SNR=17							
AAK	**Ala-Archa**	**3.35**	**41**	⇓*i*P		**Pn**	**19 19 31.1**	**+0.9**
	baz=41							
AAK				⇓*i*S		**Sn**	**19 20 11.3**	**+2.0**
	baz=41							
AAK	**Ala-Archa**	**3.35**	**41**	⇓Pn		**Pn**	**19 19 31.1**	**+0.9**
	10nm,0.4s							
AAK				⇑Pg		**Pb**	**19 19 37.1**	**-1.0**
	68nm,0.6s							
AAK				⇑Lg		Lg	19 20 18.0	
	168nm,0.6s							
KZA	**Kyzart**	**3.42**	**54**	⇑*i*P		**Pn**	**19 19 32.5**	**+1.1**
	baz=55							
KZA				⇑*i*S		**Sn**	**19 20 13.8**	**+2.5**
	baz=55							
KSH	**Kashi**	**3.49**	**99**	Pn		**Pn**	**19 19 31.5**	**-0.7**
KSH				Sn		**Sn**	**19 20 14.4**	**+1.6**
KSH				SMN				
	690nm,0.6s							
KSH				SME				
	450nm,0.7s							
FRU1	**Bishkek**	**3.54**	**40**	⇑*e*P		**Pn**	**19 19 34.7**	**+1.9**
	baz=40							
FRU1				⇑*e*S		**Sn**	**19 20 16.0**	**+2.1**
	baz=40							
KBK	**Karagaybulak**	**3.60**	**45**	⇑*i*P		**Pn**	**19 19 34.8**	**+1.1**
	baz=45							
KBK				⇑*i*S		**Sn**	**19 20 17.0**	**+1.5**
	baz=45							
CHMS	**Chumysh**	**3.74**	**39**	⇑*i*P		**Pn**	**19 19 36.2**	**+0.7**
	baz=40							
CHMS				⇑*i*S		**Sn**	**19 20 20.3**	**+1.5**
	baz=40							
USP	**Ospenovka**	**3.83**	**35**	⇓*i*P		**Pn**	**19 19 37.4**	**+0.6**
	baz=35							
USP				⇓*i*S		**Sn**	**19 20 22.7**	**+1.6**
	baz=35							
BOOM	**Boomskoye usch**	**4.07**	**54**	⇑*e*P		**Pn**	**19 19 41.9**	**+1.7**
	baz=54							
BOOM				⇑*e*S		**Sn**	**19 20 29.0**	**+1.9**
	baz=54							
TKM2	**Tokmak 2**	**4.13**	**47**	⇓*i*P		**Pn**	**19 19 42.1**	**+1.1**
	baz=47							
TKM2				⇓*i*S		**Sn**	**19 20 29.9**	**+1.3**
	baz=47							
TKM2	**Tokmak 2**	**4.13**	**47**	⇓Pn		**Pn**	**19 19 42.0**	**+1.0**
	80nm,0.6s							
TKM2				⇑Sn		**Sn**	**19 20 28.7**	**0.0**
	146nm,0.8s							
TKM2				⇑Lg		Lg	19 20 43.7	
	163nm,0.7s							
TKM2	**Tokmak 2**	**4.13**	**47**	*e*PN		**Pn**	**19 19 41.8**	**+0.8**
TKM2	**Tokmak 2**	**4.13**	**47**	*e*Pn		**Pn**	**19 19 41.8**	**+0.8**
ULHL	**Ulahol**	**4.14**	**58**	⇓*i*P		**Pn**	**19 19 41.9**	**+0.8**
	baz=59							
ULHL				⇓*i*S		**Sn**	**19 20 29.7**	**+0.9**
	baz=59							
KST	**Kastek**	**4.42**	**48**	*e*P		**Pb**	**19 19 56.6**	**+0.4**
	13nm,0.4s							
KST				⇓*i*S		**Sb**	**19 20 52.8**	**+3.7**
	217nm,0.7s							
DGS	**Degeres**	**4.44**	**45**	*e*P		**Pb**	**19 19 55.6**	**-1.1**
	92nm,0.3s							
DGS				*e*S		**Sb**	**19 20 50.9**	**+1.2**
	298nm,0.2s							
IZV	**Izvestkoviy**	**4.79**	**51**	*e*P		**Pb**	**19 20 02.6**	**0.0**
	79nm,0.4s							
IZV				*e*S		**Sb**	**19 21 03.5**	**+3.6**
	139nm,0.3s							
TNSS	**Tian-Shan**	**4.99**	**53**	*e*P		**Pb**	**19 20 07.6**	**+1.3**
	52nm,0.5s							
TNSS				*e*S		**Sb**	**19 21 11.2**	**+5.2**
	250nm,0.6s							
KNDC	**Almaty**	**5.11**	**51**	⇓Pn		**Pn**	**19 19 55.4**	**+1.1**
	46nm,0.7s							
KNDC				⇓Lg		Lg	19 21 15.5	
	494nm,1.0s							
MDOK	**Medeo**	**5.12**	**52**	*e*P		**Pb**	**19 20 09.5**	**+1.2**
	29nm,0.8s							
MDOK				*e*S		**Sb**	**19 21 14.2**	**+4.7**
	161nm,0.8s							
AAA	**Alma-Ata**	**5.13**	**51**	*i* PN		Pn	19 20 00.3	+5.8
AAA				pmax		pmax		
	comp=Z,63nm,0.6s							
KUU	**Kurty**	**5.19**	**42**	*e*P		**Pb**	**19 20 08.3**	**-1.0**
	comp=Z,36nm,0.6s							
KUU				*e*S		**Sb**	**19 21 13.6**	**+2.5**
	comp=Z,188nm,0.7s							
KOTS	**Kotyrbulak**	**5.20**	**52**	*e*P		**Pb**	**19 20 09.7**	**0.0**
	comp=Z,93nm,0.4s							
KOTS				*e*S		**Sb**	**19 21 16.2**	**+4.5**
	comp=Z,198nm,0.4s							
KTBS	**Karatobe**	**5.25**	**46**	*e*P		**Pb**	**19 20 09.5**	**-0.8**
	comp=Z,27nm,0.4s							
KTBS				*e*S		**Sb**	**19 21 15.7**	**+2.7**
	comp=Z,88nm,0.7s							
CHKK	**Chushkaly**	**5.53**	**46**	*e*P		**Pb**	**19 20 15.2**	**+0.2**
	comp=Z,42nm,0.3s							
CHKK				*e*S		**Sb**	**19 21 24.2**	**+3.3**
	comp=Z,189nm,0.4s							
KURS	**Kuram**	**5.99**	**54**	*e*P		**Pb**	**19 20 24.2**	**+1.2**
	comp=Z,19nm,0.6s							
KURS				*e*S		**Sb**	**19 21 39.8**	**+5.5**
	comp=Z,27nm,0.4s							
ARXS	**Arharly**	**6.20**	**47**	*e*P		**Pb**	**19 20 27.8**	**+1.2**
	comp=Z,50nm,0.6s							
ARXS				*e*S		**Sb**	**19 21 46.4**	**+6.0**
	comp=Z,93nm,0.5s							
CEP	**Cherat**	**6.32**	**177**	P		**Pn**	**19 20 15.5**	**+4.4**
CEP				S		**Sn**	**19 21 30.0**	**+7.5**
MNBS	**Baschi**	**6.45**	**50**	*e*P		**Pb**	**19 20 31.6**	**+0.7**
	comp=Z,25nm,0.8s							
MNBS				*e*S		**Sb**	**19 21 52.5**	**+4.8**
	comp=Z,129nm,0.8s							
CHCP	**Chirah Chowk**	**6.63**	**167**	P		Pn	19 20 20.2	+5.0
PDGK	**Podgornoye**	**6.75**	**59**	⇑Pn		**Pn**	**19 20 15.0**	**-1.8**
	comp=Z,11nm,0.8s							
PDGK				⇓Pg		Pb	19 20 43.2	+7.2
	comp=Z,20nm,0.7s							
PDGK				⇓Lg		Lg	19 22 06.2	
	comp=Z,68nm,1.0s							
THW	**Thamme Wali**	**7.34**	**178**	P		**Pn**	**19 20 28.6**	**+3.6**
KTMS	**Ketmen**	**7.38**	**61**	*e*P		**Pb**	**19 20 51.1**	**+4.4**
	comp=Z,19nm,0.4s							
KTMS				*e*S		Sb	19 22 27.5	+13
	comp=Z,23nm,0.4s							
THN	**Thein Dam**	**8.41**	**155**	*e*P		**Pn**	**19 20 41.0**	**+1.4**
THN				*e*S		**Sn**	**19 22 12.5**	**-1.3**
SDNR	**Sundarnagar**	**9.70**	**151**	*e*P		**Pn**	**19 20 59.0**	**+1.7**
SDNR				*e*S		**Sn**	**19 22 42.0**	**-3.4**
SMLA	**Simla**	**10.11**	**151**	*e*P		**Pn**	**19 21 04.0**	**+1.2**
SMLA				*e*S		**Sn**	**19 22 52.3**	**-3.0**
SMLA				IAML			19 22 58.6	
	comp=N,80nm,0.3s							
SMLA				IAML			19 22 59.7	
	comp=E,77nm,0.4s							
MK31	**Makanchi Array**	**10.26**	**46**	P		**Pn**	**19 21 04.4**	**-0.6**
	comp=E,3.1nm,0.6s,baz=224,slow=13,SNR=44							
MKAR	**Makanchi Array**	**10.26**	**46**	Pn		**Pn**	**19 21 04.4**	**-0.6**
	comp=E,0.4nm,0.3s,baz=230,slow=14,SNR=13							
MKAR				LR		LR	19 24 58.5	
	comp=E,28nm,19.7s,baz=234,slow=38							
MKAR	**Makanchi Array**	**10.26**	**46**	*e*P		**Pn**	**19 21 04.9**	**-0.1**
GEYT	**Alibeck**	**10.65**	**262**	Pn		**Pn**	**19 21 10.2**	**-0.1**
	comp=E,0.9nm,0.3s,baz=82,slow=11,SNR=6.9							
GEYT				Sn		**Sn**	**19 23 05.6**	**-3.2**
	comp=E,0.9nm,0.3s,baz=66,slow=19,SNR=4.4							
DDI	**Dehra Dun**	**11.16**	**149**	*e*P		**Pn**	**19 21 18.3**	**+0.9**
DDI				*e*S		**Sn**	**19 23 16.8**	**-4.6**
DDI				IAML			19 23 26.5	
	comp=N,120nm,0.1s							
DDI				IAML			19 23 27.4	
	comp=E,101nm,0.1s							
KURBB	**Kurchatov Arra**	**11.57**	**23**	Pn		**Pn**	**19 21 19.9**	**-2.9**
	comp=E,0.1nm,0.3s,baz=214,slow=13,SNR=38							
KURBB				Lg		Lg	19 24 37.3	
	comp=E,0.2nm,0.3s,baz=182,slow=27,SNR=7.7							
KURK	**Kurchatov**	**11.68**	**23**	⇑*i*P		**Pn**	**19 21 21.3**	**-3.0**
KURK	**Kurchatov**	**11.68**	**23**	*e*Pn		**Pn**	**19 21 20.6**	**-3.7**
	comp=E,43nm,0.9s							
KURK				Lg		Lg	19 24 37.3	
AB31	**Akbulak array**	**12.26**	**322**	⇑P		**Pn**	**19 21 29.6**	**-2.6**
	comp=E,2.2nm,0.3s,baz=126,slow=14,SNR=122							
ABKAR	**Akbulak array**	**12.26**	**322**	*e*Pn		**Pn**	**19 21 29.5**	**-2.7**
	comp=E,4.7nm,0.3s							
BVAR	**Borovoye Array**	**12.90**	**357**	Pn		**Pn**	**19 21 38.4**	**-2.6**
	comp=E,0.4nm,0.3s,baz=158,slow=12,SNR=14							
BRVK	**Borovoye**	**12.94**	**357**	⇓*i*P		**Pn**	**19 21 39.1**	**-2.4**
BRVK				pmax		pmax		
	comp=Z,9.0nm,0.7s							
AKTO	**Aktyubinsk**	**13.98**	**322**	Pn		**Pn**	**19 21 53.4**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=135,slow=13,SNR=11							
AKTO				Sn		Sn	19 24 20.4	-9.5
	comp=Z,0.9nm,0.3s,baz=52,slow=17,SNR=3.7							
AKTO				LR		LR	19 26 39.3	
	comp=Z,35nm,18.2s,baz=144,slow=34							
PYUN	**Piuthan**	**15.30**	**138**	*e*P		**Pn**	**19 22 09.9**	**-4.0**
	comp=Z,25nm,0.5s							
KOLN	**Koldanda**	**15.89**	**137**	*e*P		**Pn**	**19 22 17.1**	**-4.3**
	comp=Z,16nm,0.6s							
GKN	**Gorkha**	**16.26**	**134**	*e*P		**Pn**	**19 22 25.0**	**-1.1**
	comp=Z,19nm,0.4s							
ZALV	**Zalesovo Beam**	**16.47**	**29**	Pn		**Pn**	**19 22 27.5**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=219,slow=13,SNR=8.8							
NVS	**Novosibirsk**	**16.66**	**24**	*e*P		**P**	**19 22 33.6**	**+0.5**
NVS				*e*S		**S**	**19 25 42.7**	**-3.1**
NVS				pmax		pmax		
	comp=Z,15nm,1.0s							
NVS				smax		smax		
	comp=N,2.0nm,0.3s							
NVS				smax		smax		
	comp=E,2.0nm,0.3s							
KKN	**Kakani**	**16.78**	**133**	*e*P		**Pn**	**19 22 32.2**	**-0.6**
	comp=E,22nm,0.6s							
PKIN	**Phulchoki**	**17.01**	**133**	*e*P		**Pn**	**19 22 34.7**	**-1.1**
	comp=E,12nm,0.6s							
GBS	**Qobustan**	**17.21**	**279**	⇑P		**Pn**	**19 22 36.4**	**-1.6**
PQL	**Pirkuli**	**17.45**	**280**	⇓P		**Pn**	**19 22 39.6**	**-1.4**
ASTR	**Astara**	**17.64**	**272**	⇑P		**P**	**19 22 47.5**	**+3.4**
XNQ	**Khinaliq**	**17.76**	**281**	⇓P		**Pn**	**19 22 44.0**	**-1.0**
LRK	**Lerik**	**17.97**	**273**	⇓P		**P**	**19 22 49.5**	**+1.6**
SVE	**Sverdlovsk**	**18.14**	**341**	*e*P		**P**	**19 22 51.1**	**+1.6**
SVE				pmax		pmax		
	comp=Z,7.0nm,0.8s							
SVE				MLR		MLR		
	comp=Z,255nm,12.0s							
RAMN	**Ramite**	**18.17**	**132**	*e*P		**Pn**	**19 22 47.6**	**-2.5**
	comp=Z,23nm,0.6s							
ARU	**Arti**	**18.38**	**337**	P		**P**	**19 22 50.2**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=150,slow=8.1,SNR=7.5							
ARU				LR		LR	19 29 36.5	
	comp=Z,42nm,18.1s,baz=130,slow=36							
ARU	**Arti**	**18.38**	**337**	*d*iP		**P**	**19 22 51.0**	**-1.0**
ARU				S		**Sn**	**19 26 15.7**	**-0.8**
ARU				pmax		pmax		
	comp=Z,6.0nm,1.0s							
SEKA	**Sheki**	**18.46**	**281**	⇓P		**Pn**	**19 22 53.3**	**-0.2**
LSA	**Lhasa**	**19.14**	**117**	*e*P		**Pn**	**19 23 02.7**	**+0.6**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
LSA	**Lhasa**	**19.14**	**117**	*e*P		**Pn**	**19 23 02.7**	**+0.6**
	comp=Z,5.5nm,0.8s							
GANJ	**Ganja**	**19.18**	**280**	⇑P		**P**	**19 23 01.3**	**+0.2**
GDB	**GEDABAY**	**19.60**	**280**	⇓P		**Pn**	**19 23 07.6**	**+0.4**
QZX	**Qazax, Azerbai**	**19.85**	**281**	⇑P		**Pn**	**19 23 10.3**	**+0.3**
NAX	**Nakhchivan**	**20.04**	**276**	⇓P		Pn	19 23 14.6	+2.3
WSAR	**Wadi Sarin**	**20.07**	**217**	P		Pn	19 23 14.4	+1.7
	comp=Z,4.5nm,0.9s,baz=50,slow=4.2,SNR=4.2							
WSAR				LR		LR	19 32 35.1	
	comp=Z,82nm,18.5s,baz=46,slow=42							
GNI	**Garni**	**20.44**	**279**	P		Pn	19 23 19.6	+2.4
	comp=Z,2.1nm,0.4s,baz=260,slow=8.2,SNR=3.9							
GNI	**Garni**	**20.44**	**279**	P		**P**	**19 23 14.5**	**-0.5**
GNI				pmax		pmax		
	comp=Z,48nm,1.7s							
GNI	**Garni**	**20.44**	**279**	Pn		**P**	**19 23 15.5**	**+0.5**
	comp=Z,63nm,1.1s							
GOF	**Gofitskoye**	**21.46**	**293**	*ce*P		**P**	**19 23 25.5**	**-0.3**
KBZ	**Khabaz**	**21.54**	**289**	P		**P**	**19 23 27.8**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=131,slow=8.1,SNR=3.6							
NEY	**Neytrino**	**21.67**	**288**	⇓*i*P		**P**	**19 23 30.9**	**+2.7**
NEY				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KIV	**Kislovodsk**	**21.69**	**290**	*e*P		**P**	**19 23 28.7**	**+0.4**
KIV				*e*S		**S**	**19 27 27.7**	**+0.6**
KIV				pmax		pmax		
	comp=Z,11nm,1.0s							
KIV				MLR		MLR		
	comp=Z,22nm,14.0s							
KIV	**Kislovodsk**	**21.69**	**290**	*e*P		**P**	**19 23 28.3**	**0.0**
	comp=Z,11nm,0.8s							
GTA	**Gaotai**	**21.73**	**83**	*e*P		**P**	**19 23 28.8**	**0.0**
GTA				pP		pP	19 23 34.9	-0.8
GTA				sP		sP	19 23 38.1	-0.9
GTA				PMZ				
	comp=Z,3.0nm,1.1s							
VRH	**Novokhopyorsk**	**23.41**	**308**	*e*P		**P**	**19 23 49.9**	**+3.8**
VRH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ZAK	**Zakamensk**	**24.41**	**55**	*e*P		**P**	**19 23 55.4**	**-0.4**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.3s							
VSR	**Storozhevoye**	**24.96**	**307**	*e*P		**P**	**19 24 00.6**	**0.0**
VSR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
SONM	**Songino Array**	**26.07**	**61**	P		**P**	**19 24 10.2**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=256,slow=11,SNR=6.8							
ULN	**Ulaanbaatar**	**26.52**	**61**	⇓*i*P		**P**	**19 24 15.1**	**+0.2**
ULN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ULN	**Ulaanbaatar**	**26.52**	**61**	*e*P		**P**	**19 24 14.2**	**-0.7**
	comp=Z,3.4nm,0.9s							
BRTR	**Keskin Array B**	**28.90**	**282**	P		**P**	**19 24 37.8**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=86,slow=7.0,SNR=5.9							
BRTR	**Keskin Array B**	**28.90**	**282**	*e*P		**P**	**19 24 38.6**	**+2.3**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**31.10**	**304**	P		**P**	**19 24 54.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=81,slow=7.5,SNR=3.1							
KIEV	**Kiev**	**31.11**	**304**	⇑*i*P		**P**	**19 24 55.6**	**+0.1**
KIEV				*i* *SP		**pP**	**19 25 00.6**	**-2.4**
KIEV				pmax		pmax		
	comp=Z,3.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**32.02**	**124**	LR		LR	19 41 16.2	
	comp=Z,20nm,19.3s,baz=190,slow=43							
BOD	**Bodaibo**	**32.33**	**43**	*e*P		**P**	**19 25 04.6**	**-1.5**
BOD				pmax		pmax		
	comp=Z,6.0nm,1.1s							
TESR	**Tescani**	**32.89**	**296**	⇑*i*P		**P**	**19 25 12.9**	**+1.6**
VRI	**Vrincioaia**	**32.90**	**295**	⇓*i*P		**P**	**19 25 14.1**	**+2.7**
VRI	**Vrincioaia**	**32.90**	**295**	⇓P		**P**	**19 25 14.1**	**+2.7**
MLR	**Muntele Rosu**	**33.49**	**294**	⇓*i*P		**P**	**19 25 19.7**	**+3.0**
MLR	**Muntele Rosu**	**33.49**	**294**	⇓P		**P**	**19 25 19.7**	**+3.0**
FINES	**FINESS Array B**	**34.74**	**323**	P		**P**	**19 25 27.9**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=113,slow=9.0,SNR=17							
FINES				LR		LR	19 40 39.8	
	comp=Z,57nm,18.6s,baz=104,slow=38							
ARCES	**ARCESS Array B**	**37.96**	**336**	P		**P**	**19 25 54.1**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=107,slow=8.1,SNR=9.8							
ARCES				LR		LR	19 42 33.8	
	comp=Z,36nm,21.5s,baz=108,slow=38							
YAK	**Yakutsk**	**40.80**	**38**	P		**P**	**19 26 17.2**	**-1.1**
	comp=Z,5.0nm,0.5s,baz=6.6,slow=3.1,SNR=5.3							
YAK	**Yakutsk**	**40.80**	**38**	*e*P		**P**	**19 26 18.1**	**-0.1**
YAK				pmax		pmax		
	comp=Z,15nm,1.1s							
YAK				pmax		pmax		
	comp=E,7.0nm,1.5s							
YAK				pmax		pmax		
	comp=N,3.0nm,1.5s							
GERES	**GERESS Array B**	**41.24**	**302**	P		**P**	**19 26 23.4**	**+1.2**
	comp=N,0.8nm,0.7s,baz=63,slow=9.1,SNR=7.7							
KHC	**Kasperske Hory**	**41.27**	**302**	*e*pP		**pP**	**19 26 28.8**	**-1.2**
KHC				*ex*		x	19 26 31.0	
KHC	**Kasperske Hory**	**41.27**	**302**	*e*P		P	19 26 28.8	+6.4
NB2	**NORSAR Subarra**	**41.76**	**321**	P		**P**	**19 26 27.2**	**+0.9**
	comp=Z,3.1nm,1.0s,baz=93,slow=8.6							
NOA	**NORSAR Array B**	**41.76**	**321**	P		**P**	**19 26 26.7**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=92,slow=8.2,SNR=2.7							
NOA				LR		LR	19 44 59.9	
	comp=Z,29nm,20.6s,baz=30,slow=38							
TIXI	**Tiksi**	**42.26**	**23**	*e*P		**P**	**19 26 29.7**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.6s							
TIXI	**Tiksi**	**42.26**	**23**	*e*P		**P**	**19 26 29.6**	**-0.4**
	comp=Z,3.3nm,0.6s							
KLR	**Kul'dur**	**42.74**	**57**	P		**P**	**19 26 33.9**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=266,slow=5.6,SNR=7.8							
BILL	**Bilibino**	**55.17**	**27**	⇓*e*P		**P**	**19 28 08.4**	**-0.9**
BILL				*e*			19 29 10.0	
BILL				*e*			19 30 11.4	
BILL				pmax		pmax		
	comp=Z,5.0nm,1.3s							
TORD	**Torodi Ar. Bea**	**66.25**	**267**	P		**P**	**19 29 25.8**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=51,slow=5.3,SNR=39							
COLD	**Coldfoot**	**68.36**	**16**	*e*P		**P**	**19 29 38.3**	**+0.2**
	comp=Z,3.8nm,0.7s							
INK	**Inuvik**	**70.24**	**10**	*e*P		**P**	**19 29 50.2**	**+0.5**
INK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
INK	**Inuvik**	**70.24**	**10**	*e*P		**P**	**19 29 50.2**	**+0.5**
	comp=Z,4.1nm,0.6s							
ILAR	**Eielson Array**	**71.17**	**16**	P		**P**	**19 29 55.0**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=346,slow=3.8,SNR=7.4							
PPLA	**Purkeypile**	**71.51**	**19**	*e*P		**P**	**19 29 57.2**	**-0.5**
	comp=Z,2.9nm,0.5s							
BMRM	**Bremner River**	**75.01**	**17**	P		**P**	**19 30 17.8**	**-0.5**
YKA	**Yellowknife Ar**	**77.59**	**3**	P		**P**	**19 30 32.6**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=349,slow=5.7,SNR=5.9							
WRA	**Warramunga Arr**	**83.60**	**123**	P		**P**	**19 31 04.8**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=330,slow=4.6,SNR=21							
ASAR	**Alice Springs**	**86.03**	**125**	P		**P**	**19 31 17.1**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=313,slow=4.8,SNR=24							

DDA ***23*** *19:18:42.3, 39.12N×29.07E, h7km, Ml2.6*
ISK ***23*** *19:18:42.8, 39.12N×28.95E, h5km, MD2.7*
CSEM ***23*** *19:18:43.1±0.2, 39.13N×29.02E, h2km, ML2.6, Error ellipse: s-maj=4.8km s-min=4.3km az=17.0*

ISC 23 19:18:42.8±1.1, 39.13N±0.03×29.05E±0.02, h2km±11km, n25, σ0=62/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**252**	P		**Pg**	**19 18 48.5**	**+0.5**
DEMI				S		**Sg**	**19 18 52.3**	**+0.8**
DEMI	**Demirci**	**0.27**	**252**	*i* P		**Pg**	**19 18 48.5**	**+0.5**
DEMI				*i* S		**Sg**	**19 18 52.3**	**+0.8**
GEDZ	**Gediz**	**0.29**	**106**	*e*PG		**Pb**	**19 18 51.2**	**+0.4**
GEDZ	**Gediz**	**0.29**	**106**	*e*Pg		**Pb**	**19 18 51.2**	**+0.4**
GDZ	**Gediz**	**0.34**	**96**	P		**Pg**	**19 18 49.0**	**-0.4**
GDZ				S		**Sg**	**19 18 53.6**	**-0.3**
GDZ	**Gediz**	**0.34**	**96**	*i* P		**Pg**	**19 18 49.0**	**-0.4**
GDZ				*i* S		**Sg**	**19 18 53.6**	**-0.3**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*PG		**Pg**	**19 18 55.7**	**-0.2**
KULA				*e*SG		**Sg**	**19 19 04.8**	**+0.1**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*Pg		**Pg**	**19 18 55.7**	**-0.2**
KULA				*e*Sg		**Sg**	**19 19 04.8**	**+0.1**
BALB	**Balikesir**	**1.04**	**300**	*e*PG		**Pg**	**19 19 02.5**	**-0.3**
BALB				*e*SG		**Sb**	**19 19 16.7**	**-0.9**
BALB	**Balikesir**	**1.04**	**300**	*e*Pg		**Pg**	**19 19 02.5**	**-0.3**
BALB				*e*Sg		**Sb**	**19 19 16.7**	**-0.9**
IGD	**Bursa**	**1.14**	**6**	*i* P		**Pg**	**19 19 04.0**	**-0.7**
IGD				*i* S		**Sb**	**19 19 20.3**	**-0.2**
CAVI	**Cavuskoy**	**1.24**	**30**	*e*PN		**Pn**	**19 19 07.5**	**+0.3**
CAVI	**Cavuskoy**	**1.24**	**30**	*e*Pn		**Pn**	**19 19 07.5**	**+0.3**
IZI	**Iznik**	**1.25**	**15**	*e*PN		**Pb**	**19 19 07.2**	**0.0**
IZI				*e*SN		**Sn**	**19 19 25.6**	**+0.7**
IZI	**Iznik**	**1.25**	**15**	*e*Pn		**Pb**	**19 19 07.2**	**0.0**
IZI				*e*Sn		**Sn**	**19 19 25.6**	**+0.7**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*PN		**Pn**	**19 19 07.0**	**-0.4**
KCTX	**Karacabey (Bur**	**1.26**	**335**

KLR	**Kul'dur**	**23.46**	**342**	P	**P**	**19 31 00.8**	**+1.3**
	comp=Z,5.5nm,0.7s,baz=175,slow=8.8,SNR=13						
KLR				LR	LR	19 39 46.3	
	comp=Z,69nm,18.3s,baz=168,slow=35						
KLR	**Kul'dur**	**23.46**	**342**	⇓*i*P	**P**	**19 30 59.7**	**+0.2**
DAV	**Davao City (W)**	**25.86**	**222**	LR	LR	19 41 26.9	
	comp=Z,82nm,19.4s,baz=86,slow=36						
PET	**Petropavlovsk**	**28.31**	**21**	⇓P	**P**	**19 31 47.8**	**+4.4**
PET				pmax	pmax		
	comp=Z,22nm,1.3s						
XAN	**Xi'an**	**29.71**	**291**	P	**P**	**19 31 55.3**	**-1.0**
XAN				pP	pP	19 32 05.8	-0.4
XAN				PMZ			
	comp=Z,12nm,0.7s						
ULN	**Ulaanbaatar**	**34.48**	**316**	⇓*i*P	**P**	**19 32 38.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**34.87**	**316**	P	**P**	**19 32 41.3**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=128,slow=7.9,SNR=12						
SONM				LR	LR	19 46 40.8	
	comp=Z,50nm,21.1s,baz=330,slow=36						
YAK	**Yakutsk**	**35.79**	**350**	P	**P**	**19 32 48.6**	**-0.3**
	comp=Z,8.2nm,0.3s,baz=166,slow=2.0,SNR=4.6						
SEY	**Seymchan**	**36.19**	**7**	P	**P**	**19 32 52.1**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=167,slow=7.1,SNR=7.3						
SEY	**Seymchan**	**36.19**	**7**	⇑*i*P	**P**	**19 32 52.4**	**+0.1**
BOD	**Bodaibo**	**36.56**	**334**	*e*P	**P**	**19 32 52.3**	**-3.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA	**Gaotai**	**37.46**	**300**	*e*P	P	19 33 11.6	+8.0
GTA				pP	pP	19 33 15.3	+1.6
GTA				sP	sP	19 33 17.8	0.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAK	**Zakamensk**	**37.75**	**318**	*e*P	**P**	**19 33 05.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TLY	**Talaya**	**38.06**	**320**	P	**P**	**19 33 08.7**	**+0.3**
	comp=Z,4.4nm,0.7s,baz=133,slow=6.3,SNR=6.6						
TLY	**Talaya**	**38.06**	**320**	*e*P	**P**	**19 33 09.6**	**+1.2**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,131nm,18.0s						
TLY	**Talaya**	**38.06**	**320**	*e*P	**P**	**19 33 09.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**41.08**	**267**	P	**P**	**19 33 33.4**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=78,slow=4.9,SNR=18						
CMAR				LR	LR	19 50 05.4	
	comp=Z,17nm,19.6s,baz=210,slow=35						
BILL	**Bilibino**	**43.15**	**13**	⇑*e*P	P	19 33 55.0	+4.8
BILL				*e*		19 35 36.8	
BILL				*e*PPP	PPP	19 36 12.0	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,66nm,17.0s						
LSA	**Lhasa**	**45.05**	**286**	*e*P	**P**	**19 34 07.2**	**+0.7**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LSA	**Lhasa**	**45.05**	**286**	*e*P	**P**	**19 34 07.2**	**+0.7**
	comp=Z,2.8nm,0.7s						
TIXI	**Tiksi**	**45.05**	**354**	⇑P	**P**	**19 34 07.5**	**+2.2**
TIXI				*i* *PP	**pP**	**19 34 16.7**	**+1.2**
TIXI				*e*		19 34 21.2	
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TIXI	**Tiksi**	**45.05**	**354**	*e*P	**P**	**19 34 04.9**	**-0.4**
	comp=Z,2.6nm,0.6s						
SHL	**Shillong**	**45.27**	**280**	*e*P	**P**	**19 34 09.0**	**+1.1**
WRAB	**Tennant Creek**	**47.65**	**191**	⇑*i*P	**P**	**19 34 24.9**	**-1.4**
WRAB				*i* *PP	**pP**	**19 34 34.8**	**-1.8**
WRAB				*i*		19 34 38.9	
WRAB				pmax	pmax		
	comp=Z,30nm,0.7s						
WRAB	**Tennant Creek**	**47.65**	**191**	*e*P	**P**	**19 34 24.0**	**-2.3**
	comp=Z,26nm,0.8s						
WRA	**Warramunga Arr**	**47.66**	**191**	P	**P**	**19 34 24.2**	**-2.2**
	comp=Z,10nm,0.6s,baz=12,slow=8.5,SNR=74						
FITZ	**Fitzroy Crossi**	**48.07**	**202**	*e*P	**P**	**19 34 27.9**	**-1.6**
	comp=Z,17nm,1.0s						
RAMN	**Ramite**	**49.54**	**283**	*e*P	**P**	**19 34 40.7**	**-0.6**
	comp=Z,23nm,1.0s						
ZALV	**Zalesovo Beam**	**49.62**	**319**	P	**P**	**19 34 40.7**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=100,slow=6.8,SNR=12						
ZALV				PcP	**PcP**	**19 36 01.6**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=108,slow=4.7,SNR=2.7						
ZALV				LR	LR	19 56 39.5	
	comp=Z,62nm,18.1s,baz=72,slow=37						
PKIN	**Phulchoki**	**50.43**	**284**	*e*P	**P**	**19 34 48.5**	**+0.5**
	comp=Z,7.4nm,0.7s						
KKN	**Kakani**	**50.48**	**285**	*e*P	**P**	**19 34 48.7**	**+0.3**
	comp=Z,6.0nm,0.6s						
NVS	**Novosibirsk**	**50.66**	**320**	*i*P	**P**	**19 34 49.3**	**+0.3**
MKAR	**Makanchi Array**	**50.69**	**309**	P	**P**	**19 34 48.7**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=90,slow=8.8,SNR=9.7						
MKAR				PcP	**PcP**	**19 36 05.0**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=79,slow=6.3,SNR=3.5						
MKAR				LR	LR	19 58 23.9	
	comp=Z,53nm,18.6s,baz=88,slow=38						
GKN	**Gorkha**	**50.99**	**285**	*e*P	**P**	**19 34 53.1**	**+1.0**
	comp=Z,34nm,1.3s						
ASAR	**Alice Springs**	**51.38**	**190**	P	**P**	**19 34 52.4**	**-2.4**
	comp=Z,1.4nm,0.7s,baz=13,slow=14,SNR=20						
KOLN	**Koldanda**	**51.93**	**285**	*e*P	**P**	**19 34 59.4**	**+0.2**
	comp=Z,9.1nm,0.7s						
PYUN	**Piuthan**	**52.38**	**286**	*e*P	**P**	**19 35 02.6**	**+0.1**
	comp=Z,22nm,0.7s						
KURK	**Kurchatov**	**53.16**	**314**	⇑*i*P	**P**	**19 35 08.8**	**+1.2**
KURK				*e**SP	**sP**	**19 35 22.7**	**+0.6**
KURK				pmax	pmax		
	comp=Z,20nm,1.2s						
KURK	**Kurchatov**	**53.16**	**314**	*e*P	**P**	**19 35 07.3**	**-0.3**
	comp=Z,51nm,0.9s						
KSH	**Kashi**	**55.85**	**301**	*e*P	**P**	**19 35 31.0**	**+3.4**
KSH				pP	sP	19 35 40.9	-1.2
KSH				PcP	**PcP**	**19 36 30.0**	**+3.8**
KSH				PP	**PP**	**19 37 36.8**	**+4.5**
KSH				S	**S**	**19 43 12.5**	**-0.3**
KSH				ScS	**ScS**	**19 45 14.9**	**+0.5**
KSH				SS	**SS**	**19 46 59.1**	**+0.5**
KSH				PMZ			
	comp=Z,3.0nm,0.3s						
KSH				PMZ			
	comp=Z,120nm,4.3s						
KSH				LN			
	comp=Z,110nm,6.3s						
KSH				LE			
	comp=Z,100nm,5.7s						
KSH				LZ			
	comp=Z,140nm,6.3s						
COLD	**Coldfoot**	**56.29**	**26**	*e*P	**P**	**19 35 31.2**	**+1.1**
	comp=Z,3.1nm,0.9s						
ILAR	**Eielson Array**	**57.31**	**29**	P	**P**	**19 35 36.2**	**-1.2**
	comp=Z,2.3nm,0.9s,baz=260,slow=6.2,SNR=16						
BMRM	**Bremner River**	**58.17**	**33**	*e*P	**P**	**19 35 42.2**	**-1.3**
	comp=Z,6.6nm,0.9s						
BRVK	**Borovoye**	**58.25**	**317**	*c i*P	**P**	**19 35 44.6**	**+0.4**
BRVK				*e**PP	**sP**	**19 35 57.5**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,38nm,0.9s						
BRVK	**Borovoye**	**58.25**	**317**	*e*P	**P**	**19 35 44.5**	**+0.4**
	comp=Z,42nm,0.8s						
STKA	**Stephens Creek**	**58.86**	**181**	P	**P**	**19 35 46.7**	**-1.8**
	comp=Z,3.1nm,0.9s,baz=347,slow=14,SNR=4.4						
KKAR	**Karatay Array**	**59.32**	**306**	*e*P	**P**	**19 35 51.3**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**59.32**	**306**	*e*P	**P**	**19 35 51.3**	**-0.6**
	comp=Z,4.1nm,0.5s						
INK	**Inuvik**	**62.65**	**25**	P	**P**	**19 36 14.1**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=329,slow=4.4,SNR=5.1						
SVE	**Sverdlovsk**	**63.33**	**322**	*e*P	**P**	**19 36 19.2**	**+0.6**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARU	**Arti**	**64.53**	**322**	*c i*P	**P**	**19 36 26.7**	**+0.2**
ARU						19 36 57.4	
ARU						19 38 47.1	
ARU				S	**S**	**19 45 04.9**	**+1.6**
ARU				SS	**SS**	**19 49 10.9**	**-2.6**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ARU	**Arti**	**64.53**	**322**	*e*P	**P**	**19 36 26.2**	**-0.3**
	comp=Z,11nm,0.6s						
ABKAR	**Akbulak array**	**65.27**	**314**	*e*P	**P**	**19 36 31.1**	**-0.4**
	comp=Z,7.5nm,0.8s						
GEYT	**Alibeck**	**69.76**	**303**	P	**P**	**19 37 00.1**	**0.0**
	comp=Z,2.8nm,1.0s,baz=94,slow=6.1,SNR=4.2						
YKA	**Yellowknife Ar**	**71.74**	**28**	P	**P**	**19 37 11.8**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=294,slow=5.7,SNR=7.3						
KLMR	**Klimovskoe**	**72.62**	**330**	*e*P	**P**	**19 37 15.9**	**-1.0**
KLMR				*e*		19 39 55.7	
KLMR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**73.49**	**341**	P	**P**	**19 37 22.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=76,slow=6.8,SNR=8.0						
VRH	**Novokhopyorsk**	**75.63**	**320**	*e*P	**P**	**19 37 34.1**	**-0.6**
VRH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN	**Obninsk**	**76.61**	**325**	⇑*e*P	**P**	**19 37 40.9**	**+0.8**
OBN				*PP	**PcP**	**19 37 52.7**	**+1.1**
OBN				*e*		19 40 32.2	
OBN				*i* S	S	19 47 39.3	+15
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,77nm,16.0s						
VSR	**Storozhevoye**	**77.06**	**321**	*e*P	**P**	**19 37 41.9**	**-0.9**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**77.95**	**334**	P	**P**	**19 37 47.2**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=86,slow=5.1,SNR=14						
KBZ	**Khabaz**	**78.19**	**313**	P	**P**	**19 37 50.0**	**+0.8**
	comp=Z,6.8nm,0.8s,baz=104,slow=3.0,SNR=11						
KBZ				LR	LR	20 14 38.9	
	comp=Z,36nm,18.2s,baz=119,slow=37						
KBZ	**Khabaz**	**78.19**	**313**	P	**P**	**19 37 50.0**	**+0.8**
KIV	**Kislovodsk**	**78.23**	**313**	*e*P	**P**	**19 37 50.2**	**+0.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,46nm,18.0s						
MFID	**Camas Ranch**	**79.43**	**47**	*e*P	**P**	**19 37 55.7**	**-0.6**
	comp=Z,4.6nm,1.1s						
FFC	**Flin Flon**	**81.33**	**32**	*e*P	**P**	**19 38 06.2**	**+0.1**
FFC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FFC	**Flin Flon**	**81.33**	**32**	*e*P	**P**	**19 38 06.2**	**+0.1**
	comp=Z,5.9nm,1.0s						
AKASG	**Malin Array Be**	**82.71**	**324**	P	**P**	**19 38 12.3**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=50,slow=5.4,SNR=7.5						
AKASG				LR	LR	20 17 33.1	
	comp=Z,49nm,20.3s,baz=90,slow=37						
KIEV	**Kiev**	**82.72**	**324**	⇓*e*P	**P**	**19 38 14.0**	**+0.6**
KIEV				*e**PP	**pP**	**19 38 25.2**	**+0.9**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HFS	**Hagfors**	**83.41**	**337**	P	**P**	**19 38 15.7**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=85,slow=3.3,SNR=7.1						
HFS				LR	LR	20 18 30.8	
	comp=Z,26nm,19.1s,baz=26,slow=38						
NB2	**NORSAR Subarra**	**83.58**	**338**	P	**P**	**19 38 16.1**	**-1.6**
	comp=Z,2.6nm,1.1s,baz=44,slow=5.6						
NOA	**NORSAR Array B**	**83.58**	**338**	P	**P**	**19 38 16.9**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=42,slow=4.7,SNR=2.8						
PDAR	**Pinedale Array**	**83.75**	**45**	P	**P**	**19 38 20.0**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=222,slow=2.0,SNR=5.4						
PDAR				LR	LR	20 16 18.2	
	comp=Z,24nm,19.0s,baz=340,slow=36						
BRTR	**Keskin Array B**	**86.19**	**313**	P	**P**	**19 38 31.1**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=82,slow=3.2,SNR=10						
KOLS	**Kolonicke sedl**	**87.36**	**325**	*e*P	**P**	**19 38 38.0**	**+1.2**
KOLS	**Kolonicke sedl**	**87.36**	**325**	*e*P	**P**	**19 38 38.0**	**+1.2**
CRVS	**Cervenica-Dubn**	**87.79**	**326**	*e*P	**P**	**19 38 39.3**	**+0.4**
CRVS	**Cervenica-Dubn**	**87.79**	**326**	*e*P	**P**	**19 38 39.3**	**+0.4**
MMAI	**Mount Meron Ar**	**88.55**	**307**	P	**P**	**19 38 42.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=77,slow=8.7,SNR=3.6						
LANS	**Liptovska Anna**	**88.62**	**327**	*e*P	**P**	**19 38 45.8**	**+3.0**
LANS	**Liptovska Anna**	**88.62**	**327**	*e*P	**P**	**19 38 45.8**	**+3.0**
VYHS	**Vyhne**	**89.37**	**326**	*e*P	**P**	**19 38 45.2**	**-1.1**
VYHS	**Vyhne**	**89.37**	**326**	*e*P	**P**	**19 38 45.2**	**-1.1**
ANMO	**Albuquerque**	**90.00**	**50**	⇑*e*P	**P**	**19 38 52.9**	**+3.1**
ANMO				pmax	pmax		
	comp=Z,4.0nm,2.5s						
GERES	**GERESS Array B**	**91.56**	**329**	P	**P**	**19 38 55.6**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=29,slow=3.0,SNR=4.4						
TXAR	**Lajitas Array**	**95.12**	**53**	P	**P**	**19 39 14.9**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=288,slow=1.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**124.78**	**312**	PKP	**PKPdf**	**19 44 48.8**	**-1.4**
	comp=Z,0.6nm,1.0s,baz=41,slow=1.9,SNR=2.8						
LPAZ	**La Paz**	**149.44**	**75**	PKPbc	**PKPbc**	**19 45 40.7**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=332,slow=3.5,SNR=10						
PLCA	**Paso Flores**	**149.56**	**125**	PKPbc	**PKPbc**	**19 45 39.0**	**-0.2**
	comp=Z,8.4nm,1.3s,baz=56,slow=2.6,SNR=3.4						

DDA ***23*** *19:28:42.4, 39.12N×29.05E, h7km, Ml2.6*
CSEM ***23*** *19:28:42.7±0.2, 39.09N×29.03E, h2km, ML2.6, Error ellipse: s-maj=4.2km s-min=3.1km az=152.0*
ISK ***23*** *19:28:42.2, 39.07N×29.08E, h5km, MD2.8*

ISC 23 19:28:42.8±1.1, 39.10N±0.03×29.04E±0.02, h4km±10km, n35, σ0965/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**258**	P	**Pg**	**19 28 47.6**	**-0.1**
DEMI				S	**Sg**	**19 28 51.3**	**+0.2**
DEMI	**Demirci**	**0.26**	**258**	*i* P	**Pg**	**19 28 47.6**	**-0.1**
DEMI				*i* S	**Sg**	**19 28 51.4**	**+0.2**
GDZ	**Gediz**	**0.35**	**91**	P	**Pg**	**19 28 49.2**	**-0.3**
GDZ				S	**Sg**	**19 28 54.5**	**+0.4**
GDZ	**Gediz**	**0.35**	**91**	*i* P	**Pg**	**19 28 49.2**	**-0.3**
GDZ				*i* S	**Sg**	**19 28 54.5**	**+0.4**
TVSB	**Tavsanli**	**0.48**	**43**	*e*PG	**Pg**	**19 28 51.9**	**-0.3**
TVSB				*e*SG	**Sg**	**19 28 59.1**	**+0.7**
TVSB	**Tavsanli**	**0.48**	**43**	*e*Pg	**Pg**	**19 28 51.9**	**-0.3**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*PG	**Pg**	**19 28 55.0**	**-0.3**
KULA				*e*SG	**Sg**	**19 29 03.8**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*Pg	**Pg**	**19 28 55.0**	**-0.3**
KULA				*e*Sg	**Sg**	**19 29 03.8**	**+0.1**
BALB	**Balikesir**	**1.05**	**302**	*e*PN	**Pn**	**19 29 04.4**	**+0.1**
BALB				*e*SN	**Sn**	**19 29 19.1**	**-0.2**
BALB	**Balikesir**	**1.05**	**302**	*e*Pn	**Pn**	**19 29 04.4**	**+0.1**
BALB				*e*Sn	**Sn**	**19 29 19.2**	**-0.2**
IGD	**Bursa**	**1.17**	**6**	*i* P	**Pg**	**19 29 04.0**	**-1.3**
IGD				*i* S	**Sg**	**19 29 20.3**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN	**Pn**	**19 29 07.0**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*Pn	**Pn**	**19 29 07.1**	**-0.3**
BALY	**Balya**	**1.27**	**301**	P	**Pg**	**19 29 06.8**	**-0.4**
BALY				S	**Sn**	**19 29 25.5**	**+0.5**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pg**	**19 29 06.8**	**-0.4**
BALY				*i* S	**Sn**	**19 29 25.5**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*PN	**Pb**	**19 29 08.0**	**+0.6**
MDNY				*e*SN	**Sn**	**19 29 26.6**	**+1.6**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pb**	**19 29 08.0**	**+0.6**
MDNY				*e*Sn	**Sn**	**19 29 26.6**	**+1.6**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pn**	**19 29 06.9**	**-0.6**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pn**	**19 29 06.9**	**-0.6**
IZI	**Iznik**	**1.28**	**15**	*e*PN	**Pg**	**19 29 06.9**	**-0.6**
IZI				*e*SN	**Sn**	**19 29 25.6**	**+0.2**
IZI	**Iznik**	**1.28**	**15**	*e*Pn	**Pg**	**19 29 06.9**	**-0.6**
IZI				*e*Sn	**Sn**	**19 29 25.6**	**+0.2**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pn**	**19 29 07.8**	**-0.7**
BORA				S	**Sn**	**19 29 26.4**	**-0.5**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pn**	**19 29 07.8**	**-0.7**
BORA				*i* S	**Sn**	**19 29 26.4**	**-0.5**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*PN	**Pg**	**19 29 10.6**	**+0.1**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*Pn	**Pg**	**19 29 10.6**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pg**	**19 29 10.8**	**+0.1**
AYDB				*e*SN	**Sg**	**19 29 30.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*Pn	**Pg**	**19 29 10.8**	**+0.1**
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN	**Pn**	**19 29 09.8**	**-0.4**
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn	**Pn**	**19 29 09.8**	**-0.4**
ESKT	**Eskisehir**	**1.47**	**73**	*i* P	**Pg**	**19 29 11.7**	**+0.7**
ESKT				*i* S	**Sg**	**19 29 31.3**	**+1.3**
SEYT	**Eskypehyr**	**1.47**	**73**	P	**Pg**	**19 29 11.7**	**+0.7**
SEYT				S	**Sg**	**19 29 31.3**	**+1.3**
ARMT	**Armutlu**	**1.48**	**355**	*e*PN	**Pg**	**19 29 10.8**	**-0.3**
ARMT				*e*SN	**Sg**	**19 29 31.1**	**+0.9**
ARMT	**Armutlu**	**1.48**	**355**	*e*Pn	**Pg**	**19 29 10.8**	**-0.3**
ARMT				*e*Sn	**Sg**	**19 29 31.1**	**+0.9**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pb**	**19 29 14.5**	**-1.1**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pb**	**19 29 14.5**	**-1.1**

IDC 23 19:52:34.3±27.0, 24.36S×174.78W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/21, mbtmp4.2/4, Error ellipse: s-maj=498.1km s-min=145.8km az=80.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.25**	**269**	P	P	19 59 40.0	+0.6
	5.2nm,0.8s,baz=76,slow=4.2,SNR=4.3						
STKA	**Stephens Creek**	**39.00**	**249**	P	P	20 00 02.0	-0.5
	2.1nm,0.8s,baz=101,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**46.66**	**260**	P	P	20 01 04.7	-0.3
	1.3nm,0.4s,baz=100,slow=8.4,SNR=64						
WRA	**Warramunga Arr**	**47.13**	**265**	P	P	20 01 08.4	-0.2
	2.0nm,0.5s,baz=104,slow=7.9,SNR=70						

WEL 23 19:59:50.1±0.2, 43.57S×172.78E, h5km, ML3.6/12, 2C-4D, Error ellipse: s-maj=1.7km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.12**	**266**	⇓PG	Pg	19 59 52.6	0.0
CRLZ				SG	Sg	19 59 54.2	+0.1
CRLZ				AML	AML	19 59 54.6	
CRLZ				AML	AML	19 59 54.6	
CRLZ				AML	AML	19 59 54.6	
MQZ	**McQueen's Vall**	**0.17**	**214**	⇑PG	Pg	19 59 53.6	+0.1
MQZ				SG	Sg	19 59 56.3	+0.6
MQZ				AML	AML	19 59 56.4	
OXZ	**Oxford**	**0.59**	**294**	P*	Pg	20 00 01.5	0.0
LTZ	**Lake Taylor**	**0.87**	**334**	⇑P*	Pg	20 00 07.1	+0.4
LTZ				S*	Sb	20 00 19.5	-0.2
LTZ				AML	AML	20 00 20.2	
RPZ	**Rata Peaks**	**1.27**	**263**	P*	Pg	20 00 12.9	-1.4
RPZ				AML	AML	20 00 36.9	
RPZ				AML	AML	20 00 38.4	
KHZ	**Kahutara**	**1.28**	**26**	P*	Pn	20 00 13.0	-1.6
INZ	**Inchbonnie**	**1.29**	**310**	⇓P*	Pn	20 00 13.6	-1.2
WVZ	**Waitaha Valley**	**1.57**	**288**	PN	Pn	20 00 18.2	-0.5
WVZ				AML	AML	20 00 45.6	
THZ	**Tophouse**	**1.81**	**3**	PN	Pn	20 00 20.4	-1.5
THZ				AML	AML	20 00 54.7	
THZ				AML	AML	20 00 57.8	
DSZ	**Denniston Nort**	**1.96**	**338**	PN	Pn	20 00 23.5	-0.5
DSZ				AML	AML	20 00 51.9	
DSZ				AML	AML	20 00 52.1	
LBZ	**Lake Benmore**	**2.05**	**246**	PN	Pn	20 00 24.1	-1.1
LBZ				AML	AML	20 01 01.0	
LBZ				AML	AML	20 01 02.6	
ODZ	**Otahua Downs**	**2.13**	**225**	⇓PN	Pn	20 00 24.7	-1.6
ODZ				AML	AML	20 01 05.2	
ODZ				AML	AML	20 01 08.2	
FOZ	**Fox Glacier**	**2.16**	**270**	PN	Pn	20 00 26.9	+0.2
NNZ	**Nelson**	**2.39**	**11**	PN	Pn	20 00 29.1	-0.8
QRZ	**Quartz Range**	**2.75**	**356**	PN	Pn	20 00 34.5	-0.3
QRZ				AML	AML	20 01 22.5	
JCZ	**Jackson Bay**	**2.94**	**259**	PN	Pn	20 00 36.6	-0.9
WKZ	**Wanaka**	**2.99**	**244**	PN	Pn	20 00 36.9	-1.2
EAZ	**Earnscleugh**	**3.00**	**235**	⇓PN	Pn	20 00 36.9	-1.3
EAZ				AML	AML	20 01 27.0	
TUZ	**Tuapeka**	**3.28**	**222**	PN	Pn	20 00 40.8	-1.3
TUZ				AML	AML	20 01 38.5	
TUZ				AML	AML	20 01 41.1	
MLZ	**Mavora Lakes**	**3.79**	**240**	PN	Pn	20 00 47.5	-1.7
BFZ	**Birch Farm**	**3.87**	**43**	PN	Pn	20 00 47.4	-2.8
SYZ	**Scrubby Hill**	**3.94**	**220**	PN	Pn	20 00 49.9	-1.2

GUC 23 20:07:25.7±0.4, 17.72S×69.85W, h187km±3km, ML3.9, 6C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCH	**Arica**	**0.88**	**209**	*e*P	Pn	20 07 53.8	+0.6
ARCH				*i* S	Sn	20 08 15.1	+0.4
ARCH				IAML		20 08 15.9	
	comp=N,3μm,0.3s						
PB12	**IPOC Station P**	**1.00**	**207**	⇑*i*P	Pn	20 07 54.6	+0.3
PB12				*i* S	Sn	20 08 17.2	+0.7
MNMC	**Minye Minye**	**1.43**	**170**	⇑*i*P	Pn	20 07 58.6	+0.7
MNMC				*i* S	Sn	20 08 23.7	+0.6
PSGC	**Pisagua**	**1.89**	**188**	⇓*i*P	Pn	20 08 03.5	+1.3
PSGC				*e*S	Sn	20 08 31.8	+1.1
PSGC				IAML		20 08 32.2	
	comp=E,254nm,0.3s						
PB11	**IPOC Station P**	**2.04**	**175**	⇑*i*P	Pn	20 08 05.2	+1.3
PB11				*

DLMR				*e*S		**Sg**	**20 18 27.5**	**+0.6**
DLMR				pmax	pmax			
	comp=Z,91nm,0.3s							
GROC	**Groznyy**	**1.12**	**354**	*e*PG		**Pb**	**20 18 13.1**	**-0.4**
GROC				*e*			20 18 28.2	
GROC				pmax	pmax			
	comp=Z,104nm,0.7s							
GROC				smax	smax			
	comp=N,351nm,0.2s							
GROC				smax	smax			
	comp=E,670nm,0.4s							
GROC				smax	smax			
	comp=E,664nm,0.4s							
BUJR	**Buynaksk**	**1.13**	**49**⇑	*i*PG		**Pg**	**20 18 13.2**	**+0.1**
BUJR				*i* S		**Sn**	**20 18 30.0**	**-0.2**
BUJR				pmax	pmax			
	comp=Z,136nm,0.2s							
DBC	**Dubki**	**1.13**	**34**⇓	*i*PG		Pn	20 18 21.8	+7.4
DBC				pmax	pmax			
	comp=Z,110nm,0.6s							
URKR	**Urkarakh**	**1.25**	**86**	*e*PG		**Pg**	**20 18 16.0**	**+0.5**
URKR				*i* S		**Sn**	**20 18 34.5**	**+1.1**
URKR				pmax	pmax			
	comp=Z,95nm,0.2s							
KMGR	**Komgaron**	**1.26**	**321**⇓	*i*PG		**Pn**	**20 18 14.4**	**-1.7**
KMGR				*e*S		**Sb**	**20 18 30.5**	**-2.1**
VLKR	**Vladikavkaz**	**1.35**	**316**	*e*PG		**Pn**	**20 18 16.7**	**-0.5**
VLKR				*e*S		**Sb**	**20 18 33.7**	**-1.4**
KZR	**Kazreti**	**1.35**	**239**	P		**Pn**	**20 18 16.3**	**-1.0**
KZR				S		**Sg**	**20 18 35.6**	**+0.7**
KZR	**Kazreti**	**1.35**	**239**	P		**Pn**	**20 18 15.8**	**-1.5**
KZR				S		**Sb**	**20 18 34.2**	**-1.0**
LACR	**Lac**	**1.43**	**302**⇓	*i*PG		**Pn**	**20 18 17.6**	**-0.9**
LACR				*e*S		**Sn**	**20 18 35.8**	**-2.1**
ARNR	**Ardon**	**1.65**	**312**	*e*PN		**Pb**	**20 18 22.5**	**0.0**
ARNR				*e*S		**Sb**	**20 18 43.8**	**+0.1**
BTKR	**Batakoyurt**	**1.65**	**321**	*e*PN		**Pb**	**20 18 22.6**	**0.0**
BTKR				*e*S		**Sb**	**20 18 43.8**	**-0.1**
ZEI	**Tsey**	**1.68**	**295**	*e*PN		**Pn**	**20 18 21.7**	**-0.2**
KORR	**Kora**	**1.71**	**306**⇓	*i*PN		**Pn**	**20 18 22.8**	**+0.5**
KORR				*e*S		**Sn**	**20 18 44.9**	**+0.1**
TRKR	**Terskaya**	**1.87**	**332**	*e*PN		**Pb**	**20 18 26.1**	**-0.1**
STDR	**Stavd-Durt**	**1.89**	**313**	*e*PN		**Pb**	**20 18 26.6**	**-0.1**
ONI	**Oni**	**1.92**	**286**	P		**Pb**	**20 18 26.1**	**-1.2**
ONI				S		**Sb**	**20 18 52.1**	**+0.4**
ONI	**Oni**	**1.92**	**286**	PN		**Pn**	**20 18 25.7**	**+0.6**
ONI	**Oni**	**1.92**	**286**	P		**Pn**	**20 18 25.8**	**+0.6**
ONI				S		**Sn**	**20 18 50.4**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.94**	**296**	*e*PN		**Pb**	**20 18 26.7**	**-0.8**
BGD	**Bogdanovka**	**1.95**	**246**	P		**Pn**	**20 18 25.7**	**0.0**
BGD				S		**Sb**	**20 18 51.9**	**-0.6**
BGD	**Bogdanovka**	**1.95**	**246**	P		**Pn**	**20 18 25.6**	**0.0**
BGD				S		**Sb**	**20 18 51.2**	**-1.3**
AKH	**Akhalkalaki**	**1.96**	**251**	P		**Pn**	**20 18 26.0**	**+0.1**
AKH				S		**Sb**	**20 18 52.2**	**-0.8**
AKH	**Akhalkalaki**	**1.96**	**251**	PN		**Pn**	**20 18 25.6**	**-0.2**
AKH	**Akhalkalaki**	**1.96**	**251**	P		**Pn**	**20 18 25.6**	**-0.2**
AKH				S		**Sn**	**20 18 51.3**	**+0.2**
LSNR	**Lesken**	**1.97**	**308**	*e*PN		**Pb**	**20 18 26.9**	**-1.2**
GNI	**Garni**	**2.14**	**206***d*	*i*PN		**Pb**	**20 18 30.3**	**-0.7**
NCK	**Nalchik**	**2.24**	**310**	*i* PN		**Pn**	**20 18 30.6**	**+1.1**
EAK	**Akyaka**	**2.25**	**232**	P		**Pn**	**20 18 30.7**	**+0.9**
EAK	**Akyaka**	**2.25**	**232**	*i* P		**Pn**	**20 18 30.7**	**+0.9**
EAK				*i* S		**Sb**	**20 18 59.3**	**-2.0**
EPOS	**Posof**	**2.48**	**257**	P		**Pn**	**20 18 32.9**	**-0.1**
EPOS	**Posof**	**2.48**	**257**	*i* P		**Pn**	**20 18 32.9**	**-0.1**
EPOS				*i* S		**Sb**	**20 19 07.0**	**-0.8**
DIGO	**Kars**	**2.57**	**230**	P		**Pb**	**20 18 36.7**	**-1.6**
DIGO	**Kars**	**2.57**	**230**	*i* P		**Pb**	**20 18 36.7**	**-1.6**
DIGO				*i* S		**Sb**	**20 19 11.7**	**+1.4**
KARS	**Kars**	**2.61**	**237**	*e*PN		**Pb**	**20 18 38.9**	**-0.1**
NEY	**Neytrino**	**2.65**	**297***c*	*e*PN		**Pn**	**20 18 35.4**	**+0.1**
NEY				pmax	pmax			
	comp=Z,65nm,0.8s							
KIV	**Kislovodsk**	**3.04**	**309**	*e*PN		**Pn**	**20 18 42.3**	**+1.8**
KIV	**Kislovodsk**	**3.04**	**309**⇑	*i*PN		**Pb**	**20 18 43.3**	**-3.0**
KIV				pmax	pmax			
	comp=Z,18nm,1.0s							
SENK	**Senkaya-Erzuru**	**3.11**	**242**	*e*PN		**Pn**	**20 18 43.8**	**+2.1**
ARTV	**Artvin**	**3.15**	**255**	P		**Pb**	**20 18 46.5**	**-1.8**
ARTV	**Artvin**	**3.15**	**255**	*i* P		**Pb**	**20 18 46.5**	**-1.8**
ARTV				*i* S		**Sb**	**20 19 26.8**	**-0.4**
DAGI	**Agillar**	**3.20**	**253**	*i* P		**Pb**	**20 18 47.8**	**-1.1**
DAGI				*i* S		**Sb**	**20 19 30.5**	**+2.1**
DBOC	**Borcka**	**3.30**	**258**	P		**Pb**	**20 18 47.1**	**-3.5**
DBOC	**Borcka**	**3.30**	**258**	*i* P		**Pb**	**20 18 47.1**	**-3.5**
AGRB	**Hanur-Agry**	**3.37**	**223**	*e*PN		**Pb**	**20 18 53.0**	**+1.1**
DBAD	**Bademkaya**	**3.37**	**253**	P		**Pn**	**20 18 46.6**	**+1.4**
DBAD	**Bademkaya**	**3.37**	**253**	*e*P		**Pn**	**20 18 46.6**	**+1.4**
GOF	**Gofitskoye**	**3.65**	**326***c*	*e*PN		**Pn**	**20 18 48.9**	**+0.1**
GOF				*e*S		**Sn**	**20 19 33.3**	**+1.0**
EZM	**Erzurum**	**4.10**	**239**	*e*PN		**Pn**	**20 18 57.3**	**+2.0**
KIEV	**Kiev**	**14.38**	**312**	P		**Pn**	**20 21 17.7**	**+1.8**
KIEV				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ARU	**Arti**	**16.50**	**25**	⇓P		**Pn**	**20 21 43.6**	**-0.2**
ARU				pmax	pmax			
	comp=Z,2.0nm,1.0s							

*NIED **23** 20:36:00, 44˚.10N×147˚.40E, h62km, Mw3.5 Best double couple: M0 2.10000×10^14 NP1:φs 74.00000°, δ 75.00000°, λ -16.00000°. NP2:φs 168.00000°, δ 75.00000°, λ -164.00000°.*

*ISCJB **23** 20:36:11.2±0.6, 44˚.22N±0˚.06×147˚.42E±0˚.08, h112km±4km, mb3.7/13, Error ellipse: s-maj=12.3km s-min=5.9km az=141.6*

*MOS **23** 20:36:11.7±1.3, 44˚.32N×147˚.28E, h117km, mb4.1/8, Error ellipse: s-maj=16.0km s-min=11.1km az=74.3*

*JMA **23** 20:36:13.5±0.3, 44˚.10N×147˚.38E, h98km±5km, M3.8*

*SKHL **23** 20:36:13.1±0.3, 44˚.32N×147˚.30E, h113km±5km, mb4.5/4, msh5.0/3*

*IDC **23** 20:36:16.0±2.7, 44˚.38N×147˚.09E, h135km±23km, mb3.4/13, mb1 3.6/15, mb1mx3.4/46, mbtmp3.8/15, Error ellipse: s-maj=23.4km s-min=16.4km az=139.0*

ISC 23 20:36:11.8±0.8, 44˚.21N±0˚.06×147˚.44E±0˚.06, h102km±6km, n55, σ1°20/63, mb3.9/13, 4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.56**	**232***d*	*i*PN	**Pn**	**20 36 28.5**	**+0.4**
SHO				*i* S	**Sn**	**20 36 40.1**	**-0.2**
SHO				pmax	pmax		
	comp=Z,2μm,0.3s						
SHO				pmax	pmax		
	comp=N,1μm,0.2s						
SHO				pmax	pmax		
	comp=E,1μm,0.2s						
SHO				smax	smax		
	comp=N,7μm,0.4s						
SHO				smax	smax		
	comp=E,9μm,0.5s						
SHO	**Shikotan**	**0.56**	**232**	*i* P	**Pn**	**20 36 28.1**	**0.0**
SHO				AMB	AMB	20 36 29.7	
	comp=E,170nm,0.3s						
SHO				*i* S	**Sn**	**20 36 39.5**	**-0.8**
SHO				A	A	20 36 40.5	
	comp=E,720nm,0.5s						
SHO				A	A	20 36 40.5	
	comp=E,943nm,0.5s						
KUR	**Kuril'sk**	**1.06**	**17***d*	*i*PN	**Pn**	**20 36 33.9**	**+1.0**
KUR				*i* S	**Sn**	**20 36 49.6**	**+0.7**
KUR				pmax	pmax		
	comp=E,77nm,0.1s						
KUR				pmax	pmax		
	comp=Z,135nm,0.1s						
KUR				smax	smax		
	comp=N,610nm,0.4s						
KUR				smax	smax		
	comp=E,494nm,0.4s						
KUR	**Kuril'sk**	**1.06**	**17**	*i* P	**Pn**	**20 36 33.9**	**+1.0**
KUR				AMB	AMB	20 36 34.3	
	comp=E,270nm,0.3s						
KUR				*i* S	**Sn**	**20 36 49.6**	**+0.7**
KUR				A	A	20 36 50.0	
	comp=E,99nm,0.4s						
KUR				A	A	20 36 50.0	
	comp=E,140nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**262***d*	*i*PN	**Pn**	**20 36 34.8**	**+0.9**
YUK				*i* S	**Sn**	**20 36 50.8**	**+0.2**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=E,277nm,0.1s						
YUK				pmax	pmax		
	comp=N,230nm,0.2s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
YUK				smax	smax		
	comp=E,3μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**262**	*i* P	**Pn**	**20 36 34.8**	**+0.9**
YUK				AMB	AMB	20 36 35.4	
	comp=E,160nm,0.3s						
YUK				*i* S	**Sn**	**20 36 50.8**	**+0.2**
YUK				A	A	20 36 54.1	
	comp=E,270nm,0.4s						
YUK				A	A	20 36 54.1	
	comp=E,350nm,0.4s						
NEM2	**Nemuro 2**	**1.49**	**236**	P	**Pn**	**20 36 38.5**	**+0.6**
NEM2				*e*S	**Sn**	**20 36 57.2**	**-0.6**
JRA	**Rausu**	**1.69**	**261**	P	**Pn**	**20 36 41.6**	**+1.2**
JNK	**Nakash**	**2.06**	**253**	P	**Pn**	**20 36 46.3**	**+1.2**
JNK				*e*S	**Sn**	**20 37 10.9**	**+0.2**
JAK	**Akkeshi**	**2.33**	**239**	P	**Pn**	**20 36 49.2**	**+0.6**
JAK				*e*S	**Sn**	**20 37 16.2**	**-0.7**
JTKR	**Abashiri--Toko**	**2.55**	**266**	P	**Pn**	**20 36 52.7**	**+1.2**
JTKR				*e*S	**Sn**	**20 37 22.4**	**+0.3**
JAR	**Ashorobuto**	**2.81**	**252**	P	**Pn**	**20 36 56.8**	**+1.8**
JAR				*e*S	**Sn**	**20 37 29.2**	**+1.0**
JOB	**Onbets**	**2.93**	**245**	P	**Pn**	**20 36 57.9**	**+1.4**
JMP	**Maruseppu**	**2.94**	**267**	P	**Pn**	**20 36 57.9**	**+1.1**
JMP				*e*S	**Sn**	**20 37 32.2**	**+0.8**
JCH	**Churui**	**3.37**	**243**	P	**Pn**	**20 37 03.2**	**+0.8**
JCH				*e*S	**Sn**	**20 37 40.3**	**-1.3**
JKK2	**Kamakawa 2**	**3.40**	**266**	P	**Pn**	**20 37 04.8**	**+2.0**
JKA	**Kamikawa-asahi**	**3.48**	**270**	*e*P	**Pn**	**20 37 05.8**	**+1.9**
ASAJ	**Asahikawa**	**3.48**	**270**	P	**Pn**	**20 37 05.8**	**+1.9**
	comp=E,4.2nm,0.3s,baz=91,slow=13,SNR=36						
ASAJ	**Asahikawa**	**3.48**	**270**	P	**Pn**	**20 37 05.6**	**+1.7**
JSE	**Soyaes**	**3.54**	**284**	P	**Pn**	**20 37 05.7**	**+1.0**
JFR	**Furan**	**3.67**	**255**	P	**Pn**	**20 37 08.6**	**+2.2**
ERM	**Erimo**	**3.83**	**236**⇓	*i*PN	**Pn**	**20 37 11.1**	**+2.5**
ERM	**Erimo**	**3.83**	**236**	*e*P	**Pn**	**20 37 11.1**	**+2.5**
JNBK	**Urakawa-nobuka**	**3.93**	**242**	P	**Pn**	**20 37 10.3**	**+0.4**
JWK2	**Keihoku**	**4.09**	**288**	P	**Pn**	**20 37 14.4**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.28**	**311**	*e*PN	**Pn**	**20 37 14.9**	**+0.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.28**	**311**	*e*P	**Pn**	**20 37 14.9**	**+0.3**
YSS				AMB	AMB	20 37 15.9	
	comp=Z,20nm,0.6s						
SEY	**Seymchan**	**18.97**	**7**	P	**Pn**	**20 40 25.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=169,slow=3.9,SNR=6.0						
H11N2	**WAKE ISLAND Hy 29.32 140**			T	T	21 13 04.4	
	baz=331,slow=76,SNR=93						
H11N1	**WAKE ISLAND Hy 29.33 140**			T	T	21 13 01.2	
	baz=331,slow=76,SNR=99						
H11N3	**WAKE ISLAND Hy 29.34 140**			T	T	21 13 05.1	
	baz=331,slow=76,SNR=89						
H11S1	**WAKE ISLAND Hy 30.30 142**			T	T	21 14 18.0	
	baz=332,slow=76,SNR=235						
H11S3	**WAKE ISLAND Hy 30.30 142**			T	T	21 14 22.4	
	baz=332,slow=76,SNR=165						
H11S2	**WAKE ISLAND Hy 30.32 142**			T	T	21 14 19.3	
	baz=332,slow=76,SNR=160						
KDAK	**Kodiak Island**	**38.78**	**48**	*i* P	**P**	**20 43 26.6**	**+0.6**
KDAK	**Kodiak Island**	**38.78**	**48**	*e*P	**P**	**20 43 26.6**	**+0.6**
ZALV	**Zalesovo Beam**	**40.88**	**307**	PcP	**PcP**	**20 45 41.7**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=48,slow=2.8,SNR=4.3						
ILAR	**Eielson Array**	**40.99**	**37**	P	**P**	**20 43 45.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=267,slow=6.3,SNR=8.4						
MKAR	**Makanchi Array**	**44.55**	**297**	P	**P**	**20 44 12.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=78,slow=8.5,SNR=7.1						
MKAR				PcP	**PcP**	**20 45 53.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=75,slow=4.9,SNR=6.1						
INK	**Inuvik**	**45.90**	**31**	P	**P**	**20 44 24.0**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=312,slow=5.3,SNR=5.7						
CMAR	**Chiang Mai Arr**	**47.85**	**253**	P	**P**	**20 44 38.3**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=45,slow=8.3,SNR=3.0						
YKA	**Yellowknife Ar**	**55.30**	**34**	P	**P**	**20 45 34.9**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=300,slow=6.7,SNR=3.8						
YKA	**Yellowknife Ar**	**55.30**	**34**	*e*P	**P**	**20 45 34.7**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**55.30**	**34**	*e*P	**P**	**20 45 34.7**	**+0.5**
ARCES	**ARCESS Array B**	**58.88**	**340**	P	**P**	**20 45 57.7**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=32,slow=7.7,SNR=4.2						
FINES	**FINESS Array B**	**64.56**	**333**	P	**P**	**20 46 35.6**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=40,slow=7.1,SNR=7.2						
FINES	**FINESS Array B**	**64.56**	**333**	P	**P**	**20 46 35.6**	**-1.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**64.96**	**194**	P	**P**	**20 46 41.5**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=8.1,slow=6.7,SNR=5.6						
WRA	**Warramunga Arr**	**64.96**	**194**	*e*P	**P**	**20 46 41.8**	**+1.2**
WRA	**Warramunga Arr**	**64.96**	**194**	*e*P	**P**	**20 46 41.8**	**+1.2**
NOA	**NORSAR Array B**	**69.24**	**339**	P	**P**	**20 47 06.0**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=32,slow=6.5,SNR=4.1						
HFS	**Hagfors**	**69.34**	**337**	P	**P**	**20 47 06.2**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=67,slow=5.0,SNR=8.0						
KBZ	**Khabaz**	**69.64**	**312**	P	**P**	**20 47 09.5**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=23,slow=7.7,SNR=4.1						
GERES	**GERESS Array B**	**78.85**	**331**	P	**P**	**20 48 03.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=15,slow=6.9,SNR=4.3						
TXAR	**Lajitas Array**	**82.22**	**56**	P	**P**	**20 48 23.2**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=300,slow=3.8,SNR=14						

IDC 23 20:45:26.0±3.3, 5˚.56S×150˚.67E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/21, mbtmp3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/21, Error ellipse: s-maj=135.5km s-min=44.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.37**	**227**	P	P	20 50 15.7	+0.4
	0.5nm,0.4s,baz=52,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**24.18**	**220**	P	P	20 50 44.4	0.0
	1.0nm,0.6s,baz=55,slow=9.5,SNR=18						
RAR	**Rarotonga**	**50.42**	**113**	LR	LR	21 13 28.0	
	comp=Z,63nm,20.7s,baz=124,slow=33						
TORD	**Torodi Ar. Bea**	**148.50**	**286**	PKPbc	PKPbc	21 05 15.1	-0.8
	2.7nm,0.7s,baz=62,slow=2.9,SNR=25						

IDC 23 20:57:43.0±1.7, 30˚.23S×179˚.12W, h239km±19km, mb3.5/3, mb1 3.7/3, mb1mx3.2/29, mbtmp4.1/3, Error ellipse: s-maj=59.0km s-min=26.8km az=177.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.43**	**47**	P	Pn	20 58 19.6	-0.1
	40nm,0.3s,baz=93,slow=22,SNR=3.1						
RAO				S	S	20 58 44.5	-4.0
	86nm,0.3s,baz=97,slow=22,SNR=4.2						
STKA	**Stephens Creek**	**33.57**	**257**	P	P	21 04 01.4	+0.6
	1.1nm,0.4s,baz=105,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**42.15**	**267**	P	P	21 05 12.1	-0.3
	0.7nm,0.4s,baz=105,slow=7.4,SNR=21						
WRA	**Warramunga Arr**	**43.12**	**273**	P	P	21 05 19.9	-0.4
	1.6nm,0.3s,baz=110,slow=8.0,SNR=57						
FINES	**FINESS Array B**	**144.65**	**339**	PKP	PKPdf	21 16 50.3	0.0
	2.6nm,0.6s,baz=46,slow=3.0,SNR=16						
BRTR	**Keskin Array B**	**151.66**	**298**	PKPbc	PKPbc	21 17 09.0	-0.2
	0.3nm,0.5s,baz=109,slow=4.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**162.99**	**183**	PKPab	PKPab	21 18 07.2	-0.7
	0.3nm,0.5s,baz=164,slow=5.0,SNR=5.0						

*NIED **23** 20:58:00, 40˚.00N×142˚.40E, h53km, Mw3.6 Best double couple: M0 2.57000×10^14 NP1:φs 68.00000°, δ 30.00000°, λ 5.00000°. NP2:φs 333.00000°, δ 88.00000°, λ 120.00000°.*

*JMA **23** 20:58:49.9±0.1, 40˚.04N×142˚.41E, h38km±1km, M3.7*

JMA Felt I J1.

*IDC **23** 20:58:54.6±3.2, 40˚.42N×141˚.02E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/41, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=89.8km s-min=28.0km az=69.0*

ISC 23 20:58:49.2±2.5, 40˚.06N±0˚.05×142˚.4E±0˚.1, h23km±14km, n14, σ0°69/23, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.45**	**254**	P	**Pn**	**20 58 59.8**	**-0.4**
JTH				S	**Sn**	**20 59 07.0**	**-0.6**
MIYJ	**Miyakonagasawa**	**0.67**	**224**	P	**Pb**	**20 59 02.4**	**+0.1**
MIYJ				S	**Sb**	**20 59 11.1**	**-0.1**
JANG	**Nango**	**0.76**	**294**	P	**Pb**	**20 59 04.0**	**+0.2**
JANG				S	**Sb**	**20 59 13.5**	**-0.2**
JKZ	**Kuzumaki**	**0.84**	**265**	P	**Pn**	**20 59 05.6**	**-0.1**
JKZ				S	**Sb**	**20 59 16.7**	**+0.6**
JOM	**Ohasama**	**1.05**	**236**	P	**Pn**	**20 59 08.3**	**-0.3**
JOM				S	**Sb**	**20 59 21.5**	**-0.6**
OFUJ	**Ofunato**	**1.14**	**211**	P	**Pn**	**20 59 09.3**	**-0.5**
OFUJ				S	**Sn**	**20 59 23.8**	**-0.9**
JTM	**Tenmabayashi**	**1.26**	**305**	P	**Pb**	**20 59 11.8**	**-0.5**
JTM				S	**Sn**	**20 59 27.8**	**+0.1**
JAH	**Hinai**	**1.38**	**276**	P	**Pb**	**20 59 13.7**	**-0.5**
JAH				S	**Sn**	**20 59 30.9**	**+0.4**
JMK	**Ichinoseki**	**1.45**	**220**	P	**Pn**	**20 59 14.0**	**0.0**
JMK				S	**Sn**	**20 59 32.1**	**-0.2**
JRG	**Rokugo**	**1.53**	**245**	P	**Pb**	**20 59 16.5**	**-0.4**
JRG				S	**Sb**	**20 59 36.6**	**+0.7**
MJAR	**Matsushiro Arr**	**4.83**	**225**	Pn	**Pn**	**21 00 02.7**	**+2.1**
	0.5nm,0.3s,baz=32,slow=14,SNR=5.1						
MKAR	**Makanchi Array**	**43.25**	**300**	P	**P**	**21 06 49.3**	**+0.6**
	0.3nm,0.6s,baz=83,slow=12,SNR=5.1						
KURBB	**Kurchatov Arra**	**44.82**	**306**	P	**P**	**21 07 00.6**	**-0.6**
	0.7nm,0.5s,baz=80,slow=8.6,SNR=9.7						
WRA	**Warramunga Arr**	**60.17**	**189**	P	P	21 09 05.7	+11
	0.6nm,0.9s,baz=7.3,slow=7.1,SNR=3.5						

IDC 23 21:01:08.6±2.4, 3˚.12N×128˚.97E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/42, mbtmp3.4/4, Error ellipse: s-maj=186.5km s-min=22.0km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.52**	**167**	P	P	21 06 20.5	0.0
	0.4nm,0.4s,baz=345,slow=9.8,SNR=5.7						
ASAR	**Alice Springs**	**27.05**	**170**	P	P	21 06 51.6	-1.3
	0.3nm,0.5s,baz=357,slow=8.1,SNR=7.7						
MKAR	**Makanchi Array**	**59.34**	**324**	P	P	21 11 13.3	+0.8
	0.3nm,0.6s,baz=126,slow=7.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**63.46**	**327**	P	P	21 11 40.7	+0.4
	0.2nm,0.4s,baz=126,slow=6.2,SNR=4.9						

*ISCJB **23** 21:05:44.0±1.6, 38˚.36N±0˚.05×142˚.35E±0˚.09, h19km±9km, mb3.5/2, Error ellipse: s-maj=11.7km s-min=8.2km az=8.6*

*IDC **23** 21:05:43.4±13.0, 38˚.23N×142˚.79E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/34, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=274.3km s-min=58.5km az=2.0*

*JMA **23** 21:05:46.0±0.1, 38˚.47N×142˚.28E, h27km±2km, M3.9*

JMA Felt I J1.

ISC 23 21:05:41.9±2.2, 38˚.37N±0˚.05×142˚.35E±0˚.09, h5km±12km, n12, σ1°27/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.79**	**276**	P	**Pn**	**21 05 59.9**	**+0.3**
JIO				S	**Sg**	**21 06 09.1**	**+1.9**
OFUJ	**Ofunato**	**0.88**	**323**	P	**Pn**	**21 06 00.6**	**-0.4**
JMK	**Ichinoseki**	**1.05**	**304**	P	**Pn**	**21 06 03.5**	**+0.2**
JOU	**Okura**	**1.32**	**270**	P	**Pg**	**21 06 08.5**	**+1.3**
JOU				S	**Sn**	**21 06 24.8**	**-0.2**
JMM	**Marumori**	**1.32**	**248**	P	**Pg**	**21 06 08.3**	**+1.1**
JMM				*e*S	**Sn**	**21 06 24.2**	**-0.8**
JOM	**Ohasama**	**1.37**	**324**	P	**Pg**	**21 06 08.3**	**+0.1**
JOM				S	**Sb**	**21 06 24.8**	**-1.1**
JFK	**Kawauchi**	**1.54**	**230**	P	**Pg**	**21 06 09.2**	**-0.5**
JFK				S	**Sn**	**21 06 29.2**	**-1.1**
JYK	**Kaneyama**	**1.65**	**290**	P	**Pg**	**21 06 13.3**	**-0.2**
JYK				*e*S	**Sn**	**21 06 33.5**	**+0.4**
JRG	**Rokugo**	**1.68**	**308**	P	**Pg**	**21 06 13.7**	**-0.4**
JRG				*e*S	**Sn**	**21 06 34.3**	**+0.4**
MJAR	**Matsushiro Arr**	**3.76**	**242**	Pn	**Pb**	**21 06 46.1**	**-2.7**
	0.7nm,0.3s,baz=63,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**58.49**	**189**	P	**P**	**21 15 40.5**	**+1.5**
	0.4nm,0.5s,baz=6.2,slow=7.2,SNR=6.1						
ASAR	**Alice Springs**	**62.22**	**189**	P	**P**	**21 16 06.5**	**+1.9**
	0.1nm,0.3s,baz=12,slow=5.7,SNR=4.6						

*BUC **23** 21:19:56.9±0.6, 44˚.92N×22˚.40E, h2km, MD3.2/4, Error ellipse: s-maj=5.7km s-min=4.0km az=352.0*

*BEO **23** 21:19:57.8±0.4, 44˚.84N×22˚.41E, h5km±2km, M2.2/1*

*CSEM **23** 21:19:57.0±0.1, 44˚.84N×22˚.38E, h2km, ML2.2, Error ellipse: s-maj=3.2km s-min=2.4km az=128.0*

ISC 23 21:19:56.6±1.1, 44˚.86N±0˚.02×22˚.38E±0˚.02, h3km±10km, n69, σ0°75/118, 24C-20D, Romania

|

DRGR		1.95	7⇑	*i*P	**Pb**	**21 20 32.1**	**-0.7**
DRGR				*i* S	**Sb**	**21 20 57.3**	**-0.3**
VOIR		1.98	72⇑	*i*P	**Pb**	**21 20 32.5**	**-0.8**
VOIR		1.98	72⇑	*i*P	**Pb**	**21 20 32.5**	**-0.8**
VOIR				*i* S	**Sn**	**21 20 57.3**	**+0.8**
VOIR		1.98	72⇑	*i*P	**Pb**	**21 20 32.5**	**-0.8**
VOIR				*i* S	**Sn**	**21 20 57.3**	**+0.8**
CJR	**Cluj-Napoca**	2.04	24⇑	*i*P	**Pn**	**21 20 32.1**	**+0.1**
CJR	**Cluj-Napoca**	2.04	24⇑	*i*P	**Pn**	**21 20 32.1**	**+0.1**
CJR				*i* S	**Sb**	**21 20 59.5**	**-0.8**
CJR	**Cluj-Napoca**	2.04	24⇑	*i*P	**Pn**	**21 20 32.1**	**+0.1**
CJR				*i* S	**Sb**	**21 20 59.5**	**-0.8**
IVAS	**Ivanjica**	2.05	232	*e*Pg	**Pb**	**21 20 34.8**	**+0.3**
IVAS	**Ivanjica**	2.05	232	*e*Pg	**Pb**	**21 20 34.8**	**+0.3**
TEKS	**Tekeris**	2.05	262	*e*Pg	**Pb**	**21 20 35.0**	**+0.4**
TEKS				*e*Sg	**Sg**	**21 21 03.8**	**+1.2**
TEKS	**Tekeris**	2.05	262	*e*Pg	**Pb**	**21 20 35.0**	**+0.4**
TEKS				*e*Sg	**Sg**	**21 21 03.8**	**+1.2**
BARS	**Barje**	2.08	191	*e*Pg	**Pb**	**21 20 34.0**	**-1.0**
BARS				*e*Sg	**Sg**	**21 21 03.4**	**0.0**
DOPR	**Dopca**	2.39	61⇑	*i*P	**Pn**	**21 20 38.0**	**+1.2**
DOPR	**Dopca**	2.39	61⇑	*i*P	**Pn**	**21 20 38.0**	**+1.2**
DOPR				*i* S	**Sn**	**21 21 08.1**	**+1.4**
DOPR	**Dopca**	2.39	61⇑	*i*P	**Pn**	**21 20 38.0**	**+1.2**
DOPR				*i* S	**Sn**	**21 21 08.1**	**+1.4**
MLR	**Muntele Rosu**	2.60	75⇓	*i*P	**Pn**	**21 20 39.7**	**0.0**
MLR	**Muntele Rosu**	2.60	75⇓	*i*P	**Pn**	**21 20 39.7**	**0.0**
MLR				*i* S	**Sn**	**21 21 12.7**	**+0.8**
MLR	**Muntele Rosu**	2.60	75⇓	*i*P	**Pn**	**21 20 39.7**	**0.0**
MLR				*i* S	**Sn**	**21 21 12.7**	**+0.8**
ARCR	**ARCALIA**	2.62	31⇑	*i*P	**Pn**	**21 20 40.2**	**+0.3**
ARCR	**ARCALIA**	2.62	31⇑	*i*P	**Pn**	**21 20 40.2**	**+0.3**
ARCR				*i* S	**Sn**	**21 21 13.5**	**+1.3**
ARCR	**ARCALIA**	2.62	31⇑	*i*P	**Pn**	**21 20 40.2**	**+0.3**
ARCR				*i* S	**Sn**	**21 21 13.5**	**+1.3**
BMR	**Baia Mare**	2.92	15⇓	*i*P	**Pn**	**21 20 44.9**	**+0.9**
BMR	**Baia Mare**	2.92	15⇓	*i*P	**Pn**	**21 20 44.9**	**+0.9**
BMR				*i* S	**Sn**	**21 21 19.4**	**-0.2**
BMR	**Baia Mare**	2.92	15⇓	*i*P	**Pn**	**21 20 44.9**	**+0.9**
BMR				*i* S	**Sn**	**21 21 19.4**	**-0.2**
BURAR	**Bucovina Array**	3.39	35⇓	*i*P	**Pn**	**21 20 51.7**	**+1.2**
BURAR	**Bucovina Array**	3.39	35⇓	*i*P	**Pn**	**21 20 51.7**	**+1.2**
BURAR				*i* S	**Sn**	**21 21 31.6**	**+0.3**
BURAR	**Bucovina Array**	3.39	35⇓	*i*P	**Pn**	**21 20 51.7**	**+1.2**
BURAR				*i* S	**Sn**	**21 21 31.6**	**+0.3**
KOLS	**Kolonicke sedl**	4.08	359	*e*Pg	**Pg**	**21 21 16.4**	**+1.7**
KOLS				*e*Sg	**Sg**	**21 22 05.3**	**-2.2**
KOLS	**Kolonicke sedl**	4.08	359	*e*PG	**Pg**	**21 21 16.4**	**+1.7**
KOLS				*e*SG	**Sg**	**21 22 05.3**	**-2.2**
KOLS				*e*LG	Lg	21 22 13.7	

IDC ***23*** *21:29:06.6±1.9,4˚.07S×152˚.62E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.8/31,mbtmp3.8/7,Error ellipse: s-maj=58.8km s-min=24.1km az=114.0*

ISCJB ***23*** *21:29:10.0±0.6,4˚.05S±0˚.08×152˚.5E±0˚.1,h33km, mb4.3/18,Error ellipse: s-maj=17.9km s-min=10.7km az=18.7*

NEIC ***23*** *21:29:12.0±0.4,4˚.09S×152˚.56E,h35km,mb4.4/10,Error ellipse: s-maj=11.8km s-min=7.2km az=108.0*

ISC 23 21:29:11.9±0.8,4˚.1S±0˚.1×152˚.6E±0˚.2,h35km,n20, σ0.59/20,mb4.2/18,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.53**	**225**	*e*Pn	**Pn**	**21 30 59.0**	**-0.2**
GUMO	**Guam**	**19.16**	**337**	P	**P**	**21 33 31.4**	**-1.0**
	34nm,0.7s						
WRAB	**Tennant Creek**	**23.73**	**227**	*e*P	**P**	**21 34 21.5**	**+0.5**
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**23.75**	**227**	P	**P**	**21 34 21.0**	**-0.2**
	3.4nm,0.8s,baz=50,slow=9.7,SNR=19						
ASAR	**Alice Springs**	**26.52**	**221**	P	**P**	**21 34 47.0**	**+0.5**
	0.5nm,0.6s,baz=60,slow=8.7,SNR=4.4						
RAO	**Raoul Island**	**37.53**	**135**	*e*P	**P**	**21 36 22.6**	**-0.2**
	136nm,0.6s						
NACB	**Ninganchiao**	**41.22**	**314**	P	**P**	**21 36 53.5**	**-0.1**
	8.7nm,0.6s						
MAJO	**Matsushiro**	**42.60**	**343**	*e*P	**P**	**21 37 04.7**	**0.0**
	2.4nm,0.5s						
BJT	**Baijiatuan**	**55.17**	**326**	*e*P	**P**	**21 38 41.3**	**+0.2**
	2.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**57.37**	**295**	P	**P**	**21 38 58.4**	**+1.1**
	2.3nm,0.9s,baz=113,slow=5.2,SNR=7.5						
CHTO	**Chiang Mai**	**57.48**	**295**	*e*P	**P**	**21 38 58.1**	**+0.1**
	3.1nm,1.2s						
MA2	**Magadan**	**63.49**	**359**	*e*P	**P**	**21 39 38.5**	**+0.3**
	11nm,0.5s						
ULN	**Ulaanbaatar**	**65.28**	**328**	*e*P	**P**	**21 39 50.5**	**+0.1**
	0.6nm,0.7s						
SONM	**Songino Array**	**65.61**	**328**	P	**P**	**21 39 52.9**	**+0.4**
	0.6nm,0.5s,baz=127,slow=4.4,SNR=2.9						
PMR	**Palmer**	**79.14**	**24**	*e*P	**P**	**21 41 12.7**	**0.0**
	2.3nm,0.4s						
MKAR	**Makanchi Array**	**79.64**	**319**	P	**P**	**21 41 16.2**	**+0.3**
	0.5nm,0.7s,baz=123,slow=6.1,SNR=4.2						
DGAR	**Diego Garcia**	**79.69**	**263**	*e*P	**P**	**21 41 16.2**	**-0.5**
	43nm,0.3s						
MCK	**McKinley**	**80.31**	**23**	P	**P**	**21 41 19.5**	**+0.4**
	1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**80.44**	**326**	P	**P**	**21 41 18.7**	**-1.3**
	0.9nm,0.7s,baz=107,slow=5.0,SNR=4.9						
ILAR	**Eielson Array**	**81.60**	**22**	P	**P**	**21 41 26.5**	**+0.6**
	0.9nm,0.8s,baz=255,slow=5.5,SNR=7.2						

MEX 23 21:49:40.7±0.6,15˚.04N×93˚.12W,h20km±622km,MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.56**	**37**	*e*P	Pn	21 50 06.2	-1.3
CCIG				*e*S	Sn	21 50 22.6	-4.5

MOS ***23*** *22:02:46.8±0.9,38˚.10N×14˚.85E,h14km,mb4.6/10,Error ellipse: s-maj=6.1km s-min=3.3km az=64.2*

NEIC ***23*** *22:02:46.0,38˚.06N×14˚.76E,h7km,mb4.3/6,ML4.1(ROM), After ROM.*

NEIC Felt in the Catania-Messina-Palermo area.

ROM ***23*** *22:02:46.7±0.2,38˚.06N×14˚.78E,h7km±1km,Ml4.4/64, Error ellipse: s-maj=1.5km s-min=1.1km az=137.0*

CRAAG ***23*** *22:02:46.0,38˚.06N×14˚.76E,Mb4.2*

LDG ***23*** *22:02:46.5±0.1,38˚.04N×14˚.83E,h10km,Ml3.9/5,Error ellipse: s-maj=3.0km s-min=2.7km az=29.0*

PDG ***23*** *22:02:47.6±0.8,38˚.03N×14˚.84E,h20km±1km,ML4.2/10, Error ellipse: s-maj=0.9km s-min=0.9km az=90.0*

CSEM ***23*** *22:02:48.3±0.1,38˚.06N×14˚.88E,h10km,mb4.4/6,ML5.2/7, Error ellipse: s-maj=2.1km s-min=1.7km az=6.0*

IDC ***23*** *22:02:49.3±1.8,38.07N×14.73E,h22km±14km,mb4.0/24, mb1 4.1/35,mb1mx4.0/59,mbtmp4.1/35,ML3.7/11, MS3.8/35,Ms1 3.8/35,ms1mx3.7/47,Error ellipse: s-maj=11.7km s-min=10.0km az=113.0*

THE ***23*** *22:02:51.2,38˚.06N×15˚.01E,h33km±74km,ML4.5/49, Error ellipse: s-maj=74.0km s-min=1.6km az=0.0*

ISC 23 22:02:47.6±0.8,38˚.06N±0˚.02×14˚.81E±0˚.02,h9km±5km, n730,σ1970/930,mb4.2/34,MS3.9/29,113C-42D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNO	**Monte Soro**	**0.16**	**216**	*i*Pg	**Pg**	**22 02 50.2**	**-1.0**
MNO				Sg	**Sg**	**22 02 52.7**	**-0.9**
	548µm,1.3s						
NOV	**Novara**	**0.26**	**97**	*i*Pg	**Pg**	**22 02 53.4**	**+0.5**
NOV				Sg	**Sg**	**22 02 57.5**	**+1.1**
	67µm,0.3s						
NOV	**Novara**	**0.26**	**97**	*i*Pg	**Pg**	**22 02 53.4**	**+0.5**
NOV				Sg	**Sg**	**22 02 57.5**	**+1.1**
	67µm,0.3s						
MCSR	**Castroreale**	**0.35**	**89**	*i*Pg	**Pg**	**22 02 54.7**	**+0.1**
MCSR				Sg	**Sb**	**22 03 00.8**	**-0.9**
	189µm,0.3s						
MCSR	**Castroreale**	**0.35**	**89**	*i*Pg	**Pg**	**22 02 54.7**	**+0.1**
MCSR				Sg	**Sb**	**22 03 00.8**	**-0.9**
	189µm,0.3s						
VPL	**Vulcano Piano**	**0.35**	**23**	*i*Pg	**Pb**	**22 02 55.3**	**-0.7**
VPL				Sg	**Sb**	**22 03 01.1**	**-0.5**
	122µm,0.5s						
VPL	**Vulcano Piano**	**0.35**	**23**	*i*Pg	**Pb**	**22 02 55.3**	**-0.7**
VPL				Sg	**Sb**	**22 03 01.1**	**-0.5**
	122µm,0.5s						
ESLN	**Serra La Nave**	**0.39**	**160**	Pg	**Pg**	**22 02 55.6**	**+0.3**
ESLN				Sg	**Sg**	**22 03 01.5**	**+1.0**
	273µm,1.4s						
ESLN	**Serra La Nave**	**0.39**	**160**	Pg	**Pg**	**22 02 55.6**	**+0.3**
ESLN				Sg	**Sg**	**22 03 01.5**	**+1.0**
	273µm,1.4s						
GALF	**Gagliano Caste**	**0.40**	**209**	*i*Pg	**Pg**	**22 02 54.9**	**-0.6**
GALF				Sg	**Sg**	**22 03 01.5**	**+0.8**
	170µm,0.8s						
LLI	**Lipari**	**0.40**	**16**	*i*Pg	**Pb**	**22 02 56.5**	**-0.4**
	104µm,0.7s						
LLI	**Lipari**	**0.40**	**16**	*i*Pg	**Pb**	**22 02 56.5**	**-0.4**
	104µm,0.7s						
MPNC	**Port Mandanici**	**0.44**	**79**	Pg	**Pg**	**22 02 56.6**	**+0.4**
MPNC				Sg	**Sg**	**22 03 02.5**	**+0.6**
	99µm,0.5s						
MPNC	**Port Mandanici**	**0.44**	**79**	Pg	**Pg**	**22 02 56.6**	**+0.4**
MPNC				Sg	**Sg**	**22 03 02.5**	**+0.6**
	99µm,0.5s						
ECNV	**Catenanuova**	**0.47**	**190**	*i*Pg	**Pg**	**22 02 57.2**	**+0.4**
	325µm,2.0s						
ECNV	**Catenanuova**	**0.47**	**190**	*i*Pg	**Pg**	**22 02 57.2**	**+0.4**
	325µm,2.0s						
CAGR	**Agira**	**0.50**	**209**	*i*Pg	**Pg**	**22 02 57.2**	**-0.2**
	240µm,1.3s						
ATN	**Antennamare**	**0.53**	**79**	Pg	**Pg**	**22 02 58.1**	**+0.2**
	33µm,0.4s						
ATN	**Antennamare**	**0.53**	**79**	Pg	**Pg**	**22 02 58.1**	**+0.2**
	33µm,0.4s						
PLLN	**Pollina**	**0.53**	**263**	Pg	**Pg**	**22 02 57.2**	**-0.8**
PLLN				Sg	**Sg**	**22 03 04.8**	**-0.2**
	63µm,0.4s						
IFIL	**Filicudi I Eol**	**0.54**	**339**	*i*Pg	**Pg**	**22 02 58.2**	**+0.1**
	2µm,0.2s						
IFIL	**Filicudi I Eol**	**0.54**	**339**	*i*Pg	**Pg**	**22 02 58.2**	**+0.1**
	2µm,0.2s						
MSRU	**Castanea**	**0.59**	**70**	*i*Pg	**Pg**	**22 02 59.3**	**+0.3**
	35µm,0.4s						
MSRU	**Castanea**	**0.59**	**70**	*i*Pg	**Pg**	**22 02 59.3**	**+0.3**
	35µm,0.4s						
IACL	**Alicudi**	**0.59**	**323**	*i*Pg	**Pg**	**22 02 59.0**	**-0.1**
IACL				Sg	**Sb**	**22 03 08.3**	**-0.4**
	53µm,0.6s						
GIB	**Gibilmanna**	**0.62**	**264**	Pg	**Pg**	**22 02 58.8**	**-0.9**
GIB				Sg	**Sg**	**22 03 07.7**	**-0.2**
	130µm,0.8s						
VAE	**Valguarnera**	**0.66**	**209**	Pg	**Pb**	**22 03 02.0**	**+0.6**
	181nm,0.3s,baz=349,slow=10,SNR=289						
HLNI	**Lentini**	**0.71**	**176**	*i*Pg	**Pg**	**22 03 00.9**	**-0.5**
HLNI				Sg	**Sb**	**22 03 12.6**	**+0.5**
	20µm,0.6s						
HLNI	**Lentini**	**0.71**	**176**	*i*Pg	**Pg**	**22 03 00.9**	**-0.5**
HLNI				Sg	**Sb**	**22 03 12.6**	**+0.5**
	20µm,0.6s						
RESU	**Resuttano**	**0.72**	**236**	*i*Pg	**Pg**	**22 03 01.4**	**-0.2**
	49µm,0.7s						
MSCL	**Scilla**	**0.79**	**77**	Pg	**Pg**	**22 03 02.7**	**-0.2**
	38µm,0.8s						
MSCL	**Scilla**	**0.79**	**77**	Pg	**Pg**	**22 03 02.7**	**-0.2**
	38µm,0.8s						
HCRL	**Carlentini**	**0.80**	**167**	*i*Pg	**Pg**	**22 03 02.4**	**-0.6**
	25µm,0.8s						
HCRL	**Carlentini**	**0.80**	**167**	*i*Pg	**Pg**	**22 03 02.4**	**-0.6**
	25µm,0.8s						
GMB	**Gambarie**	**0.81**	**82**	Pg	**Pg**	**22 03 03.2**	**-0.1**
	38µm,0.4s						
GMB	**Gambarie**	**0.81**	**82**	Pg	**Pg**	**22 03 03.2**	**-0.1**
	38µm,0.4s						
HAGA	**Augusta**	**0.82**	**160**	*i*Pg	**Pg**	**22 03 02.8**	**-0.6**
	21µm,1.0s						
HAGA	**Augusta**	**0.82**	**160**	*i*Pg	**Pg**	**22 03 02.8**	**-0.6**
	21µm,1.0s						
CEL	**Celeste**	**0.88**	**77**	*i*Pg	**Pg**	**22 03 04.1**	**-0.4**
	6µm,0.5s						
CEL	**Celeste**	**0.88**	**77**	*i*Pg	**Pg**	**22 03 04.1**	**-0.4**
	6µm,0.5s						
HVZN	**Vizzini**	**0.88**	**185**	*i*Pg	**Pg**	**22 03 03.8**	**-0.9**
	32µm,0.6s						
ALJA	**Alia**	**0.89**	**250**	*i*Pg	**Pg**	**22 03 03.7**	**-1.1**
	87µm,1.3s						
RAFF	**Raffo Rosso**	**0.91**	**203**	*i*Pg	**Pg**	**22 03 04.7**	**-0.4**
	24µm,0.9s						
RAFF	**Raffo Rosso**	**0.91**	**203**	*i*Pg	**Pg**	**22 03 04.7**	**-0.4**
	24µm,0.9s						
SSY	**Sortino**	**0.93**	**167**	*i*Pg	**Pg**	**22 03 04.4**	**-1.1**
	18µm,0.6s						
MPAZ	**Palizzi**	**0.95**	**96**	Pg	**Pg**	**22 03 05.5**	**-0.4**
	14µm,0.9s						
MPAZ	**Palizzi**	**0.95**	**96**	Pg	**Pg**	**22 03 05.5**	**-0.4**
	14µm,0.9s						
SOI	**Samo**	**0.98**	**89**	Pg	**Pg**	**22 03 05.7**	**-0.8**
	11µm,0.7s						
SOI	**Samo**	**0.98**	**89**	Pg	**Pg**	**22 03 05.7**	**-0.8**
	11µm,0.7s						
JOPP	**Joppolo**	**1.01**	**57**	*i*Pg	**Pg**	**22 03 06.0**	**-1.0**
	10µm,1.0s						
JOPP	**Joppolo**	**1.01**	**57**	*i*Pg	**Pg**	**22 03 06.0**	**-1.0**
	10µm,1.0s						
SOLUN	**Solunto**	**1.01**	**272**	*i*Pg	**Pg**	**22 03 04.8**	**-2.2**
	8µm,0.5s						
MCT	**Mte Cammarata**	**1.02**	**246**	Pg	**Pb**	**22 03 07.9**	**+0.2**
	57µm,1.3s						
MCT	**Mte Cammarata**	**1.02**	**246**	Pg	**Pb**	**22 03 07.9**	**+0.2**
	57µm,1.3s						
HMDC	**Modica**	**1.10**	**181**	*i*Pg	**Pg**	**22 03 07.2**	**-1.6**
	19µm,0.8s						
HAVL	**Avola**	**1.13**	**167**	Pg	**Pg**	**22 03 07.1**	**-2.2**
	30µm,1.4s						
MPG	**Monte Pellegri**	**1.15**	**276**	Pg	**Pg**	**22 03 07.0**	**-2.7**
	16µm,2.4s						
FAVR	**Favara**	**1.20**	**229**	Pg	**Pg**	**22 03 11.5**	**+0.7**
	31µm,1.0s						
FAVR	**Favara**	**1.20**	**229**	Pg	**Pg**	**22 03 11.5**	**+0.7**
	31µm,1.0s						
PLAC	**Placanica**	**1.34**	**73**	*i*Pg	**Pn**	**22 03 11.8**	**-0.8**
	8µm,0.6s						
PLAC	**Placanica**	**1.34**	**73**	*i*Pg	**Pn**	**22 03 11.8**	**-0.8**
	8µm,0.6s						
CLTB	**Caltabellotta**	**1.35**	**250**	*i*ePg	**Pb**	**22 03 13.0**	**-0.2**
	40µm,0.6s						
CLTB	**Caltabellotta**	**1.35**	**250**	*i*ePg	**Pb**	**22 03 13.0**	**-0.2**
	40µm,0.6s						
CLTB	**Caltabellotta**	**1.35**	**250**	*e*Pn	**Pb**	**22 03 13.0**	**-0.2**
USI	**Ustica**	**1.44**	**297**	Pg	**Pn**	**22 03 10.8**	**-3.0**
	17µm,0.6s						
GRI	**Girifalco**	**1.48**	**58**	Pg	**Pn**	**22 03 12.8**	**-1.6**
	6µm,0.9s						
GRI	**Girifalco**	**1.48**	**58**	Pg	**Pn**	**22 03 12.8**	**-1.6**
	6µm,0.9s						
CAR1	**CAROLEI**	**1.62**	**42**	*i*ePg	**Pn**	**22 03 14.8**	**-1.6**
	5µm,0.4s						
CAR1	**CAROLEI**	**1.62**	**42**	*i*ePg	**Pn**	**22 03 14.8**	**-1.6**
	5µm,0.4s						
SERS	**Sersale**	**1.77**	**56**	*i*ePg	**Pn**	**22 03 17.4**	**-1.1**
	3µm,1.2s						
SERS	**Sersale**	**1.77**	**56**	*i*ePg	**Pn**	**22 03 17.4**	**-1.1**
	3µm,1.2s						
TIP	**Timpagrande**	**1.89**	**53**	P	**Pn**	**22 03 19.1**	**-1.0**
TIP				S	**Sn**	**22 03 41.9**	**-2.3**
TIP	**Timpagrande**	**1.89**	**53**	*i*ePg	**Pn**	**22 03 19.3**	**-0.9**
	3µm,1.1s						
TIP	**Timpagrande**	**1.89**	**53**	*e*Pn	**Pn**	**22 03 19.2**	**-0.9**
TIP				S	**Sn**	**22 03 41.9**	**-2.3**
TIP	**Timpagrande**	**1.89**	**53**	*e*Pn	**Pn**	**22 03 19.2**	**-1.0**
TIP				S	**Sn**	**22 03 41.9**	**-2.3**
TIP				*e*Sn	**Sb**	**22 03 43.9**	**-2.2**
MMN	**Mormanno**	**2.05**	**26**	*i*ePg	**Pn**	**22 03 21.0**	**-1.2**
	564nm,0.5s						
MMN	**Mormanno**	**2.05**	**26**	*i*ePg	**Pn**	**22 03 21.0**	**-1.2**
	564nm,0.5s						
BULG	**Bulgheria - Ca**	**2.06**	**12**	*i*ePg	**Pn**	**22 03 21.1**	**-1.4**
	857nm,0.4s						
BULG	**Bulgheria - Ca**	**2.06**	**12**	*i*ePg	**Pn**	**22 03 21.1**	**-1.4**
	857nm,0.4s						
CUC	**Castrocucco**	**2.08**	**22**	*i*ePg	**Pn**	**22 03 21.6**	**-1.2**
	784nm,0.7s						
CUC	**Castrocucco**	**2.08**	**22**	*i*ePg	**Pn**	**22 03 21.6**	**-1.2**
	784nm,0.7s						
CUC	**Castrocucco**	**2.08**	**22**	*e*Pn	**Pn**	**22 03 21.9**	**-0.9**
CUC				*e*Sn	**Sn**	**22 03 47.5**	**-1.4**
CUC	**Castrocucco**	**2.08**	**22**	*e*Pn	**Pn**	**22 03 21.9**	**-0.9**
CUC				*e*Sn	**Sn**	**22 03 47.5**	**-1.4**
PIPA	**Pietrapaola**	**2.12**	**47**	*i*ePg	**Pn**	**22 03 22.7**	**-0.5**
	3µm,1.1s						
PIPA	**Pietrapaola**	**2.12**	**47**	*i*ePg	**Pn**	**22 03 22.7**	**-0.5**
	3µm,1.1s						
SALB	**San Lorenzo Be**	**2.17**	**33**	*i*ePg	**Pn**	**22 03 23.3**	**-0.8**
	3µm,1.2s						
SALB	**San Lorenzo Be**	**2.17**	**33**	*e*Pg	**Pn**	**22 03 23.3**	**-0.8**
	3µm,1.2s						
WDD	**Wied Dalam**	**2.20**	**186**	*e*Pn	**Pn**	**22 03 23.4**	**-0.9**
WDD				Sn	**Sn**	**22 03 50.7**	**-1.0**
WDD	**Wied Dalam**	**2.20**	**186**	*e*Pn	**Pn**	**22 03 23.4**	**-0.9**
WDD				Sn	**Sn**	**22 03 50.7**	**-1.0**
SIRI	**Monte Sirino -**	**2.27**	**21**	Pg	**Pn**	**22 03 24.0**	**-1.5**
	856nm,0.4s						
SIRI	**Monte Sirino -**	**2.27**	**21**	Pg	**Pn**	**22 03 24.0**	**-1.5**
	856nm,0.4s						
CMPR	**Campora**	**2.29**	**9**	*i*Pg	**Pn**	**22 03 24.1**	**-1.5**
	430nm,0.4s						
CMPR	**Campora**	**2.29**	**9**	*i*Pg	**Pn**	**22 03 24.1**	**-1.5**
	430nm,0.4s						
SCHR	**S. Chirico Rap**	**2.35**	**24**	Pg	**Pn**	**22 03 25.4**	**-1.1**
	650nm,0.9s						
MCEL	**Monticello**	**2.39**	**18**	Pg	**Pn**	**22 03 25.9**	**-1.1**
	752nm,0.8s						
MCEL	**Monticello**	**2.39**	**18**	Pg	**Pn**	**22 03 25.9**	**-1.1**
	752nm,0.8s						
SLCN	**Sala Consilina**	**2.41**	**15**	*i*Pg	**Pn**	**22 03 26.6**	**-0.8**
	1µm,0.8s						
SLCN	**Sala Consilina**	**2.41**	**15**	*i*Pg	**Pn**	**22 03 26.6**	**-0.8**
	1µm,0.8s						
CDRU	**Civita di Ruta**	**2.46**	**9**	*i*Pg	**Pn**	**22 03 26.6**	**-1.4**
	603nm,1.3s						
CDRU	**Civita di Ruta**	**2.46**	**9**	*i*Pg	**Pn**	**22 03 26.6**	**-1.4**
	603nm,1.3s						
PTMD	**Pantelleria Cu**	**2.58**	**241**	*i*Pg	**Pn**	**22 03 28.8**	**-0.8**
	3µm,0.8s						
PTMD	**Pantelleria Cu**	**2.58**	**241**	*i*Pg	**Pn**	**22 03 28.8**	**-0.8**
	3µm,0.8s						
MCRV	**Calabrutti - M**	**2.73**	**6**	Pg	**Pn**	**22 03 30.3**	**-1.5**
	185nm,0.6s						
MCRV	**Calabrutti - M**	**2.73**	**6**	Pg	**Pn**	**22 03 30.3**	**-1.5**
	185nm,0.6s						
MRLC	**Muro Lucano**	**2.74**	**11**	*i*Pg	**Pn**	**22 03 32.0**	**+0.1**
	485nm,0.9s						
MRLC	**Muro Lucano**	**2.74**	**11**	*i*Pg	**Pn**	**22 03 32.0**	**+0.1**
	485nm,0.9s						
MIGL	**Miglionico**	**2.84**	**26**	Pg	**Pn**	**22 03 33.6**	**+0.5**
	3µm,1.1s						
MIGL	**Miglionico**	**2.84**	**26**	Pg	**Pn**	**22 03 33.6**	**+0.5**
	3µm,1.1s						
ACER	**Acerenza**	**2.86**	**17**	Pg	**Pn**	**22 03 34.2**	**+0.7**
	1µm,0.9s						
ACER	**Acerenza**	**2.86**	**17**	Pg	**Pn**	**22 03 34.2**	**+0.7**
	1µm,0.9s						
SNAL	**S. Angelo Dei**	**2.88**	**6**	Pg	**Pn**	**22 03 33.8**	**+0.1**
	2µm,1.6s						
SNAL	**S. Angelo Dei**	**2.88**	**6**	Pg	**Pn**	**22 03 33.8**	**+0.1**
	2µm,1.6s						
VULT	**Monte Vulture**	**2.96**	**12**	Pg	**Pn**	**22 03 35.0**	**+0.1**
	1µm,1.7s						
VULT	**Monte Vulture**	**2.96**	**12**	Pg	**Pn**	**22 03 35.0**	**+0.1**
	1µm,1.7s						
PAOL	**Paolisi**	**2.97**	**356**	Pg	**Pn**	**22 03 34.2**	**-0.8**
	631nm,1.9s						
PAOL	**Paolisi**	**2.97**	**356**	Pg	**Pn**	**22 03 34.2**	**-0.8**
	631nm,1.9s						
CAFE	**Carife**	**2.98**	**6**	Pg	**Pn**	**22 03 35.4**	**+0.2**
	23µm,2.2s						
CAFE	**Carife**	**2.98**	**6**	Pg	**Pn**	**22 03 35.4**	**+0.2**
	23µm,2.2s						
PALZ	**Palazzo San Ge**	**3.02**	**17**	Pg	**Pn**	**22 03 35.7**	**+0.1**
	1µm,1.0s						
PALZ	**Palazzo San Ge**	**3.02**	**17**	Pg	**Pn**	**22 03 35.7**	**+0.1**
	1µm,1.0s						
SGTA	**Sant Agata di**	**3.10**	**8**	Pg	**Pn**	**22 03 37.4**	**+0.6**
	1µm,2.3s						
SGTA	**Sant Agata di**	**3.10**	**8**	Pg	**Pn**	**22 03 37.4**	**+0.6**
	1µm,2.3s						
TAR1	**Taranto**	**3.12**	**37**	*e*Pn	**Pn**	**22 03 36.5**	**-0.5**
SG1	**Sgolgore (BA)**	**3.13**	**27**	*e*Pn	**Pn**	**22 03 36.9**	**-0.3**
CDT	**Castel del Mon**	**3.22**	**20**	*e*Pn	**Pn**	**22 03 37.9**	**-0.5**
PTRJ	**Pietraroja**	**3.31**	**356**	Pg	**Pn**	**22 03 39.1**	**-0.6**
	869nm,1.4s						
PTRJ	**Pietraroja**	**3.31**	**356**	Pg	**Pn**	**22 03 39.1**	**-0.6**
	869nm,1.4s						
**B

AXS Araxos 5.18 86 P Pn 22 04 05.7 +0.4
HCY Herceg Novi 5.21 32⇓iPn Pn 22 04 04.9 -0.8
HCY eSn Sn 22 05 05.1 -0.8
HCY Herceg Novi 5.21 32⇓iPn Pn 22 04 04.9 -0.8
HCY eSn Sn 22 05 05.1 -0.8
RLS Riolos of Patr 5.25 88 P Pn 22 04 06.3 0.0
RLS S Sn 22 05 05.2 -1.7
RLS Riolos of Patr 5.25 88 P Pn 22 04 06.3 0.0
RLS S Sn 22 05 05.2 -1.7
RLS Riolos of Patr 5.25 88 P Pn 22 04 06.3 0.0
BUM Brajici-Budva 5.26 35⇑iPn Pn 22 04 05.5 -1.0
BUM eSn Sn 22 05 06.6 -0.7
BUM Brajici-Budva 5.26 35⇑iPn Pn 22 04 05.5 -1.0
BUM eSn Sn 22 05 06.6 -0.7
PVO Paravola 5.31 82 P Pn 22 04 07.6 +0.5
PVO S Sn 22 05 07.7 -0.6
PVO Paravola 5.31 82 P Pn 22 04 07.6 +0.5
PVO S Sn 22 05 07.7 -0.6
DRME Dracevica, Mon 5.31 38⇓iPn Pn 22 04 06.5 -0.6
DRME eSn Sn 22 05 07.8 -0.6
DRME Dracevica, Mon 5.31 38⇓iPn Pn 22 04 06.5 -0.6
DRME eSn Sn 22 05 07.8 -0.6
PENT Pentalofos 5.36 65 P Pn 22 04 09.2 +1.3
PENT S Sn 22 05 07.4 -2.4
PENT Pentalofos 5.36 65 P Pn 22 04 09.2 +1.3
PENT S Sn 22 05 07.4 -2.4
TREB Trebinje 5.38 29 ePn Pn 22 04 06.8 -1.2
NEST Nestorio 5.38 62 P Pn 22 04 09.1 +0.9
NEST S Sn 22 05 09.8 -0.5
NEST Nestorio 5.38 62 P Pn 22 04 09.1 +0.9
NEST S Sn 22 05 09.8 -0.5
KPRO Kipourio 5.44 68 P Pn 22 04 10.3 +1.3
KPRO S Sn 22 05 11.3 -0.5
KPRO Kipourio 5.44 68 P Pn 22 04 10.3 +1.3
KPRO S Sn 22 05 11.3 -0.5
DRO Drossia 5.45 89 P Pn 22 04 09.7 +0.7
DRO S Sn 22 05 10.4 -1.5
DRO Drossia 5.45 89 P Pn 22 04 09.7 +0.7
DRO S Sn 22 05 10.4 -1.5
CEME Cevo 5.47 34 ePn Pn 22 04 08.1 -1.3
CEME eSn Sn 22 05 11.8 -0.6
CEME Cevo 5.47 34 ePn Pn 22 04 08.1 -1.3
CEME eSn Sn 22 05 11.8 -0.6
PDG Podgorica 5.53 37 P Pn 22 04 09.2 -0.9
PDG S Sn 22 05 12.7 -1.1
PDG Podgorica 5.53 37⇑iP Sn 22 05 11.6 -2.2
PDG Podgorica 5.53 37 P Pn 22 04 09.2 -0.9
PDG Podgorica 5.53 37⇓iPn Pn 22 04 09.5 -0.6
PDG S Sn 22 05 12.7 -1.1
PDG eSn Sn 22 05 13.1 -0.7
TTG Podgorica 5.53 37⇓iPn Pn 22 04 09.5 -0.6
TTG eSn Sn 22 05 13.1 -0.7
TTG Podgorica 5.53 37 P Pn 22 04 09.2 -0.9
TTG S Sn 22 05 12.7 -1.1
TTG Podgorica 5.53 37 P Pn 22 04 09.2 -0.9
TTG S Sn 22 05 12.7 -1.1
TTG Podgorica 5.53 37 P Pn 22 04 09.2 -0.9
TTG S Sn 22 05 12.7 -1.1
OHR Ohrid 5.54 55 ePn Pn 22 04 12.4 +2.1
OHR Ohrid 5.54 55 ePn Pn 22 04 12.4 +2.1
EVR Evrytania 5.56 79 P Pn 22 04 10.7 +0.1
EVR S Sn 22 05 13.1 -1.5
EVR Evrytania 5.56 79 P Pn 22 04 10.7 +0.1
EVR S Sn 22 05 13.1 -1.5
EVR Evrytania 5.56 79 P Pn 22 04 10.7 +0.1
EVR S Sn 22 05 13.1 -1.5
EFP Efpalio 5.60 84 P Pn 22 04 11.2 +0.2
EFP S Sn 22 05 12.5 -2.9
EFP Efpalio 5.60 84 P Pn 22 04 11.2 +0.2
EFP S Sn 22 05 12.5 -2.9
BRY Bratogost 5.61 29⇑iPn Pn 22 04 10.8 -0.5
BRY eSn Sn 22 05 14.8 -1.1
BRY Bratogost 5.61 29⇑iPn Pn 22 04 10.8 -0.5
BRY eSn Sn 22 05 14.8 -1.1
ANX Ano Chora 5.62 82 P Pn 22 04 12.2 +0.8
ANX S Sn 22 05 13.8 -2.3
ANX Ano Chora 5.62 82 P Pn 22 04 12.2 +0.8
ANX S Sn 22 05 13.8 -2.3
PYL PYLOS 5.63 100 P Pn 22 04 10.6 -0.9
PYL S Sn 22 05 13.0 -3.4
PYL PYLOS 5.63 100 P Pn 22 04 10.6 -0.9
PYL S Sn 22 05 13.0 -3.4
PYL PYLOS 5.63 100 P Pn 22 04 10.6 -0.9
PYL S Sn 22 05 13.0 -3.4
LAKA Lakka 5.65 86 P Pn 22 04 12.4 +0.6
LAKA S Sn 22 05 14.9 -2.0
LAKA Lakka 5.65 86 P Pn 22 04 12.4 +0.6
LAKA S Sn 22 05 14.9 -2.0
LAKA Lakka 5.65 86 P Pn 22 04 12.4 +0.6
LAKA S Sn 22 05 14.9 -2.0
NKME Niksic 5.67 33⇓iPn Pn 22 04 11.4 -0.6
NKME eSn Sn 22 05 16.4 -0.8
NKME Niksic 5.67 33⇓iPn Pn 22 04 11.4 -0.6
NKME eSn Sn 22 05 16.4 -0.8
SERG Sergoula 5.72 84 P Pn 22 04 13.5 +0.8
SERG S Sn 22 05 17.2 -1.2
SERG Sergoula 5.72 84 P Pn 22 04 13.5 +0.8
SERG S Sn 22 05 17.2 -1.2
ITM Ithomi 5.72 97 P Pn 22 04 12.1 -0.6
ITM S Sn 22 05 15.6 -2.8
ITM Ithomi 5.72 97 P Pn 22 04 12.1 -0.6
ITM S Sn 22 05 15.6 -2.8
ITM Ithomi 5.72 97 P Pn 22 04 12.1 -0.6
ITM S Sn 22 05 15.6 -2.8
NKY Niksic 5.72 33⇓iPn Pn 22 04 12.3 -0.5
NKY eSn Sn 22 05 17.6 -1.0
NKY Niksic 5.72 33⇓iPn Pn 22 04 12.3 -0.5
NKY eSn Sn 22 05 17.6 -1.0
FNA Florina 5.76 60 P Pn 22 04 13.5 +0.1
FNA S Sn 22 05 17.8 -1.9
FNA Florina 5.76 60 P Pn 22 04 13.5 +0.1
FNA S Sn 22 05 17.8 -1.9
FNA Florina 5.76 60 P Pn 22 04 13.5 +0.1
FNA S Sn 22 05 17.8 -1.9
FNA Florina 5.76 60 P Pn 22 04 13.5 +0.1
FNA S Sn 22 05 17.8 -1.9
KALE Kalithea 5.78 84 P Pn 22 04 14.4 +0.8
KALE S Sn 22 05 16.1 -4.0
KALE Kalithea 5.78 84 P Pn 22 04 14.4 +0.8
KALE S Sn 22 05 16.1 -4.0
KALE Kalithea 5.78 84 P Pn 22 04 14.4 +0.8
KALE S Sn 22 05 16.1 -4.0
KLV Kalavryta, Ach 5.79 88 P Pn 22 04 14.5 +0.7
KLV S Sn 22 05 17.1 -3.3
KLV Kalavryta, Ach 5.79 88 P Pn 22 04 14.5 +0.7
KLV S Sn 22 05 17.1 -3.3
KLV Kalavryta, Ach 5.79 88 P Pn 22 04 14.5 +0.7
KLV S Sn 22 05 17.1 -3.3
THL Klokotos Trika 5.82 73 P Pn 22 04 15.6 +1.5
THL S Sn 22 05 20.5 -0.5
THL Klokotos Trika 5.82 73 P Pn 22 04 15.6 +1.5
THL S Sn 22 05 20.5 -0.5
KZN Kozani 5.85 65 P Pn 22 04 15.8 +1.2
KZN S Sn 22 05 20.5 -1.4
KZN Kozani 5.85 65 P Pn 22 04 15.8 +1.2
KZN S Sn 22 05 20.5 -1.4
KZN Kozani 5.85 65 P Pn 22 04 15.8 +1.2
KZN S Sn 22 05 20.5 -1.4
KZN Kozani 5.85 65 P Pn 22 04 15.8 +1.2
KZN S Sn 22 05 20.5 -1.4
GUR Goura 5.95 89 P Pn 22 04 16.9 +0.9
GUR S Sn 22 05 22.1 -2.2
GUR Goura 5.95 89 P Pn 22 04 16.9 +0.9
GUR S Sn 22 05 22.1 -2.2
GUR Goura 5.95 89 P Pn 22 04 16.9 +0.9
GUR S Sn 22 05 22.1 -2.2
AGG Agios Georgios 5.97 78 P Pn 22 04 16.7 +0.5
AGG S Sn 22 05 24.4 -0.4
AGG Agios Georgios 5.97 78 P Pn 22 04 16.7 +0.5
AGG S Sn 22 05 24.4 -0.4
AGG Agios Georgios 5.97 78 P Pn 22 04 16.7 +0.5
AGG S Sn 22 05 24.4 -0.4
AGG Agios Georgios 5.97 78 P Pn 22 04 16.7 +0.5
AGG S Sn 22 05 24.4 -0.4
PVY Plav 6.00 39⇓iPn Pn 22 04 16.9 +0.2
PVY eSn Sn 22 05 24.0 -1.5
PVY Plav 6.00 39⇓iPn Pn 22 04 16.9 +0.2
PVY eSn Sn 22 05 24.0 -1.5
UPM Unac-Piva 6.01 30⇓iPn Pn 22 04 17.6 +0.8
UPM eSn Sn 22 05 25.1 -0.7
UPM Unac-Piva 6.01 30⇓iPn Pn 22 04 17.6 +0.8
UPM eSn Sn 22 05 25.1 -0.7
VLX Vlachokerasia 6.04 94 P Pn 22 04 17.1 -0.1
VLX S Sn 22 05 24.7 -1.8
VLX Vlachokerasia 6.04 94 P Pn 22 04 17.1 -0.1
VLX S Sn 22 05 24.7 -1.8
VLX Vlachokerasia 6.04 94 P Pn 22 04 17.1 -0.1
VLX S Sn 22 05 24.7 -1.8
CMAH Djebel Manchou 6.06 259 P Pn 22 04 17.9 +0.4
DSF Desfina 6.08 84 P Pn 22 04 18.9 +1.1
DSF S Sn 22 05 24.2 -3.4
DSF Desfina 6.08 84 P Pn 22 04 18.9 +1.1
DSF S Sn 22 05 24.2 -3.4
DSF Desfina 6.08 84 P Pn 22 04 18.9 +1.1
DSF S Sn 22 05 24.2 -3.4
ABSA Djebel Ababsia 6.12 255 P Pn 22 04 20.0 +1.7
ABSA Djebel Ababsia 6.12 255 P Pn 22 04 20.0 +1.7
BEY Berane 6.17 37⇓iPn Pn 22 04 19.9 +0.9
BEY eSn Sn 22 05 28.9 -0.9
IVA Berane 6.17 37⇓iPn Pn 22 04 19.9 +0.9
IVA eSn Sn 22 05 28.9 -0.9
THAL Thalero 6.20 88 P Pn 22 04 20.4 +1.1
THAL Thalero 6.20 88 P Pn 22 04 20.4 +1.1
PLE Pljevlja 6.31 32⇑iPn Pn 22 04 21.0 +0.1
PLE eSn Sn 22 05 32.3 -0.8
PLE Pljevlja 6.31 32⇑iPn Pn 22 04 21.0 +0.1
PLE eSn Sn 22 05 32.3 -0.8
PGF Pioggiola 6.31 317 eP Pn 22 04 21.3 +0.4
PGF eSn Sn 22 05 26.9 -6.2
comp=Z,28nm,0.5s
PGF Pioggiola 6.31 317 eP Pn 22 04 21.3 +0.4
LIT Litokhoron 6.31 69 P Pn 22 04 21.2 +0.3
LIT S Sn 22 05 30.5 -2.6
LIT Litokhoron 6.31 69 P Pn 22 04 21.2 +0.3
LIT S Sn 22 05 30.5 -2.6
LIT Litokhoron 6.31 69 P Pn 22 04 21.2 +0.3
LIT S Sn 22 05 30.5 -2.6
LIT Litokhoron 6.31 69 P Pn 22 04 21.2 +0.3
LIT S Sn 22 05 30.5 -2.6
SKO Skopje 6.42 50 P Pn 22 04 23.5 +1.2
SKO Skopje 6.42 50 ePn Pn 22 04 23.5 +1.2
SKO Skopje 6.42 50 P Pn 22 04 23.5 +1.2
SKO Skopje 6.42 50 ePn Pn 22 04 23.4 +1.2
SKO Skopje 6.42 50 P Pn 22 04 23.5 +1.2
LTK Loutraki 6.44 88 P Pn 22 04 23.0 +0.4
LTK S Sn 22 05 34.3 -1.9
LTK Loutraki 6.44 88 P Pn 22 04 23.0 +0.4
LTK S Sn 22 05 34.3 -1.9
LTK Loutraki 6.44 88 P Pn 22 04 23.0 +0.4
LTK S Sn 22 05 34.3 -1.9
LKR Lokris 6.46 82 P Pn 22 04 23.7 +0.8
LKR S Sn 22 05 35.3 -1.5
LKR Lokris 6.46 82 P Pn 22 04 23.7 +0.8
LKR S Sn 22 05 35.3 -1.5
LKR Lokris 6.46 82 P Pn 22 04 23.7 +0.8
LKR S Sn 22 05 35.3 -1.5
ATAL Atalanti 6.48 82 P Pn 22 04 24.2 +1.0
ATAL S Sn 22 05 36.4 -0.9
ATAL Atalanti 6.48 82 P Pn 22 04 24.2 +1.0
ATAL S Sn 22 05 36.4 -0.9
ATAL Atalanti 6.48 82 P Pn 22 04 24.2 +1.0
ATAL S Sn 22 05 36.4 -0.9
NVLJ Novalja 6.50 0 ePn Pn 22 04 24.4 +1.0
NVLJ Novalja 6.50 0 ePn Pn 22 04 24.4 +1.0
UDBI Udbina 6.50 6 ePn Pn 22 04 25.1 +1.5
UDBI Sn Sn 22 05 35.3 -2.6
UDBI Udbina 6.50 6 ePn Pn 22 04 25.0 +1.5
UDBI Sn Sn 22 05 35.2 -2.6
GRG Griva 6.54 61 P Pn 22 04 23.8 -0.3
GRG S Sn 22 05 36.9 -1.9
GRG Griva 6.54 61 P Pn 22 04 23.8 -0.3
GRG S Sn 22 05 36.9 -1.9
GRG Griva 6.54 61 P Pn 22 04 23.8 -0.3
GRG S Sn 22 05 36.9 -1.9
GRG Griva 6.54 61 P Pn 22 04 23.8 -0.3
GRG S Sn 22 05 36.9 -1.9
VLI Veliai 6.61 99 P Pn 22 04 25.4 +0.5
VLI S Sn 22 05 39.2 -1.1
VLI Veliai 6.61 99 P Pn 22 04 25.4 +0.5
VLI S Sn 22 05 39.2 -1.1
VLI Veliai 6.61 99 P Pn 22 04 25.4 +0.5
VLI S Sn 22 05 39.2 -1.1
SMIA Simia 6.64 80 P Pn 22 04 26.4 +1.0
SMIA S Sn 22 05 40.2 -1.0
SMIA Simia 6.64 80 P Pn 22 04 26.4 +1.0
SMIA S Sn 22 05 40.2 -1.0
KRND KRANIDI 6.64 93 P Pn 22 04 26.0 +0.6
KRND S Sn 22 05 39.9 -1.4
KRND KRANIDI 6.64 93 P Pn 22 04 26.0 +0.6
KRND S Sn 22 05 39.9 -1.4
CKFL Kef-Lekhel 6.66 258 P Pn 22 04 27.0 +1.2
CKFL Kef-Lekhel 6.66 258 P Pn 22 04 27.0 +1.2
DID Didima 6.70 92 P Pn 22 04 27.4 +1.2
DID Didima 6.70 92 P Pn 22 04 27.4 +1.2
DID Didima 6.70 92 P Pn 22 04 27.4 +1.2
NEO Neokhori 6.70 77 P Pn 22 04 27.0 +0.8
NEO S Sn 22 05 40.8 -1.8
NEO Neokhori 6.70 77 P Pn 22 04 27.0 +0.8
NEO S Sn 22 05 40.8 -1.8
NEO Neokhori 6.70 77 P Pn 22 04 27.0 +0.8
NEO S Sn 22 05 40.8 -1.8
VILL Villia 6.71 86 P Pn 22 04 26.6 +0.3
VILL S Sn 22 05 40.5 -2.3
VILL Villia 6.71 86 P Pn 22 04 26.6 +0.3
VILL S Sn 22 05 40.5 -2.3
BBLS Lazići 6.76 29 ePn Pn 22 04 27.2 +0.1
VAY Valandovo 6.81 59 P Pn 22 04 27.9 +0.2
VAY S Sn 22 05 45.6 +0.3
VAY Valandovo 6.81 59 P Pn 22 04 27.9 +0.2
VAY S Sn 22 05 45.6 +0.3
VAY Valandovo 6.81 59 P Pn 22 04 27.9 +0.2
VAY S Sn 22 05 45.6 +0.3
VAY Valandovo 6.81 59 P Pn 22 04 27.9 +0.2
VAY S Sn 22 05 45.6 +0.3
KYTH Kithira 6.82 103 P Pn 22 04 27.9 +0.1
KYTH Kithira 6.82 103 P Pn 22 04 27.9 +0.1
KYTH Kithira 6.82 103 P Pn 22 04 27.9 +0.1
IVAS Ivanjica 6.84 35 ePn Pn 22 04 29.1 +1.0
CASM Ain Smara 6.88 257 P Pn 22 04 29.6 +0.8
CASM Ain Smara 6.88 257 P Pn 22 04 29.6 +0.8
HORT Hortiatis 6.91 66 P Pn 22 04 29.2 +0.1
HORT S Sn 22 05 46.1 -1.7
HORT Hortiatis 6.91 66 P Pn 22 04 29.2 +0.1
HORT S Sn 22 05 46.1 -1.7
HORT Hortiatis 6.91 66 P Pn 22 04 29.2 +0.1
HORT S Sn 22 05 46.1 -1.7
BLY Banja Luka 6.92 14 ePn Pn 22 04 30.0 +0.9
KNT Kendrikon 6.97 61 P Pn 22 04 29.8 -0.1
KNT S Sn 22 05 47.3 -2.0
KNT Kendrikon 6.97 61 P Pn 22 04 29.8 -0.1
KNT S Sn 22 05 47.3 -2.0
KNT Kendrikon 6.97 61 P Pn 22 04 29.8 -0.1
KNT S Sn 22 05 47.3 -2.0
KNT Kendrikon 6.97 61 P Pn 22 04 29.8 -0.1
KNT S Sn 22 05 47.3 -2.0
CTEI Djebel Teioual 7.01 256 P Pn 22 04 34.0 +3.4
CTEI Djebel Teioual 7.01 256 P Pn 22 04 34.0 +3.4
ATH Athens Observa 7.03 88 P Pn 22 04 30.7 0.0
ATH S Sn 22 05 47.8 -3.0
ATH Athens Observa 7.03 88 P Pn 22 04 30.7 0.0
ATH S Sn 22 05 47.8 -3.0
ATH Athens Observa 7.03 88 P Pn 22 04 30.7 0.0
ATH S Sn 22 05 47.8 -3.0
ATH Athens Observa 7.03 88 P Pn 22 04 30.7 0.0
ATH S Sn 22 05 47.8 -3.0
PLG Polygyros 7.09 68 P Pn 22 04 31.1 -0.5
PLG S Sn 22 05 49.0 -3.3
PLG Polygyros 7.09 68 P Pn 22 04 31.1 -0.5
PLG S Sn 22 05 49.0 -3.3
PLG Polygyros 7.09 68 P Pn 22 04 31.1 -0.5
PLG S Sn 22 05 49.0 -3.3
PLG Polygyros 7.09 68 P Pn 22 04 31.1 -0.5
PLG S Sn 22 05 49.0 -3.3
VLY Voula,Athens 7.10 89 P Pn 22 04 31.3 -0.4
VLY S Sn 22 05 49.3 -3.2
VLY Voula,Athens 7.10 89 P Pn 22 04 31.3 -0.4
VLY S Sn 22 05 49.3 -3.2
VLY Voula,Athens 7.10 89 P Pn 22 04 31.3 -0.4
VLY S Sn 22 05 49.3 -3.2
ANKY Antikythira Is 7.14 105 P Pn 22 04 32.9 +0.7
ANKY Antikythira Is 7.14 105 P Pn 22 04 32.9 +0.7
ANKY Antikythira Is 7.14 105 P Pn 22 04 32.9 +0.7
PTL Penteli 7.14 87 P Pn 22 04 32.4 +0.1
PTL S Sn 22 05 52.1 -1.5
PTL Penteli 7.14 87 P Pn 22 04 32.4 +0.1
PTL S Sn 22 05 52.1 -1.5
PTL Penteli 7.14 87 P Pn 22 04 32.4 +0.1
PTL S Sn 22 05 52.1 -1.5
BARS Barje 7.15 46 ePn Pn 22 04 33.4 +1.1
PAIG Paliouri 7.16 72 P Pn 22 04 32.1 -0.3
PAIG S Sn 22 05 50.9 -2.9
PAIG Paliouri 7.16 72 P Pn 22 04 32.1 -0.3
PAIG S Sn 22 05 50.9 -2.9
PAIG Paliouri 7.16 72 P Pn 22 04 32.1 -0.3
PAIG S Sn 22 05 50.9 -2.9
PAIG Paliouri 7.16 72 P Pn 22 04 32.1 -0.3
PAIG S Sn 22 05 50.9 -2.9
SOH Sokhos 7.16 65 P Pn 22 04 33.0 +0.4
SOH Sokhos 7.16 65 P Pn 22 04 33.0 +0.4
SOH Sokhos 7.16 65 P Pn 22 04 33.0 +0.4
SOH Sokhos 7.16 65 P Pn 22 04 33.0 +0.4
DIVS Divibare 7.19 31 P Pn 22 04 32.3 -0.7
DIVS S Sn 22 05 55.4 +0.6
DIVS Divibare 7.19 31 P Pn 22 04 32.3 -0.7
DIVS S Sn 22 05 55.4 +0.6
EREA Eretria 7.19 84 P Pn 22 04 33.4 +0.5
EREA S Sn 22 05 51.9 -2.8
EREA Eretria 7.19 84 P Pn 22 04 33.4 +0.5
EREA S Sn 22 05 51.9 -2.8
GRUS Gruza 7.34 36 ePn Pn 22 04 34.7 -0.2
TEKS Tekeris 7.39 27 ePn Pn 22 04 33.6 -2.1
KKB Krupnik 7.40 57 P Pn 22 04 39.2 +3.4
SRS Serrai 7.44 63 P Pn 22 04 36.6 +0.3
SRS Serrai 7.44 63 P Pn 22 04 36.6 +0.3
SRS Serrai 7.44 63 P Pn 22 04 36.6 +0.3
BOJS Bojanci 7.45 2 ePn Pn 22 04 36.9 +0.5
BOJS Bojanci 7.45 2 iP Pn 22 04 36.9 +0.5
BOJS Bojanci 7.45 2 ePn Pn 22 04 36.9 +0.5
TRUS Trudelj 7.46 33 ePn Pn 22 04 36.7 0.0
OUR Ouranopolis 7.48 69 P Pn 22 04 36.6 -0.2
OUR S Sn 22 05 59.6 -2.1
OUR Ouranopolis 7.48 69 P Pn 22 04 36.6 -0.2
OUR S Sn 22 05 59.6 -2.1
OUR Ouranopolis 7.48 69 P Pn 22 04 36.6 -0.2
OUR S Sn 22 05 59.6 -2.1
OUR Ouranopolis 7.48 69 P Pn 22 04 36.6 -0.2
OUR S Sn 22 05 59.6 -2.1
BOVS Bovan 7.64 41 ePn Pn 22 04 39.2 +0.2
CEY Cerknica 7.68 358 ePn Pn 22 04 40.1 +0.5
NVR Nevrokopi 7.71 62 P Pn 22 04 40.1 0.0
NVR S Sn 22 06 05.8 -1.8
NVR Nevrokopi 7.71 62 P Pn 22 04 40.1 0.0
NVR S Sn 22 06 05.8 -1.8
NVR Nevrokopi 7.71 62 P Pn 22 04 40.1 0.0
MMB Musomiste 7.71 60 P Pn 22 04 41.5 +1.4
VISS Visnje 7.74 0 iPn Pn 22 04 40.8 +0.4
VISS Visnje 7.74 0 iP Pn 22 04 40.8 +0.4
SET Setif 7.74 259 P Pn 22 04 44.0 +3.4
SET Setif 7.74 259 P Pn 22 04 44.0 +3.4
CRES Cresnjev 7.78 3 ePn Pn 22 04 41.7 +0.7
CRES Cresnjev 7.78 3 ePn Pn 22 04 41.7 +0.8
CRES Cresnjev 7.78 3 ePn Pn 22 04 40.7 -0.2
GCIS Gornji Cirnik 7.83 4 ePn Pn 22 04 42.0 +0.4
GCIS Gornji Cirnik 7.83 4 ePn Pn 22 04 42.0 +0.4
JAVS Javornik 7.85 356 iPn Pn 22 04 43.2 +1.2
JAVS Javornik 7.85 356 iP Pn 22 04 43.2 +1.2
ZAPS Zavoj 7.90 46 ePn Pn 22 04 43.7 +1.0
GOLS Golise 7.97 4 ePn Pn 22 04 43.8 +0.2
GOLS Golise 7.97 4 ePn Pn 22 04 43.8 +0.2
LJU Ljubljana 7.98 359 ePn Pn 22 04 43.4 -0.3
VAM Vamos 7.99 106 P Pn 22 04 44.1 +0.2
VAM Vamos 7.99 106 P Pn 22 04 44.1 +0.2
VAM Vamos 7.99 106 P Pn 22 04 44.1 +0.2
VAM Vamos 7.99 106 P Pn 22 04 44.1 +0.2
CRNS Crni Vrh 8.03 357 ePn Pn 22 04 45.1 +0.7
CRNS Crni Vrh 8.03 357 ePn Pn 22 04 45.1 +0.7
SBF Sospel 8.04 318 ePn Pn 22 04 41.2 -3.5
SBF Sospel 8.04 318 eP Pn 22 04 46.7 +2.0
SBF eSn Sn 22 06 07.9 -7.9
comp=Z,22nm,0.7s
SBF Sospel 8.04 318 eP Pn 22 04 46.7 +2.0
GVD Gavdhos 8.14 110 P Pn 22 04 46.1 +0.2
GVD Gavdhos 8.14 110 P Pn 22 04 46.1 +0.2
GVD Gavdhos 8.14 110 P Pn 22 04 46.1 +0.2
KUBS Kucevo 8.18 37 ePn Pn 22 04 44.8 -1.7
LMR La Mourre 8.21 312 ePn Pn 22 04 44.2 -2.7
GORS Gorjuse 8.27 356 ePn Pn 22 04 48.7 +0.8
GORS Gorjuse 8.27 356 ePn Pn 22 04 48.7 +0.9
FRF La Foret Royal 8.28 314 ePn Pn 22 04 45.1 -2.7
FRF eSn Sn 22 06 12.6 -8.7
comp=Z,15nm,0.7s
LIA Limnos Island 8.29 74 P Pn 22 04 48.0 +0.1
LIA Limnos Island 8.29 74 P Pn 22 04 48.0 +0.1
LIA Limnos Island 8.29 74 P Pn 22 04 48.0 +0.1
RZN Rozhen 8.43 61 P Pn 22 04 51.3 +1.2
OBKA Obir 8.45 359 iPn Pn 22 04 51.6 +1.4
comp=Z,15nm,0.8s,SNR=9.7
OBKA Obir 8.45 359 Pn Pn 22 04 51.6 +1.4
comp=Z,15nm,0.8s,SNR=9.7
MDVR Moldovita 8.48 35⇓iP Pn 22 04 47.6 -3.1
IDI Anoyia 8.56 106 Pn Pn 22 04 52.9 +1.1
comp=Z,0.7nm,0.3s,baz=318,slow=18,SNR=6.8
IDI Sn Sn 22 06 20.8 -7.6
comp=Z,8.2nm,0.3s,baz=313,slow=19,SNR=12
MPEP Malo Peshtene 8.60 49 P Pn 22 04 55.0 +2.8
MYKA Terra Mystica 8.61 355 iPn Pn 22 04 52.7 +0.3
comp=Z,12nm,0.9s
MYKA Terra Mystica 8.61 355 Pn Pn 22 04 52.7 +0.3
comp=Z,12nm,0.9s
SOKA Soboth 8.61 1 iPn Pn 22 04 52.6 +0.1
comp=Z,3.9nm,0.9s
SOKA Soboth 8.61 1 Pn Pn 22 04 52.6 +0.1
comp=Z,3.9nm,0.9s
ABTA Abfaltersbach 8.85 350 iPn Pn 22 04 56.6 +0.9
comp=Z,8.6nm,0.8s,SNR=15
ABTA Abfaltersbach 8.85 350 Pn Pn 22 04 56.6 +0.9
comp=Z,8.6nm,0.8s,SNR=15
MBDF Montbardon 8.99 320 eP Pn 22 05 00.0 +2.3
MBDF eSn Sn 22 06 30.5 -8.6
comp=Z,6.8nm,0.5s
MBDF Montbardon 8.99 320 eP Pn 22 05 00.0 +2.3
LAST Lasithi 9.05 105 P Pn 22 04 59.5 +1.0
LAST Lasithi 9.05 105 P Pn 22 04 59.5 +1.0
LAST Lasithi 9.05 105 P Pn 22 04 59.5 +1.0
KBA Koelnbreinsper 9.08 354 iPn Pn 22 05 01.0 +2.0
comp=Z,8.2nm,0.6s
KBA Koelnbreinsper 9.08 354 Pn Pn 22 05 01.0 +2.0
comp=Z,8.2nm,0.6s
BZS Buzias 9.10 32⇑iP Pn 22 04 58.7 -0.3
BZS Buzias 9.10 32 ⇑P Pn 22 04 58.7 -0.3
BZS Buzias 9.10 32⇑iP Pn 22 04 58.7 -0.3
ALN Alexandroupoli 9.14 68 P Pn 22 04 59.6 0.0
ALN Alexandroupoli 9.14 68 P Pn 22 04 59.6 0.0
ALN Alexandroupoli 9.14 68 P Pn 22 04 59.6 0.0
ALN Alexandroupoli 9.14 68 P Pn 22 04 59.6 0.0
SMRF Simiane la Rot 9.14 313 ePn Pn 22 04 57.1 -2.6
ARSA Arzberg 9.20 3 iPn Pn 22 05 00.0 -0.5
comp=Z,5.0nm,0.9s
ARSA Arzberg 9.20 3 Pn Pn 22 05 00.0 -0.5
comp=Z,5.0nm,0.9s
GZR Gura Zlata 9.44 37⇓iP Pn 22 05 03.9 +0.1
GZR Gura Zlata 9.44 37 ⇓P Pn 22 05 03.9 +0.1
DAVOX Davos/Dischmat 9.44 339 Pn Pn 22 05 07.8 +3.9
comp=Z,0.4nm,0.3s,baz=151,slow=14,SNR=17
DAVOX LR LR 22 08 56.6
comp=Z,1μm,21.4s,baz=162,slow=39
FETA Feichten 9.45 343 iPn Pn 22 05 06.4 +2.4
comp=Z,18nm,1.0s,SNR=14
FETA Feichten 9.45 343 Pn Pn 22 05 06.4 +2.4
comp=Z,18nm,1.0s,SNR=14
WTTA Wattenberg 9.49 347 iPn Pn 22 05 08.5 +3.9
comp=Z,9.9nm,0.7s
LPG La Plagne 9.56 324 eP Pn 22 05 09.8 +4.2
WATA Walderalm 9.57 347 iP Pn 22 05 09.4 +3.8
comp=Z,13nm,0.8s,SNR=11
ORIF Oris-en-Rattie 9.58 318 eP Pn 22 05 07.8 +2.1
ORIF Oris-en-Rattie 9.58 318 eP Pn 22 05 07.8 +2.1
LPL La Plagne 9.58 324 eP Pn 22 05 09.8 +3.9
SIRR Siria 9.65 30⇑iP Pn 22 05 08.1 +1.5

SIRR Siria 9.65 30⇑ *i*P Pn **22 05 08.1 +1.5**
EMHD Djebel Mahouad 9.65 263 P Pn 22 05 14.0 +7.2
MOTA Moosalm 9.67 345 *i* P Pn **22 05 10.1 +3.1**
comp=Z,13nm,0.8s,SNR=23
MOTA Moosalm 9.67 345 P Pn **22 05 10.1 +3.1**
comp=Z,13nm,0.8s,SNR=23
ZIMR 9.75 52⇑ *i*P Pn **22 05 07.3 -0.7**
ZIMR 9.75 52 ⇑P Pn **22 05 07.3 -0.7**
RSL Roselend 9.76 324 *e*P Pn **22 05 08.4 +0.1**
RSL Roselend 9.76 324 *e*P Pn **22 05 08.4 +0.1**
MOA Molln 9.79 358 *i* Pn Pn **22 05 09.8 +1.2**
comp=Z,16nm,0.7s,SNR=19
MOA Molln 9.79 358 Pn Pn **22 05 09.8 +1.2**
comp=Z,16nm,0.7s,SNR=19
CONA Conrad Observa 9.89 4 *i* Pn Pn **22 05 10.3 +0.3**
comp=Z,6.5nm,0.8s,SNR=8.5
CONA Conrad Observa 9.89 4 Pn Pn **22 05 10.3 +0.3**
comp=Z,6.5nm,0.8s,SNR=8.5
DAVA Damuels 9.91 340 *i* Pn Pn **22 05 12.8 +2.6**
comp=Z,34nm,1.3s,SNR=5.5
DAVA Damuels 9.91 340 Pn Pn **22 05 12.9 +2.6**
comp=Z,34nm,1.3s,SNR=5.5
LOT Lotru 9.96 39⇓ *i*P Pn **22 05 11.2 +0.2**
HUMR Humele 10.01 47⇑ *i*P Pn **22 05 12.3 +0.7**
HUMR Humele 10.01 47⇑ *i*P Pn **22 05 12.3 +0.7**
VIVF Saint-Julien-l 10.19 315 *e*P Pn **22 05 15.9 +1.8**
VIVF Saint-Julien-l 10.19 315 *e*P Pn **22 05 15.9 +1.8**
LASF Ste Croix 10.22 309 *e*Pn Pn **22 05 10.6 -3.8**
LASF Ste Croix 10.22 309 *e*P Pn **22 05 16.9 +2.5**
LASF Ste Croix 10.22 309 *e*P Pn **22 05 16.9 +2.5**
OG01 Vacheresse 10.22 327 *e*P Pn **22 05 15.4 +0.8**
OG01 Vacheresse 10.22 327 *e*P Pn **22 05 15.4 +0.8**
MTUR Matau 10.49 44⇓ *i*P Pn **22 05 19.4 +1.2**
MTUR Matau 10.49 44 ⇓P Pn **22 05 19.4 +1.2**
DRGR 10.49 31⇑ *i*P Pn **22 05 18.7 +0.5**
DRGR 10.49 31 ⇑P Pn **22 05 18.7 +0.5**
DRGR 10.49 31⇑ *i*P Pn **22 05 18.7 +0.5**
PSZ Piszkesteto 10.53 19⇑ *i*P Pn **22 05 20.3 +1.6**
PSZ Piszkesteto 10.53 19 ⇑P Pn **22 05 20.3 +1.6**
PSZ Piszkesteto 10.53 19⇑ *i*P Pn **22 05 20.3 +1.6**
VOIR 10.62 43⇑ *i*P Pn **22 05 20.9 +1.0**
VOIR 10.62 43 ⇑P Pn **22 05 20.9 +1.0**
CABF La Chapelle 10.70 326 *e*P Pn **22 05 23.7 +2.6**
CABF La Chapelle 10.70 326 *e*P Pn **22 05 23.7 +2.6**
EBNR Beni Rached 10.74 265 P Pn 22 05 16.3 -5.4
CJR Cluj-Napoca 10.81 34⇑ *i*P Pn **22 05 24.9 +2.4**
CJR Cluj-Napoca 10.81 34 ⇑P Pn **22 05 24.9 +2.4**
CJR Cluj-Napoca 10.81 34⇑ *i*P Pn **22 05 24.9 +2.4**
GERES GERESS Array B 10.81 356 Pn Pn **22 05 22.4 -0.2**
comp=Z,0.3nm,0.8s,baz=171,slow=12,SNR=27
GERES LR LR 22 10 12.0
comp=Z,977nm,18.7s,baz=158,slow=41
BBS Basel-Blauen 10.82 333 *e*P Pn **22 05 24.5 +1.9**
VYHS Vyhne 10.83 14 *e*P Pn **22 05 25.3 +2.5**
VYHS Vyhne 10.83 14 *e*Pn Pn **22 05 25.3 +2.5**
VYHS Vyhne 10.83 14 *e*PN Pn **22 05 25.2 +2.5**
ECHA Ech Chlef 10.91 264 P Pn 22 05 17.7 -6.1
MTLF Montolieu 10.91 303 *e*Pn Pn **22 05 20.4 -3.6**
MTLF Montolieu 10.91 303 *e*P Pn **22 05 25.2 +1.2**
MTLF Montolieu 10.91 303 *e*P Pn **22 05 25.2 +1.2**
SECR 10.94 47⇑ *i*P Pn **22 05 26.3 +2.1**
SECR 10.94 47 ⇑P Pn **22 05 26.3 +2.1**
SPAK Spaichingen-Ko 10.96 338 *e*P Pn **22 05 27.6 +3.0**
LOMF Lomont 10.98 330 *e*P Pn **22 05 26.1 +1.2**
LOMF Lomont 10.98 330 *e*P Pn **22 05 26.1 +1.2**
FELD Feldberg im Sc 11.00 335 *e*P Pn **22 05 26.8 +1.6**
KHC Kasperske Hory 11.10 356 *e*P Pn **22 05 25.9 -0.7**
KHC *ex* x 22 05 30.8
KHC AMS AMS 22 10 10.0
comp=Z,1μm,14.2s
KHC Kasperske Hory 11.10 356 *e*P Pn **22 05 25.9 -0.7**
KHC MLR MLR
comp=Z,1μm,14.2s
KHC Kasperske Hory 11.10 356 P Pn **22 05 25.9 -0.7**
KHC Kasperske Hory 11.10 356 *e*Pn Pn **22 05 25.8 -0.7**
comp=Z,3.6nm,0.9s
MLR Muntele Rosu 11.14 45 Pn Pn **22 05 28.5 +1.3**
comp=Z,0.1nm,0.3s,baz=238,slow=9.5,SNR=16
MLR LR LR 22 10 49.1
comp=Z,154nm,18.1s,baz=240,slow=43
MLR Muntele Rosu 11.14 45⇑ *i*P Pn **22 05 28.3 +1.2**
MLR Muntele Rosu 11.14 45 ⇑P Pn **22 05 28.3 +1.2**
DOPR Dopca 11.14 41⇑ *i*P Pn **22 05 27.8 +0.7**
DOPR Dopca 11.14 41⇑ *i*P Pn **22 05 27.8 +0.7**
EANR 'Ain N'Sour 11.16 263 P Pn 22 05 18.5 -9.0
ETRT Tiaret 11.17 260 P Pn 22 05 21.3 -6.2
KECS Kecovo 11.21 20 *e*P Pn **22 05 31.2 +3.3**
KECS Kecovo 11.21 20 *e*PN Pn **22 05 31.2 +3.3**
LBL Lubilhac 11.23 313 *e*P Pn **22 05 25.2 -3.1**
TREC Trest 11.24 2 *e*P Pn **22 05 28.6 +0.2**
TREC AMS AMS 22 10 20.0
comp=Z,1μm,14.4s
TREC Trest 11.24 2 *e*P Pn **22 05 28.6 +0.2**
TREC MLR MLR
comp=Z,1μm,14.4s
TREC Trest 11.24 2 P Pn **22 05 28.6 +0.2**
ISR Istrita 11.26 48⇑ *i*P Pn **22 05 29.6 +0.9**
ISR Istrita 11.26 48 ⇑P Pn **22 05 29.6 +0.9**
ISR Istrita 11.26 48⇑ *i*P Pn **22 05 29.6 +0.9**
MOF Molkenrain 11.28 333 *e*P Pn **22 05 30.1 +1.1**
MOF Molkenrain 11.28 333 *e*P Pn **22 05 30.1 +1.1**
BFO Black Forest 11.30 337 *e*P Pn **22 05 28.7 -0.5**
BFO pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 11.30 337 *e*Pn Pn **22 05 28.7 -0.5**
comp=Z,10.0nm,0.8s
BFO Black Forest 11.30 337 *e*Pn Pn **22 05 28.7 -0.5**
comp=Z,10.0nm,0.8s
VRAC Vranov 11.32 6 Pn Pn **22 05 30.8 +1.3**
comp=Z,0.1nm,0.3s,baz=204,slow=17,SNR=3.3
VRAC LR LR 22 10 24.9
comp=Z,318nm,21.0s,baz=198,slow=40
VRAC Vranov 11.32 6 *e*Pn Pn **22 05 29.7 +0.2**
HINF Hinteralfeld 11.36 332 *e*P Pn **22 05 30.8 +0.8**
HINF Hinteralfeld 11.36 332 *e*P Pn **22 05 30.8 +0.8**
ARCR ARCALIA 11.43 35⇓ *i*P Pn **22 05 32.1 +1.1**
ARCR ARCALIA 11.43 35⇓ *i*P Pn **22 05 32.1 +1.1**
PLDF La Plantade 11.47 317 *e*P Pn **22 05 29.2 -2.4**
BMR Baia Mare 11.52 31⇑ *i*P Pn **22 05 33.0 +0.8**
BMR Baia Mare 11.52 31 ⇑P Pn **22 05 33.1 +0.8**
BMR Baia Mare 11.52 31⇑ *i*P Pn **22 05 33.0 +0.8**
PSN Preselentsi 11.57 57⇑ *i*P Pn **22 05 33.4 +0.5**
PSN Preselentsi 11.57 57 ⇑P Pn **22 05 33.4 +0.5**
PSN Preselentsi 11.57 57⇑ *i*P Pn **22 05 33.4 +0.5**
ECH Echery 11.58 334 *e*P Pn **22 05 35.3 +2.2**
ECH Echery 11.58 334 *e*P Pn **22 05 35.3 +2.2**
LANS Liptovska Anna 11.59 15 *e*P Pn **22 05 37.5 +4.4**
LANS Liptovska Anna 11.59 15 *e*PN Pn **22 05 37.5 +4.4**
PYM Petit Puy Mans 11.67 315 *e*P Pn **22 05 31.3 -3.0**
HAU Haudompre 11.70 331 *e*P Pn **22 05 35.6 +0.9**
HAU Haudompre 11.70 331 *e*P Pn **22 05 35.6 +0.9**
CDF Champ du Feu 11.71 334 *e*Pn Pn **22 05 30.9 -4.0**
PLOR Plostina 11.75 45⇓ *i*P Pn **22 05 36.7 +1.3**
PLOR Plostina 11.75 45 ⇓P Pn **22 05 36.7 +1.3**
PLOR Plostina 11.75 45⇓ *i*P Pn **22 05 36.7 +1.3**
CAF Calviac 11.76 310 *e*Pn Pn **22 05 32.0 -3.5**
CAF Calviac 11.76 310 *e*P Pn **22 05 37.8 +2.3**
CAF Calviac 11.76 310 *e*P Pn **22 05 37.8 +2.3**
AGO Saint Agoulin 11.79 316 *e*P Pn **22 05 34.1 -1.8**
GOPC GO Pecny, Ondr 11.85 360 AMS AMS 22 10 40.0
comp=Z,1μm,13.4s
MORC Moravsky Berou 11.88 9⇓ *i*P Pn **22 05 36.7 -0.4**
MORC Moravsky Berou 11.88 9 ⇓P Pn **22 05 36.7 -0.4**
MORC Moravsky Berou 11.88 9⇓ *i*P Pn **22 05 36.7 -0.4**
UZH Uzhgorod 11.88 25 *e*P Pn **22 05 39.0 +1.9**
UZH *e*S Sn **22 07 51.4 +1.7**
UZH MLR MLR
comp=N,1μm,11.0s
UZH MLR MLR
comp=E,2μm,11.0s
UZH MLR MLR
comp=Z,980nm,11.0s
GRFO Grafenberg 11.91 349 *e*P Pn **22 05 38.4 +0.9**
GRFO pmax pmax
comp=Z,153nm,1.6s
GRFO Grafenberg 11.91 349 *e*Pn Pn **22 05 38.4 +0.9**
comp=Z,153nm,1.6s
GRFO Grafenberg 11.91 349 *e*Pn Pn **22 05 38.4 +0.9**
comp=Z,153nm,1.6s
PRU Pruhonice 11.93 359 *e*P Pn **22 05 38.0 +0.2**
PRU AMS AMS 22 10 30.0
comp=Z,1μm,14.5s
PRU Pruhonice 11.93 359 *e*P Pn **22 05 38.0 +0.2**
PRU MLR MLR
comp=Z,1μm,14.5s
PRU Pruhonice 11.93 359 P Pn **22 05 38.0 +0.2**
OKC Ostrava-Krasne 12.02 10 *e*P Pn **22 05 38.9 -0.1**
OKC *ex* x 22 05 43.5
OKC AMS AMS 22 11 10.0
comp=Z,900nm,12.9s
OKC Ostrava-Krasne 12.02 10 *e*P Pn **22 05 38.9 -0.1**
OKC MLR MLR
comp=Z,900nm,12.9s
OKC Ostrava-Krasne 12.02 10 P Pn **22 05 38.9 -0.1**
LANF Langenberg 12.04 337 *e*P Pn **22 05 41.3 +2.0**
LANF Langenberg 12.04 337 *e*P Pn **22 05 41.3 +2.0**
TIRR Tirgusor 12.06 54⇓ *i*P Pn **22 05 36.3 -3.3**
TIRR Tirgusor 12.06 54 ⇓P Pn **22 05 36.3 -3.3**
KOLS Kolonicke sedl 12.14 24 *e*P Pn **22 05 42.3 +1.7**
KOLS Kolonicke sedl 12.14 24 *e*Pn Pn **22 05 42.3 +1.7**
KOLS Kolonicke sedl 12.14 24 *e*PN Pn **22 05 42.3 +1.7**
TESR Tescani 12.16 42⇑ *i*P Pn **22 05 41.0 0.0**
TESR Tescani 12.16 42 ⇑P Pn **22 05 41.0 0.0**
BURAR Bucovina Array 12.22 35⇓ *i*P Pn **22 05 42.7 +0.9**
BURAR Bucovina Array 12.22 35 ⇓P Pn **22 05 42.7 +0.9**
BURAR Bucovina Array 12.22 35⇓ *i*P Pn **22 05 42.7 +0.9**
LOR Lormes 12.22 322 *e*P Pn **22 05 43.5 +1.7**
LOR Lormes 12.22 322 *e*P Pn **22 05 43.5 +1.7**
CFR Carcaliu 12.24 50⇑ *i*P Pn 22 05 46.9 +4.9
CFR Carcaliu 12.24 50 ⇑P Pn 22 05 46.9 +4.9
BGF Bois d'Agland 12.26 318 *e*Pn Pn **22 05 38.2 -4.1**
BGF Bois d'Agland 12.26 318 *e*P Pn **22 05 44.8 +2.5**
BGF Bois d'Agland 12.26 318 *e*P Pn **22 05 44.8 +2.5**
STHS Stebnicka Huta 12.26 20 *e*P Pn 22 05 49.0 +6.6
STHS Stebnicka Huta 12.26 20 *e*PN Pn 22 05 49.0 +6.6
RJF Les Rejaudoux 12.29 310 *e*P Pn **22 05 44.9 +2.2**
RJF Les Rejaudoux 12.29 310 *e*P Pn **22 05 44.9 +2.2**
NKC Novy Kostel 12.29 353 *e*P Pn **22 05 44.9 +2.2**
NKC *ex* x 22 05 49.9
NKC AMS AMS 22 11 00.0
comp=Z,1μm,17.4s
NKC Novy Kostel 12.29 353 *e*P Pn **22 05 44.9 +2.2**
NKC MLR MLR
comp=Z,1μm,17.4s
NKC Novy Kostel 12.29 353 P Pn **22 05 44.9 +2.2**
TOD Tromm 12.32 341 *e*P Pn **22 05 46.3 +3.1**
DPC Dobruska-Polom 12.34 5 *e*P Pn **22 05 45.4 +2.0**
DPC *ex* x 22 05 50.2
DPC AMS AMS 22 11 50.0
comp=Z,600nm,8.8s
DPC Dobruska-Polom 12.34 5 *e*P Pn **22 05 45.4 +2.0**
DPC MLR MLR
comp=Z,600nm,8.8s
DPC Dobruska-Polom 12.34 5 P Pn **22 05 45.4 +2.0**
SFTF Sexfontaines 12.39 328 *e*P Pn **22 05 45.2 +1.1**
SFTF Sexfontaines 12.39 328 *e*P Pn **22 05 45.2 +1.1**
PVCC Panska Ves 12.47 359 AMS AMS 22 11 00.0
comp=Z,1μm,15.7s
UPC Upice 12.47 4 AMS AMS 22 13 40.0
comp=Z,600nm,10.1s
BRG Berggiesshubel 12.83 358 *e*P Pn **22 05 50.2 +0.1**
comp=Z,3.9nm,1.1s
BRG S Sn 22 08 30.0 +17
comp=N,736nm,11.3s
comp=E,475nm,12.9s
comp=Z,1μm,11.7s
BRG Berggiesshubel 12.83 358 *e*P Pn **22 05 50.2 +0.1**
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG MLR MLR
comp=N,736nm,11.3s
BRG MLR MLR
comp=E,475nm,12.9s
BRG MLR MLR
comp=Z,1μm,11.7s
KWP Kalwaria Pacla 12.88 24⇑ *i*P Pn 22 05 57.8 +6.9
KWP Kalwaria Pacla 12.88 24 ⇑P Pn 22 05 57.8 +6.9
RUP Ruppelstein 12.90 337 *e*P Pn **22 05 52.6 +1.5**
CLL Collm 13.31 355 *i* P Pn **22 05 59.1 +2.5**
CLL comp=Z,15nm,1.1s Lm MLR 22 11 00.0
comp=Z,900nm,18.0s
CLL Collm 13.31 355 *i* P Pn **22 05 59.1 +2.5**
CLL pmax pmax
comp=Z,15nm,1.1s
CLL MLR MLR
comp=Z,900nm,18.0s
LVV L'vov 13.49 26 *e*P P **22 06 03.9 -4.5**
LVV MLR MLR
comp=Z,600nm,11.0s
LVV MLR MLR
comp=N,600nm,10.0s
LVV MLR MLR
comp=E,300nm,10.0s
DOU Dourbes 14.08 332 P Pn **22 06 08.8 +1.7**
comp=Z,8.5nm,1.7s
BCLA Clavier 14.10 334 P Pn **22 06 09.6 +2.2**
comp=Z,20nm,2.4s
SORM Soroca 14.10 40⇓ *i*P P **22 06 17.8 +2.7**
SORM Soroca 14.10 40 ⇓P P **22 06 17.8 +2.7**
ESDC Sonseca Array 14.72 282 Pn Pn **22 06 16.3 +0.3**
comp=Z,0.2nm,0.3s,baz=94,slow=12,SNR=5.8
BRTR Keskin Array B 14.76 78 Pn P **22 06 19.9 -2.9**
comp=Z,0.1nm,0.3s,baz=269,slow=10,SNR=6.2
BRTR LR LR 22 13 24.4
comp=Z,259nm,21.7s,baz=266,slow=43
KIEV Kiev 16.25 34 *e*P Pn **22 06 35.5 -0.5**
KIEV pmax pmax
comp=Z,20nm,1.2s
KIEV Kiev 16.25 34 *e*Pn Pn **22 06 35.5 -0.5**
comp=Z,20nm,1.2s
KIEV Kiev 16.25 34 *e*Pn Pn **22 06 35.5 -0.5**
comp=Z,20nm,1.2s
AKASG Malin Array Be 16.27 34 Pn Pn **22 06 35.4 -0.8**
comp=Z,0.5nm,0.3s,baz=228,slow=12,SNR=9.1
AKASG LR LR 22 14 20.2
comp=Z,232nm,20.4s,baz=210,slow=42
MDT Midelt 16.66 258 Pn Pn **22 06 42.3 +0.8**
comp=Z,0.1nm,0.3s,baz=70,slow=8.9,SNR=6.8
MDT LR LR 22 14 06.9
comp=Z,520nm,18.3s,baz=54,slow=41
PBRG Braganca 16.94 290 *e*P P **22 06 48.4 +1.6**
comp=Z,36nm,1.6s
PBRG Braganca 16.94 290 *e*P P **22 06 48.4 +1.6**
BSD Bornholm Skovb 17.06 0 *i* P P **22 06 52.1 +4.1**
BSD Bornholm Skovb 17.06 0 *i* P P **22 06 52.1 +4.1**
BSD *i* S S **22 10 13.5 +7.9**
PBAR Barrancos 17.20 277 *e*P P **22 06 53.0 +3.4**
comp=Z,39nm,1.3s
PBAR Barrancos 17.20 277 *e*P P **22 06 53.0 +3.4**
PMRV Marv??o 17.37 281 *e*P P **22 06 53.0 +1.4**
comp=Z,29nm,2.3s
PMRV Marv??o 17.37 281 *e*P P **22 06 53.0 +1.4**
PCBR Castelo Branco 17.43 283 *e*P P **22 06 58.2 +6.1**
MTE Manteigas 17.47 285 *e*S S **22 10 21.6 +7.2**
MMAI Mount Meron Ar 17.49 101 P Pn **22 06 49.5 -2.3**
comp=Z,0.8nm,0.3s,baz=305,slow=14,SNR=2.8
MMAI S Sn 22 09 49.3 -17
comp=Z,2.0nm,0.3s,baz=300,slow=22,SNR=5.2
PESTR Estremoz 17.56 280 *e*P P **22 06 53.5 -0.2**
comp=Z,27nm,1.4s
PESTR Estremoz 17.56 280 *e*P P **22 06 53.5 -0.2**
PVRL Vila Real 17.63 288 *e*P P **22 06 57.9 +3.4**
comp=Z,32nm,1.3s
POLO Lamas de Olo 17.69 288 *e*P P **22 06 58.0 +2.8**
comp=Z,18nm,1.9s
POLO Lamas de Olo 17.69 288 *e*P P **22 06 58.0 +2.8**
COP Copenhagen 17.71 356 *i* P P **22 07 00.0 +4.9**
COP Copenhagen 17.71 356 *i* P P **22 07 00.0 +4.9**
COP *i* S S **22 10 23.2 +4.5**
PVAQ Vaqueiros 17.83 275 *e*S S **22 10 22.9 +1.3**
PVAQ Vaqueiros 17.83 275 *e*S S **22 10 22.9 +1.3**
PGAV Gavieira, Arco 18.09 290 *e*S S **22 10 32.7 +5.7**
PTOM Tomar 18.15 282 *e*P P **22 07 01.5 +1.3**
comp=Z,41nm,1.4s
PTOM Tomar 18.15 282 *e*P P **22 07 01.5 +1.3**
MESJ Messejana 18.16 276 *e*P Pn **22 06 58.8 -1.2**
MESJ AMS AMS 22 12 41.5
comp=N,313nm,19.0s
MORF Marmelete 18.58 275 *e*P P **22 07 03.7 -1.2**
MORF AMS AMS 22 15 04.9
comp=N,353nm,19.0s
EIL Elat 18.68 111 P Pn **22 07 07.8 +1.5**
comp=N,0.5nm,0.3s,baz=291,slow=11,SNR=6.0
EIL S Sn 22 10 17.0 -18
comp=N,1.6nm,0.3s,baz=247,slow=18,SNR=8.0
EIL LR LR 22 15 60.0
comp=N,75nm,21.4s,baz=338,slow=42
MUD Monsted U'grnd 18.79 350 *i* P Pn **22 07 10.7 +3.3**
MUD Monsted U'grnd 18.79 350 *i* P Pn **22 07 10.7 +3.3**
ASF Jabal al Asfar 18.98 101 P Pn **22 07 11.1 +1.0**
comp=N,0.1nm,0.3s,baz=288,slow=13,SNR=2.0
ASF S Sn 22 10 27.1 -16
comp=N,0.2nm,0.3s,baz=253,slow=20,SNR=3.2
EKA Eskdalemuir Ar 21.11 331 P P **22 07 32.5 +0.1**
comp=N,5.4nm,0.6s,baz=144,slow=12,SNR=27
ESK Eskdalemuir 21.12 331 *e*P P **22 07 31.3 -1.1**
ESK pmax pmax
comp=Z,7.0nm,0.6s
ESK Eskdalemuir 21.12 331 *e*P P **22 07 31.3 -1.1**
comp=Z,7.5nm,0.6s
ESK Eskdalemuir 21.12 331 *e*P P **22 07 31.3 -1.1**
comp=Z,7.5nm,0.6s
VSR Storozhevoye 21.63 45 *e*P P **22 07 38.5 +0.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=Z,180nm,13.0s
KIV Kislovodsk 21.79 65 *e*P P **22 07 40.6 +0.8**
KIV *e* 22 11 33.6
KIV pmax pmax
comp=Z,22nm,1.1s
KIV MLR MLR
comp=Z,64nm,15.0s
KIV Kislovodsk 21.79 65 *e*P P **22 07 39.7 -0.1**
comp=Z,23nm,0.9s
KIV Kislovodsk 21.79 65 *e*P P **22 07 39.7 -0.1**
comp=Z,23nm,0.9s
KVAR Kislovodsk Arr 21.79 65 P P **22 07 40.6 +0.7**
comp=Z,10nm,0.9s,baz=242,slow=3.0,SNR=6.4
KBZ Khabaz 21.92 66 P P **22 07 42.5 +1.4**
comp=Z,7.5nm,0.8s,baz=282,slow=8.9,SNR=12
HFS Hagfors 22.11 359 P P **22 07 43.0 0.0**
comp=Z,15nm,0.6s,baz=167,slow=7.0,SNR=32
HFS LR LR 22 17 20.5
comp=Z,383nm,18.6s,baz=186,slow=39
GOF Gofitskoye 22.18 63*ce*P P **22 07 44.2 +0.3**
OBN Obninsk 22.53 34 P P **22 07 46.3 -1.2**
comp=Z,3.4nm,0.4s,baz=198,slow=20,SNR=2.6
OBN LR LR 22 17 03.1
comp=Z,193nm,18.8s,baz=260,slow=38
OBN Obninsk 22.53 34⇑ *e*P P **22 07 46.3 -1.2**
OBN *e* 22 08 14.3
OBN *i* S S **22 11 53.0 -1.5**
OBN pmax pmax
comp=Z,8.0nm,1.1s
OBN MLR MLR
comp=Z,190nm,19.0s
ZEI Tsey 22.59 69 *e*P P **22 07 53.4 +4.9**
ZEI pmax pmax
comp=Z,54nm,1.1s
VRH Novokhopyorsk 23.07 47 *e*P P **22 07 53.9 +0.7**
VRH pmax pmax
comp=Z,30nm,1.0s
VRH MLR MLR
comp=Z,100nm,11.0s
NB2 NORSAR Subarra 23.11 356 P P **22 07 53.2 -0.5**
comp=Z,20nm,1.1s,baz=169,slow=11
NB2 NORSAR Subarra 23.11 356 P P **22 07 53.2 -0.5**
comp=Z,20nm,1.1s,SNR=0.6
NOA NORSAR Array B 23.11 356 P P **22 07 53.6 -0.1**
comp=Z,3.0nm,0.7s,baz=171,slow=8.6,SNR=9.5
NOA LR LR 22 18 08.8
comp=Z,462nm,18.2s,baz=175,slow=40
GNI Garni 23.27 75 P P **22 07 55.4 -0.2**
comp=Z,11nm,0.9s,baz=308,slow=8.7,SNR=4.0
GNI LR LR 22 19 01.4
comp=Z,139nm,19.2s,baz=274,slow=42
FINES FINESS Array B 24.44 13 P P **22 08 05.1 -1.3**
comp=Z,24nm,0.9s,baz=177,slow=7.6,SNR=20
FINES LR LR 22 18 36.8
comp=Z,207nm,19.4s,baz=250,slow=39
TORD Torodi Ar. Bea 27.42 209 P P **22 08 32.8 -1.0**
comp=Z,3.0nm,1.0s,baz=26,slow=8.3,SNR=8.6
TORD LR LR 22 20 36.7
comp=Z,335nm,19.4s,baz=15,slow=39
ARCES ARCESS Array B 32.06 7 P P **22 09 14.6 +0.2**
comp=Z,1.6nm,0.8s,baz=176,slow=7.3,SNR=6.7
ARCES LR LR 22 23 41.5
comp=Z,374nm,18.0s,baz=196,slow=39
AKTO Aktyubinsk 32.87 54 P P **22 09 23.4 +1.7**
comp=Z,1.3nm,0.5s,baz=259,slow=8.3,SNR=4.1
AKTO LR LR 22 26 07.1
comp=Z,117nm,19.9s,baz=231,slow=42
GEYT Alibeck 33.90 77 P P **22 09 30.9 +0.1**
comp=Z,6.3nm,1.0s,baz=292,slow=7.6,SNR=8.4
GEYT LR LR 22 28 05.2
comp=Z,114nm,18.9s,baz=305,slow=45
ABKAR Akbulak array 34.04 56 *e*P P **22 09 30.9 -0.9**
comp=Z,1.1nm,0.6s
ABKAR Akbulak array 34.04 56 *e*P P **22 09 30.9 -0.9**
comp=Z,1.1nm,0.6s
DBIC Dimbokro 35.98 215 LR LR 22 24 30.6
comp=Z,210nm,18.8s,baz=14,slow=36
SCO Scoresbysund 37.74 341 *e*P P **22 10 04.6 +1.3**
SCO pmax pmax
comp=Z,16nm,1.6s
SCO Scoresbysund 37.74 341 *i* P P **22 10 04.6 +1.3**
comp=Z,16nm,1.6s
SCO Scoresbysund 37.74 341 *e*P P **22 10 04.7 +1.4**
SNR=26
BRVK Borovoye 40.58 50 *e*P P **22 10 27.3 +0.1**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 40.58 50 *e*P P **22 10 27.3 +0.1**
comp=Z,11nm,0.8s
BRVK Borovoye 40.58 50 *e*P P **22 10 27.3 +0.1**
comp=Z,11nm,0.8s
BVAR Borovoye Array 40.64 50 P P **22 10 27.9 +0.1**
comp=Z,0.7nm,0.6s,baz=260,slow=5.7,SNR=5.6
BVAR LR LR 22 28 36.2
comp=Z,122nm,19.2s,baz=256,slow=38
DAG Danmarks Havn 41.49 349 *i* P P **22 10 33.9 -0.6**
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 41.49 349 *i* P P **22 10 33.9 -0.6**
comp=Z,4.4nm,0.9s
KMBO Kilima Mbogo 44.16 147 P P **22 10 57.2 +0.2**
comp=Z,0.5nm,0.3s,baz=354,slow=5.9,SNR=2.4
EKS2 Erkin-Say 44.38 65 *e*P P **22 10 58.7 +0.2**
EKS2 pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 44.38 65 *e*P P **22 10 58.7 +0.2**
comp=Z,4.4nm,0.9s
EKS2 Erkin-Say 44.38 65 *e*P P **22 10 58.7 +0.2**
comp=Z,4.4nm,0.9s
KURBB Kurchatov Arra 45.90 53 P P **22 11 10.4 +0.1**
comp=Z,0.6nm,0.2s,baz=283,slow=8.8,SNR=7.4
KURK Kurchatov 45.94 53 P P **22 11 10.4 -0.2**
KURK Kurchatov 45.94 53 P P **22 11 10.4 -0.2**
KURK Kurchatov 45.94 53 P P **22 11 10.4 -0.2**
SFJD Kangerlussuaq 46.09 330 P P **22 11 11.0 -0.5**
comp=Z,3.9nm,0.4s,baz=103,slow=8.0,SNR=3.5
ZALV Zelesovo Beam 49.10 47 P P **22 11 34.8 -0.3**
comp=Z,1.5nm,0.7s,baz=277,slow=9.3,SNR=7.9
ZALV LR LR 22 34 42.9
comp=Z,86nm,18.8s,baz=250,slow=39
MKAR Makanchi Array 49.17 57 P P **22 11 35.3 -0.6**
comp=Z,1.2nm,0.5s,baz=280,slow=7.0,SNR=13
MKAR LR LR 22 37 25.9
comp=Z,74nm,19.0s,baz=288,slow=42
SCHQ Schefferville 55.45 316 P P **22 12 20.4 -1.9**
comp=Z,4.7nm,0.7s,baz=68,slow=6.6,SNR=5.2
SCHQ LR LR 22 32 58.1
comp=Z,58nm,20.8s,baz=68,slow=33
SONM Songino Array 63.96 49 P P **22 13 21.1 -0.2**
comp=Z,0.9nm,0.8s,baz=293,slow=7.9,SNR=3.6
SONM LR LR 22 43 36.6
comp=Z,102nm,18.2s,baz=330,slow=38
BOSA Boshof 67.04 170 P P **22 13 40.6 -0.5**
comp=Z,3.8nm,0.8s,baz=0.0,slow=6.1,SNR=4.2
BOSA LR LR 22 46 09.9
comp=Z,177nm,19.8s,baz=346,slow=39
YKA Yellowknife Ar 71.88 338 P P **22 14 10.0 -0.6**
comp=Z,1.4nm,0.7s,baz=42,slow=5.1,SNR=9.9
YKA LR LR 22 46 38.0
comp=Z,9.6nm,18.6s,baz=0.0,slow=37
YKA Yellowknife Ar 71.88 338 P P **22 14 10.0 -0.6**
YKA Yellowknife Ar 71.88 338 P P **22 14 10.0 -0.6**
CMAR Chiang Mai Arr 74.35 79 P P **22 14 25.2 -0.7**
comp=Z,1.1nm,0.9s,baz=306,slow=5.8,SNR=5.5
ILAR Eielson Array 76.50 352 P P **22 14 37.1 -0.4**
comp=Z,0.3nm,0.7s,baz=353,slow=5.6,SNR=3.8
ILAR LR LR 22 51 53.3

comp=Z,18nm,19.5s,baz=82,slow=38
USRK Ussuriysk Ar. 80.38 40 LR LR 22 55 07.3
comp=Z,104nm,19.1s,baz=321,slow=39
KSRS Korea Array 82.81 48 LR LR 22 56 36.8
comp=Z,57nm,18.7s,baz=310,slow=39
PETK Petropavlovsk- 83.67 21 LR LR 22 57 22.6
comp=Z,70nm,18.0s,baz=328,slow=39
PDAR Pinedale Array 85.00 322 LR LR 22 52 07.3
comp=Z,60nm,18.7s,baz=44,slow=35
ROSC El Rosal 86.37 273 LR LR 22 49 58.4
comp=Z,49nm,19.6s,baz=246,slow=33
MJAR Matsushiro Arr 89.20 42 LR LR 22 59 12.0
comp=Z,43nm,18.3s,baz=340,slow=38
TXAR Lajitas Array 91.69 310 LR LR 22 56 59.9
comp=Z,68nm,18.0s,baz=0.0,slow=36
CPUP Villa Florida 93.07 239 LR LR 23 00 32.7
comp=Z,63nm,18.0s,baz=60,slow=37
ASAR Alice Springs 126.65 93 PKP **PKPdf 22 21 50.9 -0.8**
comp=Z,0.6nm,0.7s,baz=284,slow=0.9,SNR=6.0

*IDC **23** 22:13:42.7±10.0, 29.°73N×80.°71E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.4/45, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=207.4km s-min=68.6km az=137.0*
*NDI **23** 22:13:45.9±4.7, 30.°02N×80.°54E, h10km, ML3.2*
*ISCJB **23** 22:13:46.7±0.9, 29.°93N±0.°06×80.°61E±0.°07, h23km, mb4.0/3, Error ellipse: s-maj=9.9km s-min=6.4km az=44.0*
ISC 23 22:13:46.7±1.1, 29.°93N±0.°06×80.°61E±0.°07, h23km, n15, σ2s 18/22, mb4.0/3, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joishmath**	**1.10**	**305**	*e*P	**Pb**	**22 14 05.1**	**-1.9**
JOSI				*e*S	**Sb**	**22 14 17.0**	**-4.3**
JOSI				AML	AML	22 14 27.3	
	comp=E,1μm,0.6s						
JOSI				AML	AML	22 14 27.8	
	comp=N,2μm,0.6s						
DDI	**Dehra Dun**	**2.24**	**281**	*e*P	**Pb**	**22 14 24.8**	**-1.8**
DDI				*e*S	**Sn**	**22 14 48.7**	**-0.8**
DDI				IAML		22 14 56.8	
	comp=E,450nm,1.0s						
DDI				IAML		22 14 57.2	
	comp=N,911nm,0.5s						
SMLA	**Simla**	**3.20**	**293**	*e*P	**Pn**	**22 14 36.7**	**+1.2**
SMLA				*e*S	**Sn**	**22 15 12.4**	**-0.5**
SMLA				IAML		22 15 26.1	
	comp=E,311nm,0.5s						
SMLA				IAML		22 15 26.1	
	comp=N,248nm,0.4s						
NDI	**New Delhi**	**3.21**	**248**	*e*P	**Pn**	**22 14 36.0**	**+0.3**
NDI				*ex*	x	22 15 07.0	
SDNR	**Sundarnagar**	**3.50**	**298**	*e*P	**Pb**	**22 14 50.0**	**+2.0**
SDNR				*e*S	**Sb**	**22 15 35.6**	**+5.5**
SONA	**Sohna**	**3.50**	**242**	*e*P	**Pn**	**22 14 41.3**	**+1.5**
SONA				*e*S	**Sn**	**22 15 21.2**	**+0.7**
SONA				IAML		22 15 24.8	
	comp=N,28nm,0.3s						
SONA				IAML		22 15 25.5	
	comp=E,40nm,0.3s						
KUDL	**Kundal**	**4.02**	**245**	*e*P	**Pn**	**22 14 46.7**	**-0.1**
KUDL				*e*S	**Sn**	**22 15 31.1**	**-2.0**
KUDL				IAML		22 15 58.2	
	comp=E,37nm,0.6s						
KUDL				IAML		22 15 58.5	
	comp=N,46nm,0.5s						
KHET	**Khetri**	**4.59**	**247**	*e*P	**Pn**	**22 14 55.0**	**+0.3**
KHET				*e*S	**Sn**	**22 15 46.0**	**-1.3**
KHET				IAML		22 16 18.9	
	comp=E,11nm,0.4s						
KHET				IAML		22 16 18.9	
	comp=N,18nm,0.5s						
THN	**Thein Dam**	**4.88**	**302**	*ex*	**Pb**	**22 15 08.0**	**-3.4**
THN				*ex*	x	22 16 17.0	
BOK	**Bokaro**	**7.71**	**141**	*e*S	**Sn**	**22 17 02.5**	**-1.8**
MKAR	**Makanchi Array**	**16.89**	**4**	P	**P**	**22 17 44.3**	**+0.9**
	comp=N,0.2nm,0.3s,baz=179,slow=13,SNR=10						
KURBB	**Kurchatov Arra**	**20.73**	**356**	P	**P**	**22 18 26.2**	**+0.8**
	comp=N,1.8nm,0.7s,baz=181,slow=10.0,SNR=25						
ZALV	**Zalesovo Beam**	**24.20**	**6**	P	**P**	**22 19 02.2**	**+0.9**
	comp=N,1.1nm,0.4s,baz=193,slow=9.4,SNR=5.0						
FINES	**FINESS Array B**	**47.36**	**328**	P	**P**	**22 22 19.6**	**+1.1**
	comp=N,4.2nm,1.0s,baz=110,slow=10,SNR=7.0						
ARCES	**ARCESS Array B**	**50.26**	**338**	P	**P**	**22 22 42.2**	**+1.4**
	comp=N,0.9nm,0.6s,baz=116,slow=8.2,SNR=7.6						

*ISCJB **23** 22:18:17.5±0.6, 6.°83N±0.°04×73.°04W±0.°04, h155km±5km, Error ellipse: s-maj=9.0km s-min=4.5km az=44.2*
*FUNV **23** 22:18:20.0, 6.°85N×73.°05W, h159km, MW3.2*
*RSNC **23** 22:18:20.0±1.0, 6.°77N×73.°14W, h144km±6km, ML3.0*
ISC 23 22:18:16.6±1.4, 6.°82N±0.°05×73.°05W±0.°05, h163km±8km, n23, σ1s 54/37, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**210**	*i* P	**Pn**	**22 18 39.4**	**+0.4**
BARC				*e*S	**Sn**	**22 18 54.5**	**-1.6**
BARC				*i*		22 18 55.8	
	comp=Z,398nm,0.2s						
GIRC	**Giron, Santand**	**0.29**	**331**	*e*P	**Pn**	**22 18 39.7**	**+0.8**
GIRC				*e*S	**Sn**	**22 18 54.2**	**-1.9**
PAMC	**Pamplona, Colo**	**0.62**	**34**	*e*P	**Pn**	**22 18 42.3**	**+1.6**
PAMC				*e*S	**Sn**	**22 18 59.5**	**+0.3**
BRRC	**Barranca, Sant**	**0.72**	**294**	*i* P	**Pn**	**22 18 41.4**	**+0.7**
BRRC				*e*S	**Sn**	**22 18 58.4**	**-0.6**
BRRC				*i*		22 19 00.2	
	comp=Z,242nm,0.2s						
RUSC	**La Rusia**	**0.92**	**182**	*i* P	**Pn**	**22 18 43.3**	**+0.7**
RUSC				*e*S	**Sn**	**22 19 01.3**	**-1.4**
RUSC				*i*		22 19 02.9	
	comp=Z,90nm,0.3s						
CAPV	**Capacho**	**1.27**	**35**	*e*P	**Pn**	**22 18 47.5**	**+2.2**
CAPV				*e*S	**Sn**	**22 19 07.2**	**-0.2**
OCAC	**Ocana**	**1.44**	**349**	*e*P	**Pn**	**22 18 48.0**	**+1.2**
OCAC				*i*		22 19 13.4	
	comp=Z,109nm,0.2s						
NORC	**Norcasia**	**2.20**	**235**	*e*P	**Pn**	**22 18 55.3**	**+0.4**
CHIC	**Chingaza**	**2.28**	**197**	*e*P	**Pn**	**22 18 56.9**	**+0.7**
CHIC				*e*S	**Sn**	**22 19 27.2**	**+0.4**
CHIC				*i*		22 19 34.7	
	comp=Z,52nm,0.2s						
ROSC	**El Rosal**	**2.34**	**213**	*e*S	**Sn**	**22 19 26.7**	**-1.3**
ROSC				*i*		22 19 33.6	
	comp=Z,114nm,0.7s						
HELC	**Santa Helena**	**2.54**	**256**	*e*P	**Pn**	**22 19 00.2**	**+1.0**
HELC				*e*S	**Sn**	**22 19 31.3**	**-0.9**
HELC				*i*		22 19 39.9	
	comp=Z,47nm,0.1s						
VIGV	**El Vigia**	**2.61**	**40**	*e*P	**Pn**	**22 19 02.0**	**+2.1**
VIGV				*e*S	**Sn**	**22 19 32.3**	**-1.0**
SOCV	**Socops**	**2.62**	**56**	*e*P	**Pn**	**22 19 01.8**	**+2.0**
SOCV				*e*S	**Sn**	**22 19 32.2**	**-1.2**
DBBC	**Dabeiba**	**3.14**	**274**	*e*P	**Pn**	**22 19 07.5**	**+1.1**
TOLC	**Tolima**	**3.17**	**226**	*e*P	**Pn**	**22 19 08.4**	**+1.4**
ELOV	**Elorza**	**3.55**	**87**	*e*P	**Pn**	**22 19 13.6**	**+2.1**
ELOV				*e*S	**Sn**	**22 19 53.0**	**-1.1**
PRAC	**Prado**	**3.58**	**211**	*e*P	**Pn**	**22 19 13.1**	**+1.1**
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P	**Pn**	**22 19 14.6**	**+0.9**
VIRV				*e*S	**Sn**	**22 19 56.1**	**-1.9**
QARV	**Quebrada Arrib**	**4.19**	**36**	*e*P	**Pn**	**22 19 21.5**	**+1.7**
SANV	**Sanarito**	**4.38**	**52**	*e*P	**Pn**	**22 19 23.8**	**+1.5**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**22 19 24.3**	**+1.6**
CURV				*e*S	**Sn**	**22 20 11.7**	**-2.4**
SIQV	**Siquisique**	**4.98**	**40**	*e*P	**Pn**	**22 19 30.5**	**+0.5**
BAUV	**El Baul**	**5.39**	**67**	*e*P	**Pn**	**22 19 35.9**	**+0.4**
BAUV				*e*S	**Sn**	**22 20 33.3**	**-3.9**

IDC 23 22:19:24.0±6.5, 65.°78S×138.°62E, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/20, mbtmp4.0/3, ML4.0/1, Error ellipse: s-maj=655.7km s-min=38.0km az=74.0, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.69**	**159**	Pn	Pn	22 22 39.0	+0.1
	0.7nm,0.3s,baz=316,slow=16,SNR=36						
VNDA				Sn	Sn	22 25 07.6	-3.8
	1.8nm,0.3s,baz=225,slow=21,SNR=11						
H01W1	**Cape Leeuwin H**	**34.17**	**323**	T	T	23 00 56.3	
	baz=164,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**34.17**	**323**	T	T	23 01 01.1	
	baz=164,slow=76,SNR=18						
H01W3	**Cape Leeuwin H**	**34.18**	**323**	T	T	23 00 59.3	
	baz=164,slow=76,SNR=15						
ASAR	**Alice Springs**	**42.22**	**354**	P	P	22 27 18.8	+0.4
	1.7nm,0.8s,baz=173,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**45.90**	**354**	P	P	22 27 47.4	-0.6
	1.0nm,0.5s,baz=181,slow=6.9,SNR=13						

*NIED **23** 22:22:00, 37.°20N×141.°20E, h11km, Mw3.2 Best double couple: M0 7.03000×10^13 NP1:φs 62.00000°, δ 46.00000°, λ -35.00000°. NP2:φs 178.00000°, δ 65.00000°, λ -130.00000°.*
JMA 23 22:22:31.5±0.1, 37.°21N×141.°20E, h22km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.30**	**301**	P	Pb	22 22 38.1	-0.3
JFK				*e*S	Sb	22 22 42.7	-0.4
ONAJ	**Iwakimizuishiy**	**0.34**	**252**	P	Pb	22 22 38.7	-0.2
ONAJ				S	Sb	22 22 43.7	-0.3
JMM	**Marumori**	**0.73**	**334**	P	Pb	22 22 45.1	-0.4
JMM				S	Sb	22 22 55.2	+0.1
JFT	**Otama**	**0.75**	**294**	P	Pb	22 22 46.2	+0.3
JFT				S	Sn	22 22 56.7	-0.9
JHO	**Hitachi**	**0.78**	**220**	P	Pb	22 22 45.2	-1.2
JHO				*e*S	Sb	22 22 56.1	-0.5
JSB	**Shiboa**	**1.05**	**257**	P	Pb	22 22 51.7	+0.7
JSB				S	Sn	22 23 06.0	+1.1
JFY	**Yanaizu**	**1.21**	**280**	P	Pb	22 22 53.9	+0.2
JFY				S	Sb	22 23 10.0	+1.1
MAT	**Matsushiro**	**2.49**	**255**	P	Pn	22 23 12.7	+2.0
MAT				S	Sb	22 23 45.4	-0.4

JMA 23 22:47:16.1, 35.°14N×135.°89E, h11km, M2.8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.42**	**290**	P	Pg	22 47 24.4	-0.1
JWT				S	Sg	22 47 29.9	-0.2
JHE	**Heguri**	**0.51**	**199**	P	Pg	22 47 26.0	-0.1
JHE				S	Sg	22 47 32.8	-0.1
TSUJ	**Tsu 2**	**0.61**	**134**	P	Pg	22 47 27.7	-0.3
TSUJ				S	Sg	22 47 35.7	-0.3
JKY	**Yasaka**	**0.81**	**307**	P	Pg	22 47 31.5	-0.2
JKY				S	Sg	22 47 42.1	-0.1
JKS	**Kasai**	**0.87**	**260**	P	Pg	22 47 32.6	-0.3
JKS				S	Sg	22 47 44.3	0.0
JWY	**Kouya**	**0.95**	**195**	P	Pg	22 47 33.9	-0.5
JWY				S	Sg	22 47 46.1	-0.7
JKN2	**Miekihoku**	**0.95**	**161**	P	Pg	22 47 33.5	-1.0
JKN2				S	Sg	22 47 45.7	-1.2
JIE	**Ise**	**1.00**	**138**	P	Pg	22 47 34.6	-0.8
JIE				S	Sg	22 47 47.4	-1.1
MAT	**Matsushiro**	**2.35**	**53**	P	Pb	22 47 56.8	-1.6
MAT				S	Sg	22 48 29.6	-1.9

MEX 23 22:49:07.8±0.3, 30.°07N×110.°04W, h16km±7km, MD3.8, Sonora

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSIG		**1.31**	**217**	*e*P	Pg	22 49 39.6	+6.5
HSIG				*e*S	Sn	22 49 43.5	-5.0
319A	**Douglas**	**1.46**	**26**	*e*P	Pn	22 49 30.3	-3.3
319A				*e*S	Sn	22 49 47.4	-5.0
CGIG		**1.81**	**80**	*e*P	Pn	22 49 35.2	-3.2
CGIG				*e*S	Sn	22 49 56.5	-4.6

*ISCJB **23** 22:51:33.7±0.8, 38.°46N±0.°06×39.°15E±0.°06, h11km±7km, Error ellipse: s-maj=11.1km s-min=7.6km az=156.9*
*DDA **23** 22:51:33.6, 38.°45N×39.°16E, h7km, Ml2.6*
*CSEM **23** 22:51:33.4±0.2, 38.°47N×39.°12E, h8km, ML2.6, Error ellipse: s-maj=6.7km s-min=4.9km az=144.0*
ISC 23 22:51:33.6±1.1, 38.°47N±0.°05×39.°14E±0.°04, h13km±7km, n10, σ0s 57/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.12**	**281**	P	**Pg**	**22 51 36.9**	**-0.1**
ELZG				S	**Sg**	**22 51 39.5**	**+0.1**
ELZG	**Elazig**	**0.12**	**281**	*i* P	**Pg**	**22 51 36.9**	**-0.1**
ELZG				*i* S	**Sg**	**22 51 39.5**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.16**	**126**	*e*PG	**Pg**	**22 51 37.0**	**-0.5**
SVRC	**Sivrice-ELAZID**	**0.16**	**126**	*e*Pg	**Pg**	**22 51 37.0**	**-0.5**
PTK	**Pertek**	**0.46**	**25**	*e*PG	**Pg**	**22 51 42.5**	**-0.3**
PTK				*e*SG	**Sb**	**22 51 50.2**	**-0.4**
PTK	**Pertek**	**0.46**	**25**	*e*Pg	**Pg**	**22 51 42.5**	**-0.3**
PTK				*e*Sg	**Sb**	**22 51 50.3**	**-0.4**
AKCD	**Akcadag**	**0.97**	**260**	P	**Pg**	**22 51 51.5**	**-0.9**
AKCD				S	**Sg**	**22 52 05.0**	**0.0**
AKCD	**Akcadag**	**0.97**	**260**	*i* P	**Pg**	**22 51 51.5**	**-0.9**
AKCD				*i* S	**Sg**	**22 52 05.0**	**0.0**
URFA	**Urfa**	**1.06**	**194**	*e*PN	**Pn**	**22 51 55.1**	**+0.8**
URFA	**Urfa**	**1.06**	**194**	*e*Pn	**Pn**	**22 51 55.1**	**+0.8**

*LJU **23** 23:03:21.7, 46.°39N×15.°07E, h0km, ML0.4 Rockburst*
CSEM 23 23:03:21.7±99.0, 46.°39N×15.°07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

*ISCJB **23** 23:04:36.8±0.5, 3.°15S±0.°06×140.°68E±0.°08, h10km, mb4.6/14, Error ellipse: s-maj=11.9km s-min=8.1km az=3.0*
*IDC **23** 23:04:37.4±1.2, 3.°25S×140.°84E, h0km, mb3.8/4, mb1 4.2/5, mb1mx3.8/23, mbtmp4.0/5, ML4.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/24, Error ellipse: s-maj=42.0km s-min=9.5km az=85.0*
*NEIC **23** 23:04:39.3±1.3, 3.°12S×140.°67E, h14km±8km, mb4.3/10, Error ellipse: s-maj=9.5km s-min=6.6km az=92.0*
ISC 23 23:04:38.7±0.5, 3.°12S±0.°07×140.°7E±0.°1, h10km, n23, σ0s 84/22, mb4.3/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.61**	**5**	Pg	**Pg**	**23 04 51.2**	**+0.7**
	8.7nm,0.3s,baz=90,slow=20,SNR=221						
JAY				Lg	Lg	23 05 02.3	
	98nm,0.3s,baz=90,slow=20,SNR=85						
PMG	**Port Moresby**	**8.98**	**134**	LR	LR	23 10 43.5	
	comp=Z,105nm,21.0s,baz=328,slow=42						
PMG	**Port Moresby**	**8.98**	**134**	*e*Pn	**Pn**	**23 06 49.6**	**+1.0**
WRAB	**Tennant Creek**	**17.80**	**200**	*e*Pn	**Pn**	**23 08 46.6**	**-0.2**
	8.3nm,0.6s						
WRA	**Warramunga Arr**	**17.82**	**200**	P	**Pn**	**23 08 46.5**	**-0.5**
	1.1nm,0.3s,baz=16,slow=12,SNR=22						
HNR	**Honiara**	**20.17**	**109**	*e*P	**P**	**23 09 13.3**	**-0.3**
	11nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.93**	**224**	P	**P**	**23 09 23.1**	**+1.3**
	4.1nm,0.9s,baz=30,slow=14,SNR=6.2						
ASAR	**Alice Springs**	**21.44**	**197**	P	**P**	**23 09 26.3**	**-1.0**
	3.1nm,0.7s,baz=30,slow=9.9,SNR=33						
MBWA	**Marble Bar**	**27.13**	**227**	*e*P	**P**	**23 10 22.5**	**+0.3**
	8.8nm,0.8s						
KSM	**Kuching**	**30.68**	**278**	*e*P	**P**	**23 10 54.3**	**+0.3**
	0.9nm,0.3s						
MAJO	**Matsushiro**	**39.53**	**357**	*e*P	**P**	**23 12 08.6**	**-1.2**
	2.4nm,0.4s						
COCO	**West Island**	**44.29**	**256**	*e*P	**P**	**23 12 48.9**	**-0.2**
	284nm,0.4s						
ENH	**Enshi**	**44.60**	**320**	*e*P	**P**	**23 12 51.3**	**-0.2**
	1.4nm,0.3s						
RAO	**Raoul Island**	**47.11**	**128**	P	**P**	**23 13 10.8**	**-0.5**
	105nm,0.5s						
TLY	**Talaya**	**62.99**	**335**	*e*P	**P**	**23 15 05.2**	**-0.5**
	0.7nm,0.4s						
MA2	**Magadan**	**63.02**	**6**	*e*P	**P**	**23 15 05.1**	**-0.6**
	9.8nm,0.7s						
YAK	**Yakutsk**	**65.52**	**354**	*e*P	**P**	**23 15 21.5**	**-0.5**
	11nm,0.5s						
MKAR	**Makanchi Array**	**71.31**	**322**	P	**P**	**23 15 59.9**	**+1.2**
	0.6nm,0.7s,baz=107,slow=7.8,SNR=5.1						
BILL	**Bilibino**	**73.23**	**10**	*e*P	**P**	**23 16 09.0**	**-0.6**
	0.8nm,0.5s						
ILAR	**Eielson Array**	**85.41**	**24**	P	**P**	**23 17 17.3**	**+1.1**
	0.4nm,0.5s,baz=264,slow=3.9,SNR=3.4						
PGC	**Sidney**	**96.23**	**42**	*e*P	**P**	**23 18 07.5**	**+0.2**
	17nm,0.5s						
TORD	**Torodi Ar. Bea**	**138.24**	**286**	PKP	**PKPdf**	**23 24 06.6**	**+1.3**
	0.3nm,0.7s,baz=56,slow=1.8,SNR=3.7						
LPAZ	**La Paz**	**145.63**	**125**	PKPbc	**PKPdf**	**23 24 18.1**	**-1.2**
	3.1nm,0.7s,baz=243,slow=2.0,SNR=15						

MAN 23 23:12:28, 5.°30N×125.°81E, h118km, mb4.6, ML3.5, MS3.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.70**	**15**	*e*P	Pn	23 12 59.0	+1.3
MATI				*e*S	Sn	23 13 22.1	+1.9
DMPH	**Davao City--Mi**	**1.80**	**350**	*e*P	Pn	23 13 01.5	+2.6
DMPH				*e*S	Sn	23 13 22.6	+0.1
BUKP	**Musuan**	**2.67**	**344**	*e*P	Pn	23 13 11.1	+1.1
BUKP				*e*S	Sn	23 13 44.3	+2.0

*ISCJB **23** 23:19:19.8±0.3, 44.°32N±0.°02×7.°13E±0.°02, h11km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=140.7*
*ROM **23** 23:19:20.2±0.2, 44.°34N×7.°18E, h8km±1km, Md2.4/12, Ml2.1/11, Error ellipse: s-maj=3.2km s-min=0.9km az=60.0*
*GEN **23** 23:19:20.5, 44.°32N×7.°14E, h8km, ML1.9*
*CSEM **23** 23:19:20.2±0.1, 44.°33N×7.°16E, h10km, ML2.6/14, Error ellipse: s-maj=1.8km s-min=1.3km az=54.0*
*LDG **23** 23:19:20.8±0.1, 44.°32N×7.°17E, h2km, Md2.4/2, Ml2.7/10, Error ellipse: s-maj=2.1km s-min=1.4km az=46.0*
ISC 23 23:19:20.5±0.8, 44.°33N±0.°02×7.°16E±0.°02, h14km±5km, n63, σ0s 69/102, 2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.14**	**125**	*i* Pg	**Pg**	**23 19 24.0**	**-0.2**
STV				Sg	**Sg**	**23 19 26.2**	**-0.6**
	382nm,0.2s						
STV	**Sant Anna di V**	**0.14**	**125**	*i* Pg	**Pg**	**23 19 24.0**	**-0.2**
STV				Sg	**Sg**	**23 19 26.2**	**-0.6**
	382nm,0.2s						
PZZ	**Stroppo**	**0.18**	**349**	Pg	**Pg**	**23 19 24.6**	**-0.3**
PZZ				Sg	**Sg**	**23 19 27.4**	**-0.4**
	436nm,0.2s						
PZZ	**Stroppo**	**0.18**	**349**	P	**Pg**	**23 19 24.6**	**-0.3**
PZZ				S	**Sg**	**23 19 27.2**	**-0.6**
DOI	**San Damiano**	**0.19**	**19**	Pg	**Pg**	**23 19 24.8**	**-0.1**
DOI				Sg	**Sg**	**23 19 27.6**	**-0.3**
	271nm,0.2s						
DOI	**San Damiano**	**0.19**	**19**	Pg	**Pg**	**23 19 24.8**	**-0.1**
DOI				Sg	**Sg**	**23 19 27.6**	**-0.3**
	271nm,0.2s						
ENR	**Entracque**	**0.21**	**119**	Pg	**Pg**	**23 19 25.1**	**-0.2**
ENR				Sg	**Sg**	**23 19 28.4**	**-0.1**
	608nm,0.1s						
ENR	**Entracque**	**0.21**	**119**	P	**Pg**	**23 19 25.1**	**-0.2**
ENR				Sg	**Sg**	**23 19 28.4**	**-0.1**
	608nm,0.1s						
MBDF	**Montbardon**	**0.49**	**325**	*e*Pg	**Pg**	**23 19 29.9**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**23 19 37.2**	**+0.5**
	78nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**0.49**	**325**	*e*Pg	**Pg**	**23 19 29.9**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**23 19 37.2**	**+0.5**
	39nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.51**	**157**	*e*Pg	**Pg**	**23 19 30.3**	**-0.1**
SBF				*e*Sg	**Sg**	**23 19 37.4**	**+0.2**
	37nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.51**	**157**	*e*Pg	**Pg**	**23 19 30.3**	**-0.1**
SBF				*e*Sg	**Sg**	**23 19 37.4**	**+0.2**
	19nm,0.2s,SNR=1.0						
NEGI	**Seborga**	**0.62**	**141**	Pg	**Pg**	**23 19 32.6**	**0.0**
	77nm,0.3s						
NEGI	**Seborga**	**0.62**	**141**	P	**Pg**	**23 19 32.5**	**0.0**
NEGI				S	**Sg**	**23 19 40.8**	**0.0**
RRL	**Rocca Remolon**	**0.65**	**336**	Pg	**Pg**	**23 19 32.7**	**-0.5**
	44nm,0.3s						
RRL	**Rocca Remolon**	**0.65**	**336**	P	**Pg**	**23 19 32.7**	**-0.5**
RRL				S	**Sg**	**23 19 41.4**	**-0.4**
IMI	**Imperia**	**0.67**	**128**	Pg	**Pg**	**23 19 33.5**	**-0.1**
IMI	**Imperia**	**0.67**	**128**	P	**Pg**	**23 19 33.5**	**-0.1**
IMI				S	**Sg**	**23 19 42.1**	**-0.4**
RORO	**Rocca Rossa**	**0.69**	**108**	Pg	**Pg**	**23 19 33.8**	**-0.1**
RORO				Sg	**Sg**	**23 19 43.0**	**+0.2**
	11μm,0.2s						
RORO	**Rocca Rossa**	**0.69**	**108**	P	**Pg**	**23 19 33.7**	**-0.1**
RORO				S	**Sg**	**23 19 42.8**	**0.0**
RSP	**Reno Superiore**	**0.82**	**5**	Pg	**Pg**	**23 19 35.1**	**-1.4**
	16nm,0.1s						
RSP	**Reno Superiore**	**0.82**	**5**	Pg	**Pg**	**23 19 35.1**	**-1.4**
	16nm,0.1s						
RSP	**Reno Superiore**	**0.82**	**5**	P	**Pg**	**23 19 36.0**	**-0.5**
RSP				S	**Sg**	**23 19 46.7**	**-0.6**
FINB	**Finale Ligure**	**0.85**	**100**	Pg	**Pg**	**23 19 36.5**	**-0.4**
	56nm,0.4s						
FINB	**Finale Ligure**	**0.85**	**100**	Pg	**Pg**	**23 19 36.5**	**-0.4**
	56nm,0.4s						
QLNO	**Quiliano**	**0.85**	**90**	Pg	**Pg**	**23 19 36.5**	**-0.4**
	23nm,0.2s						
QLNO	**Quiliano**	**0.85**	**90**	Pg	**Pg**	**23 19 36.5**	**-0.4**
	23nm,0.2s						
FRF	**La Foret Royal**	**0.85**	**206**	*e*Pg	**Pg**	**23 19 36.4**	**-0.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**23 19 47.8**	**-0.4**
	15nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.85**	**206**	*e*Pg	**Pg**	**23 19 36.4**	**-0.6**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**23 19 47.8**	**-0.4**
	7.4nm,0.2s,SNR=1.0						
ROTM	**Rocchetta Tana**	**1.00**	**58**	P	**Pb**	**23 19 40.2**	**+0.7**
ROTM				S	**Sb**	**23 19 52.9**	**+0.4**
PCP	**Piancastagn**	**1.01**	**77**	P	**Pg**	**23 19 39.4**	**-0.6**
PCP				S	**Sg**	**23 19 53.1**	**-0.2**
ORIF	**Oris-en-Rattie**	**1.09**	**303**	*e*Pg	**Pg**	**23 19 40.9**	**-0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**23 19 55.2**	**-0.5**
	11nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.09**	**303**	*e*Pg	**Pg**	**23 19 40.9**	**-0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**23 19 55.2**	**-0.5**
	5.5nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.10**	**206**	*e*Pn	**Pg**	**23

VIVF	**Saint-Julien-I**	**1.85**	**287**	*e*Pn		**Pn**	**23 19 52.4**	**+0.5**
	SNR=1.0							
VIVF				*e*Sn		**Sn**	**23 20 14.9**	**-0.3**
	4.3nm,0.4s,SNR=1.0							
VIVF				*e*Sg		**Sg**	**23 20 19.8**	**-0.3**
	4.0nm,0.4s							
PGF	**Pioggiola**	**2.23**	**142**	*e*Pn		**Pn**	**23 19 57.0**	**0.0**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**23 20 22.7**	**-1.7**
	6.5nm,0.2s,SNR=1.0							
PGF	**Pioggiola**	**2.23**	**142**	*e*Pn		**Pn**	**23 19 57.0**	**0.0**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**23 20 22.7**	**-1.7**
	3.2nm,0.2s,SNR=1.0							
CABF	**La Chapelle**	**2.41**	**342**	*e*Pn		**Pn**	**23 20 00.5**	**+1.0**
	SNR=1.0							
CABF	**La Chapelle**	**2.41**	**342**	*e*Pg		**Pg**	**23 20 06.5**	**-0.1**
	SNR=1.0							
CABF	**La Chapelle**	**2.41**	**342**	*e*Pn		**Pn**	**23 20 00.5**	**+1.0**
	SNR=1.0							
CABF	**La Chapelle**	**2.41**	**342**	*e*Pg		**Pg**	**23 20 06.5**	**-0.1**
	SNR=1.0							
CAF	**Calviac**	**3.69**	**281**	*e*Pn		**Pn**	**23 20 18.0**	**+0.9**
	SNR=1.0							
CAF	**Calviac**	**3.69**	**281**	*e*Pn		**Pn**	**23 20 18.0**	**+0.9**
	SNR=1.0							
MTLF	**Montolieu**	**3.71**	**256**	*e*Pn		**Pn**	**23 20 17.5**	**+0.1**
	SNR=1.0							
MTLF	**Montolieu**	**3.71**	**256**	*e*Pn		**Pn**	**23 20 17.5**	**+0.1**
	SNR=1.0							
HAU	**Haudompre**	**3.72**	**352**	*e*Pn		**Pn**	**23 20 18.9**	**+1.4**
HAU	**Haudompre**	**3.72**	**352**	*e*Pn		**Pn**	**23 20 18.9**	**+1.4**
LOR	**Lormes**	**3.74**	**323**	*e*Pn		**Pn**	**23 20 20.1**	**+2.3**
	SNR=1.0							
LOR	**Lormes**	**3.74**	**323**	*e*Pn		**Pn**	**23 20 20.1**	**+2.3**
	SNR=1.0							
BGF	**Bois d'Agland**	**3.77**	**308**	*e*Pn		**Pn**	**23 20 18.5**	**+0.4**
	SNR=1.0							
BGF	**Bois d'Agland**	**3.77**	**308**	*e*Pn		**Pn**	**23 20 18.5**	**+0.4**
	SNR=1.0							

IDC 23 23:36:40.2±2.3, 2°.88N×128°.67E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/39, mbtmp3.6/3, Error ellipse: s-maj=156.5km s-min=24.9km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.36**	**166**	P	P	23 41 50.4	-0.2
	1.7nm,0.5s,baz=346,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.88**	**169**	P	P	23 42 22.9	-0.1
	0.4nm,0.6s,baz=354,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**59.36**	**325**	P	P	23 46 44.4	+0.1
	0.3nm,0.4s,baz=122,slow=7.6,SNR=7.5						

*NIED **23** 23:40:00, 30°.90N×128°.40E, h5km, Mw4.2 Best double couple: M0 2.48000×10^15 NP1:φs 105.00000°, δ40.00000°, λ -13.00000°. NP2:φs 205.00000°, δ82.00000°, λ -129.00000°.*
*JMA **23** 23:40:16.6±0.2, 30°.92N×128°.37E, h0km, M4.2*
*ISCJB **23** 23:40:17.1±2.1, 30°.88N±0°.05×128°.38E±0°.05, h4km±15km, mb3.7/7, MS3.5/11, Error ellipse: s-maj=8.2km s-min=6.2km az=32.5*
*IDC **23** 23:40:18.4±1.0, 30°.71N×128°.05E, h0km, mb3.7/7, mb1 3.9/11, mb1mx3.7/44, mbtmp3.8/11, ML3.5/4, MS3.5/13, Ms1 3.5/13, ms1mx3.3/33, Error ellipse: s-maj=25.6km s-min=17.8km az=89.0*
ISC 23 23:40:18.6±3.3, 30°.84N±0°.05×128°.44E±0°.06, h4km±22km, n30, σ1°24/25, mb3.7/7, MS3.5/11, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**1.38**	**52**	P	**Pn**	**23 40 42.7**	**-1.9**
JSJ				*e*S	**Sn**	**23 41 02.2**	**-1.0**
JKC	**Kuchinoerabu**	**1.56**	**104**	P	**Pn**	**23 40 47.6**	**+0.5**
JKC				*e*S	**Sn**	**23 41 07.5**	**-0.3**
JNN	**Nakanoshima**	**1.59**	**128**	P	**Pn**	**23 40 47.5**	**-0.1**
JNN				*e*S	**Sb**	**23 41 09.7**	**+0.6**
JTAJ	**Takarajima**	**1.81**	**158**	P	**Pb**	**23 40 52.0**	**-0.3**
JFU	**Fukue jima 2**	**1.83**	**8**	P	**Pn**	**23 40 49.1**	**-1.6**
JSU	**Suzuyama**	**1.85**	**69**	P	**Pn**	**23 40 50.7**	**-0.4**
JYAK	**Yakushimahirau**	**1.89**	**108**	P	**Pn**	**23 40 49.6**	**-2.0**
JYAK				*e*S	**Sb**	**23 41 17.6**	**+0.1**
JTN	**Tanegashima 3**	**2.20**	**94**	P	**Pn**	**23 40 55.0**	**-0.9**
JTZ	**Takazaki**	**2.50**	**64**	P	**Pn**	**23 40 59.2**	**-0.8**
JTZ				*e*S	**Sn**	**23 41 30.3**	**-0.7**
JIU2	**Izumi 2**	**2.64**	**49**	P	**Pn**	**23 41 01.5**	**-0.5**
JNU	**Nakatsue**	**3.08**	**42**	Pn	**Pb**	**23 41 13.8**	**-0.1**
	5.8nm,0.3s,baz=219,slow=12,SNR=32						
KSRS	**Korea Array**	**6.61**	**356**	Pn	**Pn**	**23 41 56.3**	**-0.2**
	0.6nm,0.3s,baz=178,slow=14,SNR=14						
KSRS				Lg	Lg	23 43 47.7	
	3.3nm,0.3s,baz=177,slow=30,SNR=6.7						
KSRS				LR	LR	23 44 38.4	
	comp=Z,359nm,19.1s,baz=176,slow=39						
MJAR	**Matsushiro Arr**	**9.93**	**52**	Pn	Pn	23 42 48.3	+6.3
	0.3nm,0.3s,baz=238,slow=16,SNR=3.5						
KLR	**Kul'dur**	**18.54**	**7**	P	**Pn**	**23 44 38.6**	**+2.5**
	0.3nm,0.3s,baz=208,slow=7.4,SNR=14						
KLR				LR	LR	23 51 01.6	
	comp=Z,67nm,19.5s,baz=181,slow=34						
GUMO	**Guam**	**22.89**	**135**	LR	LR	23 52 02.0	
	comp=Z,55nm,19.9s,baz=164,slow=30						
DAV	**Davao City (W)**	**23.80**	**187**	LR	LR	23 56 39.1	
	comp=Z,60nm,18.0s,baz=334,slow=42						
SONM	**Songino Array**	**23.92**	**321**	P	**P**	**23 45 34.0**	**+0.3**
	2.2nm,0.9s,baz=127,slow=8.5,SNR=8.7						
SONM				LR	LR	23 55 24.4	
	comp=Z,106nm,19.6s,baz=118,slow=38						
TLY	**Talaya**	**27.70**	**326**	LR	LR	23 58 44.8	
	comp=Z,119nm,18.6s,baz=124,slow=40						
CMAR	**Chiang Mai Arr**	**29.41**	**252**	LR	LR	23 58 32.2	
	comp=Z,43nm,20.6s,baz=325,slow=38						
PETK	**Petropavlovsk**	**30.75**	**35**	LR	LR	23 59 09.0	
	comp=Z,36nm,18.6s,baz=220,slow=36						
MKAR	**Makanchi Array**	**38.73**	**308**	P	**P**	**23 47 43.1**	**-0.7**
	1.2nm,0.7s,baz=100,slow=9.0,SNR=10.0						
WRA	**Warramunga Arr**	**50.81**	**173**	P	**P**	**23 49 18.7**	**-1.5**
	0.6nm,0.9s,baz=351,slow=8.1,SNR=3.0						
ASAR	**Alice Springs**	**54.45**	**174**	P	**P**	**23 49 46.9**	**-0.3**
	0.6nm,0.9s,baz=7.3,slow=9.4,SNR=4.4						
AKTO	**Aktyubinsk**	**54.79**	**312**	LR	LR	00 14 51.4	
	comp=Z,93nm,19.1s,slow=38						
ILAR	**Eielson Array**	**60.32**	**29**	P	**P**	**23 50 31.0**	**+2.8**
	0.4nm,0.6s,baz=284,slow=8.4,SNR=4.9						
ARCES	**ARCESS Array B**	**65.80**	**338**	LR	LR	00 24 54.7	
	comp=Z,52nm,18.7s,baz=91,slow=41						
FINES	**FINESS Array B**	**68.96**	**330**	LR	LR	00 24 43.7	
	comp=Z,89nm,18.2s,baz=64,slow=39						
AKASG	**Malin Array Be**	**72.17**	**319**	P	**P**	**23 51 43.9**	**-0.5**
	0.5nm,0.5s,baz=56,slow=7.1,SNR=2.8						
AKASG				LR	LR	00 25 51.8	
	comp=Z,84nm,18.4s,baz=80,slow=38						
BRTR	**Keskin Array B**	**74.38**	**307**	P	**P**	**23 51 57.4**	**-0.5**
	1.2nm,0.8s,baz=80,slow=4.8,SNR=9.3						
NOA	**NORSAR Array B**	**75.28**	**333**	LR	LR	00 28 14.7	
	comp=Z,42nm,18.9s,baz=345,slow=38						

*ISK **23** 23:47:08.0, 38°.61N×40°.19E, h3km, MD2.8*
*ISCJB **23** 23:47:09.5±0.5, 38°.65N±0°.03×40°.17E±0°.03, h10km±7km, Error ellipse: s-maj=5.6km s-min=4.2km az=151.6*
*DDA **23** 23:47:09.6, 38°.64N×40°.22E, h7km, Ml2.8*
*CSEM **23** 23:47:09.1±0.2, 38°.65N×40°.20E, h12km, MD2.8, Error ellipse: s-maj=5.2km s-min=4.9km az=83.0*
ISC 23 23:47:09.0±1.1, 38°.64N±0°.02×40°.18E±0°.02, h9km±12km, n22, σ0°65/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGOL	**Bingol**	**0.52**	**47**	P	**Pg**	**23 47 18.3**	**-0.9**
BGOL				S	**Sg**	**23 47 26.6**	**+0.6**
BGOL	**Bingol**	**0.52**	**47**	*i* P	**Pg**	**23 47 18.3**	**-0.9**
BGOL				*i* S	**Sg**	**23 47 26.6**	**+0.6**
BNGB	**Bing¨¶l**	**0.53**	**47**	*e*PG	**Pg**	**23 47 19.1**	**-0.2**
BNGB				*e*SG	**Sb**	**23 47 27.3**	**-1.0**
PTK	**Pertek**	**0.67**	**293**	*e*PG	**Pg**	**23 47 21.6**	**-0.4**
PTK				*e*SG	**Sb**	**23 47 32.3**	**-0.1**
PTK	**Pertek**	**0.67**	**293**	*e*Pg	**Pg**	**23 47 21.6**	**-0.4**
PTK				*e*Sg	**Sb**	**23 47 32.3**	**-0.1**
TNCL	**Tunceli-Merkez**	**0.69**	**314**	P	**Pg**	**23 47 22.4**	**0.0**
TNCL				S	**Sb**	**23 47 33.3**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.69**	**314**	*i* P	**Pg**	**23 47 22.4**	**0.0**
TNCL				*i* S	**Sb**	**23 47 33.3**	**+0.3**
DIYA	**Diyarbakir**	**0.71**	**184**	S	**Sb**	**23 47 34.6**	**+1.0**
DIYA	**Diyarbakir**	**0.71**	**184**	*i* P	**Pb**	**23 47 24.7**	**+1.1**
DIYA				*i* S	**Sb**	**23 47 34.6**	**+1.0**
SVRC	**Sivrice-ELAZID**	**0.73**	**250**	*e*PG	**Pg**	**23 47 23.5**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.73**	**250**	*e*Pg	**Pg**	**23 47 23.5**	**+0.3**
BNGL	**BINGOL**	**0.82**	**67**	*i* P	**Pb**	**23 47 26.2**	**+0.7**
BNGL				*i* S	**Sb**	**23 47 38.2**	**+1.3**
YEDI	**Yedisu-Bingol**	**0.85**	**19**	*e*PG	**Pg**	**23 47 25.4**	**0.0**
YEDI				*e*SG	**Sb**	**23 47 38.6**	**+1.0**
YEDI	**Yedisu-Bingol**	**0.85**	**19**	*e*Pg	**Pg**	**23 47 25.4**	**0.0**
YEDI				*e*Sg	**Sb**	**23 47 38.6**	**+1.0**
BTMN	**Batman**	**1.13**	**131**	P	**Pg**	**23 47 30.7**	**-0.1**
BTMN				S	**Sb**	**23 47 46.5**	**+0.8**
BTMN	**Batman**	**1.13**	**131**	*i* P	**Pg**	**23 47 30.7**	**-0.1**
BTMN				*i* S	**Sb**	**23 47 46.5**	**+0.8**
MAZI	**Mazidag**	**1.19**	**170**	*e*PN	**Pg**	**23 47 31.4**	**-0.5**
MAZI				*e*SN	**Sb**	**23 47 47.7**	**+0.3**
MAZI	**Mazidag**	**1.19**	**170**	*e*Pn	**Pg**	**23 47 31.4**	**-0.5**
MAZI				*e*Sn	**Sb**	**23 47 47.7**	**+0.3**
MARD	**Mardin**	**1.40**	**160**	*i* P	**Pb**	**23 47 35.5**	**+0.1**
MARD				*i* S	**Sg**	**23 47 54.2**	**+0.1**
URFA	**Urfa**	**1.60**	**222**	*e*PN	**Pb**	**23 47 38.7**	**-0.2**
URFA	**Urfa**	**1.60**	**222**	*e*Pn	**Pb**	**23 47 38.7**	**-0.2**
SIRN	**S¨¬rnak**	**2.10**	**122**	*i* P	**Pn**	**23 47 43.4**	**-1.0**
SIRN				*i* S	**Sg**	**23 48 15.6**	**-0.8**

*SOME **24** 00:11:13.3, 42°.25N×81°.72E, h35km*
*NNC **24** 00:11:15.2±1.5, 42°.27N×81°.45E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=11.2km s-min=5.2km az=163.0*
ISC 24 00:11:05.2±3.4, 42°.2N±0°.1×82°.1E±0°.1, h14km, n13, σ1°78/25, 4C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.81**	**316**	*e*P	**Pg**	**00 11 41.5**	**+1.5**
	9.0nm,0.7s						
KTMS				*e*S	**Sb**	**00 12 01.6**	**+0.8**
	60nm,0.4s						
SHLS	**Shalkode**	**1.90**	**302**	*e*P	**Pg**	**00 11 41.4**	**-0.4**
	9.2nm,0.3s						
SHLS				*e*S	**Sn**	**00 12 02.6**	**+1.2**
	104nm,0.3s						
PDGK	**Podgornoye**	**2.24**	**302**	↑P	**Pg**	**00 11 47.0**	**-1.2**
	3.4nm,0.4s						
PDGK				↓S	**Sb**	**00 12 11.7**	**-1.3**
	13nm,0.2s						
SATY	**Saty**	**2.86**	**289**	*e*P	**Pg**	**00 11 58.3**	**-1.8**
	8.0nm,0.3s						
SATY				*e*S	**Sb**	**00 12 30.3**	**-0.7**
	24nm,0.2s						
KURS	**Kuram**	**3.17**	**296**	*e*P	**Pb**	**00 12 02.3**	**+1.0**
KURS				*e*S	**Sb**	**00 12 37.7**	**-2.2**
MNBS	**Baschi**	**3.31**	**307**	*e*P	**Pb**	**00 12 04.3**	**+0.5**
MNBS				*e*S	**Sb**	**00 12 40.8**	**-3.1**
ARXS	**Arharly**	**3.73**	**305**	*e*P	**Pb**	**00 12 11.5**	**+0.6**
	2.1nm,0.5s						
ARXS				*e*S	**Sb**	**00 12 53.3**	**-2.6**
	3.5nm,0.5s						
KOTS	**Kotyrbulak**	**3.82**	**288**	*e*P	**Pb**	**00 12 11.0**	**-1.5**
KOTS				*e*S	**Sn**	**00 12 52.5**	**+4.0**
TNSS	**Tian-Shan**	**3.90**	**285**	*e*P	**Pb**	**00 12 15.0**	**+1.0**
	2.9nm,0.7s						
TNSS				*e*S	**Sb**	**00 12 59.1**	**-2.0**
	7.9nm,0.8s						
CHKK	**Chushkaly**	**4.10**	**296**	*e*P	**Pb**	**00 12 18.6**	**+1.5**
	2.6nm,1.2s						
CHKK				*e*S	**Sb**	**00 13 05.6**	**-1.0**
	8.5nm,0.6s						
MK31	**Makanchi Array**	**4.63**	**2**	↓Pn	**Pb**	**00 12 26.4**	**+0.2**
	0.2nm,0.2s,baz=193,slow=13,SNR=3.9						
MK31				↑Sn	**Sb**	**00 13 19.8**	**-2.0**
	0.3nm,0.3s,baz=184,slow=18,SNR=5.1						
MK31				↑Lg	Lg	00 13 39.5	
	1.6nm,0.5s,baz=187,slow=30,SNR=5.7						
MAKZ	**Makanchi**	**4.64**	**359**	↑Sn	**Sb**	**00 13 20.5**	**-1.7**
	1.4nm,0.8s						
MAKZ				↓Lg	Lg	00 13 39.7	
	1.6nm,0.7s						
DGS	**Degeres**	**4.78**	**285**	*e*P	**Pb**	**00 12 29.8**	**+1.0**
	1.1nm,0.4s						
DGS				*e*S	**Sb**	**00 13 24.9**	**-1.2**
	3.6nm,0.5s						

*IDC **24** 00:14:00.9±1.2, 29°.10N×142°.61E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/30, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=39.8km s-min=18.2km az=90.0*
*ISCJB **24** 00:14:03.0±0.7, 29°.15N±0°.04×142°.6E±0°.2, h27km, mb3.9/8, Error ellipse: s-maj=24.1km s-min=6.4km az=1.7*
*NEIC **24** 00:14:04.1±3.4, 29°.10N×142°.59E, h21km±26km, mb4.2/2, Error ellipse: s-maj=19.1km s-min=9.4km az=85.0*
ISC 24 00:14:04.9±0.8, 29°.10N±0°.07×142°.6E±0°.2, h27km, n11, σ0°38/13, mb3.9/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.03**	**190**	Pn	**Pn**	**00 14 37.3**	**-0.1**
CBIJ				Sn	**Sn**	**00 15 01.9**	**+0.1**
JCJ	**Chichijima**	**2.03**	**190**	Pn	**Pn**	**00 14 37.3**	**-0.1**
	10nm,0.3s,baz=268,slow=7.3,SNR=1.8						
JCJ				Sn	**Sn**	**00 15 01.9**	**0.0**
	48nm,0.3s,baz=0.0,slow=20,SNR=4.7						
MAJO	**Matsushiro**	**8.28**	**335**	*e*Pn	**Pn**	**00 16 03.0**	**-0.3**
	10.0nm,1.0s						
SONM	**Songino Array**	**33.55**	**314**	P	**P**	**00 20 42.3**	**-0.2**
	0.2nm,0.3s,baz=108,slow=8.2,SNR=2.6						
SEY	**Senchan**	**34.43**	**8**	P	**P**	**00 20 49.8**	**-0.1**
	0.5nm,0.5s,baz=164,slow=17,SNR=5.0						
ZALV	**Zalesovo Beam**	**48.23**	**318**	P	**P**	**00 22 44.1**	**+1.0**
	0.5nm,0.5s,baz=101,slow=6.2,SNR=2.9						
WRA	**Warramunga Arr**	**49.40**	**190**	P	**P**	**00 22 52.4**	**-0.1**
	2.0nm,0.9s,baz=11,slow=8.2,SNR=6.8						
MKAR	**Makanchi Array**	**49.49**	**308**	P	**P**	**00 22 52.6**	**-0.4**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=4.5						
COLA	**College**	**55.39**	**29**	*e*P	**P**	**00 23 36.2**	**-0.1**
	1.7nm,0.3s						
EKS2	**Erkin-Say**	**55.94**	**304**	*e*P	**P**	**00 23 40.8**	**-0.1**
	0.7nm,0.5s						
YKA	**Yellowknife Ar**	**70.22**	**29**	P	**P**	**00 25 15.2**	**+0.1**
	0.7nm,0.6s,baz=298,slow=6.4,SNR=3.9						

*KRNET **24** 00:18:46.8±0.1, 43°.61N×69°.77E, mb3.2*
*NNC **24** 00:18:46.2±0.7, 43°.40N×69°.58E, h5km±8km, mb3.7, mpv3.4, Error ellipse: s-maj=9.5km s-min=5.1km az=14.0*
*SOME **24** 00:18:47.5, 43°.30N×69°.60E, h0km*
ISC 24 00:18:46.1±1.6, 43°.38N±0°.04×69°.69E±0°.05, h6km±10km, n34, σ1°95/61, 26C-16D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Boroldoy**	**0.59**	**181**	*e*P	**Pb**	**00 18 56.8**	**-2.0**
	3.9nm,0.4s						
BRLS				*e*S	**Sb**	**00 19 04.8**	**-2.6**
	288nm,0.3s						
KK31	**Karatay Array**	**0.66**	**114**	↓P	**Pn**	**00 19 01.0**	**-1.0**
	22nm,0.5s,baz=353,slow=25,SNR=350						
KK31				S	**Sn**	**00 19 11.5**	**-1.1**
	49nm,0.3s,baz=292,slow=27,SNR=41						
IUG	**Iuzhnay**	**1.25**	**168**	*e*P	**Pg**	**00 19 10.8**	**+0.7**
	50nm,0.4s						
IUG				*e*S	**Sn**	**00 19 27.8**	**+0.3**
	231nm,0.3s						
DZA	**Taraz**	**1.29**	**111**	*e*P	**Pg**	**00 19 13.2**	**+2.3**
	54nm,0.4s						
DZA				*e*S	**Sg**	**00 19 32.5**	**+4.8**
	308nm,0.5s						
MNAS	**Manas**	**2.25**	**112**	↓*i*P	**Pg**	**00 19 27.8**	**-1.4**
	baz=118						
MNAS				↓*i*S	**Sg**	**00 19 58.6**	**+0.3**
	baz=118						
MNAS	**Manas**	**2.25**	**112**	↑Pg	**Pg**	**00 19 28.8**	**-0.4**
	6.5nm,0.5s						
MNAS				↓Lg	Lg	00 20 00.7	
	66nm,0.5s						
ARK	**Arkit**	**2.30**	**132**	*e*P	**Pg**	**00 19 30.6**	**+0.4**
	baz=138						
ARK				↑*i*S	**Sg**	**00 20 02.7**	**+2.7**
	baz=138						
MRKS	**Merke**	**2.66**	**102**	↓*i*P	**Pg**	**00 19 37.2**	**0.0**
	15nm,1.1s						
MRKS				*e*S	**Sg**	**00 20 13.5**	**+1.9**
	44nm,0.6s						
TOKL	**Toktogul**	**2.75**	**120**	↑*e*P	**Pb**	**00 19 36.3**	**+0.6**
	baz=125						
TOKL				↑*e*S	**Sg**	**00 20 11.6**	**-2.7**
	baz=125						
EKS2	**Erkin-Say**	**3.08**	**102**	↑*i*P	**Pb**	**00 19 40.8**	**-0.6**
	baz=106						
EKS2				↑*i*S	**Sg**	**00 20 23.1**	**-1.9**
	baz=106						
ARSB	**Arslanbob**	**3.18**	**129**	↑*e*P	**Pb**	**00 19 42.4**	**-0.8**
	baz=133						
ARSB				↑*e*S	**Sb**	**00 20 22.7**	**+0.4**
	baz=133						
BTK	**Batken**	**3.42**	**165**	↑*e*P	**Pb**	**00 19 46.8**	**-0.4**
	baz=167						
BTK				↑*e*S	**Sb**	**00 20 30.6**	**+1.6**
	baz=167						
AAK	**Ala-Archa**	**3.60**	**100**	↓Pg	**Pg**	**00 19 54.2**	**-0.9**
	7.8nm,0.4s						
AAK				↑Lg	Lg	00 20 44.1	
	19nm,0.6s						
UCH	**Uchtor**	**3.73**	**106**	↑*i*P	**Pb**	**00 19 50.6**	**-2.0**
	baz=110						
UCH				↑*i*S	**Sb**	**00 20 38.2**	**0.0**
	baz=110						
ARLS	**Aral**	**3.74**	**112**	↑*e*P	**Pb**	**00 19 48.6**	**-4.0**
	baz=116						
ARLS				↑*e*S	**Sb**	**00 20 34.0**	**-4.2**
	baz=116						
TKM2	**Tokmak 2**	**4.34**	**94**	↓Pg	**Pg**	**00 20 07.7**	**-1.7**
	5.1nm,0.8s						
TKM2				↑Lg	Lg	00 21 06.9	
	45nm,1.4s						
DGS	**Degeres**	**4.44**	**90**	*e*P	**Pg**	**00 20 09.6**	**-1.5**
	6.3nm,0.4s						
DGS				*e*S	**Sg**	**00 21 07.2**	**-1.4**
	37nm,0.6s						
KUU	**Kurty**	**4.85**	**82**	*e*P	**Pg**	**00 20 18.2**	**-0.9**
	19nm,0.5s						
KUU				*e*S	**Sg**	**00 21 22.4**	**+0.6**
	15nm,0.5s						
IZV	**Izvestkoviy**	**5.07**	**91**	*e*P	**Pg**	**00 20 22.8**	**-0.5**
	9.1nm,0.5s						
IZV				*e*S	**Sg**	**00 21 29.9**	**+1.0**
	43nm,0.8s						
KTBS	**Karatobe**	**5.09**	**84**	*e*P	**Pg**	**00 20 23.1**	**-0.5**
KTBS				*e*S	**Sg**	**00 21 29.6**	**0.0**
OTUK	**Ortayu**	**5.21**	**20**	↓Pn	**Pn**	**00 20 07.3**	**+2.7**
	2.9nm,0.6s						
OTUK				↑Sn	**Sn**	**00 21 06.0**	**+1.0**
	8.1nm,0.6s						
OTUK				↓Lg	Lg	00 21 31.6	
	12nm,0.5s						
TNSS	**Tian-Shan**	**5.31**	**91**	*e*P	**Pg**	**00 20 25.8**	**-2.0**
	3.9nm,0.3s						
TNSS				*e*S	**Sg**	**00 21 35.0**	**-1.6**
	19nm,0.6s						
CHKK	**Chushkaly**	**5.33**	**82**	*e*P	**Pg**	**00 20 27.1**	**-1.0**
	4.3nm,0.1s						
CHKK				*e*S	**Sg**	**00 21 37.0**	**-0.2**
	24nm,0.6s						
MDOK	**Medeo**	**5.37**	**90**	*e*P	**Pg**	**00 20 28.1**	**-1.0**
	4.3nm,0.4s						
MDOK				↑*i*S	**Sg**	**00 21 38.4**	**-0.3**
	17nm,0.8s						
KOTS	**Kotyrbulak**	**5.42**	**89**	*e*P	**Pg**	**00 20 28.6**	**-1.2**
KOTS				*e*S	**Sg**	**00 21 40.4**	**+0.4**
ARXS	**Arharly**	**5.95**	**79**	*e*P	**Pg**	**00 20 38.7**	**-1.3**
	4.1nm,0.5s						
ARXS				*e*S	**Sg**	**00 21 56.8**	**-0.2**
	11nm,0.4s						
KURS	**Kuram**	**6.17**	**86**	*e*P	**Pg**	**00 20 43.5**	**-0.8**
KURS				*e*S	**Sg**	**00 22 05.6**	**+1.4**
MNBS	**Baschi**	**6.35**	**81**	*e*P	**Pg**	**00 20 49.6**	**+1.9**
	0.3nm,0.3s						
MNBS				*e*S	**Sg**	**00 22 16.5**	**+6.6**
	22nm,0.6s						
PDGK	**Podgornoye**	**7.14**	**87**	↑Pg	Pg	00 20 57.6	-5.2
	2.1nm,0.6s						
PDGK				↓Lg	Lg	00 22 36.1	
	22nm,1.6s						
AB31	**Akbulak array**	**8.95**	**314**	↓Pn	**Pn**	**00 20 54.1**	**-1.7**
	0.6nm,0.4s,baz=126,slow=14,SNR=37						
KURBB	**Kurchatov Arra**	**9.43**	**37**	↑Pn	**Pn**	**00 21 04.3**	**+1.9**
	1.1nm,0.8s						
KURBB				↑Sn	**Sn**	**00 22 51.8**	**+3.2**
	3.9nm,0.7s						
KURBB				↓Lg	Lg	00 23 45.4	
	17nm,0.6s						
MK31	**Makanchi Array**	**9.54**	**65**	↑Pn	**Pn**	**00 21 04.5**	**+0.5**
	0.5nm,0.4s,baz=245,slow=14,SNR=15						
MK31				↓Sn	**Sn**	**00 22 53.9**	**+2.3**
	0.8nm,0.6s,baz=267,slow=23,SNR=3.7						
MK31				↑Lg	Lg	00 23 52.2	
	3.8nm,0.9s						
ZRNK	**Zerenda**	**9.59**	**357**	↑Pn	**Pn**	**00 21 03.4**	**-1.3**
	0.7nm,0.6s						
ZRNK				↓Sn	**Sn**	**00 22 51.4**	**-1.3**
ZRNK				↓Lg	Lg	00 23 50.2	
	4.6nm,0.8s						
BVA0	**Borovoye Array**	**9.67**	**2**	↑Sn	**Sn**	**00 22 55.6**	**+1.0**
	4.3nm,1.1s,baz=166,slow=22,SNR=4.0						
BVA0				↓Lg	Lg	00 23 52.2	
	5.9nm,1.2s						

*

*ISCJB **24** 00:36:41.5±0.5,37.68N×139.96E±0.04,h21km±4km, mb3.9/14, Error ellipse: s-maj=6.3km s-min=4.0km az=41.8*

*JMA **24** 00:36:41.4,37.68N×139.93E,h9km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φs230.00000°,δ58.00000°,λ131.00000°. NP2: φs351.00000°,δ50.00000°,λ44.00000°. Principal axes: T Plg56.0000°, Azm195.0000°; N Plg34.0000°, Azm25.0000°; P Plg5.0000°, Azm292.0000°;*

JMA Felt III J1.

*NEIC **24** 00:36:45.1±0.5,37.67N×139.90E,h35km,mb4.4/5 Error ellipse: s-maj=11.7km s-min=8.4km az=136.0*

ISC 24 00:36:41.3±1.0,37.67N±0.03×139.93E±0.03,h10km±7km, n30,σ0§83/39,mb3.9/14,3C-6D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFY	**Yanaizu**	**0.32**	**215**	⇑P		**Pg**		**00 36 47.9**	**+0.2**
JFY				S		**Sg**		**00 36 52.4**	**+0.4**
JFT	**Otama**	**0.35**	**116**	⇓P		**Pg**		**00 36 48.6**	**+0.3**
JNS	**Sasagawa**	**0.51**	**287**	⇓P		**Pg**		**00 36 51.3**	**+0.1**
JNS				S		**Sg**		**00 36 58.1**	**+0.1**
JYS	**Shirataka**	**0.56**	**11**	⇑P		**Pg**		**00 36 52.3**	**+0.1**
JYS				S		**Sg**		**00 36 59.1**	**+0.5**
JFK	**Kawauchi**	**0.81**	**112**	⇓P		**Pg**		**00 36 56.7**	**-0.2**
JHK	**Hiroka**	**0.84**	**240**	⇓P		**Pg**		**00 36 57.3**	**-0.3**
JHK				S		**Sg**		**00 37 08.2**	**-0.3**
JOU	**Okura**	**0.90**	**40**	⇑P		**Pg**		**00 36 58.7**	**0.0**
JOU				S		**Sg**		**00 37 10.2**	**-0.2**
JYA	**Atsumi**	**0.94**	**349**	⇓P		**Pg**		**00 36 59.1**	**-0.2**
JYA				S		**Sg**		**00 37 11.4**	**-0.1**
JAW	**Awa shima**	**0.95**	**326**	P		**Pg**		**00 36 59.6**	**0.0**
JIZZ	**Izumozaki**	**0.98**	**262**	⇓P		**Pn**		**00 37 01.0**	**-0.1**
JIZZ				S		**Sn**		**00 37 15.4**	**+0.3**
MJAR	**Matsushiro Arr** 33nm,0.3s,baz=74,slow=16,SNR=126	**1.78**	**231**	Pg		**Pb**		**00 37 13.4**	**-0.7**
MJAR				Lg		Lg		00 37 36.9	
MJAR	30nm,0.3s,baz=29,slow=29,SNR=14			LR		LR		00 38 15.7	
MAJO	comp=Z,65nm,18.4s,baz=35,slow=54 **Matsushiro**	**1.78**	**231**	*e*Pn		**Pn**		**00 37 12.7**	**+0.5**
MAJO				*e*Sg		**Sb**		**00 37 36.4**	**-0.1**
MAT	**Matsushiro**	**1.78**	**231**	P		**Pn**		**00 37 12.9**	**+0.7**
MAT				S		**Sb**		**00 37 36.9**	**+0.4**
KSRS	**Korea Array** 0.8nm,0.3s,baz=80,slow=14,SNR=4.9	**9.54**	**272**	Pn		**Pn**		**00 39 01.4**	**+2.7**
KSAR	**Wonju Array Be**	**9.57**	**272**	Pn		**Pn**		**00 39 01.4**	**+2.3**
MDJ	**Mudanjiang**	**10.43**	**315**	Pn		**Pn**		**00 39 11.1**	**+0.2**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=104,slow=6.1,SNR=2.8	**40.61**	**312**	P		**P**		**00 44 20.9**	**-0.2**
MKAR	**Makanchi Array** 0.7nm,0.8s,baz=81,slow=8.7,SNR=3.7	**42.78**	**301**	P		**P**		**00 44 38.2**	**-0.7**
KURK	**Kurchatov** 0.9nm,0.6s	**44.61**	**307**	P		**P**		**00 44 53.6**	**+0.1**
KURBB	**Kurchatov Arra** 1.1nm,0.6s,baz=82,slow=8.3,SNR=11	**44.68**	**307**	P		**P**		**00 44 53.6**	**-0.5**
PPLA	**Purkeypile** 1.1nm,1.0s	**47.33**	**35**	P		**P**		**00 45 16.8**	**+1.8**
AAK	**Ala-Archa** 1.2nm,0.5s	**49.15**	**297**	P		**P**		**00 45 30.1**	**+0.7**
COLA	**College** 1.5nm,0.5s	**49.17**	**32**	*e*P		**P**		**00 45 29.2**	**+0.2**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=114,slow=6.9,SNR=3.7	**49.27**	**312**	P		**P**		**00 45 30.1**	**+0.1**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=270,slow=6.0,SNR=5.3	**49.59**	**33**	P		**P**		**00 45 32.4**	**+0.1**
INK	**Inuvik** 1.7nm,0.8s,baz=354,slow=8.9,SNR=4.0	**54.36**	**27**	P		**P**		**00 46 08.1**	**+0.4**
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=3.3,slow=7.3,SNR=13	**57.55**	**186**	P		**P**		**00 46 30.5**	**-0.5**
ASAR	**Alice Springs** 1.0nm,1.0s,baz=0.0,slow=7.2,SNR=5.6	**61.27**	**186**	P		**P**		**00 46 56.1**	**-0.6**
SUMG	**Summit** 3.6nm,0.6s	**70.04**	**359**	*e*P		**P**		**00 47 51.7**	**-1.6**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=336,slow=2.7,SNR=4.4	**90.66**	**51**	P		**P**		**00 49 45.5**	**+1.1**

*NIED **24** 01:00:00,36.40N×140.60E,h65km,Mw3.5 Best double couple: M◎2.19000×10^14 NP1:φs244.00000°,δ19.00000°, λ138.00000°. NP2:φs14.00000°,δ77.00000°,λ75.00000°.*

*IDC **24** 01:00:08.2±1.7,36.51N×140.87E,h0km,mb3.5/3, mb1 3.6/6,mb1mx3.4/41,mbtmp3.5/6,ML3.4/3,Error ellipse: s-maj=24.3km s-min=18.8km az=46.0*

*ISCJB **24** 01:00:14.6±0.7,36.40N±0.05×140.68E±0.08,h59km±5km, mb3.4/3,Error ellipse: s-maj=11.7km s-min=6.8km az=25.9*

*JMA **24** 01:00:15.7±0.1,36.37N×140.63E,h53km±1km,M3.7 Broadband fault plane solution: P waves. NP1: φs24.00000°,δ67.00000°,λ84.00000°. NP2:φs220.00000°, δ23.00000°,λ105.00000°. Principal axes: T Plg67.0000°, Azm283.0000°; N Plg6.0000°, Azm27.0000°; P Plg22.0000°, Azm119.0000°;*

JMA Felt II J1.

ISC 24 01:00:15.4±1.1,36.40N±0.05×140.70E±0.07,h52km±8km, n18,σ0§96/19,mb3.5/3,1C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.23**	**334**	⇑P		**Pn**		**01 00 24.7**	**+0.5**
JHO				S		**Sn**		**01 00 30.7**	**+0.3**
JYT	**Yasato**	**0.44**	**247**	⇓P		**Pn**		**01 00 26.1**	**0.0**
JYT				S		**Sn**		**01 00 33.0**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.70**	**7**	P		**Pn**		**01 00 29.6**	**+0.2**
ONAJ				S		**Sn**		**01 00 39.6**	**+0.2**
JFK	**Kawauchi**	**0.97**	**8**	P		**Pn**		**01 00 33.1**	**+0.2**
JFK				S		**Sn**		**01 00 45.5**	**-0.2**
JAG	**Ashikaga**	**1.00**	**272**	⇓P		**Pn**		**01 00 33.2**	**0.0**
JAG				S		**Sn**		**01 00 45.4**	**-1.0**
MJAR	**Matsushiro Arr** 14nm,0.3s,baz=90,slow=16,SNR=42	**2.01**	**275**	Pn		**Pn**		**01 00 45.6**	**-1.3**
MJAR				Lg		Lg		01 01 14.1	
	8.7nm,0.3s,baz=86,slow=34,SNR=6.3								
MAT	**Matsushiro**	**2.01**	**275**	P		**Pn**		**01 00 47.8**	**+0.8**
MAT				S		**Sn**		**01 01 13.3**	**+2.4**
JHJ	**Hachijo jima 2** 8.5nm,0.3s,baz=252,slow=19,SNR=4.5	**3.36**	**193**	Pn		**Pn**		**01 01 05.3**	**-0.2**
JHJ				Sn		**Sn**		**01 01 45.8**	**+1.7**
	14nm,0.3s,baz=73,slow=19,SNR=4.2								
KSRS	**Korea Array** 0.3nm,0.3s,baz=94,slow=14,SNR=2.9	**10.28**	**280**	Pn		**Pn**		**01 02 40.1**	**-0.1**
H11N2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=4.1	**28.34**	**119**	T		T		01 36 06.1	
H11N1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=9.5	**28.34**	**119**	T		T		01 36 10.3	
H11N3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=10	**28.35**	**119**	T		T		01 36 11.0	
H11S1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=29	**29.02**	**121**	T		T		01 36 54.4	
H11S3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=13	**29.02**	**121**	T		T		01 36 52.4	
H11S2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=12	**29.03**	**121**	T		T		01 36 48.0	
ZALV	**Zalesovo Beam** 0.4nm,0.5s,baz=76,slow=7.8,SNR=3.5	**41.92**	**313**	P		**P**		**01 08 00.6**	**-0.1**
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=92,slow=7.3,SNR=3.6	**43.97**	**303**	P		**P**		**01 08 17.9**	**+0.4**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=4.3,slow=7.3,SNR=4.9	**56.36**	**187**	P		**P**		**01 09 50.6**	**-0.7**

*NIED **24** 01:21:00,38.90N×142.10E,h47km,Mw3.7 Best double couple: M◎4.58000×10^14 NP1:φs186.00000°,δ19.00000°, λ85.00000°. NP2:φs11.00000°,δ71.00000°,λ92.00000°.*

*ISCJB **24** 01:21:43.5±0.9,38.84N±0.05×142.12E±0.09,h51km, mb3.8/5,Error ellipse: s-maj=10.4km s-min=6.8km az=7.7*

*JMA **24** 01:21:44.3±0.1,38.85N×142.09E,h45km±1km,M3.6*

JMA Felt I J1.

*IDC **24** 01:21:48.8±3.6,38.79N×141.95E,h87km±32km,mb3.5/5, mb1 3.6/7,mb1mx3.3/39,mbtmp3.8/7,MS2.8/1,Ms1 2.8/1, ms1mx2.2/35,Error ellipse: s-maj=33.7km s-min=23.0km az=86.0*

ISC 24 01:21:45.0±1.1,38.88N±0.06×142.1E±0.1,h51km,n24, σ2§07/22,mb3.8/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.41**	**299**	P		**Pn**		**01 21 54.2**	**-1.0**
OFUJ				*e*S		**Sn**		**01 22 01.0**	**-1.6**
JMK	**Ichinoseki**	**0.71**	**276**	P		**Pn**		**01 21 57.7**	**-1.1**
JMK				*e*S		**Sn**		**01 22 07.1**	**-1.8**
JIO	**Ouri**	**0.74**	**235**	P		**Pn**		**01 21 57.6**	**-1.7**
JIO				*e*S		**Sn**		**01 22 06.8**	**-2.9**
JOM	**Ohasama**	**0.88**	**313**	P		**Pn**		**01 22 00.5**	**-0.5**
JOM				*e*S		**Sn**		**01 22 12.1**	**-0.7**
JOU	**Okura**	**1.25**	**246**	P		**Pn**		**01 22 04.9**	**-1.3**
JRG	**Rokugo**	**1.27**	**294**	P		**Pn**		**01 22 05.9**	**-0.4**
JYK	**Kaneyama**	**1.38**	**272**	P		**Pn**		**01 22 07.1**	**-0.7**
JMM	**Marumori**	**1.46**	**226**	P		**Pn**		**01 22 07.4**	**-1.5**
JANG	**Nango**	**1.56**	**343**	*e*S		**Sn**		**01 22 30.1**	**+0.7**
MAT	**Matsushiro**	**3.88**	**234**	P		**Pn**		**01 22 43.9**	**+1.7**
MAT				S		**Sn**		**01 23 32.6**	**+6.1**
MJAR	**Matsushiro Arr** 1.8nm,0.3s,baz=36,slow=13,SNR=10	**3.88**	**234**	P		**Pn**		**01 22 43.4**	**+1.2**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=121,slow=15,SNR=6.7	**9.27**	**308**	P		**Pn**		**01 23 59.4**	**+3.5**
JNU	**Nakatsue** comp=Z,46nm,18.3s,baz=269,slow=40	**10.77**	**241**	LR		LR		01 28 51.9	
H11N2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=145	**28.67**	**125**	T		T		01 58 02.0	
H11N1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=145	**28.68**	**125**	T		T		01 58 02.7	
H11N3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=161	**28.69**	**125**	T		T		01 58 03.3	
H11S1	**WAKE ISLAND Hy** baz=318,slow=76,SNR=22	**29.45**	**127**	T		T		01 58 54.8	
H11S3	**WAKE ISLAND Hy** baz=318,slow=76,SNR=29	**29.45**	**127**	T		T		01 58 58.9	
H11S2	**WAKE ISLAND Hy** baz=318,slow=76,SNR=15	**29.47**	**127**	T		T		01 59 00.8	
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=91,slow=7.8,SNR=5.8	**41.11**	**311**	P		**P**		**01 29 22.9**	**-0.7**
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=85,slow=10.0,SNR=8.5	**43.64**	**301**	P		**P**		**01 29 44.6**	**+0.3**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=270,slow=6.0,SNR=3.9	**47.64**	**33**	P		**P**		**01 30 16.9**	**+1.3**
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=7.0,slow=7.0,SNR=6.1	**58.97**	**189**	P		**P**		**01 31 38.4**	**-0.8**
FINES	**FINESS Array B** 3.6nm,1.0s,baz=39,slow=9.1,SNR=3.7	**67.44**	**332**	P		**P**		**01 32 34.0**	**-0.9**

*SOME **24** 01:33:30.3,42.03N×81.42E,h15km*

*NNC **24** 01:33:35.6±1.6,42.24N×81.27E,h6km±7km,mb3.7, mpv3.4,Error ellipse: s-maj=11.0km s-min=7.0km az=138.0*

ISC 24 01:33:39.5±1.9,42.50N±0.08×81.24E±0.07,h10km,n23, σ2§12/42,14C-7D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 58nm,0.3s	**1.15**	**326**	*e*P		**Pn**		**01 33 59.8**	**-2.0**
KTMS				*e*S		**Sn**		**01 34 21.2**	**+3.4**
SHLS	582nm,0.4s **Shalkode** 86nm,0.3s	**1.20**	**304**	*e*P		**Pn**		**01 34 00.6**	**-1.9**
SHLS				*e*S		**Sn**		**01 34 22.4**	**+3.3**
PDGK	915nm,0.3s **Podgornoye** 31nm,0.5s	**1.54**	**303**	⇓Pn		**Pn**		**01 34 05.6**	**-1.3**
PDGK				⇑Lg		Lg		01 34 30.5	
KPKS	201nm,0.6s **Kokpek** 103nm,0.2s	**2.11**	**298**	*e*P		**Pn**		**01 34 14.0**	**-1.1**
KPKS				*e*S		**Sb**		**01 34 45.5**	**+1.3**
DJR	805nm,0.5s **Jarkent** 14nm,0.4s	**2.12**	**330**	*e*P		**Pb**		**01 34 16.7**	**-1.4**
DJR				*e*S		**Sg**		**01 34 50.2**	**+2.6**
SATY	186nm,0.6s **Saty** 74nm,0.3s	**2.16**	**286**	*e*P		**Pn**		**01 34 15.3**	**-0.4**
SATY				*e*S		**Sb**		**01 34 47.7**	**+1.9**
KURS	245nm,0.3s **Kuram**	**2.46**	**295**	*e*P		**Pn**		**01 34 19.4**	**-0.4**
KURS				*e*S		**Sb**		**01 34 54.8**	**+0.5**
MNBS	**Baschi**	**2.61**	**308**	*e*P		**Pn**		**01 34 21.2**	**-0.7**
MNBS				*e*S		**Sb**		**01 34 57.8**	**-0.7**
ARXS	**Arharly** 22nm,0.7s	**3.02**	**306**	*e*P		**Pb**		**01 34 31.0**	**-2.5**
ARXS				*e*S		**Sg**		**01 35 14.8**	**-1.8**
KOTS	57nm,0.5s **Kotyrbulak**	**3.12**	**285**	*e*P		**Pn**		**01 34 30.1**	**+1.1**
KOTS				*e*S		**Sb**		**01 35 13.3**	**-0.2**
MDOK	**Medeo** 8.0nm,0.5s	**3.16**	**284**	*e*P		**Pn**		**01 34 30.9**	**+1.5**
MDOK				*e*S		**Sb**		**01 35 14.1**	**-0.3**
TNSS	63nm,0.6s **Tian-Shan** 7.7nm,0.6s	**3.21**	**281**	*e*P		**Pn**		**01 34 32.2**	**+1.8**
TNSS				*e*S		**Sb**		**01 35 16.5**	**+0.2**
CHKK	20nm,0.6s **Chushkaly** 19nm,1.0s	**3.39**	**295**	*e*P		**Pb**		**01 34 35.8**	**-3.9**
CHKK				*e*S		**Sb**		**01 35 23.1**	**+2.1**
IZV	80nm,0.4s **Izvestkoviy** 24nm,0.6s	**3.45**	**281**	*e*P		**Pn**		**01 34 34.9**	**+1.4**
IZV				*e*S		**Sb**		**01 35 21.4**	**-1.5**
KTBS	65nm,0.5s **Karatobe**	**3.55**	**292**	*e*P		**Pb**		**01 34 40.7**	**-1.8**
KTBS				*e*S		**Sg**		**01 35 31.3**	**-2.3**
DGS	**Degeres** 7.6nm,0.6s	**4.09**	**282**	*e*P		**Pb**		**01 34 48.3**	**-3.4**
DGS				*e*S		**Sb**		**01 35 44.5**	**+3.3**
TKM2	22nm,0.9s **Tokmak 2** 2.8nm,0.6s	**4.18**	**278**	⇑Pn		**Pn**		**01 34 42.1**	**-1.5**
TKM2				⇑Pg		**Pb**		**01 34 52.5**	**-0.8**
	9.6nm,1.1s								
TKM2	24nm,0.7s			⇓Lg		Lg		01 35 50.8	
MK31	**Makanchi Array** 1.2nm,0.3s,baz=192,slow=13,SNR=108	**4.36**	**10**	⇑Pn		**Pn**		**01 34 45.2**	**-0.6**
MK31				⇑Pg		**Pg**		**01 35 00.5**	**-2.5**
	1.1nm,0.3s,baz=202,slow=8.5,SNR=7.5								
MK31	4.9nm,0.5s,baz=182,slow=17,SNR=4.5			⇓Sn		**Sn**		**01 35 41.2**	**+4.5**
MK31	19nm,0.5s,baz=186,slow=30,SNR=7.4			⇑Lg		Lg		01 35 59.1	
AAK	**Ala-Archa** 6.8nm,0.9s	**4.99**	**274**	⇑Pg		**Pb**		**01 35 06.7**	**-0.3**
AAK				⇓Lg		Lg		01 36 16.5	
	19nm,0.9s								
MNAS	**Manas** 1.7nm,0.7s	**6.46**	**273**	⇑Pg		**Pb**		**01 35 33.5**	**+1.4**
MNAS				⇑Lg		Lg		01 37 02.6	
	4.9nm,0.9s								
KK31	**Karatay Array** 0.7nm,0.6s,baz=80,slow=15,SNR=5.0	**7.92**	**278**	⇓Pg		Pb		01 36 00.7	+4.0
KK31	1.6nm,0.5s,baz=96,slow=29,SNR=3.8			⇑Lg		Lg		01 37 50.1	
KURBB	**Kurchatov Arra** 6.8nm,1.2s	**8.34**	**348**	⇑Pn		**Pn**		**01 35 41.6**	**+1.2**
KURBB				⇑Sn		**Sn**		**01 37 18.8**	**+4.2**
	11nm,0.7s								
KURBB	22nm,0.7s			⇓Lg		Lg		01 38 08.6	
OTUK	**Ortayu** 2.0nm,1.2s	**8.50**	**316**	⇑Pn		**Pn**		**01 35 44.2**	**+1.6**
OTUK				⇓Sn		**Sn**		**01 37 19.5**	**+0.9**
	2.2nm,0.6s								
OTUK	13nm,1.3s			⇑Lg		Lg		01 38 11.6	

*NIED **24** 01:49:00,37.40N×142.40E,h5km,Mw3.6 Best double couple: M◎2.97000×10^14 NP1:φs38.00000°,δ21.00000°, λ-83.00000°. NP2:φs210.00000°,δ69.00000°, λ-93.00000°.*

JMA 24 01:49:59.5±0.2,37.38N×142.35E,h13km±4km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.18**	**270**	P		**Pn**		**01 50 21.2**	**-0.5**
JFK				*e*S		Sb		01 50 36.8	0.0
ONAJ	**Iwakimizuishiy**	**1.27**	**258**	*e*S		Sb		01 50 39.3	-0.3
JMM	**Marumori**	**1.33**	**292**	P		Pn		01 50 23.5	-0.2
JMM				*e*S		Sb		01 50 40.8	-0.4
JIO	**Ouri**	**1.33**	**324**	P		Pn		01 50 24.0	+0.2
JIO				*e*S		Sn		01 50 41.4	0.0
MAT	**Matsushiro**	**3.42**	**257**	P		Pn		01 50 53.9	+1.3
MAT				*e*S		Sn		01 51 35.2	+2.2

*IDC **24** 01:54:34.6±1.2,3.87N×95.87E,h0km,mb3.8/8,mb1 4.0/9, mb1mx3.7/50,mbtmp3.8/9,ML4.6/1,MS3.6/2,Ms1 3.6/2, ms1mx2.8/53,Error ellipse: s-maj=54.4km s-min=19.8km az=54.0*

*ISCJB **24** 01:54:39.5±0.6,3.83N±0.05×95.80E±0.05,h50km, mb4.0/11,MS3.6/2,Error ellipse: s-maj=8.9km s-min=5.8km az=43.6*

*NEIC **24** 01:54:41.4±1.4,3.88N×95.83E,h50km±12km,mb4.0/2, Error ellipse: s-maj=17.2km s-min=7.3km az=64.0*

*DJA **24** 01:54:43.9±0.8,4°N±5°×96°E±°,h23km±7km,M3.9/6, MLv3.9/6*

ISC 24 01:54:41.4±0.7,3.85N±0.05×95.87E±0.08,h50km,n25, σ0§99/31,mb3.8/11,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.68**	**52**	P		**Pn**		**01 54 55.3**	**+0.5**
MLSI				S		**Sn**		**01 55 04.8**	**+0.3**
TPTI		**1.43**	**114**	P		**Pn**		**01 55 05.2**	**+0.3**
TPTI				S		**Sn**		**01 55 22.3**	**-0.3**
LHMI	**Lhok Sumawe**	**1.74**	**38**	P		**Pn**		**01 55 11.2**	**+2.0**
LHMI				P		**Pn**		**01 55 11.5**	**+2.3**
LHMI	**Lhok Sumawe**	**1.74**	**38**	*e*Pn		**Pn**		**01 55 10.7**	**+1.5**
KCSI	**Kotacane, Aceh**	**1.92**	**100**	P		**Pn**		**01 55 12.9**	**+1.3**
KCSI				P		**Pn**		**01 55 13.0**	**+1.3**
KCSI				S		**Sn**		**01 55 34.4**	**-0.3**
KCSI				S		**Sn**		**01 55 34.7**	**0.0**
GSI	**Gunungsitoli**	**3.05**	**146**	P		**Pn**		**01 55 28.5**	**+1.4**
GSI	**Gunungsitoli**	**3.05**	**146**	*e*Pn		**Pn**		**01 55 27.6**	**+0.5**
GSI				*e*Sn		**Sn**		**01 56 01.9**	**-0.4**
KULM	**Kulim** 29nm,0.6s	**4.97**	**73**	*e*Pn		**Pn**		**01 55 53.9**	**+0.3**
KULM				*e*Sn		**Sn**		**01 56 48.6**	**-1.2**
IPM	**Ipoh**	**5.18**	**83**	*e*Pn		**Pn**		**01 55 57.2**	**+0.9**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=201,slow=11,SNR=3.0	**14.83**	**11**	Pn		**Pn**		**01 58 06.2**	**-1.9**
LUWI	**Luwuk**	**27.32**	**100**	*e*P		**P**		**02 00 22.7**	**+0.9**
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=158,slow=9.2,SNR=7.1	**44.37**	**347**	P		**P**		**02 02 46.6**	**-0.3**
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=303,slow=9.3,SNR=6.9	**44.57**	**124**	P		**P**		**02 02 49.1**	**+0.2**
WRAB	**Tennant Creek** 5.0nm,1.0s	**44.58**	**123**	*e*P		**P**		**02 02 49.7**	**+0.8**
SONM	**Songino Array** 1.3nm,0.5s,baz=190,slow=9.1,SNR=4.2	**44.75**	**10**	P		**P**		**02 02 49.4**	**-0.6**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=298,slow=8.0,SNR=3.5	**46.05**	**128**	P		**P**		**02 03 00.3**	**-0.2**
TLY	**Talaya** comp=Z,32nm,18.9s,baz=183,slow=37	**48.11**	**6**	LR		LR		02 24 21.7	
KURK	**Kurchatov**	**48.91**	**346**	*e*P		**P**		**02 03 21.4**	**-0.9**
ZALV	**Zalesovo Beam** 2.1nm,0.5s,baz=177,slow=6.9,SNR=8.6	**50.76**	**352**	P		**P**		**02 03 36.0**	**-0.2**
ABKAR	**Akbulak array** 0.4nm,0.4s	**54.57**	**332**	*e*P		**P**		**02 04 04.2**	**-0.3**
CAN	**Canberra** 16nm,1.3s	**63.18**	**133**	*e*P		**P**		**02 05 05.0**	**+0.4**
BRTR	**Keskin Array B** 0.6nm,0.8s,baz=139,slow=5.8,SNR=4.4	**66.36**	**312**	P		**P**		**02 05 25.6**	**+0.2**
FINES	**FINESS Array B** 1.1nm,0.8s,baz=106,slow=6.9,SNR=3.3	**77.05**	**332**	P		**P**		**02 06 29.4**	**+0.5**
ARCES	**ARCESS Array B** 0.6nm,0.6s,baz=98,slow=5.4,SNR=8.5	**79.61**	**340**	P		**P**		**02 06 43.6**	**+0.6**
VRAC	**Vranov** comp=Z,58nm,21.5s,baz=184,slow=38	**80.10**	**319**	LR		LR		02 45 17.3	

*IDC **24** 02:06:49.7±0.7,0.65N×25.46W,h0km,mb4.2/15, mb1 4.4/16,mb1mx4.1/49,mbtmp4.2/16,ML4.1/1,MS4.2/19, Ms1 4.2/19,ms1mx4.0/35,Error ellipse: s-maj=26.3km s-min=15.8km az=145.0*

*ISCJB **24** 02:06:50.7±0.4,0.88N±0.09×25.54W±0.04,h10km, mb4.8/84,MS4.2/20,Error ellipse: s-maj=13.2km s-min=5.3km az=168.9*

*BJI **24** 02:06:51.0,0.70N×25.50W,h10km,mb5.3/2,mB5.6/4, Ms5.3/3,Ms7 4.9/3*

*GCMT **24** 02:06:51.5±0.2,0.68N×25.44W,h12km,MW5.2/74, Moment Tensor Solution. s38,c45; s74,c126; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.50±.17; Mθθ-0.53±.18; Mφφ6.03±.14; Mrθ-2.89±.70; Mrφ0.58±.14; Mθφ-2.26±.46; Best double couple: M◎6.86300×10^16 NP1:φs27.00000°,δ61.00000°,λ-66.00000°. NP2: φs165.00000°,δ37.00000°,λ-126.00000°. Principal axes: T 6.6440, Plg13.0000°, Azm100.0000°; N 0.4360, Plg21.0000°, Azm195.0000°; P -7.0820, Plg66.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 02:06:51.5±0.2,0.60N×25.39W,h10km,mb4.9/70 Error ellipse: s-maj=7.5km s-min=4.1km az=160.0*

ISC 24 02:06:51.6±0.4,0.6N±0.1×25.47W±0.08,h12km,n306, σ1§06/293,mb4.9/84,MS4.3/20,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RCBR	**Riachuelo** 1.2nm,0.3s,baz=57,slow=14,SNR=9.7	**12.24**	**238**	Pn		**Pn**		**02 09 44.3**	**-1.6**
RCBR				Sn		Sn		02 11 48.9	-14
	0.2nm,0.3s,baz=77,slow=16,SNR=3.3								
RCBR	comp=Z,2µm,20.1s,baz=82,slow=32			LR		LR		02 13 22.8	
RCBR	**Riachuelo**	**12.24**	**238**	*e*Pn		**Pn**		**02 09 46.3**	**+0.3**
RCBR				Sn		Sn		02 11 48.9	-14
H10N3	**ASCENSION HYDR** baz=307,slow=74,SNR=640	**13.80**	**128**	T		T		02 24 11.2	
H10N2	**ASCENSION HYDR** baz=307,slow=74,SNR=806	**13.80**	**128**	T		T		02 24 11.4	
H10N1	**ASCENSION HYDR** baz=307,slow=74,SNR=1156	**13.82**	**128**	T		T		02 24 12.7	
H10S3	**ASCENSION HYDR** baz=311,slow=74,SNR=257	**14.37**	**132**	T		T		02 24 54.9	
H10S1	**ASCENSION HYDR** baz=311,slow=74,SNR=467	**14.38**	**132**	T		T		02 24 55.2	
H10S2	**ASCENSION HYDR** baz=311,slow=74,SNR=350	**14.39**	**132**	T		T		02 24 57.5	
LIC	**Lamto**	**21.14**	**74**	*e*P		**P**		**02 11 39.8**	**+3.1**
TIC	**Toumodi**	**21.25**	**73**	*e*P		**P**		**02 11 42.3**	**+4.4**
DBIC	**Dimbokro** 28nm,0.9s,baz=240,slow=13,SNR=9.9	**21.41**	**73**	P		**P**		**02 11 39.1**	**-0.6**
DBIC				LR		LR		02 18 04.8	
	comp=Z,2µm,21.7s,baz=241,slow=32		

comp=Z,98nm,18.1s,baz=230,slow=36
BOSA Boshof 56.54 125 LR LR 02 36 27.0
comp=Z,452nm,20.4s,baz=282,slow=31
JAVS Javornik 56.87 32 *i* P **P 02 16 35.9 -0.5**
BOJS Bojanci 57.26 33 *i* P **P 02 16 39.3 +0.3**
PDKS Podkum 57.48 32 *i* P **P 02 16 40.6 0.0**
PLCA Paso Flores 58.04 219 LR LR 02 42 00.1
comp=Z,260nm,18.2s,baz=100,slow=36
GEA0 GERESS Array S 58.63 29 *eP* **P 02 16 48.1 -0.6**
GERES GERESS Array B 58.64 29 P **P 02 16 49.0 +0.2**
0.6nm,0.6s,baz=201,slow=7.1,SNR=5.6
KHC Kasperske Hory 58.77 29 *eP* **P 02 16 49.5 -0.2**
VYHS Vyhne 61.03 32 *eP* **P 02 17 05.5 +0.3**
VYHS *e* 02 17 13.4
VYHS *ePP* **PP 02 19 21.9 +2.2**
MORC Moravsky Berou 61.15 30 *eP* **P 02 17 07.2 +1.1**
107nm,2.0s
CRVS Cervenica-Dubn 62.68 33 *eP* **P 02 17 16.8 +0.5**
KMBO Kilima Mbogo 62.74 92 LR LR 02 41 57.4
comp=Z,356nm,19.1s,baz=232,slow=34
M54A Oil Creek Stat 63.47 317 P **P 02 17 21.1 -0.6**
baz=115
MLR Muntele Rosu 63.48 38 *eP* **P 02 17 21.3 -0.4**
SCHQ Schefferville 63.69 335 LR LR 02 40 12.4
comp=Z,285nm,21.5s,baz=110,slow=31
BR231 Keskin MP Arra 65.65 46 *eP* **P 02 17 39.5 +3.4**
SWET Sewanee 65.80 309 *eP* **P 02 17 38.8 +1.7**
3.0nm,1.1s
BRTR Keskin Array B 66.23 46 P **P 02 17 40.0 +0.1**
0.9nm,0.7s,baz=214,slow=6.0,SNR=6.9
BRTR LR LR 02 48 22.0
comp=Z,95nm,19.7s,baz=234,slow=38
NB2 NORSAR Subarra 66.42 18 P **P 02 17 40.8 +0.2**
comp=Z,0.9nm,0.7s,baz=221,slow=6.5
NOA NORSAR Array B 66.42 18 P **P 02 17 40.8 +0.2**
comp=Z,1.5nm,0.8s,baz=219,slow=6.3,SNR=5.6
NOA LR LR 02 43 01.5
comp=Z,42nm,21.9s,baz=215,slow=33
Z48A Northport 66.56 306 P **P 02 17 41.3 -0.7**
baz=106
HFS Hagfors 66.57 20 LR LR 02 42 07.0
comp=Z,10.0nm,20.0s,baz=260,slow=32
Z47A Carrollton 66.93 306 P **P 02 17 44.1 -0.2**
baz=105
Y47A UCPARC, Winfie 66.94 307 P **P 02 17 43.7 -0.7**
baz=106
WVT Waverly 67.54 309 *eP* **P 02 17 47.9 -0.2**
comp=Z,22nm,1.9s
Y46A Houston 67.75 307 P **P 02 17 48.5 -0.9**
baz=105
AK11 Malin Array Si 67.87 34 *eP* **P 02 17 49.9 +0.1**
KIEV Kiev 67.90 34 *eP* **P 02 17 49.8 -0.2**
comp=Z,21nm,1.3s
AKASG Malin Array Be 67.91 34 P **P 02 17 49.9 -0.2**
comp=Z,1.5nm,0.6s,baz=237,slow=6.7,SNR=14
AKASG LR LR 02 48 44.6
comp=Z,81nm,19.5s,baz=225,slow=37
S45A Carrier Mills 68.56 311 P **P 02 17 53.8 -0.7**
baz=107
344A Westbrook Farm 68.70 304 P **P 02 17 55.3 -0.1**
baz=103
244A Avery, Jackson 68.79 304 P **P 02 17 56.0 0.0**
baz=103
Z44A Pea Ridge, Bel 68.87 306 P **P 02 17 56.1 -0.3**
baz=104
X43A Marvell 69.53 307 P **P 02 17 59.9 -0.7**
baz=104
143A Socs Landing, 69.53 305 P **P 02 17 60.0 -0.6**
baz=103
S43A Fulton Ridge, 69.67 310 P **P 02 18 00.4 -1.0**
baz=106
V42A Cord 70.24 308 P **P 02 18 03.6 -1.4**
baz=104,SNR=6.2
W41B Gary Mavity, V 70.77 307 P **P 02 18 07.1 -1.1**
baz=103
Y41A Eaglette Beard 70.78 306 P **P 02 18 07.4 -0.8**
baz=103
WHAR Wooly Hollow 70.83 307 *eP* **P 02 18 08.9 +0.4**
comp=Z,26nm,1.7s
T41A Mountain View 70.84 309 P **P 02 18 07.8 -0.8**
baz=104
V41A Mountainview 70.84 308 P **P 02 18 07.7 -1.0**
baz=104
X201 Greenbrier Sit 70.89 307 *eP* **P 02 18 08.9 0.0**
comp=Z,8.9nm,1.1s
X301 Greenbrier Sit 70.91 307 *eP* **P 02 18 08.9 -0.1**
comp=Z,16nm,1.4s
O41A Passleys Farm, 70.97 312 P **P 02 18 08.3 -0.9**
baz=106
P41A Barry, Barry 70.98 312 P **P 02 18 08.2 -1.2**
baz=106
JMIC Jan Mayen 71.10 6 LR LR 02 41 43.9
comp=Z,50nm,20.7s,baz=264,slow=30
240A Hunter Patters 71.34 304 P **P 02 18 10.9 -0.8**
baz=101
V40A Witts Springs 71.38 308 P **P 02 18 11.0 -0.9**
baz=103
W40A Ferguson Farm, 71.43 307 P **P 02 18 11.7 -0.4**
baz=103,SNR=5.6
T40A Mansfield 71.45 309 P **P 02 18 11.4 -0.8**
baz=104,SNR=8.5
U40A Yellville 71.52 308 P **P 02 18 11.7 -1.1**
baz=103
S40A Lebanon 71.54 310 P **P 02 18 11.9 -1.0**
baz=104,SNR=6.2
Q40A Laux Farm, Aux 71.56 311 P **P 02 18 12.2 -0.7**
baz=105
P40A Paris 71.68 312 P **P 02 18 13.0 -0.6**
baz=105
MIAR Mount Ida 71.70 306 P **P 02 18 13.1 -0.7**
baz=102
O40A La Belle 71.70 312 P **P 02 18 12.8 -0.9**
baz=105
Y39A Lockesburg 71.99 306 P **P 02 18 15.1 -0.5**
baz=102
W39A Magazine 72.01 307 P **P 02 18 15.3 -0.3**
baz=102,SNR=5.5
U39A Green Forest 72.02 308 P **P 02 18 15.3 -0.5**
baz=103
FINES FINESS Array B 72.03 23 P **P 02 18 15.7 +0.5**
comp=Z,2.7nm,0.6s,baz=272,slow=2.6,SNR=10
FINES LR LR 02 49 50.8
comp=Z,60nm,19.6s,baz=297,slow=36
V39A Pettigrew 72.03 308 P **P 02 18 15.6 -0.3**
baz=103
NATX Nacogdoches 72.04 303 P **P 02 18 15.6 -0.3**
baz=101
NATX Nacogdoches 72.04 303 *eP* **P 02 18 15.6 -0.3**
comp=Z,28nm,1.0s
T39A Clever 72.09 309 P **P 02 18 15.8 -0.3**
baz=103
X39A Fountain Ranch 72.13 306 P **P 02 18 16.3 -0.1**
baz=102
S39A Bolivar 72.20 309 P **P 02 18 16.6 -0.2**
baz=103
SUMG Summit 72.30 356 *eP* **P 02 18 17.6 +0.5**
comp=Z,11nm,0.9s
HHAR Hobbs 72.36 308 *eP* **P 02 18 18.3 +0.5**
comp=Z,5.5nm,1.1s
J39A Decorah 72.45 316 P **P 02 18 18.0 -0.1**
baz=106
W38A Poteau 72.57 307 P **P 02 18 18.8 -0.2**
baz=102
V38A Canehill 72.64 307 P **P 02 18 19.3 -0.1**
baz=102
Q38A Cooks Store, C 72.72 311 P **P 02 18 19.8 0.0**
baz=104
X38A Whitesboro 72.74 306 P **P 02 18 20.0 0.0**
baz=102
U38A Gravette 72.75 308 P **P 02 18 20.1 0.0**
baz=102
R38A Fenwick Farm, 72.76 310 P **P 02 18 19.8 -0.3**
baz=103
T38A Diamond 72.80 309 P **P 02 18 19.7 -0.7**
baz=103
237A Washetta, Mont 73.04 303 P **P 02 18 21.4 -0.4**
baz=100
I38A Scanlan Farm, 73.08 316 P **P 02 18 21.6 -0.3**
baz=106
V37A Hulbert 73.23 307 P **P 02 18 22.2 -0.7**
baz=102
T37A Cheneyville 18 73.31 309 P **P 02 18 22.4 -1.0**
baz=102,SNR=6.3
W37B Quinton 73.31 307 P **P 02 18 22.8 -0.7**
baz=101,SNR=5.4
U37A Salina 73.32 308 P **P 02 18 22.7 -0.7**
baz=102
S37A Fort Scott 73.38 309 P **P 02 18 23.2 -0.6**
baz=102
M37A Trindle Farm, 73.63 313 P **P 02 18 24.2 -1.0**
baz=104
236A Katherine and 73.65 303 P **P 02 18 24.4 -1.1**
baz=100
SNAA Sanae 73.65 173 *eP* **P 02 18 24.9 +0.2**
comp=Z,654nm,1.5s
SPMN Marine on St. 73.73 317 P **P 02 18 25.2 -0.5**
baz=106
J37A Redenius Farm, 73.74 315 P **P 02 18 25.1 -0.7**
baz=105
TUL1 Leonard 73.75 307 P **P 02 18 25.4 -0.6**
baz=101
TUL1 Leonard 73.75 307 *eP* **P 02 18 26.4 +0.3**
comp=Z,18nm,1.1s
Z36A Blue Ridge 73.79 304 P **P 02 18 25.3 -0.9**
baz=100
336A Riesel 73.81 302 P **P 02 18 25.3 -1.1**
baz=99
X36A Centrahoma 73.95 306 P **P 02 18 26.8 -0.4**
baz=101
W36A Wetumka 73.95 306 P **P 02 18 26.4 -0.8**
baz=101,SNR=5.9
S36A Lake Cedric, C 73.96 309 P **P 02 18 26.5 -0.7**
baz=102
D37A Cotton 74.03 319 P **P 02 18 27.1 -0.3**
baz=107
KBZ Khabaz 74.04 44 LR LR 02 53 03.2
comp=Z,74nm,21.4s,baz=242,slow=38
T36A Boggs Farm, Ca 74.05 308 P **P 02 18 27.4 -0.3**
baz=102
E36A McGregor 74.39 318 P **P 02 18 29.2 -0.4**
baz=106
C36A Pine Crest Far 74.47 320 P **P 02 18 29.1 -0.8**
baz=107
W35A Tecumseh 74.48 306 P **P 02 18 29.6 -0.7**
baz=100,SNR=7.0
D36A Goodland 74.52 319 P **P 02 18 29.5 -0.7**
baz=106
S35A Otter Creek Ra 74.52 309 P **P 02 18 30.1 -0.4**
baz=102
T35A Sooner Cattle 74.52 308 P **P 02 18 29.5 -1.0**
baz=101
V35A Meyer Ranch, C 74.56 307 P **P 02 18 29.8 -0.9**
baz=101
U35A Pawnee 74.59 308 P **P 02 18 30.0 -0.9**
baz=101
934A Benavides 74.71 298 P **P 02 18 30.8 -1.0**
baz=98
K35A Storm Lake 74.79 314 P **P 02 18 31.3 -0.6**
baz=104
I35A Creekview Farm 74.88 315 P **P 02 18 31.8 -0.7**
baz=104
434A Burnet 74.93 302 P **P 02 18 32.2 -0.8**
baz=98
334A Lometa 74.98 302 P **P 02 18 32.4 -0.9**
baz=99
H35A Sunnyside Ranc 74.98 316 P **P 02 18 32.8 -0.2**
baz=104
Y34A Reagan Ranch, 74.99 305 P **P 02 18 32.2 -1.1**
baz=100
534A Blanco 74.99 301 P **P 02 18 32.5 -0.9**
baz=98,SNR=5.9
KSU1 Kansas State U 75.02 310 P **P 02 18 32.9 -0.4**
baz=102
134A White-Moore Ra 75.03 303 P **P 02 18 33.1 -0.5**
baz=99
T34A McClaskey Farm 75.07 308 P **P 02 18 33.3 -0.4**
baz=101
V34A Guthrie 75.12 307 P **P 02 18 33.4 -0.5**
baz=100
S34A Willow Spring 75.14 309 P **P 02 18 33.6 -0.5**
baz=101
X34A Smith Ranch, M 75.16 306 P **P 02 18 33.5 -0.7**
baz=100
B35A Bob, Littlefor 75.21 320 P **P 02 18 34.0 -0.2**
baz=106
W34A Bridge Creek, 75.22 306 P **P 02 18 34.3 -0.3**
baz=100
W34A Bridge Creek, 75.22 306 *eP* **P 02 18 34.9 +0.3**
comp=Z,32nm,1.2s
U34A Anderson Ranch 75.24 307 P **P 02 18 34.0 -0.7**
baz=100
P34A Walnut Farm, R 75.28 311 P **P 02 18 34.2 -0.6**
baz=102
R34A Isabella, Hill 75.36 309 P **P 02 18 34.7 -0.6**
baz=101
933A Laredo 75.37 298 P **P 02 18 35.4 -0.2**
baz=97
533A Kerrville 75.48 301 P **P 02 18 36.0 -0.2**
baz=98
633A Saathoff Ranch 75.52 300 P **P 02 18 36.3 -0.2**
baz=98,SNR=8.1
733A Divot King Ran 75.53 299 P **P 02 18 36.2 -0.2**
baz=97
833A Chaparral WMA, 75.56 299 P **P 02 18 36.3 -0.3**
baz=97
333A Richland Sprin 75.61 302 P **P 02 18 36.5 -0.4**
baz=98
433A Art 75.62 301 P **P 02 18 36.0 -1.0**
baz=98,SNR=6.9
H34A Spellman Lake, 75.63 316 P **P 02 18 36.8 +0.1**
baz=104
233A Rising Star 75.64 303 P **P 02 18 36.3 -0.8**
baz=98,SNR=5.4
U33A Lingo Farm, Me 75.70 307 P **P 02 18 37.0 -0.3**
baz=100
Y33A Hilltop Ranch, 75.71 305 P **P 02 18 37.1 -0.3**
baz=99
Z33A Whitaker Ranch 75.72 304 P **P 02 18 37.0 -0.5**
baz=99
V33A Lossen Ranch, 75.73 307 P **P 02 18 37.3 -0.2**
baz=100
133A Hamilton Ranch 75.74 303 P **P 02 18 37.2 -0.4**
baz=98
S33A Kaszmaul Farm, 75.81 309 P **P 02 18 37.5 -0.4**
baz=100
B34A Aery, Baudette 75.84 320 P **P 02 18 37.5 -0.3**
baz=105
T33A Patterson Ranc 75.91 308 P **P 02 18 38.2 -0.3**
baz=100
R33A Olander Ranch, 75.93 309 P **P 02 18 38.1 -0.5**
baz=100
WMOK Wichita Mounta 75.95 306 P **P 02 18 38.2 -0.6**
baz=99
WMOK Wichita Mounta 75.95 306 *eP* **P 02 18 35.8 -3.0**
comp=Z,27nm,2.0s
ECSD EROS Data Cent 76.00 315 P **P 02 18 38.4 -0.5**
baz=103
ECSD EROS Data Cent 76.00 315 *eP* **P 02 18 38.3 -0.6**
comp=Z,5.5nm,0.9s
832A Faith Ranch, C 76.07 299 P **P 02 18 39.0 -0.6**
baz=97
JCT Junction City 76.19 301 P **P 02 18 39.8 -0.5**
baz=98
JCT Junction City 76.19 301 *eP* **P 02 18 40.5 +0.2**
comp=Z,10.0nm,0.9s
H33A Prehn Over Nor 76.31 316 P **P 02 18 40.4 -0.2**
baz=103
X32A Elmer 76.31 305 P **P 02 18 40.5 -0.4**
baz=99
ABTX Abilene, Hawle 76.35 303 P **P 02 18 40.6 -0.5**
baz=98,SNR=5.9
ABTX Abilene, Hawle 76.35 303 *eP* **P 02 18 41.2 +0.1**
comp=Z,17nm,1.1s
W32A Sentinel 76.39 306 P **P 02 18 40.7 -0.6**
baz=99
U32A Winter Ranch, 76.39 307 P **P 02 18 40.8 -0.5**
baz=99
A33A Warroad 76.43 320 P **P 02 18 41.6 +0.4**
baz=105
AGMN Agassiz Nation 76.57 320 P **P 02 18 41.6 -0.4**
baz=104
AGMN Agassiz Nation 76.57 320 *eP* **P 02 18 41.2 -0.8**
comp=Z,17nm,1.4s
H32A Carlson Farm, 76.75 316 P **P 02 18 42.6 -0.5**
baz=102
G32A Webster 76.96 316 P **P 02 18 43.5 -0.7**
baz=102
A31A Linda, St. Vin 77.58 320 P **P 02 18 47.5 -0.1**
baz=104
C30A Mose, Pekin 78.14 319 P **P 02 18 50.0 -0.8**
baz=102
B30A Myrvik Farm, E 78.20 319 P **P 02 18 50.4 -0.8**
baz=102
AMTX Amarillo 78.33 305 *eP* **P 02 18 53.4 +1.1**
comp=Z,18nm,0.6s
G29A Hoven 78.62 316 P **P 02 18 53.3 -0.3**
baz=101
E29A Napoleon 78.69 317 P **P 02 18 54.0 +0.1**
baz=101
A29A Manning Farm, 78.89 320 P **P 02 18 55.1 +0.2**
baz=102
MSTX Muleshoe 79.12 304 P **P 02 18 56.8 +0.2**
baz=97
MSTX Muleshoe 79.12 304 *eP* **P 02 18 57.3 +0.6**
comp=Z,14nm,1.0s
TXAR Lajitas Array 79.40 300 P **P 02 18 58.5 +0.2**
comp=Z,2.6nm,0.8s,baz=122,slow=7.0,SNR=22
TX31 Lajitas Ar. Si 79.40 300 *eP* **P 02 18 58.7 +0.4**
KSCO Kaye Shedlock' 79.63 309 *eP* **P 02 19 00.3 +1.0**
comp=Z,16nm,0.8s
T25A Trinidad 80.80 307 P **P 02 19 06.3 +0.5**
baz=96
T25A Trinidad 80.80 307 *eP* **P 02 19 06.8 +0.9**
comp=Z,11nm,1.4s
MNTX Cornudas Mount 81.08 302 P **P 02 19 07.0 -0.2**
baz=95
MNTX Cornudas Mount 81.08 302 *eP* **P 02 19 06.3 -0.9**
comp=Z,3.6nm,0.9s
H25A Fruitdale 81.11 315 P **P 02 19 07.8 +0.7**
baz=98
RSSD Black Hills 81.35 314 *eP* **P 02 19 09.1 +0.5**
comp=Z,2.3nm,0.7s
Q24A Divide 81.57 309 P **P 02 19 10.5 +0.5**
baz=96
Q24A Divide 81.57 309 *eP* **P 02 19 10.9 +0.9**
comp=Z,11nm,1.1s
SDCO Great Sand Dun 81.72 308 P **P 02 19 11.6 +0.7**
baz=96
SDCO Great Sand Dun 81.72 308 *eP* **P 02 19 11.8 +0.9**
comp=Z,7.9nm,1.1s
ISCO Idaho Springs 82.02 310 P **P 02 19 13.1 +0.7**
baz=96
ISCO Idaho Springs 82.02 310 *eP* **P 02 19 13.6 +1.3**
comp=Z,20nm,1.8s
DGMT Dagmar 82.05 319 P **P 02 19 12.5 +0.6**
baz=98
ANMO Albuquerque 82.25 305 P **P 02 19 13.9 +0.4**
baz=95
ANMO Albuquerque 82.25 305 *eP* **P 02 19 13.9 +0.4**
comp=Z,20nm,1.8s
N23A Red Feather La 82.38 311 P **P 02 19 15.0 +0.8**
baz=96
N23A Red Feather La 82.38 311 *eP* **P 02 19 15.2 +1.0**
comp=Z,6.3nm,0.9s
LAZ Ladron 82.76 304 *eP* **P 02 19 17.3 +1.1**
S22A 4UR Ranch, Cre 82.77 308 P **P 02 19 16.6 +0.3**
baz=95
S22A 4UR Ranch, Cre 82.77 308 *eP* **P 02 19 17.4 +1.0**
comp=Z,19nm,1.9s
SMCO Snowmass 83.01 309 *eP* **P 02 19 18.6 +1.0**
comp=Z,8.4nm,1.1s
LAO LASA Array 83.19 317 P **P 02 19 18.4 +0.4**
baz=96
LAO LASA Array 83.19 317 *eP* **P 02 19 18.9 +0.9**
comp=Z,18nm,1.1s
RES Resolute Bay 84.03 346 *eP* **P 02 19 21.9 +0.3**
comp=Z,12nm,1.3s
O20A White River Ci 84.06 310 P **P 02 19 23.2 +0.5**
baz=94
O20A White River Ci 84.06 310 *eP* **P 02 19 23.4 +0.6**
comp=Z,8.3nm,1.1s
MVCO Mesa Verde 84.06 307 P **P 02 19 23.6 +0.7**
baz=94
MVCO Mesa Verde 84.06 307 *eP* **P 02 19 24.0 +1.1**
comp=Z,25nm,1.8s
PV01 Paradox Valley 84.17 308 *eP* **P 02 19 24.6 +1.1**
PV10 Paradox Valley 84.56 308 *eP* **P 02 19 26.9 +1.5**
PV09 Paradox Valley 84.64 308 *eP* **P 02 19 27.7 +1.8**
X18A Snowflake 85.09 304 *eP* **P 02 19 29.2 +1.1**
comp=Z,9.0nm,1.0s
RLMT Red Lodge 85.17 315 P **P 02 19 28.8 +0.5**
baz=94
RLMT Red Lodge 85.17 315 *eP* **P 02 19 29.0 +0.7**
comp=Z,7.0nm,0.8s
PDAR Pinedale Array 85.22 313 P **P 02 19 28.6 0.0**
comp=Z,2.9nm,1.0s,baz=91,slow=5.9,SNR=8.7
BW06 Boulder Array 85.22 313 *eP* **P 02 19 29.1 +0.5**
comp=Z,5.5nm,1.1s
AKTO Aktyubinsk 85.35 40 P **P 02 19 28.2 -0.6**
comp=Z,1.5nm,0.9s,baz=262,slow=5.3,SNR=5.2
GCMT Greycliff 85.49 316 *eP* **P 02 19 30.9 +1.1**
TUC Tucson 85.70 302 P **P 02 19 31.7 +0.7**
baz=92
TUC Tucson 85.70 302 *eP* **P 02 19 32.4 +1.3**
comp=Z,2.3nm,0.9s
SRU San Rafael Swe 85.76 309 *eP* **P 02 19 32.5 +1.1**
comp=Z,14nm,1.5s
LOHW Long Hollow 86.03 313 *eP* **P 02 19 33.2 +0.6**
comp=Z,50nm,1.9s
H17A Grant Village 86.05 314 P **P 02 19 33.7 +0.9**
baz=93
SNOW Snow King Moun 86.14 313 *eP* **P 02 19 34.0 +0.8**
comp=Z,60nm,1.9s
MOOW Moose Ponds 86.14 314 *eP* **P 02 19 33.6 +0.4**
comp=Z,17nm,1.6s
ARU Arti 86.16 34 P **P 02 19 32.3 -0.4**
comp=Z,1.3nm,0.3s,baz=274,slow=4.1,SNR=4.5
REDW Red Top Meadow 86.20 313 *eP* **P 02 19 33.8 +0.3**
comp=Z,20nm,1.3s
YHH Holmes Hill 86.27 315 *eP* **P 02 19 35.6 +1.7**
comp=Z,11nm,1.0s
TPAW Teton Pass 86.28 313 *eP* **P 02 19 34.3 +0.4**
comp=Z,12nm,1.1s
IMW Indian Meadow 86.29 314 *eP* **P 02 19 34.0 0.0**
comp=Z,37nm,1.8s
WUAZ Wupatki 86.30 305 P **P 02 19 34.9 +0.8**
baz=92
TMUT Trail Mountain 86.30 309 *eP* **P 02 19 34.9 +0.8**
comp=Z,22nm,1.7s
X16A Lo Mia Camp, P 86.32 304 *eP* **P 02 19 36.1 +1.9**
FXWY Fox Creek 86.34 314 *eP* **P 02 19 34.6 +0.4**
comp=Z,42nm,2.0s
ABKAR Akbulak array 86.52 41 *eP* **P 02 19 35.5 +0.9**
TCUT Toone Canyon 86.52 311 *eP* **P 02 19 35.9 +0.7**
comp=Z,58nm,1.8s
JLU Jordanelle 86.53 310 *eP* **P 02 19 36.5 +1.3**
comp=Z,32nm,1.9s
HWUT Hardware Ranch 86.66 311 *eP* **P 02 19 36.0 +0.3**
comp=Z,20nm,1.4s
BOZ Bozeman (W) 86.86 315 P **P 02 19 37.0 +0.4**
baz=92
BOZ Bozeman (W) 86.86 315 *eP* **P 02 19 36.7 +0.1**
MTPU Mount Pierson 87.02 308 *eP* **P 02 19 39.1 +1.3**
comp=Z,13nm,0.9s
U15A North Rim 87.06 306 *eP* **P 02 19 39.1 +1.2**
comp=Z,16nm,1.7s
SPUT South Promonto 87.31 311 *eP* **P 02 19 39.1 +0.2**
comp=Z,24nm,1.9s
214A Organ Pipe Nat 87.41 302 P **P 02 19 39.9 +0.5**
baz=91
LRM Limekiln Ridge 87.44 316 *eP* **P 02 19 40.6 +1.1**
DUG Dugway, Tooele 87.56 310 P **P 02 19 40.9 +0.8**
baz=91
DUG Dugway, Tooele 87.56 310 *eP* **P 02 19 40.8 +0.8**
comp=Z,5.6nm,1.0s
Y14A Wickenburg 87.60 304 *eP* **P 02 19 41.2 +0.9**
MCMT McKenzie Canyo 87.69 315 *eP* **P 02 19 41.6 +0.9**
BGU Big Grassy Mou 87.74 311 *eP* **P 02 19 41.4 +0.4**
comp=Z,8.8nm,1.3s
CCUT Cedar City 87.94 307 *eP* **P 02 19 43.3 +1.2**
comp=Z,36nm,2.0s
W13A Hualapai Mount 88.34 305 *eP* **P 02 19 45.7 +1.7**
MSO Missoula 88.49 317 P **P 02 19 44.4 +0.1**
baz=91
PDMCI Parker Dam,Lak 88.55 304 P **P 02 19 45.3 +0.6**
baz=90
HLID Hailey 88.80 313 P **P 02 19 46.6 +0.7**
baz=90
HLID Hailey 88.80 313 *eP* **P 02 19 46.9 +1.0**
comp=Z,2.9nm,1.0s
Y12C Blythe 88.86 304 P **P 02 19 47.3 +1.1**
baz=90
Y12C Blythe 88.86 304 *eP* **P 02 19 47.4 +1.1**
comp=Z,6.5nm,1.0s
YKA Yellowknife Ar 89.04 332 P **P 02 19 44.8 -1.6**
comp=Z,1.0nm,0.7s,baz=91,slow=5.5,SNR=7.4
IRM Iron Mountain 89.38 304 P **P 02 19 49.7 +1.0**
baz=90
ELK Elko 89.42 311 *eP* **P 02 19 49.2 +0.3**
comp=Z,1.7nm,0.8s
R11A Troy Canyon, C 89.70 308 P **P 02 19 50.7 +0.4**
baz=89
R11A Troy Canyon, C 89.70 308 *eP* **P 02 19 50.8 +0.5**
comp=Z,3.0nm,1.2s
GMRC Granite Mounta 89.80 305 P **P 02 19 51.4 +0.7**

	baz=89							
QSPA	**South Pole Qui**	**90.70**	**180**	*e*P		**P**	**02 19 54.3**	**+0.1**
	comp=Z,38nm,1.0s							
GSC	**Goldstone, Bar**	**90.73**	**305**	P		**P**	**02 19 55.7**	**+0.7**
	baz=89							
BMO	**Blue Mountains**	**90.86**	**315**	*e*P		**P**	**02 19 56.6**	**+1.1**
	comp=Z,5.3nm,1.0s							
B05A	**Bryant**	**93.95**	**318**	P		**P**	**02 20 09.7**	**+0.2**
	baz=85							
KSH	**Kashi**	**98.42**	**50**	*e*P		**P**	**02 20 28.0**	**-2.2**
KSH				pP		pP	02 20 32.9	-1.3
KSH				PP		**PP**	**02 24 31.3**	**+1.0**
KSH				S		**S**	**02 31 50.0**	**-8.9**
KSH				PMZ				
	comp=Z,3.0nm,0.4s							
KSH				LN				
	comp=Z,100nm,4.7s							
KSH				LE				
	comp=Z,81nm,5.6s							
KSH				LZ				
	comp=Z,260nm,13.3s							
RKT	**Rikitea**	**108.16**	**246**	*e*LR		LR	02 57 06.6	
	comp=Z,308nm,23.0s							
TAOE	**Nuku Hiva Isla**	**114.48**	**261**	*e*LR		LR	02 59 59.3	
	comp=Z,237nm,25.8s							
LZH	**Lanzhou**	**120.44**	**47**	*e*PKP		**PKPdf**	**02 25 41.1**	**-2.7**
LZH				sPKP			02 25 46.6	
TBI	**Tubuai**	**121.21**	**243**	*e*SS		SS	02 43 54.4	+4.9
	comp=Z,75nm,33.5s							
TBI	**Tubuai**	**121.21**	**243**	*e*LR		LR	03 03 06.4	
	comp=Z,197nm,36.2s							
CD2	**Chengdu**	**122.53**	**52**	PKP		**PKPdf**	**02 25 47.0**	**-0.9**
CD2				sPKP			02 25 53.4	
CD2				PP		**PP**	**02 27 23.3**	**-1.0**
CD2				SKS		**SKSdf**	**02 32 58.6**	**-1.5**
CD2				SKKS		**SKKSac**	**02 34 20.6**	**-3.5**
CD2				SS		**SS**	**02 44 05.3**	**-0.5**
CD2				PPMZ				
	comp=Z,120nm,6.4s							
PPT2	**Papeete2**	**122.56**	**250**	*e*SS		SS	02 44 06.3	-1.0
	comp=Z,70nm,25.0s							
PPT2	**Papeete2**	**122.56**	**250**	*e*LR		LR	03 03 44.0	
	comp=Z,171nm,24.0s							
HHC	**Hu-ho-hao-te**	**123.22**	**38**	*e*PKP		**PKPdf**	**02 25 50.8**	**+1.8**
GYA	**Guiyang**	**126.61**	**56**	*e*Pdif		**Pdif**	**02 22 35.8**	**-0.1**
GYA				PKP		**PKPdf**	**02 25 55.3**	**-0.6**
GYA				PP		**PP**	**02 27 55.8**	**+3.9**
GYA				PPMZ				
	comp=Z,120nm,8.2s							
STKA	**Stephens Creek**	**146.61**	**160**	PKPbc		**PKPbc**	**02 26 34.0**	**+0.2**
	comp=Z,7.8nm,1.1s,baz=312,slow=5.4,SNR=4.7							
ASAR	**Alice Springs**	**149.59**	**140**	PKPbc		**PKPbc**	**02 26 40.5**	**-1.5**
	comp=Z,0.8nm,1.0s,baz=222,slow=1.2,SNR=4.4							
WRA	**Warramunga Arr**	**152.45**	**135**	PKP		**PKPdf**	**02 26 41.3**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=241,slow=1.8,SNR=3.7							
WRA				PKPbc		**PKiKP**	**02 26 49.3**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=242,slow=1.7,SNR=4.4							
WRA				PKPab		**PKPab**	**02 26 59.1**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=227,slow=3.0,SNR=5.0							

*ISCJB **24** 02:07:50.4±0.6,26°.40S×27°.32E±0°.03,h10km±4km, Error ellipse: s-maj=5.3km s-min=4.1km az=44.9*
*PRE **24** 02:07:50.7±2.0,26°.42S×27°.30E,h2km,ML2.9*
ISC 24 02:07:50.7±0.9,**26°.41S**±0°.03×**27°.32E**±0°.03,**h11**km±6km, **n16**,σ1s**62**/31,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WDLM	**Western Deep L**	**0.10**	**101**	*e*P		**Pg**	**02 07 53.6**	**+0.1**
WDLM				*e*S		**Sg**	**02 07 54.4**	**-1.2**
WDLM				AML		AML	02 07 54.9	
	comp=Z,10μm,0.5s							
PRYS	**Parys**	**0.52**	**176**	*e*P		**Pb**	**02 08 01.6**	**-0.4**
PRYS				*e*S		**Sg**	**02 08 06.8**	**-0.9**
PRYS				AML		AML	02 08 07.7	
	comp=Z,357nm,0.2s							
BFSD	**Buffelsfontein**	**0.66**	**226**	*e*P		**Pb**	**02 08 04.0**	**-0.3**
BFSD				*e*S		**Sg**	**02 08 12.3**	**+0.1**
BFSD				AML		AML	02 08 13.2	
	comp=Z,363nm,0.2s							
KSR	**Koster**	**0.67**	**326**	*e*P		**Pb**	**02 08 05.1**	**+0.6**
KSR				*e*S		**Sg**	**02 08 12.9**	**+0.5**
KSR				AML		AML	02 08 18.5	
	comp=Z,142nm,0.9s							
OBSV	**Observatory**	**0.71**	**72**	*e*P		**Pg**	**02 08 05.0**	**+0.4**
OBSV				*e*S		**Sg**	**02 08 13.2**	**-0.7**
OBSV				AML		AML	02 08 21.5	
	comp=Z,744nm,0.3s							
MOAB	**Moab Khotsong**	**0.74**	**219**	*e*P		**Pg**	**02 08 05.3**	**+0.3**
MOAB				AML		AML	02 08 15.6	
	comp=Z,264nm,0.2s							
TLEK	**Tau Lekoa**	**0.80**	**226**	*e*P		**Pg**	**02 08 05.4**	**-0.8**
TLEK				*e*S		**Sg**	**02 08 16.7**	**0.0**
TLEK				AML		AML	02 08 23.3	
	comp=Z,163nm,0.2s							
ERPM	**east rand prop**	**0.83**	**86**	*e*P		**Pg**	**02 08 07.3**	**+0.5**
ERPM				*e*S		**Sg**	**02 08 18.0**	**+0.4**
ERPM				AML		AML	02 08 25.7	
	comp=Z,137nm,0.7s							
SEK	**Senekal**	**1.93**	**172**	*e*P		**Pn**	**02 08 24.7**	**+1.1**
SEK				*e*S		**Sn**	**02 08 49.8**	**+1.8**
SEK				AML		AML	02 08 51.2	
	comp=Z,281nm,0.5s							
BOSA	**Boshof**	**2.86**	**219**	*i* P		**Pn**	**02 08 37.5**	**+1.0**
BOSA				*i*			02 08 37.9	
	baz=37,slow=16							
BOSA				*i* S		**Sn**	**02 09 14.8**	**+3.9**
CNG	**Changalane**	**4.37**	**90**	*e*P		**Pn**	**02 08 57.3**	**+0.2**
CNG				*e*S		**Sn**	**02 09 45.3**	**-2.7**
CNG				AML		AML	02 10 05.6	
	comp=Z,45nm,0.5s							
KSD	**Kokstad**	**4.51**	**156**	*e*P		**Pn**	**02 09 00.9**	**+1.7**
KSD				*e*S		**Sn**	**02 09 52.8**	**+1.0**
KSD				AML		AML	02 10 09.8	
	comp=Z,4.6nm,0.7s							
UPI	**Upington**	**5.73**	**249**	*e*P		**Pn**	**02 09 17.5**	**+1.6**
UPI				*e*S		**Sn**	**02 10 20.6**	**-1.1**
UPI				AML		AML	02 10 52.1	
	comp=Z,36nm,0.6s							
MATP	**Matopo**	**6.05**	**11**	*i* P		**Pn**	**02 09 22.0**	**+1.7**
MATP				*i*			02 09 22.2	
	baz=198,slow=16							
MATP				*i* S		**Sn**	**02 10 30.3**	**+0.7**
KEIM	**Keimoes**	**6.08**	**246**	*e*P		**Pn**	**02 09 22.7**	**+2.0**
KEIM				*e*S		**Sn**	**02 10 27.7**	**-2.6**
KEIM				AML		AML	02 10 40.8	
	comp=Z,7.6nm,0.6s							
CVNA	**Calvinia**	**8.33**	**231**	*e*P		**Pn**	**02 09 52.0**	**+0.5**
CVNA				*e*S		**Sn**	**02 11 21.8**	**-3.9**
CVNA				AML		AML	02 11 24.4	
	comp=Z,4.9nm,0.2s							

*ISCJB **24** 02:09:02.9±0.3,44°.05N±0°.03×8°.97E±0°.02,h20km±5km, Error ellipse: s-maj=5.1km s-min=2.5km az=1.3*
*ROM **24** 02:09:02.7±0.1,44°.09N×8°.97E,h14km±5km,Md2.3/18, Ml2.0/11,Error ellipse: s-maj=2.0km s-min=1.0km az=179.0*
*CSEM **24** 02:09:02.3±0.1,44°.08N×8°.95E,h15km,ML2.8/13,Error ellipse: s-maj=3.9km s-min=2.1km az=178.0*
*LDG **24** 02:09:02.7±0.3,44°.18N×8°.99E,h15km,Md2.4/1,Ml2.6/9, Error ellipse: s-maj=4.3km s-min=3.0km az=86.0*
*GEN **24** 02:09:03.0,44°.08N×8°.96E,h4km,ML1.9*
ISC 24 02:09:02.3±1.0,**44°.10N**±0°.02×**8°.95E**±0°.01,**h19**km±3km, **n66**,σ0s**99**/124,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FINB	**Finale Ligure**	**0.46**	**280**	Pg		**Pg**	**02 09 12.1**	**+0.4**
FINB				Sg		**Sg**	**02 09 18.5**	**+0.5**
	140nm,0.3s							
FINB	**Finale Ligure**	**0.46**	**280**	Pg		**Pg**	**02 09 12.1**	**+0.4**
FINB				Sg		**Sg**	**02 09 18.5**	**+0.5**
	140nm,0.3s							
MSSA	**Maissana**	**0.46**	**61**	Pg		**Pg**	**02 09 11.6**	**-0.1**
MSSA				Sg		**Sg**	**02 09 18.1**	**0.0**
	27nm,0.1s							
MSSA	**Maissana**	**0.46**	**61**	Pg		**Pg**	**02 09 11.6**	**-0.1**
MSSA				Sg		**Sg**	**02 09 18.1**	**0.0**
	27nm,0.1s							
QLNO	**Quiliano**	**0.49**	**298**	Pg		**Pg**	**02 09 12.6**	**+0.3**
QLNO				Sg		**Sb**	**02 09 20.9**	**+1.6**
	68nm,0.2s							

QLNO	**Quiliano**	**0.49**	**298**	Pg		**Pg**	**02 09 12.6**	**+0.3**
QLNO				Sg		**Sb**	**02 09 20.9**	**+1.6**
	68nm,0.2s							
SC2M	**Scurtabo**	**0.52**	**53**	Pg		**Pg**	**02 09 12.7**	**-0.1**
SC2M				Sg		**Sb**	**02 09 20.6**	**+0.6**
	112nm,0.2s							
SC2M	**Scurtabo**	**0.52**	**53**	P		**Pg**	**02 09 12.7**	**-0.1**
SC2M				S		**Sb**	**02 09 20.4**	**+0.4**
PCP	**Piancastagn**	**0.53**	**327**	Pg		**Pg**	**02 09 13.0**	**0.0**
PCP				Sg		**Sb**	**02 09 20.8**	**+0.3**
	37nm,0.3s							
PCP	**Piancastagn**	**0.53**	**327**	P		**Pg**	**02 09 13.0**	**0.0**
PCP				S		**Sb**	**02 09 20.7**	**+0.3**
RORO	**Rocca Rossa**	**0.64**	**272**	Pg		**Pg**	**02 09 15.5**	**+0.5**
RORO				Sg		**Sg**	**02 09 24.2**	**+0.7**
	20μm,0.2s							
RORO	**Rocca Rossa**	**0.64**	**272**	P		**Pg**	**02 09 15.4**	**+0.5**
RORO				S		**Sb**	**02 09 23.7**	**+0.3**
RORO				Sg		**Sg**	**02 09 24.2**	**+0.7**
	20μm,0.2s							
BOB	**Bobbio (Coli)**	**0.76**	**28**	Pg		**Pg**	**02 09 17.3**	**+0.1**
BOB				Sg		**Sg**	**02 09 27.7**	**+0.4**
	24nm,0.5s							
BOB	**Bobbio (Coli)**	**0.76**	**28**	Pg		**Pg**	**02 09 17.3**	**+0.1**
BOB				Sg		**Sg**	**02 09 27.7**	**+0.4**
	24nm,0.5s							
IMI	**Imperia**	**0.79**	**257**	Pg		**Pb**	**02 09 17.6**	**+0.2**
IMI				Sg		**Sg**	**02 09 28.8**	**+0.6**
IMI	**Imperia**	**0.79**	**257**	Pg		**Pb**	**02 09 17.6**	**+0.2**
IMI				S		**Sb**	**02 09 28.1**	**+0.3**
ROTM	**Rocchetta Tana**	**0.87**	**330**	Pg		**Pn**	**02 09 20.1**	**+0.6**
ROTM	**Rocchetta Tana**	**0.87**	**330**	Pg		**Pn**	**02 09 20.1**	**+0.6**
ROTM	**Rocchetta Tana**	**0.87**	**330**	P		**Pn**	**02 09 20.8**	**+1.3**
ROTM				S		**Sn**	**02 09 32.8**	**+1.1**
NEGI	**Seborga**	**0.94**	**255**	Pg		**Pb**	**02 09 20.3**	**+0.3**
NEGI	**Seborga**	**0.94**	**255**	Pg		**Pb**	**02 09 20.3**	**+0.3**
NEGI	**Seborga**	**0.94**	**255**	P		**Pb**	**02 09 20.6**	**+0.6**
NEGI				S		**Sb**	**02 09 32.0**	**0.0**
GROG	**Isola di Gorgo**	**0.95**	**134**	Pg		**Pb**	**02 09 20.8**	**+0.6**
	24nm,1.0s							
GROG	**Isola di Gorgo**	**0.95**	**134**	Pg		**Pb**	**02 09 20.8**	**+0.6**
	24nm,1.0s							
SARO	**Sassorosso**	**1.05**	**85**	P		**Pn**	**02 09 22.3**	**+0.2**
SARO				S		**Sb**	**02 09 35.4**	**+0.2**
ERBM	**Eremo**	**1.10**	**72**	Pg		**Pg**	**02 09 23.6**	**0.0**
ERBM	**Eremo**	**1.10**	**72**	Pg		**Pg**	**02 09 23.6**	**0.0**
ENR	**Entracque**	**1.11**	**277**	Pg		**Pg**	**02 09 23.6**	**+0.6**
ENR				Sg		**Sb**	**02 09 37.9**	**+0.8**
ENR	**Entracque**	**1.11**	**277**	P		**Pb**	**02 09 23.6**	**+0.6**
ENR				S		**Sb**	**02 09 36.9**	**-0.2**
ENR				Sg		**Sb**	**02 09 37.9**	**+0.8**
SBF	**Sospel**	**1.12**	**259**	*e*Pn		**Pn**	**02 09 23.2**	**+0.1**
SBF	**Sospel**	**1.12**	**259**	*e*Pg		**Pg**	**02 09 24.9**	**+0.9**
SBF				*e*Sn		**Sb**	**02 09 37.5**	**+0.1**
SBF				*e*Sg		**Sg**	**02 09 39.4**	**+0.7**
	45nm,0.3s							
SBF	**Sospel**	**1.12**	**259**	*e*Pn		**Pn**	**02 09 23.2**	**+0.1**
SBF	**Sospel**	**1.12**	**259**	*e*Pg		**Pg**	**02 09 24.9**	**+0.9**
SBF				*e*Sn		**Sb**	**02 09 37.5**	**+0.1**
SBF				*e*Sg		**Sg**	**02 09 39.4**	**+0.7**
	23nm,0.3s							
MAIM	**Mastiano**	**1.12**	**99**	Pg		**Pb**	**02 09 23.5**	**+0.4**
MAIM				Sg		**Sn**	**02 09 38.0**	**0.0**
MAIM	**Mastiano**	**1.12**	**99**	P		**Pb**	**02 09 23.0**	**+0.4**
MAIM				S		**Sn**	**02 09 38.0**	**0.0**
STV	**Sant Anna di V**	**1.18**	**278**	Pg		**Pg**	**02 09 25.3**	**+0.1**
STV				Sg		**Sn**	**02 09 40.2**	**+0.6**
STV	**Sant Anna di V**	**1.18**	**278**	P		**Pg**	**02 09 25.3**	**+0.1**
STV				S		**Sb**	**02 09 39.4**	**+0.3**
STV				Sg		**Sn**	**02 09 40.2**	**+0.6**
BDI	**Bagni Di Lucca**	**1.18**	**91**	Pg		**Pb**	**02 09 24.8**	**+0.6**
BDI				Sg		**Sb**	**02 09 39.4**	**+0.2**
	18nm,0.3s							
BDI	**Bagni Di Lucca**	**1.18**	**91**	Pg		**Pb**	**02 09 24.8**	**+0.6**
BDI				Sg		**Sb**	**02 09 39.4**	**+0.2**
	18nm,0.3s							
DOI	**San Damiano**	**1.29**	**289**	Pg		**Pg**	**02 09 27.2**	**-0.1**
DOI				Sg		**Sb**	**02 09 42.8**	**+0.5**
	21nm,0.2s							
DOI	**San Damiano**	**1.29**	**289**	Pg		**Pg**	**02 09 27.2**	**-0.1**
DOI				Sg		**Sb**	**02 09 42.8**	**+0.5**
	21nm,0.2s							
POPM	**Popiglio**	**1.30**	**92**	P		**Pg**	**02 09 27.1**	**-0.3**
POPM				S		**Sb**	**02 09 43.3**	**+0.8**
PZZ	**Stroppo**	**1.38**	**288**	Pg		**Pb**	**02 09 28.0**	**+0.4**
PZZ				Sg		**Sb**	**02 09 45.9**	**+0.9**
	19nm,0.4s							
PZZ	**Stroppo**	**1.38**	**288**	P		**Pb**	**02 09 28.0**	**+0.4**
PZZ				S		**Sn**	**02 09 44.5**	**-0.1**
PZZ				Sg		**Sb**	**02 09 45.9**	**+0.9**
	19nm,0.4s							
PGF	**Pioggiola**	**1.55**	**179**	*e*Pn		**Pn**	**02 09 28.3**	**-0.7**
PGF				*e*Sn		**Sn**	**02 09 47.5**	**-1.1**
PGF	**Pioggiola**	**1.55**	**179**	*e*Pn		**Pn**	**02 09 28.3**	**-0.7**
PGF				*e*Sn		**Sn**	**02 09 47.5**	**-1.1**
MBDF	**Montbardon**	**1.69**	**293**	*e*Pn		**Pn**	**02 09 29.9**	**-1.0**
MBDF	**Montbardon**	**1.69**	**293**	*e*Pg		**Pb**	**02 09 33.9**	**+1.1**
MBDF				*e*Sg		**Sg**	**02 09 55.6**	**-1.1**
	6.0nm,0.3s							
MBDF	**Montbardon**	**1.69**	**293**	*e*Pn		**Pn**	**02 09 29.9**	**-1.0**
MBDF	**Montbardon**	**1.69**	**293**	*e*Pg		**Pb**	**02 09 33.9**	**+1.1**
MBDF				*e*Sg		**Sg**	**02 09 55.6**	**-1.1**
	3.0nm,0.3s							
FRF	**La Foret Royal**	**1.75**	**253**	*e*Pn		**Pn**	**02 09 31.9**	**+0.2**
FRF				*e*Sn		**Sn**	**02 09 52.9**	**-0.7**
	29nm,0.3s							
FRF				*e*Sg		**Sg**	**02 09 59.1**	**+0.3**
	11nm,0.3s							
FRF	**La Foret Royal**	**1.75**	**253**	*e*Pn		**Pn**	**02 09 31.9**	**+0.2**
FRF				*e*Sn		**Sn**	**02 09 52.9**	**-0.7**
	14nm,0.3s							
FRF				*e*Sg		**Sg**	**02 09 59.1**	**+0.3**
	5.6nm,0.3s							
LMR	**La Mourre**	**1.93**	**248**	*e*Pn		**Pn**	**02 09 34.0**	**-0.1**
LMR				*e*Sn		**Sn**	**02 09 56.7**	**-1.2**
	23nm,0.3s							
LMR	**La Mourre**	**1.93**	**248**	*e*Pn		**Pn**	**02 09 34.0**	**-0.1**
LMR				*e*Sn		**Sn**	**02 09 56.7**	**-1.2**
	11nm,0.3s							
LPG	**La Plagne**	**2.10**	**313**	*e*Pg		**Pg**	**02 09 41.9**	**-0.8**
LPG				*e*Sn		**Sn**	**02 09 58.7**	**-3.9**
	1.5nm,0.4s							
LPG	**La Plagne**	**2.10**	**313**	*e*Pg		**Pg**	**02 09 41.9**	**-0.8**
LPG				*e*Sn		**Sn**	**02 09 58.7**	**-3.9**
	0.8nm,0.4s							
LPL	**La Plagne**	**2.13**	**313**	*e*Pg		**Pb**	**02 09 41.6**	**+1.2**
LPL	**La Plagne**	**2.13**	**313**	*e*Pg		**Pb**	**02 09 41.6**	**+1.2**
ORIF	**Oris-en-Rattie**	**2.35**	**292**	*e*P		**Pb**	**02 09 42.6**	**-1.5**
ORIF				*e*Sg		**Sb**	**02 10 14.9**	**+2.2**
	3.7nm,0.4s							
ORIF	**Oris-en-Rattie**	**2.35**	**292**	*e*P		**Pb**	**02 09 42.6**	**-1.5**
ORIF				*e*Sg		**Sb**	**02 10 14.9**	**+2.2**
	1.9nm,0.4s							
SMRF	**Simiane la Rot**	**2.44**	**268**	*e*P		**Pn**	**02 09 43.3**	**+2.1**
SMRF	**Simiane la Rot**	**2.44**	**268**	*e*Pg		**Pg**	**02 09 48.7**	**-0.4**
SMRF				*e*Sg		**Sg**	**02 10 20.4**	**-0.3**
	7.7nm,0.4s							
SMRF	**Simiane la Rot**	**2.44**	**268**	*e*P		**Pn**	**02 09 43.3**	**+2.1**
SMRF	**Simiane la Rot**	**2.44**	**268**	*e*Pg		**Pg**	**02 09 48.7**	**-0.4**
SMRF				*e*Sg		**Sg**	**02 10 20.4**	**-0.3**
	3.8nm,0.4s							
VIVF	**Saint-Julien-l**	**3.16**	**285**	*e*Pg		**Pg**	**02 10 01.5**	**-1.3**
VIVF				*e*Sn		**Sn**	**02 10 25.2**	**-3.0**
	1.4nm,0.4s							
VIVF	**Saint-Julien-l**	**3.16**	**285**	*e*Pg		**Pg**	**02 10 01.5**	**-1.3**
VIVF				*e*Sn		**Sn**	**02 10 25.2**	**-3.0**
	0.7nm,0.4s							

*SCB **24** 02:15:29.8±0.6,23°.82S×67°.08W,h165km,Ml3.7/2,Error ellipse: s-maj=15.2km s-min=11.6km az=99.0*
*ISCJB **24** 02:15:32.6±0.5,23°.91S±0°.03×66°.80W±0°.07,h207km±5km, mb3.4/3,Error ellipse: s-maj=10.5km s-min=5.0km az=162.8*
*IDC **24** 02:15:32.9±1.3,23°.83S×66°.66W,h187km±11km,mb3.3/3, mb1 3.8/8,mb1mx3.4/31,mbtmp4.0/8,Error ellipse: s-maj=19.6km s-min=16.8km az=18.0*
*SJA **24** 02:15:32.6±0.7,23°.91S×66°.84W,h204km±10km,ML3.7, MW3.9*
ISC 24 02:15:33.5±0.8,**23°.85S**±0°.06×**66°.77W**±0°.07,**h197**km±7km, **n25**,σ1s**21**/36,**mb3.5**/3,**9C**,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HJA	**Humahuaca**	**1.40**	**63**	*e*P		**Pn**	**02 16 07.8**	**+1.3**
HJA				IAML			02 16 09.3	
	comp=Z,174nm,0.6s							
HJA				*e*S		**Sn**	**02 16 33.9**	**+1.9**
SLA	**San Lorenzo**	**1.44**	**127**	*e*P		**Pn**	**02 16 07.7**	**+1.2**
SLA				*e*P		**Pn**	**02 16 07.7**	**+1.2**
SLA				IAML			02 16 09.4	
	comp=Z,555nm,0.7s							
SLA				*e*S		**Sn**	**02 16 32.8**	**+0.5**
AZAP	**Zapla**	**1.60**	**104**	*e*P		**Pn**	**02 16 08.9**	**+0.8**
ASTB	**Santa Barbara**	**2.12**	**93**	*e*P		**Pn**	**02 16 14.0**	**+0.9**
LVC	**Limon Verde**	**2.33**	**302**	P		**Pn**	**02 16 16.0**	**+0.4**
	comp=Z,1μm,0.3s,baz=129,slow=6.1,SNR=329							
LVC				S		**Sn**	**02 16 48.1**	**-0.3**
	comp=Z,3μm,0.3s,baz=266,slow=21,SNR=62							
FSA	**Cafayete**	**2.36**	**163**	*e*P		**Pn**	**02 16 15.8**	**-0.1**
FSA				*e*S		**Sn**	**02 16 47.4**	**-1.6**
MOCB	**Mochara**	**2.79**	**22**	⇑*i*Pn		**Pn**	**02 16 22.2**	**+1.2**
MOCB				*e*Sn		**Sn**	**02 16 59.4**	**+1.4**
	comp=Z,144nm,0.8s							
AHML	**Horco Molle**	**3.20**	**156**	*e*P		**Pn**	**02 16 24.9**	**-0.5**
AHML				*e*S		**Sn**	**02 17 04.0**	**-2.0**
CYA	**Choya**	**4.66**	**169**	*e*P		**Pn**	**02 16 43.0**	**-0.4**
CYA				IAML			02 16 45.0	
	comp=Z,71nm,0.4s							
BBOJ	**La Paz, Jacaqu**	**6.97**	**349**	⇑*i*Pn		**Pn**	**02 17 15.0**	**+1.1**
BBOJ				⇑*i*Sn		**Sn**	**02 18 31.1**	**-2.2**
BBOE	**La Paz, Chanca**	**7.09**	**351**	⇑*i*Pn		**Pn**	**02 17 17.0**	**+1.5**
BBOD	**La Paz, Gloria**	**7.38**	**346**	⇑*i*Pn		**Pn**	**02 17 19.9**	**+0.7**
LPAZ	**La Paz**	**7.63**	**350**	P		**Pn**	**02 17 22.8**	**+0.2**
	comp=Z,3.1nm,0.3s,baz=167,slow=7.1,SNR=75							
LPAZ				S		**Sn**	**02 18 47.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=15,slow=20,SNR=2.9							
LPAZ	**La Paz**	**7.63**	**350**	⇑*i*Pn		**Pn**	**02 17 22.7**	**+0.2**
LPAZ				*e*Sn		**Sn**	**02 18 47.6**	**-1.6**
BBOB	**La Paz, Bander**	**7.78**	**350**	⇑*i*Pn		**Pn**	**02 17 24.2**	**-0.2**
BBOB				⇑*i*Sn		**Sn**	**02 18 50.0**	**-2.4**
	comp=Z,24nm,0.8s							
CPUP	**Villa Florida**	**8.90**	**108**	P		**Pn**	**02 17 37.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=284,slow=8.7,SNR=5.4							
SIV	**San Ignacio**	**9.47**	**35**	P		**Pn**	**02 17 44.9**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=226,slow=13,SNR=38							
SIV	**San Ignacio**	**9.47**	**35**	⇑*i*P		**Pn**	**02 17 44.5**	**-1.6**
PLCA	**Paso Flores**	**17.13**	**190**	P		**P**	**02 19 19.8**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=33,slow=12,SNR=6.3							
TXAR	**Lajitas Array**	**63.68**	**324**	P		**P**	**02 25 44.8**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=152,slow=8.4,SNR=6.2							
TORD	**Torodi Ar. Bea**	**76.31**	**69**	P		**P**	**02 27 00.5**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=248,slow=5.7,SNR=10							
YKA	**Yellowknife Ar**	**94.06**	**340**	P		**P**	**02 28 29.6**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=138,slow=4.4,SNR=4.7							
ASAR	**Alice Springs**	**128.68**	**204**	PKP		**PKPdf**	**02 34 18.3**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=159,slow=2.0,SNR=2.8							
WRA	**Warramunga Arr**	**131.86**	**207**	PKP		**PKPdf**	**02 34 24.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=154,slow=1.6,SNR=4.1							
MKAR	**Makanchi Array**	**146.27**	**40**	PKPbc		**PKPbc**	**02 34 50.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=299,slow=2.8,SNR=11							

MEX 24 02:49:04.8±0.6,**14°.17N**×**92°.64W**,**h20**km±933km,**MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.62**	**340**	*e*P		Pn	02 49 29.3	-3.0
PCIG				*e*S		Sn	02 49 43.1	-10
CCIG	**Comitan**	**2.15**	**13**	*e*P		Pn	02 49 39.5	-0.3
CCIG				*e*S		Sn	02 50 06.5	+0.5

*IDC **24** 03:09:37.1±1.4,52°.02N×171°.76W,h32km±9km,mb6.4/45, mb1 6.4/47,mb1mx6.3/49,mbtmp6.5/47,ML5.7/2,MS6.9/41, Ms1 6.9/41,ms1mx6.7/49,Error ellipse: s-maj=12.2km s-min=8.1km az=177.0*
*BJI **24** 03:09:37.8,51°.85N×171°.90W,h60km,mb6.8/73, mB7.1/76,Ms7.3/90,Ms7 7.0/83*
*MOS **24** 03:09:37.8±0.9,52°.10N×171°.78W,h52km,mb7.1/121, MS7.0/96,Error ellipse: s-maj=5.6km s-min=4.4km az=88.0 Broadband fault plane solution: P waves. $M_0$1.60000×10^{20} NP1:ϕ_s90.00000°,δ84.00000°, λ90.00000°. NP2:ϕ_s270.00000°,δ6.00000

AKGG	**Akutan Green G**	**4.16**	**55**	P		**Pn**	**03 10 41.3**	**+1.6**	
AKUT	**Akutan**	**4.24**	**57**	P		**Pn**	**03 10 43.1**	**+2.3**	
AKUT				S		**Sn**	**03 11 33.9**	**+4.9**	
AKSA	**Akutan Strait**	**4.28**	**57**	P		**Pn**	**03 10 43.4**	**+1.9**	
GAEA	**Gareloi East**	**4.30**	**270**	P		**Pn**	**03 10 44.1**	**+2.4**	
GANE	**Gareloi Northe**	**4.31**	**271**	P		**Pn**	**03 10 44.5**	**+2.6**	
GALAA	**Gareloi Lava P**	**4.31**	**270**	P		**Pn**	**03 10 44.4**	**+2.5**	
WECS	**Westdahl Cape**	**4.94**	**56**	P		**Pn**	**03 10 52.5**	**+2.0**	
WESP	**Westdahl Peak**	**4.95**	**57**	P		**Pn**	**03 10 52.5**	**+1.8**	
WESN	**West Dahl Nort**	**5.06**	**56**	P		**Pn**	**03 10 54.2**	**+2.1**	
SPIA	**Saint Paul Isl**	**5.29**	**9**	P		**Pn**	**03 10 59.7**	**+4.4**	
SSLW	**Shishaldin Wes**	**5.39**	**56**	P		**Pn**	**03 10 58.5**	**+1.8**	
SSLS	**Shishaldin Sou**	**5.42**	**57**	P		**Pn**	**03 10 59.0**	**+1.8**	
SSLN	**Shishaldin Nor**	**5.47**	**56**	P		**Pn**	**03 10 59.9**	**+2.1**	
DT1	**Dutton Round H**	**6.49**	**57**	P		**Pn**	**03 11 13.0**	**+1.2**	
DTNA	**Dutton South F**	**6.52**	**57**	P		**Pn**	**03 11 13.4**	**+1.2**	
DOL	**Dolgoi Island**	**6.72**	**58**	P		**Pn**	**03 11 16.1**	**+1.1**	
PS4A	**Pavlof South-4**	**6.81**	**56**	P		**Pn**	**03 11 17.5**	**+1.4**	
SDPT	**Sand Point**	**7.54**	**59**	P		**Pn**	**03 11 26.8**	**+0.8**	
SDPT				S		**Sn**	**03 12 50.0**	**0.0**	
VNNF	**Veniaminof 3**	**8.51**	**55**	P		**Pn**	**03 11 39.6**	**+0.1**	
VNHG	**Veniaminof 1**	**8.56**	**55**	P		**Pn**	**03 11 39.9**	**-0.3**	
SMY	**Shemya**	**8.65**	**281**	P		**Pn**	**03 11 43.4**	**+2.0**	
SMY				S		**Sn**	**03 13 22.1**	**+4.6**	
SMY	**Shemya**	**8.65**	**281**	P		**Pn**	**03 11 43.4**	**+2.0**	
SMY				S		**Sn**	**03 13 22.1**	**+4.6**	
CHGN	**Chignik**	**8.98**	**56**	P		**Pn**	**03 11 46.2**	**+0.5**	
GAMB	**Gambell**	**11.83**	**0**	*e*Pn		**Pn**	**03 12 24.6**	**0.0**	
OHAK	**Old Harbor**	**11.94**	**57**	*e*Pn		**Pn**	**03 12 23.5**	**-2.7**	
OHAK				*e*Sn		**Sn**	**03 14 36.8**	**-1.0**	
KDAK	**Kodiak Island**	**12.48**	**55**	*e*P		**Pn**	**03 12 31.9**	**-1.7**	
KDAK	**Kodiak Island**	**12.48**	**55**	*e*Pn		**Pn**	**03 12 30.9**	**-2.7**	
SVW2	**Sparrevohn**	**12.76**	**38**	*e*Pn		**Pn**	**03 12 39.2**	**+1.8**	
RSO	**Redoubt South**	**13.54**	**44**	*e*Pn		**Pn**	**03 12 48.6**	**+0.3**	
HOM	**Homer**	**13.66**	**48**	*e*Pn		**Pn**	**03 12 49.0**	**-0.7**	
CNPM	**China Poot**	**13.79**	**49**	*e*Pn		**Pn**	**03 12 49.5**	**-2.0**	
TT01	**Tatalina**	**13.81**	**31**	*e*Pn		**Pn**	**03 12 53.1**	**+1.4**	
TTA	**Tatalina**	**13.83**	**31**	*e*P		**Pn**	**03 12 54.3**	**+2.2**	
TTA	**Tatalina**	**13.83**	**31**	*e*Pn		**Pn**	**03 12 54.3**	**+2.2**	
BRLK	**Bradley Lake**	**14.05**	**48**	*e*Pn		**Pn**	**03 12 53.4**	**-1.6**	
SPU	**Mount Spurr**	**14.21**	**42**	*e*Pn		**Pn**	**03 12 57.2**	**+0.1**	
SEW	**Seward**	**14.85**	**48**	*e*Pn		**Pn**	**03 13 02.7**	**-2.8**	
SEW				*e*Sn		**Sn**	**03 15 46.1**	**-2.5**	
SUA	**Susitna One**	**14.90**	**42**	*e*Pn		**Pn**	**03 13 05.7**	**-0.5**	
PPLA	**Purkeypile**	**15.13**	**36**	*e*Pn		**Pn**	**03 13 11.0**	**+1.7**	
	13µm,1.4s								
RC01	**Rabbit Creek A**	**15.14**	**44**	*e*Pn		**Pn**	**03 13 07.4**	**-1.9**	
	10µm,1.7s								
RC01				*e*Sn		**Sn**	**03 15 52.6**	**-3.1**	
CAST	**Castle Rocks**	**15.49**	**35**	*e*Pn		**Pn**	**03 13 15.6**	**+1.7**	
	4µm,0.8s								
PMR	**Palmer**	**15.63**	**43**	*e*P		**Pn**	**03 13 15.3**	**-0.3**	
PMR				*e*			03 16 06.0		
PMR					pmax	pmax			
	comp=Z,2µm,1.0s								
PMR	**Palmer**	**15.63**	**43**	*e*Pn		**Pn**	**03 13 15.3**	**-0.3**	
	comp=Z,2µm,1.0s								
PMR				*e*Sn		**Sn**	**03 16 06.0**	**-1.6**	
KTH	**Kantishna Hill**	**15.98**	**35**	*e*Pn		**Pn**	**03 13 21.4**	**+1.2**	
	comp=Z,7µm,1.1s								
SML	**Sawmill**	**16.07**	**43**	*e*P		**Pn**	**03 13 20.6**	**-0.7**	
SML				*e*			03 16 20.0		
SML					pmax	pmax			
	comp=Z,4µm,1.1s								
SML	**Sawmill**	**16.07**	**43**	*e*Pn		**Pn**	**03 13 20.6**	**-0.7**	
	comp=Z,4µm,1.1s								
SML				*e*Sn		**Sn**	**03 16 20.0**	**+1.7**	
MID	**Middleton Isla**	**16.10**	**52**	*e*P		**Pn**	**03 13 19.4**	**-2.2**	
MID	**Middleton Isla**	**16.10**	**52**	*e*Pn		**Pn**	**03 13 19.4**	**-2.2**	
	comp=Z,13µm,0.8s								
TRF	**Thorofare Moun**	**16.15**	**36**	*e*Pn		**Pn**	**03 13 22.5**	**+0.1**	
	comp=Z,23µm,1.8s								
BPAW	**Bear Paw Mtn.**	**16.30**	**34**	*e*Pn		**Pn**	**03 13 25.0**	**+0.9**	
	comp=Z,12µm,1.1s								
SCM	**Sheep Creek Mo**	**16.51**	**44**	*e*P		**Pn**	**03 13 24.0**	**-2.9**	
SCM					pmax	pmax			
	comp=Z,5µm,0.7s								
SCM	**Sheep Creek Mo**	**16.51**	**44**	*e*Pn		**Pn**	**03 13 24.0**	**-2.9**	
	comp=Z,5µm,0.7s								
RND	**Reindeer**	**16.66**	**38**	*e*P		**Pn**	**03 13 28.2**	**-0.5**	
RND	**Reindeer**	**16.66**	**38**	*e*Pn		**Pn**	**03 13 28.2**	**-0.5**	
	comp=Z,14µm,1.8s								
RND				*e*ScS		ScS	03 25 24.9	+0.1	
EYAK	**Cordova Ski Ar**	**16.73**	**49**	*e*Pn		**Pn**	**03 13 27.4**	**-2.1**	
	comp=Z,7µm,1.6s								
MCK	**McKinley**	**16.81**	**37**	*e*P		**Pn**	**03 13 30.7**	**+0.1**	
MCK				*e*			03 16 33.0		
MCK					pmax	pmax			
	comp=Z,6µm,1.2s								
MCK	**McKinley**	**16.81**	**37**	*e*Pn		**Pn**	**03 13 30.7**	**+0.1**	
	comp=Z,6µm,1.2s								
MCK				*e*Sn		**Sn**	**03 16 33.0**	**-3.2**	
BWN	**Browne**	**16.87**	**35**	*e*Pn		**P**	**03 13 32.7**	**0.0**	
	comp=Z,32µm,1.6s								
DIV	**Divide**	**16.92**	**47**	*e*Pn		**Pn**	**03 13 29.0**	**-3.0**	
	comp=Z,3µm,1.1s								
DIV				*e*Sn		**Sn**	**03 16 33.5**	**-5.3**	
MLY	**Manley**	**16.97**	**32**	*e*Pn		**P**	**03 13 33.9**	**0.0**	
	comp=Z,17µm,1.9s								
KLU	**Klutina**	**16.99**	**46**	*e*Pn		**Pn**	**03 13 29.8**	**-3.0**	
	comp=Z,2µm,0.9s								
DHY	**Denali Highway**	**17.07**	**40**	*e*Pn		**Pn**	**03 13 32.0**	**-1.9**	
	comp=Z,2µm,0.8s								
RAGM	**Ragged Mountai**	**17.18**	**50**	*e*Pn		**Pn**	**03 13 29.1**	**-6.1**	
	comp=Z,4µm,0.8s								
BMRM	**Bremner River**	**17.40**	**48**	*e*Pn		**Pn**	**03 13 36.0**	**-1.9**	
	comp=Z,4µm,0.9s								
WRH	**Wood River Hil**	**17.54**	**35**	*e*Pn		**Pn**	**03 13 37.7**	**-1.8**	
	comp=Z,11µm,1.6s								
CCB	**Clear Creek Bu**	**17.74**	**35**	*e*Pn		**Pn**	**03 13 39.8**	**-2.1**	
	comp=Z,5µm,1.4s								
MDM	**Murphy Dome**	**17.77**	**34**	*e*Pn		**Pn**	**03 13 40.9**	**-1.4**	
	comp=Z,18µm,2.0s								
PAX	**Paxson**	**17.79**	**42**	*e*P		**Pn**	**03 13 41.3**	**-1.4**	
PAX					pmax	pmax			
	comp=Z,2µm,1.0s								
PAX	**Paxson**	**17.79**	**42**	*e*Pn		**Pn**	**03 13 41.3**	**-1.4**	
	comp=Z,2µm,1.0s								
PAX				*e*Sn		**Sn**	**03 16 58.0**	**-1.8**	
I53US	**FAIRBANKS INFR**	**17.85**	**34**	P		**Pn**	**03 13 42.8**	**-0.5**	
	baz=234,slow=15,SNR=2.6								
I53US				*i*			05 04 50.0		
	baz=248,slow=316,SNR=2.1								
COLA	**College**	**17.85**	**34**	*e*P		**Pn**	**03 13 42.5**	**-0.8**	
COLA					pmax	pmax			
	comp=Z,3µm,1.0s								
COLA	**College**	**17.85**	**34**	*e*P		**Pn**	**03 13 42.5**	**-0.8**	
	comp=Z,3µm,1.0s								
HDA	**Harding Lake**	**17.91**	**36**	*e*P		**Pn**	**03 13 41.5**	**-2.6**	
	comp=Z,2µm,0.6s								
PET	**Petropavlovsk**	**17.95**	**285**	*ce*P		**P**	**03 13 44.8**	**+0.1**	
PET				*i* S		**Sn**	**03 17 00.9**	**-2.8**	
PET					pmax	pmax			
	comp=Z,123µm,19.0s								
PET					pmax	pmax			
	comp=Z,2µm,0.9s								
PET					pmax	pmax			
	comp=Z,131µm,15.0s								
PET					smax	smax			
	comp=N,162µm,19.2s								
PET					MLR	MLR			
	comp=Z,201µm,20.0s								
PET					MLR	MLR			
	comp=Z,158µm,19.0s								
PET	**Petropavlovsk**	**17.95**	**285**	*e*P		**P**	**03 13 45.5**	**+0.9**	
	comp=Z,3µm,1.0s								
PET				*e*ScP		**ScP**	**03 21 47.2**	**-1.2**	
CRQM	**Cirque**	**18.02**	**50**	*e*P		**P**	**03 13 44.7**	**-0.8**	
IL1	**Eielson Array**	**18.13**	**35**	*e*P		**P**	**03 13 43.6**	**-3.0**	
ILAR	**Eielson Array**	**18.13**	**35**	P		**P**	**03 13 44.9**	**-1.7**	
	comp=Z,17nm,0.3s,baz=239,slow=10,SNR=431								
ILAR				S		**Sn**	**03 17 07.7**	**-0.4**	
	comp=Z,4.4nm,0.3s,baz=243,slow=12,SNR=3.1								
ILAR				LR		LR	03 21 29.8		
	comp=Z,919µm,19.3s,baz=242,slow=39								
ILAR				P3KPbc			03 48 19.9		
	comp=Z,0.1nm,0.3s,baz=218,slow=3.5,SNR=2.9								
ILB	**Eielson Array**	**18.13**	**35**	*e*P		**P**	**03 13 44.2**	**-2.4**	
BALM	**Baldy**	**18.47**	**49**	*e*P		**P**	**03 13 49.6**	**-0.8**	
BALM					pmax	pmax			
	comp=Z,3µm,0.9s								
BALM	**Baldy**	**18.47**	**49**	*e*P		**P**	**03 13 49.6**	**-0.8**	
	comp=Z,3µm,0.9s								
I44RU	**PETROPAVLOVSK**	**18.50**	**286**	P		**Pn**	**03 13 52.5**	**+1.2**	
	baz=80,slow=16,SNR=0.6								
I44RU				*i*			05 01 50.0		
	baz=80,slow=321,SNR=0.6								
MENT	**Mentasta**	**18.50**	**43**	*e*P		**P**	**03 13 50.0**	**-0.7**	
	comp=Z,2µm,0.7s								
PEA0	**Petropavlovsk-**	**18.51**	**286**	*e*P		**Pn**	**03 13 51.4**	**-0.1**	
PEA0B	**Petropavlovsk-**	**18.51**	**286**	*e*P		**Pn**	**03 13 52.0**	**+0.6**	
	comp=Z,3µm,0.9s								
PETK	**Petropavlovsk-**	**18.51**	**286**	P		**Pn**	**03 13 52.1**	**+0.7**	
	comp=Z,81nm,0.3s,baz=82,slow=13,SNR=275								
PETK					LR	LR	03 21 15.6		
	comp=Z,139µm,19.7s,baz=88,slow=38								
PETK					ScP	**ScP**	**03 21 52.5**	**+2.9**	
	comp=Z,0.2nm,0.3s,baz=76,slow=8.2,SNR=4.9								
COLD	**Coldfoot**	**18.62**	**27**	*e*P		**Pn**	**03 13 53.4**	**+0.7**	
	comp=Z,17µm,2.0s								
DOT	**Dot Lake**	**18.66**	**41**	*e*P		**P**	**03 13 51.7**	**-0.7**	
	comp=Z,5µm,0.6s								
PCA	**Pinnacle**	**19.25**	**53**	*e*P		**Pn**	**03 13 59.7**	**-0.6**	
	comp=Z,20µm,0.9s								
BILL	**Bilibino**	**19.28**	**335**	*c i*P		**Pn**	**03 14 01.2**	**+0.7**	
BILL					pmax	pmax			
	comp=Z,4µm,1.9s								
BILL					pmax	pmax			
	comp=Z,199µm,5.3s								
BILL					MLR	MLR			
	comp=Z,632µm,18.0s								
BILL	**Bilibino**	**19.28**	**335**	*e*P		**Pn**	**03 14 01.4**	**+0.9**	
	comp=Z,7µm,0.8s								
YKU2	**Yakutat**	**19.44**	**55**	*e*P		**Pn**	**03 14 04.0**	**+1.5**	
	comp=Z,10µm,0.6s								
FYU	**Fort Yukon**	**19.71**	**32**	*e*P		**P**	**03 14 03.8**	**0.0**	
	comp=Z,12µm,1.4s								
SKR	**Severo-Kuril's**	**19.99**	**279**	*c i*P		**Pn**	**03 14 08.4**	**-0.7**	
SKR				*i* S		**S**	**03 17 46.6**	**-2.3**	
SKR					pmax	pmax			
	comp=Z,7µm,0.7s								
SKR					pmax	pmax			
	comp=Z,60µm,10.3s								
SKR					MLR	MLR			
	comp=Z,108µm,17.0s								
EGAK	**Eagle**	**20.29**	**39**	*e*P		**P**	**03 14 10.0**	**-0.1**	
	comp=Z,7µm,0.9s								
EGAK					LR	LR			
	comp=Z,1582µm,19.0s								
HYT	**Haines Junctio**	**20.72**	**51**	*e*P		**P**	**03 14 15.5**	**+0.5**	
	comp=Z,5µm,0.7s								
DAWY	**Dawson**	**20.72**	**42**	*e*P		**P**	**03 14 14.6**	**-0.3**	
	comp=Z,4µm,0.8s								
SKAG	**Skagway**	**21.64**	**55**	*e*P		**P**	**03 14 25.9**	**+1.3**	
	comp=Z,11µm,0.8s								
SEY	**Seymchan**	**21.84**	**314**	P		**P**	**03 14 27.9**	**+1.2**	
	comp=Z,399nm,0.6s,baz=103,slow=9.5,SNR=402								
SEY					ScP	**ScP**	**03 22 01.2**	**+3.9**	
	comp=Z,260nm,1.0s,baz=76,slow=2.9,SNR=9.5								
SEY					ScS	**ScS**	**03 25 47.0**	**+5.6**	
	comp=Z,35nm,1.0s,baz=29,slow=22,SNR=6.1								
SEY					P3KPbc		03 48 07.9		
	comp=Z,1.4nm,0.2s,baz=12,slow=23,SNR=2.6								
MA2	**Magadan**	**22.11**	**305**	P		**P**	**03 14 30.8**	**+1.0**	
	comp=Z,792nm,0.8s,baz=113,slow=9.9,SNR=75								
MA2					ScP	**ScP**	**03 22 01.5**	**+3.4**	
	comp=Z,203nm,0.9s,baz=115,slow=3.9,SNR=12								
MA2					LR	LR	03 23 00.1		
	comp=Z,445µm,20.1s,baz=121,slow=36								
MA2					ScS	**ScS**	**03 25 44.8**	**+2.2**	
	comp=Z,21nm,0.9s,baz=192,slow=22,SNR=3.4								
MA2					P3KPbc		03 48 08.3		
	comp=Z,2.6nm,0.3s,baz=54,slow=10,SNR=2.1								
MA2	**Magadan**	**22.11**	**305**	*e*P		**P**	**03 14 30.4**	**+0.7**	
	comp=Z,10µm,0.8s								
MA2					ScP	**ScP**	**03 22 01.5**	**+3.4**	
MA2					ScS	**ScS**	**03 25 44.8**	**+2.2**	
MA2				*e*			03 48 08.3		
MA2					LR	LR			
	comp=Z,508µm,20.0s								
CRAG	**Craig**	**22.95**	**66**	*e*P		**P**	**03 14 39.8**	**+1.1**	
	comp=Z,14µm,1.8s								
WRAK	**Wrangell Islan**	**23.28**	**63**	*e*P		**P**	**03 14 42.8**	**+0.9**	
	comp=Z,2µm,0.8s								
WRAK					LR	LR			
	comp=Z,200µm,20.0s								
DIB	**Dawson Inlet,**	**23.73**	**71**	*e*P		**P**	**03 14 47.6**	**+1.5**	
	comp=Z,2µm,1.1s								
MIDW	**Midway**	**24.10**	**192**	*e*P		**P**	**03 14 50.2**	**+0.5**	
	comp=Z,2µm,1.0s								
MIDW					LR	LR			
	comp=Z,191µm,22.0s								
DLBC	**Dease Lake**	**24.38**	**58**	P		**P**	**03 14 53.5**	**+1.3**	
	comp=Z,2µm,0.6s,baz=279,slow=8.8,SNR=665								
DLBC					S	**S**	**03 19 11.6**	**+3.5**	
	comp=Z,162nm,1.1s,baz=192,slow=21,SNR=1.4								
DLBC					P3KPbc		03 48 00.9		
	comp=Z,1.2nm,0.5s,baz=163,slow=24,SNR=5.2								
DLBC	**Dease Lake**	**24.38**	**58**	*e*P		**P**	**03 14 54.0**	**+1.8**	
	comp=Z,9µm,0.9s								
DLBC					S	**S**	**03 19 11.6**	**+3.5**	
DLBC				*e*			03 48 00.9		
INK	**Inuvik**	**24.51**	**34**	P		**P**	**03 14 52.9**	**-0.2**	
	comp=Z,3µm,0.6s,baz=240,slow=10,SNR=1466								
INK					S	**S**	**03 19 09.1**	**-0.6**	
	comp=Z,181nm,0.9s,baz=169,slow=21,SNR=3.5								
INK					P3KPbc		03 48 01.1		
	comp=Z,3.0nm,0.7s,baz=105,slow=3.5,SNR=2.3								
INK	**Inuvik**	**24.51**	**34**	*e*P		**P**	**03 14 52.8**	**-0.2**	
	comp=Z,17µm,1.4s								
INK					S	**S**	**03 19 09.1**	**-0.6**	
INK				*e*			03 48 01.1		
BBB	**Bella Bella**	**26.56**	**72**	P		**P**	**03 15 13.1**	**+1.3**	
	comp=Z,221nm,0.9s,baz=284,slow=9.1,SNR=51								
BBB					S	**S**	**03 19 45.2**	**+2.6**	
	comp=Z,40nm,0.8s,baz=154,slow=0.6,SNR=1.3								
BBB	**Bella Bella**	**26.56**	**72**	*e*P		**P**	**03 15 13.6**	**+1.7**	
	comp=Z,2µm,1.0s								
BBB					S	**S**	**03 19 45.2**	**+2.6**	
KUR	**Kuril'sk**	**27.22**	**272**	*c i*P		**P**	**03 15 19.4**	**+1.6**	
KUR				*i* S		**S**	**03 19 55.4**	**+2.3**	
KUR					pmax	pmax			
	comp=N,2µm,1.4s								
KUR					pmax	pmax			
	comp=E,4µm,1.4s								
KUR					pmax	pmax			
	comp=Z,6µm,1.4s								
KUR					pmax	pmax			
	comp=Z,26µm,8.3s								
KUR					MLR	MLR			
	comp=N,43µm,20.0s								
KUR					MLR	MLR			
	comp=E,49µm,20.0s								
KUR					MLR	MLR			
	comp=Z,74µm,20.0s								
TYV	**Tymovskoe**	**28.06**	**286**	*e*P		**P**	**03 15 24.2**	**-1.1**	
TYV				*e*S		**ScS**	**03 26 07.8**	**+0.4**	
TYV					pmax	pmax			
	comp=Z,1µm,1.2s								
TYV					smax	smax			
	comp=E,3µm,2.0s								
NKL	**Nikolayevsk**	**28.48**	**291**	*i* P		**P**	**03 15 30.0**	**+1.0**	
NKL					pmax	pmax			
	comp=Z,3µm,0.9s								
NKL					pmax	pmax			
	comp=N,25µm,15.0s								
NKL					pmax	pmax			
	comp=E,25µm,15.0s								
NKL					pmax	pmax			
	comp=Z,46µm,15.0s								
YUK	**Yuzh-Kuril'sk**	**29.06**	**271**	*i* P		**P**	**03 15 35.9**	**+1.7**	
YSS	**Yuzh-Sakhalins**	**29.56**	**278**	*c i*P		**P**	**03 15 38.6**	**0.0**	
YSS				*e**PP		**sP**	**03 15 55.5**	**-1.9**	
YSS				*e*			03 16 32.4		
YSS				*e*PPP		PPP	03 16 49.0		
YSS				*e*S		**S**	**03 20 23.6**	**-6.3**	
YSS					pmax	pmax			
	comp=Z,410nm,0.8s								
YSS					pmax	pmax			
	comp=Z,19µm,6.0s								
YSS					smax	smax			
	comp=N,41µm,12.0s								
YSS					smax	smax			
	comp=E,39µm,8.0s								
YSS	**Yuzh-Sakhalins**	**29.56**	**278**	*e*P		**P**	**03 15 39.4**	**+0.8**	
	comp=E,902nm,0.8s								
YSS				*e*ScP		**ScP**	**03 22 18.9**	**-0.9**	
YSS					LR	LR			
	comp=Z,143µm,21.0s								
C03A	**Quillayute Air**	**30.24**	**79**	*e*P		**P**	**03 15 47.6**	**+3.0**	
OTR	**Olympics--Tyee**	**30.31**	**78**	P		**P**	**03 15 48.6**	**+3.2**	
PGC	**Sidney**	**30.61**	**77**	*e*P		**P**	**03 15 50.3**	**+2.4**	
	comp=Z,4µm,1.7s								
LLLB	**Lillooet**	**30.77**	**72**	*e*P		**P**	**03 15 50.8**	**+1.4**	
	comp=Z,1µm,0.8s								
B04A	**Port Angeles**	**30.83**	**78**	*e*P		**P**	**03 15 51.4**	**+1.5**	
NLWA	**Neilton Lookou**	**30.91**	**79**	*e*P		**P**	**03 15 51.5**	**+0.9**	
	comp=Z,2µm,0.4s								
NLWA				*e*ScP		**ScP**	**03 22 24.6**	**+0.2**	
NLWA					LR	LR			
	comp=Z,125µm,21.0s								
MCW	**Mount Constitu**	**30.97**	**76**	P		**P**	**03 15 52.9**	**+1.7**	
MCW	**Mount Constitu**	**30.97**	**76**	P		**P**	**03 15 52.9**	**+1.7**	
A04D	**Lummi Island**	**31.03**	**76**	P		**P**	**03 15 52.8**	**+1.3**	
	baz=295,SNR=18								
A04D				S		**S**	**03 20 56.8**	**+3.9**	
	baz=295								
ASAJ	**Asahikawa**	**31.03**	**274**	P		**P**	**03 15 52.9**	**+1.2**	
	comp=Z,932nm,0.8s								
ASAJ				S		**S**	**03 20 54.2**	**+1.2**	
	comp=Z,61nm,1.0s,baz=178,slow=5.2,SNR=2.0								
ASAJ				ScS		**ScS**	**03 26 23.6**	**+1.9**	
	comp=Z,28nm,1.0s,baz=39,slow=3.9,SNR=3.8								
ASAJ				LR		LR	03 28 21.7		
	comp=Z,157µm,21.4s,baz=34,slow=36								
ASAJ	**Asahikawa**	**31.03**	**274**	*e*P		**P**	**03 15 52.3**	**+0.7**	
	comp=Z,12µm,1.9s								
ASAJ				S		**S**	**03 20 54.2**	**+1.2**	
ASAJ				*e*ScP		**ScP**	**03 22 23.9**	**-0.8**	
ASAJ				ScS		**ScS**	**03 26 23.6**	**+1.9**	
HDW	**Hoodsport**	**31.29**	**78**	P		**P**	**03 15 56.9**	**+2.9**	
KEKH	**Kekaha**	**31.38**	**158**	*e*P		**P**	**03 15 55.0**	**+0.2**	
	comp=Z,3µm,1.3s								
GNW	**Green Mountain**	**31.46**	**78**	P		**P**	**03 15 56.7**	**+1.3**	
E03A	**Lebam**	**31.48**	**80**	*e*P		**P**	**03 15 57.3**	**+1.8**	
	comp=Z,2µm,1.0s								
E03A				*e*ScP		**ScP**	**03 22 29.9**	**+3.8**	
MBW	**Mount Baker**	**31.49**	**76**	P		**P**	**03 15 56.8**	**+0.9**	
B05A	**Bryant**	**31.59**	**77**	P		**P**	**03 15 57.9**	**+1.3**	
	baz=296,SNR=224								
YKA	**Yellowknife Ar**	**31.63**	**48**	P		**P**	**03 15 56.9**	**+0.2**	
	comp=Z,632nm,0.8s,baz=276,slow=9.5,SNR=585								
YKA					LR	LR	03 30 44.8		
	comp=Z,92µm,18.3s,baz=0.0,slow=40								
YKA					P3KPbc		03 47 31.7		
	comp=Z,18nm,0.9s,baz=95,slow=5.0,SNR=29								
YKA	**Yellowknife Ar**	**31.63**	**48**	P		**P**	**03 15 57.0**	**+0.2**	
JCW	**Jim Creek**	**31.72**	**77**	*e*P		**P**	**03 16 00.5**	**+2.7**	
ERM	**Erimo**	**31.81**	**270**	*d i*P		**P**	**03 15 59.7**	**+1.2**	
ERM	**Erimo**	**31.81**	**270**	*e*P		**P**	**03 15 59.8**	**+1.2**	
	comp=Z,6µm,1.6s								
ERM					LR	LR			
	comp=Z,123µm,21.0s								
SP2	**Seward Park 2**	**31.81**	**78**	P		**P**	**03 16 00.9**	**+2.4**	
RPW	**Rockport**	**31.86**	**76**	P		**P**	**03 16 00.1**	**+1.1**	
F04D	**Rainier, OR**	**32.04**	**81**	P		**P**	**03 16 01.7**	**+1.3**	
	baz=299,SNR=30								
OPA	**Opana**	**32.08**	**155**	*e*P		**P**	**03 16 02.1**	**+1.0**	
OPA					pmax	pmax			
	comp=Z,3µm,1.1s								
OPA	**Opana**	**32.08**	**155**	*e*P		**P**	**03 16 02.0**	**+1.0**	
	comp=Z,3µm,1.1s								
D05A	**Enumclaw**	**32.14**	**78**	*e*P		**P**	**03 16 03.0**	**+1.7**	
	comp=Z,6µm,1.4s								
YAK	**Yakutsk**	**32.29**	**311**	P		**P**	**03 16 01.4**	**-1.1**	
	comp=Z,434nm,0.8s,baz=102,slow=1.5,SNR=52								
YAK					PcP	**PcP**	**03 18 50.5**	**+1.1**	
	comp=Z,486nm,0.6s,baz=246,slow=1.2,SNR=5.3								
YAK					ScP	**ScP**	**03 22 29.1**	**+0.5**	
	comp=Z,866nm,1.0s,baz=351,slow=4.1,SNR=3.9								
YAK					ScS	**ScS**	**03 26 30.0**	**+2.7**	
	comp=Z,26nm,0.4s,baz=242,slow=22,SNR=11								
YAK					LR	LR	03 29 38.8		
	comp=Z,407µm,19.0s,baz=94,slow=37								
YAK	**Yakuts

HABR e*PP **pP** **03 16 25.8 -0.7**
HABR e*SP **sP** **03 16 32.1 -0.3**
HABR e 03 17 25.6
HABR e 03 18 52.1
HABR eS **S** **03 21 32.2 +0.3**
HABR e*SS **sS** **03 21 54.9 +1.2**
HABR eSS **SnSn** **03 23 39.9 +2.0**
HABR e 03 26 33.5
HABR pmax pmax
comp=N,95nm,1.3s
HABR pmax pmax
comp=E,392nm,1.3s
HABR pmax pmax
comp=Z,734nm,1.3s
HABR pmax pmax
comp=Z,28µm,4.8s
HABR MLR MLR
comp=Z,107µm,19.0s
I04A **Tendick Farm,** **33.56** **84** P **P** **03 16 15.1 +1.2**
baz=302,SNR=155
VGB **Gordon Butte** **33.68** **80** P **P** **03 16 17.5 +2.6**
VGB **Gordon Butte** **33.68** **80** P **P** **03 16 17.5 +2.6**
L02D **Cave Junction,** **33.71** **87** P **P** **03 16 16.5 +1.3**
baz=304,SNR=83
WIFE **Three Sisters-** **33.78** **83** eP **P** **03 16 17.3 +1.3**
HUMO **Hull Mountain** **33.86** **86** eP **P** **03 16 18.1 +1.7**
comp=Z,2µm,1.6s
HUMO eScP **ScP** **03 22 33.4 -1.1**
G06A **Carlson Farm,** **33.90** **81** eP **P** **03 16 17.9 +1.1**
comp=Z,5µm,1.8s
I05D **Terrebonne, OR** **33.93** **83** P **P** **03 16 18.4 +1.3**
baz=302,SNR=200
RSW **Rattlesnake Hi** **33.97** **78** eP **P** **03 16 18.6 +1.2**
HAWA **Hanford** **34.00** **78** eP **P** **03 16 18.5 +0.8**
comp=Z,2µm,0.8s
HAWA eScP **ScP** **03 22 33.0 -1.9**
HAWA LR LR
comp=Z,102µm,19.0s
D08A **Wollman Farm,** **34.05** **77** eP **P** **03 16 18.6 +0.6**
comp=Z,7µm,2.0s
C09A **Chrisman Ranch** **34.09** **75** eP **P** **03 16 19.0 +0.6**
comp=Z,2µm,1.1s
JCC **Jacoby Creek,** **34.20** **90** eP **P** **03 16 22.2 +2.8**
comp=Z,1µm,1.3s
HPAH **Hawaii Prepara** **34.29** **152** eP **P** **03 16 19.4 -1.0**
comp=Z,4µm,1.0s
KHMM **Horse Mountain** **34.36** **89** eP **P** **03 16 23.1 +2.1**
comp=Z,4µm,1.9s
KKH **Kailua Kona** **34.55** **153** eP **P** **03 16 23.0 +0.5**
KKH **Kailua Kona** **34.55** **153** eP **P** **03 16 23.0 +0.5**
J05D **Fort Rock, OR** **34.55** **84** P **P** **03 16 23.9 +1.3**
baz=303,SNR=134
NEW **Newport** **34.57** **74** P **P** **03 16 22.9 +0.4**
baz=297,SNR=595
NEW **Newport** **34.57** **74** eP **P** **03 16 23.0 +0.4**
NEW pmax pmax
comp=Z,2µm,0.9s
NEW **Newport** **34.57** **74** eP **P** **03 16 23.0 +0.5**
comp=Z,2µm,0.8s
NEW eScP **ScP** **03 22 36.3 -0.6**
NEW LR LR
comp=Z,97µm,20.0s
K04D **Chiloquin, OR** **34.59** **85** P **P** **03 16 24.5 +1.6**
baz=304,SNR=39
POHA **Pohakuloa** **34.59** **152** eP **P** **03 16 22.8 -0.4**
comp=Z,4µm,1.0s
POHA LR LR
comp=Z,235µm,21.0s
M02C **Callahan** **34.60** **88** P **P** **03 16 24.8 +1.8**
baz=305,SNR=108
KMRM **Mail Ridge** **34.75** **90** eP **P** **03 16 26.4 +2.1**
comp=Z,650nm,0.8s
E09A **Wood Farm, Sta** **34.78** **77** eP **P** **03 16 24.9 +0.5**
comp=Z,3µm,1.3s
E09A eScP **ScP** **03 22 42.2 +4.5**
MLOA **Mauna Loa Obse** **34.79** **152** eP **P** **03 16 25.7 +0.5**
G08A **Pilot Rock** **34.90** **80** eP **P** **03 16 26.0 +0.4**
comp=Z,640nm,1.1s
N02D **Trinity Center** **34.93** **89** P **P** **03 16 27.4 +1.6**
baz=306
UWE **Uwekahuna** **34.98** **152** eP **P** **03 16 28.8 +2.4**
comp=Z,4µm,1.0s
M04C **Macdoel** **35.01** **87** P **P** **03 16 27.9 +1.3**
baz=305,SNR=116
K05A **Summer Lake** **35.07** **85** eP **P** **03 16 28.7 +1.6**
comp=Z,2µm,0.9s
KLR **Kul'dur** **35.16** **288** LR LR 03 30 57.4
comp=Z,117µm,20.9s,baz=64,slow=36
KLR P3KPbc 03 47 17.6
comp=Z,1.6nm,0.8s,baz=284,slow=22,SNR=2.6
KLR **Kul'dur** **35.16** **288***c iP* **P** **03 16 28.2 +0.6**
JOHN **Johnston Islan** **35.21** **176** eP **P** **03 16 29.8 +1.5**
comp=Z,9µm,1.9s
JOHN LR LR
comp=Z,13µm,20.0s
HPO **Honuapo** **35.22** **153** eP **P** **03 16 31.4 +3.1**
WDC **Whiskeytown Da** **35.26** **89** eP **P** **03 16 29.9 +1.3**
WDC pmax pmax
comp=Z,550nm,0.9s
WDC **Whiskeytown Da** **35.26** **89** eP **P** **03 16 29.9 +1.3**
comp=Z,552nm,0.9s
F10A **Beach Ranch, E** **35.60** **78** eP **P** **03 16 32.0 +0.4**
comp=Z,1µm,0.9s
HOPS **Hopland Field** **35.88** **92** eP **P** **03 16 34.3 +0.4**
comp=Z,1µm,1.3s
HOPS eScP **ScP** **03 22 40.0 -1.8**
O03D **Paynes Creek** **35.89** **89** P **P** **03 16 34.7 +0.7**
baz=306,SNR=368
MOD **Modoc Plateau** **35.89** **85** eP **P** **03 16 35.2 +1.0**
comp=Z,3µm,1.5s
MOD eScP **ScP** **03 22 41.2 -0.7**
CLNS **Chul'man** **35.98** **303***c iP* **P** **03 16 33.7 -0.9**
CLNS e*PP **sP** **03 16 52.3 -1.1**
CLNS ePPP PPP 03 17 57.8
CLNS e 03 18 13.5
CLNS pmax pmax
comp=Z,2µm,1.6s
CLNS pmax pmax
comp=N,227nm,0.7s
CLNS pmax pmax
comp=E,745nm,1.0s
CLNS MLR MLR
comp=Z,191µm,21.0s
CLNS MLR MLR
comp=E,108µm,19.0s
CLNS MLR MLR
comp=N,110µm,21.0s
WALA **Waterton Lakes** **36.10** **71** eP **P** **03 16 36.2 +0.4**
comp=N,2µm,1.1s
BMO **Blue Mountains** **36.13** **79** eP **P** **03 16 37.4 +1.4**
comp=N,771nm,1.0s
BMO LR LR
comp=Z,88µm,21.0s
BSMT **Bassoo Peak** **36.15** **73** eP **P** **03 16 36.8 +0.5**
H11N2 **WAKE ISLAND Hy** **36.23** **215** T T 03 55 14.8
baz=21,slow=76,SNR=3445
H11N3 **WAKE ISLAND Hy** **36.24** **215** T T 03 55 23.8
baz=21,slow=76,SNR=5894
H11N1 **WAKE ISLAND Hy** **36.25** **215** T T 03 55 17.9
baz=21,slow=76,SNR=4847
BLMT **Blacktail Moun** **36.32** **73** eP **P** **03 16 38.3 +0.5**
JTMT **Jette** **36.50** **73** eP **P** **03 16 40.0 +0.8**
ORV **Oroville** **36.51** **90** eP **P** **03 16 39.8 +0.5**
ORV pmax pmax
comp=Z,270nm,0.8s
ORV **Oroville** **36.51** **90** eP **P** **03 16 39.8 +0.5**
comp=Z,267nm,0.8s
MCCM **Marconi Confer** **36.52** **93** eP **P** **03 16 40.3 +1.0**
comp=Z,643nm,1.0s
MCCM eScP **ScP** **03 22 42.5 -1.6**
YBMT **Yellow Bay** **36.60** **73** eP **P** **03 16 40.8 +0.7**
WVOR **Wild Horse Val** **36.62** **84** eP **P** **03 16 41.1 +0.8**
WVOR pmax pmax
comp=Z,980nm,0.9s
WVOR **Wild Horse Val** **36.62** **84** eP **P** **03 16 41.1 +0.8**
comp=Z,976nm,0.9s
WVOR eScP **ScP** **03 22 41.4 -3.2**
WVOR LR LR
comp=Z,106µm,19.0s
SWMT **Swartz Lake** **36.78** **73** eP **P** **03 16 41.6 0.0**
SWMT eScS ScS 03 26 46.2 -5.9
MSO **Missoula** **37.15** **74** P **P** **03 16 44.7 -0.1**
baz=300,SNR=566
MSO **Missoula** **37.15** **74** eP **P** **03 16 44.6 -0.1**
comp=Z,5µm,1.7s
MSO eScS ScS 03 26 49.0 -5.2

AFDM **Forest Hills D** **37.21** **90** eP **P** **03 16 46.0 +0.8**
comp=Z,1µm,1.5s
RES **Resolute Bay** **37.37** **25** eP **P** **03 16 45.5 -0.6**
RES **Resolute Bay** **37.37** **25** eP **P** **03 16 45.5 -0.6**
comp=Z,2µm,0.9s
H11S1 **WAKE ISLAND Hy** **37.43** **215** T T 03 57 01.1
baz=21,slow=76,SNR=7237
H11S2 **WAKE ISLAND Hy** **37.45** **215** T T 03 57 03.2
baz=21,slow=76,SNR=5394
H11S3 **WAKE ISLAND Hy** **37.45** **215** T T 03 56 57.7
baz=21,slow=76,SNR=4960
USRK **Ussuriysk Ar.** **37.49** **281** P **P** **03 16 46.4 -1.1**
comp=Z,204nm,0.8s,baz=59,slow=7.3,SNR=113
USRK PcP **PcP** **03 19 07.2 +2.3**
comp=Z,166nm,0.9s,baz=51,slow=1.9,SNR=3.4
USRK ScP **ScP** **03 22 50.1 +2.5**
comp=Z,81nm,1.0s,baz=64,slow=4.4,SNR=4.5
USRK ScS **ScS** **03 26 59.4 +3.4**
comp=Z,6.0nm,0.7s,baz=14,slow=1.8,SNR=3.2
USRK LR LR 03 31 57.4
comp=Z,153µm,21.8s,baz=49,slow=36
CHMT **Chamberlain Mo** **37.52** **74** eP **P** **03 16 48.2 +0.3**
PAHR **Pah Rah Range** **37.73** **88** eP **P** **03 16 50.6 +0.8**
comp=Z,923nm,0.8s
MFID **Camas Ranch** **37.79** **80** eP **P** **03 16 50.3 +0.1**
comp=Z,682nm,0.9s
MFID eScP **ScP** **03 22 48.0 -1.0**
CMB **Columbia Colle** **38.13** **91** eP **P** **03 16 53.9 +0.8**
CMB **Columbia Colle** **38.13** **91** eP **P** **03 16 53.9 +0.8**
comp=Z,766nm,1.3s
CMB eScP **ScP** **03 22 49.8 -0.4**
MJAR **Matsushiro Arr** **38.17** **266** P **P** **03 16 53.7 +0.4**
comp=Z,305nm,0.9s,baz=50,slow=7.4,SNR=76
MJAR S **S** **03 22 45.2 +2.2**
comp=Z,16nm,0.8s,baz=143,slow=4.4,SNR=2.3
MJAR ScS **ScS** **03 27 03.0 +2.9**
comp=Z,7.0nm,1.1s,baz=359,slow=3.1,SNR=3.1
MJAR LR LR 03 30 52.7
comp=Z,104µm,21.7s,baz=65,slow=33
MJAR **Matsushiro Arr** **38.17** **266** P **P** **03 16 53.7 +0.4**
MJAR S **S** **03 22 45.2 +2.2**
MJAR 03 27 03.0
MJAR pmax pmax
comp=Z,329nm,0.9s
MJAR smax smax
comp=N,16nm,0.8s
MAJO **Matsushiro** **38.17** **266***c iP* **P** **03 16 54.8 +1.4**
MAJO **Matsushiro** **38.17** **266** eP **P** **03 16 53.8 +0.5**
comp=N,2µm,0.8s
MAJO eScP **ScP** **03 22 47.1 -3.3**
MAJO LR LR
comp=Z,120µm,22.0s
MAT **Matsushiro** **38.17** **266** P **P** **03 16 53.7 +0.3**
MAT S **S** **03 22 46.7 +3.6**
MJB9 **Matsu-Tunnel** **38.17** **266** eP **P** **03 16 53.9 +0.5**
comp=Z,593nm,0.8s
SAO **San Andreas Ge** **38.27** **93** eP **P** **03 16 54.9 +0.7**
SAO **San Andreas Ge** **38.27** **93** eP **P** **03 16 54.9 +0.7**
comp=Z,693nm,1.0s
SAO eScP **ScP** **03 22 49.4 -1.4**
WAKR **Walker** **38.43** **89** eP **P** **03 16 57.1 +1.3**
comp=Z,678nm,0.8s
HRY **Holter Researc** **38.46** **73** eP **P** **03 16 56.0 +0.2**
LRM **Limekiln Ridge** **38.55** **75** eP **P** **03 16 56.5 -0.2**
HLID **Hailey** **38.57** **79** P **P** **03 16 57.3 +0.4**
baz=304,SNR=371
HLID **Hailey** **38.57** **79** eP **P** **03 16 57.1 +0.2**
comp=Z,674nm,0.7s
HLID eScP **ScP** **03 22 51.7 -0.4**
HLID LR LR
comp=Z,91µm,21.0s
BMN **Battle Mountai** **38.64** **85** eP **P** **03 16 58.1 +0.7**
BMN **Battle Mountai** **38.64** **85** eP **P** **03 16 58.1 +0.7**
comp=Z,600nm,0.9s
BMN eScP **ScP** **03 22 52.0 -0.3**
DLMT **Dillon** **38.70** **76** eP **P** **03 16 57.6 -0.3**
comp=Z,1µm,1.1s
DLMT eScP **ScP** **03 22 52.4 -0.1**
MDJ **Mudanjiang** **38.72** **283** P **P** **03 16 56.5 -1.3**
MDJ pP pP 03 17 11.6 +0.7
MDJ sP sP 03 17 18.8 +2.0
MDJ PcP **PcP** **03 19 09.1 +0.5**
MDJ S **S** **03 22 47.9 -3.2**
MDJ sS sS 03 23 12.5 -0.6
MDJ SS **SS** **03 25 37.8 -4.9**
MDJ ScS **ScS** **03 26 59.5 -3.5**
MDJ PMZ
comp=Z,16µm,10.5s
MDJ LN
comp=Z,66µm,17.4s
MDJ LE
comp=Z,220µm,20.5s
MDJ LZ
comp=Z,216µm,19.7s
MDJ **Mudanjiang** **38.72** **283** eP **P** **03 16 57.0 -0.9**
comp=Z,545nm,1.0s
MDJ LR LR
comp=Z,232µm,21.0s
MCMT **McKenzie Canyo** **38.84** **77** eP **P** **03 16 59.1 0.0**
MSHR **Mys Shultsa** **38.89** **279***c iP* **P** **03 17 00.1 +0.8**
BGMT **Barton Gulch** **39.10** **75** eP **P** **03 17 02.8 +1.4**
BOZ **Bozeman (W)** **39.13** **75** P **P** **03 17 01.9 +0.4**
baz=302,SNR=768
BOZ **Bozeman (W)** **39.13** **75** eP **P** **03 17 01.5 0.0**
BOZ **Bozeman (W)** **39.13** **75** eP **P** **03 17 01.5 0.0**
comp=Z,6µm,1.8s
BOZ eScP **ScP** **03 22 52.5 -1.7**
BOZ LR LR
comp=Z,98µm,22.0s
MLAC **Mammoth, Mammo** **39.34** **90** P **P** **03 17 04.7 +1.2**
baz=309,SNR=27
JHJ2 **Mitsune** **39.45** **261** eP **P** **03 17 05.5 +1.4**
comp=Z,2µm,0.8s
JHJ **Hachijo jima 2** **39.47** **261** P **P** **03 17 05.5 +1.3**
comp=Z,1µm,0.8s,baz=133,slow=2.6,SNR=27
JHJ S **S** **03 23 08.4 +5.8**
comp=Z,100nm,0.7s,baz=115,slow=6.8,SNR=4.7
JHJ LR LR 03 30 32.6
comp=Z,50µm,21.2s,baz=56,slow=32
TPMT **Tepee Creek** **39.60** **76** eP **P** **03 17 07.2 +1.7**
BZMT **Bozeman Pass** **39.63** **74** eP **P** **03 17 06.5 +0.9**
ELK **Elko** **39.67** **83** eP **P** **03 17 06.6 +0.4**
ELK **Elko** **39.67** **83** eP **P** **03 17 06.5 +0.4**
comp=Z,806nm,1.1s
ELK eScP **ScP** **03 22 55.1 -1.3**
INU **Inuyama** **39.68** **266** eP **P** **03 17 05.7 -0.2**
comp=Z,1µm,0.9s
QLMT **Earthquake Lak** **39.69** **76** eP **P** **03 17 06.8 +0.6**
YHB **Horse Butte** **39.87** **76** eP **P** **03 17 08.5 +0.7**
RCTC **Rector, Farmer** **39.93** **92** P **P** **03 17 09.2 +1.2**
baz=310,SNR=121
YMC **Maple Creek** **39.98** **75** eP **P** **03 17 08.9 +0.3**
YMR **Madison River** **40.05** **76** eP **P** **03 17 09.9 +0.7**
comp=Z,2µm,0.9s
YMV **Mammoth Vault** **40.05** **75** eP **P** **03 17 10.0 +0.8**
YHH **Holmes Hill** **40.05** **75** eP **P** **03 17 09.4 +0.1**
TIN **Tinemaha, Big** **40.08** **90** P **P** **03 17 10.4 +1.0**
baz=310,SNR=100
SMMC **Simmler** **40.11** **94** P **P** **03 17 10.8 +1.2**
baz=311,SNR=27
YPM **Purple Mountai** **40.12** **76** eP **P** **03 17 10.9 +1.1**
CRMT **Chrome Mountai** **40.12** **74** eP **P** **03 17 09.9 -0.1**
MCID **Moose Creek** **40.18** **76** eP **P** **03 17 11.4 +1.1**
GCMT **Greycliff** **40.22** **73** eP **P** **03 17 10.9 +0.3**
YFT **Old Faithful** **40.25** **76** eP **P** **03 17 12.3 +1.4**
comp=Z,4µm,1.7s
VES **Vestal, Richgr** **40.33** **92** P **P** **03 17 11.9 +0.6**
baz=311,SNR=163
YPP **Pitchstone Pla** **40.37** **76** eP **P** **03 17 13.1 +1.2**
comp=Z,2µm,1.6s
YLT **Little Thumb C** **40.40** **76** eP **P** **03 17 14.4 +2.2**
H17A **Grant Village** **40.43** **76** P **P** **03 17 13.2 +0.7**
baz=304,SNR=270
H17A **Grant Village** **40.43** **76** eP **P** **03 17 14.0 +1.5**
comp=Z,5µm,1.5s
H17A eScP **ScP** **03 22 59.5 +0.2**
LKWY **Lake** **40.45** **75** eP **P** **03 17 14.8 +2.2**
LKWY **Lake** **40.45** **75** eP **P** **03 17 14.8 +2.2**
comp=Z,1µm,0.9s
LKWY eScP **ScP** **03 22 58.7 -0.7**
LKWY LR LR
comp=Z,175µm,22.0s
IMW **Indian Meadow** **40.49** **77** eP **P** **03 17 13.5 +0.5**
comp=Z,1µm,1.1s
IMW eScP **ScP** **03 22 57.5 -2.1**

YMP **Mirror Lake Pl** **40.50** **75** eP **P** **03 17 15.3 +2.2**
PKM **Mcpherson Peak** **40.50** **94** P **P** **03 17 13.7 +0.7**
baz=312,SNR=82
FLWY **Flagg Ranch** **40.53** **76** eP **P** **03 17 15.2 +2.0**
comp=Z,6µm,1.9s
FLWY eScP **ScP** **03 22 57.8 -1.9**
CWC **Cottonwood Cre** **40.56** **91** P **P** **03 17 14.9 +1.5**
baz=310
HVU **Hansel Valley** **40.58** **80** eP **P** **03 17 14.0 +0.5**
HVU **Hansel Valley** **40.58** **80** eP **P** **03 17 14.0 +0.5**
comp=Z,801nm,0.8s
FXWY **Fox Creek** **40.58** **77** eP **P** **03 17 14.1 +0.5**
comp=Z,1µm,1.5s
YTP **The Promontory** **40.61** **76** eP **P** **03 17 13.7 -0.2**
GRAC **Grapevine Rang** **40.65** **90** P **P** **03 17 15.0 +0.9**
baz=310,SNR=80
MOOW **Moose Ponds** **40.69** **77** eP **P** **03 17 14.7 +0.2**
comp=Z,680nm,1.3s
MOOW eScP **ScP** **03 22 58.7 -1.7**
TPAW **Teton Pass** **40.71** **77** eP **P** **03 17 15.2 +0.4**
comp=Z,3µm,1.4s
TPAW eScP **ScP** **03 22 59.8 -0.7**
MTUT **Morton Thiokol** **40.81** **80** eP **P** **03 17 16.0 +0.5**
RLMT **Red Lodge** **40.82** **74** P **P** **03 17 15.9 +0.4**
baz=303,SNR=692
RLMT **Red Lodge** **40.82** **74** eP **P** **03 17 16.0 +0.4**
comp=Z,3µm,1.0s
RLMT LR LR
comp=Z,132µm,19.0s
ISA **Isabella, Lake** **40.82** **92** P **P** **03 17 16.1 +0.6**
baz=311,SNR=114
ISA **Isabella, Lake** **40.82** **92** eP **P** **03 17 15.5 0.0**
ISA **Isabella, Lake** **40.82** **92** eP **P** **03 17 15.5 0.0**
comp=Z,676nm,0.8s
REDW **Red Top Meadow** **40.84** **77** eP **P** **03 17 16.4 +0.6**
comp=Z,4µm,1.6s
SNOW **Snow King Moun** **40.84** **77** eP **P** **03 17 17.0 +1.1**
comp=Z,2µm,1.4s
LOHW **Long Hollow** **40.85** **77** eP **P** **03 17 16.1 +0.3**
comp=Z,3µm,1.6s
SBC **Santa Barbara** **40.86** **94** P **P** **03 17 17.0 +1.3**
baz=312,SNR=20
R11A **Troy Canyon, C** **40.90** **87** P **P** **03 17 16.9 +0.6**
baz=308,SNR=231
R11A **Troy Canyon, C** **40.90** **87** eP **P** **03 17 16.4 +0.1**
comp=Z,864nm,1.0s
R11A eScP **ScP** **03 23 00.2 -1.0**
BGU **Big Grassy Mou** **40.92** **82** eP **P** **03 17 16.7 +0.3**
comp=Z,1µm,1.0s
ARVC **Arvin** **40.95** **93** P **P** **03 17 17.2 +0.7**
baz=311,SNR=43
DAC **Darwin (Calif)** **40.97** **91** eP **P** **03 17 17.4 +0.5**
DAC **Darwin (Calif)** **40.97** **91** eP **P** **03 17 17.4 +0.5**
comp=Z,396nm,0.8s
DAC eScP **ScP** **03 23 00.5 -1.0**
BEI **Bear River Ran** **40.99** **79** eP **P** **03 17 17.4 +0.4**
LTU **Little Mountai** **41.01** **80** eP **P** **03 17 17.8 +0.7**
AHID **Auburn Hatcher** **41.03** **78** eP **P** **03 17 17.7 +0.4**
comp=Z,2µm,1.4s
AHID eScP **ScP** **03 22 59.4 -2.3**
AHID LR LR
comp=Z,99µm,21.0s
SPUT **South Promonto** **41.05** **81** eP **P** **03 17 17.9 +0.5**
comp=Z,1µm,1.3s
BOD **Bodaibo** **41.06** **308** eP **P** **03 17 16.9 -0.2**
BOD eS **ScS** **03 27 14.4 -2.0**
BOD pmax pmax
comp=Z,3µm,1.7s
WVUT **Wellsville** **41.17** **80** eP **P** **03 17 20.3 +1.8**
MPMC **Manual Prospec** **41.17** **91** P **P** **03 17 19.4 +0.8**
baz=310,SNR=400
HDU **Hyde Park** **41.18** **80** eP **P** **03 17 19.4 +0.8**
SCZ2 **Santa Cruz Isl** **41.20** **95** P **P** **03 17 19.1 +0.5**
baz=312,SNR=21
SNUT **Stansbury Nort** **41.26** **81** eP **P** **03 17 19.5 +0.3**
GZU **Grizzly Peak** **41.27** **80** eP **P** **03 17 19.6 +0.2**
FURC **Furnace Creek,** **41.30** **90** P **P** **03 17 20.3 +1.1**
baz=310,SNR=63
OSI **Osito Audit: C** **41.35** **93** P **P** **03 17 20.8 +0.9**
baz=312,SNR=31
OSI **Osito Audit: C** **41.35** **93** eP **P** **03 17 21.0 +1.1**
comp=Z,3µm,1.6s
NAIU **Northern Antel** **41.36** **81** eP **P** **03 17 20.2 +0.3**
TPNV **Topopah Spring** **41.37** **89** P **P** **03 17 20.8 +0.6**
baz=310,SNR=441
TPNV **Topopah Spring** **41.37** **89** eP **P** **03 17 20.7 +0.6**
TPNV **Topopah Spring** **41.37** **89** eP **P** **03 17 20.7 +0.6**
comp=Z,982nm,0.8s
HWUT **Hardware Ranch** **41.41** **80** eP **P** **03 17 20.6 +0.2**
comp=Z,539nm,0.8s
HWUT eScP **ScP** **03 23 02.1 -1.1**
HWUT LR LR
comp=Z,66µm,19.0s
FSU **Fish Springs** **41.42** **83** eP **P** **03 17 20.7 +0.2**
LRMC **Laurel Mtn Rad** **41.43** **92** P **P** **03 17 21.0 +0.4**
baz=311,SNR=103
BLG **Laguna Peak, P** **41.48** **94** P **P** **03 17 21.6 +0.7**
baz=312,SNR=74
SAIU **Southern Antel** **41.48** **81** eP **P** **03 17 21.0 0.0**
DUG **Dugway, Tooele** **41.49** **82** P **P** **03 17 21.5 +0.5**
baz=307,SNR=474
DUG **Dugway, Tooele** **41.49** **82** eP **P** **03 17 21.3 +0.3**
DUG **Dugway, Tooele** **41.49** **82** eP **P** **03 17 21.2 +0.3**
comp=Z,2µm,1.1s
DUG eScP **ScP** **03 23 02.1 -1.4**
DUG LR LR
comp=Z,89µm,22.0s
RSUT **Red Spur Mount** **41.49** **80** eP **P** **03 17 21.5 +0.3**
MCU **Monte Cristo P** **41.53** **80** eP **P** **03 17 21.7 +0.1**
FPU **Francis Peak** **41.59** **81** eP **P** **03 17 22.1 0.0**
EDW2 **Edwards Air Fo** **41.63** **93** P **P** **03 17 22.6 +0.5**
baz=312,SNR=236
NOQ **North Oquirrh** **41.64** **81** eP **P** **03 17 22.7 +0.4**
CN2 **Changchun** **41.66** **284** eP **P** **03 17 20.8 -1.4**
CN2 epP pP 03 17 36.3 +0.9
CN2 esP sP 03 17 43.4 +2.2
CN2 PP **PP** **03 19 00.8 +1.9**
CN2 eS **S** **03 23 32.6 -2.4**
CN2 eSS **SS** **03 26 34.3 -7.0**
CN2 PMZ
comp=Z,14µm,4.0s
CN2 LN
comp=Z,82µm,19.0s
CN2 LE
comp=Z,201µm,19.0s
CN2 LZ
comp=Z,214µm,19.0s
RBU **Red Butte Cany** **41.75** **81** eP **P** **03 17 23.3 0.0**
LAO **LASA Array** **41.77** **70** P **P** **03 17 23.5 +0.4**
baz=302,SNR=269
LAO **LASA Array** **41.77** **70** eP **P** **03 17 23.7 +0.6**
comp=Z,1µm,0.7s
LAO LR LR
comp=Z,112µm,20.0s
CWU **Camp Williams** **41.77** **82** eP **P** **03 17 24.2 +0.8**
SNCC **San Nicolas Is** **41.77** **96** P **P** **03 17 24.4 +1.2**
baz=312,SNR=14
SNCC **San Nicolas Is** **41.77** **96** eP **P** **03 17 24.2 +1.0**
comp=Z,1µm,1.2s
TCUT **Toone Canyon** **41.80** **80** eP **P** **03 17 24.1 +0.4**
comp=Z,2µm,0.8s
DECC **Green Verdugo** **41.83** **94** P **P** **03 17 24.6 +0.8**
baz=312,SNR=14
CTU **Camp Tracy** **41.84** **81** eP **P** **03 17 24.4 +0.4**
comp=Z,4µm,1.2s
PSUT **Pine Spring** **41.86** **85** eP **P** **03 17 24.8 +0.7**
comp=Z,1µm,1.0s
GMU **Granite Mounta** **41.90** **81** eP **P** **03 17 25.1 +0.6**
N16A **Rees Ranch, Co** **41.92** **81** eP **P** **03 17 26.6 +2.0**
BW06 **Boulder Array** **41.96** **77** P **P** **03 17 25.1 +0.2**
baz=305,SNR=626
BW06 **Boulder Array** **41.96** **77** eP **P** **03 17 24.9 -0.1**
comp=Z,1µm,1.0s
BW06 LR LR
comp=Z,102µm,21.0s
PD31 **Pinedale Array** **41.96** **77** eP **P** **03 17 25.0 0.0**
PDAR **Pinedale Array** **41.96** **77** P **P** **03 17 24.9 -0.1**
comp=Z,452nm,0.9s,baz=296,slow=4.4,SNR=269
PDAR ScP **ScP** **03 23 05.8 +0.4**
comp=Z,75nm,1.0s,baz=318,slow=2.0,SNR=4.3
PDAR LR LR 03 33 12.1
comp=Z,83µm,21.1s,baz=308,slow=34
PDAR P3KPbc 03 46 54.5
comp=Z,2.4nm,0.6s,baz=114,slow=4.3,SNR=6.3
PASC **Pasadena Art C** **41.98** **93** eP **P** **03 17 25.4 +0.4**
comp=Z,4µm,2.0s

DGMT	**Dagmar**	41.99	67	P		P		03 17 24.9	0.0
	baz=301,SNR=22								
DGMT	**Dagmar**	41.99	67	PFAKE				03 17 40.0	+15
DGMT				LR		LR			
	comp=Z,219µm,22.0s								
MWC	**Mount Wilson**	42.02	93	*e*P		P		03 17 25.7	+0.2
MWC	**Mount Wilson**	42.02	93	*e*P		P		03 17 25.7	+0.2
	comp=Z,5µm,1.7s								
SHOC	**Shoshone, Teco**	42.03	90	P		P		03 17 26.1	+0.7
	baz=311,SNR=83								
HIA	**Hailar**	42.05	295	*d*P		P		03 17 25.9	+0.6
HIA				pmax		pmax			
	comp=Z,2µm,0.9s								
HIA				MLR		MLR			
	comp=Z,207µm,20.0s								
HIA	**Hailar**	42.05	295	*e*P		P		03 17 25.1	-0.2
	comp=Z,6µm,0.7s								
HIA				*e*ScP		ScP		03 23 04.0	-1.4
HIA				LR		LR			
	comp=Z,207µm,20.0s								
JLU	**Jordanelle**	42.08	81	*e*P		P		03 17 26.2	+0.3
	comp=Z,2µm,1.3s								
GSC	**Goldstone, Bar**	42.09	91	P		P		03 17 26.6	+0.7
	baz=311,SNR=696								
GSC	**Goldstone, Bar**	42.09	91	*e*P		P		03 17 26.3	+0.4
GSC	**Goldstone, Bar**	42.09	91	*e*P		P		03 17 26.3	+0.4
	comp=Z,864nm,0.8s								
KLJ	**Keetly**	42.09	81	*e*P		P		03 17 26.4	+0.4
LDJ	**Lady**	42.12	81	*e*P		P		03 17 28.6	+2.3
WMUT	**West Mountain**	42.16	82	*e*P		P		03 17 27.1	+0.5
HTU	**Hoyt Peak**	42.17	81	*e*P		P		03 17 27.1	+0.3
FMP	**Fort Macarthur**	42.22	94	P		P		03 17 27.5	+0.7
	baz=312,SNR=6.1								
IMU	**Iron Mountain**	42.23	84	*e*P		P		03 17 27.6	+0.5
RRX	**Edison Barstow**	42.25	92	P		P		03 17 28.0	+0.9
	baz=312,SNR=33								
BFSC	**Mount Baldy Ra**	42.26	93	P		P		03 17 27.7	+0.3
	baz=312,SNR=402								
DAU	**Daniels Canyon**	42.31	81	*e*P		P		03 17 28.6	+0.7
DAU	**Daniels Canyon**	42.31	81	*e*P		P		03 17 28.6	+0.7
SHPR	**Sheep Range**	42.33	88	*e*P		P		03 17 28.2	+0.3
	comp=Z,616nm,1.2s								
FCC	**Fort Churchill**	42.34	49	*e*P		P		03 17 28.1	+0.5
FCC				pmax		pmax			
	comp=Z,3µm,0.9s								
FCC	**Fort Churchill**	42.34	49	*e*P		P		03 17 28.1	+0.5
	comp=Z,3µm,0.9s								
CBIJ	**Chichi jima**	42.35	252	*e*P		P		03 17 28.0	0.0
	comp=Z,4µm,1.1s								
A25A	**Svangstu Ranch**	42.37	66	P		P		03 17 28.0	+0.1
	baz=301,SNR=319								
I18DK	**QAANAAQ INFRAS**	42.48	18	P		P		03 17 25.0	-3.4
	baz=228,slow=14,SNR=3.7								
LEVU	**Levan**	42.52	83	*e*P		P		03 17 30.1	+0.6
TUQ	**Turquoise Moun**	42.55	90	P		P		03 17 29.9	+0.2
	baz=311,SNR=110								
SCI2	**San Clemente I**	42.56	95	P		P		03 17 30.4	+0.8
	baz=313,SNR=34								
ARUT	**Antelope Range**	42.58	86	*e*P		P		03 17 30.4	+0.4
ARUT	**Antelope Range**	42.58	86	*e*P		P		03 17 30.4	+0.4
DWU	**Dry Willow Pea**	42.65	85	*e*P		P		03 17 31.4	+0.7
ICU	**Indian Springs**	42.68	87	*e*P		P		03 17 31.7	+0.9
B25A	**Knox Farm, Ray**	42.69	67	P		P		03 17 30.8	+0.2
	baz=302,SNR=64								
HEC	**Hector,Ludlow**	42.69	91	P		P		03 17 31.5	+0.7
	baz=312,SNR=177								
BBRC	**Big Bear Solar**	42.70	92	P		P		03 17 32.0	+0.9
	baz=312,SNR=21								
CCUT	**Cedar City**	42.77	86	*e*P		P		03 17 32.1	+0.5
	comp=Z,5µm,1.9s								
SNO	**Snow College**	42.80	83	*e*P		P		03 17 33.0	+1.1
SGU	**Sterling**	42.82	83	*e*P		P		03 17 33.2	+1.2
MSU	**Marysvale**	42.90	84	*e*P		P		03 17 33.3	+0.6
MSU	**Marysvale**	42.90	84	*e*P		P		03 17 33.3	+0.6
C25A	**Freed Ranch, W**	42.93	67	P		P		03 17 32.6	+0.1
	baz=302,SNR=52								
MURC	**Murrieta**	42.97	93	P		P		03 17 33.4	+0.3
	baz=312,SNR=118								
A26A	**Wade Farm, Ken**	42.99	65	P		P		03 17 32.7	-0.3
	baz=302,SNR=314								
TMUT	**Trail Mountain**	43.02	82	*e*P		P		03 17 34.1	+0.5
	comp=Z,2µm,1.0s								
ARGU	**Argyle Ridge**	43.10	81	*e*P		P		03 17 34.7	+0.4
GMRC	**Granite Mounta**	43.13	91	P		P		03 17 34.6	+0.1
	baz=312,SNR=402								
B26A	**Jensen Ranch,**	43.16	66	P		P		03 17 34.3	-0.1
	baz=302,SNR=116								
LCMT	**Little Creek M**	43.19	86	*e*P		P		03 17 35.6	+0.7
	comp=Z,1µm,1.0s								
MTPU	**Mount Pierson**	43.19	84	*e*P		P		03 17 35.9	+0.7
	comp=Z,1µm,1.4s								
P17A	**Butcher Ranch,**	43.19	82	*e*P		P		03 17 35.4	+0.5
	comp=Z,897nm,1.0s								
Q16A	**Castle Valley**	43.27	83	*e*P		P		03 17 36.1	+0.6
	comp=Z,2µm,1.0s								
LDFC	**Landfair**	43.28	90	*e*P		P		03 17 36.5	+0.9
	comp=Z,3µm,1.1s								
P18A	**Preston Nutter**	43.40	81	*e*P		P		03 17 37.3	+0.6
	comp=Z,2µm,1.0s								
A27A	**Ledoux Ranch,**	43.41	65	P		P		03 17 36.6	+0.2
	baz=302								
PFO	**Pinyon Flats O**	43.42	93	P		P		03 17 37.3	+0.6
	baz=312,SNR=157								
PFO	**Pinyon Flats O**	43.42	93	*e*P		P		03 17 36.8	0.0
PFO	**Pinyon Flats O**	43.42	93	*e*P		P		03 17 36.8	0.0
	comp=Z,825nm,1.0s								
PFO				*e*ScP		ScP		03 23 10.2	-1.1
PFO				LR		LR			
	comp=Z,102µm,20.0s								
TPFO	**Pinon Flats**	43.43	93	P		P		03 17 37.1	+0.3
	baz=312,SNR=220								
BELC	**Belle Mtn. Jos**	43.45	92	P		P		03 17 37.1	+0.1
	baz=312,SNR=126								
KNB	**Kanab**	43.45	86	*e*P		P		03 17 37.7	+0.7
KNB	**Kanab**	43.45	86	*e*P		P		03 17 37.7	+0.7
	comp=Z,1µm,1.1s								
PKCU	**Pink Cliffs**	43.49	85	*e*P		P		03 17 39.9	+2.4
	comp=Z,3µm,1.7s								
109C	**Camp Elliot, M**	43.51	94	P		P		03 17 38.2	+0.9
	baz=313,SNR=91								
SRU	**San Rafael Swe**	43.55	82	*e*P		P		03 17 38.1	+0.3
SRU	**San Rafael Swe**	43.55	82	*e*P		P		03 17 38.1	+0.3
	comp=Z,1µm,0.9s								
BTU	**Barney Top**	43.56	85	*e*P		P		03 17 39.2	+1.1
EKU	**East Kanab**	43.61	86	*e*P		P		03 17 38.9	+0.5
MMU	**Miners Mountai**	43.64	84	*e*P		P		03 17 38.6	-0.1
D26A	**Manning**	43.77	68	P		P		03 17 39.0	-0.3
	baz=303,SNR=39								
NEE2	**Needles Airpor**	43.79	90	P		P		03 17 40.0	+0.4
	baz=312,SNR=43								
K22A	**Casper**	43.85	75	P		P		03 17 40.0	-0.2
	baz=306,SNR=79								
K22A	**Casper**	43.85	75	*e*P		P		03 17 40.6	+0.4
	comp=Z,3µm,1.3s								
IRM	**Iron Mountain**	43.87	91	P		P		03 17 40.5	+0.3
	baz=312,SNR=90								
BAR	**Barrett**	43.92	94	*e*P		P		03 17 41.0	+0.4
	comp=Z,1µm,0.9s								
SNY	**Shenyang**	43.92	283	⇑P		P		03 17 40.8	+0.3
SNY				S		S		03 24 09.8	+1.6
SNY				PMZ					
	comp=Z,700nm,1.3s								
SNY				PMZ					
	comp=Z,49µm,10.0s								
SNY				LN					
	comp=Z,102µm,19.2s								
SNY				LE					
	comp=Z,179µm,19.9s								
SNY				LZ					
	comp=Z,260µm,19.2s								
MONP2	**Monument Peak**	43.93	93	P		P		03 17 41.4	+0.5
	baz=313,SNR=260								
KSRS	**Korea Array**	43.94	275	P		P		03 17 41.6	+0.9
	comp=Z,492nm,0.8s,baz=57,slow=6.7,SNR=200								
KSRS				ScP		ScP		03 23 16.8	+3.6
	comp=Z,46nm,0.9s,baz=52,slow=3.0,SNR=4.4								
KSRS				S		S		03 24 12.7	+4.0
	comp=Z,10nm,1.0s,baz=28,slow=5.7,SNR=2.2								
KSRS				ScS		ScS		03 27 37.7	+2.9
	comp=Z,6.5nm,1.0s,baz=320,slow=4.4,SNR=3.2								
KSRS				LR		LR		03 35 39.0	
	comp=Z,71µm,20.8s,baz=54,slow=36								
KSRS	**Korea Array**	43.94	275	P		P		03 17 41.6	+0.9
KSRS				S		S		03 24 12.7	+4.0
KSRS								03 27 37.7	
KSRS				pmax		pmax			
	comp=Z,494nm,0.8s								
KSRS				smax		smax			
	comp=N,10.0nm,1.0s								
KSRS				MLR		MLR			
	comp=Z,71µm,20.8s								
KS01	**Wonju Array Si**	43.95	275	*e*P		P		03 17 40.3	-0.5
KS15	**Wonju Array Si**	43.98	275	*e*P		P		03 17 41.4	+0.4
KSAR	**Wonju Array Be**	43.98	275	P		P		03 17 41.6	+0.6
KSAR				S		S		03 24 12.7	+3.5
KSAR	**Wonju Array Be**	43.98	275	P		P		03 17 41.6	+0.6
KSAR				ScP		ScP		03 23 16.8	+3.5
KSAR				S		S		03 24 12.7	+3.5
A28A	**Rude Farm, Bot**	43.98	64	P		P		03 17 41.1	+0.1
	baz=302,SNR=408								
BC3	**Big Chuckawall**	44.01	92	P		P		03 17 41.4	-0.1
	baz=312,SNR=74								
CIT	**Chita**	44.02	301	*e*P		P		03 17 41.4	+0.1
CIT				*e*				03 18 00.0	
CIT				*e*				03 19 25.2	
CIT				*e*				03 27 31.8	
CIT				pmax		pmax			
	comp=Z,5µm,1.8s								
W13A	**Hualapai Mount**	44.03	89	*e*P		P		03 17 41.8	0.0
	comp=Z,3µm,1.6s								
E26A	**Carlson Angus**	44.06	68	P		P		03 17 42.0	+0.3
	baz=304,SNR=354								
U15A	**North Rim**	44.15	86	*e*P		P		03 17 43.4	+0.6
	comp=Z,1µm,0.9s								
B28A	**Dugan Ranch, T**	44.17	65	P		P		03 17 42.5	+0.1
	baz=303,SNR=264								
SWSC	**Sam W. Stewart**	44.28	93	P		P		03 17 44.1	+0.6
	baz=313,SNR=72								
IKP	**In-Ko-Pah, Jac**	44.28	93	P		P		03 17 44.2	+0.5
	baz=313,SNR=185								
O20A	**White River Ci**	44.31	79	P		P		03 17 44.0	0.0
	baz=308,SNR=480								
O20A	**White River Ci**	44.31	79	*e*P		P		03 17 43.6	-0.3
	comp=Z,2µm,0.8s								
PDMCI	**Parker Dam,Lak**	44.39	90	P		P		03 17 44.4	0.0
	baz=312,SNR=224								
H25A	**Fruitdale**	44.44	71	P		P		03 17 44.8	0.0
	baz=305,SNR=320								
RSSD	**Black Hills**	44.47	72	P		P		03 17 44.9	-0.3
	baz=305								
RSSD	**Black Hills**	44.47	72	*e*P		P		03 17 44.6	-0.6
RSSD	**Black Hills**	44.47	72	*e*P		P		03 17 44.6	-0.6
	comp=Z,5µm,1.8s								
Y12C	**Blythe**	44.52	91	P		P		03 17 45.5	+0.1
	baz=312,SNR=196								
Y12C	**Blythe**	44.52	91	*e*P		P		03 17 45.7	+0.3
	comp=Z,2µm,1.0s								
A29A	**Manning Farm,**	44.55	64	P		P		03 17 45.2	-0.2
	baz=303,SNR=529								
C28A	**Hausauer Farms**	44.56	66	P		P		03 17 45.8	+0.2
	baz=304,SNR=98								
INCN	**Inchon**	44.72	276	P		P		03 17 47.7	+0.7
	SNR=79								
INCN	**Inchon**	44.72	276	*e*P		P		03 17 47.7	+0.7
	comp=Z,2µm,0.9s								
INCN				LR		LR			
	comp=Z,57µm,19.0s								
B29A	**Wagenman Farm,**	44.73	64	P		P		03 17 46.6	-0.3
	baz=303,SNR=223								
D28A	**Regan**	44.74	67	P		P		03 17 47.3	+0.2
	baz=304,SNR=150								
PV09	**Paradox Valley**	44.78	82	*e*P		P		03 17 44.3	-3.5
GLA	**Glamis**	44.80	92	P		P		03 17 47.9	+0.1
	baz=313,SNR=63								
GLA	**Glamis**	44.80	92	*e*P		P		03 17 48.3	+0.5
GLA				pmax		pmax			
	comp=Z,2µm,1.3s								
GLA	**Glamis**	44.80	92	*e*P		P		03 17 48.3	+0.5
	comp=Z,2µm,1.3s								
PV10	**Paradox Valley**	44.91	82	*e*P		P		03 17 48.8	-0.1
MDND	**Maddock**	44.92	65	P		P		03 17 48.6	+0.1
	baz=304,SNR=152								
MDND	**Maddock**	44.92	65	*e*P		P		03 17 48.8	+0.3
	comp=Z,2µm,0.6s								
JNU	**Nakatsue**	44.95	268	P		P		03 17 49.5	+0.6
	comp=Z,778nm,1.0s,baz=20,slow=5.4,SNR=67								
JNU				S		S		03 24 26.6	+3.2
	comp=Z,65nm,1.2s,baz=126,slow=23,SNR=14								
JNU				LR		LR		03 40 12.9	
	comp=Z,27µm,19.4s,baz=51,slow=41								
JNU	**Nakatsue**	44.95	268	*e*P		P		03 17 49.3	+0.4
	comp=Z,8µm,1.5s								
JNU				S		S		03 24 26.6	+3.2
TJN	**Taejon**	44.98	275	*c i*P		P		03 17 49.7	+0.7
PV04	**Paradox Valley**	44.98	82	*e*P		P		03 17 48.8	-0.5
A30A	**Hoffart Farm,**	45.05	63	P		P		03 17 49.0	-0.5
	baz=303,SNR=167								
PV05	**Paradox Valley**	45.06	82	*e*P		P		03 17 49.8	-0.2
N23A	**Red Feather La**	45.24	77	P		P		03 17 51.7	+0.2
	baz=308,SNR=260								
N23A	**Red Feather La**	45.24	77	*e*P		P		03 17 51.4	-0.1
	comp=Z,2µm,1.1s								
PHWY	**Pilot Hill**	45.29	76	*e*P		P		03 17 51.0	-0.8
	comp=Z,384nm,0.7s								
PHWY				*e*ScP		ScP		03 23 17.3	-1.8
B30A	**Myrvik Farm, E**	45.30	64	P		P		03 17 51.3	-0.2
	baz=304,SNR=735								
WUAZ	**Wupatki**	45.30	87	P		P		03 17 52.3	+0.5
	baz=311,SNR=428								
WUAZ	**Wupatki**	45.30	87	*e*P		P		03 17 52.4	+0.5
	comp=Z,1µm,0.9s								
WUAZ				*e*ScP		ScP		03 23 17.4	-1.6
WUAZ				LR		LR			
	comp=Z,109µm,20.0s								
Y14A	**Wickenburg**	45.34	90	*e*P		P		03 17 52.0	0.0
	comp=Z,2µm,0.9s								
PV01	**Paradox Valley**	45.35	82	*e*P		P		03 17 51.8	-0.5
D29A	**Pettibone, Tap**	45.37	66	P		P		03 17 52.2	+0.2
	baz=304,SNR=102								
I10CA	**LAC DU BONNET**	45.60	61	P		P		03 17 53.9	+0.1
	baz=311,slow=7.1,SNR=1.0								
E29A	**Napoleon**	45.62	67	P		P		03 17 53.6	-0.4
	baz=305,SNR=66								
C30A	**Mose, Pekin**	45.64	65	P		P		03 17 53.8	-0.3
	baz=304,SNR=223								
113A	**Mohawk Valley,**	45.65	91	*e*P		P		03 17 54.5	+0.1
	comp=Z,2µm,1.6s								
ULM	**Lac du Bonnet**	45.66	61	P		P		03 17 53.8	-0.5
	comp=Z,649nm,0.9s,baz=305,slow=8.3,SNR=153								
ULM				S		S		03 24 34.7	+1.4
	comp=Z,99nm,1.0s,baz=160,slow=18,SNR=6.7								
ULM				LR		LR		03 39 16.5	
	comp=Z,192µm,18.1s,baz=302,slow=39								
ULM	**Lac du Bonnet**	45.66	61	P		P		03 17 53.8	-0.5
ULM				S		S		03 24 34.7	+1.4
ULM				pmax		pmax			
	comp=Z,649nm,0.9s								
ULM				smax		smax			
	comp=N,99nm,1.0s								
ULM				MLR		MLR			
	comp=Z,192µm,18.1s								
ULM	**Lac du Bonnet**	45.66	61	*e*P		P		03 17 53.7	-0.5
	comp=Z,2µm,1.0s								
ULM				S		S		03 24 34.7	+1.4
A31A	**Linda, St. Vin**	45.67	63	P		P		03 17 54.3	-0.1
	baz=304,SNR=93								
SMCO	**Snowmass**	45.67	80	*e*P		P		03 17 54.5	-0.6
	comp=Z,474nm,0.8s								
SMCO				*e*ScP		ScP		03 23 19.3	-1.5
B31A	**Greenbush Farm**	45.70	64	P		P		03 17 54.4	-0.2
	baz=304,SNR=471								
D30A	**Buchanan**	45.81	66	P		P		03 17 55.1	-0.4
	baz=305,SNR=326								
F29A	**Eureka**	45.93	68	P		P		03 17 56.1	-0.4
	baz=305,SNR=134								
MVCO	**Mesa Verde**	45.98	83	P		P		03 17 57.0	-0.2
	baz=310,SNR=204								
MVCO	**Mesa Verde**	45.98	83	*e*P		P		03 17 56.8	-0.5
	comp=Z,4µm,1.8s								
MVCO				LR		LR			
	comp=Z,62µm,20.0s								
X16A	**Lo Mia Camp, P**	45.99	88	*e*P		P		03 17 57.7	+0.4
	comp=Z,814nm,0.8s								
C31A	**Landman Farms,**	46.00	64	P		P		03 17 56.4	-0.6
	baz=304,SNR=343								
NRIK	**Noril'sk**	46.04	331	P		P		03 17 57.1	+0.1
	comp=Z,530nm,0.9s,baz=70,slow=8.1,SNR=168								
NRIK				ScP		ScP		03 23 24.6	+3.3
	comp=Z,96nm,0.8s,baz=90,slow=5.2,SNR=2.8								
NRIK				LR		LR		03 39 08.6	
	comp=Z,119µm,19.7s,baz=60,slow=38								
A32A	**Rocking H Ranc**	46.06	62	P		P		03 17 57.2	-0.2
	baz=304,SNR=114								
E30A	**Jud**	46.07	66	P		P		03 17 56.9	-0.7
	baz=305,SNR=47								
ISCO	**Idaho Springs**	46.11	78	P		P		03 17 58.7	+0.3
	baz=308,SNR=170								
ISCO	**Idaho Springs**	46.11	78	*e*P		P		03 17 58.3	-0.1
ISCO	**Idaho Springs**	46.11	78	*e*P		P		03 17 58.3	-0.1
	comp=Z,909nm,1.2s								
ISCO				LR		LR			
	comp=Z,127µm,20.0s								
KWAJ	**Kwajalein Atol**	46.23	209	*e*P		P		03 18 01.5	+2.5
KWAJ	**Kwajalein Atol**	46.23	209	*e*P		P		03 18 00.4	+1.4
	comp=Z,10µm,1.6s								
G29A	**Hoven**	46.25	69	P		P		03 17 58.6	-0.4
	baz=306,SNR=144								
B32A	**Ashes, Strandq**	46.33	63	P		P		03 17 58.9	-0.6
	baz=304,SNR=166								
F30A	**Leola**	46.39	67	P		P		03 17 59.4	-0.7
	baz=306,SNR=92								
H29A	**Onida**	46.41	69	P		P		03 18 00.0	-0.3
	baz=306,SNR=104								
D31A	**Mcclaflin, Tow**	46.43	65	P		P		03 17 59.4	-0.9
	baz=305,SNR=433								
KULLO	**Kullorsuaq**	46.51	20	⇑*i*P		P		03 18 01.0	+0.4
KULLO				pmax		pmax			
	comp=Z,1µm,0.9s								
KULLO	**Kullorsuaq**	46.51	20	⇑*i*P		P		03 18 01.0	+0.4
	comp=Z,1µm,0.9s								
W18A	**Petrified Fore**	46.58	86	P		P		03 18 01.9	+0.1
	baz=311,SNR=112								
W18A	**Petrified Fore**	46.58	86	*e*P		P		03 18 02.7	+0.8
	comp=Z,2µm,1.1s								
E31A	**Nome**	46.62	66	P		P		03 18 00.9	-0.9
	baz=305,SNR=143								
A33A	**Warroad**	46.65	62	P		P		03 18 01.5	-0.6
	baz=304,SNR=448								
C32A	**Crookston**	46.65	64	P		P		03 18 01.3	-0.8
	baz=305,SNR=112								
S22A	**4UR Ranch, Cre**	46.66	81	P		P		03 18 03.1	+0.4
	baz=310,SNR=230								
S22A	**4UR Ranch, Cre**	46.66	81	*e*P		P		03 18 02.9	+0.2
	comp=Z,2µm,1.4s								
I29A	**Vivian Onida**	46.72	70	P		P		03 18 02.2	-0.5
	baz=306,SNR=137								
G30A	**Faulkton**	46.73	68	P		P		03 18 02.0	-0.8
	baz=306,SNR=711								
AGMN	**Agassiz Nation**	46.75	63	P		P		03 18 01.9	-1.0
	baz=305,SNR=629								
AGMN	**Agassiz Nation**	46.75	63	*e*P		P		03 18 02.1	-0.7
	comp=Z,2µm,1.3s								
AGMN				LR		LR			
	comp=Z,232µm,19.0s								
D32A	**Dogwood Acres,**	46.78	65	P		P		03 18 02.1	-0.9
	baz=305,SNR=86								
214A	**Organ Pipe Nat**	46.80	91	P		P		03 18 03.4	-0.1
	baz=314,SNR=266								
214A	**Organ Pipe Nat**	46.80	91	*e*P		P		03 18 03.0	-0.4
	comp=Z,2µm,1.1s								
F31A	**Hecla**	46.82	67	P		P		03 18 03.0	-0.4
	baz=306								
X18A	**Snowflake**	46.83	87	*e*P		P		03 18 04.3	+0.4
	comp=Z,788nm,0.7s								
DL2	**Dalian**	46.88	281	⇑*i*P		P		03 18 03.9	-0.1
DL2				S		S		03 24 52.1	+1.1
DL2				PMZ					
	comp=Z,2µm,1.4s								
DL2				PMZ					
	comp=Z,25µm,11.8s								
DL2				LN					
	comp=Z,91µm,19.4s								
DL2				LE					
	comp=Z,92µm,18.2s								
DL2				LZ					
	comp=Z,225µm,40.7s								
Q24A	**Divide**	46.92	79	P		P		03 18 04.2	-0.4
	baz=309,SNR=84								
Q24A	**Divide**	46.92	79	*e*P		P		03 18 05.0	+0.3
	comp=Z,2µm,1.5s								
B33A	**Robert and Kas**	46.92	63	P		P		03 18 03.8	-0.4
	baz=305,SNR=83								
E32A	**Braaten, Kindr**	47.06	65	P		P		03 18 04.4	-0.9
	baz=306,SNR=90								
C33A	**Trail**	47.11	63	P		P		03 18 04.8	-0.8
	baz=305,SNR=248								
G31A	**Conde**	47.21	67	P		P		03 18 06.1	-0.4
	baz=306,SNR=30								
SUSD	**Miller**	47.25	69	P		P		03 18 06.2	-0.6
	baz=307,SNR=397								
I30A	**Oacoma**	47.29	70	P		P		03 18 06.6	-0.5
	baz=307,SNR=68								
B34A	**Aery, Baudette**	47.31	62	P		P		03 18 06.5	-0.7
	baz=305,SNR=376								
D33A	**AnnSam, Waubun**	47.43	64	P		P		03 18 07.2	-1.0
	baz=306,SNR=303								
F32A	**Veblen**	47.45	66	P		P		03 18 07.3	-1.0
	baz=306,SNR=93								
SDCO	**Great Sand Dun**	47.47	80	P		P		03 18 08.5	-0.5
	baz=310,SNR=352								
SDCO	**Great Sand Dun**	47.47	80	*e*P		P		03 18 09.0	0.0
	comp=Z,3µm,1.7s								
SDCO				LR		LR			
	comp=Z,79µm,19.0s								
H31A	**Wolsey**	47.50	68	P		P		03 18 08.1	-0.6
	baz=307,SNR=362								
OGNE	**Ogallala**	47.56	74	P		P		03 18 09.3	0.0
	baz=308,SNR=88								
OGNE	**Ogallala**	47.56	74	*e*P

G34A	**Benson**	**48.66**	**66**	P		**P**		**03 18 16.8**	**-0.9**
	baz=307,SNR=197								
L31A	**Butterfield Fa**	**48.69**	**71**	P		**P**		**03 18 17.6**	**-0.4**
	baz=308,SNR=104								
IRK	**Irkutsk**	**48.70**	**306**	⇑	*iP*		**P**	**03 18 17.2**	**-0.7**
IRK					*e*			03 19 46.2	
IRK					*e*			03 28 03.8	
IRK					pmax		pmax		
	comp=Z,7μm,1.7s								
ANMO	**Albuquerque**	**48.71**	**84**	P		**P**		**03 18 18.6**	**+0.1**
	baz=312								
ANMO	**Albuquerque**	**48.71**	**84**	*c*	*iP*		**P**	**03 18 19.7**	**+1.3**
ANMO					pmax		pmax		
	comp=Z,509nm,2.5s								
ANMO					MLR		MLR		
	comp=Z,52μm,16.0s								
ANMO	**Albuquerque**	**48.71**	**84**		*eP*		**P**	**03 18 18.2**	**-0.3**
	comp=Z,2μm,1.6s								
ANMO					*eScP*		**ScP**	**03 23 31.7**	**-1.7**
ANMO					LR		LR		
	comp=Z,68μm,20.0s								
C36A	**Pine Crest Far**	**48.72**	**62**	P		**P**		**03 18 17.5**	**-0.6**
	baz=306,SNR=154								
I33A	**Coleman**	**48.72**	**68**	P		**P**		**03 18 16.9**	**-1.3**
	baz=308,SNR=120								
D36A	**Goodland**	**48.89**	**63**	P		**P**		**03 18 18.5**	**-0.9**
	baz=307,SNR=241								
F35A	**Swanville**	**48.89**	**65**	P		**P**		**03 18 18.5**	**-0.9**
	baz=307,SNR=304								
K32A	**Verdigre**	**48.89**	**70**	P		**P**		**03 18 18.8**	**-0.7**
	baz=308,SNR=92								
H34A	**Spellman Lake,**	**48.93**	**67**	P		**P**		**03 18 18.7**	**-1.0**
	baz=307,SNR=140								
Y22D	**IRIS PASSCAL I**	**49.00**	**85**	P		**P**		**03 18 20.9**	**+0.2**
	baz=312,SNR=30								
ECSD	**EROS Data Cent**	**49.02**	**68**	P		**P**		**03 18 19.2**	**-1.3**
	baz=308,SNR=714								
ECSD	**EROS Data Cent**	**49.02**	**68**		*eP*		**P**	**03 18 19.1**	**-1.3**
	comp=Z,700nm,0.6s								
ECSD					LR		LR		
	comp=Z,123μm,20.0s								
LPM	**Los Pinos Moun**	**49.02**	**84**		*eP*		**P**	**03 18 21.1**	**+0.3**
J33A	**Davis**	**49.07**	**69**	P		**P**		**03 18 19.7**	**-1.1**
	baz=308,SNR=248								
C37A	**Embarrass**	**49.09**	**61**	P		**P**		**03 18 20.2**	**-0.8**
	baz=307,SNR=228								
M31A	**Lambtecht Ranc**	**49.12**	**72**	P		**P**		**03 18 20.6**	**-0.7**
	baz=309,SNR=73								
BNM	**Barren Site**	**49.13**	**85**		*eP*		**P**	**03 18 22.0**	**+0.2**
E36A	**McGregor**	**49.23**	**63**	P		**P**		**03 18 21.4**	**-0.6**
	baz=307,SNR=881								
I34A	**Hadley**	**49.27**	**67**	P		**P**		**03 18 21.2**	**-1.2**
	baz=308,SNR=31								
L32A	**Elgin**	**49.28**	**71**	P		**P**		**03 18 22.2**	**-0.2**
	baz=309,SNR=173								
D37A	**Cotton**	**49.30**	**62**	P		**P**		**03 18 21.7**	**-0.9**
	baz=307,SNR=198								
G35A	**Watkins**	**49.33**	**65**	P		**P**		**03 18 22.1**	**-0.7**
	baz=308,SNR=116								
KBS	**Kingsbay**	**49.33**	**359**	⇑	*iP*		**P**	**03 18 23.3**	**+0.9**
KBS					IVmB_BB			03 18 25.8	
	comp=Z,33μm,2.5s								
KBS					*eS*		**S**	**03 25 26.4**	**+1.6**
KBS					IVMs_BB		IVMs_BB	03 34 29.6	
	comp=Z,101μm,38.7s								
KBS	**Kingsbay**	**49.33**	**359**		*eP*		**P**	**03 18 23.4**	**+1.0**
KBS					pmax		pmax		
	comp=Z,2μm,0.8s								
KBS					MLR		MLR		
	comp=Z,169μm,19.0s								
KBS	**Kingsbay**	**49.33**	**359**		*eP*		**P**	**03 18 23.4**	**+1.0**
	comp=Z,2μm,0.8s								
KBS					LR		LR		
	comp=Z,169μm,19.0s								
EYMN	**Ely**	**49.34**	**61**	P		**P**		**03 18 22.2**	**-0.7**
	baz=307,SNR=242								
EYMN	**Ely**	**49.34**	**61**		*eP*		**P**	**03 18 22.1**	**-0.7**
	comp=Z,2μm,1.3s								
EYMN					*eS*		**S**	**03 25 21.8**	**-3.8**
EYMN					LR		LR		
	comp=Z,173μm,19.0s								
TLY	**Talaya**	**49.34**	**305**		LR		LR	03 39 23.3	
	comp=Z,126μm,20.9s,baz=44,slow=36								
TLY	**Talaya**	**49.34**	**305**	*c*	*iP*		**P**	**03 18 23.1**	**+0.3**
TLY					*e*			03 20 20.0	
TLY					*eS*		**S**	**03 25 23.7**	**-1.8**
TLY					*e*			03 28 12.0	
TLY					*eSS*		**SS**	**03 28 58.3**	**+1.4**
TLY					pmax		pmax		
	comp=Z,4μm,1.1s								
TLY					MLR		MLR		
	comp=Z,76μm,15.0s								
TLY	**Talaya**	**49.34**	**305**		*eP*		**P**	**03 18 23.4**	**+0.5**
	comp=Z,5μm,1.2s								
TLY					LR		LR		
	comp=Z,131μm,19.0s								
319A	**Douglas**	**49.38**	**89**		*eP*		**P**	**03 18 24.0**	**+0.5**
	comp=Z,1μm,1.2s								
BJI	**Beijing**	**49.44**	**286**	P			**P**	**03 18 24.1**	**+0.4**
BJI				S			**S**	**03 25 23.9**	**-3.2**
BJI				PMZ					
	comp=Z,500nm,1.4s								
BJI				PMZ					
	comp=Z,25μm,6.0s								
BJI				LN					
	comp=Z,124μm,19.1s								
BJI				LE					
	comp=Z,155μm,20.3s								
BJI				LZ					
	comp=Z,237μm,38.8s								
H35A	**Sunnyside Ranc**	**49.45**	**66**	P		**P**		**03 18 22.8**	**-0.9**
	baz=308,SNR=367								
N31A	**Bailey Ranch,**	**49.46**	**73**	P		**P**		**03 18 23.6**	**-0.3**
	baz=309,SNR=50								
BJT	**Baijiatuau**	**49.46**	**286**		*eP*		**P**	**03 18 24.2**	**+0.3**
BJT					pmax		pmax		
	comp=Z,1μm,0.8s								
BJT					MLR		MLR		
	comp=Z,172μm,20.0s								
BJT	**Baijiatuau**	**49.46**	**286**		*eP*		**P**	**03 18 24.2**	**+0.3**
	comp=Z,1μm,0.8s								
BJT					LR		LR		
	comp=Z,172μm,20.0s								
F36A	**Milaca**	**49.48**	**64**	P		**P**		**03 18 22.8**	**-1.1**
	baz=307,SNR=438								
K33A	**Hardington**	**49.49**	**70**	P		**P**		**03 18 23.2**	**-0.9**
	baz=308,SNR=113								
121A	**Cookes Peak, D**	**49.51**	**87**	P		**P**		**03 18 24.4**	**-0.2**
	baz=313,SNR=220								
121A	**Cookes Peak, D**	**49.51**	**87**		*eP*		**P**	**03 18 24.4**	**-0.2**
	comp=Z,733nm,1.0s								
BGNE	**Belgrade**	**49.56**	**72**	P		**P**		**03 18 24.2**	**-0.5**
	baz=309,SNR=138								
BGNE	**Belgrade**	**49.56**	**72**		*eP*		**P**	**03 18 24.5**	**-0.2**
	comp=Z,8μm,1.1s								
C38A	**Sawbill Land,**	**49.60**	**61**	P		**P**		**03 18 23.8**	**-1.0**
	baz=307,SNR=153								
L33A	**Hoskins**	**49.61**	**70**	P		**P**		**03 18 24.2**	**-0.8**
	baz=309,SNR=53								
O31A	**Woolen Ranch,**	**49.66**	**74**	P		**P**		**03 18 24.9**	**-0.6**
	baz=310,SNR=34								
E37A	**Wrenshall**	**49.67**	**63**	P		**P**		**03 18 24.8**	**-0.6**
	baz=307,SNR=62								
J34A	**George**	**49.67**	**68**	P		**P**		**03 18 24.7**	**-0.8**
	baz=308,SNR=96								
G36A	**St. Michael**	**49.73**	**65**	P		**P**		**03 18 25.3**	**-0.6**
	baz=308,SNR=128								
ULN	**Ulaanbaatar**	**49.82**	**299**	*c*	*iP*		**P**	**03 18 26.6**	**-0.1**
ULN					pmax		pmax		
	comp=Z,501nm,1.0s								
ULN					MLR		MLR		
	comp=Z,239μm,17.0s								
ULN	**Ulaanbaatar**	**49.82**	**299**		P		**P**	**03 18 27.1**	**+0.4**
	SNR=1258								
ULN	**Ulaanbaatar**	**49.82**	**299**		*eP*		**P**	**03 18 25.7**	**-1.0**
	comp=Z,2μm,0.9s								
ULN					*eScP*		**ScP**	**03 23 36.5**	**-1.4**
ULN					LR		LR		
	comp=Z,256μm,19.0s								
I35A	**Creekview Farm**	**49.88**	**67**	P		**P**		**03 18 26.1**	**-0.9**
	baz=308,SNR=90								
N32A	**Stulken Farm,**	**49.88**	**72**	P		**P**		**03 18 26.4**	**-0.7**
	baz=309,SNR=93								
K34A	**Le Mars**	**49.96**	**69**	P		**P**		**03 18 26.9**	**-0.8**
	baz=309,SNR=479								
HSIG		**49.99**	**93**		*eP*		**P**	**03 18 26.9**	**-1.1**
	comp=Z,2μm,1.5s								
SPA0	**Spitsbergen Ar**	**50.01**	**358**		*eP*		**P**	**03 18 27.4**	**-0.2**
SPA0					IVmB_BB			03 18 30.0	
	comp=Z,25μm,1.5s								
SPA0	**Spitsbergen Ar**	**50.01**	**358**		*eP*		**P**	**03 18 27.8**	**+0.2**
M33A	**Taylor Creek F**	**50.02**	**71**	P			**P**	**03 18 27.4**	**-0.7**
	baz=309,SNR=175								
H36A	**Jessenland, He**	**50.03**	**66**	P			**P**	**03 18 27.6**	**-0.6**
	baz=308,SNR=520								
J35A	**Milford**	**50.05**	**68**	P			**P**	**03 18 27.3**	**-1.0**
	baz=308,SNR=77								
C39A	**Grand Marais**	**50.15**	**60**	P			**P**	**03 18 28.1**	**-0.9**
	baz=307,SNR=103								
FRB	**Frobisher Bay**	**50.16**	**34**	P4KPbc				03 56 03.5	
	comp=Z,17nm,0.8s,baz=343,slow=4.7,SNR=7.7								
SONA1	**Songino Array**	**50.18**	**300**		*eP*		**P**	**03 18 29.1**	**-0.3**
SONM	**Songino Array**	**50.19**	**300**	P			**P**	**03 18 30.0**	**+0.5**
	comp=Z,418nm,1.0s,baz=53,slow=6.6,SNR=267								
SONM				ScP			**ScP**	**03 23 41.7**	**+2.3**
	comp=Z,191nm,1.0s,baz=43,slow=1.9,SNR=6.4								
SONM				S			**S**	**03 25 39.2**	**+1.4**
	comp=Z,26nm,1.0s,baz=246,slow=2.9,SNR=2.6								
SONM				ScS			**ScS**	**03 28 16.7**	**+0.7**
	comp=Z,11nm,1.0s,baz=343,slow=8.1,SNR=2.8								
SONM				LR			LR	03 41 30.9	
	comp=Z,316μm,18.9s,baz=51,slow=38								
SONM				P4KPbc				03 56 05.0	
	comp=Z,21nm,0.9s,baz=53,slow=2.6,SNR=19								
O32A	**Brockman Farm,**	**50.21**	**73**	P			**P**	**03 18 29.2**	**-0.4**
	baz=310,SNR=25								
L34A	**Svendsen Farm,**	**50.25**	**70**	P			**P**	**03 18 28.9**	**-1.0**
	baz=309,SNR=306								
SPMN	**Marine on St.**	**50.27**	**64**	P			**P**	**03 18 29.1**	**-0.8**
	baz=308,SNR=219								
SPMN	**Marine on St.**	**50.27**	**64**		*eP*		**P**	**03 18 29.0**	**-0.8**
	comp=Z,715nm,0.7s								
CBKS	**Cedar Bluff**	**50.27**	**75**	P			**P**	**03 18 29.7**	**-0.4**
	baz=310,SNR=209								
CBKS	**Cedar Bluff**	**50.27**	**75**		*eP*		**P**	**03 18 29.9**	**-0.2**
CBKS					pmax		pmax		
	comp=Z,3μm,0.9s								
CBKS					MLR		MLR		
	comp=Z,72μm,20.0s								
CBKS	**Cedar Bluff**	**50.27**	**75**		*eP*		**P**	**03 18 29.9**	**-0.2**
	comp=Z,3μm,0.9s								
CBKS					LR		LR		
	comp=Z,72μm,20.0s								
ZAK	**Zakamensk**	**50.29**	**304**		*eP*		**P**	**03 18 30.5**	**+0.3**
ZAK					pmax		pmax		
	comp=Z,3μm,1.5s								
I36A	**Fitzsimmons Fa**	**50.33**	**66**	P			**P**	**03 18 29.4**	**-1.0**
	baz=308,SNR=160								
DAG	**Danmarks Havn**	**50.39**	**8**	⇑	*iP*		**P**	**03 18 29.9**	**-0.5**
DAG					*e*			03 25 38.8	
DAG					*i*			03 28 15.0	
DAG					pmax		pmax		
	comp=Z,2μm,0.9s								
DAG					MLR		MLR		
	comp=Z,190μm,15.0s								
DAG	**Danmarks Havn**	**50.39**	**8**	⇑	*iP*		**P**	**03 18 29.9**	**-0.5**
	comp=Z,2μm,0.9s								
DAG					*e*			03 25 38.8	
DAG					*i*			03 28 15.0	
	comp=Z,186μm,15.0s								
N33A	**J Bar K, Exete**	**50.40**	**72**	P			**P**	**03 18 30.2**	**-0.8**
	baz=310								
SRIG	**Santa Rosalia**	**50.40**	**95**		*eP*		**P**	**03 18 30.7**	**-0.4**
	comp=Z,4μm,1.8s								
M34A	**Aspy Farms, Fr**	**50.42**	**70**	P			**P**	**03 18 30.4**	**-0.7**
	baz=309,SNR=69								
P32A	**Huiting Farm,**	**50.43**	**74**	P			**P**	**03 18 30.5**	**-0.8**
	baz=310,SNR=176								
K35A	**Storm Lake**	**50.44**	**68**	P			**P**	**03 18 30.3**	**-1.0**
	baz=309,SNR=273								
J36A	**Seneca 1, Swea**	**50.57**	**67**	P			**P**	**03 18 31.2**	**-1.0**
	baz=309,SNR=149								
H37A	**Dierke Farm, C**	**50.60**	**65**	P			**P**	**03 18 32.2**	**-0.2**
	baz=308,SNR=126								
L35A	**Bielow Farm, R**	**50.64**	**69**	P			**P**	**03 18 31.6**	**-1.2**
	baz=309,SNR=81								
MOY	**Mondy**	**50.68**	**306**		*eP*		**P**	**03 18 33.6**	**+0.5**
MOY					pmax		pmax		
	comp=Z,4μm,1.8s								
I37A	**Lemond, Waseca**	**50.68**	**66**	P			**P**	**03 18 32.2**	**-0.8**
	baz=309,SNR=493								
O33A	**Hebron**	**50.74**	**73**	P			**P**	**03 18 32.7**	**-0.9**
	baz=310,SNR=211								
Q32A	**Meitler Ranch,**	**50.86**	**74**	P			**P**	**03 18 33.8**	**-0.7**
	baz=310,SNR=295								
N34A	**Lincoln**	**50.89**	**71**	P			**P**	**03 18 33.5**	**-1.2**
	baz=310,SNR=53								
K36A	**Gilmore City**	**50.94**	**68**	P			**P**	**03 18 34.0**	**-1.0**
	baz=309,SNR=334								
JOW	**Kunigami**	**50.96**	**265**		*eP*		**P**	**03 18 35.8**	**+0.5**
	comp=Z,1μm,1.0s								
M35A	**Neola**	**50.96**	**70**	P			**P**	**03 18 34.4**	**-0.8**
	baz=310,SNR=233								
J37A	**Redenius Farm,**	**51.03**	**67**	P			**P**	**03 18 34.8**	**-0.9**
	baz=309,SNR=555								
P33A	**Williams Farm,**	**51.09**	**73**	P			**P**	**03 18 35.5**	**-0.7**
	baz=310,SNR=56								
R32A	**Long Quarter,**	**51.14**	**75**	P			**P**	**03 18 35.8**	**-0.8**
	baz=311,SNR=226								
L36A	**Harm Buss Farm**	**51.16**	**69**	P			**P**	**03 18 35.7**	**-1.0**
	baz=310,SNR=55								
O34A	**Beatrice**	**51.20**	**72**	P			**P**	**03 18 36.1**	**-0.9**
	baz=310,SNR=650								
HSPB	**Hornsund (broa**	**51.20**	**358**		*iP*		**P**	**03 18 35.8**	**-0.7**
HSPB					IVmB_BB			03 18 39.0	
	comp=Z,23μm,3.1s								
HSPB					*eS*		**S**	**03 25 51.1**	**+0.4**
HSPB					IVMs_BB		IVMs_BB	03 43 53.5	
	comp=Z,129μm,17.1s								
HSPB	**Hornsund (broa**	**51.20**	**358**		*eP*		**P**	**03 18 36.9**	**+0.4**
HSPB					*e*PP		**sP**	**03 18 53.1**	**-2.7**
HSPB					*eS*		**S**	**03 25 53.3**	**+2.6**
HSPB					*e*			03 26 09.7	
HSPB					*e*			03 28 18.5	
I38A	**Scanlan Farm,**	**51.27**	**65**	P			**P**	**03 18 36.6**	**-0.8**
	baz=309,SNR=309								
PATS	**Pohnpei**	**51.28**	**219**		*eP*		**P**	**03 18 39.4**	**+1.6**
	comp=Z,2μm,1.4s								
Q33A	**Connelly Farm,**	**51.29**	**74**	P			**P**	**03 18 37.2**	**-0.5**
	baz=311,SNR=268								
K37A	**Belmond**	**51.32**	**67**	P			**P**	**03 18 36.8**	**-1.1**
	baz=309,SNR=311								
HOPEN	**Hopen**	**51.33**	**355**	⇑	*iP*		**P**	**03 18 37.0**	**-0.4**
HOPEN					IVmB_BB			03 18 40.0	
	comp=Z,24μm,1.7s								
HOPEN					IVMs_BB		IVMs_BB	03 35 24.8	
	comp=Z,102μm,36.3s								
TIA	**Tai'an**	**51.35**	**282**		⇑P		**P**	**03 18 38.3**	**+0.1**
TIA					S		**S**	**03 25 55.3**	**+1.5**
TIA					PMZ				
	comp=Z,1μm,0.9s								
TIA					PMZ				
	comp=Z,16μm,4.6s								
TIA					LN				
	comp=Z,95μm,19.4s								
TIA					LE				
	comp=Z,91μm,20.6s								
TIA					LZ				
	comp=Z,80μm,19.6s								
N35A	**Tabor**	**51.38**	**71**	P			**P**	**03 18 37.6**	**-0.7**
	baz=310,SNR=150								
S32A	**Newby Ranch, P**	**51.47**	**76**	P			**P**	**03 18 38.6**	**-0.5**
	baz=311,SNR=40								
M36A	**Felix, Anita**	**51.49**	**69**	P			**P**	**03 18 38.7**	**-0.5**
	baz=310,SNR=70								
P34A	**Walnut Farm, R**	**51.53**	**73**	P			**P**	**03 18 38.8**	**-0.7**
	baz=310,SNR=135								
MNTX	**Cornudas Mount**	**51.56**	**86**	P			**P**	**03 18 39.9**	**+0.1**
	baz=314,SNR=388								
MNTX	**Cornudas Mount**	**51.56**	**86**		*eP*		**P**	**03 18 39.8**	**-0.1**
	comp=Z,627nm,0.9s								
MNTX					LR		LR		
	comp=Z,47μm,19.0s								
SUMG	**Summit**	**51.59**	**16**	⇑	*iP*		**P**	**03 18 40.5**	**+0.6**
SUMG					pmax		pmax		
	comp=Z,2μm,0.9s								
SUMG	**Summit**	**51.59**	**16**	⇑	*iP*		**P**	**03 18 40.5**	**+0.6**
	comp=Z,2μm,0.9s								
SUMG	**Summit**	**51.59**	**16**		*eP*		**P**	**03 18 39.9**	**0.0**
	comp=Z,5μm,0.9s								
ILULI	**Ilulissat**	**51.59**	**23**	⇑	*iP*		**P**	**03 18 39.1**	**-0.4**
ILULI					*i*			03 18 58.3	
ILULI					pmax		pmax		
	comp=Z,990nm,1.0s								
ILULI	**Ilulissat**	**51.59**	**23**	⇑	*iP*		**P**	**03 18 39.1**	**-0.4**
	comp=Z,987nm,1.0s								
ILULI					*i*			03 18 58.3	
O35A	**Humboldt**	**51.60**	**71**	P			**P**	**03 18 38.8**	**-1.2**
	baz=310,SNR=77								
GUMO	**Guam**	**51.61**	**238**		*eP*		**P**	**03 18 38.1**	**-2.1**
GUMO					pmax		pmax		
	comp=Z,2μm,0.8s								
GUMO					MLR		MLR		
	comp=Z,41μm,20.0s								
GUMO	**Guam**	**51.61**	**238**		*eP*		**P**	**03 18 38.1**	**-2.1**
	comp=Z,2μm,0.8s								
GUMO					LR		LR		
	comp=Z,41μm,20.0s								
MSTX	**Muleshoe**	**51.62**	**82**	P			**P**	**03 18 39.8**	**-0.6**
	baz=313,SNR=190								
MSTX	**Muleshoe**	**51.62**	**82**		*eP*		**P**	**03 18 39.6**	**-0.8**
	comp=Z,3μm,1.4s								
J38A	**Wedel Dairy, R**	**51.64**	**66**	P			**P**	**03 18 39.4**	**-0.8**
	baz=309,SNR=295								
HHC	**Hu-ho-hao-te**	**51.64**	**290**		*eP*		**P**	**03 18 41.3**	**+0.9**
HHC					S		**S**	**03 26 00.3**	**+2.4**
HHC					PMZ				
	comp=Z,920nm,1.2s								
HHC					PMZ				
	comp=Z,39μm,9.0s								
HHC					LN				
	comp=Z,97μm,17.6s								
HHC					LE				
	comp=Z,127μm,17.0s								
HHC					LZ				
	comp=Z,127μm,17.0s								
R33A	**Olander Ranch,**	**51.64**	**74**	P			**P**	**03 18 39.9**	**-0.5**
	baz=311,SNR=123								
L37A	**Phoenix Point,**	**51.66**	**68**	P			**P**	**03 18 40.0**	**-0.5**
	baz=310,SNR=548								
AMTX	**Amarillo**	**51.67**	**80**	P			**P**	**03 18 40.8**	**0.0**
	baz=312								
AMTX	**Amarillo**	**51.67**	**80**		*eP*		**P**	**03 18 40.8**	**0.0**
	comp=Z,854nm,0.8s								
COWI	**Conover**	**51.74**	**62**		*eP*		**P**	**03 18 40.0**	**-1.0**
	comp=Z,892nm,1.0s								
COWI					*eS*		**S**	**03 25 53.9**	**-5.1**
COWI					LR		LR		
	comp=Z,160μm,19.0s								
N36A	**Muff Farm, Cla**	**51.80**	**70**	P			**P**	**03 18 40.9**	**-0.6**
	baz=310,SNR=58								
T32A	**Huddler Ranch,**	**51.82**	**76**	P			**P**	**03 18 41.0**	**-0.7**
	baz=311,SNR=96								
Q34A	**Chapman**	**51.87**	**73**	P			**P**	**03 18 41.1**	**-0.9**
	baz=311,SNR=366								
K38A	**Parkersburg**	**51.90**	**67**	P			**P**	**03 18 41.1**	**-1.0**
	baz=310,SNR=60								
KSU1	**Kansas State U**	**51.94**	**73**	P			**P**	**03 18 41.6**	**-1.0**
	baz=311,SNR=156								
KSU1	**Kansas State U**	**51.94**	**73**		*eP*		**P**	**03 18 41.5**	**-1.0**
	comp=Z,2μm,1.0s								
KSU1					LR		LR		
	comp=Z,160μm,21.0s								
M37A	**Trindle Farm,**	**51.95**	**69**	P			**P**	**03 18 42.2**	**-0.4**
	baz=310,SNR=342								
P35A	**Duane Minner,**	**52.02**	**72**	P			**P**	**03 18 42.1**	**-1.1**
	baz=311,SNR=264								
TARA	**Tarawa**	**52.05**	**199**		*eP*		**P**	**03 18 44.0**	**+0.5**
	comp=Z,9μm,1.6s								
TARA					LR		LR		
	comp=Z,6μm,20.0s								
J39A	**Decorah**	**52.06**	**66**	P			**P**	**03 18 42.1**	**-1.3**
	baz=310,SNR=739								
R34A	**Isabella, Hill**	**52.09**	**74**	P			**P**	**03 18 43.0**	**-0.6**
	baz=311,SNR=249								
S33A	**Kaszmaul Farm,**	**52.10**	**75**	P			**P**	**03 18 43.2**	**-0.6**
	baz=311,SNR=215								
L38A	**Oak Wood Farm,**	**52.11**	**68**	P			**P**	**03 18 43.1**	**-0.6**
	baz=310,SNR=379								
SCIA	**State Center**	**52.11**	**68**		*eP*		**P**	**03 18 43.2**	**-0.6**
	comp=Z,3μm,1.0s								
SCIA					LR		LR		
	comp=Z,161μm,22.0s								
O36A	**Bolckow**	**52.24**	**71**	P			**P**	**03 18 44.0**	**-0.8**
	baz=311								
N37A	**Lee Faris, Mou**	**52.28**	**70**	P			**P**	**03 18 44.3**	**-0.7**
	baz=310,SNR=199								
T33A	**Patterson Ranc**	**52.29**	**76**	P			**P**	**03 18 44.3**	**-1.0**
	baz=312,SNR=31								
U32A	**Winter Ranch,**	**52.30**	**77**	P			**P**	**03 18 44.6**	**-0.7**
	baz=312,SNR=62								
SSE	**Sheshan**	**52.32**	**274**	⇑	P		**P**	**03 18 46.0**	**+0.5**
SSE					pP		**pP**	**03 18 58.1**	**-0.9**
SSE					PcP		**PcP**	**03 19 56.9**	**+0.9**
SSE					S		**S**	**03 26 07.3**	**+0.1**
SSE					sS		**sS**	**03 26 30.9**	**+1.0**
SSE					ScS		**ScS**	**03 28 29.8**	**-1.0**
SSE					PMZ				
	comp=Z,11μm,6.6s								
SSE					LN				
	comp=Z,26μm,18.2s								
SSE					LE				
	comp=Z,43μm,18.2s								
SSE					LZ				
	comp=Z,46μm,19.3s								
K39A	**Oelwein**	**52.36**	**66**	P			**P**	**03 18 44.2**	**-1.4**
	baz=310,SNR=461								
P36A	**Good Intent, A**	**52.43**	**71**	P			**P**	**03 18 45.0**	**-1.2**
	baz=311,SNR=495								
M38A	**Pleasantville**	**52.44**	**68**	P			**P**	**03 18 45.2**	**-1.0**
	baz=310,SNR=226								
Q35A	**Mercer Eighty,**	**52.44**	**73**	P			**P**	**03 18 45.0**	**-1.3**
	baz=311,SNR=66								
S34A	**Willow Spring**	**52.56**	**74**	P			**P**	**03 18 46.1**	**-1.1**
	baz=312,SNR=74								
J40A	**Soldiers Grove**	**52.56**	**65**	P			**P**	**03 18 45.8**	**-1.3**
	baz=310								
L39A	**Vinton**	**52.67**	**67**	P			**P**	**03 18 47.0**	**-0.9**
	baz=310,SNR=734								
BTO	**Baotou**	**52.69**	**290**		*i*	P	**P**	**03 18 49.4**	**+1.2**
BTO						S	**S**	**03 26 03

comp=Z,3µm,0.9s
L40A Anamosa 53.15 67 P P 03 18 50.1 -1.4
baz=310
JFWS Jewell Farm 53.15 65 eP P 03 18 49.9 -1.6
JFWS pmax pmax
comp=Z,1µm,0.8s
JFWS MLR MLR
comp=Z,247µm,19.0s
JFWS Jewell Farm 53.15 65 eP P 03 18 49.9 -1.6
comp=Z,1µm,0.8s
JFWS LR LR
comp=Z,247µm,19.0s
TIY Taiyuan 53.17 286 eP P 03 18 51.6 -0.2
TIY PP PP 03 20 54.9 +3.1
TIY S S 03 26 23.4 +4.6
TIY SS SS 03 29 59.1 +0.8
TIY PMZ
comp=Z,17µm,5.5s
TIY LN
comp=Z,155µm,17.5s
TIY LE
comp=Z,28µm,13.1s
TIY LZ
comp=Z,119µm,18.8s
N39A Derby Farms, D 53.19 69 P P 03 18 50.6 -1.1
baz=311,SNR=1000
K41A Shullsburg 53.32 66 P P 03 18 51.4 -1.3
baz=310
Q37A Longview Farm, 53.36 72 P P 03 18 51.3 -1.8
baz=311,SNR=29
SFJD Kangerlussuaq 53.37 25 P4KPbc 03 56 17.2
comp=Z,8.3nm,0.8s,baz=344,slow=12,SNR=4.7
SFJD Kangerlussuaq 53.37 25 eP P 03 18 52.5 -0.2
SFJD pmax pmax
comp=Z,10µm,2.0s
SFJD MLR MLR
comp=Z,302µm,19.0s
SFJD Kangerlussuaq 53.37 25 iP P 03 18 53.5 +0.8
comp=Z,981nm,0.9s
comp=Z,280µm,18.0s
SFJD Kangerlussuaq 53.37 25 eP P 03 18 52.5 -0.2
comp=Z,12µm,2.0s
SFJD eScP ScP 03 23 50.4 -2.3
SFJD e 03 56 17.2
SFJD LR LR
comp=Z,302µm,19.0s
P38A Dawn 53.41 70 P P 03 18 51.7 -1.7
baz=311,SNR=494
T35A Sooner Cattle 53.44 75 P P 03 18 52.2 -1.5
baz=312,SNR=118
X32A Elmer 53.44 79 P P 03 18 52.7 -1.0
baz=313,SNR=88
W33A Caddo, Fort Co 53.45 78 P P 03 18 53.3 -0.4
baz=313,SNR=99
S36A Lake Cedric, C 53.45 73 P P 03 18 52.1 -1.6
baz=312,SNR=124
R37A Teagarden Farm 53.51 72 P P 03 18 52.4 -1.8
baz=312,SNR=171
WMOK Wichita Mounta 53.54 78 P P 03 18 53.4 -1.0
baz=313,SNR=296
WMOK Wichita Mounta 53.54 78 eP P 03 18 53.7 -0.7
WMOK pmax pmax
comp=Z,825nm,0.8s
WMOK MLR MLR
comp=Z,91µm,20.0s
WMOK Wichita Mounta 53.54 78 eP P 03 18 53.7 -0.7
comp=Z,825nm,0.8s
WMOK LR LR
comp=Z,91µm,20.0s
L41A Preston 53.55 66 P P 03 18 52.8 -1.6
baz=311,SNR=146
V34A Guthrie 53.56 77 P P 03 18 53.4 -1.2
baz=312,SNR=136
V34A Guthrie 53.56 77 eP P 03 18 53.7 -0.9
comp=Z,2µm,1.2s
O39A Kirksville 53.57 69 P P 03 18 53.2 -1.3
baz=311,SNR=353
BJO Bjornoya 53.58 356⇑ iP P 03 18 55.7 +1.5
BJO IVmB_BB 03 18 56.9
comp=Z,27µm,2.6s
BJO eS S 03 26 25.7 +2.5
BJO IVMs_BB IVMs_BB 03 40 46.8
comp=Z,59µm,20.2s
U35A Pawnee 53.67 75 P P 03 18 54.2 -1.2
baz=312
T36A Boggs Farm, Ca 53.72 74 P P 03 18 54.1 -1.6
baz=312,SNR=78
Q38A Cooks Store, C 53.80 71 P P 03 18 55.1 -1.2
baz=312
W34A Bridge Creek, 53.81 77 P P 03 18 56.1 -0.3
baz=313
W34A Bridge Creek, 53.81 77 eP P 03 18 56.3 -0.1
comp=Z,910nm,0.8s
X33A Lawton 53.84 78 P P 03 18 55.6 -1.0
baz=313,SNR=72
S37A Fort Scott 53.88 73 P P 03 18 55.2 -1.6
baz=312,SNR=570
P39B Salisbury 53.95 70 P P 03 18 55.4 -1.9
baz=312,SNR=552
V35A Meyer Ranch, C 54.02 76 P P 03 18 56.6 -1.3
baz=313,SNR=86
O40A La Belle 54.04 69 P P 03 18 56.6 -1.5
baz=311,SNR=1000
Q39A Willow Grove F 54.11 71 P P 03 18 56.9 -1.7
baz=312
Y33A Hilltop Ranch, 54.12 79 P P 03 18 58.0 -0.7
baz=313,SNR=60
R38A Fenwick Farm, 54.14 72 P P 03 18 56.5 -2.3
baz=312,SNR=315
X34A Smith Ranch, M 54.20 78 P P 03 18 58.8 -0.5
baz=313,SNR=63
T37A Cheneyville 18 54.25 74 P P 03 18 58.0 -1.6
baz=312,SNR=353
U36A Oologah 54.26 75 P P 03 18 58.5 -1.1
baz=312,SNR=62
TX31 Lajitas Ar. Si 54.27 87 eP P 03 18 59.5 -0.4
TXAR Lajitas Array 54.27 87 P P 03 18 59.4 -0.6
comp=Z,297nm,0.9s,baz=298,slow=4.8,SNR=369
TXAR ScP ScP 03 23 56.9 -0.5
comp=Z,64nm,1.0s,baz=220,slow=3.3,SNR=4.6
TXAR S S 03 26 36.1 +2.2
comp=Z,4.0nm,0.8s,baz=6.7,slow=23,SNR=2.4
TXAR ScS ScS 03 28 47.5 +2.7
comp=Z,3.4nm,1.1s,baz=283,slow=34,SNR=2.2
TXAR LR LR 03 40 37.1
comp=Z,48µm,19.8s,baz=0.0,slow=34
TXAR P4KPbc 03 56 23.9
comp=Z,3.9nm,1.0s,baz=288,slow=3.0,SNR=9.1
P40A Paris 54.33 70 P P 03 18 58.8 -1.3
baz=312,SNR=1000
W35A Tecumseh 54.41 77 P P 03 18 60.0 -0.8
baz=313,SNR=179
ABTX Abilene, Hawle 54.45 81 P P 03 19 00.4 -0.6
baz=314,SNR=111
ABTX Abilene, Hawle 54.45 81 eP P 03 19 00.5 -0.6
comp=Z,2µm,0.9s
SLBS Sierra La Lagu 54.47 97 eP P 03 19 01.5 +0.1
comp=Z,2µm,1.4s
S38A Stockton 54.51 72 P P 03 18 59.4 -2.0
baz=312,SNR=640
Z33A Whitaker Ranch 54.53 80 P P 03 19 00.6 -1.1
baz=314,SNR=135
V36A Jenks 54.54 75 P P 03 19 00.6 -1.0
baz=313,SNR=108
TUL1 Leonard 54.54 75 P P 03 19 00.5 -1.1
baz=313,SNR=122
TUL1 Leonard 54.54 75 eP P 03 19 00.6 -1.1
comp=Z,1µm,0.9s
U37A Salina 54.61 74 P P 03 19 00.6 -1.6
baz=313,SNR=398
O41A Passleys Farm, 54.62 68 P P 03 19 01.0 -1.2
baz=312,SNR=477
Q40A Laux Farm, Aux 54.67 70 P P 03 19 01.0 -1.6
baz=312,SNR=739
T38A Diamond 54.68 73 P P 03 19 01.3 -1.4
baz=312,SNR=216
Y34A Reagan Ranch, 54.69 78 P P 03 19 02.3 -0.5
baz=313,SNR=176
HPIG 54.74 90 eP P 03 19 02.8 -0.7
comp=Z,1µm,1.2s
W36A Wetumka 54.80 76 P P 03 19 02.7 -0.9
baz=313,SNR=88
P41A Barry, Barry 54.81 69 P P 03 19 02.2 -1.3
baz=312,SNR=69
S39A Bolivar 54.81 72 P P 03 19 01.1 -2.5
baz=312,SNR=226
X35A Drake 54.86 77 P P 03 19 03.1 -0.9
baz=313,SNR=139
133A Hamilton Ranch 54.91 80 P P 03 19 03.8 -0.6
baz=314,SNR=224
V37A Hulbert 54.95 75 P P 03 19 02.9 -1.8
baz=313,SNR=184
Z34A Collier Ranch, 54.99 79 P P 03 19 04.2 -0.8
baz=314,SNR=52
O42A Bath 55.02 68 P P 03 19 03.8 -1.3
baz=312
U38A Gravette 55.02 74 P P 03 19 03.5 -1.7
baz=313,SNR=317
R40A Maddies Statio 55.03 71 P P 03 19 02.8 -2.4
baz=312,SNR=386
X36A Centrahoma 55.12 77 P P 03 19 05.2 -0.6
baz=313,SNR=124
Y35A Marietta 55.16 78 P P 03 19 05.8 -0.4
baz=314,SNR=179
T39A Clever 55.23 73 P P 03 19 04.5 -2.1
baz=313,SNR=293
HDIL Hopedale 55.23 67 P P 03 19 05.4 -1.2
baz=312,SNR=293
HDIL Hopedale 55.23 67 eP P 03 19 05.5 -1.2
comp=Z,5µm,1.1s
HDIL LR LR
comp=Z,136µm,20.0s
P42A Winchester 55.28 68 P P 03 19 05.5 -1.4
baz=312
W37B Quinton 55.28 76 P P 03 19 06.3 -0.8
baz=313,SNR=283
233A Rising Star 55.33 81 P P 03 19 06.6 -0.8
baz=314,SNR=344
S40A Lebanon 55.36 72 P P 03 19 05.3 -2.3
baz=313,SNR=118
HHAR Hobbs 55.40 74 eP P 03 19 06.1 -1.8
comp=Z,802nm,0.9s
V38A Canehill 55.40 74 P P 03 19 06.5 -1.5
baz=313,SNR=413
Z35A Perchaven, San 55.42 79 P P 03 19 06.9 -1.2
baz=314,SNR=64
134A White-Moore Ra 55.44 80 P P 03 19 07.6 -0.7
baz=314,SNR=177
U39A Green Forest 55.60 73 P P 03 19 07.6 -1.7
baz=313,SNR=346
Y36A Durant 55.62 77 P P 03 19 08.9 -0.6
baz=314,SNR=206
Q42A Golden Eagle 55.62 69 P P 03 19 08.2 -1.2
baz=312,SNR=832
T40A Mansfield 55.65 72 P P 03 19 07.4 -2.3
baz=313,SNR=131
X37A Clayton 55.69 76 P P 03 19 09.2 -0.8
baz=314,SNR=253
333A Richland Sprin 55.76 82 P P 03 19 09.3 -1.3
baz=315,SNR=262
234A Clairette 55.80 80 P P 03 19 10.3 -0.5
baz=314,SNR=191
S41A Jillco Farms, 55.81 71 P P 03 19 08.7 -2.1
baz=313
JCT Junction City 55.84 83 P P 03 19 09.8 -1.4
baz=315,SNR=114
JCT Junction City 55.84 83 eP P 03 19 09.7 -1.5
JCT pmax pmax
comp=Z,1µm,0.8s
JCT MLR MLR
comp=Z,90µm,20.0s
JCT Junction City 55.84 83 eP P 03 19 09.7 -1.5
comp=Z,1µm,0.8s
JCT LR LR
comp=Z,90µm,20.0s
135A Vickery Place, 55.86 79 P P 03 19 10.3 -0.9
baz=314,SNR=58
V39A Pettigrew 55.87 74 P P 03 19 09.7 -1.7
baz=313,SNR=224
W38A Poteau 55.88 75 P P 03 19 10.3 -1.0
baz=313,SNR=391
SCO Scoresbysund 55.92 12⇑ iP P 03 19 11.2 +0.1
SCO e 03 26 44.9
SCO i 03 28 56.6
SCO pmax pmax
comp=Z,1µm,0.7s
SCO MLR MLR
comp=Z,250µm,16.0s
SCO Scoresbysund 55.92 12⇑ iP P 03 19 11.2 +0.1
comp=Z,1µm,0.7s
SCO e 03 26 44.9
SCO i 03 28 56.6
comp=Z,250µm,16.0s
YOJ Yonaguni jima 55.93 267 eP P 03 19 11.6 -0.2
YOJ pmax pmax
comp=Z,2µm,0.8s
YOJ Yonaguni jima 55.93 267 eP P 03 19 11.6 -0.2
comp=Z,2µm,0.8s
Z36A Blue Ridge 55.96 78 P P 03 19 10.7 -1.2
baz=314,SNR=104
Y37A Hugo 55.96 77 P P 03 19 11.2 -0.7
baz=314
X38A Whitesboro 55.96 76 P P 03 19 11.3 -0.7
baz=314,SNR=146
SLM Saint Louis 55.98 69 eP P 03 19 09.6 -2.4
SLM pmax pmax
comp=Z,2µm,1.2s
SLM Saint Louis 55.98 69 eP P 03 19 09.6 -2.4
comp=Z,2µm,1.2s
U40A Yellville 55.99 73 P P 03 19 10.1 -2.0
baz=313,SNR=508
Q43A New Douglas 56.08 69 P P 03 19 11.4 -1.3
baz=313,SNR=455
433A Art 56.09 82 P P 03 19 11.6 -1.4
baz=315,SNR=208
T41A Mountain View 56.16 72 P P 03 19 11.2 -2.1
baz=313,SNR=194
334A Lometa 56.21 81 P P 03 19 13.1 -0.7
baz=315,SNR=503
WHTX Lake Whitney, 56.22 80 P P 03 19 13.2 -0.7
baz=314,SNR=237
WHTX Lake Whitney, 56.22 80 eP P 03 19 13.4 -0.4
W39A Magazine 56.23 75 P P 03 19 12.8 -1.0
baz=314,SNR=277
V40A Witts Springs 56.38 73 P P 03 19 13.6 -1.4
baz=313
136A Ennis 56.45 79 P P 03 19 14.6 -0.8
baz=314,SNR=56
TATO Taipei 56.49 268 P P 03 19 15.7 -0.1
SNR=9.1
TATO P P 03 19 15.7 -0.1
SNR=9.1
TATO Taipei 56.49 268 P P 03 19 15.7 -0.1
SNR=9.1
TATO Taipei 56.49 268 eP P 03 19 16.1 +0.3
comp=Z,409nm,0.8s
TATO LR LR
comp=Z,89µm,22.0s
Z37A Pogue Cattle C 56.50 78 P P 03 19 14.9 -0.8
baz=314,SNR=46
Q44A Meyer Farm, Va 56.50 68 P P 03 19 14.1 -1.6
baz=313,SNR=226
X39A Fountain Ranch 56.50 75 P P 03 19 14.6 -1.2
baz=314,SNR=286
VLDQ Val d'Or 56.52 53 eP P 03 19 13.7 -2.0
comp=Z,3µm,1.4s
Y38A Idabel 56.53 76 P P 03 19 14.9 -1.1
baz=314,SNR=86
U41A Viola 56.55 72 P P 03 19 14.3 -1.8
baz=313
434A Burnet 56.55 81 P P 03 19 15.4 -0.8
baz=315,SNR=365
SFIN Lafayette 56.60 66 P P 03 19 15.5 -0.9
baz=313,SNR=263
SFIN Lafayette 56.60 66 eP P 03 19 15.5 -0.9
comp=Z,3µm,1.0s
533A Kerrville 56.60 83 P P 03 19 15.4 -1.2
baz=315,SNR=115
W40A Ferguson Farm, 56.66 74 P P 03 19 15.4 -1.4
baz=314,SNR=142
ZAA0 Zalesovo Array 56.68 317 eP P 03 19 15.3 -1.4
ZALV Zalesovo Beam 56.68 317 P P 03 19 16.2 -0.5
comp=Z,471nm,0.8s,baz=40,slow=6.3,SNR=189
ZALV LR LR 03 44 39.0
comp=Z,139µm,21.2s,baz=62,slow=37
ZALV P4KPbc 03 56 32.7
comp=Z,4.6nm,0.7s,baz=42,slow=4.5,SNR=8.6
ZALV Zalesovo Beam 56.68 317 P P 03 19 16.2 -0.5
ZALV pmax pmax
comp=Z,475nm,0.8s
ZALV MLR MLR
comp=Z,139µm,21.2s
NVS Novosibirsk 56.72 318⇓ iP P 03 19 17.2 +0.2
NVS e 03 20 16.2
NVS i PPP PPP 03 22 49.5
NVS eS S 03 27 03.6 -2.1
NVS i 03 29 03.2
NVS pmax pmax
comp=N,763nm,0.7s
NVS pmax pmax
comp=Z,2µm,0.7s
NVS pmax pmax
comp=E,305nm,0.4s
NVS smax smax
comp=N,1µm,2.4s
NVS smax smax
comp=E,502nm,2.0s
335A Moody 56.74 80 P P 03 19 17.1 -0.4
baz=315,SNR=63
SCHQ Schefferville 56.74 42 P P 03 19 17.1 -0.1
comp=E,2µm,0.8s,baz=323,slow=7.5,SNR=630
SCHQ S S 03 27 06.1 0.0
comp=E,71nm,1.0s,baz=64,slow=14,SNR=2.9
SCHQ LR LR 03 45 00.6
comp=E,402µm,18.0s,baz=318,slow=38
SCHQ P4KPbc 03 56 32.7
comp=E,4.2nm,0.8s,baz=40,slow=3.5,SNR=3.7
SCHQ Schefferville 56.74 42 eP P 03 19 17.2 -0.1
comp=E,3µm,0.8s
SCHQ S S 03 27 06.1 0.0
SCHQ e 03 56 32.7
JMIC Jan Mayen 56.76 6 LR LR 03 45 02.6
comp=E,134µm,19.0s,baz=340,slow=38
236A Katherine and 56.78 79 P P 03 19 17.3 -0.5
baz=315,SNR=119
YHNB Yeheng 56.78 268 eP P 03 19 19.9 +1.9
comp=E,1µm,1.2s
YHNB eS S 03 27 04.9 -2.6
YHNB LR LR
comp=Z,80µm,21.0s
S43A Fulton Ridge, 56.79 70 P P 03 19 16.8 -1.0
baz=313,SNR=839
V41A Mountainview 56.79 73 P P 03 19 16.0 -1.9
baz=314,SNR=366
MIAR Mount Ida 56.80 75 P P 03 19 17.2 -0.7
baz=314,SNR=664
MIAR Mount Ida 56.80 75 eP P 03 19 17.0 -0.9
MIAR pmax pmax
comp=Z,4µm,1.3s
MIAR MLR MLR
comp=Z,83µm,21.0s
MIAR Mount Ida 56.80 75 eP P 03 19 17.0 -0.9
comp=Z,4µm,1.3s
MIAR LR LR
comp=Z,83µm,21.0s
137A Heron Place, G 56.84 78 P P 03 19 17.9 -0.3
baz=314
Z38A Mt. Pleasant 56.85 77 P P 03 19 17.5 -0.8
baz=314,SNR=63
R44A Waltonville 56.91 69 P P 03 19 17.2 -1.4
baz=313,SNR=225
Y39A Locksburg 56.91 76 P P 03 19 17.9 -0.7
baz=314,SNR=93
WHN Wuhan 56.91 279⇑ iP P 03 19 18.8 +0.1
WHN pP pP 03 19 29.4 -3.0
WHN sP sP 03 19 36.8 -1.3
WHN S S 03 27 07.4 -1.4
WHN ScS ScS 03 29 02.6 -1.0
WHN LE
comp=Z,141µm,15.6s
WHN LZ
comp=Z,158µm,17.6s
U42A Revenden 56.95 72 P P 03 19 16.2 -2.7
baz=314
633A Saathoff Ranch 56.95 83 P P 03 19 18.1 -0.9
baz=316,SNR=54
534A Blanco 56.98 82 P P 03 19 18.1 -1.1
baz=315,SNR=142
435B Jarrell 56.99 81 P P 03 19 18.8 -0.5
baz=315,SNR=54
X201 Greenbrier Sit 57.01 74 eP P 03 19 18.0 -1.3
comp=Z,3µm,1.5s
NACB Ninganchiao 57.01 268 eP P 03 19 18.9 -0.7
comp=Z,2µm,1.5s
336A Riesel 57.02 80 P P 03 19 18.8 -0.6
baz=315,SNR=140
X301 Greenbrier Sit 57.02 74 eP P 03 19 17.8 -1.7
comp=Z,3µm,1.3s
WHAR Wooly Hollow 57.05 73 eP P 03 19 18.0 -1.7
comp=Z,766nm,0.8s
PBMO Poplar Bluff 57.13 71 eP P 03 19 18.0 -2.1
comp=Z,2µm,1.3s
OLIL Olney 57.14 68 eP P 03 19 19.2 -1.0
comp=Z,4µm,1.0s
W41B Gary Mavity, V 57.16 74 P P 03 19 18.9 -1.5
baz=314,SNR=449
HAMF Hammerfest 57.17 354⇑ iP P 03 19 17.7 -2.3
HAMF IVmB_BB 03 19 21.5
comp=Z,16µm,2.8s
HAMF eS S 03 27 11.4 +0.2
HAMF IVMs_BB IVMs_BB 03 38 25.5
comp=Z,98µm,41.3s
S44A Carbondale 57.19 69 P P 03 19 18.9 -1.7
baz=313,SNR=350
SIUC Southern Illin 57.19 69 eP P 03 19 19.1 -1.5
comp=Z,2µm,0.9s
138A Matatall Enter 57.20 78 P P 03 19 20.4 -0.3
baz=314,SNR=75
AAM Ann Arbor 57.21 62 eP P 03 19 20.1 -0.6
AAM pmax pmax
comp=Z,613nm,0.6s
AAM MLR MLR
comp=Z,137µm,21.0s
AAM Ann Arbor 57.21 62 eP P 03 19 20.1 -0.6
comp=Z,613nm,0.6s
AAM LR LR
comp=Z,137µm,21.0s
237A Washetta, Mont 57.22 79 P P 03 19 20.7 -0.2
baz=315
V42A Cord 57.23 72 P P 03 19 19.0 -1.9
baz=314,SNR=74
X40A Basin Creek Fa 57.28 75 P P 03 19 20.1 -1.2
baz=314,SNR=242
832A Faith Ranch, C 57.29 85 P P 03 19 20.6 -0.9
baz=316,SNR=366
Z39A Irene McRaven, 57.34 77 P P 03 19 20.9 -0.8
baz=314,SNR=18
Y40A Okolona 57.34 75 P P 03 19 20.9 -0.9
baz=314,SNR=69
UALR University of 57.38 74 eP P 03 19 20.0 -1.9
comp=Z,2µm,1.4s
733A Divot King Ran 57.40 84 P P 03 19 21.6 -0.6
baz=316,SNR=82
X41A Kaden, Bauxite 57.47 74 P P 03 19 21.4 -1.1
baz=314,SNR=118
436A Wall Ranch, Ga 57.48 80 P P 03 19 22.5 -0.2
baz=315,SNR=79
634A China Grove, S 57.51 83 P P 03 19 22.3 -0.7
baz=316,SNR=9.0
535A Dale 57.53 82 P P 03 19 22.6 -0.5
baz=315,SNR=98
S45A Carrier Mills 57.59 69 P P 03 19 22.1 -1.3
baz=314,SNR=143
PARMO Parma 57.60 71 eP P 03 19 22.3 -1.2
139A Bunkhouse Ranc 57.60 77 P P 03 19 23.4 -0.2
baz=315
833A Chaparral WMA, 57.62 84 P P 03 19 23.4 -0.4
baz=316,SNR=220
238A Jacksonville 57.63 78 P P 03 19 23.6 -0.2
baz=315,SNR=56
337A Centerville 57.65 79 P P 03 19 23.9 0.0
baz=315,SNR=22
WLAR White Oak Lake 57.67 75 eP P 03 19 23.6 -0.5
comp=Z,9µm,1.5s
SSLB Suanglung 57.69 268 eP P 03 19 23.5 -0.8
comp=Z,2µm,0.9s
SSLB eS S 03 27 18.5 -0.8
BLO Bloomington 57.74 66 eP P 03 19 23.4 -1.1
BLO pmax pmax
comp=Z,2µm,0.9s
BLO Bloomington 57.74 66 eP P 03 19 23.4 -1.1
comp=Z,2µm,0.9s
734A La Parita Cree 57.76 83 P P 03 19 24.6 -0.1
baz=316,SNR=80
YULB Yu-li 57.77 267 eP P 03 19 23.8 -1.1
comp=Z,4µm,1.5s
YULB eS S 03 27 18.3 -2.0
Z40A Long Farm, Mag 57.80 76 P P 03 19 24.7 -0.2
baz=314,SNR=88
KEV Kevo 57.80 352 eP P 03 19 23.6 -0.8
KEV pmax pmax
comp=Z,747nm,1.0s
KEV MLR MLR

comp=Z,213µm,21.0s
KEV Kevo 57.80 352 *e*P **P** **03 19 23.6 -0.8**
comp=Z,747nm,1.0s
KEV LR LR
comp=Z,213µm,21.0s
PVMO Portageville 57.80 71 *e*P **P** **03 19 25.4 +0.4**
comp=Z,2µm,0.9s
536A Bastrop 57.81 81 P **P** **03 19 25.1 0.0**
baz=315,SNR=32
Y41A Eaglette Beard 57.84 75 P **P** **03 19 24.7 -0.5**
baz=314,SNR=259
437A Phantom Ranch, 57.84 80 P **P** **03 19 25.4 +0.1**
baz=315,SNR=26
635A Leesville 57.86 82 P **P** **03 19 24.9 -0.5**
baz=316,SNR=156
USIN University of 57.91 68 *e*P **P** **03 19 24.7 -1.0**
comp=Z,3µm,0.7s
GNAR Gosnell 57.93 71 *e*P **P** **03 19 26.1 +0.3**
338A Crockett 57.97 79 P **P** **03 19 25.8 -0.4**
baz=315,SNR=26
239A Gary 58.02 78 P **P** **03 19 25.9 -0.5**
baz=315,SNR=23
NATX Nacogdoches 58.08 78 P **P** **03 19 26.7 -0.3**
baz=315,SNR=35
NATX Nacogdoches 58.08 78 *e*P **P** **03 19 27.0 0.0**
comp=Z,2µm,1.3s
NATX LR LR
comp=Z,87µm,19.0s
V44A Blytheville 58.09 71 P **P** **03 19 26.0 -1.0**
baz=314,SNR=24
140A Cam and Jess, 58.12 77 P **P** **03 19 27.1 -0.1**
baz=315,SNR=32
ARCES ARCESS Array B 58.13 353 P **P** **03 19 25.9 -0.9**
comp=Z,361nm,0.6s,baz=12,slow=5.3,SNR=306
ARCES LR LR 03 44 24.3
comp=Z,160µm,21.7s,baz=1.5,slow=36
ARCES PKPPKP P'P'df 03 48 58.9 -15
comp=Z,8.2nm,0.8s,baz=252,slow=3.5,SNR=7.4
ARCES P4KPbc 03 56 35.4
comp=Z,6.7nm,0.8s,baz=4.6,slow=6.1,SNR=14
ARE0 ARCESS Array S 58.13 353⇑ *i*P **P** **03 19 26.2 -0.6**
ARE0 IVmB_BB 03 19 28.5
comp=Z,11µm,1.7s
ARE0 IVMs_BB IVMs_BB 03 38 54.1
comp=Z,103µm,39.8s
GLAT Glass 58.14 71 *e*P **P** **03 19 26.9 -0.5**
Z41A Richland Creek 58.15 76 P **P** **03 19 26.7 -0.7**
baz=315,SNR=47
933A Laredo 58.20 85 P **P** **03 19 27.8 -0.1**
baz=316,SNR=129
735A Kenedy 58.22 83 P **P** **03 19 28.3 +0.4**
baz=316,SNR=56
636A Smothers Creek 58.23 82 P **P** **03 19 28.3 +0.3**
baz=316,SNR=58
TPUB Ta-pu 58.25 268 *e*P **P** **03 19 29.1 +0.9**
comp=Z,1µm,0.9s
TPUB *e*S **S** **03 27 25.4 -1.2**
537A Green Hill Far 58.26 81 P **P** **03 19 28.8 +0.5**
baz=316,SNR=46
834A Tilden 58.28 84 P **P** **03 19 28.5 +0.1**
baz=316,SNR=53
438A Sam Houston St 58.30 80 P **P** **03 19 29.0 +0.5**
baz=315,SNR=40
QZH Quanzhou 58.31 271⇑ *i*P P 03 19 20.9 -7.7
QZH S **S** **03 27 21.3 -5.9**
QZH pmax pmax
comp=Z,13µm,1.7s
QZH pmax pmax
comp=Z,51µm,4.4s
QZH LR LR
comp=N,59µm,15.4s
QZH LR LR
comp=E,38µm,14.5s
QZH LR LR
comp=Z,74µm,17.0s
CCAR Cane Creek 58.31 74 *e*P **P** **03 19 28.6 +0.1**
comp=Z,8µm,1.5s
TWG Pinlang 58.33 267 *e*P **P** **03 19 29.5 +0.7**
comp=Z,5µm,1.4s
TWG *e*S **S** **03 27 25.0 -2.6**
UTMT University of 58.34 70 *e*P **P** **03 19 27.9 -0.8**
comp=Z,5µm,1.2s
Y42A Garnett, Star 58.36 74 P **P** **03 19 28.6 -0.3**
baz=314,SNR=98
HALT Halls 58.36 71 *e*P **P** **03 19 28.8 -0.1**
X43A Marvell 58.42 73 P **P** **03 19 28.4 -0.9**
baz=314,SNR=62
240A Hunter Patters 58.43 77 P **P** **03 19 28.8 -0.6**
baz=315,SNR=25
TRO Tromso 58.45 356⇑ *i*P **P** **03 19 29.2 +0.3**
TRO IVmB_BB 03 19 31.6
comp=Z,14µm,0.8s
TRO *e*S **S** **03 27 28.0 +0.2**
TRO IVMs_BB IVMs_BB 03 39 03.1
comp=Z,56µm,36.5s
339A Huntington 58.45 78 P **P** **03 19 29.5 0.0**
baz=315,SNR=15
WCI Wyandotte Cave 58.52 67 *e*P **P** **03 19 28.8 -1.2**
WCI pmax pmax
comp=Z,3µm,1.1s
WCI Wyandotte Cave 58.52 67 *e*P **P** **03 19 28.8 -1.2**
comp=Z,3µm,1.1s
141A Papa Simpson, 58.55 76 P **P** **03 19 29.7 -0.5**
baz=315,SNR=27
MET Memphis--Engin 58.56 72 *e*P **P** **03 19 29.8 -0.5**
comp=Z,4µm,0.9s
736A Circle Diamond 58.60 82 P **P** **03 19 30.9 +0.3**
baz=316,SNR=49
835A Beeville 58.61 83 P **P** **03 19 30.9 +0.3**
baz=316,SNR=73
W44A Shelby Farms P 58.62 72 P **P** **03 19 29.8 -0.8**
baz=314,SNR=19
Z42A Norrel Spur, H 58.65 75 P **P** **03 19 30.3 -0.6**
baz=315,SNR=96
538A Harpers Horsep 58.66 80 P **P** **03 19 31.5 +0.5**
baz=316,SNR=18
934A Benavides 58.68 84 P **P** **03 19 31.4 +0.3**
baz=316,SNR=62
439A Center Grove, 58.70 79 P **P** **03 19 31.5 +0.2**
baz=315,SNR=18
V45A Humboldt 58.70 71 P **P** **03 19 30.5 -0.7**
baz=314,SNR=109
637A Eagle Lake 58.70 81 P **P** **03 19 32.1 +0.8**
baz=316,SNR=32
340A Bronson 58.79 78 P **P** **03 19 31.4 -0.5**
baz=315,SNR=57
PLVO Plevna 58.81 56 *e*P **P** **03 19 31.7 -0.1**
comp=Z,2µm,1.0s
KTK1 Kautokeino 58.81 354 *e*P **P** **03 19 30.3 -1.2**
KTK1 IVmB_BB 03 19 33.2
comp=Z,14µm,2.1s
KTK1 IVMs_BB IVMs_BB 03 48 19.0
comp=Z,58µm,17.2s
LVZ Lovozero 58.81 349*c i*P **P** **03 19 31.0 -0.6**
LVZ pmax pmax
comp=Z,642nm,0.6s
LVZ MLR MLR
comp=Z,284µm,18.0s
LVZ Lovozero 58.81 349 *e*P **P** **03 19 30.1 -1.4**
comp=Z,1µm,0.8s
LVZ LR LR
comp=Z,292µm,19.0s
Y43A Makayla and Ka 58.81 74 P **P** **03 19 31.4 -0.6**
baz=315,SNR=29
X44A Crenshaw 58.87 73 P **P** **03 19 31.5 -0.9**
baz=315,SNR=14
241A Mo Tay, Goldon 58.95 77 P **P** **03 19 32.5 -0.4**
baz=315,SNR=50
034A Hebbronville 58.96 85 P **P** **03 19 33.3 +0.2**
baz=316,SNR=85
W45A Hickory Valley 58.98 71 P **P** **03 19 32.3 -0.8**
baz=314,SNR=144
ACSO Alum Creek Sta 58.99 63 *e*P **P** **03 19 32.1 -1.0**
comp=Z,3µm,1.6s
ACSO LR LR
comp=Z,124µm,21.0s
WVT Waverly 59.09 70 *e*P **P** **03 19 32.8 -1.1**
WVT pmax pmax
comp=Z,4µm,1.7s
WVT Waverly 59.09 70 *e*P **P** **03 19 32.8 -1.1**
comp=Z,4µm,1.7s
KVTX Kingsville 59.10 84 *e*P **P** **03 19 35.5 +1.4**
comp=Z,2µm,0.8s
KVTX LR LR
comp=Z,70µm,21.0s
Z43A Armstrong Fami 59.12 75 P **P** **03 19 33.6 -0.5**
baz=315,SNR=27
737A Port Lavaca 59.12 82 P **P** **03 19 34.8 +0.6**
baz=316
142A Monroe 59.16 76 P **P** **03 19 34.4 -0.1**
baz=315,SNR=24
Y44A Strider, Charl 59.20 73 P **P** **03 19 34.2 -0.5**
baz=315,SNR=63
539A Cross D Ranch, 59.21 79 P **P** **03 19 35.8 +1.0**
baz=316
440A Kirbyville 59.22 78 P **P** **03 19 35.1 +0.2**
baz=316,SNR=52
TRQ Mont Tremblant 59.25 53 *e*P **P** **03 19 33.9 -1.1**
638A Rosharon 59.26 81 P **P** **03 19 36.5 +1.3**
baz=316
APA Apatity 59.28 349⇓ *i*P **P** **03 19 36.0 +1.3**
APA *i* 03 20 23.5
APA *i* 03 21 51.0
APA *i* S **S** **03 27 39.0 +0.3**
APA *i* SS **SS** **03 31 27.0 -5.8**
APA pmax pmax
comp=Z,294nm,1.0s
APA MLR MLR
comp=Z,275µm,18.0s
341A Kurthwood 59.28 77 P **P** **03 19 35.0 -0.3**
baz=315,SNR=66
OXF Oxford 59.29 72 *e*P **P** **03 19 34.7 -0.6**
OXF pmax pmax
comp=Z,5µm,1.0s
OXF Oxford 59.29 72 *e*P **P** **03 19 34.7 -0.6**
comp=Z,5µm,1.0s
GTA Gaotai 59.30 296⇑ P **P** **03 19 35.4 -0.1**
GTA pP pP 03 19 48.1 -1.2
GTA sP sP 03 19 53.8 -1.2
GTA S **S** **03 27 38.9 -1.2**
GTA ScS **ScS** **03 29 20.0 -1.2**
GTA SS **SS** **03 31 35.0 +0.3**
GTA PMZ
comp=Z,18µm,5.4s
GTA LN
comp=Z,216µm,17.6s
GTA LE
comp=Z,159µm,16.6s
GTA LZ
comp=Z,259µm,18.5s
ERPA Erie 59.31 60 *e*P **P** **03 19 35.2 -0.2**
comp=Z,4µm,1.3s
LZH Lanzhou 59.32 290 *e*P **P** **03 19 36.6 +0.9**
LZH pP pP 03 19 51.8 +2.3
LZH sP sP 03 19 58.9 +3.7
LZH PP **PP** **03 21 45.5 -1.3**
LZH *e*S **S** **03 27 37.5 -3.0**
LZH sS sS 03 28 08.3 +4.7
LZH SS **SS** **03 31 37.4 +2.2**
LZH PMZ
comp=Z,2µm,1.2s
LZH PMZ
comp=Z,13µm,5.6s
LZH LN
comp=Z,41µm,15.0s
LZH LE
comp=Z,105µm,15.4s
LZH LZ
comp=Z,134µm,17.5s
BUF Buffalo 59.35 58 *e*P **P** **03 19 35.8 +0.2**
X45A UM Field Stati 59.37 72 P **P** **03 19 35.0 -0.8**
baz=315
143A Socs Landing, 59.38 75 P **P** **03 19 35.6 -0.3**
baz=315,SNR=51
242A Grayson 59.38 76 P **P** **03 19 35.8 -0.2**
baz=315,SNR=32
NRS Narsarsuaq 59.38 27⇑ *i*P **P** **03 19 36.2 +0.7**
NRS pmax pmax
comp=Z,610nm,1.1s
NRS Narsarsuaq 59.38 27⇑ *i*P **P** **03 19 36.2 +0.7**
comp=Z,606nm,1.1s
035A Encino 59.41 85 P **P** **03 19 36.8 +0.6**
baz=317,SNR=43
738A Farr-Stevens R 59.55 81 P **P** **03 19 38.1 +1.0**
baz=316
936A North Padre Is 59.55 84 P **P** **03 19 38.1 +0.9**
baz=316
Z44A Pea Ridge, Bel 59.55 74 P **P** **03 19 36.4 -0.7**
baz=315,SNR=55
ALLY Alegheny Colle 59.56 60 *e*P **P** **03 19 36.8 -0.3**
comp=Z,4µm,0.7s
540A Vidor 59.59 79 P **P** **03 19 38.6 +1.1**
baz=316
Y45A Yeager Farm, C 59.67 73 P **P** **03 19 37.3 -0.7**
baz=315,SNR=92
441A DeRidder 59.69 78 P **P** **03 19 38.3 +0.2**
baz=316,SNR=26
ZAIG Zacatecas 59.70 91 *e*P **P** **03 19 37.8 -0.8**
comp=Z,803nm,1.4s
342A Flagon Creek P 59.77 77 P **P** **03 19 38.2 -0.4**
baz=316,SNR=37
035Z Hargill 59.77 85 P **P** **03 19 38.8 +0.1**
baz=317,SNR=42
M54A Oil Creek Stat 59.91 60 P **P** **03 19 39.0 -0.5**
baz=315,SNR=317
243A Waterproof 59.91 76 P **P** **03 19 39.2 -0.4**
baz=315,SNR=36
Z45A Winona 59.93 73 P **P** **03 19 38.9 -0.8**
baz=315,SNR=45
MMNY Mt. Morris Dam 59.99 58 *e*P **P** **03 19 40.1 +0.1**
144A Alexander Plac 60.02 74 P **P** **03 19 39.7 -0.6**
baz=315,SNR=67
Y46A Houston 60.06 72 P **P** **03 19 39.6 -1.0**
baz=315,SNR=292
ENH Enshi 60.06 282 *e*P **P** **03 19 40.5 -0.2**
comp=Z,8µm,1.9s
ENH LR LR
comp=Z,63µm,21.0s
N54A Moraine State 60.12 61 P **P** **03 19 39.8 -1.2**
baz=315
LOF Lofoten 60.14 358 *i*P **P** **03 19 39.4 -1.2**
LOF IVmB_BB 03 19 42.3
comp=Z,18µm,3.0s
LOF IVMs_BB IVMs_BB 03 39 34.9
comp=Z,72µm,38.9s
541A Lake Charles 60.18 78 P **P** **03 19 42.0 +0.6**
baz=316
343A Vidalia 60.26 76 P **P** **03 19 42.7 +0.7**
baz=316
244A Avery, Jackson 60.27 75 P **P** **03 19 41.8 -0.3**
baz=316,SNR=209
STEI Steigen 60.29 357 *e*P **P** **03 19 40.9 -0.7**
145A Houston Renfro 60.33 74 P **P** **03 19 41.7 -0.7**
baz=315,SNR=85
LMQ La Malbaie 60.36 50 *e*P **P** **03 19 42.0 -0.5**
LONY Lake Ozonia 60.37 55 *e*P **P** **03 19 41.7 -0.9**
comp=Z,4µm,1.7s
LONY LR LR
comp=Z,149µm,20.0s
Z46A Louisville 60.50 73 P **P** **03 19 42.8 -0.8**
baz=315,SNR=33
542A Morse 60.52 78 P **P** **03 19 44.4 +0.6**
baz=316,SNR=21
443A Delano Plantat 60.53 77 P **P** **03 19 43.8 0.0**
baz=316,SNR=26
Y47A UCPARC, Winfie 60.64 72 P **P** **03 19 43.4 -1.2**
baz=315,SNR=593
344A Westbrook Farm 60.67 76 P **P** **03 19 44.6 -0.2**
baz=316,SNR=104
FRNY Flat Rock 60.72 54 *e*P **P** **03 19 43.7 -1.2**
comp=Z,633nm,0.9s
245A Little AP, Sta 60.75 75 P **P** **03 19 44.6 -0.7**
baz=316,SNR=86
FUNA Funafuti 60.76 190 *e*P **P** **03 19 45.9 +0.4**
comp=Z,3µm,1.4s
FUNA LR LR
comp=Z,89µm,22.0s
146A Union 60.82 73 P **P** **03 19 45.2 -0.6**
baz=316,SNR=137
SWET Sewanee 60.83 69 *e*P **P** **03 19 44.2 -1.7**
comp=Z,309nm,1.1s
543A St. Martinvill 60.97 77 P **P** **03 19 47.2 +0.4**
baz=316,SNR=11
Z47A Carrollton 61.01 72 P **P** **03 19 45.9 -1.1**
baz=316,SNR=433
NCB Newcomb 61.01 55 *e*P **P** **03 19 46.6 -0.4**
comp=Z,78nm,1.9s
MCWV Mont Chateau 61.12 62 *e*P **P** **03 19 47.1 -0.6**
comp=Z,836nm,0.8s
SEM Semipalatinsk 61.18 316 *i*P **P** **03 19 46.8 -1.2**
comp=Z,7µm,0.8s
SEM *e*S **S** **03 28 02.8 -0.7**
SEM LR LR 03 45 58.4
comp=Z,71µm,17.2s
444A Pine Grove 61.18 76 P **P** **03 19 48.0 -0.3**
baz=316,SNR=20
Z48A Northport 61.19 72 P **P** **03 19 46.6 -1.7**
baz=316,SNR=421
345A Thompson Farm, 61.19 75 P **P** **03 19 47.8 -0.6**
baz=316,SNR=33
246A Jackson Lee, B 61.22 74 P **P** **03 19 48.1 -0.5**
baz=316,SNR=13
TZTN Tazewell 61.26 67 *e*P **P** **03 19 48.0 -0.8**
comp=Z,2µm,0.9s
147A Livingston 61.26 73 P **P** **03 19 47.9 -0.9**
baz=316,SNR=222
544A White Castle 61.37 77 P **P** **03 19 50.1 +0.6**
baz=316
BINY Binghamton 61.37 57 *e*P **P** **03 19 49.5 +0.1**
comp=Z,2µm,0.9s
BINY LR LR
comp=Z,382µm,19.0s
O56A Blue Knob Stat 61.38 60 P **P** **03 19 48.7 -0.9**
baz=316,SNR=179
BORG Borgarnes 61.38 14 *e*P **P** **03 19 50.0 +0.9**
BORG pmax pmax
comp=Z,4µm,1.6s
BORG MLR MLR
comp=Z,143µm,19.0s
BORG Borgarnes 61.38 14 *e*P **P** **03 19 50.0 +0.9**
comp=Z,4µm,1.6s
BORG LR LR
comp=Z,143µm,19.0s
445A Amite 61.42 76 P **P** **03 19 49.5 -0.4**
baz=316,SNR=32
346A Big Creek Wild 61.47 75 P **P** **03 19 49.5 -0.7**
baz=316,SNR=40
CPCT Cooper Cave 61.48 68 *e*P **P** **03 19 48.9 -1.4**
comp=Z,763nm,1.2s
SSPA Standing Stone 61.48 60 *e*P **P** **03 19 49.7 -0.5**
comp=Z,1µm,0.8s
ZSN Zaisan, 61.50 311 *i*P **P** **03 19 49.4 -0.9**
comp=Z,22µm,0.9s
ZSN *i* S **S** **03 28 07.5 -0.3**
ZSN LR LR 03 46 27.9
comp=Z,37µm,14.2s
247A Quitman 61.50 74 P **P** **03 19 50.2 -0.2**
baz=316,SNR=105
MDV Middlebury 61.52 54 *e*P **P** **03 19 49.8 -0.6**
KURK Kurchatov 61.65 317*c i*P **P** **03 19 50.9 -0.2**
KURK MLR MLR
comp=Z,719µm,16.0s
KURK Kurchatov 61.65 317 *e*P **P** **03 19 51.0 -0.1**
comp=Z,16µm,0.8s
KURK P'P' 03 48 55.9
KURK *e* 03 56 53.7
KURK LR LR
comp=Z,294µm,20.0s
ACCN Adirondack Com 61.71 55 *e*P **P** **03 19 51.5 -0.2**
comp=Z,7µm,1.7s
KURBB Kurchatov Arra 61.75 317 P **P** **03 19 51.7 -0.2**
comp=Z,3µm,0.8s,baz=43,slow=7.0,SNR=1391
KURBB PKPPKP P'P'df 03 48 55.9 -11
comp=Z,10nm,1.2s,baz=237,slow=2.7,SNR=8.3
KURBB P4KPbc 03 56 53.7
comp=Z,11nm,0.9s,baz=38,slow=4.4,SNR=30
TKL Tuckaleechee C 61.76 67 *e*P **P** **03 19 50.8 -1.3**
TKL pmax pmax
comp=Z,2µm,1.3s
TKL Tuckaleechee C 61.76 67 *e*P **P** **03 19 50.8 -1.3**
comp=Z,2µm,1.3s
KONS Konsvik 61.79 358 *e*P **P** **03 19 50.0 -1.8**
KONS IVmB_BB 03 19 54.0
comp=Z,14µm,2.5s
KONS IVMs_BB IVMs_BB 03 40 38.5
comp=Z,41µm,39.3s
545A Edgard 61.82 77 P **P** **03 19 52.4 -0.2**
baz=316
STOK Stokkvaagen 61.96 358 *e*P **P** **03 19 52.5 -0.5**
248A Dixon Mills 61.99 73 P **P** **03 19 53.1 -0.6**
baz=316,SNR=385
347A Saraland 62.01 74 P **P** **03 19 53.2 -0.7**
baz=316,SNR=154
PQI Presque Isle 62.08 49 *e*P **P** **03 19 54.8 +0.7**
comp=Z,6.9nm,0.9s
546A Slidell 62.15 76 P **P** **03 19 54.4 -0.3**
baz=316
645A Chauvin 62.17 77 P **P** **03 19 55.1 +0.1**
baz=316,SNR=7.8
HNH Hanover 62.18 54 *e*P **P** **03 19 54.7 -0.1**
comp=Z,5µm,1.8s
TRY Troy 62.18 56 *e*P **P** **03 19 54.7 -0.1**
comp=Z,2µm,0.8s
447A Lucedale 62.38 75 P **P** **03 19 56.1 -0.2**
baz=316,SNR=64
348A Jackson 62.38 74 P **P** **03 19 56.0 -0.3**
baz=316,SNR=65
N59A State Game Lan 62.40 58 P **P** **03 19 56.2 -0.2**
baz=316,SNR=115
PKME Peaks-Kenny Pk 62.51 51 *e*P **P** **03 19 56.6 -0.4**
comp=Z,3µm,1.0s
PKME LR LR
comp=Z,583µm,19.0s
CHKZ Chkalovo 62.53 324 P **P** **03 19 57.3 +0.3**
CHKZ pmax pmax
comp=Z,1µm,1.1s
BLA Blacksburg 62.54 64 *e*P **P** **03 19 57.2 -0.2**
BLA pmax pmax
comp=Z,4µm,1.0s
BLA MLR MLR
comp=Z,145µm,21.0s
BLA Blacksburg 62.54 64 *e*P **P** **03 19 57.1 -0.2**
comp=Z,4µm,1.0s
BLA LR LR
comp=Z,145µm,21.0s
646A Port Sulphur 62.55 76 P **P** **03 19 58.6 +1.1**
baz=317
WMQ Urumqi 62.57 307 P **P** **03 19 58.3 +0.8**
WMQ pP pP 03 20 12.1 +0.7
WMQ sP sP 03 20 18.3 +1.2
WMQ PP **PP** **03 22 19.8 +4.7**
WMQ S **S** **03 28 22.6 +1.2**
WMQ SS **SS** **03 32 28.9 +3.5**
WMQ PMZ
comp=Z,2µm,1.2s
WMQ PMZ
comp=Z,15µm,4.6s
WMQ LN
comp=Z,70µm,23.8s
WMQ LE
comp=Z,59µm,22.8s
WMQ LZ
comp=Z,58µm,21.2s
FFD Franklin Falls 62.66 54 *e*P **P** **03 19 58.4 +0.4**
comp=Z,2µm,1.0s
448A Bay Minette 62.75 74 P **P** **03 19 59.1 +0.3**
baz=316,SNR=14
MVL Millersville 62.75 59 *e*P **P** **03 19 58.3 -0.4**
comp=Z,707nm,0.9s
VWCC Virginia Weste 62.76 64 *e*P **P** **03 19 58.1 -0.7**
LUPA Lehigh Univers 62.84 58 *e*P **P** **03 19 59.3 0.0**
comp=Z,2µm,0.6s
WVL Waterville 62.85 52 *e*P **P** **03 19 58.5 -0.7**
comp=Z,3µm,1.2s
MOIG Morelia 62.85 92 *e*P **P** **03 19 59.8 -0.1**
comp=Z,2µm,1.1s
ODNJ Ogdensburg 62.89 57 *e*P **P** **03 19 59.5 -0.1**
comp=Z,962nm,0.8s
GZH Guangzhou 62.91 273 P **P** **03 19 56.6 -3.4**
GZH PP **PP** **03 22 17.1 -1.4**
GZH S **S** **03 28 20.6 -5.5**
GZH SS **SS** **03 32 29.3 -2.3**
GZH PMZ
comp=Z,20µm,6.8s
GZH LZ
comp=Z,102µm,22.8s
SDMD Soldier's Deli 62.92 60 *e*P **P** **03 19 59.3 -0.5**
comp=Z,914nm,1.1s
MK31 Makanchi Array 62.96 312 *e*P **P** **03 19 59.4 -0.6**
MK31 Makanchi Array 62.96 312 *e*P **P** **03 19 59.4 -0.6**
MKAR Makanchi Array 62.96 312 P **P** **03 19 59.4 -0.7**
comp=Z,698nm,0.7s,baz=45,slow=5.1,SNR=594
MKAR S **S** **03 28 27.1 +0.8**
comp=Z,13nm,1.0s,baz=301,slow=5.5,SNR=2.3
MKAR LR LR 03 50 01.1
comp=Z,122µm,19.3s,baz=31,slow=38
MKAR P4KPbc 03 57 00.3
comp=Z,1.8nm,0.8s,baz=25,slow=4.0,SNR=6.0
MK01 Makanchi Array 62.97 312 *e*P **P** **03 19 58.6 -1.6**
HKC Hong Kong Obse 62.98 272⇑ P **P** **03 20 03.0 +2.6**
CD2 Chengdu 63.04 286 *i*P **P** **03 20 01.4 +0.6**
CD2 pP pP 03 20 14.6 -0.1

CD2 sP sP 03 20 20.3 -0.1
CD2 PcS 03 24 38.9
CD2 S **S** **03 28 27.9 +0.2**
CD2 sS sS 03 28 50.8 -0.2
CD2 SS **SS** **03 32 34.8 +1.4**
CD2 PMZ
comp=Z,2µm,1.0s
CD2 PMZ
comp=Z,53µm,9.8s
CD2 LN
comp=Z,144µm,34.8s
CD2 LE
comp=Z,110µm,18.6s
CD2 LZ
comp=Z,129µm,21.6s
BRAL Brewton 63.06 73 *e*P **P** **03 20 00.8 -0.1**
comp=Z,2µm,1.0s
BRAL LR LR
comp=Z,75µm,19.0s
MAKZ Makanchi 63.09 312 *e*P **P** **03 20 00.2 -0.7**
MAKZ pmax pmax
comp=Z,2µm,0.9s
MAKZ Makanchi 63.09 312 *e*P **P** **03 20 00.2 -0.7**
comp=Z,2µm,0.9s
BVA0 Borovoye Array 63.12 323 P **P** **03 20 01.5 +0.5**
BVA0 pmax pmax
comp=Z,1µm,0.6s
BVAR Borovoye Array 63.12 323 P **P** **03 20 01.2 +0.2**
comp=Z,2µm,0.5s,baz=47,slow=6.9,SNR=987
BVAR PKP2bc 03 49 07.5
comp=Z,16nm,0.7s,baz=253,slow=1.5,SNR=13
BVAR LR LR 03 49 49.6
comp=Z,212µm,20.0s,baz=24,slow=38
BVAR P4KPbc 03 56 57.4
comp=Z,8.6nm,0.8s,baz=57,slow=5.5,SNR=19
BRVK Borovoye 63.14 323*c* *i*P **P** **03 20 01.2 +0.1**
BRVK pmax pmax
comp=Z,5µm,1.0s
BRVK MLR MLR
comp=Z,615µm,16.0s
BRVK Borovoye 63.14 323 *e*P **P** **03 20 01.2 +0.1**
comp=Z,18µm,1.4s
BRVK LR LR
comp=Z,156µm,21.0s
VOSK Vostochnaya 63.14 323 *e*P **P** **03 20 00.9 -0.2**
VOSK pmax pmax
comp=Z,10µm,1.8s
VOSK Vostochnaya 63.14 323 *e*P **P** **03 20 00.9 -0.2**
comp=Z,10µm,1.8s
QUA2 Belchertown 63.18 55 *e*P **P** **03 20 01.7 +0.2**
comp=Z,2µm,1.1s
BRNJ Basking Ridge 63.20 58 *e*P **P** **03 20 01.8 +0.1**
comp=Z,2µm,0.7s
SVE Sverdlovsk 63.31 331*d* *i*P **P** **03 20 02.7 +0.6**
SVE *e*PPP PPP 03 23 59.5
SVE *i*S **S** **03 28 32.6 +2.5**
SVE pmax pmax
comp=Z,5µm,1.6s
SVE pmax pmax
comp=Z,38µm,14.1s
PAL Palisades 63.31 57 *e*P **P** **03 20 02.4 0.0**
PAL pmax pmax
comp=Z,2µm,1.0s
PAL Palisades 63.31 57 *e*P **P** **03 20 02.4 0.0**
comp=Z,2µm,1.0s
HRV Adam Dziewonsk 63.41 54 *e*P **P** **03 20 03.4 +0.3**
HRV pmax pmax
comp=Z,2µm,1.2s
HRV Adam Dziewonsk 63.41 54 *e*P **P** **03 20 03.4 +0.3**
comp=Z,2µm,1.2s
CPNY Central Park 63.44 57 *e*P **P** **03 20 03.7 +0.5**
comp=Z,2µm,0.8s
MCO Taipa Grande 63.49 272 P **P** **03 20 07.0 +3.2**
CBN Corbin Frederi 63.50 61 *e*P **P** **03 20 03.9 +0.2**
comp=Z,2µm,1.3s
CBN LR LR
comp=Z,368µm,19.0s
KMSC Kings Mountain 63.52 66 P **P** **03 20 03.3 -0.5**
baz=316,SNR=407
KMSC Kings Mountain 63.52 66 *e*P **P** **03 20 03.1 -0.7**
comp=Z,3µm,0.9s
GOGA Godfrey 63.54 69 *e*P **P** **03 20 02.3 -1.7**
GOGA pmax pmax
comp=Z,1µm,0.9s
GOGA MLR MLR
comp=Z,154µm,20.0s
GOGA Godfrey 63.54 69 *e*P **P** **03 20 02.3 -1.7**
comp=Z,1µm,0.9s
GOGA LR LR
comp=Z,154µm,20.0s
YLE Yale 63.59 56 *e*P **P** **03 20 04.1 -0.1**
comp=Z,1µm,0.9s
WES Weston 63.62 54 *e*P **P** **03 20 04.3 -0.1**
WES pmax pmax
comp=Z,3µm,0.8s
WES Weston 63.62 54 *e*P **P** **03 20 04.3 -0.1**
comp=Z,3µm,0.8s
ZRNK Zerenda 63.69 324 *e*P **P** **03 20 04.9 +0.1**
ZRNK pmax pmax
comp=Z,10µm,1.7s
ZRNK Zerenda 63.69 324 *e*P **P** **03 20 04.8 +0.1**
comp=Z,13µm,1.7s
BCX Boston College 63.74 54 *e*P **P** **03 20 05.2 +0.1**
comp=Z,8µm,1.5s
RABL Rabaul 63.77 221 *e*P **P** **03 20 06.4 +0.7**
comp=Z,2µm,1.1s
GGN Saint George 63.78 50 *e*P **P** **03 20 05.0 -0.4**
comp=Z,2µm,0.9s
NSS Namsos 63.79 358⇑ *i*P **P** **03 20 04.8 -0.4**
NSS IVmB_BB 03 20 07.3
comp=Z,14µm,1.5s
NSS *e*S **S** **03 28 36.1 +0.2**
NSS IVMs_BB IVMs_BB 03 41 16.8
comp=Z,88µm,41.0s
PCPH Palayan 63.79 262⇓ *i*P P 03 20 12.2 +6.3
EMMW East Machias 63.80 50 *e*P **P** **03 20 05.2 -0.3**
comp=Z,2µm,0.8s
BRYW Bryant College 63.86 55 *e*P **P** **03 20 06.2 +0.2**
comp=Z,3µm,0.8s
MANU Manus Island 63.90 227 *e*P **P** **03 20 06.1 -0.4**
comp=Z,2µm,1.3s
JSC Jenkinsville 64.18 67 *e*P **P** **03 20 07.5 -0.7**
JSC pmax pmax
comp=Z,2µm,0.9s
JSC Jenkinsville 64.18 67 *e*P **P** **03 20 07.5 -0.7**
comp=Z,2µm,0.9s
LMN Caledonia Moun 64.18 48 *e*P **P** **03 20 08.0 -0.1**
comp=Z,3µm,0.8s
GQP Guinayangan 64.25 259⇑ *e*P **P** **03 20 08.9 0.0**
ARU Arti 64.26 332 PKP2bc **P'P'bc** **03 49 04.0 -5.3**
comp=Z,65nm,1.1s,baz=244,slow=2.5,SNR=13
ARU LR LR 03 51 35.0
comp=Z,128µm,19.2s,baz=20,slow=39
ARU P4KPbc 03 57 03.4
comp=Z,1.5nm,0.2s,baz=347,slow=8.0,SNR=3.3
ARU Arti 64.26 332*c* *i*P **P** **03 20 08.2 -0.2**
ARU *PP **pP** **03 20 23.8 +1.5**
ARU 03 20 43.7
ARU 03 22 31.0
ARU PPP PPP 03 23 58.1
ARU S **S** **03 28 43.4 +1.4**
ARU 03 29 52.0
ARU SSS SSS 03 35 38.9
ARU pmax pmax
comp=Z,1µm,0.7s
ARU pmax pmax
comp=Z,26µm,15.1s
ARU Arti 64.26 332 *e*P **P** **03 20 08.0 -0.4**
comp=Z,11µm,1.8s
ARU ⇑*e* 03 49 04.0
ARU *e* 03 57 03.4
ARU LR LR
comp=Z,146µm,19.0s
UNM Universidad Na 64.36 91 *e*P **P** **03 20 11.1 +1.3**
UNM pmax pmax
comp=Z,3µm,1.7s
UNM Universidad Na 64.36 91 *e*P **P** **03 20 11.1 +1.3**
comp=Z,3µm,1.7s
GYA Guiyang 64.53 281⇑ *i*P **P** **03 20 10.8 0.0**
GYA pP pP 03 20 28.0 +3.3
GYA sP sP 03 20 35.0 +4.6
GYA PcP **PcP** **03 20 45.3 +0.8**
GYA PP **PP** **03 22 35.5 +2.7**
GYA ScP 03 24 40.4
GYA S **S** **03 28 47.3 +0.9**
GYA SKS **SKSac** **03 29 56.0 -4.9**
GYA SS **SS** **03 32 55.8 -1.2**
GYA PMZ
comp=Z,1µm,1.0s
GYA PMZ
comp=Z,28µm,11.2s
GYA LN
comp=Z,48µm,22.0s
GYA LE
comp=Z,51µm,19.3s
GYA LZ
comp=Z,44µm,21.7s
LQP Lukban 64.64 260⇑ *e*P **P** **03 20 11.2 -0.5**
BRZS Berezniki 64.65 320 *i*P **P** **03 20 09.9 -1.1**
comp=Z,3µm,0.9s
BRZS *e*S **S** **03 28 46.3 -0.6**
BRZS LR LR 03 49 13.5
comp=Z,43µm,18.4s
DRLN Deer Lake 64.74 41 *e*P **P** **03 20 11.7 +0.1**
comp=Z,3µm,0.8s
KLMR Klimovskoe 64.75 344 *i*P **P** **03 20 10.2 -1.3**
KLMR *e* 03 22 34.2
KLMR pmax pmax
comp=Z,474nm,0.9s
PLP Palo 64.86 255⇑ *e*P **P** **03 20 12.3 -0.6**
TIGA Tifton 64.90 71 P **P** **03 20 11.5 -1.5**
baz=317,SNR=57
TIGA Tifton 64.90 71 *e*P **P** **03 20 11.8 -1.2**
comp=Z,1µm,1.1s
TIGA *e*S **S** **03 28 49.1 -1.5**
BOAC Boac 64.96 260 *e*P P 03 20 23.6 +10
TGY Tagaytay City 65.02 261 P **P** **03 20 15.1 +1.1**
comp=Z,2µm,1.0s,baz=110,slow=2.4,SNR=12
TGY S **S** **03 28 56.1 +3.7**
comp=Z,154nm,0.3s,baz=88,slow=20,SNR=1.7
TBLU Trondheim 65.10 359⇑ *i*P **P** **03 20 12.2 -1.6**
TBLU IVmB_BB 03 20 15.1
comp=Z,21µm,2.8s
TBLU *e*S **S** **03 28 48.5 -3.6**
TBLU IVMs_BB IVMs_BB 03 42 08.8
comp=Z,90µm,38.3s
CNNC Cliffs of the 65.38 64 *e*P **P** **03 20 15.8 -0.1**
comp=Z,1µm,0.8s
CNNC LR LR
comp=Z,150µm,21.0s
PGP Puerto Galera 65.47 260⇓ *e*P **P** **03 20 16.7 -0.1**
PGP *i*S **PcP** **03 20 42.5 -5.9**
AFI Afiamalu 65.61 180 *e*P **P** **03 20 18.7 +1.1**
AFI pmax pmax
comp=Z,2µm,1.5s
AFI MLR MLR
comp=Z,44µm,20.0s
AFI Afiamalu 65.61 180 *e*P **P** **03 20 18.7 +1.1**
comp=Z,2µm,1.5s
AFI LR LR
comp=Z,44µm,20.0s
NHSC New Hope 65.65 67 *e*P **P** **03 20 17.9 +0.1**
comp=Z,6µm,1.0s
NHSC LR LR
comp=Z,145µm,20.0s
SOFL Sornfelli, Far 65.66 8 *e*P **P** **03 20 16.3 -1.2**
RGRS Roger Stewart 65.79 67 *e*P **P** **03 20 18.9 +0.2**
comp=Z,24µm,0.5s
MOL Molde 65.79 0⇑ *i*P **P** **03 20 17.8 -0.4**
MOL IVmB_BB 03 20 20.5
comp=Z,17µm,2.1s
MOL *e*S **S** **03 29 01.0 +0.5**
MOL IVMs_BB IVMs_BB 03 42 13.5
comp=Z,101µm,37.1s
CSU Charleston Sou 65.80 67 *e*P **P** **03 20 18.8 +0.1**
HNR Honiara 65.81 211 *e*P **P** **03 20 16.0 -2.9**
HNR Honiara 65.81 211 *e*P **P** **03 20 21.7 +2.8**
HNR pmax pmax
comp=Z,4µm,1.4s
HNR MLR MLR
comp=Z,68µm,21.0s
HNR Honiara 65.81 211 *e*P **P** **03 20 21.7 +2.8**
comp=Z,4µm,1.4s
HNR LR LR
comp=Z,68µm,21.0s
RCP Roxas 65.89 258⇑ *e*P **P** **03 20 19.5 0.0**
FIA1 FINESS Array S 66.03 351 *e*P **P** **03 20 19.4 -0.3**
comp=Z,604nm,0.8s
FINES FINESS Array B 66.03 351 P **P** **03 20 19.1 -0.6**
comp=Z,453nm,0.7s,baz=13,slow=7.1,SNR=240
FINES PKP2bc 03 48 53.1
comp=Z,44nm,1.0s,baz=126,slow=3.3,SNR=12
FINES LR LR 03 52 46.8
comp=Z,153µm,18.2s,baz=12,slow=39
FINES P4KPbc 03 57 11.5
comp=Z,4.9nm,0.8s,baz=32,slow=5.0,SNR=9.4
FINES FINESS Array B 66.03 351 P **P** **03 20 19.1 -0.6**
FINES pmax pmax
comp=Z,452nm,0.7s
TLIG Tlapa 66.07 92 *e*P **P** **03 20 20.0 -0.8**
comp=Z,2µm,1.5s
LLP Lapu-Lapu 66.14 256⇓ *e*P **P** **03 20 20.8 -0.3**
LLP *e*S **S** **03 29 12.7 +6.7**
OTUK Ortayu 66.16 319 P **P** **03 20 21.3 +0.4**
OTUK pmax pmax
comp=Z,3µm,1.1s
AKN Aaknes 66.18 1 *e* P 03 20 31.5 +11
AKN IVmB_BB 03 20 33.5
comp=Z,20µm,1.1s
AKN *e*S **S** **03 29 05.7 +0.3**
AKN IVMs_BB IVMs_BB 03 42 52.7
comp=Z,98µm,40.6s
TAOE Nuku Hiva Isla 66.42 146 *e*P **P** **03 20 22.0 -0.9**
comp=Z,2µm,1.0s
TAOE *e*S **S** **03 29 08.3 -1.1**
comp=Z,83µm,32.1s
TAOE Nuku Hiva Isla 66.42 146 *e*LR LR 03 40 09.5
comp=Z,663µm,32.5s,baz=348
TAOE Nuku Hiva Isla 66.42 146 *e*P'P'ab P'P'ab 03 49 01.2 +3.9
comp=Z,1µm,1.3s
TAOE Nuku Hiva Isla 66.42 146 *e*T T 04 32 55.3
comp=Z,1µm,0.2s
TAOE Nuku Hiva Isla 66.42 146 *e*P **P** **03 20 22.2 -0.7**
comp=Z,1µm,1.0s
FOO Floro 66.74 2⇑ *i*P **P** **03 20 23.0 -1.3**
FOO IVmB_BB 03 20 26.4
comp=Z,14µm,2.7s
FOO IVMs_BB IVMs_BB 03 42 58.0
comp=Z,78µm,38.6s
SHLS Shalkode 66.83 311 *i*P **P** **03 20 23.7 -1.7**
comp=Z,14µm,1.4s
SHLS *i*S **S** **03 29 12.6 -1.7**
SHLS LR LR 03 50 06.6
comp=Z,26µm,16.5s
PDGK Podgornoye 66.88 311 P **P** **03 20 26.7 +1.2**
PDGK pmax pmax
comp=Z,3µm,0.8s
NC204 NORSAR Array S 67.07 359 *e*P **P** **03 20 25.6 -0.9**
NC303 NORSAR Array S 67.11 358 *e*P **P** **03 20 26.2 -0.5**
KPKS Kokpek 67.15 312 *i*P **P** **03 20 26.2 -1.2**
comp=Z,23µm,0.8s
KPKS *i*S **S** **03 29 17.5 -0.3**
KPKS LR LR 03 50 00.0
comp=Z,87µm,17.3s
CGP Cagayan de Oro 67.17 254⇓ *e*P **P** **03 20 30.8 +3.1**
HYA Hoyanger 67.19 1 *e*P **P** **03 20 26.7 -0.5**
HYA IVmB_BB 03 20 29.4
comp=Z,13µm,3.1s
NC405 NORSAR Array S 67.22 358 *e*P **P** **03 20 27.1 -0.3**
SUE Sulen 67.28 2⇑ *i*P **P** **03 20 26.4 -1.3**
SUE IVmB_BB 03 20 29.6
comp=Z,15µm,3.2s
SUE *e*S **S** **03 29 18.9 +0.4**
SUE IVMs_BB IVMs_BB 03 43 12.6
comp=Z,67µm,37.6s
NB201 NORSAR Array S 67.29 358 *e*P **P** **03 20 27.9 0.0**
NBO02 NORSAR Array S 67.30 359 *e*P **P** **03 20 27.3 -0.6**
NB2 NORSAR Subarra 67.30 358 P **P** **03 20 28.0 0.0**
comp=Z,748nm,0.9s,baz=2.0,slow=6.2
NB2 NORSAR Subarra 67.30 358 P **P** **03 20 28.0 0.0**
baz=2.0,slow=6.2
NOA NORSAR Array B 67.30 358 P **P** **03 20 27.3 -0.6**
comp=Z,455nm,0.8s,baz=1.4,slow=6.3,SNR=731
NOA S **S** **03 29 20.6 +1.6**
comp=Z,2.7nm,0.7s,baz=309,slow=25,SNR=2.2
NOA PKP2bc 03 48 50.0
comp=Z,10nm,0.9s,baz=144,slow=24,SNR=15
NOA LR LR 03 49 24.5
comp=Z,65µm,21.8s,baz=0.0,slow=36
NOA P4KPbc 03 57 16.2
comp=Z,2.6nm,0.9s,baz=359,slow=4.4,SNR=7.2
NBO00 NORSAR Array S 67.32 359 *e*P **P** **03 20 28.1 +0.1**
SNPH Sibulan 67.34 256⇑ *e*P **P** **03 20 27.6 -1.2**
BUKP Musuan 67.42 253 *e*P **P** **03 20 29.2 -0.1**
JAY Jayapura 67.45 233 P **P** **03 20 28.9 -0.6**
NAO01 NORSAR Array S 67.50 359 *e*P **P** **03 20 28.9 -0.2**
SATY Saty 67.59 312 *i*P **P** **03 20 28.5 -1.7**
comp=Z,11µm,1.2s
SATY *i*S **S** **03 29 21.8 -1.4**
SATY LR LR 03 50 30.4
comp=Z,75µm,18.2s
NC602 NORSAR Array S 67.60 358 *e*P **P** **03 20 26.3 -3.5**
NC602 IVmB_BB 03 20 31.8
comp=Z,15µm,3.0s
NC602 *e*S **S** **03 29 22.6 +0.1**
NC602 IVMs_BB IVMs_BB 03 43 21.8
comp=Z,94µm,43.2s
NC602 NORSAR Array S 67.60 358 *e*P **P** **03 20 29.0 -0.8**
DAV Davao City (W) 67.75 252⇓ *e*P **P** **03 20 32.0 +0.6**
DAV Davao City (W) 67.75 252 ⇓S **S** **03 29 20.4 -5.1**
DAV Davao City (W) 67.75 252 P P 03 20 36.4 +5.0
SNR=29
DAV Davao City (W) 67.75 252 PFAKE 03 20 40.0 +8.6
DAV LR LR
comp=Z,36µm,20.0s
GENI Genyem 67.79 233 P **P** **03 20 31.5 0.0**
comp=Z,2µm,1.3s,comp=Z,42µmcomp=Z,130µm
ASK Askoy 67.86 2 *e*P **P** **03 20 30.5 -0.9**
ASK IVmB_BB 03 20 33.7
comp=Z,14µm,2.8s
KUU Kurty 67.88 314⇑ *i*P **P** **03 20 30.9 -1.0**
comp=Z,14µm,0.9s
KUU *i*PP **PP** **03 23 00.9 -0.6**
KUU *i*PPP PPP 03 24 38.7
KUU *i*S **S** **03 29 25.8 -0.7**
KUU LR LR 03 50 48.4
comp=Z,64µm,16.8s
KMI Kunming 67.89 283⇑ P **P** **03 20 32.9 +0.5**
KMI pP sP 03 20 50.3 -1.8
KMI sP PcP 03 20 56.6 -2.1
KMI PP **PP** **03 23 06.6 +4.3**
KMI S **S** **03 29 26.4 -1.0**
KMI SKS **SKiKP** **03 30 20.5 -3.6**
KMI SS **SS** **03 33 50.6 +1.3**
KMI PMZ
comp=Z,2µm,1.1s
KMI PMZ
comp=Z,29µm,7.8s
KMI LN
comp=Z,60µm,21.0s
KMI LE
comp=Z,57µm,20.7s
KMI LZ
comp=Z,81µm,27.3s
BER Bergen 67.97 2⇑ *i*P **P** **03 20 31.6 -0.4**
BER IVmB_BB 03 20 34.4
comp=Z,15µm,3.0s
BER *e*S **S** **03 29 27.4 +0.7**
BER IVMs_BB IVMs_BB 03 43 31.3
comp=Z,71µm,35.7s
LRW Lerwick 67.98 5 *e*P **P** **03 20 31.8 -0.4**
AAA Alma-Ata 68.09 313 *i*P **P** **03 20 34.3 +1.0**
AAA *i*S **S** **03 29 33.7 +4.7**
AAA pmax pmax
comp=Z,25µm,2.0s
AAA smax smax
comp=E,25µm,8.4s
AAA MLR MLR
comp=Z,107µm,12.0s
AAA Alma-Ata 68.09 313 *i*P **P** **03 20 32.9 -0.4**
comp=Z,19µm,0.8s
AAA *e*S **S** **03 29 29.8 +0.8**
AAA LR LR 03 50 48.6
comp=Z,36µm,16.1s
SAN1 Sandwick 68.10 5 *e*P **P** **03 20 32.5 -0.4**
QIZ Qiongzhong 68.10 273 P **P** **03 20 34.3 +0.8**
QIZ pP **pP** **03 20 49.0 +1.4**
QIZ S **S** **03 29 27.8 -1.8**
QIZ SS **SS** **03 33 52.3 -0.1**
QIZ PMZ
comp=Z,8µm,7.0s
QIZ LN
comp=Z,35µm,19.1s
QIZ LZ
comp=Z,51µm,21.5s
QIZ Qiongzhong 68.10 273 *e*P **P** **03 20 34.7 +1.2**
comp=Z,2µm,1.4s
QIZ LR LR
comp=Z,56µm,22.0s
MDOK Medeo 68.13 313⇓ *i*P **P** **03 20 32.3 -1.3**
comp=Z,17µm,0.9s
MDOK *i*PP **PP** **03 23 02.7 -1.1**
MDOK *i*PPP PPP 03 24 41.5
MDOK *i*S **S** **03 29 28.7 -1.0**
MDOK *i*SS **SS** **03 33 53.4 +1.3**
MDOK *i*SSS SSS 03 37 08.3
MDOK LQ LQ 03 45 30.9
MDOK LR LR 03 50 47.0
comp=Z,33µm,17.6s
HFS Hagfors 68.15 357 PKP2bc P'P'bc 03 48 50.3 -8.1
comp=Z,16nm,1.0s,baz=190,slow=4.2,SNR=6.5
HFS LR LR 03 53 08.1
comp=Z,71µm,18.4s,baz=14,slow=38
HFS P4KPbc 03 57 17.8
comp=Z,4.7nm,0.9s,baz=141,slow=5.2,SNR=3.9
OSL Oslo 68.42 359 *e*P **P** **03 20 34.6 -0.3**
OSL IVmB_BB 03 20 37.3
comp=Z,14µm,3.0s
CTBH Cotabato--PC H 68.42 253 *e*P **P** **03 20 36.2 +0.6**
ODD1 Odda 68.45 1 *e*P **P** **03 20 34.5 -0.7**
ODD1 IVmB_BB 03 20 37.4
comp=Z,22µm,2.3s
DWPF Disney Wildern 68.62 72 *e*P **P** **03 20 36.5 -0.1**
comp=Z,1µm,1.0s
KONO Kongsberg 68.72 359⇑ *i*P **P** **03 20 36.5 -0.3**
KONO IVmB_BB 03 20 39.4
comp=Z,19µm,2.9s
KONO *e*S **S** **03 29 34.9 -0.9**
KONO IVMs_BB IVMs_BB 03 43 54.7
comp=Z,83µm,41.0s
KONO Kongsberg 68.72 359*c* *i*P **P** **03 20 36.5 -0.3**
KONO pmax pmax
comp=Z,5µm,1.0s
KONO MLR MLR
comp=Z,546µm,17.0s
KONO Kongsberg 68.72 359 *e*P **P** **03 20 37.2 +0.4**
comp=Z,1µm,0.9s
KONO LR LR
comp=Z,107µm,19.0s
VSU Vasula 68.88 350*c* *i*P **P** **03 20 37.1 -0.7**
VSU pmax pmax
comp=Z,5µm,1.0s
VSU MLR MLR
comp=Z,692µm,22.0s
BLS5 Blasjo 68.94 1⇑ *i*P **P** **03 20 37.8 -0.4**
BLS5 IVmB_BB 03 20 40.6
comp=Z,15µm,3.0s
BLS5 IVMs_BB IVMs_BB 03 43 59.9
comp=Z,76µm,36.1s
TKM2 Tokmak 2 68.98 313 *e*P **P** **03 20 39.2 +0.2**
TKM2 pmax pmax
comp=Z,3µm,1.2s
TKM2 MLR MLR
comp=Z,108µm,20.0s
TKM2 Tokmak 2 68.98 313 *e*P **P** **03 20 39.1 +0.2**
comp=Z,3µm,1.2s
TKM2 LR LR
comp=Z,108µm,20.0s
I43RU DUBNA INFRASON 69.05 343 P **P** **03 20 38.3 -0.6**
baz=120,slow=9.2,SNR=1.7
KMY Karmoy 69.14 2 *e*P **P** **03 20 39.3 -0.1**
STAV Stavanger 69.42 1⇑ *i*P **P** **03 20 40.5 -0.6**
STAV IVmB_BB 03 20 43.4
comp=Z,21µm,3.0s
STAV IVMs_BB IVMs_BB 03 44 11.6
comp=Z,68µm,39.9s
BIGH Upper Bighouse 69.44 7 *e*P **P** **03 20 40.7 -0.6**
BIGH AMS AMS 03 43 26.3
comp=Z,256µm,39.9s
FRU Bishkek 69.49 314⇑ *i*P **P** **03 20 42.0 +0.1**
FRU *e*S **S** **03 29 46.0 +0.5**
FRU pmax pmax
comp=Z,2µm,2.0s
FRU smax smax
comp=N,43µm,3.0s
RSC Scourie 69.49 7 *e*P **P** **03 20 41.3 -0.3**
MLA1 Latheron 69.67 6⇑ *e*P **P** **03 20 42.2 -0.5**

AAK Ala-Archa 69.70 314 P **P** **03 20 44.0 +0.6**
comp=N,3µm,0.8s,baz=67,slow=3.3,SNR=490
AAK S **S** **03 29 52.5 +4.2**
comp=N,18nm,0.9s,baz=252,slow=22,SNR=6.1
AAK PKPPKP **P'P'df** **03 48 48.7 -5.1**
comp=N,55nm,1.1s,baz=193,slow=3.2,SNR=10
AAK LR LR 03 54 54.3
comp=N,163µm,19.3s,baz=20,slow=39
AAK Ala-Archa 69.70 314 *eP* **P** **03 20 44.0 +0.6**
comp=N,4µm,0.8s
AAK S **S** **03 29 52.5 +4.2**
AAK P'P' 03 48 48.7
AAK LR LR
comp=Z,159µm,20.0s
PPR Puerto Princes 69.72 260⇓ *eP* **P** **03 20 44.8 +1.2**
RRH Rhenigidale 69.79 8 *eP* **P** **03 20 42.8 -0.6**
MOS Moscow 69.91 343α *iP* **P** **03 20 43.3 -0.9**
MOS *i* *PP **pP** **03 20 58.5 +0.2**
MOS *i* 03 23 18.8
MOS *i* PPP PPP 03 25 02.5
MOS *eS* **S** **03 29 48.4 -1.6**
MOS *i* 03 30 40.7
MOS pmax pmax
comp=N,11µm,5.1s
MOS pmax pmax
comp=E,3µm,5.1s
MOS pmax pmax
comp=Z,16µm,5.1s
MOS pmax pmax
comp=Z,962nm,0.8s
MOS pmax pmax
comp=N,573nm,0.9s
MOS pmax pmax
comp=E,148nm,1.0s
MOS smax smax
comp=N,6µm,5.1s
MOS smax smax
comp=E,6µm,5.1s
RRR Rubha Reidh 69.92 8 *eP* **P** **03 20 43.8 -0.4**
AB31 Akbulak array 69.95 327 *iP* **P** **03 20 44.6 0.0**
AB31 pmax pmax
comp=Z,985nm,0.9s
ABKAR Akbulak array 69.95 327 *eP* **P** **03 20 44.7 +0.1**
MSVF Nonsavu 69.98 190d *iP* **P** **03 20 46.3 +1.3**
MSVF MLR MLR
comp=Z,83µm,17.0s
MSVF Nonsavu 69.98 190 *eP* **P** **03 20 44.9 -0.2**
comp=Z,2µm,1.3s
MSVF LR LR
comp=Z,56µm,20.0s
EKS2 Erkin-Say 70.00 314 *eP* **P** **03 20 45.9 +0.8**
EKS2 MLR MLR
comp=Z,134µm,20.0s
EKS2 Erkin-Say 70.00 314 *eP* **P** **03 20 45.9 +0.8**
comp=Z,12nm,1.0s
EKS2 LR LR
comp=Z,134µm,20.0s
SNART Snartemo 70.04 1 *eP* **P** **03 20 45.6 +0.7**
SNART IVmB_BB 03 20 47.4
comp=Z,12µm,3.1s
SNART IVMs_BB IVMs_BB 03 53 49.8
comp=Z,20µm,19.2s
HOMB Homborsund 70.11 360⇑ *iP* **P** **03 20 45.2 -0.2**
HOMB IVmB_BB 03 20 47.7
comp=Z,10µm,1.2s
HOMB *eS* **S** **03 29 53.9 +1.8**
HOMB IVMs_BB IVMs_BB 03 44 32.6
comp=Z,94µm,39.7s
VAH Vaihoa 70.16 155 *eP* **P** **03 20 45.8 -0.3**
comp=Z,2µm,1.1s
VAH Vaihoa 70.16 155 *eT* T 04 37 32.7
comp=Z,12nm,0.3s
KAC Achnashellach 70.32 8 *eP* **P** **03 20 46.9 +0.2**
MCD Coleburn Disti 70.40 7 *eP* **P** **03 20 46.9 -0.3**
TEIG Tepich 70.41 82 *eP* **P** **03 20 46.5 -1.3**
TEIG Tepich 70.41 82 *eP* **P** **03 20 47.1 -0.7**
comp=Z,159nm,0.8s
TEIG LR LR
comp=Z,16µm,21.0s
KPL Plockton 70.45 8 *eP* **P** **03 20 47.1 -0.4**
MDO Dochfour 70.46 7 *eP* **P** **03 20 47.0 -0.5**
SGSI Sangihe 70.50 250 P **P** **03 20 49.8 +1.4**
PMG Port Moresby 70.56 223d *iP* **P** **03 20 49.2 +0.6**
PMG pmax pmax
comp=Z,10µm,2.5s
PMG Port Moresby 70.56 223 *eP* **P** **03 20 48.4 -0.2**
comp=Z,2µm,1.4s
PMG LR LR
comp=Z,92µm,20.0s
KSB Sheil Bridge 70.60 8 *eP* **P** **03 20 48.8 +0.4**
MNAS Manas 70.70 315 P **P** **03 20 50.6 +1.1**
MNAS pmax pmax
comp=Z,2µm,1.0s
OBN Obninsk 70.70 343c *iP* **P** **03 20 48.1 -0.9**
OBN *i* 03 21 04.9
OBN *i* S **S** **03 29 50.7 -8.4**
OBN pmax pmax
comp=Z,708nm,1.0s
OBN pmax pmax
comp=Z,19µm,6.6s
OBN MLR MLR
comp=Z,108µm,18.0s
OBN Obninsk 70.70 343 *eP* **P** **03 20 48.1 -0.9**
comp=Z,6µm,1.7s
OBN LR LR
comp=Z,144µm,19.0s
SWI Sorong 70.99 242 P **P** **03 20 50.9 -0.4**
comp=Z,1µm,0.9s,comp=Z,30µmcomp=Z,55µm
KK31 Karatay Array 71.05 317 *iP* **P** **03 20 51.4 -0.1**
KK31 pmax pmax
comp=Z,1µm,0.8s
KKAR Karatay Array 71.05 317 *eP* **P** **03 20 51.4 -0.1**
KKAR Karatay Array 71.05 317 *eP* **P** **03 20 51.4 -0.1**
DRUM Mains of Drumt 71.11 6 *eP* **P** **03 20 51.0 -0.6**
DRUM AMB AMB 03 20 59.4
comp=Z,2µm,1.0s
DRUM AMS AMS 03 44 30.4
comp=Z,114µm,38.7s
LSA Lhasa 71.25 294 P **P** **03 20 55.4 +2.0**
LSA pP **sP** **03 21 13.3 +0.2**
LSA S **S** **03 30 09.1 +1.8**
LSA PMZ
comp=Z,910nm,1.1s
LSA PMZ
comp=Z,38µm,10.6s
LSA LN
comp=Z,38µm,17.2s
LSA LE
comp=Z,36µm,17.8s
LSA LZ
comp=Z,100µm,16.1s
LSA Lhasa 71.25 294 *eP* **P** **03 20 54.9 +1.5**
LSA *eS* **S** **03 30 05.2 -2.1**
LSA pmax pmax
comp=Z,2µm,0.8s
LSA MLR MLR
comp=Z,129µm,20.0s
LSA Lhasa 71.25 294 *eP* **P** **03 20 54.9 +1.5**
comp=Z,2µm,0.8s
LSA *eS* **S** **03 30 05.2 -2.1**
LSA LR LR
comp=Z,129µm,20.0s
EDU Dundee 71.44 7 *eP* **P** **03 20 53.0 -0.5**
KSH Kashi 71.51 311⇑ *iP* **P** **03 20 58.3 +3.9**
KSH pP sP 03 21 15.1 +1.0
KSH PcP **PcP** **03 21 17.9 +4.3**
KSH PP **PP** **03 23 38.9 +6.0**
KSH S **S** **03 30 11.3 +2.0**
KSH PMZ
comp=Z,2µm,0.6s
KSH PMZ
comp=Z,19µm,3.4s
KSH LN
comp=Z,20µm,11.2s
KSH LE
comp=Z,87µm,19.3s
KSH LZ
comp=Z,180µm,19.1s
IZAR Zarasai 71.60 349 *eP* **P** **03 20 54.2 -0.2**
IZAR IAmb IAmb 03 21 02.9
comp=Z,686nm,1.1s
BRLS Borolday 71.66 317 *iP* **P** **03 20 53.7 -1.4**
comp=Z,349nm,1.1s
BRLS *i* S **S** **03 30 09.8 -1.0**
BRLS LR LR 03 51 11.9
comp=Z,5µm,16.4s

EAB Aberfoyle 71.70 7 *eP* **P** **03 20 54.9 -0.2**
ISAL Salakas 71.79 349 *eP* **P** **03 20 55.4 -0.2**
ISAL IAmb IAmb 03 21 04.2
comp=Z,349nm,0.8s
PPT Papeete 71.92 158 P **P** **03 20 58.3 +1.5**
comp=Z,345nm,1.2s,baz=26,slow=4.8,SNR=11
PPT LR LR 03 45 21.4
comp=Z,56µm,21.5s,baz=315,slow=30
MUD Monsted U'grnd 71.93 359⇑ *iP* **P** **03 20 56.7 +0.3**
MUD pmax pmax
comp=Z,860nm,0.8s
MUD MLR MLR
comp=Z,100µm,17.0s
MUD Monsted U'grnd 71.93 359⇑ *iP* **P** **03 20 56.7 +0.3**
comp=Z,859nm,0.8s
comp=Z,103µm,17.0s
PPT2 Papeete2 71.94 158 *eP* **P** **03 20 56.8 -0.1**
comp=Z,722nm,1.6s
PPT2 *e*pP **PcP** **03 21 13.7 -1.7**
comp=Z,1µm,1.5s
PPT2 *eS* **S** **03 30 12.9 -1.4**
comp=Z,146µm,35.5s
PPT2 Papeete2 71.94 158 *eLR* LR 03 42 37.7
comp=Z,972µm,33.5s,baz=344
PPT2 Papeete2 71.94 158 *eT* T 04 39 45.7
comp=Z,107nm,0.3s
TIAR Tiarei 71.96 157 *eP* **P** **03 20 56.7 -0.3**
comp=Z,351nm,1.1s
TIAR Tiarei 71.96 157 *eT* T 04 39 46.9
comp=Z,118nm,0.3s
IDID Didziasalis 71.97 349 *eP* **P** **03 20 56.4 -0.2**
IDID IAmb IAmb 03 21 06.1
comp=Z,587nm,1.0s
PAE Paea 72.01 158 *eP* **P** **03 20 56.8 -0.4**
comp=Z,195nm,1.5s
PAE Paea 72.01 158 *eT* T 04 39 50.1
comp=Z,23nm,0.3s
IUG Iuzhnay 72.04 316 *i* P **P** **03 20 56.6 -0.9**
comp=Z,17µm,1.0s
IUG *eS* **S** **03 30 15.3 0.0**
IUG LR LR 03 53 15.8
comp=Z,50µm,17.6s
EDI Edinburgh 72.05 7 *eP* **P** **03 20 56.7 -0.4**
EDI AMB AMB 03 21 04.6
comp=Z,777nm,1.3s
EDI AMS AMS 03 44 37.1
comp=Z,115µm,42.8s
PGBU Glenifferbraes 72.06 7 *eP* **P** **03 20 56.6 -0.6**
PGBU AMB AMB 03 21 05.5
comp=Z,1µm,1.1s
ESY Stoneypath 72.10 6 *eP* **P** **03 20 57.0 -0.5**
FAKI Fak Fak 72.17 240 P **P** **03 20 58.7 +0.3**
comp=Z,1µm,1.3s,comp=Z,28µmcomp=Z,72µm
FAKI Fak Fak 72.17 240 *eP* **P** **03 20 58.3 -0.1**
comp=Z,2µm,1.2s
TVO Taravao 72.20 157 *eP* **P** **03 20 58.3 -0.2**
comp=Z,261nm,1.3s
TVO Taravao 72.20 157 *eT* T 04 40 04.8
comp=Z,9.8nm,0.3s
NACGM Naroch 72.36 349 *eP* **P** **03 20 57.0 -2.1**
NACGM *eP* **P** **03 20 57.0 -2.1**
NACGM *e*PP **PP** **03 23 36.0 -3.6**
NACGM *e*PPP PPP 03 25 26.0
NACGM *e*PsP 03 26 50.0
NACGM *eS* **S** **03 30 20.0 +1.6**
NACGM *e*PS **PnS** **03 30 45.0 -8.8**
NACGM *e*SS SS 03 35 19.0 +23
NACGM *e*SSS SSS 03 38 04.0
NACGM *e*LQ LQ 03 43 10.0
GMK Mull of Kintyr 72.43 8 *eP* **P** **03 20 58.9 -0.5**
IDGL Inch Island, C 72.52 9 *eP* **P** **03 20 59.7 -0.2**
MEH Mehetia 72.58 156 *eP* **P** **03 21 00.1 -0.6**
comp=Z,184nm,1.2s
MEH Mehetia 72.58 156 *eT* T 04 40 33.6
comp=Z,37nm,0.2s
MICGM Minsk 72.62 348⇑ *iP* **P** **03 20 59.0 -1.6**
MICGM ⇑ *iP* **P** **03 20 59.0 -1.6**
MICGM PM 03 21 00.0
comp=Z,1.7nm,1.0s
MICGM PM 03 21 00.0
comp=Z,81nm,16.0s
MICGM PM 03 21 02.0
comp=N,0.7nm,1.2s
MICGM *e*pP **pP** **03 21 16.0 +1.2**
MICGM *e*PP PP 03 23 28.0 -14
MICGM PPM 03 23 32.0
comp=Z,26nm,12.0s
MICGM *e*PPP PPP 03 25 20.0
MICGM *eS* **S** **03 30 16.0 -5.3**
MICGM SM 03 30 22.0
comp=E,13nm,10.0s
MICGM SM 03 30 24.0
comp=N,20nm,14.0s
MICGM *eS*S **sS** **03 30 44.0 -1.1**
MICGM *eSS* SS 03 35 26.0 +26
MICGM *eSSS* SSS 03 37 44.0
MICGM *eLQ* LQ 03 39 52.0
MICGM LQM 03 46 28.0
comp=N,574nm,36.0s
MICGM LQM 03 46 48.0
comp=N,95nm,36.0s
MICGM LQM 03 47 00.0
comp=E,349nm,36.0s
MICGM LQM 03 47 02.0
comp=E,55nm,36.0s
MICGM *eLR* LR 03 50 50.0
MICGM LRM MLR 03 54 29.0
comp=N,111nm,20.0s
MICGM LRM MLR 03 54 34.0
comp=Z,125nm,20.0s
MICGM LRM MLR 03 54 38.0
comp=E,53nm,20.0s
MNK Minsk 72.62 348c *iP* **P** **03 20 59.0 -1.6**
MNK *e*PP **pP** **03 21 16.0 +1.2**
MNK *e*PPP PPP 03 25 20.0
MNK *eS* **S** **03 30 16.0 -5.3**
MNK pmax pmax
comp=Z,81µm,16.0s
MNK pmax pmax
comp=Z,2µm,1.0s
MNK pmax pmax
comp=N,680nm,1.2s
MNK smax smax
comp=E,13µm,10.0s
MNK smax smax
comp=N,20µm,14.0s
MNK MLR MLR
comp=N,111µm,20.0s
MNK MLR MLR
comp=Z,125µm,20.0s
MNK MLR MLR
comp=E,53µm,20.0s
EKA Eskdalemuir Ar 72.64 7 PKPPKP P'P'df 03 48 39.6 -10
comp=E,12nm,0.9s,baz=143,slow=2.9,SNR=5.5
COP Copenhagen 72.64 357⇑ *iP* **P** **03 21 01.1 +0.4**
COP *i* 03 30 25.6
COP pmax pmax
comp=Z,630nm,0.9s
COP MLR MLR
comp=Z,55µm,18.0s
COP Copenhagen 72.64 357⇑ *iP* **P** **03 21 01.1 +0.4**
comp=Z,630nm,0.9s
COP *i* 03 30 25.6
comp=Z,55µm,18.0s
ESK Eskdalemuir 72.65 7 *eP* **P** **03 21 00.4 -0.3**
ESK AMS AMS 03 44 53.5
comp=Z,113µm,47.1s
ESK Eskdalemuir 72.65 7 *eP* **P** **03 21 01.1 +0.3**
ESK pmax pmax
comp=Z,759nm,0.8s
ESK MLR MLR
comp=Z,104µm,20.0s
ESK Eskdalemuir 72.65 7 *eP* **P** **03 21 01.1 +0.3**
comp=Z,759nm,0.8s
ESK LR LR
comp=Z,104µm,20.0s
ECK Cauldkaine Hil 72.79 7 *eP* **P** **03 21 00.9 -0.7**
BHH Howats Hill 72.87 7 *eP* **P** **03 21 01.5 -0.5**
NONG Nongkai 72.96 278 P **P** **03 21 03.1 0.0**
comp=Z,2µm,1.9s,comp=Z,39µm
GAL1 Galloway 72.98 8 *eP* **P** **03 21 02.2 -0.5**
GAL1 AMB AMB 03 21 10.8
comp=Z,646nm,1.1s
GAL1 AMS AMS 03 45 28.2
comp=Z,65µm,40.9s
LLD Lille Linde 73.00 358 *i* P **P** **03 21 04.1 +1.3**

LLD *i* 03 21 20.7
LLD pmax pmax
comp=Z,960nm,0.8s
LLD Lille Linde 73.00 358 *i* P **P** **03 21 04.1 +1.3**
comp=Z,955nm,0.8s
LLD *i* 03 21 20.7
BSD Bornholm Skovb 73.13 356⇑ *iP* **P** **03 21 03.2 -0.3**
BSD pmax pmax
comp=Z,630nm,0.9s
BSD MLR MLR
comp=Z,110µm,19.0s
BSD Bornholm Skovb 73.13 356⇑ *iP* **P** **03 21 03.2 -0.3**
comp=Z,628nm,0.9s
comp=Z,109µm,19.0s
SKNT Sakolnakorn 73.27 276 P **P** **03 21 04.8 -0.2**
comp=Z,3µm,1.0s,comp=Z,46µm
VRH Novokhopyorsk 73.35 339 *eP* **P** **03 21 04.5 -0.5**
VRH *e* 03 21 21.9
VRH *e* 03 23 44.4
VRH *e*PPP PPP 03 25 28.2
VRH *eS* **S** **03 30 27.7 -2.0**
VRH pmax pmax
comp=Z,1µm,0.6s
VRH pmax pmax
comp=Z,5µm,2.0s
VRH smax smax
comp=N,8µm,8.8s
VRH MLR MLR
comp=Z,180µm,25.0s
KESW Keswick, Cumbr 73.38 7 *eP* **P** **03 21 04.5 -0.6**
KESW AMB AMB 03 21 07.8
comp=Z,1µm,1.5s
KESW AMS AMS 03 45 15.2
comp=Z,107µm,41.2s
VORR Voronezh 73.45 340⇑ *iP* **P** **03 21 04.0 -1.5**
VORR pmax pmax
comp=Z,2µm,1.8s
MYLDM Lahad Datu 73.48 257 *eP* **P** **03 21 07.4 +1.2**
comp=Z,2µm,1.1s
GMM Mts of Mourne 73.50 9 *eP* **P** **03 21 05.1 -0.6**
SUW Suwalki 73.64 351 *eP* **P** **03 21 05.7 -0.9**
SUW *e*PP **PP** **03 23 51.3 +0.9**
SUW *eS* **S** **03 30 33.7 +0.9**
SUW LMZ LR 03 52 50.2
comp=Z,186µm,24.8s
SUW Suwalki 73.64 351 *eP* **P** **03 21 05.7 -0.9**
SUW *e* 03 23 51.3
SUW *eS* **S** **03 30 33.7 +0.9**
RAR Rarotonga 73.64 168 *eP* **P** **03 21 07.5 +0.7**
RAR pmax pmax
comp=Z,2µm,1.8s
RAR MLR MLR
comp=Z,121µm,22.0s
RAR Rarotonga 73.64 168 *eP* **P** **03 21 07.5 +0.7**
comp=Z,2µm,1.8s
RAR LR LR
comp=Z,121µm,22.0s
WIM Isle of Man 73.70 8 *eP* **P** **03 21 06.8 -0.2**
RGN Rugen 73.75 357 *eP* **P** **03 21 07.9 +0.6**
comp=Z,3µm,0.9s
VSR Storozhevoye 73.89 340 *eP* **P** **03 21 08.2 +0.1**
VSR *e* 03 21 24.1
VSR *e* 03 25 34.8
VSR *eS* **SKiKP** **03 30 33.4 +1.4**
VSR *eSS* **SS** **03 35 27.6 +8.2**
VSR pmax pmax
comp=Z,620nm,0.5s
VSR pmax pmax
comp=Z,3µm,1.5s
VSR smax smax
comp=E,3µm,3.9s
VSR MLR MLR
comp=Z,163µm,20.0s
KMSI Cibinong 73.92 250 P **P** **03 21 10.4 +1.6**
comp=Z,3µm,1.2s,comp=Z,54µmcomp=Z,56µm
IGLA Glengowla, Co 73.95 11 *eP* **P** **03 21 07.4 -1.0**
SHL Shillong 73.98 291 *eP* **P** **03 21 10.5 +1.2**
SHL *eS* **S** **03 30 39.6 +1.7**
HPK Haverah Park 74.11 6 *eP* **P** **03 21 09.4 0.0**
HPK AMB AMB 03 21 11.5
comp=Z,1µm,3.0s
HPK AMS AMS 03 45 34.8
comp=Z,89µm,40.8s
KKM Kota Kinabalu 74.18 259 *eP* **P** **03 21 10.1 -0.4**
comp=Z,766nm,1.0s
KKM LR LR
comp=Z,37µm,22.0s
DSB Dublin 74.44 9 *eP* **P** **03 21 11.5 +0.3**
comp=Z,775nm,1.1s
WPS Cemaes, Angles 74.45 8 *eP* **P** **03 21 10.9 -0.4**
KHON Khomkaen 74.47 277 P **P** **03 21 12.1 +0.1**
comp=Z,2µm,0.9s,comp=Z,13µm
LHO Holmfirth 74.51 6 *eP* **P** **03 21 11.4 -0.4**
WLF1 Llynfaes 74.57 8 *eP* **P** **03 21 11.2 -0.8**
WLF1 AMB AMB 03 21 14.4
comp=Z,1µm,1.7s
WPM1 Penmaenmawr 74.64 7 *eP* **P** **03 21 12.1 -0.4**
BBSR BB Station 74.66 57 *eP* **P** **03 21 12.8 -0.1**
comp=Z,6µm,1.9s
BBSR *eS* **S** **03 30 43.4 -1.5**
BBSR LR LR
comp=Z,73µm,19.0s
LMK Market Rasen 74.69 5 *eP* **P** **03 21 12.4 -0.3**
LMK AMB AMB 03 21 20.9
comp=Z,2µm,1.1s
YLL Llanberis 74.74 8 *eP* **P** **03 21 13.6 +0.6**
LAMP Lampang 74.75 281 P **P** **03 21 13.8 +0.2**
comp=Z,413nm,1.0s,comp=Z,5µm
UTTA Uttaradit 74.78 279 P **P** **03 21 13.8 0.0**
comp=Z,942nm,0.8s,comp=Z,8µm
GKP Gorka Klasztor 74.85 354 *eP* **P** **03 21 13.5 -0.1**
GKP *eS* **S** **03 30 48.0 +1.6**
GKP LMZ LR 03 53 58.6
comp=Z,187µm,22.8s
GKP Gorka Klasztor 74.85 354 *eP* **P** **03 21 13.5 -0.1**
GKP *eS* **S** **03 30 48.0 +1.6**
GKP MLR MLR
comp=Z,187µm,22.8s
YRE Yr Eifl 74.88 8 *eP* **P** **03 21 13.7 -0.2**
SANI Sanana 74.90 246 P **P** **03 21 13.6 -0.9**
comp=Z,812nm,1.1s,comp=Z,26µmcomp=Z,52µm
STNC Stoke 74.94 6 *eP* **P** **03 21 14.5 +0.3**
STNC AMB AMB 03 21 17.2
comp=Z,2µm,1.2s
CMMT Chiang Mai 74.95 281 P **P** **03 21 14.4 -0.4**
comp=Z,2µm,1.3s,comp=Z,51µm
CHTO Chiang Mai 74.95 281 P **P** **03 21 14.5 -0.3**
comp=Z,8µm,1.3s,comp=Z,233µm
CHTO Chiang Mai 74.95 281 *eP* **P** **03 21 14.7 -0.1**
CHTO pmax pmax
comp=Z,4µm,1.6s
CHTO MLR MLR
comp=Z,41µm,20.0s
CHTO Chiang Mai 74.95 281 P **P** **03 21 15.2 +0.4**
SNR=375
CHTO P **P** **03 21 15.2 +0.4**
SNR=375
CHTO Chiang Mai 74.95 281 P **P** **03 21 15.2 +0.4**
SNR=375
CHTO Chiang Mai 74.95 281 *eP* **P** **03 21 14.7 -0.1**
comp=Z,4µm,1.6s
CHTO LR LR
comp=Z,41µm,20.0s
FOEL Foel Wylfa 75.06 7 *eP* **P** **03 21 15.0 +0.1**
FOEL AMB AMB 03 21 22.9
comp=Z,2µm,1.1s
FOEL AMS AMS 03 46 23.6
comp=Z,103µm,41.4s
MRSI Marisa 75.19 251 P **P** **03 21 15.3 -0.8**
comp=Z,924nm,1.2s,comp=Z,24µm
CM31 Chiang Mai Arr 75.22 281 *eP* **P** **03 21 17.0 +0.6**
CMAR Chiang Mai Arr 75.22 281 P **P** **03 21 16.9 +0.5**
comp=Z,317nm,0.7s,baz=26,slow=6.6,SNR=205
CMAR S **S** **03 30 52.8 +1.2**
comp=Z,2.3nm,0.6s,baz=307,slow=5.0,SNR=2.3
CMAR PKPPKP P'P'df 03 48 33.0 -8.9
comp=Z,1.6nm,0.3s,baz=235,slow=3.6,SNR=4.1
CMAR LR LR 03 58 45.3
comp=Z,32µm,18.5s,baz=46,slow=39
CM01 Chiang Mai Arr 75.24 281 *eP* **P** **03 21 16.0 -0.5**
IWEX Carrickbyrne, 75.26 9 *eP* **P** **03 21 15.9 -0.2**
VAL Valentia 75.29 12⇓ *iP* **P** **03 21 15.5 -0.7**
VAL Valentia 75.29 12⇓ *iS* **S** **03 30 53.8 +2.4**
CWF Charnwood Fore 75.35 6 *eP* **P** **03 21 16.3 -0.3**
CWF AMB AMB 03 21 24.3
comp=Z,700nm,1.2s

CWF AMS AMS 03 46 08.3
comp=Z,81µm,42.2s
CWF Charnwood Fore 75.35 6 *eP* **P 03 21 16.6 +0.1**
comp=Z,1µm,1.3s
PBKT Sadao Pong 75.43 278 P **P 03 21 17.5 0.0**
comp=Z,2µm,0.8s,comp=Z,39µm
HLM1 Long Mynd 75.46 7 *eP* **P 03 21 17.1 -0.1**
HLM1 AMB AMB 03 21 19.9
comp=Z,1µm,2.6s
HLM1 AMS AMS 03 46 34.0
comp=Z,98µm,42.9s
GUN Gumba 75.56 297 *eP* **P 03 21 19.2 +0.6**
comp=Z,9µm,0.7s
GUN Gumba 75.56 297 *eP* **P 03 21 19.3 +0.6**
TGUH Tegucigalpa,Un 75.72 85 *eP* **P 03 21 18.8 -0.4**
TGUH Tegucigalpa,Un 75.72 85 *eP* **P 03 21 19.4 +0.3**
comp=Z,4µm,1.5s
LPW Lampeter 75.77 8 *eP* **P 03 21 18.6 -0.3**
LPW AMB AMB 03 21 21.2
comp=Z,694nm,2.9s
RAMN Ramite 75.91 296 *eP* **P 03 21 20.4 -0.1**
RAMN Ramite 75.91 296 *eP* **P 03 21 20.8 +0.3**
comp=Z,5µm,0.6s
LUWI Luwuk 75.93 250 P **P 03 21 19.1 -1.3**
comp=Z,2µm,1.1s,comp=Z,43µmcomp=Z,53µm
LUWI Luwuk 75.93 250 *eP* **P 03 21 19.1 -1.3**
comp=Z,3µm,1.0s
MCH1 Michaelchurch 75.97 7 *eP* **P 03 21 19.9 -0.2**
MCH1 AMB AMB 03 21 23.4
comp=Z,1µm,1.3s
KKN Kakani 75.99 297 *eP* **P 03 21 20.7 -0.2**
KKN Kakani 75.99 297 *eP* **P 03 21 21.2 +0.3**
comp=Z,3µm,0.8s
BEL Belsk 76.01 352 *eP* **P 03 21 20.5 +0.1**
BEL *eS* **S 03 31 03.0 +3.7**
BEL LMZ LR 03 53 37.3
comp=Z,136µm,24.3s
BEL Belsk 76.01 352 *eP* **P 03 21 20.5 +0.1**
BEL *eS* **S 03 31 03.0 +3.7**
SSW Stow on the Wo 76.08 6 *eP* **P 03 21 20.7 -0.1**
PKIN Phulchoki 76.09 297 *eP* **P 03 21 21.9 +0.3**
AKASG Malin Array Be 76.15 346 P **P 03 21 19.9 -1.2**
comp=Z,97nm,0.4s,baz=15,slow=5.8,SNR=356
AKASG PKKPbc **PKKPbc 03 40 33.6 +0.5**
comp=Z,0.8nm,0.4s,baz=186,slow=1.2,SNR=4.8
AKASG PKPPKP P'P'df 03 48 27.6 -15
comp=Z,3.0nm,0.8s,baz=190,slow=0.8,SNR=5.8
AKASG LR LR 03 56 44.2
comp=Z,222µm,21.4s,baz=10.0,slow=37
AKASG Malin Array Be 76.15 346 P **P 03 21 19.9 -1.2**
AKASG pmax pmax
comp=Z,98nm,0.4s
AKASG MLR MLR
comp=Z,222µm,21.4s
AKBB Malin Array Si 76.15 346 *eP* **P 03 21 19.6 -1.5**
AKBB pmax pmax
comp=Z,3µm,1.6s
AKBB Malin Array Si 76.15 346 *eP* **P 03 21 19.6 -1.5**
comp=Z,3µm,1.6s
DZM Mont Dzumac 76.15 201 *eP* **P 03 21 20.5 -0.9**
comp=Z,3µm,1.8s
DZM *eS* **S 03 30 58.0 -3.5**
comp=Z,89µm,38.0s
DZM Mont Dzumac 76.15 201 *eLR* LR 03 44 50.4
comp=Z,617µm,35.3s,baz=16
DZM Mont Dzumac 76.15 201 *eP* **P 03 21 20.6 -0.9**
comp=Z,2µm,1.4s
KIEV Kiev 76.16 346*c iP* **P 03 21 20.7 -0.5**
KIEV MLR MLR
comp=Z,256µm,22.0s
KIEV Kiev 76.16 346 *eP* **P 03 21 19.9 -1.3**
comp=Z,2µm,1.6s
KIEV LR LR
comp=Z,260µm,22.0s
GKN Gorkha 76.18 298 *eP* **P 03 21 21.6 -0.3**
GKN Gorkha 76.18 298 *eP* **P 03 21 21.7 -0.2**
comp=Z,4µm,0.7s
AK11 Malin Array Si 76.18 346 *eP* **P 03 21 19.6 -1.7**
DMN Daman 76.23 297 *eP* **P 03 21 22.5 +0.2**
STRD Stroud 76.25 7 *eP* **P 03 21 21.8 +0.1**
STRD AMB AMB 03 21 30.2
comp=Z,2µm,1.2s
COEN Coen 76.34 225 *eP* **P 03 21 22.0 -0.6**
comp=Z,1µm,1.4s
OLDB Oldbury-Upon-S 76.34 7 *eP* **P 03 21 21.8 -0.3**
OLDB AMB AMB 03 21 24.7
comp=Z,1µm,1.8s
WTSB Winterswijk 76.42 1 *eP* **P 03 21 22.8 +0.1**
comp=Z,601nm,1.2s
SWN1 Swindon 76.54 6 *eP* **P 03 21 22.8 -0.5**
BATH Bath 76.57 7 *eP* **P 03 21 22.9 -0.6**
BATH AMB AMB 03 21 26.0
comp=Z,1µm,2.8s
WOL Wolverton 76.78 6 *eP* **P 03 21 24.6 0.0**
WOL AMB AMB 03 21 27.4
comp=Z,2µm,1.2s
HTL Hartland 76.84 8 *eP* **P 03 21 23.5 -1.5**
HTL AMS AMS 03 47 16.1
comp=Z,62µm,44.8s
JOSI Joshimath 76.87 303 *eP* **P 03 21 26.3 +0.4**
SAUI Saumlaki 76.92 238 P **P 03 21 29.9 +4.0**
SAUI Saumlaki 76.92 238 *eP* **P 03 21 29.3 +3.4**
comp=Z,7µm,1.2s
KOLN Koldanda 76.92 298 *eP* **P 03 21 26.2 0.0**
KOLN Koldanda 76.92 298 *eP* **P 03 21 26.4 +0.2**
comp=Z,2µm,0.7s
PYUN Piuthan 77.00 299 *eP* **P 03 21 26.1 -0.5**
PYUN Piuthan 77.00 299 *eP* **P 03 21 26.7 +0.1**
comp=Z,4µm,0.9s
CLL Collm 77.01 357⇑ *iP* **P 03 21 25.7 -0.3**
comp=Z,809nm,0.9s
CLL *ePlp* 03 21 27.0
comp=Z,30µm,16.6s
CLL *i* 03 21 33.8
CLL *ePmax* 03 21 41.0
CLL *i* 03 21 44.1
comp=Z,3µm,1.8s
CLL *ePP* PP 03 24 06.0 -13
CLL *ePPP* PPP 03 26 12.0
CLL *eSlp* **S 03 31 11.0 +0.8**
comp=Z,20µm,18.0s
CLL *eS* **S 03 31 11.0 +0.8**
CLL *eSlp* 03 31 14.0
comp=N,26µm,19.5s
CLL *eSlp* 03 31 14.0
comp=E,14µm,14.4s
CLL *esS* **ScS 03 31 38.0 -0.6**
CLL *ePS* **PnS 03 31 51.0 -2.8**
CLL *eSS* **SS 03 36 12.0 +5.6**
CLL *ePKKPdf* PKKPbc 03 40 40.0 +8.7
CLL Lmax 03 46 00.0
CLL L L 04 00 00.0
comp=Z,70µm,20.0s
CLL Collm 77.01 357⇑ *iP* **P 03 21 25.7 -0.3**
CLL *eS* **S 03 31 11.0 +0.8**
CLL pmax pmax
comp=Z,809nm,0.9s
CLL MLR MLR
comp=Z,70µm,20.0s
CLL Collm 77.01 357 *eP* **P 03 21 25.9 -0.1**
comp=Z,956nm,1.0s
ESTN Estel 77.01 85 *eP* **P 03 21 24.9 -1.8**
ELSH Elham, Standar 77.07 5 *eP* **P 03 21 26.2 -0.2**
ELSH AMS AMS 03 46 57.7
comp=Z,56µm,45.6s
CNGN Cerro Negro 77.27 86 *eP* **P 03 21 26.2 -1.9**
HMNX Herstmonceux 77.31 5 *eP* **P 03 21 26.9 -0.8**
HMNX AMB AMB 03 21 36.2
comp=Z,1µm,1.1s
HMNX AMS AMS 03 57 46.4
comp=Z,88µm,21.4s
THN Thein Dam 77.32 307 *eP* **P 03 21 28.0 0.0**
THN *eS* **S 03 31 12.8 -1.4**
KSP Ksiaz 77.32 355 *eP* **P 03 21 27.8 0.0**
KSP *eS* **S 03 31 13.8 +0.1**
KSP LMZ LR 03 55 00.1
comp=Z,119µm,22.6s
KSP Ksiaz 77.32 355 *eP* **P 03 21 27.8 0.0**
KSP *eS* **S 03 31 13.8 +0.1**
KSP MLR MLR
comp=Z,119µm,22.6s
PTH Pithoragarh 77.33 302 *eP* **P 03 21 28.5 +0.1**
PTH *ex* x 03 24 33.5
LGTI Lohaghat 77.39 302 *eP* **P 03 21 29.7 +1.2**
BRG Berggiesshubel 77.41 356⇑ *iP* **P 03 21 28.4 +0.2**
comp=Z,1µm,0.9s
BRG *i* 03 21 36.2
comp=Z,1µm,1.0s
BRG *i* pP **sP 03 21 46.0 -2.1**
comp=Z,2µm,1.5s
BRG PP PP 03 24 14.0 -8.3
BRG S **S 03 31 19.0 +4.4**
BRG SS **SS 03 36 17.0 +4.6**
BRG *e*PKPPKP P'P'df 03 48 28.7 -12
comp=Z,311nm,2.7s
comp=N,86µm,19.1s
comp=E,83µm,19.0s
comp=Z,91µm,20.5s
BRG Berggiesshubel 77.41 356⇑ *iP* **P 03 21 28.4 +0.2**
BRG *i* 03 21 36.2
BRG *i* *PP **sP 03 21 46.0 -2.1**
BRG S **S 03 31 19.0 +4.4**
BRG SS **SS 03 36 17.0 +4.6**
BRG pmax pmax
comp=Z,1µm,0.9s
DYA Yadsworthy 77.44 8 *eP* **P 03 21 28.0 -0.4**
DYA AMB AMB 03 21 36.6
comp=Z,989nm,1.1s
DYA AMS AMS 03 47 30.7
comp=Z,110µm,43.6s
DYA Yadsworthy 77.44 8 *eP* **P 03 21 28.8 +0.3**
comp=Z,1µm,1.0s
TBI Tubuai 77.52 159 *eP* **P 03 21 28.7 -0.3**
comp=Z,2µm,1.3s
TBI *eS* **S 03 31 14.8 -1.4**
comp=Z,65µm,33.5s
TBI Tubuai 77.52 159 *eLR* LR 03 45 00.1
comp=Z,473µm,35.2s,baz=342
TBI Tubuai 77.52 159 *eP'P'df* P'P'df 03 48 36.2 +5.2
comp=Z,188nm,1.2s
TBI Tubuai 77.52 159 *eT* T 04 46 43.3
comp=Z,413nm,0.2s
PCI Palu 77.53 252 P **P 03 21 28.0 -1.4**
comp=Z,1µm,1.2s,comp=Z,24µmcomp=Z,60µm
UCC Uccle 77.55 2 P **P 03 21 29.3 +0.3**
CCA1 Carnmenellis 77.57 9 *eP* **P 03 21 28.8 -0.4**
CCA1 AMB AMB 03 21 37.5
comp=Z,804nm,1.3s
CCA1 AMS AMS 03 55 23.0
comp=Z,137µm,20.9s
BEBN Eben Emael 77.58 2 P **P 03 21 29.2 +0.1**
comp=Z,349nm,1.2s
HGN Heimansgroeve 77.61 1 *eP* **P 03 21 29.4 +0.1**
HGN *ePP* PP 03 24 14.9 -9.1
HGN *eS* **S 03 31 18.2 +1.4**
HGN *eSS* **SS 03 36 26.1 +11**
SMLA Simla 77.64 305 *eP* **P 03 21 30.6 +0.7**
UPC Upice 77.67 355⇑ *iP* **P 03 21 29.7 0.0**
UPC *epP* **sP 03 21 46.9 -2.7**
UPC *eS* **S 03 31 21.3 +3.8**
UPC AMS AMS 03 59 30.0
comp=Z,164µm,19.9s
UPC Upice 77.67 355⇑ *iP* **P 03 21 29.7 0.0**
UPC *e**PP **sP 03 21 46.9 -2.7**
UPC *eS* **S 03 31 21.3 +3.8**
UPC MLR MLR
comp=Z,164µm,19.9s
LVV L'vov 77.69 350⇓ *iP* **P 03 21 29.8 0.0**
LVV *i* S **S 03 31 17.0 -0.7**
LVV smax smax
comp=N,10µm,11.0s
OJC Ojcow 77.70 352 *eP* **P 03 21 29.8 -0.1**
OJC *eS* **S 03 31 17.8 -0.1**
OJC LMZ LR 03 54 52.0
comp=N,107µm,25.0s
OJC Ojcow 77.70 352 *eP* **P 03 21 29.8 -0.1**
OJC *eS* **S 03 31 17.7 -0.1**
OJC Ojcow 77.70 352 *eP* **P 03 21 29.2 -0.7**
comp=N,918nm,1.0s
PVCC Panska Ves 77.72 356⇑ *iP* **P 03 21 30.2 +0.2**
PVCC *ePCP* **PcP 03 21 37.6 -2.3**
PVCC *epP* **sP 03 21 47.2 -2.7**
PVCC *eS* **S 03 31 20.8 +2.7**
PVCC AMS AMS 04 00 10.0
comp=N,134µm,20.1s
PVCC Panska Ves 77.72 356⇑ *iP* **P 03 21 30.2 +0.2**
PVCC *e* 03 21 37.6
PVCC *e**PP **sP 03 21 47.2 -2.7**
PVCC *eS* **S 03 31 20.8 +2.7**
PVCC MLR MLR
comp=Z,134µm,20.1s
MEM Membach 77.77 1 P **P 03 21 30.4 +0.1**
comp=Z,760nm,1.2s
BHK Bhakra 77.79 306 *eP* **P 03 21 31.2 +0.5**
BHK *ex* x 03 21 48.8
DPC Dobruska-Polom 77.81 355⇑ *iP* **P 03 21 30.9 +0.3**
DPC *epP* **sP 03 21 49.0 -1.5**
DPC *eS* **S 03 31 22.2 +3.1**
DPC *e*PKPPKP **P'P'df 03 48 34.2 -5.7**
DPC AMS AMS 04 02 00.0
comp=Z,133µm,18.6s
DPC Dobruska-Polom 77.81 355⇑ *iP* **P 03 21 30.9 +0.3**
DPC *e**PP **sP 03 21 49.0 -1.5**
DPC *eS* **S 03 31 22.2 +3.1**
DPC MLR MLR
comp=Z,133µm,18.6s
MGAN Managua 77.82 86 *eP* P 03 21 23.9 -7.2
DDI Dehra Dun 77.83 304 *eP* **P 03 21 30.4 -0.7**
BOAB BOACO BROADBAN 77.95 85 *eP* **P 03 21 29.5 -2.3**
BCLA Clavier 77.95 2 P **P 03 21 31.4 +0.1**
comp=Z,845nm,1.8s
RAC Raciborz 77.96 353 *eP* **P 03 21 31.8 +0.5**
RAC *eS* **S 03 31 21.4 +0.8**
RAC MLR MLR
comp=Z,205µm,18.9s
MASN Masaya 78.00 86 *eP* **P 03 21 31.9 -0.2**
KWP Kalwaria Pacla 78.01 350 *eP* **P 03 21 31.7 0.0**
KWP *eS* **S 03 31 19.9 -1.3**
KWP LMZ LR 03 52 40.3
comp=Z,157µm,27.9s
KWP Kalwaria Pacla 78.01 350⇓ *iP* **P 03 21 32.6 +0.9**
KWP Kalwaria Pacla 78.01 350 *eP* **P 03 21 31.7 0.0**
KWP *eS* **S 03 31 19.9 -1.3**
NKC Novy Kostel 78.10 357⇑ *iP* **P 03 21 32.5 +0.4**
NKC *ex* x 03 21 37.7
NKC *epP* **sP 03 21 49.7 -2.3**
NKC *eS* **S 03 31 24.2 +2.0**
NKC *ex* x 03 48 15.6
NKC *e*PKPPKP **P'P'df 03 48 33.7 -5.7**
NKC AMS AMS 03 59 30.0
comp=Z,96µm,18.6s
NKC Novy Kostel 78.10 357⇑ *iP* **P 03 21 32.5 +0.4**
NKC *e* 03 21 37.7
NKC *e**PP **sP 03 21 49.7 -2.3**
NKC *eS* **S 03 31 24.2 +2.0**
NKC MLR MLR
comp=Z,96µm,18.6s
OKC Ostrava-Krasne 78.20 353⇑ *iP* **P 03 21 32.8 +0.1**
OKC *epP* **sP 03 21 50.6 -2.0**
OKC *eSKS* **SKSac 03 31 40.3 -2.3**
OKC AMS AMS 03 59 20.0
comp=Z,131µm,18.2s
OKC Ostrava-Krasne 78.20 353⇑ *iP* **P 03 21 32.8 +0.1**
OKC *e**PP **sP 03 21 50.6 -2.0**
OKC *e* 03 31 40.3
OKC MLR MLR
comp=Z,131µm,18.2s
KHLT Khaolaem Dam 78.25 279 P **P 03 21 34.6 +1.2**
comp=Z,484nm,1.6s,comp=Z,16µm
DOU Dourbes 78.25 2 P **P 03 21 33.0 +0.1**
comp=Z,715nm,1.9s
PRU Pruhonice 78.26 356⇑ *iP* **P 03 21 33.2 +0.2**
PRU *ex* x 03 21 38.4
PRU *epP* **sP 03 21 50.9 -2.0**
PRU *eS* **S 03 31 24.0 +0.1**
PRU *eSKS* **SKSac 03 31 42.2 -0.8**
PRU *e*PKPPKP **P'P'df 03 48 35.1 -3.9**
PRU AMS AMS 04 00 40.0
comp=Z,150µm,19.6s
PRU Pruhonice 78.26 356⇑ *iP* **P 03 21 33.2 +0.2**
PRU *e* 03 21 38.4
PRU *e**PP **sP 03 21 50.9 -2.0**
PRU *eS* **S 03 31 24.0 +0.1**
PRU *e* 03 31 42.2
PRU MLR MLR
comp=Z,150µm,19.6s
SRDT SRDT 78.27 278 P **P 03 21 33.8 +0.3**
comp=Z,5µm,1.1s,comp=Z,117µm
MORC Moravsky Berou 78.31 354⇓ *iP* **P 03 21 34.6 +1.3**
MORC Moravsky Berou 78.31 354 *eP* **P 03 21 33.4 0.0**
MORC pmax pmax
comp=Z,10µm,1.8s
MORC Moravsky Berou 78.31 354 *eP* **P 03 21 33.4 0.0**
comp=Z,14µm,1.8s
GOPC GO Pecny, Ondr 78.33 356⇑ *iP* **P 03 21 33.6 +0.2**
GOPC *epP* **sP 03 21 51.4 -1.9**
GOPC *eS* **S 03 31 26.0 +1.4**
GOPC *eSKS* **SKSac 03 31 42.0 -1.6**
GOPC *e*PKPPKP **P'P'df 03 48 38.2 -0.7**
GOPC AMS AMS 04 00 50.0
comp=Z,164µm,20.1s
GOPC GO Pecny, Ondr 78.33 356⇑ *iP* **P 03 21 33.6 +0.2**
GOPC *e**PP **sP 03 21 51.4 -1.9**
GOPC *eS* **S 03 31 26.0 +1.4**
GOPC *e* 03 31 42.0
GOPC MLR MLR
comp=Z,164µm,20.1s
STHS Stebnicka Huta 78.37 351 *eP* **P 03 21 34.7 +1.0**
STHS pmax pmax
comp=Z,699nm,0.8s
STHS Stebnicka Huta 78.37 351 *eP* **P 03 21 34.7 +1.0**
STHS *e* 03 48 16.7
STHS *e* 04 08 35.9
KDI Kendari 78.38 248 P **P 03 21 34.7 +0.6**
comp=Z,656nm,1.5s,comp=Z,21µm
MTDJ Mount Denham 78.44 75 *eP* **P 03 21 33.5 -1.2**
MTDJ Mount Denham 78.44 75 *eP* **P 03 21 35.2 +0.6**
comp=Z,2µm,1.4s
MTDJ LR LR
comp=Z,46µm,19.0s
NIE Niedzica 78.45 352 *eP* **P 03 21 34.3 +0.2**
NIE *eS* **S 03 31 28.1 +2.1**
NIE LMZ LR 03 55 30.9
comp=Z,90µm,25.1s
NIE Niedzica 78.45 352 *eP* **P 03 21 34.3 +0.2**
NIE *eS* **S 03 31 28.1 +2.1**
NIE MLR MLR
comp=Z,90µm,25.1s
BBJ Bamboo Saint A 78.48 75 *i P* **P 03 21 35.4 +0.6**
GTBY Guantanamo Bay 78.57 72 *eP* **P 03 21 33.3 -1.8**
GTBY Guantanamo Bay 78.57 72 *eP* **P 03 21 36.4 +1.3**
comp=Z,855nm,0.9s
GTBY LR LR
comp=Z,122µm,19.0s
MCJ Malvern 78.58 76⇑ *iP* **P 03 21 36.6 +1.3**
GRFO Grafenberg 78.67 358 *eP* **P 03 21 35.8 +0.5**
GRFO pmax pmax
comp=Z,2µm,1.1s
GRFO Grafenberg 78.67 358 *eP* **P 03 21 35.8 +0.5**
comp=Z,2µm,1.1s
WLF Walferdange 78.72 1 P **P 03 21 36.2 +0.6**
WLF Walferdange 78.72 1 *eP* **P 03 21 35.9 +0.4**
WLF pmax pmax
comp=Z,2µm,1.4s
WLF MLR MLR
comp=Z,161µm,19.0s
WLF Walferdange 78.72 1 *eP* **P 03 21 35.9 +0.4**
comp=Z,2µm,1.4s
WLF LR LR
comp=Z,161µm,19.0s
KOLS Kolonicke sedl 78.75 351 *eP* **P 03 21 35.8 +0.1**
KOLS pmax pmax
comp=Z,497nm,0.8s
KOLS Kolonicke sedl 78.75 351 *eP* **P 03 21 35.8 +0.1**
KOLS *eS* **S 03 31 32.7 +3.6**
KOLS *e* 03 48 17.4
KOLS *eL* L 03 48 50.8
KOLS *e* 04 08 36.7
KKR Kurukshetra 78.76 305 *eP* **P 03 21 36.3 +0.2**
KBL Kabul 78.76 313 *eP* **P 03 21 35.3 -1.0**
KBL pmax pmax
comp=Z,3µm,0.9s
KBL Kabul 78.76 313 *eP* **P 03 21 35.3 -1.0**
comp=Z,3µm,0.9s
GOF Gofitskoye 78.78 336⇑ *iP* **P 03 21 36.2 +0.3**
GOF *eS* **S 03 31 32.0 +2.5**
GOF pmax pmax
comp=Z,6µm,0.9s
GOF smax smax
comp=E,1µm,1.4s
BOK Bokaro 78.78 294 *eP* **P 03 21 35.7 -0.6**
SORM Soroca 78.78 346⇑ *iP* **P 03 21 36.2 +0.3**
LANS Liptovska Anna 78.79 352 *eP* **P 03 21 37.0 +1.0**
LANS *eS* **S 03 31 30.9 +1.3**
LANS Liptovska Anna 78.79 352 *eP* **P 03 21 36.9 +1.0**
LANS *eS* **S 03 31 30.9 +1.3**
LANS *e* 04 08 35.7
JQE Queens East 78.82 7 *eP* **P 03 21 35.8 -0.3**
JSA Saint Aubin 78.82 7 *eP* **P 03 21 35.9 -0.2**
JSA AMB AMB 03 21 43.8
comp=Z,1µm,1.2s
JSA AMS AMS 03 48 09.0
comp=Z,80µm,38.3s
JRS Jersey 78.83 7 *eP* **P 03 21 35.6 -0.5**
VRAC Vranov 78.83 354⇓ *iP* **P 03 21 37.4 +1.2**
CRVS Cervenica-Dubn 78.86 351 *eP* **P 03 21 36.5 +0.1**
CRVS *eS* **S 03 31 29.7 -0.6**
CRVS Cervenica-Dubn 78.86 351 *eP* **P 03 21 36.4 +0.1**
CRVS *eS* **S 03 31 29.7 -0.6**
CRVS *e* 03 48 09.9
CRVS *e* 04 08 30.2
TREC Trest 78.91 355⇑ *iP* **P 03 21 36.6 0.0**
TREC *epP* **sP 03 21 54.5 -2.0**
TREC *ex* x 03 48 20.6
TREC *e*PKPPKP **P'P'df 03 48 38.1 +0.2**
TREC AMS AMS 04 00 10.0
comp=Z,160µm,19.2s
TREC Trest 78.91 355⇑ *iP* **P 03 21 36.6 0.0**
TREC *e**PP **sP 03 21 54.5 -2.0**
TREC MLR MLR
comp=Z,160µm,19.2s
ESPN Las Esperanzas 78.98 84 *eP* **P 03 21 34.7 -2.8**
STH Stony Hill 78.99 75 *i P* **P 03 21 37.2 -0.3**
GWJ Greenwich 79.04 75 *i P* **P 03 21 39.1 +1.2**
UZH Uzhgorod 79.04 351 *eP* **P 03 21 34.0 -3.3**
UZH *e**PP **pP 03 21 52.7 +1.1**
UZH *eS* S 03 31 23.0 -9.2
UZH *ePS* **SKSac 03 31 52.5 +3.9**
UZH *i* 03 32 24.0
UZH MLR MLR
comp=N,224µm,20.0s
UZH MLR MLR
comp=E,46µm,20.0s
UZH MLR MLR
comp=Z,217µm,20.0s
PHET Kaeng Krachan 79.06 277 P **P 03 21 38.6 +0.7**
comp=Z,526nm,0.9s,comp=Z,4µm
HOJ Hope 79.08 75 *i P* **P 03 21 39.2 +1.2**
KHC Kasperske Hory 79.16 356⇑ *iP* **P 03 21 38.5 +0.5**
KHC *ePCP* **PcP 03 21 43.9 -2.4**
KHC *epP* **pP 03 21 54.9 +2.5**
KHC *eS* **S 03 31 37.4 +3.8**
KHC *eSKKS* **SKKSac 03 31 53.1 +2.1**
KHC *ex* x 03 48 12.8
KHC *e*PKPPKP **P'P'df 03 48 30.9 -6.5**
KHC AMS AMS 04 01 40.0
comp=Z,126µm,18.9s
KHC Kasperske Hory 79.16 356⇑ *iP* **P 03 21 38.5 +0.5**
KHC *e* 03 21 43.9
KHC *e**PP **pP 03 21 54.9 +2.5**
KHC *eS* **S 03 31 37.4 +3.8**
KHC *e* 03 31 53.1
KHC MLR MLR
comp=Z,126µm,18.9s
KHC Kasperske Hory 79.16 356 *eP* **P 03 21 38.1 +0.1**
comp=Z,620nm,1.1s
TTSI Tana Toraja 79.26 251 P **P 03 21 38.3 -0.7**
comp=Z,1µm,2.1s,comp=Z,23µmcomp=Z,48µm
KECS Kecovo 79.36 352 *eP* **P 03 21 39.4 +0.3**
KECS *e* 03 21 57.1
KECS *eS* **S 03 31 37.7 +2.0**
KECS pmax pmax
comp=Z,308nm,1.0s
KECS Kecovo 79.36 352 *eP* **P 03 21 39.4 +0.3**
KECS *e* 03 21 57.1
KECS *eS* **S 03 31 37.7 +2.0**
KECS *e* 03 48 21.2
KECS *e* 04 08 37.0
LANF Langenberg 79.42 0 *eP* **P 03 21 40.0 +0.6**
SBUM Sibu 79.44 260 *eP* **P 03 21 40.0 +0.1**
comp=Z,1µm,1.5s
GEC2 GERESS Array S 79.44 356 *eP* **P 03 21 39.7 0.0**

GEC2 pmax pmax
comp=Z,4µm,1.8s
GEC2 GERESS Array S 79.44 356 *e*P **P** **03 21 39.7 0.0**
comp=Z,4µm,1.8s
GERES GERESS Array B 79.44 356 P **P** **03 21 39.6 0.0**
comp=Z,477nm,0.8s,baz=14,slow=2.8,SNR=733
GERES PKKPbc **PKKPbc** **03 40 27.8 +1.6**
comp=Z,4.8nm,0.9s,baz=174,slow=4.0,SNR=7.1
GERES PKPPKP P'P'df 03 48 20.1 -17
comp=Z,5.2nm,1.0s,baz=163,slow=1.4,SNR=9.7
GERES GERESS Array B 79.44 356 P **P** **03 21 39.6 0.0**
GERES pmax pmax
comp=Z,476nm,0.8s
GEA0 GERESS Array S 79.45 356 *e*P **P** **03 21 38.8 -0.9**
VYHS Vyhne 79.49 353 *e*P **P** **03 21 40.3 +0.5**
VYHS *e* 03 21 54.9
VYHS *e*S **S** **03 31 39.3 +2.2**
VYHS pmax pmax
comp=Z,348nm,1.0s
VYHS MLR MLR
comp=Z,80µm,23.7s
VYHS Vyhne 79.49 353 *e*P **P** **03 21 40.3 +0.5**
VYHS *e* 03 21 54.9
VYHS *e*S **S** **03 31 39.3 +2.2**
VYHS *e* 03 48 14.2
VYHS *e* 03 51 40.9
VYHS *e*L L 03 56 39.6
VYHS *e* 04 08 40.6
TRPA Tarpa 79.51 350⇑ *e*P **P** **03 21 41.1 +1.2**
SMOL Smolenice 79.57 354 *e*P **P** **03 21 41.8 +1.6**
SMOL *e*S **S** **03 31 40.9 +3.0**
SMOL Smolenice 79.57 354 *e*P **P** **03 21 41.8 +1.6**
SMOL *e*S **S** **03 31 40.9 +3.0**
NDI New Delhi 79.58 303 *e*P P 03 21 32.5 -8.1
NDI *e*S S 03 31 28.5 -10
STU Stuttgart 79.62 359 *e*P **P** **03 21 40.8 +0.3**
STU pmax pmax
comp=Z,901nm,0.9s
STU Stuttgart 79.62 359 *e*P **P** **03 21 40.8 +0.3**
comp=Z,901nm,0.9s
GRTK Grand Turk 79.65 68 *e*P **P** **03 21 39.9 -1.1**
GRTK Grand Turk 79.65 68 *e*P **P** **03 21 42.5 +1.5**
comp=Z,2µm,1.3s
GRTK LR LR
comp=Z,113µm,19.0s
BUR08 Bucovina Ar. S 79.69 348 *e*P **P** **03 21 40.7 -0.3**
BURAR Bucovina Array 79.72 348⇑ *i*P **P** **03 21 42.1 +0.9**
BURAR Bucovina Array 79.72 348⇑ *i*P **PKKPbc** **03 40 18.6 -7.0**
BHGR Bahadurgarh 79.72 304 *e*P **P** **03 21 42.1 +0.7**
GROC Groznyy 79.76 333 *e*P **P** **03 21 41.0 -0.3**
GROC *e* 03 21 48.7
GROC *e*S **S** **03 31 40.8 +0.8**
GROC pmax pmax
comp=Z,745nm,1.1s
IAS Iasi 79.82 347⇑ *i*P **P** **03 21 41.8 +0.3**
KIS Kishinev 79.82 346⇑ *i*P **P** **03 21 40.0 -1.6**
comp=Z,5µm,3.0s
KIS Kishinev 79.82 346 *i* PcP PcP 03 21 59.0 +10
KIS Kishinev 79.82 346 *i* PP PP 03 24 34.0 -8.5
comp=Z,30µm,12.0s
KIS Kishinev 79.82 346⇑ *i*P **P** **03 21 40.0 -1.6**
KIS *i* 03 21 59.0
KIS *i* S S 03 31 50.0 +9.5
KIS *i* 03 32 22.0
KIS *i* PS PnS 03 32 56.0 +27
KIS pmax pmax
comp=Z,5µm,3.0s
KIS pmax pmax
comp=E,200nm,1.0s
KIS pmax pmax
comp=Z,25µm,14.0s
KIS pmax pmax
comp=N,15µm,15.0s
KIS pmax pmax
comp=E,4µm,10.0s
KIS MLR MLR
comp=Z,230µm,20.0s
KIS MLR MLR
comp=N,189µm,21.0s
KIS MLR MLR
comp=E,50µm,18.0s
BMR Baia Mare 79.86 350⇑ *i*P **P** **03 21 42.8 +1.0**
KIV Kislovodsk 79.90 335 *i*P **P** **03 21 42.3 +0.1**
SNR=488
KIV Kislovodsk 79.90 335*c* *i*P **P** **03 21 43.4 +1.2**
KIV *i* 03 21 49.3
KIV *i* S **S** **03 31 43.8 +2.1**
KIV pmax pmax
comp=Z,2µm,1.0s
KIV pmax pmax
comp=Z,15µm,3.1s
KIV MLR MLR
comp=Z,127µm,21.0s
KIV Kislovodsk 79.90 335 P **P** **03 21 42.8 +0.6**
SNR=277
KIV Kislovodsk 79.90 335 *e*P **P** **03 21 42.6 +0.4**
comp=Z,2µm,0.8s
KIV LR LR
comp=Z,119µm,20.0s
PSZ Piszkesteto 79.98 352⇑ *i*P **P** **03 21 44.4 +1.9**
PSZ Piszkesteto 79.98 352⇑ *e*P **P** **03 21 43.1 +0.6**
PSZ Piszkesteto 79.98 352 *e*P **P** **03 21 42.7 +0.2**
PSZ pmax pmax
comp=Z,4µm,1.7s
PSZ MLR MLR
comp=Z,114µm,20.0s
PSZ Piszkesteto 79.98 352 *e*P **P** **03 21 42.7 +0.2**
comp=Z,4µm,1.7s
PSZ LR LR
comp=Z,114µm,20.0s
SONA Sohna 80.00 303 *e*P **P** **03 21 42.8 -0.1**
KBZ Khabaz 80.05 335 P **P** **03 21 43.5 +0.6**
comp=Z,1µm,0.8s,baz=36,slow=2.9,SNR=412
KBZ PKKPbc **PKKPbc** **03 40 25.5 +0.9**
comp=Z,6.5nm,0.9s,baz=141,slow=5.6,SNR=3.6
KBZ PKPPKP P'P'df 03 48 20.7 -15
comp=Z,4.8nm,0.8s,baz=219,slow=1.1,SNR=5.4
KBZ LR LR 04 01 07.3
comp=Z,130µm,21.5s,baz=2.0,slow=39
BFO Black Forest 80.07 360 *i*P **P** **03 21 43.0 +0.1**
BFO Black Forest 80.07 360 *e*P **P** **03 21 42.2 -0.7**
comp=Z,784nm,1.0s
BFO LR LR
comp=Z,56µm,22.0s
NCK Nalchik 80.09 335*c* *i*P **P** **03 21 45.5 +2.4**
NCK pmax pmax
comp=Z,4µm,0.8s
NCK MLR MLR
comp=Z,140µm,21.0s
ECH Echery 80.18 1 *e*P **P** **03 21 44.1 +0.6**
CONA Conrad Observa 80.25 355 *i*P **P** **03 21 44.6 +0.5**
comp=Z,516nm,0.7s,SNR=669
CONA *i* SKSac **SKSac** **03 31 52.0 -5.4**
comp=Z,31nm,1.5s
JCR Jicaral 80.30 86 *e*P **P** **03 21 44.5 -0.2**
ASHT Ashkhabad 80.32 322 P **P** **03 21 46.6 +2.1**
ASHT pmax pmax
comp=Z,2µm,1.1s
ARCR ARCALIA 80.34 349⇓ *i*P **P** **03 21 45.9 +1.5**
ANN Anapa 80.35 339 *i*P **P** **03 21 43.9 -0.5**
ANN *e**PP **pP** **03 21 58.2 -0.6**
ANN *e* 03 24 46.8
ANN *e*S **S** **03 31 45.7 -0.4**
ANN pmax pmax
comp=E,98nm,0.6s
ANN pmax pmax
comp=Z,979nm,0.7s
ANN pmax pmax
comp=N,65nm,0.6s
ANN pmax pmax
comp=N,25µm,12.9s
ANN pmax pmax
comp=Z,57µm,12.9s
ANN pmax pmax
comp=E,5µm,6.5s
ANN smax smax
comp=E,12µm,7.2s
ANN smax smax
comp=N,40µm,14.5s
ANN smax smax
comp=Z,18µm,14.4s
MOA Molln 80.41 356 *i*P **P** **03 21 45.0 +0.2**
comp=Z,170nm,0.8s,SNR=244
LEOM Leova 80.42 346⇑ *i*P **P** **03 21 45.8 +1.0**
GEYT Alibeck 80.43 322 P **P** **03 21 45.4 +0.3**
comp=Z,663nm,0.8s,baz=343,slow=3.1,SNR=270
GEYT PP **PP** **03 24 50.2 +2.3**
comp=Z,143nm,0.8s,baz=349,slow=3.0,SNR=4.1
GEYT LR LR 04 01 35.2
comp=Z,180µm,18.2s,baz=25,slow=39
SOP Sopron 80.46 354⇓ *e*P **P** **03 21 46.7 +1.7**
BUD Budapest 80.48 353⇓ *e*P **P** **03 21 46.3 +1.2**
MTKI Muara Teweh, K 80.50 256 P **P** **03 21 46.0 +0.3**
comp=Z,1µm,2.0s,comp=Z,35µm
MOF Molkenrain 80.54 1 *e*P **P** **03 21 45.8 +0.2**
CTAO Charters Tower 80.55 220 *e*P **P** **03 21 45.2 -0.5**
CTAO pmax pmax
comp=Z,1µm,1.2s
CTAO MLR MLR
comp=Z,50µm,22.0s
CTAO Charters Tower 80.55 220 *e*P **P** **03 21 45.2 -0.5**
comp=Z,1µm,1.2s
CTAO LR LR
comp=Z,50µm,22.0s
NEY Neytrino 80.55 335*c* *i*P **P** **03 21 47.6 +1.8**
NEY pmax pmax
comp=Z,128nm,0.8s
NEY MLR MLR
comp=Z,128µm,20.0s
CGA2 Cerro Gallo 2 80.57 86 *e*P **P** **03 21 46.6 +0.3**
TESR Tescani 80.61 347⇓ *i*P **P** **03 21 46.3 +0.4**
TESR Tescani 80.61 347⇑ *i*P **PKKPbc** **03 40 25.0 +1.6**
ZEI Tsey 80.67 334 *e*P **P** **03 21 46.3 -0.2**
ZEI *e* 03 24 51.5
ZEI *e*S **S** **03 31 51.8 +1.8**
ZEI pmax pmax
comp=Z,3µm,0.6s
ZEI pmax pmax
comp=N,4µm,0.7s
CJR Cluj-Napoca 80.80 349⇓ *i*P **P** **03 21 47.8 +0.9**
KHET Khetri 80.80 304 *e*P **P** **03 21 47.6 +0.4**
DRGR 80.82 350⇑ *i*P **P** **03 21 47.9 +0.8**
DRGR 80.82 350⇑ *i*P **PKKPbc** **03 40 26.0 +2.9**
RETA Reutte 80.89 358 *i*P **P** **03 21 47.0 -0.4**
comp=N,268nm,0.8s,SNR=355
KAPI Kappang 80.89 250 *e*P **P** **03 21 47.5 -0.2**
comp=N,4µm,1.9s
KAPI LR LR
comp=Z,12µm,19.0s
SIM Simferopol' 80.89 342*c* *i*P **P** **03 21 48.0 +0.6**
SIM *e**PP **sP** **03 22 06.0 -1.3**
SIM *e*S **S** **03 31 54.0 +2.2**
SIM pmax pmax
comp=Z,51µm,15.0s
ARSA Arzberg 80.95 355 *i* P **P** **03 21 48.3 +0.6**
comp=Z,388nm,0.8s,SNR=238
ONI Oni 80.97 334 P **P** **03 21 48.5 +0.6**
ONI Oni 80.97 334 P **P** **03 21 48.5 +0.6**
SOC Sochi 80.98 337*c* *i*P **P** **03 21 48.0 +0.1**
SOC *e**SP **sP** **03 22 07.4 -0.4**
SOC *e* 03 24 54.2
SOC *e*PPP PPP 03 26 43.5
SOC *i* S **S** **03 31 54.4 +1.6**
SOC *e*SSS SSS 03 40 24.3
SOC pmax pmax
comp=Z,1µm,0.9s
WATA Walderalm 81.02 358 *i* P **P** **03 21 48.7 +0.5**
comp=Z,382nm,0.8s,SNR=184
MOTA Moosalm 81.02 358 *i* P **P** **03 21 48.6 +0.3**
comp=Z,416nm,0.8s,SNR=736
LOMF Lomont 81.04 1 *e*P **P** **03 21 49.1 +0.9**
RAO Raoul Island 81.06 185 PFAKE 03 22 00.0 +12
RAO LR LR
comp=Z,58µm,21.0s
WTTA Wattenberg 81.09 358 *i* P **P** **03 21 49.3 +0.6**
comp=Z,301nm,0.7s,SNR=250
DUS Dusheti 81.09 333 P **P** **03 21 51.4 +2.8**
DUS Dusheti 81.09 333 P **P** **03 21 51.4 +2.8**
DAVA Damuels 81.10 359 *i* P **P** **03 21 49.0 +0.3**
comp=Z,297nm,0.8s,SNR=283
MTN Manton Dam 81.11 236 *e*P **P** **03 21 48.2 -0.6**
comp=Z,2µm,1.1s
URSC Urasca 81.13 85 *e*P **P** **03 21 47.8 -1.6**
LGNH LØogne 81.14 71 *e*P **P** **03 21 50.0 +0.9**
comp=Z,1µm,1.4s
QCR Quepos 81.21 86 *e*P **P** **03 21 50.1 +0.6**
KBA Koelnbreinsper 81.22 356 *i* P **P** **03 21 50.2 +0.9**
comp=Z,2µm,0.7s,SNR=828
KBA *i* SKSac **SKSac** **03 32 03.3 -0.9**
comp=Z,226nm,1.7s
VRI Vrincioaia 81.23 347⇑ *i*P **P** **03 21 50.1 +0.9**
VRI Vrincioaia 81.23 347⇑ *i*P **PKKPbc** **03 40 23.8 +1.7**
PLOR Plostina 81.26 347⇑ *i*P **P** **03 21 50.4 +1.0**
ODBI Odobesti 81.29 347⇓ *i*P **P** **03 21 51.4 +1.9**
DOPR Dopca 81.31 348⇑ *i*P **P** **03 21 51.6 +2.0**
DOPR Dopca 81.31 348⇓ *i*P **PKKPbc** **03 40 21.8 -0.1**
FETA Feichten 81.35 358 *i* P **P** **03 21 50.7 +0.7**
comp=Z,835nm,0.8s,SNR=796
SEAG Tbilisi Sea 81.37 333 P **P** **03 21 51.2 +1.2**
KSM Kuching 81.38 261 *e*P **P** **03 21 49.9 -0.5**
comp=Z,1µm,1.3s
KSM LR LR
comp=Z,17µm,22.0s
BSSI Bau Bau, Buton 81.38 248 P **P** **03 21 49.5 -0.8**
TBLG Delisi 81.42 333 P **P** **03 21 50.9 +0.6**
TBLG Delisi 81.42 333 P **P** **03 21 50.9 +0.6**
RKT Rikitea 81.44 146 *e*P **P** **03 21 49.5 -0.8**
comp=Z,843nm,1.4s
RKT Rikitea 81.44 146 *e*S **S** **03 31 56.0 -1.7**
comp=Z,136µm,41.2s
RKT Rikitea 81.44 146 *e*LQ LQ 03 43 47.4
comp=Z,44µm,36.5s
RKT *e*LR LR 03 47 02.7
comp=Z,505µm,35.0s,baz=338
RKT Rikitea 81.44 146 *e*T T 04 51 40.9
comp=Z,61nm,0.2s
SIRR Siria 81.45 351⇑ *i*P **P** **03 21 50.9 +0.6**
DGRG David-gareji 81.50 333 P **P** **03 21 51.8 +1.1**
DGRG David-gareji 81.50 333 P **P** **03 21 51.8 +1.1**
SDDR Presa de Saban 81.54 70 *e*P **P** **03 21 49.2 -2.1**
SDDR Presa de Saban 81.54 70 *e*P **P** **03 21 51.0 -0.3**
comp=Z,687nm,1.3s
SDDR LR LR
comp=Z,79µm,21.0s
SOKA Soboth 81.54 355 *i* P **P** **03 21 51.2 +0.3**
comp=Z,628nm,0.8s,SNR=891
BWNR Bhbaneshwar 81.57 292 *e*P **P** **03 21 50.5 -0.8**
ABTA Abfaltersbach 81.58 357 *i* P **P** **03 21 51.3 +0.2**
comp=Z,319nm,0.8s,SNR=294
ABTA *i* SKSac **S** **03 32 01.1 +1.9**
comp=Z,214nm,1.6s
TLCR 81.59 345⇑ *i*P **P** **03 21 52.1 +1.1**
BEHE Becsehely 81.65 354⇑ *e*P **P** **03 21 52.9 +1.5**
MYKA Terra Mystica 81.66 356 *i* P **P** **03 21 51.5 0.0**
comp=Z,147nm,0.6s,SNR=123
MYKA *i* SKSac **S** **03 32 00.7 +0.9**
comp=Z,159nm,2.9s
GRER 81.67 347⇑ *i*P **P** **03 21 53.1 +1.6**
DEV Deva 81.69 350⇑ *i*P **P** **03 21 52.6 +1.0**
CFR Carcaliu 81.70 346⇓ *i*P **P** **03 21 52.4 +0.8**
CFR Carcaliu 81.70 346⇑ *i*P **PKKPbc** **03 40 23.0 +2.1**
MLR Muntele Rosu 81.71 347⇑ *i*P **P** **03 21 53.1 +1.2**
MLR Muntele Rosu 81.71 347 *e*P **P** **03 21 50.8 -1.1**
MLR pmax pmax
comp=Z,748nm,1.1s
MLR Muntele Rosu 81.71 347 *e*P **P** **03 21 50.8 -1.1**
comp=Z,748nm,1.1s
OBKA Obir 81.74 356 *i* P **P** **03 21 52.1 +0.2**
comp=Z,721nm,0.8s,SNR=558
FUORN Ofenpass-Fuorn 81.76 359 *e*P **P** **03 21 53.0 +0.7**
comp=Z,4µm,1.5s
STKI Sintang 81.77 260 P **P** **03 21 52.2 -0.2**
comp=Z,635nm,1.4s,comp=Z,24µmcomp=Z,66µm
KZR Kazreti 81.83 333 P **P** **03 21 54.3 +1.8**
VOIR 81.88 348⇑ *i*P **P** **03 21 54.3 +1.6**
GORS Gorjuse 81.95 356 *e*P **P** **03 21 52.3 -0.8**
GORS *e*S **S** **03 32 01.6 -1.4**
SURA Surathani 81.96 275 P **P** **03 21 54.0 +0.5**
comp=Z,2µm,1.1s,comp=Z,38µm
ISR Istrita 81.99 347⇑ *i*P **P** **03 21 54.6 +1.3**
TIM Timisoara 82.02 351⇑ *i*P **P** **03 21 54.8 +1.5**
LOT Lotru 82.03 349⇑ *i*P **P** **03 21 53.7 +0.2**
SENIN Lac Senin/Sane 82.03 1 *e*P **P** **03 21 54.1 +0.4**
comp=Z,359nm,0.8s
CADS Cadrg 82.05 356 *i* P **P** **03 21 52.8 -0.7**
AKH Akhalkalaki 82.06 334⇑ *i*P **P** **03 21 55.4 +1.5**
AKH Akhalkalaki 82.06 334 P **P** **03 21 54.8 +0.9**
AKH Akhalkalaki 82.06 334 P **P** **03 21 54.8 +0.9**
MTUR Matau 82.08 348⇑ *i*P **P** **03 21 55.6 +1.8**
BZS Buzias 82.09 351⇑ *i*P **PKKPbc** **03 40 22.4 +2.3**
PGOR Pogoanele 82.14 347⇑ *i*P **P** **03 21 55.9 +2.0**
SECR 82.14 347⇑ *i*P **P** **03 21 55.1 +1.1**
PDKS Podkum 82.16 355 *i* P **P** **03 21 53.6 -0.5**
BGD Bogdanovka 82.17 334 P **P** **03 21 55.8 +1.3**
EPOS Posof 82.18 335 *i* P **P** **03 21 56.9 +2.5**
SOEI Soe 82.19 243 P **P** **03 21 55.1 +0.4**
comp=Z,2µm,1.8s,comp=Z,25µmcomp=Z,71µm
SOEI Soe 82.19 243 *e*P **P** **03 21 53.8 -0.9**
comp=Z,2µm,1.2s
SOEI *e*S **S** **03 31 59.8 -6.3**
LJU Ljubljana 82.20 356 *i* P **P** **03 21 53.5 -0.8**
LJU *e*S **S** **03 32 08.1 +2.7**
HARR Harsova 82.21 346⇓ *i*P **P** **03 21 54.9 +0.6**
AGO Saint Agoulin 82.25 4 *e*P **P** **03 21 55.5 +0.9**
PLDF La Plantade 82.35 3 *e*P **P** **03 21 56.0 +0.8**
TIRR Tirgusor 82.36 346⇓ *i*P **P** **03 21 56.1 +1.0**
TIRR Tirgusor 82.36 346⇑ *i*P **PKKPbc** **03 40 21.4 +2.0**
TIRR Tirgusor 82.36 346 *e*P **P** **03 21 54.1 -1.0**
TIRR pmax pmax
comp=Z,717nm,0.8s
TIRR Tirgusor 82.36 346 *e*P **P** **03 21 54.1 -1.0**
comp=Z,717nm,0.8s
JAVS Javornik 82.37 356 *e*P **P** **03 21 54.4 -1.0**
JAVS *e*S **S** **03 32 07.8 +0.5**
BANR Banloc 82.38 351⇓ *i*P **P** **03 21 57.1 +1.9**
AMRR Amara 82.38 346⇑ *i*P **P** **03 21 56.3 +1.1**
MMRI Maumere 82.41 246 P **P** **03 21 55.5 -0.2**
comp=Z,1µm,1.9s,comp=Z,25µmcomp=Z,46µm
MMRI Maumere 82.41 246 *e*P **P** **03 21 54.3 -1.4**
comp=Z,5µm,2.0s
ACR Cerro Adams 82.42 86 *e*P **P** **03 21 57.4 +1.5**
H07N1 FLORES T-PHASE 82.50 30 *e*P **P** **03 21 57.7 +1.7**
BBKI Banjar Baru 82.54 255 P **P** **03 21 56.9 +0.5**
comp=Z,647nm,2.1s,comp=Z,22µm
CVDA Cernavoda 82.54 346⇑ *i*P **P** **03 21 58.3 +2.2**
PYM Petit Puy Mans 82.55 4 *e*P **P** **03 21 56.9 +0.7**
TRI Trieste 82.57 356 *e*P **P** **03 21 55.9 -0.3**
TRI pmax pmax
comp=Z,320nm,0.8s
TRI Trieste 82.57 356 *e*P **P** **03 21 55.9 -0.3**
comp=Z,320nm,0.8s
DBOC Borcka 82.60 335 *i* P **P** **03 21 58.7 +2.2**
SURT Suratani 82.64 275 P **P** **03 21 57.5 +0.5**
comp=Z,1µm,1.2s,comp=Z,21µm
SISC Sisak 82.67 354 P **P** **03 21 57.1 +0.4**
ARTV Artvin 82.69 335 *i* P **P** **03 21 55.0 -2.2**
EFOR EFORIE 82.70 345⇑ *i*P **P** **03 21 58.8 +1.9**
EAK Akyaka 82.70 334 *i* P **P** **03 21 59.6 +2.4**
BOJS Bojanci 82.70 355 *i* P **P** **03 21 56.9 0.0**
BOJS *e*S **S** **03 32 10.7 +0.3**
BOJS *e*SS **SS** **03 37 31.0 -0.7**
BTMR Bucharest-Geot 82.72 347⇑ *i*P **P** **03 21 58.6 +1.6**
KNDS Knezji Dol 82.72 356 *i* P **P** **03 21 56.9 -0.3**
BVCR Bucharest-Old 82.73 347⇓ *i*P **P** **03 21 58.3 +1.3**
BAPR Bucharest-Chil 82.75 347⇓ *i*P **P** **03 21 58.8 +1.7**
H07S1 FLORES T-PHASE 82.76 30 *e*SKSac **S** **03 32 12.8 +1.5**
HUMR Humele 82.78 348⇓ *i*P **P** **03 21 57.5 +0.2**
DAGI Agillar 82.79 335 *i* P **P** **03 22 00.2 +2.7**
BUC1 Bucharest 82.82 347⇑ *i*P **P** **03 21 58.4 +0.9**
BUC1 Bucharest 82.82 347⇓ *i*P **P** **03 21 59.3 +1.8**
GNI Garni 82.88 333 *i* P **P** **03 21 58.7 +0.5**
SNR=121
GNI Garni 82.88 333*c* *i*P **P** **03 21 59.5 +1.3**
GNI pmax pmax
comp=Z,7µm,2.5s
GNI Garni 82.88 333 P **P** **03 21 59.5 +1.3**
SNR=178
GNI Garni 82.88 333 *e*P **P** **03 21 59.2 +1.1**
comp=Z,7µm,1.8s
GNI *e*S **S** **03 32 04.2 -8.7**
GNI LR LR
comp=Z,107µm,19.0s
SKLT Songkhla 82.90 273 P **P** **03 21 58.8 +0.4**
comp=Z,2µm,1.2s
DBAD Bademkaya 82.90 335 *i* P **P** **03 22 00.5 +2.4**
DGPR DIGLIPUR 82.94 282 *e*P **P** **03 21 58.1 -0.5**
TRTT Trang 82.96 274 P **P** **03 21 59.1 +0.4**
comp=Z,2µm,1.5s,comp=Z,38µm
MANR Mangalia 82.96 345⇓ *i*P **P** **03 21 59.9 +1.7**
KRAB Krabi 82.96 274 P **P** **03 21 59.4 +0.7**
comp=Z,2µm,0.8s,comp=Z,21µm
DDEM Demirkent 83.01 335 *i* P **P** **03 22 00.9 +2.2**
DIGO Kars 83.02 334 *i* P **P** **03 22 01.3 +2.4**
SSB Saint Sauveur 83.07 3 *e*P **P** **03 21 59.2 +0.4**
SSB pmax pmax
comp=Z,880nm,1.1s
SSB MLR MLR
comp=Z,52µm,22.0s
SSB Saint Sauveur 83.07 3 *e*P **P** **03 21 59.2 +0.4**
comp=Z,880nm,1.1s
SSB LR LR
comp=Z,52µm,22.0s
LBL Lubilhac 83.07 4 *e*P **P** **03 21 59.9 +1.0**
CRAR CRAIOVA 83.13 349⇓ *i*P **P** **03 22 00.1 +1.0**
GRN Grenoble 83.13 2 *e*P **P** **03 22 00.3 +1.0**
PSN Preselentsi 83.16 346⇑ *i*P **P** **03 22 01.3 +2.0**
PSN Preselentsi 83.16 346 P **P** **03 22 00.8 +1.5**
GDM Grand'Maison 83.18 1 *e*P **P** **03 22 01.0 +1.4**
BNI Bardonecchia 83.34 1 PFAKE 03 22 10.0 +10
BNI LR LR
comp=Z,94µm,19.0s
MACK Trabzon 83.46 336 *i* P **P** **03 22 02.5 +1.6**
EIDS Eidsvold 83.60 213 *e*P **P** **03 22 01.4 -0.2**
comp=Z,2µm,1.8s
UDBI Udbina 83.65 355 P **P** **03 22 01.6 -0.2**
NVLJ Novalja 83.66 355 P **P** **03 22 01.4 -0.4**
DYDN Diyadin 83.74 333 *i* P **P** **03 22 05.6 +2.9**
PRD Provadia 83.75 346 P **P** **03 22 03.9 +1.6**
PKDT Phuket 83.75 275 P **P** **03 22 04.3 +1.6**
comp=Z,1µm,1.5s,comp=Z,38µm
DIVS Divibare 83.76 351 P **P** **03 22 01.9 -0.6**
HOMI Horasan 83.76 335 *i* P **P** **03 22 04.9 +2.2**
EATA Eleskirt 83.78 334 *i* P **P** **03 22 05.6 +2.6**
PBKI Pangkalan Bun 83.84 258 P **P** **03 22 05.8 +2.6**
comp=Z,2µm,1.0s,comp=Z,29µmcomp=Z,83µm
BHPL Bhopal 83.87 300 *e*P **P** **03 22 02.6 -0.7**
BHPL IAmb IAmb 03 22 06.7
comp=Z,2µm,1.0s
ORDU Ordu-Boztepe 83.88 338 *i* P **P** **03 22 05.5 +2.5**
SZH Strazhica 83.89 347 P **P** **03 22 02.6 -0.5**
SAMS Samsun-Alacam 83.90 339 *i* P **P** **03 22 05.4 +2.3**
CHLP Challavanipeta 83.99 292 *e*P **P** **03 22 03.7 -0.2**
CHLP IAmb IAmb 03 22 14.5
comp=Z,2µm,1.2s
CHLP *e*SKSac **SKSac** **03 32 21.2 -1.8**
CHLP IVMs_BB IVMs_BB 04 02 39.5
comp=Z,14µm,20.4s
PVL Pavlikeni 84.02 347 P **P** **03 22 04.6 +0.9**
ERZM Erzurum 84.03 335 *i* P **P** **03 22 06.5 +2.3**
PGRA Graciosa 84.04 28 *e*P **P** **03 22 05.3 +1.4**
comp=Z,3µm,2.2s
PGRA Graciosa 84.04 28 *e*SKSac **S** **03 32 28.2 +4.0**
BCIP Isla Barro Col 84.08 83 *e*P **P** **03 22 01.9 -2.5**
BCIP Isla Barro Col 84.08 83 *e*P **P** **03 22 03.9 -0.5**
BCIP Isla Barro Col 84.08 83 *e*P **P** **03 22 04.0 -0.5**
comp=Z,2µm,1.5s
BCIP LR LR
comp=Z,33µm,20.0s
MPEP Malo Peshtene 84.09 349 P **P** **03 22 04.1 0.0**
TUTA Tutak 84.12 334 *i* P **P** **03 22 06.7 +2.1**
BOYT Boyabat 84.12 340 *i* P **P** **03 22 05.4 +1.0**
KOPT Kop Dagi 84.15 336 *i* P **P** **03 22 07.6 +2.7**
PCED Cedros 84.20 28 *e*P **P** **03 22 06.3 +1.6**
comp=Z,1µm,1.5s
PCED Cedros 84.20 28 *e*SKSac **S** **03 32 31.1 +5.3**
JASL Jaisalmer 84.21 307 *e*P **P** **03 22 05.6 +0.6**
VLC Villacollemand 84.22 358 *e*P **P** **03 22 04.9 +0.2**
comp=Z,589nm,1.0s
VLC *e*S **S** **03 32 21.9 -4.0**
VLC LR LR
comp=Z,39µm,21.0s
ZANG Zanguenga, Cho 84.22 83 *e*P **P** **03 22 03.8 -1.4**
PBA Port Blair 84.24 281 *e*P P 03 22 05.0 -0.2
CALA Caldeira 84.24 28 *e*P **P** **03 22 07.4 +2.4**
ROSA Rosais 84.25 28 *e*P **P** **03 22 06.2 +1.2**
comp=Z,2µm,2.1s
ROSA Rosais 84.25 28 *e*SKSac **S** **03 32 30.1 +3.8**
ROSA Rosais 84.25 28 *e*P **P** **03 22 06.9 +1.9**
comp=Z,3µm,1.5s
KAST KASTAMONU 84.25 341 *i* P **P** **03 22 07.8 +2.7**
HAVZ Havza 84.28 339 *i* P **P** **03 22 08.5 +3.4**
VMUR Van-Muradiye 84.29 333 *i* P **P** **03 22 07.9 +2.5**
HOR Horta 84.32 28 *e*P **P** **03 22 06.5 +1.2**

comp=Z,1µm,1.6s
KELT Kelkit 84.34 337 *i* P **P** **03 22 07.9 +2.3**
KULM Kulim 84.35 271 *e*P **P** **03 22 05.2 -0.6**
comp=Z,2µm,1.2s
KULM LR LR
comp=Z,24µm,20.0s
WSI Waingapu 84.35 247 P **P** **03 22 07.3 +1.6**
comp=Z,3µm,0.9s,comp=Z,54µm
PMAN Manadas 84.38 28 *e*P **P** **03 22 07.1 +1.5**
comp=Z,2µm,2.2s
PMAN Manadas 84.38 28 *e*SKSac **S** **03 32 30.7 +3.2**
AGP Aguadilla 84.39 67 *e*P **P** **03 22 07.1 +1.2**
comp=Z,3µm,1.4s
PICO Pico 84.40 28 *e*P **P** **03 22 06.7 +0.9**
comp=Z,2µm,2.2s
PICO Pico 84.40 28 *e*S **S** **03 32 28.2 +0.2**
ECAT Cat-ERZURUM 84.42 335 *i*P **P** **03 22 08.3 +2.3**
PCAN Candelaria 84.42 28 *e*P **P** **03 22 07.3 +1.5**
comp=Z,2µm,2.1s
PCAN Candelaria 84.42 28 *e*SKSac **S** **03 32 32.0 +4.0**
ERBA Erbaa 84.42 339 *i*P **P** **03 22 08.9 +3.1**
SUSE Susehri 84.54 337 *i*P **P** **03 22 08.9 +2.3**
PLE Pljevlja 84.57 352⇑*i*P **P** **03 22 05.9 -0.8**
JMB Yambol 84.59 346 P **P** **03 22 06.5 -0.1**
ADH Angra Heroismo 84.60 27 *e*P **P** **03 22 08.5 +1.8**
comp=Z,3µm,2.1s
BASI Baing, Sumba 84.64 246 P **P** **03 22 06.9 -0.2**
comp=Z,4µm,1.1s
EUZM Uzumlu 84.65 336 *i*P **P** **03 22 09.6 +2.4**
ILGA Ilgaz 84.72 341 *i*P **P** **03 22 10.4 +2.8**
UPM Unac-Piva 84.74 352⇑*i*P **P** **03 22 06.5 -1.1**
IPM Ipoh 84.75 271 *e*P **P** **03 22 06.9 -0.9**
comp=Z,1µm,0.9s
TVAN Van 84.77 333 *i*P **P** **03 22 10.2 +2.3**
OSSF Osses 84.79 7 *e*P **P** **03 22 08.0 +0.4**
TOKA Tokat 84.83 339 *i*P **P** **03 22 11.0 +3.0**
PGB Panagyurishte 84.83 348 P **P** **03 22 08.5 +0.6**
ORDF Ordiarp 84.86 7 *e*P **P** **03 22 09.0 +1.1**
CUZAR Zara_SIVAS 84.94 338 *i*P **P** **03 22 11.7 +3.1**
CELP Cerrillos 84.97 67 *e*P **P** **03 22 08.9 0.0**
PTCN Pitcairn Islan 84.98 143 *e*P **P** **03 22 09.4 +0.8**
comp=Z,3µm,1.4s
PTCN LR LR
comp=Z,126µm,21.0s
IVA Berane 84.98 351⇑*i*P **P** **03 22 08.0 -0.7**
BNGL BINGOL 84.99 335 *i*P **P** **03 22 11.6 +2.7**
ATE Arette 85.00 7 *e*P **P** **03 22 09.3 +0.6**
LARF Larrau 85.03 7 *e*P **P** **03 22 10.9 +2.0**
VIS Vishakhapatnam 85.03 292 *e*P **P** **03 22 08.2 -0.9**
REYF Montagne du Re 85.04 6 *e*P **P** **03 22 09.7 +0.7**
GEVA Gevas 85.07 333 *i*P **P** **03 22 09.2 -0.1**
BRY Bratogost 85.07 352⇑*i*P **P** **03 22 08.1 -1.1**
BGOL Bingol 85.08 335 *i*P **P** **03 22 10.6 +1.3**
MYKOM Kota Tinggi 85.10 267 *e*P **P** **03 22 09.4 -0.1**
comp=Z,623nm,1.0s
PLAI Plampang 85.11 249 P **P** **03 22 07.1 -2.4**
comp=Z,1µm,1.5s,comp=Z,27µmcomp=Z,41µm
SCER sogukcermik 85.12 338 *i*P **P** **03 22 11.8 +2.3**
NKY Niksic 85.12 352⇑*i*P **P** **03 22 08.3 -1.1**
EDRB Edirne 85.17 346 P **P** **03 22 09.7 +0.2**
EDRB Edirne 85.17 346 P **P** **03 22 09.7 +0.2**
NKME Niksic 85.17 352⇑*i*P **P** **03 22 08.9 -0.7**
SJG San Juan 85.19 67 *e*P **P** **03 22 10.0 +0.1**
SJG *e*S **S** **03 32 33.2 -2.9**
SJG pmax pmax
comp=Z,783nm,1.1s
SJG MLR MLR
comp=Z,130µm,19.0s
SJG San Juan 85.19 67 *e*P **P** **03 22 10.0 +0.1**
comp=Z,783nm,1.1s
SJG *e*S **S** **03 32 33.2 -2.9**
SJG LR LR
comp=Z,130µm,19.0s
PLD Plovdiv 85.20 348 P **P** **03 22 10.3 +0.6**
COAL Corum-Alaca 85.22 340 *i*P **P** **03 22 13.6 +3.6**
CBYP Canovanas 85.22 66 *e*P **P** **03 22 08.4 -1.8**
comp=Z,2µm,2.0s
TNCL Tunceli-Merkez 85.25 336 *i*P **P** **03 22 12.8 +2.7**
VIEF Viey 85.25 6 *e*P **P** **03 22 11.4 +1.4**
PVY Plav 85.25 351 *e*P **P** **03 22 09.1 -1.0**
BCAM Yenicaga 85.27 342 *i*P **P** **03 22 12.4 +2.2**
PAYG Puerto Ayora 85.30 97 *e*P **P** **03 22 12.9 +2.3**
comp=Z,1µm,1.4s
PAYG LR LR
comp=Z,50µm,19.0s
MELF Melles 85.31 5 *e*P **P** **03 22 11.0 +0.7**
ELDT Eldivan 85.32 341 *i*P **P** **03 22 13.0 +2.4**
HUMP Col San Antoni 85.33 67 *e*P **P** **03 22 10.1 -0.5**
comp=Z,514nm,1.0s
LRDF Laroque-de-Fa 85.33 4 *e*P **P** **03 22 11.5 +1.1**
KAND Kocaeli-Kandir 85.35 343 *i*P **P** **03 22 12.0 +1.6**
RESF Ens 85.35 6 *e*P **P** **03 22 11.9 +1.3**
PGAV Gavieira, Arco 85.35 12 *e*P **P** **03 22 11.2 +0.6**
comp=Z,2µm,2.0s
PGAV Gavieira, Arco 85.35 12 *e*PP PP 03 25 29.4 +1.4
PGAV *e*S **S** **03 32 32.2 -5.1**
PGAV Gavieira, Arco 85.35 12 *e*LQ LQ 03 46 25.9
PGAV *e*LR LR 03 50 28.2
comp=Z,102µm,18.0s
TPRI Tanjung Pinang 85.36 266 P **P** **03 22 14.5 +3.7**
comp=Z,975nm,1.1s
CEME Cevo 85.39 352⇑*i*P **P** **03 22 10.0 -0.7**
SALF Salau 85.44 5 *e*P **P** **03 22 12.2 +1.2**
SAHE Sakarya_HENDEK 85.46 343 *i*P **P** **03 22 13.2 +2.2**
PDG Podgorica 85.48 352 P **P** **03 22 10.4 -0.6**
PDG Podgorica 85.48 352‖*i*P **P** **03 22 11.6 +0.6**
TTG Podgorica 85.48 352⇑*i*P **P** **03 22 10.7 -0.3**
TTG Podgorica 85.48 352 P **P** **03 22 10.4 -0.6**
TTG Podgorica 85.48 352 P **P** **03 22 10.4 -0.6**
HCY Herceg Novi 85.53 352⇑*i*P **P** **03 22 10.7 -0.6**
KDZ Kurdzhali 85.55 347 P **P** **03 22 12.1 +0.6**
TWSI Taliwang, Sumb 85.56 250 P **P** **03 22 08.9 -2.8**
comp=Z,391nm,2.7s,comp=Z,9µm
CUKAN kangal_SIVAS 85.56 338 *i*P **P** **03 22 15.1 +3.4**
ISK Istanbul-Kandi 85.57 344 P **P** **03 22 11.4 -0.1**
ISK Istanbul-Kandi 85.57 344 P **P** **03 22 11.4 -0.1**
ISK Istanbul-Kandi 85.57 344 P **P** **03 22 11.4 -0.1**
WRAB Tennant Creek 85.58 230*d*iP **P** **03 22 12.1 +0.4**
WRAB pmax pmax
comp=Z,2µm,1.3s
WRAB MLR MLR
comp=Z,63µm,18.0s
WRAB Tennant Creek 85.58 230 *e*P **P** **03 22 10.8 -0.9**
comp=Z,1µm,1.4s
WRAB LR LR
comp=Z,61µm,21.0s
WB2 Warramunga Arr 85.58 230 *e*P **P** **03 22 10.4 -1.3**
comp=Z,1µm,1.4s
HAKT HAKKARI 85.59 332 *i*P **P** **03 22 14.5 +2.5**
WRA Warramunga Arr 85.59 230 P **P** **03 22 10.5 -1.3**
comp=Z,98nm,0.8s,baz=35,slow=5.8,SNR=105
WRA S **S** **03 32 33.9 -5.9**
comp=Z,4.9nm,0.8s,baz=35,slow=4.1,SNR=12
WRA PKKPbc **PKKPbc** **03 40 16.6 +3.5**
comp=Z,5.2nm,1.0s,baz=219,slow=2.3,SNR=5.1
WRA PKPPKP P'P'df 03 48 09.4 -9.1
comp=Z,2.5nm,0.9s,baz=177,slow=1.9,SNR=4.8
WRA LR LR 03 56 46.4
comp=Z,56µm,21.6s,baz=20,slow=33
ELBA Catalca 85.59 345 *i*P **P** **03 22 13.5 +1.9**
RZN Rozhen 85.61 348 P **P** **03 22 13.4 +1.4**
PCAB Cabril 85.63 12 *e*P **P** **03 22 11.9 0.0**
comp=Z,2µm,1.9s
PCAB Cabril 85.63 12 *e*PP PP 03 25 31.6 +1.4
BUM Brajici-Budva 85.64 352⇑*i*P **P** **03 22 11.1 -0.9**
KKB Krupnik 85.64 349 P **P** **03 22 12.7 +0.8**
STVI Saint Thomas 85.67 66 *e*P **P** **03 22 11.9 -0.4**
comp=Z,549nm,0.9s
PBRG Braganca 85.70 11 *e*P **P** **03 22 12.4 +0.2**
comp=Z,2µm,2.0s
PBRG Braganca 85.70 11 *e*PP PP 03 25 28.5 -2.3
BTAS Taskesti 85.71 343 *i*P **P** **03 22 14.4 +2.1**
FILF Fillols 85.71 4 *e*P **P** **03 22 13.6 +1.3**
ABVI Anegada Island 85.72 65 *e*P **P** **03 22 14.9 +2.3**
comp=Z,7µm,2.0s
SKO Skopje 85.72 350 P **P** **03 22 12.4 +0.1**
SKO Skopje 85.72 350 *e*P **P** **03 22 12.4 +0.1**
SKO *i*S **S** **03 32 33.8 -7.0**
SKO Skopje 85.72 350 P **P** **03 22 12.4 +0.1**
SKO Skopje 85.72 350 P **P** **03 22 12.4 +0.1**
DRME Dracevica, Mon 85.73 352⇑*i*P **P** **03 22 11.8 -0.5**
CUSAR Sarkisla-SIVAS 85.75 339 *i*P **P** **03 22 10.6 -2.1**
BUY Buyukada 85.77 344 *i*P **P** **03 22 14.4 +1.9**
CUALT Altinyayla-SIV 85.77 338 *i*P **P** **03 22 16.0 +3.2**

PSET Sete Cidades 85.80 26 *e*P **P** **03 22 14.2 +1.4**
comp=Z,4µm,2.2s
PSET Sete Cidades 85.80 26 *e*SKSac **S** **03 32 38.9 -2.8**
MMB Musomiste 85.83 348 P **P** **03 22 13.9 +1.0**
VALF Valcebollere 85.84 5 *e*P **P** **03 22 14.6 +1.5**
PCALD Caldeiras da R 85.88 26 *e*P **P** **03 22 15.0 +1.8**
comp=Z,3µm,1.9s
PCALD Caldeiras da R 85.88 26 *e*SKSac **SKSac** **03 32 35.1 +0.5**
PDA Ponta Delgada 85.88 26 *e*P **P** **03 22 14.6 +1.5**
comp=Z,5µm,2.0s
PDA Ponta Delgada 85.88 26 *e*SKSac **S** **03 32 40.2 -2.2**
GRON Grota Negra 85.90 26 *e*P **P** **03 22 14.5 +1.2**
comp=Z,600nm,2.3s
GRON Grota Negra 85.90 26 *e*SKSac **S** **03 32 41.5 -1.2**
CMLA Cha da Macela 85.91 26 *i*P **P** **03 22 14.7 +1.4**
CMLA Cha da Macela 85.91 26 *e*P **P** **03 22 15.0 +1.7**
comp=Z,7µm,1.8s
CMLA Cha da Macela 85.91 26 *e*SKSac **S** **03 32 39.5 -3.2**
CMLA Cha da Macela 85.91 26 *e*P **P** **03 22 14.1 +0.8**
comp=Z,10µm,1.9s
CMLA LR LR
comp=Z,136µm,19.0s
AQU L'Aquila 85.94 356 *e*P **P** **03 22 13.3 -0.1**
AQU pmax pmax
comp=Z,1µm,0.9s
AQU MLR MLR
comp=Z,94µm,21.0s
AQU L'Aquila 85.94 356 *e*P **P** **03 22 13.3 -0.1**
comp=Z,1µm,0.9s
AQU LR LR
comp=Z,94µm,21.0s
ULC Ulcinj 85.94 352⇑*i*P **P** **03 22 12.6 -0.8**
BTMN Batman 85.95 334 *i*P **P** **03 22 16.2 +2.5**
CDAG Cicekdag 85.96 340 *i*P **P** **03 22 16.0 +2.3**
ELZG Elazig 85.97 336 *i*P **P** **03 22 16.4 +2.6**
BART Pico Bartolome 85.99 26 *e*P **P** **03 22 14.8 +1.0**
comp=Z,3µm,1.5s
BART Pico Bartolome 85.99 26 *e*SKSac **SKSac** **03 32 37.9 +2.5**
POLO Lamas de Olo 85.99 12 *e*P **P** **03 22 14.1 +0.3**
comp=Z,728nm,1.7s
POLO Lamas de Olo 85.99 12 *e*PP PP 03 25 34.1 +0.9
SIRN S˘˘rnak 86.01 333 *i*P **P** **03 22 16.0 +2.1**
BR131 Keskin Array S 86.01 341 *e*P **P** **03 22 14.1 +0.1**
BRTR Keskin Array B 86.01 341 P **P** **03 22 14.0 0.0**
comp=Z,548nm,0.8s,baz=48,slow=1.8,SNR=364
BRTR PKKPbc **PKKPbc** **03 40 11.0 -0.2**
comp=Z,11nm,0.9s,baz=205,slow=3.7,SNR=18
BRTR PKPPKP P'P'df 03 48 11.6 -13
comp=Z,10nm,1.1s,baz=169,slow=4.3,SNR=5.7
BRTR LR LR 04 05 53.2
comp=Z,76µm,19.5s,baz=14,slow=39
BRTR Keskin Array B 86.01 341 P **P** **03 22 14.0 0.0**
BRTR pmax pmax
comp=Z,560nm,0.8s
DAD Ankara 86.02 341 *i*P **P** **03 22 16.6 +2.7**
ANTO Ankara 86.05 341 *e*P **P** **03 22 14.8 +0.8**
ANTO pmax pmax
comp=Z,1µm,1.1s
ANTO MLR MLR
comp=Z,59µm,20.0s
ANTO Ankara 86.05 341 P **P** **03 22 14.6 +0.5**
SNR=243
ANTO Ankara 86.05 341 *e*P **P** **03 22 14.8 +0.8**
comp=Z,1µm,1.1s
ANTO LR LR
comp=Z,59µm,20.0s
NVR Nevrokopi 86.05 348 P **P** **03 22 13.7 -0.3**
NVR Nevrokopi 86.05 348 P **P** **03 22 13.7 -0.3**
BR231 Keskin MP Arra 86.08 341 *e*P **P** **03 22 15.4 +1.1**
BR231 *e*PKKPbc **PKKPbc** **03 40 11.0 -0.1**
PVRL Vila Real 86.10 12 *e*P **P** **03 22 14.5 +0.3**
comp=Z,2µm,1.8s
PVRL Vila Real 86.10 12 *e*PP PP 03 25 37.4 +3.4
CUGUR Gurin_S˘VAS 86.17 338 *i*P **P** **03 22 18.6 +3.8**
KESN Edirne-Kesan 86.18 346 *i*P **P** **03 22 17.0 +1.9**
ALN Alexandroupoli 86.20 347 P **P** **03 22 14.8 +0.1**
ALN Alexandroupoli 86.20 347 P **P** **03 22 14.8 +0.1**
ALN Alexandroupoli 86.20 347 P **P** **03 22 14.8 +0.1**
DIYA Diyarbakir 86.22 335 *i*P **P** **03 22 17.3 +2.3**
SART Tekirdag 86.24 346 *i*P **P** **03 22 14.4 -0.5**
VAY Valandovo 86.24 349 P **P** **03 22 15.0 +0.2**
VAY Valandovo 86.24 349 *i*P **P** **03 22 15.4 +0.6**
VAY *i*S S 03 32 35.7 -10
VAY Valandovo 86.24 349 P **P** **03 22 15.0 +0.2**
VAY Valandovo 86.24 349 P **P** **03 22 15.0 +0.2**
CDVI St. Croix 86.26 66 *e*P **P** **03 22 16.2 +0.9**
comp=Z,819nm,0.7s
BBAL Bala 86.29 341 *i*P **P** **03 22 17.9 +2.6**
MVO Moncorvo 86.29 11 *e*P **P** **03 22 15.2 0.0**
comp=Z,2µm,1.4s
MVO Moncorvo 86.29 11 *e*PP PP 03 25 36.9 +1.3
MVO *e*S **S** **03 32 38.9 -7.7**
MVO Moncorvo 86.29 11 *e*LQ LQ 03 46 44.1
MVO *e*LR LR 03 51 01.4
comp=Z,89µm,22.0s
SRS Serrai 86.31 348 P **P** **03 22 15.1 -0.2**
SRS Serrai 86.31 348 P **P** **03 22 15.1 -0.2**
SRS Serrai 86.31 348 P **P** **03 22 15.1 -0.2**
KAVA Kavala 86.32 348 P **P** **03 22 15.4 +0.2**
KAVA Kavala 86.32 348 P **P** **03 22 15.4 +0.2**
IGD Bursa 86.33 344 *i*P **P** **03 22 16.2 +0.9**
ENEZ Enez 86.34 346 P **P** **03 22 15.0 -0.4**
SJCC San Jacinto, C 86.35 79 *e*P **P** **03 22 16.4 +0.5**
ABJI Asem Bagus 86.35 253 P **P** **03 22 13.1 -2.6**
KNT Kendrikon 86.36 349 P **P** **03 22 15.8 +0.3**
KNT Kendrikon 86.36 349 P **P** **03 22 15.8 +0.3**
KNT Kendrikon 86.36 349 P **P** **03 22 15.8 +0.3**
PVM Polavaram 86.38 293 *e*P **P** **03 22 15.4 -0.4**
PVM IAmb IAmb 03 22 26.1
comp=Z,2µm,1.0s
PVM *e*SKSac **SKSac** **03 32 36.9 -1.3**
PVM IVMs_BB IVMs_BB 04 07 53.0
comp=Z,15µm,18.4s
RPR Rampur 86.39 296 *e*P **P** **03 22 15.2 -0.7**
RPR IAmb IAmb 03 22 26.0
comp=Z,2µm,1.2s
RPR *e*SKSac **SKSac** **03 32 37.1 -1.2**
RPR IVMs_BB IVMs_BB 04 03 44.9
comp=Z,25µm,17.4s
PINB Pinarbasi 86.42 338 *i*P **P** **03 22 18.4 +2.2**
AKCD Akcadag 86.42 337 *i*P **P** **03 22 19.1 +3.1**
BORA Eskisehir 86.48 343 *i*P **P** **03 22 16.0 -0.2**
DNP Denpasar 86.48 251 P **P** **03 22 17.5 +1.2**
TIR Tirane 86.50 351⇑*i*P **P** **03 22 17.3 +1.2**
TIR Tirane 86.50 351 *e*P **P** **03 22 16.2 +0.1**
TIR pmax pmax
comp=Z,1µm,0.8s
TIR MLR MLR
comp=Z,179µm,21.0s
TIR Tirane 86.50 351 *e*P **P** **03 22 16.2 +0.1**
comp=Z,1µm,0.8s
TIR LR LR
comp=Z,179µm,21.0s
KNL Bal˘˘kesir 86.59 345 *i*P **P** **03 22 17.6 +1.0**
GRG Griva 86.62 349 P **P** **03 22 16.9 +0.1**
GRG Griva 86.62 349 P **P** **03 22 16.9 +0.1**
GRG Griva 86.62 349 P **P** **03 22 16.9 +0.1**
MARD Mardin 86.62 335 *i*P **P** **03 22 19.8 +2.8**
PVIS Viseu 86.63 12 *e*P **P** **03 22 17.1 +0.3**
comp=Z,1µm,1.6s
SOH Sokhos 86.64 349 P **P** **03 22 16.5 -0.4**
SOH Sokhos 86.64 349 P **P** **03 22 16.5 -0.4**
SOH Sokhos 86.64 349 P **P** **03 22 16.5 -0.4**
OHR Ohrid 86.64 350 *e*P **P** **03 22 16.8 -0.1**
OHR *i*S **SKSac** **03 32 38.0 -1.3**
AVNS Nevsehir-Avano 86.64 339 *i*P **P** **03 22 21.1 +4.0**
LHMI Lhok Sumawe 86.68 274 P **P** **03 22 19.2 +1.8**
comp=Z,4µm,1.2s,comp=Z,73µmcomp=Z,156µm
LHMI Lhok Sumawe 86.68 274 *e*P **P** **03 22 18.6 +1.2**
comp=Z,3µm,1.0s
BLJI Banyuglugur 86.69 253 P **P** **03 22 17.5 +0.2**
GRJI Gresik 86.69 255 P **P** **03 22 17.2 -0.1**
KKUL Konya-Kulu 86.69 341 *i*P **P** **03 22 19.7 +2.5**
SMTH Samothraki Isl 86.69 347 P **P** **03 22 16.5 -0.6**
SMTH Samothraki Isl 86.69 347 P **P** **03 22 16.5 -0.6**
PSMA Santa Maria 86.73 26 *e*P **P** **03 22 18.1 +0.8**
comp=Z,3µm,2.1s
PSMA Santa Maria 86.73 26 *e*SKSac **SKSac** **03 32 43.5 +3.6**
PSMN Pico do Norte, 86.74 26 *e*P **P** **03 22 17.6 +0.2**
comp=Z,3µm,2.3s
PSMN Pico do Norte, 86.74 26 *e*SKSac **SKSac** **03 32 43.5 +3.5**
ESKT Eskisehir 86.76 343 *i*P **P** **03 22 19.0 +1.4**
URIC Uribia, Colomb 86.85 75 *e*P **P** **03 22 17.7 -0.5**
SRSP Sriramsagar 86.86 297 *e*P **P** **03 22 17.0 -1.3**

SRSP IAmb IAmb 03 22 27.7
comp=Z,2µm,1.0s
SRSP *e*SKSac **SKSac** **03 32 38.5 -2.7**
SRSP IVMs_BB IVMs_BB 04 04 34.4
comp=Z,58µm,18.0s
THE Thessaloniki 86.87 349 P **P** **03 22 17.2 -0.7**
THE Thessaloniki 86.87 349 P **P** **03 22 17.2 -0.7**
THE Thessaloniki 86.87 349 P **P** **03 22 17.2 -0.7**
HORT Hortiatis 86.89 349 P **P** **03 22 17.2 -1.0**
HORT Hortiatis 86.89 349 P **P** **03 22 17.2 -1.0**
FNA Florina 86.90 350 P **P** **03 22 17.2 -1.0**
FNA Florina 86.90 350 P **P** **03 22 17.2 -1.0**
FNA Florina 86.90 350 P **P** **03 22 17.2 -1.0**
GADA Gvkgeada 86.92 346 P **P** **03 22 17.9 -0.3**
GADA Gvkgeada 86.92 346 P **P** **03 22 17.9 -0.3**
MOTC Monteria, Cord 86.93 80 *e*P **P** **03 22 18.3 -0.3**
JAGI Jajag, Banyuwa 86.94 252 P **P** **03 22 19.4 +0.8**
comp=Z,176nm,1.8s,comp=Z,8µm
JAGI Jajag, Banyuwa 86.94 252 *e*P **P** **03 22 14.5 -4.1**
comp=Z,389nm,1.2s
SMRT St. Maarten 86.97 64 *e*P **P** **03 22 18.5 -0.3**
SMRT St. Maarten 86.97 64 *e* **P** **03 22 22.1 +3.3**
SMRT St. Maarten 86.97 64 *e*P **P** **03 22 18.7 -0.1**
comp=Z,676nm,0.9s
LHI Lord Howe Isla 86.98 205 *e*P **P** **03 22 20.1 +1.8**
comp=Z,2µm,1.8s
MTE Manteigas 86.98 12 *e*P **P** **03 22 18.6 0.0**
comp=Z,1µm,1.8s
MTE Manteigas 86.98 12 *e*PP PP 03 25 42.4 +1.2
MTE *e*S **S** **03 32 47.8 -5.4**
MTE Manteigas 86.98 12 *e*LQ LQ 03 47 07.2
MTE *e*LR LR 03 51 18.6
comp=Z,99µm,18.0s
MTE Manteigas 86.98 12 *e*P **P** **03 22 17.4 -1.3**
comp=Z,2µm,1.9s
MTE LR LR
comp=Z,104µm,19.0s
AKSY AKSARAY - Alti 87.02 340 *i*P **P** **03 22 20.9 +2.0**
TSI Tuntungan 87.03 272 P **P** **03 22 20.2 +1.1**
comp=Z,6µm,1.0s,comp=Z,59µmcomp=Z,113µm
OUR Ouranopolis 87.04 348 P **P** **03 22 18.5 -0.2**
OUR Ouranopolis 87.04 348 P **P** **03 22 18.5 -0.2**
OUR Ouranopolis 87.04 348 P **P** **03 22 18.5 -0.2**
PLG Polygyros 87.07 348 P **P** **03 22 18.3 -0.7**
PLG Polygyros 87.07 348 P **P** **03 22 18.3 -0.7**
PLG Polygyros 87.07 348 P **P** **03 22 18.3 -0.7**
BALY Balya 87.10 345 *i*P **P** **03 22 20.5 +1.3**
ATAB Bozova 87.11 336 *i*P **P** **03 22 22.8 +3.5**
PCAS Casmilo, Conde 87.20 13 *e*P **P** **03 22 19.3 -0.3**
comp=Z,1µm,1.3s
GMJI Gumukmas 87.20 253 P **P** **03 22 21.0 +1.2**
comp=Z,258nm,2.5s,comp=Z,9µm
YAHY KAYSERI_Yahyal 87.21 339 *i*P **P** **03 22 21.8 +2.0**
EZN Ezine 87.21 346 P **P** **03 22 19.1 -0.5**
EZN Ezine 87.21 346 P **P** **03 22 19.1 -0.5**
EZN Ezine 87.21 346 P **P** **03 22 19.1 -0.5**
SABA Saba 87.22 65 *e*P **P** **03 22 20.7 +0.7**
SABA Saba 87.22 65 *e*P **P** **03 22 22.3 +2.3**
comp=Z,2µm,1.8s
BOZC Bozcaada 87.24 346 *i*P **P** **03 22 21.0 +1.3**
NEST Nestorio 87.30 350 P **P** **03 22 19.8 -0.4**
LIA Limnos Island 87.31 347 P **P** **03 22 19.7 -0.3**
LIA Limnos Island 87.31 347 P **P** **03 22 19.7 -0.3**
KZN Kozani 87.33 350 P **P** **03 22 20.3 0.0**
KZN Kozani 87.33 350 P **P** **03 22 20.3 0.0**
KZN Kozani 87.33 350 P **P** **03 22 20.3 0.0**
PSI Prapat 87.35 271 *e*P **P** **03 22 20.7 -0.1**
PSI pmax pmax
comp=Z,4µm,0.8s
PSI Prapat 87.35 271 *e*P **P** **03 22 20.7 -0.1**
comp=Z,4µm,0.8s
GZT Gaziantep 87.40 337 *i*P P 03 22 14.9 -5.9
GDZ Gediz 87.42 344 *i*P **P** **03 22 22.4 +1.5**
LIT Litokhoron 87.45 349 P **P** **03 22 20.1 -0.7**
LIT Litokhoron 87.45 349 P **P** **03 22 20.1 -0.7**
LIT Litokhoron 87.45 349 P **P** **03 22 20.1 -0.7**
SEUS St. Eustatius 87.47 65 *e*P **P** **03 22 19.6 -1.6**
SEUS St. Eustatius 87.47 65 *e*P **P** **03 22 25.4 +4.3**
comp=Z,808nm,1.1s
PAIG Paliouri 87.48 348 P **P** **03 22 20.0 -0.9**
PAIG Paliouri 87.48 348 P **P** **03 22 20.0 -0.9**
PAIG Paliouri 87.48 348 P **P** **03 22 20.0 -0.9**
KDHN Kadinhani 87.48 341 *i*P **P** **03 22 23.0 +1.9**
KCSI Kotacane, Aceh 87.50 272 P **P** **03 22 21.7 +0.3**
comp=Z,673nm,0.9s,comp=Z,19µm
PENT Pentalofos 87.51 350 P **P** **03 22 20.6 -0.6**
BOLV Bolvadin 87.51 342 *i*P **P** **03 22 23.4 +2.1**
PCBR Castelo Branco 87.54 12 *e*P **P** **03 22 20.8 -0.4**
comp=Z,705nm,1.9s
PCBR Castelo Branco 87.54 12 *e*PP PP 03 25 47.4 +1.8
HCB Kahramanmara˘ 87.57 337 *i*P **P** **03 22 23.8 +2.3**
DEMI Demirci 87.60 344 *i*P **P** **03 22 23.5 +1.9**
BSTP Nigde 87.62 340 *i*P **P** **03 22 22.2 +0.4**
PTOM Tomar 87.64 13 *e*P **P** **03 22 21.2 -0.5**
comp=Z,1µm,1.7s
NGJI Ngawi 87.66 255 P **P** **03 22 21.9 -0.1**
comp=Z,842nm,1.7s,comp=Z,21µmcomp=Z,71µm
AYVA Ayvalik 87.66 346 *i*P **P** **03 22 23.8 +2.0**
KPRO Kipouio 87.72 350 P **P** **03 22 21.7 -0.5**
MLSI Meulaboh, Aceh 87.77 274 P **P** **03 22 23.2 +0.6**
comp=Z,1µm,0.7s,comp=Z,23µmcomp=Z,93µm
OUZ Omahuta 87.77 192 *e*P **P** **03 22 23.9 +2.0**
comp=Z,1µm,1.5s
OUZ Omahuta 87.77 192 PN **P** **03 22 22.6 +0.7**
KAMA Osmaniye 87.78 338 *i*P **P** **03 22 24.6 +2.1**
PRK Paraskevi 87.79 346 P **P** **03 22 21.8 -0.6**
PRK Paraskevi 87.79 346 P **P** **03 22 21.8 -0.6**
PRK Paraskevi 87.79 346 P **P** **03 22 21.8 -0.6**
AKO Adana 87.80 339 *i*P **P** **03 22 25.5 +3.0**
SOLC Bahia Solano 87.86 83 *e*P **P** **03 22 25.2 +2.1**
SIGR SIGRI 87.88 346 P **P** **03 22 22.2 -0.6**
SIGR SIGRI 87.88 346 P **P** **03 22 22.2 -0.6**
BHJ Bhuj 87.89 306 *e*P **P** **03 22 24.3 +1.2**
BHJ IAmb IAmb 03 22 26.8
comp=Z,719nm,1.0s
JMBI JAMBI 87.90 265 P **P** **03 22 24.0 +0.8**
PMRV Marv??o 87.96 12 *e*P **P** **03 22 26.6 -0.6**
comp=Z,1µm,1.4s
PMRV Marv??o 87.96 12 *e*PP PP 03 25 52.4 +3.4
PMRV *e*S **SKSac** **03 32 49.2 +1.9**
PMRV Marv??o 87.96 12 *e*LQ LQ 03 45 45.8
PMRV *e*LR LR 03 51 42.4
comp=Z,117µm,18.0s
HYBB Hyderabad (bro 87.97 296 *e*P **P** **03 22 22.7 -0.9**
HYBB IAmb IAmb 03 22 27.8
comp=Z,2µm,1.0s
HYBB *e*SKSac **SKSac** **03 32 45.9 -2.1**
HYBB IVMs_BB IVMs_BB 04 04 42.0
comp=Z,25µm,19.9s
HYB Hyderabad 87.97 296⇑*i*P **P** **03 22 22.0 -1.6**
comp=Z,280nm,1.0s
HYB *e*S **S** **03 33 02.0 -1.3**
HYB Hyderabad 87.97 296 *e*P **P** **03 22 22.7 -0.9**
DBBC Dabeiba 87.97 81 *e*P **P** **03 22 25.1 +1.3**
PWJI Pagerwojo 87.97 254 P **P** **03 22 21.6 -1.9**
comp=Z,427nm,1.5s,comp=Z,11µm
BKNI Bangkinang 87.98 268 P **P** **03 22 23.9 +0.3**
comp=Z,5µm,1.1s,comp=Z,45µmcomp=Z,102µm
BKNI Bangkinang 87.98 268 *e*P **P** **03 22 23.5 -0.1**
comp=Z,5µm,1.0s
NEV Hard Times 87.99 65 *e*P **P** **03 22 19.6 -4.0**
ANWB Willy Bob 87.99 64 *e*P **P** **03 22 22.2 -1.5**
ANWB Willy Bob 87.99 64 *e*P **P** **03 22 25.2 +1.6**
comp=Z,520nm,0.8s
ANWB LR LR
comp=Z,89µm,22.0s
THL Klokotos Trika 88.04 349 P **P** **03 22 22.3 -1.3**
JAN Janina 88.07 350 P **P** **03 22 23.8 0.0**
JAN Janina 88.07 350 P **P** **03 22 23.8 0.0**
JAN Janina 88.07 350 P **P** **03 22 23.8 0.0**
KUZU Kuzuini 88.07 337 *i*P **P** **03 22 26.0 +2.1**
TPTI 88.07 273 P **P** **03 22 24.3 +0.2**
comp=Z,392nm,0.8s,comp=Z,13µm
FYTO Fytoko, Volos 88.08 349 P **P** **03 22 22.5 -1.3**
FYTO Fytoko, Volos 88.08 349 P **P** **03 22 22.5 -1.3**
ES19 SONSECA Array 88.09 9 *e*P **P** **03 22 23.4 -0.5**
ES19 *e*PKKPdf **PKKPbc** **03 40 09.1 +2.9**
ARMA Armidale 88.09 211 *e*P **P** **03 22 24.3 +0.5**
comp=Z,3µm,2.0s
ARMA *e*S **SKSac** **03 32 53.7 +5.8**
ESDC Sonseca Array 88.11 9 P **P** **03 22 23.5 -0.5**
comp=Z,148nm,0.7s,baz=349,slow=4.3,SNR=310
ESDC PP **PP** **03 25 53.1 +2.9**

comp=Z,53nm,0.9s,baz=348,slow=8.3,SNR=4.9
ESDC PKKPbc **PKKPbc** **03 40 07.0 +0.8**
comp=Z,2.9nm,0.6s,baz=196,slow=1.6,SNR=6.2
ESDC PKPPKP P'P'df 03 48 09.5 -11
comp=Z,2.8nm,0.9s,baz=164,slow=2.2,SNR=7.6
ESDC LR LR 04 02 20.9
comp=Z,45µm,20.7s,baz=350,slow=36
ESLA Sonseca Array 88.11 9 *eP* **P 03 22 23.7 -0.3**
comp=Z,554nm,1.0s
KEK Kerkira 88.12 351 P **P 03 22 23.3 -0.7**
KEK Kerkira 88.12 351 P **P 03 22 23.3 -0.7**
KERG Konya-Eregli 88.13 340 *i* P **P 03 22 25.6 +1.4**
NEO Neokhori 88.15 348 P **P 03 22 19.9 -4.2**
NEO Neokhori 88.15 348 P **P 03 22 19.9 -4.2**
KMER Konya-Meram 88.16 341 *i* P **P 03 22 26.1 +1.8**
CUC Castrocucco 88.16 354 *eP* **P 03 22 22.9 -1.4**
comp=Z,229nm,1.0s
CUC *eS* **SKSac 03 32 51.0 +2.4**
CUC LR LR
comp=Z,45µm,19.0s
PMAFR Mafra 88.17 14 *eP* **P 03 22 23.8 -0.4**
comp=Z,3µm,1.5s
PMAFR Mafra 88.17 14 *e*PP PP 03 26 05.7 +15
SGD Sagiada 88.18 351 P **P 03 22 23.9 -0.3**
PAB San Pablo 88.20 10 *eP* **P 03 22 24.6 +0.1**
PAB pmax pmax
comp=Z,1µm,1.4s
PAB MLR MLR
comp=Z,94µm,20.0s
PAB San Pablo 88.20 10 *eP* **P 03 22 24.6 +0.1**
comp=Z,1µm,1.4s
PAB LR LR
comp=Z,94µm,20.0s
NJS Nagarjunasagar 88.25 295 *eP* **P 03 22 23.8 -1.1**
NJS IAmb IAmb 03 22 34.8
comp=Z,2µm,1.2s
NJS *e*SKSac **SKSac 03 32 48.0 -1.6**
NJS IVMs_BB IVMs_BB 04 05 02.2
comp=Z,18µm,19.1s
SKIA Skiathos 88.25 348 P **P 03 22 23.7 -0.9**
FITZ Fitzroy Crossi 88.36 238 *eP* **P 03 22 24.9 -0.3**
PMST Lisbon--Monsan 88.39 14 *eP* **P 03 22 25.5 +0.2**
comp=Z,1µm,1.0s
PMST Lisbon--Monsan 88.39 14 *e*PP PP 03 26 06.8 +14
LIS Lisbon 88.42 13 *eP* **P 03 22 25.0 -0.4**
LIS *e*PP **PP 03 25 53.4 +0.8**
LIS *eS* **SKSac 03 32 48.2 -1.9**
LIS AMS AMS 04 01 49.1
comp=Z,98µm,20.7s
LIS Lisbon 88.42 13 *eP* **P 03 22 25.0 -0.4**
LIS *e* 03 25 53.4
LIS *eS* **SKSac 03 32 48.1 -1.9**
DED Mersin 88.42 339 *i* P **P 03 22 26.4 +1.0**
ADKI Addanki 88.44 294 *eP* **P 03 22 25.5 -0.3**
ADKI IAmb IAmb 03 22 36.2
comp=Z,2µm,1.2s
ADKI *e*SKSac **SKSac 03 32 49.7 -1.0**
ADKI IVMs_BB IVMs_BB 04 09 39.3
comp=Z,21µm,17.4s
BPA Boggy Peak 88.46 64 *eP* **P 03 22 26.9 +0.9**
PCJI Pacitan 88.48 255 P **P 03 22 26.2 +0.3**
PESTR Estremoz 88.49 12 *eP* **P 03 22 25.2 -0.5**
comp=Z,1µm,2.0s
PESTR Estremoz 88.49 12 *e*PP PP 03 25 58.5 +5.3
MNSI Mandailing Nat 88.51 269 P **P 03 22 24.2 -1.9**
comp=Z,1µm,0.7s,comp=Z,19µmcomp=Z,76µm
KLRI Killari 88.52 298 *eP* **P 03 22 25.4 -0.9**
KLRI IAmb IAmb 03 22 30.4
comp=Z,2µm,0.7s
KLRI *e*SKSac **SKSac 03 32 48.1 -3.2**
KLRI IVMs_BB IVMs_BB 04 04 57.9
comp=Z,60µm,19.2s
AGG Agios Georgios 88.53 349 P **P 03 22 24.2 -1.8**
AGG Agios Georgios 88.53 349 *eP* **P 03 22 24.9 -1.1**
AGG Agios Georgios 88.53 349 *eP* **P 03 22 24.9 -1.1**
comp=Z,12µm,2.0s
DSL Palaion Diasel 88.56 350 P **P 03 22 25.8 -0.3**
DSL Palaion Diasel 88.56 350 P **P 03 22 25.8 -0.3**
SMIA Simia 88.57 348 P **P 03 22 24.9 -1.2**
URLA Izmir 88.61 346 *i* P **P 03 22 27.4 +1.0**
CHOS Chios island 88.66 346 P **P 03 22 26.2 -0.5**
CHOS Chios island 88.66 346 P **P 03 22 26.2 -0.5**
EVR Evrytania 88.70 349 P **P 03 22 26.6 -0.3**
EVR Evrytania 88.70 349 P **P 03 22 26.6 -0.3**
SDSI Sungai Dareh 88.72 267 P **P 03 22 26.8 -0.3**
comp=Z,1µm,0.9s,comp=Z,29µm
ZEY ˙zmir 88.74 346 *i* P **P 03 22 26.1 -0.8**
EVO Evora 88.76 13 *eP* **P 03 22 26.6 -0.4**
comp=Z,487nm,2.2s
EVO Evora 88.76 13 *e*PP PP 03 25 54.2 -1.2
ATAL Atalanti 88.78 348 P **P 03 22 27.0 -0.1**
ATAL Atalanti 88.78 348 P **P 03 22 27.0 -0.1**
OCAC Ocana 88.78 78 *eP* **P 03 22 27.2 -0.4**
LKR Lokris 88.82 348 P **P 03 22 25.6 -1.7**
LKR Lokris 88.82 348 P **P 03 22 25.6 -1.7**
SRLM Srisailam 88.84 295 *eP* **P 03 22 26.9 -0.9**
SRLM IAmb IAmb 03 22 37.6
comp=Z,2µm,1.2s
SRLM *e*SKSac **SKSac 03 32 51.5 -1.8**
SRLM IVMs_BB IVMs_BB 04 09 56.9
comp=Z,23µm,15.8s
DNZL Cakiroluk 88.86 344 *i* P **P 03 22 29.4 +1.6**
DGB ˙zmir 88.86 345 *i* P **P 03 22 28.7 +1.2**
VSL Villasalto 88.89 359 *eP* **P 03 22 27.4 -0.2**
comp=Z,1µm,1.6s
VSL LR LR
comp=Z,77µm,21.0s
TIP Timpagrande 88.91 353 P **P 03 22 26.9 -0.9**
TIP Timpagrande 88.91 353 *eP* **P 03 22 27.2 -0.5**
comp=Z,2µm,1.8s
TIP LR LR
comp=Z,101µm,19.0s
EREA Eretria 88.93 348 P **P 03 22 26.9 -0.9**
LKD2 Lefkada island 88.95 350 P **P 03 22 26.8 -1.1**
LKD2 Lefkada island 88.95 350 P **P 03 22 26.8 -1.1**
AS01 Alice Springs 88.98 228 *eP* **P 03 22 26.4 -1.7**
PPI Padang Panjang 88.99 268 P **P 03 22 27.3 -1.1**
comp=Z,1µm,1.0s,comp=Z,24µmcomp=Z,84µm
AS31 Alice Springs 89.00 228 *eP* **P 03 22 27.7 -0.5**
comp=Z,299nm,1.0s
ASAR Alice Springs 89.00 228 P **P 03 22 27.6 -0.6**
comp=Z,362nm,0.6s,baz=26,slow=4.5,SNR=541
ASAR S **SKSac 03 32 55.1 +1.6**
comp=Z,3.6nm,0.9s,baz=66,slow=1.5,SNR=2.6
ASAR PKKPbc **PKKPbc 03 40 06.0 +1.0**
comp=Z,7.4nm,0.7s,baz=212,slow=2.3,SNR=6.2
ASAR PKPPKP **P'P'df 03 48 12.5 +0.4**
comp=Z,2.4nm,0.7s,baz=190,slow=3.0,SNR=4.7
ASAR Alice Springs 89.00 228 P **P 03 22 27.6 -0.6**
ASAR S **SKSac 03 32 55.1 +1.6**
ASAR pmax pmax
comp=Z,360nm,0.6s
ASAR smax smax
comp=N,4.0nm,0.9s
ANX Ano Chora 89.01 349 P **P 03 22 27.5 -0.8**
YAYL Yayladag 89.01 338 *i* P **P 03 22 28.1 -0.3**
KUZ Kuaotunu 89.03 190 PN **P 03 22 28.7 +0.9**
KIZK Mersin 89.03 339 *i* P **P 03 22 29.6 +1.3**
PVO Paravola 89.03 350 P **P 03 22 28.2 -0.1**
HELC Santa Helena 89.04 81 *eP* **P 03 22 28.3 -0.8**
HELC Santa Helena 89.04 81 *eP* **P 03 22 29.1 0.0**
comp=N,1µm,1.3s
PDO Prodromos 89.08 350 P **P 03 22 27.4 -1.1**
PNCL Nicolau / Gran 89.10 13 *eP* **P 03 22 28.3 -0.3**
comp=N,1µm,1.6s
PNCL Nicolau / Gran 89.10 13 *e*PP PP 03 25 56.2 -1.9
DSF Desfina 89.11 349 P **P 03 22 27.3 -1.5**
DSF Desfina 89.11 349 P **P 03 22 27.3 -1.5**
ERMK Ermenek 89.13 340 *i* P **P 03 22 30.3 +1.2**
GDHS Morne Mazeau, 89.13 64 *eP* **P 03 22 30.7 +1.5**
comp=N,1µm,1.0s
KPJI Karang Pucung 89.15 257 P **P 03 22 27.1 -2.0**
comp=N,312nm,0.9s,comp=N,11µm
GCAM G?zelcaml? 89.15 345 *i* P **P 03 22 30.0 +1.2**
SERG Sergoula 89.17 349 P **P 03 22 28.2 -0.8**
EFP Efpalio 89.17 349 P **P 03 22 28.9 0.0**
KALE Kalithea 89.18 349 P **P 03 22 28.8 -0.3**
KALE Kalithea 89.18 349 P **P 03 22 28.8 -0.3**
SMG Samos 89.21 345 P **P 03 22 27.4 -1.7**
SMG Samos 89.21 345 P **P 03 22 27.4 -1.7**
GOLH Golhisar 89.21 343 *i* P **P 03 22 31.2 +1.9**
PBAR Barrancos 89.24 12 *eP* **P 03 22 28.9 -0.4**
comp=N,4µm,1.3s
PBAR Barrancos 89.24 12 *e*PP PP 03 26 01.4 +2.2

VILL Villia 89.26 348 P **P 03 22 29.5 +0.1**
PBEJ Beja 89.28 13 *eP* **P 03 22 28.9 -0.6**
comp=N,1µm,1.7s
PBEJ Beja 89.28 13 *e*PP PP 03 26 01.3 +1.8
KORT Korkueli 89.29 342 *i* P P 03 22 22.0 -7.8
PDSI Padang 89.30 268 P **P 03 22 29.9 0.0**
PTL Penteli 89.30 348 P **P 03 22 28.2 -1.4**
PTL Penteli 89.30 348 P **P 03 22 28.2 -1.4**
UPR University Cam 89.33 349 P **P 03 22 32.4 +2.7**
RCLA Racherla 89.33 294 *eP* **P 03 22 29.3 -0.7**
RCLA IAmb IAmb 03 22 40.1
comp=Z,2µm,1.1s
RCLA *e*SKSac **SKSac 03 32 53.6 -2.4**
RCLA IVMs_BB IVMs_BB 04 10 08.3
comp=Z,20µm,14.9s
WTAZ Waiatarua 89.34 191 *e*PN **P 03 22 31.2 +1.8**
LAKA Lakka 89.35 349 P **P 03 22 29.3 -0.5**
LAKA Lakka 89.35 349 P **P 03 22 29.3 -0.5**
GSI Gunungsitoli 89.36 271 P **P 03 22 30.2 +0.1**
comp=Z,2µm,0.7s,comp=Z,52µm
GSI Gunungsitoli 89.36 271 *eP* **P 03 22 29.5 -0.6**
comp=Z,9µm,1.8s
GSI *eS* **S 03 33 15.0 -1.3**
ATHU Athens Univers 89.39 348 P **P 03 22 28.7 -1.3**
ATHU Athens Univers 89.39 348 P **P 03 22 28.7 -1.3**
ATH Athens Observa 89.40 348 P **P 03 22 28.8 -1.2**
ATH Athens Observa 89.40 348 P **P 03 22 28.8 -1.2**
ATH Athens Observa 89.40 348 P **P 03 22 28.8 -1.2**
MESJ Messejana 89.41 13 *eP* **P 03 22 29.6 -0.5**
MESJ *e*PP **PP 03 26 01.2 +0.6**
MESJ *eS* **SKSac 03 32 53.9 -2.0**
MESJ AMS AMS 04 02 41.3
comp=Z,71µm,21.9s
MESJ Messejana 89.41 13 *eP* **P 03 22 30.4 +0.3**
comp=Z,482nm,1.2s
MESJ Messejana 89.41 13 *e*PP PP 03 25 58.5 -2.1
MESJ Messejana 89.41 13 *eP* **P 03 22 29.1 -0.5**
MESJ *e* 03 26 01.1
MESJ *eS* **SKSac 03 32 53.9 -2.0**
BRRC Barranca, Sant 89.43 79 *eP* **P 03 22 30.4 -0.1**
MKAZ Moumakai 89.44 190 PN **P 03 22 30.4 +0.6**
LTK Loutraki 89.44 348 P **P 03 22 28.1 -2.2**
LTK Loutraki 89.44 348 P **P 03 22 28.1 -2.2**
AXS Araxos 89.46 350 P **P 03 22 30.2 -0.1**
THAL Thalero 89.47 349 P **P 03 22 29.0 -1.3**
DEG La Desirade 89.49 64 *eP* **P 03 22 31.7 +0.9**
GRMC Gramalote, San 89.50 78 *eP* **P 03 22 31.2 +0.2**
CBRI Barrientos, No 89.50 78 *eP* **P 03 22 31.0 0.0**
VLY Voula,Athens 89.50 348 P **P 03 22 28.1 -2.4**
VLY Voula,Athens 89.50 348 P **P 03 22 28.1 -2.4**
KLV Kalavryta, Ach 89.52 349 P **P 03 22 30.1 -0.6**
KLV Kalavryta, Ach 89.52 349 P **P 03 22 30.1 -0.6**
YER Yerkesik 89.53 344 P **P 03 22 30.2 -0.5**
YER Yerkesik 89.53 344 P **P 03 22 30.2 -0.5**
YER Yerkesik 89.53 344 P **P 03 22 30.2 -0.5**
TBG Guadaloupe-3 89.54 65 *eP* **P 03 22 30.9 -0.1**
LEM Lembang 89.55 258 P **P 03 22 32.1 +1.0**
VLS Valsamata 89.56 350 P **P 03 22 29.9 -0.9**
VLS Valsamata 89.56 350 P **P 03 22 29.9 -0.9**
VLS Valsamata 89.56 350 P **P 03 22 29.9 -0.9**
RLS Riolos of Patr 89.59 350 P **P 03 22 30.8 -0.1**
RLS Riolos of Patr 89.59 350 P **P 03 22 30.8 -0.1**
GUR Goura 89.61 349 P **P 03 22 30.2 -0.9**
GUR Goura 89.61 349 P **P 03 22 30.2 -0.9**
KFL Anninata 89.61 350 P **P 03 22 30.6 -0.4**
PTEO Sao Teotonio 89.63 13 *eP* **P 03 22 30.7 -0.4**
comp=Z,2µm,1.7s
PTEO Sao Teotonio 89.63 13 *e*PP PP 03 26 03.6 +1.3
POO Poona 89.63 300 *eP* **P 03 22 31.4 -0.1**
MAC Bahia Malaga 89.64 84 *eP* **P 03 22 31.9 +0.4**
PCVE Castro Verde 89.64 13 *eP* **P 03 22 30.8 -0.4**
comp=Z,915nm,1.7s
PCVE Castro Verde 89.64 13 *e*PP PP 03 26 06.3 +3.9
GAZI Gazipasa 89.65 341 *i* P **P 03 22 32.0 +0.7**
DRO Drossia 89.66 349 P **P 03 22 31.3 0.0**
MGG Marie-Galante 89.67 64 *eP* **P 03 22 33.3 +1.7**
KLI Kotabumi 89.69 262 P **P 03 22 32.7 +1.1**
LHSI Lahat 89.69 263 P **P 03 22 29.9 -1.7**
TURN Turunc 89.73 344 *i* P **P 03 22 33.9 +2.3**
BDRM Kayabasi 89.74 345 *i* P **P 03 22 34.0 +2.3**
BODT Bodrum 89.76 345 P **P 03 22 30.4 -1.4**
BODT Bodrum 89.76 345 P **P 03 22 30.4 -1.4**
GIRC Giron, Santand 89.76 79 *eP* **P 03 22 32.3 0.0**
CMJI Cimerak 89.80 257 P **P 03 22 31.5 -0.6**
BLSI Bandar Lampung 89.84 261 P **P 03 22 33.1 +0.7**
BTLC Betulia, Santa 89.84 79 *eP* **P 03 22 34.5 +1.7**
PAMC Pamplona, Colo 89.86 78 *eP* **P 03 22 32.4 -0.7**
MORF Marmelete 89.88 13 *eP* **P 03 22 31.8 -0.5**
MORF *e*PP **PP 03 26 05.0 +0.7**
MORF *eS* **SKSac 03 32 56.5 -2.3**
MORF AMS AMS 04 03 03.0
comp=Z,112µm,24.6s
MORF Marmelete 89.88 13 *eP* **P 03 22 31.7 -0.6**
comp=Z,2µm,1.8s
MORF Marmelete 89.88 13 *eP* **P 03 22 31.8 -0.5**
MORF *e* 03 26 05.0
MORF *eS* **SKSac 03 32 56.5 -2.3**
GUYC Guyana, Colomb 89.88 82 *eP* **P 03 22 34.5 +1.3**
BOM Bombay 89.88 301 *ex* P 03 22 26.3 -6.2
CEL Celeste 89.88 354 *eP* **P 03 22 30.5 -1.8**
comp=Z,422nm,0.8s
CEL LR LR
comp=Z,61µm,20.0s
SDV Santo Domingo 89.89 76 P **P 03 22 32.8 0.0**
comp=Z,330nm,0.9s,baz=328,slow=3.1,SNR=45
SDV Santo Domingo 89.89 76 *eP* **P 03 22 31.9 -0.9**
SDV Santo Domingo 89.89 76 *eP* **P 03 22 31.9 -1.0**
SDV Santo Domingo 89.89 76 *eP* **P 03 22 33.0 +0.2**
comp=Z,594nm,0.9s
SDV LR LR
comp=Z,46µm,19.0s
SBJI Serang 89.89 260 P sP 03 22 54.8 +2.2
BBL Barber's Block 89.90 65 *eP* **P 03 22 34.8 +2.1**
PVAQ Vaqueiros 89.91 13 *eP* **P 03 22 32.5 +0.1**
comp=Z,2µm,1.6s
PVAQ Vaqueiros 89.91 13 *e*PP PP 03 26 05.1 +0.6
PVAQ *eS* **SKSac 03 33 01.0 +2.1**
PVAQ Vaqueiros 89.91 13 *e*LQ LQ 03 48 17.8
PVAQ *e*LR LR 03 52 40.5
comp=Z,84µm,18.0s
GRGC Isla de Gorgon 89.91 85 *eP* **P 03 22 32.9 +0.2**
DID Didima 89.92 348 P **P 03 22 30.2 -2.3**
DID Didima 89.92 348 P **P 03 22 30.2 -2.3**
NORC Norcasia 89.93 81 *eP* **P 03 22 33.0 +0.1**
DWS Wesley 89.96 65 *eP* **P 03 22 30.7 -2.2**
CISI Cisompet, Garu 90.00 258 P **P 03 22 34.9 +1.8**
CISI Cisompet, Garu 90.00 258 *eP* **P 03 22 32.0 -1.1**
ZKS Zakynthos 90.02 350 P **P 03 22 31.0 -1.9**
PFVI Vila Bisbo 90.02 14 *eP* **P 03 22 32.6 -0.3**
comp=Z,1µm,1.9s
PFVI Vila Bisbo 90.02 14 *e*PP PP 03 26 08.4 +3.0
PFVI Vila Bisbo 90.02 14 *eP* **P 03 22 32.9 -0.1**
comp=Z,800nm,0.9s
TOZ Tahuroa Road 90.02 190 PN **P 03 22 32.4 -0.1**
APE Apeiranthos 90.03 346 P **P 03 22 29.5 -3.6**
APE Apeiranthos 90.03 346 *i* P **P 03 22 33.4 +0.3**
APE Apeiranthos 90.03 346 *c i* P **P 03 22 32.0 -1.1**
APE pmax pmax
comp=Z,448nm,1.5s
APE MLR MLR
comp=Z,72µm,21.0s
APE Apeiranthos 90.03 346 P **P 03 22 29.5 -3.6**
PBDV Barranco-do-Ve 90.04 13 *eP* **P 03 22 33.0 -0.1**
comp=Z,1µm,1.9s
PBDV Barranco-do-Ve 90.04 13 *e*PP PP 03 26 07.3 +1.7
KRND KRANIDI 90.05 348 P **P 03 22 31.1 -2.0**
KSI Kapahiang 90.13 264 P **P 03 22 37.8 +4.0**
comp=Z,617nm,1.0s,comp=Z,16µm
BARC Banchara 90.15 79 *eP* **P 03 22 34.6 +0.5**
VLX Vlachokerasia 90.16 349 P **P 03 22 32.5 -1.2**
VLX Vlachokerasia 90.16 349 P **P 03 22 32.5 -1.2**
AKAS Kas 90.18 343 *i* P **P 03 22 35.2 +1.3**
DLPL La Plaine 90.19 65 *eP* **P 03 22 37.3 +3.3**
CNJI Cibinong 90.22 258 P **P 03 22 35.5 +1.4**
NISR Nisiros 90.23 345 P **P 03 22 33.6 -0.3**
NISR Nisiros 90.23 345 P **P 03 22 33.6 -0.3**
NIS1 Nisyros Isl. 90.23 345 P **P 03 22 33.4 -0.6**
NIS1 Nisyros Isl. 90.23 345 P **P 03 22 33.4 -0.6**
KSL Kastellorizon 90.26 343 P **P 03 22 33.0 -1.1**
KSL Kastellorizon 90.26 343 P **P 03 22 33.0 -1.1**
LWLI Liwa 90.30 262 P **P 03 22 38.5 +3.9**
comp=Z,578nm,0.7s,comp=Z,11µm

URZ Urewera 90.39 189 *eP* **P 03 22 34.4 +0.2**
comp=Z,135nm,1.0s
UTU Utuhina 90.39 189 PN **P 03 22 35.3 +1.1**
ITM Ithomi 90.40 349 P **P 03 22 33.5 -1.2**
ITM Ithomi 90.40 349 P **P 03 22 33.5 -1.2**
TOLC Tolima 90.42 82 *eP* **P 03 22 36.3 +0.8**
KASI Kota Agung 90.42 262 P **P 03 22 35.5 +0.5**
ARG Arkhangelos 90.45 344 P **P 03 22 33.5 -1.5**
ARG Arkhangelos 90.45 344 P **P 03 22 33.5 -1.5**
ARG Arkhangelos 90.45 344 P **P 03 22 33.5 -1.5**
MNAI Manna 90.46 264 P **P 03 22 35.9 +0.7**
MNAI Manna 90.46 264 *eP* **P 03 22 34.7 -0.6**
PHNC Paralimni 90.47 339 P **P 03 22 35.1 0.0**
MAMC Mammari 90.49 340 P **P 03 22 33.6 -1.6**
MDRS Chennai 90.52 292 *eP* **P 03 22 34.5 -1.1**
MDRS IAmb IAmb 03 22 40.9
comp=Z,598nm,1.2s
CGJI Cibinong 90.55 260 P **P 03 22 34.4 -1.2**
comp=Z,341nm,1.4s,comp=Z,9µmcomp=Z,44µm
MHLO Agia Marina, M 90.57 347 P **P 03 22 32.4 -3.1**
PCM Pelee Case Pet 90.62 65 *eP* **P 03 22 34.5 -1.6**
ALFC Alefka 90.63 340 P **P 03 22 34.7 -1.2**
CMBO Columbo, Santo 90.64 346 P **P 03 22 34.4 -1.4**
CXM Morne La Croix 90.65 65 *eP* **P 03 22 37.3 +1.0**
BAMF Morne Balai 90.66 65 *eP* **P 03 22 36.4 +0.1**
CSS Mathiatis 90.66 340 P **P 03 22 35.2 -0.8**
CSS Mathiatis 90.66 340 P **P 03 22 35.4 -0.6**
CSS Mathiatis 90.66 340 *eP* **P 03 22 35.0 -1.0**
comp=Z,940nm,1.6s
CSS LR LR
comp=Z,14µm,21.0s
GBMF Grand Be 90.66 65 *eP* **P 03 22 39.1 +2.8**
PML Morne Lenard 90.67 65 *eP* **P 03 22 39.2 +2.9**
THR8 Santorini-Mono 90.69 346 P **P 03 22 34.1 -1.9**
THR5 Thira Island, 90.70 346 P **P 03 22 32.8 -3.3**
PYL PYLOS 90.70 349 P **P 03 22 34.7 -1.4**
PYL PYLOS 90.70 349 P **P 03 22 34.7 -1.4**
CLTB Caltabellotta 90.70 356 *eP* **P 03 22 35.2 -1.1**
comp=Z,3µm,1.6s
CLTB *eS* **SKSac 03 33 07.8 +4.1**
CLTB LR LR
comp=Z,49µm,20.0s
THT1 Athinios (Pele 90.72 346 P **P 03 22 34.0 -2.2**
FDF Fort de France 90.72 65 *eP* **P 03 22 37.7 +1.2**
FDF Fort de France 90.72 65 *eP* **P 03 22 38.2 +1.6**
FDF pmax pmax
comp=Z,3µm,1.7s
FDF MLR MLR
comp=Z,79µm,19.0s
FDF Fort de France 90.72 65 *eP* **P 03 22 38.2 +1.6**
comp=Z,3µm,1.7s
FDF LR LR
comp=Z,79µm,19.0s
HWQ Hawqa 90.72 337 *eP* **P 03 22 36.0 -0.4**
SANT Santorini 90.73 346 P **P 03 22 34.8 -1.5**
SANT Santorini 90.73 346 *eP* **P 03 22 34.8 -1.5**
comp=Z,1µm,1.4s
SANT LR LR
comp=Z,93µm,22.0s
VLI Veliai 90.73 348 P **P 03 22 34.3 -2.0**
VLI Veliai 90.73 348 P **P 03 22 34.3 -2.0**
VAE Valguarnera 90.75 355 LR LR 04 02 54.1
comp=Z,28µm,21.8s,baz=19,slow=35
THR6 Thira Island, 90.75 346 P **P 03 22 38.1 +1.8**
THR6 Thira Island, 90.75 346 P **P 03 22 38.1 +1.8**
RUSC La Rusia 90.76 80 *eP* **P 03 22 36.4 -0.9**
RIGZ Rimuhau 90.77 188 *e*PN **P 03 22 35.9 -0.1**
AKMC Akamas 90.81 340 P **P 03 22 35.1 -1.6**
ROSC El Rosal 90.84 81 P **P 03 22 37.6 +0.1**
comp=Z,105nm,1.0s,baz=45,slow=2.9,SNR=43
ROSC LR LR 04 05 52.6
comp=Z,11µm,20.3s,baz=338,slow=37
ROSC El Rosal 90.84 81 *eP* **P 03 22 38.1 +0.6**
ROSC El Rosal 90.84 81 *eP* **P 03 22 38.1 +0.6**
comp=Z,193nm,0.9s
HIZ Hauiti 90.87 190 *eP* **P 03 22 38.0 +1.6**
comp=Z,1µm,1.3s
HIZ Hauiti 90.87 190 PN **P 03 22 37.5 +1.1**
ZAM Aeronautique 90.92 65 *eP* **P 03 22 39.8 +2.4**
TRMF Trois Ilets 90.94 65 *eP* **P 03 22 41.0 +3.5**
BIM Bigot 90.94 65 *eP* **P 03 22 39.3 +1.7**
PPCY Paphos 90.95 340 P **P 03 22 36.1 -1.2**
SZAC Souni 90.96 340 P **P 03 22 36.6 -0.8**
MVM Montagne Vaucl 91.01 65 *eP* **P 03 22 40.0 +2.2**
PPSI Pulau Pagai 91.03 267 P **P 03 22 38.7 +0.8**
KNZ Kokohu 91.09 188 PN **P 03 22 37.7 +0.3**
BHL Bhannes 91.15 337 *eP* **P 03 22 38.2 -0.2**
KYTH Kithira 91.17 348 P **P 03 22 38.0 -0.3**
KYTH Kithira 91.17 348 P **P 03 22 38.0 -0.3**
POPC Popayan, Colom 91.19 84 *eP* **P 03 22 38.6 -0.4**
BEYL Beirut 91.22 338 *eP* **P 03 22 39.4 +0.8**
KARP Karpathos 91.27 345 P **P 03 22 36.2 -2.6**
KARP Karpathos 91.27 345 *eP* **P 03 22 38.1 -0.7**
comp=Z,261nm,0.7s
BKZ Black Stump Fm 91.34 189 *eP* **P 03 22 37.6 -1.1**
comp=Z,474nm,1.6s
BKZ *e*PKKPdf **PKKPbc 03 40 03.0 +3.1**
CHIC Chingaza 91.36 81 *eP* **P 03 22 39.8 -0.2**
DQRL Deir Qamar 91.36 337 *eP* **P 03 22 39.5 +0.1**
PRAC Prado 91.37 82 *eP* **P 03 22 38.1 -1.5**
PRAC Prado 91.37 82 *eP* **P 03 22 39.1 -0.5**
comp=Z,630nm,0.8s
ABA Alger-Bouzarea 91.47 4 P **P 03 22 40.0 +0.3**
RCY Rachaya 91.50 337 *eP* **P 03 22 39.9 -0.1**
ANKY Antikythira Is 91.53 348 P **P 03 22 38.9 -1.0**
ANKY Antikythira Is 91.53 348 P **P 03 22 38.9 -1.0**
ABMS Boumerdes 91.55 4 P **P 03 22 40.7 +0.7**
YOPC Yopal, Colombi 91.59 79 *eP* **P 03 22 42.0 +1.3**
CAEH ˙Ain El Ouahch 91.60 1 P **P 03 22 41.2 +0.9**
MCLT Moule a Chique 91.67 65 *eP* **P 03 22 40.8 -0.2**
BANOM Banah 91.73 318 *i* P **P 03 22 40.2 -1.0**
SNR=84
BANOM Banah 91.73 318 P **P 03 22 40.1 -1.0**
SNR=54
BANOM Banah 91.73 318 P **P 03 22 40.1 -1.0**
SNR=54
CMBC Cumbal 91.73 86 *eP* **P 03 22 44.1 +2.3**
CMAH Djebel Manchou 91.76 1 P **P 03 22 40.4 -0.7**
CRUC La Cruz 91.78 85 *eP* **P 03 22 43.7 +1.9**
VILC Villavicencio, 91.79 81 *eP* **P 03 22 42.6 +1.0**
NPS Neapolis 91.79 346 P **P 03 22 40.4 -0.8**
NPS Neapolis 91.79 346 P **P 03 22 40.4 -0.8**
NPS Neapolis 91.79 346 P **P 03 22 40.4 -0.8**
DFRA Djebel Bou Aff 91.82 2 P **P 03 22 41.8 +0.3**
IACM Heraklion 91.83 346 P **P 03 22 40.3 -1.0**
IMMV Iera Moni Meta 91.83 347 P **P 03 22 40.4 -1.0**
ZKR Zakros 91.84 345 P **P 03 22 38.1 -3.3**
ZKR Zakros 91.84 345 P **P 03 22 38.1 -3.3**
SVB Belmont 91.85 66 *eP* **P 03 22 42.4 +0.6**
comp=Z,2µm,1.6s
VAM Vamos 91.86 347 P **P 03 22 42.2 +0.7**
VAM Vamos 91.86 347 P **P 03 22 42.2 +0.7**
VAM Vamos 91.86 347 P **P 03 22 42.2 +0.7**
IDI Anoyia 91.87 346 P **P 03 22 39.3 -2.4**
IDI Anoyia 91.87 346 *eP* **P 03 22 40.2 -1.5**
comp=Z,432nm,0.9s
IDI *eS* **SKSac 03 33 12.8 +2.4**
OTAV Otavalo 91.90 87 *eP* **P 03 22 42.0 -0.5**
OTAV Otavalo 91.90 87 *eP* **P 03 22 43.0 +4.0**
OTAV Otavalo 91.90 87 *eP* **P 03 22 42.6 0.0**
comp=Z,371nm,1.1s
OTAV LR LR
comp=Z,20µm,20.0s
EBNR Beni Rached 91.91 5 P **P 03 22 43.2 +1.4**
LAST Lasithi 91.91 346 P **P 03 22 40.4 -1.5**
LAST Lasithi 91.91 346 *eP* **P 03 22 40.9 -1.0**
comp=Z,8µm,1.9s
FCV Fort Charlotte 91.95 66 *eP* **P 03 22 45.1 +2.9**
CKFL Kef-Lekhel 91.98 1 P **P 03 22 42.4 +0.2**
ECHA Ech Chlef 92.04 6 P **P 03 22 43.5 +1.2**
EMHD Djebel Mahouad 92.07 4 P **P 03 22 42.7 +0.1**
ABSA Djebel Ababsia 92.11 1 P **P 03 22 41.8 -1.0**
CASM Ain Smara 92.12 1 P **P 03 22 42.8 0.0**
GOA Goa 92.14 298 *eP* **P 03 22 41.2 -1.8**
SIVA Sivas 92.15 346 P **P 03 22 42.3 -0.5**
SIVA Sivas 92.15 346 P **P 03 22 42.3 -0.5**
SET Setif 92.16 2 P **P 03 22 44.0 +1.0**
EANR ˙Ain N'Sour 92.22 6 P **P 03 22 44.6 +1.4**
SJAC San Juan de Ar 92.29 82 *eP* **P 03 22 42.6 -1.3**
CTEI Djebel Teioual 92.31 1 P **P 03 22 44.0 +0.2**
USTO Oran 92.32 7 P **P 03 22 47.0 +3.4**
CKHR Kef el Ahmar 92.34 2 P **P 03 22 44.4 +0.5**

WDD **Wied Dalam** 92.35 355 *e*P P 03 22 42.8 -1.0
comp=Z,622nm,0.9s
WDD LR LR
comp=Z,42µm,20.0s
PCRV **Puerto La Cruz** 92.41 70 P P 03 22 42.7 -1.7
comp=Z,18nm,1.0s,baz=20,slow=7.0,SNR=4.0
GVD **Gavdhos** 92.43 347 P P 03 22 43.3 -0.8
GVD **Gavdhos** 92.43 347 P P 03 22 43.3 -0.8
GRSS **Sisters** 92.44 67 *e*P P 03 22 46.6 +2.2
GRW **Mount Saint Ca** 92.52 67 *e*P P 03 22 49.2 +4.3
GRGR **Grenville** 92.55 67 PFAKE 03 23 00.0 +15
GRGR LR LR
comp=Z,84µm,20.0s
UOSS **Minazif** 92.63 318 *e*P P 03 22 44.0 -1.3
comp=Z,61nm,1.0s
PMPS **Porto Santo** 92.64 20 *e*P P 03 22 46.1 +1.0
comp=Z,3µm,1.3s
KEST **Kesra** 92.65 359 P P 03 22 45.1 -0.2
comp=Z,72nm,0.8s,baz=298,slow=2.0,SNR=71
KEST PKPPKP **P'P'df** 03 48 10.8 -1.5
comp=Z,7.1nm,1.0s,baz=124,slow=4.8,SNR=5.2
KEST LR LR 04 05 23.0
comp=Z,58µm,21.3s,baz=318,slow=36
KEST **Kesra** 92.65 359 *e*P P 03 22 45.1 -0.2
comp=Z,884nm,1.4s
KEST P'P' 03 48 10.8
PMOZ **Porto Moniz, M** 92.67 21 *e*P P 03 22 45.7 +0.3
comp=Z,3µm,1.6s
PMOZ **Porto Moniz, M** 92.67 21 *e*PP PP 03 26 29.0 +2.4
PMOZ *e*S **SKSac** 03 33 21.6 +6.6
PMOZ **Porto Moniz, M** 92.67 21 *e*LQ LQ 03 47 35.6
PMOZ *e*LR LR 03 53 26.7
comp=Z,60µm,18.0s
OLHC **Oulhaca** 92.73 8 P P 03 22 48.0 +2.4
ODJA **Bouhanifia** 92.75 7 P P 03 22 46.0 +0.3
HATD **Hatta, Dubai** 92.77 318 *i* P P 03 22 44.5 -1.4
SNR=141
HATD **Hatta, Dubai** 92.77 318 P P 03 22 44.8 -1.1
SNR=60
HATD **Hatta, Dubai** 92.77 318 P P 03 22 44.8 -1.1
SNR=60
ETRT **Tiaret** 92.79 6 P P 03 22 46.7 +0.7
NAZ **Nazwa, Dubai** 92.82 318 *i* P P 03 22 44.8 -1.3
SNR=192
NAZ **Nazwa, Dubai** 92.82 318 P P 03 22 45.0 -1.1
SNR=122
NAZ **Nazwa, Dubai** 92.82 318 P P 03 22 45.0 -1.1
SNR=122
PMAR **Madeira** 92.83 21 *e*P P 03 22 47.6 +1.3
comp=Z,6µm,1.9s
BFZ **Birch Farm** 92.87 189 *e*P P 03 22 47.4 +1.8
comp=Z,254nm,1.2s
BFZ **Birch Farm** 92.87 189 PN P 03 22 46.4 +0.7
BBGH **Gun Hill** 92.91 65 *e*P P 03 22 52.3 +5.7
BBGH **Gun Hill** 92.91 65 *e*P P 03 22 46.6 0.0
comp=Z,1µm,1.1s
BBGH LR LR
comp=Z,85µm,22.0s
FUL **Funchal** 92.91 21 *e*P P 03 22 47.7 +1.3
comp=Z,3µm,1.7s
ASHO **Ashiyiah** 92.92 317 *i* P P 03 22 45.2 -1.5
SNR=181
ASHO **Ashiyiah** 92.92 317 P P 03 22 45.4 -1.2
SNR=75
ASHO **Ashiyiah** 92.92 317 P P 03 22 45.4 -1.2
SNR=75
STKA **Stephens Creek** 92.94 218 P P 03 22 45.6 -0.6
comp=Z,86nm,0.8s,baz=353,slow=5.9,SNR=46
STKA S **SKSac** 03 33 12.1 -3.5
comp=Z,7.3nm,0.9s,baz=179,slow=1.5,SNR=2.8
STKA PKKPbc **PKKPbc** 03 39 55.9 +0.6
comp=Z,14nm,0.8s,baz=34,slow=2.4,SNR=4.7
STKA LR LR 04 01 15.6
comp=Z,102µm,20.5s,baz=21,slow=33
STKA **Stephens Creek** 92.94 218 *e*P P 03 22 46.1 -0.2
STKA S **SKSac** 03 33 12.1 -3.5
STKA pmax pmax
comp=Z,101nm,1.1s
STKA **Stephens Creek** 92.94 218 *e*P P 03 22 46.0 -0.2
comp=Z,100nm,1.1s
STKA S **SKSac** 03 33 12.1 -3.5
STKA PKKPbc **PKKPbc** 03 39 55.9 +0.6
BBSP **Saint Philip** 92.99 64 *e*P P 03 22 47.5 +0.5
FAQ **Al Faqa, Dubai** 93.06 318 *i* P P 03 22 46.8 -0.4
SNR=173
FAQ **Al Faqa, Dubai** 93.06 318 P P 03 22 45.9 -1.3
SNR=64
FAQ **Al Faqa, Dubai** 93.06 318 P P 03 22 45.9 -1.3
SNR=64
BIDO **Bidbid** 93.07 315 P P 03 22 46.5 -0.7
SNR=33
BIDO **Bidbid** 93.07 315 P P 03 22 46.5 -0.7
SNR=33
WSAR **Wadi Sarin** 93.09 315 P P 03 22 47.2 -0.2
comp=Z,521nm,1.0s,baz=49,slow=1.7,SNR=65
WSAR S **SKSac** 03 33 18.1 +0.7
comp=Z,12nm,1.1s,baz=114,slow=22,SNR=3.2
RTC **Rabat Centre** 93.39 12 PFAKE 03 23 00.0 +11
RTC LR LR
comp=Z,230µm,20.0s
CAN **Canberra** 93.45 211 *e*P P 03 22 50.3 +1.7
CAN pmax pmax
comp=Z,159nm,1.0s
CAN MLR MLR
comp=Z,39µm,19.0s
CAN **Canberra** 93.45 211 *e*P P 03 22 50.3 +1.7
comp=Z,159nm,1.0s
CAN LR LR
comp=Z,39µm,19.0s
SMDO **Samad** 93.50 315 P P 03 22 48.2 -1.2
SNR=72
SMDO **Samad** 93.50 315 P P 03 22 48.2 -1.2
SNR=72
XMIS **Christmas Isla** 93.61 258 *e*P P 03 22 49.7 -0.1
PAWZ **Paruwai Farm** 93.64 190 *e*PN P 03 22 48.6 -0.6
SNZO **South Karori** 93.65 190 *e*P P 03 22 49.4 +0.2
SNZO LR LR
comp=Z,66µm,22.0s
GUVC **San Jose del G** 93.67 81 *e*P P 03 22 51.0 +0.8
TOSP **Speyside** 93.86 66 *e*P P 03 22 52.1 +1.2
BOT **Bacolet** 93.86 67 *e*P P 03 23 04.8 +14
TRN **Trinidad (W)** 93.89 67 *e*P P 03 22 53.0 +1.8
ARQ **Araqi** 93.92 317 P P 03 22 50.4 -0.9
SNR=264
ARQ **Araqi** 93.92 317 P P 03 22 50.4 -0.9
SNR=264
MBWA **Marble Bar** 94.01 240 *e*P P 03 22 50.5 -0.9
comp=Z,1µm,1.9s
MBWA LR LR
comp=Z,27µm,19.0s
TPP **Pointe-a-Pierr** 94.13 68 *e*P P 03 22 54.3 +2.1
THZ **Tophouse** 94.30 191 *e*P P 03 22 53.7 +1.4
comp=Z,237nm,1.7s
KHZ **Kahutara** 94.87 191 *e*P P 03 22 54.4 -0.4
PALK **Pallekele** 94.90 288 P P 03 22 55.5 -0.3
comp=Z,533nm,1.0s,baz=297,slow=0.6,SNR=36
PALK **Pallekele** 94.90 288 *i* P P 03 22 55.2 -0.7
SNR=79
PALK **Pallekele** 94.90 288 *i* P P 03 22 56.1 +0.2
PALK **Pallekele** 94.90 288 *e*P P 03 22 56.0 +0.2
comp=Z,938nm,1.1s
RPN **Rapa Nui** 95.84 127 *e*P P 03 23 00.2 +0.6
RPN pmax pmax
comp=Z,934nm,1.4s
RPN MLR MLR
comp=Z,14µm,20.0s
RPN **Rapa Nui** 95.84 127 *e*P P 03 23 00.2 +0.6
comp=Z,934nm,1.4s
RPN LR LR
comp=Z,14µm,20.0s
OXZ **Oxford** 95.95 192 *e*P P 03 23 01.7 +2.0
comp=Z,72nm,1.2s
BBOO **Buckleboo** 95.97 222 *e*P P 03 23 00.8 +0.7
comp=Z,325nm,1.4s
TRD **Trivandrum** 96.08 292 *e*P P 03 22 59.9 -1.3
RPZ **Rata Peaks** 96.46 192 PKKPbc PKKPbc 03 39 48.3 +1.9
comp=Z,39nm,0.9s,baz=351,slow=6.4,SNR=4.9
RPZ **Rata Peaks** 96.46 192 *e*P P 03 23 03.2 +1.2
comp=Z,89nm,0.9s
RPZ PKKPbc **PKKPdf** 03 39 48.3 -0.1
JCZ **Jackson Bay** 97.13 194 PN Pdif 03 23 07.1 +1.8
LBZ **Lake Benmore** 97.24 193 *e*P P 03 23 05.2 -0.3
comp=Z,325nm,1.5s
LBZ *e*PP **PP** 03 27 02.6 -0.5
LBZ *e*PKKPdf **PKKPdf** 03 39 47.0 0.0
ATAH **Atahualpa** 97.68 92 P Pdif 03 23 10.4 +1.5
comp=Z,9.3nm,0.9s,baz=59,slow=10,SNR=7.1
ODZ **Otahua Downs** 97.82 192 *e*P Pdif 03 23 08.8 +0.6
comp=Z,64nm,0.9s
ODZ **Otahua Downs** 97.82 192 PN P 03 23 08.1 0.0
WKZ **Wanaka** 97.84 194 *e*P Pdif 03 23 11.6 +3.2
comp=Z,155nm,1.1s
MLZ **Mavora Lakes** 98.50 194 *e*P Pdif 03 23 13.9 +2.6
comp=Z,73nm,1.2s
DCZ **Deep Cove** 98.74 195 *e*P Pdif 03 23 15.8 +3.6
comp=Z,275nm,1.9s
WHZ **Wether Hill Ro** 99.04 194 *e*P **Pdif** 03 23 16.8 +3.2
comp=Z,114nm,1.3s
WHZ *e*PP **PP** 03 27 17.0 +0.1
COCO **West Island** 100.31 263 PFAKE 03 23 30.0 +10
COCO LR LR
comp=Z,14µm,19.0s
ABTO **Aybut** 100.60 316 Pdiff **Pdif** 03 23 22.2 +0.7
SNR=11
TAU **Tasmania Unive** 100.92 209 PFAKE 03 23 30.0 +8.0
TAU LR LR
comp=Z,25µm,20.0s
NNA **Nana** 102.40 94 PFAKE 03 23 40.0 +11
NNA LR LR
comp=Z,19µm,22.0s
PTGA **Pitinga** 103.90 73 Pdiff **Pdif** 03 23 36.6 +0.5
comp=Z,18nm,1.0s,baz=327,slow=6.8,SNR=19
PTGA PKiKP **PP** 03 27 53.0 -0.4
comp=Z,54nm,0.8s,baz=349,slow=8.0,SNR=4.8
PTGA **Pitinga** 103.90 73 Pdif **Pdif** 03 23 36.6 +0.5
PTGA PKiKP **PP** 03 27 53.0 -0.4
PTGA LR LR
comp=Z,32µm,19.0s
NWAO **Narrogin (SRO)** 104.79 235 PFAKE 03 23 50.0 +10
NWAO LR LR
comp=Z,28µm,20.0s
TAM **Tamanrasset** 105.52 3 *e*P **Pdif** 03 23 43.7 +0.3
TAM MLR MLR
comp=Z,72µm,20.0s
TAM **Tamanrasset** 105.52 3 *e*Pdif **Pdif** 03 23 43.7 +0.3
TAM LR LR
comp=Z,72µm,20.0s
SACV **Santiago Islan** 107.84 32 *e*PKP **PKiKP** 03 28 00.7 -0.2
SACV *e*PP **PP** 03 28 20.4 -1.4
SACV LR LR
comp=Z,67µm,19.0s
SAML **Samuel** 108.46 81 *e*Pdif **Pdif** 03 23 56.8 +0.5
SAML *e*PP PP 03 28 19.1 -8.1
SAML LR LR
comp=Z,64µm,19.0s
LPAZ **La Paz** 111.08 90 Pdiff **Pdif** 03 24 09.9 +1.3
comp=Z,1.8nm,0.7s,baz=201,slow=1.1,SNR=8.6
LPAZ **La Paz** 111.08 90 *e*P **Pdif** 03 24 11.4 +2.8
LPAZ **La Paz** 111.08 90 *e*Pdif **Pdif** 03 24 11.4 +2.8
DGAR **Diego Garcia** 111.53 286 PFAKE 03 28 20.0
DGAR LR LR
comp=Z,29µm,20.0s
PB01 **IPOC Station P** 113.82 94 *e*PKiKP **PKiKP** 03 28 12.9 +0.8
TOA0 **Torodi Ar. Sit** 114.90 7 *e*PKiKP PKPdf 03 28 14.6 +0.4
TORD **Torodi Ar. Bea** 114.90 7 PKiKP **PKiKP** 03 28 13.4 -0.8
comp=Z,40nm,0.8s,baz=344,slow=2.7,SNR=26
TORD PP **PP** 03 29 11.4 -0.8
comp=Z,51nm,0.9s,baz=350,slow=6.1,SNR=5.0
TORD PKKPbc **PKKPbc** 03 38 50.5 +1.8
comp=Z,23nm,0.8s,baz=170,slow=3.2,SNR=14
SIV **San Ignacio** 115.21 84 PKP **PKPdf** 03 28 15.3 +0.5
comp=Z,21nm,1.0s,baz=340,slow=5.3,SNR=6.8
LVC **Limon Verde** 115.34 95 PKP **PKPdf** 03 28 14.4 -0.9
comp=Z,65nm,1.0s,baz=346,slow=3.7,SNR=5.2
LVC **Limon Verde** 115.34 95 *e*PKPdf **PKPdf** 03 28 15.7 +0.5
LVC *e*PKKPab **PKKPab** 03 38 51.6 -2.4
LVC LR LR
comp=Z,24µm,20.0s
HJA **Humahuaca** 117.95 92 *e*P **PKPdf** 03 28 20.6 +0.3
LCO **Las Campanas** 118.92 101 *e*PKPdf **PKPdf** 03 28 22.8 +0.9
LCO LR LR
comp=Z,44µm,22.0s
FSA **Cafayete** 119.72 95 *e*P **PKPdf** 03 28 21.5 -1.8
VCA **Vinchina** 120.25 99 *e*P **PKPdf** 03 28 25.8 +1.6
AROD **Rodeo** 120.49 101 *e*P **PKPdf** 03 28 24.2 -0.7
TIC **Toumodi** 120.52 15 *e*PKP1 **PKPdf** 03 28 25.3 +0.2
DBIC **Dimbokro** 120.52 15 PKP **PKPdf** 03 28 25.2 +0.1
comp=Z,60nm,0.7s,baz=5.6,slow=3.0,SNR=36
DBIC PKKPbc **PKKPab** 03 38 33.4 -1.2
comp=Z,23nm,0.8s,baz=126,slow=7.0,SNR=6.3
DBIC **Dimbokro** 120.52 15 *e*PKiKP **PKPdf** 03 28 25.8 +0.7
DBIC **Dimbokro** 120.52 15 *e*PKPdf **PKPdf** 03 28 25.8 +0.7
DBIC PKKPbc **PKKPab** 03 38 33.4 -1.2
AHML **Horco Molle** 120.60 95 *e*P **PKPdf** 03 28 23.9 -0.9
AGUA **GUANDACOL** 120.61 100 *e*P **PKPdf** 03 28 24.4 -0.5
ACDV **Cuesta del Vie** 120.71 101 *e*P **PKPdf** 03 28 24.6 -0.5
KIC **Kosan Boka** 120.84 15 *e*PKP1 **PKPdf** 03 28 24.4 -1.3
comp=Z,223nm,0.8s
LIC **Lamto** 120.93 15 *e*PKP1 **PKPdf** 03 28 24.7 -1.2
comp=Z,158nm,0.8s
ACCO **Cerro Coronel** 121.04 101 *e*P **PKPdf** 03 28 24.0 -1.9
RCBR **Riachuelo** 121.42 54 PKKPbc PKKPbc 03 38 30.2 +4.9
comp=Z,60nm,1.2s,baz=154,slow=7.0,SNR=6.2
RCBR **Riachuelo** 121.42 54 *e*PKPdf **PKPdf** 03 28 27.7 +0.8
RCBR *e*PP **PP** 03 29 55.9 -2.3
RCBR *e*PKKPbc **PKKPab** 03 38 33.3 +3.8
RCBR LR LR
comp=Z,101µm,20.0s
ROC1 **El Roble** 121.54 104 *e*P **PKPdf** 03 28 26.5 -0.2
ROC1 **El Roble** 121.54 104 *e*PKPdf **PKPdf** 03 28 27.1 +0.4
ROCH **El Roble** 121.54 104 *e*P **PKPdf** 03 28 26.5 -0.2
AMOG **MOGNA** 121.63 101 *e*P **PKPdf** 03 28 26.4 -0.3
RTLS **Leoncito** 121.75 102 *e*P **PKPdf** 03 28 25.4 -1.8
RTLL **Cerro Villicun** 121.92 101 *e*P **PKPdf** 03 28 25.6 -1.6
AUSP **Uspallata** 122.00 103 *e*P **PKPdf** 03 28 23.3 -4.4
AVFE **Valle Fertil** 122.07 100 *e*P **PKPdf** 03 28 27.9 +0.3
CLCH **Cerro Calan** 122.12 104 *e*P **PKPdf** 03 28 28.3 +0.7
RTCV **Cerro Valdivia** 122.25 102 *e*P **PKPdf** 03 28 26.1 -1.7
ASAL **Salgasta** 122.59 103 *e*P **PKPdf** 03 28 27.3 -1.2
COCH **Cobquecura** 122.68 108 *e*P **PKPdf** 03 28 28.1 -0.4
ARCO **CERRO ARCO** 122.70 103 *e*P **PKPdf** 03 28 29.3 +0.5
AAGR **Agrelo** 122.93 103 *e*P **PKPdf** 03 28 29.8 +0.5
ACAN **Cantantal** 123.36 101 *e*P **PKPdf** 03 28 25.5 -4.4
KMBO **Kilima Mbogo** 123.77 324 PKP **PKPdf** 03 28 32.5 +0.8
comp=Z,108nm,0.9s,baz=25,slow=3.4,SNR=16
KMBO PKKPbc **PKKPab** 03 38 21.8 +1.4
comp=Z,9.7nm,0.8s,baz=130,slow=0.9,SNR=7.6
KMBO **Kilima Mbogo** 123.77 324 *e*PKPdf **PKPdf** 03 28 32.5 +0.8
KMBO *e*PP **PP** 03 30 12.8 -1.2
KMBO *e*PKKPbc **PKKPab** 03 38 21.8 +1.4
KMBO LR LR
comp=Z,54µm,20.0s
TCA **Tanti** 124.29 98 *e*P **PKPdf** 03 28 30.8 -1.1
MRA **San Martin** 124.36 100 *e*P **PKPdf** 03 28 30.1 -1.9
CANA **Caviahue** 124.88 109 *e*P **PKPdf** 03 28 31.2 -1.7
CPUP **Villa Florida** 125.22 89 *e*P **PKPdf** 03 28 32.1 -1.5
CPUP **Villa Florida** 125.22 89 PKP **PKPdf** 03 28 32.4 -1.2
comp=Z,90nm,1.1s,baz=343,slow=2.0,SNR=21
CPUP **Villa Florida** 125.22 89 *e*PKiKP **PKPdf** 03 28 32.9 -0.8
CPUP **Villa Florida** 125.22 89 *e*PKPdf **PKPdf** 03 28 32.9 -0.8
PLCA **Paso Flores** 127.06 111 *e*P **PKPdf** 03 28 36.2 -0.6
PLCA **Paso Flores** 127.06 111 PKP **PKPdf** 03 28 36.1 -0.7
comp=Z,120nm,1.1s,baz=302,slow=2.7,SNR=31
PLCA **Paso Flores** 127.06 111 *e*PKiKP **PKPdf** 03 28 36.2 -0.6
PLCA **Paso Flores** 127.06 111 *e*PKPdf **PKPdf** 03 28 36.2 -0.6
SPB **Sao Paulo** 129.29 78 *e*PKPdf **PKPdf** 03 28 41.8 +0.3
SPB LR LR
comp=Z,51µm,21.0s
CHRN **Cochrane** 130.00 119 *e*PKPdf **PKPdf** 03 28 44.0 +1.9
SBA **Scott Base** 130.24 186 *e*PKiKP **PKPdf** 03 28 42.2 +0.5
SBA *e* 03 30 57.3
SBA MLR MLR
comp=Z,30µm,22.0s
SBA **Scott Base** 130.24 186 *e*PKPdf **PKPdf** 03 28 42.2 +0.5
SBA *e*PP **PP** 03 30 57.3 +0.8
SBA *e*SKPbc **SKPab** 03 31 58.9 -1.3
SBA LR LR
comp=Z,30µm,22.0s
VNDA **Vanda** 130.27 187 PKP **PKPdf** 03 28 42.7 +0.9
comp=Z,8.1nm,0.6s,baz=325,slow=3.7,SNR=9.7
TRQA **Tornquist** 130.40 103 *e*PKPdf **PKPdf** 03 28 43.0 -0.2
TRQA *e*SKPbc **SKPab** 03 32 01.6 -0.5
TRQA LR LR
comp=Z,41µm,20.0s
MRIV **Mauritius Mete** 130.50 291 *e*PKPdf **PKPdf** 03 28 44.6 +0.7
MRIV *e*PP **PP** 03 30 58.1 -0.7
MRIV *e*SKPbc **SKPab** 03 32 02.1 -1.1
LPA **La Plata** 130.81 97 *de*PKIKP PKPdf 03 28 56.0 +12
LPA pPP 03 31 16.0
LPA SKIKP 03 32 16.0
LPA PPP PPP 03 33 50.0
LPA SKS **SKSdf** 03 35 48.0 -3.0
CASY **Casey** 131.69 212 *e*PKPdf **PKPdf** 03 28 44.9 +0.3
CASY *e*SKPbc **SKPbc** 03 32 04.9 -1.0
CASY LR LR
comp=Z,9µm,22.0s
RER **Riviere de l'E** 132.18 292 *e*PKPdf **PKPdf** 03 28 48.0 +0.8
RER *e*SKPdf **SKPdf** 03 32 15.1 -2.9
RER LR LR
comp=Z,34µm,21.0s
ASCN **Ascension** 132.34 31 *e*PKPdf **PKPdf** 03 28 46.3 -1.4
ASCN *e*SKPbc **SKPbc** 03 32 08.1 -1.9
ASCN LR LR
comp=Z,88µm,19.0s
OPO **Ambohidratompo** 134.80 303 PKhKP PKPpre 03 28 45.9
comp=Z,17nm,1.0s,baz=32,slow=7.3,SNR=7.8
OPO PKP **PKiKP** 03 28 53.7 0.0
comp=Z,32nm,0.7s,baz=89,slow=1.7,SNR=12
ABPO **Ambohimpanom** 135.15 302 *e*PKHKP PKPpre 03 28 44.1
ABPO *e* 03 28 52.2
ABPO *e* 03 31 26.8
ABPO MLR MLR
comp=Z,23µm,20.0s
ABPO **Ambohimpanom** 135.15 302 *e*PKPpre PKPpre 03 28 44.1
ABPO *e*PKPdf **PKPdf** 03 28 52.2 -0.8
ABPO *e*PP **PP** 03 31 26.8 -1.8
ABPO *e*SKPab **SKPab** 03 32 22.7 -0.7
ABPO LR LR
comp=Z,23µm,20.0s
USHA **Ushuaia** 136.37 125 PKhKP PKPpre 03 28 42.6
comp=Z,97nm,1.0s,baz=166,slow=4.9,SNR=3.2
USHA PKP **PKPdf** 03 28 53.2 -0.6
comp=Z,348nm,1.1s,baz=235,slow=1.6,SNR=5.6
MIR **Mirnyy** 137.94 217 *e*PKHKP PKPpre 03 28 49.0
MIR *i* 03 31 44.0
MIR pmax pmax
comp=Z,38nm,1.3s
MIR pmax pmax
comp=Z,6µm,10.0s
MIR MLR MLR
comp=Z,22µm,18.0s
LSZ **Lusaka** 140.05 329 PKhKP PKPpre 03 28 54.5
comp=Z,30nm,0.7s,baz=29,slow=2.9,SNR=30
LSZ **Lusaka** 140.05 329 *e*PKPdf PKPpre 03 28 54.8
LSZ *e*PP **PP** 03 31 56.9 -1.7
LSZ LR LR
comp=Z,91µm,21.0s
EFI **East Falkland** 140.35 117 *e*PKPpre PKPpre 03 28 56.3
EFI LR LR
comp=Z,54µm,20.0s
PAF **Port-aux-Franc** 141.64 249 PFAKE 03 29 20.0 +16
PAF LR LR
comp=Z,27µm,21.0s
QSPA **South Pole Qui** 141.74 180 *e*PKPpre PKPpre 03 28 55.7
QSPA *e*PKPdf **PKPdf** 03 29 03.3 -0.1
QSPA LR LR
comp=Z,24µm,20.0s
PMSA **Palmer Station** 142.27 138 PKhKP PKPpre 03 29 00.3
comp=Z,154nm,0.6s,baz=190,slow=0.4,SNR=14
PMSA **Palmer Station** 142.27 138 *e*PKPdf **PKPdf** 03 29 01.3 -2.9
PMSA LR LR
comp=Z,83µm,20.0s
SHEL **Horse Pasture** 142.39 22 *e*PKIKP **PKPdf** 03 29 05.5 -0.6
SHEL MLR MLR
comp=Z,22µm,20.0s
SHEL **Horse Pasture** 142.39 22 *e*PKPdf **PKPdf** 03 29 05.5 -0.6
SHEL LR LR
comp=Z,22µm,20.0s
MATP **Matopo** 144.75 326 *i* P **PKPdf** 03 29 10.1 -0.1
MATP *i* 03 29 10.7
baz=359,slow=3.0
MATP **Matopo** 144.75 326 PKP PKPbc 03 29 09.2 0.0
comp=Z,1µm,0.8s,baz=1.5,slow=2.4,SNR=358
TSUM **Tsumeb** 146.47 344 PKPbc **PKPbc** 03 29 14.9 +0.3
comp=Z,774nm,0.8s,baz=3.6,slow=5.3,SNR=16
TSUM **Tsumeb** 146.47 344 *i* P **PKPdf** 03 29 09.5 -3.7
TSUM **Tsumeb** 146.47 344 *e*PKPbc **PKPbc** 03 29 14.9 +0.3
TSUM LR LR
comp=Z,42µm,20.0s
KJAB **KAMANJAB** 147.28 348 *i* P **PKPbc** 03 29 17.6 +0.8
MAW **Mawson** 149.63 218 PKPbc **PKPbc** 03 29 20.2 -1.1
comp=Z,195nm,1.0s,baz=55,slow=0.4,SNR=59
MAW **Mawson** 149.63 218 *e*PKPdf **PKPdf** 03 29 16.3 -0.3
WIN **Windhoek** 149.84 343 *i* P **PKPdf** 03 29 16.1 -2.7
LBTB **Lobatse** 149.98 327 PKPbc **PKPbc** 03 29 24.4 +0.7
comp=Z,250nm,0.7s,baz=36,slow=1.4,SNR=28
LBTB **Lobatse** 149.98 327 *e*PKPdf **PKPdf** 03 29 19.0 +0.2
LBTB PKPbc **PKPbc** 03 29 24.4 +0.7
CRZF **Crozet Islands** 151.27 264 *e*PKPbc **PKPbc** 03 29 25.4 -0.5
BOSA **Boshof** 153.40 325 *i* P **PKPbc** 03 29 33.0 +1.6
BOSA *i* 03 29 33.5
baz=16,slow=6.5
BOSA **Boshof** 153.40 325 PKPbc **PKPbc** 03 29 29.9 -1.6
comp=Z,83nm,0.8s,baz=332,slow=1.6,SNR=16
BOSA **Boshof** 153.40 325 *e*PKIKP **PKPdf** 03 29 25.2 +1.3
BOSA **Boshof** 153.40 325 *e*PKPdf **PKPdf** 03 29 25.1 +1.3
HOPE **Hope Point** 153.44 113 *e*PKPdf **PKPdf** 03 29 21.8 -1.1
HOPE *e*PKPbc **PKiKP** 03 29 31.2 +0.6
HOPE LR LR
comp=Z,44µm,21.0s
SYO **Syowa Base** 157.40 209 ‖ *i* P **PKPdf** 03 29 25.2 -2.5
SYO **Syowa Base** 157.40 209 ‖ *i* X pPKPdf 03 29 41.0 -1.8
SUR **Sutherland** 158.35 330 PKPbc **PKPdf** 03 29 37.1 +6.7
comp=Z,5.3nm,0.9s,baz=153,slow=1.1,SNR=11
SUR **Sutherland** 158.35 330 *e*PKPdf **PKPdf** 03 29 30.6 +0.2
SUR PKPbc PKPbc 03 29 37.1
SUR LR LR
comp=Z,125µm,21.0s
TRIS **Tristan da Cun** 159.23 52 PFAKE 03 29 40.0 +9.0
TRIS LR LR
comp=Z,48µm,20.0s
SNAA **Sanae** 159.64 170 PKP **PKPdf** 03 29 29.4 -1.1
SNAA **Sanae** 159.64 170 *e*PKIKP **PKPdf** 03 29 29.3 -1.1
SNAA *e* 03 30 09.6
SNAA **Sanae** 159.64 170 *e*PKPdf **PKPdf** 03 29 29.3 -1.1
SNAA *e*PKPab **PKPab** 03 30 09.6 +0.3
VNA1 **Neumayer--Stat** 159.81 164 PKP **PKPdf** 03 29 31.3 +0.8
NVL **N'lazarevskaya** 161.07 184 *e*PKIKP **PKPdf** 03 29 33.3 +1.3
NVL *e* 03 34 02.8
NVL *e*PPP PPP 03 37 49.1
NVL *e*SS SS 03 54 14.3 +5.1

CSEM ***24*** *03:38:50.9±0.3,38°.59N×39°.53E,h10km,MD2.4, Error ellipse: s-maj=5.9km s-min=5.4km az=60.0*
DDA ***24*** *03:38:50.8,38°.59N×39°.54E,h7km,Ml2.7*
ISCJB ***24*** *03:38:51.0±0.7,38°.59N±0°.04×39°.56E±0°.05,h8km±6km, Error ellipse: s-maj=7.1km s-min=5.5km az=145.3*
ISK ***24*** *03:38:51.0,38°.58N×39°.53E,h14km,MD2.4*
ISC 24 03:38:50.6±1.4,**38°.59N**±0°.03×**39°.52E**±0°.03,**h8**km±11km, **n15**,σ**0°62/29**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.27**	**219**	*e*PG	**Pg**	**03 38 56.3**	**+0.3**
SVRC				*e*SG	**Sb**	**03 39 02.0**	**-0.5**
SVRC	**Sivrice-ELAZID**	**0.27**	**219**	*e*Pg	**Pg**	**03 38 56.3**	**+0.3**
SVRC				*e*Sg	**Sb**	**03 39 02.1**	**-0.5**
ELZG	**Elazig**	**0.43**	**258**	P	**Pg**	**03 38 59.0**	**0.0**
ELZG				S	**Sb**	**03 39 06.6**	**-0.6**
ELZG	**Elazig**	**0.43**	**258**	*i* P	**Pg**	**03 38 59.0**	**0.0**
ELZG				*i* S	**Sb**	**03 39 06.6**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.52**	**2**	P	**Pg**	**03 39 01.4**	**+0.6**
TNCL				S	**Sb**	**03 39 09.0**	**-0.9**
TNCL	**Tunceli-Merkez**	**0.52**	**2**	*e*P	**Pg**	**03 39 01.4**	**+0.6**
TNCL				*i* S	**Sb**	**03 39 09.0**	**-0.9**
DIYA	**Diyarbakir**	**0.82**	**144**	P	**Pg**	**03 39 06.0**	**-0.3**
DIYA				S	**Sb**	**03 39 18.4**	**+0.2**
DIYA	**Diyarbakir**	**0.82**	**144**	*i* P	**Pg**	**03 39 06.0**	**-0.3**
DIYA				*i* S	**Sb**	**03 39 18.4**	**+0.2**
BNGB	**Bing˜¶**	**0.99**	**66**	*e*PG	**Pn**	**03 39 10.7**	**-0.2**
URFA	**Urfa**	**1.27**	**206**	*e*PN	**Pg**	**03 39 15.7**	**+0.7**
URFA				*e*SN	**Sn**	**03 39 32.3**	**+0.3**
URFA	**Urfa**	**1.27**	**206**	*e*Pn	**Pg**	**03 39 15.7**	**+0.7**
URFA				*e*Sn	**Sn**	**03 39 32.3**	**+0.3**
AKCD	**Akcadag**	**1.29**	**257**	P	**Pn**	**03 39 14.3**	**-0.7**
AKCD				S	**Sn**	**03 39 33.8**	**+1.3**
AKCD	**Akcadag**	**1.29**	**257**	*i* P	**Pn**	**03 39 14.3**	**-0.7**
AKCD				*i* S	**Sn**	**03 39 33.8**	**+1.3**
MAZI	**Mazidag**	**1.34**	**147**	*e*PN	**Pg**	**03 39 16.5**	**+0.1**
MAZI				*e*SN	**Sb**	**03 39 33.3**	**-0.2**
MAZI	**Mazidag**	**1.34**	**147**	*e*Pn	**Pg**	**03 39 16.5**	**+0.1**
MAZI				*e*Sn	**Sb**	**03 39 33.3**	**-0.2**

DDA 24 03:38:53.1, 39.10N×29.12E, h7km, MI2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.28**	**91**	*i* P	Pg	03 38 59.3	+0.6
GDZ				*i* S	Sg	03 39 03.4	+1.0
DEMI	**Demirci**	**0.32**	**261**	*i* P	Pg	03 39 00.1	+0.8
DEMI				*i* S	Sg	03 39 04.6	+1.0
IGD	**Bursa**	**1.17**	**3**	*i* P	Pb	03 39 15.6	0.0
IGD				*i* S	Sn	03 39 32.4	+0.4
BORA	**Eskisehir**	**1.29**	**52**	*i* P	Pg	03 39 18.0	+0.1
BORA				*i* S	Sn	03 39 35.1	-0.2

JMA 24 03:59:15.6±0.1, 38.42N×142.17E, h31km±2km, M3.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.65**	**273**	P	Pb	03 59 28.1	-0.3
JIO				S	Sb	03 59 36.5	-0.7
OFUJ	**Ofunato**	**0.77**	**329**	P	Pn	03 59 30.0	-0.3
OFUJ				S	Sb	03 59 40.1	-0.5
JMK	**Ichinoseki**	**0.91**	**306**	P	Pn	03 59 32.3	0.0
JMK				S	Sn	03 59 44.2	-0.2
JOU	**Okura**	**1.19**	**268**	P	Pn	03 59 36.2	+0.1
JOU				S	Sn	03 59 51.7	+0.6
JMM	**Marumori**	**1.22**	**243**	P	Pn	03 59 36.0	-0.5
JMM				*e*S	Sn	03 59 50.5	-1.4
JOM	**Ohasama**	**1.25**	**327**	P	Pn	03 59 37.5	+0.5
JOM				S	Sb	03 59 53.8	-0.7
JFK	**Kawauchi**	**1.47**	**225**	P	Pn	03 59 38.7	-1.3

JMA 24 04:05:40.4±0.3, 43.99N×147.69E, h74km, M3.8
SKHL 24 04:05:40.6±0.4, 44.18N×147.50E, h98km±1km
ISC 24 04:05:39.4±2.8, 44.1N±0.1×147.8E±0.2, h77km±18km, n13, σ0.9 79/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.70**	**254**	*e*P	**Pn**	**04 05 55.3**	**+0.5**
SHO				AMB	AMB	04 05 56.7	
	470nm,0.3s						
SHO				*i* S	**Sn**	**04 06 06.6**	**+0.4**
SHO				A	A	04 06 07.1	
	280nm,0.1s						
SHO				A	A	04 06 07.1	
	170nm,0.1s						
KUR	**Kuril'sk**	**1.16**	**4**	*i* P	**Pn**	**04 06 00.3**	**+0.1**
KUR				AMB	AMB	04 06 01.0	
	97nm,0.2s						
KUR				*i* S	**Sn**	**04 06 15.3**	**-0.5**
KUR				A	A	04 06 15.8	
	370nm,0.5s						
KUR				A	A	04 06 15.8	
	670nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**269**	*e*P	**Pn**	**04 06 03.0**	**+0.2**
YUK				AMB	AMB	04 06 03.8	
	97nm,0.3s						
YUK				AMB	AMB	04 06 03.8	
	45nm,0.3s						
YUK				*e*S	**Sn**	**04 06 19.4**	**-1.1**
YUK				A	A	04 06 20.6	
	720nm,0.3s						
YUK				A	A	04 06 20.6	
	80nm,0.3s						
NEM2	**Nemuro 2**	**1.63**	**245**	P	**Pn**	**04 06 06.4**	**+0.2**
NEM2				*e*S	**Sn**	**04 06 25.9**	**-0.6**
JNK	**Nakash**	**2.26**	**259**	P	**Pn**	**04 06 14.9**	**+0.3**
JAK	**Akkeshi**	**2.48**	**245**	P	**Pn**	**04 06 17.6**	**+0.1**
JAK				*e*S	**Sn**	**04 06 45.6**	**-1.2**
JTKR	**Abashiri--Toko**	**2.78**	**269**	P	**Pn**	**04 06 22.7**	**+0.5**
JAR	**Ashorobuto**	**3.00**	**256**	P	**Pn**	**04 06 25.6**	**+1.0**
JOB	**Onbets**	**3.09**	**249**	P	**Pn**	**04 06 26.4**	**+0.6**
JOB				*e*S	**Sn**	**04 07 01.3**	**-0.3**
JMP	**Maruseppu**	**3.18**	**270**	P	**Pn**	**04 06 27.6**	**+0.6**
HRK	**Horoka**	**3.41**	**261**	*e*P	**Pn**	**04 06 31.1**	**+0.8**
JCH	**Churui**	**3.52**	**247**	P	**Pn**	**04 06 32.1**	**+0.4**
JCH				*e*S	**Sn**	**04 07 11.1**	**-1.2**
JKK2	**Kamakawa 2**	**3.63**	**269**	P	**Pn**	**04 06 34.5**	**+1.4**

DJA 24 04:12:31.2±0.8, 1°S±4°×122°4E±°, h18km±9km, M3.9/2, MLv3.9/2, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.90**	**283**	P	Pb	04 12 47.6	-0.7
LUWI				S	Sb	04 13 00.0	0.0
KMSI	**Cibinong**	**1.84**	**10**	P	Pn	04 13 01.5	-0.4
KMSI				S	Sb	04 13 28.5	+1.4
GTOI	**Gorontalo**	**1.98**	**341**	P	Pb	04 13 06.8	+0.1
GTOI				S	Sb	04 13 32.3	+1.2
MRSI	**Marisa**	**2.42**	**315**	P	Pn	04 13 11.7	+1.8
MRSI				S	Sn	04 13 40.2	+1.1
SANI	**Sanana**	**2.47**	**109**	P	Pn	04 13 10.5	-0.1
KDI	**Kendari**	**2.88**	**201**	P	Pn	04 13 15.3	-0.9
PCI	**Palu**	**3.83**	**275**	P	Pn	04 13 29.5	+0.2
NLAI	**Namlea**	**3.97**	**120**	P	Pn	04 13 31.5	+0.2
TTSI	**Tana Toraja**	**4.22**	**245**	P	Pn	04 13 34.9	+0.2
SPSI	**Sidrap Palu**	**4.72**	**235**	P	Pn	04 13 42.2	+0.6

WEL 24 04:20:26.1±0.1, 42.25S×172.80E, h12km, ML3.5/16, 4C-2D, Error ellipse: s-maj=1.4km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.49**	**10**	⇑P*	Pg	04 20 34.7	-1.1
THZ				AML	AML	04 20 42.0	
THZ				AML	AML	04 20 43.0	
KHZ	**Kahutara**	**0.57**	**107**	P*	Pg	04 20 37.5	+0.2
KHZ				S*	Sb	04 20 45.8	-0.4
LTZ	**Lake Taylor**	**0.66**	**216**	⇑P*	Pg	04 20 38.6	-0.3
LTZ				S*	Sg	04 20 47.1	-0.4
LTZ				AML	AML	04 20 51.8	
DSZ	**Denniston Nort**	**0.90**	**304**	⇓P*	Pg	04 20 42.8	-0.6
DSZ				S*	Sg	04 20 54.5	-0.6
DSZ				AML	AML	04 20 58.1	
DSZ				AML	AML	04 20 58.1	
DSZ				AML	AML	04 20 59.7	
BSWZ	**Blackbirch Sta**	**0.97**	**57**	P*	Pg	04 20 43.6	-1.1
BSWZ				AML	AML	04 21 00.8	
BSWZ				AML	AML	04 21 04.7	
INZ	**Inchbonnie**	**1.11**	**244**	P*	Pb	04 20 45.8	-1.3
NNZ	**Nelson**	**1.12**	**23**	P*	Pb	04 20 45.7	-1.7
NNZ				AML	AML	04 21 05.1	
NNZ				AML	AML	04 21 05.2	
NNZ				AML	AML	04 21 05.7	
NNZ				AML	AML	04 21 06.0	
CMWZ	**Cape Campbell**	**1.17**	**65**	P*	Pg	04 20 49.3	+0.7
CMWZ				AML	AML	04 21 08.4	
CMWZ				AML	AML	04 21 12.8	
TUWZ	**Tuamarina**	**1.19**	**47**	P*	Pn	04 20 47.4	-1.1
TUWZ				AML	AML	04 21 09.6	
TUWZ				AML	AML	04 21 10.0	
OXZ	**Oxford**	**1.21**	**207**	P*	Pn	04 20 47.9	-1.0
QRZ	**Quartz Range**	**1.44**	**352**	PN	Pn	04 20 51.5	-0.4
QRZ				AML	AML	04 21 12.9	
QRZ				AML	AML	04 21 13.1	
QRZ				AML	AML	04 21 14.3	
QRZ				AML	AML	04 21 14.3	
MQZ	**McQueen's Vall**	**1.46**	**184**	⇑PN	Pn	04 20 51.2	-1.1
MQZ				AML	AML	04 21 11.2	
MQZ				AML	AML	04 21 13.0	
TCW	**Tory Channel**	**1.52**	**47**	⇓PN	Pn	04 20 52.7	-0.3
TCW				AML	AML	04 21 17.3	
TCW				AML	AML	04 21 19.8	
DUWZ	**D'Urville Isla**	**1.68**	**31**	⇑PN	Pn	04 20 54.9	-0.3
WVZ	**Waitaha Valley**	**1.73**	**241**	PN	Pn	04 20 56.4	+0.4
WVZ				AML	AML	04 21 24.9	
WVZ				AML	AML	04 21 26.2	
BHW	**Baring Head**	**1.77**	**62**	PN	Pb	04 20 58.6	+0.2
BHW				AML	AML	04 21 26.4	
BHW				AML	AML	04 21 28.9	
RPZ	**Rata Peaks**	**1.94**	**221**	PN	Pn	04 20 59.0	+0.1
RPZ				AML	AML	04 21 29.9	
RPZ				AML	AML	04 21 41.2	
PLWZ	**Palliser**	**1.96**	**70**	PN	Pn	04 20 58.5	-0.6
CAW	**Cannon Point**	**2.05**	**57**	PN	Pn	04 21 00.2	-0.2
CAW				AML	AML	04 21 35.5	
CAW				AML	AML	04 21 39.2	
KIW	**Kapiti Island**	**2.11**	**50**	PN	Pn	04 21 02.2	+1.0
KIW				AML	AML	04 21 36.3	
KIW				AML	AML	04 21 41.5	
OGWZ	**Otaki Gorge**	**2.29**	**52**	PN	Pn	04 21 03.6	-0.1
MTW	**Mount Morrison**	**2.30**	**63**	AML	AML	04 21 48.7	
MTW				AML	AML	04 21 58.7	
MRZ	**Mangatainoka R**	**2.63**	**54**	PN	Pn	04 21 07.7	-0.7
LBZ	**Lake Benmore**	**2.86**	**221**	PN	Pb	04 21 14.5	-2.5
WAZ	**Wanganui**	**2.99**	**34**	PN	Pb	04 21 17.4	-1.9
ODZ	**Otahua Downs**	**3.20**	**208**	PN	Pn	04 21 15.7	-0.4
JCZ	**Jackson Bay**	**3.45**	**237**	PN	Pn	04 21 20.7	+1.0
VRZ	**Vera Road**	**3.46**	**26**	PN	Pn	04 21 22.6	+2.8
WNVZ	**Wahianoa**	**3.61**	**37**	PN	Pn	04 21 23.1	+1.1

MOS 24 04:20:47.7±0.9, 52.08N×171.86W, h46km, mb5.0/62, Error ellipse: s-maj=7.5km s-min=4.9km az=90.9
BJI 24 04:20:48.7, 52.61N×172.45W, h32km, mb4.9/30, mB5.5/3, Ms5.6/6, Ms7 5.5/5
ISCJB 24 04:20:49.9±0.3, 52.01N±0.03×171.81W±0.02, h70km±2km, mb4.7/151, Error ellipse: s-maj=5.3km s-min=2.1km az=174.4
NEIC 24 04:20:50.4, 51.69N×171.70W, h44km, mb4.7/113, ML4.3(AEIC), After AEIC.
IDC 24 04:20:52.4±3.0, 52.07N×171.86W, h74km±25km, mb4.4/33, mb1 4.5/34, mb1mx4.4/48, mbtmp4.7/34, MS5.3/1, Ms1 5.3/1, ms1mx4.3/59, Error ellipse: s-maj=17.6km s-min=10.1km az=173.0
ISC 24 04:20:48.9±0.6, 51.90N±0.08×171.78W±0.03, h48km±5km, n623, σ1s17/632, mb4.8/151, 29C-5D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.47**	**289**	P	**Pn**	**04 21 15.7**	**+2.8**
KOFP	**Korovin Flat P**	**1.48**	**286**	P	**Pn**	**04 21 15.6**	**+2.5**
KONE	**Korovin Northe**	**1.52**	**290**	P	**Pn**	**04 21 16.5**	**+2.9**
KOKL	**Mount Kliuchef**	**1.55**	**287**	P	**Pn**	**04 21 16.5**	**+2.4**
NIKH	**Nikolski High**	**2.09**	**58**	P	**Pn**	**04 21 22.5**	**+1.1**
NIKH				S	**Sn**	**04 21 47.2**	**+1.0**
GSMY	**Great Sitkin M**	**2.65**	**275**	P	**Pn**	**04 21 30.8**	**+1.8**
OKWE	**Okmok W'ng Wal**	**2.67**	**52**	P	**Pn**	**04 21 32.1**	**+2.7**
OKAK	**Okmok**	**2.68**	**50**	P	**Pn**	**04 21 30.7**	**+1.2**
GSTD	**Great Sitkin T**	**2.70**	**275**	P	**Pn**	**04 21 31.8**	**+1.9**
GSTD				S	**Sn**	**04 22 03.3**	**+2.0**
GSCK	**Great Sitkin C**	**2.71**	**274**	P	**Pn**	**04 21 31.4**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**2.72**	**55**	P	**Pn**	**04 21 32.9**	**+2.8**
OKER	**Okmok East Rim**	**2.75**	**54**	P	**Pn**	**04 21 33.5**	**+2.9**
ETKA	**Kagalaska Isla**	**2.87**	**271**	P	**Pn**	**04 21 33.6**	**+1.6**
ADAG	**Mount Adagdak**	**2.98**	**273**	P	**Pn**	**04 21 36.4**	**+2.7**
KIRH	**Kanaga Island**	**3.29**	**272**	P	**Pn**	**04 21 40.4**	**+2.5**
KIKV	**Kanaga Island**	**3.34**	**272**	P	**Pn**	**04 21 40.7**	**+2.2**
KICM	**Kanaga Island**	**3.35**	**272**	P	**Pn**	**04 21 41.5**	**+2.7**
MGOD	**Makushin Gods**	**3.53**	**56**	P	**Pn**	**04 21 42.9**	**+1.7**
MCIR	**Makushin Cirqu**	**3.60**	**53**	P	**Pn**	**04 21 44.3**	**+2.1**
MTBL	**Makushin Table**	**3.72**	**54**	P	**Pn**	**04 21 45.8**	**+2.0**
TAPA	**Tanaga Point A**	**3.74**	**271**	P	**Pn**	**04 21 46.1**	**+2.0**
UNV	**Unalaska Valle**	**3.75**	**57**	P	**Pn**	**04 21 45.7**	**+1.6**
UNV				S	**Sn**	**04 22 29.3**	**+2.4**
TAFP	**Tanaga Falls P**	**3.84**	**272**	P	**Pn**	**04 21 47.2**	**+1.8**
TAFP				S	**Sn**	**04 22 30.5**	**+1.2**
TASE	**Tanaga Southea**	**3.88**	**271**	P	**Pn**	**04 21 48.1**	**+2.2**
AKRB	**Akutan Reef Bi**	**4.11**	**55**	P	**Pn**	**04 21 51.2**	**+2.1**
AKRB				S	**Sn**	**04 22 39.6**	**+3.7**
AKGG	**Akutan Green G**	**4.18**	**54**	P	**Pn**	**04 21 52.4**	**+2.2**
AKUT	**Akutan**	**4.26**	**56**	P	**Pn**	**04 21 53.4**	**+2.2**
AKSA	**Akutan Strait**	**4.30**	**56**	P	**Pn**	**04 21 53.9**	**+2.1**
GANE	**Gareloi Northe**	**4.34**	**272**	P	**Pn**	**04 21 54.2**	**+2.0**
WECS	**Westdahl Cape**	**4.97**	**55**	P	**Pn**	**04 22 03.3**	**+2.4**
WESP	**Westdahl Peak**	**4.98**	**56**	P	**Pn**	**04 22 03.3**	**+2.3**
WESP				S	**Sn**	**04 22 58.7**	**+1.4**
WESN	**West Dahl Nort**	**5.08**	**55**	P	**Pn**	**04 22 04.6**	**+2.1**
SPIA	**Saint Paul Isl**	**5.36**	**9**	P	**Pn**	**04 22 08.8**	**+2.5**
DT1	**Dutton Round H**	**6.51**	**57**	P	**Pn**	**04 22 23.5**	**+1.4**
DTNA	**Dutton South F**	**6.55**	**56**	P	**Pn**	**04 22 23.9**	**+1.4**
SDPT	**Sand Point**	**7.56**	**58**	P	**Pn**	**04 22 37.1**	**+0.8**
SDPT				S	**Sn**	**04 23 58.0**	**-2.5**
VNKR	**Veniaminof 5**	**8.41**	**56**	P	**Pn**	**04 22 49.3**	**+1.3**
SMY	**Shemya**	**8.69**	**281**	P	**Pn**	**04 22 52.9**	**+1.0**
SMY	**Shemya**	**8.69**	**281**	P	**Pn**	**04 22 52.9**	**+1.0**
CHGN	**Chignik**	**9.00**	**55**	*e*Pn	**Pn**	**04 22 56.2**	**+0.1**
OHAK	**Old Harbor**	**11.97**	**56**	*e*Pn	**Pn**	**04 23 33.8**	**-2.8**
KDAK	**Kodiak Island**	**12.51**	**54**	*e*P	**Pn**	**04 23 42.3**	**-1.7**
KDAK	**Kodiak Island**	**12.51**	**54**	*e*Pn	**Pn**	**04 23 42.3**	**-1.7**
SVW2	**Sparrevohn**	**12.81**	**38**	*e*Pn	**Pn**	**04 23 50.0**	**+1.9**
RSO	**Redoubt South**	**13.59**	**43**	*e*Pn	**Pn**	**04 23 57.9**	**-1.0**
CNPM	**China Poot**	**13.83**	**48**	*e*Pn	**Pn**	**04 24 01.3**	**-0.7**
TT01	**Tatalina**	**13.87**	**31**	*e*Pn	**Pn**	**04 24 04.4**	**+1.9**
TTA	**Tatalina**	**13.89**	**31**	*e*P	**Pn**	**04 24 05.1**	**+2.2**
TTA	**Tatalina**	**13.89**	**31**	*e*Pn	**Pn**	**04 24 05.1**	**+2.2**
SPU	**Mount Spurr**	**14.25**	**42**	*e*Pn	**Pn**	**04 24 08.7**	**+0.9**
SUA	**Susitna One**	**14.94**	**42**	*e*Pn	**Pn**	**04 24 17.2**	**+0.3**
PPLA	**Purkeypile** 16nm,0.9s	**15.18**	**36**	*e*Pn	**Pn**	**04 24 20.4**	**+0.4**
CAST	**Castle Rocks** 41nm,0.6s	**15.54**	**34**	*e*Pn	**Pn**	**04 24 25.3**	**+0.7**
KTH	**Kantishna Hill** 33nm,1.3s	**16.04**	**35**	*e*Pn	**Pn**	**04 24 31.4**	**+0.5**
SML	**Sawmill**	**16.12**	**43**	*e*P	**Pn**	**04 24 31.1**	**-0.8**
SML	comp=Z,2.0nm,0.5s			pmax	pmax		
SML	**Sawmill** comp=Z,1.9nm,0.5s	**16.12**	**43**	*e*Pn	**Pn**	**04 24 31.1**	**-0.8**
TRF	**Thorofare Moun** comp=Z,11nm,0.9s	**16.21**	**36**	*e*Pn	**Pn**	**04 24 33.3**	**+0.2**
BPAW	**Bear Paw Mtn.** comp=Z,44nm,0.8s	**16.35**	**34**	*e*Pn	**P**	**04 24 36.0**	**-1.1**
SCM	**Sheep Creek Mo**	**16.55**	**44**	*e*P	**Pn**	**04 24 37.8**	**+0.3**
SCM				*e*		04 27 39.9	
SCM				pmax	pmax		
	comp=Z,38nm,0.4s						
SCM	**Sheep Creek Mo** comp=Z,38nm,0.4s	**16.55**	**44**	*e*Pn	**Pn**	**04 24 37.8**	**+0.3**
SCM				*e*Sn	**Sn**	**04 27 39.9**	**-0.1**
RND	**Reindeer**	**16.71**	**38**	*e*P	**Pn**	**04 24 38.5**	**-1.0**
RND				pmax	pmax		
	comp=Z,21nm,1.0s						
RND	**Reindeer** comp=Z,21nm,1.0s	**16.71**	**38**	*e*Pn	**Pn**	**04 24 38.5**	**-1.0**
MCK	**McKinley**	**16.86**	**37**	*e*P	**Pn**	**04 24 41.2**	**-0.1**
MCK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MCK	**McKinley** comp=Z,8.8nm,0.7s	**16.86**	**37**	*e*Pn	**Pn**	**04 24 41.2**	**-0.1**
BWN	**Browne** comp=Z,25nm,0.6s	**16.93**	**35**	*e*Pn	**P**	**04 24 43.5**	**+0.1**
DIV	**Divide** comp=Z,13nm,0.5s	**16.96**	**47**	*e*Pn	**Pn**	**04 24 40.6**	**-1.9**
KLU	**Klutina** comp=Z,13nm,0.7s	**17.03**	**46**	*e*Pn	**P**	**04 24 44.4**	**-0.2**
MLY	**Manley** comp=Z,12nm,0.5s	**17.03**	**31**	*e*P	**P**	**04 24 45.3**	**+0.7**
DHY	**Denali Highway** comp=Z,9.5nm,0.7s	**17.11**	**40**	*e*Pn	**Pn**	**04 24 44.6**	**+0.1**
RAGM	**Ragged Mountai** comp=Z,24nm,0.6s	**17.22**	**50**	*e*Pn	**Pn**	**04 24 45.2**	**-0.5**
BMRM	**Bremner River** comp=Z,13nm,0.6s	**17.43**	**48**	*e*Pn	**Pn**	**04 24 46.9**	**-1.5**
WRH	**Wood River Hil** comp=Z,8.0nm,0.6s	**17.59**	**35**	*e*Pn	**Pn**	**04 24 49.7**	**-0.5**
CCB	**Clear Creek Bu** comp=Z,7.7nm,0.6s	**17.79**	**35**	*e*Pn	**Pn**	**04 24 51.1**	**-1.5**
MDM	**Murphy Dome** comp=Z,10nm,0.8s	**17.82**	**34**	*e*Pn	**Pn**	**04 24 52.5**	**-0.6**
PAX	**Paxson**	**17.83**	**41**	*e*P	**Pn**	**04 24 51.7**	**-1.6**
PAX				pmax	pmax		
	comp=Z,13nm,0.9s						
PAX	**Paxson** comp=Z,13nm,0.9s	**17.83**	**41**	*e*Pn	**Pn**	**04 24 51.7**	**-1.6**
COLA	**College**	**17.90**	**34**	*e*P	**Pn**	**04 24 53.0**	**-1.0**
COLA	**College**	**17.90**	**34**	*e*Pn	**Pn**	**04 24 53.0**	**-1.0**
HDA	**Harding Lake** comp=Z,74nm,1.3s	**17.97**	**36**	*e*Pn	**Pn**	**04 24 54.4**	**-0.4**
CRQM	**Cirque** comp=Z,28nm,0.6s	**18.05**	**49**	*e*Pn	**Pn**	**04 24 54.8**	**-1.3**
ILAR	**Eielson Array** comp=Z,2.8nm,0.3s,baz=231,slow=10,SNR=81	**18.19**	**35**	P	**P**	**04 24 55.0**	**-2.3**
ILB	**Eielson Array**	**18.19**	**35**	*e*P	**P**	**04 24 55.4**	**-1.9**
IL1	**Eielson Array**	**18.19**	**35**	*e*P	**P**	**04 24 56.5**	**-0.8**
BALM	**Baldy**	**18.50**	**49**	*e*P	**P**	**04 25 00.9**	**0.0**
BALM				pmax	pmax		
	comp=Z,13nm,0.6s						
BALM	**Baldy** comp=Z,13nm,0.6s	**18.50**	**49**	*e*P	**P**	**04 25 00.9**	**0.0**
PETK	**Petropavlovsk-** comp=Z,2.2nm,0.3s,baz=86,slow=14,SNR=20	**18.55**	**286**	P	**Pn**	**04 25 02.0**	**0.0**
PETK				LR	LR	04 32 44.9	
	comp=Z,9μm,19.3s,baz=355,slow=39						
COLD	**Coldfoot** comp=Z,11nm,0.8s	**18.68**	**27**	*e*P	**Pn**	**04 25 05.4**	**+1.9**
DOT	**Dot Lake** comp=Z,65nm,0.9s	**18.70**	**40**	*e*P	**P**	**04 25 02.2**	**-0.8**
PCA	**Pinnacle** comp=Z,106nm,0.6s	**19.28**	**53**	*e*P	**Pn**	**04 25 10.7**	**-0.1**
BILL	**Bilibino**	**19.36**	**335**	*c* iP	**Pn**	**04 25 11.6**	**0.0**
BILL				pmax	pmax		
	comp=Z,75nm,1.2s						
BILL	**Bilibino** comp=Z,178nm,1.7s	**19.36**	**335**	*e*P	**Pn**	**04 25 11.3**	**-0.3**
DHAK	**Deception Hill** comp=Z,160nm,0.6s	**20.16**	**56**	*e*P	Pn	04 25 21.3	+0.2
EGAK	**Eagle** comp=Z,44nm,0.6s	**20.34**	**39**	*e*P	**P**	**04 25 20.6**	**-0.1**
HYT	**Haines Junctio** comp=Z,41nm,0.5s	**20.76**	**51**	*e*P	Pn	04 25 26.9	-1.4
DAWY	**Dawson** comp=Z,18nm,0.7s	**20.77**	**42**	*e*P	**P**	**04 25 25.2**	**-0.3**
SKAG	**Skagway** comp=Z,57nm,0.9s	**21.67**	**55**	*e*P	**P**	**04 25 35.8**	**+0.7**
SEY	**Seymchan** comp=Z,9.6nm,0.6s,baz=111,slow=9.8,SNR=43	**21.91**	**314**	P	**P**	**04 25 38.5**	**+0.9**
SEY	**Seymchan**	**21.91**	**314**	*c*e P	**P**	**04 25 37.6**	**-0.1**
MA2	**Magadan**	**22.18**	**305**	⇑*i* P	**P**	**04 25 41.2**	**+0.6**
WRAK	**Wrangell Islan** comp=Z,44nm,1.8s	**23.29**	**63**	*e*P	**P**	**04 25 54.1**	**+1.9**
DLBC	**Dease Lake** comp=Z,46nm,0.5s,baz=277,slow=8.9,SNR=76	**24.40**	**58**	P	**P**	**04 26 04.8**	**+2.3**
DLBC	**Dease Lake** comp=Z,51nm,0.6s	**24.40**	**58**	*e*P	**P**	**04 26 05.2**	**+2.6**
INK	**Inuvik** comp=Z,38nm,0.4s,baz=250,slow=7.5,SNR=174	**24.56**	**34**	P	**P**	**04 26 03.8**	**+0.1**
INK	**Inuvik**	**24.56**	**34**	*e*P	**P**	**04 26 03.5**	**-0.3**
INK				pmax	pmax		
	comp=Z,56nm,0.6s						
INK	**Inuvik** comp=Z,56nm,0.6s	**24.56**	**34**	*e*P	**P**	**04 26 03.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**29.60**	**279**	*e*P	**P**	**04 26 52.0**	**+2.9**
YKW3	**Yellowknife Ar** comp=Z,9.9nm,1.1s	**31.65**	**48**	*e*P	**P**	**04 27 07.4**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,3.6nm,0.4s,baz=274,slow=7.2,SNR=54	**31.67**	**48**	P	**P**	**04 27 07.3**	**+0.1**
YKB5	**Yellowknife Ar**	**31.67**	**48**	*e*P	**P**	**04 27 07.6**	**+0.4**
ERM	**Erimo**	**31.84**	**270**	*e*P	**P**	**04 27 07.7**	**-1.2**
ERM				pmax	pmax		
	comp=Z,61nm,1.3s						
TIXI	**Tiksi** comp=Z,1.2nm,0.3s,baz=113,slow=16,SNR=6.3	**32.38**	**329**	P	**P**	**04 27 12.9**	**-0.5**
TIXI				PcP	**PcP**	**04 29 59.9**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=103,slow=5.7,SNR=8.7						
TIXI	**Tiksi**	**32.38**	**329**	*e*P	**P**	**04 27 12.4**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s						
I03D	**Drain, OR** baz=301	**33.02**	**85**	P	**P**	**04 27 20.3**	**+1.0**
B08A	**Colville Reser**	**33.21**	**75**	*e*P	**P**	**04 27 21.6**	**+0.6**
I04A	**Tendick Farm,** baz=301	**33.54**	**84**	P	**P**	**04 27 25.7**	**+1.8**
I05D	**Terebonne, OR** baz=301	**33.92**	**82**	P	**P**	**04 27 29.0**	**+1.8**
J05D	**Fort Rock, OR** baz=302	**34.54**	**84**	P	**P**	**04 27 34.7**	**+2.0**
NEW	**Newport** baz=297	**34.57**	**74**	P	**P**	**04 27 34.3**	**+1.5**
NEW	**Newport**	**34.57**	**74**	*e*P	**P**	**04 27 34.0**	**+1.2**
NEW				pmax	pmax		
	comp=Z,21nm,1.1s						
NEW	**Newport** comp=Z,21nm,1.1s	**34.57**	**74**	*e*P	**P**	**04 27 34.0**	**+1.2**
M02C	**Callahan** baz=304	**34.58**	**88**	P	**P**	**04 27 34.4**	**+1.4**
N02D	**Trinity Center** baz=305	**34.91**	**88**	P	**P**	**04 27 37.2**	**+1.4**
M04C	**Macdoel** baz=304	**34.99**	**87**	P	**P**	**04 27 38.1**	**+1.5**
K05A	**Summer Lake** comp=Z,13nm,0.7s	**35.05**	**85**	*e*P	**P**	**04 27 39.0**	**+1.8**
KLR	**Kul'dur**	**35.20**	**289**	*e*P	**P**	**04 27 36.6**	**-1.5**
O03D	**Paynes Creek** baz=306	**35.87**	**89**	P	**P**	**04 27 45.4**	**+1.4**
MOD	**Modoc Plateau** comp=Z,5.0nm,0.6s	**35.87**	**85**	*e*P	**P**	**04 27 45.6**	**+1.4**
H11N2	**WAKE ISLAND Hy** baz=21,slow=75,SNR=15	**36.18**	**215**	T	T	05 06 22.7	
H11N3	**WAKE ISLAND Hy** baz=21,slow=75,SNR=11	**36.19**	**215**	T	T	05 06 31.4	
H11N1	**WAKE ISLAND Hy** baz=21,slow=75,SNR=13	**36.20**	**215**	T	T	05 06 23.2	
WVOR	**Wild Horse Val**	**36.60**	**83**	*e*P	**P**	**04 27 52.3**	**+1.9**
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WVOR	**Wild Horse Val** comp=Z,6.4nm,1.0s	**36.60**	**83**	*e*P	**P**	**04 27 52.3**	**+1.9**
H11S1	**WAKE ISLAND Hy** baz=21,slow=76,SNR=5.8	**37.38**	**215**	T	T	05 07 51.2	
H11S2	**WAKE ISLAND Hy** baz=21,slow=76,SNR=3.7	**37.39**	**215**	T	T	05 07 54.9	
H11S3	**WAKE ISLAND Hy** baz=21,slow=76,SNR=0.5	**37.40**	**215**	T	T	05 07 55.6	
RES	**Resolute Bay**	**37.43**	**25**	*e*P	**P**	**04 27 56.2**	**-0.6**
RES

R11A **Troy Canyon, C** 40.89 87 *e*P P 04 28 27.7 +1.4
comp=Z,3,6nm,0.8s
R11A *e*pP **pP** 04 28 40.6 +1.5
BOD **Bodaibo** 41.12 308 *e*P P 04 28 26.5 -1.3
BOD pmax pmax
comp=Z,6.0nm,0.9s
MPMC **Manual Prospec** 41.15 91 P P 04 28 29.7 +1.2
baz=310
SCZ2 **Santa Cruz Isl** 41.18 95 P P 04 28 29.8 +1.2
baz=312
TPNV **Topopah Spring** 41.35 89 P P 04 28 31.6 +1.4
baz=309,SNR=5.7
TPNV **Topopah Spring** 41.35 89 *e*P P 04 28 31.8 +1.7
TPNV pmax pmax
comp=Z,8.0nm,0.6s
TPNV **Topopah Spring** 41.35 89 *e*P P 04 28 31.8 +1.7
comp=Z,8.0nm,0.6s
HWUT **Hardware Ranch** 41.41 80 *e*P P 04 28 31.9 +1.3
comp=Z,4.3nm,0.7s
DUG **Dugway, Tooele** 41.48 82 *e*P P 04 28 32.0 +0.9
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG **Dugway, Tooele** 41.48 82 *e*P P 04 28 32.0 +0.9
comp=Z,8.2nm,0.9s
EDW2 **Edwards Air Fo** 41.60 92 P P 04 28 33.6 +1.5
baz=311
BW06 **Boulder Array** 41.96 77 P P 04 28 35.8 +0.7
baz=305
BW06 **Boulder Array** 41.96 77 *e*P P 04 28 36.1 +0.9
comp=Z,5.0nm,0.6s
PD31 **Pinedale Array** 41.96 77 *e*P P 04 28 35.8 +0.7
PDAR **Pinedale Array** 41.96 77 P P 04 28 35.9 +0.7
comp=Z,2.0nm,0.7s,baz=308,slow=4.2,SNR=13
GSC **Goldstone, Bar** 42.06 91 P P 04 28 37.2 +1.3
baz=311,SNR=7.7
GSC **Goldstone, Bar** 42.06 91 *e*P P 04 28 37.4 +1.5
GSC pmax pmax
comp=Z,8.0nm,0.8s
GSC **Goldstone, Bar** 42.06 91 *e*P P 04 28 37.4 +1.5
comp=Z,7.6nm,0.8s
HIA **Hailar** 42.10 295 *e*P P 04 28 34.8 -1.1
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA **Hailar** 42.10 295 *e*P P 04 28 34.8 -1.1
comp=Z,10nm,0.6s
BFSC **Mount Baldy Ra** 42.23 93 P P 04 28 38.5 +1.2
baz=312
FCC **Fort Churchill** 42.38 49 *e*P P 04 28 38.8 +0.8
FCC pmax pmax
comp=Z,19nm,0.8s
FCC **Fort Churchill** 42.38 49 *e*P P 04 28 38.8 +0.8
comp=Z,19nm,0.8s
TUQ **Turquoise Moun** 42.52 90 P P 04 28 40.9 +1.3
baz=310
HEC **Hector,Ludlow** 42.66 91 P P 04 28 42.1 +1.3
baz=311
BBRC **Big Bear Solar** 42.67 92 P P 04 28 41.9 +0.8
baz=311
MSU **Marysvale** 42.89 84 *e*P P 04 28 44.2 +1.4
MSU *e**PP **pP** 04 28 56.9 +1.3
MSU **Marysvale** 42.89 84 *e*P P 04 28 44.2 +1.4
MSU *e*pP **pP** 04 28 56.9 +1.3
GMRC **Granite Mounta** 43.11 91 P P 04 28 45.6 +1.1
baz=311,SNR=5.2
B26A **Jensen Ranch,** 43.17 66 P P 04 28 45.1 +0.5
baz=302
LCMT **Little Creek M** 43.17 86 *e*P P 04 28 45.7 +0.7
comp=Z,8.2nm,1.5s
Q16A **Castle Valley** 43.26 83 *e*P P 04 28 46.9 +1.2
comp=Z,7.4nm,0.6s
LDFC **Landfair** 43.26 90 *e*P P 04 28 44.4 -1.2
comp=Z,11nm,0.5s
P18A **Preston Nutter** 43.39 81 *e*P P 04 28 47.9 +1.0
comp=Z,4.6nm,0.7s
PFO **Pinyon Flats O** 43.39 93 P P 04 28 47.4 +0.7
baz=312
TPFO **Pinon Flats** 43.40 93 P P 04 28 47.5 +0.7
baz=312
BELC **Belle Mtn. Jos** 43.42 92 P P 04 28 47.8 +0.8
baz=312
SRU **San Rafael Swe** 43.54 82 *e*P P 04 28 48.2 +0.3
SRU pmax pmax
comp=Z,6.0nm,0.7s
SRU **San Rafael Swe** 43.54 82 *e*P P 04 28 48.2 +0.3
comp=Z,6.3nm,0.7s
MONP2 **Monument Peak** 43.90 93 P P 04 28 51.3 +0.4
baz=312
KSRS **Korea Array** 43.97 275 P P 04 28 52.0 +0.8
comp=Z,1.7nm,0.6s,baz=54,slow=8.1,SNR=4.6
A28A **Rude Farm, Bot** 43.99 64 P P 04 28 52.2 +0.9
baz=302,SNR=8.1
KSAR **Wonju Array Be** 44.01 275 P P 04 28 52.0 +0.6
KSAR **Wonju Array Be** 44.01 275 P P 04 28 52.0 +0.6
W13A **Hualapai Mount** 44.01 89 *e*P P 04 28 53.1 +1.4
comp=Z,4.1nm,0.7s
U15A **North Rim** 44.13 86 *e*P P 04 28 54.3 +1.5
comp=Z,5.5nm,0.9s
B28A **Dugan Ranch, T** 44.19 65 P P 04 28 53.1 +0.4
baz=302,SNR=6.4
IKP **In-Ko-Pah, Jac** 44.26 93 P P 04 28 53.8 +0.1
baz=313
O20A **White River Ci** 44.31 79 P P 04 28 54.4 +0.3
baz=307,SNR=7.2
O20A **White River Ci** 44.31 79 *e*P P 04 28 54.1 0.0
comp=Z,16nm,0.6s
PDMCI **Parker Dam,Lak** 44.37 90 P P 04 28 54.7 +0.3
baz=311
RSSD **Black Hills** 44.48 72 *e*P P 04 28 56.9 +1.5
RSSD pmax pmax
comp=Z,9.0nm,0.5s
RSSD **Black Hills** 44.48 72 *e*P P 04 28 56.9 +1.5
comp=Z,9.5nm,0.5s
Y12C **Blythe** 44.50 91 P P 04 28 56.0 +0.6
baz=312
A29A **Manning Farm,** 44.56 64 P P 04 28 56.4 +0.6
baz=302
GLA **Glamis** 44.78 92 P P 04 28 59.0 +1.3
baz=312
PV10 **Paradox Valley** 44.90 82 *e*P P 04 29 00.4 +1.5
MDND **Maddock** 44.94 65 P P 04 28 58.9 +0.1
baz=303,SNR=6.9
MDND **Maddock** 44.94 65 *e*P P 04 29 00.1 +1.3
comp=Z,22nm,0.7s
A30A **Hoffart Farm,** 45.07 63 P P 04 29 00.8 +0.9
baz=303
WUAZ **Wupatki** 45.29 87 P P 04 29 02.2 +0.3
baz=310
WUAZ **Wupatki** 45.29 87 *e*P P 04 29 03.1 +1.2
comp=Z,16nm,1.6s
B30A **Myrvik Farm, E** 45.32 64 P P 04 29 02.0 +0.2
baz=303,SNR=11
PV01 **Paradox Valley** 45.34 82 *e*P P 04 29 02.6 +0.2
ULM **Lac du Bonnet** 45.68 60 P P 04 29 06.1 +1.5
comp=Z,3.7nm,0.4s,baz=181,slow=2.9,SNR=2.9
A31A **Linda, St. Vin** 45.69 63 P P 04 29 05.0 +0.4
baz=303
B31A **Greenbush Farm** 45.71 64 P P 04 29 05.5 +0.6
baz=303,SNR=16
D30A **Buchanan** 45.83 66 P P 04 29 05.9 +0.1
baz=304,SNR=8.6
X16A **Lo Mia Camp, P** 45.97 88 *e*P P 04 29 08.6 +1.3
comp=Z,3.5nm,0.6s
MVCO **Mesa Verde** 45.97 83 P P 04 29 07.2 -0.1
baz=310
MVCO **Mesa Verde** 45.97 83 *e*P P 04 29 08.5 +1.2
C31A **Landman Farms,** 46.02 64 P P 04 29 07.3 0.0
baz=304,SNR=6.8
A32A **Rocking H Ranc** 46.08 62 P P 04 29 07.7 0.0
baz=304
NRIK **Noril'sk** 46.12 331 P P 04 29 06.3 -1.5
comp=Z,3.3nm,0.5s,baz=94,slow=6.9,SNR=4.7
B32A **Ashes, Strandq** 46.34 63 P P 04 29 10.2 +0.3
baz=304
D31A **Mcclaflin, Tow** 46.44 65 P P 04 29 11.3 +0.6
baz=304
KULLO **Kullorsuaq** 46.58 20 *i* P P 04 29 11.3 0.0
KULLO **Kullorsuaq** 46.58 20 *i* P P 04 29 11.3 0.0
S22A **4UR Ranch, Cre** 46.65 81 P P 04 29 13.7 +0.9
baz=309
A33A **Warroad** 46.67 62 P P 04 29 12.1 -0.3
baz=304
C32A **Crookston** 46.67 64 P P 04 29 12.1 -0.3
baz=304
G30A **Faulkton** 46.74 68 P P 04 29 12.4 -0.6
baz=306,SNR=7.8
AGMN **Agassiz Nation** 46.77 63 P P 04 29 13.0 -0.2
baz=304
comp=Z,19nm,0.8s
AGMN **Agassiz Nation** 46.77 63 *e*P P 04 29 13.3 +0.1
comp=Z,40nm,1.9s
214A **Organ Pipe Nat** 46.77 91 P P 04 29 13.6 +0.2
baz=313
214A **Organ Pipe Nat** 46.77 91 *e*P P 04 29 14.3 +0.8
comp=Z,18nm,1.1s
D32A **Dogwood Acres,** 46.79 65 P P 04 29 13.5 +0.1
baz=305,SNR=8.4
E32A **Braaten, Kindr** 47.07 65 P P 04 29 15.9 +0.4
baz=305,SNR=7.9
B34A **Aery, Baudette** 47.33 62 P P 04 29 17.4 -0.2
baz=305,SNR=11
D33A **AnnSam, Waubun** 47.44 64 P P 04 29 18.7 +0.2
baz=305,SNR=6.9
SDCO **Great Sand Dun** 47.47 80 P P 04 29 19.6 +0.5
baz=310
SDCO **Great Sand Dun** 47.47 80 *e*P P 04 29 20.1 +0.9
comp=Z,2.8nm,0.6s
OGNE **Ogallala** 47.56 74 *e*P P 04 29 20.3 +0.7
comp=Z,22nm,0.8s
G32A **Webster** 47.61 67 P P 04 29 19.0 -0.8
baz=306,SNR=7.4
J30A **Dallas** 47.61 70 P P 04 29 19.7 -0.1
baz=307,SNR=5.9
C34A **RKJ Ranch, Bem** 47.66 63 P P 04 29 20.6 +0.4
baz=305
I31A **Royce, Wessing** 47.74 69 P P 04 29 21.1 +0.3
baz=306
TUC **Tucson** 47.79 89 P P 04 29 21.0 -0.4
baz=313
TUC **Tucson** 47.79 89 *e*P P
TUC pmax pmax 04 29 21.8 +0.4
comp=Z,3.0nm,1.0s
TUC **Tucson** 47.79 89 *e*P P 04 29 21.8 +0.4
comp=Z,3.0nm,1.0s
D34A **Park Rapids** 47.84 64 P P 04 29 22.9 +1.4
baz=305,SNR=28
B35A **Bob, Littlefor** 47.91 62 P P 04 29 22.2 +0.2
baz=305
K30A **Basset** 47.93 71 P P 04 29 22.5 +0.1
baz=307,SNR=8.8
F33A **5 Mile Ranch,** 47.95 66 P P 04 29 23.4 +1.0
baz=306
J31A **Geddes** 48.07 70 P P 04 29 24.5 +1.1
baz=307,SNR=10
H32A **Carlson Farm,** 48.09 68 P P 04 29 23.9 +0.4
baz=306,SNR=8.5
C35A **Jirik Farms, M** 48.15 62 P P 04 29 24.1 +0.2
baz=305,SNR=15
E34A **Wadena** 48.19 64 P P 04 29 23.4 -0.8
baz=306
G33A **Ortonville** 48.25 66 P P 04 29 26.0 +1.2
baz=306,SNR=6.4
I32A **Karley and Nic** 48.36 68 P P 04 29 27.5 +1.9
baz=307,SNR=5.1
H33A **Prehn Over Nor** 48.38 67 P P 04 29 25.8 0.0
baz=307,SNR=9.5
KSCO **Kaye Shedlock'** 48.41 77 *e*P P 04 29 26.9 +0.7
comp=Z,31nm,0.9s
D35A **Remer** 48.47 63 P P 04 29 27.6 +1.2
baz=306,SNR=16
SARN **Sarigan** 48.52 240 *e*P P 04 29 26.0 -1.1
T25A **Trinidad** 48.52 80 P P 04 29 28.3 +1.1
baz=310
F34A **Alexandria** 48.56 65 P P 04 29 28.7 +1.6
baz=306,SNR=9.7
E35A **Pequot Lakes** 48.59 64 P P 04 29 29.1 +1.8
baz=306,SNR=19
I33A **Coleman** 48.73 68 P P 04 29 28.0 -0.5
baz=307
C36A **Pine Crest Far** 48.74 62 P P 04 29 28.8 +0.3
baz=306
D36A **Goodland** 48.90 63 P P 04 29 30.5 +0.8
baz=306
F35A **Swanville** 48.91 65 P P 04 29 30.5 +0.7
baz=306,SNR=13
ECSD **EROS Data Cent** 49.03 68 P P 04 29 30.5 -0.3
baz=307,SNR=8.7
ECSD **EROS Data Cent** 49.03 68 *e*P P 04 29 30.0 -0.7
comp=Z,7.3nm,0.6s
C37A **Embarrass** 49.11 61 P P 04 29 31.6 +0.3
baz=306
M31A **Lambrecht Ranc** 49.12 72 P P 04 29 31.7 +0.2
baz=308
E36A **McGregor** 49.25 63 P P 04 29 32.7 +0.3
baz=306,SNR=7.1
L32A **Elgin** 49.28 71 P P 04 29 33.0 +0.3
baz=308
D37A **Cotton** 49.32 62 P P 04 29 32.7 -0.2
baz=306
G35A **Watkins** 49.34 65 P P 04 29 33.2 +0.1
baz=307,SNR=6.1
EYMN **Ely** 49.36 61 P P 04 29 33.2 0.0
baz=306
EYMN **Ely** 49.36 61 *e*P P 04 29 32.4 -0.8
comp=Z,5.3nm,0.4s
TLY **Talaya** 49.40 305 P P 04 29 33.7 +0.3
comp=Z,8.2nm,0.7s,baz=2.8,slow=4.8,SNR=5.8
TLY **Talaya** 49.40 305 *e*P P
TLY pmax pmax 04 29 33.8 +0.3
comp=Z,16nm,0.9s
H35A **Sunnyside Ranc** 49.46 66 P P 04 29 34.1 +0.1
baz=307
F36A **Milaca** 49.49 64 P P 04 29 33.8 -0.4
baz=307,SNR=6.6
121A **Cookes Peak, D** 49.49 87 P P 04 29 35.3 +0.7
baz=313
BJT **Baijiatuau** 49.50 286 *e*P P
BJT pmax pmax 04 29 32.8 -1.6
comp=Z,10.0nm,0.5s
BJT **Baijiatuau** 49.50 286 *e*P P 04 29 32.8 -1.6
comp=Z,10nm,0.5s
C38A **Sawbill Land.** 49.62 61 P P 04 29 36.0 +0.9
baz=306
O31A **Woolen Ranch,** 49.66 73 P P 04 29 35.8 +0.2
baz=309
ULN **Ulaanbaatar** 49.88 300⇑ *i* P P
ULN pmax pmax 04 29 37.0 -0.3
comp=Z,8.0nm,0.8s
ULN **Ulaanbaatar** 49.88 300 *e*P P 04 29 36.7 -0.7
comp=Z,10nm,0.9s
SONA1 **Songino Array** 50.24 300 *e*P P 04 29 39.8 -0.2
SONM **Songino Array** 50.25 300 P P 04 29 40.4 +0.3
comp=Z,3.9nm,0.6s,baz=43,slow=7.9,SNR=9.8
CBKS **Cedar Bluff** 50.27 75 *e*P P
CBKS pmax pmax 04 29 41.3 +1.0
comp=Z,23nm,0.7s
CBKS **Cedar Bluff** 50.27 75 *e*P P 04 29 41.3 +1.0
comp=Z,23nm,0.7s
SPMN **Marine on St.** 50.28 64 *e*P P 04 29 44.8 +4.6
comp=Z,15nm,0.3s
ZAK **Zakamensk** 50.36 304 *e*P P
ZAK pmax pmax 04 29 40.2 -0.7
comp=Z,5.0nm,1.4s
P32A **Huiting Farm,** 50.43 74 P P 04 29 41.4 0.0
baz=310
K35A **Storm Lake** 50.45 68 P P 04 29 40.8 -0.7
baz=308
DAG **Danmarks Havn** 50.47 8 *i* P P
DAG pmax pmax 04 29 39.7 -1.5
comp=Z,15nm,0.9s
DAG **Danmarks Havn** 50.47 8 *i* P P 04 29 39.7 -1.5
comp=Z,18nm,0.9s
MOY **Mondy** 50.74 307 *e*P P 04 29 43.7 -0.1
Q32A **Meitler Ranch,** 50.86 74 P P 04 29 45.0 +0.3
baz=310
N34A **Lincoln** 50.90 71 P P 04 29 46.0 +1.1
baz=309
K36A **Gilmore City** 50.95 68 P P 04 29 45.1 -0.2
baz=309,SNR=8.5
M35A **Neola** 50.97 70 P P 04 29 45.6 +0.2
baz=309,SNR=5.5
J37A **Redenius Farm,** 51.04 67 P P 04 29 46.7 +0.7
baz=309,SNR=5.4
O34A **Beatrice** 51.20 72 P P 04 29 47.0 -0.2
baz=310
Q33A **Connelly Farm,** 51.29 74 P P 04 29 48.0 +0.1
baz=310
K37A **Belmond** 51.33 67 P P 04 29 48.1 -0.1
baz=309,SNR=6.2
P34A **Walnut Farm, R** 51.53 73 P P 04 29 50.3 +0.6
baz=310
MNTX **Cornudas Mount** 51.55 86 P P 04 29 50.7 +0.8
baz=313
MNTX **Cornudas Mount** 51.55 86 *e*P P 04 29 50.8 +0.8
comp=Z,2.2nm,0.8s
SUMG **Summit** 51.66 16 *i* P P
SUMG pmax pmax 04 29 50.6 -0.1
comp=Z,19nm,0.8s
SUMG **Summit** 51.66 16 *i* P P 04 29 50.1 -0.6
comp=Z,19nm,0.9s
HHC **Hu-ho-hao-te** 51.69 290 *e*P P
HHC PMZ 04 29 51.3 +0.3
comp=Z,29nm,1.0s
Q34A **Chapman** 51.87 73 P P 04 29 52.6 +0.4
baz=310
KSU1 **Kansas State U** 51.95 73 *e*P P 04 29 53.9 +1.1
M37A **Trindle Farm,** 51.96 69 P P 04 29 52.8 -0.1
baz=310
J39A **Decorah** 52.07 66 P P 04 29 53.2 -0.5
baz=309,SNR=8.5
L38A **Oak Wood Farm,** 52.12 68 P P 04 29 53.7 -0.4
baz=310,SNR=6.7
P36A **Good Intent, A** 52.44 71 P P 04 29 56.4 0.0
baz=310,SNR=6.3
L39A **Vinton** 52.68 67 P P 04 29 58.4 +0.3
baz=310
O37A **Wolven Farm, M** 52.70 70 P P 04 29 58.1 -0.3
baz=310,SNR=9.2
Q36A **Arnold C. Orve** 52.72 72 P P 04 29 58.5 0.0
baz=311
U33A **Lingo Farm, Me** 52.80 76 P P 04 29 59.3 +0.2
baz=312
N38A **Joes South For** 52.83 69 P P 04 29 58.5 -0.8
baz=310
P37A **Lathrop** 52.96 71 P P 04 30 00.4 +0.1
baz=311,SNR=7.9
T34A **McClaskey Farm** 52.96 75 P P 04 30 00.0 -0.3
baz=311
R36A **Gordon, Harris** 53.11 73 P P 04 30 01.0 -0.4
baz=311
O38A **Galt** 53.12 70 P P 04 30 00.9 -0.6
baz=310
U34A **Anderson Ranch** 53.14 76 *e*P P 04 30 01.6 -0.1
comp=Z,11nm,0.7s
JFWS **Jewell Farm** 53.16 65 *e*P P
JFWS pmax pmax 04 30 06.5 +4.7
comp=Z,14nm,0.6s
JFWS **Jewell Farm** 53.16 65 *e*P P 04 30 06.5 +4.7
comp=Z,14nm,0.6s
N39A **Derby Farms, D** 53.20 69 P P 04 30 02.0 0.0
baz=310,SNR=12
SFJD **Kangerlussuaq** 53.43 25 *i* P P
SFJD pmax pmax 04 30 03.4 +0.1
comp=Z,9.0nm,1.0s
SFJD **Kangerlussuaq** 53.43 25 *i* P P 04 30 03.4 +0.1
comp=Z,9.3nm,1.0s
X32A **Elmer** 53.44 79 P P 04 30 04.0 +0.1
baz=312
WMOK **Wichita Mounta** 53.53 78 P P 04 30 04.8 +0.2
baz=312
WMOK **Wichita Mounta** 53.53 78 *e*P P
WMOK pmax pmax 04 30 04.9 +0.3
comp=Z,7.0nm,1.5s
WMOK **Wichita Mounta** 53.53 78 *e*P P 04 30 04.9 +0.3
comp=Z,6.8nm,1.5s
L41A **Preston** 53.56 66 P P 04 30 04.1 -0.6
baz=310
Q38A **Cooks Store, C** 53.80 71 P P 04 30 05.5 -0.9
baz=311
S37A **Fort Scott** 53.88 73 P P 04 30 06.3 -0.7
baz=312
P39B **Salisbury** 53.96 70 P P 04 30 07.9 +0.3
baz=311,SNR=5.3
O40A **La Belle** 54.05 69 P P 04 30 07.7 -0.6
baz=311,SNR=9.1
Y33A **Hilltop Ranch,** 54.12 79 P P 04 30 08.4 -0.5
baz=313
Q39A **Willow Grove F** 54.12 71 P P 04 30 08.2 -0.5
baz=311
R38A **Fenwick Farm,** 54.14 72 P P 04 30 07.8 -1.1
baz=312
T37A **Cheneyville 18** 54.25 74 P P 04 30 09.3 -0.5
baz=312
TX31 **Lajitas Ar. Si** 54.25 87 *e*P P 04 30 10.0 0.0
TXAR **Lajitas Array** 54.25 87 P P 04 30 10.3 +0.3
comp=Z,2.8nm,0.7s,baz=298,slow=5.3,SNR=38
TXAR ScP **ScP** 04 35 06.0 -1.8
comp=Z,0.6nm,0.8s,baz=245,slow=2.6,SNR=5.7
P40A **Paris** 54.34 69 P P 04 30 09.9 -0.4
baz=311,SNR=7.3
W35A **Tecumseh** 54.40 77 P P 04 30 10.7 -0.2
baz=312
ABTX **Abilene, Hawle** 54.44 81 *e*P P 04 30 12.3 +1.0
comp=Z,13nm,0.8s
S38A **Stockton** 54.51 72 P P 04 30 10.5 -1.1
baz=312,SNR=5.6
O41A **Passleys Farm,** 54.63 68 P P 04 30 12.1 -0.3
baz=311,SNR=5.5
Q40A **Laux Farm, Aux** 54.68 70 P P 04 30 12.6 -0.3
baz=312,SNR=5.8
Y34A **Reagan Ranch,** 54.68 78 P P 04 30 12.9 0.0
baz=313
S39A **Bolivar** 54.82 72 P P 04 30 13.1 -0.8
baz=312
X35A **Drake** 54.85 77 P P 04 30 14.3 +0.1
baz=313
133A **Hamilton Ranch** 54.90 80 P P 04 30 14.7 +0.1
baz=314
U38A **Gravette** 55.03 74 P P 04 30 14.6 -0.9
baz=312
R40A **Maddies Statio** 55.03 71 P P 04 30 14.7 -0.8
baz=312,SNR=6.9
T39A **Clever** 55.23 73 P P 04 30 15.8 -1.1
baz=312,SNR=5.2
HDIL **Hopedale** 55.24 67 P P 04 30 16.1 -0.8
baz=312
HDIL **Hopedale** 55.24 67 *e*P P 04 30 18.8 +1.9
comp=Z,17nm,0.6s
W37B **Quinton** 55.28 76 P P 04 30 16.9 -0.3
baz=313
233A **Rising Star** 55.32 81 P P 04 30 17.9 +0.3
baz=314
HHAR **Hobbs** 55.40 74 *e*P P 04 30 23.4 +5.3
comp=Z,5.7nm,0.6s
V38A **Canehill** 55.40 74 P P 04 30 17.5 -0.6
baz=313
134A **White-Moore Ra** 55.43 80 P P 04 30 18.9 +0.5
baz=314
U39A **Green Forest** 55.60 73 P P 04 30 19.6 0.0
baz=312,SNR=8.3
Y36A **Durant** 55.61 77 P P 04 30 19.8 +0.1
baz=313
Q42A **Golden Eagle** 55.63 69 P P 04 30 19.1 -0.5
baz=312
T40A **Mansfield** 55.65 72 P P 04 30 18.6 -1.3
baz=312
X37A **Clayton** 55.69 76 P P 04 30 20.5 +0.3
baz=313,SNR=5.4
333A **Richland Sprin** 55.74 82 P P 04 30 20.7 +0.1
baz=314
234A **Clairette** 55.79 80 P P 04 30 21.1 +0.2
baz=314,SNR=6.3
JCT **Junction City** 55.83 83 *e*P P
JCT pmax pmax 04 30 21.6 +0.3
comp=Z,7.0nm,0.6s
JCT **Junction City** 55.83 83 *e*P P 04 30 21.6 +0.3
comp=Z,7.1nm,0.6s
V39A **Pettigrew** 55.87 74 P P 04 30 21.2 -0.4
baz=313
W38A **Poteau** 55.88 75 P P 04 30 21.5 0.0
baz=313
Z36A **Blue Ridge** 55.95 78 P P 04 30 22.2 +0.1
baz=314
X38A **Whitesboro** 55.96 76 P P 04 30 22.3 +0.2
baz=313
U40A **Yellville** 55.99 73 P P 04 30 21.9 -0.5
baz=313,SNR=6.2
SCO **Scoresbysund** 56.00 12 *i* P P
SCO pmax pmax 04 30 21.3 -0.5
comp=Z,12nm,0.6s
SCO **Scoresbysund** 56.00 12 *i* P P 04 30 21.3 -0.5
comp=Z,12nm,0.6s
433A **Art** 56.08 82 P P 04 30 22.9 -0.2
baz=314
Q43A **New Douglas** 56.09 69 P P 04 30 23.1 +0.1
baz=312
334A **Lometa** 56.20 81 P P 04 30 24.1 +0.2
baz=314
X39A **Fountain Ranch** 56.50 75 P P 04 30 25.9 -0.1
baz=313
434A **Burnet** 56.54 81 P P 04 30 26.4 +0.1
baz=314
SFIN **Lafayette** 56.61 66 P P 04 30 26.9 +0.3

baz=312,SNR=6.0
SFIN Lafayette 56.61 66 *e*P P **04 30 28.0 +1.4**
comp=Z,16nm,0.6s
W40A Ferguson Farm, 56.66 74 P P **04 30 27.1 +0.1**
baz=313
ZAA0 Zalesovo Array 56.75 317 *e*P P **04 30 26.3 -1.2**
ZALV Zalesovo Beam 56.75 317 P P **04 30 26.5 -1.0**
comp=Z,1.9nm,0.5s,baz=34,slow=5.5,SNR=5.4
ZALV PcP **PcP 04 31 22.9 0.0**
comp=Z,3.5nm,0.6s,baz=32,slow=3.8,SNR=6.9
SCHQ Schefferville 56.79 42 P P **04 30 27.8 +0.1**
comp=Z,13nm,0.6s,baz=322,slow=7.5,SNR=24
V41A Mountainview 56.79 73 P P **04 30 27.7 -0.4**
baz=313,SNR=6.7
MIAR Mount Ida 56.80 75 P P **04 30 28.0 -0.1**
baz=313
MIAR Mount Ida 56.80 75 *e*P P **04 30 28.0 -0.1**
MIAR pmax pmax
comp=Z,7.0nm,0.9s
MIAR Mount Ida 56.80 75 *e*P P **04 30 28.0 -0.1**
comp=Z,7.4nm,0.9s
S43A Fulton Ridge, 56.80 70 P P **04 30 27.5 -0.5**
baz=313,SNR=5.4
Y39A Lockesburg 56.91 76 P P **04 30 29.2 +0.4**
baz=314
534A Blanco 56.97 82 P P **04 30 29.6 +0.2**
baz=315
PBMO Poplar Bluff 57.13 71 *e*P P **04 30 29.9 -0.5**
comp=Z,7.0nm,0.6s
W41B Gary Mavity, V 57.16 74 P P **04 30 30.3 -0.3**
baz=313
237A Washetta, Mont 57.21 79 P P **04 30 31.1 +0.1**
baz=314
832A Faith Ranch, C 57.28 85 P P **04 30 31.9 +0.3**
baz=316
X41A Kaden, Bauxite 57.47 74 P P **04 30 32.3 -0.5**
baz=314
535A Dale 57.52 82 P P **04 30 33.4 +0.1**
baz=315
833A Chaparral WMA, 57.61 84 P P **04 30 34.9 +1.1**
baz=316
PARMO Parma 57.61 71 *e*P P **04 30 33.7 -0.1**
WLAR White Oak Lake 57.67 75 *e*P P **04 30 35.4 +1.2**
comp=Z,11nm,0.7s
Y41A Eaglette Beard 57.83 75 P P **04 30 35.6 +0.2**
baz=314
635A Leesville 57.85 82 P P **04 30 36.2 +0.7**
baz=315
SADO Sadowa 57.96 57 *e*P P **04 30 38.2 +2.1**
comp=Z,11nm,0.8s
ARCES ARCESS Array B 58.22 353 P P **04 30 36.2 -1.4**
comp=Z,3.3nm,0.6s,baz=23,slow=7.7,SNR=40
ARCES PcP **PcP 04 31 28.1 -0.3**
comp=Z,3.9nm,0.8s,baz=14,slow=6.2,SNR=6.7
934A Benavides 58.66 84 P P **04 30 41.7 +0.5**
baz=316
340A Bronson 58.79 78 P P **04 30 42.5 +0.4**
baz=315
X44A Crenshaw 58.87 73 P P **04 30 42.3 -0.3**
baz=314
W45A Hickory Valley 58.98 71 P P **04 30 44.0 +0.7**
baz=314
440A Kirbyville 59.22 78 P P **04 30 45.1 +0.1**
baz=315
GTA Gaotai 59.35 296 P P **04 30 45.8 -0.3**
GTA pP pP 04 30 56.3 -3.1
GTA sP sP 04 31 00.0 -4.9
GTA PMZ
comp=Z,11nm,1.0s
LZH Lanzhou 59.37 290 *e*P P **04 30 46.3 0.0**
LZH pP pP 04 30 56.3 -3.3
LZH sP sP 04 31 01.5 -3.6
LZH PMZ
comp=Z,22nm,1.2s
ALLY Alegheny Colle 59.58 60 *e*P P 04 30 52.4 +5.0
comp=Z,26nm,0.6s
M54A Oil Creek Stat 59.93 60 P P **04 30 49.9 0.0**
baz=314
Y46A Houston 60.06 72 P P **04 30 50.8 -0.1**
baz=315
ENH Enshi 60.10 282 *e*P P **04 30 52.0 +0.8**
comp=Z,7.2nm,0.6s
N54A Moraine State 60.14 61 P P **04 30 50.5 -0.8**
baz=314
244A Avery, Jackson 60.27 75 P P **04 30 52.2 -0.1**
baz=315,SNR=6.3
LONY Lake Ozonia 60.40 55 *e*P P **04 30 53.4 +0.4**
comp=Z,22nm,1.4s
Y47A UCPARC, Winfie 60.64 72 P P **04 30 54.4 -0.4**
baz=315
Z47A Carrollton 61.01 72 P P **04 30 56.8 -0.5**
baz=315
Z48A Northport 61.19 72 P P **04 30 58.0 -0.5**
baz=315
BORG Borgarnes 61.46 14 *e*P P **04 31 00.0 +0.2**
BORG pmax pmax
comp=Z,13nm,0.9s
BORG Borgarnes 61.46 14 *e*P P **04 30 60.0 +0.2**
comp=Z,13nm,0.9s
SSPA Standing Stone 61.50 60 *e*P P **04 31 01.1 +0.5**
comp=Z,217nm,1.8s
KURK Kurchatov 61.72 317⇑ *i*P P **04 31 01.4 -0.4**
KURK pmax pmax
comp=Z,96nm,0.7s
KURK Kurchatov 61.72 317 *e*P P **04 31 00.6 -1.2**
comp=Z,199nm,0.6s
KURK PcP **PcP 04 31 43.6 +0.9**
TKL Tuckaleechee C 61.77 67 *e*P P 04 31 08.3 +5.9
TKL pmax pmax
comp=Z,7.0nm,0.9s
TKL Tuckaleechee C 61.77 67 *e*P P 04 31 08.3 +5.9
comp=Z,7.4nm,0.9s
545A Edgard 61.81 77 P P **04 31 03.3 +0.6**
baz=316
KURBB Kurchatov Arra 61.83 317 P P **04 31 02.0 -0.5**
comp=Z,19nm,0.7s,baz=44,slow=6.9,SNR=101
KURBB PcP **PcP 04 31 43.6 +0.4**
comp=Z,0.8nm,0.4s,baz=48,slow=3.8,SNR=4.6
248A Dixon Mills 61.99 73 P P **04 31 03.7 -0.3**
baz=316
347A Saraland 62.01 74 P P **04 31 03.6 -0.5**
baz=316,SNR=5.2
N59A State Game Lan 62.42 58 P P **04 31 06.0 -0.7**
baz=316
WMQ Urumqi 62.63 307 P P **04 31 10.3 +2.1**
WMQ pP pP 04 31 20.3 -1.3
WMQ sP sP 04 31 24.3 -2.8
WMQ PMZ
comp=Z,6.0nm,0.6s
LUPA Lehigh Univers 62.86 58 *e*P P **04 31 14.2 +4.5**
comp=Z,42nm,0.5s
MK31 Makanchi Array 63.03 312 *e*P P **04 31 09.9 -0.8**
MK31 Makanchi Array 63.03 312 *e*P P **04 31 09.9 -0.8**
MKAR Makanchi Array 63.03 312 P P **04 31 09.8 -0.9**
comp=Z,3.0nm,0.4s,baz=54,slow=6.8,SNR=29
MKAR Makanchi Array 63.03 312 *e*P P **04 31 09.9 -0.8**
MKAR Makanchi Array 63.03 312 *e*P P **04 31 09.9 -0.8**
MK01 Makanchi Array 63.04 312 *e*P P **04 31 09.4 -1.4**
CD2 Chengdu 63.09 286 *e*P P **04 31 10.0 -1.3**
MAKZ Makanchi 63.16 312 *e*P P **04 31 10.7 -0.9**
MAKZ pmax pmax
comp=Z,14nm,1.2s
MAKZ Makanchi 63.16 312 *e*P P **04 31 10.7 -0.9**
comp=Z,14nm,1.2s
BVA0 Borovoye Array 63.20 323 *i*P P **04 31 11.5 -0.2**
BVA0 pmax pmax
comp=Z,21nm,0.6s
BVAR Borovoye Array 63.20 323 P P **04 31 11.2 -0.5**
comp=Z,27nm,0.5s,baz=52,slow=7.2,SNR=138
BVAR Borovoye Array 63.20 323 P P **04 31 11.2 -0.5**
BVAR pmax pmax
comp=Z,26nm,0.5s
BRVK Borovoye 63.22 323⇑ *i*P P **04 31 11.7 -0.1**
BRVK pmax pmax
comp=Z,74nm,1.2s
BRVK Borovoye 63.22 323 *e*P P **04 31 11.3 -0.5**
comp=Z,62nm,1.0s
VOSK Vostochnaya 63.22 323 *e*P P **04 31 11.6 -0.2**
VOSK pmax pmax
comp=Z,13nm,0.6s
VOSK Vostochnaya 63.22 323 *e*P P **04 31 11.6 -0.2**
comp=Z,13nm,0.6s
KMSC Kings Mountain 63.53 66 P P **04 31 13.7 -0.4**
baz=316
ZRNK Zerenda 63.77 324 *e*P P **04 31 15.3 -0.2**
ZRNK pmax pmax
comp=Z,45nm,0.5s
ZRNK Zerenda 63.77 324 *e*P P **04 31 15.2 -0.2**
comp=Z,45nm,0.5s
LMN Caledonia Moun 64.22 48 *e*P P **04 31 18.8 +0.2**
comp=Z,18nm,0.8s
GYA Guiyang 64.57 281 *e*P P **04 31 22.3 +1.1**
GYA PMZ
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 64.83 344 *e*P P **04 31 19.2 -3.0**
KLMR *e* 04 31 52.3
KLMR *e* 04 33 42.6
KLMR pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 66.11 351 P P **04 31 29.0 -1.5**
comp=Z,3.3nm,0.5s,baz=14,slow=8.9,SNR=33
OTUK Ortayu 66.23 319 P P **04 31 30.9 -0.7**
OTUK pmax pmax
comp=Z,13nm,0.7s
PDGK Podgornoye 66.95 311 P P **04 31 35.6 -0.5**
PDGK pmax pmax
comp=Z,12nm,0.7s
NB2 NORSAR Subarra 67.39 358 P P **04 31 37.4 -1.3**
comp=Z,2.2nm,0.6s,baz=1,slow=6.5
NOA NORSAR Array B 67.39 358 P P **04 31 37.8 -0.9**
comp=Z,3.4nm,0.7s,baz=2.1,slow=6.4,SNR=12
TKM2 Tokmak 2 69.05 313 *e*P P **04 31 49.6 -0.1**
TKM2 pmax pmax
comp=Z,17nm,1.1s
TKM2 Tokmak 2 69.05 313 *e*P P **04 31 49.6 -0.1**
comp=Z,17nm,1.1s
FRU Bishkek 69.56 314 *e*P P **04 31 51.0 -1.6**
AKTO Aktyubinsk 69.65 329 P P **04 31 52.6 -0.4**
comp=Z,21nm,0.5s,baz=33,slow=6.7,SNR=79
AAK Ala-Archa 69.77 314 P P **04 31 54.3 +0.3**
comp=Z,23nm,0.4s,baz=123,slow=3.5,SNR=44
AAK Ala-Archa 69.77 314⇑ *i*P P **04 31 54.0 0.0**
AAK pmax pmax
comp=Z,66nm,0.7s
AAK Ala-Archa 69.77 314 *e*P P **04 31 53.9 -0.2**
comp=Z,28nm,0.6s
AB31 Akbulak array 70.03 327 *e*P P **04 31 54.9 -0.4**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 70.03 327 *e*P P **04 31 54.5 -0.8**
EKS2 Erkin-Say 70.07 314 *e*P P **04 31 56.1 +0.3**
EKS2 pmax pmax
comp=Z,25nm,0.6s
EKS2 Erkin-Say 70.07 314 *e*P P **04 31 56.1 +0.3**
comp=Z,25nm,0.6s
MNAS Manas 70.77 315 P P **04 32 00.2 +0.1**
MNAS pmax pmax
comp=Z,12nm,0.5s
OBN Obninsk 70.78 343 *e*P P **04 32 00.5 +0.8**
OBN pmax pmax
comp=Z,9.0nm,0.5s
KK31 Karatay Array 71.13 317 *i*P P **04 32 01.7 -0.4**
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 71.13 317 *e*P P **04 32 01.8 -0.3**
KKAR Karatay Array 71.13 317 *e*P P **04 32 01.8 -0.3**
LSA Lhasa 71.30 294 *e*P P **04 32 05.2 +1.3**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 71.30 294 *e*P P **04 32 05.2 +1.3**
comp=Z,12nm,0.6s
KSH Kashi 71.58 311 P P **04 32 08.6 +3.6**
KSH pP pP 04 32 18.4 -0.3
KSH PcP **PcP 04 32 27.1 +3.0**
KSH PP **PP 04 34 48.8 +5.1**
KSH S S 04 41 21.3 +0.8
KSH ScS **SKSac 04 42 04.5 +0.1**
KSH PMZ
KSH comp=Z,32nm,0.5s PMZ
KSH comp=Z,3μm,14.5s LN
KSH comp=Z,410nm,6.9s LE
KSH comp=Z,450nm,6.9s
VRH Novokhopyorsk 73.44 339 *e*P P **04 32 13.5 -2.2**
VRH pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 73.98 340 *e*P P **04 32 17.1 -1.7**
VSR pmax pmax
comp=Z,6.0nm,0.5s
CMAR Chiang Mai Arr 75.26 281 P P **04 32 28.1 +1.4**
comp=Z,4.7nm,0.7s,baz=23,slow=6.5,SNR=16
CM01 Chiang Mai Arr 75.28 281 *e*P P **04 32 27.7 +0.8**
GUN Gumba 75.62 297 *e*P P **04 32 29.6 +0.4**
comp=Z,30nm,0.6s
RAMN Ramite 75.97 296 *e*P P **04 32 31.1 0.0**
comp=Z,38nm,0.7s
KKN Kakani 76.05 297 *e*P P **04 32 31.7 +0.2**
comp=Z,5.1nm,0.2s
GKN Gorkha 76.23 298 *e*P P **04 32 32.5 +0.1**
comp=Z,16nm,0.5s
AKASG Malin Array Be 76.23 346 P P **04 32 30.2 -1.7**
comp=Z,1.2nm,0.3s,baz=16,slow=6.3,SNR=11
KIEV Kiev 76.24 346 *e*P P **04 32 30.2 -1.7**
KIEV Kiev 76.24 346 *e*P P **04 32 30.2 -1.7**
KOLN Koldanda 76.98 298 *e*P P **04 32 36.6 -0.1**
comp=Z,8.5nm,0.5s
PYUN Piuthan 77.06 299 *e*P P **04 32 37.2 +0.1**
comp=Z,8.4nm,0.4s
CLL Collm 77.09 357 *i*P P **04 32 36.1 -0.6**
comp=Z,6.0nm,0.6s
CLL Collm 77.09 357 *i*P P **04 32 36.1 -0.6**
CLL pmax pmax
comp=Z,6.0nm,0.6s
BRG Berggiesshubel 77.49 356 *i*PKP P **04 32 38.4 -0.5**
comp=Z,8.6nm,1.0s
BRG Berggiesshubel 77.49 356 *i*P P **04 32 38.4 -0.5**
BRG pmax pmax
comp=Z,9.0nm,1.0s
UPC Upice 77.75 355 *e*P P **04 32 40.3 -0.1**
UPC Upice 77.75 355 *e*P P **04 32 40.3 -0.1**
DPC Dobruska-Polom 77.89 355 *e*P P **04 32 41.2 -0.1**
DPC Dobruska-Polom 77.89 355 *e*P P **04 32 41.2 -0.1**
BCLA Clavier 78.03 2 P P **04 32 41.7 -0.2**
KWP Kalwaria Pacla 78.10 350‖ *i*P P **04 32 42.3 0.0**
KWP Kalwaria Pacla 78.10 350‖ P P **04 32 42.4 +0.1**
NKC Novy Kostel 78.18 357 *e*P P **04 32 42.9 +0.1**
NKC Novy Kostel 78.18 357 *e*P P **04 32 42.9 +0.1**
DOU Dourbes 78.33 2 P P **04 32 43.5 -0.2**
PRU Pruhonice 78.35 356 *e*P P **04 32 43.4 -0.3**
PRU Pruhonice 78.35 356 *e*P P **04 32 43.4 -0.3**
GOPC GO Pecny, Ondr 78.41 356 *e*P P **04 32 43.9 -0.2**
GOPC GO Pecny, Ondr 78.41 356 *e*P P **04 32 43.9 -0.2**
GRFO Grafenberg 78.75 358 *e*P P **04 32 45.7 -0.2**
GRFO pmax pmax
comp=Z,10.0nm,0.6s
GRFO Grafenberg 78.75 358 *e*P P **04 32 45.7 -0.2**
comp=Z,9.8nm,0.6s
KBL Kabul 78.83 313 *e*P P **04 32 46.1 -0.8**
KBL pmax pmax
comp=Z,13nm,0.6s
KBL Kabul 78.83 313 *e*P P **04 32 46.1 -0.8**
comp=Z,13nm,0.6s
GOF Gofitskoye 78.86 336⇑ *e*P P **04 32 46.6 0.0**
GOF pmax pmax
comp=Z,69nm,1.1s
SORM Soroca 78.86 346⇑ *i*P P **04 32 45.6 -1.0**
SORM Soroca 78.86 346⇑ P P **04 32 45.6 -1.0**
LANS Liptovska Anna 78.87 352 *e*P P **04 32 47.3 +0.6**
LANS Liptovska Anna 78.87 352 *e*P P **04 32 47.3 +0.6**
VRAC Vranov 78.92 354⇑ *i*P P **04 32 47.3 +0.4**
VRAC Vranov 78.92 354⇑ P P **04 32 47.4 +0.5**
TREC Trest 78.99 355 *e*P P **04 32 47.1 -0.2**
TREC Trest 78.99 355 *e*P P **04 32 47.1 -0.2**
KHC Kasperske Hory 79.24 356 *e*P P **04 32 49.0 +0.3**
KHC Kasperske Hory 79.24 356 *e*P P **04 32 49.0 +0.3**
KHC Kasperske Hory 79.24 356 *e*P P **04 32 48.7 0.0**
comp=Z,1.9nm,0.6s
KECS Kecovo 79.45 352 *e*P P **04 32 49.7 -0.1**
KECS pmax pmax
comp=Z,2.0nm,0.6s
KECS Kecovo 79.45 352 *e*P P **04 32 49.6 -0.2**
GEC2 GERESS Array S 79.52 356 *e*P P **04 32 50.3 0.0**
GEC2 pmax pmax
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 79.52 356 *e*P P **04 32 50.2 0.0**
comp=Z,5.1nm,0.7s
GERES GERESS Array B 79.52 356 P P **04 32 50.1 -0.2**
comp=Z,3.7nm,0.6s,baz=15,slow=5.5,SNR=35
GEA0 GERESS Array S 79.53 356 *e*P P **04 32 49.6 -0.7**
VYHS Vyhne 79.57 353 *e*P P **04 32 50.0 -0.5**
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 79.57 353 *e*P P **04 32 50.0 -0.5**
BUR08 Bucovina Ar. S 79.77 348 *e*P P **04 32 51.1 -0.6**
BURAR Bucovina Array 79.80 348⇑ *i*P P **04 32 50.5 -1.3**
BURAR Bucovina Array 79.80 348⇑ P P **04 32 50.5 -1.3**
KIV Kislovodsk 79.98 335 *i*P P **04 32 51.1 -1.8**
KIV *i* 04 33 01.1
KIV *i* 04 35 53.2
KIV pmax pmax
comp=Z,10.0nm,0.8s
PSZ Piszkesteto 80.06 352‖ *i*P P 04 32 48.5 -4.7
KBZ Khabaz 80.14 335 P P **04 32 53.4 -0.1**
comp=Z,7.9nm,0.8s,baz=131,slow=1.9,SNR=15
BFO Black Forest 80.15 360 *i*P P **04 32 54.3 +0.7**
NCK Nalchik 80.17 335 *i*P P **04 32 53.9 +0.1**
CONA Conrad Observa 80.33 355 *i*P P **04 32 54.8 +0.1**
comp=Z,5.4nm,0.6s
MOA Molln 80.49 356 *i*P P **04 32 55.2 -0.2**
comp=Z,2.7nm,0.6s
GEYT Alibeck 80.51 322 P P **04 32 55.8 +0.1**
comp=Z,3.9nm,0.5s,baz=289,slow=4.5,SNR=6.8
ZEI Tsey 80.75 334 *e*P P **04 32 55.5 -1.6**
ZEI pmax pmax
comp=Z,41nm,0.6s
DRGR 80.90 350⇑ *i*P P **04 32 56.6 -1.1**
DRGR 80.90 350⇑ P P **04 32 56.6 -1.1**
RETA Reutte 80.97 358 *i*P P **04 32 57.9 -0.2**
comp=Z,4.4nm,0.6s
ARSA Arzberg 81.03 355 *i*P P **04 32 58.4 +0.1**
comp=Z,2.6nm,0.6s
MOTA Moosalm 81.10 358 *i*P P **04 32 59.3 +0.4**
comp=Z,1.0nm,0.5s
WTTA Wattenberg 81.17 358 *i*P P **04 32 59.0 -0.3**
comp=Z,6.7nm,0.8s
KBA Koelnbreinsper 81.30 356 *i*P P **04 33 00.4 +0.5**
comp=Z,16nm,0.6s
VRI Vrincioaia 81.32 347⇑ *i*P P **04 32 59.8 -0.1**
VRI Vrincioaia 81.32 347⇑ P P **04 32 59.8 -0.1**
FETA Feichten 81.43 358 *i*P P **04 33 00.9 +0.2**
comp=Z,9.4nm,0.8s
SOKA Soboth 81.63 355 *i*P P **04 33 01.3 -0.2**
comp=Z,6.8nm,0.8s
ABTA Abfaltersbach 81.66 357 *i*P P **04 33 01.5 -0.2**
comp=Z,4.7nm,0.9s
TLCR 81.67 345⇑ *i*P P **04 32 59.8 -1.9**
TLCR 81.67 345⇑ P P **04 32 59.8 -1.9**
MYKA Terra Mystica 81.74 356 *e*P P **04 33 02.6 +0.4**
comp=Z,1.6nm,0.5s
CFR Carcaliu 81.79 346⇑ *i*P P **04 33 02.2 -0.1**
CFR Carcaliu 81.79 346⇑ P P **04 33 02.2 -0.1**
OBKA Obir 81.82 356 *i*P P **04 33 03.1 +0.5**
comp=Z,4.2nm,0.5s
VOIR 81.96 348⇑ *i*P P **04 33 02.5 -0.9**
VOIR 81.96 348⇑ P P **04 33 02.5 -0.9**
BZS Buzias 82.18 351⇑ *i*P P **04 33 01.0 -3.4**
BZS Buzias 82.18 351⇑ P P **04 33 01.0 -3.4**
GZR Gura Zlata 82.28 350‖ *i*P P **04 33 03.8 -1.2**
GZR Gura Zlata 82.28 350‖ P P **04 33 03.8 -1.2**
TIRR Tirgusor 82.45 346⇑ *i*P P **04 33 05.6 -0.2**
TIRR Tirgusor 82.45 346⇑ P P **04 33 05.6 -0.2**
GNI Garni 82.97 333 *e*P P **04 33 04.8 -4.0**
GNI pmax pmax
comp=Z,69nm,1.9s
WRA Warramunga Arr 85.56 230 P P **04 33 20.8 -1.0**
comp=Z,0.9nm,0.6s,baz=31,slow=5.8,SNR=10
PDG Podgorica 85.56 352⇑ *i*P P **04 33 20.8 -0.9**
BR131 Keskin Array S 86.10 341 *e*P P **04 33 24.5 -0.2**
BRTR Keskin Array B 86.10 341 P P **04 33 24.4 -0.2**
comp=Z,6.0nm,0.7s,baz=36,slow=2.6,SNR=36
BR231 Keskin MP Arra 86.16 341 *e*P P **04 33 24.9 +0.1**
ES19 SONSECA Array 88.17 9 *e*P P **04 33 34.0 -0.5**
ESDC Sonseca Array 88.18 9 P P **04 33 34.1 -0.5**
comp=Z,1.0nm,0.5s,baz=350,slow=4.5,SNR=6.9
AS01 Alice Springs 88.94 228 *e*P P **04 33 37.8 -0.3**
AS31 Alice Springs 88.96 228 *e*P P **04 33 37.7 -0.5**
comp=Z,2.2nm,0.5s
ASAR Alice Springs 88.96 228 P P **04 33 38.2 0.0**
comp=Z,6.4nm,0.7s,baz=26,slow=4.9,SNR=62
CSS Mathiatis 90.75 340 *e*P P **04 33 46.7 +0.1**
TORD Torodi Ar. Bea 114.98 7 PKiKP **PKiKP 04 39 23.5 -1.1**
comp=Z,0.3nm,0.5s,baz=345,slow=1.9,SNR=10
QSPA South Pole Qui 141.66 180 *e*PKPpre PKPpre 04 40 06.6
TSUM Tsumeb 146.55 344 *e*PKPbc **PKPbc 04 40 24.9 -0.2**
MAW Mawson 149.58 218 PKPbc **PKPbc 04 40 31.6 +0.1**
comp=Z,4.8nm,0.7s,baz=73,slow=3.3,SNR=8.0
BOSA Boshof 153.48 325 PKPbc **PKPbc 04 40 42.9 +1.0**
comp=Z,6.0nm,0.4s,baz=9.5,slow=2.3,SNR=25

IDC 24 04:27:29.6±3.2, 53.63N×87.90E, h0km, mb1 2.9/2, mb1mx2.8/41, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.7km s-min=17.9km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**281**	*i*			04 39 10.0	
	baz=98,slow=322,SNR=4.7							
ZALV	**Zalesovo Beam**	**1.86**	**281**	Pg		Pn	04 28 02.6	0.0
	4.9nm,0.3s,baz=101,slow=16,SNR=30							
ZALV				Lg		Lg	04 28 28.9	
	7.3nm,0.3s,baz=101,slow=22,SNR=19							
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn		Pn	04 29 07.3	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=4.9							
KURBB				Sn		Sn	04 30 20.9	-0.5
	0.1nm,0.3s,baz=76,slow=23,SNR=4.4							
KURBB				Lg		Lg	04 30 55.7	
	0.1nm,0.3s,baz=62,slow=33,SNR=2.9							
MKAR	**Makanchi Array**	**7.73**	**210**	Pn		Pn	04 29 24.5	+1.1
	0.2nm,0.3s,baz=23,slow=13,SNR=4.4							

IDC 24 04:32:44.6±1.0, 52.12N×172.06W, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.8/50, mbtmp3.9/14, ML3.8/1, Error ellipse: s-maj=26.9km s-min=18.8km az=162.0
ISCJB 24 04:32:50.4±0.7, 51.8N±0.1×171.62W±0.06, h50km, mb4.0/13, Error ellipse: s-maj=15.2km s-min=3.5km az=162.9
NEIC 24 04:32:52.2, 51.70N×171.60W, h34km, ML3.5(AEIC), After AEIC.

ISC 24 04:32:51.4±0.9, 51.9N±0.1×171.70W±0.05, h50km, n38, σ1s59/43, mb4.1/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.53**	**285**	P		**Pn**	**04 33 17.8**	**+1.5**
KONE	**Korovin Northe**	**1.57**	**289**	P		**Pn**	**04 33 18.7**	**+1.8**
KOKI	**Mount Kliuchef**	**1.60**	**286**	P		**Pn**	**04 33 19.7**	**+2.3**
NIKH	**Nikolski High**	**2.05**	**57**	P		**Pn**	**04 33 23.6**	**+0.2**
NIKH				S		Sn	**04 33 48.0**	**+0.4**
OKAK	**Okmok**	**2.64**	**49**	P		**Pn**	**04 33 32.5**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**2.68**	**55**	P		**Pn**	**04 33 34.1**	**+2.0**
OKTU				S		Sn	**04 34 04.9**	**+1.6**
GSMY	**Great Sitkin M**	**2.70**	**275**	P		**Pn**	**04 33 33.4**	**+1.1**
GSTR	**Great Sitkin T**	**2.71**	**276**	P		**Pn**	**04 33 33.6**	**+1.2**
OKER	**Okmok East Rim**	**2.71**	**53**	P		**Pn**	**04 33 34.8**	**+2.3**
GSTD	**Great Sitkin T**	**2.76**	**275**	P		**Pn**	**04 33 34.4**	**+1.2**
GSTD				S		Sn	**04 34 06.7**	**+1.5**
GSCK	**Great Sitkin C**	**2.77**	**274**	P		**Pn**	**04 33 34.4**	**+1.2**
ADAG	**Mount Adagdak**	**3.04**	**274**	P		**Pn**	**04 33 38.7**	**+1.8**
MSOM	**Makushin Julie**	**3.46**	**54**	P		**Pn**	**04 33 43.7**	**+1.0**
MCIR	**Makushin Cirqu**	**3.56**	**53**	P		**Pn**	**04 33 45.5**	**+1.3**
MTBL	**Makushin Table**	**3.68**	**54**	P		**Pn**	**04 33 46.7**	**+0.9**
UNV	**Unalaska Valle**	**3.70**	**56**	P		**Pn**	**04 33 46.7**	**+0.7**
UNV				S		Sn	**04 34 29.6**	**+1.3**
AKRB	**Akutan Reef Bi**	**4.07**	**54**	P		**Pn**	**04 33 51.8**	**+0.8**
AKRB				S		Sn	**04 34 40.7**	**+3.4**
AKGG	**Akutan Green G**	**4.14**	**54**	P		**Pn**	**04 33 53.2**	**+1.1**
AKUT	**Akutan**	**4.22**	**56**	*e*Pn		**Pn**	**04 33 54.5**	**+1.4**
GANE	**Gareloi Northe**	**4.39**	**272**	P		**Pn**	**04 33 57.6**	**+2.1**
SPIA	**Saint Paul Isl**	**5.36**	**8**	P		**Pn**	**04 34 10.1**	**+1.4**
SDPT	**Sand Point**	**7.51**	**58**	P		**Pn**	**04 34 38.6**	**+0.5**
BPAW	**Bear Paw Mtn.**	**16.32**	**34**	*e*Pn		**Pn**	**04 36 39.3**	**+2.4**
ILAR	**Eielson Array**	**18.16**	**35**	P		**P**	**04 36 58.2**	**-1.1**
	0.1nm,0.3s,baz=229,slow=9.2,SNR=6.6							
DLBC	**Dease Lake**	**24.36**	**58**	P		**P**	**04 38 06.5**	**+2.2**
	3.3nm,0.5s,baz=244,slow=7.1,SNR=8.8							
INK	**Inuvik**	**24.53**	**34**	P			**04 38 05.0**	**-0.7**
	0.6nm,0.4s,baz=214,slow=3.6,SNR=3.9							
YKA	**Yellowknife Ar**	**31.63**	**48**	P		**P**	**04 39 09.2**	**+0.1**
	0.2nm,0.4s,baz=274,slow=7.6,SNR=3.9							
TXAR	**Lajitas Array**	**54.20**	**87**	P		**P**	**04 42 12.2**	**+0.3**

0.5nm,0.6s,baz=300,slow=5.1,SNR=6.4
ARCES **ARCESS Array B 58.23 353** P **P 04 42 37.4 -2.5**
2.1nm,1.0s,baz=10,slow=8.6,SNR=7.0
KURK **Kurchatov 61.76 317** P **P 04 43 03.8 -0.5**
KURBB **Kurchatov Arra 61.87 317** P **P 04 43 03.8 -1.3**
1.7nm,0.5s,baz=45,slow=7.0,SNR=15
MKAR **Makanchi Array 63.08 312** P **P 04 43 11.2 -2.1**
0.5nm,0.4s,baz=40,slow=7.1,SNR=7.9
FINES **FINESS Array B 66.12 351** P **P 04 43 30.8 -2.0**
1.5nm,0.8s,baz=1.4,slow=5.8,SNR=4.2
NOA **NORSAR Array B 67.39 358** P **P 04 43 39.1 -1.9**
0.4nm,0.8s,baz=359,slow=6.2,SNR=2.5
AKTO **Aktyubinsk 69.69 329** P **P 04 43 53.8 -1.6**
2.7nm,0.5s,baz=56,slow=7.2,SNR=10
AAK **Ala-Archa 69.81 314** P **P 04 43 55.6 -0.9**
2.6nm,0.4s,baz=113,slow=5.6,SNR=4.9
WRA **Warramunga Arr 85.59 230** P **P 04 45 25.6 +1.4**
0.5nm,0.9s,baz=32,slow=6.4,SNR=3.3
ASAR **Alice Springs 89.00 228** P **P 04 45 40.2 -0.4**
0.9nm,0.8s,baz=32,slow=4.2,SNR=7.5

*ISCJB **24** 04:33:36.1±0.9,30.3S±0.2×75.6E±0.2,h10km,mb3.8/9, Error ellipse: s-maj=29.5km s-min=21.1km az=138.7*
*IDC **24** 04:33:36.3±0.9,30.30S×75.51E,h0km,mb3.8/9, mb1 4.0/9,mb1mx3.8/36,mbtmp3.8/9,Error ellipse: s-maj=32.7km s-min=23.2km az=51.0*
ISC 24 04:33:37.9±1.0,30.3S±0.2×75.5E±0.2,h10km,n12, σ0s74/9,mb3.8/9,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**22.74**	**352**	T	T	05 02 02.2	
	baz=174,slow=76,SNR=151						
H08S1	**Diego Carcia H**	**22.74**	**352**	T	T	05 02 13.2	
	baz=174,slow=76,SNR=108						
H08S3	**Diego Garcia H**	**22.76**	**352**	T	T	05 02 04.0	
	baz=174,slow=76,SNR=129						
ASAR	**Alice Springs**	**51.97**	**98**	P	**P**	**04 42 47.0**	**-0.6**
	0.9nm,0.9s,baz=251,slow=6.5,SNR=6.5						
CMAR	**Chiang Mai Arr**	**53.49**	**28**	P	**P**	**04 42 59.4**	**+0.7**
	1.2nm,0.3s,baz=198,slow=7.9,SNR=4.3						
WRA	**Warramunga Arr**	**53.74**	**93**	P	**P**	**04 43 01.0**	**+0.3**
	1.0nm,1.0s,baz=249,slow=7.3,SNR=3.9						
VNDA	**Vanda**	**59.84**	**165**	P	**P**	**04 43 43.4**	**+0.2**
	1.2nm,0.8s,baz=300,slow=7.5,SNR=9.0						
MKAR	**Makanchi Array**	**77.00**	**5**	P	**P**	**04 45 29.9**	**-0.8**
	0.4nm,0.6s,baz=168,slow=6.2,SNR=4.5						
BRTR	**Keskin Array B**	**79.82**	**328**	P	**P**	**04 45 47.0**	**+0.5**
	0.2nm,0.5s,baz=140,slow=6.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**80.64**	**2**	P	**P**	**04 45 50.3**	**-0.2**
	0.1nm,0.3s,baz=190,slow=4.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**83.04**	**290**	P	**P**	**04 46 03.9**	**-0.1**
	0.7nm,0.9s,baz=106,slow=3.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**84.31**	**6**	P	**P**	**04 46 08.4**	**-1.2**
	1.3nm,0.3s,baz=166,slow=6.7,SNR=4.1						

*ISCJB **24** 04:34:05.6±0.9,30.3S±0.2×75.6E±0.2,h10km,mb3.8/9, Error ellipse: s-maj=30.2km s-min=21.6km az=138.8*
*IDC **24** 04:34:05.8±1.0,30.26S×75.48E,h0km,mb3.8/9, mb1 4.0/9,mb1mx3.8/37,mbtmp3.8/9,Error ellipse: s-maj=33.7km s-min=23.7km az=44.0*
ISC 24 04:34:07.4±1.0,30.3S±0.2×75.5E±0.2,h10km,n9,σ0s57/9, mb3.8/9,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**51.99**	**98**	P	**P**	**04 43 16.6**	**-0.6**
	1.2nm,0.8s,baz=254,slow=6.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**53.46**	**28**	P	**P**	**04 43 28.4**	**+0.5**
	0.9nm,0.3s,baz=191,slow=9.1,SNR=3.5						
WRA	**Warramunga Arr**	**53.76**	**93**	P	**P**	**04 43 30.9**	**+0.6**
	1.0nm,0.9s,baz=253,slow=7.6,SNR=2.9						
VNDA	**Vanda**	**59.89**	**165**	P	**P**	**04 44 13.0**	**0.0**
	0.9nm,0.9s,baz=254,slow=7.2,SNR=3.8						
MKAR	**Makanchi Array**	**76.96**	**5**	P	**P**	**04 45 59.3**	**-0.7**
	0.3nm,0.4s,baz=162,slow=6.1,SNR=3.0						
BRTR	**Keskin Array B**	**79.78**	**328**	P	**P**	**04 46 16.1**	**+0.2**
	0.2nm,0.5s,baz=133,slow=6.1,SNR=2.3						
KURBB	**Kurchatov Arra**	**80.59**	**2**	P	**P**	**04 46 19.1**	**-0.6**
	0.3nm,0.4s,baz=185,slow=5.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**83.01**	**290**	P	**P**	**04 46 33.5**	**+0.1**
	0.5nm,0.9s,baz=124,slow=3.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**84.27**	**6**	P	**P**	**04 46 38.5**	**-0.4**
	1.4nm,0.7s,baz=174,slow=7.2,SNR=4.1						

*NEIC **24** 04:49:49.5,43.52S×172.79E,h19km,ML4.2(WEL),After WEL.*
NEIC Felt in Canterbury.
WEL 24 04:49:51.1±0.1,43.53S×172.76E,h6km,ML4.2/37, 9C-10D,Error ellipse: s-maj=1.0km s-min=0.6km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.10**	**246**	⇑P	Pg	04 49 53.4	0.0
CRLZ				S	Sg	04 49 55.1	+0.2
CRLZ				AML	AML	04 49 55.4	
CRLZ				AML	AML	04 49 57.1	
CRLZ				AML	AML	04 49 57.1	
CRLZ	**Canterbury Las**	**0.10**	**246**	⇑P*	Pg	04 49 53.4	0.0
CRLZ				S*	Sg	04 49 55.1	+0.2
MQZ	**McQueen's Vall**	**0.19**	**203**	⇑PG	Pg	04 49 54.9	+0.1
MQZ				SG	Sg	04 49 57.9	+0.5
MQZ				AML	AML	04 49 58.0	
MQZ	**McQueen's Vall**	**0.19**	**203**	P*	Pg	04 49 54.9	0.0
MQZ				S*	Sg	04 49 57.9	+0.5
OXZ	**Oxford**	**0.56**	**291**	⇓P*	Pg	04 50 01.8	-0.1
OXZ	**Oxford**	**0.56**	**291**	⇓P*	Pg	04 50 01.8	-0.1
LTZ	**Lake Taylor**	**0.83**	**335**	⇓P*	Pg	04 50 07.4	+0.4
LTZ				AML	AML	04 50 20.2	
LTZ				AML	AML	04 50 20.5	
LTZ	**Lake Taylor**	**0.83**	**335**	⇓P*	Pg	04 50 07.4	+0.4
RPZ	**Rata Peaks**	**1.25**	**261**	⇓P*	Pg	04 50 13.7	-1.4
RPZ				AML	AML	04 50 32.2	
RPZ				AML	AML	04 50 38.9	
RPZ	**Rata Peaks**	**1.25**	**261**	Pn	Pg	04 50 13.7	-1.4
INZ	**Inchbonnie**	**1.25**	**310**	⇓P*	Pb	04 50 13.6	-1.5
KHZ	**Kahutara**	**1.25**	**28**	P*	Pn	04 50 13.8	-1.3
KHZ	**Kahutara**	**1.25**	**28**	Pn	Pn	04 50 13.8	-1.3
WVZ	**Waitaha Valley**	**1.54**	**287**	PN	Pn	04 50 18.1	-1.0
WVZ				AML	AML	04 50 46.1	
WVZ				AML	AML	04 50 52.2	
WVZ	**Waitaha Valley**	**1.54**	**287**	Pn	Pn	04 50 18.1	-1.0
THZ	**Tophouse**	**1.77**	**4**	PN	Pn	04 50 21.1	-1.2
THZ				AML	AML	04 50 57.1	
THZ				AML	AML	04 51 06.2	
THZ	**Tophouse**	**1.77**	**4**	Pn	Pn	04 50 21.1	-1.2
DSZ	**Denniston Nort**	**1.92**	**338**	⇑PN	Pn	04 50 23.5	-0.8
DSZ				AML	AML	04 50 52.2	
DSZ				AML	AML	04 50 52.2	
DSZ				AML	AML	04 50 56.6	
DSZ				AML	AML	04 50 58.1	
DSZ	**Denniston Nort**	**1.92**	**338**	Pn	Pn	04 50 23.6	-0.8
BSWZ	**Blackbirch Sta**	**2.00**	**25**	PN	Pn	04 50 24.2	-1.1
BSWZ				AML	AML	04 50 51.2	
BSWZ				AML	AML	04 50 52.8	
BSWZ	**Blackbirch Sta**	**2.00**	**25**	Pn	Pn	04 50 24.2	-1.1
LBZ	**Lake Benmore**	**2.04**	**244**	⇓PN	Pn	04 50 24.9	-1.1
LBZ				AML	AML	04 51 03.4	
LBZ				AML	AML	04 51 03.4	
LBZ				AML	AML	04 51 03.6	
LBZ				AML	AML	04 51 03.6	
LBZ	**Lake Benmore**	**2.04**	**244**	Pn	Pn	04 50 24.9	-1.1
FOZ	**Fox Glacier**	**2.14**	**269**	PN	Pn	04 50 27.4	+0.1
FOZ				AML	AML	04 51 11.0	
FOZ				AML	AML	04 51 11.0	
FOZ				AML	AML	04 51 11.7	
FOZ				AML	AML	04 51 11.7	
FOZ	**Fox Glacier**	**2.14**	**269**	Pn	Pn	04 50 27.4	+0.1
ODZ	**Otahua Downs**	**2.14**	**224**	⇑PN	Pn	04 50 25.7	-1.6
ODZ				AML	AML	04 50 59.1	
ODZ				AML	AML	04 50 59.8	
ODZ				AML	AML	04 51 07.1	
ODZ				AML	AML	04 51 07.1	
ODZ	**Otahua Downs**	**2.14**	**224**	Pn	Pn	04 50 25.7	-1.6
TUWZ	**Tuamarina**	**2.28**	**23**	PN	Pn	04 50 27.7	-1.5
TUWZ				AML	AML	04 51 07.1	
TUWZ				AML	AML	04 51 33.4	
TUWZ	**Tuamarina**	**2.28**	**23**	Pn	Pn	04 50 27.7	-1.5
NNZ	**Nelson**	**2.36**	**12**	PN	Pn	04 50 29.5	-0.8
NNZ				AML	AML	04 51 06.0	
NNZ				AML	AML	04 51 06.1	
NNZ				AML	AML	04 51 25.4	
NNZ				AML	AML	04 51 36.1	
NNZ	**Nelson**	**2.36**	**12**	Pn	Pn	04 50 29.5	-0.8
TCW	**Tory Channel**	**2.58**	**26**	PN	Pn	04 50 31.6	-1.8
TCW				AML	AML	04 51 03.3	
TCW				AML	AML	04 51 16.3	
TCW	**Tory Channel**	**2.58**	**26**	Pn	Pn	04 50 31.6	-1.8
BHW	**Baring Head**	**2.64**	**37**	PN	Pn	04 50 32.2	-1.9
BHW				AML	AML	04 51 03.8	
BHW				AML	AML	04 51 20.0	
BHW	**Baring Head**	**2.64**	**37**	Pn	Pn	04 50 32.2	-1.9
SNZO	**South Karori**	**2.65**	**34**	ePn	Pn	04 50 32.5	-1.8
PLWZ	**Palliser**	**2.69**	**44**	PN	Pn	04 50 33.0	-2.0
PLWZ	**Palliser**	**2.69**	**44**	Pn	Pn	04 50 33.0	-2.0
WEL	**Wellington**	**2.70**	**34**	PN	Pn	04 50 33.3	-1.6
WEL				AML	AML	04 51 05.5	
WEL				AML	AML	04 51 06.0	
QRZ	**Quartz Range**	**2.71**	**356**	PN	Pn	04 50 34.1	-1.1
QRZ				AML	AML	04 51 11.1	
QRZ				AML	AML	04 51 11.1	
QRZ				AML	AML	04 51 24.4	
QRZ				AML	AML	04 51 24.4	
QRZ	**Quartz Range**	**2.71**	**356**	Pn	Pn	04 50 34.1	-1.1
MSWZ	**Moikau Station**	**2.81**	**42**	PN	Pn	04 50 34.4	-2.1
MSWZ				AML	AML	04 51 07.2	
MSWZ				AML	AML	04 51 10.5	
MSWZ	**Moikau Station**	**2.81**	**42**	Pn	Pn	04 50 34.4	-2.1
HHSZ	**Highcliff Hill**	**2.81**	**212**	⇑PN	Pn	04 50 34.7	-1.9
HHSZ	**Highcliff Hill**	**2.81**	**212**	Pn	Pn	04 50 34.7	-1.9
JCZ	**Jackson Bay**	**2.92**	**258**	⇑PN	Pn	04 50 37.1	-1.1
JCZ				AML	AML	04 51 29.1	
JCZ				AML	AML	04 51 32.9	
JCZ	**Jackson Bay**	**2.92**	**258**	Pn	Pn	04 50 37.1	-1.0
CAW	**Cannon Point**	**2.97**	**36**	PN	Pn	04 50 36.8	-1.9
CAW				AML	AML	04 51 12.3	
CAW				AML	AML	04 51 19.8	
CAW	**Cannon Point**	**2.97**	**36**	Pn	Pn	04 50 36.8	-1.9
WKZ	**Wanaka**	**2.98**	**243**	PN	Pn	04 50 37.6	-1.4
WKZ				AML	AML	04 51 32.7	
WKZ				AML	AML	04 51 32.7	
WKZ				AML	AML	04 51 35.7	
WKZ				AML	AML	04 51 35.7	
WKZ	**Wanaka**	**2.98**	**243**	Pn	Pn	04 50 37.6	-1.4
EAZ	**Earnscleugh**	**3.00**	**234**	⇑PN	Pn	04 50 37.8	-1.3
EAZ				AML	AML	04 51 28.8	
EAZ				AML	AML	04 51 28.8	
EAZ				AML	AML	04 51 31.2	
EAZ				AML	AML	04 51 31.2	
EAZ	**Earnscleugh**	**3.00**	**234**	Pn	Pn	04 50 37.8	-1.3
KIW	**Kapiti Island**	**3.11**	**32**	PN	Pn	04 50 38.9	-1.8
KIW				AML	AML	04 51 16.8	
KIW				AML	AML	04 51 29.7	
KIW	**Kapiti Island**	**3.11**	**32**	Pn	Pn	04 50 38.9	-1.8
MTW	**Mount Morrison**	**3.13**	**42**	PN	Pn	04 50 38.4	-2.5
MTW				AML	AML	04 51 15.5	
MTW				AML	AML	04 51 16.5	
MTW	**Mount Morrison**	**3.13**	**42**	Pn	Pn	04 50 38.4	-2.5
OGWZ	**Otaki Gorge**	**3.25**	**34**	PN	Pn	04 50 40.4	-2.3
OGWZ	**Otaki Gorge**	**3.25**	**34**	Pn	Pn	04 50 40.4	-2.3
TUZ	**Tuapeka**	**3.29**	**222**	⇑PN	Pn	04 50 41.5	-1.6
TUZ				AML	AML	04 51 43.4	
TUZ				AML	AML	04 51 43.5	
TUZ				AML	AML	04 51 44.0	
TUZ				AML	AML	04 51 46.7	
TUZ	**Tuapeka**	**3.29**	**222**	Pn	Pn	04 50 41.5	-1.6
MRZ	**Mangatainoka R**	**3.56**	**37**	PN	Pn	04 50 44.3	-2.5
MRZ	**Mangatainoka R**	**3.56**	**37**	Pn	Pn	04 50 44.3	-2.5
MLZ	**Mavora Lakes**	**3.79**	**239**	PN	Pn	04 50 48.3	-1.7
MLZ				AML	AML	04 51 59.1	
MLZ				AML	AML	04 52 03.2	
MLZ	**Mavora Lakes**	**3.79**	**239**	Pn	Pn	04 50 48.4	-1.7
BFZ	**Birch Farm**	**3.85**	**44**	PN	Pn	04 50 48.9	-2.0
BFZ				AML	AML	04 51 33.6	
BFZ				AML	AML	04 51 33.9	
BFZ				AML	AML	04 51 33.9	
BFZ				AML	AML	04 51 34.0	
BFZ	**Birch Farm**	**3.85**	**44**	Pn	Pn	04 50 48.9	-2.0
SYZ	**Scrubby Hill**	**3.95**	**219**	⇓PN	Pn	04 50 50.8	-1.4
SYZ				AML	AML	04 52 04.9	
SYZ				AML	AML	04 52 11.4	
SYZ	**Scrubby Hill**	**3.95**	**219**	Pn	Pn	04 50 50.8	-1.4
WAZ	**Wanganui**	**4.13**	**25**	PN	Pn	04 50 54.7	+0.1
WAZ				AML	AML	04 52 17.6	
WAZ	**Wanganui**	**4.13**	**25**	Pn	Pn	04 50 54.8	+0.1
ANWZ	**Angora Road**	**4.14**	**43**	PN	Pn	04 50 53.2	-1.5
WHZ	**Wether Hill Ro**	**4.16**	**234**	⇓PN	Pn	04 50 52.7	-2.4
WHZ				AML	AML	04 52 08.6	
WHZ				AML	AML	04 52 10.8	
WHZ	**Wether Hill Ro**	**4.16**	**234**	Pn	Pn	04 50 52.7	-2.4
DCZ	**Deep Cove**	**4.45**	**242**	PN	Pn	04 50 57.5	-1.5
DCZ				AML	AML	04 52 22.4	
DCZ				AML	AML	04 52 22.7	
DCZ	**Deep Cove**	**4.45**	**242**	Pn	Pn	04 50 57.5	-1.5
VRZ	**Vera Road**	**4.66**	**20**	Pn	Pn	04 51 01.7	-0.2
PKVZ	**Pokaka**	**4.67**	**26**	PN	Pn	04 51 02.1	0.0
PKVZ	**Pokaka**	**4.67**	**26**	Pn	Pn	04 51 02.1	0.0
MOVZ	**Moawhango**	**4.70**	**30**	PN	Pn	04 51 01.0	-1.5
MOVZ				AML	AML	04 51 55.8	
MOVZ				AML	AML	04 51 57.2	
MOVZ	**Moawhango**	**4.70**	**30**	Pn	Pn	04 51 01.0	-1.5
WNVZ	**Wahianoa**	**4.71**	**28**	PN	Pn	04 51 02.4	-0.4
WNVZ	**Wahianoa**	**4.71**	**28**	Pn	Pn	04 51 02.5	-0.4
APZ	**The Paps**	**4.71**	**224**	PN	Pn	04 51 00.8	-1.9
APZ	**The Paps**	**4.71**	**224**	Pn	Pn	04 51 00.8	-1.9
TRVZ	**Turoa**	**4.72**	**27**	PN	Pn	04 51 02.5	-0.5
TRVZ				AML	AML	04 52 00.1	
TRVZ				AML	AML	04 52 02.1	
TRVZ	**Turoa**	**4.72**	**27**	Pn	Pn	04 51 02.5	-0.5
KRHZ	**Kereru**	**4.74**	**36**	PN	Pn	04 51 00.3	-2.8
FWVZ	**Far West T-bar**	**4.76**	**27**	PN	Pn	04 51 03.1	-0.5
FWVZ				AML	AML	04 51 59.6	
FWVZ				AML	AML	04 52 00.4	
FWVZ	**Far West T-bar**	**4.76**	**27**	Pn	Pn	04 51 03.1	-0.5
NGZ	**Ngauruhoe**	**4.85**	**27**	PN	Pn	04 51 03.9	-0.8
NGZ				AML	AML	04 52 04.0	
NGZ				AML	AML	04 52 06.9	
NGZ	**Ngauruhoe**	**4.85**	**27**	Pn	Pn	04 51 03.9	-0.8
OTVZ	**Oturere**	**4.88**	**28**	PN	Pn	04 52 00.8	-0.2
OTVZ				AML	AML	04 52 08.8	
OTVZ				AML	AML	04 52 43.9	
OTVZ	**Oturere**	**4.88**	**28**	Pn	Pn	04 51 05.0	-0.2
KWHZ	**Kaweka Forest**	**4.94**	**35**	PN	Pn	04 51 04.0	-1.9
HIZ	**Hauiti**	**5.26**	**18**	⇓PN	Pn	04 51 09.3	-0.8
HIZ				AML	AML	04 52 13.4	
HIZ				AML	AML	04 52 22.4	
HIZ	**Hauiti**	**5.26**	**18**	Pn	Pn	04 51 09.3	-0.8
ARHZ	**Aropaoanui**	**5.33**	**38**	PN	Pn	04 51 09.1	-1.9
ARHZ	**Aropaoanui**	**5.33**	**38**	Pn	Pn	04 51 09.1	-1.9

DJA 24 05:01:19.5±0.5,5°N±2°×9°6E±°,h16km±4km,M3.9/5, mb3.6/1,MLv4.0/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.41**	**188**	P	Pb	05 01 28.5	0.0
MLSI				S	Sb	05 01 35.4	+0.9
LHMI	**Lhok Sumawe**	**0.73**	**42**	P	Pg	05 01 33.2	-0.6
LHMI				S	Sb	05 01 43.6	0.0
TPTI		**1.58**	**153**	P	Pn	05 01 46.4	-0.5
TPTI				S	Sn	05 02 06.3	-0.8
KCSI	**Kotacane, Aceh**	**1.74**	**131**	P	Pn	05 01 48.8	-0.3
TSI	**Tuntungan**	**2.40**	**119**	P	Pn	05 01 58.3	+0.1
TSI				S	Sn	05 02 28.2	+0.9
GSI	**Gunungsitoli**	**3.53**	**162**	P	Pn	05 02 12.8	-1.0
MNSI	**Mandailing Nat**	**4.96**	**141**	P	Pn	05 02 32.9	-0.5

*IDC **24** 05:06:30.9±1.2,37.67N×20.99E,h0km,mb3.9/8, mb1 3.7/11,mb1mx3.6/48,mbtmp3.7/11,ML3.3/3,Error ellipse: s-maj=26.2km s-min=20.0km az=136.0*
*ISCJB **24** 05:06:32.1±0.6,37.57N±0.02×20.85E±0.03,h10km±4km, mb3.8/8,Error ellipse: s-maj=4.3km s-min=3.5km az=158.4*
*THE **24** 05:06:33.4,37.61N×20.98E,h0km±1km,ML3.4/27,Error ellipse: s-maj=1.7km s-min=0.6km az=220.0*

*ATH **24** 05:06:33.3,37.62N×20.99E,h14km±1km,ML3.4/4,Error ellipse: s-maj=2.0km s-min=0.9km az=307.0*
*CSEM **24** 05:06:33.1±0.2,37.60N×20.95E,h2km,ML3.4,Error ellipse: s-maj=4.7km s-min=3.1km az=47.0*
ISC 24 05:06:33.3±0.8,37.61N±0.02×20.96E±0.02,h17km±5km, n136,σ1s02/203,mb3.8/8,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKS	**Zakynthos**	**0.17**	**303**	P	**Pg**	**05 06 37.7**	**0.0**
ZKS				S	**Sg**	**05 06 40.9**	**+0.2**
ZKS	**Zakynthos**	**0.17**	**303**	P	**Pg**	**05 06 37.7**	**0.0**
ZKS				S	**Sg**	**05 06 40.9**	**+0.2**
ZKS	**Zakynthos**	**0.17**	**303**	P	**Pg**	**05 06 38.3**	**+0.6**
ZKS				S	**Sb**	**05 06 41.7**	**+0.7**
ZKS				AML	AML	05 06 42.5	
ZKS				AML	AML	05 06 43.3	
	comp=N,92092μm,0.3s						
VTN	**Vitineika**	**0.36**	**30**	P	**Pg**	**05 06 41.2**	**+0.4**
VTN				S	**Sg**	**05 06 46.1**	**+0.2**
VTN	**Vitineika**	**0.36**	**30**	P	**Pg**	**05 06 41.2**	**+0.4**
VTN				S	**Sg**	**05 06 46.1**	**+0.2**
KFL	**Anninata**	**0.52**	**345**	P	**Pg**	**05 06 43.1**	**-0.6**
KFL				S	**Sg**	**05 06 50.6**	**-0.2**
KFL	**Anninata**	**0.52**	**345**	P	**Pg**	**05 06 43.1**	**-0.6**
KFL				S	**Sg**	**05 06 50.6**	**-0.2**
KFL	**Anninata**	**0.52**	**345**	P	**Pg**	**05 06 42.8**	**-0.9**
KFL				S	**Sg**	**05 06 50.3**	**-0.4**
RLS	**Riolos of Patr**	**0.60**	**42**	P	**Pg**	**05 06 44.6**	**-0.7**
RLS				S	**Sb**	**05 06 53.7**	**+0.1**
RLS	**Riolos of Patr**	**0.60**	**42**	P	**Pg**	**05 06 45.0**	**-0.3**
RLS				S	**Sb**	**05 06 53.7**	**+0.1**
RLS	**Riolos of Patr**	**0.60**	**42**	S	**Sg**	**05 06 53.2**	**-0.2**
RLS				AML	AML	05 06 54.6	
	comp=N,5011μm,0.7s						
RLS				AML	AML	05 06 58.1	
	comp=E,3861μm,0.6s						
VLS	**Valsamata**	**0.64**	**333**	P	**Pg**	**05 06 45.3**	**-0.7**
VLS				S	**Sb**	**05 06 55.1**	**+0.4**
VLS	**Valsamata**	**0.64**	**333**	P	**Pg**	**05 06 45.3**	**-0.7**
VLS				S	**Sg**	**05 06 54.3**	**-0.2**
AXS	**Araxos**	**0.68**	**29**	P	**Pg**	**05 06 45.7**	**-0.9**
AXS				S	**Sb**	**05 06 56.0**	**+0.3**
AXS	**Araxos**	**0.68**	**29**	P	**Pg**	**05 06 45.7**	**-0.9**
AXS				S	**Sb**	**05 06 56.0**	**+0.3**
AXS	**Araxos**	**0.68**	**29**	P	**Pg**	**05 06 45.6**	**-0.9**
DRO	**Drossia**	**0.69**	**60**	P	**Pg**	**05 06 46.0**	**-0.8**
DRO				S	**Sb**	**05 06 56.2**	**+0.1**
DRO	**Drossia**	**0.69**	**60**	P	**Pg**	**05 06 46.2**	**-0.6**
DRO				S	**Sb**	**05 06 56.2**	**+0.1**
DRO	**Drossia**	**0.69**	**60**	P	**Pg**	**05 06 46.2**	**-0.6**
DRO				S	**Sg**	**05 06 55.7**	**-0.3**
DRO				AML	AML	05 07 02.9	
	comp=E,8515μm,0.6s						
DRO				AML	AML	05 07 03.6	
	comp=N,7245μm,0.5s						
ITM	**Ithomi**	**0.88**	**119**	P	**Pb**	**05 06 49.7**	**-0.4**
ITM				S	**Sg**	**05 07 02.8**	**+0.8**
ITM	**Ithomi**	**0.88**	**119**	P	**Pb**	**05 06 49.7**	**-0.4**
ITM				S	**Sg**	**05 07 02.8**	**+0.8**
ITM	**Ithomi**	**0.88**	**119**	P	**Pb**	**05 06 49.6**	**-0.4**
UPR	**University Cam**	**0.94**	**44**	P	**Pb**	**05 06 51.0**	**-0.1**
UPR				S	**Sg**	**05 07 04.0**	**0.0**
UPR	**University Cam**	**0.94**	**44**	P	**Pb**	**05 06 51.0**	**-0.1**
UPR				S	**Sg**	**05 07 04.0**	**0.0**
PYL	**PYLOS**	**0.94**	**138**	P	**Pb**	**05 06 50.6**	**-0.6**
PYL				S	**Sn**	**05 07 05.7**	**+0.9**
PYL	**PYLOS**	**0.94**	**138**	P	**Pb**	**05 06 50.6**	**-0.6**
PYL				S	**Sn**	**05 07 05.7**	**+0.9**
PYL	**PYLOS**	**0.94**	**138**	P	**Pb**	**05 06 50.3**	**-0.9**
PDO	**Prodromos**	**1.01**	**10**	P	**Pb**	**05 06 51.6**	**-0.7**
PDO				S	**Sn**	**05 07 07.1**	**+0.7**
PDO	**Prodromos**	**1.01**	**10**	P	**Pb**	**05 06 51.6**	**-0.7**
PDO				S	**Sn**	**05 07 07.1**	**+0.7**
PDO	**Prodromos**	**1.01**	**10**	P	**Pb**	**05 06 50.9**	**-1.4**
PDO				S	**Sn**	**05 07 07.5**	**+1.1**
PDO				AML	AML	05 07 12.4	
	comp=E,6785μm,0.8s						
PDO				AML	AML	05 07 12.5	
	comp=N,4827μm,0.3s						
LAKA	**Lakka**	**1.02**	**52**	P	**Pb**	**05 06 51.7**	**-0.9**
LAKA				S	**Sn**	**05 07 07.5**	**+0.6**
LAKA	**Lakka**	**1.02**	**52**	P	**Pb**	**05 06 51.7**	**-0.9**
LAKA				S	**Sn**	**05 07 07.5**	**+0.6**
LAKA	**Lakka**	**1.02**	**52**	P	**Pb**	**05 06 51.4**	**-1.2**
KLV	**Kalavryta, Ach**	**1.04**	**65**	P	**Pb**	**05 06 52.4**	**-0.5**
KLV				S	**Sg**	**05 07 07.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.04**	**65**	P	**Pb**	**05 06 52.4**	**-0.5**
KLV				S	**Sg**	**05 07 07.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.04**	**65**	P	**Pb**	**05 06 52.3**	**-0.6**
PVO	**Paravola**	**1.10**	**24**	P	**Pb**	**05 06 53.6**	**-0.3**
PVO				S	**Sg**	**05 07 10.2**	**+1.1**
PVO	**Paravola**	**1.10**	**24**	P	**Pb**	**05 06 53.6**	**-0.3**
PVO				S	**Sg**	**05 07 10.2**	**+1.1**
EFP	**Efpalio**	**1.11**	**42**	P	**Pb**	**05 06 53.4**	**-0.

VLI	**Veliai**	**1.81**	**119**	P		**Pb**	**05 07 05.3**	**-0.7**
VLI				S		**Sg**	**05 07 30.6**	**-1.1**
VLI	**Veliai**	**1.81**	**119**	P		**Pb**	**05 07 05.3**	**-0.7**
VLI				S		**Sg**	**05 07 30.6**	**-1.1**
DID	**Didima**	**1.81**	**92**	P		**Pb**	**05 07 05.5**	**-0.5**
DID				S		**Sb**	**05 07 29.9**	**+1.5**
DID	**Didima**	**1.81**	**92**	P		**Pb**	**05 07 05.5**	**-0.5**
DID				S		**Sb**	**05 07 29.9**	**+1.5**
DID	**Didima**	**1.81**	**92**	P		**Pn**	**05 07 05.2**	**+1.5**
LKR	**Lokris**	**1.92**	**56**	P		**Pb**	**05 07 07.0**	**-0.8**
LKR	**Lokris**	**1.92**	**56**	P		**Pb**	**05 07 07.0**	**-0.8**
LKR	**Lokris**	**1.92**	**56**	P		**Pb**	**05 07 08.5**	**+0.7**
VIL2	**Platees**	**1.92**	**71**	P		**Pb**	**05 07 07.8**	**-0.1**
VILL	**Villia**	**1.94**	**73**	P		**Pb**	**05 07 07.5**	**-0.8**
VILL				S		**Sb**	**05 07 32.8**	**+0.6**
VILL	**Villia**	**1.94**	**73**	P		**Pb**	**05 07 07.5**	**-0.8**
VILL				S		**Sb**	**05 07 32.8**	**+0.6**
ATAL	**Atalanti**	**1.95**	**56**	P		**Pb**	**05 07 07.5**	**-0.9**
ATAL				S		**Sb**	**05 07 33.0**	**+0.5**
ATAL	**Atalanti**	**1.95**	**56**	P		**Pb**	**05 07 07.5**	**-0.9**
ATAL				S		**Sb**	**05 07 33.0**	**+0.5**
ATAL	**Atalanti**	**1.95**	**56**	P		**Pb**	**05 07 09.3**	**+0.9**
SGD	**Sagiada**	**2.08**	**344**	P		**Pb**	**05 07 10.7**	**+0.1**
SGD	**Sagiada**	**2.08**	**344**	P		**Pb**	**05 07 10.7**	**+0.1**
THL	**Klokotos Trika**	**2.12**	**23**	P		**Pb**	**05 07 10.4**	**-0.9**
THL	**Klokotos Trika**	**2.12**	**23**	P		**Pb**	**05 07 10.4**	**-0.9**
ATHU	**Athens Univers**	**2.27**	**80**	P		**Pn**	**05 07 11.7**	**+1.8**
ATHU	**Athens Univers**	**2.27**	**80**	P		**Pn**	**05 07 11.7**	**+1.8**
KEK	**Kerkira**	**2.29**	**337**	P		**Pb**	**05 07 12.8**	**-1.4**
KEK	**Kerkira**	**2.29**	**337**	P		**Pb**	**05 07 12.8**	**-1.4**
KPRO	**Kipourio**	**2.37**	**8**	P		**Pn**	**05 07 13.6**	**+2.2**
KPRO	**Kipourio**	**2.37**	**8**	P		**Pn**	**05 07 13.6**	**+2.2**
NEO	**Neokhori**	**2.46**	**46**	P		**Pn**	**05 07 14.6**	**+2.0**
NEO	**Neokhori**	**2.46**	**46**	P		**Pn**	**05 07 14.6**	**+2.0**
NEO	**Neokhori**	**2.46**	**46**	P		**Pb**	**05 07 15.3**	**-1.7**
EREA	**Eretria**	**2.48**	**70**	P		**Pn**	**05 07 15.0**	**+2.0**
EREA				S		**Sb**	**05 07 46.9**	**-0.9**
EREA	**Eretria**	**2.48**	**70**	P		**Pn**	**05 07 15.0**	**+2.0**
EREA				S		**Sb**	**05 07 46.9**	**-0.9**
EREA	**Eretria**	**2.48**	**70**	P		**Pn**	**05 07 15.0**	**+2.0**
SKIA	**Skiathos**	**2.51**	**51**	P		**Pn**	**05 07 15.2**	**+1.9**
SKIA	**Skiathos**	**2.51**	**51**	P		**Pn**	**05 07 15.2**	**+1.9**
ANKY	**Antikythira Is**	**2.56**	**132**	P		**Pn**	**05 07 15.9**	**+1.9**
ANKY	**Antikythira Is**	**2.56**	**132**	P		**Pn**	**05 07 15.8**	**+1.9**
ANKY	**Antikythira Is**	**2.56**	**132**	P		**Pn**	**05 07 15.8**	**+1.9**
PENT	**Pentalofos**	**2.59**	**3**	P		**Pn**	**05 07 17.0**	**+2.5**
PENT	**Pentalofos**	**2.59**	**3**	P		**Pn**	**05 07 17.0**	**+2.5**
FNA	**Florina**	**3.19**	**6**	P		**Pn**	**05 07 24.3**	**+1.6**
FNA	**Florina**	**3.19**	**6**	P		**Pn**	**05 07 24.3**	**+1.6**
OHR	**Ohrid**	**3.50**	**358**	*e*Pn		**Pn**	**05 07 24.7**	**-2.4**
OHR	**Ohrid**	**3.50**	**358**	*e*Pn		**Pn**	**05 07 24.6**	**-2.4**
IDI	**Anoyia**	**3.92**	**125**	Pn		**Pn**	**05 07 34.2**	**+1.4**
	comp=N,0.5nm,0.3s,baz=251,slow=18,SNR=1.5							
IDI				Sn		**Sn**	**05 08 17.6**	**-0.9**
	comp=N,1.4nm,0.3s,baz=150,slow=17,SNR=2.0							
BARS	**Barje**	**5.25**	**7**	*e*Pn		**Pn**	**05 07 51.8**	**+0.9**
IVAS	**Ivanjica**	**6.00**	**354**	*e*Pn		**Pn**	**05 08 01.4**	**+0.2**
BBLS	**Lazići**	**6.36**	**350**	*e*Pn		**Pn**	**05 08 10.4**	**+4.1**
DIVS	**Divibare**	**6.53**	**354**	*e*Pn		**Pn**	**05 08 08.3**	**-0.3**
MLR	**Muntele Rosu**	**8.72**	**24**	Pn		**Pn**	**05 08 40.4**	**+1.7**
	comp=N,0.0nm,0.3s,baz=188,slow=7.1,SNR=2.7							
ESDC	**Sonseca Array**	**19.56**	**284**	P		**P**	**05 11 00.1**	**-0.2**
	comp=N,0.2nm,0.3s,baz=84,slow=13,SNR=3.7							
HFS	**Hagfors**	**23.02**	**351**	P		**P**	**05 11 35.9**	**-1.3**
	comp=N,2.9nm,0.9s,baz=173,slow=13,SNR=4.9							
FINES	**FINESS Array B**	**24.08**	**6**	P		**P**	**05 11 48.0**	**+0.6**
	comp=N,1.2nm,0.6s,baz=187,slow=7.0,SNR=4.2							
AKTO	**Aktyubinsk**	**29.25**	**52**	P		**P**	**05 12 34.0**	**-0.3**
	comp=N,1.0nm,0.3s,baz=262,slow=8.0,SNR=4.0							
TORD	**Torodi Ar. Bea**	**29.81**	**220**	P		**P**	**05 12 40.6**	**+1.2**
	comp=N,0.5nm,0.6s,baz=47,slow=9.9,SNR=5.0							
BVAR	**Borovoye Array**	**37.22**	**49**	P		**P**	**05 13 43.6**	**+0.1**
	comp=N,0.7nm,0.5s,baz=280,slow=8.6,SNR=3.7							
KURBB	**Kurchatov Arra**	**42.29**	**53**	P		**P**	**05 14 24.9**	**-0.8**
	comp=N,1.0nm,0.7s,baz=282,slow=8.8,SNR=9.0							
MKAR	**Makanchi Array**	**45.31**	**58**	P		**P**	**05 14 49.2**	**-0.9**
	comp=N,0.8nm,0.4s,baz=273,slow=7.2,SNR=9.8							
ZALV	**Zalesovo Beam**	**45.82**	**48**	P		**P**	**05 14 53.1**	**-0.9**
	comp=N,2.0nm,0.4s,baz=268,slow=9.7,SNR=6.1							

*ISCJB **24** 05:12:08.4±0.3, 12°.68S±0'.05×66°.36E±0'.04, h10km, mb4.7/120, Error ellipse: s-maj=7.3km s-min=6.0km az=177.1*

*BJI **24** 05:12:08.3, 12°.70S×66°.30E, h10km, mb4.9/41, mB5.7/20, Ms5.6/14, Ms7 5.3/15*

*MOS **24** 05:12:08.5±1.0, 12°.62S×66°.40E, h10km, mb5.2/49, Error ellipse: s-maj=10.0km s-min=5.3km az=100.5*

*IDC **24** 05:12:08.2±0.4, 12°.73S×66°.40E, h0km, mb4.4/47, mb1 4.4/48, mb1mx4.4/55, mbtmp4.4/48, Error ellipse: s-maj=12.2km s-min=11.9km az=8.0*

*NEIC **24** 05:12:10.2±0.2, 12°.72S×66°.35E, h10km, mb5.1/43, Error ellipse: s-maj=6.1km s-min=5.9km az=215.0*

ISC 24 05:12:10.1±0.3, 12°.72S±0'.07×66°.30E±0'.07, h10km, n628, σ1s03/620, mb4.8/120, 19C-4D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**7.84**	**37**	T	T	05 22 05.5	
	baz=215,slow=75,SNR=7907						
H08N1	**Diego Garcia H**	**7.86**	**37**	T	T	05 22 07.9	
	baz=215,slow=75,SNR=8329						
H08N2	**Diego Garcia H**	**7.87**	**37**	T	T	05 22 07.9	
	baz=215,slow=75,SNR=9641						
H08S1	**Diego Garcia H**	**7.90**	**51**	T	T	05 22 12.9	
	baz=230,slow=76,SNR=1303						
H08S2	**Diego Garcia H**	**7.91**	**51**	T	T	05 22 09.6	
	baz=230,slow=76,SNR=1762						
H08S3	**Diego Garcia H**	**7.92**	**51**	T	T	05 22 12.3	
	baz=230,slow=76,SNR=2162						
OPO	**Ambohidratompo**	**19.29**	**250**	P	**Pn**	**05 16 37.5**	**+1.0**
	baz=0.0,slow=3.5						
PALK	**Pallekele**	**24.48**	**37**	P	**P**	**05 17 29.1**	**-0.6**
	4.5nm,0.8s,baz=124,slow=3.6,SNR=2.7						
KMBO	**Kilima Mbogo**	**31.00**	**290**	P	**P**	**05 18 29.6**	**+1.2**
	4.4nm,0.8s,baz=96,slow=9.2,SNR=9.3						
KMBO	**Kilima Mbogo**	**31.00**	**290**	*e*P	**P**	**05 18 28.9**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,13nm,1.1s						
KMBO	**Kilima Mbogo**	**31.00**	**290**	*e*P	**P**	**05 18 28.9**	**+0.5**
	comp=Z,13nm,1.1s						
GSI	**Gunungsitoli**	**34.02**	**68**	P	**P**	**05 18 57.5**	**+2.9**
MNSI	**Mandailing Nat**	**35.65**	**70**	P	**P**	**05 19 04.4**	**-4.2**
WSAR	**Wadi Sarin**	**36.52**	**348**	P	**P**	**05 19 17.5**	**+1.6**
	comp=Z,6.1nm,0.8s,baz=152,slow=3.4,SNR=3.3						
MATP	**Matopo**	**36.96**	**253**	P	**P**	**05 19 20.6**	**+0.7**
	comp=Z,14nm,1.2s,baz=68,slow=8.0,SNR=5.4						
KASI	**Kota Agung**	**38.35**	**83**	P	**P**	**05 19 35.1**	**+3.5**
UOSS	**Minazif**	**38.71**	**345**	*e*P	**P**	**05 19 35.2**	**+0.8**
	comp=Z,1.8nm,1.1s						
LBTB	**Lobatse**	**40.26**	**246**	P	**P**	**05 19 47.9**	**+0.4**
	comp=Z,8.2nm,0.9s,baz=124,slow=5.1,SNR=5.7						
LBTB	**Lobatse**	**40.26**	**246**	*e*P	**P**	**05 19 48.0**	**+0.4**
LBTB				pmax	pmax		
	comp=Z,41nm,1.1s						
LBTB	**Lobatse**	**40.26**	**246**	*e*P	**P**	**05 19 48.0**	**+0.4**
	comp=Z,41nm,1.1s						
BOSA	**Boshof**	**41.30**	**241**	P	**P**	**05 19 56.5**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=75,slow=8.1,SNR=5.1						
BOSA	**Boshof**	**41.30**	**241**	*e*P	**P**	**05 19 57.8**	**+1.6**
BOSA				pmax	pmax		
	comp=Z,52nm,1.4s						
BOSA	**Boshof**	**41.30**	**241**	*e*P	**P**	**05 19 57.8**	**+1.6**
	comp=Z,52nm,1.4s						
SUKH	**Sukhothai**	**44.54**	**48**	P	**P**	**05 20 25.4**	**+3.0**
	comp=Z,5.1nm,1.2s						
CM01	**Chiang Mai Arr**	**44.67**	**47**	*e*P	**P**	**05 20 24.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**44.68**	**47**	P	**P**	**05 20 23.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=242,slow=9.0,SNR=9.3						
CHTO	**Chiang Mai**	**44.92**	**46**	P	P	05 20 33.1	+7.7
	comp=Z,101nm,1.2s						
CHTO	**Chiang Mai**	**44.92**	**46**	*e*P	**P**	**05 20 26.2**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,14nm,1.3s						
CHTO	**Chiang Mai**	**44.92**	**46**	*e*P	**P**	**05 20 26.1**	**+0.8**
	comp=Z,14nm,1.3s						
CMMT	**Chiang Mai**	**44.92**	**46**	P	P	05 20 33.1	+7.7
	comp=Z,32nm,0.9s						
PBKT	**Sadao Pong**	**44.96**	**51**	P	**P**	**05 20 28.7**	**+3.0**
	comp=Z,21nm,0.9s						
CHAI	**Chaiyaphum**	**45.33**	**52**	P	**P**	**05 20 31.4**	**+2.7**
	comp=Z,6.9nm,1.1s						
UTTA	**Uttaradit**	**45.38**	**49**	P	**P**	**05 20 30.5**	**+1.4**
	comp=Z,5.5nm,1.1s						
KBL	**Kabul**	**47.07**	**3**	*e*P	**P**	**05 20 43.0**	**+0.6**
KBL				pmax	pmax		
	comp=Z,34nm,1.4s						
KBL	**Kabul**	**47.07**	**3**	*e*P	**P**	**05 20 43.0**	**+0.6**
	comp=Z,34nm,1.4s						
H01W3	**Cape Leeuwin H**	**48.47**	**126**	T	T	06 12 41.7	
	baz=286,slow=75,SNR=31						
H01W2	**Cape Leeuwin H**	**48.47**	**126**	T	T	06 12 42.3	
	baz=286,slow=75,SNR=41						
H01W1	**Cape Leeuwin H**	**48.49**	**126**	T	T	06 12 43.4	
	baz=286,slow=75,SNR=31						
LSA	**Lhasa**	**48.51**	**29**	*e*P	**P**	**05 20 54.5**	**+0.6**
LSA				pmax	pmax		
	comp=Z,36nm,1.7s						
LSA	**Lhasa**	**48.51**	**29**	*e*P	**P**	**05 20 54.5**	**+0.6**
	comp=Z,36nm,1.7s						
GEYT	**Alibeck**	**50.96**	**352**	P	**P**	**05 21 11.9**	**0.0**
	comp=Z,1.3nm,0.3s,baz=76,slow=7.6,SNR=3.5						
EIL	**Elat**	**51.87**	**325**	P	**P**	**05 21 19.4**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=190,slow=11,SNR=3.1						
KSH	**Kashi**	**52.74**	**9**	P	**P**	**05 21 22.6**	**-2.7**
KSH				pP	pP	05 21 26.1	-2.4
KSH				PcP	**PcP**	**05 22 32.8**	**-2.1**
KSH				PP	**PP**	**05 23 23.1**	**-1.7**
KSH				S	**S**	**05 28 45.8**	**-7.7**
KSH				PMZ			
	comp=Z,33nm,0.9s						
KSH				PMZ			
	comp=Z,610nm,6.5s						
KSH				LN			
	comp=Z,500nm,12.3s						
KSH				LE			
	comp=Z,290nm,11.0s						
KSH				LZ			
	comp=Z,2μm,15.2s						
ASF	**Jabal al Asfar**	**52.77**	**328**	P	**P**	**05 21 26.9**	**+1.3**
	comp=Z,3.2nm,0.9s,baz=185,slow=2.7,SNR=7.2						
MMAI	**Mount Meron Ar**	**54.21**	**328**	P	**P**	**05 21 37.2**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=123,slow=6.1,SNR=4.3						
MAW	**Mawson**	**54.88**	**182**	P	**P**	**05 21 40.0**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=317,slow=7.8,SNR=6.5						
MAW	**Mawson**	**54.88**	**182**	*e*P	**P**	**05 21 41.0**	**+0.6**
MAW				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MAW	**Mawson**	**54.88**	**182**	*e*P	**P**	**05 21 41.0**	**+0.6**
	comp=Z,4.8nm,1.4s						
MNAS	**Manas**	**55.23**	**6**	P	**P**	**05 21 43.9**	**+0.4**
MNAS				pmax	pmax		
	comp=Z,29nm,1.4s						
GYA	**Guiyang**	**55.28**	**45**	*e*P	**P**	**05 21 46.3**	**+2.2**
GYA				PP	**PP**	**05 23 52.4**	**+4.5**
GYA				S	**S**	**05 29 28.9**	**+0.6**
GYA				PMZ			
	comp=Z,20nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,5.9s						
GYA				LN			
	comp=Z,560nm,17.9s						
GYA				LE			
	comp=Z,510nm,18.2s						
GYA				LZ			
	comp=Z,540nm,18.6s						
AAK	**Ala-Archa**	**55.59**	**7**	P	**P**	**05 21 46.3**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=192,slow=7.3,SNR=10						
AAK	**Ala-Archa**	**55.59**	**7**	*i* P	**P**	**05 21 44.2**	**-1.9**
AAK				pmax	pmax		
	comp=Z,11nm,1.0s						
KKAR	**Karatay Array**	**55.68**	**4**	*e*P	**P**	**05 21 46.8**	**+0.2**
KKAR	**Karatay Array**	**55.68**	**4**	*e*P	**P**	**05 21 46.8**	**+0.2**
FRU	**Bishkek**	**55.80**	**7**	*e*P	**P**	**05 21 47.0**	**-0.5**
FRU				*e*		05 21 53.0	
GNI	**Garni**	**56.28**	**340**	P	**P**	**05 21 50.7**	**-0.4**
	comp=Z,4.9nm,0.3s,baz=77,slow=5.1,SNR=6.1						
GNI	**Garni**	**56.28**	**340**	*i* P	**P**	**05 21 51.3**	**+0.2**
GNI				pmax	pmax		
	comp=Z,85nm,1.2s						
GNI	**Garni**	**56.28**	**340**	*e*P	**P**	**05 21 50.1**	**-1.0**
	comp=Z,114nm,1.9s						
CD2	**Chengdu**	**56.37**	**39**	*e*P	**P**	**05 21 52.8**	**+1.1**
CD2				pP	sP	05 21 56.0	-0.2
CD2				sP	pP	05 21 57.3	+2.4
CD2				PcS	**PcS**	**05 26 49.9**	**+0.3**
CD2				S	**S**	**05 29 45.1**	**+2.6**
CD2				sS	sS	05 29 50.6	+2.8
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.4s						
PDGK	**Podgornoye**	**57.06**	**11**	P	**P**	**05 21 55.8**	**-0.5**
PDGK				pmax	pmax		
	comp=Z,22nm,1.1s						
SYO	**Syowa Base**	**58.79**	**191**	*e*P	**P**	**05 22 05.4**	**-2.8**
SYO	**Syowa Base**	**58.79**	**191**	*e*pP	pP	05 22 13.0	+1.6
ZEI	**Tsey**	**58.93**	**341**	*e*P	**P**	**05 22 14.5**	**+4.7**
ZEI				pmax	pmax		
	comp=Z,37nm,1.2s						
WMQ	**Urumqi**	**59.56**	**18**	P	**P**	**05 22 15.8**	**+1.9**
WMQ				pP	sP	05 22 20.8	+2.5
WMQ				sP	pP	05 22 23.1	+6.0
WMQ				PMZ			
	comp=Z,13nm,0.8s						
WMQ				LN			
	comp=Z,2μm,17.2s						
WMQ				LE			
	comp=Z,2μm,19.8s						
WMQ				LZ			
	comp=Z,2μm,19.8s						
ENH	**Enshi**	**59.62**	**43**	*e*P	**P**	**05 22 14.4**	**-0.2**
	comp=Z,34nm,1.4s						
KBZ	**Khabaz**	**60.10**	**341**	P	**P**	**05 22 17.4**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=192,slow=7.4,SNR=3.1						
LZH	**Lanzhou**	**60.11**	**35**	*e*P	**P**	**05 22 19.6**	**+1.6**
LZH				pP	sP	05 22 22.9	+0.5
LZH				sP	pP	05 22 24.9	+3.7
LZH				PMZ			
	comp=Z,22nm,1.2s						
KIV	**Kislovodsk**	**60.37**	**341**	*i* P	**P**	**05 22 21.3**	**+1.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRTR	**Keskin Array B**	**60.38**	**331**	P	**P**	**05 22 19.6**	**-0.1**
	comp=Z,2.6nm,1.0s,baz=148,slow=9.6,SNR=10						
BR131	**Keskin Array S**	**60.38**	**331**	*e*P	**P**	**05 22 20.2**	**+0.5**
GTA	**Gaotai**	**60.53**	**29**	P	**P**	**05 22 21.3**	**+0.5**
GTA				pP	sP	05 22 26.9	+1.7
GTA				sP	pP	05 22 29.6	+5.6
GTA				PMZ			
	comp=Z,11nm,1.5s						
BR231	**Keskin MP Arra**	**60.88**	**331**	*e*P	**P**	**05 22 21.0**	**-2.0**
MAKZ	**Makanchi**	**60.90**	**12**	*e*P	**P**	**05 22 22.4**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,19nm,1.2s						
MAKZ	**Makanchi**	**60.90**	**12**	*e*P	**P**	**05 22 22.4**	**-0.6**
	comp=Z,19nm,1.2s						
OTUK	**Ortayu**	**60.93**	**5**	P	**P**	**05 22 22.0**	**-1.2**
OTUK				pmax	pmax		
	comp=Z,19nm,1.2s						
MK01	**Makanchi Array**	**60.93**	**13**	*e*P	**P**	**05 22 22.2**	**-1.0**
MK31	**Makanchi Array**	**60.95**	**13**	*i* P	**P**	**05 22 22.4**	**-1.0**
MK31				pmax	pmax		
	comp=Z,26nm,1.3s						
MK31	**Makanchi Array**	**60.95**	**13**	*e*P	**P**	**05 22 22.6**	**-0.7**
MKAR	**Makanchi Array**	**60.95**	**13**	P	**P**	**05 22 22.6**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=214,slow=8.7,SNR=27						
XAN	**Xi'an**	**61.69**	**40**	P	**P**	**05 22 28.0**	**-0.6**
XAN				pP	sP	05 22 34.3	+1.3
XAN				PMZ			
	comp=Z,18nm,1.8s						
IDI	**Anoyia**	**61.78**	**322**	P	**P**	**05 22 29.5**	**+0.2**
	comp=Z,20nm,1.0s,baz=120,slow=8.3,SNR=3.1						
AB31	**Akbulak array**	**61.96**	**355**	*i* P	**P**	**05 22 28.9**	**-1.1**
AB31				pmax	pmax		
	comp=Z,15nm,0.9s						
ABKAR	**Akbulak array**	**61.96**	**355**	*e*P	**P**	**05 22 29.4**	**-0.6**
APE	**Apeiranthos**	**62.63**	**324**	*e*P	**P**	**05 22 35.1**	**+0.2**
APE				pmax	pmax		
	comp=Z,38nm,1.0s						
ANN	**Anapa**	**62.95**	**337**	*e*P	**P**	**05 22 37.6**	**+0.8**
ANN				pmax	pmax		
	comp=Z,45nm,2.0s						
AKTO	**Aktyubinsk**	**63.30**	**354**	P	**P**	**05 22 38.7**	**-0.3**
	comp=Z,5.1nm,0.8s,baz=166,slow=7.3,SNR=19						
KURBB	**Kurchatov Arra**	**63.97**	**9**	P	**P**	**05 22 43.0**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=206,slow=7.0,SNR=27						
KURK	**Kurchatov**	**64.08**	**9**	*i* P	**P**	**05 22 43.6**	**-0.5**
KURK				pmax	pmax		
	comp=Z,84nm,1.7s						
KURK	**Kurchatov**	**64.08**	**9**	*e*P	**P**	**05 22 44.0**	**-0.1**
	comp=Z,53nm,1.0s						
ASAR	**Alice Springs**	**64.65**	**110**	P	**P**	**05 22 47.9**	**-0.7**
	comp=Z,3.1nm,0.6s,baz=272,slow=6.0,SNR=26						
AS31	**Alice Springs**	**64.65**	**110**	*e*P	**P**	**05 22 48.2**	**-0.3**
	comp=Z,3.2nm,1.1s						
AS01	**Alice Springs**	**64.69**	**110**	*e*P	**P**	**05 22 47.4**	**-1.4**
VOSK	**Vostochnaya**	**65.30**	**3**	*e*P	**P**	**05 22 52.5**	**+0.4**
VOSK				pmax	pmax		
	comp=Z,13nm,1.2s						
VOSK	**Vostochnaya**	**65.30**	**3**	*e*P	**P**	**05 22 52.5**	**+0.4**
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**65.33**	**106**	P	**P**	**05 22 52.5**	**-0.5**
	comp=Z,5.0nm,1.0s,baz=274,slow=5.8,SNR=22						
WRAB	**Tennant Creek**	**65.34**	**106**	*ce*P	P	05 22 47.2	-5.9
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WB2	**Warramunga Arr**	**65.34**	**106**	*e*P	**P**	**05 22 53.4**	**+0.3**
	comp=Z,31nm,1.4s						
ZRNK	**Zerenda**	**65.44**	**2**	*e*P	**P**	**05 22 52.7**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,19nm,1.3s						
ZRNK	**Zerenda**	**65.44**	**2**	*e*P	**P**	**05 22 52.7**	**-0.3**
	comp=Z,18nm,1.3s						
BVAR	**Borovoye Array**	**65.57**	**3**	P	**P**	**05 22 53.5**	**-0.3**
	comp=Z,5.1nm,0.8s,baz=145,slow=5.4,SNR=14						
BRVK	**Borovoye**	**65.60**	**3**	*e*P	**P**	**05 22 53.2**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,37nm,1.1s						
BRVK	**Borovoye**	**65.60**	**3**	*e*P	**P**	**05 22 53.2**	**-0.8**
	comp=Z,37nm,1.1s						
AGG	**Agios Georgios**	**65.80**	**324**	*e*P	**P**	**05 22 55.1**	**-0.6**
AGG				pmax	pmax		
	comp=Z,52nm,1.1s						
AGG	**Agios Georgios**	**65.80**	**324**	*e*P	**P**	**05 22 55.1**	**-0.6**
	comp=Z,52nm,1.1s						
TIRR	**Tirgusor**	**66.50**	**331**	*e*P	**P**	**05 22 59.5**	**-0.4**
TIRR				pmax	pmax		
	comp=Z,11nm,1.2s						
TIRR	**Tirgusor**	**66.50**	**331**	*e*P	**P**	**05 22 59.5**	**-0.4**
	comp=Z,11nm,1.2s						
VRH	**Novokhopyorsk**	**67.16**	**344**	*e*P	**P**	**05 23 04.1**	**+0.1**
VRH				pmax	pmax		
	comp=Z,20nm,1.4s						
CFR	**Carcaliu**	**67.17**	**332**	*i*P	**P**	**05 23 02.6**	**-1.6**
CFR	**Carcaliu**	**67.17**	**332**	P	**P**	**05 23 02.6**	**-1.6**
HHC	**Hu-ho-hao-te**	**67.76**	**36**	*e*P	**P**	**05 23 10.0**	**+1.8**
HHC				PMZ			
	comp=Z,16nm,1.1s						
HHC				PMZ			
	comp=Z,2μm,7.4s						
VSR	**Storozhevoye**	**67.91**	**342**	*e*P	**P**	**05 23 07.4**	**-1.3**
VSR				pmax	pmax		
	comp=Z,20nm,1.5s						
ZAA0	**Zalesovo Array**	**68.26**	**12**	*e*P	**P**	**05 23 09.7**	**-1.2**
ZALV	**Zalesovo Beam**	**68.26**	**12**	P	**P**	**05 23 10.0**	**-0.9**
	comp=Z,4.8nm,0.8s,baz=208,slow=6.2,SNR=19						
ZALV	**Zalesovo Beam**	**68.26**	**12**	P	**P**	**05 23 10.0**	**-0.9**
VRI	**Vrincioaia**	**68.34**	**331**	*i*P	**P**	**05 23 12.5**	**+0.9**
VRI	**Vrincioaia**	**68.34**	**331**	P	**P**	**05 23 12.5**	**+0.9**
PLOR	**Plostina**	**68.37**	**331**	*i*P	**P**	**05 23 12.6**	**+0.8**
PLOR	**Plostina**	**68.37**	**331**	P	**P**	**05 23 12.7**	**+0.9**
MLR	**Muntele Rosu**	**68.44**	**331**	P	**P**	**05 23 13.2**	**+0.8**
	comp=Z,0.9nm,1.1s,baz=157,slow=4.2,SNR=8.1						
MLR	**Muntele Rosu**	**68.44**	**331**	*i*P	**P**	**05 23 11.1**	**-1.3**
MLR	**Muntele Rosu**	**68.44**	**331**	*e*P	**P**	**05 23 13.4**	**+1.0**
MLR				pmax	pmax		
	comp=Z,18nm,1.4s						
MLR	**Muntele Rosu**	**68.44**	**331**	*e*P	**P**	**05 23 13.4**	**+1.0**
	comp=Z,18nm,1.4s						
TIR	**Tirane**	**68.76**	**324**	*e*P	**P**	**05 23 14.7**	**+0.4**
TIR				pmax	pmax		
	comp=Z,47nm,1.2s						
TIR	**Tirane**	**68.76**	**324**	*e*P	**P**	**05 23 14.7**	**+0.4**
	comp=Z,47nm,1.2s						
NVS	**Novosibirsk**	**68.81**	**10**	*e*P	**P**	**05 23 13.4**	**-0.9**
VOIR		**68.83**	**330**	*i*P	**P**	**05 23 14.5**	**-0.3**
VOIR		**68.83**	**330**	P	**P**	**05 23 14.5**	**-0.3**
TOA0	**

CRVS Cervenica-Dubn 73.01 331 eP P 05 23 39.0 -1.0
CRVS e 05 23 51.7
CRVS Cervenica-Dubn 73.01 331 eP P 05 23 39.0 -1.0
CRVS e 05 23 51.7
STHS Stebnicka Huta 73.47 331 eP P 05 23 44.3 +1.5
STHS Stebnicka Huta 73.47 331 eP P 05 23 44.3 +1.5
STHS ePP S 05 33 07.3 -5.0
STHS ePP PKKPdf 05 43 07.5 +0.2
VYHS Vyhne 74.01 329 eP P 05 23 45.9 0.0
VYHS pmax pmax
comp=Z,18nm,1.8s
VYHS Vyhne 74.01 329 eP P 05 23 45.9 0.0
LANS Liptovska Anna 74.14 330 eP P 05 23 47.7 +1.0
LANS Liptovska Anna 74.14 330 eP P 05 23 47.6 +0.9
SOKA Soboth 74.83 326 iP P 05 23 51.2 +0.3
comp=Z,5.5nm,1.1s
ARSA Arzberg 74.92 327 iP P 05 23 51.4 +0.1
comp=Z,15nm,1.4s
OBKA Obir 74.99 326 iP P 05 23 52.8 +1.1
comp=Z,11nm,1.2s
CONA Conrad Observa 75.16 328 iP P 05 23 52.0 -0.8
comp=Z,18nm,1.4s
MORC Moravsky Berou 75.50 330 eP P 05 23 54.6 +0.1
MORC pmax pmax
comp=Z,45nm,1.4s
MORC Moravsky Berou 75.50 330 eP P 05 23 54.6 +0.1
comp=Z,45nm,1.4s
MYKA Terra Mystica 75.56 326 iP P 05 23 55.3 +0.3
comp=Z,6.3nm,1.0s
VRAC Vranov 75.66 329 P P 05 23 55.4 -0.1
comp=Z,1.4nm,0.4s,baz=116,slow=6.7,SNR=6.4
MOA Molln 75.96 327 iP P 05 23 57.7 +0.5
comp=Z,19nm,1.2s
KBA Koelnbreinsper 75.99 326 iP P 05 23 57.7 +0.1
comp=Z,8.7nm,1.1s
ABTA Abfaltersbach 76.26 325 iP P 05 23 59.6 +0.6
comp=Z,12nm,1.0s
KSAR Wonju Array Be 76.28 46 P P 05 23 58.8 -0.5
KSAR Wonju Array Be 76.28 46 P P 05 23 58.8 -0.5
KS01 Wonju Array Si 76.31 46 eP P 05 23 59.0 -0.4
KSRS Korea Array 76.32 46 P P 05 23 58.8 -0.7
comp=Z,2.7nm,0.8s,baz=248,slow=5.8,SNR=7.1
KLMR Klimovskoe 76.37 347 eP P 05 23 57.0 -2.2
KLMR pmax pmax
comp=Z,39nm,1.3s
DPC Dobruska-Polom 76.47 330 eP P 05 24 00.9 +0.8
DPC epP sP 05 24 07.0 +2.4
DPC esP PcP 05 24 12.4 +0.7
DPC Dobruska-Polom 76.47 330 eP P 05 24 00.9 +0.8
DPC e 05 24 07.0
DPC e 05 24 12.4
GEA0 GERESS Array S 76.86 327 eP P 05 24 01.4 -1.0
GEC2 GERESS Array S 76.86 327 eP P 05 24 01.6 -0.8
GEC2 pmax pmax
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 76.86 327 eP P 05 24 01.6 -0.8
comp=Z,3.9nm,1.0s
GERES GERESS Array B 76.86 327 P P 05 24 01.4 -1.1
comp=Z,0.8nm,0.8s,baz=132,slow=7.4,SNR=7.7
GOPC GO Pecny, Ondr 76.96 329 eP P 05 24 04.3 +1.5
GOPC epP sP 05 24 09.9 +2.6
GOPC GO Pecny, Ondr 76.96 329 eP P 05 24 04.3 +1.5
GOPC e 05 24 09.9
WTTA Wattenberg 77.05 325 iP P 05 24 03.7 +0.1
comp=Z,7.7nm,0.7s
KHC Kasperske Hory 77.10 328 eP P 05 24 03.0 -0.7
KHC epP sP 05 24 09.7 +1.5
KHC Kasperske Hory 77.10 328 eP P 05 24 03.0 -0.7
KHC e 05 24 09.7
KHC Kasperske Hory 77.10 328 eP P 05 24 03.2 -0.5
comp=Z,6.7nm,1.4s
PRU Pruhonice 77.13 329 eP P 05 24 04.1 +0.3
PRU epP sP 05 24 10.5 +2.2
PRU Pruhonice 77.13 329 eP P 05 24 04.1 +0.3
PRU e 05 24 10.5
QSPA South Pole Qui 77.35 180 eP P 05 24 04.8 -0.2
MOTA Moosalm 77.39 325 iP P 05 24 04.5 -1.0
comp=Z,9.9nm,1.1s
FETA Feichten 77.41 325 iP P 05 24 05.8 +0.2
comp=Z,7.0nm,0.9s
PVCC Panska Ves 77.45 329 eP P 05 24 06.6 +1.1
PVCC Panska Ves 77.45 329 eP P 05 24 06.6 +1.1
FUORN Ofenpass-Fuorn 77.45 324 eP P 05 24 06.4 +0.4
comp=Z,21nm,1.3s
HIA Hailar 77.56 33 eP P 05 24 05.9 -0.3
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 77.56 33 eP P 05 24 05.9 -0.3
comp=Z,8.7nm,0.6s
RETA Reutte 77.66 325 iP P 05 24 06.6 -0.3
comp=Z,6.0nm,1.0s
CN2 Changchun 77.80 39 eP P 05 24 06.4 -1.2
CN2 esP sP 05 24 13.3 +1.2
CN2 PMZ
comp=Z,10.0nm,1.0s
VSU Vasula 77.92 340 eP P 05 24 08.0 +0.1
VSU pmax pmax
comp=Z,36nm,1.1s
BRG Berggiesshubel 77.98 329 eP P 05 24 09.2 +0.7
comp=Z,38nm,1.8s
BRG Berggiesshubel 77.98 329 eP P 05 24 09.2 +0.7
BRG pmax pmax
comp=Z,38nm,1.8s
DAVA Damuels 78.04 325 iP P 05 24 08.2 -1.0
comp=Z,8.1nm,0.9s
NKC Novy Kostel 78.35 328 eP P 05 24 11.4 +0.8
NKC epP PcP 05 24 17.6 -2.3
NKC Novy Kostel 78.35 328 eP P 05 24 11.4 +0.8
NKC e 05 24 17.6
GRFO Grafenberg 78.67 327 eP P 05 24 12.5 +0.1
GRFO pmax pmax
comp=Z,29nm,0.9s
GRFO Grafenberg 78.67 327 eP P 05 24 12.5 +0.1
comp=Z,29nm,0.9s
CLL Collm 78.71 329 iP P 05 24 13.4 +0.9
comp=Z,26nm,1.7s
CLL i 05 24 19.3
comp=Z,79nm,2.3s
CLL Collm 78.71 329 iP P 05 24 13.4 +0.9
CLL pmax pmax
comp=Z,26nm,1.7s
CLL Collm 78.71 329 eP P 05 24 13.3 +0.9
comp=Z,30nm,1.6s
VNDA Vanda 78.87 167 P P 05 24 12.9 -0.2
comp=Z,3.3nm,1.2s,baz=270,slow=5.1,SNR=7.2
VNDA Vanda 78.87 167 eP P 05 24 13.3 +0.2
VNDA pmax pmax
comp=Z,19nm,1.6s
VNDA Vanda 78.87 167 eP P 05 24 13.2 +0.2
comp=Z,19nm,1.6s
SENIN Lac Senin/Sane 79.04 323 eP P 05 24 14.8 +0.1
comp=Z,10nm,0.9s
BFO Black Forest 79.49 325 iP P 05 24 17.6 +0.7
ARMA Armidale 79.70 119 eP P 05 24 18.4 -0.2
comp=Z,76nm,1.7s
SSB Saint Sauveur 80.15 321 eP P 05 24 20.7 +0.1
SSB pmax pmax
comp=Z,69nm,2.0s
SSB Saint Sauveur 80.15 321 eP P 05 24 20.7 +0.1
comp=Z,69nm,2.0s
BOD Bodaibo 80.41 24 eP P 05 24 20.4 -1.2
BOD pmax pmax
comp=Z,9.0nm,2.0s
FINES FINESS Array B 80.44 342 P P 05 24 22.4 +0.7
comp=Z,3.9nm,1.1s,baz=94,slow=12,SNR=3.2
MDT Midelt 81.33 306 P P 05 24 27.8 +0.5
comp=Z,2.3nm,0.8s,baz=108,slow=9.6,SNR=3.4
USRK Ussuriysk Ar. 82.13 41 P P 05 24 29.9 -1.2
comp=Z,2.7nm,0.7s,baz=268,slow=2.5,SNR=7.0
NRIK Noril'sk 83.21 7 P P 05 24 36.5 +0.4
comp=Z,4.5nm,0.6s,baz=194,slow=5.7,SNR=7.3
ES19 SONSECA Array 83.35 313 eP P 05 24 37.9 +0.2
ESDC Sonseca Array 83.38 313 P P 05 24 37.7 -0.1
comp=Z,3.2nm,0.7s,baz=105,slow=4.4,SNR=17
ESLA Sonseca Array 83.38 313 eP P 05 24 38.3 +0.5
comp=Z,25nm,1.4s
MAJO Matsushiro 83.44 50 eP P 05 24 34.2 -3.9
MAJO pmax pmax
comp=Z,64nm,1.0s
MJAR Matsushiro Arr 83.44 50 P P 05 24 37.4 -0.7
comp=Z,4.4nm,0.8s,baz=245,slow=6.1,SNR=8.1
PAB San Pablo 83.61 313 eP P 05 24 39.6 +0.6
PAB pmax pmax
comp=Z,13nm,1.0s
PAB San Pablo 83.61 313 eP P 05 24 39.6 +0.6
comp=Z,13nm,1.0s
HFS Hagfors 83.85 336 P P 05 24 40.9 +1.4
comp=Z,1.8nm,0.8s,baz=129,slow=10,SNR=2.4
HFS Hagfors 83.85 336 P P 05 24 41.0 +1.4
KLR Kul'dur 84.23 37 P P 05 24 40.9 -0.9
comp=Z,1.2nm,0.6s,baz=285,slow=7.6,SNR=5.2
KLR Kul'dur 84.23 37 eP P 05 24 39.8 -2.0
NOA NORSAR Array B 85.37 336 P P 05 24 47.1 -0.2
comp=Z,0.5nm,0.7s,baz=119,slow=4.7,SNR=3.0
ARCES ARCESS Array B 86.85 347 P P 05 24 53.2 -1.2
comp=Z,1.6nm,0.8s,baz=123,slow=4.4,SNR=6.0
TIXI Tiksi 93.73 16 P P 05 25 25.8 -0.9
comp=Z,1.7nm,0.3s,baz=181,slow=2.1,SNR=7.8
TIXI Tiksi 93.73 16 iP P 05 25 24.8 -1.8
TIXI pmax pmax
comp=Z,6.0nm,1.3s
TIXI Tiksi 93.73 16 eP P 05 25 26.2 -0.4
comp=Z,17nm,1.3s
SPA0 Spitsbergen Ar 94.85 351 eP P 05 25 31.5 -0.2
SPITS Spitsbergen Ar 94.85 351 P P 05 25 32.4 +0.7
comp=Z,4.6nm,0.9s,baz=165,slow=2.2,SNR=2.6
INK Inuvik 122.98 9 PKP PKPdf 05 31 05.0 -1.2
comp=Z,1.2nm,0.6s,baz=6.7,slow=6.5,SNR=4.4
IL1 Eielson Array 123.21 16 ePKPdf PKPdf 05 31 04.8 -2.0
ILAR Eielson Array 123.21 16 PKP PKPdf 05 31 05.1 -1.6
comp=Z,0.8nm,0.7s,baz=316,slow=3.1,SNR=9.3
ILB Eielson Array 123.21 16 ePKPdf PKPdf 05 31 05.0 -1.7
LVC Limon Verde 123.80 232 ePKPdf PKPdf 05 31 06.0 -3.6
LPAZ La Paz 126.51 239 PKP PKPdf 05 31 14.4 -0.9
comp=Z,2.4nm,0.9s,baz=175,slow=1.4,SNR=7.7
LPAZ La Paz 126.51 239 ePKIKP PKPdf 05 31 15.1 -0.2
LPAZ La Paz 126.51 239 ePKPdf PKPdf 05 31 15.1 -0.2
YKA Yellowknife Ar 130.30 1 PKP PKPdf 05 31 19.6 -0.7
comp=Z,1.1nm,0.6s,baz=352,slow=2.5,SNR=7.5
E33A Westby DABS, E 143.16 340 P PKPbc 05 31 41.8 +0.3
baz=30
C28A Hausauer Farms 143.38 345 P PKPbc 05 31 42.8 +0.8
baz=22
D30A Buchanan 143.49 343 P PKPab 05 31 41.7 +0.2
baz=25
DGMT Dagmar 143.49 349 P PKPbc 05 31 42.8 +0.4
baz=16
H37A Dierke Farm, C 143.61 335 P PKPbc 05 31 42.6 -0.2
baz=36
G35A Watkins 143.71 337 P PKPbc 05 31 43.2 +0.1
baz=33
E31A Nome 143.73 341 P PKPab 05 31 42.5 +0.2
baz=26
D29A Petitbone, Tap 143.77 344 P PKPab 05 31 42.8 +0.3
baz=24
I38A Scanlan Farm, 143.79 334 P PKPab 05 31 41.8 -0.9
baz=37
F33A 5 Mile Ranch, 143.84 339 P PKPbc 05 31 43.4 0.0
baz=30
B05A Bryant 143.88 10 P PKPbc 05 31 43.9 +0.4
baz=346
TZTN Tazewell 144.02 316 ePKPdf PKPbc 05 31 44.4 +0.1
H36A Jessenland, He 144.02 336 P PKPab 05 31 43.7 +0.2
baz=34
C25A Freed Ranch, W 144.04 348 P PKPdf 05 31 45.3 -0.9
baz=17
J39A Decorah 144.07 332 P PKPab 05 31 43.2 -0.6
baz=38
E30A Jud 144.09 343 P PKPab 05 31 43.6 -0.1
baz=25
G34A Benson 144.12 338 P PKPab 05 31 43.0 -0.9
baz=31
E29A Napoleon 144.23 343 P PKPab 05 31 44.3 0.0
baz=24
I37A Lemond, Waseca 144.27 335 P PKPab 05 31 44.6 +0.1
baz=35
H35A Sunnyside Ranc 144.28 337 P PKPab 05 31 44.6 +0.1
baz=32
K40A Colesburg 144.30 331 P PKPab 05 31 44.2 -0.4
baz=40
BLO Bloomington 144.33 322 ePKIKP PKPab 05 31 44.4 -0.5
BLO Bloomington 144.33 322 ePKPdf PKPab 05 31 44.4 -0.5
NLWA Neilton Lookou 144.40 12 ePKPdf PKPbc 05 31 45.6 +0.4
J38A Wedel Dairy, R 144.43 333 P PKPab 05 31 44.0 -1.1
baz=37
G33A Ortonville 144.45 339 P PKPab 05 31 44.7 -0.4
baz=30
NEW Newport 144.45 4 P PKPbc 05 31 46.0 +0.7
baz=354
L41A Preston 144.47 330 P PKPab 05 31 44.8 -0.5
baz=41
D26A Manning 144.51 347 P PKPbc 05 31 45.7 +0.1
baz=19
I36A Fitzsimmons Fa 144.52 335 P PKPab 05 31 45.5 +0.1
baz=34
K39A Oelwein 144.65 332 P PKPab 05 31 44.3 -1.6
baz=39
TKL Tuckaleechee C 144.65 315 ePKIKP PKPab 05 31 46.0 -0.2
TKL Tuckaleechee C 144.65 315 ePKPdf PKPab 05 31 46.0 -0.2
H34A Spellman Lake, 144.66 338 P PKPab 05 31 45.3 -0.6
baz=31
F30A Leola 144.72 342 P PKPab 05 31 44.7 -1.4
baz=25
G32A Webster 144.76 340 P PKPab 05 31 45.1 -1.1
baz=28
WCI Wyandotte Cave 144.79 321 ePKIKP PKPab 05 31 46.1 -0.5
WCI Wyandotte Cave 144.79 321 ePKPdf PKPab 05 31 46.1 -0.5
BLMT Blacktail Moun 144.81 1 ePKPdf PKPab 05 31 46.2 -0.4
C09A Chrisman Ranch 144.82 5 ePKPdf PKPbc 05 31 46.5 +0.1
L40A Anamosa 144.83 330 P PKPab 05 31 45.2 -1.4
baz=40
J37A Redenius Farm, 144.91 334 P PKPab 05 31 46.1 -0.7
baz=36
D05A Enumclaw 144.94 10 ePKPdf PKPdf 05 31 47.5 -0.2
HDIL Hopedale 144.96 327 P PKPab 05 31 46.1 -1.0
baz=44
HDIL Hopedale 144.96 327 ePKPdf PKPab 05 31 46.6 -0.5
F29A Eureka 144.96 343 P PKPab 05 31 45.5 -1.4
baz=24
BSMT Bassoo Peak 144.97 1 ePKPdf PKPab 05 31 46.9 -0.2
H33A Prehn Over Nor 145.00 339 P PKPab 05 31 46.2 -1.0
baz=30
G31A Conde 145.02 341 P PKPbc 05 31 46.4 -0.8
baz=27
E26A Carlson Angus 145.04 346 P PKPab 05 31 47.4 +0.1
baz=19
I35A Creekview Farm 145.04 336 P PKPbc 05 31 46.3 -1.0
baz=33
JTMT Jette 145.08 1 ePKPbc PKPbc 05 31 47.3 -0.2
K38A Parkersburg 145.09 333 P PKPbc 05 31 46.5 -1.0
baz=37
L39A Vinton 145.15 331 P PKPbc 05 31 46.5 -1.2
baz=39
J36A Seneca 1, Swea 145.22 335 P PKPbc 05 31 46.7 -1.2
baz=34
I34A Hadley 145.23 337 P PKPbc 05 31 47.2 -0.8
baz=31
E03A Lebam 145.27 12 ePKPbc PKPdf 05 31 49.1 +0.8
CPCT Cooper Cave 145.28 316 ePKPbc PKPbc 05 31 48.3 0.0
SWMT Swartz Lake 145.32 0 ePKPbc PKPbc 05 31 47.9 -0.3
K37A Belmond 145.38 334 P PKPbc 05 31 47.7 -0.8
baz=36
G30A Faulkton 145.40 342 P PKPbc 05 31 47.2 -1.2
baz=25
H32A Carlson Farm, 145.40 339 P PKPbc 05 31 47.9 -0.6
baz=29
LON Longmire 145.40 10 ePKIKP PKPbc 05 31 48.3 -0.1
LON Longmire 145.40 10 ePKPbc PKPbc 05 31 48.3 -0.1
J35A Milford 145.54 336 P PKPdf 05 31 48.3 -0.6
baz=33
OLIL Olney 145.54 323 ePKPdf PKPdf 05 31 48.7 -0.2
LAO LASA Array 145.56 351 P PKPab 05 31 49.2 0.0
baz=13
LAO LASA Array 145.56 351 ePKPdf PKPab 05 31 49.8 +0.6
I33A Coleman 145.57 338 P PKPdf 05 31 48.7 -0.2
baz=30
G29A Hoven 145.57 343 P PKPdf 05 31 48.2 -0.7
baz=24
L38A Oak Wood Farm, 145.58 332 P PKPdf 05 31 48.2 -0.7
baz=38
GOGA Godfrey 145.59 312 ePKIKP PKPbc 05 31 49.4 0.0
GOGA Godfrey 145.59 312 ePKPdf PKPbc 05 31 49.4 0.0
O42A Bath 145.63 327 P PKPdf 05 31 48.9 -0.2
baz=44
M39A Webster 145.73 331 P PKPdf 05 31 48.6 -0.6
baz=39
H31A Wolsey 145.77 340 P PKPdf 05 31 48.6 -0.6
baz=27
ECSD EROS Data Cent 145.77 338 P PKPdf 05 31 49.1 -0.1
baz=30
ECSD EROS Data Cent 145.77 338 ePKPdf PKPdf 05 31 49.1 -0.1
USIN University of 145.79 322 ePKPdf PKPdf 05 31 48.4 -1.0
F04D Rainier, OR 145.82 12 P PKPdf 05 31 48.9 -0.3
baz=344
I32A Karley and Nic 145.82 339 P PKPdf 05 31 49.2 -0.2
baz=29
K36A Gilmore City 145.84 334 P PKPdf 05 31 49.0 -0.4
baz=35
SCIA State Center 145.88 332 ePKPdf PKPbc 05 31 49.9 -0.2
J34A George 145.91 337 P PKPdf 05 31 49.4 -0.1
baz=32
CHMT Chamberlain Mo 145.91 359 ePKPdf PKPbc 05 31 50.0 -0.2
L37A Phoenix Point, 145.95 333 P PKPdf 05 31 49.1 -0.5
baz=36
SUSD Miller 145.95 341 P PKPdf 05 31 49.5 -0.1
baz=26
Q44A Meyer Farm, Va 145.96 324 P PKPdf 05 31 49.8 +0.1
baz=46
MSO Missoula 146.00 0 P PKPdf 05 31 49.4 -0.3
baz=360
MSO Missoula 146.00 0 ePKPdf PKPdf 05 31 49.9 +0.2
HAWA Hanford 146.08 7 ePKPdf PKPbc 05 31 50.6 +0.1
F04A Amboy 146.08 11 ePKPdf PKPab 05 31 50.9 -0.1
HRY Holter Researc 146.08 358 ePKPdf PKPbc 05 31 50.8 +0.1
K35A Storm Lake 146.09 335 P PKPdf 05 31 49.4 -0.4
baz=34
E09A Wood Farm, Sta 146.11 6 ePKPdf PKPab 05 31 51.1 0.0
O41A Passleys Farm, 146.11 328 P PKPdf 05 31 49.8 -0.1
baz=42
I31A Royce, Wessing 146.19 340 P PKPdf 05 31 50.1 +0.1
baz=27
P42A Winchester 146.21 327 P PKPdf 05 31 50.3 +0.2
baz=44
J33A Davis 146.26 338 P PKPdf 05 31 50.1 0.0
baz=30
M38A Pleasantville 146.26 332 P PKPdf 05 31 49.7 -0.4
baz=38
Q43A New Douglas 146.32 325 P PKPbc 05 31 51.3 -0.2
baz=46
N39A Derby Farms, D 146.35 330 P PKPdf 05 31 50.0 -0.3
baz=39
SWET Sewanee 146.36 316 ePKPdf PKPbc 05 31 51.7 -0.1
L36A Harm Buss Farm 146.37 334 P PKPdf 05 31 50.3 0.0
baz=35
R44A Waltonville 146.44 324 P PKPdf 05 31 50.9 +0.4
baz=47
K34A Le Mars 146.47 336 P PKPdf 05 31 50.6 +0.1
baz=32
S45A Carrier Mills 146.53 322 P PKPbc 05 31 51.9 -0.2
baz=48
P41A Barry, Barry 146.53 327 P PKPbc 05 31 51.4 -0.6
baz=43
J32A Parkston 146.53 339 P PKPdf 05 31 51.2 +0.6
baz=29
O40A La Belle 146.62 329 P PKPbc 05 31 52.0 -0.3
baz=41
TIGA Tifton 146.62 309 ePKPdf PKPbc 05 31 52.2 -0.4
M37A Trindle Farm, 146.66 333 P PKPbc 05 31 51.8 -0.6
baz=36
F10A Beach Ranch, E 146.72 4 ePKPdf PKPbc 05 31 52.6 +0.1
L35A Bielow Farm, R 146.73 335 P PKPdf 05 31 50.9 0.0
baz=34
I29A Vivian Onida 146.75 342 P PKPdf 05 31 51.6 +0.7
baz=24
N38A Joes South For 146.77 331 P PKPdf 05 31 51.8 +0.8
baz=38
Q42A Golden Eagle 146.80 326 P PKPbc 05 31 52.5 -0.3
baz=44
SLM Saint Louis 146.83 325 ePKP2 PKPbc 05 31 52.6 -0.3
SLM Saint Louis 146.83 325 ePKPdf PKPbc 05 31 52.6 -0.3
O39A Kirksville 146.85 330 P PKPbc 05 31 52.6 -0.4
baz=40
GCMT Greycliff 146.86 355 ePKPbc PKPab 05 31 53.7 -0.5
SIUC Southern Illin 146.88 323 ePKPdf PKPbc 05 31 52.7 -0.4
J31A Geddes 146.91 340 P PKPbc 05 31 52.9 -0.1
baz=27
S44A Carbondale 146.92 323 P PKPbc 05 31 53.1 -0.1
baz=48
G05D Wamic, OR 146.94 10 P PKPbc 05 31 52.9 -0.2
baz=346
M36A Felix, Anita 146.95 333 P PKPdf 05 31 51.9 +0.6
baz=35
LRM Limekiln Ridge 146.99 358 ePKPdf PKPbc 05 31 53.1 -0.4
H25A Fruitdale 147.05 347 P PKPbc 05 31 52.7 -0.8
baz=18
WVT Waverly 147.06 319 ePKP2 PKPdf 05 31 52.5 +0.9
WVT Waverly 147.06 319 ePKPdf PKPdf 05 31 52.5 +0.9
J30A Dallas 147.13 341 P PKPdf 05 31 52.6 +1.0
baz=26
BOZ Bozeman (W) 147.14 357 P PKPdf 05 31 52.7 +1.0
baz=3.6
BOZ Bozeman (W) 147.14 357 ePKP2 PKPbc 05 31 54.2 +0.4
BOZ Bozeman (W) 147.14 357 ePKPbc PKPbc 05 31 54.2 +0.4
P40A Paris 147.15 328 P PKPdf 05 31 52.1 +0.5
baz=41
L34A Svendsen Farm, 147.19 336 P PKPdf 05 31 52.4 +0.7
baz=32
K32A Verdigre 147.20 338 P PKPdf 05 31 52.1 +0.4
baz=29
G08A Pilot Rock 147.23 7 ePKPbc PKPbc 05 31 54.7 +0.7
N37A Lee Faris, Mou 147.25 332 P PKPdf 05 31 52.6 +0.8
baz=37
M35A Neola 147.32 335 P PKPbc 05 31 53.7 -0.5
baz=34
L33A Hoskins 147.37 337 P PKPdf 05 31 53.2 +1.2
baz=31
O38A Galt 147.41 331 P PKPbc 05 31 53.6 -0.9
baz=39
DLMT Dillon 147.45 359 ePKPbc PKPbc 05 31 54.5 -0.2
S43A Fulton Ridge, 147.48 324 P PKPbc 05 31 54.6 -0.3
baz=46
RLMT Red Lodge 147.49 354 P PKPbc 05 31 55.0 +0.1
baz=7.9
RLMT Red Lodge 147.49 354 ePKPdf PKPbc 05 31 55.5 +0.6
K31A O'Neill 147.51 339 P PKPbc 05 31 54.4 -0.3
baz=28
P39B Salisbury 147.54 329 P PKPbc 05 31 54.3 -0.6
baz=40
N36A Muff Farm, Cla 147.54 333 P PKPbc 05 31 54.4 -0.5
baz=36
Q40A Laux Farm, Aux 147.56 328 P PKPbc 05 31 53.9 -1.1
baz=42
UTMT University of 147.57 321 ePKPbc PKPbc 05 31 54.9 -0.2
RSSD Black Hills 147.62 347 P PKPdf 05 31 53.0 +0.3
baz=18
RSSD Black Hills 147.62 347 ePKP2 PKPbc 05 31 54.9 -0.4
RSSD Black Hills 147.62 347 ePKPbc PKPbc 05 31 54.9 -0.4
M34A Aspy Farms, Fr 147.66 336 P PKPdf 05 31 53.6 +1.1
baz=32
O37A Wolven Farm, M 147.69 331 P PKPbc 05 31 54.2 -1.2
baz=38
K30A Basset 147.75 340 P PKPbc 05 31 54.5 -0.9
baz=26
L32A Elgin 147.78 338 P PKPbc 05 31 55.0 -0.6
baz=30
N35A Tabor 147.80 334 P PKPbc 05 31 54.5 -1.1
baz=34
P38A Dawn 147.82 330 P PKPdf 05 31 54.1 +1.3
baz=39
BMO Blue Mountains 147.83 5 ePKIKP PKPbc 05 31 55.2 -0.5
BMO Blue Mountains 147.83 5 ePKPbc PKPbc 05 31 55.2 -0.5
M33A Taylor Creek F 147.84 336 P PKPbc 05 31 54.4 -1.3
baz=31
PARMO Parma 147.90 322 ePKPbc PKPbc 05 31 55.5 -0.5
L31A Butterfield Fa 147.93 339 P PKPbc 05 31 55.1 -0.8
baz=28
YHH Holmes Hill 147.95 356 ePKPbc PKPbc 05 31 56.9 +0.6
Q39A Willow Grove F 147.99 329 P PKPdf 05 31 54.3 +1.3
baz=40
MCMT McKenzie Canyo 147.99 359 ePKPdf PKPbc 05 31 56.8 +0.4
O36A Bolckow 148.10 332 P PKPbc 05 31 55.3 -1.1
baz=36
I04A Tendick Farm, 148.14 12 P PKPbc 05 31 56.1 -0.3
baz=344
R40A Maddies Statio 148.18 327 P PKPdf 05 31 55.1 +1.6
baz=42
N34A Lincoln 148.19 335 P PKPbc 05 31 55.6 -1.1
baz=33
PBMO Poplar Bluff 148.22 323 ePKPbc PKPbc 05 31 56.4 -0.5
YFT Old Faithful 148.28 356 ePKPbc PKPab 05 32 00.2 +0.1
H17A Grant Village 148.32 356 ePKPbc PKPab 05 31 59.8 -0.5
BGNE Belgrade 148.35 337 P PKPbc 05 31 55.9 -1.2
baz=30
BGNE Belgrade 148.35 337 ePKPbc PKPbc 05 31 56.3 -0.8
Q38A Cooks Store, C 148.38 329 P PKPbc 05 31 55.6 -1.6
baz=40
O35A Humboldt 148.41 333 P PKPbc 05 31 56.1 -1.1
baz=34

S41A	Jillco Farms, baz=44	148.41	325	P		PKPbc	05 31 56.5	-0.8
Y47A	UCPARC, Winfie baz=54	148.41	316	P		PKPbc	05 31 56.2	-1.2
YPP	Pitchstone Pla	148.46	356	*e*PKPbc		PKPab	05 32 00.1	-0.7
P36A	Good Intent, A baz=36	148.62	332	P		PKPbc	05 31 56.4	-1.4
M31A	Lambtecht Ranc baz=28	148.71	338	P		PKPbc	05 31 57.4	-0.6
T41A	Mountain View baz=44	148.81	325	P		PKPbc	05 31 57.4	-0.9
O34A	Beatrice baz=33	148.81	334	P		PKPbc	05 31 57.2	-1.1
S40A	Lebanon baz=43	148.82	326	P		PKPbc	05 31 57.7	-0.7
IMW	Indian Meadow	148.84	356	*e*PKPbc		PKPbc	05 31 59.4	+0.8
Q37A	Longview Farm, baz=38	148.85	330	P		PKPbc	05 31 57.4	-1.0
J05D	Fort Rock, OR baz=346	148.86	11	P		PKPbc	05 31 58.5	0.0
N32A	Stulken Farm, baz=30	148.96	337	P		PKPbc	05 31 57.9	-0.7
Z47A	Carrollton baz=55	148.97	315	P		PKPbc	05 31 58.3	-0.6
MOOW	Moose Ponds	148.98	356	*e*PKPbc		PKPbc	05 31 59.5	+0.6
U42A	Revenden baz=46	148.99	323	P		PKPbc	05 31 58.4	-0.5
Y46A	Houston baz=53	149.10	317	P		PKPbc	05 31 58.4	-0.8
LOHW	Long Hollow	149.10	356	*e*PKPbc		PKPbc	05 32 00.1	+0.9
FXWY	Fox Creek	149.10	356	*e*PKPbc		PKPbc	05 31 59.9	+0.7
R38A	Fenwick Farm, baz=40	149.11	329	P		PKPbc	05 31 58.1	-1.0
T40A	Mansfield baz=43	149.15	326	P		PKPbc	05 31 59.0	-0.2
HUMO	Hull Mountain	149.16	13	*e*PKPbc		PKPbc	05 32 00.0	+0.9
S39A	Bolivar baz=41	149.19	327	P		PKPbc	05 31 58.4	-0.9
TPAW	Teton Pass	149.25	356	*e*PKPbc		PKPbc	05 32 00.7	+1.1
HLID	Hailey baz=358	149.26	1	P		PKPbc	05 31 59.1	-0.5
HLID	Hailey	149.26	1	*e*PKPbc		PKPbc	05 31 59.4	-0.2
SNOW	Snow King Moun	149.26	356	*e*PKPbc		PKPbc	05 32 00.8	+1.1
O33A	Hebron baz=32	149.27	335	P		PKPbc	05 31 57.9	-1.5
248A	Dixon Mills baz=57	149.35	313	P		PKPbc	05 31 59.2	-0.7
MFID	Camas Ranch	149.36	3	*e*PKPbc		PKPbc	05 32 00.2	+0.5
REDW	Red Top Meadow	149.37	356	*e*PKPbc		PKPbc	05 32 00.3	+0.4
O32A	Brockman Farm, baz=30	149.39	336	P		PKPbc	05 31 58.5	-1.2
U41A	Viola baz=45	149.39	324	P		PKPbc	05 31 58.5	-1.4
P34A	Walnut Farm, R baz=34	149.40	334	P		PKPbc	05 31 58.5	-1.2
147A	Livingston baz=55	149.40	315	P		PKPbc	05 31 59.9	-0.1
V42A	Cord baz=47	149.45	323	P		PKPbc	05 31 59.3	-0.7
K05A	Summer Lake	149.46	10	*e*PKPbc		PKPbc	05 32 01.0	+0.9
R37A	Teagarden Farm baz=38	149.47	330	P		PKPbc	05 31 58.8	-1.2
K22A	Casper baz=14	149.53	350	P		PKPbc	05 31 59.2	-1.0
K22A	Casper	149.53	350	*e*PKPbc		PKPbc	05 31 59.6	-0.6
S38A	Stockton baz=40	149.54	328	P		PKPbc	05 31 59.3	-0.9
X44A	Crenshaw baz=50	149.55	319	P		PKPbc	05 32 00.2	-0.1
Z46A	Louisville baz=54	149.56	316	P		PKPbc	05 32 00.4	+0.1
Q35A	Mercer Eighty, baz=36	149.61	332	P		PKPbc	05 31 58.9	-1.4
KSU1	Kansas State U baz=34	149.67	333	P		PKPbc	05 31 59.0	-1.5
KSU1	Kansas State U	149.67	333	*e*PKPbc		PKPbc	05 31 60.0	-0.5
T39A	Clever baz=42	149.71	327	P		PKPbc	05 32 00.0	-0.6
R36A	Gordon, Harris baz=37	149.79	331	P		PKPbc	05 32 00.1	-0.7
348A	Jackson baz=58	149.84	312	P		PKPbc	05 32 00.8	-0.3
BW06	Boulder Array baz=7.9	149.85	354	P		PKPbc	05 32 00.4	-0.7
BW06	Boulder Array	149.85	354	*e*PKPdf		PKPdf	05 31 55.5	-0.8
BW06				*e*PKPbc		PKPbc	05 32 00.5	-0.6
BW06				*e*PKPab		PKPab	05 32 07.4	+0.9
PDAR	Pinedale Array	149.85	354	PKP		PKPdf	05 31 56.2	-0.1
PDAR	comp=Z,3.5nm,0.8s,baz=117,slow=0.3,SNR=6.9			PKPbc		PKPbc	05 32 00.9	-0.2
P33A	comp=Z,5.1nm,0.7s,baz=48,slow=2.2,SNR=30 Williams, baz=32	149.86	335	P		PKPbc	05 32 00.3	-0.6
S37A	Fort Scott baz=39	149.91	329	P		PKPbc	05 31 60.0	-1.1
U40A	Yellville baz=44	149.91	325	P		PKPbc	05 32 01.0	-0.1
V41A	Mountainview baz=45	149.92	323	P		PKPbc	05 32 00.8	-0.4
Z45A	Winona baz=52	149.96	317	P		PKPbc	05 32 01.1	-0.3
Q34A	Chapman baz=34	149.97	333	P		PKPbc	05 32 00.8	-0.4
146A	Union baz=54	149.97	315	P		PKPbc	05 32 01.1	-0.3
AHID	Auburn Hatcher	149.98	356	*e*PKPbc		PKPbc	05 32 01.6	+0.2
247A	Quitman baz=56	149.99	314	P		PKPbc	05 32 01.3	-0.1
X43A	Marvell baz=49	150.00	320	P		PKPbc	05 32 01.5	+0.1
448A	Bay Minette baz=58	150.06	311	P		PKPbc	05 32 01.7	0.0
OGNE	Ogallala baz=23	150.08	342	P		PKPbc	05 32 00.5	-1.0
WVOR	Wild Horse Val	150.09	7	*e*PKP2		PKPbc	05 32 01.4	-0.1
WVOR	Wild Horse Val	150.09	7	*e*PKPbc		PKPbc	05 32 01.4	-0.1
R35A	Emporia Munici baz=36	150.12	332	P		PKPbc	05 32 01.4	-0.1
M04C	Macdoel baz=344	150.19	12	P		PKPbc	05 32 01.7	-0.2
T38A	Diamond baz=40	150.19	328	P		PKPbc	05 32 00.9	-0.8
U39A	Green Forest baz=43	150.24	326	P		PKPbc	05 32 01.4	-0.5
Q33A	Connelly Farm, baz=32	150.28	335	P		PKPbc	05 32 00.8	-1.2
V40A	Witts Springs baz=44	150.29	324	P		PKPbc	05 32 01.4	-0.7
S36A	Lake Cedric, C baz=38	150.31	330	P		PKPbc	05 32 00.9	-1.1
MOD	Modoc Plateau	150.36	10	*e*PKPbc		PKPbc	05 32 03.0	+0.8
X201	Greenbrier Sit	150.38	323	*e*PKPbc		PKPbc	05 32 03.6	+1.3
W41B	Gary Mavity, V baz=46	150.40	323	P		PKPbc	05 32 02.1	-0.2
Y43A	Makayla and Ka baz=50	150.43	319	P		PKPbc	05 32 01.8	-0.6
T37A	Cheneyville 18 baz=39	150.44	329	P		PKPbc	05 32 01.8	-0.6
HHAR	Hobbs	150.56	326	*e*PKPbc		PKPbc	05 32 02.3	-0.4
145A	Houston Renfro baz=53	150.58	316	P		PKPbc	05 32 02.7	-0.1
Q32A	Meitler Ranch, baz=31	150.59	336	P		PKPbc	05 32 02.0	-0.8
R34A	Isabella, Hill baz=34	150.61	333	P		PKPbc	05 32 02.2	-0.6
PHWY	Pilot Hill	150.63	347	*e*PKPbc		PKPbc	05 32 03.0	-0.1
U38A	Gravette baz=41	150.69	327	P		PKPbc	05 32 02.0	-1.0
S35A	Otter Creek Ra baz=36	150.69	331	P		PKPbc	05 32 02.3	-0.6
UALR	University of	150.73	322	*e*PKPbc		PKPbc	05 32 02.9	-0.2
V39A	Pettigrew baz=43	150.73	325	P		PKPbc	05 32 02.5	-0.7
N02D	Trinity Center baz=342	150.77	14	P		PKPbc	05 32 03.5	+0.3
245A	Little AP, Sta baz=54	150.90	315	P		PKPbc	05 32 03.3	-0.3
144A	Alexander Plac baz=52	150.90	317	P		PKPbc	05 32 03.2	-0.3
R33A	Olander Ranch, baz=33	150.93	334	P		PKPbc	05 32 02.5	-1.1
CCAR	Cane Creek	150.95	320	*e*PKPbc		PKPbc	05 32 04.5	+0.9
346A	Big Creek Wild baz=55	150.97	314	P		PKPbc	05 32 02.8	-0.9
T36A	Boggs Farm, Ca baz=38	150.97	330	P		PKPbc	05 32 02.8	-0.9
Y42A	Garnett, Star baz=48	151.02	320	P		PKPbc	05 32 04.0	+0.2
X41A	Kaden, Bauxite baz=46	151.02	322	P		PKPbc	05 32 03.3	-0.5
HVU	Hansel Valley	151.04	359	*e*PKIKP		PKPbc	05 32 04.7	+0.8
HVU	Hansel Valley	151.04	359	*e*PKPbc		PKPbc	05 32 04.7	+0.8
S34A	Willow Spring baz=35	151.04	332	P		PKPbc	05 32 03.3	-0.5
U37A	Salina baz=40	151.09	328	P		PKPbc	05 32 03.4	-0.6
N23A	Red Feather La baz=16	151.12	348	P		PKPbc	05 32 04.3	0.0
N23A	Red Feather La	151.12	348	*e*PKPbc		PKPbc	05 32 04.5	+0.2
V38A	Canehill baz=42	151.13	326	P		PKPbc	05 32 03.4	-0.6
R32A	Long Quarter, baz=31	151.14	335	P		PKPbc	05 32 03.0	-1.0
HWUT	Hardware Ranch	151.16	357	*e*PKPbc		PKPbc	05 32 04.7	+0.5
CBKS	Cedar Bluff baz=29	151.21	337	P		PKPbc	05 32 03.8	-0.4
X40A	Basin Creek Fa baz=46	151.22	322	P		PKPbc	05 32 04.1	-0.2
W39A	Magazine baz=44	151.27	325	P		PKPbc	05 32 03.5	-0.9
T35A	Sooner Cattle baz=37	151.40	330	P		PKPbc	05 32 04.3	-0.3
345A	Thompson Farm, baz=55	151.41	314	P		PKPbc	05 32 04.2	-0.6
U36A	Oologah baz=39	151.42	329	P		PKPbc	05 32 04.5	-0.2
244A	Avery, Jackson baz=53	151.43	316	P		PKPbc	05 32 04.2	-0.7
Z42A	Norrel Spur, H baz=49	151.49	319	P		PKPbc	05 32 04.3	-0.6
Y41A	Eaglette Beard baz=47	151.50	321	P		PKPbc	05 32 04.7	-0.2
143A	Socs Landing, baz=51	151.50	318	P		PKPbc	05 32 04.8	-0.2
V37A	Hulbert baz=40	151.51	327	P		PKPbc	05 32 03.9	-1.0
S33A	Kaszmaul Farm, baz=33	151.53	333	P		PKPbc	05 32 04.6	-0.3
MIAR	Mount Ida baz=45	151.62	323	P		PKPbc	05 32 05.2	0.0
MIAR	Mount Ida	151.62	323	*e*PKIKP		PKPbc	05 32 04.7	-0.5
MIAR	Mount Ida	151.62	323	*e*PKPbc		PKPbc	05 32 04.7	-0.5
O03D	Paynes Creek baz=343	151.62	13	P		PKPbc	05 32 04.8	-0.4
T34A	McClaskey Farm baz=36	151.63	331	P		PKPbc	05 32 04.9	-0.3
TCUT	Toone Canyon	151.64	356	*e*PKPbc		PKPbc	05 32 06.0	+0.6
344A	Westbrook Farm baz=54	151.81	315	P		PKPbc	05 32 06.0	+0.2
Y40A	Okolona baz=46	151.81	322	P		PKPbc	05 32 05.8	+0.2
TUL1	Leonard baz=39	151.82	328	P		PKPbc	05 32 04.9	-0.7
TUL1	Leonard	151.82	328	*e*PKPbc		PKPbc	05 32 05.2	-0.5
S32A	Newby Ranch, P baz=32	151.84	335	P		PKPbc	05 32 05.4	-0.3
BGU	Big Grassy Mou	151.90	359	*e*PKPbc		PKPbc	05 32 05.3	-0.5
WLAR	White Oak Lake	151.93	321	*e*PKPbc		PKPbc	05 32 05.8	-0.1
X39A	Fountain Ranch baz=44	151.95	324	P		PKPbc	05 32 06.5	+0.6
V36A	Jenks baz=39	152.00	328	P		PKPbc	05 32 05.8	-0.3
KSCO	Kaye Shedlock' baz=23	152.03	341	P		PKPbc	05 32 06.0	-0.2
KSCO	Kaye Shedlock'	152.03	341	*e*PKPbc		PKPbc	05 32 06.2	-0.1
Z41A	Richland Creek baz=48	152.03	320	P		PKPbc	05 32 06.3	+0.1
ELK	Elko	152.05	2	*e*PKIKP		PKPbc	05 32 07.0	+0.7
ELK	Elko	152.05	2	*e*PKPbc		PKPbc	05 32 07.0	+0.7
T33A	Patterson Ranc baz=34	152.06	333	P		PKPbc	05 32 06.1	-0.1
CTU	Camp Tracy	152.08	357	*e*PKPbc		PKPbc	05 32 06.2	-0.1
ISCO	Idaho Springs baz=17	152.10	347	P		PKPbc	05 32 05.9	-0.7
JLU	Jordanelle	152.16	356	*e*PKPbc		PKPbc	05 32 07.6	+1.0
W37B	Quinton baz=41	152.22	327	P		PKPbc	05 32 06.3	-0.3
BMN	Battle Mountai	152.22	6	*e*PKIKP		PKPbc	05 32 07.0	+0.4
BMN	Battle Mountai	152.22	6	*e*PKPbc		PKPbc	05 32 07.0	+0.4
X38A	Whitesboro baz=42	152.24	325	P		PKPbc	05 32 06.9	+0.2
O20A	White River Ci baz=11	152.27	351	P		PKPbc	05 32 06.1	-0.7
O20A	White River Ci	152.27	351	*e*PKPbc		PKPbc	05 32 06.4	-0.4
T32A	Huddler Ranch, baz=32	152.28	334	P		PKPbc	05 32 06.6	-0.1
Y39A	Lockesburg baz=45	152.35	323	P		PKPbc	05 32 08.0	+1.1
Z40A	Long Farm, Mag baz=47	152.40	321	P		PKPbc	05 32 07.9	+0.8
U33A	Lingo Farm, Me baz=34	152.54	332	P		PKPbc	05 32 07.1	-0.2
DUG	Dugway, Tooele baz=1.8	152.62	359	P		PKPbc	05 32 07.2	-0.2
DUG	Dugway, Tooele	152.62	359	*e*PKIKP		PKPbc	05 32 07.3	-0.2
DUG	Dugway, Tooele	152.62	359	*e*PKPbc		PKPbc	05 32 07.3	-0.2
Q24A	Divide baz=18	152.78	345	P		PKPbc	05 32 07.6	-0.5
Q24A	Divide	152.78	345	*e*PKPbc		PKPbc	05 32 07.7	-0.4
SMCO	Snowmass	152.98	348	*e*PKPbc		PKPbc	05 32 08.9	+0.2
Y37A	Hugo baz=42	153.19	325	P		PKPbc	05 32 07.9	-0.9
LEVU	Levan	153.27	357	*e*PKPdf		PKPdf	05 32 00.8	-0.8
LEVU				*e*PKPab		PKPab	05 32 19.8	-1.0
341A	Kurthwood baz=50	153.53	318	P		PKPbc	05 32 08.6	-1.0
X35A	Drake baz=39	153.60	328	P		PKPbc	05 32 08.9	-0.8
Y36A	Durant baz=41	153.62	326	P		PKPbc	05 32 09.0	-0.7
Q16A	Castle Valley	153.81	356	*e*PKPbc		PKPbc	05 32 10.6	+0.3
SDCO	Great Sand Dun baz=18	154.02	345	P		PKPbc	05 32 09.2	-1.7
SDCO	Great Sand Dun	154.02	345	*e*PKPbc		PKPbc	05 32 10.7	-0.2
Z36A	Blue Ridge baz=41	154.17	325	P		PKPbc	05 32 10.1	-0.8
WMOK	Wichita Mounta baz=35	154.24	331	P		PKPbc	05 32 10.9	-0.2
X33A	Lawton baz=36	154.26	330	P		PKPbc	05 32 10.8	-0.3
137A	Heron Place, G baz=44	154.28	323	P		PKPbc	05 32 11.1	-0.1
PV01	Paradox Valley	154.28	351	*e*PKPab		PKPab	05 32 27.2	+2.2
T25A	Trinidad baz=21	154.30	343	P		PKPbc	05 32 09.7	-1.7
S22A	4UR Ranch, Cre baz=15	154.33	347	P		PKPbc	05 32 10.1	-1.4
S22A	4UR Ranch, Cre	154.33	347	*e*PKPab		PKPab	05 32 23.9	-1.5
R11A	Troy Canyon, C	154.42	3	*e*PKPab		PKPab	05 32 26.2	+0.7
ANMO	Albuquerque	156.92	345	*e*PKP2		PKPab	05 32 37.8	+1.4
ANMO	Albuquerque	156.92	345	*e*PKPab		PKPab	05 32 37.8	+1.4
WUAZ	Wupatki	157.21	355	*e*PKPab		PKPab	05 32 39.3	+1.7
LAZ	Ladron	157.61	346	*e*PKPab		PKPab	05 32 41.2	+1.9
BNM	Barren Site	157.72	344	*e*PKPab		PKPab	05 32 41.4	+1.5
X16A	Lo Mia Camp, P	158.30	355	*e*PKPab		PKPab	05 32 43.7	+1.4
MNTX	Cornudas Mount	159.62	339	*e*PKPdf		PKPdf	05 32 10.1	+0.3
TX31	Lajitas Ar. Si	161.02	332	*e*PKPab		PKPab	05 32 53.1	-1.1
TXAR	Lajitas Array	161.02	332	PKP		PKPdf	05 32 11.4	-0.1
TXAR	comp=Z,0.3nm,0.8s,baz=263,slow=1.0,SNR=4.1			PKPab		PKPab	05 32 52.8	-1.5
	comp=Z,1.0nm,0.8s,baz=64,slow=3.4,SNR=9.1							

BJI **24** *05:18:43.4, 12°.96S×65°.77E, h10km, mb5.0/51, mB5.5/18, Ms5.5/17, Ms7 5.4/17*

ISCJB **24** *05:18:47.4±0.2, 12°.65S±0°.04×66°.24E±0°.03, h10km, mb4.9/141, Error ellipse: s-maj=6.2km s-min=4.5km az=5.6*

MOS **24** *05:18:47.2±0.9, 12°.64S×66°.32E, h10km, mb5.2/66, Error ellipse: s-maj=8.3km s-min=5.0km az=100.1*

IDC **24** *05:18:47.0±0.4, 12°.73S×66°.38E, h0km, mb4.6/42, mb1 4.7/43, mb1mx4.7/44, mbtmp4.6/43, Error ellipse: s-maj=12.2km s-min=11.8km az=35.0*

NEIC **24** *05:18:49.0±0.1, 12°.70S×66°.22E±0°.06×***66°.22E±0°.06,h17km±3km,**
h17km:pP-P,n750,σ0**90**/752**,mb5.0**/141**,31C-5D,**
Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08N3	Diego Garcia H baz=215,slow=75,SNR=772	7.87	37	T		T	05 28 47.7	
H08N1	Diego Garcia H baz=215,slow=75,SNR=1385	7.89	37	T		T	05 28 48.0	
H08N2	Diego Garcia H baz=215,slow=75,SNR=1083	7.89	37	T		T	05 28 49.4	
H08S1	Diego Garcia H baz=230,slow=76,SNR=557	7.94	51	T		T	05 28 45.0	
H08S2	Diego Garcia H baz=230,slow=76,SNR=500	7.96	52	T		T	05 28 46.1	
H08S3	Diego Garcia H baz=230,slow=76,SNR=595	7.96	51	T		T	05 28 46.3	
OPO	Ambohidratompo baz=94,slow=14	19.23	250	P		Pn	05 23 16.3	+1.4
ABPO	Ambohimpanom	19.31	249	*e*P		Pn	05 23 16.7	+0.8
ABPO	comp=Z,83nm,1.6s			pmax		pmax		
ABPO	Ambohimpanom comp=Z,83nm,1.6s	19.31	249	*e*P		Pn	05 23 16.7	+0.8
PALK	Pallekele comp=Z,28nm,1.1s,baz=295,slow=3.0,SNR=5.2	24.51	37	P		P	05 24 09.4	+0.5
PALK	Pallekele comp=Z,134nm,1.3s	24.51	37	*e*P		P	05 24 11.5	+2.5
KMBO	Kilima Mbogo comp=Z,5.6nm,0.8s,baz=93,slow=7.4,SNR=10	30.92	290	P		P	05 25 08.5	+1.9
KMBO	Kilima Mbogo	30.92	290	*e*P		P	05 25 08.7	+2.0
KMBO	comp=Z,23nm,1.3s			pmax		pmax		
KMBO	Kilima Mbogo comp=Z,23nm,1.3s	30.92	290	*e*P		P	05 25 08.7	+2.0
GSI	Gunungsitoli	34.09	68	P		P	05 25 35.5	+1.3
GSI	Gunungsitoli comp=Z,149nm,1.5s	34.09	68	*e*P		P	05 25 35.5	+1.3
MLSI	Meulaboh, Aceh	34.40	63	P		P	05 25 36.2	-0.7
TPTI		34.60	65	P		P	05 25 38.1	-0.5
PPSI	Pulau Pagai	34.86	76	P		P	05 25 44.4	+3.5
KCSI	Kotacane, Aceh	35.24	65	P		P	05 25 46.3	+2.1
MNSI	Mandailing Nat	35.71	70	P		P	05 25 50.6	+2.4
TSI	Tuntungan	35.94	66	P		P	05 25 54.0	+3.9
PSI	Prapat	35.95	67	*e*P		P	05 25 50.9	+0.5
PSI	comp=Z,25nm,1.1s			pmax		pmax		
PSI	Prapat comp=Z,25nm,1.1s	35.95	67	*e*P		P	05 25 50.9	+0.5
WSAR	Wadi Sarin comp=Z,18nm,1.1s,baz=156,slow=5.3,SNR=4.9	36.48	348	P		P	05 25 55.0	+0.4
BKNI	Bangkinang	36.88	72	P		P	05 26 02.9	+4.7
LSZ	Lusaka	36.96	261	*e*P		P	05 26 00.0	+1.0
LSZ	comp=Z,129nm,1.4s			pmax		pmax		
LSZ	Lusaka comp=Z,129nm,1.4s	36.96	261	*e*P		P	05 26 00.0	+1.0
MNAI	Manna	37.22	80	P		P	05 26 03.5	+2.3
IPM	Ipoh comp=Z,33nm,1.2s	38.57	66	*e*P		P	05 26 13.1	+0.6
KULM	Kulim comp=Z,134nm,1.8s	38.60	64	*e*P		P	05 26 12.8	+0.1
UOSS	Minazif comp=Z,4.6nm,1.4s	38.66	345	*e*P		P	05 26 12.1	-1.0
CGJI	Cibinong	39.35	85	P		P	05 26 21.3	+2.3
MYKOM	Kota Tinggi comp=Z,53nm,1.5s	40.03	72	*e*P		P	05 26 25.5	+0.8
LBTB	Lobatse comp=Z,31nm,1.0s,baz=95,slow=7.9,SNR=13	40.19	246	P		P	05 26 26.6	+0.5
LBTB	Lobatse comp=Z,49nm,1.2s	40.19	246	*e*P		P	05 26 26.1	0.0
CISI	Cisompet, Garu comp=Z,204nm,1.8s	41.23	87	*e*P		P	05 26 35.4	+0.7
BOSA	Boshof comp=Z,22nm,1.1s,baz=89,slow=8.2,SNR=7.2	41.24	241	P		P	05 26 34.8	+0.1
BOSA	Boshof comp=Z,71nm,1.5s	41.24	241	*e*P		P	05 26 34.8	+0.1
SUKH	Sukhothai comp=Z,11nm,1.1s,comp=Z,117nm	44.59	48	P		P	05 27 03.3	+1.6
CM01	Chiang Mai Arr	44.71	47	*e*P		P	05 27 03.1	+0.4
CM31	Chiang Mai Arr	44.72	47	*e*P		P	05 27 04.2	+1.3
CMAR	Chiang Mai Arr comp=Z,1.8nm,0.3s,baz=238,slow=8.7,SNR=18	44.72	47	P		P	05 27 02.5	-0.4
CHTO	Chiang Mai comp=Z,567nm,1.1s	44.96	46	P		P	05 27 06.1	+1.4
CHTO	Chiang Mai	44.96	46	*e*P		P	05 27 05.3	+0.6
CHTO	comp=Z,36nm,1.4s			pmax		pmax		
CHTO	Chiang Mai comp=Z,36nm,1.4s	44.96	46	*e*P		P	05 27 05.3	+0.6
CMMT	Chiang Mai comp=Z,107nm,1.5s	44.96	46	P		P	05 27 06.0	+1.3
PBKT	Sadao Pong comp=Z,32nm,1.7s	45.01	51	P		P	05 27 06.5	+1.4
LAMP	Lampang comp=Z,5.1nm,0.9s	45.26	47	P		P	05 27 14.0	+6.9
CHAI	Chaiyaphum comp=Z,13nm,1.0s	45.38	52	P		P	05 27 09.3	+1.2
UTTA	Uttaradit comp=Z,10.0nm,1.0s,comp=Z,81nm	45.43	49	P		P	05 27 09.7	+1.3
KSM	Kuching comp=Z,69nm,1.7s	45.97	75	*e*P		P	05 27 14.0	+1.2
KBL	Kabul	47.05	3	*e*P		P	05 27 22.2	+1.0
KBL	comp=Z,52nm,1.2s			pmax		pmax		
KBL	Kabul comp=Z,52nm,1.2s	47.05	3	*e*P		P	05 27 22.2	+1.0
NONG	Nongkai comp=Z,32nm,2.1s,comp=Z,6μm	47.56	51	P		P	05 27 26.3	+1.1
SBUM	Sibu comp=Z,46nm,1.7s	48.09	75	*e*P		P	05 27 29.4	0.0
LSA	Lhasa	48.52	29	*e*P		P	05 27 34.2	+1.1
LSA	comp=Z,7.0nm,0.6s			pmax		pmax		
LSA	Lhasa comp=Z,7.2nm,0.6s	48.52	29	*e*P		P	05 27 34.2	+1.1
H01W3	Cape Leeuwin H baz=286,slow=75,SNR=28	48.55	126	T		T	06 19 25.4	
H01W2	Cape Leeuwin H baz=286,slow=75,SNR=27	48.57	126	T		T	06 19 28.8	
H01W1	Cape Leeuwin H baz=286,slow=75,SNR=23	48.57	126	T		T	06 19 30.4	
GEYT	Alibeck comp=Z,1.5nm,0.3s,baz=184,slow=7.1,SNR=4.1	50.93	352	P		P	05 27 51.0	+0.4
KMI	Kunming	51.78	43	P		P	05 27 58.4	+0.9
KMI	comp=Z,15nm,0.9s			PMZ				
EIL	Elat comp=Z,2.1nm,0.5s,baz=143,slow=6.1,SNR=5.6	51.80	325	P		P	05 27 57.6	+0.3
ASF	Jabal al Asfar comp=Z,6.2nm,1.0s,baz=103,slow=4.5,SNR=8.1	52.71	329	P		P	05 28 05.5	+1.4
KSH	Kashi	52.73	9	P		P	05 28 01.5	-2.7
KSH				pP		pP	05 28 05.4	-4.4
KSH				PcP		PcP	05 29 12.6	-1.2
KSH				PP		PP	05 30 02.1	-1.7
KSH				S		S	05 35 26.1	-5.5
KSH				ScS		ScS	05 37 47.4	-6.1
KSH	comp=Z,69nm,1.3s			PMZ				
KSH	comp=Z,690nm,11.6s			LN				
KSH	comp=Z,410nm,11.3s			LE				
KSH	comp=Z,1μm,12.1s			LZ				
KAPI	Kappang comp=Z,32nm,1.3s	53.36	87	*e*P		P	05 28 08.1	-1.2
MMAI	Mount Meron Ar comp=Z,0.4nm,0.2s,baz=120,slow=5.2,SNR=5.2	54.14	328	P		P	05 28 15.8	+1.1
MAW	Mawson comp=Z,16nm,1.1s,baz=11,slow=11,SNR=12	54.90	182	P		P	05 28 19.4	-0.2
MAW	Mawson	54.90	182	*e*P		P	05 28 19.6	0.0
MAW	comp=Z,8.0nm,1.4s			pmax		pmax		
MAW	Mawson comp=Z,8.0nm,1.4s	54.90	182	*e*P		P	05 28 19.6	0.0
MYLDM	Lahad Datu comp=Z,36nm,1.3s	54.90	74	*e*P		P	05 28 21.5	+1.1
MMRI	Maumere comp=Z,349nm,2.0s	55.12	92	*e*P		P	05 28 21.9	-0.2
MNAS	Manas	55.21	6	P		P	05 28 22.1	-0.2
MNAS	comp=Z,25nm,1.0s			pmax		pmax		
GYA	Guiyang	55.32	45	*i*P		P	05 28 22.9	-0.5
GYA				PP		PP	05 30 31.0	+3.7
GYA				S		S	05 36 09

comp=Z,580nm,17.8s
GYA LE
comp=Z,540nm,18.0s
GYA LZ
comp=Z,560nm,18.2s
EKS2 Erkin-Say 55.52 7 *e*P **P 05 28 24.7 +0.2**
EKS2 pmax pmax
comp=Z,58nm,1.3s
EKS2 Erkin-Say 55.52 7 *e*P **P 05 28 24.7 +0.2**
comp=Z,58nm,1.3s
AAK Ala-Archa 55.58 7 P **P 05 28 25.0 0.0**
comp=Z,8.5nm,1.1s,baz=188,slow=8.8,SNR=17
AAK Ala-Archa 55.58 7⇑ *i*P **P 05 28 25.1 +0.1**
AAK pmax pmax
comp=Z,52nm,1.4s
AAK Ala-Archa 55.58 7 *e*P **P 05 28 25.3 +0.3**
comp=Z,46nm,1.4s
KKAR Karatay Array 55.66 4 *e*P **P 05 28 24.9 -0.5**
KKAR Karatay Array 55.66 4 *e*P **P 05 28 24.9 -0.5**
TKM2 Tokmak 2 56.01 8 *e*P **P 05 28 27.5 -0.6**
TKM2 pmax pmax
comp=Z,20nm,0.9s
TKM2 Tokmak 2 56.01 8 *e*P **P 05 28 27.5 -0.6**
comp=Z,20nm,0.9s
GNI Garni 56.23 340 P **P 05 28 31.1 +1.4**
comp=Z,4.4nm,0.4s,baz=163,slow=5.9,SNR=7.5
GNI Garni 56.23 340⇑ *e*P **P 05 28 30.9 +1.2**
GNI pmax pmax
comp=Z,88nm,1.1s
GNI Garni 56.23 340 *e*P **P 05 28 31.0 +1.2**
comp=Z,133nm,1.6s
CD2 Chengdu 56.40 39 *e*P **P 05 28 31.0 +0.1**
CD2 pP pP 05 28 34.3 -2.2
CD2 sP sP 05 28 35.5 -3.2
CD2 PcS **PcS 05 33 28.1 -0.6**
CD2 S **S 05 36 23.5 +2.4**
CD2 sS sS 05 36 28.9 -1.4
CD2 SS **SS 05 40 12.3 +3.7**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.8s
PDGK Podgornoye 57.05 12 P **P 05 28 34.4 -0.9**
PDGK pmax pmax
comp=Z,32nm,1.0s
SYO Syowa Base 58.80 191⇑ *e*X **P 05 28 45.2 -2.0**
SYO Syowa Base 58.80 191⇓ *e*pP pP 05 28 50.4 -2.4
ZEI Tsey 58.88 341 *e*P **P 05 28 48.4 0.0**
ZEI pmax pmax
comp=Z,62nm,1.3s
WMQ Urumqi 59.56 18 P **P 05 28 53.0 +0.1**
WMQ pP pP 05 28 58.0 -0.5
WMQ sP sP 05 29 00.0 -0.6
WMQ PMZ
comp=Z,28nm,1.2s
WMQ LN
comp=Z,2μm,17.6s
WMQ LE
comp=Z,2μm,17.6s
WMQ LZ
comp=Z,2μm,24.6s
ENH Enshi 59.66 43 *e*P **P 05 28 52.8 -1.0**
comp=Z,63nm,1.3s
KBZ Khabaz 60.05 341 P **P 05 28 56.5 +0.4**
comp=Z,1.7nm,0.9s,baz=158,slow=5.4,SNR=2.5
LZH Lanzhou 60.13 35 *e*P **P 05 28 57.6 +0.5**
LZH pP pP 05 29 00.3 -2.5
LZH sP sP 05 29 02.4 -2.5
LZH PMZ
comp=Z,15nm,1.0s
BRTR Keskin Array B 60.32 331 P **P 05 28 58.5 +0.2**
comp=Z,6.5nm,1.1s,baz=152,slow=8.2,SNR=19
BR131 Keskin Array S 60.32 331 *e*P **P 05 28 58.3 0.0**
KIV Kislovodsk 60.32 341 *i*P **P 05 28 59.5 +1.3**
KIV *i* 05 29 42.8
KIV *i* 05 31 17.7
KIV pmax pmax
comp=Z,12nm,1.0s
GTA Gaotai 60.55 29 P **P 05 28 59.4 -0.5**
GTA pP pP 05 29 05.3 -0.2
GTA sP sP 05 29 08.1 +0.5
GTA PMZ
comp=Z,19nm,1.7s
BR231 Keskin MP Arra 60.81 331 *e*P **P 05 28 59.2 -2.5**
ANTO Ankara 60.83 331 *e*P **P 05 29 01.8 +0.1**
ANTO pmax pmax
comp=Z,15nm,1.0s
ANTO Ankara 60.83 331 *e*P **P 05 29 01.8 +0.1**
comp=Z,15nm,1.0s
MAKZ Makanchi 60.90 12 *e*P **P 05 29 01.3 -0.6**
MAKZ pmax pmax
comp=Z,45nm,1.3s
MAKZ Makanchi 60.90 12 *e*P **P 05 29 01.3 -0.6**
comp=Z,45nm,1.3s
OTUK Ortayu 60.91 5 P **P 05 29 01.8 -0.2**
OTUK pmax pmax
comp=Z,51nm,1.5s
MK01 Makanchi Array 60.93 13 *e*P **P 05 29 00.8 -1.4**
MK31 Makanchi Array 60.95 13 *e*P **P 05 29 01.6 -0.7**
MK31 Makanchi Array 60.95 13 *e*P **P 05 29 01.6 -0.7**
MKAR Makanchi Array 60.95 13 P **P 05 29 01.3 -1.0**
comp=Z,17nm,1.2s,baz=199,slow=6.4,SNR=47
MKAR Makanchi Array 60.95 13 *e*P **P 05 29 01.6 -0.7**
MKAR Makanchi Array 60.95 13 *e*P **P 05 29 01.6 -0.7**
GOF Gofitskoye 61.20 341⇑ *e*P **P 05 29 03.7 -0.3**
GOF pmax pmax
comp=Z,40nm,1.3s
IDI Anoyia 61.71 322 P **P 05 29 08.9 +1.1**
comp=Z,33nm,1.1s,baz=161,slow=8.0,SNR=4.5
XAN Xi'an 61.72 40 P **P 05 29 06.9 -0.9**
XAN pP pP 05 29 12.9 -0.5
XAN PMZ
comp=Z,24nm,1.8s
AB31 Akbulak array 61.93 355 *i*P **P 05 29 08.0 -0.8**
AB31 pmax pmax
comp=Z,61nm,1.4s
ABKAR Akbulak array 61.93 355 *e*P **P 05 29 08.4 -0.4**
ANN Anapa 62.90 337 *e*P **P 05 29 15.0 -0.4**
ANN pmax pmax
comp=Z,23nm,0.9s
WHN Wuhan 63.16 46⇑ P **P 05 29 17.6 +0.2**
KURBB Kurchatov Arra 63.96 9 P **P 05 29 21.9 -0.4**
comp=Z,3.6nm,0.2s,baz=204,slow=7.0,SNR=30
KURK Kurchatov 64.06 9⇓ *e*P **P 05 29 22.5 -0.5**
KURK pmax pmax
comp=Z,99nm,1.7s
KURK Kurchatov 64.06 9 *e*P **P 05 29 22.2 -0.8**
comp=Z,268nm,1.7s
ASAR Alice Springs 64.73 110 P **P 05 29 26.6 -1.6**
comp=Z,3.7nm,0.7s,baz=268,slow=6.1,SNR=24
AS31 Alice Springs 64.73 110 *e*P **P 05 29 26.9 -1.2**
comp=Z,3.2nm,1.0s
AS01 Alice Springs 64.78 110 *e*P **P 05 29 27.0 -1.4**
VOSK Vostochnaya 65.28 3 *e*P **P 05 29 30.1 -0.8**
VOSK pmax pmax
comp=Z,9.0nm,0.9s
VOSK Vostochnaya 65.28 3 *e*P **P 05 29 30.1 -0.8**
comp=Z,9.3nm,0.9s
WRA Warramunga Arr 65.41 106 P **P 05 29 31.4 -1.1**
comp=Z,17nm,1.2s,baz=272,slow=6.0,SNR=23
WRAB Tennant Creek 65.42 106⇑ *e*P **P 05 29 32.3 -0.3**
WRAB pmax pmax
comp=Z,97nm,1.7s
WRAB Tennant Creek 65.42 106 *e*P **P 05 29 30.9 -1.7**
comp=Z,122nm,1.9s
WB2 Warramunga Arr 65.42 106 *e*P **P 05 29 31.9 -0.7**
comp=Z,125nm,1.9s
ZRNK Zerenda 65.42 2 *e*P **P 05 29 31.1 -0.7**
ZRNK pmax pmax
comp=Z,50nm,1.4s
ZRNK Zerenda 65.42 2 *e*P **P 05 29 31.1 -0.7**
comp=Z,50nm,1.4s
WC3 Warramunga Arr 65.44 106 *e*P **P 05 29 32.1 -0.6**
comp=Z,76nm,1.5s
BVAR Borovoye Array 65.55 3 P **P 05 29 31.5 -1.1**
comp=Z,5.2nm,1.0s,baz=167,slow=9.1,SNR=12
BRVK Borovoye 65.58 3*ce*P **P 05 29 31.8 -1.0**
BRVK pmax pmax
comp=Z,88nm,2.5s
BRVK Borovoye 65.58 3 *e*P **P 05 29 32.2 -0.6**
comp=Z,100nm,1.4s
AGG Agios Georgios 65.73 324 *e*P **P 05 29 33.6 -0.6**
AGG pmax pmax
comp=Z,99nm,1.3s
AGG Agios Georgios 65.73 324 *e*P **P 05 29 33.6 -0.6**
comp=Z,98nm,1.3s
CHKZ Chkalovo 66.21 3 P **P 05 29 36.0 -0.9**
CHKZ pmax pmax
comp=Z,42nm,1.3s
TIRR Tirgusor 66.44 331⇑ *i*P **P 05 29 38.8 +0.3**
TIRR Tirgusor 66.44 331 ⇑P **P 05 29 38.8 +0.3**
TIRR Tirgusor 66.44 331 *e*P **P 05 29 37.2 -1.3**
comp=Z,12nm,0.9s
BTO Baotou 66.76 35 *e*P **P 05 29 40.8 0.0**
NVL N'lazarevskaya 66.78 197 *e*P **P 05 29 42.2 +1.9**
VRH Novokhopyorsk 67.11 344 *e*P **P 05 29 42.4 -0.2**
VRH pmax pmax
comp=Z,20nm,1.3s
CFR Carcaliu 67.11 332⇑ *i*P **P 05 29 43.1 +0.3**
CFR Carcaliu 67.11 332 ⇑P **P 05 29 43.1 +0.3**
HHC Hu-ho-hao-te 67.79 36 *e*P **P 05 29 49.0 +1.6**
HHC PMZ
comp=Z,26nm,1.1s
HHC PMZ
comp=Z,2μm,8.7s
VSR Storozhevoye 67.86 342 *e*P **P 05 29 46.7 -0.7**
VSR pmax pmax
comp=Z,10.0nm,1.3s
ZAA0 Zalesovo Array 68.25 12 *e*P **P 05 29 48.6 -1.2**
ZALV Zalesovo Beam 68.25 12 P **P 05 29 48.5 -1.3**
comp=Z,6.2nm,0.9s,baz=215,slow=5.6,SNR=28
VRI Vrincioaia 68.28 331⇑ *i*P **P 05 29 50.6 +0.4**
VRI Vrincioaia 68.28 331 ⇑P **P 05 29 50.6 +0.4**
PLOR Plostina 68.31 331⇑ *i*P **P 05 29 51.1 +0.7**
PLOR Plostina 68.31 331 ⇑P **P 05 29 51.1 +0.7**
TIA Tai'an 68.33 42 *e*P **P 05 29 50.8 +0.1**
TIA PMZ
comp=Z,30nm,1.3s
MLR Muntele Rosu 68.37 331 P **P 05 29 51.5 +0.6**
comp=Z,0.7nm,0.9s,baz=163,slow=2.4,SNR=10.0
MLR Muntele Rosu 68.37 331⇓ *i*P **P 05 29 52.7 +1.7**
MLR Muntele Rosu 68.37 331 *e*P **P 05 29 51.0 0.0**
comp=Z,38nm,1.6s
MTUR Matau 68.61 330⇑ *i*P P 05 30 03.7 +11
MTUR Matau 68.61 330 ⇑P P 05 30 03.7 +11
TIR Tirane 68.69 324 *e*P **P 05 29 53.4 +0.6**
TIR pmax pmax
comp=Z,42nm,1.2s
TIR Tirane 68.69 324 *e*P **P 05 29 53.4 +0.6**
comp=Z,42nm,1.2s
VOIR 68.77 330⇑ *i*P **P 05 29 53.3 0.0**
VOIR 68.77 330 ⇑P **P 05 29 53.3 0.0**
NVS Novosibirsk 68.80 10 *i*P **P 05 29 52.6 -0.6**
TESR Tescani 68.80 332⇑ *i*P **P 05 29 54.4 +1.0**
TOA0 Torodi Ar. Sit 68.92 290 *e*P **P 05 29 55.2 +0.4**
comp=Z,30nm,1.3s
TORD Torodi Ar. Bea 68.92 290 P **P 05 29 54.7 -0.1**
comp=Z,12nm,1.1s,baz=113,slow=5.0,SNR=30
TAM Tamanrasset 69.10 301 *e*P **P 05 29 56.9 +0.9**
TAM pmax pmax
comp=Z,22nm,1.4s
TAM Tamanrasset 69.10 301 *e*P **P 05 29 56.9 +0.9**
comp=Z,22nm,1.4s
SORM Soroca 69.27 334⇑ *i*P **P 05 29 56.4 +0.1**
SORM Soroca 69.27 334 ⇑P **P 05 29 56.4 +0.1**
SVE Sverdlovsk 69.42 357 *e*P **P 05 29 57.0 0.0**
SVE pmax pmax
comp=Z,50nm,1.5s
PDG Podgorica 69.74 325⇑ *i*P **P 05 29 59.7 +0.4**
GZR Gura Zlata 69.86 329⇑ *i*P **P 05 30 00.7 +0.6**
GZR Gura Zlata 69.86 329 ⇑P **P 05 30 00.7 +0.6**
SONM Songino Array 70.06 28 P **P 05 30 01.0 -0.4**
comp=Z,13nm,13s,baz=222,slow=4.8,SNR=22
SONA1 Songino Array 70.08 28 *e*P **P 05 30 01.6 +0.1**
BURAR Bucovina Array 70.27 332⇓ *i*P **P 05 30 04.5 +1.9**
BURAR Bucovina Array 70.27 332 ⇓P **P 05 30 04.5 +1.9**
BUR08 Bucovina Ar. S 70.30 332 *e*P **P 05 30 02.7 -0.2**
ULN Ulaanbaatar 70.38 28⇑ *i*P **P 05 30 03.5 +0.2**
ULN pmax pmax
comp=Z,25nm,1.7s
ULN Ulaanbaatar 70.38 28 *e*P **P 05 30 03.6 +0.2**
comp=Z,74nm,1.9s
BZS Buzias 70.60 329⇑ *i*P **P 05 30 04.9 +0.4**
BZS Buzias 70.60 329 ⇑P **P 05 30 04.9 +0.4**
ZAK Zakamensk 70.68 24 *e*P **P 05 30 03.9 -1.2**
ZAK pmax pmax
comp=Z,10.0nm,1.5s
AKASG Malin Array Be 70.91 336 P **P 05 30 05.6 -0.7**
comp=Z,1.5nm,0.8s,baz=133,slow=4.8,SNR=15
AKASG Malin Array Be 70.91 336 P **P 05 30 05.6 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 70.91 336 *e*P **P 05 30 05.6 -0.7**
AKBB pmax pmax
comp=Z,9.0nm,0.6s
AKBB Malin Array Si 70.91 336 *e*P **P 05 30 05.6 -0.7**
comp=Z,8.7nm,0.6s
KIEV Kiev 70.91 336 *i*P **P 05 30 05.8 -0.5**
KIEV pmax pmax
comp=Z,16nm,1.6s
KIEV Kiev 70.91 336 *e*P **P 05 30 04.9 -1.3**
comp=Z,20nm,1.3s
AK11 Malin Array Si 70.91 336 *e*P **P 05 30 05.0 -1.3**
AK11 *e*PcP **pP 05 30 12.0 0.0**
STKA Stephens Creek 71.08 120 P **P 05 30 06.2 -1.7**
comp=Z,5.6nm,1.1s,baz=295,slow=11,SNR=3.8
SNAA Sanae 71.49 198 P **P 05 30 09.5 -0.2**
SNAA Sanae 71.49 198 *e*P **P 05 30 09.4 -0.2**
SNAA pmax pmax
comp=Z,21nm,1.1s
SNAA Sanae 71.49 198 *e*P **P 05 30 09.4 -0.2**
comp=Z,20nm,1.1s
TLY Talaya 71.84 23 *e*P **P 05 30 12.5 +0.5**
TLY pmax pmax
comp=Z,32nm,1.6s
TLY Talaya 71.84 23 *e*P **P 05 30 12.9 +1.0**
comp=Z,62nm,1.6s
OBN Obninsk 72.03 343 P **P 05 30 12.9 0.0**
comp=Z,46nm,0.3s,baz=80,slow=21,SNR=6.4
OBN Obninsk 72.03 343 *i*P **P 05 30 12.1 -0.8**
OBN *i* 05 30 19.2
OBN *i* 05 30 30.7
OBN *i* 05 32 50.7
OBN pmax pmax
comp=Z,21nm,1.5s
OBN Obninsk 72.03 343 *e*P **P 05 30 13.6 +0.6**
comp=Z,39nm,0.4s
KEST Kesra 72.12 314 P **P 05 30 15.1 +1.0**
comp=Z,5.7nm,1.1s,baz=188,slow=2.2,SNR=4.6
KEST Kesra 72.12 314 *e*P **P 05 30 12.9 -1.2**
comp=Z,12nm,1.1s
MOS Moscow 72.27 343 *e*P **P 05 30 13.2 -1.2**
MOS pmax pmax
comp=Z,85nm,1.4s
MOS pmax pmax
comp=Z,150nm,1.4s
UZH Uzhgorod 72.37 331 *e*P **P 05 30 15.1 0.0**
UZH *e* 05 30 22.7
UZH *e* 05 30 34.0
LVV L'vov 72.42 333 *e*P **P 05 30 15.0 -0.4**
IRK Irkutsk 72.53 23 *e*P **P 05 30 15.9 -0.1**
IRK pmax pmax
comp=Z,93nm,1.9s
KOLS Kolonicke sedl 72.59 331 *e*P **P 05 30 17.1 +0.6**
KOLS *e* 05 30 28.7
KOLS pmax pmax
comp=Z,18nm,1.3s
KOLS Kolonicke sedl 72.59 331 *e*P **P 05 30 17.1 +0.6**
KOLS *e* 05 30 28.7
CRVS Cervenica-Dubn 72.95 331 *e*P **P 05 30 19.1 +0.5**
CRVS *e* 05 30 29.0
CRVS Cervenica-Dubn 72.95 331 *e*P **P 05 30 19.1 +0.5**
CRVS *e* 05 30 29.0
VNA1 Neumayer--Stat 72.97 200 P **P 05 30 18.7 +0.3**
PSZ Piszkesteto 73.04 329 *e*P **P 05 30 19.1 -0.2**
PSZ pmax pmax
comp=Z,9.0nm,1.1s
PSZ Piszkesteto 73.04 329 *e*P **P 05 30 19.1 -0.2**
comp=Z,9.4nm,1.1s
DBIC Dimbokro 73.19 281 P **P 05 30 21.1 +0.4**
comp=Z,24nm,1.1s,baz=68,slow=14,SNR=5.5
VYHS Vyhne 73.95 329 *e*P **P 05 30 24.7 +0.2**
VYHS *e* 05 30 36.3
VYHS pmax pmax
comp=Z,15nm,1.5s
VYHS Vyhne 73.95 329 *e*P **P 05 30 24.7 +0.2**
VYHS *e* 05 30 36.3
LANS Liptovska Anna 74.08 330 *e*P **P 05 30 26.7 +1.4**
LANS Liptovska Anna 74.08 330 *e*P **P 05 30 26.7 +1.4**
MICGM Minsk 74.39 338 *e* **P 05 30 28.0 +1.1**
MNK Minsk 74.39 338 *e*P **P 05 30 28.0 +1.1**
OJC Ojcow 74.64 331 *e*P **P 05 30 27.6 -0.9**
OJC pmax pmax
comp=Z,37nm,1.9s
OJC Ojcow 74.64 331 *e*P **P 05 30 27.6 -0.9**
comp=Z,37nm,1.9s
SOKA Soboth 74.76 326 *i*P **P 05 30 29.9 +0.5**
comp=Z,16nm,1.6s
ARSA Arzberg 74.85 327 *i*P **P 05 30 30.7 +0.8**
comp=Z,21nm,1.4s,SNR=8.0
OBKA Obir 74.92 326 *i*P **P 05 30 31.0 +0.7**
comp=Z,8.0nm,0.8s
CONA Conrad Observa 75.10 328 *i*P **P 05 30 31.7 +0.3**
comp=Z,20nm,1.3s,SNR=11
CONA *i* PcP **PcP 05 30 42.7 -2.2**
comp=Z,31nm,1.4s
OKC Ostrava-Krasne 75.18 330 *e*P **P 05 30 32.5 +0.9**
OKC Ostrava-Krasne 75.18 330 *e*P **P 05 30 32.5 +0.9**
MORC Moravsky Berou 75.43 330 *e*P **P 05 30 32.5 -0.6**
MORC pmax pmax
comp=Z,80nm,1.5s
MORC Moravsky Berou 75.43 330 *e*P **P 05 30 32.5 -0.6**
comp=Z,80nm,1.5s
MYKA Terra Mystica 75.49 326 *i*P **P 05 30 34.1 +0.5**
comp=Z,15nm,1.3s
VRAC Vranov 75.60 329 P **P 05 30 34.1 0.0**
comp=Z,3.7nm,0.6s,baz=118,slow=6.7,SNR=7.6
MOA Moln 75.89 327 *i*P **P 05 30 36.3 +0.5**
comp=Z,23nm,1.2s,SNR=12
KBA Koelnbreinsper 75.93 326 *i*P **P 05 30 36.7 +0.5**
comp=Z,11nm,1.1s
ABTA Abfaltersbach 76.19 325 *i*P **P 05 30 38.2 +0.7**
comp=Z,26nm,1.2s,SNR=9.0
KSAR Wonju Array Be 76.32 46 P **P 05 30 38.0 -0.5**
KSAR Wonju Array Be 76.32 46 P **P 05 30 38.0 -0.5**
KLMR Klimovskoe 76.33 347 *e*P **P 05 30 35.3 -2.6**
KLMR pmax pmax
comp=Z,70nm,1.4s
KS01 Wonju Array Si 76.35 46 *e*P **P 05 30 38.2 -0.4**
KSRS Korea Array 76.36 46 P **P 05 30 38.0 -0.6**
comp=Z,6.8nm,1.1s,baz=239,slow=7.0,SNR=14
KSRS Korea Array 76.36 46 P **P 05 30 38.0 -0.6**
KSRS pmax pmax
comp=Z,7.0nm,1.1s
DPC Dobruska-Polom 76.40 330 *e*P **P 05 30 39.1 +0.4**
DPC *es*P **sP 05 30 46.3 -0.2**
DPC Dobruska-Polom 76.40 330 *e*P **P 05 30 39.1 +0.4**
DPC *e* 05 30 46.3
JNU Nakatsue 76.60 51 *e*P **P 05 30 39.3 -0.9**
comp=Z,49nm,1.1s
GEA0 GERESS Array S 76.79 327 *e*P **P 05 30 40.5 -0.4**
GEC2 GERESS Array S 76.80 327 *e*P **P 05 30 40.2 -0.8**
GEC2 GERESS Array S 76.80 327 *e*P **P 05 30 40.2 -0.8**
GERES GERESS Array B 76.80 327 P **P 05 30 40.1 -0.8**
comp=Z,1.0nm,0.8s,baz=146,slow=9.7,SNR=6.6
GOPC GO Pecny, Ondr 76.89 329 *e*P **P 05 30 41.8 +0.4**
GOPC *e*pP **sP 05 30 48.2 -1.1**
GOPC *ex* x 05 30 53.9
GOPC GO Pecny, Ondr 76.89 329 *e*P **P 05 30 41.8 +0.4**
GOPC *e* 05 30 48.2
GOPC *e* 05 30 53.9
CAN Canberra 76.94 124 *e*P **P 05 30 42.7 +0.5**
CAN pmax pmax
comp=Z,49nm,1.5s
CAN Canberra 76.94 124 *e*P **P 05 30 42.7 +0.5**
comp=Z,49nm,1.5s
WTTA Wattenberg 76.98 325 *i*P **P 05 30 42.3 +0.1**
comp=Z,16nm,1.4s
KHC Kasperske Hory 77.04 328 *e*P **P 05 30 41.2 -1.1**
KHC *e*pP **pP 05 30 47.9 -0.1**
KHC *e*PCP **PcP 05 30 53.3 +0.1**
KHC Kasperske Hory 77.04 328 *e*P **P 05 30 41.2 -1.1**
KHC *e* 05 30 47.9
KHC *e* 05 30 53.3
KHC Kasperske Hory 77.04 328 *e*P **P 05 30 41.2 -1.1**
comp=Z,8.3nm,1.4s
WATA Walderalm 77.05 325 *i*P **P 05 30 42.5 -0.1**
comp=Z,46nm,0.5s
PRU Pruhonice 77.06 329 *e*P **P 05 30 42.9 +0.6**
PRU *e*PCP **PcP 05 30 54.9 +1.7**
PRU Pruhonice 77.06 329 *e*P **P 05 30 42.9 +0.6**
PRU *e* 05 30 54.9
MOTA Moosalm 77.32 325 *i*P **P 05 30 43.0 -1.0**
comp=Z,16nm,1.2s
FETA Feichten 77.35 325 *i*P **P 05 30 44.3 +0.1**
comp=Z,14nm,1.2s,SNR=7.4
QSPA South Pole Qui 77.37 180 *e*P **P 05 30 43.5 -0.6**
FUORN Ofenpass-Fuorn 77.39 324 *e*P **P 05 30 45.0 +0.5**
comp=Z,24nm,1.3s
PVCC Panska Ves 77.39 329 *e*P **P 05 30 45.0 +0.9**
PVCC Panska Ves 77.39 329 *e*P **P 05 30 45.0 +0.9**
RETA Reutte 77.59 325 *i*P **P 05 30 44.4 -1.1**
comp=Z,14nm,1.4s
CN2 Changchun 77.83 40 *e*P **P 05 30 45.3 -1.5**
CN2 *es*P pP 05 30 51.9 -0.6
CN2 PMZ
comp=Z,20nm,1.0s
BRG Berggiesshubel 77.91 329 *e*P **P 05 30 47.8 +0.7**
comp=Z,34nm,1.7s
BRG Berggiesshubel 77.91 329 *e*P **P 05 30 47.8 +0.7**
BRG pmax pmax
comp=Z,34nm,1.7s
DAVA Damuels 77.97 325 *i*P **P 05 30 47.8 +0.1**
comp=Z,16nm,1.3s
NKC Novy Kostel 78.28 328 *e*P **P 05 30 50.6 +1.4**
NKC *e*pP **sP 05 30 56.2 -0.8**
NKC *ex* x 05 31 02.1
NKC Novy Kostel 78.28 328 *e*P **P 05 30 50.6 +1.4**
NKC *e* 05 30 56.2
CLL Collm 78.65 329 *i*P **P 05 30 52.2 +1.1**
comp=Z,50nm,1.9s
CLL *i* 05 31 03.3
comp=Z,31nm,1.6s
CLL Collm 78.65 329 *i*P **P 05 30 52.2 +1.1**
CLL pmax pmax
comp=Z,50nm,1.9s
CLL Collm 78.65 329 *e*P **P 05 30 51.1 0.0**
comp=Z,30nm,1.5s
VNDA Vanda 78.92 167 P **P 05 30 51.8 -0.5**
comp=Z,6.0nm,1.2s,baz=261,slow=8.5,SNR=9.7
VNDA Vanda 78.92 167 *e*P **P 05 30 51.9 -0.4**
VNDA pmax pmax
comp=Z,20nm,1.4s
VNDA Vanda 78.92 167 *e*P **P 05 30 51.9 -0.4**
comp=Z,20nm,1.4s
SENIN Lac Senin/Sane 78.97 323 *e*P **P 05 30 53.4 +0.1**
comp=Z,11nm,0.9s
BFO Black Forest 79.42 325 *i*P **P 05 30 56.5 +1.0**
BFO Black Forest 79.42 325 *e*P **P 05 30 55.1 -0.4**
comp=Z,10nm,1.1s
SBA Scott Base 79.89 168 *e*P **P 05 30 58.2 +0.6**
SBA pmax pmax
comp=Z,18nm,1.4s
SBA Scott Base 79.89 168 *e*P **P 05 30 58.2 +0.6**
comp=Z,18nm,1.4s
SSB Saint Sauveur 80.08 321 *e*P **P 05 30 59.2 0.0**
SSB pmax pmax
comp=Z,27nm,1.4s
SSB Saint Sauveur 80.08 321 *e*P **P 05 30 59.2 0.0**
comp=Z,27nm,1.4s
FINES FINESS Array B 80.39 342 P **P 05 31 01.1 +0.7**
comp=Z,14nm,1.3s,baz=134,slow=11,SNR=5.9
BOD Bodaibo 80.42 24 *e*P **P 05 30 59.5 -1.1**
BOD pmax pmax
comp=Z,14nm,1.7s
USRK Ussuriysk Ar. 82.17 41 P **P 05 31 08.8 -1.4**
comp=Z,2.0nm,0.6s,baz=292,slow=6.0,SNR=7.1
NRIK Noril'sk 83.20 7 P **P 05 31 15.2 +0.2**
comp=Z,2.0nm,0.6s,baz=195,slow=5.2,SNR=8.3
ES19 SONSECA Array 83.27 313 *e*P **P 05 31 16.8 +0.6**
ESDC Sonseca Array 83.31 313 P **P 05 31 16.7 +0.3**
comp=Z,8.4nm,1.1s,baz=96,slow=4.5,SNR=23
ESLA Sonseca Array 83.31 313 *e*P **P 05 31 17.0 +0.7**
comp=Z,16nm,1.3s
MJB9 Matsu-Tunnel 83.48 50 *e*P **P 05 31 17.6 +0.4**
comp=Z,22nm,1.8s
MAJO Matsushiro 83.48 50 *e*P **P 05 31 17.1 -0.2**
MAJO pmax pmax
comp=Z,84nm,1.8s
MAJO Matsushiro 83.48 50 *e*P **P 05 31 17.1 -0.2**
comp=Z,84nm,1.8s
MAT Matsushiro 83.48 50 P **P 05 31 17.1 -0.2**
MJAR Matsushiro Arr 83.48 50 P **P 05 31 17.1 -0.2**
comp=Z,15nm,1.2s,baz=240,slow=5.4,SNR=14

MJAR **Matsushiro Arr** 83.48 50 P **P** 05 31 17.1 -0.2
MJAR pmax pmax
comp=Z,16nm,1.2s
PAB San Pablo 83.53 313 *e*P **P** 05 31 18.3 +0.7
PAB pmax pmax
comp=Z,35nm,1.4s
PAB San Pablo 83.53 313 *e*P **P** 05 31 18.3 +0.7
comp=Z,35nm,1.4s
LVZ Lovozero 83.54 348*c*eP **P** 05 31 17.3 +0.4
LVZ pmax pmax
comp=Z,32nm,2.5s
HFS Hagfors 83.79 336 P **P** 05 31 18.0 -0.3
comp=Z,10nm,1.2s,baz=204,slow=9.5,SNR=5.5
HFS Hagfors 83.79 336 P **P** 05 31 18.0 -0.3
HFS pmax pmax
comp=Z,10.0nm,1.2s
KLR Kul'dur 84.26 37 P **P** 05 31 19.6 -1.3
comp=Z,4.6nm,1.1s,baz=254,slow=7.4,SNR=6.3
KLR Kul'dur 84.26 37 *i*P **P** 05 31 19.2 -1.7
NOA NORSAR Array B 85.32 336 P **P** 05 31 26.4 +0.3
comp=Z,1.7nm,1.0s,baz=114,slow=5.0,SNR=2.9
NBO00 NORSAR Array S 85.48 336 *e*P **P** 05 31 27.1 +0.2
ARA0 ARCESS Array S 86.80 347 *e*P **P** 05 31 33.0 -0.2
ARCES ARCESS Array B 86.80 347 P **P** 05 31 31.3 -1.9
comp=Z,3.9nm,1.1s,baz=181,slow=6.1,SNR=5.3
ARCES ARCESS Array B 86.80 347 P **P** 05 31 31.3 -1.9
ARCES pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 93.73 16 *i*P **P** 05 32 04.6 -0.9
TIXI pmax pmax
comp=Z,19nm,1.2s
TIXI Tiksi 93.73 16 *e*P **P** 05 32 04.9 -0.6
comp=Z,29nm,1.4s
MLY Manley 121.92 17 *e*PKPdf **PKPdf** 05 37 42.4 -0.8
WRH Wood River Hil 123.10 17 *e*PKPdf **PKPdf** 05 37 43.8 -1.6
IL1 Eielson Array 123.20 16 *e*PKPdf **PKPdf** 05 37 43.6 -2.0
ILAR Eielson Array 123.20 16 PKP **PKPdf** 05 37 43.7 -2.0
comp=Z,0.9nm,0.8s,baz=320,slow=3.5,SNR=8.9
ILAR PP **PP** 05 39 25.6 +0.2
comp=Z,0.8nm,1.1s,baz=321,slow=4.0,SNR=3.8
LPAZ La Paz 126.46 239 PKP **PKPdf** 05 37 53.7 -0.4
comp=Z,5.3nm,1.2s,baz=52,slow=4.4,SNR=8.1
LPAZ La Paz 126.46 239 *e*PKIKP **PKPdf** 05 37 53.4 -0.7
LPAZ La Paz 126.46 239 *e*PKPdf **PKPdf** 05 37 53.4 -0.7
YKA Yellowknife Ar 130.27 0 PKP **PKPdf** 05 37 57.6 -1.6
comp=Z,0.9nm,0.7s,baz=345,slow=2.4,SNR=6.8
YKA PP **PP** 05 40 11.6 -0.4
comp=Z,1.2nm,1.0s,baz=358,slow=6.5,SNR=4.3
ULM Lac du Bonnet 139.78 342 PKP **PKPdf** 05 38 15.5 -1.8
comp=Z,2.4nm,0.8s,baz=339,slow=1.9,SNR=2.5
G36A St. Michael 143.35 336 P PKPbc 05 38 21.4 +0.5
baz=34
D30A Buchanan 143.44 343 P PKPbc 05 38 21.1 -0.1
baz=25
DGMT Dagmar 143.45 349 P PKPbc 05 38 21.4 +0.3
baz=16
H37A Dierke Farm, C 143.55 335 P PKPab 05 38 21.2 +0.5
baz=36
E31A Nome 143.68 341 P PKPab 05 38 21.1 0.0
baz=27
D29A Pettibone, Tap 143.72 344 P PKPab 05 38 21.6 +0.3
baz=24
I38A Scanlan Farm, 143.73 334 P PKPab 05 38 21.6 +0.2
baz=37
F33A 5 Mile Ranch, 143.78 339 P PKPbc 05 38 22.1 -0.1
baz=30
TZTN Tazewell 143.94 316 *e*PKPdf PKPbc 05 38 23.5 +0.5
H36A Jessenland, He 143.97 336 P PKPbc 05 38 22.8 0.0
baz=34
J39A Decorah 144.01 332 P **PKPab** 05 38 22.4 -0.1
baz=38
G34A Benson 144.07 338 P **PKPab** 05 38 22.7 +0.1
baz=31
B08A Colville Reser 144.15 6 *e*PKPdf PKPbc 05 38 23.7 +0.4
E29A Napoleon 144.19 343 P **PKPab** 05 38 23.1 +0.1
baz=24
I37A Lemond, Waseca 144.21 335 P **PKPab** 05 38 23.1 -0.1
baz=35
H35A Sunnyside Ranc 144.22 337 P PKPbc 05 38 23.6 0.0
baz=33
K40A Colesburg 144.24 331 P **PKPab** 05 38 23.1 -0.2
baz=40
BLO Bloomington 144.26 322 *e*PKIKP **PKPab** 05 38 22.8 -0.7
BLO Bloomington 144.26 322 *e*PKPdf **PKPab** 05 38 22.8 -0.7
J38A Wedel Dairy, R 144.37 333 P **PKPab** 05 38 23.7 -0.1
baz=37
NLWA Neilton Lookou 144.39 12 *e*PKPdf **PKPdf** 05 38 25.1 -0.6
G33A Ortonville 144.39 339 P PKPbc 05 38 24.1 0.0
baz=30
L41A Preston 144.40 330 P **PKPab** 05 38 23.9 0.0
baz=41
NEW Newport 144.43 4 P PKPbc 05 38 24.6 +0.4
baz=354
NEW Newport 144.43 4 *e*PKIKP PKPbc 05 38 24.3 +0.1
NEW Newport 144.43 4 *e*PKPdf PKPbc 05 38 24.3 +0.1
I36A Fitzsimmons Fa 144.46 335 P **PKPab** 05 38 24.1 0.0
baz=34
D26A Manning 144.47 347 P PKPbc 05 38 24.6 +0.3
baz=19
TKL Tuckaleechee C 144.58 315 *e*PKIKP PKPbc 05 38 25.2 +0.2
TKL Tuckaleechee C 144.58 315 *e*PKPdf PKPbc 05 38 25.1 +0.1
K39A Oelwein 144.59 332 P **PKPab** 05 38 24.0 -0.6
baz=39
H34A Spellman Lake, 144.61 338 P PKPbc 05 38 25.2 +0.4
baz=31
F30A Leola 144.67 342 P **PKPab** 05 38 24.4 -0.5
baz=25
G32A Webster 144.71 340 P **PKPab** 05 38 24.3 -0.7
baz=28
WCI Wyandotte Cave 144.72 321 *e*PKIKP **PKPab** 05 38 24.8 -0.5
WCI Wyandotte Cave 144.72 321 *e*PKPdf **PKPab** 05 38 24.8 -0.5
BLMT Blacktail Moun 144.79 1 *e*PKPdf **PKPab** 05 38 24.9 -0.5
C09A Chrisman Ranch 144.80 5 *e*PKPdf PKPbc 05 38 25.8 +0.4
J37A Redenius Farm, 144.85 334 P **PKPab** 05 38 24.8 -0.8
baz=36
HDIL Hopedale 144.89 327 P **PKPab** 05 38 25.0 -0.8
baz=44
HDIL Hopedale 144.89 327 *e*PKPdf **PKPab** 05 38 25.9 +0.1
F29A Eureka 144.91 343 P **PKPab** 05 38 25.1 -0.7
baz=24
D05A Enumclaw 144.93 10 *e*PKPdf **PKPdf** 05 38 26.2 -0.3
BSMT Bassoo Peak 144.94 1 *e*PKPdf **PKPab** 05 38 26.0 0.0
H33A Prehn Over Nor 144.95 339 P **PKPab** 05 38 25.3 -0.6
baz=30
I35A Creekview Farm 144.99 336 P **PKPab** 05 38 25.1 -0.9
baz=33
E26A Carlson Angus 145.00 346 P **PKPab** 05 38 25.8 -0.3
baz=19
K38A Parkersburg 145.04 333 P **PKPbc** 05 38 25.3 -0.9
baz=38
JTMT Jette 145.06 1 *e*PKPbc **PKPbc** 05 38 26.2 -0.1
LTY Liberty 145.06 8 *e*PKPbc **PKPbc** 05 38 25.6 -0.7
L39A Vinton 145.09 331 P **PKPbc** 05 38 25.2 -1.2
baz=39
J36A Seneca 1, Swea 145.16 335 P **PKPbc** 05 38 26.2 -0.4
baz=34
I34A Hadley 145.17 337 P **PKPbc** 05 38 26.0 -0.7
baz=32
CPCT Cooper Cave 145.20 316 *e*PKPbc **PKPbc** 05 38 27.0 0.0
E03A Lebam 145.26 12 *e*PKPbc **PKPbc** 05 38 26.8 0.0
SWMT Swartz Lake 145.29 0 *e*PKPbc **PKPbc** 05 38 26.9 -0.2
K37A Belmond 145.32 334 P **PKPbc** 05 38 26.8 -0.4
baz=36
H32A Carlson Farm, 145.34 339 P **PKPbc** 05 38 26.7 -0.5
baz=29
G30A Faulkton 145.35 342 P **PKPbc** 05 38 26.7 -0.5
baz=26
LON Longmire 145.39 10 *e*PKIKP **PKPbc** 05 38 27.2 -0.1
LON Longmire 145.39 10 *e*PKPbc **PKPbc** 05 38 27.2 -0.1
D08A Wollman Farm, 145.47 6 *e*PKPdf **PKPbc** 05 38 27.2 -0.3
OLIL Olney 145.48 323 *e*PKPdf **PKPbc** 05 38 27.8 0.0
J35A Milford 145.49 336 P **PKPbc** 05 38 27.8 +0.1
baz=33
I33A Coleman 145.52 338 P **PKPdf** 05 38 27.2 -0.5
baz=30
GOGA Godfrey 145.52 312 *e*PKIKP **PKPdf** 05 38 27.9 -0.1
GOGA Godfrey 145.52 312 *e*PKPdf **PKPdf** 05 38 27.9 -0.1
LAO LASA Array 145.52 351 P **PKPab** 05 38 28.2 +0.3
baz=13
LAO LASA Array 145.52 351 *e*PKPdf **PKPab** 05 38 28.5 +0.6
L38A Oak Wood Farm, 145.52 332 P **PKPdf** 05 38 27.0 -0.7
baz=38
G29A Hoven 145.52 343 P **PKPdf** 05 38 26.9 -0.8
baz=24
H31A Wolsey 145.72 340 P **PKPdf** 05 38 27.5 -0.5
baz=27
ECSD EROS Data Cent 145.72 338 P **PKPdf** 05 38 28.1 0.0
baz=31
ECSD EROS Data Cent 145.72 338 *e*PKPdf **PKPdf** 05 38 28.1 0.0
USIN University of 145.72 322 *e*PKPdf **PKPdf** 05 38 27.6 -0.6
I32A Karley and Nic 145.77 339 P **PKPdf** 05 38 28.4 +0.3
baz=29
K36A Gilmore City 145.78 334 P **PKPdf** 05 38 27.9 -0.3
baz=35
SCIA State Center 145.82 332 *e*PKPdf **PKPdf** 05 38 28.5 +0.2
CHMT Chamberlain Mo 145.89 359 *e*PKPdf **PKPdf** 05 38 28.9 +0.4
Q44A Meyer Farm, Va 145.89 324 P **PKPdf** 05 38 28.6 +0.2
baz=47
MSO Missoula 145.97 0 P **PKPdf** 05 38 28.7 +0.1
baz=360
MSO Missoula 145.97 0 *e*PKPdf **PKPdf** 05 38 28.6 0.0
O41A Passleys Farm, 146.05 328 P **PKPdf** 05 38 28.6 -0.1
baz=43
HRY Holter Researc 146.05 358 *e*PKPdf **PKPbc** 05 38 29.4 -0.1
HAWA Hanford 146.06 7 *e*PKPdf **PKPbc** 05 38 29.1 -0.2
F04A Amboy 146.07 11 *e*PKPdf **PKPdf** 05 38 28.8 +0.3
E09A Wood Farm, Sta 146.09 5 *e*PKPdf **PKPbc** 05 38 29.6 +0.2
M38A Pleasantville 146.20 332 P **PKPdf** 05 38 29.0 +0.1
baz=38
Q43A New Douglas 146.25 325 P **PKPdf** 05 38 29.5 +0.5
baz=46
SWET Sewanee 146.29 316 *e*PKPdf **PKPdf** 05 38 29.8 +0.4
N39A Derby Farms, D 146.29 330 P **PKPdf** 05 38 29.6 +0.5
baz=40
L36A Harm Buss Farm 146.31 334 P **PKPdf** 05 38 29.7 +0.6
baz=35
R44A Waltonville 146.37 324 P **PKPbc** 05 38 30.2 -0.3
baz=47
K34A Le Mars 146.41 336 P **PKPbc** 05 38 30.1 -0.5
baz=32
S45A Carrier Mills 146.46 322 P **PKPdf** 05 38 30.1 +0.6
baz=49
P41A Barry, Barry 146.47 327 P **PKPdf** 05 38 30.1 +0.7
baz=43
J32A Parkston 146.48 339 P **PKPdf** 05 38 29.8 +0.5
baz=29
TIGA Tifton 146.54 309 P **PKPdf** 05 38 30.5 +0.8
baz=63
O40A La Belle 146.56 329 P **PKPbc** 05 38 30.7 -0.3
baz=41
M37A Trindle Farm, 146.61 333 P **PKPdf** 05 38 30.3 +0.7
baz=37
L35A Bielow Farm, R 146.67 335 P **PKPbc** 05 38 30.6 -0.7
baz=34
I29A Vivian Onida 146.70 342 P **PKPbc** 05 38 30.7 -0.7
baz=24
F10A Beach Ranch, E 146.70 4 *e*PKPdf **PKPbc** 05 38 30.9 -0.5
N38A Joes South For 146.71 331 P **PKPbc** 05 38 30.8 -0.6
baz=38
Q42A Golden Eagle 146.73 326 P **PKPbc** 05 38 31.2 -0.4
baz=44
SLM Saint Louis 146.76 325 *e*PKP2 **PKPbc** 05 38 31.6 0.0
SLM Saint Louis 146.76 325 *e*PKPbc **PKPbc** 05 38 31.6 0.0
O39A Kirksville 146.79 330 P **PKPdf** 05 38 30.9 +0.9
baz=40
SIUC Southern Illin 146.81 323 *e*PKPbc **PKPbc** 05 38 31.9 +0.1
GCMT Greycliff 146.83 355 *e*PKPbc **PKPbc** 05 38 32.0 +0.1
K33A Hardington 146.83 337 P **PKPbc** 05 38 31.5 -0.3
baz=31
S44A Carbondale 146.85 323 P **PKPbc** 05 38 31.4 -0.6
baz=48
J31A Geddes 146.86 340 P **PKPbc** 05 38 31.2 -0.6
baz=28
G05D Wamic, OR 146.93 10 P **PKPbc** 05 38 31.8 -0.2
baz=346
LRM Limeln Ridge 146.96 358 *e*PKPdf **PKPbc** 05 38 31.9 -0.4
WVT Waverly 146.99 319 *e*PKP2 **PKPdf** 05 38 31.4 +1.0
WVT Waverly 146.99 319 *e*PKPdf **PKPdf** 05 38 31.4 +1.0
H25A Fruitdale 147.01 347 P **PKPbc** 05 38 31.6 -0.7
baz=18
J30A Dallas 147.08 341 P **PKPbc** 05 38 32.3 -0.1
baz=26
P40A Paris 147.09 328 P **PKPbc** 05 38 32.2 -0.3
baz=42
BOZ Bozeman (W) 147.11 357 P **PKPbc** 05 38 32.1 -0.6
baz=3.8
BOZ Bozeman (W) 147.11 357 *e*PKP2 **PKPbc** 05 38 32.2 -0.4
BOZ Bozeman (W) 147.11 357 *e*PKPbc **PKPbc** 05 38 32.2 -0.4
L34A Svendsen Farm, 147.13 336 P **PKPbc** 05 38 32.6 -0.1
baz=32
K32A Verdigre 147.15 338 P **PKPdf** 05 38 31.3 +0.8
baz=29
G08A Pilot Rock 147.22 7 *e*PKPbc **PKPbc** 05 38 32.9 0.0
M35A Neola 147.27 334 P **PKPbc** 05 38 32.0 -1.0
baz=34
L33A Hoskins 147.31 337 P **PKPbc** 05 38 32.9 -0.3
baz=31
O38A Galt 147.34 330 P **PKPbc** 05 38 33.7 +0.4
baz=39
S43A Fulton Ridge, 147.41 324 P **PKPbc** 05 38 33.5 -0.1
baz=47
DLMT Dillon 147.43 358 *e*PKPdf **PKPdf** 05 38 32.1 +1.0
RLMT Red Lodge 147.45 354 P **PKPbc** 05 38 33.9 +0.2
baz=8.1
RLMT Red Lodge 147.45 354 *e*PKPdf **PKPbc** 05 38 34.4 +0.6
K31A O'Neill 147.45 339 P **PKPbc** 05 38 33.6 +0.1
baz=28
P39B Salisbury 147.48 329 P **PKPbc** 05 38 33.3 -0.4
baz=40
Q40A Laux Farm, Aux 147.50 328 P **PKPbc** 05 38 33.3 -0.4
baz=42
UTMT University of 147.50 321 *e*PKPbc **PKPbc** 05 38 33.7 -0.1
RSSD Black Hills 147.58 347 P **PKPbc** 05 38 33.3 -0.8
baz=18
RSSD Black Hills 147.58 347 *e*PKP2 **PKPdf** 05 38 32.5 +1.0
RSSD Black Hills 147.58 347 *e*PKPdf **PKPdf** 05 38 32.5 +1.0
M34A Aspy Farms, Fr 147.60 336 P **PKPbc** 05 38 33.4 -0.6
baz=32
O37A Wolven Farm, M 147.63 331 P **PKPbc** 05 38 33.7 -0.4
baz=38
K30A Basset 147.70 340 P **PKPbc** 05 38 34.0 -0.2
baz=26
L32A Elgin 147.73 338 P **PKPbc** 05 38 34.2 -0.1
baz=30
P38A Dawn 147.76 330 P **PKPbc** 05 38 34.1 -0.3
baz=39
M33A Taylor Creek F 147.79 336 P **PKPbc** 05 38 34.1 -0.3
baz=31
I05D Terrebonne, OR 147.81 10 P **PKPbc** 05 38 34.0 -0.5
baz=346
BMO Blue Mountains 147.81 5 *e*PKIKP **PKPbc** 05 38 33.8 -0.7
BMO Blue Mountains 147.81 5 *e*PKPbc **PKPbc** 05 38 33.8 -0.7
PARMO Parma 147.83 322 *e*PKPbc **PKPbc** 05 38 34.6 -0.1
L31A Butterfield Fa 147.88 339 P **PKPbc** 05 38 34.4 -0.3
baz=28
QLMT Earthquake Lak 147.91 357 *e*PKPdf **PKPbc** 05 38 36.0 +1.1
YHH Holmes Hill 147.92 356 *e*PKPbc **PKPbc** 05 38 35.8 +0.7
Q39A Willow Grove F 147.92 329 P **PKPbc** 05 38 34.5 -0.4
baz=41
V45A Humboldt 147.94 320 P **PKPbc** 05 38 34.6 -0.4
baz=50
MCMT McKenzie Canyo 147.97 359 *e*PKPbc **PKPbc** 05 38 35.7 +0.5
YHB Horse Butte 147.98 357 *e*PKPbc **PKPbc** 05 38 35.8 +0.6
I03D Drain, OR 148.03 13 P **PKPbc** 05 38 34.3 -0.7
baz=342
O36A Bolckow 148.04 332 P **PKPbc** 05 38 35.2 0.0
baz=36
YMR Madison River 148.04 356 *e*PKPbc **PKPbc** 05 38 36.2 +0.9
LKWY Lake 148.11 355 *e*PKP2 **PKPab** 05 38 37.2 -1.1
LKWY Lake 148.11 355 *e*PKPbc **PKPab** 05 38 37.2 -1.1
R40A Maddies Statio 148.12 327 P **PKPbc** 05 38 34.3 -1.1
baz=42
N34A Lincoln 148.13 335 P **PKPbc** 05 38 35.0 -0.4
baz=33
I04A Tendick Farm, 148.13 12 P **PKPbc** 05 38 34.9 -0.5
baz=344
PBMO Poplar Bluff 148.16 323 *e*PKPbc **PKPbc** 05 38 35.5 0.0
P37A Lathrop 148.18 331 P **PKPbc** 05 38 34.3 -1.3
baz=38
YFT Old Faithful 148.25 356 *e*PKPbc **PKPab** 05 38 37.7 -1.1
H17A Grant Village 148.29 356 *e*PKPbc **PKPbc** 05 38 37.2 +1.2
BGNE Belgrade 148.30 337 P **PKPbc** 05 38 34.7 -1.2
baz=30
BGNE Belgrade 148.30 337 *e*PKPdf **PKPbc** 05 38 35.3 -0.6
Q38A Cooks Store, C 148.31 329 P **PKPbc** 05 38 34.7 -1.2
baz=40
Y47A UCPARC, Winfie 148.34 316 P **PKPbc** 05 38 35.3 -0.8
baz=54
O35A Humboldt 148.35 333 P **PKPbc** 05 38 34.6 -1.3
baz=35
Z48A Northport 148.44 315 P **PKPbc** 05 38 35.4 -1.0
baz=55
W45A Hickory Valley 148.45 319 P **PKPbc** 05 38 35.5 -0.9
baz=51
P36A Good Intent, A 148.56 332 P **PKPbc** 05 38 35.5 -1.1
baz=36
M31A Lambtecht Ranc 148.66 338 P **PKPbc** 05 38 36.1 -0.7
baz=28
T41A Mountain View 148.74 325 P **PKPbc** 05 38 36.6 -0.6
baz=45
S40A Lebanon 148.75 326 P **PKPbc** 05 38 36.6 -0.5
baz=43
O34A Beatrice 148.75 334 P **PKPbc** 05 38 36.3 -0.8
baz=33
J05D Fort Rock, OR 148.85 11 P **PKPbc** 05 38 37.5 +0.2
baz=346
Z47A Carrollton 148.89 315 P **PKPbc** 05 38 36.3 -1.2
baz=55
MOOW Moose Ponds 148.94 356 *e*PKPdf **PKPdf** 05 38 35.0 +1.2
MOOW *e*PKPbc **PKPbc** 05 38 38.4 +0.7
P35A Duane Minner, 149.00 333 P **PKPbc** 05 38 36.3 -1.4
baz=35
Y46A Houston 149.02 317 P **PKPbc** 05 38 37.5 -0.4
baz=53
X45A UM Field Stati 149.04 318 P **PKPbc** 05 38 37.5 -0.4
baz=51
R38A Fenwick Farm, 149.05 329 P **PKPbc** 05 38 37.5 -0.4
baz=40
LOHW Long Hollow 149.07 356 *e*PKPbc **PKPbc** 05 38 38.9 +0.8
FXWY Fox Creek 149.07 356 *e*PKPdf **PKPdf** 05 38 35.0 +1.1
T40A Mansfield 149.09 326 P **PKPbc** 05 38 38.0 0.0
baz=43
HBAR Harrisburg 149.11 321 *e*PKPbc **PKPbc** 05 38 37.7 -0.3
S39A Bolivar 149.12 327 P **PKPbc** 05 38 38.1 0.0
baz=42
HUMO Hull Mountain 149.15 13 *e*PKPbc **PKPbc** 05 38 38.7 +0.7
O33A Hebron 149.22 335 P **PKPbc** 05 38 37.9 -0.3
baz=32
TPAW Teton Pass 149.22 356 *e*PKPdf **PKPdf** 05 38 35.3 +1.1
SNOW Snow King Moun 149.23 356 *e*PKPdf **PKPdf** 05 38 35.6 +1.4
HLID Hailey 149.24 1 P **PKPbc** 05 38 38.4 0.0
baz=359
HLID Hailey 149.24 1 *e*PKPbc **PKPbc** 05 38 38.8 +0.4
BRAL Brewton 149.26 311 *e*PKPbc **PKPbc** 05 38 39.1 +0.5
248A Dixon Mills 149.28 313 P **PKPbc** 05 38 38.5 -0.1
baz=57
147A Livingston 149.33 315 P **PKPbc** 05 38 38.3 -0.4
baz=55
O32A Brockman Farm, 149.33 336 P **PKPbc** 05 38 38.4 -0.2
baz=31
REDW Red Top Meadow 149.34 356 *e*PKPdf **PKPdf** 05 38 35.4 +1.0
REDW *e*PKPbc **PKiKP** 05 38 39.8 0.0
MFID Camas Ranch 149.34 3 *e*PKPdf **PKPdf** 05 38 35.1 +0.9
MFID *e*PKPbc **PKiKP** 05 38 39.2 -0.5
P34A Walnut Farm, R 149.34 334 P **PKPbc** 05 38 38.5 0.0
baz=34
V42A Cord 149.38 323 P **PKPbc** 05 38 39.0 +0.3
baz=47
K05A Summer Lake 149.45 10 *e*PKPbc **PKPbc** 05 38 39.7 +0.8
S38A Stockton 149.47 328 P **PKPbc** 05 38 38.5 -0.4
baz=41
X44A Crenshaw 149.48 319 P **PKPbc** 05 38 38.7 -0.3
baz=50
Y45A Yeager Farm, C 149.49 318 P **PKPbc** 05 38 38.8 -0.2
baz=52
Z46A Louisville 149.49 316 P **PKPbc** 05 38 38.7 -0.4
baz=54
K22A Casper 149.50 349 P **PKPbc** 05 38 39.2 +0.2
baz=14
K22A Casper 149.50 349 *e*PKPbc **PKPbc** 05 38 38.4 -0.7
Q35A Mercer Eighty, 149.55 332 P **PKPbc** 05 38 38.9 -0.2
baz=36
KSU1 Kansas State U 149.61 333 P **PKPbc** 05 38 38.7 -0.5
baz=35
KSU1 Kansas State U 149.61 333 *e*PKPbc **PKPbc** 05 38 38.8 -0.5
T39A Clever 149.65 326 P **PKPbc** 05 38 39.0 -0.3
baz=42
R36A Gordon, Harris 149.73 331 P **PKPbc** 05 38 39.1 -0.4
baz=37
348A Jackson 149.76 312 P **PKPbc** 05 38 38.3 -1.5
baz=58
P33A Williams Farm, 149.80 335 P **PKPbc** 05 38 39.4 -0.3
baz=32
BW06 Boulder Array 149.81 354 P **PKPbc** 05 38 39.3 -0.6
baz=8.1
BW06 Boulder Array 149.81 354 *e*PKPdf **PKPdf** 05 38 34.1 -1.0
BW06 *e*PKPbc **PKPbc** 05 38 39.3 -0.6
PD31 Pinedale Array 149.81 354 *e*PKPdf **PKPdf** 05 38 35.3 +0.1
PD31 *e*PKPbc **PKPbc** 05 38 39.3 -0.6
PDAR Pinedale Array 149.81 354 PKP **PKPdf** 05 38 34.7 -0.5
comp=Z,5.2nm,1.0s,baz=354,slow=1.5,SNR=12
PDAR PKPbc **PKPbc** 05 38 39.5 -0.4
comp=Z,11nm,1.0s,baz=27,slow=1.7,SNR=28
S37A Fort Scott 149.84 329 P **PKPbc** 05 38 39.2 -0.6
baz=39
U40A Yellville 149.84 325 P **PKPbc** 05 38 39.7 -0.2
baz=44
V41A Mountainview 149.85 323 P **PKPbc** 05 38 39.7 -0.2
baz=46
Z45A Winona 149.89 317 P **PKPbc** 05 38 39.5 -0.5
baz=52
146A Union 149.89 315 P **PKPbc** 05 38 40.1 0.0
baz=54
Q34A Chapman 149.91 333 P **PKPbc** 05 38 39.4 -0.6
baz=34
247A Quitman 149.91 314 P **PKPbc** 05 38 40.1 -0.1
baz=56
X43A Marvell 149.93 320 P **PKPbc** 05 38 40.0 -0.1
baz=49
P32A Huiting Farm, 150.01 336 P **PKPbc** 05 38 40.3 +0.1
baz=31
OGNE Ogallala 150.03 342 P **PKPbc** 05 38 40.6 +0.3
baz=23
OGNE Ogallala 150.03 342 *e*PKPbc **PKPbc** 05 38 40.0 -0.3
R35A Emporia Munici 150.06 332 P **PKPbc** 05 38 40.1 -0.2
baz=36
WVOR Wild Horse Val 150.07 7 *e*PKIKP **PKPbc** 05 38 40.3 -0.1
WVOR Wild Horse Val 150.07 7 *e*PKPbc **PKPbc** 05 38 40.3 -0.1
T38A Diamond 150.12 328 P **PKPbc** 05 38 40.3 -0.3
baz=41
U39A Green Forest 150.17 326 P **PKPbc** 05 38 40.5 -0.2
baz=43
M04C Macdoel 150.18 12 P **PKPbc** 05 38 40.8 +0.1
baz=344
V40A Witts Springs 150.22 324 P **PKPbc** 05 38 40.3 -0.5
baz=44
347A Saraland 150.22 313 P **PKPbc** 05 38 41.1 +0.2
baz=57
Q33A Connelly Farm, 150.23 334 P **PKPbc** 05 38 40.9 +0.2
baz=32
S36A Lake Cedric, C 150.25 330 P **PKPbc** 05 38 40.2 -0.6
baz=38
X201 Greenbrier Sit 150.31 323 *e*PKPbc **PKPbc** 05 38 40.8 -0.2
W41B Gary Mavity, V 150.33 323 P **PKPbc** 05 38 40.7 -0.3
baz=46
M02C Callahan 150.33 14 P **PKPbc** 05 38 41.0 0.0
baz=342
MOD Modoc Plateau 150.35 10 *e*PKPbc **PKPbc** 05 38 41.8 +0.7
Y43A Makayla and Ka 150.35 319 P **PKPbc** 05 38 41.2 0.0
baz=50
X301 Greenbrier Sit 150.37 323 *e*PKPbc **PKPbc** 05 38 41.6 +0.4
T37A Cheneyville 18 150.38 328 P **PKPbc** 05 38 41.0 -0.1
baz=40
HHAR Hobbs 150.50 326 *e*PKPbc **PKPbc** 05 38 40.9 -0.6
Q32A Meitler Ranch, 150.53 335 P **PKPbc** 05 38 41.4 -0.1
baz=31
R34A Isabella, Hill 150.55 333 P **PKPbc** 05 38 40.9 -0.6
baz=34
PHWY Pilot Hill 150.58 347 *e*PKPbc **PKPbc** 05 38 41.5 -0.4
U38A Gravette 150.62 327 P **PKPbc** 05 38 41.5 -0.2
baz=41
S35A Otter Creek Ra 150.63 331 P **PKPbc** 05 38 41.5 -0.2
baz=36
UALR University of 150.66 322 *e*PKPbc **PKPbc** 05 38 42.0 +0.2
V39A Pettigrew 150.66 325 P **PKPbc** 05 38 41.6 -0.3
baz=43
N02D Trinity Center 150.76 14 P **PKPbc** 05 38 42.7 +0.6
baz=342
W40A Ferguson Farm, 150.79 324 P **PKPbc** 05 38 42.8 +0.7
baz=45
245A Little AP, Sta 150.82 315 P **PKPbc** 05 38 43.0 +0.7
baz=54
144A Alexander Plac 150.82 317 P **PKPbc** 05 38 42.6 +0.3
baz=52
R33A Olander Ranch, 150.87 334 P **PKPbc** 05 38 42.5 +0.2
baz=33
CCAR Cane Creek 150.88 320 *e*PKPbc **PKPbc** 05 38 43.9 +1.5
346A Big Creek Wild 150.89 314 P **PKPbc** 05 38 43.0 +0.5
baz=56

T36A	Boggs Farm, Ca	150.91	330	P	PKPbc	05 38 42.7	+0.3
	baz=38						
Y42A	Garnett, Star	150.95	320	P	PKPbc	05 38 42.9	+0.4
	baz=49						
X41A	Kaden, Bauxite	150.95	322	P	PKPbc	05 38 42.9	+0.4
	baz=47						
S34A	Willow Spring	150.98	332	P	PKPbc	05 38 43.1	+0.5
	baz=35						
HVU	Hansel Valley	151.01	358	*e*PKIKP	PKPbc	05 38 43.1	+0.4
HVU	Hansel Valley	151.01	358	*e*PKPbc	PKPbc	05 38 43.1	+0.4
U37A	Salina	151.03	328	P	PKPbc	05 38 42.9	+0.2
	baz=40						
V38A	Canehill	151.06	326	P	PKPbc	05 38 42.8	0.0
	baz=42						
N23A	Red Feather La	151.08	348	P	PKPbc	05 38 43.1	+0.1
	baz=16						
N23A	Red Feather La	151.08	348	*e*PKPbc	PKPbc	05 38 43.1	+0.1
R32A	Long Quarter,	151.08	335	P	PKPbc	05 38 43.0	+0.2
	baz=32						
HWUT	Hardware Ranch	151.13	357	*e*PKPdf	PKPdf	05 38 38.3	+1.1
HWUT				*e*PKPbc	PKiKP	05 38 43.5	-0.1
X40A	Basin Creek Fa	151.15	322	P	PKPbc	05 38 43.6	+0.6
	baz=46						
CBKS	Cedar Bluff	151.15	337	P	PKPbc	05 38 43.2	+0.2
	baz=29						
CBKS	Cedar Bluff	151.15	337	*e*PKIKP	PKPbc	05 38 42.8	-0.2
CBKS	Cedar Bluff	151.15	337	*e*PKPbc	PKPbc	05 38 42.8	-0.2
W39A	Magazine	151.20	324	P	PKPbc	05 38 43.3	+0.2
	baz=44						
T35A	Sooner Cattle	151.33	330	P	PKPbc	05 38 43.5	+0.1
	baz=37						
244A	Avery, Jackson	151.35	316	P	PKPbc	05 38 44.2	+0.6
	baz=53						
U36A	Oologah	151.36	329	P	PKPbc	05 38 43.8	+0.3
	baz=39						
Z42A	Norrel Spur, H	151.41	319	P	PKPbc	05 38 43.9	+0.3
	baz=49						
Y41A	Eaglette Beard	151.43	321	P	PKPbc	05 38 44.2	+0.5
	baz=47						
143A	Socs Landing,	151.43	318	P	PKPbc	05 38 44.3	+0.6
	baz=51						
V37A	Hulbert	151.44	327	P	PKPbc	05 38 43.6	0.0
	baz=40						
S33A	Kaszmaul Farm,	151.47	333	P	PKPbc	05 38 44.3	+0.6
	baz=34						
MIAR	Mount Ida	151.55	323	P	PKPbc	05 38 44.7	+0.8
	baz=45						
MIAR	Mount Ida	151.55	323	*e*PKIKP	PKPdf	05 38 39.5	+1.7
MIAR				*e*		05 38 44.2	
MIAR	Mount Ida	151.55	323	*e*PKPdf	PKPdf	05 38 39.5	+1.7
MIAR				*e*PKPbc	PKPbc	05 38 44.2	+0.3
T34A	McClaskey Farm	151.57	331	P	PKPbc	05 38 44.6	+0.6
	baz=36						
TCUT	Toone Canyon	151.61	356	*e*PKPbc	PKPbc	05 38 44.4	+0.1
O03D	Paynes Creek	151.62	13	P	PKPbc	05 38 44.6	+0.6
	baz=343						
W38A	Poteau	151.71	325	P	PKPbc	05 38 44.6	+0.3
	baz=43						
546A	Slidell	151.71	312	P	PKPbc	05 38 44.8	+0.3
	baz=57						
344A	Westbrook Farm	151.74	315	P	PKPbc	05 38 44.7	+0.2
	baz=54						
Y40A	Okolona	151.74	322	P	PKPbc	05 38 44.5	+0.1
	baz=46						
TUL1	Leonard	151.76	328	P	PKPbc	05 38 44.6	+0.2
	baz=39						
TUL1	Leonard	151.76	328	*e*PKPbc	PKPbc	05 38 44.2	-0.2
S32A	Newby Ranch, P	151.79	335	P	PKPbc	05 38 44.7	+0.2
	baz=32						
WLAR	White Oak Lake	151.86	321	*e*PKPbc	PKPbc	05 38 45.3	+0.7
BGU	Big Grassy Mou	151.87	359	*e*PKPbc	PKPbc	05 38 44.8	+0.1
U35A	Pawnee	151.87	330	P	PKPbc	05 38 44.8	+0.2
	baz=37						
X39A	Fountain Ranch	151.88	324	P	PKPbc	05 38 44.6	-0.1
	baz=44						
V36A	Jenks	151.93	328	P	PKPbc	05 38 44.7	-0.1
	baz=39						
Z41A	Richland Creek	151.96	320	P	PKPbc	05 38 44.9	-0.1
	baz=48						
KSCO	Kaye Shedlock'	151.98	341	P	PKPbc	05 38 44.8	-0.2
	baz=24						
KSCO	Kaye Shedlock'	151.98	341	*e*PKPdf	PKPdf	05 38 39.5	+1.0
KSCO				*e*PKPbc	PKPbc	05 38 45.2	+0.2
T33A	Patterson Ranc	152.00	333	P	PKPbc	05 38 44.7	-0.2
	baz=34						
ELK	Elko	152.03	2	*e*PKIKP	PKPbc	05 38 45.2	0.0
ELK	Elko	152.03	2	*e*PKPbc	PKPbc	05 38 45.2	0.0
CTU	Camp Tracy	152.05	357	*e*PKPbc	PKPbc	05 38 45.2	+0.1
ISCO	Idaho Springs	152.05	346	P	PKPbc	05 38 44.9	-0.5
	baz=17						
ISCO	Idaho Springs	152.05	346	*e*PKIKP	PKPbc	05 38 45.3	-0.1
ISCO	Idaho Springs	152.05	346	*e*PKPbc	PKPbc	05 38 45.3	-0.1
JLU	Jordanelle	152.12	356	*e*PKPbc	PKPbc	05 38 46.3	+0.9
W37B	Quinton	152.16	326	P	PKPbc	05 38 45.1	-0.2
	baz=41						
X38A	Whitesboro	152.17	325	P	PKPbc	05 38 45.4	0.0
	baz=43						
BMN	Battle Mountai	152.21	6	*e*PKIKP	PKPbc	05 38 46.0	+0.5
BMN	Battle Mountai	152.21	6	*e*PKPbc	PKPbc	05 38 46.0	+0.5
U34A	Anderson Ranch	152.21	331	P	PKPbc	05 38 45.1	-0.4
	baz=36						
U34A	Anderson Ranch	152.21	331	*e*PKPbc	PKPbc	05 38 44.3	-1.1
T32A	Huddler Ranch,	152.22	334	P	PKPbc	05 38 45.6	+0.1
	baz=32						
O20A	White River Ci	152.23	351	P	PKPbc	05 38 45.4	-0.2
	baz=12						
O20A	White River Ci	152.23	351	*e*PKPbc	PKPbc	05 38 45.4	-0.2
242A	Grayson	152.32	318	P	PKPbc	05 38 45.9	+0.1
	baz=51						
Z40A	Long Farm, Mag	152.33	321	P	PKPbc	05 38 45.7	-0.1
	baz=47						
V35A	Meyer Ranch, C	152.41	329	P	PKPbc	05 38 46.0	+0.1
	baz=38						
141A	Papa Simpson,	152.46	319	P	PKPbc	05 38 45.8	-0.2
	baz=49						
U33A	Lingo Farm, Me	152.48	332	P	PKPbc	05 38 46.1	0.0
	baz=35						
X37A	Clayton	152.53	326	P	PKPbc	05 38 45.7	-0.5
	baz=42						
W36A	Wetumka	152.58	328	P	PKPbc	05 38 46.2	0.0
	baz=40						
DUG	Dugway, Tooele	152.59	358	P	PKPbc	05 38 46.2	-0.2
	baz=2.0						
DUG	Dugway, Tooele	152.59	358	*e*PKIKP	PKPbc	05 38 46.6	+0.2
DUG	Dugway, Tooele	152.59	358	*e*PKPbc	PKPbc	05 38 46.6	+0.2
PAHR	Pah Rah Range	152.64	9	*e*PKPbc	PKPbc	05 38 47.4	+0.9
V34A	Guthrie	152.68	330	P	PKPbc	05 38 46.4	-0.1
	baz=36						
Q24A	Divide	152.74	345	P	PKPbc	05 38 46.4	-0.5
	baz=18						
544A	White Castle	152.81	313	P	PKPbc	05 38 46.4	-0.5
	baz=55						
140A	Cam and Jess,	152.86	320	P	PKPbc	05 38 46.7	-0.3
	baz=48						
W35A	Tecumseh	152.90	328	P	PKPbc	05 38 46.8	-0.2
	baz=38						
SMCO	Snowmass	152.94	348	*e*PKPbc	PKPbc	05 38 47.4	-0.1
P18A	Preston Nutter	152.99	354	*e*PKPdf	PKPdf	05 38 40.5	+0.3
P18A				*e*PKPbc	PKPbc	05 38 47.3	-0.2
V33A	Lossen Ranch,	153.06	331	P	PKPbc	05 38 46.8	-0.5
	baz=35						
X36A	Centrahoma	153.08	327	P	PKPbc	05 38 47.0	-0.4
	baz=40						
AFDM	Forest Hills D	153.09	12	*e*PKPbc	PKPbc	05 38 47.7	+0.4
Y37A	Hugo	153.12	325	P	PKPbc	05 38 47.2	-0.3
	baz=42						
P17A	Butcher Ranch,	153.19	355	*e*PKPbc	PKPbc	05 38 47.7	0.0
W34A	Bridge Creek,	153.29	330	P	PKPbc	05 38 47.6	-0.2
	baz=37						
W34A	Bridge Creek,	153.29	330	*e*PKPbc	PKPbc	05 38 47.9	0.0
TMUT	Trail Mountain	153.41	356	*e*PKPab	PKPab	05 39 01.2	+0.9
341A	Kurthwood	153.45	318	P	PKPbc	05 38 48.4	+0.1
	baz=50						
SRU	San Rafael Swe	153.53	354	*e*PKIKP	PKPbc	05 38 48.7	+0.2
SRU	San Rafael Swe	153.53	354	*e*PKPbc	PKPbc	05 38 48.7	+0.2
SRU				*e*PKPab	PKPab	05 39 01.0	+0.3
Y36A	Durant	153.55	326	P	PKPbc	05 38 48.7	+0.2
	baz=41						
W33A	Caddo, Fort Co	153.69	331	P	PKPbc	05 38 49.0	+0.2
	baz=35						
Q16A	Castle Valley	153.78	355	*e*PKPbc	PKPbc	05 38 49.6	+0.5
Q16A				*e*PKPab	PKPab	05 39 02.2	+0.4
X34A	Smith Ranch, M	153.82	329	P	PKPbc	05 38 48.8	-0.3
	baz=37						
SDCO	Great Sand Dun	153.98	345	P	PKPbc	05 38 49.5	-0.2
	baz=18						
SDCO	Great Sand Dun	153.98	345	*e*PKPbc	PKPbc	05 38 50.0	+0.4
W32A	Sentinel	154.08	332	P	PKPbc	05 38 48.9	-0.7
	baz=34						
WMOK	Wichita Mounta	154.18	331	P	PKPbc	05 38 48.8	-1.0
	baz=35						
WMOK	Wichita Mounta	154.18	331	*e*PKP2	PKPab	05 39 01.6	-1.9
WMOK	Wichita Mounta	154.18	331	*e*PKPab	PKPab	05 39 01.6	-1.9
X33A	Lawton	154.20	330	P	PKPbc	05 38 49.6	-0.3
	baz=36						
137A	Heron Place, G	154.21	323	P	PKPbc	05 38 50.2	+0.3
	baz=44						
PV01	Paradox Valley	154.24	351	*e*PKPbc	PKPbc	05 38 50.6	+0.5
PV01				*e*PKPab	PKPab	05 39 05.0	+1.1
MSU	Marysvale	154.25	357	*e*PKP2	PKPab	05 39 02.4	-1.4
MSU	Marysvale	154.25	357	*e*PKPab	PKPab	05 39 02.4	-1.4
T25A	Trinidad	154.25	343	P	PKPbc	05 38 50.0	-0.2
	baz=21						
T25A	Trinidad	154.25	343	*e*PKPbc	PKPbc	05 38 49.8	-0.4
S22A	4UR Ranch, Cre	154.29	347	*e*PKPbc	PKPbc	05 38 51.6	+1.2
R11A	Troy Canyon, C	154.40	3	P	PKPab	05 39 03.4	-1.0
	baz=356						
R11A	Troy Canyon, C	154.40	3	*e*PKPbc	PKPbc	05 38 50.2	-0.2
R11A				*e*PKPab	PKPab	05 39 02.0	-2.4
MVCO	Mesa Verde	155.13	350	*e*PKPbc	PKPdf	05 38 52.1	+8.9
PKCU	Pink Cliffs	155.32	357	*e*PKPab	PKPab	05 39 09.8	+1.3
134A	White-Moore Ra	155.53	327	P	PKPab	05 39 09.3	0.0
	baz=39						
WHTX	Lake Whitney,	155.63	325	P	PKPab	05 39 10.0	+0.4
	baz=42						
336A	Riesel	155.72	323	P	PKPab	05 39 10.0	0.0
	baz=44						
LCMT	Little Creek M	155.78	359	*e*PKPdf	PKPdf	05 38 44.8	+0.9
133A	Hamilton Ranch	155.95	328	P	PKPab	05 39 10.3	-0.7
	baz=38						
234A	Clairette	156.00	326	P	PKPab	05 39 11.3	0.0
	baz=40						
335A	Moody	156.14	323	P	PKPab	05 39 11.5	-0.4
	baz=43						
537A	Green Hill Far	156.31	320	P	PKPab	05 39 12.1	-0.6
	baz=47						
233A	Rising Star	156.40	327	P	PKPab	05 39 11.9	-1.1
	baz=28						
VES	Vestal, Richgr	156.46	11	P	PKPab	05 39 11.7	-1.3
	baz=347						
MPMC	Manual Prospec	156.50	8	P	PKPab	05 39 11.7	-1.7
	baz=351						
334A	Lometa	156.56	325	P	PKPab	05 39 14.0	+0.3
	baz=41						
MSTX	Muleshoe	156.57	336	P	PKPab	05 39 13.6	-0.1
	baz=28						
ANMO	Albuquerque	156.87	345	P	PKPab	05 39 15.5	+0.4
	baz=18						
ANMO	Albuquerque	156.87	345	*e*PKP2	PKPab	05 39 16.5	+1.4
ANMO	Albuquerque	156.87	345	*e*PKPab	PKPab	05 39 16.5	+1.4
434A	Burnet	156.97	324	P	PKPab	05 39 15.9	+0.4
	baz=42						
333A	Richland Sprin	156.98	326	P	PKPab	05 39 16.0	+0.5
	baz=39						
LRMC	Laurel Mtn Rad	157.04	8	P	PKPab	05 39 16.4	+0.7
	baz=350						
WUAZ	Wupatki	157.17	355	P	PKPab	05 39 17.1	+0.8
	baz=8.0						
WUAZ	Wupatki	157.17	355	*e*PKPab	PKPab	05 39 17.9	+1.6
636A	Smothers Creek	157.19	320	P	PKPab	05 39 16.8	+0.4
	baz=46						
GSC	Goldstone, Bar	157.33	6	P	PKPab	05 39 16.9	0.0
	baz=352						
433A	Art	157.48	325	P	PKPab	05 39 16.9	-0.8
	baz=40						
LPM	Los Pinos Moun	157.52	344	*e*PKPab	PKPab	05 39 19.4	+1.5
LAZ	Ladron	157.56	345	*e*PKPab	PKPab	05 39 20.0	+1.9
EDW2	Edwards Air Fo	157.58	9	P	PKPab	05 39 17.0	-1.0
	baz=349						
BNM	Barren Site	157.67	344	*e*PKPab	PKPab	05 39 19.8	+1.2
HEC	Hector,Ludlow	157.84	6	P	PKPab	05 39 18.7	-0.4
	baz=353						
JCT	Junction City	158.08	326	P	PKPab	05 39 19.4	-0.9
	baz=39						
X16A	Lo Mia Camp, P	158.27	355	*e*PKPab	PKPab	05 39 23.0	+1.9
IRM	Iron Mountain	158.60	3	P	PKPab	05 39 22.3	0.0
	baz=356						
Y14A	Wickenburg	158.84	358	*e*PKPab	PKPab	05 39 24.6	+1.2
MURC	Murrieta	158.96	8	P	PKPab	05 39 22.9	-1.0
	baz=351						
SCI2	San Clemente I	159.34	11	P	PKPab	05 39 22.9	-2.7
	baz=347						
833A	Chaparral WMA,	159.46	321	P	PKPab	05 39 26.4	+0.1
	baz=44						
121A	Cookes Peak, D	159.50	345	P	PKPab	05 39 26.0	-0.5
	baz=17						
MNTX	Cornudas Mount	159.57	339	P	PKPab	05 39 26.2	-0.4
	baz=24						
MNTX	Cornudas Mount	159.57	339	*e*PKPdf	PKPdf	05 38 49.6	+1.0
MNTX				*e*PKPab	PKPab	05 39 27.1	+0.5
034A	Hebbronville	159.88	318	P	PKPab	05 39 28.4	+0.2
	baz=47						
TUC	Tucson	160.28	352	P	PKPab	05 39 30.2	+0.4
	baz=8.6						
TX31	Lajitas Ar. Si	160.96	332	*e*PKPdf	PKPdf	05 38 50.5	+0.1
TX31				*e*PKPab	PKPab	05 39 33.1	+0.3
TXAR	Lajitas Array	160.96	332	PKP	PKPdf	05 38 50.0	-0.4
	comp=Z,1.5nm,1.2s,baz=111,slow=2.8,SNR=5.2						
TXAR				PKPab	PKPab	05 39 32.2	-0.7
	comp=Z,2.6nm,1.1s,baz=60,slow=3.0,SNR=8.9						

*ISCJB **24** 05:28:46.8±0.3, 12°.72S±0°.06×66°.27E±0°.05, h10km, mb4.7/77, MS5.1/1, Error ellipse: s-maj=8.0km s-min=7.3km az=163.4*

*MOS **24** 05:28:46.8±1.0, 12°.68S×66°.23E, h10km, mb5.2/21, Error ellipse: s-maj=11.5km s-min=7.8km az=84.4*

*IDC **24** 05:28:46.8±0.5, 12°.70S×66°.32E, h0km, mb4.4/32, mb1 4.5/32, mb1mx4.5/44, mbtmp4.4/32, Error ellipse: s-maj=13.8km s-min=13.1km az=124.0*

*NEIC **24** 05:28:48.5±0.2, 12°.73S×66°.26E, h10km, mb5.1/16, Error ellipse: s-maj=6.7km s-min=5.7km az=130.0*

ISC 24 05:28:48.5±0.4,**12°.74S**±0°.08×**66°.22E**±0°.08,**h10km**,**n246,** σ1**9**03/231,**mb4.8/77,11C-3D,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	Diego Garcia H	7.91	37	T	T	05 38 47.6	
	baz=215,slow=75,SNR=92						
H08N1	Diego Garcia H	7.92	37	T	T	05 38 51.1	
	baz=215,slow=75,SNR=96						
H08N2	Diego Garcia H	7.93	37	T	T	05 38 52.5	
	baz=215,slow=75,SNR=90						
H08S1	Diego Garcia H	7.97	51	T	T	05 38 48.3	
	baz=230,slow=75,SNR=153						
H08S2	Diego Garcia H	7.99	51	T	T	05 38 47.7	
	baz=230,slow=75,SNR=139						
H08S3	Diego Garcia H	7.99	51	T	T	05 38 48.6	
	baz=230,slow=75,SNR=158						
ABPO	Ambohimpanom	19.29	249	*e*P	P	05 33 14.0	+0.1
ABPO				pmax	pmax		
	comp=Z,70nm,1.3s						
ABPO	Ambohimpanom	19.29	249	*e*P	P	05 33 14.0	+0.1
	comp=Z,70nm,1.3s						
PALK	Pallekele	24.55	37	P	P	05 34 06.9	-1.8
	comp=Z,4.7nm,0.6s,baz=297,slow=4.5,SNR=2.1						
PALK	Pallekele	24.55	37	*ce*P	P	05 34 13.2	+4.5
PALK	Pallekele	24.55	37	*e*P	P	05 34 10.5	+1.8
	comp=Z,111nm,1.4s						
GSI	Gunungsitoli	34.10	68	P	P	05 35 41.8	+8.1
PPSI	Pulau Pagai	34.87	76	P	P	05 35 48.8	+8.4
MNSI	Mandailing Nat	35.73	70	P	P	05 35 45.2	-2.5
MATP	Matopo	36.88	253	P	P	05 35 59.0	+1.3
	comp=Z,13nm,1.1s,baz=76,slow=7.8,SNR=5.0						
LSZ	Lusaka	36.95	261	P	P	05 35 59.6	+1.2
	comp=Z,34nm,1.2s,baz=90,slow=8.7,SNR=12						
LSZ	Lusaka	36.95	261	*e*P	P	05 35 59.5	+1.2
LSZ				pmax	pmax		
	comp=Z,90nm,1.5s						
LSZ	Lusaka	36.95	261	*e*P	P	05 35 59.5	+1.2
	comp=Z,90nm,1.5s						
KULM	Kulim	38.62	64	*e*P	P	05 36 12.8	+0.5
	comp=Z,80nm,1.6s						
LBTB	Lobatse	40.17	246	P	P	05 36 25.5	+0.2
	comp=Z,21nm,1.2s,baz=114,slow=5.5,SNR=5.4						
SUKH	Sukhothai	44.62	48	P	P	05 37 04.0	+2.7
	comp=Z,6.7nm,1.1s,comp=Z,76nm						
CMAR	Chiang Mai Arr	44.75	47	P	P	05 37 02.9	+0.4
	comp=Z,2.2nm,0.3s,baz=244,slow=10.0,SNR=9.3						
CHTO	Chiang Mai	44.99	46	P	P	05 37 11.5	+7.1
	comp=Z,114nm,0.9s						
CHTO	Chiang Mai	44.99	46	*e*P	P	05 37 04.4	0.0
CHTO				pmax	pmax		
	comp=Z,21nm,1.3s						
CHTO	Chiang Mai	44.99	46	*e*P	P	05 37 04.4	0.0
	comp=Z,21nm,1.3s						
CMMT	Chiang Mai	44.99	46	P	P	05 37 11.5	+7.1
	comp=Z,18nm,2.4s						
PBKT	Sadao Pong	45.04	51	P	P	05 37 07.2	+2.5
	comp=Z,24nm,1.3s						
UTTA	Uttaradit	45.46	49	P	P	05 37 10.2	+2.1
	comp=Z,6.4nm,1.1s,comp=Z,66nm						
SHL	Shillong	45.55	33	*e*P	P	05 37 11.5	+2.6
H01W3	Cape Leeuwin H	48.52	125	T	T	06 29 25.7	
	baz=286,slow=75,SNR=27						
H01W2	Cape Leeuwin H	48.52	125	T	T	06 29 26.3	
	baz=286,slow=75,SNR=30						
H01W1	Cape Leeuwin H	48.54	125	T	T	06 29 27.2	
	baz=286,slow=75,SNR=35						
LSA	Lhasa	48.57	29	*e*P	P	05 37 34.0	+1.3
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LSA	Lhasa	48.57	29	*e*P	P	05 37 34.0	+1.3
	comp=Z,9.0nm,0.9s						
GEYT	Alibeck	50.97	352	P	P	05 37 50.5	+0.1
	comp=Z,1.5nm,0.3s,baz=187,slow=11,SNR=2.3						
KSH	Kashi	52.78	9	*e*P	P	05 38 01.4	-2.6
KSH				pP	PcP	05 38 51.8	-22
KSH				PcP	PP	05 39 09.6	-54
KSH				PP	PP	05 40 04.4	+0.9
KSH				S	S	05 45 04.0	-28
KSH				ScS	ScS	05 47 22.8	-31
KSH	Kashi	52.78	9	SS	SS	05 48 47.1	-24
KSH				pmax	pmax		
	comp=Z,38nm,1.2s						
KSH				pmax	pmax		
	comp=Z,1μm,10.1s						
KSH				LR	LR		
	comp=N,840nm,12.9s						
KSH				LR	LR		
	comp=E,860nm,12.7s						
KSH				LR	LR		
	comp=Z,1μm,13.1s						
MAW	Mawson	54.85	182	P	P	05 38 19.4	+0.7
	comp=Z,9.4nm,1.1s,baz=16,slow=11,SNR=8.4						
AAK	Ala-Archa	55.62	7	P	P	05 38 25.3	+0.6
	comp=Z,1.3nm,0.4s,baz=195,slow=8.1,SNR=8.5						
AAK	Ala-Archa	55.62	7	*e*P	P	05 38 24.8	+0.1
AAK				pmax	pmax		
	comp=Z,20nm,1.4s						
AAK	Ala-Archa	55.62	7	*e*P	P	05 38 24.8	+0.1
	comp=Z,20nm,1.4s						
KKAR	Karatay Array	55.71	4	*e*P	P	05 38 24.3	-0.9
KKAR				pmax	pmax		
	comp=Z,14nm,1.4s						
KKAR	Karatay Array	55.71	4	*e*P	P	05 38 24.3	-0.9
	comp=Z,14nm,1.4s						
FRU	Bishkek	55.84	7	*e*P	P	05 38 26.0	-0.1
FRU				*e*		05 38 31.0	
FITZ	Fitzroy Crossi	57.33	103	*e*P	P	05 38 36.4	-0.9
	comp=Z,23nm,1.6s						
SYO	Syowa Base	58.75	191⇑	*e*P	P	05 38 45.0	-1.3
SYO	Syowa Base	58.75	191⇑	*e*pP	pP	05 38 50.8	+1.3
ENH	Enshi	59.69	43	*e*P	P	05 38 52.9	-0.5
	comp=Z,22nm,1.0s						
BRTR	Keskin Array B	60.36	331	P	P	05 38 58.3	+0.3
	comp=Z,5.3nm,1.2s,baz=165,slow=5.1,SNR=12						
KIV	Kislovodsk	60.37	341	*e*P	P	05 38 55.8	-2.1
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA	Gaotai	60.59	29	P	P	05 38 59.4	-0.2
GTA				pP	sP	05 39 03.8	-0.2
GTA				sP	pP	05 39 06.3	+3.5
GTA				pmax	pmax		
	comp=Z,11nm,1.4s						
MKAR	Makanchi Array	60.99	13	P	P	05 39 01.1	-0.9
	comp=Z,3.4nm,0.9s,baz=199,slow=7.1,SNR=25						
XAN	Xi'an	61.75	40	P	P	05 39 06.3	-1.2
XAN				pP	sP	05 39 12.9	+1.0
XAN				pmax	pmax		
	comp=Z,16nm,1.8s						
ABKAR	Akbulak array	61.97	355	*e*P	P	05 39 08.0	-0.5
	comp=Z,19nm,1.1s						
AKTO	Aktyubinsk	63.31	354	P	P	05 39 17.3	-0.2
	comp=Z,4.7nm,0.9s,baz=167,slow=7.7,SNR=19						
KURBB	Kurchatov Arra	64.01	9	P	P	05 39 21.5	-0.5
	comp=Z,2.1nm,0.7s,baz=204,slow=7.2,SNR=18						
KURK	Kurchatov	64.11	9⇑	*i*P	P	05 39 22.8	+0.1
KURK				pmax	pmax		
	comp=Z,71nm,1.7s						
KURK	Kurchatov	64.11	9	*e*P	P	05 39 22.1	-0.7
	comp=Z,438nm,1.8s						
ASAR	Alice Springs	64.71	110	P	P	05 39 26.7	-0.7
	comp=Z,3.7nm,0.7s,baz=274,slow=6.0,SNR=24						
WRA	Warramunga Arr	65.40	106	P	P	05 39 31.4	-0.4
	comp=Z,7.9nm,1.1s,baz=274,slow=5.7,SNR=20						
WRAB	Tennant Creek	65.41	106⇑	*i*P	P	05 39 32.5	+0.6
WRAB				pmax	pmax		
	comp=Z,81nm,1.7s						
WRAB	Tennant Creek	65.41	106	*e*P	P	05 39 31.2	-0.7
	comp=Z,28nm,1.4s						
BVAR	Borovoye Array	65.60	3	P	P	05 39 31.4	-0.9
	comp=Z,3.2nm,0.9s,baz=162,slow=6.1,SNR=8.7						
BRVK	Borovoye	65.62	3⇑	*i*P	P	05 39 32.8	+0.3
BRVK				pmax	pmax		
	comp=Z,24nm,1.2s						
BRVK	Borovoye	65.62	3	*e*P	P	05 39 31.8	-0.7
	comp=Z,51nm,1.3s						
ZALV	Zalesovo Beam	68.29	12	P	P	05 39 48.7	-0.9
	comp=Z,2.6nm,0.6s,baz=212,slow=6.6,SNR=16						
TIA	Tai'an	68.37	42	⇑P

CRVS				*e*			05 40 31.5		
VYHS	**Vyhne**	**73.99**	**329**	*e*P		**P**	**05 40 23.9**	**-0.3**	
VYHS				*e*			05 40 35.5		
VYHS					pmax	pmax			
	comp=Z,24nm,2.4s								
VYHS	**Vyhne**	**73.99**	**329**	*e*P		**P**	**05 40 23.9**	**-0.3**	
VYHS				*e*			05 40 35.5		
SOKA	**Soboth**	**74.80**	**326**	*i* P		**P**	**05 40 30.6**	**+1.6**	
	comp=Z,7.0nm,1.3s								
ARSA	**Arzberg**	**74.89**	**327**	*i* P		**P**	**05 40 30.3**	**+0.8**	
	comp=Z,14nm,1.5s								
OBKA	**Obir**	**74.96**	**326**	*i* P		**P**	**05 40 30.3**	**+0.3**	
	comp=Z,22nm,1.9s								
CONA	**Conrad Observa**	**75.14**	**328**	*i* P		**P**	**05 40 31.7**	**+0.7**	
	comp=Z,13nm,1.4s								
MOA	**Molln**	**75.93**	**327**	*i* P		**P**	**05 40 36.2**	**+0.7**	
	comp=Z,18nm,1.2s								
ABTA	**Abfaltersbach**	**76.23**	**325**	*i* P		**P**	**05 40 38.2**	**+1.0**	
	comp=Z,17nm,1.4s								
KSAR	**Wonju Array Be**	**76.36**	**46**	P		**P**	**05 40 37.6**	**-0.4**	
KSAR	**Wonju Array Be**	**76.36**	**46**	P		**P**	**05 40 37.6**	**-0.4**	
KLMR	**Klimovskoe**	**76.37**	**347**	*e*P		**P**	**05 40 34.7**	**-2.9**	
KLMR					pmax	pmax			
	comp=Z,35nm,1.5s								
KSRS	**Korea Array**	**76.39**	**46**	P		**P**	**05 40 37.6**	**-0.6**	
	comp=Z,1.7nm,0.7s,baz=243,slow=5.5,SNR=7.4								
DPC	**Dobruska-Polom**	**76.44**	**330**	*e*P		**P**	**05 40 39.4**	**+1.0**	
DPC	**Dobruska-Polom**	**76.44**	**330**	*e*P		**P**	**05 40 39.4**	**+1.0**	
GERES	**GERESS Array B**	**76.84**	**327**	P		**P**	**05 40 40.0**	**-0.7**	
	comp=Z,0.2nm,0.2s,baz=224,slow=2.7,SNR=4.7								
GOPC	**GO Pecny, Ondr**	**76.94**	**329**	*e*P		**P**	**05 40 41.8**	**+0.7**	
GOPC	**GO Pecny, Ondr**	**76.94**	**329**	*e*P		**P**	**05 40 41.8**	**+0.7**	
WTTA	**Wattenberg**	**77.02**	**325**	*i* P		**P**	**05 40 42.2**	**+0.3**	
	comp=Z,5.4nm,0.9s								
KHC	**Kasperske Hory**	**77.08**	**328**	*e*P		**P**	**05 40 41.6**	**-0.3**	
KHC				*e*pP		**sP**	**05 40 48.0**	**+1.6**	
KHC	**Kasperske Hory**	**77.08**	**328**	*e*P		**P**	**05 40 41.6**	**-0.3**	
KHC				*e*			05 40 48.0		
WATA	**Walderalm**	**77.09**	**325**	*i* P		**P**	**05 40 42.2**	**0.0**	
	comp=Z,4.5nm,0.7s								
PRU	**Pruhonice**	**77.11**	**329**	*e*P		**P**	**05 40 42.4**	**+0.4**	
PRU	**Pruhonice**	**77.11**	**329**	*e*P		**P**	**05 40 42.4**	**+0.4**	
QSPA	**South Pole Qui**	**77.33**	**180**	*e*P		**P**	**05 40 42.9**	**-0.4**	
	comp=Z,678nm,2.1s								
FETA	**Feichten**	**77.39**	**325**	*i* P		**P**	**05 40 44.3**	**+0.4**	
	comp=Z,12nm,1.5s								
RETA	**Reutte**	**77.63**	**325**	*i* P		**P**	**05 40 44.9**	**-0.3**	
	comp=Z,1.1nm,0.3s								
BRG	**Berggiesshubel**	**77.95**	**329**	*e*P		**P**	**05 40 47.9**	**+1.2**	
	comp=Z,28nm,1.6s								
BRG	**Berggiesshubel**	**77.95**	**329**	*e*P		**P**	**05 40 47.9**	**+1.2**	
BRG					pmax	pmax			
	comp=Z,29nm,1.7s								
DAVA	**Damuels**	**78.01**	**325**	*i* P		**P**	**05 40 47.7**	**+0.3**	
	comp=Z,6.4nm,1.0s								
CLL	**Collm**	**78.69**	**329**	*i* P		**P**	**05 40 51.7**	**+0.9**	
	comp=Z,24nm,1.7s								
CLL	**Collm**	**78.69**	**329**	*i* P		**P**	**05 40 51.7**	**+0.9**	
CLL					pmax	pmax			
	comp=Z,24nm,1.7s								
VNDA	**Vanda**	**78.87**	**167**	P		**P**	**05 40 51.1**	**-0.3**	
	comp=Z,4.2nm,1.2s,baz=269,slow=7.1,SNR=7.5								
ARMA	**Armidale**	**79.76**	**119**	*e*P		**P**	**05 40 58.0**	**+0.6**	
	comp=Z,20nm,1.4s								
SBA	**Scott Base**	**79.84**	**168**	*e*P		**P**	**05 40 57.1**	**+0.3**	
SBA					pmax	pmax			
	comp=Z,109nm,2.4s								
SBA	**Scott Base**	**79.84**	**168**	*e*P		**P**	**05 40 57.1**	**+0.3**	
	comp=Z,109nm,2.4s								
BOD	**Bodaibo**	**80.46**	**24**	*e*P		**P**	**05 40 59.4**	**-0.9**	
BOD					pmax	pmax			
	comp=Z,7.0nm,1.9s								
USRK	**Ussuriysk Ar.**	**82.20**	**41**	P		**P**	**05 41 08.7**	**-1.1**	
	comp=Z,2.1nm,0.7s,baz=270,slow=3.2,SNR=5.9								
NRIK	**Noril'sk**	**83.24**	**7**	P		**P**	**05 41 15.2**	**+0.5**	
	comp=Z,1.3nm,0.5s,baz=183,slow=7.5,SNR=7.2								
ESDC	**Sonseca Array**	**83.34**	**313**	P		**P**	**05 41 16.2**	**+0.2**	
	comp=Z,2.5nm,0.8s,baz=95,slow=4.4,SNR=14								
MAJO	**Matsushiro**	**83.51**	**50**	⇑*i*P		**P**	**05 41 17.1**	**+0.2**	
MAT	**Matsushiro**	**83.51**	**50**	P		**P**	**05 41 16.8**	**-0.1**	
MJAR	**Matsushiro Arr**	**83.51**	**50**	P		**P**	**05 41 16.9**	**0.0**	
	comp=Z,4.2nm,0.8s,baz=249,slow=5.7,SNR=8.8								
KLR	**Kul'dur**	**84.30**	**37**	⇑*i*P		**P**	**05 41 20.1**	**-0.5**	
KLR				*i* *P		**sP**	**05 41 26.8**	**+1.7**	
NOA	**NORSAR Array B**	**85.36**	**336**	P		**P**	**05 41 25.8**	**+0.1**	
	comp=Z,2.0nm,1.1s,baz=116,slow=5.0,SNR=3.0								
YAK	**Yakutsk**	**89.30**	**25**	⇓P		**P**	**05 41 45.0**	**+0.4**	
YAK					pmax	pmax			
	comp=Z,11nm,0.6s								
YSS	**Yuzh-Sakhalins**	**90.23**	**42**	*e*P		**P**	**05 41 50.8**	**+1.5**	
TIXI	**Tiksi**	**93.78**	**16**	P		**P**	**05 42 04.5**	**-0.8**	
	comp=Z,1.0nm,0.3s,baz=250,slow=2.9,SNR=7.9								
TIXI	**Tiksi**	**93.78**	**16**	*c i*P		**P**	**05 42 04.6**	**-0.6**	
TIXI					pmax	pmax			
	comp=Z,13nm,1.7s								
ILAR	**Eielson Array**	**123.25**	**16**	PKP		**PKPdf**	**05 47 43.6**	**-1.6**	
	comp=Z,0.6nm,0.7s,baz=317,slow=2.9,SNR=6.7								
LPAZ	**La Paz**	**126.44**	**239**	PKP		**PKPdf**	**05 47 53.2**	**-0.3**	
	comp=Z,2.0nm,1.0s,baz=126,slow=5.0,SNR=5.9								
YKA	**Yellowknife Ar**	**130.32**	**1**	PKP		**PKPdf**	**05 47 57.5**	**-1.2**	
	comp=Z,1.1nm,0.7s,baz=355,slow=2.2,SNR=6.6								
I38A	**Scanlan Farm,**	**143.78**	**333**	P		PKPab	05 48 20.7	-0.3	
	baz=37								
H36A	**Jessenland, He**	**144.01**	**336**	P		PKPbc	05 48 22.3	-0.1	
	baz=34								
J39A	**Decorah**	**144.05**	**332**	P		**PKPab**	**05 48 21.4**	**-0.7**	
	baz=38								
G34A	**Benson**	**144.11**	**338**	P		PKPbc	05 48 22.6	0.0	
	baz=31								
I37A	**Lemond, Waseca**	**144.25**	**335**	P		**PKPab**	**05 48 23.0**	**+0.2**	
	baz=35								
H35A	**Sunnyside Ranc**	**144.27**	**337**	P		PKPbc	05 48 23.3	+0.1	
	baz=33								
K40A	**Colesburg**	**144.28**	**331**	P		**PKPab**	**05 48 22.8**	**-0.2**	
	baz=40								
J38A	**Wedel Dairy, R**	**144.41**	**333**	P		**PKPab**	**05 48 22.2**	**-1.2**	
	baz=37								
L41A	**Preston**	**144.44**	**330**	P		**PKPab**	**05 48 22.2**	**-1.4**	
	baz=41								
I36A	**Fitzsimmons Fa**	**144.51**	**335**	P		PKPbc	05 48 24.1	+0.1	
	baz=34								
K39A	**Oelwein**	**144.63**	**332**	P		**PKPab**	**05 48 22.8**	**-1.5**	
	baz=39								
H34A	**Spellman Lake,**	**144.65**	**338**	P		PKPbc	05 48 24.4	0.0	
	baz=31								
G32A	**Webster**	**144.75**	**340**	P		PKPbc	05 48 25.2	+0.5	
	baz=28								
J37A	**Redenius Farm,**	**144.89**	**334**	P		**PKPab**	**05 48 25.1**	**-0.1**	
	baz=36								
HDIL	**Hopedale**	**144.93**	**327**	P		**PKPab**	**05 48 25.3**	**-0.1**	
	baz=45								
H33A	**Prehn Over Nor**	**144.99**	**339**	P		PKPbc	05 48 25.6	0.0	
	baz=30								
K38A	**Parkersburg**	**145.08**	**332**	P		**PKPbc**	**05 48 24.3**	**-1.6**	
	baz=38								
L39A	**Vinton**	**145.13**	**331**	P		**PKPbc**	**05 48 24.5**	**-1.5**	
	baz=39								
J36A	**Seneca 1, Swea**	**145.21**	**335**	P		**PKPbc**	**05 48 25.7**	**-0.6**	
	baz=34								
I34A	**Hadley**	**145.22**	**337**	P		**PKPbc**	**05 48 25.2**	**-1.1**	
	baz=32								
K37A	**Belmond**	**145.37**	**333**	P		**PKPbc**	**05 48 25.6**	**-1.2**	
	baz=36								
H32A	**Carlson Farm,**	**145.39**	**339**	P		**PKPab**	**05 48 27.2**	**+0.2**	
	baz=29								
I33A	**Coleman**	**145.56**	**338**	P		**PKPbc**	**05 48 27.4**	**+0.1**	
	baz=30								
L38A	**Oak Wood Farm,**	**145.56**	**332**	P		**PKPdf**	**05 48 26.9**	**-0.4**	
	baz=38								
LAO	**LASA Array**	**145.57**	**351**	*e*PKPbc		**PKPab**	**05 48 27.9**	**+0.2**	
ECSD	**EROS Data Cent**	**145.76**	**338**	P		**PKPbc**	**05 48 28.0**	**0.0**	
	baz=31								
K36A	**Gilmore City**	**145.82**	**334**	P		**PKPdf**	**05 48 27.4**	**-0.3**	
	baz=35								
Q44A	**Meyer Farm, Va**	**145.93**	**324**	P		**PKPbc**	**05 48 28.6**	**0.0**	
	baz=47								
MSO	**Missoula**	**146.02**	**0**	P		**PKPdf**	**05 48 28.3**	**+0.2**	
	baz=360,SNR=21								
O41A	**Passleys Farm,**	**146.09**	**328**	P		**PKPdf**	**05 48 27.3**	**-1.0**	
	baz=43								
M38A	**Pleasantville**	**146.24**	**332**	P		**PKPdf**	**05 48 27.9**	**-0.6**	
	baz=38								
N39A	**Derby Farms, D**	**146.33**	**330**	P		**PKPdf**	**05 48 27.9**	**-0.8**	
	baz=40,SNR=5.6								
R44A	**Waltonville**	**146.41**	**324**	P		**PKPbc**	**05 48 30.4**	**+0.3**	
	baz=47								
P41A	**Barry, Barry**	**146.51**	**327**	P		**PKPdf**	**05 48 29.6**	**+0.6**	
	baz=43,SNR=5.5								
O40A	**La Belle**	**146.60**	**329**	P		**PKPbc**	**05 48 30.0**	**-0.6**	
	baz=41,SNR=8.5								
L35A	**Bielow Farm, R**	**146.71**	**335**	P		**PKPdf**	**05 48 29.7**	**+0.4**	
	baz=34								
Q42A	**Golden Eagle**	**146.77**	**326**	P		**PKPbc**	**05 48 30.9**	**-0.3**	
	baz=44								
S44A	**Carbondale**	**146.88**	**323**	P		**PKPdf**	**05 48 30.2**	**+0.5**	
	baz=48,SNR=5.8								
P40A	**Paris**	**147.13**	**328**	P		**PKPdf**	**05 48 30.7**	**+0.6**	
	baz=42,SNR=12								
BOZ	**Bozeman (W)**	**147.15**	**357**	P		**PKPbc**	**05 48 31.5**	**-0.8**	
	baz=3.8,SNR=11								
S43A	**Fulton Ridge,**	**147.45**	**324**	P		**PKPdf**	**05 48 31.2**	**+0.5**	
	baz=47								
RLMT	**Red Lodge**	**147.50**	**354**	P		**PKPbc**	**05 48 33.2**	**-0.1**	
	baz=8.1								
P39B	**Salisbury**	**147.52**	**329**	P		**PKPdf**	**05 48 31.0**	**+0.3**	
	baz=40								
Q40A	**Laux Farm, Aux**	**147.54**	**328**	P		**PKPdf**	**05 48 31.8**	**+1.0**	
	baz=42,SNR=7.9								
RSSD	**Black Hills**	**147.63**	**347**	P		**PKPdf**	**05 48 30.7**	**-0.3**	
	baz=18								
RSSD	**Black Hills**	**147.63**	**347**	*e*PKIKP		**PKPdf**	**05 48 30.2**	**-0.8**	
RSSD				*e*			05 48 33.8		
RSSD	**Black Hills**	**147.63**	**347**	*e*PKPdf		**PKPdf**	**05 48 30.2**	**-0.8**	
RSSD				*e*PKPbc		**PKPbc**	**05 48 33.8**	**0.0**	
BMO	**Blue Mountains**	**147.86**	**5**	*e*PKIKP		**PKPbc**	**05 48 33.5**	**-0.7**	
BMO	**Blue Mountains**	**147.86**	**5**	*e*PKPbc		**PKPbc**	**05 48 33.5**	**-0.7**	
L31A	**Butterfield Fa**	**147.92**	**339**	P		**PKPdf**	**05 48 31.8**	**+0.5**	
	baz=28								
Q39A	**Willow Grove F**	**147.97**	**329**	P		**PKPdf**	**05 48 31.4**	**-0.1**	
	baz=41								
R40A	**Maddies Statio**	**148.16**	**327**	P		**PKPdf**	**05 48 33.3**	**+1.6**	
	baz=42								
P37A	**Lathrop**	**148.22**	**331**	P		**PKPdf**	**05 48 31.5**	**-0.3**	
	baz=38								
H17A	**Grant Village**	**148.34**	**356**	P		**PKPbc**	**05 48 34.1**	**-1.5**	
	baz=5.9,SNR=6.5								
Q38A	**Cooks Store, C**	**148.35**	**329**	P		**PKPdf**	**05 48 32.9**	**+0.8**	
	baz=40								
T41A	**Mountain View**	**148.78**	**325**	P		**PKPdf**	**05 48 34.2**	**+1.3**	
	baz=45,SNR=5.5								
S40A	**Lebanon**	**148.79**	**326**	P		**PKPdf**	**05 48 34.5**	**+1.7**	
	baz=43,SNR=9.2								
Y46A	**Houston**	**149.06**	**317**	P		**PKPbc**	**05 48 35.9**	**-1.5**	
	baz=53								
R38A	**Fenwick Farm,**	**149.09**	**329**	P		**PKPdf**	**05 48 32.8**	**-0.5**	
	baz=40								
T40A	**Mansfield**	**149.12**	**326**	P		**PKPbc**	**05 48 36.1**	**-1.5**	
	baz=43								
S39A	**Bolivar**	**149.16**	**327**	P		**PKPdf**	**05 48 34.0**	**+0.5**	
	baz=42,SNR=7.6								
O33A	**Hebron**	**149.26**	**335**	P		**PKPdf**	**05 48 33.8**	**+0.2**	
	baz=32								
SNOW	**Snow King Moun**	**149.28**	**356**	*e*PKPbc		**PKPbc**	**05 48 39.1**	**+1.1**	
HLID	**Hailey**	**149.28**	**1**	P		**PKPbc**	**05 48 38.4**	**+0.4**	
	baz=359								
HLID	**Hailey**	**149.28**	**1**	*e*PKPbc		**PKPbc**	**05 48 38.4**	**+0.4**	
248A	**Dixon Mills**	**149.31**	**313**	P		**PKPbc**	**05 48 38.2**	**0.0**	
	baz=57								
P34A	**Walnut Farm, R**	**149.38**	**334**	P		**PKPdf**	**05 48 35.4**	**+1.6**	
	baz=34								
REDW	**Red Top Meadow**	**149.38**	**356**	*e*PKPdf		**PKPdf**	**05 48 34.4**	**+0.4**	
REDW				*e*PKPbc		**PKiKP**	**05 48 39.1**	**-0.3**	
V42A	**Cord**	**149.42**	**323**	P		**PKPbc**	**05 48 36.4**	**-2.0**	
	baz=47								
S38A	**Stockton**	**149.51**	**328**	P		**PKPdf**	**05 48 34.6**	**+0.6**	
	baz=41,SNR=10								
K22A	**Casper**	**149.54**	**349**	P		**PKPdf**	**05 48 35.4**	**+1.2**	
	baz=14,SNR=7.9								
BW06	**Boulder Array**	**149.86**	**354**	P		**PKPdf**	**05 48 34.6**	**-0.2**	
	baz=8.1,SNR=8.5								
PDAR	**Pinedale Array**	**149.86**	**354**	PKP		**PKPdf**	**05 48 34.8**	**+0.1**	
	comp=Z,5.6nm,0.9s,baz=355,slow=1.0,SNR=6.8								
PDAR				PKPbc		**PKPbc**	**05 48 39.4**	**-0.1**	
	comp=Z,5.5nm,0.9s,baz=96,slow=1.5,SNR=20								
S37A	**Fort Scott**	**149.88**	**329**	P		**PKPdf**	**05 48 36.0**	**+1.4**	
	baz=39								
U40A	**Yellville**	**149.88**	**325**	P		**PKPdf**	**05 48 36.7**	**+2.1**	
	baz=44,SNR=9.8								
V41A	**Mountainview**	**149.89**	**323**	P		**PKPdf**	**05 48 34.6**	**-0.1**	
	baz=46,SNR=6.6								
Q34A	**Chapman**	**149.95**	**333**	P		**PKPdf**	**05 48 35.0**	**+0.4**	
	baz=34								
T38A	**Diamond**	**150.16**	**328**	P		**PKPdf**	**05 48 36.0**	**+1.0**	
	baz=41,SNR=9.1								
U39A	**Green Forest**	**150.21**	**326**	P		**PKPdf**	**05 48 36.4**	**+1.2**	
	baz=43,SNR=9.5								
V40A	**Witts Springs**	**150.26**	**324**	P		**PKPdf**	**05 48 35.6**	**+0.3**	
	baz=44,SNR=6.7								
Q33A	**Connelly Farm,**	**150.27**	**334**	P		**PKPdf**	**05 48 35.2**	**0.0**	
	baz=32								
S36A	**Lake Cedric, C**	**150.29**	**330**	P		**PKPdf**	**05 48 35.9**	**+0.6**	
	baz=38								
PHWY	**Pilot Hill**	**150.63**	**347**	*e*PKPbc		**PKPbc**	**05 48 41.3**	**-0.2**	
U38A	**Gravette**	**150.66**	**327**	P		**PKPdf**	**05 48 38.0**	**+2.1**	
	baz=41,SNR=6.6								
S35A	**Otter Creek Ra**	**150.67**	**331**	P		**PKPbc**	**05 48 40.4**	**-1.0**	
	baz=36,SNR=6.1								
V39A	**Pettigrew**	**150.70**	**325**	P		**PKPdf**	**05 48 36.6**	**+0.6**	
	baz=43,SNR=6.6								
R33A	**Olander Ranch,**	**150.91**	**334**	P		**PKPbc**	**05 48 40.3**	**-1.6**	
	baz=33								
V38A	**Canehill**	**151.10**	**326**	P		**PKPdf**	**05 48 37.7**	**+1.1**	
	baz=42,SNR=5.7								
N23A	**Red Feather La**	**151.12**	**348**	P		**PKPbc**	**05 48 41.1**	**-1.6**	
	baz=16,SNR=11								
HWUT	**Hardware Ranch**	**151.18**	**357**	*e*PKPbc		**PKPbc**	**05 48 43.0**	**+0.4**	
T35A	**Sooner Cattle**	**151.38**	**330**	P		**PKPdf**	**05 48 37.5**	**+0.6**	
	baz=37,SNR=5.4								
V37A	**Hulbert**	**151.48**	**327**	P		**PKPdf**	**05 48 37.5**	**+0.4**	
	baz=41								
S33A	**Kaszmaul Farm,**	**151.51**	**333**	P		**PKPbc**	**05 48 40.6**	**-2.7**	
	baz=34								
MIAR	**Mount Ida**	**151.59**	**323**	P		**PKPbc**	**05 48 43.6**	**+0.1**	
	baz=45,SNR=7.9								
MIAR	**Mount Ida**	**151.59**	**323**	*e*PKIKP		**PKPbc**	**05 48 44.0**	**+0.5**	
MIAR	**Mount Ida**	**151.59**	**323**	*e*PKPbc		**PKPbc**	**05 48 44.0**	**+0.5**	
X39A	**Fountain Ranch**	**151.92**	**324**	P		**PKPbc**	**05 48 44.2**	**-0.2**	
	baz=44,SNR=11								
ELK	**Elko**	**152.07**	**2**	*e*PKIKP		**PKPbc**	**05 48 45.2**	**+0.4**	
ELK	**Elko**	**152.07**	**2**	*e*PKPbc		**PKPbc**	**05 48 45.2**	**+0.4**	
ISCO	**Idaho Springs**	**152.10**	**346**	*e*PKIKP		**PKPbc**	**05 48 44.9**	**-0.1**	
ISCO	**Idaho Springs**	**152.10**	**346**	*e*PKPbc		**PKPbc**	**05 48 44.9**	**-0.1**	
X38A	**Whitesboro**	**152.21**	**325**	P		**PKPbc**	**05 48 43.3**	**-1.6**	
	baz=43								
DUG	**Dugway, Tooele**	**152.64**	**358**	P		**PKPbc**	**05 48 46.3**	**+0.3**	
	baz=2.0								
DUG	**Dugway, Tooele**	**152.64**	**358**	*e*PKIKP		**PKPbc**	**05 48 46.1**	**+0.1**	
DUG	**Dugway, Tooele**	**152.64**	**358**	*e*PKPbc		**PKPbc**	**05 48 46.0**	**+0.1**	
DUG				*e*PKPab		**PKPab**	**05 48 57.2**	**+0.9**	
TXAR	**Lajitas Array**	**161.00**	**332**	PKP		**PKPdf**	**05 48 50.0**	**+0.1**	
	comp=Z,0.4nm,0.8s,baz=151,slow=2.9,SNR=5.1								
TXAR				PKPab		**PKPab**	**05 49 29.8**	**-2.7**	
	comp=Z,0.7nm,0.8s,baz=63,slow=3.1,SNR=6.5								

TAP 24 05:43:08.8, 22.81N×121.11E, h7km, ML3.6, 5C-9D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.04**	**281**	⇓*i*P			Pg	05 43 10.5	+0.3
	baz=279								
TTN	**Taitung**	**0.07**	**150**	*i* P			Pg	05 43 11.6	+1.1
	baz=145								
TTN					S		Sg	05 43 13.8	+2.0
	baz=145								
ECL	**Taimali**	**0.26**	**214**	⇑*i*P			Pg	05 43 14.1	+0.1
	baz=214								
CHKT	**Chengkung**	**0.37**	**40**	P			Pb	05 43 17.5	-0.2
	baz=38								
CHKT					*e*S		Sb	05 43 25.2	+1.5
	baz=38								
ELDTW	**Lidau**	**0.38**	**347**	⇓*i*P			Pg	05 43 16.9	+0.6
	baz=347								
ELDTW					S		Sg	05 43 22.3	+1.0
	baz=347								
SSD	**Sandimen**	**0.45**	**261**	⇑*i*P			Pg	05 43 17.6	+0.2
	baz=262								
SSD					S		Sg	05 43 22.8	-0.5
	baz=262								
STYT	**Tauyuan**	**0.48**	**317**	⇓*i*P			Pb	05 43 18.8	-0.7
	baz=317								
STYT					*i* S		Sg	05 43 25.4	+1.1
	baz=317								

EAST	**Anshuo**	**0.49**	**209**	⇑*i*P			Pg	05 43 18.7	+0.4
	baz=221								
EAST				*i* S			Sg	05 43 25.6	+0.9
	baz=221								
TAW	**Tawu**	**0.49**	**204**	⇑*i*P			Pg	05 43 18.7	+0.4
	baz=216								
TAW				*i* S			Sb	05 43 26.1	-1.1
	baz=216								
SGST	**Jiashian**	**0.55**	**299**	*e*P			Pb	05 43 20.7	-0.1
	baz=299								
SGST					S		Sb	05 43 28.7	-0.3
	baz=299								
TWF1	**Yuli**	**0.56**	**18**	⇓P			Pg	05 43 19.6	0.0
	baz=359								
TWF1				*i* S			Sb	05 43 28.7	-0.6
	baz=359								
WTP	**Ta-pu**	**0.63**	**313**	⇓*i*P			Pb	05 43 22.3	+0.1
	baz=321								
WTP				*i* S			Sb	05 43 31.4	+0.3
	baz=321								
SCZT	**Fangliau**	**0.63**	**226**	⇑*i*P			Pg	05 43 21.2	+0.3
	baz=218								
TWM1	**Shoushan**	**0.63**	**271**	*e*P			Pb	05 43 22.5	+0.3
	baz=270								
CHN1	**Nanshi**	**0.65**	**305**	*i* P			Pb	05 43 23.1	+0.6
	baz=312								
CHN1				*i* S			Sb	05 43 33.4	+1.6
	baz=312								
YUS	**Yu-Shan**	**0.69**	**348**	⇓*i*P			Pb	05 43 22.8	-0.6
	baz=358								
YUS					S		Sb	05 43 32.3	-1.1
	baz=358								
CHN4	**Tsaushan**	**0.72**	**318**	⇓*i*P			Pb	05 43 24.1	+0.5
	baz=329								
CHN4				*i* S			Sb	05 43 34.7	+1.0
	baz=329								
TWK	**Hsinying**	**0.73**	**308**	*e*P			Pb	05 43 24.5	+0.7
	baz=308								
TWK				*e*S			Sb	05 43 35.2	+1.1
	baz=308								
ALS	**Alishan**	**0.75**	**338**	⇓*i*P			Pb	05 43 24.1	-0.2
	baz=330								
KAU	**Kaohsiung**	**0.78**	**252**	*e*P			Pn	05 43 26.5	+0.3
	baz=251								
TWP	**Hsiaoliuchiu**	**0.83**	**236**	*e*P			Pn	05 43 27.6	+0.6
	baz=227								
TAI1	**Yung-k'ang**	**0.84**	**286**	*e*P			Pn	05 43 28.2	+1.1
	baz=284								
CHN5	**Tsauling**	**0.88**	**333**	⇓*i*P			Pb	05 43 26.7	+0.3
	baz=332								
CHN5				*e*S			Sn	05 43 41.0	+0.3
	baz=332								
HEN	**Hengchun**	**0.88**	**203**	*e*P			Pb	05 43 26.1	-0.2
	baz=192								
TWK1	**Hengchun**	**0.91**	**198**	*e*P			Pb	05 43 26.7	-0.2
	baz=187								
SCLT	**Jiali**	**0.92**	**293**	*e*P			Pn	05 43 28.4	+0.3
	baz=306								
SCLT				*e*S			Sn	05 43 43.9	+2.3
	baz=306								
CHN2	**Minshiung**	**0.92**	**321**	*e*P			Pn	05 43 27.9	-0.4
	baz=319								
CHN2				*e*S			Sn	05 43 42.4	+0.7
	baz=319								
CHY	**Chiayi**	**0.93**	**317**	*e*P			Pn	05 43 28.1	-0.2
	baz=316								
CHY				*e*S			Sn	05 43 42.8	+1.0
	baz=316								
WDT	**Danda**	**0.94**	**1**	*e*P			Pg	05 43 26.7	-0.1
CHN8	**Yiju**	**0.98**	**303**	*e*P			Pb	05 43 28.3	+0.2
	baz=316								
CHN8				*e*S			Sn	05 43 45.1

OKER	Okmok East Rim	2.73	53	P		Pn	05 47 20.3	+0.6
GSTD	Great Sitkin T	2.75	276	P		Pn	05 47 19.3	-0.7
GSCK	Great Sitkin C	2.76	275	P		Pn	05 47 19.3	-0.8
ETKA	Kagalaska Isla	2.92	272	P		Pn	05 47 22.6	+0.5
ADAG	Mount Adagdak	3.03	274	P		Pn	05 47 23.6	-0.2
ADAG				S		Sn	05 48 01.0	+2.1
KIRH	Kanaga Island	3.34	273	P		Pn	05 47 28.8	+0.8
KIKV	Kanaga Island	3.39	272	P		Pn	05 47 29.3	+0.6
KICM	Kanaga Island	3.40	273	P		Pn	05 47 29.6	+0.8
KICM				S		Sn	05 48 11.3	+3.4
MSOM	Makushin Julie	3.48	54	P		Pn	05 47 30.2	+0.3
MCIR	Makushin Cirqu	3.58	53	P		Pn	05 47 31.8	+0.4
MTBL	Makushin Table	3.70	53	P		Pn	05 47 33.3	+0.3
UNV	Unalaska Valle	3.72	56	P		Pn	05 47 33.5	+0.2
TAPA	Tanaga Point A	3.79	272	P		Pn	05 47 34.5	+0.3
TAFL	Tanaga Flats	3.84	271	P		Pn	05 47 35.0	0.0
TAFP	Tanaga Falls P	3.89	273	P		Pn	05 47 36.0	+0.4
TAFP				S		Sn	05 48 23.7	+3.7
AKRB	Akutan Reef Bi	4.09	54	P		Pn	05 47 38.7	+0.4
AKRB				S		Sn	05 48 31.7	+6.9
AKGG	Akutan Green G	4.16	54	P		Pn	05 47 40.2	+0.9
AKUT	Akutan	4.24	55	P		Pn	05 47 41.4	+1.1
AKSA	Akutan Strait	4.28	56	P		Pn	05 47 42.2	+1.3
GANE	Gareloi Northe	4.39	272	P		Pn	05 47 42.8	+0.4
WECS	Westdahl Cape	4.94	55	P		Pn	05 47 51.0	+1.0
WESP	Westdahl Peak	4.95	55	P		Pn	05 47 50.8	+0.6
SPIA	Saint Paul Isl	5.39	8	P		Pn	05 47 56.6	+0.5
SSLW	Shishaldin Wes	5.39	54	P		Pn	05 47 56.7	+0.4
SDPT	Sand Point	7.53	58	P		Pn	05 48 25.9	+0.5
SMY	Shemya	8.75	281	P		Pn	05 48 42.6	+0.5
CHQN	Chignik	8.98	55	*e*Pn		Pn	05 48 45.5	+0.3
OHAK	Old Harbor	11.94	56	*e*Pn		Pn	05 49 23.9	-1.9
KDAK	Kodiak Island	12.49	54	*e*Pn		Pn	05 49 30.9	-2.4
SVW2	Sparrevohn	12.80	38	*e*Pn		Pn	05 49 40.6	+3.1
RSO	Redoubt South	13.57	43	*e*Pn		Pn	05 49 51.7	+3.4
CNPM	China Poot	13.81	48	*e*Pn		Pn	05 49 53.5	+2.2
TT01	Tatalina	13.87	31	*e*Pn		Pn	05 49 53.7	+1.6
SEW	Seward	14.87	48	*e*Pn		Pn	05 50 04.3	-1.2
SUA	Susitna One	14.93	42	*e*Pn		Pn	05 50 07.9	+1.6
RC01	Rabbit Creek A	15.17	44	*e*Pn		P	05 50 11.7	-2.1
	5.3nm,0.8s							
PPLA	Purkeypile	15.18	36	*e*Pn		P	05 50 13.7	-0.2
	14nm,1.2s							
CAST	Castle Rocks	15.54	34	*e*Pn		P	05 50 17.7	-0.1
	6.3nm,0.8s							
KTH	Kantishna Hill	16.03	35	*e*Pn		P	05 50 24.2	+0.8
	19nm,1.3s							
SML	Sawmill	16.10	43	*e*Pn		Pn	05 50 22.8	+1.4
	6.9nm,1.0s							
BPAW	Bear Paw Mtn.	16.35	34	*e*Pn		P	05 50 25.9	-0.9
	20nm,1.4s							
SCM	Sheep Creek Mo	16.54	43	*e*Pn		Pn	05 50 26.7	-0.3
	15nm,0.6s							
RND	Reindeer	16.71	37	*e*Pn		Pn	05 50 29.8	+0.8
	9.7nm,1.0s							
EYAK	Cordova Ski Ar	16.75	49	*e*Pn		Pn	05 50 30.4	+0.9
	12nm,0.8s							
MCK	McKinley	16.86	36	*e*Pn		P	05 50 33.6	+1.1
	11nm,1.0s							
KLU	Klutina	17.01	46	*e*Pn		Pn	05 50 32.4	-0.5
	6.5nm,0.6s							
MLY	Manley	17.03	31	*e*Pn		P	05 50 33.7	-0.7
	6.9nm,1.0s							
DHY	Denali Highway	17.11	40	*e*Pn		Pn	05 50 34.7	+0.6
	13nm,1.4s							
RAGM	Ragged Mountai	17.20	50	*e*Pn		P	05 50 36.3	+0.1
	15nm,0.6s							
BMRM	Bremner River	17.42	48	*e*Pn		Pn	05 50 37.9	+0.1
	6.9nm,0.9s							
CCB	Clear Creek Bu	17.79	35	*e*Pn		Pn	05 50 40.8	-1.5
	5.3nm,1.2s							
MDM	Murphy Dome	17.82	34	*e*Pn		P	05 50 43.0	0.0
	7.6nm,1.1s							
PAX	Paxson	17.82	41	*e*Pn		Pn	05 50 42.7	-0.1
	8.9nm,1.2s							
CRQM	Cirque	18.03	49	*e*Pn		P	05 50 47.3	+1.7
	12nm,0.6s							
ILAR	Eielson Array	18.18	35	P		P	05 50 45.1	-1.9
	0.3nm,0.3s,baz=232,slow=11,SNR=15							
ILB	Eielson Array	18.18	35	*e*P		P	05 50 45.2	-1.8
IL1	Eielson Array	18.18	35	*e*P		P	05 50 46.4	-0.7
BALM	Baldy	18.48	49	*e*P		Pn	05 50 52.4	+1.4
	8.7nm,0.5s							
PEA0B	Petropavlovsk-	18.61	286	*e*P		Pn	05 50 53.4	+1.0
	57nm,1.5s							
PETK	Petropavlovsk-	18.61	286	P		P	05 50 51.2	-0.6
	1.2nm,0.3s,baz=86,slow=14,SNR=5.3							
COLD	Coldfoot	18.69	26	*e*P		Pn	05 50 54.6	+1.3
	7.6nm,1.1s							
DOT	Dot Lake	18.69	40	*e*P		P	05 50 51.4	-1.3
	9.1nm,0.8s							
PCA	Pinnacle	19.26	52	*e*P		Pn	05 51 00.2	-0.1
	35nm,0.7s							
BILL	Bilibino	19.41	335	*e*P		Pn	05 51 01.7	-0.2
	20nm,0.8s							
EGAK	Eagle	20.33	39	*e*P		P	05 51 09.7	-0.7
	9.4nm,0.9s							
HYT	Haines Junctio	20.74	51	*e*P		P	05 51 15.6	+0.6
	16nm,0.7s							
DAWY	Dawson	20.76	42	*e*P		Pn	05 51 17.3	-0.6
	4.6nm,0.8s							
SKAG	Skagway	21.64	55	*e*P		P	05 51 25.6	+1.0
	19nm,0.8s							
DLBC	Dease Lake	24.37	58	P		P	05 51 52.8	+0.7
	10nm,0.6s,baz=270,slow=9.8,SNR=30							
DLBC	Dease Lake	24.37	58	*e*P		P	05 51 54.1	+2.0
	43nm,1.4s							
INK	Inuvik	24.56	34	P		P	05 51 52.2	-1.4
	4.4nm,0.5s,baz=225,slow=10,SNR=22							
INK	Inuvik	24.56	34	*e*P		P	05 51 52.3	-1.2
	20nm,1.4s							
YKA	Yellowknife Ar	31.65	48	P		P	05 52 56.3	-0.6
	1.1nm,0.4s,baz=269,slow=7.6,SNR=18							
H11N2	WAKE ISLAND Hy	36.19	216	T		T	06 32 09.5	
	baz=21,slow=76,SNR=32							
H11N3	WAKE ISLAND Hy	36.19	216	T		T	06 32 10.3	
	baz=21,slow=76,SNR=39							
H11N1	WAKE ISLAND Hy	36.20	216	T		T	06 32 08.4	
	baz=21,slow=76,SNR=35							
H11S1	WAKE ISLAND Hy	37.38	215	T		T	06 33 36.2	
	baz=21,slow=76,SNR=15							
H11S2	WAKE ISLAND Hy	37.40	215	T		T	06 33 35.1	
	baz=21,slow=76,SNR=13							
H11S3	WAKE ISLAND Hy	37.40	215	T		T	06 33 36.5	
	baz=21,slow=76,SNR=15							
MJAR	Matsushiro Arr	38.23	266	P		P	05 53 54.7	+0.8
	0.8nm,0.3s,baz=46,slow=7.1,SNR=4.5							
MCMT	McKenzie Canyo	38.79	76	*e*P		P	05 53 59.5	+0.7
FFC	Flin Flon	40.21	57	*e*P		P	05 54 10.2	0.0
	3.3nm,0.6s							
PDAR	Pinedale Array	41.91	77	P		P	05 54 25.0	+0.4
	0.8nm,0.5s,baz=305,slow=5.2,SNR=6.4							
KSRS	Korea Array	44.02	276	P		P	05 54 41.7	+0.3
	3.6nm,0.6s,baz=56,slow=8.3,SNR=13							
KSAR	Wonju Array Be	44.06	276	P		P	05 54 41.7	0.0
U15A	North Rim	44.08	86	*e*P		P	05 54 43.4	+1.1
	20nm,1.8s							
O20A	White River Ci	44.27	79	*e*P		P	05 54 46.1	+2.5
	6.1nm,0.9s							
MDND	Maddock	44.91	65	*e*P		P	05 54 49.0	+0.7
	22nm,1.3s							
PV01	Paradox Valley	45.30	82	*e*P		P	05 54 52.3	+0.4
ULM	Lac du Bonnet	45.65	61	P		P	05 54 54.5	+0.2
	3.5nm,0.9s,baz=343,slow=5.4,SNR=2.5							
NRIK	Noril'sk	46.17	331	P		P	05 54 57.3	-0.7
	2.7nm,0.7s,baz=72,slow=2.6,SNR=4.0							
AGMN	Agassiz Nation	46.74	63	*e*P		P	05 55 02.8	-0.1
	26nm,1.7s							
T25A	Trinidad	48.48	80	*e*P		P	05 55 18.1	+1.4
	11nm,1.4s							
SONA1	Songino Array	50.30	300	*e*P		P	05 55 30.2	-0.1
SONM	Songino Array	50.31	300	P		P	05 55 29.5	-0.9
	1.2nm,0.8s,baz=48,slow=8.7,SNR=5.0							
SUMG	Summit	51.67	16	*e*P		P	05 55 39.4	-1.2
	7.3nm,1.1s							
HHC	Hu-ho-hao-te	51.74	290	*e*P		P	05 55 40.8	-0.5
HHC					pmax	pmax		
	comp=Z,17nm,1.0s							
HHC					pmax	pmax		
	comp=Z,550nm,8.6s							
TX31	Lajitas Ar. Si	54.20	87	*e*P		P	05 55 59.6	+0.1
TXAR	Lajitas Array	54.20	87	P		P	05 55 59.5	-0.1
	comp=Z,1.3nm,0.6s,baz=299,slow=5.2,SNR=24							
TXAR					PcP	PcP	05 57 03.7	+0.2
	comp=Z,0.5nm,0.6s,baz=264,slow=0.8,SNR=4.0							
MIAR	Mount Ida	56.76	75	*e*P		P	05 56 18.2	+0.5
	comp=Z,12nm,1.5s							
SCHQ	Schefferville	56.78	42	P		P	05 56 16.6	-0.9
	comp=Z,5.6nm,0.8s,baz=301,slow=7.6,SNR=6.2							
ZALV	Zalesovo Beam	56.81	317	P		P	05 56 15.5	-2.2
	comp=Z,0.7nm,0.4s,baz=45,slow=4.6,SNR=3.4							
ZALV					PcP	PcP	05 57 12.8	-0.2
	comp=Z,2.6nm,0.9s,baz=30,slow=3.8,SNR=5.8							
ARCES	ARCESS Array B	58.25	353	P		P	05 56 25.3	-2.4
	comp=Z,1.3nm,0.7s,baz=12,slow=7.4,SNR=10.0							
ARCES					PcP	PcP	05 57 17.9	-0.5
	comp=Z,0.8nm,0.5s,baz=18,slow=4.1,SNR=10							
GTA	Gaotai	59.41	296	*e*P		P	05 56 36.0	-0.3
GTA					pP	pP	05 56 45.6	-3.3
GTA					sP	sP	05 56 49.4	-4.6
GTA					pmax	pmax		
	comp=Z,5.0nm,0.9s							
LZH	Lanzhou	59.42	291	*e*P		P	05 56 43.4	+6.9
LZH					pP	sP	05 56 59.8	+5.7
LZH					sP	pP	05 57 04.4	+15
LZH					pmax	pmax		
	comp=Z,40nm,1.5s							
KURK	Kurchatov	61.77	317	*e*P		P	05 56 51.2	-0.9
	comp=Z,22nm,0.7s							
WMQ	Urumqi	62.69	307	P		P	05 57 01.3	+2.9
WMQ					pP	pP	05 57 11.3	+0.2
WMQ					sP	sP	05 57 15.3	-0.8
WMQ					pmax	pmax		
	comp=Z,4.0nm,0.6s							
MK31	Makanchi Array	63.09	312	*e*P		P	05 56 59.7	-1.3
MKAR	Makanchi Array	63.09	312	P		P	05 56 59.4	-1.5
	comp=Z,1.3nm,0.4s,baz=38,slow=5.6,SNR=25							
MK01	Makanchi Array	63.10	312	*e*P		P	05 56 59.4	-1.7
BRVK	Borovoye	63.27	323	*e*P		P	05 57 01.7	-0.3
	comp=Z,30nm,1.2s							
ZRNK	Zerenda	63.82	324	*e*P		P	05 57 04.9	-0.8
	comp=Z,19nm,0.5s							
LMN	Caledonia Moun	64.20	48	*e*P		P	05 57 07.8	-0.5
	comp=Z,28nm,1.3s							
FINES	FINESS Array B	66.15	351	P		P	05 57 18.7	-1.9
	comp=Z,2.8nm,0.8s,baz=17,slow=8.6,SNR=11							
FINES					PcP	PcP	05 57 49.2	-1.3
	comp=Z,1.6nm,0.8s,baz=72,slow=4.0,SNR=6.3							
NB2	NORSAR Subarra	67.42	358	P		P	05 57 27.1	-1.6
	comp=Z,1.0nm,0.5s,baz=2.4,slow=6.5							
NOA	NORSAR Array B	67.42	358	P		P	05 57 27.1	-1.6
	comp=Z,1.2nm,0.6s,baz=2.7,slow=6.4,SNR=7.6							
ABKAR	Akbulak array	70.08	327	*e*P		P	05 57 44.7	-0.7
KSH	Kashi	71.63	311	*e*P		P	05 57 57.3	+2.1
KSH					PcP	PcP	05 58 18.9	+4.6
KSH					pP	sP	05 58 43.9	+31
KSH					PP	PP	06 00 38.1	+4.1
KSH					S	S	06 06 47.1	-24
KSH					ScS	SKiKP	06 07 31.3	+1.5
KSH	Kashi	71.63	311		SS	SS	06 11 22.8	-24
KSH					pmax	pmax		
	comp=Z,5.0nm,0.4s							
KSH					pmax	pmax		
	comp=Z,870nm,16.6s							
KSH					LR	LR		
	comp=N,360nm,12.7s							
KSH					LR	LR		
	comp=E,430nm,11.5s							
KSH					LR	LR		
	comp=Z,810nm,18.0s							
CMAR	Chiang Mai Arr	75.31	281	P		P	05 58 17.4	+0.4
	comp=Z,1.2nm,0.3s,baz=24,slow=6.7,SNR=6.7							
CM01	Chiang Mai Arr	75.33	281	*e*P		P	05 58 16.9	-0.1
AKASG	Malin Array Be	76.28	346	P		P	05 58 19.9	-2.1
	comp=Z,0.7nm,0.4s,baz=16,slow=5.9,SNR=3.4							
GERES	GERESS Array B	79.56	356	P		P	05 58 39.3	-1.0
	comp=Z,0.7nm,0.6s,baz=19,slow=3.3,SNR=6.3							
GEA0	GERESS Array S	79.56	356	*e*P		P	05 58 39.6	-0.8
GEYT	Alibeck	80.56	322	P		P	05 58 44.9	-1.0
	comp=Z,2.0nm,0.4s,baz=20,slow=4.6,SNR=3.6							
WRA	Warramunga Arr	85.57	230	P		P	05 59 11.2	-0.6
	comp=Z,0.7nm,0.9s,baz=36,slow=6.0,SNR=6.3							
BRTR	Keskin Array B	86.14	341	P		P	05 59 13.4	-1.3
	comp=Z,1.1nm,0.6s,baz=25,slow=4.1,SNR=4.7							
ESDC	Sonseca Array	88.21	9	P		P	05 59 22.8	-1.8
	comp=Z,0.7nm,0.6s,baz=345,slow=5.5,SNR=4.3							
AS01	Alice Springs	88.96	228	*e*P		P	05 59 28.2	+0.2
ASAR	Alice Springs	88.98	228	P		P	05 59 28.1	-0.1
	comp=Z,1.3nm,0.6s,baz=29,slow=4.7,SNR=15							
COCO	West Island	100.37	264	*e*Pdif		Pdif	06 00 19.9	-0.5
TSUM	Tsumeb	146.59	344	*e*PKPdf		PKPbc	06 06 15.1	0.0
MAW	Mawson	149.59	218	PKPbc		PKPbc	06 06 21.5	+0.2
	comp=Z,3.3nm,0.8s,baz=120,slow=3.9,SNR=6.6							
MAW	Mawson	149.59	218	*e*PKPbc		PKPbc	06 06 22.0	+0.7
LBTB	Lobatse	150.11	327	*e*PKPbc		PKPbc	06 06 24.6	+0.5

NEIC ***24*** *06:03:16.9,51.77N×171.67W,h17km,mb4.4/47, ML4.2(AEIC),After AEIC.*

ISCJB ***24*** *06:03:17.6±0.5,51.96N±0.06×171.82W±0.04,h51km±4km, mb4.4/49,Error ellipse: s-maj=10.0km s-min=3.0km az=165.7*

IDC ***24*** *06:03:21.5±5.1,52.21N×171.77W,h67km±46km,mb3.9/28, mb1 4.1/30,mb1mx4.0/51,mbtmp4.2/30,ML3.7/2,Error ellipse: s-maj=22.3km s-min=11.3km az=178.0*

ISC 24 06:03:20.3±1.1,**52.0N**±0.1×**171.73W**±0.04,**h59**km±9km, **n146,**σ1**§62**/149,**mb4.3**/49,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	Korovin Southe	1.46	283	P	Pn	06 03 42.4	-2.0
KOFP	Korovin Flat P	1.48	280	P	Pn	06 03 42.1	-2.6
KONE	Korovin Northe	1.51	285	P	Pn	06 03 43.2	-1.9
KONE				S	Sn	06 04 03.4	-0.4
KOKL	Mount Kliuchef	1.55	282	P	Pn	06 03 43.2	-2.4
NIKH	Nikolski High	2.00	61	P	Pn	06 03 49.1	-2.5
NIKH				S	Sn	06 04 14.6	-0.8
OKAK	Okmok	2.57	52	P	Pn	06 03 57.6	-1.8
OKTU	Okmok Mt. Tuli	2.62	57	P	Pn	06 03 59.0	-1.2
GSMY	Great Sitkin M	2.67	272	P	Pn	06 03 58.0	-2.9
GSTR	Great Sitkin T	2.67	273	*e*Pn	Pn	06 03 59.2	-1.7
GSTR				*e*Sn	Sn	06 04 35.8	+3.8
GSTD	Great Sitkin T	2.73	272	P	Pn	06 03 59.3	-2.3
GSTD				S	Sn	06 04 31.3	-2.1
GSCK	Great Sitkin C	2.74	271	P	Pn	06 04 00.1	-2.7
ETKA	Kagalaska Isla	2.90	268	P	Pn	06 04 01.2	-2.8
ADAG	Mount Adagdak	3.01	271	P	Pn	06 04 03.6	-1.8
KIKV	Kanaga Island	3.37	270	P	Pn	06 04 08.1	-2.3
MSOM	Makushin Julie	3.40	56	P	Pn	06 04 09.9	-0.9
MCIR	Makushin Cirqu	3.50	55	P	Pn	06 04 10.8	-1.4
MTBL	Makushin Table	3.62	56	P	Pn	06 04 13.0	-0.9
UNV	Unalaska Valle	3.65	58	P	Pn	06 04 13.3	-0.9
UNV				S	Sn	06 04 56.4	+0.5
TAPA	Tanaga Point A	3.77	269	P	Pn	06 04 14.3	-1.6
TAFP	Tanaga Falls P	3.87	271	P	Pn	06 04 15.7	-1.6
AKRB	Akutan Reef Bi	4.01	56	P	Pn	06 04 18.2	-1.0
AKGG	Akutan Green G	4.08	56	P	Pn	06 04 19.8	-0.3
AKUT	Akutan	4.17	57	P	Pn	06 04 20.9	-0.4
GANE	Gareloi Northe	4.37	270	P	Pn	06 04 22.1	-1.9
WESE	West Dahl East	4.94	58	P	Pn	06 04 31.1	-0.8
SPIA	Saint Paul Isl	5.23	9	P	Pn	06 04 36.0	+0.2
SDPT	Sand Point	7.46	59	P	Pn	06 05 05.5	-0.9
SMY	Shemya	8.70	280	*e*Pn	Pn	06 05 21.6	-1.6
CHQN	Chignik	8.90	56	*e*Pn	Pn	06 05 25.8	-0.2
OHAK	Old Harbor	11.87	57	*e*Pn	Pn	06 06 03.5	-3.0
KDAK	Kodiak Island	12.41	55	*e*Pn	Pn	06 06 10.7	-3.2
SVW2	Sparrevohn	12.68	38	*e*Pn	Pn	06 06 19.8	+2.2
RSO	Redoubt South	13.47	44	*e*Pn	Pn	06 06 27.8	-0.7
CNPM	China Poot	13.71	49	*e*Pn	Pn	06 06 33.9	+2.2
TT01	Tatalina	13.74	31	*e*Pn	Pn	06 06 35.0	+3.0
TTA	Tatalina	13.76	31	*e*Pn	Pn	06 06 35.7	+3.4
BRLK	Bradley Lake	13.98	48	*e*Pn	Pn	06 06 37.0	+1.8
SPU	Mount Spurr	14.13	42	*e*Pn	Pn	06 06 38.9	+1.7
SEW	Seward	14.78	48	*e*Pn	Pn	06 06 47.0	+1.5
SUA	Susitna One	14.82	42	*e*Pn	P	06 06 49.1	-1.7
PPLA	Purkeypile	15.06	36	*e*Pn	P	06 06 54.0	+0.6
	75nm,1.9s						
CAST	Castle Rocks	15.42	35	*e*Pn	P	06 06 57.6	+0.3
	8.8nm,0.9s						
PMR	Palmer	15.56	43	*e*Pn	P	06 06 57.6	-1.3
	13nm,1.4s						
KTH	Kantishna Hill	15.91	35	*e*Pn	P	06 07 02.6	-0.2
	10nm,0.8s						
TRF	Thorofare Moun	16.08	36	*e*Pn	Pn	06 07 03.9	+1.4
	23nm,1.1s						
BPAW	Bear Paw Mtn.	16.22	34	*e*Pn	P	06 07 06.6	+0.4
	12nm,0.9s						
SCM	Sheep Creek Mo	16.44	44	*e*Pn	Pn	06 07 06.8	0.0
	22nm,0.7s						
MCK	McKinley	16.74	37	*e*Pn	P	06 07 11.9	0.0
	17nm,1.2s						
MLY	Manley	16.90	32	*e*Pn	P	06 07 14.2	+0.5
	6.2nm,0.8s						
KLU	Klutina	16.91	46	*e*Pn	Pn	06 07 13.6	+0.8
	10nm,0.7s						
DHY	Denali Highway	16.99	40	*e*Pn	Pn	06 07 14.4	+0.6
	9.5nm,1.2s						
RAGM	Ragged Mountai	17.11	50	*e*P	P	06 07 18.1	+2.0
	18nm,0.8s						
BMRM	Bremner River	17.32	48	*e*Pn	P	06 07 19.8	+1.3
	9.2nm,0.8s						
WRH	Wood River Hil	17.46	35	*e*Pn	Pn	06 07 18.6	-0.8
	12nm,1.2s						
CCB	Clear Creek Bu	17.66	35	*e*Pn	Pn	06 07 21.5	-0.4
	15nm,1.4s						
MDM	Murphy Dome	17.69	34	*e*Pn	P	06 07 23.7	+1.2
	15nm,1.1s						
PAX	Paxson	17.71	42	*e*Pn	P	06 07 24.1	+1.3
	9.9nm,1.2s						
HDA	Harding Lake	17.84	36	*e*Pn	Pn	06 07 24.0	-0.1
	117nm,1.8s						
CRQM	Cirque	17.94	50	*e*Pn	P	06 07 27.8	+2.4
	18nm,0.8s						
ILAR	Eielson Array	18.06	36	P	Pn	06 07 24.7	-2.1
	0.3nm,0.3s,baz=233,slow=11,SNR=20						
ILB	Eielson Array	18.06	36	*e*P	Pn	06 07 25.9	-0.8
IL1	Eielson Array	18.06	36	*e*P	Pn	06 07 25.6	-1.1
BALM	Baldy	18.39	49	*e*P	Pn	06 07 32.3	+1.4
	14nm,0.8s						
PETK	Petropavlovsk-	18.55	285	P	P	06 07 31.5	-0.4
	0.3nm,0.3s,baz=84,slow=15,SNR=3.8						
COLD	Coldfoot	18.55	27	*e*P	Pn	06 07 35.6	+2.9
	14nm,1.2s						
DOT	Dot Lake	18.58	41	*e*P	Pn	06 07 33.6	+0.6
	45nm,1.7s						
PCA	Pinnacle	19.18	53	*e*P	Pn	06 07 40.3	+0.1
	42nm,0.9s						
BILL	Bilibino	19.26	335	*e*P	Pn	06 07 40.9	-0.1
	31nm,0.9s						
DHAK	Deception Hill	20.06	56	*e*P	Pn	06 07 50.0	-0.6
	200nm,1.8s						
HYT	Haines Junctio	20.65	51	*e*P	P	06 07 56.6	+1.7
	29nm,0.8s						
DAWY	Dawson	20.65	42	*e*P	Pn	06 07 57.7	+0.1
	24nm,1.6s						
SKAG	Skagway	21.56	56	*e*P	P	06 08 05.3	+0.8
	25nm,0.8s						
H02S1	DAWSON INLET T	23.66	72	T	T	06 33 11.2	
	SNR=3.6						
DLBC	Dease Lake	24.30	58	P	P	06 08 33.0	+1.1
	9.2nm,0.6s,baz=279,slow=8.4,SNR=34						
DLBC	Dease Lake	24.30	58	*e*P	P	06 08 34.2	+2.2
	74nm,1.6s						
INK	Inuvik	24.43	34	P	P	06 08 32.0	-0.9
	5.5nm,0.8s,baz=249,slow=7.9,SNR=11						
INK	Inuvik	24.43	34	*e*P	P	06 08 32.1	-0.8
	10.0nm,1.0s						
YKA	Yellowknife Ar	31.55	48	P	P	06 09 36.2	-0.4
	1.3nm,0.6s,baz=276,slow=7.0,SNR=18						
TIXI	Tiksi	32.28	329	P	P	06 09 42.0	-0.8
	1.2nm,0.3s,baz=113,slow=4.9,SNR=3.2						
TIXI					PcP	PcP	06 12 29.4	-0.1
	3.6nm,0.8s,baz=102,slow=1.5,SNR=4.0							
NEW	Newport	34.50	74	P	P	06 10 03.1	+0.7
	3.2nm,0.7s,baz=316,slow=12,SNR=4.2							
H11N2	WAKE ISLAND Hy	36.31	215	T	T	06 48 46.8		
	baz=21,slow=76,SNR=47							
H11N3	WAKE ISLAND Hy	36.32	215	T	T	06 48 46.2		
	baz=21,slow=76,SNR=47							
H11N1	WAKE ISLAND Hy	36.33	215	T	T	06 48 47.4		
	baz=21,slow=76,SNR=40							
WVOR	Wild Horse Val	36.56	84	*e*P	P	06 10 21.1	+0.8
	4.3nm,1.0s							
H11S1	WAKE ISLAND Hy	37.51	215	T	T	06 50 15.4		
	baz=30,slow=76,SNR=23							
H11S2	WAKE ISLAND Hy	37.52	215	T	T	06 50 17.2		
	baz=

AKTO	**Aktyubinsk**	**69.56**	**329**	P		**P**	06 14 21.9	**-0.6**
	comp=Z,8.7nm,0.6s,baz=51,slow=7.1,SNR=19							
AAK	**Ala-Archa**	**69.70**	**314**	P		**P**	06 14 23.8	**+0.1**
	comp=Z,3.3nm,0.4s,baz=31,slow=2.1,SNR=6.2							
ABKAR	**Akbulak array**	**69.94**	**327**	*eP*		**P**	06 14 24.3	**-0.6**
KSH	**Kashi**	**71.52**	**311**	*eP*		**P**	06 14 38.0	**+3.2**
KSH				PcP		**PcP**	06 14 58.8	**+4.9**
KSH				pP		sP	06 15 11.0	+13
KSH				PP		**PP**	06 17 20.9	**+7.4**
KSH				S		S	06 23 39.0	-10
KSH				ScS		**SKSac**	**06 24 28.4**	**-4.5**
KSH	**Kashi**	**71.52**	**311**	SS		SS	06 28 26.0	+2.1
KSH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KSH				pmax		pmax		
	comp=Z,440nm,7.2s							
KSH				LR		LR		
	comp=N,230nm,8.9s							
KSH				LR		LR		
	comp=E,180nm,7.2s							
KSH				pmax		pmax		
	comp=Z,680nm,14.5s							
CMAR	**Chiang Mai Arr**	**75.27**	**281**	P		**P**	**06 14 57.0**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=34,slow=5.4,SNR=6.1							
CM01	**Chiang Mai Arr**	**75.28**	**281**	*eP*		**P**	**06 14 57.5**	**+0.5**
AKASG	**Malin Array Be**	**76.11**	**346**	P		**P**	**06 14 59.7**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=16,slow=6.3,SNR=2.6							
GERES	**GERESS Array B**	**79.39**	**356**	P		**P**	**06 15 17.8**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=15,slow=5.5,SNR=6.5							
GEYT	**Alibeck**	**80.43**	**322**	P		**P**	**06 15 25.2**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=18,slow=1.8,SNR=3.2							
BRTR	**Keskin Array B**	**85.98**	**341**	P		**P**	**06 15 54.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=39,slow=2.9,SNR=5.6							
BR231	**Keskin MP Arra**	**86.04**	**341**	*eP*		**P**	**06 15 54.6**	**+0.3**
ESDC	**Sonseca Array**	**88.05**	**9**	P		**P**	**06 16 03.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=331,slow=4.6,SNR=4.5							
AS01	**Alice Springs**	**89.05**	**228**	*eP*		**P**	**06 16 08.5**	**-0.2**
ASAR	**Alice Springs**	**89.07**	**228**	P		**P**	**06 16 08.8**	**0.0**
	comp=Z,1.0nm,0.7s,baz=28,slow=5.0,SNR=7.3							
TSUM	**Tsumeb**	**146.43**	**344**	*e*PKPdf		**PKPdf**	**06 22 54.8**	**+1.5**
LBTB	**Lobatse**	**149.97**	**327**	*e*PKPbc		**PKPbc**	**06 23 04.6**	**+0.7**

*IDC **24** 06:06:19.7±1.2,52.07N×172.04W, h0km, mb3.9/12, mb1 4.1/13,mb1mx3.8/51,mbtmp3.9/13, ML3.8/1, MS4.8/1, Ms1 4.8/1, ms1mx4.0/52, Error ellipse: s-maj=32.8km s-min=19.2km az=2.0*

*ISCJB **24** 06:06:25.1±0.7,51.9N±0.1×171.70W±0.05, h50km, mb3.9/12, MS4.8/1, Error ellipse: s-maj=15.6km s-min=3.6km az=168.6*

*NEIC **24** 06:06:25.9,51.73N×171.63W, h26km, ML3.7(AEIC), After AEIC.*

ISC 24 06:06:26.4±0.8,51.9N±0.1×171.75W±0.04, h50km, n37, σ1s09/42, mb3.9/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.48**	**288**	P		**Pn**	**06 06 50.8**	**+0.1**
KOFP	**Korovin Flat P**	**1.49**	**285**	P		**Pn**	**06 06 51.9**	**+1.1**
KONE	**Korovin Northe**	**1.53**	**289**	P		**Pn**	**06 06 51.7**	**+0.3**
KOKV	**Korovin Volcan**	**1.55**	**288**	P		**Pn**	**06 06 52.3**	**+0.7**
KOKV				S		**Sn**	**06 07 12.4**	**+1.8**
KOKL	**Mount Kliuchef**	**1.56**	**286**	P		**Pn**	**06 06 53.2**	**+1.4**
NIKH	**Nikolski High**	**2.07**	**58**	P		**Pn**	**06 06 57.5**	**-1.1**
NIKH				S		**Sn**	**06 07 24.9**	**+1.8**
OKAK	**Okmok**	**2.65**	**50**	P		**Pn**	**06 07 05.7**	**-0.9**
GSTR	**Great Sitkin T**	**2.67**	**275**	P		**Pn**	**06 07 07.4**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**2.70**	**56**	P		**Pn**	**06 07 08.0**	**+0.7**
GSTD	**Great Sitkin T**	**2.72**	**275**	P		**Pn**	**06 07 06.9**	**-0.8**
GSTD				S		**Sn**	**06 07 40.7**	**+1.4**
GSCK	**Great Sitkin C**	**2.73**	**274**	P		**Pn**	**06 07 08.3**	**+0.6**
OKER	**Okmok East Rim**	**2.73**	**54**	P		**Pn**	**06 07 08.6**	**+0.8**
KINC	**Kanaga Island**	**3.33**	**272**	P		**Pn**	**06 07 16.3**	**+0.4**
MSOM	**Makushin Julie**	**3.48**	**55**	P		**Pn**	**06 07 17.9**	**-0.1**
MTBL	**Makushin Table**	**3.69**	**54**	P		**Pn**	**06 07 22.0**	**+1.0**
UNV	**Unalaska Valle**	**3.72**	**57**	P		**Pn**	**06 07 21.4**	**+0.1**
UNV				S		**Sn**	**06 08 04.8**	**+1.0**
AKRB	**Akutan Reef Bi**	**4.08**	**55**	P		**Pn**	**06 07 27.8**	**+1.5**
AKUT	**Akutan**	**4.24**	**56**	P		**Pn**	**06 07 29.2**	**+0.9**
AKSA	**Akutan Strait**	**4.28**	**56**	P		**Pn**	**06 07 29.9**	**+0.9**
WESN	**West Dahl Nort**	**5.06**	**56**	P		**Pn**	**06 07 40.4**	**+0.7**
SPIA	**Saint Paul Isl**	**5.34**	**9**	P		**Pn**	**06 07 45.1**	**+1.6**
SSLW	**Shishaldin Wes**	**5.39**	**55**	P		**Pn**	**06 07 45.2**	**+1.0**
ILAR	**Eielson Array**	**18.16**	**35**	P		**P**	**06 10 32.8**	**-1.6**
	0.1nm,0.3s,baz=226,slow=10,SNR=5.2							
DLBC	**Dease Lake**	**24.38**	**58**	P		**P**	**06 11 40.7**	**+1.1**
	3.6nm,0.5s,baz=248,slow=6.0,SNR=8.9							
INK	**Inuvik**	**24.54**	**34**	P		**P**	**06 11 40.1**	**-0.7**
	1.8nm,0.5s,baz=241,slow=7.0,SNR=8.1							
YKA	**Yellowknife Ar**	**31.64**	**48**	P		**P**	**06 12 44.3**	**0.0**
	0.4nm,0.4s,baz=276,slow=7.1,SNR=6.7							
PDAR	**Pinedale Array**	**41.94**	**77**	P		**P**	**06 14 13.6**	**+1.3**
	0.4nm,0.4s,baz=14,slow=5.1,SNR=2.3							
KSRS	**Korea Array**	**43.99**	**275**	LR		LR	06 31 12.6	
	comp=Z,1μm,21.1s,baz=14,slow=34							
TXAR	**Lajitas Array**	**54.23**	**87**	P		**P**	**06 15 47.6**	**+0.4**
	0.3nm,0.6s,baz=323,slow=7.0,SNR=4.2							
TXAR				PcP		**PcP**	**06 16 51.9**	**+0.9**
	0.2nm,0.6s,baz=264,slow=2.7,SNR=2.4							
ARCES	**ARCESS Array B**	**58.20**	**353**	P		**P**	**06 16 12.2**	**-2.5**
	0.9nm,0.8s,baz=14,slow=5.6,SNR=4.2							
ARCES				PcP		**PcP**	**06 17 05.4**	**-0.2**
	0.7nm,0.8s,baz=339,slow=3.1,SNR=4.8							
KURK	**Kurchatov**	**61.72**	**317**	P		**P**	**06 16 39.0**	**0.0**
KURBB	**Kurchatov Arra**	**61.83**	**317**	P		**P**	**06 16 39.0**	**-0.8**
	1.0nm,0.7s,baz=44,slow=7.0,SNR=5.7							
MKAR	**Makanchi Array**	**63.03**	**312**	P		**P**	**06 16 46.0**	**-2.0**
	0.3nm,0.4s,baz=39,slow=7.4,SNR=4.6							
BVAR	**Borovoye Array**	**63.20**	**323**	P		**P**	**06 16 47.9**	**-1.0**
	2.0nm,0.5s,baz=46,slow=5.2,SNR=6.4							
FINES	**FINESS Array B**	**66.09**	**351**	P		**P**	**06 17 06.8**	**-0.9**
	0.6nm,0.4s,baz=18,slow=8.0,SNR=4.0							
AKTO	**Aktyubinsk**	**69.65**	**329**	P		**P**	**06 17 29.7**	**-0.5**
	3.6nm,0.6s,baz=50,slow=9.0,SNR=7.1							
ASAR	**Alice Springs**	**88.99**	**228**	P		**P**	**06 19 16.1**	**+0.5**
	0.2nm,0.4s,baz=299,slow=1.3,SNR=4.0							

*IDC **24** 06:11:07.4±6.0,36.31N×70.95E, h160km±56km, mb3.2/5, mb1 3.4/7, mb1mx3.1/42, mbtmp3.8/7, Error ellipse: s-maj=46.0km s-min=20.3km az=29.0*

*ISCJB **24** 06:11:09.3±0.7,36.48N±0.05×71.0E±0.1, h188km, mb3.4/5, Error ellipse: s-maj=12.7km s-min=6.8km az=164.3*

*NNC **24** 06:11:13.9±2.8,37.03N×70.76E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=29.4km s-min=20.7km az=91.0*

ISC 24 06:11:10.4±0.9,36.52N±0.07×71.0E±0.1, h188km, n12, σ1s73/17, mb3.3/5, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.64**	**135**	*eP*		**Pn**	**06 12 33.0**	**+0.2**
THN				*eS*		**Sn**	**06 13 36.0**	**-1.8**
MNAS	**Manas**	**6.07**	**11**	⇓P		**Pn**	**06 12 39.0**	**+0.6**
	2.3nm,0.5s							
MNAS				⇑S		**Sn**	**06 13 45.5**	**-2.5**
	23nm,0.5s							
KK31	**Karatay Array**	**6.58**	**357**	⇑P		**Pn**	**06 12 45.7**	**+0.7**
	2.2nm,0.4s,baz=174,slow=11,SNR=26							
KK31				S		**Sn**	**06 13 55.5**	**-4.5**
	11nm,0.5s,baz=185,slow=20,SNR=21							
AAK	**Ala-Archa**	**6.67**	**23**	P		**Pn**	**06 12 48.0**	**+1.7**
	1.5nm,0.3s,baz=199,slow=6.1,SNR=4.2							
AAK				S		**Sn**	**06 14 01.6**	**-0.6**
	0.8nm,0.3s,baz=328,slow=22,SNR=7.9							
AAK	**Ala-Archa**	**6.67**	**23**	⇓P		**Pn**	**06 12 48.4**	**+2.1**
	1.5nm,0.3s							
AAK				⇑S		**Sn**	**06 14 02.2**	**0.0**
	4.4nm,0.5s							
TKM2	**Tokmak 2**	**7.31**	**28**	⇑P		**Pn**	**06 12 55.6**	**+0.9**
	2.3nm,0.5s							
AKTO	**Aktyubinsk**	**16.76**	**330**	P		**Pn**	**06 14 54.8**	**+0.5**
	0.5nm,0.3s,baz=137,slow=12,SNR=3.0							
ARCES	**ARCESS Array B**	**41.12**	**338**	P		**P**	**06 18 37.0**	**+1.4**
	0.9nm,0.9s,baz=107,slow=6.5,SNR=4.0							
NOA	**NORSAR Array B**	**44.36**	**323**	P		**P**	**06 19 02.4**	**+0.7**
	1.0nm,0.8s,baz=96,slow=7.9,SNR=2.8							
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P		**P**	**06 21 34.5**	**-0.7**
	0.5nm,1.0s,baz=64,slow=6.5,SNR=2.8							
WRA	**Warramunga Arr**	**82.00**	**122**	P		**P**	**06 23 09.1**	**-0.5**
	0.5nm,0.8s,baz=327,slow=5.0,SNR=8.3							
ASAR	**Alice Springs**	**84.27**	**125**	P		**P**	**06 23 20.9**	**-0.2**
	0.4nm,0.5s,baz=299,slow=7.1,SNR=4.7							

RAGZ	**Rawiri**	**29.30**	**161**	PN		**P**	**06 39 02.2**	**-0.7**
TKGZ	**Te Karaka**	**29.39**	**161**	PN		**P**	**06 39 03.5**	**0.0**
FWVZ	**Far West T-bar**	**29.47**	**165**	PN		**P**	**06 39 06.2**	**+1.6**
TRVZ	**Turoa**	**29.51**	**165**	PN		**P**	**06 39 06.4**	**+1.4**
SNGZ	**Shannon Statio**	**29.54**	**162**	PN		**P**	**06 39 05.0**	**+0.1**
CNGZ	**Carnagh Statio**	**29.54**	**160**	PN		**P**	**06 39 05.1**	**+0.1**
WNVZ	**Wahianoa**	**29.55**	**165**	PN		**P**	**06 39 06.3**	**+1.1**
RIGZ	**Rimuhau**	**29.60**	**161**	PN		**P**	**06 39 04.8**	**-0.7**
BKZ	**Black Stump Fm**	**29.64**	**163**	*eP*		**P**	**06 39 05.9**	**0.0**
	comp=Z,278nm,1.4s							
BKZ	**Black Stump Fm**	**29.64**	**163**	PN		**P**	**06 39 05.2**	**-0.7**
NMHZ	**Naumai**	**29.67**	**163**	PN		**P**	**06 39 06.1**	**0.0**
WHHZ	**Waihua**	**29.78**	**162**	PN		**P**	**06 39 07.0**	**0.0**
WAZ	**Wanganui**	**29.81**	**166**	PN		**P**	**06 39 09.1**	**+1.8**
KNZ	**Kokohu**	**29.86**	**162**	PN		**P**	**06 39 07.4**	**-0.3**
KWHZ	**Kaweka Forest**	**29.86**	**164**	PN		**P**	**06 39 07.9**	**+0.1**
ARHZ	**Aropaoanui**	**29.88**	**163**	PN		**P**	**06 39 07.9**	**0.0**
MCHZ	**McNeill Hill**	**29.96**	**163**	*e*PN		**P**	**06 39 08.9**	**+0.2**
KRHZ	**Kereru**	**30.05**	**164**	PN		**P**	**06 39 09.0**	**-0.5**
MILA	**Mila**	**30.11**	**207**	P		**P**	**06 39 11.3**	**+1.2**
	baz=30,SNR=6.8							
PNHZ	**Pukenui**	**30.26**	**164**	PN		**P**	**06 39 10.9**	**-0.5**
KAHZ	**Kahuranaki**	**30.34**	**163**	PN		**P**	**06 39 11.1**	**-0.9**
QRZ	**Quartz Range**	**30.34**	**170**	PN		**P**	**06 39 13.3**	**+1.4**
PXZ	**Pawanui**	**30.55**	**163**	PN		**P**	**06 39 12.8**	**-1.0**
STKA	**Stephens Creek**	**30.68**	**223**	P		**P**	**06 39 15.1**	**0.0**
	comp=Z,24nm,1.0s,baz=35,slow=8.6,SNR=23							
STKA				PcP		**PcP**	**06 42 12.1**	**-0.2**
	comp=Z,12nm,0.7s,baz=149,slow=3.8,SNR=4.9							
STKA				PKiKP		**PKiKP**	**06 49 41.2**	**-2.1**
	comp=Z,2.3nm,0.8s,baz=150,slow=3.6,SNR=3.6							
STKA				LR		LR	06 51 18.9	
	comp=Z,9μm,18.9s,baz=43,slow=36							
STKA	**Stephens Creek**	**30.68**	**223**	P		**P**	**06 39 16.1**	**+0.9**
	baz=31,SNR=18							
STKA	**Stephens Creek**	**30.68**	**223**	*eP*		**P**	**06 39 16.0**	**+0.8**
	comp=Z,13nm,0.9s							
STKA				PcP		**PcP**	**06 42 12.1**	**-0.2**
STKA				PKiKP		**PKiKP**	**06 49 41.2**	**-2.1**
MRZ	**Mangatainoka R**	**30.81**	**166**	PN		**P**	**06 39 15.1**	**-1.0**
ANWZ	**Angora Road**	**30.85**	**164**	PN		**P**	**06 39 15.8**	**-0.6**
OGWZ	**Otaki Gorge**	**30.86**	**166**	PN		**P**	**06 39 16.2**	**-0.3**
NNZ	**Nelson**	**30.87**	**169**	PN		**P**	**06 39 17.4**	**+0.8**
BFZ	**Birch Farm**	**31.00**	**165**	*eP*		**P**	**06 39 17.2**	**-0.5**
	comp=Z,155nm,0.9s							
BFZ	**Birch Farm**	**31.00**	**165**	PN		**P**	**06 39 16.9**	**-0.8**
HOWZ	**Holdsworth Sta**	**31.02**	**166**	PN		**P**	**06 39 16.9**	**-1.0**
CAW	**Cannon Point**	**31.11**	**167**	PN		**P**	**06 39 17.9**	**-0.8**
DSZ	**Denniston Nort**	**31.12**	**172**	PN		**P**	**06 39 20.5**	**+1.5**
SNZO	**South Karori**	**31.23**	**167**	*eP*		**P**	**06 39 20.1**	**+0.3**
	comp=Z,153nm,0.8s							
MTW	**Mount Morrison**	**31.26**	**166**	PN		**P**	**06 39 18.9**	**-1.1**
TMWZ	**Te Maipa**	**31.31**	**165**	PN		**P**	**06 39 19.3**	**-1.3**
THZ	**Tophouse**	**31.31**	**170**	*eP*		**P**	**06 39 21.5**	**+0.9**
	comp=Z,398nm,0.9s							
THZ	**Tophouse**	**31.31**	**170**	PN		**P**	**06 39 20.9**	**+0.2**
MSWZ	**Moikau Station**	**31.45**	**167**	PN		**P**	**06 39 20.7**	**-1.0**
PAWZ	**Paruwai Farm**	**31.45**	**166**	PN		**P**	**06 39 21.0**	**-0.9**
TRWZ	**Traveller**	**31.53**	**166**	PN		**P**	**06 39 21.5**	**-1.0**
WC3	**Warramunga Arr**	**31.71**	**250**	*eP*		**P**	**06 39 24.3**	**0.0**
	comp=Z,144nm,1.1s							
WRAB	**Tennant Creek**	**31.72**	**250**	*c iP*		**P**	**06 39 24.2**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,597nm,1.7s							
WRAB	**Tennant Creek**	**31.72**	**250**	*eP*		**P**	**06 39 24.8**	**+0.4**
	comp=Z,221nm,1.4s							
WB2	**Warramunga Arr**	**31.73**	**250**	*eP*		**P**	**06 39 24.8**	**+0.3**
	comp=Z,163nm,1.1s							
WRA	**Warramunga Arr**	**31.74**	**250**	P		**P**	**06 39 24.1**	**-0.5**
	comp=Z,59nm,0.8s,baz=81,slow=9.1,SNR=175							
WRA				PcP		**PcP**	**06 42 15.9**	**+0.5**
	comp=Z,13nm,0.8s,baz=76,slow=2.6,SNR=7.1							
WRA				S		**S**	**06 44 27.0**	**-4.2**
	comp=Z,12nm,1.3s,baz=79,slow=16,SNR=6.4							
WRA				ScP		**ScP**	**06 45 57.3**	**+2.6**
	comp=Z,3.1nm,0.9s,baz=86,slow=3.3,SNR=5.3							
WRA				pScP			06 46 20.8	
	comp=Z,8.0nm,1.0s,baz=81,slow=2.9,SNR=5.8							
WRA				PKiKP		**PKiKP**	**06 49 43.4**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=343,slow=0.8,SNR=15							
WRA				LR		LR	06 52 35.3	
	comp=Z,8μm,18.4s,baz=80,slow=37							
INZ	**Inchbonnie**	**32.03**	**172**	PN		**P**	**06 39 27.2**	**+0.4**
KHZ	**Kahutara**	**32.06**	**169**	*eP*		**P**	**06 39 27.4**	**+0.3**
	comp=Z,411nm,0.9s							
KHZ	**Kahutara**	**32.06**	**169**	PN		**P**	**06 39 26.6**	**-0.4**
GUMO	**Guam**	**32.12**	**319**	*eP*		**P**	**06 39 28.1**	**+0.2**
GUMO				pmax		pmax		
	comp=Z,311nm,1.1s							
GUMO	**Guam**	**32.12**	**319**	*eP*		**P**	**06 39 28.1**	**+0.2**
	comp=Z,311nm,1.1s							
LTZ	**Lake Taylor**	**32.21**	**171**	*eP*		**P**	**06 39 28.9**	**+0.4**
	comp=Z,354nm,0.8s							
LTZ	**Lake Taylor**	**32.21**	**171**	PN		**P**	**06 39 28.5**	**0.0**
TOO	**Toolangi**	**32.29**	**211**	P		**P**	**06 39 30.9**	**+1.7**
	baz=32,SNR=20							
WVZ	**Waitaha Valley**	**32.30**	**173**	PN		**P**	**06 39 29.5**	**+0.4**
FOZ	**Fox Glacier**	**32.66**	**175**	*eP*		**P**	**06 39 33.5**	**+1.3**
	comp=Z,511nm,1.0s							
FOZ	**Fox Glacier**	**32.66**	**175**	PN		**P**	**06 39 33.1**	**+0.9**
OXZ	**Oxford**	**32.71**	**172**	*eP*		**P**	**06 39 33.1**	**+0.4**
	comp=Z,485nm,1.0s							
OXZ	**Oxford**	**32.71**	**172**	PN		**P**	**06 39 32.7**	**0.0**
KDU	**Kakadu**	**32.83**	**264**	P		**P**	**06 39 33.8**	**-0.4**
	baz=33,SNR=4.1							
RPZ	**Rata Peaks**	**32.96**	**173**	P		**P**	**06 39 35.3**	**+0.3**
	comp=Z,522nm,0.8s,baz=22,slow=1.0,SNR=117							
RPZ	**Rata Peaks**	**32.96**	**173**	*eP*		**P**	**06 39 35.5**	**+0.4**
	comp=Z,570nm,0.9s							
RPZ	**Rata Peaks**	**32.96**	**173**	PN		**P**	**06 39 34.7**	**-0.3**
AS01	**Alice Springs**	**33.01**	**243**	*eP*		**P**	**06 39 35.3**	**-0.4**
CRLZ	**Canterbury Las**	**33.04**	**171**	*eP*		**P**	**06 39 36.0**	**+0.5**
	comp=Z,1μm,1.1s							
AS31	**Alice Springs**	**33.05**	**243**	*eP*		**P**	**06 39 35.9**	**-0.1**
	comp=Z,13nm,0.8s							
ASAR	**Alice Springs**	**33.05**	**243**	P		**P**	**06 39 35.5**	**-0.6**
	comp=Z,29nm,0.9s,baz=72,slow=9.5,SNR=144							
ASAR				pP		**pP**	**06 39 48.4**	**-0.6**
	comp=Z,54nm,1.0s,baz=69,slow=9.8,SNR=16							
ASAR				PcP		**PcP**	**06 42 19.5**	**+0.5**
	comp=Z,17nm,0.9s,baz=76,slow=3.0,SNR=11							
ASAR				pPcP			06 42 34.0	
	comp=Z,8.8nm,0.8s,baz=73,slow=2.7,SNR=5.0							
ASAR				PKiKP		**PKiKP**	**06 49 43.2**	**-2.0**
	comp=Z,1.0nm,0.7s,baz=87,slow=2.3,SNR=4.9							
ASAR				LR		LR	06 52 10.6	
	comp=Z,7μm,20.0s,baz=74,slow=35							
ASAR				P3KPbc			07 10 54.0	
	comp=Z,1.6nm,0.9s,baz=262,slow=4.0,SNR=10.0							
JCZ	**Jackson Bay**	**33.12**	**176**	PN		**P**	**06 39 37.3**	**+0.9**
MQZ	**McQueen's Vall**	**33.17**	**171**	*eP*		**P**	**06 39 37.2**	**+0.5**
	comp=Z,810nm,1.0s							
MQZ	**McQueen's Vall**	**33.17**	**171**	PN		**P**	**06 39 36.1**	**-0.6**
HTT	**Hallett**	**33.42**	**224**	P		**P**	**06 39 40.4**	**+1.2**
	baz=34,SNR=17							
LBZ	**Lake Benmore**	**33.54**	**175**	*eP*		**P**	**06 39 40.0**	**0.0**
	comp=Z,188nm,1.0s							
ARPS	**Mount Arapiles**	**33.71**	**216**	P		**P**	**06 39 43.2**	**+1.6**
	baz=34,SNR=5.8							
WKZ	**Wanaka**	**33.88**	**176**	*eP*		**P**	**06 39 44.0**	**+1.0**
	comp=Z,267nm,1.2s							
MTN	**Manton Dam**	**34.13**	**263**	P		**P**	**06 39 45.9**	**+0.4**
	baz=34,SNR=9.0							
MTN	**Manton Dam**	**34.13**	**263**	*eP*		**P**	**06 39 46.2**	**+0.7**
	comp=Z,85nm,1.1s							
ODZ	**Otahua Downs**	**34.23**	**174**	*eP*		**P**	**06 39 46.3**	**+0.3**
	comp=Z,162nm,1.0s							
ODZ	**Otahua Downs**	**34.23**	**174**	PN		**P**	**06 39 46.1**	**+0.1**
EAZ	**Earnscleugh**	**34.30**	**176**	PN		**P**	**06 39 46.6**	**0.0**
MLZ	**Mavora Lakes**	**34.37**	**177**	*eP*		**P**	**06 39 47.3**	**0.0**
	comp=Z,73nm,1.0s							
RAR	**Rarotonga**	**34.39**	**112**	LR		LR	06 50 59.3	
	comp=Z,8μm,21.9s,baz=290,slow=31							
DCZ	**Deep Cove**	**34.43**	**179**	*eP*		**P**	**06 39 47.8**	**+0.1**
	comp=Z,98nm,0.9s							
WHZ	**Wether Hill Ro**	**34.89**	**178**	*eP*		**P**	**06 39 51.5**	**-0.1**
	comp=Z,77nm,1.0s							
TUZ	**Tuapeka**	**35.05**	**176**	PN		**P**	**06 39 53.5**	**+0.5**
HHSZ	**Highcliff Hill**	**35.06**	**174**	PN		**P**	**06 39 54.3**	**+1.2**
BBOO	**Buckleboo**	**35.07**	**227**	P		**P**	**06 39 53.7**	**+0.2**
	baz=35,SNR=19							
BBOO	**Buckleboo**	**35.07**	**227**	*eP*		**P**	**06 39 53.7**	**+0.2**
	comp=Z,115nm,0.9s							
MOO	**Moorlands**	**35.42**	**204**	P		**P**	**06 39 57.5**	**+1.2**
	baz=36,SNR=7.0							

	comp=Z,278nm,1.4s							
BKZ	**Black Stump Fm**	**29.64**	**163**	PN		**P**	**06 39 05.2**	**-0.7**
NMHZ	**Naumai**	**29.67**	**163**	PN		**P**	**06 39 06.1**	**0.0**
WHHZ	**Waihua**	**29.78**	**162**	PN		**P**	**06 39 07.0**	**0.0**
WAZ	**Wanganui**	**29.81**	**166**	PN		**P**	**06 39 09.1**	**+1.8**
KNZ	**Kokohu**	**29.86**	**162**	PN		**P**	**06 39 07.4**	**-0.3**
KWHZ	**Kaweka Forest**	**29.86**	**164**	PN		**P**	**06 39 07.9**	**+0.1**
ARHZ	**Aropaoanui**	**29.88**	**163**	PN		**P**	**06 39 07.9**	**0.0**
MCHZ	**McNeill Hill**	**29.96**	**163**	*e*PN		**P**	**06 39 08.9**	**+0.2**
KRHZ	**Kereru**	**30.05**	**164**	PN		**P**	**06 39 09.0**	**-0.5**
MILA	**Mila**	**30.11**	**207**	P		**P**	**06 39 11.3**	**+1.2**
	baz=30,SNR=6.8							
PNHZ	**Pukenui**	**30.26**	**164**	PN		**P**	**06 39 10.9**	**-0.5**
KAHZ	**Kahuranaki**	**30.34**	**163**	PN		**P**	**06 39 11.1**	**-0.9**
QRZ	**Quartz Range**	**30.34**	**170**	PN		**P**	**06 39 13.3**	**+1.4**
PXZ	**Pawanui**	**30.55**	**163**	PN		**P**	**06 39 12.8**	**-1.0**
STKA	**Stephens Creek**	**30.68**	**223**	P		**P**	**06 39 15.1**	**0.0**
	comp=Z,24nm,1.0s,baz=35,slow=8.6,SNR=23							
STKA				PcP		**PcP**	**06 42 12.1**	**-0.2**
	comp=Z,12nm,0.7s,baz=149,slow=3.8,SNR=4.9							
STKA				PKiKP		**PKiKP**	**06 49 41.2**	**-2.1**
	comp=Z,2.3nm,0.8s,baz=150,slow=3.6,SNR=3.6							
STKA				LR		LR	06 51 18.9	
	comp=Z,9μm,18.9s,baz=43,slow=36							
STKA	**Stephens Creek**	**30.68**	**223**	P		**P**	**06 39 16.1**	**+0.9**
	baz=31,SNR=18							
STKA	**Stephens Creek**	**30.68**	**223**	*eP*		**P**	**06 39 16.0**	**+0.8**
	comp=Z,13nm,0.9s							
STKA				PcP		**PcP**	**06 42 12.1**	**-0.2**
STKA				PKiKP		**PKiKP**	**06 49 41.2**	**-2.1**
MRZ	**Mangatainoka R**	**30.81**	**166**	PN		**P**	**06 39 15.1**	**-1.0**
ANWZ	**Angora Road**	**30.85**	**164**	PN		**P**	**06 39 15.8**	**-0.6**
OGWZ	**Otaki Gorge**	**30.86**	**166**	PN		**P**	**06 39 16.2**	**-0.3**
NNZ	**Nelson**	**30.87**	**169**	PN		**P**	**06 39 17.4**	**+0.8**
BFZ	**Birch Farm**	**31.00**	**165**	*eP*		**P**	**06 39 17.2**	**-0.5**
	comp=Z,155nm,0.9s							
BFZ	**Birch Farm**	**31.00**	**165**	PN		**P**	**06 39 16.9**	**-0.8**
HOWZ	**Holdsworth Sta**	**31.02**	**166**	PN		**P**	**06 39 16.9**	**-1.0**
CAW	**Cannon Point**	**31.11**	**167**	PN		**P**	**06 39 17.9**	**-0.8**
DSZ	**Denniston Nort**	**31.12**	**172**	PN		**P**	**06 39 20.5**	**+1.5**
SNZO	**South Karori**	**31.23**	**167**	*eP*		**P**	**06 39 20.1**	**+0.3**
	comp=Z,153nm,0.8s							
MTW	**Mount Morrison**	**31.26**	**166**	PN		**P**	**06 39 18.9**	**-1.1**
TMWZ	**Te Maipa**	**31.31**	**165**	PN		**P**	**06 39 19.3**	**-1.3**
THZ	**Tophouse**	**31.31**	**170**	*eP*		**P**	**06 39 21.5**	**+0.9**
	comp=Z,398nm,0.9s							
THZ	**Tophouse**	**31.31**	**170**	PN		**P**	**06 39 20.9**	**+

TAU	**Tasmania Unive**	**35.77**	**204**	*e*P		**P**	**06 40 00.7**	**+1.5**
TAU	comp=Z,320nm,1.7s				pmax	pmax			
TAU	**Tasmania Unive**	**35.77**	**204**	*e*P		**P**	**06 40 00.7**	**+1.5**
	comp=Z,321nm,1.8s								
APZ	**The Paps**	**35.83**	**178**	PN		**P**	**06 39 58.9**	**-0.8**
WRKA	**Warakurna**	**38.34**	**243**	P		**P**	**06 40 21.1**	**-0.4**
	baz=38,SNR=28								
FITZ	**Fitzroy Crossi**	**39.63**	**255**	P		**P**	**06 40 32.4**	**+0.2**
	baz=40,SNR=63								
FITZ	**Fitzroy Crossi**	**39.63**	**255**	*e*P		**P**	**06 40 32.5**	**+0.2**
	comp=Z,129nm,1.0s								
SANI	**Sanana**	**40.65**	**280**	P		**P**	**06 40 40.3**	**-0.5**
	comp=Z,72nm,1.5s,comp=Z,2µm								
SOEI	**Soe**	**41.02**	**268**	P		**P**	**06 40 45.7**	**+1.7**
	comp=Z,116nm,1.0s,comp=Z,2µm								
SOEI	**Soe**	**41.02**	**268**	*e*P		**P**	**06 40 45.1**	**+1.1**
	comp=Z,117nm,1.0s								
MMRI	**Maumere**	**43.14**	**269**	P		**P**	**06 41 01.1**	**0.0**
	comp=Z,400nm,1.2s,comp=Z,5µm								
MMRI	**Maumere**	**43.14**	**269**	*e*P		**P**	**06 41 00.9**	**-0.2**
	comp=Z,403nm,1.1s								
KMSI	**Cibinong**	**43.28**	**283**	P		**P**	**06 41 06.9**	**+4.7**
PPT	**Papeete**	**43.51**	**104**	LR		LR	06 55 21.1		
	comp=Z,3µm,21.1s,baz=280,slow=31								
PPT2	**Papeete2**	**43.51**	**104**	*e*LQ		LQ	06 51 23.4		
	comp=Z,8µm,30.5s								
PPT2				*e*LR		LR	06 53 13.8		
	comp=Z,6µm,25.0s								
LUWI	**Luwuk**	**44.01**	**280**	P		**P**	**06 41 09.6**	**+1.5**
LUWI	**Luwuk**	**44.01**	**280**	*e*P		**P**	**06 41 08.8**	**+0.7**
	comp=Z,234nm,1.2s								
TBI	**Tubuai**	**44.17**	**112**	*e*P		**P**	**06 41 10.0**	**+0.8**
	comp=Z,160nm,1.0s								
TBI	**Tubuai**	**44.17**	**112**	*e*LQ		LQ	06 51 46.5		
	comp=Z,6µm,32.8s								
TBI				*e*LR		LR	06 53 35.3		
	comp=Z,11µm,28.0s								
CBIJ	**Chichi jima**	**44.29**	**329**	*e*P		**P**	**06 41 10.3**	**+0.3**
	comp=Z,839nm,1.6s								
BSSI	**Bau Bau, Buton**	**45.20**	**272**	P		**P**	**06 41 18.7**	**+1.1**
	comp=Z,191nm,1.3s,comp=Z,3µm								
MRSI	**Marisa**	**45.21**	**282**	P		**P**	**06 41 20.1**	**+2.4**
MBWA	**Marble Bar**	**45.45**	**251**	*e*P		**P**	**06 41 20.7**	**+1.2**
	comp=Z,227nm,1.2s								
KMBL	**Kambalda**	**45.50**	**237**	P		**P**	**06 41 20.4**	**+0.6**
	baz=46,SNR=9.7								
KAPI	**Kappang**	**46.11**	**274**	*e*P		**P**	**06 41 25.6**	**+0.8**
	comp=Z,172nm,1.0s								
TTSI	**Tana Toraja**	**46.43**	**276**	P		**P**	**06 41 28.8**	**+1.5**
	comp=Z,46nm,0.9s,comp=Z,956nm								
PCI	**Palu**	**46.89**	**279**	P		**P**	**06 41 33.0**	**+2.1**
	comp=Z,296nm,1.4s,comp=Z,4µm								
PLAI	**Plampang**	**47.49**	**268**	P		**P**	**06 41 35.5**	**-0.1**
	comp=Z,228nm,1.3s,comp=Z,3µm								
KIP	**Kipapa**	**47.79**	**48**	*e*P		**P**	**06 41 37.6**	**-0.1**
KIP					pmax	pmax			
	comp=Z,160nm,1.1s								
KIP	**Kipapa**	**47.79**	**48**	*e*P		**P**	**06 41 37.6**	**-0.1**
	comp=Z,156nm,1.1s								
OPA	**Opana**	**47.96**	**47**	*e*P		**P**	**06 41 40.4**	**+1.4**
OPA					pmax	pmax			
	comp=Z,410nm,1.0s								
OPA	**Opana**	**47.96**	**47**	*e*P		**P**	**06 41 40.4**	**+1.4**
	comp=Z,408nm,1.1s								
TWSI	**Taliwang, Sumb**	**48.38**	**268**	P		**P**	**06 41 42.4**	**-0.1**
	comp=Z,93nm,1.1s,comp=Z,1µm								
POHA	**Pohakuloa**	**48.65**	**51**	*e*P		**P**	**06 41 45.5**	**+0.9**
	comp=Z,173nm,0.8s								
HPAH	**Hawaii Prepara**	**48.68**	**51**	*e*P		**P**	**06 41 44.5**	**-0.2**
	comp=Z,165nm,0.9s								
KLBR	**Kellerberrin**	**48.96**	**238**	P		**P**	**06 41 46.8**	**0.0**
	baz=49,SNR=6.6								
BLDU	**Balliduu**	**49.62**	**239**	P		**P**	**06 41 52.2**	**+0.4**
	baz=50,SNR=4.9								
NWAO	**Narrogin (SRO)**	**49.72**	**236**	P		**P**	**06 41 53.0**	**+0.5**
	baz=50,SNR=5.7								
NWAO	**Narrogin (SRO)**	**49.72**	**236**	*e*P		**P**	**06 41 53.2**	**+0.8**
NWAO					pmax	pmax			
	comp=Z,180nm,1.1s								
NWAO	**Narrogin (SRO)**	**49.72**	**236**	*e*P		**P**	**06 41 53.2**	**+0.8**
	comp=Z,176nm,1.1s								
MORW	**Morawa**	**49.88**	**241**	P		**P**	**06 41 54.8**	**+1.0**
	baz=50,SNR=14								
MYLDM	**Lahad Datu**	**49.89**	**286**	*e*P		**P**	**06 41 54.5**	**+0.5**
	comp=Z,232nm,1.3s								
JHJ	**Hachijo jima 2**	**50.42**	**331**	LR		LR	07 01 22.9		
	comp=Z,562nm,21.8s,baz=86,slow=34								
GIRL	**Giralia**	**50.66**	**250**	P		**P**	**06 42 00.1**	**+0.3**
	baz=51,SNR=8.6								
JAGI	**Jajag, Banyuwa**	**51.09**	**268**	P		**P**	**06 42 02.4**	**-0.7**
	comp=Z,213nm,1.3s								
JAGI	**Jajag, Banyuwa**	**51.09**	**268**	*e*P		**P**	**06 42 02.1**	**-1.0**
	comp=Z,234nm,1.1s								
ABJI	**Asem Bagus**	**51.10**	**269**	P		**P**	**06 42 04.3**	**+1.1**
	comp=Z,171nm,1.2s,comp=Z,3µm								
TGY	**Tagaytay City**	**51.12**	**298**	LR		LR	07 01 24.9		
	comp=Z,3µm,21.6s,baz=115,slow=33								
BBKI	**Banjar Baru**	**51.21**	**274**	P		**P**	**06 42 05.4**	**+1.4**
	comp=Z,182nm,1.6s,comp=Z,7µm								
BLJI	**Banyuglugur**	**51.73**	**269**	P		**P**	**06 42 08.0**	**+0.1**
	comp=Z,166nm,0.9s								
GMJI	**Gumukmas**	**51.81**	**268**	P		**P**	**06 42 08.9**	**+0.4**
	comp=Z,127nm,1.1s								
KKM	**Kota Kinabalu**	**52.32**	**286**	*e*P		**P**	**06 42 13.1**	**+0.7**
	comp=Z,196nm,1.3s								
JOW	**Kunigami**	**52.43**	**316**	*e*P		**P**	**06 42 14.0**	**+1.2**
	comp=Z,372nm,1.1s								
PWJI	**Pagerwojo**	**53.46**	**268**	P		**P**	**06 42 20.5**	**-0.1**
	comp=Z,176nm,0.9s								
INU	**Inuyama**	**53.56**	**331**	*e*P		**P**	**06 42 21.5**	**+0.5**
	comp=Z,318nm,1.4s								
NGJI	**Ngawi**	**53.88**	**269**	P		**P**	**06 42 24.4**	**+0.6**
MJAR	**Matsushiro Arr**	**53.97**	**332**	P		**P**	**06 42 23.1**	**-0.9**
	comp=Z,31nm,0.9s,baz=165,slow=8.1,SNR=40								
MJAR					pP		**pP**	**06 42 36.3**	**-1.4**
	comp=Z,75nm,1.1s,baz=162,slow=6.9,SNR=20								
MJAR					LR		LR	07 03 03.3	
	comp=Z,619nm,21.6s,baz=145,slow=33								
MAJO	**Matsushiro**	**53.97**	**332**	*c i*P			**P**	**06 42 22.6**	**-1.4**
MAJO					pmax	pmax			
	comp=Z,347nm,1.0s								
MAJO	**Matsushiro**	**53.97**	**332**	*e*P			**P**	**06 42 24.0**	**-0.1**
	comp=Z,247nm,1.4s								
MAT	**Matsushiro**	**53.97**	**332**	P			**P**	**06 42 23.5**	**-0.5**
MJB9	**Matsu-Tunnel**	**53.98**	**332**	*e*P			**P**	**06 42 24.0**	**-0.1**
	comp=Z,60nm,1.3s								
PCJI	**Pacitan**	**54.05**	**268**	P			**P**	**06 42 25.8**	**+0.8**
	comp=Z,495nm,1.3s,comp=Z,5µm								
SBUM	**Sibu**	**55.10**	**281**	*e*P			**P**	**06 42 33.6**	**+0.9**
	comp=Z,102nm,1.4s								
JNU	**Nakatsue**	**55.12**	**324**	LR		LR	07 02 10.0		
	comp=Z,781nm,21.5s,baz=118,slow=32								
JNU	**Nakatsue**	**55.12**	**324**	*e*P			**P**	**06 42 32.4**	**0.0**
	comp=Z,279nm,1.2s								
YULB	**Yu-li**	**55.44**	**308**	*e*P			**P**	**06 42 34.9**	**0.0**
	comp=Z,153nm,1.4s								
NACB	**Ninganchiao**	**55.64**	**309**	*e*P			**P**	**06 42 36.2**	**-0.1**
	comp=Z,199nm,1.2s								
TPUB	**Ta-pu**	**55.91**	**308**	*e*P			**P**	**06 42 37.8**	**-0.4**
	comp=Z,326nm,1.4s								
SSLB	**Suanglung**	**55.92**	**309**	*e*P			**P**	**06 42 38.1**	**-0.2**
	comp=Z,223nm,1.8s								
YHNB	**Yeheng**	**56.08**	**310**	*e*P			**P**	**06 42 39.8**	**+0.2**
	comp=Z,268nm,1.4s								
TATO	**Taipei**	**56.16**	**310**	*e*P			**P**	**06 42 40.0**	**0.0**
	comp=Z,248nm,1.3s								
KPJI	**Karang Pucung**	**56.37**	**268**	P			**P**	**06 42 42.4**	**+0.7**
KSM	**Kuching**	**56.71**	**279**	*e*P			**P**	**06 42 44.5**	**+0.3**
	comp=Z,127nm,1.3s								
RKT	**Rikitea**	**57.42**	**110**	*e*LR			LR	06 59 46.4	
	comp=Z,7µm,28.2s								
CISI	**Cisompet, Garu**	**57.43**	**268**	*e*P			**P**	**06 42 49.0**	**-0.4**
	comp=Z,217nm,0.9s								
KUR	**Kuril'sk**	**58.24**	**345**	*i* P			**P**	**06 42 53.5**	**-0.8**
ASAJ	**Asahikawa**	**58.76**	**340**	*e*P			**P**	**06 42 58.4**	**+0.5**
	comp=Z,118nm,1.0s								
TJN	**Taejon**	**59.46**	**324**	*i* P			**P**	**06 43 01.1**	**-1.8**
KSRS	**Korea Array**	**59.91**	**325**	P			**P**	**06 43 06.2**	**+0.2**
	comp=Z,12nm,0.8s,baz=138,slow=6.9,SNR=34								
KSRS					pP		**pP**	**06 43 19.1**	**-0.7**
	comp=Z,28nm,1.1s,baz=139,slow=6.2,SNR=15								
KSRS					PcP		**PcP**	**06 43 52.9**	**+0.9**
	comp=Z,12nm,1.0s,baz=137,slow=5.8,SNR=4.1								
KSRS					PP		**PP**	**06 45 14.6**	**-4.1**
	comp=Z,4.4nm,1.0s,baz=147,slow=8.5,SNR=3.9								
KSRS					LR		LR	07 08 27.0	
	comp=Z,578nm,18.4s,baz=125,slow=35								

KSRS	**Korea Array**	**59.91**	**325**	P			**P**	**06 43 06.2**	**+0.2**
KSRS				*PP			**pP**	**06 43 19.1**	**-0.7**
KSRS								06 43 52.9	
KSRS								06 45 14.6	
KSRS					pmax	pmax			
	comp=Z,12nm,0.8s								
KSRS					pmax	pmax			
	comp=Z,28nm,1.1s								
KSRS					pmax	pmax			
	comp=Z,12nm,1.0s								
KSRS					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KSRS					MLR	MLR			
	comp=Z,578nm,18.4s								
KS15	**Wonju Array Si**	**59.92**	**325**	*e*P			**P**	**06 43 06.3**	**+0.3**
KSAR	**Wonju Array Be**	**59.92**	**325**	P			**P**	**06 43 06.2**	**+0.1**
KSAR				*PP			**pP**	**06 43 19.1**	**-0.8**
KSAR								06 43 52.9	
KSAR								06 45 14.6	
KSAR	**Wonju Array Be**	**59.92**	**325**	P			**P**	**06 43 06.2**	**+0.1**
KSAR				pP			**pP**	**06 43 19.1**	**-0.8**
KSAR				PcP			**PcP**	**06 43 52.9**	**+0.9**
KSAR				PP			**PP**	**06 45 14.6**	**-4.3**
SSE	**Sheshan**	**59.92**	**316**	P			**P**	**06 43 06.5**	**+0.3**
SSE				pP			**pP**	**06 43 19.3**	**-0.8**
SSE				PMZ					
	comp=Z,80nm,0.9s								
SSE				PMZ					
	comp=Z,380nm,11.1s								
KS01	**Wonju Array Si**	**59.94**	**325**	*e*P			**P**	**06 43 05.4**	**-0.8**
INCN	**Inchon**	**60.65**	**325**	*e*P			**P**	**06 43 11.3**	**+0.1**
	comp=Z,277nm,1.5s								
YSS	**Yuzh-Sakhalins**	**61.24**	**342**	⇓*e*P			**P**	**06 43 15.3**	**+0.4**
YSS				*e*SP			**pP**	**06 43 28.8**	**0.0**
YSS				*e*				06 43 57.2	
YSS				*e*				06 45 30.6	
YSS				*e*S			**S**	**06 51 32.8**	**+1.6**
YSS				*e*SS			**SS**	**06 55 32.7**	**+0.3**
YSS				pmax	pmax				
	comp=Z,90nm,1.1s								
YSS	**Yuzh-Sakhalins**	**61.24**	**342**	*e*P			**P**	**06 43 15.7**	**+0.8**
	comp=Z,360nm,1.4s								
MSHR	**Mys Shultsa**	**62.06**	**331**	⇓*i*P			**P**	**06 43 19.9**	**-0.6**
NJ2	**Nanjing**	**62.09**	**315**	*e*P			**P**	**06 43 21.5**	**+0.6**
NJ2				PMZ					
	comp=Z,83nm,0.8s								
QIZ	**Qiongzhong**	**62.82**	**298**	P			**P**	**06 43 23.4**	**-2.7**
QIZ				S			**S**	**06 51 54.3**	**+2.1**
QIZ				LE					
	comp=Z,1µm,23.1s								
QIZ				LZ					
	comp=Z,3µm,27.0s								
USRK	**Ussuriysk Ar.**	**62.94**	**333**	P			**P**	**06 43 27.0**	**+0.7**
	comp=Z,52nm,0.9s,baz=141,slow=6.6,SNR=83								
USRK					pP		**pP**	**06 43 40.8**	**+0.5**
	comp=Z,53nm,1.0s,baz=131,slow=6.0,SNR=14								
USRK					LR		LR	07 07 49.9	
	comp=Z,773nm,21.5s,baz=138,slow=33								
MYKOM	**Kota Tinggi**	**63.06**	**278**	*e*P			**P**	**06 43 28.4**	**+0.7**
	comp=Z,100nm,1.2s								
SMY	**Shemya**	**63.78**	**5**	*e*P			**P**	**06 43 32.9**	**+1.2**
SMY					pmax	pmax			
	comp=Z,370nm,1.5s								
SMY	**Shemya**	**63.78**	**5**	*e*P			**P**	**06 43 32.9**	**+1.2**
	comp=Z,367nm,1.5s								
PET	**Petropavlovsk**	**64.00**	**355**	*e*P		P		06 43 45.5	+12
PET					pmax	pmax			
	comp=Z,49nm,1.6s								
PET	**Petropavlovsk**	**64.00**	**355**	*e*P			**P**	**06 43 33.3**	**+0.2**
	comp=Z,132nm,1.6s								
PEA0	**Petropavlovsk-**	**64.17**	**354**	*e*P			**P**	**06 43 34.7**	**+0.4**
PEA0B	**Petropavlovsk-**	**64.17**	**354**	*e*P			**P**	**06 43 34.8**	**+0.5**
	comp=Z,260nm,1.7s								
PETK	**Petropavlovsk-**	**64.17**	**354**	P			**P**	**06 43 34.6**	**+0.3**
	comp=Z,23nm,0.9s,baz=146,slow=7.7,SNR=19								
PETK					LR		LR	07 06 12.5	
	comp=Z,1µm,21.0s,baz=163,slow=31								
PETK					PKPPKP		**P'P'df**	**07 12 26.8**	**+4.5**
	comp=Z,11nm,1.0s,baz=124,slow=7.4,SNR=6.4								
MDJ	**Mudanjiang**	**64.35**	**332**	P			**P**	**06 43 36.4**	**+0.8**
MDJ				PMZ					
	comp=Z,83nm,1.0s								
MDJ				PMZ					
	comp=Z,1µm,9.7s								
MDJ	**Mudanjiang**	**64.35**	**332**	*e*P			**P**	**06 43 36.0**	**+0.4**
	comp=Z,190nm,1.3s								
WHN	**Wuhan**	**64.48**	**311**	⇓*i*P			**P**	**06 43 37.0**	**+0.2**
WHN					pP		**pP**	**06 43 49.4**	**-1.4**
WHN					PMZ				
	comp=Z,350nm,1.8s								
GSTR	**Great Sitkin T**	**64.65**	**12**	*e*P			**P**	**06 43 38.5**	**+1.0**
TYV	**Tymovskoe**	**64.79**	**344**	*e*P			**P**	**06 43 38.0**	**-0.4**
TYV					pmax	pmax			
	comp=Z,131nm,1.4s								
HABR	**Khabarovsk**	**65.16**	**338**	*e*P			**P**	**06 43 38.3**	**-2.5**
HABR				*e*PP			**pP**	**06 43 54.7**	**-0.1**
HABR				*e*				06 44 10.7	
HABR				*e*				06 46 01.9	
HABR				*e*PPP			PPP	06 47 35.3	
HABR				*e*S			**S**	**06 52 16.3**	**-3.7**
HABR				*e*SS			**sS**	**06 52 44.1**	**+0.6**
HABR				*e*				06 53 27.7	
HABR				*e*SS			**SS**	**06 56 30.7**	**-2.9**
HABR				pmax	pmax				
	comp=N,46nm,1.3s								
HABR				pmax	pmax				
	comp=E,39nm,1.3s								
HABR				pmax	pmax				
	comp=Z,151nm,1.3s								
HABR				pmax	pmax				
	comp=Z,547nm,2.0s								
HABR				MLR	MLR				
	comp=Z,901nm,21.0s								
BKNI	**Bangkinang**	**65.48**	**275**	*e*P			**P**	**06 43 44.5**	**+0.9**
	comp=Z,480nm,1.1s								
TIA	**Tai'an**	**65.68**	**318**	⇑P			**P**	**06 43 44.0**	**-0.5**
TIA				PMZ					
	comp=Z,40nm,1.3s								
CN2	**Changchun**	**65.76**	**329**	*e*P			**P**	**06 43 44.4**	**-0.4**
CN2				*e*pP			pP	06 43 57.5	-1.3
CN2				PMZ					
	comp=Z,70nm,0.9s								
CN2				PMZ					
	comp=Z,400nm,3.0s								
IPM	**Ipoh**	**66.42**	**280**	*e*P			**P**	**06 43 50.4**	**+0.7**
	comp=Z,158nm,1.0s								
CASY	**Casey**	**66.57**	**201**	*e*P			**P**	**06 43 50.2**	**+0.5**
	comp=Z,259nm,1.2s								
VNDA	**Vanda**	**66.61**	**181**	P			**P**	**06 43 50.0**	**+0.2**
	comp=Z,58nm,1.2s,baz=354,slow=6.5,SNR=113								
VNDA					PKPPKP		**P'P'df**	**07 12 19.4**	**-2.6**
	comp=Z,1.5nm,1.1s,baz=235,slow=2.8,SNR=4.0								
VNDA	**Vanda**	**66.61**	**181**	*e*P			**P**	**06 43 50.1**	**+0.2**
VNDA					pmax	pmax			
	comp=Z,170nm,1.4s								
VNDA	**Vanda**	**66.61**	**181**	*e*P			**P**	**06 43 50.0**	**+0.2**
	comp=Z,172nm,1.4s								
VNDA					P'P'			07 12 19.4	
SBA	**Scott Base**	**66.92**	**180**	*e*P			**P**	**06 43 53.3**	**+1.6**
SBA					pmax	pmax			
	comp=Z,175nm,1.1s								
SBA	**Scott Base**	**66.92**	**180**	*e*P			**P**	**06 43 53.2**	**+1.6**
	comp=Z,175nm,1.1s								
KULM	**Kulim**	**66.98**	**281**	*e*P			**P**	**06 43 53.0**	**-0.3**
	comp=Z,324nm,1.9s								
KLR	**Kul'dur**	**67.04**	**336**	*c i*P			**P**	**06 43 53.1**	**+0.2**
NIKH	**Nikolski High**	**67.20**	**16**	*e*P			**P**	**06 43 54.2**	**+0.4**
	comp=Z,166nm,1.0s								
SKNT	**Sakolnakorn**	**67.25**	**294**	P			**P**	**06 43 55.3**	**+0.4**
	comp=Z,151nm,0.9s								
NKL	**Nikolayevsk**	**67.39**	**344**	*e*P			**P**	**06 43 55.0**	**0.0**
NKL				*e*				06 44 08.5	
NKL					pmax	pmax			
	comp=Z,86nm,1.0s								
ENH	**Enshi**	**68.00**	**309**	*e*P			**P**	**06 43 59.3**	**-0.1**
	comp=Z,88nm,1.0s								
PSI	**Prapat**	**68.08**	**277**	*e*P			**P**	**06 43 59.9**	**-0.4**
PSI					pmax	pmax			
	comp=Z,170nm,1.4s								
PSI	**Prapat**	**68.08**	**277**	*e*P			**P**	**06 43 59.9**	**-0.4**
	comp=Z,174nm,1.4s								
KHON	**Khonkaen**	**68.09**	**293**	P			**P**	**06 44 01.3**	**+1.2**
	comp=Z,19nm,1.1s								
NONG	**Nongkai**	**68.37**	**294**	P			**P**	**06 44 02.3**	**+0.4**
	comp=Z,105nm,1.3s								

BJT	**Baijiatuau**	**68.52**	**321**	*e*P			**P**	**06 44 02.8**	**+0.4**
BJT					pmax	pmax			
	comp=Z,170nm,1.4s								
BJT	**Baijiatuau**	**68.52**	**321**	*e*P			**P**	**06 44 02.8**	**+0.4**
	comp=Z,170nm,1.4s								
BJI	**Beijing**	**68.53**	**321**	P			**P**	**06 44 02.6**	**+0.2**
BJI				PMZ					
	comp=Z,57nm,1.2s								
BJI				PMZ					
	comp=Z,1µm,10.0s								
GYA	**Guiyang**	**68.54**	**304**	⇑*i*P			**P**	**06 44 03.3**	**+0.3**
GYA					pP		sP	06 44 22.0	-0.7
GYA					sP		PcP	06 44 30.4	+2.5
GYA					PP		**PP**	**06 46 39.6**	**+4.7**
GYA					S		**S**	**06 53 01.8**	**-0.2**
GYA					SKS		**SKiKP**	**06 53 54.0**	**+1.6**
GYA					PMZ				
	comp=Z,40nm,1.0s								
GYA					PMZ				
	comp=Z,280nm,6.8s								
GYA					LN				
	comp=Z,7µm,17.8s								
GYA					LE				
	comp=Z,5µm,18.0s								
GYA					LZ				
	comp=Z,6µm,18.2s								
UNV	**Unalaska Valle**	**68.63**	**17**	*e*P			**P**	**06 44 02.6**	**-0.2**
	comp=Z,45nm,1.2s								
CHAI	**Chaiyaphum**	**68.71**	**292**	P			**P**	**06 44 04.2**	**+0.2**
	comp=Z,17nm,1.0s,comp=Z,183nm								
SURA	**Surathani**	**68.94**	**284**	P			**P**	**06 44 06.8**	**+1.2**
	comp=Z,115nm,1.1s,comp=Z,6µm								
GSI	**Gunungsitoli**	**69.07**	**276**	*e*P			**P**	**06 44 06.8**	**+0.3**
	comp=Z,157nm,0.9s								
AKUT	**Akutan**	**69.09**	**17**	*e*P			**P**	**06 44 05.4**	**-0.2**
	comp=Z,205nm,1.7s								
SURT	**Suratani**	**69.69**	**284**	P			**P**	**06 44 11.5**	**+1.4**
	comp=Z,31nm,1.2s,comp=Z,811nm								
PBKT	**Sadao Pong**	**69.84**	**292**	P			**P**	**06 44 11.8**	**+0.8**
	comp=Z,67nm,1.1s,comp=Z,3µm								
LOEI	**Loei**	**69.88**	**293**	P			**P**	**06 44 09.6**	**-1.7**
	comp=Z,67nm,1.4s,comp=Z,2µm								
PHET	**Kaeng Krachan**	**69.98**	**288**	P			**P**	**06 44 13.7**	**+1.8**
	comp=Z,20nm,1.0s								
XAN	**Xi'an**	**70.21**	**312**	P			**P**	**06 44 13.3**	**+0.3**
XAN					pP		pP	06 44 26.1	-1.1
XAN					PMZ				
	comp=Z,70nm,1.4s								
XAN					PMZ				
	comp=Z,580nm,11.4s								
XAN					LE				
	comp=Z,2µm,23.5s								
XAN					LZ				
	comp=Z,2µm,21.4s								
UTTA	**Uttaradit**	**70.59**	**293**	P			**P**	**06 44 16.5**	**+0.9**
	comp=Z,12nm,1.1s,comp=Z,122nm								
SPIA	**Saint Paul Isl**	**70.64**	**13**	*e*P			**P**	**06 44 15.6**	**+0.6**
	comp=Z,164nm,1.3s								
SRDT	**SRDT**	**70.87**	**289**	P			**P**	**06 44 18.8**	**+1.5**
	comp=Z,211nm,1.8s								
KMI	**Kunming**	**71.25**	**301**	P			**P**	**06 44 21.1**	**+1.3**
KMI					pP		pP	06 44 34.1	+0.1
KMI					PMZ				
	comp=Z,85nm,1.2s								
KMI					LN				
	comp=Z,930nm,19.0s								
KMI					LE				
	comp=Z,1µm,16.6s								
KMI					LZ				
	comp=Z,1µm,20.6s								
MA2	**Magadan**	**71.32**	**352**	LR			LR	07 10 46.8	
	comp=Z,2µm,21.4s,baz=186,slow=32								
MA2	**Magadan**	**71.32**	**352**	*e*P			**P**	**06 44 18.6**	**-0.6**
MA2					pmax	pmax			
	comp=Z,34nm,0.8s								
MA2	**Magadan**	**71.32**	**352**	*e*P			**P**	**06 44 18.6**	**-0.6**
	comp=Z,34nm,0.8s								
SUKH	**Sukhothai**	**71.35**	**293**	P			**P**	**06 44 21.2**	**+1.0**
	comp=Z,12nm,1.1s,comp=Z,147nm								
KHLT	**Khaolaem Dam**	**71.49**	**290**	P			**P**	**06 44 23.2**	**+2.1**
	comp=Z,31nm,1.4s								
LAMP	**Lampang**	**71.67**	**294**	P			**P**	**06 44 23.3**	**+1.1**
	comp=Z,30nm,0.9s,comp=Z,269nm								
HHC	**Hu-ho-hao-te**	**71.89**	**320**	*e*P			**P**	**06 44 23.8**	**+0.6**
HHC					pP		pP	06 44 37.8	+0.5
HHC					sP		sP	06 44 50.6	+7.7
HHC					PMZ				
	comp=Z,42nm,1.3s								
HHC					PMZ				
	comp=Z,780nm,8.3s								
HHC					LN				
	comp=Z,890nm,18.1s								
HHC					LE				
	comp=Z,1µm,20.6s								
HHC					LZ				

CIT	Chita	77.17	330	eP		P		06 44 53.9	+0.4
CIT				e				06 45 06.4	
CIT					pmax	pmax			
	comp=Z,332nm,1.3s								
SVW2	Sparrevohn	77.93	18	eP		P		06 44 57.9	+0.4
	comp=Z,191nm,1.6s								
YAK	Yakutsk	78.05	343	P		P		06 44 57.6	-0.4
	comp=Z,96nm,0.7s,baz=136,slow=1.1,SNR=7.2								
YAK				LR		LR		07 14 52.9	
	comp=Z,2µm,21.9s,baz=144,slow=32								
YAK	Yakutsk	78.05	343	i P		P		06 44 57.8	-0.2
YAK					pmax	pmax			
	comp=Z,288nm,1.7s								
YAK	Yakutsk	78.05	343	eP		P		06 44 58.4	+0.4
	comp=Z,126nm,0.8s								
HOM	Homer	78.11	20	eP		P		06 44 59.3	+0.9
	comp=Z,154nm,0.9s								
CNPM	China Poot	78.15	21	eP		P		06 44 59.1	+0.3
	comp=Z,158nm,1.5s								
RSO	Redoubt South	78.33	19	eP		P		06 44 59.4	-0.6
ULN	Ulaanbaatar	78.34	324	c iP		P		06 45 00.3	+0.1
ULN					pmax	pmax			
	comp=Z,99nm,1.2s								
ULN	Ulaanbaatar	78.34	324	eP		P		06 45 00.6	+0.3
	comp=Z,72nm,1.0s								
BRLK	Bradley Lake	78.45	21	eP		P		06 45 00.9	+0.5
	comp=Z,64nm,0.9s								
SONM	Songino Array	78.70	324	P		P		06 45 02.5	+0.3
	comp=Z,23nm,1.0s,baz=136,slow=5.9,SNR=78								
SONM				pP		pP		06 45 15.8	-0.8
	comp=Z,11nm,1.1s,baz=127,slow=4.8,SNR=5.9								
SONA1	Songino Array	78.71	324	eP		P		06 45 02.3	0.0
BILL	Bilibino	78.76	0	c iP		P		06 45 01.7	-0.2
BILL				i				06 45 11.2	
BILL				i				06 48 03.9	
BILL					pmax	pmax			
	comp=Z,109nm,0.9s								
BILL	Bilibino	78.76	0	eP		P		06 45 02.2	+0.3
	comp=Z,138nm,1.0s								
QSPA	South Pole Qui	79.08	180	eP		P		06 45 03.9	-0.1
SPU	Mount Spurr	79.10	19	eP		P		06 45 03.4	-0.6
GTA	Gaotai	79.14	314	iP		P		06 45 05.8	+1.0
GTA				pP		pP		06 45 18.8	-0.4
GTA				sP		sP		06 45 24.4	-0.3
GTA				S		S		06 55 00.1	-0.8
GTA				sS		ScS		06 55 22.3	-1.3
GTA				PMZ					
	comp=Z,77nm,1.4s								
GTA				LN					
	comp=Z,760nm,21.9s								
GTA				LE					
	comp=Z,1µm,22.8s								
GTA				LZ					
	comp=Z,1µm,21.4s								
SEW	Seward	79.19	21	eP		P		06 45 04.4	0.0
	comp=Z,31nm,0.9s								
TT01	Tatalina	79.23	17	eP		P		06 45 04.9	+0.4
TTA	Tatalina	79.25	17	eP		P		06 45 06.0	+1.2
TTA	Tatalina	79.25	17	eP		P		06 45 06.0	+1.2
	comp=Z,72nm,1.1s								
SUA	Susitna One	79.74	20	eP		P		06 45 07.2	-0.3
	comp=Z,42nm,0.9s								
RC01	Rabbit Creek A	79.80	20	eP		P		06 45 07.8	+0.1
	comp=Z,97nm,1.5s								
PPLA	Purkeypike	80.34	18	eP		P		06 45 10.2	-0.6
	comp=Z,36nm,1.2s								
PMR	Palmer	80.37	20	eP		P		06 45 09.9	-0.8
PMR	Palmer	80.37	20	eP		P		06 45 09.9	-0.8
	comp=Z,92nm,1.5s								
BOD	Bodaibo	80.52	335	eP		P		06 45 11.5	-0.1
BOD					pmax	pmax			
	comp=Z,32nm,1.6s								
SHL	Shillong	80.66	298	eP		P		06 45 12.8	-0.6
SHL				IAmb		IAmb		06 45 15.1	
	comp=Z,119nm,1.4s								
SHL	Shillong	80.66	298	eP		P		06 45 14.0	+0.6
CAST	Castle Rocks	80.77	18	eP		P		06 45 12.3	-0.6
	comp=Z,42nm,0.8s								
SML	Sawmill	80.79	20	eP		P		06 45 13.6	+0.5
SML	Sawmill	80.79	20	eP		P		06 45 13.6	+0.5
	comp=Z,87nm,1.2s								
EYAK	Cordova Ski Ar	80.83	22	eP		P		06 45 13.9	+0.7
	comp=Z,182nm,1.9s								
RAGM	Ragged Mountai	81.12	22	eP		P		06 45 15.5	+0.7
	comp=Z,57nm,1.2s								
SCM	Sheep Creek Mo	81.15	20	eP		P		06 45 15.4	+0.4
SCM	Sheep Creek Mo	81.15	20	eP		P		06 45 15.4	+0.4
	comp=Z,69nm,1.0s								
DIV	Divide	81.22	21	eP		P		06 45 15.4	0.0
	comp=Z,66nm,0.9s								
KTH	Kantishna Hill	81.22	18	eP		P		06 45 14.7	-0.7
	comp=Z,29nm,0.9s								
TRF	Thorofare Moun	81.34	18	eP		P		06 45 15.3	-0.8
	comp=Z,98nm,1.7s								
KLU	Klutina	81.41	21	eP		P		06 45 16.9	+0.5
	comp=Z,46nm,1.0s								
BMRM	Bremner River	81.53	22	eP		P		06 45 17.4	+0.3
	comp=Z,60nm,1.0s								
BPAW	Bear Paw Mtn.	81.60	18	eP		P		06 45 16.6	-0.8
	comp=Z,62nm,1.7s								
RND	Reindeer	81.75	19	eP		P		06 45 18.2	0.0
RND	Reindeer	81.75	19	eP		P		06 45 18.2	0.0
	comp=Z,81nm,1.2s								
CRQM	Cirque	81.94	23	eP		P		06 45 20.2	+0.8
	comp=Z,81nm,1.0s								
MCK	McKinley	81.96	19	eP		P		06 45 19.0	-0.2
MCK	McKinley	81.96	19	eP		P		06 45 19.0	-0.2
	comp=Z,109nm,1.3s								
DHY	Denali Highway	82.00	20	eP		P		06 45 20.0	+0.4
	comp=Z,84nm,1.6s								
IRK	Irkutsk	82.08	327	eP		P		06 45 17.7	-2.4
IRK					pmax	pmax			
	comp=Z,95nm,2.1s								
BWN	Browne	82.11	18	eP		P		06 45 19.8	-0.1
	comp=Z,153nm,1.1s								
TLY	Talaya	82.15	326	P		P		06 45 20.6	+0.1
	comp=Z,26nm,0.8s,baz=148,slow=2.4,SNR=13								
TLY	Talaya	82.15	326	eP		P		06 45 20.7	+0.2
TLY					pmax	pmax			
	comp=Z,94nm,1.9s								
TLY					MLR	MLR			
	comp=Z,761nm,18.0s								
TLY	Talaya	82.15	326	eP		P		06 45 20.8	+0.2
	comp=Z,42nm,0.9s								
MLY	Manley	82.36	17	eP		P		06 45 21.2	-0.1
	comp=Z,52nm,1.4s								
KMRM	Mail Ridge	82.41	47	eP		P		06 45 22.4	+0.2
	comp=Z,71nm,0.9s								
BALM	Baldy	82.42	23	eP		P		06 45 22.3	+0.5
BALM	Baldy	82.42	23	eP		P		06 45 22.3	+0.5
	comp=Z,43nm,0.8s								
HOPS	Hopland Field	82.43	48	eP		P		06 45 22.1	-0.1
	comp=Z,74nm,1.1s								
DIB	Dawson Inlet,	82.47	32	eP		P		06 45 22.7	+0.7
	comp=Z,57nm,1.3s								
LSA	Lhasa	82.48	302	eP		P		06 45 24.0	+0.7
LSA					pmax	pmax			
	comp=Z,61nm,1.5s								
LSA	Lhasa	82.48	302	eP		P		06 45 23.9	+0.7
	comp=Z,61nm,1.5s								
PAX	Paxson	82.56	20	eP		P		06 45 22.2	-0.2
PAX					pmax	pmax			
	comp=Z,22nm,1.1s								
PAX	Paxson	82.56	20	eP		P		06 45 22.2	-0.2
	comp=Z,22nm,1.1s								
PCA	Pinnacle	82.65	24	eP		P		06 45 22.9	-0.1
	comp=Z,139nm,1.0s								
WRH	Wood River Hil	82.75	18	eP		P		06 45 22.8	-0.5
	comp=Z,58nm,1.0s								
SAO	San Andreas Ge	82.88	51	eP		P		06 45 25.5	+0.9
SAO					pmax	pmax			
	comp=Z,38nm,1.1s								
SAO	San Andreas Ge	82.88	51	eP		P		06 45 25.5	+0.9
	comp=Z,38nm,1.1s								
DHAK	Deception Hill	82.90	25	eP		P		06 45 24.2	0.0
	comp=Z,134nm,1.3s								
CCB	Clear Creek Bu	82.96	18	eP		P		06 45 23.7	-0.7
	comp=Z,25nm,0.7s								
MDM	Murphy Dome	83.05	18	eP		P		06 45 24.5	-0.4
	comp=Z,80nm,1.2s								
HDA	Harding Lake	83.06	19	eP		P		06 45 24.9	0.0
	comp=Z,116nm,1.0s								
COLA	College	83.10	18	eP		P		06 45 24.2	-0.9
COLA					pmax	pmax			
	comp=Z,75nm,0.8s								
COLA	College	83.10	18	eP		P		06 45 24.2	-0.9
	comp=Z,75nm,0.8s								
MENT	Mentasta	83.14	21	eP		P		06 45 25.8	+0.4
	comp=Z,176nm,1.6s								
L02D	Cave Junction,	83.18	45	P		P		06 45 26.1	+0.1
	baz=249								
SNCC	San Nicolas Is	83.27	54	P		P		06 45 27.1	+0.4
	baz=252								
IL1	Eielson Array	83.33	18	eP		P		06 45 25.6	-0.6
ILAR	Eielson Array	83.33	18	P		P		06 45 25.6	-0.7
	comp=Z,26nm,0.8s,baz=230,slow=6.0,SNR=230								
ILAR				LR		LR		07 17 14.2	
	comp=Z,589nm,21.9s,baz=259,slow=32								
ILB	Eielson Array	83.33	18	eP		P		06 45 25.6	-0.7
WDC	Whiskeytown Da	83.37	47	eP		P		06 45 28.1	+1.1
WDC	Whiskeytown Da	83.37	47	eP		P		06 45 28.1	+1.1
	comp=Z,72nm,1.5s								
N02D	Trinity Center	83.39	46	P		P		06 45 28.1	+0.8
	baz=249								
SCZ2	Santa Cruz Isl	83.41	54	P		P		06 45 27.7	+0.3
	baz=252								
M02C	Callahan	83.43	46	P		P		06 45 28.2	+0.7
	baz=249,SNR=12								
SBC	Santa Barbara	83.48	53	P		P		06 45 28.2	+0.5
	baz=252								
DOT	Dot Lake	83.49	20	eP		P		06 45 27.2	+0.1
	comp=Z,368nm,1.3s								
PKM	Mcpherson Peak	83.54	53	P		P		06 45 28.9	+0.6
	baz=252								
MOY	Mondy	83.61	325	eP		P		06 45 27.6	-0.6
MOY					pmax	pmax			
	comp=Z,101nm,3.2s								
YBH	Yreka Blue Hor	83.65	46	eP		P		06 45 30.0	+1.4
YBH					pmax	pmax			
	comp=Z,75nm,1.0s								
YBH	Yreka Blue Hor	83.65	46	eP		P		06 45 30.0	+1.4
	comp=Z,75nm,1.0s								
ORV	Oroville	83.77	48	eP		P		06 45 29.9	+0.8
ORV					pmax	pmax			
	comp=Z,38nm,1.0s								
ORV	Oroville	83.77	48	eP		P		06 45 29.9	+0.8
	comp=Z,38nm,1.0s								
HUMO	Hull Mountain	83.79	45	eP		P		06 45 29.8	+0.6
	comp=Z,48nm,1.0s								
O03D	Paynes Creek	83.80	47	P		P		06 45 29.4	0.0
	baz=250,SNR=27								
BLG	Laguna Peak, P	83.89	54	P		P		06 45 29.9	0.0
	baz=252								
I03D	Drain, OR	83.91	43	P		P		06 45 30.5	+0.8
	baz=249								
AFDM	Forest Hills D	83.95	49	eP		P		06 45 30.7	+0.6
	comp=Z,73nm,1.1s								
SCI2	San Clemente I	83.97	55	P		P		06 45 30.6	+0.3
	baz=253								
CMB	Columbia Colle	84.09	50	eP		P		06 45 31.3	+0.4
CMB	Columbia Colle	84.09	50	eP		P		06 45 31.3	+0.4
	comp=Z,36nm,1.0s								
COLD	Coldfoot	84.12	16	eP		P		06 45 31.4	+1.1
	comp=Z,36nm,1.0s								
WRAK	Wrangell Islan	84.13	29	eP		P		06 45 31.1	+0.7
	comp=Z,50nm,1.0s								
BUOR	Burton Butte	84.17	45	P		P		06 45 32.3	+1.0
HYT	Haines Junctio	84.19	24	eP		P		06 45 31.2	+0.3
	comp=Z,39nm,1.0s								
M04C	Macdoel	84.28	46	P		P		06 45 32.1	+0.3
	baz=250,SNR=15								
OSI	Osito Audit: C	84.32	53	P		P		06 45 32.3	+0.2
	baz=253								
OSI	Osito Audit: C	84.32	53	eP		P		06 45 33.2	+1.1
	comp=Z,65nm,1.4s								
SKAG	Skagway	84.34	26	eP		P		06 45 32.5	+1.0
	comp=Z,62nm,1.3s								
BBB	Bella Bella	84.35	34	LR		LR		07 17 09.9	
	comp=Z,2µm,19.9s,baz=268,slow=31								
BBB	Bella Bella	84.35	34	eP		P		06 45 32.0	+0.2
	comp=Z,83nm,1.5s								
ARVC	Arvin	84.39	53	P		P		06 45 32.8	+0.5
	baz=252								
FMP	Fort Macarthur	84.39	54	P		P		06 45 32.7	+0.3
	baz=253								
VES	Vestal, Richgr	84.40	52	P		P		06 45 32.3	-0.1
	baz=252,SNR=14								
RCTC	Rector, Farmer	84.42	52	P		P		06 45 32.2	-0.2
	baz=252								
G03D	McMinnville, O	84.52	42	P		P		06 45 33.1	+0.3
	baz=249								
HOG	Hogback Mounta	84.53	45	P		P		06 45 34.1	+1.0
I04A	Tendick Farm,	84.58	44	P		P		06 45 33.1	-0.1
	baz=249,SNR=10.0								
PASC	Pasadena Art C	84.61	54	eP		P		06 45 34.1	+0.6
	comp=Z,18nm,0.9s								
K04D	Chiloquin, OR	84.63	45	P		P		06 45 34.1	+0.5
	baz=250								
HBO	Huckleberry Mo	84.66	44	P		P		06 45 34.6	+0.8
BWNR	Bhubaneshwar	84.69	292	eP		P		06 45 33.8	-0.4
MWC	Mount Wilson	84.73	54	eP		P		06 45 35.0	+0.7
MWC	Mount Wilson	84.73	54	eP		P		06 45 35.0	+0.7
	comp=Z,34nm,0.9s								
E03A	Lam	84.81	41	eP		P		06 45 35.3	+1.1
	comp=Z,97nm,1.0s								
ISA	Isabella, Lake	84.82	52	P		P		06 45 34.9	+0.2
	baz=253,SNR=8.4								
ISA	Isabella, Lake	84.82	52	eP		P		06 45 35.5	+0.9
ISA	Isabella, Lake	84.82	52	eP		P		06 45 35.5	+0.9
	comp=Z,31nm,0.9s								
OOW	Octopus West	84.86	40	P		P		06 45 36.3	+1.7
MAW	Mawson	84.92	202	P		P		06 45 35.2	+0.8
	comp=Z,176nm,1.0s,baz=103,slow=6.2,SNR=138								
MAW				LR		LR		07 17 25.6	
	comp=Z,437nm,20.5s,baz=97,slow=31								
MAW	Mawson	84.92	202	P		P		06 45 35.2	+0.8
	baz=85,SNR=98								
MAW	Mawson	84.92	202	eP		P		06 45 35.1	+0.8
	comp=Z,56nm,1.0s								
NLWA	Neilton Lookou	84.93	40	eP		P		06 45 35.9	+1.0
	comp=Z,40nm,1.2s								
WAKR	Walker	84.95	49	eP		P		06 45 36.6	+1.3
	comp=Z,104nm,1.4s								
EDW2	Edwards Air Fo	84.97	53	P		P		06 45 35.7	+0.3
	baz=253,SNR=35								
F04D	Rainier, OR	85.00	41	P		P		06 45 35.6	+0.4
	baz=249								
BFSC	Mount Baldy Ra	85.05	54	P		P		06 45 36.0	+0.1
	baz=253,SNR=21								
FYU	Fort Yukon	85.06	18	eP		P		06 45 35.5	+0.5
	comp=Z,57nm,1.2s								
109C	Camp Elliot, M	85.11	55	P		P		06 45 36.3	+0.2
	baz=254								
MLAC	Mammoth, Mamm	85.13	50	P		P		06 45 36.7	+0.3
	baz=252								
EGAK	Eagle	85.19	20	eP		P		06 45 36.5	+0.8
	comp=Z,110nm,0.9s								
J05D	Fort Rock, OR	85.21	44	P		P		06 45 37.1	+0.6
	baz=250,SNR=31								
MURC	Murrieta	85.24	55	P		P		06 45 37.0	+0.3
	baz=254,SNR=7.1								
K05A	Summer Lake	85.26	45	eP		P		06 45 37.9	+1.0
	comp=Z,71nm,1.0s								
F04A	Amboy	85.33	42	eP		P		06 45 37.3	+0.5
	comp=Z,68nm,1.2s								
CWC	Cottonwood Cre	85.36	52	P		P		06 45 37.4	0.0
	baz=253								
PAHR	Pah Rah Range	85.36	48	eP		P		06 45 38.3	+0.9
	comp=Z,70nm,1.3s								
DAWY	Dawson	85.36	21	eP		P		06 45 37.3	+0.6
	comp=Z,42nm,0.9s								
LRMC	Laurel Mtn Rad	85.39	53	P		P		06 45 38.0	+0.5
	baz=253,SNR=12								
MOD	Modoc Plateau	85.40	46	eP		P		06 45 38.3	+0.8
	comp=Z,28nm,1.0s								
BAR	Barrett	85.40	56	eP		P		06 45 38.3	+0.7
	comp=Z,18nm,1.0s								
BEND	Bend	85.41	44	P		P		06 45 38.5	+1.1
TIN	Tinemaha, Big	85.42	51	P		P		06 45 37.9	+0.2
	baz=253								
I05D	Terrebonne, OR	85.49	43	P		P		06 45 37.9	+0.1
	baz=250,SNR=15								
TDL	Tradedollar La	85.61	41	P		P		06 45 39.5	+1.1
BBRC	Big Bear Solar	85.64	54	P		P		06 45 38.7	-0.3
	baz=254								
PGC	Sidney	85.66	39	eP		P		06 45 39.3	+0.9
	comp=Z,54nm,0.9s								
MONP2	Monument Peak	85.66	55	P		P		06 45 39.5	+0.4
	baz=254,SNR=28								
DAC	Darwin (Calif)	85.69	52	eP		P		06 45 39.3	+0.2
DAC	Darwin (Calif)	85.69	52	eP		P		06 45 39.3	+0.2
	comp=Z,31nm,1.0s								
MPMC	Manual Prospec	85.70	52	P		P		06 45 39.7	+0.5
	baz=253,SNR=31								
RRX	Edison Barstow	85.75	53	P		P		06 45 39.4	+0.1
	baz=254								
G05D	Wamic, OR	85.82	43	P		P		06 45 39.5	+0.2
	baz=250								
PFO	Pinyon Flats O	85.83	55	LR		LR		07 16 03.5	
	comp=Z,2µm,20.9s,baz=261,slow=30								
PFO	Pinyon Flats O	85.83	55	P		P		06 45 40.0	+0.2
	baz=254,SNR=14								
PFO	Pinyon Flats O	85.83	55	eP		P		06 45 40.3	+0.5
PFO	Pinyon Flats O	85.83	55	eP		P		06 45 40.3	+0.5
	comp=Z,25nm,1.0s								
TPFO	Pinon Flats	85.83	55	P		P		06 45 40.0	+0.2
	baz=254,SNR=11								
IKP	In-Ko-Pah, Jac	85.85	56	P		P		06 45 39.9	+0.1
	baz=254,SNR=14								
CHLP	Challavanipeta	85.89	290	eP		P		06 45 40.0	-0.2
CHLP					IAmb	IAmb		06 45 41.8	
	comp=Z,81nm,1.2s								
LON	Longmire	86.01	41	eP		P		06 45 40.6	+0.3
LON	Longmire	86.01	41	eP		P		06 45 40.6	+0.3
	comp=Z,20nm,1.3s								
TIXI	Tiksi	86.02	349	P		P		06 45 39.1	-0.5
	comp=Z,37nm,1.0s,baz=100,slow=6.3								
TIXI				PP		PP		06 49 03.6	+3.2
	comp=Z,1.0nm,0.3s,baz=138,slow=10,SNR=3.2								
TIXI				LR		LR		07 20 32.8	
	comp=Z,505nm,20.3s,baz=169,slow=33								
TIXI	Tiksi	86.02	349	c iP		P		06 45 38.6	-1.0
TIXI					pmax	pmax			
	comp=Z,135nm,1.7s								
TIXI	Tiksi	86.02	349	eP		P		06 45 39.5	-0.1
	comp=Z,116nm,1.3s								
TIXI				PP		PP		06 49 03.6	+3.2
GSC	Goldstone, Bar	86.02	53	P		P		06 45 40.7	0.0
	baz=254,SNR=14								
GSC	Goldstone, Bar	86.02	53	eP		P		06 45 41.4	+0.7
GSC	Goldstone, Bar	86.02	53	eP		P		06 45 41.4	+0.7
	comp=Z,26nm,1.1s								
D05A	Enumclaw	86.05	41	eP		P		06 45 41.6	+1.2
	comp=Z,72nm,1.1s								
GRAC	Grapevine Rang	86.07	51	P		P		06 45 41.3	+0.5
	baz=253,SNR=9.4								
A04D	Lummi Island	86.15	39	P		P		06 45 40.9	+0.1
	baz=249,SNR=7.2								
SWSC	Sam W. Stewart	86.18	56	P		P		06 45 41.9	+0.6
	baz=254,SNR=11								
DLBC	Dease Lake	86.20	28	LR		LR		07 16 31.9	
	comp=Z,2µm,21.5s,baz=308,slow=30								
DLBC	Dease Lake	86.20	28	eP		P		06 45 40.7	-0.3
	comp=Z,17nm,1.0s								
HEC	Hector,Ludlow	86.26	54	P		P		06 45 42.0	+0.1
	baz=254,SNR=12								
FURC	Furnace Creek,	86.30	52	P		P		06 45 42.0	+0.1
	baz=254,SNR=28								
BELC	Belle Mtn. Jos	86.31	55	P		P		06 45 42.6	+0.4
	baz=254,SNR=53								
B05A	Bryant	86.36	40	P		P		06 45 42.2	+0.3
	baz=249,SNR=9.1								
VIS	Vishakhapatnam	86.40	289	eP		P		06 45 40.9	-1.8
VIS					IAmb	IAmb		06 45 44.1	
	comp=Z,42nm,1.0s								
SHOC	Shoshone, Teco	86.60	53	P		P		06 45 43.2	-0.3
	baz=254								
BC3	Big Chuckawall	86.65	55	P		P		06 45 44.5	+0.7
	baz=255,SNR=19								
WVOR	Wild Horse Val	86.74	46	eP		P		06 45 44.2	+0.1
WVOR	Wild Horse Val	86.74	46	eP		P		06 45 44.2	+0.1
	comp=Z,2nm,1.2s								
TUQ	Turquoise Moun	86.75	53	P		P		06 45 44.6	+0.3
	baz=254,SNR=23								
PALK	Pallekele	86.75	278	eP		P		06 45 45.9	+1.2
PALK	Pallekele	86.75	278	eP		P		06 45 45.9	+1.2
	comp=Z,123nm,1.5s								
GMRC	Granite Mounta	86.78	54	P		P		06 45 44.6	+0.2
	baz=254,SNR=27								
RPW	Rockport	86.79	39	P		P		06 45 44.4	+0.4
TPNV	Topopah Spring	86.91	52	P		P		06 45 45.4	+0.3
	baz=254,SNR=12								
TPNV	Topopah Spring	86.91	52	eP		P		06 45 45.7	+0.6
TPNV	Topopah Spring	86.91	52	eP		P		06 45 45.7	+0.6
	comp=Z,46nm,1.4s								
LTY	Liberty	86.92	41	eP		P		06 45 44.9	+0.1
	comp=Z,31nm,1.2s								
GLA	Glamis	87.00	56	P		P		06 45 46.0	+0.6
	baz=255,SNR=15								
GLA	Glamis	87.00	56	eP		P		06 45 47.0	+1.6
GLA	Glamis	87.00	56	eP		P		06 45 46.6	+1.2
	comp=Z,52nm,0.9s								
C06D	Leavenworth	87.00	40	P		P		06 45 44.9	-0.1
	baz=250								
IRM	Iron Mountain	87.03	55	P		P		06 45 46.1	+0.5
	baz=255,SNR=30								
BMN	Battle Mountai	87.16	48	eP		P		06 45 46.8	+0.6
BMN	Battle Mountai	87.16	48	eP		P		06 45 46.8	+0.6
	comp=Z,32nm,1.3s								
E07A	Sunnyside	87.22	42	eP		P		06 45 47.1	+1.0
	comp=Z,42nm,0.9s								
LDFC	Landfair	87.30	54	eP		P		06 45 47.9	+0.9
	comp=Z,99nm,1.0s								
LLLB	Lillooet	87.32	37	eP		P		06 45 47.2	+0.6
	comp=Z,21nm,1.1s								
HAWA	Hanford	87.37	42	eP		P		06 45 47.8	+0.9
	comp=Z,41nm,1.0s								
G08A	Pilot Rock	87.41	43	eP		P		06 45 47.9	+0.7
	comp=Z,41nm,1.0s								
Y12C	Blythe	87.42	55	P		P		06 45 47.8	+0.4
	baz=255,SNR=16								
Y12C	Blythe	87.42	55	eP		P		06 45 48.6	+1.2
	comp=Z,55nm,1.0s								
WTV	Waterville	87.52	41	P		P		06 45 47.5	-0.1
NEE2	Needles Airpor	87.61	54	P		P		06 45 48.8	+0.6
	baz=255								
SHPR	Sheep Range

WMQ LN
comp=Z,290nm,16.2s
WMQ LE
comp=Z,440nm,22.2s
WMQ LZ
comp=Z,600nm,28.0s
LCMT Little Creek M 89.25 52 *e*P **P 06 45 57.1 +0.9**
comp=Z,48nm,1.0s
HSIG 89.27 60 *e*P **P 06 45 57.0 +0.8**
comp=Z,49nm,1.2s
CCUT Cedar City 89.29 52 *e*P **P 06 45 57.4 +0.9**
comp=Z,43nm,1.0s
NEW Newport 89.51 41 P **P 06 45 56.7 -0.3**
baz=253,SNR=5.1
NEW Newport 89.51 41 *e*P **P 06 45 57.4 +0.4**
NEW Newport 89.51 41 *e*P **P 06 45 57.4 +0.4**
comp=Z,14nm,0.9s
KNB Kanab 89.58 52 *e*P **P 06 45 59.0 +1.2**
KNB Kanab 89.58 52 *e*P **P 06 45 59.0 +1.2**
comp=Z,86nm,1.3s
INK Inuvik 89.72 19 PKKP 07 03 29.3
comp=Z,2.1nm,0.8s,baz=37,slow=2.5,SNR=5.2
INK LR LR 07 21 31.4
comp=Z,870nm,20.8s,baz=230,slow=32
INK Inuvik 89.72 19 *e*P **P 06 45 57.0 -0.4**
INK Inuvik 89.72 19 *e*P **P 06 45 57.0 -0.4**
comp=Z,11nm,1.0s
INK PKKP **PKKPdf 07 03 29.3 0.0**
EKU East Kanab 89.85 52 *e*P **P 06 45 59.0 -0.1**
U15A North Rim 89.85 53 *e*P **P 06 46 00.1 +0.9**
comp=Z,63nm,0.9s
NJS Nagarjunasagar 89.92 287 *e*P **P 06 45 58.7 -0.8**
NJS IAmb IAmb 06 46 00.2
comp=Z,79nm,1.3s
HLID Hailey 90.03 46 P **P 06 46 00.2 +0.5**
baz=255
HLID Hailey 90.03 46 *e*P **P 06 46 00.0 +0.3**
comp=Z,18nm,0.9s
RCLA Racherla 90.04 286 *e*P **P 06 45 59.8 -0.3**
RCLA IAmb IAmb 06 46 01.8
comp=Z,20nm,1.0s
X16A Lo Mia Camp, P 90.07 55 *e*P **P 06 46 01.0 +0.9**
comp=Z,30nm,0.8s
PKCU Pink Cliffs 90.08 52 *e*P **P 06 46 02.4 +2.1**
comp=Z,74nm,1.2s
TUC Tucson 90.13 57 P **P 06 46 01.2 +0.9**
baz=257
TUC Tucson 90.13 57 *e*P **P 06 46 01.0 +0.7**
TUC Tucson 90.13 57 *e*P **P 06 46 01.0 +0.7**
comp=Z,23nm,0.9s
SRLM Srisailam 90.22 286 *e*P **P 06 46 00.5 -0.5**
SRLM IAmb IAmb 06 46 01.7
comp=Z,150nm,1.5s
MTPU Mount Pierson 90.32 51 *e*P **P 06 46 03.3 +1.9**
comp=Z,45nm,0.9s
DUG Dugway, Tooele 90.35 49 P **P 06 46 01.8 +0.6**
baz=256
DUG Dugway, Tooele 90.35 49 *e*P **P 06 46 02.2 +0.9**
DUG Dugway, Tooele 90.35 49 *e*P **P 06 46 02.2 +0.9**
comp=Z,45nm,1.3s
BGU Big Grassy Mou 90.37 48 *e*P **P 06 46 02.3 +0.9**
comp=Z,27nm,1.0s
WUAZ Wupatki 90.37 54 P **P 06 46 02.0 +0.5**
baz=257
WUAZ Wupatki 90.37 54 *e*P **P 06 46 02.9 +1.4**
comp=Z,40nm,0.9s
RPR Rampur 90.38 289 *e*P **P 06 46 00.8 -0.8**
RPR IAmb IAmb 06 46 01.9
comp=Z,55nm,1.0s
MSU Marysvale 90.43 51 *e*P **P 06 46 03.0 +1.2**
MSU Marysvale 90.43 51 *e*P **P 06 46 03.0 +1.2**
HVU Hansel Valley 90.76 48 *e*P **P 06 46 03.8 +0.7**
HVU Hansel Valley 90.76 48 *e*P **P 06 46 03.8 +0.7**
comp=Z,59nm,1.0s
HYB Hyderabad 90.79 287 *i* P **P 06 46 02.5 -1.1**
HYB Hyderabad 90.79 287 *e*P **P 06 46 01.9 -1.7**
HYB IAmb IAmb 06 46 04.1
comp=Z,29nm,1.0s
HYBB Hyderabad (bro 90.80 287 *e*P **P 06 46 02.5 -1.2**
HYBB IAmb IAmb 06 46 03.9
comp=Z,35nm,1.1s
NLU North Lily Min 90.84 50 *e*P **P 06 46 04.1 +0.5**
comp=Z,26nm,1.0s
SPUT South Promonto 90.89 48 *e*P **P 06 46 04.2 +0.5**
comp=Z,28nm,1.1s
BSMT Bassoo Peak 90.90 41 *e*P **P 06 46 04.2 +0.5**
319A Douglas 91.18 58 *e*P **P 06 46 06.6 +1.3**
comp=Z,36nm,0.9s
MSO Missoula 91.19 43 P **P 06 46 04.4 -0.6**
baz=255,SNR=7.5
MSO Missoula 91.19 43 *e*P **P 06 46 04.8 -0.2**
comp=Z,9.0nm,0.9s
JTMT Jette 91.20 42 *e*P **P 06 46 05.0 0.0**
BLMT Blacktail Moun 91.22 41 *e*P **P 06 46 05.5 +0.3**
CTU Camp Tracy 91.26 49 *e*P **P 06 46 06.4 +0.9**
comp=Z,78nm,1.0s
SRSP Sriramsagar 91.28 289 *e*P **P 06 46 04.3 -1.5**
SRSP IAmb IAmb 06 46 06.0
comp=Z,66nm,1.1s
Q16A Castle Valley 91.29 51 *e*P **P 06 46 07.2 +1.5**
comp=Z,71nm,1.3s
X18A Snowflake 91.29 55 *e*P **P 06 46 07.2 +1.3**
comp=Z,24nm,0.9s
SWMT Swartz Lake 91.33 42 *e*P **P 06 46 05.3 -0.3**
TMUT Trail Mountain 91.35 50 *e*P **P 06 46 07.4 +1.3**
comp=Z,25nm,0.9s
MCMT McKenzie Canyo 91.44 45 *e*P **P 06 46 07.0 +0.7**
JLU Jordanelle 91.46 49 *e*P **P 06 46 07.4 +0.9**
comp=Z,34nm,1.1s
W18A Petrified Fore 91.59 55 P **P 06 46 07.6 +0.5**
baz=258
W18A Petrified Fore 91.59 55 *e*P **P 06 46 08.4 +1.2**
comp=Z,30nm,1.0s
HWUT Hardware Ranch 91.60 48 *e*P **P 06 46 07.4 +0.3**
comp=Z,46nm,1.4s
TCUT Toone Canyon 91.61 49 *e*P **P 06 46 08.1 +0.9**
comp=Z,45nm,0.9s
CHMT Chamberlain Mo 91.67 43 *e*P **P 06 46 07.1 -0.2**
P17A Butcher Ranch, 91.74 50 *e*P **P 06 46 06.5 -1.2**
comp=Z,74nm,1.9s
DLMT Dillon 91.74 44 *e*P **P 06 46 08.6 +1.0**
comp=Z,47nm,1.0s
WALA Waterton Lakes 91.77 40 *e*P **P 06 46 08.4 +0.8**
comp=Z,43nm,1.1s
SRU San Rafael Swe 91.82 51 *e*P **P 06 46 08.8 +0.6**
SRU San Rafael Swe 91.82 51 *e*P **P 06 46 08.8 +0.6**
comp=Z,14nm,1.1s
LRM Limekiln Ridge 91.95 44 *e*P **P 06 46 08.9 +0.2**
SYO Syowa Base 91.96 197‖ *e*P **P 06 46 06.2 -1.8**
SYO Syowa Base 91.96 197‖ *e*PcP **PcP 06 46 11.8 +3.0**
AHID Auburn Hatcher 92.20 47 *e*P **P 06 46 10.1 +0.2**
comp=Z,16nm,1.1s
QLMT Earthquake Lak 92.42 45 *e*P **P 06 46 12.1 +1.3**
FXWY Fox Creek 92.44 46 *e*P **P 06 46 11.2 +0.2**
comp=Z,16nm,1.1s
TPAW Teton Pass 92.46 46 *e*P **P 06 46 11.9 +0.8**
comp=Z,28nm,1.5s
BOZ Bozeman (W) 92.47 44 P **P 06 46 11.2 +0.3**
baz=257,SNR=28
BOZ Bozeman (W) 92.47 44 *e*P **P 06 46 11.4 +0.4**
BOZ Bozeman (W) 92.47 44 *e*P **P 06 46 11.4 +0.4**
comp=Z,34nm,1.2s
REDW Red Top Meadow 92.50 46 *e*P **P 06 46 12.0 +0.7**
comp=Z,67nm,1.6s
IMW Indian Meadow 92.56 46 *e*P **P 06 46 12.5 +0.9**
comp=Z,18nm,1.0s
YHB Horse Butte 92.57 45 *e*P **P 06 46 12.6 +1.1**
comp=Z,26nm,1.2s
HRY Holter Researc 92.57 43 *e*P **P 06 46 12.2 +0.9**
SNOW Snow King Moun 92.59 46 *e*P **P 06 46 12.7 +1.0**
comp=Z,25nm,1.2s
121A Cookes Peak, D 92.66 58 P **P 06 46 12.7 +0.5**
baz=259,SNR=23
121A Cookes Peak, D 92.66 58 *e*P **P 06 46 13.2 +1.0**
comp=Z,19nm,0.8s
MOOW Moose Ponds 92.66 46 *e*P **P 06 46 12.8 +0.8**
comp=Z,12nm,1.1s
PV05 Paradox Valley 92.70 52 *e*P **P 06 46 13.5 +1.2**
YMR Madison River 92.71 45 *e*P **P 06 46 13.2 +1.0**
comp=Z,48nm,1.5s
LOHW Long Hollow 92.73 46 *e*P **P 06 46 13.0 +0.7**
comp=Z,17nm,1.2s
YPP Pitchstone Pla 92.73 46 *e*P **P 06 46 12.9 +0.5**
comp=Z,13nm,1.2s
KLRI Killari 92.75 288 *e*P **P 06 46 12.1 -0.6**
KLRI IAmb IAmb 06 46 12.6
comp=Z,100nm,1.6s
YFT Old Faithful 92.75 45 *e*P **P 06 46 14.0 +1.6**
comp=Z,16nm,1.0s
PV09 Paradox Valley 92.76 51 *e*P **P 06 46 13.6 +0.9**
FLWY Flagg Ranch 92.77 46 *e*P **P 06 46 13.7 +1.2**
comp=Z,62nm,1.8s
PV10 Paradox Valley 92.81 52 *e*P **P 06 46 13.4 +0.5**
YHH Holmes Hill 92.81 45 *e*P **P 06 46 13.0 +0.2**
comp=Z,10nm,1.1s
H17A Grant Village 92.92 45 P **P 06 46 14.3 +1.1**
baz=258,SNR=10
H17A Grant Village 92.92 45 *e*P **P 06 46 15.2 +2.0**
comp=Z,17nm,1.0s
MVCO Mesa Verde 92.99 53 P **P 06 46 13.2 -0.5**
baz=259,SNR=6.2
MVCO Mesa Verde 92.99 53 *e*P **P 06 46 14.4 +0.7**
comp=Z,11nm,1.1s
PV01 Paradox Valley 93.12 52 *e*P **P 06 46 14.8 +0.5**
BW06 Boulder Array 93.31 47 P **P 06 46 14.7 -0.3**
baz=258,SNR=7.8
BW06 Boulder Array 93.31 47 *e*P **P 06 46 15.1 +0.1**
comp=Z,22nm,1.2s
PD31 Pinedale Array 93.31 47 *e*P **P 06 46 15.6 +0.5**
PDAR Pinedale Array 93.31 47 P **P 06 46 15.0 0.0**
comp=Z,8.4nm,1.0s,baz=232,slow=1.7,SNR=28
PDAR PP **PP 06 50 00.7 +1.2**
comp=Z,0.2nm,0.3s,baz=267,slow=7.2,SNR=2.4
PDAR PKPPKP **P'P'df 07 11 34.1 +0.9**
comp=Z,0.2nm,0.3s,baz=24,slow=5.0,SNR=3.9
PDAR LR LR 07 21 06.6
comp=Z,510nm,22.0s,baz=294,slow=31
HPIG 93.42 63 *e*P **P 06 46 16.2 +0.3**
comp=Z,26nm,1.8s
LAZ Ladron 93.54 56 *e*P **P 06 46 16.6 +0.3**
MK01 Makanchi Array 93.58 317 *e*P **P 06 46 16.1 +0.2**
MK31 Makanchi Array 93.59 317 *e*P **P 06 46 16.1 +0.2**
MK31 Makanchi Array 93.59 317 *e*P **P 06 46 16.1 +0.2**
MKAR Makanchi Array 93.59 317 P **P 06 46 15.8 -0.1**
comp=Z,35nm,0.8s,baz=101,slow=6.3,SNR=183
MKAR pP **pP 06 46 29.8 -0.8**
comp=Z,12nm,0.9s,baz=123,slow=4.5,SNR=6.1
MKAR PP **PP 06 50 01.5 +0.2**
comp=Z,1.9nm,1.1s,baz=82,slow=10,SNR=2.5
MKAR PKKP **PKKPdf 07 03 20.7 -1.3**
comp=Z,6.4nm,0.8s,baz=298,slow=2.6,SNR=8.7
MKAR PKPPKP **P'P'df 07 11 31.9 -0.2**
comp=Z,0.5nm,0.9s,baz=36,slow=6.1,SNR=3.6
ZAA0 Zalesovo Array 93.59 324 *e*P **P 06 46 13.6 -2.1**
ZALV Zalesovo Beam 93.59 324 P **P 06 46 14.8 -0.9**
comp=Z,27nm,1.0s,baz=108,slow=4.8,SNR=54
ZALV PP **PP 06 50 03.9 +2.8**
comp=Z,0.7nm,0.3s,baz=64,slow=3.4,SNR=4.4
ZALV LR LR 07 28 22.2
comp=Z,596nm,20.0s,baz=74,slow=36
O20A White River Ci 93.76 50 P **P 06 46 17.1 0.0**
baz=259
O20A White River Ci 93.76 50 *e*P **P 06 46 17.7 +0.6**
comp=Z,14nm,1.1s
MAKZ Makanchi 93.80 317 *e*P **P 06 46 16.2 -0.7**
MAKZ Makanchi 93.80 317 *e*P **P 06 46 16.2 -0.7**
comp=Z,80nm,1.1s
GCMT Greycliff 93.84 44 *e*P **P 06 46 18.4 +1.1**
BNM Barren Site 93.91 56 *e*P **P 06 46 18.3 +0.3**
RLMT Red Lodge 93.98 45 P **P 06 46 18.4 +0.4**
baz=259
RLMT Red Lodge 93.98 45 *e*P **P 06 46 19.1 +1.0**
comp=Z,12nm,1.1s
ANMO Albuquerque 94.19 55 P **P 06 46 19.1 -0.1**
baz=260
ANMO Albuquerque 94.19 55 *e*P **P 06 46 19.6 +0.4**
ANMO Albuquerque 94.19 55 *e*P **P 06 46 19.6 +0.4**
comp=Z,14nm,1.4s
S22A 4UR Ranch, Cre 94.40 53 P **P 06 46 20.5 +0.3**
baz=260,SNR=14
S22A 4UR Ranch, Cre 94.40 53 *e*P **P 06 46 21.2 +1.0**
comp=Z,34nm,1.7s
MNTX Cornudas Mount 94.51 59 P **P 06 46 20.9 +0.3**
baz=260
MNTX Cornudas Mount 94.51 59 *e*P **P 06 46 20.8 +0.3**
comp=Z,8.9nm,0.9s
SMCO Snowmass 94.54 51 *e*P **P 06 46 21.6 +0.7**
comp=Z,32nm,1.7s
SMLA Simla 94.55 301 *e*P **P 06 46 19.9 -0.7**
SMLA IAmb IAmb 06 46 21.1
comp=Z,38nm,0.8s
NVS Novosibirsk 94.69 325‖ *i*P **P 06 46 19.7 -1.0**
NVS *i* 06 46 33.5
NVS pmax pmax
comp=Z,50nm,1.0s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,25nm,1.0s
YKA Yellowknife Ar 94.77 27 P **P 06 46 19.4 -1.4**
comp=E,5.4nm,0.8s,baz=256,slow=4.7,SNR=28
YKA PP **PP 06 50 12.1 +2.1**
comp=E,0.6nm,0.7s,baz=255,slow=6.3,SNR=3.1
YKA PKKPab PKKPab 07 03 52.1
comp=E,2.7nm,1.0s,baz=74,slow=5.8,SNR=8.5
YKA LR LR 07 21 58.4
comp=E,118nm,21.3s,baz=180,slow=31
POO Poona 95.40 288 *e*P **P 06 46 22.3 -2.6**
SDCO Great Sand Dun 95.44 53 P **P 06 46 24.5 -0.5**
baz=260,SNR=5.3
SDCO Great Sand Dun 95.44 53 *e*P **P 06 46 25.2 +0.3**
comp=E,2.4nm,0.9s
DHRM DHARAMSHALA 95.47 302 *e*P **P 06 46 24.4 -0.8**
DHRM IAmb IAmb 06 46 25.1
comp=Z,46nm,1.2s
K22A Casper 95.48 48 P **P 06 46 25.1 +0.2**
baz=260
K22A Casper 95.48 48 *e*P **P 06 46 25.2 +0.3**
comp=Z,13nm,1.2s
TX31 Lajitas Ar. Si 95.57 61 *e*P **P 06 46 25.9 +0.4**
TXAR Lajitas Array 95.58 61 P **P 06 46 25.8 +0.2**
comp=Z,2.7nm,0.9s,baz=228,slow=5.3,SNR=30
TXAR PP **PP 06 50 16.8 -0.6**
comp=Z,3.2nm,1.1s,baz=243,slow=5.5,SNR=10
TXAR PKKP **PKKPdf 07 03 17.6 -0.3**
comp=Z,0.6nm,0.7s,baz=106,slow=3.8,SNR=7.6
TXAR PKKPab PKKPab 07 03 50.2
comp=Z,2.5nm,0.9s,baz=99,slow=6.5,SNR=13
TXAR LR LR 07 21 59.5
comp=Z,2µm,20.3s,baz=0.0,slow=31
N23A Red Feather La 95.62 50 P **P 06 46 26.0 +0.4**
baz=260
ISCO Idaho Springs 95.69 51 P **P 06 46 26.2 +0.1**
baz=261
Q24A Divide 95.91 52 P **P 06 46 27.2 +0.1**
baz=261
Q24A Divide 95.91 52 *e*P **P 06 46 27.9 +0.8**
comp=Z,26nm,1.8s
NRIK Noril'sk 96.09 340 P **P 06 46 26.0 -0.8**
comp=Z,24nm,1.1s,baz=104,slow=4.5,SNR=25
NRIK PP **PP 06 50 19.9 -0.2**
comp=Z,1.2nm,0.3s,baz=95,slow=6.6,SNR=2.7
NRIK LR LR 07 31 12.4
comp=Z,585nm,18.7s,baz=108,slow=36
T25A Trinidad 96.20 53 P **P 06 46 28.0 -0.3**
baz=261
T25A Trinidad 96.20 53 *e*P **P 06 46 28.1 -0.3**
comp=Z,16nm,1.6s
LAO LASA Array 96.35 44 P **P 06 46 28.8 +0.1**
baz=261
LAO LASA Array 96.35 44 *e*P **P 06 46 29.8 +1.2**
comp=Z,37nm,1.4s
NVL N'lazarevskaya 96.61 188 *e*P **P 06 46 31.6 +2.3**
KURK Kurchatov 96.69 320*c i*P **P 06 46 27.9 -2.0**
KURK pmax pmax
comp=Z,70nm,1.2s
KURK Kurchatov 96.69 320 *e*P **P 06 46 28.6 -1.4**
comp=Z,169nm,1.5s
KURK pP **pP 06 46 42.2 -2.4**
KURK PP PP 06 50 14.8 -10
KURBB Kurchatov Arra 96.74 320 P **P 06 46 29.1 -1.0**
comp=Z,4.0nm,1.0s,baz=103,slow=3.6,SNR=31
KURBB pP **pP 06 46 42.2 -2.6**
comp=Z,2.4nm,0.8s,baz=106,slow=4.4,SNR=5.4
KURBB PP PP 06 50 14.8 -11
comp=Z,3.8nm,1.0s,baz=98,slow=6.8,SNR=4.5
KSH Kashi 96.86 309 *e*P **P 06 46 33.0 +1.8**
KSH pP sP 06 46 50.3 -1.0
KSH PP **PP 06 50 33.3 +6.3**
KSH S **S 06 57 48.1 -1.7**
KSH PMZ
comp=Z,5.0nm,0.5s
KSH PMZ
comp=Z,300nm,7.1s
KSH LN
comp=Z,260nm,12.6s
KSH LE
comp=Z,810nm,15.6s
KSH LZ
comp=Z,930nm,15.7s
MSTX Muleshoe 97.04 57 P **P 06 46 31.5 -0.6**
baz=262
MSTX Muleshoe 97.04 57 *e*P **P 06 46 31.2 -0.9**
comp=Z,11nm,1.1s
SNAA Sanae 97.25 184 P **P 06 46 31.4 -0.9**
SNAA Sanae 97.25 184‖ *i*P **P 06 46 31.3 -0.9**
SNAA Sanae 97.25 184 *e*P **P 06 46 31.1 -1.1**
comp=Z,23nm,1.5s
RSSD Black Hills 97.50 47 P **P 06 46 33.6 -0.5**
baz=262
TKM2 Tokmak 2 97.62 312 *e*P **P 06 46 34.2 -0.4**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
TKM2 Tokmak 2 97.62 312 *e*P **P 06 46 34.2 -0.4**
comp=Z,4.8nm,0.9s
DGMT Dagmar 97.97 42 P **P 06 46 35.6 -0.3**
baz=263
DGMT Dagmar 97.97 42 *e*P Pdif 06 46 36.2 +0.3
comp=Z,18nm,1.0s
AMTX Amarillo 98.06 56 P **P 06 46 36.3 -0.3**
baz=262
AMTX Amarillo 98.06 56 *e*P **P 06 46 36.4 -0.3**
comp=Z,12nm,0.7s
FRU Bishkek 98.32 312 *e*P **P 06 46 35.0 -2.6**
FRU *e* 06 46 49.0
AAK Ala-Archa 98.39 312 PP PP 06 50 36.0 -2.7
comp=Z,0.9nm,0.4s,baz=207,slow=9.0,SNR=1.7
AAK LR LR 07 30 42.6
comp=Z,444nm,21.5s,baz=60,slow=35
AAK Ala-Archa 98.39 312 *e*P **P 06 46 37.7 -0.3**
AAK 06 50 36.0
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 98.39 312 *e*P **P 06 46 37.7 -0.3**
comp=Z,4.7nm,0.9s
AAK PP **PP 06 50 36.0 -2.7**
VNA1 Neumayer--Stat 98.52 182 P **P 06 46 37.2 -0.7**
OGNE Ogallala 98.56 50 Pdiff Pdif 06 46 38.9 +0.2
baz=263
832A Faith Ranch, C 98.62 63 Pdiff **P 06 46 39.2 0.0**
baz=262
A25A Svangstu Ranch 98.74 42 Pdiff Pdif 06 46 39.4 +0.1
baz=264
E26A Carlson Angus 98.89 44 Pdiff **P 06 46 39.9 -0.1**
baz=264
D26A Manning 98.97 44 Pdiff **P 06 46 40.3 -0.1**
baz=264
JCT Junction City 99.06 61 Pdiff **Pdif 06 46 40.5 -0.7**
baz=263
JCT Junction City 99.06 61 *e*P **Pdif 06 46 40.6 -0.6**
JCT Junction City 99.06 61 *e*P **Pdif 06 46 40.6 -0.6**
comp=Z,7.1nm,0.9s
833A Chaparral WMA, 99.14 63 Pdiff **Pdif 06 46 41.1 -0.4**
baz=262
933A Laredo 99.15 64 Pdiff **Pdif 06 46 41.4 -0.2**
baz=262
733A Divot King Ran 99.28 62 Pdiff **Pdif 06 46 42.1 0.0**
baz=263
A26A Wade Farm, Ken 99.44 42 Pdiff **Pdif 06 46 42.7 +0.3**
baz=264
ABTX Abilene, Hawle 99.46 59 Pdiff **Pdif 06 46 42.6 -0.2**
baz=263
633A Saathoff Ranch 99.47 62 Pdiff **Pdif 06 46 42.7 -0.3**
baz=263
333A Richland Sprin 99.86 60 Pdiff **Pdif 06 46 44.8 +0.1**
baz=263
734A La Parita Cree 99.93 62 Pdiff **Pdif 06 46 45.2 +0.2**
baz=263
A27A Ledoux Ranch, 99.97 42 Pdiff **Pdif 06 46 44.9 +0.2**
baz=265
FFC Flin Flon 100.01 36 *e*P **Pdif 06 46 44.0 -0.7**
FFC pmax pmax
comp=Z,13nm,1.4s
FFC Flin Flon 100.01 36 *e*Pdif **Pdif 06 46 44.0 -0.7**
comp=Z,13nm,1.4s
233A Rising Star 100.01 59 Pdiff **Pdif 06 46 45.0 -0.4**
baz=263
133A Hamilton Ranch 100.07 59 Pdiff **Pdif 06 46 45.1 -0.5**
baz=264
W32A Sentinel 100.08 56 Pdiff **Pdif 06 46 45.0 -0.6**
baz=264
534A Blanco 100.14 61 Pdiff **Pdif 06 46 45.8 -0.2**
baz=263
434A Burnet 100.41 60 Pdiff **Pdif 06 46 46.7 -0.4**
baz=264
334A Lometa 100.50 60 Pdiff **Pdif 06 46 47.2 -0.3**
baz=264
835A Beeville 100.50 63 Pdiff **Pdif 06 46 47.5 -0.1**
baz=263
B28A Dugan Ranch, T 100.50 43 Pdiff **Pdif 06 46 47.7 +0.5**
baz=265
T32A Huddler Ranch, 100.55 54 Pdiff **Pdif 06 46 47.6 0.0**
baz=264
A28A Rude Farm, Bot 100.60 42 Pdiff **Pdif 06 46 47.7 +0.1**
baz=266
A29A Manning Farm, 101.28 42 Pdiff **Pdif 06 46 50.9 +0.3**
baz=266
KKAR Karatay Array 101.34 312 *e*P **Pdif 06 46 50.5 -0.5**
KKAR Karatay Array 101.34 312 *e*Pdif **Pdif 06 46 50.5 -0.5**
D30A Buchanan 101.49 44 Pdiff **Pdif 06 46 51.8 +0.2**
baz=266
B30A Myrvik Farm, E 101.85 43 Pdiff **Pdif 06 46 53.0 -0.1**
baz=267
A30A Hoffart Farm, 101.90 42 Pdiff **Pdif 06 46 53.7 +0.4**
baz=267
BVAR Borovoye Array 102.00 322 P **Pdif 06 46 52.7 -0.9**
comp=Z,5.5nm,0.9s,baz=99,slow=4.7,SNR=25
BVAR PP **PP 06 51 03.0 -2.6**
comp=Z,1.7nm,0.9s,baz=77,slow=8.1,SNR=3.2
E31A Nome 102.05 45 Pdiff **Pdif 06 46 54.2 +0.2**
baz=267
BRVK Borovoye 102.06 322 *e*P **Pdif 06 46 52.8 -1.1**
BRVK Borovoye 102.06 322 *e*Pdif **Pdif 06 46 52.8 -1.1**
C31A Landman Farms, 102.22 43 Pdiff **Pdif 06 46 54.9 +0.1**
baz=267
U35A Pawnee 102.23 55 Pdiff **Pdif 06 46 55.0 0.0**
baz=265
T35A Sooner Cattle 102.45 54 Pdiff **Pdif 06 46 56.1 +0.1**
baz=266
A31A Linda, St. Vin 102.63 42 Pdiff **Pdif 06 46 56.6 0.0**
baz=268
S35A Otter Creek Ra 102.66 54 Pdiff **Pdif 06 46 56.7 -0.3**
baz=266
ZRNK Zerenda 102.83 322 *e*P **Pdif 06 46 56.2 -1.1**
ZRNK Zerenda 102.83 322 *e*Pdif **Pdif 06 46 56.2 -1.1**
T36A Boggs Farm, Ca 102.96 54 Pdiff **Pdif 06 46 58.5 +0.2**
baz=266
B32A Ashes, Strandq 103.04 43 Pdiff **Pdif 06 46 58.3 -0.1**
baz=268
V37A Hulbert 103.48 56 Pdiff **Pdif 06 47 00.6 -0.1**
baz=266
ULM Lac du Bonnet 103.52 41 Pdiff **Pdif 06 46 59.6 -0.8**
comp=Z,2.7nm,0.9s,baz=258,slow=1.5,SNR=3.5
T37A Cheneyville 18 103.73 54 Pdiff **Pdif 06 47 01.6 -0.2**
baz=267
A33A Warroad 103.82 42 Pdiff **Pdif 06 47 01.9 +0.1**
baz=269
R37A Teagarden Farm 103.87 53 Pdiff **Pdif 06 47 02.1 -0.3**
baz=267
V38A Canehill 104.07 56 Pdiff **Pdif 06 47 02.8 -0.5**
baz=267
B34A Aery, Baudette 104.30 43 Pdiff **Pdif 06 47 03.8 -0.2**
baz=270
U39A Green Forest 104.85 55 Pdiff **Pdif 06 47 06.8 0.0**
baz=267
B35A Bob, Littlefor 104.92 43 Pdiff **Pdif 06 47 06.8 +0.1**
baz=270
J37A Redenius Farm, 105.01 48 PKiKP **PKiKP 06 51 20.9 -1.0**
baz=269
S39A Bolivar 105.03 54 PKiKP **PKiKP 06 51 21.0 -1.2**
baz=268
I37A Lemond, Waseca 105.13 47 PKiKP **PKiKP 06 51 21.3 -0.8**
baz=269
E36A McGregor 105.24 45 PKiKP **PKiKP 06 51 21.2 -1.0**
baz=270
D36A Goodland 105.30 44 PKiKP **PKiKP 06 51 21.3 -1.0**
baz=270
T40A Mansfield 105.65 54 PKiKP **PKiKP 06 51 22.2 -1.1**
baz=268
N39A Derby Farms, D 105.75 51 PKiKP **PKiKP 06 51 22.7 -0.7**
baz=269

D37A	Cotton	105.81	44	PKiKP	PKiKP	06 51 23.0	-0.3	
	baz=271							
I38A	Scanlan Farm,	105.90	47	PKiKP	PKiKP	06 51 22.8	-0.7	
	baz=270							
142A	Monroe	105.93	59	PKiKP	PKiKP	06 51 23.0	-0.9	
	baz=267							
Q40A	Laux Farm, Aux	106.05	52	PKiKP	PKiKP	06 51 23.5	-0.5	
	baz=269							
PLCA	Paso Flores	106.81	139	PKKPbc	PKKPbc	07 02 44.5	-0.4	
	comp=Z,2.4nm,0.8s,baz=112,slow=4.1,SNR=2.9							
S43A	Fulton Ridge,	107.61	54	PKiKP	PKiKP	06 51 25.4	-1.5	
	baz=270							
X45A	UM Field Stati	108.12	57	PKiKP	PKiKP	06 51 27.2	-0.7	
	baz=269							
Z48A	Northport	109.64	58	PKiKP	PKiKP	06 51 29.5	-1.3	
	baz=270							
AKTO	Aktyubinsk	109.78	320	PP	PP	06 52 01.7	-1.3	
	comp=Z,3.7nm,1.1s,baz=0.0,slow=4.0,SNR=3.9							
GEYT	Alibeck	110.70	306	PP	PP	06 52 06.8	-3.3	
	comp=Z,1.9nm,0.4s,baz=153,slow=0.3,SNR=2.3							
LVZ	Lovozero	114.82	342	*i* PKiKP	PKPdf	06 51 37.9	-1.8	
LVZ				pmax	pmax			
	comp=Z,13nm,1.7s							
N54A	Moraine State	115.21	50	PKiKP	PKiKP	06 51 40.4	-0.9	
	baz=278							
M54A	Oil Creek Stat	115.38	49	PKiKP	PKiKP	06 51 40.8	-0.8	
	baz=278							
ARA0	ARCESS Array S	116.28	346	*e*PKPdf	PKPdf	06 51 41.6	-0.9	
ARCES	ARCESS Array B	116.28	346	PKP	PKPdf	06 51 41.5	-1.0	
	comp=Z,13nm,0.6s,baz=116,slow=0.9,SNR=111							
ARCES				pPKP	pPKPdf	06 51 56.2	-1.4	
	comp=Z,3.8nm,0.6s,baz=95,slow=1.0,SNR=3.9							
ARCES				PKKPbc	PKKPbc	07 02 09.2	-5.2	
	comp=Z,3.7nm,0.8s,baz=193,slow=3.2,SNR=5.8							
ARE0	ARCESS Array S	116.28	346	*e*PKPdf	PKPdf	06 51 41.9	-0.5	
O56A	Blue Knob Stat	116.38	50	PKiKP	PKPdf	06 51 42.8	-0.7	
	baz=278							
SUMG	Summit	116.68	8	*e*PKiKP	PKPdf	06 51 43.6	-0.1	
SUMG	Summit	116.68	8	*e*PKPdf	PKPdf	06 51 43.6	-0.1	
KLMR	Klimovskoe	116.74	334	*e*PKiKP	PKPdf	06 51 38.5	-5.0	
KLMR				pmax	pmax			
	comp=Z,15nm,1.4s							
N59A	State Game Lan	118.37	49	PKiKP	PKPdf	06 51 46.5	-0.8	
	baz=281							
GUYC	Guyana, Colomb	119.06	90	*e*P	PKPdf	06 51 48.9	-1.1	
HELC	Santa Helena	119.08	89	*e*P	PKPdf	06 51 48.6	-1.3	
HELC	Santa Helena	119.08	89	*e*PKPdf	PKPdf	06 51 49.2	-0.7	
PRAC	Prado	119.30	92	*e*P	PKPdf	06 51 47.3	-2.6	
PRAC	Prado	119.30	92	*e*PKPdf	PKPdf	06 51 47.8	-2.1	
MOTC	Monteria, Cord	119.32	86	*e*P	PKPdf	06 51 48.2	-1.6	
MDV	Middlebury	119.59	45	*e*PKPdf	PKPdf	06 51 48.6	-0.9	
VRH	Novokhopyorsk	119.61	323	*e*PKiKP	PKPdf	06 51 48.6	-0.7	
VRH				pmax	pmax			
	comp=Z,30nm,0.9s							
NORC	Norcasia	119.63	90	*e*P	PKPdf	06 51 47.0	-3.6	
SCHQ	Schefferville	119.81	32	PKP	PKPdf	06 51 48.7	-1.0	
	comp=Z,6.2nm,0.8s,baz=281,slow=2.8,SNR=7.1							
SCHQ				PKKPbc	PKKPab	07 02 00.3	-0.7	
	comp=Z,5.8nm,0.8s,baz=122,slow=3.2,SNR=7.3							
LPAZ	La Paz	120.03	116	PKP	PKPdf	06 51 51.8	-0.2	
	comp=Z,7.4nm,0.9s,baz=265,slow=0.9,SNR=31							
LPAZ	La Paz	120.03	116	*e*PKPdf	PKPdf	06 51 51.6	-0.3	
ROSC	El Rosal	120.05	91	PKP	PKPdf	06 51 51.1	-0.7	
	comp=Z,6.5nm,0.6s,baz=358,slow=20,SNR=4.7							
ROSC	El Rosal	120.05	91	*e*P	PKPdf	06 51 49.2	-2.6	
ROSC	El Rosal	120.05	91	*e*PKPdf	PKPdf	06 51 50.4	-1.4	
CHIC	Chingaza	120.59	91	*e*P	PKPdf	06 51 49.5	-3.4	
GNI	Garni	120.75	310	*c i* PKiKP	PKPdf	06 51 50.7	-1.4	
GNI				pmax	pmax			
	comp=Z,115nm,1.7s							
GNI	Garni	120.75	310	*e*PKPdf	PKPdf	06 51 52.6	+0.4	
ZEI	Tsey	120.75	313	*i* PKiKP	PKPdf	06 51 50.9	-1.2	
ZEI				pmax	pmax			
	comp=Z,34nm,1.0s							
OBN	Obninsk	120.82	329	*i* PKiKP	PKPdf	06 51 50.8	-0.7	
OBN				pmax	pmax			
	comp=Z,27nm,1.2s							
OBN	Obninsk	120.82	329	*e*PKPdf	PKPdf	06 51 51.1	-0.4	
BRRC	Barranca, Sant	121.00	88	*e*P	PKPdf	06 51 50.8	-2.3	
VSR	Storozhevoye	121.10	324	*e*PKiKP	PKPdf	06 51 51.3	-0.9	
VSR				pmax	pmax			
	comp=Z,20nm,0.7s							
KBZ	Khabaz	121.22	315	PKP	PKPdf	06 51 52.7	+0.1	
	comp=Z,4.9nm,0.8s,baz=96,slow=2.8,SNR=8.3							
KBZ				SKKP		07 05 56.4		
	comp=Z,2.5nm,0.8s,baz=176,slow=0.8,SNR=4.7							
KIV	Kislovodsk	121.30	315	*i* PKiKP	PKPdf	06 51 52.7	-0.3	
KIV				*i*		06 53 24.4		
KIV				pmax	pmax			
	comp=Z,13nm,1.2s							
AKH	Akhalkalaki	121.39	312	⇑ *i* P	PKPdf	06 51 54.7	+1.4	
RUSC	La Rusia	121.44	90	*e*P	PKPdf	06 51 51.4	-3.2	
NEY	Neytrino	121.47	314	*e*PKiKP	PKPdf	06 51 52.4	-1.0	
GIRC	Giron, Santand	121.51	88	*e*P	PKPdf	06 51 52.2	-2.0	
OCAC	Ocana	121.55	87	*e*P	PKPdf	06 51 52.7	-1.6	
FIA1	FINESS Array S	121.74	339	*e*PKPdf	PKPdf	06 51 52.4	-0.7	
FIA1				*e*PKiKP	PKiKP	06 51 52.8	-0.5	
FINES	FINESS Array B	121.74	339	PKP	PKPdf	06 51 52.6	-0.5	
	comp=Z,12nm,0.8s,baz=26,slow=3.4,SNR=28							
FINES				pPKP	pPKPdf	06 52 06.4	-1.9	
	comp=Z,1.9nm,0.5s,baz=44,slow=3.1,SNR=2.6							
GRMC	Gramalote, San	121.98	88	*e*P	PKPdf	06 51 53.6	-1.6	
CBRI	Barrientos, No	121.99	88	*e*P	PKPdf	06 51 53.8	-1.4	
VSU	Vasula	123.45	336	*c i* PKiKP	PKPdf	06 51 56.0	-0.5	
CPUP	Villa Florida	123.94	132	PKP	PKPdf	06 51 57.5	-1.0	
	comp=Z,16nm,0.8s,baz=273,slow=1.6,SNR=30							
CPUP	Villa Florida	123.94	132	*e*PKiKP	PKPdf	06 51 58.3	-0.2	
CPUP	Villa Florida	123.94	132	*e*PKPdf	PKPdf	06 51 58.3	-0.2	
SDV	Santo Domingo	124.26	87	*e*P	PKPdf	06 51 57.5	-2.1	
SDV	Santo Domingo	124.26	87	*e*PKPdf	PKPdf	06 51 59.0	-0.6	
ANN	Anapa	124.61	317	*i* PKiKP	PKPdf	06 51 58.1	-1.0	
ANN				*e*		06 53 44.2		
ANN				pmax	pmax			
	comp=Z,27nm,1.3s							
LMN	Caledonia Moun	124.66	41	*e*PKPdf	PKPdf	06 51 58.2	-1.0	
BOSA	Boshof	125.36	223	PKP	PKPdf	06 52 01.9	+0.6	
	comp=Z,17nm,0.8s,baz=121,slow=2.9,SNR=16							
BOSA	Boshof	125.36	223	*e*PKiKP	PKPdf	06 52 02.0	+0.7	
BOSA	Boshof	125.36	223	*e*PKPdf	PKPdf	06 52 02.0	+0.7	
NACGM	Naroch	125.67	332	*e*	PKPdf	06 52 01.0	+0.1	
NC303	NORSAR Array S	126.45	345	*e*PKPdf	PKPdf	06 52 02.1	-0.1	
NC204	NORSAR Array S	126.56	345	*e*PKPdf	PKPdf	06 52 01.5	-1.0	
NB2	NORSAR Subarra	126.65	345	PKPdf	PKPdf	06 52 01.9	-0.7	
	comp=Z,15nm,0.8s,baz=31,slow=1.9							
NB2	NORSAR Subarra	126.65	345	PKPdf	PKPdf	06 52 01.9	-0.7	
	baz=31,slow=1.9							
NOA	NORSAR Array B	126.65	345	PKP	PKPdf	06 52 02.1	-0.5	
	comp=Z,10nm,0.8s,baz=34,slow=2.0,SNR=30							
NOA				pPKP	pPKPdf	06 52 16.8	-1.0	
	comp=Z,3.4nm,0.8s,baz=30,slow=1.9,SNR=4.3							
NBO02	NORSAR Array S	126.73	345	*e*PKPdf	PKPdf	06 52 02.1	-0.7	
NBO00	NORSAR Array S	126.76	345	*e*PKPdf	PKPdf	06 52 03.2	+0.4	
NC602	NORSAR Array S	126.82	345	*e*PKPdf	PKPdf	06 52 02.9	0.0	
AKASG	Malin Array Be	126.89	327	PKP	PKPdf	06 52 02.8	-0.5	
	comp=Z,7.0nm,0.7s,baz=51,slow=2.6,SNR=34							
AKASG				pPKP	pPKPdf	06 52 15.6	-2.8	
	comp=Z,7.7nm,1.0s,baz=55,slow=3.2,SNR=3.8							
AKBB	Malin Array Si	126.89	327	*e*PKiKP	PKPdf	06 52 03.1	-0.2	
AKBB	Malin Array Si	126.89	327	*e*PKPdf	PKPdf	06 52 03.1	-0.2	
NAO01	NORSAR Array S	126.90	345	*e*PKPdf	PKPdf	06 52 03.4	+0.3	
KIEV	Kiev	126.90	327	*c i* PKiKP	PKPdf	06 52 02.1	-1.2	
KIEV	Kiev	126.90	327	*e*PKPdf	PKPdf	06 52 02.8	-0.5	
AK11	Malin Array Si	126.93	327	*e*PKPdf	PKPdf	06 52 03.0	-0.4	
SAML	Samuel	127.26	110	*e*PKPdf	PKPdf	06 52 04.6	-0.6	
KMBO	Kilima Mbogo	127.63	260	PKP	PKPdf	06 52 06.5	+0.4	
	comp=Z,9.9nm,1.1s,baz=26,slow=2.3,SNR=12							
KMBO	Kilima Mbogo	127.63	260	*e*PKiKP	PKPdf	06 52 07.0	+0.8	
KMBO	Kilima Mbogo	127.63	260	*e*PKPdf	PKPdf	06 52 07.0	+0.8	
LRS	Lares	128.51	75	*e*PKPdf	PKPdf	06 52 06.1	-1.3	
ASF	Jabal al Asfar	128.67	303	PKP	PKPdf	06 52 07.6	+0.2	
	comp=Z,7.3nm,0.8s,baz=110,slow=1.3,SNR=12							
ASF				PP	PP	06 54 15.2	+1.4	
	comp=Z,1.2nm,0.4s,baz=51,slow=0.6,SNR=5.3							
SORM	Soroca	128.74	325	⇓ *i* P	PKPdf	06 52 07.5	+0.6	
SORM	Soroca	128.74	325	⇓ PKiKP	PKPdf	06 52 07.5	+0.6	
CELP	Cerrillos	128.76	76	*e*PKPdf	PKPdf	06 52 07.1	-0.8	
BR131	Keskin Array S	129.05	313	*e*PKPdf	PKPdf	06 52 08.0	0.0	
BRTR	Keskin Array B	129.05	313	PKP	PKPdf	06 52 07.8	-0.2	
	comp=Z,12nm,1.1s,baz=116,slow=2.9,SNR=30							
BRTR				PP	PP	06 54 14.3	-1.7	
	comp=Z,4.2nm,1.1s,baz=81,slow=3.9,SNR=4.9							
SJG	San Juan	129.17	76	*e*PKiKP	PKPdf	06 52 08.0	-0.6	
SJG	San Juan	129.17	76	*e*P	PKPdf	06 52 07.7	-0.9	
SJG	San Juan	129.17	76	*e*PKPdf	PKPdf	06 52 08.0	-0.6	
HUMP	Col San Antoni	129.46	76	*e*PKPdf	PKPdf	06 52 08.5	-0.7	
ANTO	Ankara	129.60	313	*e*PKiKP	PKPdf	06 52 09.5	+0.5	
ANTO	Ankara	129.60	313	*e*PKPdf	PKPdf	06 52 09.5	+0.5	
BR231	Keskin MP Arra	129.63	313	*e*PKPdf	PKPdf	06 52 08.4	-0.7	
MMAI	Mount Meron Ar	129.70	304	PKP	PKPdf	06 52 10.4	+1.1	
	comp=Z,12nm,0.8s,baz=83,slow=3.6,SNR=11							
LVV	L'vov	130.12	329	*e*PKiKP	PKPdf	06 52 09.2	-0.3	
LVV				*e*		06 54 23.4		
LVV				*e*		06 59 12.5		
LVV				MLR	MLR			
	comp=Z,800nm,21.0s							
LVV				MLR	MLR			
	comp=N,400nm,22.0s							
LVV				MLR	MLR			
	comp=E,800nm,22.0s							
STVI	Saint Thomas	130.30	75	*e*PKPdf	PKPdf	06 52 10.0	-0.7	
CFR	Carcaliu	130.39	321	⇑ *i* P	PKPdf	06 52 09.5	-0.7	
CFR	Carcaliu	130.39	321	⇑PKiKP	PKPdf	06 52 09.5	-0.7	
CDVI	St. Croix	130.49	76	*e*PKPdf	PKPdf	06 52 10.8	-0.3	
TIRR	Tirgusor	130.58	320	⇑ *i* P	PKPdf	06 52 11.0	+0.5	
TIRR	Tirgusor	130.58	320	⇑PKiKP	PKPdf	06 52 11.0	+0.5	
TIRR	Tirgusor	130.58	320	*e*PKPdf	PKPdf	06 52 10.2	-0.3	
TESR	Tescani	130.59	324	⇑ *i* P	PKPdf	06 52 11.4	+0.9	
LSZ	Lusaka	130.75	239	*e*PKiKP	PKPdf	06 52 12.7	+0.8	
LSZ	Lusaka	130.75	239	*e*PKPdf	PKPdf	06 52 12.7	+0.8	
HARR	Harsova	130.76	321	⇑ *i* P	PKPdf	06 52 10.2	-0.7	
HARR	Harsova	130.76	321	⇑PKiKP	PKPdf	06 52 10.2	-0.7	
BUR08	Bucovina Ar. S	130.78	326	*e*PKPdf	PKPdf	06 52 12.2	+1.1	
BURAR	Bucovina Array	130.79	326	⇑ *i* P	PKPdf	06 52 11.7	+0.7	
BURAR	Bucovina Array	130.79	326	⇑PKiKP	PKPdf	06 52 11.7	+0.7	
EIL	Elat	130.83	300	PKP	PKPdf	06 52 11.8	+0.3	
	comp=E,17nm,0.8s,baz=360,slow=4.7,SNR=15							
CSS	Mathiatis	130.84	307	*e*PKPdf	PKPdf	06 52 11.6	+0.2	
PSN	Preselentsi	131.10	320	⇑ *i* P	PKPdf	06 52 12.6	+1.0	
PSN	Preselentsi	131.10	320	⇑PKiKP	PKPdf	06 52 12.6	+1.0	
MLR	Muntele Rosu	131.55	323	PKP	PKPdf	06 52 12.0	-0.6	
	comp=E,3.3nm,1.1s,baz=348,slow=2.2,SNR=16							
MLR	Muntele Rosu	131.55	323	⇑ *i* P	PKPdf	06 52 12.7	+0.1	
MLR	Muntele Rosu	131.55	323	⇑PKiKP	PKPdf	06 52 12.7	+0.1	
MLR	Muntele Rosu	131.55	323	*e*PKPdf	PKPdf	06 52 12.2	-0.3	
KOLS	Kolonicke sedl	131.57	329	*e*PKiKP	PKPdf	06 52 13.6	+1.3	
KOLS	Kolonicke sedl	131.57	329	*e*PKP	PKPdf	06 52 13.6	+1.3	
UZH	Uzhgorod	131.75	328	*e*PKiKP	PKPdf	06 52 12.0	-0.6	
STHS	Stebnicka Huta	131.78	330	*e*PKiKP	PKPdf	06 52 13.3	+0.6	
STHS	Stebnicka Huta	131.78	330	*e*PKP	PKPdf	06 52 13.3	+0.6	
OJC	Ojcow	131.95	331	*e*PKP	PKPdf	06 52 12.8	-0.2	
OJC	Ojcow	131.95	331	*e*PKiKP	PKPdf	06 52 12.8	-0.2	
OJC	Ojcow	131.95	331	*e*PKPdf	PKPdf	06 52 12.4	-0.6	
CRVS	Cervenica-Dubn	132.00	329	*e*PKiKP	PKPdf	06 52 14.1	+0.9	
CRVS	Cervenica-Dubn	132.00	329	*e*PKP	PKPdf	06 52 14.1	+0.9	
VOIR		132.11	323	⇑ *i* P	PKPdf	06 52 14.4	+0.8	
VOIR		132.11	323	⇑PKiKP	PKPdf	06 52 14.4	+0.8	
NIE	Niedzica	132.25	330	*e*PKP	PKPdf	06 52 14.2	+0.6	
NIE	Niedzica	132.25	330	*e*PKiKP	PKPdf	06 52 14.2	+0.6	
HUMR	Humele	132.65	322	⇑ *i* P	PKPdf	06 52 15.4	+0.9	
KECS	Kecovo	132.77	329	*e*PKiKP	PKPdf	06 52 13.8	-0.8	
KECS	Kecovo	132.77	329	*e*PKP	PKPdf	06 52 13.8	-0.8	
LANS	Liptovska Anna	132.83	330	*e*PKiKP	PKPdf	06 52 16.3	+1.6	
LANS	Liptovska Anna	132.83	330	*e*PKP	PKPdf	06 52 16.3	+1.6	
PTGA	Pitinga	132.88	101	*e*PKPdf	PKPdf	06 52 15.4	-0.5	
OKC	Ostrava-Krasne	132.98	332	*e*PKPdf	PKPdf	06 52 14.6	-0.3	
OKC				AMS	AMS	07 47 40.0		
	comp=E,1μm,22.9s							
OKC	Ostrava-Krasne	132.98	332	*e*PKiKP	PKPdf	06 52 14.6	-0.3	
OKC				MLR	MLR			
	comp=Z,1μm,22.9s							
KSP	Ksiaz	133.09	334	*e*PKP	PKPdf	06 52 15.4	+0.3	
KSP	Ksiaz	133.09	334	*e*PKiKP	PKPdf	06 52 15.4	+0.3	
MORC	Moravsky Berou	133.30	332	⇑ *i* P	PKPdf	06 52 15.0	-0.6	
MORC	Moravsky Berou	133.30	332	⇑PKiKP	PKPdf	06 52 15.0	-0.6	
MORC	Moravsky Berou	133.30	332	*e*PKPdf	PKPdf	06 52 16.2	+0.6	
PSZ	Piszkesteto	133.44	329	⇑ *i* P	PKPdf	06 52 15.3	-0.7	
PSZ	Piszkesteto	133.44	329	⇑PKiKP	PKPdf	06 52 15.3	-0.7	
DPC	Dobruska-Polom	133.44	334	*e*PKPdf	PKPdf	06 52 16.0	+0.1	
DPC				*ex*	x	06 52 31.6		
DPC				AMS	AMS	07 50 20.0		
	comp=Z,2μm,22.8s							
DPC	Dobruska-Polom	133.44	334	*e*PKiKP	PKPdf	06 52 16.0	+0.1	
DPC				*e*		06 52 31.6		
DPC				MLR	MLR			
	comp=Z,2μm,22.0s							
GZR	Gura Zlata	133.45	324	⇑ *i* P	PKPdf	06 52 16.3	+0.2	
GZR	Gura Zlata	133.45	324	⇑PKiKP	PKPdf	06 52 16.3	+0.2	
UPC	Upice	133.46	334	*e*PKPdf	PKPdf	06 52 16.2	+0.4	
UPC				AMS	AMS	07 50 30.0		
	comp=Z,2μm,24.3s							
UPC	Upice	133.46	334	*e*PKiKP	PKPdf	06 52 16.2	+0.4	
UPC				MLR	MLR			
	comp=Z,2μm,24.3s							
SIRR	Siria	133.55	326	⇑ *i* P	PKPdf	06 52 17.1	+0.9	
VYHS	Vyhne	133.58	330	*e*PKiKP	PKPdf	06 52 16.3	+0.2	
VYHS	Vyhne	133.58	330	*e*PKP	PKPdf	06 52 16.3	+0.2	
VYHS				*e*PP	PP	06 54 39.0	-5.4	
VYHS				*e*		06 54 58.5		
BZS	Buzias	133.97	325	⇑ *i* P	PKPdf	06 52 17.5	+0.6	
BZS	Buzias	133.97	325	⇑PKiKP	PKPdf	06 52 17.5	+0.6	
BRG	Berggiesshubel	134.05	336	*e*PKP	PKPdf	06 52 16.7	-0.2	
	comp=Z,13nm,1.0s							
BRG				*e*		06 52 33.1		
	comp=Z,8.3nm,0.9s							
BRG	Berggiesshubel	134.05	336	*e*PKiKP	PKPdf	06 52 16.7	-0.2	
BRG				*e*		06 52 33.1		
BRG				pmax	pmax			
	comp=Z,13nm,1.0s							
BRG				pmax	pmax			
	comp=Z,8.0nm,0.9s							
PVCC	Panska Ves	134.06	335	*e*PKPdf	PKPdf	06 52 17.3	+0.4	
PVCC				AMS	AMS	07 53 40.0		
	comp=Z,900nm,22.9s							
PVCC	Panska Ves	134.06	335	*e*PKiKP	PKPdf	06 52 17.3	+0.4	
PVCC				MLR	MLR			
	comp=Z,900nm,22.9s							
VRAC	Vranov	134.07	332	PKP	PKPdf	06 52 17.3	+0.3	
	comp=Z,6.7nm,0.3s,baz=94,slow=1.5,SNR=7.1							
VRAC				PP	PP	06 54 52.8	+5.3	
	comp=Z,1.9nm,0.4s,baz=45,slow=7.1,SNR=2.6							
CLL	Collm	134.09	337	*i* PKPdf	PKPdf	06 52 16.8	-0.2	
	comp=Z,22nm,0.9s							
CLL				*ep*PKPdf	pPKPdf	06 52 32.0	-0.1	
CLL				*e*PP	PP	06 54 48.0	+0.6	
CLL				*e*SKPdf	SKPbc	06 55 43.0	+0.7	
	comp=Z,4.0nm,0.6s							
CLL	Collm	134.09	337	*e*PKiKP	PKPdf	06 52 17.2	+0.2	
CLL	Collm	134.09	337	*e*PKPdf	PKPdf	06 52 17.2	+0.2	
MDVR	Moldovita	134.42	324	⇑ *i* P	PKPdf	06 52 17.0	-0.9	
GOPC	GO Pecny, Ondr	134.43	334	*e*PKPdf	PKPdf	06 52 18.6	+0.9	
GOPC				AMS	AMS	07 56 00.0		
	comp=Z,1μm,20.4s							
GOPC	GO Pecny, Ondr	134.43	334	*e*PKiKP	PKPdf	06 52 18.6	+0.9	
GOPC				MLR	MLR			
	comp=Z,1μm,20.4s							
PRU	Pruhonice	134.47	334	*e*PKPdf	PKPdf	06 52 17.9	+0.2	
PRU				AMS	AMS	07 55 50.0		
	comp=Z,1μm,22.5s							
PRU	Pruhonice	134.47	334	*e*PKiKP	PKPdf	06 52 17.9	+0.2	
PRU				MLR	MLR			
	comp=Z,1μm,22.5s							
TREC	Trest	134.58	333	AMS	AMS	07 50 50.0		
	comp=Z,2μm,22.5s							
NKC	Novy Kostel	135.15	336	*e*PKPdf	PKPdf	06 52 19.5	+0.5	
NKC				AMS	AMS	07 50 50.0		
	comp=Z,1μm,24.4s							
NKC	Novy Kostel	135.15	336	*e*PKiKP	PKPdf	06 52 19.5	+0.5	
CONA	Conrad Observa	135.40	331	*i* PKPdf	PKPdf	06 52 19.6	0.0	
	comp=Z,7.3nm,0.7s							
KHC	Kasperske Hory	135.53	334	*e*PKPdf	PKPdf	06 52 20.2	+0.4	
KHC				*e*PP	PP	06 54 56.5	-0.2	
KHC				*ex*	x	06 55 09.0		
KHC				AMS	AMS	07 50 20.0		
	comp=Z,2μm,24.7s							
KHC	Kasperske Hory	135.53	334	*e*PKiKP	PKPdf	06 52 20.2	+0.4	
KHC				*e*		06 54 56.5		
KHC				MLR	MLR			
	comp=Z,2μm,24.7s							
KHC	Kasperske Hory	135.53	334	*e*PKPdf	PKPdf	06 52 20.2	+0.4	
GEC2	GERESS Array S	135.70	334	*e*PKiKP	PKPdf	06 52 19.8	-0.4	
GEC2	GERESS Array S	135.70	334	*e*PKPdf	PKPdf	06 52 19.8	-0.4	
GERES	GERESS Array B	135.70	334	PKhKP	PKPpre	06 52 05.0		
	comp=Z,0.4nm,0.2s,baz=54,slow=7.4,SNR=4.6							
GERES				PKP	PKPdf	06 52 20.3	+0.1	
	comp=Z,6.5nm,0.7s,baz=50,slow=2.1,SNR=29							
GERES				PP	PP	06 54 58.6	+0.8	
	comp=Z,0.3nm,0.3s,baz=83,slow=2.4,SNR=3.7							
GEA0	GERESS Array S	135.70	334	*e*PKPpre	PKPpre	06 52 09.8		
GEA0				*e*PKPdf	PKPdf	06 52 20.4	+0.2	
MOA	Molln	136.19	333	*i* PKPdf	PKPdf	06 52 19.7	-1.4	
	comp=Z,2.6nm,0.4s							
SOKA	Soboth	136.69	331	*i* PKPdf	PKPdf	06 52 22.2	+0.1	
	comp=Z,4.9nm,0.6s							
MEM	Membach	137.14	341	PKP	PKPdf	06 52 22.6	-0.1	
PDKS	Podkum	137.15	330	*i* PKPdf	PKPdf	06 52 24.4	+1.4	
KBA	Koelnbreinsper	137.19	332	*i* PKPdf	PKPdf	06 52 23.0	-0.1	
	comp=Z,7.2nm,0.7s							
AGG	Agios Georgios	137.24	317	*e*PKiKP	PKPdf	06 52 23.0	-0.3	
AGG	Agios Georgios	137.24	317	*e*PKPdf	PKPdf	06 52 23.0	-0.3	
PDG	Podgorica	137.26	323	⇑ *i* P	PKPdf	06 52 23.3	+0.2	
MYKA	Terra Mystica	137.38	332	*i* PKPdf	PKPdf	06 52 23.1	-0.3	
	comp=Z,9.8nm,0.9s							
VISS	Visnje	137.41	330	*i* PKPdf	PKPdf	06 52 22.9	-0.5	
BOJS	Bojanci	137.42	329	*i* PKPdf	PKPdf	06 52 23.5	+0.1	
BCLA	Clavier	137.53	342	PKP	PKPdf	06 52 23.5	+0.1	
TIR	Tirane	137.54	322	*e*PKiKP	PKPdf	06 52 23.8	+0.1	
TIR	Tirane	137.54	322	*e*PKPdf	PKPdf	06 52 23.8	+0.1	
STU	Stuttgart	137.59	337	*e*PKiKP	PKPdf	06 52 23.3	-0.3	
STU	Stuttgart	137.59	337	*e*PKPdf	PKPdf	06 52 23.3	-0.3	
JAVS	Javornik	137.72	331	*e*PKPdf	PKPdf	06 52 22.2	-1.9	
WTTA	Wattenberg	137.80	334	*i* PKiKP	PKPdf	06 52 24.8	+0.5	
	comp=Z,24nm,1.0s							
ABTA	Abfaltersbach	137.81	333	*i* PKPdf	PKPdf	06 52 24.1	-0.1	
	comp=Z,19nm,0.9s							
WLF	Walferdange	137.91	340	PKP	PKPdf	06 52 25.1	+1.0	
LANF	Langenberg	137.93	339	PKP	PKPdf	06 52 19.3	-4.9	
DOU

comp=Z,18nm,1.1s,baz=162,slow=4.1,SNR=3.9

RCBR				PKPbc	**PKPbc**	**06 52 56.9**	**-0.3**
	comp=Z,42nm,0.9s,baz=216,slow=3.2,SNR=13							
RCBR	**Riachuelo**	**152.59**	**126**	*e*PKPdf	**PKPdf**	**06 52 51.1**	**+0.9**
RCBR				PKPbc	**PKPbc**	**06 52 56.9**	**-0.3**
MESJ	**Messejana**	**152.70**	**350**	*e*P	**PKPdf**	**06 52 49.5**	**0.0**
MESJ	**Messejana**	**152.70**	**350**	*e*PKPdf	**PKPdf**	**06 52 50.3**	**+0.7**
MESJ	**Messejana**	**152.70**	**350**	*e*PKPbc	**PKPbc**	**06 52 56.8**	**+0.1**
MESJ	**Messejana**	**152.70**	**350**	*e*PKPab	**PKPab**	**06 53 08.7**	**+1.4**
PCVE	**Castro Verde**	**152.87**	**350**	*e*PKPdf	**PKPdf**	**06 52 50.3**	**+0.4**
PCVE	**Castro Verde**	**152.87**	**350**	*e*PKPbc	**PKPbc**	**06 52 57.6**	**+0.5**
PVAQ	**Vaqueiros**	**153.03**	**349**	*e*PKPbc	**PKPbc**	**06 52 58.1**	**+0.7**
PVAQ	**Vaqueiros**	**153.03**	**349**	*e*PKPab	**PKPab**	**06 53 10.0**	**+1.2**
PTEO	**Sao Teotonio**	**153.07**	**351**	*e*PKPbc	**PKPbc**	**06 52 58.1**	**+0.6**
PTEO	**Sao Teotonio**	**153.07**	**351**	*e*PKPab	**PKPab**	**06 53 10.3**	**+1.4**
PBDV	**Barranco-do-Ve**	**153.23**	**349**	*e*PKPdf	**PKPdf**	**06 52 51.7**	**+1.3**
PBDV	**Barranco-do-Ve**	**153.23**	**349**	*e*PKPbc	**PKPbc**	**06 52 57.8**	**-0.1**
MORF	**Marmelete**	**153.29**	**350**	*e*PKPbc	**PKPbc**	**06 52 57.9**	**-0.2**
MORF	**Marmelete**	**153.29**	**350**	*e*PKPab	**PKPab**	**06 53 09.6**	**-0.3**
PFVI	**Vila Bisbo**	**153.49**	**351**	*e*PKPbc	**PKPbc**	**06 52 58.7**	**+0.3**
MDT	**Midelt**	**156.56**	**340**	PKP	**PKPdf**	**06 52 56.0**	**+0.7**
	comp=Z,7.8nm,0.9s,baz=39,slow=0.7,SNR=9.2							
MDT				PKPbc	PKPbc	06 53 05.6		
	comp=Z,10nm,1.1s,baz=337,slow=3.3,SNR=8.2							
MDT				PKPab	**PKPab**	**06 53 23.1**	**-1.0**
	comp=Z,18nm,1.2s,baz=43,slow=4.5,SNR=6.4							
TAM	**Tamanrasset**	**157.91**	**305**	*e*PKIKP	**PKPdf**	**06 52 57.9**	**+0.6**
TAM	**Tamanrasset**	**157.91**	**305**	*e*PKPdf	**PKPdf**	**06 52 57.9**	**+0.6**
PMAR	**Madeira**	**158.14**	**7**	*e*PKPdf	**PKPdf**	**06 52 58.5**	**+1.2**
TOA0	**Torodi Ar. Sit**	**164.47**	**280**	*e*PKPdf	**PKPdf**	**06 53 03.5**	**-0.7**
TOA0				*e*PKPab	**PKPab**	**06 53 59.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**164.47**	**280**	PKP	**PKPdf**	**06 53 03.6**	**-0.6**
	comp=Z,15nm,1.1s,baz=14,slow=1.5,SNR=49							
TORD				PKPab	**PKPab**	**06 53 59.0**	**-0.1**
	comp=Z,13nm,1.0s,baz=66,slow=3.9,SNR=9.0							
TORD				PP	**PP**	**06 57 41.4**	**-4.2**
	comp=Z,2.4nm,1.0s,baz=40,slow=2.5,SNR=3.1							
KIC	**Kosan Boka**	**169.76**	**244**	*e*PKIKP	**PKPdf**	**06 53 07.4**	**-0.8**
	comp=Z,177nm,1.2s							
LIC	**Lamto**	**169.95**	**243**	*e*PKIKP	**PKPdf**	**06 53 07.3**	**-1.0**
	comp=Z,101nm,1.6s							
DBIC	**Dimbokro**	**170.00**	**246**	PKP	**PKPdf**	**06 53 08.1**	**-0.3**
	comp=Z,28nm,1.0s,baz=143,slow=0.5,SNR=7.0							
DBIC				PKPab	**PKPab**	**06 54 22.3**	**-1.3**
	comp=Z,20nm,1.1s,baz=207,slow=2.3,SNR=3.3							
TIC	**Toumodi**	**170.14**	**245**	*e*PKIKP	**PKPdf**	**06 53 07.6**	**-0.8**

IDC 24 06:52:52.1±2.8, 54°38N×86°81E, h0km, mb1 3.1/2, mb1mx2.9/57, mbtmp3.1/2, ML2.6/2, 2C-4D, Error ellipse: s-maj=22.5km s-min=15.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**251**	*i*		07 00 40.0	
	baz=69,slow=318,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.25**	**251**	Pg	Pg	06 53 14.4	-1.6
	2.2nm,0.3s,baz=68,slow=15,SNR=8.8						
ZALV				Lg	Lg	06 53 31.6	
	3.1nm,0.3s,baz=72,slow=31,SNR=13						
ZALV				Rg	Rg	06 53 35.7	
	19nm,0.7s,baz=70,slow=30,SNR=17						
KURBB	**Kurchatov Arra**	**6.30**	**237**	Pn	Pn	06 54 27.0	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=13						
KURBB				Sn	Sn	06 55 38.4	-0.3
	0.1nm,0.3s,baz=38,slow=21,SNR=2.4						
KURBB				Lg	Lg	06 56 15.2	
	0.0nm,0.3s,baz=54,slow=32,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.30**	**237**	⇓Pn	Pn	06 54 27.5	+1.4
	3.9nm,0.7s						
KURBB				⇓Sn	Sn	06 55 38.3	-0.4
	3.8nm,0.6s						
KURBB				⇑Lg	Lg	06 56 10.4	
	18nm,1.2s						
MK31	**Makanchi Array**	**8.12**	**203**	⇑Pn	Pn	06 54 52.5	+1.3
	1.8nm,1.1s,baz=58,slow=6.3,SNR=12						
MK31				⇓Sn	Sn	06 56 21.8	-1.7
	0.5nm,0.6s,baz=24,slow=23,SNR=3.4						
MK31				⇓Lg	Lg	06 57 06.2	
	5.6nm,1.1s,baz=22,slow=29,SNR=4.7						
MKAR	**Makanchi Array**	**8.12**	**203**	Pn	Pn	06 54 52.5	+1.3
	0.1nm,0.3s,baz=24,slow=13,SNR=6.9						
MKAR				Sn	Sn	06 56 22.3	-1.3
	0.2nm,0.3s,baz=21,slow=26,SNR=6.9						
MKAR				Lg	Lg	06 57 12.9	
	0.0nm,0.3s,baz=26,slow=28,SNR=7.3						

*IDC **24** 06:53:28.9±0.6, 37°.59N×21°.05E, h0km, mb4.2/21, mb1 4.2/33, mb1mx4.1/57, mbtmp4.1/33, ML3.8/10, Error ellipse: s-maj=14.3km s-min=11.4km az=162.0*

*HLW **24** 06:53:29.1, 37°.88N×21°.27E, h33km±8km, Md5.4*

*MOS **24** 06:53:30.9±1.1, 37°.63N×20°.95E, h25km, mb4.6/17, Error ellipse: s-maj=8.6km s-min=4.4km az=65.8*

*NEIC **24** 06:53:30.6, 37°.58N×20°.96E, h21km, mb4.7/13, ML4.3(THE), ML4.2(ATH), After ATH.*

*ATH **24** 06:53:30.9, 37°.56N×20°.95E, h15km, ML4.2/15, Error ellipse: s-maj=1.0km s-min=0.6km az=39.0*

*PDG **24** 06:53:31.7±0.7, 37°.63N×20°.96E, h11km±1km, ML4.2/11, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*

*ISCJB **24** 06:53:31.2±0.3, 37°.55N±0°.01×20°.86E±0°.01, h25km±2km, mb4.4/43, Error ellipse: s-maj=2.4km s-min=1.7km az=13.9*

*THE **24** 06:53:31.0, 37°.59N×20°.96E, h0km±2km, ML4.3/24, Error ellipse: s-maj=2.8km s-min=0.8km az=216.0*

*ROM **24** 06:53:31.3±0.4, 37°.30N×20°.78E, h10km±2km, Ml4.1/26, Error ellipse: s-maj=7.3km s-min=2.5km az=18.0*

*CSEM **24** 06:53:32.2±0.1, 37°.54N×20°.90E, h20km, mb4.6/12, ML4.3/8, Error ellipse: s-maj=3.4km s-min=2.4km az=34.0*

ISC 24 06:53:30.6±0.9, 37°.55N±0°.02×20°.93E±0°.02, h13km±5km, n552, σ1s41/697, mb4.3/43, 17C-14D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKS	**Zakynthos**	**0.19**	**321**	P	**Pb**	**06 53 35.7**	**-0.2**
ZKS				S	**Sg**	**06 53 38.6**	**+0.9**
ZKS	**Zakynthos**	**0.19**	**321**	P	**Pb**	**06 53 36.3**	**+0.4**
ZKS				S	**Sb**	**06 53 40.3**	**+0.8**
ZKS	**Zakynthos**	**0.19**	**321**	P	**Pb**	**06 53 36.3**	**+0.4**
ZKS				S	**Sb**	**06 53 40.3**	**+0.8**
ZKS				AML	AML	06 53 48.0	
ZKS				AML	AML	06 53 53.0	
VTN	**Vitineika**	**0.42**	**29**	P	**Pg**	**06 53 38.3**	**-0.6**
VTN				S	**Sb**	**06 53 46.3**	**+0.3**
VTN	**Vitineika**	**0.42**	**29**	P	**Pg**	**06 53 38.3**	**-0.6**
VTN				S	**Sb**	**06 53 46.3**	**+0.3**
KFL	**Anninata**	**0.57**	**348**	P	**Pg**	**06 53 41.1**	**-0.6**
KFL				S	**Sg**	**06 53 49.2**	**-0.1**
KFL	**Anninata**	**0.57**	**348**	P	**Pg**	**06 53 41.1**	**-0.6**
KFL				S	**Sb**	**06 53 50.0**	**-0.4**
KFL	**Anninata**	**0.57**	**348**	P	**Pg**	**06 53 40.9**	**-0.8**
KFL				S	**Sb**	**06 53 50.0**	**-0.4**
RLS	**Riolos of Patr**	**0.66**	**40**	P	**Pg**	**06 53 42.5**	**-0.9**
RLS				S	**Sg**	**06 53 51.3**	**-0.8**
RLS	**Riolos of Patr**	**0.66**	**40**	P	**Pg**	**06 53 41.5**	**-1.9**
RLS				S	**Sg**	**06 53 51.3**	**-0.8**
RLS	**Riolos of Patr**	**0.66**	**40**	P	**Pg**	**06 53 42.5**	**-0.9**
RLS	**Riolos of Patr**	**0.66**	**40**	S	**Sg**	**06 53 51.4**	**-0.7**
RLS				AML	AML	06 53 59.9	
	comp=N,21924μm,0.4s						
RLS				AML	AML	06 54 00.4	
	comp=E,21518μm,0.4s						
VLS	**Valsamata**	**0.68**	**337**	P	**Pg**	**06 53 43.0**	**-0.8**
VLS				S	**Sg**	**06 53 53.1**	**+0.3**
VLS	**Valsamata**	**0.68**	**337**	P	**Pg**	**06 53 43.0**	**-0.8**
VLS	**Valsamata**	**0.68**	**337**	P	**Pg**	**06 53 43.0**	**-0.8**
VLS				S	**Sb**	**06 53 53.9**	**+0.2**
VLS	**Valsamata**	**0.68**	**337**	P	**Pg**	**06 53 43.0**	**-0.8**
AXS	**Araxos**	**0.73**	**29**	P	**Pg**	**06 53 43.4**	**-1.4**
AXS				S	**Sg**	**06 54 53.4**	**-0.2**
AXS	**Araxos**	**0.73**	**29**	P	**Pg**	**06 53 43.3**	**-1.5**
AXS				S	**Sb**	**06 53 55.7**	**+0.6**
AXS	**Araxos**	**0.73**	**29**	P	**Pg**	**06 53 43.3**	**-1.5**
AXS				S	**Sb**	**06 53 55.7**	**+0.6**
DRO	**Drossia**	**0.73**	**57**	P	**Pg**	**06 53 44.1**	**-0.7**
DRO				S	**Sg**	**06 53 54.3**	**-0.2**
DRO	**Drossia**	**0.73**	**57**	P	**Pg**	**06 53 44.1**	**-0.7**
DRO				S	**Sg**	**06 53 54.0**	**-0.5**
DRO	**Drossia**	**0.73**	**57**	P	**Pg**	**06 53 44.1**	**-0.7**
DRO				S	**Sg**	**06 53 54.0**	**-0.5**
DRO				AML	AML	06 54 01.6	
	comp=E,63321μm,0.5s						
DRO				AML	AML	06 54 03.6	
	comp=N,62015μm,0.4s						
ITM	**Ithomi**	**0.88**	**115**	P	**Pg**	**06 53 47.3**	**-0.2**
ITM				S	**Sn**	**06 54 00.7**	**-0.5**
ITM	**Ithomi**	**0.88**	**115**	P	**Pn**	**06 53 48.4**	**-0.2**
ITM				S	**Sn**	**06 54 00.9**	**-0.3**
ITM	**Ithomi**	**0.88**	**115**	P	**Pg**	**06 53 47.3**	**-0.2**
ITM	**Ithomi**	**0.88**	**115**	P	**Pn**	**06 53 48.4**	**-0.2**
ITM				S	**Sb**	**06 53 59.9**	**+0.7**
ITM				AML	AML	06 54 07.3	
	comp=N,76225μm,0.5s						
ITM				AML	AML	06 54 08.0	
	comp=E,72964μm,0.4s						
PYL	**PYLOS**	**0.92**	**135**	P	**Pb**	**06 53 48.2**	**-0.2**
PYL				S	**Sn**	**06 54 03.0**	**+0.7**
PYL	**PYLOS**	**0.92**	**135**	P	**Pg**	**06 53 48.7**	**+0.3**
PYL				S	**Sn**	**06 54 02.6**	**+0.3**
PYL	**PYLOS**	**0.92**	**135**	P	**Pg**	**06 53 48.6**	**+0.3**
PYL				S	**Sg**	**06 54 00.7**	**+0.4**
PYL				AML	AML	06 54 06.7	
	comp=E,53443μm,0.6s						
PYL				AML	AML	06 54 08.5	
	comp=N,32227μm,0.6s						
UPR	**University Cam**	**0.99**	**42**	P	**Pn**	**06 53 50.3**	**+0.1**
UPR	**University Cam**	**0.99**	**42**	P	**Pn**	**06 53 52.0**	**+1.7**
UPR	**University Cam**	**0.99**	**42**	P	**Pn**	**06 53 52.0**	**+1.7**
PDO	**Prodromos**	**1.06**	**11**	P	**Pb**	**06 53 49.2**	**-1.7**
PDO				S	**Sn**	**06 54 05.8**	**-0.1**
PDO	**Prodromos**	**1.06**	**11**	P	**Pb**	**06 53 49.8**	**-1.1**
PDO				S	**Sn**	**06 54 06.2**	**+0.3**
PDO	**Prodromos**	**1.06**	**11**	P	**Pb**	**06 53 49.8**	**-1.1**
PDO				S	**Sn**	**06 54 06.2**	**+0.3**
PDO				AML	AML	06 54 15.4	
	comp=E,28639μm,0.5s						
PDO				AML	AML	06 54 23.0	
	comp=N,25293μm,0.7s						
TRIP	**Tripoli**	**1.06**	**91**	P	**Pb**	**06 53 50.1**	**-0.8**
TRIP				S	**Sn**	**06 54 06.3**	**+0.3**
TRIP	**Tripoli**	**1.06**	**91**	P	**Pb**	**06 53 50.1**	**-0.8**
TRIP				S	**Sn**	**06 54 06.3**	**+0.3**
TRIP				AML	AML	06 54 13.3	
	comp=N,19700μm,0.6s						
TRIP				AML	AML	06 54 15.8	
	comp=E,35744μm,0.7s						
LAKA	**Lakka**	**1.08**	**50**	P	**Pb**	**06 53 50.3**	**-0.8**
LAKA				S	**Sg**	**06 54 05.2**	**-0.1**
LAKA	**Lakka**	**1.08**	**50**	P	**Pn**	**06 53 52.8**	**+1.4**
LAKA				S	**Sg**	**06 54 05.2**	**-0.1**
LAKA	**Lakka**	**1.08**	**50**	*e*Pn	**Pb**	**06 53 50.3**	**-0.8**
LAKA	**Lakka**	**1.08**	**50**	P	**Pn**	**06 53 52.8**	**+1.4**
LAKA				S	**Sg**	**06 54 05.0**	**-0.3**
LAKA				AML	AML	06 54 16.8	
	comp=E,15332μm,1.0s						
LAKA				AML	AML	06 54 23.1	
	comp=N,20887μm,0.9s						
KLV	**Kalavryta, Ach**	**1.08**	**63**	P	**Pb**	**06 53 50.0**	**-1.2**
KLV				S	**Sn**	**06 54 06.4**	**0.0**
KLV	**Kalavryta, Ach**	**1.08**	**63**	*e*Pn	**Pb**	**06 53 50.3**	**-0.9**
KLV	**Kalavryta, Ach**	**1.08**	**63**	P	**Pb**	**06 53 51.2**	**0.0**
KLV				S	**Sn**	**06 54 08.1**	**+1.6**
KLV	**Kalavryta, Ach**	**1.08**	**63**	*e*Pn	**Pb**	**06 53 50.3**	**-0.9**
KLV	**Kalavryta, Ach**	**1.08**	**63**	P	**Pb**	**06 53 51.2**	**0.0**
KLV				S	**Sn**	**06 54 08.1**	**+1.6**
PVO	**Paravola**	**1.16**	**24**	P	**Pb**	**06 53 51.5**	**-1.0**
PVO				S	**Sn**	**06 54 09.0**	**+0.7**
PVO	**Paravola**	**1.16**	**24**	P	**Pb**	**06 53 51.5**	**-1.0**
PVO				S	**Sn**	**06 54 09.0**	**+0.7**
PVO	**Paravola**	**1.16**	**24**	P	**Pb**	**06 53 51.2**	**-1.3**
VLX	**Vlachokerasia**	**1.17**	**99**	P	**Pb**	**06 53 52.5**	**-0.1**
VLX				S	**Sn**	**06 54 09.8**	**+1.3**
VLX	**Vlachokerasia**	**1.17**	**99**	P	**Pb**	**06 53 52.5**	**-0.1**
VLX				S	**Sn**	**06 54 09.8**	**+1.3**
VLX	**Vlachokerasia**	**1.17**	**99**	P	**Pb**	**06 53 52.5**	**-0.1**
VLX	**Vlachokerasia**	**1.17**	**99**	P	**Pb**	**06 53 51.8**	**-0.8**
VLX				S	**Sn**	**06 54 09.2**	**+0.6**
VLX				AML	AML	06 54 14.7	
	comp=N,57023μm,0.7s						
VLX				AML	AML	06 54 18.6	
	comp=E,47804μm,0.7s						
GUR	**Goura**	**1.18**	**71**	P	**Pb**	**06 53 52.2**	**-0.7**
GUR				S	**Sn**	**06 54 09.9**	**+1.0**
GUR	**Goura**	**1.18**	**71**	P	**Pb**	**06 53 52.2**	**-0.7**
GUR				S	**Sn**	**06 54 09.9**	**+1.0**
GUR	**Goura**	**1.18**	**71**	P	**Pb**	**06 53 51.6**	**-1.3**
GUR				S	**Sn**	**06 54 09.7**	**+0.8**
GUR				AML	AML	06 54 17.1	
	comp=N,31451μm,0.5s						
GUR				AML	AML	06 54 24.9	
	comp=E,32257μm,0.5s						
TRIZ	**Trizonia**	**1.21**	**48**	P	**Pg**	**06 53 55.1**	**+1.2**
SERG	**Sergoula**	**1.24**	**46**	P	**Pn**	**06 53 52.2**	**-1.4**
SERG	**Sergoula**	**1.24**	**46**	P	**Pg**	**06 53 55.3**	**+0.9**
SERG				S	**Sg**	**06 54 10.5**	**0.0**
LKD2	**Lefkada island**	**1.25**	**350**	P	**Pn**	**06 53 52.8**	**-1.1**
LKD2				S	**Sg**	**06 54 12.0**	**+1.0**
LKD2	**Lefkada island**	**1.25**	**350**	P	**Pn**	**06 53 52.8**	**-1.1**
LKD2				S	**Sg**	**06 54 12.0**	**+1.0**
LKD2	**Lefkada island**	**1.25**	**350**	P	**Pn**	**06 53 52.8**	**-1.1**
LKD2				S	**Sg**	**06 54 12.0**	**+1.0**
LKD2	**Lefkada island**	**1.25**	**350**	P	**Pn**	**06 53 51.7**	**-2.2**
LKD2				S	**Sg**	**06 54 12.6**	**+1.5**
LKD2				AML	AML	06 54 18.3	
	comp=N,14938μm,0.8s						
LKD2				AML	AML	06 54 20.6	
	comp=E,13265μm,0.4s						
KALE	**Kalithea**	**1.27**	**48**	P	**Pn**	**06 53 52.8**	**-1.3**
KALE				S	**Sg**	**06 54 13.1**	**+1.6**
KALE	**Kalithea**	**1.27**	**48**	P	**Pb**	**06 53 54.2**	**-0.2**
KALE				S	**Sg**	**06 54 13.1**	**+1.6**
KALE	**Kalithea**	**1.27**	**48**	*e*Pn	**Pn**	**06 53 52.8**	**-1.3**
KALE				*e*Sn	**Sg**	**06 54 13.1**	**+1.6**
KALE	**Kalithea**	**1.27**	**48**	P	**Pb**	**06 53 54.2**	**-0.2**
KALE				AML	AML	06 54 22.6	
	comp=N,19551μm,0.5s						
KALE				AML	AML	06 54 32.2	
	comp=E,17338μm,0.8s						
ANX	**Ano Chora**	**1.30**	**37**	P	**Pn**	**06 53 53.6**	**-0.9**
ANX				S	**Sg**	**06 54 14.0**	**+1.5**
ANX	**Ano Chora**	**1.30**	**37**	P	**Pg**	**06 53 55.3**	**-0.3**
ANX				S	**Sg**	**06 54 13.5**	**+1.0**
THAL	**Thalero**	**1.45**	**70**	P	**Pb**	**06 53 57.9**	**+0.4**
THAL	**Thalero**	**1.45**	**70**	P	**Pb**	**06 53 57.9**	**+0.4**
THAL				S	**Sg**	**06 54 18.5**	**+1.1**
THAL	**Thalero**	**1.45**	**70**	P	**Pg**	**06 53 58.7**	**+0.2**
THAL				S	**Sg**	**06 54 18.4**	**+1.1**
DSF	**Desfina**	**1.52**	**55**	P	**Pn**	**06 53 58.0**	**+0.4**
DSF	**Desfina**	**1.52**	**55**	P	**Pn**	**06 53 58.0**	**+0.4**
DSF				S	**Sg**	**06 54 19.2**	**-0.5**
DSF	**Desfina**	**1.52**	**55**	P	**Pn**	**06 53 58.0**	**+0.4**
DSF	**Desfina**	**1.52**	**55**	P	**Pn**	**06 53 58.0**	**+0.4**
DSF				S	**Sg**	**06 54 19.2**	**-0.5**
DSF				AML	AML	06 54 34.1	
	comp=N,5426μm,0.5s						
DSF				AML	AML	06 54 36.8	
	comp=E,5890μm,0.5s						
EVR	**Evrytania**	**1.53**	**27**	P	**Pn**	**06 53 57.6**	**-0.1**
EVR				S	**Sg**	**06 54 20.2**	**+0.4**
EVR	**Evrytania**	**1.53**	**27**	P	**Pb**	**06 53 58.9**	**+0.1**
EVR				S	**Sg**	**06 54 20.2**	**+0.4**
EVR	**Evrytania**	**1.53**	**27**	P	**Pn**	**06 53 57.6**	**-0.1**
EVR				S	**Sg**	**06 54 20.2**	**+0.4**
EVR	**Evrytania**	**1.53**	**27**	P	**Pb**	**06 53 58.9**	**+0.1**
EVR				S	**Sg**	**06 54 20.3**	**+0.6**
EVR				AML	AML	06 54 27.0	
	comp=N,10486μm,0.7s						
DSL	**Palaion Diasel**	**1.58**	**5**	P	**Pn**	**06 53 58.7**	**+0.3**
DSL				S	**Sg**	**06 54 22.5**	**+0.9**
DSL	**Palaion Diasel**	**1.58**	**5**	P	**Pb**	**06 53 59.9**	**+0.1**
DSL				S	**Sg**	**06 54 22.5**	**+0.9**
DSL	**Palaion Diasel**	**1.58**	**5**	P	**Pn**	**06 53 58.7**	**+0.3**
DSL	**Palaion Diasel**	**1.58**	**5**	P	**Pb**	**06 53 59.9**	**+0.1**
DSL				S	**Sg**	**06 54 22.8**	**+1.2**
LTK	**Loutraki**	**1.68**	**73**	P	**Pb**	**06 54 01.6**	**+0.2**
LTK	**Loutraki**	**1.68**	**73**	P	**Pb**	**06 54 01.6**	**+0.2**
LTK				S	**Sb**	**06 54 22.7**	**+0.3**
LTK	**Loutraki**	**1.68**	**73**	*e*Pn	**Pb**	**06 54 01.6**	**+0.2**
LTK	**Loutraki**	**1.68**	**73**	P	**Pb**	**06 54 00.9**	**-0.5**
LTK				S	**Sb**	**06 54 22.7**	**+0.3**
PROD	**Prodromos**	**1.71**	**65**	P	**Pg**	**06 54 03.1**	**-0.3**
PROD	**Prodromos**	**1.71**	**65**	P	**Pg**	**06 54 03.1**	**-0.3**
KRND	**KRANIDI**	**1.77**	**95**	P	**Pb**	**06 54 03.3**	**+0.4**
KRND	**KRANIDI**	**1.77**	**95**	P	**Pb**	**06 54 03.3**	**+0.4**
VLI	**Veliai**	**1.81**	**117**	P	**Pb**	**06 54 04.2**	**+0.7**
VLI	**Veliai**	**1.81**	**117**	P	**Pb**	**06 54 04.2**	**+0.7**
VLI				S	**Sb**	**06 54 27.2**	**+1.2**
VLI	**Veliai**	**1.81**	**117**	*e*Pn	**Pb**	**06 54 04.2**	**+0.7**
VLI	**Veliai**	**1.81**	**117**	P	**Pg**	**06 54 05.0**	**-0.2**
VLI				S	**Sb**	**06 54 27.2**	**+1.2**
DID	**Didima**	**1.83**	**91**	P	**Pb**	**06 54 03.1**	**-0.9**
DID				S	**Pb**	**06 54 27.4**	**+0.6**
DID	**Didima**	**1.83**	**91**	P	**Pb**	**06 54 03.8**	**-0.2**
DID				S	**Sb**	**06 54 27.4**	**+0.6**
DID	**Didima**	**1.83**	**91**	*e*Pg	**Pb**	**06 54 03.1**	**-0.9**
DID	**Didima**	**1.83**	**91**	P	**Pb**	**06 54 03.9**	**-0.2**
DID				S	**Sg**	**06 54 29.2**	**-0.3**
AGG	**Agios Georgios**	**1.83**	**36**	P	**Pb**	**06 54 04.2**	**+0.2**
AGG				S	**Sb**	**06 54 27.5**	**+0.6**
AGG	**Agios Georgios**	**1.83**	**36**	*e*P	**Pg**	**06 54 05.6**	**-0.2**
AGG	**Agios Georgios**	**1.83**	**36**	P	**Pb**	**06 54 04.2**	**+0.2**
AGG	**Agios Georgios**	**1.83**	**36**	*e*Pn	**Pg**	**06 54 05.6**	**-0.2**
AGG				S	**Sb**	**06 54 27.5**	**+0.6**
AGG	**Agios Georgios**	**1.83**	**36**	*e*Pn	**Pg**	**06 54 05.6**	**-0.2**
AGG	**Agios Georgios**	**1.83**	**36**	P	**Pg**	**06 54 05.4**	**-0.3**
VIL2	**Platees**	**1.96**	**70**	P	**Pb**	**06 54 06.3**	**+0.1**
VIL2				S	**Sb**	**06 54 30.9**	**+0.3**
LKR	**Lokris**	**1.96**	**55**	P	**Pb**	**06 54 05.5**	**-0.7**
LKR	**Lokris**	**1.96**	**55**	P	**Pb**	**06 54 05.5**	**-0.7**
LKR				S	**Sb**	**06 54 30.0**	**-0.6**
LKR	**Lokris**	**1.96**	**55**	P	**Pb**	**06 54 05.5**	**-0.7**
LKR	**Lokris**	**1.96**	**55**	P	**Pb**	**06 54 06.4**	**+0.2**
LKR				S	**Sb**	**06 54 30.0**	**-0.6**
LKR				AML	AML	06 54 39.4	
	comp=E,6300μm,0.8s						
LKR				AML	AML	06 54 47.0	
	comp=N,6605μm,1.2s						
VILL	**Villia**	**1.98**	**71**	P	**Pb**	**06 54 05.4**	**-1.1**
VILL				S	**Sb**	**06 54 30.7**	**-0.4**
VILL	**Villia**	**1.98**	**71**	P	**Pb**	**06 54 05.4**	**-1.1**
VILL				S	**Sb**	**06 54 30.7**	**-0.4**
ATAL	**Atalanti**	**2.00**	**55**	P	**Pb**	**06 54 06.1**	**-0.8**
ATAL				S	**Sb**	**06 54 31.3**	**-0.4**
ATAL	**Atalanti**	**2.00**	**55**	P	**Pb**	**06 54 06.1**	**-0.8**
ATAL				S	**Sb**	**06 54 31.3**	**-0.4**
ATAL	**Atalanti**	**2.00**	**55**	*e*Pn	**Pb**	**06 54 06.1**	**-0.8**
ATAL	**Atalanti**	**2.00**	**55**	P	**Pb**	**06 54 06.6**	**-0.3**
JAN	**Janina**	**2.10**	**358**	P	**Pb**	**06 54 08.3**	**-0.3**
KYTH	**Kithira**	**2.13**	**127**	P	**Pb**	**06 54 09.2**	**+0.2**
KYTH	**Kithira**	**2.13**	**127**	P	**Pb**	**06 54 09.2**	**+0.2**
KYTH	**Kithira**	**2.13**	**127**	*e*Pn	**Pb**	**06 54 09.2**	**+0.2**
KYTH	**Kithira**	**2.13**	**127**	P	**Pg**	**06 54 10.7**	**-0.6**
SGD	**Sagiada**	**2.13**	**345**	P	**Pn**	**06 54 06.1**	**+0.3**
SGD	**Sagiada**	**2.13**	**345**	P	**Pn**	**06 54 06.1**	**+0.3**
SGD	**Sagiada**	**2.13**	**345**	P	**Pb**	**06 54 09.5**	**+0.5**
THL	**Klokotos Trika**	**2.18**	**23**	P	**Pb**	**06 54 08.3**	**-1.6**
THL	**Klokotos Trika**	**2.18**	**23**	P	**Pb**	**06 54 08.3**	**-1.6**
THL				S	**Sb**	**06 54 36.0**	**-0.8**
SMIA	**Simia**	**2.23**	**53**	P	**Pb**	**06 54 09.2**	**-1.5**
SMIA	**Simia**	**2.23**	**53**	P	**Pb**	**06 54 09.2**	**-1.5**
SMIA	**Simia**	**2.23**	**53**	P	**Pb**	**06 54 09.7**	**-1.0**
ATH	**Athens Observa**	**2.25**	**78**	P	**Pn**	**06 54 09.1**	**+1.7**
ATH	**Athens Observa**	**2.25**	**78**	P	**Pn**	**06 54 09.1**	**+1.7**
ATH	**Athens Observa**	**2.25**	**78**	P	**Pn**	**06 54 09.1**	**+1.7**
ATH	**Athens Observa**	**2.25**	**78**	P	**Pn**	**06 54 09.1**	**+1.7**
VLY	**Voula,Athens**	**2.29**	**82**	P	**Pn**	**06 54 09.3**	**+1.2**
VLY	**Voula,Athens**	**

OUR Ouranopolis 3.66 40 P Pn 06 54 27.5 +0.7
OUR Ouranopolis 3.66 40 P Pn 06 54 27.5 +0.7
PLAC Placanica 3.66 286 Pg Pn 06 54 27.7 +0.7
PLAC Sg Sn 06 55 08.7 -1.3
comp=N,193nm,0.8s
PLAC Placanica 3.66 286 Pg Pn 06 54 27.7 +0.7
PLAC Sg Sn 06 55 08.7 -1.3
comp=N,193nm,0.8s
TIP Timpagrande 3.66 298 P Pn 06 54 28.2 +1.2
TIP Timpagrande 3.66 298 Pg Pn 06 54 28.1 +1.1
TIP Sg Sn 06 55 11.0 +0.9
comp=N,92nm,1.0s
TIP Timpagrande 3.66 298 *e*Pn Pn 06 54 27.8 +0.8
TIP Timpagrande 3.66 298 Pg Pn 06 54 28.1 +1.1
TIP Sg Sn 06 55 11.0 +0.9
comp=N,92nm,1.0s
TIP Timpagrande 3.66 298 *e*Pn Pn 06 54 27.8 +0.8
APE Apeiranthos 3.70 96 ⇑*i*P Pb 06 54 34.1 -1.7
APE Apeiranthos 3.70 96 *e*P Pn 06 54 27.9 +0.4
APE Apeiranthos 3.70 96 P Pn 06 54 28.1 +0.6
APE Apeiranthos 3.70 96 P Pn 06 54 28.1 +0.6
SAP3 Santorini-Thir 3.70 106 P Pn 06 54 28.4 +0.9
SAP3 Santorini-Thir 3.70 106 P Pn 06 54 28.4 +0.9
THR5 Thira Island, 3.71 106 P Pn 06 54 30.0 +2.4
THR5 Thira Island, 3.71 106 P Pn 06 54 30.0 +2.4
PIPA Pietrapaola 3.76 302 Pg Pn 06 54 30.4 +2.1
comp=N,169nm,0.9s
PIPA Pietrapaola 3.76 302 Pg Pn 06 54 30.4 +2.1
comp=N,169nm,0.9s
SOH Sokhos 3.77 29 P Pn 06 54 29.5 +1.1
SOH Sokhos 3.77 29 *e*P Pn 06 54 29.5 +1.1
SOH Sokhos 3.77 29 P Pn 06 54 29.5 +1.1
SOH Sokhos 3.77 29 *e*Pn Pn 06 54 29.5 +1.1
SANT Santorini 3.81 107 *e*Pn Pn 06 54 30.6 +1.6
SANT Santorini 3.81 107 *e*Pn Pn 06 54 30.6 +1.6
TIR Tirane 3.88 348 ⇑*i*P Pn 06 54 28.8 -1.1
TIR Tirane 3.88 348 ⇑P Pn 06 54 28.8 -1.1
TIR Tirane 3.88 348 ⇑*i*P Pn 06 54 28.8 -1.1
TIR Tirane 3.88 348 *e*Pn Pn 06 54 32.0 +2.1
TIR Tirane 3.88 348 *e*Pn Pn 06 54 32.0 +2.1
SOI Samo 3.90 279 Pg Pn 06 54 31.1 +0.9
SOI Sg Sn 06 55 14.1 -1.7
comp=N,126nm,1.0s
SOI Samo 3.90 279 Pg Pn 06 54 31.1 +0.9
SOI Sg Sn 06 55 14.1 -1.7
comp=N,126nm,1.0s
IDI Anoyia 3.91 124 Pn Pn 06 54 31.1 +0.7
comp=N,4.1nm,0.3s,baz=246,slow=8.2,SNR=23
IDI Sn Sn 06 55 14.1 -2.1
comp=N,13nm,0.3s,baz=293,slow=14,SNR=3.1
IDI Anoyia 3.91 124 *e*Pn Pn 06 54 33.0 +2.6
IDI Anoyia 3.91 124 P Pn 06 54 34.8 +4.4
IDI Sn Sn 06 55 14.1 -2.1
IDI Anoyia 3.91 124 *e*Pn Pn 06 54 33.0 +2.6
IDI Sn Sn 06 55 14.1 -2.1
IDI Anoyia 3.91 124 P Pn 06 54 34.9 +4.4
KNT Kendrikon 3.91 22 P Pn 06 54 31.7 +1.3
KNT Kendrikon 3.91 22 P Pn 06 54 31.7 +1.3
KNT Kendrikon 3.91 22 P Pn 06 54 31.7 +1.3
KNT Kendrikon 3.91 22 P Pn 06 54 31.7 +1.3
MPAZ Palizzi 3.92 277 Pg Pn 06 54 31.6 +1.0
MPAZ Sg Sn 06 55 14.2 -2.3
comp=N,157nm,0.7s
MPAZ Palizzi 3.92 277 Pg Pn 06 54 31.6 +1.0
MPAZ Sg Sn 06 55 14.2 -2.3
comp=N,157nm,0.7s
VAY Valandovo 3.97 18 *i* Pn Pn 06 54 34.1 +2.9
VAY Valandovo 3.97 18 *i* Pn Pn 06 54 34.1 +2.9
CEL Celeste 4.05 282 *e*Pn Pn 06 54 32.1 -0.2
CEL Celeste 4.05 282 *e*Pn Pn 06 54 32.1 -0.2
LIA Limnos Island 4.07 54 P Pn 06 54 32.8 +0.3
CAR1 CAROLEI 4.08 296 Pg Pn 06 54 35.2 +2.5
CAR1 Sg Sn 06 55 22.7 +2.4
comp=N,381nm,0.9s
CAR1 CAROLEI 4.08 296 Pg Pn 06 54 35.2 +2.5
CAR1 Sg Sn 06 55 22.7 +2.4
comp=N,381nm,0.9s
TAR1 Taranto 4.11 317 *e*Pn Pn 06 54 34.3 +1.3
SRS Serrai 4.11 29 P Pn 06 54 34.3 +1.1
SRS Serrai 4.11 29 *e*P Pn 06 54 34.3 +1.1
SRS Serrai 4.11 29 P Pn 06 54 34.3 +1.1
SRS Serrai 4.11 29 *e*Pn Pn 06 54 34.3 +1.1
JOPP Joppolo 4.12 286 Pg Pn 06 54 34.3 +1.1
JOPP Sg Sn 06 55 21.2 -0.1
comp=N,356nm,1.1s
JOPP Joppolo 4.12 286 Pg Pn 06 54 34.3 +1.1
JOPP Sg Sn 06 55 21.2 -0.1
comp=N,356nm,1.1s
CHOS Chios island 4.13 77 P Pn 06 54 34.9 +1.4
CHOS Chios island 4.13 77 P Pn 06 54 34.9 +1.4
CHOS Chios island 4.13 77 P Pn 06 54 34.9 +1.4
SALB San Lorenzo Be 4.27 304 Pg Pn 06 54 38.2 +2.8
comp=N,285nm,1.4s
SALB San Lorenzo Be 4.27 304 Pg Pn 06 54 38.2 +2.8
comp=N,285nm,1.4s
MSRU Castanea 4.35 281 Pg Pn 06 54 37.7 +1.3
MSRU Sg Sn 06 55 26.0 -0.9
comp=N,678nm,1.1s
MSRU Castanea 4.35 281 Pg Pn 06 54 37.7 +1.3
MSRU Sg Sn 06 55 26.0 -0.9
comp=N,678nm,1.1s
LAST Lasithi 4.38 122 *e*Pn Pn 06 54 39.0 +2.2
LAST Lasithi 4.38 122 *e*Pn Pn 06 54 39.0 +2.2
LAST Lasithi 4.38 122 P Pn 06 54 39.1 +2.3
NVR Nevrokopi 4.42 30 P Pn 06 54 39.0 +1.6
NVR Nevrokopi 4.42 30 P Pn 06 54 39.0 +1.6
NVR Nevrokopi 4.42 30 P Pn 06 54 39.0 +1.6
KAVA Kavala 4.42 38 P Pn 06 54 38.6 +1.2
KAVA Kavala 4.42 38 P Pn 06 54 38.6 +1.2
SKO Skopje 4.43 5 *e*Pn Pn 06 54 38.3 +0.8
SKO Skopje 4.43 5 *e*Pn Pn 06 54 38.3 +0.8
ZEY ˙zmir 4.46 79 *i* P Pn 06 54 40.4 +2.6
MCSR Castroreale 4.53 278 Pg Pn 06 54 40.0 +1.1
comp=N,300nm,0.3s
MCSR Castroreale 4.53 278 Pg Pn 06 54 40.0 +1.1
comp=N,300nm,0.3s
URLA Izmir 4.55 78 P Pn 06 54 40.4 +1.3
URLA Izmir 4.55 78 *i* P Pn 06 54 40.4 +1.3
MMB Musomiste 4.57 27 P Pn 06 54 40.9 +1.4
ULC Ulcinj 4.59 344 ⇓*i*Pn Pn 06 54 40.2 +0.4
ULC *e*Sn Sn 06 55 34.2 +1.2
ULC Ulcinj 4.59 344 ⇓*i*Pn Pn 06 54 40.2 +0.4
ULC *e*Sn Sn 06 55 34.2 +1.2
HAGA Augusta 4.61 268 Pg Pn 06 54 39.4 -0.5
comp=N,231nm,1.2s
HAGA Augusta 4.61 268 Pg Pn 06 54 39.4 -0.5
comp=N,231nm,1.2s
NOV Novara 4.62 278 Pg Pn 06 54 41.7 +1.6
comp=N,395nm,0.8s
NOV Novara 4.62 278 Pg Pn 06 54 41.7 +1.6
comp=N,395nm,0.8s
KKB Krupnik 4.62 20 P Pn 06 54 42.7 +2.6
SMTH Samothraki Isl 4.62 49 P Pn 06 54 40.5 +0.4
SMTH Samothraki Isl 4.62 49 P Pn 06 54 40.5 +0.4
SCHR S. Chirico Rap 4.62 306 Pg Pn 06 54 42.5 +2.3
comp=N,5µm,7.2s
SG1 Sgolgore (BA) 4.66 316 *e*Pn Pn 06 54 42.6 +2.0
SG1 Sn Sn 06 55 33.4 -1.2
HAVL Avola 4.67 264 Pg Pn 06 54 40.3 -0.5
comp=N,355nm,0.5s
HAVL Avola 4.67 264 Pg Pn 06 54 40.3 -0.5
comp=N,355nm,0.5s
CUC Castrocucco 4.68 303 *e*Pn Pn 06 54 44.6 +3.6
CUC Castrocucco 4.68 303 *e*Pn Pn 06 54 44.6 +3.6
SSY Sortino 4.69 267 Pg Pn 06 54 40.4 -0.6
comp=N,225nm,0.5s
SSY Sortino 4.69 267 Pg Pn 06 54 40.4 -0.6
comp=N,225nm,0.5s
SMG Samos 4.69 86 P Pn 06 54 41.4 +0.3
SMG Samos 4.69 86 P Pn 06 54 41.4 +0.3
HCRL Carlentini 4.71 269 Pg Pn 06 54 40.6 -0.7
comp=N,557nm,0.7s
HCRL Carlentini 4.71 269 Pg Pn 06 54 40.6 -0.7
comp=N,557nm,0.7s
DGB ˙zmir 4.74 82 *i* P Pn 06 54 43.8 +2.1
AMUR Altamura 4.75 316 Pg Pn 06 54 43.7 +1.9
comp=N,7µm,5.1s
AMUR Altamura 4.75 316 Pg Pn 06 54 43.7 +1.9
comp=N,7µm,5.1s
SIRI Monte Sirino - 4.75 305 Pg Pn 06 54 44.7 +2.8
comp=N,98nm,0.5s
SIRI Monte Sirino - 4.75 305 Pg Pn 06 54 44.7 +2.8
comp=N,98nm,0.5s

DRME Dracevica, Mon 4.82 344 ⇓*i*Pn Pn 06 54 44.1 +1.3
DRME *e*Sn Sn 06 55 39.7 +1.2
DRME Dracevica, Mon 4.82 344 ⇓*i*Pn Pn 06 54 44.1 +1.3
DRME *e*Sn Sn 06 55 39.7 +1.2
MUCR Ucria 4.82 278 Pg Pn 06 54 44.2 +1.2
comp=N,152nm,0.6s
MUCR Ucria 4.82 278 Pg Pn 06 54 44.2 +1.2
comp=N,152nm,0.6s
HLNI Lentini 4.83 269 Pg Pn 06 54 42.5 -0.4
comp=N,276nm,0.6s
HLNI Lentini 4.83 269 Pg Pn 06 54 42.5 -0.4
comp=N,276nm,0.6s
MCEL Monticello 4.87 306 Pg Pn 06 54 46.4 +2.9
comp=N,167nm,0.8s
MCEL Monticello 4.87 306 Pg Pn 06 54 46.4 +2.9
comp=N,167nm,0.8s
ZKR Zakros 4.91 118 P Pn 06 54 46.0 +1.9
ZKR Zakros 4.91 118 P Pn 06 54 46.0 +1.9
HVZN Vizzini 4.97 268 Pg Pn 06 54 43.8 -1.1
comp=N,798nm,0.6s
HVZN Vizzini 4.97 268 Pg Pn 06 54 43.8 -1.1
comp=N,798nm,0.6s
BUM Brajici-Budva 5.00 342 ⇓*i*Pn Pn 06 54 46.6 +1.3
BUM *e*Sn Sn 06 55 43.8 +0.9
BUM Brajici-Budva 5.00 342 ⇓*i*Pn Pn 06 54 46.6 +1.3
BUM *e*Sn Sn 06 55 43.8 +0.9
PDG Podgorica 5.04 346 ⇑*i*P Pn 06 54 46.1 +0.3
PDG Podgorica 5.04 346 ⇑*i*P Pn 06 54 46.1 +0.3
PDG Podgorica 5.04 346 ⇑*i*Pn Pn 06 54 47.4 +1.6
PDG *e*Sn Sn 06 55 44.9 +1.0
TTG Podgorica 5.04 346 ⇑*i*Pn Pn 06 54 47.4 +1.6
TTG *e*Sn Sn 06 55 44.9 +1.0
ACER Acerenza 5.05 311 Pg Pn 06 54 47.9 +1.9
comp=N,1µm,1.8s
ACER Acerenza 5.05 311 Pg Pn 06 54 47.9 +1.9
comp=N,1µm,1.8s
CDT Castel del Mon 5.05 316 *e*Pn Pn 06 54 47.9 +1.9
GALF Gagliano Caste 5.06 274 Pg Pn 06 54 47.2 +1.1
GALF Gagliano Caste 5.06 274 Pg Pn 06 54 47.2 +1.1
RZN Rozhen 5.06 34 P Pn 06 54 48.1 +1.8
PVY Plav 5.09 352 ⇓*i*Pn Pn 06 54 48.8 +2.1
PVY *e*Sn Sn 06 55 45.9 +0.5
PVY Plav 5.09 352 ⇓*i*Pn Pn 06 54 48.8 +2.1
PVY *e*Sn Sn 06 55 45.9 +0.5
VAE Valguarnera 5.18 271 Pn Pn 06 54 49.1 +1.2
baz=162,slow=13,SNR=1.6
VAE Sn Sn 06 55 52.2 +4.6
comp=N,6.9nm,0.3s,baz=140,slow=22,SNR=2.1
CEME Cevo 5.22 343 ⇓*i*Pn Pn 06 54 49.3 +0.9
CEME *e*Sn Sn 06 55 49.4 +0.9
CEME Cevo 5.22 343 ⇓*i*Pn Pn 06 54 49.3 +0.9
CEME *e*Sn Sn 06 55 49.4 +0.9
HCY Herceg Novi 5.24 340 ⇑*i*Pn Pn 06 54 50.5 +2.0
HCY *e*Sn Sn 06 55 49.5 +0.7
HCY Herceg Novi 5.24 340 ⇑*i*Pn Pn 06 54 50.5 +2.0
HCY *e*Sn Sn 06 55 49.5 +0.7
CDRU Civita di Ruta 5.27 306 Pg Pn 06 54 51.7 +2.5
comp=N,83nm,1.0s
CDRU Civita di Ruta 5.27 306 Pg Pn 06 54 51.7 +2.5
comp=N,83nm,1.0s
BARS Barje 5.30 7 *e*Pn Pn 06 54 50.1 +0.6
BEY Berane 5.37 352 ⇓*i*Pn Pn 06 54 52.4 +1.9
BEY *e*Sn Sn 06 55 53.0 +0.7
IVA Berane 5.37 352 ⇓*i*Pn Pn 06 54 52.4 +1.9
IVA *e*Sn Sn 06 55 53.0 +0.7
KARP Karpathos 5.40 110 *e*Pn Pn 06 54 54.2 +3.4
KARP Karpathos 5.40 110 *e*Pn Pn 06 54 54.2 +3.4
WDD Wied Dalam 5.42 254 Pg Pn 06 54 51.6 +0.6
comp=N,395nm,0.6s
WDD Wied Dalam 5.42 254 Pg Pn 06 54 51.6 +0.6
comp=N,395nm,0.6s
WDD Wied Dalam 5.42 254 *e*Pn Pn 06 54 52.0 +1.0
WDD *e*Sn Sn 06 55 52.1 -1.1
WDD Wied Dalam 5.42 254 *e*Pn Pn 06 54 52.0 +1.0
WDD *e*Sn Sn 06 55 52.1 -1.1
NKME Niksic 5.42 344 ⇑*i*Pn Pn 06 54 53.1 +1.9
NKME *e*Sn Sn 06 55 53.9 +0.4
NKME Niksic 5.42 344 ⇑*i*Pn Pn 06 54 53.1 +1.9
NKME *e*Sn Sn 06 55 53.9 +0.4
NKY Niksic 5.46 345 ⇑*i*Pn Pn 06 54 53.9 +2.2
NKY *e*Sn Sn 06 55 55.0 +0.5
NKY Niksic 5.46 345 ⇑*i*Pn Pn 06 54 53.9 +2.2
NKY *e*Sn Sn 06 55 55.0 +0.5
MCRV Calabrutti - M 5.52 308 Pg Pn 06 54 55.7 +3.1
comp=N,76nm,0.7s
MCRV Calabrutti - M 5.52 308 Pg Pn 06 54 55.7 +3.1
comp=N,76nm,0.7s
TREB Trebinje 5.53 340 *e*Pn Pn 06 54 51.3 -1.2
CAFE Carife 5.62 310 Pg Pn 06 54 56.7 +2.8
comp=N,3µm,1.7s
CAFE Carife 5.62 310 Pg Pn 06 54 56.7 +2.8
comp=N,3µm,1.7s
BRY Bratogost 5.65 342 ⇓*i*Pn Pn 06 54 55.5 +1.2
BRY *e*Sn Sn 06 55 59.7 +0.6
BRY Bratogost 5.65 342 ⇓*i*Pn Pn 06 54 55.5 +1.2
BRY *e*Sn Sn 06 55 59.7 +0.6
MS1 Monte Sant'Ang 5.66 319 *e*Pn Pn 06 54 56.4 +2.0
UPM Unac-Piva 5.85 345 *e*Pn Pn 06 54 58.4 +1.2
UPM *e*Sn Sn 06 56 04.5 +0.2
UPM Unac-Piva 5.85 345 *e*Pn Pn 06 54 58.4 +1.2
UPM *e*Sn Sn 06 56 04.5 +0.2
PLE Pljevlja 5.89 349 ⇑*i*Pn Pn 06 54 59.4 +1.8
PLE *e*Sn Sn 06 56 05.8 +0.7
PLE Pljevlja 5.89 349 ⇑*i*Pn Pn 06 54 59.4 +1.8
PLE *e*Sn Sn 06 56 05.8 +0.7
IVAS Ivanjica 6.05 355 *e*Pn Pn 06 55 00.6 +0.8
BOVS Bovan 6.11 5 *e*Pn Pn 06 55 00.6 +0.1
CLTB Caltabellotta 6.13 273 *e*Pn Pn 06 55 01.1 +0.2
CLTB Caltabellotta 6.13 273 *e*Pn Pn 06 55 01.1 +0.2
TURN Turunc 6.16 94 *i* P Pn 06 55 03.0 +1.8
MPEP Malo Peshtene 6.18 19 P Pn 06 55 01.0 -0.5
GRUS Gruza 6.33 359 *e*Pn Pn 06 55 04.2 +0.6
BBLS Lazići 6.41 350 *e*Pn Pn 06 55 07.4 +2.6
DIVS Divibare 6.58 354 *e*Pn Pn 06 55 07.4 +0.3
TRUS Trudelj 6.68 357 *e*Pn Pn 06 55 08.5 +0.2
GOLH Golhisar 6.88 90 *i* P Pn 06 55 18.8 +7.6
TEKS Tekeris 7.07 352 *e*Pn Pn 06 55 13.2 -0.6
AKAS Kas 7.07 98 P Pn 06 55 17.3 +3.4
AKAS Kas 7.07 98 *i* P Pn 06 55 17.3 +3.4
AKAS *i* S Sn 06 56 30.0 -4.3
KORT Korkueli 7.53 91 P Pn 06 55 20.0 -0.2
KORT Korkueli 7.53 91 *i* P Pn 06 55 19.9 -0.2
UDBI Udbina 7.99 332 *e*Pn Pn 06 55 27.5 +1.2
UDBI Sn Sn 06 56 53.0 -3.6
UDBI Udbina 7.99 332 *e*Pn Pn 06 55 27.5 +1.2
NVLJ Novalja 8.37 329 *e*Pn Pn 06 55 31.7 +0.2
NVLJ Sn Sn 06 57 01.0 -4.8
NVLJ Novalja 8.37 329 *e*Pn Pn 06 55 31.7 +0.2
MLR Muntele Rosu 8.78 24 Pn Pn 06 55 37.9 +0.6
comp=N,0.1nm,0.3s,baz=173,slow=11,SNR=7.8
MLR Muntele Rosu 8.78 24 *e*Pn Pn 06 55 41.0 +3.8
MLR Muntele Rosu 8.78 24 *e*Pn Pn 06 55 41.0 +3.8
TIRR Tirgusor 8.92 37 *e*P Pn 06 55 41.2 +2.2
TIRR Tirgusor 8.92 37 *e*Pn Pn 06 55 41.2 +2.2
TIRR Tirgusor 8.92 37 *e*Pn Pn 06 55 41.2 +2.2
SWA2 9.11 154 P Pn 06 55 40.5 -1.3
baz=156
SWA2 S Sn 06 57 16.2 -7.9
baz=156
SWA2 9.11 154 P Pn 06 55 40.4 -1.3
KEST Kesra 9.49 262 Pn Pn 06 55 49.1 +2.1
comp=N,0.5nm,0.3s,baz=358,slow=8.5,SNR=6.3
KEST Kesra 9.49 262 *e*Pn Pn 06 55 49.2 +2.2
CEY Cerknica 9.52 331 *e*Pn Pn 06 55 47.5 +0.2
SOKA Soboth 10.11 336 Pn Pn 06 55 56.0 +0.5
comp=N,10.0nm,1.5s
SOKA Soboth 10.11 336 Pn Pn 06 55 56.0 +0.5
comp=N,10.0nm,1.5s
OBKA Obir 10.13 334 *e*Pn Pn 06 56 01.1 +5.4
comp=N,3.4nm,0.5s
BR131 Keskin Array S 10.18 74 *e*Pn Pn 06 56 00.4 +3.9
BR131 Keskin Array S 10.18 74 *e*Pn Pn 06 56 00.4 +3.9
BRTR Keskin Array B 10.18 74 Pn Pn 06 55 58.6 +2.1
comp=N,0.2nm,0.3s,baz=240,slow=12,SNR=4.6
KECS Kecovo 10.93 358 *e*P Pn 06 56 07.4 +0.8
KECS Kecovo 10.93 358 *e*Pn Pn 06 56 07.4 +0.8
KECS Kecovo 10.93 358 *e*PN Pn 06 56 07.4 +0.8
GLL Jalalah 11.99 128 P Pn 06 56 18.1 -3.2
baz=130
DAVOX Davos/Dischmat 12.33 322 Sn Sn 06 58 39.2 -4.0
comp=N,0.3nm,0.3s,baz=326,slow=16,SNR=2.1
GERES GERESS Array B 12.45 337 Pn Pn 06 56 29.3 +1.8
comp=N,0.3nm,0.3s,baz=158,slow=13,SNR=4.1

SUZ Suez 12.54 124 P Pn 06 56 25.4 -3.3
baz=126
MMAI Mount Meron Ar 12.66 107 Pn Pn 06 56 28.8 -1.6
comp=N,0.8nm,0.3s,baz=273,slow=10.0,SNR=2.4
MMAI Sn Sn 06 58 40.1 -11
comp=N,1.7nm,0.3s,baz=346,slow=36,SNR=2.5
KHC Kasperske Hory 12.74 338 *e*P P 06 56 44.5 +1.9
HNKL Nakhl 13.25 121 P Pn 06 56 35.5 -2.9
baz=123
SENIN Lac Senin/Sane 13.42 315 *e*Pn Pn 06 56 42.9 +2.1
SENIN Lac Senin/Sane 13.42 315 *e*Pn Pn 06 56 42.9 +2.1
EIL Elat 14.07 120 Pn Pn 06 56 48.7 -0.9
comp=N,0.5nm,0.3s,baz=317,slow=3.6,SNR=11
EIL Sn Sn 06 59 12.4 -13
comp=N,1.1nm,0.3s,baz=300,slow=14,SNR=5.2
ASF Jabal al Asfar 14.16 108 Sn Sn 06 59 17.9 -10
comp=N,0.3nm,0.3s,baz=18,slow=4.3,SNR=1.5
ANN Anapa 14.37 55 *e*P Pn 06 56 48.0 -5.6
ANN pmax pmax
comp=Z,21nm,1.0s
AK11 Malin Array Si 14.38 22 *e*Pn Pn 06 56 53.8 +0.1
AK11 Malin Array Si 14.38 22 *e*Pn Pn 06 56 53.8 +0.1
KIEV Kiev 14.41 22 *e*P Pn 06 56 53.2 -0.9
KIEV Kiev 14.41 22 *e*P P 06 57 00.6 -0.4
KIEV Kiev 14.41 22 *e*P P 06 57 00.6 -0.4
AKASG Malin Array Be 14.42 22 Pn Pn 06 56 52.7 -1.5
comp=Z,0.4nm,0.3s,baz=209,slow=12,SNR=4.4
NEY Neytrino 17.53 64 *e*P Pn 06 57 32.9 -1.9
KBZ Khabaz 17.75 63 Pn P 06 57 38.7 +0.6
comp=Z,0.2nm,0.3s,baz=271,slow=9.6,SNR=6.4
NACGM Naroch 17.81 11 *e* Pn 06 57 38.0 0.0
GOF Gofitskoye 18.19 59 ⇑*e*P P 06 57 50.9 +7.9
GOF pmax pmax
comp=Z,29nm,0.6s
ZEI Tsey 18.30 66 *e*P P 06 57 44.6 +0.2
ZEI pmax pmax
comp=Z,49nm,1.2s
GNI Garni 18.71 75 P Pn 06 57 49.7 +0.4
baz=278,slow=0.1,SNR=4.4
GNI Garni 18.71 75 *e*P P 06 57 48.0 -1.0
GNI pmax pmax
comp=Z,38nm,0.9s
GNI Garni 18.71 75 *e*P Pn 06 57 50.0 +0.6
comp=Z,50nm,1.5s
GNI Garni 18.71 75 *e*P Pn 06 57 50.0 +0.6
comp=Z,50nm,1.5s
VSR Storozhevoye 18.81 38 *e*P P 06 57 48.5 -1.2
VSR pmax pmax
comp=Z,10.0nm,1.4s
ES19 SONSECA Array 19.50 284 *e*P P 06 57 55.9 -1.6
ES19 SONSECA Array 19.50 284 *e*P P 06 57 55.9 -1.6
ESDC Sonseca Array 19.56 284 P Pn 06 57 59.7 +0.3
comp=Z,0.2nm,0.3s,baz=85,slow=12,SNR=4.9
VRH Novokhopyorsk 20.08 41 *e*P P 06 58 03.0 -0.6
VRH pmax pmax
comp=Z,30nm,1.2s
OBN Obninsk 20.53 26 P P 06 58 07.9 -0.5
comp=Z,14nm,0.3s,baz=230,slow=18,SNR=7.8
OBN Obninsk 20.53 26 *i* P P 06 58 08.0 -0.5
OBN pmax pmax
comp=Z,28nm,1.0s
OBN Obninsk 20.53 26 *e*P P 06 58 08.6 +0.1
comp=Z,241nm,2.0s
OBN Obninsk 20.53 26 *e*P P 06 58 08.6 +0.1
comp=Z,241nm,2.0s
VSU Vasula 21.27 8 *i* P P 06 58 15.3 -1.0
VSU pmax pmax
comp=Z,104nm,0.6s
MDT Midelt 21.38 265 P P 06 58 19.9 +1.9
comp=Z,3.4nm,0.7s,baz=64,slow=7.9,SNR=4.5
MOS Moscow 21.40 26 *e*P P 06 58 16.1 -1.7
MOS *e* 06 58 30.0
MOS pmax pmax
comp=Z,65nm,0.8s
MOS pmax pmax
comp=Z,100nm,0.9s
HFS Hagfors 23.07 351 P P 06 58 34.1 -1.5
comp=Z,1.7nm,0.4s,baz=160,slow=11,SNR=12
NC602 NORSAR Array S 23.95 349 *e*P P 06 58 45.5 +1.2
NC602 NORSAR Array S 23.95 349 *e*P P 06 58 45.5 +1.2
EKA Eskdalemuir Ar 24.13 325 P P 06 58 46.7 +0.8
comp=Z,5.2nm,0.8s,baz=126,slow=9.7,SNR=9.0
FINES FINESS Array B 24.13 6 P P 06 58 45.4 -0.5
comp=Z,3.8nm,0.8s,baz=182,slow=9.7,SNR=17
FIA1 FINESS Array S 24.13 6 *e*P P 06 58 46.3 +0.4
comp=Z,14nm,1.0s
FIA1 FINESS Array S 24.13 6 *e*P P 06 58 46.3 +0.4
comp=Z,14nm,1.0s
NC405 NORSAR Array S 24.29 349 *e*P P 06 58 48.0 +0.6
NC405 NORSAR Array S 24.29 349 *e*P P 06 58 48.0 +0.6
NB201 NORSAR Array S 24.29 349 *e*P P 06 58 50.2 +2.7
NB201 NORSAR Array S 24.29 349 *e*P P 06 58 50.2 +2.7
NB2 NORSAR Subarra 24.30 348 P P 06 58 49.1 +1.6
comp=Z,6.2nm,1.0s,baz=161,slow=9.3
NB2 NORSAR Subarra 24.30 348 P P 06 58 49.1 +1.6
comp=Z,6.2nm,1.0s,SNR=2.3
NOA NORSAR Array B 24.30 348 P P 06 58 48.4 +0.9
comp=Z,0.8nm,0.7s,baz=162,slow=9.8,SNR=6.6
NC204 NORSAR Array S 24.59 348 *e*P P 06 58 51.4 +1.2
NC204 NORSAR Array S 24.59 348 *e*P P 06 58 51.4 +1.2
KLMR Klimovskoe 26.11 21 *e*P P 06 59 01.3 -2.5
KLMR pmax pmax
comp=Z,31nm,1.3s
AKTO Aktyubinsk 29.30 52 P P 06 59 32.1 -0.5
comp=Z,2.8nm,0.4s,baz=262,slow=10,SNR=13
TOA0 Torodi Ar. Sit 29.76 220 *e*P P 06 59 38.0 +1.1
comp=Z,20nm,1.5s
TOA0 Torodi Ar. Sit 29.76 220 *e*P P 06 59 38.0 +1.1
comp=Z,20nm,1.5s
TORD Torodi Ar. Bea 29.76 220 P P 06 59 38.6 +1.7
comp=Z,2.6nm,0.8s,baz=32,slow=9.6,SNR=5.8
AB31 Akbulak array 30.33 55 P P 06 59 40.5 -1.2
AB31 pmax pmax
comp=Z,2.0nm,0.7s
ABKAR Akbulak array 30.33 55 *e*P P 06 59 41.5 -0.2
ABKAR Akbulak array 30.33 55 *e*P P 06 59 41.5 -0.2
ARA0 ARCESS Array S 32.14 3 *e*P P 06 59 58.4 +1.0
ARA0 ARCESS Array S 32.14 3 *e*P P 06 59 58.4 +1.0
ARCES ARCESS Array B 32.14 3 P P 06 59 57.9 +0.5
comp=Z,0.7nm,0.5s,baz=187,slow=9.5,SNR=12
ARE0 ARCESS Array S 32.14 3 *e*P P 06 59 58.1 +0.7
comp=Z,24nm,1.5s
ARE0 ARCESS Array S 32.14 3 *e*P P 06 59 58.1 +0.7
comp=Z,24nm,1.5s
KEV Kevo 32.43 4 *e*P P 06 59 59.8 -0.1
KEV pmax pmax
comp=Z,66nm,1.9s
KEV Kevo 32.43 4 *e*P P 06 59 59.8 -0.1
comp=Z,66nm,1.9s
KEV Kevo 32.43 4 *e*P P 06 59 59.8 -0.1
comp=Z,66nm,1.9s
UOSS Minazif 32.48 103 *e*P P 07 00 01.2 +0.4
comp=Z,0.7nm,0.8s
UOSS Minazif 32.48 103 *e*P P 07 00 01.2 +0.4
comp=Z,0.7nm,0.8s
SVE Sverdlovsk 32.53 41 *e*P P 07 00 00.5 -0.5
SVE pmax pmax
comp=Z,40nm,1.6s
ZRNK Zerenda 36.44 49 P P 07 00 34.0 -0.8
ZRNK pmax pmax
comp=Z,12nm,1.1s
ZRNK Zerenda 36.44 49 *e*P P 07 00 34.7 -0.1
comp=Z,16nm,1.3s
ZRNK Zerenda 36.44 49 *e*P P 07 00 34.7 -0.1
comp=Z,16nm,1.3s
BRVK Borovoye 37.21 49 *e*P P 07 00 40.3 -1.1
BRVK pmax pmax
comp=Z,24nm,1.1s
BRVK Borovoye 37.21 49 *e*P P 07 00 40.3 -1.1
comp=Z,24nm,1.1s
BRVK Borovoye 37.21 49 *e*P P 07 00 40.3 -1.1
comp=Z,24nm,1.1s
BVAR Borovoye Array 37.27 49 P P 07 00 41.3 -0.7
comp=Z,1.8nm,0.6s,baz=266,slow=5.5,SNR=12
VOSK Vostochnaya 37.61 50 P P 07 00 44.0 -0.8
VOSK pmax pmax
comp=Z,7.0nm,1.2s
VOSK Vostochnaya 37.61 50 *e*P P 07 00 44.7 -0.1
comp=Z,5.8nm,1.0s
VOSK Vostochnaya 37.61 50 *e*P P 07 00 44.7 -0.1
comp=Z,5.8nm,1.0s
KK31 Karatay Array 37.75 66 P P 07 00 45.8 -0.4
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 37.75 66 *e*P P 07 00 46.1 -0.1
KKAR Karatay Array 37.75 66 *e*P P 07 00 46.1 -0.1

KKAR	Karatay Array	37.75	66	*eP*		P	07 00 46.1	-0.1
DBIC	Dimbokro	38.66	224	P		P	07 00 54.3	+0.3
	comp=Z,9.2nm,0.8s,baz=356,slow=13,SNR=4.2							
DBIC	Dimbokro	38.66	224	*eP*		P	07 00 54.8	+0.8
	comp=Z,25nm,1.1s							
DBIC	Dimbokro	38.66	224	*eP*		P	07 00 54.8	+0.8
	comp=Z,25nm,1.1s							
EKS2	Erkin-Say	40.19	66	*eP*		P	07 01 07.1	+0.4
EKS2				pmax	pmax			
	comp=Z,6.0nm,0.8s							
EKS2	Erkin-Say	40.19	66	*eP*		P	07 01 07.1	+0.4
	comp=Z,5.8nm,0.8s							
EKS2	Erkin-Say	40.19	66	*eP*		P	07 01 07.1	+0.4
	comp=Z,5.8nm,0.8s							
AAK	Ala-Archa	40.72	66	P		P	07 01 11.2	+0.1
	comp=Z,3.3nm,0.7s,baz=224,slow=6.4,SNR=5.5							
FRU	Bishkek	40.77	65	*eP*		P	07 01 11.0	-0.4
FRU				pmax	pmax			
	comp=Z,45nm,2.0s							
KURK	Kurchatov	42.39	53	*i* P		P	07 01 23.6	-0.9
KURK				pmax	pmax			
	comp=Z,25nm,1.0s							
KURK	Kurchatov	42.39	53	*eP*		P	07 01 23.8	-0.7
	comp=Z,18nm,0.7s							
KURK	Kurchatov	42.39	53	*eP*		P	07 01 23.8	-0.7
	comp=Z,18nm,0.7s							
MK31	Makanchi Array	45.35	58	*eP*		P	07 01 47.3	-1.1
MK31				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MK31	Makanchi Array	45.35	58	*eP*		P	07 01 47.3	-1.1
MK31	Makanchi Array	45.35	58	*eP*		P	07 01 47.4	-1.1
MKAR	Makanchi Array	45.35	58	P		P	07 01 47.2	-1.2
	comp=Z,2.9nm,0.5s,baz=271,slow=7.4,SNR=47							
MKAR				ScP		ScP	07 07 19.8	-0.3
	comp=Z,0.4nm,0.8s,baz=285,slow=2.8,SNR=3.6							
MKAR	Makanchi Array	45.35	58	*eP*		P	07 01 47.4	-1.0
MK01	Makanchi Array	45.37	58	*eP*		P	07 01 47.4	-1.1
MK01	Makanchi Array	45.37	58	*eP*		P	07 01 47.4	-1.1
ZAA0	Zalesovo Array	45.87	48	*eP*		P	07 01 51.2	-1.1
ZAA0	Zalesovo Array	45.87	48	*eP*		P	07 01 51.2	-1.1
ZALV	Zalesovo Beam	45.87	48	P		P	07 01 51.3	-1.0
	comp=Z,8.8nm,0.6s,baz=275,slow=8.9,SNR=27							
NRIK	Noril'sk	47.21	26	P		P	07 02 03.4	+0.8
	comp=Z,2.3nm,0.8s,baz=252,slow=6.2,SNR=3.3							
TIXI	Tiksi	60.12	20	P		P	07 03 37.7	+0.5
	comp=Z,0.8nm,0.3s,baz=301,slow=9.3,SNR=3.2							
TIXI	Tiksi	60.12	20	*i* P		P	07 03 38.0	+0.8
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.6s							
SONM	Songino Array	60.60	50	P		P	07 03 40.7	-0.4
	comp=Z,0.4nm,0.3s,baz=297,slow=9.5,SNR=3.2							
BOD	Bodaibo	60.67	38	*eP*		P	07 03 39.8	-1.3
BOD				pmax	pmax			
	comp=Z,5.0nm,1.0s							
HHC	Hu-ho-hao-te	67.12	55	*eP*		P	07 04 24.0	-0.1
HHC				pmax	pmax			
	comp=Z,20nm,0.9s							
HIA	Hailar	67.74	44	*eP*		P	07 04 28.5	+0.8
HIA				pmax	pmax			
	comp=Z,4.0nm,1.1s							
CMAR	Chiang Mai Arr	69.65	82	P		P	07 04 39.9	-0.2
	comp=Z,2.4nm,0.4s,baz=302,slow=7.3,SNR=10							
BILL	Bilibino	71.55	13	*eP*		P	07 04 52.2	+1.3
BILL				pmax	pmax			
	comp=Z,3.0nm,1.3s							
KLR	Kul'dur	74.15	40	P		P	07 05 06.9	+0.3
	comp=Z,1.8nm,0.7s,baz=312,slow=6.2,SNR=7.8							
KLR	Kul'dur	74.15	40	*eP*		P	07 05 06.4	-0.2
MA2	Magadan	74.73	24	*eP*		P	07 05 11.0	+1.2
USRK	Ussuriysk Ar.	77.51	43	P		P	07 05 25.3	-0.6
	comp=Z,2.4nm,0.7s,baz=275,slow=3.9,SNR=4.9							
WRH	Wood River Hil	77.94	355	*eP*		P	07 05 28.9	+1.0
	comp=Z,3.2nm,1.0s							
WRH	Wood River Hil	77.94	355	*eP*		P	07 05 28.9	+1.0
	comp=Z,3.2nm,1.0s							
KSAR	Wonju Array Be	79.46	51	P		P	07 05 36.4	-0.3
KSAR	Wonju Array Be	79.46	51	P		P	07 05 36.4	-0.3
KSAR	Wonju Array Be	79.46	51	P		P	07 05 36.4	-0.3
KSRS	Korea Array	79.47	51	P		P	07 05 36.4	-0.4
	comp=Z,1.5nm,0.7s,baz=297,slow=4.6,SNR=4.8							
LRM	Limekiln Ridge	87.01	329	*eP*		P	07 06 13.9	-2.1
LRM	Limekiln Ridge	87.01	329	*eP*		P	07 06 13.9	-2.1
CRZF	Crozet Islands	88.09	159	*eP*		P	07 06 21.6	+1.2
	comp=Z,47nm,0.9s							
CRZF	Crozet Islands	88.09	159	*eP*		P	07 06 21.6	+1.2
	comp=Z,47nm,0.9s							
LCMT	Little Creek M	94.56	325	*eP*		P	07 06 50.8	-0.4
LCMT	Little Creek M	94.56	325	*eP*		P	07 06 50.8	-0.4
WRA	Warramunga Arr	120.19	93	PKP		PKPdf	07 12 20.8	-0.9
	comp=Z,0.5nm,0.8s,baz=282,slow=3.3,SNR=3.2							
ASAR	Alice Springs	121.78	97	PKP		PKPdf	07 12 24.8	+0.1
	comp=Z,1.1nm,1.1s,baz=288,slow=0.9,SNR=3.9							

*IDC **24** 06:54:28.8±0.7, 35°.93N×141°.25E, h0km, mb3.9/15, mb1 4.0/21, mb1mx3.9/54, mbtmp3.9/21, ML3.6/5, Error ellipse: s-maj=17.3km s-min=16.0km az=86.0*
*ISCJB **24** 06:54:31.0±0.9, 36°.00N±0°.03×141°.21E±0°.06, h25km±5km, mb4.1/19, Error ellipse: s-maj=7.9km s-min=4.5km az=1.4*
*JMA **24** 06:54:31.2±0.2, 35°.99N×141°.16E, h25km±2km, M4.3*
JMA Felt II J1.
*NEIC **24** 06:54:33.2±2.5, 35°.96N×141°.17E, h28km±18km, mb4.6/4, Error ellipse: s-maj=11.1km s-min=8.0km az=100.0*
NEIC Recorded [2 JMA] in Chiba and Ibaraki.

ISC 24 06:54:31.5±1.6, 36°.01N±0°.04×141°.13E±0°.05, h13km±9km, n48, σ1°14/53, mb4.1/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.38	216	P	Pg	06 54 39.2	+0.1
CHOJ				S	Sb	06 54 45.6	-0.3
JHO	Hitachi	0.75	323	P	Pb	06 54 46.6	+0.1
JHO				S	Sb	06 54 57.3	+0.7
JYT	Yasato	0.79	286	P	Pg	06 54 46.1	-0.7
JYT				S	Sb	06 54 58.1	+0.4
JCN	Nagara	0.96	232	P	Pg	06 54 50.2	+0.2
JCN				*eS*	Sn	06 55 06.0	+1.8
BSO3	Boso 3	1.31	203	P	Pn	06 54 54.7	-0.6
BSO1	Boso 1	1.36	185	P	Pn	06 54 55.0	-0.7
BSO1				S	Sn	06 55 12.0	-1.4
JAG	Ashikaga	1.42	287	P	Pn	06 54 55.2	-1.8
JRY	Ryogami san	1.81	271	P	Pn	06 55 00.5	-1.9
JOD2	Odawara 2	1.82	246	P	Pn	06 55 03.1	+0.5
JIM2	Oshima 3	1.90	228	P	Pn	06 55 03.2	-0.4
MJAR	Matsushiro Arr	2.42	283	Pn	Pn	06 55 09.9	-0.9
	23nm,0.3s,baz=105,slow=8.2,SNR=101						
MJAR					Sn	Sb	06 55 43.5	-1.2
	46nm,0.3s,baz=127,slow=50,SNR=3.5							
MAJO	Matsushiro	2.42	284	*ePn*	Pn	06 55 10.2	-0.6
MAJO				*eSg*	Sg	06 55 48.7	-0.6
MAT	Matsushiro	2.42	284	P	Pn	06 55 10.4	-0.4
MAT				S	Sn	06 55 40.4	0.0
JHJ2	Mitsune	3.09	201	*ePn*	Pn	06 55 20.2	+0.2
JHJ2				*eSn*	Sn	06 55 59.1	+2.3
JHJ	Hachijo jima 2	3.09	201	Pn	Pn	06 55 20.1	0.0
	46nm,0.3s,baz=68,slow=19,SNR=13						
JHJ					Sn	Sn	06 55 56.2	-0.7
	78nm,0.3s,baz=88,slow=23,SNR=3.2							
ERM	Erimo	6.20	14	*ePn*	Pn	06 56 03.0	+0.2
ERM				*eSn*	Sn	06 57 14.7	+1.2
JNU	Nakatsue	8.93	254	Pn	Pn	06 56 41.2	+0.9
	0.4nm,0.3s,baz=82,slow=19,SNR=2.5						
KSRS	Korea Array	10.70	282	Pn	Pn	06 57 07.0	+2.6
	0.3nm,0.3s,baz=95,slow=14,SNR=3.2						
KSAR	Wonju Array Be	10.73	282	Pn	Pn	06 57 07.0	+2.2
USRK	Ussuriysk Ar.	10.76	322	Pn	Pn	06 57 07.5	+2.3
	0.1nm,0.3s,baz=131,slow=15,SNR=2.4						
KLR	Kul'dur	14.89	335	Pn	Pn	06 58 02.3	+0.6
	0.1nm,0.3s,baz=142,slow=12,SNR=2.2						
H11N2	WAKE ISLAND Hy 27.84	119		T	T	07 29 18.6	
	baz=311,slow=75,SNR=124						
H11N1	WAKE ISLAND Hy 27.85	119		T	T	07 29 19.2	
	baz=311,slow=75,SNR=143						
H11N3	WAKE ISLAND Hy 27.86	119		T	T	07 29 20.0	
	baz=311,slow=75,SNR=145						
SONM	Songino Array	28.18	306	P	P	07 00 23.8	0.0
	0.8nm,0.4s,baz=98,slow=8.9,SNR=4.5						
H11S1	WAKE ISLAND Hy 28.51	121		T	T	07 30 12.7	
	baz=314,slow=75,SNR=202						
H11S3	WAKE ISLAND Hy 28.51	121		T	T	07 30 07.0	
	baz=314,slow=75,SNR=142						
H11S2	WAKE ISLAND Hy 28.53	121		T	T	07 30 12.6	
	baz=314,slow=75,SNR=52						
TIXI	Tiksi	36.28	353	P	P	07 01 35.1	+0.9
	0.9nm,0.3s,baz=90,slow=6.3,SNR=3.4						
MKAR	Makanchi Array	44.48	303	P	P	07 02 43.1	+0.7
	1.8nm,0.6s,baz=87,slow=12,SNR=6.2						
KURK	Kurchatov	46.39	309	*eP*	P	07 02 57.2	-0.3
	35nm,0.6s						
TKM2	Tokmak 2	49.92	299	*eP*	P	07 03 25.2	0.0
	4.6nm,0.8s						
ILAR	Eielson Array	50.48	32	P	P	07 03 29.0	+0.2
	1.0nm,0.8s,baz=263,slow=6.1,SNR=16						
BVAR	Borovoye Array	51.09	313	P	P	07 03 35.1	+1.5
	0.9nm,0.5s,baz=134,slow=10,SNR=2.9						
WRAB	Tennant Creek	56.01	188	*eP*	P	07 04 08.8	-1.1
	7.1nm,1.1s						
WRA	Warramunga Arr	56.02	188	P	P	07 04 08.7	-1.3
	1.7nm,0.6s,baz=3.0,slow=7.6,SNR=19						
ABKAR	Akbulak array	58.43	311	*eP*	P	07 04 25.9	-0.8
	2.1nm,0.6s						
AKTO	Aktyubinsk	59.19	312	P	P	07 04 32.0	-0.1
	0.6nm,0.3s,baz=85,slow=11,SNR=3.0						
ASAR	Alice Springs	59.75	188	P	P	07 04 34.5	-1.6
	0.5nm,0.5s,baz=16,slow=9.2,SNR=7.1						
YKA	Yellowknife Ar	64.81	30	P	P	07 05 10.4	+0.8
	0.5nm,0.7s,baz=301,slow=6.6,SNR=4.2						
FINES	FINESS Array B	69.61	332	P	P	07 05 39.7	-0.4
	1.7nm,0.8s,baz=86,slow=9.9,SNR=4.2						
HFS	Hagfors	74.92	336	P	P	07 06 10.6	-1.3
	4.1nm,1.0s,baz=81,slow=8.9,SNR=3.6						
AKASG	Malin Array Be	74.97	322	P	P	07 06 11.2	-1.0
	0.2nm,0.3s,baz=45,slow=6.2,SNR=4.1						
NB2	NORSAR Subarra	75.04	337	P	P	07 06 12.3	-0.3
	comp=Z,1.9nm,0.6s,baz=41,slow=5.9						
NOA	NORSAR Array B	75.04	337	P	P	07 06 12.2	-0.4
	comp=Z,1.3nm,0.7s,baz=40,slow=5.8,SNR=4.6						
PDAR	Pinedale Array	78.55	45	P	P	07 06 30.8	-2.2
	comp=Z,0.7nm,0.6s,baz=173,slow=2.5,SNR=4.2						
TXAR	Lajitas Array	90.93	52	P	P	07 07 36.1	+0.6
	comp=Z,0.2nm,0.7s,baz=308,slow=3.0,SNR=2.5						
LPAZ	La Paz	147.40	61	PKPbc	PKPdf	07 14 14.9	+1.1
	comp=Z,1.4nm,0.8s,baz=37,slow=5.1,SNR=6.7						

*CSEM **24** 06:58:14.3, 37°.60N×20°.98E, h16km, ML2.4/10*

ATH 24 06:58:14.3, 37°.60N×20°.98E, h16km±4km, ML2.4/9, Error ellipse: s-maj=4.3km s-min=0.8km az=254.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKS	Zakynthos	0.18	303	P	Pb	06 58 19.4	+0.1
ZKS				S	Sg	06 58 20.5	-1.3
ZKS	Zakynthos	0.18	303	P	Pb	06 58 19.4	+0.1
ZKS				S	Sg	06 58 20.5	-1.3
ZKS				AML	AML	06 58 26.5	
	comp=E,6524μm,0.2s						
ZKS				AML	AML	06 58 32.7	
	comp=N,8086μm,0.4s						
KFL	Anninata	0.53	344	P	Pb	06 58 25.5	+0.2
KFL				S	Sg	06 58 31.8	-0.2
KFL	Anninata	0.53	344	P	Pb	06 58 25.5	+0.2
KFL				S	Sg	06 58 31.8	-0.2
RLS	Riolos of Patr	0.60	40	P	Pg	06 58 25.9	-0.2
RLS				S	Sg	06 58 33.9	-0.2
RLS	Riolos of Patr	0.60	40	S	Sg	06 58 33.9	-0.2
RLS				AML	AML	06 58 37.2	
	comp=N,1191μm,0.3s						
RLS				AML	AML	06 58 40.5	
	comp=E,579μm,0.5s						
VLS	Valsamata	0.66	332	P	Pg	06 58 27.0	-0.2
VLS				S	Sg	06 58 35.4	-0.5
AXS	Araxos	0.68	28	P	Pg	06 58 27.5	0.0
AXS				S	Sb	06 58 36.9	+0.1
AXS	Araxos	0.68	28	P	Pg	06 58 27.5	0.0
AXS				S	Sb	06 58 36.9	+0.1
DRO	Drossia	0.68	58	P	Pg	06 58 27.5	-0.1
DRO				S	Sb	06 58 37.1	+0.1
DRO	Drossia	0.68	58	P	Pg	06 58 27.5	-0.1
DRO				S	Sb	06 58 37.1	+0.2
DRO				AML	AML	06 58 44.9	
	comp=N,815μm,0.3s						
DRO				AML	AML	06 58 46.3	
	comp=E,1721μm,0.4s						
ITM	Ithomi	0.86	119	P	Pb	06 58 30.6	-0.3
ITM				S	Sb	06 58 42.1	-0.1
ITM	Ithomi	0.86	119	P	Pb	06 58 30.6	-0.3
ITM				S	Sb	06 58 42.1	-0.1
ITM				AML	AML	06 58 51.7	
	comp=E,400μm,0.5s						
ITM				AML	AML	06 58 55.1	
	comp=N,285μm,0.5s						
PDO	Prodromos	1.01	9	P	Pb	06 58 33.2	-0.3
PDO				S	Sn	06 58 48.0	+0.2
PDO	Prodromos	1.01	9	P	Pb	06 58 33.2	-0.2
PDO				S	Sn	06 58 48.0	+0.2
PDO				AML	AML	06 58 56.4	
	comp=N,1156μm,0.3s						
PDO				AML	AML	06 58 56.5	
	comp=E,714μm,0.4s						
LAKA	Lakka	1.02	51	P	Pg	06 58 34.1	+0.1
LAKA				S	Sn	06 58 47.7	-0.3
LAKA	Lakka	1.02	51	P	Pg	06 58 34.1	+0.1
LAKA				S	Sn	06 58 47.7	-0.3
KLV	Kalavryta, Ach	1.03	64	P	Pb	06 58 33.5	-0.3
KLV				S	Sn	06 58 48.3	0.0
KLV	Kalavryta, Ach	1.03	64	P	Pb	06 58 33.5	-0.3
KLV				S	Sn	06 58 48.4	+0.1
KLV				AML	AML	06 58 56.0	
	comp=N,214μm,0.6s						
KLV				AML	AML	06 58 56.6	
	comp=E,120μm,0.4s						
PVO	Paravola	1.10	23	P	Pb	06 58 35.0	0.0
PVO				S	Sg	06 58 50.2	+0.1
PVO	Paravola	1.10	23	P	Pb	06 58 35.0	0.0
PVO				S	Sg	06 58 50.1	0.0
GUR	Goura	1.13	72	P	Pb	06 58 35.2	-0.4
GUR				S	Sg	06 58 51.0	0.0
GUR	Goura	1.13	72	P	Pb	06 58 35.2	-0.3
GUR				S	Sg	06 58 51.0	0.0
GUR				AML	AML	06 58 57.6	
	comp=E,295μm,0.4s						
GUR				AML	AML	06 59 03.9	
	comp=N,505μm,0.7s						
TRIZ	Trizonia	1.16	48	P	Pb	06 58 36.2	+0.3
TRIZ				S	Sg	06 58 52.3	+0.6
SERG	Sergoula	1.18	46	P	Pb	06 58 36.6	+0.3
SERG				S	Sg	06 58 53.2	+0.8
KALE	Kalithea	1.21	49	P	Pb	06 58 37.2	+0.3
KALE				S	Sg	06 58 54.6	+1.1
KALE	Kalithea	1.21	49	P	Pb	06 58 37.2	+0.3
KALE				S	Sg	06 58 54.6	+1.1
KALE				AML	AML	06 59 00.1	
	comp=E,249μm,0.7s						
KALE				AML	AML	06 59 02.5	
	comp=N,200μm,0.7s						
LKD2	Lefkada island	1.22	348	P	Pn	06 58 36.8	+0.1
LKD2				S	Sn	06 58 53.1	+0.3
LKD2	Lefkada island	1.22	348	P	Pn	06 58 36.8	+0.1
LKD2				S	Sn	06 58 53.1	+0.3
LKD2				AML	AML	06 58 59.1	
	comp=E,680μm,0.5s						
LKD2				AML	AML	06 59 01.6	
	comp=N,362μm,0.4s						
DSF	Desfina	1.47	56	P	Pg	06 58 42.3	-0.2
DSF				S	Sg	06 59 02.0	+0.3
DSF	Desfina	1.47	56	P	Pg	06 58 42.4	-0.2
DSF				S	Sg	06 59 02.0	+0.4

*ISCJB **24** 07:07:26.4±0.7, 51°.70N±0°.09×171°.62W±0°.05, h44km, mb4.0/15, Error ellipse: s-maj=13.4km s-min=3.3km az=168.0*
*NEIC **24** 07:07:27.0, 51°.71N×171°.65W, h9km, mb4.0/2, ML3.7(AEIC), After AEIC.*
*IDC **24** 07:07:30.8±7.4, 52°.08N×171°.76W, h65km±67km, mb3.7/15, mb1 3.9/17, mb1mx3.6/51, mbtmp4.0/17, ML3.5/2, Error ellipse: s-maj=28.8km s-min=16.0km az=2.0*

ISC 24 07:07:28.0±0.8, 51°.8N±0°.1×171°.69W±0°.04, h44km, n48, σ1°29/48, mb4.0/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	Korovin Southe	1.55	290	P	Pn	07 07 53.3	+0.2
KOFP	Korovin Flat P	1.55	287	P	Pn	07 07 53.1	-0.1
KONE	Korovin Northe	1.60	291	P	Pn	07 07 54.5	+0.7
KOKV	Korovin Volcan	1.62	290	P	Pn	07 07 54.8	+0.7
KOKV				S	Sn	07 08 16.8	+3.0
KOKL	Mount Kliuchef	1.63	289	P	Pn	07 07 55.2	+0.9
NIKH	Nikolski High	2.08	56	P	Pn	07 08 00.1	-0.3
NIKH				S	Sn	07 08 25.9	+1.0
OKWE	Okmok W'ng Wal	2.66	51	P	Pn	07 08 09.9	+1.5
OKAK	Okmok	2.67	48	P	Pn	07 08 08.5	0.0
OKTU	Okmok Mt. Tuli	2.71	54	P	Pn	07 08 10.1	+1.0
GSMY	Great Sitkin M	2.71	276	P	Pn	07 08 10.3	+1.2
OKER	Okmok East Rim	2.75	52	P	Pn	07 08 11.2	+1.6
GSTD	Great Sitkin T	2.77	276	P	Pn	07 08 10.2	+0.3
GSTD				S	Sn	07 08 43.5	+1.4
GSCK	Great Sitkin C	2.78	275	P	Pn	07 08 10.3	+0.3
ETKA	Kagalaska Isla	2.93	272	P	Pn	07 08 12.9	+0.8
ADAG	Mount Adagdak	3.05	275	P	Pn	07 08 14.5	+0.8
KIKV	Kanaga Island	3.40	273	P	Pn	07 08 19.5	+1.0
MTBL	Makushin Table	3.71	53	P	Pn	07 08 23.7	+0.9
UNV	Unalaska Valle	3.73	55	P	Pn	07 08 23.7	+0.6
UNV				S	Sn	07 09 08.4	+2.7
TAFP	Tanaga Falls P	3.90	273	P	Pn	07 08 25.9	+0.4
TAFP				S	Sn	07 09 11.9	+1.9
AKRB	Akutan Reef Bi	4.10	54	P	Pn	07 08 29.9	+1.8
AKGG	Akutan Green G	4.17	53	P	Pn	07 08 30.2	+1.1
SPIA	Saint Paul Isl	5.42	8	P	Pn	07 08 46.9	+0.7
SDPT	Sand Point	7.54	58	P	Pn	07 09 15.3	+0.1
ILAR	Eielson Array	18.20	35	P	P	07 11 34.9	-2.1
	0.1nm,0.3s,baz=234,slow=11,SNR=10.0						
PETK	Petropavlovsk-	18.63	286	P	Pn	07 11 42.4	+0.1
	0.2nm,0.3s,baz=87,slow=14,SNR=4.4						
BILL	Bilibino	19.45	335	*eP*	Pn	07 11 53.5	+1.5
	3.5nm,0.6s						
DLBC	Dease Lake	24.38	58	P	P	07 12 43.1	+1.2
	5.2nm,0.6s,baz=263,slow=9.1,SNR=14						
DLBC	Dease Lake	24.38	58	*eP*	P	07 12 44.4	+2.5
	3.2nm,0.5s						
INK	Inuvik	24.58	34	P	P	07 12 42.7	-0.7
	2.0nm,0.5s,baz=235,slow=7.0,SNR=11						
YKA	Yellowknife Ar	31.67	48	P	P	07 13 46.8	+0.1
	0.6nm,0.4s,baz=273,slow=7.6,SNR=6.8						
H11N2	WAKE ISLAND Hy 36.16	216		T	T	07 52 53.4	
	baz=21,slow=75,SNR=26						
H11N3	WAKE ISLAND Hy 36.17	216		T	T	07 52 52.1	
	baz=21,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy 36.18	216		T	T	07 52 54.3	
	baz=21,slow=75,SNR=21						
H11S1	WAKE ISLAND Hy 37.36	215		T	T	07 54 23.5	
	baz=21,slow=76,SNR=17						
H11S2	WAKE ISLAND Hy 37.37	215		T	T	07 54 24.3	
	baz=21,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy 37.38	215		T	T	07 54 23.5	
	baz=21,slow=76,SNR=11						
PDAR	Pinedale Array	41.91	77	P	P	07 15 14.2	-0.1
	0.7nm,0.7s,baz=328,slow=5.3,SNR=4.5						
KSRS	Korea Array	44.04	276	P	P	07 15 31.9	+0.7
	1.1nm,0.6s,baz=57,slow=8.4,SNR=3.7						
TXAR	Lajitas Array	54.20	87	P	P	07 16 49.8	+0.7
	0.7nm,0.7s,baz=295,slow=5.0,SNR=14						
ARCES	ARCESS Array B	58.29	353	P	P	07 17 15.7	-1.9
	2.0nm,0.9s,baz=8.9,slow=8.6,SNR=6.0						
KURBB	Kurchatov Arra	61.92	317	P	P	07 17 42.0	-0.7
	2.2nm,0.8s,baz=46,slow=7.2,SNR=7.1						
MKAR	Makanchi Array	63.12	312	P	P	07 17 49.0	-1.9
	0.8nm,0.6s,baz=50,slow=3.8,SNR=8.0						
BVAR	Borovoye Array	63.29	323	P	P	07 17 51.6	-0.2
	3.9nm,0.6s,baz=52,slow=7.4,SNR=19						
BVAR				PcP	PcP	07 18 28.9	+0.2
	1.5nm,0.7s,baz=32,slow=3.6,SNR=4.2						
FINES	FINESS Array B	66.18	351	P	P	07 18 08.7	-1.7
	1.2nm,0.7s,baz=15,slow=7.9,SNR=4.6						
NOA	NORSAR Array B	67.45	358	P	P	07 18 16.0	-2.7
	0.6nm,0.6s,baz=338,slow=5.0,SNR=3.3						
AKTO	Aktyubinsk	69.74	329	P	P	07 18 32.4	-0.6
	5.5nm,0.5s,baz=53,slow=7.2,SNR=27						
GERES	GERESS Array B	79.59	356	P	P	07 19 29.9	-0.4
	0.3nm,0.3s,baz=24,slow=5.8,SNR=2.5						
ASAR	Alice Springs	88.96	228	P	P	07 20 17.9	+0.2
	0.5nm,0.6s,baz=35,slow=5.3,SNR=5.2						

IDC 24 07:07:40.4±49.0, 16°.57S×177°.97W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/28, mbtmp4.0/3, Error ellipse: s-maj=897.1km s-min=160.4km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.65	240	P	P	07 15 14.6	+0.4
	1.7nm,0.6s,baz=98,slow=14,SNR=4.4						
WRA	Warramunga Arr	45.30	258	P	P	07 16 00.4	0.0
	0.3nm,0.5s,baz=94,slow=7.9,SNR=11						
ASAR	Alice Springs	45.57	253	P	P	07 16 01.9	-0.6
	4.2nm,0.6s,baz=89,slow=8.1,SNR=60						

IDC 24 07:13:46.8±3.2, 54°.34N×87°.06E, h0km, mb1 2.7/2, mb1mx2.7/43, mbtmp2.7/2, ML2.2/1, Error ellipse: s-maj=29.9km s-min=18.5km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.38

NIED ***24*** *07:24:00,36.°30N×141.°80E,h23km,Mw4.1 Best double couple: Mo1.51000×10^15 NP1:φs225.00000°,δ28.00000°, λ137.00000°. NP2:φs354.00000°,δ71.00000°,λ69.00000°.*
JMA ***24*** *07:24:35.0±0.2,36.°31N×141.°85E,h60km,M3.8*
IDC ***24*** *07:24:39.6±3.7,36.°05N×141.°83E,h54km±31km,mb3.5/7, mb1 3.7/11,mb1mx3.5/38,mbtmp3.8/11,ML3.4/4,Error ellipse: s-maj=30.8km s-min=11.7km az=72.0*

ISC 24 07:24:33.6±3.3,36.°24N±0.°04×141.°82E±0.°07,h8km±21km, n29,σ1°44/29,mb3.9/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.95**	**236**	P	**Pn**	**07 24 53.4**	**+0.2**
CHOJ				S	**Sn**	**07 25 07.3**	**+0.4**
JHO	**Hitachi**	**1.08**	**290**	P	**Pb**	**07 24 53.7**	**-0.8**
JHO				*e*S	**Sb**	**07 25 09.2**	**+0.5**
ONAJ	**Iwakimizuishiy**	**1.19**	**317**	P	**Pn**	**07 24 55.0**	**-1.6**
JFK	**Kawauchi**	**1.36**	**326**	P	**Pn**	**07 24 58.3**	**-0.6**
BSO1	**Boso 1**	**1.73**	**204**	P	**Pb**	**07 25 04.4**	**-0.8**
BSO1				*e*S	**Sb**	**07 25 26.2**	**-0.6**
JFT	**Otama**	**1.75**	**317**	P	**Pn**	**07 25 04.2**	**0.0**
BSO3	**Boso 3**	**1.79**	**217**	P	**Pb**	**07 25 05.6**	**-0.9**
JMM	**Marumori**	**1.82**	**333**	P	**Pn**	**07 25 04.5**	**-0.7**
JAG	**Ashikaga**	**1.92**	**276**	P	**Pn**	**07 25 06.7**	**+0.1**
JAG				*e*S	**Sn**	**07 25 30.8**	**-0.2**
JFY	**Yanaizu**	**2.06**	**305**	P	**Pn**	**07 25 09.0**	**+0.5**
MJAR	**Matsushiro Arr** 15nm,0.3s,baz=106,slow=9.0,SNR=54	**2.93**	**277**	P	**Pn**	**07 25 21.9**	**+1.4**
MJAR				S	**Sb**	**07 25 59.8**	**-2.4**
MAT	**Matsushiro**	**2.93**	**277**	P	**Pn**	**07 25 22.0**	**+1.5**
MAT				S	**Sn**	**07 25 54.9**	**-1.1**
JHJ	**Hachijo jima 2** 75nm,0.3s,baz=113,slow=21,SNR=15	**3.54**	**209**	P	**Pn**	**07 25 29.5**	**+0.7**
JHJ				S	**Sn**	**07 26 07.9**	**-2.9**
USRK	**Ussuriysk Ar.** 149nm,0.3s,baz=258,slow=23,SNR=9.0	**10.94**	**320**	P	Pn	07 27 15.7	+5.4
KSRS	**Korea Array** 0.1nm,0.3s,baz=93,slow=14,SNR=4.2	**11.21**	**280**	P	**Pn**	**07 27 18.6**	**+4.5**
H11N2	**WAKE ISLAND Hy** baz=311,slow=75,SNR=6.7	**27.46**	**120**	T	T	07 59 08.2	
H11N1	**WAKE ISLAND Hy** baz=311,slow=75,SNR=8.0	**27.47**	**120**	T	T	07 59 08.9	
H11N3	**WAKE ISLAND Hy** baz=311,slow=75,SNR=6.6	**27.48**	**120**	T	T	07 59 08.6	
H11S1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=14	**28.15**	**122**	T	T	07 59 53.9	
H11S3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=13	**28.16**	**122**	T	T	07 59 53.4	
H11S2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=14	**28.17**	**122**	T	T	07 59 55.0	
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=98,slow=7.6,SNR=5.0	**42.70**	**313**	P	**P**	**07 32 31.0**	**+0.3**
MKAR	**Makanchi Array** 1.3nm,0.6s,baz=88,slow=9.8,SNR=15	**44.82**	**303**	P	**P**	**07 32 47.7**	**-0.3**
WRA	**Warramunga Arr** 0.8nm,0.9s,baz=6.2,slow=7.3,SNR=11	**56.32**	**188**	P	**P**	**07 34 14.3**	**-0.7**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=11,slow=10,SNR=3.0	**60.05**	**189**	P	**P**	**07 34 41.2**	**+0.1**
FINES	**FINESS Array B** 2.0nm,1.0s,baz=60,slow=6.6,SNR=3.0	**69.67**	**333**	P	**P**	**07 35 44.2**	**+0.9**
AKASG	**Malin Array Be** 0.8nm,0.5s,baz=46,slow=6.0,SNR=3.0	**75.13**	**323**	P	**P**	**07 36 15.3**	**-0.7**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=270,slow=3.6,SNR=2.7	**90.34**	**53**	P	**P**	**07 37 37.0**	**+1.3**
LPAZ	**La Paz** 0.3nm,0.6s,baz=337,slow=7.7,SNR=2.6	**146.80**	**61**	PKPbc	**PKPbc**	**07 44 16.7**	**-0.8**

IDC ***24*** *07:34:17.9±2.9,39.°28N×143.°13E,h0km,mb3.3/3, mb1 3.4/4,mb1mx3.2/47,mbtmp3.3/4,ML2.9/1,Error ellipse: s-maj=72.9km s-min=34.1km az=71.0*
ISCJB ***24*** *07:34:23.7±1.4,39.°09N±0.°05×142.°44E±0.°09,h31km±6km, mb3.2/3,Error ellipse: s-maj=11.4km s-min=7.6km az=10.3*
JMA ***24*** *07:34:24.8±0.1,39.°12N×142.°38E,h33km±1km,M3.0*

ISC 24 07:34:24.1±2.4,39.°09N±0.°05×142.°4E±0.°1,h25km±14km, n14,σ1°46/21,mb3.6/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.56**	**270**	P	**Pn**	**07 34 36.1**	**-0.4**
OFUJ				*e*S	**Sb**	**07 34 43.8**	**+0.8**
MIYJ	**Miyakonagasawa**	**0.66**	**318**	P	**Pb**	**07 34 37.0**	**0.0**
MIYJ				*e*S	**Sb**	**07 34 45.3**	**-0.5**
JMK	**Ichinoseki**	**0.92**	**262**	P	**Pn**	**07 34 41.5**	**+0.1**
JMK				*e*S	**Sb**	**07 34 53.5**	**+0.2**
JOM	**Ohasama**	**0.94**	**295**	P	**Pn**	**07 34 41.7**	**+0.1**
JOM				*e*S	**Sb**	**07 34 53.8**	**+0.1**
JIO	**Ouri**	**1.03**	**233**	P	**Pn**	**07 34 42.6**	**-0.3**
JIO				*e*S	**Sn**	**07 34 55.1**	**-1.4**
JKZ	**Kuzumaki**	**1.22**	**318**	*e*S	**Sn**	**07 35 00.9**	**-0.3**
JRG	**Rokugo**	**1.40**	**283**	P	**Pb**	**07 34 49.0**	**-0.5**
JRG				*e*S	**Sn**	**07 35 05.5**	**-0.2**
JANG	**Nango**	**1.45**	**333**	P	**Pn**	**07 34 49.2**	**+0.5**
JANG				*e*S	**Sn**	**07 35 06.4**	**-0.6**
JOU	**Okura**	**1.53**	**242**	*e*S	**Sn**	**07 35 09.9**	**+1.0**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=42,slow=11,SNR=4.7	**4.17**	**234**	Pn	**Pn**	**07 35 30.6**	**+4.4**
MAT	**Matsushiro**	**4.17**	**234**	P	**Pn**	**07 35 22.9**	**-3.3**
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=75,slow=9.9,SNR=2.8	**43.71**	**300**	P	**P**	**07 42 28.0**	**+1.0**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=83,slow=8.3,SNR=4.6	**45.37**	**307**	P	**P**	**07 42 40.2**	**0.0**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=6.7,slow=7.0,SNR=4.7	**59.20**	**189**	P	**P**	**07 44 22.6**	**-0.4**

IDC 24 07:40:12.2±4.6,15.°92S×173.°30W,h44km±9km,mb3.5/2, mb1 3.7/3,mb1mx3.3/32,mbtmp3.7/3,ML3.5/1,MS3.8/3, Ms1 3.8/3,ms1mx3.4/19,Error ellipse: s-maj=191.3km s-min=11.6km az=136.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 11nm,0.3s,baz=132,slow=3.8,SNR=14	**2.48**	**37**	P	Pn	07 40 50.4	+0.2
AFI				S	Sn	07 41 19.3	-0.1
PPT	**Papeete** comp=Z,103nm,18.4s,baz=282,slow=33	**22.77**	**98**	LR	LR	07 52 39.0	
URZ	**Urewera** 4.1nm,0.5s,baz=63,slow=6.8,SNR=3.9	**23.80**	**199**	P	P	07 45 15.5	-5.4
URZ				LR	LR	07 53 54.4	
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=95,slow=7.1,SNR=4.7	**49.82**	**257**	P	P	07 49 00.9	-0.3
WRA				pP	pP	07 49 12.8	-0.7
ASAR	**Alice Springs** 1.4nm,0.5s,baz=88,slow=8.4,SNR=33	**50.04**	**252**	P	P	07 49 02.1	-0.7
ASAR				pP	pP	07 49 14.6	-0.6
PFO	**Pinyon Flats O** comp=Z,94nm,18.1s,baz=138,slow=31	**73.20**	**47**	LR	LR	08 17 47.0	
BRTR	**Keskin Array B** 0.2nm,0.4s,baz=114,slow=1.7,SNR=2.5	**146.62**	**321**	PKPbc	PKPab	07 59 50.1	-0.5
BRTR				pPKPbc	pPKPbc	08 00 03.6	+0.5
	0.7nm,0.7s,baz=55,slow=4.5,SNR=3.5						

IDC 24 07:41:49.3±3.7,53.°94N×89.°87E,h0km,mb1 3.2/3, mb1mx3.0/41,mbtmp3.2/3,ML2.7/3,Error ellipse: s-maj=34.7km s-min=23.1km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=87,slon=325,SNR=1.7	**2.98**	**272**	*i*		08 00 20.0	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=84,slow=13,SNR=4.7	**2.98**	**272**	Pn	Pn	07 42 39.6	+1.7
ZALV				Lg	Lg	07 43 22.5	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=63,slow=14,SNR=7.9	**7.71**	**249**	Pn	Pn	07 43 43.0	+0.3
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=30,slow=12,SNR=13	**8.63**	**217**	Pn	Pn	07 43 55.6	+0.2
MKAR				Sn	Sn	07 45 33.5	+0.1
	0.1nm,0.3s,baz=31,slow=21,SNR=4.4						

IDC ***24*** *07:49:37.2±1.0,43.°13N×87.°33E,h0km,mb3.9/6, mb1 3.9/10,mb1mx3.6/44,mbtmp3.8/10,ML3.5/4,Error ellipse: s-maj=34.3km s-min=13.8km az=52.0*
ISCJB ***24*** *07:49:39.0±0.8,43.°20N±0.°06×87.°28E±0.°06,h18km, mb3.7/6,Error ellipse: s-maj=8.3km s-min=6.1km az=166.9*
BJI ***24*** *07:49:41.3,43.°23N×87.°43E,h5km,ML3.5/11*
NNC ***24*** *07:49:48.2±1.9,43.°46N×86.°91E,h22km±10km,mb4.2, mpv3.9,Error ellipse: s-maj=12.8km s-min=9.1km az=108.0*

ISC 24 07:49:40.8±1.0,43.°30N±0.°07×87.°39E±0.°08,h18km,n21, σ2°16/25,mb3.7/6,7C-8D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.57**	**23**	Pg	**Pb**	**07 49 52.8**	**+0.5**
WMQ				Sg	**Sg**	**07 50 01.8**	**+2.0**
WMQ	11μm,0.4s			SMN			
WMQ	11μm,0.6s			SME			
MK31	**Makanchi Array** 5.2nm,0.3s,baz=128,slow=14,SNR=160	**5.03**	**316**	Pn	**Pn**	**07 50 57.5**	**+2.1**
MK31	18nm,0.7s,baz=135,slow=27,SNR=5.1			Sn	**Sn**	**07 51 50.9**	**-2.1**
MK31	14nm,0.6s,baz=135,slow=29,SNR=3.8			⇓Lg	Lg	07 52 16.4	
MKAR	**Makanchi Array** 7.1nm,0.3s,baz=128,slow=14,SNR=170	**5.03**	**316**	Pn	**Pn**	**07 50 57.2**	**+1.9**
MKAR	4.7nm,0.3s,baz=100,slow=27,SNR=7.2			Sn	**Sn**	**07 51 54.5**	**+1.4**
MKAR	4.7nm,0.3s,baz=139,slow=28,SNR=5.5			Lg	Lg	07 52 19.0	
MAKZ	**Makanchi** 15nm,0.4s	**5.20**	**314**	⇓Pn	**Pn**	**07 50 59.7**	**+2.0**
MAKZ	15nm,0.6s			⇓Sn	**Sn**	**07 51 56.8**	**-0.4**
MAKZ	29nm,0.7s			⇓Lg	Lg	07 52 21.9	
PDGK	**Podgornoye** 6.1nm,0.5s	**5.77**	**273**	⇓Pn	**Pn**	**07 51 07.9**	**+2.4**
PDGK	10nm,0.5s			⇓Sn	**Sn**	**07 52 08.9**	**-2.3**
PDGK	27nm,0.6s			⇓Lg	Lg	07 52 41.1	
TKM2	**Tokmak 2** 2.8nm,0.7s	**8.64**	**272**	⇑Pn	**Pn**	**07 51 47.7**	**+2.6**
TKM2	6.5nm,0.9s			⇑Sn	**Sn**	**07 53 22.7**	**+0.6**
TKM2	4.5nm,0.7s			⇑Lg	Lg	07 54 12.6	
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=131,slow=13,SNR=20	**9.50**	**324**	Pn	**Pn**	**07 51 56.3**	**-0.4**
KURBB	0.2nm,0.3s,baz=143,slow=20,SNR=2.5			Sn	**Sn**	**07 53 37.2**	**-5.7**
KURBB	0.1nm,0.3s,baz=162,slow=26,SNR=4.3			Lg	Lg	07 54 43.9	
KURBB	**Kurchatov Arra** 4.2nm,0.5s	**9.50**	**324**	⇓Pn	**Pn**	**07 51 56.8**	**+0.1**
KURBB	30nm,0.7s			⇑Lg	Lg	07 54 39.7	
GTA	**Gaotai** comp=Z,3.0nm,0.8s	**10.11**	**108**	*e*P	Pn	07 52 00.0	-5.2
GTA				pP		07 52 03.5	
GTA				sP		07 56 06.1	
GTA	comp=Z,5.9nm,0.9s			pmax	pmax		
SONM	**Songino Array** comp=Z,0.2nm,0.3s,baz=247,slow=29,SNR=3.1	**14.05**	**65**	Lg	Lg	07 57 08.8	
VOSK	**Vostochnaya** comp=Z,3.2nm,1.1s	**14.45**	**316**	⇑Lg	Lg	07 57 14.4	
BVA0	**Borovoye Array** comp=Z,1.1nm,0.5s,baz=138,slow=9.8,SNR=10	**14.91**	**317**	⇑Pn	**Pn**	**07 53 13.7**	**+3.1**
BVAR	**Borovoye Array** comp=Z,0.2nm,0.3s,baz=97,slow=12,SNR=3.2	**14.91**	**317**	Pn	Pn	07 53 06.7	-3.9
NRIK	**Noril'sk** comp=Z,2.1nm,0.7s,baz=167,slow=13,SNR=3.7	**26.11**	**0**	P	**P**	**07 55 13.8**	**+0.6**
TIXI	**Tiksi** comp=Z,3.1nm,0.4s,baz=338,slow=11,SNR=8.9	**34.77**	**22**	P	**P**	**07 56 30.1**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,0.7nm,0.8s,baz=91,slow=8.5,SNR=3.6	**40.48**	**331**	P	**P**	**07 57 18.7**	**+0.8**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.7s,baz=335,slow=5.1,SNR=8.9	**76.28**	**135**	P	**P**	**08 01 27.5**	**-0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.6s,baz=47,slow=6.1,SNR=5.6	**78.01**	**277**	P	**P**	**08 01 36.8**	**-1.6**
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=335,slow=5.6,SNR=6.3	**79.17**	**137**	P	**P**	**08 01 43.5**	**-1.0**

IDC 24 08:23:19.2±3.0,53.°74N×88.°10E,h0km,mb1 3.1/2, mb1mx3.0/45,mbtmp3.1/2,ML2.9/2,3C-3D,Error ellipse: s-maj=24.7km s-min=16.5km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=93,slow=323,SNR=6.7	**1.95**	**277**	*i*		08 35 46.5	
ZALV	**Zalesovo Beam** 3.9nm,0.3s,baz=93,slow=14,SNR=17	**1.95**	**277**	Pg	Pn	08 23 53.8	+0.1
ZALV	5.2nm,0.3s,baz=95,slow=23,SNR=16			Lg	Lg	08 24 21.6	
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=62,slow=14,SNR=11	**6.66**	**246**	Pn	Pn	08 24 59.1	+0.9
KURBB	0.0nm,0.3s,baz=73,slow=32,SNR=3.1			Sn	Sn	08 26 13.3	-1.4
KURBB	0.0nm,0.3s,baz=65,slow=34,SNR=5.8			Lg	Lg	08 26 50.9	
KURBB	**Kurchatov Arra** 1.1nm,0.3s	**6.66**	**246**	⇑Pn	Pn	08 24 58.6	+0.4
KURBB	3.5nm,0.8s			⇑Sn	Sn	08 26 14.2	-0.6
KURBB	4.9nm,0.7s			⇓Lg	Lg	08 26 47.7	
MK31	**Makanchi Array** 0.3nm,0.6s,baz=30,slow=14	**7.88**	**210**	⇑Pn	Pn	08 25 15.8	+0.7
MK31	0.3nm,0.5s			⇓Sn	Sn	08 26 45.0	0.0
MK31	1.6nm,0.8s,baz=30,slow=32			⇓Lg	Lg	08 27 25.5	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=31,slow=16,SNR=5.1	**7.88**	**210**	Pn	Pn	08 25 16.2	+1.1
MKAR	0.2nm,0.3s,baz=31,slow=31,SNR=4.0			Sn	Sn	08 26 44.7	-0.3
MKAR	0.1nm,0.3s,baz=32,slow=30,SNR=2.6			Lg	Lg	08 27 28.5	

CSEM ***24*** *08:33:56.9,38.°37N×13.°58E,h10km,MD2.0/6*
ROM 24 08:33:56.9±0.2,38.°37N×13.58E,h10km,Md2.0/6,Ml1.8/4, Error ellipse: s-maj=3.3km s-min=2.1km az=47.0,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPG	**Monte Pellegri**	**0.27**	**220**	Pg	Pg	08 34 02.9	+0.6
MPG				Sg	Sb	08 34 07.8	-0.6
MPG	14nm,0.1s			Sg	Sg	08 34 02.9	+0.6
SOLUN	**Solunto**	**0.28**	**187**	Pg	Pg	08 34 02.7	+0.2
SOLUN				Sg	Sb	08 34 07.9	-0.8
SOLUN	20nm,0.5s **Solunto**	**0.28**	**187**	Pg	Pg	08 34 02.7	+0.2
SOLUN	20nm,0.5s			Sg	Sb	08 34 07.9	-0.8
USI	**Ustica**	**0.46**	**318**	Pg	Pg	08 34 06.1	+0.2
USI				Sg	Sb	08 34 14.1	+0.1
USI	202nm,0.2s **Ustica**	**0.46**	**318**	Pg	Pg	08 34 06.1	+0.2
USI	202nm,0.2s			Sg	Sb	08 34 14.1	+0.1
GIB	**Gibilmanna**	**0.52**	**137**	Pg	Pg	08 34 07.1	+0.1
GIB				Sg	Sb	08 34 15.8	0.0
GIB	75nm,0.5s **Gibilmanna**	**0.52**	**137**	Pg	Pg	08 34 07.1	+0.1
GIB	75nm,0.5s			Sg	Sb	08 34 15.8	0.0
PLLN	**Pollina**	**0.58**	**130**	Pg	Pg	08 34 07.8	-0.4
PLLN				Sg	Sb	08 34 17.4	-0.2
PLLN	**Pollina**	**0.58**	**130**	Pg	Pg	08 34 07.8	-0.4
PLLN				Sg	Sb	08 34 17.4	-0.2
ALJA	**Alia** 66nm,1.0s	**0.63**	**167**	Pg	Pg	08 34 09.6	+0.4
ALJA	**Alia** 66nm,1.0s	**0.63**	**167**	Pg	Pg	08 34 09.6	+0.4

CSEM ***24*** *08:34:08.5,38.°02N×14.°76E,h8km,MD2.0/4*
ROM 24 08:34:08.5±0.1,38.°02N×14.°76E,h8km±1km,Md2.0/4, Ml1.6/3,Error ellipse: s-maj=2.0km s-min=0.9km az=152.0,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUCR	**Ucria**	**0.09**	**77**	Pg	Pg	08 34 11.3	+0.4
MUCR				Sg	Sg	08 34 13.1	+0.6
MUCR	**Ucria**	**0.09**	**77**	Pg	Pg	08 34 11.3	+0.4
MUCR				Sg	Sg	08 34 13.1	+0.6
MNO	**Monte Soro**	**0.10**	**211**	Pg	Pg	08 34 11.4	+0.3
MNO				Sg	Sg	08 34 13.7	+0.8
MNO	**Monte Soro**	**0.10**	**211**	Pg	Pg	08 34 11.4	+0.3
MNO				Sg	Sg	08 34 13.7	+0.8
NOV	**Novara** 52nm,0.7s	**0.30**	**89**	Pg	Pg	08 34 15.0	+0.6
NOV				Sg	Sb	08 34 20.4	-0.8
NOV	**Novara** 52nm,0.7s	**0.30**	**89**	Pg	Pg	08 34 15.0	+0.6
NOV				Sg	Sb	08 34 20.4	-0.8
MCSR	**Castroreale** 47nm,0.3s	**0.39**	**84**	Pg	Pg	08 34 16.5	+0.4
MCSR				Sg	Sb	08 34 23.0	-0.9
MCSR	**Castroreale** 47nm,0.3s	**0.39**	**84**	Pg	Pg	08 34 16.5	+0.4
MCSR				Sg	Sb	08 34 23.0	-0.9
VPL	**Vulcano Piano** 146nm,0.5s	**0.40**	**26**	Pg	Pb	08 34 17.2	-0.6
VPL				Sg	Sb	08 34 23.4	-0.7
VPL	**Vulcano Piano** 146nm,0.5s	**0.40**	**26**	Pg	Pb	08 34 17.2	-0.6
VPL				Sg	Sb	08 34 23.4	-0.7

IDC 24 08:36:06.0±3.1,1.°91N×96.°41E,h0km,mb3.8/4,mb1 4.0/5, mb1mx3.6/36,mbtmp3.8/5,ML4.4/1,Error ellipse: s-maj=113.1km s-min=26.8km az=59.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=199,slow=11,SNR=5.5	**16.64**	**8**	Pn	Pn	08 40 01.4	+0.6
H08S2	**Diego Garcia H** baz=69,slow=76,SNR=40	**25.68**	**248**	T	T	09 08 27.7	
H08S3	**Diego Garcia H** baz=69,slow=76,SNR=35	**25.68**	**248**	T	T	09 08 27.0	
H08S1	**Diego Carcia H** baz=69,slow=76,SNR=32	**25.69**	**248**	T	T	09 08 27.7	
H01W3	**Cape Leeuwin H** baz=333,slow=76,SNR=3.4	**40.20**	**157**	T	T	09 26 40.3	
H01W2	**Cape Leeuwin H** baz=333,slow=76,SNR=4.6	**40.21**	**157**	T	T	09 26 41.3	
H01W1	**Cape Leeuwin H** baz=333,slow=76,SNR=3.1	**40.21**	**157**	T	T	09 26 41.5	
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=300,slow=8.7,SNR=3.0	**43.08**	**122**	P	P	08 44 08.1	-0.1
MKAR	**Makanchi Array** 1.4nm,0.7s,baz=157,slow=8.3,SNR=12	**46.37**	**347**	P	P	08 44 34.0	-0.1
SONM	**Songino Array** 0.4nm,0.3s,baz=184,slow=10,SNR=3.5	**46.56**	**9**	P	P	08 44 35.4	-0.3
ZALV	**Zalesovo Beam** 1.7nm,0.6s,baz=172,slow=6.6,SNR=6.6	**52.74**	**351**	P	P	08 45 22.5	0.0

DDA ***24*** *08:37:08.4,36.°30N×27.°60E,h56km,Md2.9*
ATH ***24*** *08:37:08.6,36.°28N×27.°64E,h73km±3km,ML2.9/2,Error ellipse: s-maj=4.7km s-min=1.8km az=145.0*
ISCJB ***24*** *08:37:09.3±0.8,36.°29N±0.°05×27.°61E±0.°05,h66km±10km, Error ellipse: s-maj=9.6km s-min=6.0km az=154.2*
CSEM ***24*** *08:37:09.8±0.3,36.°32N×27.°61E,h64km±4km,ML2.9, Error ellipse: s-maj=6.9km s-min=4.0km az=159.0*

ISC 24 08:37:10.0±1.4,36.°32N±0.°04×27.°63E±0.°04,h59km±12km, n22,σ1°69/34,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.41**	**105**	P	**Pn**	**08 37 21.9**	**+0.9**
ARG				S	**Sn**	**08 37 29.8**	**+0.9**
NIS1	**Nisyros Isl.**	**0.46**	**308**	P	**Pn**	**08 37 21.9**	**+0.4**
NIS1	**Nisyros Isl.**	**0.46**	**308**	P	**Pn**	**08 37 21.9**	**+0.4**
BDRM	**Kayabasi**	**0.76**	**349**	P	**Pn**	**08 37 24.3**	**-0.6**
BDRM				S	**Sn**	**08 37 36.4**	**+0.5**
BDRM	**Kayabasi**	**0.76**	**349**	*i* P	**Pn**	**08 37 24.3**	**-0.6**
BDRM				*i* S	**Sn**	**08 37 36.4**	**+0.5**
KARP	**Karpathos**	**0.86**	**206**	P	**Pn**	**08 37 26.5**	**+0.2**
KARP				S	**Sn**	**08 37 37.8**	**-0.4**
KARP	**Karpathos**	**0.86**	**206**	P	**Pn**	**08 37 26.5**	**+0.2**
KARP				S	**Sn**	**08 37 37.8**	**-0.4**
KARP	comp=N,687μm,0.2s			AML	AML	08 37 38.5	
KARP	comp=E,1366μm,0.1s			AML	AML	08 37 38.8	
TURN	**Turunc**	**0.95**	**55**	*i* P	**Pn**	**08 37 23.8**	**-3.6**
TURN				*i* S	**Sn**	**08 37 34.6**	**-5.6**
KSL	**Kastellorizon**	**1.59**	**96**	P	**Pn**	**08 37 35.5**	**-0.3**
KSL	**Kastellorizon**	**1.59**	**96**	P	**Pn**	**08 37 35.5**	**-0.3**
KSL	comp=N,236μm,0.3s			AML	AML	08 37 55.2	
KSL	comp=E,544μm,0.4s			AML	AML	08 37 55.6	
AKAS	**Kas**	**1.60**	**93**	P	**Pn**	**08 37 35.8**	**-0.3**
AKAS				S	**Sn**	**08 37 54.2**	**-1.6**
AKAS	**Kas**	**1.60**	**93**	*i* P	**Pn**	**08 37 35.8**	**-0.3**
AKAS				*i* S	**Sn**	**08 37 54.2**	**-1.6**
GOLH	**Golhisar**	**1.80**	**59**	P	**Pn**	**08 37 39.4**	**+0.6**
GOLH				S	**Sn**	**08 38 04.0**	**+3.4**
GOLH	**Golhisar**	**1.80**	**59**	*i* P	**Pn**	**08 37 39.4**	**+0.6**
GOLH				*i* S	**Sn**	**08 38 04.0**	**+3.4**
NPS	**Neapolis**	**1.95**	**238**	P	**Pn**	**08 37 40.0**	**-0.9**
NPS	**Neapolis**	**1.95**	**238**	P	**Pn**	**08 37 40.0**	**-0.9**
LAST	**Lasithi**	**2.10**	**237**	P	**Pn**	**08 37 42.6**	**-0.3**
LAST	**Lasithi**	**2.10**	**237**	P	**Pn**	**08 37 42.6**	**-0.3**
KORT	**Korkueli**	**2.29**	**72**	P	**Pn**	**08 37 46.0**	**+0.5**
KORT				S	**Sn**	**08 38 14.3**	**+1.7**
KORT	**Korkueli**	**2.29**	**72**	*i* P	**Pn**	**08 37 46.0**	**+0.5**
KORT				*i* S	**Sn**	**08 38 14.3**	**+1.7**
IDI	**Anoyia**	**2.46**	**246**	P	**Pn**	**08 37 47.8**	**+0.1**
IDI	**Anoyia**	**2.46**	**246**	P	**Pn**	**08 37 47.8**	**+0.1**

WAR ***24*** *08:40:29.5,51.°44N×16.°20E,h1km,Mw2.1*
CSEM ***24*** *08:40:29.5±0.8,51.°41N×16.°23E,h1km,ML2.5/6,Error ellipse: s-maj=10.9km s-min=6.2km az=13.0*
PRU ***24*** *08:40:30.8,51.°37N×16.°24E,h0km*

ISC 24 08:40:29.9±2.5,51.°4N±0.°1×16.°21E±0.°06,h0km,n18, σ0°75/28,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.55**	**175**	*e*Pg	**Pg**	**08 40 40.8**	**+0.4**
KSP				*e*Sg	**Sg**	**08 40 48.6**	**+1.1**
KSP	**Ksiaz**	**0.55**	**175**	*e*Pg	**Pg**	**08 40 40.8**	**+0.4**
KSP				*e*Sg	**Sg**	**08 40 48.6**	**+1.1**
KSP	**Ksiaz**	**0.55**	**175**	*e*Pg	**Pg**	**08 40 40.8**	**+0.4**
KSP				*e*Sg	**Sg**	**08 40 48.6**	**+1.1**
UPC	**Upice**	**0.89**	**188**	*e*PG	**Pb**	**08 40 47.6**	**-0.6**
UPC	16nm,0.4s			*e*SG	**Sg**	**08 40 59.0**	**+0.5**
UPC	**Upice**	**0.89**	**188**

BRG	**Berggiesshubel**	**1.52**	**251**	PG	**Pn**	**08 40 58.0**	**-0.3**
BRG				SG	**Sn**	**08 41 18.7**	**-0.1**
	5.2nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.73**	**212**	*e*SG	**Sg**	**08 41 25.7**	**+0.2**
	4.0nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.73**	**212**	Sg	**Sg**	**08 41 25.7**	**+0.2**
	4.0nm,0.4s						
PRU	**Pruhonice**	**1.76**	**218**	*e*SG	**Sg**	**08 41 26.5**	**+0.2**
	2.9nm,0.3s						
PRU	**Pruhonice**	**1.76**	**218**	Sg	**Sg**	**08 41 26.5**	**+0.2**
	2.9nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**246**	*e*SG	**Sg**	**08 41 56.8**	**+1.7**
	4.0nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**246**	Sg	**Sg**	**08 41 56.8**	**+1.7**
	4.0nm,0.3s						
KHC	**Kasperske Hory**	**2.82**	**218**	*e*SG	**Sg**	**08 41 59.9**	**-0.6**
	2.0nm,0.4s						
KHC	**Kasperske Hory**	**2.82**	**218**	Sg	**Sg**	**08 41 59.9**	**-0.6**
	2.0nm,0.4s						

*IDC **24** 08:53:43.6±0.5, 10°.69S×66°.66E, h0km, mb4.3/29, mb1 4.4/29, mb1mx4.3/60, mbtmp4.3/29, MS3.9/11, Ms1 3.9/11, ms1mx3.6/45, Error ellipse: s-maj=15.0km s-min=12.8km az=4.0*

*ISCJB **24** 08:53:44.1±0.3, 10°.69S±0°.07×66°.67E±0°.06, h14km, mb4.5/39, MS4.0/11, Error ellipse: s-maj=10.1km s-min=7.7km az=163.8*

*NEIC **24** 08:53:45.4±0.2, 10°.71S×66°.66E, h10km, mb4.9/13, Error ellipse: s-maj=8.7km s-min=6.4km az=163.0*

ISC 24 08:53:45.9±0.4, **10°.73S**±0°.10×**66°.65E**±0°.08, **h14km, n85, σ0°75/72, mb4.5/39, MS3.9/11, 1C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**6.12**	**45**	T	T	09 01 39.7	
	baz=224,slow=76,SNR=1207						
H08N1	**Diego Carcia H**	**6.13**	**45**	T	T	09 01 38.9	
	baz=224,slow=76,SNR=1004						
H08N2	**Diego Garcia H**	**6.13**	**45**	T	T	09 01 44.0	
	baz=224,slow=76,SNR=869						
H08S1	**Diego Carcia H**	**6.52**	**62**	T	T	09 02 08.2	
	baz=248,slow=73,SNR=17						
H08S2	**Diego Garcia H**	**6.53**	**63**	T	T	09 02 07.6	
	baz=248,slow=73,SNR=14						
H08S3	**Diego Carcia H**	**6.53**	**62**	T	T	09 02 06.5	
	baz=248,slow=73,SNR=16						
DGAR	**Diego Garcia**	**6.51**	**61**	*e*Pn	**Pn**	**08 55 21.4**	**-1.4**
OPO	**Ambohidratompo**	**20.36**	**245**	P	Pn	08 58 23.5	-1.0
	5.6nm,0.9s,baz=56,slow=9.5,SNR=5.0						
OPO				LR	LR	09 04 24.4	
	comp=Z,453nm,18.1s,baz=80,slow=31						
ABPO	**Ambohimpanom**	**20.48**	**244**	*e*P	Pn	08 58 25.2	-0.7
	77nm,1.1s						
KMBO	**Kilima Mbogo**	**30.72**	**286**	P	**P**	**09 00 02.2**	**+1.2**
	1.3nm,0.4s,baz=54,slow=13,SNR=6.1						
KMBO				LR	LR	09 11 02.6	
	comp=Z,183nm,20.6s,baz=118,slow=34						
KMBO	**Kilima Mbogo**	**30.72**	**286**	*e*P	**P**	**09 00 02.5**	**+1.4**
	7.9nm,1.4s						
GSI	**Gunungsitoli**	**33.01**	**71**	*e*P	**P**	**09 00 22.9**	**+2.0**
	36nm,1.0s						
KULM	**Kulim**	**37.41**	**66**	*e*P	**P**	**09 00 59.7**	**+0.8**
	17nm,1.0s						
LSZ	**Lusaka**	**37.71**	**259**	P	**P**	**09 01 02.1**	**+0.5**
	21nm,0.9s,baz=98,slow=7.6,SNR=14						
LSZ	**Lusaka**	**37.71**	**259**	*e*P	**P**	**09 01 02.1**	**+0.5**
	43nm,1.2s						
LBTB	**Lobatse**	**41.40**	**244**	P	**P**	**09 01 32.1**	**-0.1**
	8.0nm,1.0s,baz=75,slow=7.9,SNR=4.3						
CMAR	**Chiang Mai Arr**	**43.09**	**48**	P	**P**	**09 01 46.9**	**+1.0**
	1.2nm,0.3s,baz=247,slow=8.8,SNR=7.0						
CMAR				LR	LR	09 19 09.8	
	comp=Z,113nm,18.2s,baz=199,slow=35						
JAGI	**Jajag, Banyuwa**	**46.86**	**92**	*e*P	**P**	**09 02 16.5**	**+0.4**
	44nm,0.9s						
H01W3	**Cape Leeuwin H**	**49.37**	**127**	T	T	09 55 23.2	
	baz=288,slow=75,SNR=42						
H01W2	**Cape Leeuwin H**	**49.37**	**127**	T	T	09 55 21.7	
	baz=288,slow=75,SNR=50						
H01W1	**Cape Leeuwin H**	**49.38**	**127**	T	T	09 55 21.7	
	baz=288,slow=75,SNR=49						
KAPI	**Kappang**	**52.85**	**88**	LR	LR	09 22 59.9	
	comp=Z,148nm,18.7s,baz=148,slow=33						
TKM2	**Tokmak 2**	**54.01**	**8**	*e*P	**P**	**09 03 10.1**	**+0.2**
	1.6nm,0.8s						
MAW	**Mawson**	**56.87**	**182**	P	**P**	**09 03 29.8**	**0.0**
	5.3nm,0.7s,baz=0.2,slow=8.8,SNR=7.8						
MAW				LR	LR	09 22 41.8	
	comp=Z,86nm,19.0s,baz=54,slow=30						
FITZ	**Fitzroy Crossi**	**57.41**	**105**	P	**P**	**09 03 34.8**	**+0.3**
	6.2nm,1.0s,baz=254,slow=7.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**57.41**	**105**	*e*P	**P**	**09 03 34.4**	**-0.1**
	10nm,1.3s						
BRTR	**Keskin Array B**	**58.81**	**331**	P	**P**	**09 03 42.6**	**-1.5**
	0.9nm,0.8s,baz=126,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**58.94**	**12**	P	**P**	**09 03 43.5**	**-1.2**
	1.3nm,0.7s,baz=198,slow=7.5,SNR=13						
ABKAR	**Akbulak array**	**60.01**	**355**	*e*P	**P**	**09 03 52.0**	**0.0**
	3.4nm,0.8s						
SYO	**Syowa Base**	**60.80**	**191⇑**	*e*pP	pP	09 04 01.6	-0.1
AKTO	**Aktyubinsk**	**61.37**	**354**	P	**P**	**09 04 01.1**	**-0.2**
	1.0nm,0.4s,baz=149,slow=5.5,SNR=8.0						
KURBB	**Kurchatov Arra**	**61.96**	**9**	P	**P**	**09 04 05.2**	**0.0**
	2.8nm,0.8s,baz=206,slow=7.1,SNR=23						
KURK	**Kurchatov**	**62.07**	**9**	*e*P	**P**	**09 04 06.1**	**+0.2**
	27nm,0.8s						
BVAR	**Borovoye Array**	**63.58**	**3**	P	**P**	**09 04 15.9**	**-0.1**
	0.9nm,0.7s,baz=166,slow=7.6,SNR=4.5						
ASAR	**Alice Springs**	**65.03**	**111**	P	**P**	**09 04 26.1**	**-0.2**
	4.2nm,0.8s,baz=273,slow=5.5,SNR=28						
WRA	**Warramunga Arr**	**65.57**	**107**	P	**P**	**09 04 29.9**	**+0.1**
	5.9nm,0.9s,baz=276,slow=5.4,SNR=41						
WRAB	**Tennant Creek**	**65.58**	**107**	*e*P	**P**	**09 04 30.1**	**+0.3**
	9.2nm,0.8s						
ZALV	**Zalesovo Beam**	**66.25**	**12**	P	**P**	**09 04 33.5**	**+0.1**
	1.5nm,0.6s,baz=216,slow=4.8,SNR=3.6						
ZALV				LR	LR	09 33 52.9	
	comp=Z,75nm,18.6s,baz=127,slow=36						
SONM	**Songino Array**	**68.13**	**28**	P	**P**	**09 04 46.4**	**+0.8**
	7.0nm,0.8s,baz=216,slow=5.9,SNR=26						
TORD	**Torodi Ar. Bea**	**68.68**	**289**	P	**P**	**09 04 49.0**	**-0.5**
	2.0nm,1.1s,baz=85,slow=5.4,SNR=4.5						
CRVS	**Cervenica-Dubn**	**71.45**	**330**	*e*P	**P**	**09 05 07.7**	**+1.8**
STKA	**Stephens Creek**	**71.68**	**120**	P	**P**	**09 05 07.5**	**-0.3**
	2.4nm,0.7s,baz=272,slow=6.2,SNR=5.3						
VYHS	**Vyhne**	**72.48**	**329**	*e*P	**P**	**09 05 11.5**	**-0.6**
DBIC	**Dimbokro**	**73.24**	**280**	P	**P**	**09 05 17.3**	**0.0**
	15nm,0.9s,baz=46,slow=7.4,SNR=4.6						
DBIC				LR	LR	09 35 55.2	
	comp=Z,188nm,19.4s,baz=84,slow=35						
SNAA	**Sanae**	**73.48**	**198**	*e*P	**P**	**09 05 17.6**	**-0.2**
	278nm,1.3s						
KSAR	**Wonju Array Be**	**74.67**	**46**	P	**P**	**09 05 25.2**	**+0.1**
KSRS	**Korea Array**	**74.70**	**46**	P	**P**	**09 05 25.2**	**-0.1**
	1.9nm,0.8s,baz=245,slow=7.3,SNR=5.4						
GERES	**GERESS Array B**	**75.38**	**327**	P	**P**	**09 05 28.6**	**-0.6**
	0.3nm,0.4s,baz=126,slow=8.4,SNR=4.6						
BRG	**Berggiesshubel**	**76.45**	**329**	*e*P	**P**	**09 05 36.2**	**+1.1**
	5.6nm,1.1s						
CTA	**Charters Tower**	**76.72**	**108**	P	**P**	**09 05 37.7**	**+0.4**
	5.1nm,0.9s,baz=225,slow=6.7,SNR=3.6						
FINES	**FINESS Array B**	**78.66**	**341**	P	**P**	**09 05 46.9**	**-0.3**
	1.5nm,0.8s,baz=146,slow=13,SNR=3.2						
QSPA	**South Pole Qui**	**79.33**	**180**	*e*P	**P**	**09 05 50.0**	**-1.1**
	16nm,0.9s						
USRK	**Ussuriysk Ar.**	**80.42**	**42**	P	**P**	**09 05 56.5**	**-0.7**
	1.1nm,0.7s,baz=224,slow=4.0,SNR=3.3						
USRK				LR	LR	09 40 43.6	
	comp=Z,92nm,20.7s,baz=43,slow=35						
GUMO	**Guam**	**81.26**	**74**	LR	LR	09 40 35.0	
	comp=Z,23nm,21.7s,baz=188,slow=35						
MJAR	**Matsushiro Arr**	**81.91**	**51**	P	**P**	**09 06 05.3**	**0.0**
	3.3nm,1.0s,baz=244,slow=8.2,SNR=4.3						
ESDC	**Sonseca Array**	**82.28**	**313**	P	**P**	**09 06 07.3**	**+0.1**
	3.6nm,0.8s,baz=101,slow=3.8,SNR=16						
KLR	**Kul'dur**	**82.44**	**37**	P	**P**	**09 06 07.0**	**-0.7**
	1.7nm,0.8s,baz=266,slow=11						
PAB	**San Pablo**	**82.52**	**312**	*e*P	**P**	**09 06 08.8**	**+0.3**
	4.6nm,0.8s						
NOA	**NORSAR Array B**	**83.69**	**336**	P	**P**	**09 06 13.5**	**-0.5**
	1.1nm,0.8s,baz=118,slow=5.1,SNR=3.1						
TIXI	**Tiksi**	**91.73**	**16**	P	**P**	**09 06 52.2**	**-0.4**
	1.2nm,0.3s,baz=322,slow=2.5,SNR=4.0						
TIXI				LR	LR	09 48 14.8	
	comp=Z,88nm,21.9s,baz=124,slow=36						
PETK	**Petropavlovsk-**	**99.11**	**38**	LR	LR	09 54 18.4	
	comp=Z,84nm,21.1s,baz=121,slow=37						
LPAZ	**La Paz**	**127.83**	**240**	PKP	**PKPdf**	**09 12 52.6**	**-0.3**
	2.0nm,0.9s,baz=100,slow=4.3,SNR=6.7						
ECSD	**EROS Data Cent**	**144.05**	**339**	*e*PKPdf	**PKPab**	**09 13 18.9**	**+0.1**
BOZ	**Bozeman (W)**	**145.17**	**358**	*e*PKPdf	**PKPdf**	**09 13 23.4**	**-0.1**
DLMT	**Dillon**	**145.48**	**359**	*e*PKPdf	**PKPab**	**09 13 24.3**	**+0.1**
RLMT	**Red Lodge**	**145.54**	**355**	*e*PKPdf	**PKPab**	**09 13 25.3**	**+0.7**
RSSD	**Black Hills**	**145.76**	**348**	*e*PKPdf	**PKPbc**	**09 13 25.0**	**0.0**
H17A	**Grant Village**	**146.37**	**356**	*e*PKPbc	**PKPab**	**09 13 30.0**	**+2.3**
HLID	**Hailey**	**147.27**	**1**	*e*PKPbc	**PKPab**	**09 13 30.5**	**-0.6**
TPAW	**Teton Pass**	**147.29**	**357**	*e*PKPbc	**PKPab**	**09 13 30.8**	**-0.5**
SNOW	**Snton King Moun**	**147.31**	**356**	*e*PKPbc	**PKPab**	**09 13 30.9**	**-0.5**
REDW	**Red Top Meadow**	**147.41**	**357**	*e*PKPbc	**PKPab**	**09 13 31.1**	**-0.6**
K22A	**Casper**	**147.64**	**351**	*e*PKPbc	**PKPbc**	**09 13 30.2**	**-0.3**
PDAR	**Pinedale Array**	**147.91**	**355**	PKP	**PKPdf**	**09 13 26.6**	**-1.7**
	0.6nm,0.6s,baz=266,slow=7.8,SNR=2.6						
PDAR				PKPbc	**PKPbc**	**09 13 31.6**	**+0.4**
	2.6nm,0.8s,baz=79,slow=0.8,SNR=12						
KSU1	**Kansas State U**	**148.04**	**335**	*e*PKPbc	**PKPbc**	**09 13 30.5**	**-1.0**
HWUT	**Hardware Ranch**	**149.20**	**357**	*e*PKPbc	**PKPbc**	**09 13 35.3**	**+0.7**
MIAR	**Mount Ida**	**150.20**	**326**	*e*PKPbc	**PKPbc**	**09 13 37.7**	**+0.7**
KSCO	**Kaye Shedlock'**	**150.25**	**343**	*e*PKPbc	**PKPbc**	**09 13 37.7**	**+0.5**
TUL1	**Leonard**	**150.29**	**330**	*e*PKPbc	**PKPbc**	**09 13 37.3**	**0.0**
O20A	**White River Ci**	**150.36**	**352**	*e*PKPbc	**PKPbc**	**09 13 37.1**	**-0.5**
DUG	**Dugway, Tooele**	**150.65**	**359**	*e*PKPbc	**PKPbc**	**09 13 38.8**	**+0.6**
DUG				*e*PKPab	**PKPab**	**09 13 45.4**	**+0.6**
SMCO	**Snowmass**	**151.10**	**350**	*e*PKPbc	**PKPbc**	**09 13 40.1**	**+0.5**
V34A	**Guthrie**	**151.17**	**333**	*e*PKPbc	**PKPbc**	**09 13 39.6**	**+0.3**
WMOK	**Wichita Mounta**	**152.65**	**333**	*e*PKPbc	**PKPbc**	**09 13 42.3**	**-0.5**
TXAR	**Lajitas Array**	**159.39**	**335**	PKPab	**PKPab**	**09 14 22.3**	**0.0**
	1.1nm,0.8s,baz=50,slow=3.5,SNR=10.0						

*IDC **24** 09:06:16.9±0.7, 52°.07N×171°.68W, h0km, mb4.2/21, mb1 4.4/23, mb1mx4.2/51, mbtmp4.2/23, ML3.7/2, MS3.2/3, Ms1 3.1/3, ms1mx2.8/44, Error ellipse: s-maj=21.6km s-min=13.7km az=171.0*

*MOS **24** 09:06:20.5±1.1, 52°.02N×171°.88W, h33km, mb4.7/14, Error ellipse: s-maj=11.9km s-min=8.2km az=91.2*

*NEIC **24** 09:06:22.5, 51°.62N×171°.38W, h18km, mb4.1/32, ML4.2(AEIC), After AEIC.*

*ISCJB **24** 09:06:24.3±0.4, 52°.04N±0°.06×171°.61W±0°.04, h69km±3km, mb4.3/46, Error ellipse: s-maj=9.8km s-min=2.8km az=165.0*

ISC 24 09:06:25.7±1.1, **52°.02N**±0°.09×**171°.56W**±0°.04, **h69**km±9km, **n179, σ1⅝°67/185, mb4.4/46, 3C-2D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.58**	**280**	P	**Pn**	**09 06 51.1**	**-0.6**
KONE	**Korovin Northe**	**1.62**	**284**	P	**Pn**	**09 06 52.0**	**-0.2**
KOKV	**Korovin Volcan**	**1.64**	**283**	P	**Pn**	**09 06 52.1**	**-0.5**
KOKV				S	**Sn**	**09 07 13.6**	**+0.8**
KOKL	**Mount Kliuchef**	**1.65**	**282**	P	**Pn**	**09 06 52.1**	**-0.7**
NIKH	**Nikolski High**	**1.91**	**59**	*e*Pn	**Pn**	**09 06 53.5**	**-2.6**
NIKH				*e*Sn	**Sn**	**09 07 16.9**	**-2.3**
OKAK	**Okmok**	**2.49**	**50**	P	**Pn**	**09 07 02.6**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**2.54**	**56**	P	**Pn**	**09 07 04.2**	**-0.4**
OKER	**Okmok East Rim**	**2.57**	**55**	P	**Pn**	**09 07 04.9**	**-0.2**
GSMY	**Great Sitkin M**	**2.78**	**272**	P	**Pn**	**09 07 06.8**	**-1.0**
GSTR	**Great Sitkin T**	**2.78**	**273**	*e*Pn	**Pn**	**09 07 06.8**	**-1.1**
GSTR				*e*Sn	**Sn**	**09 07 40.9**	**+0.6**
GSTD	**Great Sitkin T**	**2.83**	**273**	P	**Pn**	**09 07 07.6**	**-1.0**
GSTD				S	**Sn**	**09 07 41.7**	**0.0**
GSCK	**Great Sitkin C**	**2.84**	**272**	P	**Pn**	**09 07 07.2**	**-1.5**
ETKA	**Kagalaska Isla**	**3.00**	**269**	P	**Pn**	**09 07 09.5**	**-1.5**
ADAG	**Mount Adagdak**	**3.12**	**271**	P	**Pn**	**09 07 11.9**	**-0.5**
MGOD	**Makushin Gods**	**3.35**	**56**	P	**Pn**	**09 07 14.8**	**-0.9**
MCIR	**Makushin Cirqu**	**3.42**	**54**	P	**Pn**	**09 07 15.3**	**-0.7**
KIRH	**Kanaga Island**	**3.43**	**270**	P	**Pn**	**09 07 16.2**	**-0.3**
KIKV	**Kanaga Island**	**3.48**	**270**	P	**Pn**	**09 07 16.9**	**-0.5**
KICM	**Kanaga Island**	**3.49**	**271**	P	**Pn**	**09 07 17.2**	**-0.3**
MTBL	**Makushin Table**	**3.54**	**55**	P	**Pn**	**09 07 17.7**	**-0.5**
UNV	**Unalaska Valle**	**3.56**	**57**	*e*Pn	**Pn**	**09 07 17.5**	**-1.0**
UNV				*e*Sn	**Sn**	**09 08 01.6**	**+2.2**
TAPA	**Tanaga Point A**	**3.88**	**269**	P	**Pn**	**09 07 22.2**	**-0.7**
AKRB	**Akutan Reef Bi**	**3.93**	**55**	P	**Pn**	**09 07 23.2**	**-0.3**
TAFL	**Tanaga Flats**	**3.94**	**269**	P	**Pn**	**09 07 23.2**	**-0.4**
TAFP	**Tanaga Falls P**	**3.98**	**271**	P	**Pn**	**09 07 23.4**	**-0.8**
TAFP				S	**Sn**	**09 08 08.9**	**-0.7**
AKGG	**Akutan Green G**	**4.00**	**55**	P	**Pn**	**09 07 24.2**	**-0.3**
AKUT	**Akutan**	**4.08**	**56**	*e*Pn	**Pn**	**09 07 26.3**	**+0.7**
AKSA	**Akutan Strait**	**4.12**	**57**	P	**Pn**	**09 07 25.5**	**-0.6**
GANE	**Gareloi Northe**	**4.47**	**270**	P	**Pn**	**09 07 30.4**	**-0.6**
WECS	**Westdahl Cape**	**4.78**	**56**	P	**Pn**	**09 07 35.2**	**0.0**
WESP	**Westdahl Peak**	**4.79**	**56**	P	**Pn**	**09 07 34.7**	**-0.7**
SPIA	**Saint Paul Isl**	**5.22**	**8**	*e*Pn	**Pn**	**09 07 42.4**	**+1.2**
SSLW	**Shishaldin Wes**	**5.23**	**55**	P	**Pn**	**09 07 41.0**	**-0.3**
DT1	**Dutton Round H**	**6.33**	**57**	P	**Pn**	**09 07 55.3**	**-1.1**
SDPT	**Sand Point**	**7.38**	**59**	*e*Pn	**Pn**	**09 08 09.6**	**-1.0**
CHGN	**Chignik**	**8.82**	**56**	*e*Pn	**Pn**	**09 08 28.4**	**-1.9**
OHAK	**Old Harbor**	**11.79**	**57**	*e*Pn	Pn	09 09 05.7	-5.0
KDAK	**Kodiak Island**	**12.33**	**55**	*e*P	**Pn**	**09 09 14.3**	**-3.8**
KDAK	**Kodiak Island**	**12.33**	**55**	*e*Pn	**Pn**	**09 09 14.3**	**-3.8**
SVW2	**Sparrevohn**	**12.63**	**38**	*e*Pn	**Pn**	**09 09 24.6**	**+2.4**
RSO	**Redoubt South**	**13.40**	**44**	*e*Pn	**Pn**	**09 09 35.2**	**+2.4**
RSO				*e*Sn	Sn	09 11 50.7	-9.3
CNPM	**China Poot**	**13.64**	**49**	*e*Pn	**Pn**	**09 09 33.0**	**-2.9**
TT01	**Tatalina**	**13.70**	**31**	*e*Pn	**Pn**	**09 09 39.1**	**+2.6**
BRLK	**Bradley Lake**	**13.90**	**48**	*e*Pn	**Pn**	**09 09 40.4**	**+1.1**
BRLK				*e*Sn	**S**	**09 12 25.5**	**-4.3**
SPU	**Mount Spurr**	**14.07**	**42**	*e*Pn	**Pn**	**09 09 41.4**	**-0.1**
SEW	**Seward**	**14.70**	**48**	*e*Pn	**Pn**	**09 09 47.6**	**-2.1**
RC01	**Rabbit Creek A**	**15.00**	**44**	*e*Pn	**P**	**09 09 57.2**	**-0.3**
	6.2nm,0.8s						
PPLA	**Purkeypile**	**15.00**	**36**	*e*Pn	**P**	**09 09 58.1**	**+0.5**
	4.5nm,0.7s						
PPLA				*e*Sn	**Sn**	**09 12 38.0**	**-0.7**
CAST	**Castle Rocks**	**15.37**	**34**	*e*Pn	**P**	**09 10 02.6**	**+1.1**
	3.7nm,0.8s						
PMR	**Palmer**	**15.50**	**43**	*e*P	**Pn**	**09 10 01.0**	**+1.2**
PMR				*e*		09 12 57.3	
PMR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PMR	**Palmer**	**15.50**	**43**	*e*Pn	**Pn**	**09 10 01.0**	**+1.2**
	comp=Z,4.1nm,0.9s						
PMR				*e*Sn	**S**	**09 12 57.3**	**-5.0**
KTH	**Kantishna Hill**	**15.86**	**35**	*e*Pn	**P**	**09 10 06.3**	**-0.6**
	comp=Z,7.5nm,0.9s						
SML	**Sawmill**	**15.93**	**43**	*e*P	**Pn**	**09 10 06.8**	**+1.4**
SML				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SML	**Sawmill**	**15.93**	**43**	*e*Pn	**Pn**	**09 10 06.8**	**+1.4**
	comp=Z,6.5nm,0.8s						
TRF	**Thorofare Moun**	**16.03**	**36**	*e*Pn	**P**	**09 10 08.9**	**-0.1**
	comp=Z,6.0nm,0.8s						
BPAW	**Bear Paw Mtn.**	**16.17**	**34**	*e*Pn	**P**	**09 10 10.4**	**0.0**
	comp=Z,9.0nm,0.9s						
SCM	**Sheep Creek Mo**	**16.37**	**44**	*e*P	**Pn**	**09 10 10.8**	**-0.2**
SCM				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SCM	**Sheep Creek Mo**	**16.37**	**44**	*e*Pn	**Pn**	**09 10 10.8**	**-0.2**
	comp=Z,8.3nm,0.6s						
MCK	**McKinley**	**16.68**	**37**	*e*P	**Pn**	**09 10 15.5**	**+0.7**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MCK	**McKinley**	**16.68**	**37**	*e*Pn	**Pn**	**09 10 15.5**	**+0.7**
	comp=Z,9.5nm,0.8s						
RAGM	**Ragged Mountai**	**17.03**	**50**	*e*Pn	**P**	**09 10 19.9**	**0.0**
	comp=Z,15nm,0.7s						
BMRM	**Bremner River**	**17.25**	**48**	*e*Pn	**P**	**09 10 29.4**	**+7.0**
	comp=Z,8.5nm,0.7s						
WRH	**Wood River Hil**	**17.41**	**35**	*e*Pn	**Pn**	**09 10 22.5**	**-1.2**
	comp=Z,11nm,1.3s						
CCB	**Clear Creek Bu**	**17.61**	**35**	*e*Pn	**P**	**09 10 32.2**	**+6.0**
	comp=Z,7.9nm,1.3s						
COLA	**College**	**17.73**	**34**	*e*P	**Pn**	**09 10 31.9**	**+4.4**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CRQM	**Cirque**	**17.87**	**50**	*e*P	**Pn**	**09 10 32.0**	**+2.5**
	comp=Z,13nm,0.7s						
ILAR	**Eielson Array**	**18.01**	**35**	P	**P**	**09 10 27.6**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=227,slow=10,SNR=12						
ILB	**Eielson Array**	**18.01**	**35**	*e*P	**P**	**09 10 26.0**	**-4.7**
BALM	**Baldy**	**18.32**	**49**	*e*P	**Pn**	**09 10 35.5**	**+0.6**
BALM				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BALM	**Baldy**	**18.32**	**49**	*e*P	**Pn**	**09 10 35.5**	**+0.6**
	comp=Z,8.7nm,0.6s						
PEA1	**Petropavlovsk-**	**18.65**	**286**	*e*P	**P**	**09 10 35.3**	**-2.5**
PETK	**Petropavlovsk-**	**18.65**	**286**	P	**P**	**09 10 35.3**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=75,slow=14,SNR=4.3						
PCA	**Pinnacle**	**19.10**	**53**	*e*P	**Pn**	**09 10 45.1**	**+0.9**
	comp=Z,15nm,0.6s						
BILL	**Bilibino**	**19.31**	**335**	*i* P	**Pn**	**09 10 46.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.3s						
EGAK	**Eagle**	**20.16**	**39**	*e*P	**P**	**09 10 54.0**	**0.0**
	comp=Z,4.0nm,0.8s						
HYT	**Haines Junctio**	**20.57**	**51**	*e*P	**P**	**09 11 00.2**	**+1.5**
	comp=Z,27nm,0.8s						
SKAG	**Skagway**	**21.48**	**56**	*e*P	**P**	**09 11 09.6**	**+1.3**
	comp=Z,20nm,0.8s						
SEY	**Seymchan**	**21.93**	**314**	P	**P**	**09 11 12.4**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=108,slow=9.8,SNR=19						
SEY	**Seymchan**	**21.93**	**314**	*ce*P	**P**	**09 11 14.7**	**+1.7**
DLBC	**Dease Lake**	**24.22**	**58**	P	**P**	**09 11 36.9**	**+1.2**
	comp=Z,6.1nm,0.5s,baz=262,slow=7.6,SNR=24						
DLBC	**Dease Lake**	**24.22**	**58**	*e*P	**P**	**09 11 38.7**	**+2.9**
	comp=Z,10nm,0.8s						
INK	**Inuvik**	**24.38**	**34**	P	**P**	**09 11 36.5**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=205,slow=12,SNR=5.4						
YSS	**Yuzh-Sakhalins**	**29.72**	**279**	*e*P	**P**	**09 12 21.3**	**-3.7**
YKA	**Yellowknife Ar**	**31.48**	**48**	P	**P**	**09 12 40.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=270,slow=20,SNR=4.7						
YKA				LR	LR	09 25 27.2	
	comp=Z,10nm,19.2s,baz=180,slow=36						
YKB5	**Yellowknife Ar**	**31.48**	**48**	*e*P	**P**	**09 12 40.7**	**+0.3**
TIXI	**Tiksi**	**32.34**	**329**	*e*PcP	**PcP**	**09 15 34.6**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**36.36**	**216**	T	T	09 51 54.2	
	baz=21,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**36.37**	**216**	T	T	09 51 56.9	
	baz=21,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**36.38**	**216**	T	T	09 52 00.5	
	baz=21,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**37.56**	**215**	T	T	09 53 26.1	
	baz=21,slow=76,SNR=15						
PAHR	**Pah Rah Range**	**37.57**	**88**	*e*P	**P**	**09 13 35.1**	**+1.7**
PAHR	**Pah Rah Range**	**37.57**	**88**	*e*P	**P**	**09 13 35.1**	**+1.7**
	comp=Z,3.9nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**37.57**	**215**	T	T	09 53 34.6	
	baz=21,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**37.57**	**215**	T	T	09 53 23.9	
	baz=21,slow=76,SNR=16						
MFID	**Camas Ranch**	**37.63**	**81**	*e*P	**P**	**09 13 31.5**	**-2.3**
	comp=Z,28nm,2.0s						
PNTR	**Pine Nut**	**37.81**	**89**	*

FINES	**FINES Array B**	**66.01**	**351**	P		**P**	**09 17 03.4**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=11,slow=7.1,SNR=11							
PDGK	**Podgornoye**	**66.98**	**311**	P		**P**	**09 17 10.7**	**-0.1**
PDGK				pmax	pmax			
	comp=Z,5.0nm,0.5s							
NB2	**NORSAR Subarra**	**67.27**	**359**	P		**P**	**09 17 12.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=3.1,slow=6.5							
NB200	**NORSAR Array S**	**67.27**	**359**	*e*P		**P**	**09 17 11.9**	**-0.5**
NOA	**NORSAR Array B**	**67.27**	**359**	P		**P**	**09 17 11.9**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=3.1,slow=6.5,SNR=4.6							
NOA	**NORSAR Array B**	**67.27**	**359**	P		**P**	**09 17 12.0**	**-0.5**
JAY	**Jayapura**	**67.61**	**233**	LR		LR	09 41 33.3	
	comp=Z,32nm,21.7s,baz=171,slow=31							
AKTO	**Aktyubinsk**	**69.62**	**329**	P		**P**	**09 17 27.3**	**0.0**
	comp=Z,7.0nm,0.5s,baz=49,slow=7.3,SNR=32							
AAK	**Ala-Archa**	**69.79**	**314**	P		**P**	**09 17 29.1**	**+0.5**
	comp=Z,9.3nm,0.8s,baz=93,slow=2.5,SNR=12							
AAK	**Ala-Archa**	**69.79**	**314**	⇓*i*P		**P**	**09 17 29.6**	**+1.0**
AAK				pmax	pmax			
	comp=Z,21nm,0.8s							
AB31	**Akbulak array**	**70.01**	**327**	*i* P		**P**	**09 17 29.6**	**0.0**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ABKAR	**Akbulak array**	**70.01**	**327**	*e*P		**P**	**09 17 29.7**	**+0.1**
KKAR	**Karatay Array**	**71.14**	**317**	*e*P		**P**	**09 17 36.9**	**+0.3**
KKAR	**Karatay Array**	**71.14**	**317**	*e*P		**P**	**09 17 36.9**	**+0.3**
KSH	**Kashi**	**71.60**	**311**	*e*P		**P**	**09 17 42.3**	**+2.6**
KSH				PcP		**PcP**	**09 18 01.6**	**+3.0**
KSH				pP		sP	09 18 34.8	+29
KSH				PP		**PP**	**09 20 25.6**	**+6.9**
KSH				S		S	09 26 33.9	-20
KSH	**Kashi**	**71.60**	**311**	SS		SS	09 31 16.3	-13
KSH				pmax	pmax			
	comp=Z,11nm,0.7s							
KSH				pmax	pmax			
	comp=Z,51nm,2.7s							
KSH				LR		LR		
	comp=N,270nm,11.0s							
KSH				LR		LR		
	comp=E,200nm,7.1s							
CMAR	**Chiang Mai Arr**	**75.37**	**281**	P		**P**	**09 18 02.2**	**+0.4**
	comp=E,4.7nm,0.7s,baz=29,slow=6.9,SNR=14							
CRVS	**Cervenica-Dubn**	**78.84**	**351**	*e*P		**P**	**09 18 19.8**	**-1.1**
CRVS	**Cervenica-Dubn**	**78.84**	**351**	*e*P		**P**	**09 18 19.8**	**-1.1**
GERES	**GERESS Array B**	**79.41**	**356**	P		**P**	**09 18 24.2**	**+0.1**
	comp=E,0.4nm,0.4s,baz=2.9,slow=2.7,SNR=4.8							
GEYT	**Alibeck**	**80.50**	**322**	LR		LR	09 57 33.2	
	comp=E,27nm,18.1s,baz=210,slow=38							
WR1	**Warramunga Arr**	**85.74**	**230**	*e*P		**P**	**09 18 56.4**	**-0.7**
	comp=E,32nm,1.7s							
WRA	**Warramunga Arr**	**85.74**	**230**	P		**P**	**09 18 56.4**	**-0.7**
	comp=E,1.8nm,1.0s,baz=38,slow=5.0,SNR=5.9							
ESDC	**Sonseca Array**	**88.04**	**10**	P		**P**	**09 19 06.9**	**-1.4**
	comp=E,0.1nm,0.3s,baz=347,slow=5.0,SNR=4.6							
AS31	**Alice Springs**	**89.14**	**228**	*e*P		**P**	**09 19 14.1**	**+0.6**
ASAR	**Alice Springs**	**89.15**	**228**	P		**P**	**09 19 13.9**	**+0.5**
	comp=E,5.9nm,0.8s,baz=34,slow=4.7,SNR=34							
ASAR	**Alice Springs**	**89.15**	**228**	P		**P**	**09 19 14.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**114.84**	**7**	PKP		PKPdf	09 24 57.7	-0.9
	comp=E,0.5nm,0.8s,baz=347,slow=1.7,SNR=2.9							
MAW	**Mawson**	**149.76**	**218**	PKPbc		**PKPbc**	**09 26 07.0**	**+0.8**
	comp=E,2.0nm,0.8s,baz=175,slow=3.4,SNR=5.1							
MAW	**Mawson**	**149.76**	**218**	PKP2		**PKPbc**	**09 26 07.0**	**+0.8**

*JMA **24** 09:08:04.6±0.1, 34.4°N×140.4°E, h38km±2km, M3.7*
JMA Felt I J1.
*IDC **24** 09:08:05.9± 1.2, 34.4°N×138.9°E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/43, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=41.3km s-min=16.0km az=62.0*
ISC 24 09:08:03.3±1.4, 34.4°N±0.0°×140.3°E±0.0°, 5, h8km±10km, n23, σ0°85°/26, mb3.7/3, 5C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.38**	**25**	⇑P		**Pb**	**09 08 12.6**	**+0.6**
BSO4	**Boso 4**	**0.53**	**2**	⇑P		**Pb**	**09 08 15.9**	**+1.1**
BSO4				*e*X			09 08 25.0	
BSO1	**Boso 1**	**0.58**	**70**	⇑P		**Pg**	**09 08 14.3**	**0.0**
BSO1				*e*K			09 08 21.1	
TATJ	**Tateyama 2**	**0.67**	**328**	⇓P		**Pn**	**09 08 19.2**	**+0.1**
TATJ				*e*S		**Sn**	**09 08 29.6**	**-0.1**
KTR	**Katsuura**	**0.69**	**360**	⇑P		**Pb**	**09 08 17.8**	**+0.3**
KTR				S		**Sb**	**09 08 27.1**	**0.0**
JIM2	**Oshima 3**	**0.78**	**290**	P		**Pn**	**09 08 20.9**	**+0.4**
JIM2				*e*S		**Sn**	**09 08 32.1**	**-0.3**
JCN	**Nagara**	**0.96**	**354**	⇑P		**Pb**	**09 08 22.2**	**0.0**
JCN				*e*S		**Sb**	**09 08 35.1**	**0.0**
JKO	**Kozu shima**	**1.01**	**255**	P		**Pn**	**09 08 25.3**	**+1.5**
JKO				*e*S		**Sn**	**09 08 39.6**	**+1.4**
KTJJ	**Kamata 2**	**1.13**	**295**	⇓P		**Pb**	**09 08 25.7**	**+0.6**
JIZS	**Izushimoda**	**1.22**	**283**	⇓P		**Pn**	**09 08 27.4**	**+0.9**
JOD2	**Odawara 2**	**1.29**	**309**	⇓P		**Pg**	**09 08 27.8**	**-0.3**
JOD2				S		**Sg**	**09 08 44.0**	**-0.8**
JHJ	**Hachijo jima 2**	**1.41**	**199**	Pn		**Pb**	**09 08 30.4**	**+0.6**
	136nm,0.3s,baz=322,slow=13,SNR=34							
JHJ				Sn		**Sb**	**09 08 46.1**	**-1.7**
	137nm,0.3s,baz=252,slow=20,SNR=20							
MJAR	**Matsushiro Arr**	**2.70**	**321**	Pn		**Pn**	**09 08 47.9**	**+1.0**
	7.3nm,0.3s,baz=156,slow=13,SNR=58							
MJAR				Sn		**Sn**	**09 09 20.2**	**+0.4**
	20nm,0.3s,baz=130,slow=22,SNR=13							
MAT	**Matsushiro**	**2.70**	**321**	P		**Pn**	**09 08 48.2**	**+1.2**
MAT				S		**Sn**	**09 09 18.8**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**27.73**	**115**	T		T	09 43 01.8	
	baz=307,slow=74,SNR=46							
H11N1	**WAKE ISLAND Hy**	**27.74**	**115**	T		T	09 43 02.9	
	baz=307,slow=74							
H11N3	**WAKE ISLAND Hy**	**27.75**	**115**	T		T	09 43 03.1	
	baz=307,SNR=28							
H11S3	**WAKE ISLAND Hy**	**28.34**	**117**	T		T	09 43 52.4	
	baz=311,slow=76,SNR=20							
H11S1	**WAKE ISLAND Hy**	**28.34**	**117**	T		T	09 43 50.4	
	baz=311,slow=76,SNR=25							
H11S2	**WAKE ISLAND Hy**	**28.35**	**117**	T		T	09 43 52.9	
	baz=311,slow=76,SNR=17							
MKAR	**Makanchi Array**	**44.78**	**304**	P		**P**	**09 16 16.9**	**-0.4**
	0.4nm,0.5s,baz=83,slow=9.8,SNR=3.6							
WRA	**Warramunga Arr**	**54.40**	**187**	P		**P**	**09 17 30.2**	**-0.5**
	1.6nm,0.5s,baz=5.3,slow=7.7,SNR=27							
ASAR	**Alice Springs**	**58.12**	**187**	P		**P**	**09 17 56.9**	**-0.5**
	0.8nm,1.1s,baz=1.4,slow=7.4,SNR=3.5							

*NEIC **24** 09:30:53.9, 43.66°S×172.98°E, h2km, ML4.0(WEL), After WEL.*
NEIC Felt in Canterbury.
WEL 24 09:30:56.9±0.3, 43.66°S×172.87°E, h5km, ML3.9/21, 2C, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.17**	**254**	⇑PG		Pg	09 31 00.6	+0.4
MQZ				SG		Sg	09 31 02.9	+0.5
MQZ				AML		AML	09 31 03.6	
MQZ	**McQueen's Vall**	**0.17**	**254**	Pg		Pg	09 30 58.7	-1.4
MQZ				Sg		Sg	09 31 02.8	+0.5
CRLZ	**Canterbury Las**	**0.20**	**295**	PG		Pg	09 31 00.7	-0.1
CRLZ				AML		AML	09 31 06.3	
CRLZ				AML		AML	09 31 07.6	
CRLZ	**Canterbury Las**	**0.20**	**295**	Pg		Pg	09 30 58.9	-1.9
OXZ	**Oxford**	**0.69**	**299**	⇑P*		Pg	09 31 10.2	0.0
OXZ				SG		Sg	09 31 19.9	+0.7
OXZ	**Oxford**	**0.69**	**299**	P*		Pg	09 31 08.2	-2.0
OXZ				Sg		Sb	09 31 20.8	-0.5
RPZ	**Rata Peaks**	**1.32**	**267**	P*		Pn	09 31 20.9	-1.1
RPZ				AML		AML	09 31 40.7	
RPZ				AML		AML	09 31 40.9	
RPZ	**Rata Peaks**	**1.32**	**267**	Pn		Pn	09 31 19.2	-2.8
KHZ	**Kahutara**	**1.34**	**22**	P*		Pn	09 31 21.0	-1.2
KHZ	**Kahutara**	**1.34**	**22**	P*		Pn	09 31 19.3	-2.9
INZ	**Inchbonnie**	**1.40**	**311**	PN		Pn	09 31 22.9	-0.2
WVZ	**Waitaha Valley**	**1.67**	**290**	PN		Pn	09 31 25.7	-1.0
WVZ				AML		AML	09 31 48.6	
WVZ				AML		AML	09 31 58.9	
WVZ	**Waitaha Valley**	**1.67**	**290**	Pn		Pn	09 31 24.1	-2.6
THZ	**Tophouse**	**1.90**	**1**	PN		Pn	09 31 28.8	-1.2
THZ				AML		AML	09 31 57.8	
THZ				AML		AML	09 32 01.7	
THZ	**Tophouse**	**1.90**	**1**	Pn		Pn	09 31 28.8	-1.2
LBZ	**Lake Benmore**	**2.07**	**249**	PN		Pn	09 31 31.5	-0.8
LBZ				AML		AML	09 32 09.2	
LBZ				AML		AML	09 32 10.8	
LBZ	**Lake Benmore**	**2.07**	**249**	Pn		Pn	09 31 31.5	-0.8
DSZ	**Denniston Nort**	**2.07**	**337**	AML		AML	09 32 01.7	
DSZ				AML		AML	09 32 01.7	
DSZ				AML		AML	09 32 02.3	
DSZ				AML		AML	09 32 02.4	
DSZ	**Denniston Nort**	**2.07**	**337**	Pn		Pn	09 31 31.5	-0.8
BSWZ	**Blackbirch Sta**	**2.08**	**21**	PN		Pn	09 31 31.5	-0.9
BSWZ				AML		AML	09 32 01.9	
BSWZ				AML		AML	09 32 15.3	
BSWZ	**Blackbirch Sta**	**2.08**	**21**	Pn		Pn	09 31 31.5	-0.9
ODZ	**Otahua Downs**	**2.11**	**228**	PN		Pn	09 31 32.2	-0.7
ODZ				AML		AML	09 32 08.6	
ODZ				AML		AML	09 32 09.9	
ODZ				AML		AML	09 32 14.7	
ODZ				AML		AML	09 32 16.8	
ODZ	**Otahua Downs**	**2.11**	**228**	Pn		Pn	09 31 30.6	-2.3
FOZ	**Fox Glacier**	**2.23**	**272**	PN		Pn	09 31 34.9	+0.5
FOZ				AML		AML	09 32 13.8	
FOZ				AML		AML	09 32 18.8	
FOZ	**Fox Glacier**	**2.23**	**272**	Pn		Pn	09 31 33.3	-1.1
TUWZ	**Tuamarina**	**2.37**	**20**	Pn		Pn	09 31 35.7	-0.6
NNZ	**Nelson**	**2.47**	**9**	PN		Pn	09 31 36.9	-0.8
NNZ				AML		AML	09 32 44.6	
NNZ	**Nelson**	**2.47**	**9**	Pn		Pn	09 31 37.0	-0.8
TCW	**Tory Channel**	**2.66**	**23**	AML		AML	09 32 30.4	
HHSZ	**Highcliff Hill**	**2.75**	**215**	PN		Pn	09 31 40.8	-0.8
HHSZ	**Highcliff Hill**	**2.75**	**215**	Pn		Pn	09 31 40.8	-0.8
QRZ	**Quartz Range**	**2.84**	**355**	PN		Pn	09 31 42.5	-0.4
QRZ				AML		AML	09 32 30.9	
QRZ				AML		AML	09 32 36.7	
QRZ	**Quartz Range**	**2.84**	**355**	Pn		Pn	09 31 42.5	-0.4
JCZ	**Jackson Bay**	**2.98**	**261**	PN		Pn	09 31 45.4	+0.4
JCZ				AML		AML	09 32 38.8	
JCZ				AML		AML	09 32 48.1	
JCZ	**Jackson Bay**	**2.98**	**261**	Pn		Pn	09 31 44.0	-1.0
EAZ	**Earnscleugh**	**3.00**	**237**	PN		Pn	09 31 44.1	-0.9
EAZ				AML		AML	09 32 40.8	
EAZ				AML		AML	09 32 44.7	
EAZ	**Earnscleugh**	**3.00**	**237**	Pn		Pn	09 31 44.1	-0.9
WKZ	**Wanaka**	**3.01**	**246**	PN		Pn	09 31 45.1	0.0
WKZ				AML		AML	09 32 44.6	
WKZ				AML		AML	09 32 50.2	
WKZ	**Wanaka**	**3.01**	**246**	Pn		Pn	09 31 45.1	0.0
CAW	**Cannon Point**	**3.03**	**33**	PN		Pn	09 31 43.8	-1.6
CAW				AML		AML	09 32 22.3	
CAW	**Cannon Point**	**3.03**	**33**	Pn		Pn	09 31 43.8	-1.6
TUZ	**Tuapeka**	**3.25**	**224**	PN		Pn	09 31 47.0	-1.5
TUZ				AML		AML	09 32 51.3	
TUZ				AML		AML	09 32 53.7	
TUZ	**Tuapeka**	**3.25**	**224**	Pn		Pn	09 31 47.0	-1.5
MRZ	**Mangatainoka R**	**3.61**	**35**	Pn		Pn	09 31 51.4	-2.1
MSZ	**Milford Sound**	**3.70**	**252**	AML		AML	09 33 04.1	
MSZ				AML		AML	09 33 07.7	
MLZ	**Mavora Lakes**	**3.80**	**242**	AML		AML	09 33 15.2	
SYZ	**Scrubby Hill**	**3.91**	**221**	PN		Pn	09 31 57.4	-0.1
SYZ				AML		AML	09 33 14.9	
SYZ				AML		AML	09 33 21.5	
SYZ	**Scrubby Hill**	**3.91**	**221**	Pn		Pn	09 31 57.4	-0.1

IDC 24 09:31:44.8±4.0, 53.59°N×87.79°E, h0km, mb1 2.9/2, mb1mx2.8/50, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=39.2km s-min=18.4km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**283**	*i*			09 43 10.0	
	baz=101,slow=327,SNR=2.1							
ZALV	**Zalesovo Beam**	**1.80**	**283**	Pg		Pn	09 32 16.9	-0.1
	1.6nm,0.3s,baz=101,slow=14,SNR=8.9							
ZALV				Lg		Lg	09 32 41.9	
	4.3nm,0.3s,baz=95,slow=16,SNR=12							
KURBB	**Kurchatov Arra**	**6.43**	**246**	Pn		Pn	09 33 21.5	+0.9
	0.1nm,0.3s,baz=61,slow=14,SNR=5.2							
MKAR	**Makanchi Array**	**7.66**	**210**	Pn		Pn	09 33 38.5	+1.0
	0.1nm,0.3s,baz=30,slow=14,SNR=2.6							

*MOS **24** 09:41:32.8±0.9, 52.17°N×171.75°W, h43km, mb5.0/54, Error ellipse: s-maj=7.8km s-min=5.1km az=87.1*
*BJI **24** 09:41:33.2, 52.63°N×171.96°W, h33km, mb5.1/36, mB5.0/25, Ms4.8/12, Ms7 4.5/12*
*ISCJB **24** 09:41:35.6±0.3, 52.10°N±0.03°×171.56°W±0.02, h73km±2km, mb4.7/142, Error ellipse: s-maj=4.7km s-min=2.1km az=168.9*
*IDC **24** 09:41:36.1±2.0, 52.16°N×171.63°W, h60km±16km, mb4.4/35, mb1 4.5/37, mb1mx4.4/49, mbtmp4.7/37, MS3.4/11, Ms1 3.4/11, ms1mx3.2/39, Error ellipse: s-maj=17.9km s-min=9.4km az=168.0*
*NEIC **24** 09:41:37.4±0.4, 52.20°N×171.66°W, h66km±3km, mb4.7/109, ML4.3(AEIC), Error ellipse: s-maj=5.7km s-min=2.4km az=169.0*
ISC 24 09:41:35.0±0.6, 52.07°N±0.07°×171.53°W±0.03, h52km±4km, n626, σ1°37°/675, mb4.7/144, MS3.5/12, 12C-4D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.59**	**278**	P		**Pn**	**09 42 02.8**	**+1.9**
KONE	**Korovin Northe**	**1.62**	**282**	P		**Pn**	**09 42 03.7**	**+2.5**
KOKV	**Korovin Volcan**	**1.65**	**281**	P		**Pn**	**09 42 04.1**	**+2.5**
KOKV				S		**Sn**	**09 42 25.0**	**+3.3**
KOKL	**Mount Kliuchef**	**1.66**	**280**	*e*Pn		**Pn**	**09 42 29.0**	**+2.0**
NIKH	**Nikolski High**	**1.87**	**60**	*e*Pn		**Pn**	**09 42 06.0**	**+1.5**
NIKH				*e*Sn		**Sn**	**09 42 29.0**	**+2.0**
OKAK	**Okmok**	**2.45**	**51**	*e*Pn		**Pn**	**09 42 14.6**	**+2.1**
GSMY	**Great Sitkin M**	**2.79**	**271**	*e*Pn		**Pn**	**09 42 18.4**	**+1.1**
GSTD	**Great Sitkin T**	**2.85**	**272**	*e*Pn		**Pn**	**09 42 19.2**	**+1.1**
GSTD				*e*Sn		**Sn**	**09 42 52.4**	**+1.3**
GSCK	**Great Sitkin C**	**2.86**	**271**	*e*Pn		**Pn**	**09 42 19.1**	**+1.0**
ETKA	**Kagalaska Isla**	**3.02**	**268**	*e*Pn		**Pn**	**09 42 21.4**	**+1.1**
ADAG	**Mount Adagdak**	**3.13**	**270**	*e*Pn		**Pn**	**09 42 23.6**	**+1.7**
MGOD	**Makushin Gods**	**3.31**	**57**	*e*Pn		**Pn**	**09 42 26.7**	**+2.5**
KIRH	**Kanaga Island**	**3.44**	**269**	*e*Pn		**Pn**	**09 42 28.1**	**+2.0**
KIKV	**Kanaga Island**	**3.49**	**269**	*e*Pn		**Pn**	**09 42 28.1**	**+1.3**
MTBL	**Makushin Table**	**3.49**	**55**	*e*Pn		**Pn**	**09 42 29.7**	**+2.9**
KICM	**Kanaga Island**	**3.50**	**270**	*e*Pn		**Pn**	**09 42 28.4**	**+1.4**
UNV	**Unalaska Valle**	**3.52**	**58**	*e*Pn		**Pn**	**09 42 29.4**	**+2.3**
UNV				*e*Sn		**Sn**	**09 43 10.4**	**+2.9**
TAPA	**Tanaga Point A**	**3.90**	**269**	*e*Pn		**Pn**	**09 42 33.6**	**+1.3**
TAFL	**Tanaga Flats**	**3.96**	**268**	*e*Pn		**Pn**	**09 42 34.5**	**+1.3**
TAFP	**Tanaga Falls P**	**3.99**	**270**	*e*Pn		**Pn**	**09 42 35.1**	**+1.5**
AKUT	**Akutan**	**4.04**	**57**	*e*Pn		**Pn**	**09 42 36.9**	**+2.6**
AKUT				*e*Sn		**Sn**	**09 43 21.9**	**+1.6**
GANE	**Gareloi Northe**	**4.49**	**270**	P		**Pn**	**09 42 42.2**	**+1.7**
SPIA	**Saint Paul Isl**	**5.17**	**8**	*e*Pn		**Pn**	**09 42 53.4**	**+3.6**
SPIA				*e*Sn		**Sn**	**09 43 47.0**	**-1.0**
DT1	**Dutton Round H**	**6.29**	**57**	*e*Pn		**Pn**	**09 43 07.5**	**+2.4**
DTNA	**Dutton South F**	**6.32**	**57**	*e*Pn		**Pn**	**09 43 07.8**	**+2.2**
SDPT	**Sand Point**	**7.33**	**59**	*e*Pn		**Pn**	**09 43 21.2**	**+1.8**
SDPT				*e*Sn		**Sn**	**09 44 41.2**	**+0.1**
CHGN	**Chignik**	**8.78**	**56**	*e*Pn		**Pn**	**09 43 40.2**	**+1.1**
CHGN				*e*Sn		**Sn**	**09 45 16.2**	**-0.3**
SMY	**Shemya**	**8.81**	**280**	*e*P		**Pn**	**09 43 36.3**	**-3.3**
SMY				*e*			09 45 15.0	
SMY	**Shemya**	**8.81**	**280**	*e*Pn		**Pn**	**09 43 36.3**	**-3.3**
SMY				*e*Sn		**Sn**	**09 45 14.9**	**-2.5**
OHAK	**Old Harbor**	**11.74**	**57**	*e*Pn		**Pn**	**09 44 17.6**	**-2.0**
KDAK	**Kodiak Island**	**12.29**	**55**	*e*P		**Pn**	**09 44 25.2**	**-1.8**
KDAK				*e*			09 46 35.6	
KDAK	**Kodiak Island**	**12.29**	**55**	*e*Pn		**Pn**	**09 44 25.2**	**-1.8**
KDAK				*e*Sn		**Sn**	**09 46 35.6**	**-6.7**
SVW2	**Sparrevohn**	**12.58**	**38**	*e*Pn		**Pn**	**09 44 34.3**	**+3.3**
RSO	**Redoubt South**	**13.35**	**44**	*e*Pn		**Pn**	**09 44 43.0**	**+1.3**
HOM	**Homer**	**13.46**	**48**	*e*Pn		**Pn**	**09 44 43.9**	**+0.8**
HOM				*e*Sn		**Sn**	**09 47 11.1**	**+0.1**
CNPM	**China Poot**	**13.60**	**49**	*e*Pn		**Pn**	**09 44 44.5**	**-0.4**
CNPM				*e*Sn		**Sn**	**09 47 20.8**	**+6.6**
TT01	**Tatalina**	**13.64**	**31**	*e*Pn		**Pn**	**09 44 48.6**	**+3.1**
TTA	**Tatalina**	**13.66**	**31**	*e*P		**Pn**	**09 44 48.9**	**+3.0**
TTA	**Tatalina**	**13.66**	**31**	*e*Pn		**Pn**	**09 44 48.9**	**+3.0**
BRLK	**Bradley Lake**	**13.86**	**48**	*e*Pn		**Pn**	**09 44 49.4**	**+0.9**
BRLK				*e*Sn		**Sn**	**09 47 22.9**	**+2.3**
SPU	**Mount Spurr**	**14.02**	**42**	*e*Pn		**Pn**	**09 44 53.6**	**+2.9**
SEW	**Seward**	**14.66**	**48**	*e*Pn		**Pn**	**09 44 56.6**	**-2.4**
SEW				*e*Sn		**Sn**	**09 47 39.7**	**-0.2**
SUA	**Susitna One**	**14.71**	**42**	*e*Pn		**Pn**	**09 45 04.1**	**-0.7**
SUA				*e*Sn		**S**	**09 47 49.7**	**-8.1**
PPLA	**Purkeypile**	**14.95**	**36**	*e*Pn		Pn	09 44 56.7	-6.3
PPLA				*e*Sn		**Sn**	**09 47 45.8**	**-1.5**
RC01	**Rabbit Creek A**	**14.95**	**44**	*e*Pn		**Pn**	**09 45 02.1**	**-0.8**
RC01				*e*Sn		**Sn**	**09 47 46.0**	**-1.2**
CAST	**Castle Rocks**	**15.31**	**35**	*e*Pn		**P**	**09 45 09.7**	**-1.8**
	42nm,0.5s							
PMR	**Palmer**	**15.45**	**43**	*e*P		**Pn**	**09 45 09.1**	**-0.1**
PMR				*e*			09 48 00.9	
PMR				pmax	pmax			
	comp=Z,12nm,1.4s							
PMR	**Palmer**	**15.45**	**43**	*e*Pn		**Pn**	**09 45 09.1**	**-0.1**
	comp=Z,12nm,1.4s							
PMR				*e*Sn		**Sn**	**09 48 00.8**	**+1.8**
KTH	**Kantishna Hill**	**15.81**	**35**	*e*Pn		**P**	**09 45 15.9**	**-1.0**
	comp=Z,20nm,0.9s							
SML	**Sawmill**	**15.88**	**43**	*e*P		**Pn**	**09 45 14.7**	**-0.2**
SML				*e*			09 48 12.7	
SML				pmax	pmax			
	comp=Z,9.0nm,0.6s							
SML	**Sawmill**	**15.88**	**43**	*e*Pn		**Pn**	**09 45 14.7**	**-0.2**
	comp=Z,9.4nm,0.6s							
SML				*e*Sn		**Sn**	**09 48 12.7**	**+2.9**
MID	**Middleton Isla**	**15.90**	**53**	*e*P		**Pn**	**09 45 16.3**	**+1.2**
MID				pmax	pmax			
	comp=Z,112nm,0.7s							
MID	**Middleton Isla**	**15.90**	**53**	*e*Pn		**Pn**	**09 45 16.3**	**+1.2**
	comp=Z,112nm,0.7s							
TRF	**Thorofare Moun**	**15.97**	**36**	*e*Pn		**P**	**09 45 17.9**	**-1.0**
	comp=Z,14nm,0.9s							
BPAW	**Bear Paw Mtn.**	**16.12**	**34**	*e*Pn		**P**	**09 45 20.0**	**-0.4**
	comp=Z,60nm,0.8s							
BPAW				*e*Sn		**Sn**	**09 48 17.2**	**+1.7**
SCM	**Sheep Creek Mo**	**16.32**	**44**	*e*P		**Pn**	**09 45 19.4**	**-1.1**
SCM				*e*			09 48 21.7	
SCM				pmax	pmax			
	comp=Z,29nm,0.6s							
SCM	**Sheep Creek Mo**	**16.32**	**44**	*e*Pn		**Pn**	**09 45 19.4**	**-1.1**
	comp=Z,29nm,0.6s							
SCM				*e*Sn		**Sn**	**09 48 21.7**	**+1.3**
RND	**Reindeer**	**16.48**	**38**	*e*P		**Pn**	**09 45 22.5**	**0.0**
RND				pmax	pmax			
	comp=Z,30nm,1.2s							
RND	**Reindeer**	**16.48**	**38**	*e*Pn		**Pn**	**09 45 22.5**	**0.0**
	comp=Z,30nm,1.2s							
EYAK	**Cordova Ski Ar**	**16.53**	**49**	*e*Pn		**Pn**	**09 45 21.6**	**-1.5**
	comp=Z,9.5nm,0.9s							
MCK	**McKinley**	**16.63**	**37**	*e*P		**P**	**09 45 25.7**	**-0.3**
MCK				*e*			09 48 29.5	
MCK				pmax	pmax			
	comp=Z,12nm,0.8s							
MCK	**McKinley**	**16.63**	**37**	*e*Pn		**P**	**09 45 25.7**	**-0.3**
	comp=Z,12nm,0.8s							
MCK				*e*Sn		**Sn**	**09 48 29.5**	**+1.7**
BWN	**Browne**	**16.70**	**35**	*e*Pn		**P**	**09 45 27.4**	**+0.7**
	comp=Z,29nm,0.9s							
DIV	**Divide**	**16.73**	**47**	*e*Pn		**Pn**	**09 45 25.1**	**-0.4**
	comp=Z,8.7nm,0.6s							
DIV				*e*Sn		**Sn**	**09 48 30.3**	**+0.1**
KLU	**Klutina**	**16.80**	**46**	*e*Pn		**Pn**	**09 45 24.6**	**-1.8**
	comp=Z,12nm,0.4s							
KLU				*e*Sn		**Sn**	**09 48 26.0**	**-5.8**
MLY	**Manley**	**16.80**	**31**	*e*P		**P**	**09 45 29.2**	**+1.3**
	comp=Z,15nm,0.7s							
DHY	**Denali Highway**	**16.88**	**40**	*e*Pn		**Pn**	**09 45 28.1**	**+0.5**
	comp=

YKA pmax pmax
YKA MLR MLR
comp=Z,11nm,18.2s
YKB5 Yellowknife Ar 31.44 48 *e*P **P** 09 47 52.0 +1.0
TIXI Tiksi 32.31 329 P **P** 09 47 57.5 -1.0
comp=Z,1.1nm,0.3s,baz=107,slow=12,SNR=3.8
TIXI PcP **PcP** 09 50 44.9 -0.2
comp=Z,6.2nm,0.4s,baz=113,slow=4.9,SNR=13
TIXI Tiksi 32.31 329⇑ *e*P **P** 09 47 57.7 -0.8
TIXI pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 32.31 329 *e*P **P** 09 47 57.5 -1.0
TIXI *e*pP **pP** 09 48 14.8 +3.0
TIXI *e*PcP **PcP** 09 50 44.9 -0.2
YAK Yakutsk 32.37 311 P **P** 09 47 58.2 -0.8
comp=Z,18nm,0.4s,baz=256,slow=1.3,SNR=3.6
YAK Yakutsk 32.37 311⇓ *e*P **P** 09 47 58.5 -0.6
YAK pmax pmax
comp=Z,18nm,0.6s
YAK Yakutsk 32.37 311 *e*P **P** 09 47 58.6 -0.5
comp=Z,25nm,0.5s
B08A Colville Reser 33.01 75 *e*P **P** 09 48 04.4 -0.6
comp=Z,7.5nm,0.7s
HABR Khabarovsk 33.69 286 *de*P **P** 09 48 08.5 -2.3
HABR *e*'SP **pP** 09 48 22.5 -1.6
HABR *e* 09 49 21.7
HABR *e*PPP PPP 09 49 33.6
HABR *e* 09 50 46.8
HABR *e*S **S** 09 53 31.0 +1.0
HABR *e*'SS **sS** 09 53 47.3 -5.1
HABR *e*SS **SnSn** 09 55 38.8 +1.3
HABR *e*SSS SSS 09 55 55.6
HABR *e* 09 58 30.9
HABR pmax pmax
comp=E,31nm,1.5s
HABR pmax pmax
comp=N,21nm,1.5s
HABR pmax pmax
comp=Z,29nm,1.5s
HABR pmax pmax
comp=N,9.0nm,1.1s
HABR MLR MLR
comp=Z,69nm,16.0s
NEW Newport 34.37 74 P **P** 09 48 17.9 +1.1
baz=298
NEW Newport 34.37 74 *e*P **P** 09 48 18.8 +2.0
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 34.37 74 *e*P **P** 09 48 18.8 +2.0
comp=Z,8.2nm,0.8s
M04C Macdoel 34.82 87 P **P** 09 48 21.8 +0.9
baz=305
K05A Summer Lake 34.88 85 *e*P **P** 09 48 23.3 +1.9
comp=Z,13nm,0.6s
KLR Kul'dur 35.30 288 P **P** 09 48 23.1 -1.6
comp=Z,4.3nm,0.7s,baz=59,slow=9.4,SNR=13
KLR ScP **ScP** 09 54 33.1 -2.0
comp=Z,0.3nm,0.3s,baz=195,slow=6.1,SNR=3.8
WALA Waterton Lakes 35.90 71 *e*P **P** 09 48 30.1 0.0
comp=Z,4.4nm,0.7s
BSMT Bassoo Peak 35.95 74 *e*P **P** 09 48 32.2 +1.7
YBMT Yellow Bay 36.40 73 *e*P **P** 09 48 37.0 +2.6
H11N2 WAKE ISLAND Hy 36.41 216 T T 10 27 12.3
baz=21,slow=76,SNR=36
H11N3 WAKE ISLAND Hy 36.42 216 T T 10 27 12.5
baz=21,slow=76,SNR=28
H11N1 WAKE ISLAND Hy 36.43 216 T T 10 27 12.5
baz=21,slow=76,SNR=19
MSO Missoula 36.95 75 P **P** 09 48 39.6 +0.6
baz=300
MSO Missoula 36.95 75 *e*PcP **PcP** 09 50 59.7 +0.5
RES Resolute Bay 37.21 25 P **P** 09 48 40.7 0.0
comp=Z,4.2nm,0.5s,baz=286,slow=12,SNR=4.8
RES PcP **PcP** 09 50 59.8 +0.5
comp=Z,3.5nm,0.8s,baz=304,slow=3.6,SNR=4.3
RES Resolute Bay 37.21 25 *e*P **P** 09 48 40.9 +0.2
comp=Z,20nm,1.3s
CHMT Chamberlain Mo 37.32 74 *e*P **P** 09 48 43.2 +0.9
PAHR Pah Rah Range 37.55 88 *e*P **P** 09 48 45.9 +1.7
comp=Z,5.0nm,0.8s
MFID Camas Ranch 37.60 81 *e*P **P** 09 48 49.2 +4.6
comp=Z,4.1nm,0.6s
H11S1 WAKE ISLAND Hy 37.61 215 T T 10 28 43.5
baz=22,slow=76,SNR=80
H11S2 WAKE ISLAND Hy 37.62 215 T T 10 28 46.4
baz=22,slow=76,SNR=29
H11S3 WAKE ISLAND Hy 37.63 215 T T 10 28 46.7
baz=22,slow=76,SNR=18
USRK Ussuriysk Ar. 37.65 281 P **P** 09 48 43.4 -1.4
comp=Z,2.7nm,0.8s,baz=54,slow=9.7,SNR=5.4
USRK PcP **PcP** 09 51 00.9 -0.3
comp=Z,1.8nm,0.8s,baz=66,slow=4.6,SNR=4.1
PNTR Pine Nut 37.79 89 *e*P **P** 09 48 48.5 +2.2
comp=Z,11nm,0.7s
MJAR Matsushiro Arr 38.35 266 P **P** 09 48 49.9 -0.9
comp=Z,3.3nm,0.5s,baz=44,slow=6.2,SNR=7.8
HLID Hailey 38.38 79 *e*P **P** 09 48 53.6 +2.5
HLID *e*S **S** 09 54 47.0 +4.8
DLMT Dillon 38.51 76 *e*P **P** 09 48 52.8 +0.6
comp=Z,5.6nm,1.3s
DLMT *e*S **S** 09 54 47.2 +3.2
MCMT McKenzie Canyo 38.64 77 *e*P **P** 09 48 54.8 +1.4
TVH3 East Aurora ar 38.72 89 *e*P **P** 09 48 55.6 +1.4
comp=Z,3.7nm,0.9s
TVH3 *e*S **S** 09 54 47.7 +0.1
BOZ Bozeman (W) 38.93 75 *e*P **P** 09 48 57.3 +1.5
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 38.93 75 *e*P **P** 09 48 57.3 +1.5
comp=Z,5.6nm,0.6s
YHB Horse Butte 39.67 76 *e*P P 09 49 07.1 +5.0
comp=Z,9.3nm,1.0s
YMR Madison River 39.85 76 *e*P **P** 09 49 04.1 +0.6
comp=Z,9.7nm,0.9s
FFC Flin Flon 40.01 58 *e*P **P** 09 49 05.5 +1.1
FFC pmax pmax
comp=Z,8.0nm,0.6s
FFC Flin Flon 40.01 58 *e*P **P** 09 49 05.5 +1.1
comp=Z,7.7nm,0.6s
VES Vestal, Richgr 40.15 93 P **P** 09 49 07.0 +1.2
baz=311
YMS Mount Sheridan 40.34 76 *e*P **P** 09 49 11.3 +3.6
RLMT Red Lodge 40.62 74 P **P** 09 49 11.3 +1.4
baz=303
RLMT Red Lodge 40.62 74 *e*P **P** 09 49 12.2 +2.3
comp=Z,5.2nm,0.7s
ISA Isabella, Lake 40.65 92 P **P** 09 49 09.5 -0.5
baz=311
R11A Troy Canyon, C 40.72 87 P **P** 09 49 11.9 +1.2
baz=309
R11A Troy Canyon, C 40.72 87 *e*P **P** 09 49 12.2 +1.5
comp=Z,2.6nm,0.6s
MPMC Manual Prospec 41.00 91 P **P** 09 49 14.0 +1.0
baz=311
BOD Bodaibo 41.14 308 *e*P **P** 09 49 12.4 -1.3
BOD pmax pmax
comp=Z,11nm,0.9s
TPNV Topopah Spring 41.19 89 P **P** 09 49 15.3 +0.8
baz=310
TPNV Topopah Spring 41.19 89 *e*P **P** 09 49 16.4 +1.8
TPNV pmax pmax
comp=Z,5.0nm,0.6s
TPNV Topopah Spring 41.19 89 *e*P **P** 09 49 16.4 +1.8
comp=Z,5.2nm,0.6s
DUG Dugway, Tooele 41.30 83 P **P** 09 49 15.9 +0.6
baz=307
DUG Dugway, Tooele 41.30 83 *e*P **P** 09 49 18.9 +3.5
DUG Dugway, Tooele 41.30 83 *e*P **P** 09 49 18.9 +3.5
LAO LASA Array 41.57 71 P **P** 09 49 18.6 +1.2
baz=303
LAO LASA Array 41.57 71 *e*P **P** 09 49 19.3 +1.8
comp=Z,8.8nm,0.8s
BW06 Boulder Array 41.77 77 P **P** 09 49 19.9 +0.6
baz=305
BW06 Boulder Array 41.77 77 *e*P **P** 09 49 20.6 +1.3
PD31 Pinedale Array 41.77 77 *e*P **P** 09 49 20.5 +1.2
PDAR Pinedale Array 41.77 77 P **P** 09 49 20.5 +1.2
comp=Z,1.7nm,0.5s,baz=316,slow=4.1,SNR=8.3
PDAR ScP **ScP** 09 54 58.5 -1.8
comp=Z,0.8nm,0.8s,baz=302,slow=2.8,SNR=4.8
GSC Goldstone, Bar 41.91 91 P **P** 09 49 21.2 +0.9
baz=311
GSC Goldstone, Bar 41.91 91 *e*P **P** 09 49 21.3 +0.9
GSC Goldstone, Bar 41.91 91 *e*P **P** 09 49 21.3 +0.9
BFSC Mount Baldy Ra 42.09 93 P **P** 09 49 22.2 +0.3
baz=312
FCC Fort Churchill 42.15 49 *e*P **P** 09 49 22.9 +1.1
FCC pmax pmax
comp=Z,16nm,0.8s
FCC Fort Churchill 42.15 49 *e*P **P** 09 49 22.9 +1.1
comp=Z,16nm,0.8s
A25A Svangstu Ranch 42.16 66 P **P** 09 49 22.5 +0.3
baz=302
HIA Hailar 42.17 295 *e*P **P** 09 49 21.6 -0.6
HIA pmax pmax
comp=Z,44nm,0.6s
HIA Hailar 42.17 295 *e*P **P** 09 49 21.6 -0.6
comp=Z,44nm,0.6s
B25A Knox Farm, Ray 42.49 67 P **P** 09 49 24.6 -0.2
baz=302
CCUT Cedar City 42.59 86 *e*P **P** 09 49 27.5 +1.4
comp=Z,1.9nm,0.8s
MSU Marysvale 42.72 84 *e*P **P** 09 49 28.9 +1.8
MSU Marysvale 42.72 84 *e*P **P** 09 49 28.9 +1.8
A26A Wade Farm, Ken 42.79 65 P **P** 09 49 27.9 +0.6
baz=302
TMUT Trail Mountain 42.83 83 *e*P **P** 09 49 30.7 +2.7
comp=Z,9.9nm,0.6s
PFO Pinyon Flats O 43.24 93 P **P** 09 49 31.4 +0.2
baz=313
KNB Kanab 43.26 86 *e*P **P** 09 49 31.8 +0.4
KNB pmax pmax
comp=Z,13nm,1.7s
KNB Kanab 43.26 86 *e*P **P** 09 49 31.8 +0.4
comp=Z,13nm,1.7s
SRU San Rafael Swe 43.36 82 *e*P **P** 09 49 34.0 +1.8
SRU pmax pmax
comp=Z,13nm,1.2s
SRU San Rafael Swe 43.36 82 *e*P **P** 09 49 34.0 +1.8
comp=Z,13nm,1.2s
IRM Iron Mountain 43.69 91 P **P** 09 49 35.4 +0.7
baz=312
A28A Rude Farm, Bot 43.78 65 P **P** 09 49 36.2 +0.9
baz=303
BC3 Big Chuckawall 43.84 92 P **P** 09 49 36.7 +0.7
baz=313
W13A Hualapai Mount 43.84 89 *e*P **P** 09 49 37.3 +1.1
comp=Z,3.3nm,0.8s
E26A Carlson Angus 43.86 69 P **P** 09 49 36.7 +0.7
baz=304
U15A North Rim 43.96 87 *e*P **P** 09 49 39.1 +1.9
comp=Z,9.5nm,1.2s
B28A Dugan Ranch, T 43.97 65 P **P** 09 49 37.0 +0.2
baz=303
IKP In-Ko-Pah, Jac 44.11 94 P **P** 09 49 38.9 +0.7
baz=313
KSRS Korea Array 44.11 275 P **P** 09 49 38.2 +0.2
comp=Z,8.0nm,0.9s,baz=55,slow=7.8,SNR=24
KSRS LR LR 10 08 54.6
comp=Z,11nm,20.0s,baz=10,slow=37
KS01 Wonju Array Si 44.12 275 *e*P **P** 09 49 38.0 -0.1
O20A White River Ci 44.12 80 *e*P **P** 09 49 39.2 +0.8
comp=Z,15nm,0.6s
KS15 Wonju Array Si 44.15 275 *e*P **P** 09 49 38.4 +0.1
PDMCI Parker Dam,Lak 44.21 90 P **P** 09 49 39.6 +0.7
baz=312
H25A Fruitdale 44.24 72 P **P** 09 49 39.7 +0.6
baz=305
RSSD Black Hills 44.27 72 P **P** 09 49 39.3 -0.3
baz=306
RSSD Black Hills 44.27 72 *e*P **P** 09 49 40.3 +0.8
RSSD pmax pmax
comp=Z,6.0nm,0.6s
RSSD Black Hills 44.27 72 *e*P **P** 09 49 40.3 +0.8
comp=Z,5.6nm,0.6s
A29A Manning Farm, 44.34 64 P **P** 09 49 40.2 +0.4
baz=303
B29A Wagenman Farm, 44.52 65 P **P** 09 49 41.5 +0.3
baz=303
PV10 Paradox Valley 44.72 82 *e*P **P** 09 49 45.2 +2.0
MDND Maddock 44.73 66 P **P** 09 49 43.2 +0.4
baz=304
MDND Maddock 44.73 66 *e*P **P** 09 49 44.0 +1.2
comp=Z,20nm,1.1s
N23A Red Feather La 45.05 77 *e*P **P** 09 49 47.9 +2.1
comp=Z,6.2nm,0.5s
B30A Myrvik Farm, E 45.10 64 P **P** 09 49 46.1 +0.3
baz=304
WUAZ Wupatki 45.12 87 P **P** 09 49 46.8 +0.5
baz=311
WUAZ Wupatki 45.12 87 *e*P **P** 09 49 48.0 +1.8
comp=Z,9.8nm,1.3s
JNU Nakatsue 45.13 269 P **P** 09 49 46.9 +0.7
comp=Z,9.9nm,0.8s,baz=46,slow=6.5,SNR=4.4
JNU Nakatsue 45.13 269 *e*P **P** 09 49 47.4 +1.1
TJN Taejon 45.15 275⇑ *e*P **P** 09 49 46.2 -0.1
Y14A Wickenburg 45.16 90 *e*P **P** 09 49 47.9 +1.4
comp=Z,16nm,0.9s
PV01 Paradox Valley 45.16 82 *e*P **P** 09 49 47.6 +1.0
C30A Mose, Pekin 45.44 65 P **P** 09 49 48.7 +0.3
baz=304
ULM Lac du Bonnet 45.46 61 P **P** 09 49 48.4 -0.2
comp=Z,3.0nm,0.3s,baz=310,slow=5.4,SNR=8.2
ULM Lac du Bonnet 45.46 61 *e*P **P** 09 49 49.9 +1.3
ULM pmax pmax
comp=Z,5.0nm,0.8s
ULM Lac du Bonnet 45.46 61 *e*P **P** 09 49 49.9 +1.3
comp=Z,4.7nm,0.8s
SMCO Snowmass 45.48 80 *e*P **P** 09 49 52.5 +3.1
comp=Z,20nm,1.0s
B31A Greenbush Farm 45.49 64 P **P** 09 49 49.3 +0.4
baz=304
D30A Buchanan 45.61 66 P **P** 09 49 49.9 0.0
baz=305,SNR=9.2
F29A Eureka 45.73 68 P **P** 09 49 51.0 +0.1
baz=305
MVCO Mesa Verde 45.79 83 P **P** 09 49 52.0 +0.3
baz=310
MVCO Mesa Verde 45.79 83 *e*P **P** 09 49 52.6 +0.9
C31A Landman Farms, 45.80 65 P **P** 09 49 51.6 +0.3
baz=304
X16A Lo Mia Camp, P 45.80 88 *e*P **P** 09 49 54.0 +2.3
comp=Z,3.3nm,0.6s
A32A Rocking H Ranc 45.86 63 P **P** 09 49 52.1 +0.3
baz=304
E30A Jud 45.87 67 P **P** 09 49 52.2 +0.3
baz=305
ISCO Idaho Springs 45.92 78 *e*P **P** 09 49 55.1 +2.4
ISCO Idaho Springs 45.92 78 *e*P **P** 09 49 55.1 +2.4
B32A Ashes, Strandq 46.13 63 P **P** 09 49 53.4 -0.4
baz=304
D31A Mcclaflin, Tow 46.23 65 P **P** 09 49 54.6 -0.1
baz=305
KULLO Kullorsuaq 46.36 20 *i* P **P** 09 49 56.1 +0.8
KULLO pmax pmax
comp=Z,18nm,0.8s
KULLO Kullorsuaq 46.36 20 *i* P **P** 09 49 56.1 +0.8
comp=Z,18nm,0.8s
E31A Nome 46.42 66 P **P** 09 49 55.7 -0.5
baz=305
A33A Warroad 46.45 62 P **P** 09 49 56.7 +0.3
baz=304,SNR=7.0
C32A Crookston 46.45 64 P **P** 09 49 56.2 -0.2
baz=305
I29A Vivian Onida 46.52 70 P **P** 09 49 57.2 +0.2
baz=307
G30A Faulkton 46.53 68 P **P** 09 49 56.8 -0.4
baz=306
AGMN Agassiz Nation 46.55 63 P **P** 09 49 56.6 -0.6
baz=305
AGMN Agassiz Nation 46.55 63 *e*P **P** 09 49 57.5 +0.3
comp=Z,5.3nm,0.7s
B33A Robert and Kas 46.72 63 P **P** 09 49 58.7 +0.2
baz=305
Q24A Divide 46.72 79 P **P** 09 49 59.1 +0.1
baz=309
E32A Braaten, Kindr 46.86 66 P **P** 09 49 59.5 -0.1
baz=306
C33A Trail 46.91 64 P **P** 09 50 00.1 0.0
baz=305
SUSD Miller 47.05 69 P **P** 09 50 00.9 -0.3
baz=307
B34A Aery, Baudette 47.11 62 P **P** 09 50 01.6 +0.1
baz=305,SNR=11
D33A AnnSam, Waubun 47.23 64 P **P** 09 50 02.5 0.0
baz=306,SNR=8.2
F32A Veblen 47.25 66 P **P** 09 50 02.6 -0.1
baz=306
SDCO Great Sand Dun 47.28 80 P **P** 09 50 03.6 +0.2
baz=310
SDCO Great Sand Dun 47.28 80 *e*P **P** 09 50 05.0 +1.6
comp=Z,3.0nm,0.6s
H31A Wolsey 47.30 69 P **P** 09 50 03.4 +0.2
baz=307
OGNE Ogallala 47.36 75 P **P** 09 50 03.5 -0.2
baz=308
J30A Dallas 47.40 71 P **P** 09 50 04.7 +0.7
baz=307
C34A RKJ Ranch, Bem 47.45 63 P **P** 09 50 04.4 +0.1
baz=306
E33A Westby DABS, E 47.51 65 P **P** 09 50 04.5 -0.2
baz=306
I31A Royce, Wessing 47.53 69 P **P** 09 50 05.2 +0.2
baz=307
D34A Park Rapids 47.62 64 P **P** 09 50 05.6 0.0
baz=306,SNR=24
TUC Tucson 47.63 90 P **P** 09 50 05.9 0.0
baz=314
B35A Bob, Littlefor 47.69 62 P **P** 09 50 05.8 -0.2
baz=306
K30A Basset 47.73 71 P **P** 09 50 06.9 +0.4
baz=308,SNR=5.9
J31A Geddes 47.86 70 P **P** 09 50 07.5 0.0
baz=308
H32A Carlson Farm, 47.88 68 P **P** 09 50 07.5 -0.1
baz=307
C35A Jirik Farms, M 47.93 63 P **P** 09 50 07.7 -0.2
baz=306
E34A Wadena 47.97 65 P **P** 09 50 08.2 -0.1
baz=306
G33A Ortonville 48.04 67 P **P** 09 50 08.7 -0.1
baz=307
H33A Prehn Over Nor 48.17 67 P **P** 09 50 09.9 0.0
baz=307,SNR=7.0
D35A Remer 48.25 63 P **P** 09 50 10.8 +0.4
baz=306,SNR=10
J32A Parkston 48.33 70 P **P** 09 50 11.0 -0.1
baz=308
T25A Trinidad 48.34 80 *e*P **P** 09 50 13.5 +2.0
comp=Z,9.4nm,1.1s
F34A Alexandria 48.35 65 P **P** 09 50 10.9 -0.2
baz=307
E35A Pequot Lakes 48.37 64 P **P** 09 50 11.9 +0.5
baz=307,SNR=7.9
ANMO Albuquerque 48.52 84 P **P** 09 50 12.9 0.0
baz=312
ANMO Albuquerque 48.52 84 *e*P **P** 09 50 17.0 +4.1
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 48.52 84 *e*P **P** 09 50 17.0 +4.1
comp=Z,2.9nm,1.1s
C36A Pine Crest Far 48.52 62 P **P** 09 50 12.4 -0.1
baz=306
D36A Goodland 48.69 63 P **P** 09 50 13.9 +0.1
baz=307
F35A Swanville 48.69 65 P **P** 09 50 13.7 -0.1
baz=307
K32A Verdigre 48.69 70 P **P** 09 50 13.9 0.0
baz=308
H34A Spellman Lake, 48.73 67 P **P** 09 50 13.7 -0.5
baz=308
ECSD EROS Data Cent 48.82 68 P **P** 09 50 14.7 -0.1
baz=308,SNR=8.7
ECSD EROS Data Cent 48.82 68 *e*P **P** 09 50 14.6 -0.3
comp=Z,4.7nm,0.6s
J33A Davis 48.87 69 P **P** 09 50 15.0 -0.3
baz=308
C37A Embarrass 48.89 62 P **P** 09 50 15.4 0.0
baz=307
E36A McGregor 49.03 64 P **P** 09 50 16.5 +0.1
baz=307,SNR=10.0
D37A Cotton 49.10 62 P **P** 09 50 16.6 -0.4
baz=307
G35A Watkins 49.13 66 P **P** 09 50 17.2 0.0
baz=308
EYMN Ely 49.14 61 P **P** 09 50 17.2 0.0
baz=307
EYMN Ely 49.14 61 *e*P **P** 09 50 18.0 +0.8
comp=Z,5.1nm,0.8s
H35A Sunnyside Ranc 49.25 66 P **P** 09 50 18.0 -0.1
baz=308
F36A Milaca 49.27 64 P **P** 09 50 18.1 -0.2
baz=308
BGNE Belgrade 49.37 72 P **P** 09 50 19.3 +0.2
baz=309,SNR=7.0
BGNE Belgrade 49.37 72 *e*P **P** 09 50 19.7 +0.6
comp=Z,80nm,0.4s
C38A Sawbill Land. 49.40 61 P **P** 09 50 19.0 -0.2
baz=307
TLY Talaya 49.43 305 P **P** 09 50 19.5 +0.1
comp=Z,10nm,0.7s,baz=22,slow=5.9,SNR=17
TLY PcP **PcP** 09 51 41.0 +0.1
comp=Z,2.6nm,0.5s,baz=333,slow=4.5,SNR=4.0
I35A Creekview Farm 49.68 67 P **P** 09 50 21.6 +0.2
baz=308
N32A Stulken Farm, 49.69 73 P **P** 09 50 21.6 +0.1
baz=310
K34A Le Mars 49.76 69 P **P** 09 50 22.4 +0.4
baz=309
M33A Taylor Creek F 49.82 71 P **P** 09 50 23.0 +0.5
baz=309
H36A Jessenland, He 49.83 66 P **P** 09 50 23.5 +1.0
baz=308,SNR=11
J35A Milford 49.85 68 P **P** 09 50 22.6 -0.1
baz=309
ULN Ulaanbaatar 49.93 300 *di* P **P** 09 50 23.2 -0.3
ULN pmax pmax
comp=Z,17nm,1.0s
C39A Grand Marais 49.95 61 P **P** 09 50 23.4 0.0
baz=307
L34A Svendsen Farm, 50.05 70 P **P** 09 50 24.1 -0.1
baz=309
SPMN Marine on St. 50.06 65 P **P** 09 50 24.2 -0.1
baz=308
SPMN Marine on St. 50.06 65 *e*P **P** 09 50 24.7 +0.4
comp=Z,7.4nm,0.5s
I36A Fitzsimmons Fa 50.13 67 P **P** 09 50 24.7 -0.1
baz=309
P32A Huiting Farm, 50.23 74 P **P** 09 50 25.6 0.0
baz=310,SNR=5.5
K35A Storm Lake 50.24 69 P **P** 09 50 25.4 -0.3
baz=309
DAG Danmarks Havn 50.27 8⇑ *i*P **P** 09 50 24.7 -0.7
DAG pmax pmax
comp=Z,12nm,0.8s
DAG Danmarks Havn 50.27 8⇑ *i*P **P** 09 50 24.7 -0.7
comp=Z,16nm,0.8s
SONA1 Songino Array 50.29 300 *e*P **P** 09 50 25.8 -0.4
SONA0 Songino Array 50.30 300 *e*P **P** 09 50 26.3 +0.1
comp=Z,9.9nm,0.8s
SONA0 *e*PcP **PcP** 09 51 43.7 -0.6
SONM Songino Array 50.30 300 P **P** 09 50 26.3 +0.1
comp=Z,7.7nm,0.8s,baz=52,slow=7.4,SNR=28
SONM PcP **PcP** 09 51 43.7 -0.6
comp=Z,3.1nm,0.7s,baz=48,slow=2.7,SNR=6.8
SONM ScP **ScP** 09 55 35.6 0.0
comp=Z,0.7nm,0.7s,baz=76,slow=2.8,SNR=3.9
SONM LR LR 10 15 04.3
comp=Z,54nm,18.5s,baz=91,slow=40
ZAK Zakamensk 50.39 304 *e*P **P** 09 50 26.1 -0.7
ZAK *e* 09 51 43.0
ZAK pmax pmax
comp=Z,10.0nm,1.3s
ZAK pmax pmax
comp=Z,7.0nm,0.9s
I37A Lemond, Waseca 50.48 66 P **P** 09 50 27.4 0.0
baz=309
O33A Hebron 50.54 73 P **P** 09 50 27.8 -0.2
baz=310,SNR=5.4
Q32A Meitler Ranch, 50.66 74 P **P** 09 50 29.3 +0.3
baz=311
N34A Lincoln 50.69 71 P **P** 09 50 29.1 0.0
baz=310
K36A Gilmore City 50.74 68 P **P** 09 50 29.4 0.0
baz=309
M35A Neola 50.76 70 P **P** 09 50 29.6 0.0
baz=310
J37A Redenius Farm, 50.83 67 P **P** 09 50 30.4 +0.2
baz=309
O34A Beatrice 51.00 72 P **P** 09 50 31.4 0.0
baz=310,SNR=5.1
I38A Scanlan Farm, 51.06 66 P **P** 09 50 32.0 +0.1
baz=309
Q33A Connelly Farm, 51.09 74 P **P** 09 50 32.1 0.0
baz=311
K37A Belmond 51.12 68 P **P** 09 50 32.2 -0.1
baz=310
N35A Tabor 51.18 71 P **P** 09 50 33.1 +0.4
baz=310
M36A Felix, Anita 51.29 70 P **P** 09 50 33.7 +0.1

baz=310
P34A Walnut Farm, R 51.33 73 P P 09 50 34.3 +0.3
baz=311
MNTX Cornudas Mount 51.38 86 *e*P P 09 50 36.0 +1.6
comp=Z,3.4nm,0.8s
J38A Wedel Dairy, R 51.44 66 P P 09 50 35.0 +0.4
baz=310
SUMG Summit 51.45 16⇑ *i*P P 09 50 35.1 +0.3
SUMG pmax pmax
comp=Z,20nm,0.7s
SUMG Summit 51.45 16⇑ *i*P P 09 50 35.1 +0.3
comp=Z,20nm,0.7s
SUMG Summit 51.45 16 *e*P P 09 50 34.7 -0.1
comp=Z,30nm,0.9s
L37A Phoenix Point, 51.47 68 P P 09 50 35.2 +0.4
baz=310
N36A Muff Farm, Cla 51.60 70 P P 09 50 36.3 +0.4
baz=310
Q34A Chapman 51.67 73 P P 09 50 36.7 +0.2
baz=311
K38A Parkersburg 51.69 67 P P 09 50 36.8 +0.2
baz=310
KSU1 Kansas State U 51.75 73 P P 09 50 37.4 +0.4
baz=311
M37A Trindle Farm, 51.75 69 P P 09 50 37.3 +0.2
baz=310
HHC Hu-ho-hao-te 51.78 290 *e*P P 09 50 38.3 +0.9
HHC pP pP 09 50 46.3 -5.0
HHC S S 09 57 57.5 +2.0
HHC PMZ
comp=Z,27nm,0.9s
HHC PMZ
comp=Z,60nm,7.6s
P35A Duane Minner, 51.82 72 P P 09 50 37.4 -0.2
baz=311,SNR=6.5
J39A Decorah 51.86 66 P P 09 50 37.7 -0.1
baz=310,SNR=7.6
R34A Isabella, Hill 51.89 74 P P 09 50 38.1 0.0
baz=311
L38A Oak Wood Farm, 51.91 68 P P 09 50 38.1 -0.1
baz=310,SNR=7.5
O36A Bolckow 52.04 71 P P 09 50 39.1 -0.1
baz=311,SNR=5.7
N37A Lee Faris, Mou 52.08 70 P P 09 50 39.8 +0.4
baz=310,SNR=9.9
T33A Patterson Ranc 52.10 76 P P 09 50 39.3 -0.4
baz=312
K39A Oelwein 52.16 67 P P 09 50 39.5 -0.5
baz=310
P36A Good Intent, A 52.23 72 P P 09 50 40.7 +0.1
baz=311
M38A Pleasantville 52.24 69 P P 09 50 40.3 -0.4
baz=310
L39A Vinton 52.47 67 P P 09 50 42.1 -0.2
baz=310
O37A Wolven Farm, M 52.50 70 P P 09 50 42.4 -0.1
baz=311,SNR=6.8
K40A Colesburg 52.59 66 P P 09 50 42.9 -0.2
baz=310
N38A Joes South For 52.62 69 P P 09 50 43.6 +0.1
baz=311
P37A Lathrop 52.76 71 P P 09 50 44.4 -0.1
baz=311
T34A McClaskey Farm 52.77 75 P P 09 50 44.6 0.0
baz=312
W32A Sentinel 52.80 79 P P 09 50 44.4 -0.5
baz=313
S35A Otter Creek Ra 52.85 74 P P 09 50 45.0 -0.3
baz=312
R36A Gordon, Harris 52.91 73 P P 09 50 45.7 +0.1
baz=312
O38A Galt 52.92 70 P P 09 50 45.7 0.0
baz=311
JFWS Jewell Farm 52.95 65 *e*P P 09 50 49.2 +3.3
JFWS pmax pmax
comp=Z,10.0nm,0.6s
JFWS Jewell Farm 52.95 65 *e*P P 09 50 49.2 +3.3
comp=Z,10nm,0.6s
U34A Anderson Ranch 52.95 76 P P 09 50 46.1 +0.1
baz=312,SNR=5.4
U34A Anderson Ranch 52.95 76 *e*P P 09 50 46.4 +0.4
comp=Z,20nm,0.6s
N39A Derby Farms, D 52.99 69 P P 09 50 45.9 -0.2
baz=311,SNR=7.0
P38A Dawn 53.21 71 P P 09 50 47.3 -0.5
baz=311,SNR=11
SFJD Kangerlussuaq 53.21 25 *i* P P 09 50 47.1 -0.3
SFJD pmax pmax
comp=Z,7.0nm,0.6s
SFJD Kangerlussuaq 53.21 25 *i* P P 09 50 47.1 -0.3
comp=Z,7.2nm,0.6s
T35A Sooner Cattle 53.24 75 P P 09 50 48.2 +0.1
baz=312
S36A Lake Cedric, C 53.25 74 P P 09 50 48.0 -0.1
baz=312
R37A Teagarden Farm 53.31 73 P P 09 50 48.2 -0.4
baz=312
WMOK Wichita Mounta 53.34 79 P P 09 50 48.5 -0.4
baz=313
WMOK Wichita Mounta 53.34 79 *e*P P 09 50 49.9 +1.0
WMOK pmax pmax
comp=Z,5.0nm,0.7s
WMOK Wichita Mounta 53.34 79 *e*P P 09 50 49.9 +1.0
comp=Z,4.6nm,0.7s
L41A Preston 53.35 66 P P 09 50 48.8 0.0
baz=311
O39A Kirksville 53.37 69 P P 09 50 49.0 0.0
baz=311
Q38A Cooks Store, C 53.60 71 P P 09 50 49.8 -0.9
baz=312
S37A Fort Scott 53.68 73 P P 09 50 50.8 -0.5
baz=312,SNR=5.6
P39B Salisbury 53.75 70 P P 09 50 51.4 -0.4
baz=312,SNR=5.4
O40A La Belle 53.84 69 P P 09 50 52.3 -0.1
baz=312
Q39A Willow Grove F 53.91 71 P P 09 50 52.3 -0.7
baz=312,SNR=6.8
R38A Fenwick Farm, 53.94 72 P P 09 50 51.8 -1.4
baz=312
T37A Cheneyville 18 54.05 74 P P 09 50 54.0 0.0
baz=312
LTX Lajitas 54.09 87 *e*P P 09 50 55.0 +0.5
LTX Lajitas 54.09 87 *e*P P 09 50 55.0 +0.5
TX31 Lajitas Ar. Si 54.09 87 *e*P P 09 50 55.0 +0.5
TXAR Lajitas Array 54.09 87 P P 09 50 55.0 +0.5
comp=Z,1.0nm,0.4s,baz=304,slow=6.1,SNR=31
TXAR ScP ScP 09 55 51.2 -1.0
comp=Z,1.0nm,0.8s,baz=285,slow=3.5,SNR=9.0
P40A Paris 54.13 70 P P 09 50 54.1 -0.5
baz=312,SNR=16
W35A Tecumseh 54.21 77 P P 09 50 55.5 +0.2
baz=313
ABTX Abilene, Hawle 54.26 81 *e*P P 09 50 59.8 +4.1
S38A Stockton 54.31 73 P P 09 50 55.2 -0.7
baz=312,SNR=6.2
U37A Salina 54.42 75 P P 09 50 56.4 -0.2
baz=313
O41A Passleys Farm, 54.42 68 P P 09 50 56.4 -0.2
baz=312
Q40A Laux Farm, Aux 54.47 70 P P 09 50 56.4 -0.6
baz=312,SNR=5.1
T38A Diamond 54.48 74 P P 09 50 56.4 -0.8
baz=313
Y34A Reagan Ranch, 54.49 79 P P 09 50 57.3 0.0
baz=314
P41A Barry, Barry 54.61 69 P P 09 50 57.6 -0.4
baz=312
W36A Wetumka 54.61 77 P P 09 50 57.7 -0.4
baz=313
S39A Bolivar 54.61 72 P P 09 50 57.2 -0.9
baz=312
133A Hamilton Ranch 54.72 81 P P 09 50 59.7 +0.7
baz=314
V37A Hulbert 54.76 75 P P 09 50 59.2 0.0
baz=313
U38A Gravette 54.83 74 P P 09 50 58.8 -0.9
baz=313
R40A Maddies Statio 54.83 71 P P 09 50 58.5 -1.1
baz=312,SNR=7.5
T39A Clever 55.03 73 P P 09 51 00.5 -0.6
baz=313,SNR=6.9
HDIL Hopedale 55.03 67 P P 09 51 00.7 -0.4
baz=312
HDIL Hopedale 55.03 67 *e*P P 09 51 00.9 -0.2
W37B Quinton 55.09 76 P P 09 51 00.7 -0.9
baz=313
V38A Canehill 55.21 75 P P 09 51 02.2 -0.3
baz=313
U39A Green Forest 55.40 74 P P 09 51 03.3 -0.5
baz=313,SNR=6.8
Q42A Golden Eagle 55.42 69 P P 09 51 03.8 -0.1
baz=312,SNR=7.0
Y36A Durant 55.42 78 P P 09 51 03.4 -0.6
baz=314
T40A Mansfield 55.45 72 P P 09 51 03.2 -1.0
baz=313
X37A Clayton 55.50 76 P P 09 51 05.0 +0.5
baz=314
333A Richland Sprin 55.56 82 P P 09 51 05.6 +0.5
baz=315
234A Clairette 55.61 81 P P 09 51 06.2 +0.9
baz=314,SNR=6.7
JCT Junction City 55.66 83 P P 09 51 05.5 -0.3
baz=315,SNR=5.1
V39A Pettigrew 55.67 74 P P 09 51 05.8 -0.1
baz=313
W38A Poteau 55.68 75 P P 09 51 06.4 +0.6
baz=314
U40A Yellville 55.79 73 P P 09 51 05.9 -0.8
baz=313
SCO Scoresbysund 55.80 12⇑ *i*P P 09 51 06.0 -0.1
SCO pmax pmax
comp=Z,17nm,0.6s
SCO Scoresbysund 55.80 12⇑ *i*P P 09 51 06.0 -0.1
comp=Z,17nm,0.6s
Q43A New Douglas 55.88 69 P P 09 51 07.5 +0.3
baz=313
T41A Mountain View 55.97 72 P P 09 51 07.4 -0.5
baz=313
334A Lometa 56.02 81 P P 09 51 08.6 +0.3
baz=315
W39A Magazine 56.03 75 P P 09 51 08.0 -0.3
baz=314
WHTX Lake Whitney, 56.03 80 P P 09 51 08.5 +0.2
baz=315
V40A Witts Springs 56.19 74 P P 09 51 08.9 -0.5
baz=314
Q44A Meyer Farm, Va 56.30 68 P P 09 51 10.3 +0.1
baz=313
X39A Fountain Ranch 56.30 76 P P 09 51 10.4 +0.1
baz=314
VLDQ Val d'Or 56.32 53 *e*P P 09 51 09.2 -1.0
434A Burnet 56.36 82 P P 09 51 10.9 +0.1
baz=315
SFIN Lafayette 56.40 66 P P 09 51 10.6 -0.2
baz=313
533A Kerrville 56.41 83 P P 09 51 10.9 -0.2
baz=315
SCHQ Schefferville 56.56 42 P P 09 51 12.2 +0.3
comp=Z,14nm,0.6s,baz=326,slow=7.0,SNR=18
SCHQ Schefferville 56.56 42 *e*P P 09 51 12.1 +0.3
comp=Z,15nm,0.7s
S43A Fulton Ridge, 56.59 70 P P 09 51 11.7 -0.6
baz=313,SNR=9.5
V41A Mountainview 56.59 73 P P 09 51 11.7 -0.6
baz=314,SNR=6.6
MIAR Mount Ida 56.60 75 P P 09 51 12.1 -0.3
baz=314
MIAR Mount Ida 56.60 75 *e*P P 09 51 12.8 +0.4
MIAR pmax pmax
comp=Z,9.0nm,1.1s
MIAR Mount Ida 56.60 75 *e*P P 09 51 12.8 +0.4
comp=Z,8.7nm,1.1s
Z38A Mt. Pleasant 56.65 77 P P 09 51 12.1 -0.6
baz=314
R44A Waltonville 56.71 69 P P 09 51 12.6 -0.5
baz=313
ZAA1 Zalesovo Array 56.73 317 *e*P P 09 51 12.1 -0.9
ZAA1 *e*PcP PcP 09 52 08.3 -0.1
ZAA0 Zalesovo Array 56.74 317 *e*P P 09 51 12.4 -0.6
ZALV Zalesovo Beam 56.74 317 P P 09 51 12.1 -0.9
comp=Z,8.6nm,0.7s,baz=33,slow=6.9,SNR=18
ZALV PcP PcP 09 52 08.3 -0.1
comp=Z,2.6nm,0.5s,baz=38,slow=4.0,SNR=4.4
ZALV LR LR 10 19 43.0
comp=Z,41nm,18.2s,baz=50,slow=40
NVS Novosibirsk 56.77 318 *e*P P 09 51 12.2 -1.1
OLIL Olney 56.94 68 *e*P P 09 51 14.8 +0.1
comp=Z,12nm,0.6s
W41B Gary Mavity, V 56.96 74 P P 09 51 14.8 -0.1
baz=314
S44A Carbondale 56.98 70 P P 09 51 14.8 -0.2
baz=314
138A Matatall Enter 57.00 78 P P 09 51 15.2 -0.1
baz=315
V42A Cord 57.03 73 P P 09 51 15.2 -0.2
baz=314
S45A Carrier Mills 57.39 69 P P 09 51 17.8 -0.1
baz=314
SADO Sadowa 57.73 57 *e*P P 09 51 21.4 +1.2
comp=Z,10nm,0.6s
KEV Keo 57.73 352 *e*P P 09 51 18.9 -0.9
239A Gary 57.82 78 P P 09 51 21.2 +0.2
baz=315
XAN Xi'an 57.90 285 P P 09 51 21.3 -0.3
XAN pP pP 09 51 30.1 -5.7
XAN PMZ
comp=Z,19nm,1.2s
ARA0 ARCESS Array S 58.07 353 *e*P P 09 51 21.0 -1.2
ARA0 *e*PcP PcP 09 52 13.2 -0.2
ARCES ARCESS Array B 58.07 353 P P 09 51 21.0 -1.2
comp=Z,5.2nm,0.6s,baz=22,slow=7.8,SNR=42
ARCES PcP PcP 09 52 13.2 -0.2
comp=Z,1.9nm,0.6s,baz=7.1,slow=3.9,SNR=4.1
ARE0 ARCESS Array S 58.07 353 *e*P P 09 51 21.1 -1.1
438A Sam Houston St 58.11 80 P P 09 51 23.0 0.0
baz=315
TRO Tromso 58.37 356 *e*P P 09 51 23.8 -0.4
TRO IAmb IAmb 09 51 24.3
comp=Z,14nm,0.5s
736A Circle Diamond 58.41 82 P P 09 51 25.4 +0.2
baz=316
934A Benavides 58.49 85 P P 09 51 26.0 +0.2
baz=316
LVZ Lovozero 58.76 349 *c i*P P 09 51 25.9 -1.2
LVZ pmax pmax
comp=Z,16nm,1.0s
LVZ Lovozero 58.76 349 *e*P P 09 51 26.1 -1.0
comp=Z,12nm,0.7s
W45A Hickory Valley 58.78 72 P P 09 51 27.7 0.0
baz=315
WVT Waverly 58.89 70 *e*P P 09 51 28.5 +0.1
WVT pmax pmax
comp=Z,18nm,1.6s
WVT Waverly 58.89 70 *e*P P 09 51 28.5 +0.1
comp=Z,18nm,1.6s
KIF Kilpisjarvi 58.90 355 *e*P P 09 51 26.3 -1.6
HEF Hetta 59.31 354 *e*P P 09 51 29.9 -1.0
GTA Gaotai 59.42 296 *e*P P 09 51 31.8 -0.4
GTA pP pP 09 51 41.8 -4.6
GTA sP sP 09 51 45.8 -6.5
GTA PMZ
comp=Z,14nm,0.9s
LZH Lanzhou 59.46 291 *e*P P 09 51 33.0 +0.4
LZH pP pP 09 51 42.8 -4.0
LZH sP sP 09 51 46.9 -5.8
LZH PMZ
comp=Z,22nm,1.0s
M54A Oil Creek Stat 59.71 60 P P 09 51 33.8 -0.3
baz=315
Y46A Houston 59.86 73 P P 09 51 35.1 -0.1
baz=315,SNR=5.2
N54A Moraine State 59.92 61 P P 09 51 35.6 +0.1
baz=315
STEI Steigen 60.21 357 *e*P P 09 51 36.5 -0.5
STEI IAmb IAmb 09 51 36.7
comp=Z,7.8nm,0.5s
Y47A UCPARC, Winfie 60.44 72 P P 09 51 38.8 -0.3
baz=315
245A Little AP, Sta 60.56 75 P P 09 51 39.1 -0.8
baz=316
Z47A Carrollton 60.81 73 P P 09 51 41.2 -0.4
baz=316
Z48A Northport 60.99 72 P P 09 51 42.4 -0.4
baz=316
TZTN Tazewell 61.06 67 *e*P P 09 51 44.0 +0.7
comp=Z,8.2nm,0.8s
BORG Borgarnes 61.25 14 LR LR 10 19 01.5
comp=Z,30nm,21.1s,baz=117,slow=37
KURK Kurchatov 61.70 317 *e*P P 09 51 46.9 -0.5
KURK pmax pmax
comp=Z,125nm,0.7s
KURK Kurchatov 61.70 317 *e*P P 09 51 46.9 -0.5
comp=Z,125nm,0.7s
347A Saraland 61.81 74 P P 09 51 47.9 -0.5
baz=316
WMQ Urumqi 62.66 307 P P 09 51 54.3 +0.3
WMQ pP pP 09 52 05.8 -2.5
WMQ sP sP 09 52 10.8 -3.4
WMQ PMZ
comp=Z,22nm,0.6s
WMQ PMZ
comp=Z,41nm,5.0s
WMQ LN
comp=Z,61nm,31.2s
WMQ LE
comp=Z,73nm,30.0s
WMQ LZ
comp=Z,69nm,28.6s
MK31 Makanchi Array 63.03 312 *e*P P 09 51 55.5 -0.9
MK31 Makanchi Array 63.03 312 *e*P P 09 51 55.5 -0.9
MK32 Makanchi Array 63.03 312 *e*P P 09 51 55.4 -1.1
MKAR Makanchi Array 63.03 312 P P 09 51 55.4 -1.1
comp=Z,10.0nm,0.5s,baz=44,slow=6.3,SNR=145
MKAR LR LR 10 20 07.9
comp=Z,35nm,21.2s,baz=313,slow=37
MKAR Makanchi Array 63.03 312 *e*P P 09 51 55.5 -0.9
MKAR Makanchi Array 63.03 312 *e*P P 09 51 55.5 -0.9
MK01 Makanchi Array 63.05 312 *e*P P 09 51 55.1 -1.4
BVA0 Borovoye Array 63.16 323 P P 09 51 56.7 -0.4
BVA0 pmax pmax
comp=Z,21nm,0.6s
BVAR Borovoye Array 63.16 323 P P 09 51 56.9 -0.3
comp=Z,24nm,0.5s,baz=51,slow=6.3,SNR=128
BVAR PcP PcP 09 52 34.4 +0.2
comp=Z,6.9nm,0.7s,baz=50,slow=2.5,SNR=6.1
MAKZ Makanchi 63.16 312 *e*P P 09 51 56.1 -1.2
MAKZ pmax pmax
comp=Z,14nm,0.6s
MAKZ Makanchi 63.16 312 *e*P P 09 51 56.1 -1.2
comp=Z,14nm,0.6s
BRVK Borovoye 63.17 323 *e*P P 09 51 57.1 -0.1
BRVK *e* 09 52 34.3
BRVK pmax pmax
comp=Z,37nm,0.7s
BRVK Borovoye 63.17 323 *e*P P 09 51 57.0 -0.1
comp=Z,37nm,0.7s
BRVK *e*PcP PcP 09 52 34.3 +0.1
VOSK Vostochnaya 63.18 323 *e*P P 09 51 57.3 0.0
VOSK pmax pmax
comp=Z,15nm,1.0s
VOSK Vostochnaya 63.18 323 *e*P P 09 51 57.3 0.0
comp=Z,15nm,1.0s
ZRNK Zerenda 63.73 324 P P 09 52 00.7 -0.1
ZRNK pmax pmax
comp=Z,25nm,0.5s
ZRNK Zerenda 63.73 324 *e*P P 09 52 00.2 -0.6
comp=Z,39nm,0.5s
LMN Caledonia Moun 63.99 48 *e*P P 09 52 02.8 +0.1
comp=Z,32nm,0.8s
DRLN Deer Lake 64.55 42 *e*P P 09 52 06.9 +0.6
comp=Z,180nm,1.8s
GYA Guiyang 64.69 281 *e*P P 09 52 08.8 +1.1
GYA PMZ
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 64.71 344 *e*P P 09 52 04.5 -2.6
KLMR pmax pmax
comp=Z,6.0nm,0.8s
FIA0 FINESS Array S 65.97 351 *e*P P 09 52 13.9 -1.3
FIA0 FINESS Array S 65.97 351 *e*P P 09 52 13.9 -1.3
FINES FINESS Array B 65.97 351 P P 09 52 13.9 -1.3
comp=Z,4.1nm,0.5s,baz=18,slow=9.2,SNR=43
FINES PcP PcP 09 52 45.5 0.0
comp=Z,2.8nm,0.8s,baz=101,slow=2.8,SNR=4.7
FINES LR LR 10 21 38.9
comp=Z,49nm,21.4s,baz=354,slow=36
PDGK Podgornoye 66.96 311 P P 09 52 21.5 -0.4
PDGK pmax pmax
comp=Z,29nm,0.8s
NC405 NORSAR Array S 67.14 358 *e*P P 09 52 23.0 +0.2
NB201 NORSAR Array S 67.21 359 *e*P P 09 52 23.4 +0.2
NB2 NORSAR Subarra 67.22 359 P P 09 52 22.7 -0.6
comp=Z,4.6nm,0.7s,baz=2.6,slow=6.5
NB2 NORSAR Subarra 67.22 359 P P 09 52 22.7 -0.6
baz=2.6,slow=6.5
NB200 NORSAR Array S 67.22 359 *e*P P 09 52 23.0 -0.3
NOA NORSAR Array B 67.22 359 P P 09 52 23.0 -0.3
comp=Z,3.4nm,0.5s,baz=2.1,slow=6.4,SNR=16
NOA LR LR 10 22 10.7
comp=Z,18nm,20.8s,baz=155,slow=36
NOA NORSAR Array B 67.22 359 P P 09 52 23.0 -0.3
NOA pmax pmax
comp=Z,3.0nm,0.5s
NOA MLR MLR
comp=Z,19nm,20.8s
VSU Vasula 68.82 350 *ce*P P 09 52 32.5 -0.8
VSU pmax pmax
comp=Z,47nm,1.7s
TKM2 Tokmak 2 69.05 314 *e*P P 09 52 35.2 -0.1
TKM2 pmax pmax
comp=Z,18nm,0.9s
TKM2 Tokmak 2 69.05 314 *e*P P 09 52 35.1 -0.1
comp=Z,18nm,0.9s
FRU Bishkek 69.55 314 *e*P P 09 52 38.0 -0.2
FRU pmax pmax
comp=Z,54nm,1.5s
AKTO Aktyubinsk 69.59 329 P P 09 52 37.3 -0.9
AKTO pmax pmax
comp=Z,17nm,0.6s
AAK Ala-Archa 69.77 314 P P 09 52 39.8 +0.1
comp=Z,25nm,0.7s,baz=94,slow=3.4,SNR=40
AAK Ala-Archa 69.77 314 *e*P P 09 52 39.9 +0.2
AAK pmax pmax
comp=Z,30nm,0.8s
AAK Ala-Archa 69.77 314 *e*P P 09 52 39.9 +0.2
comp=Z,30nm,0.8s
AB31 Akbulak array 69.97 327 *i* P P 09 52 39.9 -0.7
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 69.97 327 *e*P P 09 52 40.1 -0.5
EKS2 Erkin-Say 70.06 315 *e*P P 09 52 41.7 +0.3
EKS2 pmax pmax
comp=Z,25nm,0.9s
EKS2 Erkin-Say 70.06 315 *e*P P 09 52 41.7 +0.3
comp=Z,25nm,0.9s
OBN Obninsk 70.66 343 *e*P P 09 52 42.9 -1.8
OBN pmax pmax
comp=Z,4.0nm,0.6s
MNAS Manas 70.76 315 P P 09 52 45.5 -0.2
MNAS pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 71.11 317 *e*P P 09 52 47.4 -0.3
KKAR Karatay Array 71.11 317 *e*P P 09 52 47.4 -0.3
LSA Lhasa 71.37 294 *e*P P 09 52 51.1 +1.1
LSA pmax pmax
comp=Z,23nm,0.8s
LSA Lhasa 71.37 294 *e*P P 09 52 51.0 +1.1
comp=Z,23nm,0.8s
KSH Kashi 71.58 311 *e*P P 09 52 53.8 +3.1
KSH pP pP 09 53 05.0 -0.3
KSH PcP **sP** 09 53 12.0 +0.9
KSH PP **PP** 09 55 34.3 +4.8
KSH S **S** 10 02 09.6 +3.7
KSH ScS **ScS** 10 02 52.1 +0.6
KSH SS **SS** 10 06 48.1 +7.2
KSH PMZ
comp=Z,37nm,0.8s
KSH LN
comp=Z,220nm,11.0s
KSH LE
comp=Z,190nm,12.1s
CMAR Chiang Mai Arr 75.38 281 P P 09 53 13.2 +0.1
comp=Z,11nm,0.6s,baz=26,slow=6.9,SNR=34
CM01 Chiang Mai Arr 75.40 281 *e*P P 09 53 13.2 0.0
GUN Gumba 75.68 297 *e*P P 09 53 15.1 -0.1
comp=Z,73nm,0.5s
RAMN Ramite 76.03 296 *e*P P 09 53 16.6 -0.5
comp=Z,98nm,0.9s
AKASG Malin Array Be 76.10 347 P P 09 53 15.0 -1.8
comp=Z,1.8nm,0.3s,baz=17,slow=6.1,SNR=8.0
AKASG LR LR 10 28 25.7
comp=Z,40nm,21.7s,baz=285,slow=37
AKASG Malin Array Be 76.10 347 P P 09 53 15.0 -1.8
KKN Kakani 76.11 297 *e*P P 09 53 17.1 -0.4
comp=Z,25nm,0.6s
KIEV Kiev 76.11 347 *i* P P 09 53 15.4 -1.4
KIEV pmax pmax
comp=Z,4.0nm,1.1s
GKN Gorkha 76.29 298 *e*P P 09 53 18.0 -0.4
comp=Z,58nm,0.7s

DMN	**Daman**	**76.34**	**297**	*e*P		**P**	**09 53 18.7**	**-0.2**
	comp=Z,27nm,0.7s								
CLL	**Collm**	**76.92**	**357**	*i* P		**P**	**09 53 21.0**	**-0.4**
	comp=Z,6.0nm,0.9s								
CLL	**Collm**	**76.92**	**357**	*i* P		**P**	**09 53 21.0**	**-0.4**
CLL					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KOLN	**Koldanda**	**77.04**	**298**	*e*P		**P**	**09 53 22.3**	**-0.4**
	comp=Z,39nm,0.8s								
PYUN	**Piuthan**	**77.11**	**299**	*e*P		**P**	**09 53 22.7**	**-0.4**
	comp=Z,69nm,0.7s								
BRG	**Berggiesshubel**	**77.33**	**356**	*e*P		**P**	**09 53 23.5**	**-0.2**
	comp=Z,11nm,0.9s								
BRG	**Berggiesshubel**	**77.33**	**356**	*e*P		**P**	**09 53 23.5**	**-0.2**
BRG					pmax	pmax			
	comp=Z,11nm,0.9s								
DPC	**Dobruska-Polom**	**77.74**	**355**	*e*P		**P**	**09 53 26.4**	**+0.3**
DPC	**Dobruska-Polom**	**77.74**	**355**	*e*P		**P**	**09 53 26.4**	**+0.3**
BCLA	**Clavier**	**77.85**	**2**	P		**P**	**09 53 26.7**	**+0.1**
NKC	**Novy Kostel**	**78.02**	**357**	*e*P		**P**	**09 53 28.0**	**+0.4**
NKC	**Novy Kostel**	**78.02**	**357**	*e*P		**P**	**09 53 28.0**	**+0.4**
DOU	**Dourbes**	**78.16**	**3**	P		**P**	**09 53 28.3**	**0.0**
	comp=Z,6.1nm,1.2s								
PRU	**Pruhonice**	**78.19**	**356**	*e*P		**P**	**09 53 28.6**	**+0.1**
PRU	**Pruhonice**	**78.19**	**356**	*e*P		**P**	**09 53 28.6**	**+0.1**
GOPC	**GO Pecny, Ondr**	**78.25**	**356**	*e*P		**P**	**09 53 29.2**	**+0.3**
GOPC	**GO Pecny, Ondr**	**78.25**	**356**	*e*P		**P**	**09 53 29.2**	**+0.3**
STHS	**Stebnicka Huta**	**78.31**	**352**	*e*P		**P**	**09 53 29.9**	**+0.7**
STHS					pmax	pmax			
	comp=Z,5.0nm,0.8s								
STHS	**Stebnicka Huta**	**78.31**	**352**	*e*P		**P**	**09 53 29.9**	**+0.7**
LANS	**Liptovska Anna**	**78.72**	**353**	*e*P		**P**	**09 53 32.6**	**+1.1**
LANS	**Liptovska Anna**	**78.72**	**353**	*e*P		**P**	**09 53 32.6**	**+1.1**
KBL	**Kabul**	**78.83**	**313**	*e*P		**P**	**09 53 31.3**	**-1.3**
KBL					pmax	pmax			
	comp=Z,27nm,1.0s								
KBL	**Kabul**	**78.83**	**313**	*e*P		**P**	**09 53 31.3**	**-1.3**
	comp=Z,27nm,1.0s								
KHC	**Kasperske Hory**	**79.08**	**357**	*e*P		**P**	**09 53 33.8**	**+0.3**
KHC	**Kasperske Hory**	**79.08**	**357**	*e*P		**P**	**09 53 33.9**	**+0.4**
KHC					pmax	pmax			
	comp=Z,4.0nm,0.7s								
KHC	**Kasperske Hory**	**79.08**	**357**	*e*P		**P**	**09 53 33.9**	**+0.4**
	comp=Z,3.5nm,0.7s								
GEC2	**GERESS Array S**	**79.36**	**356**	*e*P		**P**	**09 53 35.3**	**+0.2**
GEC2					pmax	pmax			
	comp=Z,7.0nm,0.7s								
GEC2	**GERESS Array S**	**79.36**	**356**	*e*P		**P**	**09 53 35.3**	**+0.2**
	comp=Z,7.1nm,0.7s								
GERES	**GERESS Array B**	**79.36**	**356**	P		**P**	**09 53 34.9**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=15,slow=5.5,SNR=34								
GEA0	**GERESS Array S**	**79.37**	**356**	*e*P		**P**	**09 53 34.9**	**-0.2**
VYHS	**Vyhne**	**79.42**	**353**	*e*P		**P**	**09 53 35.3**	**0.0**
VYHS					pmax	pmax			
	comp=Z,3.0nm,0.9s								
VYHS	**Vyhne**	**79.42**	**353**	*e*P		**P**	**09 53 35.3**	**0.0**
BUR08	**Bucovina Ar. S**	**79.64**	**349**	*e*P		**P**	**09 53 36.2**	**-0.4**
KIV	**Kislovodsk**	**79.89**	**336**	*d* iP		**P**	**09 53 38.2**	**+0.2**
KIV				*i*			09 53 44.3		
KIV					pmax	pmax			
	comp=Z,12nm,0.9s								
BFO	**Black Forest**	**79.98**	**0**	*i* P		**P**	**09 53 39.1**	**+0.8**
KBZ	**Khabaz**	**80.05**	**335**	P		**P**	**09 53 38.9**	**+0.1**
	comp=Z,5.9nm,0.8s,baz=85,slow=2.0,SNR=11								
NCK	**Nalchik**	**80.08**	**335**	*i* P		**P**	**09 53 38.9**	**-0.1**
NCK					pmax	pmax			
	comp=Z,25nm,1.0s								
CONA	**Conrad Observa**	**80.18**	**355**	*i* P		**P**	**09 53 39.9**	**+0.3**
	comp=Z,5.3nm,0.6s								
GEYT	**Alibeck**	**80.47**	**322**	P		**P**	**09 53 40.9**	**-0.3**
	comp=Z,4.1nm,0.4s,baz=347,slow=6.1,SNR=8.6								
ZEI	**Tsey**	**80.66**	**334**	*e*P		**P**	**09 53 40.8**	**-1.6**
ZEI					pmax	pmax			
	comp=Z,28nm,0.6s								
ARSA	**Arzberg**	**80.87**	**355**	*i* P		**P**	**09 53 43.8**	**+0.6**
	comp=Z,4.0nm,0.6s								
MOTA	**Moosalm**	**80.94**	**358**	*i* P		**P**	**09 53 43.9**	**+0.3**
	comp=Z,11nm,0.9s								
WTTA	**Wattenberg**	**81.01**	**358**	*i* P		**P**	**09 53 44.5**	**+0.4**
	comp=Z,1.9nm,0.3s								
DAVA	**Damuels**	**81.01**	**359**	*i* P		**P**	**09 53 45.4**	**+1.3**
	comp=Z,1.7nm,0.3s								
KBA	**Koelnbreinsper**	**81.14**	**357**	*i* P		**P**	**09 53 45.5**	**+0.7**
	comp=Z,16nm,0.6s								
FETA	**Feichten**	**81.27**	**358**	*i* P		**P**	**09 53 45.8**	**+0.4**
	comp=Z,12nm,0.9s								
SOKA	**Soboth**	**81.47**	**355**	*i* P		**P**	**09 53 46.5**	**+0.1**
	comp=Z,9.1nm,0.9s								
OBKA	**Obir**	**81.66**	**356**	*i* P		**P**	**09 53 48.2**	**+0.8**
	comp=Z,7.9nm,0.6s								
FUORN	**Ofenpass-Fuorn**	**81.67**	**359**	*e*P		**P**	**09 53 48.3**	**+0.6**
	comp=Z,16nm,1.3s								
TIRR	**Tirgusor**	**82.32**	**346**	*e*P		**P**	**09 53 50.9**	**+0.1**
TIRR					pmax	pmax			
	comp=Z,6.0nm,0.7s								
TIRR	**Tirgusor**	**82.32**	**346**	*e*P		**P**	**09 53 50.9**	**+0.1**
	comp=Z,6.3nm,0.7s								
WR1	**Warramunga Arr**	**85.79**	**230**	*e*P		**P**	**09 54 07.9**	**-0.7**
	comp=Z,38nm,1.8s								
WRA	**Warramunga Arr**	**85.79**	**230**	P		**P**	**09 54 07.9**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=41,slow=6.5,SNR=6.3								
BR101	**Keskin Array S**	**85.99**	**341**	*e*P		**P**	**09 54 09.7**	**-0.1**
BR131	**Keskin Array S**	**85.99**	**341**	*e*P		**P**	**09 54 10.2**	**+0.5**
BRTR	**Keskin Array B**	**85.99**	**341**	P		**P**	**09 54 09.7**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=46,slow=3.2,SNR=22								
BR231	**Keskin MP Arra**	**86.05**	**341**	*e*P		**P**	**09 54 10.2**	**+0.2**
PSI	**Prapat**	**87.53**	**271**	*e*P		**P**	**09 54 17.5**	**-0.1**
PSI					pmax	pmax			
	comp=Z,23nm,0.9s								
PSI	**Prapat**	**87.53**	**271**	*e*P		**P**	**09 54 17.5**	**-0.1**
	comp=Z,23nm,0.9s								
ES19	**SONSECA Array**	**87.97**	**10**	*e*P		**P**	**09 54 18.8**	**-0.4**
ESDC	**Sonseca Array**	**87.99**	**10**	P		**P**	**09 54 18.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=350,slow=4.5,SNR=8.8								
HYB	**Hyderabad**	**88.09**	**296**	*i* P		**P**	**09 54 20.0**	**-0.1**
AS01	**Alice Springs**	**89.17**	**228**	*e*P		**P**	**09 54 24.5**	**-0.3**
ASAR	**Alice Springs**	**89.18**	**228**	P		**P**	**09 54 24.6**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=24,slow=5.0,SNR=19								
STKA	**Stephens Creek**	**93.12**	**218**	LR		LR	10 29 41.8		
	comp=Z,66nm,20.1s,baz=0.2,slow=31								
TOA1	**Torodi Ar. Sit**	**114.78**	**7**	*e*PKiKP		**PKiKP**	**10 00 09.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**114.79**	**7**	PKP		PKPdf	10 00 09.1	-0.8
	comp=Z,0.5nm,0.8s,baz=7.1,slow=2.6,SNR=4.7								
BOSA	**Boshof**	**153.43**	**325**	PKPbc		**PKPbc**	**10 01 27.2**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=45,slow=2.9,SNR=6.2								

NIED ***24*** *09:43:00,39˚.70N×142˚.10E,h41km,Mw4.0 Best double couple: Mo1.12000×10^15 NP1:φ=198.00000°,δ12.00000°, λ93.00000°. NP2:φ=15.00000°,δ78.00000°,λ89.00000°.*
ISCJB ***24*** *09:43:58.0±0.9,39˚.70N±0˚.03×142˚.3E±0˚.1,h49km±6km, mb3.8/3,MS3.6/2, Error ellipse: s-maj=13.8km s-min=5.4km az=9.7*
JMA ***24*** *09:43:59.7,39˚.68N×142˚.12E,h48km±1km,M3.9*
JMA Felt II J1.
IDC ***24*** *09:44:00.2±2.7,39˚.77N×142˚.46E,h69km±22km,mb3.6/3, mb1 3.8/7,mb1mx3.4/42,mbtmp3.9/7,MS3.4/3,Ms1 3.4/3, ms1mx2.9/35, Error ellipse: s-maj=35.9km s-min=11.1km az=110.0*

ISC 24 09:43:59.2±1.3,39˚.70N±0˚.04×142˚.27E±0˚.10,h44km±10km, n28,σ1§92/30,mb4.1/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.37**	**251**	P		**Pn**	**09 44 08.2**	**-0.3**
MIYJ				*e*S		**Sn**	**09 44 14.1**	**-0.9**
JTH	**Tanohata**	**0.39**	**308**	P		**Pn**	**09 44 08.8**	**0.0**
JTH				*e*S		**Sn**	**09 44 15.1**	**-0.5**
OFUJ	**Ofunato**	**0.77**	**217**	P		**Pn**	**09 44 12.9**	**-0.8**
OFUJ				*e*S		**Sn**	**09 44 22.6**	**-1.6**
JKZ	**Kuzumaki**	**0.78**	**292**	P		**Pn**	**09 44 13.2**	**-0.6**
JKZ				*e*S		**Sn**	**09 44 22.5**	**-1.9**
JOM	**Ohasama**	**0.79**	**254**	P		**Pn**	**09 44 13.2**	**-0.7**
JOM				*e*S		**Sn**	**09 44 22.8**	**-1.7**
JANG	**Nango**	**0.89**	**320**	P		**Pn**	**09 44 14.9**	**-0.4**
JANG				*e*S		**Sn**	**09 44 25.8**	**-1.2**
JMK	**Ichinoseki**	**1.10**	**228**	P		**Pn**	**09 44 17.4**	**-0.8**
JMK				*e*S		**Sn**	**09 44 30.6**	**-1.6**
JRG	**Rokugo**	**1.30**	**257**	P		**Pn**	**09 44 19.9**	**-1.0**
JAH	**Hinai**	**1.35**	**292**	P		**Pn**	**09 44 21.1**	**-0.4**
JTM	**Tenmabayashi**	**1.42**	**320**	P		**Pn**	**09 44 22.4**	**-0.1**
JIO	**Ouri**	**1.44**	**210**	P		**Pn**	**09 44 22.0**	**-0.7**
JIO				*e*S		**Sn**	**09 44 38.3**	**-2.0**
ASAJ	**Asahikawa**	**4.42**	**3**	P		**Pn**	**09 45 05.5**	**+1.8**
	baz=213,slow=11								
ASAJ					S	**Sn**	**09 45 52.7**	**-1.1**
	0.9nm,0.3s,baz=190,slow=17,SNR=2.6								
MAT	**Matsushiro**	**4.49**	**227**	P		**Pn**	**09 45 06.9**	**+2.2**
MAT				*e*S		**Sn**	**09 45 58.1**	**+2.4**
MJAR	**Matsushiro Arr**	**4.49**	**227**	P		**Pn**	**09 45 07.1**	**+2.4**
	1.3nm,0.3s,baz=35,slow=13,SNR=25								
MJAR					S	**Sn**	**09 46 00.9**	**+5.2**
	baz=54,slow=12,SNR=2.7								
USRK	**Ussuriysk Ar.**	**8.88**	**304**	P		**Pn**	**09 46 07.5**	**+2.7**
	0.3nm,0.3s,baz=118,slow=13,SNR=10								
KSRS	**Korea Array**	**11.45**	**263**	P		**Pn**	**09 46 44.0**	**+3.9**
	0.7nm,0.3s,baz=72,slow=14,SNR=6.9								
KLR	**Kul'dur**	**12.12**	**325**	LR		LR	09 51 48.5		
	comp=Z,114nm,19.2s,baz=75,slow=38								
SONM	**Songino Array**	**26.96**	**299**	P		**P**	**09 49 35.7**	**-0.8**
	0.5nm,0.6s,baz=94,slow=5.8,SNR=3.4								
H11N2	**WAKE ISLAND Hy**	**29.05**	**126**	T		T	10 20 32.6		
	baz=318,slow=75,SNR=269								
H11N1	**WAKE ISLAND Hy**	**29.06**	**126**	T		T	10 20 35.8		
	baz=318,slow=75,SNR=329								
H11N3	**WAKE ISLAND Hy**	**29.07**	**126**	T		T	10 20 36.4		
	baz=318,slow=75,SNR=301								
H11S1	**WAKE ISLAND Hy**	**29.85**	**128**	T		T	10 21 30.1		
	baz=320,slow=76,SNR=38								
H11S3	**WAKE ISLAND Hy**	**29.86**	**128**	T		T	10 21 36.0		
	baz=320,slow=76,SNR=45								
H11S2	**WAKE ISLAND Hy**	**29.87**	**128**	T		T	10 21 27.7		
	baz=320,slow=76,SNR=37								
AKTO	**Aktyubinsk**	**57.42**	**311**	LR		LR	10 20 16.1		
	comp=Z,36nm,20.8s,baz=173,slow=38								
WRA	**Warramunga Arr**	**59.79**	**189**	P		**P**	**09 53 58.6**	**-1.2**
	1.1nm,0.7s,baz=7.3,slow=6.9,SNR=9.2								
FINES	**FINESS Array B**	**66.78**	**332**	P		**P**	**09 54 44.2**	**-1.5**
	1.5nm,0.7s,baz=74,slow=6.4,SNR=4.0								
PDAR	**Pinedale Array**	**75.33**	**46**	LR		LR	10 31 58.8		
	comp=Z,39nm,18.0s,baz=92,slow=38								

GUC 24 09:58:05.5±0.5,21˚.81S×68˚.90W,h131km±5km,ML3.3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.94**	**324**	*i* P		Pn	09 58 28.7	+0.5
PB01				*i* S		Sn	09 58 46.1	+0.9
PB01					IAML		09 58 49.1		
	comp=N,698nm,0.3s								
PB06	**IPOC Station P**	**1.09**	**215**	*i* P		Pn	09 58 30.4	+0.8
PB06				*i* S		Sn	09 58 48.7	+0.8
PB06					IAML		09 58 50.6		
	comp=E,1μm,0.3s								
PB08	**IPOC Station P**	**1.68**	**352**	*i* P		Pn	09 58 37.3	+1.1
PB08				*i* S		Sn	09 59 01.2	+1.7
PB08					IAML		09 59 02.2		
	comp=E,316nm,0.7s								
HMBC	**Humberstone**	**1.79**	**329**	*i* P		Pn	09 58 37.8	+0.7
HMBC				*i* S		Sn	09 59 02.4	+1.1
HMBC					IAML		09 59 10.3		
	comp=N,284nm,0.2s								
PB10	**IPOC Station P**	**2.29**	**222**	*i* P		Pn	09 58 44.0	+1.0
PSGC	**Pisagua**	**2.48**	**332**	*i* P		Pn	09 58 45.8	+0.1
PSGC				*i* S		Sn	09 59 17.7	+1.1
PSGC					IAML		09 59 21.6		
	comp=N,77nm,0.2s								

SJA ***24*** *09:58:33.6±0.6,26˚.28S×71˚.32W,h204km±25km,ML4.7, MW4.3*
IDC ***24*** *09:58:35.8±0.7,26˚.84S×70˚.56W,h0km,mb4.2/7, mb1 4.3/10,mb1mx4.1/27,mbtmp4.1/10,ML3.8/2,MS3.5/4, Ms1 3.5/4,ms1mx3.1/19, Error ellipse: s-maj=32.7km s-min=18.0km az=99.0*
NEIC ***24*** *09:58:38.2±0.5,26˚.71S×70˚.78W,h10km,mb4.5/15, Error ellipse: s-maj=14.2km s-min=8.1km az=89.0*
ISCJB ***24*** *09:58:40.4±0.3,26˚.62S±0˚.02×70˚.81W±0˚.08,h34km, mb4.3/20,MS3.8/1, Error ellipse: s-maj=9.7km s-min=3.4km az=176.4*

ISC 24 09:58:41.1±0.6,26˚.66S±0˚.04×70˚.86W±0˚.08,h34km,n60, σ1§84/67,mb4.4/20,1C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**2.07**	**12**	*i* P		**Pn**	**09 59 14.7**	**+0.9**
LCO	**Las Campanas**	**2.34**	**177**	*e*Pn		**Pn**	**09 59 16.1**	**-1.4**
LCO				*e*Sn		**Sn**	**09 59 45.4**	**+0.1**
VCA	**Vinchina**	**3.13**	**132**	*e*P		**Pb**	**09 59 32.9**	**-3.3**
VCA				*e*S		**Sb**	**10 00 15.9**	**+1.9**
PB10	**IPOC Station P**	**3.15**	**5**	*e*Pn		**Pn**	**09 59 28.5**	**+0.2**
PB10				*e*Sn		**Sn**	**10 00 05.0**	**+0.2**
AGUA	**GUANDACOL**	**3.51**	**144**	*e*P		**Pn**	**09 59 37.1**	**+3.8**
AGUA				*e*S		**Sb**	**10 00 24.3**	**-0.4**
ACDV	**Cuesta del Vie**	**3.82**	**157**	*e*P		**Pn**	**09 59 40.6**	**+3.0**
ACDV				*e*S		**Sb**	**10 00 30.6**	**-3.1**
ACCO	**Cerro Coronel**	**4.22**	**158**	*e*P		**Pn**	**09 59 45.7**	**+2.4**
ACCO					IAML		10 00 46.4		
	comp=Z,356nm,0.4s								
PB04	**IPOC Station P**	**4.36**	**9**	*e*Pn		**Pn**	**09 59 44.9**	**-0.2**
PB04				*e*Sn		**Sn**	**10 00 34.7**	**-0.1**
LVC	**Limon Verde**	**4.41**	**24**	Pn		**Pn**	**09 59 47.2**	**+1.3**
	baz=210,slow=20,SNR=0.9								
LVC					Sn	**Sn**	**10 00 37.2**	**+1.0**
	comp=Z,1μm,0.3s,baz=221,slow=5.9,SNR=4.2								
LVC					Lg	Lg	10 00 52.5		
	comp=Z,3μm,0.3s,baz=44,slow=18,SNR=8.6								
LVC	**Limon Verde**	**4.41**	**24**	*e*Pn		**Pn**	**09 59 49.0**	**+3.0**
LVC				*e*Sn		**Sn**	**10 00 35.1**	**-1.2**
LVC				*e*Lg		Lg	10 00 52.5		
AVFE	**Valle Fertil**	**4.98**	**144**	*e*P		**Pn**	**09 59 55.6**	**+2.0**
AVFE					IAML		10 01 01.6		
	comp=Z,374nm,0.5s								
RTLL	**Cerro Villicun**	**5.10**	**156**	*e*P		**Pn**	**09 59 56.8**	**+1.7**
RTLL				*e*S		**Sn**	**10 00 58.2**	**+5.3**
RTLS	**Leoncito**	**5.30**	**165**	*e*P		**Pn**	**09 59 59.6**	**+1.5**
RTCV	**Cerro Valdivia**	**5.56**	**159**	*e*P		**Pn**	**10 00 02.8**	**+1.2**
PB01	**IPOC Station P**	**5.73**	**13**	*e*Pn		**Pn**	**10 00 04.0**	**0.0**
PB01				*e*Sn		**Sn**	**10 01 04.9**	**-3.7**
ROC1	**El Roble**	**6.29**	**181**	*e*Pn		**Pn**	**10 00 09.0**	**-2.7**
LPAZ	**La Paz**	**10.63**	**14**	Pn		**Pn**	**10 01 12.4**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=226,slow=4.4,SNR=8.0								
LPAZ					LR	LR	10 05 45.0		
	comp=Z,132nm,20.0s,baz=160,slow=40								
LPAZ	**La Paz**	**10.63**	**14**	*e*Pn		**Pn**	**10 01 12.3**	**+0.7**
LPAZ				*e*Sn		**Sn**	**10 03 11.7**	**+1.9**
CPUP	**Villa Florida**	**12.12**	**91**	Pn		**Pn**	**10 01 31.6**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=223,slow=19,SNR=1.9								
CPUP					LR	LR	10 06 42.3		
	comp=Z,177nm,20.9s,baz=272,slow=41								
CPUP	**Villa Florida**	**12.12**	**91**	*e*Pn		**Pn**	**10 01 30.8**	**-0.7**
TRQA	**Tornquist**	**13.61**	**149**	*e*Pn		**Pn**	**10 01 52.6**	**+0.9**
SIV	**San Ignacio**	**13.99**	**43**	Pn		**Pn**	**10 01 54.1**	**-2.9**
	comp=Z,3.3nm,0.3s,baz=203,slow=15,SNR=4.5								
PLCA	**Paso Flores**	**14.04**	**179**	LR		LR	10 07 53.9		
	comp=Z,243nm,21.1s,baz=120,slow=40								
SAML	**Samuel**	**19.06**	**24**	*e*P		**P**	**10 03 00.9**	**+0.3**
	comp=Z,8.6nm,1.3s								
SAML				*e*S		**Sn**	**10 06 33.8**	**-0.5**
PTGA	**Pitinga**	**27.83**	**24**	P		**P**	**10 04 26.5**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=171,slow=19,SNR=3.6								
SNAA	**Sanae**	**58.04**	**160**	*e*P		**P**	**10 08 29.8**	**-0.6**
	comp=Z,9.7nm,1.4s								
JCT	**Junction City**	**63.21**	**332**	*e*P		**P**	**10 09 05.3**	**-0.8**
	comp=Z,4.9nm,0.8s								
LTX	**Lajitas**	**63.95**	**328**	*e*P		**P**	**10 09 12.8**	**+1.8**
TX31	**Lajitas Ar. Si**	**63.95**	**328**	*e*P		**P**	**10 09 12.6**	**+1.5**
TXAR	**Lajitas Array**	**63.95**	**328**	P		**P**	**10 09 12.8**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=153,slow=8.3,SNR=17								
MNTX	**Cornudas Mount**	**66.73**	**328**	*e*P		**P**	**10 09 28.3**	**-0.6**
	comp=Z,3.2nm,0.8s								
MSTX	**Muleshoe**	**67.48**	**332**	*e*P		**P**	**10 09 35.2**	**+1.5**
	comp=Z,9.9nm,0.9s								
VNDA	**Vanda**	**71.48**	**191**	P		**P**	**10 09 58.4**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=112,slow=2.9,SNR=5.0								
SDCO	**Great Sand Dun**	**71.85**	**332**	*e*P		**P**	**10 10 02.0**	**+1.2**
	comp=Z,3.3nm,1.4s								
SYO	**Syowa Base**	**72.32**	**159**	*e*P		**P**	**10 10 01.4**	**-1.5**
O20A	**White River Ci**	**75.01**	**331**	*e*P		**P**	**10 10 21.7**	**+2.4**
	comp=Z,3.8nm,0.8s								
SRU	**San Rafael Swe**	**75.20**	**329**	*e*P		**P**	**10 10 19.8**	**-0.5**
	comp=Z,3.3nm,1.0s								
CCUT	**Cedar City**	**75.32**	**326**	*e*P		**P**	**10 10 24.4**	**+3.3**
	comp=Z,3.1nm,0.9s								
P18A	**Preston Nutter**	**75.49**	**330**	*e*P		**P**	**10 10 24.6**	**+2.4**
	comp=Z,8.9nm,1.5s								
HWUT	**Hardware Ranch**	**77.67**	**330**	*e*P		**P**	**10 10 36.0**	**+1.6**
	comp=Z,4.1nm,0.8s								
PD31	**Pinedale Array**	**77.74**	**332**	*e*P		**P**	**10 10 37.4**	**+2.6**
PDAR	**Pinedale Array**	**77.74**	**332**	P		**P**	**10 10 37.4**	**+2.6**
	comp=Z,0.4nm,0.4s,baz=170,slow=2.5,SNR=3.6								
SNOW	**Snow King Moun**	**78.82**	**332**	*e*P		**P**	**10 10 40.7**	**0.0**
	comp=Z,3.9nm,0.9s								
ULM	**Lac du Bonnet**	**79.72**	**344**	P		**P**	**10 10 45.6**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=149,slow=3.6,SNR=3.2								
MAW	**Mawson**	**79.91**	**164**	P		**P**	**10 10 44.1**	**-1.9**
	comp=Z,2.2nm,0.8s,baz=269,slow=8.0,SNR=3.6								
MAW	**Mawson**	**79.91**	**164**	*e*P		**P**	**10 10 46.5**	**+0.4**
	comp=Z,2.6nm,1.4s								
HLID	**Hailey**	**80.51**	**329**	*e*P		**P**	**10 10 50.9**	**+1.1**
	comp=Z,3.5nm,1.0s								
TOA1	**Torodi Ar. Sit**	**80.77**	**70**	*e*P		**P**	**10 10 51.2**	**-0.4**
	comp=Z,41nm,1.9s								
TORD	**Torodi Ar. Bea**	**80.77**	**70**	P		**P**	**10 10 51.2**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=263,slow=5.1,SNR=21								
MCMT	**McKenzie Canyo**	**80.81**	**331**	*e*P		**P**	**10 10 53.9**	**+2.5**
DLBC	**Dease Lake**	**97.95**	**333**	LR		LR	11 01 53.4		
	comp=Z,30nm,18.5s,baz=327,slow=39								
ASAR	**Alice Springs**	**124.53**	**208**	PKP		**PKPdf**	**10 17 36.5**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=141,slow=1.6,SNR=8.6								
H11S2	**WAKE ISLAND Hy**	**126.60**	**274**	T		T	12 37 13.0		
	baz=108,slow=74,SNR=8.4								
H11S1	**WAKE ISLAND Hy**	**126.61**	**274**	T		T	12 37 14.9		
	baz=108,slow=74,SNR=10								
H11S3	**WAKE ISLAND Hy**	**126.62**	**274**	T		T	12 37 13.1		
	baz=108,slow=74,SNR=9.2								
WRA	**Warramunga Arr**	**127.62**	**210**	PKP		**PKPdf**	**10 17 42.9**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=155,slow=1.7,SNR=14								
KURBB	**Kurchatov Arra**	**146.58**	**36**	PKPbc		**PKPbc**	**10 18 18.5**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=303,slow=3.5,SNR=10								
ZALV	**Zalesovo Beam**	**147.35**	**27**	PKPbc		**PKPdf**	**10 18 19.1**	**+0.7**
	comp=Z,9.7nm,0.7s,baz=301,slow=4.2,SNR=35								
MKAR	**Makanchi Array**	**150.79**	**39**	PKPbc		**PKPbc**	**10 18 30.3**	**+0.5**
	comp=Z,6.4nm,0.7s,baz=320,slow=2.1,SNR=56								
SONM	**Songino Array**	**158.75**	**5**	PKP		**PKPdf**	**10 18 36.5**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=297,slow=1.0,SNR=3.7								

ROM 24 10:02:12.3±0.3,43˚.33N×13˚.29E,h5km,Md1.9/3,Ml1.1/2, Error ellipse: s-maj=3.1km s-min=0.8km az=77.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CING	**Cingoli**	**0.08**	**303**	Pg		Pg	10 02 14.5	+0.3
CING					Sg	Sg	10 02 15.8	+0.4
	396nm,0.4s								
FDMO	**Fiordimonte**	**0.33**	**207**	Pg		Pg	10 02 19.6	+0.9
FDMO					Sg	Sb	10 02 25.2	-1.0
	25nm,0.4s								
**PIE

KMNR	**Kamenistaya**	**4.12**	**8**	PN	**Pn**	**10 36 47.5**	**+2.2**
KMNR	**Kamenistaya**	**4.12**	**8**	*e*P	**Pn**	**10 36 47.5**	**+2.2**
ESO	**Esso**	**4.26**	**356**	PN	**Pn**	**10 36 47.7**	**+0.6**
ESO	**Esso**	**4.26**	**356**	*e*P	**Pn**	**10 36 47.7**	**+0.6**
BZMR	**Bezymyannaya**	**4.32**	**9**	PN	**Pn**	**10 36 49.2**	**+1.1**
BZMR	**Bezymyannaya**	**4.32**	**9**	*e*P	**Pn**	**10 36 49.2**	**+1.1**
KIRR	**Kirishev**	**4.32**	**8**	PN	**Pn**	**10 36 49.6**	**+1.5**
KIRR	**Kirishev**	**4.32**	**8**	*e*P	**Pn**	**10 36 49.6**	**+1.5**
KPT	**Kopyto**	**4.33**	**7**	PN	**Pn**	**10 36 49.2**	**+1.1**
KPT	**Kopyto**	**4.33**	**7**	*e*P	**Pn**	**10 36 49.2**	**+1.1**
ZLN	**Zelenaya**	**4.44**	**11**	PN	**Pn**	**10 36 52.1**	**+2.5**
ZLN				S	**Sn**	**10 37 41.4**	**+1.4**
ZLN	**Zelenaya**	**4.44**	**11**	*e*P	**Pn**	**10 36 52.1**	**+2.5**
ZLN				*e*S	**Sn**	**10 37 41.4**	**+1.4**
LGNR	**Loginova**	**4.49**	**10**	PN	**Pn**	**10 36 52.4**	**+1.9**
LGNR	**Loginova**	**4.49**	**10**	*e*P	**Pn**	**10 36 52.4**	**+1.9**
CIRR	**Tsirk**	**4.53**	**11**	PN	**Pn**	**10 36 52.8**	**+1.9**
CIRR	**Tsirk**	**4.53**	**11**	*e*P	**Pn**	**10 36 52.8**	**+1.9**
KLY	**Klyuchi**	**4.71**	**10**	PN	**Pn**	**10 36 55.6**	**+2.4**
KLY	**Klyuchi**	**4.71**	**10**	*e*P	**Pn**	**10 36 55.6**	**+2.4**
KBG	**Krutoberegovo**	**5.01**	**23**	PN	**Pn**	**10 36 57.9**	**+0.6**
KBG				S	**Sn**	**10 37 53.8**	**0.0**
KBG	**Krutoberegovo**	**5.01**	**23**	*e*P	**Pn**	**10 36 57.9**	**+0.6**
KBG				*e*S	**Sn**	**10 37 53.8**	**0.0**
BDR	**Baidarnaya**	**5.03**	**12**	PN	**Pn**	**10 36 59.7**	**+2.1**
BDR	**Baidarnaya**	**5.03**	**12**	*e*P	**Pn**	**10 36 59.7**	**+2.1**
SMKR	**Semkarok**	**5.08**	**14**	PN	**Pn**	**10 36 59.4**	**+1.1**
SMKR	**Semkarok**	**5.08**	**14**	*e*P	**Pn**	**10 36 59.4**	**+1.1**
SRKR	**Sorokina**	**5.10**	**12**	PN	**Pn**	**10 37 00.6**	**+1.9**
SRKR	**Sorokina**	**5.10**	**12**	*i* P	**Pn**	**10 37 00.6**	**+1.9**
BKI	**Bering**	**5.34**	**46**	PN	**Pn**	**10 37 01.1**	**-0.8**
BKI	**Bering**	**5.34**	**46**	*i* P	**Pn**	**10 37 01.1**	**-0.8**
BKI				*e*S	**Sn**	**10 37 56.2**	**-5.8**
MA2	**Magadan**	**9.24**	**332**	*e*PN	**Pn**	**10 37 54.7**	**-0.3**
MA2	**Magadan**	**9.24**	**332**	*e*Pn	**Pn**	**10 37 54.7**	**-0.3**
UGL	**Uglegorsk**	**11.28**	**263**	*e*PN	**Pn**	**10 38 20.6**	**-2.3**
SEY	**Seymchan**	**11.86**	**345**	P	**Pn**	**10 38 33.5**	**+2.7**
	comp=N,0.1nm,0.3s,baz=190,slow=18,SNR=3.4						
SEY	**Seymchan**	**11.86**	**345**	*i* PN	**Pn**	**10 38 30.5**	**-0.2**
ERM	**Erimo**	**14.62**	**235**	*i* P	**Pn**	**10 39 05.8**	**-1.9**
HABR	**Khabarovsk**	**15.84**	**268**	P	**Pn**	**10 39 20.4**	**-2.8**
HABR				*e*S	**Sn**	**10 42 13.4**	**-4.4**
HABR				pmax	pmax		
	comp=N,4.0nm,0.9s						
HABR				pmax	pmax		
	comp=E,13nm,0.9s						
HABR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HABR				MLR	MLR		
	comp=Z,14nm,15.0s						
KLR	**Kul'dur**	**17.64**	**273**	P	**P**	**10 39 45.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=74,slow=16,SNR=8.6						
KLR	**Kul'dur**	**17.64**	**273**	*i* P	**Pn**	**10 39 43.4**	**-2.1**
YAK	**Yakutsk**	**19.01**	**314**	P	**P**	**10 39 58.3**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=205,slow=0.2,SNR=16						
YAK	**Yakutsk**	**19.01**	**314**	*e*P	**P**	**10 39 58.8**	**-1.7**
YAK				pmax	pmax		
	comp=E,19nm,1.1s						
YAK				pmax	pmax		
	comp=Z,62nm,0.9s						
YAK	**Yakutsk**	**19.01**	**314**	*e*P	**P**	**10 39 58.6**	**-1.8**
MJAR	**Matsushiro Arr**	**21.27**	**233**	LR	LR	10 49 29.6	
	comp=Z,99nm,20.4s,baz=90,slow=39						
TIXI	**Tiksi**	**24.16**	**337**	P	**P**	**10 40 53.3**	**-0.4**
	comp=Z,19nm,0.4s,baz=126,slow=11,SNR=60						
TIXI	**Tiksi**	**24.16**	**337**	*e*P	**P**	**10 40 52.9**	**-0.8**
	comp=Z,22nm,0.5s						
HIA	**Hailar**	**25.05**	**280**	⇓P	**P**	**10 41 01.4**	**-0.7**
HIA				pmax	pmax		
	comp=E,15nm,0.6s						
HIA	**Hailar**	**25.05**	**280**	*e*P	**P**	**10 41 02.7**	**+0.6**
	comp=Z,21nm,0.8s						
KSRS	**Korea Array**	**26.22**	**249**	P	**P**	**10 41 14.1**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=36,slow=11,SNR=3.5						
KSAR	**Wonju Array Be**	**26.25**	**249**	P	**P**	**10 41 14.1**	**+1.1**
KSAR	**Wonju Array Be**	**26.25**	**249**	*e*P	**P**	**10 41 14.1**	**+1.1**
BOD	**Bodaibo**	**26.41**	**301**	*e*P	**P**	**10 41 11.9**	**-2.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s						
BPAW	**Bear Paw Mtn.**	**28.40**	**45**	*e*P	**P**	**10 41 31.5**	**-0.5**
	comp=Z,0.6nm,0.8s						
MCK	**McKinley**	**29.30**	**46**	*e*P	**P**	**10 41 38.8**	**-1.2**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MCK	**McKinley**	**29.30**	**46**	*e*P	**P**	**10 41 38.8**	**-1.2**
	comp=Z,3.9nm,0.7s						
ILAR	**Eielson Array**	**30.18**	**44**	P	**P**	**10 41 48.5**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=255,slow=7.6,SNR=30						
H11N2	**WAKE ISLAND Hy**	**32.45**	**166**	T	T	11 16 19.6	
	baz=350,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.47**	**166**	T	T	11 16 19.4	
	baz=350,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.47**	**167**	T	T	11 16 22.4	
	baz=350,slow=76						
H11S1	**WAKE ISLAND Hy**	**33.63**	**167**	T	T	11 17 48.9	
	baz=351,slow=76						
H11S3	**WAKE ISLAND Hy**	**33.64**	**167**	T	T	11 17 49.9	
	baz=351,slow=76						
H11S2	**WAKE ISLAND Hy**	**33.64**	**167**	T	T	11 17 49.2	
	baz=351,slow=76						
SONM	**Songino Array**	**33.74**	**285**	P	**P**	**10 42 19.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=48,slow=7.7,SNR=3.9						
DLBC	**Dease Lake**	**39.31**	**52**	P	**P**	**10 43 09.3**	**+2.8**
	comp=Z,0.9nm,0.6s,baz=239,slow=5.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**43.11**	**304**	P	**P**	**10 43 35.7**	**-1.9**
	comp=Z,1.2nm,0.4s,baz=64,slow=8.3,SNR=3.8						
NVS	**Novosibirsk**	**43.50**	**305**	*e*P	**P**	**10 43 39.6**	**-1.0**
YKA	**Yellowknife Ar**	**44.56**	**41**	P	**P**	**10 43 49.4**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=80,slow=29,SNR=3.6						
KURK	**Kurchatov**	**48.05**	**302**	*e*P	**P**	**10 44 15.3**	**-1.2**
KURK				pmax	pmax		
	comp=Z,49nm,0.6s						
KURK	**Kurchatov**	**48.05**	**302**	*e*P	**P**	**10 44 15.3**	**-1.2**
	comp=Z,49nm,0.6s						
KURBB	**Kurchatov Arra**	**48.15**	**302**	P	**P**	**10 44 16.1**	**-1.2**
	comp=Z,3.1nm,0.4s,baz=61,slow=7.9,SNR=42						
MKAR	**Makanchi Array**	**48.31**	**296**	P	**P**	**10 44 17.3**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=54,slow=6.8,SNR=19						
BVAR	**Borovoye Array**	**50.86**	**309**	P	**P**	**10 44 36.4**	**-1.6**
	comp=Z,3.2nm,0.6s,baz=59,slow=8.8,SNR=18						
BRVK	**Borovoye**	**50.90**	**309**	⇑*e*P	**P**	**10 44 36.6**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**50.90**	**309**	*e*P	**P**	**10 44 36.8**	**-1.4**
	comp=Z,4.0nm,0.3s						
ARU	**Arti**	**54.09**	**318**	P	**P**	**10 45 00.5**	**-1.2**
	comp=Z,3.9nm,0.3s,baz=40,slow=7.7,SNR=4.5						
ARU	**Arti**	**54.09**	**318**	*e*P	**P**	**10 45 00.4**	**-1.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ARU	**Arti**	**54.09**	**318**	*e*P	**P**	**10 45 00.3**	**-1.3**
	comp=Z,3.4nm,0.4s						
ARCES	**ARCESS Array B**	**54.46**	**342**	P	**P**	**10 45 03.6**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=57,slow=7.4,SNR=10						
ARCES	**ARCESS Array B**	**54.46**	**342**	*e*P	**P**	**10 45 04.1**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSH	**Kashi**	**56.47**	**293**	*e*P	**P**	**10 45 21.9**	**+2.6**
KSH				pP	sP	10 45 42.5	-3.0
KSH				PcP	**PcP**	**10 46 18.4**	**+3.1**
KSH				PP	**PP**	**10 47 29.4**	**+4.2**
KSH				S	**S**	**10 53 02.0**	**-2.9**
KSH				ScS	**ScS**	**10 55 00.0**	**-1.8**
KSH	**Kashi**	**56.47**	**293**	SS	**SS**	**10 56 51.5**	**-0.9**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,79nm,3.9s						
KSH				LR	LR		
	comp=N,170nm,8.8s						
KSH				LR	LR		
	comp=E,140nm,8.4s						
CMAR	**Chiang Mai Arr**	**57.38**	**258**	P	**P**	**10 45 25.5**	**-0.3**
	comp=E,0.6nm,0.3s,baz=25,slow=7.0,SNR=3.4						
ABKAR	**Akbulak array**	**58.31**	**311**	*e*P	**P**	**10 45 31.0**	**-0.9**
	comp=E,0.5nm,0.4s						
PDAR	**Pinedale Array**	**58.67**	**60**	P	**P**	**10 45 36.2**	**+1.4**
	comp=E,0.4nm,0.5s,baz=350,slow=4.8,SNR=3.4						
FINES	**FINESS Array B**	**61.20**	**336**	P	**P**	**10 45 51.6**	**+0.1**
	comp=E,2.7nm,0.5s,baz=38,slow=7.0,SNR=29						
NB2	**NORSAR Subarra**	**64.75**	**343**	P	**P**	**10 46 14.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**64.75**	**343**	P	**P**	**10 46 15.1**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=22,slow=6.4,SNR=5.6						
HFS	**Hagfors**	**65.13**	**342**	P	**P**	**10 46 17.7**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=43,slow=5.0,SNR=22						
GEYT	**Alibeck**	**67.42**	**303**	P	**P**	**10 46 32.6**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=32,slow=6.8,SNR=3.0						
AKASG	**Malin Array Be**	**69.55**	**329**	P	**P**	**10 46 45.1**	**-0.5**
	comp=Z,4.2nm,0.5s,baz=32,slow=6.4,SNR=12						
TXAR	**Lajitas Array**	**71.68**	**66**	P	**P**	**10 47 00.6**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=298,slow=4.8,SNR=20						
STHS	**Stebnicka Huta**	**73.11**	**333**	*e*P	**P**	**10 47 08.6**	**+1.5**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.2s						
STHS	**Stebnicka Huta**	**73.11**	**333**	*e*P	**P**	**10 47 08.6**	**+1.5**
WRA	**Warramunga Arr**	**74.58**	**204**	P	**P**	**10 47 16.4**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=19,slow=6.1,SNR=12						
MLR	**Muntele Rosu**	**75.17**	**328**	P	**P**	**10 47 20.5**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=219,slow=5.6,SNR=5.8						
GERES	**GERESS Array B**	**75.62**	**337**	P	**P**	**10 47 22.3**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=56,slow=5.0,SNR=3.7						
GERES	**GERESS Array B**	**75.62**	**337**	*e*P	**P**	**10 47 23.0**	**+1.3**
BRTR	**Keskin Array B**	**77.37**	**320**	P	**P**	**10 47 32.5**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=34,slow=2.3,SNR=7.8						
ASAR	**Alice Springs**	**78.26**	**204**	P	**P**	**10 47 37.7**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=13,slow=5.0,SNR=7.9						
ASAR	**Alice Springs**	**78.26**	**204**	*e*P	**P**	**10 47 37.2**	**+0.6**
MMAI	**Mount Meron Ar**	**82.35**	**315**	P	**P**	**10 47 58.5**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=23,slow=6.6,SNR=4.4						

IDC ***24*** *10:46:46.6±1.0, 37.61N×142.93E, h0km, mb3.7/8, mb1 3.7/12, mb1mx3.6/48, mbtmp3.7/12, ML3.5/3, Error ellipse: s-maj=24.2km s-min=18.0km az=91.0*
ISCJB ***24*** *10:46:48.6±0.7, 37.63N±0.05×142.77E±0.06, h24km, mb3.6/8, Error ellipse: s-maj=6.9km s-min=6.7km az=159.3*
JMA ***24*** *10:46:49.1±0.2, 37.65N×142.75E, h33km, M3.9*

ISC 24 10:46:50.5±1.0, 37.67N±0.05×142.76E±0.08, h24km, n29, σ1s52/29, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.36**	**306**	P	**Pn**	**10 47 12.4**	**-1.6**
JIO				*e*S	**Sn**	**10 47 30.2**	**-1.1**
JFK	**Kawauchi**	**1.53**	**259**	P	**Pn**	**10 47 14.5**	**-1.9**
JFK				*e*S	**Sn**	**10 47 32.9**	**-2.7**
JMM	**Marumori**	**1.57**	**278**	P	**Pn**	**10 47 15.1**	**-1.8**
JMM				*e*S	**Sn**	**10 47 34.3**	**-2.2**
JMK	**Ichinoseki**	**1.77**	**317**	P	**Pn**	**10 47 18.6**	**-0.9**
JMK				*e*S	**Sn**	**10 47 40.2**	**-1.0**
JOU	**Okura**	**1.80**	**293**	P	**Pn**	**10 47 18.8**	**-1.2**
JFT	**Otama**	**1.93**	**266**	P	**Pn**	**10 47 21.4**	**-0.5**
JOM	**Ohasama**	**2.14**	**328**	P	**Pn**	**10 47 23.8**	**-0.9**
JYS	**Shirataka**	**2.20**	**285**	*e*S	**Sn**	**10 47 51.6**	**-0.5**
JYK	**Kamoyama**	**2.27**	**304**	P	**Pn**	**10 47 26.3**	**-0.1**
JAG	**Ashikaga**	**2.92**	**246**	P	**Pn**	**10 47 35.0**	**-0.5**
MJAR	**Matsushiro Arr**	**3.81**	**254**	Pn	**Pn**	**10 47 49.3**	**+1.6**
	4.8nm,0.3s,baz=86,slow=15,SNR=33						
MAT	**Matsushiro**	**3.81**	**254**	P	**Pn**	**10 47 49.5**	**+1.8**
MAT				*e*S	**Sn**	**10 48 33.0**	**+1.2**
JHJ	**Hachijo jima 2**	**5.15**	**209**	Pn	**Pn**	**10 48 05.5**	**-0.6**
	9.7nm,0.3s,baz=73,slow=19,SNR=3.5						
JHJ				Sn	**Sn**	**10 49 01.8**	**-3.0**
	22nm,0.3s,baz=252,slow=23,SNR=6.0						
USRK	**Ussuriysk Ar.**	**10.44**	**312**	Pn	**Pn**	**10 49 17.3**	**-1.3**
	0.1nm,0.3s,baz=126,slow=14,SNR=2.9						
KSRS	**Korea Array**	**11.78**	**273**	Pn	**Pn**	**10 49 40.1**	**+3.1**
	0.1nm,0.3s,baz=84,slow=12,SNR=4.1						
SEY	**Seymchan**	**25.97**	**10**	P	**P**	**10 52 22.1**	**+1.2**
	1.2nm,0.5s,baz=189,slow=12,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**27.57**	**124**	T	T	11 21 32.4	
	baz=316,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.58**	**124**	T	T	11 21 42.0	
	baz=316,slow=75,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**27.59**	**124**	T	T	11 21 35.5	
	baz=316,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.33**	**126**	T	T	11 22 27.9	
	baz=318,slow=76,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**28.33**	**126**	T	T	11 22 27.5	
	baz=318,slow=76,SNR=10						
SONM	**Songino Array**	**28.34**	**303**	P	**P**	**10 52 43.6**	**+1.1**
	0.6nm,0.5s,baz=108,slow=9.5,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**28.34**	**126**	T	T	11 22 29.8	
	baz=318,slow=76,SNR=10.0						
ZALV	**Zalesovo Beam**	**42.29**	**312**	P	**P**	**10 54 42.4**	**+0.6**
	0.6nm,0.3s,baz=107,slow=7.8,SNR=3.0						
MKAR	**Makanchi Array**	**44.70**	**302**	P	**P**	**10 55 02.1**	**+0.7**
	1.0nm,0.8s,baz=92,slow=9.3,SNR=7.7						
KURBB	**Kurchatov Arra**	**46.46**	**308**	P	**P**	**10 55 15.3**	**0.0**
	0.6nm,0.4s,baz=83,slow=8.3,SNR=6.1						
ILAR	**Eielson Array**	**48.38**	**33**	P	**P**	**10 55 29.6**	**-0.4**
	0.5nm,0.7s,baz=256,slow=7.2,SNR=7.3						
WRA	**Warramunga Arr**	**57.85**	**189**	P	**P**	**10 56 39.9**	**-0.3**
	0.5nm,0.7s,baz=7.6,slow=7.0,SNR=4.7						
ASAR	**Alice Springs**	**61.58**	**189**	P	**P**	**10 57 04.8**	**-1.1**
	0.2nm,0.7s,baz=8.9,slow=6.6,SNR=3.1						

JMA 24 10:52:33.1±0.2, 38.06N×144.28E, h44km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.29**	**297**	P	Pn	10 53 09.4	+1.1
OFUJ				*e*S	Sn	10 53 36.3	+1.1
JIO	**Ouri**	**2.34**	**281**	P	Pn	10 53 10.6	+1.6
JIO				*e*S	Sn	10 53 37.9	+1.3
JMK	**Ichinoseki**	**2.56**	**291**	P	Pn	10 53 13.6	+1.5
JMK				*e*S	Sn	10 53 43.8	+1.8
JOM	**Ohasama**	**2.73**	**302**	*e*S	Sn	10 53 47.4	+1.3
JOU	**Okura**	**2.87**	**277**	*e*S	Sn	10 53 51.7	+2.2
JRG	**Rokugo**	**3.15**	**296**	S	Sn	10 53 59.5	+3.0
JFT	**Otama**	**3.17**	**261**	*e*S	Sn	10 53 59.5	+2.4
JCH	**Churui**	**4.60**	**352**	P	Pn	10 53 39.3	-0.8
JCH				*e*S	Sn	10 54 29.7	-2.6
JRY	**Ryogami san**	**4.76**	**246**	P	Pn	10 53 43.7	+1.4
JRY				*e*S	Sn	10 54 36.2	-0.1

IDC 24 11:02:23.1±2.8, 53.77N×88.12E, h0km, mb1 3.4/2, mb1mx3.1/44, mbtmp3.4/2, ML3.1/2, 2C-4D, Error ellipse: s-maj=23.7km s-min=15.9km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**277**	*i*		11 14 58.5	
	baz=94,slow=319,SNR=10						
ZALV	**Zalesovo Beam**	**1.96**	**277**	Pg	Pn	11 02 57.9	+0.3
	4.0nm,0.3s,baz=94,slow=12,SNR=46						
ZALV				Lg	Lg	11 03 25.1	
	18nm,0.3s,baz=94,slow=26,SNR=37						
KURBB	**Kurchatov Arra**	**6.68**	**246**	Pn	Pn	11 04 03.2	+0.7
	0.3nm,0.3s,baz=62,slow=14,SNR=34						
KURBB				Sn	Sn	11 05 18.7	-0.5
	0.1nm,0.3s,baz=76,slow=22,SNR=4.0						
KURBB				Lg	Lg	11 05 56.8	
	0.1nm,0.3s,baz=57,slow=30,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.68**	**246**	⇓Pn	Pn	11 04 02.4	0.0
	2.8nm,0.3s						
KURBB				⇓Sn	Sn	11 05 17.9	-1.3
	5.6nm,0.5s						
KURBB				⇓Lg	Lg	11 05 55.0	
	4.9nm,0.7s						
MK31	**Makanchi Array**	**7.91**	**210**	⇓Pn	Pn	11 04 20.1	+0.8
	0.6nm,0.6s,baz=29,slow=13,SNR=9.5						
MK31				⇑Sn	Sn	11 05 47.7	-1.8
	0.3nm,0.5s,baz=34,slow=27,SNR=3.1						
MK31				⇑Lg	Lg	11 06 32.9	
	1.1nm,0.6s,baz=33,slow=15,SNR=4.0						
MKAR	**Makanchi Array**	**7.91**	**210**	Pn	Pn	11 04 20.5	+1.1
	0.3nm,0.3s,baz=30,slow=14,SNR=11						
MKAR				Pg	Pb	11 04 30.8	-10
	0.3nm,0.3s,baz=30,slow=15,SNR=6.3						
MKAR				Sn	Sn	11 05 49.2	-0.4
	0.3nm,0.3s,baz=33,slow=24,SNR=6.2						
MKAR				Lg	Lg	11 06 31.6	
	0.2nm,0.3s,baz=32,slow=33,SNR=5.8						

GUC ***24*** *11:18:25.7±0.6, 32.25S×70.28W, h142km±9km, ML3.2*
ISCJB ***24*** *11:18:26.6±1.0, 32.09S±0.05×69.98W±0.07, h108km±12km, Error ellipse: s-maj=11.4km s-min=4.8km az=40.0*
SJA ***24*** *11:18:27.0±0.8, 32.04S×69.92W, h98km±6km, ML3.3, MW3.5*

ISC 24 11:18:27.3±1.9, 32.09S±0.05×69.98W±0.06,
h102km±17km, n17, σ0s80/28, 2C-3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.52**	**105**	*e*P	**Pn**	**11 18 43.6**	**-0.3**
AUSP				*e*S	**Sn**	**11 18 56.6**	**+0.3**
RTLS	**Leoncito**	**0.65**	**64**	*e*P	**Pn**	**11 18 44.5**	**-0.4**
ASAL	**Salagasta**	**1.09**	**118**	*e*P	**Pn**	**11 18 49.1**	**0.0**
ASAL				*e*S	**Sn**	**11 19 06.2**	**+0.7**
PEL	**Peldehue**	**1.21**	**209**	*e*P	**Pn**	**11 18 50.0**	**-0.4**
PEL				*i* S	**Sn**	**11 19 08.2**	**+0.5**
PEL				IAML		11 19 08.9	
	comp=E,528nm,0.5s						
ROCH	**El Roble**	**1.24**	**224**	⇑*i* P	**Pn**	**11 18 50.4**	**-0.4**
ROCH				*i* S	**Sn**	**11 19 09.0**	**+0.4**
ROCH				IAML		11 19 10.5	
	comp=N,589nm,0.5s						
RTCV	**Cerro Valdivia**	**1.25**	**80**	*e*P	**Pn**	**11 18 50.1**	**-0.7**
RTCV				*e*S	**Sn**	**11 19 07.8**	**-0.7**
FCH	**Farellones**	**1.27**	**192**	*e*P	**Pn**	**11 18 51.8**	**+0.5**
FCH				*i* S	**Sn**	**11 19 11.2**	**+1.8**
FCH				IAML		11 19 14.7	
	comp=E,443nm,0.2s						
CLCH	**Cerro Calan**	**1.39**	**200**	⇑*i* P	**Pn**	**11 18 52.5**	**+0.1**
CLCH				*i* S	**Sn**	**11 19 12.3**	**+0.8**
CLCH				IAML		11 19 17.2	
	comp=E,354nm,0.6s						
AAGR	**Agrelo**	**1.39**	**136**	*e*P	**Pn**	**11 18 53.0**	**+0.5**
AAGR				*e*S	**Sn**	**11 19 12.3**	**+0.7**
RTLL	**Cerro Villicun**	**1.49**	**60**	*e*P	**Pn**	**11 18 53.1**	**-0.5**
RTLL				⇓*e*S	**Sn**	**11 19 12.7**	**-0.9**
RCDM	**Rinconada Maip**	**1.56**	**206**	⇓*i* P	**Pn**	**11 18 52.7**	**-1.8**
RCDM				*i* S	**Sn**	**11 19 13.9**	**-1.2**
ANTU	**Antumapu**	**1.58**	**200**	*i* S	**Sn**	**11 19 14.9**	**-0.6**
ANTU				IAML		11 19 16.5	
	comp=E,415nm,0.4s						
ACCO	**Cerro Coronel**	**1.69**	**28**	*e*P	**Pn**	**11 18 56.2**	**-0.2**
ACCO				⇓*e*S	**Sn**	**11 19 18.5**	**+0.1**
ACCO				IAML		11 19 20.6	
	comp=Z,266nm,0.3s						
AMOG	**MOGNA**	**1.71**	**48**	*e*P	**Pn**	**11 18 56.1**	**-0.3**
AROD	**Rodeo**	**1.96**	**13**	*e*P	**Pn**	**11 19 00.9**	**+1.0**
ACDV	**Cuesta del Vie**	**2.05**	**21**	*e*P	**Pn**	**11 19 01.3**	**+0.5**
AGUA	**GUANDACOL**	**2.89**	**27**	*e*P	**Pn**	**11 19 12.0**	**+0.2**

WEL 24 11:22:56.7±0.1, 43.59S×172.50E, h6km, ML3.6/14, 4C-3D, Error ellipse: s-maj=0.8km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.09**	**80**	⇓PG	Pg	11 22 58.7	-0.1
CRLZ				SG	Sg	11 23 00.4	+0.2
CRLZ				AML	AML	11 23 00.5	
CRLZ				AML	AML	11 23 00.5	
CRLZ				AML	AML	11 23 00.5	
MQZ	**McQueen's Vall**	**0.16**	**136**	⇓PG	Pg	11 22 60.0	0.0
MQZ				SG	Sg	11 23 02.6	+0.4
MQZ				AML	AML	11 23 02.7	
OXZ	**Oxford**	**0.43**	**308**	⇑PG	Pg	11 23 04.7	-0.2
LTZ	**Lake Taylor**	**0.82**	**348**	⇑P*	Pg	11 23 12.8	+0.3
LTZ				AML	AML	11 23 24.6	
LTZ				AML	AML	11 23 24.7	
RPZ	**Rata Peaks**	**1.05**	**263**	⇓P*	Pg	11 23 16.5	-0.4
RPZ				AML	AML	11 23 32.2	
RPZ				AML	AML	11 23 32.6	
INZ	**Inchbonnie**	**1.16**	**318**	P*	Pg	11 23 18.4	-0.5
WVZ	**Waitaha Valley**	**1.38**	**291**	PN	Pn	11 23 22.1	-0.4
WVZ				AML	AML	11 23 45.5	
KHZ	**Kahutara**	**1.40**	**33**	PN	Pn	11 23 20.8	-1.9
**

AKSA Akutan Strait 4.23 57 P **Pn** 11 43 47.4 +0.9
GAEA Gareloi East 4.33 270 P **Pn** 11 43 47.2 -0.7
GANE Gareloi Northe 4.35 270 P **Pn** 11 43 47.7 -0.4
WESP Westdahl Peak 4.90 57 P **Pn** 11 43 56.7 +0.9
SPIA Saint Paul Isl 5.25 9 *e*Pn **Pn** 11 44 01.5 +1.0
SSLW Shishaldin Wes 5.34 56 P **Pn** 11 44 02.6 +0.8
DT1 Dutton Round H 6.44 57 P **Pn** 11 44 16.6 -0.2
SDPT Sand Point 7.49 59 *e*Pn **Pn** 11 44 31.3 +0.2
SDPT *e*Sn **Sn** 11 45 52.6 -2.0
SMY Shemya 8.69 280 *e*P **Pn** 11 44 49.7 +2.2
SMY Shemya 8.69 280 *e*Pn **Pn** 11 44 49.7 +2.2
CHGN Chignik 8.93 56 *e*Pn **Pn** 11 44 51.5 +0.7
OHAK Old Harbor 11.90 57 *e*Pn **Pn** 11 45 30.3 -1.1
KDAK Kodiak Island 12.44 55 *e*P **Pn** 11 45 37.6 -1.1
KDAK Kodiak Island 12.44 55 *e*Pn **Pn** 11 45 37.6 -1.1
SVW2 Sparrevohn 12.71 38 *e*Pn **Pn** 11 45 45.6 +3.1
RSO Redoubt South 13.50 44 *e*Pn **Pn** 11 45 57.1 +3.7
HOM Homer 13.61 48 *e*Pn **Pn** 11 45 56.0 +1.3
CNPM China Poot 13.74 49 *e*Pn **Pn** 11 45 58.9 +2.4
TT01 Tatalina 13.77 31 *e*Pn **Pn** 11 45 56.1 -0.8
TTA Tatalina 13.79 31 *e*P **Pn** 11 45 59.0 +1.8
TTA Tatalina 13.79 31 *e*Pn **Pn** 11 45 59.0 +1.8
BRLK Bradley Lake 14.00 48 *e*Pn **Pn** 11 46 01.7 +1.6
SPU Mount Spurr 14.16 42 *e*Pn **Pn** 11 46 02.5 +0.3
SEW Seward 14.80 48 *e*Pn **Pn** 11 46 09.2 -1.3
SUA Susitna One 14.85 42 *e*Pn **Pn** 11 46 13.2 +1.9
PPLA Purkeypile 15.09 36 *e*Pn **P** 11 46 17.0 -1.7
69nm,1.4s
RC01 Rabbit Creek A 15.10 44 *e*Pn **Pn** 11 46 16.0 +1.6
29nm,1.1s
CAST Castle Rocks 15.45 35 *e*Pn **Pn** 11 46 20.1 +1.2
32nm,1.2s
PMR Palmer 15.59 43 *e*P **P** 11 46 26.0 +1.9
PMR pmax pmax
comp=Z,17nm,1.2s
PMR Palmer 15.59 43 *e*Pn **P** 11 46 25.9 +1.9
comp=Z,16nm,1.2s
KTH Kantishna Hill 15.94 35 *e*P **Pn** 11 46 26.7 +1.4
SML Sawmill 16.03 43 *e*P **Pn** 11 46 27.6 +1.2
SML pmax pmax
comp=Z,41nm,1.3s
SML Sawmill 16.03 43 *e*Pn **Pn** 11 46 27.6 +1.2
comp=Z,41nm,1.3s
TRF Thorofare Moun 16.11 36 *e*Pn **P** 11 46 30.2 +0.2
comp=Z,50nm,1.3s
BPAW Bear Paw Mtn. 16.25 34 *e*Pn **P** 11 46 31.2 -0.3
comp=Z,28nm,1.1s
SCM Sheep Creek Mo 16.46 44 *e*P **Pn** 11 46 31.6 -0.4
SCM pmax pmax
comp=Z,50nm,1.2s
SCM Sheep Creek Mo 16.46 44 *e*Pn **Pn** 11 46 31.6 -0.4
comp=Z,50nm,1.2s
SCM *e*Sn **S** 11 49 43.3 0.0
RND Reindeer 16.62 38 *e*P **Pn** 11 46 34.5 +0.6
RND pmax pmax
comp=Z,24nm,1.0s
RND Reindeer 16.62 38 *e*Pn **Pn** 11 46 34.5 +0.6
comp=Z,24nm,1.0s
EYAK Cordova Ski Ar 16.68 49 *e*Pn **P** 11 46 36.4 +0.1
comp=Z,16nm,1.2s
MCK McKinley 16.77 37 *e*P **Pn** 11 46 36.4 +0.7
MCK pmax pmax
comp=Z,28nm,1.0s
MCK McKinley 16.77 37 *e*Pn **Pn** 11 46 36.4 +0.7
comp=Z,28nm,1.0s
BWN Browne 16.83 35 *e*Pn **P** 11 46 37.9 0.0
comp=Z,83nm,1.2s
DIV Divide 16.87 47 *e*Pn **Pn** 11 46 36.1 -1.0
comp=Z,10nm,0.8s
MLY Manley 16.93 32 *e*Pn **P** 11 46 39.2 +0.2
comp=Z,23nm,1.2s
KLU Klutina 16.94 46 *e*Pn **Pn** 11 46 36.8 -1.1
comp=Z,15nm,1.0s
KLU *e*Sn **Sn** 11 49 46.8 +1.8
DHY Denali Highway 17.02 40 *e*P **P** 11 46 40.8 +0.6
comp=Z,13nm,1.0s
RAGM Ragged Mountai 17.14 50 *e*P **P** 11 46 42.8 +1.5
comp=Z,23nm,1.0s
BMRM Bremner River 17.35 48 *e*Pn **Pn** 11 46 42.8 -0.1
comp=Z,16nm,0.9s
WRH Wood River Hil 17.49 35 *e*Pn **Pn** 11 46 44.9 +0.4
comp=Z,29nm,1.4s
CCB Clear Creek Bu 17.69 35 *e*Pn **Pn** 11 46 47.0 0.0
comp=Z,9.9nm,1.1s
MDM Murphy Dome 17.72 34 *e*Pn **P** 11 46 48.0 +0.2
comp=Z,73nm,1.8s
PAX Paxson 17.74 42 *e*P **P** 11 46 49.2 +1.2
PAX *e* 11 49 57.4
PAX pmax pmax
comp=Z,23nm,1.2s
PAX Paxson 17.74 42 *e*Pn **P** 11 46 49.2 +1.2
comp=Z,23nm,1.2s
PAX *e*Sn **Sn** 11 49 57.4 -6.9
COLA College 17.80 34 *e*P **Pn** 11 46 46.9 -1.5
COLA pmax pmax
comp=Z,21nm,0.9s
COLA College 17.80 34 *e*Pn **Pn** 11 46 46.9 -1.5
comp=Z,21nm,0.9s
CRQM Cirque 17.97 50 *e*Pn **P** 11 46 50.0 -0.7
comp=Z,36nm,1.0s
PET Petropavlovsk 17.98 285 *e*P **Pn** 11 46 52.9 +2.3
PET *e*S **Sn** 11 50 08.9 -1.2
PET pmax pmax
comp=Z,14nm,0.4s
PET MLR MLR
comp=Z,400nm,20.0s
PET MLR MLR
comp=Z,400nm,16.0s
ILAR Eielson Array 18.09 35 P **P** 11 46 49.0 -2.7
comp=Z,0.4nm,0.3s,baz=239,slow=9.7,SNR=21
ILAR S **Sn** 11 50 11.1 -1.5
baz=275,slow=20,SNR=2.4
ILAR LR LR 11 54 29.8
comp=Z,811nm,19.3s,baz=246,slow=39
ILAR ScP **ScP** 11 54 54.4 +0.4
comp=Z,0.0nm,0.3s,baz=270,slow=2.6,SNR=5.1
ILB Eielson Array 18.09 35 *e*Pn **P** 11 46 50.1 -1.7
IL1 Eielson Array 18.09 35 *e*Pn **P** 11 46 50.5 -1.3
MENT Mentasta 18.45 43 *e*P **P** 11 46 55.2 -0.6
comp=Z,78nm,0.8s
PEA0 Petropavlovsk- 18.54 286 *e*P **Pn** 11 46 58.5 +1.0
PETK Petropavlovsk- 18.54 286 P **Pn** 11 46 57.8 +0.4
comp=Z,0.7nm,0.3s,baz=87,slow=14,SNR=13
PETK LR LR 11 55 06.3
comp=Z,233nm,18.3s,baz=93,slow=40
COLD Coldfoot 18.58 27 *e*P **Pn** 11 46 59.9 +2.0
comp=Z,59nm,1.6s
DOT Dot Lake 18.61 41 *e*P **P** 11 46 57.5 0.0
comp=Z,32nm,1.1s
PCA Pinnacle 19.20 53 *e*P **Pn** 11 47 05.6 +0.2
comp=Z,63nm,0.7s
BILL Bilibino 19.27 335 *c i*P **Pn** 11 47 05.6 -0.4
BILL pmax pmax
comp=Z,59nm,0.9s
BILL MLR MLR
comp=Z,443nm,16.0s
BILL Bilibino 19.27 335 *e*P **Pn** 11 47 06.4 +0.3
comp=Z,64nm,0.9s
FYU Fort Yukon 19.67 32 *e*P **P** 11 47 09.5 +0.6
comp=Z,36nm,1.1s
DHAK Deception Hill 20.08 56 *e*P Pn 11 47 16.0 +0.2
comp=Z,50nm,0.8s
EGAK Eagle 20.24 39 *e*P **P** 11 47 14.9 -0.3
comp=Z,18nm,0.9s
HYT Haines Junctio 20.68 51 *e*P **P** 11 47 21.1 +1.0
comp=Z,40nm,0.8s
DAWY Dawson 20.68 42 *e*P **P** 11 47 18.4 -1.6
comp=Z,7.3nm,0.8s
SKAG Skagway 21.59 55 *e*P **P** 11 47 30.2 +0.5
comp=Z,40nm,0.7s
SEY Seymchan 21.85 314 P **P** 11 47 33.0 +0.5
comp=Z,11nm,0.8s,baz=108,slow=8.8,SNR=46
SEY Seymchan 21.85 314 *e*P **P** 11 47 30.9 -1.6
MA2 Magadan 22.13 305 P **P** 11 47 36.5 +1.0
comp=Z,9.5nm,0.9s,baz=74,slow=8.9,SNR=5.9
WRAK Wrangell Islan 23.23 63 *e*P **P** 11 47 48.5 +1.4
comp=Z,17nm,1.2s
DLBC Dease Lake 24.33 58 P **P** 11 47 59.4 +2.0
comp=Z,20nm,0.7s,baz=287,slow=10,SNR=40
DLBC Dease Lake 24.33 58 *e*P **P** 11 47 59.6 +2.3
comp=Z,37nm,1.0s
INK Inuvik 24.46 34 P **P** 11 47 57.5 -0.8
comp=Z,7.5nm,0.5s,baz=240,slow=8.2,SNR=23
INK Inuvik 24.46 34 *e*P **P** 11 47 57.8 -0.5
INK pmax pmax
comp=Z,29nm,1.3s
INK Inuvik 24.46 34 *e*P **P** 11 47 57.8 -0.5
comp=Z,29nm,1.3s
YSS Yuzh-Sakhalins 29.59 278 *e*P **P** 11 48 47.2 +2.6
YSS MLR MLR
comp=Z,300nm,20.0s
B05A Bryant 31.55 77 P **P** 11 49 03.2 +1.4
baz=296
YKA Yellowknife Ar 31.58 48 P **P** 11 49 01.3 -0.6
comp=Z,1.7nm,0.4s,baz=276,slow=7.0,SNR=22
YKA PcP **PcP** 11 51 53.6 +0.6
comp=Z,0.8nm,0.8s,baz=286,slow=2.5,SNR=3.7
YKA LR LR 12 03 43.8
comp=Z,60nm,18.0s,baz=0.0,slow=40
ERM Erimo 31.85 270 *e*P **P** 11 49 02.9 -1.6
ERM pmax pmax
comp=Z,19nm,1.0s
F04D Rainier, OR 32.00 81 P **P** 11 49 07.2 +1.4
baz=299
G03D McMinnville, O 32.27 83 P **P** 11 49 10.2 +2.1
baz=300
TIXI Tiksi 32.29 329 P **P** 11 49 08.3 +0.2
comp=Z,0.7nm,0.3s,baz=75,slow=7.1,SNR=1.9
TIXI PcP **PcP** 11 51 54.8 0.0
comp=Z,3.6nm,0.4s,baz=113,slow=5.4,SNR=9.7
TIXI ScP **ScP** 11 55 35.5 +1.5
comp=Z,4.0nm,0.7s,baz=145,slow=1.7,SNR=7.0
TIXI LR LR 12 02 55.7
comp=Z,298nm,20.2s,baz=148,slow=38
TIXI Tiksi 32.29 329 *e*P **P** 11 49 07.7 -0.3
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 32.29 329 *e*P **P** 11 49 08.6 +0.6
comp=Z,3.0nm,0.9s
YAK Yakutsk 32.30 311 LR LR 12 02 09.2
comp=Z,475nm,20.0s,baz=95,slow=36
YAK Yakutsk 32.30 311 *e*P **P** 11 49 07.7 -0.5
YAK pmax pmax
comp=Z,11nm,0.9s
KIP Kipapa 32.34 156 *e*P **P** 11 49 09.1 +0.2
KIP pmax pmax
comp=Z,508nm,1.2s
B08A Colville Reser 33.16 75 *e*P **P** 11 49 17.7 +1.7
comp=Z,13nm,1.0s
I04A Tendick Farm, 33.52 84 P **P** 11 49 20.3 +1.1
baz=302
I05D Terrebonne, OR 33.89 83 P **P** 11 49 23.4 +1.1
baz=301
J05D Fort Rock, OR 34.51 84 P **P** 11 49 29.0 +1.1
baz=303
NEW Newport 34.52 74 P **P** 11 49 27.5 -0.3
baz=297,SNR=6.0
NEW Newport 34.52 74 *e*P **P** 11 49 28.4 +0.6
NEW pmax pmax
comp=Z,13nm,0.9s
NEW Newport 34.52 74 *e*P **P** 11 49 28.4 +0.6
comp=Z,13nm,0.9s
M02C Callahan 34.56 88 P **P** 11 49 30.0 +1.8
baz=305
M04C Macdoel 34.97 87 P **P** 11 49 33.1 +1.3
baz=304
K05A Summer Lake 35.03 85 *e*P **P** 11 49 34.5 +2.1
KLR Kul'dur 35.18 288 P **P** 11 49 31.1 -2.3
comp=Z,2.9nm,0.8s,baz=292,slow=19
KLR LR LR 12 05 21.9
comp=Z,184nm,18.6s,baz=72,slow=39
MOD Modoc Plateau 35.85 86 *e*P **P** 11 49 39.5 +0.1
O03D Paynes Creek 35.85 89 P **P** 11 49 40.5 +1.1
baz=306
WALA Waterton Lakes 36.05 71 *e*P **P** 11 49 41.4 +0.3
comp=Z,13nm,1.0s
BSMT Bassoo Peak 36.10 73 *e*P **P** 11 49 42.2 +0.7
BLMT Blacktail Moun 36.28 73 *e*P **P** 11 49 43.7 +0.7
H11N2 WAKE ISLAND Hy 36.28 215 T T 12 28 04.6
baz=21,slow=75,SNR=110
H11N3 WAKE ISLAND Hy 36.29 215 T T 12 28 13.4
baz=21,slow=75,SNR=98
H11N1 WAKE ISLAND Hy 36.30 215 T T 12 28 06.0
baz=21,slow=75,SNR=86
WVOR Wild Horse Val 36.58 84 *e*P **P** 11 49 45.6 0.0
WVOR pmax pmax
comp=Z,9.0nm,1.1s
WVOR Wild Horse Val 36.58 84 *e*P **P** 11 49 45.6 0.0
comp=Z,8.9nm,1.1s
MSO Missoula 37.10 74 P **P** 11 49 50.8 +0.8
baz=300
MSO Missoula 37.10 74 *e*P **P** 11 49 50.3 +0.3
comp=Z,15nm,1.2s
RES Resolute Bay 37.33 25 *e*P **P** 11 49 50.7 -0.7
RES pmax pmax
comp=Z,10.0nm,1.0s
RES Resolute Bay 37.33 25 *e*P **P** 11 49 50.7 -0.7
comp=Z,9.7nm,1.0s
CHMT Chamberlain Mo 37.47 74 *e*P **P** 11 49 53.4 +0.2
H11S1 WAKE ISLAND Hy 37.48 215 T T 12 29 41.4
baz=21,slow=76,SNR=101
H11S2 WAKE ISLAND Hy 37.49 215 T T 12 29 42.0
baz=21,slow=76,SNR=132
H11S3 WAKE ISLAND Hy 37.49 215 T T 12 29 41.5
baz=21,slow=76,SNR=82
USRK Ussuriysk Ar. 37.52 281 P **P** 11 49 51.6 -1.8
comp=Z,3.2nm,0.8s,baz=60,slow=9.1,SNR=5.2
USRK LR LR 12 04 05.0
comp=Z,345nm,22.0s,baz=44,slow=34
PAHR Pah Rah Range 37.69 88 *e*P **P** 11 49 55.7 +0.7
comp=Z,9.3nm,0.9s
MFID Camas Ranch 37.75 80 *e*P **P** 11 49 56.5 +1.0
comp=Z,6.1nm,1.1s
MAJO Matsushiro 38.21 266 *e*P **P** 11 49 58.9 -0.4
MAJO pmax pmax
comp=Z,178nm,0.9s
MAJO Matsushiro 38.21 266 *e*P **P** 11 49 59.9 +0.6
comp=Z,36nm,1.0s
MAT Matsushiro 38.21 266 P **P** 11 50 00.8 +1.5
MAT *e*S **S** 11 55 49.8 +0.6
MJAR Matsushiro Arr 38.21 266 P **P** 11 49 59.0 -0.3
comp=Z,11nm,1.0s,baz=46,slow=7.2,SNR=18
MJAR LR LR 12 04 49.1
comp=Z,156nm,20.4s,baz=65,slow=35
MJAR Matsushiro Arr 38.21 266 P **P** 11 49 59.0 -0.3
MJB9 Matsu-Tunnel 38.21 266 *e*P **P** 11 49 59.7 +0.4
comp=Z,9.3nm,1.0s
WAKR Walker 38.39 89 *e*P **P** 11 50 01.4 +0.4
comp=Z,7.1nm,0.9s
HLID Hailey 38.53 79 P **P** 11 50 02.5 +0.4
baz=303
HLID Hailey 38.53 79 *e*P **P** 11 50 02.6 +0.4
comp=Z,6.6nm,1.3s
HLID *e*S **S** 11 55 60.0 +5.7
MCMT McKenzie Canyo 38.79 77 *e*P **P** 11 50 04.7 +0.3
BOZ Bozeman (W) 39.09 75 P **P** 11 50 06.9 +0.2
baz=302,SNR=6.4
BOZ Bozeman (W) 39.09 75 *e*P **P** 11 50 07.4 +0.7
BOZ *e*S **S** 11 56 01.0 -1.5
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ Bozeman (W) 39.09 75 *e*P **P** 11 50 07.4 +0.7
comp=Z,12nm,1.2s
BOZ *e*S **S** 11 56 01.0 -1.5
ELK Elko 39.63 83 *e*P **P** 11 50 12.0 +0.6
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK Elko 39.63 83 *e*P **P** 11 50 12.0 +0.6
comp=Z,3.8nm,0.9s
YHB Horse Butte 39.83 76 *e*P **P** 11 50 11.1 -1.9
YMR Madison River 40.01 76 *e*P **P** 11 50 14.0 -0.5
YHH Holmes Hill 40.01 75 *e*P **P** 11 50 15.6 +1.0
FFC Flin Flon 40.16 58 *e*P **P** 11 50 15.6 +0.2
FFC pmax pmax
comp=Z,4.0nm,0.5s
FFC Flin Flon 40.16 58 *e*P **P** 11 50 15.6 +0.2
comp=Z,3.7nm,0.5s
GCMT Greycliff 40.18 73 *e*P **P** 11 50 16.9 +1.2
VES Vestal, Richgr 40.29 92 P **P** 11 50 17.0 +0.4
baz=311
H17A Grant Village 40.39 76 *e*P **P** 11 50 20.2 +2.5
comp=Z,20nm,1.3s
IMW Indian Meadow 40.45 77 *e*P **P** 11 50 20.4 +2.2
comp=Z,3.4nm,0.8s
PKM Mcpherson Peak 40.47 94 P **P** 11 50 18.7 +0.3
baz=312
CWC Cottonwood Cre 40.53 91 P **P** 11 50 19.6 +0.8
baz=310
GRAC Grapevine Rang 40.61 90 P **P** 11 50 20.4 +1.0
baz=310
RLMT Red Lodge 40.77 74 P **P** 11 50 21.0 +0.2
baz=303,SNR=6.4
RLMT Red Lodge 40.77 74 *e*P **P** 11 50 22.2 +1.4
comp=Z,20nm,1.0s
R11A Troy Canyon, C 40.87 87 P **P** 11 50 21.6 0.0
baz=308,SNR=8.7
R11A Troy Canyon, C 40.87 87 *e*P **P** 11 50 22.1 +0.5
comp=Z,6.2nm,1.1s
DAC Darwin (Calif) 40.93 91 *e*P **P** 11 50 23.0 +0.8
DAC pmax pmax
comp=Z,4.0nm,0.9s
DAC Darwin (Calif) 40.93 91 *e*P **P** 11 50 23.0 +0.8
comp=Z,4.4nm,0.9s
BOD Bodaibo 41.07 308 *e*P **P** 11 50 21.8 -1.0
BOD pmax pmax
comp=Z,4.0nm,1.2s
MPMC Manual Prospec 41.14 91 P **P** 11 50 24.2 +0.4
baz=310
FURC Furnace Creek, 41.26 90 P **P** 11 50 25.2 +0.6
baz=310,SNR=12
TPNV Topopah Spring 41.33 89 P **P** 11 50 25.9 +0.5
baz=310,SNR=17
TPNV Topopah Spring 41.33 89 *e*P **P** 11 50 26.3 +0.9
TPNV pmax pmax
comp=Z,11nm,0.8s
TPNV Topopah Spring 41.33 89 *e*P **P** 11 50 26.3 +0.9
comp=Z,11nm,0.8s
HWUT Hardware Ranch 41.37 80 *e*P **P** 11 50 23.4 -2.3
comp=Z,5.5nm,1.2s
DUG Dugway, Tooele 41.45 82 P **P** 11 50 26.9 +0.6
baz=307
DUG Dugway, Tooele 41.45 82 *e*P **P** 11 50 27.6 +1.3
DUG pmax pmax
comp=Z,11nm,1.1s
DUG Dugway, Tooele 41.45 82 *e*P **P** 11 50 27.6 +1.3
comp=Z,11nm,1.1s
LAO LASA Array 41.72 70 P **P** 11 50 28.7 +0.3
baz=302
BW06 Boulder Array 41.92 77 P **P** 11 50 30.2 0.0
baz=305,SNR=5.8
BW06 Boulder Array 41.92 77 *e*P **P** 11 50 30.6 +0.4
PD31 Pinedale Array 41.92 77 *e*P **P** 11 50 30.7 +0.4
PDAR Pinedale Array 41.92 77 P **P** 11 50 30.5 +0.3
comp=Z,4.8nm,0.8s,baz=294,slow=4.7,SNR=23
PDAR ScP **ScP** 11 56 11.4 +0.8
comp=Z,0.5nm,0.4s,baz=281,slow=2.3,SNR=5.1
PDAR LR LR 12 07 30.5
comp=Z,109nm,19.5s,baz=310,slow=36
SHOC Shoshone, Teco 41.99 90 P **P** 11 50 31.3 +0.7
baz=310
GSC Goldstone, Bar 42.05 91 P **P** 11 50 31.6 +0.4
baz=311,SNR=12
GSC Goldstone, Bar 42.05 91 *e*P **P** 11 50 32.0 +0.8
GSC pmax pmax
comp=Z,12nm,0.8s
GSC Goldstone, Bar 42.05 91 *e*P **P** 11 50 32.0 +0.8
comp=Z,12nm,0.8s
BFSC Mount Baldy Ra 42.23 93 P **P** 11 50 33.4 +0.7
baz=312
SHPR Sheep Range 42.29 89 *e*P **P** 11 50 33.2 0.0
comp=Z,5.7nm,1.1s
FCC Fort Churchill 42.30 49 *e*P **P** 11 50 32.1 -0.7
FCC pmax pmax
comp=Z,13nm,0.9s
FCC Fort Churchill 42.30 49 *e*P **P** 11 50 32.1 -0.7
comp=Z,13nm,0.9s
A25A Svangstu Ranch 42.32 66 P **P** 11 50 33.5 +0.3
baz=301
BBRC Big Bear Solar 42.66 92 P **P** 11 50 37.0 +0.6
baz=312
CCUT Cedar City 42.73 86 *e*P **P** 11 50 37.9 +1.0
comp=Z,18nm,1.7s
MSU Marysvale 42.86 84 *e*P **P** 11 50 37.8 -0.2
MSU Marysvale 42.86 84 *e*P **P** 11 50 37.8 -0.2
A26A Wade Farm, Ken 42.95 65 P **P** 11 50 38.5 +0.3
baz=302
TMUT Trail Mountain 42.97 82 *e*P **P** 11 50 40.5 +1.5
comp=Z,7.2nm,0.8s
GMRC Granite Mounta 43.10 91 P **P** 11 50 40.2 +0.4
baz=312,SNR=6.4
LCMT Little Creek M 43.15 86 *e*P **P** 11 50 41.4 +1.2
comp=Z,17nm,1.6s
P17A Butcher Ranch, 43.15 82 *e*P **P** 11 50 41.6 +1.4
comp=Z,6.9nm,1.1s
Q16A Castle Valley 43.23 83 *e*P **P** 11 50 42.4 +1.5
comp=Z,21nm,1.5s
LDFC Landfair 43.24 90 *e*P **P** 11 50 41.6 +0.7
comp=Z,17nm,0.9s
P18A Preston Nutter 43.36 81 *e*P **P** 11 50 43.4 +1.3
comp=Z,8.1nm,1.0s
A27A Ledoux Ranch, 43.36 65 P **P** 11 50 42.1 +0.5
baz=302
PFO Pinyon Flats O 43.38 93 P **P** 11 50 42.1 0.0
baz=312
PFO Pinyon Flats O 43.38 93 *e*P **P** 11 50 43.2 +1.1
PFO pmax pmax
comp=Z,15nm,1.4s
PFO Pinyon Flats O 43.38 93 *e*P **P** 11 50 43.1 +1.1
comp=Z,15nm,1.4s
TPFO Pinon Flats 43.39 93 P **P** 11 50 42.3 +0.1
baz=312
BELC Belle Mtn. Jos 43.41 92 P **P** 11 50 42.3 0.0
baz=312
SRU San Rafael Swe 43.51 82 *e*P **P** 11 50 44.2 +1.1
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 43.51 82 *e*P **P** 11 50 44.2 +1.1
comp=Z,7.0nm,0.8s
D26A Manning 43.72 68 P **P** 11 50 44.3 -0.2
baz=303
K22A Casper 43.81 75 P **P** 11 50 45.5 0.0
baz=306
IRM Iron Mountain 43.83 91 P **P** 11 50 46.2 +0.7
baz=312
BAR Barrett 43.88 94 *e*P **P** 11 50 47.3 +1.4
comp=Z,14nm,1.3s
MONP2 Monument Peak 43.89 93 P **P** 11 50 46.4 +0.2
baz=313
A28A Rude Farm, Bot 43.93 64 P **P** 11 50 46.4 +0.2
baz=302
BC3 Big Chuckawall 43.98 92 P **P** 11 50 46.9 +0.1
baz=312
KSRS Korea Array 43.98 275 P **P** 11 50 46.5 -0.1
comp=Z,12nm,0.9s,baz=58,slow=7.6,SNR=35
KSRS LR LR 12 06 57.4
comp=Z,138nm,21.0s,baz=48,slow=33
KS01 Wonju Array Si 43.98 275 *e*P **P** 11 50 46.1 -0.5
KS15 Wonju Array Si 44.01 275 *e*P **P** 11 50 45.2 -1.6
KSAR Wonju Array Be 44.01 275 P **P** 11 50 46.6 -0.3
KSAR Wonju Array Be 44.01 275 P **P** 11 50 46.5 -0.3
E26A Carlson Angus 44.02 69 P **P** 11 50 46.6 -0.3
baz=304,SNR=5.6
U15A North Rim 44.11 86 *e*P **P** 11 50 48.3 +0.2
comp=Z,28nm,1.5s
B28A Dugan Ranch, T 44.13 65 P **P** 11 50 47.7 0.0
baz=303
IKP In-Ko-Pah, Jac 44.25 93 P **P** 11 50 49.4 +0.5
baz=313
O20A White River Ci 44.27 79 P **P** 11 50 49.1 -0.2
baz=308,SNR=6.5
O20A White River Ci 44.27 79 *e*P **P** 11 50 49.3 +0.1
comp=Z,16nm,0.9s
PDMCI Parker Dam,Lak 44.35 90 P **P** 11 50 50.3 +0.6
baz=312
H25A Fruitdale 44.40 71 P **P** 11 50 50.0 -0.1
baz=305
RSSD Black Hills 44.43 72 P **P** 11 50 50.2 -0.2
baz=305
RSSD Black Hills 44.43 72 *e*P **P** 11 50 50.5 0.0
RSSD pmax pmax
comp=Z,16nm,1.4s
RSSD Black Hills 44.43 72 *e*P **P** 11 50 50.5 0.0
comp=Z,16nm,1.4s
Y12C Blythe 44.49 91 P **P** 11 50 51.5 +0.8
baz=312
Y12C Blythe 44.49 91 *e*P **P** 11 50 51.6 +0.8
comp=Z,8.8nm,0.9s
A29A Manning Farm, 44.50 64 P **P** 11 50 50.7 0.0
baz=303,SNR=7.4
B29A Wagenman Farm, 44.68 64 P **P** 11 50 52.3 +0.1
baz=303
PV09 Paradox Valley 44.74 82 *e*P **P** 11 50 53.5 +0.4
PV10 Paradox Valley 44.87 82 *e*P **P** 11 50 55.1 +1.0
MDND Maddock 44.88 65 P **P** 11 50 53.8 0.0
baz=304
MDND Maddock 44.88 65 *e*P **P** 11 50 55.2 +1.5
comp=Z,39nm,1.0s
PV04 Paradox Valley 44.94 82 *e*P **P** 11 50 54.7 +0.1
JNU Nakatsue 44.99 268 LR LR 12 08 48.7
comp=Z,148nm,21.1s,baz=122,slow=35

TJN **Taejon** 45.01 275*c i* P P 11 50 54.7 -0.2
PV05 **Paradox Valley** 45.02 82 *e* P P 11 50 59.0 +3.7
B30A **Myrvik Farm, E** 45.26 64 P P 11 50 56.2 -0.5
baz=304
WUAZ **Wupatki** 45.27 87 P P 11 50 57.2 0.0
baz=311,SNR=5.1
WUAZ **Wupatki** 45.27 87 *e* P P 11 50 58.2 +1.1
comp=Z,6.2nm,0.7s
Y14A **Wickenburg** 45.30 90 *e* P P 11 50 57.9 +0.6
comp=Z,35nm,1.2s
PV01 **Paradox Valley** 45.31 82 *e* P P 11 50 57.8 +0.2
C30A **Mose, Pekin** 45.59 65 P P 11 50 59.3 -0.1
baz=304
ULM **Lac du Bonnet** 45.61 61 P P 11 50 59.5 0.0
comp=Z,3.2nm,0.6s,baz=305,slow=9.3,SNR=4.9
ULM LR LR 12 12 24.7
comp=Z,194nm,18.1s,baz=322,slow=39
ULM **Lac du Bonnet** 45.61 61 *e* P P 11 50 59.9 +0.4
ULM **Lac du Bonnet** 45.61 61 *e* P P 11 50 59.9 +0.4
B31A **Greenbush Farm** 45.65 64 P P 11 50 59.3 -0.5
baz=304
D30A **Buchanan** 45.77 66 P P 11 51 00.6 -0.2
baz=304,SNR=5.1
MVCO **Mesa Verde** 45.94 83 P P 11 51 02.3 -0.3
baz=310
MVCO **Mesa Verde** 45.94 83 *e* P P 11 51 02.6 0.0
comp=Z,1.5nm,0.5s
X16A **Lo Mia Camp, P** 45.95 88 *e* P P 11 51 03.7 +1.2
comp=Z,4.7nm,0.9s
C31A **Landman Farms,** 45.96 64 P P 11 51 01.5 -0.7
baz=304
NRIK **Noril'sk** 46.03 331 P P 11 51 02.8 +0.2
comp=Z,4.3nm,0.6s,baz=77,slow=6.2,SNR=6.9
NRIK LR LR 12 13 53.6
comp=Z,178nm,18.3s,baz=96,slow=41
ISCO **Idaho Springs** 46.07 78 P P 11 51 03.0 -0.6
baz=308
B32A **Ashes, Strandq** 46.28 63 P P 11 51 05.0 +0.3
baz=304
E31A **Nome** 46.57 66 P P 11 51 06.9 -0.2
baz=305
A33A **Warroad** 46.60 62 P P 11 51 07.2 -0.1
baz=304
S22A **4UR Ranch, Cre** 46.62 81 *e* P P 11 51 09.8 +1.9
comp=Z,14nm,1.4s
I29A **Vivian Onida** 46.67 70 P P 11 51 08.1 +0.2
baz=306
G30A **Faulkton** 46.69 68 P P 11 51 07.8 -0.2
baz=306,SNR=7.9
AGMN **Agassiz Nation** 46.71 63 P P 11 51 07.9 -0.3
baz=305,SNR=10
AGMN **Agassiz Nation** 46.71 63 *e* P P 11 51 08.3 +0.1
comp=Z,17nm,0.9s
214A **Organ Pipe Nat** 46.76 92 P P 11 51 09.0 +0.2
baz=314
B33A **Robert and Kas** 46.87 63 P P 11 51 09.3 -0.1
baz=305
SUSD **Miller** 47.20 69 P P 11 51 11.9 -0.2
baz=306
B34A **Aery, Baudette** 47.26 62 P P 11 51 11.7 -0.8
baz=305,SNR=5.5
D33A **AnnSam, Waubun** 47.38 64 P P 11 51 12.9 -0.5
baz=306
SDCO **Great Sand Dun** 47.43 80 P P 11 51 14.5 +0.2
baz=310
SDCO **Great Sand Dun** 47.43 80 *e* P P 11 51 14.8 +0.6
comp=Z,6.0nm,1.1s
H31A **Wolsey** 47.45 69 P P 11 51 13.8 -0.2
baz=307
OGNE **Ogallala** 47.51 74 P P 11 51 14.3 -0.3
baz=308
G32A **Webster** 47.55 67 P P 11 51 14.6 -0.2
baz=306
J30A **Dallas** 47.56 70 P P 11 51 14.9 +0.1
baz=307
E33A **Westby DABS, E** 47.66 65 P P 11 51 14.7 -0.9
baz=306
I31A **Royce, Wessing** 47.69 69 P P 11 51 15.3 -0.5
baz=307
TUC **Tucson** 47.77 90 P P 11 51 16.8 +0.1
baz=313
TUC **Tucson** 47.77 90 *e* P P 11 51 17.5 +0.8
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC **Tucson** 47.77 90 *e* P P 11 51 17.5 +0.8
comp=Z,7.0nm,1.0s
D34A **Park Rapids** 47.77 64 P P 11 51 15.6 -0.9
baz=306,SNR=5.9
K30A **Basset** 47.88 71 P P 11 51 16.9 -0.5
baz=308
F33A **5 Mile Ranch,** 47.89 66 P P 11 51 16.8 -0.6
baz=306
J31A **Geddes** 48.02 70 P P 11 51 17.5 -0.9
baz=307
H32A **Carlson Farm,** 48.04 68 P P 11 51 18.0 -0.6
baz=307
C35A **Jirik Farms, M** 48.09 63 P P 11 51 18.3 -0.5
baz=306,SNR=5.5
G33A **Ortonville** 48.19 67 P P 11 51 19.1 -0.6
baz=307
H33A **Prehn Over Nor** 48.33 67 P P 11 51 20.2 -0.6
baz=307
D35A **Remer** 48.41 63 P P 11 51 20.6 -0.8
baz=306,SNR=5.4
T25A **Trinidad** 48.49 80 P P 11 51 22.5 +0.2
baz=310,SNR=6.3
T25A **Trinidad** 48.49 80 *e* P P 11 51 23.2 +0.8
comp=Z,58nm,1.6s
F34A **Alexandria** 48.50 65 P P 11 51 21.6 -0.5
baz=307
E35A **Pequot Lakes** 48.52 64 P P 11 51 22.1 -0.1
baz=306
LAZ **Ladron** 48.61 85 *e* P P 11 51 24.4 +1.1
ANMO **Albuquerque** 48.67 84 P P 11 51 22.9 -0.8
baz=312
ANMO **Albuquerque** 48.67 84 *i* P P 11 51 25.1 +1.4
ANMO pmax pmax
comp=Z,2.0nm,1.7s
ANMO **Albuquerque** 48.67 84 *e* P P 11 51 24.5 +0.8
comp=Z,6.3nm,1.3s
C36A **Pine Crest Far** 48.68 62 P P 11 51 22.8 -0.5
baz=306
D36A **Goodland** 48.84 63 P P 11 51 23.9 -0.8
baz=306
F35A **Swanville** 48.85 65 P P 11 51 24.4 -0.4
baz=307
H34A **Spellman Lake,** 48.89 67 P P 11 51 24.8 -0.2
baz=307
ECSD **EROS Data Cent** 48.98 68 P P 11 51 24.8 -0.9
baz=308,SNR=6.8
ECSD **EROS Data Cent** 48.98 68 *e* P P 11 51 24.8 -0.9
comp=Z,6.3nm,1.0s
J33A **Davis** 49.03 69 P P 11 51 25.7 -0.4
baz=308
C37A **Embarrass** 49.05 62 P P 11 51 26.1 -0.2
baz=306
BNM **Barren Site** 49.09 85 *e* P P 11 51 28.4 +1.3
E36A **McGregor** 49.18 63 P P 11 51 26.7 -0.6
baz=307,SNR=7.3
G35A **Watkins** 49.28 65 P P 11 51 27.7 -0.3
baz=307
EYMN **Ely** 49.29 61 P P 11 51 28.0 -0.1
baz=307
EYMN **Ely** 49.29 61 *e* P P 11 51 28.5 +0.4
comp=Z,11nm,1.0s
TLY **Talaya** 49.35 305 P P 11 51 28.8 +0.2
comp=Z,3.0nm,0.6s,baz=20,slow=3.0,SNR=3.6
H35A **Sunnyside Ranc** 49.40 66 P P 11 51 28.4 -0.6
baz=308
N31A **Bailey Ranch,** 49.41 73 P P 11 51 29.0 -0.1
baz=309
F36A **Milaca** 49.43 64 P P 11 51 28.7 -0.5
baz=307
121A **Cookes Peak, D** 49.47 87 P P 11 51 30.1 +0.2
baz=313
C38A **Sawbill Land.** 49.55 61 P P 11 51 29.1 -0.9
baz=307
L33A **Hoskins** 49.56 70 P P 11 51 30.0 -0.3
baz=309
ULN **Ulaanbaatar** 49.84 299 *i* P P 11 51 31.6 -0.8
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN **Ulaanbaatar** 49.84 299 *e* P P 11 51 32.0 -0.5
comp=Z,5.4nm,0.9s
K34A **Le Mars** 49.92 69 P P 11 51 32.3 -0.7
baz=309
M33A **Taylor Creek F** 49.98 71 P P 11 51 32.9 -0.5
baz=309

SPITS **Spitsbergen Ar** 49.98 358 P P 11 51 32.2 -0.7
comp=Z,15nm,1.1s,baz=101,slow=1.7,SNR=5.7
SONA1 **Songino Array** 50.20 300 *e* P P 11 51 34.7 -0.5
L34A **Svendsen Farm,** 50.21 70 P P 11 51 34.5 -0.6
baz=309
SONM **Songino Array** 50.21 300 P P 11 51 35.3 +0.1
comp=Z,3.2nm,0.9s,baz=50,slow=8.2,SNR=15
SONM PcP PcP 11 52 52.4 -1.3
comp=Z,1.0nm,0.7s,baz=64,slow=1.6,SNR=4.0
SONM ScP ScP 11 56 45.9 +0.9
comp=Z,1.4nm,0.7s,baz=43,slow=2.2,SNR=5.8
SONM LR LR 12 14 10.9
comp=Z,455nm,19.0s,baz=58,slow=38
CBKS **Cedar Bluff** 50.23 75 P P 11 51 35.4 +0.1
baz=310
ZAK **Zakamensk** 50.31 304 *e* P P 11 51 33.3 -2.6
ZAK *e* 11 52 52.4
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ZAK pmax pmax
comp=Z,7.0nm,1.3s
J36A **Seneca 1, Swea** 50.53 67 P P 11 51 36.8 -0.7
baz=309
I37A **Lemond, Waseca** 50.63 66 P P 11 51 37.7 -0.6
baz=309
O33A **Hebron** 50.70 73 P P 11 51 37.2 -1.7
baz=310
Q32A **Meitler Ranch,** 50.81 74 P P 11 51 39.5 -0.3
baz=310
K36A **Gilmore City** 50.90 68 P P 11 51 39.8 -0.5
baz=309
J37A **Redenius Farm,** 50.99 67 P P 11 51 40.3 -0.7
baz=309
O34A **Beatrice** 51.15 72 P P 11 51 41.4 -0.8
baz=310
I38A **Scanlan Farm,** 51.22 65 P P 11 51 42.4 -0.3
baz=309
Q33A **Connelly Farm,** 51.24 74 P P 11 51 42.0 -0.9
baz=310,SNR=5.8
K37A **Belmond** 51.28 67 P P 11 51 42.4 -0.8
baz=309
N35A **Tabor** 51.33 71 P P 11 51 43.0 -0.6
baz=310
TIA **Tai'an** 51.38 282 ⇓P P 11 51 43.6 -0.4
TIA PMZ
comp=Z,20nm,0.8s
M36A **Felix, Anita** 51.44 69 P P 11 51 43.8 -0.6
baz=310
MNTX **Cornudas Mount** 51.52 86 P P 11 51 44.9 -0.2
baz=314,SNR=5.8
MNTX **Cornudas Mount** 51.52 86 *e* P P 11 51 45.9 +0.7
comp=Z,3.8nm,0.9s
SUMG **Summit** 51.55 16 *e* P P 11 51 44.7 -0.6
SUMG pmax pmax
comp=Z,25nm,1.2s
SUMG **Summit** 51.55 16 *e* P P 11 51 44.7 -0.6
comp=Z,25nm,1.2s
MSTX **Muleshoe** 51.58 82 P P 11 51 45.9 +0.2
baz=313
J38A **Wedel Dairy, R** 51.59 66 P P 11 51 45.2 -0.3
baz=309
L37A **Phoenix Point,** 51.62 68 P P 11 51 44.9 -0.8
baz=310
HHC **Hu-ho-hao-te** 51.67 290 *e* P P 11 51 46.4 +0.2
HHC pP pP 11 51 57.9 -2.1
HHC S S 11 59 04.3 +0.6
HHC PMZ
comp=Z,30nm,1.1s
HHC PMZ
comp=Z,130nm,5.3s
HHC LN
comp=Z,210nm,17.6s
HHC LE
comp=Z,200nm,16.3s
HHC LZ
comp=Z,260nm,16.7s
Q34A **Chapman** 51.82 73 P P 11 51 47.0 -0.3
baz=311
M37A **Trindle Farm,** 51.91 69 P P 11 51 47.6 -0.3
baz=310
J39A **Decorah** 52.02 66 P P 11 51 47.5 -1.2
baz=310,SNR=8.6
R34A **Isabella, Hill** 52.04 74 P P 11 51 48.3 -0.7
baz=311
S33A **Kaszmaul Farm,** 52.06 75 P P 11 51 48.4 -0.6
baz=311
L38A **Oak Wood Farm,** 52.06 68 P P 11 51 47.8 -1.3
baz=310,SNR=6.6
N37A **Lee Faris, Mou** 52.23 70 P P 11 51 49.9 -0.4
baz=310
K39A **Oelwein** 52.31 66 P P 11 51 49.5 -1.4
baz=310
P36A **Good Intent, A** 52.39 71 P P 11 51 50.4 -1.1
baz=311
M38A **Pleasantville** 52.39 69 P P 11 51 50.3 -1.1
baz=310
L39A **Vinton** 52.62 67 P P 11 51 52.3 -0.9
baz=310
O37A **Wolven Farm, M** 52.65 70 P P 11 51 52.8 -0.6
baz=311
K40A **Colesburg** 52.74 66 P P 11 51 53.5 -0.6
baz=310
P37A **Lathrop** 52.91 71 P P 11 51 53.9 -1.4
baz=311
T34A **McClaskey Farm** 52.92 75 P P 11 51 54.7 -0.7
baz=312
S35A **Otter Creek Ra** 53.00 74 P P 11 51 55.4 -0.6
baz=312
R36A **Gordon, Harris** 53.06 73 P P 11 51 55.7 -0.8
baz=311
O38A **Galt** 53.07 70 P P 11 51 55.7 -0.8
baz=311
U34A **Anderson Ranch** 53.10 76 P P 11 51 56.5 -0.3
baz=312
N39A **Derby Farms, D** 53.14 69 P P 11 51 56.4 -0.6
baz=311
P38A **Dawn** 53.36 70 P P 11 51 57.6 -1.1
baz=311,SNR=5.3
T35A **Sooner Cattle** 53.40 75 P P 11 51 57.7 -1.2
baz=312
R37A **Teagarden Farm** 53.47 72 P P 11 51 58.9 -0.5
baz=312
WMOK **Wichita Mounta** 53.49 78 P P 11 51 59.4 -0.3
baz=313
WMOK **Wichita Mounta** 53.49 78 *e* P P 11 51 59.8 +0.1
WMOK pmax pmax
comp=Z,9.0nm,1.1s
WMOK **Wichita Mounta** 53.49 78 *e* P P 11 51 59.8 +0.1
comp=Z,9.3nm,1.1s
L41A **Preston** 53.51 66 P P 11 51 58.8 -0.9
baz=311
O39A **Kirksville** 53.52 69 P P 11 51 59.2 -0.6
baz=311
U35A **Pawnee** 53.63 76 P P 11 51 59.4 -1.2
baz=312
T36A **Boggs Farm, Ca** 53.68 74 P P 11 51 59.6 -1.4
baz=312
Q38A **Cooks Store, C** 53.75 71 P P 11 52 00.7 -0.8
baz=312
S37A **Fort Scott** 53.84 73 P P 11 52 00.7 -1.4
baz=312,SNR=5.5
P39B **Salisbury** 53.91 70 P P 11 52 01.5 -1.1
baz=312,SNR=7.6
O40A **La Belle** 54.00 69 P P 11 52 01.9 -1.3
baz=311,SNR=9.2
Q39A **Willow Grove F** 54.07 71 P P 11 52 02.3 -1.6
baz=312,SNR=9.7
R38A **Fenwick Farm,** 54.09 72 P P 11 52 02.6 -1.4
baz=312
T37A **Cheneyville 18** 54.21 74 P P 11 52 03.9 -1.0
baz=312
U36A **Oologah** 54.21 75 P P 11 52 04.2 -0.7
baz=312
TX31 **Lajitas Ar. Si** 54.23 87 *e* P P 11 52 05.2 0.0
TXAR **Lajitas Array** 54.23 87 P P 11 52 04.9 -0.4
comp=Z,3.9nm,0.8s,baz=296,slow=4.9,SNR=58
TXAR ScP ScP 11 57 03.7 +1.1
comp=Z,0.8nm,0.9s,baz=289,slow=3.8,SNR=6.3
TXAR LR LR 12 14 41.1
comp=Z,71nm,18.0s,baz=0.0,slow=35
P40A **Paris** 54.29 70 P P 11 52 04.3 -1.1
baz=312,SNR=16
W35A **Tecumseh** 54.36 77 P P 11 52 05.7 -0.3
baz=313
S38A **Stockton** 54.46 73 P P 11 52 04.9 -1.8
baz=312,SNR=5.4
U37A **Salina** 54.57 74 P P 11 52 06.5 -1.0
baz=313,SNR=5.5

O41A **Passleys Farm,** 54.57 68 P P 11 52 06.5 -1.0
baz=312
Q40A **Laux Farm, Aux** 54.63 70 P P 11 52 06.4 -1.4
baz=312,SNR=7.3
T38A **Diamond** 54.63 73 P P 11 52 06.7 -1.3
baz=312
P41A **Barry, Barry** 54.76 69 P P 11 52 07.1 -1.7
baz=312
S39A **Bolivar** 54.77 72 P P 11 52 06.8 -2.2
baz=312
V37A **Hulbert** 54.91 75 P P 11 52 08.6 -1.3
baz=313
U38A **Gravette** 54.98 74 P P 11 52 09.1 -1.4
baz=313
R40A **Maddies Statio** 54.98 71 P P 11 52 08.8 -1.7
baz=312
X36A **Centrahoma** 55.07 77 P P 11 52 10.5 -0.6
baz=313
T39A **Clever** 55.18 73 P P 11 52 09.9 -2.0
baz=313,SNR=5.7
HDIL **Hopedale** 55.19 67 P P 11 52 10.5 -1.4
baz=312
W37B **Quinton** 55.24 76 P P 11 52 11.8 -0.6
baz=313
233A **Rising Star** 55.28 81 P P 11 52 12.7 -0.1
baz=314
V38A **Canehill** 55.36 74 P P 11 52 11.9 -1.4
baz=313,SNR=5.4
U39A **Green Forest** 55.56 73 P P 11 52 13.6 -1.0
baz=313
Q42A **Golden Eagle** 55.58 69 P P 11 52 13.4 -1.3
baz=312,SNR=5.5
T40A **Mansfield** 55.60 72 P P 11 52 13.4 -1.5
baz=313
X37A **Clayton** 55.65 76 P P 11 52 15.3 0.0
baz=314
333A **Richland Sprin** 55.72 82 P P 11 52 15.9 +0.1
baz=314
JCT **Junction City** 55.80 83 P P 11 52 16.1 -0.4
baz=315
JCT **Junction City** 55.80 83 *e* P P 11 52 16.3 -0.2
JCT pmax pmax
comp=Z,31nm,1.9s
JCT **Junction City** 55.80 83 *e* P P 11 52 16.3 -0.2
comp=Z,31nm,1.9s
V39A **Pettigrew** 55.83 74 P P 11 52 16.0 -0.7
baz=313
W38A **Poteau** 55.83 75 P P 11 52 16.3 -0.3
baz=313
X38A **Whitesboro** 55.92 76 P P 11 52 16.7 -0.5
baz=314
U40A **Yellville** 55.95 73 P P 11 52 15.4 -2.0
baz=313
Q43A **New Douglas** 56.04 69 P P 11 52 16.9 -1.1
baz=313
433A **Art** 56.05 82 P P 11 52 17.2 -1.0
baz=315
T41A **Mountain View** 56.12 72 P P 11 52 16.9 -1.8
baz=313
334A **Lometa** 56.16 81 P P 11 52 18.5 -0.5
baz=315,SNR=7.0
W39A **Magazine** 56.19 75 P P 11 52 18.0 -1.1
baz=314
V40A **Witts Springs** 56.34 73 P P 11 52 18.6 -1.6
baz=313
X39A **Fountain Ranch** 56.46 75 P P 11 52 20.2 -0.9
baz=314,SNR=6.3
VLDQ **Val d'Or** 56.47 53 *e* P P 11 52 20.0 -1.0
comp=Z,12nm,0.9s
434A **Burnet** 56.51 82 P P 11 52 20.7 -0.8
baz=315,SNR=5.2
533A **Kerrville** 56.56 83 P P 11 52 21.2 -0.8
baz=315
W40A **Ferguson Farm,** 56.61 74 P P 11 52 21.7 -0.4
baz=314
ZAA0 **Zalesovo Array** 56.68 317 *e* P P 11 52 23.0 +0.6
ZALV **Zalesovo Beam** 56.68 317 P P 11 52 21.4 -0.9
comp=Z,0.9nm,0.4s,baz=34,slow=5.6,SNR=5.9
ZALV PcP PcP 11 53 17.5 -0.4
comp=Z,6.1nm,0.9s,baz=36,slow=3.8,SNR=9.5
ZALV ScP ScP 11 57 14.4 +1.6
comp=Z,0.5nm,0.3s,baz=38,slow=7.3,SNR=3.2
ZALV LR LR 12 20 40.7
comp=Z,203nm,18.2s,baz=70,slow=40
SCHQ **Schefferville** 56.70 42 P P 11 52 21.9 -0.6
comp=Z,11nm,0.8s,baz=324,slow=7.8,SNR=7.8
SCHQ LR LR 12 17 51.6
comp=Z,332nm,19.1s,baz=300,slow=37
SCHQ **Schefferville** 56.70 42 *e* P 11 52 22.9 +0.4
comp=Z,13nm,0.9s
NVS **Novosibirsk** 56.73 318 *e* P P 11 52 22.2 -0.4
NVS *e* 11 53 18.6
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,9.0nm,1.0s
S43A **Fulton Ridge,** 56.75 70 P P 11 52 21.7 -1.4
baz=313,SNR=10
V41A **Mountainview** 56.75 73 P P 11 52 21.9 -1.3
baz=314
MIAR **Mount Ida** 56.76 75 P P 11 52 22.6 -0.5
baz=314,SNR=6.3
MIAR **Mount Ida** 56.76 75 *e* P P 11 52 23.3 +0.1
MIAR pmax pmax
comp=Z,18nm,1.0s
MIAR **Mount Ida** 56.76 75 *e* P P 11 52 23.3 +0.1
comp=Z,18nm,1.0s
534A **Blanco** 56.94 82 P P 11 52 24.0 -0.5
baz=315
WHN **Wuhan** 56.94 279 P P 11 52 24.3 -0.2
X301 **Greenbrier Sit** 56.98 74 *e* P P 11 52 24.5 -0.2
comp=Z,6.3nm,0.9s
W41B **Gary Mavity, V** 57.11 74 P P 11 52 24.9 -0.8
baz=314
S44A **Carbondale** 57.14 69 P P 11 52 25.0 -0.8
baz=313
237A **Washetta, Mont** 57.18 79 P P 11 52 25.6 -0.6
baz=315
832A **Faith Ranch, C** 57.25 85 P P 11 52 26.5 -0.3
baz=316
S45A **Carrier Mills** 57.54 69 P P 11 52 27.4 -1.3
baz=314
PARMO **Parma** 57.56 71 *e* P P 11 52 28.8 0.0
XAN **Xi'an** 57.78 285 P P 11 52 29.8 -0.7
XAN pP pP 11 52 38.8 -5.7
XAN sP sP 11 52 43.3 -7.0
XAN PMZ
comp=Z,20nm,1.1s
ARCES **ARCESS Array B** 58.11 353 P P 11 52 30.9 -1.3
comp=Z,2.4nm,0.7s,baz=21,slow=9.7,SNR=14
ARCES PcP PcP 11 53 23.2 -0.1
comp=Z,1.7nm,0.6s,baz=13,slow=5.2,SNR=6.5
ARCES LR LR 12 17 11.7
comp=Z,138nm,21.6s,baz=354,slow=36
LVZ **Lovozero** 58.79 349 *i* P P 11 52 35.7 -1.3
LVZ pmax pmax
comp=Z,10.0nm,1.0s
LVZ **Lovozero** 58.79 349 *e* P P 11 52 35.9 -1.1
comp=Z,9.7nm,0.8s
WVT **Waverly** 59.04 70 *e* P P 11 52 39.1 -0.1
WVT pmax pmax
comp=Z,18nm,1.5s
WVT **Waverly** 59.04 70 *e* P P 11 52 39.1 -0.1
comp=Z,18nm,1.5s
GTA **Gaotai** 59.32 296 P P 11 52 40.8 -0.4
GTA S S 12 00 44.9 -1.0
GTA PMZ
comp=Z,10.0nm,0.9s
GTA PMZ
comp=Z,130nm,5.5s
GTA LN
comp=Z,310nm,17.1s
GTA LE
comp=Z,420nm,18.5s
GTA LZ
comp=Z,490nm,18.1s
LZH **Lanzhou** 59.34 290 *e* P P 11 52 42.3 +0.8
LZH pP pP 11 52 53.1 -2.4
LZH sP sP 11 52 57.5 -3.9
LZH PMZ
comp=Z,40nm,1.0s
LZH PMZ
comp=Z,190nm,5.1s
LZH LN
comp=Z,400nm,15.6s

LZH				LE					
	comp=Z,290nm,16.9s								
LZH				LZ					
	comp=Z,300nm,19.6s								
035A	**Encino**	**59.37**	**85**	P		**P**		**11 52 42.3**	**+0.8**
	baz=317								
ALLY	**Alegheny Colle**	**59.51**	**60**	*e*P		**P**		**11 52 42.6**	**+0.3**
	comp=Z,38nm,1.1s								
M54A	**Oil Creek Stat**	**59.87**	**60**	P		**P**		**11 52 44.4**	**-0.4**
	baz=315								
Y46A	**Houston**	**60.02**	**72**	P		**P**		**11 52 45.2**	**-0.7**
	baz=315								
LMQ	**La Malbaie**	**60.31**	**50**	*e*P		**P**		**11 52 47.4**	**-0.4**
	comp=Z,17nm,1.0s								
Y47A	**UCPARC, Winfie**	**60.59**	**72**	P		**P**		**11 52 49.0**	**-0.8**
	baz=315								
Z48A	**Northport**	**61.14**	**72**	P		**P**		**11 52 52.5**	**-1.0**
	baz=316								
O56A	**Blue Knob Stat**	**61.33**	**61**	P		**P**		**11 52 53.9**	**-0.9**
	baz=315								
SSPA	**Standing Stone**	**61.43**	**60**	*e*P		**P**		**11 52 55.6**	**+0.2**
	comp=Z,11nm,0.9s								
KURK	**Kurchatov**	**61.65**	**317**	*c i*P		**P**		**11 52 56.0**	**-0.7**
KURK				pmax		pmax			
	comp=Z,38nm,0.7s								
KURK	**Kurchatov**	**61.65**	**317**	*e*P		**P**		**11 52 56.5**	**-0.2**
	comp=Z,48nm,0.9s								
KURBB	**Kurchatov Arra**	**61.76**	**317**	P		**P**		**11 52 56.9**	**-0.6**
	comp=Z,13nm,0.9s,baz=42,slow=7.2,SNR=48								
KURBB				ScP		**ScP**		**11 57 36.6**	**+1.2**
	comp=Z,1.5nm,0.9s,baz=40,slow=4.4,SNR=6.1								
N59A	**State Game Lan**	**62.35**	**58**	P		**P**		**11 53 00.2**	**-1.5**
	baz=316								
BLA	**Blacksburg**	**62.49**	**64**	*e*P		**P**		**11 53 03.3**	**+0.6**
BLA				pmax		pmax			
	comp=Z,21nm,1.1s								
BLA	**Blacksburg**	**62.49**	**64**	*e*P		**P**		**11 53 03.3**	**+0.6**
	comp=Z,21nm,1.1s								
WMQ	**Urumqi**	**62.58**	**307**	P		**P**		**11 53 03.6**	**+0.4**
WMQ				pP		pP		11 53 16.9	-0.5
WMQ				sP		sP		11 53 21.6	-1.5
WMQ				PMZ					
	comp=Z,7.0nm,0.6s								
WMQ				PMZ					
	comp=Z,71nm,4.6s								
WMQ				LN					
	comp=Z,110nm,20.4s								
WMQ				LE					
	comp=Z,120nm,19.6s								
WMQ				LZ					
	comp=Z,120nm,21.4s								
MK31	**Makanchi Array**	**62.97**	**312**	*e*P		**P**		**11 53 04.8**	**-0.9**
MK31	**Makanchi Array**	**62.97**	**312**	*e*P		**P**		**11 53 04.8**	**-0.9**
MKAR	**Makanchi Array**	**62.97**	**312**	P		**P**		**11 53 04.8**	**-0.9**
	comp=Z,3.3nm,0.6s,baz=51,slow=5.6,SNR=34								
MKAR				LR		LR		12 22 52.1	
	comp=Z,151nm,19.0s,baz=32,slow=38								
MK01	**Makanchi Array**	**62.98**	**312**	*e*P		**P**		**11 53 04.5**	**-1.3**
MAKZ	**Makanchi**	**63.10**	**312**	*e*P		**P**		**11 53 05.6**	**-1.0**
MAKZ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
MAKZ	**Makanchi**	**63.10**	**312**	*e*P		**P**		**11 53 05.6**	**-1.0**
	comp=Z,5.8nm,0.9s								
BVA0	**Borovoye Array**	**63.12**	**323**	P		**P**		**11 53 06.2**	**-0.4**
BVA0				pmax		pmax			
	comp=Z,16nm,0.8s								
BVAR	**Borovoye Array**	**63.12**	**323**	P		**P**		**11 53 06.5**	**-0.1**
	comp=Z,9.6nm,0.5s,baz=51,slow=7.8,SNR=53								
BVAR				PcP		**PcP**		**11 53 43.8**	**0.0**
	comp=Z,5.3nm,0.6s,baz=48,slow=4.4,SNR=6.8								
BVAR				LR		LR		12 23 06.8	
	comp=Z,293nm,19.2s,baz=64,slow=38								
BRVK	**Borovoye**	**63.14**	**323**	*c i*P		**P**		**11 53 06.1**	**-0.6**
BRVK				pmax		pmax			
	comp=Z,49nm,1.0s								
BRVK	**Borovoye**	**63.14**	**323**	*e*P		**P**		**11 53 06.5**	**-0.1**
	comp=Z,57nm,1.1s								
VOSK	**Vostochnaya**	**63.14**	**323**	*e*P		**P**		**11 53 06.5**	**-0.2**
VOSK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VOSK	**Vostochnaya**	**63.14**	**323**	*e*P		**P**		**11 53 06.5**	**-0.2**
	comp=Z,10nm,0.8s								
SVE	**Sverdlovsk**	**63.30**	**331**	*e*P		**P**		**11 53 06.7**	**-1.0**
SVE				pmax		pmax			
	comp=Z,13nm,1.0s								
KMSC	**Kings Mountain**	**63.47**	**66**	P		**P**		**11 53 09.1**	**0.0**
	baz=316								
KMSC	**Kings Mountain**	**63.47**	**66**	*e*P		**P**		**11 53 09.3**	**+0.2**
	comp=Z,14nm,0.9s								
ZRNK	**Zerenda**	**63.69**	**324**	*e*P		**P**		**11 53 09.8**	**-0.5**
ZRNK				pmax		pmax			
	comp=Z,29nm,1.0s								
ZRNK	**Zerenda**	**63.69**	**324**	*e*P		**P**		**11 53 09.8**	**-0.5**
	comp=Z,29nm,1.0s								
LMN	**Caledonia Moun**	**64.14**	**48**	*e*P		**P**		**11 53 13.4**	**+0.1**
	comp=Z,24nm,0.9s								
ARU	**Arti**	**64.25**	**332**	P		**P**		**11 53 13.5**	**-0.4**
	comp=Z,11nm,0.4s,baz=21,slow=2.1,SNR=21								
ARU	**Arti**	**64.25**	**332**	*d i*P		**P**		**11 53 13.3**	**-0.6**
ARU								11 53 43.5	
ARU								11 55 32.4	
ARU				PPP		PPP		11 57 05.9	
ARU				S		**S**		**12 01 51.9**	**+4.5**
ARU				SS		**SS**		**12 05 51.8**	**-4.7**
ARU				pmax		pmax			
	comp=Z,17nm,0.8s								
ARU	**Arti**	**64.25**	**332**	*e*P		**P**		**11 53 13.1**	**-0.8**
	comp=Z,15nm,0.6s								
DRLN	**Deer Lake**	**64.69**	**41**	*e*P		**P**		**11 53 17.4**	**+0.5**
	comp=Z,89nm,1.7s								
KLMR	**Klimovskoe**	**64.73**	**344**	*e*P		**P**		**11 53 14.2**	**-2.8**
KLMR				pmax		pmax			
	comp=Z,4.0nm,0.8s								
FINES	**FINESS Array B**	**66.00**	**351**	P		**P**		**11 53 23.9**	**-1.2**
	comp=Z,2.5nm,0.6s,baz=12,slow=7.2,SNR=15								
FINES				PcP		**PcP**		**11 53 54.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=78,slow=4.5,SNR=4.2								
FINES				LR		LR		12 25 45.4	
	comp=Z,132nm,18.7s,baz=32,slow=39								
TAOE	**Nuku Hiva Isla**	**66.42**	**146**	*e*LR		LR		12 13 23.6	
	comp=Z,485nm,24.4s								
PDGK	**Podgornoye**	**66.89**	**311**	P		**P**		**11 53 30.3**	**-0.8**
PDGK				pmax		pmax			
	comp=Z,14nm,1.0s								
NB2	**NORSAR Subarra**	**67.28**	**358**	P		**P**		**11 53 32.7**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=1.1,slow=6.5								
NOA	**NORSAR Array B**	**67.28**	**358**	P		**P**		**11 53 32.2**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=1.2,slow=6.5,SNR=5.9								
DWPF	**Disney Wildern**	**68.57**	**72**	*e*P		**P**		**11 53 39.3**	**-2.7**
	comp=Z,96nm,0.3s								
VSU	**Vasula**	**68.86**	**350**	*e*P		**P**		**11 53 41.9**	**-1.3**
VSU				pmax		pmax			
	comp=Z,26nm,0.8s								
TKM2	**Tokmak 2**	**68.99**	**313**	*e*P		**P**		**11 53 41.8**	**-2.8**
TKM2				pmax		pmax			
	comp=Z,13nm,1.1s								
TKM2	**Tokmak 2**	**68.99**	**313**	*e*P		**P**		**11 53 41.8**	**-2.8**
	comp=Z,13nm,1.1s								
AKTO	**Aktyubinsk**	**69.57**	**329**	P		**P**		**11 53 47.3**	**-0.5**
	comp=Z,17nm,0.5s,baz=35,slow=6.3,SNR=41								
AAK	**Ala-Archa**	**69.71**	**314**	P		**P**		**11 53 49.1**	**+0.1**
	comp=Z,19nm,0.9s,baz=95,slow=2.2,SNR=20								
AAK	**Ala-Archa**	**69.71**	**314**	*c i*P		**P**		**11 53 48.7**	**-0.3**
AAK				pmax		pmax			
	comp=Z,42nm,0.9s								
AAK	**Ala-Archa**	**69.71**	**314**	*e*P		**P**		**11 53 49.2**	**+0.2**
AB31	**Akbulak array**	**69.95**	**327**	*e*P		**P**		**11 53 49.6**	**-0.5**
AB31				pmax		pmax			
	comp=Z,4.0nm,0.5s								
ABKAR	**Akbulak array**	**69.95**	**327**	*e*P		**P**		**11 53 49.7**	**-0.4**
EKS2	**Erkin-Say**	**70.00**	**314**	*e*P		**P**		**11 53 50.9**	**+0.1**
EKS2				pmax		pmax			
	comp=Z,18nm,0.9s								
EKS2	**Erkin-Say**	**70.00**	**314**	*e*P		**P**		**11 53 50.9**	**+0.1**
	comp=Z,18nm,0.9s								
OBN	**Obninsk**	**70.68**	**343**	*e*P		**P**		**11 53 55.1**	**+0.6**
OBN				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KKAR	**Karatay Array**	**71.06**	**317**	*e*P		**P**		**11 53 56.7**	**-0.4**
KKAR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KKAR	**Karatay Array**	**71.06**	**317**	*e*P		**P**		**11 53 56.7**	**-0.4**
	comp=Z,6.1nm,0.8s								
LSA	**Lhasa**	**71.27**	**294**	*e*P		**P**		**11 54 00.3**	**+1.2**
LSA				pmax		pmax			
	comp=Z,27nm,0.8s								
LSA	**Lhasa**	**71.27**	**294**	*e*P		**P**		**11 54 00.3**	**+1.2**
	comp=Z,27nm,0.8s								
KSH	**Kashi**	**71.52**	**311**	*e*P		**P**		**11 54 03.6**	**+3.6**
KSH				pP		pP		11 54 15.8	+1.4
KSH				PcP		**sP**		**11 54 23.1**	**+2.9**
KSH				PP		PP		11 56 46.3	+7.7
KSH				S		**S**		**12 03 17.3**	**+2.4**
KSH				ScS		**ScS**		**12 04 03.0**	**+2.3**
KSH				SS		**SS**		**12 07 56.9**	**+7.2**
KSH				PMZ					
	comp=Z,17nm,0.7s								
KSH				LN					
	comp=Z,150nm,5.9s								
KSH				LE					
	comp=Z,120nm,10.4s								
KSH				LZ					
	comp=Z,170nm,14.9s								
PPT	**Papeete**	**71.93**	**158**	LR		LR		12 18 32.5	
	comp=Z,136nm,20.8s,baz=330,slow=30								
PPT2	**Papeete2**	**71.95**	**158**	*e*LR		LR		12 15 52.2	
	comp=Z,215nm,22.5s								
PPT2	**Papeete2**	**71.95**	**158**	*e*T		T		13 12 41.2	
	comp=Z,1.9nm,0.3s								
VSR	**Storozhevoye**	**73.88**	**340**	*e*P		**P**		**11 54 12.6**	**-1.0**
VSR				pmax		pmax			
	comp=Z,7.0nm,0.9s								
CHTO	**Chiang Mai**	**74.98**	**281**	*e*P		**P**		**11 54 20.7**	**+0.2**
CHTO				pmax		pmax			
	comp=Z,14nm,1.4s								
CHTO	**Chiang Mai**	**74.98**	**281**	*e*P		**P**		**11 54 20.7**	**+0.2**
	comp=Z,14nm,1.4s								
CMAR	**Chiang Mai Arr**	**75.25**	**281**	P		**P**		**11 54 22.2**	**+0.1**
	comp=Z,5.6nm,0.9s,baz=24,slow=6.7,SNR=21								
CMAR				LR		LR		12 31 25.6	
	comp=Z,62nm,18.5s,baz=105,slow=39								
CM01	**Chiang Mai Arr**	**75.27**	**281**	*e*P		**P**		**11 54 22.2**	**0.0**
GUN	**Gumba**	**75.58**	**297**	*e*P		**P**		**11 54 24.3**	**-0.1**
	comp=Z,62nm,0.8s								
RAMN	**Ramite**	**75.93**	**296**	*e*P		**P**		**11 54 25.7**	**-0.5**
	comp=Z,97nm,0.9s								
KKN	**Kakani**	**76.01**	**297**	*e*P		**P**		**11 54 26.7**	**+0.1**
PKIN	**Phulchoki**	**76.11**	**297**	*e*P		**P**		**11 54 27.4**	**+0.1**
	comp=Z,12nm,0.8s								
AKASG	**Malin Array Be**	**76.13**	**346**	P		**P**		**11 54 25.6**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=16,slow=5.7,SNR=6.0								
AKASG				LR		LR		12 29 32.9	
	comp=Z,217nm,21.7s,baz=25,slow=37								
KIEV	**Kiev**	**76.14**	**346**	*e*P		**P**		**11 54 25.8**	**-0.9**
KIEV				pmax		pmax			
	comp=Z,3.0nm,0.9s								
DZM	**Mont Dzumac**	**76.19**	**201**	*e*LR		LR		12 18 07.0	
	comp=Z,357nm,21.9s								
GKN	**Gorkha**	**76.20**	**298**	*e*P		**P**		**11 54 27.2**	**-0.4**
	comp=Z,50nm,0.9s								
DMN	**Daman**	**76.25**	**297**	*e*P		**P**		**11 54 28.0**	**0.0**
	comp=Z,51nm,1.1s								
KOLN	**Koldanda**	**76.94**	**298**	*e*P		**P**		**11 54 31.5**	**-0.4**
	comp=Z,42nm,1.0s								
PYUN	**Piuthan**	**77.02**	**299**	*e*P		**P**		**11 54 32.2**	**-0.1**
	comp=Z,94nm,1.0s								
BRG	**Berggiesshubel**	**77.38**	**356**	*e*P		**P**		**11 54 33.7**	**0.0**
	comp=Z,4.7nm,0.9s								
BRG	**Berggiesshubel**	**77.38**	**356**	*e*P		**P**		**11 54 33.7**	**0.0**
BRG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
TBI	**Tubuai**	**77.54**	**159**	*e*LR		LR		12 17 58.3	
	comp=Z,283nm,26.8s								
TBI	**Tubuai**	**77.54**	**159**	*e*T		T		13 19 38.8	
	comp=Z,5.9nm,0.2s								
DPC	**Dobruska-Polom**	**77.79**	**355**	*e*P		**P**		**11 54 35.8**	**-0.2**
DPC	**Dobruska-Polom**	**77.79**	**355**	*e*P		**P**		**11 54 35.8**	**-0.2**
KBL	**Kabul**	**78.77**	**313**	*e*P		**P**		**11 54 40.9**	**-1.0**
KBL				pmax		pmax			
	comp=Z,20nm,1.0s								
KBL	**Kabul**	**78.77**	**313**	*e*P		**P**		**11 54 40.9**	**-1.0**
	comp=Z,20nm,1.0s								
KHC	**Kasperske Hory**	**79.14**	**356**	*e*P		**P**		**11 54 43.6**	**+0.1**
KHC	**Kasperske Hory**	**79.14**	**356**	*e*P		**P**		**11 54 43.9**	**+0.4**
KHC				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KHC	**Kasperske Hory**	**79.14**	**356**	*e*P		**P**		**11 54 43.9**	**+0.4**
	comp=Z,2.1nm,1.0s								
GERES	**GERESS Array B**	**79.42**	**356**	P		**P**		**11 54 44.7**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=358,slow=4.0,SNR=9.4								
GEA0	**GERESS Array S**	**79.42**	**356**	*e*P		**P**		**11 54 44.9**	**-0.2**
BUR08	**Bucovina Ar. S**	**79.67**	**348**	*e*P		**P**		**11 54 46.2**	**-0.3**
KIV	**Kislovodsk**	**79.89**	**335**	*i* P		**P**		**11 54 47.8**	**+0.1**
KIV				pmax		pmax			
	comp=Z,10.0nm,0.9s								
KBZ	**Khabaz**	**80.04**	**335**	P		**P**		**11 54 49.0**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=34,slow=2.2,SNR=7.3								
KBZ				LR		LR		12 33 55.3	
	comp=Z,154nm,21.6s,baz=25,slow=38								
KBZ	**Khabaz**	**80.04**	**335**	P		**P**		**11 54 49.0**	**+0.6**
NCK	**Nalchik**	**80.08**	**335**	*e*P		**P**		**11 54 48.3**	**-0.4**
NCK				pmax		pmax			
	comp=Z,18nm,0.8s								
CONA	**Conrad Observa**	**80.23**	**355**	*i* P		**P**		**11 54 49.9**	**+0.4**
	comp=Z,7.6nm,1.1s								
MOA	**Molln**	**80.39**	**356**	*e*P		**P**		**11 54 51.4**	**+1.2**
	comp=Z,2.0nm,0.8s								
GEYT	**Allbeck**	**80.43**	**322**	P		**P**		**11 54 50.4**	**-0.4**
	comp=Z,6.1nm,0.9s,baz=343,slow=4.6,SNR=7.7								
GEYT				LR		LR		12 34 32.7	
	comp=Z,215nm,18.5s,baz=55,slow=39								
ZEI	**Tsey**	**80.66**	**334**	*e*P		**P**		**11 54 51.1**	**-0.9**
ZEI				pmax		pmax			
	comp=Z,14nm,0.6s								
RETA	**Reutte**	**80.86**	**358**	*i* P		**P**		**11 54 53.5**	**+0.6**
	comp=Z,4.6nm,1.2s								
MOTA	**Moosalm**	**81.00**	**358**	*i* P		**P**		**11 54 54.3**	**+0.6**
	comp=Z,2nm,1.3s								
WTTA	**Wattenberg**	**81.06**	**358**	*i* P		**P**		**11 54 54.9**	**+0.8**
	comp=Z,9.2nm,1.1s								
KBA	**Koelnbreinsper**	**81.19**	**356**	*i* P		**P**		**11 54 55.4**	**+0.7**
	comp=Z,11nm,0.9s								
FETA	**Feichten**	**81.33**	**358**	*i* P		**P**		**11 54 56.2**	**+0.8**
	comp=Z,11nm,1.2s								
RKT	**Rikitea**	**81.44**	**146**	*e*LR		LR		12 20 46.9	
	comp=Z,340nm,23.0s								
RKT	**Rikitea**	**81.44**	**146**	*e*T		T		13 24 34.8	
	comp=Z,1.1nm,0.2s								
SOKA	**Soboth**	**81.52**	**355**	*i* P		**P**		**11 54 56.9**	**+0.5**
	comp=Z,7.9nm,1.0s								
ABTA	**Abfaltersbach**	**81.55**	**357**	*i* P		**P**		**11 54 56.9**	**+0.4**
	comp=Z,7.5nm,1.3s								
OBKA	**Obir**	**81.71**	**356**	*i* PcP		**P**		**11 54 58.7**	**+1.3**
	comp=Z,2.9nm,0.6s								
FUORN	**Ofenpass-Fuorn**	**81.73**	**359**	*e*P		**P**		**11 54 57.6**	**-0.1**
	comp=Z,9.2nm,1.2s								
WRA	**Warramunga Arr**	**85.64**	**230**	P		**P**		**11 55 16.5**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=34,slow=5.8,SNR=3.9								
BR131	**Keskin Array S**	**86.00**	**341**	*e*P		**P**		**11 55 19.4**	**-0.1**
BRTR	**Keskin Array B**	**86.00**	**341**	P		**P**		**11 55 18.8**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=42,slow=2.0,SNR=11								
BRTR				LR		LR		12 37 33.0	
	comp=Z,102nm,21.9s,baz=28,slow=38								
BR231	**Keskin MP Arra**	**86.06**	**341**	*e*P		**P**		**11 55 19.6**	**-0.2**
PSI	**Prapat**	**87.39**	**271**	*e*P		**P**		**11 55 27.1**	**+0.5**
PSI	**Prapat**	**87.39**	**271**	*e*P		**P**		**11 55 27.1**	**+0.5**
ES19	**SONSECA Array**	**88.06**	**9**	*e*P		**P**		**11 55 28.9**	**-0.5**
ESDC	**Sonseca Array**	**88.08**	**9**	P		**P**		**11 55 28.4**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=353,slow=4.4,SNR=8.8								
ESDC				LR		LR		12 34 58.4	
	comp=Z,46nm,20.5s,baz=150,slow=36								
AS01	**Alice Springs**	**89.02**	**228**	*e*P		**P**		**11 55 33.1**	**-0.7**
ASAR	**Alice Springs**	**89.05**	**228**	P		**P**		**11 55 33.5**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=29,slow=4.8,SNR=18								
STKA	**Stephens Creek**	**92.99**	**218**	LR		LR		12 32 21.1	
	comp=Z,216nm,20.6s,baz=23,slow=32								
MAW	**Mawson**	**149.68**	**218**	PKPbc		**PKPbc**		**12 02 27.1**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=80,slow=6.1,SNR=6.5								
BOSA	**Boshof**	**153.40**	**325**	PKPbc		**PKPbc**		**12 02 37.0**	**0.0**
	comp=Z,5.7nm,0.9s,baz=73,slow=0.4,SNR=2.7								
BOSA	**Boshof**	**153.40**	**325**	PKIKP		**PKPbc**		**12 02 37.0**	**0.0**

*ISCJB **24** 11:48:11.6±1.0, 7.°0S±0.°2×155.°0E±0.°2, h41km, mb3.9/8, Error ellipse: s-maj=30.3km s-min=11.8km az=40.4*
*IDC **24** 11:48:15.1±5.9, 7.°25S×155.°27E, h69km±47km, mb3.7/8, mb1 3.9/10, mb1mx3.6/44, mbtmp4.0/10, ML3.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/24, Error ellipse: s-maj=63.8km s-min=21.6km az=118.0*
ISC 24 11:48:12.9±1.2, **7.°1S**±0.°2×**155.°1E**±0.°2, **h41**km, **n11, σ1§49/12, mb3.9/8, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**8.21**	**253**	P		**Pn**	**11 50 12.0**	**+2.4**
	1.7nm,0.3s,baz=56,slow=10,SNR=4.0							
PMG				S		**Sn**	**11 51 38.6**	**-2.6**
	0.6nm,0.3s,baz=228,slow=9.8,SNR=4.3							
PMG				LR		LR	11 53 06.5	
	comp=Z,94nm,19.9s,baz=50,slow=35							
CTA	**Charters Tower**	**15.52**	**213**	P		**Pn**	**11 51 49.0**	**0.0**
	0.2nm,0.3s,baz=61,slow=19,SNR=2.9							
WRA	**Warramunga Arr**	**23.87**	**236**	P		**P**	**11 53 23.0**	**+0.2**
	2.1nm,0.5s,baz=59,slow=9.8,SNR=46							
ASAR	**Alice Springs**	**26.20**	**229**	P		**P**	**11 53 44.3**	**+0.3**
	1.2nm,0.4s,baz=57,slow=9.3,SNR=32							
FITZ	**Fitzroy Crossi**	**30.73**	**246**	P		**P**	**11 54 24.6**	**+0.2**
	1.1nm,0.5s,baz=55,slow=7.2,SNR=8.1							
PETK	**Petropavlovsk-**	**60.01**	**2**	P		**P**	**11 58 16.6**	**+1.3**
	3.5nm,0.7s,baz=101,slow=7.7,SNR=5.8							
MA2	**Magadan**	**66.55**	**358**	P		**P**	**11 58 58.4**	**0.0**
	4.1nm,0.7s,baz=170,slow=12,SNR=3.2							
SONM	**Songino Array**	**69.49**	**327**	P		**P**	**11 59 18.3**	**+0.9**
	0.5nm,0.4s,baz=149,slow=5.5,SNR=3.7							
ILAR	**Eielson Array**	**83.42**	**21**	P		**P**	**12 00 34.6**	**-1.1**
	0.2nm,0.5s,baz=238,slow=4.6,SNR=5.9							
MKAR	**Makanchi Array**	**83.57**	**319**	P		**P**	**12 00 35.7**	**-1.1**
	0.2nm,0.3s,baz=99,slow=6.3,SNR=2.9							
TORD	**Torodi Ar. Bea**	**153.18**	**285**	PKPbc		**PKPbc**	**12 08 05.8**	**-1.5**
	0.5nm,0.6s,baz=79,slow=1.8,SNR=5.4							

*IDC **24** 12:04:46.5±1.5, 38.°91N×143.°02E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/36, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=57.9km s-min=25.3km az=114.0*
*ISCJB **24** 12:04:49.1±1.4, 39.°20N±0.°03×142.°40E±0.°07, h12km±7km, mb3.4/2, Error ellipse: s-maj=8.9km s-min=4.8km az=18.6*
*JMA **24** 12:04:50.0±0.1, 39.°21N×142.°37E, h30km±1km, M3.8*
ISC 24 12:04:48.2±1.8, **39.°22N**±0.°04×**142.°32E**±0.°07, **h1**km±11km, **n20, σ1§72/26, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.53**	**312**	P		**Pb**	**12 05 01.2**	**+0.9**
MIYJ				S		**Sb**	**12 05 08.9**	**+0.5**
OFUJ	**Ofunato**	**0.53**	**255**	P		**Pb**	**12 05 01.2**	**+0.9**
OFUJ				S		**Sb**	**12 05 08.9**	**+0.4**
JTH	**Tanohata**	**0.80**	**334**	P		**Pb**	**12 05 05.2**	**+0.3**
JTH				*e*S		**Sb**	**12 05 16.9**	**+0.6**
JOM	**Ohasama**	**0.84**	**288**	P		**Pn**	**12 05 06.4**	**-0.8**
JOM				S		**Sb**	**12 05 18.0**	**+0.6**
JMK	**Ichinoseki**	**0.90**	**253**	P		**Pb**	**12 05 06.9**	**+0.3**
JMK				S		**Sb**	**12 05 19.0**	**-0.2**
JIO	**Ouri**	**1.08**	**225**	P		**Pg**	**12 05 08.6**	**-0.3**
JIO				S		**Sg**	**12 05 22.5**	**-0.4**
JKZ	**Kuzumaki**	**1.08**	**315**	P		**Pn**	**12 05 10.2**	**-0.4**
JKZ				S		**Sb**	**12 05 24.3**	**-0.1**
JANG	**Nango**	**1.31**	**332**	P		**Pg**	**12 05 12.9**	**-0.4**
JANG				S		**Sg**	**12 05 30.0**	**-0.2**
JRG	**Rokugo**	**1.32**	**278**	P		**Pn**	**12 05 14.0**	**+0.1**
JRG				*e*S		**Sn**	**12 05 32.1**	**-0.1**
MJAR	**Matsushiro Arr**	**4.21**	**232**	Pn		**Pn**	**12 05 55.5**	**+1.9**
	1.0nm,0.3s,baz=43,slow=11,SNR=12							
MJAR				Sn		**Sn**	**12 06 46.3**	**+2.8**
	baz=42,slow=13,SNR=2.6							
MAT	**Matsushiro**	**4.21**	**232**	P		**Pn**	**12 05 57.4**	**+3.8**
MAT				S		**Sn**	**12 06 45.1**	**+1.6**
ASAJ	**Asahikawa**	**4.89**	**2**	Pn		**Pn**	**12 06 05.8**	**+2.8**
	baz=235,slow=19							
ASAJ				Sn		**Sn**	**12 07 03.5**	**+3.3**
	0.2nm,0.3s,baz=342,slow=19,SNR=2.9							
H11N2	**WAKE ISLAND Hy**	**28.74**	**125**	T		T	12 41 07.2	
	baz=318,slow=75,SNR=44							
H11N1	**WAKE ISLAND Hy**	**28.75**	**125**	T		T	12 41 07.4	
	baz=318,slow=75,SNR=42						

*MEX **24** 12:13:26.7±0.6,32.41N×112.51W,h15km±999km,MD3.5*
*ISCJB **24** 12:14:05.5±0.5,32.67N±0.04×116.04W±0.04,h9km,3km,*
Error ellipse: s-maj=7.5km s-min=4.4km az=151.4
*ECX **24** 12:14:06.2±0.6,32.65N×116.01W,h3km,MD1.9,ML2.2*

ISC 24 12:14:05.7±1.0,32.63N±0.04×116.02W±0.03,h8km±6km, n18,σt0.40/28,8C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMX	**La Rumorosa**	**0.06**	**238**	⇑*iP*	**Pg**	**12 14 07.5**	**-0.2**
RMX				*eS*	**Sg**	**12 14 09.1**	**-0.2**
RMX				⇑*e*		12 14 09.4	
RMX				IAML		12 14 09.4	
	comp=N,2μm,0.1s						
IKP	**In-Ko-Pah, Jac**	**0.08**	**281**	⇑*iP*	**Pg**	**12 14 08.1**	**+0.2**
IKP				*eS*	**Sg**	**12 14 09.6**	**+0.1**
YUH	**Yuha Desert**	**0.08**	**81**	⇓*iP*	**Pg**	**12 14 07.6**	**-0.3**
CRR	**Carrizo Plain**	**0.26**	**9**	⇑*iP*	**Pg**	**12 14 10.4**	**-0.5**
WESC	**Westside Schoo**	**0.27**	**63**	⇑*eP*	**Pg**	**12 14 11.3**	**+0.2**
COK	**Cook Ranch**	**0.33**	**49**	⇑*iP*	**Pg**	**12 14 12.2**	**+0.1**
SWSC	**Sam W. Stewart**	**0.36**	**31**	⇑*iP*	**Pg**	**12 14 12.4**	**-0.4**
BAR	**Barrett**	**0.55**	**275**	⇑*eP*	**Pg**	**12 14 16.4**	**-0.1**
TJIG	**Tijuana**	**0.59**	**250**	*eP*	**Pg**	**12 14 17.2**	**+0.1**
TJIG				*eS*	**Sg**	**12 14 25.0**	**+0.1**
TJIG	**Tijuana**	**0.59**	**250**	*eP*	**Pg**	**12 14 17.1**	**0.0**
TJIG				*eS*	**Sg**	**12 14 25.0**	**+0.1**
CBX	**Cerro Bola**	**0.63**	**240**	*eP*	**Pg**	**12 14 18.6**	**+0.6**
CBX				*eS*	**Sb**	**12 14 27.7**	**-0.4**
CBX	**Cerro Bola**	**0.63**	**240**	*eP*	**Pg**	**12 14 18.2**	**+0.2**
CBX				*eS*	**Sg**	**12 14 27.0**	**+0.7**
CPBX	**Cerro Prieto**	**0.64**	**110**	*eP*	**Pg**	**12 14 18.0**	**-0.1**
CPBX				⇓*e*		12 14 30.4	
CPBX				IAML		12 14 30.4	
	comp=N,260nm,0.1s						
SDRC	**San Diego Road**	**0.79**	**278**	*eP*	**Pg**	**12 14 20.6**	**-0.3**
PBX	**Punta Banda**	**1.07**	**214**	*eP*	**Pg**	**12 14 25.5**	**-0.8**
PBX				*eS*	**Sg**	**12 14 40.2**	**0.0**
ECNX	**Esteban Cantu**	**1.09**	**207**	*eP*	**Pg**	**12 14 25.9**	**-0.8**
ECNX				*eS*	**Sg**	**12 14 40.6**	**-0.3**
ECBX	**El Chinero**	**1.42**	**144**	*eP*	**Pn**	**12 14 31.6**	**-0.1**
ECBX				*eS*	**Sb**	**12 14 50.8**	**+0.2**
SPIG	**San Pedro Mart**	**1.65**	**163**	*eP*	**Pb**	**12 14 37.0**	**+0.4**
SPIG				*eS*	**Sg**	**12 14 59.4**	**+0.6**

MEX 24 12:17:13.0±0.9,16.19N×98.40W,h15km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**51**	*eP*	Pg	12 17 18.4	-1.4
PNIG				*eS*	Sg	12 17 23.9	-0.6
TLIG	**Tlapa**	**1.38**	**353**	*eP*	Pn	12 17 32.3	-5.5
TLIG				*eS*	Sn	12 17 48.0	-7.9
VHO	**Vista Hermosa**	**1.82**	**61**	*eP*	Pn	12 17 41.5	-2.5
VHO				*eS*	Sb	12 18 09.3	+0.4
CAIG	**El Cayaco**	**1.99**	**296**	*eP*	Pn	12 17 42.1	-4.0
CAIG				*eS*	Sn	12 18 06.8	-4.0
MEIG	**Mezcala**	**2.09**	**326**	*eP*	Pn	12 17 44.4	-3.1
MEIG				*eS*	Sn	12 18 08.7	-4.7
TPIG	**Tehuac#an**	**2.43**	**24**	*eP*	Pn	12 17 52.4	0.0
TPIG				*eS*	Sn	12 18 22.7	+0.7
ARIG	**Puente Sto Nin**	**2.80**	**318**	*eP*	Pn	12 17 57.2	0.0
ARIG				*eS*	Sn	12 18 31.9	+1.1
PPM	**Popocatepetl**	**2.87**	**356**	*eP*	Pb	12 18 02.5	-1.8
PPM				*eS*	Sb	12 18 37.2	-2.3

*NIED **24** 12:19:00,39.90N×142.50E,h44km,Mw4.0 Best double couple: M₀1.05000×10¹⁵ NP1:φ₀299.00000°,δ40.00000°, λ-70.00000°. NP2:φ₀93.00000°,δ52.00000°, λ-106.00000°.*

JMA 24 12:19:04.7±0.1,39.91N×142.45E,h37km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.45**	**274**	P	Pn	12 19 14.7	+0.2
JTH				S	Sn	12 19 21.6	+0.1
MIYJ	**Miyakonagasawa**	**0.59**	**236**	P	Pn	12 19 16.4	-0.3
MIYJ				S	Sn	12 19 24.4	-0.6
JANG	**Nango**	**0.85**	**303**	P	Pn	12 19 19.9	-0.3
JANG				S	Sn	12 19 30.8	-0.7
JKZ	**Kuzumaki**	**0.86**	**275**	P	Pn	12 19 20.9	+0.5
JKZ				S	Sn	12 19 32.1	+0.3
JOM	**Ohasama**	**0.99**	**244**	P	Pn	12 19 22.6	+0.5
JOM				*e*S	Sn	12 19 35.4	+0.6
OFUJ	**Ofunato**	**1.03**	**216**	P	Pn	12 19 22.8	+0.3
JMK	**Ichinoseki**	**1.35**	**225**	P	Pn	12 19 27.8	+0.8
JTM	**Tenmabayashi**	**1.37**	**310**	P	Pn	12 19 28.1	+0.8
JTM				S	Sn	12 19 45.2	+1.0
JAH	**Hinai**	**1.42**	**282**	P	Pn	12 19 29.3	+1.4
JAH				S	Sn	12 19 47.0	+1.7
JRG	**Rokugo**	**1.49**	**250**	P	Pn	12 19 30.1	+1.2

*IDC **24** 12:40:55.4±3.0,39.09N×143.08E,h0km,mb3.4/2, mb1 3.5/3,mb1mx3.2/54,mbtmp3.2/3,ML3.0/1,MS2.3/2, Ms1 2.3/2,ms1mx2.2/32,Error ellipse: s-maj=71.4km s-min=37.7km az=66.0*
*ISCJB **24** 12:40:59.5±1.3,38.82N±0.05×142.63E±0.08,h17km±7km, mb3.2/2,Error ellipse: s-maj=10.8km s-min=7.6km az=14.0*
*JMA **24** 12:41:01.3±0.2,38.87N×142.54E,h26km±2km,M3.7*
JMA Felt I J1.

ISC 24 12:40:59.3±2.0,38.90N±0.06×142.62E±0.09,h14km±11km, n15,σt9.19/22,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.76**	**284**		**Pg**	**12 41 14.9**	**+0.8**
MIYJ	**Miyakonagasawa**	**0.92**	**318**	P	**Pn**	**12 41 17.5**	**-0.3**
MIYJ				S	**Sb**	**12 41 28.9**	**-0.3**
JIO	**Ouri**	**1.09**	**246**	P	**Pn**	**12 41 19.2**	**-0.9**
JIO				S	**Sb**	**12 41 32.0**	**-2.0**
JMK	**Ichinoseki**	**1.09**	**273**	P	**Pn**	**12 41 20.0**	**-0.2**
JMK				S	**Sb**	**12 41 33.2**	**-0.9**
JOM	**Ohasama**	**1.18**	**300**	P	**Pn**	**12 41 21.8**	**+0.4**
JOM				S	**Sb**	**12 41 36.6**	**-0.1**
JTH	**Tanohata**	**1.20**	**331**	P	**Pg**	**12 41 22.5**	**+0.2**
JOU	**Okura**	**1.62**	**252**	P	**Pn**	**12 41 27.9**	**+0.4**
JOU				S	**Sn**	**12 41 47.4**	**-0.8**
JRG	**Rokugo**	**1.62**	**289**	P	**Pn**	**12 41 29.0**	**+1.5**
JRG				S	**Sn**	**12 41 49.4**	**+1.2**
JANG	**Nango**	**1.70**	**330**	P	**Pb**	**12 41 30.2**	**-0.2**
JANG				S	**Sg**	**12 41 52.9**	**-1.2**
JYK	**Kaneyama**	**1.77**	**271**	P	**Pn**	**12 41 30.8**	**+1.4**
JYK				S	**Sn**	**12 41 51.9**	**+0.2**
JMM	**Marumori**	**1.77**	**235**	P	**Pn**	**12 41 28.7**	**-0.7**
MJAR	**Matsushiro Ar**	**4.21**	**237**	Pn	**Pn**	**12 42 06.3**	**+3.2**
	0.7nm,0.3s,baz=36,slow=13,SNR=7.2						
MJAR				LR	LR	12 43 51.6	
	comp=Z,50nm,21.2s,baz=250,slow=38						
KSRS	**Korea Array**	**11.66**	**267**	LR	LR	12 47 29.3	
	comp=Z,12nm,19.2s,baz=30,slow=33						
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**12 49 05.7**	**-0.2**
	0.1nm,0.4s,baz=94,slow=9.2,SNR=2.7						
WRA	**Warramunga Arr**	**59.04**	**189**	P	**P**	**12 50 58.8**	**-0.1**
	0.3nm,0.5s,baz=6.2,slow=7.0,SNR=6.0						

MAN 24 12:47:39,12.87N×122.90E,h10km,mb4.4,ML3.3,MS3.1, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**1.00**	**240**	*eP*	Pg	12 47 57.5	-0.7
OTRP				*eS*	Sg	12 48 11.3	0.0
GQP	**Guinayangan**	**1.12**	**337**	⇓*eP*	Pb	12 48 00.1	-0.4
GQP				*eS*	Sn	12 48 16.6	+0.3
BOAC	**Boac**	**1.19**	**300**	*eP*	Pb	12 48 00.5	-1.2
BOAC				*eS*	Sn	12 48 18.8	+0.9
RCP	**Roxas**	**1.31**	**187**	⇑*eP*	Pn	12 48 02.0	-1.4
PVCP	**Virac**	**1.42**	**59**	*eP*	Pn	12 48 04.6	-0.3
SJMP	**San Jose**	**1.79**	**257**	*eP*	Pn	12 48 10.6	+0.6
POLP	**Polilio Island**	**2.07**	**333**	*eP*	Pb	12 48 17.3	+0.6

IDC 24 13:01:36.8±4.8,8.78S×120.38E,h231km±56km,mb3.0/2, mb1 3.0/5,mb1mx2.7/53,mbtmp3.5/5,MS3.3/1,Ms1 3.5/1, ms1mx2.7/12,Error ellipse: s-maj=108.7km s-min=18.6km az=49.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.59**	**152**	P	Pn	13 04 02.4	-0.6
	0.1nm,0.3s,baz=332,slow=12,SNR=6.6						
FITZ				S	S	13 05 57.3	-4.4
	0.1nm,0.3s,baz=180,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**17.48**	**131**	P	P	13 05 24.5	-0.6
	0.2nm,0.3s,baz=310,slow=10,SNR=13						
WRA				S	S	13 08 32.6	-2.2
	0.1nm,0.3s,baz=298,slow=25,SNR=5.3						
ASAR	**Alice Springs**	**19.67**	**140**	P	P	13 05 49.6	+1.0
	0.2nm,0.3s,baz=333,slow=15,SNR=16						
STKA	**Stephens Creek**	**30.28**	**142**	P	P	13 07 28.4	+1.9
	0.5nm,0.4s,baz=326,slow=13,SNR=4.1						
CMAR	**Chiang Mai Arr**	**34.35**	**322**	LR	LR	13 25 05.7	
	comp=Z,39nm,18.0s,baz=165,slow=41						
MKAR	**Makanchi Array**	**64.89**	**332**	P	P	13 11 50.8	-0.6
	0.2nm,0.5s,baz=123,slow=5.3,SNR=4.5						

*BUC **24** 13:06:35.6±0.7,47.49N×25.87E,h2km,MD2.9/2,Error ellipse: s-maj=9.6km s-min=3.8km az=33.0*
*SIGU **24** 13:06:37.0±0.1,47.45N±0.01×25.84E±0.01,h2km, mb2.6/5*

ISC 24 13:06:35.8±1.2,47.46N±0.02×25.86E±0.03,h5km±11km, n26,σt0.88/38,12C-4D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BURAR	**Bucovina Array**	**0.46**	**290**	⇑*iP*	**Pg**	**13 06 45.2**	**+0.4**
BURAR	**Bucovina Array**	**0.46**	**290**	⇑*iP*	**Pg**	**13 06 45.2**	**+0.4**
KSV	**Kosov**	**1.01**	**328**	*i* P	**Pn**	**13 06 57.0**	**+0.3**
KSV				Pm		13 06 57.8	
KSV				*i* S	**Sn**	**13 07 11.8**	**+0.6**
KSV				Sm		13 07 27.2	
TESR	**Tescani**	**1.09**	**150**	⇑*iP*	**Pg**	**13 06 57.0**	**+0.3**
TESR	**Tescani**	**1.09**	**150**	⇑*iP*	**Pg**	**13 06 57.0**	**+0.3**
TESR				*i* S	**Sn**	**13 07 14.0**	**+0.9**
NSLU	**Nyzhne Selyshc**	**1.20**	**309**	*i* P	Pg	13 07 08.7	+10
NSLU				Pm		13 07 12.1	
NSLU				*i* S	Sn	13 07 32.3	+16
NSLU				Sm		13 07 44.7	
RAKU	**Rahkiv**	**1.28**	**297**	*i* P	**Pg**	**13 07 01.1**	**+0.8**
RAKU				Pm		13 07 03.6	
RAKU				*i* S	**Sn**	**13 07 19.2**	**+1.4**
RAKU				Sm		13 07 20.2	
NDNU	**Novodnistrovsk**	**1.52**	**41**	*eP*	**Pg**	**13 07 05.2**	**+0.2**
NDNU				Pm		13 07 07.2	
NDNU				*i* S	**Sg**	**13 07 26.4**	**+1.7**
NDNU				Sm		13 07 28.5	
DOPR	**Dopca**	**1.53**	**192**	⇓*iP*	**Pg**	**13 07 05.4**	**+0.4**
DOPR	**Dopca**	**1.53**	**192**	⇓*iP*	**Pg**	**13 07 05.4**	**+0.4**
STNU	**Starunia**	**1.55**	**324**	*i* P	**Pb**	**13 07 04.1**	**-0.9**
STNU				*i* S	**Sg**	**13 07 26.7**	**+1.1**
VRI	**Vrincioaia**	**1.70**	**159**	⇑*iP*	**Pg**	**13 07 08.2**	**-0.2**
VRI	**Vrincioaia**	**1.70**	**159**	⇑*iP*	**Pg**	**13 07 08.2**	**-0.2**
VRI				*i* S	**Sg**	**13 07 30.5**	**+0.1**
HORU	**Horodok**	**1.80**	**12**	*i* P	**Pg**	**13 07 10.1**	**-0.2**
HORU				*i* S	**Sg**	**13 07 33.9**	**+0.3**
MEZ	**Mezhgor'ye**	**1.90**	**305**	*eP*	**Pb**	**13 07 10.6**	**-0.3**
MEZ				Pm		13 07 15.0	
MEZ				*i* S	**Sg**	**13 07 35.6**	**-1.2**
MEZ				Sm		13 07 45.6	
KORU	**Korolevo**	**1.97**	**292**	*eP*	**Pb**	**13 07 11.6**	**-0.5**
KORU				Pm		13 07 21.2	
KORU				*i* S	**Sb**	**13 07 36.8**	**-0.1**
KORU				Sm		13 07 58.6	
MLR	**Muntele Rosu**	**1.97**	**178**	⇓*iP*	**Pb**	**13 07 11.5**	**-0.7**
MLR	**Muntele Rosu**	**1.97**	**178**	⇓*iP*	**Pb**	**13 07 11.5**	**-0.7**
MILM	**Milestii Mici**	**2.08**	**104**	⇑*iP*	**Pb**	**13 07 12.8**	**-1.2**
MILM	**Milestii Mici**	**2.08**	**104**	⇑*iP*	**Pb**	**13 07 12.8**	**-1.2**
MILM				*i* S	**Sb**	**13 07 40.5**	**+0.3**
VOIR		**2.10**	**196**	⇑*iP*	**Pb**	**13 07 13.5**	**-0.8**
VOIR		**2.10**	**196**	⇑*iP*	**Pb**	**13 07 13.5**	**-0.8**
DRGR		**2.25**	**254**	⇑*iP*	**Pb**	**13 07 16.3**	**-0.7**
DRGR		**2.25**	**254**	⇑*iP*	**Pb**	**13 07 16.3**	**-0.7**
DRGR				*i* S	**Sb**	**13 07 44.9**	**-0.2**
SHIU	**Shidnytsya**	**2.43**	**318**	*eP*	**Pb**	**13 07 18.9**	**-1.1**
SHIU				Pm		13 07 37.5	
SHIU				*i* S	**Sb**	**13 07 49.7**	**-0.5**
SHIU				Sm		13 08 30.3	
STZU	**Stuzhytsa**	**2.67**	**307**	*eP*	**Pb**	**13 07 22.0**	**-2.0**
STZU				Pm		13 07 30.8	
STZU				*e*S	**Sb**	**13 07 55.4**	**-1.7**
STZU				Sm		13 08 06.0	

*IDC **24** 13:07:56.7±1.4,51.92N×171.86W,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.5/72,mbtmp3.7/7,ML3.8/1,MS2.8/3, Ms1 2.8/3,ms1mx2.5/55,Error ellipse: s-maj=38.9km s-min=24.9km az=169.0*
*ISCJB **24** 13:08:01.5±0.8,51.81N±0.11×171.61W±0.07,h44km, mb3.8/6,MS2.6/2,Error ellipse: s-maj=17.8km s-min=4.0km az=165.3*
*NEIC **24** 13:08:03.1,51.77N×171.59W,h36km,mb3.6/3, ML3.6(AEIC),After AEIC.*

ISC 24 13:08:02.8±1.0,51.81N±0.11×171.64W±0.05,h44km,n32, σt0.81/31,mb3.9/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.57**	**290**	P	**Pn**	**13 08 28.3**	**+0.1**
KOFP	**Korovin Flat P**	**1.58**	**287**	P	**Pn**	**13 08 28.7**	**+0.3**
KONE	**Korovin Northe**	**1.63**	**291**	P	**Pn**	**13 08 29.4**	**+0.5**
KOKL	**Mount Kliuchef**	**1.65**	**288**	P	**Pn**	**13 08 30.0**	**+0.6**
NIKH	**Nikolski High**	**2.05**	**55**	P	**Pn**	**13 08 34.4**	**-0.3**
NIKH				S	**Sn**	**13 08 58.0**	**-0.9**
OKAK	**Okmok**	**2.65**	**48**	P	**Pn**	**13 08 42.3**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**2.68**	**53**	P	**Pn**	**13 08 43.9**	**+0.5**
GSMY	**Great Sitkin M**	**2.74**	**276**	P	**Pn**	**13 08 44.5**	**+0.2**
GSTD	**Great Sitkin T**	**2.80**	**276**	P	**Pn**	**13 08 44.8**	**-0.3**
GSTD				S	**Sn**	**13 09 18.1**	**+0.5**
GSCK	**Great Sitkin C**	**2.81**	**275**	P	**Pn**	**13 08 45.1**	**0.0**
ADAG	**Mount Adagdak**	**3.08**	**275**	P	**Pn**	**13 08 49.5**	**+0.6**
MSOM	**Makushin Julie**	**3.46**	**53**	P	**Pn**	**13 08 55.2**	**+1.1**
UNV	**Unalaska Valle**	**3.70**	**55**	P	**Pn**	**13 08 57.9**	**+0.5**
UNV				S	**Sn**	**13 09 41.1**	**+1.4**
AKGG	**Akutan Green G**	**4.14**	**53**	P	**Pn**	**13 09 04.4**	**+0.9**
AKUT	**Akutan**	**4.22**	**55**	*e*Pn	**Pn**	**13 09 03.7**	**-0.8**
WEBT	**Westdahl Beart**	**4.97**	**54**	P	**Pn**	**13 09 15.9**	**+1.1**
SPIA	**Saint Paul Isl**	**5.41**	**8**	P	**Pn**	**13 09 21.5**	**+0.7**
BPAW	**Bear Paw Mtn.**	**16.35**	**33**	*eP*	**P**	**13 11 51.0**	**-0.2**
	0.5nm,0.8s						
ILAR	**Eielson Array**	**18.18**	**35**	P	**P**	**13 12 09.2**	**-2.2**
	0.1nm,0.3s,baz=231,slow=9.7,SNR=8.8						
ILAR				LR	LR	13 19 57.1	
	comp=Z,51nm,19.3s,baz=236,slow=40						
EGAK	**Eagle**	**20.32**	**39**	*eP*	**P**	**13 12 34.9**	**+0.1**
	2.1nm,0.6s						
DLBC	**Dease Lake**	**24.35**	**58**	P	**P**	**13 13 17.4**	**+1.0**
	2.6nm,0.5s,baz=253,slow=11,SNR=8.7						
DLBC	**Dease Lake**	**24.35**	**58**	*eP*	**P**	**13 13 15.6**	**-0.8**
	5.8nm,0.9s						
INK	**Inuvik**	**24.56**	**34**	P	**P**	**13 13 17.3**	**-0.6**
	1.7nm,0.5s,baz=265,slow=11,SNR=5.4						
INK				LR	LR	13 22 54.8	
	comp=Z,44nm,18.0s,baz=264,slow=37						
YKA	**Yellowknife Ar**	**31.64**	**48**	LR	LR	13 29 04.4	
	comp=Z,4.8nm,20.0s,baz=0.0,slow=40						
H11N2	**WAKE ISLAND Hy**	**36.19**	**216**	T	T	13 53 33.8	
	baz=21,slow=76,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**36.20**	**216**	T	T	13 53 39.7	
	baz=21,slow=76,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**36.21**	**216**	T	T	13 53 35.4	
	baz=21,slow=76,SNR=5.5						
TXAR	**Lajitas Array**	**54.16**	**87**	P	**P**	**13 17 24.6**	**+1.0**
	0.2nm,0.5s,baz=289,slow=4.1,SNR=4.5						
KURK	**Kurchatov**	**61.82**	**317**	P	**P**	**13 18 16.8**	**0.0**
KURBB	**Kurchatov Arra**	**61.93**	**317**	P	**P**	**13 18 16.8**	**-0.8**
	1.0nm,0.8s,baz=44,slow=7.2,SNR=7.3						
BVAR	**Borovoye Array**	**63.30**	**323**	P	**P**	**13 18 26.2**	**-0.5**
	1.5nm,0.6s,baz=40,slow=7.8,SNR=5.4						
ASAR	**Alice Springs**	**88.99**	**228**	P	**P**	**13 20 52.5**	**-0.2**
	0.3nm,0.9s,baz=26,slow=5.2,SNR=4.4						

*ISCJB **24** 13:08:36.9±0.5,47.45N±0.01×25.96E±0.02,h2km±3km, mb3.9/15,MS3.5/8,Error ellipse: s-maj=2.5km s-min=1.9km az=35.7*
*IDC **24** 13:08:37.7±0.5,47.31N×25.83E,h0km,mb3.8/13, mb1 4.1/24,mb1mx3.9/59,mbtmp4.0/24,ML4.2/11, MS3.5/12,Ms1 3.5/12,ms1mx3.1/58,Error ellipse: s-maj=8.0km s-min=7.1km az=75.0*
*MOS **24** 13:08:37.8±1.0,47.37N×25.91E,h15km,mb4.3/1,Error ellipse: s-maj=7.3km s-min=4.6km az=132.7*
*CSEM **24** 13:08:39.5±0.1,47.46N×25.88E,h10km,MD4.6,Error ellipse: s-maj=2.8km s-min=2.4km az=35.0*
*BUC **24** 13:08:39.5±0.9,47.35N×25.82E,h8km±7km,MD4.6/3, Error ellipse: s-maj=6.5km s-min=4.7km az=14.0*
*SIGU **24** 13:08:39.8±0.1,47.40N±0.01×25.84E±0.01,h10km, mb4.4/5*
*NEIC **24** 13:08:40.0,47.38N×25.81E,h6km,mb4.4/3,ML4.5(BUC), After BUC.*
*PRU **24** 13:08:43.4,47.36N×25.61E,h17km,M4.4*

ISC 24 13:08:39.0±1.0,47.37N±0.02×25.83E±0.01,h11km±7km, n319,σt65/399,mb4.0/16,MS3.6/8,65C-44D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BURAR	**Bucovina Array**	**0.48**	**301**	⇑*iP*	**Pb**	**13 08 49.9**	**+0.3**
BURAR	**Bucovina Array**	**0.48**	**301**	S	**Sb**	**13 08 57.5**	**+0.7**
BURAR	**Bucovina Array**	**0.48**	**301**	⇑*iP*	**Pb**	**13 08 49.9**	**+0.3**
BURAR				*i* S	**Sb**	**13 08 57.5**	**+0.7**
BURAR	**Bucovina Array**	**0.48**	**301**	⇑*iP*	**Pb**	**13 08 49.9**	**+0.3**
BURAR				*i* S	**Sb**	**13 08 57.5**	**+0.7**
JOSR	**Joseni**	**0.70**	**198**	⇑*iP*	**Pg**	**13 08 52.9**	**+0.4**
JOSR	**Joseni**	**0.70**	**198**	⇑*iP*	**Pg**	**13 08 52.9**	**+0.4**
JOSR				*i* S	**Sb**	**13 09 03.3**	**+0.4**
JOSR	**Joseni**	**0.70**	**198**	⇑*iP*	**Pg**	**13 08 52.9**	**+0.4**
JOSR				*i* S	**Sb**	**13 09 03.3**	**+0.4**
CHRU	**Chernivtsi**	**0.93**	**4**	*i* P	**Pg**	**13 08 57.3**	**+0.4**
CHRU				Pm		13 09 00.1	
CHRU				*i* S	**Sb**	**13 09 10.0**	**+0.5**
CHRU				Sm		13 09 11.4	
TESR	**Tescani**	**1.03**	**147**	⇓*iP*	**Pn**	**13 09 00.0**	**+0.6**
TESR	**Tescani**	**1.03**	**147**	⇓*iP*	**Pn**	**13 09 00.0**	**+0.6**
TESR				*i* S	**Sn**	**13 09 15.0**	**+1.2**
TESR	**Tescani**	**1.03**	**147**	⇓*iP*	**Pn**	**13 09 00.0**	**+0.6**
TESR				*i* S	**Sn**	**13 09 15.0**	**+1.2**
ARCR	**ARCALIA**	**1.05**	**255**	⇓*iP*	**Pg**	**13 08 59.5**	**+0.4**
ARCR	**ARCALIA**	**1.05**	**255**	⇓*iP*	**Pg**	**13 08 59.5**	**+0.4**
ARCR				*i* S	**Sn**	**13 09 14.3**	**0.0**
ARCR	**ARCALIA**	**1.05**	**255**	⇓*iP*	**Pg**	**13 08 59.5**	**+0.4**
ARCR				*i* S	**Sn**	**13 09 14.3**	**0.0**
KSV	**Kosov**	**1.08**	**332**	*i* P	**Pb**	**13 08 59.8**	**+0.1**
KSV				Pm		13 09 01.8	
KSV				*i* S	**Sn**	**13 09 14.8**	**-0.2**
KSV				Sm		13 09 29.2	
IAS	**Iasi**	**1.19**	**98**	⇓*iP*	**Pg**	**13 09 03.0**	**+1.1**
IAS	**Iasi**	**1.19**	**98**	⇓*iP*	**Pg**	**13 09 03.0**	**+1.1**
IAS				*i* S	**Sn**	**13 09 20.0**	**+2.2**
IAS	**Iasi**	**1.19**	**98**	⇓*iP*	**Pg**	**13 09 03.0**	**+1.1**
IAS				*i* S	**Sn**	**13 09 20.0**	**+2.2**
NSLU	**Nyzhne Selyshc**	**1.24**	**312**	*i* P	Pg	13 09 11.1	+8.2
NSLU				Pm		13 09 17.5	
NSLU				*i* S	Sg	13 09 35.1	+16
NSLU				Sm		13 09 42.2	
RAKU	**Rahkiv**	**1.30**	**301**	*i* P	**Pb**	**13 09 03.6**	**+0.1**
RAKU				Pm		13 09 06.4	
RAKU				*i* S	**Sg**	**13 09 22.2**	**+1.3**
RAKU				Sm		13 09 25.2	
DOPR	**Dopca**	**1.44**	**192**	⇑*iP*	**Pb**	**13 09 06.2**	**+0.4**
DOPR	**Dopca**	**1.44**	**192**	⇑*iP*	**Pb**	**13 09 06.2**	**+0.4**
DOPR	**Dopca**	**1.44**	**192**	⇑*iP*	**Pb**	**13 09 06.2**	**+0.4**
NDNU	**Novodnistrovsk**	**1.60**	**40**	*eP*	**Pb**	**13 09 08.2**	**-0.4**
NDNU				Pm		13 09 11.2	
NDNU				*i* S	**Sn**	**13 09 28.2**	**+0.2**
NDNU				Sm		13 09 32.0	
BMR	**Baia Mare**	**1.61**	**282**	⇓*iP*	**Pb**	**13 09 08.4**	**-0.4**
BMR	**Baia Mare**	**1.61**	**282**	⇓*iP*	**Pb**	**13 09 08.4**	**-0.4**
BMR				*i* S	**Sg**	**13 09 30.4**	**-0.4**
BMR	**Baia Mare**	**1.61**	**282**	⇓*iP*	**Pb**	**13 09 08.4**	**-0.4**
BMR				*i* S	**Sg**	**13 09 30.4**	**-0.4**
PLOR	**Plostina**	**1.62**	**159**	⇓*iP*	**Pb**	**13 09 09.4**	**+0.4**
PLOR	**Plostina**	**1.62**	**159**	⇓*iP*	**Pb**	**13 09 09.4**	**+0.4**
PLOR				*i* S	**Sg**	**13 09 31.0**	**-0.1**
PLOR	**Plostina**	**1.62**	**159**	⇓*iP*	**Pb**	**13 09 09.4**	**+0.4**
PLOR				*i* S	**Sg**	**13 09 31.0**	**-0.1**
VRI	**Vrincioaia**	**1.63**	**157**	⇑*iP*	**Pg**	**13 09 10.8**	**+0.6**
VRI				S	**Sg**	**13 09 32.3**	**+1.0**
VRI	**Vrincioaia**	**1.63**	**157**	⇑*iP*	**Pg**	**13 09 10.8**	**+0.6**
VRI				*i* S	**Sg**	**13 09 32.3**	**+1.0**
VRI	**Vrincioaia**	**1.63**	**157

ISR	**Istrita**	**2.31 167**	⇑	*i*P	**Pb**	**13 09 20.5**	**-0.1**
ISR				*i*S	**Sb**	**13 09 47.8**	**-1.4**
BERU	**Beregovo**	**2.31 293**	*i*	P	**Pn**	**13 09 17.2**	**+0.2**
BERU				*i*S	**Sn**	**13 09 46.6**	**+1.1**
SECR		**2.34 176**	⇓	*i*P	**Pb**	**13 09 20.8**	**-0.4**
SECR		**2.34 176**	⇓	*i*P	**Pb**	**13 09 20.8**	**-0.4**
SECR		**2.34 176**	⇓	*i*P	**Pb**	**13 09 20.8**	**-0.4**
TRPA	**Tarpa**	**2.35 290**		*e*Pn	**Pn**	**13 09 17.6**	**+0.1**
TRPA				*e*Pb	**Pg**	**13 09 24.5**	**+0.5**
TRPA				*e*Sb	**Sg**	**13 09 54.5**	**+0.1**
TRPA	**Tarpa**	**2.35 290**		*e*Pn	**Pn**	**13 09 17.6**	**+0.1**
TRPA	**Tarpa**	**2.35 290**		*e*Pg	**Pg**	**13 09 24.5**	**+0.5**
MUKU	**Mukachevo**	**2.38 298**	*i*	P	**Pn**	**13 09 19.1**	**+1.2**
MUKU				Pm		13 09 20.6	
MUKU				*i*S	**Sb**	**13 09 49.7**	**-1.4**
MUKU				Sm		13 10 07.5	
LOT	**Lotru**	**2.39 217**	⇑	*i*P	**Pb**	**13 09 20.8**	**-1.4**
LOT	**Lotru**	**2.39 217**	⇑	*i*P	**Pb**	**13 09 20.8**	**-1.4**
LOT				*i*S	**Sb**	**13 09 50.0**	**-1.8**
LOT	**Lotru**	**2.39 217**	⇑	*i*P	**Pb**	**13 09 20.8**	**-1.4**
LOT				*i*S	**Sb**	**13 09 50.0**	**-1.8**
DEV	**Deva**	**2.51 235**	⇑	*i*P	**Pb**	**13 09 22.2**	**-1.8**
DEV	**Deva**	**2.51 235**	⇑	*i*P	**Pb**	**13 09 22.2**	**-1.8**
DEV				*i*S	**Sn**	**13 09 51.7**	**+1.4**
DEV	**Deva**	**2.51 235**	⇑	*i*P	**Pb**	**13 09 22.2**	**-1.8**
DEV				*i*S	**Sn**	**13 09 51.7**	**+1.4**
PGOR	**Pogoanele**	**2.59 162**	⇑	*i*P	**Pn**	**13 09 23.1**	**+2.3**
PGOR	**Pogoanele**	**2.59 162**	⇑	*i*P	**Pn**	**13 09 23.1**	**+2.3**
PGOR	**Pogoanele**	**2.59 162**	⇑	*i*P	**Pn**	**13 09 23.1**	**+2.3**
ONO	**Onokovtsy**	**2.68 300**	*i*	P	**Pn**	**13 09 23.0**	**+0.9**
ONO				*i*S	**Sn**	**13 09 56.6**	**+2.0**
UZH	**Uzhgorod**	**2.69 299**		*e*P	**Pn**	**13 09 22.5**	**+0.3**
UZH				*e*S	**Sn**	**13 09 55.8**	**+1.0**
UZH				MLR	MLR		
	comp=Z,450nm,1.2s						
UZH	**Uzhgorod**	**2.69 299**	*i*	P	**Pn**	**13 09 23.9**	**+1.7**
UZH				Pm		13 09 24.6	
UZH				*i*S	**Sb**	**13 09 57.7**	**-2.4**
UZH				Sm		13 10 14.6	
STZU	**Stuzhytsa**	**2.71 309**	*i*	P	**Pn**	**13 09 23.4**	**+0.9**
STZU				Pm		13 09 34.8	
STZU				*i*S	**Sn**	**13 09 57.2**	**+2.0**
STZU				Sm		13 10 27.0	
SULR		**2.71 174**	⇑	*i*P	**Pb**	**13 09 25.2**	**-2.3**
SULR		**2.71 174**	⇑	*i*P	**Pb**	**13 09 25.2**	**-2.3**
SULR				*i*S	**Sn**	**13 09 57.2**	**+2.0**
SULR		**2.71 174**	⇑	*i*P	**Pb**	**13 09 25.2**	**-2.3**
SULR				*i*S	**Sn**	**13 09 57.2**	**+2.0**
CFR	**Carcaliu**	**2.71 143**	⇓	*i*P	**Pn**	**13 09 23.8**	**+1.3**
CFR	**Carcaliu**	**2.71 143**	⇓	*i*P	**Pn**	**13 09 23.8**	**+1.3**
CFR				*i*S	**Sn**	**13 09 58.0**	**+2.6**
CFR	**Carcaliu**	**2.71 143**	⇓	*i*P	**Pn**	**13 09 23.8**	**+1.3**
CFR				*i*S	**Sn**	**13 09 58.0**	**+2.6**
LVV	**L'vov**	**2.73 335**		*e*P	**Pn**	**13 09 24.5**	**+1.8**
LVV				*e*S	**Sb**	**13 09 58.9**	**-2.3**
LVV	**L'vov**	**2.73 335**	*i*	P	**Pn**	**13 09 24.0**	**+1.3**
LVV				Pm		13 09 33.2	
LVV				*i*S	**Sn**	**13 09 57.7**	**+2.0**
LVV				Sm		13 10 10.6	
KOLS	**Kolonicke sedl**	**2.85 305**		*e*P	**Pn**	**13 09 26.1**	**+1.7**
KOLS				pmax	pmax		
	comp=N,647nm,1.2s						
KOLS	**Kolonicke sedl**	**2.85 305**		*e*Pn	**Pn**	**13 09 26.1**	**+1.7**
KOLS	**Kolonicke sedl**	**2.85 305**		*e*PN	**Pn**	**13 09 26.1**	**+1.7**
KOLS				*e*SG	**Sg**	**13 10 17.8**	**+7.3**
KOLS				*e*LG	Lg	13 10 33.0	
GZR	**Gura Zlata**	**2.89 228**	⇑	*i*P	**Pn**	**13 09 26.9**	**+1.8**
GZR				S	**Sn**	**13 10 02.2**	**+2.3**
GZR	**Gura Zlata**	**2.89 228**	⇑	*i*P	**Pn**	**13 09 26.9**	**+1.8**
GZR				*i*S	**Sn**	**13 10 02.2**	**+2.3**
GZR	**Gura Zlata**	**2.89 228**	⇑	*i*P	**Pn**	**13 09 26.9**	**+1.8**
GZR				*i*S	**Sn**	**13 10 02.2**	**+2.3**
HUMR	**Humele**	**2.90 192**	⇑	*i*P	**Pn**	**13 09 26.9**	**+1.7**
HUMR	**Humele**	**2.90 192**	⇑	*i*P	**Pn**	**13 09 26.9**	**+1.7**
HUMR				*i*S	**Sn**	**13 10 01.9**	**+1.8**
HUMR	**Humele**	**2.90 192**	⇑	*i*P	**Pn**	**13 09 26.9**	**+1.7**
HUMR				*i*S	**Sn**	**13 10 01.9**	**+1.8**
TLCR		**3.01 135**	⇑	*i*P	**Pn**	**13 09 28.5**	**+1.9**
TLCR		**3.01 135**	⇑	*i*P	**Pn**	**13 09 28.5**	**+1.9**
TLCR		**3.01 135**	⇑	*i*P	**Pn**	**13 09 28.5**	**+1.9**
HARR	**Harsova**	**3.05 151**	⇑	*i*P	**Pn**	**13 09 28.6**	**+1.4**
HARR	**Harsova**	**3.05 151**	⇑	*i*P	**Pn**	**13 09 28.6**	**+1.4**
HARR	**Harsova**	**3.05 151**	⇑	*i*P	**Pn**	**13 09 28.6**	**+1.4**
KWP	**Kalwaria Pacla**	**3.07 319**		*e*Pn	**Pn**	**13 09 29.9**	**+2.4**
KWP				*e*Sn	**Sb**	**13 10 10.7**	**-0.4**
KWP	**Kalwaria Pacla**	**3.07 319**	⇑	*i*P	**Pn**	**13 09 29.7**	**+2.2**
KWP	**Kalwaria Pacla**	**3.07 319**	⇑	*i*P	**Pn**	**13 09 29.7**	**+2.2**
KWP	**Kalwaria Pacla**	**3.07 319**		*e*P	**Pn**	**13 09 29.9**	**+2.4**
KWP				*e*		13 10 10.7	
KWP	**Kalwaria Pacla**	**3.07 319**	⇑	*i*P	**Pn**	**13 09 29.7**	**+2.2**
SRE	**Strehaia**	**3.27 215**	⇑	*i*P	**Pn**	**13 09 33.5**	**+3.3**
SRE	**Strehaia**	**3.27 215**	⇑	*i*P	**Pn**	**13 09 33.5**	**+3.3**
SRE	**Strehaia**	**3.27 215**	⇑	*i*P	**Pn**	**13 09 33.5**	**+3.3**
CRVS	**Cervenica-Dubn**	**3.30 299**		*e*P	**Pn**	**13 09 31.4**	**+0.7**
CRVS	**Cervenica-Dubn**	**3.30 299**		*e*Pn	**Pn**	**13 09 31.4**	**+0.7**
CRVS				*e*Sg	**Sg**	**13 10 25.3**	**+0.3**
CRVS	**Cervenica-Dubn**	**3.30 299**		*e*PN	**Pn**	**13 09 31.4**	**+0.7**
CRVS				*e*SG	**Sg**	**13 10 25.3**	**+0.3**
BZS	**Buzias**	**3.40 240**	⇑	*i*P	**Pn**	**13 09 34.3**	**+2.3**
BZS	**Buzias**	**3.40 240**	⇑	*i*P	**Pn**	**13 09 34.3**	**+2.3**
BZS	**Buzias**	**3.40 240**	⇑	*i*P	**Pn**	**13 09 34.3**	**+2.3**
TIRR	**Tirgusor**	**3.42 147**	⇓	*i*P	**Pn**	**13 09 34.3**	**+2.0**
TIRR	**Tirgusor**	**3.42 147**	⇓	*i*P	**Pn**	**13 09 34.3**	**+2.0**
TIRR				*i*S	**Sn**	**13 10 15.8**	**+2.9**
TIRR	**Tirgusor**	**3.42 147**		*e*P	**Pn**	**13 09 33.7**	**+1.4**
TIRR				*e*		13 10 12.6	
TIRR	**Tirgusor**	**3.42 147**		*e*Pn	**Pn**	**13 09 33.7**	**+1.4**
TIRR	**Tirgusor**	**3.42 147**	⇓	*i*P	**Pn**	**13 09 34.3**	**+2.0**
TIRR				*e*Sn	**Sn**	**13 10 12.6**	**-0.3**
TIRR				*i*S	**Sn**	**13 10 15.8**	**+2.9**
TIRR	**Tirgusor**	**3.42 147**		*e*Pn	**Pn**	**13 09 33.7**	**+1.4**
TIRR				*e*Sn	**Sn**	**13 10 12.6**	**-0.3**
STHS	**Stebnicka Huta**	**3.68 306**		*e*P	**Pn**	**13 09 37.5**	**+1.7**
STHS				pmax	pmax		
	comp=N,141nm,1.3s						
STHS	**Stebnicka Huta**	**3.68 306**		*e*Pn	**Pn**	**13 09 37.5**	**+1.7**
STHS	**Stebnicka Huta**	**3.68 306**		*e*PN	**Pn**	**13 09 37.5**	**+1.7**
STHS				*e*LG	Lg	13 11 01.1	
KECS	**Kecovo**	**3.76 289**		*e*P	**Pn**	**13 09 37.4**	**+0.4**
KECS				pmax	pmax		
	comp=N,55nm,0.8s						
KECS	**Kecovo**	**3.76 289**		*e*Pn	**Pn**	**13 09 37.4**	**+0.4**
KECS	**Kecovo**	**3.76 289**		*e*PN	**Pn**	**13 09 37.4**	**+0.4**
KECS				*e*LG	Lg	13 10 43.2	
MDVR	**Moldovita**	**3.86 229**	⇑	*i*P	**Pn**	**13 09 40.4**	**+2.0**
MDVR	**Moldovita**	**3.86 229**	⇑	*i*P	**Pn**	**13 09 40.4**	**+2.0**
MDVR	**Moldovita**	**3.86 229**	⇑	*i*P	**Pn**	**13 09 40.4**	**+2.0**
KIEV	**Kiev**	**4.00 32**		*e*P	**Pn**	**13 09 41.6**	**+1.4**
KIEV				*e*		13 10 26.0	
KIEV	**Kiev**	**4.00 32**		*e*Pn	**Pn**	**13 09 41.6**	**+1.4**
KIEV				*e*Sn	**Sn**	**13 10 26.0**	**-1.1**
KIEV	**Kiev**	**4.00 32**		*e*Pn	**Pn**	**13 09 41.6**	**+1.4**
KIEV				*e*Sn	**Sn**	**13 10 26.0**	**-1.1**
AKASG	**Malin Array Be**	**4.01 33**		Pn	**Pn**	**13 09 41.0**	**+0.6**
	comp=N,12nm,0.3s,baz=235,slow=12,SNR=20						
AKASG				Pg	**Pb**	**13 09 50.3**	**+0.6**
	comp=N,44nm,0.3s,baz=218,slow=16,SNR=54						
AKASG				Sn	**Sn**	**13 10 25.6**	**-1.8**
	comp=N,32nm,0.3s,baz=216,slow=22,SNR=5.2						
AKASG				Lg	Lg	13 10 42.7	
	comp=N,272nm,0.3s,baz=215,slow=26,SNR=33						
PSZ	**Piszkesteto**	**4.05 280**	⇑	*e*Pn	**Pn**	**13 09 40.5**	**-0.5**
PSZ	**Piszkesteto**	**4.05 280**		*e*P	**Pn**	**13 09 40.2**	**-0.8**
PSZ				*e*		13 10 28.1	
PSZ	**Piszkesteto**	**4.05 280**		*e*Pn	**Pn**	**13 09 40.2**	**-0.8**
PSZ				*e*Sn	**Sn**	**13 10 28.1**	**-0.3**
PSZ	**Piszkesteto**	**4.05 280**		*e*Pn	**Pn**	**13 09 40.2**	**-0.8**
PSZ				*e*Sn	**Sn**	**13 10 28.1**	**-0.3**
KUBS	**Kucevo**	**4.14 226**		*e*Pn	**Pn**	**13 09 43.3**	**+1.1**
NIE	**Niedzica**	**4.22 301**		*e*Pn	**Pn**	**13 09 44.7**	**+1.5**
NIE	**Niedzica**	**4.22 301**		*e*P	**Pn**	**13 09 44.7**	**+1.5**
LANS	**Liptovska Anna**	**4.61 295**		*e*P	**Pn**	**13 09 49.8**	**+1.2**
LANS	**Liptovska Anna**	**4.61 295**		*e*Pn	**Pn**	**13 09 49.8**	**+1.2**
LANS	**Liptovska Anna**	**4.61 295**		*e*PN	**Pn**	**13 09 49.8**	**+1.2**
BUD	**Budapest**	**4.62 274**		*e*sPb	**Pg**	**13 10 09.0**	**+1.5**
FGSL	**Fruska Gora**	**4.72 244**		*e*Pn	**Pn**	**13 09 51.4**	**+1.2**
BOVS	**Bovan**	**4.73 219**		*e*Pn	**Pn**	**13 09 53.9**	**+3.7**
VYHS	**Vyhne**	**4.83 286**		*e*P	**Pn**	**13 09 51.5**	**-0.2**
VYHS	**Vyhne**	**4.83 286**		*e*Pn	**Pn**	**13 09 51.5**	**-0.2**
VYHS				*e*Sg	**Sg**	**13 11 12.6**	**-1.5**
VYHS	**Vyhne**	**4.83 286**		*e*PN	**Pn**	**13 09 51.5**	**-0.2**
VYHS				*e*SG	**Sg**	**13 11 12.6**	**-1.5**
VYHS				*e*LG	Lg	13 11 29.9	
OJC	**Ojcow**	**4.90 308**		*e*Pn	**Pn**	**13 09 53.4**	**+0.8**
OJC	**Ojcow**	**4.90 308**		*e*P	**Pn**	**13 09 53.4**	**+0.8**
OJC	**Ojcow**	**4.90 308**		*e*Pn	**Pn**	**13 09 53.4**	**+0.8**
TRUS	**Trudelj**	**4.93 232**		*e*Pn	**Pn**	**13 09 54.2**	**+1.2**
GRUS	**Gruza**	**5.00 228**		*e*Pn	**Pn**	**13 09 57.4**	**+3.4**
TEKS	**Tekeris**	**5.22 240**		*e*Pn	**Pn**	**13 09 57.4**	**+0.4**
DIVS	**Divibare**	**5.24 233**		*e*Pn	**Pn**	**13 09 58.7**	**+1.4**
BARS	**Barje**	**5.37 213**		*e*Pn	**Pn**	**13 10 03.2**	**+4.2**
IVAS	**Ivanjica**	**5.51 229**		*e*Pn	**Pn**	**13 10 03.3**	**+2.3**
BEL	**Belsk**	**5.54 326**		*e*P	**Pg**	**13 10 23.6**	**-1.4**
OKC	**Ostrava-Krasne**	**5.66 299**		*e*PN	**Pn**	**13 10 04.4**	**+1.3**
OKC				AMS	AMS	13 13 00.0	
	comp=N,800nm,10.9s						
OKC	**Ostrava-Krasne**	**5.66 299**		*e*P	**Pn**	**13 10 04.4**	**+1.3**
OKC	**Ostrava-Krasne**	**5.66 299**		Pn	**Pn**	**13 10 04.4**	**+1.3**
JAVC	**Velka Javorina**	**5.66 288**		*e*Pn	**Pn**	**13 10 04.5**	**+1.3**
BBLS	**Lazići**	**5.71 234**	⇓	*i*Pn	**Pn**	**13 10 06.1**	**+2.3**
SMOL	**Smolenice**	**5.76 285**		*e*P	**Pn**	**13 10 04.6**	**+0.2**
SMOL	**Smolenice**	**5.76 285**		*e*Pn	**Pn**	**13 10 04.6**	**+0.2**
SMOL	**Smolenice**	**5.76 285**		*e*PN	**Pn**	**13 10 04.6**	**+0.2**
MORC	**Moravsky Berou**	**6.00 297**		*e*Pn	**Pn**	**13 10 08.5**	**+0.7**
SEV	**Sevastopol'**	**6.15 114**	⇓	*i*P	**Pn**	**13 10 09.2**	**-0.6**
SEV				*e*S	**Sn**	**13 11 18.0**	**-2.1**
SEV	**Sevastopol'**	**6.15 114**	⇓	*i*P	**Pn**	**13 10 09.2**	**-0.6**
SEV				Pm		13 10 10.2	
SIM	**Simferopol'**	**6.24 110**		*e*P	**Pn**	**13 10 11.9**	**+0.8**
SIM				*e*S	**Sn**	**13 11 24.0**	**+1.6**
SIM				MLR	MLR		
	comp=Z,759nm,13.9s						
SIM	**Simferopol'**	**6.24 110**		*e*P	**Pn**	**13 10 11.9**	**+0.8**
SIM				Pm		13 10 13.1	
SIM				*e*S	**Sn**	**13 11 24.0**	**+1.6**
SIM				Sm		13 11 35.5	
SOP	**Sopron**	**6.29 276**		*e*Pn	**Pn**	**13 10 13.6**	**+2.0**
SOP	**Sopron**	**6.29 276**		*e*Pn	**Pn**	**13 10 13.6**	**+2.0**
VRAC	**Vranov**	**6.46 291**		Pn	**Pn**	**13 10 14.7**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=89,slow=11,SNR=4.1						
YAL	**Yalta**	**6.48 113**	⇓	*e*P	**Pn**	**13 10 13.5**	**-0.8**
YAL				*e*S	**Sn**	**13 11 25.6**	**-2.6**
YAL				MLR	MLR		
	comp=Z,4µm,15.5s						
YAL	**Yalta**	**6.48 113**		*e*P	**Pn**	**13 10 13.5**	**-0.8**
YAL				Pm		13 10 14.4	
KRUC	**Moravsky**	**6.53 288**		*e*Pn	**Pn**	**13 10 14.9**	**-0.1**
ALU	**Alushta**	**6.55 111**	⇓	*e*P	**Pn**	**13 10 14.8**	**-0.4**
ALU				*e*S	**Sn**	**13 11 29.0**	**-0.8**
ALU	**Alushta**	**6.55 111**		*e*P	**Pn**	**13 10 14.8**	**-0.4**
ALU				Pm		13 10 15.5	
CONA	**Conrad Observa**	**6.76 278**	*i*	Pn	**Pn**	**13 10 17.8**	**-0.4**
	comp=Z,5.4nm,0.4s						
CONA	**Conrad Observa**	**6.76 278**		Pn	**Pn**	**13 10 17.8**	**-0.4**
	comp=Z,5.4nm,0.4s						
SUW	**Suwalki**	**6.86 347**		*e*P	**Pn**	**13 10 19.4**	**0.0**
SUW	**Suwalki**	**6.86 347**		*e*P	**Pn**	**13 10 19.5**	**0.0**
SUW	**Suwalki**	**6.86 347**		*e*P	**Pn**	**13 10 19.5**	**0.0**
DPC	**Dobruska-Polom**	**6.94 299**		*e*PN	**Pn**	**13 10 22.2**	**+1.5**
DPC				AMS	AMS	13 13 40.0	
	comp=Z,900nm,11.4s						
DPC	**Dobruska-Polom**	**6.94 299**		*e*P	**Pn**	**13 10 22.2**	**+1.5**
DPC				MLR	MLR		
	comp=Z,900nm,11.4s						
DPC	**Dobruska-Polom**	**6.94 299**		Pn	**Pn**	**13 10 22.2**	**+1.5**
ARSA	**Arzberg**	**7.01 273**	*i*	Pn	**Pn**	**13 10 21.8**	**+0.2**
	comp=Z,2.9nm,0.3s						
ARSA	**Arzberg**	**7.01 273**		Pn	**Pn**	**13 10 21.8**	**+0.2**
	comp=Z,2.9nm,0.3s						
KSP	**Ksiaz**	**7.16 303**		*e*P	**Pn**	**13 10 24.1**	**+0.5**
KSP	**Ksiaz**	**7.16 303**		*e*P	**Pn**	**13 10 24.1**	**+0.5**
KSP	**Ksiaz**	**7.16 303**		*e*P	**Pn**	**13 10 24.1**	**+0.5**
UPC	**Upice**	**7.19 300**		*e*PN	**Pn**	**13 10 25.4**	**+1.4**
UPC				AMS	AMS	13 13 50.0	
	comp=Z,1µm,12.6s						
UPC	**Upice**	**7.19 300**		*e*P	**Pn**	**13 10 25.4**	**+1.4**
UPC				MLR	MLR		
	comp=Z,1µm,12.6s						
UPC	**Upice**	**7.19 300**		Pn	**Pn**	**13 10 25.4**	**+1.4**
MICGM	**Minsk**	**7.26 10**		*e*P	**Pb**	**13 10 42.0**	**-2.9**
MICGM				*e*PP	**PbPb**	**13 10 50.0**	**+1.9**
MICGM				*e*S	**Sb**	**13 12 20.0**	**+8.6**
MICGM				*e*SS	**Sg**	**13 12 35.0**	**+3.3**
MICGM				*e*LR	LR	13 12 52.0	
MNK	**Minsk**	**7.26 10**		*e*P	**Pb**	**13 10 42.0**	**-2.9**
SOKA	**Soboth**	**7.41 269**	*i*	Pn	**Pn**	**13 10 27.7**	**+0.5**
	comp=Z,0.8nm,0.3s						
SOKA	**Soboth**	**7.41 269**		Pn	**Pn**	**13 10 27.7**	**+0.5**
	comp=Z,0.8nm,0.3s						
NACGM	**Naroch**	**7.57 4**		*e*P	**Pn**	**13 10 29.0**	**-0.2**
NACGM				*e*S	**Sn**	**13 11 57.0**	**+2.1**
NACGM	**Naroch**	**7.57 4**		*e*P	**Pn**	**13 10 29.0**	**-0.2**
GOPC	**GO Pecny, Ondr**	**7.75 293**		*e*PN	**Pn**	**13 10 33.1**	**+1.4**
GOPC				AMS	AMS	13 14 20.0	
	comp=Z,700nm,10.2s						
GOPC	**GO Pecny, Ondr**	**7.75 293**		*e*P	**Pn**	**13 10 33.1**	**+1.4**
GOPC				MLR	MLR		
	comp=Z,700nm,10.2s						
GOPC	**GO Pecny, Ondr**	**7.75 293**		Pn	**Pn**	**13 10 33.1**	**+1.4**
MOA	**Molln**	**7.83 278**	*i*	Pn	**Pn**	**13 10 34.0**	**+1.1**
	comp=Z,0.6nm,0.2s						
MOA	**Molln**	**7.83 278**		Pn	**Pn**	**13 10 34.0**	**+1.1**
	comp=Z,0.6nm,0.2s						
PRU	**Pruhonice**	**7.92 293**		AMS	AMS	13 14 20.0	
	comp=Z,600nm,11.9s						
IDID	**Didziasalis**	**7.98 4**		*e*P	**Pn**	**13 10 34.5**	**-0.3**
IDID				IAmb	IAmb	13 11 07.5	
	comp=Z,22nm,0.8s						
IDID	**Didziasalis**	**7.98 4**		*e*P	**Pn**	**13 10 34.5**	**-0.3**
	SNR=46						
PVCC	**Panska Ves**	**8.06 297**		AMS	AMS	13 14 20.0	
	comp=Z,800nm,13.3s						
ISAL	**Salakas**	**8.21 1**		*e*P	**Pn**	**13 10 37.1**	**-0.9**
ISAL				IAmb	IAmb	13 11 11.2	
	comp=Z,38nm,0.6s						
ISAL	**Salakas**	**8.21 1**		*e*P	**Pn**	**13 10 37.1**	**-0.9**
	SNR=46						
GERES	**GERESS Array B**	**8.25 285**		Pn	**Pn**	**13 10 39.8**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=98,slow=14,SNR=20						
GERES				LR	LR	13 14 08.8	
	comp=Z,139nm,18.9s,baz=103,slow=40						
KHC	**Kasperske Hory**	**8.37 287**		*e*PN	**Pn**	**13 10 41.5**	**+1.3**
KHC				*ex*	x	13 10 53.5	
KHC				*ex*	x	13 12 37.0	
KHC				AMS	AMS	13 14 10.0	
	comp=Z,700nm,10.9s						
KHC	**Kasperske Hory**	**8.37 287**		*e*P	**Pn**	**13 10 41.5**	**+1.3**
KHC				MLR	MLR		
	comp=Z,700nm,10.9s						
KHC	**Kasperske Hory**	**8.37 287**		Pn	**Pn**	**13 10 41.5**	**+1.3**
KHC	**Kasperske Hory**	**8.37 287**		*e*Pn	**Pn**	**13 10 38.7**	**-1.5**
	comp=Z,1.4nm,0.6s						
IZAR	**Zarasai**	**8.40 2**		*e*P	**Pn**	**13 10 40.0**	**-0.5**
IZAR				IAmb	IAmb	13 11 12.8	
	comp=Z,22nm,0.6s						
IZAR	**Zarasai**	**8.40 2**		*e*P	**Pn**	**13 10 40.0**	**-0.5**
	SNR=46						
ANN	**Anapa**	**8.47 103**		*e*P	Pn	13 10 36.1	-5.4
ANN				*e*S	**Sn**	**13 12 09.6**	**-7.4**
ANN				pmax	pmax		
	comp=Z,31nm,0.9s						
ANN				MLR	MLR		
	comp=Z,587nm,15.0s						
ANN				MLR	MLR		
	comp=N,495nm,15.0s						
ANN				MLR	MLR		
	comp=E,512nm,15.0s						
KBA	**Koelnbreinsper**	**8.51 273**	*i*	Pn	**Pn**	**13 10 43.8**	**+1.6**
	comp=E,3.0nm,0.3s						
KBA	**Koelnbreinsper**	**8.51 273**		Pn	**Pn**	**13 10 43.8**	**+1.6**
	comp=E,3.0nm,0.3s						
BRG	**Berggiesshubel**	**8.55 299**		PN	**Pn**	**13 10 44.5**	**+1.9**
	comp=N,935nm,10.8s						
	comp=E,632nm,11.7s						
	comp=Z,954nm,12.5s						
BRG	**Berggiesshubel**	**8.55 299**		P	**Pn**	**13 10 44.5**	**+1.9**
BRG				MLR	MLR		
	comp=N,935nm,10.8s						
BRG				MLR	MLR		
	comp=E,632nm,11.7s						
BRG				MLR	MLR		
	comp=Z,954nm,12.5s						
CLL	**Collm**	**9.25 300**	*i*	Pn	**Pn**	**13 10 54.0**	**+1.7**
CLL				*e*Sg	Sn	13 13 33.0	+57
CLL				*e*Lmax		13 14 12.0	
CLL	**Collm**	**9.25 300**	*i*	P	**Pn**	**13 10 54.0**	**+1.7**
NKC	**Novy Kostel**	**9.29 293**		AMS	AMS	13 15 20.0	
	comp=Z,900nm,12.4s						
BRTR	**Keskin Array B**	**9.51 141**		Pn	**Pn**	**13 10 56.2**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=327,slow=11,SNR=37						
VSR	**Storozhevoye**	**9.53 61**		*e*P	**Pn**	**13 10 56.5**	**+0.5**
VSR				*e*S	**Sn**	**13 12 37.7**	**-5.3**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
VSR				smax	smax		
	comp=N,150nm,0.6s						
OBN	**Obninsk**	**10.26 37**		Pn	**Pn**	**13 11 04.6**	**-1.4**
	comp=N,11nm,0.3s,baz=204,slow=24,SNR=5.8						
OBN				Sn	Sn	13 12 51.1	-10
	comp=N,18nm,0.3s,baz=11,slow=23,SNR=5.6						
OBN				LR	LR	13 15 26.3	
	comp=N,42nm,22.0s,baz=180,slow=40						
OBN	**Obninsk**	**10.26 37**	*i*	P	**Pn**	**13 11 05.9**	**-0.1**
OBN				pmax	pmax		
	comp=Z,21nm,0.9s						
OBN				MLR	MLR		
	comp=Z,107nm,16.0s						
BSD	**Bornholm Skovb**	**10.33 323**	*i*	P	**Pn**	**13 11 04.1**	**-2.9**
BSD	**Bornholm Skovb**	**10.33 323**	*i*	P	**Pn**	**13 11 04.1**	**-2.9**
SLIT	**Slitere, Latvi**	**10.50 349**		*e*P	**Pn**	**13 11 07.9**	**-1.4**
	SNR=134						
DAVOX	**Davos/Dischmat**	**10.90 273**		LR	LR	13 15 50.2	
	comp=Z,249nm,20.9s,baz=82,slow=40						
VRH	**Novokhopyorsk**	**11.06 64**		*e*P	**Pn**	**13 11 17.1**	**0.0**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VSU	**Vasula**	**11.12 2**		*e*P	**Pn**	**13 11 16.4**	**-1.5**
VSU	**Vasula**	**11.12 2**		*e*P	**Pn**	**13 11 15.7**	**-2.2**
	SNR=46						
MOS	**Moscow**	**11.13 37**		*e*P	**Pn**	**13 11 15.2**	**-2.7**
MOS				pmax	pmax		
	comp=Z,34nm,1.2s						
MTSE	**Matsula**	**11.43 355**		*e*P	**Pn**	**13 11 20.5**	**-1.5**
	SNR=134						
SUSE	**Susehri**	**11.45 124**		P	**Pn**	**13 11 22.2**	**-0.3**
SUSE	**Susehri**	**11.45 124**	*i*	P	**Pn**	**13 11 22.2**	**-0.3**
KELT	**Kelkit**	**12.09 122**		P	**Pn**	**13 11 31.6**	**+0.3**
KELT	**Kelkit**	**12.09 122**	*i*	P	**Pn**	**13 11 31.6**	**+0.3**
GOF	**Gofitskoye**	**12.15 95**	⇑	*e*P	P	13 11 49.6	+5.0
GOF				*e*S	**Sn**	**13 13 46.5**	**-0.8**
GOF				pmax	pmax		
	comp=Z,22nm,0.4s						
GOF				smax	smax		
	comp=E,47nm,0.6s						
KIV	**Kislovodsk**	**12.28 100**		*e*P	**Pn**	**13 11 32.6**

ISCJB ***24*** *13:18:17.1±0.2,31.71S±0.02×179.24W±0.06,h33km, mb4.7/29,MS3.6/1, Error ellipse: s-maj=7.4km s-min=2.9km az=15.0*
NEIC ***24*** *13:18:17.8±0.4,31.63S×179.11W,h35km,mb5.0/14, Error ellipse: s-maj=12.9km s-min=7.6km az=104.0*
BJI ***24*** *13:18:17.6,31.70S×179.20W,h37km,mb5.1/13, mB5.6/11,Ms5.3/4, Ms7 5.0/4*
IDC ***24*** *13:18:28.7±1.2,31.49S×179.22W,h131km±9km,mb4.2/17, mb1 4.3/19,mb1mx4.2/28,mbtmp4.6/19,MS3.4/4, Ms1 3.4/4,ms1mx2.9/33,Error ellipse: s-maj=14.8km s-min=11.4km az=140.0*

ISC 24 13:18:18.1±0.4,31.64S±0.05×179.15W±0.08,h35km, n189,σ2s01/190,mb4.7/27,1C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.61**	**24**	P			Pn	13 19 07.5	+10
	64nm,0.3s,baz=66,slow=20,SNR=4.7								
RAO				S			Sn	13 19 40.7	+12
	383nm,0.3s,baz=58,slow=22,SNR=6.9								
RAO				LR			LR	13 19 57.3	
	comp=Z,342nm,21.4s,baz=297,slow=35								
MXZ	**Matakaoa Point**	**6.27**	**199**	*e*P	N		Pn	13 19 54.1	+6.1
MXZ							**Sn**	**13 20 58.8**	**+0.4**
WMGZ	**Waiomatatini S**	**6.48**	**197**	PN			**Pn**	**13 19 54.3**	**+3.4**
WMGZ							**Sn**	**13 21 03.8**	**+0.2**
HAZ	**Te Kaha**	**6.60**	**202**	PN			**Pn**	**13 19 56.2**	**+3.6**
HAZ							**Sn**	**13 21 10.1**	**+3.5**
PUZ	**Puketiti**	**6.76**	**198**	PN			**Pn**	**13 19 56.6**	**+1.8**
PUZ							**Sn**	**13 21 08.2**	**-2.3**
TWGZ	**Tauwhareparae**	**6.93**	**199**	PN			**Pn**	**13 19 59.7**	**+2.5**
OPRZ	**Ohinepanea**	**7.12**	**209**	PN			**Pn**	**13 20 04.4**	**+4.6**
CNGZ	**Carnagh Station**	**7.16**	**197**	PN			**Pn**	**13 20 02.1**	**+1.8**
MARZ	**Manawahe**	**7.20**	**207**	PN			**Pn**	**13 20 05.6**	**+4.8**
MWZ	**Matawai**	**7.21**	**201**	PN			**Pn**	**13 20 02.5**	**+1.5**
TKGZ	**Te Karaka**	**7.21**	**199**	PN			**Pn**	**13 20 04.4**	**+3.3**
URZ	**Urewera**	**7.28**	**204**	P			**Pn**	**13 20 04.7**	**+2.8**
	4.9nm,0.3s,baz=267,slow=5.9,SNR=29								
URZ				S			**Sn**	**13 21 23.9**	**+0.6**
	53nm,0.3s,baz=132,slow=22,SNR=13								
URZ	**Urewera**	**7.28**	**204**	*e*Pn			**Pn**	**13 20 05.3**	**+3.4**
URZ				*e*Sn			**Sn**	**13 21 19.9**	**-3.5**
URZ	**Urewera**	**7.28**	**204**	PN			**Pn**	**13 20 04.6**	**+2.7**
URZ				SN			**Sn**	**13 21 23.1**	**-0.2**
RAGZ	**Rawiri**	**7.39**	**201**	PN			**Pn**	**13 20 04.9**	**+1.3**
RIGZ	**Rimuhau**	**7.49**	**199**	PN			**Pn**	**13 20 06.4**	**+1.6**
MUGZ	**Murupara**	**7.59**	**205**	PN			**Pn**	**13 20 08.8**	**+2.5**
RTZ	**Ruatahuna**	**7.64**	**203**	PN			**Pn**	**13 20 08.3**	**+1.3**
PRGZ	**Paritu Road**	**7.66**	**198**	PN			**Pn**	**13 20 09.5**	**+2.3**
SNGZ	**Shannon Statio**	**7.68**	**201**	PN			**Pn**	**13 20 09.3**	**+1.9**
PRRZ	**Plateau Road**	**7.75**	**207**	PN			Pn	13 20 14.6	+6.2
ALRZ	**Allen Road**	**7.83**	**207**	PN			**Pn**	**13 20 12.5**	**+3.0**
MHGZ	**Mahia Peninsul**	**7.87**	**197**	PN			**Pn**	**13 20 11.2**	**+1.2**
WHHZ	**Waihua**	**7.98**	**201**	PN			**Pn**	**13 20 14.0**	**+2.4**
MRHZ	**Matea Rd**	**8.04**	**206**	PN			**Pn**	**13 20 13.8**	**+1.4**
NMHZ	**Naumai**	**8.14**	**203**	PN			**Pn**	**13 20 15.4**	**+1.6**
ARHZ	**Aropaoanui**	**8.23**	**201**	PN			**Pn**	**13 20 16.3**	**+1.4**
BKZ	**Black Stump Fm**	**8.30**	**204**	*e*Pn			**Pn**	**13 20 17.9**	**+1.8**
BKZ	**Black Stump Fm**	**8.30**	**204**	PN			**Pn**	**13 20 16.9**	**+0.8**
MCHZ	**McNeill Hill**	**8.49**	**202**	PN			**Pn**	**13 20 19.1**	**+0.6**
KWHZ	**Kaweka Forest**	**8.56**	**204**	PN			**Pn**	**13 20 19.7**	**+0.1**
KRVZ	**Karewarewa**	**8.56**	**208**	PN			Pn	13 20 24.9	+5.2
CKHZ	**Cape Kidnapper**	**8.57**	**200**	PN			**Pn**	**13 20 21.2**	**+1.6**
TUVZ	**Tukino**	**8.71**	**208**	PN			**Pn**	**13 20 26.0**	**+4.3**
FWVZ	**Far West T-bar**	**8.74**	**208**	PN			**Pn**	**13 20 24.8**	**+2.7**
KAHZ	**Kahuranaki**	**8.75**	**201**	PN			**Pn**	**13 20 22.5**	**+0.3**
KRHZ	**Kereru**	**8.78**	**203**	PN			**Pn**	**13 20 21.5**	**-1.0**
TRVZ	**Turoa**	**8.78**	**208**	PN			**Pn**	**13 20 27.0**	**+4.3**
WNVZ	**Wahianoa**	**8.78**	**208**	PN			**Pn**	**13 20 25.4**	**+2.7**
MOVZ	**Moawhango**	**8.79**	**207**	PN			**Pn**	**13 20 26.2**	**+3.5**
MTVZ	**Mangateitei**	**8.88**	**208**	PN			**Pn**	**13 20 27.0**	**+3.0**
PXZ	**Pawanui**	**8.97**	**200**	PN			**Pn**	**13 20 23.9**	**-1.3**
PNHZ	**Pukenui**	**9.07**	**203**	PN			**Pn**	**13 20 26.3**	**-0.3**
PRHZ	**Porangahau**	**9.26**	**200**	PN			**Pn**	**13 20 27.5**	**-1.6**
TSZ	**Takapari Road**	**9.29**	**204**	PN			**Pn**	**13 20 29.2**	**-0.3**
WAZ	**Wanganui**	**9.39**	**209**	PN			**Pn**	**13 20 34.5**	**+3.6**
DVHZ	**Dannevirke**	**9.43**	**202**	PN			**Pn**	**13 20 31.4**	**-0.1**
ANWZ	**Angora Road**	**9.48**	**201**	PN			**Pn**	**13 20 33.0**	**+0.8**
POWZ	**Post Office Ro**	**9.65**	**204**	PN			**Pn**	**13 20 34.0**	**-0.4**
PRWZ	**Pori Road**	**9.73**	**203**	PN			**Pn**	**13 20 38.0**	**+2.5**
BFZ	**Birch Farm**	**9.76**	**201**	*e*Pn			**Pn**	**13 20 35.0**	**-0.9**
MRZ	**Mangatainoka R**	**9.96**	**204**	PN			**Pn**	**13 20 36.1**	**-2.5**
OGWZ	**Otaki Gorge**	**10.24**	**205**	PN			**Pn**	**13 20 42.0**	**-0.4**
TMWZ	**Te Maipa**	**10.25**	**202**	PN			**Pn**	**13 20 41.4**	**-1.4**
KIWZ	**Kapiti Island**	**10.37**	**206**	PN			**Pn**	**13 20 42.8**	**-1.5**
MTW	**Mount Morrison**	**10.43**	**203**	PN			**Pn**	**13 20 42.9**	**-2.2**
CAW	**Cannon Point**	**10.53**	**205**	PN			**Pn**	**13 20 44.1**	**-2.4**
TRWZ	**Traveller**	**10.58**	**202**	PN			**Pn**	**13 20 47.9**	**+0.7**
PAWZ	**Paruwai Farm**	**10.65**	**203**	PN			**Pn**	**13 20 47.0**	**-1.2**
DUWZ	**D'Urville Isla**	**10.71**	**209**	PN			**Pn**	**13 20 48.3**	**-0.7**
MSWZ	**Moikau Station**	**10.74**	**203**	PN			**Pn**	**13 20 48.4**	**-1.0**
SNZO	**South Karori**	**10.84**	**205**	*e*Pn			**Pn**	**13 20 50.2**	**-0.4**
BHW	**Baring Head**	**10.87**	**205**	PN			**Pn**	**13 20 49.3**	**-1.7**
PLWZ	**Palliser**	**10.88**	**203**	PN			**Pn**	**13 20 47.9**	**-3.4**
TCW	**Tory Channel**	**10.91**	**207**	PN			**Pn**	**13 20 49.6**	**-2.2**
TUWZ	**Tuamarina**	**11.23**	**208**	PN			**Pn**	**13 20 54.6**	**-1.5**
NNZ	**Nelson**	**11.29**	**210**	PN			**Pn**	**13 20 55.5**	**-1.3**
BSWZ	**Blackbirch Sta**	**11.50**	**207**	PN			**Pn**	**13 20 59.1**	**-0.7**
THZ	**Tophouse**	**11.94**	**210**	*e*Pn			**Pn**	**13 21 04.9**	**-0.9**
THZ	**Tophouse**	**11.94**	**210**	PN			**Pn**	**13 21 04.8**	**-1.0**
KHZ	**Kahutara**	**12.23**	**206**	*e*Pn			**Pn**	**13 21 07.1**	**-2.6**
DSZ	**Denniston Nort**	**12.41**	**213**	PN			**Pn**	**13 21 12.1**	**-0.2**
LTZ	**Lake Taylor**	**13.04**	**209**	*e*Pn			**Pn**	**13 21 17.3**	**-3.6**
INZ	**Inchbonnie**	**13.35**	**211**	PN			**Pn**	**13 21 23.4**	**-1.6**
OXZ	**Oxford**	**13.59**	**208**	*e*Pn			**Pn**	**13 21 25.0**	**-3.3**
MQZ	**McQueen's Vall**	**13.67**	**206**	*e*Pn			Pn	13 21 24.8	-4.6
RPZ	**Rata Peaks**	**14.32**	**210**	P			**Pn**	**13 21 36.5**	**-1.7**
	1.0nm,0.3s,baz=75,slow=1.6,SNR=6.1								
RPZ				S			Sn	13 24 02.9	-13
	2.2nm,0.3s,baz=129,slow=20,SNR=12								
RPZ				LR			LR	13 26 51.0	
	comp=Z,164nm,18.4s,baz=2.5,slow=35								
RPZ	**Rata Peaks**	**14.32**	**210**	*e*Pn			**Pn**	**13 21 36.8**	**-1.4**
DZM	**Mont Dzumac**	**15.98**	**303**	LR			LR	13 26 22.3	
	comp=Z,156nm,20.1s,baz=232,slow=30								
DZM	**Mont Dzumac**	**15.98**	**303**	*e*Pn			**Pn**	**13 22 01.8**	**+1.4**
	50nm,1.3s								
AFI	**Afiamalu**	**18.90**	**23**	P			**P**	**13 22 36.2**	**+0.4**
	2.1nm,0.3s,baz=191,slow=10,SNR=5.8								
TBI	**Tubuai**	**27.54**	**80**	*e*LR			LR	13 30 34.8	
	174nm,34.0s								
TBI	**Tubuai**	**27.54**	**80**	*e*T			T	13 52 30.9	
	9.9nm,0.3s								
RMQ	**Roma**	**28.45**	**272**	P			**P**	**13 24 14.4**	**+4.5**
	baz=30,SNR=5.1								
HNR	**Honiara**	**29.41**	**314**	P			**P**	**13 24 18.1**	**-0.2**
	35nm,0.6s,baz=223,slow=9.8,SNR=3.5								
CMSA	**Cobar Meteorol**	**29.87**	**261**	P			**P**	**13 24 24.9**	**+2.6**
	baz=31,SNR=19								
PAE	**Paea**	**30.15**	**70**	*e*T			T	13 55 28.2	
	3.5nm,0.2s								
PPT2	**Papeete2**	**30.19**	**69**	*e*LR			LR	13 31 34.8	
	145nm,32.2s								
PPT2	**Papeete2**	**30.19**	**69**	*e*T			T	13 55 31.5	
	3.2nm,0.3s								
QLP	**Quilpie**	**32.28**	**270**	P			**P**	**13 24 45.5**	**+1.8**
	baz=34,SNR=5.4								
CTA	**Charters Tower**	**33.05**	**282**	P			**P**	**13 24 52.3**	**+1.9**
	7.8nm,0.6s,baz=113,slow=11,SNR=11								
VAH	**Vaihoa**	**33.06**	**68**	*e*T			T	13 59 02.4	
	12nm,0.2s								
STKA	**Stephens Creek**	**33.25**	**259**	P			**P**	**13 24 53.8**	**+1.7**
	4.6nm,0.7s,baz=103,slow=11,SNR=7.2								
STKA	**Stephens Creek**	**33.25**	**259**	P			**P**	**13 24 53.8**	**+1.7**
	baz=34,SNR=4.0								
HTT	**Hallett**	**35.22**	**256**	P			**P**	**13 25 11.4**	**+2.2**
	baz=36,SNR=8.3								
MTSU	**Mount Surprise**	**35.59**	**283**	P			**P**	**13 25 15.0**	**+2.6**
	baz=37,SNR=5.7								
BBOO	**Buckleboo**	**37.69**	**256**	P			**P**	**13 25 31.1**	**+0.9**
	baz=39,SNR=7.8								
PMG	**Port Moresby**	**38.27**	**298**	LR			LR	13 39 30.2	
	comp=Z,86nm,19.3s,baz=131,slow=33								
RABL	**Rabaul**	**38.35**	**310**	*e*P			**P**	**13 25 37.9**	**+1.9**
	47nm,0.6s								
COEN	**Coen**	**38.69**	**288**	P			**P**	**13 25 40.6**	**+1.8**
	baz=40,SNR=5.1								
AS01	**Alice Springs**	**42.03**	**269**	*e*P			**P**	**13 26 06.1**	**-0.3**
AS31	**Alice Springs**	**42.07**	**269**	*e*P			**P**	**13 26 07.3**	**+0.6**
	4.1nm,0.6s								
ASAR	**Alice Springs**	**42.07**	**269**	P			**P**	**13 26 07.4**	**+0.6**
	9.9nm,0.6s,baz=105,slow=7.3,SNR=144								
ASAR				S		cP	cP	13 31 36.5	-13
	0.5nm,0.7s,baz=115,slow=3.7,SNR=4.9								
WRAB	**Tennant Creek**	**43.17**	**274**	*e*P			**P**	**13 26 16.1**	**+0.4**
	18nm,1.0s								
WRA	**Warramunga Arr**	**43.17**	**274**	P			**P**	**13 26 16.3**	**+0.6**
	10nm,0.4s,baz=112,slow=7.8,SNR=272								
WRA				S		cP	cP	13 31 42.6	-11
	1.2nm,0.9s,baz=120,slow=3.6,SNR=5.3								
WRA				S			**S**	**13 32 32.0**	**-8.1**
	1.4nm,0.9s,baz=111,slow=14,SNR=5.0								
WRKA	**Warakurna**	**46.36**	**264**	P			**P**	**13 26 40.7**	**-0.4**
	baz=48,SNR=41								
SBA	**Scott Base**	**46.73**	**184**	*e*P			**P**	**13 26 45.6**	**+2.4**
	6.0nm,1.0s								
VNDA	**Vanda**	**46.77**	**186**	P			**P**	**13 26 45.3**	**+1.8**
	0.7nm,0.8s,baz=35,slow=6.4,SNR=3.6								
VNDA				S		cP	cP	13 31 56.7	-11
	0.8nm,0.9s,baz=336,slow=5.0,SNR=7.6								
JAY	**Jayapura**	**47.61**	**299**	P			**P**	**13 26 49.8**	**-1.1**
	1.1nm,0.8s,baz=90,slow=20,SNR=4.4								
KDU	**Kakadu**	**48.18**	**282**	P			**P**	**13 26 55.7**	**+0.4**
	baz=50,SNR=3.4								
MTN	**Manton Dam**	**49.22**	**281**	P			**P**	**13 27 03.3**	**+0.1**
	baz=51,SNR=10								
MTN	**Manton Dam**	**49.22**	**281**	*e*P			**P**	**13 27 03.8**	**+0.5**
	31km,0.6s								
FITZ	**Fitzroy Crossi**	**51.38**	**271**	P			**P**	**13 27 19.9**	**+0.3**
	5.9nm,0.8s,baz=118,slow=6.5,SNR=23								
FITZ	**Fitzroy Crossi**	**51.38**	**271**	P			**P**	**13 27 19.4**	**-0.3**
	baz=53,SNR=15								
FITZ	**Fitzroy Crossi**	**51.38**	**271**	*e*P			**P**	**13 27 19.1**	**-0.5**
	12nm,1.2s								
KLBR	**Kellerberrin**	**53.02**	**252**	P			**P**	**13 27 30.0**	**-1.7**
	baz=54,SNR=6.7								
QSPA	**South Pole Qui**	**58.47**	**180**	P			**P**	**13 28 10.5**	**+0.1**
	28nm,0.6s								
MAW	**Mawson**	**70.80**	**201**	P			**P**	**13 29 30.6**	**0.0**
	5.1nm,1.0s,baz=61,slow=7.5,SNR=5.4								
SYO	**Syowa Base**	**75.68**	**193**	*e*P			**P**	**13 29 57.0**	**-2.3**
SNAA	**Sanae**	**76.94**	**179**	P			**P**	**13 30 07.4**	**+0.8**
SNAA	**Sanae**	**76.94**	**179**	*e*P			**P**	**13 30 07.0**	**+0.4**
	5.9nm,1.0s								
VNA1	**Neumayer--Stat**	**77.79**	**177**	P			**P**	**13 30 12.8**	**+1.6**
MJAR	**Matsushiro Arr**	**78.71**	**326**	P			**P**	**13 30 14.2**	**-2.5**
	6.5nm,1.2s,baz=155,slow=5.9,SNR=6.4								
JNU	**Nakatsue**	**79.83**	**319**	P			**P**	**13 30 21.2**	**-1.8**
	5.9nm,0.8s,baz=129,slow=7.2,SNR=3.5								
PLCA	**Paso Flores**	**82.38**	**133**	P			**P**	**13 30 36.6**	**-0.1**
	3.4nm,0.8s,baz=4.6,slow=4.7,SNR=4.1								
KSRS	**Korea Array**	**84.66**	**320**	P			**P**	**13 30 47.0**	**-1.0**
	2.3nm,0.8s,baz=142,slow=6.5,SNR=8.2								
KSAR	**Wonju Array Be**	**84.67**	**320**	P			**P**	**13 30 47.0**	**-1.1**
KS01	**Wonju Array Si**	**84.69**	**320**	*e*P			**P**	**13 30 47.9**	**-0.3**
YSS	**Yuzh-Sakhalins**	**85.44**	**335**	*e*P			**P**	**13 30 52.8**	**+1.1**
	20nm,0.9s								
PEA0	**Petropavlovsk-**	**86.77**	**346**	*e*P			**P**	**13 30 57.9**	**-0.3**
PETK	**Petropavlovsk-**	**86.77**	**346**	P			**P**	**13 30 57.0**	**-1.1**
	7.9nm,0.7s,baz=122,slow=7.2,SNR=9.1								
MURC	**Murrieta**	**87.30**	**48**	P			**P**	**13 31 02.7**	**+1.4**
	baz=229								
MONP2	**Monument Peak**	**87.33**	**48**	P			**P**	**13 31 02.8**	**+1.1**
	baz=229								
IKP	**In-Ko-Pah, Jac**	**87.37**	**49**	P			**P**	**13 31 03.0**	**+1.3**
	baz=229								
BFSC	**Mount Baldy Ra**	**87.43**	**47**	P			**P**	**13 31 03.0**	**+1.0**
	baz=228								
EDW2	**Edwards Air Fo**	**87.65**	**46**	P			**P**	**13 31 04.2**	**+1.2**
	baz=228								
USRK	**Ussuriysk Ar.**	**87.65**	**327**	P			**P**	**13 31 01.9**	**-0.8**
	5.3nm,0.8s,baz=119,slow=2.4,SNR=10								
BELC	**Belle Mtn. Jos**	**88.31**	**48**	P			**P**	**13 31 07.9**	**+1.7**
	baz=229								
BC3	**Big Chuckawall**	**88.44**	**48**	P			**P**	**13 31 08.3**	**+1.5**
	baz=230								
GLA	**Glamis**	**88.45**	**49**	P			**P**	**13 31 07.7**	**+0.9**
	baz=230								
HEC	**Hector,Ludlow**	**88.64**	**47**	P			**P**	**13 31 08.8**	**+1.1**
	baz=229								
GSC	**Goldstone, Bar**	**88.66**	**46**	P			**P**	**13 31 09.1**	**+1.4**
	baz=229								
MPMC	**Manual Prospec**	**88.73**	**46**	P			**P**	**13 31 09.3**	**+1.1**
	baz=228								
IRM	**Iron Mountain**	**88.96**	**48**	P			**P**	**13 31 10.9**	**+1.8**
	baz=230								
Y12C	**Blythe**	**89.09**	**49**	P			**P**	**13 31 11.1**	**+1.4**
	baz=230								
CHGN	**Chignik**	**89.36**	**11**	*e*P			**P**	**13 31 10.2**	**-0.2**
OHAK	**Old Harbor**	**91.18**	**14**	*e*P			**P**	**13 31 21.0**	**+2.2**
	9.7nm,0.7s								
GYA	**Guiyang**	**91.31**	**300**	*e*P			**P**	**13 31 22.4**	**+2.0**
GYA				PMZ					
	10.0nm,1.0s								
KLR	**Kul'dur**	**91.61**	**330**	P			**P**	**13 31 20.4**	**-0.6**
	3.0nm,0.9s,baz=347,slow=2.1,SNR=8.3								
KDAK	**Kodiak Island**	**91.84**	**14**	*e*P			**P**	**13 31 24.0**	**+2.1**
U15A	**North Rim**	**92.20**	**48**	*e*P			**P**	**13 31 26.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**92.88**	**290**	PP			PP	13 35 11.0	+0.3
	0.8nm,0.7s,baz=148,slow=5.8,SNR=4.0								
CD2	**Chengdu**	**95.91**	**303**	*e*P			**P**	**13 31 43.0**	**+1.6**
HHC	**Hu-ho-hao-te**	**96.39**	**314**	*e*P			**P**	**13 31 46.8**	**+3.4**
HHC				sP			sP	13 32 03.4	+4.9
HHC				S			**S**	**13 42 59.9**	**-1.1**
HHC				sS			sS	13 43 14.1	-5.5
HHC				PMZ					
	16nm,1.1s								
HHC				PMZ					
	170nm,5.6s								
CAST	**Castle Rocks**	**97.16**	**12**	*e*P			**P**	**13 31 46.6**	**+0.4**
	2.1nm,0.7s								
TRF	**Thorofare Moun**	**97.51**	**13**	*e*P			Pdif	13 31 49.0	+1.0
	4.9nm,0.7s								
RND	**Reindeer**	**97.74**	**13**	*e*P			**P**	**13 31 49.1**	**+0.2**
	9.2nm,1.5s								
LZH	**Lanzhou**	**98.67**	**307**	*e*P			Pdif	13 31 55.3	+1.4
LZH				pP			pP	13 32 05.8	+0.8
LZH				sP			sP	13 32 10.0	+1.0
LZH				PMZ					
	20nm,1.2s								
ILAR	**Eielson Array**	**99.36**	**13**	P			**Pdif**	**13 31 55.3**	**-0.7**
	0.7nm,0.7s,baz=224,slow=6.0,SNR=6.2								
WMQ	**Urumqi**	**113.21**	**308**	PKP			**PKiKP**	**13 36 53.1**	**+1.3**
MKAR	**Makanchi Array**	**117.81**	**310**	PKP			**PKPdf**	**13 36 57.9**	**-2.6**
	1.4nm,0.6s,baz=213,slow=2.2,SNR=13								
ZALV	**Zalesovo Beam**	**118.30**	**318**	PKP			**PKPdf**	**13 36 58.4**	**-2.8**
	1.4nm,0.6s,baz=137,slow=1.4,SNR=6.0								
KSH	**Kashi**	**120.01**	**300**	*e*PKP			**PKPdf**	**13 37 03.3**	**-1.8**
KSH				sPKP				13 37 17.8	
KSH				PP			**PP**	**13 38 34.6**	**+4.2**
KSH				PKS			**PKSdf**	**13 40 39.9**	**-1.9**
KSH				SKS			**SKSdf**	**13 44 10.5**	**-4.0**
KSH				SKKS			**SKKSac**	**13 45 22.8**	**-4.3**
KSH				SS			**SKKSdf**	**13 54 56.6**	**+0.4**
KSH				PPMZ					
	66nm,6.8s								
KSH				LN					
	110nm,5.7s								
KSH				LE					
	87nm,5.3s								
KSH				LZ					
	150nm,6.8s								
KURK	**Kurchatov**	**121.18**	**313**	PKP			**PKPdf**	**13 37 04.1**	**-2.7**
KURBB	**Kurchatov Arra**	**121.22**	**313**	PKP			**PKPdf**	**13 37 04.1**	**-2.7**
	4.1nm,0.6s,baz=111,slow=1.9,SNR=38								
AAK	**Ala-Archa**	**121.97**	**303**	PKP			**PKPdf**	**13 37 07.3**	**-1.5**
	3.8nm,0.7s,baz=164,slow=2.0,SNR=5.1								
BVAR	**Borovoye Array**	**126.59**	**315**	PKP			**PKPdf**	**13 37 14.9**	**-2.2**
	3.6nm,0.5s,baz=80,slow=1.8,SNR=24								
SPITS	**Spitsbergen Ar**	**132.87**	**356**	PKP			**PKPdf**	**13 37 27.4**	**-0.9**
	5.8nm,1.0s,baz=98,slow=6.0,SNR=4.2								
GEYT	**Alibeck**	**133.17**	**294**	PKP			**PKPdf**	**13 37 29.2**	**-0.9**
	2.2nm,0.7s,baz=298,slow=3.2,SNR=4.9								
GEYT				SKPbc			SKPbc	13 40 43.7	-12
	2.2nm,0.8s,baz=172,slow=2.9,SNR=5.6								
ARU	**Arti**	**133.41**	**320**	PKP			**PKPdf**	**13 37 30.0**	**+0.1**
	3.5nm,0.6s,baz=6.1,slow=2.5,SNR=6.3								
AKTO	**Aktyubinsk**	**134.19**	**311**	PKP			**PKPdf**	**13 37 31.1**	**-0.5**
	2.7nm,0.7s,baz=109,slow=2.5,SNR=11								
ARCES	**ARCESS Array B**	**139.58**	**347**	PKhKP			PKPpre	13 37 30.8	
	0.6nm,0.5s,baz=39,slow=2.3,SNR=9.8								
ARCES				PKP			**PKPdf**	**13 37 38.7**	**-2.3**
	3.0nm,0.8s,baz=22,slow=1.3,SNR=7.8								
ARCES				SKPbc			SKPbc	13 41 01.9	-12
	1.4nm,0.8s,baz=46,slow=5.2,SNR=4.1								
KBZ	**Khabaz**	**144.96**	**302**	PKP			**PKPab**	**13 37 49.9**	**-0.8**
	9.2nm,0.9s,baz=93,slow=4.8,SNR=13								
KVAR	**Kislovodsk Arr**	**145.08**	**303**	PKP			**PKPbc**	**13 37 51.1**	**-0.1**
	7.1nm,0.8s,baz=221,slow=4.1,SNR=3.7								
OBN	**Obninsk**	**145.60**	**324**	PKPbc			**PKPdf**	**13 37 51.8**	**-0.3**
	23nm,0.3s,baz=235,slow=1.8,SNR=9.2								
FINES	**FINESS Array B**	**145.95**	**339**	PKPbc			**PKPdf**	**13 37 51.2**	**-1.3**
	12nm,0.6s,baz=45,slow=3.7,SNR=84								
NB2	**NORSAR Subarra**	**149.81**	**350**	PKP			**PKPdf**	**13 38 01.9**	**+2.9**
	comp=Z,4.1nm,0.6s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**149.81**	**350**	PKPbc			**PKPdf**	**13 38 01.9**	**+2.9**
	comp=Z,3.9nm,0.6s,baz=17,slow=4.2,SNR=16								
HFS	**Hagfors**	**150.24**	**347**	PKPbc			**PKPdf**	**13 38 02.5**	**+3.0**
	comp=Z,5.9nm,0.5s,baz=139,slow=0.8,SNR=32								
AKASG	**Malin Array Be**	**151.65**	**320**	PKPbc			**PKPbc**	**13 38 07.0**	**-1.4**
	comp=Z,12nm,0.9s,baz=53,slow=3.3,SNR=25								
BRTR	**Keskin Array B**	**152.28**	**296**	PKP			**PKPdf**	**13 38 02.3**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=22,slow=4.0,SNR=4.4								
BRTR				PKPbc			**PKPbc**	**13 38 09.1**	**-1.3**
	comp=Z,5.1nm,0.7s,baz=127,slow=3.5,SNR=20								
CRVS	**Cervenica-Dubn**	**156.78**	**324**	*e*PKP			**PKPab**	**13 38 39.1**	**+0.1**
KECS	**Kecovo**	**157.55**	**324**	*e*PKP			**PKPab**	**13 38 42.4**	**+0.1**
VYHS	**Vyhne**	**158.34**	**326**	*e*PKP			**PKPab**	**13 38 45.7**	**0.0**
CLL	**Collm**	**158.40**	**339**	*i* P			**PKPab**	**13 38 44.4**	**-1.4**
	comp=Z,8.0nm,1.0s								
BRG	**Berggiesshubel**	**158.47**	**337**	*e*P			**PKPab**	**13 38 45.7**	**-0.4**
	comp=Z,5.8nm,1.1s								
GERES	**GERESS Array B**	**160.26**	**334**	PKP			**PKPdf**	**13 38 12.4**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=147,slow=2.7,SNR=4.3								
GERES				PKPab			**PKPab**	**13 38 52.5**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=64,slow=3.1,SNR=7.2								
TORD	**Torodi Ar. Bea**	**161.58**	**183**	PKPab			**PKPab**	**13

PFVI	**Vila Bisbo**	**1.11**	**161**	⇓P		**Pb**	**13 27 49.2**	**-0.3**
	comp=N,14nm,0.3s,SNR=18								
PFVI				S		**Sb**	**13 28 02.1**	**-1.4**
	comp=N,24nm,0.2s,SNR=12								
PFVI	**Vila Bisbo**	**1.11**	**161**	P		**Pb**	**13 27 49.2**	**-0.3**
	comp=N,14nm,0.3s,SNR=18								
PFVI				*e*S		**Sb**	**13 28 02.5**	**-1.0**
	comp=N,52nm,0.1s								
PCVE	**Castro Verde**	**1.12**	**119**	⇓*e*P		**Pb**	**13 27 50.1**	**+0.3**
PCVE				*e*S		**Sn**	**13 28 04.1**	**+1.1**
PCVE				A		A	13 28 05.7	
	comp=N,86nm,0.2s								
PCVE	**Castro Verde**	**1.12**	**119**	P		**Pb**	**13 27 50.1**	**+0.3**
PCVE				S		**Sn**	**13 28 04.1**	**+1.1**
	comp=N,86nm,0.2s								
PCVE	**Castro Verde**	**1.12**	**119**	⇓*e*P		**Pb**	**13 27 50.1**	**+0.3**
PCVE				S		**Sn**	**13 28 04.1**	**+1.1**
	comp=N,86nm,0.2s								
PBEJ	**Beja**	**1.12**	**98**	*e*P		**Pb**	**13 27 50.2**	**+0.4**
PBEJ				*e*S		**Sb**	**13 28 03.6**	**-0.4**
PBEJ				A		A	13 28 05.5	
	comp=N,62nm,0.2s								
PBEJ	**Beja**	**1.12**	**98**	P		**Pb**	**13 27 50.2**	**+0.4**
PBEJ				S		**Sb**	**13 28 03.6**	**-0.4**
	comp=N,31nm,0.2s								
PBEJ	**Beja**	**1.12**	**98**	*e*P		**Pb**	**13 27 50.2**	**+0.4**
PBEJ				S		**Sb**	**13 28 03.6**	**-0.4**
	comp=N,31nm,0.2s								
PBDV	**Barranco-do-Ve**	**1.42**	**131**	*e*P		**Pb**	**13 27 54.5**	**-0.3**
PBDV				*e*S		**Sn**	**13 28 10.3**	**-0.1**
PBDV	**Barranco-do-Ve**	**1.42**	**131**	P		**Pb**	**13 27 54.5**	**-0.3**
PBDV				S		**Sn**	**13 28 10.3**	**-0.1**
PBDV	**Barranco-do-Ve**	**1.42**	**131**	*e*P		**Pb**	**13 27 54.5**	**-0.3**
PBDV				*e*S		**Sn**	**13 28 10.3**	**-0.1**
PVAQ	**Vaqueiros**	**1.46**	**122**	*e*P		**Pb**	**13 27 54.8**	**-0.7**
PVAQ				*e*S		**Sn**	**13 28 11.8**	**+0.5**
PVAQ				A		A	13 28 18.3	
	comp=N,48nm,0.1s								
PVAQ	**Vaqueiros**	**1.46**	**122**	P		**Pb**	**13 27 54.8**	**-0.7**
PVAQ				S		**Sn**	**13 28 11.8**	**+0.5**
	comp=N,48nm,0.1s								
PVAQ	**Vaqueiros**	**1.46**	**122**	*e*P		**Pb**	**13 27 54.8**	**-0.7**
PVAQ				S		**Sn**	**13 28 11.8**	**+0.5**
	comp=N,48nm,0.1s								
PESTR	**Estremoz**	**1.49**	**62**	⇑*e*P		**Pn**	**13 27 55.0**	**+1.3**
PESTR				*e*S		**Sn**	**13 28 13.1**	**+1.0**
PESTR				A		A	13 28 28.3	
	comp=N,25nm,0.5s								
PESTR	**Estremoz**	**1.49**	**62**	⇑*e*P		**Pn**	**13 27 55.0**	**+1.3**
PESTR				*e*S		**Sn**	**13 28 13.1**	**+1.0**
	comp=N,25nm,0.5s								
EGRO	**El Granado**	**1.56**	**114**	⇑P		**Pb**	**13 27 56.1**	**-1.0**
	comp=N,5.1nm,0.3s,SNR=18								
EGRO				S		**Sn**	**13 28 14.5**	**+0.7**
	comp=N,22nm,0.4s,SNR=14								
EGRO	**El Granado**	**1.56**	**114**	P		**Pb**	**13 27 56.1**	**-1.0**
	comp=N,5.1nm,0.3s,SNR=18								
EGRO				S		**Sn**	**13 28 14.5**	**+0.7**
	comp=N,22nm,0.4s,SNR=14								
PTOM	**Tomar**	**1.58**	**25**	*e*P		**Pb**	**13 27 56.7**	**-0.9**
PTOM				*e*S		**Sn**	**13 28 15.1**	**+0.6**
PTOM				A		A	13 28 20.1	
	comp=N,63nm,0.3s								
PTOM	**Tomar**	**1.58**	**25**	P		**Pb**	**13 27 56.7**	**-0.9**
PTOM				S		**Sn**	**13 28 15.1**	**+0.6**
	comp=N,32nm,0.3s								
PTOM	**Tomar**	**1.58**	**25**	*e*P		**Pb**	**13 27 56.7**	**-0.9**
PTOM				S		**Sn**	**13 28 15.1**	**+0.6**
	comp=N,32nm,0.3s								
PBAR	**Barrancos**	**1.76**	**90**	*e*Pn		**Pn**	**13 27 59.0**	**+1.6**
PBAR				*e*Sn		**Sn**	**13 28 19.0**	**+0.1**
PBAR				A		A	13 28 29.5	
	comp=N,63nm,0.1s								
PBAR	**Barrancos**	**1.76**	**90**	Pn		**Pn**	**13 27 59.0**	**+1.6**
PBAR				Sn		**Sn**	**13 28 19.0**	**+0.1**
	comp=N,63nm,0.1s								
PBAR	**Barrancos**	**1.76**	**90**	*e*Pn		**Pn**	**13 27 59.0**	**+1.6**
PBAR				Sn		**Sn**	**13 28 19.0**	**+0.1**
	comp=N,63nm,0.1s								
EBAD	**Badajoz**	**1.86**	**71**	P		**Pn**	**13 28 00.2**	**+1.3**
	comp=N,2.3nm,0.4s,SNR=86								
EBAD				S		**Sn**	**13 28 21.7**	**+0.3**
	comp=N,41nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**1.86**	**71**	P		**Pn**	**13 28 00.2**	**+1.3**
	comp=N,2.3nm,0.4s,SNR=86								
EBAD				S		**Sn**	**13 28 21.7**	**+0.3**
	comp=N,41nm,0.1s,SNR=7.9								
PMRV	**Marv??o**	**1.93**	**49**	*e*Pn		**Pn**	**13 28 01.2**	**+1.5**
PMRV				*e*Sn		**Sn**	**13 28 23.1**	**+0.1**
PMRV				A		A	13 28 34.3	
	comp=N,21nm,0.3s								
PMRV	**Marv??o**	**1.93**	**49**	Pn		**Pn**	**13 28 01.2**	**+1.5**
PMRV				Sn		**Sn**	**13 28 23.1**	**+0.1**
	comp=N,21nm,0.3s								
PMRV	**Marv??o**	**1.93**	**49**	*e*Pn		**Pn**	**13 28 01.2**	**+1.5**
PMRV				Sn		**Sn**	**13 28 23.1**	**+0.1**
	comp=N,21nm,0.3s								
PCAS	**Casmilo, Conde**	**1.96**	**18**	*e*Pn		**Pn**	**13 28 02.4**	**+2.2**
PCAS				*e*Sn		**Sn**	**13 28 24.5**	**+0.6**
PCAS				A		A	13 28 26.7	
	comp=N,20nm,0.2s								
PCAS	**Casmilo, Conde**	**1.96**	**18**	*e*Pn		**Pn**	**13 28 02.4**	**+2.2**
PCAS				*e*Sn		**Sn**	**13 28 24.5**	**+0.6**
	comp=N,20nm,0.2s								
EMIN	**Mina Concepcio**	**2.10**	**101**	P		**Pn**	**13 28 03.7**	**+1.7**
	comp=N,1.5nm,0.2s,SNR=39								
EMIN				S		**Sn**	**13 28 26.6**	**-0.6**
	comp=N,9.2nm,0.1s,SNR=43								
EMIN	**Mina Concepcio**	**2.10**	**101**	P		**Pn**	**13 28 03.7**	**+1.7**
	comp=N,1.5nm,0.2s,SNR=39								
EMIN				S		**Sn**	**13 28 26.5**	**-0.6**
	comp=N,9.2nm,0.1s,SNR=43								
PCBR	**Castelo Branco**	**2.17**	**40**	*e*Pn		**Pn**	**13 28 04.7**	**+1.7**
PCBR				*e*Sn		**Sn**	**13 28 28.9**	**0.0**
PCBR				A		A	13 28 31.9	
	comp=N,17nm,0.2s								
PCBR	**Castelo Branco**	**2.17**	**40**	Pn		**Pn**	**13 28 04.7**	**+1.7**
PCBR				Sn		**Sn**	**13 28 28.9**	**0.0**
	comp=N,8.6nm,0.2s								
PCBR	**Castelo Branco**	**2.17**	**40**	*e*Pn		**Pn**	**13 28 04.7**	**+1.7**
PCBR				Sn		**Sn**	**13 28 28.9**	**0.0**
	comp=N,8.6nm,0.2s								
MTE	**Manteigas**	**2.59**	**31**	*e*Pn		**Pn**	**13 28 11.0**	**+2.1**
MTE				*e*Sn		**Sn**	**13 28 39.3**	**-0.1**
MTE				A		A	13 28 41.3	
	comp=N,25nm,0.1s								
MTE	**Manteigas**	**2.59**	**31**	Pn		**Pn**	**13 28 11.0**	**+2.1**
MTE				Sn		**Sn**	**13 28 39.3**	**-0.1**
	comp=N,13nm,0.1s								
MTE	**Manteigas**	**2.59**	**31**	*e*Pn		**Pn**	**13 28 11.0**	**+2.1**
MTE				Sn		**Sn**	**13 28 39.3**	**-0.1**
	comp=N,13nm,0.1s								
PVIS	**Viseu**	**2.75**	**22**	*e*Pn		**Pn**	**13 28 12.8**	**+1.8**
PVIS				*e*Sn		**Sn**	**13 28 43.2**	**-0.1**
PVIS				A		A	13 28 45.7	
	comp=N,38nm,0.1s								
PVIS	**Viseu**	**2.75**	**22**	Pn		**Pn**	**13 28 12.8**	**+1.8**
PVIS				Sn		**Sn**	**13 28 43.2**	**-0.1**
	comp=N,19nm,0.1s								
PVIS	**Viseu**	**2.75**	**22**	*e*Pn		**Pn**	**13 28 12.8**	**+1.8**
PVIS				Sn		**Sn**	**13 28 43.2**	**-0.1**
	comp=N,19nm,0.1s								
ECAB	**El Cabril**	**3.04**	**91**	⇑P		**Pn**	**13 28 17.3**	**+2.2**
	comp=N,6.3nm,0.3s,SNR=18								
ECAB				S		**Sn**	**13 28 50.5**	**0.0**
	comp=N,7.3nm,0.1s,SNR=20								
ECAB	**El Cabril**	**3.04**	**91**	P		**Pn**	**13 28 17.3**	**+2.2**
	comp=N,6.3nm,0.3s,SNR=18								
ECAB				S		**Sn**	**13 28 50.5**	**0.0**
	comp=N,7.3nm,0.1s,SNR=20								
EPLA	**Plasencia**	**3.12**	**52**	P		**Pn**	**13 28 17.8**	**+1.7**
	comp=N,9.3nm,0.3s,SNR=51								
EPLA				S		**Sn**	**13 28 52.8**	**+0.5**
	comp=N,6.8nm,0.1s,SNR=12								
EPLA	**Plasencia**	**3.12**	**52**	P		**Pn**	**13 28 17.8**	**+1.7**
	comp=N,9.3nm,0.3s,SNR=51								
EPLA				S		**Sn**	**13 28 52.8**	**+0.5**
	comp=N,6.8nm,0.1s,SNR=12								
PVRL	**Vila Real**	**3.32**	**21**	*e*Pn		**Pn**	**13 28 20.6**	**+1.7**
PVRL				*e*Sn		**Sn**	**13 28 55.6**	**-1.7**
PVRL				A		A	13 28 59.0	
	comp=N,51nm,0.1s								
PVRL	**Vila Real**	**3.32**	**21**	Pn		**Pn**	**13 28 20.6**	**+1.7**
PVRL				Sn		**Sn**	**13 28 55.6**	**-1.7**
	comp=N,26nm,0.1s								
PVRL	**Vila Real**	**3.32**	**21**	*e*Pn		**Pn**	**13 28 20.6**	**+1.7**
PVRL				Sn		**Sn**	**13 28 55.6**	**-1.7**
	comp=N,26nm,0.1s								
POLO	**Lamas de Olo**	**3.39**	**19**	⇑*e*Pn		**Pn**	**13 28 21.6**	**+1.7**
POLO				*e*Sn		**Sn**	**13 28 57.5**	**-1.6**
POLO				A		A	13 29 00.8	
	comp=N,5.7nm,0.3s								
POLO	**Lamas de Olo**	**3.39**	**19**	⇑*e*Pn		**Pn**	**13 28 21.6**	**+1.7**
MVO	**Moncorvo**	**3.45**	**29**	*e*Pn		**Pn**	**13 28 22.0**	**+1.3**
MVO				*e*Sn		**Sn**	**13 28 59.3**	**-1.2**
MVO				A		A	13 29 01.8	
	comp=N,24nm,0.3s								
MVO	**Moncorvo**	**3.45**	**29**	P		**Pn**	**13 28 22.0**	**+1.3**
	comp=N,4.7nm,0.3s,SNR=42								
MVO				S		**Sn**	**13 28 59.7**	**-0.8**
	comp=N,12nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**3.45**	**29**	P		**Pn**	**13 28 22.0**	**+1.3**
	comp=N,4.7nm,0.3s,SNR=42								
MVO				*e*Sn		**Sn**	**13 28 59.3**	**-1.2**
	comp=N,24nm,0.3s								
MVO				S		**Sn**	**13 28 59.7**	**-0.8**
	comp=N,12nm,0.1s,SNR=7.9								
PCAB	**Cabril**	**3.65**	**15**	*e*Pn		**Pn**	**13 28 25.0**	**+1.5**
PCAB				*e*Sn		**Sn**	**13 29 04.5**	**-1.1**
PCAB				A		A	13 29 08.7	
	comp=N,17nm,0.1s								
PCAB	**Cabril**	**3.65**	**15**	Pn		**Pn**	**13 28 25.0**	**+1.5**
PCAB				Sn		**Sn**	**13 29 04.5**	**-1.1**
	comp=N,8.5nm,0.1s								
PCAB	**Cabril**	**3.65**	**15**	*e*Pn		**Pn**	**13 28 25.0**	**+1.5**
PCAB				Sn		**Sn**	**13 29 04.5**	**-1.1**
	comp=N,8.5nm,0.1s								
EADA	**Adamuz**	**3.70**	**89**	P		**Pn**	**13 28 25.9**	**+1.8**
	comp=N,1.7nm,0.3s,SNR=18								
EADA				S		**Sn**	**13 29 05.9**	**-0.9**
	comp=N,14nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**3.70**	**89**	P		**Pn**	**13 28 25.9**	**+1.8**
	comp=N,1.7nm,0.3s,SNR=18								
EADA				S		**Sn**	**13 29 05.9**	**-0.9**
	comp=N,14nm,0.2s,SNR=7.9								
ELOB	**Lobios**	**3.80**	**14**	P		**Pn**	**13 28 27.0**	**+1.5**
	comp=N,2.3nm,0.4s,SNR=12								
ELOB				S		**Sn**	**13 29 07.1**	**-2.1**
	comp=N,5.8nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**3.80**	**14**	P		**Pn**	**13 28 27.0**	**+1.5**
	comp=N,2.3nm,0.4s,SNR=12								
ELOB				S		**Sn**	**13 29 07.1**	**-2.1**
	comp=N,5.8nm,0.1s,SNR=7.9								
PGAV	**Gavieira, Arco**	**3.86**	**11**	*e*Pn		**Pn**	**13 28 28.0**	**+1.7**
PGAV				*e*Sn		**Sn**	**13 29 08.7**	**-2.0**
PGAV				A		A	13 29 13.6	
	comp=N,13nm,0.4s								
PGAV	**Gavieira, Arco**	**3.86**	**11**	*e*Pn		**Pn**	**13 28 28.0**	**+1.7**
EMIJ	**Mijas**	**3.93**	**113**	P		**Pn**	**13 28 29.8**	**+2.5**
	comp=N,2.1nm,0.4s,SNR=7.9								
EMIJ				S		**Sn**	**13 29 12.4**	**-0.1**
	comp=N,4.0nm,0.3s,SNR=7.9								
EMIJ	**Mijas**	**3.93**	**113**	P		**Pn**	**13 28 29.8**	**+2.5**
	comp=N,2.1nm,0.4s,SNR=7.9								
EMIJ				S		**Sn**	**13 29 12.4**	**-0.1**
	comp=N,4.0nm,0.3s,SNR=7.9								
PBRG	**Braganca**	**4.11**	**27**	*e*Pn		**Pn**	**13 28 31.3**	**+1.5**
PBRG				*e*Sn		**Sn**	**13 29 14.8**	**-2.0**
PBRG				A		A	13 29 17.2	
	comp=N,16nm,0.1s								
PBRG	**Braganca**	**4.11**	**27**	Pn		**Pn**	**13 28 31.3**	**+1.5**
PBRG				Sn		**Sn**	**13 29 14.8**	**-2.0**
	comp=N,8.1nm,0.1s								
PBRG	**Braganca**	**4.11**	**27**	*e*Pn		**Pn**	**13 28 31.3**	**+1.5**
PBRG				Sn		**Sn**	**13 29 14.8**	**-2.0**
	comp=N,8.1nm,0.1s								
ECAL	**Calabor**	**4.23**	**27**	P		**Pn**	**13 28 33.1**	**+1.7**
	comp=N,4.9nm,0.3s,SNR=32								
ECAL				S		**Sn**	**13 29 18.9**	**-0.9**
	comp=N,22nm,0.3s,SNR=12								
ECAL	**Calabor**	**4.23**	**27**	P		**Pn**	**13 28 33.1**	**+1.7**
	comp=N,4.9nm,0.3s,SNR=32								
ECAL				S		**Sn**	**13 29 18.9**	**-0.9**
	comp=N,22nm,0.3s,SNR=12								
EGOR	**Sierra Gorda,**	**4.24**	**103**	S		**Sn**	**13 29 19.1**	**-1.0**
	comp=N,1.1nm,0.1s,SNR=7.9								
EGOR	**Sierra Gorda,**	**4.24**	**103**	S		**Sn**	**13 29 19.1**	**-1.0**
	comp=N,1.1nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**4.40**	**69**	P		**Pn**	**13 28 35.7**	**+1.9**
	comp=N,11nm,0.2s,baz=252,slow=13,SNR=114								
ESDC				S		**Sn**	**13 29 22.8**	**-1.3**
	comp=N,2.1nm,0.2s,baz=254,slow=23,SNR=10								
ESDC	**Sonseca Array**	**4.40**	**69**	P		**Pn**	**13 28 35.7**	**+1.9**
	comp=N,11nm,0.2s,SNR=114								
ESDC				S		**Sn**	**13 29 22.8**	**-1.3**
	comp=N,2.1nm,0.2s,SNR=10								
GUD	**Guadarrama**	**4.67**	**57**	P		**Pn**	**13 28 39.3**	**+1.8**
	comp=N,1.0nm,0.1s,SNR=8.2								
GUD				S		**Sn**	**13 29 30.5**	**-0.2**
	comp=N,2.9nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**4.67**	**57**	P		**Pn**	**13 28 39.3**	**+1.8**
	comp=N,1.0nm,0.1s,SNR=8.2								
GUD				S		**Sn**	**13 29 30.5**	**-0.2**
	comp=N,2.9nm,0.2s,SNR=7.9								
EAGO	**Agolada(Pontev**	**4.70**	**11**	P		**Pn**	**13 28 39.6**	**+1.7**
	comp=N,2.1nm,0.1s,SNR=7.9								
EAGO				S		**Sn**	**13 29 28.2**	**-3.2**
	comp=N,4.3nm,0.1s,SNR=7.9								
EAGO	**Agolada(Pontev**	**4.70**	**11**	P		**Pn**	**13 28 39.6**	**+1.7**
	comp=N,2.1nm,0.1s,SNR=7.9								
EAGO				S		**Sn**	**13 29 28.2**	**-3.2**
	comp=N,4.3nm,0.1s,SNR=7.9								
EMAZ	**Mazaricos**	**4.77**	**3**	P		**Pn**	**13 28 40.0**	**+1.2**
	comp=N,5.1nm,0.1s,SNR=7.9								
EMAZ				S		**Sn**	**13 29 29.7**	**-3.3**
	comp=N,12nm,0.2s,SNR=7.9								
EMAZ	**Mazaricos**	**4.77**	**3**	P		**Pn**	**13 28 40.0**	**+1.2**
	comp=N,5.1nm,0.1s,SNR=7.9								
EMAZ				S		**Sn**	**13 29 29.7**	**-3.3**
	comp=N,12nm,0.2s,SNR=7.9								
EQES	**Quesada**	**4.92**	**93**	P		**Pn**	**13 28 42.6**	**+1.7**
	comp=N,1.1nm,0.2s,SNR=7.9								
EQES				S		**Sn**	**13 29 36.1**	**-0.7**
	comp=N,2.4nm,0.2s,SNR=7.9								
EQES	**Quesada**	**4.92**	**93**	P		**Pn**	**13 28 42.6**	**+1.7**
	comp=N,1.1nm,0.2s,SNR=7.9								
EQES				S		**Sn**	**13 29 36.1**	**-0.7**
	comp=N,2.4nm,0.2s,SNR=7.9								
GORA	**Gorafe**	**4.98**	**96**	S		**Sn**	**13 29 37.5**	**-1.0**
	comp=N,20nm,0.3s,SNR=7.9								
GORA	**Gorafe**	**4.98**	**96**	S		**Sn**	**13 29 37.5**	**-1.0**
	comp=N,20nm,0.3s,SNR=7.9								
EBER	**Berja**	**5.23**	**102**	P		**Pn**	**13 28 48.0**	**+2.7**
	comp=N,1.3nm,0.2s,SNR=7.9								
EBER				S		**Sn**	**13 29 43.1**	**-1.7**
	comp=N,6.4nm,0.4s,SNR=7.9								
EBER	**Berja**	**5.23**	**102**	P		**Pn**	**13 28 48.0**	**+2.7**
	comp=N,1.3nm,0.2s,SNR=7.9								
EBER				S		**Sn**	**13 29 43.1**	**-1.7**
	comp=N,6.4nm,0.4s,SNR=7.9								
SESP	**Santiago Espad**	**5.30**	**89**	P		**Pn**	**13 28 47.9**	**+1.6**
	comp=N,0.9nm,0.1s,SNR=7.9								
SESP				S		**Sn**	**13 29 44.2**	**-2.3**
	comp=N,4.1nm,0.1s,SNR=7.9								
SESP	**Santiago Espad**	**5.30**	**89**	P		**Pn**	**13 28 47.9**	**+1.6**
	comp=N,0.9nm,0.1s,SNR=7.9								
SESP				S		**Sn**	**13 29 44.2**	**-2.3**
	comp=N,4.1nm,0.1s,SNR=7.9								
EVIA	**Vianos**	**5.34**	**83**	P		**Pn**	**13 28 48.0**	**+1.3**
	comp=N,1.7nm,0.1s,SNR=7.9								
EVIA				S		**Sn**	**13 29 45.4**	**-1.8**
	comp=N,1.7nm,0.1s,SNR=7.9								
EVIA	**Vianos**	**5.34**	**83**	P		**Pn**	**13 28 48.0**	**+1.3**
	comp=N,1.7nm,0.1s,SNR=7.9								
EVIA				S		**Sn**	**13 29 45.4**	**-1.8**
	comp=N,1.7nm,0.1s,SNR=7.9								
EPON	**Pontenova**	**5.39**	**17**	P		**Pn**	**13 28 49.8**	**+2.5**
	comp=N,0.3nm,0.1s,SNR=7.9								
EPON				S		**Sn**	**13 29 47.0**	**-1.3**
	comp=N,1.6nm,0.1s,SNR=7.9								
EPON	**Pontenova**	**5.39**	**17**	P		**Pn**	**13 28 49.8**	**+2.5**
	comp=N,0.3nm,0.1s,SNR=7.9								
EPON				S		**Sn**	**13 29 47.0**	**-1.3**
	comp=N,1.6nm,0.1s,SNR=7.9								
EARI	**Arriondas**	**5.97**	**30**	P		**Pn**	**13 28 57.8**	**+2.5**
	comp=N,0.7nm,0.1s,SNR=10								
EARI				S		**Sn**	**13 30 01.6**	**-1.1**
	comp=N,2.4nm,0.3s,SNR=7.9								
EARI	**Arriondas**	**5.97**	**30**	P		**Pn**	**13 28 57.8**	**+2.5**
	comp=N,0.7nm,0.1s,SNR=10								
EARI				S		**Sn**	**13 30 01.6**	**-1.1**
	comp=N,2.4nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**6.09**	**83**	P		**Pn**	**13 28 57.7**	**+0.8**
	comp=N,0.5nm,0.1s,SNR=6.0								
ETOB				S		**Sn**	**13 30 03.9**	**-1.7**
	comp=N,1.2nm,0.1s,SNR=7.9								
ETOB	**Tobarra**	**6.09**	**83**	P		**Pn**	**13 28 57.7**	**+0.8**
	comp=N,0.5nm,0.1s,SNR=6.0								
ETOB				S		**Sn**	**13 30 03.9**	**-1.7**
	comp=N,1.2nm,0.1s,SNR=7.9								
ELAN	**Lanestosa**	**6.72**	**39**	P		**Pn**	**13 29 07.1**	**+1.6**
	comp=N,0.8nm,0.1s,SNR=7.9								
ELAN				S		**Sn**	**13 30 17.7**	**-3.3**
	comp=N,1.2nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**6.72**	**39**	P		**Pn**	**13 29 07.1**	**+1.6**
	comp=N,0.8nm,0.1s,SNR=7.9								
EMOS	**Mosqueruela**	**7.17**	**70**	P		**Pn**	**13 29 14.0**	**+2.1**
	comp=N,0.3nm,0.1s,SNR=7.9								
EMOS				S		**Sn**	**13 30 29.5**	**-2.9**
	comp=N,3.2nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**7.17**	**70**	P		**Pn**	**13 29 14.0**	**+2.1**
	comp=N,0.3nm,0.1s,SNR=7.9								
IELO	**Elcoad**	**7.69**	**50**	P		**Pn**	**13 29 20.8**	**+1.8**
	comp=N,1.7nm,0.1s,SNR=7.9								
IELO				S		**Sn**	**13 30 42.5**	**-2.5**
	comp=N,0.7nm,0.2s,SNR=7.9								
IELO	**Elcoad**	**7.69**	**50**	P		**Pn**	**13 29 20.8**	**+1.8**
	comp=N,1.7nm,0.1s,SNR=7.9								
EALK	**Alkurruntz**	**7.75**	**47**	P		**Pn**	**13 29 21.6**	**+1.8**
	comp=N,1.3nm,0.3s,SNR=7.9								
EALK				S		**Sn**	**13 30 42.2**	**-4.4**
	comp=N,2.2nm,0.3s,SNR=7.9								
EALK	**Alkurruntz**	**7.75**	**47**	P		**Pn**	**13 29 21.6**	**+1.8**
	comp=N,1.3nm,0.3s,SNR=7.9								
ERTA	**Horta de San J**	**7.92**	**67**	P		**Pn**	**13 29 23.9**	**+1.8**
	comp=N,0.7nm,0.1s,SNR=7.9								
ERTA				S		**Sn**	**13 30 46.5**	**-4.1**
	comp=N,2.4nm,0.4s,SNR=7.9								
ERTA	**Horta de San J**	**7.92**	**67**	P		**Pn**	**13 29 23.9**	**+1.8**
	comp=N,0.7nm,0.1s,SNR=7.9								
EPOB	**Poblet**	**8.58**	**65**	P		**Pn**	**13 29 32.1**	**+1.0**
	comp=N,0.5nm,0.1s,SNR=7.9								
EPOB	**Poblet**	**8.58**	**65**	P		**Pn**	**13 29 32.1**	**+1.0**
	comp=N,0.5nm,0.1s,SNR=7.9								
CFON	**Fontmartina**	**9.67**	**65**	P		**Pn**	**13 29 47.4**	**+1.2**
	comp=N,1.5nm,0.2s,SNR=7.9								
CFON	**Fontmartina**	**9.67**	**65**	P		**Pn**	**13 29 47.4**	**+1.2**
	comp=N,1.5nm,0.2s,SNR=7.9								
SJAF	**Saint Jean de**	**10.23**	**61**	P		**Pn**	**13 29 53.6**	**-0.1**
	comp=N,0.1nm,0.1s,SNR=7.9								
SJAF	**Saint Jean de**	**10.23**	**61**	P		**Pn**	**13 29 53.6**	**-0.1**
	comp=N,0.1nm,0.1s,SNR=7.9								

IDC 24 13:29:57.3±5.1, 25°67'S × 66°79'W, h0km, mb3.6/1, mb1 4.0/2, mb1mx3.7/16, mbtmp3.8/2, ML4.3/1, Error ellipse: s-maj=156.7km s-min=53.4km az=59.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**9.42**	**352**	Pn		Pn	13 32 14.8	0.0
	1.4nm,0.3s,baz=174,slow=8.3,SNR=26							
TORD	**Torodi Ar. Bea**	**76.99**	**68**	P		P	13 41 52.4	+0.1
	0.3nm,0.6s,baz=259,slow=6.2,SNR=3.0							
MKAR	**Makanchi Array**	**147.66**	**41**	PKPbc		PKPbc	13 49 43.0	-0.7
	0.5nm,0.6s,baz=315,slow=3.2,SNR=6.2							

IDC 24 13:31:01.4±1.6, 53°86N × 85°48E, h0km, mb1 2.8/2, mb1mx2.8/51, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=10.8km s-min=5.6km az=92.0, Southwestern Siberia

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time

YER				*e*SG	**Sg**	**13 33 15.7**	**+0.2**
YER	**Yerkesik**	**0.10**	**162**	*e*Pg	**Pg**	**13 33 13.2**	**-0.2**
YER				*e*Sg	**Sg**	**13 33 15.7**	**+0.2**
TURN	**Turunc**	**0.46**	**141**	*i* P	**Pg**	**13 33 18.3**	**-1.2**
DALY	**Dalyan (Mu¨la**	**0.52**	**141**	*e*PG	**Pb**	**13 33 21.5**	**0.0**
DALY				*e*SG	**Sb**	**13 33 29.6**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.52**	**141**	*e*Pg	**Pb**	**13 33 21.5**	**0.0**
DALY				*e*Sg	**Sb**	**13 33 29.6**	**+0.6**
BDRM	**Kayabasi**	**0.66**	**256**	P	**Pg**	**13 33 23.1**	**-0.2**
BDRM				S	**Sb**	**13 33 32.6**	**-0.4**
BDRM	**Kayabasi**	**0.66**	**256**	*i* P	**Pg**	**13 33 23.1**	**-0.2**
BDRM				*i* S	**Sb**	**13 33 32.6**	**-0.4**
BODT	**Bodrum**	**0.77**	**258**	*e*PG	**Pg**	**13 33 25.0**	**-0.3**
BODT	**Bodrum**	**0.77**	**258**	*e*Pg	**Pg**	**13 33 25.0**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.77**	**339**	*e*PG	**Pg**	**13 33 25.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.77**	**339**	*e*Pg	**Pg**	**13 33 25.2**	**-0.2**
DNZL	**Cakiroluk**	**0.79**	**54**	P	**Pn**	**13 33 28.0**	**+0.5**
DNZL				S	**Sg**	**13 33 35.7**	**-0.4**
DNZL	**Cakiroluk**	**0.79**	**54**	*i* P	**Pn**	**13 33 28.0**	**+0.5**
DNZL				*i* S	**Sg**	**13 33 35.7**	**-0.4**

*ISCJB **24** 13:34:16.3±0.2,29°.27N±0°.03×101°.04E±0°.03,h10km, mb4.5/72,MS3.6/17,Error ellipse: s-maj=4.1km s-min=3.2km az=172.5*

*IDC **24** 13:34:16.3±0.6,29°.30N×101°.19E,h0km,mb4.3/31, mb1 4.4/33,mb1mx4.3/54,mbtmp4.3/33,ML4.0/2,MS3.7/17, Ms1 3.7/17,ms1mx3.5/47,Error ellipse: s-maj=15.8km s-min=11.5km az=39.0*

*BJI **24** 13:34:18.9,29°.29N×101°.09E,h10km,mb4.6/28,mB4.6/18, ML4.3/12,Ms4.2/35,Ms7 4.1/36*

*MOS **24** 13:34:18.9±0.9,29°.26N×101°.20E,h30km,mb4.8/23,Error ellipse: s-maj=10.7km s-min=5.3km az=120.6*

*NEIC **24** 13:34:22.2±0.9,29°.33N×101°.08E,h38km±9km,mb4.7/30, Error ellipse: s-maj=7.4km s-min=6.1km az=206.0*

ISC 24 13:34:18.5±0.4,29°.34N±0°.04×101°.05E±0°.03,h10km,n199, σ2s23/215,mb4.6/73,MS3.7/17,8C-7D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.82**	**56**	Pg	**Pg**	**13 35 14.9**	**+2.2**
CD2				Sg	**Sg**	**13 35 51.8**	**+2.5**
CD2				smax	smax		
	comp=N,2μm,0.8s						
CD2				smax	smax		
	comp=E,1μm,0.9s						
CD2	**Chengdu**	**2.82**	**56**	Pg	**Pb**	**13 35 07.3**	**-1.8**
CD2				Sg	**Sb**	**13 35 46.3**	**+2.6**
CD2				SMN			
	comp=E,3μm,0.9s						
CD2				SME			
	comp=E,3μm,0.9s						
KMI	**Kunming**	**4.46**	**160**	Pn	**Pn**	**13 35 27.9**	**+1.5**
KMI				Sn	**Sn**	**13 36 21.6**	**+3.1**
KMI				Sg	**Sg**	**13 36 41.3**	**-0.5**
KMI				LE			
	comp=E,3μm,4.4s						
KMI				LZ			
	comp=E,4μm,6.7s						
GYA	**Guiyang**	**5.74**	**119**	⇑*i*Pn	**Pn**	**13 35 48.5**	**+4.6**
GYA				Sn	**Sn**	**13 36 50.3**	**+0.4**
GYA				Sg	**Sg**	**13 37 15.3**	**-7.5**
GYA				SMN			
	comp=E,250nm,1.0s						
GYA				SME			
	comp=E,2μm,1.2s						
GYA				LE			
	comp=E,2μm,7.5s						
GYA				LZ			
	comp=E,3μm,8.1s						
ENH	**Enshi**	**7.39**	**81**	*e*Pn	**Pn**	**13 36 10.4**	**+3.8**
	comp=E,108nm,0.8s						
ENH				*e*Sn	**Sn**	**13 37 26.7**	**-3.8**
XAN	**Xi'an**	**8.18**	**53**	P	**Pn**	**13 36 18.5**	**+1.1**
XAN				S	**Sn**	**13 37 52.3**	**+2.3**
XAN				LN			
	comp=E,2μm,12.2s						
XAN				LE			
	comp=E,660nm,11.2s						
XAN				LZ			
	comp=E,590nm,6.1s						
LSA	**Lhasa**	**8.63**	**275**	P	**Pn**	**13 36 22.6**	**-1.3**
LSA				pmax	pmax		
	comp=Z,16nm,0.7s						
LSA	**Lhasa**	**8.63**	**275**	Pn	**Pn**	**13 36 22.6**	**-1.3**
	comp=Z,16nm,0.7s						
SHL	**Shillong**	**8.96**	**247**	*e*P	**Pn**	**13 36 30.5**	**+2.3**
SHL				IAmb	IAmb	13 36 32.2	
	comp=Z,12nm,0.3s						
SHL				*ex*	x	13 39 36.0	
GTA	**Gaotai**	**10.10**	**355**	*e*P	Pn	13 36 49.8	+6.1
GTA				pP		13 36 57.9	
GTA				S	Sn	13 38 50.4	+13
GTA				PMZ			
	comp=Z,3.0nm,0.9s						
GTA				PMZ			
	comp=Z,85nm,4.9s						
GTA				LN			
	comp=Z,900nm,9.1s						
GTA				LZ			
	comp=Z,1μm,9.5s						
CMAR	**Chiang Mai Arr**	**11.00**	**191**	Pn	**Pn**	**13 36 54.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=8.5,slow=13,SNR=3.0						
CMAR				Pg	Pg	13 37 41.6	
	comp=Z,0.4nm,0.3s,baz=359,slow=18,SNR=18						
CMAR				LR	LR	13 40 23.5	
	comp=Z,67nm,19.4s,baz=341,slow=33						
CM01	**Chiang Mai Arr**	**11.03**	**190**	*e*Pn	**Pn**	**13 36 59.3**	**+2.8**
WHN	**Wuhan**	**11.60**	**81**	||P	**Pn**	**13 37 05.3**	**+1.1**
WHN				S	**Sn**	**13 39 15.3**	**+1.5**
WHN				LZ			
	comp=Z,2μm,14.9s						
RAMN	**Ramite**	**12.97**	**263**	*e*P	**Pn**	**13 37 22.5**	**-0.6**
	comp=Z,68nm,0.8s						
GUN	**Gumba**	**13.40**	**268**	*e*P	**Pn**	**13 37 28.2**	**-0.9**
	comp=Z,24nm,0.4s						
PKIN	**Phulchoki**	**13.88**	**267**	*e*P	**Pn**	**13 37 34.1**	**-1.5**
KKN	**Kakani**	**13.94**	**267**	*e*P	**Pn**	**13 37 35.0**	**-1.4**
DMN	**Daman**	**14.13**	**267**	*e*P	**Pn**	**13 37 37.4**	**-1.6**
HHC	**Hu-ho-hao-te**	**14.34**	**34**	*e*P	**Pn**	**13 37 45.1**	**+3.4**
HHC				S	**Sn**	**13 40 22.6**	**+1.8**
HHC				sS	S	13 40 34.3	-6.9
HHC				PMZ			
	comp=Z,14nm,0.9s						
HHC				PMZ			
	comp=Z,93nm,6.4s						
HHC				LE			
	comp=Z,480nm,8.5s						
HHC				LZ			
	comp=Z,250nm,8.1s						
GKN	**Gorkha**	**14.47**	**269**	*e*P	**Pn**	**13 37 40.4**	**-3.2**
TIA	**Tai'an**	**15.15**	**59**	||P	**P**	**13 37 57.6**	**-0.2**
TIA				PMZ			
	comp=Z,10.0nm,1.2s						
KOLN	**Koldanda**	**15.41**	**268**	*e*P	**Pn**	**13 37 52.7**	**-3.6**
PYUN	**Piuthan**	**15.89**	**270**	*e*P	**Pn**	**13 37 59.2**	**-3.3**
BJI	**Beijing**	**16.37**	**45**	P	**P**	**13 38 10.3**	**-0.9**
BWNR	**Bhubaneshwar**	**16.49**	**240**	*e*P	**Pn**	**13 38 10.7**	**+0.7**
BWNR				IAmb	IAmb	13 39 30.7	
	comp=Z,113nm,2.4s						
DGPR	**DIGLIPUR**	**17.76**	**207**	*e*P	**P**	**13 38 27.1**	**+0.3**
WMQ	**Urumqi**	**17.96**	**327**	P	**Pn**	**13 38 27.3**	**-1.1**
WMQ				pP	pP	13 38 31.3	-0.5
WMQ				sP	sP	13 38 34.3	+1.2
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,30nm,4.4s						
WMQ				LR	LR		
	comp=N,190nm,8.0s						
WMQ				LR	LR		
	comp=E,250nm,13.4s						
WMQ				LR	LR		
	comp=Z,230nm,10.4s						
WMQ	**Urumqi**	**17.96**	**327**	P	**P**	**13 38 33.1**	**+4.2**
WMQ				LN			
	comp=Z,180nm,12.0s						
WMQ				LE			
	comp=Z,250nm,12.4s						
WMQ				LZ			
	comp=Z,200nm,11.6s						
SONM	**Songino Array**	**18.93**	**11**	P	**P**	**13 38 39.9**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=198,slow=12,SNR=20						
SONM				LR	LR	13 46 39.8	
	comp=Z,234nm,19.1s,baz=201,slow=39						
SONA1	**Songino Array**	**18.94**	**11**	*e*P	**Pn**	**13 38 41.1**	**+0.8**
ULN	**Ulaanbaatar**	**19.07**	**12**	*ce*P	**Pn**	**13 38 42.5**	**+0.5**
ULN				pmax	pmax		
	comp=Z,33nm,2.5s						
ULN	**Ulaanbaatar**	**19.07**	**12**	*e*P	**P**	**13 38 41.1**	**-0.1**
	comp=Z,26nm,1.5s						
SMLA	**Simla**	**20.70**	**281**	*e*P	**P**	**13 38 57.9**	**-1.1**
SMLA				IAmb	IAmb	13 38 58.9	
	comp=Z,52nm,1.1s						
ZAK	**Zakamensk**	**21.09**	**4**	*e*P	**P**	**13 39 03.9**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,23nm,1.0s						
DHRM	**DHARAMSHALA**	**21.44**	**284**	*e*P	**P**	**13 39 06.6**	**-0.6**
DHRM				IAmb	IAmb	13 39 07.8	
THN	**Thein Dam**	**21.94**	**284**	*e*P	**P**	**13 39 11.0**	**-1.2**
BHPL	**Bhopal**	**22.01**	**260**	*e*P	**P**	**13 39 12.6**	**-0.6**
BHPL				IAmb	IAmb	13 39 14.3	
	comp=Z,13nm,0.7s						
SNY	**Shenyang**	**22.09**	**50**	*e*P	**P**	**13 39 16.6**	**+2.9**
SNY				S	**S**	**13 43 15.3**	**-1.9**
SNY				LN			
	comp=Z,350nm,9.3s						
SNY				LE			
	comp=Z,370nm,10.0s						
SNY				LZ			
	comp=Z,330nm,8.9s						
PDGK	**Podgornoye**	**22.20**	**315**	P	**P**	**13 39 16.0**	**+1.1**
PDGK				pmax	pmax		
	comp=Z,24nm,1.0s						
TLY	**Talaya**	**22.40**	**4**	P	**P**	**13 39 17.2**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=187,slow=11,SNR=3.9						
TLY				LR	LR	13 48 43.7	
	comp=Z,222nm,18.2s,baz=82,slow=39						
TLY	**Talaya**	**22.40**	**4**	*e*P	**P**	**13 39 23.7**	**+6.6**
TLY				pmax	pmax		
	comp=Z,18nm,1.0s						
TLY				MLR	MLR		
	comp=Z,200nm,15.0s						
MK01	**Makanchi Array**	**22.72**	**325**	*e*P	**P**	**13 39 20.5**	**0.0**
MK31	**Makanchi Array**	**22.75**	**325**	*e*P	**P**	**13 39 20.2**	**-0.6**
MK31	**Makanchi Array**	**22.75**	**325**	*e*P	**P**	**13 39 20.2**	**-0.6**
MKAR	**Makanchi Array**	**22.75**	**325**	P	**P**	**13 39 21.5**	**+0.8**
	comp=Z,22nm,1.1s,baz=134,slow=11,SNR=50						
MKAR				LR	LR	13 49 18.6	
	comp=Z,266nm,18.8s,baz=134,slow=40						
MKAR	**Makanchi Array**	**22.75**	**325**	*e*P	**P**	**13 39 20.4**	**-0.4**
MKAR	**Makanchi Array**	**22.75**	**325**	*e*P	**P**	**13 39 20.4**	**-0.4**
MAKZ	**Makanchi**	**22.91**	**325**	*e*P	**P**	**13 39 23.2**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,20nm,1.3s						
MAKZ	**Makanchi**	**22.91**	**325**	*e*P	**P**	**13 39 23.2**	**+0.7**
	comp=Z,20nm,1.3s						
KSH	**Kashi**	**22.97**	**303**	P	**P**	**13 39 26.8**	**+3.5**
KSH				PP	**PnPn**	**13 39 58.3**	**+10**
KSH				PcP	**PcP**	**13 43 15.4**	**+2.1**
KSH				S	**S**	**13 43 27.4**	**-6.4**
KSH				SS	**SnSn**	**13 44 16.6**	**+11**
KSH				PMZ			
	comp=Z,23nm,0.9s						
KSH				PMZ			
	comp=Z,68nm,3.0s						
KSH				LN			
	comp=Z,210nm,11.9s						
KSH				LE			
	comp=Z,230nm,10.8s						
KSH				LZ			
	comp=Z,440nm,11.9s						
KS15	**Wonju Array Si**	**23.77**	**63**	*e*P	**P**	**13 39 33.3**	**+2.2**
KSAR	**Wonju Array Be**	**23.77**	**63**	P	**P**	**13 39 29.5**	**-1.7**
KSAR	**Wonju Array Be**	**23.77**	**63**	P	**P**	**13 39 29.4**	**-1.7**
KSRS	**Korea Array**	**23.80**	**63**	P	**P**	**13 39 29.4**	**-2.0**
	comp=Z,4.5nm,0.8s,baz=252,slow=9.1,SNR=11						
KSRS				LR	LR	13 49 20.5	
	comp=Z,237nm,18.1s,baz=266,slow=38						
CN2	**Changchun**	**24.22**	**47**	*e*P	**P**	**13 39 32.5**	**-2.9**
CN2				*ep*P	sP	13 39 46.5	+6.8
CN2				*e*S	**S**	**13 43 43.8**	**-10**
CN2				LN			
	comp=Z,300nm,11.0s						
CN2				LE			
	comp=Z,300nm,11.0s						
CN2				LZ			
	comp=Z,200nm,12.0s						
TKM2	**Tokmak 2**	**24.51**	**310**	P	**P**	**13 39 39.5**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TKM2	**Tokmak 2**	**24.51**	**310**	*e*P	**P**	**13 39 39.8**	**+1.5**
	comp=Z,14nm,1.3s						
FRU	**Bishkek**	**25.13**	**310**	*e*P	**P**	**13 39 45.0**	**+1.3**
FRU				*e*		13 39 52.0	
FRU				pmax	pmax		
	comp=Z,36nm,1.6s						
AAK	**Ala-Archa**	**25.13**	**309**	P	**P**	**13 39 45.2**	**+1.4**
	comp=Z,33nm,0.9s,baz=108,slow=6.0,SNR=34						
AAK				LR	LR	13 50 13.2	
	comp=Z,115nm,20.6s,baz=111,slow=38						
AAK	**Ala-Archa**	**25.13**	**309**	*e*P	**P**	**13 39 44.6**	**+0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	**Ala-Archa**	**25.13**	**309**	*e*P	**P**	**13 39 44.6**	**+0.7**
	comp=Z,5.1nm,1.0s						
EKS2	**Erkin-Say**	**25.63**	**309**	*e*P	**P**	**13 39 50.3**	**+2.0**
EKS2				pmax	pmax		
	comp=Z,43nm,0.8s						
EKS2	**Erkin-Say**	**25.63**	**309**	*e*P	**P**	**13 39 50.3**	**+2.0**
	comp=Z,43nm,0.8s						
MNAS	**Manas**	**26.44**	**307**	P	**P**	**13 39 57.2**	**+1.5**
MNAS				pmax	pmax		
	comp=Z,22nm,1.2s						
KURBB	**Kurchatov Arra**	**27.18**	**328**	P	**P**	**13 40 02.0**	**0.0**
	comp=Z,4.8nm,0.7s,baz=134,slow=10.0,SNR=51						
KURK	**Kurchatov**	**27.20**	**328**	*e*P	**P**	**13 40 02.3**	**0.0**
KURK				pmax	pmax		
	comp=Z,29nm,0.6s						
KURK	**Kurchatov**	**27.20**	**328**	*e*P	**P**	**13 40 02.3**	**0.0**
	comp=Z,29nm,0.6s						
ZAA0	**Zalesovo Array**	**27.29**	**339**	*e*P	**P**	**13 40 02.1**	**-0.9**
ZALV	**Zalesovo Beam**	**27.29**	**339**	P	**P**	**13 40 02.3**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=140,slow=12,SNR=6.4						
ZALV				LR	LR	13 51 26.2	
	comp=Z,141nm,20.9s,baz=84,slow=38						
KBL	**Kabul**	**27.58**	**289**	*e*P	**P**	**13 40 07.3**	**+1.2**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBL	**Kabul**	**27.58**	**289**	*e*P	**P**	**13 40 07.3**	**+1.2**
	comp=Z,7.1nm,0.8s						
KKAR	**Karatay Array**	**28.03**	**308**	*e*P	**P**	**13 40 10.7**	**+0.9**
KKAR	**Karatay Array**	**28.03**	**308**	*e*P	**P**	**13 40 10.7**	**+0.9**
PALK	**Pallekele**	**29.13**	**225**	LR	LR	13 53 05.5	
	comp=Z,108nm,20.3s,baz=117,slow=39						
BOD	**Bodaibo**	**29.87**	**14**	*e*P	**P**	**13 40 25.9**	**0.0**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KLR	**Kul'dur**	**30.66**	**41**	P	**P**	**13 40 32.2**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=124,slow=6.7,SNR=2.7						
KLR				LR	LR	13 52 15.0	
	comp=Z,66nm,20.5s,baz=225,slow=35						
KLR	**Kul'dur**	**30.66**	**41**	*i* P	**P**	**13 40 35.3**	**+2.3**
MJAR	**Matsushiro Arr**	**31.86**	**67**	P	**P**	**13 40 43.0**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=272,slow=10,SNR=2.8						
VOSK	**Vostochnaya**	**32.16**	**325**	*e*P	**P**	**13 40 44.9**	**-1.3**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VOSK	**Vostochnaya**	**32.16**	**325**	*e*P	**P**	**13 40 44.9**	**-1.3**
	comp=Z,2.2nm,0.8s						
BVAR	**Borovoye Array**	**32.63**	**325**	P	**P**	**13 40 50.3**	**0.0**
	comp=Z,1.1nm,0.6s,baz=119,slow=9.3,SNR=5.8						
BRVK	**Borovoye**	**32.70**	**325**	*ce*P	**P**	**13 40 50.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,11nm,1.2s						
BRVK	**Borovoye**	**32.70**	**325**	*e*P	**P**	**13 40 50.1**	**-0.8**
	comp=Z,6.3nm,0.8s						
GEYT	**Alibeck**	**36.49**	**295**	P	**P**	**13 41 24.5**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=111,slow=6.5,SNR=7.5						
GEYT				LR	LR	13 59 00.0	
	comp=Z,166nm,19.6s,baz=150,slow=40						
ABKAR	**Akbulak array**	**36.93**	**314**	*e*P	**P**	**13 41 27.8**	**+0.3**
AKTO	**Aktyubinsk**	**38.47**	**315**	P	**P**	**13 41 41.1**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=113,slow=9.3,SNR=8.7						
AKTO				LR	LR	13 59 14.6	
	comp=Z,132nm,18.3s,baz=112,slow=39						
ARU	**Arti**	**40.27**	**325**	P	**P**	**13 41 55.7**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=29,slow=2.7,SNR=6.9						
ARU				LR	LR	13 59 52.8	
	comp=Z,216nm,20.6s,baz=115,slow=38						
ARU	**Arti**	**40.27**	**325**	*d* iP	**P**	**13 41 55.5**	**+0.1**
ARU						13 43 54.9	
ARU				S	**S**	**13 48 00.3**	**-2.3**
ARU				SS	**SS**	**13 50 52.1**	**-8.6**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ARU				MLR	MLR		
	comp=Z,228nm,22.0s						
ARU	**Arti**	**40.27**	**325**	*e*P	**P**	**13 41 55.3**	**-0.2**
	comp=Z,10nm,1.2s						
NRIK	**Noril'sk**	**40.80**	**353**	LR	LR	13 59 27.8	
	comp=Z,106nm,19.2s,baz=162,slow=37						
GUMO	**Guam**	**43.42**	**102**	LR	LR	14 00 55.6	
	comp=Z,42nm,19.5s,baz=218,slow=37						
TIXI	**Tiksi**	**45.01**	**12**	P	**P**	**13 42 33.6**	**-0.1**
	comp=Z,5.6nm,0.9s,baz=209,slow=3.0,SNR=4.4						
TIXI	**Tiksi**	**45.01**	**12**	*ce*P	**P**	**13 42 32.9**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,25nm,2.5s						
TIXI	**Tiksi**	**45.01**	**12**	*e*P	**P**	**13 42 32.6**	**-1.1**
	comp=Z,11nm,1.1s						
GNI	**Garni**	**46.81**	**299**	P	**P**	**13 42 50.3**	**+1.6**
	comp=Z,7.2nm,0.6s,baz=163,slow=8.3,SNR=3.8						
GNI	**Garni**	**46.81**	**299**	||*e*P	**P**	**13 42 50.2**	**+1.5**
GNI				pmax	pmax		
	comp=Z,64nm,1.6s						
ZEI	**Tsey**	**47.26**	**303**	*e*P	**P**	**13 42 49.8**	**-2.4**
ZEI				pmax	pmax		
	comp=Z,15nm,0.5s						
KBZ	**Khabaz**	**47.95**	**304**	P	**P**	**13 42 58.8**	**+1.6**
	comp=Z,3.0nm,0.9s,baz=172,slow=3.8,SNR=4.7						
KVAR	**Kislovodsk Arr**	**48.08**	**304**	P	**P**	**13 43 00.1**	**+1.6**
	comp=Z,25nm,1.0s,baz=292,slow=4.3,SNR=12						
KIV	**Kislovodsk**	**48.09**	**304**	*d* iP	**P**	**13 42 59.7**	**+1.2**
KIV				*i*		13 44 31.8	
KIV				pmax	pmax		
	comp=Z,39nm,1.1s						
KIV				MLR	MLR		
	comp=Z,64nm,16.0s						
KIV	**Kislovodsk**	**48.09**	**304**	*e*P	**P**	**13 42 59.6**	**+1.1**
	comp=Z,44nm,1.2s						
NEY	**Neytrino**	**48.10**	**303**	||*e*P	**P**	**13 43 00.6**	**+1.9**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KLMR	**Klimovskoe**	**51.04**	**326**	*e*P	**P**	**13 43 19.2**	**-1.3**
KLMR				*e*		13 45 16.3	
KLMR				pmax	pmax		
	comp=Z,18nm,1.0s						
ANN	**Anapa**	**51.79**	**306**	*e*P	**P**	**13 43 24.3**	**-2.1**
ANN				*e**PP	**sP**	**13 43 38.0**	**+7.2**
ANN				*e*S	**S**	**13 50 45.6**	**-2.8**
ANN				pmax	pmax		
	comp=Z,40nm,1.4s						
OBN	**Obninsk**	**52.04**	**319**	*i* P	**P**	**13 43 28.4**	**+0.3**
OBN				*i*		13 44 35.7	
OBN				*i*		13 45 26.7	
OBN				pmax	pmax		
	comp=Z,12nm,1.0s						
OBN				MLR	MLR		
	comp=Z,48nm,17.0s						
BR131	**Keskin Array S**	**55.32**	**300**	*e*P	**P**	**13 43 52.9**	**+0.3**
BRTR	**Keskin Array B**	**55.32**	**300**	P	**P**	**13 43 52.8**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=104,slow=7.8,SNR=14						
BR231	**Keskin MP Arra**	**55.95**	**300**	*e*P	**P**	**13 43 53.5**	**-3.6**
AKASG	**Malin Array Be**	**56.67**	**314**	P	**P**	**13 44 01.8**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=73,slow=6.8,SNR=26						
AKASG				LR	LR	14 10 24.5	
	comp=Z,56nm,19.6s,baz=110,slow=38						
KIEV	**Kiev**	**56.68**	**314**	*e*P	**P**	**13 44 01.7**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,19nm,1.2s						
KIEV	**Kiev**	**56.68**	**314**	*e*P	**P**	**13 44 01.7**	**-0.3**
	comp=Z,19nm,1.2s						
VSU	**Vasula**	**57.40**	**323**	*ce*P	**P**	**13 44 06.5**	**-0.4**
VSU				pmax	pmax		
	comp=Z,108nm,2.5s						
FIA1	**FINESS Array S**	**57.57**	**327**	*e*P	**P**	**13 44 07.8**	**-0.2**
FINES	**FINESS Array B**	**57.57**	**327**	P	**P**	**13 44 08.0**	**-0.1**
	comp=Z,4.2nm,0.6s,baz=85,slow=7.7,SNR=38						
FINES	**FINESS Array B**	**57.57**	**327**	P	**P**	**13 44 08.0**	**-0.1**
ARCES	**ARCESS Array B**	**57.79**	**336**	P	**P**	**13 44 08.9**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=97,slow=8.7,SNR=9.5						
ARCES				LR	LR	14 11 34.2	
	comp=Z,53nm,18.9s,baz=107,slow=39						
WRAB	**Tennant Creek**	**58.58**	**143**	*ce*P	**P**	**13 44 18.4**	**+2.8**
WRAB				pmax	pmax		
	comp=Z,67nm,1.2s						
WRA	**Warramunga Arr**	**58.58**	**143**	P	**P**	**13 44 13.6**	**-2.1**
	comp=Z,13nm,0.7s,baz=333,slow=7.6,SNR=38						
WB2	**Warramunga Arr**	**58.58**	**143**	*e*P	**P**	**13 44 15.0**	**-0.7**
	comp=Z,18nm,0.7s						
PLOR	**Plostina**	**59.15**	**308**	⇑*i*P	**P**	**13 44 21.0**	**+1.5**
MLR	**Muntele Rosu**	**59.71**	**308**	P	**P**	**13 44 23.7**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=59,slow=2.1,SNR=22						
MLR	**Muntele Rosu**	**59.71**	**308**	⇑*i*P	**P**	**13 44 24.1**	**+0.7**
MLR	**Muntele Rosu**	**59.71**	**308**	*e*P	**P**	**13 44 24.1**	**+0.7**
	comp=Z,29nm,1.0s						
BURAR	**Bucovina Array**	**59.76**	**311**	||*i*P	**P**	**13 44 24.5**	**+0.7**
BUR08	**Bucovina Ar. S**	**59.77**	**311**	*e*P	**P**	**13 44 24.3**	**+0.5**
SUW	**Suwalki**	**59.88**	**318**	*e*P	**P**	**13 44 24.5**	**+0.2**
SUW	**Suwalki**	**59.88**	**318**	*e*P	**P**	**13 44 24.5**	**+0.2**
KWP	**Kalwaria Pacla**	**60.98**	**313**	*e*P	**P**	**13 44 32.9**	**+0.9**
KWP	**Kalwaria Pacla**	**60.98**	**313**	*e*P	**P**	**13 44 32.9**	**+0.9**
KOLS	**Kolonicke sedl**	**61.41**	**313**	*e*P	**P**	**13 44 35.4**	**+0.5**
KOLS				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KOLS	**Kolonicke sedl**	**61.41**	**313**	*e*P	**P**	**13 44 35.4**	**+0.5**
ASAR	**Alice Springs**	**61.45**	**146**	P	**P**	**13 44 34.8**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=328,slow=6.5,SNR=14						
AS01	**Alice Springs**	**61.47**	**145**	*e*P	**P**	**13 44 35.9**	**+0.4**
CRVS	**Cervenica-Dubn**	**61.94**	**313**	*e*P	**P**	**13 44 39.7**	**+1.3**
CRVS	**Cervenica-Dubn**	**61.94**	**313**	*e*P	**P**	**13 44 39.7**	**+1.3**
STHS	**Stebnicka Huta**	**61.96**	**313**	*e*P	**P**	**13 44 39.0**	**+0.4**
STHS				pmax	pmax		
	comp=Z,40nm,2.9s						
**ST

GEA0	**GERESS Array S**	**66.88**	**314**	*e*P		**P**		**13 45 11.1**	**+0.2**
KMBO	**Kilima Mbogo**	**67.92**	**255**	P		**P**		**13 45 16.8**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=32,slow=10.0,SNR=7.0								
TIP	**Timpagrande**	**68.02**	**303**	*e*P		**P**		**13 45 17.4**	**-0.9**
	comp=Z,20nm,1.5s								
CUC	**Castrocucco**	**68.42**	**305**	*e*P		**P**		**13 45 20.0**	**-0.7**
	comp=Z,3.9nm,0.7s								
COLD	**Coldfoot**	**70.14**	**23**	*e*P		**P**		**13 45 30.3**	**-0.5**
	comp=Z,3.7nm,1.0s								
BFO	**Black Forest**	**70.40**	**315**	*i* P		**P**		**13 45 33.1**	**+0.3**
BPAW	**Bear Paw Mtn.**	**71.36**	**26**	*e*P		**P**		**13 45 37.5**	**-0.8**
	comp=Z,4.7nm,0.9s								
PPLA	**Purkeypile**	**71.46**	**28**	*e*P		**P**		**13 45 38.5**	**-0.6**
	comp=Z,4.8nm,0.6s								
MDM	**Murphy Dome**	**71.97**	**25**	*e*P		**P**		**13 45 41.6**	**-0.4**
	comp=Z,8.6nm,1.2s								
STKA	**Stephens Creek**	**72.04**	**144**	P		**P**		**13 45 43.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=268,slow=5.4,SNR=4.3								
RND	**Reindeer**	**72.53**	**26**	*e*P		**P**		**13 45 44.7**	**-0.7**
RND				pmax	pmax				
	comp=Z,19nm,2.0s								
RND	**Reindeer**	**72.53**	**26**	*e*P		**P**		**13 45 44.7**	**-0.7**
	comp=Z,19nm,2.0s								
IL1	**Eielson Array**	**72.55**	**25**	*e*P		**P**		**13 45 42.8**	**-2.6**
ILAR	**Eielson Array**	**72.55**	**25**	P		**P**		**13 45 43.8**	**-1.6**
	comp=Z,1.1nm,0.9s,baz=294,slow=6.1,SNR=11								
SUA	**Susitna One**	**72.75**	**29**	*e*P		**P**		**13 45 45.3**	**-1.5**
	comp=Z,4.4nm,0.8s								
PMR	**Palmer**	**73.35**	**28**	*e*P		**P**		**13 45 48.9**	**-1.3**
PMR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
PMR	**Palmer**	**73.35**	**28**	*e*P		**P**		**13 45 48.9**	**-1.3**
	comp=Z,4.7nm,0.9s								
SML	**Sawmill**	**73.56**	**28**	*e*P		**P**		**13 45 55.1**	**+3.6**
SML				pmax	pmax				
	comp=Z,12nm,1.1s								
SML	**Sawmill**	**73.56**	**28**	*e*P		**P**		**13 45 55.1**	**+3.6**
	comp=Z,12nm,1.1s								
SUMG	**Summit**	**74.65**	**348**	*e*P		**P**		**13 45 57.4**	**-0.7**
SUMG				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SUMG	**Summit**	**74.65**	**348**	*e*P		**P**		**13 45 57.4**	**-0.7**
	comp=Z,5.1nm,0.9s								
INK	**Inuvik**	**74.67**	**18**	*e*P		**P**		**13 45 57.1**	**-0.7**
INK	**Inuvik**	**74.67**	**18**	*e*P		**P**		**13 45 57.1**	**-0.7**
KLU	**Klutina**	**74.70**	**27**	*e*P		**P**		**13 46 01.3**	**+3.1**
	comp=Z,5.8nm,0.8s								
BMRM	**Bremner River**	**75.53**	**27**	*e*P		**P**		**13 46 02.1**	**-0.8**
	comp=Z,7.9nm,0.8s								
YKA	**Yellowknife Ar**	**84.13**	**16**	P		**P**		**13 46 47.3**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=314,slow=4.1,SNR=4.1								
TORD	**Torodi Ar. Bea**	**91.61**	**286**	P		**P**		**13 47 25.0**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=49,slow=3.4,SNR=6.9								

JMA 24 13:36:13.4, 34.68N×137.16E, h32km, M2.9, 4C-1D
Broadband fault plane solution: P waves. NP1: ϕ_s302.00000°, δ77.00000°, λ151.00000°. **NP2:** ϕ_s39.00000°, δ62.00000°, λ15.00000°. **Principal axes:** T Plg30.0000°, Azm257.0000°; N Plg58.0000°, Azm99.0000°; P Plg10.0000°, Azm353.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAA	**Atsumi**	**0.05**	**196**	↑P		Pb	13 36 18.6	-0.2
JAA				S		Sb	13 36 22.2	-0.2
JIE	**Ise**	**0.47**	**233**	↑P		Pb	13 36 23.2	-0.3
JIE				*i* S		Sb	13 36 29.9	-0.5
TSUJ	**Tsu 2**	**0.61**	**273**	↑P		Pb	13 36 25.1	-0.6
TSUJ				S		Sb	13 36 33.8	-0.3
TK04	**Tokai 4**	**0.66**	**116**	P		Pb	13 36 26.6	+0.2
JKN2	**Miekihoku**	**0.85**	**239**	↑P		Pn	13 36 28.6	-0.6
JKN2				S		Sn	13 36 40.1	-0.5
TK02	**Tokai 2**	**0.88**	**146**	P		Pn	13 36 28.8	-0.6
SHZ3	**Shizuoka 3**	**0.94**	**66**	P		Pn	13 36 29.8	-0.7
SHZ3				S		Sb	13 36 43.3	-0.3
TTO2	**TONANKAI O.B.S**	**0.95**	**187**	↓P		Pn	13 36 30.2	0.0
TTO1	**TONANKAI O.B.S**	**1.10**	**197**	P		Pn	13 36 32.4	+0.1
MAT	**Matsushiro**	**2.04**	**24**	P		Pn	13 36 46.5	+0.9
MAT				S		Sb	13 37 13.7	-1.2

*IDC **24** 13:47:37.3±8.5, 36.32N×70.99E, h171km±70km, mb3.1/4, mb1 3.1/8, mb1mx2.9/50, mbtmp3.5/8, MS3.8/1, Ms1 3.8/1, ms1mx2.6/26 Error ellipse: s-maj=73.7km s-min=29.1km az=51.0*
*ISCJB **24** 13:47:38.9±1.0, 36.42N±0.08×71.1E±0.2, h188km, mb3.4/3, Error ellipse: s-maj=19.2km s-min=11.4km az=6.8*
*NNC **24** 13:47:46.6±2.7, 36.94N×70.81E, h179km±61km, mb2.5, mpv3.5, Error ellipse: s-maj=30.4km s-min=17.3km az=25.0*
ISC 24 13:47:39.9±1.4, 36.5N±0.1×71.0E±0.1, h188km, n14, σ1s87/17, mb3.5/3, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNAS	**Manas**	**6.08**	**10**	↑P		**Pn**	**13 49 10.0**	**+1.9**
MNAS	2.1nm,0.6s			↑S		**Sn**	**13 50 15.8**	**-1.9**
	17nm,0.6s							
KK31	**Karatay Array**	**6.60**	**357**	↓P		**Pn**	**13 49 16.3**	**+1.5**
	0.4nm,0.3s,baz=177,slow=13,SNR=8.5							
KK31				S		**Sn**	**13 50 25.5**	**-4.3**
	1.3nm,0.3s,baz=182,slow=15,SNR=11							
AAK	**Ala-Archa**	**6.68**	**23**	P		**Pn**	**13 49 16.6**	**+0.7**
	1.6nm,0.3s,baz=193,slow=6.5,SNR=9.4							
AAK				S		**Sn**	**13 50 30.8**	**-1.0**
	0.8nm,0.3s,baz=313,slow=23,SNR=11							
AAK	**Ala-Archa**	**6.68**	**23**	↑P		**Pn**	**13 49 17.7**	**+1.8**
	3.1nm,0.5s							
AAK				S		**Sn**	**13 50 31.5**	**-0.3**
	5.5nm,0.7s							
TKM2	**Tokmak 2**	**7.31**	**27**	↑P		**Pn**	**13 49 26.3**	**+2.1**
	6.7nm,0.7s							
MKAR	**Makanchi Array**	**13.27**	**36**	P		**P**	**13 50 42.9**	**-1.3**
	0.0nm,0.3s,baz=211,slow=8.1,SNR=2.7							
AB31	**Akbulak array**	**15.09**	**331**	P		**P**	**13 51 05.3**	**+0.9**
	0.1nm,0.3s,baz=141,slow=10,SNR=3.5							
KURBB	**Kurchatov Arra**	**15.11**	**19**	P		**P**	**13 51 06.1**	**+1.6**
	0.0nm,0.3s,baz=215,slow=13,SNR=3.3							
BVAR	**Borovoye Array**	**16.52**	**359**	P		**Pn**	**13 51 21.9**	**+1.1**
	0.1nm,0.3s,baz=183,slow=12,SNR=3.2							
ZALV	**Zalesovo Beam**	**19.90**	**24**	P		**P**	**13 51 58.0**	**+1.2**
	0.7nm,0.4s,baz=220,slow=8.7,SNR=4.8							
FINES	**FINESS Array B**	**37.49**	**326**	LR		LR	14 10 19.5	
	comp=Z,129nm,19.1s,baz=87,slow=36							
ARCES	**ARCESS Array B**	**41.15**	**338**	P		**P**	**13 55 04.9**	**-0.4**
	1.6nm,1.1s,baz=116,slow=8.2,SNR=4.0							
WRA	**Warramunga Arr**	**81.97**	**122**	P		**P**	**13 59 37.2**	**-1.7**
	1.3nm,1.2s,baz=323,slow=4.8,SNR=4.9							
ASAR	**Alice Springs**	**84.24**	**125**	P		**P**	**13 59 49.8**	**-0.7**
	0.3nm,0.8s,baz=315,slow=4.4,SNR=6.0							

*ISCJB **24** 13:54:52.0±0.6, 38.08N±0.03×27.27E±0.03, h7km±4km, Error ellipse: s-maj=5.9km s-min=3.3km az=41.3*
*ATH **24** 13:54:51.9, 38.09N×27.25E, h19km±2km, ML2.4/4, Error ellipse: s-maj=3.9km s-min=1.2km az=268.0*
*ISK **24** 13:54:51.8, 38.05N×27.26E, h16km, MD2.6*
*DDA **24** 13:54:52.0, 38.06N×27.23E, h7km, Md2.7*
*CSEM **24** 13:54:52.3±0.2, 38.06N×27.28E, h10km, MD2.7, Error ellipse: s-maj=5.1km s-min=3.0km az=45.0*
ISC 24 13:54:52.0±1.0, 38.06N±0.03×27.26E±0.03, h14km±8km, n28, σ0s25/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DGB	**˜zmir**	**0.30**	**268**	*i* P		**Pg**	**13 54 58.2**	**0.0**
DGB				*i* S		**Sg**	**13 55 02.3**	**-0.1**
GCAM	**G?zelcaml?**	**0.36**	**184**	P		**Pg**	**13 54 59.3**	**0.0**
GCAM				S		**Sb**	**13 55 06.1**	**+0.3**
GCAM	**G?zelcaml?**	**0.36**	**184**	*i* P		**Pg**	**13 54 59.3**	**0.0**
GCAM				*i* S		**Sb**	**13 55 06.1**	**+0.3**
SMG	**Samos**	**0.49**	**224**	P		**Pg**	**13 55 01.5**	**-0.1**
SMG				S		**Sb**	**13 55 09.5**	**+0.1**
SMG	**Samos**	**0.49**	**224**	P		**Pg**	**13 55 01.6**	**-0.1**
SMG				S		**Sb**	**13 55 09.5**	**+0.1**
SMG				AML	AML		13 55 12.2	
	comp=N,1319μm,0.4s							
SMG				AML	AML		13 55 12.4	
	comp=E,1162μm,0.2s							
AYDB	**Zeytinkoy-Aydi**	**0.51**	**103**	*e*PG		**Pg**	**13 55 02.3**	**+0.2**
AYDB				*e*SG		**Sb**	**13 55 10.0**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.51**	**103**	*e*Pg		**Pg**	**13 55 02.3**	**+0.2**
AYDB				*e*Sg		**Sb**	**13 55 10.0**	**-0.2**
URLA	**Izmir**	**0.60**	**300**	P		**Pb**	**13 55 04.6**	**+0.2**
URLA				S		**Sg**	**13 55 12.0**	**+0.2**
URLA	**Izmir**	**0.60**	**300**	*i* P		**Pb**	**13 55 04.6**	**+0.2**
URLA				*i* S		**Sg**	**13 55 12.0**	**+0.2**
ZEV	**˜zmir**	**0.62**	**287**	*i* P		**Pg**	**13 55 03.8**	**-0.4**
ZEV				*i* S		**Sg**	**13 55 12.6**	**+0.1**
BODT	**Bodrum**	**1.00**	**178**	*e*PG		**Pg**	**13 55 11.4**	**+0.1**
BODT	**Bodrum**	**1.00**	**178**	*e*Pg		**Pg**	**13 55 11.4**	**+0.1**
CHOS	**Chios island**	**1.00**	**289**	*e*PG		**Pn**	**13 55 11.7**	**-0.1**
CHOS				*e*SG		**Sn**	**13 55 26.1**	**+0.3**
CHOS	**Chios island**	**1.00**	**289**	P		**Pb**	**13 55 11.1**	**-0.1**
CHOS	**Chios island**	**1.00**	**289**	*e*Pg		**Pn**	**13 55 11.7**	**-0.1**
CHOS				S		**Sb**	**13 55 23.8**	**-0.6**
CHOS				*e*Sg		**Sn**	**13 55 26.1**	**+0.3**
CHOS	**Chios island**	**1.00**	**289**	P		**Pb**	**13 55 11.1**	**-0.1**
CHOS				S		**Sb**	**13 55 23.8**	**-0.6**
CHOS				AML	AML		13 55 27.0	
	comp=N,291μm,0.5s							
CHOS				AML	AML		13 55 27.2	
	comp=E,381μm,0.3s							
BDRM	**Kayabasi**	**1.00**	**172**	P		**Pb**	**13 55 10.7**	**-0.5**
BDRM				S		**Sn**	**13 55 25.6**	**-0.1**
BDRM	**Kayabasi**	**1.00**	**172**	*i* P		**Pb**	**13 55 10.7**	**-0.5**
BDRM				*i* S		**Sn**	**13 55 25.6**	**-0.1**
YER	**Yerkesik**	**1.23**	**138**	*e*PN		**Pg**	**13 55 15.7**	**0.0**
YER				*e*SN		**Sn**	**13 55 31.5**	**+0.1**
YER	**Yerkesik**	**1.23**	**138**	*e*Pn		**Pg**	**13 55 15.7**	**0.0**
YER				*e*Sn		**Sn**	**13 55 31.5**	**+0.1**
PRK	**Paraskevi**	**1.41**	**327**	P		**Pb**	**13 55 17.8**	**-0.4**
PRK				S		**Sg**	**13 55 37.8**	**+0.2**
PRK	**Paraskevi**	**1.41**	**327**	P		**Pb**	**13 55 17.8**	**-0.4**
PRK				S		**Sg**	**13 55 37.8**	**+0.2**
PRK				AML	AML		13 55 39.1	
	comp=E,388μm,0.3s							
PRK				AML	AML		13 55 39.3	
	comp=N,452μm,0.5s							
SIGR	**SIGRI**	**1.59**	**317**	P		**Pb**	**13 55 21.2**	**0.0**
SIGR				S		**Sn**	**13 55 40.4**	**+0.3**
SIGR	**SIGRI**	**1.59**	**317**	P		**Pb**	**13 55 21.2**	**0.0**
SIGR				S		**Sn**	**13 55 40.4**	**+0.3**
SIGR				AML	AML		13 55 45.5	
	comp=E,153μm,0.6s							
SIGR				AML	AML		13 55 46.1	
	comp=N,149μm,0.5s							
APE	**Apeiranthos**	**1.70**	**235**	*e*PN		**Pn**	**13 55 21.3**	**0.0**
APE	**Apeiranthos**	**1.70**	**235**	*e*Pn		**Pn**	**13 55 21.3**	**0.0**
APE	**Apeiranthos**	**1.70**	**235**	P		**Pb**	**13 55 23.3**	**+0.3**
APE				S		**Sg**	**13 55 46.4**	**-0.2**
APE	**Apeiranthos**	**1.70**	**235**	P		**Pb**	**13 55 23.3**	**+0.3**
APE				S		**Sg**	**13 55 46.4**	**-0.2**

*ISCJB **24** 14:01:19.5±0.6, 25.24N±0.1×124.90E±0.06, h97km±7km, mb3.6/7, Error ellipse: s-maj=17.8km s-min=8.2km az=164.7*
*JMA **24** 14:01:21.1±0.1, 25.38N×124.85E, h82km±4km, M3.6*
*IDC **24** 14:01:30.6±4.8, 25.34N×124.69E, h189km±48km, mb3.2/7, mb1 3.4/8, mb1mx3.1/43, mbtmp3.7/8, Error ellipse: s-maj=28.2km s-min=13.4km az=72.0*
ISC 24 14:01:20.3±0.9, 25.4N±0.1×124.88E±0.07, h90km±10km, n19, σ0s44/28, mb3.8/7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIKM	**Ikemajima**	**0.57**	**144**	P		**Pn**	**14 01 35.9**	**+0.3**
JIKM				S		**Sn**	**14 01 46.8**	**-0.2**
JIRB	**Irabujima**	**0.62**	**155**	P		**Pn**	**14 01 35.9**	**-0.1**
JIRB				*e*S		**Sn**	**14 01 47.1**	**-0.6**
JMJ	**Miyako jima 2**	**0.68**	**147**	P		**Pn**	**14 01 36.9**	**+0.3**
JMJ				*e*S		**Sn**	**14 01 49.0**	**+0.2**
JTJ	**Tarama**	**0.76**	**192**	P		**Pn**	**14 01 37.7**	**+0.3**
JTJ				S		**Sn**	**14 01 49.9**	**+0.3**
JOGS	**Gusukube**	**0.79**	**143**	P		**Pn**	**14 01 38.2**	**+0.5**
JOGS				S		**Sn**	**14 01 51.0**	**+0.4**
JISG	**Ishigakijimahi**	**0.95**	**213**	P		**Pn**	**14 01 39.7**	**+0.2**
JISG				S		**Sn**	**14 01 53.6**	**-0.2**
JIJ	**Ishigaki jima**	**1.22**	**213**	P		**Pn**	**14 01 42.7**	**+0.1**
JIJ				S		**Sn**	**14 01 58.5**	**-0.9**
JKRS	**Kuro-shima**	**1.40**	**215**	P		**Pn**	**14 01 45.1**	**+0.4**
JKRS				S		**Sn**	**14 02 03.0**	**-0.2**
IRIF	**Iriomote-Funau**	**1.48**	**225**	P		**Pn**	**14 01 46.2**	**+0.4**
IRIF				S		**Sn**	**14 02 05.6**	**+0.5**
HATJ	**Hateruma jima**	**1.65**	**217**	S		**Sn**	**14 02 09.0**	**+0.1**
YOJ	**Yonaguni jima**	**1.93**	**242**	P		**Pn**	**14 01 52.1**	**+0.4**
KSRS	**Korea Array**	**12.30**	**11**	P		**P**	**14 04 20.9**	**+0.2**
	0.4nm,0.3s,baz=188,slow=11,SNR=8.2							
MKAR	**Makanchi Array**	**39.88**	**314**	P		**P**	**14 08 45.5**	**+0.2**
	0.7nm,0.5s,baz=101,slow=11,SNR=12							
ZALV	**Zalesovo Beam**	**41.14**	**325**	P		**P**	**14 08 54.8**	**-0.7**
	0.6nm,0.5s,baz=124,slow=7.6,SNR=2.9							
KURBB	**Kurchatov Arra**	**43.41**	**318**	P		**P**	**14 09 13.7**	**-0.3**
	0.2nm,0.3s,baz=97,slow=7.6,SNR=5.5							
WRA	**Warramunga Arr**	**45.99**	**168**	P		**P**	**14 09 34.4**	**-0.4**
	0.6nm,0.4s,baz=348,slow=8.9,SNR=13							
ASAR	**Alice Springs**	**49.54**	**169**	P		**P**	**14 10 02.5**	**+0.3**
	0.6nm,0.5s,baz=353,slow=8.3,SNR=35							
ILAR	**Eielson Array**	**66.59**	**28**	P		**P**	**14 12 00.1**	**-0.7**
	0.3nm,0.6s,baz=269,slow=4.3,SNR=5.7							
YKA	**Yellowknife Ar**	**80.53**	**24**	P		**P**	**14 13 23.1**	**+0.7**
	1.2nm,0.7s,baz=320,slow=5.9,SNR=4.2							

*IDC **24** 14:12:38.9±1.7, 7.95S×118.96E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.3/56, mbtmp3.3/5, ML3.1/3, Error ellipse: s-maj=52.4km s-min=20.4km az=68.0*
*ISCJB **24** 14:12:42.5±0.6, 7.89S±0.05×119.10E±0.06, h34km, mb3.3/2, Error ellipse: s-maj=8.2km s-min=7.3km az=33.6*
*DJA **24** 14:12:43.5±3.2, 8˚S±4˚×11˚9E±˚, h23km±43km, M3.9/3, MLv3.9/3*
ISC 24 14:12:43.1±0.9, 7.86S±0.04×119.12E±0.06, h34km, n12, σ2s11/17, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLAI	**Plampang**	**1.63**	**234**	P		**Pn**	**14 13 10.6**	**+1.1**
WSI	**Waingapu**	**2.14**	**147**	P		**Pb**	**14 13 20.9**	**-0.4**
WSI				S		**Sb**	**14 13 47.0**	**-0.5**
BSSI	**Bau Bau, Buton**	**2.19**	**39**	P		**Pn**	**14 13 17.8**	**+0.7**
BSSI				S		**Sn**	**14 13 44.7**	**+1.6**
TWSI	**Taliwang, Sumb**	**2.37**	**248**	P		**Pn**	**14 13 20.4**	**+0.7**
KAPI	**Kappang**	**2.90**	**13**	Pn		**Pn**	**14 13 27.8**	**+0.9**
	1.9nm,0.3s,baz=170,slow=6.1,SNR=5.7							
KAPI				S		**Sn**	**14 14 05.9**	**-3.4**
	4.5nm,0.3s,baz=282,slow=23,SNR=3.7							
MMRI	**Maumere**	**3.19**	**104**	P		**Pn**	**14 13 32.4**	**+1.5**
MMRI				S		**Sn**	**14 14 10.1**	**+2.4**
SPSI	**Sidrap Palu**	**3.93**	**10**	P		**Pn**	**14 13 40.2**	**-0.9**
TTSI	**Tana Toraja**	**4.84**	**8**	P		**Pn**	**14 13 55.6**	**+2.0**
FITZ	**Fitzroy Crossi**	**12.00**	**149**	Pn		**Pn**	**14 15 31.6**	**-0.2**
	0.0nm,0.3s,baz=339,slow=17,SNR=2.4							
FITZ				Sn		**Sn**	**14 17 39.1**	**-5.4**
	0.1nm,0.3s,baz=295,slow=14,SNR=4.5							
WRA	**Warramunga Arr**	**19.02**	**131**	P		**P**	**14 17 02.5**	**+0.2**
	0.1nm,0.3s,baz=293,slow=13,SNR=9.1							
ASAR	**Alice Springs**	**21.17**	**140**	P		**P**	**14 17 27.1**	**+1.4**
	0.4nm,0.3s,baz=316,slow=9.6,SNR=15							
MKAR	**Makanchi Array**	**63.51**	**333**	P		**P**	**14 23 11.0**	**+1.0**
	0.3nm,0.7s,baz=131,slow=8.1,SNR=3.0							

*ISCJB **24** 14:28:31.0±0.5, 51.79N±0.09×171.57W±0.05, h47km, mb4.1/22, MS3.6/1, Error ellipse: s-maj=13.0km s-min=3.0km az=166.2*
*NEIC **24** 14:28:34.6, 51.79N×171.65W, h47km, mb3.7/9, ML3.6(AEIC), After AEIC.*
*IDC **24** 14:28:36.4±5.1, 52.05N×171.77W, h84km±46km, mb3.8/22, mb1 3.9/24, mb1mx3.6/72, mbtmp4.1/24, ML3.9/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/49, Error ellipse: s-maj=22.7km s-min=12.9km az=165.0*
ISC 24 14:28:31.8±0.8, 51.8N±0.1×171.65W±0.05, h47km, n83, σ1s87/78, mb4.0/22, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KOSE	**Korovin Southe**	**1.56**	**290**	P		**Pn**	**14 28 59.8**	**+2.6**
KOFP	**Korovin Flat P**	**1.57**	**287**	P		**Pn**	**14 28 59.6**	**+2.3**
KONE	**Korovin Northe**	**1.62**	**291**	P		**Pn**	**14 29 00.4**	**+2.5**
KOKV	**Korovin Volcan**	**1.64**	**290**	P		**Pn**	**14 29 00.6**	**+2.4**
KOKV				S		**Sn**	**14 29 20.6**	**+2.5**
KOKL	**Mount Kliuchef**	**1.65**	**288**	P		**Pn**	**14 29 00.7**	**+2.4**
NIKH	**Nikolski High**	**2.05**	**55**	*e*Pn		**Pn**	**14 29 05.2**	**+1.3**
OKAK	**Okmok**	**2.65**	**48**	P		**Pn**	**14 29 13.7**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**2.69**	**53**	P		**Pn**	**14 29 15.8**	**+3.3**
OKER	**Okmok East Rim**	**2.72**	**52**	P		**Pn**	**14 29 16.7**	**+3.6**
GSMY	**Great Sitkin M**	**2.73**	**276**	P		**Pn**	**14 29 14.9**	**+1.7**
GSTR	**Great Sitkin T**	**2.74**	**277**	*e*Pn		**Pn**	**14 29 15.3**	**+2.0**
GSTD	**Great Sitkin T**	**2.79**	**276**	P		**Pn**	**14 29 15.9**	**+1.9**
GSTD				S		**Sn**	**14 29 47.4**	**+1.0**
GSCK	**Great Sitkin C**	**2.80**	**275**	P		**Pn**	**14 29 15.9**	**+1.9**
ETKA	**Kagalaska Isla**	**2.95**	**272**	P		**Pn**	**14 29 18.2**	**+2.1**
ADAG	**Mount Adagdak**	**3.07**	**275**	P		**Pn**	**14 29 20.3**	**+2.5**
KIRH	**Kanaga Island**	**3.38**	**273**	P		**Pn**	**14 29 24.2**	**+2.2**
KIKV	**Kanaga Island**	**3.42**	**273**	P		**Pn**	**14 29 24.9**	**+2.3**
KICM	**Kanaga Island**	**3.44**	**273**	P		**Pn**	**14 29 24.8**	**+2.0**
MGOD	**Makushin Gods**	**3.50**	**54**	P		**Pn**	**14 29 25.9**	**+2.3**
MCIR	**Makushin Cirqu**	**3.57**	**52**	P		**Pn**	**14 29 27.3**	**+2.5**
MTBL	**Makushin Table**	**3.69**	**53**	P		**Pn**	**14 29 28.8**	**+2.5**
UNV	**Unalaska Valle**	**3.71**	**55**	*e*Pn		**Pn**	**14 29 28.5**	**+2.0**
TAPA	**Tanaga Point A**	**3.82**	**272**	P		**Pn**	**14 29 30.1**	**+1.9**
TAFP	**Tanaga Falls P**	**3.93**	**273**	P		**Pn**	**14 29 31.2**	**+1.7**
AKRB	**Akutan Reef Bi**	**4.08**	**54**	P		**Pn**	**14 29 34.3**	**+2.7**
AKGG	**Akutan Green G**	**4.15**	**53**	P		**Pn**	**14 29 35.3**	**+2.7**
AKUT	**Akutan**	**4.23**	**55**	*e*Pn		**Pn**	**14 29 36.0**	**+2.4**
AKSA	**Akutan Strait**	**4.27**	**55**	P		**Pn**	**14 29 36.5**	**+2.4**
GANE	**Gareloi Northe**	**4.42**	**273**	P		**Pn**	**14 29 38.4**	**+2.1**
WESP	**Westdahl Peak**	**4.94**	**55**	P		**Pn**	**14 29 46.0**	**+2.5**
SSLW	**Shishaldin Wes**	**5.38**	**54**	P		**Pn**	**14 29 51.7**	**+2.2**
SPIA	**Saint Paul Isl**	**5.41**	**9**	*e*Pn		**Pn**	**14 29 52.2**	**+2.3**
SSLN	**Shishaldin Nor**	**5.47**	**54**	P		**Pn**	**14 29 53.2**	**+2.6**
DT1	**Dutton Round H**	**6.48**	**56**	P		**Pn**	**14 30 06.7**	**+2.2**
DTNA	**Dutton South F**	**6.51**	**56**	P		**Pn**	**14 30 06.9**	**+1.9**
SDPT	**Sand Point**	**7.52**	**58**	*e*Pn		**Pn**	**14 30 20.3**	**+1.6**
VNKR	**Veniaminof 5**	**8.37**	**55**	P		**Pn**	**14 30 32.5**	**+2.0**
CHGN	**Chignik**	**8.97**	**55**	*e*Pn		**Pn**	**14 30 39.0**	**+0.4**
OHAK	**Old Harbor**	**11.93**	**56**	*e*Pn		**Pn**	**14 31 16.9**	**-2.2**
KDAK	**Kodiak Island**	**12.48**	**54**	*e*Pn		**Pn**	**14 31 24.5**	**-2.0**
CNPM	**China Poot**	**13.80**	**48**	*e*Pn		**Pn**	**14 31 42.8**	**-1.8**
SEW	**Seward**	**14.87**	**48**	*e*Pn		**Pn**	**14 31 56.5**	**-2.2**
RC01	**Rabbit Creek A**	**15.17**	**44**	*e*Pn		**Pn**	**14 32 00.7**	**-2.0**
	8.8nm,1.4s							
SML	**Sawmill**	**16.10**	**43**	*e*Pn		**Pn**	**14 32 13.5**	**-1.2**
	3.2nm,0.9s							
SCM	**Sheep Creek Mo**	**16.54**	**43**	*e*Pn		**Pn**	**14 32 17.3**	**-3.0**
	6.3nm,1.0s							
RND	**Reindeer**	**16.71**	**37**	*e*Pn		**Pn**	**14 32 22.1**	**-0.3**
	15nm,2.0s							
KLU	**Klutina**	**17.01**	**45**	*e*Pn		**Pn**	**14 32 24.4**	**-1.7**
	3.4nm,0.4s							
DHY	**Denali Highway**	**17.11**	**40**	*e*Pn		**Pn**	**14 32 26.9**	**-0.5**
	6.6nm,1.6s							
ILAR	**Eielson Array**	**18.19**	**35**	P		**P**	**14 32 39.0**	**-1.3**
	0.3nm,0.3s,baz=229,slow=9.8,SNR=12							
PETK	**Petropavlovsk-**	**18.65**	**286**	P		**P**	**14 32 45.9**	**+0.4**
	0.9nm,0.3s,baz=84,slow=14,SNR=24							
DOT	**Dot Lake**	**18.70**	**40**	*e*P		**P**	**14 32 45.1**	**-0.8**
	3.6nm,0.8s							
EGAK	**Eagle**	**20.33**	**39**	*e*P		**P**	**14 33 04.4**	**+0.7**
	2.4nm,0.6s							
HYT	**Haines Junctio**	**20.73**	**51**	*e*P

MDNY	**Mudanya-Bursa**	**1.28**	**356**	*e*Pn	**Pg**	**14 32 50.9**	**-0.1**
BORA	**Eskisehir**	**1.37**	**54**	P	**Pg**	**14 32 52.7**	**+0.1**
BORA	**Eskisehir**	**1.37**	**54**	*i* P	**Pg**	**14 32 52.7**	**+0.1**
ARMT	**Armutlu**	**1.48**	**356**	*e*PN	**Pb**	**14 32 53.7**	**-0.4**
ARMT	**Armutlu**	**1.48**	**356**	*e*Pn	**Pb**	**14 32 53.7**	**-0.4**

IDC 24 14:34:19.1±6.4, 8°37S×149°96E, h92km±43km, mb3.7/6, mb1 3.9/8, mb1mx3.5/43, mbtmp4.0/8, Error ellipse: s-maj=58.9km s-min=26.6km az=104.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.95**	**249**	P	Pn	14 35 03.3	-0.7
	69nm,0.3s,baz=61,slow=9.0,SNR=193						
PMG				S	Sn	14 35 39.6	+1.1
	54nm,0.3s,baz=87,slow=23,SNR=13						
WRA	**Warramunga Arr**	**19.00**	**231**	P	P	14 38 32.7	-0.9
	0.2nm,0.3s,baz=51,slow=11,SNR=18						
ASAR	**Alice Springs**	**21.63**	**223**	P	P	14 39 02.1	+0.1
	2.1nm,0.5s,baz=57,slow=9.0,SNR=24						
FITZ	**Fitzroy Crossi**	**25.54**	**245**	P	P	14 39 39.0	-0.4
	6.5nm,0.5s,baz=52,slow=8.6,SNR=54						
KSRS	**Korea Array**	**50.03**	**337**	P	P	14 43 04.4	+0.2
	0.4nm,0.4s,baz=142,slow=8.5,SNR=2.9						
CMAR	**Chiang Mai Arr**	**56.95**	**298**	P	P	14 43 54.4	-0.9
	0.3nm,0.3s,baz=124,slow=5.2,SNR=5.4						
KURBB	**Kurchatov Array**	**84.88**	**323**	P	P	14 46 43.4	-0.2
	0.5nm,0.7s,baz=114,slow=3.8,SNR=5.6						
GEYT	**Alibeck**	**96.52**	**307**	P	P	14 47 38.7	0.0
	0.8nm,0.5s,baz=74,slow=5.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.47**	**281**	PKPbc	PKPbc	14 53 56.8	+0.6
	0.5nm,0.5s,baz=65,slow=2.5,SNR=7.2						

*CSEM **24** 14:37:36.8, 38°04N×14°75E, h5km, ML2.9/25*
ROM 24 14:37:36.8±0.1, 38°04N×14°75E, h5km±1km, Ml2.9/25, Error ellipse: s-maj=1.5km s-min=1.2km az=136.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUCR	**Ucria**	**0.10**	**91**	Pg	Pg	14 37 39.3	+0.4
MUCR				Sg	Sg	14 37 41.6	+1.2
	7μm,0.6s						
MUCR	**Ucria**	**0.10**	**91**	Pg	Pg	14 37 39.3	+0.4
MUCR				Sg	Sg	14 37 41.6	+1.2
	7μm,0.6s						
MNO	**Monte Soro**	**0.12**	**202**	Pg	Pg	14 37 39.6	+0.2
MNO				Sg	Sg	14 37 42.3	+1.2
	5μm,0.2s						
MNO	**Monte Soro**	**0.12**	**202**	Pg	Pg	14 37 39.6	+0.2
MNO				Sg	Sg	14 37 42.3	+1.2
	5μm,0.2s						
MSFR	**San Fratello**	**0.13**	**265**	Pg	Pg	14 37 39.6	+0.2
MSFR				Sg	Sg	14 37 42.2	+1.0
	2μm,0.3s						
MSFR	**San Fratello**	**0.13**	**265**	Pg	Pg	14 37 39.6	+0.2
MSFR				Sg	Sg	14 37 42.2	+1.0
	2μm,0.3s						
NOV	**Novara**	**0.30**	**93**	Pg	Pg	14 37 43.3	+0.5
NOV				Sg	Sg	14 37 48.4	+1.6
	1μm,0.6s						
NOV	**Novara**	**0.30**	**93**	Pg	Pg	14 37 43.3	+0.5
NOV				Sg	Sg	14 37 48.4	+1.6
	1μm,0.6s						
GALF	**Gagliano Caste**	**0.36**	**204**	Pg	Pg	14 37 44.6	+0.8
	1μm,0.5s						
GALF	**Gagliano Caste**	**0.36**	**204**	Pg	Pg	14 37 44.6	+0.8
	1μm,0.5s						
VPL	**Vulcano Piano**	**0.38**	**29**	Pg	Pg	14 37 45.0	+0.8
VPL				Sg	Sb	14 37 51.6	-0.7
	5μm,0.4s						
VPL	**Vulcano Piano**	**0.38**	**29**	Pg	Pg	14 37 45.0	+0.8
VPL				Sg	Sb	14 37 51.6	-0.7
	5μm,0.4s						
ESLN	**Serra La Nave**	**0.39**	**153**	Pg	Pb	14 37 47.2	+0.9
ESLN	**Serra La Nave**	**0.39**	**153**	Pg	Pb	14 37 47.2	+0.9
MCSR	**Castroreale**	**0.39**	**87**	Pg	Pg	14 37 44.6	+0.1
	2μm,0.3s						
MCSR	**Castroreale**	**0.39**	**87**	Pg	Pg	14 37 44.6	+0.1
	2μm,0.3s						
MMME	**Mongiuffi-Meli**	**0.41**	**105**	Pg	Pg	14 37 45.6	+0.8
	867nm,0.5s						
MMME	**Mongiuffi-Meli**	**0.41**	**105**	Pg	Pg	14 37 45.6	+0.8
	867nm,0.5s						
LLI	**Lipari**	**0.43**	**21**	Pg	Pb	14 37 46.3	-0.6
LLI				Sg	Sb	14 37 54.2	+0.5
	5μm,0.5s						
LLI	**Lipari**	**0.43**	**21**	Pg	Pb	14 37 46.3	-0.6
LLI				Sg	Sb	14 37 54.2	+0.5
	5μm,0.5s						
ECNV	**Catenanuova**	**0.45**	**184**	Pg	Pb	14 37 48.1	+0.9
	1μm,0.8s						
ECNV	**Catenanuova**	**0.45**	**184**	Pg	Pb	14 37 48.1	+0.9
	1μm,0.8s						
PLLN	**Pollina**	**0.48**	**264**	Pg	Pg	14 37 46.3	+0.2
	1μm,0.9s						
PLLN	**Pollina**	**0.48**	**264**	Pg	Pg	14 37 46.3	+0.2
	1μm,0.9s						
MPNC	**Port Mandanici**	**0.48**	**78**	Pg	Pg	14 37 46.7	+0.6
MPNC				Sg	Sb	14 37 55.2	-0.1
	1μm,0.5s						
MPNC	**Port Mandanici**	**0.48**	**78**	Pg	Pg	14 37 46.7	+0.6
MPNC				Sg	Sb	14 37 55.2	-0.1
	1μm,0.5s						
IFIL	**Filicudi I Eol**	**0.54**	**344**	Pg	Pb	14 37 48.4	-0.4
IFIL				Sg	Sb	14 37 57.4	+0.6
	103μm,23.0s						
IFIL	**Filicudi I Eol**	**0.54**	**344**	Pg	Pb	14 37 48.4	-0.4
IFIL				Sg	Sb	14 37 57.4	+0.6
	103μm,23.0s						
GIB	**Gibilmanna**	**0.57**	**265**	Pg	Pg	14 37 48.0	+0.1
	703nm,0.6s						
GIB	**Gibilmanna**	**0.57**	**265**	Pg	Pg	14 37 48.0	+0.1
	703nm,0.6s						
IACL	**Alicudi**	**0.58**	**328**	Pg	Pg	14 37 48.4	+0.4
IACL				Sg	Sb	14 37 58.1	+0.1
	1μm,0.4s						
IACL	**Alicudi**	**0.58**	**328**	Pg	Pg	14 37 48.4	+0.4
IACL				Sg	Sb	14 37 58.1	+0.1
	1μm,0.4s						
MSRU	**Castanea**	**0.64**	**70**	Pg	Pb	14 37 49.8	-0.6
	449nm,0.5s						
MSRU	**Castanea**	**0.64**	**70**	Pg	Pb	14 37 49.8	-0.6
	449nm,0.5s						
HLNI	**Lentini**	**0.70**	**172**	Pg	Pb	14 37 50.9	-0.6
	226nm,0.5s						
HLNI	**Lentini**	**0.70**	**172**	Pg	Pb	14 37 50.9	-0.6
	226nm,0.5s						
HCRL	**Carlentini**	**0.79**	**164**	Pg	Pg	14 37 52.3	+0.3
	534nm,0.4s						
HCRL	**Carlentini**	**0.79**	**164**	Pg	Pg	14 37 52.3	+0.3
	534nm,0.4s						
HAGA	**Augusta**	**0.82**	**157**	Pg	Pg	14 37 52.7	+0.1
	350nm,1.0s						
HAGA	**Augusta**	**0.82**	**157**	Pg	Pg	14 37 52.7	+0.1
	350nm,1.0s						
MSCL	**Scilla**	**0.84**	**77**	Pg	Pg	14 37 52.9	0.0
	451nm,0.7s						
MSCL	**Scilla**	**0.84**	**77**	Pg	Pg	14 37 52.9	0.0
	451nm,0.7s						
RAFF	**Raffo Rosso**	**0.88**	**201**	Pg	Pb	14 37 54.6	+0.1
	291nm,0.7s						
RAFF	**Raffo Rosso**	**0.88**	**201**	Pg	Pb	14 37 54.6	+0.1
	291nm,0.7s						
SSY	**Sortino**	**0.92**	**164**	Pg	Pg	14 37 54.7	+0.2
	460nm,0.6s						
SSY	**Sortino**	**0.92**	**164**	Pg	Pg	14 37 54.7	+0.2
	460nm,0.6s						
MPAZ	**Palizzi**	**1.00**	**95**	Pg	Pb	14 37 56.7	+0.1
	318nm,0.8s						
MPAZ	**Palizzi**	**1.00**	**95**	Pg	Pb	14 37 56.7	+0.1
	318nm,0.8s						
SOI	**Samo**	**1.03**	**88**	Pg	Pg	14 37 56.4	-0.1
	199nm,0.6s						
SOI	**Samo**	**1.03**	**88**	Pg	Pg	14 37 56.4	-0.1
	199nm,0.6s						
JOPP	**Joppolo**	**1.05**	**57**	Pg	Pg	14 37 56.8	-0.2
	92nm,0.5s						
JOPP	**Joppolo**	**1.05**	**57**	Pg	Pg	14 37 56.8	-0.2
	92nm,0.5s						
HAVL	**Avola**	**1.12**	**165**	Pg	Pg	14 37 57.6	-0.7
	185nm,0.3s						
HAVL	**Avola**	**1.12**	**165**	Pg	Pg	14 37 57.6	-0.7
	185nm,0.3s						
PLAC	**Placanica**	**1.39**	**73**	Pg	Pb	14 38 03.1	-0.2
	86nm,0.5s						
PLAC	**Placanica**	**1.39**	**73**	Pg	Pb	14 38 03.1	-0.2
	86nm,0.5s						

*CSEM **24** 14:37:49.7, 38°06N×14°74E, h3km, ML2.8/6*
ROM 24 14:37:49.7±0.2, 38°06N×14°74E, h3km±2km, Ml2.8/6, 4C, Error ellipse: s-maj=2.8km s-min=1.2km az=162.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUCR	**Ucria**	**0.11**	**97**	*i*Pg	Pg	14 37 51.9	0.0
MUCR				Sg	Sg	14 37 54.0	+0.6
	7μm,0.6s						
MUCR	**Ucria**	**0.11**	**97**	*i*Pg	Pg	14 37 51.9	0.0
MUCR				Sg	Sg	14 37 54.0	+0.6
	7μm,0.6s						
MSFR	**San Fratello**	**0.12**	**259**	Pg	Pg	14 37 52.3	+0.3
MSFR				Sg	Sg	14 37 54.8	+1.2
	2μm,0.3s						
MSFR	**San Fratello**	**0.12**	**259**	Pg	Pg	14 37 52.3	+0.3
MSFR				Sg	Sg	14 37 54.8	+1.2
	2μm,0.3s						
MNO	**Monte Soro**	**0.13**	**195**	*i*Pg	Pg	14 37 52.2	-0.1
MNO				Sg	Sg	14 37 55.0	+1.0
	5μm,0.2s						
MNO	**Monte Soro**	**0.13**	**195**	*i*Pg	Pg	14 37 52.2	-0.1
MNO				Sg	Sg	14 37 55.0	+1.0
	5μm,0.2s						
NOV	**Novara**	**0.32**	**95**	Pg	Pb	14 37 57.0	-1.1
	1μm,0.6s						
NOV	**Novara**	**0.32**	**95**	Pg	Pb	14 37 57.0	-1.1
	1μm,0.6s						
MCSR	**Castroreale**	**0.41**	**89**	Pg	Pg	14 37 58.4	+0.9
MCSR				Sg	Sb	14 38 04.8	-1.4
	2μm,0.3s						
MCSR	**Castroreale**	**0.41**	**89**	Pg	Pg	14 37 58.4	+0.9
MCSR				Sg	Sb	14 38 04.8	-1.4
	2μm,0.3s						
MMME	**Mongiuffi-Meli**	**0.43**	**106**	Pg	Pb	14 37 59.6	-0.3
MMME				Sg	Sb	14 38 06.8	0.0
	867nm,0.5s						
MMME	**Mongiuffi-Meli**	**0.43**	**106**	Pg	Pb	14 37 59.6	-0.3
MMME				Sg	Sb	14 38 06.8	0.0
	867nm,0.5s						
MPNC	**Port Mandanici**	**0.49**	**79**	Pg	Pb	14 38 01.4	+0.4
MPNC				Sg	Sb	14 38 07.8	-0.9
	1μm,0.5s						
MPNC	**Port Mandanici**	**0.49**	**79**	Pg	Pb	14 38 01.4	+0.4
MPNC				Sg	Sb	14 38 07.8	-0.9
	1μm,0.5s						
HLNI	**Lentini**	**0.71**	**171**	Pg	Pg	14 38 04.0	+0.6
HLNI				Sg	Sb	14 38 15.7	+0.7
	226nm,0.5s						
HLNI	**Lentini**	**0.71**	**171**	Pg	Pg	14 38 04.0	+0.6
HLNI				Sg	Sb	14 38 15.7	+0.7
	226nm,0.5s						
RAFF	**Raffo Rosso**	**0.88**	**200**	Pg	Pb	14 38 07.4	-0.3
	291nm,0.7s						
RAFF	**Raffo Rosso**	**0.88**	**200**	Pg	Pb	14 38 07.4	-0.3
	291nm,0.7s						

*IDC **24** 14:38:49.3±3.4, 39°91N×140°94E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/50, mbtmp3.3/3, ML2.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/28, Error ellipse: s-maj=84.4km s-min=34.3km az=69.0*
*IASPEI **24** 14:39:02.6±1.1, 38°32N±0°03×140°71E±0°03, h14km±8km, Error ellipse: s-maj=4.7km s-min=3.7km az=94.8, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **24** 14:39:02.7±0.5, 38°31N±0°02×140°72E±0°04, h12km±3km, mb3.3/2, Error ellipse: s-maj=5.0km s-min=3.9km az=10.1*
*JMA **24** 14:39:03.1, 38°32N×140°70E, h12km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φ≈207.00000°, δ51.00000°, λ80.00000°. NP2:φ≈42.00000°, δ40.00000°, λ101.00000°. Principal axes: T Plg81.0000°, Azm69.0000°; N Plg7.0000°, Azm213.0000°; P Plg5.0000°, Azm304.0000°;*
JMA Felt II J1.
ISC 24 14:39:02.9±1.2, 38°32N±0°03×140°71E±0°03, h11km±8km, n15, σ0°47/21, 1C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOU	**Okura**	**0.06**	**321**	⇑P	**Pg**	**14 39 05.4**	**+0.1**
JOU				S	**Sg**	**14 39 07.0**	**0.0**
JMM	**Marumori**	**0.45**	**172**	⇓P	**Pg**	**14 39 11.8**	**0.0**
JMM				S	**Sg**	**14 39 17.9**	**0.0**
JIO	**Ouri**	**0.52**	**74**	⇓P	**Pg**	**14 39 12.9**	**-0.1**
JIO				S	**Sg**	**14 39 20.3**	**+0.4**
JYS	**Shirataka**	**0.52**	**260**	⇓P	**Pg**	**14 39 13.0**	**-0.1**
JYS				S	**Sg**	**14 39 20.0**	**0.0**
JYK	**Kaneyama**	**0.66**	**335**	⇓P	**Pg**	**14 39 15.5**	**-0.3**
JYK				S	**Sg**	**14 39 24.2**	**-0.3**
JMK	**Ichinoseki**	**0.75**	**32**	P	**Pg**	**14 39 17.1**	**-0.3**
JMK				S	**Sg**	**14 39 27.1**	**-0.1**
JYA	**Atsumi**	**0.83**	**290**	P	**Pg**	**14 39 18.6**	**-0.4**
JYA				S	**Sg**	**14 39 29.3**	**-0.6**
JFT	**Otama**	**0.85**	**201**	P	**Pg**	**14 39 19.4**	**+0.1**
JFT				S	**Sg**	**14 39 30.5**	**0.0**
JFK	**Kawauchi**	**0.96**	**172**	P	**Pg**	**14 39 20.4**	**-1.0**
JFK				S	**Sg**	**14 39 33.1**	**-0.7**
JRG	**Rokugo**	**1.08**	**357**	P	**Pg**	**14 39 23.2**	**-0.5**
JRG				*e*S	**Sg**	**14 39 37.9**	**+0.1**
MAT	**Matsushiro**	**2.67**	**229**	P	Pn	14 39 47.9	+2.1
MAT				*e*S	**Sn**	**14 40 19.2**	**+1.1**
MJAR	**Matsushiro Arr**	**2.67**	**229**	Pn	Pn	14 39 51.8	+6.0
	0.8nm,0.3s,baz=33,slow=18,SNR=9.2						
USRK	**Ussuriysk Ar.**	**8.81**	**315**	LR	LR	14 43 54.7	
	comp=Z,47nm,20.6s,baz=134,slow=39						
MKAR	**Makanchi Array**	**42.98**	**301**	P	P	14 46 44.7	-17
	0.1nm,0.3s,baz=84,slow=9.1,SNR=2.8						
WRA	**Warramunga Arr**	**58.26**	**187**	P	P	14 48 56.8	-0.6
	0.5nm,0.8s,baz=4.7,slow=7.8,SNR=4.6						

MAN 24 14:45:21, 10°48N×125°15E, h17km, mb4.5, ML3.3, MS3.2, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.70**	**346**	*i*P	Pb	14 45 35.2	+0.4
PLP				*i* S	Sn	14 45 47.6	+0.9
OCLP	**Ormoc**	**0.78**	**317**	*e*P	Pg	14 45 36.2	0.0
OCLP				*e*S	Sn	14 45 50.7	+2.1
BESP	**Borongan**	**1.15**	**14**	*e*P	Pn	14 45 41.4	-1.0
BESP				*e*S	Sg	14 46 01.0	+2.6
LLP	**Lapu-Lapu**	**1.18**	**262**	⇓*e*P	Pn	14 45 41.2	-1.5
LLP				*e*S	Sg	14 45 59.3	+0.1
BUKP	**Musuan**	**2.58**	**182**	*e*P	Pn	14 46 03.5	+1.4

*NIED **24** 14:46:00, 37°00N×141°10E, h50km, Mw4.3 Best double couple: M₀2.70000×10¹⁵ NP1:φ≈213.00000°, δ18.00000°, λ100.00000°. NP2:φ≈23.00000°, δ72.00000°, λ87.00000°.*
*ISCJB **24** 14:46:52.0±0.5, 36°99N±0°03×141°14E±0°05, h57km±3km, mb4.2/36, MS3.5/3, Error ellipse: s-maj=7.0km s-min=3.9km az=26.9*
*IDC **24** 14:46:53.3±0.6, 37°01N×141°12E, h55km±5km, mb3.8/21, mb1 4.0/28, mb1mx3.9/52, mbtmp4.1/28, MS3.3/7, Ms1 3.3/7, ms1mx3.0/33, Error ellipse: s-maj=10.4km s-min=7.5km az=132.0*
*JMA **24** 14:46:53.3±0.1, 37°02N×141°09E, h52km±1km, M4.3*
JMA Felt III J1.
*NEIC **24** 14:46:54.5±0.7, 37°06N×141°02E, h60km±6km, mb4.5/14, Error ellipse: s-maj=8.9km s-min=6.3km az=135.0*
NEIC Recorded [3 JMA] in Fukushima.
ISC 24 14:46:53.2±0.7, 37°01N±0°04×141°11E±0°06, h51km±5km, n85, σ1°19/99, mb4.2/36, MS3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.27**	**289**	P	**Pn**	**14 47 02.1**	**-0.1**
ONAJ				S	**Sn**	**14 47 08.2**	**-0.4**
JFK	**Kawauchi**	**0.40**	**332**	P	**Pn**	**14 47 03.3**	**-0.1**
JFK				S	**Sn**	**14 47 10.1**	**-0.6**
JHO	**Hitachi**	**0.59**	**228**	P	**Pn**	**14 47 05.4**	**-0.2**
JHO				S	**Sn**	**14 47 13.8**	**-0.8**
JFT	**Otama**	**0.80**	**309**	P	**Pn**	**14 47 08.9**	**+0.7**
JFT				S	**Sn**	**14 47 20.0**	**+0.8**
JMM	**Marumori**	**0.89**	**343**	P	**Pn**	**14 47 08.6**	**-0.8**
JMM				*e*S	**Sn**	**14 47 19.2**	**-2.1**
JFY	**Yanaizu**	**1.19**	**290**	P	**Pn**	**14 47 13.7**	**+0.2**
JFY				*e*S	**Sn**	**14 47 25.9**	**-2.7**
JOU	**Okura**	**1.40**	**345**	P	**Pn**	**14 47 16.7**	**+0.4**
JIO	**Ouri**	**1.45**	**7**	P	**Pn**	**14 47 16.8**	**-0.2**
JIO				S	**Sn**	**14 47 34.1**	**-0.8**
JAG	**Ashikaga**	**1.46**	**247**	P	**Pn**	**14 47 17.2**	**+0.1**
JAG				S	**Sn**	**14 47 34.8**	**-0.3**
JYS	**Shirataka**	**1.46**	**326**	P	**Pn**	**14 47 17.7**	**+0.5**
JKT	**Katashina**	**1.52**	**261**	P	**Pn**	**14 47 18.6**	**+0.6**
JKT				*e*S	**Sn**	**14 47 37.4**	**+0.8**
MJAR	**Matsushiro Arr**	**2.38**	**259**	P	**Pn**	**14 47 29.8**	**+0.1**
	26nm,0.3s,baz=145,slow=22,SNR=128						
MJAR				S	**Sn**	**14 47 59.3**	**+1.6**
	26nm,0.3s,baz=82,slow=27,SNR=7.7						
MAJO	**Matsushiro**	**2.38**	**259**	*e*Pn	**Pn**	**14 47 30.9**	**+1.2**
MAJO				*e*Sn	**Sn**	**14 47 54.4**	**-3.3**
MAT	**Matsushiro**	**2.38**	**259**	P	**Pn**	**14 47 31.1**	**+1.4**
MAT				S	**Sn**	**14 48 01.0**	**+3.3**
MJB9	**Matsu-Tunnel**	**2.38**	**260**	*e*Pn	**Pn**	**14 47 31.3**	**+1.5**
INU	**Inuyama**	**3.71**	**245**	*e*Pn	**Pn**	**14 47 50.4**	**+2.5**
JHJ	**Hachijo jima 2**	**4.04**	**196**	P	**Pn**	**14 47 52.5**	**+0.1**
	67nm,0.3s,baz=315,slow=17,SNR=17						
JHJ				S	**Sn**	**14 48 37.2**	**-1.2**
	117nm,0.3s,baz=35,slow=23,SNR=10						
JHJ2	**Mitsune**	**4.04**	**196**	*e*Pn	**Pn**	**14 47 52.2**	**-0.2**
JHJ2				*e*Sn	**Sn**	**14 48 36.8**	**-1.6**
ERM	**Erimo**	**5.24**	**17**	*e*Pn	**Pn**	**14 48 08.5**	**-0.4**
ERM				*e*Sn	**Sn**	**14 49 11.3**	**+3.4**
ASAJ	**Asahikawa**	**7.18**	**9**	P	**Pn**	**14 48 35.5**	**0.0**
	baz=79,slow=16						
ASAJ				S	**Sn**	**14 49 54.7**	**-1.0**
	0.2nm,0.3s,baz=304,slow=15,SNR=2.8						
ASAJ	**Asahikawa**	**7.18**	**9**	*e*Pn	**Pn**	**14 48 35.1**	**-0.5**
ASAJ				S	**Sn**	**14 49 54.7**	**-1.0**
JNU	**Nakatsue**	**9.24**	**248**	P	**Pn**	**14 49 05.3**	**+1.5**
	0.3nm,0.3s,baz=49,slow=6.4,SNR=7.7						
JNU				LR	LR	14 52 54.6	
	comp=Z,116nm,20.2s,baz=121,slow=39						
USRK	**Ussuriysk Ar.**	**9.98**	**319**	P	**Pn**	**14 49 15.8**	**+2.0**
	0.5nm,0.3s,baz=136,slow=12,SNR=18						
USRK				LR	LR	14 52 51.2	
	comp=Z,138nm,19.3s,baz=160,slow=36						
KSRS	**Korea Array**	**10.53**	**276**	P	**Pn**	**14 49 21.9**	**+0.6**
	0.4nm,0.3s,baz=85,slow=13,SNR=11						
KSRS				LR	LR	14 53 13.3	
	comp=Z,130nm,20.4s,baz=96,slow=36						
KSAR	**Wonju Array Be**	**10.56**	**276**	P	**Pn**	**14 49 21.9**	**+0.2**
KLR	**Kul'dur**	**13.98**	**334**	P	**Pn**	**14 50 08.9**	**+0.6**
	0.1nm,0.3s,baz=151,slow=13,SNR=1.9						
KLR				LR	LR	14 54 56.2	
	comp=Z,99nm,20.8s,baz=148,slow=34						
HHC	**Hu-ho-hao-te**	**23.25**	**289**	*e*P	**P**	**14 51 55.8**	**-0.3**
MA2	**Magadan**	**23.42**	**12**	P	**P**	**14 51 57.1**	**-0.3**
	4.9nm,0.7s,baz=215,slow=10,SNR=6.2						
SEY	**Seymchan**	**26.86**	**11**	P	**P**	**14 52 28.6**	**0.0**
	1.8nm,0.7s,baz=249,slow=3.2,SNR=7.6						
ENH	**Enshi**	**27.09**	**265**	*e*P	**P**	**14 52 30.2**	**-1.0**
	9.0nm,0.6s						
ULN	**Ulaanbaatar**	**27.17**	**304**	*e*P	**P**	**14 52 32.6**	**+0.8**
	4.7nm,0.9s						
SONM	**Songino Array**	**27.60**	**304**	P	**P**	**14 52 34.6**	**-1.0**
	2.1nm,0.6s,baz=111,slow=9.7,SNR=8.7						
SONM				LR	LR	15 03 25.8	
	comp=Z,82nm,18.8s,baz=107,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.34**	**120**	T	T	15 22 36.3	
	baz=313,slow=75,SNR=274						
H11N1	**WAKE ISLAND Hy**	**28.35**	**120**	T	T	15 22 36.9	
	baz=313,slow=75,SNR=252						
H11N3	**WAKE ISLAND Hy**	**28.36**	**120**	T	T	15 22 37.6	
	baz=313,slow=75,SNR=202						
H11S1	**WAKE ISLAND Hy**	**29.05**	**122**	T	T	15 23 36.6	
	baz=314,slow=76,SNR=265						
H11S3	**WAKE ISLAND Hy**	**29.07**	**122**	T	T	15 23 36.7	
	baz=314,slow=76,SNR=279						
H11S2	**WAKE ISLAND Hy**	**29.07**	**122**	T	T	15 23 33.4	
	baz=314,slow=76,SNR=188						
LZH	**Lanzhou**	**29.83**	**280**	*e*P	**P**	**14 52 55.9**	**+0.2**
LZH				pP	pP	14 53 07.3	-1.4
LZH				sP	sP	14 53 12.5	-2.3
TIXI	**Tiksi**	**35.28**	**353**	P	**P**	**14 53 41.7**	**-0.9**
	1.6nm,0.4s,baz=154,slow=4.9,SNR=3.6						
WMQ	**Urumqi**	**40.63**	**297**	P	**P**	**14 54 30.0**	**+1.8**
WMQ				pP	pP	14 54 42.3	+0.7
WMQ				sP	sP	14 54 47.8	+0.2
CMAR	**Chiang Mai Arr**	**41.26**	**255**	P	**P**	**14 54 33.1**	**-0.4**
	0.5nm,0.5s,baz=43,slow=8.1,SNR=5.0						
ZAA0	**Zalesovo Array**	**41.75**	**312**	*e*P	**P**	**14 54 37.0**	**0.0**
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	**P**	**14 54 37.1**	**0.0**
	6.5nm,0.6s,baz=91,slow=6.6,SNR=25						
ZALV				LR	LR	15 11 55.3	
	comp=Z,40nm,18.4s,baz=68,slow=36						
MK01	**Makanchi Array**	**43.92**	**302**	*e*P	**P**	**14 54 54.5**	**-0.3**
MK31	**Makanchi Array**	**43.92**	**302**	*e*P	**P**	**14 54 54.8**	**-0.1**
MKAR	**Makanchi Array**	**43.92**	**302**	P	**P**	**14 54 55.0**	**+0.1**
	3.3nm,0.8s,baz=88,slow=10.0,SNR=36						
MAKZ	**Makanchi**	**44.14**	**302**	*e*P	**P**	**14 54 56.8**	**+0.3**
	4.5nm,0.9s						
KURK	**Kurchatov**	**45.76**	**308**	*e*P	**P**	**14 55 08.1**	**-1.2**
	32nm,0.9s						
RAMN	**Ramite**	**46.77**	**274**	*e*P	**P**	**14 55 18.0**	**+0.1**
	33nm,0.9s						
CAST	**Castle Rocks**	**47.38**	**34**	*e*P	**P**	**14 55 24.6**	**+2.8**
	12nm,

comp=Z,9.9nm,1.8s
PDAR Pinedale Array 77.85 45 P **P 14 58 46.1 +0.6**
comp=Z,1.0nm,0.8s,baz=241,slow=3.1,SNR=4.1
BRTR Keskin Array B 78.69 311 P **P 14 58 49.5 -0.6**
comp=Z,0.8nm,0.7s,baz=116,slow=2.9,SNR=4.7
BR231 Keskin MP Arra 79.13 312 *e*P **P 14 58 51.6 -0.9**
SRU San Rafael Swe 79.61 49 *e*P **P 14 58 57.4 +2.2**
comp=Z,3.0nm,0.8s
CLL Collm 80.99 330 *i* P **P 14 59 02.0 -0.2**
comp=Z,5.0nm,1.0s
GERES GERESS Array B 82.60 328 P **P 14 59 10.3 -0.5**
comp=Z,0.5nm,0.5s,baz=62,slow=9.0,SNR=4.1
TXAR Lajitas Array 90.32 52 P **P 14 59 49.7 +0.7**
comp=Z,0.7nm,0.5s,baz=290,slow=2.9,SNR=11
LPAZ La Paz 146.91 59 PKPbc **PKPab 15 06 32.1 -0.5**
comp=Z,1.7nm,0.7s,baz=23,slow=9.6,SNR=7.6
LPAZ pPKPbc pPKPbc 15 06 47.1 +0.7
comp=Z,1.5nm,0.5s,baz=43,slow=7.0,SNR=4.3
SIV San Ignacio 151.28 49 PKPbc **PKPbc 15 06 40.0 -1.5**
comp=Z,1.7nm,0.8s,baz=264,slow=2.5,SNR=4.1

---

*IDC **24** 14:53:11.1±2.1,36.83S×73.82W,h0km,mb3.3/2,*
mb1 3.7/3,mb1mx3.5/25,mbtmp3.3/3,ML3.7/1,MS3.2/3,
Ms1 3.2/3,ms1mx2.9/15,Error ellipse: s-maj=77.7km
s-min=21.3km az=65.0
*GUC **24** 14:53:13.9±0.5,36.75S×73.40W,h15km±2km,ML3.9*
ISC 24 14:53:12.6±2.2,36.76S±0.06×73.53W±0.09,h6km±11km,
n24,σ1°28/28,1C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.35**	**104**	⇓*i*P	**Pg**	**14 53 20.0**	**+0.5**
CCSP				*i* S	**Sg**	**14 53 24.4**	**+0.3**
COCH	**Cobquecura**	**0.87**	**44**	⇓*i*P	**Pg**	**14 53 29.4**	**+0.2**
COCH				*i* S	**Sg**	**14 53 41.1**	**+0.6**
COCH				IAML		14 53 42.3	
	comp=E,13μm,0.8s						
CCHI	**Chillan**	**1.18**	**83**	*e*P	**Pn**	**14 53 34.3**	**-1.4**
CCHI				*i* S	**Sb**	**14 53 49.4**	**-1.6**
CCHI				IAML		14 54 01.3	
	comp=E,5μm,0.5s						
TALC	**Talca**	**2.05**	**49**	⇓*i*P	**Pn**	**14 53 48.2**	**+0.6**
TALC				*i* S	**Sn**	**14 54 15.0**	**+1.4**
NICH	**Los Niches**	**2.56**	**48**	*e*P	**Pn**	**14 53 56.2**	**+1.5**
NICH				*e*S	**Sn**	**14 54 28.9**	**+2.6**
PEL	**Peldehue**	**4.30**	**34**	⇑*i*P	**Pn**	**14 54 18.0**	**-0.7**
ROC1	**El Roble**	**4.30**	**29**	*e*P	**Pn**	**14 54 17.6**	**-1.3**
ROC1				*e*S	**Sg**	**14 55 29.6**	**-1.3**
PLCA	**Paso Flores**	**4.60**	**150**	Pn	**Pn**	**14 54 23.6**	**+0.8**
	comp=E,0.8nm,0.3s,baz=338,slow=15,SNR=11						
PLCA				Lg	Lg	14 55 38.4	
	comp=E,1.8nm,0.3s,baz=268,slow=18,SNR=2.9						
PLCA				LR	LR	14 55 44.4	
	comp=E,138nm,19.9s,baz=316,slow=33						
AUSP	**Uspallata**	**5.67**	**38**	*e*P	**Pn**	**14 54 38.0**	**+0.2**
ASAL	**Salagasta**	**5.68**	**44**	*e*P	**Pn**	**14 54 37.9**	**+0.3**
RTLS	**Leoncito**	**6.06**	**37**	*e*P	**Pn**	**14 54 40.5**	**+0.4**
RTCV	**Cerro Valdivia**	**6.40**	**42**	*e*P	**Pn**	**14 54 46.2**	**-1.2**
RTLL	**Cerro Villicun**	**6.85**	**39**	⇓*e*P	**Pn**	**14 54 52.6**	**-1.1**
ACAN	**Cantantal**	**6.88**	**51**	*e*P	**Pn**	**14 54 53.5**	**-0.7**
AMOG	**MOGNA**	**7.16**	**37**	⇓*e*P	**Pn**	**14 54 56.9**	**-1.1**
ACCO	**Cerro Coronel**	**7.19**	**32**	*e*P	**Pn**	**14 54 57.8**	**-0.9**
ACCO				IAML		14 56 48.0	
	comp=Z,19nm,0.5s						
AROD	**Rodeo**	**7.40**	**28**	*e*P	**Pn**	**14 55 01.4**	**-0.1**
ACDV	**Cuesta del Vie**	**7.53**	**31**	*e*P	**Pn**	**14 55 03.0**	**-0.2**
AVFE	**Valle Fertil**	**7.91**	**42**	*e*P	**Pn**	**14 55 06.2**	**-2.2**
ACHE	**Chepes**	**7.98**	**48**	*e*P	**Pn**	**14 55 06.8**	**-2.5**
CPUP	**Villa Florida**	**17.26**	**58**	LR	LR	15 04 27.9	
	comp=Z,118nm,20.7s,baz=225,slow=39						
LPAZ	**La Paz**	**20.95**	**15**	P	**P**	**14 57 57.7**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=173,slow=10,SNR=2.8						
RCBR	**Riachuelo**	**46.14**	**57**	LR	LR	15 22 46.2	
	comp=Z,44nm,19.7s,baz=186,slow=38						
TXAR	**Lajitas Array**	**71.58**	**332**	P	**P**	**15 04 33.9**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=153,slow=8.1,SNR=4.5						

---

*DDA **24** 14:55:03.6,37.23N×28.24E,h7km,Md2.6*
*ISK **24** 14:55:03.1,37.17N×28.19E,h3km,MD2.5*
*CSEM **24** 14:55:04.1±0.3,37.20N×28.20E,h2km,MD2.5,Error*
ellipse: s-maj=8.6km s-min=5.4km az=20.0
ISC 24 14:55:03.7±1.2,37.18N±0.03×28.20E±0.03,h5km±11km,
n19,σ0°71/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.08**	**126**	*e*PG	**Pg**	**14 55 05.6**	**+0.1**
YER	**Yerkesik**	**0.08**	**126**	*e*Pg	**Pg**	**14 55 05.6**	**+0.1**
TURN	**Turunc**	**0.45**	**134**	*i* P	**Pg**	**14 55 12.1**	**-0.2**
TURN				*i* S	**Sb**	**14 55 20.0**	**-1.0**
DALY	**Dalyan (Mu¨la**	**0.52**	**135**	*e*PG	**Pg**	**14 55 13.8**	**+0.2**
DALY				*e*SG	**Sb**	**14 55 22.0**	**-1.0**
DALY	**Dalyan (Mu¨la**	**0.52**	**135**	*e*Pg	**Pg**	**14 55 13.8**	**+0.2**
DALY				*e*Sg	**Sb**	**14 55 22.0**	**-1.0**
BDRM	**Kayabasi**	**0.61**	**259**	P	**Pg**	**14 55 15.7**	**+0.2**
BDRM				S	**Sb**	**14 55 25.7**	**-0.1**
BDRM	**Kayabasi**	**0.61**	**259**	*i* P	**Pg**	**14 55 15.7**	**+0.2**
BDRM				*i* S	**Sb**	**14 55 25.7**	**-0.1**
BODT	**Bodrum**	**0.72**	**261**	*e*PG	**Pg**	**14 55 16.6**	**-0.9**
BODT				*e*SG	**Sb**	**14 55 28.4**	**-0.4**
BODT	**Bodrum**	**0.72**	**261**	*e*Pg	**Pg**	**14 55 16.6**	**-0.9**
BODT				*e*Sg	**Sb**	**14 55 28.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**342**	*e*PG	**Pg**	**14 55 18.9**	**-0.1**
AYDB				*e*SG	**Sb**	**14 55 31.9**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**342**	*e*Pg	**Pg**	**14 55 18.9**	**-0.1**
AYDB				*e*Sg	**Sb**	**14 55 31.9**	**+0.6**
DNZL	**Cakiroluk**	**0.84**	**53**	P	**Pg**	**14 55 19.1**	**-0.8**
DNZL	**Cakiroluk**	**0.84**	**53**	*i* P	**Pg**	**14 55 19.1**	**-0.8**
GCAM	**G?zelcaml?**	**0.93**	**304**	P	**Pb**	**14 55 21.9**	**-0.3**
GCAM				S	**Sb**	**14 55 35.9**	**+1.1**
GCAM	**G?zelcaml?**	**0.93**	**304**	*i* P	**Pb**	**14 55 21.9**	**-0.3**
GCAM				*i* S	**Sb**	**14 55 35.9**	**+1.1**
GOLH	**Golhisar**	**1.09**	**87**	P	**Pn**	**14 55 26.0**	**+0.3**
GOLH	**Golhisar**	**1.09**	**87**	*i* P	**Pn**	**14 55 25.9**	**+0.3**
AKAS	**Kas**	**1.48**	**130**	P	**Pg**	**14 55 33.2**	**+1.2**
AKAS	**Kas**	**1.48**	**130**	*i* P	**Pg**	**14 55 33.2**	**+1.2**

---

*ISCJB **24** 15:00:51.5±0.4,11.64S±0.05×166.34E±0.06,h59km,*
mb4.7/25,MS3.7/11,Error ellipse: s-maj=9.0km
s-min=7.5km az=10.2
*IDC **24** 15:00:52.0±0.9,11.46S×166.51E,h56km±5km,mb4.3/14,*
mb1 4.4/17,mb1mx4.2/35,mbtmp4.6/17,MS3.8/10,
Ms1 3.9/10,ms1mx3.6/30,Error ellipse: s-maj=21.2km
s-min=14.4km az=108.0
*BJI **24** 15:00:52.8,11.37S×166.37E,h60km,mb5.0/31,mB5.2/25,*
Ms5.1/14,Ms7 4.7/15
*NEIC **24** 15:00:53.8±1.2,11.58S×166.38E,h70km±10km,mb4.9/13,*
Error ellipse: s-maj=10.8km s-min=8.1km az=117.0
ISC 24 15:00:52.6±0.5,11.64S±0.06×166.46E±0.07,h59km,n83,
σ1°81/88,mb4.8/25,MS3.9/11,1C,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.76**	**288**	P	**Pn**	**15 02 28.7**	**-0.6**
	80nm,0.3s,baz=154,slow=2.2,SNR=36						
HNR				S	**Sn**	**15 03 43.1**	**-1.8**
	46nm,0.3s,baz=236,slow=22,SNR=6.5						
HNR	**Honiara**	**6.76**	**288**	*e*P	**Pn**	**15 02 30.0**	**+0.7**
HNR				*e*S	**Sn**	**15 03 37.0**	**-8.0**
HNR	**Honiara**	**6.76**	**288**	*e*Pn	**Pn**	**15 02 29.2**	**-0.1**
HNR				*e*Sn	**Sn**	**15 03 42.3**	**-2.7**
DZM	**Mont Dzumac**	**10.38**	**180**	*e*Pn	**Pn**	**15 03 20.0**	**+1.2**
	15nm,0.3s						
DZM				*e*Sn	**Sn**	**15 05 10.8**	**-2.9**
	6.2nm,0.3s						
DZM				*e*LR	LR	15 05 52.9	
	2μm,25.9s						
DZM	**Mont Dzumac**	**10.38**	**180**	P	**Pn**	**15 03 19.8**	**+0.9**
	0.9nm,0.3s,baz=318,slow=11,SNR=25						
DZM				S	**Sn**	**15 05 13.3**	**-0.3**
	1.5nm,0.3s,baz=172,slow=21,SNR=3.7						
MSVF	**Nonsavu**	**12.75**	**120**	*e*Pn	**P**	**15 03 57.7**	**-2.7**
TARA	**Tarawa**	**14.42**	**27**	*e*P	**Pn**	**15 04 15.0**	**+1.3**
RABL	**Rabaul**	**15.96**	**296**	*e*P	**P**	**15 04 37.2**	**+1.1**
	43nm,0.6s						
PMG	**Port Moresby**	**19.10**	**275**	P	**Pn**	**15 05 12.1**	**0.0**
	0.6nm,0.3s,baz=195,slow=7.9,SNR=3.6						
EIDS	**Eidsvold**	**19.95**	**225**	*e*P	**Pn**	**15 05 23.7**	**+1.7**
	105nm,1.9s						
CTA	**Charters Tower**	**21.15**	**244**	P	**P**	**15 05 34.5**	**+1.6**
	11nm,0.7s,baz=72,slow=12,SNR=12						
AFI	**Afiamalu**	**21.35**	**98**	LR	LR	15 12 17.2	
	comp=Z,266nm,20.2s,baz=262,slow=32						
RAO	**Raoul Island**	**22.79**	**143**	LR	LR	15 12 58.5	
	comp=Z,186nm,18.1s,baz=292,slow=32						
ARMA	**Armidale**	**23.21**	**214**	*e*P	**P**	**15 05 56.1**	**+1.4**
	40nm,0.9s						
JAY	**Jayapura**	**27.09**	**288**	LR	LR	15 18 38.3	
	comp=Z,10nm,18.9s,baz=168,slow=39						
H11S2	**WAKE ISLAND Hy**	**29.94**	**0**	T	T	15 38 06.7	
	baz=181,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**29.94**	**0**	T	T	15 38 11.6	
	baz=181,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**29.95**	**0**	T	T	15 38 09.8	
	baz=181,slow=76,SNR=16						
STKA	**Stephens Creek**	**30.50**	**225**	P	**P**	**15 07 01.7**	**+1.5**
	12nm,0.7s,baz=49,slow=8.3,SNR=35						
STKA				LR	LR	15 18 33.6	
	comp=Z,407nm,20.1s,baz=35,slow=35						
STKA	**Stephens Creek**	**30.50**	**225**	*e*P	**P**	**15 07 00.8**	**+0.6**
	2.9nm,0.8s						
WRAB	**Tennant Creek**	**31.93**	**251**	*e*P	**P**	**15 07 11.5**	**-1.4**
WB2	**Warramunga Arr**	**31.93**	**251**	*e*P	**P**	**15 07 11.8**	**-1.2**
	12nm,0.8s						
WRA	**Warramunga Arr**	**31.94**	**251**	P	**P**	**15 07 12.6**	**-0.4**
	14nm,0.8s,baz=85,slow=9.2,SNR=80						
WRA				PcP	**PcP**	**15 10 01.4**	**-1.0**
	1.7nm,0.7s,baz=72,slow=3.0,SNR=5.7						
AS01	**Alice Springs**	**33.12**	**244**	*e*P	**P**	**15 07 22.2**	**-1.2**
AS31	**Alice Springs**	**33.16**	**244**	*e*P	**P**	**15 07 22.8**	**-0.9**
	3.6nm,0.6s						
ASAR	**Alice Springs**	**33.16**	**244**	P	**P**	**15 07 22.9**	**-0.8**
	8.6nm,0.6s,baz=69,slow=9.7,SNR=159						
ASAR				pP	**pP**	**15 07 37.9**	**-0.5**
	5.3nm,0.7s,baz=73,slow=9.6,SNR=9.4						
ASAR				PcP	**PcP**	**15 10 05.4**	**-0.3**
	1.5nm,0.5s,baz=89,slow=2.4,SNR=8.6						
ASAR				pPcP		15 10 20.0	
	1.1nm,0.7s,baz=76,slow=2.2,SNR=4.0						
FITZ	**Fitzroy Crossi**	**39.91**	**256**	P	**P**	**15 08 20.9**	**-0.2**
	15nm,0.7s,baz=100,slow=6.2,SNR=34						
FITZ				pP	**pP**	**15 08 37.1**	**+0.9**
	7.9nm,0.8s,baz=62,slow=6.8,SNR=4.8						
FITZ				PcP	**PcP**	**15 10 26.1**	**+0.1**
	3.7nm,0.7s,baz=83,slow=8.5,SNR=5.2						
FITZ	**Fitzroy Crossi**	**39.91**	**256**	*e*P	**P**	**15 08 19.5**	**-1.7**
	14nm,0.7s						
FITZ				PcP	**PcP**	**15 10 26.1**	**+0.1**
PPT	**Papeete**	**42.88**	**103**	LR	LR	15 24 28.1	
	comp=Z,145nm,18.5s,baz=301,slow=33						
PPT2	**Papeete2**	**42.88**	**103**	*e*LQ	LQ	15 18 59.9	
	435nm,29.5s						
PPT2				*e*LR	LR	15 20 53.5	
	769nm,29.2s,baz=271						
TBI	**Tubuai**	**43.47**	**112**	*e*LQ	LQ	15 19 18.4	
	383nm,31.0s						
TBI				*e*LR	LR	15 21 08.5	
	717nm,29.0s,baz=280						
MBWA	**Marble Bar**	**45.67**	**252**	*e*P	**P**	**15 09 08.2**	**+0.3**
	32nm,1.0s						
TAOE	**Nuku Hiva Isla**	**52.56**	**92**	*e*LR	LR	15 25 07.3	
	263nm,27.2s						
KKM	**Kota Kinabalu**	**52.97**	**287**	*e*P	**P**	**15 10 03.1**	**-0.7**
	62nm,1.3s						
MJAR	**Matsushiro Arr**	**54.81**	**332**	P	**P**	**15 10 14.2**	**-2.5**
	1.2nm,0.8s,baz=180,slow=8.0,SNR=4.5						
RKT	**Rikitea**	**56.73**	**110**	*e*LR	LR	15 27 22.5	
	605nm,28.5s,baz=275						
KSRS	**Korea Array**	**60.76**	**325**	P	**P**	**15 10 55.4**	**-2.9**
	1.4nm,0.7s,baz=135,slow=7.4,SNR=8.5						
KSAR	**Wonju Array Be**	**60.77**	**325**	P	**P**	**15 10 55.4**	**-3.0**
QIZ	**Qiongzhong**	**63.57**	**298**	P	**P**	**15 11 17.4**	**-0.2**
QIZ				S	**S**	**15 19 52.1**	**+4.8**
QIZ				LZ			
	130nm,22.7s						
USRK	**Ussuriysk Ar.**	**63.78**	**333**	P	**P**	**15 11 16.9**	**-1.6**
	2.3nm,0.8s,baz=160,slow=6.1,SNR=4.6						
PETK	**Petropavlovsk-**	**64.92**	**354**	LR	LR	15 33 01.4	
	comp=Z,63nm,21.1s,baz=185,slow=30						
VNDA	**Vanda**	**65.92**	**181**	P	**P**	**15 11 33.0**	**+1.1**
	2.0nm,0.4s,baz=347,slow=8.2,SNR=28						
VNDA				LR	LR	15 36 47.3	
	comp=Z,72nm,20.0s,baz=338,slow=33						
VNDA	**Vanda**	**65.92**	**181**	*e*P	**P**	**15 11 32.8**	**+0.8**
	20nm,1.4s						
SBA	**Scott Base**	**66.21**	**180**	*e*P	**P**	**15 11 35.6**	**+1.8**
IPM	**Ipoh**	**67.01**	**280**	*e*P	**P**	**15 11 40.2**	**+0.3**
	27nm,1.1s						
PSI	**Prapat**	**68.64**	**278**	*e*P	**P**	**15 11 50.0**	**-0.4**
	11nm,0.9s						
GYA	**Guiyang**	**69.32**	**304**	*e*P	**P**	**15 11 56.3**	**+1.9**
GYA				PMZ			
	10.0nm,1.0s						
PBKT	**Sadao Pong**	**70.55**	**292**	P	**P**	**15 12 03.3**	**+1.4**
	17nm,0.8s,1μm						
LOEI	**Loei**	**70.59**	**293**	P	**P**	**15 12 01.0**	**-1.2**
	51nm,0.8s,8μm						
XAN	**Xi'an**	**71.03**	**312**	P	**P**	**15 12 04.6**	**0.0**
XAN				PMZ			
	14nm,0.8s						
LAMP	**Lampang**	**72.39**	**294**	P	**P**	**15 12 14.3**	**+1.3**
	5.4nm,0.9s						
HHC	**Hu-ho-hao-te**	**72.73**	**319**	*e*P	**P**	**15 12 16.3**	**+1.6**
HHC				sP	sP	15 12 36.4	-1.1
HHC				PP	**PP**	**15 14 55.3**	**-2.1**
HHC				S	**S**	**15 21 38.6**	**+2.7**
HHC				PMZ			
	22nm,1.0s						
HHC				PMZ			
	130nm,5.4s						
CMAR	**Chiang Mai Arr**	**72.98**	**293**	P	**P**	**15 12 17.6**	**+1.1**
	8.8nm,0.9s,baz=121,slow=4.6,SNR=51						
CMAR				pP	**PcP**	**15 12 33.5**	**+0.3**
	7.0nm,0.8s,baz=126,slow=4.5,SNR=11						
CHTO	**Chiang Mai**	**73.10**	**294**	P	**P**	**15 12 18.4**	**+1.2**
	66nm,1.6s						
CHTO	**Chiang Mai**	**73.10**	**294**	*e*P	**P**	**15 12 18.3**	**+1.2**
	22nm,1.3s						
CD2	**Chengdu**	**73.51**	**307**	*e*P	**P**	**15 12 19.0**	**-0.5**
LZH	**Lanzhou**	**75.67**	**312**	*e*P	**P**	**15 12 33.1**	**+1.1**
LZH				pP	pP	15 12 48.8	+0.4
LZH				sP	sP	15 12 55.1	+0.2
LZH				PMZ			
	34nm,1.3s						
LZH				PMZ			
	130nm,4.5s						
LZH				LN			
	220nm,12.8s						
LZH				LE			
	250nm,13.7s						
LZH				LZ			
	250nm,15.8s						
QSPA	**South Pole Qui**	**78.37**	**180**	*e*P	**P**	**15 12 46.9**	**+0.2**
ULN	**Ulaanbaatar**	**79.19**	**324**	*e*P	**P**	**15 12 51.6**	**+0.2**
SONM	**Songino Array**	**79.55**	**324**	P	**P**	**15 12 53.6**	**+0.3**
	1.9nm,0.5s,baz=137,slow=4.9,SNR=14						
SONA1	**Songino Array**	**79.55**	**324**	*e*P	**P**	**15 12 53.4**	**0.0**
GTA	**Gaotai**	**79.97**	**314**	P	**P**	**15 12 56.8**	**+1.0**
GTA				pP	pP	15 13 11.0	-1.3
GTA				sP	sP	15 13 18.3	-0.5
GTA				S	**S**	**15 22 54.3**	**-1.1**
GTA				PMZ			
	10.0nm,1.2s						
GTA				PMZ			
	150nm,4.8s						
GTA				LN			
	190nm,15.2s						
GTA				LE			
	220nm,19.5s						
GTA				LZ			
	250nm,19.0s						
CCB	**Clear Creek Bu**	**83.48**	**18**	*e*P	**P**	**15 13 13.3**	**-0.2**
ILAR	**Eielson Array**	**83.85**	**18**	P	**P**	**15 13 14.7**	**-0.8**
	0.7nm,0.6s,baz=233,slow=5.1,SNR=16						
ILAR				LR	LR	15 44 52.5	
	comp=Z,35nm,20.8s,baz=203,slow=32						
DOT	**Dot Lake**	**83.99**	**20**	*e*P	**P**	**15 13 16.3**	**+0.1**
WMQ	**Urumqi**	**90.00**	**315**	P	**P**	**15 13 46.3**	**+0.4**
WMQ				pP	pP	15 14 03.4	+0.7
WMQ				sP	sP	15 14 10.1	+1.0
WMQ				PMZ			
	7.0nm,0.6s						
WMQ				PMZ			
	63nm,3.8s						
WMQ				LN			
	32nm,21.8s						
WMQ				LE			
	38nm,25.4s						
WMQ				LZ			
	45nm,24.2s						
HVU	**Hansel Valley**	**90.89**	**48**	*e*P	**P**	**15 13 50.5**	**+0.3**
SYO	**Syowa Base**	**91.42**	**197**	‖*e*X	pP	15 14 05.7	-3.0
PDAR	**Pinedale Array**	**93.44**	**47**	LR	LR	15 50 27.4	
	comp=Z,39nm,18.4s,baz=272,slow=32						
MK01	**Makanchi Array**	**94.41**	**317**	*e*P	**P**	**15 14 05.8**	**-0.4**
MK31	**Makanchi Array**	**94.43**	**317**	*e*P	**P**	**15 14 06.1**	**-0.2**
MKAR	**Makanchi Array**	**94.43**	**317**	P	**P**	**15 14 06.0**	**-0.3**
	5.0nm,0.6s,baz=83,slow=6.4,SNR=41						
MKAR				pP	**pP**	**15 14 20.6**	**-2.4**
	4.4nm,0.8s,baz=101,slow=6.3,SNR=11						
MKAR	**Makanchi Array**	**94.43**	**317**	*e*P	**P**	**15 14 06.1**	**-0.2**
ZALV	**Zalesovo Beam**	**94.44**	**324**	P	**P**	**15 14 04.4**	**-1.7**
	0.6nm,0.5s,baz=106,slow=5.4,SNR=4.8						
ZALV				pP	**pP**	**15 14 19.4**	**-3.4**
	0.7nm,0.3s,baz=102,slow=3.5,SNR=3.2						
MAKZ	**Makanchi**	**94.64**	**317**	*e*P	**P**	**15 14 06.9**	**-0.3**
TXAR	**Lajitas Array**	**95.50**	**61**	LR	LR	15 49 25.6	
	comp=Z,69nm,21.0s,baz=0.0,slow=31						
NRIK	**Noril'sk**	**96.92**	**339**	LR	LR	15 55 18.3	
	comp=Z,55nm,21.9s,baz=112,slow=34						
KSH	**Kashi**	**97.67**	**309**	*e*P	Pdif	15 14 25.8	+4.5
KSH				pP	sP	15 14 43.9	-0.7
KSH				PP	**PP**	**15 18 25.8**	**+5.9**
KSH				S	**S**	**15 25 41.9**	**-0.4**
KSH				SS	**SS**	**15 32 27.0**	**+3.3**
KSH				PMZ			
	48nm,3.7s						
KSH				LN			
	93nm,4.8s						
KSH				LE			
	90nm,5.8s						
KSH				LZ			
	140nm,7.5s						
ARCES	**ARCESS Array B**	**117.08**	**346**	PKP	**PKPdf**	**15 19 29.7**	**-0.7**
	1.0nm,0.8s,baz=88,slow=2.4,SNR=7.6						
FINES	**FINESS Array B**	**122.57**	**339**	PKP	**PKPdf**	**15 19 40.1**	**-1.0**
	0.8nm,0.8s,baz=77,slow=4.1,SNR=4.5						
MEM	**Membach**	**137.96**	**341**	PKP	**PKPdf**	**15 20 11.2**	**+0.5**
KEST	**Kesra**	**148.30**	**323**	pPKPbc	pPKPbc	15 20 48.6	-1.5
	8.1nm,1.0s,baz=249,slow=2.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**165.04**	**277**	PKP	**PKPdf**	**15 20 50.1**	**-1.0**
	0.6nm,0.9s,baz=11,slow=1.5,SNR=3.0						
TORD				pPKP	**pPKPdf**	**15 21 06.7**	**-1.9**
	1.0nm,1.0s,baz=343,slow=3.1,SNR=3.8						
TORD				PKPab	**PKPab**	**15 21 48.0**	**-0.1**
	0.9nm,0.6s,baz=94,slow=4.2,SNR=5.9						

---

*CSEM **24** 15:05:05.5±2.1,38.62N×38.68E,h5km,MD2.8,Error*
ellipse: s-maj=40.9km s-min=18.9km az=100.0
*ISK **24** 15:05:10.8,38.58N×39.65E,h5km,MD2.8*
ISC 24 15:05:11.9±1.2,38.58N±0.03×39.63E±0.05,h4km±14km,
n10,σ0°64/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.32**	**232**	*e*PG	**Pg**	**15 05 17.4**	**-0.7**
SVRC				*e*SG	**Sg**	**15 05 23.3**	**+1.0**
SVRC	**Sivrice-ELAZID**	**0.32**	**232**	*e*Pg	**Pg**	**15 05 17.4**	**-0.7**
SVRC				*e*Sg	**Sg**	**15 05 23.3**	**+1.0**
PTK	**Pertek**	**0.36**	**330**	*e*PG	**Pg**	**15 05 18.6**	**-0.4**
PTK				*e*SG	**Sg**	**15 05 24.1**	**+0.3**
PTK	**Pertek**	**0.36**	**330**	*e*Pg	**Pg**	**15 05 18.6**	**-0.4**
PTK				*e*Sg	**Sg**	**15 05 24.1**	**+0.3**
ELZG	**Elazig**	**0.51**	**261**	*i* P	**Pg**	**15 05 20.7**	**-0.9**
ELZG				*i* S	**Sg**	**15 05 28.4**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.54**	**353**	P	**Pg**	**15 05 21.9**	**-0.4**
TNCL				S	**Sg**	**15 05 30.1**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.54**	**353**	*i* P	**Pg**	**15 05 21.9**	**-0.4**
TNCL				*i* S	**Sg**	**15 05 30.1**	**+0.7**
MAZI	**Mazidag**	**1.29**	**150**	*e*PN	**Pg**	**15 05 36.0**	**-0.6**
MAZI				*e*SN	**Sb**	**15 05 53.6**	**0.0**
MAZI	**Mazidag**	**1.29**	**150**	*e*Pn	**Pg**	**15 05 36.0**	**-0.6**
MAZI				*e*Sn	**Sb**	**15 05 53.7**	**0.0**
URFA	**Urfa**	**1.30**	**210**	*e*PN	**Pg**	**15 05 36.9**	**+0.1**
URFA				*e*SN	**Sn**	**15 05 54.9**	**+0.1**

---

*ATH **24** 15:13:54.8,39.24N×24.27E,h33km±2km,ML2.6/18,Error*
ellipse: s-maj=2.7km s-min=0.7km az=46.0
*ISCJB **24** 15:13:55.8±0.4,39.25N±0.02×24.27E±0.03,h25km±4km,*
Error ellipse: s-maj=3.7km s-min=2.5km az=22.2
*CSEM **24** 15:13:55.0±0.1,39.25N×24.27E,h15km,ML2.7,Error*
ellipse: s-maj=1.9km s-min=1.4km az=113.0
*THE **24** 15:13:56.1,39.25N×24.25E,h20km±1km,ML2.7/22,Error*
ellipse: s-maj=1.2km s-min=0.4km az=278.0
ISC 24 15:13:55.0±1.1,39.24N±0.02×24.27E±0.02,h19km±3km,
n111,σ0°54/186,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	**Skiathos**	**0.62**	**263**	P	**Pb**	**15 14 07.2**	**-0.1**
SKIA				S	**Sn**	**15 14 17.1**	**-1.3**
SKIA	**Skiathos**	**0.62**	**263**	P	**Pb**	**15 14 07.2**	**-0.1**
S

OUR			S	Sn	15 14 30.1	-0.3	
OUR	**Ouranopolis**	**1.11 349**	P	Pb	15 14 16.0	+0.3	
OUR			S	Sn	15 14 30.1	-0.3	
OUR			AML	AML	15 14 33.0		
	comp=E,331μm,0.6s						
OUR			AML	AML	15 14 34.5		
	comp=N,497μm,0.4s						
ATAL	**Atalanti**	**1.11 241**	P	Pb	15 14 15.8	+0.1	
ATAL			S	Sg	15 14 31.3	0.0	
ATAL	**Atalanti**	**1.11 241**	P	Pb	15 14 15.8	+0.1	
ATAL			S	Sn	15 14 30.8	+0.3	
ATAL	**Atalanti**	**1.11 241**	P	Pg	15 14 16.2	-0.5	
ATAL			S	Sn	15 14 30.8	+0.3	
ATAL			AML	AML	15 14 33.6		
	comp=E,274μm,0.3s						
ATAL			AML	AML	15 14 33.8		
	comp=N,260μm,0.5s						
LKR	**Lokris**	**1.15 239**	P	Pb	15 14 16.2	-0.1	
LKR			S	Sn	15 14 31.2	-0.2	
LKR	**Lokris**	**1.15 239**	P	Pb	15 14 16.2	-0.1	
LKR			S	Sn	15 14 31.2	-0.2	
LKR	**Lokris**	**1.15 239**	P	Pb	15 14 16.2	-0.1	
LKR			S	Sg	15 14 32.2	-0.2	
LKR			AML	AML	15 14 34.3		
	comp=E,328μm,0.2s						
LKR			AML	AML	15 14 34.7		
	comp=N,272μm,0.2s						
PTL	**Penteli**	**1.23 195**	P	Pb	15 14 17.6	-0.2	
PTL			S	Sn	15 14 33.8	+0.3	
PTL	**Penteli**	**1.23 195**	P	Pb	15 14 17.6	-0.2	
PTL			S	Sn	15 14 33.8	+0.3	
PTL	**Penteli**	**1.23 195**	P	Pb	15 14 18.3	+0.6	
PTL			S	Sb	15 14 33.2	0.0	
PTL			AML	AML	15 14 37.0		
	comp=E,572μm,0.4s						
PTL			AML	AML	15 14 37.8		
	comp=N,437μm,0.4s						
SIGR	**SIGRI**	**1.24 91**	P	Pb	15 14 17.7	-0.1	
SIGR			S	Sg	15 14 35.0	-0.1	
SIGR	**SIGRI**	**1.24 91**	P	Pb	15 14 17.7	-0.1	
SIGR			S	Sg	15 14 35.0	-0.1	
SIGR	**SIGRI**	**1.24 91**	P	Pg	15 14 18.7	-0.2	
SIGR			S	Sg	15 14 35.5	+0.4	
SIGR			AML	AML	15 14 37.9		
	comp=E,391μm,0.8s						
SIGR			AML	AML	15 14 38.4		
	comp=N,714μm,0.6s						
VIL2	**Platees**	**1.29 217**	P	Pb	15 14 18.5	-0.3	
VIL2			S	Sg	15 14 37.4	+0.5	
VIL2			AML	AML	15 14 41.4		
	comp=E,610μm,0.5s						
VIL2			AML	AML	15 14 43.5		
	comp=N,655μm,0.3s						
PLG	**Polygyros**	**1.29 331**	P	Pn	15 14 18.2	0.0	
PLG	**Polygyros**	**1.29 331**	P	Pn	15 14 18.2	0.0	
PLG			S	Sg	15 14 37.2	+0.2	
PLG	**Polygyros**	**1.29 331**	P	Pg	15 14 20.0	0.0	
PLG			S	Sg	15 14 37.2	+0.2	
VILL	**Villia**	**1.31 215**	P	Pn	15 14 18.2	-0.2	
VILL			S	Sb	15 14 35.9	+0.4	
VILL	**Villia**	**1.31 215**	P	Pn	15 14 18.5	+0.1	
VILL			S	Sb	15 14 35.9	+0.4	
ATHU	**Athens Univers**	**1.33 197**	P	Pn	15 14 18.5	-0.1	
ATHU	**Athens Univers**	**1.33 197**	P	Pn	15 14 18.5	-0.1	
ATHU			S	Sn	15 14 35.6	-0.2	
ATHU	**Athens Univers**	**1.33 197**	P	Pb	15 14 20.0	+0.6	
ATHU			S	Sn	15 14 35.6	-0.2	
ATHU			AML	AML	15 14 39.4		
	comp=E,129μm,0.3s						
ATHU			AML	AML	15 14 39.9		
	comp=N,163μm,0.3s						
ATH	**Athens Observa**	**1.34 199**	P	Pg	15 14 20.4	-0.5	
ATH			S	Sn	15 14 35.7	-0.3	
VLY	**Voula,Athens**	**1.44 195**	P	Pb	15 14 20.9	-0.3	
VLY			S	Sn	15 14 38.4	0.0	
VLY	**Voula,Athens**	**1.44 195**	P	Pb	15 14 20.9	-0.3	
VLY			S	Sn	15 14 38.4	0.0	
VLY	**Voula,Athens**	**1.44 195**	P	Pb	15 14 21.5	+0.3	
VLY			S	Sn	15 14 37.9	-0.5	
VLY			AML	AML	15 14 42.4		
	comp=N,664μm,0.7s						
VLY			AML	AML	15 14 43.7		
	comp=E,619μm,0.4s						
AGG	**Agios Georgios**	**1.52 262**	P	Pn	15 14 21.2	-0.1	
AGG	**Agios Georgios**	**1.52 262**	P	Pn	15 14 21.2	-0.1	
AGG	**Agios Georgios**	**1.52 262**	P	Pn	15 14 21.1	-0.1	
SMTH	**Samothraki Isl**	**1.57 38**	P	Pn	15 14 21.6	-0.3	
SMTH			S	Sb	15 14 43.1	+0.2	
SMTH	**Samothraki Isl**	**1.57 38**	P	Pn	15 14 21.6	-0.3	
SMTH			S	Sb	15 14 43.1	+0.2	
SMTH	**Samothraki Isl**	**1.57 38**	P	Pn	15 14 21.1	-0.7	
LTK	**Loutraki**	**1.59 220**	P	Pn	15 14 22.6	+0.4	
LTK			S	Sb	15 14 43.5	0.0	
LTK	**Loutraki**	**1.59 220**	P	Pn	15 14 22.6	+0.4	
LTK			S	Sb	15 14 43.5	0.0	
LTK	**Loutraki**	**1.59 220**	P	Pn	15 14 22.6	+0.4	
DSF	**Desfina**	**1.59 239**	P	Pn	15 14 22.2	-0.1	
DSF			S	Sb	15 14 42.9	-0.7	
DSF	**Desfina**	**1.59 239**	P	Pn	15 14 22.2	-0.1	
DSF			S	Sb	15 14 42.9	-0.7	
DSF	**Desfina**	**1.59 239**	P	Pn	15 14 22.1	-0.1	
DSF			S	Sb	15 14 44.3	+0.7	
DSF			AML	AML	15 14 53.0		
	comp=N,144μm,0.3s						
DSF			AML	AML	15 14 56.9		
	comp=E,154μm,0.3s						
LIT	**Litokhoron**	**1.62 303**	P	Pn	15 14 23.0	+0.4	
LIT			S	Sn	15 14 43.4	+0.5	
LIT	**Litokhoron**	**1.62 303**	P	Pn	15 14 23.0	+0.4	
LIT			S	Sn	15 14 43.4	+0.5	
LIT	**Litokhoron**	**1.62 303**	P	Pn	15 14 23.3	+0.7	
LIT			S	Sn	15 14 42.5	-0.4	
LIT			AML	AML	15 14 44.2		
	comp=E,199μm,0.8s						
LIT			AML	AML	15 14 44.3		
	comp=N,223μm,0.6s						
HORT	**Hortiatis**	**1.62 327**	P	Pn	15 14 23.4	+0.7	
HORT			S	Sn	15 14 43.2	0.0	
HORT	**Hortiatis**	**1.62 327**	P	Pn	15 14 23.4	+0.7	
HORT			S	Sn	15 14 43.2	0.0	
CHOS	**Chios island**	**1.64 121**	P	Pn	15 14 23.6	+0.7	
CHOS			S	Sb	15 14 44.6	-0.4	
CHOS	**Chios island**	**1.64 121**	P	Pn	15 14 23.6	+0.7	
CHOS			S	Sb	15 14 44.6	-0.4	
SOH	**Sokhos**	**1.73 336**	P	Pn	15 14 24.9	+0.8	
SOH			S	Sn	15 14 46.0	+0.3	
SOH	**Sokhos**	**1.73 336**	P	Pn	15 14 24.9	+0.8	
SOH			S	Sn	15 14 46.0	+0.3	
SOH	**Sokhos**	**1.73 336**	P	Pb	15 14 25.3	-0.8	
KAVA	**Kavala**	**1.76 6**	P	Pn	15 14 24.3	-0.3	
KAVA			S	Sn	15 14 46.8	+0.3	
KAVA	**Kavala**	**1.76 6**	P	Pn	15 14 24.3	-0.3	
KAVA			S	Sn	15 14 46.8	+0.3	
KAVA	**Kavala**	**1.76 6**	P	Pn	15 14 23.7	-0.9	
THL	**Klokotos Trika**	**1.77 281**	P	Pn	15 14 25.0	+0.3	
THL	**Klokotos Trika**	**1.77 281**	P	Pn	15 14 25.0	+0.3	
KALE	**Kalithea**	**1.86 244**	P	Pn	15 14 26.7	+0.7	
KALE	**Kalithea**	**1.86 244**	P	Pn	15 14 26.7	+0.7	
KALE	**Kalithea**	**1.86 244**	P	Pn	15 14 27.1	+1.1	
DID	**Didima**	**1.91 205**	P	Pn	15 14 26.8	+0.1	
DID			S	Sn	15 14 50.5	+0.2	
DID	**Didima**	**1.91 205**	P	Pn	15 14 26.8	+0.1	
DID			S	Sn	15 14 50.5	+0.2	
DID	**Didima**	**1.91 205**	P	Pn	15 14 26.5	-0.2	
DID			S	Sn	15 14 49.9	-0.4	
DID			AML	AML	15 14 60.0		
	comp=N,161μm,0.5s						
DID			AML	AML	15 15 02.8		
	comp=E,144μm,0.2s						
TRIZ	**Trizonia**	**1.92 244**	P	Pb	15 14 28.1	-1.4	
ANX	**Ano Chora**	**1.94 251**	P	Pn	15 14 27.5	+0.4	
ANX	**Ano Chora**	**1.94 251**	P	Pn	15 14 27.5	+0.4	
SRS	**Serrai**	**1.94 345**	P	Pn	15 14 26.7	-0.4	
SRS			S	Sn	15 14 51.3	+0.3	
SRS	**Serrai**	**1.94 345**	P	Pn	15 14 26.7	-0.4	
SRS			S	Sn	15 14 51.3	+0.3	
SRS	**Serrai**	**1.94 345**	P	Pn	15 14 26.7	-0.4	
GUR	**Goura**	**1.99 230**	P	Pn	15 14 28.3	+0.5	
GUR			S	Sn	15 14 53.5	+1.2	
GUR	**Goura**	**1.99 230**	P	Pn	15 14 28.4	+0.6	
GUR			S	Sn	15 14 53.5	+1.2	
GUR	**Goura**	**1.99 230**	P	Pn	15 14 28.4	+0.6	
GUR			S	Sn	15 14 53.5	+1.2	
GUR			AML	AML	15 14 55.1		
	comp=E,218μm,0.3s						
GUR			AML	AML	15 14 55.5		
	comp=N,193μm,0.3s						
EFP	**Efpalio**	**2.02 247**	P	Pn	15 14 29.0	+1.0	
EFP	**Efpalio**	**2.02 247**	P	Pn	15 14 29.0	+1.0	
KLV	**Kalavryta, Ach**	**2.04 235**	P	Pn	15 14 29.3	+0.8	
KLV			S	Sn	15 14 54.6	+1.1	
KLV	**Kalavryta, Ach**	**2.04 235**	P	Pn	15 14 29.3	+0.8	
KLV			S	Sn	15 14 54.6	+1.1	
KLV	**Kalavryta, Ach**	**2.04 235**	P	Pn	15 14 29.5	+1.0	
KLV			S	Sn	15 14 52.5	-1.0	
LAKA	**Lakka**	**2.05 241**	P	Pn	15 14 29.6	+1.1	
LAKA	**Lakka**	**2.05 241**	P	Pn	15 14 29.6	+1.1	
LAKA	**Lakka**	**2.05 241**	P	Pb	15 14 30.5	-1.1	
NVR	**Nevrokopi**	**2.13 352**	P	Pn	15 14 30.0	+0.4	
NVR	**Nevrokopi**	**2.13 352**	P	Pn	15 14 30.0	+0.4	
ALN	**Alexandroupoli**	**2.14 39**	P	Pn	15 14 29.7	-0.1	
ALN	**Alexandroupoli**	**2.14 39**	P	Pn	15 14 30.2	+0.4	
ALN	**Alexandroupoli**	**2.14 39**	P	Pn	15 14 30.2	+0.4	
KNT	**Kendrikon**	**2.18 332**	P	Pn	15 14 31.2	+0.8	
KNT	**Kendrikon**	**2.18 332**	P	Pn	15 14 31.2	+0.8	
DRO	**Drossia**	**2.38 238**	P	Pn	15 14 34.3	+1.2	
DRO	**Drossia**	**2.38 238**	P	Pn	15 14 34.3	+1.2	
VLX	**Vlachokerasia**	**2.39 219**	P	Pn	15 14 34.3	+1.0	
VLX	**Vlachokerasia**	**2.39 219**	P	Pn	15 14 34.3	+1.0	
ITM	**Ithomi**	**2.76 223**	P	Pn	15 14 39.8	+1.4	
ITM	**Ithomi**	**2.76 223**	P	Pn	15 14 39.8	+1.4	

DDA ***24*** *15:14:49.8,36°.94N×27°.40E,h5km,Md3.3*
ATH ***24*** *15:14:51.0,37°.00N×27°.40E,h29km±1km, ML3.5/4, Error ellipse: s-maj=2.5km s-min=1.0km az=247.0*
ISK ***24*** *15:14:50.8,37°.01N×27°.43E,h12km, ML3.4*
IDC ***24*** *15:14:50.4±1.5,36°.83N×27°.53E, h0km, mb3.8/3, mb1 3.7/4, mb1mx3.4/45, mbtmpg3.7/4, ML3.1/1, Error ellipse: s-maj=126.1km s-min=21.4km az=144.0*
THE ***24*** *15:14:51.9,37°.00N×27°.42E,h11km±1km, ML3.6/5, Error ellipse: s-maj=1.5km s-min=0.6km az=217.0*
ISCJB ***24*** *15:14:51.3±0.3, 37°.01N±0°.02×27°.42E±0°.03, h11km±2km, mb3.7/3, Error ellipse: s-maj=3.6km s-min=3.4km az=179.6*
CSEM ***24*** *15:14:51.4±0.1, 37°.02N×27°.40E, h10km, ML3.4, Error ellipse: s-maj=3.4km s-min=3.1km az=63.0*
IASPEI ***24*** *15:14:51.2±0.9, 36°.99N±0°.02×27°.42E±0°.03, h11km±5km, mb3.9/3, Error ellipse: s-maj=4.1km s-min=3.3km az=78.8, GT5 selection from ISC bulletin GT5 identified by Bond¨ jr and McLaughlin (2009) selection criteria Bond¨ jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ISC 24 15:14:51.3±0.8, 36°.98N±0°.02×27°.41E±0°.02, h10km±5km, n74, σ0°85/106, mb3.9/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.09**	**19**	P		**Pg**	**Pg**	**15 14 53.5**	**-0.3**
BDRM				S		**Sg**	**Sg**	**15 14 55.0**	**-0.5**
BDRM	**Kayabasi**	**0.09**	**19**	P	*i*	**Pg**	**Pg**	**15 14 53.5**	**-0.3**
BDRM				S	*i*	**Sg**	**Sg**	**15 14 55.0**	**-0.5**
BODT	**Bodrum**	**0.11**	**316**	P	*e*	**Pg**	**Pg**	**15 14 54.4**	**+0.3**
BODT				S	*e*	**Sg**	**Sg**	**15 14 56.6**	**+0.6**
BODT	**Bodrum**	**0.11**	**316**	P	*e*	**Pg**	**Pg**	**15 14 54.4**	**+0.3**
BODT				S	*e*	**Sg**	**Sg**	**15 14 56.7**	**+0.6**
NIS1	**Nisyros Isl.**	**0.42**	**206**	P		**Pb**	**Pb**	**15 15 00.5**	**-0.4**
NIS1				S		**Sb**	**Sb**	**15 15 07.3**	**0.0**
NIS1	**Nisyros Isl.**	**0.42**	**206**	P		**Pb**	**Pb**	**15 15 00.5**	**-0.4**
NIS1				S		**Sb**	**Sb**	**15 15 07.3**	**0.0**
NIS1	**Nisyros Isl.**	**0.42**	**206**	P		**Pb**	**Pb**	**15 15 00.5**	**-0.4**
NIS1				S		**Sb**	**Sb**	**15 15 08.3**	**+1.0**
NIS1				AML		AML	AML	15 15 14.0	
	comp=E,27881μm,0.5s								
NIS1				AML		AML	AML	15 15 15.9	
	comp=N,21977μm,0.3s								
NISR	**Nisiros**	**0.43**	**211**	P		**Pb**	**Pb**	**15 15 00.6**	**-0.4**
NISR				S		**Sb**	**Sb**	**15 15 08.3**	**+0.7**
NISR	**Nisiros**	**0.43**	**211**	P		**Pb**	**Pb**	**15 15 00.7**	**-0.3**
NISR				S		**Sb**	**Sb**	**15 15 07.5**	**-0.1**
NISR	**Nisiros**	**0.43**	**211**	P		**Pb**	**Pb**	**15 15 00.7**	**-0.3**
NISR				S		**Sb**	**Sb**	**15 15 07.5**	**-0.1**
NISR				AML		AML	AML	15 15 08.6	
	comp=E,13336μm,0.7s								
NISR				AML		AML	AML	15 15 13.7	
	comp=N,7085μm,0.3s								
YER	**Yerkesik**	**0.72**	**77**	P	*e*	**Pg**	**Pg**	**15 15 04.3**	**-0.9**
YER				S	*e*	**Sg**	**Sb**	**15 15 10.5**	**-0.9**
YER	**Yerkesik**	**0.72**	**77**	P	*e*	**Pg**	**Pg**	**15 15 04.3**	**-0.9**
YER				S	*e*	**Sg**	**Sb**	**15 15 10.5**	**-0.9**
GCAM	**G?zelcaml?**	**0.73**	**349**	P		**Pg**	**Pg**	**15 15 04.7**	**-0.8**
GCAM				S		**Sb**	**Sb**	**15 15 17.0**	**+0.7**
GCAM	**G?zelcaml?**	**0.73**	**349**	P	*i*	**Pg**	**Pg**	**15 15 04.7**	**-0.8**
GCAM				S	*i*	**Sb**	**Sb**	**15 15 17.0**	**+0.7**
SMG	**Samos**	**0.86**	**328**	P		**Pg**	**Pg**	**15 15 07.3**	**-0.6**
SMG				S		**Sb**	**Sb**	**15 15 20.1**	**+0.2**
SMG	**Samos**	**0.86**	**328**	P		**Pg**	**Pg**	**15 15 07.3**	**-0.6**
SMG				S		**Sg**	**Sg**	**15 15 19.0**	**0.0**
SMG	**Samos**	**0.86**	**328**	P		**Pg**	**Pg**	**15 15 07.5**	**-0.3**
SMG				S		**Sg**	**Sg**	**15 15 19.0**	**0.0**
SMG				AML		AML	AML	15 15 22.2	
	comp=E,11301μm,0.4s								
SMG				AML		AML	AML	15 15 23.1	
	comp=N,6517μm,0.4s								
ARG	**Arkhangelos**	**0.96**	**143**	P		**Pg**	**Pg**	**15 15 09.2**	**-0.5**
ARG				S		**Sn**	**Sn**	**15 15 23.9**	**-0.7**
ARG	**Arkhangelos**	**0.96**	**143**	P		**Pg**	**Pg**	**15 15 09.2**	**-0.5**
ARG				S		**Sn**	**Sn**	**15 15 23.9**	**-0.7**
DALY	**Dalyan (Mu¨la**	**1.01**	**99**	P	*e*	**Pg**	**Pg**	**15 15 10.4**	**-0.4**
DALY				S	*e*	**Sg**	**Sn**	**15 15 25.5**	**-0.4**
DALY	**Dalyan (Mu¨la**	**1.01**	**99**	P	*e*	**Pg**	**Pg**	**15 15 10.4**	**-0.4**
DALY				S	*e*	**Sg**	**Sn**	**15 15 25.5**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.04**	**22**	P	*e*	**Pg**	**Pg**	**15 15 09.8**	**-1.5**
AYDB				S	*e*	**Sg**	**Sn**	**15 15 25.7**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.04**	**22**	P	*e*	**Pg**	**Pg**	**15 15 09.8**	**-1.5**
AYDB				S	*e*	**Sg**	**Sn**	**15 15 25.7**	**-1.1**
DGB	**¨zmir**	**1.15**	**339**	P	*i*	**Pb**	**Pb**	**15 15 12.7**	**-0.6**
IZM	**Izmir**	**1.42**	**355**	P	*e*	**Pn**	**Pn**	**15 15 16.1**	**-1.2**
IZM	**Izmir**	**1.42**	**355**	P	*e*	**Pn**	**Pn**	**15 15 16.1**	**-1.2**
KARP	**Karpathos**	**1.45**	**188**	P	*e*	**Pn**	**Pn**	**15 15 17.1**	**-0.5**
KARP	**Karpathos**	**1.45**	**188**	P		**Pn**	**Pn**	**15 15 17.1**	**-0.5**
KARP				S		**Sn**	**Sn**	**15 15 35.7**	**-1.0**
KARP	**Karpathos**	**1.45**	**188**	P		**Pn**	**Pn**	**15 15 17.1**	**-0.5**
KARP				S		**Sn**	**Sn**	**15 15 35.7**	**-1.0**
KARP	**Karpathos**	**1.45**	**188**	P		**Pn**	**Pn**	**15 15 16.6**	**-1.0**
ZEY	**¨zmir**	**1.45**	**331**	P	*i*	**Pb**	**Pb**	**15 15 18.0**	**-0.4**
ZEY				S	*i*	**Sg**	**Sg**	**15 15 39.2**	**+1.3**
DNZL	**Cakiroluk**	**1.48**	**61**	P		**Pb**	**Pb**	**15 15 18.6**	**-0.6**
DNZL	**Cakiroluk**	**1.48**	**61**	P	*i*	**Pb**	**Pb**	**15 15 18.6**	**-0.6**
DNZL				S	*i*	**Sg**	**Sg**	**15 15 41.0**	**+1.8**
APE	**Apeiranthos**	**1.50**	**274**	P	*e*	**Pn**	**Pn**	**15 15 18.6**	**+0.2**
APE	**Apeiranthos**	**1.50**	**274**	P		**Pn**	**Pn**	**15 15 17.7**	**-0.7**
APE				S		**Sn**	**Sn**	**15 15 37.7**	**-0.5**
APE	**Apeiranthos**	**1.50**	**274**	P		**Pn**	**Pn**	**15 15 18.3**	**-0.1**
APE	**Apeiranthos**	**1.50**	**274**	P	*e*	**Pn**	**Pn**	**15 15 18.6**	**+0.2**
APE				S		**Sn**	**Sn**	**15 15 37.2**	**-1.0**
APE	**Apeiranthos**	**1.50**	**274**	P		**Pn**	**Pn**	**15 15 18.3**	**-0.1**
APE				S		**Sn**	**Sn**	**15 15 37.2**	**-1.0**
APE				AML		AML	AML	15 15 45.5	
	comp=N,960μm,0.5s								
APE				AML		AML	AML	15 15 47.4	
	comp=E,840μm,0.4s								
URLA	**Izmir**	**1.52**	**335**	P		**Pn**	**Pn**	**15 15 18.3**	**-0.4**
URLA	**Izmir**	**1.52**	**335**	P	*i*	**Pn**	**Pn**	**15 15 18.3**	**-0.4**
URLA				S	*i*	**Sg**	**Sg**	**15 15 43.9**	**+3.7**
GLHS	**Glhisar (BURDU**	**1.68**	**83**	P	*e*	**Pn**	**Pn**	**15 15 21.1**	**+0.2**
GLHS	**Glhisar (BURDU**	**1.68**	**83**	P	*e*	**Pn**	**Pn**	**15 15 21.1**	**+0.2**
GOLH	**Golhisar**	**1.74**	**81**	P		**Pb**	**Pb**	**15 15 23.9**	**+0.4**
GOLH	**Golhisar**	**1.74**	**81**	P	*i*	**Pb**	**Pb**	**15 15 23.9**	**+0.4**
CHOS	**Chios island**	**1.77**	**323**	P		**Pn**	**Pn**	**15 15 21.4**	**-0.7**
CHOS	**Chios island**	**1.77**	**323**	P		**Pn**	**Pn**	**15 15 21.4**	**-0.7**
CHOS	**Chios island**	**1.77**	**323**	P		**Pn**	**Pn**	**15 15 22.3**	**+0.2**
KULA	**Kula-Manisa**	**1.82**	**33**	P	*e*	**Pn**	**Pn**	**15 15 21.8**	**-1.1**
KULA	**Kula-Manisa**	**1.82**	**33**	P		**Pn**	**Pn**	**15 15 22.0**	**-0.9**
KULA	**Kula-Manisa**	**1.82**	**33**	P		**Pn**	**Pn**	**15 15 22.0**	**-0.9**
AKAS	**Kas**	**1.92**	**112**	P		**Pb**	**Pb**	**15 15 25.5**	**-1.0**
AKAS	**Kas**	**1.92**	**112**	P	*i*	**Pb**	**Pb**	**15 15 25.5**	**-1.0**
AKS	**Akhisar**	**1.92**	**9**	P	*e*	**Pn**	**Pn**	**15 15 22.9**	**-1.3**
AKS	**Akhisar**	**1.92**	**9**	P	*e*	**Pn**	**Pn**	**15 15 22.9**	**-1.3**
KSL	**Kastellorizon**	**1.94**	**115**	P		**Pn**	**Pn**	**15 15 25.4**	**+1.1**
ELL	**Elmali**	**2.02**	**96**	P	*e*	**Pn**	**Pn**	**15 15 26.0**	**+0.4**
ELL	**Elmali**	**2.02**	**96**	P	*e*	**Pn**	**Pn**	**15 15 26.0**	**+0.4**
DKL	**Dikili**	**2.12**	**349**	P	*e*	**Pn**	**Pn**	**15 15 27.8**	**+0.9**
DKL	**Dikili**	**2.12**	**349**	P	*e*	**Pn**	**Pn**	**15 15 27.8**	**+0.9**
KHL	**Karahalli**	**2.15**	**51**	P	*e*	**Pn**	**Pn**	**15 15 27.8**	**+0.4**
KHL	**Karahalli**	**2.15**	**51**	P	*e*	**Pn**	**Pn**	**15 15 27.8**	**+0.4**
PRK	**Paraskevi**	**2.43**	**339**	P		**Pn**	**Pn**	**15 15 30.2**	**-0.9**
PRK	**Paraskevi**	**2.43**	**339**	P		**Pn**	**Pn**	**15 15 30.2**	**-0.9**
PRK	**Paraskevi**	**2.43**	**339**	P		**Pn**	**Pn**	**15 15 30.8**	**-0.3**
SIGR	**SIGRI**	**2.54**	**332**	P		**Pn**	**Pn**	**15 15 31.6**	**-1.0**
SIGR	**SIGRI**	**2.54**	**332**	P		**Pn**	**Pn**	**15 15 31.6**	**-1.0**
GDZ	**Gediz**	**2.67**	**37**	P		**Pn**	**Pn**	**15 15 34.1**	**-0.4**
GDZ	**Gediz**	**2.67**	**37**	P	*i*	**Pn**	**Pn**	**15 15 34.1**	**-0.4**
BALB	**Balikesir**	**2.68**	**8**	P	*e*	**Pn**	**Pn**	**15 15 35.2**	**+0.6**
BALB	**Balikesir**	**2.68**	**8**	P	*e*	**Pn**	**Pn**	**15 15 35.2**	**+0.6**
BRTR	**Keskin Array B**	**5.61**	**59**	Pn		**Pn**	**Pn**	**15 16 16.7**	**+1.7**
	comp=E,0.6nm,0.3s,baz=245,slow=14,SNR=12								
BRTR				Sn		**Sn**	**Sn**	**15 17 20.8**	**+1.2**
	comp=E,0.2nm,0.3s,baz=238,slow=22,SNR=3.2								
TORD	**Torodi Ar. Bea**	**33.05**	**231**	P		**P**	**P**	**15 21 27.3**	**+0.1**
	comp=E,0.7nm,0.5s,baz=33,slow=8.6,SNR=7.0								
MKAR	**Makanchi Array**	**41.26**	**58**	P		**P**	**P**	**15 22 38.1**	**+1.4**
	comp=E,0.4nm,0.6s,baz=275,slow=8.5,SNR=5.0								
ZALV	**Zalesovo Beam**	**42.43**	**48**	P		**P**	**P**	**15 22 46.4**	**+0.3**
	comp=E,1.2nm,0.3s,baz=255,slow=5.5,SNR=2.6								

NIED ***24*** *15:22:00,37°.10N×141°.10E,h50km,Mw4.1 Best double couple: M0 1.59000×10^15 NP1:φ s 241.00000°, δ 21.00000°, λ 127.00000°. NP2:φ s 23.00000°, δ 73.00000°, λ 77.00000°.*
ISCJB ***24*** *15:22:51.7±0.7, 37.09N±0°.04×141°.25E±0°.08, h55km±4km, mb3.9/14, MS3.4/2, Error ellipse: s-maj=10.7km s-min=5.3km az=17.2*
JMA ***24*** *15:22:53.4±0.1, 37°.10N×141°.14E, h53km±1km, M4.1*
JMA Felt II J1.
IDC ***24*** *15:22:54.3±0.6, 37°.11N×141°.11E, h59km±5km, mb3.7/14, mb1 3.8/20, mb1mx3.7/50, mbtmp4.0/20, MS3.5/2, Ms1 3.5/2, ms1mx2.8/52, Error ellipse: s-maj=16.5km s-min=12.5km az=92.0*

ISC 24 15:22:53.5±0.7, 37°.10N±0°.05×141°.26E±0°.07, h52km±5km, n42, σ1°47/49, mb3.9/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.37**	**270**	P		**Pn**	**Pn**	**15 23 02.5**	**-1.0**
ONAJ				S		**Sn**	**Sn**	**15 23 08.7**	**-1.9**
JFK	**Kawauchi**	**0.40**	**311**	P		**Pn**	**Pn**	**15 23 02.9**	**-0.9**
JFK				S		**Sn**	**Sn**	**15 23 09.5**	**-1.8**
JHO	**Hitachi**	**0.74**	**229**	P		**Pn**	**Pn**	**15 23 06.5**	**-1.3**
JHO				S		**Sn**	**Sn**	**15 23 15.6**	**-2.6**
JFT	**Otama**	**0.84**	**300**	P		**Pn**	**Pn**	**15 23 08.8**	**-0.4**
JFT				*e*S		**Sn**	**Sn**	**15 23 19.4**	**-1.3**
JMM	**Marumori**	**0.85**	**334**	P		**Pn**	**Pn**	**15 23 08.5**	**-0.7**
JMM				S		**Sn**	**Sn**	**15 23 19.4**	**-1.4**
JFY	**Yanaizu**	**1.28**	**284**	P		**Pn**	**Pn**	**15 23 13.9**	**-1.1**
JOU	**Okura**	**1.35**	**340**	P		**Pn**	**Pn**	**15 23 15.4**	**-0.6**
JIO	**Ouri**	**1.35**	**3**	P		**Pn**	**Pn**	**15 23 15.7**	**-0.3**
JYS	**Shirataka**	**1.46**	**320**	P		**Pn**	**Pn**	**15 23 17.2**	**-0.3**
JAG	**Ashikaga**	**1.60**	**246**	P		**Pn**	**Pn**	**15 23 18.2**	**-1.1**
JAG				S		**Sn**	**Sn**	**

BARC				*i*				15 25 44.9	
	comp=Z,2μm,0.3s								
PAMC	**Pamplona, Colo**	**0.56**	**35**	*i* P		**Pn**		**15 25 31.7**	**+1.2**
PAMC				*e*S		**Sn**		**15 25 48.2**	**-0.1**
BRRC	**Barranca, Sant**	**0.72**	**288**	⇑*i*P		**Pn**		**15 25 30.6**	**-0.2**
BRRC				*e*S		**Sn**		**15 25 47.6**	**-1.3**
BRRC				*i*				15 25 51.7	
	comp=Z,2μm,0.1s								
CBRI	**Barrientos, No**	**0.86**	**15**	*i* P		**Pn**		**15 25 33.3**	**+1.2**
CBRI				*e*S		**Sn**		**15 25 51.6**	**+0.6**
GRMC	**Gramalote, San**	**0.86**	**15**	*i* P		**Pn**		**15 25 34.5**	**+2.5**
GRMC				*e*S		**Sn**		**15 25 53.4**	**+2.3**
GRMC				*i*				15 25 56.9	
	comp=Z,1μm,0.4s								
RUSC	**La Rusia**	**0.99**	**184**	⇑*i*P		**Pn**		**15 25 32.7**	**-0.7**
RUSC				*e*S		**Sn**		**15 25 51.2**	**-2.1**
CAPV	**Capacho**	**1.20**	**36**	⇓*i*P		**Pn**		**15 25 36.7**	**+1.8**
CAPV				*e*S		**Sn**		**15 25 57.1**	**+1.0**
OCAC	**Ocana**	**1.38**	**348**	*i* P		**Pn**		**15 25 37.3**	**+0.8**
OCAC				*e*S		**Sn**		**15 25 58.8**	**-0.2**
OCAC				*i*				15 26 02.4	
	comp=Z,2μm,0.2s								
YOPC	**Yopal, Colombi**	**1.63**	**158**	*i* P		**Pn**		**15 25 39.5**	**+0.5**
YOPC				*e*S		**Sn**		**15 26 03.3**	**-0.2**
NORC	**Norcasia**	**2.26**	**235**	*e*P		**Pn**		**15 25 44.6**	**-1.4**
NORC				*e*S		**Sn**		**15 26 12.2**	**-3.7**
CHIC	**Chingaza**	**2.35**	**198**	*e*P		**Pn**		**15 25 46.7**	**-0.8**
CHIC				*e*S		**Sn**		**15 26 16.1**	**-2.3**
CHIC				*i*				15 26 19.8	
	comp=Z,407nm,0.6s								
ROSC	**El Rosal**	**2.41**	**213**	P		**Pn**		**15 25 49.0**	**+0.9**
	comp=Z,48nm,0.3s,baz=306,slow=7.4,SNR=33								
ROSC				S		**Sn**		**15 26 19.1**	**-0.5**
	comp=Z,46nm,0.3s,baz=100,slow=14,SNR=10								
ROSC	**El Rosal**	**2.41**	**213**	*e*P		**Pn**		**15 25 48.7**	**+0.6**
ROSC				*e*S		**Sn**		**15 26 17.4**	**-2.2**
ROSC				*i*				15 26 22.7	
	comp=Z,978nm,0.5s								
SOCV	**Socops**	**2.56**	**57**	*e*P		**Pn**		**15 25 51.1**	**+1.6**
SOCV				*e*S		**Sn**		**15 26 23.0**	**+0.7**
HELC	**Santa Helena**	**2.58**	**255**	*e*P		**Pn**		**15 25 48.6**	**-1.6**
HELC				*e*S		**Sn**		**15 26 21.5**	**-1.8**
HELC				*i*				15 26 27.9	
	comp=Z,486nm,0.5s								
VILC	**Villavicencio,**	**2.83**	**194**	*e*P		**Pn**		**15 25 51.9**	**-1.1**
VILC				*i*				15 26 36.6	
	comp=Z,310nm,0.4s								
GUYC	**Guyana, Colomb**	**2.88**	**235**	*e*P		**Pn**		**15 25 52.8**	**-1.1**
GUYC				*e*S		**Sn**		**15 26 27.1**	**-2.9**
GUYC				*i*				15 26 34.5	
	comp=Z,606nm,0.4s								
SDV	**Santo Domingo**	**3.09**	**50**	P		**Pn**		**15 25 58.4**	**+2.0**
	comp=Z,69nm,0.3s,baz=218,slow=1.2,SNR=25								
SDV				S		**Sn**		**15 26 35.2**	**+0.8**
SDV	**Santo Domingo**	**3.09**	**50**	*e*P		**Pn**		**15 25 58.3**	**+2.0**
SDV	**Santo Domingo**	**3.09**	**50**	*e*P		**Pn**		**15 25 58.1**	**+1.7**
DBBC	**Dabeiba**	**3.17**	**273**	*e*P		**Pn**		**15 25 57.1**	**-0.1**
MOTC	**Monteria, Cord**	**3.23**	**306**	*e*P		**Pn**		**15 25 56.1**	**-1.8**
TOLC	**Tolima**	**3.23**	**225**	*e*P		**Pn**		**15 25 57.4**	**-0.8**
ELO	**Elorza**	**3.52**	**88**	*e*P		**Pn**		**15 26 02.9**	**+1.4**
ELOV				*e*S		**Sn**		**15 26 43.3**	**-0.4**
VIRV	**Villa del Rosa**	**3.65**	**10**	*e*P		**Pn**		**15 26 03.9**	**+0.6**
VIRV				*e*S		**Sn**		**15 26 45.2**	**-1.7**
PRAC	**Prado**	**3.66**	**211**	*e*P		**Pn**		**15 26 02.1**	**-1.3**
PRAC				*e*S		**Sn**		**15 26 44.5**	**-2.6**
PRAC				*i*				15 26 46.6	
	comp=Z,586nm,0.3s								
SJCC	**San Jacinto, C**	**3.68**	**325**	⇑*i*P		**Pn**		**15 26 02.6**	**-1.1**
SJCC				*i*				15 26 48.6	
	comp=Z,191nm,0.4s								
SJAC	**San Juan de Ar**	**3.70**	**195**	*e*P		**Pn**		**15 26 02.8**	**-1.3**
SJAC				*i*				15 26 56.6	
	comp=Z,680nm,0.4s								
QARV	**Quebrada Arrib**	**4.12**	**37**	*e*S		**Sn**		**15 26 56.2**	**-1.7**
SANV	**Sanarito**	**4.32**	**53**	*e*P		**Pn**		**15 26 13.1**	**+1.0**
SANV				*e*S		**Sn**		**15 27 01.1**	**-1.5**
GUVC	**San Jose del G**	**4.33**	**175**	*e*P		**Pn**		**15 26 11.6**	**-0.5**
CURV	**Curarigua**	**4.34**	**44**	*e*P		**Pn**		**15 26 13.4**	**+1.1**
CURV				*e*S		**Sn**		**15 27 01.4**	**-1.6**
DABV	**Dabajuro**	**4.65**	**30**	*e*P		**Pn**		**15 26 17.6**	**+1.3**
DABV				*e*S		**Sn**		**15 27 07.1**	**-3.2**
TEPV	**Terepaima**	**4.87**	**51**	*e*P		**Pn**		**15 26 20.4**	**+1.2**
TEPV				*e*S		**Sn**		**15 27 12.5**	**-2.9**
URIC	**Uribia, Colomb**	**4.89**	**12**	*e*P		**Pn**		**15 26 19.5**	**0.0**
SIQV	**Siquisique**	**4.91**	**40**	*e*P		**Pn**		**15 26 19.8**	**+0.1**
MALC	**Bahia Malaga**	**5.15**	**237**	*e*P		**Pn**		**15 26 23.1**	**+0.2**
BAUV	**El Baul**	**5.34**	**67**	*e*S		**Sn**		**15 27 23.4**	**-3.1**
MAPV	**Macapo**	**5.38**	**57**	*e*P		**Pn**		**15 26 26.8**	**+0.8**
MAPV				*e*S		**Sn**		**15 27 24.6**	**-2.9**
POPC	**Popayan, Colom**	**5.65**	**220**	*e*P		**Pn**		**15 26 28.6**	**-1.0**
MONV	**Montecano**	**5.87**	**31**	*e*P		**Pn**		**15 26 32.6**	**+0.3**
MONV				*e*S		**Sn**		**15 27 34.9**	**-4.2**
TURV	**Turiamo**	**6.23**	**55**	*e*P		**Pn**		**15 26 37.9**	**+0.7**
TURV				*e*S		**Sn**		**15 27 43.2**	**-4.3**
CRUC	**La Cruz**	**6.58**	**217**	*e*P		**Pn**		**15 26 43.7**	**+1.6**
FUNV	**FUNVISIS**	**7.10**	**59**	*e*P		**Pn**		**15 26 49.3**	**+0.5**
FUNV				*e*S		**Sn**		**15 28 03.0**	**-5.6**
BIRV	**Birongo**	**7.57**	**61**	*e*P		**Pn**		**15 26 54.6**	**-0.4**
CUPV	**Cœpira**	**7.82**	**66**	*e*P		**Pn**		**15 26 58.1**	**-0.3**
CUPV				*e*S		**Sn**		**15 28 19.9**	**-5.9**
PCRV	**Puerto La Cruz**	**8.91**	**68**	P		**Pn**		**15 27 14.5**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=288,slow=6.2,SNR=6.1								
TXAR	**Lajitas Array**	**36.49**	**312**	P		**P**		**15 31 58.9**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=125,slow=9.5,SNR=13								
PDAR	**Pinedale Array**	**48.09**	**324**	P		**P**		**15 33 32.4**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=110,slow=6.8,SNR=3.1								
YKA	**Yellowknife Ar**	**63.24**	**340**	P		**P**		**15 35 19.4**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=133,slow=6.7,SNR=7.3								
ILAR	**Eielson Array**	**76.95**	**335**	P		**P**		**15 36 41.1**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=119,slow=7.3,SNR=2.8								
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc		**PKPbc**		**15 44 37.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=113,slow=3.6,SNR=6.9								
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc		**PKPbc**		**15 44 40.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=108,slow=2.4,SNR=11								

GUC 24 15:26:56.0±0.5,23°.92S×67°.61W,h219km±16km,ML4.3, 7C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.18**	**303**	⇑*i*P	Pn	15 27 39.4	+1.4
PB06				*i* S	S	15 28 12.4	+2.0
PB06				IAML		15 28 15.8	
	comp=N,635nm,0.2s						
PB09	**IPOC Station P**	**2.60**	**324**	⇑*i*P	Pn	15 27 43.9	+1.5
PB09				*e*S	S	15 28 21.0	+2.5
PB09				IAML		15 28 24.6	
	comp=E,944nm,0.6s						
PB14	**IPOC Station P**	**2.65**	**254**	⇑*i*P	Pn	15 27 43.7	+0.6
PB14				*e*S	S	15 28 20.4	+0.9
PB10	**IPOC Station P**	**2.73**	**278**	⇑*i*P	Pn	15 27 45.5	+1.9
PB10				*i* S	S	15 28 22.9	+2.2
PB04	**IPOC Station P**	**2.83**	**304**	⇓*i*P	Pn	15 27 46.9	+2.0
PB04				*i* S	S	15 28 25.3	+2.4
PB07	**IPOC Station P**	**3.03**	**316**	⇑*i*P	Pn	15 27 48.8	+1.5
PB07				*e*S	S	15 28 28.9	+1.7
PB07				IAML		15 28 30.1	
	comp=E,402nm,0.8s						
PB01	**IPOC Station P**	**3.35**	**328**	⇑*i*P	Pn	15 27 51.7	+0.8
PB01				*e*S	S	15 28 34.9	+1.1
PB01				IAML		15 28 39.5	
	comp=E,156nm,0.4s						
PB08	**IPOC Station P**	**4.03**	**339**	⇓*i*P	Pn	15 28 00.7	+1.4
PB08				*i* S	S	15 28 50.9	+2.0
PB08				IAML		15 28 52.6	
	comp=E,86nm,0.3s						
HMBC	**Humberstone**	**4.20**	**329**	*e*P	Pn	15 28 01.1	-0.1
PB11	**IPOC Station P**	**4.56**	**335**	*e*P	Pn	15 28 05.6	0.0
PB11				*e*S	S	15 29 00.5	+0.1
MNMC	**Minye Minye**	**5.12**	**338**	⇑*i*P	Pn	15 28 13.2	+0.5
MNMC				*e*S	S	15 29 14.2	+1.0

*IDC **24** 15:30:00.7±1.2,6°.51S×130°.78E,h0km,mb4.2/5, mb1 4.3/8,mb1mx4.0/32,mbtmp4.2/8,ML4.3/3,Error ellipse: s-maj=65.3km s-min=18.7km az=71.0*
*ISCJB **24** 15:30:09.4±0.6,6°.88S±0°.06×130°.7E±0°.2,h100km, mb4.0/6,Error ellipse: s-maj=22.3km s-min=6.8km az=168.1*
*NEIC **24** 15:30:09.3±1.2,6°.82S×130°.46E,h69km±16km,mb4.1/1,*

Error ellipse: s-maj=23.7km s-min=9.4km az=87.0
ISC 24 15:30:11.0±0.8,6°.97S±0°.06×130°.6E±0°.1,h100km,n11, σ2≥69/15,mb3.9/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.35**	**22**	*e*Pn	**Pn**	**15 31 12.3**	**-2.7**
FAKI				*e*Sn	Sn	15 31 52.6	-12
FITZ	**Fitzroy Crossi**	**12.07**	**203**	Pn	**Pn**	**15 33 00.1**	**+0.5**
	0.9nm,0.3s,baz=27,slow=8.8,SNR=46						
FITZ				Sn	**Sn**	**15 35 09.3**	**-3.1**
	1.5nm,0.3s,baz=239,slow=19,SNR=6.9						
WRAB	**Tennant Creek**	**13.39**	**165**	*e*Pn	**Pn**	**15 33 17.7**	**+0.6**
	4.6nm,0.4s						
WRAB				*e*Sn	**Sn**	**15 35 44.9**	**+0.3**
WRA	**Warramunga Arr**	**13.40**	**165**	Pn	**Pn**	**15 33 17.6**	**+0.4**
	1.4nm,0.3s,baz=340,slow=13,SNR=23						
WRA				Sn	**Sn**	**15 35 40.0**	**-4.7**
	1.8nm,0.3s,baz=341,slow=20,SNR=8.3						
ASAR	**Alice Springs**	**16.91**	**169**	P	**P**	**15 34 05.2**	**+3.2**
	1.6nm,0.3s,baz=346,slow=9.3,SNR=73						
ASAR				S	**Sn**	**15 37 05.1**	**-4.3**
	0.8nm,0.3s,baz=346,slow=24,SNR=5.9						
STKA	**Stephens Creek**	**26.83**	**159**	P	**P**	**15 35 46.0**	**+4.0**
	2.2nm,0.5s,baz=316,slow=9.1,SNR=7.2						
CMAR	**Chiang Mai Arr**	**40.16**	**309**	P	**P**	**15 37 38.0**	**+0.4**
	1.2nm,0.7s,baz=132,slow=7.1,SNR=9.4						
LSA	**Lhasa**	**52.58**	**316**	*e*P	**P**	**15 39 15.1**	**-0.1**
	1.3nm,0.6s						
SONM	**Songino Array**	**58.60**	**341**	P	**P**	**15 39 57.6**	**+0.1**
	0.8nm,0.7s,baz=172,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**68.52**	**327**	P	**P**	**15 41 03.6**	**+0.9**
	5.1nm,0.4s,baz=113,slow=8.3,SNR=36						
ZALV	**Zalesovo Beam**	**71.81**	**334**	P	**P**	**15 41 22.2**	**-0.4**
	0.7nm,0.5s,baz=116,slow=6.6,SNR=3.3						

*ISCJB **24** 15:30:59.1±1.0,39°.15N±0°.03×144°.40E±0°.03,h17km±7km, mb4.5/79,MS3.5/4,Error ellipse: s-maj=4.5km s-min=3.2km az=153.3*
*BJI **24** 15:31:00.0,39°.10N×144°.69E,h35km,mb4.6/43,mB5.0/25, Ms4.3/25,Ms7 4.0/25*
*NIED **24** 15:31:00,39°.20N×144°.40E,h5km,Mw4.3 Best double couple: M0 3.67000×10^15 NP1:φ=10.00000°,δ=44.00000°, λ=-78.00000°. NP2:φ=173.00000°,δ=48.00000°, λ=-101.00000°.*
*MOS **24** 15:31:01.1±1.1,39°.12N×144°.43E,h36km,mb4.8/33,Error ellipse: s-maj=8.0km s-min=5.4km az=103.5*
*IDC **24** 15:31:02.6±0.6,39°.03N×144°.57E,h36km±3km,mb4.1/23, mb1 4.3/29,mb1mx4.2/44,mbtmp4.3/29,ML3.8/4,MS3.6/8, Ms1 3.6/8,ms1mx3.1/46,Error ellipse: s-maj=14.3km s-min=11.9km az=125.0*
*JMA **24** 15:31:02.2±0.2,39°.19N×144°.34E,h49km,M4.6*
JMA Felt I J1.
*NEIC **24** 15:31:02.7±0.2,39°.04N×144°.44E,h35km,mb4.7/39,Error ellipse: s-maj=6.5km s-min=3.9km az=140.0*
NEIC Recorded [1 JMA] in Miyagi.
ISC 24 15:31:01.8±0.5,39°.11N±0°.04×144°.54E±0°.05,h28km±3km, n213,σ1≤92/258,mb4.6/85,MS3.6/4,3C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.16**	**283**	P	**Pn**	**15 31 34.5**	**-1.5**
MIYJ				*e*S	**Sn**	**15 31 57.8**	**-4.1**
JTH	**Tanohata**	**2.23**	**293**	P	**Pn**	**15 31 35.2**	**-1.7**
JTH				*e*S	**Sn**	**15 32 00.0**	**-3.6**
OFUJ	**Ofunato**	**2.24**	**270**	P	**Pn**	**15 31 35.6**	**-1.4**
OFUJ				*e*S	**Sn**	**15 31 59.8**	**-3.9**
JOM	**Ohasama**	**2.55**	**279**	P	**Pn**	**15 31 40.3**	**-1.0**
JOM				*e*S	**Sn**	**15 32 08.0**	**-3.4**
JMK	**Ichinoseki**	**2.59**	**268**	P	**Pn**	**15 31 40.7**	**-1.2**
JMK				*e*S	**Sn**	**15 32 08.8**	**-3.7**
JANG	**Nango**	**2.65**	**299**	P	**Pn**	**15 31 40.4**	**-2.4**
JANG				*e*S	**Sn**	**15 32 09.8**	**-4.2**
JRG	**Rokugo**	**3.05**	**277**	P	**Pn**	**15 31 47.4**	**-0.8**
JRG				*e*S	**Sn**	**15 32 20.9**	**-2.9**
ERM	**Erimo**	**3.09**	**340**	*e*P	**Pn**	**15 31 47.6**	**-1.1**
ERM	**Erimo**	**3.09**	**340**	*e*Pn	**Pn**	**15 31 47.6**	**-1.1**
JOU	**Okura**	**3.12**	**257**	P	**Pn**	**15 31 47.9**	**-1.3**
JOU				*e*S	**Sn**	**15 32 22.5**	**-3.1**
JTM	**Tenmabayashi**	**3.15**	**303**	P	**Pn**	**15 31 48.1**	**-1.5**
JTM				*e*S	**Sn**	**15 32 23.1**	**-3.2**
JAH	**Hinai**	**3.20**	**291**	P	**Pn**	**15 31 49.5**	**-0.8**
JAH				*e*S	**Sn**	**15 32 25.6**	**-1.9**
JYK	**Kaneyama**	**3.27**	**268**	P	**Pn**	**15 31 50.4**	**-0.8**
JYK				*e*S	**Sn**	**15 32 26.8**	**-2.3**
JNBK	**Urakawa-nobuka**	**3.45**	**337**	P	**Pn**	**15 31 51.9**	**-1.7**
JNBK				*e*S	**Sn**	**15 32 31.4**	**-2.1**
JOT	**Ohata**	**3.51**	**311**	P	**Pn**	**15 31 52.7**	**-1.8**
JOT				*e*S	**Sn**	**15 32 32.1**	**-2.9**
JCH	**Churui**	**3.61**	**346**	P	**Pn**	**15 31 53.6**	**-2.3**
JCH				*e*S	**Sn**	**15 32 33.0**	**-4.6**
JFT	**Otama**	**3.67**	**246**	P	**Pn**	**15 31 55.2**	**-1.6**
JFT				*e*S	**Sn**	**15 32 35.3**	**-3.8**
JKB	**Kayabe**	**3.85**	**317**	P	**Pn**	**15 31 57.6**	**-1.6**
JKB				*e*S	**Sn**	**15 32 39.3**	**-4.3**
NEM2	**Nemuro 2**	**4.34**	**12**	P	**Pn**	**15 32 02.6**	**-3.4**
NEM2				*e*S	**Sn**	**15 32 49.6**	**-6.1**
JTKR	**Abashiri--Toko**	**4.88**	**355**	P	**Pn**	**15 32 11.4**	**-1.9**
JTKR				*e*S	**Sn**	**15 33 03.7**	**-5.1**
YUK	**Yuzh-Kuril'sk**	**5.02**	**11**	*e*P	**Pn**	**15 32 13.4**	**-1.8**
JHR	**Hokuryu**	**5.09**	**336**	P	**Pn**	**15 32 16.9**	**+0.7**
JHR				*e*S	**Sn**	**15 33 13.0**	**-1.0**
ASAJ	**Asahikawa**	**5.21**	**344**	Pn	**Pn**	**15 32 17.2**	**-0.7**
	6.8nm,0.3s,baz=195,slow=13,SNR=85						
ASAJ				Sn	**Sn**	**15 33 16.3**	**-0.7**
	10nm,0.3s,baz=25,slow=28,SNR=4.5						
BSO1	**Boso 1**	**5.29**	**214**	P	**Pn**	**15 32 15.2**	**-3.3**
BSO1				*e*S	**Sn**	**15 33 14.1**	**-4.1**
JRY	**Ryogami san**	**5.44**	**237**	P	**Pn**	**15 32 19.3**	**-1.8**
JRY				*e*S	**Sn**	**15 33 17.4**	**-5.4**
MJAR	**Matsushiro Arr**	**5.63**	**245**	Pn	**Pn**	**15 32 23.2**	**-0.5**
	33nm,0.3s,baz=55,slow=11,SNR=376						
MJAR				Sn	**Sn**	**15 33 25.7**	**-1.8**
	8.2nm,0.3s,baz=53,slow=25,SNR=5.3						
MJAR				LR	LR	15 34 47.8	
	comp=Z,531nm,19.5s,baz=60,slow=40						
MAJO	**Matsushiro**	**5.63**	**245**	*i* P	**Pn**	**15 32 23.8**	**0.0**
MAJO	**Matsushiro**	**5.63**	**245**	*e*Pn	**Pn**	**15 32 23.7**	**0.0**
MAT	**Matsushiro**	**5.63**	**245**	P	**Pn**	**15 32 23.4**	**-0.3**
MAT				S	**Sn**	**15 33 26.8**	**-0.7**
MJB9	**Matsu-Tunnel**	**5.63**	**245**	*e*Pn	**Pn**	**15 32 23.7**	**0.0**
JOD2	**Odawara 2**	**5.81**	**230**	P	**Pn**	**15 32 23.6**	**-2.5**
JOD2				*e*S	**Sn**	**15 33 25.0**	**-6.8**
KUR	**Kuril'sk**	**6.60**	**21**	*e*P	**Pn**	**15 32 34.0**	**-2.9**
KUR				pmax	pmax		
	comp=Z,45nm,0.6s						
INU	**Inuyama**	**7.08**	**240**	*e*Pn	**Pn**	**15 32 42.3**	**-1.3**
JHJ2	**Mitsune**	**7.10**	**214**	*e*Pn	**Pn**	**15 32 40.5**	**-3.4**
JHJ	**Hachijo jima 2**	**7.11**	**214**	Pn	**Pn**	**15 32 40.8**	**-3.3**
	comp=Z,62nm,0.3s,baz=42,slow=17,SNR=17						
JHJ				Sn	**Sn**	**15 33 56.3**	**-7.6**
	comp=Z,102nm,0.3s,baz=106,slow=22,SNR=9.5						
YSS	**Yuzh-Sakhalins**	**7.95**	**351**	*e*P	**Pn**	**15 32 54.6**	**-0.8**
YSS				*e*S	**Sn**	**15 34 19.2**	**-5.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,300nm,12.0s						
YSS	**Yuzh-Sakhalins**	**7.95**	**351**	*e*Pn	**Pn**	**15 32 58.3**	**+2.8**
USRK	**Ussuriysk Ar.**	**10.68**	**302**	Pn	**Pn**	**15 33 32.4**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=101,slow=12,SNR=23						
USRK				LR	LR	15 37 35.6	
	comp=Z,306nm,18.9s,baz=118,slow=37						
HABR	**Khabarovsk**	**11.59**	**327**	*e*P	**Pn**	**15 33 41.2**	**-4.1**
HABR				*e*S	**Sn**	**15 35 46.8**	**-7.0**
HABR				pmax	pmax		
	comp=E,16nm,1.7s						
HABR				pmax	pmax		
	comp=Z,20nm,1.7s						
HABR				pmax	pmax		
	comp=N,4.0nm,0.8s						
HABR				MLR	MLR		
	comp=Z,42nm,16.0s						
TYV	**Tymovskoe**	**11.83**	**354**	*e*P	Pn	15 34 01.8	+13
TYV				pmax	pmax		
	comp=Z,11nm,0.8s						
CBIJ	**Chichi jima**	**12.14**	**190**	*e*Pn	Pn	15 33 46.4	-6.6
JNU	**Nakatsue**	**12.56**	**246**	Pn	**Pn**	**15 33 56.7**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=48,slow=9.3,SNR=11						
JNU				LR	LR	15 38 37.0	
	comp=Z,353nm,20.5s,baz=238,slow=36						
JNU	**Nakatsue**	**12.56**	**246**	*e*Pn	**Pn**	**15 33 55.0**	**-3.7**
KSRS	**Korea Array**	**13.17**	**268**	Pn	**Pn**	**15 34 06.3**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=83,slow=13,SNR=11						
KSRS				LR	LR	15 38 30.2	
	comp=Z,245nm,22.0s,baz=82,slow=34						
KSAR	**Wonju Array Be**	**13.20**	**268**	P	**Pn**	**15 34 06.3**	**-1.0**
KSAR	**Wonju Array Be**	**13.20**	**268**	Pn	**Pn**	**15 34 06.3**	**-1.0**
KLR	**Kul'dur**	**13.64**	**322**	Pn	**Pn**	**15 34 12.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=124,slow=13,SNR=7.3						
KLR	**Kul'dur**	**13.64**	**322**	*e*P	**Pn**	**15 34 11.1**	**-2.2**
TJN	**Taejon**	**13.87**	**264**	*e*P	**Pn**	**15 34 16.4**	**-0.1**
CN2	**Changchun**	**15.06**	**294**	*e*P	**Pn**	**15 34 34.3**	**+1.7**
PEA0	**Petropavlovsk-**	**16.67**	**29**	*e*Pn	**P**	**15 34 57.1**	**+1.7**
PETK	**Petropavlovsk-**	**16.67**	**29**	Pn	**Pn**	**15 34 52.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=196,slow=15,SNR=4.0						
MA2	**Magadan**	**20.86**	**9**	P	**P**	**15 35 40.8**	**-0.6**
	comp=Z,10.0nm,0.9s,baz=219,slow=8.8,SNR=6.1						
TIA	**Tai'an**	**21.87**	**271**	⇑P	**P**	**15 35 57.3**	**+4.9**
TIA				PMZ			
	comp=Z,20nm,0.9s						
SEY	**Seymchan**	**24.32**	**9**	P	**P**	**15 36 16.7**	**-0.1**
	comp=Z,7.8nm,1.0s,baz=179,slow=8.8,SNR=13						
SEY	**Seymchan**	**24.32**	**9**	*i* P	**P**	**15 36 16.8**	**0.0**
YAK	**Yakutsk**	**24.69**	**343**	P	**P**	**15 36 20.8**	**+0.7**
	comp=Z,8.1nm,0.5s,baz=0.5,slow=3.4,SNR=5.6						
YAK	**Yakutsk**	**24.69**	**343**	*e*P	**P**	**15 36 24.5**	**+4.4**
YAK				pmax	pmax		
	comp=Z,35nm,1.0s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK	**Yakutsk**	**24.69**	**343**	*e*P	**P**	**15 36 21.2**	**+1.1**
	comp=E,31nm,0.9s						
HHC	**Hu-ho-hao-te**	**25.25**	**285**	*e*P	**P**	**15 36 26.6**	**+1.0**
HHC				pP	pP	15 36 35.4	+1.7
HHC				PP	**PnPn**	**15 37 05.0**	**+4.6**
HHC				S	**S**	**15 40 50.9**	**+1.3**
HHC				PMZ			
	comp=E,26nm,1.1s						
HHC				PMZ			
	comp=E,110nm,7.5s						
HHC				LN			
	comp=E,240nm,15.3s						
HHC				LE			
	comp=E,270nm,12.4s						
HHC				LZ			
	comp=E,220nm,16.2s						
WHN	**Wuhan**	**26.13**	**260**	P	**P**	**15 36 33.9**	**+0.4**
BOD	**Bodaibo**	**27.21**	**324**	*e*P	**P**	**15 36 42.3**	**-0.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ULN	**Ulaanbaatar**	**28.34**	**300**	*i* P	**P**	**15 36 52.9**	**-0.5**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SONA1	**Songino Array**	**28.77**	**300**	*e*P	**P**	**15 36 57.2**	**0.0**
SONM	**Songino Array**	**28.78**	**300**	P	**P**	**15 36 57.0**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=90,slow=9.5,SNR=7.5						
SONM				LR	LR	15 48 50.4	
	comp=Z,159nm,19.2s,baz=104,slow=37						
ZAK	**Zakamensk**	**31.02**	**305**	*e*P	**P**	**15 37 16.6**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BILL	**Bilibino**	**31.35**	**16**	*e*P	**P**	**15 37 18.6**	**-1.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TIXI	**Tiksi**	**33.57**	**351**	*i* P	**P**	**15 37 38.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s						
GYA	**Guiyang**	**34.01**	**260**	*e*P	**P**	**15 37 43.3**	**-0.2**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**34.16**	**269**	*e*P	**P**	**15 37 43

ILAR	**Eielson Array**	**46.41**	**33**	P		**P**	**15 39 25.9**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=263,slow=6.9,SNR=31							
ILAR				pP		**sP**	**15 39 36.4**	**-0.9**
	comp=Z,5.5nm,0.7s,baz=260,slow=6.8,SNR=22							
ILB	**Eielson Array**	**46.41**	**33**	*eP*		**P**	**15 39 25.6**	**0.0**
KURK	**Kurchatov**	**46.63**	**307**	*d iP*		**P**	**15 39 27.4**	**0.0**
KURK				pmax	pmax			
	comp=Z,44nm,0.8s							
KURK	**Kurchatov**	**46.63**	**307**	*eP*		**P**	**15 39 27.3**	**0.0**
	comp=Z,43nm,0.9s							
KLU	**Klutina**	**47.02**	**38**	*eP*		**P**	**15 39 31.5**	**+1.1**
	comp=Z,7.1nm,1.0s							
DOT	**Dot Lake**	**47.70**	**35**	*eP*		**P**	**15 39 36.0**	**+0.3**
	comp=Z,8.2nm,0.6s							
MENT	**Mentasta**	**47.92**	**36**	*eP*		**P**	**15 39 38.9**	**+1.6**
	comp=Z,4.4nm,0.8s							
KSM	**Kuching**	**48.77**	**228**	*eP*		**P**	**15 39 44.9**	**+0.4**
	comp=Z,8.8nm,1.0s							
RAMN	**Ramite**	**49.32**	**274**	*eP*		**P**	**15 39 48.6**	**-0.3**
	comp=Z,58nm,1.0s							
GUN	**Gumba**	**49.41**	**276**	*eP*		**P**	**15 39 50.3**	**+0.6**
	comp=Z,44nm,0.9s							
KKN	**Kakani**	**49.94**	**276**	*eP*		**P**	**15 39 53.8**	**+0.3**
GKN	**Gorkha**	**50.33**	**276**	*eP*		**P**	**15 39 56.7**	**+0.3**
	comp=Z,62nm,1.1s							
VOSK	**Vostochnaya**	**50.76**	**311**	P		**P**	**15 39 59.1**	**-0.1**
VOSK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
VOSK	**Vostochnaya**	**50.76**	**311**	*eP*		**P**	**15 39 58.3**	**-0.8**
	comp=Z,8.8nm,1.0s							
TKM2	**Tokmak 2**	**50.83**	**298**	*eP*		**P**	**15 40 00.7**	**+0.6**
TKM2				pmax	pmax			
	comp=Z,8.0nm,0.8s							
TKM2	**Tokmak 2**	**50.83**	**298**	*eP*		**P**	**15 40 00.7**	**+0.6**
	comp=Z,7.7nm,0.8s							
BVA0	**Borovoye Array**	**51.02**	**312**	*i P*		**P**	**15 40 01.8**	**+0.7**
BVA0				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BRVK	**Borovoye**	**51.08**	**312**	*i P*		**P**	**15 40 01.8**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,25nm,1.2s							
BRVK	**Borovoye**	**51.08**	**312**	*eP*		**P**	**15 40 01.5**	**0.0**
	comp=Z,19nm,0.9s							
HYT	**Haines Junctio**	**51.15**	**38**	*eP*		**P**	**15 40 04.2**	**+2.1**
	comp=Z,17nm,0.8s							
OTUK	**Ortayu**	**51.23**	**305**	P		**P**	**15 40 02.4**	**-0.4**
OTUK				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KOLN	**Koldanda**	**51.24**	**277**	*eP*		**P**	**15 40 03.4**	**0.0**
	comp=Z,30nm,1.0s							
INK	**Inuvik**	**51.41**	**28**	P		**P**	**15 40 03.5**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=271,slow=4.5,SNR=5.6							
INK				pP		**sP**	**15 40 14.7**	**-0.8**
	comp=Z,4.5nm,0.6s,baz=305,slow=7.4,SNR=6.4							
INK	**Inuvik**	**51.41**	**28**	*eP*		**P**	**15 40 04.5**	**+0.8**
	comp=Z,5.0nm,0.8s							
PYUN	**Piuthan**	**51.55**	**277**	*eP*		**P**	**15 40 06.3**	**+0.6**
KSH	**Kashi**	**51.83**	**294**	*eP*		**P**	**15 40 10.9**	**+3.4**
KSH				pP		sP	15 40 21.1	+1.8
KSH				PcP		**PcP**	**15 41 22.5**	**+2.3**
KSH				PP		**PP**	**15 42 09.8**	**+4.6**
KSH				S		**S**	**15 47 30.3**	**+2.1**
KSH				ScS		**ScS**	**15 49 54.8**	**-1.0**
KSH				SS		**SS**	**15 51 05.3**	**+0.7**
KSH				PMZ				
	comp=Z,3.0nm,0.6s							
KSH				PMZ				
	comp=Z,63nm,4.4s							
KSH				LN				
	comp=Z,87nm,5.5s							
KSH				LE				
	comp=Z,82nm,7.4s							
KSH				LZ				
	comp=Z,140nm,7.5s							
ZRNK	**Zerenda**	**51.85**	**312**	*eP*		**P**	**15 40 07.6**	**+0.3**
ZRNK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
ZRNK	**Zerenda**	**51.85**	**312**	*eP*		**P**	**15 40 07.6**	**+0.3**
	comp=Z,8.8nm,0.8s							
KULM	**Kulim**	**51.99**	**241**	*eP*		**P**	**15 40 09.2**	**+0.4**
	comp=Z,34nm,1.3s							
EKS2	**Erkin-Say**	**52.17**	**298**	*eP*		**P**	**15 40 10.3**	**+0.3**
EKS2				pmax	pmax			
	comp=Z,3.0nm,0.7s							
EKS2	**Erkin-Say**	**52.17**	**298**	*eP*		**P**	**15 40 10.3**	**+0.3**
	comp=Z,3.0nm,0.7s							
IPM	**Ipoh**	**52.32**	**240**	*eP*		**P**	**15 40 11.0**	**-0.3**
	comp=Z,17nm,1.0s							
MNAS	**Manas**	**53.11**	**298**	P		**P**	**15 40 16.9**	**-0.1**
MNAS				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KKAR	**Karatay Array**	**54.23**	**300**	*eP*		**P**	**15 40 22.8**	**-2.3**
KKAR	**Karatay Array**	**54.23**	**300**	*eP*		**P**	**15 40 22.8**	**-2.3**
PSI	**Prapat**	**54.97**	**241**	*eP*		**P**	**15 40 28.6**	**-2.2**
PSI				pmax	pmax			
	comp=Z,15nm,0.9s							
PSI	**Prapat**	**54.97**	**241**	*eP*		**P**	**15 40 28.6**	**-2.2**
	comp=Z,15nm,0.9s							
SVE	**Sverdlovsk**	**55.23**	**318**	*eP*		**P**	**15 40 33.3**	**+1.3**
SVE				pmax	pmax			
	comp=Z,12nm,1.1s							
ARU	**Arti**	**56.45**	**318**	LR		LR	16 07 06.6	
	comp=Z,49nm,19.5s,baz=58,slow=38							
ARU	**Arti**	**56.45**	**318**	*d iP*		**P**	**15 40 41.0**	**+0.3**
ARU							15 42 44.4	
ARU				S		**S**	**15 48 31.2**	**+1.4**
ARU				SS		**SS**	**15 52 13.0**	**-3.5**
ARU				pmax	pmax			
	comp=Z,18nm,1.2s							
ARU	**Arti**	**56.45**	**318**	*eP*		**P**	**15 40 40.8**	**+0.1**
	comp=Z,18nm,1.2s							
AB31	**Akbulak array**	**58.49**	**310**	*i P*		**P**	**15 40 55.7**	**+0.4**
AB31				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ABKAR	**Akbulak array**	**58.49**	**310**	*eP*		**P**	**15 40 55.6**	**+0.3**
KBL	**Kabul**	**58.98**	**291**	*eP*		**P**	**15 40 58.8**	**-0.3**
KBL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KBL	**Kabul**	**58.98**	**291**	*eP*		**P**	**15 40 58.8**	**-0.3**
	comp=Z,9.1nm,1.0s							
WRAB	**Tennant Creek**	**59.50**	**191**	*eP*		**P**	**15 41 00.6**	**-1.9**
WRAB				pmax	pmax			
	comp=Z,11nm,0.6s							
WRAB	**Tennant Creek**	**59.50**	**191**	*eP*		**P**	**15 41 00.6**	**-1.9**
	comp=Z,11nm,0.6s							
WRA	**Warramunga Arr**	**59.52**	**191**	P		**P**	**15 41 00.9**	**-1.7**
	comp=Z,4.8nm,0.8s,baz=11,slow=7.1,SNR=12							
WRA				PcP		**PcP**	**15 41 48.9**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=1.1,slow=4.0,SNR=7.2							
RES	**Resolute Bay**	**59.96**	**15**	*eP*		**P**	**15 41 05.1**	**+0.1**
RES	**Resolute Bay**	**59.96**	**15**	*eP*		**P**	**15 41 05.1**	**+0.1**
YKA	**Yellowknife Ar**	**60.76**	**32**	P		**P**	**15 41 11.0**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=296,slow=6.9,SNR=4.1							
YKA				pP		**pP**	**15 41 21.5**	**+2.2**
	comp=Z,1.4nm,0.7s,baz=307,slow=5.9,SNR=6.2							
ARCES	**ARCESS Array B**	**62.91**	**340**	P		**P**	**15 41 24.9**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=59,slow=12,SNR=6.2							
AS01	**Alice Springs**	**63.23**	**191**	*eP*		**P**	**15 41 26.2**	**-1.4**
ASAR	**Alice Springs**	**63.24**	**191**	P		**P**	**15 41 26.6**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=16,slow=5.1,SNR=7.9							
KLMR	**Klimovskoe**	**63.31**	**328**	*eP*		**P**	**15 41 26.1**	**-1.7**
KLMR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
DAG	**Danmarks Havn**	**63.91**	**356**	*i P*		**P**	**15 41 31.4**	**-0.1**
DAG				*i*			15 41 42.5	
DAG				pmax	pmax			
	comp=Z,8.0nm,1.0s							
DAG	**Danmarks Havn**	**63.91**	**356**	*i P*		**P**	**15 41 31.4**	**-0.1**
	comp=Z,8.3nm,1.0s							
DAG				*i*			15 41 42.5	
GEYT	**Alibeck**	**64.98**	**299**	P		**P**	**15 41 39.5**	**+0.3**
	comp=Z,8.6nm,0.7s,baz=14,slow=3.1,SNR=20							
OBN	**Obninsk**	**67.90**	**324**	*eP*		**P**	**15 41 56.7**	**-0.8**
OBN				*i*			15 42 23.6	
OBN				pmax	pmax			
	comp=Z,9.0nm,1.1s							
FIA1	**FINESS Array S**	**68.11**	**333**	*eP*		**P**	**15 41 58.8**	**+0.1**
FINES	**FINESS Array B**	**68.11**	**333**	P		**P**	**15 41 59.0**	**+0.3**
	comp=Z,8.2nm,0.7s,baz=45,slow=8.0,SNR=40							
FINES				pP		**sP**	**15 42 10.1**	**-0.6**
	comp=Z,7.9nm,0.6s,baz=50,slow=7.1,SNR=13							
SUMG	**Summit**	**68.59**	**1**	*eP*		**P**	**15 42 03.1**	**+1.0**
SUMG				*i*			15 42 13.9	
SUMG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
SUMG	**Summit**	**68.59**	**1**	*i P*		**P**	**15 42 03.1**	**+1.0**
	comp=Z,5.5nm,0.7s							
SUMG				*i*			15 42 13.9	
VSU	**Vasula**	**69.90**	**330**	*i P*		**P**	**15 42 09.0**	**-0.8**
VSU				pmax	pmax			
	comp=Z,41nm,1.7s							
SCO	**Scoresbysund**	**70.28**	**355**	*eP*		**P**	**15 42 12.0**	**0.0**
SCO				pmax	pmax			
	comp=Z,6.0nm,1.1s							
SCO	**Scoresbysund**	**70.28**	**355**	*i P*		**P**	**15 42 12.0**	**0.0**
	comp=Z,6.4nm,1.1s							
STKA	**Stephens Creek**	**70.68**	**183**	P		**P**	**15 42 14.3**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=26,slow=12,SNR=3.6							
NCK	**Nalchik**	**71.13**	**311**	*eP*		**P**	**15 42 17.7**	**0.0**
KIV	**Kislovodsk**	**71.39**	**312**	*c iP*		**P**	**15 42 20.7**	**+1.3**
KIV				pmax	pmax			
	comp=Z,33nm,1.0s							
KBZ	**Khabaz**	**71.40**	**311**	P		**P**	**15 42 20.9**	**+1.6**
	comp=Z,12nm,0.9s,baz=56,slow=3.3,SNR=24							
NEY	**Neytrino**	**71.79**	**311**	*eP*		**P**	**15 42 21.0**	**-0.9**
NC204	**NORSAR Array S**	**73.14**	**339**	*eP*		**P**	**15 42 29.3**	**-0.2**
NB2	**NORSAR Subarra**	**73.20**	**338**	P		**P**	**15 42 29.9**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=37,slow=6.2							
NOA	**NORSAR Array B**	**73.20**	**338**	P		**P**	**15 42 30.1**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=37,slow=6.0,SNR=8.6							
NOA				pP		**sP**	**15 42 41.0**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=37,slow=6.0,SNR=9.7							
ANN	**Anapa**	**73.84**	**315**	*eP*		**P**	**15 42 31.9**	**-1.9**
ANN				pmax	pmax			
	comp=Z,28nm,0.9s							
AKASG	**Malin Array Be**	**74.14**	**323**	P		**P**	**15 42 35.5**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=44,slow=6.2,SNR=18							
AKASG				pP		**sP**	**15 42 46.6**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=42,slow=5.9,SNR=4.5							
KIEV	**Kiev**	**74.15**	**323**	*eP*		**P**	**15 42 35.2**	**-0.3**
KIEV				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KIEV	**Kiev**	**74.15**	**323**	*eP*		**P**	**15 42 35.1**	**-0.3**
	comp=Z,6.6nm,0.8s							
PDAR	**Pinedale Array**	**74.45**	**47**	P		**P**	**15 42 38.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=270,slow=4.4,SNR=4.1							
SRU	**San Rafael Swe**	**76.19**	**51**	*eP*		**P**	**15 42 48.5**	**+0.8**
SRU	**San Rafael Swe**	**76.19**	**51**	*eP*		**P**	**15 42 48.5**	**+0.8**
PV10	**Paradox Valley**	**77.55**	**51**	*eP*		**P**	**15 42 57.0**	**+1.5**
PV05	**Paradox Valley**	**77.70**	**51**	*eP*		**P**	**15 42 57.5**	**+1.2**
BUR08	**Bucovina Ar. S**	**78.17**	**323**	*eP*		**P**	**15 42 57.4**	**-1.1**
OJC	**Ojcow**	**78.66**	**327**	*eP*		**P**	**15 43 01.4**	**+0.3**
OJC	**Ojcow**	**78.66**	**327**	*eP*		**P**	**15 43 01.4**	**+0.3**
S22A	**4UR Ranch, Cre**	**79.28**	**50**	*eP*		**P**	**15 43 06.3**	**+1.2**
BRTR	**Keskin Array B**	**79.29**	**313**	P		**P**	**15 43 05.5**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=104,slow=4.2,SNR=8.5							
BR231	**Keskin MP Arra**	**79.70**	**313**	*eP*		**P**	**15 43 05.7**	**-1.5**
MORC	**Moravsky Berou**	**79.93**	**328**	*eP*		**P**	**15 43 09.0**	**+0.9**
MORC				pmax	pmax			
	comp=Z,15nm,0.8s							
MORC	**Moravsky Berou**	**79.93**	**328**	*eP*		**P**	**15 43 09.0**	**+0.9**
	comp=Z,15nm,0.8s							
CLL	**Collm**	**80.49**	**332**	*eP*		**P**	**15 43 11.0**	**0.0**
	comp=Z,10.0nm,1.2s							
CLL				*i*			15 43 22.4	
	comp=Z,6.0nm,0.8s							
CLL	**Collm**	**80.49**	**332**	*eP*		**P**	**15 43 11.0**	**0.0**
CLL				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ECSD	**EROS Data Cent**	**80.75**	**40**	*eP*		**P**	**15 43 12.7**	**+0.1**
	comp=Z,4.7nm,1.0s							
ANMO	**Albuquerque**	**81.36**	**52**	*i P*		**P**	**15 43 17.2**	**+1.0**
ANMO				pmax	pmax			
	comp=Z,3.0nm,1.7s							
ANMO	**Albuquerque**	**81.36**	**52**	*eP*		**P**	**15 43 16.9**	**+0.7**
	comp=Z,3.3nm,1.0s							
KHC	**Kasperske Hory**	**82.03**	**330**	*e*pP		pP	15 43 30.5	+2.3
KHC	**Kasperske Hory**	**82.03**	**330**	*e*P		P	15 43 10.0	-9.3
KHC	**Kasperske Hory**	**82.03**	**330**	*e*P		**P**	**15 43 19.3**	**0.0**
	comp=Z,5.5nm,1.0s							
CONA	**Conrad Observa**	**82.07**	**328**	*i* PcP		**P**	**15 43 21.0**	**+1.4**
	comp=Z,4.3nm,1.3s							
GERES	**GERESS Array B**	**82.21**	**330**	P		**P**	**15 43 19.1**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=32,slow=6.3,SNR=7.9							
GERES				pP		**pP**	**15 43 31.1**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=46,slow=5.8,SNR=4.5							
GEA0	**GERESS Array S**	**82.22**	**330**	*eP*		**P**	**15 43 20.0**	**-0.3**
SOKA	**Soboth**	**83.41**	**328**	*i* PcP		**P**	**15 43 27.3**	**+0.8**
	comp=Z,4.6nm,0.6s							
MNTX	**Cornudas Mount**	**84.21**	**54**	*eP*		**P**	**15 43 30.9**	**+0.1**
	comp=Z,2.8nm,0.8s							
MOTA	**Moosalm**	**84.44**	**330**	*i* PcP		**P**	**15 43 32.5**	**+0.6**
	comp=Z,4.6nm,0.7s							
RETA	**Reutte**	**84.46**	**331**	*i* PcP		**P**	**15 43 32.9**	**+1.0**
	comp=Z,5.9nm,0.6s							
BFO	**Black Forest**	**84.66**	**332**	*i P*		**P**	**15 43 34.0**	**+1.2**
FETA	**Feichten**	**84.85**	**330**	*i* PcP		**P**	**15 43 34.8**	**+0.8**
	comp=Z,4.4nm,0.7s							
DAVA	**Damuels**	**84.96**	**331**	*i* PcP		**P**	**15 43 35.2**	**+0.7**
	comp=Z,7.9nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**85.37**	**330**	*eP*		**P**	**15 43 37.3**	**+0.6**
	comp=Z,15nm,0.7s							
TX31	**Lajitas Ar. Si**	**86.90**	**54**	*eP*		**P**	**15 43 44.4**	**0.0**
TXAR	**Lajitas Array**	**86.90**	**54**	P		**P**	**15 43 44.5**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=302,slow=2.8,SNR=13							
TXAR				pP		**pP**	**15 43 55.5**	**+2.2**
	comp=Z,1.1nm,0.5s,baz=303,slow=3.2,SNR=11							

IDC 24 15:54:31.4±2.7, 8°.26S×32°.30E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/51, mbtmp3.7/4, ML3.9/1, MS4.2/1, Ms1 4.2/1, ms1mx2.9/28, Error ellipse: s-maj=69.6km s-min=29.5km az=156.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KMBO	**Kilima Mbogo**	**8.63**	**35**	Pn		Pn	15 56 37.8	-0.2
	1.5nm,0.3s,baz=211,slow=16,SNR=15							
KMBO				Sn		Sn	15 58 07.0	-9.3
	6.1nm,0.3s,baz=151,slow=15,SNR=9.4							
KMBO				Lg		Lg	15 59 05.8	
	3.4nm,0.3s,baz=288,slow=22,SNR=5.3							
LBTB	**Lobatse**	**17.85**	**200**	LR		LR	16 05 09.1	
	comp=Z,727nm,20.4s,slow=36							
TORD	**Torodi Ar. Bea**	**37.10**	**305**	P		P	16 01 43.8	-0.2
	0.5nm,0.7s,baz=122,slow=7.0,SNR=2.6							
MKAR	**Makanchi Array**	**70.52**	**34**	P		P	16 05 48.0	-0.2
	0.7nm,0.6s,baz=233,slow=6.4,SNR=11							
KURBB	**Kurchatov Arra**	**70.97**	**29**	P		P	16 05 51.1	+0.4
	0.1nm,0.3s,baz=236,slow=6.3,SNR=3.1							

*NEIC **24** 16:03:41.8, 15°.66N×94°.93W, h16km, MD4.2(MEX), After MEX.*

MEX 24 16:03:41.8±0.4, 15°.66N×94°.93W, h16km±6km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HUIG	**Huatulco**	**1.14**	**276**	*eP*		Pn	16 03 59.5	-3.6
HUIG				*eS*		Sb	16 04 12.7	-5.0
HUIG	**Huatulco**	**1.14**	**276**	*eP*		Pn	16 03 59.5	-3.6
HUIG				*eS*		Sb	16 04 12.7	-5.0
PANG	**Puerto Angel**	**1.49**	**270**	*i P*		Pn	16 04 04.1	-3.8
PANG				*eS*		Sn	16 04 21.8	-5.1
PCIG		**1.65**	**88**	*eP*		Pn	16 04 06.1	-4.0
PCIG				*eS*		Sn	16 04 25.2	-5.8
PCIG		**1.65**	**88**	*eP*		Pn	16 04 06.1	-4.0
PCIG				*eS*		Sn	16 04 25.2	-5.8
VHO	**Vista Hermosa**	**2.23**	**309**	*i P*		Pn	16 04 15.1	-3.2
VHO				*eS*		Sn	16 04 41.0	-4.6
VHO	**Vista Hermosa**	**2.23**	**309**	*i P*		Pn	16 04 15.1	-3.2
VHO				*eS*		Sn	16 04 41.0	-4.6
CCIG	**Comitan**	**2.76**	**77**	*eP*		Pn	16 04 22.9	-2.7
CCIG				*i S*		Sn	16 04 54.6	-4.0
CCIG	**Comitan**	**2.76**	**77**	*eP*		Pn	16 04 22.9	-2.7
CCIG				*i S*		Sn	16 04 54.6	-4.0
TEIG	**Tepich**	**7.79**	**53**	*e*Pn		Pn	16 05 26.1	-8.5

IDC 24 16:10:13.8±11.0, 20°.02S×167°.47E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, ML2.8/1, MS2.4/1, Ms1 2.4/1, ms1mx2.3/19, Error ellipse: s-maj=196.9km s-min=37.8km az=85.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**2.26**	**205**	Pn		Pn	16 10 51.9	-0.5
	2.3nm,0.3s,baz=92,slow=7.0,SNR=58							
DZM				Sn		Sn	16 11 21.6	+0.5
	9.3nm,0.3s,baz=190,slow=21,SNR=9.0							
DZM				LR		LR	16 11 41.9	
	comp=Z,94nm,21.1s,baz=52,slow=39							
STKA	**Stephens Creek**	**26.02**	**238**	P		P	16 15 49.6	+0.9
	0.7nm,0.5s,baz=64,slow=16,SNR=3.1							
WRA	**Warramunga Arr**	**31.11**	**264**	P		P	16 16 33.9	-0.3
	0.2nm,0.6s,baz=83,slow=6.9,SNR=3.1							
ASAR	**Alice Springs**	**31.32**	**257**	P		P	16 16 36.0	-0.1
	0.9nm,0.6s,baz=83,slow=8.9,SNR=14							

*ISK **24** 16:14:24.8, 37°.01N×27°.45E, h4km, MD2.8*
*DDA **24** 16:14:25.9, 37°.05N×27°.47E, h7km, Md2.6*
*CSEM **24** 16:14:25.2±0.5, 36°.99N×27°.44E, h5km, MD2.8, Error ellipse: s-maj=10.7km s-min=5.7km az=8.0*

ISC 24 16:14:22.4±2.4, 36°.9N±0°.1×27°.47E±0°.07, h8km±14km, n11, σ1§40/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BDRM	**Kayabasi**	**0.21**	**356**	P		**Pg**	**16 14 27.2**	**+0.4**
BDRM				S		**Sg**	**16 14 28.6**	**-1.1**
BDRM	**Kayabasi**	**0.21**	**356**	*i P*		**Pg**	**16 14 27.2**	**+0.4**
BDRM				*i S*		**Sg**	**16 14 28.6**	**-1.1**
BODT	**Bodrum**	**0.24**	**329**	*e*PG		**Pg**	**16 14 28.1**	**+0.8**
BODT				*e*SG		**Sg**	**16 14 30.4**	**-0.2**
BODT	**Bodrum**	**0.24**	**329**	*e*Pg		**Pg**	**16 14 28.1**	**+0.8**
BODT				*e*Sg		**Sg**	**16 14 30.4**	**-0.2**
YER	**Yerkesik**	**0.71**	**67**	*e*PG		**Pg**	**16 14 38.8**	**+2.6**
YER				*e*SG		**Sb**	**16 14 48.5**	**+1.4**
YER	**Yerkesik**	**0.71**	**67**	*e*Pg		**Pg**	**16 14 38.8**	**+2.6**
YER				*e*Sg		**Sb**	**16 14 48.5**	**+1.4**
GCAM	**G?zelcaml?**	**0.86**	**348**	P		**Pg**	**16 14 39.2**	**+0.1**
GCAM	**G?zelcaml?**	**0.86**	**348**	*i* P		**Pg**	**16 14 39.2**	**+0.1**
TURN	**Turunc**	**0.91**	**89**	*i* P		**Pg**	**16 14 38.4**	**-1.6**
TURN				*i* S		**Sg**	**16 14 49.2**	**-2.6**
AYDB	**Zeytinkoy-Aydi**	**1.14**	**17**	*e*PG		**Pg**	**16 14 43.9**	**-0.5**
AYDB				*e*SG		**Sb**	**16 14 59.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.14**	**17**	*e*Pg		**Pg**	**16 14 43.9**	**-0.5**
AYDB				*e*Sg		**Sb**	**16 14 59.3**	**-0.3**

*IDC **24** 16:15:48.5±4.4, 16°.36N×92°.81W, h167km±54km, mb3.2/3, mb1 3.5/5, mb1mx3.3/31, mbtmp3.7/5, Error ellipse: s-maj=116.0km s-min=21.3km az=59.0*
*ISCJB **24** 16:15:49.3±0.6, 16°.1N±0°.1×93°.09W±0°.06, h200km, mb3.3/3, Error ellipse: s-maj=15.3km s-min=7.0km az=10.9*
*MEX **24** 16:15:51.4±0.9, 16°.18N×93°.09W, h195km±10km, MD4.2*
*NEIC **24** 16:15:51.4, 16°.18N×93°.09W, h195km, MD4.2(MEX), After MEX.*

ISC 24 16:15:50.0±0.9, 16°.0N±0°.1×93°.09W±0°.05, h200km, n15, σ1§41/25, mb3.3/3, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PCIG		**0.36**	**201**	*eP*		**Pn**	**16 16 16.5**	**-0.2**
PCIG				*eS*		**Sn**	**16 16 36.1**	**-1.3**
PCIG		**0.36**	**201**	*eP*		**Pn**	**16 16 16.5**	**-0.2**
PCIG				*eS*		**Sn**	**16 16 36.1**	**-1.3**
TGBT	**Tuxtla Gutierr**	**0.73**	**360**	*i P*		**Pn**	**16 16 19.8**	**+1.7**
CCIG	**Comitan**	**0.94**	**75**	*i P*		**Pn**	**16 16 18.6**	**-1.0**
CCIG				*i S*		**Sn**	**16 16 41.0**	**-1.5**
CCIG	**Comitan**	**0.94**	**75**	*i P*		**Pn**	**16 16 18.6**	**-1.0**
CCIG				*i S*		**Sn**	**16 16 41.0**	**-1.5**
CMIG	**Matias Romero**	**2.02**	**301**	P		**Pn**	**16 16 27.3**	**-1.4**
	14nm,0.3s,baz=93,slow=11,SNR=257							
CMIG				S		**Sn**	**16 16 55.1**	**-3.8**
	23nm,0.3s,baz=272,slow=19,SNR=24							
HUIG	**Huatulco**	**2.92**	**265**	*i P*		**Pn**	**16 16 37.9**	**-0.9**
HUIG				*eS*		**Sn**	**16 17 15.2**	**-1.6**
HUIG	**Huatulco**	**2.92**	**265**	*i P*		**Pn**	**16 16 37.9**	**-0.9**
HUIG				*eS*		**Sn**	**16 17 15.2**	**-1.6**
VHO	**Vista Hermosa**	**3.65**	**287**	*eP*		**Pn**	**16 16 48.3**	**+0.6**
VHO				*eS*		**Sn**	**16 17 32.4**	**-0.4**
VHO	**Vista Hermosa**	**3.65**	**287**	*eP*		**Pn**	**16 16 48.3**	**+0.6**
VHO				*eS*		**Sn**	**16 17 32.4**	**-0.4**
TLIG	**Tlapa**	**5.46**	**287**	*i P*

NEO				AML	AML	16 21 50.2		
	comp=N,230μm,0.5s							
NEO				AML	AML	16 21 50.4		
	comp=E,121μm,0.4s							
VLY	**Voula,Athens**	**0.81**	**166**	P	Pb	16 21 37.6	0.0	
VLY				S	Sn	16 21 50.8	+2.5	
VLY	**Voula,Athens**	**0.81**	**166**	P	Pb	16 21 37.6	0.0	
VLY				S	Sn	16 21 50.9	+2.5	
VLY				AML	AML	16 21 55.8		
	comp=E,467μm,0.6s							
VLY				AML	AML	16 21 56.7		
	comp=N,309μm,0.6s							
VLY	**Voula,Athens**	**0.81**	**166**	P	Pb	16 21 40.4	+2.8	
VLY				S	Sn	16 21 48.8	+0.5	
VLY				AML	AML	16 21 54.3		
	comp=N,312μm,0.7s							
VLY				AML	AML	16 21 55.8		
	comp=E,467μm,0.6s							

*ATH **24** 16:21:46.3,37.58N×20.96E,h11km±2km, ML3.3/5, Error ellipse: s-maj=2.6km s-min=1.0km az=38.0*
*THE **24** 16:21:47.3,37.62N×21.00E,h0km±2km, ML3.4/7, Error ellipse: s-maj=2.5km s-min=0.7km az=250.0*
*CSEM **24** 16:21:47.6±0.3,37.63N×21.01E,h2km, ML3.4, Error ellipse: s-maj=6.5km s-min=3.7km az=52.0*

ISC 24 16:21:47.0±1.3**,37.62N**±0.03×**20.99E**±0.03,**h2**km±11km, **n93**,σ0**s77**/114**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.58**	**41**	P	**Pg**	**16 21 58.2**	**+0.2**
RLS				S	**Sg**	**16 22 06.5**	**+1.0**
RLS	**Riolos of Patr**	**0.58**	**41**	P	**Pg**	**16 21 58.2**	**+0.2**
RLS				S	**Sg**	**16 22 06.5**	**+1.0**
RLS	**Riolos of Patr**	**0.58**	**41**	S	**Sb**	**16 22 08.6**	**+0.2**
VLS	**Valsamata**	**0.64**	**330**	P	**Pg**	16 21 59.0	-0.2
VLS				S	**Sg**	**16 22 09.0**	**+1.5**
VLS	**Valsamata**	**0.64**	**330**	P	**Pg**	16 21 59.3	+0.1
VLS				S	**Sg**	**16 22 09.0**	**+1.5**
ITM	**Ithomi**	**0.87**	**120**	P	**Pg**	**16 22 02.8**	**-0.8**
ITM				S	**Sb**	**16 22 16.0**	**-0.8**
ITM	**Ithomi**	**0.87**	**120**	P	**Pg**	**16 22 03.5**	**-0.1**
ITM				S	**Sb**	**16 22 16.0**	**-0.8**
ITM	**Ithomi**	**0.87**	**120**	P	**Pg**	**16 22 03.5**	**-0.1**
ITM				S	**Sb**	**16 22 16.3**	**-0.5**
ITM				AML	AML	16 22 22.0	
	comp=N,3702μm,0.7s						
ITM				AML	AML	16 22 23.7	
	comp=E,3197μm,0.6s						
LAKA	**Lakka**	**1.00**	**51**	P	**Pg**	**16 22 05.4**	**-0.7**
LAKA				S	**Sb**	**16 22 20.3**	**-0.3**
LAKA	**Lakka**	**1.00**	**51**	P	**Pg**	**16 22 05.4**	**-0.7**
LAKA				S	**Sb**	**16 22 20.3**	**-0.3**
LAKA	**Lakka**	**1.00**	**51**	S	**Sb**	**16 22 04.8**	**-1.2**
KLV	**Kalavryta, Ach**	**1.01**	**65**	P	**Pg**	**16 22 05.9**	**-0.5**
KLV				S	**Sb**	**16 22 21.6**	**+0.6**
KLV	**Kalavryta, Ach**	**1.01**	**65**	P	**Pg**	**16 22 05.9**	**-0.5**
KLV				S	**Sb**	**16 22 21.6**	**+0.6**
KLV	**Kalavryta, Ach**	**1.01**	**65**	P	**Pg**	**16 22 04.8**	**-1.5**
TRIP	**Tripoli**	**1.02**	**95**	P	**Pg**	**16 22 06.4**	**-0.2**
TRIP				S	**Sb**	**16 22 21.2**	**-0.1**
TRIP	**Tripoli**	**1.02**	**95**	P	**Pg**	**16 22 06.4**	**-0.2**
TRIP				S	**Sb**	**16 22 21.2**	**-0.1**
TRIP				AML	AML	16 22 27.5	
	comp=N,1112μm,0.9s						
TRIP				AML	AML	16 22 36.7	
	comp=E,1996μm,1.1s						
TRIZ	**Trizonia**	**1.13**	**49**	P	**Pg**	**16 22 07.1**	**-1.6**
KALE	**Kalithea**	**1.19**	**50**	P	**Pg**	**16 22 08.7**	**-1.1**
KALE	**Kalithea**	**1.19**	**50**	P	**Pg**	**16 22 08.7**	**-1.1**
KALE				S	**Sn**	**16 22 27.9**	**+0.4**
KALE	**Kalithea**	**1.19**	**50**	P	**Pg**	**16 22 08.3**	**-1.5**
KALE				S	**Sn**	**16 22 27.9**	**+0.4**
KALE				AML	AML	16 22 34.8	
	comp=N,2157μm,0.7s						
KALE				AML	AML	16 22 36.5	
	comp=E,2338μm,1.2s						
LKD2	**Lefkada island**	**1.19**	**347**	P	**Pg**	**16 22 08.8**	**-1.1**
LKD2				S	**Sn**	**16 22 27.4**	**-0.1**
LKD2	**Lefkada island**	**1.19**	**347**	P	**Pg**	**16 22 08.8**	**-1.1**
LKD2				S	**Sn**	**16 22 27.4**	**-0.1**
LKD2	**Lefkada island**	**1.19**	**347**	P	**Pg**	**16 22 08.0**	**-1.9**
LKD2				S	**Sn**	**16 22 27.6**	**+0.1**
LKD2				AML	AML	16 22 31.7	
	comp=E,7091μm,0.6s						
LKD2				AML	AML	16 22 33.1	
	comp=N,4950μm,0.8s						
THAL	**Thalero**	**1.39**	**72**	P	**Pg**	**16 22 13.8**	**+0.2**
THAL	**Thalero**	**1.39**	**72**	P	**Pg**	**16 22 13.8**	**+0.2**
EVR	**Evrytania**	**1.44**	**26**	P	**Pn**	**16 22 14.1**	**-0.1**
EVR	**Evrytania**	**1.44**	**26**	P	**Pn**	**16 22 14.1**	**-0.1**
EVR				S	**Sn**	**16 22 34.4**	**+0.6**
EVR	**Evrytania**	**1.44**	**26**	P	**Pn**	**16 22 13.8**	**-0.4**
EVR				AML	AML	16 22 40.8	
	comp=N,1784μm,0.8s						
PROD	**Prodromos**	**1.64**	**67**	P	**Pb**	**16 22 18.1**	**+0.2**
PROD	**Prodromos**	**1.64**	**67**	P	**Pb**	**16 22 18.1**	**+0.2**
KRND	**KRANIDI**	**1.73**	**97**	P	**Pn**	**16 22 18.2**	**+0.1**
KRND	**KRANIDI**	**1.73**	**97**	P	**Pn**	**16 22 18.2**	**+0.1**
KRND	**KRANIDI**	**1.73**	**97**	P	**Pn**	**16 22 17.9**	**-0.2**
AGG	**Agios Georgios**	**1.75**	**37**	P	**Pn**	**16 22 18.8**	**+0.4**
AGG	**Agios Georgios**	**1.75**	**37**	P	**Pn**	**16 22 18.8**	**+0.4**
AGG	**Agios Georgios**	**1.75**	**37**	P	**Pn**	**16 22 19.2**	**+0.8**
VLI	**Veliai**	**1.80**	**120**	P	**Pn**	**16 22 19.0**	**0.0**
VLI				S	**Sb**	**16 22 43.9**	**+0.3**
VLI	**Veliai**	**1.80**	**120**	P	**Pn**	**16 22 19.0**	**0.0**
VLI				S	**Sb**	**16 22 43.9**	**+0.3**
VLI	**Veliai**	**1.80**	**120**	P	**Pn**	**16 22 19.2**	**+0.2**
LKR	**Lokris**	**1.89**	**56**	P	**Pn**	**16 22 21.1**	**+0.9**
LKR	**Lokris**	**1.89**	**56**	P	**Pn**	**16 22 21.1**	**+0.9**
LKR	**Lokris**	**1.89**	**56**	P	**Pn**	**16 22 21.5**	**-0.7**
VIL2	**Platees**	**1.90**	**71**	P	**Pn**	**16 22 20.2**	**-0.1**
VILL	**Villia**	**1.92**	**73**	P	**Pn**	**16 22 21.0**	**+0.3**
VILL	**Villia**	**1.92**	**73**	P	**Pn**	**16 22 21.0**	**+0.3**
ATAL	**Atalanti**	**1.93**	**56**	P	**Pb**	**16 22 22.1**	**-0.7**
ATAL	**Atalanti**	**1.93**	**56**	P	**Pb**	**16 22 22.1**	**-0.7**
ATAL	**Atalanti**	**1.93**	**56**	P	**Pb**	**16 22 22.5**	**-0.3**
THL	**Klokotos Trika**	**2.10**	**22**	P	**Pn**	**16 22 24.0**	**+0.9**
THL	**Klokotos Trika**	**2.10**	**22**	P	**Pn**	**16 22 23.7**	**+0.6**
KYTH	**Kithira**	**2.13**	**129**	P	**Pb**	**16 22 25.7**	**-0.7**
KYTH	**Kithira**	**2.13**	**129**	P	**Pb**	**16 22 25.7**	**-0.7**
SMIA	**Simia**	**2.15**	**54**	P	**Pn**	**16 22 24.9**	**+1.0**
SMIA	**Simia**	**2.15**	**54**	P	**Pn**	**16 22 24.9**	**+1.0**
VLY	**Voula,Athens**	**2.24**	**83**	P	**Pn**	**16 22 24.5**	**-0.5**
VLY	**Voula,Athens**	**2.24**	**83**	P	**Pn**	**16 22 24.5**	**-0.5**
KEK	**Kerkira**	**2.29**	**336**	P	**Pn**	**16 22 26.8**	**+1.1**
KEK	**Kerkira**	**2.29**	**336**	P	**Pn**	**16 22 26.6**	**+0.9**
KPRO	**Kipourio**	**2.35**	**7**	P	**Pn**	**16 22 27.3**	**+0.7**
KPRO	**Kipourio**	**2.35**	**7**	P	**Pn**	**16 22 27.3**	**+0.7**
FYTO	**Fytoko, Volos**	**2.35**	**40**	P	**Pn**	**16 22 27.2**	**+0.6**
FYTO	**Fytoko, Volos**	**2.35**	**40**	P	**Pn**	**16 22 27.2**	**+0.6**
NEO	**Neokhori**	**2.43**	**46**	P	**Pn**	**16 22 28.2**	**+0.5**
NEO	**Neokhori**	**2.43**	**46**	P	**Pn**	**16 22 28.2**	**+0.5**
NEO	**Neokhori**	**2.43**	**46**	P	**Pn**	**16 22 28.2**	**+0.5**
EREA	**Eretria**	**2.46**	**70**	P	**Pn**	**16 22 28.7**	**+0.6**
EREA	**Eretria**	**2.46**	**70**	P	**Pn**	**16 22 28.7**	**+0.6**
SKIA	**Skiathos**	**2.48**	**51**	P	**Pn**	**16 22 29.1**	**+0.7**
SKIA	**Skiathos**	**2.48**	**51**	P	**Pn**	**16 22 29.1**	**+0.7**
ANKY	**Antikythira Is**	**2.55**	**133**	P	**Pn**	**16 22 31.1**	**+1.7**
ANKY	**Antikythira Is**	**2.55**	**133**	P	**Pn**	**16 22 31.1**	**+1.7**
PENT	**Pentalofos**	**2.57**	**3**	P	**Pb**	**16 22 32.3**	**-1.6**
PENT	**Pentalofos**	**2.57**	**3**	P	**Pb**	**16 22 32.3**	**-1.6**
LIT	**Litokhoron**	**2.74**	**25**	P	**Pn**	**16 22 32.2**	**+0.3**
LIT	**Litokhoron**	**2.74**	**25**	P	**Pn**	**16 22 32.2**	**+0.3**
NEST	**Nestorio**	**2.79**	**1**	P	**Pn**	**16 22 33.5**	**+0.8**
NEST	**Nestorio**	**2.79**	**1**	P	**Pn**	**16 22 33.5**	**+0.8**
NEST	**Nestorio**	**2.79**	**1**	P	**Pn**	**16 22 35.2**	**+2.5**
PAIG	**Paliouri**	**3.12**	**42**	P	**Pn**	**16 22 37.0**	**-0.1**
PAIG	**Paliouri**	**3.12**	**42**	P	**Pn**	**16 22 37.0**	**-0.1**
FNA	**Florina**	**3.17**	**5**	P	**Pn**	**16 22 38.3**	**+0.4**
FNA	**Florina**	**3.17**	**5**	P	**Pn**	**16 22 38.3**	**+0.4**
FNA	**Florina**	**3.17**	**5**	P	**Pn**	**16 22 37.7**	**-0.2**
THE	**Thessaloniki**	**3.38**	**26**	P	**Pn**	**16 22 41.4**	**+0.7**
THE	**Thessaloniki**	**3.38**	**26**	P	**Pn**	**16 22 41.4**	**+0.7**
HORT	**Hortiatis**	**3.39**	**28**	P	**Pn**	**16 22 41.2**	**+0.2**
HORT	**Hortiatis**	**3.39**	**28**	P	**Pn**	**16 22 41.2**	**+0.2**
VAM	**Vamos**	**3.40**	**130**	P	**Pn**	**16 22 40.4**	**-0.7**
VAM	**Vamos**	**3.40**	**130**	P	**Pn**	**16 22 40.4**	**-0.7**
GRG	**Griva**	**3.50**	**18**	P	**Pn**	**16 22 42.4**	**-0.1**
GRG	**Griva**	**3.50**	**18**	P	**Pn**	**16 22 42.4**	**-0.1**
KNT	**Kendrikon**	**3.83**	**22**	P	**Pn**	**16 22 47.0**	**0.0**
KNT	**Kendrikon**	**3.83**	**22**	P	**Pn**	**16 22 47.0**	**0.0**

*DDA **24** 16:22:31.8,34.77N×29.50E,h10km, Md3.5*
*CSEM **24** 16:22:32.0±0.2,34.69N×29.08E,h10km, MD3.5, Error ellipse: s-maj=9.5km s-min=4.3km az=86.0*
*HLW **24** 16:22:33.5,34.85N×29.05E,h41km±10km, Md3.9*
*ISK **24** 16:22:37.0,35.04N×29.04E,h19km, MD3.3*

ISC 24 16:22:29.8±1.6**,34.70N**±0.04×**29.28E**±0.06,**h10**km±12km, **n36**,σ2**s33**/47**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.55**	**10**	P	**Pg**	**16 23 00.0**	**+0.4**
AKAS				S	**Sg**	**16 23 19.8**	**+0.1**
AKAS	**Kas**	**1.55**	**10**	*i* P	**Pg**	**16 23 00.0**	**+0.4**
AKAS				*i* S	**Sg**	**16 23 19.8**	**+0.1**
ELL	**Elmali**	**2.10**	**14**	*e*PN	**Pb**	**16 23 08.0**	**-0.1**
ELL				*e*SN	**Sn**	**16 23 31.6**	**+0.2**
ELL	**Elmali**	**2.10**	**14**	*e*Pn	**Pb**	**16 23 08.0**	**-0.1**
ELL				*e*Sn	**Sn**	**16 23 31.6**	**+0.2**
KORT	**Korkueli**	**2.45**	**20**	P	**Pb**	**16 23 13.0**	**-1.1**
KORT				S	**Sb**	**16 23 44.8**	**+0.5**
KORT	**Korkueli**	**2.45**	**20**	*i* P	**Pb**	**16 23 13.0**	**-1.1**
KORT				*i* S	**Sb**	**16 23 44.8**	**+0.5**
GLHS	**Glhisar (BURDU**	**2.45**	**4**	*e*PN	**Pb**	**16 23 13.1**	**-1.0**
GLHS	**Glhisar (BURDU**	**2.45**	**4**	*e*Pn	**Pb**	**16 23 13.1**	**-1.0**
GOLH	**Golhisar**	**2.54**	**5**	P	**Pb**	**16 23 14.5**	**-1.0**
GOLH				S	**Sb**	**16 23 44.4**	**+2.3**
GOLH	**Golhisar**	**2.54**	**5**	*i* P	**Pb**	**16 23 14.5**	**-1.0**
GOLH				*i* S	**Sn**	**16 23 44.4**	**+2.3**
YER	**Yerkesik**	**2.56**	**342**	*e*PN	**Pn**	**16 23 14.2**	**+2.9**
YER				*e*SN	**Sn**	**16 23 39.9**	**-2.6**
YER	**Yerkesik**	**2.56**	**342**	*e*Sn	**Sn**	**16 23 39.9**	**-2.6**
BODT	**Bodrum**	**2.85**	**326**	*e*PN	**Pn**	**16 23 16.5**	**+1.2**
BODT	**Bodrum**	**2.85**	**326**	*e*Pn	**Pn**	**16 23 16.5**	**+1.2**
GAZI	**Gazipasa**	**2.91**	**57**	P	**Pb**	**16 23 19.1**	**-2.7**
GAZI				S	**Sb**	**16 23 53.1**	**-4.3**
GAZI	**Gazipasa**	**2.91**	**57**	*i* P	**Pb**	**16 23 19.1**	**-2.7**
GAZI				*i* S	**Sb**	**16 23 53.1**	**-4.3**
DNZL	**Cakiroluk**	**2.99**	**356**	P	**Pn**	**16 23 19.8**	**+2.4**
DNZL	**Cakiroluk**	**2.99**	**356**	*i* P	**Pn**	**16 23 19.8**	**+2.4**
SUTC	**Sutluce-Ispart**	**3.10**	**26**	*e*PN	**Pb**	**16 23 23.8**	**-1.2**
SUTC	**Sutluce-Ispart**	**3.10**	**26**	*e*Pn	**Pb**	**16 23 23.8**	**-1.2**
KONT	**Konya--Tatoy**	**4.08**	**37**	*e*PN	**Pb**	**16 23 39.1**	**-2.7**
KONT	**Konya--Tatoy**	**4.08**	**37**	*e*Pn	**Pb**	**16 23 39.1**	**-2.7**
SLUM	**Salum** baz=225	**4.68**	**228**	P	**Pn**	**16 23 40.3**	**-0.2**
SLUM	baz=225			S	Sn	16 24 29.1	-5.8
SLUM	**Salum**	**4.68**	**228**	P	**Pn**	**16 23 40.3**	**-0.2**
SLUM				S	Sn	16 24 29.1	-5.7
KOT	**Kottamia** baz=153	**5.23**	**155**	P	**Pn**	**16 23 51.2**	**+3.2**
KOT	baz=153			S	**Sn**	**16 24 48.0**	**-0.4**
KOT	**Kottamia**	**5.23**	**155**	P	**Pn**	**16 23 51.2**	**+3.2**
KOT				S	**Sn**	**16 24 48.0**	**-0.4**
GLL	**Jalalah** baz=156	**5.51**	**157**	P	**Pn**	**16 23 54.4**	**+2.5**
GLL	**Jalalah**	**5.51**	**157**	P	**Pn**	**16 23 54.4**	**+2.5**
SUZ	**Suez** baz=146	**5.71**	**147**	P	**Pn**	**16 23 58.7**	**+4.1**
SUZ	**Suez**	**5.71**	**147**	P	**Pn**	**16 23 58.7**	**+4.1**
ZNM	**Zenema** baz=148	**6.12**	**149**	P	**Pn**	**16 24 03.9**	**+3.5**
ZNM	**Zenema**	**6.12**	**149**	P	**Pn**	**16 24 03.9**	**+3.5**
HNKL	**Nakhl** baz=138	**6.20**	**139**	P	**Pn**	**16 24 04.6**	**+3.2**
HNKL	**Nakhl**	**6.20**	**139**	P	**Pn**	**16 24 04.6**	**+3.2**
SWA2	baz=210	**6.34**	**212**	S	Sn	16 25 09.8	-6.0
SWA2		**6.34**	**212**	S	Sn	16 25 09.8	-5.9

MEX 24 16:28:08.6±0.6**,16.69N**×**100.07W,h5**km**,MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.26**	**44**	*e*P	Pg	16 28 13.7	0.0
ACP2				*e*S	Sg	16 28 17.0	-0.1
ACX	**Acapulco**	**0.28**	**49**	*e*P	Pb	16 28 17.5	+1.5
ACX				*i* S	Sb	16 28 21.4	+0.4
CAIG	**El Cayaco**	**0.40**	**333**	*e*P	Pg	16 28 16.3	-0.1
CAIG				*i* S	Sg	16 28 21.5	-0.2
MEIG	**Mezcala**	**1.31**	**19**	*e*P	Pn	16 28 30.3	-3.3
MEIG				*i* S	Sg	16 28 47.4	-3.3
ARIG	**Puente Sto Nin**	**1.61**	**351**	*e*P	Pn	16 28 34.7	-3.0
ARIG				*e*S	Sn	16 28 53.1	-5.7
TLIG	**Tlapa**	**1.68**	**59**	*e*P	Pn	16 28 35.5	-3.3
TLIG				*i* S	Sn	16 28 56.9	-4.0

*ISCJB **24** 17:02:10.7±0.3, 67.07N±0.02×20.99E±0.07, h0km, Error ellipse: s-maj=3.8km s-min=2.6km az=166.7*
*CSEM **24** 17:02:11.6±0.3, 67.08N×20.98E, h1km, ML2.0, Error ellipse: s-maj=6.4km s-min=5.2km az=90.0, Mining explosion.*
*UPP **24** 17:02:11.8±0.1, 67.08N×20.96E, h0km, ML2.0, Explosion*
*NAO **24** 17:02:12.6±0.9, 67.06N×21.22E, ML2.5*
*IDC **24** 17:02:12.4±1.0, 67.09N×20.94E, h0km, mb1 2.9/3, mb1mx2.8/29, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=17.7km s-min=8.6km az=114.0*
*HEL **24** 17:02:12.6±0.1, 67.07N×20.93E, h0km, ML2.3, ML2.0(UPP), Explosion*
*BER **24** 17:02:14.5±2.8, 67.06N×20.89E, h0km, ML2.5(NAO), Suspected explosion*

ISC 24 17:02:11.3±0.7**,67.07N**±0.02×**20.79E**±0.03,**h0**km,**n72**, σ1**s08**/100**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.76**	**132**	P	**Pg**	**17 02 25.3**	**-0.5**
ERTU				S	**Sg**	**17 02 36.0**	**+0.4**
ERTU	**Ertsjaerv**	**0.76**	**132**	*i* P	**Pg**	**17 02 25.3**	**-0.5**
ERTU				*i* S	**Sg**	**17 02 36.0**	**+0.4**
KUA	**Kurravaara**	**0.91**	**349**	P	**Pg**	**17 02 28.8**	**+0.2**
KUA				S	**Sb**	**17 02 41.5**	**-0.9**
KUA	**Kurravaara**	**0.91**	**349**	*e*P	**Pg**	**17 02 28.8**	**+0.2**
KUA				*e*S	**Sb**	**17 02 41.5**	**-0.9**
KUA	**Kurravaara**	**0.91**	**349**	P	**Pg**	**17 02 28.8**	**+0.2**
KUA				S	**Sb**	**17 02 41.5**	**-0.9**
HARU	**Harads**	**0.91**	**175**	P	**Pg**	**17 02 28.9**	**+0.1**
HARU	**Harads**	**0.91**	**175**	*e*P	**Pg**	**17 02 28.9**	**+0.1**
SALU	**Saltoluokta**	**0.94**	**290**	P	**Pb**	**17 02 30.6**	**+0.1**
SALU	**Saltoluokta**	**0.94**	**290**	*e*P	**Pb**	**17 02 30.6**	**+0.1**
SALU	**Saltoluokta**	**0.94**	**290**	P	**Pb**	**17 02 30.6**	**+0.1**
NIKU	**Nikkaluokta**	**1.05**	**321**	P	**Pb**	**17 02 32.1**	**-0.1**
NIKU				S	**Sn**	**17 02 47.5**	**-1.0**
NIKU	**Nikkaluokta**	**1.05**	**321**	*e*P	**Pb**	**17 02 32.1**	**-0.1**
NIKU				*e*S	**Sn**	**17 02 47.5**	**-1.0**
NIKU	**Nikkaluokta**	**1.05**	**321**	P	**Pb**	**17 02 32.1**	**-0.1**
LANU	**Lannavaara**	**1.09**	**25**	P	**Pg**	**17 02 31.5**	**-0.5**
LANU	**Lannavaara**	**1.09**	**25**	*e*P	**Pg**	**17 02 31.9**	**-0.1**
LANU	**Lannavaara**	**1.09**	**25**	Pg	**Pg**	**17 02 31.9**	**-0.1**
SJUU	**Sjulsmark**	**1.60**	**168**	P	**Pn**	**17 02 41.0**	**+0.2**
SJUU	**Sjulsmark**	**1.60**	**168**	*e*P	**Pn**	**17 02 41.0**	**+0.2**
SJUU	**Sjulsmark**	**1.60**	**168**	P	**Pn**	**17 02 41.0**	**+0.2**
TOF	**Tornio**	**1.73**	**124**	*e*P	**Pn**	**17 02 42.4**	**-0.1**
TOF				*e*SG	**Sn**	**17 03 04.5**	**-0.8**
TOF	**Tornio**	**1.73**	**124**	Pg	**Pn**	**17 02 42.4**	**-0.1**
TOF				Sg	**Sn**	**17 03 04.4**	**-0.8**
HEF	**Hetta**	**1.73**	**38**	*e*P	**Pn**	**17 02 42.4**	**-0.2**
HEF				MSG		17 03 04.0	
	comp=Z,23nm,0.2s						
HEF				*e*SG	**Sn**	**17 03 05.4**	**0.0**
HEF	**Hetta**	**1.73**	**38**	Pg	**Pn**	**17 02 42.4**	**-0.2**
HEF				Sn	**Sn**	**17 03 05.4**	**0.0**
LILU	**Lilltraesk**	**1.83**	**192**	P	**Pn**	**17 02 45.3**	**+1.4**
LILU	**Lilltraesk**	**1.83**	**192**	*e*P	**Pn**	**17 02 45.3**	**+1.4**
LILU	**Lilltraesk**	**1.83**	**192**	P	**Pn**	**17 02 45.3**	**+1.4**
KIF	**Kilpisjarvi**	**1.94**	**0**	Pn	**Pb**	**17 02 47.6**	**+0.1**
KIF				Lg	Lg	17 03 14.3	
KIF	**Kilpisjarvi**	**1.94**	**0**	Pn	**Pb**	**17 02 47.6**	**+0.1**
KIF				Lg	Lg	17 03 14.3	
KIF	**Kilpisjarvi**	**1.94**	**0**	*e*PB	**Pb**	**17 02 47.6**	**+0.1**
KIF				MSG		17 03 11.3	
	comp=Z,27nm,0.2s						
KIF				*e*SG	**Sg**	**17 03 14.2**	**+0.6**
KIF	**Kilpisjarvi**	**1.94**	**0**	Pg	**Pb**	**17 02 47.5**	**0.0**
KIF				Lg	Lg	17 03 14.3	
RNF	**Rovaniemi**	**2.12**	**100**	*e*PB	**Pn**	**17 02 48.6**	**+0.8**
RNF				*e*SG	**Sn**	**17 03 16.1**	**+1.3**
RNF	**Rovaniemi**	**2.12**	**100**	Pg	**Pn**	**17 02 48.6**	**+0.8**
RNF				Sg	**Sn**	**17 03 16.1**	**+1.3**
SGF	**Sodankyl**	**2.26**	**78**	*e*PG	**Pb**	**17 02 53.0**	**+0.1**
SGF				*e*SG	**Sg**	**17 03 23.4**	**-0.4**
SGF	**Sodankyl**	**2.26**	**78**	Pg	**Pb**	**17 02 52.9**	**+0.1**
SGF				Sg	**Sg**	**17 03 23.3**	**-0.4**
OUL	**Oulu**	**2.88**	**131**	*e*PB	**Pn**	**17 03 00.6**	**+2.3**
OUL	**Oulu**	**2.88**	**131**	Pb	**Pn**	**17 03 00.6**	**+2.3**
ARA0	**ARCESS Array S** baz=211,slow=14	**3.03**	**33**	Pn	**Pn**	**17 03 01.1**	**+0.6**
ARA0	baz=214,slow=28			Sn	**Sn**	**17 03 37.5**	**+0.1**
ARA0	**ARCESS Array S** baz=211,slow=14	**3.03**	**33**	Pn	**Pn**	**17 03 01.1**	**+0.6**
ARA0	baz=214,slow=28			Sn	**Sn**	**17 03 37.5**	**+0.1**
ARA0	**ARCESS Array S** SNR=50	**3.03**	**33**	Pn	**Pn**	**17 03 01.1**	**+0.6**
ARA0	SNR=50			Sn	**Sn**	**17 03 37.5**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,0.8nm,0.3s,baz=214,slow=14,SNR=42	**3.03**	**33**	Pn	**Pn**	**17 03 01.0**	**+0.6**
ARCES	comp=Z,2.0nm,0.3s,baz=215,slow=27,SNR=10			Sn	**Sn**	**17 03 38.9**	**+1.5**
ARE0	**ARCESS Array S** baz=213	**3.03**	**33**	*e*P	**Pn**	**17 03 00.6**	**+0.2**
ARE0				*e*SB	**Sn**	**17 03 40.3**	**+2.9**
ARE0	**ARCESS Array S**	**3.03**	**33**	Pn	**Pn**	**17 03 00.6**	**+0.2**
ARE0				Sb	**Sn**	**17 03 40.3**	**+2.9**
OUFX	**Oulainen** baz=329	**3.16**	**147**	*e*P	**Pn**	**17 03 03.9**	**+1.7**
OUFX	**Oulainen**	**3.16**	**147**	Pb	**Pn**	**17 03 03.9**	**+1.7**
UMAU	**Umeaa**	**3.20**	**181**	P	**Pn**	**17 03 04.1**	**+1.4**
UMAU	**Umeaa**	**3.20**	**181**	*e*P	**Pn**	**17 03 04.0**	**+1.3**
UMAU	**Umeaa**	**3.20**	**181**	Pn	**Pn**	**17 03 04.0**	**+1.3**
BREU	**Bredtraesk**	**3.32**	**197**	P	**Pn**	**17 03 05.7**	**+1.3**
BREU	**Bredtraesk**	**3.32**	**197**	*e*P	**Pn**	**17 03 05.7**	**+1.3**
BREU	**Bredtraesk**	**3.32**	**197**	P	**Pn**	**17 03 05.7**	**+1.3**
VRF	**Varrio**	**3.47**	**75**	*e*PB	**Pb**	**17 03 11.0**	**-2.5**
MSF	**Maaselka**	**3.50**	**106**	*e*P	**Pn**	**17 03 09.0**	**+2.1**
MSF	**Maaselka**	**3.50**	**106**	Pn	**Pn**	**17 03 09.0**	**+2.1**
KEV	**Kevo**	**3.54**	**38**	*e*P	**Pn**	**17 03 09.2**	**+1.7**
KEV	**Kevo**	**3.54**	**38**	Pn	**Pn**	**17 03 09.1**	**+1.7**
KU6	**Riekki**	**3.79**	**102**	*e*P	**Pn**	**17 03 11.7**	**+0.9**
KU6	**Riekki**	**3.79**	**102**	Pn	**Pn**	**17 03 11.7**	**+0.9**
VAF	**Ylistaro**	**4.12**	**168**	*e*P	**Pn**	**17 03 16.7**	**+1.3**
VAF	**Ylistaro**	**4.12**	**168**	Pn	**Pn**	**17 03 16.7**	**+1.3**
HEMU	**Hemsoen**	**4.57**	**196**	*e*P	**Pn**	**17 03 21.0**	**-0.5**
HEMU	**Hemsoen**	**4.57**	**196**	Pn	**Pn**	**17 03 20.9**	**-0.5**
FIA0	**FINESS Array S** baz=346,slow=16	**6.10**	**155**	Pn	**Pn**	**17 03 43.8**	**+1.3**
FIA0	baz=348,slow=28			Sn	**Sn**	**17 04 51.2**	**-1.7**
FIA0	baz=351,slow=28			Lg	Lg	17 05 20.8	
FIA0	**FINESS Array S** baz=346,slow=16	**6.10**	**155**	Pn	**Pn**	**17 03 43.8**	**+1.3**
FIA0	baz=348,slow=28			Sn	**Sn**	**17 04 51.2**	**-1.7**
FIA0	baz=351,slow=28			Lg	Lg	17 05 20.8	
FIA0	**FINESS Array S** SNR=50	**6.10**	**155**	Pn	**Pn**	**17 03 43.8**	**+1.3**
FIA0				Lg	Lg	17 05 20.8	
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=8.6	**6.10**	**155**	Pn	**Pn**	**17 03 44.0**	**+1.5**
FINES	comp=Z,0.3nm,0.3s,baz=351,slow

KORT	**Korkueli**	**2.54**	**24**	P		**Pn**	**17 17 17.2 +1.9**
KORT				S		**Sn**	**17 17 47.4 +1.6**
KORT	**Korkueli**	**2.54**	**24**	*i* P		**Pn**	**17 17 17.2 +1.9**
KORT				*i* S		**Sn**	**17 17 47.4 +1.6**
ANTB	**Antalya**	**2.56**	**30**	*e*PN		**Pb**	**17 17 18.8 -1.4**
ANTB	**Antalya**	**2.56**	**30**	*e*Pn		**Pb**	**17 17 18.8 -1.4**
GOLH	**Golhisar**	**2.58**	**9**	P		**Pn**	**17 17 17.6 +1.8**
GOLH				S		**Sn**	**17 17 47.0 +0.2**
GOLH	**Golhisar**	**2.58**	**9**	*i* P		**Pn**	**17 17 17.6 +1.8**
GOLH				*i* S		**Sn**	**17 17 47.0 +0.2**
BDRM	**Kayabasi**	**2.71**	**332**	P		**Pn**	**17 17 18.4 +0.8**
BDRM				S		**Sn**	**17 17 47.9 -2.1**
BDRM	**Kayabasi**	**2.71**	**332**	*i* P		**Pn**	**17 17 18.4 +0.8**
BDRM				*i* S		**Sn**	**17 17 47.9 -2.1**
DNZL	**Cakiroluk**	**3.00**	**360**	P		**Pn**	**17 17 22.0 +0.4**
DNZL	**Cakiroluk**	**3.00**	**360**	*i* P		**Pn**	**17 17 22.0 +0.4**
GAZI	**Gazipasa**	**3.08**	**59**	P		**Pn**	**17 17 23.0 +0.4**
GAZI	**Gazipasa**	**3.08**	**59**	*i* P		**Pn**	**17 17 23.0 +0.4**
GAZI				*i* S		**Sn**	**17 17 56.2 -2.8**
SUTC	**Sutluce-Ispart**	**3.20**	**29**	*e*PN		**Pn**	**17 17 27.7 +3.4**
SUTC				*e*SN		**Sn**	**17 18 02.4 +0.2**
SUTC	**Sutluce-Ispart**	**3.20**	**29**	*e*Pn		**Pn**	**17 17 27.7 +3.4**
SUTC				*e*Sn		**Sn**	**17 18 02.4 +0.2**
IDI	**Anoyia**	**3.48**	**281**	Pn		**Pn**	**17 17 30.5 +2.4**
	1.6nm,0.3s,baz=75,slow=4.5,SNR=14						
IDI				Sn		**Sn**	**17 18 09.2 +0.3**
	6.9nm,0.3s,baz=344,slow=23,SNR=16						
ERMK	**Ermenek**	**3.69**	**57**	P		**Pn**	**17 17 34.0 +2.8**
ERMK	**Ermenek**	**3.69**	**57**	*i* P		**Pn**	**17 17 34.0 +2.8**
KULA	**Kula-Manisa**	**3.84**	**355**	*e*PN		**Pn**	**17 17 33.5 +0.5**
KULA	**Kula-Manisa**	**3.84**	**355**	*e*Pn		**Pn**	**17 17 33.5 +0.5**
KONT	**Konya--Tatoy**	**4.21**	**38**	*e*PN		**Pn**	**17 17 42.1 +4.0**
KONT	**Konya--Tatoy**	**4.21**	**38**	*e*Pn		**Pn**	**17 17 42.1 +4.0**
LADK	**Ladik-KONYA**	**4.41**	**36**	*e*PN		**Pn**	**17 17 44.6 +3.7**
LADK	**Ladik-KONYA**	**4.41**	**36**	*e*Pn		**Pn**	**17 17 44.6 +3.7**
SLUM	**Salum**	**4.54**	**226**	P		**Pn**	**17 17 44.5 +1.9**
	baz=226						
SLUM				S		**Sn**	**17 18 32.6 -2.3**
	baz=226						
SLUM	**Salum**	**4.54**	**226**	P		**Pn**	**17 17 44.5 +1.9**
SLUM				S		**Sn**	**17 18 32.6 -2.3**
KIZT	**Kizilcal**	**4.76**	**28**	*e*PN		**Pn**	**17 17 48.3 +2.5**
KIZT	**Kizilcal**	**4.76**	**28**	*e*Pn		**Pn**	**17 17 48.3 +2.5**
TVSB	**Tavsanli**	**4.77**	**4**	*e*PN		**Pn**	**17 17 47.6 +1.7**
TVSB	**Tavsanli**	**4.77**	**4**	*e*Pn		**Pn**	**17 17 47.6 +1.7**
KOT	**Kottamia**	**5.29**	**153**	P		**Pn**	**17 17 55.3 +2.3**
	baz=153						
KOT				S		**Sn**	**17 18 50.5 -3.1**
	baz=153						
KOT	**Kottamia**	**5.29**	**153**	P		**Pn**	**17 17 55.3 +2.3**
HHAG	**Hagoal**	**5.37**	**151**	P		**Pn**	**17 17 56.9 +2.7**
	baz=150						
HHAG				S		**Sn**	**17 18 53.0 -2.7**
	baz=150						
HHAG	**Hagoal**	**5.37**	**151**	P		**Pn**	**17 17 56.9 +2.7**
MMAI	**Mount Meron Ar**	**5.53**	**106**	Pn		**Pn**	**17 17 56.8 +0.4**
	2.0nm,0.3s,baz=282,slow=14,SNR=11						
MMAI				Sn		**Sn**	**17 18 58.0 -1.6**
	8.0nm,0.3s,baz=302,slow=23,SNR=13						
GLL	**Jalalah**	**5.56**	**155**	P		**Pn**	**17 17 59.1 +2.3**
	baz=155						
GLL	**Jalalah**	**5.56**	**155**	P		**Pn**	**17 17 59.1 +2.3**
SUZ	**Suez**	**5.79**	**145**	P		**Pn**	**17 18 02.0 +2.1**
	baz=145						
SUZ	**Suez**	**5.79**	**145**	P		**Pn**	**17 18 02.0 +2.1**
BRTR	**Keskin Array B**	**6.22**	**35**	Pn		**Pn**	**17 18 06.6 +0.8**
	0.4nm,0.3s,baz=223,slow=16,SNR=6.7						
BRTR				Sn		**Sn**	**17 19 13.5 -3.0**
	0.7nm,0.3s,baz=204,slow=26,SNR=11						
SWA2		**6.23**	**210**	P		**Pn**	**17 18 07.3 +1.4**
	baz=210						
SWA2		**6.23**	**210**	P		**Pn**	**17 18 07.3 +1.4**
HNKL	**Nakhl**	**6.31**	**137**	P		**Pn**	**17 18 08.8 +1.7**
	baz=137						
HNKL	**Nakhl**	**6.31**	**137**	P		**Pn**	**17 18 08.8 +1.7**
AWBH		**6.35**	**181**	P		**Pn**	**17 18 09.4 +1.9**
	baz=182						
AWBH		**6.35**	**181**	P		**Pn**	**17 18 09.4 +1.9**
EIL	**Elat**	**7.07**	**133**	Pn		**Pn**	**17 18 17.7 +0.4**
	1.4nm,0.3s,baz=338,slow=4.1,SNR=15						
EIL				Sn		**Sn**	**17 19 34.1 -3.2**
	5.3nm,0.3s,baz=88,slow=12,SNR=12						
NUB		**7.37**	**138**	P		**Pn**	**17 18 23.8 +2.2**
	baz=138						
VAE	**Valguarnera**	**12.18**	**287**	LR		LR	17 24 08.6
	comp=Z,107nm,20.1s,baz=336,slow=37						
VYHS	**Vyhne**	**15.75**	**334**	*e*P		**P**	**17 20 19.8 +0.2**
GERES	**GERESS Array B**	**18.15**	**326**	P		**P**	**17 20 46.0 -0.2**
	0.1nm,0.3s,baz=134,slow=11,SNR=5.3						
TORD	**Torodi Ar. Bea**	**32.76**	**236**	P		**P**	**17 23 08.4 +1.5**
	0.7nm,0.7s,baz=30,slow=9.5,SNR=4.1						

*IDC **24** 17:22:54.5±1.1,34˚.86N×29˚.15E, h0km, mb3.5/6, mb1 3.7/12, mb1mx3.6/55, mbtmp3.6/12, ML3.9/6, MS2.9/1, Ms1 2.9/1, ms1mx2.0/41, Error ellipse: s-maj=21.4km s-min=17.6km az=177.0*

*ATH **24** 17:22:56.8, 34˚.88N×29˚.00E, h19km±10km, ML3.2/8, Error ellipse: s-maj=15.8km s-min=1.3km az=114.0*

*ISCJB **24** 17:22:57.7±0.2, 34˚.66N±0˚.02×29˚.09E±0˚.02, h51km±7km, mb3.4/6, Error ellipse: s-maj=3.4km s-min=2.6km az=18.5*

*ISK **24** 17:22:58.9, 34˚.78N×29˚.03E, h29km, MD3.7*

*CSEM **24** 17:22:58.1±0.1, 34˚.70N×29˚.08E, h20km, ML3.2, Error ellipse: s-maj=3.3km s-min=2.6km az=14.0*

*HLW **24** 17:22:59.5, 34˚.80N×29˚.06E, h50km×9km, Md3.7*

*NIC **24** 17:23:01.7±0.2, 35˚.01N×29˚.30E, h37km, mb4.2, ML3.8*

*NSSC **24** 17:23:01.1±2.2, 35˚.50N×29˚.57E, h37km×493km, ML2.8*

*DDA **24** 17:23:27.6, 35˚.01N×28˚.82E, h35km, Md3.6*

ISC 24 17:22:59.0±2.2,34˚.67N±0˚.03×29˚.14E±0˚.03,h35km±5km, n146,σ1§54/190,mb3.3/6,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.52**	**14**	P		P	**Pn**	**17 23 22.4**	**-1.3**
KSL				S		S	**Sn**	**17 23 42.7**	**+0.4**
KSL				AML	AML			17 23 48.6	
	comp=N,241μm,0.5s								
KSL				AML	AML			17 23 55.5	
	comp=E,414μm,0.6s								
AKAS	**Kas**	**1.61**	**13**	P		**Pn**		**17 23 24.8**	**-0.3**
AKAS				S		**Sn**		**17 23 44.7**	**+0.1**
AKAS	**Kas**	**1.61**	**13**	*i* P		**Pn**		**17 23 24.8**	**-0.3**
AKAS				*i* S		**Sn**		**17 23 44.7**	**+0.1**
ARG	**Arkhangelos**	**1.75**	**332**	P		**Pn**		**17 23 25.5**	**-1.4**
ARG				S		**Sn**		**17 23 45.6**	**-2.4**
KARP	**Karpathos**	**1.85**	**299**	*e*PN		**Pn**		**17 23 27.9**	**-0.3**
KARP				*e*SN		**Sn**		**17 23 48.0**	**-2.4**
KARP	**Karpathos**	**1.85**	**299**	*e*Pn		**Pn**		**17 23 27.9**	**-0.3**
KARP	**Karpathos**	**1.85**	**299**	P		**Pn**		**17 23 28.9**	**+0.7**
KARP				*e*Sn		**Sn**		**17 23 48.0**	**-2.4**
KARP				S		**Sn**		**17 23 50.9**	**+0.5**
KARP	**Karpathos**	**1.85**	**299**	P		**Pn**		**17 23 28.9**	**+0.7**
KARP				AML	AML			17 23 47.2	
	comp=E,381μm,24.2s								
KARP				S		**Sn**		**17 23 50.9**	**+0.5**
KARP				AML	AML			17 23 54.3	
	comp=N,428μm,0.1s								
ELL	**Elmali**	**2.17**	**17**	*e*PN		**Pn**		**17 23 32.9**	**+0.2**
ELL	**Elmali**	**2.17**	**17**	*e*Pn		**Pn**		**17 23 32.9**	**+0.2**
DALY	**Dalyan (Mu˘la**	**2.18**	**350**	*e*PN		**Pn**		**17 23 32.0**	**-0.8**
DALY	**Dalyan (Mu˘la**	**2.18**	**350**	*e*Pn		**Pn**		**17 23 32.0**	**-0.8**
TURN	**Turunc**	**2.25**	**349**	*i* P		**Pn**		**17 23 32.8**	**+0.8**
TURN				*i* S		**Sn**		**17 23 58.5**	**-1.6**
ZKR	**Zakros**	**2.44**	**281**	P		**Pn**		**17 23 35.7**	**-0.7**
ZKR				S		**Sn**		**17 24 05.3**	**+0.2**
ZKR	**Zakros**	**2.44**	**281**	P		**Pn**		**17 23 35.7**	**-0.7**
ZKR				AML	AML			17 24 05.2	
	comp=E,581μm,0.6s								
ZKR				S		**Sn**		**17 24 05.3**	**+0.2**
ZKR				AML	AML			17 24 05.8	
	comp=N,832μm,0.6s								
GLHS	**Glhisar (BURDU**	**2.50**	**7**	*e*PN		**Pn**		**17 23 37.3**	**0.0**
GLHS				*e*SN		**Sn**		**17 24 05.8**	**-0.8**
GLHS	**Glhisar (BURDU**	**2.50**	**7**	*e*Pn		**Pn**		**17 23 37.3**	**0.0**
GLHS				*e*Sn		**Sn**		**17 24 05.8**	**-0.8**
KORT	**Korkueli**	**2.53**	**23**	P		**Pn**		**17 23 38.3**	**+0.6**
KORT				S		**Sn**		**17 24 09.3**	**+2.0**
KORT	**Korkueli**	**2.53**	**23**	*i* P		**Pn**		**17 23 38.3**	**+0.6**
KORT				*i* S		**Sn**		**17 24 09.3**	**+2.0**
ANTB	**Antalya**	**2.54**	**28**	*e*PN		**Pn**		**17 23 38.2**	**+0.4**
ANTB	**Antalya**	**2.54**	**28**	*e*Pn		**Pn**		**17 23 38.2**	**+0.4**
YER	**Yerkesik**	**2.56**	**344**	*e*PN		**Pn**		**17 23 37.9**	**-0.2**
YER				*e*SN		**Sn**		**17 24 05.4**	**-2.6**
YER	**Yerkesik**	**2.56**	**344**	*e*Pn		**Pn**		**17 23 37.9**	**-0.2**
YER				*e*Sn		**Sn**		**17 24 05.4**	**-2.6**
GOLH	**Golhisar**	**2.59**	**7**	P		**Pn**		**17 23 38.9**	**+0.4**
GOLH				S		**Sn**		**17 24 08.9**	**+0.2**
GOLH	**Golhisar**	**2.59**	**7**	*i* P		**Pn**		**17 23 38.9**	**+0.4**
GOLH				*i* S		**Sn**		**17 24 08.9**	**+0.2**
PPCY	**Paphos**	**2.65**	**84**	P		**Pn**		**17 23 40.4**	**+1.2**
	baz=273								
PPCY	**Paphos**	**2.65**	**84**	P		**Pn**		**17 23 40.4**	**+1.2**
AKMC	**Akamas**	**2.65**	**81**	P		**Pn**		**17 23 40.0**	**+0.8**
	baz=270								
AKMC	**Akamas**	**2.65**	**81**	P		**Pn**		**17 23 40.0**	**+0.8**
BDRM	**Kayabasi**	**2.76**	**331**	P		**Pn**		**17 23 39.8**	**-1.0**
BDRM	**Kayabasi**	**2.76**	**331**	*i* P		**Pn**		**17 23 39.8**	**-1.0**
BODT	**Bodrum**	**2.81**	**329**	*e*PN		**Pn**		**17 23 41.3**	**-0.2**
BODT	**Bodrum**	**2.81**	**329**	*e*Pn		**Pn**		**17 23 41.3**	**-0.2**
ALFC	**Alefka**	**2.88**	**79**	P		**Pn**		**17 23 43.5**	**+1.0**
	baz=267								
ALFC				S		**Sn**		**17 24 15.3**	**-0.6**
ALFC	**Alefka**	**2.88**	**79**	P		**Pn**		**17 23 43.5**	**+1.0**
ALFC				S		**Sn**		**17 24 15.3**	**-0.6**
NPS	**Neapolis**	**2.96**	**283**	P		**Pn**		**17 23 44.1**	**+0.6**
NPS				S		**Sn**		**17 24 14.8**	**-3.0**
NPS	**Neapolis**	**2.96**	**283**	P		**Pn**		**17 23 44.1**	**+0.6**
NPS				S		**Sn**		**17 24 14.8**	**-3.0**
NPS				AML	AML			17 24 19.1	
	comp=N,251μm,0.4s								
NPS				AML	AML			17 24 19.8	
	comp=E,511μm,0.7s								
DNZL	**Cakiroluk**	**3.02**	**359**	P		**Pn**		**17 23 44.1**	**-0.4**
DNZL	**Cakiroluk**	**3.02**	**359**	*i* P		**Pn**		**17 23 44.1**	**-0.4**
BCK	**Bucak**	**3.02**	**22**	*e*PN		**Pn**		**17 23 45.3**	**+0.8**
BCK	**Bucak**	**3.02**	**22**	*e*Pn		**Pn**		**17 23 45.3**	**+0.8**
GAZI	**Gazipasa**	**3.03**	**58**	P		**Pn**		**17 23 44.0**	**-0.4**
GAZI				S		**Sn**		**17 24 17.9**	**-1.6**
GAZI	**Gazipasa**	**3.03**	**58**	*i* P		**Pn**		**17 23 44.0**	**-0.4**
GAZI				*i* S		**Sn**		**17 24 17.9**	**-1.6**
LAST	**Lasithi**	**3.05**	**280**	P		**Pn**		**17 23 45.9**	**+1.1**
LAST				S		**Sn**		**17 24 20.0**	**-0.1**
LAST	**Lasithi**	**3.05**	**280**	P		**Pn**		**17 23 45.9**	**+1.1**
	baz=275								
SZAC	**Souni**	**3.08**	**87**	P		**Pn**		**17 23 46.5**	**+1.3**
LEF	**Lefka**	**3.11**	**81**	*e*PN		**Pn**		**17 23 47.8**	**+2.2**
LEF	**Lefka**	**3.11**	**81**	*e*Pn		**Pn**		**17 23 47.8**	**+2.2**
SUTC	**Sutluce-Ispart**	**3.18**	**28**	*e*PN		**Pn**		**17 23 47.8**	**+1.1**
SUTC	**Sutluce-Ispart**	**3.18**	**28**	*e*Pn		**Pn**		**17 23 47.8**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**3.43**	**343**	*e*PN		**Pn**		**17 23 49.0**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**3.43**	**343**	*e*Pn		**Pn**		**17 23 49.0**	**-1.0**
CSS	**Mathiatis**	**3.46**	**84**	P		**Pn**		**17 23 51.5**	**+1.1**
	baz=272								
CSS				S		**Sn**		**17 24 30.9**	**+0.8**
CSS	**Mathiatis**	**3.46**	**84**	P		**Pn**		**17 23 51.5**	**+1.1**
CSS				S		**Sn**		**17 24 30.9**	**+0.8**
IDI	**Anoyia**	**3.54**	**281**	Sn		**Sn**		**17 24 30.9**	**-1.4**
	baz=360,slow=19								
IDI	**Anoyia**	**3.54**	**281**	P		**Pn**		**17 23 52.9**	**+1.3**
IDI				S		**Sn**		**17 24 31.5**	**-0.8**
IDI	**Anoyia**	**3.54**	**281**	P		**Pn**		**17 23 52.9**	**+1.3**
IDI				S		**Sn**		**17 24 31.5**	**-0.8**
IDI				AML	AML			17 24 33.2	
	comp=E,299μm,0.5s								
IDI				AML	AML			17 24 33.6	
	comp=N,434μm,0.7s								
SIVA	**Sivas**	**3.58**	**277**	P		**Pn**		**17 23 53.2**	**+1.2**
SIVA	**Sivas**	**3.58**	**277**	P		**Pn**		**17 23 53.2**	**+1.2**
ERMK	**Ermenek**	**3.65**	**56**	P		**Pn**		**17 23 54.0**	**+0.8**
ERMK	**Ermenek**	**3.65**	**56**	*i* P		**Pn**		**17 23 54.0**	**+0.8**
LFK	**Lefkose**	**3.66**	**79**	*e*PN		**Pn**		**17 23 56.4**	**+3.3**
LFK	**Lefkose**	**3.66**	**79**	*e*Pn		**Pn**		**17 23 56.4**	**+3.3**
MATC	**Matruh**	**3.68**	**206**	P		**Pn**		**17 23 54.2**	**+0.8**
	baz=205								
APE	**Apeiranthos**	**3.79**	**310**	*e*PN		**Pn**		**17 23 55.1**	**+0.2**
APE	**Apeiranthos**	**3.79**	**310**	*e*Pn		**Pn**		**17 23 55.1**	**+0.2**
KULA	**Kula-Manisa**	**3.86**	**354**	*e*PN		**Pn**		**17 23 55.8**	**-0.1**
KULA	**Kula-Manisa**	**3.86**	**354**	*e*Pn		**Pn**		**17 23 55.8**	**-0.1**
HMAT	**Matruh**	**3.96**	**206**	P		**Pn**		**17 23 54.2**	**-3.0**
KMER	**Konya-Meram**	**4.05**	**39**	P		**Pn**		**17 23 59.5**	**+0.9**
KMER	**Konya-Meram**	**4.05**	**39**	*i* P		**Pn**		**17 23 59.5**	**+0.9**
VAM	**Vamos**	**4.12**	**282**	P		**Pn**		**17 23 59.2**	**-0.3**
VAM				S		**Sn**		**17 24 47.5**	**+1.1**
GVD	**Gavdhos**	**4.17**	**274**	P		**Pn**		**17 23 58.5**	**-1.5**
GVD	**Gavdhos**	**4.17**	**274**	P		**Pn**		**17 23 58.5**	**-1.5**
GVD				AML	AML			17 24 46.3	
	comp=N,264μm,0.4s								
GVD				AML	AML			17 24 48.4	
	comp=E,363μm,0.5s								
KONT	**Konya--Tatoy**	**4.18**	**38**	*e*PN		**Pn**		**17 24 01.8**	**+1.5**
KONT	**Konya--Tatoy**	**4.18**	**38**	*e*Pn		**Pn**		**17 24 01.8**	**+1.5**
IMMV	**Iera Moni Meta**	**4.31**	**282**	P		**Pn**		**17 24 02.5**	**+0.5**
IMMV				S		**Sn**		**17 24 50.6**	**-0.4**
IMMV	**Iera Moni Meta**	**4.31**	**282**	P		**Pn**		**17 24 02.5**	**+0.5**
IMMV				AML	AML			17 24 50.5	
	comp=N,360μm,0.6s								
IMMV				S		**Sn**		**17 24 50.6**	**-0.4**
IMMV				AML	AML			17 24 52.1	
	comp=E,347μm,0.7s								
SLUM	**Salum**	**4.57**	**227**	P		**Pn**		**17 24 05.6**	**-0.1**
	baz=226								
SLUM				S		**Sn**		**17 24 53.7**	**-3.8**
	baz=226								
SLUM	**Salum**	**4.57**	**227**	P		**Pn**		**17 24 05.6**	**-0.1**
SLUM				S		**Sn**		**17 24 53.7**	**-3.8**
KIZT	**Kizilcal**	**4.75**	**27**	*e*PN		**Pn**		**17 24 09.5**	**+1.4**
KIZT	**Kizilcal**	**4.75**	**27**	*e*Pn		**Pn**		**17 24 09.5**	**+1.4**
ANKY	**Antikythira Is**	**4.93**	**286**	P		**Pn**		**17 24 11.2**	**+0.7**
ANKY	**Antikythira Is**	**4.93**	**286**	AML	AML			17 23 39.9	
	comp=N,133μm,1.3s								
ANKY				AML	AML			17 24 06.2	
	comp=E,113μm,1.7s								
ANKY				P		**Pn**		**17 24 11.2**	**+0.7**
KYTH	**Kithira**	**5.22**	**290**	P		**Pn**		**17 24 14.5**	**-0.1**
KYTH	**Kithira**	**5.22**	**290**	P		**Pn**		**17 24 14.5**	**-0.1**
KOT	**Kottamia**	**5.24**	**154**	P		**Pn**		**17 24 16.1**	**+1.2**
	baz=153								
KOT				S		**Sn**		**17 25 11.2**	**-3.0**
	baz=153								
KOT	**Kottamia**	**5.24**	**154**	P		**Pn**		**17 24 16.1**	**+1.2**
KOT				S		**Sn**		**17 25 11.2**	**-3.0**
HHAG	**Hagoal**	**5.33**	**151**	P		**Pn**		**17 24 18.0**	**+1.9**
	baz=151								
HHAG				S		**Sn**		**17 25 14.1**	**-2.1**
	baz=151								
HHAG	**Hagoal**	**5.33**	**151**	P		**Pn**		**17 24 18.0**	**+1.9**
HHAG				S		**Sn**		**17 25 14.1**	**-2.1**
RSH		**5.34**	**133**	P		**Pn**		**17 24 16.8**	**+0.5**
	baz=133								
RSH		**5.34**	**133**	P		**Pn**		**17 24 16.8**	**+0.5**
HSAF	**As Saff**	**5.43**	**157**	P		**Pn**		**17 24 17.4**	**-0.1**
	baz=157								
HSAF	**As Saff**	**5.43**	**157**	P		**Pn**		**17 24 17.4**	**-0.1**
VLI	**Veliai**	**5.45**	**294**	P		**Pn**		**17 24 17.6**	**-0.1**
VLI	**Veliai**	**5.45**	**294**	P		**Pn**		**17 24 17.6**	**-0.1**
KARA	**Karaisali**	**5.45**	**60**	*e*PN		**Pn**		**17 24 20.3**	**+2.6**
KARA	**Karaisali**	**5.45**	**60**	*e*Pn		**Pn**		**17 24 20.3**	**+2.6**
MMAI	**Mount Meron Ar**	**5.46**	**106**	Pn		**Pn**		**17 24 18.3**	**+0.3**
	comp=E,3.6nm,0.3s,baz=304,slow=12,SNR=15								
GLL	**Jalalah**	**5.52**	**156**	P		**Pn**		**17 24 19.0**	**+0.2**
	baz=156								
GLL	**Jalalah**	**5.52**	**156**	P		**Pn**		**17 24 19.0**	**+0.2**
DID	**Didima**	**5.56**	**302**	P		**Pn**		**17 24 18.3**	**-0.9**
DID	**Didima**	**5.56**	**302**	P		**Pn**		**17 24 18.3**	**-0.9**
KRND	**KRANIDI**	**5.56**	**301**	P		**Pn**		**17 24 19.0**	**-0.2**
KRND	**KRANIDI**	**5.56**	**301**	P		**Pn**		**17 24 19.0**	**-0.2**
SUZ	**Suez**	**5.74**	**146**	P		**Pn**		**17 24 23.2**	**+1.5**
	baz=146								
SUZ	**Suez**	**5.74**	**146**	P		**Pn**		**17 24 23.2**	**+1.5**
BRBR	**Barbar**	**5.79**	**101**	*e*P		**Pn**		**17 24 23.3**	**+0.7**
BRBR				*e*S		**Sn**		**17 25 22.9**	**-5.0**
BRBR				AML	AML			17 25 30.7	
	comp=E,36nm,0.5s								
BRBR				AML	AML			17 25 34.7	
	comp=N,17nm,0.6s								
KOZT	**Kozan**	**6.10**	**61**	*e*PN		**Pn**		**17 24 30.5**	**+3.8**
MARH	**Ras Al Marh**	**6.11**	**94**	*e*P		**Pn**		**17 24 28.5**	**+1.5**
MARH				*e*S		**Sn**		**17 25 27.9**	**-7.9**
MARH				AML	AML			17 25 37.7	
	comp=E,11nm,0.4s								
MARH				AML	AML			17 25 39.5	
	comp=N,13nm,0.2s								
VLX	**Vlachokerasia**	**6.11**	**298**	P		**Pn**		**17 24 25.9**	**-0.9**
VLX	**Vlachokerasia**	**6.11**	**298**	P		**Pn**		**17 24 25.9**	**-0.9**
BTCH	**Batrach**	**6.13**	**75**	*e*P		Pn		17 24 22.3	-4.9
BTCH				*e*S		Sn		17 25 22.9	-13
BTCH				AML	AML			17 25 28.7	
	comp=E,47nm,0.7s								
BTCH				AML	AML			17 25 31.4	
	comp=N,20nm,0.4s								
TOTH	**TOTAH**	**6.19**	**100**	*e*P		**Pn**		**17 24 29.3**	**+1.4**
TOTH				*e*S		**Sn**		**17 25 33.7**	**-3.8**
TOTH				AML	AML			17 25 46.8	
	comp=E,20nm,0.6s								
TOTH				AML	AML			17 25 50.1	
	comp=N,28nm,0.6s								
BRTR	**Keskin Array B**	**6.19**	**34**	Pn		**Pn**		**17 24 27.1**	**-1.0**
	comp=N,0.4nm,0.3s,baz=203,slow=15,SNR=13								
BRTR				Sn		**Sn**		**17 25 35.4**	**-2.4**
	comp=N,0.5nm,0.3s,baz=207,slow=25,SNR=7.5								
SWA2		**6.25**	**211**	P		**Pn**		**17 24 28.2**	**-0.5**
	baz=210								
SWA2		**6.25**	**211**	P		**Pn**		**17 24 28.2**	**-0.5**
HNKL	**Nakhl**	**6.25**	**138**	P		**Pn**		**17 24 29.6**	**+0.8**
	baz=138								
HNKL	**Nakhl**	**6.25**	**138**	P		**Pn**		**17 24 29.6**	**+0.8**
NBNS	**Bani Suef**	**6.30**	**162**	P		**Pn**		**17 24 29.9**	**+0.5**
	baz=162								
NBNS	**Bani Suef**	**6.30**	**162**	P		**Pn**		**17 24 29.9**	**+0.5**
ITM	**Ithomi**	**6.37**	**295**	P		**Pn**		**17 24 29.8**	**-0.6**
ITM	**Ithomi**	**6.37**	**295**	P		**Pn**		**17 24 29.8**	**-0.6**
PYL	**PYLOS**	**6.41**	**292**	P		**Pn**		**17 24 31.1**	**+0.2**
PYL	**PYLOS**	**6.41**	**292**	P		**Pn**		**17 24 31.1**	**+0.2**
DSF	**Desfina**	**6.50**	**307**	P		**Pn**		**17 24 32.2**	**-0.1**
DSF	**Desfina**	**6.50**	**307**	P		**Pn**		**17 24 32.2**	**-0.1**
ASF	**Jabal al Asfar**	**6.95**	**109**	Pn		**Pn**		**17 24 39.2**	**+0.9**
	comp=N,0.5nm,0.3s,baz=225,slow=14,SNR=6.5								
EIL	**Elat**	**7.00**	**134**	Pn		**Pn**		**17 24 39.2**	**+0.1**
	comp=N,2.5nm,0.3s,baz=336,slow=20,SNR=19								
EIL				Sn		**Sn**		**17 25 53.6**	**-3.8**
	comp=N,3.6nm,0.3s,baz=25,slow=11,SNR=8.0								
HBST	**Basata**	**7.22**	**137**	P		**Pn**		**17 24 42.2**	**+0.2**
	baz=137								
HBST	**Basata**	**7.22**	**137**	P		**Pn**		**17 24 42.2**	**+0.2**
NUB		**7.32**	**139**	P		**Pn**		**17 24 44.8**	**+1.4**
	baz=139								
HQLS		**7.34**	**135**	S		**Sn**		**17 26 02.6**	**-3.2**
HQLS				P		**Pn**		**17 24 45.4**	**+1.6**
HAQS	**Haql**	**7.45**	**137**	P		**Pn**		**17 24 46.6**	**+1.4**
RSHS		**7.97**	**141**	P		**Pn**		**17 24 52.9**	**+0.5**
JLOS		**8.01**	**136**	P		**Pn**		**17 24 54.1**	**+1.0**
BDAS	**Al Bad'**	**8.03**	**139**	P		**Pn**		**17 24 54.7**	**+1.5**
VRAC	**Vranov**	**17.31**	**331**	P		**Pn**		**17 26 55.8**	**-2.0**

SANI	**Sanana**	**8.98**	**165**	P	**P**	**17**	**25**	**50.2 -2.1**
	352nm,0.7s,5µm							
BALP	**Baler**	**9.23**	**348**	*eP*	**P**	**17**	**25**	**53.8 -0.9**
BALP				*eS*	**S**	**17**	**27**	**39.8 -2.3**
CAUP	**Cauayan**	**10.36**	**350**	*eP*	**P**	**17**	**26**	**06.2 +0.5**
CAUP				*eS*	**S**	**17**	**28**	**04.9 +2.4**
TTSI	**Tana Toraja**	**10.37**	**202**	P	**P**	**17**	**26**	**07.7 +1.7**
NLAI	**Namlea**	**10.44**	**160**	P	**P**	**17**	**26**	**08.2 +1.5**
SWI	**Sorong**	**10.69**	**134**	P	**P**	**17**	**26**	**10.1 +1.0**
PALU	**Palau**	**10.79**	**86**	P	**P**	**17**	**26**	**10.8 +0.6**
	baz=11,SNR=18							
BTM	**Bintulu**	**11.05**	**252**	⇑P	**P**	**17**	**26**	**14.0 +1.2**
SPSI	**Sidrap Palu**	**11.24**	**200**	P	**P**	**17**	**26**	**14.3 -0.5**
ABRA	**Dolores**	**11.27**	**346**	*eP*	**P**	**17**	**26**	**13.3 -1.6**
ABRA				*eS*	**S**	**17**	**28**	**16.0 -3.3**
MSAI	**Masohi**	**11.28**	**152**	P	**P**	**17**	**26**	**17.1 +2.0**
APYP	**Conner**	**11.36**	**348**	*eP*	**P**	**17**	**26**	**14.5 -1.3**
APYP				*eS*	**S**	**17**	**28**	**21.8 +0.9**
MTKI	**Muara Teweh, K**	**11.54**	**229**	P	**P**	**17**	**26**	**18.5 +0.8**
SBUM	**Sibu**	**12.11**	**250**	⇓P	**P**	**17**	**26**	**24.6 +1.1**
SBUM	**Sibu**	**12.11**	**250**	*eP*	**P**	**17**	**26**	**23.8 +0.2**
BNDI	**Bandanaira**	**12.77**	**150**	P	**P**	**17**	**26**	**30.9 +0.8**
FAKI	**Fak Fak**	**12.85**	**138**	P	**P**	**17**	**26**	**31.6 +0.7**
FAKI	**Fak Fak**	**12.85**	**138**	*eP*	**P**	**17**	**26**	**30.8 -0.1**
BSSI	**Bau Bau, Buton**	**13.11**	**194**	P	**P**	**17**	**26**	**31.9 -1.7**
BBKI	**Banjar Baru**	**13.35**	**221**	P	**P**	**17**	**26**	**37.0 +0.9**
STKI	**Sintang**	**13.78**	**242**	P	**P**	**17**	**26**	**40.9 +0.4**
KSM	**Kuching**	**14.24**	**249**	⇓P	**P**	**17**	**26**	**45.2 +0.2**
KSM	**Kuching**	**14.24**	**249**	*eP*	**P**	**17**	**26**	**44.9 -0.1**
KSM				*eScP*	**ScP**	**17**	**33**	**54.1 -0.4**
PBKI	**Pangkalan Bun**	**15.14**	**232**	P	**P**	**17**	**26**	**53.9 +0.7**
MMRI	**Maumere**	**15.27**	**185**	P	**P**	**17**	**26**	**55.8 +1.4**
MMRI	**Maumere**	**15.27**	**185**	*eP*	**P**	**17**	**26**	**54.5 +0.1**
	171nm,1.2s							
TWG	**Pinlang**	**16.24**	**352**	*eP*	**P**	**17**	**27**	**02.6 -0.7**
	160nm,0.5s							
SOEI	**Soe**	**16.33**	**178**	P	**P**	**17**	**27**	**04.0 -0.4**
SOEI	**Soe**	**16.33**	**178**	*eP*	**P**	**17**	**27**	**03.4 -0.9**
	82nm,0.9s							
SOEI				*eS*	**S**	**17**	**29**	**45.8 -2.1**
SAUI	**Saumlaki**	**16.45**	**152**	P	**P**	**17**	**27**	**07.1 +1.8**
SAUI	**Saumlaki**	**16.45**	**152**	*eP*	**P**	**17**	**27**	**05.3 0.0**
	567nm,0.8s							
PLAI	**Plampang**	**16.46**	**201**	P	**P**	**17**	**27**	**06.6 +1.2**
TWSI	**Taliwang, Sumb**	**16.72**	**204**	P	**P**	**17**	**27**	**08.6 +0.8**
YULB	**Yu-li**	**16.77**	**353**	*eP*	**P**	**17**	**27**	**06.1 -2.1**
	28nm,0.6s							
TPUB	**Ta-pu**	**16.78**	**350**	*eP*	**P**	**17**	**27**	**08.3 +0.1**
	98nm,0.9s							
SSLB	**Suanglung**	**17.21**	**352**	*eP*	**P**	**17**	**27**	**12.5 +0.4**
	33nm,0.6s							
SSLB				*eS*	**S**	**17**	**29**	**60.0 -1.8**
NACB	**Ninganchiao**	**17.51**	**354**	*eP*	**P**	**17**	**27**	**13.5 -1.4**
JAGI	**Jajag, Banyuwa**	**17.76**	**212**	*eP*	**P**	**17**	**27**	**15.4 -1.9**
	45nm,0.7s							
YHNB	**Yeheng**	**18.02**	**353**	*eP*	**P**	**17**	**27**	**20.0 +0.4**
	215nm,1.8s							
QIZ	**Qiongzhong**	**18.18**	**314**	P	**P**	**17**	**27**	**21.3 +0.2**
QIZ				S	**S**	**17**	**30**	**17.5 -0.1**
QIZ				PMZ				
	43nm,1.0s							
QIZ				PMZ				
	280nm,4.1s							
QIZ	**Qiongzhong**	**18.18**	**314**	*eP*	**P**	**17**	**27**	**21.4 +0.4**
	192nm,1.5s							
GENI	**Genyem**	**18.91**	**119**	P	**P**	**17**	**27**	**28.7 +0.9**
JAY	**Jayapura**	**19.34**	**118**	P	**P**	**17**	**27**	**32.6 +0.8**
	0.3nm,0.3s,baz=260,slow=23,SNR=23							
JAY	**Jayapura**	**19.34**	**118**	P	**P**	**17**	**27**	**32.1 +0.3**
TPRI	**Tanjung Pinang**	**19.89**	**254**	P	**P**	**17**	**27**	**37.4 +0.8**
KPJI	**Karang Pucung**	**20.21**	**227**	P	**P**	**17**	**27**	**40.8 +1.3**
MYKOM	**Kota Tinggi**	**20.30**	**257**	*eP*	**P**	**17**	**27**	**40.7 +0.3**
	124nm,0.7s							
MTN	**Manton Dam**	**20.78**	**159**	P	**P**	**17**	**27**	**44.1 -0.5**
	baz=21,SNR=64							
MTN	**Manton Dam**	**20.78**	**159**	*eP*	**P**	**17**	**27**	**43.8 -0.8**
	39nm,0.8s							
LEM	**Lembang**	**20.85**	**230**	P	**P**	**17**	**27**	**46.7 +1.2**
KDU	**Kakadu**	**21.15**	**155**	P	**P**	**17**	**27**	**47.9 0.0**
	baz=21,SNR=7.8							
CISI	**Cisompet, Garu**	**21.17**	**228**	*eP*	**P**	**17**	**27**	**47.5 -0.7**
	144nm,1.4s							
CISI				*eScP*	**ScP**	**17**	**34**	**08.0 -1.5**
CBJI	**Citeko**	**21.20**	**232**	P	**P**	**17**	**27**	**50.2 +1.8**
JMBI	**JAMBI**	**21.58**	**248**	P	**P**	**17**	**27**	**53.9 +2.0**
SBJI	**Serang**	**21.59**	**234**	P	**P**	**17**	**27**	**53.1 +1.2**
SKNT	**Sakolnakorn**	**21.75**	**300**	P	**P**	**17**	**27**	**54.1 +0.8**
	238nm,1.1s							
CHBT	**CHBT**	**21.83**	**288**	P	**P**	**17**	**27**	**54.9 +0.9**
	223nm,0.9s,3µm							
BLSI	**Bandar Lampung**	**21.90**	**237**	P	**P**	**17**	**27**	**55.4 +0.7**
KLJ	**Kotabumi**	**21.96**	**239**	P	**P**	**17**	**27**	**55.5 +0.3**
CGJI	**Cibinong**	**22.23**	**234**	P	**P**	**17**	**27**	**56.0 -1.6**
SRAK	**Srakaew**	**22.43**	**291**	P	**P**	**17**	**27**	**54.9 -4.5**
KHON	**Khomkaen**	**22.51**	**297**	P	**P**	**17**	**28**	**00.8 +0.8**
	93nm,0.7s,2µm							
IPM	**Ipoh**	**22.59**	**266**	*eP*	**P**	**17**	**28**	**00.7 -0.2**
	82nm,1.1s							
IPM				*eScP*	**ScP**	**17**	**34**	**12.3 -0.8**
KASI	**Kota Agung**	**22.61**	**238**	P	**P**	**17**	**28**	**00.9 -0.1**
LHSI	**Lahat**	**22.61**	**243**	P	**P**	**17**	**28**	**01.6 +0.6**
LWLI	**Liwa**	**22.72**	**240**	P	**P**	**17**	**28**	**02.3 +0.2**
KNRA	**Kununurra**	**22.78**	**167**	P	**P**	**17**	**28**	**03.0 +0.5**
	baz=23							
SKLT	**Songkhla**	**22.84**	**273**	P	**P**	**17**	**28**	**03.8 +0.8**
	154nm,0.8s,2µm							
KULM	**Kulim**	**22.89**	**268**	*eP*	**P**	**17**	**28**	**04.0 +0.5**
	82nm,1.1s							
KULM				*eScP*	**ScP**	**17**	**34**	**13.4 -0.5**
NONG	**Nongkai**	**22.95**	**301**	P	**P**	**17**	**28**	**04.3 +0.3**
	84nm,1.0s							
CHAI	**Chaiyaphum**	**23.09**	**295**	P	**P**	**17**	**28**	**05.5 +0.3**
	72nm,0.7s,507nm							
MNAI	**Manna**	**23.36**	**243**	*eP*	**P**	**17**	**28**	**07.3 -0.4**
	208nm,0.7s							
BKNI	**Bangkinang**	**23.39**	**255**	*eP*	**P**	**17**	**28**	**07.9 -0.1**
	109nm,0.7s							
TRTT	**Trang**	**23.77**	**274**	P	**P**	**17**	**28**	**12.2 +0.9**
	87nm,1.3s,2µm							
SURA	**Surathani**	**23.89**	**278**	P	**P**	**17**	**28**	**13.2 +0.9**
	76nm,0.8s,1µm							
PBKT	**Sadao Pong**	**24.24**	**296**	P	**P**	**17**	**28**	**16.3 +0.9**
	185nm,0.9s,2µm							
PDSI	**Padang**	**24.31**	**253**	P	**P**	**17**	**28**	**15.3 -0.8**
PHET	**Kaeng Krachan**	**24.43**	**287**	P	**P**	**17**	**28**	**18.2 +1.1**
	124nm,0.8s,948nm							
MNSI	**Mandailing Nat**	**24.68**	**257**	P	**P**	**17**	**28**	**18.6 -0.8**
SURT	**Suratani**	**24.70**	**277**	P	**P**	**17**	**28**	**20.3 +0.8**
	44nm,0.8s							
FITZ	**Fitzroy Crossi**	**24.70**	**175**	P	**P**	**17**	**28**	**19.5 +0.1**
	13nm,0.3s,baz=12,slow=8.6,SNR=184							
FITZ				S	**S**	**17**	**31**	**57.8 -2.9**
	8.2nm,0.8s,baz=272,slow=22,SNR=5.9							
FITZ	**Fitzroy Crossi**	**24.70**	**175**	P	**P**	**17**	**28**	**19.2 -0.2**
	baz=25,SNR=83							
FITZ	**Fitzroy Crossi**	**24.70**	**175**	*eP*	**P**	**17**	**28**	**19.4 0.0**
	51nm,1.1s							
FITZ				S	**S**	**17**	**31**	**57.8 -2.9**
FITZ				*eScP*	**ScP**	**17**	**34**	**18.0 -0.7**
PSI	**Prapat**	**24.91**	**262**	*eP*	**P**	**17**	**28**	**21.6 +0.1**
PSI				pmax	pmax			
	comp=Z,135nm,0.7s							
PSI	**Prapat**	**24.91**	**262**	*eP*	**P**	**17**	**28**	**21.6 +0.1**
	comp=Z,135nm,0.7s							
PSI				*eScP*	**ScP**	**17**	**34**	**18.8 -0.8**
UTTA	**Uttaradit**	**25.05**	**298**	P	**P**	**17**	**28**	**23.4 +0.9**
	comp=Z,29nm,0.9s,comp=Z,310nm							
PKDT	**Phuket**	**25.11**	**274**	P	**P**	**17**	**28**	**24.1 +1.0**
	comp=Z,163nm,0.8s							
TSI	**Tuntungan**	**25.15**	**264**	P	**P**	**17**	**28**	**23.9 +0.4**
SRDT	**SRDT**	**25.25**	**290**	P	**P**	**17**	**28**	**25.7 +1.4**
	comp=Z,629nm,0.8s,comp=Z,8µm							
WHN	**Wuhan**	**25.29**	**341**	⇓P	**P**	**17**	**28**	**26.5 +2.0**
WHN				PMZ				
	comp=Z,83nm,0.8s							
GYA	**Guiyang**	**25.46**	**323**	P	**P**	**17**	**28**	**27.8 +1.6**
GYA				sP	sP	17	31	06.3 -1.5
GYA				PcP	**PcP**	**17**	**31**	**39.3 +2.0**
GYA				S	**S**	**17**	**32**	**16.0 +3.3**
GYA				ScP	**ScP**	**17**	**34**	**22.3 +1.3**
GYA				ScS	**ScS**	**17**	**38**	**12.0 +0.6**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				

	comp=Z,130nm,4.9s							
SUKH	**Sukhothai**	**25.77**	**297**	P	**P**	**17**	**28**	**30.0 +1.2**
	comp=Z,32nm,0.7s,comp=Z,309nm							
KHLT	**Khaolaem Dam**	**25.86**	**290**	P	**P**	**17**	**28**	**31.2 +1.5**
	comp=Z,60nm,1.0s							
KCSI	**Kotacane, Aceh**	**25.93**	**264**	P	**P**	**17**	**28**	**29.7 -0.7**
UMPA	**Umpang Tak**	**26.02**	**293**	P	**P**	**17**	**28**	**32.1 +0.9**
	comp=Z,57nm,0.9s,comp=Z,545nm							
LAMP	**Lampang**	**26.16**	**299**	P	**P**	**17**	**28**	**33.5 +1.2**
	comp=Z,40nm,0.8s,comp=Z,422nm							
TPTI		**26.55**	**264**	P	**P**	**17**	**28**	**34.4 -1.4**
LHMI	**Lhok Sumawe**	**26.57**	**268**	P	**P**	**17**	**28**	**36.8 +0.8**
LHMI	**Lhok Sumawe**	**26.57**	**268**	*eP*	**P**	**17**	**28**	**36.7 +0.8**
	comp=Z,202nm,0.7s							
CM01	**Chiang Mai Arr**	**26.71**	**298**	*eP*	**P**	**17**	**28**	**38.2 +1.1**
CM01				*eScP*	**ScP**	**17**	**34**	**24.8 0.0**
CM31	**Chiang Mai Arr**	**26.74**	**298**	*eP*	**P**	**17**	**28**	**38.9 +1.5**
CM31				*eScP*	**ScP**	**17**	**34**	**25.3 +0.4**
CMAR	**Chiang Mai Arr**	**26.74**	**298**	P	**P**	**17**	**28**	**38.6 +1.2**
	comp=Z,59nm,0.7s,baz=112,slow=7.0,SNR=396							
CMAR				PcP	**PcP**	**17**	**31**	**40.1 -0.2**
	comp=Z,4.6nm,0.8s,baz=145,slow=0.9,SNR=6.5							
CMAR				ScP	**ScP**	**17**	**34**	**25.0 +0.2**
	comp=Z,5.2nm,1.0s,baz=133,slow=1.5,SNR=15							
CHTO	**Chiang Mai**	**26.88**	**299**	P	**P**	**17**	**28**	**39.3 +0.7**
	comp=Z,875nm,0.8s,comp=Z,7µm							
CHTO	**Chiang Mai**	**26.88**	**299**	*eP*	**P**	**17**	**28**	**39.7 +1.1**
CHTO				pmax	pmax			
	comp=Z,128nm,0.6s							
CHTO	**Chiang Mai**	**26.88**	**299**	*eP*	**P**	**17**	**28**	**39.7 +1.1**
	comp=Z,128nm,0.6s							
CHTO				*eScP*	**ScP**	**17**	**34**	**25.3 0.0**
ENH	**Enshi**	**26.97**	**332**	*eP*	**P**	**17**	**28**	**40.2 +0.9**
	comp=Z,150nm,0.8s							
KMI	**Kunming**	**27.12**	**315**	P	**P**	**17**	**28**	**42.9 +2.0**
KMI				PMZ				
	comp=Z,98nm,0.9s							
JNU	**Nakatsue**	**27.17**	**13**	P	**P**	**17**	**28**	**40.7 -0.2**
	comp=Z,6.8nm,0.8s,baz=355,slow=6.8,SNR=5.7							
MLSI	**Meulaboh, Aceh**	**27.20**	**266**	P	**P**	**17**	**28**	**40.6 -0.9**
MBWA	**Marble Bar**	**27.92**	**188**	*eP*	**P**	**17**	**28**	**47.4 -0.3**
	comp=Z,17nm,0.8s							
MBWA				*eScP*	**ScP**	**17**	**34**	**27.5 -0.8**
COEN	**Coen**	**28.23**	**137**	P	**P**	**17**	**28**	**49.6 -0.8**
	baz=28,SNR=105							
COEN	**Coen**	**28.23**	**137**	*eP*	**P**	**17**	**28**	**49.8 -0.6**
	comp=Z,70nm,0.6s							
PMG	**Port Moresby**	**28.38**	**124**	P	**P**	**17**	**28**	**51.7 0.0**
	comp=Z,62nm,0.9s,baz=326,slow=4.6,SNR=9.2							
PMG	**Port Moresby**	**28.38**	**124**	*ceP*	**P**	**17**	**28**	**49.6 -2.1**
PMG				pmax	pmax			
	comp=Z,532nm,2.5s							
PMG	**Port Moresby**	**28.38**	**124**	*eP*	**P**	**17**	**28**	**51.0 -0.7**
	comp=Z,85nm,0.9s							
WRAB	**Tennant Creek**	**28.47**	**158**	*ceP*	**P**	**17**	**28**	**51.7 -0.7**
WRAB				pmax	pmax			
	comp=Z,369nm,0.7s							
WRAB	**Tennant Creek**	**28.47**	**158**	*eP*	**P**	**17**	**28**	**51.8 -0.7**
	comp=Z,176nm,0.5s							
WR1	**Warramunga Arr**	**28.48**	**158**	*eP*	**P**	**17**	**28**	**52.0 -0.5**
	comp=Z,224nm,0.6s							
WR1				*e*PcP	**PcP**	**17**	**31**	**44.6 0.0**
WR1				*eS*	**S**	**17**	**32**	**54.6 -5.0**
WR1				*e*ScP	**ScP**	**17**	**34**	**29.2 -0.9**
WRA	**Warramunga Arr**	**28.48**	**158**	P	**P**	**17**	**28**	**52.0 -0.5**
	comp=Z,115nm,0.5s,baz=332,slow=11,SNR=817							
WRA				PcP	**PcP**	**17**	**31**	**44.6 0.0**
	comp=Z,4.1nm,0.5s,baz=329,slow=2.6,SNR=4.6							
WRA				S	**S**	**17**	**32**	**54.6 -5.0**
	comp=Z,15nm,0.5s,baz=334,slow=15,SNR=15							
WRA				ScP	**ScP**	**17**	**34**	**29.2 -0.9**
	comp=Z,10nm,0.5s,baz=341,slow=3.3,SNR=12							
WB2	**Warramunga Arr**	**28.48**	**158**	*eP*	**P**	**17**	**28**	**52.0 -0.6**
	comp=Z,210nm,0.6s							
WR7	**Warramunga Arr**	**28.54**	**158**	P	**P**	**17**	**28**	**52.6 -0.5**
	baz=29							
CMBY	**CAMPBELL BAY**	**29.48**	**272**	*eP*	**P**	**17**	**29**	**01.0 -0.3**
TIA	**Tai'an**	**30.00**	**349**	⇓P	**P**	**17**	**29**	**06.0 +0.6**
TIA				PMZ				
	comp=Z,40nm,0.8s							
XAN	**Xi'an**	**30.44**	**335**	P	**P**	**17**	**29**	**09.8 +0.5**
XAN				PMZ				
	comp=Z,110nm,0.7s							
CD2	**Chengdu**	**30.46**	**325**	P	**P**	**17**	**29**	**10.3 +0.8**
CD2				sP	sP	17	31	53.9 -0.5
CD2				S	**S**	**17**	**33**	**32.1 +2.1**
CD2				SS	**SS**	**17**	**36**	**42.0 +3.1**
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,220nm,5.2s							
RABL	**Rabaul**	**30.47**	**110**	*eP*	**P**	**17**	**29**	**11.2 +1.4**
	comp=Z,165nm,0.6s							
RABL				*e*ScP	**ScP**	**17**	**34**	**36.7 -0.2**
GIRL	**Giralia**	**30.55**	**197**	P	**P**	**17**	**29**	**11.3 +1.1**
	baz=31,SNR=13							
KS15	**Wonju Array Si**	**30.87**	**7**	*eP*	**P**	**17**	**29**	**13.8 +1.0**
KSAR	**Wonju Array Be**	**30.87**	**7**	P	**P**	**17**	**29**	**14.3 +1.5**
KSAR						17	31	50.9
KSAR	**Wonju Array Be**	**30.87**	**7**	P	**P**	**17**	**29**	**14.3 +1.5**
KSAR				PcP	**PcP**	**17**	**31**	**50.9 +0.3**
KSAR				ScP	**ScP**	**17**	**34**	**37.5 -0.2**
KSRS	**Korea Array**	**30.89**	**7**	P	**P**	**17**	**29**	**14.3 +1.4**
	comp=Z,3.8nm,0.5s,baz=184,slow=8.5,SNR=16							
KSRS				PcP	**PcP**	**17**	**31**	**50.9 +0.3**
	comp=Z,2.9nm,0.8s,baz=194,slow=2.9,SNR=5.9							
KSRS				ScP	**ScP**	**17**	**34**	**37.5 -0.2**
	comp=Z,1.5nm,0.6s,baz=178,slow=2.8,SNR=5.2							
DGPR	**DIGLIPUR**	**30.89**	**284**	*eP*	**P**	**17**	**29**	**12.8 -0.6**
DGPR				IAmb	IAmb	17	29	12.9
	comp=Z,54nm,1.4s							
KS01	**Wonju Array Si**	**30.91**	**7**	*eP*	**P**	**17**	**29**	**13.1 -0.1**
KS01				*e*PcP	**PcP**	**17**	**31**	**50.9 +0.2**
KS01				*e*ScP	**ScP**	**17**	**34**	**37.5 -0.3**
QIS	**Mount Isa**	**31.29**	**150**	P	**P**	**17**	**29**	**16.7 0.0**
	baz=31,SNR=112							
AS31	**Alice Springs**	**31.78**	**162**	*eP*	**P**	**17**	**29**	**21.3 +0.4**
	comp=Z,91nm,0.3s							
AS31				*e*PcP	**PcP**	**17**	**31**	**53.3 -0.2**
AS31				*eS*	**S**	**17**	**33**	**48.8 -1.5**
AS31				*e*ScP	**ScP**	**17**	**34**	**40.2 -0.9**
ASAR	**Alice Springs**	**31.78**	**162**	P	**P**	**17**	**29**	**21.1 +0.3**
	comp=Z,81nm,0.3s,baz=339,slow=7.1,SNR=3805							
ASAR				PcP	**PcP**	**17**	**31**	**53.5 0.0**
	comp=Z,6.2nm,0.5s,baz=342,slow=3.0,SNR=7.4							
ASAR				S	**S**	**17**	**33**	**49.2 -1.1**
	comp=Z,45nm,0.7s,baz=352,slow=23,SNR=41							
ASAR				ScP	**ScP**	**17**	**34**	**40.4 -0.8**
	comp=Z,18nm,0.8s,baz=348,slow=3.0,SNR=11							
AS01	**Alice Springs**	**31.80**	**162**	*eP*	**P**	**17**	**29**	**21.3 +0.3**
WRKA	**Warakurna**	**31.85**	**172**	P	**P**	**17**	**29**	**21.9 +0.6**
	baz=32,SNR=176							
MTSU	**Mount Surprise**	**32.01**	**141**	P	**P**	**17**	**29**	**23.5 +0.6**
	baz=32,SNR=33							
DL2	**Dalian**	**32.14**	**357**	P	**P**	**17**	**29**	**24.4 +0.8**
DL2				PMZ				
	comp=Z,48nm,0.7s							
MJAR	**Matsushiro Arr**	**32.59**	**22**	P	**P**	**17**	**29**	**27.0 -0.4**
	comp=Z,12nm,1.1s,baz=199,slow=8.6,SNR=5.2							
MJAR	**Matsushiro Arr**	**32.59**	**22**	P	**P**	**17**	**29**	**27.0 -0.4**
BJT	**Baijiatuan**	**33.87**	**350**	*eP*	**P**	**17**	**29**	**38.3 +0.2**
BJT				pmax	pmax			
	comp=Z,46nm,0.8s							
BJT	**Baijiatuan**	**33.87**	**350**	*eP*	**P**	**17**	**29**	**38.3 +0.2**
	comp=Z,46nm,0.8s							
BJI	**Beijing**	**33.89**	**350**	P	**P**	**17**	**29**	**38.8 +0.6**
BJI				PcP	**PcP**	**17**	**32**	**00.3 +1.2**
BJI				S	**S**	**17**	**34**	**21.3 -0.3**
BJI				PMZ				
	comp=Z,57nm,0.9s							
BJI				PMZ				
	comp=Z,260nm,12.5s							
LZH	**Lanzhou**	**34.43**	**331**	*eP*	**P**	**17**	**29**	**44.8 +1.7**
LZH				PP	**PP**	**17**	**31**	**25.3 -1.3**
LZH				PcP	**PcP**	**17**	**32**	**00.4 -0.6**
LZH				sP	sP	17	32	24.1 -5.5
LZH				*eS*	**S**	**17**	**34**	**33.0 +2.7**
LZH				sS	sS	17	37	37.1 +5.0
LZH				SS	**SS**	**17**	**37**	**39.6 -5.7**
LZH				PMZ				
	comp=Z,150nm,1.2s							
LZH				PMZ				
	comp=Z,280nm,4.8s							
CTA	**Charters Tower**	**34.68**	**141**	P	**P**	**17**	**29**	**46.3 +1.1**
	baz=35							

CTAO	**Charters Tower**	**34.68**	**141**	*eP*	**P**	**17**	**29**	**45.3 +0.1**
CTAO				pmax	pmax			
	comp=Z,58nm,0.9s							
CTAO	**Charters Tower**	**34.68**	**141**	*eP*	**P**	**17**	**29**	**45.2 +0.1**
	comp=Z,58nm,0.9s							
SNY	**Shenyang**	**35.01**	**360**	⇓P	**P**	**17**	**29**	**47.9 +0.4**
SNY				S	**S**	**17**	**34**	**36.8 -1.6**
SNY				ScS	**ScS**	**17**	**38**	**58.9 +1.1**
SNY				PMZ				
	comp=Z,29nm,0.5s							
SHL	**Shillong**	**35.65**	**305**	*eP*	**P**	**17**	**29**	**54.0 +0.7**
SHL				*eS*	**S**	**17**	**34**	**50.5 +1.6**
HHC	**Hu-ho-hao-te**	**35.70**	**344**	*eP*	**P**	**17**	**29**	**54.6 +1.2**
HHC				S	**S**	**17**	**34**	**55.4 +6.4**
HHC				SS	**SS**	**17**	**37**	**58.1 -7.7**
HHC				PMZ				
	comp=Z,44nm,1.0s							
HHC				PMZ				
	comp=Z,150nm,6.1s							
MORW	**Morawa**	**36.28**	**191**	P	**P**	**17**	**29**	**58.2 0.0**
	baz=36,SNR=25							
CN2	**Changchun**	**37.02**	**2**	*eP*	**P**	**17**	**30**	**02.1 -1.9**
BLDU	**Ballidu**	**37.66**	**190**	P	**P**	**17**	**30**	**09.1 -0.3**
	baz=38,SNR=9.6							
KMBL	**Kambalda**	**37.86**	**182**	P	**P**	**17**	**30**	**11.1 0.0**
	baz=38,SNR=50							
USRK	**Ussuriysk Ar.**	**38.09**	**10**	P	**P**	**17**	**30**	**13.2 +0.4**
	comp=Z,4.9nm,0.6s,baz=192,slow=7.2,SNR=12							
MDJ	**Mudanjiang**	**38.15**	**7**	P	**P**	**17**	**30**	**13.9 +0.7**
MDJ				PMZ				
	comp=Z,8.0nm,0.8s							
MDJ				PMZ				
	comp=Z,200nm,5.1s							
MDJ	**Mudanjiang**	**38.15**	**7**	*eP*	**P**	**17**	**30**	**14.1 +0.8**
	comp=Z,8.3nm,0.7s							
LSA	**Lhasa**	**38.18**	**311**	*eP*	**P**	**17**	**30**	**16.1 +1.8**
LSA				pmax	pmax			
	comp=Z,85nm,0.7s							
LSA	**Lhasa**	**38.18**	**311**	*eP*	**P**	**17**	**30**	**16.1 +1.8**
	comp=Z,86nm,0.7s							
KLBR	**Kellerberrin**	**38.46**	**188**	P	**P**	**17**	**30**	**15.7 -0.2**
	baz=39,SNR=46							
QLP	**Quilpie**	**38.63**	**150**	P	**P**	**17**	**30**	**17.7 +0.3**
	baz=39,SNR=38							
GTA	**Gaotai**	**39.01**	**330**	⇓P	**P**	**17**	**30**	**21.4 +1.0**
GTA				pP	pP	17	32	03.6 +2.1
GTA				PcP	**PcP**	**17**	**32**	**15.8 +0.7**
GTA				sP	sP	17	33	11.3 +2.0
GTA				ScP	**ScP**	**17**	**35**	**07.6 0.0**
GTA				S	**S**	**17**	**35**	**38.3 +0.4**
GTA				sS	sS	17	38	42.1 -1.6
GTA				ScS	**ScS**	**17**	**39**	**19.0 -2.4**
GTA				PMZ				
	comp=Z,87nm,1.0s							
GTA				PMZ				
	comp=Z,220nm,4.1s							
HNR	**Honiara**	**39.57**	**113**	*eP*	**P**	**17**	**30**	**25.0 -0.1**
HNR	**Honiara**	**39.57**	**113**	*eP*	**P**	**17**	**30**	**24.6 -0.5**
HNR				pmax	pmax			
	comp=Z,110nm,0.7s							
HNR	**Honiara**	**39.57**	**113**	*eP*	**P**	**17**	**30**	**24.6 -0.5**
	comp=Z,110nm,0.7s							
NWAO	**Narrogin (SRO)**	**39.85**	**188**	P	**P**	**17**	**30**	**27.3 +0.3**
	baz=40,SNR=20							
BOK	**Bokaro**	**40.01**	**299**	*eP*	**P**	**17**	**30**	**29.0 +0.4**
RAMN	**Ramite**	**40.54**	**304**	*eP*	**P**	**17**	**30**	**33.8 +0.8**
	comp=Z,228nm,0.6s							
VIS	**Vishakhapatnam**	**40.79**	**289**	*eP*	**P**	**17**	**30**	**36.1 +1.3**
ASAJ	**Asahikawa**	**40.83**	**21**	P	**

SONA0 ePcP **PcP** 17 32 30.4 +0.2
SONA0 eScP **ScP** 17 35 25.3 -0.4
SONM Songino Array 43.57 343 P **P** 17 30 57.0 +0.9
comp=Z,48nm,0.9s,baz=161,slow=8.2,SNR=164
SONM PcP **PcP** 17 32 30.4 +0.2
comp=Z,8.4nm,0.9s,baz=164,slow=4.2,SNR=5.9
SONM ScP **ScP** 17 35 25.3 -0.4
comp=Z,1.9nm,0.6s,baz=158,slow=3.6,SNR=4.3
SONA1 Songino Array 43.58 343 eP **P** 17 30 57.0 +0.7
SONA1 ePcP **PcP** 17 32 30.2 0.0
SONA1 eS **S** 17 36 44.2 +0.9
PYUN Piuthan 43.94 304 eP **P** 17 31 00.4 +0.9
HYB Hyderabad 45.24 288 *i* P **P** 17 31 10.0 +0.6
HYB Hyderabad 45.24 288 eP **P** 17 31 10.0 +0.6
ARMA Armidale 45.62 145 P **P** 17 31 13.7 +1.5
baz=46,SNR=34
ARMA Armidale 45.62 145 eP **P** 17 31 13.6 +1.4
comp=Z,84nm,0.9s
CIT Chita 45.96 351 eP **P** 17 31 15.4 +1.1
CIT *e* 17 32 39.2
CIT pmax pmax
comp=Z,102nm,1.5s
TRD Trivandrum 46.27 275 eP **P** 17 31 18.0 +0.8
ARPS Mount Arapiles 46.46 160 P **P** 17 31 18.8 +0.5
baz=47,SNR=66
ZAK Zakamensk 46.77 342 eP **P** 17 31 20.6 +0.1
ZAK *e* 17 32 40.2
ZAK pmax pmax
comp=Z,14nm,1.5s
ZAK pmax pmax
comp=Z,9.0nm,1.2s
YNG Young 47.01 152 P **P** 17 31 23.9 +1.5
baz=47,SNR=11
BHPL Bhopal 47.33 295 eP **P** 17 31 25.6 +0.5
MGCD Mangrove Creek 47.48 148 P **P** 17 31 28.3 +2.3
baz=48,SNR=7.5
TLY Talaya 47.81 343*d* iP **P** 17 31 29.2 +1.1
TLY *e* 17 37 41.8
TLY pmax pmax
comp=Z,48nm,0.6s
TLY Talaya 47.81 343 eP **P** 17 31 29.2 +1.1
comp=Z,60nm,0.6s
TLY ePcP **PcP** 17 32 43.8 -1.2
RIV Riverview 47.99 149 P **P** 17 31 31.7 +2.0
baz=48
CAN Canberra 48.13 152 eP **P** 17 31 32.0 +1.2
CAN pmax pmax
comp=Z,54nm,0.7s
CAN Canberra 48.13 152 eP **P** 17 31 32.0 +1.2
comp=Z,54nm,0.7s
IRK Irkutsk 48.14 344 eP **P** 17 31 30.7 +0.2
IRK eS **S** 17 37 48.2 +1.8
IRK pmax pmax
comp=Z,58nm,2.0s
CNB Canberra Magne 48.30 152 P **P** 17 31 33.3 +1.2
baz=48,SNR=49
TOO Toolangi 48.52 157 P **P** 17 31 34.9 +1.3
baz=49,SNR=49
WMQ Urumqi 48.56 325 P **P** 17 31 34.8 +0.9
WMQ PcP **PcP** 17 32 48.8 +0.8
WMQ pP pP 17 33 24.1 +2.2
WMQ sP sP 17 34 28.9 +1.4
WMQ S **S** 17 37 53.3 +0.8
WMQ ScS **ScS** 17 40 20.5 -1.9
WMQ sS sS 17 41 08.3 +0.5
WMQ PMZ
comp=Z,59nm,0.8s
WMQ PMZ
comp=Z,210nm,3.6s
MOY Mondy 48.60 341 eP **P** 17 31 36.1 +2.0
MOY pmax pmax
comp=Z,89nm,1.8s
TARA Tarawa 49.44 94 eP **P** 17 31 42.8 +2.0
comp=Z,204nm,1.1s
GOA Goa 49.55 285 eP **P** 17 31 42.1 +0.6
GOA IAmb IAmb 17 31 42.6
comp=Z,46nm,0.6s
MILA Mila 49.63 153 P **P** 17 31 43.3 +1.5
baz=50,SNR=9.1
SMLA Simla 49.74 305 eP **P** 17 31 43.5 +0.8
POO Poona 49.82 289 eP **P** 17 31 43.5 -0.1
DZM Mont Dzumac 50.75 125 eP **P** 17 31 50.6 +0.3
comp=Z,30nm,0.6s
DHRM DHARAMSHALA 50.81 307 eP **P** 17 31 50.6 -0.2
LHI Lord Howe Isla 50.87 140 P **P** 17 31 52.4 +1.5
baz=51,SNR=3.6
THN Thein Dam 51.34 307 eP **P** 17 31 52.0 -2.3
THN *ex* x 17 32 56.0
BOD Bodaibo 51.56 353 eP **P** 17 31 55.9 +0.5
BOD pmax pmax
comp=Z,23nm,0.8s
PDGK Podgornoye 53.19 321 P **P** 17 32 07.8 +0.6
PDGK pmax pmax
comp=Z,92nm,0.7s
MK01 Makanchi Array 53.37 326 eP **P** 17 32 09.3 +0.7
MK01 ePcP **PcP** 17 33 05.8 -0.3
MK31 Makanchi Array 53.39 326 eP **P** 17 32 09.4 +0.7
MK31 pmax pmax
comp=Z,69nm,0.5s
MK31 Makanchi Array 53.39 326 eP **P** 17 32 09.4 +0.7
MK31 ePcP **PcP** 17 33 06.0 -0.1
MK31 eS **S** 17 38 58.0 +1.0
MK32 Makanchi Array 53.39 326 eP **P** 17 32 09.5 +0.8
MK32 ePcP **PcP** 17 33 05.8 -0.4
MK32 eScP **ScP** 17 36 05.3 -2.1
MK32 eS **S** 17 38 56.8 -0.3
MKAR Makanchi Array 53.39 326 P **P** 17 32 09.5 +0.8
comp=Z,124nm,0.5s,baz=120,slow=8.1,SNR=1778
MKAR PcP **PcP** 17 33 05.8 -0.4
comp=Z,14nm,0.5s,baz=114,slow=5.4,SNR=6.2
MKAR ScP **ScP** 17 36 05.3 -2.1
comp=Z,8.5nm,0.6s,baz=116,slow=5.5,SNR=13
MKAR S **S** 17 38 56.8 -0.3
comp=Z,3.7nm,1.0s,baz=122,slow=15,SNR=8.8
MKAR P4KPbc 18 09 22.4
comp=Z,0.5nm,0.6s,baz=131,slow=4.6,SNR=5.2
MAKZ Makanchi 53.58 325 eP **P** 17 32 10.6 +0.6
MAKZ *e* 17 33 06.4
MAKZ pmax pmax
comp=Z,127nm,0.6s
MAKZ Makanchi 53.58 325 eP **P** 17 32 10.6 +0.6
comp=Z,127nm,0.6s
MAKZ ePcP **PcP** 17 33 06.4 -0.5
KSH Kashi 53.79 315 P **P** 17 32 13.9 +2.2
KSH PcP **PcP** 17 33 08.9 +0.9
KSH pP pP 17 34 01.1 -2.2
KSH PP **PP** 17 34 27.8 +6.0
KSH S **S** 17 39 04.0 +1.3
KSH ScS **ScS** 17 40 58.8 -0.7
KSH SS **SS** 17 43 02.0 +6.1
KSH PMZ
comp=Z,43nm,0.5s
PETK Petropavlovsk- 53.98 25 P **P** 17 32 13.8 +1.1
comp=Z,6.7nm,0.7s,baz=187,slow=1.6,SNR=16
PEA1 Petropavlovsk- 53.98 25 eP **P** 17 32 13.8 +1.1
BHJ Bhuj 54.36 294 eP **P** 17 32 15.7 -0.1
BHJ IAmb IAmb 17 32 17.3
YAK Yakutsk 55.42 3 P **P** 17 32 22.9 +0.4
comp=Z,46nm,0.6s,baz=180,slow=0.8,SNR=38
YAK Yakutsk 55.42 3 eP **P** 17 32 22.6 +0.1
YAK *e* 17 33 13.9
YAK e*PP **pP** 17 34 13.0 -2.1
YAK eS **S** 17 39 21.6 -1.3
YAK *e* 17 41 07.4
YAK eSS **SS** 17 43 20.2 -0.2
YAK pmax pmax
comp=Z,51nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,116nm,4.0s
YAK pmax pmax
comp=N,95nm,5.4s
YAK pmax pmax
comp=Z,169nm,5.6s
YAK smax smax
comp=N,184nm,3.0s
YAK smax smax
comp=E,156nm,3.3s
YAK Yakutsk 55.42 3 eP **P** 17 32 22.6 +0.1
comp=E,61nm,0.6s
YAK ePcP **PcP** 17 33 13.6 0.0
TKM2 Tokmak 2 55.51 319 eP **P** 17 32 24.1 +0.3
TKM2 pmax pmax
comp=Z,72nm,0.6s
TKM2 Tokmak 2 55.51 319 eP **P** 17 32 24.1 +0.3
comp=Z,72nm,0.6s
AAK Ala-Archa 56.11 318 P **P** 17 32 29.0 +1.1
comp=Z,23nm,0.6s,baz=106,slow=5.9,SNR=37
AAK S **S** 17 39 34.4 +1.6
comp=Z,1.0nm,0.3s,baz=245,slow=20,SNR=14
AAK Ala-Archa 56.11 318 eP **P** 17 32 28.5 +0.6
AAK eS **S** 17 39 34.4 +1.6
AAK pmax pmax
comp=Z,30nm,0.7s
AAK Ala-Archa 56.11 318 eP **P** 17 32 28.5 +0.6
comp=Z,30nm,0.7s
AAK eS **S** 17 39 34.4 +1.6
FRU Bishkek 56.11 318‖ *j* iP **P** 17 32 28.0 +0.2
FRU eS **S** 17 39 35.0 +2.4
FRU pmax pmax
comp=Z,70nm,1.8s
ZAA0 Zalesovo Array 56.59 334 eP **P** 17 32 29.9 -0.8
ZAA0 eS **S** 17 39 36.7 -1.4
ZALV Zalesovo Beam 56.59 334 P **P** 17 32 30.3 -0.4
comp=Z,22nm,0.6s,baz=125,slow=6.0,SNR=93
ZALV S **S** 17 39 36.7 -1.4
comp=Z,4.8nm,0.9s,baz=129,slow=14,SNR=11
ZAA1 Zalesovo Array 56.59 334 eP **P** 17 32 30.3 -0.4
ZAA1 eS **S** 17 39 36.7 -1.5
EKS2 Erkin-Say 56.60 318 eP **P** 17 32 32.3 +1.1
EKS2 pmax pmax
comp=Z,90nm,0.7s
EKS2 Erkin-Say 56.60 318 eP **P** 17 32 32.3 +1.1
comp=Z,90nm,0.7s
MA2 Magadan 56.69 16 P **P** 17 32 32.6 +1.4
comp=Z,24nm,0.6s,baz=222,slow=7.2,SNR=42
MA2 PcP **PcP** 17 33 19.6 +0.9
comp=Z,6.5nm,0.8s,baz=238,slow=6.3,SNR=3.7
KBL Kabul 57.29 307 eP **P** 17 32 36.1 0.0
KBL pmax pmax
comp=Z,95nm,0.7s
KBL Kabul 57.29 307 eP **P** 17 32 36.1 0.0
comp=Z,95nm,0.7s
MNAS Manas 57.39 317 P **P** 17 32 37.5 +0.9
MNAS pmax pmax
comp=Z,65nm,0.7s
KURBB Kurchatov Arra 57.61 328 P **P** 17 32 38.1 +0.4
comp=Z,142nm,0.7s,baz=128,slow=6.3,SNR=1172
KURBB PcP **PcP** 17 33 25.3 +2.7
comp=Z,8.9nm,0.6s,baz=128,slow=5.6,SNR=5.0
KURBB S **S** 17 39 50.5 -0.8
comp=Z,1.9nm,1.2s,baz=114,slow=9.5,SNR=5.1
KURK Kurchatov 57.61 328 eP **P** 17 32 38.1 +0.4
KURK *e* 17 33 25.3
KURK Kurchatov 57.61 328 eP **P** 17 32 38.1 +0.4
KURK ePcP **PcP** 17 33 25.3 +2.7
NVS Novosibirsk 57.87 334‖ *j* iP **P** 17 32 39.4 0.0
NVS eS **S** 17 39 53.9 -0.5
NVS pmax pmax
comp=N,31nm,0.8s
NVS pmax pmax
comp=E,35nm,0.8s
NVS pmax pmax
comp=Z,54nm,0.8s
NVS smax smax
comp=N,36nm,1.6s
NVS smax smax
comp=E,59nm,1.6s
MSVF Nonsavu 58.95 115 eP **P** 17 32 49.0 +1.6
MSVF pmax pmax
comp=Z,84nm,1.5s
MSVF Nonsavu 58.95 115 eP **P** 17 32 49.0 +1.6
comp=Z,84nm,1.5s
KK31 Karatay Array 58.98 317 *i* P **P** 17 32 47.6 +0.5
KK31 pmax pmax
comp=Z,59nm,0.7s
KKAR Karatay Array 58.98 317 eP **P** 17 32 47.3 +0.2
KKAR Karatay Array 58.98 317 eP **P** 17 32 47.3 +0.2
OTUK Ortayu 59.92 323 P **P** 17 32 53.7 +0.4
OTUK pmax pmax
comp=Z,67nm,0.7s
SEY Seymchan 59.93 15 P **P** 17 32 54.5 +1.5
comp=Z,5.2nm,0.6s,baz=227,slow=6.6,SNR=17
SEY PcP **PcP** 17 33 32.0 +0.4
comp=Z,2.9nm,0.7s,baz=211,slow=8.8,SNR=3.7
SEY Seymchan 59.93 15‖ *j* iP **P** 17 32 54.2 +1.2
VOSK Vostochnaya 62.73 327 P **P** 17 33 10.9 -0.5
VOSK pmax pmax
comp=Z,44nm,0.6s
VOSK Vostochnaya 62.73 327 eP **P** 17 33 10.9 -0.5
comp=Z,81nm,1.0s
VOSK eS **S** 17 40 53.3 -1.5
BVA0 Borovoye Array 63.18 327 P **P** 17 33 14.3 0.0
BVA0 pmax pmax
comp=Z,108nm,1.2s
BVAR Borovoye Array 63.18 327 P **P** 17 33 14.5 +0.2
comp=Z,40nm,0.8s,baz=126,slow=7.5,SNR=184
BVAR PcP **PcP** 17 33 44.6 -0.6
comp=Z,6.3nm,0.6s,baz=134,slow=4.3,SNR=3.8
BVAR S **S** 17 41 00.9 +0.6
comp=Z,0.8nm,0.7s,baz=146,slow=14,SNR=6.3
BRVK Borovoye 63.25 327‖ *j* iP **P** 17 33 15.0 +0.3
BRVK pmax pmax
comp=Z,301nm,1.1s
BRVK Borovoye 63.25 327 eP **P** 17 33 15.1 +0.3
comp=Z,251nm,1.0s
BRVK eS **S** 17 41 01.5 +0.3
CHKZ Chkalovo 63.36 328 P **P** 17 33 15.3 -0.1
CHKZ pmax pmax
comp=Z,68nm,1.2s
ZRNK Zerenda 63.90 327 eP **P** 17 33 18.9 0.0
ZRNK eS **S** 17 41 08.5 -0.5
ZRNK pmax pmax
comp=Z,134nm,1.1s
ZRNK Zerenda 63.90 327 eP **P** 17 33 18.9 0.0
comp=Z,134nm,1.1s
ZRNK eS **S** 17 41 08.5 -0.5
WSAR Wadi Sarin 64.43 292 P **P** 17 33 22.5 -0.4
comp=Z,11nm,0.6s,baz=135,slow=5.7,SNR=20
DCZ Deep Cove 64.86 148 eP **P** 17 33 25.9 +0.9
comp=Z,30nm,0.7s
TIXI Tiksi 64.99 2 P **P** 17 33 24.9 -0.5
comp=Z,20nm,0.4s,baz=192,slow=4.5,SNR=55
TIXI Tiksi 64.99 2‖ *j* iP **P** 17 33 24.7 -0.7
TIXI pmax pmax
comp=Z,33nm,0.8s
TIXI Tiksi 64.99 2 eP **P** 17 33 24.4 -0.9
comp=Z,29nm,0.6s
TIXI eS **S** 17 41 25.2 +4.0
LBZ Lake Benmore 65.85 145 eP **P** 17 33 32.1 +0.8
comp=Z,59nm,0.8s
THZ Tophouse 65.91 142 eP **P** 17 33 32.0 +0.2
comp=Z,40nm,0.8s
RPZ Rata Peaks 65.94 144 P **P** 17 33 32.6 +0.8
comp=Z,33nm,0.7s,baz=276,slow=1.6,SNR=9.1
LTZ Lake Taylor 66.11 143 eP **P** 17 33 33.5 +0.5
comp=Z,36nm,1.0s
OXZ Oxford 66.29 143 eP **P** 17 33 34.3 +0.3
comp=Z,117nm,1.9s
GEYT Alibeck 66.65 308 P **P** 17 33 37.2 +0.8
comp=Z,38nm,0.9s,baz=134,slow=4.3,SNR=78
BANOM **Banah 66.73 295** P **P** 17 33 37.1 -0.1
URZ Urewera 66.79 136 P **P** 17 33 37.5 +0.3
comp=Z,14nm,0.5s,baz=251,slow=5.1,SNR=18
HATD Hatta, Dubai 66.81 294 *i* P **P** 17 33 37.4 -0.2
SNR=6.0
BKZ Black Stump Fm 66.83 138 eP **P** 17 33 38.4 +0.9
comp=Z,110nm,0.6s
NRIK Noril'sk 66.86 347 P **P** 17 33 37.4 +0.3
comp=Z,24nm,0.6s,baz=126,slow=6.2,SNR=38
ASHO Ashiyiah 66.87 294 *i* P **P** 17 33 38.1 0.0
SNR=6.6
FAQ Al Faqa, Dubai 67.30 294 P **P** 17 33 40.5 -0.2
BILL Bilibino 67.56 16 eP **P** 17 33 37.0 -4.3
BILL *i* 17 34 01.4
BILL *i* *PP **pP** 17 35 39.9 -0.8
BILL pmax pmax
comp=Z,8.0nm,1.1s
AB31 Akbulak array 67.93 321 P **P** 17 33 43.7 -0.2
AB31 pmax pmax
comp=Z,26nm,0.7s
ABKAR Akbulak array 67.93 321 eP **P** 17 33 43.7 -0.3
AKTO Aktyubinsk 69.44 322 P **P** 17 33 53.2 +0.2
comp=Z,39nm,0.8s,baz=103,slow=7.3,SNR=161
SVE Sverdlovsk 69.85 329*c* iP **P** 17 33 55.3 0.0
SVE pmax pmax
comp=Z,80nm,1.3s
MRIV Mauritius Mete 70.27 246 eP **P** 17 33 57.6 -0.9
ARU Arti 70.81 328 P **P** 17 34 00.5 -0.5
comp=Z,27nm,0.5s,baz=110,slow=3.2,SNR=67
ARU Arti 70.81 328*d* iP **P** 17 34 00.3 -0.7
ARU *e* 17 34 16.3
ARU *PP **pP** 17 36 00.5 -1.5
ARU 17 36 48.0
ARU *e*S **S** 17 42 27.4 -1.8
ARU pmax pmax
comp=Z,57nm,1.0s
ARU Arti 70.81 328 eP **P** 17 34 00.1 -0.8
comp=Z,110nm,1.4s
MIR Mirnyy 76.33 192 *i* P **P** 17 34 32.5 +0.6
MIR pmax pmax
comp=Z,4.0nm,0.7s
GNI Garni 77.23 310 P **P** 17 34 37.2 -0.5
comp=Z,12nm,1.0s,baz=223,slow=1.8,SNR=8.7
GNI Garni 77.23 310 P **P** 17 34 38.7 +1.0
TBLG Delisi 77.30 311 P **P** 17 34 38.4 +0.5
TBLG Delisi 77.30 311 P **P** 17 34 38.4 +0.5
GUDG Gudauri 77.52 312 P **P** 17 34 40.9 +1.5
ZEI Tsey 77.96 312 eP **P** 17 34 38.8 -2.8
ZEI pmax pmax
comp=Z,57nm,0.6s
NCK Nalchik 78.21 313 *i* P **P** 17 34 41.6 -1.1
NCK pmax pmax
comp=Z,7.0nm,1.0s
AKH Akhalkalaki 78.22 311 P **P** 17 34 43.8 +0.8
AKH Akhalkalaki 78.22 311 P **P** 17 34 43.8 +0.8
ONI Oni 78.28 312 P **P** 17 34 44.2 +1.0
ONI Oni 78.28 312 P **P** 17 34 44.2 +1.0
GOF Gofitskoye 78.66 315‖ eP **P** 17 34 44.7 -0.3
GOF pmax pmax
comp=Z,57nm,1.3s
KBZ Khabaz 78.72 313 P **P** 17 34 45.2 -0.2
comp=Z,4.5nm,0.8s,baz=76,slow=4.5,SNR=14
NEY Neytrino 78.84 313 *i* P **P** 17 34 47.9 +1.6
NEY pmax pmax
comp=Z,10.0nm,1.8s
KIV Kislovodsk 78.88 313 *i* P **P** 17 34 46.3 -0.1
SNR=5.5
KIV Kislovodsk 78.88 313*d* iP **P** 17 34 46.3 -0.1
KIV *i* 17 34 53.6
KIV *i* *PP **pP** 17 36 53.4 +2.4
KIV pmax pmax
comp=Z,13nm,0.8s
KIV Kislovodsk 78.88 313 eP **P** 17 34 46.6 +0.2
comp=Z,20nm,0.9s
ABPO Ambohimpanom 79.42 249 eP **P** 17 34 49.1 -0.7
ABPO pmax pmax
comp=Z,18nm,0.8s
ABPO Ambohimpanom 79.42 249 eP **P** 17 34 49.1 -0.7
comp=Z,18nm,0.8s
TT01 Tatalina 79.70 27 eP **P** 17 34 51.7 +1.5
SVW2 Sparrevohn 79.74 29 eP **P** 17 34 51.3 +0.8
comp=Z,6.9nm,0.9s
VRH Novokhopyorsk 79.76 321 eP **P** 17 34 49.9 -0.8
VRH pmax pmax
comp=Z,40nm,0.6s
OHAK Old Harbor 80.69 33 eP **P** 17 34 55.1 -0.3
comp=Z,8.9nm,1.0s
KDAK Kodiak Island 81.08 33 *i* P **P** 17 34 58.0 +0.6
KDAK Kodiak Island 81.08 33 eP **P** 17 34 57.9 +0.6
comp=Z,12nm,0.8s
RSO Redoubt South 81.09 30 eP **P** 17 34 57.9 +0.2
KLMR Klimovskoe 81.34 330*d* iP **P** 17 34 57.9 -0.7
KLMR e*PP **pP** 17 37 00.0 -4.3
KLMR *e* 17 38 14.3
KLMR eS **S** 17 44 17.7 -3.3
KLMR pmax pmax
comp=Z,45nm,0.6s
VSR Storozhevoye 81.37 321 eP **P** 17 34 57.9 -1.1
VSR pmax pmax
comp=Z,20nm,0.5s
PPLA Purkeypile 81.45 27 eP **P** 17 35 00.0 +0.6
comp=Z,9.4nm,0.8s
SPU Mount Spurr 81.45 29 eP **P** 17 35 00.1 +0.7
CAST Castle Rocks 81.52 27 eP **P** 17 35 00.6 +1.1
comp=Z,13nm,0.8s
CNPM China Poot 81.83 31 eP **P** 17 35 01.2 0.0
comp=Z,14nm,0.7s
BPAW Bear Paw Mtn. 82.03 26 eP **P** 17 35 02.8 +0.7
comp=Z,19nm,0.8s
KTH Kantishna Hill 82.04 27 eP **P** 17 35 03.5 +1.3
comp=Z,8.7nm,0.9s
SUA Susitna One 82.09 29 eP **P** 17 35 03.0 +0.4
comp=Z,15nm,0.9s
SUA eS **S** 17 44 28.3 -0.6
MLY Manley 82.15 25 eP **P** 17 35 04.0 +1.2
comp=Z,18nm,0.9s
MOS Moscow 82.27 325 eP **P** 17 35 02.2 -1.3
MOS *e* 17 38 23.9
MOS pmax pmax
comp=Z,85nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.3s
TRF Thorofare Moun 82.33 27 eP **P** 17 35 04.0 +0.2
comp=Z,15nm,0.9s
COLD Coldfoot 82.41 23 eP **P** 17 35 05.8 +1.9
comp=Z,16nm,0.8s
RC01 Rabbit Creek A 82.58 29 eP **P** 17 35 05.2 +0.3
comp=Z,7.1nm,0.7s
ANN Anapa 82.64 314 eP **P** 17 35 04.3 -1.3
ANN e*PP **pP** 17 37 08.2 -3.6
ANN eS **S** 17 44 29.3 -5.3
ANN pmax pmax
comp=Z,61nm,0.8s
PMR Palmer 82.87 29 eP **P** 17 35 06.5 +0.2
PMR pmax pmax
comp=Z,7.0nm,1.0s
PMR Palmer 82.87 29 eP **P** 17 35 06.5 +0.2
comp=Z,7.4nm,1.0s
OBN Obninsk 82.89 325 P **P** 17 35 06.2 -0.4
comp=Z,55nm,0.6s,baz=45,slow=4.5,SNR=22
OBN Obninsk 82.89 325*d* iP **P** 17 35 06.1 -0.4
OBN *i* *PP **pP** 17 37 14.2 +1.3
OBN *i* 17 38 28.8
OBN pmax pmax
comp=Z,170nm,1.5s
OBN Obninsk 82.89 325 eP **P** 17 35 06.2 -0.4
comp=Z,69nm,0.6s
MCK McKinley 82.93 27 eP **P** 17 35 07.2 +0.5
MCK pmax pmax
comp=Z,21nm,0.8s
MCK McKinley 82.93 27 eP **P** 17 35 07.2 +0.5
comp=Z,21nm,0.8s
RND Reindeer 82.97 27 eP **P** 17 35 06.8 -0.2
RND pmax pmax
comp=Z,10.0nm,0.8s
RND Reindeer 82.97 27 eP **P** 17 35 06.8 -0.2
comp=Z,10nm,0.8s
MDM Murphy Dome 83.22 25 eP **P** 17 35 08.8 +0.7
comp=Z,5.4nm,1.0s
SML Sawmill 83.24 29 eP **P** 17 35 08.8 +0.5
SML pmax pmax
comp=Z,10.0nm,0.8s
SML Sawmill 83.24 29 eP **P** 17 35 08.8 +0.5
comp=Z,10nm,0.8s
WRH Wood River Hil 83.29 26 eP **P** 17 35 08.6 +0.2
comp=Z,14nm,1.4s
CCB Clear Creek Bu 83.41 26 eP **P** 17 35 08.6 -0.3
comp=Z,5.8nm,1.0s
LVZ Lovozero 83.48 338‖ *j* iP **P** 17 35 08.3 -1.0
LVZ pmax pmax
comp=Z,14nm,0.7s
LVZ Lovozero 83.48 338 eP **P** 17 35 08.5 -0.8
comp=Z,14nm,0.7s
DHY Denali Highway 83.65 27 eP **P** 17 35 10.8 +0.4
comp=Z,4.9nm,0.7s
ASF Jabal al Asfar 83.72 302 P **P** 17 35 12.4 +1.0
comp=Z,14nm,0.6s,baz=44,slow=3.7,SNR=20
HDA Harding Lake 83.78 26 eP **P** 17 35 10.0 -0.9
comp=Z,3.6nm,0.6s
ILAR Eielson Array 83.80 26 P **P** 17 35 09.7 -1.3
comp=Z,0.7nm,0.5s,baz=238,slow=5.4,SNR=13
ILB Eielson Array 83.80 26 eP **P** 17 35 09.7 -1.3
IL1 Eielson Array 83.80 26 eP **P** 17 35 10.0 -0.9
APA Apatity 83.96 337‖ *j* iP **P** 17 35 10.1 -1.6
APA *i* S **S** 17 44 42.0 -4.7
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,1μm,23.0s
PAX Paxson 84.52 27 eP **P** 17 35 15.0 +0.4
PAX pmax pmax
comp=Z,7.0nm,0.8s

PAX	Paxson	84.52	27	*e*P		P	17 35 15.0	+0.4	
	comp=Z,6.6nm,0.8s								
MMAI	Mount Meron Ar	84.92	303	P		P	17 35 16.9	-0.3	
	comp=Z,4.3nm,0.5s,baz=83,slow=8.6,SNR=9.5								
SIM	Simferopol'	84.99	315	P		P	17 35 16.7	-0.5	
SIM				S		SKSac	17 44 42.0	-3.6	
SIM				pmax	pmax				
	comp=Z,9.0nm,0.9s								
BMRM	Bremner River	85.08	29	*e*P		P	17 35 17.8	+0.5	
	comp=Z,4.2nm,0.7s								
BMRM				*e*S		S	17 44 57.9	0.0	
MAW	Mawson	85.45	200	P		P	17 35 18.4	-0.4	
	comp=Z,2.5nm,0.5s,baz=94,slow=3.9,SNR=13								
MAW	Mawson	85.45	200	*e*P		P	17 35 18.7	-0.1	
MAW				pmax	pmax				
	comp=Z,2.0nm,1.3s								
MAW	Mawson	85.45	200	*e*P		P	17 35 18.7	-0.1	
	comp=Z,1.9nm,1.3s								
EIL	Elat	85.59	299	P		P	17 35 20.0	-0.4	
	comp=Z,13nm,0.8s,baz=24,slow=0.6,SNR=8.1								
BR101	Keskin Array S	85.77	309	*e*P		P	17 35 20.1	-1.2	
BR101				*e*PP		PP	17 38 52.0	+0.1	
BR131	Keskin Array S	85.77	309	*e*P		P	17 35 20.4	-0.9	
BRTR	Keskin Array B	85.77	309	P		P	17 35 20.1	-1.2	
	comp=Z,8.2nm,0.6s,baz=123,slow=4.5,SNR=47								
BRTR				PP		PP	17 38 52.0	+0.1	
	comp=Z,1.6nm,0.8s,baz=80,slow=6.8,SNR=3.9								
KEV	Kevo	86.08	340	*e*P		P	17 35 20.8	-1.0	
EGAK	Eagle	86.24	25	*e*P		P	17 35 23.0	+0.3	
	comp=Z,3.2nm,0.8s								
BR231	Keskin MP Arra	86.42	310	*e*P		P	17 35 20.9	-3.4	
CSS	Mathiatis	86.46	305	*e*P		P	17 35 23.8	-0.7	
	comp=Z,3.5nm,0.7s								
KMBO	Kilima Mbogo	86.52	268	P		P	17 35 24.5	-0.9	
	comp=Z,11nm,0.8s,baz=58,slow=7.0,SNR=26								
KMBO	Kilima Mbogo	86.52	268	*e*P		P	17 35 25.6	+0.2	
KMBO				pmax	pmax				
	comp=Z,12nm,0.8s								
KMBO	Kilima Mbogo	86.52	268	*e*P		P	17 35 25.6	+0.2	
	comp=Z,12nm,0.8s								
ARA0	ARCESS Array S	86.63	340	*e*P		P	17 35 23.4	-1.0	
ARCES	ARCESS Array B	86.63	340	P		P	17 35 23.5	-0.9	
	comp=Z,14nm,0.8s,baz=87,slow=6.4,SNR=53								
ARE0	ARCESS Array S	86.63	340	*e*P		P	17 35 23.6	-0.9	
ARE0				IAmb		IAmb	17 35 23.9		
	comp=Z,16nm,0.9s								
ARE0	ARCESS Array S	86.63	340	*e*P		P	17 35 23.8	-0.7	
	comp=Z,13nm,0.8s								
VNDA	Vanda	86.73	172	P		P	17 35 25.2	+0.5	
	comp=Z,5.7nm,0.6s,baz=318,slow=6.6,SNR=58								
VNDA	Vanda	86.73	172	*e*P		P	17 35 25.1	+0.4	
VNDA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
VNDA	Vanda	86.73	172	*e*P		P	17 35 25.1	+0.4	
	comp=Z,5.4nm,0.8s								
SPA0	Spitsbergen Ar	87.01	349	*e*P		P	17 35 25.6	-0.5	
SPA0	Spitsbergen Ar	87.01	349	*e*P		P	17 35 25.8	-0.3	
HAMF	Hammerfest	87.04	341	*e*P		P	17 35 25.3	-1.0	
HAMF				IAmb		IAmb	17 35 26.0		
	comp=Z,25nm,0.7s								
PCA	Pinnacle	87.32	30	*e*P		P	17 35 28.8	+0.9	
	comp=Z,27nm,0.7s								
HEF	Hetta	87.50	339	*e*P		P	17 35 27.2	-1.3	
KTK1	Kautokeino	87.53	339	*e*P		P	17 35 27.7	-1.0	
AKASG	Malin Array Be	87.67	321	P		P	17 35 28.4	-1.3	
	comp=Z,7.1nm,0.6s,baz=68,slow=4.9,SNR=16								
AKBB	Malin Array Si	87.67	321	*e*P		P	17 35 28.5	-1.2	
AKBB				pmax	pmax				
	comp=Z,8.0nm,0.6s								
AKBB	Malin Array Si	87.67	321	*e*P		P	17 35 28.5	-1.2	
	comp=Z,8.4nm,0.6s								
KIEV	Kiev	87.68	321	*e*P		P	17 35 28.3	-1.4	
KIEV				pmax	pmax				
	comp=Z,7.0nm,0.6s								
KIEV	Kiev	87.68	321	*e*P		P	17 35 28.3	-1.4	
	comp=Z,6.5nm,0.6s								
AK11	Malin Array Si	87.71	321	*e*P		P	17 35 28.6	-1.2	
FIA1	FINESS Array S	87.79	332	*e*P		P	17 35 29.0	-1.0	
FIA0	FINESS Array S	87.79	332	*e*P		P	17 35 29.0	-1.0	
FIA0	FINESS Array S	87.79	332	*e*P		P	17 35 29.0	-1.0	
FINES	FINESS Array B	87.79	332	P		P	17 35 29.0	-1.0	
	comp=Z,11nm,0.6s,baz=59,slow=4.9,SNR=91								
KIF	Kilpisjarvi	88.38	339	*e*P		P	17 35 31.5	-1.1	
HYT	Haines Junctio	88.54	29	*e*P		P	17 35 34.7	+1.0	
	comp=Z,4.1nm,0.8s								
INK	Inuvik	88.57	21	P		P	17 35 33.2	-0.3	
	comp=Z,4.3nm,1.1s,baz=143,slow=10,SNR=3.6								
INK	Inuvik	88.57	21	*e*P		P	17 35 33.5	0.0	
INK				pmax	pmax				
	comp=Z,13nm,1.4s								
INK	Inuvik	88.57	21	*e*P		P	17 35 33.5	0.0	
	comp=Z,12nm,1.4s								
TRO	Tromso	88.86	340	*e*P		P	17 35 33.6	-1.2	
MLR	Muntele Rosu	90.65	316	P		P	17 35 43.0	-0.8	
	comp=Z,1.9nm,0.8s,baz=82,slow=5.5,SNR=3.9								
MLR				PP		PP	17 39 29.7	-0.2	
	comp=Z,1.4nm,1.0s,baz=115,slow=8.2,SNR=3.3								
MLR	Muntele Rosu	90.65	316	*e*P		P	17 35 43.3	-0.5	
MLR				*e*			17 39 27.3		
MLR				pmax	pmax				
	comp=Z,49nm,1.7s								
MLR	Muntele Rosu	90.65	316	*e*P		P	17 35 43.3	-0.5	
	comp=Z,49nm,1.7s								
MLR				*e*PP		PP	17 39 27.3	-2.5	
STEI	Steigen	90.66	339	*e*P		P	17 35 41.8	-1.3	
BUR08	Bucovina Ar. S	90.76	318	*e*P		P	17 35 43.9	-0.4	
KOLS	Kolonicke sedl	92.41	320	*e*P		P	17 35 51.5	-0.2	
KOLS				pmax	pmax				
	comp=Z,8.0nm,1.5s								
KOLS	Kolonicke sedl	92.41	320	*e*P		P	17 35 51.5	-0.2	
UZH	Uzhgorod	92.47	319	*i*P		P	17 35 50.5	-1.4	
CRVS	Cervenica-Dubn	92.94	320	*e*P		P	17 35 54.4	+0.3	
CRVS	Cervenica-Dubn	92.94	320	*e*P		P	17 35 54.4	+0.3	
STHS	Stebnicka Huta	92.96	320	*e*P		P	17 35 55.0	+0.8	
STHS				pmax	pmax				
	comp=Z,5.0nm,0.7s								
STHS	Stebnicka Huta	92.96	320	*e*P		P	17 35 55.0	+0.8	
NSS	Namsos	93.12	336	*e*P		P	17 35 52.8	-1.7	
KECS	Kecovo	93.67	320	*e*P		P	17 35 57.3	-0.1	
KECS				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KECS	Kecovo	93.67	320	*e*P		P	17 35 57.3	-0.1	
DAG	Danmarks Havn	93.93	352	*i*P		P	17 35 57.0	-1.0	
DAG				pmax	pmax				
	comp=Z,8.0nm,0.6s								
DAG	Danmarks Havn	93.93	352	*i*P		P	17 35 57.0	-1.0	
	comp=Z,12nm,0.6s								
HFS	Hagfors	93.98	332	P		P	17 35 57.1	-1.5	
	comp=Z,2.7nm,0.4s,baz=108,slow=4.8,SNR=28								
NC405	NORSAR Array S	94.53	333	*e*P		P	17 35 59.0	-2.1	
NC303	NORSAR Array S	94.64	333	*e*P		P	17 35 59.8	-1.8	
VYHS	Vyhne	94.73	320	*e*P		P	17 36 01.8	-0.5	
VYHS				pmax	pmax				
	comp=Z,7.0nm,1.8s								
VYHS	Vyhne	94.73	320	*e*P		P	17 36 01.8	-0.5	
VYHS				*e*PP		PP	17 40 06.0	+5.0	
NB2	NORSAR Subarra	94.78	333	P		P	17 36 00.3	-2.0	
	comp=Z,5.6nm,0.8s,baz=66,slow=4.8								
NB2	NORSAR Subarra	94.78	333	P		P	17 36 00.3	-2.0	
	baz=66,slow=4.8								
NB200	NORSAR Array S	94.78	333	*e*P		P	17 36 00.6	-1.7	
NB200				*e*PP		PP	17 39 58.1	-2.9	
NOA	NORSAR Array B	94.78	333	P		P	17 36 00.6	-1.7	
	comp=Z,4.8nm,0.8s,baz=69,slow=4.6,SNR=14								
NOA				PP		PP	17 39 58.1	-2.9	
	comp=Z,1.4nm,0.8s,baz=72,slow=7.9,SNR=3.9								
NC204	NORSAR Array S	94.89	333	*e*P		P	17 36 00.9	-1.9	
VRAC	Vranov	95.92	321	P		P	17 36 07.0	-0.6	
	comp=Z,1.7nm,0.5s,baz=149,slow=10,SNR=4.1								
VRAC	Vranov	95.92	321	P		P	17 36 07.0	-0.6	
LSZ	Lusaka	96.95	255	*e*P		P	17 36 11.5	-1.6	
LSZ				pmax	pmax				
	comp=Z,7.0nm,0.8s								
LSZ	Lusaka	96.95	255	*e*P		P	17 36 11.5	-1.6	
	comp=Z,7.1nm,0.8s								
BRG	Berggiesshubel	97.04	323	*i*P		P	17 36 12.4	-0.2	
	comp=Z,8.4nm,0.9s								
BRG	Berggiesshubel	97.04	323	*i*P		P	17 36 12.4	-0.2	
BRG				pmax	pmax				
	comp=Z,8.0nm,0.9s								
CLL	Collm	97.45	324	*e*PP		PP	17 40 23.0	+1.6	
GERES	GERESS Array B	97.87	321	P		Pdif	17 36 15.0	-1.5	
	comp=Z,1.6nm,0.6s,baz=64,slow=5.7,SNR=16								
GERES				PP		PP	17 40 28.4	+3.6	
	comp=Z,1.1nm,0.7s,baz=69,slow=7.3,SNR=8.2								
GEA0	GERESS Array S	97.87	321	*e*Pdif		Pdif	17 36 15.1	-1.4	
GEA0				*e*PP		PP	17 40 18.5	-6.3	
PDKS	Podkum	97.93	318	*i*P		Pdif	17 36 16.6	-0.2	
YKA	Yellowknife Ar	98.08	23	P		P	17 36 17.3	+0.3	
	comp=Z,0.9nm,0.8s,baz=298,slow=5.2,SNR=4.5								
VISS	Visnje	98.12	318	*i*P		Pdif	17 36 17.2	-0.3	
VAE	Valguarnera	100.96	310	PP		PP	17 40 50.0	+1.9	
	comp=Z,33nm,0.5s,baz=52,slow=7.4,SNR=5.2								
KEST	Kesra	105.38	310	PP		PP	17 41 20.8	+0.2	
	comp=Z,6.9nm,0.9s,baz=312,slow=6.4,SNR=5.3								
ESDC	Sonseca Array	113.22	318	PP		PP	17 42 13.8	-2.1	
	comp=Z,1.0nm,0.8s,baz=51,slow=7.1,SNR=5.0								
ULM	Lac du Bonnet	113.80	27	PKiKP		PKiKP	17 41 14.6	-0.9	
	comp=Z,1.7nm,0.5s,baz=168,slow=2.0,SNR=4.1								
MDT	Midelt	117.09	312	PKP		PKPdf	17 41 22.0	-0.5	
	comp=Z,1.8nm,0.6s,baz=193,slow=2.6,SNR=4.3								
TOA0	Torodi Ar. Sit	119.05	289	*e*PKPdf		PKPdf	17 41 25.4	-1.2	
TOA0				*e*PKPdf		PKiKP	17 41 25.8	-0.9	
TOA0				*e*PP		PP	17 42 46.4	-11	
TORD	Torodi Ar. Bea	119.05	289	PKP		PKPdf	17 41 26.0	-0.6	
	comp=Z,7.0nm,0.7s,baz=55,slow=2.0,SNR=49								
TORD				PP		PP	17 42 47.4	-10	
	comp=Z,2.6nm,0.8s,baz=60,slow=5.3,SNR=8.3								
TORD				PKKPbc		PKKPbc	17 51 44.0	+1.4	
	comp=Z,1.1nm,0.9s,baz=276,slow=3.0,SNR=6.9								
TOA1	Torodi Ar. Sit	119.05	289	*e*PKPdf		PKPdf	17 41 26.0	-0.6	
TOA1				*e*PP		PP	17 42 47.4	-10	
TOA1				*e*PKKPbc		PKKPbc	17 51 44.0	+1.4	
LTX	Lajitas	122.14	49	*e*PKiKP		PKPdf	17 41 32.9	+0.6	
LTX	Lajitas	122.14	49	*e*PKPdf		PKPdf	17 41 32.9	+0.6	
TXAR	Lajitas Array	122.14	49	PKP		PKPdf	17 41 32.9	+0.6	
	comp=Z,0.5nm,0.7s,baz=279,slow=1.1,SNR=6.8								
MIAR	Mount Ida	126.01	38	*e*PKiKP		PKPdf	17 41 40.6	+1.2	
MIAR	Mount Ida	126.01	38	*e*PKPdf		PKPdf	17 41 40.6	+1.2	
KIC	Kosan Boka	126.87	283	*e*PKiKP		PKPdf	17 41 41.9	+0.3	
	comp=Z,39nm,1.0s								
DBIC	Dimbokro	126.91	283	PKP		PKPdf	17 41 41.6	-0.1	
	comp=Z,8.4nm,0.8s,baz=89,slow=1.7,SNR=9.2								
TIC	Toumodi	127.08	283	*e*PKiKP		PKPdf	17 41 42.1	+0.1	
LIC	Lamto	127.18	283	*e*PKiKP		PKPdf	17 41 41.9	-0.3	
SSPA	Standing Stone	128.93	21	*e*PP		PP	17 44 02.1	+1.7	
SWET	Sewanee	129.88	32	*e*SKPbc		SKPab	17 44 15.4	+0.6	
TZTN	Tazewell	130.03	29	*e*SKPbc		SKPab	17 44 16.0	+0.7	
CPCT	Cooper Cave	130.43	30	*e*SKPbc		SKPab	17 44 17.2	+0.1	
USHA	Ushuaia	131.01	171	SKPbc		SKPab	17 44 18.7	-0.1	
	comp=Z,19nm,0.7s,baz=184,slow=5.1,SNR=7.7								
GOGA	Godfrey	132.57	31	*e*SKPbc		SKPbc	17 44 24.2	+0.1	
PLCA	Paso Flores	143.79	162	PKP		PKPdf	17 42 12.7	+0.5	
	comp=Z,12nm,0.6s,baz=247,slow=3.7,SNR=39								
PLCA				SKPbc		SKPbc	17 44 55.5	0.0	
	comp=Z,10nm,0.9s,baz=151,slow=2.0,SNR=5.6								
PLCA	Paso Flores	143.79	162	*e*PKiKP		PKPdf	17 42 12.3	+0.1	
PLCA	Paso Flores	143.79	162	*e*PKPbc		PKPdf	17 42 12.3	+0.1	
PLCA				*e*SKPbc		SKPbc	17 44 55.7	+0.1	
TRQA	Tornquist	148.35	172	*e*PKPbc		PKPbc	17 42 23.8	-0.4	
CPUP	Villa Florida	160.43	177	PKP		PKPdf	17 42 36.8	+0.2	
	comp=Z,2.0nm,1.0s,baz=76,slow=8.8,SNR=3.3								
LPAZ	La Paz	165.04	131	PKP		PKPdf	17 42 43.2	+1.2	
	comp=Z,2.7nm,0.9s,baz=84,slow=1.0,SNR=8.0								
LPAZ	La Paz	165.04	131	*e*PKiKP		PKPdf	17 42 42.7	+0.6	
LPAZ	La Paz	165.04	131	*e*PKPdf		PKPdf	17 42 42.7	+0.6	
LPAZ				*e*PKPab		PKPab	17 43 45.3	+2.2	

NIED ***24*** *17:25:00,36.90N×141.10E,h47km,Mw3.8 Best double couple: M₀4.99000×10¹⁴ NP1:φs30.00000°,δ32.00000°, λ-132.00000°. NP2:φs257.00000°,δ67.00000°, λ-68.00000°.*

IDC ***24*** *17:25:10.0±1.2,36.76N×141.34E,h0km,mb3.8/3, mb1 4.0/7,mb1mx3.7/64,mbtmp4.0/7,ML3.5/3,MS2.9/2, Ms1 2.9/2,ms1mx2.5/47, Error ellipse: s-maj=28.6km s-min=19.1km az=115.0*

JMA ***24*** *17:25:15.5±0.1,36.91N×141.06E,h51km±1km,M3.9*

JMA Felt II J1.

ISC 24 17:25:11.4±2.5,**36.85N**±0.05×**141.25E**±0.07,**h7**km±15km, **n23,σ1s22/28,mb3.6/3,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.44	305	Op P		Pn	17 25 24.4	+0.3
ONAJ				S		Sb	17 25 30.6	+2.4
JHO	Hitachi	0.59	247	P		Pn	17 25 26.5	+0.3
JHO				S		Sb	17 25 34.2	+1.6
JFK	Kawauchi	0.60	330	P		Pn	17 25 26.3	0.0
JFK				S		Sb	17 25 33.8	+1.0
JFT	Otama	0.99	313	P		Pn	17 25 31.8	+0.2
JFT				S		Sg	17 25 42.9	-0.3
JSB	Shiboa	1.07	277	P		Pb	17 25 32.7	+0.5
JSB				S		Sg	17 25 44.9	-0.9
JMM	Marumori	1.08	341	P		Pb	17 25 32.7	+0.4
JMM				*e*S		Sg	17 25 45.1	-1.0
JFY	Yanaizu	1.35	295	P		Pn	17 25 36.0	-0.6
JFY				*e*S		Sb	17 25 52.0	-2.5
JAG	Ashikaga	1.50	254	P		Pn	17 25 38.5	-0.2
JKT	Katashina	1.60	268	P		Pn	17 25 40.4	+0.2
JKT				*e*S		Sn	17 25 58.2	-2.9
MJAR	Matsushiro Arr	2.46	264	Pn		Pn	17 25 52.3	+0.4
	15nm,0.3s,baz=83,slow=15,SNR=101							
MJAR				Sn		Sn	17 26 22.4	+0.3
	13nm,0.3s,baz=98,slow=17,SNR=7.1							
MJAR				LR		LR	17 26 55.0	
	comp=Z,61nm,19.2s,baz=270,slow=42							
MAT	Matsushiro	2.46	264	P		Pn	17 25 52.7	+0.8
MAT				S		Sn	17 26 23.5	+1.3
JHJ	Hachijo jima 2	3.91	198	Pn		Pn	17 26 12.2	+0.5
	33nm,0.3s,baz=322,slow=22,SNR=9.6							
JHJ				Sn		Sn	17 26 57.3	-0.6
	77nm,0.3s,baz=67,slow=22,SNR=11							
JHJ				LR		LR	17 27 07.8	
	comp=Z,490nm,18.9s,baz=116,slow=31							
ASAJ	Asahikawa	7.33	8	Pn		Pn	17 26 58.5	-0.3
	baz=215,slow=2.0							
USRK	Ussuriysk Ar.	10.17	319	Pn		Pn	17 27 39.2	+1.5
	0.6nm,0.3s,baz=137,slow=13,SNR=14							
SEY	Seymchan	27.00	11	P		P	17 30 54.2	+0.7
	1.5nm,1.0s,baz=180,slow=15,SNR=4.1							
H11N2	WAKE ISLAND Hy	28.17	120	T		T	18 00 58.6	
	baz=313,slow=75,SNR=109							
H11N1	WAKE ISLAND Hy	28.18	120	T		T	18 00 57.0	
	baz=313,slow=75,SNR=129							
H11N3	WAKE ISLAND Hy	28.19	120	T		T	18 00 57.7	
	baz=313,slow=75,SNR=102							
H11S1	WAKE ISLAND Hy	28.87	122	T		T	18 01 55.6	
	baz=314,slow=75,SNR=89							
H11S3	WAKE ISLAND Hy	28.87	122	T		T	18 01 52.9	
	baz=314,slow=75,SNR=84							
H11S2	WAKE ISLAND Hy	28.89	122	T		T	18 01 56.8	
	baz=314,slow=75,SNR=76							
ILAR	Eielson Array	49.72	32	P		P	17 34 04.0	+0.2
	0.2nm,0.5s,baz=277,slow=5.3,SNR=3.6							
WRA	Warramunga Arr	56.86	188	P		P	17 34 55.1	-1.5
	2.3nm,0.8s,baz=8.1,slow=6.9,SNR=3.2							

ISK ***24*** *17:29:02.5,40.77N×42.35E,h6km,MD2.6*

CSEM ***24*** *17:29:03.7±0.2,40.70N×42.38E,h12km,MD2.6, Error ellipse: s-maj=4.8km s-min=3.2km az=44.0*

ISCJB ***24*** *17:29:04.1±0.5,40.72N±0.03×42.38E±0.04,h8km±5km, Error ellipse: s-maj=6.0km s-min=3.6km az=139.8*

DDA ***24*** *17:29:04.3,40.72N×42.36E,h7km,Md2.8*

ISC 24 17:29:03.7±1.0,**40.72N**±0.03×**42.38E**±0.03,**h10**km±9km, **n24,σ0s59/41,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SENK	Senkaya-Erzuru	0.16	188	Op PG		Pg	17 29 07.2	-0.1
SENK				*e*SG		Sg	17 29 10.2	+0.3
SENK	Senkaya-Erzuru	0.16	188	*i* Pg		Pg	17 29 07.2	-0.1
SENK				*e*Sg		Sg	17 29 10.2	+0.3
DAGI	Agillar	0.50	315	*i* P		Pb	17 29 14.1	-0.5
DAGI				*i* S		Sb	17 29 21.6	-0.4
DDEM	Demirkent	0.51	290	P		Pg	17 29 13.9	+0.4
DDEM				S		Sb	17 29 21.5	-0.7
DDEM	Demirkent	0.51	290	*i* P		Pg	17 29 13.9	+0.4
DDEM				*i* S		Sb	17 29 21.5	-0.7
KARS	Kars	0.54	100	*e*PG		Pg	17 29 13.9	-0.3
KARS				*e*SG		Sb	17 29 22.9	-0.3
KARS	Kars	0.54	100	*e*Pg		Pg	17 29 14.0	-0.3
KARS				*e*Sg		Sb	17 29 22.9	-0.3
ARTV	Artvin	0.57	324	P		Pb	17 29 15.8	-0.2
ARTV				S		Sb	17 29 24.1	-0.2
ARTV	Artvin	0.57	324	*i* P		Pb	17 29 15.8	-0.2
ARTV				*i* S		Sb	17 29 24.1	-0.2
DBAD	Bademkaya	0.60	300	P		Pg	17 29 15.7	+0.4
DBAD				S		Sb	17 29 24.1	-0.7
DBAD	Bademkaya	0.60	300	*i* P		Pg	17 29 15.7	+0.4
DBAD				*i* S		Sb	17 29 24.1	-0.7
DIGO	Kars	0.82	112	P		Pg	17 29 18.7	-0.8
DIGO	Kars	0.82	112	*i* P		Pg	17 29 18.7	-0.8
DBOC	Borcka	0.82	319	P		Pg	17 29 19.8	+0.2
DBOC				S		Sb	17 29 30.7	-0.6
DBOC	Borcka	0.82	319	*i* P		Pg	17 29 19.8	+0.2
DBOC				*i* S		Sb	17 29 30.7	-0.6
EPOS	Posof	0.82	19	P		Pg	17 29 20.1	+0.5
EPOS				S		Sb	17 29 32.7	+1.3
EPOS	Posof	0.82	19	*i* P		Pg	17 29 20.1	+0.5
EPOS				*i* S		Sb	17 29 32.7	+1.3
EATA	Eleskirt	0.86	174	P		Pb	17 29 20.7	-0.2
EATA				S		Sb	17 29 33.6	+1.0
EATA	Eleskirt	0.86	174	*i* P		Pb	17 29 20.7	-0.2
EATA				*i* S		Sb	17 29 33.6	+1.0
EAK	Akyaka	0.94	92	P		Pg	17 29 21.5	-0.2
EAK	Akyaka	0.94	92	*i* P		Pg	17 29 21.6	-0.2
EZM	Erzurum	1.13	224	*e*PN		Pb	17 29 25.1	-0.3
AGRB	Hanur-Agry	1.24	157	*e*PN		Pg	17 29 28.2	+0.7
AGRB	Hanur-Agry	1.24	157	*e*Pn		Pg	17 29 28.2	+0.7

IDC ***24*** *17:29:25.2±1.1,34.82N×29.13E,h0km,mb3.7/6, mb1 3.7/12,mb1mx3.6/57,mbtmp3.7/12,ML3.7/6,MS3.2/3, Ms1 3.2/3,ms1mx2.5/54, Error ellipse: s-maj=22.5km s-min=16.8km az=6.0*

ISK ***24*** *17:29:25.5,34.76N×28.98E,h3km,MD3.9*

ATH ***24*** *17:29:28.2,34.98N×28.98E,h18km±4km,ML3.5/7, Error ellipse: s-maj=5.5km s-min=1.4km az=30.0*

DDA ***24*** *17:29:28.3,34.89N×28.93E,h26km,Ml3.7*

CSEM ***24*** *17:29:28.7±0.1,34.72N×29.07E,h20km,ML3.5, Error ellipse: s-maj=3.8km s-min=3.4km az=20.0*

HLW ***24*** *17:29:29.9,34.78N×29.07E,h41km±8km,Md3.7*

NSSC ***24*** *17:29:30.7±1.6,34.79N×29.21E,h38km±999km,ML3.0*

NIC ***24*** *17:29:33.2±0.2,35.00N×29.41E,h45km,mb4.3,ML3.9*

ISC 24 17:29:26.3±2.9,**34.69N**±0.03×**29.11E**±0.03,**h17**km±20km, **n134,σ2s18/173,mb3.5/6,Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSL	Kastellorizon	1.51	15	Op P		Pn	17 29 52.0	-0.6
KSL				S		Sn	17 30 08.9	-3.0
KSL				AML		AML	17 30 25.8	
	comp=N,675μm,0.8s							
KSL				AML		AML	17 30 36.0	
	comp=E,828μm,1.2s							
AKAS	Kas	1.59	15	P		Pb	17 29 54.9	-0.5
AKAS				S		Sn	17 30 13.9	-0.3
AKAS	Kas	1.59	15	*i* P		Pb	17 29 54.9	-0.5
AKAS				*i* S		Sn	17 30 13.9	-0.3
ARG	Arkhangelos	1.72	332	P		Pn	17 29 55.2	-0.3
KARP	Karpathos	1.81	299	*e*PN		Pn	17 29 57.6	+0.8
KARP				*e*SN		Sn	17 30 19.2	-0.3
KARP	Karpathos	1.81	299	*e*Pn		Pn	17 29 57.6	+0.8
KARP	Karpathos	1.81	299	P		Pb	17 29 58.7	-0.4
KARP				S		Sn	17 30 19.2	-0.3
KARP	Karpathos	1.81	299	P		Pb	17 29 58.7	-0.4
KARP				S		Sn	17 30 19.2	-0.3
ELL	Elmali	2.15	17	*e*PN		Pb	17 30 03.3	-1.7
ELL				*e*SN		Sb	17 30 30.1	-1.4
ELL	Elmali	2.15	17	*e*Pn		Pb	17 30 03.3	-1.7
ELL				*e*Sn		Sb

ERMK	**Ermenek**	**3.66**	**57**	*i* P		**Pn**	17 30 25.2	+2.9
LFK	**Lefkose**	**3.68**	**80**	*e*PN		**Pn**	17 30 26.7	+4.2
LFK	**Lefkose**	**3.68**	**80**	*e*Pn		**Pn**	17 30 26.7	+4.2
MATC	**Matruh**	**3.69**	**206**	P		**Pn**	17 30 24.3	+1.8
	baz=205							
APE	**Apeiranthos**	**3.75**	**310**	*e*PN		**Pn**	17 30 24.5	+1.0
APE	**Apeiranthos**	**3.75**	**310**	P		**Pn**	17 30 24.5	+1.0
APE	**Apeiranthos**	**3.75**	**310**	P		**Pn**	17 30 24.6	+1.0
KULA	**Kula-Manisa**	**3.83**	**355**	*e*PN		**Pn**	17 30 26.2	+1.5
KULA	**Kula-Manisa**	**3.83**	**355**	*e*Pn		**Pn**	17 30 26.2	+1.5
HMAT	**Matruh**	**3.97**	**206**	P		**Pn**	17 30 24.3	-2.1
IZM	**Izmir**	**3.99**	**339**	*e*PN		**Pn**	17 30 27.4	+0.6
IZM	**Izmir**	**3.99**	**339**	*e*Pn		**Pn**	17 30 27.4	+0.6
VAM	**Vamos**	**4.09**	**281**	P		**Pn**	17 30 29.9	+1.8
GVD	**Gavdhos**	**4.14**	**273**	P		**Pn**	17 30 30.9	+2.1
GVD	**Gavdhos**	**4.14**	**273**	P		**Pn**	17 30 30.9	+2.1
GVD					AML	AML	17 31 20.2	
	comp=N,404μm,0.3s							
GVD					AML	AML	17 31 22.9	
	comp=E,374μm,0.4s							
KONT	**Konya--Tatoy**	**4.18**	**38**	*e*PN		**Pn**	17 30 32.9	+3.6
KONT	**Konya--Tatoy**	**4.18**	**38**	*e*Pn		**Pn**	17 30 32.9	+3.6
IMMV	**Iera Moni Meta**	**4.28**	**282**	P		**Pn**	17 30 33.2	+2.5
IMMV	**Iera Moni Meta**	**4.28**	**282**	P		**Pn**	17 30 33.1	+2.5
IMMV					AML	AML	17 31 27.6	
	comp=E,619μm,0.5s							
IMMV					AML	AML	17 31 27.6	
	comp=N,445μm,0.6s							
BOLV	**Bolvadin**	**4.28**	**20**	P		**Pn**	17 30 33.2	+2.3
BOLV	**Bolvadin**	**4.28**	**20**	*i* P		**Pn**	17 30 33.2	+2.3
SLUM	**Salum**	**4.57**	**227**	P		**Pn**	17 30 36.2	+1.5
	baz=226							
SLUM					S	**Sn**	**17 31 24.9**	**-2.5**
	baz=226							
SLUM	**Salum**	**4.57**	**227**	P		**Pn**	17 30 36.2	+1.5
SLUM					S	**Sn**	17 31 24.9	-2.5
KIZT	**Kizilcal**	**4.74**	**27**	*e*PN		**Pn**	17 30 40.3	+3.2
KIZT	**Kizilcal**	**4.74**	**27**	*e*Pn		**Pn**	17 30 40.3	+3.2
TVSB	**Tavsanli**	**4.76**	**3**	*e*PN		**Pn**	17 30 39.0	+1.6
TVSB	**Tavsanli**	**4.76**	**3**	*e*Pn		**Pn**	17 30 39.0	+1.6
KOT	**Kottamia**	**5.28**	**153**	P		**Pn**	17 30 46.9	+2.5
	baz=153							
KOT					S	**Sn**	**17 31 42.1**	**-2.8**
	baz=153							
KOT	**Kottamia**	**5.28**	**153**	P		**Pn**	17 30 46.9	+2.5
KOT					S	**Sn**	17 31 42.1	-2.8
HHAG	**Hagoal**	**5.36**	**151**	P		**Pn**	17 30 47.6	+2.0
	baz=151							
HHAG					S	**Sn**	**17 31 44.8**	**-2.1**
	baz=151							
HHAG	**Hagoal**	**5.36**	**151**	P		**Pn**	17 30 47.6	+2.0
HHAG					S	**Sn**	17 31 44.8	-2.1
KARA	**Karaisali**	**5.46**	**60**	*e*PN		**Pn**	17 30 50.7	+3.8
KARA	**Karaisali**	**5.46**	**60**	*e*Pn		**Pn**	17 30 50.7	+3.8
MMAI	**Mount Meron Ar**	**5.50**	**106**	Pn		**Pn**	17 30 49.6	+2.1
	comp=N,4.4nm,0.3s,baz=302,slow=12,SNR=25							
MMAI					Sn	**Sn**	**17 31 50.4**	**+0.1**
	comp=N,21nm,0.3s,baz=310,slow=21,SNR=16							
MMAI					LR	LR	17 34 19.0	
	comp=N,61nm,19.4s,baz=270,slow=53							
GLL	**Jalalah**	**5.55**	**156**	P		**Pn**	**17 30 50.1**	**+1.8**
	baz=156							
GLL	**Jalalah**	**5.55**	**156**	P		**Pn**	17 30 50.1	+1.8
ARNB	**Al Arnab**	**5.73**	**76**	*e*P		**Pn**	17 30 52.1	+1.3
ARNB				*e*S		**Sn**	**17 31 52.9**	**-3.4**
ARNB					AML	AML	17 31 58.0	
	comp=N,40nm,0.7s							
ARNB					AML	AML	17 31 58.8	
	comp=E,51nm,0.7s							
SUZ	**Suez**	**5.77**	**146**	P		**Pn**	**17 30 53.7**	**+2.5**
	baz=146							
SUZ	**Suez**	**5.77**	**146**	P		**Pn**	17 30 53.7	+2.5
BRBR	**Barbar**	**5.82**	**101**	*e*P		**Pn**	17 30 54.1	+2.0
BRBR				*e*S		**Sn**	**17 31 54.6**	**-4.0**
BRBR					AML	AML	17 32 02.1	
	comp=E,68nm,0.4s							
BRBR					AML	AML	17 32 02.1	
	comp=N,31nm,0.2s							
TAHT	**Tahtakopru-Hat**	**6.01**	**72**	*e*PN		Pn	17 30 59.7	+5.3
ZAF	**Zafarana**	**6.13**	**151**	P		**Pn**	**17 30 58.8**	**+2.6**
	baz=150							
ZAF	**Zafarana**	**6.13**	**151**	P		**Pn**	17 30 58.8	+2.6
MARH	**Ras Al Marh**	**6.13**	**94**	*e*P		**Pn**	**17 30 59.3**	**+2.9**
MARH				*e*S		**Sn**	**17 32 02.1**	**-4.3**
MARH					AML	AML	17 32 10.9	
	comp=E,20nm,0.2s							
MARH					AML	AML	17 32 11.3	
	comp=N,46nm,0.4s							
BTCH	**Batrach**	**6.15**	**75**	*e*P		**Pn**	**17 30 59.2**	**+2.7**
BTCH				*e*S		**Sn**	**17 32 02.2**	**-4.3**
BTCH					AML	AML	17 32 08.0	
	comp=E,76nm,0.2s							
BTCH					AML	AML	17 32 08.2	
	comp=N,46nm,0.4s							
BRTR	**Keskin Array B**	**6.19**	**34**	Pn		**Pn**	**17 30 58.9**	**+1.8**
	comp=N,0.5nm,0.3s,baz=198,slow=16,SNR=12							
BRTR					Sn	**Sn**	**17 32 04.6**	**-2.9**
	comp=N,0.9nm,0.3s,baz=204,slow=26,SNR=12							
SWA2		**6.25**	**211**	P		**Pn**	**17 30 59.0**	**+1.2**
	baz=211							
SWA2		**6.25**	**211**	P		**Pn**	17 30 59.0	+1.2
HNKL	**Nakhl**	**6.29**	**138**	P		**Pn**	**17 31 00.1**	**+1.8**
	baz=138							
HNKL	**Nakhl**	**6.29**	**138**	P		**Pn**	17 31 00.1	+1.8
DRWC	**Darouich**	**6.45**	**70**	*e*P		**Pn**	17 31 02.6	+2.0
DRWC				*e*S		**Sn**	**17 32 08.5**	**-5.3**
DRWC					AML	AML	17 32 24.9	
	comp=E,22nm,0.4s							
DRWC					AML	AML	17 32 26.4	
	comp=N,18nm,0.5s							
SALA	**Sala**	**6.65**	**105**	*e*P		**Pn**	**17 31 06.5**	**+3.0**
SALA				*e*S		**Sn**	**17 32 16.6**	**-2.5**
SALA					AML	AML	17 32 26.1	
	comp=N,24nm,0.3s							
SALA					AML	AML	17 32 31.8	
	comp=E,3.0nm,0.4s							
ROOS	**tl_alroos**	**6.78**	**92**	*e*P		**Pn**	**17 31 08.8**	**+3.7**
ROOS				*e*S		**Sn**	**17 32 18.3**	**-3.7**
ROOS					AML	AML	17 32 26.8	
	comp=E,32nm,0.4s							
ROOS					AML	AML	17 32 34.5	
	comp=N,41nm,0.5s							
ASF	**Jabal al Asfar**	**6.98**	**109**	Pn		**Pn**	**17 31 10.0**	**+2.1**
	comp=N,0.4nm,0.3s,baz=232,slow=16,SNR=4.7							
EIL	**Eat**	**7.04**	**134**	Pn		**Pn**	**17 31 10.7**	**+2.0**
	comp=N,3.0nm,0.3s,baz=344,slow=5.3,SNR=30							
EIL					Sn	**Sn**	**17 32 22.8**	**-5.5**
	comp=N,11nm,0.3s,baz=78,slow=14,SNR=13							
HQLS		**7.38**	**135**	S		**Sn**	**17 32 33.3**	**-3.3**
HQLS				P		**Pn**	**17 31 15.7**	**+2.4**
HAQS	**Haql**	**7.48**	**137**	S		**Sn**	**17 32 35.4**	**-3.8**
HAQS				P		**Pn**	**17 31 17.3**	**+2.6**
RSHS		**8.01**	**141**	P		**Pn**	**17 31 24.2**	**+2.3**
JLOS		**8.05**	**136**	P		**Pn**	**17 31 25.0**	**+2.4**
BDAS	**Al Bad'**	**8.06**	**139**	P		**Pn**	**17 31 24.9**	**+2.2**
VYHS	**Vyhne**	**15.77**	**334**	*e*P		**P**	**17 33 11.2**	**-0.2**
GERES	**GERESS Array B**	**18.17**	**326**	P		**Pn**	**17 33 37.7**	**-0.2**
	comp=N,0.2nm,0.3s,baz=138,slow=13,SNR=8.1							
DAVOX	**Davos/Dischmat**	**18.87**	**316**	LR		LR	17 43 11.4	
	comp=N,48nm,18.2s,baz=82,slow=44							
ESDC	**Sonseca Array**	**26.72**	**291**	P		**P**	**17 35 05.8**	**+0.8**
	comp=N,0.4nm,0.4s,baz=79,slow=9.6,SNR=4.4							
FINES	**FINESS Array B**	**26.84**	**357**	P		**P**	**17 35 07.0**	**+1.4**
	comp=N,0.8nm,0.7s,baz=161,slow=12,SNR=5.1							
HFS	**Hagfors**	**27.37**	**343**	P		**P**	**17 35 10.1**	**-0.3**
	comp=N,3.0nm,1.0s,baz=130,slow=6.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**32.80**	**236**	P		**P**	**17 36 00.7**	**+1.8**
	comp=N,1.0nm,0.7s,baz=33,slow=9.8,SNR=6.0							
KURBB	**Kurchatov Arra**	**38.91**	**50**	P		**P**	**17 36 50.6**	**-0.3**
	comp=N,0.6nm,0.5s,baz=276,slow=9.0,SNR=2.6							
MKAR	**Makanchi Array**	**41.33**	**56**	P		**P**	**17 37 11.6**	**+0.5**
	comp=N,1.0nm,0.9s,baz=258,slow=9.9,SNR=2.8							
JNU	**Nakatsue**	**80.38**	**56**	LR		LR	18 20 08.5	
	comp=N,66nm,19.6s,baz=123,slow=38							

ATH ***24*** *17:32:40.6, 42°.24N×26°.24E, h11km±3km, ML2.7/2, Error ellipse: s-maj=6.0km s-min=1.7km az=88.0*
CSEM ***24*** *17:32:42.7±0.3, 42°.16N×26°.22E, h2km, MD3.3, Error ellipse: s-maj=6.2km s-min=5.3km az=1.0*
SOF ***24*** *17:32:42.3, 42°.24N×26°.23E, h3km, MD2.9*
THE ***24*** *17:32:43.8, 42°.12N×26°.32E, h12km±1km, ML3.0/2, Error ellipse: s-maj=2.8km s-min=0.6km az=36.0*

ISK ***24*** *17:32:44.0, 42°.04N×26°.35E, h2km, MD3.3*
DDA ***24*** *17:32:53.3, 42°.15N×26°.55E, h10km, Md3.2*

ISC 24 17:32:41.8±1.1, 42°.20N±0°.02×26°.36E±0°.02, h8km±10km, n84, σ0°92/111, 5C-5D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.31**	**33**	P	**Pb**	**17 32 48.6**	**-1.0**
EDRB	**Edirne**	**0.46**	**141**	*e*PG	**Pg**	**17 32 51.4**	**+0.7**
EDRB				*e*SG	**Sb**	**17 32 58.0**	**-1.1**
EDRB	**Edirne**	**0.46**	**141**	P	**Pb**	**17 32 51.7**	**-0.4**
EDRB				S	**Sb**	**17 32 58.3**	**-0.8**
EDRB	**Edirne**	**0.46**	**141**	*e*Pg	**Pg**	**17 32 51.4**	**+0.7**
EDRB	**Edirne**	**0.46**	**141**	P	**Pb**	**17 32 51.7**	**-0.4**
EDRB				*e*Sg	**Sb**	**17 32 58.0**	**-1.1**
DIM	**Dimitrovgrad**	**0.63**	**256**	P	**Pg**	**17 32 52.7**	**-1.2**
PHSR	**Pinarhisar**	**1.04**	**123**	*e*PG	**Pn**	**17 33 03.0**	**+0.2**
PHSR				*e*SG	**Sn**	**17 33 17.5**	**0.0**
PHSR	**Pinarhisar**	**1.04**	**123**	*e*Pg	**Pn**	**17 33 03.0**	**+0.2**
PHSR				*e*Sg	**Sn**	**17 33 17.5**	**0.0**
SZH	**Strazhica**	**1.11**	**344**	P	**Pn**	**17 33 03.4**	**-0.2**
ROIA	**ROIAK**	**1.17**	**40**	P	**Pg**	**17 33 05.1**	**+0.7**
PRD	**Provadia**	**1.26**	**37**	P	**Pg**	**17 33 06.0**	**+0.1**
PVL	**Pavlikeni**	**1.26**	**324**	P	**Pn**	**17 33 05.7**	**0.0**
ALN	**Alexandroupoli**	**1.33**	**190**	P	**Pn**	**17 33 06.7**	**0.0**
ALN				S	**Sb**	**17 33 23.3**	**-0.8**
ALN	**Alexandroupoli**	**1.33**	**190**	P	**Pn**	**17 33 06.6**	**0.0**
ALN				S	**Sn**	**17 33 24.4**	**-0.1**
ALN	**Alexandroupoli**	**1.33**	**190**	P	**Pn**	**17 33 06.6**	**0.0**
ALN				S	**Sn**	**17 33 24.4**	**-0.1**
ALN				AML	AML	17 33 27.3	
	comp=E,424μm,0.5s						
ALN				AML	AML	17 33 27.9	
	comp=N,500μm,0.5s						
RZN	**Rozhen**	**1.33**	**248**	P	**Pn**	**17 33 06.3**	**-0.5**
KESN	**Edirne-Kesan**	**1.40**	**170**	P	**Pn**	**17 33 08.1**	**+0.1**
KESN				S	**Sg**	**17 33 27.7**	**+0.9**
KESN	**Edirne-Kesan**	**1.40**	**170**	*i* P	**Pn**	**17 33 08.1**	**+0.1**
KESN				*i* S	**Sg**	**17 33 27.7**	**+0.9**
ENEZ	**Enez**	**1.48**	**186**	*e*PN	**Pg**	**17 33 10.1**	**+0.1**
ENEZ				*e*SN	**Sg**	**17 33 29.1**	**-0.1**
ENEZ	**Enez**	**1.48**	**186**	*e*Pn	**Pg**	**17 33 10.1**	**+0.1**
ENEZ				*e*Sn	**Sg**	**17 33 29.1**	**-0.1**
ERIK	**Erikli-Kesan**	**1.54**	**176**	*e*PN	**Pb**	**17 33 10.1**	**-0.4**
ERIK				*e*SN	**Sn**	**17 33 29.7**	**0.0**
ERIK	**Erikli-Kesan**	**1.54**	**176**	*e*Pn	**Pb**	**17 33 10.1**	**-0.4**
ERIK				*e*Sn	**Sn**	**17 33 29.7**	**0.0**
SART	**Tekirdag**	**1.64**	**157**	P	**Pg**	**17 33 13.1**	**0.0**
SART				S	**Sg**	**17 33 35.2**	**+0.9**
SART	**Tekirdag**	**1.64**	**157**	*i* P	**Pg**	**17 33 13.1**	**0.0**
SART				*i* S	**Sg**	**17 33 35.2**	**+0.9**
RKY	**Sarkoy-Tekirda**	**1.64**	**158**	*e*PN	**Pg**	**17 33 12.8**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.64**	**158**	*e*Pn	**Pg**	**17 33 12.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.81**	**177**	*e*PN	**Pb**	**17 33 14.2**	**-0.9**
GELI				*e*SN	**Sb**	**17 33 37.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.81**	**177**	*e*Pn	**Pb**	**17 33 14.2**	**-0.9**
GELI				*e*Sn	**Sb**	**17 33 37.6**	**-0.3**
KAVA	**Kavala**	**1.83**	**229**	P	**Pn**	**17 33 13.2**	**-0.4**
KAVA				S	**Sn**	**17 33 36.4**	**-0.6**
KAVA	**Kavala**	**1.83**	**229**	P	**Pn**	**17 33 13.7**	**+0.1**
KAVA				S	**Sn**	**17 33 36.4**	**-0.6**
KAVA	**Kavala**	**1.83**	**229**	P	**Pn**	**17 33 13.7**	**+0.1**
SMTH	**Samothraki Isl**	**1.84**	**200**	P	**Pn**	**17 33 13.3**	**-0.4**
SMTH	**Samothraki Isl**	**1.84**	**200**	P	**Pn**	**17 33 13.8**	**+0.1**
SMTH				S	**Sb**	**17 33 39.5**	**+0.6**
SMTH	**Samothraki Isl**	**1.84**	**200**	P	**Pn**	**17 33 13.8**	**+0.1**
SMTH				S	**Sb**	**17 33 39.5**	**+0.6**
SMTH				AML	AML	17 33 43.0	
	comp=E,292μm,0.3s						
SMTH				AML	AML	17 33 44.1	
	comp=N,313μm,0.5s						
MRMT	**Marmara Adasi**	**1.85**	**149**	*e*PN	**Pb**	**17 33 15.9**	**0.0**
MRMT				*e*SN	**Sb**	**17 33 39.1**	**-0.2**
MRMT	**Marmara Adasi**	**1.85**	**149**	*e*Pn	**Pb**	**17 33 15.9**	**0.0**
MRMT				*e*Sn	**Sb**	**17 33 39.1**	**-0.2**
LPK	**Lapseki**	**1.85**	**170**	*e*PN	**Pb**	**17 33 16.2**	**+0.2**
LPK	**Lapseki**	**1.85**	**170**	*e*Pn	**Pb**	**17 33 16.2**	**+0.2**
CTKS	**Kestanelik-??a**	**1.88**	**120**	*e*PN	**Pg**	**17 33 18.0**	**+0.3**
CTKS	**Kestanelik-??a**	**1.88**	**120**	*e*Pn	**Pg**	**17 33 18.0**	**+0.3**
KRBG	**Karabiga-Canak**	**1.94**	**158**	*e*PN	**Pb**	**17 33 17.1**	**-0.3**
KRBG	**Karabiga-Canak**	**1.94**	**158**	*e*Pn	**Pb**	**17 33 17.1**	**-0.3**
PSN	**Preselentsi**	**2.00**	**42**	⇓*i* P	**Pb**	**17 33 17.6**	**-0.7**
PSN	**Preselentsi**	**2.00**	**42**	S	**Sg**	**17 33 44.9**	**-1.0**
PSN	**Preselentsi**	**2.00**	**42**	⇓*i* P	**Pb**	**17 33 17.6**	**-0.7**
GADA	**Gvkgeada**	**2.04**	**190**	*e*PN	**Pb**	**17 33 19.2**	**+0.1**
GADA	**Gvkgeada**	**2.04**	**190**	*e*Pn	**Pb**	**17 33 19.2**	**+0.1**
NVR	**Nevrokopi**	**2.05**	**246**	P	**Pn**	**17 33 15.6**	**-1.0**
NVR				S	**Sn**	**17 33 42.5**	**0.0**
MMB	**Musomiste**	**2.06**	**253**	P	**Pb**	**17 33 19.0**	**-0.4**
BGKT	**Bogazkoy**	**2.08**	**119**	*e*PN	**Pb**	**17 33 20.4**	**+0.7**
BGKT	**Bogazkoy**	**2.08**	**119**	*e*Pn	**Pb**	**17 33 20.4**	**+0.7**
KNL	**Bal˙ıkesir**	**2.12**	**155**	*i* P	**Pb**	**17 33 21.4**	**+0.8**
KLYT	**Kilyos**	**2.22**	**114**	*e*PN	**Pb**	**17 33 22.4**	**+0.2**
KLYT	**Kilyos**	**2.22**	**114**	*e*Pn	**Pb**	**17 33 22.4**	**+0.2**
MPEP	**Malo Peshtene**	**2.24**	**302**	P	**Pn**	**17 33 18.8**	**-0.5**
ISK	**Istanbul-Kandi**	**2.32**	**118**	*e*PN	**Pb**	**17 33 24.2**	**+0.3**
ISK	**Istanbul-Kandi**	**2.32**	**118**	P	**Pn**	**17 33 20.9**	**+0.6**
ISK				S	**Sn**	**17 33 50.0**	**+0.9**
ISK	**Istanbul-Kandi**	**2.32**	**118**	P	**Pn**	**17 33 20.9**	**+0.6**
ISK	**Istanbul-Kandi**	**2.32**	**118**	*e*Pn	**Pb**	**17 33 24.2**	**+0.3**
ISK				S	**Sn**	**17 33 50.0**	**+0.9**
SRS	**Serrai**	**2.34**	**243**	P	**Pn**	**17 33 20.4**	**-0.2**
SRS	**Serrai**	**2.34**	**243**	P	**Pn**	**17 33 20.4**	**-0.2**
SRS	**Serrai**	**2.34**	**243**	P	**Pn**	**17 33 20.7**	**+0.1**
SULR		**2.47**	**358**	S	**Sg**	**17 34 02.3**	**+1.1**
ARMT	**Armutlu**	**2.50**	**130**	*e*PN	**Pb**	**17 33 26.3**	**-0.6**
ARMT	**Armutlu**	**2.50**	**130**	*e*Pn	**Pb**	**17 33 26.3**	**-0.6**
HUMR	**Humele**	**2.53**	**337**	S	**Sg**	**17 34 04.9**	**+1.9**
BALY	**Balya**	**2.64**	**158**	P	**Pn**	**17 33 24.2**	**-0.6**
BALY	**Balya**	**2.64**	**158**	*i* P	**Pn**	**17 33 24.2**	**-0.6**
TIRR	**Tirgusor**	**2.71**	**33**	⇑*i* P	**Pb**	**17 33 30.5**	**+0.1**
TIRR	**Tirgusor**	**2.71**	**33**	S	**Sg**	**17 34 06.4**	**-2.3**
TIRR	**Tirgusor**	**2.71**	**33**	⇑*i* P	**Pb**	**17 33 30.5**	**+0.1**
HRT	**Hereke**	**2.84**	**118**	*e*PN	**Pb**	**17 33 31.6**	**-1.3**
HRT	**Hereke**	**2.84**	**118**	*e*Pn	**Pb**	**17 33 31.6**	**-1.3**
ISR	**Istrita**	**2.92**	**3**	⇓*i* P	**Pg**	**17 33 37.0**	**-0.6**
ISR	**Istrita**	**2.92**	**3**	S	**Sg**	**17 34 17.8**	**+2.4**
CFR	**Carcaliu**	**3.24**	**23**	⇑*i* P	**Pb**	**17 33 39.6**	**+0.1**
CFR	**Carcaliu**	**3.24**	**23**	S	**Sg**	**17 34 22.3**	**-3.5**
MLR	**Muntele Rosu**	**3.30**	**355**	⇓*i* P	**Pb**	**17 33 42.1**	**+1.5**
MLR	**Muntele Rosu**	**3.30**	**355**	S	**Sg**	**17 34 27.0**	**+0.1**
VOIR		**3.37**	**344**	⇓*i* P	**Pg**	**17 33 45.0**	**-1.3**
VOIR		**3.37**	**344**	S	**Sg**	**17 34 29.0**	**-0.9**
MDVR	**Moldovita**	**4.25**	**309**	⇑*i* P	**Pn**	**17 33 46.6**	**-0.2**
MDVR	**Moldovita**	**4.25**	**309**	⇑*i* P	**Pn**	**17 33 46.6**	**-0.2**
BZS	**Buzias**	**4.83**	**317**	S	**Sb**	**17 35 10.3**	**+5.3**

CSEM ***24*** *17:35:01.8, 38°.04N×14°.74E, h8km, ML2.2/13*

ROM 24 17:35:01.8±0.1, 38°.04N×14°.74E, h8km±1km, Ml2.2/13, Error ellipse: s-maj=1.8km s-min=1.0km az=174.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUCR	**Ucria**	**0.11**	**86**	Pg	Pg	17 35 04.4	+0.1
MUCR				Sg	Sg	17 35 06.8	+0.7
	1μm,0.6s						
MUCR	**Ucria**	**0.11**	**86**	Pg	Pg	17 35 04.4	+0.1
MUCR				Sg	Sg	17 35 06.8	+0.7
	1μm,0.6s						
MNO	**Monte Soro**	**0.11**	**199**	Pg	Pg	17 35 04.8	+0.4
MNO				Sg	Sg	17 35 07.3	+1.1
	608nm,0.1s						
MNO	**Monte Soro**	**0.11**	**199**	Pg	Pg	17 35 04.8	+0.4
MNO				Sg	Sg	17 35 07.3	+1.1
	608nm,0.1s						
MSFR	**San Fratello**	**0.12**	**269**	Pg	Pg	17 35 04.8	+0.3
MSFR				Sg	Sg	17 35 07.2	+0.9
	422nm,0.2s						
MSFR	**San Fratello**	**0.12**	**269**	Pg	Pg	17 35 04.8	+0.3
MSFR				Sg	Sg	17 35 07.2	+0.9
	422nm,0.2s						
NOV	**Novara**	**0.31**	**91**	Pg	Pg	17 35 08.6	+0.6
NOV				Sg	Sb	17 35 14.7	-0.3
	210nm,0.5s						
NOV	**Novara**	**0.31**	**91**	Pg	Pg	17 35 08.6	+0.6
NOV				Sg	Sb	17 35 14.7	-0.3
	210nm,0.5s						
GALF	**Gagliano Caste**	**0.35**	**203**	Pg	Pb	17 35 09.7	-0.7
	153nm,0.5s						
GALF	**Gagliano Caste**	**0.35**	**203**	Pg	Pb	17 35 09.7	-0.7
	153nm,0.5s						
VPL	**Vulcano Piano**	**0.39**	**29**	Pg	Pg	17 35 10.0	+0.5
VPL				Sg	Sb	17 35 16.7	-0.6
	681nm,0.4s						
VPL	**Vulcano Piano**	**0.39**	**29**	Pg	Pg	17 35 10.0	+0.5
VPL				Sg	Sb	17 35 16.7	-0.6
	681nm,0.4s						
MCSR	**Castroreale**	**0.40**	**86**	Pg	Pg	17 35 09.7	0.0
MCSR				Sg	Sb	17 35 17.3	-0.4
	261nm,0.3s						
MCSR	**Castroreale**	**0.40**	**86**	Pg	Pg	17 35 09.7	0.0
MCSR				Sg	Sb	17 35 17.3	-0.4
	261nm,0.3s						
MMME	**Mongiuffi-Meli**	**0.42**	**104**	Pg	Pg	17 35 10.5	+0.5
	156nm,0.7s						
MMME	**Mongiuffi-Meli**	**0.42**	**104**	Pg	Pg	17 35 10.5	+0.5
	156nm,0.7s						
LLI	**Lipari**	**0.44**	**22**	Pg	Pb	17 35 11.3	-0.6
	572nm,0.5s						
LLI	**Lipari**	**0.44**	**22**	Pg	Pb	17 35 11.3	-0.6
	572nm,0.5s						
PLLN	**Pollina**	**0.47**	**265**	Pg	Pg	17 35 11.6	+0.6
PLLN				Sg	Sb	17 35 19.2	-0.4
	86nm,0.4s						
PLLN	**Pollina**	**0.47**	**265**	Pg	Pg	17 35 11.6	+0.6
PLLN				Sg	Sb	17 35 19.2	-0.4
	86nm,0.4s						
MPNC	**Port Mandanici**	**0.49**	**77**	Pg	Pg	17 35 12.1	+0.7
MPNC				Sg	Sb	17 35 20.1	-0.1
	133nm,0.5s						
MPNC	**Port Mandanici**	**0.49**	**77**	Pg	Pg	17 35 12.1	+0.7
MPNC				Sg	Sb	17 35 20.1	-0.1
	133nm,0.5s						
IFIL	**Filicudi I Eol**	**0.55**	**346**	Pg	Pb	17 35 13.3	-0.4
IFIL				Sg	Sb	17 35 22.1	+0.4
	24μm,22.0s						
IFIL	**Filicudi I Eol**	**0.55**	**346**	Pg	Pb	17 35 13.3	-0.4
IFIL				Sg	Sb	17 35 22.1	+0.4
	24μm,22.0s						
GIB	**Gibilmanna**	**0.56**	**266**	Pg	Pg	17 35 13.3	+0.6
	99nm,0.7s						
GIB	**Gibilmanna**	**0.56**	**266**	Pg	Pg	17 35 13.3	+0.6
	99nm,0.7s						
IACL	**Alicudi**	**0.58**	**329**	Pg	Pg	17 35 13.3	+0.2
	167nm,0.2s						
IACL	**Alicudi**	**0.58**	**329**	Pg	Pg	17 35 13.3	+0.2
	167nm,0.2s						
MSRU	**Castanea**	**0.65**	**69**	Pg	Pg	17 35 14.2	-0.1
	53nm,0.4s						
MSRU	**Castanea**	**0.65**	**69**	Pg	Pg	17 35 14.2	-0.1
	53nm,0.4s						

CSEM ***24*** *17:35:21.3, 38°.04N×14°.74E, h6km, ML1.5/6*

ROM 24 17:35:21.3±0.1, 38°.04N×14°.74E, h6km±1km, Ml1.5/6, 2C, Error ellipse: s-maj=2.5km s-min=1.1km az=175.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUCR	**Ucria**	**0.11**	**88**	Pg	Pg	17 35 23.6	-0.1
MUCR				Sg	Sg	17 35 26.0	+0.7
	155nm,0.6s						
MUCR	**Ucria**	**0.11**	**88**	Pg	Pg	17 35 23.6	-0.1
MUCR				Sg	Sg	17 35 26.0	+0.7
	155nm,0.6s

s-min=8.5km az=87.0

ISC 24 17:39:26.4±0.3,42°01N±0°03×142°66E±0°02,h53km±2km, h52km:pP-P,n1556,s1§40/1644,mb5.5/190,MS4.8/189, 167C-47D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JNBK	**Urakawa-nobuka**	**0.28**	**14**	⇑P	**Pn**	**17 39 36.2**	**+0.5**
JNBK				*e*S	**Sn**	**17 39 43.9**	**+1.6**
ERM	**Erimo**	**0.37**	**88**	*d* iPN	**Pn**	**17 39 36.7**	**+0.3**
ERM	**Erimo**	**0.37**	**88**	*e*Pn	**Pn**	**17 39 36.6**	**+0.1**
JEM	**Erimo**	**0.37**	**88**	⇑P	**Pn**	**17 39 36.6**	**+0.2**
JEM				*e*S	**Sn**	**17 39 43.3**	**-0.3**
JCH	**Churui**	**0.80**	**40**	⇑P	**Pn**	**17 39 41.9**	**+0.3**
JCH				*e*S	**Sn**	**17 39 53.4**	**+0.8**
JBT2	**Biratori 2**	**0.80**	**344**	⇓P	**Pn**	**17 39 42.5**	**+0.9**
JBT2				*e*S	**Sn**	**17 39 55.5**	**+2.8**
JFR	**Furan**	**1.16**	**358**	⇓P	**Pn**	**17 39 47.1**	**+0.8**
JKB	**Kayabe**	**1.22**	**265**	⇓P	**Pn**	**17 39 47.5**	**+0.4**
JKB				*e*S	**Sn**	**17 40 03.4**	**+0.8**
JEW	**Eniwo**	**1.23**	**313**	⇓P	**Pn**	**17 39 48.3**	**+1.1**
JEW				*e*S	**Sn**	**17 40 06.7**	**+4.0**
JOB	**Onbets**	**1.25**	**44**	⇑P	**Pn**	**17 39 48.9**	**+1.4**
JOB				*e*S	**Sn**	**17 40 05.7**	**+2.4**
JNB	**Noboribetsu**	**1.29**	**292**	⇓P	**Pn**	**17 39 48.3**	**+0.2**
JNB				*e*S	**Sn**	**17 40 05.6**	**+1.3**
JOT	**Ohata**	**1.36**	**243**	⇓P	**Pn**	**17 39 49.3**	**+0.3**
JOT				*e*S	**Sn**	**17 40 06.9**	**+0.9**
JAR	**Ashorobuto**	**1.53**	**32**	⇑P	**Pn**	**17 39 51.9**	**+0.6**
JTM	**Tenmabayashi**	**1.71**	**225**	⇓P	**Pn**	**17 39 54.5**	**+0.7**
JYM2	**Yakumo 2**	**1.71**	**274**	⇓P	**Pn**	**17 39 54.4**	**+0.6**
JSR	**Shiriuchi**	**1.75**	**255**	⇓P	**Pn**	**17 39 54.7**	**+0.4**
JANG	**Nango**	**1.85**	**208**	⇓P	**Pn**	**17 39 56.0**	**+0.3**
JKK2	**Kamakawa 2**	**1.87**	**2**	⇓P	**Pn**	**17 39 57.5**	**+1.5**
JHR	**Hokuryu**	**1.87**	**339**	⇓P	**Pn**	**17 39 58.2**	**+2.2**
JSI2	**Shiura 2**	**1.94**	**241**	⇓P	**Pn**	**17 39 58.0**	**+1.1**
JSH	**Shimam**	**2.04**	**289**	⇓P	**Pn**	**17 39 59.3**	**+1.0**
JSK	**Shakotan**	**2.10**	**311**	⇓P	**Pn**	**17 40 00.2**	**+1.1**
ASAJ	**Asahikawa**	**2.11**	**359**	P	**Pn**	**17 40 01.1**	**+1.9**
	425nm,0.3s,baz=209,slow=13,SNR=587						
ASAJ				S	**Sn**	**17 40 27.1**	**+2.8**
	459nm,0.3s,baz=336,slow=30,SNR=16						
JTKR	**Abashiri--Toko**	**2.17**	**25**	⇓P	**Pn**	**17 40 01.2**	**+1.2**
JNK	**Nakash**	**2.19**	**43**	⇓P	**Pn**	**17 40 00.2**	**-0.1**
JKZ	**Kuzumaki**	**2.26**	**207**	⇑P	**Pn**	**17 40 02.0**	**+0.7**
JAH	**Hinai**	**2.38**	**221**	⇑P	**Pn**	**17 40 04.2**	**+1.3**
JOSM	**Okushiri--Mats**	**2.38**	**273**	⇓P	**Pn**	**17 40 03.4**	**+0.5**
MIYJ	**Miyakonagasawa**	**2.51**	**195**	⇓P	**Pn**	**17 40 04.2**	**-0.6**
JOM	**Ohasama**	**2.74**	**203**	⇑P	**Pn**	**17 40 08.3**	**+0.4**
JYW	**Yuwa**	**3.09**	**218**	⇑P	**Pn**	**17 40 14.4**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**3.10**	**48**	*d* iPN	**Pn**	**17 40 13.1**	**+0.3**
YUK				*i* S	**Sn**	**17 40 47.5**	**-1.1**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=E,1μm,0.7s						
YUK				pmax	pmax		
	comp=N,668nm,0.2s						
YUK				smax	smax		
	comp=N,5μm,0.5s						
YUK				smax	smax		
	comp=E,12μm,0.5s						
JMK	**Ichinoseki**	**3.24**	**200**	P	**Pn**	**17 40 15.2**	**+0.4**
SHO	**Shikotan**	**3.58**	**57**	*d* iPN	**Pn**	**17 40 18.1**	**-1.3**
SHO				pmax	pmax		
	comp=Z,896nm,0.6s						
SHO				pmax	pmax		
	comp=E,597nm,0.5s						
SHO				pmax	pmax		
	comp=N,204nm,0.2s						
JYA	**Atsumi**	**4.09**	**214**	⇑P	**Pn**	**17 40 27.9**	**+1.5**
JAW	**Awa shima**	**4.40**	**218**	P	**Pn**	**17 40 32.3**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.95**	**1**	*c* iPN	**Pn**	**17 40 40.7**	**+2.6**
YSS				*e*S	**Sn**	**17 41 37.1**	**+3.1**
YSS				pmax	pmax		
	comp=Z,2μm,3.0s						
YSS				pmax	pmax		
	comp=Z,460nm,0.9s						
YSS				smax	smax		
	comp=N,3μm,3.0s						
YSS				smax	smax		
	comp=E,390nm,1.1s						
YSS				MLR	MLR		
	comp=Z,4μm,12.0s						
YSS	**Yuzh-Sakhalins**	**4.95**	**1**	*e*Pn	**Pn**	**17 40 40.1**	**+2.0**
KUR	**Kuril'sk**	**4.97**	**48**	*d* iPN	**Pn**	**17 40 39.7**	**+1.3**
KUR				*i* S	**Sn**	**17 41 36.4**	**+1.9**
KUR				pmax	pmax		
	comp=Z,1μm,3.8s						
KUR				pmax	pmax		
	comp=N,132nm,0.6s						
KUR				pmax	pmax		
	comp=Z,337nm,0.6s						
KUR				smax	smax		
	comp=N,462nm,0.6s						
KUR				smax	smax		
	comp=E,379nm,0.6s						
KUR				smax	smax		
	comp=N,6μm,7.8s						
KUR				smax	smax		
	comp=E,4μm,7.8s						
JSD	**Sado**	**5.21**	**222**	P	**Pn**	**17 40 43.6**	**+1.9**
JIZZ	**Izumozaki**	**5.41**	**216**	P	**Pn**	**17 40 46.7**	**+2.2**
JSB	**Shiboa**	**5.46**	**204**	P	**Pn**	**17 40 46.4**	**+1.2**
JHK	**Hiroka**	**5.52**	**212**	P	**Pn**	**17 40 47.1**	**+1.1**
JHG	**Hegura jima**	**6.06**	**229**	⇑P	**Pn**	**17 40 55.8**	**+2.4**
JAG	**Ashikaga**	**6.10**	**205**	P	**Pn**	**17 40 54.1**	**+0.1**
JSZ	**Suzu**	**6.12**	**224**	P	**Pn**	**17 40 56.3**	**+2.2**
JGK	**Kuni**	**6.27**	**211**	P	**Pn**	**17 40 58.3**	**+2.0**
MJB9	**Matsu-Tunnel**	**6.46**	**214**	*e*Pn	**Pn**	**17 41 00.1**	**+1.2**
MAJO	**Matsushiro**	**6.46**	**214**	*e*PN	**Pn**	**17 41 00.1**	**+1.2**
MAJO	**Matsushiro**	**6.46**	**214**	*e*Pn	**Pn**	**17 41 00.1**	**+1.2**
MAT	**Matsushiro**	**6.46**	**214**	P	**Pn**	**17 41 00.0**	**+1.1**
MAT				*e*S	**Sn**	**17 42 13.0**	**+1.8**
MJAR	**Matsushiro Arr**	**6.46**	**214**	P	**Pn**	**17 41 00.3**	**+1.4**
	comp=E,7.6nm,0.3s,baz=33,slow=12,SNR=84						
MJAR				LR	LR	17 44 03.0	
	comp=E,3μm,20.9s,baz=30,slow=43						
JRY	**Ryogami san**	**6.66**	**207**	P	**Pn**	**17 41 02.4**	**+0.7**
JTT	**Ttatey**	**6.79**	**219**	P	**Pn**	**17 41 06.1**	**+2.6**
JJH	**Hakui**	**6.81**	**224**	P	**Pn**	**17 41 06.5**	**+2.8**
UGL	**Uglegorsk**	**7.08**	**357**	*e*PN	**Pn**	**17 41 05.2**	**-2.2**
BSO4	**Boso 4**	**7.24**	**195**	S	**Sn**	**17 42 29.8**	**-0.4**
INU	**Inuyama**	**7.98**	**215**	*e*Pn	**Pn**	**17 41 21.3**	**+1.6**
USRK	**Ussuriysk Ar.**	**8.11**	**289**	P	**Pn**	**17 41 23.8**	**+2.3**
	comp=E,6.5nm,0.3s,baz=96,slow=13,SNR=153						
USRK				LR	LR	17 44 36.0	
	comp=E,5μm,21.9s,baz=149,slow=38						
HABR	**Khabarovsk**	**8.40**	**323**	*ce*PN	**Pn**	**17 41 23.5**	**-1.9**
HABR				pmax	pmax		
	comp=Z,151nm,1.9s						
HABR				pmax	pmax		
	comp=E,98nm,1.9s						
HABR				pmax	pmax		
	comp=N,79nm,1.9s						
HABR				MLR	MLR		
	comp=Z,8μm,18.0s						
MSHR	**Mys Shultsa**	**8.55**	**278**	*e*PN	**Pn**	**17 41 28.0**	**+0.5**
TYV	**Tymovskoe**	**8.86**	**360**	*e*PN	**Pn**	**17 41 33.8**	**+2.1**
TYV				pmax	pmax		
	comp=Z,2μm,6.0s						
TYV				pmax	pmax		
	comp=E,99nm,0.8s						
TYV				pmax	pmax		
	comp=Z,156nm,0.8s						
TYV				MLR	MLR		
	comp=N,4μm,14.0s						
TYV				MLR	MLR		
	comp=Z,4μm,17.0s						
JHJ	**Hachijo jima 2**	**9.16**	**195**	P	**Pn**	**17 41 34.3**	**-1.6**
	comp=Z,95nm,0.3s,baz=94,slow=17,SNR=20						
JHJ				S	**Sn**	**17 43 09.6**	**-7.9**
	comp=Z,308nm,0.3s,baz=97,slow=21,SNR=11						
JHJ2	**Mitsune**	**9.16**	**195**	*e*Pn	**Pn**	**17 41 33.1**	**-2.8**
MDJ	**Mudanjiang**	**9.88**	**290**	P	**Pn**	**17 41 48.3**	**+2.6**
MDJ				S	**Sn**	**17 43 39.4**	**+4.4**
MDJ				PcP	**PcP**	**17 47 56.8**	**+2.2**
MDJ				ScP	**ScP**	**17 51 26.3**	**+4.1**
MDJ				ScS	**ScS**	**17 54 55.9**	**-0.8**
MDJ				PMZ			
	comp=Z,210nm,1.0s						
MDJ				PMZ			
	comp=Z,460nm,4.0s						
MDJ				LN			
	comp=Z,2μm,12.7s						
MDJ				LE			
	comp=Z,4μm,21.2s						
MDJ				LZ			
	comp=Z,7μm,20.5s						
MDJ	**Mudanjiang**	**9.88**	**290**	*e*Pn	**Pn**	**17 41 47.3**	**+1.7**
KLR	**Kul'dur**	**10.51**	**317**	P	**Pn**	**17 41 55.2**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=123,slow=13,SNR=40						
KLR				LR	LR	17 46 16.6	
	comp=Z,6μm,21.5s,baz=146,slow=39						
KLR	**Kul'dur**	**10.51**	**317**	*e*PN	**Pn**	**17 41 55.4**	**+1.2**
NKL	**Nikolayevsk**	**11.23**	**354**	*i* PN	**Pn**	**17 42 05.0**	**+1.0**
NKL				*e*S	**Sn**	**17 44 11.0**	**+3.1**
NKL				pmax	pmax		
	comp=N,2μm,6.0s						
NKL				pmax	pmax		
	comp=E,450nm,6.0s						
NKL				pmax	pmax		
	comp=Z,2μm,6.0s						
NKL				pmax	pmax		
	comp=Z,390nm,1.5s						
NKL				smax	smax		
	comp=E,1μm,10.0s						
NKL				MLR	MLR		
	comp=N,2μm,17.0s						
NKL				MLR	MLR		
	comp=E,2μm,17.0s						
NKL				MLR	MLR		
	comp=Z,4μm,17.0s						
KSRS	**Korea Array**	**12.22**	**253**	P	**Pn**	**17 42 20.1**	**+2.4**
	comp=Z,1.3nm,0.3s,baz=68,slow=12,SNR=85						
KSRS				S	**Sn**	**17 44 41.0**	**+8.7**
	comp=Z,5.3nm,0.3s,baz=68,slow=24,SNR=15						
KSRS				LR	LR	17 46 34.0	
	comp=Z,5μm,20.4s,baz=74,slow=35						
KS01	**Wonju Array Si**	**12.23**	**253**	*e*Pn	**Pn**	**17 42 17.9**	**0.0**
KS15	**Wonju Array Si**	**12.25**	**253**	*e*Pn	**Pn**	**17 42 19.3**	**+1.2**
KS15				*e*Sn	**Sn**	**17 44 40.7**	**+7.6**
KSAR	**Wonju Array Be**	**12.25**	**253**	P	**Pn**	**17 42 20.1**	**+1.9**
KSAR				S	**Sn**	**17 44 41.1**	**+7.9**
KSAR	**Wonju Array Be**	**12.25**	**253**	P	**Pn**	**17 42 20.1**	**+1.9**
KSAR				S	**Sn**	**17 44 41.0**	**+7.9**
SKR	**Severo-Kuril's**	**12.70**	**42**	*e*PN	**P**	**17 42 37.1**	**+3.3**
SKR				pmax	pmax		
	comp=Z,1μm,3.0s						
CN2	**Changchun**	**12.75**	**284**	*e*P	**Pn**	**17 42 24.9**	**0.0**
CN2				*es*P	P	17 42 40.0	+5.6
CN2				*e*S	**Sn**	**17 44 45.8**	**+0.6**
CN2				PMZ			
	comp=Z,80nm,1.0s						
CN2				PMZ			
	comp=Z,500nm,3.0s						
CN2				LN			
	comp=Z,2μm,12.0s						
CN2				LE			
	comp=Z,4μm,12.0s						
CN2				LZ			
	comp=Z,4μm,13.0s						
JNU	**Nakatsue**	**12.87**	**230**	P	**Pn**	**17 42 26.8**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=40,slow=6.4,SNR=22						
JNU	**Nakatsue**	**12.87**	**230**	*e*Pn	**Pn**	**17 42 26.2**	**-0.5**
JII	**Iki**	**13.08**	**235**	P	**Pn**	**17 42 30.9**	**+1.5**
TJN	**Taejon**	**13.12**	**250**	*c* iPN	**Pn**	**17 42 31.9**	**+1.9**
INCN	**Inchon**	**13.13**	**255**	*e*Pn	**Pn**	**17 42 31.8**	**+1.7**
JIU2	**Izumi 2**	**13.34**	**229**	P	**Pn**	**17 42 34.1**	**+1.2**
JTZ	**Takazaki**	**13.67**	**226**	P	**Pn**	**17 42 37.9**	**+0.4**
SNY	**Shenyang**	**14.21**	**276**	⇑P	**Pn**	**17 42 45.4**	**+0.7**
SNY				S	**Sn**	**17 45 18.0**	**-2.8**
SNY				PMZ			
	comp=Z,55nm,0.9s						
SNY				LN			
	comp=Z,2μm,16.7s						
SNY				LE			
	comp=Z,2μm,24.9s						
SNY				LZ			
	comp=Z,5μm,26.3s						
CBIJ	**Chichi jima**	**14.88**	**182**	*e*Pn	Pn	17 42 48.1	-5.5
PEA0	**Petropavlovsk-**	**15.01**	**37**	*e*Pn	**Pn**	**17 42 50.3**	**-4.7**
PEA0B	**Petropavlovsk-**	**15.01**	**37**	*e*Pn	**Pn**	**17 42 50.1**	**-5.0**
PETK	**Petropavlovsk-**	**15.01**	**37**	P	**Pn**	**17 42 53.7**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=216,slow=7.5,SNR=36						
PETK				LR	LR	17 48 44.8	
	comp=Z,874nm,19.0s,baz=220,slow=37						
PEA1	**Petropavlovsk-**	**15.01**	**37**	*e*Pn	**Pn**	**17 42 53.7**	**-1.4**
PET	**Petropavlovsk**	**15.39**	**39**	*e*P	**Pn**	**17 43 01.2**	**+1.2**
PET				*e*S	**Sn**	**17 45 53.8**	**+4.5**
PET				pmax	pmax		
	comp=Z,200nm,5.9s						
PET				pmax	pmax		
	comp=Z,400nm,7.9s						
PET				pmax	pmax		
	comp=Z,40nm,1.0s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET				MLR	MLR		
	comp=Z,3μm,19.0s						
DL2	**Dalian**	**16.30**	**266**	⇑*i*P	**Pn**	**17 43 11.6**	**-0.1**
DL2				S	**Sn**	**17 46 10.5**	**-1.0**
DL2				PMZ			
	comp=Z,250nm,1.1s						
DL2				PMZ			
	comp=Z,850nm,6.7s						
DL2				LN			
	comp=Z,2μm,16.3s						
DL2				LZ			
	comp=Z,3μm,21.0s						
HIA	**Hailar**	**17.55**	**302**	*e*P	**Pn**	**17 43 25.5**	**-1.7**
HIA	**Hailar**	**17.55**	**302**	*e*Pn	**Pn**	**17 43 25.5**	**-1.7**
MA2	**Magadan**	**18.30**	**13**	P	**P**	**17 43 34.5**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=214,slow=9.1,SNR=25						
MA2				LR	LR	17 51 37.3	
	comp=Z,727nm,18.5s,baz=218,slow=40						
CLNS	**Chul'man**	**18.72**	**328**	*e*P	**P**	**17 43 38.7**	**-1.8**
CLNS				*e*S	**Sn**	**17 47 04.0**	**-5.9**
CLNS				pmax	pmax		
	comp=N,87nm,1.1s						
CLNS				pmax	pmax		
	comp=E,36nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,136nm,1.0s						
CLNS				smax	smax		
	comp=E,1μm,13.7s						
CLNS				smax	smax		
	comp=N,671nm,13.7s						
CLNS				MLR	MLR		
	comp=N,2μm,14.0s						
CLNS				MLR	MLR		
	comp=Z,3μm,13.0s						
CLNS				MLR	MLR		
	comp=E,1μm,16.0s						
JOW	**Kunigami**	**19.19**	**222**	*e*P	**P**	**17 43 42.1**	**-3.7**
BJI	**Beijing**	**20.06**	**273**	P	**P**	**17 43 53.3**	**-1.8**
BJI				S	**S**	**17 47 37.3**	**-0.3**
BJI				PMZ			
	comp=E,210nm,1.3s						
BJI				PMZ			
	comp=E,780nm,3.6s						
BJI				LN			
	comp=E,3μm,15.4s						
BJI				LE			
	comp=E,3μm,20.8s						
BJI				LZ			
	comp=E,4μm,31.5s						
BJT	**Baijiatuan**	**20.07**	**273**	*e*P	**P**	**17 43 52.4**	**-2.9**
BJT	**Baijiatuan**	**20.07**	**273**	*e*P	**P**	**17 43 52.4**	**-2.9**
SSE	**Sheshan**	**20.35**	**245**	P	**P**	**17 43 56.9**	**-1.4**
SSE				pP	**pP**	**17 44 06.5**	**-3.7**
SSE				S	**S**	**17 47 44.6**	**+1.2**
SSE				sS	**sS**	**17 48 00.4**	**-2.3**
SSE				PMZ			
	comp=E,36nm,0.7s						
SSE				PMZ			
	comp=E,260nm,3.5s						
SSE				LN			
	comp=E,2μm,19.7s						
SSE				LE			
	comp=E,1μm,19.7s						
SSE				LZ			
	comp=E,2μm,21.0s						
TIA	**Tai'an**	**20.61**	**262**	⇑P	**P**	**17 43 59.1**	**-2.0**
TIA				pP	**pP**	**17 44 15.4**	**+2.3**
TIA				S	**S**	**17 47 38.5**	**-10**
TIA				PMZ			
	comp=E,180nm,1.0s						
TIA				PMZ			
	comp=E,850nm,3.5s						
TIA				LN			
	comp=E,1μm,13.5s						
TIA				LE			
	comp=E,2μm,20.1s						
TIA				LZ			
	comp=E,3μm,21.5s						
NJ2	**Nanjing**	**21.39**	**250**	*e*P	**P**	**17 44 04.6**	**-4.9**
NJ2				PMZ			
	comp=E,28nm,1.0s						
NJ2				LN			
	comp=E,4μm,16.3s						
NJ2				LE			
	comp=E,4μm,19.0s						
NJ2				LZ			
	comp=E,3μm,22.2s						
YAK	**Yakutsk**	**21.51**	**343**	P	**P**	**17 44 06.7**	**-3.8**
	comp=E,41nm,0.4s,baz=139,slow=3.0,SNR=44						
YAK				S	**S**	**17 48 01.3**	**-4.6**
	comp=E,16nm,0.6s,baz=144,slow=24,SNR=6.0						
YAK				LR	LR	17 53 04.1	
	comp=E,1μm,19.6s,baz=158,slow=38						
YAK	**Yakutsk**	**21.51**	**343**	*c* iP	**P**	**17 44 06.6**	**-3.9**
YAK				*e*		17 44 26.5	
YAK				*e*S	**S**	**17 47 57.3**	**-8.6**
YAK				*e*		17 48 08.2	
YAK				*e**SS	Sn	17 48 18.1	+1.6
YAK				*e*		17 55 24.5	
YAK				pmax	pmax		
	comp=Z,58nm,0.9s						
YAK				pmax	pmax		
	comp=N,34nm,1.0s						
YAK				smax	smax		
	comp=N,2μm,3.4s						
YAK				smax	smax		
	comp=E,1μm,2.5s						
YAK	**Yakutsk**	**21.51**	**343**	*e*P	**P**	**17 44 06.3**	**-4.2**
YAK				*e*S	**S**	**17 48 00.4**	**-5.4**
SEY	**Seymchan**	**21.73**	**12**	P	**P**	**17 44 09.9**	**-3.0**
	comp=E,108nm,0.9s,baz=191,slow=5.7,SNR=229						
SEY				S	**S**	**17 48 05.0**	**-5.3**
	comp=E,12nm,1.0s,baz=51,slow=21,SNR=18						
SEY	**Seymchan**	**21.73**	**12**	*c* iP	**P**	**17 44 10.3**	**-2.6**
CIT	**Chita**	**22.09**	**307**	*e*P	**P**	**17 44 13.6**	**-3.4**
CIT				*e*		17 44 33.0	
CIT				*e*		17 45 01.6	
CIT				*e*S	**S**	**17 48 14.9**	**-2.5**
CIT				pmax	pmax		
	comp=Z,118nm,2.2s						
HHC	**Hu-ho-hao-te**	**23.29**	**278**	*e*P	**P**	**17 44 26.8**	**-2.8**
HHC				sP	pP	17 44 43.5	+1.5
HHC				PP	**PnPn**	**17 44 56.1**	**-1.1**
HHC				S	**S**	**17 48 33.5**	**-4.5**
HHC				sS	Sn	17 48 54.3	-5.3
HHC				PMZ			
	comp=Z,30nm,0.9s						
HHC				PMZ			
	comp=Z,330nm,5.5s						
HHC				LN			
	comp=Z,2μm,16.7s						
HHC				LE			
	comp=Z,2μm,18.2s						
HHC				LZ			
	comp=Z,2μm,18.0s						
TIY	**Taiyuan**	**23.53**	**270**	*e*P	**P**	**17 44 30.9**	**-1.0**
TIY				S	**S**	**17 48 34.3**	**-7.7**
TIY				sS	**sS**	**17 49 01.9**	**-2.4**
TIY				LN			
	comp=Z,330nm,4.5s						
TIY				LE			
	comp=Z,950nm,13.6s						
TIY				LZ			
	comp=Z,2μm,20.3s						
SMY	**Shemya**	**23.65**	**52**	*e*P	**P**	**17 44 33.9**	**+1.1**
SMY	**Shemya**	**23.65**	**52**	*e*P	**P**	**17 44 33.9**	**+1.1**
BOD	**Bodaibo**	**24.05**	**321**	*e*P	**P**	**17 44 32.6**	**-3.7**
BOD				pmax	pmax		
	comp=Z,35nm,1.0s						
TATO	**Taipei**	**24.40**	**233**	*e*P	**P**	**17 44 37.8**	**-2.0**
BTO	**Baotou**	**24.48**	**278**	*e*P	**P**	**17 44 37.8**	**-2.8**
YHNB	**Yeheng**	**24.69**	**232**	*e*P	**P**	**17 44 40.0**	**-2.6**
WHN	**Wuhan**	**25.42**	**252**	⇑P	**P**	**17 44 47.5**	**-1.5**
WHN				S	**S**	**17 49 11.8**	**-0.2**
WHN				PMZ			
	comp=Z,160nm,1.3s						
WHN				LN			
	comp=Z,5μm,19.3s						
WHN				LE			
	comp=Z,7μm,20.3s						
WHN				LZ			
	comp=Z,6μm,18.3s						
SSLB	**Suanglung**	**25.61**	**232**	*e*P	**P**	**17 44 50.0**	**-0.9**
ULN	**Ulaanbaatar**	**25.72**	**295**	*c* iP	**P**	**17 44 50.6**	**-1.2**
ULN				pmax	pmax		
	comp=Z,27nm,0.8s						
ULN	**Ulaanbaatar**	**25.72**	**295**	P	**P**	**17 44 51.3**	**-0.6**
	SNR=45						
ULN	**Ulaanbaatar**	**25.72**	**295**	*e*P	**P**	**17 44 51.0**	**-0.8**
ULN				LR	LR		
	comp=Z,3μm,20.0s						
YULB	**Yu-li**	**25.72**	**230**	*e*P	**P**	**17 44 50.0**	**-1.9**
SONA1	**Songino Array**	**26.16**	**295**	*e*P	**P**	**17 44 54.4**	**-1.4**
SONA0	**Songino Array**	**26.16**	**295**	*e*P	**P**	**17 44 55.4**	**-0.4**
SONM	**Songino Array**	**26.16**	**295**	P	**P**	**17 44 55.4**	**-0.4**
	comp=E,68nm,1.0s,baz=86,slow=8.9,SNR=266						
SONM				LR	LR	17 55 51.1	
	comp=E,3μm,20.9s,baz=96,slow=38						
TPUB	**Ta-pu**	**26.18**	**231**	*e*P	**P**	**17 44 53.8**	**-2.2**
QZH	**Quanzhou**	**26.18**	**237**	⇑*i*P	P	17 44 48.8	-7.2
QZH				sP	pP	17 45 06.6	-2.7
QZH				S	**S**	**17 49 16.4**	**-7.8**
QZH				pmax	pmax		
	comp=Z,210nm,1.0s						
QZH				LR	LR		
	comp=Z,3μm,21.9s						
TWG	**Pinlang**	**26.30**	**230**	*e*P	**P**	**17 44 56.0**	**-1.0**
XAN	**Xi'an**	**27.61**	**264**	P	**P**	**17 45 09.0**	**+0.2**
XAN				pP	pP	17 45 18.3	-3.9
XAN				S	**S**	**17 49 52.8**	**+6.1**
XAN				PMZ			
	comp=Z,90nm,1.4s						
XAN				PMZ			
	comp=Z,230nm,5.0s						
XAN				LN			
	comp=Z,710nm,20.4s						
XAN				LE			
	comp=Z,1μm,20.4s						
XAN				LZ			
	comp=Z,1μm,21.4s						
IRK	**Irkutsk**	**27.75**	**305**	*e*P	**P**	**17 45 09.1**	**-0.8**
IRK				*e*		17 45 22.8	
IRK				*e*S	**S**	**17 49 44.0**	**-4.6**
IRK				pmax	pmax		
	comp=Z,274nm,2.7s						
TLY	**Talaya**	**28.08**	**304**	P	**P**	**17 45 13.1**	**+0.3**
	comp=Z,54nm,0.9s,baz=102,slow=6.2,SNR=100						
TLY				PcP	**PcP**	**17 48 26.2**	**+0.2**
	comp=Z,7.5nm,0.7s,baz=98,slow=2.9,SNR=4.0						
TLY	**Talaya**	**28.08**	**304**	*c* iP	**P**	**17 45 12.8**	**-0.1**
TLY				*e*S	**S**	**17 49 54.5**	**+0.6**
TLY				*e*		17 50 14.1	
TLY				pmax	pmax		
	comp=Z,126nm,1.1s						
TLY				MLR	MLR		
	comp=Z,2μm,16.0s						
TLY	**Talaya**	**28.08**	**304**	*e*P	**P**	**17 45 12.2**	**-0.6**
TLY				*e*PcP	**PcP**	**17 48 26.2**	**+0.2**
TLY				LR	LR		
	comp=Z,3μm,20.0s						
ZAK	**Zakamensk**	**28.24**	**301**	*e*P	**P**	**17 45 13.4**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,50nm,1.4s						
GUMO	**Guam**	**28.38**	**175**	PFAKE		17 45 30.0

	comp=Z,1μm,22.0s							
ENH	**Enshi**	**29.06**	**257**	*e*P		**P**	**17 45 19.6**	**-2.2**
ENH				LR		LR		
	comp=Z,2μm,21.0s							
GSTR	**Great Sitkin T**	**29.51**	**56**	*e*P		**P**	**17 45 25.0**	**-0.5**
MOY	**Mondy**	**29.73**	**303**	*e*P		**P**	**17 45 28.0**	**+0.4**
MOY				pmax	pmax			
	comp=Z,258nm,2.6s							
H11N2	**WAKE ISLAND Hy**	**30.24**	**130**	T		T	18 17 06.2	
	baz=323,slow=75,SNR=1431							
H11N1	**WAKE ISLAND Hy**	**30.25**	**130**	T		T	18 16 56.1	
	baz=323,slow=75,SNR=2677							
H11N3	**WAKE ISLAND Hy**	**30.25**	**130**	T		T	18 16 56.6	
	baz=323,slow=75,SNR=1031							
TIXI	**Tiksi**	**30.50**	**351**	P		**P**	**17 45 30.5**	**-3.4**
	comp=Z,12nm,1.0s,baz=139,slow=9.3,SNR=15							
TIXI				PcP		**PcP**	**17 48 31.8**	**+0.1**
	comp=Z,11nm,1.1s,baz=123,slow=3.2,SNR=3.4							
TIXI	**Tiksi**	**30.50**	**351**	*c i*P		**P**	**17 45 30.2**	**-3.7**
TIXI				pmax	pmax			
	comp=Z,17nm,1.1s							
TIXI	**Tiksi**	**30.50**	**351**	*e*P		**P**	**17 45 30.3**	**-3.6**
TIXI				*e*PcP		**PcP**	**17 48 31.9**	**+0.1**
TIXI				LR	LR			
	comp=Z,470nm,22.0s							
LZH	**Lanzhou**	**30.53**	**272**	*e*P		**P**	**17 45 34.3**	**-0.6**
LZH				pP	pP		17 45 45.4	-2.9
LZH				sP	sP		17 45 50.8	-3.7
LZH				PP		**PnPn**	**17 46 37.8**	**+2.4**
LZH				*e*S		**S**	**17 50 34.0**	**+1.1**
LZH				sS	sS		17 50 47.4	-8.2
LZH				PMZ				
	comp=Z,210nm,1.6s							
LZH				PMZ				
	comp=Z,460nm,5.0s							
LZH				LN				
	comp=Z,2μm,15.5s							
LZH				LE				
	comp=Z,2μm,13.0s							
LZH				LZ				
	comp=Z,4μm,15.9s							
H11S1	**WAKE ISLAND Hy**	**31.10**	**132**	T		T	18 18 00.8	
	baz=325,slow=76,SNR=1754							
H11S3	**WAKE ISLAND Hy**	**31.10**	**132**	T		T	18 18 01.0	
	baz=325,slow=76,SNR=1869							
H11S2	**WAKE ISLAND Hy**	**31.12**	**132**	T		T	18 18 15.2	
	baz=325,slow=76,SNR=2006							
GTA	**Gaotai**	**32.34**	**280**	P		**P**	**17 45 50.0**	**-0.7**
GTA				pP	pP		17 46 01.0	-3.2
GTA				sP	sP		17 46 06.0	-4.4
GTA				PcP		**PcP**	**17 48 38.3**	**+0.8**
GTA				S		**S**	**17 51 00.0**	**-1.0**
GTA				sS	sS		17 51 20.3	-3.4
GTA				ScP		**ScP**	**17 52 15.9**	**-0.7**
GTA				PcS		**PcS**	**17 52 22.8**	**+0.3**
GTA				SS		**SnSn**	**17 52 57.9**	**+1.0**
GTA				ScS		**ScS**	**17 56 14.9**	**-1.0**
GTA				PMZ				
	comp=Z,380nm,5.4s							
GTA				LN				
	comp=Z,1μm,17.1s							
GTA				LE				
	comp=Z,1μm,20.2s							
GTA				LZ				
	comp=Z,2μm,20.9s							
CD2	**Chengdu**	**32.93**	**263**	P		**P**	**17 45 54.9**	**-1.0**
CD2				pP	pP		17 46 06.4	-3.0
CD2				sP	sP		17 46 12.0	-3.6
CD2				S		**S**	**17 51 09.6**	**-0.6**
CD2				sS	sS		17 51 30.1	-2.9
CD2				PMZ				
	comp=Z,30nm,0.5s							
CD2				PMZ				
	comp=Z,320nm,5.2s							
CD2				LN				
	comp=Z,1μm,18.6s							
CD2				LE				
	comp=Z,1μm,17.6s							
CD2				LZ				
	comp=Z,1μm,22.5s							
GYA	**Guiyang**	**33.28**	**254⇑**	*i*P		**P**	**17 45 58.5**	**-0.5**
GYA				pP	pP		17 46 12.4	-0.1
GYA				PP		**PnPn**	**17 47 12.3**	**+1.5**
GYA				PcP		**PcP**	**17 48 41.6**	**+1.3**
GYA				S		**S**	**17 51 13.0**	**-2.8**
GYA				sS	sS		17 51 37.5	-1.1
GYA				ScP		**ScP**	**17 52 22.0**	**+2.0**
GYA				SS		**SnSn**	**17 53 19.8**	**-0.2**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,140nm,5.9s							
GYA				LN				
	comp=Z,2μm,15.5s							
GYA				LE				
	comp=Z,1μm,18.0s							
GYA				LZ				
	comp=Z,1μm,16.4s							
KRAR	**Krasnoyarsk**	**34.73**	**311**	*c i*P		**P**	**17 46 10.9**	**-0.2**
QIZ	**Qiongzhong**	**36.04**	**241**	P		**P**	**17 46 23.8**	**+1.1**
QIZ				S		**S**	**17 51 59.8**	**+1.7**
QIZ				ScP		**ScP**	**17 52 32.0**	**+2.2**
QIZ				PMZ				
	comp=Z,68nm,1.8s							
QIZ				PMZ				
	comp=Z,530nm,3.5s							
QIZ				LN				
	comp=Z,1μm,17.9s							
QIZ				LZ				
	comp=Z,860nm,20.7s							
QIZ	**Qiongzhong**	**36.04**	**241**	PFAKE			17 46 30.0	+7.3
QIZ				LR	LR			
	comp=Z,771nm,20.0s							
KMI	**Kunming**	**36.90**	**256**	P		**P**	**17 46 30.6**	**+0.3**
KMI				PcP		**PcP**	**17 48 51.8**	**+0.8**
KMI				S		**S**	**17 52 10.0**	**-1.7**
KMI				sS	sS		17 52 35.9	+1.3
KMI				SS		**SnSn**	**17 54 46.8**	**-1.1**
KMI				PMZ				
	comp=Z,110nm,1.3s							
KMI				PMZ				
	comp=Z,740nm,3.1s							
KMI				LN				
	comp=Z,1μm,16.2s							
KMI				LE				
	comp=Z,950nm,17.5s							
KMI				LZ				
	comp=Z,1μm,20.9s							
DAV	**Davao City (W)**	**37.95**	**208**	PFAKE			17 46 50.0	+11
DAV				LR	LR			
	comp=Z,1μm,20.0s							
NRIK	**Noril'sk**	**39.23**	**333**	P		**P**	**17 46 47.6**	**-1.5**
	comp=Z,39nm,1.0s,baz=111,slow=9.3,SNR=34							
NRIK				PcP		**PcP**	**17 48 57.4**	**+0.3**
	comp=Z,12nm,0.7s,baz=98,slow=2.2,SNR=3.7							
NRIK				LR	LR		18 03 59.1	
	comp=Z,3μm,21.5s,baz=104,slow=38							
ZAA0	**Zalesovo Array**	**39.44**	**308**	*e*P		**P**	**17 46 50.3**	**-0.8**
ZAA1	**Zalesovo Array**	**39.44**	**308**	*e*P		**P**	**17 46 50.9**	**-0.2**
ZAA1				*e*PcP		**PcP**	**17 48 58.3**	**+0.3**
ZAA1				*e*ScP		**ScP**	**17 52 42.1**	**0.0**
ZALV	**Zalesovo Beam**	**39.44**	**308**	P		**P**	**17 46 50.9**	**-0.2**
	comp=Z,220nm,0.9s,baz=86,slow=6.7,SNR=439							
ZALV				PcP		**PcP**	**17 48 58.3**	**+0.3**
	comp=Z,16nm,0.7s,baz=88,slow=3.4,SNR=4.0							
ZALV				ScP		**ScP**	**17 52 42.1**	**0.0**
	comp=Z,5.6nm,0.8s,baz=56,slow=2.7,SNR=5.4							
ZALV				LR	LR		18 04 22.7	
	comp=Z,2μm,18.3s,baz=70,slow=38							
WMQ	**Urumqi**	**39.67**	**292**	P		**P**	**17 46 53.6**	**+0.4**
WMQ				pP	pP		17 47 05.9	-1.1
WMQ				sP	sP		17 47 11.3	-1.8
WMQ				PcP		**PcP**	**17 49 00.0**	**+0.9**
WMQ				S		**S**	**17 52 53.3**	**+0.5**
WMQ				SS		**SS**	**17 55 42.8**	**-6.7**
WMQ				PMZ				
	comp=Z,89nm,1.0s							
WMQ				PMZ				
	comp=Z,450nm,3.6s							
WMQ				LN				
	comp=Z,440nm,17.6s							
WMQ				LE				
	comp=Z,1μm,14.6s							
WMQ				LZ				
	comp=Z,1μm,21.2s							
CHGN	**Chignik**	**39.83**	**48**	*e*P		**P**	**17 46 54.2**	**0.0**
NVS	**Novosibirsk**	**40.26**	**310**	*i*P		**P**	**17 46 58.4**	**+0.6**
NVS				*e*S		S	17 52 50.5	-11
NVS				pmax	pmax			
	comp=N,16nm,0.9s							
NVS				pmax	pmax			
	comp=E,89nm,0.9s							
NVS				pmax	pmax			
	comp=Z,124nm,0.9s							
NVS				smax	smax			
	comp=N,13nm,1.4s							
NVS				smax	smax			
	comp=E,20nm,1.4s							
TT01	**Tatalina**	**40.84**	**38**	*e*P		**P**	**17 47 02.5**	**-0.1**
TTA	**Tatalina**	**40.85**	**38**	*e*P		**P**	**17 47 03.0**	**+0.3**
TTA				pmax	pmax			
	comp=Z,48nm,1.6s							
TTA	**Tatalina**	**40.85**	**38**	*e*P		**P**	**17 47 03.0**	**+0.3**
SVW2	**Sparrevohn**	**41.05**	**41**	*e*P		**P**	**17 47 02.4**	**-2.0**
NONG	**Nongkai**	**41.20**	**247**	P		**P**	**17 47 06.9**	**+0.9**
	comp=Z,134nm,1.1s							
SKNT	**Sakolnakorn**	**41.39**	**245**	P		**P**	**17 47 08.3**	**+0.7**
	comp=Z,132nm,1.0s							
RSO	**Redoubt South**	**42.47**	**42**	*e*P		**P**	**17 47 15.8**	**-0.4**
MK31	**Makanchi Array**	**42.47**	**298**	*i*P		**P**	**17 47 15.7**	**-0.5**
MK31				pmax	pmax			
	comp=Z,147nm,1.0s							
MK31	**Makanchi Array**	**42.47**	**298**	*e*P		**P**	**17 47 15.5**	**-0.6**
MK32	**Makanchi Array**	**42.47**	**298**	*e*P		**P**	**17 47 15.9**	**-0.2**
MKAR	**Makanchi Array**	**42.47**	**298**	P		**P**	**17 47 15.9**	**-0.2**
	comp=Z,99nm,0.9s,baz=80,slow=8.7,SNR=496							
MKAR				LR		LR	18 06 17.7	
	comp=Z,954nm,19.3s,baz=94,slow=38							
MKAR	**Makanchi Array**	**42.47**	**298**	P		**P**	**17 47 16.0**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,99nm,0.9s							
MKAR				MLR	MLR			
	comp=Z,955nm,19.3s							
MKAR	**Makanchi Array**	**42.47**	**298**	*e*P		**P**	**17 47 15.6**	**-0.6**
MK01	**Makanchi Array**	**42.47**	**298**	*e*P		**P**	**17 47 15.3**	**-0.9**
MYLDM	**Lahad Datu**	**42.52**	**217**	*e*P		**P**	**17 47 17.5**	**+0.7**
OHAK	**Old Harbor**	**42.53**	**46**	*e*P		**P**	**17 47 15.1**	**-1.4**
PPLA	**Purkeypile**	**42.60**	**38**	*e*P		**P**	**17 47 17.5**	**+0.4**
KHON	**Khomkaen**	**42.62**	**245**	P		**P**	**17 47 18.2**	**+0.6**
	comp=Z,104nm,0.8s,comp=Z,864nm							
CAST	**Castle Rocks**	**42.63**	**37**	*e*P		**P**	**17 47 17.7**	**+0.5**
MAKZ	**Makanchi**	**42.68**	**298**	P		**P**	**17 47 17.6**	**-0.2**
MAKZ				pmax	pmax			
	comp=Z,228nm,1.2s							
MAKZ	**Makanchi**	**42.68**	**298**	*e*P		**P**	**17 47 17.4**	**-0.4**
SDKM	**Sandakan**	**42.71**	**219**	⇑P		**P**	**17 47 19.2**	**+0.8**
SPU	**Mount Spurr**	**42.76**	**40**	*e*P		**P**	**17 47 18.5**	**+0.2**
KKM	**Kota Kinabalu**	**42.83**	**221**	⇑P		**P**	**17 47 19.8**	**+0.4**
KKM	**Kota Kinabalu**	**42.83**	**221**	*e*P		**P**	**17 47 18.6**	**-0.8**
KKM				LR	LR			
	comp=Z,486nm,19.0s							
KDAK	**Kodiak Island**	**42.84**	**45**	*i*P		**P**	**17 47 18.5**	**-0.4**
KDAK	**Kodiak Island**	**42.84**	**45**	*e*P		**P**	**17 47 17.9**	**-1.0**
KDAK				LR	LR			
	comp=Z,984nm,22.0s							
LOEI	**Loei**	**42.87**	**248**	P		**P**	**17 47 17.6**	**-2.1**
	comp=Z,108nm,1.0s,comp=Z,8μm							
LSA	**Lhasa**	**42.93**	**271**	*e*P		**P**	**17 47 21.5**	**+0.9**
LSA				MLR	MLR			
	comp=Z,1μm,20.0s							
LSA	**Lhasa**	**42.93**	**271**	*e*P		**P**	**17 47 21.5**	**+0.9**
LSA				LR	LR			
	comp=Z,1μm,20.0s							
BPAW	**Bear Paw Mtn.**	**43.09**	**36**	*e*P		**P**	**17 47 20.7**	**-0.2**
HOM	**Homer**	**43.10**	**43**	*e*P		**P**	**17 47 21.8**	**+0.8**
KTH	**Kantishna Hill**	**43.14**	**37**	*e*P		**P**	**17 47 20.7**	**-0.7**
KTH				*e*S		**S**	**17 53 46.6**	**+2.8**
MLY	**Manley**	**43.17**	**35**	*e*P		**P**	**17 47 21.5**	**-0.1**
UTTA	**Uttaradit**	**43.20**	**249**	P		**P**	**17 47 22.8**	**+0.5**
	comp=Z,43nm,0.9s,comp=Z,295nm							
CNPM	**China Poot**	**43.32**	**43**	*e*P		**P**	**17 47 21.0**	**-1.9**
LAMP	**Lampang**	**43.33**	**251**	P		**P**	**17 47 24.1**	**+0.8**
	comp=Z,38nm,0.9s,comp=Z,300nm							
SUA	**Susitna One**	**43.37**	**40**	*e*P		**P**	**17 47 20.0**	**-3.3**
COLD	**Coldfoot**	**43.38**	**31**	*e*P		**P**	**17 47 22.3**	**-0.8**
COLD				*e*S		**S**	**17 53 50.8**	**+3.8**
TRF	**Thorofare Moun**	**43.43**	**37**	*e*P		**P**	**17 47 21.3**	**-2.6**
TRF				*e*S		**S**	**17 53 52.1**	**+3.9**
BRLK	**Bradley Lake**	**43.47**	**42**	*e*P		**P**	**17 47 23.8**	**-0.2**
TSM	**Tawau**	**43.59**	**217**	⇑P		**P**	**17 47 26.5**	**+1.1**
CHTO	**Chiang Mai**	**43.62**	**252**	P		**P**	**17 47 26.0**	**+0.3**
	comp=Z,457nm,1.3s,comp=Z,6μm							
CHTO	**Chiang Mai**	**43.62**	**252**	*e*P		**P**	**17 47 26.0**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,74nm,1.0s							
CHTO	**Chiang Mai**	**43.62**	**252**	P		**P**	**17 47 26.3**	**+0.6**
	SNR=16							
CHTO	**Chiang Mai**	**43.62**	**252**	P		**P**	**17 47 26.3**	**+0.6**
	SNR=16							
CHTO	**Chiang Mai**	**43.62**	**252**	*e*P		**P**	**17 47 26.0**	**+0.3**
CHTO				LR	LR			
	comp=Z,1μm,20.0s							
PBKT	**Sadao Pong**	**43.72**	**247**	P		**P**	**17 47 26.9**	**+0.4**
	comp=Z,83nm,1.1s,comp=Z,1μm							
BWN	**Browne**	**43.75**	**36**	*e*P		**P**	**17 47 26.8**	**+0.5**
KURK	**Kurchatov**	**43.78**	**304**	P		**P**	**17 47 27.6**	**+1.0**
KURK				*PP		**sP**	**17 47 43.8**	**-2.8**
KURK				S		**S**	**17 54 00.9**	**+7.8**
KURK				pmax	pmax			
	comp=Z,103nm,0.7s							
KURK				smax	smax			
	comp=N,9.0nm,1.3s							
KURK	**Kurchatov**	**43.78**	**304**	*e*P		**P**	**17 47 26.2**	**-0.4**
KURK				*e*pP		**sP**	**17 47 43.8**	**-2.8**
KURK				LR	LR			
	comp=Z,2μm,20.0s							
CM31	**Chiang Mai Arr**	**43.85**	**251**	*e*P		**P**	**17 47 28.0**	**+0.4**
CM31				*e*PcP		**PcP**	**17 49 13.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**43.85**	**251**	P		**P**	**17 47 28.3**	**+0.7**
	comp=Z,21nm,0.8s,baz=48,slow=6.5,SNR=118							
CMAR				PcP		**PcP**	**17 49 13.7**	**+0.5**
	comp=Z,9.4nm,0.9s,baz=356,slow=2.7,SNR=4.2							
CMAR				*PcP			17 49 33.9	
	comp=Z,22nm,1.1s,baz=30,slow=3.2,SNR=7.7							
CMAR				LR	LR		18 07 11.6	
	comp=Z,988nm,18.5s,baz=52,slow=38							
KURBB	**Kurchatov Arra**	**43.85**	**304**	P		**P**	**17 47 27.6**	**+0.4**
	comp=Z,103nm,0.7s,baz=78,slow=9.0,SNR=604							
KURBB				*pP		**pP**	**17 47 43.8**	**+2.7**
	comp=Z,77nm,0.6s,baz=77,slow=8.9,SNR=7.0							
KURBB				S		**S**	**17 54 00.9**	**+6.6**
	comp=Z,9.3nm,1.3s,baz=78,slow=17,SNR=10.0							
CM01	**Chiang Mai Arr**	**43.87**	**251**	*e*P		**P**	**17 47 27.5**	**-0.2**
CM01				*e*PcP		**PcP**	**17 49 14.0**	**+0.8**
RC01	**Rabbit Creek A**	**43.89**	**40**	*e*P		**P**	**17 47 26.7**	**-0.7**
SWI	**Sorong**	**43.90**	**197**	P		**P**	**17 47 28.2**	**+0.3**
	comp=Z,83nm,0.8s,comp=Z,1μm							
MCK	**McKinley**	**44.02**	**37**	*e*P		**P**	**17 47 28.8**	**+0.4**
MCK				pmax	pmax			
	comp=Z,29nm,0.8s							
MCK	**McKinley**	**44.02**	**37**	*e*P		**P**	**17 47 28.2**	**-0.1**
SUKH	**Sukhothai**	**44.03**	**250**	P		**P**	**17 47 29.6**	**+0.7**
	comp=Z,38nm,0.9s,comp=Z,289nm							
MANU	**Manus Island**	**44.05**	**173**	*e*P		**P**	**17 47 29.9**	**+0.8**
RND	**Reindeer**	**44.08**	**37**	*e*P		**P**	**17 47 28.5**	**-0.4**
RND				pmax	pmax			
	comp=Z,40nm,1.1s							
RND	**Reindeer**	**44.08**	**37**	*e*P		**P**	**17 47 28.0**	**-0.9**
PMR	**Palmer**	**44.12**	**40**	*e*P		**P**	**17 47 29.0**	**-0.2**
PMR	**Palmer**	**44.12**	**40**	*e*P		**P**	**17 47 28.9**	**-0.2**
SEW	**Seward**	**44.15**	**42**	*e*P		**P**	**17 47 28.5**	**-0.9**
MDM	**Murphy Dome**	**44.24**	**35**	*e*P		**P**	**17 47 29.9**	**-0.3**
WRH	**Wood River Hil**	**44.33**	**35**	*e*P		**P**	**17 47 30.4**	**-0.5**
JAY	**Jayapura**	**44.35**	**183**	P		**P**	**17 47 31.7**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=274,slow=23,SNR=5.7							
JAY	**Jayapura**	**44.35**	**183**	P		**P**	**17 47 31.3**	**-0.2**
	comp=Z,24nm,1.0s							
COLA	**College**	**44.41**	**35**	*e*P		**P**	**17 47 32.0**	**+0.6**
COLA				MLR	MLR			
	comp=Z,463nm,22.0s							
COLA	**College**	**44.41**	**35**	*e*P		**P**	**17 47 31.9**	**+0.6**
COLA				LR	LR			
	comp=Z,463nm,22.0s							
CCB	**Clear Creek Bu**	**44.44**	**35**	*e*P		**P**	**17 47 31.4**	**-0.3**
GENI	**Genyem**	**44.45**	**184**	P		**P**	**17 47 33.2**	**+0.9**
SML	**Sawmill**	**44.48**	**39**	*e*P		**P**	**17 47 31.9**	**-0.2**
SML	**Sawmill**	**44.48**	**39**	*e*P		**P**	**17 47 31.9**	**-0.2**
KMSI	**Cibinong**	**44.55**	**207**	P		**P**	**17 47 33.3**	**+0.2**
LBMI	**Labuha**	**44.61**	**202**	P		**P**	**17 47 34.0**	**+0.5**
SHL	**Shillong**	**44.62**	**265**	*e*P		**P**	**17 47 36.0**	**+2.2**
SHL				*e*S		**ScS**	**17 57 25.0**	**-2.1**
DHY	**Denali Highway**	**44.77**	**37**	*e*P		**P**	**17 47 34.2**	**-0.4**
DHY				*e*S		**S**	**17 54 09.6**	**+1.9**
SRAK	**Srakaew**	**44.80**	**244**	P		**P**	**17 47 32.8**	**-2.4**
	comp=Z,277nm,1.1s,comp=Z,3μm							
ILAR	**Eielson Array**	**44.82**	**35**	P		**P**	**17 47 34.4**	**-0.4**
	comp=Z,30nm,0.9s,baz=265,slow=5.9,SNR=200							
ILAR				LR	LR		18 05 54.8	
	comp=Z,210nm,21.3s,baz=277,slow=35							
ILB	**Eielson Array**	**44.82**	**35**	*e*P		**P**	**17 47 34.4**	**-0.4**
IL1	**Eielson Array**	**44.83**	**35**	*e*P		**P**	**17 47 34.0**	**-0.8**
HDA	**Harding Lake**	**44.83**	**35**	*e*P		**P**	**17 47 33.7**	**-1.1**
SCM	**Sheep Creek Mo**	**44.95**	**39**	*e*P		**P**	**17 47 35.7**	**-0.2**
SCM	**Sheep Creek Mo**	**44.95**	**39**	*e*P		**P**	**17 47 35.7**	**-0.2**
MRSI	**Marisa**	**45.37**	**210**	P		**P**	**17 47 40.0**	**+0.4**
UMPA	**Umpang Tak**	**45.43**	**249**	P		**P**	**17 47 42.5**	**+2.3**
	comp=Z,45nm,1.0s,comp=Z,1μm							
PDGK	**Podgornoye**	**45.47**	**294**	P		**P**	**17 47 39.4**	**-0.7**
PDGK				pmax	pmax			
	comp=Z,73nm,0.9s							
CHBT	**CHBT**	**45.53**	**242**	P		**P**	**17 47 42.0**	**+1.1**
	comp=Z,225nm,1.0s,comp=Z,2μm							
PAX	**Paxson**	**45.65**	**37**	*e*P		**P**	**17 47 41.1**	**-0.4**
PAX				*e*			17 49 19.3	
PAX	**Paxson**	**45.65**	**37**	*e*P		**P**	**17 47 41.1**	**-0.4**
PAX				*e*PcP		**PcP**	**17 49 19.3**	**+0.5**
KLU	**Klutina**	**45.66**	**39**	*e*P		**P**	**17 47 41.8**	**+0.3**
FAKI	**Fak Fak**	**45.70**	**195**	P		**P**	**17 47 42.1**	**-0.1**
FAKI	**Fak Fak**	**45.70**	**195**	*e*P		**P**	**17 47 42.3**	**+0.1**
DIV	**Divide**	**45.79**	**40**	*e*P		**P**	**17 47 42.9**	**+0.3**
EYAK	**Cordova Ski Ar**	**45.90**	**41**	*e*P		**P**	**17 47 44.0**	**+0.7**
DOT	**Dot Lake**	**46.18**	**36**	*e*P		**P**	**17 47 44.8**	**-0.8**
BMRM	**Bremner River**	**46.38**	**40**	*e*P		**P**	**17 47 47.4**	**+0.2**
SANI	**Sanana**	**46.38**	**203**	P		**P**	**17 47 47.0**	**-0.6**
MENT	**Mentasta**	**46.45**	**37**	*e*P		**P**	**17 47 48.2**	**+0.5**
RAGM	**Ragged Mountai**	**46.45**	**41**	*e*P		**P**	**17 47 48.2**	**+0.5**
LUWI	**Luwuk**	**46.47**	**208**	P		**P**	**17 47 47.5**	**-0.8**
LUWI	**Luwuk**	**46.47**	**208**	*e*P		**P**	**17 47 47.2**	**-1.1**
SRDT	**SRDT**	**46.54**	**247**	P		**P**	**17 47 50.9**	**+2.0**
	comp=Z,115nm,1.4s							
KHLT	**Khaolaem Dam**	**46.59**	**248**	P		**P**	**17 47 51.2**	**+1.9**
	comp=Z,43nm,1.2s							
RABL	**Rabaul**	**46.78**	**167**	*e*P		**P**	**17 47 52.1**	**+1.4**
BTM	**Bintulu**	**46.83**	**223**	⇓P		**P**	**17 47 51.8**	**+0.7**
CRQM	**Cirque**	**47.12**	**40**	*e*P		**P**	**17 47 54.2**	**+1.1**
AAA	**Alma-Ata**	**47.21**	**295**	*i*P		**P**	**17 47 54.3**	**+0.4**
AAA				*i*S		S	17 54 59.7	+17
AAA				pmax	pmax			
	comp=Z,800nm,2.1s							
AAA				smax	smax			
	comp=E,400nm,7.5s							
AAA				MLR	MLR			
	comp=Z,3μm,12.0s							
PHET	**Kaeng Krachan**	**47.22**	**245**	P		**P**	**17 47 55.7**	**+1.5**
	comp=Z,46nm,0.9s,comp=Z,440nm							
EGAK	**Eagle**	**47.26**	**35**	*e*P		**P**	**17 47 53.1**	**-0.8**
EGAK				LR	LR			
	comp=Z,379nm,20.0s							
PCI	**Palu**	**47.44**	**212**	P		**P**	**17 47 55.4**	**-0.4**
	comp=Z,89nm,1.3s,comp=Z,857nm							
BALM	**Baldy**	**47.44**	**40**	*e*P		**P**	**17 47 55.8**	**+0.3**
BALM	**Baldy**	**47.44**	**40**	*e*P		**P**	**17 47 55.8**	**+0.3**
CHKZ	**Chkalovo**	**47.73**	**310**	P		**P**	**17 47 57.3**	**-0.4**
CHKZ				pmax	pmax			
	comp=Z,155nm,1.1s							
RAMN	**Ramite**	**47.78**	**270**	*e*P		**P**	**17 47 59.0**	**+0.2**
	comp=Z,528nm,0.8s							
GUN	**Gumba**	**47.80**	**272**	*e*P		**P**	**17 47 59.4**	**+0.4**
	comp=Z,802nm,0.5s							
VOSK	**Vostochnaya**	**47.80**	**309**	*e*P		**P**	**17 47 58.1**	**-0.2**
VOSK				pmax	pmax			
	comp=Z,93nm,1.0s							
VOSK	**Vostochnaya**	**47.80**	**309**	*e*P		**P**	**17 47 57.8**	**-0.6**
JOHN	**Johnston Islan**	**47.90**	**107**	PFAKE			17 48 10.0	+11
JOHN				LR	LR			
	comp=Z,119nm,26.0s							
SBUM	**Sibu**	**47.91**	**223**	⇓P		**P**	**17 48 00.1**	**+0.6**
SBUM	**Sibu**	**47.91**	**223**	*e*P		**P**	**17 47 59.7**	**+0.2**
BVA0	**Borovoye Array**	**48.05**	**309**	P		**P**	**17 48 00.2**	**-0.1**
BVA0				pmax	pmax			
	comp=Z,41nm,0.6s							
BVAR	**Borovoye Array**	**48.05**	**309**	P		**P**	**17 48 00.4**	**+0.1**
	comp=Z,28nm,0.4s,baz=74,slow=8.6,SNR=336							
BVAR				PcP		**PcP**	**17 49 28.0**	**+0.6**
	comp=Z,16nm,0.7s,baz=103,slow=3.2,SNR=5.0							
BVAR				ScP		**ScP**	**17 53 16.6**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=120,slow=8.8,SNR=4.4							
BVAR				S		**S**	**17 55 01.8**	**+7.2**
	comp=Z,3.6nm,1.0s,baz=75,slow=19,SNR=5.1							
BRVK	**Borovoye**	**48.11**	**309**	*c i*P		**P**	**17 48 00.7**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,360nm,1.7s							
BRVK	**Borovoye**	**48.11**	**309**	*e*P		**P**	**17 48 00.8**	**+0.2**
BRVK				LR	LR			
	comp=Z,919nm,21.0s							
DAWY	**Dawson**	**48.15**	**35**	*e*P		**P**	**17 47 59.1**	**-1.8**
TKM2	**Tokmak 2**	**48

EKS2 Erkin-Say 49.59 295 *e*P **P 17 48 12.2 -0.2**
EKS2 LR LR
comp=Z,1µm,22.0s
KSM Kuching 49.73 225 ⇓P **P 17 48 14.6 +1.1**
KSM Kuching 49.73 225 *e*P **P 17 48 14.4 +1.0**
KSM LR LR
comp=Z,496nm,20.0s
HYT Haines Junctio 49.78 39 *e*P **P 17 48 15.3 +1.8**
PYUN Piuthan 49.84 274 *e*P **P 17 48 14.8 +0.3**
comp=Z,442nm,0.9s
SURA Surathani 49.95 242 P **P 17 48 17.1 +1.9**
comp=Z,48nm,0.8s
SPSI Sidrap Palu 50.27 210 P **P 17 48 16.0 -1.5**
STKI Sintang 50.33 222 P **P 17 48 18.1 +0.1**
MNAS Manas 50.52 296 P **P 17 48 19.2 -0.2**
MNAS pmax pmax
comp=Z,191nm,1.0s
SURT Suratani 50.66 242 P **P 17 48 22.3 +1.8**
comp=Z,41nm,1.3s
KTGM Kuala Trenggan 50.66 235 ⇑P **P 17 48 21.7 +1.2**
TRTT Trang 50.90 240 P **P 17 48 24.0 +1.6**
comp=Z,71nm,1.1s
KRAB Krabi 50.94 241 P **P 17 48 24.0 +1.4**
comp=Z,168nm,0.9s,comp=Z,1µm
SKAG Skagway 51.23 40 *e*P **P 17 48 25.8 +1.6**
KAPI Kappang 51.24 210 *e*P **P 17 48 25.1 +0.3**
KAPI LR LR
comp=Z,342nm,19.0s
PMG Port Moresby 51.33 174 LR LR 18 07 40.0
comp=Z,257nm,22.0s,baz=6.5,slow=33
KK31 Karatay Array 51.59 297 *i* P **P 17 48 26.9 -0.4**
KK31 pmax pmax
comp=Z,61nm,0.9s
KKAR Karatay Array 51.59 297 *e*P **P 17 48 27.0 -0.3**
KKAR Karatay Array 51.59 297 *e*P **P 17 48 27.0 -0.3**
PKDT Phuket 51.75 242 P **P 17 48 30.3 +1.6**
comp=Z,188nm,1.1s,comp=Z,2µm
BBKI Banjar Baru 51.83 216 P **P 17 48 30.5 +1.2**
SVE Sverdlovsk 52.14 316 *de*P **P 17 48 31.5 +0.4**
SVE *e*S **S 17 55 50.4 -0.8**
SVE pmax pmax
comp=Z,174nm,1.5s
SVE MLR MLR
comp=Z,2µm,17.0s
KULM Kulim 52.23 237 ⇓P **P 17 48 33.8 +1.6**
KULM Kulim 52.23 237 *e*P **P 17 48 33.1 +0.8**
KULM LR LR
comp=Z,546nm,22.0s
IPM Ipoh 52.62 236 ⇓P **P 17 48 35.9 +0.7**
IPM Ipoh 52.62 236 *e*P **P 17 48 35.3 +0.1**
THN Thein Dam 52.94 283 *e*P **P 17 48 35.6 -1.7**
MYKOM Kota Tinggi 53.05 232 ⇓P **P 17 48 39.3 +1.0**
MYKOM Kota Tinggi 53.05 232 *e*P **P 17 48 39.3 +1.0**
KGM Kluang 53.18 232 ⇑P **P 17 48 40.4 +1.2**
FRIM Kepong 53.22 235 ⇓P **P 17 48 40.2 +0.6**
ARU Arti 53.35 316 P **P 17 48 39.9 -0.1**
comp=Z,57nm,0.9s,baz=75,slow=4.7,SNR=111
ARU Arti 53.35 316 *c i*P **P 17 48 39.7 -0.3**
ARU *e**PP **pP 17 48 56.0 +1.7**
ARU 17 49 45.4
ARU 17 50 35.8
ARU S **S 17 56 08.7 +0.9**
ARU *SS **sS 17 56 33.0 +1.3**
ARU 17 58 25.5
ARU SSS SSS 18 01 38.8
ARU pmax pmax
comp=Z,253nm,1.7s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 53.35 316 *e*P **P 17 48 39.8 -0.3**
ARU LR LR
comp=Z,2µm,20.0s
KIP Kipapa 53.39 93 PFAKE 17 48 50.0 +9.2
KIP LR LR
comp=Z,2µm,20.0s
HNR Honiara 53.59 159 PFAKE 17 49 00.0 +18
HNR LR LR
comp=Z,777nm,22.0s
MMRI Maumere 53.76 205 P **P 17 48 42.2 -1.2**
WRAK Wrangell Islan 53.81 43 *e*P **P 17 48 44.8 +1.5**
WRAK LR LR
comp=Z,354nm,20.0s
DLBC Dease Lake 54.17 40 P **P 17 48 47.9 +1.8**
comp=Z,18nm,0.9s,baz=295,slow=6.0,SNR=31
SOEI Soe 54.20 203 P **P 17 48 46.0 -0.8**
SOEI Soe 54.20 203 *e*P **P 17 48 46.0 -0.8**
TSI Tuntungan 54.92 238 P **P 17 48 53.3 +1.3**
PPBI Pangkal Pinang 55.00 227 P **P 17 48 53.3 +0.8**
DIB Dawson Inlet, 55.06 47 *e*P **P 17 48 53.8 +1.3**
PSI Prapat 55.23 237 *e*P **P 17 48 55.0 +0.6**
PSI pmax pmax
comp=Z,88nm,1.3s
PSI Prapat 55.23 237 *e*P **P 17 48 54.6 +0.3**
AB31 Akbulak array 55.56 308 P **P 17 48 56.1 -0.1**
AB31 pmax pmax
comp=Z,53nm,0.9s
ABKAR Akbulak array 55.56 308 *e*P **P 17 48 56.1 0.0**
MTN Manton Dam 55.60 194 *e*P **P 17 48 56.5 -0.2**
COEN Coen 55.68 179 *e*P **P 17 48 58.3 +0.9**
MLSI Meulaboh, Aceh 55.72 241 P **P 17 48 58.4 +0.6**
TWSI Taliwang, Sumb 55.75 211 P **P 17 48 58.2 +0.4**
comp=Z,47nm,1.0s,comp=Z,881nm
SRBI Singaraja 55.82 213 P **P 17 48 59.7 +1.3**
SPA0 Spitsbergen Ar 55.84 348 *e*P **P 17 48 57.8 0.0**
SPITS Spitsbergen Ar 55.84 348 P **P 17 48 57.5 -0.4**
comp=Z,9.1nm,0.8s,baz=84,slow=8.5,SNR=11
KBS Kingsbay 55.93 350 *e*P **P 17 48 58.7 +0.3**
KBS pmax pmax
comp=Z,110nm,1.2s
KBS Kingsbay 55.93 350 *e*P **P 17 48 58.5 +0.1**
KBS LR LR
comp=Z,401nm,19.0s
AKTO Aktyubinsk 56.15 310 P **P 17 49 00.1 -0.3**
comp=Z,29nm,0.9s,baz=73,slow=6.8,SNR=36
AKTO PP **PP 17 51 08.7 +3.2**
comp=Z,15nm,0.9s,baz=70,slow=8.8,SNR=4.0
POHA Pohakuloa 56.24 93 PFAKE 17 49 10.0 +8.3
POHA LR LR
comp=Z,1µm,21.0s
MNSI Mandailing Nat 56.39 235 P **P 17 49 02.4 -0.1**
KBL Kabul 56.65 289 *e*P **P 17 49 03.3 -1.2**
KBL pmax pmax
comp=Z,72nm,0.9s
KBL Kabul 56.65 289 *e*P **P 17 49 03.2 -1.2**
HSPB Hornsund (broa 56.80 348 *e*P **P 17 49 04.3 -0.3**
GSI Gunungsitoli 57.24 237 P **P 17 49 09.4 +0.9**
GSI Gunungsitoli 57.24 237 *e*P **P 17 49 08.5 0.0**
RES Resolute Bay 57.55 15 *e*P **P 17 49 09.3 -0.7**
RES pmax pmax
comp=Z,42nm,0.9s
RES Resolute Bay 57.55 15 *e*P **P 17 49 09.2 -0.7**
LHSI Lahat 57.82 228 P **P 17 49 14.7 +2.1**
KPJI Karang Pucung 57.98 221 P **P 17 49 13.1 -0.5**
LVZ Lovozero 58.00 335 *i* P **P 17 49 12.2 -1.0**
LVZ pmax pmax
comp=Z,31nm,1.2s
LVZ Lovozero 58.00 335 *e*P **P 17 49 11.9 -1.3**
LVZ LR LR
comp=Z,493nm,19.0s
BLSI Bandar Lampung 58.17 225 P **P 17 49 17.4 +2.4**
KSI Kapahiang 58.20 229 P **P 17 49 15.7 +0.4**
comp=Z,68nm,0.9s
APA Apatity 58.58 335 ⇑*i*P **P 17 49 15.1 -2.1**
APA *i* 17 49 38.5
APA *i* S S 17 57 05.0 -12
YKA Yellowknife Ar 59.05 32 P **P 17 49 20.6 +0.1**
comp=Z,10nm,0.8s,baz=303,slow=6.5,SNR=45
KEV Kevo 59.16 339 *e*P **P 17 49 20.6 -0.6**
KEV MLR MLR
comp=Z,797nm,20.0s
KEV Kevo 59.16 339 *e*P **P 17 49 20.6 -0.6**
KEV LR LR
comp=Z,797nm,20.0s
HYB Hyderabad 59.40 266 *e*P **P 17 49 23.0 -0.7**
ARA0 ARCESS Array S 59.70 339 *e*P **P 17 49 24.2 -0.8**
ARCES ARCESS Array B 59.70 339 P **P 17 49 24.6 -0.3**
comp=Z,20nm,1.1s,baz=46,slow=6.9,SNR=22
ARCES LR LR 18 20 22.9
comp=Z,872nm,19.1s,baz=44,slow=41
ARE0 ARCESS Array S 59.70 339 *e*P **P 17 49 24.5 -0.5**
KLMR Klimovskoe 60.10 327 *c i*P **P 17 49 26.9 -0.9**
KLMR pmax pmax
comp=Z,167nm,1.5s

FUNA Funafuti 60.39 137 PFAKE 17 49 40.0 +10
FUNA LR LR
comp=Z,5µm,19.0s
DAG Danmarks Havn 60.91 355 ⇑*i*P **P 17 49 32.3 -0.8**
DAG pmax pmax
comp=Z,57nm,1.0s
DAG Danmarks Havn 60.91 355 ⇑*i*P **P 17 49 32.3 -0.8**
comp=Z,57nm,1.0s
FITZ Fitzroy Crossi 61.84 198 *e*P **P 17 49 40.2 +0.2**
CTA Charters Tower 61.87 176 P **P 17 49 40.0 -0.2**
comp=Z,5.7nm,0.7s,baz=2.6,slow=7.7,SNR=5.5
CTA Charters Tower 61.87 176 P **P 17 49 40.0 -0.2**
CTA pmax pmax
comp=Z,6.0nm,0.7s
CTAO Charters Tower 61.87 176 PFAKE 17 49 50.0 +10
CTAO LR LR
comp=Z,719nm,21.0s
LLLB Lillooet 62.05 46 *e*P **P 17 49 42.4 +1.1**
WRAB Tennant Creek 62.10 189 *c i*P **P 17 49 41.1 -0.7**
WRAB pmax pmax
comp=Z,92nm,0.9s
WRAB Tennant Creek 62.10 189 *e*P **P 17 49 41.0 -0.7**
WRAB LR LR
comp=Z,664nm,20.0s
WB2 Warramunga Arr 62.11 189 *e*P **P 17 49 41.0 -0.9**
WR1 Warramunga Arr 62.11 189 *e*P **P 17 49 41.1 -0.7**
WR1 *e*pP **pP 17 49 56.8 +0.4**
WR1 ⇑*e* 18 18 55.7
WRA Warramunga Arr 62.11 189 P **P 17 49 41.1 -0.7**
comp=Z,38nm,0.9s,baz=6.8,slow=6.9,SNR=167
WRA pP **pP 17 49 56.8 +0.4**
comp=Z,42nm,1.0s,baz=5.7,slow=7.0,SNR=14
WRA LR LR 18 14 35.1
comp=Z,251nm,21.9s,baz=10.0,slow=34
WRA PKP2bc 18 18 55.7
comp=Z,1.3nm,0.9s,baz=194,slow=2.2,SNR=5.2
GEYT Alibeck 62.34 297 P **P 17 49 43.3 -0.1**
comp=Z,98nm,1.1s,baz=29,slow=3.4,SNR=102
GEYT LR LR 18 19 12.1
comp=Z,2µm,18.8s,baz=100,slow=38
NLWA Neilton Lookou 62.71 50 PFAKE 17 50 00.0 +14
NLWA LR LR
comp=Z,436nm,21.0s
BLN Blyn Mountain 62.88 49 *e*P **P 17 49 48.1 +1.3**
KULLO Kullorsuaq 62.94 6 ⇑*i*P **P 17 49 45.8 -0.9**
KULLO pmax pmax
comp=Z,65nm,1.1s
KULLO Kullorsuaq 62.94 6 ⇑*i*P **P 17 49 45.8 -0.9**
comp=Z,65nm,1.1s
MBW Mount Baker 63.04 48 P **P 17 49 48.7 +0.6**
B05A Bryant 63.22 48 P **P 17 49 49.8 +0.8**
baz=304,SNR=5.8
JCW Jim Creek 63.35 48 *e*P **P 17 49 51.0 +1.1**
B06A Marblemount 63.42 48 *e*P **P 17 49 50.5 +0.2**
RPW Rockport 63.44 48 *e*P **P 17 49 51.2 +0.7**
MOS Moscow 63.87 323 *e*P **P 17 49 51.3 -1.8**
MOS *e* 17 50 10.7
MOS *e*S **S 17 58 23.7 -0.6**
MOS pmax pmax
comp=Z,500nm,2.2s
MOS pmax pmax
comp=Z,193nm,1.4s
MOS MLR MLR
comp=N,500nm,17.0s
MOS MLR MLR
comp=E,800nm,17.0s
MOS MLR MLR
comp=Z,1µm,17.0s
D05A Enumclaw 63.88 49 *e*P **P 17 49 54.6 +1.2**
PNT Penticton 63.98 46 *e*P **P 17 49 54.4 +0.3**
PNT Penticton 63.98 46 *e*P **P 17 49 54.4 +0.3**
OBSR Observation Ro 64.14 49 *e*P **P 17 49 56.8 +1.3**
RCM Mount Rainier- 64.23 49 P **P 17 49 57.9 +1.8**
TDL Tradedollar La 64.23 50 *e*P **P 17 49 57.3 +1.4**
LON Longmire 64.23 49 *e*P **P 17 49 56.6 +0.8**
LON Longmire 64.23 49 *e*P **P 17 49 56.6 +0.8**
G03D McMinnville, O 64.27 52 P **P 17 49 57.3 +1.3**
baz=305
PALK Pallekele 64.44 256 *i* P **P 17 49 58.4 +0.8**
PALK Pallekele 64.44 256 *e*P **P 17 49 57.6 0.0**
VRH Novokhopyorsk 64.58 317 *e*P **P 17 49 56.9 -1.0**
VRH *e**SP **pP 17 50 13.4 +0.9**
VRH pmax pmax
comp=Z,100nm,1.1s
VRH MLR MLR
comp=Z,1µm,15.0s
B08A Colville Reser 64.69 47 *e*P **P 17 49 59.3 +0.6**
OBN Obninsk 64.72 322 P **P 17 49 58.3 -0.4**
comp=Z,40nm,0.4s,baz=16,slow=3.4,SNR=40
OBN Obninsk 64.72 322 *c i*P **P 17 49 58.3 -0.4**
OBN *i* 17 50 14.2
OBN *i* 17 50 29.3
OBN pmax pmax
comp=Z,111nm,1.1s
OBN MLR MLR
comp=Z,1µm,18.0s
OBN Obninsk 64.72 322 *e*P **P 17 49 57.6 -1.1**
OBN LR LR
comp=Z,1µm,20.0s
FIA1 FINESS Array S 64.88 332 *e*P **P 17 49 58.9 -0.8**
FIA0 FINESS Array S 64.89 332 *e*P **P 17 49 59.0 -0.7**
FIA0 FINESS Array S 64.89 332 *e*P **P 17 49 59.0 -0.7**
FINES FINESS Array B 64.89 332 P **P 17 49 59.0 -0.7**
comp=Z,53nm,0.6s,baz=46,slow=8.2,SNR=175
FINES LR LR 18 20 49.1
comp=Z,2µm,20.0s,baz=44,slow=38
FINES FINESS Array B 64.89 332 P **P 17 49 59.0 -0.7**
I03D Drain, OR 65.08 53 P **P 17 50 02.6 +1.3**
baz=305
G05D Wamic, OR 65.38 51 P **P 17 50 04.7 +1.5**
baz=306
I04A Tendick Farm, 65.58 52 P **P 17 50 05.3 +0.7**
baz=306,SNR=10.0
C09A Chrisman Ranch 65.59 47 *e*P **P 17 50 05.5 +0.9**
SUMG Summit 65.72 0 ⇑*i*P **P 17 50 05.7 +0.3**
SUMG pmax pmax
comp=Z,67nm,0.8s
SUMG Summit 65.72 0 ⇑*i*P **P 17 50 05.7 +0.3**
comp=Z,67nm,0.8s
SUMG Summit 65.72 0 *e*P **P 17 50 05.3 -0.1**
HAWA Hanford 65.72 49 PFAKE 17 50 20.0 +15
HAWA LR LR
comp=Z,394nm,19.0s
L02D Cave Junction, 65.81 54 P **P 17 50 06.7 +0.7**
baz=306
AS01 Alice Springs 65.83 189 *e*P **P 17 50 06.1 -0.2**
AS31 Alice Springs 65.84 189 *e*P **P 17 50 06.0 -0.3**
ASAR Alice Springs 65.84 189 P **P 17 50 06.2 -0.1**
comp=Z,12nm,0.8s,baz=16,slow=7.9,SNR=104
ASAR pP **pP 17 50 22.4 +1.4**
comp=Z,16nm,0.9s,baz=2.5,slow=6.0,SNR=13
ASAR LR LR 18 18 20.6
comp=Z,417nm,21.9s,baz=358,slow=35
ASAR PKP2bc 18 18 47.5
comp=Z,3.0nm,1.1s,baz=201,slow=3.6,SNR=10
VSR Storozhevoye 65.86 318 *e*P **P 17 50 05.7 -0.5**
VSR *e**SP **pP 17 50 22.9 +2.1**
VSR pmax pmax
comp=Z,100nm,1.0s
VSR MLR MLR
comp=Z,850nm,14.0s
I05D Terrebonne, OR 65.89 51 P **P 17 50 07.1 +0.5**
baz=306
NEW Newport 65.94 46 P **P 17 50 07.3 +0.4**
baz=307,SNR=8.0
NEW Newport 65.94 46 *e*P **P 17 50 07.1 +0.3**
NEW MLR MLR
comp=Z,334nm,22.0s
NEW Newport 65.94 46 *e*P **P 17 50 07.0 +0.3**
NEW LR LR
comp=Z,334nm,22.0s
HUMO Hull Mountain 65.94 54 *e*P **P 17 50 08.2 +1.3**
MBWA Marble Bar 66.33 203 *e*P **P 17 50 09.2 -0.3**
J05D Fort Rock, OR 66.57 52 P **P 17 50 12.6 +1.5**
baz=306,SNR=11
YBH Yreka Blue Hor 66.60 54 *e*P **P 17 50 12.7 +1.5**
YBH Yreka Blue Hor 66.60 54 *e*P **P 17 50 12.7 +1.5**
K04D Chiloquin, OR 66.65 53 P **P 17 50 12.6 +1.0**
baz=306
VSU Vasula 66.68 329 *c i*P **P 17 50 10.8 -0.5**
VSU pmax pmax
comp=Z,296nm,1.0s
N02D Trinity Center 67.05 55 P **P 17 50 15.8 +1.7**
baz=306
M04C Macdoel 67.10 54 P **P 17 50 15.7 +1.3**
baz=307,SNR=10
K05A Summer Lake 67.10 53 *e*P **P 17 50 16.2 +1.7**
WALA Waterton Lakes 67.15 44 *e*P **P 17 50 15.1 +0.4**
F10A Beach Ranch, E 67.26 48 *e*P **P 17 50 16.2 +0.9**
SCO Scoresbysund 67.27 354 ⇑*i*P **P 17 50 14.9 +0.1**
SCO pmax pmax
comp=Z,31nm,1.1s
SCO Scoresbysund 67.27 354 ⇑*i*P **P 17 50 14.9 +0.1**
comp=Z,31nm,1.1s
WDC Whiskeytown Da 67.38 55 *e*P **P 17 50 17.0 +0.9**
WDC Whiskeytown Da 67.38 55 *e*P **P 17 50 17.0 +0.9**
BSMT Bassoo Peak 67.44 45 *e*P **P 17 50 17.4 +0.9**
DZM Mont Dzumac 67.45 156 *e*S **S 17 59 11.4 +2.6**
comp=Z,204nm,28.4s
DZM Mont Dzumac 67.45 156 *e*LR LR 18 10 38.3
comp=Z,1µm,23.2s
GOF Gofitskoye 67.54 311 ⇑*i*P **P 17 50 17.4 +0.4**
GOF *e*S **PnS 17 59 43.6 +5.8**
GOF pmax pmax
comp=Z,249nm,0.8s
BLMT Blacktail Moun 67.56 45 *e*P **P 17 50 18.4 +1.0**
JTMT Jette 67.77 45 *e*P **P 17 50 19.6 +1.0**
MSVF Nonsavu 67.84 143 PFAKE 17 50 30.0 +11
MSVF LR LR
comp=Z,694nm,21.0s
BMO Blue Mountains 67.90 49 *e*P **P 17 50 20.8 +1.4**
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO Blue Mountains 67.90 49 *e*P **P 17 50 20.1 +0.7**
BMO LR LR
comp=Z,298nm,22.0s
MOD Modoc Plateau 67.95 53 *e*P **P 17 50 20.8 +0.9**
O03D Paynes Creek 68.01 55 P **P 17 50 20.6 +0.5**
baz=307,SNR=7.3
SWMT Swartz Lake 68.06 45 *e*P **P 17 50 21.2 +0.8**
NCK Nalchik 68.17 309 *e*P **P 17 50 21.7 +0.7**
NCK pmax pmax
comp=Z,93nm,1.0s
GUDG Gudauri 68.29 308 P **P 17 50 23.0 +1.0**
DGRG David-gareji 68.37 307 P **P 17 50 22.6 +0.3**
DGRG David-gareji 68.37 307 P **P 17 50 22.6 +0.3**
KIV Kislovodsk 68.41 310 *i* P **P 17 50 23.5 +0.9**
SNR=59
KIV Kislovodsk 68.41 310 *c i*P **P 17 50 23.0 +0.4**
KIV *i* 17 52 52.7
KIV pmax pmax
comp=Z,282nm,1.0s
KIV Kislovodsk 68.41 310 P **P 17 50 23.4 +0.7**
SNR=62
KIV Kislovodsk 68.41 310 P **P 17 50 23.4 +0.7**
SNR=62
KIV Kislovodsk 68.41 310 *e*P **P 17 50 23.2 +0.6**
KIV LR LR
comp=Z,1µm,19.0s
ZEI Tsey 68.43 309 *e*P **P 17 50 18.9 -4.0**
ZEI pmax pmax
comp=Z,232nm,1.1s
KBZ Khabaz 68.43 310 P **P 17 50 23.2 +0.6**
comp=Z,77nm,0.9s,baz=56,slow=5.4,SNR=98
KBZ LR LR 18 26 15.6
comp=Z,850nm,18.0s,baz=34,slow=41
SEAG Tbilisi Sea 68.52 307 P **P 17 50 24.1 +0.8**
MSO Missoula 68.52 46 P **P 17 50 23.6 +0.4**
baz=309,SNR=7.7
MSO Missoula 68.52 46 *e*P **P 17 50 24.2 +0.9**
TBLG Delisi 68.58 307 P **P 17 50 24.4 +0.7**
TBLG Delisi 68.58 307 P **P 17 50 24.3 +0.7**
WVOR Wild Horse Val 68.61 52 PFAKE 17 50 40.0 +16
WVOR LR LR
comp=Z,245nm,19.0s
ILULI Ilulissat 68.63 5 ⇑*i*P **P 17 50 22.9 -0.5**
ILULI pmax pmax
comp=Z,67nm,1.1s
ILULI Ilulissat 68.63 5 ⇑*i*P **P 17 50 22.9 -0.5**
comp=Z,67nm,1.1s
ORV Oroville 68.64 56 *e*P **P 17 50 24.5 +0.5**
ORV Oroville 68.64 56 *e*P **P 17 50 24.5 +0.5**
ONI Oni 68.81 309 P **P 17 50 25.9 +0.8**
ONI Oni 68.81 309 P **P 17 50 25.8 +0.8**
NEY Neytrino 68.83 309 *c i*P **P 17 50 26.0 +0.7**
NEY pmax pmax
comp=Z,18nm,1.1s
CHMT Chamberlain Mo 68.83 45 *e*P **P 17 50 25.4 0.0**
MICGM Minsk 68.94 325 ⇑*e*P **P 17 50 27.0 +1.4**
MICGM ⇑*e*P **P 17 50 27.0 +1.4**
MICGM PM 17 50 28.0
comp=Z,0.3nm,1.0s
MICGM *e*pP **pP 17 50 42.0 +1.7**
MICGM *e*PcP **PcP 17 50 50.0 +0.4**
MICGM *e*PP **PP 17 52 59.0 +1.3**
MICGM *e*PPP PPP 17 54 40.0
MICGM *e*S **S 17 59 28.0 +2.2**
MICGM *e*SS **sS 17 59 52.0 +1.5**
MICGM *e*LR LR 18 17 18.0
MICGM LRM MLR 18 22 52.0
comp=Z,2.5nm,20.0s
MNK Minsk 68.94 325 *ce*P **P 17 50 27.0 +1.4**
MNK *e* 17 50 42.0
MNK *e**SP **PcP 17 50 50.0 +0.4**
MNK *e*PPP PPP 17 54 40.0
MNK *e*S **S 17 59 28.0 +2.2**
MNK *e*SS **sS 17 59 52.0 +1.5**
MNK pmax pmax
comp=Z,300nm,1.0s
MNK MLR MLR
comp=Z,3µm,20.0s
FFC Flin Flon 69.03 34 *e*P **P 17 50 26.3 +0.2**
FFC MLR MLR
comp=Z,361nm,22.0s
FFC Flin Flon 69.03 34 *e*P **P 17 50 26.3 +0.2**
FFC LR LR
comp=Z,361nm,22.0s
NACGM Naroch 69.12 326 *e* **P 17 50 26.0 -0.7**
NACGM *e*LQ LQ 18 17 06.0
NACGM *e*LR LR 18 21 24.0
FCC Fort Churchill 69.14 28 *e*P **P 17 50 26.8 +0.1**
FCC pmax pmax
comp=Z,40nm,1.0s
FCC Fort Churchill 69.14 28 *e*P **P 17 50 26.8 +0.1**
AFDM Forest Hills D 69.33 56 *e*P **P 17 50 29.0 +0.7**
AKH Akhalkalaki 69.51 308 P **P 17 50 30.7 +1.1**
AKH Akhalkalaki 69.51 308 P **P 17 50 30.7 +1.1**
CHVG Ch'k'valeri 69.52 309 P **P 17 50 30.1 +0.6**
BGD Bogdanovka 69.54 307 P **P 17 50 31.1 +1.3**
GNI Garni 69.54 306 P **P 17 50 31.2 +1.4**
comp=Z,56nm,1.0s,baz=28,slow=0.5,SNR=32
GNI Garni 69.54 306 *i* P **P 17 50 31.1 +1.3**
SNR=15
GNI Garni 69.54 306 *e*P **P 17 50 31.2 +1.4**
GNI MLR MLR
comp=Z,635nm,20.0s
GNI Garni 69.54 306 P **P 17 50 31.2 +1.4**
SNR=25
GNI Garni 69.54 306 P **P 17 50 31.2 +1.4**
SNR=25
GNI Garni 69.54 306 *e*P **P 17 50 31.2 +1.4**
GNI LR LR
comp=Z,635nm,20.0s
MFID Camas Ranch 69.62 50 *e*P **P 17 50 30.9 +0.8**
AFI Afiamalu 69.67 132 PFAKE 17 50 40.0 +9.4
AFI LR LR
comp=Z,1µm,20.0s
HRY Holter Researc 69.72 45 *e*P **P 17 50 31.8 +1.1**
NC405 NORSAR Array S 69.78 337 *e*P **P 17 50 30.0 -0.7**
NC303 NORSAR Array S 69.79 337 *e*P **P 17 50 30.2 -0.6**
PAHR Pah Rah Range 69.84 54 *e*P **P 17 50 33.0 +1.4**
NC204 NORSAR Array S 69.92 337 *e*P **P 17 50 30.7 -0.9**
EGMT Eagleton 69.94 43 PFAKE 17 50 40.0 +8.0
EGMT LR LR
comp=Z,287nm,21.0s
NB201 NORSAR Array S 69.95 337 *e*P **P 17 50 31.1 -0.6**
LRM Limekiln Ridge 69.96 46 *e*P **P 17 50 33.1 +0.7**
HFS Hagfors 69.96 336 P **P 17 50 31.1 -0.7**
comp=Z,55nm,0.8s,baz=33,slow=5.8,SNR=136
NB2 NORSAR Subarra 69.98 337 P **P 17 50 31.1 -0.9**
comp=Z,84nm,0.9s,baz=37,slow=6.5
NB2 NORSAR Subarra 69.98 337 P **P 17 50 31.1 -0.9**
baz=37,slow=6.5
NB200 NORSAR Array S 69.98 337 *e*P **P 17 50 31.4 -0.6**
NOA NORSAR Array B 69.98 337 P **P 17 50 31.4 -0.6**
comp=Z,63nm,0.9s,baz=37,slow=6.1,SNR=120
NOA LR LR 18 24 39.3
comp=Z,702nm,21.4s,baz=35,slow=39
NBO02 NORSAR Array S 70.08 337 *e*P **P 17 50 31.9 -0.6**

PNTR **Pine Nut** 70.09 55 *e*P P 17 50 35.0 +1.8
NBO00 **NORSAR Array S** 70.11 337 *e*P P 17 50 32.1 -0.7
NC602 **NORSAR Array S** 70.13 337 *e*P P 17 50 31.8 -1.0
DLMT **Dillon** 70.17 46 *e*P P 17 50 34.2 +0.7
NAO01 **NORSAR Array S** 70.23 337 *e*P P 17 50 32.9 -0.6
CMB **Columbia Colle** 70.25 56 *e*P P 17 50 35.0 +1.0
CMB **Columbia Colle** 70.25 56 *e*P P 17 50 35.0 +1.0
SOC **Sochi** 70.33 311 *c i*P P 17 50 33.8 -0.5
SOC *e* 17 50 52.6
SOC *e* 17 53 11.4
SOC *e*S S 17 59 46.4 +4.0
SOC *e**SS SKiKP 18 00 12.0 -2.1
SOC pmax pmax
comp=Z,57nm,0.9s
SOC MLR MLR
comp=Z,967nm,17.0s
HLID **Hailey** 70.33 49 P P 17 50 35.0 +0.4
baz=310,SNR=5.7
HLID **Hailey** 70.33 49 PFAKE 17 50 50.0 +15
HLID LR LR
comp=Z,298nm,19.0s
YERR **Yerington** 70.37 55 *e*P P 17 50 36.1 +1.2
MCMT **McKenzie Canyo** 70.38 47 *e*P P 17 50 35.4 +0.5
BOZ **Bozeman (W)** 70.51 46 P P 17 50 36.4 +0.8
baz=311,SNR=39
BOZ **Bozeman (W)** 70.51 46 *e*P P 17 50 36.5 +0.8
BOZ MLR MLR
comp=Z,329nm,21.0s
BOZ **Bozeman (W)** 70.51 46 *e*P P 17 50 36.5 +0.8
BOZ LR LR
comp=Z,329nm,21.0s
WAKR **Walker** 70.55 56 *e*P P 17 50 37.3 +1.3
BANOM **Banah** 70.58 288 *i* P P 17 50 36.4 +0.1
SNR=8.0
BMN **Battle Mountai** 70.68 53 *e*P P 17 50 37.8 +1.0
BMN **Battle Mountai** 70.68 53 *e*P P 17 50 37.8 +1.0
BIDO **Bidbid** 70.75 285 P P 17 50 37.7 +0.5
SNR=7.6
BIDO **Bidbid** 70.75 285 P P 17 50 37.7 +0.5
SNR=7.6
ANN **Anapa** 70.80 313 *e*P P 17 50 36.5 -0.7
ANN *e**PP pP 17 50 53.8 +1.9
ANN *e*S S 17 59 50.1 +2.2
ANN pmax pmax
comp=Z,157nm,1.6s
ANN MLR MLR
comp=E,886nm,18.0s
ANN MLR MLR
comp=N,2µm,18.0s
SFJD **Kangerlussuaq** 70.85 5⇑ *i*P P 17 50 36.6 -0.5
SFJD pmax pmax
comp=Z,49nm,1.1s
SFJD **Kangerlussuaq** 70.85 5⇑ *i*P P 17 50 36.6 -0.5
comp=Z,49nm,1.1s
SFJD **Kangerlussuaq** 70.85 5 *e*P P 17 50 36.6 -0.5
SFJD LR LR
comp=Z,433nm,21.0s
AKASG **Malin Array Be** 70.97 322 P P 17 50 37.5 -0.6
comp=Z,49nm,0.8s,baz=44,slow=6.7,SNR=53
AKASG LR LR 18 24 50.1
comp=Z,1µm,19.4s,baz=40,slow=38
AKBB **Malin Array Si** 70.97 322 *e*P P 17 50 37.7 -0.4
AKBB **Malin Array Si** 70.97 322 *e*P P 17 50 37.7 -0.4
KIEV **Kiev** 70.98 322 *c i*P P 17 50 37.4 -0.8
KIEV pmax pmax
comp=Z,105nm,0.9s
KIEV **Kiev** 70.98 322 PFAKE 17 50 50.0 +12
KIEV LR LR
comp=Z,1µm,19.0s
AK11 **Malin Array Si** 71.01 322 *e*P P 17 50 37.5 -0.9
TVH3 **East Aurora ar** 71.02 55 *e*P P 17 50 39.7 +0.7
SMDO **Samad** 71.09 284 P P 17 50 40.1 +0.7
SNR=5.4
SMDO **Samad** 71.09 284 P P 17 50 40.1 +0.7
SNR=5.4
SUW **Suwalki** 71.23 327 *e*P P 17 50 38.9 -0.7
SUW *e*S S 17 59 51.1 -1.5
SUW **Suwalki** 71.23 327⇑ *e*P P 17 50 38.9 -0.7
SUW *e*S S 17 59 51.1 -1.5
UOSS **Minazif** 71.25 287 *e*P P 17 50 40.2 -0.1
HATD **Hatta, Dubai** 71.38 287 *i* P P 17 50 41.3 +0.2
SNR=20
HATD **Hatta, Dubai** 71.38 287 P P 17 50 41.2 +0.2
SNR=8.0
HATD **Hatta, Dubai** 71.38 287 P P 17 50 41.2 +0.2
SNR=8.0
GCMT **Greycliff** 71.45 45 *e*P P 17 50 42.0 +0.7
YHH **Holmes Hill** 71.49 46 *e*P P 17 50 42.6 +0.8
ASHO **Ashiyiah** 71.52 287 *i* P P 17 50 42.2 +0.3
SNR=15
ASHO **Ashiyiah** 71.52 287 P P 17 50 42.0 +0.1
SNR=9.5
ASHO **Ashiyiah** 71.52 287 P P 17 50 42.0 +0.1
SNR=9.5
KONO **Kongsberg** 71.58 337 *e*P P 17 50 41.5 -0.1
KONO MLR MLR
comp=Z,807nm,20.0s
KONO **Kongsberg** 71.58 337 *e*P P 17 50 41.5 -0.1
KONO LR LR
comp=Z,807nm,20.0s
NAZ **Nazwa, Dubai** 71.61 287 *i* P P 17 50 42.4 0.0
SNR=7.8
ELK **Elko** 71.65 52 *e*P P 17 50 44.0 +1.3
ELK **Elko** 71.65 52 *e*P P 17 50 44.0 +1.3
YFT **Old Faithful** 71.72 46 *e*P P 17 50 44.7 +1.6
PAGB **Antelope Grade** 71.77 58 *e*P P 17 50 44.7 +1.5
FAQ **Al Faqa, Dubai** 71.81 287 *i* P P 17 50 43.4 -0.2
SNR=9.2
FAQ **Al Faqa, Dubai** 71.81 287 P P 17 50 43.3 -0.3
SNR=5.8
FAQ **Al Faqa, Dubai** 71.81 287 P P 17 50 43.3 -0.3
SNR=5.8
YPP **Pitchstone Pla** 71.85 46 *e*P P 17 50 46.0 +2.1
LKWY **Lake** 71.88 46 PFAKE 17 51 00.0 +16
LKWY LR LR
comp=Z,950nm,22.0s
H17A **Grant Village** 71.89 46 P P 17 50 46.2 +2.0
baz=312,SNR=6.5
H17A **Grant Village** 71.89 46 *e*P P 17 50 46.7 +2.5
KLNR **Kaliningrad** 71.97 329 *e*P P 17 50 42.8 -1.2
KLNR pmax pmax
comp=Z,105nm,1.0s
ARQ **Araqi** 72.02 285 P P 17 50 45.6 +0.7
SNR=10
ARQ **Araqi** 72.02 285 P P 17 50 45.6 +0.7
SNR=10
IMW **Indian Meadow** 72.03 47 *e*P P 17 50 46.5 +1.5
FLWY **Flagg Ranch** 72.03 47 *e*P P 17 50 46.6 +1.6
RLMT **Red Lodge** 72.11 45 P P 17 50 45.8 +0.5
baz=312
RLMT **Red Lodge** 72.11 45 *e*P P 17 50 46.0 +0.6
RLMT LR LR
comp=Z,515nm,22.0s
TIN **Tinemaha, Big** 72.20 56 P P 17 50 47.1 +1.2
baz=310
MOOW **Moose Ponds** 72.23 47 *e*P P 17 50 47.5 +1.3
TPAW **Teton Pass** 72.29 47 *e*P P 17 50 48.0 +1.4
DGMT **Dagmar** 72.38 40 P P 17 50 47.0 +0.3
baz=314,SNR=10
DGMT **Dagmar** 72.38 40 *e*P P 17 50 47.5 +0.9
DGMT LR LR
comp=Z,425nm,21.0s
LOHW **Long Hollow** 72.40 47 *e*P P 17 50 48.3 +1.1
HVU **Hansel Valley** 72.40 49 *e*P P 17 50 48.5 +1.4
HVU **Hansel Valley** 72.40 49 *e*P P 17 50 48.5 +1.4
SNOW **Snow King Moun** 72.42 47 *e*P P 17 50 48.9 +1.7
REDW **Red Top Meadow** 72.43 47 *e*P P 17 50 48.9 +1.6
VES **Vestal, Richgr** 72.44 58 P P 17 50 47.6 +0.4
baz=310
SIM **Simferopol'** 72.48 315 *e*P P 17 50 47.2 -0.1
SIM *e*S SKiKP 18 00 30.0 +13
SIM pmax pmax
comp=Z,71nm,1.0s
SIM MLR MLR
comp=Z,1µm,17.5s
A25A **Svangstu Ranch** 72.57 39 P P 17 50 48.3 +0.5
baz=315,SNR=6.0
PKM **Mcpherson Peak** 72.58 59 P P 17 50 49.0 +0.7
baz=310
LAO **LASA Array** 72.62 42 P P 17 50 48.8 +0.6
baz=313,SNR=10
LAO **LASA Array** 72.62 42 *e*P P 17 50 48.2 0.0
LAO LR LR
comp=Z,393nm,20.0s
CWC **Cottonwood Cre** 72.69 56 P P 17 50 49.4 +0.5
baz=310
AHID **Auburn Hatcher** 72.69 48 *e*P P 17 50 49.8 +0.9
AHID LR LR
comp=Z,382nm,20.0s
GRAC **Grapevine Rang** 72.77 56 P P 17 50 50.4 +1.2
baz=310,SNR=16
BGU **Big Grassy Mou** 72.81 50 *e*P P 17 50 50.8 +1.3
BORG **Borgarnes** 72.84 353 P P 17 50 49.6 +0.5
comp=Z,26nm,1.0s,baz=35,slow=4.3,SNR=7.9
BORG **Borgarnes** 72.84 353 *e*P P 17 50 50.7 +1.6
BORG LR LR
comp=Z,367nm,19.0s
ISA **Isabella, Lake** 72.93 57 P P 17 50 50.7 +0.4
baz=310
R11A **Troy Canyon, C** 72.99 54 P P 17 50 51.6 +1.0
baz=310,SNR=21
R11A **Troy Canyon, C** 72.99 54 *e*P P 17 50 51.8 +1.2
DAC **Darwin (Calif)** 73.09 56 *e*P P 17 50 52.2 +0.9
DAC pmax pmax
comp=Z,10.0nm,0.9s
DAC **Darwin (Calif)** 73.09 56 *e*P P 17 50 52.2 +0.9
A26A **Wade Farm, Ken** 73.10 39 P P 17 50 51.3 +0.4
baz=315,SNR=7.5
HWUT **Hardware Ranch** 73.19 49 *e*P P 17 50 53.2 +1.3
HWUT LR LR
comp=Z,420nm,19.0s
SCZ2 **Santa Cruz Isl** 73.26 59 P P 17 50 53.1 +1.0
baz=310
MPMC **Manual Prospec** 73.30 56 P P 17 50 53.4 +0.9
baz=310,SNR=17
C25A **Freed Ranch, W** 73.36 40 P P 17 50 53.2 +0.7
baz=315
B26A **Jensen Ranch,** 73.38 39 P P 17 50 53.5 +0.9
baz=315
DUG **Dugway, Tooele** 73.42 51 P P 17 50 54.3 +1.2
baz=311,SNR=22
DUG **Dugway, Tooele** 73.42 51 *e*P P 17 50 53.4 +0.3
DUG MLR MLR
comp=Z,253nm,20.0s
DUG **Dugway, Tooele** 73.42 51 *e*P P 17 50 53.4 +0.3
DUG LR LR
comp=Z,253nm,20.0s
FURC **Furnace Creek,** 73.42 56 P P 17 50 54.0 +1.0
baz=310,SNR=23
A27A **Ledoux Ranch,** 73.43 38 P P 17 50 53.4 +0.6
baz=316,SNR=6.7
OSI **Osito Audit: C** 73.44 58 P P 17 50 54.2 +1.0
baz=310
TPNV **Topopah Spring** 73.49 55 P P 17 50 54.6 +1.1
baz=310,SNR=33
TPNV **Topopah Spring** 73.49 55 *e*P P 17 50 54.7 +1.1
TPNV pmax pmax
comp=Z,27nm,0.9s
TPNV **Topopah Spring** 73.49 55 *e*P P 17 50 54.7 +1.1
STKA **Stephens Creek** 73.53 181 P P 17 50 54.2 +0.9
comp=Z,4.6nm,0.7s,baz=334,slow=8.0,SNR=11
STKA **Stephens Creek** 73.53 181 *e*P P 17 50 53.7 +0.3
STKA **Stephens Creek** 73.53 181 *e*P P 17 50 53.7 +0.3
BSD **Bornholm Skovb** 73.53 332 *i*P P 17 50 52.6 -0.6
BSD pmax pmax
comp=Z,100nm,1.0s
BSD **Bornholm Skovb** 73.53 332⇑ *i*P P 17 50 52.6 -0.6
comp=Z,100nm,1.0s
BW06 **Boulder Array** 73.53 47 P P 17 50 54.3 +0.4
baz=312,SNR=20
BW06 **Boulder Array** 73.53 47 *e*P P 17 50 54.3 +0.4
BW06 LR LR
comp=Z,345nm,20.0s
PD31 **Pinedale Array** 73.53 47 *e*P P 17 50 54.4 +0.6
PDAR **Pinedale Array** 73.53 47 P P 17 50 54.4 +0.6
comp=Z,15nm,0.8s,baz=270,slow=2.7,SNR=52
TCUT **Toone Canyon** 73.61 49 *e*P P 17 50 54.8 +0.4
CTU **Camp Tracy** 73.69 50 *e*P P 17 50 55.9 +1.1
EDW2 **Edwards Air Fo** 73.73 58 P P 17 50 56.0 +1.1
baz=310,SNR=9.8
KIS **Kishinev** 73.75 319⇑ *i*P P 17 50 54.0 -0.7
KIS LRM MLR 18 24 16.0
comp=Z,200nm,1.0s
KIS **Kishinev** 73.75 319⇑ *i*P P 17 50 54.0 -0.7
KIS *e* 18 00 17.0
KIS *e* 18 00 48.0
KIS *e* 18 01 16.0
KIS pmax pmax
comp=Z,200nm,1.0s
KIS MLR MLR
comp=Z,1µm,22.0s
KIS MLR MLR
comp=Z,1µm,22.0s
SNCC **San Nicolas Is** 73.80 60 P P 17 50 56.7 +1.4
baz=310
BEL **Belsk** 73.82 327 *e*P P 17 50 55.5 +0.5
BEL **Belsk** 73.82 327⇑ *e*P P 17 50 55.5 +0.5
A28A **Rude Farm, Bot** 73.90 38 P P 17 50 56.2 +0.5
baz=316,SNR=15
COP **Copenhagen** 73.92 333 *i* P P 17 50 55.1 -0.5
COP pmax pmax
comp=Z,48nm,0.9s
COP **Copenhagen** 73.92 333 *i* P P 17 50 55.1 -0.5
comp=Z,48nm,0.9s
JLU **Jordanelle** 73.93 50 *e*P P 17 50 56.3 0.0
LVV **L'vov** 73.94 324 *d i*P P 17 50 55.2 -0.6
LVV *e*S SKiKP 18 00 20.0 +0.6
LVV MLR MLR
comp=Z,800nm,17.0s
NLU **North Lily Min** 74.00 50 *e*P P 17 50 58.1 +1.5
MWC **Mount Wilson** 74.12 58 *e*P P 17 50 58.4 +1.1
MWC **Mount Wilson** 74.12 58 *e*P P 17 50 58.4 +1.1
GKP **Gorka Klasztor** 74.12 329 *e*P P 17 50 56.8 0.0
GKP **Gorka Klasztor** 74.12 329⇑ *e*P P 17 50 56.8 0.0
SHOC **Shoshone, Teco** 74.15 56 P P 17 50 58.3 +1.0
baz=311
B28A **Dugan Ranch, T** 74.19 38 P P 17 50 57.8 +0.4
baz=316,SNR=8.8
GSC **Goldstone, Bar** 74.21 57 P P 17 50 58.5 +0.7
baz=311
GSC **Goldstone, Bar** 74.21 57 *e*P P 17 50 58.4 +0.7
GSC **Goldstone, Bar** 74.21 57 *e*P P 17 50 58.4 +0.7
D26A **Manning** 74.24 40 P P 17 50 57.9 +0.3
baz=316
BFSC **Mount Baldy Ra** 74.36 58 P P 17 50 59.2 +0.5
baz=310,SNR=6.7
A29A **Manning Farm,** 74.36 37 P P 17 50 58.5 +0.2
baz=317,SNR=39
LEOM **Leova** 74.40 319⇑ *i*P P 17 50 58.7 +0.2
LEOM **Leova** 74.40 319 ⇑P P 17 50 58.7 +0.2
SHPR **Sheep Range** 74.44 55 *e*P P 17 51 01.1 +1.9
B29A **Wagenman Farm,** 74.64 38 P P 17 51 00.2 +0.3
baz=317,SNR=15
KWP **Kalwaria Pacla** 74.66 324 *e*P P 17 51 00.6 +0.6
KWP **Kalwaria Pacla** 74.66 324 ⇓ *i*P P 17 51 00.7 +0.7
KWP **Kalwaria Pacla** 74.66 324 ⇑ *e*P P 17 51 00.6 +0.6
TUQ **Turquoise Moun** 74.67 56 P P 17 51 01.3 +0.8
baz=311
C28A **Hausauer Farms** 74.71 39 P P 17 51 00.9 +0.5
baz=317
SFNV **Sufian** 74.72 305 *e*P P 17 51 01.7 +1.0
A30A **Hoffart Farm,** 74.77 37 P P 17 51 00.9 +0.3
baz=318,SNR=10
MZRK **Al-Mazaregh** 74.78 305 *e*P P 17 51 01.5 +0.5
HEC **Hector,Ludlow** 74.81 57 P P 17 51 02.3 +1.0
baz=311
CCUT **Cedar City** 74.84 53 *e*P P 17 51 02.6 +1.1
ULM **Lac du Bonnet** 74.84 35 P P 17 51 00.7 -0.3
comp=Z,23nm,0.9s,baz=317,slow=6.9,SNR=19
ULM LR LR 18 25 59.9
comp=Z,263nm,20.8s,baz=321,slow=37
MSU **Marysvale** 74.90 52 *e*P P 17 51 03.2 +1.3
MSU **Marysvale** 74.90 52 *e*P P 17 51 03.2 +1.3
TMUT **Trail Mountain** 74.94 51 *e*P P 17 51 03.2 +1.1
SZCU **Shurtz Canyon** 74.97 53 *e*P P 17 51 03.6 +1.3
MDND **Maddock** 74.98 38 P P 17 51 02.2 +0.3
baz=317,SNR=6.1
MDND **Maddock** 74.98 38 *e*P P 17 51 02.6 +0.7
BUR08 **Bucovina Ar. S** 75.00 322 *e*P P 17 51 02.5 +0.3
D28A **Regan** 75.01 39 P P 17 51 02.4 +0.3
baz=317
BURAR **Bucovina Array** 75.02 322⇑ *i*P P 17 51 02.2 0.0
BURAR **Bucovina Array** 75.02 322 ⇑P P 17 51 02.2 0.0
TLCR 75.03 318⇑ *i*P P 17 51 02.8 +0.6
TLCR 75.03 318 ⇑P P 17 51 02.8 +0.6
MURC **Murrieta** 75.07 58 P P 17 51 03.3 +0.6
baz=311
P17A **Butcher Ranch,** 75.09 50 *e*P P 17 51 04.1 +1.2
B30A **Myrvik Farm, E** 75.12 37 P P 17 51 03.1 +0.4
baz=318,SNR=54
TESR **Tescani** 75.14 320⇑ *i*P P 17 51 02.8 0.0
MTPU **Mount Pierson** 75.21 52 *e*P P 17 51 05.3 +1.5
Q16A **Castle Valley** 75.21 51 *e*P P 17 51 05.3 +1.7
K22A **Casper** 75.24 45 P P 17 51 04.0 +0.3
baz=314,SNR=10
K22A **Casper** 75.24 45 *e*P P 17 51 03.8 +0.1
GMRC **Granite Mounta** 75.26 56 P P 17 51 04.4 +0.5
baz=311,SNR=12
KOLS **Kolonicke sedl** 75.37 324 *e*P P 17 51 03.9 -0.2
KOLS pmax pmax
comp=Z,46nm,1.1s
KOLS **Kolonicke sedl** 75.37 324 *e*P P 17 51 03.9 -0.2
KOLS *e*PP PP 17 53 50.4 -2.4
KOLS *e*L L 18 27 40.8
CFR **Carcaliu** 75.37 318⇑ *i*P P 17 51 04.1 -0.1
CFR **Carcaliu** 75.37 318 ⇑P P 17 51 04.1 -0.1
H25A **Fruitdale** 75.38 42 P P 17 51 04.6 +0.3
baz=315
B31A **Greenbush Farm** 75.44 37 P P 17 51 04.3 -0.2
baz=318
STHS **Stebnicka Huta** 75.45 325 *e*P P 17 51 05.3 +0.7
STHS pmax pmax
comp=Z,64nm,1.3s
STHS **Stebnicka Huta** 75.45 325 *e*P P 17 51 05.3 +0.7
OJC **Ojcow** 75.45 326 *i* P P 17 51 04.8 +0.3
OJC **Ojcow** 75.45 326 ⇑ *i*P P 17 51 04.9 +0.3
OJC **Ojcow** 75.45 326 *e*P P 17 51 04.8 +0.3
SRU **San Rafael Swe** 75.45 50 *e*P P 17 51 05.9 +0.9
SRU **San Rafael Swe** 75.45 50 *e*P P 17 51 05.9 +0.9
RSSD **Black Hills** 75.51 43 P P 17 51 05.7 +0.4
baz=315
RSSD **Black Hills** 75.51 43 *e*P P 17 51 05.5 +0.2
RSSD pmax pmax
comp=Z,18nm,0.9s
RSSD **Black Hills** 75.51 43 *e*P P 17 51 05.5 +0.2
KNB **Kanab** 75.51 53 *e*P P 17 51 06.7 +1.3
KNB **Kanab** 75.51 53 *e*P P 17 51 06.7 +1.3
PFO **Pinyon Flats O** 75.52 58 P P 17 51 05.9 +0.5
baz=311
PFO **Pinyon Flats O** 75.52 58 *e*P P 17 51 06.0 +0.5
PFO MLR MLR
comp=Z,393nm,20.0s
PFO **Pinyon Flats O** 75.52 58 *e*P P 17 51 06.0 +0.6
PFO LR LR
comp=Z,393nm,20.0s
TPFO **Pinon Flats** 75.53 58 P P 17 51 06.0 +0.5
baz=311
D29A **Pettibone, Tap** 75.56 39 P P 17 51 05.4 +0.2
baz=317
BELC **Belle Mtn. Jos** 75.56 57 P P 17 51 05.7 +0.1
baz=311,SNR=6.1
A32A **Rocking H Ranc** 75.58 36 P P 17 51 05.0 -0.3
baz=319
UZH **Uzhgorod** 75.59 324 *e*P P 17 51 03.3 -2.0
UZH *e* 17 51 17.3
UZH *i* 17 51 24.1
UZH *e*S S 18 00 34.3 -7.7
UZH *e*PS PnS 18 01 15.0 -8.6
UZH MLR MLR
comp=N,600nm,15.0s
UZH MLR MLR
comp=E,600nm,15.0s
UZH MLR MLR
comp=Z,300nm,15.0s
C30A **Mose, Pekin** 75.60 38 P P 17 51 05.5 +0.1
baz=318,SNR=5.3
PLOR **Plostina** 75.62 320 ⇓ *i*P P 17 51 06.3 +0.7
PLOR **Plostina** 75.62 320 ⇓P P 17 51 06.3 +0.7
CRVS **Cervenica-Dubn** 75.75 324 *e*P P 17 51 06.7 +0.4
CRVS **Cervenica-Dubn** 75.75 324 *e*P P 17 51 06.7 +0.4
TIRR **Tirgusor** 75.75 318 ⇓ *i*P P 17 51 06.3 0.0
TIRR **Tirgusor** 75.75 318 ⇓P P 17 51 06.3 0.0
BMR **Baia Mare** 75.76 322 ⇓ *i*P P 17 51 06.7 +0.3
BMR **Baia Mare** 75.76 322 ⇓P P 17 51 06.7 +0.3
KSRV **Kasrt alli** 75.76 305 *e*P P 17 51 08.2 +1.6
ARCR **ARCALIA** 75.80 322 ⇑ *i*P P 17 51 07.9 +1.3
HARR **Harsova** 75.83 318 ⇓ *i*P P 17 51 07.4 +0.7
HARR **Harsova** 75.83 318 ⇓P P 17 51 07.4 +0.7
TRPA **Tarpa** 75.85 323 ⇑ *e*P P 17 51 07.5 +0.7
NIE **Niedzica** 75.85 325 *e*P P 17 51 07.7 +0.8
NIE **Niedzica** 75.85 325 ⇑ *e*P P 17 51 07.7 +0.8
C31A **Landman Farms,** 75.87 37 P P 17 51 06.9 -0.1
baz=318,SNR=16
E29A **Napoleon** 75.90 39 P P 17 51 07.0 -0.2
baz=317
D30A **Buchanan** 75.91 38 P P 17 51 07.1 -0.2
baz=318,SNR=5.5
B32A **Ashes, Strandq** 75.95 36 P P 17 51 07.0 -0.4
baz=319,SNR=6.2
IRM **Iron Mountain** 75.99 57 P P 17 51 08.8 +0.9
baz=312,SNR=9.6
MONP2 **Monument Peak** 76.02 58 P P 17 51 09.1 +0.8
baz=311
A33A **Warroad** 76.04 35 P P 17 51 07.6 -0.3
baz=320,SNR=19
O20A **White River Ci** 76.05 48 P P 17 51 08.9 +0.5
baz=314,SNR=6.6
O20A **White River Ci** 76.05 48 *e*P P 17 51 09.1 +0.7
BIGH **Upper Bighouse** 76.07 343 *e*P P 17 51 07.3 -0.6
BIGH AMB AMB 17 51 07.9
comp=Z,102nm,1.5s
MLA1 **Latheron** 76.12 342 ⇑ *e*P P 17 51 08.2 0.0
BC3 **Big Chuckawall** 76.13 57 P P 17 51 09.7 +0.9
baz=312,SNR=7.8
DOPR **Dopca** 76.14 320⇑ *i*P P 17 51 09.6 +1.0
ISR **Istrita** 76.20 319⇑ *i*P P 17 51 09.9 +0.9
ISR **Istrita** 76.20 319 ⇑P P 17 51 09.9 +0.9
MLR **Muntele Rosu** 76.22 320 P P 17 51 09.8 +0.7
comp=Z,5.7nm,1.0s,baz=44,slow=3.1,SNR=4.1
MLR **Muntele Rosu** 76.22 320⇑ *i*P P 17 51 09.2 0.0
MLR **Muntele Rosu** 76.22 320 *e*P P 17 51 09.2 0.0
MLR **Muntele Rosu** 76.22 320 *e*P P 17 51 09.2 0.0
U15A **North Rim** 76.22 53 *e*P P 17 51 10.8 +1.3
BR101 **Keskin Array S** 76.29 311 *e*P P 17 51 09.8 +0.1
BR101 *e*PP PP 17 54 01.2 +0.3
BR131 **Keskin Array S** 76.29 311 *e*P P 17 51 09.6 0.0
BRTR **Keskin Array B** 76.29 311 P P 17 51 09.8 +0.1
comp=Z,26nm,0.8s,baz=57,slow=4.6,SNR=63
BRTR PP PP 17 54 01.2 +0.3
comp=Z,8.1nm,0.9s,baz=74,slow=4.1,SNR=6.8
BRTR LR LR 18 29 57.8
comp=Z,386nm,19.9s,baz=53,slow=40
AGMN **Agassiz Nation** 76.32 36 P P 17 51 09.1 -0.5
baz=319,SNR=19
AGMN **Agassiz Nation** 76.32 36 *e*P P 17 51 09.0 -0.5
AGMN LR LR
comp=Z,365nm,19.0s
F29A **Eureka** 76.35 40 P P 17 51 09.7 -0.1
baz=317
IKP **In-Ko-Pah, Jac** 76.38 58 P P 17 51 10.8 +0.6
baz=311
KSP **Ksiaz** 76.39 328 *i* P P 17 51 10.2 +0.4
KSP **Ksiaz** 76.39 328 ⇑ *i*P P 17 51 10.2 +0.4
C32A **Crookston** 76.39 37 P P 17 51 09.4 -0.5
baz=319
LANS **Liptovska Anna** 76.41 326 *e*P P 17 51 11.5 +1.4
LANS **Liptovska Anna** 76.41 326 *e*P P 17 51 11.5 +1.4
PSN **Preselentsi** 76.42 317⇑ *i*P P 17 51 10.8 +0.6
PSN **Preselentsi** 76.42 317 ⇑P P 17 51 10.8 +0.6
CJR **Cluj-Napoca** 76.43 322⇑ *i*P P 17 51 11.2 +1.0
CJR **Cluj-Napoca** 76.43 322 ⇑P P 17 51 11.2 +1.0
OKC **Ostrava-Krasne** 76.43 327⇑ *i*P P 17 51 10.2 +0.1
OKC *e*PP sP 17 51 28.5 -2.4
OKC *e*SKS SKSac 18 01 15.9 -1.0
OKC AMS AMS 18 27 40.0
comp=Z,900nm,19.1s
OKC **Ostrava-Krasne** 76.43 327⇑ *i*P P 17 51 10.2 +0.1
OKC *e* 17 51 28.5
OKC *e* 18 01 15.9
OKC MLR MLR
comp=Z,900nm,19.1s
D31A **Mcclaflin, Tow** 76.43 38 P P 17 51 10.0 -0.2
baz=318,SNR=6.3
B33A **Robert and Kas** 76.46 36 P P 17 51 09.8 -0.6
baz=320
RSC **Scourie** 76.48 343⇑ *e*P P 17 51 10.2 0.0
KECS **Kecovo** 76.49 325 *e*P P 17 51 11.3 +0.8
KECS pmax pmax
comp=Z,12nm,0.9s
KECS **Kecovo** 76.49 325 *e*P P 17 51 11.3 +0.8
KECS **Kecovo** 76.49 319⇑ *i*P P 17 51 11.7 +1.1
PDMCI **Parker Dam,Lak** 76.52 56 P P 17 51 11.4 +0.5
baz=312,SNR=6.9

Y12C	Blythe	76.65	57	P		P		17 51 12.5	+0.9	
	baz=312									
Y12C	Blythe	76.65	57	*e*P		P		17 51 12.9	+1.2	
DRWC	Darouich	76.66	307	*e*P		P		17 51 12.7	+1.0	
ANTO	Ankara	76.66	312	*e*P		P		17 51 12.2	+0.5	
ANTO					MLR	MLR				
	comp=Z,365nm,20.0s									
ANTO	Ankara	76.66	312	P		P		17 51 12.2	+0.5	
	SNR=21									
ANTO	Ankara	76.66	312	P		P		17 51 12.2	+0.5	
	SNR=21									
ANTO	Ankara	76.66	312	*e*P		P		17 51 12.2	+0.5	
ANTO					LR	LR				
	comp=Z,365nm,20.0s									
PV09	Paradox Valley	76.67	50	*e*P		P		17 51 13.0	+0.9	
BR231	Keskin MP Arra	76.69	312	*e*P		P		17 51 10.5	-1.4	
D32A	Dogwood Acres,	76.69	37	P		P		17 51 11.1	-0.5	
	baz=319,SNR=5.3									
VOIR		76.69	320	⇑*i*P		P		17 51 12.2	+0.4	
VOIR		76.69	320	⇑P		P		17 51 12.2	+0.4	
B34A	Aery, Baudette	76.70	35	P		P		17 51 11.0	-0.7	
	baz=320,SNR=18									
E31A	Nome	76.72	38	P		P		17 51 11.5	-0.3	
	baz=318,SNR=18									
MORC	Moravsky Berou	76.72	327	⇑*i*P		P		17 51 12.2	+0.4	
MORC	Moravsky Berou	76.72	327	⇑P		P		17 51 12.2	+0.4	
MORC	Moravsky Berou	76.72	327	*e*P		P		17 51 12.3	+0.5	
F30A	Leola	76.73	39	P		P		17 51 11.7	-0.2	
	baz=318									
MCD	Coleburn Disti	76.75	342	⇑*e*P		P		17 51 11.6	-0.2	
PHWY	Pilot Hill	76.75	46	*e*P		P		17 51 12.8	+0.3	
UPC	Upice	76.76	328	⇑*i*P		P		17 51 12.5	+0.5	
UPC					AMS	AMS		18 26 00.0		
	comp=Z,700nm,20.1s									
UPC	Upice	76.76	328	⇑*i*P		P		17 51 12.5	+0.5	
UPC					MLR	MLR				
	comp=Z,700nm,20.1s									
DPC	Dobruska-Polom	76.76	328	⇑*i*P		P		17 51 12.7	+0.6	
DPC				*e*pP		sP		17 51 31.1	-1.8	
DPC					AMS	AMS		18 23 40.0		
	comp=Z,700nm,22.3s									
DPC	Dobruska-Polom	76.76	328	⇑*i*P		P		17 51 12.7	+0.6	
DPC				*e*				17 51 31.1		
DPC					MLR	MLR				
	comp=Z,700nm,22.3s									
C33A	Trail	76.77	36	P		P		17 51 11.4	-0.7	
	baz=320									
G29A	Hoven	76.77	40	P		P		17 51 12.0	-0.2	
	baz=317									
DRGR		76.78	322	⇓*i*P		P		17 51 12.5	+0.3	
DRGR		76.78	322	⇓P		P		17 51 12.5	+0.3	
N23A	Red Feather La	76.78	46	P		P		17 51 13.4	+0.8	
	baz=315,SNR=14									
N23A	Red Feather La	76.78	46	*e*P		P		17 51 13.5	+0.9	
PV10	Paradox Valley	76.80	50	*e*P		P		17 51 14.4	+1.6	
GLA	Glamis	76.92	57	P		P		17 51 14.1	+0.9	
	baz=312,SNR=5.0									
GLA	Glamis	76.92	57	*e*P		P		17 51 14.5	+1.2	
GLA	Glamis	76.92	57	*e*P		P		17 51 14.5	+1.2	
PV05	Paradox Valley	76.97	50	*e*P		P		17 51 14.8	+1.1	
H29A	Onida	77.05	41	P		P		17 51 13.6	-0.2	
	baz=317									
RRR	Rubha Reidh	77.06	343	⇑*i*P		P		17 51 13.3	-0.2	
E32A	Braaten, Kindr	77.07	38	P		P		17 51 13.7	0.0	
	baz=319									
F31A	Hecla	77.07	39	P		P		17 51 13.5	-0.3	
	baz=318,SNR=9.4									
MDO	Dochfour	77.13	342	⇑*e*P		P		17 51 13.7	-0.3	
PRD	Provadia	77.16	317	*i* P		P		17 51 14.6	+0.3	
CAN	Canberra	77.17	175	PFAKE				17 51 30.0	+16	
CAN					LR	LR				
	comp=Z,653nm,21.0s									
DRUM	Mains of Drumt	77.17	341	*e*P		P		17 51 13.6	-0.5	
PSZ	Piszkesteto	77.17	325	⇑*i*P		P		17 51 15.0	+0.6	
PSZ	Piszkesteto	77.17	325	⇑*e*P		P		17 51 15.1	+0.6	
PSZ	Piszkesteto	77.17	325	*e*P		P		17 51 14.8	+0.4	
PSZ					pmax	pmax				
	comp=Z,120nm,1.2s									
PSZ	Piszkesteto	77.17	325	*e*P		P		17 51 15.0	+0.6	
PSZ					LR	LR				
	comp=Z,2μm,19.0s									
VYHS	Vyhne	77.18	325	*e*P		P		17 51 14.9	+0.5	
VYHS					pmax	pmax				
	comp=Z,33nm,1.2s									
VYHS	Vyhne	77.18	325	*e*P		P		17 51 14.9	+0.5	
VYHS				*e*PP		PP		17 54 05.8	-2.3	
VYHS				*e*S		S		18 01 03.5	+3.9	
VYHS				*e*L		L		18 28 18.7		
G30A	Faulkton	77.19	40	P		P		17 51 14.6	+0.1	
	baz=318,SNR=12									
RRH	Rhenigidale	77.19	344	⇑*i*P		P		17 51 14.0	-0.2	
B35A	Bob, Littlefor	77.19	35	P		P		17 51 14.0	-0.4	
	baz=321,SNR=22									
D33A	AnnSam, Waubun	77.21	37	P		P		17 51 14.0	-0.6	
	baz=320									
C34A	RKJ Ranch, Bem	77.23	36	P		P		17 51 14.4	-0.3	
	baz=320									
PV01	Paradox Valley	77.24	50	*e*P		P		17 51 16.1	+0.9	
BRG	Berggiesshubel	77.26	330	⇑*i*P		P		17 51 14.8	0.0	
	comp=Z,41nm,1.1s									
BRG				S		S		18 01 00.0	-0.3	
	comp=N,914nm,22.5s									
	comp=E,744nm,23.1s									
	comp=Z,1μm,25.0s									
BRG	Berggiesshubel	77.26	330	*i*P		P		17 51 14.8	0.0	
BRG				S		S		18 01 00.0	-0.3	
BRG					pmax	pmax				
	comp=Z,41nm,1.1s									
BRG					MLR	MLR				
	comp=N,914nm,22.5s									
BRG					MLR	MLR				
	comp=E,744nm,23.1s									
BRG					MLR	MLR				
	comp=Z,1μm,25.0s									
CLL	Collm	77.27	330	⇑*i*P		P		17 51 14.3	-0.5	
	comp=Z,102nm,1.1s									
CLL				*e*				17 51 20.0		
CLL				*e*S		S		18 00 55.0	-5.3	
CLL				*e*PS		ScS		18 01 29.0	+1.1	
CLL				Lm		MLR		18 27 00.0		
	comp=Z,1μm,21.6s									
CLL	Collm	77.27	330	⇑*i*P		P		17 51 14.3	-0.5	
CLL				*e*S		S		18 00 55.0	-5.3	
CLL					pmax	pmax				
	comp=Z,102nm,1.1s									
CLL					MLR	MLR				
	comp=Z,1μm,21.6s									
KAC	Achnashellach	77.28	343	*e*P		P		17 51 14.6	-0.2	
PVCC	Panska Ves	77.30	329	⇑*i*P		P		17 51 15.6	+0.6	
PVCC				*e*pP		pP		17 51 31.2	+1.2	
PVCC					AMS	AMS		18 28 00.0		
	comp=Z,800nm,19.8s									
PVCC	Panska Ves	77.30	329	⇑*i*P		P		17 51 15.6	+0.6	
PVCC				*e*				17 51 31.2		
PVCC					MLR	MLR				
	comp=Z,800nm,19.8s									
SMCO	Snowmass	77.41	48	*e*P		P		17 51 17.1	+0.7	
I29A	Vivian Onida	77.45	41	P		P		17 51 15.9	-0.1	
	baz=317									
Y14A	Wickenburg	77.46	56	*e*P		P		17 51 17.4	+1.1	
VRAC	Vranov	77.47	327	P		P		17 51 16.6	+0.6	
	comp=Z,48nm,1.0s,baz=45,slow=5.7,SNR=42									
VRAC	Vranov	77.47	327	⇓*i*P		P		17 51 16.6	+0.6	
KPL	Plockton	77.51	343	*e*P		P		17 51 15.9	0.0	
KPL					AMB	AMB		17 51 17.4		
	comp=Z,90nm,1.4s									
KFRA	Kufra	77.53	306	*e*P		P		17 51 13.1	-3.5	
D34A	Park Rapids	77.54	36	P		P		17 51 15.8	-0.6	
	baz=320,SNR=8.6									
WRDH	Warideh	77.56	307	*e*P		P		17 51 17.0	+0.2	
G31A	Conde	77.56	39	P		P		17 51 16.6	0.0	
	baz=318									
KSB	Sheil Bridge	77.58	343	⇑*e*P		P		17 51 15.9	-0.5	
ARNB	Al Arnab	77.58	307	*e*P		P		17 51 17.8	+0.8	
F32A	Veblen	77.59	38	P		P		17 51 16.2	-0.5	
	baz=319									
C35A	Jirik Farms, M	77.60	35	P		P		17 51 16.0	-0.7	
	baz=321,SNR=16									
E33A	Westby DABS, E	77.62	37	P		P		17 51 16.8	-0.1	
	baz=320,SNR=10.0									
GOPC	GO Pecny, Ondr	77.71	329	⇑*i*P		P		17 51 17.6	+0.3	
GOPC				*e*XS		S		18 01 29.4	+24	
GOPC					AMS	AMS		18 26 30.0		
	comp=Z,800nm,20.3s									
GOPC	GO Pecny, Ondr	77.71	329	*i* P		P		17 51 17.6	+0.3	
GOPC				*e*				18 01 29.4		
GOPC					MLR	MLR				
	comp=Z,800nm,20.3s									
ISCO	Idaho Springs	77.73	47	P		P		17 51 18.9	+0.9	
	baz=315,SNR=11									
ISCO	Idaho Springs	77.73	47	*e*P		P		17 51 18.7	+0.7	
ISCO					MLR	MLR				
	comp=Z,299nm,20.0s									
ISCO	Idaho Springs	77.73	47	*e*P		P		17 51 18.7	+0.7	
ISCO					LR	LR				
	comp=Z,299nm,20.0s									
PRU	Pruhonice	77.75	329	⇑*i*P		P		17 51 17.8	+0.3	
PRU				*e*pP		sP		17 51 36.9	-1.4	
PRU				*e*S		S		18 01 04.9	-0.7	
PRU				*e*XS		sS		18 01 31.3	+0.6	
PRU					AMS	AMS		18 26 30.0		
	comp=Z,800nm,20.4s									
PRU	Pruhonice	77.75	329	⇑*i*P		P		17 51 17.8	+0.3	
PRU				*e*				17 51 36.9		
PRU				*e*S		S		18 01 04.9	-0.7	
PRU				*e*				18 01 31.3		
PRU					MLR	MLR				
	comp=Z,800nm,20.4s									
SMOL	Smolenice	77.76	326	*e*P		P		17 51 18.8	+1.2	
SMOL	Smolenice	77.76	326	*e*P		P		17 51 18.8	+1.2	
113A	Mohawk Valley,	77.77	57	*e*P		P		17 51 18.8	+0.8	
SUSD	Miller	77.79	40	P		P		17 51 18.0	+0.1	
	baz=318,SNR=6.7									
RABH	Abou Rabah	77.81	305	*e*P		P		17 51 19.5	+1.3	
SZH	Strazhica	77.85	318	*i* P		P		17 51 18.3	+0.1	
G32A	Webster	77.88	39	P		P		17 51 18.5	+0.2	
	baz=319,SNR=7.0									
BUD	Budapest	77.88	325	⇑*e*P		P		17 51 18.8	+0.5	
MVCO	Mesa Verde	77.92	51	P		P		17 51 19.8	+0.8	
	baz=314,SNR=6.6									
MVCO	Mesa Verde	77.92	51	*e*P		P		17 51 19.4	+0.4	
MVCO					LR	LR				
	comp=Z,295nm,22.0s									
TREC	Trest	77.93	328	⇑*i*P		P		17 51 18.9	+0.3	
TREC					AMS	AMS		18 27 30.0		
	comp=Z,700nm,21.7s									
TREC	Trest	77.93	328	*i* P		P		17 51 18.9	+0.3	
TREC					MLR	MLR				
	comp=Z,700nm,21.7s									
ROOS	tl alroos	77.94	305	*e*P		P		17 51 20.2	+1.3	
I30A	Oacoma	77.95	41	P		P		17 51 18.8	-0.1	
	baz=318									
E34A	Wadena	77.99	37	P		P		17 51 18.6	-0.3	
	baz=320									
F33A	5 Mile Ranch,	77.99	38	P		P		17 51 18.9	0.0	
	baz=319,SNR=12									
H31A	Wolsey	77.99	40	P		P		17 51 18.8	-0.2	
	baz=318									
C36A	Pine Crest Far	78.04	35	P		P		17 51 18.7	-0.5	
	baz=321,SNR=25									
D35A	Remer	78.04	36	P		P		17 51 18.5	-0.7	
	baz=321,SNR=6.3									
X16A	Lo Mia Camp, P	78.09	54	*e*P		P		17 51 21.1	+1.2	
ESY	Stoneypath	78.10	341	⇑*i*P		P		17 51 19.2	-0.1	
JMB	Yambol	78.11	317	*i* P		P		17 51 20.0	+0.4	
BZS	Buzias	78.16	322	⇑*i*P		P		17 51 19.7	-0.2	
BZS	Buzias	78.16	322	⇑P		P		17 51 19.7	-0.2	
HAWK	Haweek	78.24	306	*e*P		P		17 51 21.4	+0.8	
EAB	Aberfoyle	78.27	342	⇑*i*P		P		17 51 20.3	+0.1	
E35A	Pequot Lakes	78.29	36	P		P		17 51 20.0	-0.6	
	baz=320									
I31A	Royce, Wessing	78.30	40	P		P		17 51 20.4	-0.3	
	baz=318									
C37A	Embarrass	78.34	34	P		P		17 51 20.4	-0.5	
	baz=322,SNR=25									
NKC	Novy Kostel	78.34	330	⇑*i*P		P		17 51 20.9	+0.1	
NKC					AMS	AMS		18 28 40.0		
	comp=Z,1μm,19.8s									
NKC	Novy Kostel	78.34	330	*i* P		P		17 51 20.9	+0.1	
NKC					MLR	MLR				
	comp=Z,1μm,19.8s									
D36A	Goodland	78.35	35	P		P		17 51 20.2	-0.7	
	baz=321,SNR=8.6									
J30A	Dallas	78.36	41	P		P		17 51 21.1	+0.1	
	baz=318,SNR=5.6									
G33A	Ortonville	78.41	38	P		P		17 51 21.0	-0.3	
	baz=319,SNR=11									
FKH	Fakeheh	78.42	306	*e*P		P		17 51 22.4	+0.7	
EYMN	Ely	78.45	34	P		P		17 51 20.9	-0.6	
	baz=322,SNR=30									
EYMN	Ely	78.45	34	*e*P		P		17 51 20.9	-0.6	
EYMN					LR	LR				
	comp=Z,412nm,22.0s									
H32A	Carlson Farm,	78.47	39	P		P		17 51 21.6	-0.1	
	baz=319									
F34A	Alexandria	78.50	37	P		P		17 51 21.6	-0.2	
	baz=320,SNR=6.9									
S22A	4UR Ranch, Cre	78.50	49	P		P		17 51 22.9	+0.7	
	baz=315,SNR=17									
S22A	4UR Ranch, Cre	78.50	49	*e*P		P		17 51 23.6	+1.3	
MARH	Ras Al Marh	78.53	306	*e*P		P		17 51 23.3	+0.8	
Q24A	Divide	78.57	47	P		P		17 51 23.1	+0.4	
	baz=315,SNR=13									
Q24A	Divide	78.57	47	*e*P		P		17 51 23.1	+0.4	
W18A	Petrified Fore	78.64	53	P		P		17 51 23.4	+0.5	
	baz=314									
W18A	Petrified Fore	78.64	53	*e*P		P		17 51 21.8	-1.2	
PGBU	Glenifferbraes	78.64	342	*e*P		P		17 51 22.0	-0.3	
PGBU					AMB	AMB		17 51 24.5		
	comp=Z,135nm,1.2s									
H33A	Prehn Over Nor	78.66	39	P		P		17 51 22.5	-0.2	
	baz=319,SNR=21									
HWQ	Hawqa	78.68	306	*e*P		P		17 51 23.2	+0.1	
D37A	Cotton	78.68	35	P		P		17 51 22.2	-0.6	
	baz=322,SNR=11									
C38A	Sawbill Land.	78.73	34	P		P		17 51 22.5	-0.5	
	baz=322,SNR=31									
G34A	Benson	78.75	38	P		P		17 51 23.1	0.0	
	baz=320,SNR=5.3									
MDVR	Moldovita	78.75	321	⇓*i*P		P		17 51 23.0	-0.2	
J31A	Geddes	78.75	41	P		P		17 51 23.3	+0.1	
	baz=318,SNR=7.4									
F35A	Swanville	78.75	37	P		P		17 51 22.9	-0.3	
	baz=320									
ZALF	Zalf	78.76	304	*e*P		P		17 51 23.6	+0.1	
EKA	Eskdalemuir Ar	78.76	341	P		P		17 51 22.9	-0.2	
	comp=Z,20nm,0.8s,baz=25,slow=5.4,SNR=37									
SOP	Sopron	78.77	326	⇑*e*P		P		17 51 24.0	+0.8	
K30A	Basset	78.78	42	P		P		17 51 23.6	+0.2	
	baz=318,SNR=6.3									
ESK	Eskdalemuir	78.79	341	*e*P		P		17 51 23.0	-0.2	
ESK					AMB	AMB		17 51 23.8		
	comp=Z,28nm,0.9s									
ESK	Eskdalemuir	78.79	341	*e*P		P		17 51 23.2	0.0	
ESK					MLR	MLR				
	comp=Z,418nm,21.0s									
ESK	Eskdalemuir	78.79	341	*e*P		P		17 51 23.2	0.0	
ESK					LR	LR				
	comp=Z,418nm,21.0s									
KHC	Kasperske Hory	78.81	329	⇑*i*P		P		17 51 23.9	+0.4	
KHC				*e*pP		pP		17 51 41.4	+3.0	
KHC				*e*S		S		18 01 16.8	-0.3	
KHC				*e*XS		sS		18 01 43.6	+1.3	
KHC					AMS	AMS		18 27 10.0		
	comp=Z,1μm,23.7s									
KHC	Kasperske Hory	78.81	329	⇑*i*P		P		17 51 23.9	+0.4	
KHC				*e*				17 51 41.4		
KHC				*e*S		S		18 01 16.8	-0.3	
KHC				*e*				18 01 43.6		
KHC					MLR	MLR				
	comp=Z,1μm,23.7s									
KHC	Kasperske Hory	78.81	329	*e*P		P		17 51 23.7	+0.2	
I32A	Karley and Nic	78.81	40	P		P		17 51 23.5	-0.1	
	baz=319									
OGNE	Ogallala	78.82	44	P		P		17 51 23.9	+0.1	
	baz=317,SNR=5.1									
OGNE	Ogallala	78.82	44	*e*P		P		17 51 23.5	-0.2	
OGNE					LR	LR				
	comp=Z,362nm,22.0s									
E36A	McGregor	78.83	36	P		P		17 51 23.1	-0.4	
	baz=321,SNR=21									
MPEP	Malo Peshtene	78.86	319	*i* P		P		17 51 24.1	+0.3	
CONA	Conrad Observa	78.86	327	*i* P		P		17 51 24.5	+0.7	
	comp=Z,56nm,1.2s,SNR=21									
WTSB	Winterswijk	78.88	334	*i* P		P		17 51 23.5	-0.2	
	comp=Z,91nm,0.9s									
ECK	Cauldkaine Hil	78.89	341	⇑*e*P		P		17 51 23.4	-0.4	
X18A	Snowflake	78.91	53	*e*P		P		17 51 24.4	-0.1	
214A	Organ Pipe Nat	78.92	57	P		P		17 51 25.0	+0.6	
	baz=313									
GEC2	GERESS Array S	78.99	328	*e*P		P		17 51 24.5	0.0	
GEC2	GERESS Array S	78.99	328	*e*P		P		17 51 24.5	0.0	
GERES	GERESS Array B	78.99	328	P		P		17 51 24.3	-0.2	
	comp=Z,14nm,0.9s,baz=36,slow=5.0,SNR=71									
GERES					LR	LR		18 28 59.2		
	comp=Z,572nm,21.2s,baz=40,slow=38									
BHH	Howats Hill	79.00	341	*e*P		P		17 51 23.5	-0.8	
GEA0	GERESS Array S	79.00	328	*e*P		P		17 51 24.4	-0.1	
TOTH	TOTAH	79.02	305	*e*P		P		17 51 22.9	-2.0	
BHL	Bhannes	79.11	306	*e*P		P		17 51 25.5	0.0	
I33A	Coleman	79.11	39	P		P		17 51 25.2	+0.1	
	baz=319,SNR=10									
C39A	Grand Marais	79.12	33	P		P		17 51 24.3	-0.8	
	baz=323									
H34A	Spellman Lake,	79.12	38	P		P		17 51 25.3	+0.1	
	baz=320									
J32A	Parkston	79.12	40	P		P		17 51 24.8	-0.4	
	baz=319									
E37A	Wrenshall	79.16	35	P		P		17 51 24.7	-0.7	
	baz=322									
F36A	Milaca	79.22	36	P		P		17 51 24.9	-0.8	
	baz=321,SNR=5.8									
K31A	O'Neill	79.24	41	P		P		17 51 26.1	+0.2	
	baz=318									
SDCO	Great Sand Dun	79.24	49	P		P		17 51 27.0	+0.7	
	baz=315,SNR=18									
SDCO	Great Sand Dun	79.24	49	*e*P		P		17 51 26.8	+0.4	
SDCO					LR	LR				
	comp=Z,312nm,21.0s									
PGB	Panagyurishte	79.25	319	*i* P		P		17 51 26.6	+0.6	
SALA	Sala	79.27	304	*e*P		P		17 51 25.0	-1.5	
RCY	Rachaya	79.28	306	*e*P		P		17 51 26.9	+0.5	
G35A	Watkins	79.28	37	P		P		17 51 25.9	-0.2	
	baz=321									
KDZ	Kurdzhali	79.30	317	*i* P		P		17 51 26.9	+0.7	
DQRL	Deir Qamar	79.30	306	*e*P		P		17 51 26.8	+0.3	
GMK	Mull of Kintyr	79.33	342	⇑*e*P		P		17 51 25.7	-0.4	
KESW	Keswick, Cumbr	79.42	341	*e*P		P		17 51 26.4	-0.2	
KESW					AMB	AMB		17 51 28.1		
	comp=Z,112nm,1.2s									
ECSD	EROS Data Cent	79.44	39	P		P		17 51 26.9	-0.1	
	baz=320,SNR=33									
ECSD	EROS Data Cent	79.44	39	*e*P		P		17 51 26.6	-0.4	
ECSD					LR	LR				
	comp=Z,436nm,22.0s									
H35A	Sunnyside Ranc	79.53	38	P		P		17 51 27.6	+0.2	
	baz=320,SNR=20									
ALN	Alexandroupoli	79.53	316	P		P		17 51 27.8	+0.3	
L31A	Butterfield Fa	79.53	42	P		P		17 51 27.6	0.0	
	baz=318,SNR=7.3									
ASF	Jabal al Asfar	79.54	304	P		P		17 51 28.6	+0.8	
	comp=Z,16nm,0.7s,baz=5.9,slow=2.2,SNR=36									
ARSA	Arzberg	79.54	326	*i* P		P		17 51 27.8	+0.4	
	comp=Z,32nm,1.1s,SNR=9.5									
GAL1	Galloway	79.56	342	*e*P		P		17 51 27.0	-0.4	
GAL1					AMB	AMB		17 51 27.9		
	comp=Z,40nm,1.1s									
I34A	Hadley	79.56	39	P		P		17 51 27.7	0.0	
	baz=320,SNR=5.7									
MOA	Molln	79.57	328	*e*P		P		17 51 27.9	+0.3	
	comp=Z,20nm,0.9s,SNR=7.2									
J33A	Davis	79.59	40	P		P		17 51 27.6	-0.2	
	baz=319									
K32A	Verdigre	79.60	41	P		P		17 51 27.5	-0.3	
	baz=319									
G36A	St. Michael	79.60	37	P		P		17 51 27.6	-0.2	
	baz=321									
RZN	Rozhen	79.62	318	*i* P		P		17 51 28.7	+0.5	
CSS	Mathiatis	79.77	308	P		P		17 51 28.9	0.0	
CSS	Mathiatis	79.77	308	*e*P		P		17 51 28.5	-0.4	
CSS					LR	LR				
	comp=Z,150nm,22.0s									
MMAI	Mount Meron Ar	79.88	305	P		P		17 51 30.4	+0.8	
	comp=Z,91nm,0.9s,baz=36,slow=7.2,SNR=100									
KULA	Kula-Manisa	79.88	313	P		P		17 51 29.5	-0.1	
KSCO	Kaye Shedlock'	79.91	46	P		P		17 51 30.0	+0.2	
	baz=317									
KSCO	Kaye Shedlock'	79.91	46	*e*P		P		17 51 29.8	+0.1	
TUC	Tucson	79.93	56	P		P		17 51 30.8	+0.9	
	baz=314									
TUC	Tucson	79.93	56	*e*P		P		17 51 30.9	+0.9	
TUC					MLR	MLR				
	comp=Z,266nm,22.0s									
TUC	Tucson	79.93	56	*e*P		P		17 51 30.9	+1.0	
TUC					LR	LR				
	comp=Z,266nm,22.0s									
SPMN	Marine on St.	80.03	36	P		P		17 51 29.9	-0.2	
	baz=322									
H36A	Jessenland, He	80.03	37	P		P		17 51 30.3	+0.2	
	baz=321,SNR=6.3									
DIVS	Divibare	80.07	322	P		P		17 51 30.2	-0.2	
L32A	Elgin	80.07	41	P		P		17 51 30.5	+0.1	
	baz=319									
M31A	Lamlecht Ranc	80.08	42	P		P		17 51 30.3	-0.2	
	baz=318									
J34A	George	80.09	39	P		P		17 51 30.1	-0.4	
	baz=320									
I35A

M33A **Taylor Creek F** 80.80 41 P P 17 51 34.0 -0.3
baz=319
O31A **Woolen Ranch,** 80.80 43 P P 17 51 33.8 -0.6
baz=318
MYKA **Terra Mystica** 80.81 327 *i* P P 17 51 33.9 -0.5
comp=Z,62nm,1.3s,SNR=12
J36A **Seneca 1, Swea** 80.81 38 P P 17 51 33.8 -0.6
baz=321
WPM1 **Penmaenmawr** 80.83 340 *e*P P 17 51 33.8 -0.5
N32A **Stulken Farm,** 80.86 42 P P 17 51 34.4 -0.3
baz=319
K35A **Storm Lake** 80.86 39 P P 17 51 34.1 -0.6
baz=320
COWI **Conover** 80.90 34 *e*P P 17 51 34.5 -0.3
COWI LR LR
comp=Z,137nm,20.0s
PLE **Pljevlja** 80.94 322⇑ *i*P P 17 51 34.8 -0.4
VAY **Valandovo** 80.96 319 P P 17 51 35.5 +0.3
VAY **Valandovo** 80.96 319 *e*P P 17 51 35.9 +0.7
VISS **Visnje** 80.98 326 *i*P P 17 51 34.8 -0.5
FOEL **Foel Wylfa** 80.99 340 *e*P P 17 51 35.2 +0.1
FOEL AMB AMB 17 51 38.2
comp=Z,88nm,1.0s
OUR **Ouranopolis** 81.00 317 P P 17 51 35.4 0.0
YLL **Llanberis** 81.01 341 *e*P P 17 51 34.8 -0.4
SKO **Skopje** 81.02 320 P P 17 51 36.2 +0.7
SKO **Skopje** 81.02 320 *e*P P 17 51 36.5 +1.0
WATA **Walderalm** 81.05 329 *i*P P 17 51 35.8 0.0
comp=Z,104nm,1.3s,SNR=20
BOJS **Bojanci** 81.05 326 *i*P P 17 51 35.2 -0.4
WLF **Walferdange** 81.06 333 P P 17 51 36.1 +0.5
comp=Z,34nm,1.9s
WLF **Walferdange** 81.06 333 *e*P P 17 51 35.9 +0.4
WLF MLR MLR
comp=Z,1µm,21.0s
WLF **Walferdange** 81.06 333 *e*P P 17 51 35.9 +0.4
WLF LR LR
comp=Z,1µm,21.0s
IVA **Berane** 81.06 321⇑ *i*P P 17 51 35.8 0.0
LANF **Langenberg** 81.07 332⇑ *e*P P 17 51 35.6 0.0
WTTA **Wattenberg** 81.08 329 *i*P P 17 51 36.2 +0.3
comp=Z,40nm,0.8s,SNR=12
BNM **Barren Site** 81.14 52 *e*P P 17 51 37.8 +1.2
M34A **Aspy Farms, Fr** 81.15 41 P P 17 51 35.8 -0.4
baz=320
ABTA **Abfaltersbach** 81.16 328 *i*P P 17 51 35.5 -0.8
comp=Z,36nm,1.3s,SNR=8.4
I38A **Scanlan Farm,** 81.17 37 P P 17 51 35.7 -0.6
baz=322
L35A **Bielow Farm, R** 81.18 40 P P 17 51 35.8 -0.6
baz=320
J37A **Redenius Farm,** 81.19 38 P P 17 51 36.2 -0.2
baz=321,SNR=10
DOU **Dourbes** 81.20 334 P P 17 51 36.3 0.0
comp=Z,21nm,1.5s
YRE **Yr Eifl** 81.22 341 *e*P P 17 51 36.3 0.0
MOTA **Moosalm** 81.22 329 *i*P P 17 51 36.7 0.0
comp=Z,122nm,1.0s,SNR=47
JAVS **Javornik** 81.23 326 *i*P P 17 51 35.1 -1.5
RETA **Reutte** 81.24 329 *i*P P 17 51 36.8 +0.2
comp=Z,114nm,1.2s,SNR=34
PLG **Polygyros** 81.24 318 P P 17 51 36.5 -0.2
PVY **Plav** 81.24 321⇑ *i*P P 17 51 36.6 -0.2
O32A **Brockman Farm,** 81.25 43 P P 17 51 36.1 -0.7
baz=319
UPM **Unac-Piva** 81.26 322⇑ *i*P P 17 51 36.4 -0.6
K36A **Gilmore City** 81.30 39 P P 17 51 36.8 -0.2
baz=321
BFO **Black Forest** 81.43 331 *e*P P 17 51 37.4 -0.2
BFO **Black Forest** 81.43 331 *e*P P 17 51 37.5 0.0
BFO LR LR
comp=Z,534nm,19.0s
DSB **Dublin** 81.44 342 *e*P P 17 51 37.5 0.0
PAIG **Paliouri** 81.46 317 P P 17 51 37.5 -0.3
319A **Douglas** 81.50 55 *e*P P 17 51 38.9 +0.6
TRI **Trieste** 81.50 327 *e*P P 17 51 37.3 -0.6
TRI pmax pmax
comp=Z,78nm,1.1s
TRI **Trieste** 81.50 327 *e*P P 17 51 37.0 -0.9
NKY **Niksic** 81.52 322⇑ *i*P P 17 51 37.9 -0.4
P32A **Huiting Farm,** 81.56 43 P P 17 51 37.6 -0.8
baz=319,SNR=9.2
K37A **Belmond** 81.57 38 P P 17 51 38.1 -0.3
baz=321,SNR=5.7
NKME **Niksic** 81.58 322⇑ *i*P P 17 51 37.9 -0.6
CBKS **Cedar Bluff** 81.58 44 P P 17 51 38.1 -0.4
baz=318
CBKS **Cedar Bluff** 81.58 44 *e*P P 17 51 38.6 +0.1
CBKS pmax pmax
comp=Z,38nm,0.9s
CBKS **Cedar Bluff** 81.58 44 *e*P P 17 51 38.6 +0.1
121A **Cookes Peak, D** 81.60 54 P P 17 51 40.1 +1.1
baz=315,SNR=11
M35A **Neola** 81.61 40 P P 17 51 38.6 0.0
baz=320
L36A **Harm Buss Farm** 81.61 39 P P 17 51 38.5 -0.1
baz=321
FETA **Feichten** 81.63 329 *i*P P 17 51 39.0 +0.2
comp=Z,69nm,1.1s,SNR=28
BRY **Bratogost** 81.66 322⇑ *i*P P 17 51 38.3 -0.7
J38A **Wedel Dairy, R** 81.67 37 P P 17 51 38.6 -0.3
baz=322
N34A **Lincoln** 81.69 41 P P 17 51 38.6 -0.5
baz=320
PDG **Podgorica** 81.70 321 P P 17 51 38.9 -0.1
PDG **Podgorica** 81.70 321⇑ *i*P P 17 51 38.9 -0.1
TTG **Podgorica** 81.70 321⇑ *i*P P 17 51 38.7 -0.3
DAVA **Damuels** 81.77 330 *i*P P 17 51 39.3 0.0
comp=Z,106nm,1.0s,SNR=33
O33A **Hebron** 81.74 42 P P 17 51 38.4 -0.9
baz=319
MCH1 **Michaelchurch** 81.75 339 *e*P P 17 51 39.0 -0.1
MCH1 AMB AMB 17 51 41.6
comp=Z,50nm,1.1s
CEME **Cevo** 81.77 322⇑ *i*P P 17 51 39.0 -0.5
ARG **Arkhangelos** 81.84 312 P P 17 51 40.0 +0.1
DRME **Dracevica, Mon** 81.92 321⇑ *i*P P 17 51 40.1 -0.1
LIT **Litokhoron** 81.93 318 P P 17 51 39.4 -0.9
ECH **Echery** 81.95 332⇑ *e*P P 17 51 39.9 -0.4
FNA **Florina** 81.96 319 P P 17 51 40.0 -0.5
BUM **Brajici-Budva** 81.97 321⇑ *i*P P 17 51 40.2 -0.4
OHR **Ohrid** 81.99 320 *e*P P 17 51 40.6 0.0
J39A **Decorah** 82.00 37 P P 17 51 39.7 -0.9
baz=322,SNR=8.9
L37A **Phoenix Point,** 82.02 39 P P 17 51 40.6 -0.2
baz=321,SNR=7.6
HCY **Herceg Novi** 82.04 322⇑ *i*P P 17 51 40.0 -0.8
M36A **Felix, Anita** 82.04 40 P P 17 51 40.5 -0.4
baz=321
Q32A **Meitler Ranch,** 82.06 44 P P 17 51 40.3 -0.8
baz=319,SNR=6.1
K38A **Parkersburg** 82.06 38 P P 17 51 40.4 -0.6
baz=322
ULC **Ulcinj** 82.07 321⇑ *i*P P 17 51 40.6 -0.4
N35A **Tabor** 82.10 41 P P 17 51 41.3 +0.1
baz=320
O34A **Beatrice** 82.10 42 P P 17 51 40.6 -0.7
baz=320
FUORN **Ofenpass-Fuorn** 82.14 329 *e*P P 17 51 41.6 0.0
DAVOX **Davos/Dischmat** 82.16 329 P P 17 51 41.8 +0.1
comp=Z,32nm,0.9s,baz=349,slow=0.8,SNR=27
P33A **Williams Farm,** 82.16 43 P P 17 51 40.9 -0.7
baz=319
FYTO **Fytoko, Volos** 82.22 317 P P 17 51 41.4 -0.5
TIR **Tirane** 82.25 320 *e*P P 17 51 42.3 +0.3
TIR MLR MLR
comp=Z,657nm,21.0s
TIR **Tirane** 82.25 320 *e*P P 17 51 42.3 +0.3
TIR LR LR
comp=Z,657nm,21.0s
MOF **Molkenrain** 82.27 332⇑ *e*P P 17 51 41.6 -0.5
L38A **Oak Wood Farm,** 82.37 38 P P 17 51 42.3 -0.3
baz=322
NEST **Nestorio** 82.40 319 P P 17 51 42.6 -0.3
R32A **Long Quarter,** 82.41 44 P P 17 51 42.1 -0.8
baz=319
K39A **Oelwein** 82.42 37 P P 17 51 41.8 -1.1
baz=322,SNR=5.3
O35A **Humboldt** 82.42 41 P P 17 51 42.4 -0.5
baz=320
Q33A **Connelly Farm,** 82.42 43 P P 17 51 42.5 -0.4
baz=319,SNR=11
M37A **Trindle Farm,** 82.44 39 P P 17 51 43.0 +0.1
baz=321
SCIA **State Center** 82.44 39 *e*P P 17 51 43.4 +0.4
SCIA LR LR
comp=Z,547nm,21.0s
N36A **Muff Farm, Cla** 82.46 40 P P 17 51 42.9 -0.2
baz=321
EIL **Elat** 82.47 303 P P 17 51 43.8 +0.5
comp=Z,47nm,0.9s,baz=12,slow=4.2,SNR=41
P34A **Walnut Farm, R** 82.52 42 P P 17 51 42.9 -0.5
baz=320,SNR=11
ATAL **Atalanti** 82.72 317 P P 17 51 43.6 -0.9
ATAL **Atalanti** 82.72 317 *e*P P 17 51 43.6 -0.9
K40A **Colesburg** 82.76 37 P P 17 51 43.9 -0.7
baz=323,SNR=9.2
LKR **Lokris** 82.77 317 P P 17 51 43.7 -1.0
LOMF **Lomont** 82.80 331⇑ *e*P P 17 51 44.6 -0.2
AGG **Agios Georgios** 82.83 317 P P 17 51 43.6 -1.5
AGG **Agios Georgios** 82.83 317 *e*P P 17 51 44.2 -0.9
AGG pmax pmax
comp=Z,140nm,1.1s
AGG **Agios Georgios** 82.83 317 *e*P P 17 51 43.5 -1.5
L39A **Vinton** 82.83 38 P P 17 51 44.8 -0.2
baz=322,SNR=19
S32A **Newby Ranch, P** 82.83 45 P P 17 51 44.7 -0.4
baz=319
M38A **Pleasantville** 82.83 39 P P 17 51 45.1 +0.1
baz=322,SNR=7.5
N37A **Lee Faris, Mou** 82.87 40 P P 17 51 45.2 -0.1
baz=321
R33A **Olander Ranch,** 82.87 44 P P 17 51 44.6 -0.7
baz=319
Q34A **Chapman** 82.94 43 P P 17 51 45.3 -0.3
baz=320
KSU1 **Kansas State U** 82.97 42 P P 17 51 45.5 -0.3
baz=320
KSU1 **Kansas State U** 82.97 42 *e*P P 17 51 45.8 +0.1
KSU1 LR LR
comp=Z,356nm,20.0s
JFWS **Jewell Farm** 82.98 36 *e*P P 17 51 45.1 -0.7
JFWS MLR MLR
comp=Z,507nm,22.0s
JFWS **Jewell Farm** 82.98 36 *e*P P 17 51 45.1 -0.7
JFWS LR LR
comp=Z,507nm,22.0s
JAN **Janina** 83.08 319 P P 17 51 46.5 +0.1
EVR **Evrytania** 83.17 318 P P 17 51 46.0 -0.9
SANT **Santorini** 83.19 314 PFAKE 17 52 00.0 +13
SANT LR LR
comp=Z,403nm,20.0s
DSF **Desfina** 83.19 317 P P 17 51 45.3 -1.7
DSF **Desfina** 83.19 317 *e*P P 17 51 45.3 -1.7
T32A **Huddler Ranch,** 83.23 45 P P 17 51 47.0 -0.2
baz=319,SNR=5.1
R34A **Isabella, Hill** 83.25 43 P P 17 51 46.8 -0.4
baz=320
P36A **Good Intent, A** 83.26 41 P P 17 51 47.1 -0.2
baz=321,SNR=9.5
N38A **Joes South For** 83.30 39 P P 17 51 47.0 -0.4
baz=322
O37A **Wolven Farm, M** 83.36 40 P P 17 51 47.8 +0.1
baz=321,SNR=6.4
ANX **Ano Chora** 83.36 317 P P 17 51 47.2 -0.7
S33A **Kaszmaul Farm,** 83.40 44 P P 17 51 48.0 0.0
baz=319
KALE **Kalithea** 83.40 317 P P 17 51 46.8 -1.3
KALE **Kalithea** 83.40 317 *e*P P 17 51 46.8 -1.3
THAL **Thalero** 83.40 316 P P 17 51 46.0 -2.0
SGD **Sagiada** 83.42 319 P P 17 51 47.9 -0.1
SERG **Sergoula** 83.43 317 P P 17 51 47.1 -1.1
AMTX **Amarillo** 83.44 48 P P 17 51 48.7 +0.3
baz=318
AMTX **Amarillo** 83.44 48 *e*P P 17 51 48.7 +0.3
Q35A **Mercer Eighty,** 83.44 42 P P 17 51 47.8 -0.4
baz=320,SNR=7.9
SENIN **Lac Senin/Sane** 83.47 331 *e*P P 17 51 48.2 -0.3
MSTX **Muleshoe** 83.49 50 P P 17 51 48.6 -0.1
baz=317
MSTX **Muleshoe** 83.49 50 *e*P P 17 51 48.5 -0.2
VLDQ **Val d'Or** 83.52 26 *e*P P 17 51 47.4 -1.0
L41A **Preston** 83.55 37 P P 17 51 48.0 -0.7
baz=323,SNR=5.9
KEK **Kerkira** 83.55 319 P P 17 51 48.3 -0.4
N39A **Derby Farms, D** 83.58 39 P P 17 51 49.1 +0.2
baz=322,SNR=6.5
LAKA **Lakka** 83.60 317 P P 17 51 48.3 -0.8
LAKA **Lakka** 83.60 317 *e*P P 17 51 48.3 -0.8
MNTX **Cornudas Mount** 83.62 53 P P 17 51 50.1 +0.8
baz=316
MNTX **Cornudas Mount** 83.62 53 *e*P P 17 51 50.2 +0.9
MNTX LR LR
comp=Z,401nm,22.0s
GUR **Goura** 83.64 317 P P 17 51 48.0 -1.4
Q36A **Arnold C. Orve** 83.65 42 P P 17 51 48.8 -0.4
baz=321
T33A **Patterson Ranc** 83.66 45 P P 17 51 49.3 0.0
baz=319
KLV **Kalavryta, Ach** 83.66 317 P P 17 51 48.2 -1.2
ZKR **Zakros** 83.70 312 P P 17 51 49.1 -0.5
ZKR **Zakros** 83.70 312 *e*P P 17 51 49.1 -0.5
P37A **Lathrop** 83.71 41 P P 17 51 49.5 0.0
baz=321,SNR=7.1
O38A **Galt** 83.71 40 P P 17 51 49.6 +0.1
baz=322
OG01 **Vacheresse** 83.72 331⇑ *e*P P 17 51 49.4 -0.2
PDO **Prodromos** 83.73 318 P P 17 51 49.1 -0.6
R35A **Emporia Munici** 83.77 43 P P 17 51 50.1 +0.2
baz=320,SNR=14
S34A **Willow Spring** 83.78 44 P P 17 51 49.8 -0.1
baz=320
U32A **Winter Ranch,** 83.79 46 P P 17 51 50.3 +0.2
baz=319
LKD2 **Lefkada island** 83.84 318 P P 17 51 49.6 -0.7
DRO **Drossia** 83.95 317 P P 17 51 50.7 -0.2
RLS **Riolos of Patr** 84.00 317 P P 17 51 50.9 -0.1
O39A **Kirksville** 84.05 39 P P 17 51 51.5 +0.2
baz=322
JSA **Saint Aubin** 84.06 338 *e*P P 17 51 50.5 -0.6
LAST **Lasithi** 84.07 313 P P 17 51 51.7 +0.1
LAST **Lasithi** 84.07 313 *e*P P 17 51 51.3 -0.3
P38A **Dawn** 84.07 40 P P 17 51 51.2 -0.2
baz=322,SNR=11
R36A **Gordon, Harris** 84.11 42 P P 17 51 51.5 -0.2
baz=321,SNR=15
VLC **Villacollemand** 84.14 328 *e*P P 17 51 50.9 -0.8
VLC LR LR
comp=Z,249nm,20.0s
S35A **Otter Creek Ra** 84.20 43 P P 17 51 52.3 +0.2
baz=320,SNR=18
Q37A **Longview Farm,** 84.21 41 P P 17 51 52.0 -0.2
baz=321
U33A **Lingo Farm, Me** 84.22 45 P P 17 51 52.5 +0.2
baz=319
T34A **McClaskey Farm** 84.25 44 P P 17 51 52.6 +0.2
baz=320,SNR=7.1
V32A **Arapaho** 84.26 46 P P 17 51 52.8 +0.3
baz=319
RSL **Roselend** 84.29 331⇑ *e*P P 17 51 52.2 -0.4
IDI **Anoyia** 84.30 313 P P 17 51 51.8 -1.0
comp=Z,82nm,0.9s,baz=22,slow=8.1,SNR=20
IDI **Anoyia** 84.30 313 P P 17 51 51.5 -1.2
IDI **Anoyia** 84.30 313 *e*P P 17 51 51.3 -1.5
VLS **Valsamata** 84.35 318 P P 17 51 52.3 -0.6
AQU **L'Aquila** 84.38 325 *e*P P 17 51 53.7 +0.7
AQU pmax pmax
comp=Z,96nm,1.1s
AQU **L'Aquila** 84.38 325 *e*P P 17 51 53.6 +0.7
AQU LR LR
comp=Z,2µm,20.0s
ITM **Ithomi** 84.44 316 P P 17 51 52.4 -0.9
R37A **Teagarden Farm** 84.46 42 P P 17 51 53.1 -0.3
baz=321,SNR=5.0
O40A **La Belle** 84.47 39 P P 17 51 53.4 0.0
baz=323,SNR=9.3
U34A **Anderson Ranch** 84.52 45 P P 17 51 54.5 +0.7
baz=320,SNR=6.0
U34A **Anderson Ranch** 84.52 45 *e*P P 17 51 53.9 +0.2
S36A **Lake Cedric, C** 84.53 43 P P 17 51 53.8 0.0
baz=321
SIVA **Sivas** 84.55 313 P P 17 51 53.7 -0.2
Q38A **Cooks Store, C** 84.55 41 P P 17 51 53.8 0.0
baz=322,SNR=8.1
P39B **Salisbury** 84.55 40 P P 17 51 53.8 0.0
baz=322,SNR=7.5
V33A **Lossen Ranch,** 84.59 46 P P 17 51 54.2 +0.1
baz=319
W32A **Sentinel** 84.59 47 P P 17 51 54.9 +0.7
baz=319,SNR=7.9
ZKS **Zakynthos** 84.62 317 P P 17 51 53.2 -1.0
IMMV **Iera Moni Meta** 84.66 314 P P 17 51 54.2 -0.3
T35A **Sooner Cattle** 84.68 44 P P 17 51 55.0 +0.5
baz=320,SNR=11
ANKY **Antikythira Is** 84.72 315 P P 17 51 53.6 -1.1
ANKY **Antikythira Is** 84.72 315 *e*P P 17 51 53.6 -1.1
PYL **PYLOS** 84.75 316 P P 17 51 53.6 -1.3
PYL **PYLOS** 84.75 316 *e*P P 17 51 53.6 -1.3
Q39A **Willow Grove F** 84.80 40 P P 17 51 55.2 +0.1
baz=322,SNR=24
BNI **Bardonecchia** 84.81 330 PFAKE 17 52 10.0 +15
BNI LR LR
comp=Z,919nm,20.0s
P40A **Paris** 84.86 39 P P 17 51 55.4 +0.1
baz=323,SNR=15
S37A **Fort Scott** 84.89 42 P P 17 51 55.2 -0.4
baz=321,SNR=6.8
GDM **Grand'Maison** 84.89 331⇑ *e*P P 17 51 55.9 +0.2
T36A **Boggs Farm, Ca** 84.90 43 P P 17 51 55.7 +0.1
baz=321,SNR=7.3
OG22 **Abries** 84.91 330⇑ *e*P P 17 51 55.5 -0.3
O41A **Passleys Farm,** 84.94 38 P P 17 51 55.4 -0.3
baz=323,SNR=9.4
V34A **Guthrie** 84.98 45 P P 17 51 56.7 +0.6
baz=320
V34A **Guthrie** 84.98 45 *e*P P 17 51 56.0 -0.1
U35A **Pawnee** 84.99 44 P P 17 51 56.3 +0.2
baz=320
GRN **Grenoble** 84.99 331⇑ *e*P P 17 51 56.6 +0.5
W33A **Caddo, Fort Co** 84.99 46 P P 17 51 57.4 +1.2
baz=319
R38A **Fenwick Farm,** 85.02 41 P P 17 51 56.0 -0.2
baz=322,SNR=6.4
X32A **Elmer** 85.10 47 P P 17 51 57.1 +0.4
baz=319
PLDF **La Plantade** 85.11 333⇑ *e*P P 17 51 57.9 +1.3
WMOK **Wichita Mounta** 85.14 47 P P 17 51 57.3 +0.4
baz=319
WMOK **Wichita Mounta** 85.14 47 PFAKE 17 52 10.0 +13
WMOK LR LR
comp=Z,319nm,20.0s
P41A **Barry, Barry** 85.20 39 P P 17 51 57.3 +0.2
baz=323,SNR=7.2
AGO **Saint Agoulin** 85.20 333⇑ *e*P P 17 51 58.4 +1.4
CUC **Castrocucco** 85.21 322 *e*P P 17 51 55.5 -1.7
CUC LR LR
comp=Z,461nm,19.0s
Q40A **Laux Farm, Aux** 85.27 40 P P 17 51 57.5 +0.1
baz=323,SNR=8.3
W34A **Bridge Creek,** 85.30 46 P P 17 51 57.9 +0.3
baz=320
W34A **Bridge Creek,** 85.30 46 *e*P P 17 51 58.0 +0.3
HDIL **Hopedale** 85.30 37 P P 17 51 57.4 -0.2
baz=324,SNR=7.8
HDIL **Hopedale** 85.30 37 *e*P P 17 51 58.0 +0.4
HDIL LR LR
comp=Z,623nm,22.0s
T37A **Cheneyville 18** 85.34 43 P P 17 51 57.6 -0.3
baz=321,SNR=8.9
SSB **Saint Sauveur** 85.39 332⇑ *e*P P 17 51 58.0 0.0
SSB **Saint Sauveur** 85.39 332 *e*P P 17 51 57.8 -0.2
SSB MLR MLR
comp=Z,653nm,20.0s
SSB **Saint Sauveur** 85.39 332 *e*P P 17 51 57.8 -0.2
SSB LR LR
comp=Z,653nm,20.0s
V35A **Meyer Ranch, C** 85.39 45 P P 17 51 58.4 +0.2
baz=320
TIP **Timpagrande** 85.42 321 P P 17 51 58.2 -0.2
TIP **Timpagrande** 85.42 321 *e*P P 17 51 58.1 -0.2
TIP LR LR
comp=Z,382nm,20.0s
X33A **Lawton** 85.44 47 P P 17 51 58.5 +0.1
baz=319
S38A **Stockton** 85.45 42 P P 17 51 58.1 -0.3
baz=322
COLF **Collangettes** 85.48 332⇑ *e*P P 17 51 59.0 +0.6
U36A **Oologah** 85.49 44 P P 17 51 58.8 +0.2
baz=321
PYM **Petit Puy Mans** 85.51 333⇑ *e*P P 17 52 00.0 +1.4
S39A **Bolivar** 85.69 41 P P 17 51 59.0 -0.5
baz=322,SNR=12
T38A **Diamond** 85.72 42 P P 17 51 59.6 -0.2
baz=321,SNR=17
OG26 **St.-Nazaire-De** 85.72 331⇑ *e*P P 17 52 00.2 +0.5
R40A **Maddies Statio** 85.73 40 P P 17 51 59.7 0.0
baz=322,SNR=10
X34A **Smith Ranch, M** 85.75 46 P P 17 52 00.3 +0.4
baz=320,SNR=7.7
Y33A **Hilltop Ranch,** 85.77 47 P P 17 52 00.1 0.0
baz=319,SNR=5.7
U37A **Salina** 85.79 43 P P 17 52 00.3 +0.2
baz=321,SNR=7.5
TUL1 **Leonard** 85.83 44 P P 17 52 00.6 +0.4
baz=321
TUL1 **Leonard** 85.83 44 *e*P P 17 52 00.2 -0.1
W35A **Tecumseh** 85.84 45 P P 17 52 00.5 +0.1
baz=320
V36A **Jenks** 85.84 44 P P 17 52 00.7 +0.4
baz=321
SADO **Sadowa** 85.86 28 *e*P P 17 51 59.2 -1.0
LBL **Lubilhac** 85.88 333⇑ *e*P P 17 52 02.1 +1.6
FRNF **Fournols** 85.98 333⇑ *e*P P 17 52 01.6 +0.7
PPT **Papeete** 86.04 118 LR LR 18 24 09.8
comp=Z,372nm,20.8s,baz=310,slow=31
PPT2 **Papeete2** 86.06 118 *e*S S 18 02 29.1 -2.8
comp=Z,342nm,25.0s
PPT2 **Papeete2** 86.06 118 *e*LR LR 18 19 08.8
comp=Z,2µm,26.5s,baz=312
Q42A **Golden Eagle** 86.06 39 P P 17 52 01.4 +0.1
baz=324
TRQ **Mont Tremblant** 86.11 25 *e*P P 17 52 01.3 -0.3
U38A **Gravette** 86.14 43 P P 17 52 01.5 -0.3
baz=321,SNR=7.6
LMQ **La Malbaie** 86.16 22 *e*P P 17 52 01.0 -0.7
S40A **Lebanon** 86.16 41 P P 17 52 01.7 -0.2
baz=322,SNR=8.6
V37A **Hulbert** 86.18 44 P P 17 52 02.1 +0.1
baz=321,SNR=5.8
T39A **Clever** 86.19 42 P P 17 52 01.9 -0.2
baz=322
W36A **Wetumka** 86.19 45 P P 17 52 02.5 +0.4
baz=320
Z33A **Whitaker Ranch** 86.24 47 P P 17 52 02.3 -0.1
baz=319
ABTX **Abilene, Hawle** 86.25 48 P P 17 52 02.8 +0.4
baz=319
AAM **Ann Arbor** 86.26 33 PFAKE 17 52 10.0 +7.7
AAM LR LR
comp=Z,354nm,20.0s
Y34A **Reagan Ranch,** 86.28 46 P P 17 52 02.8 +0.3
baz=320
PLVO **Plevna** 86.34 27 *e*P P 17 52 01.7 -0.9
TX31 **Lajitas Ar. Si** 86.35 53 *e*P P 17 52 03.1 0.0
TX31 *e*PKKPbc **PKKPbc** 18 10 00.2 +1.8
LTX **Lajitas** 86.35 53 *e*P P 17 52 03.2 +0.1
LTX *e**PP **pP** 17 52 19.6 +1.3
LTX **Lajitas** 86.35 53 *e*P P 17 52 03.2 +0.1
LTX *e*pP **pP** 17 52 19.6 +1.3
LTX *e*PKKPbc **PKKPbc** 18 10 00.9 +2.5
TXAR **Lajitas Array** 86.35 53 P P 17 52 03.2 +0.1
comp=Z,8.8nm,0.8s,baz=291,slow=3.7,SNR=66
TXAR pP **pP** 17 52 19.6 +1.3
comp=Z,8.0nm,0.7s,baz=288,slow=2.5,SNR=10
TXAR PKKPbc **PKKPbc** 18 10 00.9 +2.5
comp=Z,1.0nm,0.8s,baz=148,slow=5.4,SNR=12
X35A **Drake** 86.36 46 P P 17 52 02.8 -0.1
baz=320
SFIN **Lafayette** 86.42 36 P P 17 52 03.2 +0.1
baz=325
SFIN **Lafayette** 86.42 36 *e*P P 17 52 02.6 -0.5
Q43A **New Douglas** 86.42 38 P P 17 52 03.2 +0.1
baz=324
TAOE **Nuku Hiva Isla** 86.48 105 *e*LR LR 18 19 20.3
comp=Z,1µm,23.2s,baz=311
HHAR **Hobbs** 86.48 43 *e*P P 17 52 02.9 -0.6
T40A **Mansfield** 86.51 41 P P 17 52 03.1 -0.6
baz=322,SNR=6.9
X36A **Centrahoma** 86.56 45 P P 17 52 04.2 +0.3
baz=320,SNR=5.4
CEL **Celeste** 86.56 321 *e*P P 17 52 02.5 -1.4
CEL LR LR
comp=Z,443nm,22.0s
V38A **Canehill** 86.57 43 P P 17 52 03.9 0.0
baz=321,SNR=7.9
W37B **Quinton** 86.61 44 P P 17 52 04.4 +0.2

baz=321
U39A Green Forest 86.64 42 P **P** 17 52 04.0 -0.3
baz=322,SNR=12
Z34A Collier Ranch, 86.64 47 P **P** 17 52 04.2 -0.1
baz=320
133A Hamilton Ranch 86.66 48 P **P** 17 52 04.4 -0.1
baz=319
Y35A Marietta 86.71 46 P **P** 17 52 04.5 -0.1
baz=320
Q44A Meyer Farm, Va 86.77 38 P **P** 17 52 04.6 -0.2
baz=324
HPIG 86.86 56 *e*P **P** 17 52 05.3 -0.4
T41A Mountain View 86.96 41 P **P** 17 52 05.7 -0.2
baz=323,SNR=18
U40A Yellville 86.97 42 P **P** 17 52 05.7 -0.2
baz=322,SNR=17
V39A Pettigrew 86.98 43 P **P** 17 52 05.8 -0.2
baz=322,SNR=9.0
Z35A Perchaven, San 87.03 47 P **P** 17 52 06.0 -0.2
baz=320
X37A Clayton 87.06 44 P **P** 17 52 06.4 0.0
baz=321
Y36A Durant 87.11 46 P **P** 17 52 06.8 +0.1
baz=320
233A Rising Star 87.12 48 P **P** 17 52 07.0 +0.3
baz=319
W38A Poteau 87.13 44 P **P** 17 52 06.8 +0.1
baz=321
134A White-Moore Ra 87.15 48 P **P** 17 52 07.5 +0.7
baz=320
R44A Waltonville 87.27 38 P **P** 17 52 07.1 -0.2
baz=324
X38A Whitesboro 87.28 44 P **P** 17 52 07.7 +0.2
baz=321,SNR=6.5
OLIL Olney 87.32 37 *e*P **P** 17 52 07.6 +0.1
S43A Fulton Ridge, 87.35 39 P **P** 17 52 07.5 -0.2
baz=324,SNR=7.6
Y37A Hugo 87.40 45 P **P** 17 52 08.4 +0.4
baz=321
DRLN Deer Lake 87.40 13 *e*P **P** 17 52 08.1 +0.4
W39A Magazine 87.41 43 P **P** 17 52 08.3 +0.3
baz=322
V40A Witts Springs 87.42 42 P **P** 17 52 07.9 -0.2
baz=322
Z36A Blue Ridge 87.52 46 P **P** 17 52 08.7 +0.2
baz=320
135A Vickery Place, 87.53 47 P **P** 17 52 08.8 +0.2
baz=320
LONY Lake Ozonia 87.53 26 *e*P **P** 17 52 07.6 -0.9
LONY LR LR
comp=Z,223nm,21.0s
234A Clairette 87.55 48 P **P** 17 52 08.9 +0.2
baz=320
333A Richland Sprin 87.59 49 P **P** 17 52 09.3 +0.3
baz=319,SNR=9.6
S44A Carbondale 87.63 39 P **P** 17 52 09.2 +0.2
baz=324,SNR=11
SIUC Southern Illin 87.64 39 *e*P **P** 17 52 09.7 +0.6
JCT Junction City 87.76 50 P **P** 17 52 10.1 +0.3
baz=319
JCT Junction City 87.76 50 *e*P **P** 17 52 10.5 +0.6
JCT Junction City 87.76 50 *e*P **P** 17 52 10.5 +0.6
JCT LR LR
comp=Z,434nm,22.0s
V41A Mountainview 87.77 42 P **P** 17 52 09.3 -0.4
baz=323,SNR=9.1
W40A Ferguson Farm, 87.78 43 P **P** 17 52 10.0 +0.3
baz=322
X39A Fountain Ranch 87.78 44 P **P** 17 52 10.2 +0.4
baz=322,SNR=8.0
PBMO Poplar Bluff 87.82 40 *e*P **P** 17 52 09.3 -0.6
PBMO *e*S **S** 18 02 51.4 +2.9
SNZO South Karori 87.85 156 PFAKE 17 52 20.0 +10
SNZO LR LR
comp=Z,896nm,20.0s
Y38A Idabel 87.91 44 P **P** 17 52 10.4 0.0
baz=321
433A Art 87.96 49 P **P** 17 52 10.7 -0.1
baz=319
S45A Carrier Mills 87.96 38 P **P** 17 52 10.7 +0.1
baz=325
334A Lometa 88.00 48 P **P** 17 52 10.9 -0.1
baz=320
Z37A Pogue Cattle C 88.00 46 P **P** 17 52 10.7 -0.2
baz=321
MIAR Mount Ida 88.03 43 P **P** 17 52 11.2 +0.2
baz=322,SNR=14
MIAR Mount Ida 88.03 43 *e*P **P** 17 52 11.0 0.0
MIAR MLR MLR
comp=Z,328nm,22.0s
MIAR Mount Ida 88.03 43 *e*P **P** 17 52 11.0 0.0
MIAR LR LR
comp=Z,328nm,22.0s
X201 Greenbrier Sit 88.05 42 *e*P **P** 17 52 10.7 -0.4
136A Ennis 88.07 47 P **P** 17 52 11.1 -0.1
baz=320
MMNY Mt. Morris Dam 88.07 29 *e*P **P** 17 52 10.1 -0.9
X301 Greenbrier Sit 88.08 42 *e*P **P** 17 52 11.1 -0.1
WHAR Wooly Hollow 88.09 42 *e*P **P** 17 52 10.9 -0.3
V42A Cord 88.13 41 P **P** 17 52 10.9 -0.5
baz=323
ALLY Alegheny Colle 88.19 31 *e*P **P** 17 52 11.7 +0.1
W41B Gary Mavity, V 88.20 42 P **P** 17 52 11.9 +0.1
baz=323,SNR=6.0
NCB Newcomb 88.23 26 *e*P **P** 17 52 12.0 +0.2
Y39A Lockesburg 88.23 44 P **P** 17 52 12.2 +0.3
baz=322,SNR=5.2
ACSO Alum Creek Sta 88.28 33 *e*P **P** 17 52 12.3 +0.2
ACSO LR LR
comp=Z,309nm,20.0s
Z38A Mt. Pleasant 88.30 45 P **P** 17 52 12.3 0.0
baz=321
CLTB Caltabellotta 88.36 322 PFAKE 17 52 20.0 +7.4
CLTB LR LR
comp=Z,319nm,19.0s
434A Burnet 88.38 49 P **P** 17 52 12.4 -0.4
baz=320
137A Heron Place, G 88.40 46 P **P** 17 52 12.5 -0.2
baz=321
236A Katherine and 88.44 47 P **P** 17 52 12.9 -0.1
baz=320
X40A Basin Creek Fa 88.45 43 P **P** 17 52 13.0 0.0
baz=322
VSL Villasalto 88.45 326 PFAKE 17 52 20.0 +7.1
VSL LR LR
comp=Z,766nm,21.0s
M54A Oil Creek Stat 88.49 30 P **P** 17 52 12.9 -0.2
baz=330,SNR=11
335A Moody 88.49 48 P **P** 17 52 13.3 0.0
baz=320
533A Kerrville 88.50 50 P **P** 17 52 13.5 +0.1
baz=319
PKME Peaks-Kenny Pk 88.54 22 PFAKE 17 52 20.0 +6.8
PKME LR LR
comp=Z,499nm,21.0s
WCI Wyandotte Cave 88.54 36 *e*P **P** 17 52 13.3 -0.1
WCI Wyandotte Cave 88.54 36 *e*P **P** 17 52 13.3 -0.1
Y40A Okolona 88.59 44 P **P** 17 52 13.5 -0.1
baz=322
X41A Kaden, Bauxite 88.61 43 P **P** 17 52 13.5 -0.2
baz=322
138A Matatail Enter 88.70 46 P **P** 17 52 14.5 +0.3
baz=321
Z39A Irene McRaven, 88.73 45 P **P** 17 52 14.8 +0.5
baz=322
336A Riesel 88.73 47 P **P** 17 52 14.5 +0.2
baz=320
435B Jarrell 88.78 48 P **P** 17 52 14.8 +0.2
baz=320
N54A Moraine State 88.84 31 P **P** 17 52 15.2 +0.5
baz=330,SNR=13
534A Blanco 88.86 49 P **P** 17 52 15.3 +0.3
baz=320
633A Saathoff Ranch 88.89 50 P **P** 17 52 15.7 +0.6
baz=319
ACCN Adirondack Com 88.94 26 *e*P **P** 17 52 15.0 -0.1
RESF Ens 89.01 333⍰ *e*P **P** 17 52 16.7 +1.1
VIEF Viey 89.05 334⍰ *e*P **P** 17 52 16.6 +0.9
H06N1 SOCORRO T-PHAS 89.11 65 T T 19 31 01.8
SNR=42
Z40A Long Farm, Mag 89.12 44 P **P** 17 52 16.9 +0.8
baz=322
LMN Caledonia Moun 89.16 19 *e*P **P** 17 52 16.7 +0.6
WDD Wied Dalam 89.16 320 PFAKE 17 52 30.0 +14
WDD LR LR
comp=Z,371nm,20.0s
BINY Binghamton 89.22 28 *e*P **P** 17 52 16.9 +0.5
BINY LR LR
comp=Z,439nm,22.0s
GGN Saint George 89.34 20 *e*P **P** 17 52 17.1 +0.2
X43A Marvell 89.40 42 P **P** 17 52 17.9 +0.5
baz=323
Y42A Garnett, Star 89.49 43 P **P** 17 52 18.5 +0.6
baz=323
140A Cam and Jess, 89.52 45 P **P** 17 52 18.6 +0.6
baz=322
TRY Troy 89.52 26 *e*P **P** 17 52 18.1 +0.3
239A Gary 89.53 46 P **P** 17 52 18.7 +0.7
baz=322
WVT Waverly 89.57 39 *e*P **P** 17 52 18.5 +0.3
WVT Waverly 89.57 39 *e*P **P** 17 52 18.5 +0.3
NATX Nacogdoches 89.63 46 PFAKE 17 52 30.0 +11
NATX LR LR
comp=Z,335nm,20.0s
Z42A Norrel Spur, H 89.86 43 P **P** 17 52 20.1 +0.5
baz=323
Y43A Makayla and Ka 89.86 42 P **P** 17 52 20.2 +0.6
baz=323
141A Papa Simpson, 89.89 44 P **P** 17 52 20.4 +0.6
baz=322
SSPA Standing Stone 89.91 30 *e*P **P** 17 52 19.9 +0.2
O56A Blue Knob Stat 89.98 30 P **P** 17 52 20.5 +0.4
baz=331,SNR=14
636A Smothers Creek 90.07 49 P **P** 17 52 21.5 +0.8
baz=320
TBI Tubuai 90.27 122 *e*S **S** 18 03 12.0 +0.5
comp=Z,239nm,28.8s
TBI Tubuai 90.27 122 *e*LR LR 18 20 47.3
comp=Z,1μm,34.8s,baz=316
241A Mo Tay, Goldon 90.34 44 P **P** 17 52 22.8 +0.9
baz=322
N59A State Game Lan 90.43 28 P **P** 17 52 22.4 +0.3
baz=333,SNR=17
Z44A Pea Ridge, Bel 90.62 42 P **P** 17 52 24.2 +1.1
baz=324
LUPA Lehigh Univers 90.85 28 *e*P **P** 17 52 24.3 +0.2
Y46A Houston 90.91 41 P **P** 17 52 24.9 +0.5
baz=324
034A Hebbronville 90.97 52 P **P** 17 52 26.7 +1.8
baz=319
MVL Millersville 91.03 29 *e*P **P** 17 52 25.7 +0.8
KVTX Kingsville 91.07 51 PFAKE 17 52 40.0 +15
KVTX LR LR
comp=Z,446nm,21.0s
TZTN Tazewell 91.15 36 *e*P **P** 17 52 25.5 -0.1
SWET Sewanee 91.19 38 *e*P **P** 17 52 25.8 0.0
Y47A UCPARC, Winfie 91.38 40 P **P** 17 52 27.0 +0.3
baz=325
PSUB Penn St. - Bra 91.42 28 *e*P **P** 17 52 26.4 -0.3
244A Avery, Jackson 91.48 43 P **P** 17 52 27.9 +0.7
baz=324
KEST Kesra 91.62 324 P **P** 17 52 27.2 -0.7
comp=Z,14nm,0.9s,baz=120,slow=4.0,SNR=5.8
KEST PP **PP** 17 56 07.3 +1.4
comp=Z,7.5nm,1.0s,baz=313,slow=4.5,SNR=3.9
KEST LR LR 18 38 15.9
comp=Z,985nm,20.0s,baz=329,slow=38
CPCT Cooper Cave 91.64 37 *e*P **P** 17 52 27.4 -0.5
TKL Tuckaleechee C 91.80 36 *e*P **P** 17 52 28.2 -0.4
TKL Tuckaleechee C 91.80 36 *e*P **P** 17 52 28.2 -0.4
BLA Blacksburg 91.90 33 PFAKE 17 52 40.0 +11
BLA LR LR
comp=Z,360nm,19.0s
PBRG Braganca 92.11 338 *e*P **P** 17 52 29.5 -0.5
comp=Z,36nm,1.8s
CBN Corbin Frederi 92.23 30 PFAKE 17 52 40.0 +9.5
CBN LR LR
comp=Z,306nm,20.0s
PGAV Gavieira, Arco 92.39 339 *e*P **P** 17 52 30.9 -0.4
comp=Z,42nm,1.4s
PGAV Gavieira, Arco 92.39 339 *e*S **S** 18 03 37.6 +6.9
PGAV Gavieira, Arco 92.39 339 *e*LR LR 18 25 05.4
comp=Z,287nm,18.0s
MVO Moncorvo 92.79 338 *e*P **P** 17 52 32.9 -0.2
comp=Z,32nm,1.8s
MVO Moncorvo 92.79 338 *e*S **S** 18 03 34.9 +0.7
MVO Moncorvo 92.79 338 *e*LR LR 18 24 46.9
comp=Z,406nm,20.0s
POLO Lamas de Olo 92.81 338 *e*P **P** 17 52 33.0 -0.3
comp=Z,21nm,1.2s
PVRL Vila Real 92.88 338 *e*P **P** 17 52 33.4 -0.1
comp=Z,40nm,1.6s
ES19 SONSECA Array 93.19 335 *e*P **P** 17 52 34.4 -0.7
ESDC Sonseca Array 93.23 335 P **P** 17 52 35.1 -0.1
comp=Z,10nm,0.9s,baz=22,slow=3.3,SNR=36
ESDC PP **PP** 17 56 17.8 -0.4
comp=Z,0.3nm,0.4s,baz=26,slow=8.4,SNR=5.1
ESDC LR LR 18 40 19.2
comp=Z,323nm,18.2s,baz=20,slow=39
ESLA Sonseca Array 93.23 335 *e*P **P** 17 52 34.8 -0.4
PVIS Viseu 93.45 338 *e*P **P** 17 52 36.0 -0.2
comp=Z,39nm,1.5s
PAB San Pablo 93.47 335 *e*P **P** 17 52 36.1 -0.3
PAB MLR MLR
comp=Z,677nm,22.0s
PAB San Pablo 93.47 335 *e*P **P** 17 52 36.1 -0.3
PAB LR LR
comp=Z,677nm,22.0s
MTE Manteigas 93.64 338 *e*P **P** 17 52 36.9 -0.2
comp=Z,26nm,1.7s
MTE Manteigas 93.64 338 *e*S S 18 03 32.2 -10
MTE Manteigas 93.64 338 *e*LR LR 18 24 19.4
comp=Z,413nm,20.0s
MTE Manteigas 93.64 338 PFAKE 17 52 50.0 +13
MTE LR LR
comp=Z,465nm,20.0s
GOGA Godfrey 93.82 37 PFAKE 17 52 50.0 +12
GOGA LR LR
comp=Z,286nm,20.0s
BRAL Brewton 94.00 41 PFAKE 17 52 50.0 +11
BRAL LR LR
comp=Z,253nm,20.0s
PCAS Casmilo, Conde 94.23 338 *e*P **P** 17 52 39.2 -0.5
PMRV Marv??o 94.50 337 *e*P **P** 17 52 40.5 -0.5
comp=Z,24nm,1.3s
PMRV Marv??o 94.50 337 *e*LR LR 18 26 48.4
comp=Z,294nm,20.0s
CNNC Cliffs of the 94.62 32 PFAKE 17 52 50.0 +8.4
CNNC LR LR
comp=Z,769nm,20.0s
PESTR Estremoz 95.08 337 *e*P **P** 17 52 42.5 -1.1
comp=Z,20nm,1.6s
NHSC New Hope 95.52 35 PFAKE 17 53 00.0 +14
NHSC LR LR
comp=Z,351nm,19.0s
MESJ Messejana 96.21 337 *e*P **P** 17 52 49.2 +0.4
MESJ AMS AMS 18 39 19.3
comp=Z,296nm,18.3s
MESJ Messejana 96.21 337 *e*P **P** 17 52 49.1 +0.4
PVAQ Vaqueiros 96.47 337 *e*LR LR 18 29 25.6
comp=Z,812nm,20.0s
MORF Marmelete 96.83 337 *e*P **P** 17 52 51.9 +0.2
MORF AMS AMS 18 35 28.2
comp=E,407nm,22.3s
MORF Marmelete 96.83 337 *e*P **P** 17 52 51.9 +0.2
RTC Rabat Centre 99.36 335 PFAKE 17 53 10.0 +7.0
RTC LR LR
comp=Z,2μm,22.0s
RKT Rikitea 99.74 112 *e*LR LR 18 25 32.5
comp=Z,1μm,32.8s,baz=305
BBSR BB Station 101.82 23 PFAKE 17 53 30.0 +16
BBSR LR LR
comp=Z,277nm,21.0s
KMBO Kilima Mbogo 102.18 280 P **Pdif** 17 53 16.8 +0.6
comp=Z,8.7nm,0.9s,baz=37,slow=6.3,SNR=20
KMBO PP **PP** 17 57 30.9 +2.4
comp=Z,2.1nm,0.8s,baz=40,slow=11,SNR=4.9
KMBO Kilima Mbogo 102.18 280 *e*Pdif **Pdif** 17 53 16.9 +0.7
KMBO PP **PP** 17 57 30.9 +2.4
KMBO LR LR
comp=Z,383nm,20.0s
TEIG Tepich 102.23 48 PFAKE 17 53 30.0 +14
TEIG LR LR
comp=Z,127nm,21.0s
TAM Tamanrasset 104.32 320 *e*PKiKP **PKiKP** 17 57 34.1 -7.7
TAM LR LR
comp=Z,375nm,19.0s
PTCN Pitcairn Islan 104.39 111 PFAKE 17 53 40.0 +15
PTCN LR LR
comp=Z,1μm,20.0s
GTBY Guantanamo Bay 109.17 38 PFAKE 17 58 00.0
GTBY LR LR
comp=Z,579nm,21.0s
GRTK Grand Turk 109.49 33 PFAKE 17 58 00.0
GRTK LR LR
comp=Z,271nm,20.0s
MTDJ Mount Denham 109.50 41 PFAKE 17 58 00.0
MTDJ LR LR
comp=Z,348nm,19.0s
SDDR Presa de Saban 111.68 35 PFAKE 17 58 10.0
SDDR LR LR
comp=Z,390nm,21.0s
TOA1 Torodi Ar. Sit 114.41 318 *e*PKiKP **PKiKP** **17 57 60.0 -0.8**
TOA1 *e*PP **PP** **17 58 52.5 -4.0**
TOA1 *e*PKKPdf **PKKPdf** **18 08 58.3 -2.0**
TOA0 Torodi Ar. Sit 114.41 318 *e*PP **PP** **17 58 50.2 -6.4**
TORD Torodi Ar. Bea 114.41 318 PKP PKPdf 17 57 60.0 -0.8
comp=Z,2.4nm,1.2s,baz=318,slow=2.0,SNR=3.7
TORD PP **PP** **17 58 52.5 -4.0**
comp=Z,19nm,1.1s,baz=22,slow=6.8,SNR=28
TORD PKKP **PKKPdf** **18 08 58.3 -2.0**
comp=Z,0.5nm,0.6s,baz=199,slow=2.9,SNR=4.2
SJG San Juan 114.52 30 PFAKE 17 58 10.0 +9.1
SJG LR LR
comp=Z,186nm,21.0s
BCIP Isla Barro Col 115.92 48 PFAKE 17 58 20.0 +16
BCIP LR LR
comp=Z,266nm,21.0s
ANWB Willy Bob 116.47 26 PFAKE 17 58 20.0 +15
ANWB LR LR
comp=Z,167nm,19.0s
FDF Fort de France 119.42 27 PFAKE 17 58 20.0 +10
FDF LR LR
comp=Z,144nm,19.0s
VNDA Vanda 119.84 175 PKP **PKPdf** **17 58 09.8 +0.5**
comp=Z,2.3nm,0.8s,baz=315,slow=4.3,SNR=13
VNDA Vanda 119.84 175 *e*PKIKP **PKPdf** **17 58 08.8 -0.5**
VNDA Vanda 119.84 175 *e*PKPdf **PKPdf** **17 58 08.8 -0.5**
SBA Scott Base 120.50 174 PFAKE 17 58 20.0 +9.5
SBA LR LR
comp=Z,209nm,20.0s
SDV Santo Domingo 120.88 39 PFAKE 17 58 30.0 +17
SDV LR LR
comp=Z,265nm,21.0s
GRGR Grenville 121.67 28 PFAKE 17 58 30.0 +15
GRGR LR LR
comp=Z,481nm,22.0s
SACV Santiago Islan 121.91 344 PFAKE 17 58 30.0 +15
SACV LR LR
comp=Z,174nm,19.0s
DBIC Dimbokro 123.20 320 PKP **PKPdf** **17 58 18.2 +0.5**
comp=Z,3.8nm,0.6s,baz=353,slow=4.9,SNR=4.1
OTAV Otavalo 123.97 52 PFAKE 17 58 30.0 +10
OTAV LR LR
comp=Z,119nm,19.0s
MAW Mawson 124.42 207 PKP **PKPdf** **17 58 18.7 +0.5**
comp=Z,1.5nm,0.6s,baz=325,slow=3.4,SNR=8.3
BOSA Boshof 128.26 264 PKP **PKPdf** **17 58 27.9 +0.8**
comp=Z,6.3nm,0.9s,baz=187,slow=2.8,SNR=5.3
QSPA South Pole Qui 131.74 180 *e*PKPdf **PKPdf** **17 58 32.3 -0.1**
QSPA LR LR
comp=Z,289nm,22.0s
SYO Syowa Base 133.05 209⍰ *e*PKPdf **PKPdf** **17 58 33.5 -1.1**
SAML Samuel 139.97 42 PFAKE 17 59 00.0 +11
SAML LR LR
comp=Z,367nm,22.0s
ASCN Ascension 140.45 323 PFAKE 17 59 00.0 +10
ASCN LR LR
comp=Z,2μm,21.0s
NVL N'lazarevskaya 142.24 204 *e*PKIKP PKPdf 17 59 07.8 +16
LPAZ La Paz 143.20 55 PKP PKPbc 17 58 52.8 +0.1
comp=Z,1.8nm,0.7s,baz=7.1,slow=3.7,SNR=5.4
LPAZ La Paz 143.20 55 *e*PKPpre PKPbc 17 58 52.7 0.0
PB11 IPOC Station P 144.81 61 *e*PKPdf **PKPdf** **17 58 57.6 -0.2**
SNAA Sanae 145.77 199 PKP **PKPdf** **17 58 58.1 +0.3**
SNAA Sanae 145.77 199 *e*PKP2 **PKPdf** **17 58 57.4 -0.4**
SNAA Sanae 145.77 199 *e*PKPdf **PKPdf** **17 58 57.4 -0.4**
LVC Limon Verde 147.31 64 *e*PKPbc **PKPbc** **17 59 05.6 +0.9**
LVC LR LR
comp=Z,443nm,22.0s
VNA1 Neumayer--Stat 147.75 198 PKP **PKPdf** **17 59 01.1 +0.1**
LCO Las Campanas 150.10 75 *e*PKPbc **PKPbc** **17 59 12.0 +0.4**
PLCA Paso Flores 155.12 98 PKPab **PKPab** **17 59 39.6 +1.4**
comp=Z,5.0nm,1.1s,baz=207,slow=4.5,SNR=2.8
SPB Sao Paulo 159.80 28 PFAKE 17 59 30.0 +10
SPB LR LR
comp=Z,376nm,19.0s

JMA 24 17:39:28.6±0.2, 37.04N×141.51E, h46km±2km, M2.6,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.57**	**276**	P	Pn	17 39 40.4	-0.2
ONAJ				*e*S	Sn	17 39 48.6	-0.6
JFK	**Kawauchi**	**0.60**	**303**	P	Pn	17 39 40.7	-0.3
JHO	**Hitachi**	**0.87**	**241**	P	Pn	17 39 44.4	0.0
JHO				*e*S	Sn	17 39 55.5	-0.5
JMM	**Marumori**	**1.00**	**326**	P	Pn	17 39 46.4	+0.1
JFT	**Otama**	**1.05**	**297**	*e*S	Sn	17 40 01.5	+1.0
JOU	**Okura**	**1.48**	**333**	*e*S	Sn	17 40 12.6	+1.5
JFY	**Yanaizu**	**1.49**	**285**	*e*S	Sn	17 40 13.5	+2.4

*ATH **24** 17:44:42.8, 42.4S N×26.7E, h8km±2km, ML4.1/13, Error ellipse: s-maj=4.2km s-min=2.1km az=61.0*
*DDA **24** 17:44:45.1, 42.3S N×26.1E, h8km, Ml3.8*
*IDC **24** 17:44:48.7±0.9, 42.1S N×26.2E, h0km, mb3.8/4, mb1 3.6/12, mb1mx3.5/50, mbtmp3.6/12, ML3.0/8, MS3.2/2, Ms1 3.2/2, ms1mx2.7/53, Error ellipse: s-maj=15.3km s-min=10.3km az=63.0*
*NEIC **24** 17:44:49.6, 42.1S N×26.2E, h0km, ML4.1(THE), ML3.7(SOF), After THE.*
*THE **24** 17:44:49.6, 42.1S N×26.2E, h0km±1km, ML4.1/3, Error ellipse: s-maj=1.5km s-min=0.6km az=10.0*
*CSEM **24** 17:44:49.6±0.1, 42.2S N×26.2E, h2km, ML3.8, Error ellipse: s-maj=2.6km s-min=1.9km az=50.0*
*ISK **24** 17:44:49.6, 42.1S N×26.3E, h5km, ML3.8*
*BEO **24** 17:44:50.0±0.7, 42.2S N×26.1E, h0km, M4.3/1*
*PRU **24** 17:44:50.4, 41.9S N×25.7E, h0km*
ISC 24 17:44:49.5±1.0, 42.1S N±0.1, 26.2E±0.2, h6km±8km,
n360, σ1.9 s39/436, mb3.7/3, 20C-36D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDRB	**Edirne**	**0.52**	**131**	*e*PG	**Pg**	**17 44 59.1**	**-0.4**
EDRB				*e*SG	**Sg**	**17 45 06.2**	**-0.2**
EDRB	**Edirne**	**0.52**	**131**	P	**Pg**	**17 44 58.9**	**-0.7**
EDRB				S	**Sg**	**17 45 05.8**	**-0.6**
EDRB	**Edirne**	**0.52**	**131**	*e*Pg	**Pg**	**17 44 59.1**	**-0.4**
EDRB				S	**Sg**	**17 45 05.8**	**-0.6**
EDRB				*e*Sg	**Sg**	**17 45 06.2**	**-0.2**
EDRB	**Edirne**	**0.52**	**131**	P	**Pg**	**17 44 58.9**	**-0.7**
DIM	**Dimitrovgrad**	**0.53**	**255**	Pn	**Pg**	**17 45 00.0**	**+0.4**
DIM				Sn	**Sb**	**17 45 08.1**	**-0.8**
DIM	**Dimitrovgrad**	**0.53**	**255**	Pn	**Pg**	**17 44 60.0**	**+0.4**
DIM				Sn	**Sb**	**17 45 08.1**	**-0.8**
PHSR	**Pinarhisar**	**1.13**	**119**	*e*PG	**Pg**	**17 45 09.8**	**-1.3**
PHSR				*e*SG	**Sg**	**17 45 25.4**	**-0.3**
PHSR	**Pinarhisar**	**1.13**	**119**	*e*Pg	**Pg**	**17 45 09.8**	**-1.3**
PHSR				*e*Sg	**Sg**	**17 45 25.4**	**-0.3**
PLD	**Plovdiv**	**1.13**	**266**	ǁ *i*Pg	**Pg**	**17 45 09.4**	**-1.7**
PLD	**Plovdiv**	**1.13**	**266**	ǁ *i*Pg	**Pg**	**17 45 09.4**	**-1.7**
PLD	**Plovdiv**	**1.13**	**266**	Pn	**Pg**	**17 45 10.2**	**-0.9**
PLD				Sn	**Sg**	**17 45 26.0**	**+0.3**
PLD	**Plovdiv**	**1.13**	**266**	Pn	**Pg**	**17 45 10.2**	**-0.9**
PLD				Sn	**Sg**	**17 45 26.0**	**+0.3**
PVL	**Pavlikeni**	**1.22**	**328**	Pn	**Pn**	**17 45 12.7**	**-0.3**
PVL				Sn	**Sg**	**17 45 29.6**	**+1.1**
PVL	**Pavlikeni**	**1.22**	**328**	Pn	**Pn**	**17 45 12.7**	**-0.3**
PVL				Sn	**Sg**	**17 45 29.6**	**+1.1**
RZN	**Rozhen**	**1.22**	**246**	Pn	**Pb**	**17 45 12.7**	**-0.5**
RZN	**Rozhen**	**1.22**	**246**	Pn	**Pb**	**17 45 12.7**	**-0.5**
ALN	**Alexandroupoli**	**1.30**	**186**	P	**Pn**	**17 45 13.9**	**-0.2**
ALN				S	**Sn**	**17 45 31.9**	**+0.1**
ALN	**Alexandroupoli**	**1.30**	**186**	P	**Pn**	**17 45 13.9**	**-0.2**
ALN				S	**Sn**	**17 45 31.9**	**+0.1**
ALN	**Alexandroupoli**	**1.30**	**186**	P	**Pn**	**17 45 13.9**	**-0.2**
ALN				S	**Sn**	**17 45 31.9**	**+0.1**
ALN	**Alexandroupoli**	**1.30**	**186**	P	**Pg**	**17 45 14.5**	**+0.1**
ALN				S	**Sn**	**17 45 35.1**	**+3.3**
ALN				AML	AML	17 45 36.9	
	comp=N,5296μm,0.6s						

ALN					AML	AML	17 45 37.9		
	comp=E,3485µm,0.6s								
KESN	**Edirne-Kesan**	**1.41**	**165**	P		**Pn**	**17 45 15.6**	**-0.4**	
KESN				S		**Sg**	**17 45 35.9**	**+1.2**	
KESN	**Edirne-Kesan**	**1.41**	**165**	*i* P		**Pn**	**17 45 15.6**	**-0.4**	
KESN				*i* S		**Sg**	**17 45 35.9**	**+1.2**	
ENEZ	**Enez**	**1.45**	**182**	*e*PN		**Pg**	**17 45 17.4**	**+0.1**	
ENEZ				*e*SN		**Sg**	**17 45 37.9**	**+1.7**	
ENEZ	**Enez**	**1.45**	**182**	*e*Pn		**Pg**	**17 45 17.4**	**+0.1**	
ENEZ				*e*Sn		**Sg**	**17 45 37.9**	**+1.7**	
ERIK	**Erikli-Kesan**	**1.53**	**171**	*e*PN		**Pn**	**17 45 17.3**	**-0.1**	
ERIK	**Erikli-Kesan**	**1.53**	**171**	*e*Pn		**Pn**	**17 45 17.3**	**-0.1**	
TKR	**Tekirdag**	**1.56**	**140**	*e*PN		**Pb**	**17 45 18.2**	**-0.5**	
TKR	**Tekirdag**	**1.56**	**140**	*e*Pn		**Pb**	**17 45 18.2**	**-0.5**	
CRLT	**Corlu**	**1.56**	**132**	*e*PN		**Pn**	**17 45 18.2**	**+0.5**	
CRLT	**Corlu**	**1.56**	**132**	*e*Pn		**Pn**	**17 45 18.2**	**+0.5**	
ZIMR		**1.59**	**337**	⇓*i*P		**Pb**	**17 45 20.3**	**+0.9**	
ZIMR		**1.59**	**337**	S		**Sg**	**17 45 41.3**	**+0.6**	
SART	**Tekirdag**	**1.67**	**154**	P		**Pn**	**17 45 19.0**	**-0.3**	
SART				S		**Sg**	**17 45 44.7**	**+1.7**	
SART	**Tekirdag**	**1.67**	**154**	*i* P		**Pn**	**17 45 19.0**	**-0.3**	
SART				*i* S		**Sg**	**17 45 44.7**	**+1.7**	
RKY	**Sarkoy-Tekirda**	**1.67**	**154**	*e*PN		**Pn**	**17 45 19.6**	**+0.4**	
RKY	**Sarkoy-Tekirda**	**1.67**	**154**	*e*Pn		**Pn**	**17 45 19.7**	**+0.4**	
KAVA	**Kavala**	**1.75**	**227**	P		**Pn**	**17 45 20.9**	**+0.6**	
KAVA				S		**Sb**	**17 45 44.7**	**+0.6**	
KAVA	**Kavala**	**1.75**	**227**	P		**Pn**	**17 45 20.9**	**+0.6**	
KAVA				S		**Sb**	**17 45 44.7**	**+0.6**	
KAVA	**Kavala**	**1.75**	**227**	*e*Pn		**Pn**	**17 45 20.9**	**+0.6**	
KAVA				*e*Sn		**Sb**	**17 45 44.7**	**+0.6**	
KAVA	**Kavala**	**1.75**	**227**	P		**Pb**	**17 45 22.2**	**+0.3**	
SMTH	**Samothraki Isl**	**1.79**	**197**	P		**Pn**	**17 45 20.7**	**-0.3**	
SMTH				S		**Sb**	**17 45 45.4**	**-0.1**	
SMTH	**Samothraki Isl**	**1.79**	**197**	P		**Pn**	**17 45 20.7**	**-0.3**	
SMTH				S		**Sb**	**17 45 45.4**	**-0.1**	
SMTH	**Samothraki Isl**	**1.79**	**197**	*e*Pn		**Pn**	**17 45 20.7**	**-0.3**	
SMTH				*e*Sn		**Sb**	**17 45 45.4**	**-0.1**	
SMTH	**Samothraki Isl**	**1.79**	**197**	P		**Pb**	**17 45 22.5**	**-0.2**	
SMTH				S		**Sg**	**17 45 48.9**	**+1.8**	
SMTH					AML	AML	17 45 52.9		
	comp=N,3216µm,0.6s								
SMTH					AML	AML	17 45 54.1		
	comp=E,3135µm,0.7s								
GELI	**Tayfur-Gelibol**	**1.80**	**174**	*e*PN		**Pn**	**17 45 21.5**	**+0.4**	
GELI	**Tayfur-Gelibol**	**1.80**	**174**	*e*Pn		**Pn**	**17 45 21.5**	**+0.4**	
LPK	**Lapseki**	**1.86**	**167**	*e*PN		**Pn**	**17 45 22.6**	**+0.7**	
LPK	**Lapseki**	**1.86**	**167**	*e*Pn		**Pn**	**17 45 22.6**	**+0.7**	
MRMT	**Marmara Adasi**	**1.90**	**146**	*e*PN		**Pn**	**17 45 23.2**	**+0.8**	
MRMT	**Marmara Adasi**	**1.90**	**146**	*e*Pn		**Pn**	**17 45 23.2**	**+0.8**	
NVR	**Nevrokopi**	**1.95**	**245**	P		**Pn**	**17 45 23.5**	**+0.3**	
NVR	**Nevrokopi**	**1.95**	**245**	P		**Pn**	**17 45 23.5**	**+0.3**	
NVR	**Nevrokopi**	**1.95**	**245**	P		**Pn**	**17 45 23.5**	**+0.3**	
ELBA	**Catalca**	**1.96**	**121**	P		**Pn**	**17 45 23.2**	**-0.1**	
ELBA	**Catalca**	**1.96**	**121**	*i* P		**Pn**	**17 45 23.2**	**-0.1**	
CTKS	**Kestanelik-??a**	**1.96**	**118**	*e*PN		**Pn**	**17 45 23.1**	**-0.2**	
CTKS	**Kestanelik-??a**	**1.96**	**118**	*e*Pn		**Pn**	**17 45 23.1**	**-0.2**	
KRBG	**Karabiga-Canak**	**1.97**	**155**	*e*PN		**Pb**	**17 45 24.8**	**-1.0**	
KRBG	**Karabiga-Canak**	**1.97**	**155**	*e*Pn		**Pb**	**17 45 24.8**	**-1.0**	
GADA	**Gvkgeada**	**2.01**	**187**	*e*PN		**Pn**	**17 45 24.7**	**+0.7**	
GADA	**Gvkgeada**	**2.01**	**187**	*e*Pn		**Pn**	**17 45 24.7**	**+0.7**	
PSN	**Preselentsi**	**2.08**	**43**	⇓*i*P		**Pn**	**17 45 23.7**	**-1.2**	
PSN	**Preselentsi**	**2.08**	**43**	⇓*i*P		**Pn**	**17 45 23.7**	**-1.2**	
PSN				S		**Sn**	**17 45 50.8**	**-0.3**	
KNL	**Bal¯–kesir**	**2.16**	**152**	*i* P		**Pn**	**17 45 26.0**	**0.0**	
BGKT	**Bogazkoy**	**2.17**	**117**	*e*PN		**Pn**	**17 45 27.5**	**+1.4**	
BGKT	**Bogazkoy**	**2.17**	**117**	*e*Pn		**Pn**	**17 45 27.5**	**+1.4**	
EDC	**Edincik**	**2.22**	**145**	*e*PN		**Pn**	**17 45 26.7**	**-0.2**	
EDC	**Edincik**	**2.22**	**145**	*e*Pn		**Pn**	**17 45 26.7**	**-0.2**	
SRS	**Serrai**	**2.24**	**242**	P		**Pn**	**17 45 27.7**	**+0.6**	
SRS	**Serrai**	**2.24**	**242**	P		**Pn**	**17 45 27.7**	**+0.6**	
SRS	**Serrai**	**2.24**	**242**	*e*Pn		**Pn**	**17 45 27.7**	**+0.6**	
SRS	**Serrai**	**2.24**	**242**	P		**Pb**	**17 45 30.9**	**+0.6**	
SRS				S		**Sg**	**17 46 04.9**	**+3.6**	
SRS					AML	AML	17 46 11.7		
	comp=E,7990µm,0.5s								
SRS					AML	AML	17 46 13.1		
	comp=N,6374µm,1.0s								
KLYT	**Kilyos**	**2.31**	**113**	*e*PN		**Pn**	**17 45 28.8**	**+0.7**	
KLYT	**Kilyos**	**2.31**	**113**	*e*Pn		**Pn**	**17 45 28.8**	**+0.7**	
BOZC	**Bozcaada**	**2.35**	**183**	*i* P		**Pb**	**17 45 31.7**	**-0.5**	
ISK	**Istanbul-Kandi**	**2.41**	**117**	*e*PN		**Pn**	**17 45 30.5**	**+1.0**	
ISK	**Istanbul-Kandi**	**2.41**	**117**	P		**Pn**	**17 45 28.7**	**-0.8**	
ISK				S		**Sn**	**17 46 00.4**	**+1.1**	
ISK	**Istanbul-Kandi**	**2.41**	**117**	P		**Pn**	**17 45 28.7**	**-0.8**	
ISK	**Istanbul-Kandi**	**2.41**	**117**	*e*Pn		**Pn**	**17 45 30.5**	**+1.0**	
ISK				S		**Sn**	**17 46 00.4**	**+1.1**	
ISK	**Istanbul-Kandi**	**2.41**	**117**	P		**Pn**	**17 45 28.7**	**-0.8**	
GONE	**Gonen-Balikesi**	**2.41**	**152**	*e*PN		**Pn**	**17 45 30.5**	**+1.0**	
GONE	**Gonen-Balikesi**	**2.41**	**152**	*e*Pn		**Pn**	**17 45 30.5**	**+1.0**	
LIA	**Limnos Island**	**2.42**	**199**	P		**Pn**	**17 45 30.3**	**+0.7**	
LIA	**Limnos Island**	**2.42**	**199**	P		**Pn**	**17 45 30.3**	**+0.7**	
LIA	**Limnos Island**	**2.42**	**199**	P		**Pn**	**17 45 30.3**	**+0.7**	
SULR		**2.49**	**1**	⇓*i*P		**Pb**	**17 45 34.1**	**-0.5**	
SULR		**2.49**	**1**	S		**Sg**	**17 46 08.6**	**+0.8**	
SULR		**2.49**	**1**	⇓*i*P		**Pb**	**17 45 34.1**	**-0.5**	
OUR	**Ouranopolis**	**2.50**	**223**	P		**Pn**	**17 45 30.5**	**-0.2**	
OUR	**Ouranopolis**	**2.50**	**223**	P		**Pn**	**17 45 30.5**	**-0.2**	
OUR	**Ouranopolis**	**2.50**	**223**	*e*Pn		**Pn**	**17 45 30.5**	**-0.2**	
OUR	**Ouranopolis**	**2.50**	**223**	P		**Pb**	**17 45 33.4**	**-1.4**	
OUR				S		**Sg**	**17 46 08.9**	**-0.9**	
OUR					AML	AML	17 46 16.7		
	comp=E,5351µm,0.5s								
OUR					AML	AML	17 46 17.5		
	comp=N,3097µm,0.4s								
HUMR	**Humele**	**2.50**	**339**	⇓*i*P		**Pb**	**17 45 33.8**	**-1.1**	
HUMR	**Humele**	**2.50**	**339**	S		**Sg**	**17 46 09.7**	**-0.2**	
HUMR	**Humele**	**2.50**	**339**	⇓*i*P		**Pb**	**17 45 33.8**	**-1.1**	
KCTX	**Karacabey (Bur**	**2.51**	**139**	*e*PN		**Pn**	**17 45 32.1**	**+1.2**	
KCTX	**Karacabey (Bur**	**2.51**	**139**	*e*Pn		**Pn**	**17 45 32.1**	**+1.2**	
SOH	**Sokhos**	**2.54**	**238**	P		**Pn**	**17 45 31.7**	**+0.3**	
SOH	**Sokhos**	**2.54**	**238**	P		**Pn**	**17 45 31.7**	**+0.3**	
SOH	**Sokhos**	**2.54**	**238**	*e*Pn		**Pn**	**17 45 31.7**	**+0.3**	
SOH	**Sokhos**	**2.54**	**238**	P		**Pb**	**17 45 35.6**	**0.0**	
SOH				S		**Sg**	**17 46 13.0**	**+1.7**	
SOH					AML	AML	17 46 17.4		
	comp=E,5518µm,0.5s								
SOH					AML	AML	17 46 21.4		
	comp=N,4024µm,1.0s								
ARMT	**Armutlu**	**2.57**	**128**	*e*PN		**Pn**	**17 45 32.3**	**+0.6**	
ARMT	**Armutlu**	**2.57**	**128**	*e*Pn		**Pn**	**17 45 32.3**	**+0.6**	
BALY	**Balya**	**2.67**	**156**	P		**Pn**	**17 45 33.5**	**+0.4**	
BALY	**Balya**	**2.67**	**156**	*i* P		**Pn**	**17 45 33.5**	**+0.4**	
MDNY	**Mudanya-Bursa**	**2.71**	**131**	*e*PN		**Pn**	**17 45 34.4**	**+0.8**	
MDNY	**Mudanya-Bursa**	**2.71**	**131**	*e*Pn		**Pn**	**17 45 34.4**	**+0.8**	
PLG	**Polygyros**	**2.76**	**230**	P		**Pn**	**17 45 35.0**	**+0.6**	
PLG	**Polygyros**	**2.76**	**230**	P		**Pn**	**17 45 35.0**	**+0.6**	
PLG	**Polygyros**	**2.76**	**230**	P		**Pn**	**17 45 35.0**	**+0.6**	
PLG	**Polygyros**	**2.76**	**230**	P		**Pb**	**17 45 38.8**	**-0.6**	
PLG				S		**Sg**	**17 46 16.3**	**-1.9**	
PLG					AML	AML	17 46 23.1		
	comp=N,4757µm,0.5s								
PLG					AML	AML	17 46 26.7		
	comp=E,3053µm,1.0s								
SILT	**Sile**	**2.77**	**111**	*e*PN		**Pn**	**17 45 36.1**	**+1.8**	
SILT	**Sile**	**2.77**	**111**	*e*Pn		**Pn**	**17 45 36.2**	**+1.8**	
TIRR	**Tirgusor**	**2.78**	**35**	⇓*i*P		**Pn**	**17 45 35.4**	**+0.9**	
TIRR	**Tirgusor**	**2.78**	**35**	*e*Pn		**Pn**	**17 45 33.9**	**-0.6**	
TIRR	**Tirgusor**	**2.78**	**35**	⇓*i*P		**Pn**	**17 45 35.4**	**+0.9**	
TIRR				S		**Sb**	**17 46 14.4**	**+0.6**	
TIRR	**Tirgusor**	**2.78**	**35**	*e*Pn		**Pn**	**17 45 33.9**	**-0.6**	
TIRR				*e*Sn		**Sb**	**17 46 14.4**	**+0.6**	
HARR	**Harsova**	**2.79**	**26**	⇑*i*P		**Pn**	**17 45 36.5**	**+1.7**	
HARR	**Harsova**	**2.79**	**26**	⇑*i*P		**Pn**	**17 45 36.5**	**+1.7**	
HORT	**Hortiatis**	**2.83**	**237**	P		**Pn**	**17 45 35.4**	**+0.1**	
HORT	**Hortiatis**	**2.83**	**237**	P		**Pn**	**17 45 35.4**	**+0.1**	
HORT	**Hortiatis**	**2.83**	**237**	P		**Pn**	**17 45 35.4**	**+0.1**	
HORT	**Hortiatis**	**2.83**	**237**	P		**Pn**	**17 45 38.0**	**+2.6**	
HORT				S		**Sg**	**17 46 19.3**	**-1.1**	
HORT					AML	AML	17 46 25.6		
	comp=N,2670µm,0.9s								
HORT					AML	AML	17 46 29.7		
	comp=E,1812µm,0.8s								
BALB	**Balikesir**	**2.84**	**153**	*e*PN		**Pn**	**17 45 36.6**	**+1.2**	
BALB	**Balikesir**	**2.84**	**153**	*e*Pn		**Pn**	**17 45 36.6**	**+1.2**	
ZAPS	**Zavoj**	**2.85**	**294**	⇓*i*P		**Pn**	**17 45 36.6**	**+1.0**	
ZAPS				*e*Sn		**Sn**	**17 46 11.5**	**+1.2**	
VAY	**Valandovo**	**2.86**	**254**	P		**Pn**	**17 45 36.3**	**+0.6**	
VAY	**Valandovo**	**2.86**	**254**	*e*Pn		**Pn**	**17 45 37.1**	**+1.4**	
VAY	**Valandovo**	**2.86**	**254**	*e*Pn		**Pn**	**17 45 36.4**	**+0.7**	
VAY	**Valandovo**	**2.86**	**254**	P		**Pn**	**17 45 36.3**	**+0.6**	
VAY	**Valandovo**	**2.86**	**254**	*e*Pn		**Pn**	**17 45 36.3**	**+0.6**	
THE	**Thessaloniki**	**2.90**	**239**	P		**Pn**	**17 45 36.2**	**+0.1**	
THE	**Thessaloniki**	**2.90**	**239**	P		**Pn**	**17 45 36.2**	**+0.1**	
THE	**Thessaloniki**	**2.90**	**239**	*e*Pn		**Pn**	**17 45 36.2**	**+0.1**	
THE	**Thessaloniki**	**2.90**	**239**	P		**Pn**	**17 45 37.4**	**+1.3**	
THE				S		**Sb**	**17 46 19.1**	**+1.9**	
THE					AML	AML	17 46 30.2		
	comp=E,1730µm,1.0s								
THE					AML	AML	17 46 30.4		
	comp=N,3278µm,1.0s								
AYVA	**Ayvalik**	**2.90**	**173**	P		**Pn**	**17 45 38.1**	**+1.9**	
AYVA	**Ayvalik**	**2.90**	**173**	*i* P		**Pn**	**17 45 38.1**	**+1.9**	
HRT	**Hereke**	**2.93**	**117**	*e*PN		**Pn**	**17 45 38.6**	**+1.9**	
HRT	**Hereke**	**2.93**	**117**	*e*Pn		**Pn**	**17 45 38.6**	**+1.9**	
ISR	**Istrita**	**2.94**	**5**	⇑*i*P		**Pb**	**17 45 40.5**	**-1.8**	
ISR	**Istrita**	**2.94**	**5**	⇑*i*P		**Pb**	**17 45 40.5**	**-1.8**	
PRK	**Paraskevi**	**2.94**	**179**	P		**Pn**	**17 45 37.3**	**+0.6**	
PRK	**Paraskevi**	**2.94**	**179**	P		**Pn**	**17 45 37.3**	**+0.6**	
PRK				S		**Sb**	**17 46 16.1**	**-2.4**	
PRK	**Paraskevi**	**2.94**	**179**	P		**Pn**	**17 45 37.3**	**+0.6**	
PRK	**Paraskevi**	**2.94**	**179**	P		**Pn**	**17 45 35.7**	**-1.1**	
PRK				S		**Sb**	**17 46 16.1**	**-2.4**	
PRK					AML	AML	17 46 30.6		
	comp=N,1972µm,0.9s								
PRK					AML	AML	17 46 33.2		
	comp=E,1880µm,0.7s								
IGD	**Bursa**	**2.96**	**129**	*i* P		**Pn**	**17 45 37.2**	**+0.2**	
PAIG	**Paliouri**	**2.96**	**221**	P		**Pn**	**17 45 37.1**	**0.0**	
PAIG	**Paliouri**	**2.96**	**221**	P		**Pn**	**17 45 37.1**	**0.0**	
PAIG	**Paliouri**	**2.96**	**221**	*e*Pn		**Pn**	**17 45 37.1**	**0.0**	
PAIG	**Paliouri**	**2.96**	**221**	P		**Pn**	**17 45 38.5**	**+1.4**	
PAIG				S		**Sg**	**17 46 22.3**	**-2.4**	
PAIG					AML	AML	17 46 29.3		
	comp=N,1895µm,0.7s								
PAIG					AML	AML	17 46 35.7		
	comp=E,1368µm,0.9s								
SIGR	**SIGRI**	**2.99**	**185**	P		**Pn**	**17 45 37.9**	**+0.5**	
SIGR	**SIGRI**	**2.99**	**185**	P		**Pn**	**17 45 37.9**	**+0.5**	
SIGR				S		**Sb**	**17 46 18.0**	**-1.8**	
SIGR	**SIGRI**	**2.99**	**185**	*e*Pn		**Pn**	**17 45 37.9**	**+0.5**	
SIGR	**SIGRI**	**2.99**	**185**	P		**Pn**	**17 45 39.1**	**+1.7**	
SIGR				S		**Sb**	**17 46 18.0**	**-1.8**	
SIGR					AML	AML	17 46 36.6		
	comp=E,695µm,0.8s								
SIGR					AML	AML	17 46 38.9		
	comp=N,901µm,0.7s								
IZI	**Iznik**	**3.08**	**126**	*e*PN		**Pn**	**17 45 39.0**	**+0.3**	
IZI	**Iznik**	**3.08**	**126**	*e*Pn		**Pn**	**17 45 39.0**	**+0.3**	
GRG	**Griva**	**3.11**	**248**	P		**Pn**	**17 45 39.9**	**+0.7**	
GRG	**Griva**	**3.11**	**248**	P		**Pn**	**17 45 39.9**	**+0.7**	
GRG	**Griva**	**3.11**	**248**	*e*Pn		**Pn**	**17 45 39.9**	**+0.7**	
GRG	**Griva**	**3.11**	**248**	P		**Pn**	**17 45 41.1**	**+1.9**	
GRG				S		**Sb**	**17 46 26.3**	**+2.8**	
GRG					AML	AML	17 46 36.8		
	comp=E,2027µm,0.9s								
GRG					AML	AML	17 46 39.9		
	comp=N,2387µm,1.1s								
MTUR	**Matau**	**3.15**	**345**	⇑*i*P		**Pn**	**17 45 41.7**	**+2.0**	
MTUR	**Matau**	**3.15**	**345**	⇑*i*P		**Pn**	**17 45 41.7**	**+2.0**	
DKL	**Dikili**	**3.16**	**170**	*e*PN		**Pn**	**17 45 41.5**	**+1.8**	
DKL	**Dikili**	**3.16**	**170**	*e*Pn		**Pn**	**17 45 41.5**	**+1.8**	
KAND	**Kocaeli-Kandir**	**3.18**	**109**	P		**Pn**	**17 45 40.5**	**+0.5**	
KAND	**Kocaeli-Kandir**	**3.18**	**109**	*i* P		**Pn**	**17 45 40.5**	**+0.5**	
ADVT	**Abdulvahap**	**3.18**	**122**	*e*PN		**Pn**	**17 45 41.7**	**+1.6**	
ADVT	**Abdulvahap**	**3.18**	**122**	*e*Pn		**Pn**	**17 45 41.7**	**+1.6**	
CFR	**Carcaliu**	**3.30**	**24**	⇓*i*P		**Pn**	**17 45 45.0**	**+3.4**	
CFR	**Carcaliu**	**3.30**	**24**	S		**Sb**	**17 45 41.9**	**+1.9**	
CFR	**Carcaliu**	**3.30**	**24**	⇓*i*P		**Pn**	**17 45 45.0**	**+3.4**	
SRE	**Strehaia**	**3.30**	**319**	⇑*i*P		**Pn**	**17 45 43.3**	**+1.5**	
SRE	**Strehaia**	**3.30**	**319**	S		**Sg**	**17 46 35.3**	**-0.3**	
SRE	**Strehaia**	**3.30**	**319**	⇑*i*P		**Pn**	**17 45 43.3**	**+1.5**	
MLR	**Muntele Rosu**	**3.31**	**357**	Pn		**Pn**	**17 45 43.4**	**+1.4**	
	comp=N,0.7nm,0.3s,baz=182,slow=6.1,SNR=46								
MLR					Lg	Lg	17 46 35.2		
	comp=N,5.3nm,0.3s,baz=145,slow=20,SNR=6.9								
MLR	**Muntele Rosu**	**3.31**	**357**	⇓*i*P		**Pn**	**17 45 43.5**	**+1.6**	
MLR	**Muntele Rosu**	**3.31**	**357**	S		**Sg**	**17 46 35.4**	**-0.3**	
MLR	**Muntele Rosu**	**3.31**	**357**	*e*Pn		**Pn**	**17 45 42.8**	**+0.9**	
MLR	**Muntele Rosu**	**3.31**	**357**	⇓*i*P		**Pn**	**17 45 43.5**	**+1.6**	
MLR				*e*Sg		**Sg**	**17 46 33.8**	**-1.9**	
MLR	**Muntele Rosu**	**3.31**	**357**	*e*Pn		**Pn**	**17 45 42.8**	**+0.9**	
MLR				*e*Sg		**Sg**	**17 46 33.8**	**-1.9**	
BARS	**Barje**	**3.31**	**282**	⇓*i*Pn		**Pn**	**17 45 42.4**	**+0.5**	
BARS	**Barje**	**3.31**	**282**	⇓*i*Pn		**Pn**	**17 45 42.4**	**+0.5**	
VOIR		**3.35**	**346**	⇓*i*P		**Pn**	**17 45 42.9**	**+0.4**	
VOIR		**3.35**	**346**	S		**Sg**	**17 46 37.0**	**-0.2**	
VOIR		**3.35**	**346**	⇓*i*P		**Pn**	**17 45 42.9**	**+0.4**	
CAVI	**Cavuskoy**	**3.38**	**125**	*e*PN		**Pn**	**17 45 44.5**	**+1.6**	
CAVI	**Cavuskoy**	**3.38**	**125**	*e*Pn		**Pn**	**17 45 44.5**	**+1.6**	
LIT	**Litokhoron**	**3.50**	**235**	P		**Pn**	**17 45 45.1**	**+0.6**	
LIT	**Litokhoron**	**3.50**	**235**	P		**Pn**	**17 45 45.1**	**+0.6**	
LIT	**Litokhoron**	**3.50**	**235**	*e*Pn		**Pn**	**17 45 45.1**	**+0.6**	
LIT	**Litokhoron**	**3.50**	**235**	P		**Pn**	**17 45 45.7**	**+1.2**	
TLCR		**3.54**	**31**	⇑*i*P		**Pn**	**17 45 46.0**	**+1.0**	
TLCR		**3.54**	**31**	S		**Sb**	**17 46 39.9**	**+4.2**	
TLCR		**3.54**	**31**	⇑*i*P		**Pn**	**17 45 46.0**	**+1.0**	
SKO	**Skopje**	**3.56**	**268**	*e*Pn		**Pn**	**17 45 46.5**	**+1.2**	
SKO				*e*Pn		Pb	17 45 48.2	-4.7	
SKO	**Skopje**	**3.56**	**268**	*e*Pn		**Pn**	**17 45 46.5**	**+1.2**	
BOVS	**Bovan**	**3.61**	**295**	⇑*i*Pn		**Pn**	**17 45 46.8**	**+0.8**	
BOVS				*e*Sn		**Sn**	**17 46 29.5**	**+0.5**	
BOVS	**Bovan**	**3.61**	**295**	⇑*i*Pn		**Pn**	**17 45 46.8**	**+0.8**	
BOVS				*e*Sn		**Sn**	**17 46 29.5**	**+0.5**	
DJES	**Djerdap**	**3.66**	**314**	*e*Pn		**Pn**	**17 45 48.0**	**+1.4**	
DJES				*e*Sn		**Sn**	**17 46 29.5**	**-0.5**	
NEO	**Neokhori**	**3.67**	**219**	P		**Pn**	**17 45 46.9**	**+0.1**	
NEO	**Neokhori**	**3.67**	**219**	P		**Pn**	**17 45 46.9**	**+0.1**	
NEO	**Neokhori**	**3.67**	**219**	P		**Pn**	**17 45 46.9**	**+0.1**	
NEO	**Neokhori**	**3.67**	**219**	P		**Pn**	**17 45 48.2**	**+1.4**	
NEO					AML	AML	17 46 44.8		
	comp=N,273µm,0.6s								
NEO					AML	AML	17 46 52.9		
	comp=E,739µm,0.7s								
SKIA	**Skiathos**	**3.67**	**216**	P		**Pn**	**17 45 46.8**	**0.0**	
SKIA	**Skiathos**	**3.67**	**216**	P		**Pn**	**17 45 46.8**	**0.0**	
PLOR	**Plostina**	**3.67**	**5**	⇑*i*P		**Pn**	**17 45 48.8**	**+1.9**	
PLOR	**Plostina**	**3.67**	**5**	⇑*i*P		**Pn**	**17 45 48.8**	**+1.9**	
TVSB	**Tavsanli**	**3.68**	**137**	*e*PN		**Pn**	**17 45 48.6**	**+1.5**	
TVSB	**Tavsanli**	**3.68**	**137**	*e*Pn		**Pn**	**17 45 48.6**	**+1.5**	
GULT	**Gulveren**	**3.69**	**117**	*e*PN		**Pn**	**17 45 48.8**	**+1.7**	
GULT	**Gulveren**	**3.69**	**117**	*e*Pn		**Pn**	**17 45 48.8**	**+1.7**	
LOT	**Lotru**	**3.71**	**332**	⇓*i*P		**Pn**	**17 45 48.5**	**+1.1**	
LOT	**Lotru**	**3.71**	**332**	⇓*i*P		**Pn**	**17 45 48.5**	**+1.1**	
FYTO	**Fytoko, Volos**	**3.73**	**223**	P		**Pn**	**17 45 47.5**	**-0.1**	
FYTO	**Fytoko, Volos**	**3.73**	**223**	P		**Pn**	**17 45 48.6**	**+1.0**	
FYTO	**Fytoko, Volos**	**3.73**	**223**	*e*Pn		**Pn**	**17 45 47.5**	**-0.1**	
FYTO	**Fytoko, Volos**	**3.73**	**223**	P		**Pn**	**17 45 48.6**	**+1.0**	
SAHE	**Sakarya_HENDEK**	**3.73**	**109**	P		**Pn**	**17 45 48.2**	**+0.6**	
SAHE	**Sakarya_HENDEK**	**3.73**	**109**	*i* P		**Pn**	**17 45 48.2**	**+0.6**	
CHOS	**Chios island**	**3.80**	**182**	P		**Pn**	**17 45 48.6**	**-0.1**	
CHOS	**Chios island**	**3.80**	**182**	P		**Pn**	**17 45 48.6**	**-0.1**	
CHOS				S		**Sn**	**17 46 36.0**	**+2.3**	
CHOS	**Chios island**	**3.80**	**182**	P		**Pn**	**17 45 48.6**	**-0.1**	
CHOS	**Chios island**	**3.80**	**182**	P		**Pn**	**17 45 48.5**	**-0.1**	
CHOS				S		**Sn**	**17 46 36.0**	**+2.3**	
DOPR	**Dopca**	**3.82**	**351**	⇑*i*P		**Pn**	**17 45 49.6**	**+0.7**	
DOPR	**Dopca**	**3.82**	**351**	⇑*i*P		**Pn**	**17 45 49.6**	**+0.7**	
KZN	**Kozani**	**3.84**	**242**	P		**Pn**	**17 45 49.9**	**+0.7**	
KZN	**Kozani**	**3.84**	**242**	P		**Pn**	**17 45 49.9**	**+0.7**	
KZN	**Kozani**	**3.84**	**242**	P		**Pn**	**17 45 49.9**	**+0.7**	
IZM	**Izmir**	**3.87**	**168**	*e*PN		**Pn**	**17 45 51.1**	**+1.5**	
IZM	**Izmir**	**3.87**	**168**	*e*Pn		**Pn**	**17 45 51.1**	**+1.5**	
SELS	**Selova**	**3.89**	**287**	⇓*i*Pn		**Pn**	**17 45 49.9**	**0.0**	
SELS				*e*Sn		**Sn**	**17 46 35.4**	**-0.5**	
SELS	**Selova**	**3.89**	**287**	⇓*i*Pn		**Pn**	**17 45 49.9**	**0.0**	
SELS				*e*Sn		**Sn**	**17 46 35.4**	**-0.5**	
FNA	**Florina**	**3.90**	**250**	P		**Pn**	**17 45 50.6**	**+0.6**	
FNA	**Florina**	**3.90**	**250**	P		**Pn**	**17 45 50.6**	**+0.6**	
FNA	**Florina**	**3.90**	**250**	P		**Pn**	**17 45 50.6**	**+0.6**	
BORA	**Eskisehir**	**3.95**	**124**	P		**Pn**	**17 45 51.9**	**+1.2**	
BORA	**Eskisehir**	**3.95**	**124**	*i* P		**Pn**	**17 45 51.9**	**+1.2**	
ZEY	**¯zmir**	**3.95**	**177**	*i* P		**Pn**	**17 45 49.7**	**-1.0**	
GDZ	**Gediz**	**3.97**	**140**	P		**Pn**	**17 45 52.1**	**+1.0**	
GDZ	**Gediz**	**3.97**	**140**	*i* P		**Pn**	**17 45 52.1**	**+1.0**	
KUBS	**Kucevo**	**3.99**	**305**	*e*Pn		**Pn**	**17 45 49.9**	**-1.3**	
KUBS	**Kucevo**	**3.99**	**305**	*e*Pn		**Pn**	**17 45 49.9**	**-1.3**	
SMIA	**Simia**	**4.02**	**216**	P		**Pn**	**17 45 52.5**	**+0.8**	
SMIA	**Simia**	**4.02**	**216**	P		**Pn**	**17 45 52.5**	**+0.8**	
KULA	**Kula-Manisa**	**4.12**	**152**	P		**Pn**	**17 45 53.2**	**+0.1**	
KULA	**Kula-Manisa**	**4.12**	**152**	P		**Pn**	**17 45 53.2**	**+0.1**	
KULA	**Kula-Manisa**	**4.12

MK32	**Makanchi Array**	**39.55**	**64**	*e*P	**P**	**17 52 22.6 +1.5**
MK32	**Makanchi Array**	**39.55**	**64**	*e*P	**P**	**17 52 22.6 +1.5**
MKAR	**Makanchi Array**	**39.55**	**64**	P	**P**	**17 52 22.6 +1.5**
	comp=Z,1.4nm,0.7s,baz=285,slow=8.5,SNR=3.7					
ZAA1	**Zalesovo Array**	**39.78**	**52**	*e*P	**P**	**17 52 24.3 +1.4**
ZAA1	**Zalesovo Array**	**39.78**	**52**	*e*P	**P**	**17 52 24.3 +1.4**
ZALV	**Zalesovo Beam**	**39.78**	**52**	P	**P**	**17 52 24.3 +1.4**
	comp=Z,0.8nm,0.4s,baz=287,slow=10,SNR=2.5					

*SOF **24** 17:47:32.6, 42°.19N×26°.27E, h5km, MD3.1*
*ISK **24** 17:47:35.7, 42°.05N×26°.41E, h6km, ML3.1*
*CSEM **24** 17:47:36.4±0.7, 42°.07N×26°.39E, h10km, ML3.1, Error ellipse: s-maj=13.0km s-min=7.5km az=153.0*
*DDA **24** 17:48:39.1, 41°.95N×26°.51E, h22km, Md3.2*
ISC 24 17:47:32.1±1.2, **42°.24N**±0°.03×**26°.34E**±0°.03, **h8**km±10km, **n48**, σ0s**62**/66, **Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMB	**Yambol**	**0.29**	**39**	P	**Pb**	**17 47 39.5**	**-0.2**
EDRB	**Edirne**	**0.50**	**142**	*e*PG	**Pb**	**17 47 42.5**	**-0.6**
EDRB				*e*SG	**Sg**	**17 47 48.4**	**+0.2**
EDRB	**Edirne**	**0.50**	**142**	*e*Pg	**Pb**	**17 47 42.5**	**-0.6**
EDRB				*e*Sg	**Sg**	**17 47 48.4**	**+0.2**
DIM	**Dimitrovgrad**	**0.63**	**253**	P	**Pg**	**17 47 43.5**	**-0.7**
KDZ	**Kurdzhali**	**0.90**	**230**	P	**Pg**	**17 47 49.8**	**+0.3**
SZH	**Strazhica**	**1.07**	**344**	P	**Pn**	**17 47 54.0**	**+0.5**
PHSR	**Pinarhisar**	**1.07**	**124**	*e*PG	**Pn**	**17 47 53.0**	**-0.4**
PHSR				*e*SG	**Sb**	**17 48 06.8**	**-0.4**
PHSR	**Pinarhisar**	**1.07**	**124**	*e*Pg	**Pn**	**17 47 53.1**	**-0.4**
PHSR				*e*Sg	**Sb**	**17 48 06.8**	**-0.4**
ROIA	**ROIAK**	**1.15**	**42**	P	**Pn**	**17 47 56.1**	**+1.5**
PLD	**Plovdiv**	**1.22**	**264**	P	**Pn**	**17 47 54.5**	**-1.0**
PVL	**Pavlikeni**	**1.23**	**323**	P	**Pn**	**17 47 56.4**	**+0.8**
PRD	**Provadia**	**1.24**	**39**	P	**Pn**	**17 47 57.0**	**+1.2**
RZN	**Rozhen**	**1.33**	**246**	P	**Pn**	**17 47 56.5**	**-0.7**
KESN	**Edirne-Kesan**	**1.44**	**170**	P	**Pb**	**17 47 59.5**	**+0.2**
KESN				S	**Sb**	**17 48 18.2**	**+0.3**
KESN	**Edirne-Kesan**	**1.44**	**170**	*i* P	**Pb**	**17 47 59.5**	**+0.1**
KESN				*i* S	**Sb**	**17 48 18.2**	**+0.3**
ENEZ	**Enez**	**1.51**	**185**	*e*PN	**Pg**	**17 48 01.5**	**+0.5**
ENEZ				*e*SN	**Sb**	**17 48 20.4**	**+0.8**
ENEZ	**Enez**	**1.51**	**185**	*e*Pn	**Pg**	**17 48 01.5**	**+0.5**
ENEZ				*e*Sn	**Sb**	**17 48 20.4**	**+0.8**
TKR	**Tekirdag**	**1.54**	**144**	*e*PN	**Pg**	**17 48 01.8**	**+0.2**
TKR	**Tekirdag**	**1.54**	**144**	*e*Pn	**Pg**	**17 48 01.8**	**+0.2**
ERIK	**Erikli-Kesan**	**1.57**	**175**	*e*PN	**Pn**	**17 48 00.9**	**+0.6**
ERIK				*e*SN	**Sn**	**17 48 20.4**	**-0.5**
ERIK	**Erikli-Kesan**	**1.57**	**175**	*e*Pn	**Pn**	**17 48 00.9**	**+0.6**
ERIK				*e*Sn	**Sn**	**17 48 20.4**	**-0.5**
SART	**Tekirdag**	**1.67**	**157**	P	**Pb**	**17 48 03.6**	**+0.4**
SART				S	**Sg**	**17 48 25.9**	**0.0**
SART	**Tekirdag**	**1.67**	**157**	*i* P	**Pb**	**17 48 03.6**	**+0.3**
SART				*i* S	**Sg**	**17 48 25.9**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.67**	**158**	*e*PN	**Pb**	**17 48 03.6**	**+0.4**
RKY				*e*SN	**Sb**	**17 48 24.4**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.67**	**158**	*e*Pn	**Pb**	**17 48 03.6**	**+0.4**
RKY				*e*Sn	**Sb**	**17 48 24.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.84**	**177**	*e*PN	**Pn**	**17 48 04.9**	**+0.8**
GELI				*e*SN	**Sn**	**17 48 27.1**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.84**	**177**	*e*Pn	**Pn**	**17 48 04.9**	**+0.8**
GELI				*e*Sn	**Sn**	**17 48 27.1**	**-0.4**
MRMT	**Marmara Adasi**	**1.89**	**149**	*e*PN	**Pb**	**17 48 06.4**	**-0.5**
MRMT	**Marmara Adasi**	**1.89**	**149**	*e*Pn	**Pb**	**17 48 06.4**	**-0.5**
LPK	**Lapseki**	**1.89**	**170**	*e*PN	**Pb**	**17 48 06.2**	**-0.7**
LPK	**Lapseki**	**1.89**	**170**	*e*Pn	**Pb**	**17 48 06.2**	**-0.7**
CTKS	**Kestanelik-??a**	**1.91**	**121**	*e*PN	**Pb**	**17 48 07.0**	**-0.2**
CTKS				*e*SN	**Sb**	**17 48 30.7**	**-0.5**
CTKS	**Kestanelik-??a**	**1.91**	**121**	*e*Pn	**Pb**	**17 48 07.0**	**-0.2**
CTKS				*e*Sn	**Sb**	**17 48 30.7**	**-0.5**
KRBG	**Karabiga-Canak**	**1.98**	**158**	*e*PN	**Pb**	**17 48 08.7**	**+0.3**
KRBG	**Karabiga-Canak**	**1.98**	**158**	*e*Pn	**Pb**	**17 48 08.7**	**+0.3**
GADA	**Gvkgeada**	**2.07**	**189**	*e*PN	**Pb**	**17 48 09.8**	**-0.2**
GADA	**Gvkgeada**	**2.07**	**189**	*e*Pn	**Pb**	**17 48 09.8**	**-0.2**
BGKT	**Bogazkoy**	**2.11**	**119**	*e*PN	**Pg**	**17 48 11.4**	**-1.1**
BGKT	**Bogazkoy**	**2.11**	**119**	*e*Pn	**Pg**	**17 48 11.4**	**-1.1**
KNL	**Bal¯kesir**	**2.16**	**155**	*i* P	**Pn**	**17 48 08.9**	**+0.5**
EDC	**Edincik**	**2.21**	**148**	*e*PN	**Pb**	**17 48 12.0**	**-0.4**
EDC	**Edincik**	**2.21**	**148**	*e*Pn	**Pb**	**17 48 12.0**	**-0.4**
KLYT	**Kilyos**	**2.25**	**115**	*e*PN	**Pb**	**17 48 13.4**	**+0.4**
KLYT	**Kilyos**	**2.25**	**115**	*e*Pn	**Pb**	**17 48 13.4**	**+0.4**
ISK	**Istanbul-Kandi**	**2.35**	**119**	*e*PN	**Pb**	**17 48 14.5**	**-0.3**
ISK	**Istanbul-Kandi**	**2.35**	**119**	*e*Pn	**Pb**	**17 48 14.5**	**-0.3**
BALY	**Balya**	**2.68**	**158**	P	**Pn**	**17 48 17.0**	**+1.4**
BALY	**Balya**	**2.68**	**158**	*i* P	**Pn**	**17 48 17.0**	**+1.4**

*NIC **24** 17:52:35.3±0.0, 34°.76N×29°.43E, h25km, ML3.4*
ISC 24 17:52:33.1±3.7, **34°.8N**±0°.2×**29°.3E**±0°.2, **h35**km, **n9**, σ0s**96**/13, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**1.42**	**11**	*i* P	**Pn**	**17 52 55.8**	**-0.8**
AKAS				*i* S	**Sn**	**17 53 15.1**	**+1.0**
KORT	**Korkueli**	**2.33**	**22**	*i* P	**Pn**	**17 53 07.3**	**-1.8**
GOLH	**Golhisar**	**2.41**	**6**	*i* P	**Pn**	**17 53 09.9**	**-0.2**
GOLH				*i* S	**Sn**	**17 53 40.2**	**+1.7**
AKMC	**Akamas** baz=264	**2.52**	**85**	P	**Pn**	**17 53 11.6**	**0.0**
PPCY	**Paphos** baz=267	**2.53**	**88**	P	**Pn**	**17 53 11.6**	**-0.1**
ALFC	**Alefka** baz=262	**2.75**	**82**	P	**Pn**	**17 53 15.0**	**+0.2**
ALFC				S	**Sn**	**17 53 46.0**	**-0.8**
GAZI	**Gazipasa**	**2.85**	**60**	*i* P	**Pn**	**17 53 15.6**	**-0.5**
GAZI				*i* S	**Sn**	**17 53 49.7**	**+0.5**
SZAC	**Souni** baz=270	**2.97**	**90**	P	**Pn**	**17 53 17.9**	**+0.1**
KDHN	**Kadinhani**	**4.33**	**31**	*i* P	**Pn**	**17 53 36.6**	**0.0**

*CSEM **24** 17:52:43.3±0.7, 36°.76N×27°.20E, h15km, MD2.8, Error ellipse: s-maj=15.1km s-min=12.1km az=11.0*
*ISK **24** 17:52:44.3, 36°.90N×27°.23E, h26km, MD2.8*
*DDA **24** 17:52:47.5, 36°.99N×27°.40E, h6km, Md2.8*
ISC 24 17:52:42.5±1.5, **36°.76N**±0°.06×**27°.33E**±0°.04, **h17**km±8km, **n23**, σ1s**22**/32, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.30**	**356**	*e*PG	**Pb**	**17 52 50.6**	**+1.1**
BODT				*e*SG	**Sg**	**17 52 53.4**	**-0.2**
BODT	**Bodrum**	**0.30**	**356**	*e*Pg	**Pb**	**17 52 50.6**	**+1.1**
BODT				*e*Sg	**Sg**	**17 52 53.4**	**-0.1**
BDRM	**Kayabasi**	**0.32**	**16**	P	**Pb**	**17 52 50.1**	**+0.3**
BDRM				S	**Sg**	**17 52 51.7**	**-2.2**
BDRM	**Kayabasi**	**0.32**	**16**	*i* P	**Pb**	**17 52 50.1**	**+0.3**
BDRM				*i* S	**Sg**	**17 52 51.7**	**-2.2**
YER	**Yerkesik**	**0.85**	**63**	*e*PG	**Pn**	**17 53 01.4**	**+1.7**
YER	**Yerkesik**	**0.85**	**63**	*e*Pg	**Pn**	**17 53 01.4**	**+1.7**
GCAM	**G?zelcaml?**	**0.94**	**355**	P	**Pn**	**17 53 01.9**	**+0.9**
GCAM				S	**Sn**	**17 53 13.9**	**-0.2**
GCAM	**G?zelcaml?**	**0.94**	**355**	*i* P	**Pn**	**17 53 01.9**	**+0.9**
GCAM				*i* S	**Sn**	**17 53 13.8**	**-0.2**
TURN	**Turunc**	**1.02**	**83**	*i* P	**Pb**	**17 53 01.0**	**-0.7**
TURN				*i* S	**Sb**	**17 53 12.4**	**-2.5**
DALY	**Dalyan (Mu¯la**	**1.06**	**86**	*e*PN	**Pg**	**17 53 04.6**	**+1.5**
DALY	**Dalyan (Mu¯la**	**1.06**	**86**	*e*Pn	**Pg**	**17 53 04.6**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**20**	*e*PN	**Pb**	**17 53 06.4**	**+0.4**
AYDB				*e*SN	**Sb**	**17 53 20.8**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**20**	*e*Pn	**Pb**	**17 53 06.4**	**+0.4**
AYDB				*e*Sn	**Sb**	**17 53 20.8**	**-1.3**
DGB	**¯zmir**	**1.34**	**345**	*i* P	**Pg**	**17 53 09.0**	**+0.7**
APE	**Apeiranthos**	**1.48**	**283**	*e*PN	**Pn**	**17 53 08.0**	**-0.4**
APE	**Apeiranthos**	**1.48**	**283**	*e*Pn	**Pn**	**17 53 08.0**	**-0.4**
IZM	**Izmir**	**1.64**	**358**	*e*PN	**Pn**	**17 53 10.4**	**-0.2**
IZM	**Izmir**	**1.64**	**358**	*e*Pn	**Pn**	**17 53 10.4**	**-0.2**
DNZL	**Cakiroluk**	**1.65**	**55**	P	**Pg**	**17 53 15.2**	**+0.9**
DNZL	**Cakiroluk**	**1.65**	**55**	*i* P	**Pg**	**17 53 15.2**	**+0.9**
DNZL	**Cakiroluk**	**1.65**	**55**	*i* P	**Pg**	**17 53 14.8**	**+0.4**
URLA	**Izmir**	**1.70**	**340**	P	**Pg**	**17 53 16.6**	**+1.4**
URLA	**Izmir**	**1.70**	**340**	*i* P	**Pg**	**17 53 16.6**	**+1.4**

*ISK **24** 17:56:22.8, 35°.92N×31°.27E, h24km, ML2.6*
*CSEM **24** 17:56:24.9±0.5, 36°.16N×31°.15E, h2km, MD3.1, Error ellipse: s-maj=18.7km s-min=6.8km az=4.0*
*DDA **24** 17:56:24.5, 36°.17N×31°.21E, h8km, Md3.1*

*ISCJB **24** 17:56:25.2±1.0, 36°.07N±0°.09×31°.17E±0°.05, h10km, Error ellipse: s-maj=12.9km s-min=5.2km az=8.1*
ISC 24 17:56:24.7±1.2, **36°.14N**±0°.07×**31°.17E**±0°.03, **h10**km, **n20**, σ1s**37**/27, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.93**	**83**	P	**Pg**	**17 56 42.2**	**-0.4**
GAZI				S	**Sg**	**17 56 54.2**	**-0.5**
GAZI	**Gazipasa**	**0.93**	**83**	*i* P	**Pg**	**17 56 42.2**	**-0.4**
GAZI				*i* S	**Sg**	**17 56 54.2**	**-0.5**
KORT	**Korkueli**	**1.09**	**323**	*i* P	**Pn**	**17 56 48.5**	**+2.3**
ELL	**Elmali**	**1.19**	**301**	*e*PN	**Pn**	**17 56 47.4**	**-0.2**
ELL	**Elmali**	**1.19**	**301**	*e*Pn	**Pn**	**17 56 47.4**	**-0.2**
AKAS	**Kas**	**1.27**	**275**	P	**Pg**	**17 56 48.9**	**-0.3**
AKAS	**Kas**	**1.27**	**275**	*i* P	**Pg**	**17 56 48.9**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.35**	**354**	*e*PN	**Pn**	**17 56 49.5**	**-0.2**
SUTC				*e*SN	**Sg**	**17 57 09.8**	**+1.7**
SUTC	**Sutluce-Ispart**	**1.35**	**354**	*e*Pn	**Pn**	**17 56 49.5**	**-0.2**
SUTC				*e*Sn	**Sg**	**17 57 09.8**	**+1.7**
ERMK	**Ermenek**	**1.49**	**70**	P	**Pn**	**17 56 52.3**	**+0.5**
ERMK	**Ermenek**	**1.49**	**70**	*i* P	**Pn**	**17 56 52.3**	**+0.5**
GOLH	**Golhisar**	**1.70**	**311**	P	**Pg**	**17 56 56.7**	**-0.7**
GOLH	**Golhisar**	**1.70**	**311**	*i* P	**Pg**	**17 56 56.7**	**-0.7**
LEF	**Lefka**	**1.73**	**125**	*e*PN	**Pn**	17 56 49.2	-5.6
KONT	**Konya--Tatoy**	**2.04**	**27**	*e*PN	**Pn**	**17 56 59.5**	**+0.3**
KONT	**Konya--Tatoy**	**2.04**	**27**	*e*Pn	**Pn**	**17 56 59.5**	**+0.3**
KIZK	**Mersin**	**2.42**	**81**	P	**Pn**	**17 57 06.8**	**+2.4**
KIZK				S	**Sb**	**17 57 36.8**	**-1.5**
KIZK	**Mersin**	**2.42**	**81**	*i* P	**Pn**	**17 57 06.8**	**+2.4**
KIZK				*i* S	**Sb**	**17 57 36.8**	**-1.5**
KERG	**Konya-Eregli**	**2.69**	**61**	P	**Pn**	**17 57 10.4**	**+2.2**
KERG				S	**Sb**	**17 57 44.6**	**-1.6**
KERG	**Konya-Eregli**	**2.69**	**61**	*i* P	**Pn**	**17 57 10.4**	**+2.2**
KERG				*i* S	**Sb**	**17 57 44.6**	**-1.6**

IDC 24 17:57:44.0±12.0, **6°.31S**×**127°.28E, h402**km±159km, **mb3.2**/2, **mb1 3.1**/4, **mb1mx2.8**/28, **mbtmp3.8**/4, **Error ellipse: s-maj=105.7km s-min=59.6km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.19**	**154**	P	P	18 00 58.3	-0.2
	0.5nm,0.3s,baz=335,slow=12,SNR=21						
WRA				S	S	18 03 36.1	-3.4
	0.1nm,0.3s,baz=320,slow=22,SNR=3.3						
ASAR	**Alice Springs**	**18.40**	**160**	P	P	18 01 33.3	+0.6
	0.2nm,0.3s,baz=346,slow=12,SNR=23						
MKAR	**Makanchi Array**	**66.19**	**328**	P	P	18 07 50.5	+0.4
	0.7nm,0.4s,baz=120,slow=8.0,SNR=18						
ZALV	**Zalesovo Beam**	**69.79**	**335**	P	P	18 08 11.4	-0.6
	0.3nm,0.3s,baz=133,slow=6.1,SNR=2.8						

*ISK **24** 17:58:33.8, 41°.46N×36°.11E, h13km, MD2.8*
*ISCJB **24** 17:58:35.8±0.8, 41°.39N±0°.05×35°.81E±0°.05, h0km, Error ellipse: s-maj=7.6km s-min=5.2km az=13.9*
*DDA **24** 17:58:35.9, 41°.38N×35°.82E, h7km, Md2.6, Suspected Mining explosion.*
*CSEM **24** 17:58:35.9±0.3, 41°.38N×35°.83E, h1km, MD2.6, Error ellipse: s-maj=7.1km s-min=4.9km az=28.0, Suspected Mining explosion.*
ISC 24 17:58:33.8±1.1, **41°.50N**±0°.06×**35°.88E**±0°.03, **h0**km, **n18**, σ0s**33**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAMS	**Samsun-Alacam**	**0.27**	**120**	P	**Pb**	**17 58 41.3**	**-0.2**
SAMS				S	**Sb**	**17 58 46.8**	**+0.1**
SAMS	**Samsun-Alacam**	**0.27**	**120**	*i* P	**Pb**	**17 58 41.4**	**-0.2**
SAMS				*i* S	**Sb**	**17 58 46.8**	**+0.1**
KVT	**Kavak**	**0.44**	**163**	*e*PG	**Pg**	**17 58 41.9**	**-0.2**
KVT				*e*SG	**Sg**	**17 58 47.7**	**0.0**
KVT	**Kavak**	**0.44**	**163**	*e*Pg	**Pg**	**17 58 41.9**	**-0.2**
KVT				*e*Sg	**Sg**	**17 58 47.7**	**0.0**
HAVZ	**Havza**	**0.44**	**196**	P	**Pg**	**17 58 42.9**	**+0.7**
HAVZ	**Havza**	**0.44**	**196**	*i* P	**Pg**	**17 58 42.9**	**+0.7**
SNOP	**Sinop**	**0.72**	**316**	*e*PG	**Pn**	**17 58 51.1**	**-0.1**
SNOP	**Sinop**	**0.72**	**316**	*e*Pg	**Pn**	**17 58 51.2**	**-0.1**
BOYT	**Boyabat**	**0.73**	**264**	P	**Pb**	**17 58 49.4**	**-0.1**
BOYT	**Boyabat**	**0.73**	**264**	*i* P	**Pb**	**17 58 49.4**	**-0.1**
ERBA	**Erbaa**	**1.05**	**141**	P	**Pg**	**17 58 54.3**	**+0.4**
ERBA	**Erbaa**	**1.05**	**141**	*i* P	**Pg**	**17 58 54.3**	**+0.4**
COAL	**Corum-Alaca**	**1.41**	**209**	P	**Pg**	**17 59 00.3**	**-0.5**
COAL	**Corum-Alaca**	**1.41**	**209**	*i* P	**Pg**	**17 59 00.3**	**-0.5**
TOS	**Tosya**	**1.47**	**252**	*e*PN	**Pg**	**17 59 02.0**	**+0.1**
TOS	**Tosya**	**1.47**	**252**	*e*Pn	**Pg**	**17 59 02.0**	**+0.1**
CORM	**Corum**	**1.62**	**216**	*e*PN	**Pb**	**17 59 04.4**	**-0.2**
CORM				*e*SN	**Sg**	**17 59 26.1**	**+0.3**
CORM	**Corum**	**1.62**	**216**	*e*Pn	**Pb**	**17 59 04.4**	**-0.2**
CORM				*e*Sn	**Sg**	**17 59 26.1**	**+0.3**

*IDC **24** 18:04:49.2±2.4, 51°.83N×171°.90W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/32, mbtmp3.3/4, ML3.6/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/40, Error ellipse: s-maj=66.3km s-min=33.6km az=7.0*
*ISCJB **24** 18:04:56.0±0.9, 52°.0N±0°.1×171°.65W±0°.07, h50km, mb3.3/3, MS3.9/1, Error ellipse: s-maj=21.9km s-min=4.1km az=167.4*
*NEIC **24** 18:04:57.4, 51°.95N×171°.68W, h20km, ML3.3(AEIC), After AEIC.*
ISC 24 18:04:56.8±1.2, **52°.0N**±0°.2×**171°.66W**±0°.05, **h50**km, **n28**, σ1s**21**/24, **mb3.1**/3, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.52**	**286**	P	**Pn**	**18 05 22.2**	**+0.6**
KOFP	**Korovin Flat P**	**1.54**	**283**	P	**Pn**	**18 05 21.4**	**-0.5**
KOFP				S	**Sn**	**18 05 39.5**	**-1.1**
KONE	**Korovin Northe**	**1.58**	**287**	P	**Pn**	**18 05 22.8**	**+0.5**
KOKL	**Mount Kliuchef**	**1.61**	**284**	*e*Pn	**Pn**	**18 05 22.9**	**0.0**
NIKH	**Nikolski High**	**2.00**	**58**	*e*Pn	**Pn**	**18 05 26.6**	**-1.4**
NIKH				*e*Sn	**Sn**	**18 05 49.7**	**-2.2**
OKAK	**Okmok**	**2.58**	**50**	*e*Pn	**Pn**	**18 05 36.2**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**2.63**	**56**	P	**Pn**	**18 05 38.0**	**+1.3**
GSTR	**Great Sitkin T**	**2.72**	**275**	*e*Pn	**Pn**	**18 05 38.3**	**+0.2**
GSTD	**Great Sitkin T**	**2.77**	**274**	P	**Pn**	**18 05 38.9**	**+0.1**
GSTD				*e*Sn	**Sn**	**18 06 10.9**	**-0.2**
GSCK	**Great Sitkin C**	**2.79**	**273**	*e*Pn	**Pn**	**18 05 39.8**	**+0.9**
ADAG	**Mount Adagdak**	**3.06**	**272**	*e*Pn	**Pn**	**18 05 43.6**	**+1.0**
MSOM	**Makushin Julie**	**3.41**	**55**	*e*Pn	**Pn**	**18 05 48.3**	**+1.0**
UNV	**Unalaska Valle**	**3.65**	**57**	*e*Pn	**Pn**	**18 05 51.8**	**+1.1**
TAFP	**Tanaga Falls P**	**3.92**	**272**	P	**Pn**	**18 05 55.9**	**+1.5**
AKGG	**Akutan Green G**	**4.09**	**54**	P	**Pn**	**18 05 57.1**	**+0.3**
AKUT	**Akutan**	**4.17**	**56**	*e*Pn	**Pn**	**18 06 01.0**	**+3.2**
SPIA	**Saint Paul Isl**	**5.30**	**8**	*e*Pn	**Pn**	**18 06 14.8**	**+1.6**
ILAR	**Eielson Array**	**18.09**	**35**	P	**Pn**	**18 09 04.0**	**-0.1**
	0.1nm,0.3s,baz=237,slow=11,SNR=4.5						
YKA	**Yellowknife Ar**	**31.57**	**48**	P	**P**	**18 11 14.5**	**+0.4**
	0.2nm,0.5s,baz=270,slow=8.0,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**36.27**	**216**	T	T	18 50 24.5	
	baz=21,slow=75,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**36.28**	**216**	T	T	18 50 26.3	
	baz=21,slow=75,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**36.29**	**216**	T	T	18 50 26.0	
	baz=21,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**37.47**	**215**	T	T	18 51 48.2	
	baz=20,slow=76,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**37.48**	**215**	T	T	18 51 52.6	
	baz=20,slow=76,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**37.49**	**215**	T	T	18 51 52.5	
	baz=20,slow=76,SNR=5.0						
SPITS	**Spitsbergen Ar**	**50.04**	**358**	LR	LR	18 34 11.1	
	comp=Z,103nm,18.2s,baz=285,slow=35						
TXAR	**Lajitas Array**	**54.17**	**87**	P	**P**	**18 14 17.4**	**+0.3**
	0.1nm,0.5s,baz=316,slow=4.7,SNR=2.5						
MKAR	**Makanchi Array**	**63.05**	**312**	P	**P**	**18 15 17.6**	**-0.9**
	0.2nm,0.4s,baz=45,slow=6.1,SNR=4.8						

*NEIC **24** 18:12:43.9±0.5, 29°.04S×69°.44W, h87km±4km, mb4.9/47, Error ellipse: s-maj=7.4km s-min=5.2km az=72.0*
*SJA **24** 18:12:44.7±1.1, 29°.03S×69°.62W, h123km±8km, ML4.4, MW4.3*
*ISCJB **24** 18:12:45.3±0.3, 28°.98S±0°.03×69°.50W±0°.04, h108km±2km, mb4.8/53, Error ellipse: s-maj=6.4km s-min=4.0km az=157.3*

*GUC **24** 18:12:45.1±0.7, 29°.08S×69°.56W, h105km±22km, mL4.4*
*IDC **24** 18:12:47.4±0.8, 29°.04S×69°.47W, h115km±6km, mb4.2/10, mb1 4.3/12, mb1mx4.1/22, mbtmp4.5/12, Error ellipse: s-maj=20.2km s-min=15.3km az=81.0*
*BJI **24** 18:12:49.1, 29°.00S×69°.50W, h107km, mB5.2/5*
ISC 24 18:12:46.2±0.5, **29°.01S**±0°.04×**69°.58W**±0°.04, **h104**km±4km, **h104**km:**pP-P, n346, σ1s23**/381, **mb4.8**/53, **3C-5D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.98**	**270**	*e*P	**Pn**	**18 13 07.4**	**+0.5**
LCO	**Las Campanas**	**0.98**	**270**	*i* P	**Pn**	**18 13 07.3**	**+0.3**
LCO				*i* S	**Sn**	**18 13 23.2**	**+0.7**
LCO				IAML		18 13 25.6	
	comp=E,9μm,0.7s						
LCO	**Las Campanas**	**0.98**	**270**	*e*Pn	**Pn**	**18 13 06.6**	**-0.3**
LCO				*e*Sn	**Sn**	**18 13 23.1**	**+0.5**
AGUA	**GUANDACOL**	**1.07**	**117**	*e*P	**Pn**	**18 13 08.9**	**+1.2**
VACH	**Vallenar**	**1.12**	**292**	*i* P	**Pn**	**18 13 08.9**	**+0.7**
VACH				*i* S	**Sn**	**18 13 26.1**	**+1.3**
ACDV	**Cuesta del Vie**	**1.23**	**161**	*e*P	**Pn**	**18 13 10.3**	**+0.7**
VCA	**Vinchina**	**1.24**	**78**	IAML		18 13 12.4	
	comp=Z,34μm,0.2s						
VCA				*e*S	**Sn**	**18 13 30.5**	**+3.0**
TLL	**Tololo Astrono**	**1.57**	**222**	*i* P	**Pn**	**18 13 13.2**	**-0.6**
TLL				*i* S	**Sn**	**18 13 34.1**	**-0.5**
TLL				IAML		18 13 39.5	
	comp=N,8μm,0.7s						
ACCO	**Cerro Coronel**	**1.64**	**164**	*e*P	**Pn**	**18 13 15.2**	**+0.5**
ACCO				*e*S	**Sn**	**18 13 37.4**	**+1.1**
ACCO				IAML		18 13 38.8	
	comp=Z,2μm,0.6s						
CPCH	**Copiapo**	**1.78**	**337**	*i* P	**Pn**	**18 13 16.4**	**+0.2**
CPCH				*i* S	**Sn**	**18 13 39.9**	**+1.0**
AMOG	**MOGNA**	**2.15**	**154**	*e*P	**Pn**	**18 13 20.8**	**0.0**
CDCH	**Caldera**	**2.22**	**330**	*i* S	**Sn**	**18 13 49.9**	**+0.9**
AVFE	**Valle Fertil**	**2.48**	**132**	*e*P	**Pn**	**18 13 25.2**	**0.0**
AVFE				IAML		18 13 55.5	
	comp=Z,7μm,0.5s						
RTLL	**Cerro Villicun**	**2.50**	**158**	*e*P	**Pn**	**18 13 25.9**	**+0.4**
SJA	**San Juan**	**2.66**	**161**	IAML		18 14 07.7	
	comp=Z,599nm,0.5s						
RTLS	**Leoncito**	**2.79**	**175**	*e*P	**Pn**	**18 13 30.0**	**+0.4**
RTCV	**Cerro Valdivia**	**2.98**	**163**	*e*P	**Pn**	**18 13 31.9**	**+0.1**
AUSP	**Uspallata**	**3.21**	**177**	*e*P	**Pn**	**18 13 35.7**	**+0.6**
CYA	**Choya**	**3.37**	**81**	*e*P	**Pn**	**18 13 37.2**	**+0.3**
CYA				IAML		18 13 37.8	
	comp=Z,1μm,0.4s						
ASAL	**Salagasta**	**3.63**	**170**	*e*P	**Pn**	**18 13 40.5**	**0.0**
ARCO	**CERRO ARCO**	**3.86**	**172**	*e*P	**Pn**	**18 13 43.9**	**+0.2**
ARCO				IAML		18 14 31.2	
	comp=Z,271nm,0.3s						
AAGR	**Agrelo**	**4.12**	**171**	*e*P	**Pn**	**18 13 47.0**	**-0.1**
ROCH	**El Roble**	**4.14**	**197**	*i* P	**Pn**	**18 13 44.8**	**-2.6**
ROC1	**El Roble**	**4.14**	**197**	*e*Pn	**Pn**	**

143A	Socs Landing,	64.77	340	P		P	18 23 15.1	+1.5
	baz=159							
534A	Blanco	64.86	332	P		P	18 23 15.4	+1.1
	baz=152							
Y47A	UCPARC, Winfie	64.92	343	P		P	18 23 14.8	+0.3
	baz=162							
337A	Centerville	65.00	335	P		P	18 23 16.8	+1.6
	baz=155							
Z44A	Pea Ridge, Bel	65.02	341	P		P	18 23 16.3	+1.1
	baz=160							
533A	Kerrville	65.12	332	P		P	18 23 16.6	+0.6
	baz=152							
Y46A	Houston	65.16	342	P		P	18 23 16.2	+0.2
	baz=161							
Y45A	Yeager Farm, C	65.33	342	P		P	18 23 18.2	+1.0
	baz=161							
434A	Burnet	65.47	333	P		P	18 23 19.3	+1.1
	baz=152							
335A	Moody	65.55	334	P		P	18 23 19.7	+1.0
	baz=153							
CPCT	Cooper Cave	65.64	347	eP		P	18 23 17.5	-1.7
	comp=Z,5.4nm,0.7s							
TKL	Tuckaleechee C	65.70	347	eP		P	18 23 18.8	-0.8
	comp=Z,8.0nm,0.8s							
SWET	Sewanee	65.72	345	eP		P	18 23 19.2	-0.5
	comp=Z,5.5nm,0.7s							
Z41A	Richland Creek	65.72	339	P		P	18 23 20.9	+1.2
	baz=158							
433A	Art	65.75	332	P		P	18 23 21.0	+1.0
	baz=152							
Y43A	Makayla and Ka	65.76	341	P		P	18 23 21.6	+1.7
	baz=160							
JCT	Junction City	65.80	332	P		P	18 23 21.2	+0.9
	baz=151							
JCT	Junction City	65.80	332	eP		P	18 23 20.1	-0.2
	comp=Z,52nm,1.6s							
334A	Lometa	65.91	333	P		P	18 23 22.1	+1.1
	baz=153							
138A	Matatall Enter	65.94	337	P		P	18 23 22.4	+1.3
	baz=156							
333A	Richland Sprin	66.20	333	P		P	18 23 23.7	+0.8
	baz=152							
WLAR	White Oak Lake	66.22	339	eP		P	18 23 23.3	+0.5
	comp=Z,71nm,1.4s							
136A	Ennis	66.28	335	P		P	18 23 24.5	+1.2
	baz=154							
X43A	Marvell	66.31	341	P		P	18 23 24.5	+1.0
	baz=160							
234A	Clairette	66.47	334	P		P	18 23 25.1	+0.6
	baz=153							
TZTN	Tazewell	66.51	348	eP		P	18 23 24.2	-0.5
	comp=Z,31nm,1.5s							
LTX	Lajitas	66.53	328	eP		P	18 23 26.2	+1.1
TX31	Lajitas Ar. Si	66.53	328	eP		P	18 23 25.1	0.0
TXAR	Lajitas Array	66.53	328	P		P	18 23 26.2	+1.1
	comp=Z,2.0nm,0.7s,baz=154,slow=8.7,SNR=19							
TXAR				pP		PcP	18 23 53.8	+0.1
	comp=Z,1.1nm,0.9s,baz=146,slow=7.6,SNR=3.1							
VWCC	Virginia Weste	66.62	351	eP		P	18 23 25.6	+0.1
135A	Vickery Place,	66.69	335	P		P	18 23 26.8	+0.9
	baz=154							
233A	Rising Star	66.78	333	P		P	18 23 27.7	+1.1
	baz=152							
Z36A	Blue Ridge	66.97	336	P		P	18 23 28.4	+0.8
	baz=154							
WVT	Waverly	67.03	344	eP		P	18 23 27.6	-0.4
	comp=Z,18nm,0.8s							
X39A	Fountain Ranch	67.30	338	P		P	18 23 31.0	+1.3
	baz=157							
133A	Hamilton Ranch	67.31	333	P		P	18 23 30.6	+0.7
	baz=152							
Z35A	Perchaven, San	67.32	335	P		P	18 23 31.0	+1.1
	baz=154							
GNAR	Gosnell	67.43	342	eP		P	18 23 30.4	-0.1
Z34A	Collier Ranch,	67.60	335	P		P	18 23 31.9	+0.2
	baz=153							
ABTX	Abilene, Hawle	67.61	333	P		P	18 23 32.1	+0.3
	baz=152							
ABTX	Abilene, Hawle	67.61	333	eP		P	18 23 32.5	+0.7
	comp=Z,14nm,0.8s							
W39A	Magazine	67.82	339	P		P	18 23 33.7	+0.7
	baz=157							
Z33A	Whitaker Ranch	67.85	334	P		P	18 23 34.0	+0.7
	baz=152							
V41A	Mountainview	67.87	340	P		P	18 23 33.8	+0.5
	baz=159							
PARMO	Parma	68.02	343	eP		P	18 23 34.6	+0.5
W37B	Quinton	68.31	337	P		P	18 23 37.0	+1.0
	baz=156							
PBMO	Poplar Bluff	68.31	342	eP		P	18 23 35.8	-0.2
	comp=Z,22nm,0.6s							
V39A	Pettigrew	68.37	339	P		P	18 23 37.2	+0.7
	baz=157							
Y33A	Hilltop Ranch,	68.44	334	P		P	18 23 37.5	+0.6
	baz=153							
W36A	Wetumka	68.58	337	P		P	18 23 38.0	+0.2
	baz=155							
U40A	Yellville	68.60	340	P		P	18 23 38.6	+0.7
	baz=158							
V38A	Canehill	68.63	339	P		P	18 23 38.5	+0.4
	baz=157							
U39A	Green Forest	68.82	339	P		P	18 23 39.6	+0.3
	baz=158							
X33A	Lawton	68.86	335	P		P	18 23 39.9	+0.4
	baz=153							
S44A	Carbondale	68.87	343	P		P	18 23 39.4	-0.1
	baz=162							
V37A	Hulbert	68.89	338	P		P	18 23 40.0	+0.3
	baz=156							
T41A	Mountain View	68.92	341	P		P	18 23 40.1	+0.3
	baz=159							
S43A	Fulton Ridge,	68.96	343	P		P	18 23 39.9	-0.2
	baz=161							
X32A	Elmer	69.05	334	P		P	18 23 40.6	-0.1
	baz=152							
V36A	Jenks	69.07	337	P		P	18 23 41.1	+0.3
	baz=155							
TUL1	Leonard	69.13	337	P		P	18 23 41.4	+0.2
	baz=156							
TUL1	Leonard	69.13	337	eP		P	18 23 41.4	+0.2
	comp=Z,14nm,0.8s							
WMOK	Wichita Mounta	69.14	335	P		P	18 23 41.4	+0.1
	baz=153							
U38A	Gravette	69.15	339	P		P	18 23 41.7	+0.4
	baz=157							
GDL2	Guadalupe Moun	69.26	329	eP		P	18 23 41.3	-0.9
MNTX	Cornudas Mount	69.31	328	P		P	18 23 42.6	+0.2
	baz=147							
V35A	Meyer Ranch, C	69.35	337	P		P	18 23 43.0	+0.4
	baz=155							
U37A	Salina	69.36	338	P		P	18 23 42.9	+0.3
	baz=156							
T39A	Clever	69.38	340	P		P	18 23 42.9	+0.2
	baz=158							
VNDA	Vanda	69.38	190	P		P	18 23 42.9	+0.6
	comp=Z,0.7nm,0.8s,baz=160,slow=5.3,SNR=5.3							
W33A	Caddo, Fort Co	69.39	335	P		P	18 23 43.7	+0.9
	baz=153							
O56A	Blue Knob Stat	69.43	353	P		P	18 23 44.1	+1.2
	baz=172							
BLO	Bloomington	69.64	346	eP		P	18 23 43.5	-0.8
	comp=Z,21nm,0.5s							
S40A	Lebanon	69.65	341	P		P	18 23 44.9	+0.5
	baz=159							
V34A	Guthrie	69.66	336	P		P	18 23 45.3	+0.8
	baz=154							
V34A	Guthrie	69.66	336	eP		P	18 23 44.9	+0.5
	comp=Z,67nm,1.8s							
W32A	Sentinel	69.66	334	P		P	18 23 45.5	+1.0
	baz=152							
T38A	Diamond	69.67	339	P		P	18 23 45.0	+0.5
	baz=157							
SYO	Syowa Base	69.73	159	esP		sP	18 24 11.6	-10
N59A	State Game Lan	69.81	355	P		P	18 23 46.2	+1.0
	baz=174							
U35A	Pawnee	69.87	337	P		P	18 23 46.0	+0.3
	baz=155							
V33A	Lossen Ranch,	69.92	335	P		P	18 23 46.4	+0.4
	baz=153							
HSIG		69.94	322	eP		P	18 23 44.9	-1.4
	comp=Z,5.2nm,0.6s							
T37A	Cheneyville 18	69.95	339	P		P	18 23 46.3	+0.1
	baz=156							
S39A	Bolivar	69.98	340	P		P	18 23 47.2	+0.8
	baz=158							
MSTX	Muleshoe	70.07	331	P		P	18 23 47.2	+0.1
	baz=149							
MSTX	Muleshoe	70.07	331	eP		P	18 23 47.3	+0.2
	comp=Z,21nm,0.6s							
S38A	Stockton	70.10	340	P		P	18 23 47.7	+0.6
	baz=157							
Q43A	New Douglas	70.16	343	P		P	18 23 47.1	-0.3
	baz=161							
R40A	Maddies Statio	70.23	341	P		P	18 23 48.3	+0.4
	baz=159							
Q42A	Golden Eagle	70.34	343	P		P	18 23 49.2	+0.7
	baz=160							
AMTX	Amarillo	70.41	332	P		P	18 23 49.9	+0.8
	baz=150							
S37A	Fort Scott	70.50	339	P		P	18 23 50.1	+0.6
	baz=157							
R38A	Fenwick Farm,	70.61	340	P		P	18 23 50.3	+0.1
	baz=158							
S35A	Otter Creek Ra	70.91	338	P		P	18 23 52.2	+0.2
	baz=155							
319A	Douglas	70.94	325	eP		P	18 23 54.7	+2.2
	comp=Z,16nm,1.3s							
R37A	Teagarden Farm	71.01	339	P		P	18 23 53.1	+0.5
	baz=157							
T33A	Patterson Ranc	71.03	336	P		P	18 23 54.1	+1.3
	baz=154							
Q39A	Willow Grove F	71.13	341	P		P	18 23 53.7	+0.4
	baz=158							
Q38A	Cocks Store, C	71.24	340	P		P	18 23 54.7	+0.7
	baz=158							
P40A	Paris	71.33	342	P		P	18 23 54.9	+0.4
	baz=159							
T32A	Huddler Ranch,	71.36	336	P		P	18 23 54.7	-0.1
	baz=153							
P39B	Salisbury	71.48	341	P		P	18 23 55.4	0.0
	baz=159							
O41A	Passleys Farm,	71.57	343	P		P	18 23 55.8	-0.1
	baz=160							
HDIL	Hopedale	71.59	344	P		P	18 23 55.4	-0.7
	baz=162							
DBIC	Dimbokro	71.59	71	P		P	18 23 56.5	-0.1
	comp=Z,8.4nm,0.5s,baz=210,slow=7.3,SNR=14							
DBIC	Dimbokro	71.59	71	eP		P	18 23 56.6	-0.1
	comp=Z,49nm,1.4s							
R34A	Isabella, Hill	71.78	337	P		P	18 23 56.6	-0.7
	baz=155							
O40A	La Belle	71.83	342	P		P	18 23 57.6	+0.1
	baz=160							
P38A	Dawn	71.83	341	P		P	18 23 57.8	+0.3
	baz=158							
LAZ	Ladron	72.37	328	eP		P	18 23 58.8	-2.3
ANMO	Albuquerque	72.51	329	P		P	18 24 02.7	+0.8
	baz=147							
ANMO	Albuquerque	72.51	329	eP		P	18 24 03.3	+1.4
	comp=Z,3.6nm,1.0s							
N39A	Derby Farms, D	72.71	342	P		P	18 24 02.8	+0.1
	baz=159							
PPT	Pauoete	73.14	259	eP		P	18 24 09.8	+3.9
214A	Organ Pipe Nat	73.24	323	P		P	18 24 06.7	+0.7
	baz=141							
O34A	Beatrice	73.31	339	P		P	18 24 06.8	+0.6
	baz=155							
L41A	Preston	73.32	344	P		P	18 24 06.5	+0.2
	baz=161							
N36A	Muff Farm, Cla	73.35	340	P		P	18 24 06.6	+0.1
	baz=157							
M38A	Pleasantville	73.40	342	P		P	18 24 07.1	+0.3
	baz=158							
T25A	Trinidad	73.47	332	P		P	18 24 08.3	+0.8
	baz=149							
T25A	Trinidad	73.47	332	eP		P	18 24 08.6	+1.1
	comp=Z,7.2nm,0.8s							
O33A	Hebron	73.50	338	P		P	18 24 07.9	+0.5
	baz=155							
N35A	Tabor	73.60	340	P		P	18 24 08.5	+0.6
	baz=156							
M37A	Trindle Farm,	73.63	341	P		P	18 24 08.3	+0.2
	baz=158							
L39A	Vinton	73.74	343	P		P	18 24 08.9	+0.2
	baz=160							
X18A	Snowflake	73.81	326	eP		P	18 24 11.4	+1.8
	comp=Z,14nm,1.6s							
N34A	Lincoln	73.84	339	P		P	18 24 09.6	+0.2
	baz=156							
M36A	Felix, Anita	73.89	341	P		P	18 24 10.0	+0.4
	baz=159							
L38A	Oak Wood Farm,	74.01	342	P		P	18 24 10.6	+0.3
	baz=159							
L37A	Phoenix Point,	74.21	342	P		P	18 24 11.7	+0.2
	baz=158							
K39A	Oelwein	74.26	343	P		P	18 24 11.7	0.0
	baz=160							
SDCO	Great Sand Dun	74.44	331	P		P	18 24 14.2	+1.0
	baz=148							
SDCO	Great Sand Dun	74.44	331	eP		P	18 24 11.7	-1.6
	comp=Z,2.4nm,0.6s							
X16A	Lo Mia Camp, P	74.46	325	eP		P	18 24 13.8	+0.5
	comp=Z,12nm,1.4s							
L35A	Bielow Farm, R	74.71	340	P		P	18 24 15.0	+0.6
	baz=156							
J39A	Decorah	74.80	343	P		P	18 24 15.1	+0.2
	baz=160							
Y14A	Wickenburg	74.88	324	eP		P	18 24 17.0	+1.3
	comp=Z,35nm,0.3s							
J38A	Wedel Dairy, R	74.98	343	P		P	18 24 16.0	+0.1
	baz=159							
S22A	4UR Ranch, Cre	75.01	330	P		P	18 24 17.9	+1.3
	baz=147							
J37A	Redenius Farm,	75.26	342	P		P	18 24 17.5	0.0
	baz=158							
MVCO	Mesa Verde	75.31	329	P		P	18 24 19.8	+1.6
	baz=145							
Q24A	Divide	75.33	332	P		P	18 24 19.6	+1.2
	baz=148							
I38A	Scanlan Farm,	75.62	343	P		P	18 24 19.9	+0.3
	baz=160							
L31A	Butterfield Fa	75.80	338	P		P	18 24 21.8	+1.2
	baz=154							
I37A	Lemond, Waseca	75.87	343	P		P	18 24 21.4	+0.4
	baz=159							
BC3	Big Chuckawall	75.96	322	P		P	18 24 23.6	+1.8
	baz=140							
IRM	Iron Mountain	76.18	322	P		P	18 24 23.8	+0.8
	baz=140							
ISCO	Idaho Springs	76.22	332	P		P	18 24 24.6	+1.1
	baz=148							
W13A	Hualapai Mount	76.24	324	eP		P	18 24 24.4	+0.9
	comp=Z,4.1nm,1.0s							
J33A	Davis	76.24	340	P		P	18 24 23.6	+0.5
	baz=156							
H37A	Diehl Farm, C	76.27	343	P		P	18 24 23.7	+0.4
	baz=159							
TPFO	Pinon Flats	76.47	321	P		P	18 24 26.3	+1.5
	baz=139							
K30A	Basset	76.50	338	P		P	18 24 26.3	+1.7
	baz=153							
BELC	Belle Mtn. Jos	76.52	322	P		P	18 24 26.1	+1.0
	baz=139							
H36A	Jessenland, He	76.53	342	P		P	18 24 25.8	+1.1
	baz=158							
H35A	Sunnyside Ranc	76.89	342	P		P	18 24 26.7	0.0
	baz=157							
GMRC	Granite Mounta	76.93	323	P		P	18 24 28.4	+1.0
	baz=140							
H34A	Spellman Lake,	77.12	341	P		P	18 24 28.6	+0.6
	baz=157							
MAW	Mawson	77.35	163	P		P	18 24 28.6	-0.5
	comp=Z,3.6nm,0.8s,baz=217,slow=6.7,SNR=10							
MAW	Mawson	77.35	163	eP		P	18 24 28.4	-0.7
	comp=Z,1.8nm,1.1s							
H33A	Prehn Over Nor	77.41	341	P		P	18 24 30.0	+0.4
	baz=156							
G34A	Benson	77.61	341	P		P	18 24 30.4	-0.3
	baz=157							
F36A	Milaca	77.62	343	P		P	18 24 30.4	-0.4
	baz=159,SNR=7.8							
SRU	San Rafael Swe	77.78	329	eP		P	18 24 33.0	+0.9
	comp=Z,15nm,1.4s							
CCUT	Cedar City	77.89	326	eP		P	18 24 34.4	+1.7
	comp=Z,8.4nm,0.9s							
Q16A	Castle Valley	77.92	328	eP		P	18 24 34.3	+1.4
	comp=Z,30nm,1.8s							
P18A	Preston Nutter	78.07	329	eP		P	18 24 34.9	+1.0
E36A	McGregor	78.17	344	P		P	18 24 33.8	0.0
	baz=159,SNR=5.7							
D37A	Cotton	78.57	344	P		P	18 24 35.9	-0.1
	baz=160							
C39A	Grand Marais	78.67	346	P		P	18 24 36.6	+0.1
	baz=162							
C38A	Sawbill Land.	78.83	345	P		P	18 24 37.2	-0.2
	baz=161							
D35A	Remer	78.89	343	P		P	18 24 37.8	+0.1
	baz=158,SNR=8.0							
F31A	Hecla	78.93	340	P		P	18 24 38.5	+0.5
	baz=155							
C37A	Embarrass	79.05	345	P		P	18 24 38.8	+0.2
	baz=160							
DAC	Darwin (Calif)	79.09	322	eP		P	18 24 40.5	+1.2
	comp=Z,3.3nm,1.0s							
EYMN	Ely	79.09	345	P		P	18 24 38.9	+0.1
	baz=160							
PKM	Mcpherson Peak	79.28	320	P		P	18 24 41.9	+1.5
	baz=137							
RSSD	Black Hills	79.31	336	P		P	18 24 40.9	+0.5
	baz=150							
E31A	Nome	79.46	341	P		P	18 24 41.4	+0.6
	baz=155							
R11A	Troy Canyon, C	79.61	325	P		P	18 24 43.7	+1.6
	baz=140,SNR=5.6							
R11A	Troy Canyon, C	79.61	325	eP		P	18 24 43.3	+1.2
	comp=Z,2.6nm,0.9s							
DUG	Dugway, Tooele	79.70	328	P		P	18 24 44.1	+1.5
	baz=142							
D32A	Dogwood Acres,	79.73	341	P		P	18 24 42.9	+0.6
	baz=156							
D31A	Mcclaflin, Tow	79.85	341	P		P	18 24 43.8	+0.8
	baz=155							
C33A	Trail	79.96	342	P		P	18 24 43.9	+0.4
	baz=157							
B35A	Bob, Littlefor	80.00	344	P		P	18 24 43.7	0.0
	baz=159,SNR=8.2							
D30A	Buchanan	80.21	340	P		P	18 24 45.4	+0.5
	baz=154,SNR=5.1							
BW06	Boulder Array	80.33	331	P		P	18 24 46.4	+0.4
	baz=145							
BW06	Boulder Array	80.33	331	eP		P	18 24 45.6	-0.3
PD31	Pinedale Array	80.33	331	eP		P	18 24 45.6	-0.3
PDAR	Pinedale Array	80.33	331	P		P	18 24 46.1	+0.2
	comp=Z,1.7nm,0.8s,baz=125,slow=7.8,SNR=5.9							
B34A	Aery, Baudette	80.35	343	P		P	18 24 45.5	-0.1
	baz=158,SNR=5.2							
AGMN	Agassiz Nation	80.48	343	P		P	18 24 46.3	0.0
	baz=157,SNR=8.7							
AGMN	Agassiz Nation	80.48	343	eP		P	18 24 46.2	-0.2
	comp=Z,9.7nm,0.6s							
BOSA	Boshof	80.51	117	P		P	18 24 46.3	-1.0
	comp=Z,4.8nm,0.5s,baz=248,slow=3.9,SNR=11							
TOA0	Torodi Ar. Sit	80.51	69	eP		P	18 24 46.4	-0.8
	comp=Z,16nm,0.6s							
TOA0				eP		P	18 24 46.5	-0.7
TORD	Torodi Ar. Bea	80.51	69	P		P	18 24 47.0	-0.3
	comp=Z,13nm,0.6s,baz=272,slow=5.9,SNR=117							
TORD				pP		pP	18 25 16.0	+2.0
	comp=Z,2.0nm,0.7s,baz=248,slow=5.7,SNR=2.1							
TOA1	Torodi Ar. Sit	80.51	69	eP		P	18 24 47.0	-0.3
	comp=Z,16nm,0.6s							
C31A	Landman Farms,	80.53	341	P		P	18 24 46.9	+0.3
	baz=155,SNR=7.1							
C30A	Mose, Pekin	80.66	341	P		P	18 24 47.9	+0.5
	baz=155,SNR=6.5							
B32A	Ashes, Strandq	80.75	342	P		P	18 24 48.4	+0.7
	baz=156							
A33A	Warroad	80.95	343	P		P	18 24 48.7	-0.1
	baz=157,SNR=5.2							
LRC	Lone Oak Road	80.96	320	eP		P	18 24 46.0	-3.2
MDND	Maddock	81.12	340	P		P	18 24 50.1	+0.3
	baz=154,SNR=6.6							
MDND	Maddock	81.12	340	eP		P	18 24 50.4	+0.6
	comp=Z,39nm,0.7s							
A32A	Rocking H Ranc	81.22	342	P		P	18 24 50.8	+0.6
	baz=156							
C28A	Hausauer Farms	81.24	340	P		P	18 24 51.1	+0.7
	baz=153							
D26A	Manning	81.29	338	P		P	18 24 51.8	+1.1
	baz=151							
B30A	Myrvik Farm, E	81.30	341	P		P	18 24 51.0	+0.4
	baz=155,SNR=11							
B29A	Wagenman Farm,	81.61	340	P		P	18 24 52.9	+0.6
	baz=154							
A30A	Hoffart Farm,	81.73	341	P		P	18 24 53.6	+0.6
	baz=155							
B28A	Dugan Ranch, T	81.89	340	P		P	18 24 54.5	+0.7
	baz=153							
A29A	Manning Farm,	81.98	341	P		P	18 24 54.6	+0.3
	baz=154,SNR=7.4							
RLMT	Red Lodge	82.15	333	P		P	18 24 56.2	+0.6
	baz=146							
A28A	Rude Farm, Bot	82.27	340	P		P	18 24 56.5	+0.7
	baz=153							
ULM	Lac du Bonnet	82.28	343	P		P	18 24 55.5	-0.2
	comp=Z,5.0nm,0.5s,baz=153,slow=3.8,SNR=6.9							
ULM	Lac du Bonnet	82.28	343	eP		P	18 24 55.5	-0.2
	comp=Z,12nm,1.0s							
JCHM	Cahill Ridge	82.61	320	eP		P	18 24 55.5	-2.3
HLID	Hailey	83.09	329	P		P	18 25 01.2	+0.8
	baz=142,SNR=5.5							
DGMT	Dagmar	83.13	338	P		P	18 25 01.1	+0.9
	baz=150							
DGMT	Dagmar	83.13	338	eP		P	18 25 00.3	+0.1
	comp=Z,22nm,0.8s							
A25A	Svangstu Ranch	83.18	338	P		P	18 25 01.2	+0.7
	baz=151							
J05D	Fort Rock, OR	86.14	325	P		P	18 25 16.8	+1.1
	baz=136							
YKA	Yellowknife Ar	98.04	341	P		P	18 26 09.3	-0.9
	comp=Z,0.8nm,0.7s,baz=141,slow=4.3,SNR=4.5							
CRVS	Cervenica-Dubn	111.90	45	ePDIFF		Pdif	18 27 14.8	+2.5
FIA0	FINESS Array S	117.69	33	ePKPdf		PKPdf	18 31 19.0	-0.4
FINES	FINESS Array B	117.69	33	PKP		PKPdf	18 31 19.0	-0.4
	comp=Z,0.9nm,0.9s,baz=204,slow=3.3,SNR=3.7							
ASAR	Alice Springs	122.96	206	PKP		PKPdf	18 31 29.7	-1.2
	comp=Z,1.2nm,0.5s,baz=132,slow=1.7,SNR=38							
KBZ	Khabaz	125.11	55	PKP		PKPdf	18 31 34.5	+0.2
	comp=Z,1.7nm,0.8s,baz=270,slow=5.1,SNR=3.6							
WR1	Warramunga Arr	126.13	208	ePKPdf		PKPdf	18 31 36.3	-0.8
WR1				epPKPdf		pPKPdf	18 32 07.2	+1.8
WRA	Warramunga Arr	126.13	208	PKP		PKPdf	18 31 36.3	-0.8
	comp=Z,4.9nm,0.5s,baz=156,slow=1.7,SNR=102							
WRA				pPKP		pPKPdf	18 32 07.2	+1.8
	comp=Z,0.8nm,0.6s,baz=161,slow=1.7,SNR=3.2							
FITZ	Fitzroy Crossi	130.91	199	PKP		PKPdf	18 31 45.5	-0.6
	comp=Z,1.9nm,0.7s,baz=155,slow=4.6,SNR=6.2							
ARU	Arti	134.56	38	PKP		PKPdf	18 31 52.4	+0.6
	comp=Z,2.0nm,0.5s,baz=279,slow=4.0,SNR=5.9							
SEY	Seymchan	136.63	334	PKP		PKPdf	18 31 56.4	+1.0
	comp=Z,3.9nm,0.7s,baz=106,slow=1.6,SNR=18							
ZRNK	Zerenda	141.41	40	ePKPdf		PKPdf	18 32 03.0	-1.5
YAK	Yakutsk	144.62	344	PKP		PKPab	18 32 08.2	-0.5
	comp=Z,23nm,0.6s,baz=335,slow=1.8,SNR=21							
YAK	Yakutsk	144.62	344	ePKPdf		PKPab	18 32 08.4	-0.3
KAPI	Kappang	145.00	196	PKP		PKPbc	18 32 10.6	-0.9
	comp=Z,13nm,0.5s,baz=172,slow=7.3,SNR=6.0							
KKAR	Karatay Array	145.15	55	ePKPbc		PKPbc	18 32 10.4	-0.8
EKS2	Erkin-Say	147.59	55	ePKPbc		PKPdf	18 32 17.0	+1.3
KURBB	Kurchatov Arra	147.74	39	PKPbc		PKPdf	18 32 15.8	+0.3
	comp=Z,9.4nm,0.6s,baz=304,slow=3.2,SNR=65						

KSH					LE				
	comp=Z,36nm,3.7s								
KSH					LZ				
	comp=Z,160nm,6.1s								
ASAJ	**Asahikawa**	**150.30**	**309**		PKPbc	**PKPbc**	**18 32 25.2**	**+0.1**	
	baz=47,slow=2.3								
MAKZ	**Makanchi**	**151.60**	**43**	*e*PKPbc		**PKPbc**	**18 32 27.7**	**-0.4**	
MAKZ				*e*PKPab		**PKPab**	**18 32 37.5**	**+0.4**	
MK31	**Makanchi Array**	**151.80**	**43**	*e*PKPbc		**PKPbc**	**18 32 28.3**	**-0.3**	
MK31				*e*PKPab		**PKPab**	**18 32 38.4**	**+0.5**	
MK32	**Makanchi Array**	**151.80**	**43**	*e*PKPdf		**PKPdf**	**18 32 21.5**	**-0.6**	
MK32				*e*PKPbc		**PKPbc**	**18 32 27.9**	**-0.7**	
MK32				*e*PKPab		**PKPab**	**18 32 38.0**	**0.0**	
MKAR	**Makanchi Array**	**151.80**	**43**	PKP		**PKPdf**	**18 32 21.5**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=297,slow=1.9,SNR=4.5								
MKAR				PKPbc		**PKPbc**	**18 32 27.9**	**-0.7**	
	comp=Z,8.5nm,0.7s,baz=304,slow=1.9,SNR=70								
MKAR				PKPab		**PKPab**	**18 32 38.0**	**0.0**	
	comp=Z,5.3nm,0.8s,baz=290,slow=3.5,SNR=13								
MKAR	**Makanchi Array**	**151.80**	**43**	PKP		**PKPdf**	**18 32 21.5**	**-0.6**	
MKAR				*e*PKPbc		**PKPbc**	**18 32 28.3**	**-0.3**	
MKAR				*e*PKPab		**PKPab**	**18 32 38.6**	**+0.6**	
MK01	**Makanchi Array**	**151.82**	**43**	*e*PKPdf		**PKPdf**	**18 32 21.6**	**-0.5**	
MK01				*e*PKPbc		**PKPbc**	**18 32 28.3**	**-0.3**	
MK01				*e*PKPab		**PKPab**	**18 32 37.7**	**-0.4**	
MK01				*ep*PKPab		**pPKPab**	**18 33 00.2**	**-5.3**	
KLR	**Kul'dur**	**154.05**	**327**	PKPbc		**PKPbc**	**18 32 33.0**	**-0.4**	
	comp=Z,1.0nm,0.3s,baz=138,slow=2.9,SNR=5.1								
WMQ	**Urumqi**	**156.59**	**45**	PKP		**PKPdf**	**18 32 28.6**	**-0.4**	
WMQ				LN					
	comp=Z,31nm,18.8s								
WMQ				LE					
	comp=Z,43nm,20.0s								
WMQ				LZ					
	comp=Z,36nm,17.6s								
TLY	**Talaya**	**156.79**	**11**	PKPab		**PKPab**	**18 32 59.4**	**+0.4**	
	comp=Z,1.2nm,0.2s,baz=81,slow=0.7,SNR=4.4								
SONA0	**Songino Array**	**160.94**	**8**	*e*PKPdf		**PKPdf**	**18 32 34.1**	**+0.1**	
SONA0				*e*PKPab		**PKPab**	**18 33 17.2**	**0.0**	
SONM	**Songino Array**	**160.94**	**8**	PKP		**PKPdf**	**18 32 34.1**	**+0.1**	
	comp=Z,0.5nm,0.8s,baz=264,slow=2.8,SNR=3.6								
SONM				PKPab		**PKPab**	**18 33 17.2**	**0.0**	
	comp=Z,1.4nm,0.7s,baz=322,slow=4.3,SNR=8.7								
GTA	**Gaotai**	**166.43**	**37**	*e*PKP		**PKPdf**	**18 32 39.8**	**+0.4**	
GTA				pPKP		pPKPdf	18 33 08.8	+0.8	
GTA				sPKP			18 33 21.6		
HHC	**Hu-ho-hao-te**	**168.15**	**356**	*e*PKP		**PKPdf**	**18 32 41.5**	**+0.9**	
GYA	**Guiyang**	**175.82**	**126**	*e*PKP		**PKPdf**	**18 32 43.3**	**-1.3**	
GYA				pPKP		pPKPdf	18 33 12.8	-0.4	
GYA				sPKP			18 33 24.0		
GYA				PKPab		**PKPab**	**18 34 24.6**	**+0.9**	
GYA				PKS		**PKSdf**	**18 36 14.0**	**-3.0**	
GYA				PP		**PP**	**18 38 17.4**	**+1.0**	
GYA				PPMZ					
	comp=Z,120nm,8.2s								

*ISCJB **24** 18:12:59.5±1.1,37.°11N±0.°05×71.°8E±0.°1,h109km, Error ellipse: s-maj=16.7km s-min=6.3km az=167.0*
*NNC **24** 18:13:06.9±1.9,37.°51N×71.°72E,h170km±45km,mb2.6, mpv3.5, Error ellipse: s-maj=22.1km s-min=12.1km az=11.0*

ISC 24 18:13:00.2±1.3, 37.°07N±0.°08×71.°7E±0.°1, h109km, n6, σ1⁰62/11, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**5.45**	**6**	⇓P	**Pn**	**18 14 20.9**	**+1.8**
MNAS	4.7nm,0.4s			⇑S	**Sn**	**18 15 19.4**	**-1.2**
	9.7nm,0.5s						
THN	**Thein Dam**	**5.69**	**143**	*e*P	**Pn**	**18 14 21.5**	**-0.8**
THN				*e*S	**Sn**	**18 15 26.5**	**+0.2**
AAK	**Ala-Archa**	**5.96**	**20**	⇓P	**Pn**	**18 14 28.0**	**+1.9**
	2.0nm,0.3s						
AAK				⇓S	**Sn**	**18 15 32.6**	**-0.5**
	6.9nm,0.9s						
KK31	**Karatay Array**	**6.09**	**352**	P	**Pn**	**18 14 29.1**	**+1.3**
	2.7nm,0.3s,baz=42,slow=12,SNR=51						
KK31				S	**Sn**	**18 15 34.3**	**-1.8**
	2.1nm,0.3s,baz=171,slow=20,SNR=11						
TKM2	**Tokmak 2**	**6.56**	**26**	⇑P	**Pn**	**18 14 35.9**	**+1.6**
	1.4nm,0.6s						
TKM2				⇑S	**Sn**	**18 15 45.7**	**-2.1**
	0.9nm,0.5s						
AB31	**Akbulak array**	**14.87**	**329**	⇓P	**Pn**	**18 16 24.5**	**-0.3**
	0.5nm,0.5s,baz=158,slow=11,SNR=12						

*ISCJB **24** 18:16:09.3±0.4,43.°73N±0.°03×105.°30W±0.°04,h0km, mb3.8/2, Error ellipse: s-maj=4.8km s-min=4.3km az=157.0*
*NEIC **24** 18:16:11.7±1.1,43.°75N×105.°28W,h9km±9km,ML3.5, Error ellipse: s-maj=3.4km s-min=3.1km az=77.0, Suspected Mining explosion.*
NEIC 63 km [39 miles] SSE of Gillette.
*IDC **24** 18:16:11.2±0.9,44.°11N×105.°88W,h0km,mb3.7/2, mb1 3.7/5,mb1mx3.4/56,mbtmp3.5/5,ML2.8/2, Error ellipse: s-maj=23.2km s-min=8.7km az=144.0*

ISC 24 18:16:10.3±0.8, 43.°74N±0.°05×105.°28W±0.°07, h0km, n62, σ0⁰91/62, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**67**	*e*Pg	**Pb**	**18 16 29.5**	**-0.8**
K22A	**Casper**	**1.42**	**220**	*e*Pn	**Pn**	**18 16 36.0**	**-1.5**
PHWY	**Pilot Hill**	**2.44**	**183**	*e*Pn	**Pn**	**18 16 52.3**	**+0.7**
N23A	**Red Feather La**	**2.88**	**190**	*e*Pn	**Pn**	**18 16 58.8**	**+1.0**
LAO	**LASA Array**	**3.02**	**348**	*e*Pn	**Pn**	**18 16 60.0**	**+0.5**
RLMT	**Red Lodge**	**3.17**	**297**	*e*Pn	**Pn**	**18 17 02.0**	**+0.3**
BW06	**Boulder Array**	**3.27**	**254**	*e*Pn	**Pn**	**18 17 03.3**	**+0.3**
BW06				*e*Pn	Pb	18 17 03.6	-5.7
PD31	**Pinedale Array**	**3.27**	**254**	*e*Pn	**Pn**	**18 17 03.4**	**+0.4**
PD31				*e*Lg	Lg	18 17 44.4	
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**18 17 03.8**	**+0.7**
	9.2nm,0.3s,baz=75,slow=14,SNR=31						
PDAR				Lg	Lg	18 17 44.4	
	10.0nm,0.3s,baz=67,slow=24,SNR=4.6						
OGNE	**Ogallala**	**3.69**	**138**	*e*Pn	**Pn**	**18 17 10.1**	**+1.5**
GCMT	**Greycliff**	**3.74**	**305**	*e*Pn	**Pn**	**18 17 09.6**	**+0.2**
LOHW	**Long Hollow**	**3.86**	**270**	*e*Pn	**Pn**	**18 17 11.3**	**+0.2**
H17A	**Grant Village**	**3.87**	**282**	*e*Pn	**Pn**	**18 17 11.2**	**-0.1**
FLWY	**Flagg Ranch**	**3.93**	**277**	*e*Pn	**Pn**	**18 17 13.3**	**+1.2**
ISCO	**Idaho Springs**	**3.94**	**184**	*e*Pn	**Pn**	**18 17 13.9**	**+1.6**
MOOW	**Moose Ponds**	**3.96**	**272**	*e*Pn	**Pn**	**18 17 12.5**	**0.0**
SNOW	**Snow King Moun**	**3.99**	**268**	*e*Pn	**Pn**	**18 17 12.8**	**-0.1**
YPP	**Pitchstone Pla**	**4.02**	**280**	*e*Pn	**Pn**	**18 17 14.1**	**+0.7**
YFT	**Old Faithful**	**4.07**	**282**	*e*Pn	**Pn**	**18 17 13.6**	**-0.4**
REDW	**Red Top Meadow**	**4.07**	**267**	*e*Pn	**Pn**	**18 17 16.1**	**+2.1**
IMW	**Indian Meadow**	**4.10**	**274**	*e*Pn	**Pn**	**18 17 16.1**	**+1.6**
TPAW	**Teton Pass**	**4.13**	**268**	*e*Pn	**Pn**	**18 17 16.4**	**+1.6**
YHH	**Holmes Hill**	**4.14**	**287**	*e*Pn	**Pn**	**18 17 14.6**	**-0.4**
O20A	**White River Ci**	**4.22**	**213**	*e*Pn	**Pn**	**18 17 16.5**	**+0.4**
AHID	**Auburn Hatcher**	**4.36**	**259**	*e*Pn	**Pn**	**18 17 18.3**	**+0.3**
SMCO	**Snowmass**	**4.73**	**196**	*e*Pn	**Pn**	**18 17 24.4**	**+1.1**
Q24A	**Divide**	**4.77**	**179**	*e*Pn	**Pn**	**18 17 24.4**	**+0.7**
DGMT	**Dagmar**	**4.79**	**9**	*e*Pb	**Pb**	**18 17 36.6**	**+1.4**
BOZ	**Bozeman (W)**	**4.91**	**295**	*e*Pn	**Pn**	**18 17 25.6**	**+0.1**
HWUT	**Hardware Ranch**	**5.10**	**247**	*e*Pn	**Pn**	**18 17 28.5**	**+0.4**
KSCO	**Kaye Shedlock'**	**5.13**	**156**	*e*Pn	**Pn**	**18 17 29.0**	**+0.6**
TCUT	**Toone Canyon**	**5.24**	**242**	*e*Pn	**Pn**	**18 17 30.1**	**+0.1**
DLMT	**Dillon**	**5.47**	**290**	*e*Pn	**Pn**	**18 17 33.7**	**+0.5**
LRM	**Limekiln Ridge**	**5.51**	**295**	*e*Pn	**Pn**	**18 17 34.3**	**+0.4**
P18A	**Preston Nutter**	**5.54**	**224**	*e*Pn	**Pn**	**18 17 34.9**	**+0.6**
MCMT	**McKenzie Canyo**	**5.54**	**284**	*e*Pn	**Pn**	**18 17 34.7**	**+0.4**
JLU	**Jordanelle**	**5.55**	**238**	*e*Pn	**Pn**	**18 17 34.4**	**0.0**
MDND	**Maddock**	**5.71**	**42**	*e*Pn	**Pn**	**18 17 37.8**	**+1.4**
HVU	**Hansel Valley**	**5.85**	**253**	*e*Pn	**Pn**	**18 17 39.8**	**+1.3**
P17A	**Butcher Ranch,**	**5.91**	**226**	*e*Pn	**Pn**	**18 17 39.3**	**+0.1**
PV09	**Paradox Valley**	**5.99**	**210**	*e*Pn	**Pn**	**18 17 41.9**	**+1.4**
SDCO	**Great Sand Dun**	**5.99**	**182**	*e*Pn	**Pn**	**18 17 40.8**	**+0.4**
PV10	**Paradox Valley**	**6.06**	**209**	*e*Pn	**Pn**	**18 17 40.3**	**-1.1**
SRU	**San Rafael Swe**	**6.08**	**222**	*e*Pn	**Pn**	**18 17 41.5**	**0.0**
S22A	**4UR Ranch, Cre**	**6.10**	**192**	*e*Pn	**Pn**	**18 17 43.2**	**+1.2**
PV01	**Paradox Valley**	**6.13**	**205**	*e*Pn	**Pn**	**18 17 44.0**	**+1.7**
ECSD	**EROS Data Cent**	**6.28**	**87**	*e*Pn	**Pn**	**18 17 43.9**	**-0.2**
TMUT	**Trail Mountain**	**6.28**	**227**	*e*Pn	**Pn**	**18 17 45.7**	**+1.2**
BGU	**Big Grassy Mou**	**6.39**	**247**	*e*Pn	**Pn**	**18 17 45.9**	**0.0**
CHMT	**Chamberlain Mo**	**6.45**	**302**	*e*Pn	**Pn**	**18 17 47.0**	**+0.3**
Q16A	**Castle Valley**	**6.55**	**225**	*e*Pn	**Pn**	**18 17 48.0**	**0.0**
T25A	**Trinidad**	**6.63**	**174**	*e*Pn	**Pn**	**18 17 49.9**	**+0.7**
DUG	**Dugway, Tooele**	**6.64**	**240**	*e*Pn	**Pn**	**18 17 48.6**	**-0.5**
MVCO	**Mesa Verde**	**6.97**	**202**	*e*Pn	**Pn**	**18 17 55.1**	**+1.3**
MSU	**Marysvale**	**7.37**	**227**	*e*Pn	**Pn**	**18 18 00.4**	**+1.1**
MTPU	**Mount Pierson**	**7.73**	**225**	*e*Pn	**Pn**	**18 18 04.1**	**-0.3**
CCUT	**Cedar City**	**8.71**	**228**	*e*Pn	**Pn**	**18 18 17.4**	**-0.3**
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**18 18 22.6**	**-0.8**
	0.5nm,0.3s,baz=233,slow=13,SNR=2.7						
ULM				Pg		18 18 50.9	
	0.6nm,0.3s,baz=230,slow=16,SNR=2.2						
ULM				Lg	Lg	18 20 54.0	
	0.7nm,0.3s,baz=148,slow=15,SNR=3.1						
LTX	**Lajitas**	**14.44**	**174**	*e*P	**P**	**18 19 43.9**	**+0.8**
TXAR	**Lajitas Array**	**14.44**	**174**	Pn	**P**	**18 19 43.8**	**+0.8**
	0.1nm,0.3s,baz=357,slow=14,SNR=2.8						
TXAR				Pg		18 20 40.2	
	0.1nm,0.3s,baz=359,slow=15,SNR=5.2						
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**18 26 26.6**	**-1.2**
	0.4nm,0.3s,baz=336,slow=6.4,SNR=4.6						
MKAR	**Makanchi Array**	**89.60**	**355**	P	**P**	**18 29 08.9**	**-0.8**
	0.3nm,0.8s,baz=10,slow=3.2,SNR=3.3						

*ISCJB **24** 18:27:49.7±1.1,77.°08N±0.°04×19.°4E±0.°2,h10km±8km, mb3.6/3, Error ellipse: s-maj=9.6km s-min=5.8km az=143.4*
*IDC **24** 18:27:51.2±0.9,77.°21N×18.°96E,h0km,mb3.5/3, mb1 3.7/6,mb1mx3.3/61,mbtmp3.5/6,ML2.9/3, Error ellipse: s-maj=49.9km s-min=8.3km az=70.0*
*CSEM **24** 18:27:51.4±0.3,77.°13N×18.°94E,h10km,ML3.2, Error ellipse: s-maj=9.5km s-min=5.5km az=51.0*
*NAO **24** 18:27:52.7±1.2,77.°11N×18.°77E,h13km±10km,ML3.2*
*BER **24** 18:27:54.5±3.2,77.°15N×18.°83E,h15km±21km,MD2.4, ML2.9,ML3.2(NAO)*

ISC 24 18:27:51.5±1.1, 77.°11N±0.°03×18.°98E±0.°04, h12km±8km, n36, σ1⁰67/50, mb3.9/3, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.78**	**264**	Pg	**Pb**	**18 28 07.1**	**+0.3**
HSP				Lg	Lg	18 28 17.1	
HSPB	**Hornsund (broa**	**0.78**	**264**	*e*P	**Pb**	**18 28 07.0**	**+0.1**
HSPB				*e*S	**Sg**	**18 28 17.1**	**+0.3**
HSPB				IAML		18 28 20.9	
	comp=Z,384nm,0.1s						
HSPB	**Hornsund (broa**	**0.78**	**264**	*e*P	**Pb**	**18 28 07.0**	**+0.1**
	SNR=62						
HSPB	**Hornsund (broa**	**0.78**	**264**	*e*Pn	**Pn**	**18 28 09.0**	**+0.8**
HSPB				*e*S	**Sg**	**18 28 17.1**	**+0.3**
	SNR=62						
HSPB				*e*Sn	**Sn**	**18 28 20.5**	**+0.7**
SPA0	**Spitsbergen Ar**	**1.22**	**334**	Pn	**Pg**	**18 28 14.0**	**-0.8**
	baz=152,slow=22						
SPA0				Lg	Lg	18 28 31.4	
	baz=147,slow=28						
SPA0	**Spitsbergen Ar**	**1.22**	**334**	Pn	**Pg**	**18 28 14.0**	**-0.8**
	baz=152,slow=22						
SPA0				Lg	Lg	18 28 31.4	
	baz=147,slow=28						
SPA0	**Spitsbergen Ar**	**1.22**	**334**	Pn	**Pg**	**18 28 14.0**	**-0.8**
	SNR=478						
SPA0				Lg	Lg	18 28 31.4	
	SNR=25						
SPITS	**Spitsbergen Ar**	**1.22**	**334**	Pn	**Pb**	**18 28 13.7**	**-0.6**
	baz=161,slow=18,SNR=1924						
SPITS				Sn	**Sg**	**18 28 29.1**	**-1.5**
	baz=146,slow=31,SNR=21						
BRBA	**Barentsburg A**	**1.41**	**315**	Pn	**Pg**	**18 28 17.8**	**-0.6**
BRBA				Lg	Lg	18 28 36.0	
	SNR=24						
HOPEN	**Hopen**	**1.51**	**110**	Pn	**Pb**	**18 28 20.1**	**+0.9**
HOPEN				Sn	**Sb**	**18 28 39.5**	**+1.2**
HOPEN				Lg	Lg	18 28 42.1	
HOPEN	**Hopen**	**1.51**	**110**	*e*P	**Pb**	**18 28 20.2**	**+0.9**
HOPEN				IAML		18 28 44.8	
	comp=Z,293nm,0.3s						
HOPEN	**Hopen**	**1.51**	**110**	Pn	**Pb**	**18 28 20.1**	**+0.9**
HOPEN				Sn	**Sb**	**18 28 39.5**	**+1.2**
HOPEN				Lg	Lg	18 28 42.1	
KBS	**Kingsbay**	**2.34**	**325**	Pn	**Pn**	**18 28 29.4**	**-0.3**
KBS				Pg	**Pb**	**18 28 34.1**	**+0.6**
KBS				Lg	Lg	18 29 02.8	
KBS	**Kingsbay**	**2.34**	**325**	*e*P	**Pn**	**18 28 29.4**	**-0.3**
KBS				*e*Sg	**Sb**	**18 29 02.8**	**+0.4**
KBS				IAML		18 29 08.7	
	comp=Z,261nm,0.4s						
KBS	**Kingsbay**	**2.34**	**325**	*e*P	**Pn**	**18 28 29.4**	**-0.3**
	SNR=62						
KBS	**Kingsbay**	**2.34**	**325**	Pg	**Pb**	**18 28 34.1**	**+0.6**
KBS				*e*Sg	**Sb**	**18 29 02.8**	**+0.4**
	SNR=92						
BJO	**Bjornoya**	**2.62**	**179**	*e*Pg	**Pg**	**18 28 41.2**	**-0.3**
BJO				*e*Sg	**Sg**	**18 29 15.7**	**+0.3**
BJO				IAML		18 29 20.0	
	comp=Z,112nm,0.3s						
BJO	**Bjornoya**	**2.62**	**179**	Pg	**Pg**	**18 28 41.2**	**-0.3**
BJO				Lg	Lg	18 29 14.9	
BJO				*e*Sg	**Sg**	**18 29 15.7**	**+0.3**
	SNR=91						
BJO1	**Bjornoya**	**2.62**	**180**	Pg	**Pg**	**18 28 41.2**	**-0.4**
BJO1				Lg	Lg	18 29 14.9	
HAMF	**Hammerfest**	**6.63**	**166**	*e*P	**Pn**	**18 29 29.6**	**+1.2**
HAMF				IAML		18 30 44.7	
	comp=Z,10nm,0.4s						
HAMF	**Hammerfest**	**6.63**	**166**	*e*P	**Pn**	**18 29 29.6**	**+1.2**
	SNR=57						
KEV	**Kevo**	**7.73**	**159**	*e*P	**Pn**	**18 29 44.7**	**+1.2**
KEV	**Kevo**	**7.73**	**159**	*e*P	**Pn**	**18 29 44.7**	**+1.2**
	SNR=57						
ARA0	**ARCESS Array S**	**7.83**	**163**	Pn	**Pn**	**18 29 45.5**	**+0.5**
	baz=360,slow=10						
ARA0				Sn	**Sn**	**18 31 08.6**	**-4.8**
	baz=359,slow=22						
ARA0	**ARCESS Array S**	**7.83**	**163**	Pn	**Pn**	**18 29 45.5**	**+0.5**
	baz=360,slow=10						
ARA0				Sn	**Sn**	**18 31 08.6**	**-4.8**
	baz=359,slow=22						
ARA0	**ARCESS Array S**	**7.83**	**163**	Pn	**Pn**	**18 29 45.5**	**+0.5**
	SNR=6.9						
ARCES	**ARCESS Array B**	**7.83**	**163**	Pn	**Pn**	**18 29 46.1**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=358,slow=11,SNR=22						
ARCES				Sn	**Sn**	**18 31 06.6**	**-6.8**
	comp=Z,1.0nm,0.3s,baz=2.9,slow=20,SNR=4.4						
ARCES				Lg	Lg	18 31 59.0	
	comp=Z,1.1nm,0.3s,baz=358,slow=29,SNR=2.9						
FIA0	**FINESS Array S**	**15.91**	**167**	Pn	**Pn**	**18 31 33.3**	**-1.5**
	baz=18,slow=22						
FIA0	**FINESS Array S**	**15.91**	**167**	Pn	**Pn**	**18 31 33.3**	**-1.5**
	baz=18,slow=22						
FIA0	**FINESS Array S**	**15.91**	**167**	Pn	**Pn**	**18 31 33.3**	**-1.5**
FINES	**FINESS Array B**	**15.91**	**167**	Pn	**Pn**	**18 31 33.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=6.7,slow=13,SNR=4.1						
FINES				Sn	Sn	18 34 18.8	-12
	comp=Z,0.1nm,0.3s,baz=360,slow=21,SNR=2.4						
HFS	**Hagfors**	**17.15**	**189**	Pn	**Pn**	**18 31 49.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=2.4						
ILAR	**Eielson Array**	**38.09**	**350**	P	**P**	**18 35 10.7**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=359,slow=7.5,SNR=5.1						
PDAR	**Pinedale Array**	**56.20**	**316**	P	**P**	**18 37 31.4**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=24,slow=9.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**64.59**	**199**	P	**P**	**18 38 30.1**	**+1.9**
	comp=Z,1.0nm,1.3s,baz=356,slow=7.5,SNR=2.7						
ASAR	**Alice Springs**	**118.41**	**71**	PKP	**PKPdf**	**18 46 38.4**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=5.8,slow=1.9,SNR=3.4						

IDC 24 18:29:33.7±3.1, 7.°91S×120.°00E, h176km±27km, mb2.6/2, mb1 2.9/4, mb1mx2.6/50, mbtmp3.3/4, Error ellipse: s-maj=139.3km s-min=21.3km az=55.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.53**	**152**	P	Pn	18 32 13.3	+0.1
	0.1nm,0.3s,baz=336,slow=14,SNR=8.2						
FITZ				S	Sn	18 34 13.9	-7.3
	0.1nm,0.3s,baz=18,slow=20,SNR=2.4						
WRA	**Warramunga Ar**	**18.34**	**132**	P	P	18 33 35.2	+0.3
	0.1nm,0.3s,baz=304,slow=12,SNR=10						
ASAR	**Alice Springs**	**20.58**	**141**	P	P	18 33 58.7	-0.3
	0.3nm,0.5s,baz=319,slow=9.3,SNR=8.5						
ASAR				ScP	ScP	18 41 22.2	-0.5
	0.5nm,0.7s,baz=334,slow=3.4,SNR=8.7						
MKAR	**Makanchi Array**	**63.95**	**332**	P	P	18 39 47.9	0.0
	0.3nm,0.7s,baz=138,slow=6.7,SNR=2.6						

*ISCJB **24** 18:42:26.3±1.3,36.°59N±0.°06×70.°6E±0.°2,h100km, Error ellipse: s-maj=18.1km s-min=6.9km az=161.2*
*NNC **24** 18:42:31.9±6.1,36.°83N×70.°65E,h170km±124km,mb2.6, mpv3.5, Error ellipse: s-maj=64.3km s-min=48.6km az=12.0*

ISC 24 18:42:27.2±1.6, 36.°55N±0.°09×70.°5E±0.°1, h100km, n5, σ1⁰39/9, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.93**	**132**	*e*P	**Pn**	**18 43 52.3**	**-0.2**
THN				*e*S	**Sn**	**18 44 59.0**	**-0.1**
MNAS	**Manas**	**6.13**	**14**	⇑Pn	**Pn**	**18 43 57.5**	**+2.3**
	0.9nm,0.5s						
MNAS				⇑Sn	**Sn**	**18 45 04.4**	**+0.4**
	17nm,0.5s						
KK31	**Karatay Array**	**6.55**	**360**	Pn	**Pn**	**18 44 00.9**	**0.0**
	2.6nm,0.6s,baz=187,slow=14,SNR=15						
KK31				Sn	**Sn**	**18 45 13.3**	**-0.8**
	1.3nm,0.3s,baz=192,slow=15,SNR=4.3						
TKM2	**Tokmak 2**	**7.47**	**30**	⇓Pn	**Pn**	**18 44 14.5**	**+1.0**
	4.0nm,0.6s						
TKM2				⇓Sn	**Sn**	**18 45 34.6**	**-2.1**
	4.6nm,1.1s						
AB31	**Akbulak array**	**14.86**	**332**	⇑P	**Pn**	**18 45 51.6**	**-0.4**
	0.5nm,0.4s,baz=158,slow=12,SNR=23						

*BJI **24** 18:47:09.0,5.°79S×146.°38E,h56km,mb4.6/36,mB5.0/21, Ms4.9/8,Ms7 4.5/8*
*ISCJB **24** 18:47:12.7±0.2,5.°69S±0.°03×146.°06E±0.°04,h69km, mb4.6/70, Error ellipse: s-maj=5.3km s-min=4.3km az=2.7*
*IDC **24** 18:47:14.8±2.3,5.°71S×146.°07E,h74km±21km,mb4.1/18, mb1 4.3/21,mb1mx4.3/28,mbtmp4.5/21,MS3.8/9, Ms1 3.8/9,ms1mx3.5/32, Error ellipse: s-maj=17.8km s-min=11.6km az=78.0*
*NEIC **24** 18:47:14.2±0.6,5.°67S×146.°05E,h69km±6km,mb4.7/59, Error ellipse: s-maj=5.4km s-min=4.4km az=119.0*
*DJA **24** 18:47:16.1±0.9,6.°5S×14.°6E,h53km±6km,M4.9/13, mB5.0/1,mb4.9/13,MLv5.0/1,Mw(mB)4.4/1*

ISC 24 18:47:14.6±0.3, 5.°69S±0.°05×146.°14E±0.°05, h69km, n141, σ1⁰50/141, mb4.7/70, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.83**	**19**	*e*Pn	**Pn**	**18 48 09.1**	**-2.1**
PMG	**Port Moresby**	**3.83**	**165**	P	**Pn**	**18 48 11.2**	**0.0**
	33nm,0.3s,baz=322,slow=7.2,SNR=106						
PMG				S	**Sn**	**18 48 56.6**	**+1.7**
	50nm,0.3s,baz=288,slow=20,SNR=5.9						
PMG				LR	LR	18 50 07.6	
	comp=Z,2μm,19.2s,baz=358,slow=45						
RABL	**Rabaul**	**6.19**	**76**	*e*Pn	**Pn**	**18 48 44.1**	**+0.6**
JAY	**Jayapura**	**6.27**	**300**	P	**Pn**	**18 48 45.0**	**+0.4**
	0.1nm,0.3s,baz=90,slow=20,SNR=14						
JAY				S	**Sn**	**18 49 56.5**	**+1.6**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.2						
JAY				LR	LR	18 51 24.3	
	comp=Z,52nm,20.9s,baz=174,slow=40						
JAY	**Jayapura**	**6.27**	**300**	P	**Pn**	**18 48 45.8**	**+1.2**
GENI	**Genyem**	**6.70**	**297**	P	**Pn**	**18 48 51.3**	**+0.8**
COEN	**Coen**	**8.72**	**199**	*e*Pn	**Pn**	**18 49 17.8**	**-0.3**
HNR	**Honiara**	**14.18**	**106**	P	**Pn**	**18 50 34.2**	**+1.9**
	2.3nm,0.3s,baz=270,slow=9.4,SNR=2.8						
HNR	**Honiara**	**14.18**	**106**	P	**P**	**18 50 39.0**	**+1.3**
HNR	**Honiara**	**14.18**	**106**	*e*Pn	**Pn**	**18 50 32.3**	**0.0**
CTA	**Charters Tower**	**14.31**	**180**	P	**Pn**	**18 50 36.4**	**+2.5**
	1.3nm,0.3s,baz=2.5,slow=14,SNR=14						
CTAO	**Charters Tower**	**14.31**	**180**	*e*Pn	**Pn**	**18 50 32.9**	**-1.0**
SAUI	**Saumlaki**	**14.91**	**260**

KSRS	**Korea Array**	**46.16**	**340**	P		**P**	**18 55 32.1**	**-0.3**
	6.1nm,0.9s,baz=159,slow=9.1,SNR=18								
KSRS				LR		LR	19 13 49.7		
	comp=Z,81nm,18.2s,baz=168,slow=35								
KS15	**Wonju Array Si**	**46.17**	**340**	*e*P		**P**	**18 55 32.0**	**-0.4**
KSAR	**Wonju Array Be**	**46.17**	**340**	P		**P**	**18 55 32.1**	**-0.3**
KS01	**Wonju Array Si**	**46.19**	**340**	*e*P		**P**	**18 55 32.2**	**-0.5**
INCN	**Inchon**	**46.65**	**339**	*e*P		**P**	**18 55 35.7**	**-0.6**
	85nm,1.9s								
KULM	**Kulim**	**46.71**	**283**	*e*P		**P**	**18 55 37.0**	**-0.2**
	12nm,0.8s								
GSI	**Gunungsitoli**	**48.99**	**277**	*e*P		**P**	**18 55 53.6**	**-1.2**
	52nm,1.3s								
GYA	**Guiyang**	**49.84**	**312**	*e*P		**P**	**18 56 02.0**	**+0.8**
GYA				PMZ					
	10.0nm,1.0s								
ENH	**Enshi**	**50.11**	**318**	*e*P		**P**	**18 56 01.8**	**-1.3**
	16nm,1.3s								
USRK	**Ussuriysk Ar.**	**51.27**	**347**	P		**P**	**18 56 11.6**	**+0.1**
	4.5nm,0.8s,baz=182,slow=8.7,SNR=6.7								
CM01	**Chiang Mai Arr**	**52.32**	**298**	*e*P		**P**	**18 56 17.3**	**-2.5**
CM31	**Chiang Mai Arr**	**52.35**	**298**	*e*P		**P**	**18 56 17.4**	**-2.7**
CMAR	**Chiang Mai Arr**	**52.35**	**298**	P		**P**	**18 56 20.1**	**0.0**
	3.5nm,0.8s,baz=124,slow=5.8,SNR=26								
HHC	**Hu-ho-hao-te**	**56.12**	**329**	*e*P		**P**	**18 56 48.4**	**+1.2**
HHC				PMZ					
	20nm,0.9s								
HHC				PMZ					
	140nm,8.6s								
LZH	**Lanzhou**	**57.42**	**320**	*e*P		**P**	**18 56 59.1**	**+2.5**
LZH				pP		pP	18 57 15.9	+1.4	
LZH				PMZ					
	13nm,1.0s								
PETK	**Petropavlovsk-**	**59.39**	**8**	P		**P**	**18 57 10.7**	**+1.0**
	2.7nm,0.7s,baz=167,slow=6.8,SNR=4.4								
PEA1	**Petropavlovsk-**	**59.40**	**8**	*e*P		**P**	**18 57 10.7**	**+0.9**
GTA	**Gaotai**	**61.96**	**321**	P		**P**	**18 57 28.1**	**+0.4**
GTA				pP		pP	18 57 44.8	-1.0	
GTA				sP		sP	18 57 50.8	-2.7	
GTA				PMZ					
	6.0nm,1.0s								
LSA	**Lhasa**	**63.37**	**307**	*e*P		**P**	**18 57 37.9**	**+0.2**
	6.2nm,0.9s								
ULN	**Ulaanbaatar**	**63.43**	**332**	*e*P		**P**	**18 57 35.5**	**-1.8**
	5.5nm,1.0s								
SONA0	**Songino Array**	**63.72**	**331**	*e*P		**P**	**18 57 38.7**	**-0.5**
	9.4nm,1.6s								
SONM	**Songino Array**	**63.72**	**331**	P		**P**	**18 57 38.7**	**-0.5**
	2.2nm,1.0s,baz=147,slow=9.1,SNR=13								
SONA1	**Songino Array**	**63.73**	**331**	*e*P		**P**	**18 57 38.8**	**-0.4**
TLY	**Talaya**	**67.68**	**333**	*e*P		**P**	**18 58 03.6**	**-0.9**
	3.2nm,1.1s								
YAK	**Yakutsk**	**68.71**	**352**	*e*P		**P**	**18 58 08.5**	**-2.1**
	17nm,0.3s								
SPIA	**Saint Paul Isl**	**71.96**	**23**	*e*P		**P**	**18 58 29.6**	**-1.0**
	123nm,1.5s								
WMQ	**Urumqi**	**72.00**	**320**	P		**P**	**18 58 31.0**	**-0.2**
WMQ				pP		PcP	18 58 47.6	-1.9	
WMQ				sP		sP	18 58 54.5	-2.9	
WMQ				PMZ					
	6.0nm,0.6s								
WMQ				PMZ					
	62nm,4.2s								
VNDA	**Vanda**	**72.27**	**176**	P		**P**	**18 58 31.2**	**-0.9**
	1.7nm,0.9s,baz=327,slow=6.8,SNR=11								
VNDA	**Vanda**	**72.27**	**176**	*e*P		**P**	**18 58 31.3**	**-0.9**
	4.9nm,1.3s								
SBA	**Scott Base**	**72.93**	**176**	*e*P		**P**	**18 58 36.9**	**+0.8**
	19nm,1.8s								
BILL	**Bilibino**	**74.92**	**8**	*e*P		**P**	**18 58 49.0**	**+1.2**
	10nm,1.2s								
SDPT	**Sand Point**	**75.04**	**28**	*e*P		**P**	**18 58 49.2**	**+0.5**
	29nm,0.7s								
CHGN	**Chignik**	**76.54**	**28**	*e*P		**P**	**18 58 57.8**	**+0.6**
MK01	**Makanchi Array**	**76.70**	**321**	*e*P		**P**	**18 58 57.8**	**-0.6**
MK31	**Makanchi Array**	**76.72**	**321**	*e*P		**P**	**18 58 57.3**	**-1.2**
MK32	**Makanchi Array**	**76.72**	**321**	*e*P		**P**	**18 58 57.9**	**-0.6**
MKAR	**Makanchi Array**	**76.72**	**321**	P		**P**	**18 58 57.9**	**-0.6**
	5.4nm,0.9s,baz=101,slow=6.8,SNR=34								
ZAA0	**Zalesovo Array**	**78.30**	**328**	*e*P		**P**	**18 59 05.3**	**-1.8**
ZALV	**Zalesovo Beam**	**78.30**	**328**	P		**P**	**18 59 05.6**	**-1.5**
	2.4nm,0.6s,baz=113,slow=5.1,SNR=14								
ZAA1	**Zalesovo Array**	**78.30**	**328**	*e*P		**P**	**18 59 05.6**	**-1.5**
KSH	**Kashi**	**78.53**	**312**	*e*P		**P**	**18 59 10.5**	**+1.6**
KSH				PcP		**PcP**	**18 59 20.0**	**+2.2**
KSH				pP		pP	18 59 26.6	-1.1	
KSH				PP		**PP**	**19 02 10.8**	**+3.3**
KSH				S		**S**	**19 09 00.8**	**+0.5**
KSH				ScS		**ScS**	**19 09 22.5**	**-1.8**
KSH				SS		**SS**	**19 14 08.8**	**+3.5**
KSH				PMZ					
	3.0nm,0.4s								
KSH				PMZ					
	80nm,4.4s								
KSH				LN					
	110nm,7.6s								
KSH				LE					
	85nm,4.3s								
KSH				LZ					
	150nm,6.6s								
TKM2	**Tokmak 2**	**79.82**	**315**	*e*P		**P**	**18 59 15.0**	**-1.0**
	3.8nm,0.6s								
KDAK	**Kodiak Island**	**80.04**	**28**	*e*P		**P**	**18 59 17.1**	**+0.6**
	10.0nm,1.1s								
SVW2	**Sparrevohn**	**80.33**	**25**	*e*P		**P**	**18 59 19.5**	**+1.5**
	8.1nm,1.0s								
KURK	**Kurchatov**	**80.45**	**323**	*e*P		**P**	**18 59 17.3**	**-1.6**
	4.4nm,0.9s								
EKS2	**Erkin-Say**	**81.03**	**315**	*e*P		**P**	**18 59 22.0**	**-0.4**
	5.2nm,1.0s								
TT01	**Tatalina**	**81.09**	**23**	*e*P		**P**	**18 59 22.7**	**+0.7**
CNPM	**China Poot**	**81.46**	**27**	*e*P		**P**	**18 59 25.0**	**+0.9**
	11nm,0.6s								
MAW	**Mawson**	**82.20**	**203**	P		**P**	**18 59 27.8**	**-0.1**
	2.0nm,0.9s,baz=95,slow=11,SNR=3.5								
MAW	**Mawson**	**82.20**	**203**	*e*P		**P**	**18 59 27.4**	**-0.4**
	3.7nm,1.6s								
SUA	**Susitna One**	**82.55**	**26**	*e*P		**P**	**18 59 26.9**	**-3.0**
	4.5nm,0.6s								
RC01	**Rabbit Creek A**	**82.82**	**26**	*e*P		**P**	**18 59 31.3**	**+0.1**
	10nm,0.5s								
CAST	**Castle Rocks**	**82.89**	**24**	*e*P		**P**	**18 59 31.4**	**-0.1**
	7.9nm,1.0s								
PMR	**Palmer**	**83.30**	**26**	*e*P		**P**	**18 59 33.7**	**+0.1**
	6.1nm,0.9s								
KTH	**Kantishna Hill**	**83.42**	**24**	*e*P		**P**	**18 59 34.1**	**-0.2**
	8.8nm,1.0s								
KKAR	**Karatay Array**	**83.46**	**314**	*e*P		**P**	**18 59 34.1**	**-0.9**
TRF	**Thorofare Moun**	**83.63**	**24**	*e*P		**P**	**18 59 34.8**	**-0.7**
	4.5nm,0.6s								
BPAW	**Bear Paw Mtn.**	**83.64**	**23**	*e*P		**P**	**18 59 34.6**	**-0.8**
	4.1nm,0.9s								
SML	**Sawmill**	**83.74**	**26**	*e*P		**P**	**18 59 35.3**	**-0.7**
	19nm,1.1s								
MLY	**Manley**	**84.16**	**22**	*e*P		**P**	**18 59 38.3**	**+0.3**
	11nm,0.7s								
RND	**Reindeer**	**84.19**	**24**	*e*P		**P**	**18 59 37.5**	**-0.7**
	14nm,0.8s								
QSPA	**South Pole Qui**	**84.27**	**180**	*e*P		**P**	**18 59 38.4**	**-0.4**
MCK	**McKinley**	**84.29**	**24**	*e*P		**P**	**18 59 38.6**	**-0.1**
	22nm,1.1s								
NRIK	**Noril'sk**	**84.72**	**342**	P		**P**	**18 59 39.1**	**-1.6**
	3.4nm,0.4s,baz=104,slow=4.7,SNR=5.9								
WRH	**Wood River Hil**	**84.94**	**23**	*e*P		**P**	**18 59 41.2**	**-0.7**
	14nm,1.0s								
CCB	**Clear Creek Bu**	**85.13**	**23**	*e*P		**P**	**18 59 42.1**	**-0.7**
	13nm,0.9s								
COLD	**Coldfoot**	**85.35**	**20**	*e*P		**P**	**18 59 44.8**	**+0.9**
	10nm,1.2s								
HDA	**Harding Lake**	**85.37**	**24**	*e*P		**P**	**18 59 42.6**	**-1.5**
	5.2nm,0.8s								
IL1	**Eielson Array**	**85.54**	**23**	*e*P		**P**	**18 59 43.8**	**-1.1**
ILAR	**Eielson Array**	**85.54**	**23**	P		**P**	**18 59 43.9**	**-1.0**
	12nm,0.7s,baz=253,slow=5.0,SNR=102								
ILB	**Eielson Array**	**85.54**	**23**	*e*P		**P**	**18 59 43.8**	**-1.1**
CRQM	**Cirque**	**85.67**	**28**	*e*P		**P**	**18 59 46.7**	**+0.8**
	17nm,0.4s								
BRVK	**Borovoye**	**86.09**	**324**	*e*P		**P**	**18 59 46.9**	**-1.0**
	3.0nm,1.0s								
BALM	**Baldy**	**86.13**	**28**	*e*P		**P**	**18 59 48.2**	**+0.2**
	33nm,1.6s								
DOT	**Dot Lake**	**86.26**	**25**	*e*P		**P**	**18 59 48.7**	**+0.2**
	26nm,0.9s								
EGAK	**Eagle**	**87.84**	**24**	*e*P		**P**	**18 59 56.4**	**+0.3**
	11nm,1.2s								
HYT	**Haines Junctio**	**88.33**	**28**	*e*P		**P**	**18 59 59.4**	**+0.6**
	13nm,1.4s								
DAWY	**Dawson**	**88.36**	**25**	*e*P		**P**	**18 59 59.5**	**+0.8**
	9.9nm,0.9s								
ABKAR	**Akbulak array**	**91.78**	**319**	*e*P		**P**	**19 00 12.2**	**-2.7**
GEYT	**Alibeck**	**91.90**	**308**	P		**P**	**19 00 14.7**	**-1.1**
	1.4nm,0.9s,baz=108,slow=4.7,SNR=4.5								
LPAZ	**La Paz**	**139.67**	**123**	PKhKP		PKPpre	19 06 29.9		
	0.7nm,0.6s,baz=236,slow=3.6,SNR=3.3								
CPUP	**Villa Florida**	**140.87**	**146**	PKP		**PKPdf**	**19 06 37.0**	**-0.5**
	2.0nm,0.8s,baz=81,slow=4.0,SNR=3.9								
TORD	**Torodi Ar. Bea**	**144.18**	**285**	PKP		**PKPab**	**19 06 41.5**	**0.0**
	5.3nm,0.9s,baz=76,slow=3.4,SNR=21								
TOA1	**Torodi Ar. Sit**	**144.19**	**285**	*e*PKPdf		**PKPab**	**19 06 41.5**	**0.0**
DBIC	**Dimbokro**	**151.15**	**273**	PKPbc		**PKPbc**	**19 07 01.4**	**+0.2**
	9.2nm,0.7s,baz=39,slow=6.1,SNR=7.0								

*IDC **24** 19:07:25.1±1.2,53°.95N×163°.78W,h0km,mb3.7/13, mb1 3.8/14,mb1mx3.6/66,mbtmp3.6/14,ML3.1/1,Error ellipse: s-maj=34.0km s-min=16.1km az=167.0*
*NEIC **24** 19:07:26.7,53°.76N×163°.70W,h15km,ML3.4(AEIC),After AEIC.*

ISC 24 19:07:24.9±2.9,53°.79N±0°.08×163°.72W±0°.04,h2km±19km, n74,σ1§27/74,mb3.8/12,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WESE	**West Dahl East**	**0.85**	**324**	*e*Pn		**Pn**	**19 07 43.6**	**-0.4**
BRPK	**Brown Peak**	**0.86**	**359**	P		**Pn**	**19 07 43.8**	**-0.3**
WESP	**Westdahl Peak**	**0.92**	**321**	P		**Pn**	**19 07 44.7**	**-0.2**
WESP				S		**Sn**	**19 07 58.0**	**-0.7**
SSLS	**Shishaldin Sou**	**0.94**	**350**	P		**Pn**	**19 07 45.0**	**-0.2**
SSLS				S		**Sn**	**19 07 59.4**	**+0.2**
SSLW	**Shishaldin Wes**	**1.01**	**347**	P		**Pn**	**19 07 46.0**	**-0.2**
SSLN	**Shishaldin Nor**	**1.04**	**351**	P		**Pn**	**19 07 46.7**	**+0.2**
AKSA	**Akutan Strait**	**1.22**	**287**	P		**Pb**	**19 07 48.4**	**-0.2**
AKUT	**Akutan**	**1.26**	**287**	*e*Pg		**Pb**	**19 07 49.1**	**-0.3**
AKGG	**Akutan Green G**	**1.40**	**288**	P		**Pn**	**19 07 51.4**	**-0.1**
AKRB	**Akutan Reef Bi**	**1.43**	**285**	P		**Pn**	**19 07 51.5**	**-0.3**
AKRB				S		**Sn**	**19 08 10.7**	**-0.4**
DT1	**Dutton Round H**	**1.57**	**32**	*e*Pn		**Pn**	**19 07 53.3**	**-0.4**
DTNA	**Dutton South F**	**1.61**	**32**	*e*Pn		**Pn**	**19 07 54.1**	**-0.3**
UNV	**Unalaska Valle**	**1.65**	**273**	*e*Pn		**Pn**	**19 07 54.0**	**-0.8**
UNV				*e*Sn		**Sn**	**19 08 15.0**	**-1.5**
DOL	**Dolgoi Island**	**1.74**	**38**	P		**Pn**	**19 07 56.0**	**-0.1**
MTBL	**Makushin Table**	**1.76**	**277**	*e*Pn		**Pn**	**19 07 56.7**	**+0.3**
MSW	**Makushin Switc**	**1.82**	**275**	P		**Pn**	**19 07 57.5**	**+0.3**
MSW				S		**Sb**	**19 08 21.6**	**-0.5**
MGOD	**Makushin Gods**	**1.87**	**271**	*e*Pn		**Pn**	**19 07 57.9**	**-0.1**
MCIR	**Makushin Cirqu**	**1.88**	**276**	P		**Pn**	**19 07 58.7**	**+0.6**
PS4A	**Pavlof South-4**	**1.90**	**34**	P		**Pb**	**19 07 59.1**	**-1.2**
PVV	**Pavlof Volcano**	**1.95**	**35**	P		**Pb**	**19 07 59.8**	**-1.3**
SDPT	**Sand Point**	**2.45**	**49**	*e*Pn		**Pn**	**19 08 06.0**	**+0.1**
SDPT				*e*Sn		**Sn**	**19 08 37.2**	**+0.8**
OKER	**Okmok East Rim**	**2.60**	**264**	P		**Pn**	**19 08 08.6**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**2.61**	**263**	P		**Pn**	**19 08 09.5**	**+1.5**
NIKH	**Nikolski High**	**3.18**	**257**	*e*Pn		**Pn**	**19 08 16.5**	**+0.6**
VNKR	**Veniaminof 5**	**3.37**	**46**	P		**Pn**	**19 08 19.6**	**+1.0**
CHGN	**Chignik**	**3.96**	**48**	*e*Pn		**Pn**	**19 08 28.1**	**+1.5**
SPIA	**Saint Paul Isl**	**5.03**	**315**	*e*Pn		**Pn**	**19 08 41.1**	**-0.1**
OHAK	**Old Harbor**	**6.85**	**56**	*e*Pn		**Pn**	**19 09 06.2**	**0.0**
KDAK	**Kodiak Island**	**7.44**	**53**	*e*Pn		**Pn**	**19 09 14.2**	**-0.2**
GSTR	**Great Sitkin T**	**7.65**	**262**	*e*Pn		**Pn**	**19 09 18.1**	**+0.8**
SVW2	**Sparrevohn**	**8.54**	**28**	*e*Pn		**Pn**	**19 09 31.1**	**+1.7**
RSO	**Redoubt South**	**8.95**	**37**	*e*Pn		**Pn**	**19 09 36.5**	**+1.2**
CNPM	**China Poot**	**8.95**	**45**	*e*Pn		**Pn**	**19 09 36.0**	**+0.9**
TT01	**Tatalina**	**9.99**	**21**	*e*Pn		**Pn**	**19 09 51.1**	**+1.8**
SUA	**Susitna One**	**10.36**	**37**	*e*Pn		**Pn**	**19 09 53.0**	**-1.3**
GAMB	**Gambell**	**10.83**	**341**	*e*Pn		**Pn**	**19 10 03.1**	**+2.4**
PPLA	**Purkeypile**	**10.94**	**29**	*e*Pn		**Pn**	**19 10 03.6**	**+1.2**
MID	**Middleton Isla**	**11.10**	**52**	*e*Pn		**Pn**	**19 10 06.3**	**+1.8**
CAST	**Castle Rocks**	**11.38**	**27**	*e*Pn		**Pn**	**19 10 10.2**	**+1.8**
SML	**Sawmill**	**11.46**	**39**	*e*Pn		**Pn**	**19 10 10.7**	**+1.2**
SCM	**Sheep Creek Mo**	**11.86**	**41**	*e*Pn		**Pn**	**19 10 14.1**	**-0.8**
TRF	**Thorofare Moun**	**11.92**	**30**	*e*Pn		**Pn**	**19 10 19.9**	**+4.1**
DIV	**Divide**	**12.11**	**45**	*e*Pn		**Pn**	**19 10 20.0**	**+1.7**
BPAW	**Bear Paw Mtn.**	**12.22**	**27**	*e*Pn		**Pn**	**19 10 22.5**	**+2.7**
KLU	**Klutina**	**12.23**	**44**	*e*Pn		**Pn**	**19 10 18.6**	**-1.4**
RAGM	**Ragged Mountai**	**12.26**	**50**	*e*Pn		**Pn**	**19 10 19.3**	**-1.0**
RND	**Reindeer**	**12.33**	**33**	*e*Pn		**Pn**	**19 10 21.7**	**+0.3**
BMRM	**Bremner River**	**12.54**	**47**	*e*Pn		**Pn**	**19 10 24.4**	**+0.2**
DHY	**Denali Highway**	**12.61**	**36**	*e*Pn		**Pn**	**19 10 24.5**	**-0.7**
MLY	**Manley**	**13.03**	**25**	*e*Pn		**Pn**	**19 10 33.4**	**+2.5**
ILAR	**Eielson Array**	**13.91**	**31**	Pn		**Pn**	**19 10 39.2**	**-3.6**
	0.0nm,0.3s,baz=218,slow=11,SNR=3.4								
HYT	**Haines Junctio**	**15.74**	**53**	*e*Pn		**P**	**19 11 15.0**	**+3.3**
EGAK	**Eagle**	**15.83**	**37**	*e*Pn		**P**	**19 11 11.0**	**-1.5**
DAWY	**Dawson**	**16.12**	**41**	*e*Pn		**P**	**19 11 14.9**	**-0.9**
INK	**Inuvik**	**20.30**	**33**	P		**P**	**19 12 00.5**	**-1.1**
	0.9nm,0.5s,baz=248,slow=8.4,SNR=3.2								
PETK	**Petropavlovsk-**	**22.80**	**284**	P		**P**	**19 12 28.1**	**-0.5**
	0.9nm,0.5s,baz=83,slow=11,SNR=4.2								
PGC	**Sidney**	**25.48**	**85**	*e*P		**P**	**19 12 54.7**	**+0.6**
YKA	**Yellowknife Ar**	**26.72**	**51**	P		**P**	**19 13 05.8**	**+0.6**
	0.5nm,0.7s,baz=271,slow=9.2,SNR=3.2								
ULM	**Lac du Bonnet**	**40.47**	**66**	P		**P**	**19 15 04.6**	**+0.1**
	1.7nm,0.5s,baz=288,slow=3.2,SNR=3.3								
H11N2	**WAKE ISLAND Hy**	**40.78**	**225**	T		T	19 58 43.2		
	baz=26,slow=76,SNR=106								
H11N3	**WAKE ISLAND Hy**	**40.79**	**225**	T		T	19 58 46.2		
	baz=26,slow=76,SNR=81								
H11N1	**WAKE ISLAND Hy**	**40.80**	**225**	T		T	19 58 45.1		
	baz=26,slow=76,SNR=76								
H11S1	**WAKE ISLAND Hy**	**41.96**	**224**	T		T	20 00 10.7		
	baz=26,slow=76,SNR=144								
H11S2	**WAKE ISLAND Hy**	**41.97**	**224**	T		T	20 00 13.1		
	baz=26,slow=76,SNR=117								
H11S3	**WAKE ISLAND Hy**	**41.97**	**224**	T		T	20 00 11.6		
	baz=26,slow=76,SNR=122								
KSRS	**Korea Array**	**48.58**	**279**	P		**P**	**19 16 10.3**	**+0.8**
	0.8nm,0.7s,baz=53,slow=7.0,SNR=4.0								
TXAR	**Lajitas Array**	**49.39**	**95**	P		**P**	**19 16 16.2**	**+0.3**
	0.4nm,0.5s,baz=292,slow=4.0,SNR=7.2								
SONM	**Songino Array**	**53.44**	**303**	P		**P**	**19 16 46.6**	**+0.5**
	0.3nm,0.6s,baz=37,slow=8.3,SNR=3.5								
FINES	**FINESS Array B**	**64.85**	**355**	P		**P**	**19 18 03.5**	**-1.2**
	0.7nm,0.7s,baz=23,slow=10,SNR=5.6								
MKAR	**Makanchi Array**	**65.22**	**316**	P		**P**	**19 18 06.3**	**-1.1**
	0.2nm,0.4s,baz=38,slow=7.3,SNR=3.8								
HFS	**Hagfors**	**66.41**	**1**	P		**P**	**19 18 14.2**	**-0.7**
	0.6nm,0.4s,baz=14,slow=3.0,SNR=7.1								
CMAR	**Chiang Mai Arr**	**79.55**	**287**	P		**P**	**19 19 33.1**	**-0.2**
	0.6nm,0.6s,baz=20,slow=6.8,SNR=5.6								
ESDC	**Sonseca Array**	**85.28**	**16**	P		**P**	**19 20 03.4**	**+0.3**
	0.6nm,0.6s,baz=347,slow=5.1,SNR=3.9								
BRTR	**Keskin Array B**	**85.66**	**347**	P		**P**	**19 20 05.0**	**-0.1**
	0.5nm,0.6s,baz=30,slow=5.4,SNR=4.1								

*ISCJB **24** 19:13:41.6±0.4,43°.50N±0°.03×105°.40W±0°.05,h0km,Error ellipse: s-maj=5.4km s-min=4.7km az=163.3*
*NEIC **24** 19:13:42.8±0.3,43°.52N×105°.37W,h0km,ML3.0,Error ellipse: s-maj=4.4km s-min=4.1km az=101.0,Suspected Mining explosion.*
NEIC 74 km [46 miles] E of Midwest.
*IDC **24** 19:13:43.0±1.6,43°.82N×105°.81W,h0km,mb1 3.6/2, mb1mx3.2/50,mbtmp3.4/2,ML3.1/2,Error ellipse: s-maj=43.1km s-min=8.9km az=149.0*

ISC 24 19:13:42.3±0.9,43°.51N±0°.05×105°.40W±0°.05,h0km,n48, σ1§18/46,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.16**	**57**	*e*Pg		**Pg**	**19 14 04.2**	**-0.3**
K22A	**Casper**	**1.19**	**224**	*e*Pg		**Pg**	**19 14 03.9**	**-1.1**
PHWY	**Pilot Hill**	**2.20**	**181**	*e*Pn		**Pn**	**19 14 20.9**	**+0.6**
N23A	**Red Feather La**	**2.64**	**189**	*e*Pn		**Pn**	**19 14 27.4**	**+1.1**
BW06	**Boulder Array**	**3.13**	**258**	*e*Pn		**Pn**	**19 14 33.3**	**+0.2**
PD31	**Pinedale Array**	**3.13**	**258**	*e*Pn		**Pn**	**19 14 34.0**	**+0.9**
PDAR	**Pinedale Array**	**3.13**	**258**	Pn		**Pn**	**19 14 33.4**	**+0.3**
	2.2nm,0.3s,baz=75,slow=15,SNR=19								
PDAR				Lg		Lg	19 15 15.6		
	6.3nm,0.3s,baz=67,slow=32,SNR=11								
RLMT	**Red Lodge**	**3.21**	**302**	*e*Pn		**Pn**	**19 14 34.9**	**+0.7**
LAO	**LASA Array**	**3.24**	**350**	*e*Pn		**Pn**	**19 14 34.5**	**+0.1**
OGNE	**Ogallala**	**3.58**	**135**	*e*Pn		**Pn**	**19 14 40.1**	**+1.1**
ISCO	**Idaho Springs**	**3.71**	**183**	*e*Pn		**Pn**	**19 14 42.8**	**+1.7**
LOHW	**Long Hollow**	**3.79**	**273**	*e*Pn		**Pn**	**19 14 41.7**	**-0.4**
GCMT	**Greycliff**	**3.81**	**308**	*e*Pn		**Pn**	**19 14 43.2**	**+0.9**
H17A	**Grant Village**	**3.84**	**285**	*e*Pn		**Pn**	**19 14 43.8**	**+0.9**
FLWY	**Flagg Ranch**	**3.88**	**280**	*e*Pn		**Pn**	**19 14 44.2**	**+0.8**
MOOW	**Moose Ponds**	**3.89**	**275**	*e*Pn		**Pn**	**19 14 44.3**	**+0.8**
SNOW	**Snow King Moun**	**3.90**	**271**	*e*Pn		**Pn**	**19 14 47.0**	**+3.3**
REDW	**Red Top Meadow**	**3.98**	**270**	*e*Pn		**Pn**	**19 14 47.6**	**+2.9**
O20A	**White River Ci**	**3.98**	**213**	*e*Pn		**Pn**	**19 14 46.6**	**+1.8**
YPP	**Pitchstone Pla**	**3.98**	**283**	*e*Pn		**Pn**	**19 14 45.2**	**+0.3**
IMW	**Indian Meadow**	**4.04**	**277**	*e*Pn		**Pn**	**19 14 47.8**	**+2.1**
YFT	**Old Faithful**	**4.04**	**285**	*e*Pn		**Pn**	**19 14 45.2**	**-0.4**
TPAW	**Teton Pass**	**4.04**	**272**	*e*Pn		**Pn**	**19 14 46.2**	**+0.6**
YHH	**Holmes Hill**	**4.13**	**290**	*e*Pn		**Pn**	**19 14 47.3**	**+0.4**
AHID	**Auburn Hatcher**	**4.24**	**262**	*e*Pn		**Pn**	**19 14 48.6**	**+0.3**
YHB	**Horse Butte**	**4.36**	**289**	*e*Pn		**Pn**	**19 14 49.7**	**-0.2**
Q24A	**Divide**	**4.54**	**178**	*e*Pn		**Pn**	**19 14 52.6**	**+0.1**
HWUT	**Hardware Ranch**	**4.94**	**250**	*e*Pn		**Pn**	**19 14 56.0**	**-1.8**
BOZ	**Bozeman (W)**	**4.94**	**298**	*e*Pn		**Pn**	**19 14 57.9**	**0.0**
KSCO	**Kaye Shedlock'**	**4.95**	**154**	*e*Pn		**Pn**	**19 14 58.8**	**+0.8**
DGMT	**Dagmar**	**5.04**	**9**	*e*Pb		**Pb**	**19 15 11.9**	**+0.7**
TCUT	**Toone Canyon**	**5.06**	**244**	*e*Pn		**Pn**	**19 14 59.9**	**+0.3**
MCMT	**McKenzie Canyo**	**5.52**	**286**	*e*Pn		Pn	19 15 12.0	+6.0	
LRM	**Limekiln Ridge**	**5.54**	**297**	*e*Pn		**Pn**	**19 15 07.7**	**+1.5**
SPUT	**South Promonto**	**5.66**	**250**	*e*Pn		**Pn**	**19 15 09.3**	**+1.5**
P17A	**Butcher Ranch,**	**5.69**	**227**	*e*Sn		**Sn**	**19 16 14.2**	**+0.1**
PV10	**Paradox Valley**	**5.82**	**210**	*e*Pn		**Pn**	**19 15 10.2**	**+0.2**
SRU	**San Rafael Swe**	**5.85**	**223**	*e*Pn		**Pn**	**19 15 10.6**	**+0.2**
S22A	**4UR Ranch, Cre**	**5.86**	**191**	*e*Pn		**Pn**	**19 15 12.5**	**+1.9**
MDND	**Maddock**	**5.94**	**41**	*e*Pn		**Pn**	**19 15 10.8**	**-0.7**
TMUT	**Trail Mountain**	**6.06**	**228**	*e*Pn		**Pn**	**19 15 14.9**	**+1.5**
BGU	**Big Grassy Mou**	**6.23**	**248**	*e*Pn		**Pn**	**19 15 16.5**	**+1.0**
Q16A	**Castle Valley**	**6.32**	**225**	*e*Pn		**Pn**	**19 15 17.7**	**+0.8**
T25A	**Trinidad**	**6.40**	**173**	*e*Pn		**Pn**	**19 15 18.4**	**+0.4**
DUG	**Dugway, Tooele**	**6.45**	**242**	*e*Pn		**Pn**	**19 15 18.9**	**+0.3**
CHMT	**Chamberlain Mo**	**6.51**	**304**	*e*Pn		**Pn**	**19 15 20.3**	**+0.

INK	**Inuvik**	**24.49**	**34**	P		**P**		**19 23 33.0**	**-1.1**
	comp=Z,6.8nm,0.5s,baz=242,slow=6.4,SNR=16								
INK	**Inuvik**	**24.49**	**34**	*e*P		**P**		**19 23 33.8**	**-0.4**
INK				pmax		pmax			
	comp=Z,21nm,1.3s								
INK	**Inuvik**	**24.49**	**34**	*e*P		**P**		**19 23 33.8**	**-0.4**
	comp=Z,21nm,1.3s								
ASAJ	**Asahikawa**	**31.18**	**274**	P		**P**		**19 24 34.8**	**+0.6**
	comp=Z,4.0nm,0.5s,baz=80,slow=15,SNR=5.8								
ASAJ	**Asahikawa**	**31.18**	**274**	P		**P**		**19 24 34.8**	**+0.6**
ASAJ				pmax		pmax			
	comp=Z,7.0nm,0.9s								
YKA	**Yellowknife Ar**	**31.58**	**48**	P		**P**		**19 24 37.8**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=270,slow=7.9,SNR=21								
YKA				LR		LR		19 39 08.0	
	comp=Z,23nm,18.7s,baz=0.0,slow=40								
YKB5	**Yellowknife Ar**	**31.58**	**48**	*e*P		**P**		**19 24 37.9**	**+0.4**
C09A	**Chrisman Ranch**	**33.98**	**75**	*e*P		**P**		**19 24 57.2**	**-1.4**
	comp=Z,6.3nm,0.9s								
EDM	**Edmonton**	**34.59**	**64**	*e*P		**P**		**19 25 05.3**	**+1.4**
EDM				pmax		pmax			
	comp=Z,24nm,1.2s								
EDM	**Edmonton**	**34.59**	**64**	*e*P		**P**		**19 25 05.2**	**+1.4**
	comp=Z,24nm,1.2s								
KCPM	**Cahto Peak**	**35.00**	**91**	*e*PcP		**PcP**		**19 27 39.1**	**-0.1**
KCPM				*e*S		**S**		**19 30 40.1**	**+3.0**
BSMT	**Bassoo Peak**	**36.03**	**73**	*e*P		**P**		**19 25 16.5**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**36.25**	**216**	T		T		20 03 47.3	
	baz=21,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**36.26**	**216**	T		T		20 03 48.4	
	baz=21,slow=75,SNR=15								
H11N1	**WAKE ISLAND Hy**	**36.27**	**216**	T		T		20 03 48.6	
	baz=21,slow=75,SNR=19								
H11S1	**WAKE ISLAND Hy**	**37.45**	**215**	T		T		20 05 18.6	
	baz=21,slow=76,SNR=18								
H11S2	**WAKE ISLAND Hy**	**37.46**	**215**	T		T		20 05 16.6	
	baz=21,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**37.47**	**215**	T		T		20 05 21.2	
	baz=21,slow=76,SNR=13								
USRK	**Ussuriysk Ar.**	**37.65**	**281**	LR		LR		19 39 31.5	
	comp=Z,153nm,21.8s,baz=39,slow=34								
MJAR	**Matsushiro Arr**	**38.31**	**267**	LR		LR		19 40 17.2	
	comp=Z,68nm,20.6s,baz=65,slow=34								
MJB9	**Matsu-Tunnel**	**38.31**	**267**	*e*P		**P**		**19 25 33.1**	**-2.7**
	comp=Z,3.2nm,1.1s								
MAJO	**Matsushiro**	**38.31**	**267**	*e*P		**P**		**19 25 33.1**	**-2.7**
MAJO				pmax		pmax			
	comp=Z,14nm,1.2s								
MAJO	**Matsushiro**	**38.31**	**267**	*e*P		**P**		**19 25 33.1**	**-2.7**
	comp=Z,14nm,1.2s								
MCMT	**McKenzie Canyo**	**38.72**	**77**	*e*P		**P**		**19 25 38.3**	**-1.1**
TVH1	**TV Hill, Hawth**	**38.73**	**89**	*e*P		**P**		**19 25 37.2**	**-2.5**
	comp=Z,9.3nm,1.0s								
ELK	**Elko**	**39.54**	**83**	*e*P		**P**		**19 25 45.1**	**-1.2**
ELK				pmax		pmax			
	comp=Z,3.0nm,1.1s								
ELK	**Elko**	**39.54**	**83**	*e*P		**P**		**19 25 45.1**	**-1.2**
	comp=Z,2.7nm,1.1s								
YHB	**Horse Butte**	**39.75**	**76**	*e*P		**P**		**19 25 47.0**	**-1.0**
	comp=Z,16nm,1.0s								
YHH	**Holmes Hill**	**39.94**	**75**	*e*P		**P**		**19 25 49.3**	**-0.3**
	comp=Z,4.7nm,0.9s								
FFC	**Flin Flon**	**40.13**	**58**	*e*P		**P**		**19 25 50.5**	**-0.3**
FFC				pmax		pmax			
	comp=Z,4.0nm,0.7s								
FFC	**Flin Flon**	**40.13**	**58**	*e*P		**P**		**19 25 50.5**	**-0.3**
	comp=Z,3.5nm,0.7s								
R11A	**Troy Canyon, C**	**40.77**	**87**	*e*P		**P**		**19 25 58.1**	**+1.6**
	comp=Z,6.2nm,1.3s								
BGU	**Big Grassy Mou**	**40.79**	**82**	*e*P		**P**		**19 25 56.8**	**+0.2**
	comp=Z,8.8nm,1.5s								
DAC	**Darwin (Calif)**	**40.82**	**91**	*e*P		**P**		**19 25 58.1**	**+1.1**
DAC				pmax		pmax			
	comp=Z,5.0nm,1.2s								
DAC	**Darwin (Calif)**	**40.82**	**91**	*e*P		**P**		**19 25 58.1**	**+1.1**
	comp=Z,5.3nm,1.2s								
TPNV	**Topopah Spring**	**41.23**	**89**	*e*P		**P**		**19 26 01.5**	**+1.3**
TPNV	**Topopah Spring**	**41.23**	**89**	*e*P		**P**		**19 26 01.5**	**+1.3**
LAO	**LASA Array**	**41.66**	**70**	*e*PcP		**PcP**		**19 28 00.0**	**+0.3**
BW06	**Boulder Array**	**41.84**	**77**	*e*P		**P**		**19 26 03.4**	**-1.9**
PD31	**Pinedale Array**	**41.84**	**77**	*e*P		**P**		**19 26 03.4**	**-1.9**
PDAR	**Pinedale Array**	**41.84**	**77**	P		**P**		**19 26 06.0**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=308,slow=7.3,SNR=6.3								
GSC	**Goldstone, Bar**	**41.94**	**91**	*e*P		**P**		**19 26 06.2**	**+0.2**
GSC				pmax		pmax			
	comp=Z,8.0nm,1.1s								
GSC	**Goldstone, Bar**	**41.94**	**91**	*e*P		**P**		**19 26 06.2**	**+0.2**
	comp=Z,8.1nm,1.1s								
FCC	**Fort Churchill**	**42.29**	**49**	*e*P		**P**		**19 26 08.6**	**+0.2**
FCC				pmax		pmax			
	comp=Z,20nm,1.4s								
FCC	**Fort Churchill**	**42.29**	**49**	*e*P		**P**		**19 26 08.6**	**+0.2**
	comp=Z,20nm,1.4s								
LDFC	**Landfair**	**43.14**	**90**	*e*pP		pP		19 26 24.1	-2.6
Q16A	**Castle Valley**	**43.14**	**83**	*e*P		**P**		**19 26 16.0**	**+0.2**
	comp=Z,5.8nm,1.1s								
KSRS	**Korea Array**	**44.09**	**276**	P		**P**		**19 26 23.9**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=57,slow=7.6,SNR=14								
KSRS				LR		LR		19 42 24.8	
	comp=Z,78nm,21.6s,baz=56,slow=33								
KS01	**Wonju Array Si**	**44.10**	**276**	*e*P		**P**		**19 26 23.5**	**+0.2**
KSAR	**Wonju Array Be**	**44.12**	**276**	P		**P**		**19 26 23.9**	**+0.4**
KSAR	**Wonju Array Be**	**44.12**	**276**	P		**P**		**19 26 23.9**	**+0.4**
MDND	**Maddock**	**44.83**	**65**	*e*P		**P**		**19 26 27.9**	**-1.1**
	comp=Z,33nm,1.4s								
Y14A	**Wickenburg**	**45.20**	**90**	*e*P		**P**		**19 26 31.9**	**-0.2**
	comp=Z,11nm,0.7s								
ULM	**Lac du Bonnet**	**45.58**	**61**	P		**P**		**19 26 35.1**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=298,slow=7.2,SNR=4.4								
ULM				LR		LR		19 46 56.0	
	comp=Z,74nm,19.2s,baz=33,slow=38								
ULM	**Lac du Bonnet**	**45.58**	**61**	*e*P		**P**		**19 26 35.2**	**+0.3**
ULM				pmax		pmax			
	comp=Z,6.0nm,0.9s								
ULM	**Lac du Bonnet**	**45.58**	**61**	*e*P		**P**		**19 26 35.2**	**+0.3**
	comp=Z,6.3nm,0.9s								
T25A	**Trinidad**	**48.40**	**80**	*e*P		**P**		**19 26 59.1**	**+1.7**
	comp=Z,5.0nm,0.9s								
ANMO	**Albuquerque**	**48.58**	**84**	*e*P		**P**		**19 26 58.8**	**+0.1**
ANMO				pmax		pmax			
	comp=Z,3.0nm,1.2s								
ANMO	**Albuquerque**	**48.58**	**84**	*e*P		**P**		**19 26 58.8**	**+0.1**
	comp=Z,3.3nm,1.2s								
ECSD	**EROS Data Cent**	**48.92**	**68**	*e*P		**P**		**19 27 00.9**	**-0.1**
	comp=Z,9.9nm,1.4s								
TLY	**Talaya**	**49.50**	**305**	*e*P		**P**		**19 27 05.6**	**+0.2**
TLY				pmax		pmax			
	comp=Z,6.0nm,1.8s								
TLY	**Talaya**	**49.50**	**305**	*e*P		**P**		**19 27 05.1**	**-0.2**
	comp=Z,2.5nm,0.7s								
TLY				*e*PcP		**PcP**		**19 28 26.8**	**0.0**
ULN	**Ulaanbaatar**	**49.98**	**300**	*c e*P		**P**		**19 27 08.7**	**-0.6**
ULN				pmax		pmax			
	comp=Z,7.0nm,2.5s								
SPITS	**Spitsbergen Ar**	**50.09**	**358**	P		**P**		**19 27 08.9**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=66,slow=8.3,SNR=5.7								
SONA1	**Songino Array**	**50.34**	**300**	*e*P		**P**		**19 27 11.2**	**-0.8**
SONA1				*e*PcP		**PcP**		**19 28 26.7**	**-3.4**
SONA0	**Songino Array**	**50.36**	**300**	*e*P		**P**		**19 27 11.2**	**-0.8**
	comp=Z,7.2nm,1.5s								
SONA0				*e*PcP		**PcP**		**19 28 30.4**	**+0.2**
SONM	**Songino Array**	**50.36**	**300**	P		**P**		**19 27 11.2**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=60,slow=8.2,SNR=6.7								
SONM				PcP		**PcP**		**19 28 30.4**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=29,slow=3.3,SNR=3.2								
SONM				LR		LR		19 50 55.1	
	comp=Z,170nm,18.3s,baz=68,slow=39								
ZAK	**Zakamensk**	**50.46**	**304**	*e*P		**P**		**19 27 11.5**	**-1.2**
ZAK				*e*				19 28 29.7	
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s								
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.1s								
MNTX	**Cornudas Mount**	**51.43**	**86**	*e*P		**P**		**19 27 21.4**	**+1.3**
SUMG	**Summit**	**51.62**	**16**	*e*P		**P**		**19 27 20.8**	**-0.7**
SUMG				pmax		pmax			
	comp=Z,14nm,1.3s								
SUMG	**Summit**	**51.62**	**16**	*e*P		**P**		**19 27 20.8**	**-0.7**
	comp=Z,14nm,1.3s								
GUMO	**Guam**	**51.69**	**239**	LR		LR		19 48 01.6	
	comp=Z,37nm,18.6s,baz=72,slow=34								
HHC	**Hu-ho-hao-te**	**51.80**	**290**	*e*P		**P**		**19 27 23.6**	**+0.6**
HHC				pP		pP		19 27 35.0	+0.8
HHC				S		**S**		**19 34 41.8**	**-0.5**
HHC				sS		sS		19 34 59.1	-1.7
HHC				PMZ					
	comp=Z,15nm,0.9s								
HHC				PMZ					
	comp=Z,150nm,7.1s								
HHC				LN					
	comp=Z,190nm,14.1s								
HHC				LE					
	comp=Z,290nm,14.9s								
HHC				LZ					
	comp=Z,150nm,14.8s								
TX31	**Lajitas Ar. Si**	**54.13**	**87**	*e*P		**P**		**19 27 38.7**	**-1.6**
LTX	**Lajitas**	**54.13**	**87**	*e*P		**P**		**19 27 40.0**	**-0.3**
LTX	**Lajitas**	**54.13**	**87**	*e*P		**P**		**19 27 40.0**	**-0.3**
LTX				*e*ScP		**ScP**		**19 32 39.2**	**-0.2**
TXAR	**Lajitas Array**	**54.13**	**87**	P		**P**		**19 27 40.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=311,slow=6.8,SNR=11								
TXAR				ScP		**ScP**		**19 32 39.2**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=305,slow=4.9,SNR=4.1								
SCHQ	**Schefferville**	**56.71**	**42**	LR		LR		19 53 24.9	
	comp=Z,163nm,18.0s,baz=262,slow=37								
ZAA1	**Zalesovo Array**	**56.83**	**317**	*e*P		**P**		**19 27 58.1**	**-1.1**
ZAA1				*e*PcP		**PcP**		**19 28 54.3**	**-0.2**
ZAA1				*e*ScP		**ScP**		**19 32 51.5**	**+0.8**
ZAA0	**Zalesovo Array**	**56.83**	**317**	*e*P		**P**		**19 27 58.0**	**-1.2**
ZAA0				*e*PcP		**PcP**		**19 28 54.3**	**-0.2**
ZALV	**Zalesovo Beam**	**56.83**	**317**	P		**P**		**19 27 58.1**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=50,slow=6.0,SNR=8.0								
ZALV				PcP		**PcP**		**19 28 54.3**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=46,slow=4.2,SNR=5.4								
ZALV				ScP		**ScP**		**19 32 51.5**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=45,slow=2.2,SNR=2.8								
ZALV				LR		LR		19 53 14.9	
	comp=Z,82nm,20.7s,baz=70,slow=37								
ARA0	**ARCESS Array S**	**58.23**	**353**	*e*P		**P**		**19 28 07.3**	**-1.5**
ARA0				*e*PcP		**PcP**		**19 28 59.1**	**-0.6**
ARCES	**ARCESS Array B**	**58.23**	**353**	P		**P**		**19 28 07.3**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=17,slow=8.9,SNR=10.0								
ARCES				PcP		**PcP**		**19 28 59.1**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=26,slow=5.8,SNR=8.9								
ARCES				LR		LR		19 55 46.8	
	comp=Z,52nm,18.4s,baz=5.0,slow=39								
LVZ	**Lovozero**	**58.92**	**349**	*e*P		**P**		**19 28 12.6**	**-1.1**
LVZ				pmax		pmax			
	comp=Z,40nm,1.7s								
LVZ	**Lovozero**	**58.92**	**349**	*e*P		**P**		**19 28 12.6**	**-1.1**
	comp=Z,40nm,1.7s								
GTA	**Gaotai**	**59.46**	**296**	*e*P		**P**		**19 28 17.1**	**-0.9**
GTA				pP		pP		19 28 25.6	-3.7
GTA				sP		sP		19 28 29.9	-3.9
GTA				S		**S**		**19 36 20.0**	**-4.5**
GTA				PMZ					
	comp=Z,3.0nm,1.1s								
GTA				PMZ					
	comp=Z,120nm,4.9s								
GTA				LN					
	comp=Z,230nm,19.0s								
GTA				LE					
	comp=Z,180nm,16.2s								
GTA				LZ					
	comp=Z,160nm,19.0s								
LZH	**Lanzhou**	**59.48**	**291**	*e*P		**P**		**19 28 18.3**	**+0.1**
LZH				pP		pP		19 28 30.3	+0.7
LZH				sP		sP		19 28 35.9	+1.9
LZH				PMZ					
	comp=Z,25nm,1.3s								
KURK	**Kurchatov**	**61.80**	**317**	*e*P		**P**		**19 28 32.7**	**-0.8**
KURK				pmax		pmax			
	comp=Z,25nm,0.6s								
KURK	**Kurchatov**	**61.80**	**317**	*e*P		**P**		**19 28 32.7**	**-0.8**
	comp=Z,25nm,0.6s								
WMQ	**Urumqi**	**62.73**	**307**	P		**P**		**19 28 41.9**	**+1.9**
WMQ				pP		sP		19 28 54.8	-1.0
WMQ				sP		pP		19 29 00.0	+8.6
WMQ				PMZ					
	comp=Z,5.0nm,0.6s								
WMQ				PMZ					
	comp=Z,57nm,4.8s								
WMQ				LN					
	comp=Z,32nm,18.4s								
WMQ				LE					
	comp=Z,42nm,21.8s								
WMQ				LZ					
	comp=Z,38nm,18.4s								
MK31	**Makanchi Array**	**63.12**	**312**	*i* P		**P**		**19 28 41.3**	**-1.2**
MK31				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MK31	**Makanchi Array**	**63.12**	**312**	*e*P		**P**		**19 28 41.2**	**-1.2**
MK32	**Makanchi Array**	**63.12**	**312**	*e*P		**P**		**19 28 41.3**	**-1.1**
MKAR	**Makanchi Array**	**63.12**	**312**	P		**P**		**19 28 41.3**	**-1.1**
	comp=Z,1.6nm,0.4s,baz=42,slow=5.7,SNR=59								
MK01	**Makanchi Array**	**63.13**	**312**	*e*P		**P**		**19 28 41.2**	**-1.4**
MAKZ	**Makanchi**	**63.25**	**312**	*e*P		**P**		**19 28 42.3**	**-1.1**
MAKZ				pmax		pmax			
	comp=Z,3.0nm,0.4s								
MAKZ	**Makanchi**	**63.25**	**312**	*e*P		**P**		**19 28 42.3**	**-1.1**
	comp=Z,2.5nm,0.4s								
BVA0	**Borovoye Array**	**63.27**	**323**	*i* P		**P**		**19 28 43.0**	**-0.4**
BVA0				pmax		pmax			
	comp=Z,7.0nm,0.5s								
BRVK	**Borovoye**	**63.29**	**323**	*ce*P		**P**		**19 28 42.9**	**-0.5**
BRVK				pmax		pmax			
	comp=Z,28nm,1.7s								
BRVK	**Borovoye**	**63.29**	**323**	*e*P		**P**		**19 28 43.4**	**0.0**
	comp=Z,34nm,1.3s								
VOSK	**Vostochnaya**	**63.29**	**323**	*e*P		**P**		**19 28 42.6**	**-0.9**
VOSK				pmax		pmax			
	comp=Z,6.0nm,1.0s								
VOSK	**Vostochnaya**	**63.29**	**323**	*e*P		**P**		**19 28 42.6**	**-0.9**
	comp=Z,6.3nm,1.0s								
ZRNK	**Zerenda**	**63.84**	**324**	*e*P		**P**		**19 28 46.5**	**-0.6**
ZRNK				pmax		pmax			
	comp=Z,15nm,0.5s								
ZRNK	**Zerenda**	**63.84**	**324**	*e*P		**P**		**19 28 46.5**	**-0.6**
	comp=Z,15nm,0.5s								
ARU	**Arti**	**64.40**	**332**	*c i*P		**P**		**19 28 49.1**	**-1.6**
ARU				*PP		**pP**		**19 29 02.4**	**+0.3**
ARU								19 29 23.8	
ARU								19 31 10.0	
ARU				S		**S**		**19 37 24.7**	**-1.3**
ARU				pmax		pmax			
	comp=Z,5.0nm,0.7s								
ARU	**Arti**	**64.40**	**332**	*e*P		**P**		**19 28 49.2**	**-1.4**
	comp=Z,5.2nm,0.6s								
KLMR	**Klimovskoe**	**64.86**	**344**	*e*P		**P**		**19 28 50.1**	**-3.5**
KLMR				pmax		pmax			
	comp=Z,5.0nm,1.4s								
AFI	**Afiamalu**	**65.53**	**180**	LR		LR		19 53 30.4	
	comp=Z,50nm,20.0s,baz=74,slow=32								
HNR	**Honiara**	**65.82**	**211**	LR		LR		19 51 59.0	
	comp=Z,56nm,20.2s,baz=40,slow=31								
FIA0	**FINESS Array S**	**66.13**	**351**	*e*P		**P**		**19 29 00.0**	**-1.8**
FIA0	**FINESS Array S**	**66.13**	**351**	*e*P		**P**		**19 29 00.0**	**-1.8**
FINES	**FINESS Array B**	**66.13**	**351**	P		**P**		**19 29 00.0**	**-1.8**
	comp=Z,1.0nm,0.5s,baz=14,slow=8.0,SNR=14								
FINES				LR		LR		19 58 43.9	
	comp=Z,55nm,21.4s,baz=10.0,slow=37								
TAOE	**Nuku Hiva Isla**	**66.27**	**146**	*e*LR		LR		19 49 11.0	
	comp=Z,147nm,23.6s								
OTUK	**Ortayu**	**66.31**	**319**	P		**P**		**19 29 02.3**	**-0.9**
OTUK				pmax		pmax			
	comp=Z,4.0nm,0.6s								
PDGK	**Podgornoye**	**67.04**	**311**	P		**P**		**19 29 07.2**	**-0.7**
PDGK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
NB2	**NORSAR Subarra**	**67.39**	**359**	P		**P**		**19 29 08.9**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=4.0,slow=6.9								
NB200	**NORSAR Array S**	**67.39**	**359**	*e*P		**P**		**19 29 08.8**	**-1.1**
NOA	**NORSAR Array B**	**67.39**	**359**	P		**P**		**19 29 08.8**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=42,slow=17,SNR=6.1								
NOA				LR		LR		19 59 25.4	
	comp=Z,24nm,20.1s,baz=25,slow=37								
TKM2	**Tokmak 2**	**69.14**	**314**	*e*P		**P**		**19 29 20.8**	**-0.6**
TKM2				pmax		pmax			
	comp=Z,9.0nm,1.3s								
TKM2	**Tokmak 2**	**69.14**	**314**	*e*P		**P**		**19 29 20.8**	**-0.6**
	comp=Z,9.2nm,1.3s								
FRU	**Bishkek**	**69.64**	**314**	*e*P		**P**		**19 29 23.0**	**-1.3**
AAK	**Ala-Archa**	**69.86**	**314**	*e*P		**P**		**19 29 25.4**	**-0.4**
AAK				pmax		pmax			
	comp=Z,10.0nm,0.6s								
AAK	**Ala-Archa**	**69.86**	**314**	*e*P		**P**		**19 29 25.4**	**-0.4**
	comp=Z,9.9nm,0.6s								
AB31	**Akbulak array**	**70.09**	**327**	*i* P		**P**		**19 29 26.0**	**-0.9**
AB31				pmax		pmax			
	comp=Z,3.0nm,0.6s								
ABKAR	**Akbulak array**	**70.09**	**327**	*e*P		**P**		**19 29 26.0**	**-0.8**
EKS2	**Erkin-Say**	**70.15**	**315**	*e*P		**P**		**19 29 27.2**	**-0.3**
EKS2				pmax		pmax			
	comp=Z,9.0nm,0.6s								
EKS2	**Erkin-Say**	**70.15**	**315**	*e*P		**P**		**19 29 27.2**	**-0.3**
	comp=Z,9.1nm,0.6s								
PMG	**Port Moresby**	**70.60**	**224**	LR		LR		19 55 13.5	
	comp=Z,70nm,20.0s,baz=30,slow=31								
MNAS	**Manas**	**70.85**	**315**	P		**P**		**19 29 31.4**	**-0.4**
MNAS				pmax		pmax			
	comp=Z,3.0nm,0.5s								
KK31	**Karatay Array**	**71.21**	**317**	P		**P**		**19 29 32.9**	**-0.9**
KK31				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KKAR	**Karatay Array**	**71.21**	**317**	*e*P		**P**		**19 29 32.8**	**-1.0**
KKAR	**Karatay Array**	**71.21**	**317**	*e*P		**P**		**19 29 32.8**	**-1.0**
LSA	**Lhasa**	**71.41**	**294**	*e*P		**P**		**19 29 36.7**	**+1.0**
LSA				pmax		pmax			
	comp=Z,9.0nm,0.8s								
LSA	**Lhasa**	**71.41**	**294**	*e*P		**P**		**19 29 36.7**	**+1.0**
	comp=Z,8.9nm,0.8s								
KSH	**Kashi**	**71.67**	**311**	P		**P**		**19 29 39.8**	**+3.0**
KSH				pP		sP		19 29 52.9	+0.1
KSH				PcP		**PcP**		**19 29 58.5**	**+2.7**
KSH				PP		**PP**		**19 32 20.9**	**+5.4**
KSH				S		**S**		**19 38 53.8**	**+0.2**
KSH				ScS		**SKSac**		**19 39 36.9**	**-0.4**
KSH				SS		**SS**		**19 43 31.8**	**+3.2**
KSH				PMZ					
	comp=Z,12nm,0.5s								
KSH				PMZ					
	comp=Z,37nm,3.0s								
KSH				LN					
	comp=Z,79nm,7.8s								
KSH				LE					
	comp=Z,90nm,5.3s								
KSH				LZ					
	comp=Z,150nm,5.5s								
PPT2	**Papeete2**	**71.81**	**158**	*e*LR		LR		19 51 41.7	
	comp=Z,124nm,27.2s								
CM31	**Chiang Mai Arr**	**75.38**	**281**	*e*P		**P**		**19 29 58.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**75.38**	**281**	P		**P**		**19 29 58.5**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=29,slow=6.1,SNR=9.0								
CM01	**Chiang Mai Arr**	**75.39**	**281**	*e*P		**P**		**19 29 58.6**	**-0.1**
GUN	**Gumba**	**75.73**	**297**	*e*Pn		**P**		**19 30 00.9**	**-0.1**
	comp=Z,23nm,0.6s								
RAMN	**Ramite**	**76.08**	**296**	*e*Pn		**P**		**19 30 02.5**	**-0.4**
	comp=Z,36nm,0.8s								
DZM	**Mont Dzumac**	**76.13**	**201**	*e*LR		LR		19 53 37.3	
	comp=Z,149nm,23.0s								
PKIN	**Phulchoki**	**76.25**	**297**	*e*Pn		**P**		**19 30 03.3**	**-0.6**
AKASG	**Malin Array Be**	**76.26**	**347**	P		**P**		**19 30 01.5**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=18,slow=6.2,SNR=3.3								
AKASG				LR		LR		20 05 08.7	
	comp=Z,84nm,21.8s,baz=90,slow=37								
AKBB	**Malin Array Si**	**76.26**	**347**	*e*P		**P**		**19 30 03.2**	**0.0**
AKBB				pmax		pmax			
	comp=Z,8.0nm,0.6s								
AKBB	**Malin Array Si**	**76.26**	**347**	*e*P		**P**		**19 30 03.1**	**0.0**
	comp=Z,7.5nm,0.6s								
GKN	**Gorkha**	**76.34**	**298**	*e*Pn		**P**		**19 30 03.9**	**-0.4**
	comp=Z,24nm,0.8s								
DMN	**Daman**	**76.39**	**297**	*e*Pn		**P**		**19 30 04.2**	**-0.5**
PYUN	**Piuthan**	**77.16**	**299**	*e*Pn		**P**		**19 30 08.7**	**-0.3**
DPC	**Dobruska-Polom**	**77.90**	**355**	*e*P		**P**		**19 30 11.8**	**-0.7**
DPC	**Dobruska-Polom**	**77.90**	**355**	*e*P		**P**		**19 30 11.8**	**-0.7**
KHC	**Kasperske Hory**	**79.25**	**357**	*e*P		**P**		**19 30 20.1**	**+0.1**
KHC	**Kasperske Hory**	**79.25**	**357**	*e*P		**P**		**19 30 20.1**	**+0.1**
GERES	**GERESS Array B**	**79.53**	**356**	P		**P**		**19 30 21.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=14,slow=6.5,SNR=7.5								
GERES				LR		LR		20 07 37.2	
	comp=Z,46nm,18.1s,baz=312,slow=37								
GERES	**GERESS Array B**	**79.53**	**356**	P		**P**		**19 30 21.0**	**-0.6**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
GERES

CPUP LR LR 19 51 16.8
comp=Z,133nm,18.4s,baz=145,slow=39
CPUP Villa Florida 34.22 316 *eP* **P 19 35 41.1 -0.7**
QSPA South Pole Qui 35.51 180 *eP* **P 19 35 53.1 +0.3**
MAW Mawson 42.57 146 P **P 19 36 50.8 -0.7**
16nm,0.9s,baz=248,slow=8.7,SNR=23
MAW LR LR 19 52 20.1
comp=Z,216nm,19.9s,baz=241,slow=33
MAW Mawson 42.57 146 *eP* **P 19 36 50.5 -1.0**
4.4nm,0.9s
LVC Limon Verde 42.63 304 *eP* **P 19 36 53.2 +0.1**
32nm,0.4s
PB04 IPOC Station P 43.47 302 *eP* **P 19 36 57.1 -2.5**
68nm,1.2s
PB01 IPOC Station P 44.24 304 *eP* **P 19 37 06.0 +0.3**
54nm,1.3s
PB11 IPOC Station P 45.42 305 *eP* **P 19 37 15.2 0.0**
36nm,0.9s
SBA Scott Base 47.20 185 *eP* **P 19 37 29.1 +0.8**
18nm,1.2s
H10S2 ASCENSION HYDR47.55 23 T T 20 28 40.9
baz=193,slow=75,SNR=5.4
H10S3 ASCENSION HYDR47.56 23 T T 20 28 40.0
baz=193,slow=75,SNR=4.5
H10S1 ASCENSION HYDR47.57 23 T T 20 28 42.2
baz=193,slow=75,SNR=5.4
LPAZ La Paz 47.73 309 P **P 19 37 34.4 +0.6**
38nm,0.7s,baz=145,slow=4.9,SNR=60
LPAZ LR LR 19 58 19.1
comp=Z,79nm,21.2s,baz=144,slow=37
LPAZ La Paz 47.73 309 *eP* **P 19 37 34.2 +0.3**
49nm,0.8s
VNDA Vanda 47.74 184 P **P 19 37 33.0 +0.4**
6.3nm,0.8s,baz=186,slow=6.9,SNR=39
VNDA Vanda 47.74 184 *eP* **P 19 37 33.1 +0.5**
7.1nm,0.8s
BOSA Boshof 47.99 81 P **P 19 37 33.3 -1.9**
4.7nm,0.9s,baz=209,slow=5.6,SNR=3.9
H10N1 ASCENSION HYDR48.67 22 T T 20 30 04.8
baz=192,slow=75,SNR=5.4
H10N3 ASCENSION HYDR48.67 22 T T 20 30 06.0
baz=192,slow=75,SNR=6.9
H10N2 ASCENSION HYDR48.68 22 T T 20 30 06.3
baz=192,slow=75,SNR=6.7
LBTB Lobatse 50.94 78 *eP* **P 19 37 56.3 -1.5**
58nm,1.6s
SAML Samuel 52.25 319 *eP* **P 19 38 06.6 -0.9**
13nm,0.9s
PTGA Pitinga 58.74 326 *eP* **P 19 38 54.5 +0.3**
11nm,1.2s
LSZ Lusaka 60.16 73 P **P 19 39 02.5 -1.7**
1.3nm,0.2s,baz=185,slow=12,SNR=4.3
LSZ Lusaka 60.16 73 *eP* **P 19 39 03.5 -0.7**
42nm,1.9s
DBIC Dimbokro 65.06 29 P **P 19 39 35.3 -1.3**
5.9nm,0.9s,baz=162,slow=6.4,SNR=2.9
DBIC Dimbokro 65.06 29 *eP* **P 19 39 35.5 -1.1**
60nm,1.4s
OTAV Otavalo 67.00 307 *eP* **P 19 39 50.1 +0.4**
32nm,1.4s
PRAC Prado 68.50 312 *eP* **P 19 39 57.9 -0.7**
22nm,1.0s
ROSC El Rosal 69.27 313 *eP* **P 19 40 03.6 -0.3**
8.9nm,1.1s
RUSC La Rusia 69.71 315 *eP* **P 19 40 05.4 -1.3**
14nm,1.6s
HELC Santa Helena 71.00 313 *eP* **P 19 40 13.3 -1.2**
11nm,0.6s
RER Riviere de l'E 71.31 100 *eP* **P 19 40 14.9 -1.1**
179nm,1.4s
TOA0 Torodi Ar. Sit 73.16 34 *eP* **P 19 40 26.2 -0.7**
TORD Torodi Ar. Bea 73.16 34 P **P 19 40 26.0 -0.9**
4.2nm,0.8s,baz=198,slow=6.7,SNR=16
TOA1 Torodi Ar. Sit 73.17 34 *eP* **P 19 40 26.0 -0.9**
H08N3 Diego Garcia H 91.89 104 T T 21 24 38.6
baz=217,slow=76,SNR=4.6
H08N1 Diego Carcia H 91.91 104 T T 21 24 31.4
baz=217,slow=76,SNR=3.7
H08N2 Diego Garcia H 91.91 104 T T 21 24 36.8
baz=217,slow=76,SNR=5.7
ESDC Sonseca Array 96.92 21 P **P 19 42 28.0 +0.8**
0.1nm,0.3s,baz=183,slow=4.0,SNR=2.6
ASAR Alice Springs 100.88 166 P **Pdif 19 42 43.2 -2.2**
0.5nm,0.8s,baz=187,slow=4.7,SNR=4.9
ASAR PP **PP 19 46 52.4 +0.1**
0.9nm,0.9s,baz=182,slow=6.6,SNR=5.5
LTX Lajitas 104.12 301 *e*PKKPdf PKKPdf 19 58 56.6 +0.5
TXAR Lajitas Array 104.12 301 PKKP **PKKPdf 19 58 56.6 +0.5**
0.3nm,0.9s,baz=270,slow=4.1,SNR=2.6
WR1 Warramunga Arr 104.60 166 *e*PP PP 19 47 22.1 +1.9
WRA Warramunga Arr 104.60 166 PP PP 19 47 22.1 +1.9
1.2nm,0.8s,baz=187,slow=6.4,SNR=4.7
PD31 Pinedale Array 117.68 305 *e*PKPdf **PKPdf 19 47 43.4 +1.4**
PDAR Pinedale Array 117.68 305 *e*PKP **PKPdf 19 47 43.4 +1.4**
1.1nm,0.4s,baz=123,slow=5.5,SNR=5.3
FIA0 FINESS Array S 124.35 29 *e*PKPdf **PKPdf 19 47 53.0 -0.9**
FINES FINESS Array B 124.35 29 PKP **PKPdf 19 47 53.0 -0.9**
1.2nm,0.6s,baz=247,slow=2.9,SNR=6.8
ABKAR Akbulak array 128.58 57 *e*PKPdf **PKPdf 19 48 01.7 -0.6**
KSH Kashi 130.49 76 *e*PKP **PKPdf 19 48 09.0 +2.5**
KSH PP **PP 19 50 25.8 +4.1**
KSH PKS **PKSdf 19 51 44.4 +1.4**
KSH SKS **SKSdf 19 55 19.4 +1.6**
KSH SKKS **SKKSac 19 57 17.1 -0.5**
KSH PPMZ
48nm,5.5s
KSH LN
89nm,5.3s
KSH LE
120nm,5.1s
KSH LZ
130nm,7.1s
ARA0 ARCESS Array S 130.62 23 *e*PKPdf **PKPdf 19 48 06.7 +1.1**
ARCES ARCESS Array B 130.62 23 PKP **PKPdf 19 48 06.7 +1.1**
1.8nm,0.7s,baz=222,slow=1.6,SNR=7.8
ARU Arti 132.58 49 *e*PKPdf **PKPdf 19 48 11.2 +1.5**
YKA Yellowknife Ar 133.66 320 PKP **PKPdf 19 48 11.2 -0.3**
0.9nm,0.7s,baz=139,slow=1.2,SNR=4.0
YKB5 Yellowknife Ar 133.66 320 *e*PKPdf **PKPdf 19 48 11.2 -0.3**
GYA Guiyang 138.33 115 *e*Pdif **Pdif 19 45 31.3 -0.5**
GYA PKP **PKPdf 19 48 22.0 +0.4**
GYA PP **PP 19 51 15.4 +4.3**
GYA PPMZ
120nm,7.9s
MK32 Makanchi Array 138.70 73 *e*PKPpre PKPpre 19 48 13.7
MK32 *e*PKPdf **PKPdf 19 48 20.6 -0.9**
MKAR Makanchi Array 138.70 73 PKhKP PKPpre 19 48 13.7
0.2nm,0.6s,baz=237,slow=3.9,SNR=3.0
MKAR PKP **PKPdf 19 48 20.6 -0.9**
0.5nm,0.8s,baz=250,slow=1.5,SNR=3.5
KURBB Kurchatov Arra 138.87 66 PKhKP PKPpre 19 48 15.1
0.3nm,0.6s,baz=240,slow=2.9,SNR=3.8
KURBB PKP **PKPdf 19 48 18.7 -2.9**
0.3nm,0.6s,baz=233,slow=2.6,SNR=7.0
KURK Kurchatov 138.97 66 *e*PKPpre PKPpre 19 48 15.1
KURK *e*PKPdf **PKPdf 19 48 18.7 -3.1**
WMQ Urumqi 139.95 80 PKP **PKPdf 19 48 24.5 +0.6**
CD2 Chengdu 140.27 108 PKP **PKPdf 19 48 24.3 -0.6**
ZALV Zalesovo Beam 143.90 64 PKP PKPab 19 48 27.4 -0.3
2.6nm,0.6s,baz=245,slow=3.1,SNR=12
ZAA1 Zalesovo Array 143.90 64 *e*PKPpre PKPab 19 48 27.4 -0.3
GTA Gaotai 144.14 95 PKP **PKPab 19 48 29.4 +0.1**
GTA pPKP PKiKP 19 48 40.8 +5.7
LZH Lanzhou 144.15 103 *e*PKP **PKPdf 19 48 34.1 +2.3**
DAWY Dawson 144.20 314 *e*PKPdf **PKPab 19 48 26.9 -1.7**
EGAK Eagle 145.15 315 *e*PKPbc **PKPdf 19 48 33.2 +0.9**
BMRM Bremner River 145.41 308 *e*PKPdf **PKPdf 19 48 32.9 -0.1**
XAN Xi'an 145.47 110 PKPbc **PKPdf 19 48 33.4 -0.6**
XAN pPKP PKiKP 19 48 39.3 +1.3
EYAK Cordova Ski Ar 145.79 307 *e*PKPdf **PKPdf 19 48 33.5 0.0**
DOT Dot Lake 146.03 313 *e*PKPdf **PKPbc 19 48 34.5 -0.4**
PAX Paxson 146.44 311 *e*PKPdf **PKPbc 19 48 36.5 +0.4**
ILAR Eielson Array 147.52 314 PKPbc **PKPbc 19 48 38.5 -0.5**
5.5nm,0.8s,baz=131,slow=2.5,SNR=20
ILB Eielson Array 147.52 314 *e*PKPbc **PKPbc 19 48 38.5 -0.5**
CCB Clear Creek Bu 147.87 314 *e*PKPdf **PKPdf 19 48 38.1 +1.2**
WRH Wood River Hil 147.95 313 *e*PKPbc **PKPbc 19 48 40.2 +0.1**
RND Reindeer 148.03 311 *e*PKPbc **PKPbc 19 48 40.5 0.0**
MDM Murphy Dome 148.12 314 *e*PKPbc **PKPbc 19 48 41.7 +1.1**
KDAK Kodiak Island 148.15 300 *e*PKPbc **PKPbc 19 48 40.8 0.0**
MCK McKinley 148.15 312 *e*PKPdf **PKPdf 19 48 37.5 0.0**
OHAK Old Harbor 148.31 299 *e*PKPdf **PKPbc 19 48 41.4 +0.1**
OHAK *ep*PKPab **pPKPab 19 48 53.9 +6.0**
SPU Mount Spurr 148.92 306 *e*PKPdf **PKPbc 19 48 40.9 -2.0**
SPU *ep*PKPab **pPKPab 19 48 54.4 +4.0**
KTH Kantishna Hill 148.97 311 *e*PKPdf **PKPdf 19 48 40.8 +1.9**

BPAW Bear Paw Mtn. 149.11 312 *e*PKPbc **PKPbc 19 48 42.6 -0.6**
COLD Coldfoot 149.28 318 *e*PKPbc **PKPbc 19 48 43.9 +0.3**
PPLA Purkeypile 149.39 309 *e*PKPdf **PKPdf 19 48 40.6 +0.9**
PPLA *e*PKPbc **PKPab 19 48 48.7 -0.3**
CHGN Chignik 150.64 295 *e*PKPdf **PKPbc 19 48 45.4 -1.7**
CHGN *ep*PKPab **pPKPab 19 48 59.1 +1.7**
TTA Tatalina 151.12 309 *e*PKPbc **PKPbc 19 48 48.0 -0.2**
TTA *e*PKPab **PKPab 19 49 01.0 +5.0**
HHC Hu-ho-hao-te 151.81 104 *e*PKPbc **PKPdf 19 48 46.3 +2.2**
SONA0 Songino Array 152.98 87 *e*PKPbc **PKPbc 19 48 51.7 -1.2**
SONM Songino Array 152.98 87 PKPbc **PKPbc 19 48 51.7 -1.2**
2.4nm,0.6s,baz=216,slow=3.4,SNR=12
KS15 Wonju Array Si 157.60 132 *e*PKPab **PKPab 19 49 23.3 -0.8**
KSAR Wonju Array Be 157.60 132 PKPab **PKPab 19 49 23.3 -0.8**
KSRS Korea Array 157.62 132 PKPab **PKPab 19 49 23.3 -0.9**
2.7nm,0.9s,baz=223,slow=4.5,SNR=7.2

*IDC **24** 19:36:17.4±5.4,27.˚31S×70.˚93W,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.6/26,mbtmp3.6/2,Error ellipse: s-maj=236.7km s-min=53.3km az=25.0*
*ISCJB **24** 19:36:23.1±1.0,26.˚77S±0.˚06×71.˚07W±0.˚09,h25km, mb3.5/2,Error ellipse: s-maj=12.1km s-min=8.7km az=171.0*
*GUC **24** 19:36:24.2±0.6,26.˚83S×70.˚90W,h35km±2km,ML4.0*
ISC 24 19:36:22.4±1.0,**26.˚94S**±0.˚07×**71.˚20W**±0.˚07,**h25**km,**n18,** σ2$63/23,**2C-4D,Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**0.36**	**111**	*i* P	**Pn**	**19 36 31.6**	**-0.5**
CDCH				*i* S	**Sn**	**19 36 36.8**	**-1.6**
CPCH	**Copiapo**	**0.86**	**119**	⇓*i* P	**Pb**	**19 36 38.1**	**-0.7**
CPCH				*i* S	**Sb**	**19 36 48.2**	**-1.7**
VACH	**Vallenar**	**1.68**	**167**	⇑*i* P	**Pb**	**19 36 53.5**	**+0.9**
VACH				*i* S	**Sb**	**19 37 16.1**	**+2.7**
LCO	**Las Campanas**	**2.11**	**168**	⇑*i* P	**Pb**	**19 36 59.2**	**-1.0**
LCO				*i* S	**Sb**	**19 37 26.5**	**+0.3**
LCO				IAML		19 37 35.6	
	comp=E,588nm,0.4s						
VCA	**Vinchina**	**3.20**	**125**	*e*P	**Pb**	**19 37 15.6**	**-3.0**
VCA				⇓*e*S	**Sb**	**19 38 00.9**	**+3.7**
VCA				IAML		19 38 05.7	
	comp=Z,138nm,0.2s						
TLL	**Tololo Astrono**	**3.24**	**174**	⇓*i* P	**Pb**	**19 37 15.4**	**-3.9**
TLL				*i* S	**Sb**	**19 37 55.0**	**-3.5**
TLL				IAML		19 38 14.5	
	comp=N,471nm,0.6s						
AGUA	**GUANDACOL**	**3.49**	**137**	*e*P	**Pb**	**19 37 20.3**	**-3.2**
AGUA				*e*S	**Sb**	**19 38 10.1**	**+4.5**
AROD	**Rodeo**	**3.56**	**155**	*e*P	**Pb**	**19 37 21.3**	**-3.5**
ACCO	**Cerro Coronel**	**4.09**	**153**	*e*P	Pb	19 37 28.9	-5.1
ACCO				IAML		19 38 39.6	
	comp=Z,55nm,0.3s						
AVFE	**Valle Fertil**	**4.96**	**139**	*e*P	**Pn**	**19 37 38.6**	**+3.3**
CYA	**Choya**	**5.01**	**109**	*e*P	**Pn**	**19 37 37.5**	**+1.5**
CYA				IAML		19 37 41.0	
	comp=Z,43nm,0.7s						
RTLS	**Leoncito**	**5.12**	**162**	*e*P	Pn	19 37 42.7	+4.9
ACHE	**Chepes**	**5.79**	**138**	⇓*e*P	**Pn**	**19 37 49.6**	**+2.8**
ARCO	**CERRO ARCO**	**6.21**	**162**	*e*P	Pn	19 37 57.5	+4.9
ARCO				IAML		19 39 28.6	
	comp=Z,28nm,0.4s						
TXAR	**Lajitas Array**	**64.02**	**329**	P	**P**	**19 46 55.8**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=151,slow=8.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**81.14**	**70**	P	**P**	**19 48 34.2**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=237,slow=4.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**147.73**	**27**	PKPbc	**PKPdf**	**19 56 02.6**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=316,slow=4.0,SNR=6.6						
MKAR	**Makanchi Array**	**151.19**	**40**	PKPbc	**PKPbc**	**19 56 13.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=320,slow=2.2,SNR=10						
MKAR				PKPab	**PKPab**	**19 56 21.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=314,slow=2.6,SNR=6.1						

*DDA **24** 19:36:26.9,39.˚12N×29.˚09E,h7km,Md2.6*
*ISK **24** 19:36:26.8,39.˚11N×29.˚01E,h10km,MD2.7*
*ISCJB **24** 19:36:27.4±0.5,39.˚09N±0.˚07×29.˚06E±0.˚04,h10km±9km, Error ellipse: s-maj=11.6km s-min=4.7km az=168.0*
*CSEM **24** 19:36:27.3±0.2,39.˚12N×29.˚05E,h5km,MD2.6,Error ellipse: s-maj=4.8km s-min=4.0km az=150.0*
ISC 24 19:36:27.1±1.0,**39.˚11N**±0.˚03×**29.˚07E**±0.˚03,**h10**km±9km, **n19,**σ0$48/31,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.27**	**103**	*e*PG	**Pb**	**19 36 33.6**	**-0.4**
GEDZ				*e*SG	**Sb**	**19 36 38.4**	**-0.3**
GEDZ	**Gediz**	**0.27**	**103**	*e*Pg	**Pb**	**19 36 33.6**	**-0.4**
GEDZ				*e*Sg	**Sb**	**19 36 38.4**	**-0.3**
DEMI	**Demirci**	**0.28**	**257**	P	**Pb**	**19 36 33.3**	**-1.0**
DEMI				S	**Sg**	**19 36 37.5**	**+0.8**
DEMI	**Demirci**	**0.28**	**257**	*i* P	**Pb**	**19 36 33.3**	**-1.0**
DEMI				*i* S	**Sg**	**19 36 37.5**	**+0.8**
GDZ	**Gediz**	**0.32**	**93**	P	**Pg**	**19 36 33.3**	**-0.2**
GDZ				S	**Sg**	**19 36 37.9**	**+0.1**
GDZ	**Gediz**	**0.32**	**93**	*i* P	**Pg**	**19 36 33.3**	**-0.2**
GDZ				*i* S	**Sg**	**19 36 37.9**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*PG	**Pg**	**19 36 40.1**	**0.0**
KULA				*e*SG	**Sg**	**19 36 49.3**	**+0.4**
KULA	**Kula-Manisa**	**0.67**	**209**	*e*Pg	**Pg**	**19 36 40.1**	**0.0**
KULA				*e*Sg	**Sg**	**19 36 49.3**	**+0.4**
IGD	**Bursa**	**1.16**	**5**	*i* P	**Pg**	**19 36 48.5**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN	**Pb**	**19 36 50.9**	**-0.2**
MDNY				*e*SN	**Sn**	**19 37 08.4**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn	**Pb**	**19 36 50.9**	**-0.2**
MDNY				*e*Sn	**Sn**	**19 37 08.4**	**+0.5**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pg**	**19 36 51.5**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pg**	**19 36 51.6**	**-0.1**
BORA	**Eskisehir**	**1.32**	**54**	P	**Pn**	**19 36 51.8**	**+0.2**
BORA				S	**Sn**	**19 37 09.7**	**+0.4**
BORA	**Eskisehir**	**1.32**	**54**	*i* P	**Pn**	**19 36 51.8**	**+0.2**
BORA				*i* S	**Sn**	**19 37 09.7**	**+0.4**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	**Pg**	**19 36 54.9**	**-0.3**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	**Pg**	**19 36 54.9**	**-0.3**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pb**	**19 36 59.0**	**+0.1**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pb**	**19 36 59.0**	**+0.1**

*IDC **24** 19:49:17.3±0.7,5.˚86S×154.˚52E,h420km±6km,mb4.1/19, mb1 4.1/24,mb1mx4.0/43,mbtmp4.9/24,Error ellipse: s-maj=12.6km s-min=8.0km az=90.0*
*ISCJB **24** 19:49:18.5±0.2,5.˚89S±0.˚03×154.˚42E±0.˚04,h450km, mb4.6/101,Error ellipse: s-maj=5.4km s-min=4.0km az=38.3*
*DJA **24** 19:49:18.8±0.7,6˚S±4˚×15˚4E±˚,h465km±9km,M4.8/13, mB5.1/2,mb4.8/13,Mw(mB)4.5/2*
*NEIC **24** 19:49:18.1±0.4,5.˚88S×154.˚51E,h431km±4km,mb4.8/80, Error ellipse: s-maj=4.5km s-min=3.4km az=109.0*
ISC 24 19:49:19.5±0.3,**5.˚94S**±0.˚05×**154.˚55E**±0.˚05,**h450**km,**n182,** σ1$62/206,**mb4.7**/101,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**2.94**	**306**	*e*P	**P**	**19 50 21.6**	**-4.5**
HNR	**Honiara**	**6.38**	**123**	P	**P**	**19 50 55.4**	**-2.4**
	5.4nm,0.3s,baz=23,slow=0.2,SNR=5.9						
HNR				S	**S**	**19 52 13.1**	**-5.0**
	3.5nm,0.3s,baz=235,slow=16,SNR=2.4						
HNR	**Honiara**	**6.38**	**123**	*e*P	**P**	**19 50 55.0**	**-2.7**
HNR	**Honiara**	**6.38**	**123**	*e*P	**P**	**19 50 55.5**	**-2.2**
PMG	**Port Moresby**	**8.09**	**244**	P	**P**	**19 51 15.6**	**-0.3**
	9.9nm,0.3s,baz=58,slow=6.1,SNR=38						
PMG				S	**S**	**19 52 51.5**	**0.0**
	baz=46,slow=18,SNR=1.3						
PMG	**Port Moresby**	**8.09**	**244**	*e*P	**P**	**19 51 15.2**	**-0.7**
PMG				S	**S**	**19 52 51.5**	**0.0**
MANU	**Manus Island**	**8.14**	**298**	*e*P	**P**	**19 51 15.9**	**-0.6**
PATS	**Pohnpei**	**13.23**	**17**	*e*P	**P**	**19 52 10.7**	**-1.1**
COEN	**Coen**	**13.74**	**234**	*e*P	**P**	**19 52 18.4**	**+1.1**
JAY	**Jayapura**	**14.22**	**283**	P	**P**	**19 52 20.7**	**-1.7**
	2.8nm,0.3s,baz=83,slow=21,SNR=90						
JAY				S	**S**	**19 54 49.5**	**-4.1**
	0.0nm,0.3s,baz=90,slow=20,SNR=2.2						
JAY	**Jayapura**	**14.22**	**283**	P	**P**	**19 52 20.9**	**-1.5**
GENI	**Genyem**	**14.72**	**282**	P	**P**	**19 52 26.1**	**-1.7**
CTA	**Charters Tower**	**16.21**	**209**	P	**P**	**19 52 44.2**	**+0.6**
	8.0nm,0.3s,baz=34,slow=12,SNR=121						
CTAO	**Charters Tower**	**16.21**	**209**	*e*P	**P**	**19 52 41.5**	**-2.0**

101nm,0.6s
EIDS Eidsvold 19.61 189 *e*P **P 19 53 17.8 +0.5**
29nm,0.8s
DZM Mont Dzumac 19.74 146 P **P 19 53 19.0 +0.3**
1.6nm,0.3s,baz=255,slow=5.9,SNR=6.3
DZM Mont Dzumac 19.74 146 *eP* **P 19 53 18.4 -0.3**
55nm,1.6s
FAKI Fak Fak 22.43 277 P **P 19 53 41.0 -2.2**
FAKI Fak Fak 22.43 277 *eP* **P 19 53 42.0 -1.2**
50nm,1.3s
SWI Sorong 23.78 281 P **P 19 53 54.7 -0.6**
WRAB Tennant Creek 24.06 233 *eP* **P 19 53 57.6 -0.1**
24nm,0.6s
WR1 Warramunga Arr 24.07 233 *eP* **P 19 53 57.8 -0.1**
WR1 *e*ScP **ScP 20 00 24.6 +4.4**
WRA Warramunga Arr 24.07 233 P **P 19 53 57.8 -0.1**
15nm,0.5s,baz=59,slow=9.3,SNR=316
WRA ScP **ScP 20 00 24.6 +4.4**
3.4nm,1.0s,baz=53,slow=2.9,SNR=4.7
MTN Manton Dam 24.09 252 *eP* **P 19 53 57.4 -0.6**
44nm,1.3s
ARMA Armidale 24.51 186 *eP* **P 19 54 02.9 +1.2**
10nm,0.8s
AS31 Alice Springs 26.56 226 *eP* **P 19 54 19.4 -0.4**
AS31 *e*PcP **PcP 19 57 31.6 +1.2**
AS31 *e*S **S 19 58 19.8 -1.9**
AS31 *e*ScP **ScP 20 00 32.0 +4.7**
ASAR Alice Springs 26.56 226 P **P 19 54 19.4 -0.4**
23nm,0.7s,baz=56,slow=9.3,SNR=434
ASAR PcP **PcP 19 57 31.6 +1.2**
0.6nm,0.8s,baz=53,slow=3.3,SNR=4.9
ASAR S **S 19 58 19.8 -1.9**
4.7nm,0.7s,baz=55,slow=15,SNR=8.1
ASAR ScP **ScP 20 00 32.0 +4.7**
2.7nm,0.9s,baz=49,slow=3.2,SNR=8.5
STKA Stephens Creek 28.51 204 P **P 19 54 36.9 0.0**
5.9nm,0.4s,baz=14,slow=8.1,SNR=49
STKA ScP **ScP 20 00 38.7 +5.6**
4.0nm,0.9s,baz=68,slow=3.9,SNR=4.2
CAN Canberra 29.69 189 *eP* **P 19 54 48.2 +1.0**
6.1nm,0.9s
SOEI Soe 30.23 261 P **P 19 54 51.6 -0.7**
SOEI Soe 30.23 261 *eP* **P 19 54 51.9 -0.4**
32nm,1.1s
FITZ Fitzroy Crossi 30.69 244 P **P 19 54 54.8 -1.4**
27nm,0.5s,baz=55,slow=8.0,SNR=216
BBOO Buckleboo 31.81 210 *eP* **P 19 55 05.5 -0.1**
33nm,0.6s
MMRI Maumere 32.16 263 P **P 19 55 07.9 -0.9**
MMRI Maumere 32.16 263 *eP* **P 19 55 07.8 -1.0**
156nm,1.8s
MRSI Marisa 33.17 280 P **P 19 55 15.6 -1.9**
WSI Waingapu 34.12 262 P **P 19 55 23.9 -1.7**
KAPI Kappang 34.65 270 P **P 19 55 29.4 -0.5**
13nm,0.8s,baz=250,slow=21,SNR=4.4
KAPI Kappang 34.65 270 *eP* **P 19 55 28.8 -1.2**
15nm,0.9s
PCI Palu 35.00 277 P **P 19 55 32.5 -0.5**
48nm,0.9s
PLAI Plampang 36.57 263 P **P 19 55 43.4 -2.7**
MBWA Marble Bar 36.95 242 *eP* **P 19 55 48.0 -1.2**
13nm,0.7s
TAU Tasmania Unive 37.37 189 *eP* **P 19 55 54.3 +2.0**
122nm,1.6s
TWSI Taliwang, Sumb 37.45 263 P **P 19 55 51.6 -1.8**
BKZ Black Stump Fm 38.57 152 *eP* **P 19 56 03.5 +1.3**
126nm,1.9s
BFZ Birch Farm 39.68 154 *eP* **P 19 56 12.2 +1.0**
110nm,1.3s
LTZ Lake Taylor 39.91 160 *eP* **P 19 56 14.1 +1.1**
44nm,1.3s
KHZ Kahutara 40.04 158 *eP* **P 19 56 13.7 -0.3**
64nm,1.5s
KKM Kota Kinabalu 40.07 287 *eP* **P 19 56 14.7 -0.2**
26nm,1.1s
RPZ Rata Peaks 40.33 161 P **P 19 56 17.8 +1.4**
12nm,0.9s,baz=7.1,slow=8.1,SNR=4.2
JOHN Johnston Islan 42.06 57 *eP* **P 19 56 30.4 -0.2**
251nm,1.1s
INU Inuyama 44.26 339 *eP* **P 19 56 47.0 -0.6**
38nm,1.1s
KSM Kuching 44.78 278 *eP* **P 19 56 51.3 -0.7**
9.9nm,0.7s
JNU Nakatsue 44.88 331 P **P 19 56 51.8 -0.6**
25nm,0.7s,baz=147,slow=1.3,SNR=24
JNU Nakatsue 44.88 331 *eP* **P 19 56 52.2 -0.2**
38nm,0.9s
MJAR Matsushiro Art 44.94 341 P **P 19 56 51.5 -1.4**
5.2nm,0.3s,baz=161,slow=6.0,SNR=30
MAJO Matsushiro 44.95 341 *eP* **P 19 56 51.8 -1.1**
19nm,0.8s
MAT Matsushiro 44.95 341 P **P 19 56 51.9 -1.0**
CISI Cisompet, Garu 46.42 265 *eP* **P 19 57 03.0 -1.7**
54nm,0.5s
CNJI Cibinong 47.11 266 P **P 19 57 08.8 -1.1**
CGJI Cibinong 48.55 266 P **P 19 57 19.1 -1.7**
ERM Erimo 48.84 349 *eP* **P 19 57 22.9 +0.6**
145nm,1.7s
KSRS Korea Array 49.80 332 P **P 19 57 29.6 0.0**
7.0nm,0.6s,baz=147,slow=7.5,SNR=26
KS15 Wonju Array Si 49.81 332 *eP* **P 19 57 29.6 -0.1**
KSAR Wonju Array Be 49.81 332 P **P 19 57 29.6 -0.1**
ASAJ Asahikawa 50.98 349 *eP* **P 19 57 38.7 +0.5**
30nm,0.7s
YSS Yuzh-Sakhalins 53.69 350 *eP* **P 19 57 57.9 +0.3**
26nm,0.7s
KIP Kipapa 53.87 58 *eP* **P 19 57 58.6 -0.9**
140nm,1.4s
USRK Ussuriysk Ar. 53.89 340 P **P 19 57 59.3 +0.1**
18nm,0.9s,baz=163,slow=6.6,SNR=17
IPM Ipoh 54.44 280 *eP* **P 19 58 02.9 -0.8**
61nm,1.9s
KULM Kulim 54.95 281 *eP* **P 19 58 06.8 -0.5**
26nm,1.4s
GYA Guiyang 56.46 307 *eP* **P 19 58 19.4 +1.6**
GYA pP pP 19 59 46.8 -2.2
GYA sP sP 20 00 32.3 -5.8
GYA PP **PP 20 00 33.0 +3.2**
GYA S **S 20 05 37.9 +3.8**
GYA sS sS 20 08 12.0 -5.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
PET Petropavlovsk 58.84 3 *eP* **P 19 58 33.2 -0.1**
comp=Z,78nm,1.4s
PETK Petropavlovsk- 58.88 2 P **P 19 58 33.9 +0.3**
comp=Z,22nm,0.5s,baz=160,slow=6.8,SNR=18
PEA1 Petropavlovsk- 58.89 2 *eP* **P 19 58 33.9 +0.2**
CM31 Chiang Mai Arr 59.93 295 *eP* **P 19 58 42.4 +1.0**
CMAR Chiang Mai Arr 59.93 295 P **P 19 58 42.4 +1.0**
comp=Z,2.4nm,0.8s,baz=118,slow=5.1,SNR=8.1
SMY Shemya 60.76 13 *eP* **P 19 58 46.3 +0.1**
comp=Z,87nm,1.3s
HHC Hu-ho-hao-te 60.98 324 *eP* P 19 58 51.6 +3.5
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,100nm,7.0s
LZH Lanzhou 63.25 315 *eP* **P 19 59 06.1 +3.0**
LZH PcP **PcP 19 59 36.9 +1.2**
LZH pP pP 20 00 38.3 +1.2
LZH sP sP 20 01 21.6 -3.8
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,96nm,4.3s
NIKH Nikolski High 66.35 23 *eP* **P 19 59 21.9 -0.3**
comp=Z,40nm,0.6s
GTA Gaotai 67.67 317 *eP* **P 19 59 31.6 +0.7**
GTA pP pP 20 01 01.4 -5.0
GTA sP sP 20 01 45.6 -8.7
GTA pmax pmax
comp=Z,2.0nm,1.2s
GTA pmax pmax
comp=Z,2.0nm,1.1s
UNV Unalaska Valle 67.94 24 *eP* **P 19 59 31.5 -0.5**
comp=Z,16nm,0.8s
SONA0 Songino Array 68.21 327 *eP* **P 19 59 34.7 +0.7**
SONM Songino Array 68.21 327 P **P 19 59 34.7 +0.7**
comp=Z,4.1nm,0.5s,baz=144,slow=6.7,SNR=38
AKUT Akutan 68.44 24 *eP* **P 19 59 34.8 -0.3**
comp=Z,25nm,0.9s
SPIA Saint Paul Isl 69.12 20 *eP* **P 19 59 39.3 +0.2**
comp=Z,39nm,1.0s
YAK Yakutsk 70.44 348 *eP* **P 19 59 47.4 +0.5**
comp=Z,25nm,0.6

comp=Z,1.9nm,0.7s,baz=330,slow=5.3,SNR=17
SBA Scott Base 72.16 177 *e*P **P 19 59 57.2 +0.3**
comp=Z,17nm,1.9s
CHGN Chignik 72.99 25 *e*P **P 20 00 01.6 -0.3**
GAMB Gambell 74.02 15 *e*P **P 20 00 08.3 +0.6**
comp=Z,32nm,1.1s
BILL Bilibino 74.27 5 *e*P **P 20 00 09.9 +0.8**
comp=Z,33nm,1.0s
OHAK Old Harbor 75.78 26 *e*P **P 20 00 18.2 +0.5**
comp=Z,18nm,1.0s
KDAK Kodiak Island 76.41 26 *e*P **P 20 00 21.9 +0.6**
comp=Z,10nm,0.8s
SVW2 Sparrevohn 77.19 22 *e*P **P 20 00 26.9 +1.3**
comp=Z,12nm,0.8s
WMQ Urumqi 77.75 317 P **P 20 00 31.3 +2.2**
CNPM China Poot 77.99 25 *e*P **P 20 00 30.7 +0.7**
comp=Z,67nm,0.7s
BRLK Bradley Lake 78.27 25 *e*P **P 20 00 30.9 -0.6**
comp=Z,15nm,0.8s
SEW Seward 79.06 25 *e*P **P 20 00 36.0 +0.4**
comp=Z,17nm,0.8s
TIXI Tiksi 79.25 352 *e*P **P 20 00 36.3 -0.1**
comp=Z,3.9nm,1.1s
SUA Susitna One 79.29 24 *e*P **P 20 00 36.5 -0.5**
comp=Z,15nm,0.6s
RC01 Rabbit Creek A 79.49 24 *e*P **P 20 00 38.1 +0.2**
comp=Z,16nm,0.6s
PPLA Purkeypile 79.56 22 *e*P **P 20 00 38.0 -0.5**
comp=Z,5.1nm,0.6s
CAST Castle Rocks 79.91 22 *e*P **P 20 00 39.9 -0.3**
comp=Z,24nm,0.5s
PMR Palmer 80.01 24 *e*P **P 20 00 40.3 -0.4**
comp=Z,14nm,1.0s
KTH Kantishna Hill 80.41 22 *e*P **P 20 00 42.3 -0.5**
comp=Z,21nm,0.4s
SML Sawmill 80.44 24 *e*P **P 20 00 43.2 +0.2**
comp=Z,26nm,0.7s
TRF Thorofare Moun 80.59 22 *e*P **P 20 00 43.3 -0.6**
comp=Z,12nm,0.6s
BPAW Bear Paw Mtn. 80.70 21 *e*P **P 20 00 43.8 -0.5**
comp=Z,5.7nm,0.9s
SCM Sheep Creek Mo 80.86 24 *e*P **P 20 00 45.1 -0.2**
comp=Z,16nm,0.8s
RND Reindeer 81.10 22 *e*P **P 20 00 46.2 -0.2**
comp=Z,17nm,0.6s
DIV Divide 81.15 25 *e*P **P 20 00 47.5 +0.8**
comp=Z,16nm,1.0s
MCK McKinley 81.25 22 *e*P **P 20 00 46.9 -0.3**
comp=Z,27nm,0.7s
KLU Klutina 81.27 25 *e*P **P 20 00 47.7 +0.3**
comp=Z,32nm,1.2s
MLY Manley 81.32 21 *e*P **P 20 00 47.7 +0.1**
comp=Z,17nm,0.6s
DHY Denali Highway 81.49 23 *e*P **P 20 00 48.9 +0.3**
comp=Z,15nm,1.0s
BMRM Bremner River 81.57 26 *e*P **P 20 00 49.8 +0.9**
comp=Z,17nm,1.0s
WRH Wood River Hil 81.96 22 *e*P **P 20 00 50.2 -0.5**
comp=Z,11nm,1.0s
CRQM Cirque 82.10 26 *e*P **P 20 00 52.8 +1.0**
comp=Z,21nm,1.0s
CCB Clear Creek Bu 82.16 22 *e*P **P 20 00 51.1 -0.7**
comp=Z,11nm,0.7s
MDM Murphy Dome 82.17 21 *e*P **P 20 00 51.5 -0.3**
comp=Z,4.9nm,0.8s
COLA College 82.26 21 *e*P **P 20 00 51.9 -0.3**
comp=Z,132nm,0.3s
MK32 Makanchi Array 82.32 319 *e*P **P 20 00 53.3 +0.3**
MKAR Makanchi Array 82.32 319 P **P 20 00 53.3 +0.3**
comp=Z,4.5nm,0.7s,baz=103,slow=5.9,SNR=47
MKAR Makanchi Array 82.32 319 *e*P **P 20 00 53.0 -0.1**
MAKZ Makanchi 82.53 319 *e*P **P 20 00 54.5 +0.3**
comp=Z,6.9nm,0.9s
ILAR Eielson Array 82.56 22 P **P 20 00 52.9 -1.0**
comp=Z,11nm,0.7s,baz=251,slow=5.4,SNR=86
ILAR pP **pP 20 02 29.8 -4.3**
comp=Z,0.3nm,0.7s,baz=250,slow=5.4,SNR=3.1
ILB Eielson Array 82.56 22 *e*P **P 20 00 52.9 -1.0**
BALM Baldy 82.57 26 *e*P **P 20 00 54.5 +0.4**
comp=Z,11nm,0.8s
COLD Coldfoot 82.76 19 *e*P **P 20 00 55.6 +0.8**
comp=Z,33nm,1.7s
MENT Mentasta 82.87 24 *e*P **P 20 00 56.2 +0.8**
comp=Z,136nm,0.2s
ZALV Zalesovo Beam 83.06 326 P **P 20 00 55.7 -0.8**
comp=Z,2.9nm,0.5s,baz=117,slow=5.7,SNR=13
ZALV pP **pP 20 02 31.1 -5.8**
comp=Z,0.8nm,0.6s,baz=106,slow=7.9,SNR=2.7
ZAA1 Zalesovo Array 83.06 326 *e*P **P 20 00 55.7 -0.8**
DOT Dot Lake 83.07 23 *e*P **P 20 00 56.9 +0.5**
comp=Z,53nm,0.8s
QSPA South Pole Qui 84.03 180 *e*P **P 20 01 02.8 +1.4**
HYT Haines Junctio 84.64 27 *e*P **P 20 01 06.2 +1.7**
comp=Z,22nm,0.8s
EGAK Eagle 84.72 23 *e*P **P 20 01 05.5 +0.9**
comp=Z,20nm,1.0s
KSH Kashi 84.99 310 *e*P **P 20 01 09.3 +2.6**
KSH pP pP 20 02 44.5 -3.1
KSH PP **PP 20 04 35.8 +4.3**
KSH S **S 20 10 54.8 -2.9**
KSH Kashi 84.99 310 SS SS 20 16 45.4 +1.9
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,71nm,4.7s
KSH LR LR
comp=N,91nm,5.5s
KSH LR LR
comp=E,81nm,4.5s
KSH LR LR
comp=Z,180nm,6.0s
DAWY Dawson 85.11 24 *e*P **P 20 01 07.8 +1.2**
comp=Z,16nm,1.1s
MAW Mawson 85.20 203 P **P 20 01 07.2 +0.3**
comp=Z,2.1nm,0.6s,baz=111,slow=5.4,SNR=6.6
WRAK Wrangell Islan 85.69 32 *e*P **P 20 01 10.2 +0.8**
comp=Z,16nm,1.1s
DLBC Dease Lake 87.46 31 *e*P **P 20 01 19.2 +1.2**
comp=Z,15nm,1.1s
KCPM Cahto Peak 87.52 50 *e*S **S 20 11 24.2 +2.4**
INK Inuvik 88.89 21 *e*P **P 20 01 24.8 +0.4**
comp=Z,18nm,1.3s
YKA Yellowknife Ar 95.61 28 P **P 20 01 55.6 +0.3**
comp=Z,1.7nm,0.7s,baz=263,slow=4.5,SNR=12
YKB5 Yellowknife A 95.61 28 *e*P **P 20 01 55.5 +0.1**
ARA0 ARCESS Array S 108.45 343 *e*PKiKP **PKiKP 20 06 56.0 +0.5**
ARCES ARCESS Array B 108.45 343 PKiKP **PKiKP 20 06 56.0 +0.5**
comp=Z,2.6nm,1.0s,baz=64,slow=2.1,SNR=4.7
FIA0 FINESS Array S 112.80 336 *e*PKiKP **PKiKP 20 07 04.1 +0.2**
FINES FINESS Array B 112.80 336 PKiKP **PKiKP 20 07 04.1 +0.2**
comp=Z,0.6nm,0.5s,baz=96,slow=2.7,SNR=6.8
AKASG Malin Array Be 116.42 325 PKP **PKPdf 20 07 10.9 -0.3**
comp=Z,1.9nm,0.5s,baz=50,slow=3.8,SNR=8.4
AKBB Malin Array Si 116.42 325 *e*PKPdf **PKPdf 20 07 10.9 -0.3**
BR101 Keskin Array S 117.35 312 *e*PKPdf **PKPdf 20 07 13.7 +0.1**
BRTR Keskin Array B 117.35 312 PKP **PKPdf 20 07 13.7 +0.1**
comp=Z,0.9nm,0.6s,baz=129,slow=1.7,SNR=6.0
NB2 NORSAR Subarra 118.56 341 PKPdf **PKPdf 20 07 15.0 0.0**
comp=Z,0.9nm,0.6s,baz=41,slow=1.9
NB200 NORSAR Array S 118.56 341 *e*PKPdf **PKPdf 20 07 15.1 0.0**
NOA NORSAR Array B 118.56 341 PKP **PKPdf 20 07 15.1 0.0**
comp=Z,1.2nm,0.7s,baz=44,slow=1.9,SNR=5.5
SADO Sadowa 119.45 41 PKP **PKPdf 20 07 17.5 +0.3**
comp=Z,6.7nm,0.9s,baz=225,slow=3.0,SNR=3.1
BOSA Boshof 120.32 232 PKP **PKPdf 20 07 19.6 0.0**
comp=Z,3.5nm,0.9s,baz=84,slow=1.9,SNR=5.0
KOLS Kolonicke sedl 121.23 325 *e*PKP **PKPdf 20 07 21.7 +1.2**
CRVS Cervenica-Dubn 121.71 325 *e*PDIFF **Pdif 20 03 51.2 -0.7**
GOPC GO Pecny, Ondr 124.70 329 *e*PKPdf **PKPdf 20 07 31.2 +4.1**
KHC Kasperske Hory 125.80 329 *e*PKPdf **PKPdf 20 07 30.3 +1.0**
GERES GERESS Array B 125.92 329 PKP **PKPdf 20 07 29.9 +0.2**
comp=Z,2.3nm,0.6s,baz=67,slow=1.9,SNR=20
LPAZ La Paz 132.35 118 PKP **PKPdf 20 07 45.1 +1.7**
comp=Z,1.9nm,0.6s,baz=172,slow=2.1,SNR=8.1
CPUP Villa Florida 135.46 137 PKP **PKPdf 20 07 49.4 +1.2**
comp=Z,2.0nm,0.8s,baz=244,slow=5.0,SNR=4.2
PVIS Viseu 141.97 338 *e*PKP **PKPdf 20 07 56.8 -2.9**
PMRV Marv??o 142.89 337 *e*PKP **PKPdf 20 07 59.6 -1.7**
PESTR Estremoz 143.45 336 *e*PKP **PKPdf 20 08 01.1 -1.2**
PBAR Barrancos 143.81 335 *e*PKP **PKPdf 20 08 02.4 -0.6**
PNCL Nicolau / Gran 144.47 337 *e*PKP **PKPdf 20 08 04.9 +0.8**
MESJ Messejana 144.58 336 *e*PKP **PKPab 20 08 05.5 +1.1**
PCVE Castro Verde 144.69 336 *e*PKP **PKPab 20 08 05.7 +0.8**
PVAQ Vaqueiros 144.75 335 *e*PKP **PKPab 20 08 06.0 +0.9**
PTGA Pitinga 144.91 100 *e*PKPdf **PKPab 20 08 06.2 -0.3**
PTEO Sao Teotonio 145.04 336 *e*PKP **PKPab 20 08 07.2 +1.0**
PFVI Vila Bisbo 145.44 336 *e*PKP **PKPab 20 08 05.7 -2.0**

TAM Tamanrasset 145.75 302 *e*PKPdf **PKPab 20 08 09.4 -0.2**
TORD Torodi Ar. Bea 152.31 287 PKP **PKPdf 20 08 16.7 -0.6**
comp=Z,1.1nm,0.9s,baz=114,slow=0.6,SNR=5.3
TORD PKPbc **PKiKP 20 08 24.3 -0.5**
comp=Z,4.8nm,0.6s,baz=52,slow=2.0,SNR=41
TORD PKPab **PKPab 20 08 36.3 -0.3**
comp=Z,0.9nm,0.4s,baz=79,slow=4.0,SNR=5.4
TORD pPKPbc **pPKPbc 20 10 06.2 -6.2**
comp=Z,0.4nm,0.8s,baz=70,slow=3.4,SNR=1.7
TOA1 Torodi Ar. Sit 152.31 287 *e*PKPdf **PKPdf 20 08 16.7 -0.6**
TOA1 *e*PKPbc **PKiKP 20 08 24.3 -0.5**
TOA1 *e*PKPab **PKPab 20 08 36.3 -0.3**
TOA1 *ep*PKPdf **pPKPdf 20 10 06.2 +0.1**

NEIC 24 20:07:30.1, 52.15N×170.60W, h6km, ML3.5(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.35**	**51**	*e*Pn	Pn	20 07 52.2	-3.2
NIKH				*e*Sn	Sb	20 08 07.4	-5.9
OKAK	**Okmok**	**1.98**	**43**	*e*Sn	Sn	20 08 24.2	-5.0
OKTU	**Okmok Mt. Tuli**	**1.99**	**50**	P	Pn	20 08 02.7	-1.5
OKER	**Okmok East Rim**	**2.03**	**49**	P	Pn	20 08 03.9	-1.0
KOFP	**Korovin Flat P**	**2.16**	**275**	P	Pn	20 08 04.8	-1.8
KONE	**Korovin Northe**	**2.18**	**278**	P	Pn	20 08 04.8	-2.0
KOKL	**Mount Kliuchef**	**2.22**	**276**	*e*Pn	Pn	20 08 05.7	-1.8
MCIR	**Makushin Cirqu**	**2.88**	**50**	P	Pn	20 08 15.3	-1.2
MTBL	**Makushin Table**	**2.99**	**51**	*e*Pn	Pn	20 08 16.9	-1.2
UNV	**Unalaska Valle**	**3.01**	**54**	*e*Pn	Pn	20 08 16.6	-1.6
UNV				*e*Sn	Sn	20 08 48.2	-6.3
GSTR	**Great Sitkin T**	**3.37**	**271**	*e*Pn	Pn	20 09 21.5	-1.7
AKRB	**Akutan Reef Bi**	**3.38**	**52**	P	Pn	20 08 22.7	-0.6
AKRB				S	Sn	20 09 03.6	-0.1
GSTD	**Great Sitkin T**	**3.42**	**271**	*e*Pn	Pn	20 08 22.9	-1.1
GSTD				*e*Sn	Sn	20 09 02.5	-2.4
GSCK	**Great Sitkin C**	**3.43**	**270**	*e*Pn	Pn	20 08 22.8	-1.3
AKGG	**Akutan Green G**	**3.45**	**52**	P	Pn	20 08 23.6	-0.7
AKUT	**Akutan**	**3.52**	**54**	*e*Pn	Pn	20 08 25.0	-0.3
ETKA	**Kagalaska Isla**	**3.60**	**268**	*e*Pn	Pn	20 08 25.5	-0.9
ADAG	**Mount Adagdak**	**3.71**	**270**	*e*Pn	Pn	20 08 27.0	-0.9
WESP	**Westdahl Peak**	**4.24**	**54**	P	Pn	20 08 34.1	-1.1
SSLW	**Shishaldin Wes**	**4.68**	**53**	P	Pn	20 08 40.2	-1.0
SPIA	**Saint Paul Isl**	**5.05**	**2**	*e*Pn	Pn	20 08 43.5	-2.7
SPIA				*e*Sn	Sn	20 09 39.6	-5.2
SDPT	**Sand Point**	**6.81**	**58**	*e*Pn	Pn	20 09 08.0	-2.3
CHGN	**Chignik**	**8.26**	**55**	*e*Pn	Pn	20 09 28.5	-1.8
KDAK	**Kodiak Island**	**11.78**	**54**	*e*Pn	Pn	20 10 12.6	-5.8
SVW2	**Sparrevohn**	**12.17**	**37**	*e*Pn	Pn	20 10 21.0	-2.8
RSO	**Redoubt South**	**12.91**	**43**	*e*Pn	Pn	20 10 30.2	-3.8
HOM	**Homer**	**12.99**	**47**	*e*Pn	Pn	20 10 36.0	+1.0
CNPM	**China Poot**	**13.12**	**48**	*e*Pn	Pn	20 10 33.2	-3.5
SML	**Sawmill**	**15.44**	**43**	*e*Pn	Pn	20 11 04.2	-4.0
SML				*e*S	Sn	20 14 06.7	+7.3
SCM	**Sheep Creek Mo**	**15.87**	**43**	*e*Pn	Pn	20 11 08.1	-5.8
SCM				*e*Sn	Sn	20 14 00.9	-9.1
KLU	**Klutina**	**16.33**	**45**	*e*Pn	Pn	20 11 14.6	-5.3
HYT	**Haines Junctio**	**20.03**	**51**	*e*P	P	20 12 02.6	-0.9

IDC 24 20:31:25.2±57.0, 16.17S×177.86W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/30, mbtmp3.9/3, Error ellipse: s-maj=1045.0km s-min=162.7km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.94**	**239**	P	P	20 39 01.0	-0.4
	1.0nm,0.6s,baz=103,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**45.49**	**258**	P	P	20 39 46.7	0.0
	0.3nm,0.6s,baz=91,slow=7.6,SNR=9.7						
ASAR	**Alice Springs**	**45.79**	**253**	P	P	20 39 49.0	-0.1
	3.1nm,0.6s,baz=90,slow=7.8,SNR=82						

*AZER **24** 20:36:40.1±0.1, 43.34N×46.03E, h3km, Error ellipse: s-maj=0.5km s-min=0.2km az=309.0*
*MOS **24** 20:36:47.3±2.6, 43.05N×46.41E, h13km, mb4.0/1, Error ellipse: s-maj=9.0km s-min=5.4km az=29.2*
*NNC **24** 20:36:56.5±3.5, 45.35N×46.18E, h0km, mb3.6, Error ellipse: s-maj=129.6km s-min=26.0km az=145.0*
ISC 24 20:36:46.7±0.9, 43.11N±0.03×46.45E±0.02, h13km±7km, n64, σ1s88/113, 38C-17D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLMR	**Dylym**	**0.14**	**108**	⇓*i*PG	**Pg**	**20 36 50.5**	**+0.3**
DLMR				*e*S	**Sb**	**20 36 55.1**	**+0.9**
DLMR				pmax	pmax		
	comp=Z,2μm,0.1s						
DBC	**Dubki**	**0.30**	**108**	⇑*i*PG	**Pn**	**20 37 00.2**	**+3.4**
DBC				*i* S	**Sn**	**20 37 05.7**	**+2.6**
DBC				pmax	pmax		
	comp=Z,500nm,0.3s						
KRNR	**Karanay**	**0.44**	**130**	*e*PG	**Pg**	**20 36 54.0**	**-1.5**
UNCR	**Uncukul**	**0.47**	**147**	*e*PG	**Pb**	**20 36 56.5**	**-0.4**
UNCR				*i* S	**Sb**	**20 37 04.5**	**+0.7**
UNCR				pmax	pmax		
	comp=Z,684nm,0.3s						
GROC	**Groznyy**	**0.48**	**281**	⇓*i*PG	**Pg**	**20 36 55.6**	**-0.6**
GROC				*e*S	**Sb**	**20 37 04.2**	**+0.2**
BUJR	**Buynaksk**	**0.56**	**120**	*e*PG	**Pg**	**20 36 58.0**	**+0.3**
BUJR				*i* S	**Sb**	**20 37 07.5**	**+1.1**
XNZR	**Khunzakh**	**0.60**	**161**	*e*PG	**Pb**	**20 36 59.0**	**-0.1**
XNZR				*e*S	**Sn**	**20 37 10.0**	**-0.8**
GNBR	**Gunib**	**0.82**	**152**	⇑*i*PG	**Pg**	**20 37 02.4**	**-0.1**
GNBR				*i* S	**Sn**	**20 37 15.9**	**0.0**
GNBR				pmax	pmax		
	comp=Z,90nm,0.1s						
KMKR	**Kumukh**	**1.09**	**154**	⇑*i*PG	**Pg**	**20 37 07.5**	**-0.2**
KMKR				*i* S	**Sn**	**20 37 25.2**	**+2.3**
KMKR				pmax	pmax		
	comp=Z,129nm,0.2s						
KMGR	**Komgaron**	**1.16**	**268**	⇓*i*PG	**Pb**	**20 37 08.3**	**-0.3**
KMGR				*e*S	**Sn**	**20 37 25.9**	**+1.5**
URKR	**Urkarakh**	**1.29**	**137**	*i* PG	**Pn**	**20 37 10.5**	**0.0**
URKR				*i* S	**Sg**	**20 37 29.0**	**+0.8**
URKR				pmax	pmax		
	comp=Z,204nm,0.2s						
VLKR	**Vladikavkaz**	**1.30**	**268**	*e*PG	**Pb**	**20 37 11.2**	**+0.3**
VLKR				*e*S	**Sg**	**20 37 30.6**	**+2.1**
TRKR	**Terskaya**	**1.39**	**297**	⇓*i*PG	**Pn**	**20 37 11.4**	**-0.3**
TRKR				*e*S	**Sg**	**20 37 31.9**	**+0.5**
BTKR	**Batakoyurt**	**1.42**	**281**	*e*PG	**Pn**	**20 37 11.9**	**-0.2**
BTKR				*e*S	**Sg**	**20 37 32.8**	**+0.6**
ZKTA	**Zakatala**	**1.48**	**175**	⇑Pg	**Pb**	**20 37 14.0**	**0.0**
	SNR=108						
ZKTA				⇓Sg	**Sg**	**20 37 35.8**	**+1.6**
ARNR	**Ardon**	**1.58**	**273**	*e*PG	**Pn**	**20 37 14.6**	**+0.2**
ARNR				*e*S	**Sg**	**20 37 37.5**	**-0.1**
GUDG	**Gudauri**	**1.59**	**247**	P	**Pb**	**20 37 15.9**	**-0.1**
GUDG				S	**Sg**	**20 37 41.4**	**+3.6**
LACR	**Lac**	**1.60**	**260**	*e*PG	**Pn**	**20 37 14.7**	**-0.1**
LACR				*e*S	**Sg**	**20 37 38.7**	**-0.5**
DUS	**Dusheti**	**1.64**	**232**	P	**Pg**	**20 37 21.0**	**+2.8**
DUS				S	**Sg**	**20 37 42.9**	**+3.3**
DUS	**Dusheti**	**1.64**	**232**	PG	**Pg**	**20 37 21.0**	**+2.8**
DUS				S	**Sg**	**20 37 42.9**	**+3.3**
PRTR	**Priterechnaya**	**1.70**	**293**	⇓*i*PN	**Pn**	**20 37 16.6**	**+0.6**
PRTR				*e*S	**Sb**	**20 37 40.8**	**+1.7**
KORR	**Kora**	**1.74**	**270**	*e*PN	**Pn**	**20 37 17.1**	**+0.5**
KORR				*e*S	**Sg**	**20 37 41.8**	**-0.9**
STDR	**Stavd-Durt**	**1.76**	**279**	⇓*i*PN	**Pb**	**20 37 19.0**	**+0.2**
STDR				*e*S	**Sg**	**20 37 44.0**	**+0.7**
DRN	**Derbent**	**1.76**	**127**	*e*PN	**Pn**	**20 37 18.0**	**+1.2**
DRN				*e*S	**Sg**	**20 37 42.7**	**-0.6**
SEAG	**Tbilisi Sea**	**1.81**	**223**	P	**Pg**	**20 37 20.8**	**-0.7**
SEAG				S	**Sg**	**20 37 47.0**	**+2.0**
TBLG	**Delisi**	**1.87**	**223**	P	**Pg**	**20 37 21.8**	**-0.8**
TBLG				S	**Sg**	**20 37 48.7**	**+1.8**
TBLG	**Delisi**	**1.87**	**223**	PN	**Pg**	**20 37 21.8**	**-0.8**
TBLG				S	**Sg**	**20 37 48.7**	**+1.8**
ZEI	**Tsey**	**1.90**	**261**	*e*PN	**Pn**	**20 37 19.2**	**+0.3**
ZEI				*e*S	**Sb**	**20 37 45.6**	**+0.7**
LSNR	**Lesken**	**1.92**	**276**	*e*PN	**Pn**	**20 37 20.0**	**+0.9**
LSNR				*e*S	**Sb**	**20 37 47.0**	**+1.5**
KSMR	**Kasumkent**	**1.96**	**140**	*e*PN	**Pb**	**20 37 22.0**	**-0.2**
KSMR				*e*S	**Sg**	**20 37 49.8**	**+0.2**
KSMR				pmax	pmax		
	comp=Z,185nm,0.3s						
SEKA	**Sheki**	**1.98**	**163**	⇑Pg	**Pb**	**20 37 22.0**	**-0.6**
	SNR=61						
SEKA				⇑Sg	**Sg**	**20 37 51.1**	**+0.7**
QSAR	**Qusar**	**2.09**	**139**	⇓Pn	**Pb**	**20 37 24.5**	**+0.1**
	SNR=7.5						
QSAR				⇑Sn	**Sg**	**20 37 57.4**	**+3.5**
DIGR	**Digorskoe uzhe**	**2.11**	**265**	*e*PN	**Pn**	**20 37 22.5**	**+0.6**
DIGR				*e*S	**Sb**	**20 37 51.5**	**+0.4**
QZX	**Qazax, Azerbai**	**2.20**	**202**	⇑Pn	**Pb**	**20 37 24.5**	**-1.8**
	SNR=9.8						
QZX				⇑Sn	**Sg**	**20 37 55.3**	**-2.1**
ONI	**Oni**	**2.26**	**258**	P	**Pn**	**20 37 20.2**	**-3.6**
ONI				S	**Sg**	**20 37 58.1**	**-1.3**
ONI	**Oni**	**2.26**	**258**	PN	**Pn**	**20 37 20.2**	**-3.6**
ONI				S	**Sg**	**20 37 58.0**	**-1.3**
XNQ	**Khinaliq**	**2.31**	**146**	⇑Pn	**Pb**	**20 37 28.1**	**-0.2**
	SNR=26						
XNQ				⇑Sn	**Sg**	**20 38 02.7**	**+1.7**
QUBA	**Quba, Azerbaij**	**2.32**	**138**	⇑Pn	**Pb**	**20 37 28.7**	**+0.3**
	SNR=5.9						
QUBA				⇓Sn	**Sg**	**20 38 02.3**	**+1.0**
MNGR	**Mingechevir, A**	**2.39**	**168**	⇓Pn	**Pb**	**20 37 27.7**	**-1.8**
MNGR				⇑Sn	**Sg**	**20 38 03.6**	**+0.3**
QBL	**Gabala**	**2.40**	**154**	⇑Pn	**Pb**	**20 37 29.4**	**-0.3**
	SNR=19						
QBL				⇓Sn	**Sg**	**20 38 04.3**	**+0.6**
GDB	**GEDABAY**	**2.44**	**192**	⇑Pn	**Pn**	**20 37 27.9**	**+1.4**
	SNR=12						
GDB				⇑Sn	**Sb**	**20 38 00.4**	**-0.2**
GANJ	**Ganja**	**2.47**	**182**	⇑Pn	**Pn**	**20 37 27.8**	**+1.2**
	SNR=18						
GANJ				⇑Sn	**Sb**	**20 38 01.4**	**+0.3**
IML	**Ismayilli**	**2.66**	**150**	⇑Pn	**Pb**	**20 37 31.9**	**-2.2**
	SNR=10						
IML				⇑Sn	**Sg**	**20 38 13.4**	**+1.4**
SIZA	**Siyzn**	**2.73**	**137**	⇑Pn	**Pb**	**20 37 33.5**	**-2.0**
	SNR=4.0						
SIZA				⇑Sn	**Sg**	**20 38 14.3**	**-0.2**
BGD	**Bogdanovka**	**2.81**	**230**	P	**Pb**	**20 37 35.2**	**-1.6**
BGD				S	**Sg**	**20 38 15.5**	**-1.4**
PQL	**Pirkuli**	**2.82**	**145**	⇑Pn	**Pb**	**20 37 34.4**	**-2.6**
	SNR=8.7						
PQL				⇑Sn	**Sg**	**20 38 16.3**	**-0.9**
ATGJ	**Altiaghaj**	**2.92**	**140**	⇑Pn	**Pn**	**20 37 35.7**	**+2.8**
	SNR=3.7						
ATGJ				⇓Sn	**Sg**	**20 38 17.1**	**-3.3**
ZRD	**Zardab**	**2.98**	**161**	⇑Pn	**Pb**	**20 37 38.3**	**-1.3**
	SNR=4.9						
ZRD				⇓Sn	**Sg**	**20 38 21.0**	**-1.3**
KDMR	**Kurdemir**	**3.03**	**154**	⇑Sn	**Sg**	**20 38 22.2**	**-1.7**
GOF	**Gofitskoye**	**3.13**	**310**	⇑*e*PN	**Pg**	**20 37 45.7**	**-0.9**
GOF				*e*S	**Sb**	**20 38 20.6**	**+0.4**
GOF				pmax	pmax		
	comp=Z,14nm,0.4s						
GOF				smax	smax		
	comp=E,81nm,0.7s						
GBS	**Qobustan**	**3.18**	**143**	⇑Pn	**Pb**	**20 37 40.0**	**-3.0**
	SNR=2.8						
EAK	**Akyaka**	**3.22**	**222**	*i* P	**Pb**	**20 37 41.8**	**-2.0**
EAK				*i* S	**Sg**	**20 38 26.4**	**-3.7**
GALA	**Gala**	**3.87**	**133**	⇑Pn	**Pn**	**20 37 47.0**	**+1.2**
ARTV	**Artvin**	**3.87**	**242**	*i* P	**Pn**	**20 37 48.5**	**+2.4**
DAGI	**Agillar**	**3.94**	**240**	*i* P	**Pn**	**20 37 48.8**	**+1.9**
DBAD	**Bademkaya**	**4.11**	**241**	*i* P	**Pn**	**20 37 50.5**	**+1.2**
GLBA	**Clilabad**	**4.14**	**159**	⇓Pn	**Pn**	**20 37 51.7**	**+2.2**
	SNR=3.1						
LRK	**Lerik**	**4.69**	**162**	⇑Pn	**Pn**	**20 37 58.5**	**+1.3**
	SNR=7.7						
LRK				⇓Sn	**Sb**	**20 38 57.8**	**-7.4**
ASTR	**Astara**	**4.88**	**158**	⇑Pn	**Pn**	**20 38 02.1**	**+2.3**
ASTR				⇑Sn	**Sn**	**20 39 02.5**	**+6.4**
AKTO	**Aktyubinsk**	**10.79**	**43**	⇑P	Pn	20 39 12.2	-8.5
	comp=E,1.7nm,0.8s						
AKTO				⇓S	Sn	20 41 03.5	-18
	comp=E,2.3nm,0.3s						
AB31	**Akbulak array**	**11.19**	**52**	P	Pn	20 39 22.3	-3.8
	comp=E,0.2nm,0.3s,baz=236,slow=9.9,SNR=20						
AB31				⇓S	Sn	20 41 19.8	-11
	comp=E,1.4nm,0.5s,baz=246,slow=15,SNR=6.6						
ZRNK	**Zerenda**	**17.94**	**49**	⇑P	**Pn**	**20 40 53.0**	**-2.7**
	comp=E,3.1nm,1.4s						
ZRNK				⇑S	Sn	20 43 58.0	-17
	comp=E,2.3nm,1.4s						
BVA0	**Borovoye Array**	**18.74**	**50**	P	**P**	**20 41 02.9**	**-2.1**
	comp=E,1.4nm,0.9s,baz=246,slow=12,SNR=8.4						
BVA0				⇑S	Sn	20 44 18.1	-17
	comp=E,1.8nm,0.8s,baz=236,slow=23,SNR=7.8						
VOSK	**Vostochnaya**	**18.96**	**51**	⇑P	**P**	**20 41 07.1**	**-0.4**
	comp=E,1.6nm,0.9s						

*IDC **24** 20:46:34.7±0.7, 56.78S×26.05W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.1/20, mbtmp4.2/5, MS3.7/3, Ms1 3.7/3, ms1mx3.2/19, Error ellipse: s-maj=35.5km s-min=21.5km az=57.0*
*ISCJB **24** 20:46:41.3±0.9, 56.8S±0.2×26.1W±0.4, h61km, mb4.2/5, Error ellipse: s-maj=36.5km s-min=18.5km az=148.0*
ISC 24 20:46:42.8±0.8, 56.8S±0.2×26.2W±0.2, h61km, n20, σ0s46/11, mb4.1/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**19.84**	**231**	LR	LR	20 56 42.8	
	comp=Z,211nm,19.0s,baz=62,slow=30						
PLCA	**Paso Flores**	**32.70**	**280**	LR	LR	21 06 07.4	
	comp=Z,83nm,18.1s,baz=138,slow=36						
CPUP	**Villa Florida**	**37.75**	**311**	P	**P**	**20 53 52.0**	**-0.6**
	1.3nm,0.5s,baz=146,slow=9.8,SNR=4.3						
MAW	**Mawson**	**39.18**	**143**	P	**P**	**20 54 03.9**	**

RTZ				SN	Sn	20 50 39.5	-0.7
SNGZ	**Shannon Statio**	**1.92**	**166**	⇑PN	Pn	20 50 15.3	0.0
SNGZ				SN	Sn	20 50 42.5	-1.5
MRHZ	**Matea Rd**	**1.93**	**188**	⇓PN	Pn	20 50 15.6	0.0
CNGZ	**Carnagh Statio**	**1.94**	**144**	PN	Pn	20 50 15.6	+0.1
RIGZ	**Rimuhau**	**1.96**	**156**	PN	Pn	20 50 15.8	0.0
NMHZ	**Naumai**	**2.18**	**179**	PN	Pn	20 50 18.3	+0.1
WHHZ	**Waihua**	**2.19**	**170**	PN	Pn	20 50 18.0	-0.2
WHHZ				SN	Sn	20 50 47.7	-1.5
KNZ	**Kokohu**	**2.22**	**161**	PN	Pn	20 50 17.7	-0.9
KNZ				AML	AML	20 50 49.3	
BKZ	**Black Stump Fm**	**2.25**	**185**	PN	Pn	20 50 18.3	-0.8
ARHZ	**Arapoaanui**	**2.35**	**175**	PN	Pn	20 50 19.7	-0.4
KWHZ	**Kaweka Forest**	**2.52**	**186**	PN	Pn	20 50 21.4	-0.6
MCHZ	**McNeill Hill**	**2.52**	**181**	PN	Pn	20 50 21.7	-0.3
WNVZ	**Wahianoa**	**2.57**	**200**	⇓PN	Pn	20 50 22.6	-0.2
MTVZ	**Mangateitei**	**2.66**	**202**	PN	Pn	20 50 23.6	-0.1
KRHZ	**Kereru**	**2.74**	**186**	PN	Pn	20 50 23.3	-1.3
CKHZ	**Cape Kidnapper**	**2.75**	**175**	PN	Pn	20 50 23.8	-0.8
KAHZ	**Kahuranaki**	**2.88**	**178**	PN	Pn	20 50 25.0	-1.2
PNHZ	**Pukenui**	**3.02**	**188**	PN	Pn	20 50 26.1	-1.8
PXZ	**Pawanui**	**3.11**	**178**	PN	Pn	20 50 27.2	-1.7
PXZ				AML	AML	20 50 36.3	
WAZ	**Wanganui**	**3.16**	**206**	PN	Pn	20 50 29.1	-0.5
TSZ	**Takapari Road**	**3.20**	**191**	PN	Pn	20 50 28.2	-1.8
PRHZ	**Porangahau**	**3.35**	**182**	PN	Pn	20 50 29.5	-2.3
DVHZ	**Dannevirke**	**3.41**	**188**	PN	Pn	20 50 30.1	-2.5
ANWZ	**Angora Road**	**3.54**	**183**	PN	Pn	20 50 32.0	-2.2
MRZ	**Mangatainoka R**	**3.85**	**193**	PN	Pn	20 50 35.0	-3.1
HOWZ	**Holdsworth Sta**	**4.09**	**193**	PN	Pn	20 50 37.7	-3.5
KIWZ	**Kapiti Island**	**4.19**	**200**	PN	Pn	20 50 39.2	-3.2
TMWZ	**Te Maipa**	**4.24**	**189**	PN	Pn	20 50 39.9	-3.1
MTWZ	**Mount Morrison**	**4.35**	**193**	PN	Pn	20 50 40.7	-3.7
CAWZ	**Cannon Point**	**4.39**	**197**	PN	Pn	20 50 41.2	-3.7
TRWZ	**Traveller**	**4.55**	**190**	AML	AML	20 51 36.7	
MSWZ	**Moikau Station**	**4.64**	**194**	AML	AML	20 50 44.4	
TCW	**Tory Channel**	**4.70**	**203**	PN	Pn	20 50 45.6	-3.3
BHW	**Baring Head**	**4.72**	**197**	AML	AML	20 50 45.6	
PLWZ	**Palliser**	**4.79**	**194**	PN	Pn	20 50 45.8	-4.3
TUWZ	**Tuamarina**	**5.01**	**205**	PN	Pn	20 50 49.2	-3.7
THZ	**Tophouse**	**5.69**	**210**	PN	Pn	20 50 59.0	-2.6
KHZ	**Kahutara**	**6.03**	**203**	PN	Pn	20 51 01.8	-4.3

IDC 24 20:58:45.0±6.3, 31°.04S×179°.60W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/29, mbtmp3.5/2, Error ellipse: s-maj=254.7km s-min=55.3km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.71**	**268**	P	P	21 06 35.9	+0.1
	0.5nm,0.8s,baz=102,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**42.76**	**274**	P	P	21 06 44.1	-0.3
	0.4nm,0.4s,baz=114,slow=7.9,SNR=5.6						
FINES	**FINESS Array B**	**145.26**	**339**	PKPbc	PKPbc	21 18 22.8	-0.9
	0.6nm,0.4s,baz=45,slow=4.7,SNR=12						

KRSC 24 20:59:05.2±1.5, 52°.54N×159°.75E, h54km±18km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.68**	**339**	*e*P	Pn	20 59 20.6	+1.7
NLC				*e*S	Sn	20 59 29.5	+0.7
RUS	**Russkaya**	**0.76**	**263**	*e*P	Pn	20 59 21.2	+1.3
RUS				*e*S	Sn	20 59 30.6	0.0
PET	**Petropavlovsk**	**0.83**	**307**	*i* P	Pn	20 59 22.0	+1.3
PET				*e*S	Sn	20 59 31.8	-0.3
UGLR	**Uglovaya**	**0.88**	**321**	*e*P	Pn	20 59 23.4	+1.9
SDLR	**Sedlovina**	**0.91**	**325**	*i* P	Pn	20 59 23.7	+1.7
SDLR				*i* S	Sn	20 59 34.8	+0.6
SMAR	**Somma**	**0.93**	**322**	*e*P	Pn	20 59 23.8	+1.5
AVH	**Avacha**	**0.95**	**320**	*e*P	Pn	20 59 24.5	+2.0
KRER	**Koryakskii**	**0.98**	**322**	*e*P	Pn	20 59 25.0	+2.1
KOK	**Koryaka**	**1.01**	**319**	*e*P	Pn	20 59 25.4	+2.1
KRMR	**Karymshinskiy**	**1.03**	**287**	*i* P	Pn	20 59 24.8	+1.4
KRMR				*e*S	Sn	20 59 36.8	0.0
KRX	**Arik**	**1.06**	**321**	*e*P	Pn	20 59 25.8	+1.8
ASAK	**Asacha**	**1.14**	**263**	*i* P	Pn	20 59 27.2	+2.2
ASAK				*i* S	Sn	20 59 41.2	+1.5
GNL	**Ganaly**	**1.59**	**318**	*e*P	Pn	20 59 33.9	+2.8
GNL				*e*S	Sn	20 59 52.9	+2.3
BKI	**Bering**	**4.55**	**52**	*e*S	Sn	21 01 03.9	+1.0

DDA 24 21:00:25.7,36°.98N×27°.41E,h7km,Md2.6
ISK 24 21:00:25.7,37°.01N×27°.45E,h4km,MD2.8
ISCJB 24 21:00:26.0±1.0,36°.99N±0°.06×27°.44E±0°.05,h5km±6km, Error ellipse: s-maj=10.5km s-min=5.8km az=19.3
CSEM 24 21:00:26.3±0.3,36°.99N×27°.44E,h2km,MD2.6, Error ellipse: s-maj=7.2km s-min=3.6km az=22.0

ISC 24 21:00:25.8±1.4, 36°.96N±0°.06×27°.44E±0°.04, h7km±9km, n21, σ1°33/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.11**	**1**	P	**Pg**	**21 00 28.0**	**-0.2**
BDRM				S	**Sg**	**21 00 29.6**	**-0.3**
BDRM	**Kayabasi**	**0.11**	**1**	*i* P	**Pg**	**21 00 28.0**	**-0.2**
BDRM				*i* S	**Sg**	**21 00 29.6**	**-0.3**
BODT	**Bodrum**	**0.15**	**315**	*e*PG	**Pg**	**21 00 29.0**	**+0.1**
BODT				*e*SG	**Sg**	**21 00 31.2**	**+0.2**
BODT	**Bodrum**	**0.15**	**315**	*e*Pg	**Pg**	**21 00 29.0**	**+0.1**
BODT				*e*Sg	**Sg**	**21 00 31.2**	**+0.2**
YER	**Yerkesik**	**0.70**	**75**	*e*PG	**Pg**	**21 00 39.6**	**+0.4**
YER				*e*SG	**Sg**	**21 00 49.4**	**+1.1**
YER	**Yerkesik**	**0.70**	**75**	*e*Pg	**Pg**	**21 00 39.6**	**+0.4**
YER				*e*Sg	**Sg**	**21 00 49.4**	**+1.1**
GCAM	**G?zelcaml?**	**0.76**	**348**	P	**Pg**	**21 00 39.8**	**-0.6**
GCAM				S	**Sg**	**21 00 50.7**	**+0.3**
GCAM	**G?zelcaml?**	**0.76**	**348**	*i* P	**Pg**	**21 00 39.8**	**-0.6**
GCAM				*i* S	**Sg**	**21 00 50.6**	**+0.3**
TURN	**Turunc**	**0.94**	**95**	*i* P	Pg	21 00 38.9	-4.9
TURN				*i* S	**Sg**	**21 00 49.9**	**-6.0**
DALY	**Dalyan (Mu˘la**	**0.98**	**98**	*e*PG	**Pg**	**21 00 45.2**	**+0.6**
DALY	**Dalyan (Mu˘la**	**0.98**	**98**	*e*Pg	**Pg**	**21 00 45.2**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**20**	*e*PG	**Pg**	**21 00 44.9**	**-1.1**
AYDB				*e*SG	**Sg**	**21 01 00.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**20**	*e*Pg	**Pg**	**21 00 44.9**	**-1.1**
AYDB				*e*Sg	**Sg**	**21 01 00.1**	**+0.4**
DGB	**˘zmir**	**1.18**	**338**	*i* P	**Pg**	**21 00 47.0**	**-1.5**
DNZL	**Cakiroluk**	**1.48**	**60**	P	**Pg**	**21 00 54.3**	**+0.2**
DNZL	**Cakiroluk**	**1.48**	**60**	*i* P	**Pg**	**21 00 54.3**	**+0.2**
ZEY	**˘zmir**	**1.48**	**330**	*i* P	**Pn**	**21 00 53.3**	**+0.4**
URLA	**Izmir**	**1.55**	**335**	P	**Pn**	**21 00 54.5**	**+0.5**
URLA	**Izmir**	**1.55**	**335**	*i* P	**Pn**	**21 00 54.5**	**+0.5**
KULA	**Kula-Manisa**	**1.83**	**31**	*e*PN	**Pn**	**21 00 58.4**	**+0.6**
KULA	**Kula-Manisa**	**1.83**	**31**	*e*Pn	**Pn**	**21 00 58.4**	**+0.6**

MEX 24 21:01:22.7±0.6, 17°.13N×96°.21W, h111km±999km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.50**	**263**	*i* P	Pn	21 01 38.3	-1.6
VHO				*e*S	Sn	21 01 51.3	-1.6

IDC 24 21:07:02.7±1.0, 12°.18N×144°.00E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.7/41, mbtmp3.8/6, Error ellipse: s-maj=45.8km s-min=19.1km az=110.0
NEIC 24 21:07:04.5±0.7, 12°.25N×143°.79E, h10km, mb4.2/2, Error ellipse: s-maj=30.7km s-min=14.6km az=117.0
ISCJB 24 21:07:05.1±0.7, 12°.2N±0°.1×143°.8E±0°.2, h26km, mb4.1/9, Error ellipse: s-maj=28.3km s-min=9.6km az=34.1

ISC 24 21:07:07.2±0.9, 12°.3N±0°.1×143°.9E±0°.2, h26km, n18, σ1°04/15, mb4.0/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.65**	**37**	Pn	**Pn**	**21 07 34.3**	**-0.1**
	186nm,0.3s,baz=284,slow=3.0,SNR=30						
GUMO				Sn	**Sn**	**21 07 54.5**	**-0.3**
	117nm,0.3s,baz=340,slow=23,SNR=9.9						
GUMO	**Guam**	**1.65**	**37**	*e*Pn	**Pn**	**21 07 34.5**	**0.0**
GUMO				Sn	**Sn**	**21 07 54.5**	**-0.3**
GUMO				*e*Sn	**Sb**	**21 07 56.7**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**22.85**	**71**	T	T	21 35 55.9	
	baz=258,slow=76,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**22.87**	**71**	T	T	21 35 54.5	
	baz=258,slow=76,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**22.87**	**71**	T	T	21 35 54.3	
	baz=258,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**23.33**	**69**	T	T	21 36 23.3	
	baz=255,slow=75,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**23.34**	**69**	T	T	21 36 15.6	
	baz=255,slow=75,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**23.35**	**69**	T	T	21 36 17.0	
	baz=255,slow=75,SNR=5.6						
WRA	**Warramunga Arr**	**33.35**	**196**	P	**P**	**21 13 42.0**	**-1.3**
	1.1nm,0.7s,baz=20,slow=9.3,SNR=9.9						
ASAR	**Alice Springs**	**37.01**	**195**	P	**P**	**21 14 14.6**	**-0.3**
	0.5nm,0.8s,baz=24,slow=12,SNR=5.4						
POHA	**Pohakuloa**	**58.48**	**74**	*e*P	**P**	**21 17 03.6**	**+1.8**
	90nm,0.6s						
MKAR	**Makanchi Array**	**61.77**	**317**	P	**P**	**21 17 25.1**	**+1.4**
	0.1nm,0.4s,baz=88,slow=8.0,SNR=2.7						
COLD	**Coldfoot**	**69.54**	**22**	*e*P	**P**	**21 18 13.7**	**+0.3**
	0.6nm,0.6s						
ILAR	**Eielson Array**	**70.18**	**25**	P	**P**	**21 18 15.9**	**-1.5**
	0.6nm,0.5s,baz=248,slow=5.9,SNR=7.8						
PAX	**Paxson**	**70.40**	**27**	*e*P	**P**	**21 18 17.8**	**-1.0**
	3.2nm,0.8s						
YKA	**Yellowknife Ar**	**84.48**	**27**	P	**P**	**21 19 38.0**	**+0.5**
	0.6nm,0.4s,baz=286,slow=5.2,SNR=7.3						
YKA	**Yellowknife Ar**	**84.48**	**27**	P	**P**	**21 19 38.0**	**+0.5**
FINES	**FINESS Array B**	**91.94**	**335**	P	**P**	**21 20 12.0**	**-1.2**
	0.7nm,0.4s,baz=57,slow=6.8,SNR=6.4						

NNC 24 21:07:25.9±1.1, 43°.89N×78°.34E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=11.3km s-min=2.9km az=1.0
SOME 24 21:07:25.8, 43°.98N×78°.28E, h15km
KRNET 24 21:07:26.1±0.1, 43°.84N×78°.34E, h7km, mb1.9

ISC 24 21:07:24.8±1.2, 43°.97N±0°.04×78°.32E±0°.03, h16km±9km, n23, σ0°79/42, 11C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.49**	**193**	*e*P	**Pb**	**21 07 35.5**	**+0.4**
	3.3nm,0.1s						
KURS				*e*S	**Sb**	**21 07 42.2**	**+0.1**
	7.8nm,0.3s						
KPKS	**Kokpek**	**0.57**	**152**	*e*P	**Pb**	**21 07 36.6**	**+0.2**
	79nm,0.1s						
KPKS				*e*S	**Sb**	**21 07 44.4**	**+0.1**
	87nm,0.1s						
ZHN	**Zhinishke**	**0.81**	**174**	*e*P	**Pg**	**21 07 40.6**	**+0.1**
	8.9nm,0.1s						
ZHN				*e*S	**Sb**	**21 07 51.1**	**0.0**
	14nm,0.2s						
SATY	**Saty**	**0.91**	**176**	*e*P	**Pn**	**21 07 42.8**	**-0.3**
	22nm,0.1s						
SATY				*e*S	**Sg**	**21 07 55.1**	**+0.6**
	58nm,0.1s						
CHKK	**Chushkaly**	**0.96**	**265**	*e*P	**Pb**	**21 07 42.8**	**-0.2**
	20nm,0.1s						
CHKK				*e*S	**Sb**	**21 07 55.0**	**-0.5**
	30nm,0.1s						
UZB	**Uzynbulak**	**0.97**	**148**	*e*P	**Pn**	**21 07 43.6**	**-0.2**
	4.7nm,0.1s						
UZB				*e*S	**Sn**	**21 07 56.5**	**-0.9**
	55nm,0.2s						
PDGK	**Podgornoye**	**1.06**	**127**	⇑*i*P	**Pg**	**21 07 45.4**	**+0.1**
	baz=121						
PDGK				⇑*i*S	**Sn**	**21 07 59.3**	**-0.1**
	baz=121						
PDGK	**Podgornoye**	**1.06**	**127**	⇑P	**Pg**	**21 07 45.3**	**+0.1**
	0.4nm,0.1s						
PDGK				⇓S	**Sn**	**21 07 59.3**	**-0.1**
	6.7nm,0.3s						
DJR	**Jarkent**	**1.12**	**71**	*e*P	**Pg**	**21 07 46.2**	**-0.2**
	19nm,0.2s						
DJR				*e*S	**Sn**	**21 08 01.1**	**+0.1**
	18nm,0.3s						
MDOK	**Medeo**	**1.23**	**229**	*e*P	**Pb**	**21 07 47.9**	**+0.2**
	5.6nm,0.2s						
MDOK				*e*S	**Sn**	**21 08 03.7**	**0.0**
	32nm,0.3s						
KNDC	**Almaty**	**1.24**	**233**	⇑P	**Pb**	**21 07 48.2**	**+0.4**
	3.3nm,0.3s						
KNDC				⇓S	**Sg**	**21 08 05.2**	**+0.4**
	42nm,0.4s						
ANVS	**Anan'yevo**	**1.28**	**202**	⇓*i*P	**Pg**	**21 07 49.0**	**-0.4**
	baz=205						
ANVS				⇓*i*S	**Sn**	**21 08 05.5**	**+0.4**
	baz=205						
TNSS	**Tian-Shan**	**1.36**	**228**	*e*P	**Pg**	**21 07 50.9**	**-0.3**
	10nm,0.2s						
TNSS				*e*S	**Sg**	**21 08 08.9**	**0.0**
	14nm,0.0s						
SHLS	**Shalkode**	**1.40**	**125**	*e*P	**Pg**	**21 07 51.3**	**-0.4**
	3.6nm,0.1s						
SHLS				*e*S	**Sg**	**21 08 09.8**	**-0.1**
	59nm,0.2s						
KUU	**Kurty**	**1.43**	**268**	*e*P	**Pb**	**21 07 51.0**	**-0.1**
	32nm,0.2s						
KUU				*e*S	**Sb**	**21 08 09.5**	**+0.3**
	28nm,0.2s						
PRZ	**Przheval'sk**	**1.49**	**178**	⇑*i*P	**Pg**	**21 07 52.9**	**-0.5**
	baz=178						
PRZ				⇑*i*S	**Sg**	**21 08 12.2**	**-0.6**
	baz=178						
MTBS	**Maitube**	**1.61**	**239**	*e*P	**Pb**	**21 07 54.1**	**-0.1**
	9.4nm,0.1s						
MTBS				*e*S	**Sb**	**21 08 14.6**	**+0.3**
	47nm,0.2s						
KST	**Kastek**	**1.95**	**242**	*e*P	**Pb**	**21 08 00.4**	**+0.4**
	1.9nm,0.2s						
KST				*e*S	**Sb**	**21 08 25.6**	**+1.5**
	23nm,0.3s						
TKM2	**Tokmak 2**	**2.24**	**243**	⇓Pn	**Pb**	**21 08 04.4**	**-0.6**
	1.4nm,0.3s						
TKM2				⇑Sn	**Sb**	**21 08 34.6**	**+1.9**
	8.9nm,0.4s						
BOOM	**Boomskoye usch**	**2.28**	**230**	⇑*i*P	**Pb**	**21 08 06.2**	**+0.5**
	baz=233						
BOOM				⇑*i*S	**Sb**	**21 08 35.8**	**+2.0**
	baz=233						
AAK	**Ala-Archa**	**3.10**	**246**	⇑Sn	**Sb**	**21 08 54.1**	**-3.0**
	2.4nm,0.5s						
MK31	**Makanchi Array**	**3.98**	**43**	⇑Pg	**Pg**	**21 08 41.3**	**+0.4**
	0.3nm,0.5s,baz=222,slow=16,SNR=5.2						
MK31				⇓Lg	Lg	21 09 28.0	
	0.6nm,0.5s,baz=225,slow=30,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.66**	**1**	⇓Lg	Lg	21 10 56.1	
	2.4nm,0.7s						

IDC 24 21:13:42.4±3.0, 51°.79N×171°.64W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.4/45, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=61.1km s-min=32.0km az=19.0
ISCJB 24 21:13:45.7±0.9, 51°.5N±0°.1×171°.54W±0°.06, h27km, mb3.7/4, Error ellipse: s-maj=15.2km s-min=4.0km az=164.5
NEIC 24 21:13:48.1, 51°.47N×171°.59W, h19km, ML3.4(AEIC), After AEIC.

ISC 24 21:13:46.6±1.4, 51°.6N±0°.2×171°.65W±0°.05, h27km, n34, σ1°94/32, mb3.7/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.65**	**294**	P	**Pn**	**21 14 15.5**	**+1.7**
KOFP				S	**Sn**	**21 14 36.1**	**+2.0**
KONE	**Korovin Northe**	**1.71**	**297**	P	**Pb**	**21 14 16.9**	**-0.4**
KOKV	**Korovin Volcan**	**1.72**	**296**	P	**Pn**	**21 14 16.3**	**+1.5**
KOKL	**Mount Kliuchef**	**1.72**	**295**	P	**Pb**	**21 14 17.4**	**-0.3**
KOWE	**Korovin West**	**1.77**	**295**	P	**Pn**	**21 14 17.4**	**+2.0**
NIKH	**Nikolski High**	**2.18**	**51**	P	**Pn**	**21 14 22.1**	**+1.1**
NIKH				S	**Sn**	**21 14 49.1**	**+2.1**
GSMY	**Great Sitkin M**	**2.77**	**280**	P	**Pn**	**21 14 30.7**	**+1.5**
OKWR	**Okmok West Rim**	**2.77**	**48**	P	**Pn**	**21 14 32.2**	**+2.9**
OKAK	**Okmok**	**2.79**	**45**	P	**Pn**	**21 14 30.3**	**+0.8**
OKAK				S	**Sn**	**21 15 01.4**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**2.81**	**50**	P	**Pn**	**21 14 32.8**	**+3.0**
GSTD	**Great Sitkin T**	**2.82**	**280**	P	**Pn**	**21 14 31.5**	**+1.5**
GSCK	**Great Sitkin C**	**2.83**	**279**	P	**Pn**	**21 14 31.4**	**+1.4**
OKRE	**Okmok R'deer P**	**2.84**	**47**	P	**Pn**	**21 14 33.1**	**+2.9**
OKRE				S	**Sn**	**21 15 06.2**	**+2.7**
OKER	**Okmok East Rim**	**2.85**	**49**	P	**Pn**	**21 14 32.7**	**+2.3**
ETKA	**Kagalaska Isla**	**2.97**	**276**	P	**Pn**	**21 14 33.5**	**+1.6**
ADAG	**Mount Adagdak**	**3.10**	**278**	P	**Pn**	**21 14 36.0**	**+2.4**
KIRH	**Kanaga Island**	**3.40**	**277**	P	**Pn**	**21 14 40.0**	**+2.2**
KIKV	**Kanaga Island**	**3.44**	**276**	P	**Pn**	**21 14 40.5**	**+2.1**
TAPA	**Tanaga Point A**	**3.84**	**275**	P	**Pn**	**21 14 45.7**	**+1.8**
TAFP	**Tanaga Falls P**	**3.95**	**276**	P	**Pn**	**21 14 47.1**	**+1.8**
GANE	**Gareloi Northe**	**4.44**	**275**	P	**Pn**	**21 14 54.0**	**+1.9**
SPIA	**Saint Paul Isl**	**5.61**	**8**	P	**Pn**	**21 15 09.5**	**+1.3**
SDPT	**Sand Point**	**7.63**	**56**	P	**Pn**	**21 15 37.0**	**+1.2**
ILAR	**Eielson Array**	**18.36**	**35**	P	**P**	**21 17 56.0**	**-2.7**
	0.1nm,0.3s,baz=229,slow=9.6,SNR=4.9						
SEY	**Seymchan**	**22.16**	**315**	P	**P**	**21 18 38.3**	**-1.7**
	1.6nm,0.2s,baz=118,slow=6.7,SNR=2.5						
INK	**Inuvik**	**24.73**	**33**	P	**P**	**21 19 03.5**	**-1.8**
	1.3nm,0.4s,baz=256,slow=8.3,SNR=4.3						
YKA	**Yellowknife Ar**	**31.78**	**48**	P	**P**	**21 20 07.4**	**-0.8**
	0.2nm,0.3s,baz=275,slow=9.3,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**36.02**	**216**	T	T	21 59 23.8	
	baz=21,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**36.02**	**216**	T	T	21 59 27.9	
	baz=21,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**36.03**	**216**	T	T	21 59 28.4	
	baz=21,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**37.21**	**215**	T	T	22 00 46.7	
	baz=21,slow=76,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**37.23**	**215**	T	T	22 00 53.2	
	baz=21,slow=76,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**37.23**	**215**	T	T	22 00 59.8	
	baz=21,slow=76,SNR=6.9						
TXAR	**Lajitas Array**	**54.18**	**87**	P	**P**	**21 23 09.3**	**-0.3**
	0.4nm,0.7s,baz=300,slow=7.2,SNR=6.5						

ISCJB 24 21:32:37.7±0.5, 39°.43N±0°.03×33°.05E±0°.05, h3km±4km, Error ellipse: s-maj=7.1km s-min=4.4km az=31.1
DDA 24 21:32:37.7, 39°.43N×33°.07E, h7km, Md2.6
CSEM 24 21:32:37.5±0.1, 39°.44N×33°.04E, h2km, MD2.6, Error ellipse: s-maj=3.8km s-min=2.9km az=123.0
ISK 24 21:32:37.1, 39°.45N×33°.07E, h4km, MD2.6

ISC 24 21:32:37.3±0.9, 39°.44N±0°.02×33°.07E±0°.03, h1km±5km, n24, σ0°91/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af˘ar-Bala (A**	**0.01**	**16**	*e*PG	**Pg**	**21 32 37.6**	**-0.2**
AFSR				*e*SG	**Sg**	**21 32 39.1**	**+0.9**
AFSR	**Af˘ar-Bala (A**	**0.01**	**16**	*e*Pg	**Pg**	**21 32 37.6**	**-0.2**
AFSR				*e*Sg	**Sg**	**21 32 39.1**	**+0.9**
BBAL	**Bala**	**0.11**	**22**	P	**Pg**	**21 32 40.6**	**+1.0**
BBAL				S	**Sg**	**21 32 42.8**	**+1.7**
BBAL	**Bala**	**0.11**	**22**	*i* P	**Pg**	**21 32 40.6**	**+1.0**
BBAL				*i* S	**Sg**	**21 32 42.8**	**+1.7**
KKUL	**Konya-Kulu**	**0.29**	**204**	P	**Pg**	**21 32 43.5**	**+0.7**
KKUL				S	**Sg**	**21 32 48.2**	**+1.6**
KKUL	**Konya-Kulu**	**0.29**	**204**	*i* P	**Pg**	**21 32 43.5**	**+0.7**
KKUL				*i* S	**Sg**	**21 32 48.2**	**+1.6**
KAMT	**Kaman**	**0.51**	**98**	*e*PG	**Pg**	**21 32 47.7**	**+0.7**
KAMT				*e*SG	**Sb**	**21 32 55.2**	**-1.7**
KAMT	**Kaman**	**0.51**	**98**	*e*Pg	**Pg**	**21 32 47.7**	**+0.7**
KAMT				*e*Sg	**Sb**	**21 32 55.2**	**-1.7**
LOD	**Lodumlu**	**0.51**	**333**	*e*PG	**Pg**	**21 32 47.3**	**+0.2**
LOD	**Lodumlu**	**0.51**	**333**	*e*Pg	**Pg**	**21 32 47.3**	**+0.2**
CHBY	**Cihanbeyli**	**0.86**	**189**	*e*PG	**Pg**	**21 32 53.9**	**0.0**
CHBY	**Cihanbeyli**	**0.86**	**189**	*e*Pg	**Pg**	**21 32 53.9**	**0.0**
AKSY	**AKSARAY - Alti**	**0.95**	**145**	P	**Pb**	**21 32 57.0**	**+0.3**
AKSY	**AKSARAY - Alti**	**0.95**	**145**	*i* P	**Pb**	**21 32 57.0**	**+0.3**
CDAG	**Cicekdag**	**1.03**	**79**	P	**Pg**	**21 32 57.1**	**+0.1**
CDAG				S	**Sb**	**21 33 12.0**	**+0.1**
CDAG	**Cicekdag**	**1.03**	**79**	*i* P	**Pg**	**21 32 57.1**	**+0.1**
CDAG				*i* S	**Sb**	**21 33 12.0**	**+0.1**
KIZT	**Kizilcal**	**1.08**	**239**	*e*PN	**Pn**	**21 32 59.2**	**-0.4**
KIZT	**Kizilcal**	**1.08**	**239**	*e*Pn	**Pn**	**21 32 59.2**	**-0.4**
ELDT	**Eldivan**	**1.09**	**15**	P	**Pg**	**21 32 58.6**	**+0.4**
ELDT				S	**Sn**	**21 33 14.4**	**-1.1**
ELDT	**Eldivan**	**1.09**	**15**	*i* P	**Pg**	**21 32 58.6**	**+0.4**
ELDT				*i* S	**Sn**	**21 33 14.4**	**-1.1**
KDHN	**Kadinhani**	**1.18**	**219**	P	**Pg**	**21 33 00.1**	**+0.2**
KDHN	**Kadinhani**	**1.18**	**219**	*i* P	**Pg**	**21 33 00.1**	**+0.2**
COAL	**Corum-Alaca**	**1.69**	**60**	P	**Pb**	**21 33 08.8**	**-0.4**
COAL	**Corum-Alaca**	**1.69**	**60**	*i* P	**Pb**	**21 33 08.8**	**-0.4**

**WE

JCN	**Nagara**	**0.75**	**246**	P	**Pb**	**21 41 13.6**	**-0.2**
JCN				S	**Sb**	**21 41 24.3**	**+0.4**
JYT	**Yasato**	**0.85**	**307**	P	**Pb**	**21 41 15.4**	**-0.2**
JYT				S	**Sg**	**21 41 26.0**	**-0.5**
BSO4	**Boso 4**	**0.93**	**218**	P	**Pb**	**21 41 16.8**	**0.0**
JHO	**Hitachi**	**0.96**	**337**	P	**Pn**	**21 41 18.0**	**-0.2**
JHO				S	**Sb**	**21 41 31.1**	**+0.9**
BSO3	**Boso 3**	**1.02**	**205**	P	**Pb**	**21 41 18.0**	**-0.2**
MJAR	**Matsushiro Arr**	**2.43**	**290**	Pn	**Pn**	**21 41 38.8**	**+0.3**
	1.7nm,0.3s,baz=94,slow=9.2,SNR=15						
MJAR				Sn	**Sn**	**21 42 07.6**	**-0.5**
	3.3nm,0.3s,baz=99,slow=31,SNR=5.9						
MAT	**Matsushiro**	**2.43**	**290**	P	**Pn**	**21 41 38.9**	**+0.5**
MAT				eS	**Sn**	**21 42 07.9**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**27.77**	**118**	T	T	22 15 50.2	
	baz=311,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**27.77**	**118**	T	T	22 15 48.9	
	baz=311,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**27.79**	**118**	T	T	22 15 51.6	
	baz=311,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**28.43**	**120**	T	T	22 16 35.7	
	baz=312,slow=75,SNR=49						
H11S3	**WAKE ISLAND Hy**	**28.43**	**120**	T	T	22 16 34.4	
	baz=312,slow=75,SNR=41						
H11S2	**WAKE ISLAND Hy**	**28.45**	**120**	T	T	22 16 36.3	
	baz=312,slow=75,SNR=32						
MKAR	**Makanchi Array**	**44.57**	**303**	P	**P**	**21 49 10.4**	**-0.2**
	0.4nm,0.9s,baz=91,slow=8.6,SNR=2.5						
WRA	**Warramunga Arr**	**55.72**	**188**	P	**P**	**21 50 35.3**	**0.0**
	0.4nm,0.8s,baz=4.1,slow=7.5,SNR=4.2						

*ATH **24** 21:50:47.7, 37°.00N×27°.41E, h29km±4km, ML2.7/3, Error ellipse: s-maj=4.4km s-min=0.8km az=239.0*
*DDA **24** 21:50:47.8, 37°.00N×27°.42E, h8km, Md2.8*
*ISCJB **24** 21:50:48.6±0.4, 37°.01N±0°.02×27°.42E±0°.03, h5km±4km, Error ellipse: s-maj=4.4km s-min=3.8km az=170.7*
*CSEM **24** 21:50:48.9±0.2, 37°.00N×27°.41E, h5km, MD2.8, Error ellipse: s-maj=5.7km s-min=4.9km az=77.0*
*ISK **24** 21:50:48.2, 37°.04N×27°.48E, h5km, MD2.8*

ISC 24 21:50:47.7±0.8, **37°.01N**±0°.02×**27°.46E**±0°.02, **h11**km±5km, **n46**, σ1**°10**/61, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.06**	**351**	P	**Pg**	**21 50 50.1**	**+0.1**
BDRM				S	**Sg**	**21 50 51.8**	**+0.1**
BDRM	**Kayabasi**	**0.06**	**351**	*i* P	**Pg**	**21 50 50.1**	**+0.1**
BDRM				*i* S	**Sg**	**21 50 51.8**	**+0.1**
BODT	**Bodrum**	**0.13**	**294**	PG	**Pg**	**21 50 51.1**	**+0.3**
BODT	**Bodrum**	**0.13**	**294**	*i* Pg	**Pg**	**21 50 51.2**	**+0.3**
NIS1	**Nisyros Isl.**	**0.46**	**209**	P	**Pg**	**21 50 57.2**	**+0.3**
NIS1				S	**Sb**	**21 51 04.5**	**-0.3**
NIS1	**Nisyros Isl.**	**0.46**	**209**	P	**Pg**	**21 50 57.2**	**+0.3**
NIS1				S	**Sb**	**21 51 04.5**	**-0.3**
NIS1				AML	AML	21 51 09.7	
	comp=N,2834μm,0.2s						
NIS1				AML	AML	21 51 10.8	
	comp=E,3220μm,0.4s						
NISR	**Nisiros**	**0.48**	**214**	P	**Pg**	**21 50 57.5**	**+0.4**
NISR				S	**Sb**	**21 51 04.3**	**-0.8**
NISR	**Nisiros**	**0.48**	**214**	P	**Pg**	**21 50 57.5**	**+0.4**
NISR				S	**Sb**	**21 51 04.3**	**-0.8**
NISR				AML	AML	21 51 05.8	
	comp=E,1581μm,0.3s						
NISR				AML	AML	21 51 09.2	
	comp=N,856μm,0.4s						
YER	**Yerkesik**	**0.67**	**79**	*e*PG	**Pb**	**21 51 02.0**	**+0.5**
YER				*e*SG	**Sb**	**21 51 12.1**	**+1.2**
YER	**Yerkesik**	**0.67**	**79**	*e*Pg	**Pb**	**21 51 02.1**	**+0.5**
YER				*e*Sg	**Sb**	**21 51 12.1**	**+1.2**
GCAM	**G?zelcaml?**	**0.71**	**346**	P	**Pg**	**21 51 01.5**	**0.0**
GCAM				S	**Sn**	**21 51 13.8**	**-0.8**
GCAM	**G?zelcaml?**	**0.71**	**346**	*i* P	**Pg**	**21 51 01.5**	**0.0**
GCAM				*i* S	**Sn**	**21 51 13.8**	**-0.8**
SMG	**Samos**	**0.85**	**325**	P	**Pg**	**21 51 03.9**	**-0.3**
SMG				S	**Sb**	**21 51 16.5**	**+0.4**
SMG	**Samos**	**0.85**	**325**	P	**Pg**	**21 51 03.9**	**-0.3**
SMG				S	**Sb**	**21 51 16.5**	**+0.4**
SMG				AML	AML	21 51 18.7	
	comp=E,1551μm,0.4s						
SMG				AML	AML	21 51 19.1	
	comp=N,936μm,0.3s						
TURN	**Turunc**	**0.93**	**98**	*i* P	Pg	21 51 01.5	-4.1
TURN				*i* S	**Sg**	**21 51 11.4**	**-6.3**
ARG	**Arkhangelos**	**0.96**	**146**	P	**Pg**	**21 51 05.9**	**-0.3**
ARG				S	**Sn**	**21 51 20.7**	**0.0**
DALY	**Dalyan (Mu˘la**	**0.98**	**101**	*e*PG	**Pn**	**21 51 08.0**	**+0.6**
DALY				*e*SG	**Sn**	**21 51 22.0**	**+0.8**
DALY	**Dalyan (Mu˘la**	**0.98**	**101**	*e*Pg	**Pn**	**21 51 08.0**	**+0.6**
DALY				*e*Sg	**Sn**	**21 51 22.0**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**20**	*e*PG	**Pn**	**21 51 08.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**20**	*e*Pg	**Pn**	**21 51 08.3**	**+0.5**
DGB	**˘zmir**	**1.14**	**337**	*i* P	**Pb**	**21 51 09.2**	**-0.2**
DNZL	**Cakiroluk**	**1.44**	**61**	P	**Pb**	**21 51 15.8**	**+1.2**
DNZL	**Cakiroluk**	**1.44**	**61**	P	**Pb**	**21 51 15.8**	**+1.2**
ZEY	**˘zmir**	**1.44**	**329**	*i* P	**Pb**	**21 51 14.6**	**0.0**
KARP	**Karpathos**	**1.48**	**189**	*e*PN	**Pg**	**21 51 18.1**	**+2.0**
KARP	**Karpathos**	**1.48**	**189**	P	**Pn**	**21 51 13.7**	**-0.6**
KARP	**Karpathos**	**1.48**	**189**	*e*Pn	**Pg**	**21 51 18.1**	**+2.0**
KARP	**Karpathos**	**1.48**	**189**	P	**Pn**	**21 51 13.7**	**-0.6**
URLA	**Izmir**	**1.51**	**333**	P	**Pg**	**21 51 16.9**	**+0.1**
URLA	**Izmir**	**1.51**	**333**	*i* P	**Pg**	**21 51 16.9**	**+0.1**
APE	**Apeiranthos**	**1.54**	**273**	*e*PN	**Pg**	**21 51 18.3**	**+1.0**
APE	**Apeiranthos**	**1.54**	**273**	*e*Pn	**Pg**	**21 51 18.3**	**+1.0**
GLHS	**Glhisar (BURDU**	**1.64**	**84**	*e*PN	**Pb**	**21 51 18.9**	**+0.8**
GLHS	**Glhisar (BURDU**	**1.64**	**84**	*e*Pn	**Pb**	**21 51 18.9**	**+0.8**
CHOS	**Chios island**	**1.77**	**321**	P	**Pn**	**21 51 18.6**	**+0.3**
CHOS	**Chios island**	**1.77**	**321**	P	**Pn**	**21 51 18.6**	**+0.3**
KULA	**Kula-Manisa**	**1.78**	**32**	*e*PN	**Pb**	**21 51 20.6**	**+0.2**
KULA	**Kula-Manisa**	**1.78**	**32**	*e*Pn	**Pb**	**21 51 20.6**	**+0.2**
AKS	**Akhisar**	**1.89**	**9**	*e*PN	**Pb**	**21 51 22.7**	**+0.5**
AKS	**Akhisar**	**1.89**	**9**	*e*Pn	**Pb**	**21 51 22.7**	**+0.5**
AKAS	**Kas**	**1.90**	**114**	P	**Pg**	**21 51 24.5**	**+0.4**
AKAS	**Kas**	**1.90**	**114**	*i* P	**Pg**	**21 51 24.5**	**+0.4**
ELL	**Elmali**	**1.98**	**97**	*e*PN	**Pb**	**21 51 23.8**	**-0.1**
ELL	**Elmali**	**1.98**	**97**	*e*Pn	**Pb**	**21 51 23.8**	**-0.1**
DEMI	**Demirci**	**2.26**	**26**	P	**Pb**	**21 51 29.7**	**+1.1**
DEMI	**Demirci**	**2.26**	**26**	*i* P	**Pb**	**21 51 29.7**	**+1.1**

*ATH **24** 22:05:52.0, 35°.26N×23°.29E, h39km±1km, ML3.0/8, Error ellipse: s-maj=3.1km s-min=1.0km az=51.0*
*ISCJB **24** 22:05:52.1±1.0, 35°.22N±0°.05×23°.23E±0°.06, h28km±5km, Error ellipse: s-maj=11.3km s-min=4.6km az=44.8*
*CSEM **24** 22:05:52.4±0.3, 35°.23N×23°.25E, h23km±2km, ML3.0, Error ellipse: s-maj=6.5km s-min=2.4km az=42.0*
*THE **24** 22:05:53.1, 35°.26N×23°.29E, h18km±2km, ML3.1/10, Error ellipse: s-maj=2.9km s-min=0.8km az=218.0*

ISC 24 22:05:52.2±1.5, **35°.24N**±0°.05×**23°.26E**±0°.05, **h23**km±13km, **n55**, σ0**°55**/81, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.62**	**3**	P	**Pb**	**22 06 04.9**	**+0.4**
ANKY				S	**Sn**	**22 06 14.2**	**-0.7**
ANKY	**Antikythira Is**	**0.62**	**3**	P	**Pn**	**22 06 05.1**	**-0.5**
ANKY				S	**Sn**	**22 06 14.2**	**-0.7**
ANKY	**Antikythira Is**	**0.62**	**3**	P	**Pn**	**22 06 05.1**	**-0.5**
ANKY				S	**Sn**	**22 06 14.8**	**-0.1**
ANKY				AML	AML	22 06 16.3	
	comp=N,3344μm,0.4s						
ANKY				AML	AML	22 06 18.7	
	comp=E,3404μm,0.5s						
IMMV	**Iera Moni Meta**	**0.63**	**70**	P	**Pb**	**22 06 04.5**	**-0.1**
IMMV				S	**Sb**	**22 06 12.9**	**-0.1**
IMMV	**Iera Moni Meta**	**0.63**	**70**	P	**Pb**	**22 06 04.5**	**-0.1**
IMMV				S	**Sb**	**22 06 12.9**	**-0.1**
IMMV	**Iera Moni Meta**	**0.63**	**70**	P	**Pb**	**22 06 04.3**	**-0.3**
IMMV				S	**Sb**	**22 06 13.4**	**+0.4**
IMMV				AML	AML	22 06 16.7	
	comp=N,2573μm,0.4s						
IMMV				AML	AML	22 06 16.8	
	comp=E,3819μm,0.4s						
VAM	**Vamos**	**0.79**	**78**	P	**Pb**	**22 06 07.1**	**-0.1**
VAM				S	**Sn**	**22 06 18.9**	**0.0**
VAM	**Vamos**	**0.79**	**78**	P	**Pb**	**22 06 07.2**	**0.0**
VAM				S	**Sn**	**22 06 18.9**	**0.0**
GVD	**Gavdhos**	**0.79**	**120**	P	**Pb**	**22 06 07.5**	**+0.2**
GVD				S	**Sn**	**22 06 18.2**	**-0.8**
GVD	**Gavdhos**	**0.79**	**120**	P	**Pn**	**22 06 07.7**	**-0.2**
GVD				S	**Sn**	**22 06 18.5**	**-0.5**
GVD				AML	AML	22 06 24.1	
	comp=E,2961μm,0.4s						
GVD				AML	AML	22 06 28.6	
	comp=N,2752μm,0.3s						
KYTH	**Kithira**	**1.03**	**351**	P	**Pb**	**22 06 11.6**	**+0.2**
KYTH				S	**Sn**	**22 06 26.4**	**+1.3**
KYTH	**Kithira**	**1.03**	**351**	P	**Pb**	**22 06 11.7**	**+0.2**
KYTH				S	**Sn**	**22 06 26.3**	**+1.2**
KYTH	**Kithira**	**1.03**	**351**	P	**Pb**	**22 06 11.7**	**+0.2**
SIVA	**Sivas**	**1.29**	**100**	P	**Pn**	**22 06 14.9**	**+0.1**
SIVA				S	**Sb**	**22 06 32.5**	**+0.5**
SIVA	**Sivas**	**1.29**	**100**	P	**Pn**	**22 06 14.9**	**+0.1**
SIVA				S	**Sb**	**22 06 32.5**	**+0.5**
SIVA	**Sivas**	**1.29**	**100**	P	**Pn**	**22 06 14.5**	**-0.3**
SIVA				AML	AML	22 06 38.5	
	comp=E,1608μm,0.6s						
SIVA				AML	AML	22 06 48.3	
	comp=N,1531μm,0.7s						
IDI	**Anoyia**	**1.34**	**88**	P	**Pn**	**22 06 15.3**	**-0.2**
IDI				S	**Sb**	**22 06 32.9**	**-0.4**
IDI	**Anoyia**	**1.34**	**88**	P	**Pn**	**22 06 15.5**	**0.0**
IDI				S	**Sb**	**22 06 32.9**	**-0.4**
IDI	**Anoyia**	**1.34**	**88**	P	**Pn**	**22 06 16.5**	**0.0**
IDI				AML	AML	22 06 35.8	
	comp=N,812μm,0.8s						
IDI				AML	AML	22 06 39.5	
	comp=E,462μm,0.6s						
VLI	**Veliai**	**1.50**	**350**	P	**Pb**	**22 06 18.7**	**-0.6**
VLI				S	**Sb**	**22 06 37.4**	**-0.4**
VLI	**Veliai**	**1.50**	**350**	P	**Pb**	**22 06 18.5**	**-0.8**
VLI				S	**Sb**	**22 06 37.3**	**-0.5**
VLI	**Veliai**	**1.50**	**350**	P	**Pb**	**22 06 18.5**	**-0.8**
VLI				S	**Sb**	**22 06 37.3**	**-0.5**
VLI				AML	AML	22 06 44.0	
	comp=E,429μm,0.4s						
VLI				AML	AML	22 06 44.3	
	comp=N,626μm,0.5s						
MHLO	**Agia Marina, M**	**1.72**	**32**	P	**Pn**	**22 06 20.8**	**+0.2**
MHLO	**Agia Marina, M**	**1.72**	**32**	P	**Pn**	**22 06 20.8**	**+0.2**
MHLO	**Agia Marina, M**	**1.72**	**32**	P	**Pn**	**22 06 20.2**	**-0.4**
LAST	**Lasithi**	**1.82**	**92**	P	**Pn**	**22 06 23.0**	**+0.9**
LAST	**Lasithi**	**1.82**	**92**	P	**Pn**	**22 06 23.0**	**+0.9**
LAST	**Lasithi**	**1.82**	**92**	P	**Pn**	**22 06 23.2**	**+1.0**
NPS	**Neapolis**	**1.93**	**89**	P	**Pn**	**22 06 24.0**	**+0.4**
NPS	**Neapolis**	**1.93**	**89**	P	**Pn**	**22 06 24.0**	**+0.4**
PYL	**PYLOS**	**2.06**	**324**	P	**Pn**	**22 06 24.9**	**-0.4**
PYL	**PYLOS**	**2.06**	**324**	P	**Pn**	**22 06 25.6**	**+0.3**
PYL	**PYLOS**	**2.06**	**324**	P	**Pn**	**22 06 25.6**	**+0.3**
THR3	**Thira Island,**	**2.10**	**56**	P	**Pn**	**22 06 25.6**	**-0.2**
THR3	**Thira Island,**	**2.10**	**56**	P	**Pn**	**22 06 25.6**	**-0.2**
KRND	**KRANIDI**	**2.14**	**358**	P	**Pn**	**22 06 27.2**	**+0.8**
KRND				S	**Sn**	**22 06 52.5**	**+0.3**
KRND	**KRANIDI**	**2.14**	**358**	P	**Pn**	**22 06 26.9**	**+0.5**
KRND				S	**Sn**	**22 06 52.7**	**+0.5**
KRND	**KRANIDI**	**2.14**	**358**	P	**Pn**	**22 06 26.9**	**+0.5**
KRND				S	**Sn**	**22 06 52.7**	**+0.5**
KRND				AML	AML	22 07 03.1	
	comp=E,297μm,0.7s						
KRND				AML	AML	22 07 04.6	
	comp=N,216μm,0.5s						
VLX	**Vlachokerasia**	**2.24**	**342**	P	**Pn**	**22 06 29.1**	**+1.2**
VLX	**Vlachokerasia**	**2.24**	**342**	P	**Pn**	**22 06 29.1**	**+1.2**
DID	**Didima**	**2.26**	**360**	P	**Pn**	**22 06 28.9**	**+0.8**
DID				S	**Sn**	**22 06 55.3**	**0.0**
DID	**Didima**	**2.26**	**360**	P	**Pn**	**22 06 28.9**	**+0.8**
DID				S	**Sn**	**22 06 55.3**	**0.0**
DID	**Didima**	**2.26**	**360**	P	**Pn**	**22 06 28.2**	**+0.1**
DID				S	**Sn**	**22 06 54.8**	**-0.4**
DID				AML	AML	22 07 08.0	
	comp=E,202μm,0.5s						
DID				AML	AML	22 07 10.2	
	comp=N,151μm,0.5s						
APE	**Apeiranthos**	**2.59**	**45**	*e*PN	**Pn**	**22 06 33.2**	**+0.5**
APE	**Apeiranthos**	**2.59**	**45**	*e*Pn	**Pn**	**22 06 33.2**	**+0.5**
VLY	**Voula,Athens**	**2.64**	**9**	P	**Pn**	**22 06 33.8**	**+0.5**
VLY	**Voula,Athens**	**2.64**	**9**	P	**Pn**	**22 06 33.8**	**+0.5**
VLY	**Voula,Athens**	**2.64**	**9**	P	**Pn**	**22 06 34.2**	**+0.9**
LTK	**Loutraki**	**2.79**	**355**	P	**Pn**	**22 06 34.7**	**-0.7**
LTK	**Loutraki**	**2.79**	**355**	P	**Pn**	**22 06 34.7**	**-0.7**
GUR	**Goura**	**2.79**	**345**	P	**Pn**	**22 06 35.9**	**+0.4**
GUR	**Goura**	**2.79**	**345**	P	**Pn**	**22 06 35.9**	**+0.4**
KLV	**Kalavryta, Ach**	**2.93**	**343**	P	**Pn**	**22 06 37.0**	**-0.4**
KLV	**Kalavryta, Ach**	**2.93**	**343**	P	**Pn**	**22 06 37.0**	**-0.4**

*CSEM **24** 22:06:03.1, 37°.03N×27°.45E, h5km, MD2.6*

ISK 24 22:06:03.1, 37°.03N×27°.45E, h5km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.12**	**285**	PG	Pg	22 06 05.9	+0.3
BODT				*e*SG	Sg	22 06 08.2	+1.0
BODT	**Bodrum**	**0.12**	**285**	*i* Pg	Pg	22 06 05.9	+0.3
BODT				*e*Sg	Sg	22 06 08.2	+1.0
YER	**Yerkesik**	**0.67**	**81**	*e*PG	Pb	22 06 17.9	+0.6
YER				*e*SG	Sb	22 06 27.6	+0.6
YER	**Yerkesik**	**0.67**	**81**	*e*Pg	Pb	22 06 17.9	+0.6
YER				*e*Sg	Sb	22 06 27.6	+0.6
AYDB	**Zeytinkoy-Aydi**	**0.98**	**21**	*e*PG	Pb	22 06 22.9	+0.2
AYDB				*e*SG	Sn	22 06 37.8	-0.2
AYDB	**Zeytinkoy-Aydi**	**0.98**	**21**	*e*Pg	Pb	22 06 22.9	+0.3
AYDB				*e*Sg	Sn	22 06 37.8	-0.1

*IDC **24** 22:13:49.7±3.9, 22°.94S×69°.47W, h0km, mb3.6/1, mb1 3.6/2, mb1mx3.5/16, mbtmp3.5/2, ML3.4/1, Error ellipse: s-maj=134.5km s-min=43.4km az=88.0*
*ISCJB **24** 22:13:55.9±0.4, 22°.38S±0°.03×70°.12W±0°.06, h62km±4km, mb4.1/8, Error ellipse: s-maj=9.6km s-min=5.2km az=18.8*
*NEIC **24** 22:13:56.0, 22°.37S×70°.08W, h51km, mb4.2/7, After GUC. NEIC Felt [III] at Tocopilla.*
*GUC **24** 22:13:56.3±0.5, 22°.37S×70°.08W, h51km±2km, ML4.0*

ISC 24 22:13:56.4±0.8, **22°.39S**±0°.04×**70°.10W**±0°.06, **h52**km±6km, **n26**, σ0**°93**/29, **mb4.1**/8, **4C-4D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**IPOC Station P**	**0.07**	**320**	*i* P	**Pn**	**22 14 04.7**	**+0.1**
PB04				*i* S	**Sn**	**22 14 10.7**	**+0.3**
PB06	**IPOC Station P**	**0.59**	**123**	*i* P	**Pn**	**22 14 09.2**	**+0.2**
PB06				*i* S	**Sn**	**22 14 18.5**	**+0.4**
PB07	**IPOC Station P**	**0.69**	**17**	↓*i* P	**Pn**	**22 14 10.1**	**-0.2**
PB07				*i* S	**Sn**	**22 14 19.9**	**-0.4**
PB09	**IPOC Station P**	**0.99**	**54**	↓*i* P	**Pn**	**22 14 14.6**	**+0.3**
PB09				*i* S	**Sn**	**22 14 28.0**	**+0.7**
PB09				IAML		22 14 29.1	
	comp=N,5μm,0.2s						
LVC	**Limon Verde**	**1.13**	**102**	*e*Pn	**Pn**	**22 14 17.4**	**+1.2**
LVC				*e*Sn	**Sn**	**22 14 30.4**	**-0.4**
PB10	**IPOC Station P**	**1.20**	**200**	↓*i* P	**Pn**	**22 14 17.0**	**+0.1**
PB10				*i* S	**Sn**	**22 14 33.7**	**+1.6**
ANCH	**Antofagasta**	**1.32**	**192**	↑*i* P	**Pn**	**22 14 19.2**	**+0.7**
ANCH				*i* S	**Sn**	**22 14 36.5**	**+1.5**
PB01	**IPOC Station P**	**1.45**	**23**	↓*i* P	**Pn**	**22 14 20.9**	**+0.5**
PB01				*i* S	**Sn**	**22 14 39.2**	**+0.8**
PB01				IAML		22 14 40.6	
	comp=E,4μm,0.4s						
PB08	**IPOC Station P**	**2.40**	**22**	↑*i* P	**Pn**	**22 14 34.4**	**+0.8**
PB08				*i* S	**Sn**	**22 15 03.9**	**+1.8**
PB08				IAML		22 15 08.2	
	comp=N,1μm,0.4s						
LPAZ	**La Paz**	**6.34**	**17**	Pn	**Pn**	**22 15 30.4**	**+2.5**
	comp=N,0.4nm,0.3s,baz=185,slow=5.8,SNR=11						
LPAZ				Sn	Sn	22 16 49.5	+10
	baz=228,slow=16,SNR=1.4						
SDV	**Santo Domingo**	**31.08**	**359**	*e*P	**P**	**22 20 09.7**	**-0.4**
	comp=N,11nm,0.5s						
MIAR	**Mount Ida**	**60.85**	**338**	*e*P	**P**	**22 24 02.9**	**-0.6**
	comp=N,0.8nm,0.5s						
WMOK	**Wichita Mounta**	**63.00**	**334**	*e*P	**P**	**22 24 17.4**	**-0.6**
	comp=N,3.2nm,0.8s						
HWUT	**Hardware Ranch**	**74.36**	**329**	*e*P	**P**	**22 25 28.7**	**-0.1**
	comp=N,1.3nm,0.7s						
CMB	**Columbia Colle**	**76.43**	**321**	*e*P	**P**	**22 25 40.5**	**0.0**
	comp=N,1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.69**	**71**	P	**P**	**22 25 52.4**	**-1.2**
	comp=N,0.2nm,0.6s,baz=251,slow=6.7,SNR=4.5						
NEW	**Newport**	**81.96**	**330**	*e*P	**P**	**22 26 10.6**	**+0.1**
	comp=N,1.5nm,0.7s						
SUMG	**Summit**	**97.11**	**9**	*e*P	**P**	**22 27 22.6**	**-0.2**
	comp=N,0.5nm,0.4s						
INK	**Inuvik**	**101.39**	**340**	*e*Pdif	**Pdif**	**22 27 41.4**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**26.89**	**277**	T	T	00 52 41.3	
	baz=102						
H11S1	**WAKE ISLAND Hy**	**26.89**	**277**	T	T	00 52 40.6	
	baz=102						
H11S3	**WAKE ISLAND Hy**	**26.90**	**277**	T	T	00 52 39.2	
	baz=102						
H11N3	**WAKE ISLAND Hy**	**26.99**	**278**	T	T	00 52 46.5	
	baz=104						
H11N2	**WAKE ISLAND Hy**	**27.01**	**278**	T	T	00 52 46.3	
	baz=104						
H11N1	**WAKE ISLAND Hy**	**27.01**	**278**	T	T	00 52 46.2	
	baz=104						
MKAR	**Makanchi Array**	**147.00**	**36**	PKPbc	**PKPbc**	**22 33 33.8**	**+0.5**
	comp=N,0.4nm,0.8s,baz=320,slow=4.3,SNR=3.6						

*IDC **24** 22:17:09.0±3.3, 3°.28S×100°.60E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/42, mbtmp3.8/6, Error ellipse: s-maj=133.2km s-min=19.1km az=57.0*
*ISCJB **24** 22:17:11.4±1.1, 3°.2S±0°.1×100°.6E±0°.2, h29km, mb4.0/9, Error ellipse: s-maj=27.1km s-min=14.2km az=139.7*
*NEIC **24** 22:17:14.0±0.8, 3°.28S×100°.60E, h35km, mb4.2/3, Error ellipse: s-maj=22.4km s-min=11.7km az=51.0*

ISC 24 22:17:13.1±1.3, **3°.3S**±0°.2×**100°.6E**±0°.2, **h29**km, **n18**, σ0**°85**/12, **mb4.0**/9, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**10.81**	**64**	Pn	**Pn**	**22 19 46.0**	**0.0**
CMAR	**Chiang Mai Arr**	**21.67**	**356**	P	**P**	**22 22 00.7**	**-0.9**
	1.1nm,0.7s,baz=181,slow=8.4,SNR=3.0						
H08S2	**Diego Garcia H**	**28.29**	**260**	T	T	22 52 16.4	
	baz=83,slow=75,SNR=148						
H08S3	**Diego Garcia H**	**28.30**	**260**	T	T	22 52 22.7	
	baz=83,slow=75,SNR=135						
H08S1	**Diego Garcia H**	**28.31**	**260**	T	T	22 52 23.6	
	baz=83,slow=75,SNR=174						
H01W3	**Cape Leeuwin H**	**33.87**	**160**	T	T	22 59 17.2	
	baz=336,slow=76,SNR=7.2						
H01W2	**Cape Leeuwin H**	**33.88**	**160**	T	T	22 59 16.8	
	baz=336,slow=76,SNR=8.0						
H01W1	**Cape Leeuwin H**	**33.88**	**160**	T	T	22 59 17.2	
	baz=336,slow=76,SNR=8.4						
WRA	**Warramunga Arr**	**36.85**	**119**	P	**P**	**22 24 18.0**	**-1.2**
	0.5nm,0.4s,baz=298,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**38.03**	**125**	P	**P**	**22 24 30.4**	**+1.2**
	0.8nm,0.4s,baz=300,slow=7.8,SNR=13						
SONM	**Songino Array**	**51.16**	**5**	P	**P**	**22 26 14.8**	**+1.1**
	2.4nm,0.8s,baz=188,slow=9.6,SNR=11						
ULN	**Ulaanbaatar**	**51.25**	**6**	*e*P	**P**	**22 26 15.3**	**+0.9**
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**52.42**	**344**	P	**P**	**22 26 23.2**	**+0.3**
	1.3nm,0.8s,baz=149,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**58.53**	**349**	P	**P**	**22 27 06.4**	**-0.3**
	1.9nm,0.8s,baz=177,slow=5.6,SNR=6.8						
ABKAR	**Akbulak array**	**63.04**	**331**	*e*P	**P**	**22 27 37.1**	**-0.4**
	1.2nm,0.8s						
YAK	**Yakutsk**	**68.83**	**14**	*e*P	**P**	**22 28 14.6**	**+0.1**
	4.3nm,0.4s						
RAO	**Raoul Island**	**80.99**	**119**	*e*P	**P**	**22 29 25.3**	**-0.2**
TXAR	**Lajitas Array**	**145.34**	**39**	PKPbc	**PKPab**	**22 36 48.5**	**-0.5**
	1.4nm,0.8s,baz=298,slow=0.9,SNR=15						

*IDC **24** 22:21:51.0±3.0, 35°.62N×141°.81E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.2/34, mbtmp3.2/4, ML2.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/24, Error ellipse: s-maj=67.0km s-min=29.3km az=65.0*
*JMA **24** 22:21:53.3±0.1, 35°.66N×141°.83E, h26km±2km, M2.6*

ISC 24 22:21:54.2±1.8, **35°.63N**±0°.09×**141°.8E**±0°.1, **h22**km, **n13**, σ0**°63**/8, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.73**	**276**	P	**Pb**	**22 22 07.9**	**-0.3**
CHOJ				*e*S	**Sb**	**22 22 18.7**	**+0.9**
BSO1	**Boso 1**	**1.16**	**213**	P

PAU	**Pauzhetka**	**0.95**	**334**	*eP*		**Pn**	**22 31 01.8**	**+2.4**
PAU				*eS*		**Sn**	**22 31 13.5**	**+0.1**
ASAK	**Asacha**	**1.78**	**8**	PN		**Pg**	**22 31 14.1**	**+0.7**
ASAK	**Asacha**	**1.78**	**8**	*eP*		**Pg**	**22 31 14.1**	**+0.7**
ASAK				*eS*		**Sb**	**22 31 35.4**	**0.0**
RUS	**Russkaya**	**1.93**	**19**	PN		**Pg**	**22 31 15.6**	**-0.5**
RUS	**Russkaya**	**1.93**	**19**	*eP*		**Pg**	**22 31 15.6**	**-0.5**
RUS				*eS*		**Sn**	**22 31 37.4**	**-0.2**
KRMR	**Karymshinskiy**	**2.25**	**10**	PN		**Pg**	**22 31 21.5**	**-0.8**
KRMR	**Karymshinskiy**	**2.25**	**10**	*eP*		**Pg**	**22 31 21.5**	**-0.8**
KRMR				*eS*		**Sb**	**22 31 48.3**	**-0.3**
PETK	**Petropavlovsk-**	**2.49**	**3**	P		**Pb**	**22 31 24.2**	**-0.4**
	comp=E,4.1nm,0.3s,baz=168,slow=15,SNR=63							
PETK				S		**Sb**	**22 31 53.6**	**-2.1**
	comp=E,2.2nm,0.3s,baz=187,slow=22,SNR=5.3							
PET	**Petropavlovsk**	**2.51**	**16**	*e*PN		**Pb**	**22 31 24.7**	**-0.3**
PET	**Petropavlovsk**	**2.51**	**16**	*eP*		**Pb**	**22 31 24.5**	**-0.5**
PET				*eS*		**Sn**	**22 31 53.3**	**+1.2**
UGLR	**Uglovaya**	**2.72**	**17**	PN		**Pb**	**22 31 28.9**	**+0.3**
UGLR	**Uglovaya**	**2.72**	**17**	*eP*		**Pb**	**22 31 28.9**	**+0.3**
UGLR				*eS*		**Sb**	**22 32 01.1**	**-1.3**
AVH	**Avacha**	**2.76**	**16**	PN		**Pb**	**22 31 29.4**	**+0.2**
AVH	**Avacha**	**2.76**	**16**	*eP*		**Pb**	**22 31 29.4**	**+0.2**
AVH				*eS*		**Sb**	**22 32 02.1**	**-1.3**
KOK	**Koryaka**	**2.77**	**15**	PN		**Pb**	**22 31 30.2**	**+0.8**
KOK				S		**Sb**	**22 32 03.4**	**-0.3**
KOK	**Koryaka**	**2.77**	**15**	*eP*		**Pb**	**22 31 30.2**	**+0.8**
KOK				*eS*		**Sb**	**22 32 03.4**	**-0.3**
SMAR	**Somma**	**2.77**	**17**	PN		**Pb**	**22 31 30.2**	**+0.7**
SMAR				S		**Sb**	**22 32 03.5**	**-0.4**
SMAR	**Somma**	**2.77**	**17**	*eP*		**Pb**	**22 31 30.2**	**+0.7**
SMAR				*eS*		**Sb**	**22 32 03.5**	**-0.4**
KRER	**Koryakskii**	**2.80**	**16**	PN		**Pb**	**22 31 30.2**	**+0.2**
KRER	**Koryakskii**	**2.80**	**16**	*eP*		**Pb**	**22 31 30.2**	**+0.2**
KRER				*eS*		**Sb**	**22 32 03.2**	**-1.5**
SDLR	**Sedlovina**	**2.80**	**18**	PN		**Pb**	**22 31 28.7**	**-1.2**
SDLR	**Sedlovina**	**2.80**	**18**	*eP*		**Pb**	**22 31 28.7**	**-1.2**
SDLR				*eS*		**Sn**	**22 32 00.9**	**+1.6**
NLC	**Nalytchevo**	**2.80**	**24**	*eS*		**Sn**	**22 31 59.6**	**+0.4**
KRX	**Arik**	**2.83**	**14**	PN		**Pb**	**22 31 30.1**	**-0.5**
KRX	**Arik**	**2.83**	**14**	*eP*		**Pb**	**22 31 30.1**	**-0.5**
KRX				*eS*		**Sb**	**22 32 04.3**	**-1.4**
GNL	**Ganaly**	**3.09**	**5**	PN		**Pb**	**22 31 33.1**	**-1.8**
GNL	**Ganaly**	**3.09**	**5**	*eP*		**Pb**	**22 31 33.1**	**-1.8**
GNL				*eS*		**Sn**	**22 32 08.2**	**+1.7**
BKI	**Bering**	**6.88**	**45**	PN		**Pn**	**22 32 24.1**	**+3.2**
BKI	**Bering**	**6.88**	**45**	*eP*		**Pn**	**22 32 24.1**	**+3.2**
KSRS	**Korea Array**	**24.80**	**249**	P		**P**	**22 35 59.1**	**-3.2**
	comp=E,0.3nm,0.4s,baz=47,slow=9.4,SNR=2.5							
H11N2	**WAKE ISLAND Hy**	**31.72**	**163**	T		T	23 10 44.6	
	baz=348,slow=76,SNR=13							
H11N1	**WAKE ISLAND Hy**	**31.73**	**163**	T		T	23 10 49.0	
	baz=348,slow=76,SNR=13							
H11N3	**WAKE ISLAND Hy**	**31.73**	**163**	T		T	23 10 48.3	
	baz=348,slow=76,SNR=24							
H11S1	**WAKE ISLAND Hy**	**32.87**	**164**	T		T	23 12 04.1	
	baz=348,slow=76,SNR=29							
H11S3	**WAKE ISLAND Hy**	**32.88**	**164**	T		T	23 12 05.5	
	baz=348,slow=76,SNR=34							
H11S2	**WAKE ISLAND Hy**	**32.89**	**164**	T		T	23 12 05.5	
	baz=348,slow=76,SNR=33							
TXAR	**Lajitas Array**	**73.13**	**64**	P		**P**	**22 42 11.4**	**+0.2**
	comp=E,0.3nm,0.5s,baz=292,slow=4.8,SNR=4.4							
WRA	**Warramunga Arr**	**73.16**	**203**	P		**P**	**22 42 09.7**	**-1.4**
	comp=E,0.4nm,0.8s,baz=18,slow=6.3,SNR=4.3							

NIED ***24*** *22:49:00,36˚.60N×143˚.60E,h5km,Mw4.0 Best double couple: M₀1.13000×10¹⁵ NP1:φ₅28.00000°,δ24.00000°, λ-76.00000°. NP2:φ₅193.00000°,δ67.00000°, λ-96.00000°.*

IDC ***24*** *22:49:03.5±0.7,36˚.46N×143˚.82E,h0km,mb3.9/15, mb1 4.1/18,mb1mx3.9/57,mbtmp4.0/18,ML3.7/3,MS3.0/7, Ms1 3.1/7,ms1mx2.8/43,Error ellipse: s-maj=19.7km s-min=16.9km az=101.0*

ISCJB ***24*** *22:49:07.5±0.5,36˚.59N±0˚.04×143˚.57E±0˚.04,h33km, mb3.9/18,MS3.2/2,Error ellipse: s-maj=6.3km s-min=4.6km az=168.9*

JMA ***24*** *22:49:07.0±0.3,36˚.61N×143˚.62E,h54km,M3.7*

NEIC ***24*** *22:49:09.0±0.5,36˚.51N×143˚.70E,h35km,mb4.3/2,Error ellipse: s-maj=11.0km s-min=9.4km az=142.0*

ISC 24 22:49:09.3±0.7,**36˚.62N**±0˚.06×**143˚.67E**±0˚.07,**h35**km,**n50,** σ**2s20**/52,**mb4.1**/18,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.35**	**283**	P		**Pn**	**22 49 44.3**	**-1.2**
ONAJ				*eS*		**Sn**	**22 50 11.5**	**-1.7**
JFK	**Kawauchi**	**2.36**	**289**	P		**Pn**	**22 49 43.8**	**-1.8**
JFK				S		**Sn**	**22 50 11.3**	**-2.0**
JHO	**Hitachi**	**2.49**	**271**	P		**Pn**	**22 49 46.1**	**-1.3**
JHO				S		**Sn**	**22 50 14.4**	**-2.2**
JFT	**Otama**	**2.81**	**290**	P		**Pn**	**22 49 51.1**	**-0.7**
JFT				S		**Sn**	**22 50 23.7**	**-0.8**
BSO1	**Boso 1**	**2.94**	**229**	P		**Pn**	**22 49 51.3**	**-1.7**
JMK	**Ichinoseki**	**3.03**	**321**	*eS*		**Sn**	**22 50 27.7**	**-2.2**
JAG	**Ashikaga**	**3.40**	**268**	P		**Pn**	**22 49 58.8**	**-1.1**
JAG				*eS*		**Sn**	**22 50 36.4**	**-2.6**
JOM	**Ohasama**	**3.41**	**327**	P		**Pn**	**22 49 58.9**	**-1.1**
JOM				*eS*		**Sn**	**22 50 36.2**	**-3.1**
JYK	**Kaneyama**	**3.49**	**312**	P		**Pn**	**22 50 00.1**	**-0.9**
JYK				*eS*		**Sn**	**22 50 39.5**	**-1.6**
JRY	**Ryogami san**	**3.90**	**263**	P		**Pn**	**22 50 05.4**	**-1.3**
JRY				S		**Sn**	**22 50 48.7**	**-2.5**
JOD2	**Odawara 2**	**3.96**	**251**	P		**Pn**	**22 50 06.5**	**-1.0**
JOD2				*eS*		**Sn**	**22 50 50.1**	**-2.6**
MJAR	**Matsushiro Arr**	**4.39**	**271**	Pn		**Pn**	**22 50 13.2**	**-0.3**
	2.2nm,0.3s,baz=89,slow=15,SNR=18							
MJAR				LR		LR	22 52 06.6	
	comp=Z,106nm,20.7s,baz=85,slow=41							
MAJO	**Matsushiro**	**4.40**	**271**	*e*Pn		**Pn**	**22 50 12.9**	**-0.7**
MAT	**Matsushiro**	**4.40**	**271**	P		**Pn**	**22 50 13.7**	**+0.1**
MAT				*eS*		**Sn**	**22 51 03.2**	**-0.4**
JHJ	**Hachijo jima 2**	**4.73**	**224**	Pn		**Pn**	**22 50 16.0**	**-2.1**
	20nm,0.3s,baz=90,slow=20,SNR=5.8							
JHJ					Sn	**Sn**	**22 51 04.9**	**-6.8**
	23nm,0.3s,baz=113,slow=23,SNR=5.5							
ERM	**Erimo**	**5.41**	**356**	*e*Pn		**Pn**	**22 50 28.7**	**+1.4**
JCH	**Churui**	**6.00**	**358**	P		**Pn**	**22 50 32.7**	**-2.8**
JCH				*eS*		**Sn**	**22 51 35.4**	**-7.5**
ASAJ	**Asahikawa**	**7.54**	**354**	Pn		**Pn**	**22 50 55.1**	**-1.5**
	1.2nm,0.3s,baz=161,slow=13,SNR=4.1							
ASAJ					Sn	**Sn**	**22 52 15.8**	**-5.0**
	0.5nm,0.3s,baz=232,slow=19,SNR=2.5							
JNU	**Nakatsue**	**11.07**	**255**	LR		LR	22 55 47.5	
	comp=Z,95nm,19.1s,baz=121,slow=36							
USRK	**Ussuriysk Ar.**	**11.68**	**314**	LR		LR	22 56 35.5	
	comp=Z,52nm,18.2s,baz=138,slow=38							
KSRS	**Korea Array**	**12.61**	**279**	LR		LR	22 56 37.3	
	comp=Z,96nm,18.1s,baz=94,slow=36							
KLR	**Kul'dur**	**15.31**	**329**	LR		LR	22 58 10.6	
	comp=Z,46nm,21.6s,baz=172,slow=35							
H11N2	**WAKE ISLAND Hy**	**26.39**	**123**	T		T	23 22 15.2	
	baz=314,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**26.40**	**123**	T		T	23 22 15.3	
	baz=314,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy**	**26.41**	**123**	T		T	23 22 22.2	
	baz=314,slow=75,SNR=16							
SEY	**Seymchan**	**26.89**	**9**	P		**P**	**22 54 47.5**	**+0.9**
	2.0nm,0.8s,baz=228,slow=11,SNR=6.9							
H11S1	**WAKE ISLAND Hy**	**27.13**	**125**	T		T	23 23 09.3	
	baz=316,slow=74							
H11S3	**WAKE ISLAND Hy**	**27.13**	**126**	T		T	23 23 11.3	
	baz=316,slow=74							
H11S2	**WAKE ISLAND Hy**	**27.14**	**126**	T		T	23 23 05.5	
	baz=316							
SONM	**Songino Array**	**29.52**	**304**	P		**P**	**22 55 13.8**	**+3.4**
	0.3nm,0.6s,baz=86,slow=7.4,SNR=2.5							
CMAR	**Chiang Mai Arr**	**43.16**	**258**	LR		LR	23 16 41.5	
	comp=Z,57nm,21.3s,baz=250,slow=38							
MKAR	**Makanchi Array**	**45.87**	**303**	P		**P**	**22 57 29.3**	**+1.2**
	0.7nm,0.8s,baz=90,slow=7.3,SNR=7.1							
KURK	**Kurchatov**	**47.61**	**309**	P		**P**	**22 57 43.0**	**+1.4**
KURBB	**Kurchatov Arra**	**47.68**	**309**	P		**P**	**22 57 43.0**	**+0.8**
	1.0nm,0.5s,baz=83,slow=7.9,SNR=8.2							
ILAR	**Eielson Array**	**48.88**	**32**	P		**P**	**22 57 50.9**	**-0.4**
	1.2nm,0.8s,baz=264,slow=6.3,SNR=10.0							
BVAR	**Borovoye Array**	**52.19**	**313**	P		**P**	**22 58 17.3**	**+0.9**
	0.3nm,0.5s,baz=78,slow=9.0,SNR=4.0							
WRA	**Warramunga Arr**	**56.94**	**190**	P		**P**	**22 58 49.1**	**-1.9**
	1.7nm,0.8s,baz=9.9,slow=7.3,SNR=12							
ARU	**Arti**	**57.87**	**319**	P		**P**	**22 58 58.0**	**+0.7**
	1.0nm,0.4s,baz=41,slow=4.6,SNR=4.4							
ABKAR	**Akbulak array**	**59.59**	**311**	*eP*		**P**	**22 59 09.9**	**+0.6**
	1.5nm,0.6s							
AKTO	**Aktyubinsk**	**60.29**	**313**	P		**P**	**22 59 14.8**	**+0.7**
	1.4nm,0.8s,baz=75,slow=9.7,SNR=4.2							
ASAR	**Alice Springs**	**60.66**	**190**	P		**P**	**22 59 15.3**	**-1.7**
	0.4nm,0.6s,baz=13,slow=13,SNR=3.8							
GEYT	**Alibeck**	**65.61**	**300**	P		**P**	**22 59 50.9**	**+1.0**
	2.4nm,1.1s,baz=96,slow=1.5,SNR=4.5							
KBZ	**Khabaz**	**72.54**	**312**	P		**P**	**23 00 33.5**	**+0.9**
	1.8nm,0.7s,baz=54,slow=7.3,SNR=4.7							
NB2	**NORSAR Subarra**	**75.26**	**338**	P		**P**	**23 00 49.0**	**+0.7**
	comp=Z,6.3nm,1.2s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**75.26**	**338**	P		**P**	**23 00 48.6**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=38,slow=5.8,SNR=5.6							
NOA					LR	LR	23 38 18.3	
	comp=Z,8.0nm,19.2s,baz=75,slow=39							
AKASG	**Malin Array Be**	**75.72**	**323**	P		**P**	**23 00 51.5**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=45,slow=6.2,SNR=6.5							
PDAR	**Pinedale Array**	**76.66**	**46**	P		**P**	**23 00 56.7**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=302,slow=3.4,SNR=2.9							
SMCO	**Snowmass**	**80.42**	**48**	*eP*		**P**	**23 01 18.8**	**+0.9**
	comp=Z,1.9nm,0.6s							
TXAR	**Lajitas Array**	**88.93**	**54**	P		**P**	**23 02 00.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=299,slow=3.4,SNR=8.7							
LPAZ	**La Paz**	**145.31**	**63**	PKPbc		**PKPdf**	**23 08 44.3**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=291,slow=4.7,SNR=4.4							

ISCJB ***24*** *22:50:27.4±0.8,6˚.80N±0˚.06×73˚.04W±0˚.05,h154km±7km, Error ellipse: s-maj=11.2km s-min=6.3km az=143.6*

FUNV ***24*** *22:50:28.2,6˚.93N×73˚.12W,h177km,MW2.3*

RSNC ***24*** *22:50:29.9±0.9,6˚.79N×73˚.13W,h141km±6km,ML2.3*

ISC 24 22:50:25.9±1.6,**6˚.83N**±0˚.06×**73˚.08W**±0˚.05,**h169**km±9km, **n16,** σ**1s85**/30,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**204**	*eP*		**Pn**	**22 50 49.0**	**+0.1**
BARC				*eS*		**Sn**	**22 51 03.6**	**-2.8**
BARC				*i*			22 51 05.4	
	comp=Z,72nm,0.2s							
GIRC	**Giron, Santand**	**0.27**	**335**	*eP*		**Pn**	**22 50 49.1**	**+0.3**
GIRC				*eS*		**Sn**	**22 51 04.1**	**-2.2**
PAMC	**Pamplona, Colo**	**0.63**	**36**	*eP*		**Pn**	**22 50 51.9**	**+1.3**
PAMC				*eS*		**Sn**	**22 51 08.5**	**-1.0**
BRRC	**Barranca, Sant**	**0.69**	**293**	*eP*		**Pn**	**22 50 50.8**	**+0.5**
BRRC				*eS*		**Sn**	**22 51 07.8**	**-1.3**
BRRC				*i*			22 51 11.0	
	comp=Z,50nm,0.1s							
CBRI	**Barrientos, No**	**0.92**	**17**	*eP*		**Pn**	**22 50 53.6**	**+1.5**
CBRI				*eS*		**Sn**	**22 51 11.8**	**-0.5**
CBRI				*i*			22 51 18.5	
	comp=Z,42nm,0.4s							
GRMC	**Gramalote, San**	**0.92**	**17**	*eP*		**Pn**	**22 50 54.8**	**+2.8**
GRMC				*eS*		**Sn**	**22 51 14.4**	**+2.1**
GRMC				*i*			22 51 16.2	
	comp=Z,35nm,0.5s							
CAPV	**Capacho**	**1.27**	**36**	*eP*		**Pn**	**22 50 56.9**	**+1.9**
CAPV				*eS*		**Sn**	**22 51 18.1**	**+0.5**
OCAC	**Ocana**	**1.42**	**350**	*eP*		**Pn**	**22 50 57.7**	**+1.4**
OCAC				*eS*		**Sn**	**22 51 19.1**	**-0.8**
OCAC				*i*			22 51 23.6	
	comp=Z,24nm,0.2s							
YOPC	**Yopal, Colombi**	**1.61**	**156**	*eP*		**Pn**	**22 50 59.5**	**+1.3**
YOPC				*i*			22 51 24.3	
	comp=Z,18nm,0.6s							
NORC	**Norcasia**	**2.18**	**235**	*eP*		**Pn**	**22 51 05.3**	**+1.0**
NORC				*eS*		**Sn**	**22 51 32.5**	**-1.6**
HELC	**Santa Helena**	**2.52**	**255**	*eP*		**Pn**	**22 51 11.1**	**+2.6**
HELC				*i*			22 51 48.8	
	comp=Z,6.3nm,0.5s							
VIGV	**El Vigia**	**2.62**	**40**	*eP*		**Pn**	**22 51 10.1**	**+0.7**
VIGV				*eS*		**Sn**	**22 51 41.9**	**-1.3**
SOCV	**Socops**	**2.63**	**57**	*eP*		**Pn**	**22 51 11.4**	**+1.9**
SOCV				*eS*		**Sn**	**22 51 42.9**	**-0.5**
ELOV	**Elorza**	**3.57**	**87**	*eP*		**Pn**	**22 51 23.2**	**+2.1**
ELOV				*eS*		**Sn**	**22 52 03.7**	**-0.6**
VIRV	**Villa del Rosa**	**3.71**	**10**	*eP*		**Pn**	**22 51 23.5**	**+0.6**
VIRV				*eS*		**Sn**	**22 52 03.9**	**-3.6**
BAUV	**El Baul**	**5.41**	**67**	*eP*		**Pn**	**22 52 45.4**	**+0.3**
BAUV				*eS*		**Sn**	**22 52 43.3**	**-3.8**

CSEM ***24*** *22:56:21.3±0.2,75˚.18N×7˚.77E,h10km,ML3.4,Error ellipse: s-maj=6.6km s-min=4.3km az=103.0*

ISCJB ***24*** *22:56:23.8±0.5,75˚.17N±0˚.04×9.4E±0˚.2,h10km,mb3.6/12, MS3.3/12,Error ellipse: s-maj=8.6km s-min=5.6km az=1.2*

BER ***24*** *22:56:23.6±2.4,75˚.14N×8˚.26E,h10km,ML2.1, ML3.4(NAO)*

IDC ***24*** *22:56:24.1±0.8,75˚.11N×8˚.67E,h0km,mb3.7/11, mb1 3.8/16,mb1mx3.6/59,mbtmp3.7/16,ML3.1/4,MS3.3/19, Ms1 3.3/19,ms1mx3.1/46,Error ellipse: s-maj=19.2km s-min=11.4km az=81.0*

NAO ***24*** *22:56:30.8±6.6,75˚.30N×10˚.70E,h22km±63km,ML3.4*

ISC 24 22:56:25.4±0.7,**75˚.16N**±0˚.05×**9˚.27E**±0˚.07,**h10**km,**n55,** σ**2s33**/49,**mb3.6**/12,**MS3.3**/12,**Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.39**	**36**	*eP*		**Pn**	**22 57 03.3**	**-1.2**
HSPB	**Hornsund (broa**	**2.39**	**36**	*eP*		**Pn**	**22 57 03.3**	**-1.2**
	SNR=50							
HSP	**Hornsund**	**2.40**	**36**	Pn		**Pn**	**22 57 03.2**	**-1.5**
BJO	**Bjornoya**	**2.69**	**99**	*eP*		**Pn**	**22 57 09.7**	**+1.1**
BJO				*eS*		**Sn**	**22 57 39.4**	**-1.9**
BJO	**Bjornoya**	**2.69**	**99**	*eP*		**Pn**	**22 57 09.7**	**+1.1**
	SNR=50							
BJO				*eS*		**Sn**	**22 57 39.3**	**-1.9**
	SNR=50							
BRBA	**Barentsburg A**	**3.14**	**19**	Pn		**Pn**	**22 57 12.3**	**-2.5**
	SNR=50							
SPA0	**Spitsbergen Ar**	**3.45**	**25**	Pn		**Pn**	**22 57 17.9**	**-1.2**
	baz=213,slow=16							
SPA0	**Spitsbergen Ar**	**3.45**	**25**	Pn		**Pn**	**22 57 17.9**	**-1.2**
	baz=213,slow=16							
SPA0	**Spitsbergen Ar**	**3.45**	**25**	Pn		**Pn**	**22 57 17.9**	**-1.2**
	SNR=50							
SPITS	**Spitsbergen Ar**	**3.45**	**25**	Pn		**Pn**	**22 57 17.9**	**-1.2**
	baz=204,slow=16,SNR=295							
SPITS					Sn	**Sn**	**22 57 58.2**	**-1.8**
	baz=210,slow=26,SNR=1.6							
SPITS					LR	LR	22 58 42.6	
	comp=Z,284nm,20.0s,baz=240,slow=39							
KBS	**Kingsbay**	**3.84**	**8**	*eP*		**Pn**	**22 57 20.8**	**-3.6**
KBS	**Kingsbay**	**3.84**	**8**	*eP*		**Pn**	**22 57 20.8**	**-3.6**
	SNR=49							
HOPEN	**Hopen**	**4.09**	**63**	Pn		**Pn**	**22 57 28.3**	**+0.4**
HOPEN	**Hopen**	**4.09**	**63**	*eP*		**Pn**	**22 57 28.8**	**+0.9**
HOPEN	**Hopen**	**4.09**	**63**	Pn		**Pn**	**22 57 28.3**	**+0.4**
HOPEN	**Hopen**	**4.09**	**63**	*eP*		**Pn**	**22 57 28.8**	**+0.9**
	SNR=49							
HAMF	**Hammerfest**	**6.20**	**130**	*e*S		**Sn**	**22 59 02.6**	**-4.9**
HAMF					IAML		22 59 04.2	
	comp=Z,3.7nm,0.3s							
JMIC	**Jan Mayen**	**6.64**	**240**	Pn		**Pn**	22 57 54.1	-8.7
	comp=Z,16nm,0.3s,baz=52,slow=2.6,SNR=11							
JMIC					LR	LR	22 59 44.2	
	comp=Z,347nm,18.6s,baz=64,slow=31							
JMIC	**Jan Mayen**	**6.64**	**240**	*eP*		Pn	22 57 54.4	-8.5
JMIC	**Jan Mayen**	**6.64**	**240**	*eP*		Pn	22 57 54.4	-8.5
	SNR=47							
LOF	**Lofoten**	**7.19**	**167**	*e*Pn		**Pn**	**22 58 08.8**	**-1.6**
LOF	**Lofoten**	**7.19**	**167**	*e*Pn		**Pn**	**22 58 08.8**	**-1.6**
	SNR=50							
ARA0	**ARCESS Array S**	**7.47**	**131**	Pn		**Pn**	**22 58 14.7**	**+0.4**
	baz=325,slow=12							
ARA0					Sn	**Sn**	**22 59 34.0**	**-4.8**
	baz=336,slow=22							
ARA0	**ARCESS Array S**	**7.47**	**131**	Pn		**Pn**	**22 58 14.7**	**+0.4**
	baz=325,slow=12							
ARA0					Sn	**Sn**	**22 59 34.0**	**-4.8**
	baz=336,slow=22							
ARA0	**ARCESS Array S**	**7.47**	**131**	Pn		**Pn**	**22 58 14.6**	**+0.4**
	SNR=50							
ARCES	**ARCESS Array B**	**7.47**	**131**	Pn		**Pn**	**22 58 14.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=328,slow=11,SNR=22							
ARCES					Sn	**Sn**	**22 59 31.1**	**-7.7**
	comp=Z,0.6nm,0.3s,baz=337,slow=21,SNR=5.1							
ARCES					LR	LR	23 01 32.4	
	comp=Z,152nm,19.7s,baz=330,slow=41							
NOA	**NORSAR Array B**	**14.20**	**176**	Pn		**Pn**	**22 59 47.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=354,slow=12,SNR=3.3							
NOA					LR	LR	23 04 41.0	
	comp=Z,40nm,20.2s,baz=20,slow=35							
BORG	**Borgarnes**	**14.54**	**240**	LR		LR	23 03 38.9	
	comp=Z,144nm,21.6s,baz=197,slow=30							
FIA0	**FINESS Array S**	**15.00**	**148**	Pn		**Pn**	**22 59 55.9**	**-1.3**
	baz=341,slow=11							
FIA0	**FINESS Array S**	**15.00**	**148**	Pn		**Pn**	**22 59 55.9**	**-1.3**
	baz=341,slow=11							
FIA0	**FINESS Array S**	**15.00**	**148**	Pn		**Pn**	**22 59 55.8**	**-1.3**
	SNR=50							
FINES	**FINESS Array B**	**15.00**	**148**	Pn		**Pn**	**22 59 54.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=350,slow=9.7,SNR=6.5							
FINES					LR	LR	23 06 08.5	
	comp=Z,66nm,19.0s,baz=349,slow=39							
HFS	**Hagfors**	**15.18**	**172**	Pn		**Pn**	**23 00 04.3**	**-0.3**
	baz=356,slow=10							
HFS	**Hagfors**	**15.18**	**172**	Pn		**P**	**23 00 00.3**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=11,slow=9.2,SNR=3.6							
HFS					LR	LR	23 04 49.2	
	comp=Z,65nm,19.7s,baz=5.5,slow=33							
SFJD	**Kangerlussuaq**	**20.07**	**278**	LR		LR	23 07 35.8	
	comp=Z,106nm,19.8s,baz=54,slow=34							
NRIK	**Noril'sk**	**22.80**	**64**	P		**P**	**23 01 29.6**	**+2.0**
	comp=Z,0.8nm,0.4s,baz=336,slow=3.8,SNR=2.2							
AKASG	**Malin Array Be**	**25.87**	**150**	P		**P**	**23 01 56.0**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=342,slow=9.4,SNR=9.9							
AKASG					LR	LR	23 12 13.3	
	comp=Z,20nm,19.0s,baz=90,slow=37							
VRAC	**Vranov**	**26.12**	**169**	P		**P**	**23 01 58.6**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=0.0,slow=10,SNR=3.8							
VRAC					LR	LR	23 12 25.3	
	comp=Z,22nm,18.3s,baz=349,slow=37							
ARU	**Arti**	**26.26**	**108**	P		**P**	**23 02 01.4**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=277,slow=18,SNR=2.9							
GERES	**GERESS Array B**	**26.47**	**173**	P		**P**	**23 02 02.7**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=1.9,slow=8.0,SNR=8.8							
FRB	**Frobisher Bay**	**27.18**	**288**	LR		LR	23 12 17.5	
	comp=Z,93nm,18.5s,baz=22,slow=35							
SCHQ	**Schefferville**	**34.52**	**278**	LR		LR	23 15 58.8	
	comp=Z,114nm,18.9s,baz=54,slow=34							
KBZ	**Khabaz**	**34.80**	**135**	LR		LR	23 18 07.0	
	comp=Z,74nm,18.7s,baz=7.5,slow=37							
KURBB	**Kurchatov Arra**	**36.59**	**92**	P		**P**	**23 03 32.8**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=332,slow=7.5,SNR=4.3							
BRTR	**Keskin Array B**	**37.24**	**148**	P		**P**	**23 03 37.9**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=352,slow=8.8,SNR=3.6							
BRTR					LR	LR	23 20 24.7	
	comp=Z,32nm,20.2s,baz=358,slow=39							
YKA	**Yellowknife Ar**	**37.90**	**321**	P		**P**	**23 03 42.2**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=16,slow=8.1,SNR=6.0							
ILAR	**Eielson Array**	**39.47**	**344**	P		**P**	**23 03 56.0**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=353,slow=7.3,SNR=7.1							
MKAR	**Makanchi Array**	**41.08**	**91**	P		**P**	**23 04 11.3**	**+2.6**
	comp=Z,0.4nm,0.9s,baz=351,slow=4.5,SNR=2.4							
MKAR	

BTCH				AML	AML	23 08 02.2	
	comp=N,97nm,0.4s						
BLGI	**Bet Lehem HaGe**	**1.81**	**214**	Pn	**Pn**	**23 07 32.2**	**+0.3**
BLGI	**Bet Lehem HaGe**	**1.81**	**214**	Pn	**Pn**	**23 07 32.2**	**+0.3**
MMLI	**Mount Malkishu**	**1.98**	**204**	Pn	**Pn**	**23 07 34.7**	**+0.5**
MMLI				Sn	**Sb**	**23 08 01.5**	**0.0**
MMLI	**Mount Malkishu**	**1.98**	**204**	Pn	**Pn**	**23 07 34.7**	**+0.5**
MMLI				Sn	**Sb**	**23 08 01.5**	**0.0**
AJLJ	**Ajlon**	**1.99**	**196**	*eP*	**Pn**	**23 07 35.2**	**+0.7**
AJLJ				*eS*	**Sg**	**23 08 03.3**	**-0.6**
OFRI	**'Ofer**	**2.00**	**216**	Pn	**Pn**	**23 07 34.8**	**+0.3**
OFRI	**'Ofer**	**2.00**	**216**	Pn	**Pn**	**23 07 34.8**	**+0.3**
QRNJ	**Al-Qirein**	**2.02**	**200**	*eP*	**Pn**	**23 07 35.8**	**+1.0**
SLTI	**Sal'it**	**2.30**	**210**	Pn	**Pn**	**23 07 38.9**	**+0.3**
SLTI				Sn	**Sb**	**23 08 11.1**	**+0.4**
SLTI	**Sal'it**	**2.30**	**210**	Pn	**Pn**	**23 07 38.9**	**+0.3**
SLTI				Sn	**Sb**	**23 08 11.1**	**+0.4**
DRWC	**Darouich**	**2.38**	**5**	*eP*	**Pn**	**23 07 39.1**	**-0.7**
CSS	**Mathiatis**	**2.62**	**287**	Pn	**Pn**	**23 07 42.2**	**-0.9**
CSS	**Mathiatis**	**2.62**	**287**	Pn	**Pn**	**23 07 42.2**	**-0.9**
WALJ	**Wala**	**2.72**	**190**	*eP*	**Pn**	**23 07 43.7**	**-0.7**
LISJ	**El Lisan**	**3.09**	**195**	*eP*	**Pn**	**23 07 49.2**	**-0.3**
KARJ		**3.18**	**191**	*eP*	Pn	23 07 39.4	-11
JDRJ	**Daraweish**	**3.56**	**190**	*eP*	**Pn**	**23 07 58.1**	**+2.0**
BYRJ	**Bayer**	**3.60**	**178**	*eP*	**Pb**	**23 08 05.0**	**+0.9**
KZIT	**Kziot**	**3.73**	**207**	Pn	**Pn**	**23 07 58.6**	**+0.3**
KZIT	**Kziot**	**3.73**	**207**	Pn	**Pn**	**23 07 58.6**	**+0.3**
ZFRI	**Zfri**	**3.82**	**196**	Pn	**Pn**	**23 08 01.0**	**+1.5**
ZFRI	**Zfri**	**3.82**	**196**	Pn	**Pn**	**23 08 01.0**	**+1.5**
PRNI	**Paran**	**4.06**	**197**	Pn	**Pn**	**23 08 03.8**	**+1.0**
PRNI	**Paran**	**4.06**	**197**	Pn	**Pn**	**23 08 03.8**	**+1.0**

IDC 24 23:10:38.5±3.0, 6°07'S×130°23'E, h93km±38km, mb3.5/2, mb1 3.7/6, mb1mx3.4/45, mbtmp4.0/6, Error ellipse: s-maj=78.9km s-min=21.5km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.26**	**11**	P	Pn	23 11 54.9	+0.1
	6.6nm,0.3s,baz=181,slow=18,SNR=2.3						
SIJI				S	Sn	23 12 54.5	+0.3
	15nm,0.3s,baz=184,slow=19,SNR=3.7						
FITZ	**Fitzroy Crossi**	**12.78**	**200**	P	Pn	23 13 36.8	+0.1
	0.4nm,0.3s,baz=30,slow=11,SNR=25						
FITZ				S	Sn	23 15 50.2	-7.0
	0.4nm,0.3s,baz=119,slow=16,SNR=4.1						
WRA	**Warramunga Arr**	**14.36**	**164**	P	Pn	23 13 55.9	-1.5
	0.6nm,0.3s,baz=346,slow=12,SNR=18						
WRA				S	Sn	23 16 23.2	-12
	0.7nm,0.3s,baz=344,slow=23,SNR=9.4						
ASAR	**Alice Springs**	**17.85**	**169**	P	Pn	23 14 41.3	+0.3
	0.4nm,0.3s,baz=348,slow=10,SNR=19						
ASAR				S	Sn	23 17 45.1	-15
	0.2nm,0.3s,baz=358,slow=28,SNR=3.7						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	23 21 25.4	+0.4
	0.9nm,0.6s,baz=121,slow=8.2,SNR=9.6						
KURBB	**Kurchatov Arra**	**71.84**	**328**	P	P	23 21 50.7	-0.4
	0.2nm,0.2s,baz=134,slow=5.3,SNR=3.6						

*ISCJB **24** 23:15:00.8±0.5, 53°.6S±0°.1×134°.3W±0°.1, h10km, mb4.4/17, MS3.9/10, Error ellipse: s-maj=16.4km s-min=11.5km az=177.5*

*IDC **24** 23:15:01.2±0.9, 53°.63S×134°.29W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.2/20, mbtmp4.1/6, MS3.9/10, Ms1 3.9/10, ms1mx3.7/20, Error ellipse: s-maj=38.0km s-min=23.3km az=165.0*

*NEIC **24** 23:15:02.4±0.3, 53°.58S×134°.32W, h10km, mb4.6/9, Error ellipse: s-maj=12.3km s-min=8.7km az=179.0*

ISC 24 23:15:02.4±0.6, 53°.6S±0°.1×134°.3W±0°.1, h10km, n49, σ0s82/23, mb4.4/17, MS4.0/10, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**30.43**	**359**	*e*LR	LR	23 29 10.3	
	620nm,29.2s,baz=176						
RKT	**Rikitea**	**30.43**	**359**	*e*T	T	23 53 18.9	
	16nm,0.3s						
SBA	**Scott Base**	**31.81**	**200**	P	**P**	**23 21 26.8**	**+0.3**
	2.5nm,1.1s						
TBI	**Tubuai**	**32.30**	**333**	*e*LR	LR	23 29 59.5	
	698nm,28.5s,baz=167						
TBI	**Tubuai**	**32.30**	**333**	*e*T	T	23 55 42.6	
	89nm,0.3s						
VNDA	**Vanda**	**32.77**	**201**	P	**P**	**23 21 36.1**	**+1.2**
	1.1nm,0.9s,baz=73,slow=10.0,SNR=3.1						
VNDA				LR	LR	23 31 29.1	
	comp=Z,173nm,19.3s,baz=84,slow=30						
PMSA	**Palmer Station**	**35.74**	**136**	*e*P	**P**	**23 22 01.0**	**+0.2**
	83nm,1.3s						
MEH	**Mehetia**	**37.21**	**338**	*e*T	T	00 01 50.3	
	9.4nm,0.3s						
TVO	**Taravao**	**37.57**	**336**	*e*T	T	00 02 17.7	
	1.6nm,0.3s						
PPT2	**Papeete2**	**37.84**	**336**	*e*LR	LR	23 32 33.0	
	677nm,25.5s,baz=164						
PPT	**Papeete**	**37.86**	**336**	LR	LR	23 33 27.2	
	comp=Z,326nm,21.8s,baz=184,slow=29						
VAH	**Vaihoa**	**39.67**	**340**	*e*T	T	00 04 54.8	
	29nm,0.3s						
RAO	**Raoul Island**	**39.86**	**290**	*e*P	**P**	**23 22 36.5**	**+0.5**
PLCA	**Paso Flores**	**43.77**	**100**	LR	LR	23 36 39.3	
	comp=Z,108nm,21.9s,baz=284,slow=30						
TAOE	**Nuku Hiva Isla**	**44.86**	**352**	*e*LR	LR	23 35 52.4	
	440nm,27.2s,baz=163						
AFI	**Afiamalu**	**49.36**	**309**	P	**P**	**23 23 51.3**	**-0.6**
	5.5nm,0.4s						
SNAA	**Sanae**	**50.46**	**162**	*e*P	**P**	**23 23 58.6**	**-1.1**
	71nm,0.9s						
TRQA	**Tornquist**	**50.54**	**103**	*e*P	**P**	**23 24 00.9**	**+0.3**
	0.2nm,0.4s						
ARMA	**Armidale**	**56.91**	**262**	*e*P	**P**	**23 24 47.4**	**-0.1**
	8.5nm,1.2s						
LVC	**Limon Verde**	**57.58**	**85**	*e*P	**P**	**23 24 52.9**	**+0.2**
	0.9nm,0.6s						
MAW	**Mawson**	**58.44**	**188**	P	**P**	**23 24 57.3**	**-0.3**
	4.2nm,0.8s,baz=160,slow=9.4,SNR=8.2						
CPUP	**Villa Florida**	**61.67**	**97**	P	**P**	**23 25 20.2**	**-0.2**
	2.9nm,1.0s,baz=254,slow=5.8,SNR=3.4						
CPUP				LR	LR	23 47 21.9	
	comp=Z,129nm,21.0s,baz=219,slow=32						
STKA	**Stephens Creek**	**61.69**	**254**	LR	LR	23 48 09.8	
	comp=Z,63nm,18.7s,baz=179,slow=32						
LPAZ	**La Paz**	**62.94**	**81**	P	**P**	**23 25 30.9**	**+1.2**
	3.4nm,1.1s,baz=199,slow=6.1,SNR=5.9						
LPAZ				LR	LR	23 45 00.5	
	comp=Z,24nm,21.3s,baz=196,slow=29						
SAML	**Samuel**	**71.67**	**80**	*e*P	**P**	**23 26 24.7**	**+0.3**
	0.5nm,0.7s						
ASAR	**Alice Springs**	**72.33**	**254**	P	**P**	**23 26 28.6**	**+0.3**
	2.0nm,0.9s,baz=138,slow=6.1,SNR=10						
H01W1	**Cape Leeuwin H**	**73.89**	**233**	T	T	00 48 13.1	
	baz=144,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**73.90**	**233**	T	T	00 48 16.1	
	baz=144,slow=76,SNR=20						
H01W3	**Cape Leeuwin H**	**73.91**	**233**	T	T	00 48 16.9	
	baz=144,slow=76,SNR=12						
WRA	**Warramunga Arr**	**74.98**	**257**	P	**P**	**23 26 45.0**	**+1.1**
	1.5nm,0.7s,baz=142,slow=5.7,SNR=17						
WRAB	**Tennant Creek**	**74.98**	**257**	*e*P	**P**	**23 26 44.5**	**+0.6**
	2.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**81.42**	**251**	LR	LR	00 00 14.7	
	comp=Z,58nm,18.4s,baz=137,slow=33						
SDV	**Santo Domingo**	**82.08**	**63**	*e*P	**P**	**23 27 22.9**	**-0.2**
	16nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**87.79**	**306**	T	T	01 05 18.7	
	baz=148,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**87.80**	**306**	T	T	01 05 23.4	
	baz=148,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**87.81**	**306**	T	T	01 05 36.8	
	baz=148,slow=75,SNR=16						
PFO	**Pinyon Flats O**	**88.22**	**15**	LR	LR	23 58 19.8	
	comp=Z,74nm,18.5s,baz=166,slow=29						
H11N3	**WAKE ISLAND Hy**	**88.74**	**306**	T	T	01 06 23.7	
	baz=149,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**88.75**	**306**	T	T	01 06 39.0	
	baz=149,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**88.76**	**306**	T	T	01 06 25.3	
	baz=149,slow=76,SNR=12						
SJG	**San Juan**	**92.14**	**62**	*e*P	**P**	**23 28 11.8**	**-0.1**
	5.3nm,0.7s						
BOSA	**Boshof**	**96.24**	**162**	LR	LR	00 08 01.3	
	comp=Z,84nm,18.3s,baz=200,slow=33						
PDAR	**Pinedale Array**	**98.31**	**18**	LR	LR	00 05 47.5	
	comp=Z,69nm,18.3s,baz=224,slow=31						
COCO	**West Island**	**101.37**	**231**	*e*Pdif	**Pdif**	**23 28 54.1**	**+0.2**
SACV	**Santiago Islan**	**114.20**	**98**	*e*PKP	PKPdf	23 33 42.0	0.0
ILAR	**Eielson Array**	**118.42**	**354**	PKP	**PKPdf**	**23 33 49.8**	**+1.2**
	0.8nm,0.8s,baz=197,slow=2.4,SNR=6.3						
TORD	**Torodi Ar. Bea**	**126.82**	**122**	PKP	**PKPdf**	**23 34 04.9**	**-1.4**
	0.5nm,0.9s,baz=248,slow=1.1,SNR=2.5						
SONM	**Songino Array**	**142.16**	**287**	PKP	**PKPdf**	**23 34 32.3**	**-1.8**
	0.3nm,0.3s,baz=119,slow=1.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**157.06**	**287**	PKPab	**PKPab**	**23 35 27.1**	**-0.5**
	1.2nm,0.7s,baz=90,slow=4.3,SNR=3.5						

KRSC 24 23:19:01.1±0.5, 55°.25N×162°.67E, h59km±19km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**1.01**	**1**	*i*P	Pn	23 19 20.3	+1.1
KBG				*i*S	Sn	23 19 34.8	+2.3
ZLN	**Zelenaya**	**1.31**	**307**	*e*P	Pn	23 19 24.5	+1.2
ZLN				*e*S	Sn	23 19 41.9	+2.0
CIRR	**Tsirk**	**1.39**	**309**	*e*P	Pn	23 19 26.6	+2.1
CIRR				*e*S	Sn	23 19 45.0	+3.1
LGNR	**Loginova**	**1.40**	**307**	*e*P	Pn	23 19 26.3	+1.6
LGNR				*e*S	Sn	23 19 44.6	+2.3
BZMR	**Bezymyannaya**	**1.42**	**300**	*e*P	Pn	23 19 25.8	+1.0
TUMR	**Tumrok**	**1.45**	**272**	*e*P	Pn	23 19 26.5	+1.3
TUMR				*e*S	Sn	23 19 44.9	+1.7
KMNR	**Kamenistaya**	**1.47**	**291**	*e*P	Pn	23 19 27.1	+1.6
KMNR				*e*S	Sn	23 19 46.3	+2.4
SMKR	**Semkarok**	**1.50**	**334**	*e*P	Pn	23 19 27.4	+1.6
SMKR				*e*S	Sn	23 19 46.6	+2.3
KRSR	**Krestovskiy**	**1.53**	**310**	*e*P	Pn	23 19 27.3	+1.0
KRSR				*e*S	Sn	23 19 46.3	+1.0
BDR	**Baidarnaya**	**1.56**	**329**	*i*P	Pn	23 19 28.5	+1.9
BDR				*e*S	Sn	23 19 48.3	+2.5
KLY	**Klyuchi**	**1.56**	**314**	*e*P	Pn	23 19 26.8	+0.2
KLY				*e*S	Sn	23 19 45.3	-0.4
KPT	**Kopyto**	**1.56**	**298**	*e*P	Pn	23 19 28.6	+1.9
KPT				*e*S	Sn	23 19 48.3	+2.3
SRKR	**Sorokina**	**1.64**	**330**	*e*P	Pn	23 19 29.5	+1.8
SRKR				*e*S	Sn	23 19 50.3	+2.5
KOZ	**Kozyrevsk**	**1.78**	**298**	*e*P	Pn	23 19 32.1	+2.5
KOZ				*e*S	Sn	23 19 54.0	+2.9
BKI	**Bering**	**1.89**	**90**	*e*P	Pn	23 19 33.7	+2.7
BKI				*e*S	Sn	23 19 56.2	+2.4
NLC	**Nalytchevo**	**2.86**	**224**	*e*P	Pn	23 19 46.8	+2.6
NLC				*e*S	Sn	23 20 19.5	+2.1
SDLR	**Sedlovina**	**2.97**	**230**	*e*P	Pn	23 19 48.7	+2.7
SDLR				*e*S	Sn	23 20 23.5	+3.1
KRER	**Koryakskii**	**3.02**	**231**	*e*P	Pn	23 19 49.5	+2.9
SMAR	**Somma**	**3.02**	**230**	*e*P	Pn	23 19 49.4	+2.7
KRX	**Arik**	**3.02**	**233**	*e*P	Pn	23 19 49.7	+3.0
AVH	**Avacha**	**3.05**	**231**	*e*P	Pn	23 19 50.0	+3.1
UGLR	**Uglovaya**	**3.05**	**229**	*e*P	Pn	23 19 49.8	+2.9
GNL	**Ganaly**	**3.17**	**242**	*e*P	Pn	23 19 51.3	+2.7
GNL				*e*S	Sn	23 20 28.2	+3.0
KRMR	**Karymshinskiy**	**3.61**	**230**	*e*P	Pn	23 19 58.7	+4.1
KRMR				*e*S	Sn	23 20 39.5	+3.6
RUS	**Russkaya**	**3.75**	**223**	*e*P	Pn	23 19 58.9	+2.5
ASAK	**Asacha**	**4.03**	**226**	*e*P	Pn	23 20 04.2	+3.8

*NNC **24** 23:19:16.8±3.6, 37°.16N×70°.19E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=41.4km s-min=27.9km az=105.0*

ISC 24 23:19:09.4±2.2, 36°.58N±0°.10×70°.4E±0°.2, h10km, n5, σ2s36/10, 2C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**6.05**	**132**	*e*P	**Pn**	**23 20 38.8**	**-0.1**
THN				*e*S	**Sn**	**23 21 46.8**	**-1.4**
MNAS	**Manas**	**6.13**	**15**	⇓Pn	**Pn**	**23 20 43.0**	**+2.9**
	1.0nm,0.4s						
MNAS				⇓Sn	**Sn**	**23 21 48.8**	**-1.5**
	7.0nm,0.4s						
KK31	**Karatay Array**	**6.52**	**1**	Pn	**Pn**	**23 20 47.0**	**+1.6**
	0.5nm,0.3s,baz=310,slow=34,SNR=8.1						
KK31				⇑Pg	**Pb**	**23 21 02.5**	**-0.4**
	0.5nm,0.3s,baz=191,slow=18,SNR=5.0						
KK31				Sn	**Sn**	**23 21 55.9**	**-3.9**
	1.4nm,0.6s,baz=190,slow=15,SNR=5.0						
KK31				⇓Lg	Lg	23 22 23.9	
	0.7nm,0.2s,baz=344,slow=39,SNR=6.0						
AAK	**Ala-Archa**	**6.84**	**26**	⇑Pn	**Pn**	**23 20 52.6**	**+2.8**
	1.5nm,0.4s						
AAK				⇓Sn	**Sn**	**23 22 07.5**	**-0.3**
	6.0nm,0.8s						
TKM2	**Tokmak 2**	**7.50**	**31**	⇓Pn	**Pn**	**23 21 00.1**	**+1.0**
	1.8nm,0.7s						

*ISCJB **24** 23:33:34.5±1.1, 45°.07N±0°.04×77°.85E±0°.05, h5km±7km, Error ellipse: s-maj=8.2km s-min=4.2km az=148.0*

*NNC **24** 23:33:34.8±2.8, 45°.08N×77°.79E, h6km±18km, mb3.0, mpv2.6, Error ellipse: s-maj=12.7km s-min=8.1km az=143.0*

*SOME **24** 23:33:35.2, 45°.03N×77°.85E, h20km*

ISC 24 23:33:34.2±1.6, 45°.03N±0°.05×77°.83E±0°.04, h5km±12km, n19, σ1s01/30, 10C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TDK	**Taldyqorghan**	**0.41**	**93**	*e*P	**Pg**	**23 33 42.6**	**+0.5**
	39nm,0.2s						
TDK				*e*S	**Sg**	**23 33 47.6**	**+0.1**
	182nm,0.3s						
KAPS	**Kapalarasan**	**1.11**	**76**	⇑*i*P	**Pb**	**23 33 54.7**	**-1.2**
	2.7nm,0.1s						
KAPS				⇓*i*S	**Sb**	**23 34 08.6**	**-2.2**
	20nm,0.3s						
CHKK	**Chushkaly**	**1.30**	**207**	*e*P	**Pn**	**23 33 58.1**	**-1.0**
	2.9nm,0.2s						
CHKK				*e*S	**Sb**	**23 34 15.3**	**-1.0**
	13nm,0.2s						
KUU	**Kurty**	**1.56**	**224**	⇑*i*P	**Pn**	**23 34 02.3**	**-0.4**
	10nm,0.3s						
KUU				⇑*i*S	**Sn**	**23 34 22.7**	**-0.6**
	32nm,0.1s						
DJR	**Jarkent**	**1.56**	**116**	⇓*i*P	**Pn**	**23 34 02.9**	**+0.1**
	9.4nm,0.2s						
DJR				*e*S	**Sn**	**23 34 22.4**	**-1.0**
	36nm,0.3s						
KURS	**Kuram**	**1.56**	**171**	*e*P	**Pn**	**23 34 03.5**	**+0.8**
	1.2nm,0.2s						
KURS				*e*S	**Sn**	**23 34 23.3**	**-0.2**
	11nm,0.3s						
KPKS	**Kokpek**	**1.68**	**158**	*e*P	**Pn**	**23 34 05.3**	**+0.9**
	9.1nm,0.4s						
KPKS				*e*S	**Sn**	**23 34 26.9**	**+0.5**
	49nm,0.8s						
MDOK	**Medeo**	**1.95**	**197**	⇑*e*P	**Pb**	**23 34 09.6**	**-0.8**
	1.8nm,0.1s						
MDOK				⇑*i*S	**Sb**	**23 34 34.7**	**-0.4**
	8.9nm,0.2s						
UZB	**Uzynbulak**	**2.07**	**155**	*e*P	**Pb**	**23 34 11.8**	**-0.6**
	2.6nm,0.2s						
UZB				*e*S	**Sb**	**23 34 38.6**	**+0.1**
	11nm,0.3s						
PDGK	**Podgornoye**	**2.08**	**144**	⇓Pn	**Pb**	**23 34 11.6**	**-0.9**
	1.3nm,0.3s						
PDGK				⇓Sn	**Sb**	**23 34 38.6**	**+0.1**
	7.9nm,0.3s						
TNSS	**Tian-Shan**	**2.09**	**198**	*e*P	**Pb**	**23 34 12.8**	**-0.1**
	4.1nm,0.3s						
TNSS				⇑*i*S	**Sb**	**23 34 39.7**	**+0.4**
	4.1nm,0.5s						
MTBS	**Maitube**	**2.15**	**208**	*e*P	**Pb**	**23 34 13.5**	**-0.3**
	2.8nm,0.2s						
MTBS				*e*S	**Sb**	**23 34 41.1**	**+0.3**
	21nm,0.3s						
KST	**Kastek**	**2.40**	**215**	*e*P	**Pb**	**23 34 16.5**	**-1.5**
	1.5nm,0.2s						
KST				*e*S	**Sn**	**23 34 45.9**	**+1.7**
	4.8nm,0.2s						
TKM2	**Tokmak 2**	**2.66**	**218**	⇑Sn	**Sn**	**23 34 52.1**	**+1.4**
	1.7nm,0.3s						
MAKZ	**Makanchi**	**3.40**	**57**	⇓Pn	**Pn**	**23 34 29.6**	**+1.7**
	0.5nm,0.3s						
MAKZ				⇓Lg	Lg	23 35 20.3	
	1.0nm,0.3s						
MK31	**Makanchi Array**	**3.58**	**59**	Pn	**Pn**	**23 34 32.0**	**+1.6**
	0.6nm,0.3s,baz=232,slow=11,SNR=43						
MK31				⇓Sn	**Sn**	**23 35 13.3**	**+0.3**
	0.2nm,0.2s						
MK31				⇓Lg	Lg	23 35 25.5	
	1.3nm,0.5s,baz=165,slow=2.7,SNR=4.6						
OTUK	**Ortayu**	**4.96**	**312**	⇑Lg	Lg	23 36 09.7	
	1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**5.61**	**5**	⇑Lg	Lg	23 36 29.4	
	4.0nm,0.7s						
KK31	**Karatay Array**	**5.62**	**252**	⇑Lg	Lg	23 36 29.0	
	0.3nm,0.3s						

*NEIC **24** 23:36:38.7, 15°.32N×98°.72W, h19km, MD4.2(MEX), After MEX.*

MEX 24 23:36:38.7±0.7, 15°.32N×98°.72W, h19km±16km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.21**	**28**	*e*P	Pn	23 36 57.6	-3.1
PNIG				*e*S	Sb	23 37 11.7	-4.7
PNIG	**Pinotepa**	**1.21**	**28**	*e*P	Pn	23 36 57.6	-3.1
PNIG				*e*S	Sb	23 37 11.7	-4.7
ACX	**Acapulco**	**1.89**	**325**	*e*P	Pn	23 37 11.3	+1.2
ACX				*i*S	Sn	23 37 33.4	-0.1
ACX	**Acapulco**	**1.89**	**325**	*e*P	Pn	23 37 11.3	+1.2
ACX				*i*S	Sn	23 37 33.4	-0.1
TLIG	**Tlapa**	**2.24**	**4**	*e*P	Pn	23 37 14.3	-0.7
TLIG				*e*S	Sn	23 37 39.1	-3.0
CAIG	**El Cayaco**	**2.27**	**319**	*e*P	Pn	23 37 12.0	-3.3
CAIG				*e*S	Sn	23 37 38.8	-4.1
CAIG	**El Cayaco**	**2.27**	**319**	*e*P	Pn	23 37 12.0	-3.3
CAIG				*e*S	Sn	23 37 38.8	-4.1
HUIG	**Huatulco**	**2.56**	**80**	*i*P	Pn	23 37 16.4	-2.9
HUIG				*e*S	Sn	23 37 46.1	-3.8
HUIG	**Huatulco**	**2.56**	**80**	*i*P	Pn	23 37 16.4	-2.9
HUIG				*e*S	Sn	23 37 46.1	-3.8
VHO	**Vista Hermosa**	**2.59**	**47**	*e*P	Pn	23 37 17.0	-2.8
VHO				*e*S	Sn	23 37 47.2	-3.6
VHO	**Vista Hermosa**	**2.59**	**47**	*e*P	Pn	23 37 17.0	-2.8
VHO				*e*S	Sn	23 37 47.2	-3.6

*IDC **24** 23:46:14.9±0.9, 51°.99N×171°.90W, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.8/56, mbtmp3.9/11, ML3.6/2, MS3.0/6, Ms1 3.0/6, ms1mx2.7/45, Error ellipse: s-maj=29.7km s-min=19.1km az=153.0*

*ISCJB **24** 23:46:20.2±0.6, 51°.85N±0°.07×171°.54W±0°.05, h44km, mb3.9/10, MS2.9/4, Error ellipse: s-maj=10.1km s-min=3.6km az=164.9*

*NEIC **24** 23:46:20.4, 51°.69N×171°.51W, h25km, mb3.8/3, ML3.9(AEIC), After AEIC.*

ISC 24 23:46:21.2±0.8, 51°.84N±0°.10×171°.59W±0°.04, h44km, n40, σ1s23/39, mb3.9/10, MS3.0/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.60**	**289**	P	**Pn**	**23 46 47.6**	**+0.6**
KOFP	**Korovin Flat P**	**1.61**	**287**	P	**Pn**	**23 46 47.1**	**0.0**
KOKV	**Korovin Volcan**	**1.67**	**289**	P	**Pn**	**23 46 48.5**	**+0.5**
KOKV				S	**Sn**	**23 47 10.0**	**+1.7**
KOKL	**Mount Kliuchef**	**1.68**	**288**	P	**Pn**	**23 46 48.3**	**+0.2**
KOWE	**Korovin West**	**1.72**	**289**	P	**Pn**	**23 46 49.0**	**+0.3**
NIKH	**Nikolski High**	**2.02**	**55**	P	**Pn**	**23 46 51.4**	**-1.3**
NIKH				S	**Sn**	**23 47 17.7**	**+0.9**
GSTR	**Great Sitkin T**	**2.78**	**277**	P	**Pn**	**23 47 04.1**	**+1.0**
GSTD	**Great Sitkin T**	**2.83**	**276**	P	**Pn**	**23 47 04.9**	**+1.0**
GSTD				S	**Sn**	**23 47 38.9**	**+2.1**
ETKA	**Kagalaska Isla**	**2.99**	**272**	P	**Pn**	**23 47 06.4**	**+0.4**
ADAG	**Mount Adagdak**	**3.11**	**274**	P	**Pn**	**23 47 08.5**	**+0.8**
MSOM	**Makushin Julie**	**3.44**	**53**	P	**Pn**	**23 47 12.7**	**+0.5**
KIKV	**Kanaga Island**	**3.46**	**273**	P	**Pn**	**23 47 12.9**	**+0.3**
UNV	**Unalaska Valle**	**3.68**	**55**	P	**Pn**	**23 47 15.3**	**-0.1**
UNV				S	**Sn**	**23 47 59.5**	**+2.0**
AKGG	**Akutan Green G**	**4.12**	**53**	P	**Pn**	**23 47 21.7**	**+0.2**
AKGG				S	**Sn**	**23 48 11.5**	**+3.1**
AKUT	**Akutan**	**4.20**	**55**	*e*Pn	**Pn**	**23 47 24.4**	**+1.8**
WESP	**Westdahl Peak**	**4.91**	**55**	P	**Pn**	**23 47 32.5**	**0.0**
SPIA	**Saint Paul Isl**	**5.40**	**8**	P	**Pn**	**23 47 39.9**	**+0.7**
SPIA				S	**Sn**	**23 48 40.8**	**+0.9**
BPAW	**Bear Paw Mtn.**	**16.33**	**33**	*e*Pn	**Pn**	**23 50 07.9**	**+0.8**
	1.3nm,1.2s						
ILAR	**Eielson Array**	**18.16**	**35**	P	**P**	**23 50 28.1**	**-1.6**
	0.3nm,0.3s,baz=226,slow=8.6,SNR=12						
ILAR				LR	LR	23 58 17.4	
	comp=Z,40nm,19.7s,baz=290,slow=40						
PETK	**Petropavlovsk-**	**18.68**	**286**	P	**P**	**23 50 32.6**	**-2.8**
	0.2nm,0.3s,baz=89,slow=9.2,SNR=2.5			

ASAR	**Alice Springs**	**26.06**	**165**	P		**P**	**23 52 06.0**	**-0.7**
	2.6nm,0.7s,baz=350,slow=14,SNR=21							
ASAR				PcP		**PcP**	**23 55 34.2**	**+0.4**
	0.4nm,0.7s,baz=352,slow=1.8,SNR=2.6							
CMAR	**Chiang Mai Arr**	**31.87**	**304**	LR		LR	00 06 41.8	
	comp=Z,28nm,18.0s,baz=130,slow=38							
KSAR	**Wonju Array Be**	**35.74**	**2**	P		**P**	**23 53 35.5**	**+3.8**
KSRS	**Korea Array**	**35.75**	**2**	P		**P**	**23 53 35.5**	**+3.7**
	0.8nm,0.5s,baz=184,slow=10,SNR=5.3							
STKA	**Stephens Creek**	**36.17**	**158**	P		**P**	**23 53 35.2**	**-0.3**
	2.9nm,0.7s,baz=333,slow=9.9,SNR=4.9							
MAJO	**Matsushiro**	**36.45**	**16**	P		**P**	**23 53 37.9**	**0.0**
	3.0nm,0.4s							
KLR	**Kul'dur**	**47.71**	**5**	P		**P**	**23 55 11.6**	**+2.3**
	0.5nm,0.3s,baz=168,slow=8.3,SNR=3.5							
SONM	**Songino Array**	**49.30**	**342**	P		**P**	**23 55 21.1**	**-0.7**
	0.9nm,0.6s,baz=154,slow=8.8,SNR=4.7							
MKAR	**Makanchi Array**	**59.25**	**326**	P		**P**	**23 56 32.1**	**-2.0**
	1.2nm,0.4s,baz=121,slow=7.6,SNR=24							
MA2	**Magadan**	**60.85**	**14**	P		**P**	**23 56 45.7**	**+1.0**
	3.7nm,0.6s,baz=220,slow=14,SNR=3.2							
ZALV	**Zalesovo Beam**	**62.45**	**334**	P		**P**	**23 56 55.4**	**-0.2**
	0.4nm,0.3s,baz=148,slow=6.1,SNR=2.7							
KURK	**Kurchatov**	**63.48**	**328**	*eP*		**P**	**23 57 01.3**	**-1.3**
	44nm,0.8s							
SEY	**Seymchan**	**64.19**	**13**	P		**P**	**23 57 08.6**	**+1.7**
	1.0nm,0.2s,baz=150,slow=1.1,SNR=5.0							
NRIK	**Noril'sk**	**72.50**	**346**	P		**P**	**23 57 58.4**	**-0.4**
	1.1nm,0.3s,baz=113,slow=3.9,SNR=8.3							
ARU	**Arti**	**76.68**	**328**	*eP*		**P**	**23 58 21.6**	**-1.8**
	3.7nm,1.0s							
KBZ	**Khabaz**	**84.35**	**314**	P		**P**	**23 59 04.5**	**-0.2**
	3.5nm,1.0s,baz=143,slow=8.2,SNR=4.9							
BRTR	**Keskin Array B**	**91.27**	**310**	P		**P**	**23 59 36.6**	**-1.7**
	0.7nm,0.9s,baz=117,slow=1.6,SNR=2.8							
FINES	**FINESS Array B**	**93.66**	**332**	P		**P**	**23 59 48.7**	**+0.1**
	1.1nm,0.9s,baz=72,slow=4.5,SNR=3.4							
FINES				LR		LR	00 43 46.7	
	comp=Z,45nm,21.7s,baz=332,slow=37							
TORD	**Torodi Ar. Bea**	**123.40**	**287**	PKP		**PKPdf**	**00 05 31.2**	**+0.7**
	0.5nm,0.8s,baz=56,slow=1.8,SNR=2.6							

MEX 24 23:48:20.9±0.3, 14°.11N×91°.64W, h4km, MD3.8, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.21**	**316**	*eP*	Pn	23 48 55.8	-2.5

*ISCJB **24** 23:49:15.5±0.4, 33°.14N±0°.02×35°.43E±0°.03, h9km±3km, Error ellipse: s-maj=4.0km s-min=2.9km az=23.8*
*CSEM **24** 23:49:15.7±0.1, 33°.15N×35°.45E, h5km, MD2.2, Error ellipse: s-maj=7.1km s-min=2.5km az=103.0*
*GRAL **24** 23:49:16.4±0.3, 33°.11N×35°.46E, h0km±3km, MD3.1*
*NSSC **24** 23:49:16.7±1.5, 33°.10N×35°.54E, h0km±7km, MD1.4, ML2.3*
*GII **24** 23:49:16.7±0.0, 32°.98N×35°.42E, h1km, MD2.2/4*
ISC 24 23:49:15.1±1.1, 33°.16N±0°.02×35°.52E±0°.03, h5km±10km, n50, σ1§89/75, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMC7	**Mount Meron ar**	**0.17**	**218**	Pg	**Pg**	**23 49 18.4**	**-0.1**
MMC7	**Mount Meron ar**	**0.17**	**218**	Pg	**Pg**	**23 49 18.4**	**-0.1**
NAQL	**Naqoura**	**0.32**	**263**	*eP*	**Pg**	**23 49 21.3**	**0.0**
NAQL				*eS*	**Sg**	**23 49 25.5**	**0.0**
NAQL	**Naqoura**	**0.32**	**263**	*eP*	**Pg**	**23 49 21.3**	**0.0**
RCY	**Rachaya**	**0.43**	**38**	*eP*	**Pb**	**23 49 25.2**	**0.0**
RCY				*eS*	**Sb**	**23 49 31.9**	**-0.3**
BRBR	**Barbar**	**0.44**	**55**	*eP*	**Pb**	**23 49 25.9**	**+0.4**
BRBR				*eS*	**Sb**	**23 49 33.0**	**+0.5**
BRBR				AML	AML	23 49 34.4	
	comp=E,296nm,0.6s						
BRBR				AML	AML	23 49 35.8	
	comp=N,168nm,0.3s						
DQRL	**Deir Qamar**	**0.55**	**4**	*eP*	**Pb**	**23 49 27.2**	**-0.1**
DQRL				*eS*	**Sb**	**23 49 35.1**	**-0.4**
DQRL	**Deir Qamar**	**0.55**	**4**	*eP*	**Pb**	**23 49 27.2**	**-0.1**
DQRL				*eS*	**Sb**	**23 49 35.1**	**-0.4**
TCHB	**Talchebab**	**0.62**	**142**	*eP*	**Pb**	**23 49 28.3**	**-0.1**
TCHB				*eS*	**Sb**	**23 49 36.8**	**-0.6**
TCHB				AML	AML	23 49 38.7	
	comp=N,560nm,0.2s						
TCHB				AML	AML	23 49 39.6	
	comp=E,180nm,0.2s						
OFRI	**'Ofer**	**0.70**	**220**	Pg	**Pg**	**23 49 28.1**	**-0.4**
OFRI	**'Ofer**	**0.70**	**220**	Pg	**Pg**	**23 49 28.1**	**-0.4**
BEYL	**Beirut**	**0.71**	**358**	*eP*	**Pb**	**23 49 30.4**	**+0.4**
MMLI	**Mount Malkishu**	**0.72**	**187**	Pg	**Pg**	**23 49 28.4**	**-0.6**
MMLI				Sg	**Sg**	**23 49 38.8**	**+0.5**
MMLI	**Mount Malkishu**	**0.72**	**187**	Pg	**Pg**	**23 49 28.4**	**-0.6**
MMLI				Sg	**Sg**	**23 49 38.8**	**+0.5**
QASN	**Qassioun**	**0.73**	**59**	*eP*	**Pn**	**23 49 31.5**	**-0.7**
QASN				*eS*	**Sn**	**23 49 42.3**	**-1.6**
QASN				AML	AML	23 49 49.3	
	comp=N,231nm,0.3s						
QASN				AML	AML	23 49 50.1	
	comp=E,384nm,0.4s						
BHL	**Bhannes**	**0.75**	**9**	*eP*	**Pb**	**23 49 30.8**	**0.0**
BHL	**Bhannes**	**0.75**	**9**	*eP*	**Pb**	**23 49 30.8**	**0.0**
TOTH	**TOTAH**	**0.79**	**75**	*eP*	**Pn**	**23 49 32.1**	**-0.9**
TOTH				*eS*	**Sb**	**23 49 43.1**	**+0.8**
SLTI	**Sal'it**	**1.00**	**204**	Pg	**Pg**	**23 49 33.3**	**-1.0**
SLTI				Sg	**Sg**	**23 49 47.0**	**-0.2**
SLTI	**Sal'it**	**1.00**	**204**	Pg	**Pg**	**23 49 33.3**	**-1.0**
SLTI				Sg	**Sg**	**23 49 47.0**	**-0.2**
SALA	**Sala**	**1.11**	**113**	*eP*	**Pn**	**23 49 37.4**	**-0.2**
SALA				*eS*	**Sn**	**23 49 52.4**	**-1.0**
SALA				AML	AML	23 49 58.1	
	comp=E,10nm,0.3s						
SALA				AML	AML	23 50 02.7	
	comp=N,86nm,0.4s						
HWQ	**Hawqa**	**1.17**	**18**	*eP*	**Pn**	**23 49 38.5**	**+0.2**
HWQ	**Hawqa**	**1.17**	**18**	*eP*	**Pn**	**23 49 38.5**	**+0.2**
MARH	**Ras Al Marh**	**1.18**	**43**	*eP*	**Pn**	**23 49 40.1**	**+1.5**
MARH				*eS*	**Sn**	**23 49 58.5**	**+3.2**
MARH				AML	AML	23 50 01.8	
	comp=N,108nm,0.8s						
MARH				AML	AML	23 50 01.9	
	comp=E,52nm,0.3s						
FKH	**Fakeheh**	**1.31**	**34**	*eP*	**Pg**	**23 49 40.9**	**+0.7**
ZALF	**Zalf**	**1.54**	**98**	*eP*	**Pb**	**23 49 44.3**	**+0.1**
ZALF				*eS*	**Sg**	**23 50 05.9**	**+1.2**
ZALF				AML	AML	23 50 08.1	
	comp=E,55nm,0.5s						
ZALF				AML	AML	23 50 13.7	
	comp=N,46nm,0.6s						
ROOS	**tl_alroos**	**1.79**	**55**	*eP*	**Pg**	**23 49 49.5**	**+0.2**
ROOS				*eP*	**Sb**	**23 50 13.8**	**+2.7**
ROOS				AML	AML	23 50 18.0	
	comp=N,66nm,0.5s						
ROOS				AML	AML	23 50 26.2	
	comp=E,48nm,0.7s						
YTIR	**Yattir**	**1.82**	**191**	Pn	**Pn**	**23 49 47.5**	**+0.3**
YTIR	**Yattir**	**1.82**	**191**	Pn	**Pn**	**23 49 47.5**	**+0.3**
MZBI	**Masada**	**1.85**	**184**	Pn	**Pn**	**23 49 47.7**	**+0.3**
MZBI	**Masada**	**1.85**	**184**	Pn	**Pn**	**23 49 47.7**	**+0.3**
MZDA	**Masada**	**1.85**	**184**	Pn	**Pn**	**23 49 47.6**	**+0.2**
MZDA				Sn	**Sb**	**23 50 12.7**	**-0.1**
MZDA	**Masada**	**1.85**	**184**	Pn	**Pn**	**23 49 47.6**	**+0.2**
MZDA				Sn	**Sb**	**23 50 12.7**	**-0.1**
KZIT	**Kziot**	**2.44**	**203**	Pn	**Pn**	**23 49 56.6**	**+1.0**
KZIT	**Kziot**	**2.44**	**203**	Pn	**Pn**	**23 49 56.6**	**+1.0**
ZFRI	**Zfri**	**2.61**	**186**	Pn	**Pn**	**23 49 58.7**	**+0.7**
ZFRI	**Zfri**	**2.61**	**186**	Pn	**Pn**	**23 49 58.7**	**+0.7**
PRNI	**Paran**	**2.83**	**189**	Pn	**Pn**	**23 50 01.6**	**+0.6**
PRNI	**Paran**	**2.83**	**189**	Pn	**Pn**	**23 50 01.6**	**+0.6**
YAYL	**Yayladag**	**2.91**	**9**	P	**Pn**	**23 50 01.2**	**-1.0**
YAYL				S	**Sn**	**23 50 36.1**	**-1.5**
YAYL	**Yayladag**	**2.91**	**9**	*i* P	**Pn**	**23 50 01.2**	**-1.0**
YAYL				*i* S	**Sn**	**23 50 36.1**	**-1.5**
MBRI	**Mt Berech**	**3.39**	**189**	Pn	**Pn**	**23 50 10.0**	**+1.2**
MBRI	**Mt Berech**	**3.39**	**189**	Pn	**Pn**	**23 50 10.0**	**+1.2**
EIL	**Elat**	**3.51**	**188**	Pn	**Pn**	**23 50 10.3**	**-0.1**
EIL	**Elat**	**3.51**	**188**	Pn	**Pn**	**23 50 10.3**	**-0.1**
KUZU	**Kuzuini**	**3.83**	**19**	*i* P	**Pg**	**23 50 27.1**	**-1.3**
KUZU				*i* S	**Sg**	**23 51 16.0**	**-2.0**
GAZI	**Gazipasa**	**4.05**	**320**	P	**Pn**	**23 50 18.6**	**+0.9**
GAZI				S	**Sn**	**23 51 05.8**	**+0.2**
GAZI	**Gazipasa**	**4.05**	**320**	*i* P	**Pn**	**23 50 18.6**	**+0.9**
GAZI				*i* S	**Sn**	**23 51 05.8**	**+0.2**
KERG	**Konya-Eregli**	**4.40**	**345**	P	**Pn**	**23 50 23.8**	**+1.1**
KERG				S	**Sn**	**23 51 13.8**	**-0.6**
KERG	**Konya-Eregli**	**4.40**	**345**	*i* P	**Pn**	**23 50 23.8**	**+1.1**
KERG				*i* S	**Sn**	**23 51 13.8**	**-0.6**

ISN 24 23:49:19.0±0.3, 36°.50N×43°.07E, h0km, ML2.8, Iraq

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRN	**S˜¯rnak**	**1.12**	**332**	*i* P	Pg	23 49 36.1	-4.3
SIRN				*i* S	Sg	23 49 50.7	-4.3
HAKT	**HAKKARI**	**1.17**	**26**	*i* P	Pg	23 49 32.9	-8.5
HAKT				*i* S	Sg	23 49 46.9	-10

*NIED **24** 23:52:00, 39°.90N×142°.30E, h47km, Mw3.9 Best double couple: M0§9.34000×10^14 NP1:φ§186.00000°, δ§18.00000°, λ75.00000°. NP2:φ§222.00000°, δ73.00000°, λ95.00000°.*
*ISCJB **24** 23:52:14.7±0.8, 39°.94N±0°.04×142°.3E±0°.1, h52km±6km, mb3.8/12, Error ellipse: s-maj=13.3km s-min=5.7km az=10.4*
*JMA **24** 23:52:15.5±0.1, 39°.94N×142°.31E, h42km±1km, M3.7*
*IDC **24** 23:52:18.1±2.5, 39°.97N×142°.38E, h72km±21km, mb3.5/12, mb1 3.7/15, mb1mx3.5/49, mbtmp3.8/15, MS2.9/5, Ms1 2.9/5, ms1mx2.7/36, Error ellipse: s-maj=25.0km s-min=15.4km az=89.0*
ISC 24 23:52:15.7±1.2, 39°.94N±0°.04×142°.28E±0°.09, h44km±9km, n35, σ1§57/35, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.32**	**271**	P	**Pn**	**23 52 24.5**	**0.0**
JTH				S	**Sn**	**23 52 30.8**	**+0.1**
MIYJ	**Miyakonagasawa**	**0.50**	**225**	P	**Pn**	**23 52 26.5**	**-0.2**
MIYJ				*i* S	**Sn**	**23 52 34.1**	**-0.3**
JANG	**Nango**	**0.73**	**307**	P	**Pn**	**23 52 29.2**	**-0.5**
JANG				S	**Sn**	**23 52 39.3**	**-0.4**
JKZ	**Kuzumaki**	**0.73**	**274**	P	**Pn**	**23 52 30.1**	**+0.4**
JKZ				S	**Sn**	**23 52 40.3**	**+0.5**
JOM	**Ohasama**	**0.89**	**239**	P	**Pn**	**23 52 32.0**	**+0.2**
JOM				*e*S	**Sn**	**23 52 44.0**	**+0.4**
OFUJ	**Ofunato**	**0.98**	**209**	P	**Pn**	**23 52 32.9**	**-0.1**
OFUJ				*e*S	**Sn**	**23 52 45.3**	**-0.3**
JTM	**Tenmabayashi**	**1.26**	**313**	P	**Pn**	**23 52 37.0**	**+0.2**
JMK	**Ichinoseki**	**1.28**	**220**	P	**Pn**	**23 52 37.5**	**+0.4**
JMK				*e*S	**Sn**	**23 52 53.8**	**+0.7**
JAH	**Hinai**	**1.29**	**282**	P	**Pn**	**23 52 37.8**	**+0.6**
JRG	**Rokugo**	**1.38**	**248**	P	**Pn**	**23 52 39.7**	**+1.2**
ASAJ	**Asahikawa**	**4.18**	**3**	P	**Pn**	**23 53 18.3**	**+1.4**
	baz=196,slow=20						
ASAJ				S	**Sn**	**23 54 06.9**	**+2.3**
	baz=180,slow=20						
MJAR	**Matsushiro Arr**	**4.66**	**225**	P	**Pn**	**23 53 26.8**	**+3.2**
	2.2nm,0.3s,baz=32,slow=13,SNR=21						
MJAR				LR	LR	23 55 44.6	
	comp=Z,65nm,21.3s,baz=15,slow=44						
MAT	**Matsushiro**	**4.66**	**225**	P	**Pn**	**23 53 26.9**	**+3.3**
MAT				*e*S	**Sn**	**23 54 21.1**	**+4.6**
USRK	**Ussuriysk Ar.**	**8.76**	**302**	P	**Pn**	**23 54 23.5**	**+3.8**
	0.3nm,0.3s,baz=102,slow=13,SNR=11						
USRK				LR	LR	23 57 19.1	
	comp=Z,79nm,20.0s,baz=155,slow=34						
JNU	**Nakatsue**	**11.41**	**237**	LR	LR	23 58 55.3	
	comp=Z,75nm,18.5s,baz=124,slow=35						
KSRS	**Korea Array**	**11.49**	**262**	P	Pn	23 55 03.9	+6.8
	0.2nm,0.3s,baz=68,slow=14,SNR=3.3						
KSRS				LR	LR	23 58 37.1	
	comp=Z,59nm,21.8s,baz=106,slow=33						
KLR	**Kul'dur**	**11.93**	**325**	LR	LR	23 59 07.7	
	comp=Z,62nm,20.4s,baz=140,slow=34						
SEY	**Seymchan**	**23.82**	**11**	P	**P**	**23 57 23.6**	**-0.7**
	1.6nm,0.8s,baz=187,slow=8.1,SNR=3.6						
SONM	**Songino Array**	**26.85**	**299**	P	**P**	**23 57 51.9**	**-0.3**
	0.6nm,0.6s,baz=103,slow=8.0,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**29.19**	**126**	T	T	00 28 53.6	
	baz=319,slow=75,SNR=291						
H11N1	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	00 28 53.6	
	baz=319,slow=75,SNR=331						
H11N3	**WAKE ISLAND Hy**	**29.20**	**126**	T	T	00 28 53.6	
	baz=319,slow=75,SNR=296						
H11S1	**WAKE ISLAND Hy**	**30.00**	**128**	T	T	00 29 56.6	
	baz=320,slow=76,SNR=65						
H11S3	**WAKE ISLAND Hy**	**30.00**	**128**	T	T	00 29 54.9	
	baz=320,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**30.01**	**128**	T	T	00 29 57.8	
	baz=320,slow=76,SNR=32						
ZALV	**Zalesovo Beam**	**40.52**	**310**	P	**P**	**23 59 50.2**	**+0.1**
	1.2nm,0.5s,baz=79,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**43.21**	**300**	P	**P**	**00 00 12.1**	**-0.3**
	0.7nm,0.6s,baz=85,slow=9.9,SNR=6.9						
ILAR	**Eielson Array**	**46.70**	**34**	P	**P**	**00 00 39.4**	**-0.3**
	0.4nm,0.7s,baz=266,slow=6.2,SNR=4.3						
WRA	**Warramunga Arr**	**60.03**	**189**	P	**P**	**00 02 17.2**	**-0.7**
	1.8nm,0.8s,baz=6.1,slow=6.8,SNR=13						
GEYT	**Alibeck**	**63.05**	**298**	P	**P**	**00 02 37.8**	**-0.6**
	1.5nm,0.7s,baz=70,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**63.75**	**189**	P	**P**	**00 02 43.0**	**0.0**
	0.3nm,0.4s,baz=2.8,slow=7.6,SNR=3.8						
FINES	**FINESS Array B**	**66.57**	**332**	P	**P**	**00 03 00.4**	**-0.4**
	1.7nm,0.7s,baz=72,slow=6.2,SNR=7.6						
KBZ	**Khabaz**	**69.54**	**310**	P	**P**	**00 03 20.0**	**+0.3**
	2.0nm,0.7s,baz=30,slow=8.2,SNR=4.7						
NOA	**NORSAR Array B**	**71.78**	**337**	P	**P**	**00 03 30.7**	**-2.4**
	0.9nm,0.7s,baz=39,slow=6.1,SNR=2.9						
BRTR	**Keskin Array B**	**77.44**	**312**	P	**P**	**00 04 06.9**	**+0.4**
	0.6nm,0.9s,baz=33,slow=5.8,SNR=3.1						

*NNC **25** 00:05:42.3±3.2, 48°.59N×83°.42E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=30.1km s-min=10.9km az=73.0*
*SOME **25** 00:05:45.1, 48°.42N×82°.98E, h0km*
ISC 25 00:05:46.1±1.1, 48°.40N±0°.04×82°.94E±0°.05, h10km, n8, σ1§80/16, 7C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**1.37**	**134**	*i* P	**Pg**	**00 06 11.1**	**-1.2**
	24nm,0.2s						
ZSN				*e*S	**Sg**	**00 06 30.2**	**+0.1**
	119nm,0.2s						
MK31	**Makanchi Array**	**1.67**	**195**	⇓P	**Pg**	**00 06 18.3**	**+0.2**
	7.1nm,0.5s,baz=30,slow=17,SNR=380						
MK31				⇓S	**Sg**	**00 06 42.1**	**+2.4**
	20nm,0.3s,baz=27,slow=32,SNR=29						
MAKZ	**Makanchi**	**1.73**	**203**	⇑Pn	**Pg**	**00 06 19.5**	**+0.4**
	4.1nm,0.3s						
MAKZ				⇓Sn	**Sg**	**00 06 44.5**	**+3.0**
	26nm,0.5s						
SEM	**Semipalatinsk**	**2.67**	**320**	*eP*	**Pg**	**00 06 35.5**	**-1.6**
	4.2nm,0.2s						
SEM				*e*S	**Sg**	**00 07 13.2**	**+1.6**
	40nm,0.2s						
KURBB	**Kurchatov Arra**	**3.63**	**309**	⇑Pn	**Pn**	**00 06 43.0**	**+0.8**
	1.7nm,0.2s						
KURBB				⇑Sn	**Sn**	**00 07 26.0**	**+0.9**
	3.4nm,0.2s						
KURBB				⇑Lg	Lg	00 07 42.5	
	43nm,0.7s						
KURK	**Kurchatov**	**3.64**	**311**	⇑Pn	**Pn**	**00 06 42.8**	**+0.4**
	7.6nm,0.3s						
KURK				⇓Sn	**Sn**	**00 07 25.9**	**+0.5**
	20nm,0.4s						
KURK				⇑Lg	Lg	00 07 42.5	
	81nm,0.5s						
KAPS	**Kapalarasan**	**3.97**	**220**	*eP*	**Pg**	**00 06 59.5**	**-2.7**
	0.8nm,0.3s						
KAPS				*e*S	**Sg**	**00 07 52.6**	**-1.0**
	7.0nm,0.4s						
DJR	**Jarkent**	**4.62**	**209**	*eP*	**Pg**	**00 07 11.2**	**-3.3**
	2.3nm,0.3s						
DJR				*e*S	**Sg**	**00 08 14.1**	**-0.2**
	4.3nm,0.4s						

*ISCJB **25** 00:13:47.7±0.7, 47°.37N±0°.02×25°.78E±0°.03, h4km±5km, Error ellipse: s-maj=4.1km s-min=2.9km az=137.0*
*BUC **25** 00:13:47.2±0.5, 47°.33N×25°.74E, h5km±6km, MD3.0/2, Error ellipse: s-maj=6.0km s-min=4.2km az=19.0*
*CSEM **25** 00:13:47.2, 47°.33N×25°.74E, h5km, MD3.0/2*
*SIGU **25** 00:13:49.4±0.2, 47°.48N±0°.01×25°.78E±0°.01, h5km, mb1.9/5*
ISC 25 00:13:47.6±1.0, 47°.35N±0°.02×25°.77E±0°.02, h8km±9km, n46, σ0§65/74, 15C-20D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRAR	**RASCA**	**0.31**	**88**	⇓*i*P	**Pg**	**00 13 54.0**	**+0.2**
PRAR	**RASCA**	**0.31**	**88**	⇓*i*P	**Pg**	**00 13 54.0**	**+0.2**
PRAR	**RASCA**	**0.31**	**88**	⇓*i*P	**Pg**	**00 13 54.0**	**+0.2**
BURAR	**Bucovina Array**	**0.46**	**305**	⇓*i*P	**Pg**	**00 13 56.5**	**0.0**
BURAR	**Bucovina Array**	**0.46**	**305**	*i* S	**Sb**	**00 14 04.0**	**-1.0**
BURAR	**Bucovina Array**	**0.46**	**305**	⇓*i*P	**Pg**	**00 13 56.5**	**0.0**
BURAR				*i* S	**Sb**	**00 14 04.0**	**-1.0**
BURAR	**Bucovina Array**	**0.46**	**305**	⇓*i*P	**Pg**	**00 13 56.5**	**0.0**
BURAR				*i* S	**Sb**	**00 14 04.0**	**-1.0**
JOSR	**Joseni**	**0.67**	**195**	*i* S	**Sg**	**00 14 09.7**	**+0.4**
JOSR				⇓*i*P	**Pg**	**00 14 00.1**	**-0.4**
JOSR	**Joseni**	**0.67**	**195**	⇓*i*P	**Pg**	**00 14 00.1**	**-0.4**
JOSR				*i* S	**Sg**	**00 14 09.7**	**+0.4**
CHRU	**Chernivtsi**	**0.95**	**6**	*e*P	**Pg**	**00 14 06.0**	**+0.1**
CHRU				*i* S	**Sg**	**00 14 17.6**	**-0.6**
TESR	**Tescani**	**1.04**	**144**	⇑*i*P	**Pb**	**00 14 07.8**	**0.0**
TESR	**Tescani**	**1.04**	**144**	⇑*i*P	**Pb**	**00 14 07.8**	**0.0**
TESR				*i* S	**Sn**	**00 14 22.8**	**-0.3**
TESR	**Tescani**	**1.04**	**144**	⇑*i*P	**Pb**	**00 14 07.8**	**0.0**
TESR				*i* S	**Sn**	**00 14 22.8**	**-0.3**
KSV	**Kosov**	**1.07**	**334**	*e*P	**Pg**	**00 14 07.8**	**-0.4**
KSV				Pm		00 14 09.0	
KSV				*i* S	**Sg**	**00 14 21.8**	**-0.3**
KSV				Sm		00 14 33.0	
NSLU	**Nyzhne Selyshc**	**1.22**	**314**	*i* P	Pg	00 14 20.9	+10
NSLU				Pm		00 14 25.9	
NSLU				*i* S	Sn	00 14 42.7	+15
NSLU				Sm		00 14 48.7	
RAKU	**Rahkiv**	**1.27**	**302**	*e*P	**Pg**	**00 14 12.6**	**+0.5**
RAKU				Pm		00 14 14.2	
RAKU				*i* S	**Sn**	**00 14 32.8**	**+0.8**
RAKU				Sm		00 14 32.8	
STNU	**Starunia**	**1.60**	**328**	*i* P	**Pn**	**00 14 16.7**	**+0.5**
STNU				*i* S	**Sn**	**00 14 37.5**	**+0.4**
CJR	**Cluj-Napoca**	**1.62**	**247**	⇓*i*P	**Pb**	**00 14 17.3**	**-0.4**
CJR	**Cluj-Napoca**	**1.62**	**247**	⇓*i*P	**Pb**	**00 14 17.3**	**-0.4**
CJR				*i* S	**Sg**	**00 14 40.4**	**+0.8**
CJR	**Cluj-Napoca**	**1.62**	**247**	⇓*i*P	**Pb**	**00 14 17.3**	**-0.4**
CJR				*i* S	**Sg**	**00 14 40.4**	**+0.8**
PLOR	**Plostina**	**1.62**	**158**	⇓*i*P	**Pg**	**00 14 18.2**	**-0.5**
PLOR	**Plostina**	**1.62**	**158**	⇓*i*P	**Pg**	**00 14 18.2**	**-0.5**
PLOR	**Plostina**	**1.62**	**158**	⇓*i*P	**Pg**	**00 14 18.2**	**-0.5**
VRI	**Vrincioaia**	**1.63**	**156**	⇓*i*P	**Pb**	**00 14 17.3**	**-0.6**
VRI	**Vrincioaia**	**1.63**	**156**	⇓*i*P	**Pb**	**00 14 17.3**	**-0.6**
VRI				*i* S	**Sg**	**00 14 40.4**	**+0.5**
VRI	**Vrincioaia**	**1.63**	**156**	⇓*i*P	**Pb**	**00 14 17.3**	**-0.6**
VRI				*i* S	**Sg**	**00 14 40.4**	**+0.5**
NDNU	**Novodnistrovsk**	**1.64**	**40**	*i* P	**Pn**	**00 14 17.3**	**+0.5**
NDNU				Pm		00 14 17.3	
NDNU				*i* S	**Sn**	**00 14 38.2**	**+0.2**
NDNU				Sm		00 14 38.4	
MEZ	**Mezhgor'ye**	**1.91**	**308**	*e*P	**Pb**	**00 14 22.1**	**-0.6**
MEZ				Pm		00 14 28.1	
MEZ				*i* S	**Sb**	**00 14 46.1**	**-0.6**
MEZ				Sm		00 14 54.7	
SORM	**Soroca**	**1.91**	**65**	⇑*i*P	**Pb**	**00 14 21.9**	**-0.8**
SORM	**Soroca**	**1.91**	**65**	⇑*i*P	**Pb**	**00 14 21.9**	**-0.8**
SORM				*i* S	**Sb**	**00 14 46.0**	**-0.6**
SORM	**Soroca**	**1.91**	**65**	⇑*i*P	**Pb**	**00 14 21.9**	**-0.8**
SORM				*i* S	**Sb**	**00 14 46.0**	**-0.6**
HORU	**Horodok**	**1.91**	**13**	*i* P	**Pn**	**00 14 21.7**	**+1.2**
HORU				*i* S	**Sn**	**00 14 45.5**	**+0.7**
LEOM	**Leova**	**1.91**	**117**	⇑*i*P	**Pn**	**00 14 21.4**	**+0.9**
LEOM	**Leova**	**1.91**	**117**	⇑*i*P	**Pn**	**00 14 21.4**	**+0.9**
LEOM				*i* S	**Sb**	**00 14 46.0**	**-0.7**
LEOM	**Leova**	**1.91**	**117**	⇑*i*P	**Pn**	**00 14 21.4**	**+0.9**
LEOM				*i* S	**Sb**	**00 14 46.0**	**-0.7**
BRIU	**Brid**	**2.10**	**299**	*i* P	**Pb**	**00 14 25.1**	**-0.8**
BRIU				Pm		00 14 30.3	
BRIU				*i* S	**Sb**	**00 14 51.5**	**-

TCW	**Tory Channel**	**2.72**	**29**	AML	AML	00 31 45.7		
JCZ	**Jackson Bay**	**2.75**	**259**	⇓PN	Pn	00 31 10.1	-1.1	
JCZ				AML	AML	00 32 00.1		
JCZ				AML	AML	00 32 01.3		
JCZ	**Jackson Bay**	**2.75**	**259**	Pn	Pn	00 31 10.1	-1.1	
QRZ	**Quartz Range**	**2.78**	**360**	PN	Pn	00 31 11.0	-0.5	
QRZ				AML	AML	00 31 21.7		
QRZ				AML	AML	00 31 59.1		
QRZ	**Quartz Range**	**2.78**	**360**	Pn	Pn	00 31 11.0	-0.5	
BHW	**Baring Head**	**2.79**	**39**	PN	Pn	00 31 09.4	-2.3	
SNZO	**South Karori**	**2.80**	**36**	*e*Pn	Pn	00 31 10.9	-0.9	
WKZ	**Wanaka**	**2.81**	**243**	PN	Pn	00 31 10.7	-1.3	
WKZ				AML	AML	00 32 05.1		
WKZ				AML	AML	00 32 07.9		
WKZ	**Wanaka**	**2.81**	**243**	Pn	Pn	00 31 10.7	-1.3	
EAZ	**Earnscleugh**	**2.82**	**234**	⇑PN	Pn	00 31 10.5	-1.6	
EAZ				AML	AML	00 32 01.6		
EAZ				AML	AML	00 32 02.0		
EAZ	**Earnscleugh**	**2.82**	**234**	Pn	Pn	00 31 10.6	-1.6	
PLWZ	**Palliser**	**2.86**	**46**	PN	Pn	00 31 10.1	-2.6	
PLWZ	**Palliser**	**2.86**	**46**	Pn	Pn	00 31 10.1	-2.6	
MSWZ	**Moikau Station**	**2.97**	**44**	Pn	Pn	00 31 11.3	-2.9	
MSWZ				AML	AML	00 31 46.5		
CAW	**Cannon Point**	**3.12**	**38**	PN	Pn	00 31 13.3	-3.0	
TUZ	**Tuapeka**	**3.13**	**220**	⇑PN	Pn	00 31 14.6	-1.7	
TUZ				AML	AML	00 32 14.7		
TUZ				AML	AML	00 32 18.0		
TUZ	**Tuapeka**	**3.13**	**220**	Pn	Pn	00 31 14.6	-1.7	
KIW	**Kapiti Island**	**3.26**	**34**	PN	Pn	00 31 15.8	-2.3	
KIW				SN	Sn	00 31 53.1	-4.2	
MTW	**Mount Morrison**	**3.29**	**43**	PN	Pn	00 31 15.5	-3.0	
MTW				AML	AML	00 32 02.7		
MTW	**Mount Morrison**	**3.29**	**43**	Pn	Pn	00 31 15.5	-3.0	
OGWZ	**Otaki Gorge**	**3.41**	**36**	PN	Pn	00 31 18.1	-2.1	
OGWZ	**Otaki Gorge**	**3.41**	**36**	Pn	Pn	00 31 18.1	-2.1	
MLZ	**Mavora Lakes**	**3.62**	**239**	⇓PN	Pn	00 31 21.2	-1.8	
MLZ				AML	AML	00 32 26.6		
MLZ				AML	AML	00 32 34.6		
MLZ	**Mavora Lakes**	**3.62**	**239**	Pn	Pn	00 31 21.2	-1.8	
MRZ	**Mangatainoka R**	**3.71**	**39**	PN	Pn	00 31 21.5	-2.9	
MRZ	**Mangatainoka R**	**3.71**	**39**	Pn	Pn	00 31 21.5	-2.9	
SYZ	**Scrubby Hill**	**3.79**	**218**	PN	Pn	00 31 24.0	-1.5	
SYZ				AML	AML	00 32 34.3		
SYZ				AML	AML	00 32 40.5		
SYZ	**Scrubby Hill**	**3.79**	**218**	Pn	Pn	00 31 24.0	-1.5	
WHZ	**Wether Hill Ro**	**3.99**	**233**	⇓PN	Pn	00 31 25.5	-2.7	
WHZ				AML	AML	00 32 38.9		
WHZ				AML	AML	00 32 51.7		
WHZ	**Wether Hill Ro**	**3.99**	**233**	Pn	Pn	00 31 25.5	-2.7	
BFZ	**Birch Farm**	**4.02**	**45**	PN	Pn	00 31 25.4	-3.1	
DCZ	**Deep Cove**	**4.27**	**242**	PN	Pn	00 31 30.2	-1.8	
DCZ				AML	AML	00 32 46.7		
DCZ				AML	AML	00 32 50.9		
DCZ	**Deep Cove**	**4.27**	**242**	Pn	Pn	00 31 30.2	-1.8	
APZ	**The Paps**	**4.55**	**223**	PN	Pn	00 31 34.4	-1.5	
APZ	**The Paps**	**4.55**	**223**	Pn	Pn	00 31 34.4	-1.5	
VRZ	**Vera Road**	**4.78**	**21**	PN	Pn	00 31 40.0	+1.0	
VRZ	**Vera Road**	**4.78**	**21**	Pn	Pn	00 31 40.0	+1.0	

JMA 25 00:32:22.3±0.1, 38°38N×142°18E, h35km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.66**	**277**	P	Pn	00 32 35.0	-0.1
JIO				S	Sn	00 32 43.8	-0.4
OFUJ	**Ofunato**	**0.81**	**330**	P	Pn	00 32 37.2	0.0
OFUJ				S	Sn	00 32 47.8	-0.1
JMK	**Ichinoseki**	**0.94**	**308**	P	Pn	00 32 39.4	+0.4
JMK				S	Sn	00 32 51.3	0.0
JOU	**Okura**	**1.19**	**270**	P	Pn	00 32 43.1	+0.6
JOU				*e*S	Sn	00 32 58.4	+0.9
JMM	**Marumori**	**1.21**	**245**	P	Pn	00 32 42.5	-0.2
JMM				S	Sn	00 32 57.2	-0.6
JOM	**Ohasama**	**1.29**	**328**	P	Pn	00 32 44.9	+1.0
JOM				S	Sn	00 33 01.3	+1.4
JYK	**Kaneyama**	**1.52**	**291**	P	Pn	00 32 48.0	+1.0
JRG	**Rokugo**	**1.58**	**311**	P	Pn	00 32 49.2	+1.4
JRG				S	Sn	00 33 08.9	+2.0

*MEX **25** 00:41:29.7±0.9, 21°.32N×99°.36W, h8km, MD4.4*
*NEIC **25** 00:41:30.3±0.5, 21°.35N×99°.46W, h10km, mb4.2/12, MD4.2(MEX), Error ellipse: s-maj=9.2km s-min=6.7km az=98.0*
NEIC Felt at Queretaro and San Juan del Rio.
*IDC **25** 00:41:34.5±3.8, 21°.44N×99°.13W, h35km±33km, mb3.3/4, mb1 3.6/7, mb1mx3.4/33, mbtmp3.5/7, ML3.2/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/14, Error ellipse: s-maj=64.1km s-min=18.1km az=50.0*

ISC 25 00:41:28.5±1.7, 21°.32N±0°.03×99°.40W±0°.04, h5km±12km, n52, σ1s88/60, mb4.3/11, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**1.07**	**161**	*e*P	Pg	00 41 46.1	-2.9
DEIG				*e*S	**Sg**	**00 42 00.2**	**-2.7**
JRQG	**Juriquilla Cam**	**1.16**	**238**	*e*P	Pb	00 41 48.3	-2.8
JRQG				*e*S	**Sb**	**00 42 04.2**	**-2.3**
ZUVM	**ZUMPANGO**	**1.51**	**169**	*e*P	**Pn**	**00 41 53.3**	**-3.2**
ATVM	**ATLACOMULCO**	**1.60**	**195**	*e*P	**Pn**	**00 41 54.9**	**-2.9**
ATVM				*e*S	**Sn**	**00 42 20.9**	**+1.9**
VTVM	**Tizayuca**	**1.65**	**159**	*e*P	**Pn**	**00 41 57.7**	**-0.6**
AZVM	**Cuida Lopez Ma**	**1.73**	**176**	*e*P	**Pn**	**00 41 57.7**	**-1.8**
AZVM				*e*S	**Sn**	**00 42 22.8**	**+0.7**
PTVM	**Pico Tres Padr**	**1.74**	**171**	*e*P	Pn	00 41 55.4	-4.2
IGIG	**Irapuato, Guan**	**1.89**	**253**	*e*P	**Pn**	**00 41 59.4**	**-2.3**
IGIG				*e*S	**Sn**	**00 42 23.6**	**-2.3**
UNM	**Universidad Na**	**1.99**	**174**	*e*P	**Pn**	**00 42 03.8**	**+0.7**
UNM	**Universidad Na**	**1.99**	**174**	*e*Pn	**Pn**	**00 42 04.4**	**+1.3**
TOVM	**TOLUCA**	**2.04**	**187**	*e*P	Pn	00 41 56.2	-7.6
MZVM		**2.12**	**176**	*e*P	**Pn**	**00 42 05.8**	**+1.1**
MZVM				*e*S	**Sn**	**00 42 33.3**	**+1.9**
MOIG	**Morelia**	**2.34**	**226**	*e*P	**Pn**	**00 42 06.3**	**-1.6**
MOIG				*i* S	**Sn**	**00 42 38.2**	**+1.0**
MOIG	**Morelia**	**2.34**	**226**	*e*Pn	**Pn**	**00 42 08.6**	**+0.7**
MAVM	**Malinalco, Edo**	**2.35**	**182**	*e*P	**Pn**	**00 42 06.2**	**-1.9**
MAVM				*e*S	**Sb**	**00 42 41.0**	**+0.2**
PPM	**Popocatepetl**	**2.35**	**162**	*e*P	**Pb**	**00 42 12.0**	**+0.3**
PPM				*i* S	Sg	00 42 54.6	+10
YAIG	**Yautepec**	**2.46**	**173**	*e*P	**Pn**	**00 42 11.2**	**+1.8**
YAIG				*i* S	**Sn**	**00 42 42.8**	**+2.8**
ARIG	**Puente Sto Nin**	**3.15**	**197**	*e*P	**Pb**	**00 42 25.1**	**+0.1**
ARIG				*i* S	**Sn**	**00 42 55.4**	**-1.4**
LVIG	**Laguna Verde**	**3.21**	**119**	*i* P	**Pb**	**00 42 24.7**	**-1.3**
ZAIG	**Zacatecas**	**3.28**	**297**	*e*P	**Pn**	**00 42 20.2**	**-0.6**
ZAIG	**Zacatecas**	**3.28**	**297**	*e*Pn	**Pn**	**00 42 21.4**	**+0.6**
TPIG	**Tehuac#an**	**3.46**	**146**	*e*P	**Pb**	**00 42 32.3**	**+1.9**
TPIG				*i* S	**Sg**	**00 43 19.5**	**-0.3**
LNIG	**Linares**	**3.56**	**359**	*e*P	**Pn**	**00 42 23.7**	**-0.8**
LNIG				*e*S	**Sn**	**00 43 04.5**	**-2.5**
TLIG	**Tlapa**	**3.82**	**168**	*e*Pn	**Pn**	**00 42 30.8**	**+2.7**
CMIG	**Matias Romero**	**5.99**	**134**	Pn	**Pn**	**00 42 58.9**	**+1.1**
	0.3nm,0.3s,baz=302,slow=10.0,SNR=3.6						
CMIG				Lg	Lg	00 44 44.3	
	0.1nm,0.3s,baz=82,slow=14,SNR=2.8						
HPIG		**8.00**	**316**	*e*Pn	**Pn**	**00 43 25.6**	**-0.1**
TXAR	**Lajitas Array**	**8.87**	**335**	Pn	Pn	00 43 42.5	+5.0
	0.1nm,0.3s,baz=165,slow=11,SNR=3.5						
TXAR				Lg	Lg	00 46 15.8	
	0.2nm,0.3s,baz=160,slow=26,SNR=9.1						
TXAR				LR	LR	00 47 28.3	
	comp=Z,137nm,19.7s,baz=0.0,slow=40						
LPIG	**La Paz**	**10.45**	**287**	LR	LR	00 47 51.3	
	comp=Z,142nm,20.2s,baz=153,slow=35						
TEIG	**Tepich**	**10.46**	**94**	Pn	**Pn**	**00 43 59.0**	**-0.2**
	0.6nm,0.3s,baz=272,slow=22,SNR=2.8						
TEIG				Sn	**Sn**	**00 45 49.6**	**-7.2**
	0.3nm,0.3s,baz=89,slow=23,SNR=1.8						
CCAR	**Cane Creek**	**14.25**	**27**	*e*Pn	**Pn**	**00 44 53.2**	**+2.2**
V34A	**Guthrie**	**14.56**	**6**	*e*Pn	**Pn**	**00 44 56.6**	**+1.4**
TUL1	**Leonard**	**14.88**	**11**	*e*Pn	**Pn**	**00 45 02.0**	**+2.5**
ANMO	**Albuquerque**	**14.93**	**337**	*e*Pn	**Pn**	**00 45 01.1**	**+0.7**
SDCO	**Great Sand Dun**	**17.20**	**343**	*e*Pn	**Pn**	**00 45 30.1**	**+0.2**
	14nm,2.0s						
WVT	**Waverly**	**17.89**	**32**	*e*Pn	**P**	**00 45 40.0**	**+1.2**
	8.1nm,1.4s						
SWET	**Sewanee**	**18.20**	**38**	*e*Pn	**P**	**00 45 43.0**	**+0.7**
	7.2nm,1.5s						
GOGA	**Godfrey**	**18.55**	**46**	*e*P	**P**	**00 45 44.8**	**-1.4**
	56nm,1.8s						
N23A	**Red Feather La**	**20.29**	**346**	*e*P	**P**	**00 46 05.9**	**+0.5**
	17nm,1.5s						
MSU	**Marysvale**	**20.37**	**330**	*e*P	**P**	**00 46 05.1**	**-1.1**
JSC	**Jenkinsville**	**20.55**	**47**	*e*P	**P**	**00 46 09.5**	**+1.5**
	12nm,1.1s						
ECSD	**EROS Data Cent**	**22.47**	**5**	*e*P	**P**	**00 46 29.6**	**+1.0**
	11nm,1.2s						
JFWS	**Jewell Farm**	**22.86**	**18**	*e*P	**P**	**00 46 33.7**	**+1.1**
	11nm,0.8s						
BW06	**Boulder Array**	**23.02**	**341**	*e*P	**P**	**00 46 34.8**	**+0.1**
PDAR	**Pinedale Array**	**23.02**	**341**	P	**P**	**00 46 36.9**	**+2.2**
	0.5nm,0.6s,baz=147,slow=12,SNR=3.8						
SPMN	**Marine on St.**	**24.45**	**11**	*e*P	**P**	**00 46 48.2**	**-0.1**
	16nm,0.9s						
LKWY	**Lake**	**24.91**	**341**	*e*P	**P**	**00 46 53.2**	**+0.5**
	94nm,1.0s						
LKWY				*e*S	**S**	**00 51 14.0**	**-2.6**
AGMN	**Agassiz Nation**	**27.07**	**5**	*e*P	**P**	**00 47 12.4**	**+0.5**
	7.2nm,1.1s						
EYMN	**Ely**	**27.32**	**12**	*e*P	**P**	**00 47 14.7**	**+0.5**
	8.8nm,1.2s						
SCHQ	**Schefferville**	**41.46**	**28**	P	**P**	**00 49 15.9**	**-0.2**
	4.6nm,0.9s,baz=214,slow=9.5,SNR=5.1						
YKA	**Yellowknife Ar**	**42.45**	**350**	P	**P**	**00 49 23.6**	**-0.5**
	0.4nm,0.8s,baz=153,slow=6.9,SNR=3.3						
ILAR	**Eielson Array**	**53.38**	**337**	P	**P**	**00 50 50.6**	**+1.9**
	0.3nm,0.8s,baz=118,slow=6.1,SNR=4.4						
MLY	**Manley**	**54.94**	**336**	*e*P	**P**	**00 51 02.7**	**+2.5**
	3.6nm,1.2s						

*NIED **25** 00:44:00.39°.70N×142°.10E, h50km, Mw4.5 Best double couple: M0=6.93000×10^15 NP1:φs=178.00000°, δ19.00000°, λ73.00000°. NP2:φs=16.00000°, δ72.00000°, λ96.00000°.*
*ISCJB **25** 00:44:17.4±0.4, 39°.70N±0°.03×142°.13E±0°.05, h57km±2km, mb4.4/61, MS3.6/24, Error ellipse: s-maj=6.1km s-min=3.9km az=21.3*
*JMA **25** 00:44:18.1, 39°.68N×142°.13E, h48km±1km, M4.3*
JMA Felt II J1.
*MOS **25** 00:44:19.0±1.0, 39°.81N×142°.01E, h65km, mb4.8/32, Error ellipse: s-maj=7.9km s-min=5.0km az=109.7*
*BJI **25** 00:44:19.1, 39°.75N×142°.01E, h67km, mb4.5/41, mB4.9/26, Ms4.2/18, Ms7 3.9/20*
*NEIC **25** 00:44:20.9±0.6, 39°.76N×142°.07E, h72km±4km, mb4.7/19, Error ellipse: s-maj=8.0km s-min=4.9km az=126.0*
NEIC Felt at Misawa. Recorded [2 JMA] in Iwate.
*IDC **25** 00:44:20.2±1.7, 39°.66N×142°.14E, h70km±14km, mb3.9/23, mb1 4.0/29, mb1mx3.9/39, mbtmp4.2/29, MS3.5/28, Ms1 3.5/28, ms1mx3.4/42, Error ellipse: s-maj=16.1km s-min=10.3km az=108.0*

ISC 25 00:44:18.2±0.6, 39°.70N±0°.03×142°.17E±0°.05, h48km±4km, n192, σ1s69/210, mb4.5/61, MS3.6/24, 8C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.30**	**245**	P	**Pn**	**00 44 26.7**	**-0.4**
MIYJ				S	**Sn**	**00 44 32.6**	**-0.9**
JTH	**Tanohata**	**0.33**	**315**	P	**Pn**	**00 44 27.4**	**-0.1**
JTH				S	**Sn**	**00 44 33.8**	**-0.3**
JKZ	**Kuzumaki**	**0.70**	**294**	P	**Pn**	**00 44 31.8**	**-0.2**
JKZ				S	**Sn**	**00 44 41.5**	**-0.4**
JOM	**Ohasama**	**0.72**	**252**	P	**Pn**	**00 44 31.7**	**-0.3**
JOM				S	**Sn**	**00 44 41.5**	**-0.6**
OFUJ	**Ofunato**	**0.73**	**212**	P	**Pn**	**00 44 31.5**	**-0.8**
OFUJ				S	**Sn**	**00 44 41.0**	**-1.5**
JANG	**Nango**	**0.84**	**323**	P	**Pn**	**00 44 33.4**	**-0.3**
JANG				S	**Sn**	**00 44 44.5**	**-0.5**
JMK	**Ichinoseki**	**1.05**	**225**	P	**Pn**	**00 44 35.9**	**-0.6**
JMK				S	**Sn**	**00 44 49.3**	**-0.8**
JRG	**Rokugo**	**1.23**	**256**	P	**Pn**	**00 44 38.5**	**-0.4**
JAH	**Hinai**	**1.27**	**293**	P	**Pn**	**00 44 39.6**	**0.0**
JAH				S	**Sn**	**00 44 56.3**	**+0.8**
JTM	**Tenmabayashi**	**1.37**	**322**	P	**Pn**	**00 44 41.0**	**+0.1**
JTM				*e*S	**Sn**	**00 44 57.9**	**0.0**
JIO	**Ouri**	**1.40**	**207**	P	**Pn**	**00 44 40.7**	**-0.6**
ERM	**Erimo**	**2.43**	**18**	*e*P	**Pn**	**00 44 57.9**	**+2.6**
ERM				*e*		00 45 28.4	
ERM	**Erimo**	**2.43**	**18**	*e*Pn	**Pn**	**00 44 57.9**	**+2.6**
ERM				*e*Sn	**Sn**	**00 45 28.4**	**+4.6**
ASAJ	**Asahikawa**	**4.42**	**4**	P	**Pn**	**00 45 24.6**	**+1.9**
	5.8nm,0.3s,baz=202,slow=15,SNR=12						
ASAJ				S	**Sn**	**00 46 16.5**	**+3.6**
	7.1nm,0.3s,baz=72,slow=29,SNR=3.6						
MJAR	**Matsushiro Arr**	**4.44**	**226**	P	**Pn**	**00 45 25.1**	**+2.1**
	7.8nm,0.3s,baz=32,slow=14,SNR=60						
MJAR				LR	LR	00 47 03.6	
	comp=Z,311nm,21.9s,baz=60,slow=37						
MAJO	**Matsushiro**	**4.44**	**226**	*c i*P	**Pn**	**00 45 25.0**	**+2.0**
MAJO	**Matsushiro**	**4.44**	**226**	*e*Pn	**Pn**	**00 45 25.6**	**+2.6**
MAT	**Matsushiro**	**4.44**	**226**	P	**Pn**	**00 45 24.1**	**+1.1**
MAT				S	**Sn**	**00 46 16.4**	**+3.0**
YUK	**Yuzh-Kuril'sk**	**5.13**	**31**	*e*P	**Pn**	**00 45 34.0**	**+1.6**
INU	**Inuyama**	**5.97**	**225**	*e*Pn	**Pn**	**00 45 48.0**	**+4.0**
JHJ	**Hachijo jima 2**	**6.85**	**197**	P	**Pn**	**00 45 57.1**	**+1.2**
	10nm,0.3s,baz=73,slow=19,SNR=6.2						
JHJ				S	**Sn**	**00 47 08.2**	**-4.4**
	3.6nm,0.3s,baz=54,slow=19,SNR=2.6						
KUR	**Kuril'sk**	**6.95**	**35**	P	**Pn**	**00 45 58.8**	**+1.5**
KUR				*e*S	**Sn**	**00 47 12.0**	**-2.9**
KUR				smax	smax		
	comp=N,63nm,0.3s						
KUR				smax	smax		
	comp=E,37nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.26**	**3**	*e*P	**Pn**	**00 46 03.4**	**+1.8**
VLA	**Vladivostok**	**8.45**	**297**	*c i*P	**Pn**	**00 46 20.2**	**+2.3**
VLA				*i* S	**Sn**	**00 47 55.3**	**+3.5**
VLA				pmax	pmax		
	comp=Z,46nm,1.6s						
MSHR	**Mys Shultsa**	**8.79**	**293**	*ce*P	Pn	00 46 30.0	+7.4
USRK	**Ussuriysk Ar.**	**8.81**	**304**	P	**Pn**	**00 46 25.5**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=113,slow=12,SNR=36						
USRK				LR	LR	00 49 42.7	
	comp=Z,417nm,19.1s,baz=119,slow=37						
HABR	**Khabarovsk**	**10.15**	**332**	*e*P	**Pn**	**00 46 38.7**	**-2.4**
HABR				*e*S	**Sn**	**00 48 30.1**	**-3.3**
HABR				pmax	pmax		
	comp=E,6.0nm,0.8s						
HABR				pmax	pmax		
	comp=N,22nm,1.5s						
HABR				pmax	pmax		
	comp=Z,21nm,1.5s						
HABR				MLR	MLR		
	comp=Z,145nm,12.0s						
MDJ	**Mudanjiang**	**10.55**	**302**	P	**Pn**	**00 46 49.4**	**+2.8**
MDJ				S	**Sn**	**00 48 42.1**	**-1.1**
MDJ				ScP	**ScP**	**00 56 17.6**	**+1.7**
MDJ				PcS	**PcS**	**00 56 24.4**	**+3.3**
MDJ				PMZ			
	comp=Z,10.0nm,1.1s						
MDJ				LN			
	comp=Z,240nm,15.1s						
MDJ				LE			
	comp=Z,380nm,17.1s						
MDJ				LZ			
	comp=Z,510nm,17.8s						
MDJ	**Mudanjiang**	**10.55**	**302**	*e*Pn	**Pn**	**00 46 46.8**	**+0.2**
	comp=Z,65nm,1.0s						
TYV	**Tymovskoe**	**11.17**	**2**	*e*P	**Pn**	**00 46 57.0**	**+2.0**
TYV				pmax	pmax		
	comp=Z,18nm,1.0s						
JNU	**Nakatsue**	**11.21**	**238**	P	**Pn**	**00 46 59.8**	**+4.0**
	comp=Z,0.4nm,0.3s,baz=70,slow=2.1,SNR=4.6						
JNU				LR	LR	00 51 16.1	
	comp=Z,212nm,19.4s,baz=306,slow=37						
KSRS	**Korea Array**	**11.38**	**263**	P	**Pn**	**00 47 00.5**	**+2.6**
	comp=Z,2.9nm,0.3s,baz=69,slow=14,SNR=20						
KSRS				LR	LR	00 50 58.5	
	comp=Z,190nm,20.4s,baz=87,slow=35						
KS01	**Wonju Array Si**	**11.39**	**263**	*e*Pn	**Pn**	**00 46 58.8**	**+0.6**
KS15	**Wonju Array Si**	**11.41**	**263**	*e*Pn	**Pn**	**00 46 58.7**	**+0.3**
KSAR	**Wonju Array Be**	**11.41**	**263**	P	**Pn**	**00 47 00.5**	**+2.1**
KSAR	**Wonju Array Be**	**11.41**	**263**	P	**Pn**	**00 47 00.5**	**+2.1**
KLR	**Kul'dur**	**12.08**	**325**	P	**Pn**	**00 47 09.6**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=122,slow=14,SNR=9.7						
KLR				LR	LR	00 51 49.3	
	comp=Z,263nm,19.1s,baz=138,slow=37						
KLR	**Kul'dur**	**12.08**	**325**	*e*P	**Pn**	**00 47 08.9**	**+1.4**
NKL	**Nikolayevsk**	**13.49**	**356**	*e*P	**P**	**00 47 32.5**	**-2.1**
PETK	**Petropavlovsk-**	**17.11**	**33**	LR	LR	00 55 00.8	
	comp=Z,53nm,18.4s,baz=227,slow=37						
HIA	**Hailar**	**18.58**	**308**	*e*P	**P**	**00 48 29.4**	**-1.7**
BJI	**Beijing**	**19.94**	**279**	P	**P**	**00 48 42.9**	**-3.0**
BJI				PMZ			
	comp=Z,8.0nm,0.9s						
BJT	**Baijiatuau**	**19.95**	**279**	*e*P	**P**	**00 48 45.4**	**-0.7**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**19.95**	**279**	*e*P	**P**	**00 48 45.4**	**-0.7**
	comp=Z,9.6nm,0.6s						
TIA	**Tai'an**	**20.04**	**268**	⇓P	**P**	**00 48 45.8**	**-1.3**
TIA				PMZ			
	comp=Z,20nm,1.0s						
NJ2	**Nanjing**	**20.34**	**255**	*e*P	**P**	**00 48 51.1**	**+0.7**
NJ2				PMZ			
	comp=Z,30nm,1.0s						
MA2	**Magadan**	**20.62**	**12**	P	**P**	**00 48 54.1**	**+0.9**
	comp=Z,3.6nm,0.5s,baz=235,slow=12,SNR=3.6						
MA2				LR	LR	00 56 28.4	
	comp=Z,72nm,21.4s,baz=268,slow=35						
MA2	**Magadan**	**20.62**	**12**	*e*P	**P**	**00 48 53.9**	**+0.6**
	comp=Z,33nm,0.7s						
HHC	**Hu-ho-hao-te**	**23.32**	**283**	*e*P	**P**	**00 49 20.1**	**-2.0**
HHC				PP	**PnPn**	**00 49 52.4**	**+2.9**
HHC				S	**S**	**00 53 24.1**	**-7.1**
HHC				PMZ			
	comp=Z,20nm,0.9s						
HHC				PMZ			
	comp=Z,180nm,5.1s						
HHC				LN			
	comp=Z,200nm,12.4s						
HHC				LE			
	comp=Z,210nm,11.4s						
HHC				LZ			
	comp=Z,210nm,13.3s						
YAK	**Yakutsk**	**23.62**	**345**	P	**P**	**00 49 23.4**	**-1.1**
	comp=Z,15nm,0.3s,baz=348,slow=5.9,SNR=6.4						
YAK				LR	LR	00 58 21.0	
	comp=Z,72nm,20.0s,baz=194,slow=36						
YAK	**Yakutsk**	**23.62**	**345**	*e*P	**P**	**00 49 22.9**	**-1.6**
YAK				*e**PP	**pP**	**00 49 36.3**	**-0.3**
YAK				*e*		00 49 51.1	
YAK				*e*		00 53 09.1	
YAK				*e*S	**S**	**00 53 31.5**	**-3.8**
YAK				*e**SS	Sn	00 53 53.6	-5.4
YAK				*e*SS	**SnSn**	**00 54 13.6**	**-2.2**
YAK				*e*		01 00 32.9	
YAK				pmax	pmax		
	comp=Z,39nm,1.0s						
YAK				pmax	pmax		
	comp=N,20nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,163nm,4.8s						
YAK				pmax	pmax		
	comp=N,80nm,4.2s						
YAK				pmax	pmax		
	comp=E,83nm,4.8s						
YAK				smax	smax		
	comp=N,143nm,3.3s						
YAK				smax	smax		
	comp=E,38nm,2.8s						
YAK				smax	smax		
	comp=N,11nm,1.0s						
YAK				smax	smax		
	comp=E,10.0nm,1.0s						
YAK				smax	smax		
	comp=N,68nm,1.0s						
YAK				smax	smax		
	comp=E,63nm,1.1s						
YAK				MLR	MLR		
	comp=Z,16nm,5.0s						
YAK	**Yakutsk**	**23.62**	**345**	*e*P	**P**	**00 49 23.4**	**-1.1**
	comp=Z,39nm,0.8s						
SEY	**Seymchan**	**24.06**	**11**	P	**P**	**00 49 28.9**	**+0.3**
	comp=Z,15nm,1.0s,baz=197,slow=8.5,SNR=24						
SEY	**Seymchan**	**24.06**	**11**	*ce*P	**P**	**00 49 30.0**	**+1.4**
BOD	**Bodaibo**	**25.65**	**324**	*e*P	**P**	**00 49 41.7**	**-1.4**
BOD				pmax	pmax		
	comp=Z,14nm,1.0s						
GUMO	**Guam**	**26.12**	**174**	LR	LR	00 59 02.3	
	comp=Z,47nm,20.3s,baz=92,slow=34						
ULN	**Ulaanbaatar**	**26.45**	**300**	*ce*P	**P**	**00 49 50.9**	**+0.3**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	**Ulaanbaatar**	**26.45**	**300**	*e*P	**P**	**00 49 48.8**	**-1.9**
	comp=Z,8.2nm,1.1s						
SONA1	**Songino Array**	**26.89**	**299**	*e*P	**P**	**00 49 53.5**	**-1.0**
SONM	**Songino Array**	**26.89**	**299**	P	**P**	**00 49 53.8**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=110,slow=9.2,SNR=9.5						
SONM				LR	LR	01 01 05.3	
	comp=Z,235nm,18.4s,baz=115,slow=37						
TLY	**Talaya**	**29.11**	**307**	P	**P**	**00 50 14.0**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=112,slow=6.1,SNR=7.8						
TLY				LR	LR	01 02 39.0	
	comp=Z,141nm,18.3s,baz=102,slow=38						
TLY	**Talaya**	**29.11**	**307**	*e

WMQ LN
comp=Z,27nm,22.4s
WMQ LE
comp=Z,24nm,17.4s
WMQ LZ
comp=Z,45nm,20.2s
ZAA0 Zalesovo Array 40.60 310 eP **P 00 51 52.1 -0.8**
ZALV Zalesovo Beam 40.60 310 P **P 00 51 52.8 -0.2**
comp=Z,5.9nm,0.4s,baz=91,slow=7.8,SNR=41
ZALV PcP **PcP 00 53 53.4 -0.7**
comp=Z,1.3nm,0.3s,baz=100,slow=3.3,SNR=5.3
NRIK Noril'sk 41.12 334 P **P 00 51 56.8 -0.2**
comp=Z,1.1nm,0.3s,baz=110,slow=7.2,SNR=4.7
NRIK LR LR 01 09 41.0
comp=Z,157nm,20.3s,baz=106,slow=37
NVS Novosibirsk 41.47 312 eP **P 00 52 00.0 -0.1**
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 42.79 253 P **P 00 52 11.4 +0.1**
comp=Z,0.6nm,0.3s,baz=37,slow=6.6,SNR=3.7
CMAR LR LR 01 09 31.4
comp=Z,24nm,18.5s,baz=40,slow=35
MK01 Makanchi Array 43.26 300 eP **P 00 52 14.2 -0.6**
MK31 Makanchi Array 43.26 300 eP **P 00 52 14.4 -0.3**
MK31 Makanchi Array 43.26 300 eP **P 00 52 14.4 -0.3**
MKAR Makanchi Array 43.26 300 P **P 00 52 14.4 -0.4**
comp=Z,5.7nm,0.6s,baz=83,slow=9.6,SNR=49
MKAR PcP **PcP 00 54 03.3 +0.2**
comp=Z,0.8nm,0.8s,baz=107,slow=1.5,SNR=2.7
MKAR LR LR 01 11 03.9
comp=Z,111nm,19.2s,baz=51,slow=37
MAKZ Makanchi 43.46 300 eP **P 00 52 15.6 -0.8**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 43.46 300 eP **P 00 52 15.6 -0.8**
comp=Z,8.4nm,0.9s
KURK Kurchatov 44.80 306 ceP **P 00 52 26.7 -0.3**
KURK pmax pmax
comp=Z,84nm,1.2s
KURK Kurchatov 44.80 306 eP **P 00 52 26.4 -0.6**
comp=Z,53nm,0.9s
PDGK Podgornoye 46.10 296 P **P 00 52 36.4 -1.0**
PDGK pmax pmax
comp=Z,8.0nm,1.0s
COLA College 46.52 34 eP **P 00 52 40.1 -0.2**
COLA pmax pmax
comp=Z,3.0nm,0.7s
COLA College 46.52 34 eP **P 00 52 40.1 -0.2**
comp=Z,3.1nm,0.7s
ILAR Eielson Array 46.94 34 P **P 00 52 44.8 +1.1**
comp=Z,0.6nm,0.6s,baz=264,slow=5.4,SNR=10.0
RAMN Ramite 47.45 272 eP **P 00 52 48.6 +0.1**
comp=Z,56nm,0.9s
GUN Gumba 47.53 274 eP **P 00 52 49.3 +0.1**
comp=Z,55nm,0.7s
KKN Kakani 48.05 274 eP **P 00 52 53.1 0.0**
comp=Z,16nm,0.5s
PKIN Phulchoki 48.07 274 eP **P 00 52 53.8 +0.5**
comp=Z,2.2nm,0.3s
GKN Gorkha 48.44 274 eP **P 00 52 55.8 -0.2**
comp=Z,9.3nm,0.4s
TKM2 Tokmak 2 48.93 297 eP **P 00 52 59.6 0.0**
TKM2 pmax pmax
comp=Z,10.0nm,1.0s
TKM2 Tokmak 2 48.93 297 eP **P 00 52 59.6 0.0**
comp=Z,9.9nm,1.0s
CHKZ Chkalovo 48.96 312 P **P 00 52 57.6 -1.8**
CHKZ pmax pmax
comp=Z,4.0nm,0.6s
VOSK Vostochnaya 48.98 310 eP **P 00 52 59.4 -0.2**
VOSK pmax pmax
comp=Z,5.0nm,0.8s
VOSK Vostochnaya 48.98 310 eP **P 00 52 59.4 -0.2**
comp=Z,4.5nm,0.8s
BRVK Borovoye 49.30 311 ceP **P 00 53 03.2 +1.1**
BRVK pmax pmax
comp=Z,14nm,1.0s
KOLN Koldanda 49.35 275 eP **P 00 53 03.1 0.0**
comp=Z,14nm,0.7s
OTUK Ortayu 49.38 304 P **P 00 53 01.5 -1.3**
OTUK pmax pmax
comp=Z,7.0nm,1.2s
PYUN Piuthan 49.66 276 eP **P 00 53 05.8 +0.4**
comp=Z,21nm,0.6s
AAK Ala-Archa 49.79 297 LR LR 01 15 07.8
comp=Z,80nm,18.8s,baz=48,slow=37
KSH Kashi 49.90 292 P P 00 53 13.3 +6.3
KSH pP sP 00 53 29.4 +3.6
KSH PcP **PcP 00 54 33.4 +6.6**
KSH PP **PP 00 55 08.3 +6.4**
KSH S **S 01 00 16.3 +2.5**
KSH ScS **ScS 01 02 56.5 +2.2**
KSH SS **SS 01 03 47.0 +0.4**
KSH PMZ
comp=Z,3.0nm,0.8s
KSH PMZ
comp=Z,110nm,6.5s
KSH LN
comp=Z,98nm,6.0s
KSH LE
comp=Z,92nm,4.8s
KSH LZ
comp=Z,130nm,8.7s
ZRNK Zerenda 50.08 311 eP **P 00 53 08.1 +0.1**
ZRNK pmax pmax
comp=Z,8.0nm,0.9s
ZRNK Zerenda 50.08 311 eP **P 00 53 08.1 +0.1**
comp=Z,7.7nm,0.9s
EKS2 Erkin-Say 50.27 297 eP **P 00 53 09.4 -0.4**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 50.27 297 eP **P 00 53 09.4 -0.4**
comp=Z,3.6nm,0.8s
MNAS Manas 51.21 297 P **P 00 53 16.0 -0.8**
MNAS pmax pmax
comp=Z,8.0nm,0.7s
HNR Honiara 51.59 157 LR LR 01 13 38.0
comp=Z,55nm,19.8s,baz=336,slow=34
INK Inuvik 51.75 28 P **P 00 53 20.5 +0.3**
comp=Z,1.4nm,0.4s,baz=267,slow=8.8,SNR=4.2
KK31 Karatay Array 52.34 299 P **P 00 53 23.8 -1.3**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 52.34 299 eP **P 00 53 24.6 -0.5**
KKAR Karatay Array 52.34 299 eP **P 00 53 24.6 -0.5**
SVE Sverdlovsk 53.56 317 ||eP **P 00 53 34.2 +0.4**
SVE pmax pmax
comp=Z,24nm,0.9s
ARU Arti 54.78 317 c iP **P 00 53 42.5 -0.2**
ARU *PP **sP 00 53 59.5 -2.1**
ARU 00 54 46.6
ARU S **S 01 01 20.2 +0.5**
ARU SS **SS 01 05 00.0 -2.7**
ARU pmax pmax
comp=Z,22nm,1.0s
ARU Arti 54.78 317 eP **P 00 53 42.6 -0.1**
comp=Z,14nm,0.7s
AB31 Akbulak array 56.70 309 i P **P 00 53 55.4 -1.2**
AB31 pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 56.70 309 eP **P 00 53 56.2 -0.4**
KBL Kabul 57.05 290 eP **P 00 53 59.4 -0.1**
KBL pmax pmax
comp=Z,10.0nm,1.1s
KBL Kabul 57.05 290 eP **P 00 53 59.4 -0.1**
comp=Z,10nm,1.1s
AKTO Aktyubinsk 57.36 311 P **P 00 54 01.0 -0.2**
AKTO pmax pmax
comp=Z,6.0nm,1.0s
FITZ Fitzroy Crossi 59.54 198 LR LR 01 22 32.5
comp=Z,48nm,18.9s,baz=13,slow=38
WRA Warramunga Arr 59.78 189 P **P 00 54 17.0 -1.3**
comp=Z,1.2nm,0.5s,baz=6.8,slow=7.1,SNR=26
YKA Yellowknife Ar 61.21 31 P **P 00 54 26.6 -1.0**
comp=Z,0.3nm,0.8s,baz=295,slow=5.8,SNR=2.9
ARCES ARCESS Array B 61.72 339 P **P 00 54 31.1 +0.1**
comp=Z,3.9nm,1.0s,baz=355,slow=12,SNR=4.7
ARCES LR LR 01 26 00.1
comp=Z,28nm,18.1s,baz=68,slow=40
KLMR Klimovskoe 61.83 327 eP **P 00 54 29.4 -2.4**
KLMR pmax pmax
comp=Z,15nm,1.3s
GEYT Alibeck 63.08 298 P **P 00 54 39.7 -1.0**
comp=Z,3.1nm,0.8s,baz=42,slow=2.4,SNR=8.2
GEYT LR LR 01 23 28.2
comp=Z,46nm,19.2s,baz=80,slow=37
ASAR Alice Springs 63.51 188 P **P 00 54 42.2 -1.2**
comp=Z,0.6nm,0.4s,baz=5.3,slow=7.0,SNR=8.9
ASAR LR LR 01 22 13.0
comp=Z,41nm,18.9s,baz=20,slow=36
PALK Pallekele 63.54 257 LR LR 01 23 42.0
comp=Z,34nm,18.2s,baz=296,slow=37
VRH Novokhopyorsk 66.01 317 eP **P 00 54 58.5 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 66.32 323 d iP **P 00 55 01.1 -0.2**
OBN e 00 57 27.4
OBN eS S 01 03 36.0 -11
OBN pmax pmax
comp=Z,15nm,1.1s
OBN MLR MLR
comp=Z,80nm,15.0s
FINES FINESS Array B 66.74 332 P **P 00 55 03.4 -0.5**
comp=Z,2.4nm,0.5s,baz=22,slow=12,SNR=27
FINES LR LR 01 26 28.9
comp=Z,65nm,18.9s,baz=53,slow=38
VSR Storozhevoye 67.33 318 eP **P 00 55 06.7 -1.1**
VSR pmax pmax
comp=Z,10.0nm,1.2s
ZEI Tsey 69.58 309 eP **P 00 55 20.9 -1.4**
ZEI pmax pmax
comp=Z,16nm,0.8s
KIV Kislovodsk 69.62 311 d iP **P 00 55 21.9 -0.5**
KIV eS **S 01 04 24.1 -3.0**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,28nm,17.0s
KIV Kislovodsk 69.62 311 eP **P 00 55 23.1 +0.7**
comp=Z,25nm,1.0s
KBZ Khabaz 69.63 310 P **P 00 55 23.0 +0.7**
comp=Z,7.2nm,1.0s,baz=62,slow=4.4,SNR=9.5
KBZ Khabaz 69.63 310 P **P 00 55 23.0 +0.7**
NEY Neytrino 70.01 310 eP **P 00 55 23.5 -1.4**
NEY pmax pmax
comp=Z,1.0nm,1.0s
GNI Garni 70.60 306 eP **P 00 55 27.1 -1.5**
GNI pmax pmax
comp=Z,14nm,1.0s
NB2 NORSAR Subarra 71.96 337 P **P 00 55 35.9 -0.4**
comp=Z,2.8nm,0.7s,baz=36,slow=6.5
NOA NORSAR Array B 71.96 337 P **P 00 55 35.9 -0.4**
comp=Z,4.0nm,1.0s,baz=52,slow=7.0,SNR=9.2
NOA LR LR 01 32 28.3
comp=Z,28nm,18.4s,baz=15,slow=40
AKASG Malin Array Be 72.56 322 P **P 00 55 39.4 -0.5**
comp=Z,1.9nm,0.4s,baz=44,slow=6.4,SNR=12
KIEV Kiev 72.57 322 eP **P 00 55 38.8 -1.2**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
PDAR Pinedale Array 75.38 46 LR LR 01 26 00.1
comp=Z,18nm,21.6s,baz=328,slow=33
KWP Kalwaria Pacla 76.31 324 eP **P 00 56 02.7 +0.9**
KWP Kalwaria Pacla 76.31 324 eP **P 00 56 02.7 +0.9**
BUR08 Bucovina Ar. S 76.58 322 eP **P 00 56 03.7 +0.3**
KOLS Kolonicke sedl 77.01 324 eP **P 00 56 06.2 +0.4**
KOLS pmax pmax
comp=Z,3.0nm,1.3s
KOLS Kolonicke sedl 77.01 324 eP **P 00 56 06.2 +0.4**
STHS Stebnicka Huta 77.12 325 eP **P 00 56 06.8 +0.4**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 77.12 325 eP **P 00 56 06.8 +0.4**
OJC Ojcow 77.16 326 eP **P 00 56 07.3 +0.8**
OJC Ojcow 77.16 326 eP **P 00 56 07.3 +0.8**
OJC Ojcow 77.16 326 eP **P 00 56 06.7 +0.1**
comp=Z,7.9nm,1.0s
BRTR Keskin Array B 77.53 312 P **P 00 56 08.8 -0.2**
comp=Z,1.1nm,1.0s,baz=94,slow=3.7,SNR=6.6
BRTR LR LR 01 35 23.9
comp=Z,28nm,18.2s,baz=41,slow=40
NIE Niedzica 77.53 325 eP **P 00 56 09.7 +1.0**
NIE Niedzica 77.53 325 eP **P 00 56 09.7 +1.0**
BR231 Keskin MP Arra 77.95 312 eP **P 00 56 09.8 -1.5**
MORC Moravsky Berou 78.45 327 eP **P 00 56 13.5 -0.3**
MORC pmax pmax
comp=Z,19nm,1.0s
MORC Moravsky Berou 78.45 327 eP **P 00 56 13.5 -0.3**
comp=Z,19nm,1.0s
DPC Dobruska-Polom 78.52 328 eP **P 00 56 14.1 0.0**
DPC Dobruska-Polom 78.52 328 eP **P 00 56 14.1 0.0**
BRG Berggiesshubel 79.06 330 e(P) **P 00 56 17.0 0.0**
comp=Z,6.7nm,1.4s
BRG Berggiesshubel 79.06 330 eP **P 00 56 17.0 0.0**
BRG pmax pmax
comp=Z,7.0nm,1.4s
CLL Collm 79.08 330 i P **P 00 56 17.6 +0.5**
comp=Z,6.0nm,0.9s
CLL Collm 79.08 330 i P **P 00 56 17.6 +0.5**
CLL pmax pmax
comp=Z,6.0nm,0.9s
PRU Pruhonice 79.52 329 eP **P 00 56 20.4 +0.8**
PRU Pruhonice 79.52 329 eP **P 00 56 20.4 +0.8**
TREC Trest 79.67 328 eP **P 00 56 21.2 +0.7**
TREC Trest 79.67 328 eP **P 00 56 21.2 +0.7**
KHC Kasperske Hory 80.58 329 eP **P 00 56 25.9 +0.6**
KHC ePCP **PcP 00 56 31.7 -0.4**
KHC Kasperske Hory 80.58 329 eP **P 00 56 25.9 +0.6**
KHC Kasperske Hory 80.58 329 eP **P 00 56 26.0 +0.6**
comp=Z,2.3nm,1.1s
GERES GERESS Array B 80.76 328 P **P 00 56 25.7 -0.7**
comp=Z,0.5nm,0.3s,baz=43,slow=6.3,SNR=8.2
GERES LR LR 01 34 38.6
comp=Z,57nm,21.4s,baz=16,slow=37
FUORN Ofenpass-Fuorn 83.93 329 eP **P 00 56 43.8 +0.6**
comp=Z,10nm,1.0s
AGG Agios Georgios 84.26 317 eP **P 00 56 44.8 0.0**
AGG Agios Georgios 84.26 317 eP **P 00 56 44.8 0.0**
PPT Papeete 85.31 117 LR LR 01 25 49.8
comp=Z,40nm,21.3s,baz=360,slow=29
PPT2 Papeete2 85.32 117 eLR LR 01 23 50.0
comp=Z,73nm,22.5s
PPT2 Papeete2 85.32 117 eT T 02 31 00.8
comp=Z,5.1nm,0.2s
TAOE Nuku Hiva Isla 86.25 105 eLR LR 01 24 22.0
comp=Z,193nm,26.9s
MEH Mehetia 86.56 116 eT T 02 32 33.5
comp=Z,18nm,0.2s
TXAR Lajitas Array 88.03 53 P **P 00 57 04.2 +0.6**
comp=Z,1.0nm,0.6s,baz=318,slow=1.2,SNR=2.7
ESDC Sonseca Array 95.15 334 LR LR 01 45 41.2
comp=Z,26nm,18.9s,baz=150,slow=39

JMA ***25*** *01:14:25.3±0.3, 33.23N×138.57E, h281km, M3.4*
ISCJB ***25*** *01:14:26.5±0.5, 33.51N±0.06×138.59E±0.08, h300km, mb3.3/8, Error ellipse: s-maj=8.8km s-min=7.8km az=2.4*
IDC ***25*** *01:14:27.9±0.6, 33.46N×138.45E, h289km±8km, mb3.1/8, mb1 3.2/12, mb1mx3.0/45, mbtmpg3.8/12, Error ellipse: s-maj=26.8km s-min=9.5km az=70.0*

ISC 25 01:14:27.9±0.8, 33.50N±0.07×138.52E±0.08, h300km, n23, σ19.74/31, mb3.3/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.12**	**109**	P	**Pn**	**01 15 07.7**	**-1.3**
	5.9nm,0.3s,baz=72,slow=20,SNR=2.3						
JHJ				S	**S**	**01 15 40.5**	**-1.0**
	24nm,0.3s,baz=340,slow=23,SNR=7.8						
JOD2	**Odawara 2**	**1.82**	**15**	P	**Pn**	**01 15 11.9**	**-1.4**
JOD2				eS	**S**	**01 15 47.8**	**-1.6**
JYN	**Shimod**	**2.00**	**0**	P	**Pn**	**01 15 13.6**	**-1.1**
BSO1	**Boso 1**	**2.34**	**60**	P	**Pn**	**01 15 14.4**	**-2.4**
BSO1				eS	**S**	**01 15 53.3**	**-2.6**
JWZ	**Kozaga**	**2.35**	**272**	P	**Pn**	**01 15 13.8**	**-3.8**
JRY	**Ryogami san**	**2.53**	**7**	P	**Pn**	**01 15 18.7**	**-0.5**
JRY				eS	**S**	**01 15 58.3**	**-1.8**
JAG	**Ashikaga**	**3.02**	**14**	P	**Pn**	**01 15 21.9**	**-1.9**
JAG				S	**S**	**01 16 04.8**	**-3.6**
MJAR	**Matsushiro Arr**	**3.05**	**355**	P	**Pn**	**01 15 22.6**	**-1.5**
	2.7nm,0.3s,baz=171,slow=12,SNR=21						
MJAR				S	**S**	**01 16 07.8**	**-1.2**
	baz=150,slow=17,SNR=2.6						
MAT	**Matsushiro**	**3.05**	**355**	P	**Pn**	**01 15 23.4**	**-0.7**
MAT				S	**S**	**01 16 06.3**	**-2.7**
MAT	**Matsushiro**	**3.05**	**355**	P	**Pn**	**01 15 23.6**	**-0.5**
MAT				eS	**S**	**01 16 08.2**	**-0.8**
JWT	**Wachi**	**3.14**	**305**	P	**Pn**	**01 15 23.0**	**-2.0**
JHS	**Saijyo**	**4.72**	**290**	P	**Pn**	**01 15 40.5**	**-1.7**
KSRS	**Korea Array**	**9.50**	**298**	P	**Pn**	**01 16 39.6**	**-0.2**
	0.4nm,0.3s,baz=112,slow=13,SNR=15						
USRK	**Uesuriysk Ar.**	**11.83**	**336**	P	**Pn**	**01 17 08.6**	**+0.3**
	0.2nm,0.3s,baz=156,slow=7.4,SNR=4.5						
KLR	**Kul'dur**	**16.51**	**344**	P	**P**	**01 18 01.8**	**+0.5**
	0.4nm,0.3s,baz=156,slow=5.8,SNR=7.6						
PETK	**Petropavlovsk-**	**23.93**	**29**	P	**P**	**01 19 16.4**	**+1.3**
	1.5nm,0.6s,baz=225,slow=14,SNR=3.0						
SONM	**Songino Array**	**28.03**	**310**	P	**P**	**01 19 52.5**	**+0.5**
	0.3nm,0.4s,baz=113,slow=9.6,SNR=3.3						
MKAR	**Makanchi Array**	**44.09**	**305**	P	**P**	**01 22 08.0**	**+1.0**
	0.7nm,0.6s,baz=88,slow=9.2,SNR=5.9						
KURBB	**Kurchatov Arra**	**46.40**	**310**	P	**P**	**01 22 25.6**	**+0.8**
	0.8nm,0.4s,baz=84,slow=6.8,SNR=6.5						
BVAR	**Borovoye Array**	**51.26**	**314**	P	**P**	**01 23 02.9**	**+1.4**
	0.5nm,0.4s,baz=106,slow=7.9,SNR=4.3						
WRA	**Warramunga Arr**	**53.29**	**185**	P	**P**	**01 23 16.7**	**+0.1**
	0.4nm,0.3s,baz=360,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**57.01**	**185**	P	**P**	**01 23 43.8**	**+0.7**
	0.3nm,0.6s,baz=25,slow=12,SNR=5.5						
FINES	**FINESS Array B**	**70.83**	**332**	P	**P**	**01 25 13.6**	**+1.6**
	0.8nm,0.4s,baz=58,slow=6.4,SNR=22						

MAN 25 01:36:49, 17.91N×120.15E, h20km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.59**	**116**	eP	Pn	01 37 01.6	-0.7
ABRA				eS	Sn	01 37 10.2	-1.2
PIP	**Pasuquin**	**0.61**	**47**	⇑iP	Pn	01 37 01.9	-0.6
PIP				eS	Sn	01 37 10.9	-0.8
APYP	**Conner**	**1.04**	**92**	eP	Pb	01 37 08.1	-0.2
APYP				eS	Sn	01 37 23.4	+1.0

ISCJB ***25*** *01:43:21.3±0.6, 47.38N±0.02×25.81E±0.03, h2km±4km, Error ellipse: s-maj=3.4km s-min=2.3km az=137.1*
BUC ***25*** *01:43:21.3±0.7, 47.34N×25.77E, h7km±6km, MD3.2/4, Error ellipse: s-maj=6.6km s-min=4.4km az=7.0*
SIGU ***25*** *01:43:21.0±0.1, 47.38N±0.01×25.82E±0.01, h2km, mb2.3/5*
CSEM ***25*** *01:43:21.7±0.1, 47.38N×25.78E, h2km, MD3.2, Error ellipse: s-maj=3.7km s-min=2.5km az=25.0*

ISC 25 01:43:21.9±1.1, 47.37N±0.02×25.77E±0.02, h7km±9km, n83, σ0.76/124, 38C-18D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRAR	**RASCA**	**0.31**	**91**	⇑iP	**Pg**	**01 43 28.3**	**+0.4**
PRAR	**RASCA**	**0.31**	**91**	⇑iP	**Pg**	**01 43 28.3**	**+0.4**
PRAR	**RASCA**	**0.31**	**91**	⇑iP	**Pg**	**01 43 28.3**	**+0.4**
BURAR	**Bucovina Array**	**0.45**	**304**	⇑iP	**Pg**	**01 43 30.9**	**+0.2**
BURAR	**Bucovina Array**	**0.45**	**304**	S	**Sb**	**01 43 38.3**	**-1.0**
BURAR	**Bucovina Array**	**0.45**	**304**	⇑iP	**Pg**	**01 43 30.9**	**+0.2**
BURAR				*i* S	**Sb**	**01 43 38.3**	**-1.0**
BURAR	**Bucovina Array**	**0.45**	**304**	⇑iP	**Pg**	**01 43 30.9**	**+0.2**
BURAR				*i* S	**Sb**	**01 43 38.3**	**-1.0**
JOSR	**Joseni**	**0.68**	**195**	⇑iP	**Pg**	**01 43 34.1**	**-0.9**
JOSR	**Joseni**	**0.68**	**195**	⇑iP	**Pg**	**01 43 34.1**	**-0.9**
JOSR				*i* S	**Sg**	**01 43 43.8**	**-0.1**
JOSR	**Joseni**	**0.68**	**195**	⇑iP	**Pg**	**01 43 34.1**	**-0.9**
JOSR				*i* S	**Sg**	**01 43 43.8**	**-0.1**
CHRU	**Chernivtsi**	**0.94**	**6**	⇑iP	**Pg**	**01 43 39.2**	**-0.7**
CHRU				Pm		01 43 40.3	
CHRU				*i* S	**Sb**	**01 43 52.7**	**-0.5**
CHRU				Sm		01 43 52.8	
ARCR	**ARCALIA**	**1.01**	**254**	||iP	**Pg**	**01 43 40.7**	**-0.5**
ARCR	**ARCALIA**	**1.01**	**254**	||iP	**Pg**	**01 43 40.7**	**-0.5**
ARCR				*i* S	**Sg**	**01 43 54.7**	**+0.5**
ARCR	**ARCALIA**	**1.01**	**254**	||iP	**Pg**	**01 43 40.7**	**-0.5**
ARCR				*i* S	**Sg**	**01 43 54.7**	**+0.5**
TESR	**Tescani**	**1.04**	**145**	⇑iP	**Pg**	**01 43 41.6**	**-0.3**
TESR	**Tescani**	**1.04**	**145**	⇑iP	**Pg**	**01 43 41.6**	**-0.3**
TESR				*i* S	**Sb**	**01 43 56.1**	**-0.1**
TESR	**Tescani**	**1.04**	**145**	⇑iP	**Pg**	**01 43 41.6**	**-0.3**
TESR				*i* S	**Sb**	**01 43 56.1**	**-0.1**
KSV	**Kosov**	**1.06**	**334**	⇑iP	**Pg**	**01 43 41.3**	**-1.0**
KSV				Pm		01 43 43.1	
KSV				*i* S	**Sb**	**01 43 56.3**	**-0.5**
KSV				Sm		01 44 03.7	
NSLU	**Nyzhne Selyshc**	**1.22**	**314**	*i* P	Pn	01 43 53.1	+7.7
NSLU				Pm		01 43 55.1	
NSLU				*i* S	Sn	01 44 17.0	+15
NSLU				Sm		01 44 21.7	
IAS	**Iasi**	**1.23**	**97**	||iP	**Pg**	**01 43 44.2**	**-1.3**
IAS	**Iasi**	**1.23**	**97**	||iP	**Pg**	**01 43 44.2**	**-1.3**
IAS	**Iasi**	**1.23**	**97**	||iP	**Pg**	**01 43 44.2**	**-1.3**
RAKU	**Rahkiv**	**1.27**	**302**	*i* P	**Pg**	**01 43 45.0**	**-1.2**
RAKU				Pm		01 43 46.6	
RAKU				*i* S	**Sn**	**01 44 03.5**	**0.0**
RAKU				Sm		01 44 05.8	
DOPR	**Dopca**	**1.42**	**191**	⇑iP	**Pg**	**01 43 48.9**	**-0.3**
DOPR	**Dopca**	**1.42**	**191**	⇑iP	**Pg**	**01 43 48.9**	**-0.3**
DOPR	**Dopca**	**1.42**	**191**	⇑iP	**Pg**	**01 43 48.9**	**-0.3**
BMR	**Baia Mare**	**1.57**	**282**	⇑iP	**Pb**	**01 43 51.0**	**-0.3**
BMR	**Baia Mare**	**1.57**	**282**	⇑iP	**Pb**	**01 43 51.0**	**-0.3**
BMR	**Baia Mare**	**1.57**	**282**	⇑iP	**Pb**	**01 43 51.0**	**-0.3**
STNU	**Starunia**	**1.59**	**328**	*i* P	**Pn**	**01 43 50.7**	**+0.1**
STNU				*i* S	**Sg**	**01 44 12.7**	**-0.4**
CJR	**Cluj-Napoca**	**1.62**	**247**	⇑iP	**Pn**	**01 43 51.7**	**+0.7**
CJR	**Cluj-Napoca**	**1.62**	**247**	⇑iP	**Pn**	**01 43 51.7**	**+0.7**
CJR				*i* S	**Sg**	**01 44 14.5**	**+0.5**
CJR	**Cluj-Napoca**	**1.62**	**247**	⇑iP	**Pn**	**01 43 51.7**	**+0.7**
CJR				*i* S	**Sg**	**01 44 14.5**	**+0.5**
NDNU	**Novodnistrovsk**	**1.63**	**40**	eP	**Pn**	**01 43 49.8**	**-1.3**
NDNU				Pm		01 43 59.7	
NDNU				*i* S	**Sn**	**01 44 11.9**	**-0.4**
NDNU				Sm		01 44 17.9	
PLOR	**Plostina**	**1.63**	**158**	⇑iP	**Pn**	**01 43 51.4**	**+0.3**
PLOR	**Plostina**	**1.63**	**158**	⇑iP	**Pn**	**01 43 51.4**	**+0.3**
PLOR				*i* S	**Sg**	**01 44 14.7**	**+0.4**
PLOR	**Plostina**	**1.63**	**158**	⇑iP	**Pn**	**01 43 51.4**	**+0.3**
PLOR				*i* S	**Sg**	**01 44 14.7**	**+0.4**
VRI	**Vrincioaia**	**1.64**	**156**	||iP	**Pb**	**01 43 52.0**	**-0.4**
VRI	**Vrincioaia**	**1.64**	**156**	||iP	**Pb**	**01 43 52.0**	**-0.4**
VRI	**Vrincioaia**	**1.64**	**156**	||iP	**Pb**	**01 43 52.0**	**-0.4**
MLR	**Muntele Rosu**	**1.88**	**176**	⇑iP	**Pb**	**01 43 56.6**	**0.0**
MLR				*i* S	**Sb**	**01 44 20.2**	**-0.2**
MLR	**Muntele Rosu**	**1.88**	**176**	⇑iP	**Pb**	**01 43 56.6**	**0.0**
MLR				*i* S	**Sb**	**01 44 20.2**	**-0.2**
MLR	**Muntele Rosu**	**1.88**	**176**	⇑iP	**Pb**	**01 43 56.6**	**0.0**
MLR				*i* S	**Sb**	**01 44 20.2**	**-0.2**
HORU	**Horodok**	**1.90**	**13**	*i* P	**Pn**	**01 43 54.7**	**-0.1**
HORU				*i* S	**Sn**	**01 44 19.5**	**+0.5**

MEX 25 00:45:59.7±0.6, 15.01N×93.49W, h16km±207km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.74**	**21**	*i* P	Pg	00 46 11.5	-2.7
PCIG				eS	Sg	00 46 20.7	-3.2

IDC 25 01:04:25.0±2.0, 7.16S×130.05E, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.4/37, mbtmpg3.6/4, ML3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/20, Error ellipse: s-maj=70.5km s-min=22.6km az=79.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.70**	**201**	Pn	Pn	01 07 15.2	+1.9
	0.3nm,0.3s,baz=18,slow=9.0,SNR=20						
FITZ				Sn	Sn	01 09 27.7	+2.9
	0.5nm,0.3s,baz=22,slow=19,SNR=5.8						
WRA	**Warramunga Arr**	**13.38**	**162**	Pn	Pn	01 07 35.3	-1.0
	0.3nm,0.3s,baz=334,slow=13,SNR=17						
WRA				Sn	Sn	01 10 05.1	-0.8
	0.4nm,0.3s,baz=336,slow=22,SNR=7.2						
ASAR	**Alice Springs**	**16.83**	**168**	Pn	Pn	01 08 21.1	-1.1
	0.3nm,0.3s,baz=345,slow=9.8,SNR=20						
ASAR				Sn	Sn	01 11 31.8	+1.8
	0.1nm,0.3s,baz=356,slow=25,SNR=3.8						
MJAR	**Matsushiro Arr**	**44.13**	**9**	LR	LR	01 33 12.2	
	comp=Z,30nm,18.3s,baz=35,slow=39						
MKAR	**Makanchi Array**	**68.38**	**327**	P	P	01 15 28.5	0.0
	0.1nm,0.3s,baz=137,slow=6.1,SNR=2.6						

SORM	**Soroca**	**1.90**	**65**⇑	*i* P		**Pn**	**01 43 55.2**	**+0.4**
SORM	**Soroca**	**1.90**	**65**⇑	*i* P		**Pn**	**01 43 55.2**	**+0.4**
SORM				*i* S		**Sb**	**01 44 20.0**	**-0.9**
SORM	**Soroca**	**1.90**	**65**⇑	*i* P		**Pn**	**01 43 55.2**	**+0.4**
SORM				*i* S		**Sb**	**01 44 20.0**	**-0.9**
MEZ	**Mezhgor'ye**	**1.90**	**308**	*i* P		**Pn**	**01 43 55.3**	**+0.5**
MEZ				Pm			01 43 58.9	
MEZ				*i* S		**Sb**	**01 44 20.8**	**-0.2**
MEZ				Sm			01 44 29.4	
LEOM	**Leova**	**1.92**	**117**⇑	*i* P		**Pn**	**01 43 55.8**	**+0.8**
LEOM	**Leova**	**1.92**	**117**⇑	*i* P		**Pn**	**01 43 55.8**	**+0.8**
LEOM				*i* S		**Sn**	**01 44 19.9**	**+0.6**
LEOM	**Leova**	**1.92**	**117**⇑	*i* P		**Pn**	**01 43 55.8**	**+0.8**
LEOM				*i* S		**Sn**	**01 44 19.9**	**+0.6**
KORU	**Korolevo**	**1.95**	**295**	*i* P		**Pn**	**01 43 56.0**	**+0.6**
KORU				Pm			01 44 01.8	
KORU				*e*S		**Sb**	**01 44 21.6**	**-0.6**
KORU				Sm			01 44 28.4	
VOIR		**1.99**	**195**⇑	*i* P		**Pb**	**01 43 57.5**	**-1.0**
VOIR		**1.99**	**195**⇑	*i* P		**Pb**	**01 43 57.5**	**-1.0**
VOIR				*i* S		**Sb**	**01 44 23.0**	**-0.6**
VOIR		**1.99**	**195**⇑	*i* P		**Pb**	**01 43 57.5**	**-1.0**
VOIR				*i* S		**Sb**	**01 44 23.0**	**-0.6**
TRSU	**Trosnyk**	**2.04**	**292**	*i* P		**Pn**	**01 43 57.2**	**+0.6**
TRSU				Pm			01 43 59.8	
TRSU				*i* S		**Sn**	**01 44 23.8**	**+1.5**
TRSU				Sm			01 44 24.0	
BRIU	**Brid**	**2.09**	**299**	*i* P		**Pn**	**01 43 57.2**	**-0.2**
BRIU				Pm			01 44 04.1	
BRIU				*i* S		**Sb**	**01 44 25.8**	**-0.6**
BRIU				Sm			01 44 35.3	
BRIU				Sm			01 44 35.3	
KIS	**Kishinev** 200nm,1.0s	**2.11**	**99**	*i* S		**Sg**	**01 44 33.0**	**+3.4**
MILM	**Milestii Mici**	**2.12**	**101**	S		**Sn**	**01 44 25.0**	**+0.6**
MILM	**Milestii Mici**	**2.12**	**101**	*i* S		**Sn**	**01 44 25.0**	**+0.6**
MILM	**Milestii Mici**	**2.12**	**101**	*i* S		**Sn**	**01 44 25.0**	**+0.6**
DRGR		**2.17**	**256**⇓	*i* P		**Pn**	**01 43 58.8**	**+0.3**
DRGR		**2.17**	**256**⇓	*i* P		**Pn**	**01 43 58.8**	**+0.3**
DRGR		**2.17**	**256**⇓	*i* P		**Pn**	**01 43 58.8**	**+0.3**
MORS	**Morshin**	**2.17**	**325**	*i* P		**Pn**	**01 43 58.4**	**0.0**
MORS				*i* S		**Sn**	**01 44 26.2**	**+0.6**
BERU	**Beregovo**	**2.28**	**294**	*i* P		**Pn**	**01 44 00.8**	**+0.8**
BERU				*i* S		**Sn**	**01 44 30.0**	**+1.7**
MUKU	**Mukachevo**	**2.34**	**299**	*e*P		**Pn**	**01 44 01.3**	**+0.5**
MUKU				Pm			01 44 07.5	
MUKU				*e*S		**Sn**	**01 44 30.9**	**+1.0**
MUKU				Sm			01 44 45.1	
SHIU	**Shidnytsya**	**2.46**	**320**	*e*P		**Pn**	**01 44 03.1**	**+0.6**
SHIU				Pm			01 44 15.7	
SHIU				*i* S		**Sn**	**01 44 34.5**	**+1.7**
SHIU				Sm			01 45 01.7	
ONO	**Onokovtsy**	**2.65**	**301**	*e*P		**Pn**	**01 44 06.1**	**+1.1**
ONO				*i* S		**Sn**	**01 44 39.2**	**+1.8**
UZH	**Uzhgorod**	**2.66**	**300**	*e*P		**Pn**	**01 44 06.1**	**+0.9**
UZH				Pm			01 44 08.1	
UZH				*i* S		**Sn**	**01 44 39.5**	**+1.9**
UZH				Sm			01 44 42.9	
STZU	**Stuzhytsa**	**2.68**	**309**	*i* P		**Pn**	**01 44 06.4**	**+1.0**
STZU				*e*S		**Sn**	**01 44 40.2**	**+2.1**
CFR	**Carcaliu**	**2.73**	**142**⇓	*i* P		**Pn**	**01 44 06.3**	**+0.1**
CFR	**Carcaliu**	**2.73**	**142**⇓	*i* P		**Pn**	**01 44 06.3**	**+0.1**
CFR				*i* S		**Sn**	**01 44 39.4**	**-0.1**
CFR	**Carcaliu**	**2.73**	**142**⇓	*i* P		**Pn**	**01 44 06.3**	**+0.1**
CFR				*i* S		**Sn**	**01 44 39.4**	**-0.1**
KOLS	**Kolonicke sedl**	**2.82**	**305**	*e*Pn		**Pn**	**01 44 07.3**	**-0.2**
KOLS	**Kolonicke sedl**	**2.82**	**305**	*e*PN		**Pn**	**01 44 07.2**	**-0.2**
TIRR	**Tirgusor**	**3.44**	**147**⇓	*i* P		**Pn**	**01 44 16.1**	**+0.2**
TIRR	**Tirgusor**	**3.44**	**147**⇓	*i* P		**Pn**	**01 44 16.1**	**+0.2**
TIRR				*i* S		**Sn**	**01 44 57.1**	**+0.1**
TIRR	**Tirgusor**	**3.44**	**147**⇓	*i* P		**Pn**	**01 44 16.1**	**+0.2**
TIRR				*i* S		**Sn**	**01 44 57.1**	**+0.1**
STHS	**Stebnicka Huta**	**3.65**	**306**	*e*Pn		**Pn**	**01 44 18.7**	**-0.1**
STHS	**Stebnicka Huta**	**3.65**	**306**	*e*PN		**Pn**	**01 44 18.7**	**-0.1**
KECS	**Kecovo**	**3.73**	**289**	*e*Pn		**Pn**	**01 44 19.5**	**-0.4**
KECS	**Kecovo**	**3.73**	**289**	*e*PN		**Pn**	**01 44 19.5**	**-0.4**

NIED ***25*** *01:55:00, 37.70N×141.70E, h65km, Mw3.5 Best double couple: M0 2.25000×10^14 NP1:φs=68.00000°, δ60.00000°, λ154.00000°. NP2:φs=172.00000°, δ68.00000°, λ33.00000°.*

JMA 25 01:55:27.6, 37.70N×141.70E, h51km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.74**	**243**	P	Pn	01 55 41.9	0.0
JFK				S	Sn	01 55 52.1	-0.2
JMM	**Marumori**	**0.74**	**283**	P	Pn	01 55 42.0	+0.1
JMM				S	Sn	01 55 52.3	+0.1
JIO	**Ouri**	**0.80**	**340**	P	Pn	01 55 42.8	+0.1
JIO				*e*S	Sn	01 55 53.7	0.0
ONAJ	**Iwakimizuishiy**	**0.93**	**231**	P	Pn	01 55 44.4	-0.1
ONAJ				S	Sn	01 55 56.8	-0.1
JOU	**Okura**	**1.05**	**309**	P	Pn	01 55 46.2	+0.1
JFT	**Otama**	**1.10**	**261**	P	Pn	01 55 47.5	+0.8
JFT				S	Sn	01 56 01.9	+1.1
JMK	**Ichinoseki**	**1.31**	**343**	P	Pn	01 55 49.9	+0.4
JMK				S	Sn	01 56 06.2	+0.4
JYS	**Shirataka**	**1.39**	**292**	P	Pn	01 55 51.4	+0.7
JYS				*e*S	Sn	01 56 09.4	+1.5
JYK	**Kaneyama**	**1.61**	**319**	P	Pn	01 55 54.1	+0.5
JYK				S	Sn	01 56 14.0	+0.8
JFY	**Yanaizu**	**1.61**	**260**	P	Pn	01 55 54.5	+0.8
JFY				*e*S	Sn	01 56 14.3	+1.0
JOM	**Ohasama**	**1.80**	**350**	P	Pn	01 55 56.8	+0.6
JOM				*e*S	Sn	01 56 18.3	+0.4
JYA	**Atsumi**	**1.80**	**300**	P	Pn	01 55 56.8	+0.6
MAT	**Matsushiro**	**3.02**	**249**	P	Pn	01 56 14.6	+1.6
MAT				S	Sn	01 56 53.4	+5.5

MEX 25 02:18:10.1±0.6, 16.87N×100.37W, h15km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.20**	**27**	*e*P	Pg	02 18 14.4	-0.4
CAIG				*i* S	Sg	02 18 17.6	-0.3
ACP2	**Acapulco**	**0.46**	**89**	*e*P	Pg	02 18 18.3	-1.0
ACP2				*e*S	Sg	02 18 24.3	-1.1
ACX	**Acapulco**	**0.49**	**89**	*i* P	Pb	02 18 21.3	+0.9
ACX				*i* S	Sb	02 18 27.9	+0.5
MEIG	**Mezcala**	**1.27**	**34**	*i* P	Pn	02 18 29.9	-3.6
MEIG				*i* S	Sb	02 18 44.7	-5.5
ZIIG	**Zihuatanejo**	**1.28**	**305**	*e*P	Pn	02 18 29.8	-3.8
ARIG	**Puente Sto Nin**	**1.41**	**1**	*i* P	Pn	02 18 32.1	-3.2
ARIG				*i* S	Sn	02 18 48.8	-4.9

MEX 25 02:29:55.2±0.4, 15.67N×94.06W, h61km±18km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.81**	**87**	*e*P	Pn	02 30 09.1	-1.7
PCIG				*e*S	Sn	02 30 20.9	-1.5
HUIG	**Huatulco**	**1.98**	**273**	*i* P	Pn	02 30 25.1	-1.3
HUIG				*i* S	Sn	02 30 48.5	-1.6

IDC ***25*** *02:42:36.5±1.5, 35.76N×141.13E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/47, mbtmp3.4/4, ML3.0/1, MS2.3/2, Ms1 2.3/2, ms1mx2.2/36, Error ellipse: s-maj=35.3km s-min=31.2km az=63.0*

ISCJB ***25*** *02:42:39.1±0.9, 35.92N±0.04×141.10E±0.08, h31km, mb3.5/3, MS4.3/1, Error ellipse: s-maj=9.7km s-min=6.1km az=172.7*

JMA ***25*** *02:42:39.8±0.1, 35.91N×141.04E, h31km±1km, M3.3 JMA Felt I J1.*

ISC 25 02:42:40.5±1.1, 35.93N±0.06×141.07E±0.08, h31km, n18, σ1.59/14, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.28**	**217**	P	**Pb**	**02 42 46.5**	**-1.3**
CHOJ				S	**Sb**	**02 42 51.2**	**-1.5**
JYT	**Yasato**	**0.77**	**293**	P	**Pn**	**02 42 53.7**	**-1.5**
JYT				*e*S	**Sb**	**02 43 03.6**	**-2.0**
JHO	**Hitachi**	**0.79**	**330**	P	**Pn**	**02 42 54.4**	**-1.2**
JHO				*e*S	**Sb**	**02 43 04.8**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.19**	**350**	P	**Pn**	**02 43 00.0**	**-1.1**
MJAR	**Matsushiro Arr** 3.6nm,0.3s,baz=98,slow=8.6,SNR=30	**2.39**	**286**	Pn	**Pn**	**02 43 17.6**	**0.0**
MJAR				LR	LR	02 44 14.9	
	comp=Z,40nm,18.7s,baz=210,slow=40						
MAT	**Matsushiro**	**2.39**	**286**	P	**Pn**	**02 43 18.1**	**+0.5**
MAT				S	**Sn**	**02 43 48.4**	**+2.5**
JHJ	**Hachijo jima 2** 17nm,0.3s,baz=70,slow=19,SNR=3.5	**2.99**	**201**	Sn	**Sn**	**02 44 01.7**	**+1.0**
JNU	**Nakatsue**	**8.86**	**255**	LR	LR	02 48 38.1	
	comp=Z,28nm,18.0s,baz=121,slow=41						
H11N2	**WAKE ISLAND Hy** baz=311,slow=75,SNR=15	**27.84**	**119**	T	T	03 17 36.1	
H11N1	**WAKE ISLAND Hy** baz=311,slow=75,SNR=18	**27.85**	**119**	T	T	03 17 28.9	
H11N3	**WAKE ISLAND Hy** baz=311,slow=75,SNR=14	**27.86**	**119**	T	T	03 17 26.4	
H11S1	**WAKE ISLAND Hy** baz=313,slow=75,SNR=23	**28.51**	**121**	T	T	03 18 27.5	
H11S3	**WAKE ISLAND Hy** baz=313,slow=75,SNR=22	**28.51**	**121**	T	T	03 18 24.0	
H11S2	**WAKE ISLAND Hy** baz=313,slow=75,SNR=24	**28.53**	**121**	T	T	03 18 29.3	
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=82,slow=12,SNR=4.2	**44.48**	**303**	P	**P**	**02 50 50.6**	**+1.8**
HNR	**Honiara** comp=Z,295nm,18.2s,baz=48,slow=37	**48.50**	**155**	LR	LR	03 12 16.3	
ILAR	**Eielson Array** 0.3nm,0.7s,baz=256,slow=7.3,SNR=4.4	**50.58**	**32**	P	**P**	**02 51 37.1**	**+1.3**
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=5.3,slow=7.5,SNR=7.6	**55.93**	**188**	P	**P**	**02 52 15.2**	**-0.5**

ISCJB ***25*** *02:49:52.6±0.5, 32.26N±0.04×115.25W±0.05, h21km±5km, Error ellipse: s-maj=6.9km s-min=5.5km az=141.7*

NEIC ***25*** *02:49:54.3, 32.22N×115.30W, h6km, MD3.1(MEX), ML2.9(ECX), After ECX.*

ECX ***25*** *02:49:54.3±0.4, 32.22N×115.31W, h6km, MD2.9, ML3.1*

MEX ***25*** *02:49:55.2±0.4, 32.31N×115.18W, h19km±11km, MD3.1*

ISC 25 02:49:52.5±1.0, 32.23N±0.04×115.32W±0.03, h18km±4km, n24, σ0.51/35, 5C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**3**⇑	*e*	Pg	02 50 07.0	+10
CPBX				IAML		02 50 07.0	
	comp=N,7μm,0.2s						
CPBX				*e*		02 50 20.5	
CPBX				IAML		02 50 20.5	
	comp=E,16μm,0.4s						
CPBX	**Cerro Prieto**	**0.18**	**3**	*e*P	**Pg**	**02 49 57.8**	**+0.5**
CPBX				*e*S	**Sg**	**02 49 59.9**	**-0.7**
MBIG	**Mexicali**	**0.20**	**30**	*e*P	**Pg**	**02 49 58.4**	**+0.9**
MBIG				*e*S	**Sg**	**02 50 00.6**	**-0.3**
MBIG	**Mexicali**	**0.20**	**30**⇓	*e*P	**Pg**	**02 49 58.5**	**+0.9**
RMX	**La Rumorosa**	**0.74**	**300**⇑	*e*P	**Pg**	**02 50 07.1**	**0.0**
RMX				*i* S	**Sg**	**02 50 17.1**	**+0.1**
RMX				*e*S	**Sb**	**02 50 17.3**	**+0.5**
RMX				IAML		02 50 17.8	
	comp=E,502nm,0.1s						
RMX	**La Rumorosa**	**0.74**	**300**	*e*P	**Pg**	**02 50 07.1**	**0.0**
RMX				*i* S	**Sg**	**02 50 17.1**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.79**	**302**⇑	*e*P	**Pn**	**02 50 08.5**	**-0.3**
ECBX	**El Chinero**	**0.79**	**163**⇓	*i*P	**Pb**	**02 50 07.7**	**0.0**
ZAX	**El Zacaton**	**1.08**	**229**	*e*P	**Pn**	**02 50 13.1**	**+0.3**
CBX	**Cerro Bola**	**1.14**	**274**	*e*P	**Pg**	**02 50 14.4**	**-0.3**
CBX				*e*S	**Sg**	**02 50 29.3**	**-0.4**
CBX	**Cerro Bola**	**1.14**	**274**	*e*P	**Pg**	**02 50 14.4**	**-0.3**
CBX	**Cerro Bola**	**1.14**	**274**	*e*P	**Pg**	**02 50 14.4**	**-0.3**
CBX				*e*S	**Sg**	**02 50 29.3**	**-0.4**
TJIG	**Tijuana**	**1.17**	**280**	*e*P	**Pg**	**02 50 14.5**	**-0.6**
TJIG				*e*S	**Sg**	**02 50 29.7**	**-0.7**
TJIG	**Tijuana**	**1.17**	**280**⇑	*e*P	**Pg**	**02 50 14.5**	**-0.6**
SPIG	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pb**	**02 50 15.1**	**+0.4**
SPIG				*e*S	**Sb**	**02 50 30.6**	**+0.7**
SPIG	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pn**	**02 50 14.8**	**+0.3**
SPIG	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pb**	**02 50 15.1**	**+0.4**
SPIG				*e*S	**Sb**	**02 50 30.6**	**+0.7**
SPX	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pb**	**02 50 15.1**	**+0.4**
SPX	**San Pedro Mart**	**1.19**	**186**	*e*P	**Pb**	**02 50 15.1**	**+0.4**
ECNX	**Esteban Cantu**	**1.23**	**243**	*e*P	**Pb**	**02 50 15.7**	**+0.4**
PBX	**Punta Banda**	**1.29**	**248**⇑	*e*P	**Pb**	**02 50 16.5**	**+0.2**
PFO	**Pinyon Flats O**	**1.68**	**325**	*e*Pn	**Pn**	**02 50 21.3**	**+0.2**
PFO				*e*Sn	**Sb**	**02 50 43.4**	**-0.3**
214A	**Organ Pipe Nat**	**2.14**	**97**	*e*Pn	**Pn**	**02 50 26.9**	**-0.4**
214A				*e*Pg	**Pg**	**02 50 32.8**	**-0.9**
TUC	**Tucson**	**3.84**	**88**	*e*Pn	**Pn**	**02 50 50.0**	**-0.7**

NIED ***25*** *02:52:00, 45.50N×142.90E, h300km, Mw4.1 Best double couple: M0 1.53000×10^15 NP1:φs=75.00000°, δ26.00000°, λ-168.00000°. NP2:φs=334.00000°, δ85.00000°, λ-65.00000°.*

ISCJB ***25*** *02:52:16.7±0.2, 45.51N±0.03×142.92E±0.05, h299km±2km, mb4.0/31, Error ellipse: s-maj=6.1km s-min=4.9km az=164.7*

MOS ***25*** *02:52:16.6±1.0, 45.57N×142.80E, h298km, mb4.0/19, Error ellipse: s-maj=12.1km s-min=7.0km az=100.2*

SKHL ***25*** *02:52:17.2±0.3, 45.53N×142.89E, h310km±17km, mb4.2/5, msh4.8/1*

JMA ***25*** *02:52:17.9±0.2, 45.46N×142.87E, h296km±2km, M3.8*

IDC ***25*** *02:52:17.9±0.5, 45.56N×142.83E, h293km±5km, mb3.6/23, mb1 3.8/30, mb1mx3.6/59, mbtmp4.3/30, Error ellipse: s-maj=11.4km s-min=9.0km az=158.0*

ISC 25 02:52:17.5±0.5, 45.47N±0.04×142.87E±0.05, h296km±5km, n93, σ1.30/113, mb4.0/31, 11C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.55**	**202**	⇑P	**Pn**	**02 52 56.0**	**+0.2**
JSE				*e*S	**S**	**02 53 24.8**	**-1.5**
JWK2	**Keihoku**	**0.70**	**258**	⇑P	**Pn**	**02 52 56.9**	**+0.7**
JWK2				*e*S	**S**	**02 53 26.8**	**-0.2**
JRR	**Rishiri**	**1.15**	**254**	⇑P	**Pn**	**02 52 58.7**	**+0.5**
JSS	**Shosan**	**1.29**	**214**	⇑P	**Pn**	**02 52 59.7**	**+0.7**
ASAJ	**Asahikawa** baz=156,slow=0.1	**1.36**	**188**	P	**Pn**	**02 53 00.3**	**+0.8**
ASAJ				S	**S**	**02 53 33.7**	**+0.8**
	baz=50,slow=18						
ASAJ	**Asahikawa**	**1.36**	**188**	⇑P	**Pn**	**02 53 00.1**	**+0.6**
JYG	**Yagishiri**	**1.46**	**225**	⇑P	**Pn**	**02 53 00.5**	**+0.5**
JYG				*e*S	**S**	**02 53 34.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**1.49**	**357**⇓	*i*PN	**Pn**	**02 53 00.0**	**-0.1**
YSS				*i* S	**S**	**02 53 32.6**	**-1.4**
YSS				pmax	pmax		
	comp=Z,80nm,0.4s						
YSS				smax	smax		
	comp=N,200nm,0.9s						
YSS				smax	smax		
	comp=E,240nm,0.6s						
YSS	**Yuzh-Sakhalins**	**1.49**	**357**⇓	*i*P	**Pn**	**02 53 00.0**	**-0.1**
YSS				AMB	AMB	02 53 00.6	
	comp=E,80nm,0.4s						
YSS				*i* S	**S**	**02 53 33.6**	**-0.4**
YSS				A	A	02 53 33.9	
	comp=E,200nm,0.9s						
YSS				A	A	02 53 33.9	
	comp=E,240nm,0.6s						
JMP	**Maruseppu**	**1.50**	**166**	⇓P	**Pn**	**02 53 00.9**	**+0.5**
JMP				*e*S	**S**	**02 53 34.2**	**-0.3**
JKK2	**Kamakawa 2**	**1.60**	**183**	⇑P	**Pn**	**02 53 01.7**	**+0.7**
JTKR	**Abashiri--Toko**	**1.67**	**153**	⇓P	**Pn**	**02 53 02.0**	**+0.5**
JTKR				*e*S	**S**	**02 53 36.7**	**+0.2**
JHR	**Hokuryu**	**1.91**	**206**	⇑P	**Pn**	**02 53 03.9**	**+0.6**
JRA	**Rausu**	**2.22**	**133**	⇓P	**Pn**	**02 53 06.6**	**+0.9**
JAR	**Ashorobuto**	**2.26**	**163**	⇓P	**Pn**	**02 53 06.9**	**+0.7**
JAR				*e*S	**S**	**02 53 45.1**	**+0.1**
JFR	**Furan**	**2.31**	**185**	⇑P	**Pn**	**02 53 07.1**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**2.57**	**123**	*e*PN	**Pn**	**02 53 09.4**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**2.57**	**123**	*e*P	**Pn**	**02 53 09.4**	**+0.6**
JSK	**Shakotan**	**2.72**	**220**	P	**Pn**	**02 53 11.0**	**+0.7**
JAK	**Akkeshi**	**2.80**	**151**	P	**Pn**	**02 53 10.6**	**-0.4**
JAK				*e*S	**S**	**02 53 51.5**	**-2.2**
JEW	**Eniwo**	**2.82**	**202**	⇑P	**Pn**	**02 53 12.3**	**+1.0**
JCH	**Churui**	**2.88**	**173**	P	**Pn**	**02 53 10.8**	**-1.0**
JCH				*e*S	**S**	**02 53 51.3**	**-3.8**
NEM2	**Nemuro 2**	**2.94**	**135**	*e*S	**S**	**02 53 52.2**	**-4.0**
JNBK	**Urakawa-nobuka**	**3.19**	**182**	P	**Pn**	**02 53 14.4**	**-0.5**
JNBK				*e*S	**S**	**02 53 58.6**	**-2.2**
ERM	**Erimo**	**3.46**	**176**	*i* PN	**Pn**	**02 53 17.7**	**0.0**
ERM				pmax	pmax		
	comp=Z,92nm,0.6s						
UGL	**Uglegorsk**	**3.65**	**352**	*e*PN	**Pn**	**02 53 18.2**	**-1.4**
UGL				*e*S	**S**	**02 54 08.1**	**-1.1**
JKB	**Kayabe**	**3.82**	**201**	P	**Pn**	**02 53 21.0**	**-0.6**
JKB				*e*S	**S**	**02 54 08.0**	**-4.8**
TEY	**Ternei**	**4.45**	**267**	*e*P	**Pn**	**02 53 29.0**	**+0.6**
TEY				AMB	AMB	02 53 29.7	
	comp=Z,21nm,0.7s						
TEY				AMB	AMB	02 53 29.7	
	comp=Z,25nm,0.7s						
TYV	**Tymovskoe**	**5.40**	**359**	*e*PN	**Pn**	**02 53 37.0**	**-2.4**
TYV				pmax	pmax		
	comp=Z,31nm,0.8s						
TYV	**Tymovskoe**	**5.40**	**359**	*e*P	**Pn**	**02 53 40.0**	**+0.6**
TYV				AMB	AMB	02 53 41.5	
	comp=Z,31nm,0.8s						
HABR	**Khabarovsk**	**6.14**	**302**	*e*PN	**Pn**	**02 53 47.3**	**-0.9**
HABR				*e*S	**S**	**02 55 01.0**	**-0.3**
HABR				pmax	pmax		
	comp=N,17nm,1.1s						
HABR				pmax	pmax		
	comp=Z,37nm,1.1s						
HABR				pmax	pmax		
	comp=E,34nm,1.1s						
HABR				MLR	MLR		
	comp=Z,35nm,15.0s						
HABR	**Khabarovsk**	**6.14**	**302**	*e*P	**Pn**	**02 53 47.3**	**-0.9**
HABR				AMB	AMB	02 53 50.1	
	comp=Z,17nm,1.1s						
HABR				AMB	AMB	02 53 50.1	
	comp=Z,34nm,1.1s						
HABR				AMB	AMB	02 53 50.1	
	comp=Z,37nm,1.1s						
HABR				*e*S	**S**	**02 55 01.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**7.84**	**265**	P	**Pn**	**02 54 10.2**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=67,slow=12,SNR=54						
USRK				S	**S**	**02 55 39.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=76,slow=21,SNR=6.7						
KLR	**Kul'dur**	**8.44**	**300**	P	**Pn**	**02 54 17.1**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=116,slow=12,SNR=77						
KLR	**Kul'dur**	**8.44**	**300**	*d*PN	**Pn**	**02 54 16.6**	**+0.4**
MAJO	**Matsushiro**	**9.59**	**203**	*e*PN	**Pn**	**02 54 30.5**	**-0.1**
MAT	**Matsushiro**	**9.59**	**203**	P	**Pn**	**02 54 30.1**	**-0.5**
MJAR	**Matsushiro Arr**	**9.59**	**203**	P	**Pn**	**02 54 30.8**	**+0.2**
	comp=Z,4.5nm,0.3s,baz=23,slow=11,SNR=34						
EKMR	**Ekimchan**	**9.99**	**323**	*e*P	**Pn**	**02 54 35.4**	**+0.1**
EKMR				AMB	AMB	02 54 37.0	
	comp=Z,18nm,0.6s						
PETK	**Petropavlovsk-**	**12.32**	**46**	P	**P**	**02 55 05.5**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=225,slow=8.7,SNR=13						
YASR	**Yasnyy**	**12.45**	**314**	*e*P	Pn	02 54 59.1	-6.2
YASR				AMB	AMB	02 55 05.3	
	comp=Z,3.0nm,0.5s						
CN2	**Changchun**	**12.53**	**269**	*e*P	**Pn**	**02 55 07.0**	**+0.6**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
BMKR	**Bomnak**	**12.89**	**321**	*e*P	**P**	**02 55 10.5**	**-0.7**
BMKR				AMB	AMB	02 55 11.4	
	comp=Z,9.0nm,0.6s						
KROS	**Kirovskiy**	**13.58**	**317**	*e*P	**P**	**02 55 18.0**	**-0.9**
KROS				AMB	AMB	02 55 20.4	
	comp=Z,9.0nm,0.4s						
KSRS	**Korea Array**	**13.76**	**240**	P	**Pn**	**02 55 22.7**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=50,slow=11,SNR=9.1						
MA2	**Magadan**	**14.91**	**16**	P	**Pn**	**02 55 34.3**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=212,slow=12,SNR=5.3						
JNU	**Nakatsue**	**15.41**	**221**	P	**Pn**	**02 55 41.5**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=33,slow=14,SNR=4.3						
SEY	**Seymchan**	**18.32**	**14**	P	**P**	**02 56 10.8**	**+0.4**
	comp=Z,5.0nm,0.3s,baz=202,slow=7.8,SNR=79						
SEY	**Seymchan**	**18.32**	**14**	*e*P	**P**	**02 56 09.8**	**-0.7**
BOD	**Bodaibo**	**21.57**	**315**	*e*P	**P**	**02 56 40.2**	**-3.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ULN	**Ulaanbaatar**	**24.56**	**289**	*c* P	**P**	**02 57 11.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**25.00**	**289**	P	**P**	**02 57 15.6**	**+0.7**
	comp=Z,13nm,0.6s,baz=79,slow=8.6,SNR=83						
SONM				ScP	**ScP**	**03 03 52.6**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=90,slow=2.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**37.52**	**305**	P	**P**	**02 59 01.9**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=70,slow=7.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**37.52**	**305**	P	**P**	**02 59 02.0**	**-1.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**41.09**	**294**	P	**P**	**02 59 32.6**	**-0.1**

CLL	**Collm**	**74.34**	**330**	*i*	P		**P**	**03 03 23.5**	**+0.9**
	comp=Z,7.0nm,1.2s									
CLL	**Collm**	**74.34**	**330**	*i*	P		**P**	**03 03 23.5**	**+0.9**
CLL					pmax	pmax				
	comp=Z,7.0nm,1.2s									
SCHQ	**Schefferville**	**76.95**	**17**		P		**P**	**03 03 37.4**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=4.6,slow=5.8,SNR=5.5									
IDI	**Anoyia**	**82.04**	**313**		P		**P**	**03 04 04.3**	**-0.7**
	comp=Z,14nm,1.1s,baz=42,slow=15,SNR=3.9									
TXAR	**Lajitas Array**	**84.17**	**54**		P		**P**	**03 04 17.0**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=283,slow=3.8,SNR=15									
TXAR	**Lajitas Array**	**84.17**	**54**		P		**P**	**03 04 17.0**	**+1.1**
TXAR					pmax	pmax				
	comp=Z,1.0nm,0.7s									

ISCJB ***25*** *02:58:13.4±0.6, 6°.83N±0°.04×73°.06W±0°.04, h157km±5km, Error ellipse: s-maj=7.6km s-min=4.1km az=136.1*
FUNV ***25*** *02:58:15.1, 6°.87N×73°.11W, h168km, MW2.4*
RSNC ***25*** *02:58:16.2±0.8, 6°.80N×73°.13W, h139km±6km, ML2.5*

ISC 25 02:58:13.2±1.4**, 6°.83N**±0°.04×**73°.07W**±0°.04**, h161**km±8km**, n25,** σ1**°30/42, 2D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**205**	*i* P	**Pn**	**02 58 34.9**	**-0.4**
BARC				*i*		02 58 50.8	
	comp=Z,87nm,0.3s						
PAMC	**Pamplona, Colo**	**0.62**	**36**	*i* P	**Pn**	**02 58 38.0**	**+0.9**
PAMC				*e*S	**Sn**	**02 58 54.6**	**-0.7**
BRRC	**Barranca, Sant**	**0.69**	**293**	⇓*i* P	**Pn**	**02 58 36.8**	**0.0**
BRRC				*e*S	**Sn**	**02 58 53.9**	**-1.1**
BRRC				*i*		02 58 58.2	
	comp=Z,101nm,0.2s						
GRMC	**Gramalote, San**	**0.92**	**17**	*i* P	**Pn**	**02 58 40.9**	**+2.4**
GRMC				*i*		02 58 42.2	
	comp=Z,55nm,0.3s						
GRMC				*e*S	**Sn**	**02 59 00.1**	**+1.9**
CBRI	**Barrientos, No**	**0.92**	**17**	*i* P	**Pn**	**02 58 39.6**	**+1.0**
CBRI				*e*S	**Sn**	**02 58 57.3**	**-0.9**
RUSC	**La Rusia**	**0.94**	**181**	*e*P	**Pn**	**02 58 38.9**	**-0.2**
RUSC				*e*S	**Sn**	**02 58 57.0**	**-2.0**
RUSC				*i*		02 58 59.2	
	comp=Z,32nm,0.5s						
CAPV	**Capacho**	**1.27**	**36**	⇓*i* P	**Pn**	**02 58 43.1**	**+1.5**
CAPV				*e*S	**Sn**	**02 59 04.4**	**+0.9**
OCAC	**Ocana**	**1.42**	**350**	*e*P	**Pn**	**02 58 43.8**	**+0.8**
OCAC				*e*S	**Sn**	**02 59 04.9**	**-1.0**
OCAC				*i*		02 59 11.8	
	comp=Z,56nm,0.2s						
YOPC	**Yopal, Colombi**	**1.61**	**156**	*e*P	**Pn**	**02 58 45.7**	**+0.9**
YOPC				*e*S	**Sn**	**02 59 08.8**	**-0.5**
NORC	**Norcasia**	**2.19**	**235**	*e*P	**Pn**	**02 58 51.4**	**+0.2**
NORC				*e*S	**Sn**	**02 59 18.6**	**-2.0**
HELC	**Santa Helena**	**2.52**	**255**	*e*P	**Pn**	**02 58 56.5**	**+1.0**
HELC				*e*S	**Sn**	**02 59 27.5**	**-0.7**
HELC				*i*		02 59 32.1	
	comp=Z,11nm,0.5s						
VIGV	**El Vigia**	**2.61**	**40**	*e*P	**Pn**	**02 58 57.8**	**+1.5**
VIGV				*e*S	**Sn**	**02 59 28.5**	**-1.1**
SOCV	**Socops**	**2.63**	**57**	*e*P	**Pn**	**02 59 00.4**	**+1.1**
SOCV				*e*S	**Sn**	**02 59 29.2**	**-0.7**
GUYC	**Guyana, Colomb**	**2.81**	**235**	*e*P	**Pn**	**02 59 01.4**	**+2.4**
GUYC				*e*S	**Sn**	**02 59 34.6**	**0.0**
GUYC				*i*		02 59 39.1	
	comp=Z,15nm,0.5s						
DBBC	**Dabeiba**	**3.12**	**274**	*e*P	**Pn**	**02 59 03.6**	**+1.0**
TOLC	**Tolima**	**3.16**	**225**	*e*P	**Pn**	**02 59 03.9**	**+0.5**
ELOV	**Elorza**	**3.56**	**87**	*e*P	**Pn**	**02 59 09.6**	**+1.5**
ELOV				*e*S	**Sn**	**02 59 50.2**	**-0.7**
PRAC	**Prado**	**3.59**	**210**	*e*P	**Pn**	**02 59 09.4**	**+0.9**
PRAC				*e*S	**Sn**	**02 59 51.5**	**-0.1**
PRAC				*i*		02 59 53.4	
	comp=Z,23nm,0.3s						
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P	**Pn**	**02 59 10.2**	**+0.2**
VIRV				*e*S	**Sn**	**02 59 51.9**	**-2.3**
SANV	**Sanarito**	**4.39**	**53**	*e*P	**Pn**	**02 59 20.2**	**+1.3**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**02 59 19.6**	**+0.5**
CURV				*e*S	**Sn**	**03 00 07.5**	**-3.1**
DABV	**Dabajuro**	**4.72**	**30**	*e*P	**Pn**	**02 59 23.9**	**+0.8**
TEPV	**Terepaima**	**4.94**	**51**	*e*P	**Pn**	**02 59 27.1**	**+1.1**
SIQV	**Siquisique**	**4.98**	**40**	*e*P	**Pn**	**02 59 26.5**	**0.0**
BAUV	**El Baul**	**5.40**	**67**	*e*P	**Pn**	**02 59 32.0**	**-0.1**

IDC 25 03:13:51.6±295.0**, 54°.73N×82°.47E, h0km, Error ellipse: s-maj=104.9km s-min=35.4km az=119.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**119**	*i*		03 23 20.0	
	baz=301,slow=319,SNR=3.4						
I31KZ	**AKTYUBINSK INF**	**15.44**	**264**	*i*		04 50 00.0	
	baz=61,slow=317,SNR=0.4						
I43RU	**DUBNA INFRASON**	**25.21**	**293**	*i*		05 48 37.8	
	baz=78,slow=322,SNR=0.4						

NIED ***25*** *03:17:00, 37°.70N×142°.00E, h11km, Mw3.5 Best double couple: M0 2.34000×10^14 NP1:φs 124.00000°, δ 18.00000°, λ -123.00000°. NP2:φs 339.00000°, δ 75.00000°, λ -80.00000°.*
IDC ***25*** *03:17:31.2±2.0, 37°.85N×142°.25E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.3/43, mbtmp3.4/5, ML3.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/31, Error ellipse: s-maj=45.0km s-min=24.4km az=139.0*
ISCJB ***25*** *03:17:33.2±1.5, 37°.71N±0°.04×142°.11E±0°.09, h17km±9km, mb3.4/3, Error ellipse: s-maj=11.5km s-min=6.8km az=8.1*
JMA ***25*** *03:17:35.1±0.2, 37°.71N×142°.01E, h30km±3km, M3.6*

ISC 25 03:17:34.5±2.2**, 37°.70N**±0°.04×**142°.02E**±0°.09**, h26**km±15km**, n16,** σ1**°43/27, mb3.1/3, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.93**	**325**	P	**Pn**	**03 17 51.7**	**-0.1**
JIO				S	**Sn**	**03 18 03.1**	**-1.1**
JFK	**Kawauchi**	**0.97**	**251**	P	**Pn**	**03 17 52.6**	**+0.2**
JFK				S	**Sn**	**03 18 04.9**	**-0.4**
JMM	**Marumori**	**0.99**	**280**	P	**Pn**	**03 17 52.8**	**+0.2**
JMM				S	**Sn**	**03 18 05.1**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.14**	**239**	P	**Pn**	**03 17 54.9**	**+0.1**
ONAJ				*e*S	**Sn**	**03 18 08.7**	**-0.9**
JOU	**Okura**	**1.26**	**302**	P	**Pb**	**03 17 57.3**	**-0.3**
JOU				S	**Sb**	**03 18 13.3**	**-0.2**
JFT	**Otama**	**1.35**	**263**	P	**Pb**	**03 17 58.9**	**-0.2**
JFT				S	**Sb**	**03 18 16.1**	**+0.2**
JMK	**Ichinoseki**	**1.40**	**334**	P	**Pn**	**03 17 59.0**	**+0.6**
JYS	**Shirataka**	**1.63**	**289**	P	**Pb**	**03 18 03.9**	**0.0**
JYS				S	**Sb**	**03 18 24.1**	**+0.1**
JYK	**Kaneyama**	**1.79**	**314**	P	**Pn**	**03 18 04.8**	**+1.1**
JOM	**Ohasama**	**1.86**	**342**	P	**Pn**	**03 18 05.4**	**+0.7**
JOM				S	**Sn**	**03 18 27.2**	**-0.2**
MJAR	**Matsushiro Arr**	**3.26**	**250**	Pn	**Pn**	**03 18 25.8**	**+1.9**
	1.2nm,0.3s,baz=81,slow=16,SNR=8.6						
MJAR				Sn	**Sb**	**03 19 10.7**	**-0.1**
	1.5nm,0.3s,baz=58,slow=23,SNR=5.1						
MJAR				LR	LR	03 19 49.3	
	comp=Z,71nm,20.9s,baz=75,slow=40						
MAT	**Matsushiro**	**3.26**	**250**	P	**Pn**	**03 18 26.8**	**+2.9**
MAT				S	**Sb**	**03 19 08.8**	**-2.0**
JHJ	**Hachijo jima 2**	**4.92**	**202**	Pn	**Pn**	**03 18 49.3**	**+2.6**
	6.7nm,0.3s,baz=61,slow=19,SNR=3.2						
JHJ				Sn	**Sn**	**03 19 38.8**	**-4.0**
	7.4nm,0.3s,baz=94,slow=16,SNR=1.8						
MKAR	**Makanchi Array**	**44.18**	**302**	P	**P**	**03 25 42.3**	**+1.2**
	0.1nm,0.3s,baz=81,slow=11,SNR=1.9						
KURBB	**Kurchatov Arra**	**45.98**	**308**	P	**P**	**03 25 56.1**	**+0.9**
	0.8nm,0.5s,baz=85,slow=9.6,SNR=7.1						
ILAR	**Eielson Array**	**48.68**	**33**	P	**P**	**03 26 15.0**	**-1.1**
	0.2nm,1.0s,baz=254,slow=6.5,SNR=3.2						

ISCJB ***25*** *03:18:51.9±0.2, 20°.65N±0°.03×146°.39E±0°.04, h37km, mb4.8/130, MS3.7/35, Error ellipse: s-maj=5.1km s-min=4.3km az=172.2*
BJI ***25*** *03:18:52.2, 20°.75N×146°.26E, h31km, mb4.8/50, mB5.1/39, Ms4.6/23, Ms7 4.2/22*
MOS ***25*** *03:18:54.9±1.0, 20°.66N×146°.32E, h61km, mb5.0/46, Error ellipse: s-maj=9.7km s-min=5.4km az=108.0*
NEIC ***25*** *03:18:57.3±0.7, 20°.68N×146°.34E, h70km±6km, mb4.9/76, Error ellipse: s-maj=4.6km s-min=3.3km az=88.0*
IDC ***25*** *03:18:57.7±1.8, 20°.65N×146°.35E, h75km±15km, mb4.2/32, mb1 4.3/36, mb1mx4.2/48, mbtmp4.5/36, MS3.7/32, Ms1 3.7/32, ms1mx3.6/44, Error ellipse: s-maj=17.2km s-min=8.8km az=78.0*

ISC 25 03:18:53.9±0.3**, 20.76N**±0°.04×**146°.43E**±0°.06**, h37**km**, n260,** σ1**°63/260, mb4.9/129, MS3.7/35, 5C-1D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.08**	**189**	*e*Pn	**Pn**	**03 19 56.7**	**+2.9**
ANA2	**Anatahan**	**4.44**	**189**	*e*Pn	**Pn**	**03 20 02.3**	**+3.5**
GUMO	**Guam**	**7.28**	**192**	P	**Pn**	**03 20 41.5**	**+3.8**
	40nm,0.3s,baz=325,slow=3.9,SNR=11						
GUMO				S	**Sn**	**03 22 03.0**	**+3.9**
	44nm,0.3s,baz=36,slow=20,SNR=9.0						
CBIJ	**Chichi jima**	**7.41**	**329**	*e*Pn	**Pn**	**03 20 39.0**	**-0.5**
CBIJ				S	**Sn**	**03 21 58.2**	**-4.0**
JCJ	**Chichijima**	**7.41**	**329**	P	**Pn**	**03 20 43.6**	**+4.2**
	baz=180,slow=20						
JCJ				S	**Sn**	**03 21 58.2**	**-4.0**
	7.4nm,0.3s,baz=178,slow=24,SNR=11						
INU	**Inuyama**	**16.73**	**332**	*e*Pn	**Pn**	**03 22 45.8**	**+0.4**
	38nm,0.9s						
MJAR	**Matsushiro Arr**	**17.29**	**337**	P	**Pn**	**03 22 52.7**	**+0.3**
	1.2nm,0.3s,baz=160,slow=11,SNR=7.6						
MJAR				S	**Sn**	**03 25 56.5**	**-7.2**
	0.5nm,0.3s,baz=154,slow=20,SNR=4.5						
MAJO	**Matsushiro**	**17.29**	**337**	*e*P	**P**	**03 22 55.2**	**+1.6**
MAJO	**Matsushiro**	**17.29**	**337**	*e*Pn	**P**	**03 22 53.4**	**-0.2**
MAT	**Matsushiro**	**17.29**	**337**	P	**P**	**03 22 53.7**	**+0.1**
MAT				S	**Sn**	**03 26 06.6**	**+2.8**
JNU	**Nakatsue**	**18.52**	**315**	P	**Pn**	**03 23 09.1**	**+1.6**
	1.2nm,0.3s,baz=182,slow=4.3,SNR=8.6						
JNU				LR	LR	03 28 47.4	
	comp=Z,277nm,21.5s,baz=120,slow=32						
JNU	**Nakatsue**	**18.52**	**315**	*e*P	**P**	**03 23 06.9**	**-0.2**
	16nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**19.22**	**93**	T	T	03 43 15.7	
	baz=280,slow=75,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**19.23**	**93**	T	T	03 43 15.6	
	baz=280,slow=75,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**19.23**	**90**	T	T	03 43 21.4	
	baz=276,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**19.23**	**93**	T	T	03 43 14.4	
	baz=280,slow=75,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**19.24**	**89**	T	T	03 43 22.2	
	baz=276,slow=74,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**19.25**	**89**	T	T	03 43 22.5	
	baz=276,slow=74,SNR=12						
MANU	**Manus Island**	**22.68**	**178**	*e*P	**P**	**03 23 51.2**	**-1.1**
	149nm,0.9s						
KSRS	**Korea Array**	**23.13**	**320**	P	**P**	**03 23 58.1**	**+1.4**
	13nm,0.7s,baz=146,slow=8.6,SNR=40						
KSRS				LR	LR	03 32 43.5	
	comp=Z,198nm,20.2s,baz=127,slow=36						
KS15	**Wonju Array Si**	**23.14**	**320**	*e*P	**P**	**03 23 59.2**	**+2.3**
KSAR	**Wonju Array Be**	**23.14**	**320**	P	**P**	**03 23 58.2**	**+1.3**
KSAR	**Wonju Array Be**	**23.14**	**320**	P	**P**	**03 23 58.1**	**+1.3**
KS01	**Wonju Array Si**	**23.16**	**320**	*e*P	**P**	**03 23 58.1**	**+1.1**
ASAJ	**Asahikawa**	**23.51**	**353**	P	P	03 24 09.4	+9.0
	7.2nm,0.6s,baz=187,slow=8.8,SNR=4.3						
SSLB	**Suanglung**	**23.75**	**282**	*e*P	**P**	**03 24 02.5**	**-0.5**
	31nm,0.8s						
JAY	**Jayapura**	**23.80**	**194**	P	**P**	**03 24 02.0**	**-1.4**
	1.4nm,0.8s,baz=274,slow=22,SNR=7.4						
JAY	**Jayapura**	**23.80**	**194**	P	**P**	**03 24 02.0**	**-1.4**
TGY	**Tagaytay City**	**25.18**	**259**	LR	LR	03 32 39.0	
	comp=Z,338nm,20.4s,baz=141,slow=33						
USRK	**Ussuriysk Ar.**	**26.28**	**336**	P	**P**	**03 24 27.7**	**+1.9**
	3.4nm,0.9s,baz=139,slow=10,SNR=6.5						
USRK				LR	LR	03 34 42.7	
	comp=Z,115nm,21.0s,baz=146,slow=36						
YSS	**Yuzh-Sakhalins**	**26.30**	**354**	*e*P	**P**	**03 24 27.6**	**+1.7**
YSS				pmax	pmax		
	comp=Z,11nm,1.0s						
FAKI	**Fak Fak**	**27.33**	**212**	*e*P	**P**	**03 24 33.9**	**-1.5**
MDJ	**Mudanjiang**	**27.58**	**333**	P	**P**	**03 24 38.8**	**+1.3**
MDJ				pP	pP	03 24 46.9	-1.0
MDJ				sP	sP	03 24 51.3	-1.1
MDJ				S	**S**	**03 29 19.4**	**+3.0**
MDJ				ScP	**ScP**	**03 31 33.1**	**+0.7**
MDJ				PcS	**PcS**	**03 31 37.3**	**+1.1**
MDJ				PMZ			
	comp=Z,3.0nm,0.4s						
MDJ				PMZ			
	comp=Z,33nm,3.8s						
MDJ				LN			
	comp=Z,130nm,26.0s						
MDJ				LE			
	comp=Z,62nm,19.9s						
MDJ				LZ			
	comp=Z,170nm,24.6s						
SNY	**Shenyang**	**28.52**	**323**	⇓P	P	03 24 57.0	+11
SNY				pmax	pmax		
	comp=Z,20nm,0.8s						
HABR	**Khabarovsk**	**29.13**	**344**	*e*P	**P**	**03 24 50.0**	**-1.1**
HABR				*e**PP	**sP**	**03 25 04.8**	**-1.3**
HABR				*e**SP	pP	03 25 12.1	+10
HABR				*e*		03 25 45.9	
HABR				*e*		03 27 55.3	
HABR				*e*S	**S**	**03 29 39.4**	**-1.2**
HABR				*e**SS	**sS**	**03 30 04.8**	**+6.8**
HABR				*e*SS	**SnSn**	**03 31 10.1**	**+3.2**
HABR				*e*		03 31 37.9	
HABR				*e*		03 35 26.0	
HABR				pmax	pmax		
	comp=Z,17nm,1.4s						
HABR				pmax	pmax		
	comp=Z,41nm,1.4s						
HABR				pmax	pmax		
	comp=E,29nm,1.5s						
HABR				MLR	MLR		
	comp=Z,115nm,17.0s						
PMG	**Port Moresby**	**29.98**	**179**	P	**P**	**03 24 57.4**	**-1.6**
	comp=Z,51nm,0.9s,baz=16,slow=7.0,SNR=5.9						
PMG	**Port Moresby**	**29.98**	**179**	*e*P	**P**	**03 24 58.6**	**-0.4**
PMG				pmax	pmax		
	comp=Z,60nm,0.9s						
PMG	**Port Moresby**	**29.98**	**179**	*e*P	**P**	**03 24 58.6**	**-0.4**
	comp=Z,60nm,0.9s						
KLR	**Kul'dur**	**30.73**	**341**	P	**P**	**03 25 05.9**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=152,slow=10,SNR=23						
KLR				LR	LR	03 37 35.9	
	comp=Z,91nm,20.9s,baz=157,slow=36						
KLR	**Kul'dur**	**30.73**	**341**	*e*P	**P**	**03 25 05.6**	**+0.2**
NKL	**Nikolayevsk**	**32.64**	**354**	*e*P	P	03 25 33.0	+11
NKL				pmax	pmax		
	comp=Z,56nm,1.2s						
KKM	**Kota Kinabalu**	**32.73**	**248**	*e*P	**P**	**03 25 22.5**	**-1.0**
	comp=Z,8.7nm,0.6s						
PETK	**Petropavlovsk-**	**33.44**	**12**	LR	LR	03 37 04.8	
	comp=Z,170nm,21.7s,baz=198,slow=32						
QIZ	**Qiongzhong**	**34.40**	**274**	P	**P**	**03 25 36.8**	**-1.0**
QIZ				S	**S**	**03 31 05.9**	**+2.4**
QIZ				LE			
	comp=Z,380nm,6.4s						
QIZ				LZ			
	comp=Z,300nm,4.6s						
COEN	**Coen**	**34.64**	**186**	*e*P	**P**	**03 25 38.6**	**-1.2**
	comp=Z,19nm,0.8s						
HIA	**Hailar**	**35.52**	**330**	*e*P	**P**	**03 25 47.9**	**+0.8**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN	**Xi'an**	**35.63**	**300**	P	P	03 25 59.8	+11
XAN				pP	sP	03 26 05.9	+2.5
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**35.70**	**312**	*e*P	**P**	**03 25 50.0**	**+1.1**
HHC				PP	**PP**	**03 27 14.9**	**+4.5**
HHC				S	**S**	**03 31 24.0**	**+0.7**
HHC				PMZ			
	comp=Z,15nm,0.9s						
HHC				PMZ			
	comp=Z,110nm,5.5s						
HHC				LN			
	comp=Z,190nm,15.1s						
HHC				LE			
	comp=Z,180nm,14.5s						
HHC				LZ			
	comp=Z,180nm,16.5s						
MTN	**Manton Dam**	**36.62**	**206**	*e*P	**P**	**03 25 56.2**	**-0.6**
	comp=Z,58nm,1.0s						
GYA	**Guiyang**	**36.77**	**287**	*e*P	**P**	**03 25 58.3**	**0.0**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
SOEI	**Soe**	**37.34**	**218**	*e*P	**P**	**03 26 02.0**	**-1.1**
	comp=Z,20nm,0.6s						
SBUM	**Sibu**	**37.98**	**246**	*e*P	**P**	**03 26 08.8**	**+0.3**
	comp=Z,30nm,1.1s						
MA2	**Magadan**	**38.90**	**4**	LR	LR	03 40 02.4	
	comp=Z,81nm,21.6s,baz=188,slow=32						
CD2	**Chengdu**	**39.51**	**294**	*e*P	**P**	**03 26 20.6**	**-0.6**
CD2				pP	pP	03 26 31.3	-0.6
CD2				sP	sP	03 26 36.1	-0.2
CD2				PcS	**PcS**	**03 32 17.9**	**-0.6**
CD2				S	**S**	**03 32 20.5**	**-0.7**
CD2				sS	sS	03 32 38.9	0.0
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,220nm,5.0s						
LZH	**Lanzhou**	**40.11**	**302**	*e*P	**P**	**03 26 26.4**	**+0.1**
LZH				pP	pP	03 26 36.5	-0.5
LZH				sP	sP	03 26 40.8	-0.7
LZH				PMZ			
	comp=Z,39nm,1.0s						
LZH				PMZ			
	comp=Z,160nm,4.3s						
LZH				LN			
	comp=Z,290nm,12.7s						
LZH				LE			
	comp=Z,520nm,14.1s						
LZH				LZ			
	comp=Z,250nm,15.2s						
KMI	**Kunming**	**40.34**	**285**	P	**P**	**03 26 27.9**	**-0.5**
KMI				PMZ			
	comp=Z,14nm,0.5s						
CTAO	**Charters Tower**	**40.59**	**180**	*e*P	**P**	**03 26 29.2**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,122nm,0.8s						
CTAO	**Charters Tower**	**40.59**	**180**	*e*P	**P**	**03 26 29.1**	**-1.0**
	comp=Z,122nm,0.8s						
ULN	**Ulaanbaatar**	**41.62**	**320**	*e*P	**P**	**03 26 38.9**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**41.62**	**320**	*e*P	**P**	**03 26 38.9**	**+0.3**
	comp=Z,4.9nm,0.8s						
SONA1	**Songino Array**	**42.00**	**320**	*e*P	**P**	**03 26 41.7**	**+0.1**
SONM	**Songino Array**	**42.00**	**320**	P	**P**	**03 26 41.6**	**0.0**
	comp=Z,2.1nm,0.6s,baz=132,slow=8.4,SNR=11						
SONM				LR	LR	03 43 51.9	
	comp=Z,98nm,21.8s,baz=98,slow=36						
WRAB	**Tennant Creek**	**42.13**	**197**	*e*P	**P**	**03 26 42.0**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,53nm,0.6s						
WRAB	**Tennant Creek**	**42.13**	**197**	*e*P	**P**	**03 26 42.0**	**-0.8**
	comp=Z,53nm,0.6s						
WB2	**Warramunga Arr**	**42.14**	**197**	*e*P	**P**	**03 26 42.1**	**-0.8**
	comp=Z,51nm,0.7s						
WRA	**Warramunga Arr**	**42.14**	**197**	P	**P**	**03 26 41.7**	**-1.2**
	comp=Z,35nm,0.7s,baz=17,slow=8.9,SNR=263						
WRA				LR	LR	03 44 04.1	
	comp=Z,210nm,21.8s,baz=290,slow=36						
SEY	**Seymchan**	**42.34**	**4**	P	**P**	**03 26 44.8**	**+0.8**
	comp=Z,1.7nm,0.2s,baz=172,slow=7.5,SNR=6.8						
UTTA	**Uttaradit**	**43.30**	**274**	P	**P**	**03 26 56.3**	**+3.9**
	comp=Z,3.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**43.66**	**209**	LR	LR	03 45 39.4	
	comp=Z,67nm,19.0s,slow=37						
FITZ	**Fitzroy Crossi**	**43.66**	**209**	*e*P	**P**	**03 26 54.9**	**-0.3**
	comp=Z,27nm,0.7s						
GTA	**Gaotai**	**43.88**	**306**	P	**P**	**03 26 57.0**	**0.0**
GTA				pP	pP	03 27 06.6	-1.2
GTA				sP	sP	03 27 10.5	-1.7
GTA				PcP	**PcP**	**03 28 43.5**	**+0.7**
GTA				S	**S**	**03 33 24.8**	**-1.1**
GTA				PMZ			
	comp=Z,8.0nm,1.4s						
GTA				PMZ			
	comp=Z,89nm,4.7s						
BOD	**Bodaibo**	**43.91**	**336**	*e*P	**P**	**03 26 56.6**	**-0.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CHTO	**Chiang Mai**	**44.60**	**276**	*e*P	**P**	**03 27 02.9**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CHTO	**Chiang Mai**	**44.60**	**276**	*e*P	**P**	**03 27 02.9**	**+0.1**
	comp=Z,3.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**44.67**	**276**	P	**P**	**03 27 03.8**	**+0.4**
	comp=Z,2.7nm,0.4s,baz=68,slow=7.8,SNR=8.5						
CMAR				LR	LR	03 43 49.0	
	comp=Z,99nm,21.9s,baz=112,slow=33						
ZAK	**Zakamensk**	**44.94**	**322**	*e*P	**P**	**03 27 05.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TLY	**Talaya**	**45.30**	**323**	P	**P**	**03 27 08.6**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=104,slow=4.7,SNR=3.2						
TLY	**Talaya**	**45.30**	**323**	*e*P	**P**	**03 27 09.7**	**+1.7**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AS01	**Alice Springs**	**45.79**	**196**	*e*P	**P**	**03 27 10.5**	**-1.6**
AS31	**Alice Springs**	**45.81**	**196**	*e*P	**P**	**03 27 11.1**	**-1.2**
	comp=Z,3.4nm,0.6s						
ASAR	**Alice Springs**	**45.81**	**196**	P	**P**	**03 27 11.2**	**-1.1**
	comp=Z,6.2nm,0.6s,baz=17,slow=8.0,SNR=96						
ASAR				LR	LR	03 46 19.0	
	comp=Z,186nm,19.9s,baz=16,slow=36						
DZM	**Mont Dzumac**	**46.84**	**154**	*e*P	**P**	**03 27 19.9**	**-0.6**
	comp=Z,124nm,1.1s						
DZM	**Mont Dzumac**	**46.84**	**154**	*e*LR	LR	03 40 36.3	
	comp=Z,258nm,26.9s						
DZM	**Mont Dzumac**	**46.84**	**154**	P	**P**	**03 27 20.6**	**+0.2**
	comp=Z,40nm,0.9s,baz=1.2,slow=9.8,SNR=10.0						
DZM	**Mont Dzumac**	**46.84**	**154**	*e*P	**P**	**03 27 19.8**	**-0.7**
	comp=Z,44nm,0.9s						
IPM	**Ipoh**	**46.96**	**256**	*e*P	**P**

GKN	**Gorkha**	**56.24**	**290**	*e*P		**P**	**03 28 31.1**	**+0.1**
	comp=Z,131nm,1.0s							
ZAA0	**Zalesovo Array**	**56.82**	**322**	*e*P		**P**	**03 28 34.1**	**-0.4**
ZALV	**Zalesovo Beam**	**56.82**	**322**	P		**P**	**03 28 34.1**	**-0.4**
	comp=Z,8.4nm,0.7s,baz=103,slow=7.0,SNR=18							
ZALV				LR		LR	03 53 22.2	
	comp=Z,69nm,20.9s,baz=70,slow=36							
KOLN	**Koldanda**	**57.18**	**290**	*e*P		**P**	**03 28 37.8**	**+0.1**
	comp=Z,58nm,0.8s							
MK01	**Makanchi Array**	**57.55**	**313**	*e*P		**P**	**03 28 39.0**	**-0.8**
MK31	**Makanchi Array**	**57.55**	**313**	*e*P		**P**	**03 28 40.1**	**+0.3**
MK31	**Makanchi Array**	**57.55**	**313**	*e*P		**P**	**03 28 40.1**	**+0.3**
MKAR	**Makanchi Array**	**57.55**	**313**	P		**P**	**03 28 39.9**	**+0.1**
	comp=Z,6.1nm,0.8s,baz=93,slow=9.7,SNR=34							
MKAR				LR		LR	03 54 42.1	
	comp=Z,67nm,20.6s,baz=86,slow=37							
MKAR	**Makanchi Array**	**57.55**	**313**	*e*P		**P**	**03 28 40.1**	**+0.3**
MKAR	**Makanchi Array**	**57.55**	**313**	*e*P		**P**	**03 28 40.1**	**+0.3**
PYUN	**Piuthan**	**57.67**	**291**	*e*P		**P**	**03 28 41.3**	**+0.1**
	comp=Z,130nm,1.0s							
MAKZ	**Makanchi**	**57.77**	**313**	*e*P		**P**	**03 28 42.0**	**+0.7**
MAKZ				pmax		pmax		
	comp=Z,17nm,1.1s							
MAKZ	**Makanchi**	**57.77**	**313**	*e*P		**P**	**03 28 42.0**	**+0.7**
	comp=Z,17nm,1.1s							
NVS	**Novosibirsk**	**57.89**	**322**	*e*P		**P**	**03 28 42.2**	**+0.2**
NVS				pmax		pmax		
	comp=E,15nm,1.5s							
NVS				pmax		pmax		
	comp=Z,16nm,1.5s							
PDGK	**Podgornoye**	**59.45**	**309**	P		**P**	**03 28 53.0**	**0.0**
PDGK				pmax		pmax		
	comp=Z,16nm,0.7s							
BPAW	**Bear Paw Mtn.**	**59.62**	**27**	*e*P		**P**	**03 28 55.1**	**+1.3**
	comp=Z,9.9nm,0.8s							
TRF	**Thorofare Moun**	**59.75**	**28**	*e*P		**P**	**03 28 55.4**	**+0.5**
	comp=Z,12nm,0.8s							
PMR	**Palmer**	**59.84**	**30**	*e*P		**P**	**03 28 55.7**	**+0.4**
PMR				pmax		pmax		
	comp=Z,6.0nm,1.0s							
PMR	**Palmer**	**59.84**	**30**	*e*P		**P**	**03 28 55.7**	**+0.4**
	comp=Z,5.5nm,1.0s							
NRIK	**Noril'sk**	**59.93**	**339**	P		**P**	**03 28 56.6**	**+0.7**
	comp=Z,11nm,0.8s,baz=107,slow=8.0,SNR=9.7							
NRIK				LR		LR	03 55 17.6	
	comp=Z,74nm,21.9s,baz=108,slow=36							
MLY	**Manley**	**59.98**	**26**	*e*P		**P**	**03 28 57.7**	**+1.4**
	comp=Z,7.3nm,0.8s							
KURK	**Kurchatov**	**60.22**	**317**	*e*P		**P**	**03 28 58.1**	**-0.1**
KURK				pmax		pmax		
	comp=Z,48nm,0.8s							
KURK	**Kurchatov**	**60.22**	**317**	*e*P		**P**	**03 28 58.0**	**-0.1**
	comp=Z,48nm,0.8s							
SML	**Sawmill**	**60.25**	**30**	*e*P		**P**	**03 28 59.1**	**+0.8**
SML				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SML	**Sawmill**	**60.25**	**30**	*e*P		**P**	**03 28 59.1**	**+0.8**
	comp=Z,3.5nm,1.0s							
KURBB	**Kurchatov Arra**	**60.27**	**317**	P		**P**	**03 28 58.2**	**-0.4**
	comp=Z,16nm,0.7s,baz=50,slow=1.7,SNR=114							
MCK	**McKinley**	**60.41**	**28**	*e*P		**P**	**03 28 59.3**	**0.0**
MCK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
MCK	**McKinley**	**60.41**	**28**	*e*P		**P**	**03 28 59.3**	**0.0**
	comp=Z,3.9nm,0.6s							
SCM	**Sheep Creek Mo**	**60.73**	**30**	*e*P		**P**	**03 29 02.0**	**+0.4**
SCM				pmax		pmax		
	comp=Z,23nm,1.0s							
SCM	**Sheep Creek Mo**	**60.73**	**30**	*e*P		**P**	**03 29 02.0**	**+0.4**
	comp=Z,23nm,1.0s							
COLD	**Coldfoot**	**60.80**	**23**	*e*P		**P**	**03 29 02.6**	**+0.7**
	comp=Z,9.0nm,0.9s							
WRH	**Wood River Hil**	**60.94**	**27**	*e*P		**P**	**03 29 02.5**	**-0.3**
	comp=Z,7.6nm,1.0s							
DHY	**Denali Highway**	**60.95**	**28**	*e*P		**P**	**03 29 03.0**	**-0.1**
	comp=Z,5.2nm,0.8s							
IL1	**Eielson Array**	**61.51**	**27**	*e*P		**P**	**03 29 05.8**	**-0.9**
ILAR	**Eielson Array**	**61.51**	**27**	P		**P**	**03 29 06.3**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=260,slow=6.0,SNR=21							
ILAR				LR		LR	03 54 05.4	
	comp=Z,79nm,20.2s,baz=274,slow=34							
ILB	**Eielson Array**	**61.51**	**27**	*e*P		**P**	**03 29 06.7**	**-0.1**
PAX	**Paxson**	**61.78**	**29**	*e*P		**P**	**03 29 09.2**	**+0.5**
PAX				pmax		pmax		
	comp=Z,6.0nm,0.9s							
PAX	**Paxson**	**61.78**	**29**	*e*P		**P**	**03 29 09.2**	**+0.5**
	comp=Z,6.0nm,0.9s							
BMRM	**Bremner River**	**61.88**	**31**	*e*P		**P**	**03 29 09.6**	**+0.3**
	comp=Z,15nm,1.1s							
KSH	**Kashi**	**62.26**	**305**	P		**P**	**03 29 15.8**	**+3.4**
KSH				pP		sP	03 29 26.6	-1.3
KSH				PcP		**PcP**	**03 29 54.9**	**+2.9**
KSH				PP		**PP**	**03 31 34.8**	**+5.3**
KSH				S		**S**	**03 37 37.6**	**+1.6**
KSH				ScS		**SKKSac**	**03 39 01.3**	**-0.6**
KSH				PMZ				
	comp=Z,14nm,0.9s							
KSH				PMZ				
	comp=Z,150nm,5.1s							
KSH				LN				
	comp=Z,140nm,6.1s							
KSH				LE				
	comp=Z,130nm,6.4s							
TKM2	**Tokmak 2**	**62.30**	**308**	*e*P		**P**	**03 29 13.4**	**+0.7**
TKM2				pmax		pmax		
	comp=Z,7.0nm,0.6s							
TKM2	**Tokmak 2**	**62.30**	**308**	*e*P		**P**	**03 29 13.4**	**+0.7**
	comp=Z,7.1nm,0.6s							
DOT	**Dot Lake**	**62.52**	**28**	*e*P		**P**	**03 29 14.1**	**+0.5**
	comp=Z,16nm,0.8s							
FRU	**Bishkek**	**63.03**	**308**	*e*P		**P**	**03 29 17.0**	**-0.3**
FRU				*e*			03 29 35.0	
AAK	**Ala-Archa**	**63.13**	**308**	*e*P		**P**	**03 29 19.0**	**+0.8**
AAK				pmax		pmax		
	comp=Z,25nm,1.7s							
AAK	**Ala-Archa**	**63.13**	**308**	*e*P		**P**	**03 29 19.0**	**+0.8**
	comp=Z,25nm,1.7s							
THN	**Thein Dam**	**63.29**	**297**	*e*P		**P**	**03 29 17.4**	**-1.8**
EKS2	**Erkin-Say**	**63.66**	**308**	*e*P		**P**	**03 29 21.5**	**-0.1**
EKS2				pmax		pmax		
	comp=Z,4.0nm,0.8s							
EKS2	**Erkin-Say**	**63.66**	**308**	*e*P		**P**	**03 29 21.5**	**-0.1**
	comp=Z,4.2nm,0.8s							
EGAK	**Eagle**	**63.93**	**27**	*e*P		**P**	**03 29 22.9**	**+0.1**
	comp=Z,5.5nm,0.9s							
OTUK	**Ortayu**	**64.31**	**314**	P		**P**	**03 29 25.4**	**-0.3**
OTUK				pmax		pmax		
	comp=Z,17nm,0.9s							
DAWY	**Dawson**	**64.62**	**28**	*e*P		**P**	**03 29 28.1**	**+0.7**
	comp=Z,11nm,1.1s							
VOSK	**Vostochnaya**	**65.00**	**319**	*e*P		**P**	**03 29 29.7**	**-0.3**
VOSK				pmax		pmax		
	comp=Z,36nm,1.5s							
VOSK	**Vostochnaya**	**65.00**	**319**	*e*P		**P**	**03 29 29.7**	**-0.3**
	comp=Z,36nm,1.5s							
HYT	**Haines Junctio**	**65.32**	**32**	*e*P		**P**	**03 29 34.3**	**+2.1**
	comp=Z,14nm,1.0s							
BVA0	**Borovoye Array**	**65.34**	**320**	P		**P**	**03 29 32.0**	**-0.3**
BVA0				pmax		pmax		
	comp=Z,33nm,0.7s							
URZ	**Urewera**	**65.39**	**154**	LR		LR	03 56 41.5	
	comp=Z,45nm,18.2s,baz=301,slow=35							
BRVK	**Borovoye**	**65.41**	**320**	*e*P		**P**	**03 29 33.0**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,58nm,0.7s							
BRVK	**Borovoye**	**65.41**	**320**	*e*P		**P**	**03 29 33.0**	**+0.3**
	comp=Z,58nm,0.7s							
KK31	**Karatay Array**	**66.00**	**309**	*i* P		**P**	**03 29 36.7**	**-0.1**
KK31				pmax		pmax		
	comp=Z,10.0nm,0.7s							
KKAR	**Karatay Array**	**66.00**	**309**	*e*P		**P**	**03 29 37.0**	**+0.3**
KKAR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
KKAR	**Karatay Array**	**66.00**	**309**	*e*P		**P**	**03 29 37.0**	**+0.3**
	comp=Z,10nm,0.7s							
ZRNK	**Zerenda**	**66.18**	**320**	*e*P		**P**	**03 29 37.5**	**-0.2**
ZRNK				pmax		pmax		
	comp=Z,12nm,0.7s							
ZRNK	**Zerenda**	**66.18**	**320**	*e*P		**P**	**03 29 37.5**	**-0.2**
	comp=Z,12nm,0.7s							
INK	**Inuvik**	**67.22**	**23**	*e*P		**P**	**03 29 45.5**	**+1.5**
INK				pmax		pmax		
	comp=Z,11nm,1.0s							
INK	**Inuvik**	**67.22**	**23**	*e*P		**P**	**03 29 45.5**	**+1.5**
	comp=Z,11nm,1.0s							
RPZ	**Rata Peaks**	**68.02**	**161**	P		**P**	**03 29 48.2**	**-1.1**
	comp=Z,9.6nm,0.8s,baz=150,slow=17,SNR=3.8							
KBL	**Kabul**	**68.43**	**300**	*e*P		**P**	**03 29 53.0**	**+0.4**
KBL				pmax		pmax		
	comp=Z,30nm,0.8s							
KBL	**Kabul**	**68.43**	**300**	*e*P		**P**	**03 29 53.0**	**+0.4**
	comp=Z,30nm,0.8s							
DLBC	**Dease Lake**	**69.21**	**34**	P		**P**	**03 29 56.9**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=297,slow=7.8,SNR=4.4							
DLBC	**Dease Lake**	**69.21**	**34**	*e*P		**P**	**03 29 57.9**	**+1.1**
	comp=Z,12nm,1.1s							
SVE	**Sverdlovsk**	**70.61**	**324**	*i*P		**P**	**03 30 05.9**	**+0.6**
SVE				pmax		pmax		
	comp=Z,23nm,1.1s							
ARU	**Arti**	**71.80**	**324**	P		**P**	**03 30 12.2**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=111,slow=3.1,SNR=18							
ARU	**Arti**	**71.80**	**324**	*c i*P		**P**	**03 30 12.5**	**0.0**
ARU				*PP		**PcP**	**03 30 30.1**	**-1.2**
ARU							03 32 49.9	
ARU				S		**S**	**03 39 31.4**	**+1.2**
ARU				SS		**SS**	**03 44 04.3**	**-1.9**
ARU				pmax		pmax		
	comp=Z,19nm,1.0s							
ARU	**Arti**	**71.80**	**324**	*e*P		**P**	**03 30 12.3**	**-0.3**
	comp=Z,16nm,0.9s							
AB31	**Akbulak array**	**72.32**	**317**	*i* P		**P**	**03 30 15.2**	**-0.5**
AB31				pmax		pmax		
	comp=Z,8.0nm,0.7s							
ABKAR	**Akbulak array**	**72.32**	**317**	*e*P		**P**	**03 30 15.4**	**-0.3**
	comp=Z,14nm,0.8s							
AKTO	**Aktyubinsk**	**73.29**	**318**	P		**P**	**03 30 21.3**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=81,slow=6.6,SNR=12							
PPT	**Papeete**	**73.40**	**117**	LR		LR	03 59 11.5	
	comp=Z,50nm,19.6s,baz=326,slow=33							
PPT2	**Papeete2**	**73.41**	**117**	*e*LR		LR	03 52 50.8	
	comp=Z,393nm,30.5s							
YKA	**Yellowknife Ar**	**75.86**	**28**	P		**P**	**03 30 36.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=288,slow=5.9,SNR=5.9							
YKA				LR		LR	04 02 09.0	
	comp=Z,9.1nm,21.5s,baz=0.0,slow=34							
GEYT	**Alibeck**	**76.26**	**306**	P		**P**	**03 30 39.0**	**0.0**
	comp=Z,5.4nm,0.8s,baz=95,slow=1.6,SNR=10							
TAOE	**Nuku Hiva Isla**	**77.88**	**104**	*e*LR		LR	03 55 02.1	
	comp=Z,149nm,22.5s							
BMO	**Blue Mountains**	**79.92**	**46**	*e*P		**P**	**03 31 00.1**	**+0.8**
BMO				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BMO	**Blue Mountains**	**79.92**	**46**	*e*P		**P**	**03 31 00.1**	**+0.8**
	comp=Z,5.8nm,0.9s							
KLMR	**Klimovskoe**	**79.98**	**332**	*e*P		**P**	**03 30 55.1**	**-4.0**
KLMR				pmax		pmax		
	comp=Z,14nm,1.3s							
ARCES	**ARCESS Array B**	**80.75**	**342**	P		**P**	**03 31 03.5**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=61,slow=5.7,SNR=14							
ARCES				LR		LR	04 13 53.8	
	comp=Z,34nm,19.9s,baz=66,slow=41							
UOSS	**Minazif**	**81.69**	**293**	*e*P		**P**	**03 31 08.9**	**0.0**
	comp=Z,1.0nm,0.8s							
DAG	**Danmarks Havn**	**82.27**	**357**	*e*P		P	03 31 22.7	+12
DAG				pmax		pmax		
	comp=Z,2.0nm,0.9s							
DAG	**Danmarks Havn**	**82.27**	**357**	*i* P		P	03 31 22.7	+12
	comp=Z,2.8nm,0.9s							
ELK	**Elko**	**82.76**	**49**	*e*P		**P**	**03 31 14.1**	**-0.4**
ELK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ELK	**Elko**	**82.76**	**49**	*e*P		**P**	**03 31 14.1**	**-0.4**
	comp=Z,5.1nm,1.0s							
VRH	**Novokhopyorsk**	**82.86**	**322**	*e*P		**P**	**03 31 13.6**	**-0.9**
VRH				*e*PP		**pP**	**03 31 27.6**	**+1.6**
VRH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
R11A	**Troy Canyon, C**	**83.37**	**52**	*e*P		**P**	**03 31 18.1**	**+0.4**
	comp=Z,4.0nm,1.5s							
TPNV	**Topopah Spring**	**83.38**	**53**	*e*P		**P**	**03 31 19.5**	**+1.8**
TPNV				pmax		pmax		
	comp=Z,7.0nm,0.9s							
TPNV	**Topopah Spring**	**83.38**	**53**	*e*P		**P**	**03 31 19.5**	**+1.8**
	comp=Z,6.8nm,0.9s							
OBN	**Obninsk**	**83.93**	**327**	*i*P		**P**	**03 31 19.3**	**-0.6**
OBN				*e*			03 31 31.8	
OBN				*e*			03 34 34.1	
OBN				pmax		pmax		
	comp=Z,26nm,1.2s							
OBN				MLR		MLR		
	comp=Z,51nm,18.0s							
VSR	**Storozhevoye**	**84.30**	**323**	*e*P		**P**	**03 31 21.0**	**-0.9**
VSR				*e*PP		**pP**	**03 31 34.2**	**+0.7**
VSR				pmax		pmax		
	comp=Z,10.0nm,1.2s							
DUG	**Dugway, Tooele**	**84.69**	**49**	*e*P		**P**	**03 31 24.6**	**+0.3**
DUG				pmax		pmax		
	comp=Z,3.0nm,0.8s							
DUG	**Dugway, Tooele**	**84.69**	**49**	*e*P		**P**	**03 31 24.6**	**+0.3**
	comp=Z,2.8nm,0.8s							
NCK	**Nalchik**	**84.81**	**315**	*e*P		**P**	**03 31 24.6**	**-0.1**
NCK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
ZEI	**Tsey**	**84.89**	**314**	*e*P		**P**	**03 31 24.8**	**-0.6**
ZEI				pmax		pmax		
	comp=Z,16nm,0.5s							
FFC	**Flin Flon**	**85.00**	**33**	*e*P		**P**	**03 31 25.2**	**-0.2**
FFC				pmax		pmax		
	comp=Z,13nm,1.0s							
FFC	**Flin Flon**	**85.00**	**33**	*e*P		**P**	**03 31 25.2**	**-0.2**
	comp=Z,13nm,1.0s							
HWUT	**Hardware Ranch**	**85.01**	**47**	*e*P		**P**	**03 31 26.2**	**+0.3**
	comp=Z,3.1nm,0.9s							
RLMT	**Red Lodge**	**85.12**	**44**	*e*P		**P**	**03 31 25.8**	**-0.6**
	comp=Z,8.8nm,0.8s							
KBZ	**Khabaz**	**85.18**	**315**	P		**P**	**03 31 26.1**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=196,slow=4.3,SNR=7.7							
KBZ				LR		LR	04 12 36.7	
	comp=Z,54nm,19.5s,baz=56,slow=38							
KIV	**Kislovodsk**	**85.23**	**315**	*i*P		**P**	**03 31 26.8**	**-0.1**
KIV				*e*			03 31 44.9	
KIV				*e*S		**S**	**03 41 45.8**	**-8.8**
KIV				*e*SS		**SS**	**03 47 26.8**	**-1.7**
KIV				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,61nm,20.0s							
FIA1	**FINESS Array S**	**85.31**	**335**	*e*P		**P**	**03 31 26.0**	**-0.7**
	comp=Z,11nm,0.6s							
FINES	**FINESS Array B**	**85.31**	**335**	P		**P**	**03 31 25.9**	**-0.9**
	comp=Z,8.8nm,0.6s,baz=66,slow=5.1,SNR=72							
FINES				LR		LR	04 11 57.0	
	comp=Z,36nm,19.7s,baz=57,slow=37							
GNI	**Garni**	**85.36**	**311**	*e*P		**P**	**03 31 28.2**	**+0.5**
GNI				pmax		pmax		
	comp=Z,11nm,0.9s							
NEY	**Neytrino**	**85.50**	**315**	*e*P		**P**	**03 31 27.9**	**-0.4**
NEY				pmax		pmax		
	comp=Z,1.0nm,0.8s							
PDAR	**Pinedale Array**	**85.90**	**46**	P		**P**	**03 31 30.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=329,slow=1.1,SNR=2.6							
PDAR				LR		LR	04 03 14.7	
	comp=Z,60nm,21.8s,baz=308,slow=31							
LAO	**LASA Array**	**86.36**	**41**	*e*P		**P**	**03 31 33.1**	**+0.7**
	comp=Z,13nm,0.8s							
FCC	**Fort Churchill**	**86.53**	**27**	*e*P		**P**	**03 31 33.3**	**+0.5**
FCC				pmax		pmax		
	comp=Z,7.0nm,0.9s							
FCC	**Fort Churchill**	**86.53**	**27**	*e*P		**P**	**03 31 33.3**	**+0.5**
	comp=Z,6.7nm,0.9s							
SUMG	**Summit**	**86.85**	**1**	*e*P		**P**	**03 31 34.4**	**-0.3**
SUMG				pmax		pmax		
	comp=Z,7.0nm,1.0s							
SUMG	**Summit**	**86.85**	**1**	*i* P		P	03 31 45.2	+11
	comp=Z,8.6nm,1.1s							
SUMG	**Summit**	**86.85**	**1**	*e*P		**P**	**03 31 34.4**	**-0.3**
	comp=Z,6.9nm,1.0s							
Y14A	**Wickenburg**	**86.96**	**55**	*e*P		**P**	**03 31 36.6**	**+1.0**
	comp=Z,22nm,0.8s							
WUAZ	**Wupatki**	**87.57**	**53**	*e*P		**P**	**03 31 37.9**	**-0.7**
	comp=Z,4.9nm,0.9s							
RKT	**Rikitea**	**88.12**	**115**	*e*LR		LR	03 59 47.6	
	comp=Z,160nm,31.0s							
PV04	**Paradox Valley**	**88.19**	**50**	*e*P		**P**	**03 31 41.1**	**-0.4**
ANN	**Anapa**	**88.25**	**318**	*e*P		P	03 31 35.6	-5.8
ANN				*e*PP		pP	03 31 53.1	0.0
ANN				*e*S		**SKSac**	**03 41 57.5**	**-10**
ANN				pmax		pmax		
	comp=Z,32nm,1.0s							
PV01	**Paradox Valley**	**88.53**	**50**	*e*P		**P**	**03 31 43.9**	**+0.6**
MVCO	**Mesa Verde**	**88.98**	**50**	*e*P		**P**	**03 31 45.6**	**+0.2**
	comp=Z,5.4nm,1.0s							
SMCO	**Snowmass**	**89.21**	**48**	*e*P		**P**	**03 31 45.9**	**-0.8**
	comp=Z,5.2nm,0.9s							
ISCO	**Idaho Springs**	**89.87**	**47**	*e*P		**P**	**03 31 49.7**	**+0.1**
ISCO				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ISCO	**Idaho Springs**	**89.87**	**47**	*e*P		**P**	**03 31 49.7**	**+0.1**
	comp=Z,2.8nm,0.8s							
AKASG	**Malin Array Be**	**90.01**	**326**	P		**P**	**03 31 48.2**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=46,slow=5.2,SNR=8.4							
AKASG				LR		LR	04 16 02.0	
	comp=Z,24nm,18.4s,baz=240,slow=38							
KIEV	**Kiev**	**90.02**	**326**	*e*P		**P**	**03 31 48.6**	**-1.0**
KIEV				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KIEV	**Kiev**	**90.02**	**326**	*e*P		**P**	**03 31 48.5**	**-1.0**
	comp=Z,6.9nm,0.9s							
ULM	**Lac du Bonnet**	**90.53**	**35**	LR		LR	04 10 25.5	
	comp=Z,61nm,20.9s,baz=318,slow=34							
SDCO	**Great Sand Dun**	**90.88**	**49**	*e*P		**P**	**03 31 55.0**	**+0.7**
	comp=Z,1.2nm,0.7s							
NB2	**NORSAR Subarra**	**90.89**	**340**	P		**P**	**03 31 52.5**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=44,slow=4.8							
NOA	**NORSAR Array B**	**90.89**	**340**	P		**P**	**03 31 52.4**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=45,slow=5.1,SNR=4.4							
NOA				LR		LR	04 17 01.5	
	comp=Z,38nm,21.1s,baz=10.0,slow=38							
ANMO	**Albuquerque**	**91.45**	**52**	*e*P		**P**	**03 31 56.9**	**0.0**
ANMO				pmax		pmax		
	comp=Z,11nm,1.7s							
ANMO	**Albuquerque**	**91.45**	**52**	*e*P		**P**	**03 31 56.9**	**0.0**
	comp=Z,11nm,1.7s							
BRTR	**Keskin Array B**	**93.17**	**315**	P		**P**	**03 32 02.6**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=132,slow=5.5,SNR=5.9							
BRTR				LR		LR	04 17 12.7	
	comp=Z,14nm,21.6s,baz=46,slow=38							
BR231	**Keskin MP Arra**	**93.68**	**315**	*e*P		**P**	**03 32 04.1**	**-2.9**
MNTX	**Cornudas Mount**	**93.72**	**54**	*e*P		**P**	**03 32 08.1**	**+0.9**
	comp=Z,2.1nm,0.8s							
TXAR	**Lajitas Array**	**96.12**	**56**	P		**P**	**03 32 20.0**	**+1.7**
	comp=Z,0.1nm,0.7s,baz=316,slow=2.5,SNR=2.3							
TXAR				PKKP		**PKKPbc**	**03 49 04.4**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=112,slow=3.4,SNR=3.7							
TXAR	**Lajitas Array**	**96.12**	**56**	P		**P**	**03 32 20.0**	**+1.7**
DPC	**Dobruska-Polom**	**96.64**	**330**	*e*PP		PP	03 36 15.8	+1.6
VNDA	**Vanda**	**98.49**	**177**	P		**P**	**03 32 26.4**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=322,slow=3.7,SNR=3.7							
KHC	**Kasperske Hory**	**98.77**	**331**	*e*PP		PP	03 36 31.4	+0.9
GERES	**GERESS Array B**	**98.92**	**331**	P		Pdif	03 32 32.3	+1.7
	comp=Z,0.1nm,0.3s,baz=39,slow=6.3,SNR=3.2							
GERES				LR		LR	04 20 35.0	
	comp=Z,39nm,19.6s,baz=43,slow=37							
SCHQ	**Schefferville**	**99.52**	**19**	LR		LR	04 16 56.2	
	comp=Z,42nm,21.9s,baz=294,slow=35							
SNAA	**Sanae**	**126.07**	**192**	*e*PKIKP		**PKPdf**	**03 37 50.8**	**-0.7**
SNAA	**Sanae**	**126.07**	**192**	*e*PKPdf		**PKPdf**	**03 37 50.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**131.66**	**311**	PKP		**PKPdf**	**03 38 03.2**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=14,slow=3.0,SNR=4.1							
TORD				SKP			03 41 30.9	
	comp=Z,0.9nm,0.8s,baz=43,slow=0.9,SNR=3.8							
LCO	**Las Campanas**	**145.44**	**111**	*e*PKPbc		**PKPab**	**03 38 29.6**	**+0.5**
LPAZ	**La Paz**	**146.97**	**88**	PKPbc		**PKPbc**	**03 38 34.6**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=296,slow=4.3,SNR=11							
LVC	**Limon Verde**	**147.16**	**100**	*e*PKPbc		**PKPbc**	**03 38 33.9**	**-0.3**
SAML	**Samuel**	**149.13**	**72**	*e*PKPbc		**PKPbc**	**03 38 38.9**	**-0.3**
TRQA	**Tornquist**	**150.01**	**131**	*e*PKPbc		**PKPbc**	**03 38 40.1**	**-0.6**

*ISCJB **25** 03:28:30.7±1.2, 32.°52S±0.°09×69.°94W±0.°08, h126km±10km, Error ellipse: s-maj=17.7km s-min=6.2km az=147.8*
*SJA **25** 03:28:30.1±0.6, 32.°48S×69.°92W, h126km±5km, ML3.0, MW3.4*
*GUC **25** 03:28:31.5±0.7, 32.°37S×69.°88W, h101km±15km, ML2.4*

ISC 25 03:28:30.6±3.3, 32.°53S±0.°10×69.°93W±0.°07, h128km±24km, n11, σ0°53/20, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.55**	**56**	*i* P	**Pn**	**03 28 50.2**	**+0.1**
AUSP				*i* S	**Sn**	**03 29 05.0**	**+0.1**
FCH	**Farellones**	**0.85**	**201**	*e*P	**Pn**	**03 28 52.6**	**+0.3**
FCH				*i* S	**Sn**	**03 29 08.6**	**-0.2**
FCH				IAML		03 29 15.5	
	comp=E,80nm,0.3s						
PEL	**Peldehue**	**0.88**	**226**	*e*P	**Pn**	**03 28 51.9**	**-0.4**
PEL				*i* S	**Sn**	**03 29 07.9**	**-0.8**
PEL	

λ27.00000°. NP2:ϕ₂343.00000°, δ84.00000°, λ101.00000°.
*ISCJB **25** 03:46:14.0±1.0, 37.56N±0.04×141.95E±0.05, h17km±7km, mb3.8/12, Error ellipse: s-maj=8.0km s-min=5.7km az=35.8*
*JMA **25** 03:46:16.4±0.1, 37.58N×141.82E, h26km±3km, M4.1*
JMA Felt I J1.
*IDC **25** 03:46:18.1±5.7, 37.56N×141.75E, h31km±42km, mb3.6/12, mb1 3.8/15, mb1mx3.7/46, mbtmp3.8/15, ML3.7/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/41, Error ellipse: s-maj=22.7km s-min=14.9km az=96.0*
ISC 25 03:46:14.4±2.0, 37.56N±0.05×141.79E±0.06, h8km±12km, n36, σ0≡91/38, mb3.9/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.76**	**255**	P	**Pn**	**03 46 31.1**	**-0.3**
JFK				S	**Sb**	**03 46 41.2**	**+0.9**
JMM	**Marumori**	**0.85**	**291**	P	**Pn**	**03 46 32.4**	**-0.2**
JMM				*e*S	**Sb**	**03 46 43.3**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.92**	**240**	P	**Pn**	**03 46 33.4**	**-0.2**
ONAJ				S	**Sb**	**03 46 44.7**	**-0.2**
JIO	**Ouri**	**0.96**	**339**	P	**Pn**	**03 46 33.6**	**-0.5**
JIO				S	**Sg**	**03 46 45.0**	**-0.2**
JFT	**Otama**	**1.16**	**268**	P	**Pn**	**03 46 37.9**	**+1.0**
JFT				S	**Sn**	**03 46 52.9**	**0.0**
JOU	**Okura**	**1.20**	**312**	P	**Pn**	**03 46 38.1**	**+0.6**
JOU				S	**Sn**	**03 46 53.5**	**-0.4**
JMK	**Ichinoseki**	**1.46**	**342**	P	**Pb**	**03 46 41.4**	**-0.3**
JYS	**Shirataka**	**1.52**	**296**	P	**Pg**	**03 46 43.5**	**0.0**
JYS				S	**Sg**	**03 47 03.0**	**-0.1**
JFY	**Yanaizu**	**1.67**	**265**	P	**Pb**	**03 46 45.4**	**0.0**
JFY				S	**Sb**	**03 47 06.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.04**	**251**	Pn	**Pn**	**03 47 05.2**	**+2.3**
	5.9nm,0.3s,baz=81,slow=16,SNR=33						
MJAR				Sn	**Sb**	**03 47 44.1**	**-2.0**
	7.5nm,0.3s,baz=78,slow=15,SNR=4.2						
MJAR				LR	LR	03 48 24.0	
	comp=Z,226nm,19.6s,baz=90,slow=42						
MAT	**Matsushiro**	**3.04**	**252**	P	**Pn**	**03 47 04.6**	**+1.8**
MAT				S	**Sb**	**03 47 43.8**	**-2.3**
JHJ	**Hachijo jima 2**	**4.73**	**201**	Pn	**Pn**	**03 47 27.0**	**+1.0**
	37nm,0.3s,baz=337,slow=23,SNR=13						
JHJ				Sn	**Sn**	**03 48 19.1**	**-1.9**
	35nm,0.3s,baz=255,slow=24,SNR=4.7						
ASAJ	**Asahikawa**	**6.57**	**5**	Pn	**Pn**	**03 47 51.4**	**+0.1**
	1.2nm,0.3s,baz=236,slow=15,SNR=6.8						
USRK	**Ussuriysk Ar.**	**9.95**	**315**	Pn	Pn	03 48 44.9	+7.4
	0.2nm,0.3s,baz=145,slow=43,SNR=5.6						
JNU	**Nakatsue**	**9.96**	**247**	LR	LR	03 53 02.8	
	comp=Z,115nm,18.4s,baz=120,slow=41						
KSRS	**Korea Array**	**11.02**	**274**	Pn	Pn	03 48 59.5	+7.2
	0.2nm,0.3s,baz=102,slow=13,SNR=4.2						
KSRS				LR	LR	03 53 01.1	
	comp=Z,71nm,18.4s,baz=70,slow=37						
SONM	**Songino Array**	**27.75**	**303**	P	**P**	**03 52 03.3**	**-0.2**
	1.1nm,0.7s,baz=101,slow=9.7,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**28.16**	**122**	T	T	04 21 35.3	
	baz=315,slow=75,SNR=154						
H11N1	**WAKE ISLAND Hy**	**28.17**	**122**	T	T	04 21 38.5	
	baz=315,slow=75,SNR=245						
H11N3	**WAKE ISLAND Hy**	**28.18**	**122**	T	T	04 21 36.6	
	baz=315,slow=75,SNR=139						
H11S1	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	04 22 32.6	
	baz=316,slow=76,SNR=211						
H11S3	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	04 22 31.4	
	baz=316,slow=76,SNR=236						
H11S2	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	04 22 32.0	
	baz=316,slow=76,SNR=208						
ZALV	**Zalesovo Beam**	**41.78**	**312**	P	**P**	**03 54 04.5**	**+0.5**
	0.4nm,0.4s,baz=79,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**44.10**	**302**	P	**P**	**03 54 22.6**	**-0.4**
	0.5nm,0.6s,baz=78,slow=11,SNR=4.6						
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**03 54 37.0**	**-0.4**
	2.2nm,0.8s,baz=84,slow=8.0,SNR=16						
ILAR	**Eielson Array**	**48.88**	**33**	P	**P**	**03 55 00.9**	**+0.7**
	0.5nm,0.8s,baz=274,slow=6.1,SNR=6.5						
FITZ	**Fitzroy Crossi**	**57.42**	**198**	P	**P**	**03 56 03.4**	**-0.2**
	3.1nm,1.2s,baz=12,slow=9.3,SNR=2.5						
WRA	**Warramunga Arr**	**57.63**	**188**	P	**P**	**03 56 04.3**	**-0.6**
	0.8nm,0.5s,baz=6.5,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**61.35**	**188**	P	**P**	**03 56 31.1**	**+0.3**
	0.9nm,0.8s,baz=19,slow=5.3,SNR=5.7						
YKA	**Yellowknife Ar**	**63.20**	**30**	P	**P**	**03 56 42.4**	**-0.2**
	0.3nm,0.7s,baz=302,slow=7.4,SNR=3.6						
FINES	**FINESS Array B**	**68.49**	**332**	P	**P**	**03 57 16.8**	**+0.1**
	1.2nm,0.8s,baz=38,slow=7.2,SNR=4.1						
PDAR	**Pinedale Array**	**77.08**	**46**	P	**P**	**03 58 08.4**	**0.0**
	0.5nm,0.3s,baz=183,slow=10,SNR=4.1						
TXAR	**Lajitas Array**	**89.56**	**53**	P	**P**	**03 59 13.4**	**+0.6**
	0.2nm,0.8s,baz=323,slow=3.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**117.17**	**315**	PKP	**PKPdf**	**04 05 01.0**	**+0.3**
	0.2nm,0.9s,baz=44,slow=1.8,SNR=2.7						
LPAZ	**La Paz**	**146.16**	**59**	PKPbc	**PKPab**	**04 05 57.0**	**0.0**
	0.7nm,0.6s,baz=297,slow=4.3,SNR=5.0						

*ISCJB **25** 04:07:11.1±0.6, 21.29S±0.04×68.39W±0.1, h130km±7km, mb3.6/2, Error ellipse: s-maj=18.3km s-min=6.0km az=0.8*
*IDC **25** 04:07:12.0±1.0, 21.37S×68.32W, h110km±15km, mb3.5/2, mb1 3.4/5, mb1mx3.2/33, mbtmp3.8/5, MS2.9/2, Ms1 2.9/2, ms1mx2.5/25, Error ellipse: s-maj=51.4km s-min=15.4km az=108.0*
*GUC **25** 04:07:11.9±0.5, 21.26S×68.92W, h122km±3km, ML3.9*
ISC 25 04:07:11.5±0.9, 21.27S±0.04×68.8W±0.1, h121km±9km, n16, σ1≡03/24, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.69**	**220**	*i* P	**Pn**	**04 07 31.6**	**+0.5**
PB09				*i* S	**Sn**	**04 07 46.3**	**+0.5**
PB09				IAML		04 07 48.4	
	comp=E,4μm,0.4s						
PB01	**IPOC Station P**	**0.71**	**288**	*i* P	**Pn**	**04 07 31.3**	**+0.2**
PB01				*i* S	**Sn**	**04 07 45.5**	**-0.5**
PB01				IAML		04 07 46.1	
	comp=N,3μm,0.3s						
PB07	**IPOC Station P**	**1.14**	**246**	*i* P	**Pn**	**04 07 35.3**	**+0.1**
PB07				*i* S	**Sn**	**04 07 52.8**	**-0.3**
PB08	**IPOC Station P**	**1.18**	**342**	*i* P	**Pn**	**04 07 36.6**	**+0.7**
PB08				*i* S	**Sn**	**04 07 55.3**	**+1.0**
LVC	**Limon Verde**	**1.34**	**186**	P	**Pn**	**04 07 38.2**	**+0.6**
	comp=N,667nm,0.3s,baz=33,slow=7.1,SNR=105						
LVC				S	**Sn**	**04 07 56.3**	**-1.1**
	comp=N,3μm,0.3s,baz=264,slow=23,SNR=20						
HMBC	**Humberstone**	**1.44**	**313**	*i* P	**Pn**	**04 07 38.4**	**0.0**
HMBC				*i* S	**Sn**	**04 07 58.2**	**-0.6**
HMBC				IAML		04 07 59.9	
	comp=N,2μm,0.4s						
PB06	**IPOC Station P**	**1.61**	**207**	*i* P	**Pn**	**04 07 41.0**	**+0.5**
PB06				*i* S	**Sn**	**04 08 02.7**	**+0.1**
PB06				IAML		04 08 03.2	
	comp=E,2μm,0.4s						
PB04	**IPOC Station P**	**1.66**	**230**	*i* P	**Pn**	**04 07 41.2**	**+0.1**
PB04				*i* S	**Sn**	**04 08 03.1**	**-0.5**
MNMC	**Minye Minye**	**2.26**	**340**	*i* P	**Pn**	**04 07 48.9**	**+0.3**
MNMC				*i* S	**Sn**	**04 08 17.6**	**+0.6**
LPAZ	**La Paz**	**4.99**	**7**	P	**Pn**	**04 08 27.2**	**+2.2**
	comp=E,0.9nm,0.3s,baz=187,slow=3.2,SNR=38						
LPAZ				LR	LR	04 11 09.2	
	comp=E,43nm,21.0s,baz=148,slow=47						
SIV	**San Ignacio**	**8.99**	**56**	P	**Pn**	**04 09 15.5**	**-2.9**
	comp=E,2.5nm,0.3s,baz=250,slow=13,SNR=24						
PLCA	**Paso Flores**	**19.46**	**184**	P	**P**	**04 11 29.5**	**+0.7**
	comp=E,0.1nm,0.3s,baz=11,slow=5.2,SNR=4.6						
PTGA	**Pitinga**	**22.15**	**24**	P	**P**	**04 11 56.4**	**-1.2**
	comp=E,1.7nm,0.3s,baz=213,slow=17,SNR=5.4						
LPIG	**La Paz**	**60.56**	**316**	LR	LR	04 38 54.5	
	comp=E,24nm,18.8s,baz=210,slow=31						
TORD	**Torodi Ar. Bea**	**77.16**	**70**	P	**P**	**04 18 52.2**	**-0.1**
	comp=E,0.3nm,0.5s,baz=253,slow=5.2,SNR=12						
MKAR	**Makanchi Array**	**145.37**	**36**	PKPbc	**PKPab**	**04 26 36.2**	**+0.7**
	comp=E,0.2nm,0.4s,baz=331,slow=4.7,SNR=4.5						

*SJA **25** 04:27:14.7±0.7, 32.04S×70.21W, h99km±6km, ML2.0, MW2.6*
*ISCJB **25** 04:27:15.1±1.6, 32.11S±0.09×70.21W±0.08, h110km±14km, Error ellipse: s-maj=17.8km s-min=6.3km az=143.0*
*GUC **25** 04:27:15.7±0.7, 32.13S×70.23W, h108km±17km, ML2.6*
ISC 25 04:27:15.2±3.4, 32.1S±0.1×70.22W±0.08, h108km±26km, n11, σ0≡41/20, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.72**	**102**	*i* P	**Pn**	**04 27 33.5**	**-0.4**
AUSP				*i* S	**Sn**	**04 27 47.8**	**-0.1**
RTLS	**Leoncito**	**0.83**	**70**	*i* P	**Pn**	**04 27 35.1**	**+0.3**
RTLS				*i* S	**Sn**	**04 27 49.5**	**-0.2**
ROCH	**El Roble**	**1.11**	**217**	*i* P	**Pn**	**04 27 38.0**	**+0.3**
ROCH				*i* S	**Sn**	**04 27 54.5**	**-0.1**
ROCH				IAML		04 27 58.0	
	comp=N,126nm,0.4s						
ROC1	**El Roble**	**1.12**	**217**	*i* P	**Pn**	**04 27 37.9**	**+0.2**
ROC1				*i* S	**Sn**	**04 27 55.4**	**+0.6**
PEL	**Peldehue**	**1.13**	**200**	*e*P	**Pn**	**04 27 37.9**	**+0.2**
PEL				*i* S	**Sn**	**04 27 54.4**	**-0.3**
PEL				IAML		04 27 55.0	
	comp=N,280nm,0.4s						
FCH	**Farellones**	**1.24**	**183**	*e*P	**Pn**	**04 27 39.5**	**+0.3**
FCH				*i* S	**Sn**	**04 27 57.5**	**+0.1**
FCH				IAML		04 28 01.3	
	comp=E,128nm,0.2s						
ASAL	**Salagasta**	**1.28**	**114**	*i* P	**Pn**	**04 27 39.2**	**-0.1**
ARCO	**CERRO ARCO**	**1.32**	**125**	*i* P	**Pn**	**04 27 40.6**	**+0.6**
ARCO				*i* S	**Sn**	**04 27 59.2**	**+0.5**
ARCO				IAML		04 28 00.3	
	comp=Z,18nm,0.2s						
CLCH	**Cerro Calan**	**1.34**	**192**	*e*P	**Pn**	**04 27 39.6**	**-0.4**
CLCH				*i* S	**Sn**	**04 27 58.0**	**-0.9**
CLCH				IAML		04 28 03.9	
	comp=N,79nm,0.4s						
RTCV	**Cerro Valdivia**	**1.44**	**82**	*i* P	**Pn**	**04 27 41.0**	**-0.2**
RCDM	**Rinconada Maip**	**1.49**	**199**	*e*P	**Pn**	**04 27 41.6**	**-0.2**
RCDM				*i* S	**Sn**	**04 28 01.8**	**-0.2**

*MEX **25** 04:31:21.1±0.8, 21.56N×98.95W, h16km±86km, MD4.3*
*IDC **25** 04:31:22.7±1.3, 21.29N×99.31W, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.8/31, mbtmp3.7/8, ML3.3/3, MS3.1/2, Ms1 3.1/2, ms1mx2.5/35, Error ellipse: s-maj=41.4km s-min=15.5km az=53.0*
*NEIC **25** 04:31:23.2±1.3, 21.25N×99.31W, h3km±10km, mb4.1/19, MD4.3(MEX), Error ellipse: s-maj=7.5km s-min=4.5km az=76.0*
ISC 25 04:31:24.0±1.2, 21.24N±0.03×99.36W±0.03, h10km±8km, n237, σ1≡72/244, mb4.1/22, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEIG	**Demacu**	**0.98**	**162**	*e*P	**Pg**	**04 31 40.4**	**-2.5**
DEIG				*e*S	**Sg**	**04 31 55.5**	**-0.3**
DEIG	**Demacu**	**0.98**	**162**	*e*P	**Pg**	**04 31 40.4**	**-2.5**
DEIG				*e*S	**Sg**	**04 31 55.5**	**-0.3**
JRQG	**Juriquilla Cam**	**1.15**	**242**	*e*P	**Pg**	**04 31 43.4**	**-2.7**
JRQG				*i* S	**Sn**	**04 32 02.8**	**+0.6**
ZUVM	**ZUMPANGO**	**1.43**	**169**	*e*P	**Pn**	**04 31 49.7**	**-0.6**
ZUVM				*e*S	**Sg**	**04 32 12.9**	**+2.7**
ATVM	**ATLACOMULCO**	**1.54**	**197**	*e*P	**Pn**	**04 31 51.6**	**-0.2**
ATVM				*e*S	**Sg**	**04 32 16.3**	**+2.7**
VTVM	**Tizayuca**	**1.56**	**159**	*e*P	**Pn**	**04 31 52.2**	**+0.1**
VTVM				*e*S	**Sg**	**04 32 17.6**	**+3.3**
AZVM	**Cuida Lopez Ma**	**1.65**	**178**	*e*P	**Pn**	**04 31 53.6**	**+0.3**
PTVM	**Pico Tres Padr**	**1.66**	**172**	*e*P	**Pn**	**04 31 53.8**	**+0.5**
PTVM				*e*S	**Sg**	**04 32 20.5**	**+3.2**
PTVM	**Pico Tres Padr**	**1.66**	**172**	*e*P	**Pn**	**04 31 53.8**	**+0.5**
PTVM				*e*S	**Sg**	**04 32 20.5**	**+3.2**
IGIG	**Irapuato, Guan**	**1.90**	**256**	*e*P	**Pn**	**04 31 56.0**	**-0.6**
IGIG				*e*S	**Sn**	**04 32 21.8**	**+1.0**
UNM	**Universidad Na**	**1.91**	**175**	*e*P	**Pb**	**04 31 58.4**	**-0.6**
UNM				*e*S	**Sg**	**04 32 27.8**	**+2.3**
UNM	**Universidad Na**	**1.91**	**175**	*e*P	**Pb**	**04 31 58.4**	**-0.6**
UNM				*e*S	**Sg**	**04 32 27.8**	**+2.3**
TOVM	**TOLUCA**	**1.97**	**189**	*e*P	**Pb**	**04 31 59.1**	**-1.1**
MZVM		**2.05**	**177**	*e*P	**Pb**	**04 32 01.0**	**-0.2**
MZVM				*e*S	**Sg**	**04 32 29.8**	**+0.1**
PPM	**Popocatepetl**	**2.27**	**162**	*e*P	**Pg**	**04 32 06.8**	**-0.8**
PPM				*i* S	**Sn**	**04 32 30.5**	**+0.2**
PPM	**Popocatepetl**	**2.27**	**162**	*e*P	**Pg**	**04 32 06.8**	**-0.8**
PPM				*i* S	**Sn**	**04 32 30.5**	**+0.2**
MAVM	**Malinalco, Edo**	**2.28**	**183**	*e*P	**Pb**	**04 32 05.1**	**-0.2**
MAVM				*e*S	**Sg**	**04 32 37.4**	**+0.2**
MOIG	**Morelia**	**2.32**	**228**	*e*P	**Pn**	**04 32 03.0**	**+0.7**
MOIG				*e*S	**Sn**	**04 32 29.0**	**-2.0**
MOIG	**Morelia**	**2.32**	**228**	*e*P	**Pn**	**04 32 03.0**	**+0.7**
MOIG				*e*S	**Sn**	**04 32 29.0**	**-2.0**
YAIG	**Yautepec**	**2.38**	**173**	*e*P	**Pn**	**04 32 05.1**	**+1.9**
YAIG				*e*S	**Sn**	**04 32 31.3**	**-1.2**
YAIG	**Yautepec**	**2.38**	**173**	*e*P	**Pn**	**04 32 05.1**	**+1.9**
YAIG				*e*S	**Sn**	**04 32 31.3**	**-1.2**
ZAIG	**Zacatecas**	**3.34**	**298**	*e*P	**Pn**	**04 32 14.8**	**-1.7**
ZAIG				*e*S	**Sn**	**04 32 53.3**	**-3.2**
ZAIG	**Zacatecas**	**3.34**	**298**	*e*P	**Pn**	**04 32 14.8**	**-1.7**
ZAIG				*e*S	**Sn**	**04 32 53.3**	**-3.2**
TPIG	**Tehuac#an**	**3.38**	**146**	*e*P	**Pb**	**04 32 22.3**	**-1.8**
TPIG				*e*S	**Sg**	**04 33 12.8**	**+0.2**
TPIG	**Tehuac#an**	**3.38**	**146**	*e*P	**Pb**	**04 32 22.3**	**-1.8**
TPIG				*e*S	**Sg**	**04 33 12.8**	**+0.2**
LNIG	**Linares**	**3.64**	**358**	*e*P	Pn	04 32 14.3	-6.0
LNIG				*e*S	**Sn**	**04 33 00.5**	**-2.9**
LNIG	**Linares**	**3.64**	**358**	*e*P	Pn	04 32 14.3	-6.0
LNIG				*e*S	**Sn**	**04 33 00.5**	**-2.9**
034A	**Hebbronville**	**5.83**	**6**	P	Pg	04 33 20.3	+4.7
	baz=186						
034A				S	**Sn**	**04 34 04.3**	**+7.0**
	baz=186						
CMIG	**Matias Romero**	**5.91**	**134**	Pn	**Pn**	**04 32 53.1**	**+1.5**
	0.8nm,0.3s,baz=312,slow=11,SNR=12						
CMIG				Sn	**Sn**	**04 34 00.4**	**+1.0**
	0.2nm,0.3s,baz=273,slow=17,SNR=4.7						
CMIG				Lg	Lg	04 34 32.0	
	0.3nm,0.3s,baz=204,slow=20,SNR=2.4						
933A	**Laredo**	**6.34**	**1**	P	**Pg**	**04 33 24.4**	**-1.1**
	baz=180						
832A	**Faith Ranch, C**	**7.03**	**356**	P	Pb	04 33 31.6	+5.3
	baz=175						
TXAR	**Lajitas Array**	**8.95**	**335**	Pn	**Pn**	**04 33 34.5**	**+1.1**
	0.0nm,0.3s,baz=148,slow=10,SNR=5.2						
TXAR				Lg	Lg	04 36 07.2	
	0.2nm,0.3s,baz=160,slow=27,SNR=7.3						
TXAR				LR		04 37 14.9	
	comp=Z,193nm,19.1s,baz=0.0,slow=39						
536A	**Bastrop**	**9.04**	**13**	P	Pn	04 33 52.4	+18
	baz=193						
JCT	**Junction City**	**9.21**	**358**	*e*Pn	**Pn**	**04 33 36.6**	**-0.3**
	6.7nm,0.5s						
433A	**Art**	**9.48**	**1**	P	Pn	04 33 56.4	+16
	baz=181						
333A	**Richland Sprin**	**10.05**	**2**	P	Pn	04 34 02.5	+14
	baz=182						
TEIG	**Tepich**	**10.42**	**94**	Pn	**Pn**	**04 33 51.6**	**-1.8**
	1.0nm,0.3s,baz=268,slow=23,SNR=5.1						
TEIG				Sn	**Sn**	**04 35 42.3**	**-8.1**
	0.9nm,0.3s,baz=270,slow=20,SNR=3.0						
NATX	**Nacogdoches**	**11.29**	**21**	*e*Pn	**Pn**	**04 34 05.6**	**+0.3**
645A	**Chauvin**	**11.38**	**42**	P	Pn	04 34 33.1	+26
	baz=226						
MNTX	**Cornudas Mount**	**11.72**	**334**	*e*Pn	**Pn**	**04 34 12.8**	**+1.5**
138A	**Matatall Enter**	**11.99**	**18**	P	Pn	04 34 28.0	+13
	baz=199						
Z33A	**Whitaker Ranch**	**12.01**	**2**	P	Pn	04 34 25.8	+11
	baz=182						
Z34A	**Collier Ranch,**	**12.15**	**6**	P	Pn	04 34 27.4	+10
	baz=186						
Z35A	**Perchaven, San**	**12.19**	**8**	P	Pn	04 34 28.5	+11
	baz=189						
Z36A	**Blue Ridge**	**12.26**	**12**	P	Pn	04 34 30.3	+12
	baz=193						
MSTX	**Muleshoe**	**13.03**	**347**	*e*Pn	**Pn**	**04 34 29.2**	**-0.1**
	6.4nm,1.0s						
Y37A	**Hugo**	**13.11**	**14**	P	**P**	**04 34 39.9**	**-0.6**
	baz=195						
X35A	**Drake**	**13.28**	**9**	P	**P**	**04 34 42.1**	**-0.2**
	baz=190						
X36A	**Centrahoma**	**13.54**	**11**	P	**P**	**04 34 45.6**	**+0.3**
	baz=192						
W32A	**Sentinel**	**13.83**	**0**	P	**P**	**04 34 47.6**	**-1.0**
	baz=180						
W33A	**Caddo, Fort Co**	**13.88**	**3**	P	**P**	**04 34 48.1**	**-1.0**
	baz=183						
X38A	**Whitesboro**	**13.96**	**16**	P	**P**	**04 34 50.0**	**0.0**
	baz=198						
X39A	**Fountain Ranch**	**14.00**	**18**	P	**P**	**04 34 52.3**	**+1.9**
	baz=200						
W35A	**Tecumseh**	**14.03**	**8**	P	**P**	**04 34 50.1**	**-0.6**
	baz=189						
MIAR	**Mount Ida**	**14.20**	**20**	P	**P**	**04 34 53.7**	**+1.1**
	baz=202						
MIAR	**Mount Ida**	**14.20**	**20**	*e*Pn	**Pn**	**04 34 45.3**	**+0.2**
	4.3nm,0.7s						
W37B	**Quinton**	**14.27**	**13**	P	**P**	**04 34 53.5**	**+0.1**
	baz=195						
W38A	**Poteau**	**14.42**	**16**	P	**P**	**04 34 56.4**	**+1.4**
	baz=198						
V32A	**Arapaho**	**14.43**	**1**	P	**P**	**04 34 54.8**	**-0.4**
	baz=181						
X41A	**Kaden, Bauxite**	**14.52**	**23**	P	**P**	**04 34 58.9**	**+2.8**
	baz=206						
V33A	**Lossen Ranch,**	**14.56**	**3**	P	**P**	**04 34 56.6**	**0.0**
	baz=184						
V35A	**Meyer Ranch, C**	**14.63**	**8**	P	**P**	**04 34 58.4**	**+0.9**
	baz=189,SNR=5.0						
V36A	**Jenks**	**14.80**	**11**	P	**P**	**04 34 59.3**	**0.0**
	baz=192						
TUL1	**Leonard**	**14.95**	**11**	P	**P**	**04 35 01.2**	**+0.3**
	baz=193,SNR=7.4						
TUL1	**Leonard**	**14.95**	**11**	*e*Pn	**Pn**	**04 34 55.3**	**0.0**
	14nm,0.8s						
TUL1				*e*P	**P**	**04 35 01.0**	**+0.1**
TUC	**Tucson**	**15.01**	**320**	*e*Pn	**Pn**	**04 34 57.2**	**+0.9**
ANMO	**Albuquerque**	**15.01**	**337**	*e*Pn	**Pn**	**04 34 56.3**	**-0.1**
	7.8nm,1.4s						
ANMO				*e*P	**P**	**04 35 03.3**	**+1.4**
V37A	**Hulbert**	**15.05**	**13**	P	**P**	**04 35 02.7**	**+0.6**
	baz=195						
147A	**Livingston**	**15.06**	**39**	P	P	04 35 11.0	+8.8
	baz=223						
U32A	**Winter Ranch,**	**15.09**	**1**	P	**P**	**04 35 02.2**	**-0.3**
	baz=181						
V38A	**Canehill**	**15.20**	**16**	P	**P**	**04 35 04.3**	**+0.6**
	baz=198,SNR=6.6						
W41B	**Gary Mavity, V**	**15.22**	**23**	P	**P**	**04 35 06.4**	**+2.5**
	baz=206						
U34A	**Anderson Ranch**	**15.22**	**6**	P	**P**	**04 35 03.7**	**-0.3**
	baz=186						
U35A	**Pawnee**	**15.25**	**8**	P	**P**	**04 35 04.1**	**-0.2**
	baz=189						
V39A	**Pettigrew**	**15.38**	**18**	P	**P**	**04 35 07.0**	**+1.2**
	baz=200						
U36A	**Oologah**	**15.43**	**11**	P	**P**	**04 35 06.3**	**+0.1**
	baz=193						
X44A	**Crenshaw**	**15.50**	**30**	P	**P**	**04 35 12.9**	**+5.8**
	baz=214						
V40A	**Witts Springs**	**15.60**	**20**	P	**P**	**04 35 10.8**	**+2.6**
	baz=203						
U38A	**Gravette**	**15.75**	**15**	P	**P**	**04 35 09.8**	**-0.1**
	baz=197						
V41A	**Mountainview**	**15.80**	**22**	P	**P**	**04 35 15.1**	**+4.6**
	baz=205						
T35A	**Sooner Cattle**	**15.81**	**8**	P	**P**	**04 35 10.5**	**0.0**
	baz=190,SNR=7.8						
T34A	**McClaskey Farm**	**15.84**	**6**	P	**P**	**04 35 10.3**	**-0.5**
	baz=187						
T32A	**Huddler Ranch,**	**15.89**	**1**	P	**P**	**04 35 12.0**	**+0.6**
	baz=181						
T36A	**Boggs Farm, Ca**	**16.05**	**10**	P	**P**	**04 35 12.9**	**-0.3**
	baz=192,SNR=9.1						
U40A	**Yellville**	**16.09**	**19**	P	**P**	**04 35 15.5**	**+1.8**
	baz=202						
Y47A	**UCPARC, Winfie**	**16.20**	**36**	P	P	04 35 22.8	+7.9
	baz=222						
T37A	**Cheneyville 18**	**16.29**	**13**	P	**P**	**04 35 15.7**	**-0.1**
	baz=195						
T38A	**Diamond**	**16.34**	**15**	P	**P**	**04 35 16.9**	**+0.5**
	baz=197						
T25A	**Trinidad**	**16.44**	**346**	P	**P**	**04 35 19.2**	**+1.4**
	baz=163						
S34A	**Willow Spring**	**16.52**	**6**	P	**P**	**04 35 17.8**	**-0.5**
	baz=187						
T39A	**Clever**	**16.56**	**17**	P	**P**	**04 35 19.9**	**+1.1**
	baz=200						
S35A	**Otter Creek Ra**	**16.59**	**8**	P	**P**	**04 35 20.1**	**+0.9**
	baz=190						
S36A	**Lake Cedric, C**	**16.75**	**10**	P	**P**	**04 35 20.5**	**-0.4**
	baz=192						
S37A	**Fort Scott**	**16.92**	**12**	P	**P**	**04 35 23.1**	**+0.3**
	baz=194						
T40A	**Mansfield**	**16.93**	**19**	P	**P**	**04 35 25.7**	**+2.7**
	baz=202						
S38A	**Stockton**	**17.00**	**15**	P	**P**	**04 35 23.9**	**+0.2**
	baz=197						
R33A	**Olander Ranch,**	**17.05**	**4**	P	**P**	**04 35 24.0**	**-0.3**
	baz=184						
T41A	**Mountain View**	**17.07**	**21**	P	**P**	**04 35 26.2**	**+1.7**
	baz=205						
V45A	**Humboldt**	**17.08**	**30**	P	**P**	**04 35 29.4**	**+4.9**
	baz=215						
R34A	**Isabella, Hill**	**17.10**	**6**	P	**P**	**04 35 25.0**	**+0.2**
	baz=186						
S39A	**Bolivar**	**17.21**	**16**	P

O39A	Kirksville	19.82	16	P	Pn	04 35 59.5	+3.2	
	baz=199							
O40A	La Belle	19.87	17	P	Pn	04 35 56.1	-0.8	
	baz=201							
M31A	Lambtecht Ranc	20.04	1	P	P	04 35 57.9	+0.7	
	baz=181							
BGNE	Belgrade	20.13	3	P	Pn	04 35 59.3	-0.7	
	baz=183							
WCI	Wyandotte Cave	20.34	31	*e*P	P	04 36 00.4	0.0	
	19nm,0.5s							
N23A	Red Feather La	20.38	346	P	Pn	04 36 05.0	+1.9	
	baz=162							
N39A	Derby Farms, D	20.42	15	P	P	04 36 01.7	+0.4	
	baz=198							
M37A	Trindle Farm,	20.59	11	P	P	04 36 03.9	+0.8	
	baz=194,SNR=5.5							
FMP	Fort Macarthur	20.85	311	P	Pn	04 36 23.7	+15	
	baz=122							
L31A	Butterfield Fa	20.88	1	P	Pn	04 36 09.7	+0.9	
	baz=181							
M39A	Webster	21.07	15	P	P	04 36 11.6	+3.3	
	baz=199							
HDIL	Hopedale	21.07	22	P	P	04 36 11.0	+2.7	
	baz=207							
L36A	Harm Buss Farm	21.17	10	P	P	04 36 11.6	+2.2	
	baz=192							
SCIA	State Center	21.25	13	*e*P	P	04 36 11.0	+0.9	
	17nm,0.7s							
K32A	Verdigre	21.39	3	P	P	04 36 13.7	+2.0	
	baz=183							
TPNV	Topopah Spring	21.46	320	P	P	04 36 22.9	+10	
	baz=132							
L38A	Oak Wood Farm,	21.52	13	P	P	04 36 14.5	+1.4	
	baz=196,SNR=5.3							
K35A	Storm Lake	21.70	8	P	P	04 36 15.0	+0.1	
	baz=190							
L39A	Vinton	21.72	15	P	P	04 36 17.2	+1.9	
	baz=199							
K36A	Gilmore City	21.73	10	P	P	04 36 17.2	+1.9	
	baz=192							
SFIN	Lafayette	21.75	26	P	P	04 36 18.4	+2.9	
	baz=212							
L40A	Anamosa	21.86	16	P	P	04 36 19.2	+2.5	
	baz=201							
K37A	Belmond	21.99	11	P	P	04 36 18.7	+0.5	
	baz=194,SNR=8.6							
K38A	Parkersburg	22.05	13	P	P	04 36 19.8	+1.0	
	baz=196							
L41A	Preston	22.07	18	P	P	04 36 20.6	+1.6	
	baz=202,SNR=6.6							
DUG	Dugway, Tooele	22.10	332	P	P	04 36 25.8	+6.3	
	baz=145							
DUG	Dugway, Tooele	22.10	332	*e*P	P	04 36 20.1	+0.5	
	3.3nm,1.0s							
K22A	Casper	22.18	346	P	P	04 36 23.6	+3.3	
	baz=162							
K39A	Oelwein	22.30	15	P	P	04 36 22.4	+1.0	
	baz=198							
BCIP	Isla Barro Col	22.30	120	*e*P	P	04 36 20.7	-1.1	
	7.0nm,0.7s							
J36A	Seneca 1, Swea	22.42	10	P	P	04 36 24.3	+1.5	
	baz=192							
K40A	Colesburg	22.48	16	P	P	04 36 25.0	+1.6	
	baz=200,SNR=6.3							
J37A	Redenius Farm,	22.53	11	P	P	04 36 24.4	+0.5	
	baz=194							
ECSD	EROS Data Cent	22.55	5	P	P	04 36 24.6	+0.5	
	baz=187							
ECSD	EROS Data Cent	22.55	5	*e*P	P	04 36 24.5	+0.5	
	7.8nm,1.2s							
K41A	Shullsburg	22.62	18	P	P	04 36 25.8	+1.0	
	baz=202							
J38A	Wedel Dairy, R	22.75	13	P	P	04 36 26.2	-0.1	
	baz=197							
HWUT	Hardware Ranch	22.77	336	*e*P	P	04 36 26.9	+0.2	
	3.3nm,0.9s							
I35A	Creekview Farm	22.84	8	P	P	04 36 28.0	+0.7	
	baz=190							
JFWS	Jewell Farm	22.92	17	*e*P	P	04 36 28.1	0.0	
	9.5nm,0.8s							
J39A	Decorah	22.94	14	P	P	04 36 28.4	+0.1	
	baz=198							
BW06	Boulder Array	23.10	341	P	P	04 36 32.7	+2.5	
	baz=155							
BW06	Boulder Array	23.10	341	*e*P	P	04 36 32.2	+2.0	
	8.9nm,1.4s							
PDAR	Pinedale Array	23.10	341	P	P	04 36 31.6	+1.4	
	0.4nm,0.4s,baz=159,slow=8.7,SNR=5.7							
PDAR				LR	LR	04 44 24.0		
	comp=Z,29nm,21.9s,baz=154,slow=34							
I36A	Fitzsimmons Fa	23.14	10	P	P	04 36 30.9	+0.5	
	baz=193							
RSSD	Black Hills	23.14	351	P	P	04 36 31.9	+1.3	
	baz=169							
RSSD	Black Hills	23.14	351	*e*P	P	04 36 31.6	+0.9	
	3.3nm,1.0s							
J40A	Soldiers Grove	23.23	16	P	P	04 36 31.6	+0.3	
	baz=201							
I37A	Lemond, Waseca	23.24	11	P	P	04 36 32.3	+1.0	
	baz=194							
H32A	Carlson Farm,	23.25	3	P	P	04 36 32.1	+0.6	
	baz=184							
J41A	Loganville	23.40	17	P	P	04 36 33.5	+0.6	
	baz=202							
MLAC	Mammoth, Mammo	23.47	318	P	P	04 36 43.9	+10	
	baz=129							
I38A	Scanlan Farm,	23.47	13	P	P	04 36 33.4	-0.2	
	baz=196,SNR=7.4							
H34A	Spellman Lake,	23.55	6	P	P	04 36 34.8	+0.4	
	baz=188							
H35A	Sunnyside Ranc	23.69	8	P	P	04 36 36.7	+0.9	
	baz=190							
H36A	Jessenland, He	23.70	10	P	P	04 36 36.3	+0.4	
	baz=192,SNR=7.1							
H37A	Dierke Farm, C	23.88	11	P	P	04 36 38.3	+0.7	
	baz=195							
REDW	Red Top Meadow	24.05	339	*e*P	P	04 36 40.0	+0.4	
	4.7nm,1.1s							
SNOW	Snow King Moun	24.11	339	*e*P	P	04 36 41.0	+0.8	
	5.1nm,0.9s							
G34A	Benson	24.13	6	P	P	04 36 40.2	+0.3	
	baz=188							
LOHW	Long Hollow	24.20	340	*e*P	P	04 36 41.3	+0.4	
	3.8nm,0.9s							
TPAW	Teton Pass	24.20	339	*e*P	P	04 36 41.6	+0.6	
	4.2nm,1.0s							
G35A	Watkins	24.25	8	P	P	04 36 40.8	-0.3	
	baz=191							
G36A	St. Michael	24.37	10	P	P	04 36 42.1	-0.1	
	baz=193							
SPMN	Marine on St.	24.52	11	P	P	04 36 43.3	-0.3	
	baz=195,SNR=7.3							
SPMN	Marine on St.	24.52	11	*e*P	P	04 36 42.8	-0.7	
	20nm,1.0s							
F33A	5 Mile Ranch,	24.66	5	P	P	04 36 44.1	-0.7	
	baz=187							
F34A	Alexandria	24.72	7	P	P	04 36 45.4	+0.1	
	baz=189							
F36A	Milaca	25.02	10	P	P	04 36 47.7	-0.4	
	baz=193							
E36A	McGregor	25.70	10	P	P	04 36 56.0	+1.8	
	baz=193							
D30A	Buchanan	25.81	1	P	P	04 36 54.8	-0.4	
	baz=181							
D35A	Remer	26.13	8	P	P	04 36 58.0	-0.1	
	baz=191							
COWI	Conover	26.17	16	*e*P	P	04 36 58.4	-0.1	
	2.8nm,0.5s							
D36A	Goodland	26.36	10	P	P	04 37 00.1	-0.1	
	baz=193							
D37A	Cotton	26.46	11	P	P	04 37 01.0	0.0	
	baz=194							
C31A	Landman Farms,	26.52	2	P	P	04 37 01.7	+0.1	
	baz=183							
C34A	RKJ Ranch, Bem	26.59	7	P	P	04 37 00.8	-1.4	
	baz=189							
C32A	Crookston	26.62	4	P	P	04 37 01.5	-1.0	
	baz=186							
C35A	Jirik Farms, M	26.75	8	P	P	04 37 03.2	-0.5	
	baz=191							
C36A	Pine Crest Far	26.97	10	P	P	04 37 05.6	-0.1	
	baz=193							
AGMN	Agassiz Nation	27.14	5	P	P	04 37 07.8	+0.6	
	baz=187							
AGMN	Agassiz Nation	27.14	5	*e*P	P	04 37 07.5	+0.3	
	4.9nm,0.9s							
B30A	Myrvik Farm, E	27.16	2	P	P	04 37 07.2	-0.2	
	baz=182							
B32A	Ashes, Strandq	27.19	4	P	P	04 37 07.8	+0.2	
	baz=186							
EYMN	Ely	27.39	12	P	P	04 37 11.1	+1.6	
	baz=196							
B35A	Bob, Littlefor	27.43	8	P	P	04 37 09.9	+0.1	
	baz=191							
B34A	Aery, Baudette	27.44	7	P	P	04 37 10.1	+0.2	
	baz=189							
A29A	Manning Farm,	27.62	0	P	P	04 37 12.2	+0.7	
	baz=180							
A30A	Hoffart Farm,	27.65	2	P	P	04 37 12.6	+0.9	
	baz=182							
A33A	Warroad	27.82	6	P	P	04 37 13.5	+0.2	
	baz=188							
M04C	Macdoel	27.90	322	P	P	04 37 24.0	+10	
	baz=130							
ULM	Lac du Bonnet	29.08	5	P	P	04 37 24.4	0.0	
	2.2nm,0.6s,baz=191,slow=6.7,SNR=3.8							
SCHQ	Schefferville	41.51	28	P	P	04 39 10.7	-0.5	
	4.4nm,1.0s,baz=235,slow=13,SNR=3.6							
YKA	Yellowknife Ar	42.53	350	P	P	04 39 18.4	-0.9	
	0.6nm,0.9s,baz=154,slow=7.9,SNR=5.2							
ILAR	Eielson Array	53.46	337	P	P	04 40 44.3	+0.3	
	0.6nm,0.7s,baz=143,slow=4.6,SNR=11							
TRF	Thorofare Moun	54.13	334	*e*P	P	04 40 49.2	+0.1	
	5.3nm,1.0s							
BPAW	Bear Paw Mtn.	54.70	335	*e*P	P	04 40 52.0	-1.0	
	0.4nm,1.1s							
WRA	Warramunga Arr	129.92	261	PKP	PKPdf	04 50 34.6	+0.1	
	0.3nm,0.8s,baz=69,slow=2.4,SNR=5.0							
ASAR	Alice Springs	130.95	257	PKP	PKPdf	04 50 35.9	-0.5	
	0.4nm,0.9s,baz=96,slow=2.8,SNR=2.6							

CASC 25 04:32:02.6±2.8, 12.54N×87.88W, h45km±116km, MD4.1, ML3.7, 3C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.74	3		*e*P	Pn	04 32 17.4	+0.6
CNCH					*e*S	Sn	04 32 29.1	+2.0
CNGN	Cerro Negro	1.15	92		*e*P	Pn	04 32 21.6	-0.8
CNGN					*e*S	Sn	04 32 36.4	-0.6
CNGN					AML	AML	04 32 41.0	
	comp=N,1μm,0.2s							
CAHU	Cacacuatique	1.27	345	↑	*e*P	Pn	04 32 25.1	+0.9
CAHU					*e*S	Sn	04 32 42.7	+2.6
MOMN	Momotombo	1.31	95		*e*P	Pn	04 32 23.5	-1.0
LFRS	El Faro	1.58	313	↓	*i*P	Pn	04 32 28.0	-0.3
LFRS					*e*S	Sn	04 32 47.4	-0.3
MGAN	Managua	1.64	103		*e*P	Pn	04 32 28.0	-0.9
MGAN					*e*S	Sn	04 32 47.6	-1.3
LBRS	Las Brisas	1.65	317	↑	*i*P	Pn	04 32 29.5	+0.3
LFU	La Fuente	1.71	315		*e*P	Pn	04 32 30.2	+0.2
SNET	Serv Nac Est T	1.75	311		*e*P	Pn	04 32 30.4	-0.1
SNET					*e*S	Sn	04 32 51.9	+0.2
SNET					AML	AML	04 32 55.8	
	comp=Z,929nm,0.2s							
SBLS	San Blas	2.14	308		*e*P	Pn	04 32 36.2	+0.2
MONT	Ecomonataæa	2.17	308		*e*P	Pn	04 32 37.1	+0.6
RBDL	Robledal	2.36	312		*e*P	Pn	04 32 39.5	+0.5
CONN	Concepcion	2.40	113		*e*P	Pn	04 32 39.0	-0.5
CUS1	Cusmapa	2.44	304		*e*P	Pn	04 32 40.0	0.0
JCR	Jicaral	3.81	134		*e*P	Pn	04 32 58.6	-0.2
JCR					*e*S	Sn	04 33 51.5	+9.2
CGA2	Cerro Gallo 2	4.18	126		*e*P	Pn	04 33 05.1	+1.1
CGA2					*e*S	Sn	04 33 54.1	+2.5
URSC	Urasca	4.83	123	↑	*e*P	Pn	04 33 16.0	+2.9
URSC					*e*S	Sn	04 34 13.2	+5.3
BUS	Buena Vista	5.01	126		*e*P	Pn	04 33 17.1	+1.4
BUS					*e*S	Sn	04 34 14.2	+1.6

DJA ***25*** *04:32:09.3±2.5, 4°S±13°×14°0E±1°0, h27km±29km, M4.4/2, mb4.4/1, MLv4.4/2*
IDC ***25*** *04:32:12.2±0.7, 2°71S×139°11E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/30, mbtmp4.2/11, ML4.1/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/22, Error ellipse: s-maj=18.1km s-min=12.6km az=176.0*
NEIC ***25*** *04:32:14.8±3.6, 2°76S×139°23E, h20km±23km, mb4.4/8, Error ellipse: s-maj=9.6km s-min=7.0km az=144.0*
ISCJB ***25*** *04:32:16.8±0.4, 2°82S±0°07×139°07E±0°05, h46km, mb4.3/15, MS3.4/4, Error ellipse: s-maj=10.0km s-min=7.1km az=153.7*

ISC 25 04:32:18.3±0.6, 2°87S±0°09×139°12E±0°05, h46km, n29, σ1s81/30, mb4.3/15, MS3.4/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GENI	Genyem	1.08	75		P	Pn	04 32 36.1	-0.9
GENI					S	Sn	04 32 56.8	+6.0
JAY	Jayapura	1.62	78	Pg		Pn	04 32 40.9	-3.6
	0.9nm,0.3s,baz=275,slow=23,SNR=22							
JAY				Lg		Lg	04 33 03.9	
	3.0nm,0.3s,baz=270,slow=20,SNR=26							
JAY	Jayapura	1.62	78	P		Pn	04 32 40.5	-3.9
JAY				S		Sn	04 33 05.3	+1.2
FAKI	Fak Fak	6.87	269	P		Pn	04 33 55.9	-0.6
FAKI	Fak Fak	6.87	269	*e*Pn		Pn	04 33 53.6	-2.9
COEN	Coen	11.72	160	*e*Pn		Pn	04 35 01.6	-1.5
SOEI	Soe	16.27	244	*e*Pn		Pn	04 36 04.7	+0.8
	39nm,0.8s							
WRAB	Tennant Creek	17.59	195	*e*Pn		Pn	04 36 19.8	-0.5
	16nm,0.8s							
WRA	Warramunga Arr	17.60	195	P		P	04 36 21.1	+0.2
	0.7nm,0.3s,baz=20,slow=12,SNR=32							
MMRI	Maumere	17.75	250	*e*Pn		P	04 36 23.1	+0.5
FITZ	Fitzroy Crossi	20.10	220	P		P	04 36 48.3	0.0
	5.2nm,0.9s,baz=29,slow=11,SNR=5.1							
ASAR	Alice Springs	21.29	193	P		P	04 37 02.3	+1.2
	12nm,0.8s,baz=26,slow=8.1,SNR=66							
ASAR				LR		LR	04 46 14.8	
	comp=Z,139nm,20.9s,baz=14,slow=39							
MBWA	Marble Bar	26.21	225	*e*P		P	04 37 49.9	+0.9
	23nm,0.8s							
STKA	Stephens Creek	28.95	176	LR		LR	04 51 10.1	
	comp=Z,130nm,18.3s,baz=19,slow=39							
SONM	Songino Array	58.04	335	P		P	04 42 07.2	+0.4
	0.4nm,0.5s,baz=158,slow=9.0,SNR=2.7							
MKAR	Makanchi Array	70.16	322	P		P	04 43 26.5	+0.2
	3.6nm,0.6s,baz=111,slow=7.9,SNR=42							
MKAR				LR		LR	05 15 14.3	
	comp=Z,12nm,19.0s,baz=201,slow=37							
ZALV	Zalesovo Beam	72.28	330	P		P	04 43 38.2	-0.6
	1.4nm,0.5s,baz=114,slow=6.3,SNR=8.0							
ZALV				LR		LR	05 17 35.8	
	comp=Z,22nm,18.3s,baz=68,slow=38							
TKM2	Tokmak 2	72.94	317	*e*P		P	04 43 43.3	0.0
	2.3nm,0.6s							
AAK	Ala-Archa	73.60	316	*e*P		P	04 43 47.2	+0.1
	1.8nm,0.5s							
KURK	Kurchatov	74.08	325	*e*P		P	04 43 48.9	-0.6
	6.3nm,0.6s							
EKS2	Erkin-Say	74.11	316	*e*P		P	04 43 50.0	-0.1
	1.9nm,0.7s							
VNDA	Vanda	75.59	175	P		P	04 43 59.5	+1.7
	0.9nm,0.7s,baz=329,slow=7.2,SNR=8.5							
BVAR	Borovoye Array	79.67	325	P		P	04 44 21.1	0.0
	2.7nm,0.6s,baz=112,slow=7.2,SNR=12							
NRIK	Noril'sk	79.98	344	P		P	04 44 21.5	-0.8
	4.1nm,0.6s,baz=161,slow=4.8,SNR=5.0							
MCK	McKinley	84.65	25	*e*P		P	04 44 46.2	-0.7
GEYT	Alibeck	84.66	308	P		P	04 44 48.3	+0.8
	2.5nm,0.6s,baz=101,slow=7.5,SNR=2.4							
ABKAR	Akbulak array	85.11	320	*e*P		P	04 44 48.8	-0.6
	1.6nm,1.0s							
ILAR	Eielson Array	85.80	24	P		P	04 44 51.5	-1.1
	0.8nm,0.7s,baz=265,slow=4.7,SNR=11							
TORD	Torodi Ar. Bea	136.70	286	PKP		PKPdf	04 51 37.3	+0.6
	0.5nm,0.8s,baz=336,slow=1.2,SNR=4.2							

NEIC ***25*** *04:35:11.4, 43°65S×172°40E, h12km, ML3.8(WEL), After WEL.*
NEIC Felt in Canterbury.

WEL 25 04:35:11.7±0.1, 43°63S×172°40E, h8km±1km, ML3.7/18, 7C-6D, Error ellipse: s-maj=0.8km s-min=0.7km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRLZ	Canterbury Las	0.17	72	Pg		Pg	04 35 15.5	+0.2
CRLZ				Sg		Sg	04 35 18.3	+0.6

CRLZ					AML	AML	04 35 18.5	
CRLZ					AML	AML	04 35 18.6	
CRLZ					AML	AML	04 35 18.7	
CRLZ	**Canterbury Las**	**0.17**	**72**	Pg	Pg		04 35 15.5	+0.2
CRLZ				Sg	Sg		04 35 18.3	+0.6
MQZ	McQueen's Vall	0.20	112	↓PG	Pg		04 35 15.7	-0.1
MQZ				SG	Sg		04 35 18.5	0.0
MQZ				AML	AML		04 35 19.4	
MQZ	McQueen's Vall	0.20	112	↓Pg	Pg		04 35 15.7	-0.1
MQZ				Sg	Sg		04 35 18.6	0.0
OXZ	Oxford	0.40	319	↓PG	Pg		04 35 19.3	-0.2
OXZ	Oxford	0.40	319	P*	Pg		04 35 19.3	-0.2
LTZ	Lake Taylor	0.85	354	↑P*	Pg		04 35 28.0	-0.1
LTZ				S*	Sg		04 35 39.6	+0.5
LTZ				AML	AML		04 35 40.4	
LTZ	Lake Taylor	0.85	354	↑P*	Pg		04 35 28.0	-0.1
RPZ	Rata Peaks	0.98	265	P*	Pg		04 35 29.9	-0.6
RPZ				S*	Sg		04 35 42.8	-0.3
RPZ				AML	AML		04 35 45.2	
RPZ	Rata Peaks	0.98	265	P*	Pg		04 35 29.9	-0.6
INZ	Inchbonnie	1.14	322	↑P*	Pg		04 35 32.1	-1.5
WVZ	Waitaha Valley	1.33	294	↑PN	Pn		04 35 35.3	-1.3
WVZ				AML	AML		04 36 01.8	
WVZ				AML	AML		04 36 03.6	
WVZ	Waitaha Valley	1.33	294	Pn	Pn		04 35 35.3	-1.3
KHZ	Kahutara	1.48	35	PN	Pn		04 35 36.3	-2.2
KHZ	Kahutara	1.48	35	Pn	Pn		04 35 36.4	-2.2
LBZ	Lake Benmore	1.77	244	↑PN	Pn		04 35 41.1	-1.5
LBZ				AML	AML		04 36 11.6	
LBZ				AML	AML		04 36 14.1	
LBZ	Lake Benmore	1.77	244	Pn	Pn		04 35 41.1	-1.5
FOZ	Fox Glacier	1.88	272	PN	Pn		04 35 43.5	-0.6
FOZ				AML	AML		04 36 18.9	
FOZ				AML	AML		04 36 19.2	
FOZ	Fox Glacier	1.88	272	Pn	Pn		04 35 43.5	-0.6
ODZ	Otahua Downs	1.89	221	↓PN	Pn		04 35 42.4	-2.0
ODZ				AML	AML		04 36 12.8	
ODZ				AML	AML		04 36 19.9	
ODZ	Otahua Downs	1.89	221	Pn	Pn		04 35 42.4	-2.0
THZ	Tophouse	1.90	12	↑PN	Pn		04 35 42.6	-2.0
THZ				AML	AML		04 36 18.8	
THZ				AML	AML		04 36 24.1	
THZ	Tophouse	1.90	12	Pn	Pn		04 35 42.6	-2.0
DSZ	Denniston Nort	1.93	347	PN	Pn		04 35 43.7	-1.3
DSZ				AML	AML		04 36 10.2	
DSZ				AML	AML		04 36 16.1	
DSZ	Denniston Nort	1.93	347	Pn	Pn		04 35 43.7	-1.3
BSWZ	Blackbirch Sta	2.20	30	PN	Pn		04 35 46.9	-1.7
BSWZ	Blackbirch Sta	2.20	30	Pn	Pn		04 35 46.9	-1.7
NNZ	Nelson	2.52	17	↑PN	Pn		04 35 51.1	-1.4
NNZ	Nelson	2.52	17	Pn	Pn		04 35 51.6	-1.3
HHSZ	Highcliff Hill	2.59	209	PN	Pn		04 35 51.9	-2.1
HHSZ	Highcliff Hill	2.59	209	Pn	Pn		04 35 51.9	-2.1
JCZ	Jackson Bay	2.65	259	PN	Pn		04 35 53.2	-1.6
JCZ				AML	AML		04 36 40.0	
JCZ				AML	AML		04 36 44.2	
JCZ	Jackson Bay	2.65	259	Pn	Pn		04 35 53.2	-1.6
WKZ	Wanaka	2.71	243	PN	Pn		04 35 53.7	-1.9
WKZ				AML	AML		04 36 42.4	
WKZ				AML	AML		04 36 46.0	
WKZ	Wanaka	2.71	243	Pn	Pn		04 35 53.7	-1.9
EAZ	Earnscleugh	2.73	233	↓PN	Pn		04 35 54.0	-1.9
EAZ				AML	AML		04 36 43.3	
EAZ				AML	AML		04 36 45.0	
EAZ	Earnscleugh	2.73	233	Pn	Pn		04 35 54.0	-1.9
QRZ	Quartz Range	2.80	2	PN	Pn		04 35 55.3	-1.6
QRZ				AML	AML		04 36 05.7	
QRZ				AML	AML		04 36 44.8	
QRZ	Quartz Range	2.80	2	Pn	Pn		04 35 55.3	-1.6
BHW	Baring Head	2.88	40	PN	Pn		04 35 55.0	-2.9
BHW	Baring Head	2.88	40	Pn	Pn		04 35 55.0	-2.9
PLWZ	Palliser	2.95	47	PN	Pn		04 35 55.9	-3.0
PLWZ	Palliser	2.95	47	Pn	Pn		04 35 55.9	-3.0
DUWZ	D'Urville Isla	3.04	22	PN	Pn		04 35 59.4	-0.8
TUZ	Tuapeka	3.04	219	PN	Pn		04 35 58.3	-1.9
TUZ				AML	AML		04 36 55.4	
TUZ				AML	AML		04 36 56.2	
TUZ	Tuapeka	3.04	219	Pn	Pn		04 35 58.3	-1.9
CAW	Cannon Point	3.21	39	PN	Pn		04 35 59.5	-2.9
CAW				AML	AML		04 36 37.2	
CAW				AML	AML		04 36 37.6	
CAW	Cannon Point	3.21	39	Pn	Pn		04 35 59.5	-2.9
TRWZ	Traveller	3.30	49	PN	Pn		04 36 01.0	-2.7
KIW	Kapiti Island	3.34	35	PN	Pn		04 36 01.8	-2.5
MTW	Mount Morrison	3.38	44	PN	Pn		04 36 01.7	-3.0
MTW	Mount Morrison	3.38	44	Pn	Pn		04 36 01.7	-3.0
OGWZ	Otaki Gorge	3.48	37	PN	Pn		04 36 04.0	-2.3
OGWZ	Otaki Gorge	3.48	37	Pn	Pn		04 36 04.0	-2.3
MLZ	Mavora Lakes	3.52	239	↓PN	Pn		04 36 04.4	-2.3
MLZ				AML	AML		04 37 12.7	
MLZ	Mavora Lakes	3.52	239	Pn	Pn		04 36 04.4	-2.3
SYZ	Scrubby Hill	3.71	217	PN	Pn		04 36 07.9	-1.4
SYZ				AML	AML		04 37 18.8	
SYZ				AML	AML		04 37 25.9	
SYZ	Scrubby Hill	3.71	217	Pn	Pn		04 36 08.0	-1.3
MRZ	Mangatainoka R	3.79	40	PN	Pn		04 36 07.5	-3.0
MRZ	Mangatainoka R	3.79	40	Pn	Pn		04 36 07.5	-3.0
WHZ	Wether Hill Ro	3.89	233	PN	Pn		04 36 08.8	-3.0
WHZ	Wether Hill Ro	3.89	233	Pn	Pn		04 36 08.8	-3.0
BFZ	Birch Farm	4.11	45	PN	Pn		04 36 11.3	-3.5
BFZ	Birch Farm	4.11	45	Pn	Pn		04 36 11.3	-3.5
DCZ	Deep Cove	4.17	242	PN	Pn		04 36 13.7	-2.0
APZ	The Paps	4.46	223	PN	Pn		04 36 17.5	-2.2
APZ	The Paps	4.46	223	Pn	Pn		04 36 17.5	-2.2
KHEZ	Kahui Hut	4.50	16	PN	Pn		04 36 20.2	0.0
KHEZ	Kahui Hut	4.50	16	Pn	Pn		04 36 20.2	0.0
DREZ	Durham Road	4.64	18	PN	Pn		04 36 21.3	-0.8
VRZ	Vera Road	4.84	22	PN	Pn		04 36 24.5	-0.4
VRZ	Vera Road

CURV	**Curarigua**	**4.42**	**43**	*eP*	**Pn**	**04 36 37.4**	**+1.1**
CURV				*eS*	**Sn**	**04 37 26.2**	**-1.6**
TEPV	**Terepaima**	**4.94**	**50**	*eP*	**Pn**	**04 36 44.0**	**+0.9**
TEPV				*eS*	**Sn**	**04 37 38.3**	**-1.8**
BAUV	**El Baul**	**5.39**	**66**	*eP*	**Pn**	**04 36 49.3**	**+0.3**
BAUV				*eS*	**Sn**	**04 37 48.7**	**-1.9**
MAPV	**Macapo**	**5.44**	**56**	*eP*	**Pn**	**04 36 50.5**	**+0.8**

IDC 25 04:55:14.3±2.1, 1°30'N×127°31'E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/32, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=130.8km s-min=23.7km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.34**	**185**	P	P	04 59 41.6	0.0
	0.1nm,0.3s,baz=343,slow=11,SNR=5.0						
WRA	**Warramunga Arr**	**22.20**	**162**	P	P	05 00 12.9	+0.3
	1.1nm,0.8s,baz=341,slow=11,SNR=21						
ASAR	**Alice Springs**	**25.63**	**166**	P	P	05 00 45.4	-0.4
	0.3nm,0.4s,baz=344,slow=11,SNR=5.8						
MKAR	**Makanchi Array**	**59.88**	**326**	P	P	05 05 22.0	0.0
	0.3nm,0.4s,baz=121,slow=5.6,SNR=3.5						

WEL 25 05:34:25.1±0.2, 43°72S×172°92E, h5km, ML3.6/14, 3C-4D, Error ellipse: s-maj=1.8km s-min=1.7km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.20**	**274**	⇑PG	Pg	05 34 29.6	+0.6
MQZ				SG	Sg	05 34 31.6	0.0
MQZ				AML	AML	05 34 33.8	
CRLZ	**Canterbury Las**	**0.26**	**304**	⇑PG	Pg	05 34 30.1	-0.1
CRLZ				AML	AML	05 34 33.8	
CRLZ				AML	AML	05 34 38.2	
OXZ	**Oxford**	**0.76**	**301**	P*	Pg	05 34 39.5	-0.1
LTZ	**Lake Taylor**	**1.05**	**333**	P*	Pg	05 34 45.3	+0.1
LTZ				AML	AML	05 34 59.6	
LTZ				AML	AML	05 34 59.6	
RPZ	**Rata Peaks**	**1.36**	**270**	⇓PN	Pn	05 34 49.8	-0.9
RPZ				AML	AML	05 35 10.3	
RPZ				AML	AML	05 35 19.6	
KHZ	**Kahutara**	**1.38**	**19**	PN	Pn	05 34 50.2	-0.8
INZ	**Inchbonnie**	**1.47**	**312**	PN	Pn	05 34 51.7	-0.5
WVZ	**Waitaha Valley**	**1.72**	**291**	⇑PN	Pn	05 34 55.4	-0.3
WVZ				AML	AML	05 35 25.8	
WVZ				AML	AML	05 35 28.2	
THZ	**Tophouse**	**1.96**	**360**	⇓PN	Pn	05 34 58.2	-0.8
THZ				AML	AML	05 35 36.2	
THZ				AML	AML	05 35 44.8	
LBZ	**Lake Benmore**	**2.08**	**250**	PN	Pn	05 35 00.9	+0.2
LBZ				AML	AML	05 35 39.3	
LBZ				AML	AML	05 35 40.1	
ODZ	**Otahua Downs**	**2.10**	**230**	⇓PN	Pn	05 35 01.1	+0.1
ODZ				AML	AML	05 35 40.5	
ODZ				AML	AML	05 35 40.8	
BSWZ	**Blackbirch Sta**	**2.12**	**20**	PN	Pn	05 35 01.6	+0.3
DSZ	**Denniston Nort**	**2.14**	**337**	PN	Pn	05 35 01.6	+0.1
DSZ				AML	AML	05 35 32.5	
DSZ				AML	AML	05 35 39.7	
FOZ	**Fox Glacier**	**2.27**	**274**	⇓PN	Pn	05 35 04.2	+1.0
FOZ				AML	AML	05 35 43.4	
NNZ	**Nelson**	**2.52**	**8**	PN	Pn	05 35 06.8	0.0
HHSZ	**Highcliff Hill**	**2.73**	**217**	PN	Pn	05 35 09.7	+0.2
QRZ	**Quartz Range**	**2.91**	**354**	PN	Pn	05 35 12.4	+0.4
QRZ				AML	AML	05 36 01.5	
EAZ	**Earnscleugh**	**3.00**	**238**	PN	Pn	05 35 13.5	+0.3
EAZ				AML	AML	05 36 16.5	
EAZ				AML	AML	05 36 16.8	
JCZ	**Jackson Bay**	**3.01**	**262**	PN	Pn	05 35 14.4	+0.8
WKZ	**Wanaka**	**3.02**	**247**	PN	Pn	05 35 14.0	+0.4
WKZ				AML	AML	05 36 12.4	
WKZ				AML	AML	05 36 13.8	
CAW	**Cannon Point**	**3.06**	**32**	PN	Pn	05 35 13.1	-1.0
MTW	**Mount Morrison**	**3.19**	**38**	PN	Pn	05 35 14.7	-1.3
KIW	**Kapiti Island**	**3.21**	**28**	PN	Pn	05 35 16.3	+0.1
TUZ	**Tuapeka**	**3.24**	**225**	PN	Pn	05 35 17.0	+0.5
TUZ				AML	AML	05 36 25.3	
TUZ				AML	AML	05 36 27.6	
MRZ	**Mangatainoka R**	**3.64**	**34**	PN	Pn	05 35 20.7	-1.4
MLZ	**Mavora Lakes**	**3.81**	**243**	PN	Pn	05 35 24.2	-0.3
SYZ	**Scrubby Hill**	**3.89**	**222**	PN	Pn	05 35 26.7	+1.3
BFZ	**Birch Farm**	**3.91**	**40**	PN	Pn	05 35 24.6	-1.2
WHZ	**Wether Hill Ro**	**4.15**	**237**	PN	Pn	05 35 28.3	-0.8

NIED ***25*** *05:37:00, 38°70N×144°70E, h5km, Mw3.5 Best double couple: M₀1.95000×10¹⁴ NP1:φ₀2.00000°, δ31.00000°, λ-81.00000°. NP2:φ₀172.00000°, δ60.00000°, λ-95.00000°.*

IDC ***25*** *05:37:33.2±2.1, 38°60N×144°90E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.5/48, mbtmp3.8/7, ML3.3/3, Error ellipse: s-maj=48.4km s-min=27.7km az=88.0*

ISCJB ***25*** *05:37:36.8±0.9, 38°59N±0°05×144°69E±0°07, h35km, mb3.6/4, Error ellipse: s-maj=8.3km s-min=7.3km az=149.2*

JMA ***25*** *05:37:37.4±0.2, 38°74N×144°65E, h36km, M3.6*

ISC 25 05:37:38.4±1.4, 38°65N±0°07×144°7E±0°1, h35km, n23, σ0°95/28, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.43**	**281**	P	**Pn**	**05 38 15.1**	**-0.5**
OFUJ				*eS*	**Sn**	**05 38 42.7**	**-1.4**
MIYJ	**Miyakonagasawa**	**2.45**	**293**	P	**Pn**	**05 38 15.0**	**-0.9**
MIYJ				S	**Sn**	**05 38 42.8**	**-1.8**
JTH	**Tanohata**	**2.57**	**301**	P	**Pn**	**05 38 16.6**	**-1.0**
JTH				S	**Sn**	**05 38 46.0**	**-1.6**
JMK	**Ichinoseki**	**2.76**	**277**	P	**Pn**	**05 38 20.1**	**-0.1**
JMK				*eS*	**Sn**	**05 38 51.8**	**-0.5**
JOM	**Ohasama**	**2.80**	**288**	P	**Pn**	**05 38 20.6**	**-0.1**
JANG	**Nango**	**3.03**	**306**	P	**Pn**	**05 38 22.2**	**-1.6**
JOU	**Okura**	**3.21**	**266**	P	**Pn**	**05 38 26.4**	**+0.1**
JOU				S	**Sn**	**05 39 03.0**	**-0.3**
JRG	**Rokugo**	**3.28**	**284**	P	**Pn**	**05 38 27.6**	**+0.3**
JYK	**Kaneyama**	**3.43**	**276**	P	**Pn**	**05 38 30.0**	**+0.7**
JYK				*eS*	**Sn**	**05 39 09.0**	**+0.2**
JAH	**Hinai**	**3.53**	**297**	P	**Pn**	**05 38 30.5**	**-0.2**
JFT	**Otama**	**3.65**	**253**	P	**Pn**	**05 38 32.9**	**+0.5**
JFT				S	**Sn**	**05 39 13.9**	**-0.3**
JRY	**Ryogami san**	**5.34**	**242**	P	**Pn**	**05 38 55.2**	**-0.4**
MJAR	**Matsushiro Arr**	**5.59**	**250**	Pn	**Pn**	**05 38 59.5**	**+0.4**
	2.0nm,0.3s,baz=332,slow=18,SNR=12						
MAT	**Matsushiro**	**5.59**	**250**	P	**Pn**	**05 39 00.0**	**+0.9**
JHJ	**Hachijo jima 2**	**6.83**	**218**	Pn	**Pn**	**05 39 14.3**	**-1.7**
	3.9nm,0.3s,baz=211,slow=19,SNR=2.7						
JHJ				Sn	**Sn**	**05 40 31.2**	**-1.3**
	15nm,0.3s,baz=240,slow=22,SNR=3.9						
USRK	**Ussuriysk Ar.**	**11.05**	**304**	Pn	**Pn**	**05 40 14.5**	**+0.6**
	0.3nm,0.3s,baz=113,slow=14,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**26.89**	**128**	T	T	06 11 13.7	
	baz=326,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.90**	**128**	T	T	06 11 15.9	
	baz=326,slow=74						
H11N3	**WAKE ISLAND Hy**	**26.91**	**128**	T	T	06 11 16.3	
	baz=326						
ZALV	**Zalesovo Beam**	**42.80**	**311**	P	**P**	**05 45 34.0**	**+1.5**
	0.7nm,0.5s,baz=103,slow=6.4,SNR=2.3						
MKAR	**Makanchi Array**	**45.51**	**301**	P	**P**	**05 45 54.2**	**-0.1**
	0.3nm,0.7s,baz=81,slow=9.1,SNR=3.4						
WRA	**Warramunga Arr**	**59.09**	**191**	P	**P**	**05 47 35.3**	**0.0**
	0.3nm,0.6s,baz=14,slow=7.1,SNR=1.9						
FINES	**FINESS Array B**	**68.59**	**333**	P	**P**	**05 48 38.1**	**+0.8**
	0.7nm,0.6s,baz=54,slow=9.7,SNR=5.3						

WEL 25 05:43:19.7±0.1, 43°59S×172°53E, h5km, ML3.5/13, 5C-3D, Error ellipse: s-maj=0.7km s-min=0.6km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.07**	**80**	⇑PG	Pg	05 43 21.2	-0.1
CRLZ				SG	Sg	05 43 22.5	+0.2
CRLZ				AML	AML	05 43 22.7	
CRLZ				AML	AML	05 43 22.7	
CRLZ				AML	AML	05 43 22.7	
MQZ	**McQueen's Vall**	**0.15**	**144**	⇓PG	Pg	05 43 22.7	0.0
MQZ				SG	Sg	05 43 25.1	+0.4
MQZ				AML	AML	05 43 25.3	
MQZ				AML	AML	05 43 26.1	
OXZ	**Oxford**	**0.45**	**306**	⇓PG	Pg	05 43 28.1	-0.1
LTZ	**Lake Taylor**	**0.83**	**347**	⇓P*	Pg	05 43 35.9	+0.4
LTZ				AML	AML	05 43 47.9	
LTZ				AML	AML	05 43 48.6	
RPZ	**Rata Peaks**	**1.08**	**263**	⇑P*	Pg	05 43 39.8	-0.6
RPZ				AML	AML	05 43 56.4	
RPZ				AML	AML	05 44 00.5	
INZ	**Inchbonnie**	**1.17**	**317**	P*	Pg	05 43 41.8	-0.4
WVZ	**Waitaha Valley**	**1.41**	**291**	PN	Pn	05 43 45.3	-0.6
WVZ				AML	AML	05 44 13.1	
WVZ				AML	AML	05 44 14.4	
THZ	**Tophouse**	**1.84**	**9**	PN	Pn	05 43 50.8	-1.3
THZ				AML	AML	05 44 31.3	
THZ				AML	AML	05 44 34.0	
LBZ	**Lake Benmore**	**1.87**	**244**	PN	Pn	05 43 51.1	-1.3
LBZ				AML	AML	05 44 29.1	
LBZ				AML	AML	05 44 30.1	
DSZ	**Denniston Nort**	**1.92**	**343**	PN	Pn	05 43 52.4	-0.6
DSZ				AML	AML	05 44 25.1	
DSZ				AML	AML	05 44 25.9	
FOZ	**Fox Glacier**	**1.98**	**271**	PN	Pn	05 43 54.0	+0.2
FOZ				AML	AML	05 44 29.4	
FOZ				AML	AML	05 44 30.4	
ODZ	**Otahua Downs**	**1.99**	**222**	⇑PN	Pn	05 43 52.2	-1.8
ODZ				AML	AML	05 44 26.5	
ODZ				AML	AML	05 44 31.1	
JCZ	**Jackson Bay**	**2.75**	**259**	PN	Pn	05 44 03.7	-0.9
JCZ				AML	AML	05 45 01.7	
EAZ	**Earnscleugh**	**2.84**	**233**	⇑PN	Pn	05 44 03.9	-1.7
EAZ				AML	AML	05 45 03.3	
EAZ				AML	AML	05 45 03.5	
TUZ	**Tuapeka**	**3.14**	**220**	⇑PN	Pn	05 44 08.0	-1.8
TUZ				AML	AML	05 45 05.9	
TUZ				AML	AML	05 45 09.9	
SYZ	**Scrubby Hill**	**3.81**	**218**	PN	Pn	05 44 18.1	-0.8

IDC 25 05:44:57.2±3.0, 15°88S×174°16W, h104km±39km, mb3.9/4, mb1 4.1/5, mb1mx3.7/31, mbtmp4.3/5, Error ellipse: s-maj=192.3km s-min=22.0km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.02**	**50**	P	Pn	05 45 43.6	+0.1
	76nm,0.3s,baz=33,slow=1.9,SNR=67						
AFI				S	Sn	05 46 15.4	-3.7
	312nm,0.3s,baz=230,slow=18,SNR=18						
STKA	**Stephens Creek**	**43.16**	**240**	P	P	05 52 47.5	-0.3
	4.7nm,1.0s,baz=69,slow=8.6,SNR=4.4						
WRA	**Warramunga Arr**	**49.02**	**257**	P	P	05 53 34.0	0.0
	3.4nm,0.8s,baz=98,slow=6.6,SNR=40						
WRA				pP	pP	05 54 01.1	+2.5
	0.7nm,0.5s,baz=92,slow=5.9,SNR=3.0						
ASAR	**Alice Springs**	**49.27**	**252**	P	P	05 53 35.6	-0.2
	12nm,0.7s,baz=86,slow=7.7,SNR=108						
ASAR				pP	pP	05 54 01.7	+1.2
	1.1nm,0.5s,baz=92,slow=8.3,SNR=2.0						
ILAR	**Eielson Array**	**83.06**	**11**	P	P	05 57 10.3	-0.5
	0.2nm,0.5s,baz=202,slow=5.0,SNR=5.3						
BRTR	**Keskin Array B**	**146.06**	**320**	PKPbc	PKPdf	06 04 25.1	+0.5
	2.9nm,1.0s,baz=76,slow=1.0,SNR=11						
GERES	**GERESS Array B**	**146.50**	**351**	PKPbc	PKPbc	06 04 26.1	-0.5
	0.3nm,0.5s,baz=8.1,slow=2.1,SNR=4.9						

KRSC 25 05:47:57.5±1.7, 50°01N×157°08E, h16km±23km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.92**	**318**	*eP*	Pb	05 48 13.5	-1.4
SKR				*eS*	Sb	05 48 25.1	-1.8
ASAK	**Asacha**	**2.43**	**12**	*eP*	Pb	05 48 39.6	-1.3
RUS	**Russkaya**	**2.59**	**20**	*eP*	Pn	05 48 40.0	+1.4
RUS				*eS*	Sn	05 49 11.8	+2.1
DALK	**Dalny**	**3.20**	**18**	*eP*	Pn	05 48 50.3	+3.2
DALK				*eS*	Sn	05 49 28.6	+3.8
UGLR	**Uglovaya**	**3.38**	**18**	*eP*	Pn	05 48 52.8	+3.1
UGLR				*eS*	Sb	05 49 33.9	-4.1
AVH	**Avacha**	**3.42**	**17**	*eP*	Pb	05 48 54.5	-3.2
KRER	**Koryakskii**	**3.46**	**17**	*eP*	Pb	05 48 54.8	-3.6
KRX	**Arik**	**3.49**	**16**	*eP*	Pn	05 48 54.9	+3.7
KRX				*eS*	Sn	05 49 36.7	+4.4
GNL	**Ganaly**	**3.73**	**8**	*eP*	Pn	05 48 58.2	+3.8
MKZ	**Mys Kozlova**	**5.37**	**30**	*eP*	Pn	05 49 20.3	+3.4

NIED ***25*** *05:50:00, 42°00N×142°70E, h53km, Mw4.0 Best double couple: M₀1.28000×10¹⁵ NP1:φ₀222.00000°, δ22.00000°, λ107.00000°. NP2:φ₀23.00000°, δ69.00000°, λ83.00000°.*

ISCJB ***25*** *05:50:20.0±0.6, 41°94N±0°06×142°67E±0°06, h67km±4km, mb3.8/14, Error ellipse: s-maj=11.0km s-min=5.5km az=144.5*

JMA ***25*** *05:50:20.8±0.1, 41°95N×142°70E, h56km±2km, M3.7*

JMA Felt I J1.

IDC ***25*** *05:50:23.6±1.8, 42°05N×142°58E, h80km±14km, mb3.6/13, mb1 3.7/18, mb1mx3.6/40, mbtmp3.8/18, MS3.1/9, Ms1 3.1/9, ms1mx2.9/36, Error ellipse: s-maj=19.5km s-min=12.2km az=122.0*

ISC 25 05:50:21.1±0.8, 41°95N±0°06×142°67E±0°05, h59km±7km, n40, σ1°24/36, mb4.0/14, MS3.4/5, 3C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.33**	**11**	⇑P	**Pn**	**05 50 30.6**	**-0.7**
JNBK				*eS*	**Sn**	**05 50 38.1**	**-0.6**
JEM	**Erimo**	**0.37**	**80**	⇑P	**Pn**	**05 50 31.0**	**-0.6**
JCH	**Churui**	**0.84**	**38**	⇑P	**Pn**	**05 50 36.5**	**-0.4**
JCH				*eS*	**Sn**	**05 50 48.0**	**-0.6**
JBT2	**Biratori 2**	**0.86**	**345**	⇓P	**Pn**	**05 50 36.9**	**-0.3**
JFR	**Furan**	**1.21**	**357**	P	**Pn**	**05 50 42.1**	**+0.2**
JKB	**Kayabe**	**1.22**	**267**	⇓P	**Pn**	**05 50 41.5**	**-0.5**
JKB				*eS*	**Sn**	**05 50 57.1**	**-0.5**
JEN	**Eniwo**	**1.27**	**315**	⇓P	**Pn**	**05 50 42.6**	**0.0**
JOB	**Onbets**	**1.28**	**42**	P	**Pn**	**05 50 43.5**	**+0.7**
JOB				*eS*	**Sn**	**05 51 00.4**	**+1.4**
JNB	**Noboribetsu**	**1.32**	**294**	⇓P	**Pn**	**05 50 42.5**	**-0.7**
JOT	**Ohata**	**1.34**	**245**	⇓P	**Pn**	**05 50 43.2**	**-0.4**
JOT				*eS*	**Sn**	**05 51 00.0**	**-0.4**
ASAJ	**Asahikawa**	**2.16**	**359**	P	**Pn**	**05 50 56.1**	**+1.4**
	14nm,0.3s,baz=224,slow=12,SNR=29						
ASAJ				S	**Sn**	**05 51 21.6**	**+1.3**
	12nm,0.3s,baz=332,slow=31,SNR=11						
MJAR	**Matsushiro Arr**	**6.42**	**214**	P	**Pn**	**05 51 56.4**	**+3.4**
	0.5nm,0.3s,baz=16,slow=16,SNR=4.2						
MJAR				LR	LR	05 54 43.4	
	comp=Z,48nm,21.0s,baz=45,slow=40						
USRK	**Ussuriysk Ar.**	**8.14**	**290**	P	**Pn**	**05 52 19.0**	**+2.6**
	0.2nm,0.3s,baz=95,slow=14,SNR=16						
USRK				LR	LR	05 55 28.9	
	comp=Z,62nm,20.8s,baz=130,slow=38						
KLR	**Kul'dur**	**10.55**	**317**	P	**Pn**	**05 52 50.8**	**+1.4**
	0.1nm,0.3s,baz=122,slow=11,SNR=4.6						
KLR				LR	LR	05 57 10.7	
	comp=Z,57nm,21.2s,baz=138,slow=39						
KSRS	**Korea Array**	**12.21**	**253**	P	**Pn**	**05 53 14.6**	**+2.5**
	0.3nm,0.3s,baz=67,slow=14,SNR=6.4						
KSRS				LR	LR	05 57 03.9	
	comp=Z,87nm,19.0s,baz=119,slow=33						
SEY	**Seymchan**	**21.78**	**12**	P	**P**	**05 55 04.9**	**-2.8**
	2.4nm,0.2s,baz=185,slow=9.1,SNR=5.2						
SONM	**Songino Array**	**26.19**	**295**	P	**P**	**05 55 50.1**	**0.0**
	1.2nm,0.7s,baz=71,slow=8.9,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**30.20**	**130**	T	T	06 27 54.5	
	baz=323,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**30.21**	**130**	T	T	06 28 02.9	
	baz=323,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**30.21**	**130**	T	T	06 28 03.6	
	baz=323,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**31.06**	**132**	T	T	06 28 57.4	
	baz=325,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**31.06**	**132**	T	T	06 28 50.7	
	baz=325,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**31.08**	**132**	T	T	06 28 54.9	
	baz=325,slow=76,SNR=15						
NRIK	**Noril'sk**	**39.28**	**333**	LR	LR	06 14 53.7	
	comp=Z,52nm,18.9s,baz=304,slow=38						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**39.48**	**308**	P	**P**	**05 57 44.2**	**-1.3**
	3.2nm,0.7s,baz=90,slow=8.9,SNR=5.3						
ZALV				LR	LR	06 15 34.3	
	comp=Z,31nm,18.2s,baz=80,slow=38						
MKAR	**Makanchi Array**	**42.50**	**298**	P	**P**	**05 58 10.3**	**-0.1**
	2.0nm,0.9s,baz=76,slow=10,SNR=9.9						
CMAR	**Chiang Mai Arr**	**43.84**	**251**	LR	LR	06 16 19.3	
	comp=Z,22nm,20.2s,baz=180,slow=36						
ILAR	**Eielson Array**	**44.86**	**35**	P	**P**	**05 58 29.2**	**+0.1**
	0.6nm,0.7s,baz=260,slow=5.4,SNR=9.0						
INK	**Inuvik**	**49.59**	**29**	P	**P**	**05 59 05.7**	**-0.1**
	1.2nm,0.6s,baz=315,slow=2.9,SNR=3.9						
YKA	**Yellowknife Ar**	**59.09**	**32**	P	**P**	**06 00 14.8**	**0.0**
	0.3nm,0.8s,baz=310,slow=6.6,SNR=4.4						
WRA	**Warramunga Arr**	**62.06**	**189**	P	**P**	**06 00 35.5**	**0.0**
	1.1nm,1.0s,baz=7.0,slow=6.8,SNR=3.4						
POO	**Poona**	**62.22**	**270**	*ex*	x	06 00 06.0	
GEYT	**Alibeck**	**62.38**	**297**	P	**P**	**06 00 37.0**	**-0.6**
	1.7nm,0.3s,baz=19,slow=9.2,SNR=2.9						
FINES	**FINESS Array B**	**64.93**	**332**	P	**P**	**06 00 53.5**	**-0.5**
	1.2nm,0.6s,baz=42,slow=7.9,SNR=9.4						
FINES				LR	LR	06 31 42.2	
	comp=Z,33nm,18.9s,baz=22,slow=38						
KBZ	**Khabaz**	**68.47**	**310**	P	**P**	**06 01 16.7**	**-0.1**
	2.4nm,1.0s,baz=27,slow=4.5,SNR=4.2						
NB2	**NORSAR Subarra**	**70.03**	**337**	P	**P**	**06 01 25.5**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=35,slow=6.2						
NOA	**NORSAR Array B**	**70.03**	**337**	P	**P**	**06 01 25.6**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=36,slow=6.1,SNR=5.2						
AKASG	**Malin Array Be**	**71.02**	**322**	P	**P**	**06 01 30.9**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=44,slow=6.7,SNR=5.2						
GERES	**GERESS Array B**	**79.04**	**328**	LR	LR	06 39 24.7	
	comp=Z,23nm,18.8s,baz=340,slow=37						
TXAR	**Lajitas Array**	**86.38**	**53**	P	**P**	**06 02 58.1**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=316,slow=7.6,SNR=2.7						

IDC 25 06:01:27.0±3.1, 3°93S×152°57E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/27, mbtmp3.7/3, Error ellipse: s-maj=127.5km s-min=43.5km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.85**	**227**	P	P	06 06 42.6	+0.3
	0.9nm,0.5s,baz=52,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**25.64**	**221**	P	P	06 07 07.6	-0.1
	0.2nm,0.4s,baz=54,slow=9.1,SNR=1.6						
FITZ	**Fitzroy Crossi**	**29.88**	**240**	P	P	06 07 37.1	+0.5
	2.5nm,0.9s,baz=69,slow=8.6,SNR=8.6						
H02N1	**VAN INLET T-PH**	**84.16**	**36**	T	T	07 47 06.3	
H02S1	**DAWSON INLET T**	**84.18**	**36**	T	T	07 47 11.2	
	SNR=5.1						
TORD	**Torodi Ar. Bea**	**149.81**	**289**	PKPbc	PKPbc	06 21 19.2	-1.0
	0.5nm,0.4s,baz=75,slow=2.3,SNR=20						

CSEM ***25*** *06:10:21.3±1.1, 51°58N×16°07E, h1km, ML2.8/7, Error ellipse: s-maj=15.6km s-min=7.8km az=9.0*

WAR ***25*** *06:10:23.2, 51°54N×16°14E, h1km*

PRU 25 06:10:23.5, 51°49N×16°14E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**171**	*e*Pg	Pg	06 10 36.5	+0.5
KSP				*e*Sg	Sg	06 10 45.6	+1.1
KSP	**Ksiaz**	**0.66**	**171**	*e*Pg	Pg	06 10 36.5	+0.5
KSP				*e*Sg	Sg	06 10 45.6	+1.1
KSP	**Ksiaz**	**0.66**	**171**	*e*Pg	Pg	06 10 36.5	+0.5
KSP				*e*Sg	Sg	06 10 45.6	+1.1
UPC	**Upice**	**0.99**	**185**	*e*PG	Pg	06 10 42.5	+0.1
UPC				*e*SG	Sg	06 10 56.0	+0.8
	12nm,0.2s						
UPC	**Upice**	**0.99**	**185**	Pg	Pg	06 10 42.5	+0.1
UPC				Sg	Sg	06 10 56.0	+0.8
	12nm,0.2s						
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*PG	Pg	06 10 45.1	-0.4
DPC				*e*SG	Sg	06 11 00.2	-0.1
	4.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**174**	Pg	Pg	06 10 45.1	-0.4
DPC				Sg	Sg	06 11 00.2	-0.1
	4.3nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**226**	*e*PG	Pg	06 10 48.7	-1.3
PVCC				*e*SG	Sb	06 11 08.6	+0.2
	22nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**226**	Pg	Pg	06 10 48.7	-1.3
PVCC				Sg	Sb	06 11 08.6	+0.2
	22nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**247**	PG	Pn	06 10 51.7	-0.2
BRG				SG	Sb	06 11 12.2	0.0
	15nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.80**	**209**	*e*SG	Sb	06 11 20.7	+0.4
	2.9nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.80**	**209**	Sg	Sb	06 11 20.7	+0.4
	2.9nm,0.2s						
PRU	**Pruhonice**	**1.81**	**215**	*e*SG	Sb	06 11 21.1	+0.3
	5.1nm,0.4s						
PRU	**Pruhonice**	**1.81**	**215**	Sg	Sb	06 11 21.1	+0.3
	5.1nm,0.4s						
CLL	**Collm**	**1.97**	**266**	*i* Pg	Pb	06 11 00.0	-0.3
CLL				*e*Sg	Sg	06 11 27.0	+0.1
	comp=Z,

ESKT				*e*Sg		**Sb**	**06 18 03.3**	**+0.5**
SVRH	**Sivrihisar-ESK**	**0.96**	**33**	*e*PG		**Pg**	**06 17 52.6**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.96**	**33**	*e*Pg		**Pg**	**06 17 52.6**	**0.0**
KDHN	**Kadinhani**	**1.01**	**97**	P		**Pb**	**06 17 53.0**	**-0.4**
KDHN				S		**Sg**	**06 18 06.8**	**+0.2**
KDHN	**Kadinhani**	**1.01**	**97**	*i* P		**Pb**	**06 17 53.0**	**-0.4**
KDHN				*i* S		**Sg**	**06 18 06.8**	**+0.2**
KHL	**Karahalli**	**1.08**	**253**	*e*PG		**Pb**	**06 17 54.0**	**-0.5**
KHL	**Karahalli**	**1.08**	**253**	*e*Pg		**Pb**	**06 17 54.0**	**-0.5**
GDZ	**Gediz**	**1.15**	**293**	P		**Pg**	**06 17 56.7**	**+0.6**
GDZ				S		**Sn**	**06 18 11.4**	**-0.2**
GDZ	**Gediz**	**1.15**	**293**	*i* P		**Pg**	**06 17 56.7**	**+0.6**
GDZ				*i* S		**Sn**	**06 18 11.4**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.17**	**174**	*e*PN		**Pg**	**06 17 56.6**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.17**	**174**	*e*Pn		**Pg**	**06 17 56.6**	**+0.1**
BORA	**Eskisehir**	**1.27**	**347**	P		**Pg**	**06 17 58.7**	**+0.3**
BORA				S		**Sb**	**06 18 13.4**	**-0.7**
BORA	**Eskisehir**	**1.27**	**347**	*i* P		**Pg**	**06 17 58.6**	**+0.3**
BORA				*i* S		**Sb**	**06 18 13.4**	**-0.7**
LADK	**Ladik-KONYA**	**1.28**	**110**	*e*PN		**Pg**	**06 17 58.3**	**-0.2**
LADK	**Ladik-KONYA**	**1.28**	**110**	*e*Pn		**Pg**	**06 17 58.3**	**-0.2**
TVSB	**Tavsanli**	**1.34**	**307**	*e*PN		**Pn**	**06 17 58.4**	**-0.1**
TVSB	**Tavsanli**	**1.34**	**307**	*e*Pn		**Pn**	**06 17 58.4**	**-0.1**
KONT	**Konya--Tatoy**	**1.39**	**120**	*e*PN		**Pb**	**06 18 00.0**	**+0.2**
KONT	**Konya--Tatoy**	**1.39**	**120**	*e*Pn		**Pb**	**06 18 00.0**	**+0.2**
KULA	**Kula-Manisa**	**1.71**	**266**	*e*PN		**Pn**	**06 18 03.9**	**+0.3**
KULA	**Kula-Manisa**	**1.71**	**266**	*e*Pn		**Pn**	**06 18 03.9**	**+0.3**

NIED ***25*** *06:21:00,25.˚40N×143.˚00E,h8km,Mw4.2 Best double couple: M₀1.97000×10¹⁵ NP1:φ₈151.00000°,δ38.00000°, λ33.00000°. NP2:φ₈34.00000°,δ71.00000°,λ123.00000°.*

IDC ***25*** *06:21:19.6±0.6,25.˚44N×142.˚75E,h0km,mb4.2/24, mb1 4.3/25,mb1mx4.2/45,mbtmp4.2/25,ML3.7/1,MS3.3/7, Ms1 3.3/7,ms1mx3.0/39,Error ellipse: s-maj=23.4km s-min=13.4km az=78.0*

ISCJB ***25*** *06:21:23.3±0.4,25.˚41N±0.˚06×142.˚8E±0.˚1,h38km, mb4.4/34,MS3.4/3,Error ellipse: s-maj=13.9km s-min=7.7km az=168.5*

NEIC ***25*** *06:21:26.4±1.1,25.˚49N×142.˚70E,h47km±9km,mb4.7/11, Error ellipse: s-maj=10.1km s-min=6.9km az=87.0*

ISC 25 06:21:25.2±0.6,25.˚40N±0.˚08×142.˚7E±0.˚1,h38km,n54, σ0.98/45,mb4.5/34,MS3.4/3,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.77**	**344**	*e*Pn	**Pn**	**06 21 52.5**	**-0.8**
CBIJ				*e*Sg	**Sn**	**06 22 17.8**	**+3.4**
JCJ	**Chichijima**	**1.77**	**344**	Pn	**Pn**	**06 21 52.7**	**-0.5**
	7.3nm,0.3s,baz=180,slow=24,SNR=15						
JCJ				Sn	**Sn**	**06 22 16.4**	**+2.0**
	9.7nm,0.3s,baz=180,slow=24,SNR=12						
JHJ	**Hachijo jima 2**	**8.12**	**342**	LR	LR	06 25 11.2	
	comp=Z,137nm,21.9s,baz=90,slow=29						
MJAR	**Matsushiro Arr**	**11.77**	**342**	Pn	**Pn**	**06 24 10.1**	**-0.4**
	0.5nm,0.3s,baz=144,slow=15,SNR=3.6						
GUMO	**Guam**	**11.91**	**170**	LR	LR	06 28 09.0	
	comp=Z,84nm,19.3s,baz=256,slow=34						
JNU	**Nakatsue**	**12.90**	**309**	LR	LR	06 28 50.2	
	comp=Z,93nm,19.7s,baz=120,slow=35						
KSRS	**Korea Array**	**17.42**	**317**	P	**P**	**06 25 27.1**	**+1.0**
	0.1nm,0.3s,baz=126,slow=12,SNR=7.0						
KSRS				LR	LR	06 31 42.3	
	comp=Z,172nm,18.7s,baz=130,slow=36						
KSAR	**Wonju Array Be**	**17.44**	**317**	P	**P**	**06 25 27.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**17.70**	**338**	P	**P**	**06 26 02.1**	**+0.1**
	4.9nm,0.8s,baz=153,slow=9.8,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**22.99**	**99**	T	T	06 50 06.1	
	baz=291,slow=74,SNR=7.9						
H11N1	**WAKE ISLAND Hy**	**22.99**	**99**	T	T	06 50 20.8	
	baz=291,slow=74,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**23.01**	**99**	T	T	06 50 25.8	
	baz=291,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hy**	**23.23**	**102**	T	T	06 50 22.2	
	baz=292,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**23.23**	**102**	T	T	06 50 22.1	
	baz=292,slow=75,SNR=9.0						
H11S2	**WAKE ISLAND Hy**	**23.24**	**102**	T	T	06 50 23.4	
	baz=292,slow=75,SNR=9.6						
KLR	**Kul'dur**	**25.29**	**343**	P	**P**	**06 26 48.0**	**+0.1**
	6.4nm,0.8s,baz=148,slow=8.1,SNR=27						
SONM	**Songino Array**	**36.29**	**318**	P	**P**	**06 28 23.4**	**-1.7**
	0.7nm,0.5s,baz=138,slow=7.0,SNR=2.6						
SONM				LR	LR	06 43 23.5	
	comp=Z,62nm,19.1s,baz=294,slow=36						
SEY	**Seymchan**	**38.08**	**7**	P	**P**	**06 28 39.8**	**0.0**
	2.5nm,0.2s,baz=0.0,slow=20,SNR=3.0						
CMAR	**Chiang Mai Arr**	**41.07**	**269**	LR	LR	06 46 16.1	
	comp=Z,38nm,18.3s,baz=55,slow=36						
WRAB	**Tennant Creek**	**45.79**	**191**	*e*P	**P**	**06 29 44.2**	**+0.9**
	11nm,0.9s						
WRA	**Warramunga Arr**	**45.80**	**191**	P	**P**	**06 29 44.2**	**+0.9**
	1.8nm,0.4s,baz=9.3,slow=8.7,SNR=29						
FITZ	**Fitzroy Crossi**	**46.33**	**203**	*e*P	**P**	**06 29 49.1**	**+1.6**
	13nm,0.9s						
ASAR	**Alice Springs**	**49.52**	**191**	P	**P**	**06 30 13.0**	**+0.8**
	0.4nm,0.7s,baz=19,slow=8.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**51.10**	**320**	P	**P**	**06 30 23.0**	**-0.8**
	0.6nm,0.3s,baz=105,slow=5.7,SNR=2.8						
MKAR	**Makanchi Array**	**51.95**	**311**	P	**P**	**06 30 30.1**	**-0.2**
	0.9nm,0.6s,baz=96,slow=8.7,SNR=5.9						
NRIK	**Noril'sk**	**54.41**	**339**	P	**P**	**06 30 48.5**	**+0.5**
	7.9nm,0.9s,baz=135,slow=9.0,SNR=9.3						
KURK	**Kurchatov**	**54.54**	**315**	*e*P	**P**	**06 30 48.1**	**-1.1**
	25nm,0.6s						
STKA	**Stephens Creek**	**56.96**	**181**	P	**P**	**06 31 07.0**	**+0.3**
	3.3nm,0.8s,baz=0.4,slow=9.6,SNR=2.7						
TRF	**Thorofare Moun**	**57.31**	**29**	*e*P	**P**	**06 31 08.3**	**-0.9**
	4.2nm,0.9s						
PMR	**Palmer**	**57.61**	**32**	*e*P	**P**	**06 31 11.4**	**+0.4**
	4.6nm,1.0s						
ILAR	**Eielson Array**	**58.96**	**28**	P	**P**	**06 31 19.5**	**-1.0**
	1.2nm,0.8s,baz=263,slow=6.1,SNR=14						
BVAR	**Borovoye Array**	**59.63**	**318**	P	**P**	**06 31 24.6**	**-0.7**
	2.9nm,0.5s,baz=87,slow=6.5,SNR=19						
BRVK	**Borovoye**	**59.70**	**318**	*e*P	**P**	**06 31 25.5**	**-0.2**
	9.7nm,0.8s						
DOT	**Dot Lake**	**60.11**	**30**	*e*P	**P**	**06 31 29.3**	**+0.9**
	3.7nm,0.8s						
KKAR	**Karatay Array**	**60.49**	**307**	*e*P	**P**	**06 31 30.8**	**-0.6**
	2.4nm,0.7s						
ARU	**Arti**	**66.07**	**323**	*e*P	**P**	**06 32 07.7**	**-0.4**
	12nm,1.1s						
ABKAR	**Akbulak array**	**66.64**	**315**	*e*P	**P**	**06 32 11.4**	**-0.4**
	14nm,1.3s						
H02S1	**DAWSON INLET T**	**67.03**	**41**	T	T	07 45 19.3	
AKTO	**Aktyubinsk**	**67.60**	**316**	P	**P**	**06 32 16.4**	**-1.5**
	1.7nm,0.6s,baz=90,slow=14,SNR=4.3						
GEYT	**Alibeck**	**70.85**	**304**	P	**P**	**06 32 39.0**	**+0.7**
	1.7nm,0.3s,baz=60,slow=6.8,SNR=2.9						
YKA	**Yellowknife Ar**	**73.39**	**28**	P	**P**	**06 32 52.7**	**-0.2**
	0.8nm,0.6s,baz=295,slow=5.6,SNR=10.0						
ARCES	**ARCESS Array B**	**75.31**	**341**	P	**P**	**06 33 04.5**	**+0.5**
	4.2nm,1.0s,baz=37,slow=9.1,SNR=3.5						
KBZ	**Khabaz**	**79.53**	**313**	P	**P**	**06 33 28.5**	**+0.4**
	6.2nm,0.9s,baz=81,slow=2.3,SNR=9.1						
FINES	**FINESS Array B**	**79.69**	**334**	P	**P**	**06 33 28.3**	**-0.3**
	3.2nm,0.5s,baz=70,slow=5.0,SNR=28						
AKASG	**Malin Array Be**	**84.28**	**324**	P	**P**	**06 33 52.3**	**-0.6**
	1.0nm,0.5s,baz=51,slow=5.2,SNR=3.4						
KIEV	**Kiev**	**84.29**	**324**	*e*P	**P**	**06 33 52.0**	**-1.0**
	3.4nm,0.7s						
PDAR	**Pinedale Array**	**85.06**	**45**	P	**P**	**06 33 57.0**	**-0.4**
	0.4nm,0.4s,baz=270,slow=4.5,SNR=2.3						
PDAR				LR	LR	07 05 54.6	
	comp=Z,27nm,20.4s,baz=338,slow=32						
NB2	**NORSAR Subarra**	**85.37**	**339**	P	**P**	**06 33 57.6**	**-0.6**
	comp=Z,5.9nm,1.1s,baz=47,slow=4.8						
NOA	**NORSAR Array B**	**85.37**	**339**	P	**P**	**06 33 57.7**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=46,slow=4.7,SNR=4.8						
BRTR	**Keskin Array B**	**87.52**	**313**	P	**P**	**06 34 10.4**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=52,slow=2.4,SNR=3.3						
GERES	**GERESS Array B**	**93.22**	**329**	P	**P**	**06 34 35.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=46,slow=3.9,SNR=5.5						
TXAR	**Lajitas Array**	**96.21**	**54**	P	**P**	**06 34 50.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=1.9,slow=2.7,SNR=3.5						
PLCA	**Paso Flores**	**148.40**	**127**	PKPbc	**PKPbc**	**06 41 08.4**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=270,slow=13,SNR=3.1						
LPAZ	**La Paz**	**149.82**	**79**	PKPbc	**PKPbc**	**06 41 13.3**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=270,slow=12,SNR=3.1						

IDC ***25*** *06:21:20.2±1.4,52.˚11N×172.˚45W,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.6/56,mbtmp3.6/7,ML3.6/1,MS2.9/1,*

Ms1 2.9/1,ms1mx2.3/45,Error ellipse: s-maj=46.7km s-min=26.1km az=161.0

NEIC ***25*** *06:21:26.0,51.˚66N×171.˚50W,h18km,ML3.4(AEIC),After AEIC.*

ISCJB ***25*** *06:21:27.8±1.1,51.˚8N±0.˚1×171.˚43W±0.˚06,h51km±11km, mb3.6/6,MS2.7/1,Error ellipse: s-maj=21.8km s-min=4.5km az=170.0*

ISC 25 06:21:28.8±1.9,51.˚8N±0.˚2×171.˚45W±0.˚05,h44km±20km, n29,σ1.916/30,mb3.7/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.70**	**291**	P	**Pn**	**06 21 55.3**	**-0.7**
KOSE				S	**Sn**	**06 22 16.1**	**-0.5**
KOFP	**Korovin Flat P**	**1.71**	**288**	P	**Pn**	**06 21 54.7**	**-1.4**
KOFP				S	**Sn**	**06 22 18.1**	**+1.3**
KONE	**Korovin Northe**	**1.76**	**292**	P	**Pn**	**06 21 56.1**	**-0.6**
KONE				S	**Sn**	**06 22 19.5**	**+1.5**
KOKL	**Mount Kliuchef**	**1.79**	**289**	P	**Pn**	**06 21 56.3**	**-0.9**
KOKL				S	**Sn**	**06 22 18.7**	**+0.1**
NIKH	**Nikolski High**	**1.99**	**52**	P	**Pn**	**06 21 58.3**	**-1.6**
NIKH				S	**Sn**	**06 22 21.8**	**-1.8**
OKAK	**Okmok**	**2.61**	**45**	P	**Pn**	**06 22 07.8**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**2.63**	**51**	P	**Pn**	**06 22 09.8**	**+1.1**
OKER	**Okmok East Rim**	**2.67**	**50**	P	**Pn**	**06 22 10.6**	**+1.4**
GSMY	**Great Sitkin M**	**2.87**	**277**	P	**Pn**	**06 22 11.8**	**-0.2**
GSMY				S	**Sn**	**06 22 45.8**	**+0.6**
GSCK	**Great Sitkin C**	**2.93**	**276**	P	**Pn**	**06 22 13.7**	**+0.9**
ETKA	**Kagalaska Isla**	**3.08**	**274**	P	**Pn**	**06 22 15.7**	**+0.9**
MSOM	**Makushin Julie**	**3.41**	**51**	P	**Pn**	**06 22 19.6**	**+0.3**
MCIR	**Makushin Cirqu**	**3.52**	**50**	P	**Pn**	**06 22 21.1**	**+0.2**
MTBL	**Makushin Table**	**3.63**	**51**	P	**Pn**	**06 22 23.0**	**+0.6**
UNV	**Unalaska Valle**	**3.65**	**53**	P	**Pn**	**06 22 22.8**	**+0.2**
AKRB	**Akutan Reef Bi**	**4.02**	**52**	P	**Pn**	**06 22 28.4**	**+0.7**
AKUT	**Akutan**	**4.17**	**53**	*e*Pn	**Pn**	**06 22 31.6**	**+1.9**
SPIA	**Saint Paul Isl**	**5.46**	**7**	P	**Pn**	**06 22 48.5**	**+1.1**
ILAR	**Eielson Array**	**18.17**	**35**	P	**Pn**	**06 25 35.8**	**-1.5**
	0.1nm,0.3s,baz=225,slow=9.2,SNR=6.8						
MA2	**Magadan**	**22.42**	**305**	LR	LR	06 33 50.0	
	comp=Z,31nm,20.1s,baz=252,slow=34						
DLBC	**Dease Lake**	**24.29**	**58**	P	**P**	**06 26 43.6**	**+1.9**
	2.1nm,0.5s,baz=265,slow=12,SNR=7.6						
YKA	**Yellowknife Ar**	**31.59**	**48**	P	**P**	**06 27 46.5**	**-0.2**
	0.2nm,0.4s,baz=272,slow=8.0,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**36.20**	**216**	T	T	07 07 06.7	
	baz=14						
H11N3	**WAKE ISLAND Hy**	**36.21**	**216**	T	T	07 07 07.1	
	baz=14						
H11N1	**WAKE ISLAND Hy**	**36.22**	**216**	T	T	07 06 59.6	
	baz=14						
PDAR	**Pinedale Array**	**41.78**	**77**	P	**P**	**06 29 14.6**	**+0.7**
	0.5nm,0.7s,baz=295,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**54.05**	**87**	P	**P**	**06 30 49.5**	**+0.7**
	0.3nm,0.5s,baz=294,slow=3.9,SNR=4.9						
MKAR	**Makanchi Array**	**63.27**	**312**	P	P	06 31 44.5	-8.1
	0.7nm,0.8s,baz=139,slow=2.9,SNR=2.4						
ASAR	**Alice Springs**	**89.04**	**228**	P	**P**	**06 34 17.1**	**-1.7**
	0.5nm,0.7s,baz=25,slow=6.4,SNR=4.6						

NNC ***25*** *06:44:58.9±10.0,53.˚61N×86.˚62E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=84.6km s-min=62.7km az=13.0*

IDC 25 06:44:54.4±2.4,54.˚13N×86.˚48E,h0km,mb1 3.5/2, mb1mx3.1/46,mbtmp3.5/2,ML3.2/2,2C-7D,Error ellipse: s-maj=18.6km s-min=11.8km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**260**	*i*		06 51 30.0	
	baz=80,slow=314,SNR=3.6						
ZALV	**Zalesovo Beam**	**0.99**	**260**	Pg	Pg	06 45 11.8	-1.6
	3.9nm,0.3s,baz=78,slow=17,SNR=42						
ZALV				Lg	Lg	06 45 28.0	
	7.6nm,0.3s,baz=77,slow=29,SNR=32						
ZALV				Rg	Rg	06 45 36.5	
	88nm,1.1s,baz=75,slow=29,SNR=28						
KURK	**Kurchatov**	**5.90**	**238**	⇓Pn	Pn	06 46 25.6	+2.7
	9.1nm,0.4s						
KURK				⇓Sn	Sn	06 47 29.7	-1.5
	2.6nm,0.3s						
KURK				⇓Lg	Lg	06 48 04.4	
	29nm,1.0s						
KURBB	**Kurchatov Arra**	**6.00**	**237**	Pn	Pn	06 46 25.5	+1.2
	0.4nm,0.3s,baz=54,slow=13,SNR=41						
KURBB				Sn	Sn	06 47 32.0	-1.7
	baz=55,slow=18,SNR=3.1						
KURBB				Lg	Lg	06 48 05.9	
	0.1nm,0.3s,baz=55,slow=32,SNR=5.0						
KURBB	**Kurchatov Arra**	**6.00**	**237**	⇓Pn	Pn	06 46 25.2	+0.9
	7.3nm,0.8s						
KURBB				⇓Sn	Sn	06 47 33.5	-0.2
	2.1nm,0.7s						
KURBB				⇑Lg	Lg	06 48 07.5	
	6.8nm,0.7s						
MK31	**Makanchi Array**	**7.81**	**202**	⇑Pn	Pn	06 46 51.4	+2.1
	0.7nm,0.6s,baz=25,slow=13,SNR=18						
MK31				⇓Sn	Sn	06 48 14.0	-4.3
	0.4nm,0.5s,baz=30,slow=26						
MK31				⇓Lg	Lg	06 48 57.4	
	4.3nm,0.9s,baz=36,slow=26,SNR=5.1						
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn	06 46 50.4	+1.2
	0.5nm,0.3s,baz=22,slow=13,SNR=22						
MKAR				Sn	Sn	06 48 17.1	-1.2
	0.2nm,0.3s,baz=26,slow=27,SNR=5.2						
MKAR				Lg	Lg	06 49 03.1	
	0.2nm,0.3s,baz=23,slow=33,SNR=5.8						

ISCJB ***25*** *06:47:45.1±0.6,0.˚38S±0.˚05×123.˚78E±0.˚05,h100km, mb3.3/4,Error ellipse: s-maj=7.3km s-min=6.8km az=14.1*

DJA ***25*** *06:47:45.5±0.5,0.˚5S±4.˚×12.˚4E±.˚,h100km±10km,M4.5/6, mB5.3/1,mb4.8/1,MLv4.3/6,Mw(mB)4.7/1*

IDC ***25*** *06:47:55.7±9.1,0.˚47S×123.˚08E,h169km±92km,mb3.0/4, mb1 3.2/5,mb1mx3.0/44,mbtmp3.6/5,MS2.4/1,Ms1 2.4/1, ms1mx2.1/15,Error ellipse: s-maj=88.5km s-min=19.2km az=53.0*

ISC 25 06:47:47.2±1.0,0.˚32S±0.˚06×123.˚77E±0.˚05,h100km,n11, σ2.35/15,mb3.4/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.91**	**13**	P	**Pn**	**06 48 05.6**	**-1.1**
KMSI				S	**Sn**	**06 48 21.2**	**-0.1**
LUWI	**Luwuk**	**1.23**	**234**	P	**Pn**	**06 48 08.5**	**-1.8**
LUWI				S	**Sn**	**06 48 26.6**	**-1.1**
MRSI	**Marisa**	**1.99**	**293**	P	**Pn**	**06 48 18.3**	**-1.4**
MRSI				S	**Sn**	**06 48 44.1**	**-0.4**
SANI	**Sanana**	**2.81**	**128**	P	**Pn**	**06 48 28.0**	**-2.4**
SANI				S	**Sn**	**06 49 01.6**	**-2.1**
PCI	**Palu**	**3.98**	**262**	P	**Pn**	**06 48 44.2**	**-1.9**
KAPI	**Kappang**	**6.16**	**221**	P	**Pn**	**06 49 17.0**	**+1.3**
	6.0nm,0.3s,baz=42,slow=6.2,SNR=9.4						
KAPI				S	**Sn**	**06 50 22.0**	**-2.7**
	4.5nm,0.3s,baz=159,slow=21,SNR=6.1						
JAY	**Jayapura**	**17.07**	**98**	LR	LR	07 00 10.9	
	comp=Z,11nm,18.8s,slow=42						
WRA	**Warramunga Arr**	**22.08**	**153**	P	**P**	**06 52 37.5**	**+3.1**
	0.5nm,0.6s,baz=336,slow=9.7,SNR=8.0						
ASAR	**Alice Springs**	**25.21**	**158**	P	**P**	**06 53 08.8**	**+5.0**
	0.9nm,0.9s,baz=340,slow=8.3,SNR=4.5						
MKAR	**Makanchi Array**	**59.29**	**328**	P	**P**	**06 57 38.7**	**+0.2**
	0.2nm,0.3s,baz=130,slow=8.8,SNR=6.1						
KURBB	**Kurchatov Arra**	**63.62**	**330**	P	**P**	**06 58 06.7**	**-0.9**
	0.2nm,0.3s,baz=144,slow=6.6,SNR=5.4						

NIED ***25*** *06:54:00,37.˚00N×142.˚50E,h17km,Mw4.6 Best double couple: M₀9.24000×10¹⁵ NP1:φ₈127.00000°,δ34.00000°, λ-18.00000°. NP2:φ₈232.00000°,δ80.00000°, λ-123.00000°.*

BJI ***25*** *06:54:24.9,37.˚13N×142.˚93E,h13km,mb4.7/58,mB5.0/40, Ms4.6/42,Ms7 4.4/41*

JMA ***25*** *06:54:27.8±0.3,37.˚02N×142.˚47E,h15km±4km,M4.7*

JMA Felt II J1.

IDC ***25*** *06:54:28.5±0.5,37.˚04N×142.˚34E,h0km,mb4.5/27, mb1 4.6/34,mb1mx4.5/48,mbtmp4.5/34,ML4.3/5,MS4.0/28, Ms1 4.0/28,ms1mx3.8/47,Error ellipse: s-maj=14.4km s-min=11.6km az=116.0*

NEIC ***25*** *06:54:31.0±1.7,37.˚07N×142.˚36E,h13km±11km,mb4.7/59, Error ellipse: s-maj=4.5km s-min=3.5km az=131.0*

NEIC Recorded [2 JMA] in Fukushima and Miyagi.

ISCJB ***25*** *06:54:31.5±0.2,37.˚05N±0.˚02×142.˚36E±0.˚02,h29km, mb4.7/113,MS4.2/31,Error ellipse: s-maj=3.3km s-min=2.6km az=174.9*

MOS ***25*** *06:54:34.2±1.0,37.˚47N×142.˚20E,h34km,mb4.9/52, MS4.4/11,Error ellipse: s-maj=1.7km s-min=4.8km az=104.1*

ISC 25 06:54:31.9±0.4,37.˚10N±0.˚04×142.˚47E±0.˚04,h21km±3km, h20km:pP-P,n295,σ1.971/305,mb4.7/113,MS4.3/31, 15C-7D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.30**	**282**	P	**Pn**	**06 54 51.5**	**-3.4**
JFK				S	**Sn**	**06 55 08.4**	**-3.2**
ONAJ	**Iwakimizuishiy**	**1.33**	**271**	P	**Pn**	**06 54 51.7**	**-3.6**
ONAJ				*e*S	**Sn**	**06 55 09.1**	**-3.4**
JMM	**Marumori**	**1.54**	**300**	P	**Pn**	**06 54 55.3**	**-2.8**
JMM				S	**Sn**	**06 55 15.4**	**-2.0**
JHO	**Hitachi**	**1.60**	**253**	P	**Pn**	**06 54 55.3**	**-3.6**
JIO	**Ouri**	**1.62**	**327**	P	**Pn**	**06 54 57.3**	**-1.9**
JIO				*e*S	**Sn**	**06 55 18.0**	**-1.4**
JFT	**Otama**	**1.75**	**285**	P	**Pn**	**06 54 59.1**	**-1.9**
JFT				*e*S	**Sn**	**06 55 21.7**	**-1.0**
JOU	**Okura**	**1.91**	**312**	P	**Pn**	**06 55 01.7**	**-1.5**
JOU				*e*S	**Sn**	**06 55 26.9**	**+0.2**
JMK	**Ichinoseki**	**2.10**	**332**	P	**Pn**	**06 55 04.7**	**-1.1**
JYS	**Shirataka**	**2.21**	**301**	P	**Pn**	**06 55 06.6**	**-0.8**
JYS				*e*S	**Sn**	**06 55 34.9**	**+0.8**
JFY	**Yanaizu**	**2.23**	**279**	P	**Pn**	**06 55 06.4**	**-1.2**
JYK	**Kaneyama**	**2.46**	**318**	P	**Pn**	**06 55 09.5**	**-1.3**
JYK				*e*S	**Sn**	**06 55 40.5**	**+0.2**
JAG	**Ashikaga**	**2.51**	**255**	P	**Pn**	**06 55 08.9**	**-2.6**
JAG				S	**Sn**	**06 55 39.3**	**-2.2**
JOM	**Ohasama**	**2.55**	**339**	P	**Pn**	**06 55 11.3**	**-0.6**
JOM				*e*S	**Sn**	**06 55 43.8**	**+1.5**
BSO1	**Boso 1**	**2.72**	**207**	P	**Pn**	**06 55 12.9**	**-1.0**
BSO1				*e*S	**Sn**	**06 55 45.5**	**-0.4**
MJAR	**Matsushiro Arr**	**3.46**	**262**	Pn	**Pn**	**06 55 23.4**	**-1.2**
	51nm,0.3s,baz=90,slow=15,SNR=209						
MJAR				Sn	**Sn**	**06 56 05.6**	**+0.7**
	50nm,0.3s,baz=109,slow=16,SNR=6.6						
MJAR				LR	LR	06 56 56.9	
	comp=Z,2μm,18.6s,baz=105,slow=45						
MAJO	**Matsushiro**	**3.46**	**262**	*e*P	**Pn**	**06 55 24.3**	**-0.3**
MAJO				*e*		06 56 10.2	
MAJO	**Matsushiro**	**3.46**	**262**	*e*Pn	**Pn**	**06 55 24.2**	**-0.3**
MAJO				*e*Sn	**Sb**	**06 56 10.2**	**-3.9**
MAT	**Matsushiro**	**3.46**	**262**	P	**Pn**	**06 55 23.4**	**-1.2**
MAT				S	**Sn**	**06 56 06.7**	**+1.7**
MJB9	**Matsu-Tunnel**	**3.46**	**262**	*e*Pn	**Pn**	**06 55 24.6**	**0.0**
JHJ2	**Mitsune**	**4.53**	**209**	*e*Pn	**Pn**	**06 55 38.3**	**-0.9**
JHJ	**Hachijo jima 2**	**4.54**	**210**	Pn	**Pn**	**06 55 36.9**	**-2.5**
	115nm,0.3s,baz=80,slow=23,SNR=25						
JHJ				Sn	**Sn**	**06 56 26.7**	**-4.8**
	105nm,0.3s,baz=49,slow=22,SNR=8.4						
JHJ				LR	LR	06 57 39.3	
	comp=Z,1μm,18.3s,baz=316,slow=43						
INU	**Inuyama**	**4.74**	**250**	*e*Pn	**Pn**	**06 55 43.5**	**+1.3**
ERM	**Erimo**	**4.94**	**6**	*e*P	**Pn**	**06 55 43.3**	**-1.5**
ERM				*e*		06 56 39.7	
ERM	**Erimo**	**4.94**	**6**	*e*Pn	**Pn**	**06 55 43.3**	**-1.5**
ERM				*e*Sn	**Sn**	**06 56 39.7**	**-1.6**
ASAJ	**Asahikawa**	**7.01**	**1**	Pn	**Pn**	**06 56 12.6**	**-0.7**
	13nm,0.3s,baz=185,slow=9.2,SNR=23		

BJI PMZ
comp=Z,8.0nm,0.7s
BJI PMZ
comp=Z,260nm,5.3s
BJI LN
comp=Z,530nm,14.0s
BJI LE
comp=Z,320nm,14.0s
BJI LZ
comp=Z,220nm,25.8s
ANA2 Anatahan 20.87 171 *e*P P 06 59 11.0 -1.7
SSLB Suanglung 22.74 240 *e*P P 06 59 31.5 -1.2
comp=Z,70nm,1.6s
CLNS Chul'man 22.98 335 *e*P P 06 59 31.7 -3.2
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.9s
MA2 Magadan 23.12 11 P P 06 59 35.4 -0.9
comp=E,7.6nm,0.6s,baz=221,slow=9.3,SNR=6.3
GUMO Guam 23.51 174 LR LR 07 07 35.2
comp=E,97nm,21.4s,baz=26,slow=34
HHC Hu-ho-hao-te 24.25 288 *e*P P 06 59 47.5 0.0
HHC PP **PnPn 07 00 18.0 +0.6**
HHC S **S 07 04 02.8 -2.3**
HHC sS sS 07 04 14.5 -0.9
HHC PMZ
comp=E,24nm,1.0s
HHC PMZ
comp=E,170nm,5.4s
HHC LN
comp=E,460nm,13.1s
HHC LE
comp=E,340nm,13.3s
HHC LZ
comp=E,260nm,13.7s
YAK Yakutsk 26.20 346 P P 07 00 04.5 -0.3
comp=E,42nm,0.6s,baz=311,slow=0.7,SNR=12
YAK LR LR 07 10 39.2
comp=E,351nm,19.1s,baz=152,slow=37
YAK Yakutsk 26.20 346 *e*P P 07 00 04.4 -0.4
YAK *e**PP **pP 07 00 12.2 +1.2**
YAK *e* 07 00 40.5
YAK *e*PPP PPP 07 00 52.3
YAK *e* 07 03 33.4
YAK *e*S **S 07 04 31.3 -4.2**
YAK pmax pmax
comp=Z,39nm,0.8s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=Z,69nm,2.8s
YAK pmax pmax
comp=N,94nm,3.3s
YAK pmax pmax
comp=E,25nm,1.5s
YAK smax smax
comp=N,49nm,2.5s
YAK smax smax
comp=E,34nm,2.5s
YAK MLR MLR
comp=Z,733nm,15.0s
YAK MLR MLR
comp=N,460nm,14.0s
YAK MLR MLR
comp=E,273nm,14.0s
YAK Yakutsk 26.20 346 *e*P P 07 00 04.3 -0.4
comp=E,56nm,0.7s
SEY Seymchan 26.57 10 P P 07 00 09.7 +1.6
comp=E,8.1nm,0.7s,baz=199,slow=8.6,SNR=18
SEY Seymchan 26.57 10⇑ *e*P P 07 00 09.5 +1.3
XAN Xi'an 27.38 274 P P 07 00 19.8 +4.0
XAN pP sP 07 00 27.3 +2.7
XAN PMZ
comp=E,20nm,0.7s
XAN PMZ
comp=E,190nm,7.2s
H11N2 WAKE ISLAND Hy 27.46 122 T T 07 29 54.4
baz=313,slow=74
H11N1 WAKE ISLAND Hy 27.47 122 T T 07 29 58.9
baz=313,slow=74
H11N3 WAKE ISLAND Hy 27.48 122 T T 07 29 17.9
baz=313
BOD Bodaibo 27.93 327 *e*P P 07 00 18.9 -1.5
BOD pmax pmax
comp=Z,20nm,0.8s
ULN Ulaanbaatar 28.02 304⇑ *e*P P 07 00 19.8 -1.7
ULN pmax pmax
comp=Z,8.0nm,0.8s
ULN Ulaanbaatar 28.02 304 *e*P P 07 00 20.8 -0.7
comp=Z,7.4nm,0.7s
H11S1 WAKE ISLAND Hy 28.19 124 T T 07 30 09.7
baz=316
H11S3 WAKE ISLAND Hy 28.19 125 T T 07 31 46.0
baz=316,slow=74
H11S2 WAKE ISLAND Hy 28.21 124 T T 07 31 43.9
baz=316,slow=74
SONA1 Songino Array 28.45 304 *e*P P 07 00 25.0 -0.3
SONM Songino Array 28.45 304 P P **07 00 24.4 -0.9**
comp=Z,12nm,0.8s,baz=98,slow=9.0,SNR=41
SONM LR LR 07 11 55.1
comp=Z,278nm,19.2s,baz=88,slow=37
LZH Lanzhou 30.89 280 *e*P P 07 00 45.8 -1.3
LZH pP sP 07 00 56.3 +0.4
LZH sP pP 07 01 00.0 +6.6
LZH PMZ
comp=Z,15nm,1.0s
LZH PMZ
comp=Z,89nm,5.8s
LZH LN
comp=Z,690nm,15.8s
LZH LE
comp=Z,640nm,13.4s
LZH LZ
comp=Z,850nm,16.0s
ZAK Zakamensk 30.89 308 *e*P P 07 00 44.3 -2.6
ZAK pmax pmax
comp=Z,10.0nm,1.2s
TLY Talaya 30.93 311 LR LR 07 13 54.6
comp=Z,529nm,18.1s,baz=104,slow=38
TLY Talaya 30.93 311 *e*P P 07 00 47.3 +0.2
TLY pmax pmax
comp=Z,16nm,1.5s
TLY MLR MLR
comp=Z,599nm,18.0s
GYA Guiyang 32.06 261⇓ *i*P P 07 00 55.5 -2.0
GYA pP sP 07 01 08.3 +2.0
GYA PP **PnPn 07 02 05.5 +2.5**
GYA S **S 07 06 07.8 -0.8**
GYA sS sS 07 06 22.0 +3.0
GYA SS **SnSn 07 08 01.5 +2.8**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,110nm,5.0s
GYA LN
comp=Z,470nm,16.5s
GYA LE
comp=Z,390nm,17.0s
GYA LZ
comp=Z,420nm,16.4s
CD2 Chengdu 32.52 271 *e*P P 07 01 00.8 -0.5
CD2 pP sP 07 01 09.5 -0.7
CD2 sP pP 07 01 13.3 +5.7
CD2 S **S 07 06 14.5 -0.9**
CD2 sS sS 07 06 29.0 +3.2
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
GTA Gaotai 33.35 287 *e*P P 07 01 11.3 +2.7
GTA pP sP 07 01 20.5 +3.0
GTA S **S 07 06 30.0 +1.6**
GTA SS **SnSn 07 08 36.0 +6.3**
GTA PMZ
comp=Z,5.0nm,0.7s
GTA PMZ
comp=Z,100nm,5.3s
GTA LN
comp=Z,250nm,14.7s
GTA LE
comp=Z,190nm,15.2s
GTA LZ
comp=Z,280nm,15.2s

QIZ Qiongzhong 33.73 247 P P 07 01 15.3 +3.4
QIZ S **S 07 06 34.5 +0.2**
QIZ LZ
comp=Z,110nm,19.4s
BILL Bilibino 33.73 16⇑ *e*P P 07 01 10.8 -0.6
BILL *e* 07 02 23.7
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL MLR MLR
comp=Z,181nm,17.0s
TIXI Tiksi 35.33 353 P P 07 01 25.0 -0.2
comp=Z,1.9nm,0.6s,baz=163,slow=6.7,SNR=3.9
TIXI Tiksi 35.33 353 P P 07 01 25.0 -0.2
KMI Kunming 35.80 262 P P 07 01 30.5 +0.4
KMI PMZ
comp=Z,25nm,0.7s
KMI LN
comp=Z,570nm,4.4s
KMI LE
comp=Z,410nm,4.8s
KMI LZ
comp=Z,350nm,24.7s
KWAJ Kwajalein Atol 36.23 135 *e*P P 07 01 34.2 +0.7
KWAJ pmax pmax
comp=Z,858nm,1.4s
KWAJ Kwajalein Atol 36.23 135 *e*P P 07 01 34.2 +0.7
comp=Z,858nm,1.4s
SPIA Saint Paul Isl 36.96 42 *e*P P 07 01 39.7 +0.5
comp=Z,140nm,1.6s
NIKH Nikolski High 37.10 49 *e*P P 07 01 41.5 +1.0
comp=Z,29nm,1.2s
WMQ Urumqi 41.56 297 P P 07 02 19.5 +1.5
WMQ PMZ
comp=Z,11nm,0.6s
WMQ PMZ
comp=Z,61nm,4.0s
WMQ LN
comp=Z,240nm,17.4s
WMQ LE
comp=Z,140nm,15.8s
WMQ LZ
comp=Z,96nm,21.2s
CMAR Chiang Mai Arr 42.33 256 P P 07 02 24.5 +0.1
comp=Z,1.4nm,0.3s,baz=40,slow=7.1,SNR=3.9
CMAR LR LR 07 22 19.2
comp=Z,212nm,18.1s,baz=85,slow=40
ZAA0 Zalesovo Array 42.49 312 *e*P P 07 02 25.7 +0.3
ZALV Zalesovo Beam 42.49 312 P P 07 02 24.8 -0.6
comp=Z,14nm,0.8s,baz=91,slow=6.8,SNR=39
ZALV PcP **PcP 07 04 15.9 -1.9**
comp=Z,1.0nm,0.5s,baz=113,slow=5.5,SNR=2.3
ZALV LR LR 07 20 43.2
comp=Z,364nm,18.3s,baz=76,slow=37
NVS Novosibirsk 43.41 314 *e*P P 07 02 32.5 -0.2
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,12nm,0.9s
NVS pmax pmax
comp=Z,17nm,0.9s
NRIK Noril'sk 43.56 335 P P 07 02 32.9 -1.0
comp=Z,3.7nm,0.7s,baz=111,slow=3.2,SNR=6.3
NRIK LR LR 07 21 58.2
comp=Z,473nm,18.0s,baz=104,slow=38
MK01 Makanchi Array 44.80 302 *e*P P 07 02 43.5 -0.6
MK31 Makanchi Array 44.80 302 *e*P P 07 02 43.3 -0.8
MK31 Makanchi Array 44.80 302 *e*P P 07 02 43.3 -0.8
MKAR Makanchi Array 44.80 302 P P 07 02 43.3 -0.8
comp=Z,7.2nm,0.7s,baz=88,slow=9.9,SNR=88
MKAR LR LR 07 21 30.7
comp=Z,141nm,19.2s,baz=85,slow=36
TT01 Tatalina 44.88 35 *e*P P 07 02 46.1 +1.6
SVW2 Sparrevohn 44.96 37 *e*P P 07 02 47.3 +2.1
comp=Z,3.9nm,0.7s
MAKZ Makanchi 45.01 302 *e*P P 07 02 45.0 -0.8
MAKZ pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 45.01 302 *e*P P 07 02 45.0 -0.8
comp=Z,9.2nm,0.9s
OHAK Old Harbor 46.13 43 *e*P P 07 02 55.5 +1.1
comp=Z,23nm,1.5s
KDAK Kodiak Island 46.49 42 *e*P P 07 02 58.1 +0.9
KDAK pmax pmax
comp=Z,7.0nm,0.8s
KDAK Kodiak Island 46.49 42 *e*P P 07 02 58.1 +0.9
comp=Z,7.0nm,0.8s
KURK Kurchatov 46.56 308*c i*P P 07 02 56.9 -0.9
KURK pmax pmax
comp=Z,64nm,0.7s
KURK Kurchatov 46.56 308 *e*P P 07 02 57.0 -0.9
comp=Z,102nm,1.0s
KURBB Kurchatov Arra 46.63 308 P P **07 02 57.5 -0.9**
comp=Z,12nm,0.6s,baz=84,slow=7.9,SNR=134
CAST Castle Rocks 46.70 34 *e*P P 07 03 00.5 +1.6
comp=Z,2.8nm,0.7s
SUA Susitna One 47.30 37 *e*P P 07 03 04.8 +1.1
comp=Z,6.6nm,1.0s
MLY Manley 47.35 32 *e*P P 07 03 06.1 +2.1
comp=Z,4.3nm,0.8s
PDGK Podgornoye 47.49 298 P P **07 03 03.7 -1.6**
PDGK pmax pmax
comp=Z,17nm,1.1s
TRF Thorofare Moun 47.51 34 *e*P P 07 03 07.5 +2.1
comp=Z,3.2nm,0.7s
PMR Palmer 48.07 37 *e*P P 07 03 10.4 +0.9
PMR pmax pmax
comp=Z,4.0nm,0.9s
PMR Palmer 48.07 37 *e*P P 07 03 10.4 +0.9
comp=Z,4.4nm,0.9s
RND Reindeer 48.15 34 *e*P P 07 03 11.2 +1.0
RND pmax pmax
comp=Z,5.0nm,0.7s
RND Reindeer 48.15 34 *e*P P 07 03 11.2 +1.0
comp=Z,4.9nm,0.7s
MDM Murphy Dome 48.41 32 *e*P P 07 03 14.0 +1.8
comp=Z,6.9nm,0.8s
SML Sawmill 48.44 36 *e*P P 07 03 13.8 +1.3
SML pmax pmax
comp=Z,7.0nm,0.8s
SML Sawmill 48.44 36 *e*P P 07 03 13.8 +1.3
comp=Z,7.1nm,0.8s
WRH Wood River Hil 48.48 33 *e*P P 07 03 13.8 +1.1
comp=Z,2.3nm,0.7s
DHY Denali Highway 48.83 35 *e*P P 07 03 16.9 +1.3
comp=Z,4.1nm,1.0s
SCM Sheep Creek Mo 48.92 36 *e*P P 07 03 17.7 +1.6
SCM pmax pmax
comp=Z,8.0nm,0.9s
SCM Sheep Creek Mo 48.92 36 *e*P P 07 03 17.7 +1.6
comp=Z,7.7nm,0.9s
IL1 Eielson Array 48.99 32 *e*P P 07 03 17.3 +0.8
ILAR Eielson Array 48.99 32 P P **07 03 17.3 +0.7**
comp=Z,3.7nm,0.7s,baz=265,slow=6.4,SNR=62
ILB Eielson Array 48.99 32 *e*P P 07 03 17.6 +1.1
KLU Klutina 49.61 37 *e*P P 07 03 23.3 +1.9
comp=Z,6.8nm,0.9s
DOT Dot Lake 50.28 34 *e*P P 07 03 27.3 +0.9
comp=Z,6.0nm,0.7s
TKM2 Tokmak 2 50.34 299 P P **07 03 26.6 -0.8**
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 50.34 299 *e*P P 07 03 27.3 -0.2
comp=Z,13nm,0.8s
MENT Mentasta 50.50 35 *e*P P 07 03 28.6 +0.5
comp=Z,4.3nm,0.9s
COEN Coen 50.78 179 *e*P P 07 03 30.9 +0.3
comp=Z,99nm,1.9s
VOSK Vostochnaya 50.87 312 P P **07 03 29.3 -1.7**
VOSK pmax pmax
comp=Z,15nm,1.0s
VOSK Vostochnaya 50.87 312 *e*P P 07 03 30.5 -0.5
comp=Z,14nm,0.9s
CHKZ Chkalovo 50.88 313 P P **07 03 29.6 -1.5**
CHKZ pmax pmax
comp=Z,18nm,1.3s
FRU Bishkek 51.05 299 *e*P P 07 03 34.0 +1.4
FRU *e* 07 03 40.0
OTUK Ortayu 51.07 306 P P **07 03 31.6 -1.0**
OTUK pmax pmax
comp=Z,17nm,0.9s
KSH Kashi 51.15 294 *e*P P 07 03 37.0 +3.5
KSH pP sP 07 03 45.5 +3.0
KSH PcP **PcP 07 04 50.0 +1.1**
KSH PP **PP 07 05 34.0 +3.9**
KSH S **S 07 10 52.8 +2.3**
KSH ScS **ScS 07 13 20.5 -2.5**

KSH PMZ
comp=Z,2.0nm,0.3s
KSH PMZ
comp=Z,80nm,3.7s
KSH LN
comp=Z,200nm,11.9s
KSH LE
comp=Z,160nm,7.5s
KSH LZ
comp=Z,620nm,15.9s
BVA0 Borovoye Array 51.15 312 P P **07 03 32.1 -1.0**
BVA0 pmax pmax
comp=Z,12nm,1.2s
AAK Ala-Archa 51.20 299⇓ *e*P P 07 03 33.6 -0.3
AAK pmax pmax
comp=Z,5.0nm,0.6s
AAK Ala-Archa 51.20 299 *e*P P 07 03 33.3 -0.6
comp=Z,9.9nm,1.1s
BRVK Borovoye 51.21 313*c i*P P 07 03 34.5 +1.0
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 51.21 313 *e*P P 07 03 33.3 -0.2
comp=Z,26nm,0.9s
BALM Baldy 51.38 37 *e*P P 07 03 35.5 +0.6
BALM pmax pmax
comp=Z,7.0nm,1.3s
BALM Baldy 51.38 37 *e*P P 07 03 35.5 +0.6
comp=Z,7.1nm,1.3s
EGAK Eagle 51.44 32 *e*P P 07 03 36.2 +1.2
comp=Z,3.2nm,1.0s
EKS2 Erkin-Say 51.70 299 *e*P P 07 03 37.2 -0.3
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 51.70 299 *e*P P 07 03 37.2 -0.3
comp=Z,5.0nm,0.8s
ZRNK Zerenda 51.98 313 *e*P P 07 03 38.9 -0.5
ZRNK pmax pmax
comp=Z,12nm,1.0s
ZRNK Zerenda 51.98 313 *e*P P 07 03 38.9 -0.5
comp=Z,12nm,1.0s
MNAS Manas 52.64 299 P P **07 03 43.8 -0.8**
MNAS pmax pmax
comp=Z,15nm,1.4s
KK31 Karatay Array 53.82 300 *i* P P 07 03 51.3 -1.8
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 53.82 300 *e*P P 07 03 53.3 +0.2
KKAR Karatay Array 53.82 300 *e*P P 07 03 53.2 +0.2
INK Inuvik 53.95 27 P P **07 03 54.8 +1.3**
comp=Z,3.8nm,0.6s,baz=248,slow=4.1,SNR=5.8
INK Inuvik 53.95 27 *e*P P 07 03 54.8 +1.3
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 53.95 27 *e*P P 07 03 54.8 +1.3
comp=Z,4.7nm,0.7s
SVE Sverdlovsk 55.66 319 *e*P P 07 04 06.3 +0.2
SVE pmax pmax
comp=Z,37nm,0.9s
SVE MLR MLR
comp=Z,673nm,17.0s
ARU Arti 56.87 319 LR LR 07 31 25.1
comp=Z,251nm,18.1s,baz=84,slow=39
ARU Arti 56.87 319*c i*P P 07 04 14.4 -0.4
ARU 07 05 08.7
ARU 07 06 17.7
ARU S **S 07 12 07.9 +0.8**
ARU SS **SS 07 15 49.4 -5.4**
ARU pmax pmax
comp=Z,14nm,0.7s
ARU MLR MLR
comp=Z,471nm,17.0s
ARU Arti 56.87 319 *e*P P 07 04 14.8 +0.1
comp=Z,22nm,0.8s
FITZ Fitzroy Crossi 57.15 199 *e*P P 07 04 19.0 +1.8
comp=Z,31nm,1.7s
WRAB Tennant Creek 57.24 189⇓ *e*P P 07 04 16.2 -1.5
WRAB pmax pmax
comp=Z,55nm,2.5s
WRAB Tennant Creek 57.24 189 *e*P P 07 04 16.6 -1.1
comp=Z,15nm,1.1s
WB2 Warramunga Arr 57.25 189 *e*P P 07 04 16.8 -1.1
comp=Z,9.8nm,0.8s
WRA Warramunga Arr 57.25 189 P P **07 04 16.3 -1.5**
comp=Z,6.4nm,0.8s,baz=7.8,slow=7.7,SNR=51
WC3 Warramunga Arr 57.26 189 *e*P P 07 04 16.6 -1.3
comp=Z,68nm,2.0s
DLBC Dease Lake 58.05 38 P P **07 04 25.6 +2.3**
comp=Z,1.4nm,0.7s,baz=331,slow=8.1,SNR=4.3
KBL Kabul 58.18 291 *e*P P 07 04 23.6 -1.0
KBL pmax pmax
comp=Z,14nm,1.1s
KBL Kabul 58.18 291 *e*P P 07 04 23.6 -1.0
comp=Z,14nm,1.1s
AB31 Akbulak array 58.54 310 *i* P P 07 04 25.4 -1.3
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 58.54 310 *e*P P 07 04 25.8 -0.8
HYB Hyderabad 59.05 269 *i* P P 07 04 30.0 -0.7
AKTO Aktyubinsk 59.26 312 LR LR 07 31 10.0
comp=Z,224nm,18.2s,slow=37
AKTO Aktyubinsk 59.26 312 P P **07 04 30.5 -1.1**
AKTO pmax pmax
comp=Z,10.0nm,0.9s
SPA1 Spitsbergen Ar 60.62 349 *e*P P 07 04 41.7 +1.1
AS01 Alice Springs 60.97 189 *e*P P 07 04 43.3 -0.2
ASAR Alice Springs 60.98 189 P P **07 04 42.6 -1.0**
comp=Z,2.2nm,0.7s,baz=15,slow=6.7,SNR=24
ASAR LR LR 07 29 49.6
comp=Z,81nm,21.6s,baz=4.5,slow=35
LVZ Lovozero 62.40 336⇑ *e*P P 07 04 52.8 +0.1
LVZ pmax pmax
comp=Z,26nm,2.1s
LVZ Lovozero 62.40 336 *e*P P 07 04 53.2 +0.5
comp=Z,9.3nm,0.9s
DZM Mont Dzumac 63.05 155 *e*LR LR 07 23 47.6
comp=Z,252nm,21.8s
PALK Pallekele 63.21 258 *i* P P 07 04 59.9 +1.0
YKA Yellowknife Ar 63.33 30 P P **07 04 59.1 +0.1**
comp=Z,1.0nm,0.7s,baz=303,slow=6.8,SNR=14
KLMR Klimovskoe 64.15 328 *e*P P 07 05 02.5 -1.9
KLMR 07 07 23.2
KLMR pmax pmax
comp=Z,10.0nm,0.9s
ARA0 ARCESS Array S 64.23 340 *e*P P 07 05 05.2 +0.3
ARCES ARCESS Array B 64.23 340 P P **07 05 04.9 +0.1**
comp=Z,3.5nm,0.7s,baz=52,slow=6.2,SNR=8.3
ARCES LR LR 07 35 35.9
comp=Z,99nm,21.4s,baz=58,slow=38
GEYT Alibeck 64.54 299 P P **07 05 06.9 -0.6**
comp=Z,3.2nm,0.7s,baz=39,slow=5.7,SNR=5.1
GEYT LR LR 07 35 01.9
comp=Z,90nm,18.2s,baz=45,slow=38
DAG Danmarks Havn 65.78 355 *i* P P 07 05 14.5 -0.3
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 65.78 355 *i* P P 07 05 14.5 -0.3
comp=Z,2.7nm,0.7s
VRH Novokhopyorsk 68.10 318 *e*P P 07 05 27.9 -2.0
VRH *e**SP **pP 07 05 36.0 -0.6**
VRH pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 68.55 324 *i* P P 07 05 31.1 -1.5
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,157nm,18.0s
STKA Stephens Creek 68.62 181 P P **07 05 33.2 -0.1**
comp=Z,3.5nm,0.8s,baz=16,slow=7.4,SNR=4.1
FIA1 FINESS Array S 69.15 333 *e*P P 07 05 36.5 +0.2
comp=Z,19nm,0.8s
FINES FINESS Array B 69.15 333 P P **07 05 36.3 0.0**
comp=Z,13nm,0.7s,baz=48,slow=8.5,SNR=58
FINES LR LR 07 38 09.3
comp=Z,196nm,18.3s,baz=5.5,slow=38
VSR Storozhevoye 69.44 319 *e*P P 07 05 37.3 -1.0
VSR *e**SP **sP 07 05 46.3 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
SUMG Summit 70.62 0⇑ *i*P P 07 05 46.7 +1.0
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 70.62 0⇑ *i*P P 07 05 46.7 +1.0
comp=Z,5.9nm,0.8s
SUMG Summit 70.62 0 *e*P P 07 05 46.5 +0.8
comp=Z,5.8nm,0.7s
KBZ Khabaz 71.50 311 P P **07 05 51.4 +0.4**

comp=Z,5.5nm,0.8s,baz=36,slow=2.2,SNR=15
KBZ LR LR 07 41 59.1
comp=Z,161nm,18.7s,baz=54,slow=40
KIV Kislovodsk 71.50 311⇑ *e*P **P 07 05 52.2 +1.1**
KIV *e* 07 05 59.5
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,116nm,18.0s
NEY Neytrino 71.87 311⇑ *e*P **P 07 05 54.9 +1.4**
LRM Limekiln Ridge 73.51 45 *e*P **P 07 06 04.7 +1.5**
FCC Fort Churchill 73.56 27 *e*P **P 07 06 03.2 +0.2**
FCC pmax pmax
comp=Z,12nm,1.4s
FCC Fort Churchill 73.56 27 *e*P **P 07 06 03.2 +0.2**
comp=Z,12nm,1.4s
DLMT Dillon 73.70 45 *e*P **P 07 06 05.5 +1.2**
comp=Z,3.8nm,0.6s
BOZ Bozeman (W) 74.08 45 *e*P **P 07 06 07.3 +0.8**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 74.08 45 *e*P **P 07 06 07.3 +0.8**
comp=Z,3.6nm,0.8s
ANN Anapa 74.09 314 *e*P P 07 05 59.2 -7.1
ANN *e**PP pP 07 06 09.6 -3.5
ANN *e* 07 06 15.8
ANN *e*S **SKiKP 07 15 25.3 -7.7**
ANN pmax pmax
comp=Z,70nm,1.5s
NC405 NORSAR Array S 74.24 338 *e*P **P 07 06 07.7 +0.7**
NC204 NORSAR Array S 74.40 338 *e*P **P 07 06 08.0 0.0**
NB201 NORSAR Array S 74.42 338 *e*P **P 07 06 08.5 +0.5**
NB2 NORSAR Subarra 74.45 338 P **P 07 06 08.2 0.0**
comp=Z,12nm,0.9s,baz=38,slow=6.2
NOA NORSAR Array B 74.45 338 P **P 07 06 08.4 +0.2**
comp=Z,2.1nm,0.8s,baz=39,slow=5.7,SNR=7.0
NOA LR LR 07 41 40.9
comp=Z,153nm,19.5s,baz=40,slow=38
NBO02 NORSAR Array S 74.55 338 *e*P **P 07 06 09.7 +1.0**
AKASG Malin Array Be 74.76 323 P **P 07 06 09.9 -0.2**
comp=Z,3.5nm,0.7s,baz=46,slow=5.9,SNR=13
AKASG LR LR 07 39 35.4
comp=Z,80nm,20.8s,baz=45,slow=36
KIEV Kiev 74.77 323 *d*/P **P 07 06 09.8 -0.4**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 74.77 323 *e*P **P 07 06 09.2 -1.0**
comp=Z,12nm,0.8s
AK11 Malin Array Si 74.80 323 *e*P **P 07 06 10.5 +0.1**
SFJD Kangerlussuaq 75.75 5 LR LR 07 41 46.4
comp=Z,45nm,19.0s,baz=344,slow=37
SIM Simferopol' 75.87 316 P **P 07 06 17.7 +1.1**
SIM pmax pmax
comp=Z,13nm,0.7s
SIM MLR MLR
comp=Z,100nm,13.5s
R11A Troy Canyon, C 76.06 52 *e*P **P 07 06 19.3 +1.2**
comp=Z,2.1nm,0.8s
DUG Dugway, Tooele 76.67 50 *e*P **P 07 06 23.1 +1.6**
DUG pmax pmax
comp=Z,3.0nm,0.7s
DUG Dugway, Tooele 76.67 50 *e*P **P 07 06 23.1 +1.6**
comp=Z,3.2nm,0.7s
BW06 Boulder Array 77.02 46 *e*P **P 07 06 24.0 +0.5**
PDAR Pinedale Array 77.02 46 P **P 07 06 24.1 +0.5**
comp=Z,1.5nm,0.7s,baz=279,slow=1.9,SNR=10.0
SHPR Sheep Range 77.42 54 *e*P **P 07 06 26.4 +0.6**
comp=Z,3.2nm,1.1s
CCUT Cedar City 77.94 52 *e*P **P 07 06 29.3 +0.6**
comp=Z,2.2nm,0.9s
LCMT Little Creek M 78.34 52 *e*P **P 07 06 32.8 +2.0**
comp=Z,4.3nm,1.0s
Q16A Castle Valley 78.46 50 *e*P **P 07 06 34.0 +2.4**
comp=Z,12nm,1.7s
KNB Kanab 78.61 52 *e*P **P 07 06 34.5 +2.1**
KNB pmax pmax
comp=Z,10.0nm,1.3s
KNB Kanab 78.61 52 *e*P **P 07 06 34.5 +2.1**
comp=Z,9.9nm,1.3s
SRU San Rafael Swe 78.73 49 *e*P **P 07 06 34.6 +1.5**
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 78.73 49 *e*P **P 07 06 34.6 +1.5**
comp=Z,3.9nm,0.7s
BUR08 Bucovina Ar. S 78.77 322 *e*P **P 07 06 33.5 +0.5**
ULM Lac du Bonnet 78.98 34 P **P 07 06 35.1 +1.1**
comp=Z,1.2nm,0.4s,baz=207,slow=4.5,SNR=2.7
U15A North Rim 79.31 52 *e*P **P 07 06 38.3 +1.9**
comp=Z,3.3nm,0.8s
STHS Stebnicka Huta 79.39 325 *e*P **P 07 06 37.5 +1.3**
STHS *e* 07 06 46.3
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 79.39 325 *e*P **P 07 06 37.5 +1.3**
STHS *e* 07 06 46.3
BRTR Keskin Array B 79.44 312 P P 07 06 40.7 +3.9
comp=Z,2.8nm,0.9s,baz=139,slow=46,SNR=4.6
BRTR LR LR 07 47 38.2
comp=Z,50nm,18.1s,baz=42,slow=40
OJC Ojcow 79.45 327 *e*P **P 07 06 37.2 +0.6**
OJC Ojcow 79.45 327 *e*P **P 07 06 37.2 +0.6**
OJC Ojcow 79.45 327 *e*P **P 07 06 37.2 +0.6**
comp=Z,18nm,0.9s
NIE Niedzica 79.81 326 *e*P **P 07 06 41.1 +2.5**
NIE Niedzica 79.81 326 *e*P **P 07 06 41.1 +2.5**
BR231 Keskin MP Arra 79.87 313 *e*P **P 07 06 39.0 -0.2**
PV09 Paradox Valley 79.96 49 *e*P **P 07 06 41.3 +1.4**
PV10 Paradox Valley 80.10 49 *e*P **P 07 06 42.5 +1.9**
PV05 Paradox Valley 80.25 49 *e*P **P 07 06 42.9 +1.5**
LANS Liptovska Anna 80.38 326 *e*P P 07 06 51.9 +10
LANS Liptovska Anna 80.38 326 *e* P 07 06 51.9 +10
Y14A Wickenburg 80.39 55 *e*P **P 07 06 43.5 +1.5**
comp=Z,15nm,0.8s
Y14A *ep*P **sP 07 06 53.0 +1.8**
OKC Ostrava-Krasne 80.46 327 AMS AMS 07 46 30.0
comp=Z,300nm,19.3s
KSP Ksiaz 80.49 329 *e*P P 07 06 51.9 +10
KSP Ksiaz 80.49 329 *e*P P 07 06 51.9 +10
PV01 Paradox Valley 80.53 49 *e*P **P 07 06 44.4 +1.5**
DPC Dobruska-Polom 80.85 328 *ep*P **pP 07 06 53.2 +2.3**
DPC AMS AMS 07 46 50.0
comp=Z,200nm,14.2s
DPC Dobruska-Polom 80.85 328 *e*P P 07 06 53.2 +9.1
DPC MLR MLR
comp=Z,200nm,14.2s
UPC Upice 80.86 329 AMS AMS 07 45 30.0
comp=Z,200nm,14.2s
X16A Lo Mia Camp, P 81.10 54 *e*P **P 07 06 47.7 +1.8**
comp=Z,2.6nm,0.9s
VYHS Vyhne 81.15 326 *e*P **P 07 06 46.8 +1.1**
VYHS *e* 07 06 54.8
VYHS pmax pmax
comp=Z,179nm,4.5s
VYHS Vyhne 81.15 326 *e*P **P 07 06 46.8 +1.1**
VYHS *e* 07 06 54.8
BRG Berggiesshubel 81.42 330 *e*P P 07 06 56.4 +9.3
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 81.42 330 *e*P P 07 06 56.4 +9.3
BRG pmax pmax
comp=Z,8.0nm,1.0s
PVCC Panska Ves 81.44 329 AMS AMS 07 45 30.0
comp=Z,200nm,17.2s
CLL Collm 81.46 331 *i* P **P 07 06 47.1 -0.2**
comp=Z,6.0nm,1.4s
CLL *i* PcP **PcP 07 06 51.4 -1.9**
CLL *i* pP **sP 07 06 55.5 -1.0**
comp=Z,10.0nm,0.9s
CLL Collm 81.46 331 *i* P **P 07 06 47.1 -0.2**
CLL *i* *PP **sP 07 06 55.5 -1.0**
CLL pmax pmax
comp=Z,6.0nm,1.4s
CLL MLR MLR
comp=Z,300nm,17.1s
GOPC GO Pecny, Ondr 81.82 329 AMS AMS 07 46 00.0
comp=Z,600nm,47.4s
PRU Pruhonice 81.86 329 *ep*P **pP 07 06 58.6 +2.3**
PRU AMS AMS 07 45 50.0
comp=Z,200nm,18.7s
PRU Pruhonice 81.86 329 *e*P P 07 06 58.6 +9.2
PRU MLR MLR
comp=Z,200nm,18.7s
TREC Trest 82.00 328 AMS AMS 07 48 10.0
comp=Z,300nm,15.3s
CONA Conrad Observa 82.89 327 *i* pP pP 07 07 04.8 +3.1
comp=Z,5.7nm,0.8s

KHC Kasperske Hory 82.93 329 *e*P **P 07 06 55.0 -0.1**
KHC *ep*P **sP 07 07 04.1 -0.2**
KHC *ex* x 07 07 12.9
KHC AMS AMS 07 46 30.0
comp=Z,200nm,15.1s
KHC Kasperske Hory 82.93 329 *e*P **P 07 06 55.0 -0.1**
KHC *e* 07 07 04.1
KHC *e* 07 07 12.9
KHC MLR MLR
comp=Z,200nm,15.1s
GERES GERESS Array B 83.10 329 P **P 07 06 56.1 +0.1**
comp=Z,0.6nm,0.4s,baz=38,slow=6.8,SNR=6.6
GERES LR LR 07 46 15.2
comp=Z,136nm,21.5s,baz=356,slow=37
GEA0 GERESS Array S 83.11 329 *e*P **P 07 06 56.2 +0.1**
ARSA Arzberg 83.55 327 *i* pP pP 07 07 08.1 +3.0
comp=Z,2.5nm,0.6s
MOA Molln 83.64 328 *i* pP pP 07 07 08.8 +3.2
comp=Z,6.1nm,1.1s
T25A Trinidad 83.67 48 *e*P **P 07 07 00.8 +1.4**
comp=Z,15nm,1.8s
ANMO Albuquerque 83.90 50⇑ *e*P **P 07 07 02.4 +1.8**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
PPT Papeete 83.91 117 LR LR 07 40 57.6
comp=Z,61nm,20.3s,baz=322,slow=33
PPT2 Papeete2 83.92 117 *e*LR LR 07 33 18.4
comp=Z,66nm,21.8s
PPT2 Papeete2 83.92 117 *e*T T 08 39 31.2
comp=Z,0.9nm,0.3s
SCHQ Schefferville 85.04 17 LR LR 07 48 02.7
comp=Z,44nm,18.9s,baz=43,slow=38
MOTA Moosalm 85.35 329 *i* sP sP 07 07 16.8 -0.1
comp=Z,4.5nm,0.8s
TAOE Nuku Hiva Isla 85.37 105 *e*LR LR 07 33 57.1
comp=Z,114nm,23.4s
RETA Reutte 85.38 329 *i* sP sP 07 07 17.4 +0.5
comp=Z,7.0nm,0.9s
FUORN Ofenpass-Fuorn 86.28 329 *e*P **P 07 07 13.1 +0.8**
FUORN *ep*P **sP 07 07 22.2 +0.6**
TBI Tubuai 87.84 121 *e*T T 08 44 02.3
comp=Z,9.7nm,0.3s
TX31 Lajitas Ar. Si 89.41 53 *e*P **P 07 07 28.5 +1.0**
TXAR Lajitas Array 89.41 53 P **P 07 07 28.4 +0.9**
comp=Z,1.3nm,0.8s,baz=296,slow=3.3,SNR=13
LPAZ La Paz 145.93 61 PKPbc **PKPbc 07 14 11.0 -0.1**
comp=Z,4.7nm,0.9s,baz=301,slow=5.9,SNR=20

NEIC 25 06:55:27.5,59.46N×152.90W,h98km,MG2.5(AEIC),
After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.26**	**319**	P	Pn	06 55 41.2	-0.5
AUE	**Augustine Isla**	**0.26**	**248**	P	Pn	06 55 41.2	-0.5
AUSE	**Augustine SEas**	**0.28**	**245**	P	Pn	06 55 41.2	-0.6
AUL	**Augustine Lava**	**0.29**	**254**	P	Pn	06 55 41.4	-0.4
AUL				S	Sn	06 55 52.2	-0.2
AUI	**Augustine Isla**	**0.30**	**246**	P	Pn	06 55 41.3	-0.5
AUI				S	Sn	06 55 52.1	-0.5
ILS	**Iliamna Low So**	**0.51**	**350**	P	Pn	06 55 42.5	-0.8
CDD	**Cape Douglas**	**0.66**	**216**	P	Pn	06 55 43.9	-0.5
HOM	**Homer**	**0.67**	**72**	P	Pn	06 55 44.3	-0.1
FOPK	**Fourpeaked Vol**	**0.77**	**203**	P	Pn	06 55 44.5	-0.8
MCNL	**McNeil River**	**0.79**	**250**	P	Pn	06 55 44.9	-0.6
MCNL				S	Sn	06 55 58.2	-0.9
CNPM	**China Poot**	**0.85**	**85**	P	Pn	06 55 45.7	-0.5
CNPM				S	Sn	06 55 59.7	-0.6
RDWB	**Redoubt West**	**1.03**	**2**	P	Pn	06 55 47.3	-1.0
RDWB				S	Sn	06 56 02.6	-1.3
BRLK	**Bradley Lake**	**1.07**	**72**	P	Pn	06 55 47.7	-0.8
BRLK				S	Sn	06 56 03.1	-1.2
NCT	**North Crescent**	**1.11**	**359**	P	Pn	06 55 48.2	-0.8
RDJH	**Redoubt Jeurge**	**1.14**	**2**	P	Pn	06 55 48.5	-0.9
KAPH	**Katmai Pasha**	**1.15**	**222**	P	Pn	06 55 49.0	-0.5
KAPH				S	Sn	06 56 05.3	-0.7
KAHC	**Katmai Hardscr**	**1.36**	**234**	P	Pn	06 55 51.3	-0.7
KAWH	**Katmai**	**1.46**	**223**	P	Pn	06 55 52.5	-0.7
NKA	**Nikishka**	**1.53**	**32**	P	Pn	06 55 55.1	+1.2
KAKN	**Katmai Knife C**	**1.62**	**225**	P	Pn	06 55 54.5	-0.7
KVTA	**Katmai Vly 10**	**1.65**	**230**	P	Pn	06 55 54.7	-0.8
KDAK	**Kodiak Island**	**1.69**	**174**	P	Pn	06 55 54.5	-1.4
KDAK				S	Sn	06 56 15.6	-2.0
SLKM	**Skilak Lake**	**1.71**	**51**	P	Pn	06 55 55.1	-1.1
KABR	**Katmai Barrier**	**1.71**	**220**	P	Pn	06 55 55.5	-0.9
CKL	**Chakachamna La**	**1.76**	**9**	P	Pn	06 55 56.3	-0.8
KELA	**Mount Kelaz**	**1.79**	**236**	P	Pn	06 55 56.6	-0.8
SPWE	**Spurr West**	**1.83**	**5**	P	Pn	06 55 57.4	-0.5
SEW	**Seward**	**1.86**	**68**	*e*Pn	Pn	06 55 57.7	-0.4
SEW				*e*Sn	Sn	06 56 19.1	-2.3
STLK	**Strandline Lak**	**2.11**	**14**	P	Pn	06 56 01.1	-0.4
SVW2	**Sparrevohn**	**2.12**	**322**	P	Pn	06 56 00.2	-1.3
OHAK	**Old Harbor**	**2.25**	**185**	P	Pn	06 56 00.6	-2.6
RC01	**Rabbit Creek A**	**2.27**	**43**	P	Pn	06 56 02.5	-1.0
SUA	**Susitna One**	**2.28**	**27**	P	Pn	06 56 03.1	-0.5
PMR	**Palmer**	**2.83**	**39**	P	Pn	06 56 09.6	-1.3
KNK	**Knik Glacier**	**2.95**	**46**	P	Pn	06 56 11.1	-1.3
GHO	**Glory Hole Cre**	**3.04**	**38**	P	Pn	06 56 12.3	-1.3
SML	**Sawmill**	**3.26**	**42**	P	Pn	06 56 15.4	-1.2
HIN	**Hinchinbrook I**	**3.35**	**71**	P	Pn	06 56 16.6	-1.2
PPLA	**Purkeypile**	**3.47**	**5**	*e*Pn	Pn	06 56 18.8	-0.7
SCM	**Sheep Creek Mo**	**3.63**	**47**	P	Pn	06 56 20.6	-1.1
TT01	**Tatalina**	**3.77**	**338**	P	Pn	06 56 22.2	-1.3
KLU	**Klutina**	**4.01**	**56**	P	Pn	06 56 25.5	-1.2
TRF	**Thorofare Moun**	**4.20**	**16**	P	Pn	06 56 28.1	-1.3
RND	**Reindeer**	**4.41**	**24**	P	Pn	06 56 30.9	-1.2
PAX	**Paxson**	**5.03**	**42**	*e*Pn	Pn	06 56 40.6	+0.1
	3.6nm,0.5s						
PAX				*e*Sn	Sn	06 57 35.5	-1.9

NIED ***25*** *07:06:00,37.00N×140.60E,h5km,Mw4.2 Best double couple: M0 2.25000×10**15** NP1:ϕ=69.00000°,δ37.00000°, λ-95.00000°. NP2:ϕ=256.00000°,δ53.00000°, λ-86.00000°.*
IDC ***25*** *07:06:00.4±0.6,36.97N×140.48E,h0km,mb4.4/27, mb1 4.5/31,mb1mx4.4/49,mbtmp4.4/31,ML3.8/4,MS3.1/5, Ms1 3.1/5,ms1mx2.9/37,Error ellipse: s-maj=15.1km s-min=11.8km az=109.0*
JMA ***25*** *07:06:02.2,36.96N×140.54E,h6km±1km,M4.5 Broadband fault plane solution: P waves. NP1: ϕ=244.00000°,δ54.00000°,λ-112.00000°. NP2: ϕ=98.00000°,δ41.00000°,λ-63.00000°. Principal axes: T Plg7.0000°, Azm349.0000°; N Plg18.0000°, Azm257.0000°; P Plg71.0000°, Azm100.0000°;*
JMA Felt III J1.
ISCJB ***25*** *07:06:02.2±0.4,36.96N±0.02×140.47E±0.03,h17km±3km, mb4.5/87,MS3.2/2 Error ellipse: s-maj=4.2km s-min=3.2km az=28.5*
BJI ***25*** *07:06:03.4,36.84N×140.53E,h35km,mb4.6/28,mB5.0/15, Ms4.4/8,Ms7 4.0/8*
NEIC ***25*** *07:06:06.5±0.1,36.99N×140.33E,h35km,mb4.5/64,Error ellipse: s-maj=4.4km s-min=3.3km az=138.0*
NEIC Recorded [3 JMA] in Fukushima and Ibaraki.

ISC 25 07:06:02.2±1.0,36.98N±0.03×140.50E±0.03,h9km±6km, n167,σ1§05/169,mb4.5/87,8C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.27**	**62**	⇑P	**Pg**	**07 06 07.3**	**-0.3**
ONAJ				*e*S	**Sg**	**07 06 11.1**	**-0.1**
JHO	**Hitachi**	**0.37**	**172**	⇑P	**Pg**	**07 06 09.1**	**-0.3**
JHO				S	**Sg**	**07 06 14.2**	**0.0**
JSB	**Shiboa**	**0.47**	**269**	⇑P	**Pb**	**07 06 12.5**	**-0.1**
JSB				S	**Sb**	**07 06 19.7**	**+0.1**
JFK	**Kawauchi**	**0.49**	**37**	⇑P	**Pg**	**07 06 11.5**	**-0.2**
JFK				S	**Sg**	**07 06 18.0**	**-0.2**
JFT	**Otama**	**0.56**	**346**	⇑P	**Pb**	**07 06 13.4**	**-0.7**
JFT				S	**Sb**	**07 06 21.4**	**-0.9**
JFY	**Yanaizu**	**0.77**	**304**	⇑P	**Pg**	**07 06 17.3**	**+0.3**
JFY				S	**Sg**	**07 06 27.9**	**+0.9**
JYT	**Yasato**	**0.79**	**199**	⇑P	**Pg**	**07 06 16.9**	**-0.4**
JYT				S	**Sg**	**07 06 27.1**	**-0.4**
JMM	**Marumori**	**0.92**	**14**	⇑P	**Pg**	**07 06 19.1**	**-0.7**
JMM				S	**Sb**	**07 06 31.6**	**-1.0**
MJAR	**Matsushiro Arr**	**1.89**	**257**	Pn	**Pn**	**07 06 35.5**	**+0.8**
	102nm,0.3s,baz=73,slow=15,SNR=202						
MJAR				Sn	**Sn**	**07 06 59.4**	**+0.7**

178nm,0.3s,baz=92,slow=25,SNR=19
MAJO Matsushiro 1.89 258 *e*Pn **Pb 07 06 36.4 -0.5**
MAT Matsushiro 1.89 258 P **Pn 07 06 35.8 +1.1**
MAT S **Sb 07 07 01.4 +0.7**
MJB9 Matsu-Tunnel 1.90 258 *e*Pn **Pb 07 06 36.5 -0.4**
INU Inuyama 3.25 241 *e*Pn **Pn 07 06 55.6 +2.2**
JHJ Hachijo jima 2 3.89 189 Pn **Pn 07 07 01.4 -0.8**
49nm,0.3s,baz=260,slow=4.6,SNR=10
JHJ Sn **Sn 07 07 45.6 -2.3**
53nm,0.3s,baz=60,slow=20,SNR=4.9
JHJ2 Mitsune 3.90 189 *e*Pn **Pn 07 07 04.4 +2.2**
ERM Erimo 5.44 21 *e*Pn **Pn 07 07 25.1 +1.8**
ASAJ Asahikawa 7.31 12 Pn **Pn 07 07 49.8 +0.8**
6.0nm,0.3s,baz=230,slow=11,SNR=17
ASAJ Sn **Sn 07 09 12.7 +0.5**
1.4nm,0.3s,baz=37,slow=20,SNR=2.3
JNU Nakatsue 8.78 247 Pn **Pn 07 08 09.0 -0.2**
0.3nm,0.3s,baz=151,slow=13,SNR=2.2
JNU LR LR 07 12 08.8
comp=Z,50nm,21.7s,baz=116,slow=42
USRK Ussuriysk Ar. 9.69 321 Pn Pn 07 08 28.0 +6.3
0.4nm,0.3s,baz=136,slow=12,SNR=23
USRK LR LR 07 11 38.7
comp=Z,227nm,18.4s,baz=121,slow=35
KSRS Korea Array 10.05 277 Pn Pn 07 08 33.1 +6.6
0.7nm,0.3s,baz=95,slow=14,SNR=27
KSRS LR LR 07 12 00.7
comp=Z,54nm,19.7s,baz=86,slow=36
KS01 Wonju Array Si 10.07 277 *e*Pn Pn 07 08 33.7 +6.8
KSAR Wonju Array Be 10.08 276 Pn Pn 07 08 33.1 +6.1
YSS Yuzh-Sakhalins 10.11 9 *e*Pn **Pn 07 08 30.5 +3.1**
KLR Kul'dur 13.80 335 Pn **Pn 07 09 17.6 -0.3**
0.1nm,0.3s,baz=121,slow=11,SNR=2.4
NJ2 Nanjing 18.49 261 *e*P **P 07 10 18.0 -0.5**
BJI Beijing 19.27 287 P **P 07 10 27.0 0.0**
BJI PMZ
10.0nm,1.0s
BJI PMZ
220nm,5.4s
PEA0 Petropavlovsk- 20.11 31 *e*P Pn 07 10 41.1 +3.2
PEA0B Petropavlovsk- 20.11 31 *e*P Pn 07 10 40.7 +2.8
71nm,1.4s
PETK Petropavlovsk- 20.11 31 P **P 07 10 34.4 -1.6**
3.9nm,0.8s,baz=207,slow=6.1,SNR=2.7
HHC Hu-ho-hao-te 22.80 289 *e*P **P 07 11 04.8 -0.5**
HHC PMZ
18nm,1.0s
HHC PMZ
150nm,5.6s
MA2 Magadan 23.57 13 P **P 07 11 12.7 -0.1**
14nm,1.0s,baz=203,slow=10,SNR=4.8
MA2 LR LR 07 21 02.6
comp=Z,72nm,19.1s,baz=204,slow=38
YAK Yakutsk 25.97 348 P **P 07 11 35.0 +0.2**
16nm,0.4s,baz=13,slow=2.0,SNR=4.1
YAK LR LR 07 20 43.5
comp=Z,71nm,20.6s,baz=261,slow=34
YAK Yakutsk 25.97 348 *e*P **P 07 11 35.8 +1.0**
24nm,0.5s
ULN Ulaanbaatar 26.79 305 *e*P **P 07 11 42.7 +0.2**
7.8nm,1.0s
SEY Seymchan 26.99 12 P **P 07 11 44.4 +0.3**
6.4nm,0.9s,baz=193,slow=8.6,SNR=11
SONA1 Songino Array 27.21 304 *e*P **P 07 11 46.0 -0.3**
SONM Songino Array 27.21 304 P **P 07 11 45.0 -1.4**
5.5nm,0.6s,baz=104,slow=8.5,SNR=19
H11N2 WAKE ISLAND Hy 28.75 119 T T 07 41 44.5
baz=312,slow=75,SNR=388
H11N1 WAKE ISLAND Hy 28.76 119 T T 07 41 47.3
baz=312,slow=75,SNR=353
H11N3 WAKE ISLAND Hy 28.77 119 T T 07 41 46.5
baz=312,slow=75,SNR=364
H11S1 WAKE ISLAND Hy 29.45 122 T T 07 42 38.6
baz=314,slow=76,SNR=1380
H11S3 WAKE ISLAND Hy 29.45 122 T T 07 42 39.8
baz=314,slow=76,SNR=404
H11S2 WAKE ISLAND Hy 29.46 122 T T 07 42 40.0
baz=314,slow=76,SNR=528
GYA Guiyang 30.49 260 *e*P **P 07 12 16.8 +1.1**
GYA PMZ
10.0nm,0.8s
GTA Gaotai 31.88 287 *e*P **P 07 12 26.3 -1.6**
GTA PMZ
3.0nm,1.0s
TIXI Tiksi 35.26 354 P **P 07 12 55.4 -1.3**
4.2nm,0.7s,baz=160,slow=6.4,SNR=7.2
TIXI Tiksi 35.26 354 *e*P **P 07 12 57.5 +0.8**
4.3nm,0.8s
WMQ Urumqi 40.22 297 P **P 07 13 40.0 +1.0**
WMQ pP sP 07 13 50.0 +7.1
WMQ sP pP 07 13 53.5 +12
WMQ PMZ
8.0nm,0.8s
WMQ PMZ
34nm,4.0s
WMQ LN
58nm,20.2s
WMQ LZ
22nm,18.8s
FAKI Fak Fak 40.43 193 *e*P **P 07 13 41.5 +0.6**
138nm,1.9s
ZAA0 Zalesovo Array 41.42 312 *e*P **P 07 13 48.1 -0.6**
ZALV Zalesovo Beam 41.42 312 P **P 07 13 47.9 -0.8**
4.8nm,0.5s,baz=98,slow=7.1,SNR=16
ZALV PcP **PcP 07 15 45.8 -0.7**
1.8nm,0.6s,baz=111,slow=2.8,SNR=5.3
NRIK Noril'sk 43.02 335 P **P 07 14 00.3 -1.2**
2.4nm,0.5s,baz=144,slow=6.5,SNR=3.9
MK01 Makanchi Array 43.53 302 *e*P **P 07 14 05.8 -0.2**
MK31 Makanchi Array 43.53 302 *e*P **P 07 14 06.0 -0.1**
MKAR Makanchi Array 43.53 302 P **P 07 14 05.6 -0.5**
2.7nm,0.7s,baz=87,slow=9.9,SNR=23
MKAR PcP **PcP 07 15 53.2 -0.6**
1.0nm,0.8s,baz=83,slow=4.2,SNR=3.0
MKAR Makanchi Array 43.53 302 *e*P **P 07 14 06.0 -0.1**
MKAR PcP **PcP 07 15 53.2 -0.6**
MAKZ Makanchi 43.74 302 *e*P **P 07 14 07.3 -0.5**
2.7nm,0.8s
KURK Kurchatov 45.39 308 *e*P **P 07 14 19.9 -0.9**
35nm,0.8s
TT01 Tatalina 45.88 35 *e*P **P 07 14 26.8 +2.3**
SVW2 Sparrevohn 46.01 37 *e*P **P 07 14 27.3 +1.7**
6.1nm,1.0s
RSO Redoubt South 47.40 38 *e*P **P 07 14 39.0 +2.3**
KDAK Kodiak Island 47.63 42 *e*P **P 07 14 38.6 +0.4**
5.5nm,0.8s
KTH Kantishna Hill 48.20 34 *e*P **P 07 14 44.6 +1.9**
6.4nm,1.0s
MLY Manley 48.29 32 *e*P **P 07 14 44.8 +1.4**
4.7nm,1.2s
SUA Susitna One 48.34 37 *e*P **P 07 14 44.8 +0.8**
14nm,1.3s
TRF Thorofare Moun 48.49 34 *e*P **P 07 14 47.0 +1.9**
5.7nm,1.3s
TKM2 Tokmak 2 49.02 298 *e*P **P 07 14 50.2 +0.7**
11nm,0.9s
PMR Palmer 49.11 37 *e*P **P 07 14 51.5 +1.9**
3.4nm,1.0s
RND Reindeer 49.14 34 *e*P **P 07 14 50.2 +0.2**
4.9nm,1.0s
MDM Murphy Dome 49.35 32 *e*P **P 07 14 52.4 +0.9**
7.1nm,1.0s
WRH Wood River Hil 49.43 33 *e*P **P 07 14 54.3 +2.2**
3.7nm,0.9s
KSH Kashi 49.76 294 *e*P **P 07 14 57.5 +2.4**
KSH PMZ
2.0nm,0.3s
VOSK Vostochnaya 49.78 312 *e*P **P 07 14 54.5 -0.4**
6.3nm,0.8s
AAK Ala-Archa 49.88 298 *e*P **P 07 14 55.4 -0.6**
5.5nm,1.1s
IL1 Eielson Array 49.93 32 *e*P **P 07 14 55.9 0.0**
ILAR Eielson Array 49.93 32 P **P 07 14 56.0 +0.1**
1.7nm,0.7s,baz=265,slow=5.3,SNR=31
ILB Eielson Array 49.93 32 *e*P **P 07 14 56.0 +0.1**
SCM Sheep Creek Mo 49.95 36 *e*P **P 07 14 57.1 +1.0**
5.5nm,0.8s
EKS2 Erkin-Say 50.37 298 *e*P **P 07 14 59.3 -0.4**
2.7nm,0.8s
KLU Klutina 50.65 37 *e*P **P 07 15 02.7 +1.2**
2.6nm,0.8s
COEN Coen 50.72 177 *e*P **P 07 15 02.9 +0.6**
42nm,1.4s
ZRNK Zerenda 50.91 312 *e*P **P 07 15 03.0 -0.4**
7.2nm,0.9s
DOT Dot Lake 51.26 34 *e*P **P 07 15 06.6 +0.7**
14nm,1.4s

MENT	Mentasta	51.50	35	*e*P		P	07 15 09.2	+1.4
	2.9nm,0.8s							
EGAK	Eagle	52.38	32	*e*P		P	07 15 14.8	+0.5
	2.2nm,0.8s							
KKAR	Karatay Array	52.52	300	*e*P		P	07 15 14.7	-1.0
HYT	Haines Junctio	54.78	36	*e*P		P	07 15 34.6	+2.5
	4.1nm,0.8s							
ARU	Arti	55.92	318	*e*P		P	07 15 39.1	-1.1
	8.8nm,0.6s							
FITZ	Fitzroy Crossi	56.55	197	*e*P		P	07 15 45.1	+0.1
	5.0nm,0.8s							
WRAB	Tennant Creek	56.90	187	*e*P		P	07 15 45.8	-1.7
	48nm,1.9s							
WB2	Warramunga Arr	56.91	187	*e*P		P	07 15 46.9	-0.7
	40nm,1.7s							
WRA	Warramunga Ar	56.91	187	P		P	07 15 46.5	-1.0
	6.9nm,0.6s,baz=2.7,slow=7.7,SNR=69							
ABKAR	Akbulak array	57.42	310	*e*P		P	07 15 50.3	-0.6
AS01	Alice Springs	60.63	187	*e*P		P	07 16 13.4	-0.1
AS31	Alice Springs	60.63	187	*e*P		P	07 16 13.3	-0.2
	1.6nm,0.6s							
ASAR	Alice Springs	60.64	187	P		P	07 16 12.8	-0.6
	3.7nm,0.8s,baz=26,slow=6.1,SNR=26							
MBWA	Marble Bar	61.05	202	*e*P		P	07 16 15.5	-0.8
	62nm,2.0s							
EIDS	Eidsvold	62.81	169	*e*P		P	07 16 28.3	+0.3
	42nm,1.6s							
GEYT	Alibeck	63.22	299	P		P	07 16 30.8	-0.2
	2.3nm,0.5s,baz=43,slow=2.8,SNR=5.7							
ARA0	ARCESS Array S	63.79	339	*e*P		P	07 16 33.6	-0.5
ARCES	ARCESS Array B	63.79	339	P		P	07 16 33.7	-0.5
	3.8nm,1.0s,baz=63,slow=7.7,SNR=12							
YKA	Yellowknife Ar	64.22	30	P		P	07 16 36.8	-0.2
	0.6nm,0.7s,baz=304,slow=6.7,SNR=9.9							
STKA	Stephens Creek	68.50	179	P		P	07 17 04.2	-0.5
	2.9nm,0.8s,baz=307,slow=20,SNR=3.5							
STKA	Stephens Creek	68.50	179	*e*P		P	07 17 04.8	+0.1
	7.6nm,1.8s							
FIA1	FINESS Array S	68.52	332	*e*P		P	07 17 03.9	-0.7
	6.1nm,0.9s							
FINES	FINESS Array B	68.53	332	P		P	07 17 03.8	-0.8
	4.1nm,0.8s,baz=72,slow=8.2,SNR=16							
EDM	Edmonton	69.84	38	*e*P		P	07 17 13.8	+0.8
	44nm,2.0s							
KBZ	Khabaz	70.39	310	P		P	07 17 16.1	-0.3
	3.7nm,0.8s,baz=49,slow=5.1,SNR=7.7							
KVAR	Kislovodsk Arr	70.39	311	P		P	07 17 17.3	+0.7
	4.6nm,0.3s,baz=232,slow=3.7,SNR=5.8							
SUMG	Summit	70.74	360	*e*P		P	07 17 19.2	+0.6
	7.3nm,1.1s							
NC405	NORSAR Array S	73.74	337	*e*P		P	07 17 36.1	-0.2
NC303	NORSAR Array S	73.77	337	*e*P		P	07 17 36.1	-0.3
AKASG	Malin Array Be	73.90	322	P		P	07 17 35.7	-1.6
	2.5nm,0.5s,baz=47,slow=6.4,SNR=9.1							
KIEV	Kiev	73.91	322	*e*P		P	07 17 36.6	-0.8
	4.6nm,0.8s							
NC204	NORSAR Array S	73.92	337	*e*P		P	07 17 36.8	-0.5
NB2	NORSAR Subarra	73.96	337	P		P	07 17 36.7	-0.9
	comp=Z,6.8nm,1.2s,baz=42,slow=6.2							
NOA	NORSAR Array B	73.96	337	P		P	07 17 36.8	-0.7
	comp=Z,2.0nm,0.8s,baz=39,slow=5.8,SNR=8.2							
PAHR	Pah Rah Range	74.18	52	*e*P		P	07 17 40.8	+1.4
	comp=Z,3.0nm,0.9s							
MFID	Camas Ranch	74.20	47	*e*P		P	07 17 40.5	+1.1
	comp=Z,2.2nm,0.8s							
FCC	Fort Churchill	74.38	26	*e*P		P	07 17 39.9	-0.1
	comp=Z,2.2nm,1.8s							
LRM	Limekiln Ridge	74.70	44	*e*P		P	07 17 43.4	+1.0
DLMT	Dillon	74.89	44	*e*P		P	07 17 44.5	+1.1
	comp=Z,4.2nm,0.9s							
HLID	Hailey	74.94	47	*e*P		P	07 17 45.0	+1.2
	comp=Z,2.1nm,1.1s							
BOZ	Bozeman (W)	75.26	44	*e*P		P	07 17 46.6	+1.1
	comp=Z,2.4nm,0.8s							
H17A	Grant Village	76.62	44	*e*P		P	07 17 55.0	+1.5
	comp=Z,6.6nm,1.1s							
R11A	Troy Canyon, C	77.37	51	*e*P		P	07 17 58.6	+0.8
	comp=Z,5.2nm,1.2s							
TPNV	Topopah Spring	77.79	53	*e*P		P	07 18 01.2	+1.1
	comp=Z,4.6nm,1.0s							
BUR08	Bucovina Ar. S	77.89	321	*e*P		P	07 18 00.3	0.0
BW06	Boulder Array	78.22	45	*e*P		P	07 18 04.4	+1.9
PDAR	Pinedale Array	78.22	45	P		P	07 18 02.7	+0.2
	comp=Z,0.4nm,0.4s,baz=346,slow=4.9,SNR=4.5							
BRTR	Keskin Array B	78.34	311	P		P	07 18 02.4	-0.7
	comp=Z,1.2nm,0.5s,baz=99,slow=3.9,SNR=7.4							
STHS	Stebnicka Huta	78.52	324	*e*P		P	07 18 05.2	+1.2
SHPR	Sheep Range	78.76	53	*e*P		P	07 18 06.9	+1.5
	comp=Z,5.2nm,1.2s							
BR231	Keskin MP Arra	78.79	312	*e*P		P	07 18 03.6	-1.8
CCUT	Cedar City	79.25	51	*e*P		P	07 18 08.9	+0.7
	comp=Z,7.6nm,1.7s							
P17A	Butcher Ranch,	79.64	48	*e*P		P	07 18 11.6	+1.4
	comp=Z,8.2nm,1.3s							
LCMT	Little Creek M	79.66	51	*e*P		P	07 18 11.8	+1.5
	comp=Z,3.6nm,1.1s							
KNB	Kanab	79.92	51	*e*P		P	07 18 13.2	+1.4
	comp=Z,7.4nm,1.3s							
SRU	San Rafael Swe	80.00	48	*e*P		P	07 18 13.2	+1.0
	comp=Z,3.7nm,0.8s							
VYHS	Vyhne	80.36	325	*e*P		P	07 18 13.8	+0.1
U15A	North Rim	80.62	51	*e*P		P	07 18 16.9	+1.2
	comp=Z,6.8nm,1.2s							
CLL	Collm	80.78	330	*i* P		P	07 18 15.2	-0.7
	comp=Z,4.0nm,0.6s							
PV09	Paradox Valley	81.22	48	*e*P		P	07 18 20.6	+1.7
PV10	Paradox Valley	81.36	48	*e*P		P	07 18 21.1	+1.5
MMAI	Mount Meron Ar	81.40	305	P		P	07 18 20.3	+0.7
	comp=Z,1.4nm,0.6s,baz=33,slow=8.6,SNR=2.8							
PV05	Paradox Valley	81.52	48	*e*P		P	07 18 21.4	+1.0
Y14A	Wickenburg	81.73	54	*e*P		P	07 18 21.8	+0.4
	comp=Z,13nm,0.9s							
PV01	Paradox Valley	81.80	48	*e*P		P	07 18 23.4	+1.6
KHC	Kasperske Hory	82.21	328	*e*P		P	07 18 23.0	-0.6
GERES	GERESS Array B	82.38	328	P		P	07 18 23.8	-0.7
	comp=Z,1.3nm,0.4s,baz=39,slow=6.3,SNR=17							
GEA0	GERESS Array S	82.38	328	*e*P		P	07 18 23.6	-0.9
X16A	Lo Mia Camp, P	82.43	52	*e*P		P	07 18 26.6	+1.5
	comp=Z,3.4nm,1.0s							
MVCO	Mesa Verde	82.44	49	*e*P		P	07 18 26.4	+1.1
	comp=Z,5.0nm,1.1s							
S22A	4UR Ranch, Cre	83.08	47	*e*P		P	07 18 30.1	+1.4
	comp=Z,3.7nm,1.1s							
EIL	Elat	83.80	302	P		P	07 18 31.7	-0.4
	comp=Z,5.0nm,0.9s,baz=34,slow=3.6,SNR=4.2							
TUC	Tucson	84.20	54	*e*P		P	07 18 35.3	+1.1
	comp=Z,2.7nm,1.0s							
ANMO	Albuquerque	85.18	49	*e*P		P	07 18 41.1	+1.8
	comp=Z,11nm,1.6s							
FUORN	Ofenpass-Fuorn	85.56	328	*e*P		P	07 18 40.8	-0.3
	comp=Z,3.3nm,0.6s							
TX31	Lajitas Ar. Si	90.73	52	*e*P		P	07 19 06.5	+0.7
TXAR	Lajitas Array	90.73	52	P		P	07 19 06.4	+0.5
	comp=Z,0.9nm,0.6s,baz=292,slow=3.1,SNR=14							
TORD	Torodi Ar. Bea	116.85	314	PKP		PKPdf	07 24 46.5	-1.2
	comp=Z,0.3nm,0.5s,baz=38,slow=2.2,SNR=5.8							
SNAA	Sanae	140.48	197	*e*PKPpre	PKPpre		07 25 23.0	
SAML	Samuel	144.80	44	*e*PKPdf		PKPab	07 25 38.5	-0.4
LPAZ	La Paz	147.35	59	PKPbc		PKPbc	07 25 47.3	-0.2
	comp=Z,3.6nm,0.5s,baz=329,slow=2.4,SNR=19							
LPAZ	La Paz	147.35	59	*e*PKPdf		PKPbc	07 25 47.8	+0.3
PB01	IPOC Station P	149.51	67	*e*PKPbc		PKPbc	07 25 52.3	-0.1
LVC	Limon Verde	150.88	69	*e*PKPbc		PKPbc	07 25 56.8	+0.8

*HLW **25** 07:18:33.5,37.27N×27.47E,h33km±14km,Md4.4*
*IDC **25** 07:18:34.4±0.8,36.98N×27.47E,h0km,mb4.0/10,*
mb1 3.9/15,mb1mx3.7/58,mbtmp3.9/15,ML3.5/5,MS2.8/6,
Ms1 2.8/6,ms1mx2.6/54,Error ellipse: s-maj=20.9km
s-min=13.5km az=148.0
*DDA **25** 07:18:34.8,37.00N×27.37E,h13km,Ml3.9*
*IASPEI **25** 07:18:36.0±0.9,37.01N±0.02×27.44E±0.03,h11km±5km,*
mb3.9/10,Error ellipse: s-maj=3.7km s-min=3.1km
az=87.0,GT5 selection from ISC bulletin GT5 identified by
Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr
and McLaughlin, A new ground truth data set for seismic
studies, Seism. Res. Let., 80, 465-472,
2009
*ISCJB **25** 07:18:35.9±0.4,36.98N±0.01×27.44E±0.02,h15km±2km,*
mb3.8/10,Error ellipse: s-maj=2.3km s-min=2.2km az=6.1
*ATH **25** 07:18:35.9,37.01N×27.41E,h29km±1km,ML4.0/4,Error*
ellipse: s-maj=1.3km s-min=0.7km az=243.0
*ISK **25** 07:18:35.0,36.98N×27.40E,h8km,ML3.7*

*THE **25** 07:18:36.8,37.01N×27.42E,h6km±2km,ML4.0/9,Error*
ellipse: s-maj=2.0km s-min=0.8km az=202.0
*NEIC **25** 07:18:36.6,37.11N×27.43E,h5km,ML4.0(THE),*
ML4.0(ATH),ML3.7(ISK),After ISK.
*CSEM **25** 07:18:36.4±0.1,36.98N×27.41E,h10km,ML3.9,Error*
ellipse: s-maj=2.4km s-min=2.2km az=16.0
*NIC **25** 07:18:38.8±0.4,37.05N×27.52E,h38km,mb4.2,ML3.7*
ISC 25 07:18:36.2±0.7,**37.00N**±0.02×**27.43E**±0.02,**h10**km±4km,
n303,σ1**§27**/367,**mb3.9**/10,**19C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.07	11	P		Pg		07 18 38.1	-0.4
BDRM	Kayabasi	0.07	11	↑P		Pg		07 18 38.1	-0.4
BDRM				*i* S		Sg		07 18 39.6	-0.6
BODT	Bodrum	0.12	305	*e*PG		Pg		07 18 38.6	-0.4
BODT				*e*SG		Sg		07 18 41.6	+0.5
BODT	Bodrum	0.12	305	*e*Pg		Pg		07 18 38.6	-0.4
BODT				*e*Sg		Sg		07 18 41.6	+0.5
NIS1	Nisyros Isl.	0.44	207	P		Pg		07 18 45.2	+0.4
NIS1				S		Sb		07 18 53.4	+0.7
NIS1	Nisyros Isl.	0.44	207	P		Pg		07 18 45.2	+0.4
NIS1				S		Sb		07 18 53.4	+0.7
NIS1	Nisyros Isl.	0.44	207	P		Pg		07 18 45.2	+0.4
NIS1				S		Sb		07 18 53.4	+0.7
NIS1	Nisyros Isl.	0.44	207	P		Pg		07 18 44.9	0.0
NIS1				S		Sb		07 18 53.7	+1.0
NIS1				AML		AML		07 18 56.3	
	comp=N,78443μm,0.5s								
NIS1				AML		AML		07 18 58.9	
NISR	Nisiros	0.45	212	P		Pg		07 18 45.3	+0.3
NISR				S		Sb		07 18 53.3	+0.3
NISR	Nisiros	0.45	212	P		Pg		07 18 45.3	+0.3
NISR				S		Sb		07 18 52.8	-0.2
NISR	Nisiros	0.45	212	P		Pg		07 18 45.3	+0.3
NISR				S		Sb		07 18 53.3	+0.3
NISR	Nisiros	0.45	212	P		Pg		07 18 44.8	-0.2
NISR				S		Sb		07 18 52.8	-0.2
NISR				AML		AML		07 18 53.6	
	comp=E,42886μm,0.4s								
NISR				AML		AML		07 18 58.5	
	comp=N,23406μm,0.4s								
YER	Yerkesik	0.70	78	*e*PG		Pg		07 18 49.6	-0.1
YER				*e*SG		Sb		07 19 00.0	-0.1
YER	Yerkesik	0.70	78	*e*Pg		Pg		07 18 49.6	-0.1
YER				*e*Sg		Sb		07 19 00.0	-0.1
GCAM	G?zelcaml?	0.72	348	P		Pg		07 18 49.2	-0.9
GCAM	G?zelcaml?	0.72	348	↑P		Pg		07 18 49.2	-0.9
GCAM				*i* S		Sn		07 19 02.6	-0.8
SMG	Samos	0.85	327	P		Pg		07 18 52.1	-0.5
SMG				S		Sb		07 19 05.0	+0.4
SMG	Samos	0.85	327	P		Pg		07 18 52.1	-0.5
SMG				S		Sb		07 19 05.0	+0.4
SMG	Samos	0.85	327	P		Pg		07 18 52.1	-0.5
SMG	Samos	0.85	327	P		Pg		07 18 51.7	-1.0
SMG				S		Sn		07 19 05.2	-1.6
SMG				AML		AML		07 19 06.7	
	comp=E,47545μm,0.6s								
SMG				AML		AML		07 19 08.0	
	comp=N,26865μm,0.3s								
TURN	Turunc	0.95	97	↑*i*P		Pg		07 18 48.8	-5.7
TURN				*i* S		Sg		07 19 00.0	-6.8
ARG	Arkhangelos	0.96	144	P		Pg		07 18 54.0	-0.6
ARG				S		Sn		07 19 09.2	-0.2
ARG	Arkhangelos	0.96	144	P		Pg		07 18 54.0	-0.6
ARG				S		Sn		07 19 08.6	-0.8
ARG	Arkhangelos	0.96	144	P		Pg		07 18 54.0	-0.6
DALY	Dalyan (Mu¨la	1.00	100	*e*PG		Pg		07 18 54.9	-0.5
DALY				*e*SG		Sn		07 19 09.6	-0.7
DALY	Dalyan (Mu¨la	1.00	100	*e*Pg		Pg		07 18 54.9	-0.5
DALY				*e*Sg		Sn		07 19 09.6	-0.7
AYDB	Zeytinkoy-Aydi	1.02	21	*e*PG		Pg		07 18 54.4	-1.4
AYDB				*e*SG		Sn		07 19 10.5	-0.5
AYDB	Zeytinkoy-Aydi	1.02	21	*e*Pg		Pg		07 18 54.4	-1.4
AYDB				*e*Sg		Sn		07 19 10.5	-0.5
DGB	¯zmir	1.14	338	↑*i*P		Pb		07 18 57.0	-0.9
DGB				*i* S		Sn		07 19 13.5	-0.3
IZM	Izmir	1.41	355	*e*PN		Pn		07 19 00.9	-1.0
IZM	Izmir	1.41	355	*e*Pn		Pn		07 19 00.9	-1.0
ZEY	¯zmir	1.44	330	*i* P		Pn		07 19 01.2	-1.1
ZEY				*i* S		Sg		07 19 21.3	-1.3
KARP	Karpathos	1.46	189	*e*PN		Pn		07 19 01.8	-0.9
KARP	Karpathos	1.46	189	P		Pn		07 19 01.7	-0.9
KARP				S		Sn		07 19 21.3	-0.5
KARP	Karpathos	1.46	189	*e*Pn		Pn		07 19 01.8	-0.9
KARP				S		Sn		07 19 21.3	-0.5
KARP	Karpathos	1.46	189	P		Pn		07 19 01.7	-0.9
KARP				S		Sn		07 19 21.3	-0.5
KARP	Karpathos	1.46	189	P		Pn		07 19 00.9	-1.7
DNZL	Cakiroluk	1.46	61	P		Pn		07 19 02.9	+0.1
DNZL	Cakiroluk	1.46	61	*i* P		Pn		07 19 02.9	+0.1
DNZL				*i* S		Sg		07 19 25.1	+1.8
APE	Apeiranthos	1.52	273	*e*PN		Pn		07 19 02.6	-0.8
APE	Apeiranthos	1.52	273	P		Pn		07 19 02.8	-0.6
APE				S		Sn		07 19 22.8	-0.5
APE	Apeiranthos	1.52	273	P		Pn		07 19 02.8	-0.6
APE				S		Sn		07 19 22.8	-0.5
APE	Apeiranthos	1.52	273	P		Pn		07 19 02.8	-0.6
APE				S		Sn		07 19 22.8	-0.5
APE	Apeiranthos	1.52	273	P		Pn		07 19 02.6	-0.8
APE				S		Sn		07 19 21.2	-2.1
APE				AML		AML		07 19 30.1	
	comp=N,5361μm,0.4s								
APE				AML		AML		07 19 32.0	
	comp=E,4675μm,0.5s								
GLHS	Glhisar (BURDU	1.66	84	*e*PN		Pn		07 19 05.8	+0.4
GLHS	Glhisar (BURDU	1.66	84	*e*Pn		Pn		07 19 05.8	+0.4
THR2	Thira island,	1.69	252	P		Pn		07 19 05.4	-0.3
THR2	Thira island,	1.69	252	P		Pn		07 19 05.4	-0.3
THR2	Thira island,	1.69	252	P		Pn		07 19 05.4	-0.3
SANT	Santorini	1.70	249	P		Pn		07 19 06.2	+0.3
SANT	Santorini	1.70	249	P		Pn		07 19 06.2	+0.3
CMBO	Columbo, Santo	1.71	253	P		Pn		07 19 05.3	-0.6
CMBO	Columbo, Santo	1.71	253	P		Pn		07 19 05.3	-0.6
CMBO	Columbo, Santo	1.71	253	P		Pn		07 19 04.9	-1.0
GOLH	Golhisar	1.72	81	P		Pg		07 19 09.2	0.0
GOLH	Golhisar	1.72	81	*i* P		Pg		07 19 09.2	0.0
GOLH				*i* S		Sg		07 19 35.0	+3.4
THR3	Thira Island,	1.73	251	P		Pn		07 19 05.9	-0.4
THR3	Thira Island,	1.73	251	P		Pn		07 19 05.9	-0.4
THR3	Thira Island,	1.73	251	P		Pn		07 19 05.9	-0.4
THR6	Thira Island,	1.75	249	P		Pn		07 19 06.6	0.0
THR6	Thira Island,	1.75	249	P		Pn		07 19 06.6	0.0
THR6	Thira Island,	1.75	249	P		Pn		07 19 06.6	0.0
CHOS	Chios island	1.76	322	P		Pn		07 19 06.1	-0.7
CHOS				S		Sb		07 19 29.6	-1.3
CHOS	Chios island	1.76	322	P		Pn		07 19 06.5	-0.3
CHOS				S		Sb		07 19 29.6	-1.3
CHOS	Chios island	1.76	322	P		Pn		07 19 06.1	-0.7
CHOS				S		Sb		07 19 29.6	-1.3
CHOS	Chios island	1.76	322	P		Pn		07 19 06.5	-0.3
SAP3	Santorini-Thir	1.77	252	P		Pb		07 19 07.9	-0.7
SAP3	Santorini-Thir	1.77	252	P		Pb		07 19 07.9	-0.7
THR5	Thira Island,	1.77	252	P		Pn		07 19 07.3	+0.5
THR5	Thira Island,	1.77	252	P		Pn		07 19 07.3	+0.5
KULA	Kula-Manisa	1.80	32	*e*PN		Pn		07 19 06.6	-0.8
KULA	Kula-Manisa	1.80	32	P		Pn		07 19 06.7	-0.7
KULA				S		Sn		07 19 30.7	+0.4
KULA	Kula-Manisa	1.80	32	P		Pn		07 19 06.7	-0.7
KULA				S		Sn		07 19 30.7	+0.4
KULA	Kula-Manisa	1.80	32	P		Pn		07 19 06.7	-0.7
KULA				S		Sn		07 19 30.7	+0.4
AKS	Akhisar	1.90	9	*e*PN		Pn		07 19 08.1	-0.6
AKS	Akhisar	1.90	9	*e*Pn		Pn		07 19 08.1	-0.6
AKAS	Kas	1.91	113	P		Pb		07 19 10.9	-0.3
AKAS	Kas	1.91	113	*i* P		Pb		07 19 10.9	-0.3
AKAS				*i* S		Sg		07 19 36.5	-1.1
KSL	Kastellorizon	1.93	115	P		Pn		07 19 10.1	+1.1
KSL	Kastellorizon	1.93	115	P		Pn		07 19 10.1	+1.1
KSL	Kastellorizon	1.93	115	P		Pb		07 19 11.1	-0.3
ELL	Elmali	2.00	96	*e*PN		Pn		07 19 10.8	+0.7
ELL	Elmali	2.00	96	*e*Pn		Pn		07 19 10.8	+0.7
DKL	Dikili	2.11	349	*e*PN		Pn		07 19 10.9	-0.6
DKL	Dikili	2.11	349	*e*Pn		Pn		07 19 10.9	-0.6
ZKR	Zakros	2.12	208	P		Pn		07 19 12.6	+1.0
ZKR	Zakros	2.12	208	P		Pn		07 19 12.6	+1.0
ZKR	Zakros	2.12	208	P		Pn		07 19 12.6	+1.0
ZKR	Zakros	2.12	208	P		Pb		07 19 13.2	-1.4
KHL	Karahalli	2.13	51	*e*PN		Pn		07 19 12.6	+0.8
KHL	Karahalli	2.13	51	*e*Pn		Pn		07 19 12.6	+0.8
NPS	Neapolis	2.27	221	P		Pn		07 19 13.9	+0.2
NPS				S		Sn		07 19 41.4	-0.3
NPS	Neapolis	2.27	221	P		Pn		07 19 13.9	+0.2
NPS				S		Sn		07 19 41.4	-0.3
NPS	Neapolis	2.27	221	P		Pn		07 19 13.9	+0.2
NPS				S		Sn		07 19 41.4	-0.3
NPS	Neapolis	2.27	221	P		Pn		07 19 14.7	+1.0
DEMI	Demirci	2.28	26	P		Pn		07 19 13.1	-0.8
DEMI				S		Sn		07 19 40.2	-2.0
DEMI	Demirci	2.28	26	*i* P		Pn		07 19 13.1	-0.8
DEMI				*i* S		Sn		07 19 40.2	-2.0
KORT	Korkueli	2.34	89	*i* P		Pb		07 19 17.8	-0.7
KORT				*i* S		Sb		07 19 48.4	+0.9
AYVA	Ayvalik	2.38	346	*i* P		Pg		07 19 20.5	-1.3
AYVA				*i* S		Sg		07 19 56.0	+3.3
LAST	Lasithi	2.42	221	P		Pn		07 19 16.4	+0.6
LAST				S		Sn		07 19 45.0	-0.5
LAST	Lasithi	2.42	221	P		Pn		07 19 16.4	+0.6
LAST				S		Sn		07 19 45.0	-0.5
LAST	Lasithi	2.42	221	P		Pn		07 19 16.4	+0.6
LAST				S		Sn		07 19 45.0	-0.5
LAST	Lasithi	2.42	221	P		Pn		07 19 16.9	+1.1
PRK	Paraskevi	2.42	338	P		Pn		07 19 15.4	-0.4
PRK				S		Sn		07 19 44.8	-0.7
PRK	Paraskevi	2.42	338	P		Pn		07 19 15.4	-0.4
PRK				S		Sn		07 19 44.8	-0.7
PRK	Paraskevi	2.42	338	P		Pn		07 19 15.4	-0.4
PRK				S		Sn		07 19 44.8	-0.7
PRK	Paraskevi	2.42	338	P		Pn		07 19 15.1	-0.7
SIGR	SIGRI	2.54	331	P		Pn		07 19 16.9	-0.4
SIGR	SIGRI	2.54	331	P		Pn		07 19 16.9	-0.4
SIGR	SIGRI	2.54	331	P		Pn		07 19 16.9	-0.4
SIGR	SIGRI	2.54	331	P		Pn		07 19 16.4	-0.9
BCK	Bucak	2.56	79	*e*PN		Pn		07 19 18.7	+0.9
BCK	Bucak	2.56	79	*e*Pn		Pn		07 19 18.7	+0.9
GEDZ	Gediz	2.58	37	*e*PN		Pn		07 19 18.4	+0.4
GEDZ	Gediz	2.58	37	*e*Pn		Pn		07 19 18.4	+0.4
ANTB	Antalya	2.59	91	*e*PN		Pn		07 19 19.0	+1.0
ANTB	Antalya	2.59	91	*e*Pn		Pn		07 19 19.0	+1.0
GDZ	Gediz	2.64	37	P		Pn		07 19 18.7	-0.3
GDZ				S		Sn		07 19 49.5	-1.6
GDZ	Gediz	2.64	37	*i* P		Pn		07 19 18.7	-0.3
GDZ				*i* S		Sn		07 19 49.5	-1.6
BALB	Balikesir	2.66	8	*e*PN		Pn		07 19 19.3	+0.2
BALB	Balikesir	2.66	8	*e*Pn		Pn		07 19 19.3	+0.2
IDI	Anoyia	2.67	231	Pn		Pn		07 19 19.5	+0.2
	comp=E,4.2nm,0.3s,baz=28,slow=13,SNR=19								
IDI						Sn		07 19 49.4	-2.3
	comp=E,10nm,0.3s,baz=316,slow=16,SNR=7.6								
IDI	Anoyia	2.67	231	P		Pn		07 19 19.3	+0.1
BALY	Balya	2.74	3	P		Pn		07 19 19.5	-0.8
BALY	Balya	2.74	3	*i* P		Pn		07 19 19.4	-0.8
BALY				*i* S		Sg		07 20 01.1	-3.2
SUTC	Sutluce-Ispart	2.89	79	*e*PN		Pn		07 19 23.2	+0.9
SUTC	Sutluce-Ispart	2.89	79	*e*Pn		Pn		07 19 23.3	+0.9
TVSB	Tavsanli	2.93	33	*e*PN		Pn		07 19 24.1	+1.3
TVSB	Tavsanli	2.93	33	*e*Pn		Pn		07 19 24.1	+1.3
EZN	Ezine	2.96	343	*e*PN		Pn		07 19 23.7	+0.6
EZN	Ezine	2.96	343	*e*Pn		Pn		07 19 23.7	+0

AKMC	**Akamas**	4.43	115	P		Pn	07 19 43.6	+0.1
	baz=298							
AKMC	**Akamas**	4.43	115	P		Pn	07 19 43.6	+0.1
TRIZ	**Trizonia**	4.46	289	P		Pn	07 19 45.4	+1.6
SILT	**Sile**	4.49	22	*e*PN		Pn	07 19 45.4	+1.2
SILT	**Sile**	4.49	22	*e*Pn		Pn	07 19 45.4	+1.2
PPCY	**Paphos**	4.51	116	P		Pn	07 19 44.7	+0.2
	baz=300							
PPCY	**Paphos**	4.51	116	P		Pn	07 19 44.7	+0.2
ALFC	**Alefka**	4.57	112	P		Pn	07 19 45.4	0.0
	baz=296							
ALFC				S		Sn	07 20 37.7	-0.9
ALFC	**Alefka**	4.57	112	P		Pn	07 19 45.4	0.0
ALFC				S		Sn	07 20 37.7	-0.9
KAVA	**Kavala**	4.59	331	P		Pn	07 19 44.8	-0.8
KAVA	**Kavala**	4.59	331	P		Pn	07 19 44.8	-0.8
ANX	**Ano Chora**	4.64	292	P		Pn	07 19 48.3	+1.9
HORT	**Hortiatis**	4.94	318	P		Pn	07 19 51.2	+0.8
HORT	**Hortiatis**	4.94	318	P		Pn	07 19 51.2	+0.8
SZAC	**Souni**	4.96	115	P		Pn	07 19 51.5	+0.8
	baz=299							
SZAC				S		Sn	07 20 48.4	+0.2
SZAC	**Souni**	4.96	115	P		Pn	07 19 51.5	+0.8
SZAC				S		Sn	07 20 48.4	+0.2
ANTO	**Ankara**	5.10	54	*e*Pn		Pn	07 19 52.4	-0.2
	comp=E,44nm,0.6s							
ANTO	**Ankara**	5.10	54	*e*Pn		Pn	07 19 52.4	-0.2
	comp=E,44nm,0.6s							
CSS	**Mathiatis**	5.20	111	P		Pn	07 19 55.2	+1.2
	baz=295							
CSS				S		Sn	07 20 53.4	-0.6
CSS	**Mathiatis**	5.20	111	*e*Pn		Pn	07 19 53.5	-0.5
	comp=E,4.4nm,0.5s							
CSS	**Mathiatis**	5.20	111	P		Pn	07 19 55.2	+1.2
CSS				S		Sn	07 20 53.4	-0.6
CSS	**Mathiatis**	5.20	111	*e*Pn		Pn	07 19 53.5	-0.5
	comp=E,4.5nm,0.5s							
BRTR	**Keskin Array B**	5.59	59	Pn		Pn	07 20 00.9	+1.5
	comp=E,1.3nm,0.3s,baz=250,slow=18,SNR=23							
BRTR				Sn		Sn	07 21 02.0	-1.8
	baz=234,slow=29,SNR=2.9							
SLUM	**Salum**	5.79	199	P		Pn	07 20 01.1	-0.9
	baz=199							
SLUM	**Salum**	5.79	199	P		Pn	07 20 01.2	-0.9
BARS	**Barje**	7.24	325	⇑*i*Pn		Pn	07 20 23.1	+1.2
MMAI	**Mount Meron Ar**	7.65	119	Pn		Pn	07 20 25.4	-2.3
	comp=E,3.2nm,0.3s,baz=304,slow=12,SNR=28							
MMAI				Sn		Sn	07 21 49.7	-4.9
	comp=E,6.6nm,0.3s,baz=120,slow=20,SNR=10							
SWA2		7.91	193	P		Pn	07 20 30.5	-0.6
	baz=193							
SWA2				S		Sn	07 21 56.0	-4.6
	baz=193							
SWA2		7.91	193	P		Pn	07 20 30.5	-0.6
KOT	**Kottamia**	7.95	151	P		Pn	07 20 30.4	-1.4
	baz=152							
KOT	**Kottamia**	7.95	151	P		Pn	07 20 30.4	-1.4
BOLS	**Boljevac**	8.00	330	*i* Pn		Pn	07 20 32.0	-0.4
HHAG	**Hagoal**	8.03	150	P		Pn	07 20 31.8	-1.1
	baz=150							
HHAG				S		Sn	07 21 58.0	-5.9
	baz=150							
HHAG	**Hagoal**	8.03	150	P		Pn	07 20 31.8	-1.1
CFR	**Carcaliu**	8.19	4	⇑*i*P		Pb	07 21 04.7	+6.7
GLL	**Jalalah**	8.22	153	P		Pn	07 20 34.3	-1.2
	baz=154							
GLL	**Jalalah**	8.22	153	P		Pn	07 20 34.3	-1.2
SUZ	**Suez**	8.44	146	P		Pn	07 20 37.3	-1.2
	baz=147							
SUZ	**Suez**	8.44	146	P		Pn	07 20 37.3	-1.2
MLR	**Muntele Rosu**	8.56	353	Pn		Pn	07 20 39.7	-0.5
	comp=E,0.1nm,0.3s,baz=166,slow=4.5,SNR=4.2							
MLR				LR		LR	07 23 48.6	
	comp=E,20nm,21.7s,baz=236,slow=37							
MLR	**Muntele Rosu**	8.56	353	⇑*i*P		Pn	07 20 46.0	+5.8
GRUS	**Gruza**	8.57	325	*e*Pn		Pn	07 20 42.0	+1.7
VOIR		8.62	349	⇑*i*P		Pn	07 20 41.1	+0.1
VOIR		8.62	349	⇑*i*P		Pn	07 20 41.1	+0.1
PLOR	**Plostina**	8.87	356	⇑*i*P		Pn	07 20 55.9	+12
VRI	**Vrincioaia**	8.88	357	⇑*i*P		Pn	07 20 45.7	+1.2
VRI	**Vrincioaia**	8.88	357	⇑*i*P		Pn	07 20 45.7	+1.2
MDVR	**Moldovita**	8.90	333	⇑*i*P		Pn	07 20 44.9	+0.1
MDVR	**Moldovita**	8.90	333	⇑*i*P		Pn	07 20 44.9	+0.1
DIVS	**Divibare**	9.07	324	*e*Pn		Pn	07 20 48.9	+1.7
GZR	**Gura Zlata**	9.09	339	⇑*i*P		Pn	07 20 45.7	-1.7
GZR	**Gura Zlata**	9.09	339	⇑*i*P		Pn	07 20 45.7	-1.7
ASF	**Jabal al Asfar**	9.17	119	Pn		Pn	07 20 49.9	+1.4
	comp=E,0.4nm,0.3s,baz=319,slow=20,SNR=2.7							
ASF				Sn		Sn	07 22 31.8	-0.1
	comp=E,0.4nm,0.3s,baz=96,slow=19,SNR=2.3							
TESR	**Tescani**	9.53	357	⇑*i*P		Pn	07 21 02.2	+8.9
EIL	**Elat**	9.64	137	Pn		Pn	07 20 52.9	-2.0
	comp=E,1.2nm,0.3s,baz=305,slow=2.6,SNR=7.6							
EIL				Sn		Sn	07 22 35.6	-7.7
	comp=E,1.4nm,0.3s,baz=339,slow=19,SNR=5.5							
DRGR		10.40	342	⇑*i*P		Pn	07 21 09.4	+4.1
BURAR	**Bucovina Array**	10.74	352	⇑*i*P		Pn	07 21 13.6	+3.6
KOLS	**Kolonicke sedl**	12.51	344	*e*PG			07 34 36.5	
KOLS				*e*SG			07 34 40.2	
KOLS				*e*LG		Lg	07 34 47.8	
CRVS	**Cervenica-Dubn**	12.67	342	*e*PG			07 34 39.4	
KVAR	**Kislovodsk Arr**	13.53	54	LR		LR	07 27 21.7	
	comp=E,43nm,21.2s,baz=127,slow=39							
GNI	**Garni**	13.91	72	LR		LR	07 27 40.8	
	comp=E,62nm,19.6s,baz=270,slow=39							
VRAC	**Vranov**	14.61	331	LR		LR	07 27 24.9	
	comp=E,32nm,19.1s,baz=127,slow=36							
KEST	**Kesra**	14.63	270	Pn		P	07 22 10.7	+1.1
	comp=E,0.4nm,0.3s,baz=351,slow=3.4,SNR=7.4							
GERES	**GERESS Array B**	15.51	324	Pn		P	07 22 21.3	+2.0
	baz=132,slow=9.2,SNR=3.5							
GERES				LR		LR	07 29 23.8	
	comp=E,36nm,19.2s,baz=129,slow=42							
DAVOX	**Davos/Dischmat**	16.29	312	LR		LR	07 29 13.5	
	comp=E,68nm,18.8s,baz=86,slow=39							
FINES	**FINESS Array B**	24.48	358	P		P	07 23 55.0	-0.1
	comp=E,1.7nm,0.7s,baz=153,slow=11,SNR=4.8							
ESDC	**Sonseca Array**	24.70	286	P		P	07 23 57.1	-0.4
	comp=E,1.6nm,0.6s,baz=81,slow=9.6,SNR=11							
AKTO	**Aktyubinsk**	25.66	49	P		P	07 24 06.0	0.0
	comp=E,2.1nm,0.6s,baz=246,slow=6.2,SNR=11							
MDT	**Midelt**	26.54	271	P		P	07 24 15.0	+0.8
	comp=E,2.0nm,0.8s,baz=85,slow=11,SNR=4.2							
MDT	**Midelt**	26.54	271	P		P	07 24 15.0	+0.8
TORD	**Torodi Ar. Bea**	33.07	231	P		P	07 25 11.8	-0.3
	comp=E,2.4nm,0.6s,baz=37,slow=8.7,SNR=25							
MKAR	**Makanchi Array**	41.24	58	P		P	07 26 20.8	-0.4
	comp=E,1.2nm,0.7s,baz=294,slow=6.0,SNR=11							
DBIC	**Dimbokro**	42.14	232	P		P	07 26 28.5	-0.4
	comp=E,3.2nm,0.8s,baz=39,slow=6.5,SNR=3.3							
ZALV	**Zalesovo Beam**	42.41	48	P		P	07 26 30.6	0.0
	comp=E,2.8nm,0.6s,baz=267,slow=8.7,SNR=8.1							
USRK	**Ussuriysk Ar.**	74.25	46	P		P	07 30 13.8	+0.5
	comp=E,1.3nm,0.6s,baz=301,slow=5.9,SNR=4.1							
ILAR	**Eielson Array**	78.47	358	P		P	07 30 37.0	+0.1
	comp=E,0.1nm,0.5s,baz=336,slow=4.2,SNR=4.1							

NIED ***25*** *07:23:00,39.°90N×142.°50E,h32km,Mw3.6 Best double couple: M₀2.92000×10¹⁴ NP1:φs194.00000°,δ30.00000°, λ88.00000°. NP2:φs17.00000°,δ60.00000°,λ91.00000°.*
IDC ***25*** *07:23:21.7±1.0,39.°86N×142.°46E,h0km,mb3.6/8, mb1 3.8/10,mb1mx3.6/49,mbtmp3.7/10,ML3.2/2, Error ellipse: s-maj=30.9km s-min=19.4km az=99.0*
ISCJB ***25*** *07:23:27.1±0.9,39.°92N±0.°04×142.°5E±0.°1,h50km,8km, mb3.6/8,Error ellipse: s-maj=13.3km s-min=6.0km az=9.2*
JMA ***25*** *07:23:27.5±0.1,39.°93N×142.°49E,h35km±1km,M3.6*
ISC 25 07:23:27.0±1.7,39.°92N±0.°04×142.°47E±0.°08,h31km±11km, n29,σ1°22/32,mb3.7/8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
JTH	**Tanohata**	0.47	273	P	Pn	07 23 37.8		+0.2
JTH				S	Sn	07 23 45.1		+0.3
MIYJ	**Miyakonagasawa**	0.61	236	P	Pn	07 23 39.7		+0.2
MIYJ				S	Sb	07 23 48.2		+0.7
JANG	**Nango**	0.86	302	P	Pn	07 23 43.1		+0.1
JANG				S	Sb	07 23 54.1		-0.6
JKZ	**Kuzumaki**	0.88	275	P	Pn	07 23 44.2		+0.9
JKZ				*e*S	Sb	07 23 55.8		+0.6
JOM	**Ohasama**	1.01	244	P	Pb	07 23 46.0		0.0
JOM				*e*S	Sb	07 23 59.3		+0.4
OFUJ	**Ofunato**	1.04	217	P	Pb	07 23 46.1		-0.3
OFUJ				S	Sb	07 23 59.5		-0.3
JMK	**Ichinoseki**	1.37	226	P	Pb	07 23 51.2		-0.7
JTM	**Tenmabayashi**	1.38	309	P	Pb	07 23 51.2		-1.0
JTM				S	Sb	07 24 08.7		-0.7
JAH	**Hinai**	1.44	281	P	Pb	07 23 52.3		-0.8
JRG	**Rokugo**	1.51	250	P	Pb	07 23 54.2		-0.2
ASAJ	**Asahikawa**	4.20	1	Pn	Pn	07 24 29.8		+0.9
	0.6nm,0.3s,baz=257,slow=19,SNR=2.9							
ASAJ				Sn	Sn	07 25 19.4		+2.6
	1.6nm,0.3s,baz=114,slow=20,SNR=2.1							
MAT	**Matsushiro**	4.76	226	P	Pn	07 24 40.0		+3.4
MAT				S	Sn	07 25 32.7		+2.0
MJAR	**Matsushiro Arr**	4.76	226	Pn	Pn	07 24 38.2		+1.6
	1.0nm,0.3s,baz=32,slow=12,SNR=12							
JHJ	**Hachijo jima 2**	7.12	199	Pn	Pn	07 25 07.8		-1.2
	6.9nm,0.3s,baz=80,slow=19,SNR=2.3							
USRK	**Ussuriysk Ar.**	8.89	302	Pn	Pn	07 25 35.4		+2.1
	0.2nm,0.3s,baz=113,slow=15,SNR=5.1							
H11N2	**WAKE ISLAND Hy**	29.06	127	T	T	08 00 06.6		
	baz=318,slow=75,SNR=29							
H11N1	**WAKE ISLAND Hy**	29.07	127	T	T	08 00 02.5		
	baz=318,slow=75,SNR=28							
H11N3	**WAKE ISLAND Hy**	29.07	127	T	T	08 00 07.9		
	baz=318,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hy**	29.87	129	T	T	08 01 22.7		
	baz=323							
H11S3	**WAKE ISLAND Hy**	29.87	129	T	T	08 01 11.8		
	baz=323							
H11S2	**WAKE ISLAND Hy**	29.88	129	T	T	08 01 24.9		
	baz=323							
ZALV	**Zalesovo Beam**	40.64	310	P	P	07 31 04.2		+0.2
	1.0nm,0.5s,baz=109,slow=7.8,SNR=3.5							
MKAR	**Makanchi Array**	43.35	300	P	P	07 31 26.2		-0.1
	0.3nm,0.5s,baz=82,slow=11,SNR=6.5							
ILAR	**Eielson Array**	46.63	34	P	P	07 31 52.5		+0.4
	0.2nm,0.6s,baz=260,slow=5.9,SNR=7.1							
WRA	**Warramunga Arr**	60.03	189	P	P	07 33 29.7		-1.2
	0.8nm,0.6s,baz=7.7,slow=7.0,SNR=8.2							
YKA	**Yellowknife Ar**	60.91	31	P	P	07 33 36.0		-0.4
	0.1nm,0.5s,baz=301,slow=5.9,SNR=2.5							
FINES	**FINESS Array B**	66.66	332	P	P	07 34 13.6		-0.6
	0.4nm,0.5s,baz=36,slow=10.0,SNR=4.6							
HFS	**Hagfors**	71.80	336	P	P	07 34 45.4		-0.8
	1.6nm,0.9s,baz=67,slow=8.2,SNR=5.1							
NOA	**NORSAR Array B**	71.85	337	P	P	07 34 45.1		-1.4
	0.5nm,0.7s,baz=55,slow=21,SNR=2.6							

ISCJB ***25*** *07:35:08.8±0.7,36.°25N±0.°05×3.°15E±0.°07,h15km,Error ellipse: s-maj=9.3km s-min=5.6km az=44.0*
CRAAG ***25*** *07:35:08.0,36.°25N×3.°21E,Ml3.1*
MDD ***25*** *07:35:09.8±0.5,36.°23N×3.°19E,h0km,mb3.9/3,Error ellipse: s-maj=8.0km s-min=4.2km az=24.0,PRXIMO*
CSEM ***25*** *07:35:09.4±0.3,36.°29N×3.°24E,h2km,mb3.9,Error ellipse: s-maj=10.1km s-min=5.6km az=42.0*
ISC 25 07:35:09.5±0.9,36.°23N±0.°05×3.°21E±0.°03,h15km,n33, σ1°24/34,1C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
ADJB	**Djebel Djouab**	0.20	112	P	Pg	07 35 13.2		-1.0
ADJB	**Djebel Djouab**	0.20	112	P	Pg	07 35 13.2		-1.0
ADJB	**Djebel Djouab**	0.20	112	P	Pg	07 35 13.2		-1.0
EMHD	**Djebel Mahouad**	0.21	262	P	Pg	07 35 13.4		-1.0
EMHD	**Djebel Mahouad**	0.21	262	P	Pg	07 35 13.4		-1.0
EMHD	**Djebel Mahouad**	0.21	262	P	Pg	07 35 13.4		-1.0
AKET	**Djebel Ketaf**	0.57	109	P	Pg	07 35 20.7		-0.2
AKET	**Djebel Ketaf**	0.57	109	P	Pg	07 35 20.7		-0.2
AKET	**Djebel Ketaf**	0.57	109	P	Pg	07 35 20.7		-0.2
ABA	**Alger-Bouzarea**	0.59	346	P	Pg	07 35 20.8		-0.3
ABA	**Alger-Bouzarea**	0.59	346	P	Pg	07 35 20.8		-0.3
ABA	**Alger-Bouzarea**	0.59	346	P	Pg	07 35 20.8		-0.3
ATAF	**Djebel Tarf**	0.94	112	P	Pb	07 35 28.0		+0.5
ATAF	**Djebel Tarf**	0.94	112	P	Pb	07 35 28.0		+0.5
ATAF	**Djebel Tarf**	0.94	112	P	Pb	07 35 28.0		+0.5
EBNR	**Beni Rached**	1.36	273	P	Pn	07 35 30.1		-3.9
EBNR	**Beni Rached**	1.36	273	P	Pn	07 35 30.1		-3.9
EANR	**'Ain N'Sour**	1.73	261	P	Pb	07 35 42.0		+0.9
EANR	**'Ain N'Sour**	1.73	261	P	Pb	07 35 42.0		+0.9
EANR	**'Ain N'Sour**	1.73	261	P	Pb	07 35 42.0		+0.9
ETRT	**Tiaret**	1.77	242	P	Pn	07 35 35.1		-4.5
ETRT	**Tiaret**	1.77	242	P	Pn	07 35 35.1		-4.5
ETRT	**Tiaret**	1.77	242	P	Pn	07 35 35.1		-4.5
EIBI	**Ibiza**	3.16	333	P	Pn	07 35 59.7		+1.0
	2.9nm,0.2s,SNR=6.1							
EIBI				S	Sn	07 36 36.4		+0.3
	2.5nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	3.16	333	P	Pn	07 35 59.7		+1.0
	2.9nm,0.2s,SNR=6.1							
EIBI				S	Sn	07 36 36.4		+0.3
	2.5nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	3.54	355	P	Pn	07 36 04.8		+0.8
	0.2nm,0.1s,SNR=4.5							
ETOS				S	Sn	07 36 44.3		-1.3
	2.3nm,0.5s,SNR=14							
ETOS	**Mallorca**	3.54	355	P	Pn	07 36 04.8		+0.8
	0.2nm,0.1s,SNR=4.5							
ETOS				S	Sn	07 36 44.3		-1.3
	2.3nm,0.5s,SNR=14							
ETOB	**Tobarra**	4.49	304	P	Pn	07 36 18.4		+1.4
	1.3nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	4.49	304	P	Pn	07 36 18.4		+1.4
	1.3nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	5.04	326	⇑P	Pn	07 36 26.0		+1.3
	3.0nm,0.2s,SNR=18							
EMOS				S	Sn	07 37 20.7		-2.1
	1.3nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	5.04	326	P	Pn	07 36 26.0		+1.3
	3.0nm,0.2s,SNR=18							
EMOS				S	Sn	07 37 20.7		-2.1
	1.3nm,0.4s,SNR=7.9							
EBR	**Ebro Roquetas**	5.05	336	S	Sn	07 37 20.0		-2.8
	151nm,0.2s,SNR=4.0							
EBR	**Ebro Roquetas**	5.05	336	S	Sn	07 37 20.0		-2.8
	151nm,0.2s,SNR=4.0							

NIED ***25*** *07:37:00,48.°20N×154.°90E,h38km,Mw4.3 Best double couple: M₀3.60000×10¹⁵ NP1:φs9.00000°,δ8.00000°, λ-163.00000°. NP2:φs262.00000°,δ88.00000°, λ-82.00000°.*
KRSC ***25*** *07:37:41.7±2.3,48.°02N×154.°75E,h66km±24km,ML4.8*
ISCJB ***25*** *07:37:45.1±0.5,48.°21N±0.°04×154.°48E±0.°05,h62km±5km, mb4.2/28,Error ellipse: s-maj=7.5km s-min=2.9km az=139.8*
MOS ***25*** *07:37:45.8±1.0,48.°23N×154.°45E,h71km,mb4.5/12,Error ellipse: s-maj=9.2km s-min=4.9km az=69.8*
SKHL ***25*** *07:37:45.8±0.7,48.°08N×154.°74E,h75km±4km,mb5.0/9*
IDC ***25*** *07:37:47.6±2.6,48.°28N×154.°28E,h67km±22km,mb3.8/19, mb1 4.0/24,mb1mx3.9/43,mbtmp4.1/24,MS3.4/15, Ms1 3.4/15,ms1mx3.2/42,Error ellipse: s-maj=16.1km s-min=11.7km az=137.0*
NEIC ***25*** *07:37:48.4±0.8,48.°26N×154.°30E,h75km±7km,mb4.5/10, Error ellipse: s-maj=10.2km s-min=5.3km az=132.0*
ISC 25 07:37:46.3±1.1,48.°14N±0.°06×154.°54E±0.°06,h61km±10km, n155,σ1°54/174,mb4.2/28,8C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SKR	**Severo-Kuril's**	2.74	21	⇑*i*PN	Pn	07 38 27.3		-0.5
SKR				*e*S	Sn	07 38 57.9		-1.8
SKR				pmax	pmax			
	comp=Z,34nm,0.4s							
SKR				smax	smax			
	comp=E,841nm,1.4s							
SKR				smax	smax			
	comp=N,1μm,0.8s							
SKR	**Severo-Kuril's**	2.74	21	*e*P	Pn	07 38 27.5		-0.3
SKR				AMB	AMB	07 38 29.6		
	comp=N,120nm,0.7s							
SKR				*e*S	Sn	07 38 58.3		-1.4
SKR				A	A	07 39 04.8		
	comp=N,1μm,0.9s							
SKR				A	A	07 39 04.8		
	comp=N,840nm,0.9s							
SKR	**Severo-Kuril's**	2.74	21	*e*P	Pn	07 38 26.5		-1.3
SKR				*e*S	Sn	07 38 58.4		-1.3
PAU	**Pauzhetka**	3.64	23	*e*P	Pn	07 38 38.9		-1.1
PAU				*e*S	Sn	07 39 20.5		-1.1
ASAK	**Asacha**	4.76	26	PN	Pn	07 38 55.9		+0.4
ASAK	**Asacha**	4.76	26	*e*P	Pn	07 38 55.9		+0.4
RUS	**Russkaya**	4.99	29	PN	Pn	07 38 57.0		-1.5
RUS	**Russkaya**	4.99	29	*e*P	Pn	07 38 57.0		-1.5
RUS				*e*S	Sn	07 39 51.4		-3.4
KRMR	**Karymshinskiy**	5.22	25	PN	Pn	07 39 02.9		+1.3
KRMR				S	Sn	07 39 59.3		-1.2
KRMR	**Karymshinskiy**	5.22	25	*e*P	Pn	07 39 03.0		+1.3
PETK	**Petropavlovsk-**	5.36	21	P	Pn	07 39 04.4		+0.8
	comp=N,3.9nm,0.3s,baz=174,slow=12,SNR=26							
PETK				LR	LR	07 41 24.1		
	comp=N,151nm,18.6s,baz=199,slow=41							
KUR	**Kuril'sk**	5.44	240	*e*PN	Pn	07 39 07.2		+2.5
KUR				*i* S	Sn	07 40 10.8		+5.0
KUR				pmax	pmax			
	comp=Z,100nm,0.5s							
KUR				pmax	pmax			
	comp=N,34nm,0.4s							
KUR				pmax	pmax			
	comp=E,26nm,0.4s							
KUR				smax	smax			
	comp=N,98nm,0.6s							
KUR				smax	smax			
	comp=E,69nm,0.5s							
KUR	**Kuril'sk**	5.44	240	*e*P	Pn	07 39 05.1		+0.4
KUR				AMB	AMB	07 39 06.6		
	comp=E,300nm,0.8s							
KUR				*e*S	Sn	07 40 06.0		+0.2
KUR				A	A	07 40 14.7		
	comp=E,390nm,0.9s							
PET	**Petropavlovsk**	5.54	27	*e*PN	Pn	07 39 06.7		+0.6
PET				*e*S	Sn	07 40 07.4		-0.9
PET				smax	smax			
	comp=N,135nm,0.6s							
PET				smax	smax			
	comp=E,162nm,0.6s							
PET	**Petropavlovsk**	5.54	27	*e*P	Pn	07 39 06.1		0.0
PET				*e*S	Sn	07 40 07.4		-0.9
PET				A	A	07 40 27.2		
	comp=E,135nm,0.6s							
PET				A	A	07 40 27.2		
	comp=E,162nm,0.6s							
PET	**Petropavlovsk**	5.54	27	*e*Pn	Pn	07 39 07.5		+1.4
PET				*e*Sn	Sn	07 40 08.9		+0.5
PET	**Petropavlovsk**	5.54	27	P	Pn	07 39 06.2		+0.1
PET				*e*S	Sn	07 40 07.5		-0.9
DALK	**Dalny**	5.58	27	PN	Pn	07 39 06.2		-0.4
DALK				S	Sn	07 40 06.8		-2.5
DALK	**Dalny**	5.58	27	P	Pn	07 39 06.2		-0.4
DALK				*e*S	Sn	07 40 07.1		-2.2
UGLR	**Uglovaya**	5.75	27	PN	Pn	07 39 09.9		+0.8
UGLR				S	Sn	07 40 14.6		+0.8
UGLR	**Uglovaya**	5.75	27	*e*P	Pn	07 39 09.9		+0.8
UGLR				S	Sn	07 40 14.5		+0.8
AVH	**Avacha**	5.78	26	PN	Pn	07 39 10.6		+1.2
AVH				S	Sn	07 40 15.2		+0.9
AVH	**Avacha**	5.78	26	P	Pn	07 39 10.6		+1.2
AVH				S	Sn	07 40 14.9		+0.6
SMAR	**Somma**	5.79	26	PN	Pn	07 39 10.8		+1.0
SMAR	**Somma**	5.79	26	P	Pn	07 39 10.7		+1.0
KRER	**Koryakskii**	5.81	26	PN	Pn	07 39 10.7		+0.7
KRER				S	Sn	07 40 16.0		+0.6
KRER	**Koryakskii**	5.81	26	*e*P	Pn	07 39 10.7		+0.7
KRER				S	Sn	07 40 15.0		-0.4
SDLR	**Sedlovina**	5.83	27	PN	Pn	07 39 09.9		-0.3
SDLR	**Sedlovina**	5.83	27	*e*P	Pn	07 39 09.9		-0.3
SDLR				*e*S	Sn	07 40 11.9		-3.8
KRX	**Arik**	5.83	25	PN	Pn	07 39 11.6		+1.4
KRX				S	Sn	07 40 17.0		+1.3
KRX	**Arik**	5.83	25	*e*P	Pn	07 39 10.9		+0.7
KRX				*e*S	Sn	07 40 17.1		+1.3
GNL	**Ganaly**	5.96	20	PN	Pn	07 39 12.9		+1.0
GNL	**Ganaly**	5.96	20	*e*P	Pn	07 39 12.5		+0.6
YUK	**Yuzh-Kuril'sk**	7.30	239	⇑*e*PN	Pn	07 39 29.7		-0.5
YUK	**Yuzh-Kuril'sk**	7.30	239	*e*P	Pn	07 39 30.1		-0.1
YUK				AMB	AMB	07 39 31.5		
	comp=E,143nm,0.6s							
YUK				AMB	AMB	07 39 31.5		
	comp=E,145nm,0.6s							
YUK				AMB	AMB	07 39 31.5		
	comp=E,284nm,0.6s							
NEM2	**Nemuro 2**	7.79	235	P	Pn	07 39 35.0		-1.9
NEM2				*e*S	Sn	07 40 58.0		-5.5
MKZ	**Mys Kozlova**	7.84	32	PN	Pn	07 39 34.8		-2.6

MJA0 pmax pmax
comp=Z,1.0nm,0.3s
MAJO Matsushiro 16.70 232 *eP* **P 07 41 37.7 +0.2**
MAJO pmax pmax
comp=Z,14nm,0.8s
MAJO Matsushiro 16.70 232 *eP* **P 07 41 37.7 +0.2**
comp=Z,14nm,0.8s
MAT Matsushiro 16.70 232 P **P 07 41 38.3 +0.8**
MJAR Matsushiro Arr 16.70 232 P **Pn 07 41 34.5 -1.6**
comp=Z,0.3nm,0.3s,baz=29,slow=13,SNR=9.1
BMKR Bomnak 17.26 302 *eP* **Pn 07 41 42.0 -0.9**
BMKR AMB AMB 07 41 48.5
comp=Z,11nm,0.9s
KROS Kirovskiy 18.28 300 *eP* **Pn 07 41 58.5 +3.1**
YAK Yakutsk 19.72 324 P **P 07 42 09.9 -0.4**
comp=Z,0.0nm,0.3s,baz=76,slow=0.5,SNR=5.4
YAK LR LR 07 49 10.6
comp=Z,71nm,19.0s,baz=263,slow=35
YAK Yakutsk 19.72 324 *eP* **Pn 07 42 12.4 +0.1**
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=E,16nm,1.4s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK Yakutsk 19.72 324 *eP* **Pn 07 42 12.4 +0.1**
CLNS Chul'man 19.90 307 *eP* **Pn 07 42 15.5 +0.8**
CLNS pmax pmax
comp=Z,25nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS pmax pmax
comp=N,12nm,0.9s
CN2 Changchun 20.62 269 *eP* **P 07 42 18.0 -2.4**
KSRS Korea Array 22.15 251 P **P 07 42 37.3 +0.5**
comp=N,12nm,0.8s,baz=51,slow=9.9,SNR=30
KSRS LR LR 07 51 29.6
comp=N,84nm,20.3s,baz=124,slow=37
KSAR Wonju Array Be 22.19 251 P **P 07 42 37.3 +0.1**
KSAR Wonju Array Be 22.19 251 P **P 07 42 37.3 +0.1**
JNU Nakatsue 23.27 238 P **P 07 42 49.4 +0.8**
comp=N,6.8nm,0.9s,baz=45,slow=7.1,SNR=2.9
H11N2 WAKE ISLAND Hy 30.06 156 T T 08 16 02.7
baz=341,slow=76,SNR=682
H11N1 WAKE ISLAND Hy 30.07 156 T T 08 15 33.2
baz=341,slow=76,SNR=850
H11N3 WAKE ISLAND Hy 30.08 156 T T 08 16 05.2
baz=341,slow=76,SNR=379
H11S1 WAKE ISLAND Hy 31.18 157 T T 08 16 55.0
baz=344,slow=76,SNR=3702
H11S3 WAKE ISLAND Hy 31.18 157 T T 08 16 54.1
baz=344,slow=76,SNR=3703
H11S2 WAKE ISLAND Hy 31.19 157 T T 08 16 56.2
baz=344,slow=76,SNR=2500
SONM Songino Array 31.81 288 P **P 07 44 04.1 -0.9**
comp=N,0.5nm,0.5s,baz=78,slow=7.5,SNR=3.4
SONM PcP **PcP 07 46 54.4 -0.2**
comp=N,0.8nm,0.6s,baz=125,slow=4.0,SNR=3.4
SONM LR LR 07 57 42.0
comp=N,115nm,18.2s,baz=304,slow=38
TLY Talaya 32.42 296 LR LR 07 57 53.6
comp=N,74nm,19.0s,baz=48,slow=37
COLA College 34.44 40 *eP* **P 07 44 28.9 +1.4**
COLA pmax pmax
comp=Z,10.0nm,1.1s
COLA College 34.44 40 *eP* **P 07 44 28.7 +1.2**
COLA College 34.44 40 *eP* **P 07 44 28.9 +1.4**
comp=Z,9.6nm,1.1s
ILAR Eielson Array 34.85 40 P **P 07 44 30.2 -0.9**
comp=Z,0.7nm,0.7s,baz=259,slow=9.9,SNR=13
ILAR Eielson Array 34.85 40 *eP* **P 07 44 31.8 +0.7**
ZALV Zalesovo Beam 42.59 305 P **P 07 45 34.5 -1.4**
comp=Z,0.5nm,0.3s,baz=94,slow=7.4,SNR=2.5
ZALV PcP **PcP 07 47 27.7 +0.7**
comp=Z,2.1nm,0.7s,baz=98,slow=2.9,SNR=8.6
ZALV LR LR 08 02 35.2
comp=Z,40nm,20.0s,baz=39,slow=35
MKAR Makanchi Array 47.17 297 P **P 07 46 11.3 -1.1**
comp=Z,1.1nm,0.6s,baz=61,slow=9.9,SNR=6.0
MKAR LR LR 08 07 25.7
comp=Z,70nm,19.4s,baz=46,slow=38
KURK Kurchatov 47.41 303 ⇓Pn **P 07 46 13.1 -1.0**
KURK ⇑Lg Lg 07 48 47.9
comp=Z,29nm,1.2s
KURK Kurchatov 47.41 303 ⇓*eP* **P 07 46 13.3 -0.8**
KURK pmax pmax
comp=Z,13nm,0.7s
KURK Kurchatov 47.41 303 *eP* **P 07 46 13.3 -0.8**
KURK Kurchatov 47.41 303 *eP* **P 07 46 12.9 -1.2**
comp=Z,27nm,0.8s
KURK PcP **PcP 07 47 43.3 -0.4**
KURBB Kurchatov Arra 47.50 303 P **P 07 46 14.1 -0.8**
comp=Z,2.4nm,0.6s,baz=67,slow=8.4,SNR=27
KURBB PcP **PcP 07 47 43.3 -0.8**
baz=67,slow=3.2
KURBB Kurchatov Arra 47.50 303 ⇑Pn **P 07 46 13.1 -1.8**
comp=Z,2.4nm,0.7s
KURBB ⇑Lg Lg 07 48 48.3
comp=Z,4.7nm,0.8s
YKA Yellowknife Ar 49.23 38 P **P 07 46 29.2 +1.3**
comp=Z,2.1nm,0.8s,baz=297,slow=7.4,SNR=17
YKA PcP **PcP 07 47 50.2 +0.1**
comp=Z,0.3nm,0.8s,baz=303,slow=3.3,SNR=3.3
BVAR Borovoye Array 50.73 309 P **P 07 46 38.0 -1.5**
comp=Z,1.8nm,0.5s,baz=56,slow=7.0,SNR=9.1
BVAR PcP **PcP 07 47 56.0 +0.2**
comp=Z,1.4nm,0.6s,baz=35,slow=3.6,SNR=5.7
BVAR Borovoye Array 50.73 309 P **P 07 46 38.0 -1.5**
BVAR 07 47 56.0
JAY Jayapura 51.88 198 P **P 07 46 48.9 +0.4**
comp=Z,0.5nm,0.3s,baz=90,slow=20,SNR=3.2
CMAR Chiang Mai Arr 53.64 257 P **P 07 47 00.3 -1.2**
comp=Z,2.4nm,0.7s,baz=35,slow=7.1,SNR=8.6
CMAR LR LR 08 10 49.0
comp=Z,34nm,18.6s,baz=185,slow=37
CMAR Chiang Mai Arr 53.64 257 *eP* **P 07 47 02.8 +1.3**
ARCES ARCESS Array B 55.85 341 LR LR 08 15 04.9
comp=Z,36nm,20.5s,baz=73,slow=40
ABKAR Akbulak array 58.28 310 *eP* **P 07 47 33.5 -0.7**
comp=Z,0.8nm,0.6s
SUMG Summit 59.24 5 *eP* **P 07 47 41.0 0.0**
SUMG pmax pmax
comp=Z,6.0nm,1.1s
SUMG Summit 59.24 5 *eP* **P 07 47 41.0 0.0**
comp=Z,6.1nm,1.1s
FCC Fort Churchill 59.56 34 *eP* **P 07 47 43.9 +0.9**
FCC pmax pmax
comp=Z,9.0nm,1.1s
FCC Fort Churchill 59.56 34 *eP* **P 07 47 43.9 +0.9**
comp=Z,9.0nm,1.1s
BOZ Bozeman (W) 60.14 54 *eP* **P 07 47 48.9 +1.5**
BOZ pmax pmax
comp=Z,2.0nm,1.0s
BOZ Bozeman (W) 60.14 54 *eP* **P 07 47 48.9 +1.5**
comp=Z,2.1nm,1.0s
PDAR Pinedale Array 63.15 55 P **P 07 48 09.6 +1.8**
comp=Z,1.3nm,0.9s,baz=289,slow=4.5,SNR=4.7
FINES FINESS Array B 63.19 335 P **P 07 48 05.9 -1.5**
comp=Z,0.5nm,0.4s,baz=39,slow=8.2,SNR=9.5
RSSD Black Hills 65.19 51 *eP* **P 07 48 22.4 +1.3**
RSSD pmax pmax
comp=Z,3.0nm,0.7s
RSSD Black Hills 65.19 51 *eP* **P 07 48 22.4 +1.3**
comp=Z,2.7nm,0.7s
NOA NORSAR Array B 67.22 342 LR LR 08 21 44.7
comp=Z,13nm,20.1s,baz=30,slow=39
WRAB Tennant Creek 70.14 200 *eP* **P 07 48 51.9 -0.2**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WRAB Tennant Creek 70.14 200 *eP* **P 07 48 51.9 -0.2**
comp=Z,7.5nm,1.0s
WRA Warramunga Arr 70.15 200 P **P 07 48 52.9 +0.7**
comp=Z,4.7nm,0.7s,baz=15,slow=6.2,SNR=24
FITZ Fitzroy Crossi 70.83 209 *eP* **P 07 48 58.0 +1.6**
comp=Z,31nm,1.8s
AKASG Malin Array Be 70.92 327 P **P 07 48 55.5 -1.0**
comp=Z,0.4nm,0.4s,baz=40,slow=1.6,SNR=2.6
PALK Pallekele 73.84 263 LR LR 08 25 02.5
comp=Z,54nm,18.2s,baz=114,slow=38
ASAR Alice Springs 73.84 200 P **P 07 49 15.9 +1.7**
comp=Z,2.0nm,0.7s,baz=13,slow=5.3,SNR=26
STHS Stebnicka Huta 74.79 330 *eP* **P 07 49 15.4 -4.1**
STHS Stebnicka Huta 74.79 330 *eP* **P 07 49 15.4 -4.1**
TXAR Lajitas Array 75.97 62 P **P 07 49 28.2 +1.5**
comp=Z,1.2nm,0.7s,baz=299,slow=4.6,SNR=18
VYHS Vyhne 76.37 331 *eP* P 07 49 22.0 -6.6
VYHS Vyhne 76.37 331 *eP* P 07 49 22.0 -6.6
GERES GERESS Array B 77.62 335 P **P 07 49 35.6 -0.1**
comp=Z,0.7nm,0.6s,baz=32,slow=5.3,SNR=6.1
GERES LR LR 08 26 35.7
comp=Z,35nm,18.2s,baz=21,slow=38
GERES GERESS Array B 77.62 335 *eP* **P 07 49 35.9 +0.2**
BRTR Keskin Array B 78.03 317 P **P 07 49 38.0 -0.2**
comp=Z,2.0nm,0.9s,baz=72,slow=4.0,SNR=8.2
BRTR Keskin Array B 78.03 317 P **P 07 49 38.0 -0.2**
ESDC Sonseca Array 90.50 344 LR LR 08 36 18.7
comp=Z,18nm,18.9s,baz=120,slow=39
TORD Torodi Ar. Bea 114.37 331 PKP PKPdf 07 56 19.4 +0.1
comp=Z,0.1nm,0.5s,baz=38,slow=3.7,SNR=2.6
QSPA South Pole Qui 137.88 180 *e*PKPdf **PKPdf 07 57 04.2 +1.8**
CPUP Villa Florida 146.93 60 PKPbc **PKPbc 07 57 22.0 +0.3**
comp=Z,1.1nm,0.6s,baz=174,slow=10,SNR=4.5
CPUP Villa Florida 146.93 60 PKP2 **PKPbc 07 57 22.0 +0.3**
PLCA Paso Flores 147.35 94 PKPbc **PKPbc 07 57 23.4 +0.9**
comp=Z,2.5nm,0.9s,baz=252,slow=5.1,SNR=3.3
PLCA Paso Flores 147.35 94 *e*PKP2 **PKPbc 07 57 22.3 -0.2**
PLCA pmax pmax
comp=Z,3.0nm,0.9s

NIED ***25*** *07:44:00.36˚.70N×141˚.90E,h20km,Mw3.8 Best double couple: M₀6.55000×10¹⁴ NP1:φ₀219.00000°,δ18.00000°, λ112.00000°. NP2:φ₀16.00000°,δ73.00000°,λ83.00000°.*
IDC ***25*** *07:44:41.6±1.9,36˚.63N×142˚.22E,h0km,mb3.9/6, mb1 3.9/8,mb1mx3.6/37,mbtmp3.9/8,ML3.8/2,MS3.0/2, Ms1 3.0/2,ms1mx2.5/44,Error ellipse: s-maj=50.1km s-min=24.6km az=77.0*
ISCJB ***25*** *07:44:44.0±0.8,36˚.61N±0˚.04×142˚.01E±0˚.08,h19km, mb3.8/6,Error ellipse: s-maj=9.8km s-min=6.4km az=177.2*
JMA ***25*** *07:44:46.6±0.3,36˚.65N×141˚.88E,h50km,M3.8*
ISC 25 07:44:44.7±1.0,36˚.68N±0˚.05×141˚.99E±0˚.07,h19km,n20, σ1ᵍ**41/24,mb3.8/6,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.04**	**294**	P	**Pg**	**07 45 04.0**	**-0.9**
JFK	**Kawauchi**	**1.12**	**308**	P	**Pg**	**07 45 05.2**	**-1.3**
JFK				*e*S	**Sg**	**07 45 20.1**	**-1.1**
JHO	**Hitachi**	**1.14**	**267**	P	**Pb**	**07 45 05.1**	**-0.7**
JMM	**Marumori**	**1.52**	**322**	P	**Pb**	**07 45 11.4**	**-0.8**
JFT	**Otama**	**1.56**	**303**	P	**Pb**	**07 45 12.7**	**-0.3**
JIO	**Ouri**	**1.84**	**344**	P	**Pb**	**07 45 16.3**	**-1.4**
JIO				S	**Sb**	**07 45 39.2**	**-1.2**
JOU	**Okura**	**1.98**	**328**	P	**Pb**	**07 45 18.9**	**-1.3**
JAG	**Ashikaga**	**2.05**	**264**	P	**Pn**	**07 45 18.9**	**+0.7**
BSO1	**Boso 1**	**2.18**	**202**	P	**Pn**	**07 45 20.3**	**+0.8**
BSO1				*e*X		07 45 46.1	
JMK	**Ichinoseki**	**2.35**	**345**	P	**Pb**	**07 45 24.3**	**-2.1**
MJAR	**Matsushiro Arr**	**3.04**	**268**	Pn	**Pn**	**07 45 33.5**	**+1.7**
	12nm,0.3s,baz=99,slow=9.4,SNR=150						
MJAR				Sn	**Sb**	**07 46 13.7**	**-1.3**
	6.0nm,0.3s,baz=101,slow=24,SNR=5.0						
MJAR				LR	LR	07 46 59.1	
	comp=Z,189nm,19.1s,baz=105,slow=43						
MAT	**Matsushiro**	**3.04**	**269**	P	**Pn**	**07 45 33.5**	**+1.7**
MAT				S	**Sn**	**07 46 07.7**	**0.0**
JHJ	**Hachijo jima 2**	**3.99**	**208**	Pn	**Pn**	**07 45 44.8**	**0.0**
	14nm,0.3s,baz=124,slow=23,SNR=6.3						
JHJ				Sn	**Sn**	**07 46 27.6**	**-3.4**
	55nm,0.3s,baz=202,slow=22,SNR=7.9						
JNU	**Nakatsue**	**9.79**	**252**	LR	LR	07 51 03.3	
	comp=Z,113nm,19.0s,baz=116,slow=38						
SONM	**Songino Array**	**28.36**	**304**	P	**P**	**07 50 38.7**	**+1.1**
	3.0nm,0.8s,baz=102,slow=9.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**42.49**	**313**	P	**P**	**07 52 39.1**	**+0.7**
	0.7nm,0.3s,baz=88,slow=6.9,SNR=6.1						
MKAR	**Makanchi Array**	**44.69**	**302**	P	**P**	**07 52 57.4**	**+1.0**
	0.9nm,0.6s,baz=81,slow=9.7,SNR=11						
BVAR	**Borovoye Array**	**51.15**	**313**	P	**P**	**07 53 47.9**	**+1.7**
	0.4nm,0.4s,baz=53,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**56.78**	**189**	P	**P**	**07 54 27.1**	**-0.4**
	0.5nm,0.7s,baz=6.1,slow=7.1,SNR=6.2						
AKASG	**Malin Array Be**	**74.86**	**323**	P	**P**	**07 56 25.1**	**+1.3**
	0.6nm,0.4s,baz=45,slow=5.3,SNR=3.8						

MEX 25 08:00:16.1±0.3,14˚.45N×92˚.66W,h5km,MD3.7,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.36**	**337**	*e*P	Pn	08 00 38.2	-3.5

NIED ***25*** *08:01:00,37˚.10N×140˚.90E,h5km,Mw3.7 Best double couple: M₀4.49000×10¹⁴ NP1:φ₀75.00000°,δ37.00000°, λ-54.00000°. NP2:φ₀213.00000°,δ61.00000°, λ-114.00000°.*
IDC ***25*** *08:01:49.7±0.9,37˚.05N×140˚.93E,h0km,mb3.9/11, mb1 4.1/12,mb1mx3.9/44,mbtmp3.9/12,ML3.4/1,MS2.9/3, Ms1 2.9/3,ms1mx2.5/54,Error ellipse: s-maj=24.3km s-min=20.8km az=159.0*
ISCJB ***25*** *08:01:50.0±0.8,37˚.07N±0˚.03×141˚.01E±0˚.05,h10km±4km, mb3.9/13,MS3.8/1,Error ellipse: s-maj=7.0km s-min=4.3km az=12.9*
JMA ***25*** *08:01:51.7,37˚.10N×140˚.85E,h9km±1km,M4.0*
JMA Felt III J1.
NEIC ***25*** *08:01:55.7±1.2,37˚.09N×140˚.95E,h41km±10km,mb4.3/2, Error ellipse: s-maj=15.0km s-min=10.5km az=133.0*
NEIC Recorded [3 JMA] in Fukushima.
ISC 25 08:01:51.1±1.3,37˚.07N±0˚.03×140˚.95E±0˚.06,h7km±7km, n38,σ1ᵍ**47/41,mb3.9/13,6C-1D,Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.13**	**283**	⇓P	**Pg**	**08 01 53.3**	**-0.5**
ONAJ				S	**Sg**	**08 01 54.6**	**-1.1**
JFK	**Kawauchi**	**0.30**	**348**	⇑P	**Pg**	**08 01 57.1**	**+0.1**
JFK				S	**Sg**	**08 02 01.5**	**+0.5**
JHO	**Hitachi**	**0.56**	**214**	⇑P	**Pg**	**08 02 01.8**	**0.0**
JHO				S	**Sg**	**08 02 09.0**	**-0.1**
JFT	**Otama**	**0.66**	**312**	⇑P	**Pg**	**08 02 03.3**	**-0.6**
JFT				*e*S	**Sg**	**08 02 11.6**	**-0.9**
JMM	**Marumori**	**0.80**	**351**	⇑P	**Pg**	**08 02 06.1**	**-0.4**
JMM				S	**Sg**	**08 02 16.9**	**0.0**
JSB	**Shiboa**	**0.83**	**263**	⇑P	**Pg**	**08 02 06.8**	**-0.3**
JYT	**Yasato**	**1.04**	**216**	P	**Pg**	**08 02 10.2**	**-0.9**
JYT				S	**Sg**	**08 02 24.3**	**-0.3**
JFY	**Yanaizu**	**1.05**	**289**	⇑P	**Pg**	**08 02 10.1**	**-1.2**
JFY				S	**Sg**	**08 02 22.8**	**-2.1**
MJAR	**Matsushiro Arr**	**2.27**	**257**	Pn	**Pn**	**08 02 29.9**	**+0.9**
	11nm,0.3s,baz=80,slow=15,SNR=67						
MJAR				Sn	**Sn**	**08 02 57.9**	**+0.6**
	20nm,0.3s,baz=39,slow=42,SNR=9.7						
MJAR				LR	LR	08 03 21.8	
	comp=Z,48nm,20.1s,baz=155,slow=42						
MAJO	**Matsushiro**	**2.27**	**257**	*e*Pn	**Pn**	**08 02 30.5**	**+1.4**
MAT	**Matsushiro**	**2.27**	**257**	P	**Pn**	**08 02 30.1**	**+1.0**
MAT				S	**Sn**	**08 02 59.4**	**+2.1**
JHJ	**Hachijo jima 2**	**4.06**	**194**	Pn	**Pn**	**08 02 56.2**	**+2.5**
	7.6nm,0.3s,baz=270,slow=20,SNR=2.5						
JHJ				Sn	**Sn**	**08 03 40.5**	**-1.0**
	14nm,0.3s,baz=233,slow=20,SNR=4.7						
ERM	**Erimo**	**5.22**	**18**	*e*Pn	**Pn**	**08 03 10.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.85**	**319**	Pn	**Pn**	**08 04 16.9**	**+3.8**
	0.2nm,0.3s,baz=150,slow=42,SNR=5.4						
KSRS	**Korea Array**	**10.39**	**276**	Pn	**Pn**	**08 04 24.6**	**+4.0**
	0.2nm,0.3s,baz=90,slow=13,SNR=8.0						
KSRS				LR	LR	08 07 58.6	
	comp=Z,56nm,18.2s,baz=180,slow=35						
KSAR	**Wonju Array Be**	**10.43**	**276**	Pn	**Pn**	**08 04 24.6**	**+3.6**
SONM	**Songino Array**	**27.46**	**304**	P	**P**	**08 07 38.5**	**+0.7**
	0.7nm,0.7s,baz=113,slow=9.6,SNR=3.9						
H11N2	**WAKE ISLAND Hy 28.48**	**120**		T	T	08 37 26.6	
	baz=313,slow=75,SNR=49						
H11N1	**WAKE ISLAND Hy 28.49**	**120**		T	T	08 37 32.7	
	baz=313,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy 28.50**	**120**		T	T	08 37 33.6	
	baz=313,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy 29.19**	**122**		T	T	08 38 34.0	
	baz=314,slow=76,SNR=49						
H11S3	**WAKE ISLAND Hy 29.19**	**122**		T	T	08 38 30.3	
	baz=314,slow=76,SNR=43						
H11S2	**WAKE ISLAND Hy 29.21**	**122**		T	T	08 38 35.1	
	baz=314,slow=76,SNR=39						
ZALV	**Zalesovo Beam**	**41.62**	**312**	P	**P**	**08 09 39.1**	**-0.6**
	1.4nm,0.5s,baz=109,slow=7.1,SNR=7.3						
MKAR	**Makanchi Array**	**43.78**	**302**	P	**P**	**08 09 57.3**	**-0.1**
	0.6nm,0.6s,baz=89,slow=9.3,SNR=8.1						
KURK	**Kurchatov**	**45.62**	**308**	*e*P	**P**	**08 10 10.7**	**-1.2**
	8.7nm,0.8s						
ILAR	**Eielson Array**	**49.66**	**32**	P	**P**	**08 10 43.7**	**+0.6**
	0.6nm,0.8s,baz=274,slow=6.4,SNR=8.5						
WRAB	**Tennant Creek**	**57.04**	**187**	*e*P	**P**	**08 11 37.9**	**0.0**
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**57.05**	**187**	P	**P**	**08 11 37.0**	**-1.0**
	0.7nm,0.6s,baz=2.8,slow=7.2,SNR=12						
FINES	**FINESS Array B**	**68.61**	**332**	P	**P**	**08 12 53.9**	**-0.5**
	2.8nm,0.7s,baz=58,slow=7.6,SNR=14						
WSAR	**Wadi Sarin**	**70.50**	**285**	P	**P**	**08 13 04.8**	**-2.0**
	6.6nm,0.9s,baz=76,slow=8.3,SNR=2.7						
NB2	**NORSAR Subarra**	**74.01**	**337**	P	**P**	**08 13 26.4**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**74.01**	**337**	P	**P**	**08 13 26.7**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=39,slow=6.0,SNR=5.2						
AKASG	**Malin Array Be**	**74.04**	**322**	P	**P**	**08 13 26.4**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=49,slow=6.2,SNR=4.7						
GERES	**GERESS Array B**	**82.48**	**328**	P	**P**	**08 14 13.9**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=23,slow=7.2,SNR=5.4						
EIL	**Elat**	**84.05**	**303**	LR	LR	08 55 35.1	
	comp=Z,34nm,18.3s,baz=246,slow=38						
TXAR	**Lajitas Array**	**90.39**	**52**	P	**P**	**08 14 53.5**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=294,slow=6.8,SNR=2.7						
LPAZ	**La Paz**	**146.99**	**59**	PKPbc	**PKPab**	**08 21 36.1**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=233,slow=1.4,SNR=5.2						

NEIC ***25*** *08:05:42.0,16˚.49N×95˚.31W,h115km,MD4.2(MEX),After MEX.*
MEX 25 08:05:42.0±0.8,16˚.49N×95˚.31W,h115km±13km,MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.05**	**227**	*e*P	Pn	08 06 02.6	-1.6
HUIG				*e*S	Sn	08 06 19.9	-1.0
HUIG	**Huatulco**	**1.05**	**227**	*e*P	Pn	08 06 02.6	-1.6
HUIG				*e*S	Sn	08 06 19.9	-1.0
PANG	**Puerto Angel**	**1.39**	**234**	*e*P	Pn	08 06 06.3	-1.5
PANG				*e*S	Sn	08 06 25.4	-2.0
OXBJ	**Oaxaca**	**1.48**	**293**	*e*P	Pn	08 06 08.1	-0.9
OXBJ				*e*S	Sn	08 06 27.4	-2.1
VHO	**Vista Hermosa**	**1.48**	**293**	*e*P	Pn	08 06 08.1	-1.1
VHO				*e*S	Sn	08 06 27.4	-2.4
VHO	**Vista Hermosa**	**1.48**	**293**	*e*P	Pn	08 06 08.1	-1.1
VHO				*e*S	Sn	08 06 27.4	-2.4
PCIG		**2.15**	**111**	*e*P	Pn	08 06 15.6	-1.6
PCIG				*e*S	Sn	08 06 42.4	-1.7
PCIG		**2.15**	**111**	*e*P	Pn	08 06 15.6	-1.6
PCIG				*e*S	Sn	08 06 42.4	-1.7
PNIG	**Pinotepa**	**2.71**	**268**	*e*P	Pn	08 06 23.0	-1.3
PNIG				*i* S	Sn	08 06 54.9	-2.1
PNIG	**Pinotepa**	**2.71**	**268**	*e*P	Pn	08 06 23.0	-1.3
PNIG				*i* S	Sn	08 06 54.9	-2.1
TEIG	**Tepich**	**7.64**	**60**	*e*Pn	Pn	08 07 27.1	-3.5
TEIG				*e*Sn	Sn	08 08 45.2	-10

IDC ***25*** *08:09:33.8±0.7,52˚.12N×171˚.65W,h0km,mb4.2/22, mb1 4.3/24,mb1mx4.2/48,mbtmp4.2/24,ML4.0/2,MS3.3/17, Ms1 3.3/17,ms1mx3.1/55,Error ellipse: s-maj=22.1km s-min=12.2km az=171.0*
BJI ***25*** *08:09:37.4,52˚.05N×171˚.24W,h58km,mb4.6/9,mB4.8/3, Ms4.7/2,Ms7 4.6/3*
NEIC ***25*** *08:09:38.6,51˚.78N×171˚.55W,h44km,mb4.3/64, ML4.2(AEIC),After AEIC.*
ISC 25 08:09:35.5±2.2,51˚.95N±0˚.09×171˚.48W±0˚.03, h11km±12km,n350,σ1ᵍ**36/348,mb4.4/56,MS3.3/15,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.64**	**285**	P	**Pb**	**08 10 05.6**	**0.0**
KOSE				S	**Sg**	**08 10 28.1**	**+0.1**
KOFP	**Korovin Flat P**	**1.65**	**283**	P	**Pb**	**08 10 05.3**	**-0.6**
KONE	**Korovin Northe**	**1.69**	**286**	P	**Pb**	**08 10 06.4**	**-0.1**
KONE				S	**Sg**	**08 10 29.5**	**-0.2**
KOKL	**Mount Kliuchef**	**1.72**	**284**	P	**Pb**	**08 10 06.8**	**-0.3**
NIKH	**Nikolski High**	**1.91**	**56**	P	**Pb**	**08 10 09.3**	**-1.0**
NIKH				S	**Sb**	**08 10 33.4**	**-0.7**
OKAK	**Okmok**	**2.50**	**48**	P	**Pb**	**08 10 18.5**	**-1.9**
OKAK				S	**Sb**	**08 10 49.9**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**2.54**	**54**	P	**Pb**	**08 10 20.1**	**-0.9**
OKER	**Okmok East Rim**	**2.57**	**53**	P	**Pb**	**08 10 21.7**	**0.0**
GSMY	**Great Sitkin M**	**2.83**	**274**	P	**Pn**	**08 10 22.4**	**+1.8**
GSTR	**Great Sitkin T**	**2.83**	**275**	*e*Pn	**Pn**	**08 10 22.3**	**+1.6**
GSTD	**Great Sitkin T**	**2.89**	**274**	P	**Pn**	**08 10 22.8**	**+1.4**
GSTD				S	**Sn**	**08 10 57.7**	**+1.5**
GSCK	**Great Sitkin C**	**2.90**	**273**	P	**Pn**	**08 10 23.4**	**+1.8**
ETKA	**Kagalaska Isla**	**3.05**	**270**	P	**Pn**	**08 10 24.7**	**+1.0**
MSOM	**Makushin Julie**	**3.32**	**54**	P	**Pn**	**08 10 30.5**	**+3.2**
MCIR	**Makushin Cirqu**	**3.42**	**52**	P	**Pb**	**08 10 32.2**	**-3.9**
KIPH	**Kanaga Island**	**3.48**	**271**	P	**Pn**	**08 10 32.2**	**+2.7**
MTBL	**Makushin Table**	**3.54**	**53**	P	**Pn**	**08 10 33.8**	**+3.4**
UNV	**Unalaska Valle**	**3.56**	**56**	P	**Pn**	**08 10 33.5**	**+2.8**
UNV				S	**Sn**	**08 11 15.3**	**+2.6**
AKRB	**Akutan Reef Bi**	**3.93**	**54**	P	**Pn**	**08 10 39.5**	**+3.8**
AKRB				S	**Sb**	**08 11 28.4**	**-3.8**
AKGG	**Akutan Green G**	**4.00**	**54**	P	**Pn**	**08 10 40.6**	**+3.9**
AKUT	**Akutan**	**4.08**	**55**	*e*Pn	**Pb**	**08 10 43.2**	**-4.1**
WEBT	**Westdahl Beart**	**4.83**	**54**	P	**Pn**	**08 10 52.0**	**+4.0**
SPIA	**Saint Paul Isl**	**5.29**	**7**	P	**Pn**	**08 10 57.9**	**+3.5**
ISLZ	**Isanotski Laza**	**5.42**	**56**	P	**Pn**	**08 10 59.3**	**+3.1**
DTNA	**Dutton South F**	**6.37**	**56**	P	**Pn**	**08 11 12.1**	**+2.9**
SDPT	**Sand Point**	**7.37**	**58**	P	**Pn**	**08 11 25.5**	**+2.6**
CHGN	**Chignik**	**8.82**	**55**	*e*Pn	**Pn**	**08 11 44.7**	**+2.0**
OHAK	**Old Harbor**	**11.79**	**56**	*e*Pn	**Pn**	**08 12 22.5**	**-0.8**
GAMB	**Gambell**	**11.87**	**360**	*e*Pn	Pn	08 12 28.6	+4.3
KDAK	**Kodiak Island**	**12.33**	**54**	*e*Pn	**Pn**	**08 12 30.8**	**0.0**
SVW2	**Sparrevohn**	**12.65**	**37**	*e*Pn	Pn	08 12 41.1	+5.8
RSO	**Redoubt South**	**13.42**	**43**	*e*Pn	**P**	**08 12 51.9**	**-3.5**
CNPM	**China Poot**	**13.65**	**48**	*e*Pn	**P**	**08 12 53.5**	**-4.3**
TT01	**Tatalina**	**13.73**	**31**	*e*Pn	**P**	**08 12 54.7**	**-3.9**
BRLK	**Bradley Lake**	**13.92**	**48**	*e*Pn	**P**	**08 12 57.4**	**-3.3**
SPU	**Mount Spurr**	**14.09**	**41**	*e*Pn	**P**	**08 13 03.5**	**+0.9**
SEW	**Seward**	**14.72**	**48**	*e*Pn	**Pn**	**08

comp=Z,124nm,18.7s,baz=255,slow=40
ILB Eielson Array 18.04 35 *e*P **P 08 13 45.9 -0.3**
IL1 Eielson Array 18.04 35 *e*P **P 08 13 47.1 +0.9**
BALM Baldy 18.33 49 *e*P **P 08 13 53.1 +3.5**
17nm,0.5s
MENT Mentasta 18.38 42 *e*P **P 08 13 55.6 +5.5**
3.9nm,0.6s
DOT Dot Lake 18.55 40 *e*P **Pn 08 13 53.1 +1.1**
10nm,0.7s
COLD Coldfoot 18.56 26 *e*P **Pn 08 13 54.5 +2.4**
4.3nm,1.1s
PEA0 Petropavlovsk- 18.72 286 *e*P **Pn 08 13 55.2 +0.9**
PEA0B Petropavlovsk- 18.72 286 *e*P **Pn 08 13 54.9 +0.7**
47nm,1.4s
PETK Petropavlovsk- 18.72 286 P **P 08 13 52.0 -1.8**
0.6nm,0.3s,baz=86,slow=15,SNR=14
PETK LR LR 08 22 02.9
comp=Z,60nm,18.4s,baz=92,slow=40
PETK Petropavlovsk- 18.72 286 P **P 08 13 52.0 -1.8**
PCA Pinnacle 19.10 53 *e*P **Pn 08 14 01.9 +3.0**
66nm,0.9s
BILL Bilibino 19.40 335 *e*P **Pn 08 14 04.0 +1.7**
11nm,0.6s
DHAK Deception Hill 19.97 56 *e*P **Pn 08 14 11.1 +1.8**
26nm,0.7s
EGAK Eagle 20.18 39 *e*P Pn 08 14 10.5 -1.1
8.6nm,0.8s
HYT Haines Junctio 20.58 51 *e*P Pn 08 14 16.6 +0.2
32nm,0.9s
DAWY Dawson 20.61 42 *e*P Pn 08 14 18.3 +1.6
4.3nm,0.9s
SKAG Skagway 21.48 55 *e*P **P 08 14 26.2 +2.5**
20nm,0.8s
SEY Seymchan 22.02 314 P **P 08 14 28.8 -0.6**
3.9nm,0.7s,baz=87,slow=12,SNR=14
CRAG Craig 22.77 66 *e*P **P 08 14 40.7 +3.1**
32nm,1.5s
DLBC Dease Lake 24.21 58 P **P 08 14 55.1 +3.2**
16nm,0.6s,baz=276,slow=7.9,SNR=45
DLBC Dease Lake 24.21 58 *e*P **P 08 14 55.0 +3.0**
15nm,0.7s
INK Inuvik 24.42 34 P **P 08 14 53.5 -0.1**
4.1nm,0.4s,baz=238,slow=7.7,SNR=15
INK LR LR 08 25 32.5
comp=Z,122nm,18.8s,baz=260,slow=39
INK Inuvik 24.42 34 *e*P **P 08 14 53.7 +0.2**
12nm,1.1s
ASAJ Asahikawa 31.25 274 P **P 08 15 55.5 +0.6**
7.3nm,0.9s,baz=63,slow=9.0
BABE Bainbridge Sch 31.42 78 *e*P **P 08 15 58.1 +1.8**
YKW3 Yellowknife Ar 31.48 48 *e*P **P 08 15 57.9 +1.2**
5.8nm,1.1s
YKA Yellowknife Ar 31.50 48 P **P 08 15 57.5 +0.6**
2.5nm,0.5s,baz=273,slow=7.9,SNR=68
YKA PcP **PcP 08 18 49.8 +0.5**
0.3nm,0.5s,baz=284,slow=3.1,SNR=4.5
YKA LR LR 08 29 34.6
comp=Z,12nm,20.3s,baz=0.0,slow=38
YKB5 Yellowknife Ar 31.50 48 *e*P **P 08 15 57.2 +0.4**
G03D McMinnville, O 32.10 83 P **P 08 16 04.1 +1.7**
baz=300
I03D Drain, OR 32.82 85 P **P 08 16 10.6 +1.9**
baz=302
G05D Wamic, OR 33.28 81 P **P 08 16 13.9 +1.2**
baz=300
I04A Tendick Farm, 33.35 84 P **P 08 16 15.2 +1.8**
baz=302
I05D Terrebonne, OR 33.73 83 P **P 08 16 17.3 +0.6**
baz=301
J05D Fort Rock, OR 34.34 84 P **P 08 16 22.9 +0.7**
baz=303
NEW Newport 34.37 74 P **P 08 16 22.8 +0.5**
baz=297
NEW Newport 34.37 74 *e*P **P 08 16 24.2 +1.9**
7.1nm,1.0s
M02C Callahan 34.39 88 P **P 08 16 23.4 +0.8**
baz=305
EDM Edmonton 34.50 64 *e*P **P 08 16 25.2 +1.9**
13nm,0.7s
O03D Paynes Creek 35.68 89 P **P 08 16 34.4 +0.8**
baz=306
H11N2 WAKE ISLAND Hy 36.33 216 T T 08 55 12.8
baz=21,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 36.34 216 T T 08 55 13.5
baz=21,slow=76,SNR=18
H11N1 WAKE ISLAND Hy 36.35 216 T T 08 55 13.0
baz=21,slow=76,SNR=16
WVOR Wild Horse Val 36.41 84 *e*P **P 08 16 42.3 +2.4**
3.2nm,0.8s
MSO Missoula 36.95 75 P **P 08 16 46.2 +1.7**
baz=300
MSO Missoula 36.95 75 *e*P **P 08 16 46.5 +2.0**
4.6nm,1.2s
PAHR Pah Rah Range 37.52 88 *e*P **P 08 16 51.9 +2.5**
5.8nm,0.9s
H11S1 WAKE ISLAND Hy 37.53 215 T T 08 56 40.5
baz=21,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 37.54 215 T T 08 56 46.5
baz=21,slow=76,SNR=10
H11S3 WAKE ISLAND Hy 37.54 215 T T 08 56 40.4
baz=21,slow=76,SNR=14
USRK Uesuriysk Ar. 37.70 281 LR LR 08 31 57.5
comp=Z,46nm,21.5s,baz=53,slow=36
HLID Hailey 38.37 79 P **P 08 16 57.8 +1.2**
baz=304
MJAR Matsushiro Arr 38.38 267 P **P 08 16 55.4 -1.1**
1.1nm,0.7s,baz=46,slow=8.9,SNR=4.2
MJAR LR LR 08 31 06.6
comp=Z,34nm,21.9s,baz=80,slow=34
MCMT McKenzie Canyo 38.64 77 *e*P **P 08 17 00.4 +1.5**
MDJ Mudanjiang 38.93 283 P **P 08 17 01.0 0.0**
MDJ PMZ
6.0nm,0.5s
MDJ PMZ
45nm,3.1s
BOZ Bozeman (W) 38.94 75 P **P 08 17 02.3 +1.1**
baz=302
BOZ Bozeman (W) 38.94 75 *e*P **P 08 17 02.9 +1.6**
2.8nm,1.0s
H17A Grant Village 40.24 76 P **P 08 17 13.4 +1.1**
baz=303
RLMT Red Lodge 40.62 74 P **P 08 17 16.0 +0.6**
baz=303
R11A Troy Canyon, C 40.69 87 P **P 08 17 16.3 +0.3**
baz=308
R11A Troy Canyon, C 40.69 87 *e*P **P 08 17 17.8 +1.8**
11nm,1.7s
ARVC Arvin 40.74 93 P **P 08 17 17.1 +0.9**
baz=311
FURC Furnace Creek, 41.09 90 P **P 08 17 20.5 +1.5**
baz=310
TPNV Topopah Spring 41.16 89 P **P 08 17 21.5 +1.6**
baz=310
TPNV Topopah Spring 41.16 89 *e*P **P 08 17 22.0 +2.1**
4.2nm,0.8s
DUG Dugway, Tooele 41.28 83 P **P 08 17 21.7 +0.9**
baz=307
EDW2 Edwards Air Fo 41.41 93 P **P 08 17 22.7 +0.9**
baz=312
LAO LASA Array 41.58 70 P **P 08 17 23.1 +0.1**
baz=302
LAO LASA Array 41.58 70 *e*P **P 08 17 24.6 +1.6**
6.2nm,0.6s
BW06 Boulder Array 41.76 77 P **P 08 17 25.6 +0.8**
baz=305
BW06 Boulder Array 41.76 77 *e*P **P 08 17 25.7 +0.9**
PDAR Pinedale Array 41.76 77 P **P 08 17 25.5 +0.7**
2.4nm,0.8s,baz=299,slow=6.1,SNR=11
PDAR LR LR 08 34 16.3
comp=Z,34nm,18.2s,baz=304,slow=35
SHOC Shoshone, Teco 41.81 90 P **P 08 17 25.9 +0.8**
baz=311
GSC Goldstone, Bar 41.87 91 P **P 08 17 26.8 +1.2**
baz=311
GSC Goldstone, Bar 41.87 91 *e*P **P 08 17 27.7 +2.1**
6.8nm,0.9s
BFSC Mount Baldy Ra 42.05 93 P **P 08 17 27.6 +0.5**
baz=312
A25A Svangstu Ranch 42.19 66 P **P 08 17 27.9 -0.1**
baz=301
FCC Fort Churchill 42.20 49 *e*P **P 08 17 28.9 +1.0**
14nm,0.8s
A26A Wade Farm, Ken 42.81 65 P **P 08 17 33.4 +0.4**
baz=302
GMRC Granite Mounta 42.92 91 P **P 08 17 34.6 +0.4**
baz=312
Q16A Castle Valley 43.06 83 *e*P **P 08 17 37.4 +2.0**
3.6nm,0.9s
TPFO Pinon Flats 43.21 93 P **P 08 17 37.2 +0.7**
baz=312
SRU San Rafael Swe 43.34 82 *e*P **P 08 17 40.0 +2.3**
2.7nm,0.7s
K22A Casper 43.65 76 P **P 08 17 40.8 +0.7**
baz=306
MONP2 Monument Peak 43.71 94 P **P 08 17 41.4 +0.7**
baz=313
A28A Rude Farm, Bot 43.80 64 P **P 08 17 41.6 +0.6**
baz=302
U15A North Rim 43.94 87 *e*P **P 08 17 44.7 +2.1**
6.5nm,1.3s
B28A Dugan Ranch, T 43.99 65 P **P 08 17 42.5 0.0**
baz=303
O20A White River Ci 44.11 80 P **P 08 17 44.6 +0.8**
baz=308
O20A White River Ci 44.11 80 *e*P **P 08 17 45.1 +1.2**
7.2nm,1.1s
KSRS Korea Array 44.16 276 P **P 08 17 42.8 -1.1**
4.1nm,0.8s,baz=50,slow=7.9,SNR=11
KSRS LR LR 08 33 43.9
comp=Z,26nm,20.7s,baz=90,slow=33
KSAR Wonju Array Be 44.19 276 P **P 08 17 42.8 -1.4**
H25A Fruitdale 44.25 71 P **P 08 17 45.7 +1.0**
baz=305
RSSD Black Hills 44.28 72 P **P 08 17 45.7 +0.5**
baz=305
A29A Manning Farm, 44.37 64 P **P 08 17 45.6 0.0**
baz=303
N23A Red Feather La 45.05 77 P **P 08 17 51.2 -0.2**
baz=308
WUAZ Wupatki 45.09 87 P **P 08 17 52.8 +1.1**
baz=311
B30A Myrvik Farm, E 45.13 64 P **P 08 17 51.4 -0.2**
baz=304
PV01 Parador Valley 45.15 82 *e*P **P 08 17 53.2 +1.0**
C30A Mose, Pekin 45.46 65 P **P 08 17 55.1 +0.8**
baz=304
ULM Lac du Bonnet 45.49 61 P **P 08 17 54.5 +0.1**
2.6nm,0.7s,baz=286,slow=8.1,SNR=6.0
ULM Lac du Bonnet 45.49 61 *e*P **P 08 17 54.6 +0.1**
6.9nm,1.0s
B31A Greenbush Farm 45.52 64 P **P 08 17 55.5 +0.8**
baz=304
D30A Buchanan 45.63 66 P **P 08 17 56.2 +0.6**
baz=304
X16A Lo Mia Camp, P 45.77 88 *e*P **P 08 17 59.3 +2.2**
1.6nm,1.0s
MVCO Mesa Verde 45.78 83 P **P 08 17 58.3 +1.1**
baz=310
C31A Landman Farms, 45.83 64 P **P 08 17 57.8 +0.7**
baz=304
A32A Rocking H Ranc 45.89 63 P **P 08 17 58.1 +0.6**
baz=304
B32A Ashes, Strandq 46.15 63 P **P 08 18 00.4 +0.7**
baz=304
NRIK Noril'sk 46.17 331 LR LR 08 39 01.4
comp=Z,28nm,20.0s,baz=96,slow=38
E31A Nome 46.44 66 P **P 08 18 02.0 0.0**
baz=305
A33A Warroad 46.48 62 P **P 08 18 02.7 +0.5**
baz=304,SNR=7.2
G30A Faulkton 46.55 68 P **P 08 18 03.5 +0.6**
baz=306
AGMN Agassiz Nation 46.58 63 P **P 08 18 03.1 +0.1**
baz=305,SNR=5.0
AGMN Agassiz Nation 46.58 63 *e*P **P 08 18 03.6 +0.5**
6.6nm,0.9s
B33A Robert and Kas 46.75 63 P **P 08 18 04.6 +0.3**
baz=305
C33A Trail 46.94 64 P **P 08 18 05.9 +0.1**
baz=305
SUSD Miller 47.06 69 P **P 08 18 07.4 +0.5**
baz=306
B34A Aery, Baudette 47.14 62 P **P 08 18 07.8 +0.4**
baz=305,SNR=6.0
D33A AnnSam, Waubun 47.25 64 P **P 08 18 08.3 0.0**
baz=306,SNR=5.3
SDCO Great Sand Dun 47.27 80 P **P 08 18 09.6 +0.6**
baz=310
H31A Wolsey 47.31 69 P **P 08 18 09.4 +0.5**
baz=307
TUC Tucson 47.60 90 P **P 08 18 11.9 +0.6**
baz=313
TUC Tucson 47.60 90 *e*P **P 08 18 13.0 +1.7**
1.9nm,0.9s
D34A Park Rapids 47.65 64 P **P 08 18 11.4 0.0**
baz=306,SNR=7.0
B35A Bob, Littlefor 47.72 62 P **P 08 18 11.6 -0.3**
baz=305
K30A Basset 47.74 71 P **P 08 18 12.8 +0.6**
baz=308
J31A Geddes 47.87 70 P **P 08 18 13.6 +0.3**
baz=307
H32A Carlson Farm, 47.90 68 P **P 08 18 13.6 +0.2**
baz=307
C35A Jirik Farms, M 47.96 63 P **P 08 18 14.0 +0.2**
baz=306
H33A Prehn Over Nor 48.19 67 P **P 08 18 15.6 -0.1**
baz=307
D35A Reser 48.28 63 P **P 08 18 16.5 +0.2**
baz=306
T25A Trinidad 48.33 80 P **P 08 18 17.2 +0.2**
baz=310
T25A Trinidad 48.33 80 *e*P **P 08 18 17.7 +0.7**
6.8nm,1.3s
J32A Parkston 48.34 69 P **P 08 18 16.9 0.0**
baz=308
ANMO Albuquerque 48.50 84 P **P 08 18 18.9 +0.5**
baz=312
C36A Pine Crest Far 48.55 62 P **P 08 18 18.7 +0.3**
baz=306
D36A Goodland 48.72 63 P **P 08 18 19.4 -0.2**
baz=306
F35A Swanville 48.72 65 P **P 08 18 19.9 +0.3**
baz=307
ECSD EROS Data Cent 48.84 68 P **P 08 18 20.6 0.0**
baz=308,SNR=7.6
ECSD EROS Data Cent 48.84 68 *e*P **P 08 18 20.6 0.0**
3.8nm,0.5s
C37A Embarrass 48.92 62 P **P 08 18 21.7 +0.4**
baz=306
E36A McGregor 49.06 64 P **P 08 18 22.6 +0.4**
baz=307
D37A Cotton 49.13 62 P **P 08 18 23.1 +0.3**
baz=307
G35A Watkins 49.15 66 P **P 08 18 23.3 +0.3**
baz=307
EYMN Ely 49.17 61 P **P 08 18 23.1 0.0**
baz=307
EYMN Ely 49.17 61 *e*P **P 08 18 22.9 -0.2**
1.9nm,0.5s
H35A Sunnyside Ranc 49.27 66 P **P 08 18 24.0 +0.1**
baz=308
F36A Milaca 49.30 64 P **P 08 18 24.4 +0.2**
baz=307
C38A Sawbill Land. 49.43 61 P **P 08 18 25.2 +0.1**
baz=307
G36A St. Michael 49.55 65 P **P 08 18 26.6 +0.5**
baz=308
K34A Le Mars 49.78 69 P **P 08 18 28.4 +0.5**
baz=309
M33A Taylor Creek F 49.83 71 P **P 08 18 28.6 +0.3**
baz=309
H36A Jessenland, He 49.85 66 P **P 08 18 28.7 +0.3**
baz=308
SPMN Marine on St. 50.09 65 P **P 08 18 29.8 -0.3**
baz=308
SONM Songino Array 50.39 300 P **P 08 18 31.7 -0.8**
1.0nm,0.6s,baz=59,slow=5.8,SNR=5.6
SONM PcP **PcP 08 19 50.4 -0.4**
0.3nm,0.5s,baz=18,slow=2.3,SNR=3.7
SONM LR LR 08 41 18.5
comp=Z,82nm,19.0s,baz=56,slow=38
DAG Danmarks Havn 50.40 8 *i* P **P 08 18 30.4 -1.6**
2.9nm,0.7s
I37A Lemond, Waseca 50.50 66 P **P 08 18 33.1 -0.2**
baz=309
O33A Hebron 50.55 73 P **P 08 18 34.0 +0.3**
baz=310
Q32A Meitler Ranch, 50.66 74 P **P 08 18 34.9 +0.2**
baz=310
K36A Gilmore City 50.76 68 P **P 08 18 35.3 0.0**
baz=309
J37A Redenius Farm, 50.85 67 P **P 08 18 36.1 +0.2**
baz=309
O34A Beatrice 51.01 72 P **P 08 18 37.3 +0.1**
baz=310
I38A Scanlan Farm, 51.09 66 P **P 08 18 37.8 +0.1**
baz=309
Q33A Connelly Farm, 51.09 74 P **P 08 18 38.4 +0.6**
baz=310
K37A Belmond 51.14 68 P **P 08 18 38.2 +0.1**
baz=309
N35A Tabor 51.19 71 P **P 08 18 39.1 +0.6**
baz=310
MNTX Cornudas Mount 51.36 86 P **P 08 18 40.9 +1.0**
baz=314
MSTX Muleshoe 51.42 82 P **P 08 18 41.1 +0.7**
baz=313
J38A Wedel Dairy, R 51.46 66 P **P 08 18 40.8 +0.4**
baz=309
L37A Phoenix Point, 51.48 68 P **P 08 18 40.7 0.0**
baz=310
SUMG Summit 51.56 16 *i* P **P 08 18 41.3 0.0**
5.0nm,0.8s
SUMG Summit 51.56 16 *e*P **P 08 18 41.4 0.0**
12nm,1.2s
Q34A Chapman 51.67 73 P **P 08 18 42.1 -0.1**
baz=311
HHC Hu-ho-hao-te 51.85 290 *e*P **P 08 18 43.0 -0.6**
J39A Decorah 51.88 66 P **P 08 18 43.5 -0.1**
baz=310,SNR=8.4
R34A Isabella, Hill 51.89 74 P **P 08 18 44.3 +0.4**
baz=311
K39A Oelwein 52.18 67 P **P 08 18 45.5 -0.3**
baz=310
P36A Good Intent, A 52.24 72 P **P 08 18 46.2 -0.2**
baz=311
L39A Vinton 52.49 67 P **P 08 18 47.8 -0.4**
baz=310
P37A Lathrop 52.77 71 P **P 08 18 50.1 -0.2**
baz=311
T34A McClaskey Farm 52.77 75 P **P 08 18 50.6 +0.3**
baz=312
S35A Otter Creek Ra 52.85 74 P **P 08 18 50.6 -0.3**
baz=312
R36A Gordon, Harris 52.91 73 P **P 08 18 51.7 +0.3**
baz=311
O38A Galt 52.93 70 P **P 08 18 51.5 0.0**
baz=311
U34A Anderson Ranch 52.95 76 P **P 08 18 52.3 +0.6**
baz=312
N39A Derby Farms, D 53.00 69 P **P 08 18 51.9 -0.1**
baz=311,SNR=6.5
P38A Dawn 53.22 71 P **P 08 18 53.4 -0.2**
baz=311
R37A Teagarden Farm 53.32 73 P **P 08 18 53.8 -0.6**
baz=312
WMOK Wichita Mounta 53.34 79 P **P 08 18 54.3 -0.2**
baz=313
L41A Preston 53.37 66 P **P 08 18 54.3 -0.4**
baz=311
O39A Kirksville 53.38 69 P **P 08 18 54.5 -0.3**
baz=311
T36A Boggs Farm, Ca 53.53 74 P **P 08 18 55.5 -0.4**
baz=312
Q38A Cooks Store, C 53.60 71 P **P 08 18 55.7 -0.8**
baz=312
S37A Fort Scott 53.69 73 P **P 08 18 56.6 -0.4**
baz=312,SNR=7.0
P39B Salisbury 53.76 70 P **P 08 18 57.3 -0.3**
baz=311,SNR=5.1
O40A La Belle 53.86 69 P **P 08 18 58.1 -0.1**
baz=311,SNR=7.2
Q39A Willow Grove F 53.92 71 P **P 08 18 58.2 -0.6**
baz=312,SNR=5.5
R38A Fenwick Farm, 53.95 72 P **P 08 18 57.8 -1.2**
baz=312
T37A Cheneyville 18 54.06 74 P **P 08 18 59.3 -0.5**
baz=312,SNR=5.3
TX31 Lajitas Ar. Si 54.06 87 *e*P **P 08 19 01.0 +0.9**
TXAR Lajitas Array 54.06 87 P **P 08 19 00.7 +0.6**
1.5nm,0.7s,baz=296,slow=5.2,SNR=25
TXAR PcP **PcP 08 20 05.2 +0.4**
0.5nm,0.6s,baz=290,slow=1.0,SNR=3.8
P40A Paris 54.15 70 P **P 08 19 00.0 -0.3**
baz=312,SNR=9.0
S38A Stockton 54.32 73 P **P 08 19 00.7 -1.0**
baz=312
U37A Passleys Farm, 54.43 68 P **P 08 19 02.4 0.0**
baz=312
Q40A Laux Farm, Aux 54.48 70 P **P 08 19 02.5 -0.3**
baz=312
T38A Diamond 54.49 73 P **P 08 19 02.7 -0.3**
baz=312
W36A Wetumka 54.61 76 P **P 08 19 03.6 -0.2**
baz=313
P41A Barry, Barry 54.62 69 P **P 08 19 03.6 -0.2**
baz=312
S39A Bolivar 54.62 72 P **P 08 19 02.7 -1.2**
baz=312
V37A Hulbert 54.76 75 P **P 08 19 04.8 0.0**
baz=313
U38A Gravette 54.83 74 P **P 08 19 04.4 -1.0**
baz=313
R40A Maddies Statio 54.84 71 P **P 08 19 04.3 -1.1**
baz=312
T39A Clever 55.04 73 P **P 08 19 06.0 -0.9**
baz=313
HDIL Hopedale 55.05 67 P **P 08 19 06.6 -0.4**
baz=312
HDIL Hopedale 55.05 67 *e*P **P 08 19 06.9 -0.1**
16nm,0.9s
W37B Quinton 55.09 76 P **P 08 19 07.6 +0.3**
baz=313
V38A Canehill 55.21 75 P **P 08 19 08.0 -0.2**
baz=313
134A White-Moore Ra 55.24 80 P **P 08 19 09.1 +0.6**
baz=314
U39A Green Forest 55.41 74 P **P 08 19 09.1 -0.5**
baz=313
Q42A Golden Eagle 55.44 69 P **P 08 19 09.9 +0.2**
baz=312,SNR=5.8
X37A Clayton 55.50 76 P **P 08 19 10.3 0.0**
baz=314
333A Richland Sprin 55.55 82 P **P 08 19 10.5 -0.2**
baz=315
234A Clairette 55.60 81 P **P 08 19 11.0 0.0**
baz=314
JCT Junction City 55.64 83 P **P 08 19 11.4 0.0**
baz=315
W38A Poteau 55.68 75 P **P 08 19 12.2 +0.6**
baz=313
U40A Yellville 55.80 73 P **P 08 19 11.5 -0.9**
baz=313
Q43A New Douglas 55.90 69 P **P 08 19 12.8 -0.2**
baz=313
SCO Scoresbysund 55.91 12 *i* P **P 08 19 12.0 -0.7**
2.7nm,0.6s
334A Lometa 56.00 81 P **P 08 19 14.6 +0.7**
baz=315
W39A Magazine 56.03 75 P **P 08 19 14.1 0.0**
baz=313
V40A Witts Springs 56.19 74 P **P 08 19 14.6 -0.7**
baz=313
X39A Fountain Ranch 56.30 76 P **P 08 19 16.3 +0.2**
baz=314
434A Burnet 56.35 82 P **P 08 19 16.8 +0.4**
baz=315
SFIN Lafayette 56.42 66 P **P 08 19 16.7 0.0**
baz=313
W40A Ferguson Farm, 56.46 74 P **P 08 19 17.1 0.0**
baz=314
V41A Mountainview 56.60 73 P **P 08 19 17.8 -0.4**
baz=314
MIAR Mount Ida 56.60 75 P **P 08 19 18.5 +0.3**
baz=314
S43A Fulton Ridge, 56.60 70 P **P 08 19 17.7 -0.4**
baz=313,SNR=6.3
SCHQ Schefferville 56.63 42 P **P 08 19 17.7 -0.3**
3.9nm,0.6s,baz=318,slow=8.6,SNR=4.4
SCHQ LR LR 08 44 53.8
comp=Z,49nm,19.4s,baz=344,slow=38
ZAA0 Zalesovo Array 56.85 317 *e*P **P 08 19 18.6 -1.0**
ZALV Zalesovo Beam 56.85 317 P **P 08 19 18.3 -1.3**
0.8nm,0.4s,baz=36,slow=7.5,SNR=4.7
ZALV PcP **PcP 08 20 14.5 -0.6**
2.1nm,0.8s,baz=29,slow=4.2,SNR=6.1
ZALV LR LR 08 44 34.1
comp=Z,36nm,20.6s,baz=72,slow=37
W41B Gary Mavity, V 56.96 74 P **P 08 19 19.9 -0.8**
baz=314
S44A Carbondale 57.00 70 P **P 08 19 20.2 -0.7**

baz=313
832A Faith Ranch, C 57.08 85 P **P** 08 19 22.1 +0.5
baz=316
X41A Kaden, Bauxite 57.27 75 P **P** 08 19 22.9 +0.1
baz=314
833A Chaparral WMA, 57.41 85 P **P** 08 19 24.2 +0.3
baz=316
ARCES ARCESS Array B 58.19 353 P **P** 08 19 27.2 -1.7
2.0nm,0.7s,baz=17,slow=8.6,SNR=8.0
ARCES PcP **PcP** 08 20 18.3 -1.8
1.9nm,0.8s,baz=15,slow=5.0,SNR=6.6
ARCES LR LR 08 47 44.4
comp=Z,27nm,18.1s,baz=42,slow=40
034A Hebbronville 58.75 85 P **P** 08 19 34.7 +1.3
baz=316
X45A UM Field Stati 59.17 72 P **P** 08 19 36.5 +0.3
baz=315
GTA Gaotai 59.51 296 *e*P **P** 08 19 37.5 -1.1
GTA pP sP 08 19 56.3 +13
GTA PMZ
4.0nm,0.9s
Y46A Houston 59.87 73 P **P** 08 19 40.8 -0.2
baz=315
N54A Moraine State 59.95 61 P **P** 08 19 40.7 -0.8
baz=315
145A Houston Renfro 60.13 74 P **P** 08 19 42.8 -0.1
baz=315
Y47A UCPARC, Winfie 60.45 72 P **P** 08 19 44.7 -0.3
baz=315,SNR=5.5
245A Little AP, Sta 60.56 75 P **P** 08 19 45.4 -0.4
baz=316
Z47A Carrollton 60.82 73 P **P** 08 19 47.0 -0.5
baz=316
Z48A Northport 60.99 72 P **P** 08 19 48.1 -0.5
baz=316
248A Dixon Mills 61.80 73 P **P** 08 19 53.9 -0.3
baz=316
KURK Kurchatov 61.81 317 *e*P **P** 08 19 53.5 -0.5
28nm,0.6s
N59A State Game Lan 62.24 58 P **P** 08 19 57.0 0.0
baz=316
WMQ Urumqi 62.76 307 P **P** 08 20 01.5 +1.0
MK31 Makanchi Array 63.14 312 *e*P **P** 08 20 01.6 -1.4
MKAR Makanchi Array 63.14 312 P **P** 08 20 01.5 -1.4
1.8nm,0.5s,baz=41,slow=6.2,SNR=37
MK01 Makanchi Array 63.15 312 *e*P **P** 08 20 01.9 -1.1
BRVK Borovoye 63.29 323 *e*P **P** 08 20 03.2 -0.6
14nm,0.6s
KMSC Kings Mountain 63.33 67 P **P** 08 20 04.5 +0.2
baz=316
ZRNK Zerenda 63.84 324 *e*P **P** 08 20 06.9 -0.6
13nm,0.6s
ARU Arti 64.39 332 *e*P **P** 08 20 10.3 -0.7
7.1nm,1.0s
FINES FINESS Array B 66.09 351 P **P** 08 20 20.0 -1.9
0.7nm,0.3s,baz=5.2,slow=6.3,SNR=15
FINES LR LR 08 50 56.9
comp=Z,27nm,19.4s,baz=354,slow=38
NB2 NORSAR Subarra 67.34 359 P **P** 08 20 28.6 -1.4
comp=Z,0.5nm,0.5s,baz=3.1,slow=6.5
NOA NORSAR Array B 67.34 359 P **P** 08 20 28.9 -1.0
comp=Z,0.9nm,0.7s,baz=1.6,slow=6.3,SNR=4.7
NOA LR LR 08 51 16.5
comp=Z,14nm,18.4s,baz=275,slow=37
TKM2 Tokmak 2 69.16 314 *e*P **P** 08 20 41.5 -0.4
comp=Z,4.4nm,0.7s
AAK Ala-Archa 69.88 314 P **P** 08 20 45.0 -1.3
comp=Z,7.8nm,0.5s,baz=109,slow=3.0,SNR=15
AAK Ala-Archa 69.88 314 *e*P **P** 08 20 46.1 -0.2
comp=Z,9.9nm,0.6s
ABKAR Akbulak array 70.10 327 *e*P **P** 08 20 46.1 -1.2
KKAR Karatay Array 71.22 317 *e*P **P** 08 20 53.5 -0.8
KSH Kashi 71.69 311 P **P** 08 21 00.3 +3.0
KSH PP **PP** 08 23 41.3 +5.5
KSH PMZ
comp=Z,74nm,5.2s
CMAR Chiang Mai Arr 75.44 281 P **P** 08 21 18.7 -0.7
comp=Z,1.9nm,0.7s,baz=25,slow=6.4,SNR=9.3
CMAR LR LR 08 55 44.4
comp=Z,15nm,19.8s,baz=340,slow=37
AKASG Malin Array Be 76.23 347 P **P** 08 21 21.7 -1.8
comp=Z,0.7nm,0.3s,baz=16,slow=6.0,SNR=3.1
GERES GERESS Array B 79.49 357 P **P** 08 21 40.8 -1.1
comp=Z,0.5nm,0.5s,baz=50,slow=7.1,SNR=4.4
BRTR Keskin Array B 86.12 341 LR LR 09 04 26.9
comp=Z,20nm,21.5s,baz=30,slow=38
ES19 SONSECA Array 88.09 10 *e*P **P** 08 22 25.2 -0.7
ESDC Sonseca Array 88.11 10 P **P** 08 22 24.9 -1.1
comp=Z,0.5nm,0.5s,baz=359,slow=4.3,SNR=7.0
ASAR Alice Springs 89.14 228 P **P** 08 22 30.4 -0.4
comp=Z,1.4nm,0.5s,baz=24,slow=5.1,SNR=24
QSPA South Pole Qui 141.71 180 *e*PKPpre PKPpre 08 29 00.7
TSUM Tsumeb 146.56 344 *e*PKPdf **PKPdf** 08 29 15.2 -0.4
MAW Mawson 149.74 218 PKPbc **PKPbc** 08 29 23.5 -0.3
comp=Z,2.3nm,0.9s,baz=91,slow=4.5,SNR=5.0
MAW Mawson 149.74 218 *e*PKPbc **PKPbc** 08 29 23.8 0.0
LBTB Lobatse 150.12 328 *e*PKPbc **PKPbc** 08 29 26.6 +0.4
BOSA Boshof 153.55 325 PKPbc **PKPbc** 08 29 33.5 -0.4
comp=Z,7.5nm,1.1s,baz=129,slow=2.4,SNR=3.8

*IDC **25** 08:11:54.2±1.8, 5.°41S×72.°50E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/49, mbtmp4.0/7, ML4.0/1, Error ellipse: s-maj=59.1km s-min=24.0km az=51.0*

ISC 25 08:11:54.7±2.5, 5.°41S±0.°07×72.°61E±0.°09, h8km±18km, n16, σ2.°18/20, mb4.1/6, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08N1	**Diego Carcia H**	**1.84**	**240**	Pn		**Pg**		**08 12 31.0**	**+1.0**
	baz=65,slow=13								
H08N1				Sn		**Sg**		**08 12 53.2**	**-0.8**
H08N2	**Diego Garcia H**	**1.84**	**240**	Pn		**Pg**		**08 12 29.6**	**-0.5**
	baz=65,slow=13								
H08N2				Sn		**Sg**		**08 12 53.3**	**-0.7**
H08N3	**Diego Garcia H**	**1.86**	**240**	Pn		**Pg**		**08 12 30.0**	**-0.5**
	baz=65,slow=13								
H08N3				Sn		**Sg**		**08 12 55.0**	**+0.4**
H08S3	**Diego Garcia H**	**2.21**	**183**	Pn		**Pn**		**08 12 29.3**	**-2.2**
	baz=359,slow=19,SNR=2734								
H08S3				Sn		**Sb**		**08 13 02.2**	**0.0**
H08S2	**Diego Garcia H**	**2.22**	**183**	Pn		**Pn**		**08 12 30.5**	**-1.2**
	baz=359,slow=19,SNR=4141								
H08S2				Sn		**Sg**		**08 13 06.9**	**+0.7**
H08S1	**Diego Carcia H**	**2.23**	**184**	Pn		**Pn**		**08 12 29.3**	**-2.5**
	baz=359,slow=19,SNR=2890								
H08S1				Sn		**Sg**		**08 13 05.8**	**-0.5**
PALK	**Pallekele**	**14.96**	**33**	Pn		**Pn**		**08 15 28.9**	**+2.2**
	0.7nm,0.3s,baz=296,slow=4.6,SNR=2.5								
PALK				Sn		**Sn**		**08 18 06.0**	**-6.9**
	1.1nm,0.3s,baz=116,slow=20,SNR=4.3								
H01W3	**Cape Leeuwin H**	**48.23**	**133**	T		T		09 11 50.6	
	baz=298,slow=75,SNR=96								
H01W2	**Cape Leeuwin H**	**48.24**	**133**	T		T		09 11 51.0	
	baz=298,slow=75,SNR=104								
H01W1	**Cape Leeuwin H**	**48.25**	**133**	T		T		09 11 51.9	
	baz=298,slow=75,SNR=122								
BRTR	**Keskin Array B**	**57.50**	**325**	P		**P**		**08 21 45.7**	**+0.9**
	0.5nm,0.7s,baz=142,slow=7.3,SNR=3.0								
ZALV	**Zalesovo Beam**	**60.02**	**8**	P		**P**		**08 22 01.4**	**-0.4**
	0.4nm,0.3s,baz=175,slow=8.5,SNR=3.2								
SONM	**Songino Array**	**60.77**	**25**	P		**P**		**08 22 08.8**	**+1.5**
	2.1nm,0.8s,baz=216,slow=7.5,SNR=7.1								
ASAR	**Alice Springs**	**61.58**	**114**	P		**P**		**08 22 14.6**	**+1.4**
	1.0nm,0.7s,baz=282,slow=6.4,SNR=13								
WRA	**Warramunga Arr**	**61.61**	**110**	P		**P**		**08 22 15.0**	**+1.5**
	1.9nm,0.8s,baz=282,slow=6.6,SNR=14								
FINES	**FINESS Array B**	**75.70**	**339**	P		**P**		**08 23 40.7**	**+0.2**
	1.5nm,1.0s,baz=116,slow=9.4,SNR=3.6								

NNC 25 08:20:54.5±4.0, 38.°38N×71.°79E, h0km, mb3.7, mpv3.3, 6C-1D, Error ellipse: s-maj=37.2km s-min=10.7km az=146.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.36**	**281**	⇓P		Pn		08 21 36.1	+1.4
	4.8nm,0.5s								
DZET				⇑S		Sn		08 22 05.0	+0.6
	28nm,0.3s								
MNAS	**Manas**	**4.14**	**7**	⇑P		Pn		08 21 58.4	-0.7
	2.1nm,0.4s								
MNAS				⇑S		Sn		08 22 50.2	+1.9
	5.5nm,0.5s								
AAK	**Ala-Archa**	**4.72**	**25**	⇑S		Sn		08 23 03.0	+0.3
	3.5nm,0.6s								

KK31	**Karatay Array**	**4.82**	**349**	P		Pn		08 22 08.2	-0.1
	3.1nm,0.2s,baz=167,slow=13,SNR=62								
KK31				⇑S		Sn		08 23 06.8	+1.9
	1.1nm,0.3s,baz=163,slow=22,SNR=9.6								
AB31	**Akbulak array**	**13.82**	**326**	⇑P		P		08 24 28.4	+8.2
	0.2nm,0.3s,baz=357,slow=13,SNR=6.3								

*NIED **25** 08:25:00, 37.°10N×140.°90E, h5km, Mw3.8 Best double couple: M0 5.76000×10^14 NP1:φ=222.00000°, δ=47.00000°, λ=-109.00000°. NP2:φ=69.00000°, δ=47.00000°, λ=-71.00000°.*

*ISCJB **25** 08:25:32.3±0.8, 37.°08N±0.°03×141.°03E±0.°05, h9km±4km, mb3.9/17, Error ellipse: s-maj=6.8km s-min=4.0km az=19.7*

*IDC **25** 08:25:32.3±0.8, 37.°07N×140.°94E, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.9/41, mbtmp3.8/17, ML3.3/2, Error ellipse: s-maj=24.0km s-min=17.5km az=96.0*

*JMA **25** 08:25:34.3, 37.°10N×140.°85E, h9km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φ=242.00000°, δ=54.00000°, λ=-97.00000°. NP2:φ=74.00000°, δ=36.00000°, λ=-80.00000°. Principal axes: T Plg9.0000°, Azm337.0000°; N Plg6.0000°, Azm246.0000°; P Plg79.0000°, Azm123.0000°;*

JMA Felt III J1.

*NEIC **25** 08:25:38.5±1.0, 37.°11N×140.°94E, h42km±8km, mb4.3/2 Error ellipse: s-maj=13.2km s-min=7.4km az=128.0*

NEIC Recorded [3 JMA] in Fukushima.

ISC 25 08:25:32.5±1.6, 37.°11N±0.°03×141.°01E±0.°06, h0km±10km, n42, σ1.°48/49, mb3.9/17, 6C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.17**	**267**	⇓P		**Pg**		**08 25 35.9**	**+0.1**
ONAJ				S		**Sg**		**08 25 37.1**	**-0.9**
JFK	**Kawauchi**	**0.28**	**337**	⇑P		**Pb**		**08 25 39.7**	**-0.8**
JFK				S		**Sb**		**08 25 44.0**	**-1.7**
JHO	**Hitachi**	**0.61**	**215**	⇑P		**Pg**		**08 25 44.4**	**+0.2**
JHO				*e*S		**Sg**		**08 25 51.9**	**-0.2**
JFT	**Otama**	**0.67**	**308**	⇑P		**Pg**		**08 25 45.9**	**+0.4**
JFT				S		**Sg**		**08 25 54.2**	**0.0**
JMM	**Marumori**	**0.77**	**347**	⇑P		**Pb**		**08 25 48.7**	**-0.2**
JMM				S		**Sb**		**08 25 59.5**	**-0.5**
JSB	**Shiboa**	**0.88**	**261**	⇑P		**Pg**		**08 25 49.4**	**-0.1**
JFY	**Yanaizu**	**1.08**	**286**	⇑P		**Pg**		**08 25 52.7**	**-0.6**
JFY				S		**Sg**		**08 26 05.1**	**-2.2**
JYT	**Yasato**	**1.10**	**217**	P		**Pg**		**08 25 53.1**	**-0.5**
JYT				S		**Sg**		**08 26 07.0**	**-0.8**
MJAR	**Matsushiro Arr**	**2.32**	**257**	Pn		**Pn**		**08 26 12.6**	**+0.7**
	7.8nm,0.3s,baz=80,slow=16,SNR=47								
MJAR				Sn		**Sn**		**08 26 42.3**	**+1.2**
	5.4nm,0.3s,baz=79,slow=30,SNR=6.2								
MAJO	**Matsushiro**	**2.32**	**257**	*e*Pn		**Pn**		**08 26 13.0**	**+1.0**
MAT	**Matsushiro**	**2.32**	**257**	P		**Pn**		**08 26 12.7**	**+0.7**
MAT				S		**Sn**		**08 26 42.3**	**+1.1**
JHJ	**Hachijo jima 2**	**4.11**	**195**	Sn		**Sn**		**08 27 24.9**	**-0.4**
	6.1nm,0.3s,baz=25,slow=14,SNR=2.4								
ERM	**Erimo**	**5.17**	**18**	*e*Pn		**Pn**		**08 26 54.3**	**+3.2**
ERM				*e*Sn		**Sn**		**08 27 52.9**	**+1.3**
ASAJ	**Asahikawa**	**7.10**	**9**	Pn		**Pn**		**08 27 18.8**	**+1.1**
	0.6nm,0.3s,baz=230,slow=16,SNR=3.4								
ASAJ				Sn		**Sn**		**08 28 36.9**	**-2.2**
	0.2nm,0.3s,baz=48,slow=16,SNR=2.0								
USRK	**Ussuriysk Ar.**	**9.85**	**319**	Pn		**Pn**		**08 27 60.0**	**+4.6**
	0.1nm,0.3s,baz=128,slow=12,SNR=7.5								
YSS	**Yuzh-Sakhalins**	**9.92**	**7**	*e*Pn		**Pn**		**08 27 57.9**	**+1.6**
KSRS	**Korea Array**	**10.44**	**276**	Pn		**Pn**		**08 28 07.4**	**+4.0**
	0.2nm,0.3s,baz=92,slow=14,SNR=6.6								
KSAR	**Wonju Array Be**	**10.47**	**276**	Pn		**Pn**		**08 28 07.4**	**+3.6**
MA2	**Magadan**	**23.35**	**13**	P		**P**		**08 30 42.1**	**-0.2**
	2.5nm,0.4s,baz=225,slow=19,SNR=2.0								
SONM	**Songino Array**	**27.47**	**304**	P		**P**		**08 31 20.6**	**+0.2**
	0.7nm,0.7s,baz=120,slow=8.5,SNR=4.3								
H11N2	**WAKE ISLAND Hy**	**28.46**	**120**	T		T		09 01 14.2	
	baz=313,slow=75,SNR=58								
H11N1	**WAKE ISLAND Hy**	**28.47**	**120**	T		T		09 01 14.6	
	baz=313,slow=75,SNR=65								
H11N3	**WAKE ISLAND Hy**	**28.48**	**120**	T		T		09 01 15.3	
	baz=313,slow=75,SNR=43								
H11S1	**WAKE ISLAND Hy**	**29.17**	**122**	T		T		09 02 09.1	
	baz=314,slow=75,SNR=14								
H11S3	**WAKE ISLAND Hy**	**29.17**	**122**	T		T		09 02 10.0	
	baz=314,slow=75,SNR=10								
H11S2	**WAKE ISLAND Hy**	**29.19**	**122**	T		T		09 02 10.4	
	baz=314,slow=75,SNR=16								
ZALV	**Zalesovo Beam**	**41.62**	**312**	P		**P**		**08 33 21.8**	**-0.4**
	0.7nm,0.4s,baz=104,slow=6.1,SNR=4.0								
ZALV				PcP		**PcP**		**08 35 18.9**	**-0.2**
	0.4nm,0.3s,baz=101,slow=1.5,SNR=3.8								
MKAR	**Makanchi Array**	**43.80**	**302**	P		**P**		**08 33 39.9**	**-0.1**
	0.7nm,0.7s,baz=96,slow=9.4,SNR=5.7								
MKAR				PcP		**PcP**		**08 35 25.6**	**-1.0**
	0.2nm,0.6s,baz=108,slow=4.7,SNR=3.3								
KURK	**Kurchatov**	**45.63**	**308**	*e*P		**P**		**08 33 53.4**	**-1.0**
	6.0nm,0.8s								
ILAR	**Eielson Array**	**49.60**	**32**	P		**P**		**08 34 26.4**	**+1.2**
	0.7nm,0.8s,baz=270,slow=7.0,SNR=8.2								
WRAB	**Tennant Creek**	**57.08**	**187**	*e*P		**P**		**08 35 21.1**	**+0.5**
	3.3nm,1.5s								
WRA	**Warramunga Arr**	**57.09**	**187**	P		**P**		**08 35 19.4**	**-1.2**
	1.0nm,0.7s,baz=4.2,slow=7.2,SNR=17								
ASAR	**Alice Springs**	**60.82**	**187**	P		**P**		**08 35 46.0**	**-0.6**
	0.5nm,0.8s,baz=20,slow=6.1,SNR=6.3								
ARCES	**ARCESS Array B**	**63.81**	**339**	P		**P**		**08 36 05.7**	**-0.4**
	2.3nm,0.8s,baz=31,slow=11,SNR=4.0								
FINES	**FINESS Array B**	**68.60**	**332**	P		**P**		**08 36 36.5**	**-0.4**
	3.1nm,0.8s,baz=54,slow=9.7,SNR=12								
KBZ	**Khabaz**	**70.61**	**310**	P		**P**		**08 36 48.4**	**-1.2**
	1.1nm,0.7s,baz=81,slow=4.2,SNR=2.9								
NB2	**NORSAR Subarra**	**73.99**	**337**	P		**P**		**08 37 08.9**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=40,slow=6.2								
NOA	**NORSAR Array B**	**73.99**	**337**	P		**P**		**08 37 09.0**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=39,slow=5.9,SNR=5.3								
AKASG	**Malin Array Be**	**74.04**	**322**	P		**P**		**08 37 08.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=47,slow=8.9,SNR=4.7								
BRTR	**Keskin Array B**	**78.56**	**311**	P		**P**		**08 37 35.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=59,slow=3.7,SNR=3.2								
GERES	**GERESS Array B**	**82.48**	**328**	P		**P**		**08 37 56.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=64,slow=4.5,SNR=3.4								
TXAR	**Lajitas Array**	**90.33**	**2**	P		**P**		**08 38 37.1**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=336,slow=2.0,SNR=3.2								

*IDC **25** 08:36:39.2±1.5, 52.°50N×168.°06W, h0km, mb3.8/15, mb1 3.8/16, mb1mx3.6/73, mbtmp3.7/16, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/46, Error ellipse: s-maj=38.8km s-min=17.7km az=172.0*

*ISCJB **25** 08:36:42.0±1.1, 52.°28N±0.°08×167.°97W±0.°08, h38km±8km, mb3.7/14, MS3.3/1, Error ellipse: s-maj=13.9km s-min=6.1km az=155.7*

*NEIC **25** 08:36:42.2, 52.°31N×167.°92W, h25km, ML3.3(AEIC), After AEIC.*

ISC 25 08:36:44.9±1.8, 52.°5N±0.°1×168.°04W±0.°05, h41km±15km, n41, σ1.°11/41, mb3.8/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.72**	**317**	P		**Pn**		**08 36 56.5**	**-2.2**
NIKH				S		**Sn**		**08 37 10.2**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**0.94**	**360**	P		**Pn**		**08 37 01.2**	**-0.5**
OKER	**Okmok East Rim**	**1.01**	**360**	P		**Pn**		**08 37 02.6**	**0.0**
OKAK	**Okmok**	**1.15**	**350**	P		**Pn**		**08 37 02.3**	**-2.2**
MSOM	**Makushin Julie**	**1.52**	**25**	P		**Pn**		**08 37 08.9**	**-0.7**
MGOD	**Makushin Gods**	**1.52**	**27**	P		**Pn**		**08 37 08.7**	**-0.9**
MGOD				S		**Sn**		**08 37 29.7**	**+1.5**
MSW	**Makushin Switc**	**1.65**	**27**	P		**Pn**		**08 37 10.8**	**-0.6**
MSW				S		**Sn**		**08 37 33.6**	**+2.2**
UNV	**Unalaska Valle**	**1.68**	**33**	P		**Pn**		**08 37 10.6**	**-1.1**
UNV				S		**Sn**		**08 37 32.8**	**+0.8**
MTBL	**Makushin Table**	**1.73**	**28**	P		**Pn**		**08 37 12.3**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.06**	**34**	P		**Pn**		**08 37 16.9**	**-0.1**
AKRB				S		**Sn**		**08 37 43.8**	**+2.4**
AKGG	**Akutan Green G**	**2.14**	**34**	P		**Pn**		**08 37 17.8**	**-0.3**
AKUT	**Akutan**	**2.17**	**38**	P		**Pn**		**08 37 17.7**	**-0.8**
AKUT				S		**Sn**		**08 37 45.0**	**+1.0**
WESP	**Westdahl Peak**	**2.85**	**43**	P		**Pn**		**08 37 27.9**	**0.0**
WESP				S		**Sn**		**08 38 02.6**	**+1.6**
KOFP	**Korovin Flat P**	**3.72**	**270**	P		**Pn**		**08 37 40.2**	**+0.4**
KOKL	**Mount Kliuchef**	**3.78**	**271**	P		**Pn**		**08 37 41.1**	**+0.5**
SPIA	**Saint Paul Isl**	**4.91**	**346**	P		**Pn**		**08 37 57.5**	**+1.5**

SDPT	**Sand Point**	**5.33**	**54**	P		**Pn**		**08 38 01.3**	**-0.5**
ILAR	**Eielson Array**	**16.43**	**33**	Pn		**Pn**		**08 40 30.6**	**-1.6**
	0.1nm,0.3s,baz=241,slow=11,SNR=5.3								
PETK	**Petropavlovsk-**	**20.63**	**286**	P		**P**		**08 41 19.9**	**-0.7**
	2.9nm,0.5s,baz=82,slow=14,SNR=13								
INK	**Inuvik**	**22.84**	**33**	P		**P**		**08 41 43.3**	**-0.7**
	2.7nm,0.9s,baz=247,slow=3.4,SNR=5.6								
SEY	**Seymchan**	**23.22**	**312**	P		**P**		**08 41 47.0**	**-0.9**
	0.5nm,0.4s,baz=82,slow=15,SNR=2.7								
YKA	**Yellowknife Ar**	**29.57**	**49**	P		**P**		**08 42 45.6**	**+0.2**
	0.1nm,0.5s,baz=275,slow=7.4,SNR=4.7								
H11N2	**WAKE ISLAND Hy**	**38.03**	**220**	T		T		09 25 11.2	
	baz=24,slow=75,SNR=5.8								
H11N3	**WAKE ISLAND Hy**	**38.04**	**220**	T		T		09 25 13.6	
	baz=24,slow=75,SNR=8.0								
H11N1	**WAKE ISLAND Hy**	**38.05**	**220**	T		T		09 25 18.8	
	baz=24,slow=75,SNR=4.3								
H11S1	**WAKE ISLAND Hy**	**39.22**	**220**	T		T		09 26 43.5	
	baz=20								
H11S2	**WAKE ISLAND Hy**	**39.23**	**220**	T		T		09 26 11.6	
	baz=20								
H11S3	**WAKE ISLAND Hy**	**39.23**	**220**	T		T		09 26 40.0	
	baz=20								
KSRS	**Korea Array**	**46.20**	**278**	P		**P**		**08 45 06.2**	**+0.6**
	1.7nm,0.8s,baz=48,slow=7.9,SNR=5.1								
KSAR	**Wonju Array Be**	**46.23**	**278**	P		**P**		**08 45 06.2**	**+0.3**
NRIK	**Noril'sk**	**46.74**	**332**	LR		LR		09 05 23.3	
	comp=Z,34nm,18.2s,baz=114,slow=37								
TXAR	**Lajitas Array**	**51.93**	**90**	P		**P**		**08 45 49.6**	**0.0**
	0.4nm,0.7s,baz=301,slow=6.3,SNR=7.1								
SONM	**Songino Array**	**51.96**	**301**	P		**P**		**08 45 49.5**	**-0.2**
	0.5nm,0.6s,baz=60,slow=5.8,SNR=3.6								
BVAR	**Borovoye Array**	**64.11**	**325**	P		**P**		**08 47 14.2**	**-0.2**
	0.5nm,0.4s,baz=12,slow=7.5,SNR=3.5								
MKAR	**Makanchi Array**	**64.34**	**314**	P		**P**		**08 47 16.3**	**+0.2**
	0.2nm,0.5s,baz=45,slow=8.8,SNR=2.8								
FINES	**FINESS Array B**	**65.90**	**353**	P		**P**		**08 47 24.9**	**-1.0**
	1.1nm,0.6s,baz=11,slow=8.6,SNR=11								
HFS	**Hagfors**	**67.76**	**359**	P		**P**		**08 47 37.1**	**-0.7**
	1.1nm,0.4s,baz=5.7,slow=4.3,SNR=12								
AKTO	**Aktyubinsk**	**70.34**	**331**	P		**P**		**08 47 54.2**	**+0.3**
	1.3nm,0.8s,baz=29,slow=4.7,SNR=4.8								
AKASG	**Malin Array Be**	**76.19**	**349**	P		**P**		**08 48 27.3**	**-1.0**
	0.3nm,0.4s,baz=5.1,slow=4.2,SNR=2.7								
GEYT	**Alibeck**	**81.44**	**325**	P		**P**		**08 48 58.5**	**+1.0**
	1.2nm,0.5s,baz=64,slow=6.7,SNR=2.9								
BRTR	**Keskin Array B**	**86.29**	**343**	P		**P**		**08 49 23.6**	**+1.2**
	0.6nm,0.6s,baz=12,slow=2.7,SNR=3.3								

IDC 25 08:37:56.5±2.0, 4.°18S×131.°48E, h0km, mb4.0/2, mb1 3.8/6, mb1mx3.5/52, mbtmp3.7/6, ML3.1/4, Error ellipse: s-maj=105.4km s-min=23.3km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.29**	**356**	Pn		Pn		08 38 49.0	-0.3
	14nm,0.3s,baz=164,slow=1.8,SNR=1.3								
SIJI				Sn		Sn		08 39 25.6	-3.7
	6.8nm,0.3s,baz=271,slow=22,SNR=1.1								
FITZ	**Fitzroy Crossi**	**14.97**	**202**	Pn		Pn		08 41 28.5	-1.0
	0.1nm,0.3s,baz=27,slow=9.0,SNR=2.2								
FITZ				Sn		Sn		08 44 05.9	-10
	0.1nm,0.3s,baz=74,slow=20,SNR=0.7								
WRA	**Warramunga Arr**	**15.92**	**170**	Pn		Pn		08 41 39.9	-2.2
	0.0nm,0.3s,baz=353,slow=13,SNR=1.0								
WRA				Sn		Sn		08 44 31.6	-7.7
	0.1nm,0.3s,baz=357,slow=23,SNR=2.2								
ASAR	**Alice Springs**	**19.52**	**173**	P		Pn		08 42 26.8	0.0
	0.0nm,0.3s,baz=350,slow=10.0,SNR=6.2								
MKAR	**Makanchi Array**	**66.71**	**326**	P		P		08 48 49.3	-0.1
	1.0nm,0.7s,baz=125,slow=7.6,SNR=9.2								
KURBB	**Kurchatov Arra**	**70.91**	**327**	P		P		08 49 15.7	+0.2
	1.3nm,0.7s,baz=129,slow=5.5,SNR=18								

IDC 25 08:51:19.9±1.9, 14.°95S×172.°34W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/41, mbtmp3.7/4, MS3.5/7, Ms1 3.5/7, ms1mx3.1/30, Error ellipse: s-maj=75.9km s-min=17.3km az=135.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.18**	**28**	Pn		Pn		08 51 44.6	+1.0
	107nm,0.3s,baz=162,slow=4.6,SNR=42								
AFI				Sn		Sn		08 52 01.1	+0.7
	933nm,0.3s,baz=228,slow=23,SNR=29								
RAR	**Rarotonga**	**13.47**	**119**	LR		LR		08 57 46.1	
	comp=Z,94nm,20.2s,baz=286,slow=29								
PPT	**Papeete**	**22.01**	**100**	LR		LR		09 02 06.2	
	comp=Z,46nm,19.3s,baz=327,slow=29								
HNR	**Honiara**	**27.62**	**278**	LR		LR		09 05 37.3	
	comp=Z,85nm,18.4s,baz=138,slow=31								
H11S2	**WAKE ISLAND Hy**	**39.12**	**327**	T		T		09 39 33.0	

0.6nm,0.3s,baz=117,slow=9.0,SNR=4.7
ASAJ S **Sn** **08 55 47.2 +1.9**
0.2nm,0.3s,baz=330,slow=20,SNR=2.2
KSRS Korea Array 11.47 267 P **Pn** **08 56 15.8 +2.9**
0.1nm,0.3s,baz=83,slow=14,SNR=3.2
H11N2 WAKE ISLAND Hy 28.54 125 T T 09 29 48.0
baz=318,slow=75,SNR=75
H11N1 WAKE ISLAND Hy 28.55 125 T T 09 29 48.7
baz=318,slow=75,SNR=63
H11N3 WAKE ISLAND Hy 28.56 125 T T 09 29 49.4
baz=318,slow=75,SNR=53
H11S1 WAKE ISLAND Hy 29.32 127 T T 09 30 50.3
baz=319,slow=76,SNR=4.2
H11S3 WAKE ISLAND Hy 29.33 127 T T 09 30 49.1
baz=319,slow=76,SNR=4.3
H11S2 WAKE ISLAND Hy 29.34 127 T T 09 30 51.1
baz=319,slow=76,SNR=4.8
MKAR Makanchi Array 43.78 301 P **P** **09 01 32.8 -1.3**
0.2nm,0.4s,baz=95,slow=6.4,SNR=2.5
ILAR Eielson Array 47.48 33 P **P** **09 02 03.2 +0.3**
0.5nm,0.7s,baz=268,slow=6.3,SNR=7.2
AAK Ala-Archa 50.28 297 LR LR 09 26 29.8
comp=Z,31nm,18.4s,baz=29,slow=39
WRA Warramunga Arr 59.05 189 P **P** **09 03 27.1 -1.4**
0.3nm,0.3s,baz=7.2,slow=6.9,SNR=7.4
AKASG Malin Array Be 73.26 322 P **P** **09 04 58.6 -0.7**
0.5nm,0.5s,baz=42,slow=7.0,SNR=3.1

WEL 25 08:54:15.7±0.1, 39°33'S×177°40'E, h33km, ML3.7/28, 13C-10D, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHHZ	**Waihua**	**0.28**	**332**	⇓P*	Pb	08 54 21.4	-1.8
WHHZ				S*	Sn	08 54 26.6	-1.4
ARHZ	**Aropaoanui**	**0.32**	**281**	⇓P*	Pb	08 54 22.1	-1.6
ARHZ				S*	Sb	08 54 27.9	-1.2
CKHZ	**Cape Kidnapper**	**0.42**	**217**	PN	Pn	08 54 25.5	0.0
MHGZ	**Mahia Peninsul**	**0.43**	**66**	PN	Pn	08 54 26.1	+0.5
NMHZ	**Naumai**	**0.52**	**296**	⇑PN	Pb	08 54 25.1	-1.5
SNGZ	**Shannon Statio**	**0.55**	**355**	⇑PN	Pb	08 54 26.0	-1.0
PRGZ	**Paritu Road**	**0.55**	**43**	⇓PN	Pn	08 54 27.3	+0.1
MCHZ	**McNeill Hill**	**0.56**	**257**	⇑PN	Pb	08 54 26.7	-0.6
RIGZ	**Rimuhau**	**0.68**	**25**	⇓PN	Pn	08 54 28.8	-0.2
BKZ	**Black Stump Fm**	**0.72**	**282**	⇑PN	Pn	08 54 28.3	-1.4
BKZ				AML	AML	08 54 39.5	
BKZ				AML	AML	08 54 39.7	
KWHZ	**Kaweka Forest**	**0.77**	**262**	⇑PN	Pn	08 54 29.5	-0.8
RTZ	**Ruatahuna**	**0.78**	**335**	⇑PN	Pn	08 54 29.2	-1.3
RTZ				SN	Sn	08 54 40.3	-0.8
PXZ	**Pawanui**	**0.82**	**210**	PN	Pn	08 54 30.4	-0.5
PXZ				AML	AML	08 54 51.7	
PXZ				AML	AML	08 54 59.3	
RAGZ	**Rawiri**	**0.83**	**1**	PN	Pn	08 54 30.4	-0.8
KRHZ	**Kereru**	**0.86**	**248**	PN	Pn	08 54 30.8	-0.7
KRHZ				SN	Sb	08 54 43.6	+0.1
MRHZ	**Matea Rd**	**0.91**	**302**	⇑PN	Pn	08 54 31.2	-1.0
TKGZ	**Te Karaka**	**0.95**	**22**	⇓PN	Pn	08 54 32.3	-0.4
MUGZ	**Murupara**	**0.98**	**330**	⇑PN	Pn	08 54 32.2	-0.9
MWZ	**Matawai**	**0.99**	**6**	⇓PN	Pn	08 54 32.5	-0.9
MWZ				AML	AML	08 54 48.1	
MWZ				AML	AML	08 54 50.4	
MWZ				AML	AML	08 54 50.4	
WPHZ	**Waipukurau**	**1.05**	**225**	PN	Pn	08 54 33.7	-0.4
CNGZ	**Carnagh Statio**	**1.05**	**37**	PN	Pn	08 54 33.9	-0.2
URZ	**Urewera**	**1.09**	**348**	PN	Pn	08 54 34.0	-0.6
URZ				AML	AML	08 54 48.9	
URZ				AML	AML	08 54 49.1	
PNHZ	**Pukenui**	**1.10**	**237**	PN	Pn	08 54 34.2	-0.7
PRHZ	**Porangahau**	**1.11**	**212**	PN	Pn	08 54 34.2	-0.7
ALRZ	**Allen Road**	**1.12**	**312**	PN	Pn	08 54 34.6	-0.5
PRRZ	**Plateau Road**	**1.14**	**316**	PN	Pn	08 54 34.5	-0.8
RRRZ	**Republican Roa**	**1.20**	**325**	PN	Pn	08 54 35.3	-0.9
TWGZ	**Tauwhareparae**	**1.23**	**22**	PN	Pn	08 54 36.2	-0.5
RITZ	**Rihia Road**	**1.25**	**286**	PN	Pn	08 54 36.7	-0.2
RITZ				AML	AML	08 54 55.9	
RITZ				AML	AML	08 54 59.1	
WPRZ	**Whakapapatarin**	**1.26**	**309**	PN	Pn	08 54 36.3	-0.7
HRRZ	**Handcock Road**	**1.28**	**317**	PN	Pn	08 54 37.4	+0.1
MOVZ	**Moawhango**	**1.28**	**266**	PN	Pn	08 54 38.0	+0.7
MOVZ				AML	AML	08 54 58.4	
MOVZ				AML	AML	08 55 12.4	
TARZ	**Mount Tarawera**	**1.29**	**327**	PN	Pn	08 54 36.9	-0.6
WHTZ	**Whakaora**	**1.30**	**300**	PN	Pn	08 54 37.5	-0.2
TSZ	**Takapari Road**	**1.33**	**236**	PN	Pn	08 54 37.5	-1.1
TSZ				AML	AML	08 55 00.7	
TSZ				AML	AML	08 55 10.8	
ANWZ	**Angora Road**	**1.34**	**212**	PN	Pn	08 54 37.2	-0.9
RATZ	**Rangitukua**	**1.35**	**289**	PN	Pn	08 54 37.7	-0.6
RATZ				AML	AML	08 55 07.0	
RATZ				AML	AML	08 55 16.3	
HLRZ	**Highlands Stat**	**1.35**	**322**	PN	Pn	08 54 38.5	+0.2
HSRZ	**Hossack Road**	**1.36**	**318**	PN	Pn	08 54 37.7	-0.7
TUVZ	**Tukino**	**1.36**	**272**	PN	Pn	08 54 38.3	-0.2
TUVZ				AML	AML	08 54 59.1	
TUVZ				AML	AML	08 55 06.1	
OTVZ	**Oturere**	**1.36**	**276**	⇓PN	Pn	08 54 38.2	-0.3
OTVZ				AML	AML	08 55 04.1	
OTVZ				AML	AML	08 55 15.7	
DVHZ	**Dannevirke**	**1.36**	**224**	PN	Pn	08 54 37.5	-0.9
KATZ	**Kakaramea**	**1.37**	**284**	PN	Pn	08 54 38.3	-0.4
KATZ				AML	AML	08 55 11.0	
KRHZ	**Karewarewa**	**1.39**	**279**	PN	Pn	08 54 38.4	-0.5
KRVZ				AML	AML	08 55 02.3	
KRVZ				AML	AML	08 55 03.9	
WNVZ	**Wahianoa**	**1.40**	**269**	⇓PN	Pn	08 54 38.8	-0.2
NGZ	**Ngauruhoe**	**1.41**	**276**	⇑PN	Pn	08 54 38.7	-0.4
NGZ				AML	AML	08 55 02.0	
NGZ				AML	AML	08 55 11.2	
WHVZ	**Whangaehu Hut**	**1.41**	**271**	⇑PN	Pn	08 54 38.9	-0.4
PUZ	**Puketiti**	**1.42**	**28**	PN	Pn	08 54 38.1	-1.1
PUZ				AML	AML	08 54 58.0	
PUZ				AML	AML	08 54 58.8	
WTVZ	**West Tongariro**	**1.42**	**278**	⇓PN	Pn	08 54 39.1	-0.2
WTVZ				AML	AML	08 55 01.9	
WTVZ				AML	AML	08 55 12.9	
DRZ	**Dome Shelter**	**1.43**	**271**	PN	Pn	08 54 39.2	-0.4
DRZ				AML	AML	08 55 02.7	
DRZ				AML	AML	08 55 06.7	
FWVZ	**Far West T-bar**	**1.44**	**272**	⇑PN	Pn	08 54 39.1	-0.5
FWVZ				AML	AML	08 54 59.8	
FWVZ				AML	AML	08 55 06.2	
TRVZ	**Turoa**	**1.44**	**270**	PN	Pn	08 54 39.2	-0.4
TRVZ				AML	AML	08 55 01.1	
TRVZ				AML	AML	08 55 01.8	
WATZ	**Wairara**	**1.44**	**295**	PN	Pn	08 54 38.6	-0.9
WATZ				AML	AML	08 55 03.3	
KUTZ	**Kaahu Road**	**1.49**	**304**	⇓PN	Pn	08 54 39.5	-0.7
MTVZ	**Mangateitei**	**1.50**	**267**	PN	Pn	08 54 40.1	-0.2
MTVZ				AML	AML	08 55 11.3	
MTVZ				AML	AML	08 55 21.1	
TWVZ	**Taurewa**	**1.55**	**279**	PN	Pn	08 54 40.4	-0.6
TWVZ				AML	AML	08 55 12.2	
HAZ	**Te Kaha**	**1.59**	**11**	PN	Pn	08 54 41.1	-0.4
PKVZ	**Pokaka**	**1.59**	**271**	PN	Pn	08 54 41.4	-0.3
PKVZ				AML	AML	08 55 20.1	
PKVZ				AML	AML	08 55 27.0	
BFZ	**Birch Farm**	**1.62**	**213**	⇑PN	Pn	08 54 40.5	-1.4
BFZ				AML	AML	08 55 04.0	
BFZ				AML	AML	08 55 04.0	
BFZ				AML	AML	08 55 26.1	
OPRZ	**Ohinepanea**	**1.62**	**336**	PN	Pn	08 54 40.8	-1.1
POWZ	**Post Office Ro**	**1.65**	**229**	PN	Pn	08 54 41.7	-0.7
PRWZ	**Pori Road**	**1.65**	**221**	PN	Pn	08 54 42.1	-0.3
WMGZ	**Waiomatatini S**	**1.70**	**28**	PN	Pn	08 54 42.2	-0.8
WMGZ				SN	Sn	08 55 04.4	+0.8
TLZ	**Tolley Road**	**1.76**	**304**	⇑PN	Pn	08 54 42.8	-1.1
TIWZ	**Tintock**	**1.86**	**218**	PN	Pn	08 54 44.1	-1.1
TIWZ				AML	AML	08 55 33.5	
TIWZ				AML	AML	08 55 36.3	
MXZ	**Matakaoa Point**	**1.90**	**22**	PN	Pn	08 54 45.7	-0.1
MXZ				AML	AML	08 55 28.6	
WAZ	**Wanganui**	**1.92**	**256**	PN	Pn	08 54 46.5	+0.5
WAZ				AML	AML	08 55 29.1	
WAZ				AML	AML	08 55 31.0	
MRZ	**Mangatainoka R**	**1.93**	**226**	PN	Pn	08 54 45.0	-1.3
VRZ	**Vera Road**	**2.06**	**275**	PN	Pn	08 54 47.7	-0.4
TMWZ	**Te Maipa**	**2.12**	**213**	PN	Pn	08 54 48.0	-0.9
HOWZ	**Holdsworth Sta**	**2.13**	**222**	PN	Pn	08 54 47.5	-1.6
HIZ	**Hauiti**	**2.15**	**291**	PN	Pn	08 54 48.6	-0.6
HIZ				AML	AML	08 55 06.1	
HIZ				AML	AML	08 56 22.4	
OGWZ	**Otaki Gorge**	**2.27**	**228**	PN	Pn	08 54 49.3	-1.5
MTW	**Mount Morrison**	**2.34**	**218**	PN	Pn	08 54 49.9	-1.9
KIW	**Kapiti Island**	**2.45**	**230**	PN	Pn	08 54 51.8	-1.6
CAW	**Cannon Point**	**2.52**	**224**	PN	Pn	08 54 52.2	-2.1
CAW				AML	AML	08 55 56.4	
NEZ	**North Egmont**	**2.57**	**270**	PN	Pn	08 54 55.8	+0.8
PLWZ	**Palliser**	**2.78**	**215**	PN	Pn	08 54 55.5	-2.3
DUWZ	**D'Urville Isla**	**3.05**	**240**	PN	Pn	08 54 59.8	-1.9
TUWZ	**Tuamarina**	**3.38**	**230**	PN	Pn	08 55 03.0	-3.1
NNZ	**Nelson**	**3.61**	**237**	PN	Pn	08 55 07.4	-1.9
QRZ	**Quartz Range**	**4.03**	**247**	PN	Pn	08 55 12.2	-2.8
THZ	**Tophouse**	**4.20**	**233**	PN	Pn	08 55 15.4	-2.1

*ISK **25** 08:56:53.4, 37°28'N×28°20'E, h5km, MD2.8*
*ISCJB **25** 08:56:54.4±0.6, 37°27'N±0°04×28°19'E±0°03, h0km, Error ellipse: s-maj=5.4km s-min=3.9km az=9.4*
*DDA **25** 08:56:54.5, 37°22'N×28°18'E, h7km, Md2.7, Suspected Mining explosion.*
*CSEM **25** 08:56:54.5±0.2, 37°26'N×28°16'E, h1km, MD2.8, Error ellipse: s-maj=5.2km s-min=4.2km az=10.0, Suspected Mining explosion.*

ISC 25 08:56:52.5±1.0, 37°37'N±0°05×28°24'E±0°03, h0km, n13, σ0s51/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.24**	**171**	*e*PG	**Pg**	**08 56 57.3**	**+0.3**
YER				*e*SG	**Sg**	**08 57 00.6**	**+0.4**
YER	**Yerkesik**	**0.24**	**171**	*e*Pg	**Pg**	**08 56 57.3**	**+0.3**
YER				*e*Sg	**Sg**	**08 57 00.6**	**+0.4**
TURN	**Turunc**	**0.58**	**149**	*i* P	**Pg**	**08 57 03.4**	**-0.2**
TURN				*i* S	**Sg**	**08 57 10.5**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**335**	*e*PG	**Pn**	**08 57 08.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**335**	*e*Pg	**Pn**	**08 57 08.7**	**-0.2**
DALY	**Dalyan (Mu˘la**	**0.65**	**149**	*e*PG	**Pg**	**08 57 05.2**	**+0.3**
DALY				*e*SG	**Sb**	**08 57 15.2**	**-1.0**
DALY	**Dalyan (Mu˘la**	**0.65**	**149**	*e*Pg	**Pg**	**08 57 05.2**	**+0.3**
DALY				*e*Sg	**Sb**	**08 57 15.2**	**-1.0**
BDRM	**Kayabasi**	**0.70**	**244**	P	**Pg**	**08 57 05.9**	**0.0**
BDRM				S	**Sg**	**08 57 15.6**	**+0.6**
BDRM	**Kayabasi**	**0.70**	**244**	*i* P	**Pg**	**08 57 06.0**	**0.0**
BDRM				*i* S	**Sg**	**08 57 15.6**	**+0.6**
DNZL	**Cakiroluk**	**0.72**	**64**	P	**Pn**	**08 57 10.8**	**+0.7**
DNZL				S	**Sn**	**08 57 21.7**	**-0.2**
DNZL	**Cakiroluk**	**0.72**	**64**	*i* P	**Pn**	**08 57 10.8**	**+0.7**
DNZL				*i* S	**Sn**	**08 57 21.7**	**-0.2**
BODT	**Bodrum**	**0.80**	**247**	*e*PG	**Pg**	**08 57 07.9**	**+0.1**
BODT				*e*SG	**Sb**	**08 57 20.3**	**-0.4**
BODT	**Bodrum**	**0.80**	**247**	*e*Pg	**Pg**	**08 57 07.9**	**+0.1**

*KRSC **25** 09:01:41.7±3.2, 51°17'N×160°05'E, h15km±6km, ML4.3*
*MOS **25** 09:01:43.0±1.1, 51°13'N×159°70'E, h13km, mb4.6/8, Error ellipse: s-maj=9.2km s-min=4.3km az=96.9*
*BJI **25** 09:01:45.9, 51°59'N×159°49'E, h26km, mb4.6/13, mB4.8/10, Ms4.5/2, Ms7 4.1/2*
*ISCJB **25** 09:01:47.6±0.9, 51°23'N±0°05×159°57'E±0°09, h45km±6km, mb4.2/28, MS3.4/4, Error ellipse: s-maj=11.0km s-min=5.8km az=43.0*
*NEIC **25** 09:01:49.5±0.5, 51°33'N×159°48'E, mb4.4/3, Error ellipse: s-maj=10.8km s-min=7.1km az=125.0*
*IDC **25** 09:01:49.4±0.7, 51°32'N×159°49'E, h38km±4km, mb3.8/17, mb1 3.9/21, mb1mx3.8/41, mbtmp4.0/21, ML3.3/4, MS3.0/5, Ms1 3.1/5, ms1mx2.8/39, Error ellipse: s-maj=17.2km s-min=11.9km az=124.0*

ISC 25 09:01:46.9±0.5, 51°25'N±0°05×159°72'E±0°05, h28km±2km, h27km; pP-P, n102, σ1s43/122, mb4.3/28, MS3.3/4, 9C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.40**	**328**	PN	**Pn**	**09 02 10.7**	**+0.1**
RUS				S	**Sb**	**09 02 28.6**	**-1.2**
RUS	**Russkaya**	**1.40**	**328**	*i* P	**Pn**	**09 02 10.7**	**+0.1**
RUS				*e*S	**Sb**	**09 02 28.6**	**-1.2**
ASAK	**Asacha**	**1.60**	**316**	PN	**Pn**	**09 02 14.1**	**+0.7**
ASAK	**Asacha**	**1.60**	**316**	*i* P	**Pn**	**09 02 14.1**	**+0.7**
GRL	**Gorelyy**	**1.66**	**323**	PN	**Pn**	**09 02 14.9**	**+0.7**
GRL	**Gorelyy**	**1.66**	**323**	P	**Pn**	**09 02 14.9**	**+0.7**
KRMR	**Karymshinskiy**	**1.86**	**329**	PN	**Pn**	**09 02 17.7**	**+0.8**
KRMR	**Karymshinskiy**	**1.86**	**329**	*e*P	**Pn**	**09 02 17.7**	**+0.8**
DALK	**Dalny**	**1.88**	**342**	PN	**Pn**	**09 02 17.8**	**+0.6**
DALK	**Dalny**	**1.88**	**342**	*e*P	**Pn**	**09 02 17.8**	**+0.6**
PET	**Petropavlovsk**	**1.89**	**340**	*i*PN	**Pn**	**09 02 17.8**	**+0.4**
PET				*e*S	**Sn**	**09 02 40.8**	**+0.5**
PET				smax	smax		
comp=N,431nm,0.5s							
PET	**Petropavlovsk**	**1.89**	**340**	*e*Pn	**Pn**	**09 02 17.6**	**+0.3**
PET	**Petropavlovsk**	**1.89**	**340**	*e*P	**Pn**	**09 02 17.3**	**-0.1**
PET				S	**Sn**	**09 02 40.1**	**-0.2**
NLC	**Nalytchevo**	**1.94**	**353**	PN	**Pn**	**09 02 19.3**	**+1.4**
NLC	**Nalytchevo**	**1.94**	**353**	P	**Pn**	**09 02 19.3**	**+1.4**
UGLR	**Uglovaya**	**2.04**	**345**	PN	**Pn**	**09 02 20.6**	**+1.1**
UGLR	**Uglovaya**	**2.04**	**345**	*e*P	**Pn**	**09 02 20.6**	**+1.1**
SMAR	**Somma**	**2.09**	**345**	PN	**Pb**	**09 02 21.9**	**-2.4**
SMAR	**Somma**	**2.09**	**345**	P	**Pb**	**09 02 21.9**	**-2.4**
SDLR	**Sedlovina**	**2.10**	**346**	PN	**Pn**	**09 02 21.0**	**+0.7**
SDLR	**Sedlovina**	**2.10**	**346**	*e*P	**Pn**	**09 02 21.0**	**+0.7**
AVH	**Avacha**	**2.11**	**344**	PN	**Pn**	**09 02 21.6**	**+1.2**
AVH	**Avacha**	**2.11**	**344**	*e*P	**Pn**	**09 02 21.6**	**+1.2**
KRER	**Koryakskii**	**2.14**	**344**	PN	**Pn**	**09 02 21.8**	**+0.8**
KRER	**Koryakskii**	**2.14**	**344**	*e*P	**Pn**	**09 02 21.8**	**+0.8**
KRX	**Arik**	**2.21**	**343**	PN	**Pn**	**09 02 22.7**	**+0.8**
KRX	**Arik**	**2.21**	**343**	P	**Pn**	**09 02 22.7**	**+0.8**
PETK	**Petropavlovsk-**	**2.24**	**327**	Pn	**Pn**	**09 02 23.1**	**+1.0**
comp=N,17nm,0.3s,baz=125,slow=16,SNR=137							
PETK				Sn	**Sb**	**09 02 58.8**	**+4.9**
comp=N,24nm,0.3s,baz=122,slow=20,SNR=6.0							
PETK				LR	LR	09 03 06.6	
comp=N,156nm,18.8s,baz=190,slow=37							
SKR	**Severo-Kuril's**	**2.35**	**257**	PN	**Pn**	**09 02 23.4**	**-0.1**
SKR				S	**Sn**	**09 02 50.7**	**-0.7**
SKR	**Severo-Kuril's**	**2.35**	**257**	*e*P	**Pn**	**09 02 23.4**	**-0.1**
SKR				*e*S	**Sn**	**09 02 50.7**	**-0.7**
GNL	**Ganaly**	**2.68**	**337**	PN	**Pn**	**09 02 29.9**	**+1.6**
GNL	**Ganaly**	**2.68**	**337**	*e*P	**Pn**	**09 02 29.9**	**+1.6**
MKZ	**Mys Kozlova**	**3.53**	**19**	PN	**Pn**	**09 02 39.9**	**+0.1**
MKZ	**Mys Kozlova**	**3.53**	**19**	*e*P	**Pn**	**09 02 39.9**	**+0.1**
MKZ				*e*S	**Sn**	**09 03 18.9**	**-1.7**
KMNR	**Kamenistaya**	**4.53**	**4**	PN	**Pn**	**09 02 55.8**	**+2.2**
KMNR	**Kamenistaya**	**4.53**	**4**	P	**Pn**	**09 02 55.8**	**+2.2**
ESO	**Esso**	**4.72**	**353**	PN	**Pn**	**09 02 58.1**	**+1.9**
ESO	**Esso**	**4.72**	**353**	P	**Pn**	**09 02 58.1**	**+1.9**
BDR	**Baidarnaya**	**5.40**	**9**	PN	**Pn**	**09 03 07.2**	**+1.6**
BDR	**Baidarnaya**	**5.40**	**9**	P	**Pn**	**09 03 07.2**	**+1.6**
SMKR	**Semkarok**	**5.44**	**10**	PN	**Pn**	**09 03 08.4**	**+2.2**
SMKR	**Semkarok**	**5.44**	**10**	P	**Pn**	**09 03 08.4**	**+2.2**
BKI	**Bering**	**5.46**	**41**	PN	**Pn**	**09 03 05.5**	**-0.8**
BKI	**Bering**	**5.46**	**41**	P	**Pn**	**09 03 05.5**	**-0.8**
BKI				*e*S	**Sn**	**09 04 02.5**	**-5.6**
MA2	**Magadan**	**9.76**	**332**	LR	LR	09 08 44.1	
comp=N,51nm,18.4s,baz=170,slow=43							
UGL	**Uglegorsk**	**11.53**	**266**	*e*PN	**Pn**	**09 04 27.9**	**-1.6**
UGL				*e*SS	Sn	09 06 48.5	+11
ASAJ	**Asahikawa**	**13.54**	**245**	Pn	**Pn**	**09 04 57.6**	**+0.6**
comp=N,0.5nm,0.3s,baz=80,slow=16,SNR=4.3							
ERM	**Erimo**	**14.62**	**237**	⇑*e*P	**Pn**	**09 05 09.3**	**-2.5**
HABR	**Khabarovsk**	**16.12**	**270**	*e*P	**Pn**	**09 05 29.7**	**-1.7**
HABR				*e*S	**Sn**	**09 08 27.3**	**-1.9**
HABR				pmax	pmax		
comp=N,12nm,1.0s							
HABR				pmax	pmax		
comp=E,8.0nm,0.7s							
HABR				pmax	pmax		
comp=Z,6.0nm,1.0s							
HABR				MLR	MLR		
comp=Z,107nm,15.0s							
BILL	**Bilibino**	**17.15**	**8**	⇑*e*P	**P**	**09 05 44.7**	**-0.9**
BILL				pmax	pmax		
comp=Z,4.0nm,0.9s							
KLR	**Kul'dur**	**17.96**	**275**	P	**P**	**09 05 54.9**	**+0.2**
comp=Z,0.3nm,0.3s,baz=78,slow=11,SNR=14							
KLR	**Kul'dur**	**17.96**	**275**	⇑*e*P	**P**	**09 05 55.3**	**+0.5**
YAK	**Yakutsk**	**19.53**	**315**	*e*P	**P**	**09 06 10.3**	**-1.5**
YAK				pmax	pmax		
comp=Z,21nm,0.7s							
USRK	**Ussuriysk Ar.**	**19.86**	**260**	P	**P**	**09 06 13.9**	**-1.7**
comp=Z,0.3nm,0.3s,baz=57,slow=12,SNR=6.8							
VLA	**Vladivostok**	**20.50**	**258**	⇑*i*P	**P**	**09 06 21.6**	**-0.9**
VLA				*e**PP	**pP**	**09 06 30.1**	**+0.2**
VLA				*i* S	**S**	**09 10 08.9**	**-1.4**
VLA				*e*		09 10 31.2	
VLA				pmax	pmax		
comp=Z,20nm,0.7s							
MJA0	**Matsu Arr-Jizo**	**21.23**	**234**	*e*P	**P**	**09 06 32.0**	**+1.5**
MJA0				pmax	pmax		
comp=Z,5.0nm,0.8s							
MAJO	**Matsushiro**	**21.25**	**235**	⇑*e*P	**P**	**09 06 31.7**	**+1.0**
MAJO				pmax	pmax		
comp=Z,71nm,0.9s							
MAJO	**Matsushiro**	**21.25**	**235**	*e*P	**P**	**09 06 32.0**	**+1.3**
comp=Z,15nm,1.0s							
MJAR	**Matsushiro Arr**	**21.25**	**235**	P	**P**	**09 06 31.5**	**+0.8**
comp=Z,4.6nm,0.8s,baz=35,slow=9.5,SNR=12							
MJAR				pP	**sP**	**09 06 42.2**	**+0.5**
comp=Z,5.5nm,0.9s,baz=28,slow=10,SNR=6.1							
TIXI	**Tiksi**	**24.68**	**337**	P	**P**	**09 07 04.6**	**-0.4**
comp=Z,44nm,0.7s,baz=127,slow=11,SNR=58							
TIXI	**Tiksi**	**24.68**	**337**	*d* P	**P**	**09 07 04.9**	**0.0**
TIXI	**Tiksi**	**24.68**	**337**	*e*P	**P**	**09 07 04.7**	**-0.3**
KSRS	**Korea Array**	**26.35**	**251**	P	**P**	**09 07 21.3**	**+0.9**
comp=Z,2.7nm,0.8s,baz=46,slow=9.4,SNR=7.6							
KSRS				pP	**sP**	**09 07 33.4**	**+1.6**
comp=Z,3.5nm,0.6s,baz=42,slow=9.6,SNR=8.5							
KSRS				LR	LR	09 17 52.3	
comp=Z,30nm,19.6s,baz=65,slow=37							
KSAR	**Wonju Array Be**	**26.38**	**251**	P	**P**	**09 07 21.3**	**+0.6**
KSAR	**Wonju Array Be**	**26.38**	**251**	P	**P**	**09 07 21.3**	**+0.6**
KSAR				pP	**sP**	**09 07 33.4**	**+1.3**
ILAR	**Eielson Array**	**30.30**	**43**	P	**P**	**09 07 57.5**	**+2.1**
comp=Z,0.3nm,0.8s,baz=262,slow=8.2,SNR=4.6							
ILAR				pP	**sP**	**09 08 09.2**	**+2.3**
comp=Z,0.9nm,0.9s,baz=259,slow=7.4,SNR=6.6							
ILAR	**Eielson Array**	**30.30**	**43**	*e*P	**P**	**09 07 57.8**	**+2.4**
H11N2	**WAKE ISLAND Hy**	**31.96**	**167**	T	T	09 42 26.5	
baz=350,slow=76,SNR=3.0							
H11N3	**WAKE ISLAND Hy**	**31.97**	**167**	T	T	09 42 25.5	
baz=350,slow=76,SNR=6.6							
H11N1	**WAKE ISLAND Hy**	**31.98**	**167**	T	T	09 42 23.3	
baz=350,slow=76,SNR=3.1							
ULN	**Ulaanbaatar**	**33.73**	**285**	⇑*e*P	**P**	**09 08 25.5**	**-0.3**
ULN				pmax	pmax		
comp=Z,1.0nm,0.8s							
SONM	**Songino Array**	**34.14**	**286**	P	**P**	**09 08 29.7**	**+0.4**
comp=Z,0.6nm,0.3s,baz=63,slow=7.8,SNR=3.1							
TLY	**Talaya**	**34.20**	**293**	⇓*e*P	**P**	**09 08 30.2**	**+0.5**
TLY				pmax	pmax		
comp=Z,4.0nm,0.5s							
ZAK	**Zakamensk**	**34.92**	**291**	*e*P	**P**	**09 08 34.5**	**-1.5**
ZAK				pmax	pmax		
comp=Z,4.0nm,1.1s							
ZALV	**Zalesovo Beam**	**43.60**	**304**	P	**P**	**09 09 46.5**	**-1.8**
comp=Z,0.8nm,0.5s,baz=54,slow=7.5,SNR=4.1							
YKA	**Yellowknife Ar**	**44.69**	**41**	pP	pP	09 10 10.0	+4.8
comp=Z,0.2nm,0.6s,baz=298,slow=7.8,SNR=3.5							
YKA	**Yellowknife Ar**	**44.69**	**41**	P	pP	09 10 10.0	+4.8
KURK	**Kurchatov**	**48.53**	**303**	⇑*e*P	**P**	**09 10 25.9**	**-1.2**
KURK				pmax	pmax		
comp=Z,18nm,0.7s							
KURK				MLR	MLR		
comp=Z,149nm,17.0s							
KURK	**Kurchatov**	**48.53**	**303**	*e*P	**P**	**09 10 25.8**	**-1.3**
comp=Z,31nm,0.4s							
MKAR	**Makanchi Array**	**48.76**	**297**	P	**P**	**09 10 27.9**	**-1.2**
comp=Z,1.6nm,0.4s,baz=59,slow=7.0,SNR=34							
MKAR				pP	**sP**	**09 10 39.2**	**-1.5**
comp=Z,1.4nm,0.5s,baz=63,slow=7.5,SNR=8.4							
BRVK	**Borovoye**	**51.40**	**309**	*d* P	**P**	**09 10 47.7**	**-1.1**
BRVK				pmax	pmax		
comp=Z,9.0nm,0.7s							
BRVK	**Borovoye**	**51.40**	**309**	*e*P	**P**	**09 10 47.5**	**-1.3**
comp=Z,

TGY	**Tagaytay City**	**0.90**	**38**	⇓*i*P	Pb	09 16 08.7	-1.7
TGY				*i*S	Sn	09 16 25.0	+1.0
LQP	**Lukban**	**1.35**	**58**	⇑*e*P	Pn	09 16 16.9	-0.6
GQP	**Guinayangan**	**2.09**	**76**	⇑*e*P	Pn	09 16 27.8	+0.3

*KRNET **25** 09:16:29.2±0.1,41.11N×69.31E,mb2.9*
*SOME **25** 09:16:34.6,40.93N×69.68E,h0km*
*NNC **25** 09:16:38.9±0.7,40.91N×69.85E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=17.0km s-min=5.1km az=112.0*

ISC 25 09:16:38.0±1.7, 41.06N±0.04×69.72E±0.05, h16km±14km, n14,σ1§50/25, 15C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.11**	**12**	*e*P	**Pb**	**09 16 59.1**	**+0.1**
	244nm,0.2s						
IUG				*e*S	**Sn**	**09 17 15.4**	**+1.2**
	152nm,0.7s						
BTK	**Batken**	**1.30**	**140**	⇑*i*P	**Pn**	**09 16 58.8**	**-2.9**
BTK	baz=132			⇑*i*S	**Sg**	**09 17 20.9**	**+0.8**
	baz=132						
BRLS	**Borolday**	**1.73**	**359**	⇑*i*P	**Pb**	**09 17 09.5**	**+0.2**
	22nm,0.2s						
BRLS				*e*S	**Sg**	**09 17 33.6**	**0.0**
	53nm,0.5s						
ARK	**Arkit**	**1.84**	**66**	⇑*e*P	**Pn**	**09 17 08.5**	**-0.6**
ARK	baz=71			⇑*i*S	**Sg**	**09 17 36.1**	**-1.2**
	baz=71						
KK31	**Karatay Array**	**2.13**	**16**	⇓Pn	**Pb**	**09 17 16.7**	**+0.5**
	3.5nm,0.3s,baz=200,slow=15,SNR=58						
KK31				Sn	**Sg**	**09 17 47.0**	**+0.6**
	28nm,0.6s,baz=190,slow=28,SNR=14						
DZET	**Dzherino**	**2.35**	**197**	⇑Pn	**Pn**	**09 17 17.1**	**+1.0**
	3.8nm,0.4s						
DZET				⇓Sn	**Sb**	**09 17 46.9**	**-2.0**
	14nm,0.5s						
OHH	**Osh**	**2.39**	**102**	⇑*i*P	**Pn**	**09 17 16.6**	**0.0**
	baz=101						
OHH				⇑*i*S	**Sb**	**09 17 50.7**	**+0.8**
	baz=101						
ARSB	**Arslanbob**	**2.48**	**83**	⇓*e*P	**Pn**	**09 17 17.5**	**-0.3**
	baz=84						
ARSB				⇓*e*S	**Sb**	**09 17 52.1**	**-0.4**
	baz=84						
MNAS	**Manas**	**2.52**	**55**	⇑*e*P	**Pn**	**09 17 17.3**	**-1.2**
	baz=59						
MNAS				⇑*e*S	**Sb**	**09 17 52.1**	**-1.8**
	baz=59						
MNAS	**Manas**	**2.52**	**55**	⇓Pn	**Pb**	**09 17 23.1**	**+0.1**
	3.3nm,0.5s						
MNAS				⇑Lg	Lg	09 17 58.4	
	5.7nm,0.4s						
MRKS	**Merke**	**3.11**	**56**	*e*P	**Pb**	**09 17 34.1**	**+1.1**
	8.8nm,0.3s						
MRKS				*e*S	**Sg**	**09 18 16.2**	**-1.7**
	15nm,0.5s						
UCH	**Uchtor**	**3.78**	**70**	⇑*i*P	**Pn**	**09 17 38.4**	**+2.4**
	baz=72						
UCH				⇑*i*S	**Sb**	**09 18 27.9**	**-2.4**
	baz=72						
AAK	**Ala-Archa**	**3.90**	**65**	⇓Pg	**Pb**	**09 17 48.2**	**+1.7**
	2.2nm,0.5s						
AAK				⇑Lg	Lg	09 18 44.9	
	2.5nm,0.5s						
TKM2	**Tokmak 2**	**4.76**	**65**	⇑Pg	**Pb**	**09 18 03.4**	**+2.3**
	1.5nm,0.6s						
TKM2				⇓Lg	Lg	09 19 07.6	
	3.3nm,0.6s						

IDC 25 09:31:02.6±3.0, 54.26N×86.74E, h0km, mb1 2.9/2, mb1mx2.8/35, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=24.3km s-min=17.2km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.18**	**256**	*i*		09 39 00.0	
	baz=75,slow=323,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.18**	**255**	Pg	Pg	09 31 23.9	-1.1
	2.8nm,0.3s,baz=77,slow=12,SNR=15						
ZALV				Lg	Lg	09 31 41.8	
	2.3nm,0.3s,baz=72,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.20**	**237**	Pn	Pn	09 32 36.1	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=8.1						
KURBB				Sn	Sn	09 33 45.9	-0.9
	0.0nm,0.3s,baz=77,slow=40,SNR=2.9						
KURBB				Lg	Lg	09 34 18.1	
	0.0nm,0.3s,baz=45,slow=52,SNR=3.0						
MKAR	**Makanchi Array**	**7.99**	**203**	Pn	Pn	09 33 01.0	+1.2
	0.1nm,0.3s,baz=23,slow=14,SNR=4.5						

IDC 25 09:50:10.1±1.9, 16.59N×95.15E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/42, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=57.8km s-min=23.2km az=70.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.07**	**62**	Pn	Pn	09 51 14.0	+0.2
	0.9nm,0.3s,baz=255,slow=15,SNR=6.1						
CMAR				Sn	Sn	09 51 58.1	-4.1
	1.3nm,0.3s,baz=250,slow=17,SNR=4.2						
SONM	**Songino Array**	**32.51**	**14**	P	P	09 56 42.5	-0.3
	0.6nm,0.7s,baz=201,slow=6.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**38.14**	**350**	P	P	09 57 31.0	0.0
	0.8nm,0.4s,baz=169,slow=8.5,SNR=3.7						
WRA	**Warramunga Arr**	**52.92**	**132**	P	P	09 59 28.1	-0.4
	0.7nm,0.9s,baz=316,slow=7.2,SNR=8.6						
ASAR	**Alice Springs**	**55.09**	**136**	P	P	09 59 44.5	+0.2
	0.1nm,0.3s,baz=308,slow=6.8,SNR=4.1						

*ISK **25** 09:54:30.8, 37.02N×27.39E, h16km, MD2.9*
*DDA **25** 09:54:31.7, 37.08N×27.52E, h4km, Md3.0*
*ISCJB **25** 09:54:31.3±0.4, 37.00N±0.02×27.39E±0.03, h9km±3km, Error ellipse: s-maj=4.1km s-min=3.6km az=167.6*
*CSEM **25** 09:54:31.2±0.1, 36.99N×27.39E, h10km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.8km az=83.0*
*ATH **25** 09:54:31.0, 36.96N×27.39E, h27km±3km, ML2.7/1, Error ellipse: s-maj=4.2km s-min=1.2km az=230.0*
*THE **25** 09:54:32.0, 36.98N×27.37E, h9km±3km, ML2.7/5, Error ellipse: s-maj=3.2km s-min=0.9km az=200.0*

ISC 25 09:54:30.8±0.8, 36.98N±0.02×27.42E±0.02, h12km±5km, n47,σ1§00/77, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.09**	**15**	P	**Pg**	**09 54 33.4**	**-0.1**
BDRM				S	**Sg**	**09 54 34.9**	**-0.6**
BDRM	**Kayabasi**	**0.09**	**15**	*i*P	**Pg**	**09 54 33.4**	**-0.1**
BDRM				*i*S	**Sg**	**09 54 34.9**	**-0.6**
BODT	**Bodrum**	**0.12**	**313**	*e*PG	**Pg**	**09 54 34.2**	**+0.3**
BODT				*e*SG	**Sg**	**09 54 36.6**	**+0.4**
BODT	**Bodrum**	**0.12**	**313**	*e*Pg	**Pg**	**09 54 34.2**	**+0.3**
BODT				*e*Sg	**Sg**	**09 54 36.6**	**+0.4**
NIS1	**Nisyros Isl.**	**0.42**	**207**	P	**Pg**	**09 54 39.6**	**+0.4**
NIS1				S	**Sb**	**09 54 47.6**	**+1.1**
NIS1	**Nisyros Isl.**	**0.42**	**207**	P	**Pg**	**09 54 39.4**	**+0.2**
NIS1				S	**Sb**	**09 54 47.1**	**+0.6**
NIS1	**Nisyros Isl.**	**0.42**	**207**	P	**Pg**	**09 54 39.4**	**+0.2**
NIS1				S	**Sb**	**09 54 47.1**	**+0.6**
NIS1				AML	AML	09 54 47.9	
	comp=E,2541μm,0.2s						
NIS1				AML	AML	09 54 49.5	
	comp=N,3050μm,0.5s						
NISR	**Nisiros**	**0.44**	**212**	P	**Pg**	**09 54 39.8**	**+0.4**
NISR				S	**Sb**	**09 54 47.2**	**+0.4**
NISR	**Nisiros**	**0.44**	**212**	P	**Pg**	**09 54 39.7**	**+0.4**
NISR				S	**Sb**	**09 54 47.2**	**+0.4**
NISR	**Nisiros**	**0.44**	**212**	P	**Pg**	**09 54 39.7**	**+0.3**
YER	**Yerkesik**	**0.71**	**77**	*e*PG	**Pb**	**09 54 45.3**	**+0.2**
YER				*e*SG	**Sb**	**09 54 55.9**	**+1.1**
YER	**Yerkesik**	**0.71**	**77**	*e*Pg	**Pb**	**09 54 45.3**	**+0.2**
YER				*e*Sg	**Sb**	**09 54 55.9**	**+1.1**
GCAM	**G?zelcaml?**	**0.73**	**349**	P	**Pb**	**09 54 45.3**	**-0.1**
GCAM				S	**Sb**	**09 54 56.3**	**+0.9**
GCAM	**G?zelcaml?**	**0.73**	**349**	*i*P	**Pb**	**09 54 45.3**	**-0.1**
GCAM				*i*S	**Sb**	**09 54 56.3**	**+0.9**
SMG	**Samos**	**0.86**	**328**	P	**Pg**	**09 54 47.3**	**-0.1**
SMG				S	**Sn**	**09 55 00.4**	**-0.8**
SMG	**Samos**	**0.86**	**328**	P	**Pg**	**09 54 47.3**	**-0.1**
SMG				S	**Sn**	**09 55 00.4**	**-0.8**
SMG	**Samos**	**0.86**	**328**	P	**Pg**	**09 54 47.5**	**0.0**
SMG				S	**Sn**	**09 55 01.0**	**-0.2**
ARG	**Arkhangelos**	**0.95**	**143**	P	**Pn**	**09 54 50.0**	**0.0**
ARG				S	**Sn**	**09 55 03.4**	**-0.1**
ARG	**Arkhangelos**	**0.95**	**143**	P	**Pn**	**09 54 50.0**	**0.0**
ARG				S	**Sn**	**09 55 03.4**	**-0.1**
TURN	**Turunc**	**0.96**	**96**	*i*P	Pg	09 54 44.2	-5.0
TURN				*i*S	**Sg**	**09 54 54.5**	**-7.1**
DALY	**Dalyan (Mu¨la**	**1.00**	**99**	*e*PG	**Pn**	**09 54 51.1**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.00**	**99**	*e*Pg	**Pn**	**09 54 51.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**21**	*e*PG	**Pb**	**09 54 50.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**21**	*e*Pg	**Pb**	**09 54 50.5**	**-0.2**
DGB	**¨zmir**	**1.15**	**338**	*i*P	**Pb**	**09 54 52.2**	**-0.3**
DGB				*i*S	**Sb**	**09 55 07.5**	**+0.1**
IZM	**Izmir**	**1.42**	**355**	*e*PN	**Pn**	**09 54 56.2**	**-0.2**
IZM	**Izmir**	**1.42**	**355**	*e*Pn	**Pn**	**09 54 56.2**	**-0.2**
KARP	**Karpathos**	**1.45**	**188**	*e*PN	**Pb**	**09 54 57.6**	**-0.1**
KARP	**Karpathos**	**1.45**	**188**	P	**Pb**	**09 54 57.7**	**+0.1**
KARP	**Karpathos**	**1.45**	**188**	*e*Pn	**Pb**	**09 54 57.6**	**-0.1**
ZEY	**¨zmir**	**1.45**	**330**	*i*P	**Pn**	**09 54 56.8**	**0.0**
ZEY				*i*S	**Sn**	**09 55 15.2**	**-0.6**
DNZL	**Cakiroluk**	**1.48**	**61**	P	**Pb**	**09 54 58.7**	**+0.4**
DNZL				S	**Sg**	**09 55 20.2**	**+1.8**
DNZL	**Cakiroluk**	**1.48**	**61**	*i*P	**Pb**	**09 54 58.7**	**+0.4**
DNZL				*i*S	**Sg**	**09 55 20.2**	**+1.8**
APE	**Apeiranthos**	**1.51**	**274**	*e*PN	**Pn**	**09 54 57.6**	**-0.1**
APE	**Apeiranthos**	**1.51**	**274**	P	**Pn**	**09 54 57.8**	**+0.1**
APE				S	**Sn**	**09 55 16.6**	**-0.7**
APE	**Apeiranthos**	**1.51**	**274**	P	**Sn**	**09 54 57.8**	**+0.1**
APE				S	**Sn**	**09 55 16.6**	**-0.7**
URLA	**Izmir**	**1.52**	**335**	P	**Pn**	**09 54 58.0**	**+0.2**
URLA				S	**Sg**	**09 55 19.6**	**-0.2**
URLA	**Izmir**	**1.52**	**335**	*i*P	**Pn**	**09 54 58.0**	**+0.2**
URLA				*i*S	**Sg**	**09 55 19.6**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.67**	**83**	*e*PN	**Pn**	**09 55 00.7**	**+0.7**
GLHS	**Glhisar (BURDU**	**1.67**	**83**	*e*Pn	**Pn**	**09 55 00.7**	**+0.7**
CHOS	**Chios island**	**1.77**	**323**	P	**Pn**	**09 55 01.8**	**+0.5**
CHOS				S	**Sn**	**09 55 23.8**	**0.0**
CHOS	**Chios island**	**1.77**	**323**	P	**Pn**	**09 55 01.8**	**+0.5**
CHOS				S	**Sn**	**09 55 23.8**	**0.0**
CHOS	**Chios island**	**1.77**	**323**	P	**Pb**	**09 55 02.4**	**-0.8**
KULA	**Kula-Manisa**	**1.82**	**32**	*e*PN	**Pn**	**09 55 02.0**	**0.0**
KULA	**Kula-Manisa**	**1.82**	**32**	P	**Pn**	**09 55 02.7**	**+0.7**
KULA				S	**Sb**	**09 55 26.8**	**-0.1**
KULA	**Kula-Manisa**	**1.82**	**32**	*e*Pn	**Pn**	**09 55 02.0**	**0.0**
KULA	**Kula-Manisa**	**1.82**	**32**	P	**Pn**	**09 55 02.7**	**+0.7**
KULA				S	**Sb**	**09 55 26.8**	**-0.1**

CASC 25 09:58:07.5±1.0, 11.86N×86.37W, h107km±6km, MD4.0, ML3.1,1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.14**	**28**	*e*P	Pn	09 59 22.7	+0.2
COPN	**Copaltepe**	**0.39**	**326**	*e*P	Pn	09 58 23.1	-0.3
MOMN	**Momotombo**	**0.57**	**343**	*e*P	Pn	09 58 24.3	-0.3
CNGN	**Cerro Negro**	**0.72**	**333**	*e*P	Pn	09 58 25.8	0.0
CNGN				*e*S	Sn	09 58 40.6	+1.1
CNGN				AML	AML	09 58 47.4	
	comp=N,378nm,0.2s						
CONN	**Concepcion**	**0.78**	**112**	*e*P	Pn	09 58 25.8	-0.5
ESTN	**Estel**	**1.24**	**360**	*e*P	Pn	09 58 31.7	+0.6
CGA2	**Cerro Gallo 2**	**2.61**	**134**	⇓*e*P	Pn	09 58 48.7	+0.2
CGA2				*e*S	Sn	09 59 21.8	+1.8
URSC	**Urasca**	**3.24**	**128**	*e*P	Pn	09 58 57.1	+0.3
BUS	**Buena Vista**	**3.44**	**131**	*e*P	Pn	09 59 01.2	+1.6
BUS				*e*S	Sn	09 59 39.1	-0.7

*NIED **25** 09:59:00, 36.00N×140.10E, h62km, Mw4.1 Best double couple: M0 1.76000×10^15 NP1:ϕ=186.00000°,δ29.00000°, λ90.00000°. NP2:ϕ=6.00000°,δ61.00000°,λ90.00000°.*
*ISCJB **25** 09:59:30.4±0.4, 36.01N±0.03×140.19E±0.05, h76km±3km, mb4.3/26, Error ellipse: s-maj=6.4km s-min=4.3km az=179.3*
*NEIC **25** 09:59:32.1±0.5, 36.05N×140.16E, h75km±4km, mb4.7/10, Error ellipse: s-maj=6.5km s-min=5.1km az=101.0*
NEIC Felt at Kiryu, Nagareyama and Tokyo.
*JMA **25** 09:59:32.3±0.1, 36.02N×140.10E, h63km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕ=1.00000°,δ59.00000°,λ83.00000°. NP2:ϕ=194.00000°, δ31.00000°,λ101.00000°. Principal axes: T Plg75.0000°, Azm253.0000°; N Plg6.0000°, Azm5.0000°; P Plg14.0000°, Azm96.0000°;*
JMA Felt II J1.
*IDC **25** 09:59:32.5±1.3, 35.94N×140.03E, h78km±11km, mb3.8/15, mb1 3.9/21, mb1mx3.8/50, mbtmp4.1/21, MS3.1/3, Ms1 3.1/3, ms1mx2.7/32 Error ellipse: s-maj=17.0km s-min=6.9km az=66.0*
*BJI **25** 09:59:33.9, 36.24N×139.74E, h74km, mb4.6/26, mB5.0/14, Ms4.6/7, Ms7 4.2/8*

ISC 25 09:59:31.3±0.7, 36.06N±0.04×140.23E±0.05, h64km±6km, n81,σ1§70/92, mb4.3/26, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.17**	**350**	⇑P	**Pn**	**09 59 42.3**	**+1.2**
JYT				S	**Sn**	**09 59 49.6**	**+1.4**
JAG	**Ashikaga**	**0.73**	**301**	⇓P	**Pn**	**09 59 46.5**	**+0.4**
JAG				S	**Sn**	**09 59 56.7**	**-0.3**
JKT	**Katashina**	**1.06**	**312**	⇓P	**Pn**	**09 59 50.8**	**+0.4**
JKT				S	**Sn**	**10 00 05.2**	**+0.6**
JRY	**Ryogami san**	**1.08**	**268**	⇓P	**Pn**	**09 59 50.3**	**-0.2**
JOD2	**Odawara 2**	**1.22**	**230**	⇓P	**Pn**	**09 59 51.8**	**-0.6**
JOD2				S	**Sn**	**10 00 05.6**	**-2.5**
BSO3	**Boso 3**	**1.27**	**170**	P	**Pn**	**09 59 53.3**	**+0.5**
JFY	**Yanaizu**	**1.41**	**343**	⇓P	**Pn**	**09 59 56.4**	**+1.5**
JFY				S	**Sn**	**10 00 14.8**	**+2.1**
JYN	**Shimob**	**1.48**	**248**	⇓P	**Pn**	**09 59 55.8**	**0.0**
JYN				S	**Sn**	**10 00 12.9**	**-1.4**
JIM2	**Oshima 3**	**1.49**	**206**	P	**Pn**	**09 59 54.9**	**-1.0**
JIM2				S	**Sn**	**10 00 12.1**	**-2.3**
MJAR	**Matsushiro Arr**	**1.70**	**287**	P	**Pn**	**09 59 58.5**	**-0.3**
	148nm,0.3s,baz=94,slow=8.7,SNR=1774						
MJAR				S	**Sn**	**10 00 18.2**	**-1.5**
	48nm,0.3s,baz=79,slow=17,SNR=13						
MJAR				LR	LR	10 00 48.1	
	comp=Z,229nm,19.1s,baz=190,slow=49						
MAJO	**Matsushiro**	**1.71**	**287**	*e*Pn	**Pn**	**09 59 59.4**	**+0.5**
MAT	**Matsushiro**	**1.71**	**287**	P	**Pn**	**09 59 58.3**	**-0.5**
MAT				S	**Sn**	**10 00 19.9**	**+0.2**
MJB9	**Matsu-Tunnel**	**1.71**	**287**	*e*Pn	**Pn**	**09 59 59.5**	**+0.6**
INU	**Inuyama**	**2.71**	**256**	*e*Pn	**Pn**	**10 00 12.5**	**+0.1**
INU				*e*Sn	**Sn**	**10 00 44.7**	**+0.6**
JHJ	**Hachijo jima 2**	**2.95**	**187**	P	**Pn**	**10 00 16.6**	**+0.9**
	48nm,0.3s,baz=127,slow=20,SNR=29						
JHJ				S	**Sn**	**10 00 48.3**	**-1.7**
	155nm,0.3s,baz=49,slow=19,SNR=9.9						
JHJ2	**Mitsune**	**2.96**	**187**	*e*Pn	**Pn**	**10 00 17.0**	**+1.2**
JHJ2				*e*Sn	**Sn**	**10 00 51.3**	**+1.2**
ERM	**Erimo**	**6.37**	**20**	*e*Pn	**Pn**	**10 01 02.6**	**+0.2**
ERM				*e*Sn	**Sn**	**10 02 11.5**	**-2.2**
JNU	**Nakatsue**	**8.25**	**252**	P	**Pn**	**10 01 28.1**	**-0.1**
	0.6nm,0.3s,baz=47,slow=19,SNR=7.8						
JNU				LR	LR	10 05 05.9	
	comp=Z,144nm,20.5s,baz=121,slow=41						
ASAJ	**Asahikawa**	**8.25**	**12**	P	**Pn**	**10 01 29.5**	**+1.4**
	1.1nm,0.3s,baz=235,slow=6.3,SNR=10						
ASAJ				S	**Sn**	**10 02 55.0**	**-4.9**
	0.2nm,0.3s,baz=111,slow=14,SNR=2.6						
ASAJ	**Asahikawa**	**8.25**	**12**	*e*Pn	**Pn**	**10 01 29.1**	**+0.9**
ASAJ				*e*Sn	**Sn**	**10 02 55.8**	**-4.0**
KSRS	**Korea Array**	**9.97**	**282**	P	**Pn**	**10 01 53.1**	**+1.4**
	0.5nm,0.3s,baz=94,slow=14,SNR=10						
KSRS				LR	LR	10 05 35.1	
	comp=Z,98nm,21.5s,baz=98,slow=37						
KSAR	**Wonju Array Be**	**10.01**	**282**	P	**Pn**	**10 01 53.1**	**+1.0**
USRK	**Ussuriysk Ar.**	**10.29**	**325**	P	**Pn**	**10 01 58.9**	**+2.9**
	0.2nm,0.3s,baz=140,slow=12,SNR=7.7						
MDJ	**Mudanjiang**	**11.78**	**320**	P	**Pn**	**10 02 12.5**	**-3.9**
MDJ				PMZ			
	8.0nm,1.4s						
MDJ				PMZ			
	21nm,3.0s						

JOW	**Kunigami**	**13.73**	**231**	*e*Pn	**Pn**	**10 02 44.6**	**+1.7**
KLR	**Kul'dur**	**14.55**	**337**	P	**Pn**	**10 02 55.3**	**+1.7**
	0.2nm,0.3s,baz=180,slow=8.0,SNR=4.1						
BJI	**Beijing**	**19.34**	**289**	P	**P**	**10 03 50.8**	**-0.5**
BJI				PMZ			
	180nm,1.2s						
BJT	**Baijiatuau**	**19.34**	**289**	*e*P	**P**	**10 03 49.8**	**-1.6**
	13nm,1.0s						
HIA	**Hailar**	**19.95**	**318**	*e*P	**P**	**10 03 56.7**	**-1.3**
	6.5nm,1.0s						
HHC	**Hu-ho-hao-te**	**22.90**	**291**	*e*P	**P**	**10 04 30.0**	**+0.3**
HHC				PMZ			
	34nm,1.0s						
HHC				PMZ			
	160nm,6.5s						
ENH	**Enshi**	**26.31**	**266**	*e*P	**P**	**10 04 59.8**	**-1.2**
	8.8nm,0.4s						
ULN	**Ulaanbaatar**	**27.14**	**306**	*e*P	**P**	**10 05 07.5**	**-0.9**
	1.7nm,0.5s						
SONA1	**Songino Array**	**27.56**	**306**	*e*P	**P**	**10 05 11.1**	**-1.1**
SONM	**Songino Array**	**27.56**	**306**	P	**P**	**10 05 11.0**	**-1.2**
	2.7nm,0.6s,baz=102,slow=8.5,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.50**	**118**	T	T	10 35 26.8	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**28.51**	**118**	T	T	10 35 24.7	
	baz=308,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.52**	**118**	T	T	10 35 26.9	
	baz=308,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.17**	**120**	T	T	10 36 22.5	
	baz=314,slow=76,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**29.17**	**120**	T	T	10 36 31.0	
	baz=314,slow=76,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**29.18**	**120**	T	T	10 36 33.2	
	baz=314,slow=76,SNR=4.9						
LZH	**Lanzhou**	**29.30**	**281**	*e*P	**P**	**10 05 29.3**	**+1.5**
LZH				pP	pP	10 05 41.5	-1.9
LZH				PMZ			
	15nm,1.0s						
GYA	**Guiyang**	**30.12**	**261**	P	**P**	**10 05 37.0**	**+1.9**
GYA				pP	pP	10 05 52.8	+2.1
GYA				PP	**PnPn**	**10 06 38.3**	**+3.7**
GYA				S	**S**	**10 10 30.0**	**+0.5**
GYA				sS	sS	10 10 56.8	+0.7
GYA				PMZ			
	20nm,0.8s						
GYA				PMZ			
	110nm,5.0s						
GYA				LN			
	410nm,16.8s						
GYA				LE			
	360nm,17.0s						
GYA				LZ			
	400nm,16.9s						
CD2	**Chengdu**	**30.73**	**271**	*e*P	**P**	**10 05 40.5**	**+0.2**
CD2				pP	pP	10 05 56.0	0.0
CD2				sP	sP	10 06 03.5	0.0
CD2				S	**S**	**10 10 39.3**	**+0.5**
CD2				sS	sS	10 11 06.0	+0.5
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
KMI	**Kunming**	**33.88**	**262**	P	**P**	**10 06 05.3**	**-2.8**
KMI				PMZ			
	13nm,0.8s						
MANU	**Manus Island**	**38.48**	**168**	*e*P	P	10 06 51.6	+4.4
	167nm,0.5s						
MANU				*e*sP	sP	10 07 13.6	+3.0
WMQ	**Urumqi**	**40.44**	**298**	P	**P**	**10 07 05.0**	**+1.6**
WMQ				pP	pP	10 07 20.3	+0.9
WMQ				sP	sP	10 07 27.5	+0.6
WMQ				PMZ			
	5.0nm,0.6s						
WMQ				PMZ			
	51nm,3.8s						
ZAA0	**Zalesovo Array**	**41.88**	**313**	*e*P	**P**	**10 07 14.7**	**-0.2**
ZALV	**Zalesovo Beam**	**41.88**	**313**	P	**P**	**10 07 14.3**	**-0.6**
	5.9nm,0.8s,baz=98,slow=6.5,SNR=20						
MK01	**Makanchi Array**	**43.83**	**303**	*e*P	**P**	**10 07 30.6**	**-0.3**
MK31	**Makanchi Array**	**43.84**	**303**	*e*P	**P**	**10 07 30.8**	**-0.2**
MKAR	**Makanchi Array**	**43.84**	**303**	P	**P**	**10 07 30.5**	**-0.4**
	4.8nm,0.7s,baz=92,slow=9.9,SNR=48						
MKAR				LR	LR	10 26 42.3	
	comp=Z,28nm,18.4s,baz=110,slow=37						
KURK	**Kurchatov**	**45.79**	**309**	*e*P	**P**	**10 07 45.9**	**-0.4**
	65nm,0.9s						
TKM2	**Tokmak 2**	**49.26**	**299**	*e*P	**P**	**10 08 14.1**	**+0.4**
	5.1nm,0.7s						
KSH	**Kashi**	**49.94**	**294**	*e*P	**P**	**10 08 21.5**	**+2.8**
KSH				pP	pP	10 08 37.5	+2.3
KSH				PMZ			
	2.0nm,0.4s						
AAK	**Ala-Archa**	**50.12**	**299**	*e*P	**P**	**10 08 20.1**	**0.0**
	4.3nm,1.0s						
ILAR	**Eielson Array**	**50.83**	**32**	P	**P**	**10 08 26.2**	**+1.3**
	1.7nm,0.7s,baz=271,slow=6.2,SNR=32						
ZRNK	**Zerenda**	**51.37**	**313**	*e*P	**P**	**10 08 29.2**	**0.0**
	6.5nm,0.8s						
KKAR	**Karatay Array**	**52.79**	**300**	*e*P	**P**	**10 08 40.0**	**+0.1**
BALM	**Baldy**	**53.29**	**36**	*e*P	**P**	**10 08 42.5**	**-0.9**
HYT	**Haines Junctio**	**55.65**	**36**	*e*P	**P**	**10 09 04.7**	**+4.2**
	2.3nm,0.7s						
WRAB	**Tennant Creek**	**55.96**	**187**	*e*P	**P**	**10 09 02.4**	**-0.6**
	34nm,1.8s						
WRA	**Warramunga Arr**	**55.97**	**187**	P	**P**	**10 09 02.0**	**-1.1**
	2.0nm,0.6s,baz=1.4,slow=7.6,SNR=50						
ARU	**Arti**	**56.46**	**319**	*e*P	**P**	**10 09 05.5**	**-0.7**
	6.2nm,0.6s						
ABKAR	**Akbulak array**	**57.84**

SIOV	Sion-Valere	0.20	273	*e*Pg		Pg	10 00 23.0	+0.3
SIOV	Sion-Valere	0.20	273	*e*Pg		Pg	10 00 23.0	+0.3
LAUCH	Lauchernalp 135nm,0.2s	0.21	22	⇑*i*Pg		Pg	10 00 23.1	+0.3
LAUCH	Lauchernalp 135nm,0.2s	0.21	22	⇑*i*Pg		Pg	10 00 23.1	+0.3
DIX	Grande Dixence 67nm,0.4s	0.23	231	⇑*i*Pg		Pg	10 00 23.3	+0.2
DIX	67nm,0.4s			*i* Sg		Sg	10 00 26.2	+0.1
DIX	Grande Dixence 67nm,0.4s	0.23	231	⇑*i*Pg		Pg	10 00 23.3	+0.2
DIX	67nm,0.4s			*i* Sg		Sg	10 00 26.2	+0.1
SIMPL	Simplonpass 28nm,0.2s	0.25	86	*e*Pg		Pg	10 00 23.8	+0.2
SIMPL	Simplonpass 28nm,0.2s	0.25	86	*e*Pg		Pg	10 00 23.8	+0.2
MMK	Mattmark 31nm,0.4s	0.27	129	*e*Pg		Pg	10 00 24.1	+0.1
MMK	Mattmark 31nm,0.4s	0.27	129	*e*Pg		Pg	10 00 24.1	+0.1
FIESA	Fiescheralp 14nm,0.6s	0.38	56	*e*Pg		Pg	10 00 26.1	+0.1
FIESA	Fiescheralp 14nm,0.6s	0.38	56	*e*Pg		Pg	10 00 26.1	+0.1
SATI	Passo dei Sala 92nm,0.3s	0.38	157	*e*Pg		Pg	10 00 26.1	+0.1
SATI	Passo dei Sala	0.38	157	P		Pg	10 00 26.1	+0.1
SATI				S		Sg	10 00 30.5	-0.5
TRAV	Traversella	0.71	175	P		Pg	10 00 32.1	-0.3
TRAV				S		Sg	10 00 40.6	-1.0

KRNET 25 10:04:59.7±0.1, 41°.63N×73°.88E, *h*4km, mb1.6, 18C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	Aral baz=54	0.41	54	⇑*i*P	Pg	10 05 08.1	+0.6
ARLS	baz=54			⇑*i*S	Sg	10 05 13.7	+0.8
ARLS	Aral baz=36	0.41	54	⇑*i*P	Pg	10 05 08.1	+0.6
ARLS	baz=36			⇑*i*S	Sg	10 05 13.7	+0.8
ARSB	Arslanbob baz=247	0.74	246	⇑*e*P	Pb	10 05 14.8	-0.4
ARSB	baz=247			⇑*i*S	Sb	10 05 25.1	-0.6
UCH	Uchtor baz=28	0.77	38	⇑*i*P	Pg	10 05 15.0	+0.6
UCH	baz=28			⇑*i*S	Sb	10 05 26.2	-0.6
TOKL	Toktogul baz=293	0.82	293	⇑*i*P	Pg	10 05 15.7	+0.3
TOKL	baz=293			⇑*i*S	Sb	10 05 27.6	-0.4
KZA	Kyzart baz=60	1.12	66	⇑*i*P	Pg	10 05 20.8	-0.3
KZA	baz=60			⇑*i*S	Sg	10 05 35.4	-0.2
MNAS	Manas baz=311	1.34	310	⇑*e*P	Pb	10 05 25.7	+0.3
MNAS	baz=311			⇑*i*S	Sn	10 05 44.9	+1.3
MNAS	Manas baz=310	1.34	310	⇑*i*P	Pb	10 05 27.6	+2.2
MNAS	baz=310			⇑*i*S	Sn	10 05 48.3	+4.7
ARK	Arkit baz=277	1.45	277	⇑*i*P	Pb	10 05 27.2	0.0
ARK	baz=277			⇑*i*S	Sn	10 05 47.4	+1.2

*BJI **25** 10:04:57.8, 18°.38S×176°.10W, h220km, mb4.6/14, mB4.9/3*
*IDC **25** 10:04:59.4±2.1, 18°.31S×175°.85W, h227km±20km, mb4.1/20, mb1 4.2/21, mb1mx4.0/40, mbtmp4.6/21, Error ellipse: s-maj=16.1km s-min=10.2km az=117.0*
*NEIC **25** 10:04:59.5±0.9, 18°.30S×175°.93W, h230km±8km, mb4.5/82, Error ellipse: s-maj=7.6km s-min=3.8km az=126.0*
*ISCJB **25** 10:05:00.4±0.2, 18°.30S±0°.05×175°.97W±0°.07, h250km, mb4.4/7, Error ellipse: s-maj=10.2km s-min=5.3km az=34.0*

ISC 25 10:05:01.2±0.4, 18°.27S±0°.08×175°.79W±0°.09, h250km, n182, σ1§61/189, mb4.5/97, 14C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 26nm,0.3s,baz=202,slow=3.4,SNR=32	5.81	42	P	Pn	10 06 26.4	-0.7
AFI	46nm,0.3s,baz=21,slow=22,SNR=12			S	S	10 07 29.9	-5.9
AFI	Afiamalu	5.81	42	*e*Pn	Pn	10 06 26.4	-0.7
AFI				*e*S	S	10 07 29.5	-6.3
URZ	Urewera 30nm,0.3s,baz=75,slow=1.2,SNR=48	20.86	196	P	P	10 09 22.7	-1.5
URZ	4.9nm,0.5s,baz=66,slow=20,SNR=3.7			S	S	10 12 55.9	-4.9
URZ	Urewera 37nm,0.8s	20.86	196	*e*P	P	10 09 23.0	-1.2
URZ				S	S	10 12 55.9	-4.9
BKZ	Black Stump Fm 26nm,0.9s	21.87	196	*e*P	P	10 09 32.9	-1.1
BFZ	Birch Farm 89nm,1.0s	23.36	195	*e*P	P	10 09 47.0	-0.5
KHZ	Kahutara 33nm,1.0s	25.72	198	*e*P	P	10 10 07.9	-0.9
LTZ	Lake Taylor 42nm,1.1s	26.45	200	*e*P	P	10 10 13.7	-1.7
OXZ	Oxford 29nm,0.5s	27.01	200	*e*P	P	10 10 19.3	-1.0
RPZ	Rata Peaks 5.3nm,0.4s,baz=22,slow=4.0,SNR=5.2	27.68	201	P	P	10 10 24.3	-2.0
STKA	Stephens Creek 4.5nm,0.7s,baz=97,slow=11,SNR=9.2	40.65	242	P	P	10 12 16.9	-0.5
WRA	Warramunga Arr 0.8nm,0.3s,baz=98,slow=6.9,SNR=36	47.01	260	P	P	10 13 07.8	-0.2
AS01	Alice Springs	47.05	254	*e*P	P	10 13 07.9	-0.3
AS31	Alice Springs 1.9nm,0.6s	47.09	254	*e*P	P	10 13 07.7	-0.9
ASAR	Alice Springs 6.7nm,0.7s,baz=91,slow=8.2,SNR=71	47.09	254	P	P	10 13 08.5	-0.1
ASAR	0.9nm,0.7s,baz=90,slow=16,SNR=6.5			S	S	10 19 37.0	-4.5
SBA	Scott Base 8.8nm,0.8s	60.23	184	*e*P	P	10 14 45.6	+2.9
VNDA	Vanda 3.4nm,0.8s,baz=7.5,slow=8.6,SNR=14	60.31	185	P	P	10 14 45.0	+1.8
VNDA	Vanda 5.1nm,0.9s	60.31	185	*e*P	P	10 14 45.1	+1.9
MJAR	Matsushiro Arr 3.8nm,0.8s,baz=156,slow=6.3,SNR=12	69.71	322	P	P	10 15 44.4	+0.2
QSPA	South Pole Qui 44nm,0.8s	71.78	180	*e*P	P	10 15 57.4	+1.0
JNU	Nakatsue 6.6nm,0.7s,baz=135,slow=5.7,SNR=4.0	72.14	315	P	P	10 15 59.5	+0.7
PETK	Petropavlovsk- 7.4nm,0.7s,baz=120,slow=9.3,SNR=6.3	74.69	344	P	P	10 16 13.8	+0.6
CHGN	Chignik	75.72	10	*e*P	P	10 16 19.0	+0.1
MWC	Mount Wilson 8.2nm,0.8s	75.77	46	*e*P	P	10 16 20.7	+0.7
KSRS	Korea Array 1.9nm,0.6s,baz=136,slow=6.6,SNR=7.5	76.64	317	P	P	10 16 26.2	+1.6
KSAR	Wonju Array Be	76.66	317	P	P	10 16 26.2	+1.5
GSC	Goldstone, Bar 5.8nm,1.1s	77.22	46	*e*P	P	10 16 29.5	+1.5
YBH	Yreka Blue Hor 12nm,0.8s	77.26	38	*e*P	P	10 16 29.1	+1.0
PAHR	Pah Rah Range 4.1nm,0.8s	78.04	41	*e*P	P	10 16 32.3	-0.2
KDAK	Kodiak Island 37nm,1.5s	78.19	12	*e*P	P	10 16 33.3	+0.6
TPNV	Topopah Spring 5.4nm,0.6s	78.50	45	*e*P	P	10 16 36.0	+0.9
MOD	Modoc Plateau 7.1nm,0.6s	78.78	39	*e*P	P	10 16 37.7	+1.2
K05A	Summer Lake 10nm,0.9s	78.94	38	*e*P	P	10 16 38.8	+1.4
SHPR	Sheep Range 9.9nm,1.4s	79.00	46	*e*P	P	10 16 39.5	+1.7
W13A	Hualapai Mount 3.0nm,0.8s	79.14	47	*e*P	P	10 16 39.2	+0.5
Y14A	Wickenburg 35nm,1.1s	79.16	49	*e*P	P	10 16 39.9	+1.3
BMN	Battle Mountai 13nm,1.5s	79.81	41	*e*P	P	10 16 43.4	+1.3
MDJ	Mudanjiang	79.93	324	P	P	10 16 41.5	-0.9
MDJ	4.0nm,0.4s			PMZ			
MDJ	49nm,3.5s			PMZ			
TUC	Tucson 5.4nm,0.8s	79.97	51	*e*P	P	10 16 44.7	+1.7
CNPM	China Poot 12nm,0.9s	80.08	12	*e*P	P	10 16 43.5	+0.6
WVOR	Wild Horse Val 5.7nm,0.9s	80.10	39	*e*P	P	10 16 44.9	+1.3
BRLK	Bradley Lake 11nm,0.8s	80.37	12	*e*P	P	10 16 43.3	-1.1
X16A	Lo Mia Camp, P 6.9nm,0.8s	80.52	49	*e*P	P	10 16 48.0	+2.0
LCMT	Little Creek M 2.2nm,0.8s	80.57	46	*e*P	P	10 16 46.7	+0.5
319A	Douglas 8.4nm,0.9s	80.65	53	*e*P	P	10 16 45.1	-1.7
CCUT	Cedar City 2.8nm,0.9s	80.77	46	*e*P	P	10 16 49.5	+2.1
KNB	Kanab 3.3nm,0.8s	80.86	46	*e*P	P	10 16 48.7	+0.9
U15A	North Rim 6.6nm,0.9s	80.93	47	*e*P	P	10 16 50.2	+2.0
D05A	Enumclaw 14nm,1.0s	81.09	34	*e*P	P	10 16 49.7	+1.2
SPU	Mount Spurr	81.44	11	*e*P	P	10 16 49.9	-0.2
G08A	Pilot Rock 13nm,1.0s	81.59	37	*e*P	P	10 16 52.5	+1.2
X18A	Snowflake 4.3nm,0.8s	81.65	50	*e*P	P	10 16 53.5	+1.5
SUA	Susitna One 12nm,0.7s	81.95	12	*e*P	P	10 16 53.3	+0.5
MSU	Marysvale	82.07	45	*e*P	P	10 16 55.4	+1.2
EYAK	Cordova Ski Ar 8.6nm,0.9s	82.21	14	*e*P	P	10 16 54.6	+0.6
BMO	Blue Mountains 5.8nm,1.0s	82.29	38	*e*P	P	10 16 55.6	+0.7
MFID	Camas Ranch 6.3nm,1.1s	82.35	40	*e*P	P	10 16 56.8	+1.5
PMR	Palmer 12nm,1.3s	82.39	13	*e*P	P	10 16 55.6	+0.7
TT01	Tatalina	82.39	9	*e*P	P	10 16 56.4	+1.5
DIV	Divide 17nm,0.8s	82.72	14	*e*P	P	10 16 57.6	+0.9
BMRM	Bremner River 11nm,0.6s	82.85	15	*e*P	P	10 16 58.0	+0.7
Q16A	Castle Valley 3.6nm,0.7s	82.95	45	*e*P	P	10 17 00.1	+1.4
SCM	Sheep Creek Mo 16nm,0.6s	82.99	13	*e*P	P	10 16 58.8	+0.7
CRQM	Cirque 10nm,0.8s	83.03	15	*e*P	P	10 16 59.5	+1.0
TMUT	Trail Mountain 14nm,0.7s	83.12	45	*e*P	P	10 17 01.2	+1.6
B08A	Colville Reser 9.3nm,0.9s	83.23	34	*e*P	P	10 17 00.6	+1.0
HLID	Hailey 7.5nm,0.9s	83.29	40	*e*P	P	10 17 01.8	+1.6
BALM	Baldy 9.9nm,0.9s	83.47	16	*e*P	P	10 17 01.7	+1.0
SRU	San Rafael Swe 12nm,0.7s	83.49	45	*e*P	P	10 17 02.9	+1.5
P17A	Butcher Ranch, 4.9nm,0.6s	83.52	45	*e*P	P	10 17 03.2	+1.7
MNTX	Cornudas Mount 14nm,1.3s	83.77	54	*e*P	P	10 17 04.4	+1.7
KTH	Kantishna Hill 4.3nm,0.8s	83.84	11	*e*P	P	10 17 02.0	-0.3
TRF	Thorofare Moun 17nm,0.7s	83.86	11	*e*P	P	10 17 02.7	+0.1
TCUT	Toone Canyon 19nm,0.7s	83.90	43	*e*P	P	10 17 05.3	+1.8
BNM	Barren Site	83.91	51	*e*P	P	10 17 05.4	+1.7
PV05	Paradox Valley	83.96	47	*e*P	P	10 17 03.0	-0.8
HWUT	Hardware Ranch 3.9nm,0.6s	84.05	43	*e*P	P	10 17 05.2	+1.1
DHY	Denali Highway 5.4nm,0.9s	84.09	13	*e*P	P	10 17 04.2	+0.4
RND	Reindeer 21nm,0.6s	84.09	12	*e*P	P	10 17 04.4	+0.7
TX31	Lajitas Ar. Si	84.10	57	*e*P	P	10 17 06.6	+2.1
TXAR	Lajitas Array 6.1nm,0.9s,baz=218,slow=7.8,SNR=53	84.10	57	P	P	10 17 06.5	+1.9
PV09	Paradox Valley	84.14	46	*e*P	P	10 17 06.6	+1.8
PV10	Paradox Valley	84.14	47	*e*P	P	10 17 03.0	-1.7
BPAW	Bear Paw Mtn. 3.7nm,0.7s	84.33	11	*e*P	P	10 17 04.5	-0.3
MAW	Mawson 1.5nm,0.5s,baz=122,slow=5.6,SNR=11	84.35	199	P	P	10 17 05.2	+0.3
PV01	Paradox Valley	84.35	47	*e*P	P	10 17 07.2	+1.4
NEW	Newport 7.1nm,0.9s,baz=109,slow=5.8,SNR=5.3	84.36	35	P	P	10 17 06.2	+0.9
MCK	McKinley 23nm,0.9s	84.37	12	*e*P	P	10 17 05.5	+0.5
ANMO	Albuquerque 4.2nm,0.9s	84.39	51	*e*P	P	10 17 07.9	+1.9
HYT	Haines Junctio 4.5nm,0.9s	84.62	18	*e*P	P	10 17 08.1	+1.6
BWN	Browne 59nm,1.4s	84.67	11	*e*P	P	10 17 06.0	-0.4
SEY	Seymchan 7.8nm,0.7s,baz=151,slow=5.5,SNR=26	84.71	346	P	P	10 17 07.1	+0.4
MENT	Mentasta 12nm,1.0s	84.77	14	*e*P	P	10 17 08.2	+1.2
MCMT	McKenzie Canyo	84.92	40	*e*P	P	10 17 09.8	+1.3
WRH	Wood River Hil 19nm,0.8s	85.20	12	*e*P	P	10 17 09.5	+0.4
DLBC	Dease Lake 3.9nm,0.7s,baz=243,slow=4.0,SNR=9.8	85.21	22	P	P	10 17 10.8	+1.4
DLBC	Dease Lake 5.3nm,0.8s	85.21	22	*e*P	P	10 17 10.1	+0.8
DOT	Dot Lake 36nm,0.8s	85.31	14	*e*P	P	10 17 10.3	+0.7
DLMT	Dillon 9.0nm,1.3s	85.35	39	*e*P	P	10 17 10.8	+0.3
S22A	4UR Ranch, Cre 7.2nm,1.3s	85.39	48	*e*P	P	10 17 12.5	+1.5
REDW	Red Top Meadow 14nm,1.5s	85.39	42	*e*P	P	10 17 11.8	+0.9
CCB	Clear Creek Bu 17nm,0.6s	85.41	12	*e*P	P	10 17 10.3	+0.2
BSMT	Bassoo Peak	85.42	36	*e*P	P	10 17 11.8	+1.0
SNOW	Snow King Moun 12nm,1.5s	85.51	41	*e*P	P	10 17 12.6	+1.1
COLA	College 24nm,0.8s	85.61	12	*e*P	P	10 17 11.5	+0.4
MDM	Murphy Dome 13nm,0.9s	85.61	11	*e*P	P	10 17 11.3	+0.1
IL1	Eielson Array	85.70	12	*e*P	P	10 17 11.4	-0.1
ILAR	Eielson Array 3.6nm,0.6s,baz=229,slow=6.0,SNR=68	85.70	12	P	P	10 17 11.3	-0.2
ILB	Eielson Array	85.70	12	*e*P	P	10 17 11.7	+0.1
CHMT	Chamberlain Mo	85.79	38	*e*P	P	10 17 13.2	+0.5
PDAR	Pinedale Array 1.1nm,0.6s,baz=209,slow=2.7,SNR=5.6	85.92	43	P	P	10 17 13.6	+0.2
SMCO	Snowmass 7.2nm,0.8s	85.94	47	*e*P	P	10 17 15.1	+1.2
BOZ	Bozeman (W) 5.3nm,1.0s	86.08	39	*e*P	P	10 17 15.2	+1.2
SDCO	Great Sand Dun 1.7nm,0.8s	86.33	48	*e*P	P	10 17 15.2	-0.4
DAWY	Dawson 7.2nm,0.8s	86.77	15	*e*P	P	10 17 17.7	+0.9
EGAK	Eagle 6.4nm,0.9s	86.94	14	*e*P	P	10 17 17.6	+0.1
GYA	Guiyang	87.38	299	*e*P	P	10 17 21.0	+0.3
GYA				pP	pP	10 18 12.5	-8.5
GYA				sP	sP	10 18 35.5	-12
GYA				PP	PP	10 20 50.0	+0.7
GYA				SKS	SKSac	10 27 25.5	+0.9
GYA				S	ScS	10 27 41.3	-4.8
GYA	10.0nm,1.0s			PMZ			
HHC	Hu-ho-hao-te	89.31	314	*e*P	P	10 17 31.8	+2.4
HHC	16nm,1.1s			PMZ			
HHC	160nm,7.6s			PMZ			
LAO	LASA Array 12nm,0.8s	89.87	40	*e*P	P	10 17 32.9	+1.0
CMAR	Chiang Mai Arr	91.35	289	P	P	10 17 41.0	+1.7
INK	Inuvik 8.0nm,0.3s,baz=72,slow=2.9,SNR=5.7	91.60	14	P	P	10 17 39.3	+0.1
INK	Inuvik 6.2nm,0.9s,baz=217,slow=6.3,SNR=5.6	91.60	14	*e*P	P	10 17 40.0	+0.8
YKA	Yellowknife Ar 6.6nm,0.8s	93.64	24	P	P	10 17 49.2	+0.5
ECSD	EROS Data Cent 2.1nm,0.8s,baz=241,slow=4.5,SNR=27	94.90	46	*e*P	P	10 17 55.6	+0.6
SAML	Samuel 3.7nm,0.6s	108.23	106	*e*Pdif	Pdif	10 19 04.0	+8.8
KSH	Kashi	115.31	306	PKP	PKPdf	10 23 13.5	+0.1
ZRNK	Zerenda	119.53	321	*e*PKPdf	PKPdf	10 23 20.4	-0.5
ARCES	ARCESS Array B 2.9nm,0.5s,baz=11,slow=0.1,SNR=30	127.09	351	PKP	PKPdf	10 23 35.1	+0.2
FINES	FINESS Array B 1.5nm,0.6s,baz=20,slow=4.4,SNR=6.7	134.19	346	PKP	PKPdf	10 23 49.5	+0.9
NOA	NORSAR Array B 1.4nm,0.9s,baz=14,slow=4.0,SNR=3.4	136.99	355	PKP	PKPdf	10 23 55.1	+1.2
AKASG	Malin Array Be 0.6nm,0.4s,baz=42,slow=4.6,SNR=4.3	142.01	334	PKhKP	PKPpre	10 23 57.9	
SORM	Soroca	144.31	332	⇑*i*P	PKPdf	10 24 06.4	-1.0
OJC	Ojcow	145.77	342	*e*PKP	PKPab	10 24 11.5	-0.1
PRAR	RASCA	145.83	333	⇑*i*P	PKPab	10 24 10.0	-2.0
STHS	Stebnicka Huta	146.03	340	*e*PKP	PKPab	10 24 13.1	+0.5
BURAR	Bucovina Array	146.06	334	⇑*i*P	PKPab	10 24 13.2	+0.3
KOLS	Kolonicke sedl	146.10	338	*e*PKP	PKPab	10 24 13.1	+0.2
KSP	Ksiaz	146.11	346	*e*PKP	PKPab	10 24 12.8	0.0
TESR	Tescani	146.30	332	⇑*i*P	PKPab	10 24 13.4	-0.4
CLL	Collm comp=Z,16nm,0.9s	146.31	350	*i* PKPbc	PKPab	10 24 12.9	-0.7
NIE	Niedzica	146.33	341	*e*PKP	PKPab	10 24 13.8	0.0
UPC	Upice	146.49	346	*e*PKP	PKPab	10 24 13.9	-0.5
UPC				*ex*	x	10 24 15.8	
DPC	Dobruska-Polom	146.56	346	*e*PKP	PKPab	10 24 14.4	-0.3
BRG	Berggiesshubel comp=Z,17nm,1.3s	146.56	349	*e*PKP	PKPab	10 24 13.8	-0.8
CFR	Carcaliu	146.57	329	⇑*i*P	PKPab	10 24 14.1	-0.7
VRI	Vrincioaia	146.75	331	⇑*i*P	PKPab	10 24 14.4	-1.2
PVCC	Panska Ves	146.77	348	*e*PKP	PKPab	10 24 14.7	-0.8
BRTR	Keskin Array B comp=Z,3.3nm,0.6s,baz=128,slow=3.0,SNR=16	146.78	316	PKPbc	PKPab	10 24 14.5	-1.6
MORC	Moravsky Berou	146.79	344	⇑*i*P	PKPab	10 24 15.0	-0.6
PLOR	Plostina	146.79	331	⇑*i*P	PKPab	10 24 14.3	-1.5
LANS	Liptovska Anna	146.82	342	*e*PKP	PKPab	10 24 15.8	0.0
ARCR	ARCALIA	146.84	335	⇑*i*P	PKPab	10 24 14.9	-1.0
TIRR	Tirgusor	146.94	327	⇑*i*P	PKPab	10 24 16.5	+0.2
KECS	Kecovo	147.09	340	*e*PKP	PKPbc	10 24 13.8	-0.8
KECS				*e*		10 24 16.1	
PRU	Pruhonice	147.29	348	*e*PKP	PKPab	10 24 16.0	-1.5
GOPC	GO Pecny, Ondr	147.31	347	*e*PKP	PKPab	10 24 16.2	-1.5
MLR	Muntele Rosu	147.39	331	⇑*i*P	PKPab	10 24 17.3	-1.0
NKC	Novy Kostel	147.44	350	*e*PKP	PKPab	10 24 16.4	-1.8
CJR	Cluj-Napoca	147.44	335	⇑*i*P	PKPab	10 24 17.1	-1.3
VRAC	Vranov	147.47	345	⇑*i*P	PKPab	10 24 15.7	-2.6
VYHS	Vyhne	147.59	342	*e*PKP	PKPab	10 24 17.4	-1.4
DRGR		147.73	336	⇓*i*P	PKPab	10 24 17.3	-2.2
KHC	Kasperske Hory	148.30	348	*e*PKP	PKPab	10 24 18.9	-2.8
KHC				*ex*	x	10 24 23.0	
KHC	Kasperske Hory	148.30	348	*e*PKPbc	PKPab	10 24 18.7	-3.0
GERES	GERESS Array B comp=Z,5.0nm,0.6s,baz=22,slow=3.2,SNR=28	148.55	348	PKPbc	PKPab	10 24 19.2	-3.6
CONA	Conrad Observa comp=Z,7.3nm,0.7s,SNR=5.3	148.93	345	*i* PKiKP	PKiKP	10 24 20.5	-0.2
MOA	Molln comp=Z,8.0nm,1.2s	149.38	347	*i* PKiKP	PKiKP	10 24 21.2	-0.4
MDVR	Moldovita	149.78	335	⇑*i*P	PKPbc	10 24 22.4	+0.7
KBA	Koelnbreinsper comp=Z,6.8nm,0.5s	150.31	347	*i* PKPbc	PKPbc	10 24 22.8	-0.2
RETA	Reutte comp=Z,4.8nm,0.9s	150.37	351	*i* PKiKP	PKiKP	10 24 23.8	+0.1
WATA	Walderalm comp=Z,7.4nm,0.5s	150.39	350	*i* PKPbc	PKPbc	10 24 23.4	+0.3
WTTA	Wattenberg comp=Z,14nm,0.5s,SNR=6.0	150.45	350	*i* PKiKP	PKiKP	10 24 23.8	-0.2
MOTA	Moosalm comp=Z,6.5nm,0.7s	150.46	350	*i* PKiKP	PKiKP	10 24 23.8	-0.2
MYKA	Terra Mystica comp=Z,7.3nm,0.5s	150.67	347	*i* PKPbc	PKPbc	10 24 23.5	-0.3
DAVA	Damuels comp=Z,7.2nm,0.5s	150.69	352	*i* PKiKP	PKiKP	10 24 24.8	+0.3
ABTA	Abfaltersbach comp=Z,14nm,0.5s,SNR=7.0	150.79	348	*i* PKPbc	PKPbc	10 24 23.9	-0.2
FETA	Feichten comp=Z,8.5nm,0.7s	150.83	351	*i* PKiKP	PKiKP	10 24 24.8	0.0
VNDS	Vrh nad Dolski	150.92	345	*i* PKPbc	PKPbc	10 24 24.8	+0.5
CRNS	Crni Vrh	151.04	345	*i* PKPbc	PKPbc	10 24 24.9	+0.3
BOJS	Bojanci	151.33	344	*i* PKPbc	PKPbc	10 24 26.4	+1.2
ESDC	Sonseca Array comp=Z,0.8nm,0.5s,baz=337,slow=2.9,SNR=7.9	157.53	17	PKPab	PKPab	10 25 02.0	+1.1
TORD	Torodi Ar. Bea comp=Z,0.3nm,0.6s,baz=232,slow=1.6,SNR=2.9	174.36	154	PKP	PKPdf	10 24 40.9	-0.9
TORD	comp=Z,0.4nm,0.8s,baz=216,slow=4.6,SNR=2.9			PKPab	PKPab	10 26 15.4	0.0

*ISK **25** 10:10:51.3, 39°.13N×29°.01E, h5km, MD2.6*
*DDA **25** 10:10:52.5, 39°.12N×29°.04E, h7km, Md2.7*
*CSEM **25** 10:10:52.9±0.2, 39°.13N×29°.02E, h10km, MD2.7, Error ellipse: s-maj=7.3km s-min=3.7km az=144.0*
*ISCJB **25** 10:10:53.2±0.7, 39°.11N±0°.05×29°.03E±0°.04, h8km±9km, Error ellipse: s-maj=9.6km s-min=4.7km az=155.0*

ISC 25 10:10:52.6±1.0, 39°.13N±0°.04×29°.04E±0°.03, h15km±10km, n12, σ0§36/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.26	251	P	Pb	10 10 59.0	-0.2
DEMI				S	Sg	10 11 02.6	+0.3
DEMI	Demirci	0.26	251	*i* P	Pb	10 10 59.0	-0.2
DEMI				*i* S	Sg	10 11 02.6	+0.3
GEDZ	Gediz	0.30	106	*e*PG	Pg	10 10 58.8	-0.2
GEDZ				*e*SG	Sb	10 11 04.7	0.0
GEDZ	Gediz	0.30	106	*e*Pg	Pg	10 10 58.8	-0.2
GEDZ				*e*Sg	Sb	10 11 04.7	0.0
GDZ	Gediz	0.35	97	P	Pb	10 11 00.3	-0.3
GDZ				S	Sg	10 11 05.2	+0.5
GDZ	Gediz	0.35	97	*i* P	Pb	10 11 00.3	-0.3
GDZ				*i* S	Sg	10 11 05.2	+0.5
TVSB	Tavsanli	0.46	46	*e*PG	Pg	10 11 01.2	-0.6
TVSB				*e*SG	Sb	10 11 09.6	+0.4
TVSB	Tavsanli	0.46	46	*e*Pg	Pg	10 11 01.2	-0.6
TVSB				*e*Sg	Sb	10 11 09.6	+0.4
KULA	Kula-Manisa	0.68	206	*e*PG	Pb	10 11 06.0	-0.3
KULA				*e*SG	Sg	10 11 15.3	+0.3
KULA	Kula-Manisa	0.68	206	*e*Pg	Pb	10 11 06.0	-0.3
KULA				*e*Sg	Sg	10 11 15.3	+0.3
BORA	Eskisehir	1.33	55	P	Pg	10 11 18.3	+0.1
BORA				S	Sg	10 11 35.8	+0.3
BORA	Eskisehir	1.33	55	*i* P	Pg	10 11 18.3	+0.1
BORA				*i* S	Sg	10 11 35.8	+0.3

TRN 25 10:16:28.4, 15°.60N×61°.43W, h10km, MD1.3, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	Barber's Block	0.08	211	*e*S	Sg	10 16 33.3	+0.8
DWS	Wesley	0.11	105	*e*P	Pg	10 16 32.1	+0.9
DWS				*e*S	Sg	10 16 34.3	+1.2

*ISCJB **25** 11:06:56.1±1.1, 33°.31N±0°.04×35°.75E±0°.06, h3km±6km, Error ellipse: s-maj=9.1km s-min=5.3km az=143.7*
*NSSC **25** 11:06:56.3±0.9, 33°.31N×35°.78E, h0km±4km, ML1.7*
*GRAL **25** 11:06:57.3±0.3, 33°.33N×35°.83E, h0km, 36km, MD2.8*
*CSEM **25** 11:06:57.3, 33°.33N×35°.83E, h0km, ML2.8*

ISC 25 11:06:56.6±1.5, 33°.32N±0°.05×35°.78E±0°.05, h5km±11km, n12, σ0§59/22, Jordan-Syria region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC

	comp=E,233nm,0.5s								
TOTH	**TOTAH**	**0.54**	**85**	*i* P	**Pg**	**11 07 07.8**	**+0.7**
TOTH				AML	AML	11 07 08.3	
	comp=E,33nm,0.2s						
TOTH				*e*S	**Sb**	**11 07 15.8**	**-1.0**
TOTH				AML	AML	11 07 18.8	
	comp=N,51nm,0.8s						
MARH	**Ras Al Marh**	**0.92**	**39**	*e*P	**Pg**	**11 07 14.7**	**+0.4**
MARH				*e*S	**Sb**	**11 07 28.0**	**+0.3**
MARH				AML	AML	11 07 32.5	
	comp=E,21nm,0.3s						
MARH				AML	AML	11 07 33.0	
	comp=N,31nm,0.4s						
HWQ	**Hawqa**	**0.97**	**8**	*e*P	**Pg**	**11 07 14.3**	**-0.8**
HWQ	**Hawqa**	**0.97**	**8**	*e*P	**Pg**	**11 07 14.4**	**-0.8**
SALA	**Sala**	**1.00**	**127**	*i* P	**Pg**	**11 07 16.3**	**+0.4**
SALA				*i* S	**Sb**	**11 07 30.1**	**-0.1**
SALA				AML	AML	11 07 31.1	
	comp=N,25nm,0.3s						
SALA				AML	AML	11 07 41.0	
	comp=E,2.5nm,0.5s						
HAWK	**Haweek**	**1.31**	**23**	*e*P	**Pg**	**11 07 21.2**	**-0.5**
HAWK				*e*S	**Sb**	**11 07 39.4**	**+0.5**
HAWK				AML	AML	11 07 43.3	
	comp=E,8.3nm,0.2s						
HAWK				AML	AML	11 07 46.3	
	comp=N,12nm,0.5s						
ZALF	**Zalf**	**1.36**	**106**	*e*P	**Pg**	**11 07 21.8**	**-1.0**
ZALF				*e*S	**Sg**	**11 07 40.0**	**-0.5**
ZALF				AML	AML	11 07 42.5	
	comp=E,29nm,0.3s						
ZALF				AML	AML	11 07 43.9	
	comp=N,42nm,0.3s						
ROOS	**tl_alroos**	**1.52**	**56**	*e*P	**Pn**	**11 07 24.4**	**-0.1**
ROOS				*e*S	**Sn**	**11 07 45.2**	**+0.6**
ROOS				AML	AML	11 07 48.6	
	comp=N,18nm,0.3s						
ROOS				AML	AML	11 07 59.0	
	comp=E,18nm,0.7s						

BEO ***25*** *11:07:56.9±1.2, 41°.51N×25°.99E, h13km±4km, M2.5/5*
CSEM ***25*** *11:07:58.1±0.2, 42°.22N×26°.19E, h10km, ML2.7, Error ellipse: s-maj=5.5km s-min=4.0km az=50.0*
ISK ***25*** *11:07:58.5, 42°.06N×26°.30E, h5km, ML2.7*
DDA ***25*** *11:08:25.6, 41°.98N×26°.36E, h23km, Md3.2*
ISC 25 11:07:58.1±1.2,**42°.11N**±0°.03×**26°.28E**±0°.03,**h19**km±4km, **n66,** σ1§**40/86,16C, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EDRB	**Edirne**	**0.43**	**127**	PG		**Pb**	**11 08 07.0**	**-0.2**
EDRB				*e*SG		**Sb**	**11 08 13.8**	**+0.5**
EDRB	**Edirne**	**0.43**	**127**	*i* Pg		**Pb**	**11 08 07.0**	**-0.2**
EDRB				*e*Sg		**Sb**	**11 08 13.8**	**+0.5**
PHSR	**Pinarhisar**	**1.04**	**117**	*e*PG		**Pg**	**11 08 18.5**	**+0.1**
PHSR	**Pinarhisar**	**1.04**	**117**	*e*Pg		**Pg**	**11 08 18.5**	**+0.1**
PLD	**Plovdiv**	**1.18**	**270**	*e*Pg		**Pn**	**11 08 18.1**	**-1.3**
PLD				*e*Sg		**Sb**	**11 08 32.5**	**-2.0**
PLD	**Plovdiv**	**1.18**	**270**	*e*Pg		**Pn**	**11 08 18.1**	**-1.3**
PLD				*e*Sg		**Sb**	**11 08 32.5**	**-2.0**
KESN	**Edirne-Kesan**	**1.32**	**167**	P		**Pg**	**11 08 23.1**	**-0.5**
KESN				S		**Sg**	**11 08 42.8**	**+1.9**
KESN	**Edirne-Kesan**	**1.32**	**167**	*i* P		**Pg**	**11 08 23.1**	**-0.5**
KESN				*i* S		**Sg**	**11 08 42.8**	**+1.9**
ENEZ	**Enez**	**1.38**	**184**	*e*PN		**Pg**	**11 08 25.0**	**+0.3**
ENEZ				*e*SN		**Sg**	**11 08 44.7**	**+2.0**
ENEZ	**Enez**	**1.38**	**184**	*e*Pn		**Pg**	**11 08 25.0**	**+0.3**
ENEZ				*e*Sn		**Sg**	**11 08 44.7**	**+2.0**
ERIK	**Erikli-Kesan**	**1.45**	**173**	*e*PN		**Pb**	**11 08 24.6**	**+0.2**
ERIK	**Erikli-Kesan**	**1.45**	**173**	*e*Pn		**Pb**	**11 08 24.6**	**+0.2**
TKR	**Tekirdag**	**1.46**	**140**	*e*PN		**Pg**	**11 08 26.3**	**0.0**
TKR	**Tekirdag**	**1.46**	**140**	*e*Pn		**Pg**	**11 08 26.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.57**	**154**	*e*PN		**Pg**	**11 08 27.9**	**-0.5**
RKY				*e*SN		**Sg**	**11 08 50.0**	**+1.0**
RKY	**Sarkoy-Tekirda**	**1.57**	**154**	*e*Pn		**Pg**	**11 08 27.9**	**-0.5**
RKY				*e*Sn		**Sg**	**11 08 50.0**	**+1.0**
SART	**Tekirdag**	**1.57**	**154**	P		**Pg**	**11 08 27.4**	**-1.1**
SART				S		**Sg**	**11 08 48.8**	**-0.1**
SART	**Tekirdag**	**1.57**	**154**	*i* P		**Pg**	**11 08 27.4**	**-1.1**
SART				*i* S		**Sg**	**11 08 48.8**	**-0.1**
ZIMR		**1.69**	**337**	S		**Sb**	**11 08 49.7**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.72**	**175**	*e*PN		**Pb**	**11 08 29.0**	**0.0**
GELI				*e*SN		**Sg**	**11 08 52.2**	**-1.3**
GELI	**Tayfur-Gelibol**	**1.72**	**175**	*e*Pn		**Pb**	**11 08 29.0**	**0.0**
GELI				*e*Sn		**Sg**	**11 08 52.2**	**-1.3**
LPK	**Lapseki**	**1.77**	**168**	*e*PN		**Pg**	**11 08 31.1**	**-1.1**
LPK	**Lapseki**	**1.77**	**168**	*e*Pn		**Pg**	**11 08 31.2**	**-1.1**
MRMT	**Marmara Adasi**	**1.80**	**146**	*e*PN		**Pg**	**11 08 31.4**	**-1.4**
MRMT				*e*SN		**Sg**	**11 08 54.9**	**-1.3**
MRMT	**Marmara Adasi**	**1.80**	**146**	*e*Pn		**Pg**	**11 08 31.4**	**-1.4**
MRMT				*e*Sn		**Sg**	**11 08 54.9**	**-1.3**
KRBG	**Karabiga-Canak**	**1.88**	**156**	*e*PN		**Pg**	**11 08 33.2**	**-1.1**
KRBG	**Karabiga-Canak**	**1.88**	**156**	*e*Pn		**Pg**	**11 08 33.2**	**-1.1**
CTKS	**Kestanelik-??a**	**1.88**	**117**	*e*PN		**Pg**	**11 08 33.2**	**-1.1**
CTKS	**Kestanelik-??a**	**1.88**	**117**	*e*Pn		**Pg**	**11 08 33.2**	**-1.1**
GADA	**Gvkgeada**	**1.94**	**189**	*e*PN		**Pb**	**11 08 33.5**	**+0.8**
GADA	**Gvkgeada**	**1.94**	**189**	*e*Pn		**Pb**	**11 08 33.6**	**+0.8**
BGKT	**Bogazkoy**	**2.09**	**116**	*e*PN		**Pb**	**11 08 34.8**	**-0.4**
BGKT	**Bogazkoy**	**2.09**	**116**	*e*Pn		**Pb**	**11 08 34.8**	**-0.4**
PSN	**Preselentsi**	**2.10**	**41**	⇑*i* P		**Pn**	**11 08 32.4**	**+0.2**
PSN	**Preselentsi**	**2.10**	**41**	⇑*i* P		**Pn**	**11 08 32.4**	**+0.2**
PSN				S		**Sn**	**11 08 58.7**	**+0.9**
KLYT	**Kilyos**	**2.24**	**112**	*e*PN		**Pb**	**11 08 38.4**	**+0.5**
KLYT	**Kilyos**	**2.24**	**112**	*e*Pn		**Pb**	**11 08 38.4**	**+0.5**
EZN	**Ezine**	**2.28**	**179**	*e*PN		**Pb**	**11 08 38.4**	**-0.3**
EZN	**Ezine**	**2.28**	**179**	*e*Pn		**Pb**	**11 08 38.4**	**-0.3**
ISK	**Istanbul-Kandi**	**2.33**	**116**	*e*PN		**Pb**	**11 08 39.5**	**+0.1**
ISK	**Istanbul-Kandi**	**2.33**	**116**	*e*Pn		**Pb**	**11 08 39.5**	**+0.1**
ARMT	**Armutlu**	**2.48**	**128**	*e*PN		**Pb**	**11 08 41.7**	**-0.3**
ARMT	**Armutlu**	**2.48**	**128**	*e*Pn		**Pb**	**11 08 41.7**	**-0.3**
TIRR	**Tirgusor**	**2.81**	**33**	⇑*i* P		**Pn**	**11 08 42.3**	**+0.3**
TIRR	**Tirgusor**	**2.81**	**33**	⇑*i* P		**Pn**	**11 08 42.3**	**+0.3**
TIRR				S		**Sb**	**11 08 49.2**	**-1.5**
HARR	**Harsova**	**2.84**	**24**	⇑*i* P		**Pn**	**11 08 41.8**	**-0.6**
HARR	**Harsova**	**2.84**	**24**	⇑*i* P		**Pn**	**11 08 41.8**	**-0.6**
ZAPS	**Zavoj**	**2.93**	**295**	*e*Pn		**Pn**	**11 08 44.2**	**+0.6**
ZAPS				*e*Sn		**Sn**	**11 09 20.2**	**+1.9**
CFR	**Carcaliu**	**3.35**	**23**	⇑*i* P		**Pn**	**11 08 49.7**	**+0.4**
CFR	**Carcaliu**	**3.35**	**23**	S		**Sb**	**11 09 33.7**	**-3.3**
CFR	**Carcaliu**	**3.35**	**23**	⇑*i* P		**Pn**	**11 08 49.7**	**+0.4**
BARS	**Barje**	**3.38**	**284**	*e*Pn		**Pn**	**11 08 49.8**	**0.0**
BARS				*e*Sn		**Sn**	**11 09 29.4**	**+0.1**
BARS	**Barje**	**3.38**	**284**	*e*Pn		**Pn**	**11 08 49.8**	**0.0**
BARS				*e*Sn		**Sn**	**11 09 29.4**	**+0.1**
MLR	**Muntele Rosu**	**3.39**	**356**	⇑*i* P		**Pn**	**11 08 49.2**	**-0.8**
MLR	**Muntele Rosu**	**3.39**	**356**	⇑*i* P		**Pn**	**11 08 49.2**	**-0.8**
VOIR		**3.44**	**345**	⇑*i* P		**Pn**	**11 08 49.7**	**-1.0**
VOIR		**3.44**	**345**	⇑*i* P		**Pn**	**11 08 49.7**	**-1.0**
SELS	**Selova**	**3.96**	**288**	*e*Pn		**Pn**	**11 08 57.0**	**-0.8**
SELS	**Selova**	**3.96**	**288**	*e*Pn		**Pn**	**11 08 57.0**	**-0.8**
MDVR	**Moldovita**	**4.26**	**310**	⇑*i* P		**Pn**	**11 08 58.4**	**-3.6**
MDVR	**Moldovita**	**4.26**	**310**	⇑*i* P		**Pn**	**11 08 58.4**	**-3.6**
GRUS	**Gruza**	**4.45**	**295**	*e*Pn		**Pn**	**11 09 04.4**	**-0.1**
GRUS	**Gruza**	**4.45**	**295**	*e*Pn		**Pn**	**11 09 04.4**	**-0.1**
BZS	**Buzias**	**4.86**	**318**	*e*Pn		**Pn**	**11 09 14.5**	**+4.4**
BZS				*e*Sn		**Sn**	**11 10 12.0**	**+6.2**
SIRR	**Siria**	**5.32**	**323**	⇑*i* P		Pn	11 09 12.3	-4.1
SIRR	**Siria**	**5.32**	**323**	⇑*i* P		Pn	11 09 12.3	-4.1

IDC ***25*** *11:10:23.6±2.3, 54°.59N×166°.29E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/60, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=105.2km s-min=30.9km az=157.0*
KRSC ***25*** *11:10:25.3±1.9, 54°.77N×165°.63E, h30km±11km, ML3.9*
ISCJB ***25*** *11:10:26.5±0.7, 54°.81N±0°.05×165°.72E±0°.08, h26km, mb3.2/3, Error ellipse: s-maj=9.5km s-min=4.1km az=141.7*
MOS ***25*** *11:10:26.3±0.8, 54°.81N×165°.96E, h29km, mb4.1/1, Error ellipse: s-maj=13.4km s-min=9.0km az=149.0*
ISC 25 11:10:27.0±0.9,**54°.84N**±0°.06×**165°.82E**±0°.07,**h26**km,**n43,** σ1§**54/59,mb3.3/3,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**0.38**	**13**	PN		**Pb**	**11 10 34.1**	**-1.1**
BKI				S		**Sb**	**11 10 39.4**	**-1.4**
BKI	**Bering**	**0.38**	**13**	*i* P		**Pb**	**11 10 34.1**	**-1.1**
BKI				*i* S		**Sb**	**11 10 39.4**	**-1.4**
KBG	**Krutoberegovo**	**2.27**	**310**	PN		**Pn**	**11 11 04.0**	**+1.3**
KBG				S		**Sn**	**11 11 29.2**	**-0.6**
KBG	**Krutoberegovo**	**2.27**	**310**	P		**Pn**	**11 11 04.0**	**+1.3**
KBG				*e*S		**Sn**	**11 11 29.2**	**-0.6**
MKZ	**Mys Kozlova**	**2.39**	**265**	PN		**Pn**	**11 11 05.1**	**+0.7**
MKZ	**Mys Kozlova**	**2.39**	**265**	*i* P		**Pn**	**11 11 05.1**	**+0.7**
MKZ				*e*S		**Sn**	**11 11 31.5**	**-1.3**
SMKR	**Semkarok**	**3.02**	**307**	PN		**Pn**	**11 11 15.3**	**+2.2**
SMKR	**Semkarok**	**3.02**	**307**	P		**Pn**	**11 11 15.3**	**+2.2**
BDR	**Baidarnaya**	**3.13**	**305**	PN		**Pn**	**11 11 16.9**	**+2.2**
BDR	**Baidarnaya**	**3.13**	**305**	P		**Pn**	**11 11 16.9**	**+2.2**
KMNR	**Kamenistaya**	**3.32**	**288**	PN		**Pn**	**11 11 18.9**	**+1.6**
KMNR	**Kamenistaya**	**3.32**	**288**	P		**Pn**	**11 11 18.9**	**+1.6**
NLC	**Nalytchevo**	**4.17**	**249**	PN		**Pn**	**11 11 29.3**	**+0.4**
NLC	**Nalytchevo**	**4.17**	**249**	P		**Pn**	**11 11 29.3**	**+0.4**
NLC				*e*S		**Sn**	**11 12 15.0**	**-1.7**
SDLR	**Sedlovina**	**4.38**	**252**	PN		**Pn**	**11 11 33.6**	**+1.8**
SDLR	**Sedlovina**	**4.38**	**252**	*e*P		**Pn**	**11 11 33.6**	**+1.8**
SDLR				S		**Sn**	**11 12 19.7**	**-2.3**
UGLR	**Uglovaya**	**4.44**	**251**	PN		**Pn**	**11 11 34.3**	**+1.6**
UGLR	**Uglovaya**	**4.44**	**251**	*e*P		**Pn**	**11 11 34.3**	**+1.6**
UGLR				S		**Sn**	**11 12 22.9**	**-0.6**
KRER	**Koryakskii**	**4.44**	**253**	PN		**Pn**	**11 11 34.7**	**+1.9**
KRER	**Koryakskii**	**4.44**	**253**	P		**Pn**	**11 11 34.7**	**+1.9**
KRER				*e*S		**Sn**	**11 12 23.3**	**-0.4**
AVH	**Avacha**	**4.46**	**252**	PN		**Pn**	**11 11 34.8**	**+1.8**
AVH	**Avacha**	**4.46**	**252**	*e*P		**Pn**	**11 11 34.8**	**+1.8**
AVH				S		**Sn**	**11 12 23.0**	**-1.0**
KRX	**Arik**	**4.47**	**254**	PN		**Pn**	**11 11 34.7**	**+1.5**
KRX	**Arik**	**4.47**	**254**	*e*P		**Pn**	**11 11 34.7**	**+1.5**
KRX				S		**Sn**	**11 12 24.4**	**0.0**
DALK	**Dalny**	**4.55**	**249**	PN		**Pn**	**11 11 34.8**	**+0.7**
DALK	**Dalny**	**4.55**	**249**	P		**Pn**	**11 11 34.8**	**+0.7**
DALK				*e*S		**Sn**	**11 12 24.8**	**-2.3**
PET	**Petropavlovsk**	**4.61**	**250**	*e*PN		**Pn**	**11 11 36.6**	**+1.7**
PET	**Petropavlovsk**	**4.61**	**250**	P		**Pn**	**11 11 34.8**	**-0.1**
PET				S		**Sn**	**11 12 25.4**	**-2.1**
GNL	**Ganaly**	**4.76**	**259**	PN		**Pn**	**11 11 39.3**	**+2.2**
GNL	**Ganaly**	**4.76**	**259**	*e*P		**Pn**	**11 11 39.3**	**+2.2**
RUS	**Russkaya**	**4.97**	**244**	PN		**Pn**	**11 11 41.0**	**+1.1**
RUS	**Russkaya**	**4.97**	**244**	P		**Pn**	**11 11 41.0**	**+1.1**
RUS				S		**Sn**	**11 12 35.0**	**-1.5**
KRMR	**Karymshinskiy**	**4.98**	**249**	PN		**Pn**	**11 11 42.3**	**+2.3**
KRMR	**Karymshinskiy**	**4.98**	**249**	P		**Pn**	**11 11 42.3**	**+2.3**
KRMR				S		**Sn**	**11 12 35.8**	**-0.9**
PETK	**Petropavlovsk-**	**5.10**	**253**	Pn		**Pn**	**11 11 43.6**	**+2.0**
	1.2nm,0.3s,baz=86,slow=19,SNR=27							
PETK				Sn		**Sn**	**11 12 39.8**	**+0.2**
	1.1nm,0.3s,baz=295,slow=19,SNR=7.0							
ASAK	**Asacha**	**5.32**	**246**	PN		**Pn**	**11 11 47.0**	**+2.3**
ASAK	**Asacha**	**5.32**	**246**	*e*P		**Pn**	**11 11 47.0**	**+2.3**
ILAR	**Eielson Array**	**25.16**	**48**	P		**P**	**11 15 49.2**	**-0.4**
	1.3nm,0.8s,baz=256,slow=8.7,SNR=20							
ILAR	**Eielson Array**	**25.16**	**48**	*e*P		**P**	**11 15 49.6**	**-0.1**
YKA	**Yellowknife Ar**	**39.55**	**46**	P		**P**	**11 17 55.4**	**+0.1**
	0.1nm,0.3s,baz=295,slow=7.6,SNR=6.3							
YKA	**Yellowknife Ar**	**39.55**	**46**	*e*P		**P**	**11 17 55.6**	**+0.3**
TXAR	**Lajitas Array**	**66.85**	**72**	P		**P**	**11 21 16.9**	**+0.3**
	0.1nm,0.4s,baz=309,slow=5.7,SNR=3.4							
TXAR	**Lajitas Array**	**66.85**	**72**	*e*P		**P**	**11 21 18.1**	**+1.5**

IDC ***25*** *11:12:27.3±1.1, 36°.48N×22°.54E, h0km, mb3.6/10, mb1 3.7/11, mb1mx3.5/46, mbtmp3.6/11, ML2.9/1, MS2.6/4, Ms1 2.6/4, ms1mx2.3/56, Error ellipse: s-maj=24.1km s-min=19.2km az=51.0*
ATH ***25*** *11:12:28.1, 36°.06N×22°.34E, h16km±1km, ML3.6/13, Error ellipse: s-maj=1.9km s-min=0.7km az=46.0*
THE ***25*** *11:12:28.9, 36°.07N×22°.38E, h0km±2km, ML3.8/10, Error ellipse: s-maj=2.7km s-min=0.8km az=235.0*
CSEM ***25*** *11:12:29.0±0.3, 36°.09N×22°.41E, h2km, ML3.8, Error ellipse: s-maj=7.4km s-min=3.3km az=42.0*
ISC 25 11:12:27.3±1.2,**36°.05N**±0°.03×**22°.28E**±0°.03,**h13**km±7km, **n155,** σ1§**53/191,mb3.7/10,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KYTH	**Kithira**	**0.66**	**70**	P		**Pg**	**11 12 40.0**	**-0.2**
KYTH				S		**Sg**	**11 12 48.0**	**-0.9**
KYTH	**Kithira**	**0.66**	**70**	P		**Pg**	**11 12 40.0**	**-0.2**
KYTH				S		**Sg**	**11 12 47.6**	**-1.3**
KYTH	**Kithira**	**0.66**	**70**	P		**Pg**	**11 12 40.4**	**+0.2**
ANKY	**Antikythira Is**	**0.85**	**102**	P		**Pg**	**11 12 43.9**	**+0.1**
ANKY				S		**Sg**	**11 12 54.3**	**-0.6**
ANKY	**Antikythira Is**	**0.85**	**102**	P		**Pg**	**11 12 43.9**	**+0.1**
ANKY				S		**Sg**	**11 12 53.7**	**-1.2**
ANKY	**Antikythira Is**	**0.85**	**102**	P		**Pg**	**11 12 44.5**	**+0.7**
ANKY				S		**Sg**	**11 12 53.7**	**-1.2**
ANKY				AML	AML	11 12 55.3		
	comp=N,11961μm,0.4s							
ANKY				AML	AML	11 12 55.9		
	comp=E,14549μm,0.4s							
VLI	**Veliai**	**0.86**	**38**	P		**Pg**	**11 12 43.6**	**-0.3**
VLI				S		**Sg**	**11 12 56.5**	**+1.4**
VLI	**Veliai**	**0.86**	**38**	P		**Pg**	**11 12 43.6**	**-0.3**
VLI				S		**Sg**	**11 12 55.7**	**+0.6**
VLI	**Veliai**	**0.86**	**38**	P		**Pg**	**11 12 43.4**	**-0.5**
VLI				S		**Sg**	**11 12 55.7**	**+0.6**
VLI				AML	AML	11 12 57.5		
	comp=N,7610μm,0.5s							
VLI				AML	AML	11 12 59.1		
	comp=E,5749μm,0.4s							
PYL	**PYLOS**	**0.95**	**333**	P		**Pb**	**11 12 45.6**	**-0.1**
PYL				S		**Sn**	**11 13 00.5**	**+0.6**
PYL	**PYLOS**	**0.95**	**333**	P		**Pb**	**11 12 45.6**	**-0.1**
PYL				S		**Sn**	**11 13 00.5**	**+0.6**
PYL	**PYLOS**	**0.95**	**333**	P		**Pg**	**11 12 44.8**	**-1.0**
PYL				S		**Sb**	**11 12 58.6**	**+0.3**
PYL				AML	AML	11 13 03.2		
	comp=E,8016μm,0.6s							
PYL				AML	AML	11 13 05.3		
	comp=N,2781μm,0.5s							
ITM	**Ithomi**	**1.17**	**346**	P		**Pg**	**11 12 49.4**	**-0.4**
ITM				S		**Sn**	**11 13 08.2**	**+3.0**
ITM	**Ithomi**	**1.17**	**346**	P		**Pg**	**11 12 49.4**	**-0.4**
ITM				S		**Sn**	**11 13 08.1**	**+2.9**
ITM	**Ithomi**	**1.17**	**346**	P		**Pg**	**11 12 49.0**	**-0.8**
ITM				S		**Sn**	**11 13 08.1**	**+2.9**
ITM				AML	AML	11 13 09.6		
	comp=N,4978μm,0.4s							
ITM				AML	AML	11 13 11.1		
	comp=E,5612μm,0.3s							
VLX	**Vlachokerasia**	**1.32**	**4**	P		**Pb**	**11 12 52.7**	**+0.6**
VLX				S		**Sn**	**11 13 12.0**	**+2.7**
VLX	**Vlachokerasia**	**1.32**	**4**	P		**Pb**	**11 12 52.7**	**+0.6**
VLX				S		**Sn**	**11 13 10.8**	**+1.6**
VLX	**Vlachokerasia**	**1.32**	**4**	P		**Pb**	**11 12 52.7**	**+0.6**
VLX				S		**Sn**	**11 13 10.8**	**+1.6**
VLX				AML	AML	11 13 16.9		
	comp=N,5271μm,0.6s							
VLX				AML	AML	11 13 18.7		
	comp=E,6291μm,0.6s							
TRIP	**Tripoli**	**1.48**	**360**	P		**Pb**	**11 12 55.2**	**+0.4**
TRIP				S		**Sg**	**11 13 18.0**	**+3.0**
TRIP	**Tripoli**	**1.48**	**360**	P		**Pb**	**11 12 55.2**	**+0.4**
TRIP				S		**Sg**	**11 13 18.1**	**+3.0**
TRIP				AML	AML	11 13 24.2		
	comp=N,2455μm,0.5s							
TRIP				AML	AML	11 13 24.9		
	comp=E,3203μm,0.7s							
IMMV	**Iera Moni Meta**	**1.50**	**112**	P		**Pn**	**11 12 55.2**	**+1.2**
IMMV				S		**Sn**	**11 13 16.0**	**+2.5**
IMMV	**Iera Moni Meta**	**1.50**	**112**	P		**Pn**	**11 12 55.2**	**+1.2**
IMMV				S		**Sn**	**11 13 16.0**	**+2.5**
IMMV	**Iera Moni Meta**	**1.50**	**112**	P		**Pn**	**11 12 54.8**	**+0.8**
IMMV				S		**Sn**	**11 13 16.1**	**+2.5**
IMMV				AML	AML	11 13 19.8		
	comp=E,5494μm,0.5s							
IMMV				AML	AML	11 13 27.9		
	comp=N,5327μm,0.5s							
KRND	**KRANIDI**	**1.51**	**27**	P		**Pn**	**11 12 55.6**	**+1.5**
KRND				S		**Sg**	**11 13 16.4**	**+0.5**
KRND	**KRANIDI**	**1.51**	**27**	P		**Pn**	**11 12 55.6**	**+1.5**
KRND				S		**Sn**	**11 13 15.0**	**+1.4**
KRND	**KRANIDI**	**1.51**	**27**	P		**Pn**	**11 12 55.4**	**+1.3**
KRND				S		**Sn**	**11 13 15.0**	**+1.4**
KRND				AML	AML	11 13 25.7		
	comp=N,2237μm,0.5s							
KRND				AML	AML	11 13 26.2		
	comp=E,3094μm,0.6s							
DID	**Didima**	**1.65**	**28**	P		**Pn**	**11 12 57.2**	**+1.2**
DID	**Didima**	**1.65**	**28**	P		**Pn**	**11 12 57.3**	**+1.2**
DID				S		**Sn**	**11 13 19.6**	**+2.4**
DID				AML	AML	11 13 26.4		
	comp=N,1649μm,0.8s							
DID				AML	AML	11 13 28.8		
	comp=E,3237μm,0.7s							
VAM	**Vamos**	**1.69**	**112**	P		**Pn**	**11 12 57.8**	**+1.2**
VAM				S		**Sn**	**11 13 20.2**	**+2.1**
VAM	**Vamos**	**1.69**	**112**	P		**Pn**	**11 12 57.3**	**+1.2**
VAM				S		**Sn**	**11 13 19.3**	**+1.2**
MHLO	**Agia Marina, M**	**1.83**	**69**	P		**Pn**	**11 12 58.6**	**+0.1**
MHLO				S		**Sn**	**11 13 22.6**	**+1.0**
MHLO	**Agia Marina, M**	**1.83**	**69**	P		**Pn**	**11 12 59.2**	**+0.7**
MHLO				S		**Sn**	**11 13 22.6**	**+1.0**
MHLO	**Agia Marina, M**	**1.83**	**69**	P		**Pn**	**11 12 59.2**	**+0.7**
GUR	**Goura**	**1.89**	**2**	P		**Pb**	**11 13 01.7**	**0.0**
GUR	**Goura**	**1.89**	**2**	P		**Pb**	**11 13 01.7**	**0.0**
GUR	**Goura**	**1.89**	**2**	P		**Pb**	**11 13 02.8**	**+1.0**
GVD	**Gavdhos**	**1.91**	**129**	P		**Pn**	**11 13 01.3**	**+1.8**
GVD	**Gavdhos**	**1.91**	**129**	P		**Pn**	**11 13 01.3**	**+1.8**
GVD	**Gavdhos**	**1.91**	**129**	P		**Pb**	**11 13 03.0**	**+1.1**
DRO	**Drossia**	**1.96**	**347**	P		**Pb**	**11 13 03.0**	**+0.1**
DRO	**Drossia**	**1.96**	**347**	P		**Pb**	**11 13 03.0**	**+0.1**
DRO				S		**Sb**	**11 13 27.5**	**+0.3**
DRO	**Drossia**	**1.96**	**347**	P		**Pb**	**11 13 03.1**	**+0.3**
DRO				S		**Sb**	**11 13 27.5**	**+0.3**
DRO				AML	AML	11 13 40.3		
	comp=E,3695μm,0.4s							
DRO				AML	AML	11 13 45.5		
	comp=N,3103μm,0.5s							
KLV	**Kalavryta, Ach**	**2.00**	**357**	P		**Pb**	**11 13 03.5**	**-0.1**
KLV	**Kalavryta, Ach**	**2.00**	**357**	P		**Pb**	**11 13 03.5**	**-0.1**
KLV				S		**Sb**	**11 13 29.6**	**+1.2**
KLV	**Kalavryta, Ach**	**2.00**	**357**	P		**Pg**	**11 13 05.0**	**-0.6**
KLV				S		**Sb**	**11 13 29.6**	**+1.2**
KLV				AML	AML	11 13 42.2		
	comp=E,1312μm,0.6s							
KLV				AML	AML	11 13 44.3		
	comp=N,1466μm,1.1s							
THAL	**Thalero**	**2.01**	**9**	P		**Pb**	**11 13 04.0**	**+0.2**
THAL	**Thalero**	**2.01**	**9**	P		**Pb**	**11 13 04.0**	**+0.2**
THAL	**Thalero**	**2.01**	**9**	P		**Pg**	**11 13 05.5**	**-0.4**
ZKS	**Zakynthos**	**2.04**	**324**	P		**Pb**	**11 13 04.7**	**+0.5**
ZKS	**Zakynthos**	**2.04**	**324**	P		**Pb**	**11 13 04.7**	**+0.5**
ZKS	**Zakynthos**	**2.04**	**324**	P		**Pn**	**11 13 02.6**	**+1.2**
LTK	**Loutraki**	**2.05**	**15**	P		**Pn**	**11 13 03.5**	**+1.9**
LTK	**Loutraki**	**2.05**	**15**	P		**Pn**	**11 13 03.5**	**+1.9**
LTK	**Loutraki**	**2.05**	**15**	P		**Pn**	**11 13 03.2**	**+1.7**
VTN	**Vitineika**	**2.06**	**335**	P		**Pg**	**11 13 07.1**	**+0.2**
VTN	**Vitineika**	**2.06**	**335**	P		**Pg**	**11 13 07.1**	**+0.2**
SERI	**Serifos**	**2.10**	**57**	P		**Pn**	**11 13 01.6**	**-0.6**
SERI	**Serifos**	**2.10**	**57**	P	

comp=E,2.1nm,0.7s,baz=184,slow=13,SNR=10
FINES FINESS Array B 25.53 4 P P 11 17 53.3 -2.1
comp=E,1.0nm,0.4s,baz=159,slow=10,SNR=17
EKA Eskdalemuir Ar 25.98 326 P P 11 18 00.8 +1.3
comp=E,0.9nm,0.6s,baz=125,slow=14,SNR=4.2
NOA NORSAR Array B 25.99 348 P P 11 17 59.2 -0.4
comp=E,0.2nm,0.5s,baz=137,slow=24,SNR=4.2
NOA LR LR 11 31 08.9
comp=E,10nm,18.6s,baz=290,slow=44
TORD Torodi Ar. Bea 29.37 224 P P 11 18 36.1 +5.8
comp=E,0.2nm,0.5s,baz=50,slow=9.6,SNR=2.6
ARCES ARCESS Array B 33.59 2 P P 11 19 05.3 -1.6
comp=E,0.8nm,0.5s,baz=186,slow=9.8,SNR=6.4
MKAR Makanchi Array 45.25 57 P P 11 20 43.0 -1.4
comp=E,1.0nm,0.5s,baz=275,slow=7.4,SNR=7.6
ZALV Zalesovo Beam 46.10 47 P P 11 20 48.6 -2.3
comp=E,0.5nm,0.3s,baz=254,slow=8.9,SNR=3.0
YKA Yellowknife Ar 75.86 341 P P 11 24 11.9 -1.1
comp=E,0.2nm,0.7s,baz=31,slow=5.4,SNR=4.6
ILAR Eielson Array 79.15 355 P P 11 24 30.9 -0.5
comp=E,0.2nm,0.8s,baz=19,slow=3.1,SNR=2.9

*IDC **25** 11:14:39.9±2.0,35°.62N×143°.79E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.4/48, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=40.3km s-min=28.4km az=60.0*
*ISCJB **25** 11:14:42.3±0.9,35°.70N±0°.06×143°.78E±0°.07, h33km, mb3.6/2, Error ellipse: s-maj=8.0km s-min=7.5km az=24.5*
*JMA **25** 11:14:45.3±0.4,35°.76N×143°.49E, h123km, M3.4*
ISC 25 11:14:43.4±1.5,35°.68N±0°.06×143°.83E±0°.10, h35km, n17, σ1§66/26, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**2.42**	**271**	P	**Pn**	**11 15 21.1**	**+0.7**
CHOJ				*e*S	**Sn**	**11 15 48.5**	**-0.2**
BSO1	**Boso 1**	**2.55**	**247**	P	**Pn**	**11 15 24.2**	**+2.5**
BSO1				S	**Sn**	**11 15 51.1**	**-0.2**
JHO	**Hitachi**	**2.79**	**290**	P	**Pn**	**11 15 25.4**	**-0.2**
JHO				*e*S	**Sn**	**11 15 56.6**	**-1.5**
ONAJ	**Iwakimizuishiy**	**2.83**	**301**	P	**Pn**	**11 15 26.0**	**-0.1**
ONAJ				S	**Sn**	**11 15 57.8**	**-1.1**
JFT	**Otama**	**3.35**	**304**	P	**Pn**	**11 15 34.3**	**+1.0**
JAG	**Ashikaga**	**3.62**	**283**	P	**Pn**	**11 15 37.3**	**+0.3**
JAG				S	**Sn**	**11 16 18.1**	**-0.4**
JMK	**Ichinoseki**	**3.87**	**328**	P	**Pn**	**11 15 40.4**	**0.0**
JMK				S	**Sn**	**11 16 20.8**	**-3.8**
JOD2	**Odawara 2**	**3.89**	**265**	P	**Pn**	**11 15 40.9**	**+0.2**
JRY	**Ryogami san**	**4.01**	**276**	P	**Pn**	**11 15 43.1**	**+0.7**
JHJ2	**Mitsune**	**4.19**	**233**	P	**Pn**	**11 15 44.0**	**-0.8**
JHJ	**Hachijo jima 2**	**4.21**	**234**	Pn	**Pn**	**11 15 43.6**	**-1.4**
	9.9nm,0.3s,baz=26,slow=14,SNR=9.5						
JHJ				Sn	**Sn**	**11 16 27.9**	**-5.1**
	32nm,0.3s,baz=59,slow=22,SNR=15						
MJAR	**Matsushiro Arr**	**4.63**	**282**	Pn	**Pn**	**11 15 51.9**	**+1.1**
	1.3nm,0.3s,baz=92,slow=7.0,SNR=17						
MJAR				Sn	**Sn**	**11 16 43.6**	**+0.3**
	0.5nm,0.3s,baz=142,slow=14,SNR=4.0						
MAT	**Matsushiro**	**4.63**	**282**	P	**Pn**	**11 15 52.6**	**+1.7**
MAT				S	**Sn**	**11 16 42.4**	**-1.0**
JOT	**Ohata**	**6.09**	**340**	P	**Pn**	**11 16 11.5**	**+0.6**
ASAJ	**Asahikawa**	**8.48**	**354**	Pn	**Pn**	**11 16 44.1**	**+0.5**
	0.5nm,0.3s,baz=221,slow=15,SNR=6.3						
WRA	**Warramunga Arr**	**56.05**	**191**	P	**P**	**11 24 19.8**	**+1.0**
	0.8nm,0.6s,baz=12,slow=7.6,SNR=8.4						
ASAR	**Alice Springs**	**59.77**	**191**	P	**P**	**11 24 46.3**	**+1.4**
	0.2nm,0.6s,baz=14,slow=7.9,SNR=5.9						

IDC 25 11:18:44.9±446.0,47°.46N×46°.04E, h0km, Error ellipse: s-maj=186.8km s-min=141.5km az=177.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**8.43**	**65**	*i*		12 15 17.8	
	baz=252,slow=318						
I43RU	**DUBNA INFRASONI**	**10.74**	**333**	*i*		12 25 30.0	
	baz=142,slow=314,SNR=3.0						
I26DE	**FREYUNG INFRAS**	**21.53**	**286**	*i*		13 28 49.7	
	baz=82,slow=314,SNR=0.6						

*BJI **25** 11:30:11.3,25°.05N×98°.69E, h10km, ML3.9/8, Ms3.9/2, Ms7 3.5/2*
*IDC **25** 11:30:11.7±1.9,25°.09N×98°.74E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.4/67, mbtmp3.7/6, ML4.1/1, MS3.0/4, Ms1 3.0/4, ms1mx2.6/47, Error ellipse: s-maj=86.0km s-min=23.5km az=80.0*
*BKK **25** 11:30:37.3±1.6,25°.N±9°×9°.7E±3°.4, h106km±75km, M4.6/5, mB5.2/4, mb4.1/5, MLv4.8/4, Mw(mB)4.6/4*
ISC 25 11:30:13.7±0.7,25°.24N±0°.05×98°.83E±0°.06, h10km, n20, σ2§61/23, mb3.9/5, MS2.9/4, 1D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.55**	**91**	⇓P*g*	**Pb**	**11 31 18.5**	**+1.8**
KMI				S*g*	**Sb**	**11 32 04.8**	**+4.9**
KMI				SMN			
	380nm,0.9s						
KMI				SME			
	310nm,0.9s						
KMI				LN			
	2μm,10.2s						
KMI				LE			
	590nm,4.7s						
KMI				LZ			
	410nm,11.6s						
SHL	**Shillong**	**6.29**	**274**	*ex*	**Pn**	**11 31 50.0**	**+3.3**
CHTO	**Chiang Mai**	**6.40**	**179**	P	**Pb**	**11 32 06.5**	**+1.3**
	119nm,0.8s,7μm2.0nm						
CHTO				S	**Sb**	**11 33 22.9**	**+1.1**
	119nm,0.8s,7μm2.0nm						
LAMP	**Lampang**	**6.73**	**173**	P	**Pb**	**11 32 13.5**	**+2.7**
	11nm,1.1s,254nm0.2nm						
LAMP				S	**Sb**	**11 33 33.8**	**+2.5**
	11nm,1.1s,254nm0.2nm						
CMAR	**Chiang Mai Arr**	**6.75**	**179**	Pn	**Pn**	**11 31 49.0**	**-4.0**
	1.0nm,0.3s,baz=353,slow=13,SNR=17						
CMAR				P*g*	**Pb**	**11 32 13.3**	**+2.1**
	2.3nm,0.3s,baz=351,slow=17,SNR=23						
CMAR				L*g*	L*g*	11 33 37.2	
	3.1nm,0.3s,baz=355,slow=28,SNR=11						
CD2	**Chengdu**	**7.13**	**37**	Pn	**Pn**	**11 31 58.0**	**-0.1**
CD2				P*g*	**Pg**	**11 32 26.5**	**-3.7**
CD2				Sn	**Sn**	**11 33 17.8**	**-1.4**
CD2				S*g*	**Sg**	**11 34 00.8**	**-1.8**
CD2				SMN			
	30nm,0.6s						
CD2				SME			
	40nm,0.6s						
SUKH	**Sukhothai**	**7.76**	**174**	P	**Pb**	**11 32 29.0**	**+0.6**
	5.3nm,0.7s,0.1nm						
SUKH				S	**Sb**	**11 33 56.3**	**-4.6**
	5.3nm,0.7s,0.1nm						
LOEI	**Loei**	**8.02**	**163**	P	Pb	11 32 39.2	+6.3
LOEI				S	Sb	11 34 12.7	+4.2
HHC	**Hu-ho-hao-te**	**18.84**	**31**	*e*P	**Pn**	**11 34 38.3**	**+3.9**
WMQ	**Urumqi**	**20.64**	**337**	P	**P**	**11 34 52.3**	**-1.2**
SONM	**Songino Array**	**23.33**	**13**	LR	LR	11 45 44.3	
	comp=Z,40nm,18.7s,baz=184,slow=40						
MKAR	**Makanchi Array**	**25.23**	**333**	P	**P**	**11 35 39.8**	**+0.1**
	2.2nm,0.9s,baz=150,slow=9.7,SNR=10						
AAK	**Ala-Archa**	**26.47**	**317**	LR	LR	11 47 26.6	
	comp=Z,31nm,19.8s,baz=125,slow=39						
KSRS	**Korea Array**	**27.55**	**57**	LR	LR	11 48 12.2	
	comp=Z,24nm,21.1s,baz=235,slow=39						
KURBB	**Kurchatov Arra**	**29.78**	**334**	P	**P**	**11 36 21.1**	**+0.7**
	0.3nm,0.6s,baz=141,slow=9.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**30.52**	**344**	P	**P**	**11 36 26.7**	**-0.2**
	0.9nm,0.3s,baz=169,slow=8.7,SNR=2.6						
YAK	**Yakutsk**	**42.22**	**21**	LR	LR	11 55 59.8	
	comp=Z,34nm,20.6s,baz=302,slow=36						
HFS	**Hagfors**	**66.07**	**327**	P	**P**	**11 41 01.6**	**+1.1**
	0.9nm,0.6s,baz=125,slow=7.6,SNR=4.3						
NB2	**NORSAR Subarra**	**67.12**	**328**	P	**P**	**11 41 05.5**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=81,slow=6.5						
NOA	**NORSAR Array B**	**67.12**	**328**	P	**P**	**11 41 07.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=81,slow=6.5,SNR=3.9						

*ISCJB **25** 11:34:19.1±0.2,6°.31S±0°.03×128°.43E±0°.04, h334km, mb4.0/18, Error ellipse: s-maj=5.4km s-min=3.8km az=152.6*
*NEIC **25** 11:34:20.0±0.3,6°.29S×128°.44E, mb4.5/10, Error ellipse: s-maj=8.6km s-min=5.0km az=56.0*
*BJI **25** 11:34:19.0,6°.30S×128°.40E, h322km, mb4.1/16, mB4.8/5*
*IDC **25** 11:34:20.2±1.4,6°.26S×128°.33E, h329km±14km, mb3.7/12, mb1 3.9/19, mb1mx3.6/52, mbtmp4.6/19, Error ellipse: s-maj=16.5km s-min=8.8km az=61.0*
*DJA **25** 11:34:20.5±0.2,6°.S±3°×12°.8E±°, h314km±5km, M4.5/19, mb4.7/19, mB4.9/10, MLv4.8/7, Mw(mB)4.2/10*
ISC 25 11:34:20.5±0.4,6°.33S±0°.05×128°.37E±0°.05, h334km, n76, σ1§42/85, mb4.0/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.35**	**40**	P	**Pn**	**11 35 11.4**	**-1.7**
NLAI	**Namlea**	**3.32**	**338**	P	**Pn**	**11 35 20.4**	**-1.4**
SAUI	**Saumlaki**	**3.34**	**120**	P	**Pn**	**11 35 20.7**	**-1.2**
SANI	**Sanana**	**4.87**	**331**	P	**Pn**	**11 35 36.4**	**-1.6**
FAKI	**Fak Fak**	**5.14**	**49**	P	**Pn**	**11 35 39.3**	**-1.7**
	352nm,0.8s,5μm1.5nm						
FAKI	**Fak Fak**	**5.14**	**49**	*e*Pn	**Pn**	**11 35 37.9**	**-3.1**
FAKI				*e*S	S	11 36 35.4	-11
SOEI	**Soe**	**5.30**	**230**	P	**Pn**	**11 35 42.7**	**-0.3**
SOEI	**Soe**	**5.30**	**230**	*e*Pn	**Pn**	**11 35 42.2**	**-0.8**
SOEI				*e*S	**S**	**11 36 46.3**	**-3.3**
LBMI	**Labuha**	**5.72**	**351**	P	**Pn**	**11 35 46.2**	**-1.4**
	230nm,0.9s,2μm						
SIJI	**Sorong**	**6.14**	**28**	P	**Pn**	**11 35 50.7**	**-1.9**
	10nm,0.3s,baz=211,slow=5.9,SNR=3.0						
SIJI				S	S	11 36 57.0	-10
	14nm,0.3s,baz=270,slow=20,SNR=6.7						
SWI	**Sorong**	**6.14**	**28**	P	**Pn**	**11 35 50.3**	**-2.3**
	41nm,0.6s,1μm0.7nm						
KDI	**Kendari**	**6.19**	**292**	P	**Pn**	**11 35 53.1**	**0.0**
	131nm,0.8s,1μm0.4nm						
MMRI	**Maumere**	**6.50**	**249**	P	**Pn**	**11 35 56.6**	**-0.1**
MTN	**Manton Dam**	**7.02**	**157**	*e*Pn	**Pn**	**11 36 01.7**	**-1.1**
MTN				*e*S	S	11 37 16.0	-10
KMSI	**Cibinong**	**8.14**	**327**	P	**Pn**	**11 36 15.5**	**-0.7**
KAPI	**Kappang**	**8.68**	**278**	P	**Pn**	**11 36 22.2**	**-0.4**
	1.5nm,0.3s,baz=120,slow=12,SNR=8.4						
KAPI	**Kappang**	**8.68**	**278**	*e*Pn	**Pn**	**11 36 24.4**	**+1.7**
SPSI	**Sidrap Palu**	**8.88**	**285**	P	**Pn**	**11 36 25.9**	**+0.8**
	50nm,1.1s,514nm						
TTSI	**Tana Toraja**	**9.12**	**291**	P	**Pn**	**11 36 29.6**	**+1.6**
	28nm,0.8s						
MRSI	**Marisa**	**9.32**	**316**	P	**Pn**	**11 36 30.1**	**-0.3**
	70nm,0.7s,2μm						
SGSI	**Sangihe**	**10.34**	**344**	P	**Pn**	**11 36 41.7**	**-1.0**
	445nm,0.8s,13μm						
PLAI	**Plampang**	**10.79**	**256**	P	**Pn**	**11 36 49.2**	**+1.1**
	44nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.00**	**193**	P	**Pn**	**11 37 01.3**	**-1.3**
	5.4nm,0.3s,baz=24,slow=9.7,SNR=116						
FITZ				S	**S**	**11 39 20.4**	**+4.1**
	1.0nm,0.3s,baz=347,slow=23,SNR=3.1						
FITZ	**Fitzroy Crossi**	**12.00**	**193**	*e*Pn	**Pn**	**11 37 01.4**	**-1.1**
GENI	**Genyem**	**12.33**	**73**	P	**Pn**	**11 37 06.3**	**-0.2**
	51nm,0.7s						
JAY	**Jayapura**	**12.87**	**73**	P	**P**	**11 37 11.6**	**-1.0**
	0.2nm,0.3s,baz=266,slow=22,SNR=16						
JAY				S	**S**	**11 39 38.2**	**+3.4**
	0.0nm,0.3s,baz=90,slow=20,SNR=3.8						
JAY	**Jayapura**	**12.87**	**73**	P	**P**	**11 37 11.1**	**-1.5**
	26nm,0.8s						
BBKI	**Banjar Baru**	**13.78**	**281**	P	**P**	**11 37 23.6**	**+1.0**
	78nm,1.0s						
WRAB	**Tennant Creek**	**14.72**	**157**	*e*P	**P**	**11 37 33.3**	**+0.4**
WRA	**Warramunga Arr**	**14.72**	**157**	P	**P**	**11 37 33.1**	**+0.2**
	12nm,0.3s,baz=339,slow=12,SNR=250						
WRA				S	**S**	**11 40 08.5**	**-4.1**
	4.4nm,0.3s,baz=342,slow=21,SNR=11						
WB2	**Warramunga Arr**	**14.73**	**157**	*e*P	**P**	**11 37 33.2**	**+0.2**
COEN	**Coen**	**16.42**	**119**	*e*P	**P**	**11 37 51.7**	**+0.2**
	162nm,0.7s						
MBWA	**Marble Bar**	**16.95**	**209**	*e*P	**P**	**11 37 57.1**	**-0.1**
	18nm,0.8s						
KKM	**Kota Kinabalu**	**17.27**	**315**	*e*P	**P**	**11 38 01.6**	**+0.8**
	25nm,0.9s						
AS31	**Alice Springs**	**18.04**	**163**	*e*P	**P**	**11 38 09.5**	**+0.6**
	27nm,0.6s						
ASAR	**Alice Springs**	**18.04**	**163**	P	**P**	**11 38 09.5**	**+0.6**
	10.0nm,0.3s,baz=345,slow=12,SNR=808						
ASAR				S	**S**	**11 41 17.0**	**-1.3**
	5.5nm,0.3s,baz=345,slow=22,SNR=55						
ASAR				ScP	**ScP**	**11 45 29.3**	**-0.4**
	0.3nm,0.3s,baz=358,slow=1.9,SNR=6.2						
AS01	**Alice Springs**	**18.05**	**163**	*e*P	**P**	**11 38 09.6**	**+0.6**
SBUM	**Sibu**	**18.33**	**298**	*e*P	**P**	**11 38 13.4**	**+1.4**
PMG	**Port Moresby**	**18.86**	**101**	P	**P**	**11 38 19.7**	**+2.1**
	5.0nm,0.3s,baz=83,slow=0.3,SNR=18						
CTA	**Charters Tower**	**22.11**	**130**	P	**P**	**11 38 50.2**	**+1.2**
	29nm,0.8s,baz=310,slow=12,SNR=20						
CTAO	**Charters Tower**	**22.11**	**130**	*e*P	**P**	**11 38 49.7**	**+0.7**
	42nm,1.0s						
BBOO	**Buckleboo**	**27.30**	**166**	*e*P	**P**	**11 39 35.6**	**0.0**
BBOO				*ep*P	**pP**	**11 40 35.4**	**-2.5**
BBOO				*e*S	**S**	**11 43 48.1**	**-1.9**
STKA	**Stephens Creek**	**28.27**	**156**	P	**P**	**11 39 44.3**	**+0.3**
	7.3nm,0.9s,baz=330,slow=9.4,SNR=11						
STKA	**Stephens Creek**	**28.27**	**156**	*e*P	**P**	**11 39 44.9**	**+0.9**
STKA				*ep*P	**pP**	**11 40 45.5**	**-1.2**
CAN	**Canberra**	**34.54**	**149**	*e*P	**P**	**11 40 40.3**	**+1.8**
	16nm,0.7s						
CM01	**Chiang Mai Arr**	**38.03**	**311**	*e*P	**P**	**11 41 08.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**38.07**	**311**	P	**P**	**11 41 07.5**	**-0.8**
	2.1nm,0.4s,baz=139,slow=7.1,SNR=8.7						
CHTO	**Chiang Mai**	**38.28**	**311**	*e*P	**P**	**11 41 10.2**	**+0.1**
	5.6nm,0.8s						
DZM	**Mont Dzumac**	**39.94**	**117**	P	**P**	**11 41 24.2**	**+0.4**
	22nm,1.1s,baz=261,slow=12,SNR=7.0						
KSRS	**Korea Array**	**43.55**	**359**	P	**P**	**11 41 52.4**	**0.0**
	4.0nm,0.7s,baz=178,slow=9.1,SNR=21						
MJAR	**Matsushiro Arr**	**43.63**	**12**	P	**P**	**11 41 50.9**	**-2.2**
	3.5nm,0.9s,baz=188,slow=9.5,SNR=7.2						
XAN	**Xi'an**	**44.17**	**337**	P	**P**	**11 41 56.3**	**-1.1**
XAN				PMZ			
	8.0nm,1.0s						
LZH	**Lanzhou**	**48.06**	**333**	*e*P	**P**	**11 42 28.0**	**+0.4**
LZH				pP	pP	11 43 31.5	-4.8
LZH				PMZ			
	16nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.42**	**343**	*e*P	**P**	**11 42 40.3**	**+2.6**
HHC				PMZ			
	16nm,1.0s						
HHC				PMZ			
	280nm,5.1s						
USRK	**Ussuriysk Ar.**	**50.40**	**3**	P	**P**	**11 42 43.8**	**-0.9**
	2.7nm,0.6s,baz=145,slow=39,SNR=6.6						
MDJ	**Mudanjiang**	**50.72**	**1**	P	**P**	**11 42 49.5**	**+2.4**
MDJ				PMZ			
	11nm,1.2s						
MDJ				PMZ			
	55nm,3.1s						
GTA	**Gaotai**	**52.62**	**332**	*e*P	**P**	**11 43 01.8**	**+0.5**
GTA				sP	sP	11 44 43.0	-5.4
GTA				PMZ			
	7.0nm,0.8s						
RPZ	**Rata Peaks**	**52.76**	**142**	*e*P	**P**	**11 43 03.2**	**+1.1**
	15nm,0.6s						
KHZ	**Kahutara**	**53.66**	**139**	*e*P	**P**	**11 43 09.3**	**+0.6**
	68nm,0.7s						
URZ	**Urewera**	**54.30**	**133**	*e*P	**P**	**11 43 13.6**	**+0.2**
	5.0nm,0.4s						
SONM	**Songino Array**	**57.31**	**343**	P	**P**	**11 43 34.9**	**+0.5**
	1.8nm,0.7s,baz=159,slow=6.8,SNR=12						
SONA1	**Songino Array**	**57.31**	**343**	*e*P	**P**	**11 43 35.2**	**+0.7**
WMQ	**Urumqi**	**61.96**	**328**	P	**P**	**11 44 07.0**	**+1.1**
KSH	**Kashi**	**66.44**	**318**	*e*P	**P**	**11 44 34.0**	**-1.0**
KSH				pP	pP	11 45 46.0	-2.8
KSH				PMZ			
	2.0nm,0.3s						
MK01	**Makanchi Array**	**66.77**	**327**	*e*P	**P**	**11 44 36.9**	**+0.2**
MK31	**Makanchi Array**	**66.79**	**327**	*e*P	**P**	**11 44 37.2**	**+0.4**
MKAR	**Makanchi Array**	**66.79**	**327**	P	**P**	**11 44 36.8**	**-0.1**
	1.7nm,0.6s,baz=123,slow=7.7,SNR=23						
MKAR	**Makanchi Array**	**66.79**	**327**	*e*P	**P**	**11 44 37.2**	**+0.4**
MAKZ	**Makanchi**	**66.96**	**327**	*e*P	**P**	**11 44 37.7**	**-0.3**
	6.8nm,1.6s						
ZALV	**Zalesovo Beam**	**70.27**	**334**	P	**P**	**11 44 57.4**	**-0.7**
	0.5nm,0.3s,baz=104,slow=4.7,SNR=4.4						
KURBB	**Kurchatov Arra**	**71.10**	**329**	P	**P**	**11 45 03.1**	**0.0**
	1.5nm,0.5s,baz=132,slow=4.9,SNR=24						
SEY	**Seymchan**	**71.46**	**11**	P	**P**	**11 45 04.7**	**-0.3**
	1.0nm,0.6s,baz=324,slow=6.8,SNR=4.6						
TXAR	**Lajitas Array**	**125.96**	**58**	PKP	**PKPdf**	**11 52 44.2**	**+0.2**
	0.2nm,0.7s,baz=219,slow=5.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**127.09**	**282**	PKP	**PKPdf**	**11 52 45.8**	**-0.5**
	0.3nm,0.5s,baz=87,slow=2.6,SNR=3.5						
CPUP	**Villa Florida**	**147.07**	**171**	PKPbc	**PKPdf**	**11 53 24.6**	**+2.0**
	2.8nm,0.7s,baz=201,slow=4.2,SNR=7.2						
LPAZ	**La Paz**	**152.22**	**144**	PKPbc	**PKPbc**	**11 53 39.2**	**+0.6**
	0.8nm,0.4s,baz=236,slow=3.6,SNR=5.7						

*ISCJB **25** 11:48:16.8±0.6,37°.63N±0°.05×26°.91E±0°.05, h12km±5km, Error ellipse: s-maj=9.2km s-min=6.4km az=22.9*
*ATH **25** 11:48:16.9,37°.64N×26°.87E, h13km±3km, ML2.1/2, Error ellipse: s-maj=7.6km s-min=2.1km az=78.0*
*CSEM **25** 11:48:16.8±0.2,37°.65N×26°.88E, h12km, MD2.7, Error ellipse: s-maj=5.1km s-min=4.1km az=19.0*
*ISK **25** 11:48:17.1,37°.66N×26°.94E, h23km, MD2.7*
ISC 25 11:48:16.9±0.9,37°.66N±0°.05×26°.88E±0°.04, h13km±6km, n16, σ0§33/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.06**	**325**	P	**Pg**	**11 48 19.5**	**-0.1**
SMG				S	**Sg**	**11 48 21.5**	**+0.1**
SMG	**Samos**	**0.06**	**325**	P	**Pg**	**11 48 19.5**	**-0.1**
SMG				S	**Sg**	**11 48 21.5**	**+0.1**
SMG				AML	AML	11 48 21.6	
	comp=N,7881μm,0.2s						
SMG				AML	AML	11 48 22.2	
	comp=E,5472μm,0.3s						
BODT	**Bodrum**	**0.68**	**150**	*e*PG	**Pb**	**11 48 31.0**	**+0.3**
BODT	**Bodrum**	**0.68**	**150**	*e*P*g*	**Pb**	**11 48 31.0**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.85**	**70**	*e*PG	**Pg**	**11 48 33.3**	**-0.1**
AYDB				*e*SG	**Sb**	**11 48 45.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.85**	**70**	*e*P*g*	**Pg**	**11 48 33.3**	**-0.1**
AYDB				*e*S*g*	**Sb**	**11 48 45.4**	**+0.4**
CHOS	**Chios island**	**0.98**	**318**	P	**Pb**	**11 48 35.7**	**-0.1**
CHOS				S	**Sb**	**11 48 49.2**	**+0.5**
CHOS	**Chios island**	**0.98**	**318**	P	**Pb**	**11 48 35.7**	**-0.1**
CHOS				S	**Sb**	**11 48 49.2**	**+0.5**
CHOS				AML	AML	11 48 53.7	
	comp=E,140μm,0.3s						
CHOS				AML	AML	11 48 54.5	
	comp=N,85μm,0.4s						
APE	**Apeiranthos**	**1.23**	**242**	*e*PN	**Pb**	**11 48 40.0**	**0.0**
APE	**Apeiranthos**	**1.23**	**242**	P	**Pn**	**11 48 39.7**	**-0.1**
APE	**Apeiranthos**	**1.23**	**242**	*e*Pn	**Pb**	**11 48 40.0**	**0.0**
APE	**Apeiranthos**	**1.23**	**242**	P	**Pn**	**11 48 39.7**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.64**	**120**	*e*PN	**Pn**	**11 48 45.0**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.64**	**120**	*e*Pn	**Pn**	**11 48 45.0**	**-0.5**
KARP	**Karpathos**	**2.12**	**174**	*e*PN	**Pn**	**11 48 51.6**	**-0.5**
KARP	**Karpathos**	**2.12**	**174**	*e*Pn	**Pn**	**11 48 51.6**	**-0.5**

*IDC **25** 11:56:30.6±1.7,34°.19N×140°.77E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.2/53, mbtmp3.5/4, ML3.5/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/21, Error ellipse: s-maj=40.5km s-min=21.6km az=100.0*
*ISCJB **25** 11:56:35.9±0.6,34°.32N±0°.03×140°.25E±0°.06, h62km±7km, mb3.4/2, Error ellipse: s-maj=8.2km s-min=5.3km az=170.2*
*JMA **25** 11:56:36.9±0.1,34°.33N×140°.25E, h47km±2km, M3.7*
JMA Felt I J1.
ISC 25 11:56:37.0±1.1,34°.32N±0°.04×140°.25E±0°.05, h51km±13km, n18, σ0§66/27, 6C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.53**	**24**	⇓P	**Pn**	**11 56 48.5**	**+0.1**
BSO3				X		11 56 57.8	
JMY	**Miyakejima3**	**0.66**	**248**	S	**Sn**	**11 56 59.9**	**+0.1**
BSO4	**Boso 4**	**0.68**	**6**	⇓P	**Pn**	**11 56 50.7**	**+0.3**
BSO4				X		11 57 01.8	
BSO1	**Boso 1**	**0.69**	**61**	⇑P	**Pn**	**11 56 49.7**	**-0.5**
BSO1				X		11 56 59.4	
JIM2	**Oshima 3**	**0.78**	**301**	⇑P	**Pn**	**11 56 51.5**	**-0.4**
JIM2				*e*S	**Sn**	**11 57 02.2**	**-0.6**
JNIO	**Niijimaoohara**	**0.81**	**273**	P	**Pn**	**11 56 52.1**	**0.0**
JNIO				S	**Sn**	**11 57 02.8**	**-0.4**
JKO	**Kozu shima**	**0.93**	**262**	⇑P	**Pn**	**11 56 53.9**	**+0.1**
JKO				S	**Sn**	**11 57 06.2**	**+0.1**
KTJJ	**Kamata 2**	**1.15**	**302**	⇑P	**Pn**	**11 56 56.5**	**-0.3**
KTJJ				S	**Sn**	**11 57 10.2**	**-1.2**
JIZS	**Izushimoda**	**1.20**	**290**	⇑P	**Pn**	**11 56 57.5**	**+0.1**
JIZS				S	**Sn**	**11 57 13.3**	**+0.7**
JHJ2	**Mitsune**	**1.25**	**197**	⇓P	**Pn**	**11 56 58.2**	**+0.1**
JHJ2				S	**Sn**	**11 57 13.9**	**0.0**
JHJ	**Hachijo jima 2**	**1.25**	**198**	Pn	**Pn**	**11 56 58.2**	**+0.1**
	268nm,0.3s,baz=32,slow=16,SNR=242						
JHJ				Sn	**Sn**	**11 57 14.1**	**+0.2**
	173nm,0.3s,baz=112,slow=22,SNR=14						

H11N3	**WAKE ISLAND Hy**	**36.26**	**216**	T	T	13 29 41.2				
	baz=21									
H11N1	**WAKE ISLAND Hy**	**36.27**	**216**	T	T	13 29 43.6				
	baz=21									
H11S1	**WAKE ISLAND Hy**	**37.45**	**215**	T	T	13 31 10.9				
	baz=21,slow=76,SNR=8.4									
H11S2	**WAKE ISLAND Hy**	**37.47**	**215**	T	T	13 31 09.7				
	baz=21,slow=76,SNR=7.8									
H11S3	**WAKE ISLAND Hy**	**37.47**	**215**	T	T	13 31 08.9				
	baz=21,slow=76,SNR=8.6									
TXAR	**Lajitas Array**	**54.10**	**87**	P	**P**	**12 53 30.7**	**+1.2**			
	0.2nm,0.7s,baz=316,slow=7.6,SNR=3.1									
MKAR	**Makanchi Array**	**63.16**	**312**	P	**P**	**12 54 31.0**	**-1.1**			
	0.3nm,0.4s,baz=42,slow=5.1,SNR=5.6									
ASAR	**Alice Springs**	**89.06**	**228**	P	**P**	**12 56 59.3**	**0.0**			
	0.6nm,0.9s,baz=26,slow=5.4,SNR=6.5									

NNC 25 12:59:22.6±1.1, 47°24N×82°77E, h0km, mb3.8, mpv3.2, 5C-4D, Error ellipse: s-maj=9.5km s-min=5.2km az=115.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**0.56**	**216**	⇑P	Pg	12 59 33.7	+0.5
	43nm,0.5s,baz=44,slow=18,SNR=31						
MK31				S	Sg	12 59 41.8	+1.4
	113nm,0.1s,baz=51,slow=27,SNR=10						
MAKZ	**Makanchi**	**0.69**	**232**	⇑P	Pg	12 59 35.4	-0.5
	9.3nm,0.3s						
MAKZ				⇑S	Sg	12 59 45.9	+1.1
	23nm,0.3s						
KURBB	**Kurchatov Arra**	**4.39**	**322**	⇓Pg	Pb	13 00 41.2	+0.7
	1.4nm,0.5s,baz=142,slow=16						
KURBB				⇑Sn	Sn	13 01 24.9	+2.7
	25nm,0.6s,baz=141,slow=28						
KURBB				⇓Lg	Lg	13 01 42.5	
	52nm,0.6s,baz=140,slow=26						
KURK	**Kurchatov**	**4.42**	**323**	⇓Pg	Pb	13 00 40.5	-0.5
	6.3nm,0.3s						
KURK				⇑Sn	Sn	13 01 24.6	+1.6
	25nm,0.3s						
KURK				⇓Lg	Lg	13 01 42.3	
	128nm,0.8s						

NIED ***25*** *13:04:00, 42°.90N×142°.60E, h101km, Mw4.3 Best double couple: M0 3.00000×10^15 NP1:φ86.00000°, δ37.00000°, λ168.00000°. NP2:φ185.00000°, δ83.00000°, λ54.00000°.*

BJI ***25*** *13:04:53.2, 42°.95N×143°.01E, h100km, mb4.7/42, mB5.0/26*

ISCJB ***25*** *13:04:57.6±0.2, 42°.90N±0°.02×142°.54E±0°.02, h110km±1km, mb4.5/91, Error ellipse: s-maj=3.7km s-min=2.7km az=154.5*

MOS ***25*** *13:04:57.7±0.8, 42°.91N×142°.55E, h112km, mb4.7/35, Error ellipse: s-maj=6.6km s-min=4.9km az=90.8*

JMA ***25*** *13:04:58.8±0.1, 42°.90N×142°.64E, h103km±2km, M4.1 Broadband fault plane solution: P waves. NP1: φ±185.00000°, δ87.00000°, λ59.00000°. NP2:φ91.00000°, δ31.00000°, λ175.00000°. Principal axes: T Plg40.0000°, Azm67.0000°; N Plg31.0000°, Azm187.0000°; P Plg35.0000°, Azm302.0000°;*

JMA Felt II J1.

NEIC ***25*** *13:04:58.3±0.4, 42°.93N×142°.49E, h101km±4km, mb4.6/52 Error ellipse: s-maj=5.3km s-min=3.4km az=152.0*

NEIC Recorded [2 JMA] in central and southern Hokkaido.

IDC ***25*** *13:04:59.4±0.6, 42°.96N×142°.57E, h112km±4km, mb4.1/26, mb1 4.2/32, mb1mx4.1/47, mbtmp4.4/32, MS3.4/4, Ms1 3.3/4, ms1mx2.9/36, Error ellipse: s-maj=10.8km s-min=8.2km az=120.0*

ISC 25 13:04:58.6±0.5, 42°91N±0°03×142°58E±0°03, h106km±4km, n240, σ1§25/276, mb4.5/91, 19C-23D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBT2	**Biratori 2**	**0.21**	**231**	⇑P	**Pn**	**13 05 13.3**	**-0.3**
JBT2				*e*S	**Sn**	**13 05 24.4**	**-0.4**
JFR	**Furan**	**0.26**	**2**	⇑P	**Pn**	**13 05 13.5**	**-0.3**
JFR				*e*S	**Sn**	**13 05 24.4**	**-0.8**
JNBK	**Urakawa-nobuka**	**0.64**	**169**	⇓P	**Pn**	**13 05 16.5**	**+0.4**
JCH	**Churui**	**0.65**	**117**	⇓P	**Pn**	**13 05 15.3**	**-0.8**
JCH				*e*S	**Sn**	**13 05 27.7**	**-1.6**
JAB	**Ashibetsu**	**0.65**	**336**	⇑P	**Pn**	**13 05 16.4**	**+0.2**
JAB				*e*S	**Sn**	**13 05 30.0**	**+0.6**
JEW	**Eniwo**	**0.83**	**266**	⇑P	**Pn**	**13 05 17.7**	**-0.1**
JEW				*e*S	**Sn**	**13 05 32.1**	**-0.2**
JOB	**Onbets**	**0.92**	**90**	⇓P	**Pn**	**13 05 18.7**	**+0.1**
JOB				*e*S	**Sn**	**13 05 34.1**	**+0.4**
JAR	**Ashorobuto**	**0.95**	**65**	⇓P	**Pn**	**13 05 19.0**	**0.0**
JAR				*e*S	**Sn**	**13 05 34.0**	**-0.4**
JKK2	**Kamakawa 2**	**0.97**	**7**	⇑P	**Pn**	**13 05 19.8**	**+0.6**
JKK2				*e*S	**Sn**	**13 05 35.9**	**+1.1**
JEM	**Erimo**	**0.99**	**154**	⇓P	**Pn**	**13 05 19.5**	**+0.2**
ERM	**Erimo**	**0.99**	**154**	*c i*PN	**Pn**	**13 05 19.5**	**+0.1**
ERM				pmax	pmax		
	comp=Z,3μm,1.2s						
ERM	**Erimo**	**0.99**	**154**	*e*Pn	**Pn**	**13 05 19.4**	**+0.1**
ERM				*e*Sn	**Sn**	**13 05 37.6**	**+2.6**
JHR	**Hokuryu**	**1.04**	**323**	⇑P	**Pn**	**13 05 20.3**	**+0.4**
JHR				*e*S	**Sn**	**13 05 36.8**	**+0.7**
ASAJ	**Asahikawa**	**1.21**	**1**	P	**Pn**	**13 05 22.5**	**+0.7**
	comp=Z,147nm,0.3s,baz=206,slow=14,SNR=2494						
ASAJ				S	**Sn**	**13 05 39.8**	**+0.5**
	comp=Z,96nm,0.3s,baz=233,slow=20,SNR=24						
ASAJ	**Asahikawa**	**1.21**	**1**	*e*Pn	**Pn**	**13 05 22.4**	**+0.7**
ASAJ				*e*Sn	**Sn**	**13 05 37.6**	**-1.7**
ASAJ				S	**Sn**	**13 05 39.8**	**+0.5**
JTKR	**Abashiri--Toko**	**1.44**	**42**	⇓P	**Pn**	**13 05 25.3**	**+0.9**
JTKR				*e*S	**Sn**	**13 05 45.0**	**+1.0**
JKB	**Kayabe**	**1.54**	**229**	⇑P	**Pn**	**13 05 25.1**	**-0.5**
JKB				*e*S	**Sn**	**13 05 44.9**	**-1.2**
JAK	**Akkeshi**	**1.56**	**86**	⇓P	**Pn**	**13 05 25.4**	**-0.4**
JAK				*e*S	**Sn**	**13 05 45.5**	**-1.0**
JSK	**Shakotan**	**1.60**	**287**	⇑P	**Pn**	**13 05 26.0**	**-0.4**
JSK				*e*S	**Sn**	**13 05 47.2**	**-0.4**
JYG	**Yagishiri**	**1.73**	**332**	⇓P	**Pn**	**13 05 28.4**	**+0.4**
JYG				*e*S	**Sn**	**13 05 51.1**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**2.64**	**64**	*c i*PN	**Pn**	**13 05 40.6**	**+0.9**
YUK				*i* S	**Sn**	**13 06 13.3**	**+2.0**
YUK				pmax	pmax		
	comp=Z,373nm,0.5s						
YUK				pmax	pmax		
	comp=N,156nm,0.3s						
YUK				pmax	pmax		
	comp=E,259nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
SHO	**Shikotan**	**3.24**	**71**	*c i*PN	**Pn**	**13 05 46.6**	**-1.1**
SHO				*i* S	**Sn**	**13 06 22.9**	**-2.6**
SHO				pmax	pmax		
	comp=Z,319nm,0.4s						
SHO				pmax	pmax		
	comp=N,94nm,0.5s						
SHO				pmax	pmax		
	comp=E,192nm,0.4s						
SHO				smax	smax		
	comp=E,2μm,0.5s						
SHO				smax	smax		
	comp=N,3μm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.05**	**2**	⇓*e*PN	**Pn**	**13 06 00.6**	**+2.2**
YSS				*e*S	**Sn**	**13 06 47.2**	**+2.3**
YSS				pmax	pmax		
	comp=Z,90nm,0.5s						
YSS				smax	smax		
	comp=E,230nm,1.2s						
YSS				smax	smax		
	comp=N,800nm,4.0s						
YSS	**Yuzh-Sakhalins**	**4.05**	**2**	*e*Pn	**Pn**	**13 05 57.2**	**-1.2**
YSS				*e*Sn	**Sn**	**13 06 47.8**	**+2.9**
KUR	**Kuril'sk**	**4.46**	**57**	*c i*PN	**Pn**	**13 06 05.5**	**+1.5**
KUR				*i* S	**Sn**	**13 06 59.5**	**+4.7**
KUR				pmax	pmax		
	comp=N,32nm,0.6s						
KUR				pmax	pmax		
	comp=Z,228nm,0.6s						
KUR				pmax	pmax		
	comp=E,49nm,0.3s						
KUR				smax	smax		
	comp=N,128nm,0.3s						
KUR				smax	smax		
	comp=E,157nm,0.5s						
UGL	**Uglegorsk**	**6.18**	**357**	*e*PN	**Pn**	**13 06 26.6**	**-0.7**
UGL				*e*S	**Sn**	**13 07 36.8**	**+0.3**
MJB9	**Matsu-Tunnel**	**7.19**	**209**	*e*Pn	**Pn**	**13 06 40.2**	**-0.9**
MAJO	**Matsushiro**	**7.19**	**209**	*d i*PN	**Pn**	**13 06 40.6**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,130nm,0.6s						
MAJO	**Matsushiro**	**7.19**	**209**	*e*Pn	**Pn**	**13 06 39.6**	**-1.6**
MAJO				*e*Sn	**Sn**	**13 08 02.5**	**+1.2**
MAT	**Matsushiro**	**7.19**	**209**	P	**Pn**	**13 06 40.6**	**-0.5**
MAT				S	**Sn**	**13 08 01.1**	**-0.2**
MJAR	**Matsushiro Arr**	**7.19**	**209**	P	**Pn**	**13 06 41.0**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=19,slow=15,SNR=32						
HABR	**Khabarovsk**	**7.67**	**319**	*de*PN	**Pn**	**13 06 46.5**	**-0.9**
HABR				*e*S	**Sn**	**13 08 12.6**	**+0.1**
HABR				pmax	pmax		
	comp=N,56nm,1.5s						
HABR				pmax	pmax		
	comp=E,80nm,1.5s						
HABR				pmax	pmax		
	comp=Z,117nm,1.5s						
HABR				MLR	MLR		
	comp=Z,63nm,14.0s						
USRK	**Ussuriysk Ar.**	**7.80**	**283**	P	**Pn**	**13 06 50.2**	**+0.9**
	comp=Z,2.4nm,0.3s,baz=84,slow=14,SNR=54						
USRK				S	**Sn**	**13 08 17.6**	**+1.6**
	baz=90,slow=25,SNR=4.3						
VLA	**Vladivostok**	**7.84**	**275**	*j i*PN	**Pn**	**13 06 51.3**	**+1.4**
VLA				*i* S	**Sn**	**13 08 19.6**	**+2.7**
VLA				pmax	pmax		
	comp=Z,120nm,1.4s						
TYV	**Tymovskoe**	**7.96**	**0**	*e*PN	**Pn**	**13 06 53.8**	**+2.4**
TYV				pmax	pmax		
	comp=Z,35nm,1.0s						
MSHR	**Mys Shultsa**	**8.42**	**272**	*d i*PN	**Pn**	**13 06 58.3**	**+0.7**
INU	**Inuyama**	**8.70**	**212**	*e*Pn	**Pn**	**13 07 00.3**	**-1.2**
MDJ	**Mudanjiang**	**9.55**	**285**	P	**Pn**	**13 07 12.0**	**-1.1**
MDJ				S	**Sn**	**13 08 56.5**	**-2.0**
MDJ				ScP	**ScP**	**13 16 41.0**	**-1.1**
MDJ				PcS	**PcS**	**13 16 52.8**	**-0.2**
MDJ				PMZ			
	comp=Z,5.0nm,0.7s						
MDJ				PMZ			
	comp=Z,76nm,4.8s						
KLR	**Kul'dur**	**9.83**	**314**	P	**Pn**	**13 07 17.9**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=125,slow=13,SNR=56						
KLR	**Kul'dur**	**9.83**	**314**	*d i*PN	**Pn**	**13 07 17.5**	**+0.8**
JHJ	**Hachijo jima 2**	**10.02**	**194**	P	Pn	13 07 14.5	-5.0
	comp=Z,11nm,0.3s,baz=66,slow=20,SNR=5.2						
JHJ				S	Sn	13 08 59.6	-10
	comp=Z,29nm,0.3s,baz=67,slow=21,SNR=7.2						
SKR	**Severo-Kuril's**	**12.09**	**45**	*e*PN	**Pn**	**13 07 45.9**	**-1.2**
KSRS	**Korea Array**	**12.46**	**249**	P	**Pn**	**13 07 52.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=80,slow=13,SNR=16						
KSAR	**Wonju Array Be**	**12.49**	**249**	PN	**Pn**	**13 07 52.2**	**-0.3**
KSAR	**Wonju Array Be**	**12.49**	**249**	P	**Pn**	**13 07 52.2**	**-0.3**
PEA0	**Petropavlovsk-**	**14.34**	**39**	*e*Pn	**Pn**	**13 08 13.4**	**-3.1**
PEA0B	**Petropavlovsk-**	**14.34**	**39**	*e*Pn	Pn	13 08 11.5	-4.9
PETK	**Petropavlovsk-**	**14.34**	**39**	P	**Pn**	**13 08 15.0**	**-1.4**
	comp=Z,2.3nm,0.3s,baz=178,slow=8.4,SNR=15						
PET	**Petropavlovsk**	**14.74**	**41**	*e*P	**Pn**	**13 08 21.7**	**+0.2**
PET				*e*S	**Sn**	**13 11 02.2**	**-1.8**
PET				pmax	pmax		
	comp=Z,14nm,0.6s						
PET	**Petropavlovsk**	**14.74**	**41**	*e*Pn	**Pn**	**13 08 20.4**	**-1.1**
HIA	**Hailar**	**17.04**	**300**	⇓*e*P	**Pn**	**13 08 50.2**	**0.0**
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
MA2	**Magadan**	**17.44**	**14**	P	**P**	**13 08 53.8**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=204,slow=8.7,SNR=6.8						
BJI	**Beijing**	**19.97**	**271**	P	**P**	**13 09 21.0**	**-1.3**
BJI				S	**S**	**13 12 59.5**	**-1.4**
BJI				PMZ			
	comp=Z,33nm,0.8s						
BJI				PMZ			
	comp=Z,350nm,4.4s						
BJI				LN			
	comp=Z,250nm,25.6s						
BJI				LE			
	comp=Z,210nm,26.4s						
BJI				LZ			
	comp=Z,77nm,24.5s						
BJT	**Baijiatuau**	**19.98**	**271**	*e*P	**P**	**13 09 20.3**	**-2.1**
BJT				pmax	pmax		
	comp=Z,28nm,0.8s						
BJT	**Baijiatuau**	**19.98**	**271**	*e*P	**P**	**13 09 20.3**	**-2.1**
	comp=Z,28nm,0.8s						
YAK	**Yakutsk**	**20.63**	**343**	*e*P	Pn	13 09 32.9	+0.5
YAK				*e*S	**S**	**13 13 06.8**	**-6.7**
YAK				*e**SS	Sn	13 13 29.6	+4.5
YAK				*e*		13 13 47.8	
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK				pmax	pmax		
	comp=N,13nm,1.4s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.4s						
YAK				smax	smax		
	comp=N,63nm,2.5s						
YAK				smax	smax		
	comp=E,55nm,2.8s						
SEY	**Seymchan**	**20.86**	**13**	P	**P**	**13 09 30.4**	**-1.4**
	comp=E,2.3nm,0.4s,baz=190,slow=10.0,SNR=21						
SEY	**Seymchan**	**20.86**	**13**	⇓*e*P	**P**	**13 09 30.5**	**-1.2**
HHC	**Hu-ho-hao-te**	**23.12**	**276**	*e*P	P	13 09 45.8	-10
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,4.7s						
BOD	**Bodaibo**	**23.32**	**320**	*e*P	**P**	**13 09 52.5**	**-4.4**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ULN	**Ulaanbaatar**	**25.29**	**294**	*d i*P	**P**	**13 10 14.6**	**-0.5**
ULN				pmax	pmax		
	comp=Z,19nm,1.7s						
ULN	**Ulaanbaatar**	**25.29**	**294**	*e*P	**P**	**13 10 13.1**	**-2.0**
	comp=Z,18nm,1.3s						
WHN	**Wuhan**	**25.64**	**251**	⇑P	**P**	**13 10 18.5**	**+0.2**
WHN				PMZ			
	comp=Z,48nm,0.4s						
SONA1	**Songino Array**	**25.73**	**294**	*e*P	**P**	**13 10 18.1**	**-1.0**
SONM	**Songino Array**	**25.73**	**294**	P	**P**	**13 10 19.0**	**-0.1**
	comp=Z,10nm,0.9s,baz=84,slow=8.5,SNR=47						
TLY	**Talaya**	**27.55**	**302**	P	**P**	**13 10 35.4**	**+0.2**
	comp=Z,5.9nm,0.7s,baz=146,slow=2.7,SNR=7.1						
TLY				LR	LR	13 21 42.4	
	comp=Z,64nm,18.1s,baz=302,slow=36						
TLY	**Talaya**	**27.55**	**302**	*e*P	**P**	**13 10 35.7**	**+0.5**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN	**Xi'an**	**27.65**	**263**	P	**P**	**13 10 37.5**	**+1.2**
ZAK	**Zakamensk**	**27.73**	**299**	*e*P	**P**	**13 10 36.1**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BILL	**Bilibino**	**28.16**	**19**	⇓*e*P	**P**	**13 10 40.6**	**+0.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MOY	**Mondy**	**29.19**	**302**	*e*P	**P**	**13 10 50.8**	**+0.9**
MOY				pmax	pmax		
	comp=Z,29nm,2.9s						
ENH	**Enshi**	**29.22**	**255**	*e*P	**P**	**13 10 49.0**	**-1.3**
	comp=Z,8.7nm,0.4s						
TIXI	**Tiksi**	**29.60**	**351**	P	**P**	**13 10 52.6**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=141,slow=13,SNR=2.9						
LZH	**Lanzhou**	**30.46**	**270**	*e*P	**P**	**13 11 02.5**	**+1.2**
LZH				pP	pP	13 11 23.0	-1.9
LZH				sP	sP	13 11 34.5	-2.7
LZH				PMZ			
	comp=Z,16nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**31.75**	**133**	T	T	13 43 55.8	
	baz=327,slow=76,SNR=130						
H11S3	**WAKE ISLAND Hy**	**31.75**	**133**	T	T	13 43 58.4	
	baz=327,slow=76,SNR=86						
H11S2	**WAKE ISLAND Hy**	**31.76**	**133**	T	T	13 44 00.7	
	baz=327,slow=76,SNR=93						
GTA	**Gaotai**	**32.13**	**279**	P	**P**	**13 11 16.3**	**+0.3**
GTA				pP	pP	13 11 37.8	-1.8
GTA				sP	sP	13 11 48.8	-3.1
GTA				PMZ			
	comp=Z,13nm,1.1s						
CD2	**Chengdu**	**32.99**	**262**	*e*P	**P**	**13 11 22.5**	**-1.0**
GYA	**Guiyang**	**33.48**	**252**	*e*P	**P**	**13 11 27.8**	**0.0**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**37.08**	**254**	P	**P**	**13 11 59.5**	**+0.7**
KMI				PMZ			
	comp=Z,44nm,0.8s						
ZAA0	**Zalesovo Array**	**38.85**	**307**	*e*P	**P**	**13 12 12.3**	**-0.7**
ZALV	**Zalesovo Beam**	**38.85**	**307**	P	**P**	**13 12 12.7**	**-0.3**
	comp=Z,5.1nm,0.4s,baz=87,slow=7.0,SNR=17						
ZALV				ScP	**ScP**	**13 17 59.8**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=83,slow=3.4,SNR=4.9						
WMQ	**Urumqi**	**39.29**	**291**	P	**P**	**13 12 17.3**	**+0.3**
WMQ				pP	pP	13 12 40.8	-0.4
WMQ				sP	sP	13 12 52.5	-0.8
WMQ				PMZ			
	comp=Z,12nm,0.6s						
WMQ				PMZ			
	comp=Z,54nm,4.4s						
WMQ				LN			
	comp=Z,43nm,21.0s						
WMQ				LE			
	comp=Z,31nm,18.8s						
WMQ				LZ			
	comp=Z,50nm,18.6s						
TT01	**Tatalina**	**40.17**	**39**	*e*P	**P**	**13 12 22.7**	**-1.2**
SVW2	**Sparrevohn**	**40.41**	**41**	*e*P	**P**	**13 12 26.0**	**+0.1**
	comp=Z,6.2nm,1.1s						
CAST	**Castle Rocks**	**41.95**	**38**	*e*P	**P**	**13 12 39.4**	**+0.9**
	comp=Z,24nm,1.6s						
OHAK	**Old Harbor**	**41.96**	**47**	*e*P	**P**	**13 12 36.6**	**-2.0**
	comp=Z,9.4nm,1.0s						
MK31	**Makanchi Array**	**42.01**	**297**	*e*P	**P**	**13 12 39.1**	**-0.1**
MK31	**Makanchi Array**	**42.01**	**297**	*e*P	**P**	**13 12 39.1**	**-0.1**
MKAR	**Makanchi Array**	**42.01**	**297**	P	**P**	**13 12 39.2**	**0.0**
	comp=Z,15nm,0.5s,baz=83,slow=9.8,SNR=192						
MKAR	**Makanchi Array**	**42.01**	**297**	*e*P	**P**	**13 12 38.7**	**-0.5**
MK01	**Makanchi Array**	**42.01**	**297**	*e*P	**P**	**13 12 38.7**	**-0.5**
MAKZ	**Makanchi**	**42.21**	**297**	*e*P	**P**	**13 12 40.4**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,24nm,0.8s						
MAKZ	**Makanchi**	**42.21**	**297**	*e*P	**P**	**13 12 40.4**	**-0.4**
	comp=Z,24nm,0.8s						
KDAK	**Kodiak Island**	**42.25**	**46**	*i* P	**P**	**13 12 40.7**	**-0.3**
KDAK	**Kodiak Island**	**42.25**	**46**	*e*P	**P**	**13 12 40.2**	**-0.8**
	comp=Z,11nm,0.5s						
CNPM	**China Poot**	**42.70**	**43**	*e*P	**P**	**13 12 41.5**	**-3.1**
	comp=Z,5.7nm,0.6s						
TRF	**Thorofare Moun**	**42.75**	**38**	P	**P**	**13 12 44.8**	**-0.4**
	comp=Z,1.8nm,0.4s						
BWN	**Browne**	**43.06**	**36**	*e*P	**P**	**13 12 49.1**	**+1.7**
	comp=Z,38nm,1.2s						
KURK	**Kurchatov**	**43.23**	**303**	*d i*P	**P**	**13 12 48.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,76nm,1.2s						
KURK	**Kurchatov**	**43.23**	**303**	*e*P	**P**	**13 12 47.4**	**-1.5**
KURBB	**Kurchatov Arra**	**43.30**	**303**	P	**P**	**13 12 49.6**	**0.0**
	comp=Z,13nm,0.5s,baz=76,slow=9.0,SNR=100						
MCK	**McKinley**	**43.33**	**37**	*e*P	**P**	**13 12 50.1**	**+0.4**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MCK	**McKinley**	**43.33**	**37**	*e*P	**P**	**13 12 50.1**	**+0.4**
	comp=Z,9.5nm,1.2s						
RND	**Reindeer**	**43.40**	**38**	*e*P	**P**	**13 12 50.2**	**0.0**
RND				pmax	pmax		
	comp=Z,11nm,1.3s						
RND	**Reindeer**	**43.40**	**38**	*e*P	**P**	**13 12 50.2**	**0.0**
	comp=Z,10nm,1.3s						
PMR	**Palmer**	**43.47**	**40**	*e*P	**P**	**13 12 50.6**	**-0.1**
PMR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PMR	**Palmer**	**43.47**	**40**	*e*P	**P**	**13 12 50.6**	**-0.1**
	comp=Z,7.7nm,1.0s						
MDM	**Murphy Dome**	**43.53**	**35**	*e*P	**P**	**13 12 51.9**	**+0.6**
	comp=Z,4.4nm,0.8s						
COLA	**College**	**43.70**	**35**	*i* P	**P**	**13 12 52.8**	**+0.3**
COLA				pmax	pmax		
	comp=Z,12nm,1.2s						
CCB	**Clear Creek Bu**	**43.74**	**36**	*e*P	**P**	**13 12 53.1**	**+0.2**
	comp=Z,7.5nm,1.4s						
SML	**Sawmill**	**43.82**	**40**	*e*P	**P**	**13 12 54.7**	**+1.1**
SML				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SML	**Sawmill**	**43.82**	**40**	*e*P	**P**	**13 12 54.7**	**+1.1**
	comp=Z,10nm,0.8s						
CHTO	**Chiang Mai**	**43.85**	**251**	*e*P	**P**	**13 12 55.3**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CHTO	**Chiang Mai**	**43.85**	**251**	*e*P	**P**	**13 12 55.3**	**+1.0**
	comp=Z,9.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.09**	**250**	P	**P**	**13 12 57.0**	**+0.7**
	comp=Z,2.8nm,0.5s,baz=43,slow=7.5,SNR=17						
CMAR	**Chiang Mai Arr**	**44.09**	**250**	P	**P**	**13 12 57.0**	**+0.7**
IL1	**Eielson Array**	**44.12**	**35**	*e*P	**P**	**13 12 55.1**	**-0.8**
ILAR	**Eielson Array**	**44.12**	**35**	P	**P**	**13 12 55.7**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=257,slow=5.2,SNR=49						
ILB	**Eielson Array**	**44.12**	**35**	*e*P	**P**	**13 12 56.1**	**+0.2**
SCM	**Sheep Creek Mo**	**44.29**	**40**	*e*P	**P**	**13 12 58.5**	**+1.1**
SCM				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SCM	**Sheep Creek Mo**	**44.29**	**40**	*e*P	**P**	**13 12 58.5**	**+1.1**
	comp=Z,9.3nm,0.8s						
KLU	**Klutina**	**45.01**	**40**	*e*P	**P**	**13 13 03.9**	**+0.8**
	comp=Z,8.4nm,0.6s						
PDGK	**Podgornoye**	**45.06**	**293**	P	**P**	**13 13 02.9**	**-0.7**
PDGK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
DIV	**Divide**	**45.14**	**41**	*e*P	**P**	**13 13 05.1**	**+1.0**
	comp=Z,10nm,0.8s						
EYAK	**Cordova Ski Ar**	**45.26**	**41**	*e*P	**P**	**13 13 06.0**	**+1.1**
	comp=Z,8.4nm,0.7s						
DOT	**Dot Lake**	**45.49**	**37**	*e*P	**P**	**13 13 06.5**	**-0.4**
	comp=Z,6.5nm,0.6s						
BMRM	**Bremner River**	**45.73**	**41**	*e*P	**P**	**13 13 09.8**	**+1.1**
	comp=Z,7.5nm,0.7s						
EGAK	**Eagle**	**46.55**	**35**	*e*P	**P**	**13 13 15.2**	**+0.1**
	comp=Z,4.9nm,0.8s						
BALM	**Baldy**	**46.79**	**40**	*e*P	**P**	**13 13 18.1**	**+1.0**
BALM				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BALM	**Baldy**	**46.79**	**40**	*e*P	**P**	**13 13 18.1**	**+1.0**
	comp=Z,6.9n

INK	**Inuvik**	**48.79**	**29**	*e*P		**P**	**13 13 32.6**	**+0.3**
	comp=Z,6.8nm,0.4s								
KSH	**Kashi**	**49.04**	**290**	*e*P		**P**	**13 13 37.5**	**+2.7**
KSH				pP		pP	13 14 01.5	+1.6
KSH				PcP		**PcP**	**13 15 00.0**	**+3.0**
KSH				PP		**PP**	**13 15 34.0**	**+5.0**
KSH				S		**S**	**13 20 34.5**	**+3.1**
KSH				ScS		**ScS**	**13 23 16.5**	**+0.2**
KSH				SS		**SS**	**13 24 04.3**	**+1.0**
KSH				PMZ					
	comp=Z,3.0nm,0.7s								
KSH				PMZ					
	comp=Z,64nm,5.9s								
KSH				LN					
	comp=Z,80nm,5.5s								
KSH				LE					
	comp=Z,89nm,5.3s								
KSH				LZ					
	comp=Z,160nm,7.3s								
HYT	**Haines Junctio**	**49.13**	**40**	*e*P		**P**	**13 13 37.0**	**+1.8**
	comp=Z,27nm,0.9s								
KOLN	**Koldanda**	**49.47**	**272**	*e*P		**P**	**13 13 38.5**	**+0.2**
	comp=Z,38nm,0.4s								
PYUN	**Piuthan**	**49.73**	**273**	*e*P		**P**	**13 13 40.4**	**+0.1**
	comp=Z,26nm,0.4s								
MNAS	**Manas**	**50.08**	**295**	P		**P**	**13 13 42.6**	**-0.1**
MNAS				pmax	pmax				
	comp=Z,13nm,0.5s								
KK31	**Karatay Array**	**51.13**	**296**	P		**P**	**13 13 49.8**	**-0.6**
KK31				pmax	pmax				
	comp=Z,3.0nm,0.4s								
KKAR	**Karatay Array**	**51.13**	**296**	*e*P		**P**	**13 13 50.3**	**-0.2**
KKAR	**Karatay Array**	**51.13**	**296**	*e*P		**P**	**13 13 50.2**	**-0.2**
SVE	**Sverdlovsk**	**51.45**	**316**	*e*P		**P**	**13 13 52.9**	**+0.4**
ARU	**Arti**	**52.66**	**316**	*d i*P		**P**	**13 14 01.0**	**-0.5**
ARU				*PP		**pP**	**13 14 27.9**	**+1.0**
ARU							13 15 58.4		
ARU				S		**S**	**13 21 22.1**	**+1.5**
ARU				SS		**SS**	**13 24 53.9**	**-5.8**
ARU				pmax	pmax				
	comp=Z,11nm,1.0s								
ARU	**Arti**	**52.66**	**316**	*e*P		**P**	**13 14 01.1**	**-0.5**
	comp=Z,7.7nm,0.6s								
DLBC	**Dease Lake**	**53.52**	**41**	P		**P**	**13 14 09.5**	**+1.6**
	comp=Z,2.3nm,0.5s,baz=294,slow=3.9,SNR=8.9								
DLBC	**Dease Lake**	**53.52**	**41**	*e*P		**P**	**13 14 10.0**	**+2.1**
	comp=Z,34nm,0.8s								
ABKAR	**Akbulak array**	**54.96**	**307**	*e*P		**P**	**13 14 18.4**	**+0.1**
YKA	**Yellowknife Ar**	**58.32**	**32**	P		**P**	**13 14 41.8**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=309,slow=6.6,SNR=43								
YKA				LR		LR	13 41 37.0		
	comp=Z,8.6nm,18.0s,baz=0.0,slow=38								
ARCES	**ARCESS Array B**	**58.84**	**339**	P		**P**	**13 14 45.8**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=60,slow=7.2,SNR=6.7								
GEYT	**Alibeck**	**61.88**	**297**	P		**P**	**13 15 06.7**	**0.0**
	comp=Z,2.6nm,0.5s,baz=56,slow=3.7,SNR=7.6								
WRA	**Warramunga Arr**	**62.99**	**189**	P		**P**	**13 15 13.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=7.1,slow=6.6,SNR=6.5								
WRA				pP		**pP**	**13 15 41.6**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=6.2,slow=7.0,SNR=6.0								
OBN	**Obninsk**	**63.98**	**322**	*e*P		**P**	**13 15 18.8**	**-1.3**
OBN				pmax	pmax				
	comp=Z,8.0nm,0.4s								
FIA1	**FINESS Array S**	**64.06**	**331**	*e*P		**P**	**13 15 20.1**	**-0.6**
FINES	**FINESS Array B**	**64.06**	**331**	P		**P**	**13 15 19.9**	**-0.8**
	comp=Z,5.6nm,0.5s,baz=45,slow=7.9,SNR=56								
PALK	**Pallekele**	**64.61**	**256**	*i* P		**P**	**13 15 26.4**	**+1.5**
NEW	**Newport**	**65.36**	**46**	LR		LR	13 43 23.2		
	comp=Z,40nm,19.3s,baz=322,slow=35								
K05A	**Summer Lake**	**66.61**	**53**	*e*P		**P**	**13 15 39.2**	**+1.6**
	comp=Z,14nm,1.0s								
ASAR	**Alice Springs**	**66.72**	**189**	P		**P**	**13 15 38.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=13,slow=6.2,SNR=8.2								
ASAR				pP		**PcP**	**13 16 07.2**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=12,slow=13,SNR=3.5								
BLMT	**Blacktail Moun**	**66.97**	**45**	*e*P		**P**	**13 15 41.2**	**+1.3**
JTMT	**Jette**	**67.18**	**45**	*e*P		**P**	**13 15 42.8**	**+1.7**
SWMT	**Swartz Lake**	**67.48**	**46**	*e*P		**P**	**13 15 43.6**	**+0.7**
KIV	**Kislovodsk**	**67.79**	**310**	*i*P		**P**	**13 15 45.2**	**+0.2**
KIV				*e*S		**S**	**13 24 34.3**	**-0.1**
KIV				pmax	pmax				
	comp=Z,16nm,0.8s								
KIV	**Kislovodsk**	**67.79**	**310**	*e*P		**P**	**13 15 46.1**	**+1.1**
	comp=Z,20nm,0.6s								
KBZ	**Khabaz**	**67.81**	**309**	P		**P**	**13 15 45.3**	**+0.4**
	comp=Z,8.1nm,0.8s,baz=56,slow=4.5,SNR=21								
ZEI	**Tsey**	**67.82**	**308**	*e*P		**P**	**13 15 43.8**	**-1.5**
ZEI				pmax	pmax				
	comp=Z,16nm,0.6s								
NEY	**Neytrino**	**68.21**	**309**	*e*P		**P**	**13 15 49.0**	**+1.3**
NEY				pmax	pmax				
	comp=Z,1.0nm,0.6s								
FCC	**Fort Churchill**	**68.37**	**28**	*e*P		**P**	**13 15 48.1**	**-0.1**
FCC				pmax	pmax				
	comp=Z,7.0nm,0.6s								
FCC	**Fort Churchill**	**68.37**	**28**	*e*P		**P**	**13 15 48.1**	**-0.1**
	comp=Z,6.9nm,0.6s								
NB2	**NORSAR Subarra**	**69.13**	**337**	P		**P**	**13 15 51.8**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=36,slow=6.5								
NOA	**NORSAR Array B**	**69.13**	**337**	P		**P**	**13 15 52.2**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=36,slow=6.2,SNR=14								
LRM	**Limekiln Ridge**	**69.38**	**46**	*e*P		**P**	**13 15 55.9**	**+0.9**
DLMT	**Dillon**	**69.60**	**47**	*e*P		**P**	**13 15 57.4**	**+1.1**
	comp=Z,7.2nm,0.8s								
BOZ	**Bozeman (W)**	**69.93**	**46**	*e*P		**P**	**13 15 59.2**	**+0.9**
BOZ				pmax	pmax				
	comp=Z,6.0nm,0.8s								
BOZ	**Bozeman (W)**	**69.93**	**46**	*e*P		**P**	**13 15 59.2**	**+0.9**
	comp=Z,6.4nm,0.8s								
ANN	**Anapa**	**70.14**	**313**	*e*P		P	13 15 52.0	-7.3
ANN				*e*PP		pP	13 16 25.1	-0.9
ANN				*e*			13 18 33.5		
ANN				pmax	pmax				
	comp=Z,49nm,1.4s								
AKASG	**Malin Array Be**	**70.23**	**322**	P		**P**	**13 15 59.0**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=44,slow=6.4,SNR=8.5								
KIEV	**Kiev**	**70.24**	**322**	*e*P		**P**	**13 15 59.3**	**-0.5**
KIEV				pmax	pmax				
	comp=Z,5.0nm,0.9s								
UOSS	**Minazif**	**70.93**	**287**	*e*P		**P**	**13 16 04.4**	**-0.1**
	comp=Z,0.8nm,0.6s								
R11A	**Troy Canyon, C**	**72.50**	**54**	*e*P		**P**	**13 16 14.6**	**+0.7**
	comp=Z,1.9nm,0.8s								
HWUT	**Hardware Ranch**	**72.65**	**49**	*e*P		**P**	**13 16 16.0**	**+1.3**
	comp=Z,4.6nm,1.0s								
BW06	**Boulder Array**	**72.96**	**47**	*e*P		**P**	**13 16 16.8**	**+0.2**
PD31	**Pinedale Array**	**72.96**	**47**	*e*P		**P**	**13 16 17.2**	**+0.6**
PDAR	**Pinedale Array**	**72.96**	**47**	P		**P**	**13 16 16.9**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=288,slow=1.4,SNR=14								
TPNV	**Topopah Spring**	**73.02**	**55**	*e*P		**P**	**13 16 17.8**	**+0.8**
TPNV				pmax	pmax				
	comp=Z,5.0nm,0.9s								
TPNV	**Topopah Spring**	**73.02**	**55**	*e*P		**P**	**13 16 17.8**	**+0.8**
	comp=Z,4.9nm,0.9s								
SHPR	**Sheep Range**	**73.97**	**55**	*e*P		**P**	**13 16 23.9**	**+1.3**
	comp=Z,4.0nm,0.9s								
ULM	**Lac du Bonnet**	**74.14**	**35**	P		**P**	**13 16 22.5**	**-0.6**
	comp=Z,3.3nm,0.6s,baz=320,slow=8.9,SNR=5.6								
ULM				LR		LR	13 51 47.6		
	comp=Z,40nm,18.1s,baz=8.5,slow=38								
ULM	**Lac du Bonnet**	**74.14**	**35**	*e*P		**P**	**13 16 22.9**	**-0.2**
ULM				pmax	pmax				
	comp=Z,7.0nm,0.9s								
ULM	**Lac du Bonnet**	**74.14**	**35**	*e*P		**P**	**13 16 22.9**	**-0.2**
	comp=Z,7.1nm,0.9s								
BUR08	**Bucovina Ar. S**	**74.26**	**321**	*e*P		**P**	**13 16 24.3**	**+0.3**
OJC	**Ojcow**	**74.67**	**326**	*e*P		**P**	**13 16 26.0**	**-0.2**
OJC				pmax	pmax				
	comp=Z,6.0nm,0.9s								
OJC	**Ojcow**	**74.67**	**326**	*e*P		**P**	**13 16 26.0**	**-0.2**
	comp=Z,5.9nm,0.9s								
STHS	**Stebnicka Huta**	**74.68**	**325**	*e*P		**P**	**13 16 27.2**	**+0.9**
STHS	**Stebnicka Huta**	**74.68**	**325**	*e*P		**P**	**13 16 27.2**	**+0.9**
MTPU	**Mount Pierson**	**74.70**	**52**	*e*P		**P**	**13 16 28.7**	**+1.7**
	comp=Z,3.8nm,0.6s								
SRU	**San Rafael Swe**	**74.93**	**50**	*e*P		**P**	**13 16 29.0**	**+0.9**
SRU				pmax	pmax				
	comp=Z,10.0nm,0.9s								
SRU	**San Rafael Swe**	**74.93**	**50**	*e*P		**P**	**13 16 29.0**	**+0.9**
	comp=Z,9.9nm,0.9s								
BRTR	**Keskin Array B**	**75.65**	**311**	P		**P**	**13 16 32.1**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=82,slow=3.2,SNR=7.2								
U15A	**North Rim**	**75.73**	**53**	*e*P		**P**	**13 16 34.3**	**+1.4**
	comp=Z,3.6nm,0.8s								
DPC	**Dobruska-Polom**	**75.97**	**328**	*e*P		**P**	**13 16 34.2**	**+0.5**
DPC	**Dobruska-Polom**	**75.97**	**328**	*e*P		**P**	**13 16 34.2**	**+0.5**
BR231	**Keskin MP Arra**	**76.04**	**312**	*e*P		**P**	**13 16 32.6**	**-1.8**
PV10	**Paradox Valley**	**76.27**	**50**	*e*P		**P**	**13 16 37.2**	**+1.3**
PV05	**Paradox Valley**	**76.44**	**50**	*e*P		**P**	**13 16 37.9**	**+1.1**
CLL	**Collm**	**76.45**	**330**	*i* P		**P**	**13 16 36.0**	**-0.3**
	comp=Z,4.0nm,0.5s								
CLL				LmV			13 39 00.0		
	comp=Z,100nm,21.4s								
CLL	**Collm**	**76.45**	**330**	*i* P		**P**	**13 16 36.0**	**-0.3**
CLL				pmax	pmax				
	comp=Z,4.0nm,0.5s								
PRU	**Pruhonice**	**76.95**	**329**	*e*P		**P**	**13 16 39.4**	**+0.3**
PRU	**Pruhonice**	**76.95**	**329**	*e*P		**P**	**13 16 39.4**	**+0.3**
KHC	**Kasperske Hory**	**78.01**	**329**	*e*P		**P**	**13 16 45.0**	**-0.1**
KHC	**Kasperske Hory**	**78.01**	**329**	*e*P		**P**	**13 16 45.0**	**-0.1**
GERES	**GERESS Array B**	**78.19**	**328**	P		**P**	**13 16 46.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=22,slow=4.3,SNR=4.1								
GERES				pP		**pP**	**13 17 15.2**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=35,slow=5.3,SNR=2.6								
SDCO	**Great Sand Dun**	**78.69**	**49**	*e*P		**P**	**13 16 50.1**	**+0.7**
	comp=Z,6.5nm,1.4s								
ECSD	**EROS Data Cent**	**78.78**	**39**	*e*P		**P**	**13 16 49.0**	**-0.4**
	comp=Z,10.0nm,1.3s								
T25A	**Trinidad**	**79.73**	**48**	*e*P		**P**	**13 16 55.5**	**+0.5**
	comp=Z,4.3nm,0.6s								
ANMO	**Albuquerque**	**80.16**	**51**	*e*P		**P**	**13 16 58.3**	**+1.0**
ANMO				pmax	pmax				
	comp=Z,4.0nm,1.7s								
TX31	**Lajitas Ar. Si**	**85.86**	**53**	*e*P		**P**	**13 17 26.8**	**+0.1**
TXAR	**Lajitas Array**	**85.86**	**53**	P		**P**	**13 17 27.2**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=290,slow=3.8,SNR=34								
PPT2	**Papeete2**	**86.53**	**118**	*e*LR		LR	13 44 43.9		
	comp=Z,81nm,22.0s								
TAOE	**Nuku Hiva Isla**	**86.78**	**105**	*e*LR		LR	13 44 58.2		
	comp=Z,68nm,25.5s								
TBI	**Tubuai**	**90.80**	**122**	*e*T		T	14 57 52.5		
	comp=Z,3.1nm,0.3s								

ISCJB ***25*** *13:08:43.8±0.4, 45.°42N±0.°06×151.°66E±0.°06, h32km, mb4.4/40, MS3.9/15, Error ellipse: s-maj=8.9km s-min=4.2km az=148.4*

SKHL ***25*** *13:08:45.2±0.2, 45.°23N×151.°76E, h52km±1km, mb4.7/9, Ms4.2/3*

MOS ***25*** *13:08:45.5±1.4, 45.°47N×151.°54E, h42km, mb4.6/21, Error ellipse: s-maj=7.9km s-min=6.3km az=110.0*

IDC ***25*** *13:08:46.7±2.3, 45.°44N×151.°67E, h43km±20km, mb3.9/18, mb1 4.1/25, mb1mx4.0/45, mbtmp4.2/25, ML3.1/5, MS3.8/16, Ms1 3.8/16, ms1mx3.5/36, Error ellipse: s-maj=20.1km s-min=13.6km az=140.0*

NEIC ***25*** *13:08:47.0±0.9, 45.°45N×151.°66E, h49km±8km, mb4.4/5, Error ellipse: s-maj=11.8km s-min=6.6km az=135.0*

ISC 25 13:08:45.7±0.6, 45.°44N±0.°07×151.°72E±0.°06, h32km, n159, σ1§47/167, mb4.4/40, MS3.8/15, 9C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.72**	**267**	*d i*	PN	**Pn**	**Pn**	**13 09 27.3**	**+0.2**
KUR				*i*	S	**Sn**	**Sn**	**13 10 01.3**	**+2.4**
KUR				pmax	pmax				
	comp=Z,233nm,0.2s								
KUR				pmax	pmax				
	comp=E,89nm,0.3s								
KUR				pmax	pmax				
	comp=N,91nm,0.1s								
KUR				smax	smax				
	comp=E,367nm,0.4s								
KUR				smax	smax				
	comp=N,2µm,0.5s								
KUR	**Kuril'sk**	**2.72**	**267**	*i*	P	**Pn**	**Pn**	**13 09 27.3**	**+0.2**
KUR					AMB	AMB	AMB	13 09 29.9	
	comp=N,117nm,0.3s								
KUR				*i*	S	**Sn**	**Sn**	**13 09 59.0**	**+0.1**
KUR					A	A	A	13 10 06.0	
	comp=N,882nm,0.6s								
KUR					A	A	A	13 10 06.0	
	comp=N,183nm,0.6s								
SHO	**Shikotan**	**3.83**	**247**	*c i*	PN	**Pn**	**Pn**	**13 09 39.9**	**-2.4**
SHO				*i*	S	**Sn**	**Sn**	**13 10 23.3**	**-2.8**
SHO				pmax	pmax				
	comp=N,42nm,0.4s								
SHO				pmax	pmax				
	comp=Z,177nm,0.4s								
SHO				pmax	pmax				
	comp=E,65nm,0.3s								
SHO				smax	smax				
	comp=N,296nm,0.7s								
SHO				smax	smax				
	comp=E,699nm,0.7s								
SHO	**Shikotan**	**3.83**	**247**	*i*	P	**Pn**	**Pn**	**13 09 39.9**	**-2.4**
SHO					AMB	AMB	AMB	13 09 44.6	
	comp=E,177nm,0.4s								
SHO				*i*	S	**Sn**	**Sn**	**13 10 23.3**	**-2.8**
SHO					A	A	A	13 10 35.2	
	comp=E,300nm,0.7s								
SHO					A	A	A	13 10 35.2	
	comp=E,700nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**4.40**	**253**	*d i*	PN	**Pn**	**Pn**	**13 09 50.3**	**+0.1**
YUK				*i*	S	**Sn**	**Sn**	**13 10 39.0**	**-1.3**
YUK				pmax	pmax				
	comp=Z,261nm,0.3s								
YUK				pmax	pmax				
	comp=E,57nm,0.2s								
YUK				pmax	pmax				
	comp=N,163nm,0.3s								
YUK				smax	smax				
	comp=N,434nm,0.7s								
YUK				smax	smax				
	comp=E,646nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**4.40**	**253**	*e*P		**Pn**	**Pn**	**13 09 50.3**	**+0.1**
YUK					AMB	AMB	AMB	13 09 58.3	
	comp=E,163nm,0.4s								
YUK					AMB	AMB	AMB	13 09 58.3	
	comp=E,57nm,0.4s								
YUK					AMB	AMB	AMB	13 09 58.3	
	comp=E,261nm,0.4s								
YUK				*i*	S	**Sn**	**Sn**	**13 10 39.0**	**-1.3**
YUK					A	A	A	13 10 54.5	
	comp=E,434nm,0.7s								
YUK					A	A	A	13 10 54.5	
	comp=E,646nm,0.7s								
SKR	**Severo-Kuril's**	**6.02**	**28**	*e*PN		Pn	Pn	13 10 17.4	+5.1
YSS	**Yuzh-Sakhalins**	**6.40**	**287**	*e*PN		**Pn**	**Pn**	**13 10 20.6**	**+2.9**
YSS				pmax	pmax				
	comp=Z,20nm,1.4s								
YSS				MLR	MLR				
	comp=Z,1µm,15.0s								
YSS	**Yuzh-Sakhalins**	**6.40**	**287**	*e*P		**Pn**	**Pn**	**13 10 19.6**	**+1.9**
YSS					AMB	AMB	AMB	13 10 21.5	
	comp=Z,20nm,0.5s								
YSS					AMS	AMS	AMS	13 12 45.0	
	comp=Z,1µm,15.0s								
JKA	**Kamikawa-asahi**	**6.62**	**262**	*e*P		**Pn**	**Pn**	**13 10 22.1**	**+1.4**
ASAJ	**Asahikawa**	**6.62**	**262**	P		**Pn**	**Pn**	**13 10 22.1**	**+1.3**
	comp=92,slow=14								
ASAJ				S		**Sn**	**Sn**	**13 11 38.9**	**+3.8**
	baz=260,slow=9.2,SNR=1.7								
ASAJ	**Asahikawa**	**6.62**	**262**	*e*Pn		**Pn**	**Pn**	**13 10 22.0**	**+1.3**
ASAJ				*e*Sn		**Sn**	**Sn**	**13 11 34.9**	**-0.2**
ERM	**Erimo**	**7.08**	**244**	*e*PN		**Pn**	**Pn**	**13 10 27.7**	**+0.7**
ERM	**Erimo**	**7.08**	**244**	*e*Pn		**Pn**	**Pn**	**13 10 27.1**	**+0.1**
ERM				*e*Sn		**Sn**	**Sn**	**13 11 49.4**	**+3.1**
UGL	**Uglegorsk**	**7.50**	**302**	*e*PN		**Pn**	**Pn**	**13 10 32.8**	**0.0**
UGL	**Uglegorsk**	**7.50**	**302**	*e*P		**Pn**	**Pn**	**13 10 35.0**	**+2.2**
UGL				AMB	AMB	AMB	AMB	13 10 37.5	
	comp=Z,47nm,0.7s								
UGL				AMS	AMS	AMS	AMS	13 13 51.0	
	comp=Z,500nm,15.0s								
UGL				AMS	AMS	AMS	AMS	13 13 51.0	
	comp=Z,1µm,15.0s								
UGL				AMS	AMS	AMS	AMS	13 13 51.0	
	comp=Z,1µm,15.0s								
TYV	**Tymovskoe**	**8.13**	**315**	*e*PN		**Pn**	**Pn**	**13 10 41.0**	**-0.3**
TYV				pmax	pmax				
	comp=Z,35nm,1.0s								
TYV	**Tymovskoe**	**8.13**	**315**	*e*P		**Pn**	**Pn**	**13 10 44.0**	**+2.7**
TYV					AMB	AMB	AMB	13 10 45.2	
	comp=Z,35nm,1.0s								
PETK	**Petropavlovsk-**	**8.61**	**25**	P		**Pn**	**Pn**	**13 10 48.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=195,slow=11,SNR=4.2								
NKL	**Nikolayevsk**	**10.55**	**321**	*e*PN		Pn	Pn	13 11 07.5	-6.9
NKL				MLR	MLR				
	comp=N,350nm,16.0s								
NKL				MLR	MLR				
	comp=E,400nm,16.0s								
NKL				MLR	MLR				
	comp=Z,900nm,16.0s								
NKL	**Nikolayevsk**	**10.55**	**321**	*e*P		**Pn**	**Pn**	**13 11 16.0**	**+1.6**
NKL				AMS	AMS	AMS	AMS	13 16 04.0	
	comp=Z,350nm,16.0s								
NKL				AMS	AMS	AMS	AMS	13 16 04.0	
	comp=Z,400nm,16.0s								
NKL				AMS	AMS	AMS	AMS	13 16 04.0	
	comp=Z,900nm,16.0s								
TEY	**Ternei**	**10.67**	**273**	*e*P		**Pn**	**Pn**	**13 11 17.0**	**+0.8**
TEY				AMB	AMB	AMB	AMB	13 11 19.0	
	comp=Z,18nm,0.8s								
HABR	**Khabarovsk**	**11.79**	**291**	*e*PN		**Pn**	**Pn**	**13 11 31.0**	**-0.4**
HABR				pmax	pmax				
	comp=N,16nm,1.5s								
HABR				pmax	pmax				
	comp=E,68nm,1.5s								
HABR				pmax	pmax				
	comp=Z,50nm,1.5s								
HABR				MLR	MLR				
	comp=Z,413nm,16.0s								
MAT	**Matsushiro**	**13.52**	**234**	P		**P**	**13 12 04.3**	**+0.4**
MJAR	**Matsushiro Arr**	**13.52**	**234**	P		**Pn**	**13 11 55.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=313,slow=15,SNR=4.4								
KLR	**Kul'dur**	**14.05**	**293**	P		**Pn**	**13 12 04.6**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=106,slow=16,SNR=7.0								
KLR				LR		LR	13 17 42.3		
	comp=Z,412nm,19.3s,baz=159,slow=38								
USRK	**Ussuriysk Ar.**	**14.06**	**272**	P		**Pn**	**13 12 01.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=85,slow=12,SNR=13								
USRK				LR		LR	13 17 17.4		
	comp=Z,305nm,20.0s,baz=84,slow=36								
MA2	**Magadan**	**14.17**	**358**	P		**Pn**	**13 12 05.1**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=189,slow=18,SNR=3.6								
MA2				LR		LR	13 17 42.1		
	comp=Z,168nm,18.7s,baz=204,slow=38								
EKMR	**Ekimchan**	**14.41**	**309**	*e*P		**Pn**	**13 12 06.5**	**-0.7**
EKMR				AMB	AMB	AMB	13 12 16.5		
	comp=Z,4.0nm,0.6s								
MSHR	**Mys Shultsa**	**15.06**	**266**	*e*P		**P**	**13 12 19.3**	**-1.7**
JHJ	**Hachijo jima 2**	**15.37**	**221**	LR		LR	13 21 48.0		
	comp=Z,109nm,18.1s,baz=100,slow=51								
BMKR	**Bomnak**	**17.30**	**311**	*e*P		**Pn**	**13 12 43.5**	**-1.0**
BMKR				AMB	AMB	AMB	13 12 51.5		
	comp=Z,29nm,1.0s								
ZEA	**Zeya**	**17.83**	**307**	*e*P		**Pn**	**13 12 49.5**	**-1.6**
ZEA				AMB	AMB	AMB	13 12 54.5		
	comp=Z,28nm,1.0s								
ZEA				AMS	AMS	AMS	13 20 15.0		
	comp=Z,400nm,13.0s								
ZEA				AMS	AMS	AMS	13 20 15.0		
	comp=Z,500nm,13.0s								
KROS	**Kirovskiy**	**18.21**	**309**	*e*P		**P**	**13 12 56.5**	**+0.7**
KROS				AMB	AMB	AMB	13 12 58.5		
	comp=Z,8.0nm,0.8s								
KROS				AMB	AMB	AMB	13 12 58.5		
	comp=Z,9.0nm,0.8s								
KROS				AMB	AMB	AMB	13 12 58.5		
	comp=Z,11nm,0.8s								
CN2	**Changchun**	**18.75**	**274**	*e*P		**P**	**13 13 00.8**	**-0.9**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KSRS	**Korea Array**	**19.49**	**254**	P		**P**	**13 13 09.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=8.4								
KSAR	**Wonju Array Be**	**19.52**	**254**	P		**P**	**13 13 09.4**	**-0.9**
KSAR	**Wonju Array Be**	**19.52**	**254**	P		**P**	**13 13 09.4**	**-0.9**
JNU	**Nakatsue**	**20.22**	**240**	LR		LR	13 21 44.4		
	comp=Z,202nm,20.4s,baz=126,slow=38								
YAK	**Yakutsk**	**20.94**	**330**	*e*P		**P**	**13 13 26.0**	**+0.6**
YAK				pmax	pmax				
	comp=Z,11nm,0.8s								
YAK	**Yakutsk**	**20.94**	**330**	P		**P**	**13 13 23.2**	**-2.2**
	comp=Z,32nm,0.9s								
TIXI	**Tiksi**	**28.46**	**345**	*e*P		**P**	**13 14 34.9**	**-2.4**
TIXI				pmax	pmax				
	comp=Z,5.0nm,1.3s								
ULN	**Ulaanbaatar**	**30.43**	**291**	*e*P		**P**	**13 14 56.2**	**+1.0**
ULN				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ULN	**Ulaanbaatar**	**30.43**	**291**	*e*P		**P**	**13 14 56.2**	**+1.0**
SONM	**Songino Array**	**30.87**	**291**	P		**P**	**13 14 58.3**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=76,slow=8.8,SNR=6.6								
SONM				LR		LR	13 28 17.6		
	comp=Z,196nm,18.4s,baz=81,slow=38								
SONM	**Songino Array**	**30.87**	**291**	*e*P		**P**	**13 14 59.3**	**+0.3**
SONM				pmax	pmax				
	comp=Z,2.0nm,0.9s								
GUMO	**Guam**	**32.28**	**193**	LR		L

	comp=Z,4.6nm,1.1s							
AAK	**Ala-Archa**	**53.55 297**	P		**P**	13 18 03.2	-0.2	
	comp=Z,6.4nm,0.8s,baz=84,slow=9.2,SNR=7.7							
AAK	**Ala-Archa**	**53.55 297**	*d*	*i*P	**P**	13 18 03.8	+0.4	
AAK				pmax	pmax			
	comp=Z,15nm,0.7s							
AAK	**Ala-Archa**	**53.55 297**		*e*P	**P**	13 18 03.8	+0.4	
AAK	**Ala-Archa**	**53.55 297**		*e*P	**P**	13 18 02.7	-0.7	
	comp=Z,4.2nm,0.8s							
GUN	**Gumba**	**54.15 275**		*e*P	**P**	13 18 06.8	-1.4	
	comp=Z,11nm,0.4s							
RAMN	**Ramite**	**54.23 274**		*e*P	P	13 18 03.7	-4.9	
	comp=Z,48nm,0.9s							
KSH	**Kashi**	**54.25 293**		*e*P	**P**	13 18 12.3	+3.8	
KSH				pP	sP	13 18 42.8	+21	
KSH				PcP	**PcP**	13 19 17.5	+5.0	
KSH				PP	**PP**	13 20 16.0	+5.7	
KSH				S	S	13 25 29.8	-14	
KSH				ScS	ScS	13 27 43.5	-12	
KSH	**Kashi**	**54.25 293**		SS	**SKiKP**	13 29 13.8	-3.0	
KKN	**Kakani**	**54.64 275**		*e*P	**P**	13 18 10.6	-1.0	
	comp=Z,10nm,0.5s							
DMN	**Daman**	**54.87 275**		*e*P	**P**	13 18 12.3	-1.0	
	comp=Z,7.1nm,0.4s							
GKN	**Gorkha**	**54.96 276**		*e*P	**P**	13 18 14.3	+0.4	
	comp=Z,10nm,0.3s							
ARU	**Arti**	**55.32 318**	*d*	*i*P	**P**	13 18 15.4	-0.4	
ARU				*PP	**sP**	13 18 27.8	-1.5	
ARU						13 19 14.1		
ARU						13 20 17.8		
ARU				S	**S**	13 25 57.3	-0.1	
ARU				SS	**SS**	13 29 36.3	-5.1	
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ARU	**Arti**	**55.32 318**		*e*P	**P**	13 18 15.4	-0.4	
KKAR	**Karatay Array**	**55.78 299**		*e*P	**P**	13 18 16.5	-2.9	
KKAR	**Karatay Array**	**55.78 299**		*e*P	**P**	13 18 16.5	-2.9	
KOLN	**Koldanda**	**55.83 276**		*e*P	**P**	13 18 21.0	+0.8	
	comp=Z,8.4nm,0.3s							
PYUN	**Piuthan**	**56.05 277**		*e*P	**P**	13 18 23.4	+1.6	
	comp=Z,56nm,0.9s							
ABKAR	**Akbulak array**	**58.52 310**		*e*P	**P**	13 18 36.6	-2.0	
ARCES	**ARCESS Array B**	**58.77 341**	P		**P**	13 18 39.3	-0.8	
	comp=Z,3.8nm,0.8s,baz=28,slow=9.6,SNR=5.6							
ARCES	**ARCESS Array B**	**58.77 341**		*e*P	**P**	13 18 39.5	-0.5	
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ARCES	**ARCESS Array B**	**58.77 341**		*e*P	**P**	13 18 39.5	-0.5	
AKTO	**Aktyubinsk**	**58.87 312**	LR		LR	13 46 13.3		
	comp=Z,234nm,18.5s,baz=37,slow=38							
FINES	**FINESS Array B**	**64.81 334**	P		**P**	13 19 19.8	-0.9	
	comp=Z,5.1nm,0.6s,baz=36,slow=7.4,SNR=29							
OBN	**Obninsk**	**65.83 325**	‖	*e*P	**P**	13 19 26.8	-0.7	
OBN				*e*		13 21 52.9		
OBN				pmax	pmax			
	comp=Z,10.0nm,0.4s							
OBN				MLR	MLR			
	comp=Z,57nm,18.0s							
OBN	**Obninsk**	**65.83 325**		*e*P	**P**	13 19 26.8	-0.7	
GEYT	**Alibeck**	**66.44 301**	P		**P**	13 19 32.0	+0.3	
	comp=Z,8.0nm,0.9s,baz=64,slow=6.6,SNR=14							
WRA	**Warramunga Arr**	**66.97 198**	P		**P**	13 19 34.3	-0.8	
	comp=Z,1.6nm,0.9s,baz=16,slow=6.8,SNR=5.5							
WRA	**Warramunga Arr**	**66.97 198**		*e*P	**P**	13 19 33.8	-1.3	
WRA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
NB2	**NORSAR Subarra**	**69.15 341**	P		**P**	13 19 47.2	-1.2	
	comp=Z,11nm,1.0s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**69.15 341**	P		**P**	13 19 47.7	-0.7	
	comp=Z,6.2nm,0.9s,baz=30,slow=6.3,SNR=17							
NOA				LR	LR	13 55 21.7		
	comp=Z,35nm,18.5s,baz=155,slow=40							
NOA	**NORSAR Array B**	**69.15 341**		*e*P	**P**	13 19 47.5	-0.9	
NOA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ASAR	**Alice Springs**	**70.67 197**	P		**P**	13 19 57.7	-0.4	
	comp=Z,1.1nm,0.9s,baz=10,slow=4.9,SNR=4.8							
ASAR	**Alice Springs**	**70.67 197**		*e*P	**P**	13 19 58.7	+0.6	
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**70.67 197**		*e*P	**P**	13 19 58.7	+0.6	
NCK	**Nalchik**	**70.87 313**	↑	*e*P	**P**	13 20 00.4	+1.1	
NCK				pmax	pmax			
	comp=Z,16nm,0.5s							
KIV	**Kislovodsk**	**71.01 314**	↑	*i*P	**P**	13 20 01.2	+1.0	
KIV				*e*		13 22 40.5		
KIV				pmax	pmax			
	comp=Z,18nm,1.0s							
KIV				MLR	MLR			
	comp=Z,143nm,17.0s							
KIV	**Kislovodsk**	**71.01 314**		*e*P	**P**	13 20 01.8	+1.6	
KBZ	**Khabaz**	**71.06 313**	P		**P**	13 20 00.9	+0.6	
	comp=Z,17nm,0.9s,baz=38,slow=3.3,SNR=35							
KBZ				LR	LR	13 55 47.4		
	comp=Z,178nm,18.5s,baz=42,slow=40							
ZEI	**Tsey**	**71.21 312**		*e*P	**P**	13 20 00.3	-1.3	
ZEI				pmax	pmax			
	comp=Z,19nm,0.6s							
ZEI	**Tsey**	**71.21 312**		*e*P	**P**	13 20 00.3	-1.3	
NEY	**Neytrino**	**71.49 313**	↑	*e*P	**P**	13 20 04.9	+1.7	
NEY				pmax	pmax			
	comp=Z,2.0nm,1.0s							
AKASG	**Malin Array Be**	**72.09 326**	P		**P**	13 20 05.4	-1.0	
	comp=Z,2.4nm,0.5s,baz=35,slow=6.6,SNR=12							
AKASG				LR	LR	13 54 24.5		
	comp=Z,56nm,19.0s,baz=175,slow=38							
KIEV	**Kiev**	**72.10 326**	‖	*e*P	**P**	13 20 04.8	-1.7	
KIEV				pmax	pmax			
	comp=Z,7.0nm,1.2s							
KIEV	**Kiev**	**72.10 326**		*e*P	**P**	13 20 04.8	-1.7	
GNI	**Garni**	**72.63 310**	↑	*e*P	**P**	13 20 12.3	+2.2	
GNI				pmax	pmax			
	comp=Z,52nm,1.2s							
OJC	**Ojcow**	**75.99 330**		*e*P	**P**	13 20 29.6	+0.4	
STHS	**Stebnicka Huta**	**76.15 329**		*e*P	**P**	13 20 30.3	+0.1	
STHS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
STHS	**Stebnicka Huta**	**76.15 329**		*e*P	**P**	13 20 30.3	+0.1	
KOLS	**Kolonicke sedl**	**76.18 328**		*e*P	**P**	13 20 30.5	+0.2	
KOLS				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KOLS	**Kolonicke sedl**	**76.18 328**		*e*P	**P**	13 20 30.5	+0.2	
OKC	**Ostrava-Krasne**	**76.88 331**		*e*P	**P**	13 20 34.4	+0.1	
OKC	**Ostrava-Krasne**	**76.88 331**		*e*P	**P**	13 20 34.4	+0.1	
LANS	**Liptovska Anna**	**77.01 330**		*e*P	**P**	13 20 36.0	+0.9	
LANS	**Liptovska Anna**	**77.01 330**		*e*P	**P**	13 20 36.0	+0.9	
UPC	**Upice**	**77.01 333**		*e*P	**P**	13 20 35.9	+0.9	
UPC	**Upice**	**77.01 333**		*e*P	**P**	13 20 35.9	+0.9	
DPC	**Dobruska-Polom**	**77.04 333**		*e*P	**P**	13 20 35.6	+0.3	
DPC				*e*PCP	**pP**	13 20 43.3	-2.0	
DPC	**Dobruska-Polom**	**77.04 333**		*e*P	**P**	13 20 35.6	+0.3	
DPC				*e*		13 20 43.3		
KECS	**Kecovo**	**77.21 329**		*e*P	**P**	13 20 36.5	+0.4	
KECS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KECS	**Kecovo**	**77.21 329**		*e*P	**P**	13 20 36.5	+0.4	
CLL	**Collm**	**77.25 335**	‖	*i*P	**P**	13 20 36.2	-0.1	
	comp=Z,16nm,1.2s							
CLL	**Collm**	**77.25 335**	‖	*i*P	**P**	13 20 36.2	-0.1	
CLL				pmax	pmax			
	comp=Z,16nm,1.2s							
CLL	**Collm**	**77.25 335**		*e*P	**P**	13 20 36.1	-0.2	
BRG	**Berggiesshubel**	**77.34 334**		*e*P	**P**	13 20 37.0	+0.2	
	comp=Z,5.3nm,1.1s							
BRG				*e*		13 23 43.1		
	comp=Z,3.4nm,0.9s							
BRG	**Berggiesshubel**	**77.34 334**		*e*P	**P**	13 20 37.0	+0.2	
BRG				pmax	pmax			
	comp=Z,5.0nm,1.1s							
BRG				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BRG	**Berggiesshubel**	**77.34 334**		*e*P	**P**	13 20 37.0	+0.2	
STKA	**Stephens Creek**	**77.50 189**	LR		LR	13 54 36.3		
	comp=Z,24nm,20.6s,baz=24,slow=36							
VYHS	**Vyhne**	**77.78 330**		*e*P	**P**	13 20 39.2	-0.2	
VYHS				pmax	pmax			
	comp=Z,5.0nm,1.3s							
VYHS	**Vyhne**	**77.78 330**		*e*P	**P**	13 20 39.2	-0.2	
GOPC	**GO Pecny, Ondr**	**77.92 333**		*e*P	**P**	13 20 40.5	+0.4	
GOPC	**GO Pecny, Ondr**	**77.92 333**		*e*P	**P**	13 20 40.5	+0.4	
PRU	**Pruhonice**	**77.93 333**		*e*P	**P**	13 20 40.3	+0.2	
PRU	**Pruhonice**	**77.93 333**		*e*P	**P**	13 20 40.3	+0.2	
PRU	**Pruhonice**	**77.93 333**		*e*P	**P**	13 20 41.2	+1.1	
BRTR	**Keskin Array B**	**78.67 316**	P		**P**	13 20 45.0	+0.4	
	comp=Z,2.1nm,0.8s,baz=67,slow=4.8,SNR=10							
BRTR	**Keskin Array B**	**78.67 316**	P		**P**	13 20 45.0	+0.4	
KHC	**Kasperske Hory**	**78.98 333**		*e*P	**P**	13 20 46.4	+0.4	
KHC	**Kasperske Hory**	**78.98 333**		*e*P	**P**	13 20 46.4	+0.4	
KHC	**Kasperske Hory**	**78.98 333**		*e*P	**P**	13 20 46.8	+0.8	
TXAR	**Lajitas Array**	**78.99 59**	P		**P**	13 20 46.7	+0.2	
	comp=Z,0.7nm,0.9s,baz=316,slow=3.5,SNR=4.6							
TXAR	**Lajitas Array**	**78.99 59**		*e*P	**P**	13 20 48.1	+1.6	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**78.99 59**		*e*P	**P**	13 20 48.1	+1.6	
GERES	**GERESS Array B**	**79.20 333**	P		**P**	13 20 47.0	-0.3	
	comp=Z,0.6nm,0.4s,baz=23,slow=5.3,SNR=7.3							
GERES	**GERESS Array B**	**79.20 333**		*e*P	**P**	13 20 47.3	0.0	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**79.20 333**		*e*P	**P**	13 20 47.3	0.0	
PLCA	**Paso Flores**	**149.04 97**		*e*PKIKP	**PKPdf**	13 28 26.4	+0.4	
PLCA				pmax	pmax			
	comp=Z,2.0nm,0.7s							

IDC 25 13:20:07.7±1.5, 27.00N×143.87E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/42, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=49.3km s-min=29.4km az=89.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.66**	**335**	Pn	Pn		13 22 40.5	-1.2
	0.3nm,0.3s,baz=156,slow=11,SNR=6.4							
WRA	**Warramunga Arr**	**47.57**	**192**	P	P		13 28 45.0	-0.2
	0.9nm,0.9s,baz=12,slow=8.5,SNR=5.4							
MKAR	**Makanchi Array**	**51.70**	**310**	P	P		13 29 16.9	+0.3
	0.4nm,0.7s,baz=90,slow=8.6,SNR=3.5							
ILAR	**Eielson Array**	**57.08**	**29**	P	P		13 29 55.3	-0.2
	0.3nm,0.8s,baz=267,slow=6.0,SNR=4.7							

*IDC **25** 13:27:22.7±1.1, 34.10N×23.94E, h0km, mb3.8/9, mb1 3.9/16, mb1mx3.7/55, mbtmp3.7/16, ML4.0/6, MS3.5/13, Ms1 3.5/13, ms1mx3.2/53, Error ellipse: s-maj=20.6km s-min=16.3km az=174.0*

*ISCJB **25** 13:27:23.7±1.0, 34.13N±0.03×23.85E±0.05, h20km±8km, mb3.6/10, MS3.5/8, Error ellipse: s-maj=7.8km s-min=4.1km az=155.3*

*ATH **25** 13:27:24.8, 34.30N×23.62E, h24km±1km, ML3.7/4, Error ellipse: s-maj=3.3km s-min=1.2km az=18.0*

*HLW **25** 13:27:25.9, 34.32N×24.13E, h33km±14km, Md3.3*

*CSEM **25** 13:27:27.0±0.8, 34.38N×23.76E, h10km, ML3.5, Error ellipse: s-maj=17.4km s-min=8.4km az=11.0*

*THE **25** 13:27:27.4, 34.41N×23.73E, h0km±2km, ML3.5/7, Error ellipse: s-maj=3.6km s-min=1.4km az=194.0*

ISC 25 13:27:23.4±1.4, 34.17N±0.03×23.75E±0.04, h8km±8km, n122, σ1§67/136, mb3.9/10, MS3.5/8, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.73**	**23**	P	**Pg**		13 27 37.6	+0.2
GVD				S	**Sb**		13 27 46.5	-1.9
GVD	**Gavdhos**	**0.73**	**23**	P	**Pg**		13 27 37.6	+0.2
GVD				S	**Sb**		13 27 46.5	-1.9
GVD	**Gavdhos**	**0.73**	**23**	P	**Pg**		13 27 37.6	+0.2
GVD				S	**Sb**		13 27 46.7	-0.7
GVD				AML	AML		13 27 53.4	
	comp=E,13937μm,0.5s							
GVD				AML	AML		13 28 00.5	
	comp=N,16914μm,0.4s							
SIVA	**Sivas**	**1.22**	**46**	P	**Pn**		13 27 48.1	+1.4
SIVA				S	**Sn**		13 28 03.6	+0.3
SIVA	**Sivas**	**1.22**	**46**	P	**Pn**		13 27 48.1	+1.4
SIVA				S	**Sn**		13 28 03.6	+0.3
SIVA	**Sivas**	**1.22**	**46**	P	**Pn**		13 27 48.2	+1.5
SIVA				S	**Sn**		13 28 06.6	+3.2
SIVA				AML	AML		13 28 13.8	
	comp=N,10810μm,0.7s							
SIVA				AML	AML		13 28 14.0	
	comp=E,10176μm,0.8s							
VAM	**Vamos**	**1.29**	**17**	P	**Pb**		13 27 47.3	-0.6
VAM	**Vamos**	**1.29**	**17**	P	**Pn**		13 27 48.6	+0.9
IMMV	**Iera Moni Meta**	**1.30**	**8**	P	**Pb**		13 27 46.6	-1.5
IMMV				S	**Sb**		13 28 03.0	-2.0
IMMV	**Iera Moni Meta**	**1.30**	**8**	P	**Pb**		13 27 46.6	-1.5
IMMV				S	**Sg**		13 28 03.4	-1.9
IMMV	**Iera Moni Meta**	**1.30**	**8**	P	**Pb**		13 27 45.7	-2.4
IMMV				S	**Sg**		13 28 03.4	-1.9
IMMV				AML	AML		13 28 13.3	
	comp=E,6342μm,0.9s							
IMMV				AML	AML		13 28 16.8	
	comp=N,5129μm,0.5s							
IDI	**Anoyia**	**1.46**	**40**	Pn	**Pb**		13 27 51.3	+0.5
	comp=N,6.8nm,0.3s,baz=240,slow=8.6,SNR=59							
IDI				Sn	**Sg**		13 28 09.2	-1.2
	comp=N,32nm,0.3s,baz=207,slow=22,SNR=13							
IDI	**Anoyia**	**1.46**	**40**	P	**Pg**		13 27 51.5	+0.1
IDI				S	**Sg**		13 28 10.1	-0.3
IDI	**Anoyia**	**1.46**	**40**	P	**Pg**		13 27 51.5	+0.1
IDI				S	**Sg**		13 28 10.1	-0.3
IDI	**Anoyia**	**1.46**	**40**	P	**Pb**		13 27 51.3	+0.5
IDI				S	**Sg**		13 28 09.6	-0.8
IDI				AML	AML		13 28 19.2	
	comp=N,1227μm,1.1s							
IDI				AML	AML		13 28 30.4	
	comp=E,1816μm,1.2s							
ANKY	**Antikythira Is**	**1.73**	**348**	P	**Pb**		13 27 54.9	-0.5
ANKY				S	**Sn**		13 28 14.5	-1.5
ANKY	**Antikythira Is**	**1.73**	**348**	P	**Pb**		13 27 54.9	-0.5
ANKY				S	**Sn**		13 28 14.5	-1.5
ANKY	**Antikythira Is**	**1.73**	**348**	P	**Pg**		13 27 56.3	-0.3
LAST	**Lasithi**	**1.74**	**55**	P	**Pb**		13 27 56.3	+0.7
LAST				S	**Sg**		13 28 19.7	+0.4
LAST	**Lasithi**	**1.74**	**55**	P	**Pb**		13 27 56.3	+0.7
LAST				S	**Sg**		13 28 19.7	+0.4
LAST	**Lasithi**	**1.74**	**55**	P	**Pb**		13 27 56.1	+0.6
NPS	**Neapolis**	**1.89**	**54**	P	**Pb**		13 27 58.3	+0.3
NPS	**Neapolis**	**1.89**	**54**	P	**Pb**		13 27 58.3	+0.3
NPS	**Neapolis**	**1.89**	**54**	P	**Pb**		13 27 58.6	+0.6
KYTH	**Kithira**	**2.17**	**345**	P	**Pn**		13 28 01.3	+1.5
KYTH				S	**Sb**		13 28 27.3	-2.6
KYTH	**Kithira**	**2.17**	**345**	P	**Pn**		13 28 01.3	+1.5
KYTH				S	**Sb**		13 28 27.3	-2.6
ZKR	**Zakros**	**2.25**	**64**	P	**Pb**		13 28 03.8	-0.4
ZKR	**Zakros**	**2.25**	**64**	P	**Pb**		13 28 03.8	-0.4
ZKR	**Zakros**	**2.25**	**64**	P	**Pn**		13 28 03.1	+2.3
MHLO	**Agia Marina, M**	**2.57**	**12**	P	**Pn**		13 28 03.5	-1.8
MHLO	**Agia Marina, M**	**2.57**	**12**	P	**Pn**		13 28 03.5	-1.8
THR5	**Thira Island,**	**2.60**	**30**	P	**Pn**		13 28 06.0	+0.4
THR5	**Thira Island,**	**2.60**	**30**	P	**Pn**		13 28 06.0	+0.4
VLI	**Veliai**	**2.63**	**346**	P	**Pn**		13 28 07.4	+1.3
VLI	**Veliai**	**2.63**	**346**	P	**Pn**		13 28 07.4	+1.3
VLI	**Veliai**	**2.63**	**346**	P	**Pn**		13 28 08.6	-2.0
SLUM	**Salum**	**2.94**	**155**	P	**Pn**		13 28 11.0	+0.7
SLUM	baz=161							
	baz=161			S	**Sn**		13 28 44.2	-1.6
SLUM	**Salum**	**2.94**	**155**	P	**Pn**		13 28 11.0	+0.7
SERI	**Serifos**	**3.05**	**11**	P	**Pn**		13 28 11.6	-0.2
SERI	**Serifos**	**3.05**	**11**	P	**Pn**		13 28 11.6	-0.2
KARP	**Karpathos**	**3.13**	**63**	P	**Pn**		13 28 15.6	+2.6
KARP	**Karpathos**	**3.13**	**63**	P	**Pn**		13 28 15.6	+2.6
KARP	**Karpathos**	**3.13**	**63**	P	**Pn**		13 28 15.4	+2.5
PYL	**PYLOS**	**3.17**	**330**	P	**Pn**		13 28 15.2	+1.6
PYL	**PYLOS**	**3.17**	**330**	P	**Pn**		13 28 15.2	+1.6
PYL	**PYLOS**	**3.17**	**330**	P	**Pn**		13 28 12.9	-0.6
APE	**Apeiranthos**	**3.24**	**26**	P	**Pn**		13 28 13.4	-1.1
APE	**Apeiranthos**	**3.24**	**26**	P	**Pn**		13 28 13.4	-1.1
KRND	**KRANIDI**	**3.24**	**352**	P	**Pn**		13 28 16.0	+1.5
KRND	**KRANIDI**	**3.24**	**352**	P	**Pn**		13 28 16.0	+1.5
DID	**Didima**	**3.36**	**353**	P	**Pn**		13 28 16.1	0.0
DID	**Didima**	**3.36**	**353**	P	**Pn**		13 28 16.1	0.0
DID				S	**Sn**		13 28 55.5	-0.6
DID	**Didima**	**3.36**	**353**	P	**Pn**		13 28 15.9	-0.2
DID				S	**Sn**		13 28 55.5	-0.6
VLY	**Voula,Athens**	**3.68**	**1**	P	**Pn**		13 28 18.9	-1.6
VLY	**Voula,Athens**	**3.68**	**1**	P	**Pn**		13 28 18.9	-1.6
PTL	**Penteli**	**3.87**	**1**	P	**Pn**		13 28 21.7	-1.5
PTL	**Penteli**	**3.87**	**1**	P	**Pn**		13 28 21.7	-1.5
LTK	**Loutraki**	**3.90**	**351**	P	**Pn**		13 28 24.7	+1.2
LTK	**Loutraki**	**3.90**	**351**	P	**Pn**		13 28 24.7	+1.2
VILL	**Villia**	**4.00**	**355**	P	**Pn**		13 28 22.6	-2.4
VIL2	**Platees**	**4.05**	**355**	P	**Pn**		13 28 22.6	-3.1
KLV	**Kalavryta, Ach**	**4.08**	**342**	P	**Pn**		13 28 28.0	+2.0
KLV	**Kalavryta, Ach**	**4.08**	**342**	P	**Pn**		13 28 28.0	+2.0
ARG	**Arkhangelos**	**4.13**	**59**	P	**Pn**		13 28 28.1	+1.4
ARG	**Arkhangelos**	**4.13**	**59**	P	**Pn**		13 28 28.1	+1.4
PROD	**Prodromos**	**4.14**	**351**	P	**Pn**		13 28 25.6	-1.2
PROD	**Prodromos**	**4.14**	**351**	P	**Pn**		13 28 25.6	-1.2
RLS	**Riolos of Patr**	**4.30**	**335**	P	**Pn**		13 28 32.7	+3.7
LAKA	**Lakka**	**4.31**	**341**	P	**Pn**		13 28 31.2	+2.0
LAKA	**Lakka**	**4.31**	**341**	P	**Pn**		13 28 31.2	+2.0
DSF	**Desfina**	**4.35**	**347**	P	**Pn**		13 28 30.5	+0.8
DSF	**Desfina**	**4.35**	**347**	P	**Pn**		13 28 30.5	+0.8
KALE	**Kalithea**	**4.41**	**343**	P	**Pn**		13 28 32.1	+1.5
KALE	**Kalithea**	**4.41**	**343**	P	**Pn**		13 28 32.1	+1.5
LKR	**Lokris**	**4.51**	**353**	P	**Pn**		13 28 30.6	-1.4
LKR	**Lokris**	**4.51**	**353**	P	**Pn**		13 28 30.6	-1.4
ATAL	**Atalanti**	**4.55**	**353**	P	**Pn**		13 28 30.5	-2.0
ATAL	**Atalanti**	**4.55**	**353**	P	**Pn**		13 28 30.5	-2.0
VLS	**Valsamata**	**4.75**	**328**	P	**Pn**		13 28 35.2	0.0
PVO	**Paravola**	**4.79**	**339**	P	**Pn**		13 28 37.8	+2.1
PVO	**Paravola**	**4.79**	**339**	P	**Pn**		13 28 37.8	+2.1
EVR	**Evrytania**	**4.99**	**342**	P	**Pn**		13 28 41.0	+2.4
EVR	**Evrytania**	**4.99**	**342**	P	**Pn**		13 28 41.0	+2.4
SKIA	**Skiathos**	**4.99**	**358**	P	**Pn**		13 28 37.2	-1.3
SKIA	**Skiathos**	**4.99**	**358**	P	**Pn**		13 28 37.2	-1.3
SWA2		**5.12**	**163**	P	**Pn**		13 28 42.0	+1.7
	baz=167							
SWA2				S	**Sn**		13 29 37.3	-2.3
	baz=167							
SWA2		**5.12**	**163**	P	**Pn**		13 28 42.0	+1.7
DSL	**Palaion Diasel**	**5.39**	**338**	P	**Pn**		13 28 46.6	+2.5
DSL	**Palaion Diasel**	**5.39**	**338**	P	**Pn**		13 28 46.6	+2.5
KOT	**Kottamia**	**8.06**	**119**	P	**Pn**		13 29 19.4	-1.3
	baz=121							
HHAG	**Hagoal**	**8.24**	**118**	P	**Pn**		13 29 21.9	-1.4
	baz=120							
SUZ	**Suez**	**8.84**	**117**	P	**Pn**		13 29 30.1	-1.3
	baz=118							
BRTR	**Keskin Array B**	**9.66**	**52**	Pn	**Pn**		13 29 44.6	+1.8
	comp=E,0.1nm,0.3s,baz=225,slow=13,SNR=5.9							
MMAI	**Mount Meron Ar**	**9.79**	**94**	Pn	**Pn**		13 29 42.8	-1.7
	comp=E,1.4nm,0.3s,baz=260,slow=12,SNR=5.4							
MMAI				Sn	**Sn**		13 31 28.2	-6.5
	comp=E,1.6nm,0.3s,baz=279,slow=20,SNR=4.6							
MMAI				LR	LR		13 35 49.0	
	comp=E,95nm,18.4s,baz=300,slow=53							
EIL	**Elat**	**10.52**	**112**	Pn	Pn		13 29 52.5	-2.0
	comp=E,0.6nm,0.3s,baz=329,slow=13,SNR=9.0							
EIL				Sn	**Sn**		13 31 48.1	-4.4
	comp=E,1.0nm,0.3s,baz=103,slow=19,SNR=4.0							
VRAC	**Vranov**	**16.03**	**343**	Pn	**P**		13 31 11.8	-0.7
	comp=E,0.4nm,0.3s,baz=155,slow=13,SNR=3.1							
OKC	**Ostrava-Krasne**	**16.19**	**347**	*e*P	**P**		13 31 15.4	+1.1
OKC				AMS	AMS		13 38 40.0	
	comp=E,300nm,15.2s							
GERES	**GERESS Array B**	**16.46**	**336**	Pn	**P**		13 31 17.5	+0.2
	comp=E,0.2nm,0.3s,baz=153,slow=11,SNR=5.4							
GERES				LR	LR		13 39 39.7	
	comp=E,124nm,18.5s,baz=140,slow=44							
KHC	**Kasperske Hory**	**16.75**	**336**	*e*P	**P**		13 31 21.6	+1.1
KHC				*ex*	x		13 31 28.9	
KHC				AMS	AMS		13 39 10.0	
	comp=E,200nm,19.0s							
AKASG	**Malin Array Be**	**17.00**	**12**	P	**Pn**		13 31 21.8	+0.5
	comp=E,1.5nm,0.3s,baz=205,slow=11,SNR=5.1							
GOPC	**GO Pecny, Ondr**	**17.06**	**340**	AMS	AMS		13 39 20.0	
	comp=E,300nm,15.2s							
DPC	**Dobruska-Polom**	**17.06**	**344**	*e*P	**Pn**		13 31 23.5	+1.3
DPC				*ex*	x	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.49**	**278**	P	**Pn**	**13 35 52.6**	**-0.7**
JTH				S	**Sn**	**13 36 00.0**	**-0.8**
MIYJ	**Miyakonagasawa**	**0.60**	**240**	P	**Pn**	**13 35 54.4**	**-0.4**
MIYJ				S	**Sn**	**13 36 03.1**	**-0.3**
JANG	**Nango**	**0.90**	**304**	P	**Pn**	**13 35 57.9**	**-1.0**
JANG				*eS*	**Sn**	**13 36 09.3**	**-1.5**
JKZ	**Kuzumaki**	**0.90**	**277**	P	**Pn**	**13 35 59.0**	**0.0**
JKZ				S	**Sn**	**13 36 09.9**	**-1.0**
JOM	**Ohasama**	**1.01**	**247**	P	**Pn**	**13 36 00.7**	**+0.3**
JOM				*eS*	**Sn**	**13 36 14.0**	**+0.6**
OFUJ	**Ofunato**	**1.02**	**219**	P	**Pn**	**13 36 00.8**	**+0.3**
OFUJ				S	**Sn**	**13 36 14.4**	**+0.8**
JMK	**Ichinoseki**	**1.35**	**227**	P	**Pn**	**13 36 05.7**	**+0.6**
JMK				S	**Sn**	**13 36 23.7**	**+1.9**
JTM	**Tenmabayashi**	**1.42**	**310**	P	**Pn**	**13 36 06.2**	**+0.2**
JTM				S	**Sn**	**13 36 23.9**	**+0.4**
JAH	**Hinai**	**1.46**	**283**	P	**Pn**	**13 36 07.2**	**+0.6**
JRG	**Rokugo**	**1.52**	**252**	P	**Pn**	**13 36 08.5**	**+1.2**
ASAJ	**Asahikawa** 2.7nm,0.3s,baz=200,slow=14,SNR=23	**4.24**	**1**	P	**Pn**	**13 36 45.4**	**+0.6**
ASAJ	3.2nm,0.3s,baz=256,slow=15,SNR=4.7			S	**Sn**	**13 37 34.4**	**+1.5**
MJAR	**Matsushiro Arr** 4.9nm,0.3s,baz=32,slow=14,SNR=64	**4.74**	**227**	P	**Pn**	**13 36 54.5**	**+2.8**
MJAR				LR	LR	13 38 59.0	
	comp=Z,261nm,20.5s,baz=60,slow=41						
MAT	**Matsushiro**	**4.74**	**227**	P	**Pn**	**13 36 54.8**	**+3.1**
MAT				S	**Sn**	**13 37 46.0**	**+0.6**
JHJ	**Hachijo jima 2** 8.5nm,0.3s,baz=75,slow=20,SNR=3.4	**7.09**	**199**	P	**Pn**	**13 37 22.9**	**-1.0**
JHJ				S	**Sn**	**13 38 38.9**	**-4.3**
	3.0nm,0.3s,baz=72,slow=20,SNR=2.8						
JHJ				LR	LR	13 40 03.9	
	comp=Z,150nm,21.3s,baz=122,slow=36						
USRK	**Ussuriysk Ar.** 0.8nm,0.3s,baz=113,slow=15,SNR=15	**8.93**	**302**	P	**Pn**	**13 37 52.9**	**+3.8**
JNU	**Nakatsue**	**11.52**	**238**	LR	LR	13 42 52.0	
	comp=Z,111nm,18.5s,baz=118,slow=37						
KSRS	**Korea Array** 0.4nm,0.3s,baz=65,slow=14,SNR=8.2	**11.65**	**263**	P	Pn	13 38 30.9	+4.6
KSRS				LR	LR	13 42 18.2	
	comp=Z,99nm,20.3s,baz=90,slow=34						
KLR	**Kul'dur**	**12.08**	**324**	LR	LR	13 43 08.6	
	comp=Z,118nm,18.6s,baz=137,slow=37						
PETK	**Petropavlovsk-** comp=Z,48nm,21.1s,baz=247,slow=35	**16.82**	**33**	LR	LR	13 45 29.7	
SEY	**Seymchan** 4.2nm,0.9s,baz=164,slow=9.4,SNR=7.9	**23.84**	**11**	P	**P**	**13 40 51.8**	**-0.1**
SONM	**Songino Array** 0.5nm,0.4s,baz=99,slow=7.3,SNR=3.5	**27.02**	**299**	P	**P**	**13 41 21.2**	**+0.1**
SONM				LR	LR	13 52 41.9	
	comp=Z,67nm,19.4s,baz=105,slow=38						
H11N2	**WAKE ISLAND Hy** baz=319,slow=75,SNR=572	**29.02**	**127**	T	T	14 12 17.3	
H11N1	**WAKE ISLAND Hy** baz=319,slow=75,SNR=386	**29.03**	**127**	T	T	14 12 17.5	
H11N3	**WAKE ISLAND Hy** baz=319,slow=75,SNR=762	**29.04**	**127**	T	T	14 12 21.6	
H11S1	**WAKE ISLAND Hy** baz=320,slow=76,SNR=55	**29.83**	**129**	T	T	14 13 22.4	
H11S3	**WAKE ISLAND Hy** baz=320,slow=76,SNR=56	**29.83**	**129**	T	T	14 13 28.5	
H11S2	**WAKE ISLAND Hy** baz=320,slow=76,SNR=38	**29.84**	**129**	T	T	14 13 19.0	
ZALV	**Zalesovo Beam** 1.4nm,0.5s,baz=99,slow=7.9,SNR=7.1	**40.69**	**310**	P	**P**	**13 43 19.0**	**0.0**
NRIK	**Noril'sk** comp=Z,66nm,20.1s,baz=222,slow=38	**41.07**	**334**	LR	LR	14 01 43.2	
CMAR	**Chiang Mai Arr** 0.6nm,0.5s,baz=41,slow=8.4,SNR=4.3	**43.08**	**253**	P	**P**	**13 43 39.4**	**+0.4**
MKAR	**Makanchi Array** 0.9nm,0.4s,baz=83,slow=9.8,SNR=11	**43.39**	**300**	P	**P**	**13 43 41.1**	**-0.1**
ILAR	**Eielson Array** 0.7nm,0.5s,baz=262,slow=6.1,SNR=14	**46.65**	**34**	P	**P**	**13 44 07.0**	**+0.2**
AKTO	**Aktyubinsk** 1.6nm,0.7s,baz=57,slow=12,SNR=5.4	**57.43**	**311**	P	**P**	**13 45 27.0**	**-0.2**
WRA	**Warramunga Arr** 3.6nm,0.7s,baz=6.7,slow=6.9,SNR=38	**59.99**	**189**	P	**P**	**13 45 44.7**	**-0.5**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=302,slow=6.1,SNR=4.9	**60.93**	**31**	P	**P**	**13 45 51.2**	**0.0**
ASAR	**Alice Springs** 1.9nm,0.9s,baz=3.9,slow=6.0,SNR=16	**63.72**	**189**	P	**P**	**13 46 10.1**	**-0.2**
FINES	**FINESS Array B** 0.9nm,0.5s,baz=43,slow=9.2,SNR=11	**66.70**	**332**	P	**P**	**13 46 28.9**	**-0.3**
FINES				LR	LR	14 17 13.9	
	comp=Z,21nm,18.4s,baz=48,slow=37						
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.6s,baz=38,slow=6.2	**71.90**	**337**	P	**P**	**13 47 01.0**	**-0.4**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.5s,baz=39,slow=6.0,SNR=5.7	**71.90**	**337**	P	**P**	**13 47 01.3**	**-0.1**
AKASG	**Malin Array Ba** comp=Z,1.0nm,0.5s,baz=45,slow=5.3,SNR=4.9	**72.57**	**322**	P	**P**	**13 47 05.1**	**-0.4**
GERES	**GERESS Array B** comp=Z,0.5nm,0.8s,baz=35,slow=5.3,SNR=3.6	**80.74**	**329**	P	**P**	**13 47 51.6**	**-0.2**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,baz=275,slow=3.6,SNR=4.3	**87.73**	**53**	P	**P**	**13 48 28.4**	**+0.8**

*PRE **25** 13:38:22.7±2.2,30°.17S×17°.90E, h5km, ML4.0*
*NAM **25** 13:38:37.1±123.0,27°.98S×23°.24E, h31km±999km, MD4.4*
ISC 25 13:38:23.0±1.0,**29°.98S**±0°.06×**18°.07E**±0°.04,**h10**km,**n13,**
σ1°86/24,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOMG	**Komaggas**	**0.54**	**289**	*eP*	**Pg**	**13 38 33.3**	**-0.2**
KOMG				*eS*	**Sg**	**13 38 39.4**	**-1.2**
KOMG				AML	AML	13 38 40.6	
	comp=Z,798nm,0.4s						
CVNA	**Calvinia**	**2.09**	**136**	*eP*	**Pn**	**13 38 58.9**	**+0.6**
CVNA				*eS*	**Sb**	**13 39 26.1**	**-1.2**
CVNA				AML	AML	13 39 37.7	
	comp=Z,310nm,0.3s						
AUGR	**Augrabies**	**2.42**	**56**	*eP*	**Pb**	**13 39 06.2**	**-0.4**
AUGR				*eS*	**Sg**	**13 39 39.5**	**-1.2**
AUGR				AML	AML	13 39 45.0	
	comp=Z,300nm,0.4s						
ARMS	**Ukamas**	**2.42**	**38**	*i* P	**Pb**	**13 39 06.5**	**-0.2**
ARMS				*i* S	**Pg**	**13 39 10.4**	**+1.0**
KEIM	**Keimoes**	**2.83**	**64**	*eP*	**Pb**	**13 39 12.2**	**-1.5**
KEIM				*eS*	**Sb**	**13 39 49.8**	**+1.2**
KEIM				AML	AML	13 40 02.6	
	comp=Z,309nm,0.4s						
UPI	**Upington**	**3.22**	**61**	*eP*	**Pb**	**13 39 18.3**	**-2.0**
UPI				*eS*	**Sb**	**13 39 59.0**	**-0.6**
UPI				AML	AML	13 40 13.6	
	comp=Z,261nm,0.4s						
BOSA	**Boshof**	**6.42**	**80**	*i* P	**Pn**	**13 40 00.4**	**+2.6**
BOSA				*i*		13 40 00.9	
	baz=251,slow=16						
BOSA				*i* S	**Sg**	**13 41 46.1**	**-3.2**
SWZ	**Schweizer**	**6.97**	**68**	*eP*	**Pn**	**13 40 08.0**	**+2.7**
SWZ				*eS*	**Sn**	**13 41 25.5**	**+0.8**
SWZ				AML	AML	13 42 12.3	
	comp=Z,63nm,0.5s						
WIN	**Windhoek**	**7.43**	**353**	*i* P	**Pg**	**13 40 44.7**	**-0.6**
WIN				*i* S	Sn	13 41 26.6	-10
GRM	**Grahamstown**	**7.93**	**117**	*eP*	**Pn**	**13 40 20.0**	**+1.6**
GRM				*eS*	**Sn**	**13 41 47.5**	**-0.6**
GRM				AML	AML	13 42 35.3	
	comp=Z,80nm,0.7s						
SEK	**Senekal**	**8.52**	**81**	*eP*	**Pn**	**13 40 30.2**	**+3.6**
SEK				*eS*	**Sn**	**13 42 02.8**	**-0.2**
SEK				AML	AML	13 42 58.1	
	comp=Z,66nm,0.6s						
PRYS	**Parys**	**8.73**	**72**	*eP*	**Pn**	**13 40 33.0**	**+3.6**
PRYS				*eS*	**Sn**	**13 42 08.0**	**-0.1**
PRYS				AML	AML	13 42 11.1	
	comp=Z,16nm,0.3s						
MATP	**Matopo**	**13.39**	**47**	*i* P	**Pn**	**13 41 31.3**	**-2.0**
MATP				*i*		13 41 31.6	
	baz=146,slow=3.1						
MATP				*i* S	S	13 44 39.1	+13

*IDC **25** 13:49:01.6±1.5,36°.51N×143°.87E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/43, mbtmp3.2/4, ML3.0/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/27, Error ellipse: s-maj=49.8km s-min=32.4km az=136.0*
*ISCJB **25** 13:49:05.1±0.8,36°.58N±0°.05×143°.62E±0°.06, h33km, mb3.4/3, Error ellipse: s-maj=7.1km s-min=6.3km az=145.9*

*JMA **25** 13:49:06.0±0.3,36°.61N×143°.60E, h56km, M3.2*
ISC 25 13:49:06.4±1.1,**36°.57N**±0°.05×**143°.67E**±0°.08,**h35**km,**n17,**
σ1°21/24,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.36**	**284**	P	**Pn**	**13 49 43.1**	**+0.4**
ONAJ				*eS*	**Sn**	**13 50 09.8**	**-0.7**
JFK	**Kawauchi**	**2.38**	**291**	*eS*	**Sn**	**13 50 09.7**	**-1.1**
JHO	**Hitachi**	**2.49**	**272**	*eS*	**Sn**	**13 50 12.2**	**-1.4**
JFT	**Otama**	**2.83**	**291**	P	**Pn**	**13 49 49.4**	**+0.3**
JFT				*eS*	**Sn**	**13 50 22.2**	**+0.3**
BSO1	**Boso 1**	**2.90**	**230**	P	**Pn**	**13 49 50.0**	**+0.4**
BSO1				*eS*	**Sn**	**13 50 23.9**	**+0.9**
JMK	**Ichinoseki**	**3.07**	**322**	P	**Pn**	**13 49 52.2**	**-0.2**
JAG	**Ashikaga**	**3.40**	**269**	P	**Pn**	**13 49 57.5**	**+0.6**
JAG				*eS*	**Sn**	**13 50 34.3**	**-1.6**
JOM	**Ohasama**	**3.46**	**328**	P	**Pn**	**13 49 58.3**	**+0.6**
JOM				*eS*	**Sn**	**13 50 35.6**	**-1.8**
JYK	**Kaneyama**	**3.52**	**313**	P	**Pn**	**13 49 58.3**	**-0.2**
JYK				*eS*	**Sn**	**13 50 38.8**	**-0.1**
JRY	**Ryogami san**	**3.89**	**263**	P	**Pn**	**13 50 04.0**	**+0.4**
JRY				*eS*	**Sn**	**13 50 47.6**	**-0.5**
JOD2	**Odawara 2**	**3.94**	**252**	*eS*	**Sn**	**13 50 48.8**	**-0.5**
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=89,slow=16,SNR=13	**4.39**	**271**	Pn	**Pn**	**13 50 11.8**	**+1.2**
MJAR				Sn	**Sn**	**13 51 01.9**	**+1.3**
	0.6nm,0.3s,baz=27,slow=32,SNR=4.4						
MJAR				LR	LR	13 52 18.2	
	comp=Z,50nm,19.6s,baz=205,slow=43						
JHJ	**Hachijo jima 2** 12nm,0.3s,baz=69,slow=23,SNR=3.6	**4.69**	**224**	Sn	**Sn**	**13 51 04.0**	**-3.9**
KLR	**Kul'dur** comp=Z,57nm,18.3s,baz=189,slow=36	**15.35**	**329**	LR	LR	13 58 19.5	
ILAR	**Eielson Array** 0.2nm,0.6s,baz=280,slow=5.4,SNR=2.9	**48.92**	**32**	P	**P**	**13 57 48.4**	**-0.2**
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=10.0,slow=7.4,SNR=2.9	**56.89**	**190**	P	**P**	**13 58 48.0**	**+0.2**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=305,slow=5.0,SNR=2.5	**88.96**	**54**	P	**P**	**14 01 58.3**	**+0.6**

*ISCJB **25** 14:09:42.5±0.5, 6°.35N±0°.08×127°.16E±0°.06, h83km, mb4.2/18, Error ellipse: s-maj=13.0km s-min=6.4km az=34.7*
*IDC **25** 14:09:46.7±2.5, 6°.30N×126°.98E, h100km±19km, mb3.9/15, mb1 3.9/15, mb1mx3.7/44, mbtmp4.2/15, MS3.2/1, Ms1 3.2/1, ms1mx2.5/39, Error ellipse: s-maj=38.0km s-min=11.0km az=69.0*
*NEIC **25** 14:09:46.9±1.7, 6°.31N×126°.91E, h105km±13km, mb4.5/3, Error ellipse: s-maj=31.1km s-min=9.2km az=71.0*
ISC 25 14:09:44.5±0.7,**6°.2N**±0°.1×**127°.0E**±0°.1,**h83**km,**n25,**
σ1°22/31,mb4.4/18,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)** 494nm,0.3s,baz=188,slow=0.5,SNR=33	**1.66**	**300**	P	**Pn**	**14 10 13.6**	**+1.6**
DAV				S	**Sn**	**14 10 34.9**	**+2.0**
	384nm,0.3s,baz=287,slow=19,SNR=34						
DAV				LR	LR	14 10 50.7	
	comp=Z,134nm,21.8s,baz=130,slow=40						
KCP	**Kidapawan**	**2.07**	**292**	*i* P	**Pn**	**14 10 17.1**	**-0.4**
KCP				*i* S	**Sn**	**14 10 41.4**	**-1.3**
CTBH	**Cotabato--PC H**	**2.93**	**290**	*eP*	**Pn**	**14 10 28.3**	**-0.6**
CTBH				*i* S	**Sn**	**14 11 04.4**	**+1.2**
CGP	**Cagayan de Oro**	**3.20**	**314**	*eP*	**Pn**	**14 10 34.6**	**+2.0**
CGP				*eS*	**Sn**	**14 11 10.6**	**+0.9**
FITZ	**Fitzroy Crossi** 4.1nm,1.1s,baz=5.1,slow=9.0,SNR=9.8	**24.22**	**183**	P	**P**	**14 14 54.4**	**+0.8**
WRA	**Warramunga Arr** 1.1nm,0.5s,baz=53,slow=10,SNR=15	**26.99**	**165**	P	**P**	**14 15 20.5**	**+1.7**
CMAR	**Chiang Mai Arr** 0.5nm,0.4s,baz=90,slow=7.5,SNR=4.9	**29.95**	**296**	P	**P**	**14 15 45.8**	**+0.6**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=340,slow=7.1,SNR=4.5	**30.47**	**167**	P	**P**	**14 15 50.9**	**+1.2**
ASAR				PcP	**PcP**	**14 18 47.1**	**-0.3**
	0.4nm,0.7s,baz=354,slow=3.1,SNR=5.0						
NWAO	**Narrogin (SRO)** 4.5nm,0.5s,baz=241,slow=9.2,SNR=7.3	**40.04**	**193**	P	**P**	**14 17 11.9**	**+0.3**
SONM	**Songino Array** 0.4nm,0.5s,baz=156,slow=7.9,SNR=3.1	**45.04**	**340**	P	**P**	**14 17 51.9**	**-0.2**
MKAR	**Makanchi Array** 3.8nm,0.4s,baz=121,slow=8.1,SNR=59	**55.69**	**324**	P	**P**	**14 19 12.3**	**0.0**
MKAR				PcP	**PcP**	**14 20 10.5**	**-0.3**
	1.1nm,0.7s,baz=118,slow=4.0,SNR=5.1						
MKAR				LR	LR	14 44 16.8	
	comp=Z,22nm,18.7s,baz=182,slow=37						
ZALV	**Zalesovo Beam** 1.7nm,0.4s,baz=124,slow=7.4,SNR=11	**58.51**	**332**	P	**P**	**14 19 31.2**	**-0.9**
KURK	**Kurchatov**	**59.81**	**327**	*eP*	**P**	**14 19 38.2**	**-2.8**
KURBB	**Kurchatov Arra** 5.2nm,0.7s,baz=126,slow=8.0,SNR=68	**59.81**	**327**	P	**P**	**14 19 41.0**	**-0.2**
KKAR	**Karatay Array** 3.7nm,0.8s	**61.63**	**316**	*eP*	**P**	**14 19 51.8**	**-1.8**
BVAR	**Borovoye Array** 3.0nm,0.4s,baz=120,slow=8.7,SNR=34	**65.40**	**326**	P	**P**	**14 20 18.2**	**-0.1**
BRVK	**Borovoye** 30nm,0.8s	**65.47**	**326**	*eP*	**P**	**14 20 16.3**	**-2.4**
GEYT	**Alibeck** 2.3nm,0.7s,baz=131,slow=6.1,SNR=6.4	**69.58**	**308**	P	**P**	**14 20 45.2**	**+0.3**
ABKAR	**Akbulak array** 5.2nm,0.6s	**70.42**	**320**	*eP*	**P**	**14 20 49.3**	**-0.5**
AKTO	**Aktyubinsk** 6.3nm,0.6s,baz=99,slow=7.7,SNR=31	**71.90**	**321**	P	**P**	**14 20 58.5**	**-0.3**
ARU	**Arti** 5.1nm,0.5s,baz=117,slow=4.1,SNR=14	**73.00**	**327**	P	**P**	**14 21 04.3**	**-0.8**
ARU	**Arti** 1.0nm,0.5s	**73.00**	**327**	P	**P**	**14 21 04.3**	**-0.8**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=247,slow=5.1,SNR=4.7	**82.73**	**26**	P	**P**	**14 21 59.3**	**+0.4**
FINES	**FINESS Array B** 0.7nm,0.6s,baz=354,slow=3.8,SNR=4.0	**89.78**	**332**	P	**P**	**14 22 33.1**	**-0.4**
TORD	**Torodi Ar. Bea** 0.6nm,0.7s,baz=51,slow=2.5,SNR=3.8	**122.39**	**290**	PKP	**PKPdf**	**14 28 30.2**	**-0.9**

*DDA **25** 14:17:06.4, 38°.58N×39°.57E, h4km, Md3.2*
*ISK **25** 14:17:06.6, 38°.58N×39°.63E, h9km, ML3.1*
*CSEM **25** 14:17:07.3±0.2, 38°.56N×39°.61E, h2km, ML3.1, Error ellipse: s-maj=5.6km s-min=5.1km az=84.0*
*NSSC **25** 14:17:09.2±1.8, 38°.25N×38°.84E, h38km±999km, MD1.7, ML2.6*
ISC 25 14:17:07.1±1.0,**38°.55N**±0°.02×**39°.59E**±0°.02,**h9**km±9km,
n44,σ1°29/72,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.29**	**232**	PG	**Pg**	**14 17 13.2**	**+0.3**
SVRC				*eSG*	**Sb**	**14 17 19.0**	**-0.5**
SVRC	**Sivrice-ELAZID**	**0.29**	**232**	*i* Pg	**Pg**	**14 17 13.2**	**+0.3**
SVRC				*eSg*	**Sb**	**14 17 19.0**	**-0.5**
PTK	**Pertek**	**0.37**	**335**	PG	**Pg**	**14 17 14.2**	**-0.4**
PTK				*eSG*	**Sg**	**14 17 19.7**	**+0.2**
PTK	**Pertek**	**0.37**	**335**	*i* Pg	**Pg**	**14 17 14.2**	**-0.4**
PTK				*eSg*	**Sg**	**14 17 19.7**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.56**	**356**	P	**Pg**	**14 17 17.2**	**-0.9**
TNCL				S	**Sg**	**14 17 24.2**	**-1.2**
TNCL	**Tunceli-Merkez**	**0.56**	**356**	*i* P	**Pg**	**14 17 17.2**	**-0.9**
TNCL				*i* S	**Sg**	**14 17 24.2**	**-1.2**
DIYA	**Diyarbakir**	**0.75**	**146**	P	**Pg**	**14 17 21.1**	**-0.6**
DIYA				S	**Sb**	**14 17 34.3**	**+1.5**
DIYA	**Diyarbakir**	**0.75**	**146**	*i* P	**Pg**	**14 17 21.1**	**-0.6**
DIYA				*i* S	**Sb**	**14 17 34.3**	**+1.5**
BGOL	**Bingol**	**0.95**	**62**	P	**Pg**	**14 17 24.5**	**-0.8**
BGOL				S	**Sn**	**14 17 39.3**	**-1.1**
BGOL	**Bingol**	**0.95**	**62**	*i* P	**Pg**	**14 17 24.5**	**-0.8**
BGOL				*i* S	**Sn**	**14 17 39.3**	**-1.1**
BNGB	**Bing¨l**	**0.95**	**62**	*e*PG	**Pg**	**14 17 25.1**	**-0.4**
ERZN	**Erzincan**	**1.04**	**5**	*e*PG	**Pg**	**14 17 25.9**	**-1.1**
YEDI	**Yedisu-Bingol**	**1.15**	**40**	*e*PN	**Pg**	**14 17 28.2**	**-1.1**
YEDI	**Yedisu-Bingol**	**1.15**	**40**	*e*Pn	**Pg**	**14 17 28.2**	**-1.1**
URFA	**Urfa**	**1.27**	**209**	*e*PN	**Pn**	**14 17 31.5**	**+0.4**
URFA	**Urfa**	**1.27**	**209**	*e*Pn	**Pn**	**14 17 31.5**	**+0.4**
BNGL	**BINGOL**	**1.28**	**71**	*i* P	**Pg**	**14 17 31.9**	**+0.2**
BNGL				*i* S	**Sn**	**14 17 53.9**	**+5.2**
MAZI	**Mazidag**	**1.28**	**148**	*e*PN	**Pn**	**14 17 31.2**	**-0.1**
MAZI	**Mazidag**	**1.28**	**148**	*e*Pn	**Pn**	**14 17 31.2**	**-0.1**
BTMN	**Batman**	**1.48**	**116**	P	**Pn**	**14 17 34.5**	**+0.6**
BTMN				S	**Sg**	**14 17 55.6**	**+1.0**
BTMN	**Batman**	**1.48**	**116**	*i* P	**Pn**	**14 17 34.5**	**+0.6**
BTMN				*i* S	**Sg**	**14 17 55.6**	**+1.0**
ATAB	**Bozova**	**1.49**	**224**	P	**Pn**	**14 17 34.5**	**+0.4**
ATAB				S	**Sg**	**14 17 56.4**	**+1.3**
ATAB	**Bozova**	**1.49**	**224**	*i* P	**Pn**	**14 17 34.5**	**+0.4**
ATAB				*i* S	**Sg**	**14 17 56.4**	**+1.3**
MARD	**Mardin**	**1.55**	**143**	*i* P	**Pn**	**14 17 34.7**	**-0.4**
MARD				*i* S	**Sn**	**14 17 54.6**	**-0.8**
KELT	**Kelkit**	**1.61**	**351**	P	**Pb**	**14 17 36.9**	**-0.3**
KELT				S	**Sg**	**14 17 58.8**	**-0.2**
KELT	**Kelkit**	**1.61**	**351**	*i* P	**Pb**	**14 17 36.9**	**-0.3**
KELT				*i* S	**Sg**	**14 17 58.8**	**-0.2**
KOPT	**Kop Dagi**	**1.62**	**25**	P	**Pg**	**14 17 38.0**	**-0.2**
KOPT	**Kop Dagi**	**1.62**	**25**	*i* P	**Pg**	**14 17 38.0**	**-0.2**
KOPT				*i* S	**Sg**	**14 18 03.6**	**+4.3**
DARE	**Darende-Malaty**	**1.66**	**271**	*e*PN	**Pn**	**14 17 37.1**	**+0.7**
DARE	**Darende-Malaty**	**1.66**	**271**	*e*Pn	**Pn**	**14 17 37.1**	**+0.7**
KBSD	**Kabsdagh**	**1.72**	**154**	*e*P	**Pb**	**14 17 39.0**	**0.0**
KBSD				*e*S	**Sn**	**14 17 58.6**	**-0.8**
KBSD				AML	AML	14 18 04.3	
	comp=N,137nm,0.3s						
KBSD				AML	AML	14 18 07.0	
	comp=E,228nm,0.4s						
CUKAN	**kangal_SIVAS**	**1.82**	**295**	P	**Pb**	**14 17 40.9**	**+0.1**
CUKAN				S	**Sg**	**14 18 06.7**	**+0.9**
CUKAN	**kangal_SIVAS**	**1.82**	**295**	*i* P	**Pb**	**14 17 40.9**	**+0.1**
CUKAN				*i* S	**Sg**	**14 18 06.7**	**+0.9**
ERZM	**Erzurum**	**1.93**	**45**	P	**Pb**	**14 17 41.8**	**-0.8**
ERZM				S	**Sg**	**14 18 08.0**	**-1.1**
ERZM	**Erzurum**	**1.93**	**45**	*i* P	**Pb**	**14 17 41.8**	**-0.8**
ERZM				*i* S	**Sg**	**14 18 08.0**	**-1.1**
SUSE	**Susehri**	**1.97**	**327**	P	**Pb**	**14 17 43.6**	**+0.3**
SUSE				S	**Sb**	**14 18 08.3**	**+0.3**
SUSE	**Susehri**	**1.97**	**327**	*i* P	**Pb**	**14 17 43.6**	**+0.3**
SUSE				*i* S	**Sb**	**14 18 08.3**	**+0.3**
SFNV	**Sufian**	**2.17**	**169**	*e*P	**Pn**	**14 17 43.1**	**-0.4**
SFNV				*e*S	**Sn**	**14 18 06.4**	**-4.2**
SFNV				AML	AML	14 18 24.2	
	comp=N,16nm,10.7s						
SFNV				AML	AML	14 18 28.5	
	comp=E,4.4nm,1.4s						
EATA	**Eleskirt**	**2.60**	**59**	*i* P	**Pb**	**14 17 55.3**	**+1.2**
MNKR	**ALMNKUR**	**2.62**	**186**	*e*P	Pn	14 17 44.7	-4.9
MNKR				*e*S	Sn	14 18 11.6	-10
MNKR				AML	AML	14 18 22.9	
	comp=N,67nm,0.4s						
MNKR				AML	AML	14 18 23.6	
	comp=E,278nm,0.3s						
KSRV	**Kasrt alli**	**2.73**	**190**	*e*P	**Pb**	**14 17 54.0**	**-2.0**
GEVA	**Gevas**	**2.73**	**94**	P	**Pb**	**14 17 54.2**	**-2.0**
GEVA	**Gevas**	**2.73**	**94**	*i* P	**Pb**	**14 17 54.2**	**-2.0**
GEVA				*i* S	**Sb**	**14 18 31.3**	**+1.4**
HAKT	**HAKKARI**	**3.40**	**106**	*i* P	**Pb**	**14 18 09.0**	**+1.4**
HAKT				*i* S	**Sg**	**14 18 56.8**	**+0.6**

*SJA **25** 14:21:10.6±0.6,24°.61S×70°.76W, h539km±23km, ML4.7, MW4.0*
*ISCJB **25** 14:21:31.3±1.1,24°.72S±0°.04×70°.5W±0°.1, h64km±7km, mb4.0/1, Error ellipse: s-maj=18.9km s-min=6.9km az=172.9*
*IDC **25** 14:21:33.0±1.1,24°.89S×70°.19W, h58km±6km, mb3.8/1, mb1 4.1/3, mb1mx3.5/27, mbtmp4.2/3, MS2.7/2, Ms1 2.8/2, ms1mx2.5/26, Error ellipse: s-maj=51.0km s-min=11.5km az=113.0*
*GUC **25** 14:21:32.6±0.3,24°.61S×69°.98W, h20km±2km, ML4.1*
ISC 25 14:21:32.2±1.0,**24°.72S**±0°.06×**70°.49W**±0°.1,**h54**km±7km,
n23,σ1°63/29,4C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.12**	**40**	*eP*	**Pn**	**14 21 40.8**	**-0.3**
PB14				*eS*	**Sn**	**14 21 46.6**	**-0.7**
PB14				IAML		14 21 47.5	
	comp=N,49μm,0.2s						
PB10	**IPOC Station P**	**1.20**	**357**	*eP*	**Pn**	**14 21 53.3**	**+0.5**
PB10				*eS*	**Sn**	**14 22 09.3**	**+1.2**
PB10				IAML		14 22 13.2	
	comp=E,10μm,0.3s						
PB06	**IPOC Station P**	**2.18**	**23**	*eP*	**Pn**	**14 22 05.5**	**-0.7**
PB06				*eS*	**Sn**	**14 22 30.9**	**-1.2**
PB06				IAML		14 22 38.1	
	comp=N,1μm,0.5s						
PB04	**IPOC Station P**	**2.40**	**8**	*eP*	**Pn**	**14 22 08.3**	**-0.9**
PB04				*eS*	**Sn**	**14 22 40.6**	**+3.1**
PB04				IAML		14 22 50.9	
	comp=E,1μm,0.6s						
LVC	**Limon Verde** comp=E,4μm,0.3s,baz=207,slow=12,SNR=378	**2.56**	**35**	P	**Pn**	**14 22 11.6**	**+0.1**
LVC				S	**Sn**	**14 22 43.5**	**+1.8**
	comp=E,8μm,0.3s,baz=74,slow=0.3,SNR=13						
LVC	**Limon Verde**	**2.56

JOD2	**Odawara 2**	**2.50**	**23**	P		**Pn**	**14 23 32.5**	**-0.1**
JOD2				*e*S		**S**	**14 24 17.9**	**+1.7**
JYN	**Shimob**	**2.58**	**12**	P		**Pn**	**14 23 33.9**	**+0.6**
JYN				*e*S		**S**	**14 24 23.6**	**+6.1**
JAI	**Aioi**	**2.99**	**287**	P		**Pn**	**14 23 37.4**	**+0.6**
BSO1	**Boso 1**	**3.08**	**56**	P		**Pn**	**14 23 35.3**	**-1.7**
JRY	**Ryogami san**	**3.16**	**15**	P		**Pn**	**14 23 38.4**	**0.0**
JRY				*e*S		**S**	**14 24 26.0**	**-0.7**
JMN	**Monobe**	**3.44**	**284**	P		**Pn**	**14 23 41.3**	**+0.2**
MJAR	**Matsushiro Arr**	**3.58**	**4**	P		**Pn**	**14 23 42.0**	**-0.4**
	1.5nm,0.3s,baz=168,slow=9.6,SNR=21							
MJAR				S		**S**	**14 24 32.6**	**-1.5**
	0.4nm,0.3s,baz=155,slow=15,SNR=3.2							
MAT	**Matsushiro**	**3.58**	**4**	P		**Pn**	**14 23 42.3**	**-0.2**
MAT				S		**S**	**14 24 39.2**	**+5.1**
MAT	**Matsushiro**	**3.58**	**4**	P		**Pn**	**14 23 42.2**	**-0.2**
MAT				*e*S		**S**	**14 24 32.5**	**-1.6**
JAG	**Ashikaga**	**3.69**	**20**	P		**Pn**	**14 23 42.1**	**-1.4**
JNU	**Nakatsue**	**5.89**	**273**	P		**Pn**	**14 24 08.1**	**+0.5**
	0.3nm,0.3s,baz=124,slow=3.6,SNR=3.1							
KSRS	**Korea Array**	**9.30**	**302**	P		**Pn**	**14 24 48.7**	**+0.9**
	0.8nm,0.3s,baz=113,slow=12,SNR=39							
ASAJ	**Asahikawa**	**11.73**	**17**	P		**Pn**	**14 25 17.1**	**+0.4**
	0.4nm,0.3s,baz=208,slow=11,SNR=4.5							
USRK	**Ussuriysk Ar.**	**12.12**	**339**	P		**P**	**14 25 21.2**	**-0.3**
	0.9nm,0.3s,baz=163,slow=12,SNR=17							
KLR	**Kul'dur**	**16.88**	**346**	P		**P**	**14 26 12.8**	**-0.8**
	0.3nm,0.3s,baz=166,slow=9.5,SNR=4.2							
SONM	**Songino Array**	**27.97**	**311**	P		**P**	**14 27 58.6**	**0.0**
	1.0nm,0.6s,baz=116,slow=8.3,SNR=5.6							
ZALV	**Zalesovo Beam**	**42.66**	**316**	P		**P**	**14 30 01.9**	**-0.2**
	0.4nm,0.3s,baz=84,slow=7.4,SNR=2.7							
MKAR	**Makanchi Array**	**43.96**	**305**	P		**P**	**14 30 12.2**	**-0.5**
	0.8nm,0.5s,baz=86,slow=9.5,SNR=21							
KURBB	**Kurchatov Arra**	**46.34**	**311**	P		**P**	**14 30 30.4**	**-0.7**
	1.1nm,0.4s,baz=91,slow=6.9,SNR=17							
WRA	**Warramunga Arr**	**52.72**	**184**	P		**P**	**14 31 17.8**	**-1.3**
	0.3nm,0.3s,baz=0.0,slow=7.6,SNR=8.4							
ILAR	**Eielson Array**	**54.47**	**31**	P		**P**	**14 31 30.7**	**-0.5**
	1.2nm,0.7s,baz=280,slow=5.8,SNR=17							
YKA	**Yellowknife Ar**	**68.76**	**28**	P		**P**	**14 33 05.4**	**-0.3**
	0.5nm,0.6s,baz=300,slow=6.1,SNR=6.1							
TXAR	**Lajitas Array**	**94.92**	**50**	P		**P**	**14 35 22.7**	**0.0**
	0.2nm,0.6s,baz=308,slow=4.1,SNR=4.1							

*ISCJB **25** 14:29:16.9±0.4,49.°91N±0.°03×18.°40E±0.°03,h0km, Error ellipse: s-maj=4.0km s-min=2.3km az=16.3*
*IPEC **25** 14:29:18.2±0.2,49.°85N×18.°51E, h0km, ML2.1/4, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*CSEM **25** 14:29:18.3±0.2,49.°88N×18.°44E, h2km, ML2.7/10, Error ellipse: s-maj=5.0km s-min=2.9km az=11.0*
*PRU **25** 14:29:19.3,49.°86N×18.°40E, h0km*
*VIE **25** 14:29:19.6±1.5,49.°84N×18.°35E, h0km, mb2.1/3, ML2.5/4, Error ellipse: s-maj=10.1km s-min=6.9km az=41.0, Suspected Mining induced.*

ISC 25 14:29:18.0±0.7,49°83N±0.°03×18°48E±0.°02, h0km, n37, σ0s70/62, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**272**	*e*PG	**Pg**	**14 29 23.2**	**+1.0**
OKC				*e*SG	**Sg**	**14 29 25.8**	**+0.8**
	167nm,0.3s						
OKC	**Ostrava-Krasne**	**0.22**	**272**	Pg	**Pg**	**14 29 23.2**	**+1.0**
OKC				Sg	**Sg**	**14 29 25.8**	**+0.8**
	167nm,0.3s						
MORC	**Moravsky Berou**	**0.61**	**265**	*e*Pg	**Pg**	**14 29 30.0**	**+0.2**
MORC				*e*Sg	**Sg**	**14 29 37.6**	**-0.1**
	35nm,0.3s						
OJC	**Ojcow**	**0.93**	**65**	*e*Pg	**Pg**	**14 29 35.6**	**-0.3**
OJC				*e*Sg	**Sg**	**14 29 48.8**	**+0.8**
OJC	**Ojcow**	**0.93**	**65**	*e*Pg	**Pg**	**14 29 35.6**	**-0.3**
OJC				*e*Sg	**Sg**	**14 29 48.8**	**+0.8**
LANS	**Liptovska Anna**	**0.93**	**136**	*e*Pg	**Pb**	**14 29 37.0**	**-0.1**
LANS				*e*Sg	**Sn**	**14 29 51.7**	**-0.9**
LANS	**Liptovska Anna**	**0.93**	**136**	*e*PG	**Pb**	**14 29 37.0**	**-0.1**
LANS				*e*SG	**Sn**	**14 29 51.7**	**-0.9**
JAVC	**Velka Javorina**	**1.11**	**209**	*e*Pg	**Pn**	**14 29 41.1**	**+0.2**
JAVC				*e*Sg	**Sn**	**14 29 56.6**	**-0.3**
	23nm,0.7s						
NIE	**Niedzica**	**1.25**	**109**	*e*Pg	**Pb**	**14 29 42.7**	**+0.2**
NIE				*e*Sg	**Sn**	**14 30 01.1**	**+0.7**
NIE	**Niedzica**	**1.25**	**109**	*e*Pg	**Pb**	**14 29 42.7**	**+0.2**
NIE				*e*Sg	**Sn**	**14 30 01.1**	**+0.7**
VRAC	**Vranov**	**1.34**	**248**	*e*Pg	**Pg**	**14 29 43.4**	**-0.2**
VRAC				*e*Sg	**Sg**	**14 30 00.6**	**-0.4**
	27nm,0.3s						
VYHS	**Vyhne**	**1.36**	**170**	*e*Pg	**Pn**	**14 29 44.2**	**0.0**
VYHS				*e*Sn	**Sb**	**14 30 02.2**	**0.0**
VYHS	**Vyhne**	**1.36**	**170**	*e*PG	**Pn**	**14 29 44.2**	**0.0**
VYHS				*e*SN	**Sb**	**14 30 02.2**	**0.0**
VYHS				eLg		14 30 06.9	
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*PG	**Pn**	**14 29 45.5**	**-0.6**
DPC				*e*SG	**Sg**	**14 30 04.9**	**-0.9**
	18nm,0.2s						
DPC	**Dobruska-Polom**	**1.49**	**291**	Pg	**Pn**	**14 29 45.5**	**-0.6**
DPC				Sg	**Sg**	**14 30 04.9**	**-0.9**
	18nm,0.2s						
KRUC	**Moravsky**	**1.56**	**241**	*e*Pg	**Pn**	**14 29 47.3**	**+0.2**
KRUC				*e*Sg	**Sg**	**14 30 08.2**	**-0.1**
	18nm,0.4s						
UPC	**Upice**	**1.73**	**294**	*e*PG	**Pn**	**14 29 49.7**	**+0.3**
UPC				*e*SG	**Sn**	**14 30 12.3**	**+0.2**
	27nm,0.6s						
UPC	**Upice**	**1.73**	**294**	Pg	**Pn**	**14 29 49.7**	**+0.3**
UPC				Sg	**Sn**	**14 30 12.3**	**+0.2**
	27nm,0.6s						
KSP	**Ksiaz**	**1.73**	**307**	*e*Pg	**Pg**	**14 29 51.4**	**+0.1**
KSP				*e*Sg	**Sb**	**14 30 12.9**	**-0.1**
KSP	**Ksiaz**	**1.73**	**307**	*e*Pg	**Pg**	**14 29 51.4**	**+0.1**
KSP				*e*Sg	**Sb**	**14 30 12.9**	**-0.1**
STHS	**Stebnicka Huta**	**1.84**	**102**	*e*Pn	**Pg**	**14 29 53.7**	**+0.4**
STHS	**Stebnicka Huta**	**1.84**	**102**	*e*PN	**Pg**	**14 29 53.7**	**+0.4**
KECS	**Kecovo**	**1.88**	**135**	*e*Pn	**Pn**	**14 29 51.5**	**0.0**
KECS				*e*Sn	**Sb**	**14 30 17.2**	**-0.1**
KECS	**Kecovo**	**1.88**	**135**	*e*PN	**Pn**	**14 29 51.5**	**0.0**
KECS				*e*SN	**Sb**	**14 30 17.2**	**-0.1**
KECS				eLg		14 30 20.1	
CRVS	**Cervenica-Dubn**	**2.16**	**114**	*e*Pn	**Pg**	**14 29 59.2**	**-0.1**
CRVS	**Cervenica-Dubn**	**2.16**	**114**	*e*PN	**Pg**	**14 29 59.2**	**-0.1**
GOPC	**GO Pecny, Ondr**	**2.39**	**273**	*e*SG	**Sb**	**14 30 32.0**	**-0.1**
GOPC	**GO Pecny, Ondr**	**2.39**	**273**	Sg	**Sb**	**14 30 32.0**	**-0.1**
PRU	**Pruhonice**	**2.55**	**275**	*e*SG	**Sb**	**14 30 36.4**	**-0.2**
CONA	**Conrad Observa**	**2.57**	**223**	Pn	**Pn**	**14 30 01.3**	**+0.3**
	0.3nm,0.1s						
CONA				Sn	**Sn**	**14 30 32.2**	**-0.8**
	1.4nm,0.2s						
PVCC	**Panska Ves**	**2.61**	**287**	*e*SG	**Sg**	**14 30 40.2**	**-1.7**
PVCC	**Panska Ves**	**2.61**	**287**	Sg	**Sg**	**14 30 40.2**	**-1.7**
BRG	**Berggiesshubel**	**3.09**	**291**	PG	**Pb**	**14 30 14.7**	**+0.8**
BRG				SG	**Sg**	**14 30 55.0**	**-2.3**
	8.9nm,0.5s						
KHC	**Kasperske Hory**	**3.27**	**260**	*e*SG	**Sg**	**14 31 02.3**	**-0.9**
	6.5nm,0.4s						
KHC	**Kasperske Hory**	**3.27**	**260**	Sg	**Sg**	**14 31 02.3**	**-0.9**
	6.5nm,0.4s						
MOA	**Molln**	**3.42**	**236**	Pn	**Pn**	**14 30 13.1**	**+0.5**
	0.5nm,0.1s						
MOA				Sn	**Sn**	**14 30 55.4**	**+1.6**
	0.6nm,0.2s						
CLL	**Collm**	**3.79**	**295**	*i* Sg	**Sg**	**14 31 19.0**	**-0.9**

TRN 25 14:34:04.6,15.°60N×61.°42W, h9km, MD1.3, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.11**	**109**	*e*S	Sg	14 34 10.1	+1.1

*IDC **25** 14:54:45.5±3.2, 11.°63N×87.°45W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/33, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=73.7km s-min=48.1km az=26.0*
*ISCJB **25** 14:54:52.5±0.7, 11.°86N±0.°07×87.°78W±0.°06, h35km, mb3.6/4, Error ellipse: s-maj=12.0km s-min=3.8km az=37.7*
*CASC **25** 14:54:54.3±2.2, 12.°02N×87.°71W, h36km±999km, MD4.0, ML3.1*
*UCR **25** 14:54:58.9, 11.°72N×87.°53W, h35km, MD4.5*

ISC 25 14:54:53.8±0.9, 11.°97N±0.°07×87.°72W±0.°07, h35km, n21, σ1s41/28, mb3.8/4, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.13**	**79**	*e*P	**Pn**	**14 55 12.8**	**-0.3**
CNGN	**Cerro Negro**	**1.13**	**62**	*e*P	**Pn**	**14 55 12.8**	**-0.4**
CNGN				*e*S	Sn	14 55 18.2	-9.5
CNGN				AML	AML	14 55 19.0	
	comp=N,376nm,0.4s						
MOMN	**Momotombo**	**1.24**	**69**	*e*P	**Pn**	**14 55 13.5**	**-1.2**
CNCH	**Conchagua**	**1.30**	**355**	*e*P	**Pn**	**14 55 15.9**	**+0.2**
CNCH				*e*S	**Sn**	**14 55 35.0**	**+3.0**
ESTN	**Estel**	**1.74**	**49**	*e*P	**Pn**	**14 55 22.1**	**+0.5**
CAHU	**Cacacuatique**	**1.85**	**345**	*e*P	**Pn**	**14 55 24.1**	**+0.8**
CONN	**Concepcion**	**2.09**	**101**	*e*P	**Pn**	**14 55 28.3**	**+1.9**
LFRS	**El Faro**	**2.10**	**322**	*e*P	**Pn**	**14 55 25.8**	**-0.8**
LFRS				*e*S	**Sn**	**14 55 52.9**	**+1.3**
LBRS	**Las Brisas**	**2.18**	**324**	*e*P	**Pn**	**14 55 27.7**	**0.0**
LFU	**La Fuente**	**2.23**	**323**	*e*P	**Pn**	**14 55 27.7**	**-0.7**
LFU				*e*S	**Sn**	**14 55 55.9**	**+1.1**
RBDL	**Robledal**	**2.86**	**318**	*e*P	**Pn**	**14 55 37.4**	**+0.2**
CUS1	**Cusmapa**	**2.90**	**312**	*e*P	**Pn**	**14 55 37.4**	**-0.2**
CUS1				*e*S	**Sn**	**14 56 12.6**	**+1.2**
CGA2	**Cerro Gallo 2**	**3.74**	**121**	*e*P	**Pn**	**14 55 51.8**	**+2.5**
URSC	**Urasca**	**4.42**	**118**	*i*P	**Pn**	**14 56 00.9**	**+2.4**
URSC				*e*S	**Sn**	**14 56 48.9**	**0.0**
BUS	**Buena Vista**	**4.57**	**121**	*e*P	**Pn**	**14 56 01.8**	**+0.8**
BUS				*e*S	**Sn**	**14 56 52.3**	**-0.8**
CMIG	**Matias Romero**	**8.60**	**307**	Pn	**Pn**	**14 56 56.3**	**+0.4**
	comp=N,0.2nm,0.3s,baz=126,slow=12,SNR=4.1						
CMIG				Sn	**Sn**	**14 58 29.9**	**-1.8**
	comp=N,0.3nm,0.3s,baz=335,slow=13,SNR=2.2						
TXAR	**Lajitas Array**	**22.78**	**322**	P	**P**	**14 59 53.8**	**+0.2**
	comp=N,2.2nm,0.5s,baz=135,slow=10.0,SNR=21						
TKL	**Tuckaleechee C**	**23.86**	**8**	P	**P**	**15 00 03.6**	**-0.4**
	comp=N,1.6nm,0.4s,baz=190,slow=8.7,SNR=4.5						
PDAR	**Pinedale Array**	**36.07**	**332**	P	**P**	**15 01 54.5**	**+2.0**
	comp=N,0.4nm,0.4s,baz=154,slow=11,SNR=2.8						
YKA	**Yellowknife Ar**	**54.00**	**345**	P	**P**	**15 04 12.2**	**-2.0**
	comp=N,0.1nm,0.4s,baz=142,slow=8.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**149.06**	**348**	PKPbc	**PKPbc**	**15 14 37.4**	**-1.9**
	comp=N,1.4nm,0.7s,baz=352,slow=4.1,SNR=8.2						

*NIED **25** 15:01:00,36.°60N×143.°60E, h5km, Mw3.9 Best double couple: M0 8.39000×10^14 NP1:φs25.00000°, δ21.00000°, λ-76.00000°. NP2:φs190.00000°, δ70.00000°, λ-95.00000°.*
*IDC **25** 15:01:25.1±0.8,36.°41N×143.°85E, h0km, mb3.8/13, mb1 4.0/15, mb1mx3.9/37, mbtmp3.8/15, ML3.6/2, Error ellipse: s-maj=22.4km s-min=17.8km az=124.0*
*ISCJB **25** 15:01:28.6±0.5,36.°57N±0.°03×143.°60E±0.°04, h33km, mb3.8/13, Error ellipse: s-maj=5.3km s-min=4.2km az=136.2*
*JMA **25** 15:01:29.2±0.1,36.°62N×143.°60E, h60km, M3.6*

ISC 25 15:01:30.7±0.7,36°58N±0.°04×143°65E±0.°07, h35km, n38, σ1s50/46, mb3.8/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.35**	**284**	*e*S	**Sn**	**15 02 32.8**	**-1.7**
JFK	**Kawauchi**	**2.36**	**290**	P	**Pn**	**15 02 05.6**	**-1.4**
JFK				S	**Sn**	**15 02 32.8**	**-1.9**
CHOJ	**Chosi**	**2.42**	**250**	P	**Pn**	**15 02 07.3**	**-0.5**
CHOJ				*e*S	**Sn**	**15 02 35.2**	**-1.0**
JHO	**Hitachi**	**2.48**	**272**	P	**Pn**	**15 02 07.9**	**-0.7**
JHO				*e*S	**Sn**	**15 02 35.7**	**-2.0**
JFT	**Otama**	**2.81**	**291**	*e*S	**Sn**	**15 02 44.3**	**-1.6**
BSO1	**Boso 1**	**2.90**	**229**	P	**Pn**	**15 02 13.3**	**-0.6**
BSO1				*e*S	**Sn**	**15 02 47.1**	**-0.2**
JAG	**Ashikaga**	**3.39**	**269**	P	**Pn**	**15 02 20.5**	**-0.6**
JAG				*e*S	**Sn**	**15 02 57.9**	**-2.1**
JOM	**Ohasama**	**3.44**	**328**	P	**Pn**	**15 02 21.0**	**-0.8**
JOM				*e*S	**Sn**	**15 02 59.4**	**-1.9**
JYK	**Kaneyama**	**3.50**	**313**	P	**Pn**	**15 02 22.1**	**-0.6**
JYK				*e*S	**Sn**	**15 03 01.7**	**-1.2**
JRY	**Ryogami san**	**3.88**	**263**	P	**Pn**	**15 02 26.8**	**-1.0**
JRY				S	**Sn**	**15 03 10.9**	**-1.3**
JOD2	**Odawara 2**	**3.93**	**252**	P	**Pn**	**15 02 28.4**	**-0.1**
JOD2				*e*S	**Sn**	**15 03 12.8**	**-0.6**
JANG	**Nango**	**4.15**	**337**	P	**Pn**	**15 02 30.2**	**-1.3**
JANG				*e*S	**Sn**	**15 03 14.4**	**-4.3**
MJAR	**Matsushiro Arr**	**4.38**	**271**	Pn	**Pn**	**15 02 34.9**	**+0.2**
	2.2nm,0.3s,baz=87,slow=16,SNR=33						
MAT	**Matsushiro**	**4.38**	**271**	P	**Pn**	**15 02 35.5**	**+0.7**
MAT				S	**Sn**	**15 03 24.0**	**-0.6**
JHJ2	**Mitsune**	**4.68**	**224**	P	**Pn**	**15 02 37.1**	**-1.7**
JHJ2				*e*S	**Sn**	**15 03 29.1**	**-2.7**
JHJ	**Hachijo jima 2**	**4.69**	**224**	Pn	**Pn**	**15 02 37.0**	**-2.0**
	9.4nm,0.3s,baz=91,slow=18,SNR=5.9						
JHJ				Sn	**Sn**	**15 03 29.2**	**-3.0**
	46nm,0.3s,baz=110,slow=21,SNR=8.4						
JOT	**Ohata**	**5.21**	**338**	P	**Pn**	**15 02 45.6**	**-0.5**
JOT				*e*S	**Sn**	**15 03 43.7**	**-1.2**
ASAJ	**Asahikawa**	**7.58**	**354**	Pn	**Pn**	**15 03 16.6**	**-2.0**
	0.9nm,0.3s,baz=195,slow=7.9,SNR=10						
H11N2	**WAKE ISLAND Hy**	**26.38**	**123**	T	T	15 34 25.1	
	baz=314,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**26.39**	**123**	T	T	15 34 30.9	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**26.40**	**123**	T	T	15 34 27.6	
	baz=314,slow=75,SNR=12						
SEY	**Seymchan**	**26.93**	**9**	P	**P**	**15 07 09.3**	**+1.0**
	1.3nm,0.6s,baz=212,slow=2.2,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**27.11**	**125**	T	T	15 35 22.8	
	baz=316,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**27.12**	**125**	T	T	15 35 23.2	
	baz=316,slow=76,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**27.13**	**125**	T	T	15 35 25.2	
	baz=316,slow=76,SNR=3.0						
SONM	**Songino Array**	**29.53**	**304**	P	**P**	**15 07 33.7**	**+1.8**
	0.3nm,0.6s,baz=98,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**45.88**	**303**	P	**P**	**15 09 50.8**	**+1.3**
	0.4nm,0.8s,baz=76,slow=6.1,SNR=3.7						
ILAR	**Eielson Array**	**48.92**	**32**	P	**P**	**15 10 12.8**	**-0.1**
	0.9nm,0.8s,baz=259,slow=7.1,SNR=10						
WRA	**Warramunga Arr**	**56.90**	**190**	P	**P**	**15 11 10.9**	**-1.3**
	1.0nm,0.7s,baz=11,slow=7.5,SNR=7.8						
ASAR	**Alice Springs**	**60.62**	**190**	P	**P**	**15 11 36.6**	**-1.4**
	0.4nm,0.8s,baz=4.8,slow=6.9,SNR=4.8						
YKA	**Yellowknife Ar**	**63.30**	**31**	P	**P**	**15 11 55.7**	**+0.1**
	0.7nm,0.8s,baz=297,slow=6.7,SNR=4.7						
GEYT	**Alibeck**	**65.62**	**300**	P	**P**	**15 12 12.6**	**+1.3**
	1.1nm,0.5s,baz=359,slow=5.9,SNR=3.7						
FINES	**FINESS Array B**	**70.05**	**333**	P	**P**	**15 12 39.7**	**+1.1**
	2.3nm,0.9s,baz=46,slow=11,SNR=5.5						
NB2	**NORSAR Subarra**	**75.29**	**338**	P	**P**	**15 13 10.7**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**75.29**	**338**	P	**P**	**15 13 10.9**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=38,slow=5.7,SNR=4.9						
AKASG	**Malin Array Be**	**75.75**	**323**	P	**P**	**15 13 12.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=48,slow=7.5,SNR=4.9						
PDAR	**Pinedale Array**	**76.69**	**46**	P	**P**	**15 13 18.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=334,slow=5.3,SNR=2.5						
TXAR	**Lajitas Array**	**88.96**	**54**	P	**P**	**15 14 21.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=332,slow=3.6,SNR=7.0						

*NIED **25** 15:04:00,40.°00N×143.°20E, h23km, Mw4.4 Best double couple: M0 4.69000×10^15 NP1:φs198.00000°, δ21.00000°, λ87.00000°. NP2:φs21.00000°, δ69.00000°, λ91.00000°.*
*ISCJB **25** 15:04:12.8±0.4,39.°88N±0.°03×143.°37E±0.°05, h12km, mb4.1/31, MS3.9/9, Error ellipse: s-maj=6.3km s-min=3.6km az=37.6*
*IDC **25** 15:04:12.8±0.8,39.°85N×143.°20E, h0km, mb3.9/16, mb1 4.1/18, mb1mx3.9/38, mbtmp4.0/18, ML3.7/2, MS3.6/9, Ms1 3.6/9, ms1mx3.4/21, Error ellipse: s-maj=22.5km s-min=14.5km az=95.0*
*JMA **25** 15:04:14.8±0.3,39.°98N×143.°20E, h11km±3km, M4.2*
*MOS **25** 15:04:16.5±0.9,39.°89N×143.°32E, h40km, mb4.6/13, MS4.1/6, Error ellipse: s-maj=9.5km s-min=6.5km az=96.9*
*NEIC **25** 15:04:17.8±0.5,39.°88N×143.°27E, h35km, mb4.5/7, Error ellipse: s-maj=11.0km s-min=6.3km az=112.0*
*BJI **25** 15:04:20.2,40.°09N×142.°56E, h36km, mb4.5/27, mB4.9/20, Ms4.3/18, Ms7 4.1/18*

ISC 25 15:04:15.0±0.5,39°94N±0.°04×143°10E±0.°05, h12km, n107, σ2s56/111, mb4.3/31, MS3.9/9, 8C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.95**	**270**	P	**Pg**	**15 04 34.0**	**+0.7**
MIYJ	**Miyakonagasawa**	**1.05**	**250**	P	**Pn**	**15 04 35.9**	**+0.4**
MIYJ				S	**Sn**	**15 04 50.2**	**+0.1**
JANG	**Nango**	**1.29**	**290**	P	**Pn**	**15 04 39.2**	**+0.4**
JOM	**Ohasama**	**1.47**	**252**	P	**Pb**	**15 04 42.9**	**+0.6**
JOM				*e*S	**Sg**	**15 05 03.2**	**+0.9**
JMK	**Ichinoseki**	**1.76**	**236**	P	**Pb**	**15 04 46.5**	**-0.7**
JTM	**Tenmabayashi**	**1.77**	**299**	P	**Pb**	**15 04 47.1**	**-0.2**
JAH	**Hinai**	**1.91**	**278**	P	**Pb**	**15 04 49.3**	**-0.4**
JRG	**Rokugo**	**1.98**	**255**	P	**Pb**	**15 04 50.8**	**-0.1**
ERM	**Erimo**	**2.07**	**1**	*e*P	**Pn**	**15 04 51.0**	**+1.5**
ERM				pmax	pmax		
	comp=Z,94nm,1.7s						
ERM	**Erimo**	**2.07**	**1**	*e*Pn	**Pn**	**15 04 51.2**	**+1.7**
ERM				*e*Sn	**Sn**	**15 05 14.6**	**-0.6**
ASAJ	**Asahikawa**	**4.19**	**355**	Pn	**Pn**	**15 05 20.6**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=204,slow=18,SNR=13						
ASAJ				Sn	**Sn**	**15 06 11.9**	**+4.5**
	baz=210,slow=20						
ASAJ	**Asahikawa**	**4.19**	**355**	*e*Pn	**Pn**	**15 05 19.6**	**+1.0**
ASAJ				*e*Sn	**Sn**	**15 06 07.8**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**4.58**	**26**	*e*P	**Pn**	**15 05 24.0**	**0.0**
MAJO	**Matsushiro**	**5.13**	**230**	*i*P	**Pn**	**15 05 34.3**	**+2.6**
MAJO	**Matsushiro**	**5.13**	**230**	*e*Pn	**Pn**	**15 05 31.8**	**+0.1**
MAJO				*e*Sn	**Sn**	**15 06 33.8**	**+2.9**
MAT	**Matsushiro**	**5.13**	**230**	P	**Pn**	**15 05 34.2**	**+2.5**
MAT				S	**Sn**	**15 06 36.3**	**+5.4**
MJAR	**Matsushiro Arr**	**5.13**	**230**	Pn	**Pn**	**15 05 34.1**	**+2.4**
	comp=Z,2.7nm,0.3s,baz=42,slow=12,SNR=14						
MJAR				LR	LR	15 07 47.2	
	comp=Z,540nm,19.1s,baz=60,slow=42						
MJB9	**Matsu-Tunnel**	**5.13**	**230**	*e*Pn	**Pn**	**15 05 34.7**	**+3.0**
KUR	**Kuril'sk**	**6.35**	**32**	*e*P	**Pn**	**15 05 48.2**	**-0.1**
KUR				*e*S	**Sn**	**15 06 55.9**	**-4.8**
KUR				pmax	pmax		
	comp=E,13nm,0.4s						
KUR				pmax	pmax		
	comp=Z,33nm,0.4s						
KUR				smax	smax		
	comp=E,57nm,0.5s						
JHJ2	**Mitsune**	**7.31**	**202**	Pn	**Pn**	**15 05 59.9**	**-1.7**
JHJ	**Hachijo jima 2**	**7.31**	**202**	Pn	**Pn**	**15 06 00.0**	**-1.6**
	comp=E,13nm,0.3s,baz=329,slow=23,SNR=5.6						
JHJ				Sn	**Sn**	**15 07 18.4**	**-6.2**
	comp=E,13nm,0.3s,baz=115,slow=22,SNR=3.9						
VLA	**Vladivostok**	**8.99**	**294**	*e*P	**Pn**	**15 06 29.3**	**+4.8**
VLA				*e*S	**Sn**	**15 08 11.9**	**+6.3**
VLA				pmax	pmax		
	comp=Z,21nm,1.5s						
USRK	**Ussuriysk Ar.**	**9.29**	**301**	Pn	Pn	15 06 33.9	+5.2
	comp=Z,0.7nm,0.3s,baz=91,slow=14,SNR=10						
USRK				LR	LR	15 10 00.4	
	comp=Z,635nm,19.2s,baz=121,slow=37						
HABR	**Khabarovsk**	**10.29**	**329**	*e*P	**Pn**	**15 06 41.4**	**-1.0**
HABR				*e*S	**Sn**	**15 08 35.6**	**-2.0**
HABR				pmax	pmax		
	comp=Z,24nm,2.0s						
HABR				pmax	pmax		
	comp=E,10.0nm,1.0s						
HABR				pmax	pmax		
	comp=N,16nm,2.0s						
HABR				MLR	MLR		
	comp=Z,403nm,15.0s						
TYV	**Tymovskoe**	**10.92**	**359**	*e*P	**Pn**	**15 06 54.0**	**+3.0**
TYV				pmax	pmax		
	comp=Z,13nm,1.0s						
TYV				MLR	MLR		
	comp=Z,1μm,16.0s						
MDJ	**Mudanjiang**	**11.04**	**299**	P	Pn	15 06 48.0	-4.6
MDJ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,37nm,3.5s						
JNU	**Nakatsue**	**11.95**	**239**	LR	LR	15 11 54.7	
	comp=Z,466nm,19.0s,baz=116,slow=39		

comp=Z,256nm,21.0s
BILL Bilibino 30.86 17 *e*P **P** **15 10 32.1 +1.4**
BILL pmax pmax
comp=Z,5.0nm,1.2s
LZH Lanzhou 30.99 276 *e*P **P** **15 10 34.3 +1.9**
LZH pP sP 15 10 42.3 +4.7
LZH sP pP 15 10 46.3 +10
LZH PP **PnPn** **15 11 35.3 +2.1**
LZH *e*S S 15 15 28.0 -9.1
LZH sS sS 15 15 43.8 +0.7
LZH PMZ
comp=Z,12nm,1.0s
LZH PMZ
comp=Z,48nm,4.0s
LZH LN
comp=Z,2μm,15.4s
LZH LE
comp=Z,1μm,15.2s
LZH LZ
comp=Z,1μm,16.0s
GTA Gaotai 33.08 283 P **P** **15 10 52.0 +1.3**
GTA pP sP 15 10 59.8 +4.0
GTA sP pP 15 11 03.5 +9.2
GTA S **S** **15 16 01.5 -7.9**
GTA sS sS 15 16 17.5 +2.0
GTA SS **SnSn** **15 17 56.3 -11**
GTA PMZ
comp=Z,4.0nm,1.1s
GTA PMZ
comp=Z,74nm,4.3s
GTA LN
comp=Z,140nm,18.5s
GTA LE
comp=Z,360nm,18.1s
GTA LZ
comp=Z,440nm,17.6s
CD2 Chengdu 33.08 267 *e*P **P** **15 10 51.0 +0.3**
KMI Kunming 36.77 259 P **P** **15 11 24.0 +1.2**
KMI pP sP 15 11 32.5 +4.6
KMI PMZ
comp=Z,13nm,0.8s
KMI LN
comp=Z,440nm,13.3s
KMI LE
comp=Z,380nm,16.5s
KMI LZ
comp=Z,300nm,17.6s
WMQ Urumqi 40.78 294 P **P** **15 11 57.5 +1.5**
WMQ pP sP 15 12 07.5 +6.2
WMQ sP pP 15 12 11.5 +12
WMQ PMZ
comp=Z,7.0nm,0.8s
WMQ PMZ
comp=Z,39nm,5.6s
WMQ LN
comp=Z,34nm,17.8s
WMQ LE
comp=Z,38nm,18.6s
WMQ LZ
comp=Z,35nm,17.0s
ZAA0 Zalesovo Array 41.00 310 *e*P **P** **15 11 58.0 +0.4**
ZALV Zalesovo Beam 41.00 310 P **P** **15 11 58.4 +0.9**
comp=Z,1.8nm,0.4s,baz=90,slow=8.2,SNR=9.8
CMAR Chiang Mai Arr 43.55 254 P **P** **15 12 18.6 -0.1**
comp=Z,0.5nm,0.5s,baz=39,slow=8.7,SNR=4.6
CMAR LR LR 15 30 01.0
comp=Z,44nm,19.3s,baz=60,slow=36
MK01 Makanchi Array 43.76 300 *e*P **P** **15 12 20.6 +0.4**
MK31 Makanchi Array 43.76 300 *e*P **P** **15 12 20.9 +0.7**
MK31 Makanchi Array 43.76 300 *e*P **P** **15 12 20.9 +0.7**
MKAR Makanchi Array 43.76 300 P **P** **15 12 20.8 +0.6**
comp=Z,1.7nm,0.8s,baz=82,slow=9.9,SNR=11
MAKZ Makanchi 43.96 300 *e*P **P** **15 12 22.6 +0.8**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MAKZ Makanchi 43.96 300 *e*P **P** **15 12 22.6 +0.8**
comp=Z,3.8nm,1.0s
KURK Kurchatov 45.23 306*c i*P **P** **15 12 32.3 +0.4**
KURK pmax pmax
comp=Z,28nm,1.2s
KURK Kurchatov 45.23 306 P **P** **15 12 30.0 -1.9**
ILAR Eielson Array 46.34 34 P **P** **15 12 40.4 0.0**
comp=Z,0.4nm,0.8s,baz=264,slow=7.1,SNR=4.7
TKM2 Tokmak 2 49.46 297 *e*P **P** **15 13 04.6 -0.6**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 49.46 297 *e*P **P** **15 13 04.6 -0.6**
comp=Z,6.8nm,0.8s
BRVK Borovoye 49.69 311⇑*e*P **P** **15 13 07.3 +0.8**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
AAK Ala-Archa 50.32 297⇑*e*P **P** **15 13 14.5 +2.8**
AAK pmax pmax
comp=Z,3.0nm,0.6s
ZRNK Zerenda 50.46 311 *e*P **P** **15 13 13.4 +1.1**
ZRNK Zerenda 50.46 311 *e*P **P** **15 13 13.5 +1.1**
comp=Z,6.3nm,0.9s
KSH Kashi 50.47 292 *e*P **P** **15 13 16.5 +3.7**
KSH pP sP 15 13 27.0 +8.9
KSH PcP **PcP** **15 14 36.5 +5.6**
KSH PP **PP** **15 15 11.5 +3.2**
KSH S **S** **15 20 22.0 -4.4**
KSH ScS **ScS** **15 23 01.5 -2.3**
KSH PMZ
comp=Z,3.0nm,0.4s
KSH PMZ
comp=Z,75nm,3.8s
KSH LN
comp=Z,140nm,7.2s
KSH LE
comp=Z,120nm,8.8s
KSH LZ
comp=Z,100nm,12.1s
EKS2 Erkin-Say 50.80 297 P **P** **15 13 15.7 +0.4**
EKS2 pmax pmax
comp=Z,2.0nm,0.7s
EKS2 Erkin-Say 50.80 297 P **P** **15 13 15.7 +0.4**
comp=Z,1.7nm,0.7s
KKAR Karatay Array 52.85 299 *e*P **P** **15 13 30.2 -0.2**
KKAR pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 52.85 299 *e*P **P** **15 13 30.2 -0.2**
comp=Z,4.2nm,1.0s
ARU Arti 55.08 318*d i*P **P** **15 13 47.7 +1.2**
ARU 15 15 51.1
ARU S **S** **15 21 29.1 +0.5**
ARU SS **SS** **15 25 09.3 -2.5**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU MLR MLR
comp=Z,272nm,16.0s
ARU Arti 55.08 318 *e*P **P** **15 13 47.2 +0.7**
comp=Z,8.2nm,1.2s
ABKAR Akbulak array 57.10 309 *e*P **P** **15 14 01.8 +0.8**
WRAB Tennant Creek 60.12 189 P **P** **15 14 21.3 -1.0**
WRAB Tennant Creek 60.12 189 P **P** **15 14 21.3 -1.0**
WRA Warramunga Arr 60.13 190 P **P** **15 14 21.3 -1.0**
comp=Z,2.5nm,1.0s,baz=6.7,slow=6.9,SNR=17
YKA Yellowknife Ar 60.63 31 P **P** **15 14 24.6 -0.8**
comp=Z,0.1nm,0.5s,baz=300,slow=6.8,SNR=2.6
KLMR Klimovskoe 62.01 327 *e*P **P** **15 14 34.3 -0.4**
KLMR *e* 15 15 14.5
KLMR pmax pmax
comp=Z,6.0nm,1.4s
GEYT Alibeck 63.60 298 P **P** **15 14 46.1 +0.3**
comp=Z,0.6nm,0.3s,baz=21,slow=4.8,SNR=4.4
ASAR Alice Springs 63.86 189 P **P** **15 14 46.7 -0.7**
comp=Z,1.0nm,0.9s,baz=9.8,slow=6.0,SNR=13
OBN Obninsk 66.56 323 *e*P **P** **15 15 03.8 -0.8**
OBN *i* 15 15 31.5
OBN pmax pmax
comp=Z,11nm,1.6s
OBN MLR MLR
comp=Z,142nm,16.0s
FINES FINESS Array B 66.86 332 P **P** **15 15 06.7 +0.3**
comp=Z,2.1nm,0.8s,baz=58,slow=4.7,SNR=7.0
KIV Kislovodsk 70.00 311⇑*e*P **P** **15 15 27.7 +1.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,122nm,18.0s
KBZ Khabaz 70.01 311 P **P** **15 15 27.0 +0.6**
comp=Z,3.3nm,0.9s,baz=48,slow=4.7,SNR=6.1
STKA Stephens Creek 71.47 181 LR LR 15 50 22.2
comp=Z,19nm,19.2s,baz=24,slow=39
NB2 NORSAR Subarra 72.01 338 P **P** **15 15 38.6 +0.3**
comp=Z,0.7nm,0.7s,baz=40,slow=6.2
NOA NORSAR Array B 72.01 338 P **P** **15 15 38.8 +0.4**
comp=Z,1.6nm,0.8s,baz=38,slow=6.1,SNR=5.3
DPC Dobruska-Polom 78.69 328 *e*P **P** **15 16 13.4 -3.5**
DPC AMS AMS 15 53 50.0
comp=Z,100nm,15.8s
DPC Dobruska-Polom 78.69 328 *e*P **P** **15 16 13.4 -3.5**
DPC MLR MLR
comp=Z,100nm,15.8s
KHC Kasperske Hory 80.74 329 *e*P **P** **15 16 29.3 +1.2**
KHC Kasperske Hory 80.74 329 *e*P **P** **15 16 29.3 +1.2**
GERES GERESS Array B 80.92 329 P **P** **15 16 29.6 +0.5**
comp=Z,0.4nm,0.6s,baz=243,slow=6.5,SNR=3.9
PPT Papeete 84.79 118 LR LR 15 47 52.3
comp=Z,53nm,20.0s,baz=347,slow=31
PPT2 Papeete2 84.80 118 *e*LR LR 15 44 01.5
comp=Z,111nm,23.8s
TAOE Nuku Hiva Isla 85.62 105 *e*LR LR 15 44 26.5
comp=Z,81nm,21.7s
TXAR Lajitas Array 87.31 53 P **P** **15 17 02.6 +0.5**
comp=Z,0.1nm,0.3s,baz=332,slow=5.0,SNR=2.5

*ISCJB **25** 15:14:22.6±0.5, 17°.28N±0°.06×94°.90W±0°.03, h137km±5km, mb3.2/2, Error ellipse: s-maj=10.1km s-min=4.9km az=0.7*
*IDC **25** 15:14:23.9±1.4, 17°.50N×94°.77W, h117km±27km, mb3.1/3, mb1 3.4/5, mb1mx3.2/31, mbtmp3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=74.5km s-min=18.9km az=161.0*
*NEIC **25** 15:14:26.8, 17°.25N×94°.93W, h118km, MD4.0(MEX), After MEX.*
*MEX **25** 15:14:26.8±1.4, 17°.25N×94°.93W, h118km±36km, MD4.0*
ISC 25 15:14:23.3±0.8, 17°.26N±0°.05×94°.88W±0°.03, h131km±8km, n27, σ1§80/46, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.17**	**183**	P		**Pn**		**15 14 42.4**	**+1.3**
	631nm,0.3s,baz=229,slow=3.3,SNR=4995								
CMIG				S		**Sn**		**15 14 55.7**	**+1.0**
	198nm,0.3s,baz=90,slow=20,SNR=183								
TUIG	**Tuzandepetl**	**0.89**	**29**	*e*P		**Pn**		**15 14 45.9**	**+0.7**
TUIG				*i* S		**Sn**		**15 15 02.2**	**+0.3**
TUIG	**Tuzandepetl**	**0.89**	**29**	*e*P		**Pn**		**15 14 45.9**	**+0.7**
TUIG				*i* S		**Sn**		**15 15 02.2**	**+0.3**
TGBT	**Tuxtla Gutierr**	**1.77**	**105**	*e*P		**Pn**		**15 14 57.0**	**+2.4**
TGBT				*e*S		**Sn**		**15 15 20.5**	**+2.0**
OXBJ	**Oaxaca**	**1.78**	**264**	*e*P		**Pn**		**15 14 56.1**	**+1.3**
OXBJ				*e*S		**Sn**		**15 15 18.1**	**-0.8**
VHO	**Vista Hermosa**	**1.79**	**264**	*e*P		**Pn**		**15 14 56.2**	**+1.3**
VHO				*e*S		**Sn**		**15 15 18.4**	**-0.6**
VHO	**Vista Hermosa**	**1.79**	**264**	*e*P		**Pn**		**15 14 56.2**	**+1.3**
VHO				*e*S		**Sn**		**15 15 18.4**	**-0.6**
HUIG	**Huatulco**	**1.90**	**219**	*i* P		**Pn**		**15 14 56.0**	**0.0**
HUIG				*i* S		**Sn**		**15 15 22.0**	**+0.9**
HUIG	**Huatulco**	**1.90**	**219**	*i* P		**Pn**		**15 14 56.0**	**0.0**
HUIG				*i* S		**Sn**		**15 15 22.0**	**+0.9**
SCX	**San Cristobal**	**2.21**	**103**	*i* P		**Pn**		**15 14 58.1**	**-1.8**
SCX				*i* S		**Sn**		**15 15 25.8**	**-2.0**
SCX	**San Cristobal**	**2.21**	**103**	*i* P		**Pn**		**15 14 58.1**	**-1.8**
SCX				*i* S		**Sn**		**15 15 25.8**	**-2.0**
PCIG		**2.22**	**134**	*e*P		**Pn**		**15 15 02.8**	**+2.8**
PCIG				*i* S		**Sn**		**15 15 29.1**	**+1.1**
PCIG		**2.22**	**134**	*e*P		**Pn**		**15 15 02.8**	**+2.8**
PCIG				*i* S		**Sn**		**15 15 29.1**	**+1.1**
PNIG	**Pinotepa**	**3.23**	**255**	*i* P		**Pn**		**15 15 11.8**	**-1.1**
PNIG				*e*S		**Sn**		**15 15 48.7**	**-2.6**
PNIG	**Pinotepa**	**3.23**	**255**	*i* P		**Pn**		**15 15 11.8**	**-1.1**
PNIG				*e*S		**Sn**		**15 15 48.7**	**-2.6**
TLIG	**Tlapa**	**3.54**	**275**	*e*P		**Pn**		**15 15 17.6**	**+0.5**
TLIG				*e*S		**Sn**		**15 15 53.3**	**-5.4**
MZVM		**4.56**	**296**	*e*P		**Pn**		**15 15 32.9**	**+2.4**
MAVM	**Malinalco, Edo**	**4.71**	**292**	*e*P		**Pn**		**15 15 34.1**	**+1.4**
ACX	**Acapulco**	**4.78**	**266**	*e*P		**Pn**		**15 15 34.1**	**+0.6**
ACX				*e*S		**Sn**		**15 16 27.1**	**-1.1**
ACX	**Acapulco**	**4.78**	**266**	*e*P		**Pn**		**15 15 34.1**	**+0.6**
ACX				*e*S		**Sn**		**15 16 27.1**	**-1.1**
ARIG	**Puente Sto Nin**	**5.31**	**282**	*e*P		**Pn**		**15 15 42.0**	**+1.4**
ARIG				*e*S		**Sn**		**15 16 40.2**	**-0.7**
TEIG	**Tepich**	**6.92**	**64**	P		**Pn**		**15 16 01.2**	**-0.9**
	2.8nm,0.3s,baz=270,slow=20,SNR=14								
TEIG				S		**Sn**		**15 17 14.8**	**-4.7**
	2.1nm,0.3s,baz=333,slow=22,SNR=5.0								
TXAR	**Lajitas Array**	**14.47**	**328**	P		**Pn**		**15 17 42.2**	**+0.1**
	0.0nm,0.3s,baz=136,slow=12,SNR=2.9								
TKL	**Tuckaleechee C**	**20.82**	**26**	P		**P**		**15 18 53.4**	**-1.0**
	2.9nm,0.6s,baz=205,slow=12,SNR=4.7								
PFO	**Pinyon Flats O**	**25.32**	**314**	LR		LR		15 30 09.9	
	comp=Z,34nm,21.8s,baz=276,slow=38								
YKA	**Yellowknife Ar**	**47.25**	**348**	P		**P**		**15 22 43.0**	**0.0**
	0.4nm,0.5s,baz=153,slow=7.3,SNR=5.8								
ILAR	**Eielson Array**	**58.77**	**337**	P		**P**		**15 24 07.6**	**+0.2**
	0.2nm,0.6s,baz=141,slow=5.8,SNR=3.2								

IDC 25 16:03:10.5±5.2, 20°.80S×173°.44E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.3/31, mbtmp3.1/2, Error ellipse: s-maj=317.6km s-min=62.7km az=158.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.60**	**264**	P		P		16 10 18.7	0.0
	0.1nm,0.6s,baz=96,slow=8.2,SNR=7.0								
ASAR	**Alice Springs**	**36.63**	**258**	P		P		16 10 18.7	-0.3
	0.4nm,0.9s,baz=89,slow=8.4,SNR=4.2								
FINES	**FINESS Array B**	**133.49**	**339**	PKP		PKPdf		16 22 28.1	-0.3
	1.3nm,0.7s,baz=34,slow=3.7,SNR=9.7								

*ISCJB **25** 16:09:53.8±0.6, 17°.33S±0°.05×69°.85W±0°.09, h146km±5km, mb3.8/8, Error ellipse: s-maj=16.0km s-min=4.8km az=27.2*
*SCB **25** 16:09:54.4±0.3, 17°.01S×69°.51W, h150km, Ml3.9/2, Error ellipse: s-maj=8.9km s-min=7.2km az=127.0*
*NEIC **25** 16:09:55.3±1.4, 17°.19S×69°.60W, h143km±12km, mb4.0/1, Error ellipse: s-maj=23.8km s-min=11.7km az=105.0*
*GUC **25** 16:09:55.5±0.3, 17°.55S×69°.98W, h146km±2km, ML4.2*
*IDC **25** 16:09:57.1±1.5, 17°.17S×69°.59W, h157km±12km, mb3.9/7, mb1 4.0/9, mb1mx3.7/32, mbtmp4.4/9, Error ellipse: s-maj=22.1km s-min=16.8km az=90.0*
ISC 25 16:09:54.7±0.9, 17°.33S±0°.06×69°.82W±0°.09, h139km±7km, n29, σ1§35/41, mb4.0/8, 12C-3D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB13	**IPOC Station P**	**1.04**	**163**⇑	*e*P		**Pn**		**16 10 20.9**	**+1.3**
PB13				*e*S		**Sn**		**16 10 40.5**	**+2.0**
PB13				IAML				16 10 44.1	
	comp=N,4μm,0.2s								
BBOD	**La Paz, Gloria**	**1.36**	**60**⇑	*i*Pn		**Pn**		**16 10 22.8**	**+0.3**
BBOD				⇑*i*Sn		**Sn**		**16 10 43.3**	**-0.4**
	comp=N,381nm,0.5s								
PB12	**IPOC Station P**	**1.36**	**201**⇓	*e*P		**Pn**		**16 10 21.6**	**-0.5**
PB12				*e*S		**Sn**		**16 10 41.5**	**-1.6**
PB12				IAML				16 10 43.9	
	comp=E,7μm,0.3s								
BBOJ	**La Paz, Jacaqu**	**1.60**	**77**⇑	*i*Pn		**Pn**		**16 10 26.1**	**+1.0**
BBOJ				⇑*i*Sn		**Sn**		**16 10 48.4**	**+0.2**
MNMC	**Minye Minye**	**1.80**	**173**⇓	*e*P		**Pn**		**16 10 27.3**	**+0.1**
MNMC				*e*S		**Sn**		**16 10 50.9**	**-1.1**
MNMC				IAML				16 10 54.5	
	comp=N,1μm,0.4s								
BBOE	**La Paz, Chanca**	**1.83**	**74**⇑	*i*Pn		**Pn**		**16 10 28.9**	**+1.1**
BBOE				⇑*i*Sn		**Sn**		**16 10 53.2**	**+0.2**
LPAZ	**La Paz**	**1.92**	**58**	P		**Pn**		**16 10 29.5**	**+0.6**
	comp=N,38nm,0.3s,baz=284,slow=4.7,SNR=1263								
LPAZ				S		**Sn**		**16 10 54.4**	**-0.6**
	comp=N,22nm,0.3s,baz=341,slow=24,SNR=9.4								
LPAZ				LR		LR		16 10 57.7	
	comp=N,34nm,19.5s,baz=64,slow=37								
LPAZ	**La Paz**	**1.92**	**58**⇑	*i*Pn		**Pn**		**16 10 29.2**	**+0.3**
LPAZ				*e*Sn		**Sn**		**16 10 54.2**	**-0.8**
BBOB	**La Paz, Bander**	**2.00**	**54**⇑	*i*Pn		**Pn**		**16 10 30.0**	**+0.3**
BBOB				⇑*i*Sn		**Sn**		**16 10 55.1**	**-1.4**
	comp=N,486nm,0.5s								
PSGC	**Pisagua**	**2.27**	**187**⇓	*e*P		**Pn**		**16 10 32.0**	**-0.6**
PSGC				*e*S		**Sn**		**16 10 59.7**	**-2.0**
PB11	**IPOC Station P**	**2.42**	**176**⇓	*e*P		**Pn**		**16 10 34.5**	**0.0**
PB11				*e*S		**Sn**		**16 11 04.0**	**-1.2**
PB11				IAML				16 11 06.8	
	comp=N,2μm,0.3s								
PB08	**IPOC Station P**	**2.87**	**167**⇓	*e*P		**Pn**		**16 10 41.0**	**+0.8**
PB08				*e*S		**Sn**		**16 11 15.4**	**0.0**
PB08				IAML				16 11 16.8	
	comp=E,395nm,0.5s								
PB01	**IPOC Station P**	**3.71**	**175**	*e*P		**Pn**		**16 10 51.0**	**+0.2**
LVC	**Limon Verde**	**5.32**	**171**	P		**Pn**		**16 11 13.0**	**+0.5**
	comp=E,195nm,0.3s,baz=1.2,slow=7.6,SNR=100								
LVC				S		**Sn**		**16 12 09.9**	**-3.3**
	comp=E,898nm,0.3s,baz=291,slow=22,SNR=28								
SIV	**San Ignacio**	**8.49**	**82**	P		**Pn**		**16 11 52.0**	**-2.8**
	comp=E,18nm,0.3s,baz=278,slow=11,SNR=113								
SIV	**San Ignacio**	**8.49**	**82**	*e*P		**Pn**		**16 11 51.3**	**-3.5**
SAML	**Samuel**	**10.54**	**39**	*e*Pn		Pn		16 12 16.6	-5.6
	comp=E,1.4nm,0.4s								
PTGA	**Pitinga**	**19.14**	**31**	P		**P**		**16 14 05.7**	**-1.5**
	comp=E,0.9nm,0.3s,baz=211,slow=18,SNR=7.2								
PLCA	**Paso Flores**	**23.33**	**181**	P		**P**		**16 14 52.4**	**+2.0**
	comp=E,9.4nm,0.9s,baz=14,slow=8.3,SNR=15								
TXAR	**Lajitas Array**	**56.74**	**324**	P		**P**		**16 19 24.4**	**+0.2**
	comp=E,0.1nm,0.5s,baz=139,slow=7.0,SNR=2.8								
DBIC	**Dimbokro**	**68.45**	**75**	P		**P**		**16 20 41.3**	**-0.9**
	comp=E,5.0nm,0.6s,baz=229,slow=6.2,SNR=12								
ULM	**Lac du Bonnet**	**71.10**	**343**	P		**P**		**16 20 57.1**	**-0.5**
	comp=E,1.4nm,0.5s,baz=158,slow=4.6,SNR=3.3								
TORD	**Torodi Ar. Bea**	**76.82**	**72**	P		**P**		**16 21 30.6**	**-1.0**
	comp=E,2.3nm,0.7s,baz=249,slow=4.5,SNR=19								
VNDA	**Vanda**	**80.79**	**190**	P		**P**		**16 21 54.5**	**+2.2**
	comp=E,0.6nm,0.7s,baz=121,slow=6.5,SNR=4.6								
YKA	**Yellowknife Ar**	**86.99**	**341**	P		**P**		**16 22 23.7**	**0.0**
	comp=E,0.6nm,0.6s,baz=135,slow=4.6,SNR=8.5								
MAW	**Mawson**	**88.55**	**164**	P		**P**		**16 22 31.9**	**+0.6**
	comp=E,1.5nm,0.5s,baz=198,slow=6.4,SNR=12								
ASAR	**Alice Springs**	**133.12**	**210**	PKP		**PKPdf**		**16 28 54.9**	**+0.2**
	comp=E,0.8nm,1.2s,baz=135,slow=1.7,SNR=3.4								
WRA	**Warramunga Arr**	**136.01**	**214**	PKP		**PKPdf**		**16 29 00.8**	**+0.7**
	comp=E,0.2nm,0.3s,baz=139,slow=1.6,SNR=11								
SONM	**Songino Array**	**149.42**	**5**	PKPbc		**PKPbc**		**16 29 27.2**	**-0.2**
	comp=E,0.6nm,0.5s,baz=325,slow=1.8,SNR=3.7								

NIED 25 16:11:00, 45°.90N×151°.60E, h26km, Mw3.8 Best double couple: M0 5.13000×10^14 NP1:ϕs352.00000°, δ44.00000°, λ39.00000°. **NP2:**ϕs231.00000°, δ64.00000°, λ126.00000°., **Kuril Islands**

*ISCJB **25** 16:22:01.2±1.7, 12°.7N±0°.2×89°.2W±0°.1, h55km, mb3.9/7, Error ellipse: s-maj=31.5km s-min=12.5km az=21.6*
*IDC **25** 16:22:05.0±5.3, 12°.75N×89°.19W, h71km±37km, mb3.7/7, mb1 3.9/9, mb1mx3.6/43, mbtmp4.0/9, ML3.5/2, Error ellipse: s-maj=46.1km s-min=28.9km az=7.0*
ISC 25 16:22:02.3±1.3, 12°.6N±0°.2×89°.2W±0°.1, h55km, n12, σ0§88/13, mb3.8/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**7.12**	**310**	P		**Pn**		**16 23 43.7**	**-0.3**
	0.7nm,0.3s,baz=136,slow=12,SNR=17								
CMIG				S		**Sn**		**16 25 04.6**	**+1.1**
	0.8nm,0.3s,baz=90,slow=20,SNR=2.2								
TEIG	**Tepich**	**7.65**	**6**	P		**Pn**		**16 23 51.2**	**+0.2**
	0.9nm,0.3s,baz=270,slow=20,SNR=5.2								
TXAR	**Lajitas Array**	**21.44**	**323**	P		**P**		**16 26 46.9**	**+0.8**
	2.8nm,0.6s,baz=136,slow=9.5,SNR=41								
TKL	**Tuckaleechee C**	**23.48**	**11**	P		**P**		**16 27 07.6**	**+0.5**
	2.0nm,0.5s,baz=195,slow=11,SNR=4.0								
ULM	**Lac du Bonnet**	**37.96**	**353**	P		**P**		**16 29 13.1**	**-1.4**
	2.0nm,0.5s,baz=158,slow=9.5,SNR=4.4								
SCHQ	**Schefferville**	**45.65**	**18**	P		**P**		**16 30 16.9**	**-0.4**
	3.6nm,0.6s,baz=206,slow=6.2,SNR=2.3								
YKA	**Yellowknife Ar**	**53.06**	**346**	P		**P**		**16 31 13.1**	**-0.5**
	1.1nm,0.8s,baz=144,slow=7.4,SNR=10								
ILAR	**Eielson Array**	**65.23**	**336**	P		**P**		**16 32 37.7**	**-0.1**
	0.5nm,0.9s,baz=157,slow=4.8,SNR=5.4								
TORD	**Torodi Ar. Bea**	**88.00**	**77**	P		**P**		**16 34 48.7**	**+1.4**
	0.3nm,0.5s,baz=300,slow=5.5,SNR=3.0								
WRA	**Warramunga Arr**	**137.70**	**254**	PKP		**PKPdf**		**16 41 20.7**	**-0.5**
	0.4nm,0.9s,baz=88,slow=3.1,SNR=2.9								
ASAR	**Alice Springs**	**137.77**	**249**	PKP		**PKPdf**		**16 41 21.8**	**+0.5**
	0.3nm,0.9s,baz=90,slow=2.0,SNR=3.7								
CMAR	**Chiang Mai Arr**	**148.14**	**345**	PKPbc		**PKPbc**		**16 41 42.1**	**-0.8**
	1.2nm,0.7s,baz=335,slow=3.3,SNR=7.0								

*NIED **25** 16:29:00, 36°.10N×141°.90E, h17km, Mw4.1 Best double couple: M0 1.39000×10^15 NP1:*ϕs195.00000°, δ34.00000°, λ80.00000°. *NP2:*ϕs27.00000°, δ56.00000°, λ97.00000°.
*IDC **25** 16:29:14.4±0.9, 36°.05N×142°.00E, h0km, mb4.0/11, mb1 4.0/15, mb1mx3.8/43, mbtmp3.9/15, ML3.7/3, MS3.4/9, Ms1 3.4/9, ms1mx3.1/38, Error ellipse: s-maj=23.9km s-min=16.0km az=86.0*
*ISCJB **25** 16:29:15.7±0.6, 36°.09N±0°.03×142°.05E±0°.05, h23km, mb3.9/12, MS3.6/5, Error ellipse: s-maj=6.5km s-min=4.6km az=20.0*
*JMA **25** 16:29:17.7±0.1, 36°.12N×141°.91E, h66km±3km, M3.6*
*NEIC **25** 16:29:19.6±0.6, 36°.07N×141°.98E, h35km, mb4.3/1, Error ellipse: s-maj=12.2km s-min=10.4km az=134.0*
ISC 25 16:29:17.7±0.8, 36°.08N±0°.05×142°.01E±0°.08, h23km, n40, σ1§17/39, mb4.0/12, MS3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.01**	**249**	P		**Pb**		**16 29 35.4**	**-1.1**
CHOJ				S		**Sn**		**16 29 48.9**	**-1.0**
JHO	**Hitachi**	**1.28**	**295**	P		**Pn**		**16 29 38.3**	**-1.9**
JFK	**Kawauchi**	**1.58**	**325**	P		**Pn**		**16 29 42.9**	**-1.4**
BSO1	**Boso 1**	**1.65**	**211**	P		**Pn**		**16 29 44.9**	**+0.1**
BSO1				*e*S		**Sn**		**16 30 05.4**	**+0.4**
BSO3	**Boso 3**	**1.77**	**224**	P		**Pn**		**16 29 46.5**	**-0.1**
BSO3				S		**Sn**		**16 30 07.5**	**-0.7**
JFT	**Otama**	**1.97**	**317**	P		**Pn**		**16 29 48.5**	**-1.2**
JMM	**Marumori**	**2.04**	**332**	P		**Pn**		**16 29 49.2**	**-1.4**
JMM				*e*S		**Sn**		**16 30 13.0**	**-2.3**
JAG	**Ashikaga**	**2.10**	**280**	P		**Pn**		**16 29 50.1**	**-1.3**
JKT	**Katashina**	**2.33**	**288**	P		**Pn**		**16 29 53.7**	**-1.0**
MJAR	**Matsushiro Arr**	**3.10**	**280**	Pn		**Pn**		**16 30 04.9**	**-0.5**
	7.8nm,0.3s,baz=102,slow=8.1,SNR=190								
MJAR				Sn		**Sn**		**16 30 43.4**	**+1.7**
	4.3nm,0.3s,baz=85,slow=15,SNR=6.0								
MJAR				LR		LR		16 31 20.8	
	comp=Z,249nm,19.8s,baz=115,slow=41								
MAJO	**Matsushiro**	**3.11**	**280**	*e*Pn		**Pn**		**16 30 04.7**	**-0.7**
MAJO				*e*Sn		**Sn**		**16 30 41.3**	**-0.5**
MAT	**Matsushiro**	**3.11**	**280**	P		**Pn**		**16 30 05.4**	**+0.1**
MAT				S		**Sn**		**16 30 41.4**	**-0.4**
JHJ	**Hachijo jima 2**	**3.48**	**213**	Pn		**Pn**		**16 30 09.8**	**-0.6**
	30nm,0.3s,baz=50,slow=17,SNR=14								
JHJ				Sn		**Sn**		**16 30 48.9**	**-1.9**
	68nm,0.3s,baz=145,slow=22,SNR=8.8								
ASAJ	**Asahikawa**	**8.04**	**3**	Pn		**Pn**		**16 31 13.4**	**+0.4**
	0.8nm,0.3s,baz=211,slow=17,SNR=6.7								
JNU	**Nakatsue**	**9.64**	**255**	LR		LR		16 35 33.9	
	comp=Z,174nm,18.1s,baz=306,slow=39								
USRK	**Ussuriysk Ar.**	**11.16**	**320**	Pn		**Pn**		**16 31 56.3**	**+0.6**
	0.0nm,0.3s,baz=127,slow=12,SNR=3.4								
USRK				LR		LR		16 36 02.4	
	comp=Z,191nm,18.6s,baz=112,slow=36					

1.7nm,0.6s,baz=99,slow=7.2,SNR=8.7
ZALV LR LR 16 56 00.4
comp=Z,48nm,18.5s,baz=69,slow=37
MKAR Makanchi Array 45.04 303 P **P 16 37 31.6 0.0**
2.0nm,0.7s,baz=87,slow=9.0,SNR=20
MKAR LR LR 16 56 23.6
comp=Z,37nm,20.6s,baz=100,slow=36
KURK Kurchatov 46.90 309 *eP* **P 16 37 45.6 -0.6**
ILAR Eielson Array 50.05 32 P **P 16 38 11.1 +1.0**
0.4nm,0.7s,baz=264,slow=8.1,SNR=4.5
WRA Warramunga Arr 56.19 189 P **P 16 38 55.8 0.0**
1.3nm,0.8s,baz=7.5,slow=7.2,SNR=12
ABKAR Akbulak array 58.92 311 *eP* **P 16 39 14.2 -0.7**
1.6nm,0.6s
ASAR Alice Springs 59.91 189 P **P 16 39 21.9 0.0**
0.4nm,0.6s,baz=2.3,slow=6.8,SNR=11
FINES FINESS Array B 59.88 333 P **P 16 40 26.9 +0.5**
0.8nm,0.7s,baz=32,slow=8.2,SNR=5.1
KBZ Khabaz 71.89 311 LR LR 17 17 00.0
comp=Z,20nm,19.2s,baz=24,slow=40
NB2 NORSAR Subarra 75.25 338 P **P 16 40 58.9 +0.5**
comp=Z,0.5nm,0.6s,baz=38,slow=6.2
NOA NORSAR Array B 75.25 338 P **P 16 40 58.5 +0.1**
comp=Z,1.1nm,0.8s,baz=40,slow=5.7,SNR=3.8
NOA LR LR 17 17 31.2
comp=Z,25nm,19.6s,baz=335,slow=38
AKASG Malin Array Be 75.35 323 P **P 16 40 59.3 +0.2**
comp=Z,1.1nm,0.5s,baz=48,slow=6.2,SNR=5.7
LPIG La Paz 89.24 61 LR LR 17 18 03.4
comp=Z,123nm,19.8s,baz=269,slow=33

MEX 25 16:45:37.1±0.4, 14.03N×92.18W, h20km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.95**	**329**	*i*	P		Pn	16 46 07.4	-1.6
PCIG				*e*	S		Sn	16 46 28.9	-4.0

---

*ISK **25** 16:58:24.9, 39.08N×29.11E, h8km, MD2.7*
*DDA **25** 16:58:25.2, 39.10N×29.03E, h7km, Md2.4*
*CSEM **25** 16:58:25.4±0.1, 39.12N×29.03E, h2km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.5km az=140.0*
ISC 25 16:58:25.7±1.1, 39.11N±0.03×29.03E±0.03, h5km±11km, n18, σ0 843/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**254**	P			**Pg**	**16 58 30.7**	**0.0**
DEMI				S			**Sg**	**16 58 34.3**	**+0.2**
DEMI	**Demirci**	**0.26**	**254**	*i*	P		**Pg**	**16 58 30.7**	**0.0**
DEMI				*i*	S		**Sg**	**16 58 34.3**	**+0.2**
GDZ	**Gediz**	**0.35**	**94**	P			**Pg**	**16 58 32.5**	**0.0**
GDZ				S			**Sg**	**16 58 37.7**	**+0.6**
GDZ	**Gediz**	**0.35**	**94**	*i*	P		**Pg**	**16 58 32.5**	**0.0**
GDZ				*i*	S		**Sg**	**16 58 37.7**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**44**	*e*	PG		**Pg**	**16 58 34.5**	**-0.3**
TVSB				*e*	SG		**Sg**	**16 58 40.7**	**-0.4**
TVSB	**Tavsanli**	**0.47**	**44**	*e*	Pg		**Pg**	**16 58 34.5**	**-0.3**
TVSB				*e*	Sg		**Sg**	**16 58 40.7**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*	PG		**Pg**	**16 58 38.2**	**-0.2**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*	Pg		**Pg**	**16 58 38.2**	**-0.2**
BALB	**Balikesir**	**1.04**	**301**	*e*	PN		**Pn**	**16 58 46.5**	**-0.4**
BALB	**Balikesir**	**1.04**	**301**	*e*	Pn		**Pn**	**16 58 46.5**	**-0.4**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*	PN		**Pg**	**16 58 50.1**	**+0.4**
CAVI				*e*	SN		**Sn**	**16 59 07.8**	**+0.6**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*	Pn		**Pg**	**16 58 50.1**	**+0.4**
CAVI				*e*	Sn		**Sn**	**16 59 07.8**	**+0.6**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*	PN		**Pg**	**16 58 50.1**	**+0.2**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*	Pn		**Pg**	**16 58 50.1**	**+0.2**
IZI	**Iznik**	**1.27**	**15**	*e*	PN		**Pn**	**16 58 49.5**	**-0.6**
IZI	**Iznik**	**1.27**	**15**	*e*	Pn		**Pn**	**16 58 49.5**	**-0.6**
ARMT	**Armutlu**	**1.46**	**355**	*e*	PN		**Pg**	**16 58 53.2**	**-0.4**
ARMT				*e*	SN		**Sg**	**16 59 13.0**	**+0.5**
ARMT	**Armutlu**	**1.46**	**355**	*e*	Pn		**Pg**	**16 58 53.2**	**-0.4**
ARMT				*e*	Sn		**Sg**	**16 59 13.0**	**+0.5**

---

*NIED **25** 17:22:00, 39.10N×142.40E, h38km, Mw3.5 Best double couple: M0 2.00000×10^14 NP1:φs 293.00000°, δ 16.00000°, λ -170.00000°. NP2:φs 193.00000°, δ 87.00000°, λ -74.00000°.*
*JMA **25** 17:22:08.2±0.1, 39.12N×142.35E, h32km±1km, M3.6*
JMA Felt I J1.
*IDC **25** 17:22:13.4±2.4, 32.87N×138.68E, h244km±36km, mb3.0/3, mb1 3.0/4, mb1mx2.7/41, mbtmp3.4/4, Error ellipse: s-maj=123.9km s-min=22.7km az=73.0*
ISC 25 17:22:09.2±1.9, 39.22N±0.06×142.38E±0.1, h27km, n10, σ0 99/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.48**	**254**	P			**Pb**	**17 22 19.0**	**-0.2**
OFUJ				S			**Sn**	**17 22 26.7**	**-1.2**
MIYJ	**Miyakonagasawa**	**0.50**	**316**	P			**Pn**	**17 22 20.1**	**-0.4**
MIYJ				S			**Sn**	**17 22 28.6**	**+0.3**
JOM	**Ohasama**	**0.80**	**289**	P			**Pn**	**17 22 24.7**	**+0.1**
JOM				S			**Sn**	**17 22 36.1**	**+0.5**
JMK	**Ichinoseki**	**0.85**	**252**	S			**Sb**	**17 22 35.9**	**-0.6**
JKZ	**Kuzumaki**	**1.05**	**317**	P			**Pb**	**17 22 28.6**	**-0.2**
JKZ				S			**Sb**	**17 22 43.7**	**+1.5**
JRG	**Rokugo**	**1.28**	**279**	P			**Pb**	**17 22 32.2**	**-0.4**
JANG	**Nango**	**1.29**	**334**	S			**Sb**	**17 22 50.1**	**+1.1**
MJAR	**Matsushiro Arr**	**4.17**	**231**	P			**Pn**	**17 23 13.1**	**+2.0**
0.6nm,0.3s,baz=182,slow=12,SNR=14									
ZALV	**Zalesovo Beam**	**40.98**	**311**	P		**P**		**17 29 49.2**	**-0.2**
0.5nm,0.4s,baz=91,slow=7.2,SNR=3.4									
AKASG	**Malin Array Be**	**72.98**	**322**	P		**P**		**17 33 35.1**	**-1.0**
0.4nm,0.5s,baz=43,slow=5.6,SNR=2.4									

IDC 25 17:35:56.7±17.0, 6.51S×154.15E, h170km±158km, mb2.9/4, mb1 3.1/4, mb1mx2.9/35, mbtmp3.3/4, Error ellipse: s-maj=104.8km s-min=48.6km az=134.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.42**	**233**	P		P	P	17 40 51.1	+0.5
0.4nm,0.6s,baz=60,slow=9.8,SNR=5.1									
ASAR	**Alice Springs**	**25.88**	**227**	P		P	P	17 41 12.6	-0.4
0.6nm,1.0s,baz=60,slow=9.6,SNR=5.0									
ILAR	**Eielson Array**	**83.23**	**22**	P		P	P	17 48 03.9	+0.2
0.2nm,0.5s,baz=230,slow=8.1,SNR=3.4									
BVAR	**Borovoye Array**	**91.41**	**323**	P		P	P	17 48 42.7	-0.7
0.1nm,0.4s,baz=106,slow=5.2,SNR=2.4									
BRTR	**Keskin Array B**	**117.44**	**312**	PKP		PKPdf		17 54 22.8	+0.1
0.4nm,0.5s,baz=98,slow=1.4,SNR=2.9									

---

*ATH **25** 17:41:44.7, 34.63N×23.72E, h14km±5km, ML3.3/4, Error ellipse: s-maj=5.7km s-min=2.1km az=28.0*
*CSEM **25** 17:41:44.6±1.0, 34.64N×23.68E, h2km, ML3.5, Error ellipse: s-maj=16.5km s-min=10.6km az=28.0*
*THE **25** 17:41:45.5, 34.67N×23.73E, h0km±3km, ML3.5/6, Error ellipse: s-maj=5.2km s-min=1.6km az=213.0*
ISC 25 17:41:47.0±1.9, 34.71N±0.09×23.79E±0.06, h18km±2km, n22, σ1 801/39, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.28**	**62**	P			**Pg**	**17 41 52.5**	**-0.8**
GVD				S			**Sb**	**17 41 57.9**	**+0.1**
GVD	**Gavdhos**	**0.28**	**62**	P			**Pg**	**17 41 52.5**	**-0.8**
GVD				S			**Sb**	**17 41 58.1**	**+0.3**
GVD	**Gavdhos**	**0.28**	**62**	P			**Pg**	**17 41 53.0**	**-0.2**
GVD				AML		AML	AML	17 41 58.0	
comp=N,51833μm,0.2s									
GVD				S			**Sb**	**17 41 58.1**	**+0.3**
GVD				AML		AML	AML	17 41 58.8	
comp=E,42251μm,0.2s									
IMMV	**Iera Moni Meta**	**0.77**	**12**	P			**Pb**	**17 42 00.8**	**-1.1**
IMMV				S			**Sn**	**17 42 13.4**	**-0.7**
IMMV	**Iera Moni Meta**	**0.77**	**12**	P			**Pg**	**17 42 00.7**	**-1.1**
IMMV				S			**Sg**	**17 42 12.3**	**-0.1**
IMMV	**Iera Moni Meta**	**0.77**	**12**	P			**Pb**	**17 42 00.7**	**-1.1**
IMMV				S			**Sg**	**17 42 12.3**	**-0.1**
IMMV				AML		AML	AML	17 42 13.6	
comp=E,10820μm,0.3s									
IMMV				AML		AML	AML	17 42 16.1	
comp=N,6668μm,0.3s									

VAM	**Vamos**	**0.78**	**26**	P			**Pb**	**17 42 01.0**	**-1.0**
VAM				S			**Sg**	**17 42 13.4**	**+0.8**
VAM	**Vamos**	**0.78**	**26**	P			**Pb**	**17 42 01.0**	**-1.0**
VAM				S			**Sg**	**17 42 13.4**	**+0.8**
SIVA	**Sivas**	**0.90**	**69**	P			**Pb**	**17 42 03.3**	**-0.7**
SIVA				S			**Sn**	**17 42 18.5**	**+1.3**
SIVA	**Sivas**	**0.90**	**69**	P			**Pb**	**17 42 03.3**	**-0.7**
SIVA				S			**Sn**	**17 42 18.5**	**+1.3**
SIVA	**Sivas**	**0.90**	**69**	P			**Pb**	**17 42 03.4**	**-0.6**
SIVA				S			**Sg**	**17 42 16.1**	**-0.2**
SIVA				AML		AML		17 42 26.7	
comp=N,2664μm,0.5s									
SIVA				AML		AML		17 42 27.8	
comp=E,4184μm,0.7s									
IDI	**Anoyia**	**1.08**	**57**	P			**Pb**	**17 42 05.7**	**-1.4**
IDI				S			**Sg**	**17 42 24.3**	**+2.2**
IDI	**Anoyia**	**1.08**	**57**	P			**Pb**	**17 42 05.7**	**-1.4**
IDI				S			**Sg**	**17 42 23.8**	**+1.7**
IDI	**Anoyia**	**1.08**	**57**	P			**Pb**	**17 42 05.1**	**-2.0**
IDI				S			**Sg**	**17 42 23.8**	**+1.7**
IDI				AML		AML		17 42 31.3	
comp=E,523μm,0.9s									
IDI				AML		AML		17 42 33.4	
comp=N,619μm,0.6s									
ANKY	**Antikythira Is**	**1.23**	**341**	P			**Pb**	**17 42 09.3**	**-0.3**
ANKY				S			**Sg**	**17 42 27.9**	**+1.2**
ANKY	**Antikythira Is**	**1.23**	**341**	P			**Pb**	**17 42 09.3**	**-0.3**
ANKY	**Antikythira Is**	**1.23**	**341**	P			**Pb**	**17 42 09.8**	**+0.2**
LAST	**Lasithi**	**1.46**	**71**	P			**Pn**	**17 42 13.0**	**+0.5**
LAST				S			**Sg**	**17 42 35.0**	**+0.7**
LAST	**Lasithi**	**1.46**	**71**	P			**Pn**	**17 42 13.0**	**+0.5**
LAST				S			**Sg**	**17 42 34.7**	**+0.4**
LAST	**Lasithi**	**1.46**	**71**	P			**Pn**	**17 42 12.2**	**-0.4**
NPS	**Neapolis**	**1.60**	**69**	P			**Pg**	**17 42 17.3**	**-0.5**
NPS	**Neapolis**	**1.60**	**69**	P			**Pg**	**17 42 17.3**	**-0.5**

---

*NSSC **25** 17:42:19.6±1.3, 33.78N×35.52E, h3km±6km, ML1.8*
*ISCJB **25** 17:42:22.1±0.6, 33.79N±0.02×35.69E±0.05, h5km±7km, Error ellipse: s-maj=7.2km s-min=3.7km az=173.8*
*CSEM **25** 17:42:22.3, 33.80N×35.75E, h8km, ML3.0*
*GRAL **25** 17:42:22.3±0.3, 33.80N×35.75E, h9km±3km, MD3.0*
ISC 25 17:42:22.1±0.9, 33.80N±0.02×35.74E±0.04, h9km±8km, n17, σ0 966/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.13**	**325**	*e*	P		**Pg**	**17 42 25.2**	**+0.1**
BHL				*e*	S		**Sg**	**17 42 27.4**	**+0.2**
BHL	**Bhannes**	**0.13**	**325**	*e*	P		**Pg**	**17 42 25.2**	**+0.1**
BHL				*e*	S		**Sg**	**17 42 27.4**	**+0.2**
DQRL	**Deir Qamar**	**0.17**	**237**	*e*	P		**Pg**	**17 42 25.9**	**+0.1**
DQRL	**Deir Qamar**	**0.17**	**237**	*e*	P		**Pg**	**17 42 25.9**	**+0.1**
BEYL	**Beirut**	**0.22**	**289**	*e*	P		**Pg**	**17 42 26.7**	**+0.1**
BEYL	**Beirut**	**0.22**	**289**	*e*	P		**Pg**	**17 42 26.7**	**+0.1**
RCY	**Rachaya**	**0.31**	**165**	*e*	P		**Pg**	**17 42 28.0**	**-0.4**
RCY				*e*	S		**Sg**	**17 42 32.3**	**-0.3**
RCY	**Rachaya**	**0.31**	**165**	*e*	P		**Pg**	**17 42 28.0**	**-0.4**
RCY				*e*	S		**Sg**	**17 42 32.3**	**-0.3**
BRBR	**Barbar**	**0.43**	**156**	*e*	P		**Pg**	**17 42 30.1**	**-0.4**
BRBR				*e*	S		**Sg**	**17 42 36.5**	**+0.3**
BRBR				AML		AML		17 42 41.4	
comp=E,102nm,0.7s									
BRBR				AML		AML		17 42 41.7	
comp=N,75nm,0.6s									
HWQ	**Hawqa**	**0.51**	**20**	*e*	P		**Pg**	**17 42 31.6**	**-0.4**
HWQ				*e*	S		**Sg**	**17 42 38.5**	**-0.2**
HWQ	**Hawqa**	**0.51**	**20**	*e*	P		**Pg**	**17 42 31.6**	**-0.4**
HWQ				*e*	S		**Sg**	**17 42 38.5**	**-0.2**
MARH	**Ras Al Marh**	**0.66**	**70**	*e*	P		**Pg**	**17 42 35.4**	**+0.5**
MARH				*e*	S		**Sn**	**17 42 48.0**	**-0.5**
MARH				AML		AML		17 42 49.0	
comp=E,30nm,0.4s									
MARH				AML		AML		17 42 50.9	
comp=N,76nm,0.4s									
HAWK	**Haweek**	**0.91**	**37**	*e*	P		**Pg**	**17 42 39.7**	**+0.1**
HAWK				*e*	S		**Sn**	**17 42 54.5**	**+0.1**
HAWK				AML		AML		17 42 58.8	
comp=N,22nm,0.4s									
HAWK				AML		AML		17 42 59.3	
comp=E,18nm,0.5s									
BIDA	**Albida**	**1.30**	**21**	*e*	P		**Pn**	**17 42 45.6**	**-0.9**
BIDA				*e*	S		**Sn**	**17 43 04.5**	**+0.3**
BIDA				AML		AML		17 43 08.9	
comp=N,68nm,0.3s									
BIDA				AML		AML		17 43 09.3	
comp=E,46nm,0.6s									
ROOS	**tl_alroos**	**1.34**	**74**	*e*	P		**Pg**	**17 42 47.8**	**0.0**
ROOS				*e*	S		**Sn**	**17 43 07.9**	**+2.9**
ROOS				AML		AML		17 43 17.2	
comp=N,18nm,0.6s									
ROOS				AML		AML		17 43 19.7	
comp=E,16nm,0.5s									
SALA	**Sala**	**1.37**	**142**	*e*	P		**Pn**	**17 42 47.6**	**0.0**
SALA				*e*	S		**Sb**	**17 43 05.8**	**+0.2**
SALA				AML		AML		17 43 12.6	
comp=N,16nm,0.5s									
SALA				AML		AML		17 43 16.5	
comp=E,2.5nm,0.5s									
ZALF	**Zalf**	**1.59**	**123**	*e*	P		**Pb**	**17 42 51.6**	**-0.2**
ZALF				*e*	S		**Sg**	**17 43 13.5**	**+0.1**
ZALF				AML		AML		17 43 19.7	
comp=N,14nm,0.5s									
ZALF				AML		AML		17 43 20.0	
comp=E,10nm,0.4s									

---

*NIED **25** 17:46:00, 38.20N×142.60E, h14km, Mw3.4 Best double couple: M0 1.45000×10^14 NP1:φs 239.00000°, δ 8.00000°, λ 141.00000°. NP2:φs 8.00000°, δ 85.00000°, λ 84.00000°.*
*IDC **25** 17:46:31.7±1.6, 37.98N×142.87E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/56, mbtmp3.5/6, MS2.5/1, Ms1 2.5/1, ms1mx2.2/38, Error ellipse: s-maj=40.6km s-min=33.1km az=61.0*
*ISCJB **25** 17:46:33.3±1.0, 38.13N±0.08×142.71E±0.09, h14km, mb3.5/6, Error ellipse: s-maj=11.8km s-min=9.1km az=149.8*
*JMA **25** 17:46:34.8±0.3, 38.17N×142.61E, h19km±3km, M3.7*
ISC 25 17:46:34.7±1.2, 38.19N±0.08×142.64E±0.09, h14km, n24, σ1 930/19, mb3.4/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.05**	**285**	P			**Pb**	**17 46 53.5**	**-1.2**
JIO				*e*	S		**Sb**	**17 47 07.0**	**-1.3**
OFUJ	**Ofunato**	**1.17**	**320**	P			**Pn**	**17 46 56.0**	**-0.7**
JMK	**Ichinoseki**	**1.35**	**305**	P			**Pn**	**17 46 58.6**	**-0.5**
JMM	**Marumori**	**1.50**	**258**	P			**Pn**	**17 47 00.3**	**-0.8**
JOU	**Okura**	**1.57**	**277**	P			**Pn**	**17 47 01.7**	**-0.4**
JOM	**Ohasama**	**1.66**	**321**	P			**Pn**	**17 47 03.4**	**0.0**
JYK	**Kaneyama**	**1.93**	**293**	P			**Pn**	**17 47 07.9**	**+0.8**
JFT	**Otama**	**1.94**	**251**	P			**Pn**	**17 47 07.0**	**-0.3**
JRG	**Rokugo**	**1.98**	**308**	P			**Pn**	**17 47 09.0**	**+1.2**
JYS	**Shirataka**	**2.03**	**272**	P			**Pn**	**17 47 08.8**	**+0.3**
MAT	**Matsushiro**	**3.90**	**246**	P			**Pn**	**17 47 36.1**	**+1.9**
MAT				S			**Sn**	**17 48 20.4**	**+0.7**
PETK	**Petropavlovsk-**	**18.20**	**30**	LR		LR		17 58 21.5	
comp=Z,17nm,20.6s,baz=136,slow=39									
H11N2	**WAKE ISLAND Hy**	**27.95**	**124**	T		T		18 21 34.0	
baz=316,slow=75,SNR=10									
H11N1	**WAKE ISLAND Hy**	**27.95**	**124**	T		T		18 21 45.5	
baz=316,slow=75,SNR=6.3									
H11N3	**WAKE ISLAND Hy**	**27.96**	**124**	T		T		18 21 44.6	
baz=316,slow=75,SNR=8.4									
SONM	**Songino Array**	**27.98**	**302**	P		**P**		**17 52 27.9**	**+3.0**
0.3nm,0.5s,baz=90,slow=2.9,SNR=2.3									
H11S1	**WAKE ISLAND Hy**	**28.71**	**126**	T		T		18 22 32.3	
baz=318,slow=76,SNR=5.3									
H11S3	**WAKE ISLAND Hy**	**28.71**	**126**	T		T		18 22 33.5	
baz=318,slow=76,SNR=7.3									
H11S2	**WAKE ISLAND Hy**	**28.73**	**126**	T		T		18 22 33.1	
baz=318,slow=76,SNR=4.8									
ZALV	**Zalesovo Beam**	**41.87**	**311**	P		**P**		**17 54 25.0**	**+0.8**
0.3nm,0.3s,baz=91,slow=7.6,SNR=2.7									
MKAR	**Makanchi Array**	**44.34**	**301**	P		**P**		**17 54 45.8**	**+1.5**
0.4nm,0.7s,baz=93,slow=7.3,SNR=4.8									
KURBB	**Kurchatov Arra**	**46.07**	**307**	P		**P**		**17 54 57.9**	**0.0**
0.9nm,0.3s,baz=83,slow=8.4,SNR=3.5									
ILAR	**Eielson Array**	**48.00**	**33**	P		**P**		**17 55 12.7**	**-0.1**
0.2nm,0.6s,baz=274,slow=2.6,SNR=3.2									
WRA	**Warramunga Arr**	**58.34**	**189**	P		**P**		**17 56 27.3**	**-2.1**
0.5nm,0.9s,baz=5.8,slow=7.3,SNR=3.0									

TAP 25 17:48:00.1, 21.16N×122.06E, h158km±1km, ML3.8, 1C, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.00**	**332**	*e*	P		Pn	17 48 25.4	-0.2
baz=332									
TWK1	**Hengchun**	**1.41**	**304**	*e*	P		Pn	17 48 29.7	+0.4
baz=300									
TWK1				*e*	S		Sn	17 48 51.6	-0.2
baz=300									
HEN	**Hengchun**	**1.49**	**305**	P			Pn	17 48 30.9	+0.8
baz=305									
HEN				S			Sn	17 48 53.1	-0.1
baz=305									
TAW	**Tawu**	**1.61**	**318**	*e*	P		Pn	17 48 31.2	-0.1
baz=321									
EAST	**Anshuo**	**1.66**	**317**	↑ *i*	P		Pn	17 48 32.0	+0.1
baz=318									
EAST				*e*	S		Sn	17 48 55.8	-0.8
baz=318									
ECL	**Taimali**	**1.76**	**324**	*e*	P		Pn	17 48 31.9	-1.1
baz=320									
ECL				*e*	S		Sn	17 48 56.2	-2.2
baz=320									
SCZT	**Fangliau**	**1.80**	**312**	P			Pn	17 48 33.6	+0.2
baz=312									
SCZT				S			Sn	17 48 58.4	-0.8
baz=312									
TWG	**Pinlang**	**1.89**	**331**	*e*	P		Pn	17 48 34.4	-0.1
baz=325									
TWG				*e*	S		Sn	17 48 59.8	-1.2
baz=325									
SSD	**Sandimen**	**2.06**	**320**	*i*	P		Pn	17 48 36.8	+0.4
baz=320									
SSD				S			Sn	17 49 03.3	-1.2
baz=320									
ELDTW	**Lidau**	**2.24**	**335**	*e*	P		Pn	17 48 38.7	+0.1
baz=337									
ELDTW				*e*	S		Sn	17 49 07.7	-0.7
baz=337									
TWM1	**Shoushan**	**2.25**	**318**	P			Pn	17 48 39.5	+0.9
baz=325									
TWF1	**Yuli**	**2.30**	**342**	*e*	P		Pn	17 48 38.8	-0.3
baz=346									
STYT	**Tauyuan**	**2.33**	**329**	*e*	P		Pn	17 48 39.3	-0.3
baz=323									
STYT				*e*	S		Sn	17 49 09.2	-1.1
baz=323									
SGST	**Jiashian**	**2.35**	**325**	*e*	P		Pn	17 48 39.7	-0.2
baz=325									
SGST				*e*	S		Sn	17 49 10.1	-0.5
baz=325									
EHY	**Hungye**	**2.44**	**344**	*e*	P		Pn	17 48 40.7	-0.1
baz=338									
WTP	**Ta-pu**	**2.47**	**327**	P			Pn	17 48 41.5	+0.2
baz=327									
WTP				*e*	S		Sn	17 49 12.5	-0.7
baz=327									
YUS	**Yu-Shan**	**2.54**	**336**	*e*	P		Pn	17 48 43.3	+0.8
baz=335									
YUS				*e*	S		Sn	17 49 15.1	-0.3
baz=335									
CHN4	**Tsaushan**	**2.57**	**328**	*e*	P		Pn	17 48 42.2	-0.2
baz=322									
CHN4				*e*	S		Sn	17 49 14.3	-1.0
baz=322									
ALS	**Alishan**	**2.61**	**334**	*e*	P		Pn	17 48 43.5	+0.2
baz=326									
ALS				*e*	S		Sn	17 49 15.8	-0.9
baz=326									
SCLT	**Jiali**	**2.65**	**320**	*e*	P		Pn	17 48 43.6	+0.3
baz=325									
SCLT				*e*	S		Sn	17 49 16.7	-0.3
baz=325									
ESL	**Shilin**	**2.71**	**348**	*e*	P		Pn	17 48 43.4	-0.7
baz=353									
CHN5	**Tsauling**	**2.75**	**332**	*e*	P		Pn	17 48 44.4	-0.3
baz=326									
CHN5				*e*	S		Sn	17 49 18.8	-0.4
baz=326									
CHN8	**Yiju**	**2.77**	**322**	*e*	P		Pn	17 48 44.9	0.0
baz=328									
CHN8				*e*	S		Sn	17 49 19.1	-0.5
baz=328									
CHY	**Chiayi**	**2.78**	**327**	*e*	P		Pn	17 48 45.1	+0.2
baz=327									
WGK	**Gukeng**	**2.87**	**331**	*e*	P		Pn	17 48 44.7	-1.5
baz=331									
WGK				*e*	S		Sn	17 49 19.3	-2.6
baz=331									
SMLT	**Sun Moon Lake**	**2.92**	**339**	*e*	P		Pn	17 48 46.7	-0.1
baz=331									
SMLT				*e*	S		Sn	17 49 22.1	-1.0
baz=331									
TYC	**Yuchr**	**2.95**	**338**	*e*	P		Pn	17 48 47.4	+0.3
baz=331									
TYC				*e*	S		Sn	17 49 22.9	-0.8
baz=331									
WSF	**Szhu**	**3.00**	**326**	*e*	P		Pn	17 48 48.5	+0.8
baz=326									
WSF				*e*	S		Sn	17 49 24.2	-0.5
baz=326									

WEL 25 17:50:25.3±0.4, 36.71S×177.35E, h12km, ML3.5/4, 1D, Error ellipse: s-maj=3.7km s-min=3.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.10**	**162**	P*			Pb	17 50 43.8	-2.5
HAZ				S*			Sb	17 50 57.4	-3.2
MXZ	**Matakaoa Point**	**1.15**	**138**	P*			Pb	17 50 44.2	-2.8
MXZ				S*			Sb	17 50 57.8	-4.1
MXZ				AML		AML	AML	17 51 12.6	
OPRZ	**Ohinepanea**	**1.30**	**209**	*e*	P*		Pn	17 50 47.1	-2.1
**KUZ

IDC 25 18:09:04.2±4.0, 25°31'N×142°22'E, h63km±35km, mb3.3/7, mb1 3.4/8, mb1mx3.2/40, mbtmp3.5/8, ML3.9/2, Error ellipse: s-maj=108.1km s-min=19.6km az=81.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**8.06**	**345**	P	Pn	18 10 59.3	+0.7
	40nm,0.3s,baz=82,slow=22,SNR=4.2						
MJAR	**Matsushiro Arr**	**11.71**	**344**	P	Pn	18 11 47.1	-1.3
	0.1nm,0.3s,baz=159,slow=10,SNR=3.1						
USRK	**Ussuriysk Ar.**	**20.60**	**339**	P	P	18 13 37.8	-0.2
	0.9nm,0.7s,baz=136,slow=42,SNR=4.5						
WRA	**Warramunga Arr**	**45.63**	**190**	P	P	18 17 18.5	-0.1
	0.6nm,0.3s,baz=7.6,slow=8.5,SNR=17						
ASAR	**Alice Springs**	**49.35**	**190**	P	P	18 17 47.2	-0.2
	0.6nm,1.0s,baz=29,slow=9.8,SNR=3.4						
ZALV	**Zalesovo Beam**	**50.86**	**320**	P	P	18 17 59.1	+0.7
	0.2nm,0.3s,baz=114,slow=7.0,SNR=2.6						
MKAR	**Makanchi Array**	**51.64**	**311**	P	P	18 18 04.2	-0.3
	0.2nm,0.5s,baz=101,slow=8.9,SNR=3.7						
FINES	**FINESS Array B**	**79.55**	**334**	P	P	18 21 02.9	-1.2
	0.7nm,0.6s,baz=54,slow=3.3,SNR=6.4						
NOA	**NORSAR Array B**	**85.27**	**338**	P	P	18 21 35.5	+1.6
	0.4nm,0.6s,baz=45,slow=4.7,SNR=2.8						

*NIED **25** 18:15:00, 40.00N×142.40E, h32km, Mw3.5 Best double couple: M0 1.85000×10^14 NP1:φs 72.00000°, δ 34.00000°, λ -17.00000°. NP2:φs 177.00000°, δ 80.00000°, λ -123.00000°.*

*ISCJB **25** 18:15:19.6±1.1, 40.01N±0.05×142.37E±0.1, h37km±11km, mb3.4/6, Error ellipse: s-maj=13.6km s-min=8.0km az=175.7*

*JMA **25** 18:15:19.0±0.1, 40.04N×142.41E, h38km±1km, M3.8*

JMA Felt I J1.

*IDC **25** 18:15:22.4±2.7, 39.80N×142.71E, h64km±25km, mb3.1/6, mb1 3.3/7, mb1mx3.1/37, mbtmp3.4/7, ML3.0/1, Error ellipse: s-maj=34.1km s-min=15.9km az=101.0*

ISC 25 18:15:19.9±1.4, 40°01N±0.04×142°37E±0.08, h32km±9km, n25, σ1°95/27, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.39**	**260**	P	**Pb**	**18 15 29.0**	**+0.2**
JTH				S	**Sb**	**18 15 36.0**	**+1.2**
MIYJ	**Miyakonagasawa**	**0.60**	**225**	P	**Pb**	**18 15 31.5**	**-0.5**
MIYJ				S	**Sb**	**18 15 40.5**	**+0.1**
JANG	**Nango**	**0.75**	**300**	P	**Pn**	**18 15 33.1**	**-1.2**
JKZ	**Kuzumaki**	**0.80**	**269**	P	**Pn**	**18 15 34.7**	**-0.3**
JKZ				S	**Sn**	**18 15 45.8**	**0.0**
JOM	**Ohasama**	**0.99**	**238**	P	**Pn**	**18 15 37.4**	**-0.1**
JOM				S	**Sn**	**18 15 50.6**	**+0.2**
OFUJ	**Ofunato**	**1.07**	**210**	P	**Pn**	**18 15 38.4**	**-0.3**
JTM	**Tenmabayashi**	**1.26**	**309**	P	**Pn**	**18 15 40.9**	**-0.4**
JTM				S	**Sn**	**18 15 57.0**	**-0.2**
JAH	**Hinai**	**1.34**	**278**	P	**Pn**	**18 15 42.6**	**+0.2**
JAH				S	**Sn**	**18 15 59.9**	**+0.8**
JMK	**Ichinoseki**	**1.38**	**220**	P	**Pn**	**18 15 43.2**	**+0.3**
JMK				S	**Sn**	**18 16 01.6**	**+1.6**
JRG	**Rokugo**	**1.47**	**246**	P	**Pn**	**18 15 45.0**	**+0.8**
ASAJ	**Asahikawa**	**4.11**	**2**	P	**Pn**	**18 16 24.6**	**+4.2**
	baz=187,slow=0.6						
ASAJ				S	**Sb**	**18 17 15.8**	**-4.9**
	1.1nm,0.3s,baz=114,slow=19,SNR=3.4						
MJAR	**Matsushiro Arr**	**4.76**	**225**	P	**Pn**	**18 16 32.4**	**+2.9**
	0.6nm,0.3s,baz=33,slow=14,SNR=12						
USRK	**Ussuriysk Ar.**	**8.75**	**302**	P	**Pn**	**18 17 28.2**	**+3.7**
	0.3nm,0.3s,baz=106,slow=13,SNR=11						
H11N2	**WAKE ISLAND Hy**	**29.17**	**127**	T	T	18 51 57.0	
	baz=318,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**29.18**	**127**	T	T	18 51 58.4	
	baz=318,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**29.19**	**127**	T	T	18 51 59.5	
	baz=318,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.99**	**129**	T	T	18 52 57.5	
	baz=320,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**29.99**	**129**	T	T	18 53 07.7	
	baz=320,slow=76,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**30.00**	**129**	T	T	18 53 13.4	
	baz=320,slow=76,SNR=7.4						
ZALV	**Zalesovo Beam**	**40.52**	**310**	P	**P**	**18 22 57.9**	**+2.1**
	0.3nm,0.3s,baz=75,slow=8.3,SNR=2.6						
MKAR	**Makanchi Array**	**43.24**	**300**	P	**P**	**18 23 19.3**	**+1.2**
	1.1nm,1.0s,baz=77,slow=11,SNR=5.5						
ILAR	**Eielson Array**	**46.60**	**34**	P	**P**	**18 23 43.6**	**-0.9**
	0.3nm,0.6s,baz=252,slow=6.1,SNR=5.2						
WRA	**Warramunga Arr**	**60.11**	**189**	P	**P**	**18 25 21.8**	**-2.4**
	0.3nm,0.8s,baz=7.1,slow=7.1,SNR=4.5						
ASAR	**Alice Springs**	**63.83**	**189**	P	**P**	**18 25 47.3**	**-1.9**
	0.2nm,0.9s,baz=9.0,slow=7.7,SNR=3.4						
FINES	**FINESS Array B**	**66.54**	**332**	P	**P**	**18 26 07.3**	**+1.1**
	0.5nm,0.7s,baz=57,slow=5.1,SNR=2.2						

IDC 25 18:21:13.2±3.7, 37°21N×142°48E, h60km±32km, mb3.1/3, mb1 3.2/6, mb1mx3.0/40, mbtmp3.3/6, ML2.8/3, Error ellipse: s-maj=38.1km s-min=28.3km az=93.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.49**	**260**	P	Pn	18 22 03.9	-1.1
	0.4nm,0.3s,baz=84,slow=15,SNR=7.3						
ASAJ	**Asahikawa**	**6.90**	**1**	P	Pn	18 22 51.9	+0.2
	0.4nm,0.3s,baz=197,slow=12,SNR=7.1						
USRK	**Ussuriysk Ar.**	**10.59**	**315**	P	Pn	18 23 42.8	+0.8
	0.2nm,0.3s,baz=134,slow=12,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**27.51**	**123**	T	T	18 55 42.1	
	baz=315,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**27.52**	**123**	T	T	18 55 44.6	
	baz=315,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**27.53**	**123**	T	T	18 55 43.4	
	baz=315,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**28.25**	**125**	T	T	18 56 38.3	
	baz=317,slow=75,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**28.25**	**125**	T	T	18 56 37.8	
	baz=317,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.26**	**125**	T	T	18 56 38.7	
	baz=317,slow=75,SNR=15						
SONM	**Songino Array**	**28.40**	**303**	P	P	18 27 01.8	-0.1
	0.5nm,0.3s,baz=106,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**44.75**	**302**	P	P	18 29 20.6	+0.1
	0.2nm,0.7s,baz=101,slow=7.5,SNR=3.6						
WRA	**Warramunga Arr**	**57.36**	**189**	P	P	18 30 55.5	+0.3
	0.2nm,0.6s,baz=6.4,slow=7.2,SNR=5.1						
LPAZ	**La Paz**	**145.87**	**61**	PKPbc	PKPdf	18 40 45.6	-0.7
	0.5nm,0.4s,baz=298,slow=4.0,SNR=3.8						

WEL 25 18:23:32.4±0.2, 41°32S×172°38E, h5km, ML3.7/24, 3C-3D, Error ellipse: s-maj=1.9km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.51**	**13**	⇓PG	Pg	18 23 42.5	+0.3
QRZ				SG	Sg	18 23 49.5	+0.7
QRZ				AML	AML	18 23 50.4	
QRZ				AML	AML	18 23 52.0	
QRZ				AML	AML	18 23 52.0	
THZ	**Tophouse**	**0.59**	**138**	P*	Pg	18 23 43.9	+0.1
THZ				SG	Sg	18 23 51.4	-0.1
THZ				AML	AML	18 23 52.3	
DSZ	**Denniston Nort**	**0.60**	**225**	⇑P*	Pg	18 23 44.6	+0.6
DSZ				SG	Sg	18 23 53.0	+1.1
DSZ				AML	AML	18 23 53.3	
DSZ				AML	AML	18 23 53.9	
DSZ				AML	AML	18 23 54.0	
NNZ	**Nelson**	**0.76**	**82**	P*	Pg	18 23 46.9	-0.1
NNZ				AML	AML	18 23 59.9	
NNZ				AML	AML	18 24 02.5	
TUWZ	**Tuamarina**	**1.18**	**96**	P*	Pg	18 23 54.2	-0.9
TUWZ				AML	AML	18 24 14.1	
TUWZ				AML	AML	18 24 14.3	
BSWZ	**Blackbirch Sta**	**1.19**	**110**	P*	Pg	18 23 55.3	+0.1
BSWZ				S*	Sn	18 24 12.5	+0.2
BSWZ				AML	AML	18 24 14.5	
DUWZ	**D'Urville Isla**	**1.28**	**67**	⇓P*	Pg	18 23 56.0	-0.9
KHZ	**Kahutara**	**1.40**	**142**	PN	Pg	18 23 59.6	+0.5
KHZ				SN	Sn	18 24 18.2	+0.9
TCW	**Tory Channel**	**1.44**	**86**	PN	Pn	18 23 58.7	-0.4
TCW				AML	AML	18 24 20.7	
TCW				AML	AML	18 24 22.7	
BHW	**Baring Head**	**1.88**	**93**	PN	Pb	18 24 07.0	-0.1
KIW	**Kapiti Island**	**1.97**	**77**	PN	Pb	18 24 08.2	-0.5
KIW				AML	AML	18 24 37.3	
KIW				AML	AML	18 24 39.0	
OXZ	**Oxford**	**2.02**	**187**	PN	Pn	18 24 07.4	+0.3
CAW	**Cannon Point**	**2.04**	**85**	PN	Pb	18 24 09.0	-0.9
CAW				AML	AML	18 24 39.2	
CAW				AML	AML	18 24 42.1	
WVZ	**Waitaha Valley**	**2.13**	**214**	PN	Pn	18 24 08.5	-0.2
WVZ				AML	AML	18 24 44.4	
WVZ				AML	AML	18 24 44.9	
MSWZ	**Moikau Station**	**2.16**	**93**	PN	Pn	18 24 10.0	+0.9
MSWZ				AML	AML	18 24 39.4	
MSWZ				AML	AML	18 24 42.8	
OGWZ	**Otaki Gorge**	**2.17**	**77**	⇓PN	Pb	18 24 11.2	-0.9
PAWZ	**Paruwai Farm**	**2.30**	**92**	PN	Pn	18 24 11.5	+0.5
MTW	**Mount Morrison**	**2.36**	**87**	PN	Pn	18 24 12.5	+0.7
MQZ	**McQueen's Vall**	**2.39**	**175**	PN	Pn	18 24 12.3	+0.1
HOWZ	**Holdsworth Sta**	**2.41**	**81**	PN	Pn	18 24 13.3	+0.9
LREZ	**Lake Rotokare**	**2.42**	**40**	PN	Pn	18 24 14.2	+1.6
NEZ	**North Egmont**	**2.43**	**33**	PN	Pn	18 24 14.2	+1.3
PKE	**Pukeiti**	**2.46**	**31**	PN	Pn	18 24 14.1	+0.9
PKE				AML	AML	18 24 59.1	
MRZ	**Mangatainoka R**	**2.51**	**76**	PN	Pn	18 24 15.0	+1.1
WAZ	**Wanganui**	**2.53**	**53**	PN	Pn	18 24 16.1	+2.0
WAZ				AML	AML	18 24 59.8	
WAZ				AML	AML	18 25 07.1	
DREZ	**Durham Road**	**2.55**	**34**	PN	Pn	18 24 15.4	+1.0
RPZ	**Rata Peaks**	**2.58**	**202**	PN	Pn	18 24 15.5	+0.6
MHEZ	**Mangahewa**	**2.69**	**34**	PN	Pn	18 24 17.4	+1.1
VRZ	**Vera Road**	**2.85**	**40**	⇑PN	Pn	18 24 19.3	+0.8
VRZ				AML	AML	18 25 07.4	
VRZ				AML	AML	18 25 15.2	
FOZ	**Fox Glacier**	**2.91**	**220**	PN	Pn	18 24 19.6	+0.3
FOZ				AML	AML	18 25 08.5	
FOZ				AML	AML	18 25 11.5	
TRVZ	**Turoa**	**3.15**	**51**	AML	AML	18 25 20.9	
WNVZ	**Wahianoa**	**3.17**	**52**	PN	Pn	18 24 24.7	+1.6
FWVZ	**Far West T-bar**	**3.19**	**51**	PN	Pn	18 24 25.9	+2.5
FWVZ				AML	AML	18 25 19.1	
FWVZ				AML	AML	18 25 26.8	
MOVZ	**Moawhango**	**3.21**	**55**	PN	Pn	18 24 25.6	+2.1
MOVZ				AML	AML	18 25 26.0	
WTVZ	**West Tongariro**	**3.30**	**49**	PN	Pn	18 24 26.9	+2.1
WTVZ				AML	AML	18 25 27.0	
WTVZ				AML	AML	18 25 33.0	
KRVZ	**Karewarewa**	**3.35**	**49**	PN	Pn	18 24 27.9	+2.4
KRVZ				AML	AML	18 25 33.3	
KRVZ				AML	AML	18 25 37.1	
HIZ	**Hauiti**	**3.39**	**35**	⇑PN	Pn	18 24 26.0	0.0
HIZ				AML	AML	18 25 19.5	
HIZ				AML	AML	18 25 35.7	
LBZ	**Lake Benmore**	**3.46**	**207**	PN	Pn	18 24 27.4	+0.5
LBZ				AML	AML	18 26 58.7	
BKZ	**Black Stump Fm**	**3.81**	**57**	PN	Pn	18 24 31.3	-0.5
BKZ				AML	AML	18 25 42.4	
JCZ	**Jackson Bay**	**3.82**	**223**	PN	Pn	18 24 31.8	-0.1
JCZ				AML	AML	18 25 51.3	
TLZ	**Tolley Road**	**3.85**	**40**	PN	Pn	18 24 32.7	+0.4
ODZ	**Otahua Downs**	**3.93**	**198**	PN	Pn	18 24 32.8	-0.6
TOZ	**Tahuroa Road**	**4.32**	**35**	PN	Pn	18 24 38.8	0.0
MKAZ	**Moumakai**	**4.73**	**28**	PN	Pn	18 24 45.0	+0.6

*DDA **25** 18:23:42.8, 39.17N×29.07E, h6km, Ml3.6*

*CSEM **25** 18:23:43.6±0.1, 39.14N×29.08E, h2km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.3km az=158.0*

*ISK **25** 18:23:43.2, 39.13N×29.04E, h5km, ML3.2*

ISC 25 18:23:43.4±1.0, 39°16N±0.02×29°09E±0.02, h5km±9km, n68, σ0°89/91, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.28**	**114**	*e*PG	**Pb**	**18 23 50.0**	**-1.0**
GEDZ				*e*SG	**Sg**	**18 23 53.9**	**+1.4**
GEDZ	**Gediz**	**0.28**	**114**	*e*Pg	**Pb**	**18 23 50.0**	**-1.0**
GEDZ				*e*Sg	**Sg**	**18 23 53.9**	**+1.4**
DEMI	**Demirci**	**0.31**	**248**	P	**Pg**	**18 23 49.3**	**-0.1**
DEMI				S	**Sg**	**18 23 53.5**	**0.0**
DEMI	**Demirci**	**0.31**	**248**	*i* P	**Pg**	**18 23 49.3**	**-0.1**
DEMI				*i* S	**Sg**	**18 23 53.5**	**0.0**
GDZ	**Gediz**	**0.32**	**103**	P	**Pg**	**18 23 49.4**	**-0.1**
GDZ				S	**Sg**	**18 23 53.8**	**+0.1**
GDZ	**Gediz**	**0.32**	**103**	*i* P	**Pg**	**18 23 49.4**	**-0.1**
GDZ				*i* S	**Sg**	**18 23 53.8**	**+0.1**
TVSB	**Tavsanli**	**0.41**	**45**	*e*PG	**Pg**	**18 23 50.8**	**-0.6**
TVSB	**Tavsanli**	**0.41**	**45**	*e*Pg	**Pg**	**18 23 50.8**	**-0.6**
KULA	**Kula-Manisa**	**0.72**	**207**	*e*PG	**Pg**	**18 23 56.7**	**-0.6**
KULA				*e*SG	**Sg**	**18 24 06.0**	**-0.7**
KULA	**Kula-Manisa**	**0.72**	**207**	*e*Pg	**Pg**	**18 23 56.7**	**-0.6**
KULA				*e*Sg	**Sg**	**18 24 06.0**	**-0.7**
AKS	**Akhisar**	**1.03**	**255**	*e*PG	**Pg**	**18 24 02.7**	**-0.4**
AKS	**Akhisar**	**1.03**	**255**	*e*Pg	**Pg**	**18 24 02.7**	**-0.4**
BALB	**Balikesir**	**1.05**	**298**	*e*PG	**Pn**	**18 24 04.5**	**-0.3**
BALB				*e*SG	**Sb**	**18 24 17.8**	**-0.3**
BALB	**Balikesir**	**1.05**	**298**	*e*Pg	**Pn**	**18 24 04.5**	**-0.3**
BALB				*e*Sg	**Sb**	**18 24 17.8**	**-0.3**
IGD	**Bursa**	**1.11**	**5**	*i* P	**Pg**	**18 24 02.8**	**-1.8**
IGD				*i* S	**Sg**	**18 24 19.4**	**+0.3**
CAVI	**Cavuskoy**	**1.20**	**29**	*e*PN	**Pg**	**18 24 06.6**	**+0.3**
CAVI				*e*SN	**Sn**	**18 24 24.7**	**+1.2**
CAVI	**Cavuskoy**	**1.20**	**29**	*e*Pn	**Pg**	**18 24 06.6**	**+0.3**
CAVI				*e*Sn	**Sn**	**18 24 24.7**	**+1.2**
IZI	**Iznik**	**1.21**	**14**	*e*PN	**Pn**	**18 24 07.4**	**+0.2**
IZI	**Iznik**	**1.21**	**14**	*e*Pn	**Pn**	**18 24 07.4**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.22**	**353**	*e*PN	**Pn**	**18 24 07.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.22**	**353**	*e*Pn	**Pn**	**18 24 07.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.24**	**333**	*e*PN	**Pn**	**18 24 07.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.24**	**333**	*e*Pn	**Pn**	**18 24 07.4**	**0.0**
BALY	**Balya**	**1.27**	**298**	P	**Pg**	**18 24 07.4**	**-0.4**
BALY				S	**Sn**	**18 24 25.0**	**-0.5**
BALY	**Balya**	**1.27**	**298**	*i* P	**Pg**	**18 24 07.4**	**-0.4**
BALY				*i* S	**Sn**	**18 24 25.0**	**-0.5**
BORA	**Eskisehir**	**1.28**	**55**	P	**Pn**	**18 24 08.0**	**-0.1**
BORA				S	**Sg**	**18 24 24.5**	**-0.1**
BORA	**Eskisehir**	**1.28**	**55**	*i* P	**Pn**	**18 24 08.0**	**-0.1**
BORA				*i* S	**Sg**	**18 24 24.5**	**-0.1**
ADVT	**Abdulvahap**	**1.37**	**21**	*e*PN	**Pg**	**18 24 10.0**	**+0.4**
ADVT	**Abdulvahap**	**1.37**	**21**	*e*Pn	**Pg**	**18 24 10.0**	**+0.4**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*PN	**Pb**	**18 24 09.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.40**	**310**	*e*Pn	**Pb**	**18 24 09.8**	**-0.2**
ARMT	**Armutlu**	**1.42**	**353**	*e*PN	**Pg**	**18 24 10.8**	**+0.3**
ARMT	**Armutlu**	**1.42**	**353**	*e*Pn	**Pg**	**18 24 10.8**	**+0.3**
ESKT	**Eskisehir**	**1.42**	**75**	*e*PN	**Pn**	**18 24 10.1**	**+0.2**
ESKT	**Eskisehir**	**1.42**	**75**	*e*Pn	**Pn**	**18 24 10.1**	**+0.2**
ESKT	**Eskisehir**	**1.42**	**75**	*i* P	**Pn**	**18 24 07.9**	**-2.1**
ESKT				*i* S	**Sb**	**18 24 28.1**	**-0.7**
SEYT	**Eskypehyr**	**1.42**	**75**	P	**Pn**	**18 24 07.9**	**-2.1**
SEYT				S	**Sb**	**18 24 28.1**	**-0.7**
DNZL	**Cakiroluk**	**1.47**	**181**	P	**Pb**	**18 24 10.7**	**-0.6**
DNZL	**Cakiroluk**	**1.47**	**181**	*i* P	**Pb**	**18 24 10.7**	**-0.6**
DNZL				*i* S	**Sg**	**18 24 33.5**	**+3.0**
EDC	**Edincik**	**1.51**	**322**	*e*PN	**Pb**	**18 24 12.0**	**0.0**
EDC	**Edincik**	**1.51**	**322**	*e*Pn	**Pb**	**18 24 12.0**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**218**	*e*PN	**Pb**	**18 24 11.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**218**	*e*Pn	**Pb**	**18 24 11.9**	**-0.4**
IZM	**Izmir**	**1.61**	**242**	*e*PN	**Pb**	**18 24 13.2**	**-0.5**
IZM	**Izmir**	**1.61**	**242**	*e*Pn	**Pb**	**18 24 13.2**	**-0.5**
GULT	**Gulveren**	**1.68**	**40**	*e*PN	**Pb**	**18 24 15.0**	**+0.1**
GULT	**Gulveren**	**1.68**	**40**	*e*Pn	**Pb**	**18 24 15.0**	**+0.1**
HRT	**Hereke**	**1.72**	**15**	*e*PN	**Pb**	**18 24 15.3**	**-0.2**
HRT	**Hereke**	**1.72**	**15**	*e*Pn	**Pb**	**18 24 15.3**	**-0.2**
MRMT	**Marmara Adasi**	**1.84**	**322**	*e*PN	**Pn**	**18 24 16.5**	**+0.7**
MRMT	**Marmara Adasi**	**1.84**	**322**	*e*Pn	**Pn**	**18 24 16.5**	**+0.7**
AYVA	**Ayvalik**	**1.87**	**275**	P	**Pb**	**18 24 17.1**	**-0.8**
AYVA	**Ayvalik**	**1.87**	**275**	*i* P	**Pb**	**18 24 17.1**	**-0.8**
AYVA				*i* S	**Sg**	**18 24 44.5**	**+1.2**
ISK	**Istanbul-Kandi**	**1.90**	**359**	*e*PN	**Pb**	**18 24 18.0**	**-0.6**
ISK	**Istanbul-Kandi**	**1.90**	**359**	*e*Pn	**Pb**	**18 24 18.0**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.91**	**81**	*e*PN	**Pb**	**18 24 18.3**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.91**	**81**	*e*Pn	**Pb**	**18 24 18.3**	**-0.5**
GOLH	**Golhisar**	**1.96**	**169**	P	**Pn**	**18 24 17.0**	**-0.4**
GOLH	**Golhisar**	**1.96**	**169**	*i* P	**Pn**	**18 24 17.0**	**-0.4**
GOLH				*i* S	**Sg**	**18 24 50.5**	**+4.3**
DGB	**˙zmir**	**2.05**	**238**	*i* P	**Pg**	**18 24 23.2**	**+0.6**
DGB				*i* S	**Sg**	**18 24 47.9**	**-1.3**
MDUB	**Mudurnu**	**2.09**	**50**	*e*PN	**Pb**	**18 24 21.1**	**-0.8**
MDUB	**Mudurnu**	**2.09**	**50**	*e*Pn	**Pb**	**18 24 21.1**	**-0.8**
YER	**Yerkesik**	**2.12**	**198**	*e*PN	**Pn**	**18 24 20.1**	**+0.6**
YER	**Yerkesik**	**2.12**	**198**	*e*Pn	**Pn**	**18 24 20.2**	**+0.6**
CTKS	**Kestanelik-??a**	**2.12**	**348**	*e*PN	**Pn**	**18 24 20.8**	**+1.2**
CTKS	**Kestanelik-??a**	**2.12**	**348**	*e*Pn	**Pn**	**18 24 20.8**	**+1.2**
ERIK	**Erikli-Kesan**	**2.49**	**308**	*e*PN	**Pn**	**18 24 25.3**	**+0.8**
ERIK	**Erikli-Kesan**	**2.49**	**308**	*e*Pn	**Pn**	**18 24 25.3**	**+0.8**

*IDC **25** 18:30:35.4±2.1, 36.71N×141.90E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/37, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=47.1km s-min=28.1km az=56.0*

*JMA **25** 18:30:36.1±0.2, 36.29N×141.80E, h69km±5km, M2.8*

ISC 25 18:30:39.7±1.2, 36°40N±0.05×141°43E±0.08, h19km, n15, σ1°06/18, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.72**	**287**	P	**Pn**	**18 30 55.0**	**+0.1**
CHOJ	**Chosi**	**0.84**	**214**	P	**Pb**	**18 30 54.4**	**-1.2**
CHOJ				*e*S	**Sn**	**18 31 08.2**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.86**	**324**	P	**Pg**	**18 30 56.5**	**0.0**
JFK	**Kawauchi**	**1.06**	**335**	P	**Pb**	**18 30 58.8**	**-0.6**
JFT	**Otama**	**1.41**	**322**	P	**Pb**	**18 31 05.4**	**-0.1**
JMM	**Marumori**	**1.54**	**341**	P	**Pn**	**18 31 05.8**	**-0.4**
JAG	**Ashikaga**	**1.59**	**271**	P	**Pb**	**18 31 07.9**	**-0.6**
JFY	**Yanaizu**	**1.71**	**306**	P	**Pb**	**18 31 10.4**	**-0.1**
JRY	**Ryogami san**	**2.08**	**260**	P	**Pn**	**18 31 13.8**	**+0.2**
MJAR	**Matsushiro Arr**	**2.60**	**274**	Pn	**Pn**	**18 31 22.8**	**+2.1**
	2.4nm,0.3s,baz=110,slow=9.3,SNR=35						
MJAR				Sn	**Sg**	**18 32 01.6**	**-1.7**
	1.3nm,0.3s,baz=82,slow=17,SNR=4.7						
MAT	**Matsushiro**	**2.60**	**274**	P	**Pn**	**18 31 22.6**	**+1.9**
MAT				S	**Sb**	**18 31 57.5**	**+0.2**
SONM	**Songino Array**	**28.15**	**305**	P	**P**	**18 36 31.5**	**+0.7**
	0.6nm,0.6s,baz=93,slow=9.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**42.35**	**313**	P	**P**	**18 38 31.1**	**-1.2**
	0.3nm,0.3s,baz=102,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**44.47**	**303**	P	**P**	**18 38 49.1**	**-0.4**
	0.4nm,0.8s,baz=68,slow=10.0,SNR=3.6						
WRA	**Warramunga Arr**	**56.44**	**188**	P	**P**	**18 40 21.4**	**+1.2**
	0.2nm,0.3s,baz=4.5,slow=8.0,SNR=7.5						

IDC 25 19:11:37.2±4.3, 26°52N×140°90E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/35, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=311.9km s-min=33.8km az=85.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.24**	**348**	Pn	Pn	19 14 05.4	-0.2
	0.5nm,0.3s,baz=165,slow=11,SNR=13						
WRA	**Warramunga Arr**	**46.63**	**188**	P	P	19 20 07.8	+0.4
	0.8nm,0.7s,baz=8.8,slow=8.0,SNR=8.2						
ASAR	**Alice Springs**	**50.35**	**188**	P	P	19 20 35.5	-0.7
	0.2nm,0.6s,baz=7.8,slow=7.5,SNR=8.8						

*ISCJB **25** 19:39:31.2±1.5, 35.10S±0.04×73.0W±0.1, h17km±11km, mb3.4/2, MS2.7/1, Error ellipse: s-maj=14.5km s-min=6.0km az=10.2*

*GUC **25** 19:39:31.1±0.4, 35.11S×72.90W, h38km±4km, ML3.5*

*IDC **25** 19:39:42.1±7.5, 35.46S×71.89W, h135km±115km, mb3.1/2, mb1 3.3/4, mb1mx3.1/27, mbtmp3.5/4, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/13, Error ellipse: s-maj=144.4km s-min=34.3km az=117.0*

ISC 25 19:39:31.5±2.7, 35°14S±0.04×72°91W±0.09, h12km±18km, n15, σ1°66/20, 2D, Near coast of central Chile

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

*IDC **25** 19:47:52.6±3.4, 36°.75N×143°.43E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.2/48, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=62.0km s-min=42.8km az=4.0*
*ISCJB **25** 19:47:53.7±1.0, 37°.05N±0°.04×143°.33E±0°.08, h33km, mb3.5/2, Error ellipse: s-maj=9.1km s-min=5.7km az=164.8*
*JMA **25** 19:47:54.9±0.3, 37°.08N×143°.26E, h46km, M3.0*
ISC 25 19:47:55.6±1.5, 37°.05N±0°.05×143°.30E±0°.10, h35km, n15, σ1§04/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.96**	**280**	P			**Pn**	**19 48 25.9**	**-0.5**
JFK				S			**Sn**	**19 48 49.0**	**-0.9**
ONAJ	**Iwakimizuishiy**	**2.00**	**272**	P			**Pn**	**19 48 26.6**	**-0.4**
ONAJ				eS			**Sn**	**19 48 49.8**	**-1.0**
JIO	**Ouri**	**2.09**	**313**	P			**Pn**	**19 48 27.9**	**-0.2**
JIO				eS			**Sn**	**19 48 51.6**	**-1.3**
JFT	**Otama**	**2.41**	**282**	S			**Sn**	**19 49 01.4**	**+0.5**
JOU	**Okura**	**2.47**	**303**	S			**Sn**	**19 49 02.1**	**-0.3**
JOM	**Ohasama**	**2.89**	**327**	eS			**Sn**	**19 49 11.2**	**-1.5**
JYK	**Kaneyama**	**2.98**	**310**	P			**Pn**	**19 48 40.8**	**+0.4**
BSO1	**Boso 1**	**3.04**	**219**	P			**Pn**	**19 48 40.9**	**+0.1**
BSO1				S			**Sn**	**19 49 17.1**	**+1.4**
JRG	**Rokugo**	**3.15**	**319**	S			**Sn**	**19 49 19.7**	**+0.7**
JAG	**Ashikaga**	**3.15**	**260**	P			**Pn**	**19 48 43.0**	**+0.2**
JANG	**Nango**	**3.60**	**338**	P			**Pn**	**19 48 49.5**	**+0.6**
MJAR	**Matsushiro Arr**	**4.12**	**264**	Pn			**Pn**	**19 48 57.2**	**+1.2**
	0.5nm,0.3s,baz=86,slow=15,SNR=7.1								
MJAR				Sn			**Sn**	**19 49 44.2**	**+1.2**
	0.4nm,0.3s,baz=46,slow=36,SNR=3.8								
JHJ	**Hachijo jima 2**	**4.87**	**217**	Pn			**Pn**	**19 49 06.0**	**-0.3**
	7.7nm,0.3s,baz=54,slow=19,SNR=2.2								
JHJ				Sn			**Sn**	**19 49 58.9**	**-2.6**
	13nm,0.3s,baz=60,slow=20,SNR=2.3								
WRA	**Warramunga Arr**	**57.31**	**190**	P			**P**	**19 57 39.9**	**-0.2**
	0.3nm,0.6s,baz=8.2,slow=7.1,SNR=6.4								
ASAR	**Alice Springs**	**61.03**	**190**	P			**P**	**19 58 06.4**	**+0.6**
	0.2nm,0.5s,baz=8.0,slow=7.9,SNR=9.9								

*NEIC **25** 20:04:53.8±2.7, 11°.66N×89°.28W, h35km, mb4.3/26, MD3.8(SNET), Error ellipse: s-maj=41.3km s-min=15.9km az=172.0*
NEIC Felt [I] at La Libertad, El Salvador.
*ISCJB **25** 20:05:02.8±0.4, 12°.68N±0°.05×89°.42W±0°.05, h47km, mb4.1/31, MS2.8/2, Error ellipse: s-maj=8.9km s-min=4.1km az=44.4*
*IDC **25** 20:05:03.9±3.1, 12°.68N×89°.20W, h42km±28km, mb3.7/7, mb1 3.9/9, mb1mx3.6/39, mbtmp3.9/9, ML3.5/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/36, Error ellipse: s-maj=38.4km s-min=20.9km az=63.0*
*CASC **25** 20:05:05.1±2.5, 12°.82N×89°.30W, h36km±999km, MD4.1, ML3.8, mb4.3(NEIC)*
ISC 25 20:05:04.2±0.8, 12°.69N±0°.08×89°.36W±0°.08, h47km, n177, σ1§21/180, mb4.1/31, 3C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.97**	**18**	*e*P			**Pn**	**20 05 21.8**	**+0.1**
SNET	**Serv Nac Est T**	**1.00**	**7**	*e*P			**Pn**	**20 05 21.6**	**-0.4**
SNET				AML			AML	20 05 44.9	
	comp=Z,3μm,0.5s								
SBLS	**San Blas**	**1.17**	**348**	*e*P			**Pn**	**20 05 23.9**	**-0.6**
SBLS				*e*S			**Sn**	**20 05 37.5**	**-1.9**
MONT	**Ecomontaæa**	**1.19**	**347**	*e*P			**Pn**	**20 05 24.4**	**-0.3**
SNJE	**San Jose**	**1.20**	**349**	*e*P			**Pn**	**20 05 24.3**	**-0.5**
SNJE				*e*S			**Sn**	**20 05 37.9**	**-2.1**
RTR	**El Retiro**	**1.23**	**347**	*e*P			**Pn**	**20 05 24.8**	**-0.4**
CUS1	**Cusmapa**	**1.34**	**335**	*e*P			**Pn**	**20 05 25.5**	**-1.2**
RBDL	**Robledal**	**1.45**	**347**	*e*P			**Pn**	**20 05 28.3**	**+0.1**
CNCH	**Conchagua**	**1.60**	**68**	*e*P			**Pn**	**20 05 30.9**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.45**	**56**	*e*Pn			**Pn**	**20 05 42.8**	**+1.1**
COPN	**Copaltepe**	**2.75**	**100**	*e*P			**Pn**	**20 05 45.2**	**-0.7**
MOMN	**Momotombo**	**2.77**	**95**	*e*P			**Pn**	**20 05 45.6**	**-0.6**
CCIG	**Comitan**	**4.47**	**323**	*e*Pn			**Pn**	**20 06 13.4**	**+3.8**
CGA2	**Cerro Gallo 2**	**5.49**	**118**	*e*P			**Pn**	**20 06 26.8**	**+3.1**
CGA2				*e*S			**Sn**	**20 07 26.0**	**+0.4**
URSC	**Urasca**	**6.17**	**117**	*e*P			**Pn**	**20 06 35.6**	**+2.6**
BUS	**Buena Vista**	**6.32**	**119**	*e*P			**Pn**	**20 06 38.6**	**+3.2**
BUS				*e*S			**Sn**	**20 07 42.3**	**-4.2**
CMIG	**Matias Romero**	**6.90**	**310**	P			**Pn**	**20 06 43.8**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=113,slow=7.9,SNR=7.2								
CMIG				S			Sn	20 08 11.9	+12
	comp=Z,0.7nm,0.3s,baz=261,slow=20,SNR=3.5								
TEIG	**Tepich**	**7.57**	**8**	P			**Pn**	**20 06 52.9**	**+0.9**
	baz=90,slow=20								
TEIG				LR			LR	20 10 26.7	
	comp=Z,107nm,18.8s,baz=0.0,slow=43								
TEIG	**Tepich**	**7.57**	**8**	*e*Pn			**Pn**	**20 06 55.4**	**+3.4**
636A	**Smothers Creek**	**18.17**	**338**	P			**P**	**20 09 13.6**	**+0.6**
	baz=155								
733A	**Divot King Ran**	**18.44**	**331**	P			**P**	**20 09 17.7**	**+1.8**
	baz=148								
440A	**Kirbyville**	**18.46**	**347**	P			**P**	**20 09 15.7**	**-0.4**
	baz=165								
346A	**Big Creek Wild**	**18.61**	**360**	P			**P**	**20 09 18.7**	**+1.0**
	baz=179								
344A	**Westbrook Farm**	**18.72**	**356**	P			**P**	**20 09 19.4**	**+0.5**
	baz=175								
438A	**Sam Houston St**	**18.84**	**344**	P			**P**	**20 09 20.3**	**0.0**
	baz=161								
535A	**Dale**	**18.86**	**337**	P			**P**	**20 09 20.9**	**+0.4**
	baz=154								
341A	**Kurthwood**	**18.88**	**350**	P			**P**	**20 09 20.6**	**-0.2**
	baz=168								
633A	**Saathoff Ranch**	**19.02**	**333**	P			**P**	**20 09 23.2**	**+0.9**
	baz=149								
340A	**Bronson**	**19.10**	**348**	P			**P**	**20 09 23.1**	**-0.1**
	baz=166								
437A	**Phantom Ranch,**	**19.11**	**342**	P			**P**	**20 09 23.3**	**+0.1**
	baz=159								
339A	**Huntington**	**19.16**	**346**	P			**P**	**20 09 23.3**	**-0.5**
	baz=164								
534A	**Blanco**	**19.21**	**335**	P			**P**	**20 09 25.1**	**+0.7**
	baz=152								
245A	**Little AP, Sta**	**19.26**	**359**	P			**P**	**20 09 25.6**	**+0.8**
	baz=178								
436A	**Wall Ranch, Ga**	**19.26**	**340**	P			**P**	**20 09 24.9**	**0.0**
	baz=157								
244A	**Avery, Jackson**	**19.30**	**357**	P			**P**	**20 09 26.1**	**+0.8**
	baz=176								
533A	**Kerrville**	**19.48**	**334**	P			**P**	**20 09 28.6**	**+1.2**
	baz=150								
435B	**Jarrell**	**19.54**	**338**	P			**P**	**20 09 29.1**	**+1.1**
	baz=155								
434A	**Burnet**	**19.83**	**337**	P			**P**	**20 09 31.5**	**+0.4**
	baz=153								
335A	**Moody**	**19.94**	**339**	P			**P**	**20 09 32.3**	**0.0**
	baz=156								
433A	**Art**	**20.10**	**335**	P			**P**	**20 09 34.7**	**+0.6**
	baz=151,SNR=5.9								
JCT	**Junction City**	**20.17**	**333**	P			**P**	**20 09 35.6**	**+0.7**
	baz=149								
JCT	**Junction City**	**20.17**	**333**	*e*P			**P**	**20 09 35.0**	**+0.2**
	comp=Z,5.9nm,0.8s								
334A	**Lometa**	**20.28**	**338**	P			**P**	**20 09 35.9**	**-0.1**
	baz=154,SNR=7.4								
333A	**Richland Sprin**	**20.56**	**336**	P			**P**	**20 09 39.3**	**+0.3**
	baz=152,SNR=7.9								
138A	**Matatall Enter**	**20.56**	**346**	P			**P**	**20 09 38.3**	**-0.7**
	baz=164								
WHTX	**Lake Whitney,**	**20.60**	**340**	P			**P**	**20 09 39.4**	**0.0**
	baz=157								
WHTX	**Lake Whitney,**	**20.60**	**340**	*e*P			**P**	**20 09 39.8**	**+0.3**
	comp=Z,32nm,0.8s								
Z48A	**Northport**	**20.66**	**4**	P			**P**	**20 09 42.0**	**+1.9**
	baz=184								
234A	**Clairette**	**20.85**	**339**	P			**P**	**20 09 42.4**	**+0.3**
	baz=155								
Y45A	**Yeager Farm, C**	**21.08**	**360**	P			**P**	**20 09 45.3**	**+0.6**
	baz=179								
Y46A	**Houston**	**21.10**	**1**	P			**P**	**20 09 46.1**	**+1.3**
	baz=181								
135A	**Vickery Place,**	**21.11**	**341**	P			**P**	**20 09 45.0**	**+0.1**
	baz=158								
233A	**Rising Star**	**21.14**	**337**	P			**P**	**20 09 45.6**	**+0.3**
	baz=153,SNR=7.4								
Y47A	**UCPARC, Winfie**	**21.16**	**3**	P			**P**	**20 09 47.4**	**+1.9**
	baz=184,SNR=8.6								
WLAR	**White Oak Lake**	**21.18**	**351**	*e*P			**P**	**20 09 46.4**	**+0.7**
	comp=Z,21nm,0.7s								
TXAR	**Lajitas Array**	**21.24**	**323**	P			**P**	**20 09 47.6**	**+1.1**
	comp=Z,3.3nm,0.7s,baz=138,slow=9.9,SNR=32								
TX31	**Lajitas Ar. Si**	**21.24**	**323**	*e*P			**P**	**20 09 47.9**	**+1.4**
GOGA	**Godfrey**	**21.32**	**14**	*e*P			**P**	**20 09 47.9**	**+0.8**
	comp=Z,11nm,1.4s								
134A	**White-Moore Ra**	**21.34**	**339**	P			**P**	**20 09 47.6**	**+0.1**
	baz=156								
Z36A	**Blue Ridge**	**21.48**	**344**	P			**P**	**20 09 48.6**	**-0.3**
	baz=161								
Y39A	**Lockesburg**	**21.59**	**349**	P			**P**	**20 09 49.9**	**-0.1**
	baz=167								
133A	**Hamilton Ranch**	**21.67**	**338**	P			**P**	**20 09 51.2**	**+0.1**
	baz=154,SNR=6.0								
Y38A	**Idabel**	**21.70**	**348**	P			**P**	**20 09 50.9**	**-0.4**
	baz=165								
Y37A	**Hugo**	**21.95**	**346**	P			**P**	**20 09 53.9**	**0.0**
	baz=163								
ABTX	**Abilene, Hawle**	**21.96**	**336**	P			**P**	**20 09 55.0**	**+0.8**
	baz=152								
ABTX	**Abilene, Hawle**	**21.96**	**336**	*e*P			**P**	**20 09 53.9**	**-0.2**
	comp=Z,8.1nm,0.8s								
MIAR	**Mount Ida**	**22.09**	**351**	P			**P**	**20 09 55.5**	**0.0**
	baz=169,SNR=5.3								
MIAR	**Mount Ida**	**22.09**	**351**	*e*P			**P**	**20 09 58.0**	**+2.5**
X39A	**Fountain Ranch**	**22.15**	**350**	P			**P**	**20 09 56.8**	**+0.7**
	baz=167								
UALR	**University of**	**22.15**	**353**	*e*P			**P**	**20 09 56.1**	**0.0**
	comp=Z,14nm,1.3s								
Z33A	**Whitaker Ranch**	**22.23**	**339**	P			**P**	**20 09 57.1**	**+0.1**
	baz=155,SNR=6.4								
Y35A	**Marietta**	**22.25**	**343**	P			**P**	**20 09 56.6**	**-0.6**
	baz=160								
X38A	**Whitesboro**	**22.44**	**348**	P			**P**	**20 09 58.5**	**-0.7**
	baz=166								
X37A	**Clayton**	**22.48**	**347**	P			**P**	**20 09 59.3**	**-0.3**
	baz=164								
Y34A	**Reagan Ranch,**	**22.51**	**342**	P			**P**	**20 09 59.7**	**-0.3**
	baz=158								
ATAH	**Atahualpa**	**22.51**	**150**	P			**P**	**20 09 59.3**	**-1.3**
	comp=Z,2.6nm,0.4s,baz=331,slow=19,SNR=3.2								
W41B	**Gary Mavity, V**	**22.54**	**354**	P			**P**	**20 10 00.5**	**+0.3**
	baz=172								
X301	**Greenbrier Sit**	**22.62**	**354**	*e*P			**P**	**20 10 01.7**	**+0.6**
	comp=Z,7.1nm,1.3s								
WHAR	**Wooly Hollow**	**22.66**	**354**	*e*P			**P**	**20 10 02.2**	**+0.7**
	comp=Z,5.0nm,0.8s								
X201	**Greenbrier Sit**	**22.67**	**354**	*e*P			**P**	**20 10 01.7**	**+0.1**
	comp=Z,10nm,1.2s								
X36A	**Centrahoma**	**22.69**	**345**	P			**P**	**20 10 01.8**	**0.0**
	baz=162								
X35A	**Drake**	**22.69**	**344**	P			**P**	**20 10 01.6**	**-0.3**
	baz=160								
W39A	**Magazine**	**22.76**	**351**	P			**P**	**20 10 02.4**	**-0.2**
	baz=168								
HBAR	**Harrisburg**	**22.80**	**357**	*e*P			**P**	**20 10 04.4**	**+1.5**
Y33A	**Hilltop Ranch,**	**22.84**	**340**	P			**P**	**20 10 02.7**	**-0.7**
	baz=156								
LPIG	**La Paz**	**22.85**	**303**	LR			LR	20 17 57.3	
	comp=Z,23nm,18.8s,baz=218,slow=34								
W37B	**Quinton**	**23.02**	**347**	P			**P**	**20 10 04.5**	**-0.8**
	baz=164								
CPCT	**Cooper Cave**	**23.08**	**10**	*e*P			**P**	**20 10 05.0**	**-0.9**
	comp=Z,11nm,1.6s								
V42A	**Cord**	**23.09**	**356**	P			**P**	**20 10 06.0**	**+0.1**
	baz=175,SNR=5.2								
X34A	**Smith Ranch, M**	**23.13**	**342**	P			**P**	**20 10 06.4**	**0.0**
	baz=158								
V41A	**Mountainview**	**23.13**	**354**	P			**P**	**20 10 06.6**	**+0.2**
	baz=173								
W36A	**Wetumka**	**23.20**	**346**	P			**P**	**20 10 06.5**	**-0.6**
	baz=163								
V40A	**Witts Springs**	**23.23**	**353**	P			**P**	**20 10 07.5**	**+0.1**
	baz=171								
V39A	**Pettigrew**	**23.37**	**351**	P			**P**	**20 10 08.8**	**0.0**
	baz=169								
TKL	**Tuckaleechee C**	**23.42**	**12**	P			**P**	**20 10 09.6**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=166,slow=12,SNR=3.3								
TKL				LR			LR	20 19 44.1	
	comp=Z,44nm,19.1s,baz=140,slow=38								
X32A	**Elmer**	**23.44**	**339**	P			**P**	**20 10 09.1**	**-0.3**
	baz=155,SNR=5.2								
KMSC	**Kings Mountain**	**23.51**	**17**	*e*P			**P**	**20 10 10.1**	**+0.1**
	comp=Z,4.1nm,0.8s								
V38A	**Champhill**	**23.52**	**350**	P			**P**	**20 10 09.8**	**-0.3**
	baz=167								
WMOK	**Wichita Mounta**	**23.56**	**340**	P			**P**	**20 10 09.9**	**-0.7**
	baz=156								
WMOK	**Wichita Mounta**	**23.56**	**340**	*e*P			**P**	**20 10 09.1**	**-1.4**
	comp=Z,6.2nm,0.8s								
V37A	**Hulbert**	**23.68**	**348**	P			**P**	**20 10 11.6**	**0.0**
	baz=166,SNR=7.5								
W34A	**Bridge Creek,**	**23.70**	**343**	P			**P**	**20 10 11.7**	**-0.2**
	baz=159								
W34A	**Bridge Creek,**	**23.70**	**343**	*e*P			**P**	**20 10 11.4**	**-0.5**
	comp=Z,18nm,0.8s								
V36A	**Jenks**	**23.75**	**347**	P			**P**	**20 10 12.1**	**-0.1**
	baz=164								
U40A	**Yellville**	**23.77**	**353**	P			**P**	**20 10 13.2**	**+0.7**
	baz=171,SNR=5.1								
W33A	**Caddo, Fort Co**	**23.84**	**341**	P			**P**	**20 10 14.0**	**+0.8**
	baz=157								
HHAR	**Hobbs**	**23.85**	**351**	*e*P			**P**	**20 10 13.4**	**+0.2**
	comp=Z,4.8nm,1.0s								
U39A	**Green Forest**	**23.88**	**352**	P			**P**	**20 10 14.1**	**+0.6**
	baz=170								
MNTX	**Cornudas Mount**	**23.98**	**325**	P			**P**	**20 10 15.5**	**+1.0**
	baz=139								
MNTX	**Cornudas Mount**	**23.98**	**325**	*e*P			**P**	**20 10 14.7**	**+0.2**
	comp=Z,2.6nm,0.9s								
PBMO	**Poplar Bluff**	**24.01**	**358**	*e*P			**P**	**20 10 15.3**	**+0.7**
	comp=Z,16nm,0.8s								
W32A	**Sentinel**	**24.06**	**340**	P			**P**	**20 10 14.8**	**-0.4**
	baz=156,SNR=9.5								
U37A	**Salina**	**24.18**	**349**	P			**P**	**20 10 16.7**	**+0.5**
	baz=166,SNR=5.5								
V34A	**Guthrie**	**24.19**	**344**	P			**P**	**20 10 16.2**	**-0.2**
	baz=160								
V34A	**Guthrie**	**24.19**	**344**	*e*P			**P**	**20 10 15.3**	**-1.1**
	comp=Z,13nm,0.6s								
T41A	**Mountain View**	**24.35**	**355**	P			**P**	**20 10 18.7**	**+0.9**
	baz=174,SNR=6.8								
MSTX	**Muleshoe**	**24.45**	**332**	*e*P			**P**	**20 10 18.6**	**-0.3**
	comp=Z,6.7nm,1.1s								
U35A	**Pawnee**	**24.50**	**346**	P			**P**	**20 10 19.3**	**+0.2**
	baz=162								
T39A	**Clever**	**24.50**	**352**	P			**P**	**20 10 19.5**	**+0.4**
	baz=170								
T40A	**Mansfield**	**24.52**	**354**	P			**P**	**20 10 19.4**	**0.0**
	baz=172								
AMTX	**Amarillo**	**24.76**	**335**	P			**P**	**20 10 22.3**	**+0.7**
	baz=150								
AMTX	**Amarillo**	**24.76**	**335**	*e*P			**P**	**20 10 20.8**	**-0.8**
	comp=Z,8.8nm,1.1s								
U34A	**Anderson Ranch**	**24.76**	**344**	P			**P**	**20 10 21.3**	**-0.2**
	baz=160								
U34A	**Anderson Ranch**	**24.76**	**344**	*e*P			**P**	**20 10 20.7**	**-0.8**
	comp=Z,11nm,0.7s								
S43A	**Fulton Ridge,**	**24.79**	**359**	P			**P**	**20 10 22.2**	**+0.4**
	baz=178,SNR=5.4								
T37A	**Cheneyville 18**	**24.84**	**349**	P			**P**	**20 10 22.5**	**+0.3**
	baz=167								
T36A	**Boggs Farm, Ca**	**24.96**	**348**	P			**P**	**20 10 23.7**	**+0.3**
	baz=165								
S40A	**Lebanon**	**24.96**	**354**	P			**P**	**20 10 24.3**	**+0.9**
	baz=172								
S39A	**Bolivar**	**25.15**	**353**	P			**P**	**20 10 25.1**	**+0.1**
	baz=171,SNR=6.4								
S38A	**Stockton**	**25.17**	**351**	P			**P**	**20 10 26.0**	**+0.8**
	baz=169								
T34A	**McClaskey Farm**	**25.23**	**345**	P			**P**	**20 10 25.8**	**0.0**
	baz=162								
S37A	**Fort Scott**	**25.44**	**350**	P			**P**	**20 10 27.8**	**+0.1**
	baz=167								
R44A	**Waltonville**	**25.45**	**1**	P			**P**	**20 10 28.6**	**+0.8**
	baz=180								
S36A	**Lake Cedric, C**	**25.55**	**348**	P			**P**	**20 10 28.8**	**+0.1**
	baz=166								
WCI	**Wyandotte Cave**	**25.58**	**6**	*e*P			**P**	**20 10 27.1**	**-1.9**
	comp=Z,6.8nm,0.9s								
R40A	**Maddies Statio**	**25.63**	**355**	P			**P**	**20 10 30.2**	**+0.8**
	baz=173								
R38A	**Fenwick Farm,**	**25.71**	**352**	P			**P**	**20 10 30.3**	**+0.1**
	baz=169								
R39A	**Chumby, Stover**	**25.73**	**353**	P			**P**	**20 10 30.4**	**+0.1**
	baz=171								
SLM	**Saint Louis**	**25.85**	**358**	*e*P			**P**	**20 10 30.6**	**-0.8**
	comp=Z,24nm,0.5s								
121A	**Cookes Peak, D**	**25.98**	**322**	P			**P**	**20 10 35.7**	**+2.8**
	baz=135								
R36A	**Gordon, Harris**	**26.11**	**349**	P			**P**	**20 10 33.7**	**0.0**
	baz=166								
Q43A	**New Douglas**	**26.15**	**359**	P			**P**	**20 10 37.0**	**+2.9**
	baz=179								
R35A	**Emporia Munici**	**26.25**	**348**	P			**P**	**20 10 35.6**	**+0.7**
	baz=165								
Q38A	**Cooks Store, C**	**26.44**	**353**	P			**P**	**20 10 36.6**	**-0.1**
	baz=170								
Q39A	**Willow Grove F**	**26.45**	**354**	P			**P**	**20 10 36.8**	**+0.1**
	baz=172								
R34A	**Isabella, Hill**	**26.46**	**346**	P			**P**	**20 10 37.2**	**+0.3**
	baz=162								
BNM	**Barren Site**	**26.52**	**327**	*e*P			**P**	**20 10 36.9**	**-0.8**
P40A	**Paris**	**26.84**	**355**	P			**P**	**20 10 40.4**	**+0.1**
	baz=174								
ANMO	**Albuquerque**	**27.04**	**328**	P			**P**	**20 10 44.6**	**+2.2**
	baz=141								
P35A	**Duane Minner,**	**27.37**	**349**	P			**P**	**20 10 45.4**	**+0.3**
	baz=166,SNR=7.1								
O40A	**La Belle**	**27.41**	**356**	P			**P**	**20 10 45.8**	**+0.4**
	baz=174								
P34A	**Walnut Farm, R**	**27.55**	**347**	P			**P**	**20 10 47.1**	**+0.4**
	baz=164,SNR=6.8								
TUC	**Tucson**	**27.70**	**318**	P			**P**	**20 10 53.1**	**+4.8**
	baz=130								
TUC	**Tucson**	**27.70**	**318**	*e*P			**P**	**20 10 50.9**	**+2.7**
	comp=Z,2.2nm,0.8s								
T25A	**Trinidad**	**27.83**	**334**	P			**P**	**20 10 51.2**	**+1.7**
	baz=147								
T25A	**Trinidad**	**27.83**	**334**	*e*P			**P**	**20 10 51.2**	**+1.7**
	comp=Z,3.3nm,0.8s								
O34A	**Beatrice**	**28.14**	**348**	P			**P**	**20 10 52.1**	**+0.1**
	baz=164,SNR=6.6								
KSCO	**Kaye Shedlock'**	**28.73**	**338**	*e*P			**P**	**20 10 57.3**	**-0.1**
N33A	**J Bar K, Exete**	**28.83**	**347**	P			**P**	**20 10 58.8**	**+0.7**
	baz=163								
M36A	**Felix, Anita**	**29.05**	**352**	P			**P**	**20 11 00.2**	**+0.1**
	baz=169								
L41A	**Preston**	**29.29**	**358**	P			**P**	**20 11 02.2**	**0.0**
	baz=177								
JFWS	**Jewell Farm**	**30.12**	**359**	*e*P			**P**	**20 11 08.3**	**-1.2**
	comp=Z,18nm,1.4s								
K30A	**Basset**	**31.17**	**345**	P			**P**	**20 11 19.2**	**+0.4**
	baz=160								
H36A	**Jessenland, He**	**32.02**	**354**	P			**P**	**20 11 26.3**	**+0.1**
	baz=171								
I29A	**Vivian Onida**	**32.61**	**345**	P			**P**	**20 11 32.2**	**+0.8**
	baz=160								
SADO	**Sadowa**	**33.14**	**13**	P			**P**	**20 11 34.9**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=217,slow=11,SNR=3.7								
BFSC	**Mount Baldy Ra**	**33.48**	**315**	P			**P**	**20 11 44.0**	**+4.8**
	baz=123								
AGMN	**Agassiz Nation**	**35.91**	**353**	P			**P**	**20 11 59.6**	**-0.3**
	baz=169,SNR=7.2								
AGMN	**Agassiz Nation**	**35.91**	**353**	*e*P			**P**	**20 11 59.4**	**-0.5**
	comp=Z,6.8nm,0.8s								
MDND	**Maddock**	**36.08**	**348**	P			**P**	**20 12 01.7**	**+0.3**
	baz=163								
A33A	**Warroad**	**36.48**	**353**	P			**P**	**20 12 04.5**	**-0.2**
	baz=170,SNR=5.2								
YKA	**Yellowknife Ar**	**52.90**	**346**	P			**P**	**20 14 14.8**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=138,slow=8.3,SNR=6.5								
ILAR	**Eielson Array**	**65.05**	**336**	P			**P**	**20 15 39.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=144,slow=6.7,SNR=3.8								
TORD	**Torodi Ar. Bea**	**88.18**	**77**	P			**P**	**20 17 50.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=284,slow=4.1,SNR=4.0								
SYO	**Syowa Base**	**115.13**	**162**	*e*P			**PKPdf**	**20 23 34.6**	**-5.1**
WRA	**Warramunga Arr**	**137.54**	**254**	PKP			**PKPdf**	**20 24 24.9**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=84,slow=2.7,SNR=3.7								
CMAR	**Chiang Mai Arr**	**147.99**	**345**	PKPbc			**PKPbc**	**20 24 46.6**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=342,slow=2.8,SNR=8.8								

*IDC **25** 20:09:25.3±0.8, 20°.75N×122°.21E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/43, mbtmp3.7/9, MS3.1/1, Ms1 3.1/1, ms1mx2.4/43, Error ellipse: s-maj=52.0km s-min=15.9km az=67.0*
*MAN **25** 20:09:31, 20°.87N×121°.64E, h60km, mb4.7, ML3.6, MS3.6*
*ISCJB **25** 20:09:33.1±0.4, 20°.79N±0°.03×121°.42E±0°.08, h43km, mb3.6/9, MS3.0/1, Error ellipse: s-maj=11.5km s-min=3.4km az=19.4*
*JMA **25** 20:09:34.3±0.7, 20°.94N×121°.68E, h0km*
**ISC 25 20:09:33.0±0.7, 20°.71N±0°.05×121°.5E±0°.1, h43km, n26, σ2§72/28, mb3.7/9, 1C-1D, Philipp

JRG	Rokugo	0.19	188	⇑P	Pg	20 11 38.7	-0.1
JRG				S	Sg	20 11 42.1	+0.9
JYW	Yuwa	0.36	263	⇓P	Pg	20 11 41.6	-0.4
JYW				S	Sg	20 11 47.0	+0.3
JOM	Ohasama	0.49	103	⇑P	Pg	20 11 44.3	-0.3
JOM				S	Sg	20 11 51.5	+0.5
JAH	Hinai	0.60	358	⇓P	Pg	20 11 46.0	-0.7
JAH				S	Sg	20 11 53.9	-0.7
JYK	Kaneyama	0.71	200	⇓P	Pg	20 11 47.7	-1.0
JYK				S	Sg	20 11 57.1	-0.7
JMK	Ichinoseki	0.76	146	⇑P	Pg	20 11 49.1	-0.6
JMK				S	Sg	20 11 59.3	-0.3
MAT	Matsushiro	3.60	213	P	Pn	20 12 31.7	0.0
MAT				S	Sn	20 13 17.0	+2.3
MJAR	Matsushiro Arr	3.60	213	P	Pn	20 12 32.0	+0.3
	1.2nm,0.3s,baz=44,slow=12,SNR=26						
MJAR				S	Sb	20 13 23.9	+0.4
	3.2nm,0.3s,baz=17,slow=26,SNR=9.4						
MJAR				LR	LR	20 13 50.0	
	comp=Z,72nm,21.0s,baz=55,slow=37						
ASAJ	Asahikawa	4.75	17	P	Pn	20 12 51.4	+3.9
	0.7nm,0.3s,baz=188,slow=18,SNR=4.3						
ASAJ				S	Sn	20 13 46.4	+3.4
	0.2nm,0.3s,baz=240,slow=12,SNR=2.3						
USRK	Ussuriysk Ar.	7.95	308	P	Pn	20 13 29.9	-1.5
	0.8nm,0.3s,baz=109,slow=14,SNR=14						
USRK				S	Sn	20 15 01.0	-0.7
	0.5nm,0.3s,baz=124,slow=27,SNR=5.7						
JNU	Nakatsue	10.19	234	LR	LR	20 18 02.5	
	comp=Z,138nm,18.8s,baz=119,slow=38						
KSRS	Korea Array	10.21	262	P	Pn	20 14 05.0	+2.5
	1.2nm,0.3s,baz=64,slow=14,SNR=19						
KSRS				S	Sn	20 15 59.4	+2.1
	1.2nm,0.3s,baz=73,slow=22,SNR=11						
KSRS				LR	LR	20 17 36.6	
	comp=Z,48nm,18.7s,baz=75,slow=35						
KLR	Kul'dur	11.55	330	P	Pn	20 14 24.4	+3.6
	0.1nm,0.3s,baz=136,slow=9.8,SNR=4.9						
KLR				S	Sn	20 16 46.0	+16
	0.2nm,0.3s,baz=143,slow=20,SNR=3.8						
KLR				LR	LR	20 18 39.1	
	comp=Z,35nm,18.7s,baz=156,slow=36						
PETK	Petropavlovsk-	17.86	35	LR	LR	20 22 38.4	
	comp=Z,32nm,19.8s,baz=278,slow=37						
YAK	Yakutsk	23.46	347	LR	LR	20 25 58.4	
	comp=Z,58nm,18.4s,baz=138,slow=36						
SEY	Seymchan	24.42	13	P	P	20 16 54.7	+0.2
	0.9nm,0.7s,baz=197,slow=17,SNR=4.1						
SONM	Songino Array	25.94	300	P	P	20 17 08.5	0.0
	0.2nm,0.6s,baz=111,slow=8.0,SNR=2.2						
ZALV	Zalesovo Beam	39.80	310	P	P	20 19 06.8	-2.2
	1.5nm,0.8s,baz=77,slow=6.5,SNR=6.6						
MKAR	Makanchi Array	42.31	300	P	P	20 19 28.6	-1.2
	0.3nm,0.6s,baz=81,slow=8.6,SNR=2.3						
KURBB	Kurchatov Arra	44.00	306	P	P	20 19 41.5	-2.0
	2.5nm,0.7s,baz=82,slow=8.3,SNR=23						
ILAR	Eielson Array	47.68	34	P	P	20 20 11.1	-1.1
	0.6nm,0.8s,baz=266,slow=6.0,SNR=5.7						
WRA	Warramunga Arr	59.51	187	P	P	20 21 37.7	-1.8
	2.0nm,0.7s,baz=3.9,slow=7.0,SNR=19						
ASAR	Alice Springs	63.24	187	P	P	20 22 03.4	-1.3
	1.5nm,0.7s,baz=4.8,slow=4.6,SNR=23						
FINES	FINESS Array B	66.29	331	P	P	20 22 24.4	+0.2
	0.8nm,0.7s,baz=40,slow=9.1,SNR=2.6						
LPAZ	La Paz	145.82	55	PKPbc	PKPdf	20 31 15.5	-0.7
	0.5nm,0.5s,baz=56,slow=3.6,SNR=3.6						

WEL 25 20:17:44.2±0.4, 45°24S×166°76E, h12km, ML3.5/9, 3C-2D, Error ellipse: s-maj=3.7km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.35	129	⇓P*	Pg	20 17 51.7	+0.3
DCZ				AML	AML	20 17 59.0	
DCZ				AML	AML	20 18 00.6	
PYZ	Puysegur Point	0.93	183	P*	Pg	20 18 01.1	-1.0
PYZ				S*	Sb	20 18 14.4	-0.1
MLZ	Mavora Lakes	0.97	98	⇓P*	Pg	20 18 01.2	-1.7
MLZ				S*	Sg	20 18 14.6	-0.8
MLZ				AML	AML	20 18 21.4	
MSZ	Milford Sound	1.00	56	AML	AML	20 18 14.5	
MSZ				AML	AML	20 18 17.0	
WHZ	Wether Hill Ro	1.06	128	P*	Pb	20 18 03.1	-1.4
WHZ				AML	AML	20 18 21.8	
WHZ				AML	AML	20 18 23.1	
WKZ	Wanaka	1.65	76	PN	Pn	20 18 12.3	-0.8
WKZ				AML	AML	20 18 37.4	
WKZ				AML	AML	20 18 37.5	
EAZ	Earnscleugh	1.80	91	⇑PN	Pn	20 18 14.6	-0.5
EAZ				AML	AML	20 18 40.6	
EAZ				AML	AML	20 18 41.3	
APZ	The Paps	1.81	152	PN	Pn	20 18 16.1	+1.0
APZ				AML	AML	20 18 49.1	
SYZ	Scrubby Hill	2.11	129	⇑PN	Pn	20 18 18.8	-0.4
SYZ				SN	Sn	20 18 45.9	+0.6
TUZ	Tuapeka	2.14	110	PN	Pn	20 18 18.9	-0.8
TUZ				AML	AML	20 18 52.2	
TUZ				AML	AML	20 18 52.9	
LBZ	Lake Benmore	2.58	72	PN	Pn	20 18 24.5	-1.4
ODZ	Otahua Downs	2.76	87	⇑PN	Pn	20 18 26.6	-1.6
ODZ				AML	AML	20 20 57.5	
HHSZ	Highcliff Hill	2.77	105	PN	Pn	20 18 27.7	-0.7
FOZ	Fox Glacier	2.78	53	PN	Pn	20 18 24.7	-3.9
RPZ	Rata Peaks	3.43	65	PN	Pn	20 18 35.6	-1.9
WVZ	Waitaha Valley	3.59	54	PN	Pn	20 18 36.1	-3.5

DHMR 25 20:21:38.3±0.6, 12°89N×42°01E, h16km±8km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	Al 'Udayn	2.19	60	*i* P	Pb	20 22 16.5	-1.2
UDYN				*i* S	Sb	20 22 46.2	+1.6
UDYN				AML	AML	20 22 57.9	
	comp=E,576nm,0.4s						
DHBB	Dhamar BB	2.86	54	*i* P	Pn	20 22 26.2	+2.6
DHBB				*i* S	Sb	20 23 04.3	+0.2
BDHA	Al Bayda'	3.63	72	*i* P	Pn	20 22 37.1	+2.9
BDHA				*i* S	Sb	20 23 22.2	-4.0
BDHA				AML	AML	20 23 47.7	
	comp=N,449nm,0.5s						

IDC 25 20:22:00.5±27.0, 18°82S×173°68W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.7/33, mbtmp4.2/4, Error ellipse: s-maj=502.3km s-min=162.3km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.74	261	P	P	20 29 18.9	+0.6
	2.2nm,0.4s,baz=76,slow=12,SNR=5.3						
STKA	Stephens Creek	42.18	243	P	P	20 29 55.2	+0.1
	4.8nm,1.0s,baz=94,slow=8.8,SNR=3.8						
ASAR	Alice Springs	48.88	255	P	P	20 30 47.9	-0.5
	1.7nm,0.6s,baz=87,slow=8.7,SNR=22						
WRA	Warramunga Arr	48.88	260	P	P	20 30 48.1	-0.4
	0.9nm,0.5s,baz=97,slow=8.1,SNR=12						

*ISCJB **25** 20:24:47.1±0.4, 17°68S×170°10×178°76W±0°06, h539km, mb4.3/46, Error ellipse: s-maj=14.0km s-min=6.1km az=155.9*

*IDC **25** 20:24:47.7±1.1, 17°82S×178°59W, h542km±12km, mb3.7/17, mb1 3.8/19, mb1mx3.7/36, mbtmp4.6/19, Error ellipse: s-maj=19.0km s-min=10.4km az=151.0*

*NEIC **25** 20:24:48.6±0.6, 17°69S×178°77W, h549km±8km, mb4.3/28, Error ellipse: s-maj=18.1km s-min=8.2km az=156.0*

ISC 25 20:24:47.4±0.5, 17°7S±0°1×178°66W±0°08, h539km, n135, σ0s90/138, mb4.2/46, 12C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.13	270	*e*P	P	20 26 07.0	+4.4
AFI	Afiamalu	7.64	61	P	P	20 26 41.3	-0.2
	12nm,0.3s,baz=78,slow=7.3,SNR=13						
AFI				S	S	20 28 13.7	-1.1
	1.4nm,0.3s,baz=270,slow=20,SNR=2.3						
AFI	Afiamalu	7.64	61	*e*P	P	20 26 41.5	0.0
RAO	Raoul Island	11.48	177	P	P	20 27 21.0	+0.6
	82nm,0.3s,baz=58,slow=19,SNR=2.7						
RAO	Raoul Island	11.48	177	*e*P	P	20 27 21.9	+1.5
DZM	Mont Dzumac	14.65	250	P	P	20 27 53.7	+0.1
	3.4nm,0.3s,baz=286,slow=21,SNR=19						
DZM	Mont Dzumac	14.65	250	*e*P	P	20 27 50.6	-3.0
HNR	Honiara	22.35	289	P	P	20 29 07.0	+1.5
	20nm,0.4s,baz=228,slow=14,SNR=2.6						
EIDS	Eidsvold	29.10	250	*e*P	P	20 30 04.5	-0.3
CTA	Charters Tower	33.23	260	P	P	20 30 40.5	+0.2
	4.3nm,0.5s,baz=76,slow=11,SNR=7.1						
CTAO	Charters Tower	33.23	260	*e*P	P	20 30 40.4	+0.1
	42nm,0.7s						
PMG	Port Moresby	34.19	279	P	P	20 30 48.9	+0.5
	16nm,0.8s,baz=107,slow=16,SNR=2.7						
PMG	Port Moresby	34.19	279	*e*P	P	20 30 49.3	+0.9
	15nm,0.8s						
COEN	Coen	36.86	270	*e*P	P	20 31 11.2	+0.6
STKA	Stephens Creek	38.50	241	P	P	20 31 24.3	+0.6
	7.7nm,0.4s,baz=91,slow=10.0,SNR=39						
JAY	Jayapura	42.63	286	P	P	20 31 58.2	+1.3
	0.4nm,0.4s,baz=94,slow=22,SNR=7.5						
WRAB	Tennant Creek	44.41	259	*e*P	P	20 32 09.8	-0.9
	3.3nm,0.8s						
WRA	Warramunga Arr	44.42	259	P	P	20 32 10.0	-0.8
	3.3nm,0.5s,baz=97,slow=7.0,SNR=78						
WRA				PcP	PcP	20 33 43.0	+0.2
	0.6nm,0.7s,baz=90,slow=3.3,SNR=3.5						
WRA				ScP	ScP	20 36 43.4	-0.3
	0.4nm,0.6s,baz=90,slow=3.1,SNR=3.4						
ASAR	Alice Springs	44.60	254	P	P	20 32 12.2	0.0
	32nm,0.4s,baz=89,slow=8.2,SNR=492						
ASAR				PcP	PcP	20 33 43.5	+0.1
	0.7nm,0.4s,baz=109,slow=3.5,SNR=3.5						
ASAR				ScP	ScP	20 36 43.5	-0.9
	0.6nm,0.8s,baz=92,slow=4.6,SNR=4.9						
MBWA	Marble Bar	57.88	256	*e*P	P	20 33 47.4	-0.9
	12nm,0.3s						
MJAR	Matsushiro Arr	67.63	323	P	P	20 34 50.9	0.0
	3.6nm,0.5s,baz=157,slow=6.1,SNR=23						
MAT	Matsushiro	67.63	323	P	P	20 34 50.9	+0.1
ASAJ	Asahikawa	71.02	332	P	P	20 35 12.4	+1.5
	3.5nm,0.5s,baz=208,slow=4.3,SNR=6.5						
PEA0	Petropavlovsk-	73.46	345	*e*P	P	20 35 24.6	-0.2
PETK	Petropavlovsk-	73.46	345	P	P	20 35 25.1	+0.2
	7.4nm,0.6s,baz=118,slow=9.6,SNR=7.9						
KSRS	Korea Array	74.42	318	P	P	20 35 32.4	+1.9
	0.7nm,0.6s,baz=128,slow=6.0,SNR=4.0						
USRK	Ussuriysk Ar.	76.34	326	P	P	20 35 42.8	+1.7
	1.1nm,0.6s,baz=169,slow=29,SNR=4.5						
KCPM	Cahto Peak	76.80	41	*e*P	P	20 35 45.4	+1.5
	12µm,0.6s						
MOD	Modoc Plateau	80.11	40	*e*P	P	20 36 02.4	+0.8
	5.2nm,0.7s						
K05A	Summer Lake	80.22	39	*e*P	P	20 36 02.7	+0.4
	10nm,1.0s						
BMN	Battle Mountai	81.25	43	*e*P	P	20 36 08.9	+1.3
	6.6nm,1.0s						
WVOR	Wild Horse Val	81.44	40	*e*P	P	20 36 09.1	+0.6
	8.6nm,1.1s						
TUC	Tucson	81.79	52	*e*P	P	20 36 12.0	+1.5
	4.6nm,1.0s						
X16A	Lo Mia Camp, P	82.26	50	*e*P	P	20 36 14.5	+1.6
	5.8nm,0.9s						
TT01	Tatalina	82.33	10	*e*P	P	20 36 12.6	+0.3
CCUT	Cedar City	82.38	47	*e*P	P	20 36 14.9	+1.4
	3.6nm,0.9s						
U15A	North Rim	82.59	48	*e*P	P	20 36 16.0	+1.3
	8.1nm,0.9s						
ELK	Elko	82.70	43	*e*P	P	20 36 15.4	+0.4
	3.7nm,0.9s						
DIV	Divide	82.90	15	*e*P	P	20 36 14.7	-0.6
	9.4nm,0.7s						
BMRM	Bremner River	83.07	16	*e*P	P	20 36 16.0	-0.2
	40nm,1.9s						
SCM	Sheep Creek Mo	83.13	14	*e*P	P	20 36 16.4	-0.1
	14nm,0.7s						
CRQM	Cirque	83.28	17	*e*P	P	20 36 17.8	+0.4
MTPU	Mount Pierson	83.43	47	*e*P	P	20 36 18.0	-0.9
	7.5nm,0.6s						
CAST	Castle Rocks	83.52	12	*e*P	P	20 36 17.2	-1.1
	12nm,0.6s						
BALM	Baldy	83.73	17	*e*P	P	20 36 19.8	+0.3
	6.5nm,0.6s						
KTH	Kantishna Hill	83.87	12	*e*P	P	20 36 18.6	-1.5
	5.3nm,0.8s						
TRF	Thorofare Moun	83.90	12	*e*P	P	20 36 19.8	-0.6
	17nm,0.7s						
F10A	Beach Ranch, E	84.22	38	*e*P	P	20 36 22.8	+0.4
	9.5nm,1.1s						
MCK	McKinley	84.43	13	*e*P	P	20 36 22.0	-0.8
	4.3nm,0.7s						
HLID	Hailey	84.66	41	*e*P	P	20 36 25.6	+0.9
	3.4nm,0.9s						
HYT	Haines Junctio	84.98	19	*e*P	P	20 36 26.3	+0.6
WRH	Wood River Hil	85.26	13	*e*P	P	20 36 26.3	-0.6
	14nm,1.4s						
MDM	Murgul Dome	85.66	12	*e*P	P	20 36 27.9	-0.9
	6.3nm,1.2s						
MNTX	Cornudas Mount	85.68	55	*e*P	P	20 36 30.8	+1.1
	14nm,2.0s						
ILAR	Eielson Array	85.78	13	P	P	20 36 28.3	-1.0
	1.8nm,0.4s,baz=222,slow=5.2,SNR=39						
TX31	Lajitas Ar. Si	86.11	58	*e*P	P	20 36 33.4	+1.5
TXAR	Lajitas Array	86.11	58	P	P	20 36 33.5	+1.7
	3.2nm,0.8s,baz=218,slow=6.0,SNR=36						
MCMT	McKenzie Canyo	86.27	41	*e*P	P	20 36 33.4	+1.0
COLD	Coldfoot	87.30	11	*e*P	P	20 36 36.5	+0.1
	3.8nm,1.0s						
PDAR	Pinedale Array	87.40	44	P	P	20 36 38.2	+0.5
	1.7nm,0.5s,baz=214,slow=4.5,SNR=5.7						
CMAR	Chiang Mai Arr	88.60	290	P	P	20 36 45.1	+1.5
	1.0nm,1.0s,baz=115,slow=3.3,SNR=3.1						
EGMT	Eagleton	89.67	39	*e*P	P	20 36 48.3	+0.2
	7µm,0.8s						
SONM	Songino Array	93.27	319	P	P	20 37 04.2	-0.5
	0.2nm,0.5s,baz=113,slow=7.1,SNR=2.8						
YKA	Yellowknife Ar	94.28	25	P	P	20 37 08.4	-0.4
	0.6nm,0.6s,baz=262,slow=5.4,SNR=4.0						
ZALV	Zalesovo Beam	107.95	322	PKiKP	PKiKP	20 42 12.2	-1.4
	0.8nm,0.6s,baz=173,slow=3.6,SNR=4.6						
MKAR	Makanchi Array	108.85	314	PKiKP	PKiKP	20 42 14.3	-1.2
	0.6nm,0.5s,baz=87,slow=0.3,SNR=16						
ARU	Arti	122.58	326	PKP	PKPdf	20 42 41.2	-0.3
	2.6nm,0.4s,baz=130,slow=2.8,SNR=6.7						
ARCES	ARCESS Array B	126.11	350	PKP	PKPdf	20 42 47.2	-0.7
	3.7nm,1.0s,baz=50,slow=1.9,SNR=10						
GEYT	Alibeck	126.75	304	PKP	PKPdf	20 42 49.4	-0.8
	0.5nm,0.4s,baz=270,slow=2.9,SNR=2.6						
FINES	FINESS Array B	132.96	344	PKhKP	PKPpre	20 42 53.6	
	0.9nm,0.8s,baz=35,slow=7.0,SNR=5.7						
FINES				PKP	PKPdf	20 42 58.9	-2.3
	0.5nm,0.4s,baz=118,slow=3.6,SNR=8.2						
NOA	NORSAR Array B	136.18	353	PKhKP	PKPpre	20 42 59.3	
	0.2nm,0.5s,baz=11,slow=4.1,SNR=2.8						
NOA				PKP	PKPdf	20 43 05.4	-1.8
	0.8nm,0.7s,baz=13,slow=4.0,SNR=3.9						
SORM	Soroca	142.53	330	⇑*i*P	PKPdf	20 43 15.9	-3.1
LEOM	Leova	143.73	328	⇑*i*P	PKPdf	20 43 20.6	-0.6
KWP	Kalwaria Pacla	143.82	336	⇑*i*P	PKPdf	20 43 20.7	-0.6
BUR08	Bucovina Ar. S	144.34	332	*e*PKPbc	PKPdf	20 43 22.8	+0.4
BURAR	Bucovina Array	144.35	332	⇑*i*P	PKPdf	20 43 23.0	+0.6
OJC	Ojcow	144.37	340	*e*PKPbc	PKPdf	20 43 22.2	0.0
BR131	Keskin Array S	144.49	315	*e*PKPbc	PKPab	20 43 22.8	-0.8
BRTR	Keskin Array B	144.50	315	PKP	PKPab	20 43 23.0	-0.5
	2.7nm,0.6s,baz=124,slow=2.1,SNR=21						
STHS	Stebnicka Huta	144.55	337	*e*PKP	PKPab	20 43 23.2	0.0
KOLS	Kolonicke sedl	144.56	336	*e*PKP	PKPab	20 43 23.0	-0.2
CFR	Carcaliu	144.66	327	*i*P	PKPab	20 43 23.3	-0.4
CRVS	Cervenica-Dubn	144.89	337	*e*PKP	PKPab	20 43 24.1	-0.4
VRI	Vrincioaia	144.91	329	⇑*i*P	PKPdf	20 43 22.8	-0.5
PLOR	Plostina	144.96	329	⇑*i*P	PKPab	20 43 24.6	-0.3
BR231	Keskin MP Arra	145.02	316	*e*PKPbc	PKPbc	20 43 23.8	-0.8
CLL	Collm	145.25	347	⇑*i*P	PKPab	20 43 24.6	-1.2
	comp=Z,13nm,0.6s						
CLL	Collm	145.25	347	*e*PKPdf	PKPdf	20 43 23.4	-0.3
UPC	Upice	145.26	344	*e*PKP	PKPab	20 43 25.1	-0.8
DPC	Dobruska-Polom	145.32	343	*e*PKP	PKPab	20 43 25.6	-0.6
DPC				*ex*	x	20 43 27.1	
LANS	Liptovska Anna	145.40	339	*e*PKP	PKPab	20 43 26.4	-0.1
KRLC	Kraliky	145.44	342	*e*PKP	PKPab	20 43 25.6	-1.1
BRG	Berggiesshubel	145.45	346	*i*P	PKPab	20 43 25.4	-1.2
	comp=Z,12nm,1.3s						
MORC	Moravsky Berou	145.48	341	⇓*i*P	PKPab	20 43 26.0	-0.8
MORC	Moravsky Berou	145.48	341	*e*PKPdf	PKPab	20 43 26.0	-0.8
DOPR	Dopca	145.49	330	⇑*i*P	PKPab	20 43 26.5	-0.5
MLR	Muntele Rosu	145.57	329	⇑*i*P	PKPab	20 43 27.0	-0.4
KECS	Kecovo	145.60	337	*e*PKP	PKPab	20 43 26.4	-0.9
PVCC	Panska Ves	145.62	345	*e*PKP	PKPab	20 43 26.1	-1.2
VOIR		146.04	330	⇑*i*P	PKPab	20 43 28.3	-1.0
DRGR		146.08	333	⇓*i*P	PKPbc	20 43 27.5	+0.1
PRU	Pruhonice	146.12	345	*e*PKP	PKPbc	20 43 27.4	+0.2
PRU				*ex*	x	20 43 29.8	
GOPC	GO Pecny, Ondr	146.13	344	*e*PKP	PKPbc	20 43 27.5	+0.2
VYHS	Vyhne	146.18	339	*e*PKP	PKPbc	20 43 27.8	+0.3
VRAC	Vranov	146.18	342	⇓*i*P	PKPbc	20 43 27.6	+0.1
NKC	Novy Kostel	146.38	347	*e*PKP	PKPbc	20 43 28.2	+0.2
SMOL	Smolenice	146.63	340	*e*PKP	PKPab	20 43 29.5	-1.9
GZR	Gura Zlata	147.14	332	⇑*i*P	PKPbc	20 43 30.0	-0.2
KHC	Kasperske Hory	147.16	345	*e*PKP	PKPbc	20 43 30.2	+0.1
KHC				*ex*	x	20 43 34.2	
KHC	Kasperske Hory	147.16	345	*e*PKPbc	PKPbc	20 43 30.3	+0.1
GEC2	GERESS Array S	147.39	345	*e*PKPbc	PKPbc	20 43 30.9	0.0
GERES	GERESS Array B	147.39	345	PKPbc	PKPbc	20 43 30.8	0.0
	comp=Z,5.0nm,0.5s,baz=22,slow=3.1,SNR=62						
GEA0	GERESS Array S	147.40	345	*e*PKPbc	PKPbc	20 43 30.8	-0.1
BZS	Buzias	147.48	333	⇓*i*P	PKPbc	20 43 30.8	-0.2
CONA	Conrad Observa	147.63	342	*i* PKiKP	PKPbc	20 43 31.7	+0.3
	comp=Z,5.9nm,0.6s,SNR=5.2						
WLF	Walferdange	147.92	354	*e*PKPbc	PKPbc	20 43 32.3	+0.3
MDVR	Moldovita	148.09	332	⇑*i*P	PKPbc	20 43 32.3	-0.4
MOA	Molln	148.16	343	*i* PKPbc	PKPbc	20 43 32.7	0.0
	comp=Z,2.0nm,0.7s						
ARSA	Arzberg	148.34	341	*i* PKiKP	PKiKP	20 43 33.9	-0.5
	comp=Z,3.2nm,1.0s						
BFO	Black Forest	148.96	351	*e*PKPbc	PKPbc	20 43 34.6	-0.1
SOKA	Soboth	149.00	342	*i* PKPbc	PKPbc	20 43 34.3	-0.6
	comp=Z,2.9nm,0.6s						
KBA	Koelnbreinsper	149.12	344	*i* PKPbc	PKPbc	20 43 34.4	-0.9
	comp=Z,4.7nm,0.5s						
WATA	Walderalm	149.31	346	*i* PKPbc	PKPbc	20 43 35.2	-0.5
	comp=Z,4.8nm,0.4s,SNR=6.2						
RETA	Reutte	149.34	347	*i* PKPbc	PKPbc	20 43 35.5	-0.2
	comp=Z,2.9nm,0.4s						
WTTA	Wattenberg	149.36	346	*i* PKiKP	PKPbc	20 43 35.7	-0.2
	comp=Z,5.5nm,0.4s						
MOTA	Moosalm	149.40	347	*i* PKPbc	PKPbc	20 43 35.5	-0.5
	comp=Z,3.5nm,0.4s,SNR=7.0						
MYKA	Terra Mystica	149.45	343	*i* PKPbc	PKPbc	20 43 35.1	-0.9
	comp=Z,5.6nm,0.5s						
VNDS	Vrh nad Dolski	149.62	341	*i* PKPbc	PKPbc	20 43 35.9	-0.4
ABTA	Abfaltersbach	149.64	345	*i* PKPbc	PKPbc	20 43 35.7	-0.7
	comp=Z,16nm,1.3s,SNR=5.6						
DAVA	Damuels	149.71	348	*i* PKiKP	PKiKP	20 43 37.3	-0.1
	comp=Z,4.4nm,0.7s						
LJU	Ljubljana	149.73	342	*i* PKPbc	PKPbc	20 43 36.4	-0.2
CRNS	Crni Vrh	149.77	342	*i* PKPbc	PKPbc	20 43 36.1	-0.6
FETA	Feichten	149.79	347	*i* PKiKP	PKPbc	20 43 36.8	-0.1
	comp=Z,4.4nm,0.8s						
FUORN	Ofenpass-Fuorn	150.27	348	*e*PKPbc	PKPbc	20 43 38.7	+0.5
ESDC	Sonseca Array	157.67	11	PKPab	PKPab	20 44 18.2	0.0
	comp=Z,0.2nm,0.6s,baz=348,slow=7.6,SNR=4.1						

*DDA **25** 20:34:01.9, 39°10N×29°05E, h7km, Md3.1*

*ISK **25** 20:34:02.4, 39°05N×29°05E, h8km, ML3.1*

*CSEM **25** 20:34:02.7±0.1, 39°07N×29°05E, h2km, MD3.1, Error ellipse: s-maj=2.7km s-min=2.2km az=169.0*

ISC 25 20:34:02.6±1.1, 39°09N±0°02×29°05E±0°02, h2km±10km, n62, σ0s70/85, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.26	261	P	Pg	20 34 07.9	+0.2
DEMI				S	Sg	20 34 11.5	+0.4
DEMI	Demirci	0.26	261	*i* P	Pg	20 34 07.9	+0.2
DEMI				*i* S	Sg	20 34 11.5	+0.4
GEDZ	Gediz	0.28	98	*e*PG	Pg	20 34 08.9	+0.8
GEDZ	Gediz	0.28	98	*e*Pg	Pg	20 34 08.9	+0.8
GDZ	Gediz	0.34	89	P	Pg	20 34 09.0	-0.1
GDZ				S	Sg	20 34 13.6	+0.1
GDZ	Gediz	0.34	89	*i* P	Pg	20 34 09.0	-0.1
GDZ				*i* S	Sg	20 34 13.6	+0.1
KULA	Kula-Manisa	0.65	208	PG	Pg	20 34 14.5	-0.5
KULA				*e*SG	Sg	20 34 23.2	-0.1
KULA	Kula-Manisa	0.65	208	*i* Pg	Pg	20 34 14.5	-0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.12**	**184**	P	**Pn**	**20 35 21.7**	**+2.6**
	8.4nm,0.3s,baz=347,slow=8.6,SNR=46						
PMG				S	**Sn**	**20 36 07.1**	**-0.8**
	5.6nm,0.3s,baz=213,slow=17,SNR=11						
JAY	**Jayapura**	**7.25**	**292**	P	**Pn**	**20 36 01.7**	**+1.5**
	0.1nm,0.3s,baz=95,slow=23,SNR=11						
WRA	**Warramunga Arr**	**19.37**	**220**	P	**P**	**20 38 27.9**	**-1.6**
	0.2nm,0.3s,baz=42,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**22.46**	**214**	P	**P**	**20 39 00.5**	**-1.4**
	1.0nm,0.8s,baz=48,slow=8.1,SNR=7.5						
FITZ	**Fitzroy Crossi**	**24.82**	**237**	P	**P**	**20 39 21.1**	**-2.3**
	9.2nm,0.4s,baz=55,slow=11,SNR=77						
ILAR	**Eielson Array**	**84.64**	**23**	P	**P**	**20 46 30.9**	**0.0**
	0.4nm,0.7s,baz=260,slow=5.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**145.32**	**285**	PKPbc	**PKPdf**	**20 53 33.7**	**-1.6**
	0.3nm,0.5s,baz=63,slow=3.5,SNR=5.5						

NIED ***25*** *20:50:00,37˚.90N×144˚.10E,h5km,Mw3.6 Best double couple: M₀3.33000×10¹⁴ NP1:φ₈328.00000°,δ36.00000°, λ-133.00000°. NP2:φ₈197.00000°,δ64.00000°, λ-64.00000°.*

IDC ***25*** *20:50:34.8±1.1,37˚.79N×144˚.29E,h0km,mb3.6/4, mb1 3.8/8,mb1mx3.6/37,mbtmp3.7/8,ML3.7/3,MS3.2/4, Ms1 3.2/4,ms1mx2.7/49,Error ellipse: s-maj=27.6km s-min=20.5km az=99.0*

ISCJB ***25*** *20:50:37.6±0.8,37˚.90N±0˚.05×144˚.25E±0˚.06,h33km, mb3.7/4,MS4.1/1,Error ellipse: s-maj=6.8km s-min=6.6km az=24.6*

JMA ***25*** *20:50:38.6±0.3,37˚.88N×144˚.10E,h33km,M3.7*

ISC 25 20:50:39.3±1.1,37˚.88N±0˚.06×144˚.27E±0˚.08,h35km,n24, σ1§47/32,**mb3.6/4,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.37**	**301**	P	**Pn**	**20 51 14.9**	**-0.8**
JIO	**Ouri**	**2.38**	**285**	P	**Pn**	**20 51 14.9**	**-0.8**
JIO				*e*S	**Sn**	**20 51 41.8**	**-1.8**
JMK	**Ichinoseki**	**2.63**	**295**	P	**Pn**	**20 51 18.8**	**-0.4**
JOM	**Ohasama**	**2.83**	**305**	P	**Pn**	**20 51 22.3**	**+0.4**
JOM				*e*S	**Sn**	**20 51 54.8**	**+0.1**
JOU	**Okura**	**2.89**	**281**	P	**Pn**	**20 51 22.7**	**-0.1**
JOU				S	**Sn**	**20 51 55.3**	**-1.0**
JFT	**Otama**	**3.14**	**265**	P	**Pn**	**20 51 26.3**	**0.0**
JFT				S	**Sn**	**20 52 01.6**	**-1.0**
JRG	**Rokugo**	**3.23**	**299**	P	**Pn**	**20 51 28.6**	**+1.1**
JYK	**Kaneyama**	**3.25**	**290**	P	**Pn**	**20 51 28.0**	**+0.3**
JYK				S	**Sn**	**20 52 04.7**	**-0.4**
JANG	**Nango**	**3.29**	**320**	P	**Pn**	**20 51 27.8**	**-0.5**
JANG				S	**Sn**	**20 52 03.6**	**-2.6**
JTM	**Tenmabayashi**	**3.82**	**320**	P	**Pn**	**20 51 35.9**	**+0.3**
JTM				*e*S	**Sn**	**20 52 16.7**	**-2.6**
JAG	**Ashikaga**	**4.12**	**251**	P	**Pn**	**20 51 39.3**	**-0.4**
BSO1	**Boso 1**	**4.18**	**221**	P	**Pn**	**20 51 38.8**	**-1.2**
MJAR	**Matsushiro Arr**	**5.02**	**256**	Pn	**Pn**	**20 51 52.6**	**+0.4**
	2.5nm,0.3s,baz=78,slow=9.6,SNR=42						
MJAR				Sn	**Sn**	**20 52 50.2**	**+1.3**
	0.9nm,0.3s,baz=89,slow=27,SNR=5.1						
MJAR				LR	LR	20 53 54.5	
	comp=Z,159nm,18.3s,baz=195,slow=40						
MAT	**Matsushiro**	**5.02**	**256**	P	**Pn**	**20 51 53.0**	**+0.8**
MAT				S	**Sn**	**20 52 49.6**	**+0.6**
JHJ	**Hachijo jima 2**	**6.00**	**219**	Pn	**Pn**	**20 52 02.5**	**-3.1**
	16nm,0.3s,baz=66,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**20 53 09.0**	**-4.0**
	3.0nm,0.3s,baz=75,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**6.36**	**349**	Pn	**Pn**	**20 52 09.8**	**-0.6**
	1.0nm,0.3s,baz=176,slow=9.2,SNR=13						
ASAJ				Sn	**Sn**	**20 53 20.1**	**-1.7**
	0.6nm,0.3s,baz=0.0,slow=20,SNR=2.6						
USRK	**Ussuriysk Ar.**	**11.22**	**308**	Pn	**Pn**	**20 53 15.3**	**-1.8**
	0.1nm,0.3s,baz=104,slow=10,SNR=2.8						
JNU	**Nakatsue**	**11.90**	**251**	LR	LR	20 57 31.8	
	comp=Z,70nm,21.6s,baz=130,slow=35						
KSRS	**Korea Array**	**12.97**	**273**	LR	LR	20 58 20.1	
	comp=Z,37nm,18.2s,baz=70,slow=36						
MKAR	**Makanchi Array**	**45.60**	**302**	P	**P**	**20 58 57.6**	**+1.6**
	0.4nm,0.7s,baz=88,slow=9.1,SNR=5.5						
ILAR	**Eielson Array**	**47.55**	**33**	P	**P**	**20 59 12.4**	**+1.4**
	0.6nm,0.7s,baz=265,slow=5.6,SNR=5.4						
WRA	**Warramunga Arr**	**58.27**	**191**	P	**P**	**21 00 30.3**	**-0.1**
	1.7nm,0.9s,baz=12,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**61.99**	**191**	P	**P**	**21 00 56.1**	**+0.2**
	0.3nm,0.6s,baz=5.0,slow=7.0,SNR=6.9						
PPT	**Papeete**	**83.00**	**118**	LR	LR	21 31 42.6	
	comp=Z,93nm,21.2s,baz=192,slow=30						

DDA ***25*** *21:07:13.7,39˚.10N×29˚.11E,h17km,Ml3.5*

ISK ***25*** *21:07:13.9,39˚.09N×29˚.11E,h4km,ML3.2*

CSEM ***25*** *21:07:15.1±0.1,39˚.08N×29˚.13E,h10km,ML3.2,Error ellipse: s-maj=3.7km s-min=3.3km az=156.0*

ISC 25 21:07:14.0±0.9,39˚.12N±0˚.02×29˚.10E±0˚.02,h11km±8km, n92,σ0§78/123,**1C-1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.25**	**107**	PG	**Pb**	**21 07 20.0**	**-0.5**
GEDZ				SG	**Sg**	**21 07 22.9**	**+0.2**
GEDZ	**Gediz**	**0.25**	**107**	*i* Pg	**Pb**	**21 07 20.0**	**-0.5**
GEDZ				*i* Sg	**Sg**	**21 07 22.9**	**+0.2**
GDZ	**Gediz**	**0.29**	**96**	P	**Pg**	**21 07 19.9**	**-0.2**
GDZ				S	**Sg**	**21 07 23.9**	**-0.2**
GDZ	**Gediz**	**0.29**	**96**	*i* P	**Pg**	**21 07 19.9**	**-0.2**
GDZ				*i* S	**Sg**	**21 07 23.9**	**-0.2**
DEMI	**Demirci**	**0.31**	**256**	P	**Pg**	**21 07 20.7**	**+0.4**
DEMI				S	**Sg**	**21 07 25.0**	**+0.4**
DEMI	**Demirci**	**0.31**	**256**	*i* P	**Pg**	**21 07 20.7**	**+0.4**
DEMI				*i* S	**Sg**	**21 07 25.0**	**+0.4**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*PG	**Pg**	**21 07 27.1**	**-0.3**
KULA				*e*SG	**Sg**	**21 07 36.5**	**-0.1**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*Pg	**Pg**	**21 07 27.1**	**-0.3**
KULA				*e*Sg	**Sg**	**21 07 36.5**	**-0.1**
KHL	**Karahalli**	**0.86**	**157**	*e*PG	**Pg**	**21 07 30.5**	**-0.1**
KHL	**Karahalli**	**0.86**	**157**	*e*Pg	**Pg**	**21 07 30.5**	**-0.1**
AKS	**Akhisar**	**1.03**	**257**	*e*PG	**Pg**	**21 07 34.4**	**+0.5**
AKS	**Akhisar**	**1.03**	**257**	*e*Pg	**Pg**	**21 07 34.4**	**+0.5**
BALB	**Balikesir**	**1.08**	**299**	*e*PN	**Pg**	**21 07 35.5**	**+0.7**
BALB	**Balikesir**	**1.08**	**299**	*e*Pn	**Pg**	**21 07 35.5**	**+0.7**
IGD	**Bursa**	**1.15**	**4**	*i* P	**Pn**	**21 07 34.5**	**-1.4**
IGD				*i* S	**Sg**	**21 07 51.7**	**+0.7**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*PN	**Pg**	**21 07 37.6**	**+0.1**
CAVI	**Cavuskoy**	**1.22**	**28**	*e*Pn	**Pg**	**21 07 37.6**	**+0.1**
IZI	**Iznik**	**1.25**	**13**	*e*PN	**Pg**	**21 07 38.5**	**+0.5**
IZI	**Iznik**	**1.25**	**13**	*e*Pn	**Pg**	**21 07 38.5**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*PN	**Pg**	**21 07 38.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*Pn	**Pg**	**21 07 38.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*PN	**Pg**	**21 07 38.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*Pn	**Pg**	**21 07 38.7**	**+0.1**
BORA	**Eskisehir**	**1.29**	**53**	P	**Pg**	**21 07 39.0**	**+0.2**
BORA				S	**Sg**	**21 07 55.8**	**+0.2**
BORA	**Eskisehir**	**1.29**	**53**	*i* P	**Pg**	**21 07 39.0**	**+0.2**
BORA				*i* S	**Sg**	**21 07 55.8**	**+0.2**
BALY	**Balya**	**1.31**	**299**	P	**Pg**	**21 07 39.0**	**-0.1**
BALY				S	**Sg**	**21 07 56.9**	**+0.8**
BALY	**Balya**	**1.31**	**299**	*i* P	**Pg**	**21 07 39.0**	**-0.1**
BALY				*i* S	**Sg**	**21 07 56.9**	**+0.8**
GEMT	**Gemlik**	**1.32**	**3**	*e*PN	**Pg**	**21 07 39.7**	**+0.4**
GEMT	**Gemlik**	**1.32**	**3**	*e*Pn	**Pg**	**21 07 39.7**	**+0.4**
ADVT	**Abdulvahap**	**1.40**	**20**	*e*PN	**Pg**	**21 07 41.2**	**+0.3**
ADVT	**Abdulvahap**	**1.40**	**20**	*e*Pn	**Pg**	**21 07 41.2**	**+0.3**
ESKT	**Eskisehir**	**1.41**	**73**	*i* P	**Pg**	**21 07 40.8**	**-0.3**
ESKT				*i* S	**Sb**	**21 07 58.2**	**-0.2**
SEYT	**Eskypehyr**	**1.41**	**73**	P	**Pg**	**21 07 40.8**	**-0.3**
SEYT				S	**Sb**	**21 07 58.2**	**-0.2**
DNZL	**Cakiroluk**	**1.43**	**182**	P	**Pg**	**21 07 41.7**	**+0.3**
DNZL				S	**Sg**	**21 08 01.8**	**+1.9**
DNZL	**Cakiroluk**	**1.43**	**182**	*i* P	**Pg**	**21 07 41.7**	**+0.3**
DNZL				*i* S	**Sg**	**21 08 01.8**	**+1.9**
GONE	**Gonen-Balikesi**	**1.44**	**311**	*e*PN	**Pg**	**21 07 41.9**	**+0.4**
GONE	**Gonen-Balikesi**	**1.44**	**311**	*e*Pn	**Pg**	**21 07 41.9**	**+0.4**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pg**	**21 07 42.2**	**+0.2**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pg**	**21 07 42.2**	**+0.2**
BOLV	**Bolvadin**	**1.49**	**105**	P	**Pb**	**21 07 41.8**	**0.0**
BOLV				S	**Sg**	**21 08 01.3**	**-0.8**
BOLV	**Bolvadin**	**1.49**	**105**	*i* P	**Pb**	**21 07 41.8**	**0.0**
BOLV				*i* S	**Sg**	**21 08 01.3**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*e*PN	**Pg**	**21 07 43.0**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*e*Pn	**Pg**	**21 07 43.0**	**+0.1**
EDC	**Edincik**	**1.56**	**322**	*e*PN	**Pg**	**21 07 44.0**	**+0.2**
EDC	**Edincik**	**1.56**	**322**	*e*Pn	**Pg**	**21 07 44.0**	**+0.2**
IZM	**Izmir**	**1.61**	**244**	*e*PN	**Pg**	**21 07 44.4**	**-0.5**
IZM	**Izmir**	**1.61**	**244**	*e*Pn	**Pg**	**21 07 44.4**	**-0.5**
KNL	**Bal¯–kesir**	**1.68**	**314**	*i* P	**Pb**	**21 07 44.7**	**-0.1**
KNL				*i* S	**Sg**	**21 08 07.9**	**+0.1**
GULT	**Gulveren**	**1.70**	**39**	*e*PN	**Pg**	**21 07 46.2**	**-0.5**
GULT	**Gulveren**	**1.70**	**39**	*e*Pn	**Pg**	**21 07 46.2**	**-0.5**
DKL	**Dikili**	**1.71**	**269**	*e*PN	**Pg**	**21 07 46.3**	**-0.5**
DKL	**Dikili**	**1.71**	**269**	*e*Pn	**Pg**	**21 07 46.3**	**-0.5**
BUY	**Buyukada**	**1.73**	**0**	P	**Pb**	**21 07 44.7**	**-1.1**
BUY				S	**Sg**	**21 08 10.0**	**+0.3**
BUY	**Buyukada**	**1.73**	**0**	*i* P	**Pb**	**21 07 44.7**	**-1.1**
BUY				*i* S	**Sg**	**21 08 10.0**	**+0.3**
HRT	**Hereke**	**1.76**	**14**	*e*PN	**Pb**	**21 07 46.5**	**+0.3**
HRT	**Hereke**	**1.76**	**14**	*e*Pn	**Pb**	**21 07 46.5**	**+0.3**
MRMT	**Marmara Adasi**	**1.88**	**322**	*e*PN	**Pb**	**21 07 48.4**	**0.0**
MRMT	**Marmara Adasi**	**1.88**	**322**	*e*Pn	**Pb**	**21 07 48.4**	**0.0**
AYVA	**Ayvalik**	**1.89**	**277**	P	**Pn**	**21 07 46.2**	**+0.2**
AYVA				S	**Sg**	**21 08 14.9**	**+0.3**
AYVA	**Ayvalik**	**1.89**	**277**	*i* P	**Pn**	**21 07 46.2**	**+0.2**
AYVA				*i* S	**Sg**	**21 08 14.9**	**+0.3**
KRBG	**Karabiga-Canak**	**1.89**	**313**	*e*PN	**Pb**	**21 07 49.1**	**+0.7**
KRBG	**Karabiga-Canak**	**1.89**	**313**	*e*Pn	**Pb**	**21 07 49.1**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.91**	**79**	*e*PN	**Pb**	**21 07 48.2**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.91**	**79**	*e*Pn	**Pb**	**21 07 48.3**	**-0.5**
GOLH	**Golhisar**	**1.91**	**169**	P	**Pb**	**21 07 48.1**	**-0.8**
GOLH	**Golhisar**	**1.91**	**169**	*i* P	**Pb**	**21 07 48.1**	**-0.8**
GOLH				*i* S	**Sg**	**21 08 19.4**	**+3.9**
ISK	**Istanbul-Kandi**	**1.94**	**359**	*e*PN	**Pb**	**21 07 49.6**	**+0.2**
ISK	**Istanbul-Kandi**	**1.94**	**359**	*e*Pn	**Pb**	**21 07 49.6**	**+0.2**
BTAS	**Taskesti**	**2.06**	**45**	P	**Pb**	**21 07 51.5**	**+0.1**
BTAS				S	**Sg**	**21 08 21.7**	**+1.6**
BTAS	**Taskesti**	**2.06**	**45**	*i* P	**Pb**	**21 07 51.5**	**+0.1**
BTAS				*i* S	**Sg**	**21 08 21.7**	**+1.6**
YER	**Yerkesik**	**2.08**	**198**	*e*PN	**Pb**	**21 07 50.0**	**-1.8**
YER	**Yerkesik**	**2.08**	**198**	*e*Pn	**Pb**	**21 07 50.0**	**-1.8**
MDUB	**Mudurnu**	**2.10**	**49**	*e*PN	**Pb**	**21 07 51.4**	**-0.8**
MDUB	**Mudurnu**	**2.10**	**49**	*e*Pn	**Pb**	**21 07 51.4**	**-0.8**
KLYT	**Kilyos**	**2.13**	**359**	*e*PN	**Pb**	**21 07 52.2**	**-0.4**
KLYT	**Kilyos**	**2.13**	**359**	*e*Pn	**Pb**	**21 07 52.2**	**-0.4**
KAND	**Kocaeli-Kandir**	**2.14**	**23**	P	**Pn**	**21 07 49.8**	**+0.2**
KAND				S	**Sb**	**21 08 18.2**	**-1.1**
KAND	**Kocaeli-Kandir**	**2.14**	**23**	*i* P	**Pn**	**21 07 49.9**	**+0.2**
KAND				*i* S	**Sb**	**21 08 18.2**	**-1.1**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	*e*PN	**Pb**	**21 07 52.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	*e*Pn	**Pb**	**21 07 52.8**	**-0.2**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*PN	**Pb**	**21 07 52.7**	**-0.4**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*Pn	**Pb**	**21 07 52.7**	**-0.4**
SAHE	**Sakarya_HENDEK**	**2.19**	**37**	P	**Pn**	**21 07 50.8**	**+0.5**
SAHE				S	**Sg**	**21 08 23.7**	**-0.7**
SAHE	**Sakarya_HENDEK**	**2.19**	**37**	*i* P	**Pn**	**21 07 50.8**	**+0.5**
SAHE				*i* S	**Sg**	**21 08 23.7**	**-0.7**
LPK	**Lapseki**	**2.20**	**305**	*e*PN	**Pb**	**21 07 52.5**	**-1.2**
LPK	**Lapseki**	**2.20**	**305**	*e*Pn	**Pb**	**21 07 52.5**	**-1.2**
TKR	**Tekirdag**	**2.22**	**328**	*e*PN	**Pb**	**21 07 53.8**	**-0.3**
TKR	**Tekirdag**	**2.22**	**328**	*e*Pn	**Pb**	**21 07 53.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**2.40**	**303**	*e*PN	**Pb**	**21 07 55.9**	**-1.2**
GELI	**Tayfur-Gelibol**	**2.40**	**303**	*e*Pn	**Pb**	**21 07 55.9**	**-1.2**
LOD	**Lodumlu**	**2.93**	**74**	*e*PN	**Pn**	**21 08 02.6**	**+2.0**
LOD	**Lodumlu**	**2.93**	**74**	*e*Pn	**Pn**	**21 08 02.6**	**+2.0**

IDC 25 21:12:38.9±7.7,30˚.42S×178˚.17W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.4/37,mbtmp3.5/2,MS4.1/4,Ms1 4.0/4, ms1mx3.3/23,Error ellipse: s-maj=324.5km s-min=57.3km az=156.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**29.20**	**311**	LR	LR	21 27 53.3	
	comp=Z,448nm,20.4s,baz=146,slow=31						
STKA	**Stephens Creek**	**34.33**	**257**	LR	LR	21 32 12.5	
	comp=Z,288nm,22.0s,baz=197,slow=34						
PMG	**Port Moresby**	**38.48**	**296**	LR		21 33 11.1	
	comp=Z,340nm,18.1s,baz=44,slow=32						
ASAR	**Alice Springs**	**42.96**	**267**	P	P	21 20 40.0	+0.1
	0.4nm,0.8s,baz=104,slow=6.4,SNR=5.0						
WRA	**Warramunga Arr**	**43.95**	**272**	P	P	21 20 47.6	-0.3
	0.4nm,0.4s,baz=111,slow=8.0,SNR=9.4						
NWAO	**Narrogin (SRO)**	**54.25**	**249**	LR	LR	21 42 20.2	
	comp=Z,83nm,19.3s,baz=134,slow=33						
FINES	**FINESS Array B**	**145.11**	**340**	PKPbc	PKPbc	21 32 16.2	-0.8
	0.6nm,0.5s,baz=74,slow=4.9,SNR=7.3						

IDC ***25*** *21:16:54.9±0.4,24˚.54S×179˚.45E,h523km±4km,mb4.7/39, mb1 4.8/42,mb1mx4.7/47,mbtmp5.5/42,Error ellipse: s-maj=7.2km s-min=6.4km az=176.0*

ISCJB ***25*** *21:16:54.1±0.4,24˚.52S±0˚.02×179˚.35E±0˚.02,h518km±5km, mb5.2/148,Error ellipse: s-maj=3.8km s-min=2.9km az=149.4*

MOS ***25*** *21:16:55.0±1.0,24˚.45S×179˚.39E,h525km,mb5.2/18, Error ellipse: s-maj=8.1km s-min=7.0km az=78.1*

GCMT ***25*** *21:16:55.5±0.2,24˚.51S×179˚.58E,h539km±1km, MW5.6/99,Moment Tensor Solution. s99,c158; s27,c28; Duration: 1§5 Moment tensor: Scale 10¹⁷Nm; Mrr0.75±.04; Mθθ-1.17±.07; Mϕϕ0.41±.07; Mrθ-0.04±.07; Mθϕ-0.01±.07; Mϕr-2.93±.06; Best double couple: M₀2.93500×10¹⁷ NP1:φ₁181.00000°,δ88.00000°, λ89.00000°. NP2:φ₂29.00000°,δ2.00000°,λ118.00000°. Principal axes: T 3.5190, Plg47.0000°, Azm90.0000°; N -1.1690, Plg1.0000°, Azm181.0000°; P -2.3510, Plg43.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

NEIC ***25*** *21:16:55.5±0.4,24˚.51S×179˚.37E,h528km±5km,mb5.5/77, MW5.6,MW5.6 Error ellipse: s-maj=4.4km s-min=3.4km az=147.0,Moment Tensor Solution. s13 Moment tensor: Scale 10¹⁷Nm; Mrr-0.29; Mθθ1.03; Mϕϕ-0.74; Mrθ1.58; Mθϕ0.02; Mϕr-2.50; Best double couple: M₀3.10000×10¹⁷ NP1:φ₁324.00000°,δ89.00000°,λ-74.00000°. NP2: φ₂57.00000°,δ16.00000°,λ-176.00000°. Principal axes: T 2.8300, Plg42.0000°, Azm39.0000°; N 0.4800, Plg16.0000°, Azm144.0000°; P -3.3100, Plg44.0000°, Azm249.0000°;*

NEIC Felt at Suva. Also felt at Nuku'alofa, Tonga.

BJI ***25*** *21:16:56.0,24˚.21S×179˚.74E,h547km,mb5.3/23, mB5.3/26*

NEIC ***25*** *21:16:57.0±0.0,24˚.41S×179˚.51E,h546km,Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁷Nm; Mrr0.50; Mθθ-0.65; Mϕϕ0.16; Mrθ-0.05; Mθϕ0.70; Mϕr-2.50; Best double couple: M₀2.70000×10¹⁷ NP1:φ₁174.00000°, δ87.00000°,λ107.00000°. NP2:φ₂275.00000°,δ18.00000°, λ11.00000°. Principal axes: T 2.9100, Plg45.0000°, Azm101.0000°; N -0.5900, Plg17.0000°, Azm353.0000°; P -2.3200, Plg39.0000°, Azm248.0000°;*

ISC 25 21:16:55.6±0.3,24˚.49S±0˚.04×179˚.52E±0˚.04,h533km±3km, h534km:pP-P,n1115,σ1§54/1245,**mb5.3**/147,**33C-106D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.26**	**155**	P	**P**	**21 18 26.8**	**+0.1**
	956nm,0.3s,baz=94,slow=11,SNR=20						
RAO				S	**S**	**21 19 37.9**	**-3.2**
	64nm,0.3s,baz=73,slow=19,SNR=3.1						
RAO	**Raoul Island**	**5.26**	**155**	*e*P	**P**	**21 18 27.6**	**+1.0**
RAO				S	**S**	**21 19 37.9**	**-3.2**
MSVF	**Nonsavu**	**6.86**	**348**	*c* *i*P	**P**	**21 18 42.9**	**+1.0**
MSVF	**Nonsavu**	**6.86**	**348**	*e*P	**P**	**21 18 41.5**	**-0.5**
NIUE	**Niue**	**11.18**	**63**	P	**P**	**21 19 24.7**	**-1.1**
	baz=11,SNR=58						
NFK	**Norfolk Island**	**11.30**	**244**	P	**P**	**21 19 30.1**	**+3.4**
	baz=11,SNR=4.3						
OUZ	**Omahuta**	**11.86**	**204**	*e*P	**P**	**21 19 33.6**	**+1.1**
OUZ	**Omahuta**	**11.86**	**204**	PN	**P**	**21 19 34.2**	**+1.7**
DZM	**Mont Dzumac**	**12.26**	**279**	*e*P	**P**	**21 19 38.0**	**+1.0**
	2μm,1.1s						
DZM	**Mont Dzumac**	**12.26**	**279**	P	**P**	**21 19 38.4**	**+1.4**
	24nm,0.3s,baz=90,slow=15,SNR=114						
DZM				S	**S**	**21 21 52.1**	**+2.3**
	baz=236,slow=11,SNR=12						
DZM				ScP	**ScP**	**21 27 16.2**	**+1.5**
	1.5nm,0.3s,baz=194,slow=22,SNR=8.3						
DZM	**Mont Dzumac**	**12.26**	**279**	*e*P	**P**	**21 19 37.8**	**+0.8**
DZM				*e*S	**S**	**21 21 51.1**	**+1.2**
DZM				ScP	**ScP**	**21 27 16.2**	**+1.5**
KUZ	**Kuaotunu**	**12.64**	**194**	PN	**P**	**21 19 40.8**	**+0.2**
MXZ	**Matakaoa Point**	**13.07**	**184**	*e*P	**P**	**21 19 44.0**	**-1.1**
MXZ				*e*S	**S**	**21 22 05.4**	**+0.7**
MXZ	**Matakaoa Point**	**13.07**	**184**	PN	**P**	**21 19 43.7**	**-1.4**
MXZ				SN	**S**	**21 22 03.0**	**-1.7**
MKAZ	**Moumakai**	**13.12**	**196**	PN	**P**	**21 19 45.9**	**+0.3**
KBAZ	**Karaka Road Bo**	**13.17**	**196**	PN	**P**	**21 19 47.0**	**+0.8**
HAZ	**Te Kaha**	**13.30**	**186**	PN	**P**	**21 19 45.3**	**-2.3**
HAZ				SN	**S**	**21 22 04.5**	**-4.7**
WMGZ	**Waiomatatini S**	**13.32**	**184**	PN	**P**	**21 19 45.7**	**-1.9**
WMGZ				SN	**S**	**21 22 02.2**	**-7.3**
AFI	**Afiamalu**	**13.35**	**40**	P	**P**	**21 19 44.3**	**-4.1**
	34nm,0.3s,baz=23,slow=3.7,SNR=36						
AFI				S	**S**	**21 22 02.5**	**-8.2**
	52nm,0.3s,baz=67,slow=20,SNR=10						
TOZ	**Tahuroa Road**	**13.64**	**194**	PN	**P**	**21 19 51.8**	**+0.9**
TWGZ	**Tauwhareparae**	**13.71**	**185**	PN	**P**	**21 19 49.9**	**-1.9**
TWGZ				SN	**S**	**21 22 13.0**	**-3.9**
URZ	**Urewera**	**13.88**	**188**	P	**P**	**21 19 51.2**	**-2.2**
	17nm,0.3s,baz=29,slow=3.7,SNR=78						
URZ				S	**S**	**21 22 18.0**	**-2.1**
	19nm,0.3s,baz=186,slow=21,SNR=15						
URZ	**Urewera**	**13.88**	**188**	*e*P	**P**	**21 19 52.9**	**-0.6**
URZ				S	**S**	**21 22 18.0**	**-2.1**
URZ	**Urewera**	**13.88**	**188**	PN	**P**	**21 19 50.1**	**-3.4**
MWZ	**Matawai**	**13.90**	**187**	PN	**P**	**21 19 51.7**	**-2.1**
CNGZ	**Carnagh Statio**	**13.99**	**184**	PN	**P**	**21 19 53.5**	**-1.2**
HIZ	**Hauiti**	**14.53**	**195**	*e*P	**P**	**21 20 00.5**	**+0.2**
HIZ	**Hauiti**	**14.53**	**195**	PN	**P**	**21 20 00.9**	**+0.6**
MRHZ	**Matea Rd**	**14.54**	**190**	PN	**P**	**21 19 56.9**	**-3.5**
RATZ	**Rangitukua**	**14.68**	**192**	PN	**P**	**21 20 00.1**	**-1.8**
BKZ	**Black Stump Fm**	**14.85**	**189**	*e*P	**P**	**21 20 03.3**	**-0.5**
BKZ				*e*S	**S**	**21 22 34.3**	**-4.5**
BKZ	**Black Stump Fm**	**14.85**	**189**	PN	**P**	**21 19 60.0**	**-3.8**
ARHZ	**Aropaoanui**	**14.88**	**188**	PN	**P**	**21 20 03.4**	**-0.5**
KWHZ	**Kaweka Forest**	**15.12**	**189**	PN	**P**	**21 20 03.1**	**-3.4**
VRZ	**Vera Road**	**15.13**	**194**	PN	**P**	**21 20 06.8**	**+0.2**
WNVZ	**Wahianoa**	**15.16**	**192**	PN	**P**	**21 20 03.8**	**-3.2**
PKVZ	**Pokaka**	**15.17**	**192**	PN	**P**	**21 20 07.0**	**0.0**
MOVZ	**Moawhango**	**15.21**	**191**	*e*PN	**P**	**21 20 03.6**	**-3.8**
MTVZ	**Mangateitei**	**15.24**	**192**	PN	**P**	**21 20 07.5**	**-0.2**
KRHZ	**Kereru**	**15.34**	**189**	PN	**P**	**21 20 06.2**	**-2.6**
KRHZ				SN	**S**	**21 22 41.4**	**-6.2**
KAHZ	**Kahuranaki**	**15.42**	**188**	*e*PN	**P**	**21 20 09.0**	**-0.6**
WAZ	**Wanganui**	**15.69**	**193**	PN	**P**	**21 20 12.2**	**-0.2**
TSZ	**Takapari Road**	**15.81**	**190**	PN	**P**	**21 20 09.9**	**-3.6**
DVHZ	**Dannevirke**	**16.01**	**189**	PN	**P**	**21 20 11.7**	**-3.8**
ANWZ	**Angora Road**	**16.13**	**188**	PN	**P**	**

CAN Canberra 28.47 241 *e*P **P** **21 22 08.4 +0.6**
comp=Z,226nm,1.0s
CAN eScP **ScP** **21 27 56.0 +2.7**
YNG Young 28.73 243 P **P** **21 22 10.8 +0.7**
baz=29,SNR=60
MILA Mila 28.81 237 P **P** **21 22 11.3 +0.6**
baz=29,SNR=62
PAE Paea 29.58 83 *e*P **P** **21 22 17.4 -0.1**
comp=Z,43nm,1.0s
PPT2 Papeete2 29.60 83 *e*P **P** **21 22 18.0 +0.1**
comp=Z,238nm,1.3s
PPT Papeete 29.61 83 P **P** **21 22 17.9 0.0**
comp=Z,144nm,0.7s,baz=88,slow=4.2,SNR=17
PPT Papeete 29.61 83 *e*P **P** **21 22 16.5 -1.4**
TIAR Tiarei 29.82 83 *e*P **P** **21 22 19.8 +0.1**
comp=Z,114nm,0.9s
TVO Taravao 29.84 83 *e*P **P** **21 22 19.7 -0.2**
comp=Z,66nm,0.8s
CMSA Cobar Meteorol 30.59 249 P **P** **21 22 26.1 0.0**
baz=31,SNR=346
MEH Mehetia 30.88 84 *e*P **P** **21 22 28.4 -0.4**
comp=Z,61nm,1.2s
CTA Charters Tower 31.05 271 P **P** **21 22 30.7 +0.5**
comp=Z,309nm,0.4s,baz=94,slow=11,SNR=608
CTA S **S** **21 26 56.9 -1.0**
comp=Z,5.5nm,0.7s,baz=5.9,slow=23,SNR=5.4
CTA ScP **ScP** **21 28 04.0 +2.0**
comp=Z,42nm,0.9s,baz=122,slow=2.5,SNR=13
CTA Charters Tower 31.05 271 P **P** **21 22 30.8 +0.5**
baz=31
CTAO Charters Tower 31.05 271 *e*P **P** **21 22 30.7 +0.5**
CTAO pmax pmax
comp=Z,430nm,1.0s
CTAO Charters Tower 31.05 271 *e*P **P** **21 22 30.7 +0.5**
comp=Z,431nm,0.9s
CTAO *e*ScP **ScP** **21 28 04.9 +2.9**
TOO Toolangi 31.76 238 P **P** **21 22 36.3 +0.1**
baz=32,SNR=77
QLP Quilpie 31.85 259 P **P** **21 22 36.9 -0.1**
baz=32,SNR=106
MOO Moorlands 32.11 228 P **P** **21 22 39.4 +0.5**
baz=32,SNR=13
VAH Vaihoa 32.17 80 *e*P **P** **21 22 39.5 -0.3**
comp=Z,188nm,0.8s
TAU Tasmania Unive 32.21 227 *e*P **P** **21 22 40.3 +0.5**
TAU pmax pmax
comp=Z,120nm,0.7s
TAU Tasmania Unive 32.21 227 *e*P **P** **21 22 40.3 +0.5**
comp=Z,124nm,0.7s
MTSU Mount Surprise 33.34 274 P **P** **21 22 50.2 +0.5**
baz=33,SNR=369
MCQ Macquarie Isla 33.65 202 P **P** **21 22 53.1 +1.3**
baz=34
STKA Stephens Creek 34.10 249 P **P** **21 22 56.0 0.0**
comp=Z,141nm,0.5s,baz=94,slow=11,SNR=301
STKA ScP **ScP** **21 28 13.8 +1.4**
comp=Z,24nm,0.9s,baz=48,slow=1.1,SNR=6.8
STKA Stephens Creek 34.10 249 P **P** **21 22 56.0 0.0**
baz=34,SNR=401
STKA Stephens Creek 34.10 249 *e*P **P** **21 22 56.0 0.0**
STKA pmax pmax
comp=Z,36nm,0.6s
STKA Stephens Creek 34.10 249 *e*P **P** **21 22 56.0 0.0**
comp=Z,36nm,0.6s
STKA ScP **ScP** **21 28 13.8 +1.4**
PMG Port Moresby 34.28 290 P **P** **21 22 57.0 -0.7**
comp=Z,274nm,0.9s,baz=105,slow=5.2,SNR=34
PMG Port Moresby 34.28 290 *d* *i*P **P** **21 22 57.2 -0.5**
PMG pmax pmax
comp=Z,1μm,0.9s
PMG Port Moresby 34.28 290 *e*P **P** **21 22 57.8 +0.2**
comp=Z,332nm,1.0s
ARPS Mount Arapiles 34.44 240 P **P** **21 22 58.7 0.0**
baz=34,SNR=43
COEN Coen 35.78 280 P **P** **21 23 10.5 +0.3**
baz=36,SNR=48
HTT Hallett 36.43 246 P **P** **21 23 14.9 -0.6**
baz=36,SNR=57
QIS Mount Isa 36.99 268 P **P** **21 23 19.5 -0.6**
baz=37,SNR=25
PATS Pohnpei 37.38 324 P **P** **21 23 23.3 0.0**
baz=38
MANU Manus Island 38.24 301 *e*sP sP 21 26 08.0 +3.7
MANU *e*S **S** **21 28 45.1 -1.2**
BBOO Buckleboo 38.81 248 P **P** **21 23 33.9 -0.9**
baz=39,SNR=338
BBOO Buckleboo 38.81 248 *e*P **P** **21 23 33.9 -0.9**
comp=Z,309nm,0.8s
TAOE Nuku Hiva Isla 41.46 75 *e*P **P** **21 23 52.9 -3.5**
comp=Z,380nm,1.0s
AS01 Alice Springs 41.47 261 *e*P **P** **21 23 55.7 -0.5**
AS31 Alice Springs 41.51 261 *e*P **P** **21 23 56.1 -0.4**
comp=Z,110nm,1.3s
ASAR Alice Springs 41.51 261 P **P** **21 23 56.0 -0.5**
comp=Z,173nm,0.9s,baz=94,slow=6.8,SNR=560
ASAR ScP **ScP** **21 28 42.2 +1.3**
comp=Z,18nm,0.9s,baz=112,slow=4.0,SNR=9.0
ASAR S **S** **21 29 32.5 -1.3**
comp=Z,6.9nm,0.8s,baz=99,slow=16,SNR=6.5
ASAR ScS **SS** **21 32 54.6 -4.6**
comp=Z,5.1nm,1.0s,baz=90,slow=5.0,SNR=4.1
ASAR P3KPbc 21 53 15.2
comp=Z,0.7nm,0.5s,baz=285,slow=3.9,SNR=18
RKT Rikitea 41.51 98 *e*P **P** **21 23 56.8 +0.3**
comp=Z,132nm,0.9s
WR9 Warramunga Arr 41.77 267 P **P** **21 23 57.6 -1.0**
baz=42
WB2 Warramunga Arr 41.92 267 *e*P **P** **21 23 59.0 -0.8**
comp=Z,225nm,0.9s
WRAB Tennant Creek 41.93 267 *d* *i*P **P** **21 23 58.8 -1.1**
WRAB pmax pmax
comp=Z,516nm,0.9s
WRAB Tennant Creek 41.93 267 *e*P **P** **21 23 59.0 -0.9**
comp=Z,172nm,0.8s
WRAB eScP **ScP** **21 28 45.2 +2.6**
WRA Warramunga Arr 41.93 267 P **P** **21 23 58.5 -1.4**
comp=Z,120nm,0.4s,baz=102,slow=8.3,SNR=1150
WRA ScP **ScP** **21 28 44.6 +2.0**
comp=Z,80nm,1.0s,baz=101,slow=4.1,SNR=30
WRA S **S** **21 29 36.9 -3.2**
comp=Z,14nm,0.9s,baz=99,slow=13,SNR=6.7
WRA P3KPbc 21 53 14.3
comp=Z,0.7nm,0.5s,baz=296,slow=2.8,SNR=11
JAY Jayapura 43.35 294 P **P** **21 24 10.4 -0.7**
comp=Z,5.8nm,0.5s,baz=95,slow=22,SNR=65
JAY ScP **ScP** **21 28 51.1 +2.6**
comp=Z,0.4nm,0.3s,baz=94,slow=23,SNR=7.8
JAY Jayapura 43.35 294 P **P** **21 24 10.8 -0.3**
GENI Genyem 43.76 294 P **P** **21 24 14.0 -0.2**
comp=Z,306nm,0.9s,comp=Z,3μm
KDU Kakadu 45.91 276 P **P** **21 24 29.6 -1.1**
baz=46,SNR=27
WRKA Warakurna 46.28 258 P **P** **21 24 32.7 -0.9**
baz=46,SNR=951
MTN Manton Dam 47.07 275 P **P** **21 24 38.0 -1.5**
baz=47,SNR=35
MTN Manton Dam 47.07 275 *e*P **P** **21 24 38.3 -1.2**
comp=Z,52nm,0.8s
KNRA Kununurra 48.25 271 P **P** **21 24 48.0 -0.4**
baz=48
POHA Pohakuloa 50.25 31 *e*P **P** **21 25 02.2 -1.1**
comp=Z,122nm,0.7s
FAKI Fak Fak 50.34 288 P **P** **21 25 03.8 0.0**
comp=Z,115nm,1.2s,comp=Z,2μm
FAKI Fak Fak 50.34 288 *e*P **P** **21 25 02.2 -1.6**
comp=Z,96nm,0.9s
FITZ Fitzroy Crossi 50.35 266 P **P** **21 25 03.4 -0.4**
comp=Z,214nm,0.8s,baz=113,slow=5.0,SNR=310
FITZ ScP **ScP** **21 29 20.2 +2.3**
comp=Z,15nm,0.9s,baz=132,slow=1.7,SNR=4.9
FITZ S **S** **21 31 36.9 -0.5**
comp=Z,7.9nm,1.1s,baz=273,slow=19,SNR=16
FITZ Fitzroy Crossi 50.35 266 P **P** **21 25 03.5 -0.4**
baz=50,SNR=230
FITZ Fitzroy Crossi 50.35 266 *e*P **P** **21 25 03.4 -0.4**
comp=Z,291nm,1.0s
FITZ ScP **ScP** **21 29 20.2 +2.3**
FITZ S **S** **21 31 36.9 -0.5**
HPAH Hawaii Prepara 50.41 31 *e*P **P** **21 25 02.1 -2.1**
comp=Z,470nm,0.8s
GUMO Guam 50.77 314 P **P** **21 25 05.9 -0.9**
comp=Z,117nm,0.7s,baz=176,slow=9.5,SNR=5.1
KMBL Kambalda 50.90 249 P **P** **21 25 06.3 -1.4**
baz=51,SNR=32
SWI Sorong 52.22 289 P **P** **21 25 17.4 0.0**
comp=Z,641nm,0.9s,comp=Z,5μm
MSAI Masohi 53.04 285 P **P** **21 25 23.0 -0.3**

VNDA Vanda 53.76 185 P **P** **21 25 27.6 +0.3**
comp=Z,10.0nm,0.8s,baz=352,slow=7.5,SNR=18
VNDA ScP **ScP** **21 29 32.4 +0.8**
comp=Z,4.3nm,0.9s,baz=48,slow=7.7,SNR=4.7
VNDA Vanda 53.76 185 *e*P **P** **21 25 28.4 +1.1**
comp=Z,15nm,1.0s
VNDA ScP **ScP** **21 29 32.4 +0.8**
SBA Scott Base 53.76 183 *e*P **P** **21 25 29.0 +1.6**
SBA pmax pmax
comp=Z,64nm,1.0s
SBA Scott Base 53.76 183 *e*P **P** **21 25 29.0 +1.6**
comp=Z,64nm,1.0s
PALU Palau 54.12 300 P **P** **21 25 30.3 -0.6**
baz=54,SNR=25
KLBR Kellerberrin 54.36 248 P **P** **21 25 31.2 -1.2**
baz=54,SNR=106
SOEI Soe 54.46 276 P **P** **21 25 32.4 -1.1**
comp=Z,547nm,1.0s,comp=Z,4μm
SOEI Soe 54.46 276 *e*P **P** **21 25 34.0 +0.5**
comp=Z,521nm,1.0s
RKGY Rocky Gully 54.58 244 P **P** **21 25 33.1 -0.8**
baz=55,SNR=23
NWAO Narrogin (SRO) 54.59 246 P **P** **21 25 32.9 -1.2**
comp=Z,58nm,0.9s,baz=347,slow=6.2,SNR=36
NWAO Narrogin (SRO) 54.59 246 P **P** **21 25 33.0 -1.0**
baz=55,SNR=22
NWAO Narrogin (SRO) 54.59 246 *e*P **P** **21 25 33.2 -0.9**
NWAO pmax pmax
comp=Z,100nm,1.0s
NWAO Narrogin (SRO) 54.59 246 *e*P **P** **21 25 33.2 -0.9**
comp=Z,283nm,1.0s
MBWA Marble Bar 54.84 261 *e*P **P** **21 25 34.7 -1.3**
comp=Z,205nm,1.0s
BLDU Ballidu 55.40 249 P **P** **21 25 38.4 -1.3**
baz=55,SNR=107
LBMI Labuha 55.59 287 P **P** **21 25 41.2 0.0**
MORW Morawa 56.26 250 P **P** **21 25 44.7 -1.0**
baz=56,SNR=41
MMRI Maumere 56.74 276 P **P** **21 25 48.1 -1.1**
comp=Z,237nm,1.0s,comp=Z,3μm
MMRI Maumere 56.74 276 *e*P **P** **21 25 48.3 -0.9**
comp=Z,159nm,0.6s
WSI Waingapu 58.10 274 P **P** **21 25 57.7 -0.8**
comp=Z,1μm,1.1s,comp=Z,11μm
KDI Kendari 58.36 281 P **P** **21 25 59.9 -0.3**
comp=Z,105nm,1.0s
KMSI Cibinong 59.24 286 P **P** **21 26 05.9 -0.3**
comp=Z,235nm,0.9s,comp=Z,3μm
BSSI Bau Bau, Buton 59.34 278 P **P** **21 26 06.0 -0.8**
comp=Z,112nm,1.1s
GIRL Giralia 59.36 257 P **P** **21 26 07.3 +0.5**
baz=59,SNR=13
LUWI Luwuk 59.54 284 P **P** **21 26 07.5 -0.7**
comp=Z,220nm,1.2s,comp=Z,2μm
LUWI Luwuk 59.54 284 *e*P **P** **21 26 07.7 -0.5**
comp=Z,160nm,0.8s
KAPI Kappang 60.48 278 P **P** **21 26 13.7 -0.7**
comp=Z,18nm,0.4s,baz=122,slow=4.4,SNR=9.6
KAPI Kappang 60.48 278 *e*P **P** **21 26 13.8 -0.7**
comp=Z,45nm,0.9s
PLAI Plampang 60.72 274 P **P** **21 26 15.4 -0.6**
comp=Z,587nm,0.9s,comp=Z,5μm
SPSI Sidrap Palu 60.91 280 P **P** **21 26 16.1 -1.1**
comp=Z,81nm,0.9s,comp=Z,641nm
MRSI Marisa 60.99 285 P **P** **21 26 17.4 -0.3**
comp=Z,64nm,0.6s,comp=Z,2μm
TWSI Taliwang, Sumb 61.57 273 P **P** **21 26 20.7 -0.8**
comp=Z,152nm,1.0s,comp=Z,2μm
PCI Palu 62.21 283 P **P** **21 26 25.1 -0.6**
comp=Z,152nm,1.0s,comp=Z,2μm
RPN Rapa Nui 63.30 109 *i* P **P** **21 26 35.4 +2.9**
JAGI Jajag, Banyuwa 64.16 272 *e*P **P** **21 26 36.3 -1.9**
comp=Z,106nm,0.8s
GMJI Gumukmas 64.88 272 P **P** **21 26 41.9 -0.9**
comp=Z,139nm,0.9s
BLJI Banyuglugur 64.94 273 P **P** **21 26 42.5 -0.7**
comp=Z,168nm,0.8s,comp=Z,2μm
QSPA South Pole Qui 65.59 180 *e*P **P** **21 26 46.9 +0.3**
comp=Z,118nm,0.7s
MYLDM Lahad Datu 66.26 288 *e*P **P** **21 26 52.5 +1.1**
comp=Z,48nm,1.1s
GRJI Gresik 66.29 273 P **P** **21 26 50.9 -0.7**
comp=Z,488nm,0.8s,comp=Z,4μm
TSM Tawau 66.37 287 ⇓P **P** **21 26 52.4 +0.3**
MIR Mirnyy 66.42 206 *i* P **P** **21 26 52.0 +0.5**
MIR pmax pmax
comp=Z,10.0nm,1.2s
PWJI Pagerwojo 66.47 272 P **P** **21 26 51.6 -1.1**
comp=Z,176nm,1.2s
MTKI Muara Teweh, K 66.60 280 P **P** **21 26 53.2 -0.4**
comp=Z,92nm,0.4s,comp=Z,15μm
TBJI Tambak Boyo 66.90 273 P **P** **21 26 54.7 -0.7**
comp=Z,160nm,1.1s
PCJI Pacitan 66.97 271 P **P** **21 26 55.4 -0.4**
comp=Z,426nm,0.8s,comp=Z,5μm
NGJI Ngawi 67.04 272 P **P** **21 26 55.8 -0.4**
SDKM Sandakan 67.61 288 ⇑P **P** **21 26 58.7 -1.1**
KKM Kota Kinabalu 68.66 287 ⇓P **P** **21 27 05.9 -0.3**
KKM Kota Kinabalu 68.66 287 *e*P **P** **21 27 04.9 -1.3**
CISI Cisompet, Garu 70.28 271 *e*P **P** **21 27 14.6 -1.4**
comp=Z,109nm,0.9s
SBUM Sibu 70.50 282 ⇑P **P** **21 27 17.7 +0.5**
SBUM Sibu 70.50 282 *e*P **P** **21 27 16.0 -1.1**
XMIS Christmas Isla 71.13 267 *e*P **P** **21 27 19.7 -1.1**
comp=Z,138nm,0.8s
KSM Kuching 71.78 280 *e*P **P** **21 27 24.1 -0.6**
comp=Z,115nm,0.8s
KSM *e*pP **pP** **21 29 15.2 -0.6**
INU Inuyama 71.84 324 *e*P **P** **21 27 24.0 -0.5**
MJAR Matsushiro Arr 72.14 326 P **P** **21 27 25.8 -0.5**
comp=Z,18nm,0.5s,baz=149,slow=5.3,SNR=95
MAJO Matsushiro 72.14 326 *e*P **P** **21 27 25.9 -0.3**
MAJO pmax pmax
comp=Z,84nm,1.1s
MAJO Matsushiro 72.14 326 *e*P **P** **21 27 25.9 -0.3**
comp=Z,84nm,1.1s
MAT Matsushiro 72.14 326 P **P** **21 27 26.0 -0.2**
MJB9 Matsu-Tunnel 72.15 326 *e*P **P** **21 27 26.0 -0.3**
JNU Nakatsue 73.68 319 P **P** **21 27 35.1 -0.1**
comp=Z,57nm,1.1s,baz=140,slow=0.3,SNR=25
JNU Nakatsue 73.68 319 *e*P **P** **21 27 33.7 -1.4**
NACB Ninganchiao 74.10 306 *e*P **P** **21 27 35.5 -2.2**
TPUB Ta-pu 74.30 305 *e*P **P** **21 27 37.0 -1.9**
SSLB Suanglung 74.34 306 *e*P **P** **21 27 37.5 -1.7**
YHNB Yeheng 74.55 307 *e*P **P** **21 27 39.6 -0.8**
YUK Yuzh-Kuril'sk 74.85 336 ‖*e*P **P** **21 27 43.3 +1.9**
KUR Kuril'sk 75.15 337 ‖*e*P **P** **21 27 44.7 +1.6**
ASAJ Asahikawa 76.20 334 P **P** **21 27 50.6 +1.7**
comp=Z,22nm,0.7s,baz=220,slow=9.3,SNR=14
ASAJ Asahikawa 76.20 334 *e*P **P** **21 27 50.3 +1.3**
comp=Z,21nm,1.0s
MAW Mawson 77.04 201 P **P** **21 27 53.4 +0.1**
comp=Z,35nm,0.9s,baz=119,slow=6.7,SNR=55
MAW Mawson 77.04 201 P **P** **21 27 53.4 +0.1**
baz=77,SNR=54
MAW Mawson 77.04 201 *e*P **P** **21 27 53.5 +0.2**
MYKOM Kota Tinggi 77.73 278 *e*P **P** **21 27 57.6 -0.4**
NIKH Nikolski High 77.80 7 *e*P **P** **21 27 57.5 0.0**
TJN Taejon 78.02 319 ‖*i*P **P** **21 28 00.1 +1.1**
KSRS Korea Array 78.42 320 P **P** **21 28 01.9 +0.7**
comp=Z,11nm,0.6s,baz=130,slow=6.2,SNR=38
KSRS pP **pP** **21 29 53.3 -1.6**
comp=Z,4.1nm,1.0s,baz=136,slow=6.7,SNR=4.5
KSAR Wonju Array Be 78.44 320 P **P** **21 28 01.9 +0.6**
KSAR *PP **pP** **21 29 53.3 -1.7**
KSAR Wonju Array Be 78.44 320 P **P** **21 28 01.9 +0.6**
KSAR pP **pP** **21 29 53.3 -1.7**
YSS Yuzh-Sakhalins 78.49 335 *e*P **P** **21 28 02.6 +1.3**
YSS Yuzh-Sakhalins 78.49 335 *e*P **P** **21 28 02.6 +1.3**
PMSA Palmer Station 78.54 157 P **P** **21 28 02.3 +0.9**
comp=Z,37nm,0.7s,baz=266,slow=5.6,SNR=4.9
UNV Unalaska Valle 78.94 8 *e*P **P** **21 28 03.3 -0.3**
PET Petropavlovsk 79.30 347 *e*P **P** **21 28 05.2 -0.2**
PET *i* S **S** **21 37 23.1 +1.2**
PET *e*SS **SS** **21 42 51.7 +7.0**
PET pmax pmax
comp=Z,42nm,0.5s
PET MLR MLR
comp=Z,100nm,21.0s
PET Petropavlovsk 79.30 347 *e*P **P** **21 28 05.4 -0.1**
AKUT Akutan 79.33 9 *e*P **P** **21 28 05.1 -0.5**
PEA0 Petropavlovsk- 79.57 347 *e*P **P** **21 28 07.0 +0.1**
PEA0B Petropavlovsk- 79.57 347 *e*P **P** **21 28 07.5 +0.6**
PETK Petropavlovsk- 79.57 347 P **P** **21 28 07.1 +0.2**
comp=Z,24nm,0.6s,baz=109,slow=7.2,SNR=40
MSHR Mys Shultsa 80.26 326 *d* *i*P **P** **21 28 11.6 +0.8**

VLA Vladivostok 80.29 327 ⇑*i*P **P** **21 28 08.8 -2.1**
VLA *i* 21 31 21.8
VLA *i* S **S** **21 37 29.9 -2.5**
VLA pmax pmax
comp=Z,25nm,1.2s
QIZ Qiongzhong 80.46 296 P **P** **21 28 16.8 +4.4**
QIZ pP **pP** **21 30 09.3 +2.4**
QIZ S **S** **21 37 38.8 +3.5**
QIZ Qiongzhong 80.46 296 sS sS 21 41 04.5 +5.1
QIZ pmax pmax
comp=Z,280nm,4.4s
NJ2 Nanjing 80.72 311 *e*P **P** **21 28 14.0 +0.6**
USRK Ussuriysk Ar. 81.03 328 P **P** **21 28 15.5 +0.8**
comp=Z,8.9nm,0.5s,baz=139,slow=3.8,SNR=58
SDPT Sand Point 81.34 11 *e*P **P** **21 28 16.6 +0.6**
IPM Ipoh 81.42 279 *e*P **P** **21 28 16.0 -1.5**
SPIA Saint Paul Isl 81.81 6 *e*P **P** **21 28 20.1 +1.7**
SCZ2 Santa Cruz Isl 81.99 47 P **P** **21 28 22.2 +2.2**
baz=233
USHA Ushuaia 82.04 147 P **P** **21 28 20.5 +0.6**
comp=Z,116nm,1.0s,baz=96,slow=3.0,SNR=4.2
KULM Kulim 82.11 279 *e*P **P** **21 28 20.6 -0.4**
SCI2 San Clemente I 82.13 48 P **P** **21 28 22.7 +2.1**
baz=234
SBC Santa Barbara 82.20 47 P **P** **21 28 23.2 +2.2**
baz=233
UBPT Khong Chiam 82.32 291 P **P** **21 28 22.7 +0.7**
comp=Z,36nm,1.2s
SYO Syowa Base 82.34 194 ⇑*e*P **P** **21 28 18.6 -2.5**
SYO Syowa Base 82.34 194 ⇓*i*X **P** **21 28 21.2 +0.1**
PKM Mcpherson Peak 82.41 46 P **P** **21 28 24.3 +2.1**
baz=233
BLG Laguna Peak, P 82.44 47 P **P** **21 28 24.4 +2.1**
baz=234
SAO San Andreas Ge 82.49 44 *e*P **P** **21 28 24.2 +1.9**
SAO San Andreas Ge 82.49 44 *e*P **P** **21 28 24.2 +1.9**
MDJ Mudanjiang 82.52 327 P **P** **21 28 22.0 -0.3**
MDJ pP pP 21 30 18.3 +0.7
MDJ sP sP 21 31 13.5 +1.6
MDJ S **S** **21 37 53.3 -1.5**
MDJ sS sS 21 41 19.5 -0.8
MDJ Mudanjiang 82.52 327 *e*P **P** **21 28 22.3 0.0**
comp=Z,71nm,1.4s
SMMC Simmler 82.54 46 P **P** **21 28 25.1 +2.4**
baz=233
CHGN Chignik 82.63 12 *e*P **P** **21 28 23.3 +0.8**
FMP Fort Macarthur 82.73 48 P **P** **21 28 25.9 +2.3**
baz=234
HABR Khabarovsk 82.82 332 *ce*P **P** **21 28 23.2 -0.5**
HABR *e**PP **pP** **21 30 21.4 +2.3**
HABR 21 31 43.1
HABR *e*PPP PPP 21 33 38.6
HABR *e*S **S** **21 37 50.9 -6.8**
HABR *e*SS **SS** **21 43 34.8 -2.0**
HABR *e*SSS SSS 21 47 10.2
HABR pmax pmax
comp=E,7.0nm,1.4s
HABR pmax pmax
comp=N,14nm,1.4s
HABR pmax pmax
comp=Z,76nm,1.4s
HABR MLR MLR
comp=Z,85nm,19.0s
HOPS Hopland Field 82.87 41 *e*P **P** **21 28 26.3 +2.1**
SKLT Songkhla 82.94 281 P **P** **21 28 26.0 +0.8**
comp=Z,43nm,1.1s
OSI Osito Audit: C 82.97 47 P **P** **21 28 27.1 +2.2**
baz=234
WHN Wuhan 83.02 308 ⇓*i*P **P** **21 28 25.5 +0.4**
WHN PMZ
comp=Z,66nm,1.0s
109C Camp Elliot, M 83.06 49 P **P** **21 28 27.1 +1.7**
baz=235,SNR=9.9
MWC Mount Wilson 83.18 48 *e*P **P** **21 28 26.9 +0.7**
MWC Mount Wilson 83.18 48 *e*P **P** **21 28 26.9 +0.7**
ARVC Arvin 83.20 47 P **P** **21 28 27.7 +1.7**
baz=234,SNR=7.6
GSI Gunungsitoli 83.21 275 *e*P **P** **21 28 25.5 -1.0**
BAR Barrett 83.25 50 *e*P **P** **21 28 27.2 +0.9**
KMRM Mail Ridge 83.28 40 *e*P **P** **21 28 28.7 +2.4**
LPIG La Paz 83.40 60 P **P** **21 28 28.6 +1.4**
comp=Z,54nm,0.6s,baz=352,slow=2.0,SNR=8.2
MURC Murrieta 83.41 49 P **P** **21 28 28.8 +1.7**
baz=235,SNR=13
BFSC Mount Baldy Ra 83.46 48 P **P** **21 28 29.0 +1.5**
baz=235,SNR=25
SLBS Sierra La Lagu 83.47 60 *e*P **P** **21 28 29.4 +1.7**
MONP2 Monument Peak 83.54 50 P **P** **21 28 29.4 +1.4**
baz=236,SNR=46
SRIG Santa Rosalia 83.55 56 *e*P **P** **21 28 29.3 +1.4**
EDW2 Edwds Air Fo 83.61 47 P **P** **21 28 29.3 +1.2**
baz=234,SNR=32
CHRN Cochrane 83.62 139 *e*P **P** **21 28 30.3 +2.3**
IKP In-Ko-Pah, Jac 83.62 50 P **P** **21 28 30.2 +1.9**
baz=236,SNR=29
KHMM Horse Mountain 83.68 40 *e*P **P** **21 28 30.5 +2.0**
ISA Isabella, Lake 83.75 46 P **P** **21 28 30.6 +1.8**
baz=234,SNR=31
ISA Isabella, Lake 83.75 46 *e*P **P** **21 28 30.3 +1.5**
ISA Isabella, Lake 83.75 46 *e*P **P** **21 28 30.3 +1.5**
CHBT CHBT 83.88 287 P **P** **21 28 31.4 +1.6**
comp=Z,63nm,1.1s
PFO Pinyon Flats O 83.92 49 P **P** **21 28 31.6 +1.8**
comp=Z,31nm,1.0s,baz=262,slow=3.2,SNR=31
PFO Pinyon Flats O 83.92 49 P **P** **21 28 31.4 +1.6**
baz=235,SNR=14
PFO Pinyon Flats O 83.92 49 *e*P **P** **21 28 30.7 +0.9**
PFO Pinyon Flats O 83.92 49 *e*P **P** **21 28 30.7 +0.9**
TPFO Pinon Flats 83.92 49 P **P** **21 28 31.6 +1.8**
baz=235,SNR=16
CMB Columbia Colle 83.93 43 *e*P **P** **21 28 30.3 +0.7**
CMB Columbia Colle 83.93 43 *e*P **P** **21 28 30.3 +0.7**
SWSC Sam W. Stewart 84.00 50 P **P** **21 28 31.9 +1.9**
baz=236,SNR=32
TRTT Trang 84.06 281 P **P** **21 28 31.6 +0.9**
comp=Z,68nm,1.4s
SNAA Sanae 84.08 179 P **SKSac** **21 37 58.4 -3.6**
SNAA Sanae 84.08 179 *c* *i*P **P** **21 28 28.9 -1.0**
SNAA Sanae 84.08 179 *e*P **P** **21 28 28.8 -1.1**
CN2 Changchun 84.11 324 ⇓P **P** **21 28 30.5 +0.2**
CN2 *e*pP pP 21 30 28.5 +2.4
AFDM Forest Hills D 84.12 42 *e*P **P** **21 28 31.6 +1.1**
LRMC Laurel Mtn Rad 84.16 47 P **P** **21 28 32.6 +1.6**
baz=234
ORV Oroville 84.17 42 *e*P **P** **21 28 32.0 +1.3**
ORV Oroville 84.17 42 *e*P **P** **21 28 32.0 +1.3**
WDC Whiskeytown Da 84.19 40 *e*P **P** **21 28 32.3 +1.5**
WDC Whiskeytown Da 84.19 40 *e*P **P** **21 28 32.3 +1.5**
TIA Tai'an 84.32 314 ⇓P **P** **21 28 32.3 +0.8**
TIA PMZ
comp=Z,110nm,1.0s
N02D Trinity Center 84.34 40 P **P** **21 28 33.7 +2.1**
baz=231,SNR=21
SKNT Sakolnakorn 84.37 291 P **P** **21 28 32.5 +0.3**
comp=Z,210nm,0.8s,comp=Z,5μm
O03D Paynes Creek 84.45 41 P **P** **21 28 33.6 +1.4**
baz=231,SNR=29
BELC Belle Mtn. Jos 84.46 49 P **P** **21 28 34.1 +1.7**
baz=236,SNR=40
CWC Cottonwood Cre 84.46 46 P **P** **21 28 33.9 +1.5**
baz=234
M02C Callahan 84.52 40 P **P** **21 28 34.5 +2.1**
baz=231,SNR=28
OHAK Old Harbor 84.56 14 *e*P **P** **21 28 32.7 +0.6**
L02D Cave Junction, 84.58 39 P **P** **21 28 34.3 +1.6**
baz=230,SNR=7.7
NVL N'lazarevskaya 84.61 184 *e*P **P** **21 28 34.4 +2.0**
MPMC Manual Prospec 84.62 46 P **P** **21 28 34.2 +0.9**
baz=235,SNR=41
BC3 Big Chuckawall 84.64 49 P **P** **21 28 34.7 +1.4**
baz=236,SNR=41
GSC Goldstone, Bar 84.65 47 P **P** **21 28 34.8 +1.5**
baz=235,SNR=37
GSC Goldstone, Bar 84.65 47 *e*P **P** **21 28 34.1 +0.8**
GSC Goldstone, Bar 84.65 47 *e*P **P** **21 28 34.1 +0.8**
MLAC Mammoth, Mammo 84.67 45 P **P** **21 28 35.5 +2.0**
baz=234
DAC Darwin (Calif) 84.68 46 *e*P **P** **21 28 35.4 +1.8**
DAC Darwin (Calif) 84.68 46 *e*P **P** **21 28 35.4 +1.8**
SURA Surathani 84.69 283 P **P** **21 28 35.8 +2.0**
comp=Z,37nm,0.8s,comp=Z,4μm
SRAK Srakaew 84.69 288 P **P** **21 28 32.9 -0.9**
comp=Z,60nm,1.1s,comp=Z,713nm
HEC Hector,Ludlow 84.69 48 P **P** **21 28 34.9 +1.5**
baz=235,SNR=36

TIN	Tinemaha, Big	84.72	45	P		P	21 28 35.3 +1.7
	baz=234						
GLA	Glamis	84.74	50	P		P	21 28 35.3 +1.6
	baz=236,SNR=34						
GLA	Glamis	84.74	50	*eP*		P	21 28 35.5 +1.8
GLA	Glamis	84.74	50	*eP*		P	21 28 35.5 +1.8
WAKR	Walker	84.81	44	*eP*		P	21 28 35.5 +1.4
KLR	Kul'dur	84.83	331	P		P	21 28 34.9 +1.2
	comp=Z,8.1nm,0.8s,baz=103,slow=2.7,SNR=20						
KLR	Kul'dur	84.83	331	*i* P		P	21 28 35.0 +1.3
VNA1	Neumayer--Stat	84.96	177	P		SKSac	21 38 09.3 +2.1
KHON	Khomkaen	85.07	290	P		P	21 28 37.0 +1.4
	comp=Z,16nm,0.9s						
GMRC	Granite Mounta	85.13	48	P		P	21 28 36.6 +0.9
	baz=236,SNR=45						
IRM	Iron Mountain	85.13	49	P		P	21 28 36.9 +1.3
	baz=236,SNR=53						
KDAK	Kodiak Island	85.23	15	*i* P		P	21 28 36.2 +0.9
KDAK	Kodiak Island	85.23	15	*eP*		P	21 28 36.0 +0.7
PATY	Pattaya	85.23	286	P		P	21 28 38.6 +2.2
	comp=Z,25nm,0.8s,comp=Z,2um						
HUMO	Hull Mountain	85.23	39	*eP*		P	21 28 37.4 +1.6
GRAC	Grapevine Rang	85.25	46	P		P	21 28 37.8 +1.7
	baz=235,SNR=13						
FURC	Furnace Creek,	85.27	46	P		P	21 28 37.5 +1.4
	baz=235,SNR=16						
TUQ	Turquoise Moun	85.31	48	P		P	21 28 38.4 +1.9
	baz=236						
Y12C	Blythe	85.34	50	P		P	21 28 38.5 +2.0
	baz=236,SNR=15						
Y12C	Blythe	85.34	50	*eP*		P	21 28 37.8 +1.3
SURT	Suratani	85.34	282	P		P	21 28 39.8 +2.8
	comp=Z,24nm,2.2s						
SHOC	Shoshone, Teco	85.34	47	P		P	21 28 38.2 +1.6
	baz=235,SNR=18						
M04C	Macdoel	85.36	40	P		P	21 28 38.4 +1.8
	baz=231,SNR=16						
HSIG		85.41	55	*eP*		P	21 28 38.1 +1.1
LHMI	Lhok Sumawe	85.42	278	*eP*		P	21 28 37.5 +0.1
PAHR	Pah Rah Range	85.56	43	*eP*		P	21 28 38.7 +1.1
214A	Organ Pipe Nat	85.58	52	P		P	21 28 39.5 +1.8
	baz=238						
214A	Organ Pipe Nat	85.58	52	*eP*		P	21 28 38.9 +1.2
	comp=Z,264nm,0.9s						
NONG	Nongkai	85.58	292	P		P	21 28 38.6 +0.6
	comp=Z,193nm,0.8s						
CHAI	Chaiyaphum	85.59	290	P		P	21 28 38.6 +0.5
	comp=Z,12nm,1.1s,comp=Z,91nm						
LDFC	Landfair	85.67	48	*eP*		P	21 28 40.2 +2.0
I03D	Drain, OR	85.71	38	P		P	21 28 40.1 +2.1
	baz=230,SNR=21						
NEE2	Needles Airpor	85.83	49	P		P	21 28 40.8 +2.0
	baz=236,SNR=7.4						
PDMCI	Parker Dam,Lak	85.91	49	P		P	21 28 41.3 +2.1
	baz=237,SNR=16						
K04D	Chiloquin, OR	85.93	39	P		P	21 28 41.0 +1.7
	baz=231						
TPNV	Topopah Spring	85.95	46	P		P	21 28 40.6 +0.9
	baz=235,SNR=56						
TPNV	Topopah Spring	85.95	46	*eP*		P	21 28 40.5 +0.9
TPNV	Topopah Spring	85.95	46	*eP*		P	21 28 40.5 +0.9
I04A	Tendick Farm,	86.29	38	P		P	21 28 42.4 +1.5
	baz=231,SNR=20						
COR	Corvallis	86.30	37	*eP*		P	21 28 43.4 +2.6
COR	Corvallis	86.30	37	*eP*		P	21 28 43.4 +2.6
PHET	Kaeng Krachan	86.31	286	P		P	21 28 43.5 +1.9
	comp=Z,48nm,0.9s,comp=Z,361nm						
MOD	Modoc Plateau	86.33	40	*eP*		P	21 28 42.1 +0.8
ENH	Enshi	86.43	305	*eP*		P	21 28 42.0 +0.2
	comp=Z,45nm,0.9s						
SHPR	Sheep Range	86.43	47	*eP*		P	21 28 43.0 +1.1
K05A	Summer Lake	86.49	40	*eP*		P	21 28 43.3 +1.2
J05D	Fort Rock, OR	86.64	39	P		P	21 28 44.6 +1.9
	baz=232,SNR=86						
GYA	Guiyang	86.67	301	P		P	21 28 45.0 +1.8
GYA				pP		pP	21 30 45.3 +5.3
GYA				sP		sP	21 31 39.0 +5.0
GYA				PP		PP	21 32 19.5 +3.9
GYA				SKS		SKSac	21 38 18.5 -0.9
GYA				S		S	21 38 35.3 -0.8
GYA				sS		sS	21 42 07.0 +2.8
G03D	McMinnville, O	86.73	37	P		P	21 28 44.9 +2.1
	baz=230,SNR=6.4						
PBKT	Sadao Pong	86.76	290	P		P	21 28 44.6 +1.0
	comp=Z,48nm,1.3s						
LOEI	Loei	86.92	291	P		P	21 28 43.6 -0.8
	comp=Z,46nm,0.7s						
MA2	Magadan	87.04	346	P		P	21 28 43.6 -0.5
	comp=Z,28nm,0.8s,baz=164,slow=6.3,SNR=17						
MA2	Magadan	87.04	346	*eP*		P	21 28 43.5 -0.5
MA2				pmax		pmax	
	comp=Z,156nm,0.9s						
MA2	Magadan	87.04	346	*eP*		P	21 28 43.5 -0.5
	comp=Z,156nm,0.9s						
CNPM	China Poot	87.11	14	*eP*		P	21 28 44.8 +0.5
HOM	Homer	87.14	14	*eP*		P	21 28 46.0 +1.6
BJT	Baijiatuau	87.15	317	*eP*		P	21 28 45.5 +0.5
BJT				pmax		pmax	
	comp=Z,15nm,0.9s						
BJT	Baijiatuau	87.15	317	*eP*		P	21 28 45.5 +0.5
	comp=Z,15nm,0.9s						
BJI	Beijing	87.16	317	P		P	21 28 45.5 +0.5
BJI				S		S	21 38 38.0 -1.8
BJI				PMZ			
	comp=Z,350nm,3.7s						
R11A	Troy Canyon, C	87.18	45	P		P	21 28 46.6 +1.2
	baz=236,SNR=21						
R11A	Troy Canyon, C	87.18	45	*eP*		P	21 28 46.1 +0.7
TUC	Tucson	87.22	53	P		P	21 28 47.4 +1.7
	baz=239						
TUC	Tucson	87.22	53	*eP*		P	21 28 47.3 +1.7
TUC	Tucson	87.22	53	*eP*		P	21 28 47.3 +1.7
I05D	Terrebonne, OR	87.24	38	P		P	21 28 47.2 +1.8
	baz=232,SNR=14						
BMN	Battle Mountai	87.33	43	*eP*		P	21 28 47.8 +1.8
BMN	Battle Mountai	87.33	43	*eP*		P	21 28 47.8 +1.8
SRDT	SRDT	87.38	287	P		P	21 28 48.5 +1.9
	comp=Z,172nm,1.2s						
BRLK	Bradley Lake	87.40	14	*eP*		P	21 28 46.0 +0.3
F04D	Rainier, OR	87.42	36	P		P	21 28 48.8 +2.7
	baz=230						
E03A	Lebam	87.42	35	*eP*		P	21 28 48.2 +2.1
RSO	Redoubt South	87.62	13	*eP*		P	21 28 46.9 0.0
UTTA	Uttaradit	87.63	291	P		P	21 28 49.0 +1.3
	comp=Z,9.5nm,1.0s,comp=Z,81nm						
WVOR	Wild Horse Val	87.64	41	*eP*		P	21 28 48.3 +0.9
WVOR	Wild Horse Val	87.64	41	*eP*		P	21 28 48.3 +0.9
SVW2	Sparrevohn	87.64	12	*eP*		P	21 28 45.7 -1.1
G05D	Wamic, OR	87.81	37	P		P	21 28 50.4 +2.4
	baz=232,SNR=5.9						
NLWA	Neilton Lookou	87.81	35	*eP*		P	21 28 49.6 +1.6
FL2	Flat Top 2	87.85	36	P		P	21 28 49.8 +1.5
DIB	Dawson Inlet,	87.86	27	*eP*		P	21 28 49.8 +1.9
LCMT	Little Creek M	87.99	48	*eP*		P	21 28 51.2 +2.0
SEW	Seward	88.04	15	*eP*		P	21 28 49.5 +0.9
PLCA	Paso Flores	88.17	134	P		P	21 28 50.8 +0.7
	comp=Z,11nm,0.7s,baz=262,slow=5.2,SNR=22						
PLCA	Paso Flores	88.17	134	*eP*		P	21 28 51.2 +1.2
G06A	Carlson Farm,	88.19	38	*eP*		P	21 28 51.5 +1.7
VTHM	Trough	88.19	38	P		P	21 28 51.6 +1.8
CCUT	Cedar City	88.20	47	*eP*		P	21 28 51.9 +1.7
MID	Middleton Isla	88.22	17	*eP*		P	21 28 50.2 +0.7
MID	Middleton Isla	88.22	17	*eP*		P	21 28 50.1 +0.7
KNB	Kanab	88.28	48	*eP*		P	21 28 52.8 +2.2
KNB	Kanab	88.28	48	*eP*		P	21 28 52.8 +2.2
SUKH	Sukhothai	88.31	290	P		P	21 28 52.1 +1.2
	comp=Z,18nm,0.8s,comp=Z,147nm						
UMPA	Umpang Tak	88.41	288	P		P	21 28 53.0 +1.6
	comp=Z,13nm,0.8s,comp=Z,116nm						
SPU	Mount Spurr	88.42	13	*eP*		P	21 28 49.9 -0.6
HPIG		88.44	60	*eP*		P	21 28 52.4 +0.9
WUAZ	Wupatki	88.47	50	P		P	21 28 53.5 +2.0
	baz=238						
WUAZ	Wupatki	88.47	50	*eP*		P	21 28 53.3 +1.8
	comp=Z,35nm,0.9s						
LON	Longmire	88.49	36	*eP*		P	21 28 52.1 +0.9
LON	Longmire	88.49	36	*eP*		P	21 28 52.0 +0.9
D05A	Enumclaw	88.67	36	*eP*		P	21 28 53.3 +1.4
BLN	Blyn Mountain	88.67	35	P		P	21 28 53.6 +1.7
ELK	Elko	88.75	44	*eP*		P	21 28 53.5 +0.8
ELK	Elko	88.75	44	*eP*		P	21 28 53.5 +0.8
XAN	Xi'an	88.76	308	P		P	21 28 53.5 +0.8
XAN				PMZ			
	comp=Z,52nm,1.2s						
LAMP	Lampang	88.76	291	P		P	21 28 54.4 +1.4
	comp=Z,23nm,0.9s,comp=Z,208nm						
JBO	Jordan Butte	88.77	38	P		P	21 28 54.0 +1.6
PGC	Sidney	88.84	34	*eP*		P	21 28 53.5 +0.9
	comp=Z,90nm,0.7s						
RC01	Rabbit Creek A	88.84	14	*eP*		P	21 28 52.5 +0.1
	comp=Z,124nm,1.2s						
PKCU	Pink Cliffs	88.85	48	*eP*		P	21 28 55.7 +2.3
SUA	Susitna One	88.95	14	*eP*		P	21 28 52.9 -0.1
BBB	Bella Bella	88.99	29	P		P	21 28 55.1 +1.9
	comp=Z,69nm,0.9s,baz=272,slow=5.4,SNR=18						
ZAIG	Zacatecas	89.00	65	*eP*		P	21 28 56.0 +1.7
KMI	Kunming	89.15	298	P		P	21 28 55.8 +0.8
KMI				pP		pP	21 30 52.8 +0.4
KMI				PMZ			
	comp=Z,32nm,1.0s						
G08A	Pilot Rock	89.16	38	*eP*		P	21 28 55.6 +1.3
TT01	Tatalina	89.24	11	*eP*		P	21 28 54.2 0.0
MTPU	Mount Pierson	89.25	47	*eP*		P	21 28 57.1 +1.8
A04D	Lummi Island	89.27	34	P		P	21 28 56.8 +2.2
	baz=230,SNR=15						
TTA	Tatalina	89.27	11	*eP*		P	21 28 55.1 +0.7
TTA	Tatalina	89.27	11	*eP*		P	21 28 55.1 +0.7
CRAG	Craig	89.28	25	*eP*		P	21 28 56.3 +1.8
B05A	Bryant	89.29	35	P		P	21 28 56.4 +1.7
	baz=231,SNR=32						
B05A	Bryant	89.29	35	P		P	21 28 56.5 +1.8
CMAR	Chiang Mai Arr	89.32	291	P		P	21 28 56.7 +1.1
	comp=Z,26nm,0.9s,baz=139,slow=3.3,SNR=86						
CMAR				PP		PP	21 32 36.6 +0.2
	comp=Z,2.8nm,0.9s,baz=130,slow=6.2,SNR=5.3						
CMAR				PKKPbc		PKKPbc	21 46 28.9 +0.9
	comp=Z,2.0nm,0.6s,baz=281,slow=4.4,SNR=15						
EYAK	Cordova Ski Ar	89.33	16	*eP*		P	21 28 55.0 +0.4
W18A	Petrified Fore	89.41	51	P		P	21 28 57.8 +1.8
	baz=239						
W18A	Petrified Fore	89.41	51	*eP*		P	21 28 57.4 +1.5
	comp=Z,66nm,1.2s						
PMR	Palmer	89.43	14	*eP*		P	21 28 55.1 +0.1
PMR	Palmer	89.43	14	*eP*		P	21 28 55.1 +0.1
E07A	Sunnyside	89.43	37	*eP*		P	21 28 58.2 +2.8
CMMT	Chiang Mai	89.47	291	P		P	21 28 57.2 +0.9
	comp=Z,43nm,1.0s,comp=Z,520nm						
CHTO	Chiang Mai	89.48	291	P		P	21 28 57.3 +1.0
	comp=Z,194nm,1.0s,comp=Z,2um						
CHTO	Chiang Mai	89.48	291	*eP*		P	21 28 57.2 +0.9
CHTO	Chiang Mai	89.48	291	*eP*		P	21 28 57.2 +0.9
HAWA	Hanford	89.50	37	*eP*		P	21 28 57.2 +1.4
MSU	Marysvale	89.51	47	*eP*		P	21 28 57.0 +0.7
MSU	Marysvale	89.51	47	*eP*		P	21 28 57.0 +0.7
121A	Cookes Peak, D	89.53	54	P		P	21 28 58.1 +1.6
	baz=240						
121A	Cookes Peak, D	89.53	54	*eP*		P	21 28 57.8 +1.3
	comp=Z,54nm,1.0s						
MBW	Mount Baker	89.72	34	P		P	21 28 57.7 +0.8
SEY	Seymchan	89.75	348	P		P	21 28 56.7 +0.2
	comp=Z,29nm,0.7s,baz=156,slow=4.9,SNR=60						
SEY				pP		pP	21 30 52.0 -2.2
	comp=Z,6.3nm,0.9s,baz=113,slow=4.1,SNR=4.9						
SEY				PKKPbc		PKKPdf	21 46 26.4 +1.7
	comp=Z,2.2nm,0.6s,baz=176,slow=2.6,SNR=7.3						
SEY	Seymchan	89.75	348	*d iP*		P	21 28 56.4 -0.1
SML	Sawmill	89.80	15	*eP*		P	21 28 57.3 +0.5
SML				pmax		pmax	
	comp=Z,8.0nm,1.2s						
SML	Sawmill	89.80	15	*eP*		P	21 28 57.3 +0.5
	comp=Z,8.3nm,1.2s						
ETW	Entiat	89.81	36	P		P	21 28 58.8 +1.4
DIV	Divide	89.83	16	*eP*		P	21 28 57.7 +0.7
	comp=Z,76nm,1.2s						
BMO	Blue Mountains	89.85	39	*eP*		P	21 28 57.6 0.0
BMO	Blue Mountains	89.85	39	*eP*		P	21 28 57.6 0.0
MFID	Camas Ranch	89.89	41	*eP*		P	21 28 58.7 +0.8
PPLA	Purkeypile	89.94	13	*eP*		P	21 28 56.8 -0.8
BMRM	Bremner River	89.99	17	*eP*		P	21 28 58.1 +0.4
	comp=Z,52nm,1.0s						
DUG	Dugway, Tooele	89.99	45	P		P	21 28 59.0 +0.6
	baz=237						
DUG	Dugway, Tooele	89.99	45	*eP*		P	21 28 59.7 +1.3
DUG	Dugway, Tooele	89.99	45	*eP*		P	21 28 59.7 +1.3
WTV	Waterville	90.07	36	P		P	21 28 59.7 +1.2
TLIG	Tlapa	90.08	71	*eP*		P	21 29 00.2 +0.9
CRQM	Cirque	90.20	17	*eP*		P	21 29 00.3 +1.4
D08A	Wollman Farm,	90.24	37	*eP*		P	21 29 01.0 +1.8
BGU	Big Grassy Mou	90.25	44	*eP*		P	21 29 00.8 +1.2
WRAK	Wrangell Islan	90.28	24	*eP*		P	21 29 01.0 +1.9
DHAK	Deception Hill	90.29	20	*eP*		P	21 29 00.9 +1.7
Q16A	Castle Valley	90.39	47	*eP*		P	21 29 02.5 +2.1
HHC	Hu-ho-hao-te	90.53	315	*eP*		P	21 29 01.8 +1.0
HHC				pP		pP	21 30 59.5 +0.9
HHC				SKS		SKSac	21 38 41.8 +0.6
HHC				S		ScS	21 39 14.0 +1.1
HHC				PMZ			
	comp=Z,160nm,5.1s						
TMUT	Trail Mountain	90.56	47	*eP*		P	21 29 03.0 +1.8
BALM	Baldy	90.65	17	*eP*		P	21 29 01.8 +0.9
BALM	Baldy	90.65	17	*eP*		P	21 29 01.8 +0.9
KTH	Kantishna Hill	90.79	13	*eP*		P	21 29 01.2 -0.3
B08A	Colville Reser	90.80	36	*eP*		P	21 29 02.4 +0.6
SPUT	South Promonto	90.82	44	*eP*		P	21 29 03.4 +1.2
HLID	Hailey	90.83	42	P		P	21 29 03.2 +1.0
	baz=236						
HLID	Hailey	90.83	42	*eP*		P	21 29 03.2 +1.0
TRF	Thorofare Moun	90.83	13	*eP*		P	21 29 01.1 -0.7
	comp=Z,33nm,0.7s						
HVU	Hansel Valley	90.87	44	*eP*		P	21 29 03.3 +0.9
HVU	Hansel Valley	90.87	44	*eP*		P	21 29 03.3 +0.9
MNTX	Cornudas Mount	90.91	55	P		P	21 29 03.6 +0.9
	baz=242						
MNTX	Cornudas Mount	90.91	55	*eP*		P	21 29 03.6 +0.9
LAZ	Ladron	90.91	52	*eP*		P	21 29 04.2 +1.4
SRU	San Rafael Swe	90.92	47	*eP*		P	21 29 03.6 +0.8
SRU	San Rafael Swe	90.92	47	*eP*		P	21 29 03.6 +0.8
CTU	Camp Tracy	90.94	45	*eP*		P	21 29 03.9 +1.1
P17A	Butcher Ranch,	90.97	47	*eP*		P	21 29 04.3 +1.3
CD2	Chengdu	91.04	304	*eP*		P	21 29 03.5 +0.1
CD2				pP		pP	21 31 03.8 +2.7
CD2				sP		sP	21 31 59.0 +4.2
CD2				SKS		SKSac	21 38 42.5 -1.9
CD2				S		S	21 39 14.8 -0.9
CD2				sS		sS	21 42 50.8 +4.4
CD2				SS		SS	21 45 37.0 +0.7
CD2				PMZ			
	comp=Z,20nm,0.5s						
CD2				PMZ			
	comp=Z,180nm,5.6s						
JLU	Jordanelle	91.09	45	*eP*		P	21 29 05.5 +1.8
RND	Reindeer	91.09	14	*eP*		P	21 29 02.7 -0.1
RND	Reindeer	91.09	14	*eP*		P	21 29 02.7 -0.1
TX31	Lajitas Ar. Si	91.11	58	*eP*		P	21 29 03.7 -0.1
TXAR	Lajitas Array	91.11	58	P		P	21 29 04.8 +1.1
	comp=Z,37nm,0.8s,baz=214,slow=5.9,SNR=296						
TXAR				PKKPbc		PKKPbc	21 46 24.3 +0.2
	comp=Z,0.6nm,0.6s,baz=81,slow=3.3,SNR=8.4						
BNM	Barren Site	91.16	53	*eP*		P	21 29 05.2 +1.1
LPM	Los Pinos Moun	91.23	53	*eP*		P	21 29 05.8 +1.5
BPAW	Bear Paw Mtn.	91.27	12	*eP*		P	21 29 03.1 -0.5
MVCO	Mesa Verde	91.33	49	P		P	21 29 05.9 +1.1
	baz=240						
MVCO	Mesa Verde	91.33	49	*eP*		P	21 29 06.2 +1.4
PV05	Paradox Valley	91.35	48	*eP*		P	21 29 06.8 +2.0
MCK	McKinley	91.36	13	*eP*		P	21 29 03.7 -0.3
MCK	McKinley	91.36	13	*eP*		P	21 29 03.7 -0.3
TCUT	Toone Canyon	91.39	45	*eP*		P	21 29 06.5 +1.6
HWUT	Hardware Ranch	91.54	44	*eP*		P	21 29 06.2 +0.6
PV09	Paradox Valley	91.54	48	*eP*		P	21 29 06.8 +1.0
PV10	Paradox Valley	91.55	48	*eP*		P	21 29 06.9 +1.1
PV04	Paradox Valley	91.64	48	*eP*		P	21 29 07.1 +1.0
ANMO	Albuquerque	91.67	52	P		P	21 29 06.9 +0.6
	baz=241						
ANMO	Albuquerque	91.67	52	*c iP*		P	21 29 07.6 +1.3
ANMO				pmax		pmax	
	comp=Z,31nm,1.0s						
ANMO	Albuquerque	91.67	52	*eP*		P	21 29 07.2 +0.9
PV01	Paradox Valley	91.74	49	*eP*		P	21 29 07.7 +1.0
NEW	Newport	91.93	37	P		P	21 29 06.9 -0.1
	comp=Z,5.8nm,0.8s,baz=224,slow=3.2,SNR=6.0						
NEW	Newport	91.93	37	P		P	21 29 07.7 +0.7
	baz=235						
NEW	Newport	91.93	37	*eP*		P	21 29 07.4 +0.4
NEW	Newport	91.93	37	*eP*		P	21 29 07.4 +0.4
DOT	Dot Lake	92.39	15	*eP*		P	21 29 09.4 +0.6
	comp=Z,58nm,1.0s						
CCB	Clear Creek Bu	92.40	13	*eP*		P	21 29 08.0 -0.7
MCMT	McKenzie Canyo	92.46	41	*eP*		P	21 29 11.2 +1.4
COLA	College	92.59	13	*eP*		P	21 29 09.6 +0.1
COLA				pmax		pmax	
	comp=Z,12nm,0.8s						
COLA	College	92.59	13	*eP*		P	21 29 09.6 +0.1
	comp=Z,12nm,0.8s						
DLBC	Dease Lake	92.61	24	P		P	21 29 10.3 +0.4
	comp=Z,2.8nm,0.6s,baz=221,slow=2.9,SNR=5.9						
DLBC	Dease Lake	92.61	24	*eP*		P	21 29 11.0 +1.1
	comp=Z,4.0nm,0.9s						
ILAR	Eielson Array	92.71	14	P		P	21 29 09.2 -1.0
	comp=Z,6.0nm,0.6s,baz=224,slow=5.3,SNR=62						
ILAR				pP		pP	21 31 07.0 -1.1
	comp=Z,2.1nm,0.9s,baz=228,slow=5.7,SNR=1.9						
ILAR				PP		PP	21 33 04.3 +2.5
	comp=Z,6.2nm,1.1s,baz=226,slow=6.7,SNR=6.2						
ILAR				PKiKP		PKiKP	21 33 53.9 -0.5
	comp=Z,0.8nm,0.6s,baz=245,slow=3.2,SNR=4.7						
S22A	4UR Ranch, Cre	92.75	50	P		P	21 29 12.7 +1.4
	baz=241						
S22A	4UR Ranch, Cre	92.75	50	*eP*		P	21 29 12.2 +0.9
BILL	Bilibino	92.78	355	*c iP*		P	21 29 11.0 +0.6
BILL				*eS*		SKSac	21 38 49.3 -2.9
BILL				pmax		pmax	
	comp=Z,34nm,1.1s						
BILL	Bilibino	92.78	355	*eP*		P	21 29 10.4 0.0
DLMT	Dillon	92.90	41	*eP*		P	21 29 12.7 +1.0
	comp=Z,7.0nm,0.8s						
MSO	Missoula	92.91	39	P		P	21 29 11.9 +0.2
	baz=237,SNR=6.6						
MSO	Missoula	92.91	39	*eP*		P	21 29 11.8 +0.2
REDW	Red Top Meadow	92.91	43	*eP*		P	21 29 12.7 +0.8
	comp=Z,26nm,1.3s						
TPAW	Teton Pass	92.91	43	*eP*		P	21 29 13.7 +1.7
O20A	White River Ci	92.96	47	P		P	21 29 12.9 +0.7
	baz=240,SNR=8.7						
O20A	White River Ci	92.96	47	*eP*		P	21 29 12.8 +0.7
BSMT	Bassoo Peak	92.99	38	*eP*		P	21 29 12.7 +0.6
SNOW	Snow King Moun	93.02	43	*eP*		P	21 29 13.2 +0.7
IMW	Indian Meadow	93.13	43	*eP*		P	21 29 14.8 +1.8
MOOW	Moose Ponds	93.17	43	*eP*		P	21 29 14.5 +1.4
LOHW	Long Hollow	93.19	43	*eP*		P	21 29 14.0 +0.9
	comp=Z,5.9nm,0.6s						
LRM	Limekiln Ridge	93.23	41	*eP*		P	21 29 14.5 +1.2
QLMT	Earthquake Lak	93.32	42	*eP*		P	21 29 15.9 +2.2
SMCO	Snowmass	93.34	48	*eP*		P	21 29 14.5 +0.3
CHMT	Chamberlain Mo	93.35	39	*eP*		P	21 29 14.3 +0.5
FLWY	Flagg Ranch	93.38	43	*eP*		P	21 29 15.2 +1.2
	comp=Z,42nm,1.3s						
LZH	Lanzhou	93.39	308	*eP*		P	21 29 15.5 +1.3
LZH				pP		pP	21 31 17.0 +4.9
LZH				sP		sP	21 32 11.0 +5.3
LZH				PP		PP	21 33 14.0 +6.0
LZH				*eS*		S	21 39 32.0 -4.3
LZH				PMZ			
	comp=Z,32nm,1.0s						
LZH				PMZ			
	comp=Z,220nm,4.9s						
BW06	Boulder Array	93.42	44	P		P	21 29 15.1 +0.8
	baz=240,SNR=8.9						
BW06	Boulder Array	93.42	44	*eP*		P	21 29 14.7 +0.5
PDAR	Pinedale Array	93.42	44	P		P	21 29 14.5 +0.3
	comp=Z,5.2nm,0.6s,baz=210,slow=3.6,SNR=29						
832A	Faith Ranch, C	93.54	61	P		P	21 29 15.3 +0.5
	baz=244						
BOZ	Bozeman (W)	93.62	41	P		P	21 29 16.1 +1.1
	baz=238,SNR=14						
BOZ	Bozeman (W)	93.62	41	*eP*		P	21 29 15.4 +0.4
BOZ	Bozeman (W)	93.62	41	*eP*		P	21 29 15.4 +0.4
SDCO	Great Sand Dun	93.68	50	P		P	21 29 16.5 +0.9
	baz=242,SNR=13						
SDCO	Great Sand Dun	93.68	50	*eP*		P	21 29 16.6 +0.9
933A	Laredo	93.81	62	P		P	21 29 17.1 +1.0
	baz=244						
MSTX	Muleshoe	93.90	54	P		P	21 29 17.6 +1.1
	baz=243,SNR=8.6						
MSTX	Muleshoe	93.90	54	*eP*		P	21 29 17.6 +1.1
DAWY	Dawson	93.92	17	*eP*		P	21 29 16.7 +0.9
	comp=Z,26nm,0.9s						
833A	Chaparral WMA,	94.02	61	P		P	21 29 18.3 +1.2
	baz=244						
034A	Hebbronville	94.05	62	P		P	21 29 18.9 +1.7
	baz=245,SNR=6.5						
T25A	Trinidad	94.16	51	P		P	21 29 18.6 +0.8
	baz=242,SNR=11						
T25A	Trinidad	94.16	51	*eP*		P	21 29 18.6 +0.8
COLD	Coldfoot	94.21	11	*eP*		P	21 29 17.9 +1.0

baz=245
KSCO Kaye Shedlock' 96.26 50 P **P 21 29 28.5 +1.4**
baz=244,SNR=7.2
KSCO Kaye Shedlock' 96.26 50 *e*P **P 21 29 28.4 +1.3**
comp=E,58nm,1.2s
636A Smothers Creek 96.36 61 P **P 21 29 28.6 +1.0**
baz=246
435B Jarrell 96.48 59 P **P 21 29 29.3 +1.2**
baz=245
234A Clairette 96.56 58 P **P 21 29 29.4 +1.0**
baz=245
EDM Edmonton 96.69 34 *e*P **P 21 29 29.0 +0.5**
EDM pmax pmax
comp=Z,9.0nm,1.0s
EDM Edmonton 96.69 34 *e*P **P 21 29 29.0 +0.5**
comp=Z,9.2nm,1.0s
X32A Elmer 96.70 55 P **P 21 29 29.7 +0.7**
baz=245
335A Moody 96.81 59 P **P 21 29 30.3 +0.8**
baz=246
134A White-Moore Ra 96.84 57 P **P 21 29 30.5 +0.8**
baz=245
ULN Ulaanbaatar 96.89 320⇑ *e*P **P 21 29 29.7 0.0**
ULN pmax pmax
comp=Z,19nm,1.9s
ULN Ulaanbaatar 96.89 320 *e*P **P 21 29 30.4 +0.7**
637A Eagle Lake 96.92 61 P **P 21 29 31.0 +0.9**
baz=246
W32A Sentinel 97.03 55 P Pdif 21 29 31.4 +0.9
baz=245
436A Wall Ranch, Ga 97.10 60 P Pdif 21 29 32.2 +1.4
baz=246
SONM Songino Array 97.27 319 P Pdif 21 29 30.7 -0.7
comp=Z,1.1nm,0.6s,baz=148,slow=4.2,SNR=12
SONM pP pP 21 31 27.6 -2.0
comp=Z,1.6nm,1.0s,baz=135,slow=4.2,SNR=4.3
SONM PP **PP 21 33 32.4 -4.8**
comp=Z,1.0nm,0.8s,baz=117,slow=5.7,SNR=3.6
SONM PKKP **PKKPbc 21 46 07.4 -1.4**
comp=Z,2.1nm,0.6s,baz=282,slow=2.9,SNR=12
SONM SKKP 21 48 56.6
comp=Z,0.8nm,0.8s,baz=241,slow=1.9,SNR=5.2
LAO LASA Array 97.40 42 P **P 21 29 33.9 +2.0**
baz=242
LAO LASA Array 97.40 42 *e*P **P 21 29 33.6 +1.7**
RSSD Black Hills 97.60 45 P **P 21 29 33.8 +0.7**
baz=243
RSSD Black Hills 97.60 45 *e*P **P 21 29 33.6 +0.6**
RSSD Black Hills 97.60 45 *e*P **P 21 29 33.6 +0.6**
U32A Winter Ranch, 97.73 54 P **P 21 29 35.0 +1.4**
baz=245
GTA Gaotai 97.73 310 P Pdif 21 29 33.3 -0.4
GTA pP pP 21 31 32.8 +0.8
GTA sP sP 21 32 28.0 +2.5
GTA SKS **SKSac 21 39 18.5 -1.2**
GTA S **ScS 21 40 09.8 -3.3**
GTA sS sS 21 43 43.5 -2.9
GTA SS **SS 21 47 11.3 +1.1**
GTA PMZ
comp=Z,59nm,4.3s
X34A Smith Ranch, M 97.87 56 P **P 21 29 35.9 +1.7**
baz=246
H25A Fruitdale 98.10 45 P **P 21 29 36.4 +1.2**
baz=244
X35A Drake 98.43 56 P **P 21 29 37.5 +0.7**
baz=246
INK Inuvik 98.72 16 P **P 21 29 37.5 +0.4**
comp=Z,7.3nm,0.8s,baz=210,slow=6.4,SNR=8.4
INK Inuvik 98.72 16 *e*Pdif **P 21 29 37.1 0.0**
comp=Z,14nm,1.2s
Y36A Durant 98.76 57 P **P 21 29 39.4 +1.2**
baz=246
R32A Long Quarter, 98.78 52 P **P 21 29 40.3 +2.0**
baz=246
Q32A Meitler Ranch, 99.12 51 P **Pdif 21 29 40.4 +0.7**
baz=246
W36A Wetumka 99.29 56 P **Pdif 21 29 41.2 +0.7**
baz=247
T34A McClaskey Farm 99.32 54 P **Pdif 21 29 41.1 +0.5**
baz=246
V36A Jenks 99.76 55 P **Pdif 21 29 43.1 +0.5**
baz=247
X38A Whitesboro 100.17 57 P **Pdif 21 29 45.0 +0.6**
baz=247
S35A Otter Creek Ra 100.22 53 P **Pdif 21 29 45.5 +0.9**
baz=247
J30A Dallas 100.24 47 P **Pdif 21 29 45.6 +1.1**
baz=246
V37A Hulbert 100.40 55 P **Pdif 21 29 46.1 +0.7**
baz=247
TLY Talaya 100.61 322⇓ *e*P **Pdif 21 29 45.3 -0.7**
T37A Cheneyville 18 101.03 54 P **Pdif 21 29 49.0 +0.8**
baz=248
YKA Yellowknife Ar 101.08 26 P **Pdif 21 29 46.9 -0.9**
comp=Z,0.9nm,0.6s,baz=242,slow=4.6,SNR=4.0
YKA PKiKP **PKiKP 21 34 09.3 +0.1**
comp=Z,1.2nm,0.6s,baz=260,slow=1.4,SNR=3.5
T38A Diamond 101.46 55 P **Pdif 21 29 51.6 +1.4**
baz=248
M34A Aspy Farms, Fr 101.50 50 P **Pdif 21 29 50.9 +0.7**
baz=248
V39A Pettigrew 101.50 56 P **Pdif 21 29 51.8 +1.4**
baz=248
MDND Maddock 101.97 43 P **Pdif 21 29 52.9 +0.8**
baz=247
F31A Hecla 102.05 45 P **Pdif 21 29 53.8 +1.3**
baz=247
R38A Fenwick Farm, 102.18 54 P **Pdif 21 29 54.0 +0.7**
baz=248
Y42A Garnett, Star 102.19 58 P **Pdif 21 29 54.1 +0.7**
baz=249
ECSD EROS Data Cent 102.32 48 P **Pdif 21 29 55.0 +1.2**
baz=248
ECSD EROS Data Cent 102.32 48 *e*Pdif **Pdif 21 29 54.8 +1.0**
P37A Lathrop 102.37 52 P **Pdif 21 29 55.0 +0.9**
baz=248
LPAZ La Paz 102.58 114 P **Pdif 21 29 57.2 +0.9**
comp=Z,2.1nm,0.8s,baz=236,slow=3.8,SNR=9.5
LPAZ PKiKP **PKiKP 21 34 13.7 -0.5**
comp=Z,1.6nm,0.9s,baz=231,slow=7.9,SNR=4.4
A29A Manning Farm, 102.62 42 P **Pdif 21 29 55.9 +0.9**
baz=247
R39A Chumby, Stover 102.86 54 P **Pdif 21 29 57.1 +0.8**
baz=249
P38A Dawn 102.97 52 P **Pdif 21 29 57.3 +0.6**
baz=249
S40A Lebanon 103.00 55 P **Pdif 21 29 57.2 +0.3**
baz=249
T41A Mountain View 103.35 55 P **Pdif 21 30 00.4 +1.9**
baz=249
ULM Lac du Bonnet 105.14 41 PKiKP **PKiKP 21 34 16.1 -1.0**
comp=Z,2.4nm,0.5s,baz=21,slow=7.0,SNR=3.0
CPUP Villa Florida 105.38 129 PKiKP **PKiKP 21 34 17.2 -1.1**
comp=Z,0.8nm,0.7s,baz=228,slow=5.6,SNR=2.9
C36A Pine Crest Far 106.20 45 P **PKiKP 21 34 19.3 +0.1**
baz=252
D37A Cotton 106.27 45 P **PKiKP 21 34 19.4 +0.1**
baz=252
ZALV Zalesovo Beam 112.13 321 PKiKP **PKiKP 21 34 28.7 -1.4**
comp=Z,3.4nm,0.5s,baz=163,slow=1.1,SNR=17
ZALV SKP 21 37 14.6
comp=Z,2.7nm,0.6s,baz=131,slow=0.9,SNR=5.6
ZALV PKKPbc **PKKPbc 21 45 23.2 -1.0**
comp=Z,1.0nm,0.6s,baz=266,slow=3.2,SNR=4.8
MKAR Makanchi Array 112.23 313 Pdiff **Pdif 21 30 39.9 +2.1**
comp=Z,0.6nm,0.5s,baz=96,slow=5.6,SNR=15
MKAR PKiKP **PKiKP 21 34 29.2 -1.4**
comp=Z,2.9nm,0.7s,baz=207,slow=0.9,SNR=23
MKAR SKP 21 37 16.1
comp=Z,3.8nm,0.5s,baz=144,slow=1.0,SNR=17
MKAR PKKPbc **PKKPbc 21 45 23.5 -0.1**
comp=Z,3.9nm,0.7s,baz=283,slow=3.9,SNR=27
MKAR PKKPab **PKKPab 21 45 33.5 +1.4**
comp=Z,4.2nm,0.7s,baz=278,slow=4.2,SNR=16
MKAR SKKPbc SKKPbc 21 48 14.1 -4.5
comp=Z,3.0nm,1.1s,baz=300,slow=2.7,SNR=7.2
MKAR PKPPKP **P'P'df 21 53 51.0 -1.3**
comp=Z,0.7nm,1.1s,baz=101,slow=2.6,SNR=3.6
NVS Novosibirsk 113.20 321⇓ *i*PKiKP **PKiKP 21 34 31.4 -0.7**
NVS *i* 21 40 26.1
NVS *e*PS **PKKPbc 21 45 22.0 +1.4**
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.8s
N54A Moraine State 113.26 54 P **PKiKP 21 34 32.6 -0.2**
baz=257
NRIK Noril'sk 113.36 337 PKiKP **PKiKP 21 34 31.1 -0.9**
comp=E,4.1nm,0.5s,baz=116,slow=3.9,SNR=6.2
M54A Oil Creek Stat 113.61 54 P **PKiKP 21 34 33.1 -0.3**
baz=258
O56A Blue Knob Stat 114.16 55 P PKPdf 21 34 34.4 -0.2
baz=258
SADO Sadowa 114.64 50 PKiKP PKPdf 21 34 33.7 -1.5
comp=E,6.0nm,0.7s,baz=349,slow=7.0,SNR=5.4
KSH Kashi 115.24 304 *e*PKP **PKPdf 21 34 38.3 +1.6**
KSH PP PP 21 35 56.8 +9.3
KSH sPKP 21 37 38.0
KSH SKS **SKSdf 21 41 00.8 +2.4**
KSH SKKS **SKKSac 21 41 51.3 -1.5**
KSH PPMZ
comp=E,93nm,4.9s
KURK Kurchatov 115.33 316*d i*PKiKP **PKPdf 21 34 34.9 -1.4**
KURK Kurchatov 115.33 316 *e*PKPdf **PKPdf 21 34 34.7 -1.7**
TKM2 Tokmak 2 116.15 307 *e*PKiKP **PKPdf 21 34 37.4 -1.1**
TKM2 Tokmak 2 116.15 307 *e*PKPdf **PKPdf 21 34 37.4 -1.1**
N59A State Game Lan 116.38 55 P **PKPdf 21 34 38.4 -0.3**
baz=260
AAK Ala-Archa 116.91 307⇑ *i*PKiKP **PKPdf 21 34 39.3 -0.6**
KKAR Karatay Array 119.87 307 *e*PKiKP **PKPdf 21 34 44.4 -1.0**
KKAR Karatay Array 119.87 307 *e*PKPdf **PKPdf 21 34 44.4 -1.0**
BRVK Borovoye 120.66 319*d i*PKiKP **PKPdf 21 34 45.5 -1.1**
BRVK Borovoye 120.66 319 *e*PKPdf **PKPdf 21 34 45.9 -0.6**
FRB Frobisher Bay 121.37 29 PKP **PKPdf 21 34 47.2 -0.4**
comp=E,34nm,0.6s,baz=294,slow=1.4,SNR=32
BOSA Boshof 121.68 207 PKP **PKPdf 21 34 50.0 +0.4**
comp=E,8.3nm,0.7s,baz=148,slow=2.5,SNR=14
BOSA PKKPbc **PKKPbc 21 44 50.1 -1.2**
comp=E,6.8nm,0.8s,baz=336,slow=2.5,SNR=10.0
KULLO Kullorsuaq 122.07 15⇑ *i*PKiKP **PKPdf 21 34 48.1 -0.6**
KULLO pmax pmax
comp=Z,26nm,0.7s
KULLO Kullorsuaq 122.07 15⇑ *i*P **PKPdf 21 34 48.1 -0.6**
comp=Z,26nm,0.7s
SCHQ Schefferville 123.21 39 PKP **PKPdf 21 34 50.4 -1.1**
comp=Z,10nm,0.6s,baz=298,slow=3.5,SNR=6.0
KBS Kingsbay 125.20 357 *e*PKiKP **PKPdf 21 34 54.9 +0.3**
KBS Kingsbay 125.20 357 *e*PKPdf **PKPdf 21 34 54.9 +0.3**
SPA0 Spitsbergen Ar 125.68 356 *e*P **PKPdf 21 34 55.5 0.0**
SPA0 IAmb IAmb 21 34 56.5
comp=Z,57nm,0.8s
SVE Sverdlovsk 125.90 324 *e*PKiKP **PKPdf 21 34 56.3 -0.2**
SVE pmax pmax
comp=Z,36nm,1.4s
ILULI Ilulissat 126.26 20 *i*PKiKP **PKPdf 21 34 56.1 -0.7**
ILULI pmax pmax
comp=Z,26nm,0.6s
ILULI Ilulissat 126.26 20 *i*P **PKPdf 21 34 56.1 -0.7**
comp=Z,26nm,0.6s
DAG Danmarks Havn 126.91 5 *i*PKiKP **PKPdf 21 34 56.8 -1.1**
DAG pmax pmax
comp=Z,11nm,0.7s
DAG Danmarks Havn 126.91 5 *i*P **PKPdf 21 34 56.8 -1.1**
comp=Z,16nm,0.7s
ARU Arti 127.10 323 *i*PKiKP **PKPdf 21 34 58.4 -0.3**
ARU 21 37 02.8
ARU 21 41 13.8
ARU Arti 127.10 323 *e*PKPdf **PKPdf 21 34 58.5 -0.3**
ABKAR Akbulak array 127.31 314 *e*PKPdf **PKPdf 21 34 58.5 -0.9**
SFJD Kangerlussuaq 127.49 22 PKP **PKPdf 21 34 58.5 -0.7**
comp=Z,9.5nm,0.5s,baz=343,slow=3.3,SNR=5.3
SFJD Kangerlussuaq 127.49 22 *i*PKiKP **PKPdf 21 34 58.9 -0.3**
SFJD Kangerlussuaq 127.49 22 *i*P **PKPdf 21 34 58.9 -0.3**
SUMG Summit 127.55 14 *i*PKiKP **PKPdf 21 35 00.5 +0.7**
SUMG Summit 127.55 14 *i*P **PKPdf 21 35 00.5 +0.7**
SUMG Summit 127.55 14 *e*PKPdf **PKPdf 21 35 00.0 +0.3**
GEYT Alibeck 128.88 300 PKP **PKPdf 21 35 02.4 -0.4**
comp=Z,8.6nm,0.7s,baz=209,slow=1.5,SNR=21
GEYT SKPbc SKPbc 21 37 35.5
comp=Z,6.9nm,0.7s,baz=159,slow=1.3,SNR=7.4
HAMF Hammerfest 131.75 349 *e*SS SS 21 54 29.4 +1.1
SCO Scoresbysund 132.32 10 *i*PKiKP **PKPdf 21 35 08.3 0.0**
SCO Scoresbysund 132.32 10 *i*P **PKPdf 21 35 08.3 0.0**
ARCES ARCESS Array B 132.37 348 PKhKP PKPpre 21 34 56.9
comp=Z,2.0nm,0.5s,baz=75,slow=0.8,SNR=18
ARCES PKP **PKPdf 21 35 07.5 -1.0**
comp=Z,24nm,0.7s,baz=28,slow=0.2,SNR=35
ARCES SKPbc **SKPbc 21 37 45.9 +0.5**
comp=Z,41nm,0.9s,baz=29,slow=2.8,SNR=25
ARCES SKKPbc **SKKPbc 21 47 08.9 -4.6**
comp=Z,1.0nm,0.8s,baz=206,slow=4.7,SNR=5.0
KLMR Klimovskoe 134.52 334 *e*PKiKP **PKPdf 21 35 09.4 -3.3**
KLMR *e* 21 37 51.6
KLMR *e*PPP PPP 21 40 55.3
KLMR pmax pmax
comp=Z,16nm,0.8s
KMBO Kilima Mbogo 135.43 241 PKP **PKPdf 21 35 16.1 0.0**
comp=Z,1.3nm,0.4s,baz=60,slow=3.8,SNR=7.8
KMBO SKPbc **SKPbc 21 37 58.8 +1.4**
comp=Z,24nm,1.0s,baz=80,slow=2.4,SNR=25
KMBO Kilima Mbogo 135.43 241 *e*PKiKP **PKPdf 21 35 17.3 +1.1**
KMBO 21 37 58.8
KMBO Kilima Mbogo 135.43 241 *e*PKPdf **PKPdf 21 35 17.3 +1.1**
KMBO SKPbc **SKPbc 21 37 58.8 +1.4**
STEI Steigen 135.49 352 *e*P **PKPdf 21 35 09.0 -5.3**
STEI *e*PP **PP 21 37 56.0 -2.8**
LOF Lofoten 135.51 353 *e*PP PP 21 37 56.5 -2.4
KONS Konsvik 137.12 352 *e*P **PKPdf 21 35 11.1 -6.2**
VRH Novokhopyorsk 138.16 321 *e*PKiKP **PKPdf 21 35 19.5 -0.2**
VRH pmax pmax
comp=Z,10.0nm,0.5s
FINES FINESS Array B 138.86 341 PKhKP PKPpre 21 35 11.2
comp=Z,4.7nm,0.5s,baz=58,slow=3.5,SNR=34
FINES PKP **PKPdf 21 35 21.3 +0.7**
comp=Z,9.6nm,0.5s,baz=84,slow=4.3,SNR=19
FINES SKP 21 38 05.5
comp=Z,35nm,0.5s,baz=45,slow=3.6,SNR=43
FINES SKKPbc SKKPbc 21 46 45.2 -3.6
comp=Z,0.7nm,0.4s,baz=185,slow=3.0,SNR=16
TBLG Delisi 138.92 306 P **SKPbc 21 38 10.2 +3.9**
GUDG Gudauri 138.97 307 P **SKPbc 21 38 10.2 +3.5**
OBN Obninsk 139.04 328⇓ *i*PKiKP **PKPdf 21 35 22.5 +1.3**
OBN *e*SS SS 21 55 53.1 -2.2
NSS Namsos 139.15 352 *e*P PKPdf 21 35 12.4 -8.7
NSS IAmb IAmb 21 35 24.6
comp=Z,18nm,1.2s
GNI Garni 139.17 304⇓ *i*PKiKP **PKPdf 21 35 23.8 +1.6**
ZEI Tsey 139.32 308 *e*PKiKP **PKPdf 21 35 25.0 +2.6**
ZEI pmax pmax
comp=Z,19nm,0.4s
NCK Nalchik 139.38 309⇑ *e*PKiKP **PKPdf 21 35 21.3 -1.0**
VSR Storozhevoye 139.62 322 *e*PKiKP **PKPdf 21 35 21.5 -0.9**
VSR pmax pmax
comp=Z,10.0nm,0.8s
ONI Oni 139.69 308 P **SKPbc 21 38 07.9 -0.5**
KBZ Khabaz 139.82 309 PKP **PKPdf 21 35 23.3 +0.4**
comp=Z,1.8nm,0.6s,baz=260,slow=1.3,SNR=4.6
KBZ SKPbc **SKPbc 21 38 09.5 +0.9**
comp=Z,4.9nm,0.7s,baz=83,slow=3.9,SNR=6.7
AKH Akhalkalaki 139.90 306⇓ *i*P **PKPdf 21 35 26.1 +2.6**
AKH Akhalkalaki 139.90 306 P **SKPbc 21 38 11.0 +1.9**
KIV Kislovodsk 139.91 310 *e*PKiKP **PKPdf 21 35 22.5 -0.8**
KIV Kislovodsk 139.91 310 *e*PKPdf **PKPdf 21 35 22.5 -0.8**
NEY Neytrino 140.06 309⇓ *i*PKiKP **PKPdf 21 35 25.0 +1.3**
CHVG Ch'k'valeri 140.64 308 P **SKPbc 21 38 16.8 +6.0**
VSU Vasula 140.95 338*d i*PKiKP **PKPdf 21 35 25.0 +0.5**
ERZM Erzurum 141.77 304 *i*P **PKPdf 21 35 23.4 -3.6**
AKN Aaknes 141.99 354 *e*P **PKPdf 21 35 22.2 -4.2**
BNGL BINGOL 142.10 303⇓ *i*P **PKPdf 21 35 23.7 -3.8**
KOPT Kop Dagi 142.40 304⇓ *i*P **PKPdf 21 35 25.0 -3.1**
NB2 NORSAR Subarra1 42.59 351 PKP **PKPdf 21 35 23.5 -4.0**
comp=Z,29nm,0.8s,baz=16,slow=3.2
NB2 NORSAR Subarra1 42.59 351 PKP **PKPdf 21 35 23.5 -4.0**
baz=16,slow=3.2
NOA NORSAR Array B 142.59 351 PKhKP PKPpre 21 35 23.1
comp=Z,55nm,0.9s,baz=16,slow=4.8,SNR=158
NOA SKPbc **SKPbc 21 38 15.3 +0.2**
comp=Z,6.0nm,0.6s,baz=14,slow=4.1,SNR=9.1
MARD Mardin 142.65 300⇓ *i*P **PKPdf 21 35 25.5 -2.9**
FOO Floro 142.72 356 *e*P **PKPdf 21 35 24.4 -3.2**
FOO IAmb IAmb 21 35 25.7
comp=Z,29nm,0.6s
NC602 NORSAR Array S 142.84 350 *e*P **PKPdf 21 35 24.6 -3.2**
HYA Hoyanger 143.06 355 *e*P PKPab 21 35 25.9 +0.2
HYA IAmb IAmb 21 35 27.1
comp=Z,58nm,0.8s
ANN Anapa 143.25 313 *i*PKHKP PKPpre 21 35 24.0
ANN pmax pmax
comp=Z,107nm,1.1s
SUE Sulen 143.28 356 *e*P PKPab 21 35 26.2 -0.3
KELT Kelkit 143.30 305⇓ *i*P PKPbc 21 35 28.1 +0.1
MICGM Minsk 143.37 332⇑ *e*P PKPab 21 35 26.0 -1.2
MICGM PM 21 35 29.0
comp=Z,3.7nm,1.2s
NACGM Naroch 143.54 334 *e*P PKPab 21 35 26.0 -1.8
NACGM PM 21 35 29.0
comp=Z,0.6nm,1.0s
OSL Oslo 143.72 350 *e*P PKPab 21 35 27.8 -0.5
OSL IAmb IAmb 21 35 29.3
comp=Z,143nm,1.0s
ASK Askoy 143.81 355 *e*P PKPbc 21 35 28.5 -0.1
ASK IAmb IAmb 21 35 29.8
comp=Z,145nm,1.0s
GRSN GIRESUNGRSN 143.85 306⇓ *i*P PKPbc 21 35 28.7 -0.8
ELZG Elazig 143.85 302⇓ *i*P **PKPdf 21 35 30.6 0.0**
BER Bergen 143.90 355 *e*P PKPbc 21 35 28.6 -0.3
BER IAmb IAmb 21 35 30.1
comp=Z,208nm,0.9s
YEL1 Yell 143.96 1 *e*P PKPbc 21 35 28.7 -0.4
SUSE Susehri 144.07 305⇓ *i*P PKPbc 21 35 30.1 -0.3
ORDU Ordu-Boztepe 144.13 307⇓ *i*P PKPbc 21 35 29.9 -0.4
KONO Kongsberg 144.16 351 *e*P PKPbc 21 35 29.1 -0.6
KONO Kongsberg 144.16 351 *e*PKiKP PKPbc 21 35 29.5 -0.2
KONO Kongsberg 144.16 351 *e*PKPbc PKPbc 21 35 29.5 -0.3
ODD1 Odda 144.26 354 *e*P PKPbc 21 35 29.5 -0.6
ODD1 IAmb IAmb 21 35 31.3
comp=Z,131nm,1.1s
BLS5 Blasjo 144.75 354 *e*P **PKPdf 21 35 31.3 +0.1**
BLS5 IAmb IAmb 21 35 33.0
comp=Z,40nm,0.8s
CUKAN kangal_SIVAS 144.84 304⇓ *i*P **PKPab 21 35 33.2 -0.3**
SCER sogukcermik 144.96 305⇓ *i*P **PKPab 21 35 33.7 -0.2**
ERBA Erbaa 145.02 307⇓ *i*P **PKPbc 21 35 33.0 -0.1**
KMY Karmoy 145.07 355 *e*P **PKPbc 21 35 32.2 -0.3**
AKASG Malin Array Be 145.23 326 PKPbc **PKPdf 21 35 32.1 -0.1**
comp=Z,28nm,0.6s,baz=46,slow=4.3,SNR=80
AKASG SKPbc **SKiKP 21 38 21.9 -0.1**
comp=Z,16nm,0.6s,baz=45,slow=3.6,SNR=13
KIEV Kiev 145.24 326*d i*PKiKP **PKPdf 21 35 32.1 -0.2**
KIEV Kiev 145.24 326 *e*PKPdf **PKPdf 21 35 31.6 -0.7**
STAV Stavanger 145.31 354 *e*P **PKPbc 21 35 33.0 -0.2**
SIM Simferopol' 145.37 315*d i*PKiKP **PKPbc 21 35 33.8 -0.1**
SIM pmax pmax
comp=Z,34nm,0.9s
CUALT Altinyayla-SIV 145.38 304⇓ *i*P **PKPbc 21 35 34.2 -0.1**
SUW Suwalki 145.62 335 *e*PKP **PKPdf 21 35 33.2 +0.4**
SUW Suwalki 145.62 335 *e*PKiKP **PKPdf 21 35 33.2 +0.4**
HOMB Homborsund 145.65 352 *e*P **PKPbc 21 35 33.6 -0.6**
HOMB IAmb IAmb 21 35 35.5
comp=Z,151nm,0.9s
KUZU Kuzuini 145.66 300⇓ *i*P **PKPbc 21 35 35.3 +0.2**
HAVZ Havza 145.66 308⇓ *i*P **PKPbc 21 35 34.9 0.0**
HCB Kahramanmara˙ 145.68 301⇓ *i*P **PKPbc 21 35 34.9 -0.2**
CUSAR Sarkisla-SIVAS 145.73 305⇓ *i*P **PKPbc 21 35 35.3 0.0**
SNART Snartemo 145.74 353 *e*P **PKPbc 21 35 33.8 -0.8**
PINB Pinarbasi 145.79 303⇓ *i*P **PKPbc 21 35 35.3 -0.4**
BIGH Upper Bighouse 145.94 3 *e*P **PKPbc 21 35 34.6 -0.4**
RSC Scourie 146.01 4 *e*P **PKPbc 21 35 35.7 +0.5**
BOYT Boyabat 146.13 309 *i*P **PKPbc 21 35 36.4 +0.1**
MLA1 Latheron 146.15 3 *e*P **PKPbc 21 35 35.8 +0.2**
KLNR Kaliningrad 146.22 338*c i*PKiKP **PKPbc 21 35 35.8 -0.2**
RRH Rhenigidale 146.31 6 *e*P **PKPbc 21 35 36.1 0.0**
ASF Jabal al Asfar 146.35 292 PKPbc **PKPbc 21 35 37.6 +0.4**
comp=Z,32nm,0.7s,baz=32,slow=1.0,SNR=23
COAL Corum-Alaca 146.43 307⇓ *i*P **PKPbc 21 35 37.2 0.0**
RRR Rubha Reidh 146.44 5 *e*P **PKPbc 21 35 36.3 -0.2**
YAYL Yayladag 146.56 299⇓ *i*P **PKPdf 21 35 35.4 +0.2**
YURE YUREGIR 146.78 300⇓ *i*P **PKPbc 21 35 38.2 +0.1**
KAC Achnashellach 146.84 5 *e*P **PKPbc 21 35 37.3 -0.3**
MCD Coleburn Disti 146.88 3 *e*P **PKPbc 21 35 37.2 -0.5**
MDO Dochfour 146.96 4 *e*P **PKPbc 21 35 37.5 -0.4**
KPL Plockton 146.97 5 *e*P **PKPbc 21 35 37.8 -0.2**
CDAG Cicekdag 147.07 306⇓ *i*P **PKPbc 21 35 38.4 -0.5**
KSB Sheil Bridge 147.12 5 *e*P **PKPbc 21 35 38.0 -0.3**
SORM Soroca 147.22 323⇓ *i*P **PKPdf 21 35 35.7 0.0**
SORM Soroca 147.22 323⇓ *i*PKiKP **PKPdf 21 35 35.7 0.0**
MUD Monsted U'grnd 147.30 350 *i*PKiKP **PKPbc 21 35 38.5 -0.3**
MUD pmax pmax
comp=Z,220nm,1.5s
MUD Monsted U'grnd 147.30 350 *i*P **PKPbc 21 35 38.5 -0.3**
comp=Z,215nm,1.5s
BSD Bornholm Skovb 147.36 344⇓ *i*PKiKP **PKPbc 21 35 38.4 -0.6**
BSD pmax pmax
comp=Z,120nm,0.9s
BSD Bornholm Skovb 147.36 344⇓ *i*P **PKPbc 21 35 38.4 -0.6**
comp=Z,115nm,0.9s
DED Mersin 147.41 301⇓ *i*P **PKPbc 21 35 39.2 -0.6**
COP Copenhagen 147.43 346 *i*PKiKP **PKPbc 21 35 38.9 -0.2**
COP pmax pmax
comp=Z,51nm,0.7s
COP Copenhagen 147.43 346 *i*P **PKPbc 21 35 38.9 -0.2**
comp=Z,51nm,0.7s
DRUM Mains of Drumt 147.58 2 *e*P **PKPbc 21 35 38.9 -0.6**
BRTR Keskin Array B 147.58 306 PKPbc **PKPbc 21 35 39.6 -0.7**
comp=Z,13nm,0.6s,baz=147,slow=6.3,SNR=58
BRTR pPKPbc **pPKPbc 21 37 41.0 -3.0**
comp=Z,6.8nm,1.0s,baz=108,slow=4.0,SNR=4.4
AKSY AKSARAY - Alti 147.80 304⇓ *i*P **PKPbc 21 35 40.4 -0.4**
LLD Lille Linde 147.80 346 *i*PKP2 **PKPbc 21 35 40.2 +0.1**
LLD pmax pmax
comp=Z,160nm,0.9s
LLD Lille Linde 147.80 346 *i*P **PKPbc 21 35 40.2 +0.1**
comp=Z,158nm,0.9s
KERG Konya-Eregli 147.83 302⇓ *i*P **PKPbc 21 35 40.1 -0.9**
EDU Dundee 147.92 3 *e*P **PKPbc 21 35 40.2 -0.2**
BBAL Bala 148.01 306⇓ *i*P **PKPbc 21 35 41.1 -0.3**
KIZK Mersin 148.03 300⇓ *i*P **PKPbc 21 35 40.5 -0.8**
ANTO Ankara 148.15 307 *e*PKPdf **PKPdf 21 35 38.3 +0.6**
ANTO *e*PKPbc **PKPbc 21 35 41.9 +0.2**
IAS Iasi 148.20 323⇑ *i*P **PKPbc 21 35 41.6 +0.2**
IAS Iasi 148.20 323⇑ *i*PKP2 **PKPbc 21 35 41.6 +0.2**
EAB Aberfoyle 148.21 4 *e*P **PKPbc 21 35 40.4 -0.8**
BEL Belsk 148.22 335 *e*PKP **PKPbc 21 35 41.4 +0.1**
LEOM Leova 148.23 321⇑ *i*P **PKPbc 21 35 40.5 -1.0**
KKUL Konya-Kulu 148.28 306⇓ *i*P **PKPbc 21 35 41.9 -0.2**
GKP Gorka Klasztor 148.31 340 *e*PKP **PKPbc 21 35 41.8 0.0**
LVV L'vov 148.33 329 *e*PKHKP PKPpre 21 35 41.4
BCAM Yenicaga 148.36 309⇓ *i*P **PKPbc 21 35 41.5 -0.7**
EDI Edinburgh 148.54 3 *e*P **PKPbc 21 35 41.9 -0.1**
ESY Stoneypath 148.57 2 *e*P **PKPbc 21 35 41.8 -0.3**
PGBU Glenifferbraes 148.58 4 *e*P **PKPbc 21 35 41.5 -0.5**
PRAR RASCA 148.83 324⇓ *i*P **PKPbc 21 35 43.7 +0.7**
ERMK Ermenek 148.96 301 *i*P **PKPbc 21 35 44.0 0.0**
CSS Mathiatis 148.97 298 P **PKPbc 21 35 43.6 -0.2**
CSS Mathiatis 148.97 298 *e*PKPbc **PKPbc 21 35 43.5 -0.2**
CSS *e*PKPab **PKPab 21 35 50.6 +0.5**
CFR Carcaliu 149.00 319⇓ *i*P **PKPbc 21 35 43.2 -0.2**
MAMC Mammari 149.03 298 P **PKPbc 21 35 44.4 +0.5**
KWP Kalwaria Pacla 149.07 330 *e*PKPdf **PKPbc 21 35 43.5 -0.1**
KWP Kalwaria Pacla 149.07 330⇓ *i*P **PKPbc 21 35 43.7 +0.2**
KDHN Kadinhani 149.07 305⇓ *i*P **PKPbc 21 35 43.3 -0.7**
TESR Tescani 149.11 322⇓ *i*P **PKPbc 21 35 43.4 -0.3**
ESK Eskdalemuir 149.15 3 *e*P **PKPbc 21 35 42.1 -1.4**
ESK Eskdalemuir 149.15 3 *e*PKPbc **PKPbc 21 35 42.9 -0.6**
TIRR Tirgusor 149.20 317⇓ *i*P **PKPbc 21 35 43.8 -0.2**
TIRR Tirgusor 149.20 317 *e*PKPbc **PKPbc 21 35 43.5 -0.4**
BURAR Bucovina Array 149.21 325⇓ *i*P **PKPbc 21 35 45.0 +1.0**
BURAR Bucovina Array 149.21 325⇓ *i*PKP2 **PKPbc 21 35 45.1 +1.0**
ECK Cauldkaine Hil 149.28 3 *e*P **PKPbc 21 35 43.3 -0.6**
BHH Howats Hill 149.37 3 *e*P **PKPbc 21 35 43.8 -0.2**
SZAC Souni 149.37 297 P **PKPbc 21 35 44.4 -0.4**
HARR Harsova 149.38 318⇓ *i*P **PKPbc 21 35 44.7 +0.3**
MANR Mangalia 149.41 316⇑ *i*P **PKPbc 21 35 44.5 0.0**
VRI Vrincioaia 149.44 321⇓ *i*P **PKPbc 21 35 44.1 -0.4**
PLOR Plostina 149.49 321⇓ *i*P **PKPbc 21 35 44.0 -0.7**
GAZI Gazipasa 149.52 300⇓ *i*P **PKPbc 21 35 43.9 -1.2**
ALFC Alefka 149.53 298 P **PKPbc 21 35 44.5 -0.6**
ESKT Eskisehir 149.68 307 *i*P **PKPbc 21 35 44.8 -0.7**
PSN Preselentsi 149.74 316⇓ *i*P **PKPbc 21 35 45.6 +0.3**
KOLS Kolonicke sedl 149.77 330 *e*PKP **PKPdf 21 35 40.9 +1.1**
KOLS *e* 21 35 46.0
AKMC Akamas 149.77 298 P **PKPbc 21 35 44.6 -1.1**
PGOR Pogoanele 149.83 319⇓ *i*P **PKPbc 21 35 45.8 +0.4**
BORA Eskisehir 149.84 308⇓ *i*P **PKPbc 21 35 45.3 -0.5**
OJC Ojcow 149.88 334 *e*PKPdf **PKPbc 21 35 45.4 -0.1**
KESW Keswick, Cumbr 149.88 3 *e*P **PKPbc 21 35 45.0 -0.3**
STHS Stebnicka Huta 149.88 331 *e*PKP **PKPdf 21 35 41.4 +1.4**
STHS *e* 21 35 46.0
BOLV Bolvadin 149.88 306⇓ *i*P **PKPbc 21 35 45.1 -0.8**
UZH Uzhgorod 149.97 329⇑ *i*PKHKP PKPpre 21 35 45.2
UZH *e* 21 35 54.2
ARCR ARCALIA 150.00 325⇓ *i*P **PKPbc 21 35 46.1 +0.3**
GMM Mts of Mourne 150.01 6 *e*P **PKPbc 21 35 45.6 0.0**

BMR	Baia Mare	150.05	327	ǁ	*i*P	PKPbc	21 35 45.9	0.0
MLR	Muntele Rosu	150.10	321	ǁ	*i*P	PKPbc	21 35 45.8	-0.5
DOPR	Dopca	150.14	322	ǁ	*i*P	PKPbc	21 35 46.4	+0.2
CRVS	Cervenica-Dubn	150.16	330		*e*PKIKP	PKPdf	21 35 41.5	+1.1
CRVS	Cervenica-Dubn	150.16	330		*e*PKP	PKPdf	21 35 41.5	+1.1
CRVS					*e*		21 35 46.5	
WIM	Isle of Man	150.22	5		*e*P	PKPbc	21 35 45.7	-0.4
BAGO	Egridir - ISPA	150.23	304	ǁ	*i*P	PKPbc	21 35 45.8	-1.0
NIE	Niedzica	150.28	332		*e*PKPdf	PKPbc	21 35 46.9	+0.5
NIE	Niedzica	150.28	332	ǁ	*e*PKIKP	PKPbc	21 35 46.9	+0.5
SECR		150.30	320	ǁ	*i*P	PKPbc	21 35 46.3	-0.3
SULR		150.39	319	ǁ	*i*P	PKPbc	21 35 46.5	-0.2
PRD	Provadia	150.47	316		*e*P	PKPbc	21 35 47.5	+0.5
CJR	Cluj-Napoca	150.63	325	ǁ	*i*P	PKPbc	21 35 47.4	0.0
CJR	Cluj-Napoca	150.63	325	ǁ	*i*PKIKP	PKPbc	21 35 47.4	0.0
VOIR		150.65	322	ǁ	*i*P	PKPbc	21 35 48.2	+0.7
VOIR		150.65	322	ǁ	*i*PKIKP	PKPbc	21 35 48.2	+0.7
KSP	Ksiaz	150.68	338		*e*PKP	PKPbc	21 35 47.6	+0.3
KSP	Ksiaz	150.68	338		*e*PKIKP	PKPbc	21 35 47.6	+0.3
MTUR	Matau	150.76	321	⇑	*i*P	PKPab	21 36 00.7	+3.4
OKC	Ostrava-Krasne	150.83	335		*e*PKPDF	PKPdf	21 35 42.0	+0.6
OKC				⇑	*e*PKP	PKPbc	21 35 47.4	-0.2
OKC					*e*pPKP	pPKPdf	21 37 52.4	+5.2
OKC	Ostrava-Krasne	150.83	335		*e*PKIKP	PKPdf	21 35 42.0	+0.6
LANS	Liptovska Anna	150.84	333		*e*PKIKP	PKPdf	21 35 43.2	+1.7
LANS	Liptovska Anna	150.84	333		*e*PKP	PKPdf	21 35 43.2	+1.7
LANS					*e*		21 35 48.7	
LANS	Liptovska Anna	150.84	333		*e*P	pPKPab	21 37 55.9	-1.2
KORT	Korkueli	150.85	303	ǁ	*i*P	PKPbc	21 35 47.6	-0.7
KECS	Kecovo	150.91	331		*e*PKIKP	PKPbc	21 35 48.5	+0.7
KECS					*e*		21 35 58.3	
KECS	Kecovo	150.91	331		*e*PKP	PKPbc	21 35 48.5	+0.7
KECS					*e*		21 35 58.3	
KECS	Kecovo	150.91	331		*e*P	pPKPab	21 38 05.0	+7.6
UPC	Upice	151.06	338		*e*PKPDF	PKPdf	21 35 42.4	+0.7
UPC				⇑	*e*PKP	PKiKP	21 35 48.4	-0.1
UPC					*e*pPKP	pPKPdf	21 37 56.8	+9.2
UPC					*e*SS	SS	21 58 16.7	+6.6
UPC	Upice	151.06	338		*e*PKIKP	PKPdf	21 35 42.4	+0.7
UPC					*e*		21 58 16.7	
LMK	Market Rasen	151.07	360		*e*P	PKPbc	21 35 47.5	-0.5
DPC	Dobruska-Polom	151.08	337		*e*PKPDF	PKPdf	21 35 42.4	+0.6
DPC				⇑	*e*PKP	PKiKP	21 35 48.5	-0.1
DPC					*e*PKPAB	PKPab	21 35 59.0	+0.6
DPC					*e*pPKP	pPKPdf	21 37 53.5	+5.8
DPC	Dobruska-Polom	151.08	337		*e*PKIKP	PKPdf	21 35 42.4	+0.6
DPC					*e*		21 35 59.0	
WLF1	Llynfaes	151.09	5		*e*P	PKPbc	21 35 47.4	-0.6
MORC	Moravsky Berou	151.11	335	ǁ	*i*P	PKPbc	21 35 48.4	+0.1
MORC	Moravsky Berou	151.11	335	ǁ	*e*PKIKP	PKPbc	21 35 48.4	+0.1
KRLC	Kraliky	151.15	337	ǁ	*e*PKP	PKPbc	21 35 48.5	+0.1
KRLC	Kraliky	151.15	337		*e*PKIKP	PKPbc	21 35 48.5	+0.1
WPM1	Penmaenmawr	151.16	4		*e*P	PKPbc	21 35 47.7	-0.6
HUMR	Humele	151.22	320	ǁ	*i*P	PKPbc	21 35 48.1	-0.6
YLL	Llanberis	151.26	5		*e*P	PKPbc	21 35 47.9	-0.5
CLL	Collm	151.29	342		*e*PKPdf	PKPdf	21 35 42.0	0.0
	comp=Z,9.0nm,1.0s							
CLL					*i* PKPbc	PKiKP	21 35 48.9	0.0
	comp=Z,146nm,0.8s							
CLL					*i* PKPab	PKPab	21 35 59.1	0.0
	comp=Z,43nm,1.0s							
CLL					*i* pPKPbc	pPKPbc	21 37 52.6	-0.6
	comp=Z,14nm,1.2s							
CLL					*i*		21 38 02.4	
CLL					*es*PKPbc	sPKPbc	21 38 42.0	-3.3
CLL					*e*SS	SS	21 58 12.0	-0.4
CLL	Collm	151.29	342		*e*PKIKP	PKPdf	21 35 42.0	0.0
CLL					*i* *PP		21 51 40.4	
CLL					pmax	pmax		
	comp=Z,9.0nm,1.0s							
CLL					pmax	pmax		
	comp=Z,146nm,0.8s							
LOT	Lotru	151.35	323	ǁ	*i*P	PKPbc	21 35 48.3	-0.8
SZH	Strazhica	151.35	317		*e*P	PKPbc	21 35 49.0	0.0
YRE	Yr Eifl	151.40	5		*e*P	PKPbc	21 35 48.4	-0.3
BRG	Berggiesshubel	151.40	341		*e*PKP	PKPdf	21 35 43.7	+1.5
	comp=Z,15nm,1.1s							
BRG					*i*		21 35 49.8	
	comp=Z,74nm,0.6s							
BRG					*i*		21 36 01.0	
	comp=Z,40nm,0.8s							
BRG					*ep*PKP	pPKPdf	21 37 54.0	+5.9
	comp=Z,9.1nm,1.0s							
BRG	Berggiesshubel	151.40	341		*e*PKIKP	PKPdf	21 35 43.7	+1.5
BRG					*i*		21 36 01.0	
BRG					pmax	pmax		
	comp=Z,15nm,1.1s							
BRG					pmax	pmax		
	comp=Z,74nm,0.6s							
BRG					pmax	pmax		
	comp=Z,40nm,0.8s							
BRG					pmax	pmax		
	comp=Z,9.0nm,1.0s							
ZIMR		151.49	318	ǁ	*i*P	PKPbc	21 35 49.8	+0.5
ZIMR		151.49	318	ǁ	*i*PKIKP	PKPbc	21 35 49.8	+0.5
PVCC	Panska Ves	151.51	340		*e*PKPDF	PKPdf	21 35 43.0	+0.6
PVCC				⇑	*e*PKP	PKiKP	21 35 49.4	0.0
PVCC					*e*PKPAB	PKPab	21 36 00.0	-0.1
PVCC					*ep*PKP	pPKPdf	21 37 54.3	+6.0
PVCC	Panska Ves	151.51	340		*e*PKIKP	PKPdf	21 35 43.0	+0.6
PVCC					*e*		21 36 00.0	
DEV	Deva	151.54	324	ǁ	*i*P	PKPbc	21 35 46.4	-3.0
DEV	Deva	151.54	324	ǁ	*i*PKIKP	PKPbc	21 35 46.4	-3.0
FOEL	Foel Wylfa	151.57	3		*e*P	PKPbc	21 35 48.6	-0.7
PSZ	Piszkesteto	151.59	331	ǁ	*i*P	PKPbc	21 35 49.1	-0.4
PSZ	Piszkesteto	151.59	331	ǁ	*i*PKIKP	PKPbc	21 35 49.1	-0.4
PSZ	Piszkesteto	151.59	331		*e*PKPbc	PKPbc	21 35 49.0	-0.5
VYHS	Vyhne	151.61	332		*e*PKIKP	PKPdf	21 35 42.8	+0.1
VYHS					*e*		21 36 01.6	
VYHS	Vyhne	151.61	332		*e*PKP	PKPdf	21 35 42.8	+0.1
VYHS					*e*		21 35 49.5	
VYHS					*e*		21 36 01.6	
VYHS	Vyhne	151.61	332		*e*P	pPKPab	21 37 56.1	-4.2
DNZL	Cakiroluk	151.63	305	ǁ	*i*P	PKPbc	21 35 49.8	-0.3
AKAS	Kas	151.64	301	ǁ	*i*P	PKPbc	21 35 48.2	-1.9
CWF	Charnwood Fore	151.79	1		*e*P	PKPbc	21 35 49.6	-0.1
VRAC	Vranov	151.85	336	ǁ	*i*P	PKPbc	21 35 50.1	+0.1
VRAC	Vranov	151.85	336	ǁ	*i*PKIKP	PKPbc	21 35 50.1	+0.1
BALY	Balya	151.91	310	ǁ	*i*P	PKPbc	21 35 49.3	-1.1
GOPC	GO Pecny, Ondr	151.97	339	⇑	*e*PKP	PKPbc	21 35 50.2	0.0
GOPC					*e*PKPAB	PKPab	21 36 01.5	-0.6
GOPC	GO Pecny, Ondr	151.97	339		*e*PKIKP	PKPbc	21 35 50.2	0.0
GOPC					*e*		21 36 01.5	
PRU	Pruhonice	151.99	339		*e*PKPDF	PKPdf	21 35 43.4	+0.3
PRU				⇑	*e*PKP	PKPbc	21 35 50.0	-0.2
PRU					*e*PKPAB	PKPab	21 36 02.5	+0.4
PRU					*ep*PKP	pPKPdf	21 37 57.8	+8.8
PRU					*e*SS	SS	21 58 15.7	-4.5
PRU	Pruhonice	151.99	339		*e*PKIKP	PKPdf	21 35 43.4	+0.3
PRU					*e*		21 36 02.5	
PRU					*e*		21 58 15.7	
WTSB	Winterswijk	152.01	350		*e*PKPbc	PKPbc	21 35 50.0	-0.2
WTSB					*ep*PKPab	PKPab	21 36 02.5	+0.4
SRE	Strehaia	152.15	322	ǁ	*i*P	PKPbc	21 35 50.8	0.0
SRE	Strehaia	152.15	322	ǁ	*i*PKIKP	PKPbc	21 35 50.8	0.0
SMOL	Smolenice	152.18	334		*e*PKIKP	PKPdf	21 35 45.0	+1.5
SMOL					*e*		21 36 03.5	
SMOL	Smolenice	152.18	334		*e*PKP	PKPdf	21 35 45.0	+1.5
SMOL					*e*		21 35 51.1	
SMOL					*e*		21 36 03.5	
SMOL	Smolenice	152.18	334		*e*P	pPKPab	21 38 02.3	-0.3
TREC	Trest	152.26	337		*e*PKPDF	PKPdf	21 35 44.2	+0.6
TREC					*ep*PKP	pPKPdf	21 38 01.0	+11
TREC	Trest	152.26	337		*e*PKIKP	PKPdf	21 35 44.2	+0.6
LPW	Lampeter	152.28	5		*e*P	PKPbc	21 35 50.0	-0.8
BZS	Buzias	152.39	325	ǁ	*i*P	PKPbc	21 35 50.9	-0.4
BZS	Buzias	152.39	325	ǁ	*i*PKIKP	PKPbc	21 35 50.9	-0.4
NKC	Novy Kostel	152.41	342		*e*PKPDF	PKPdf	21 35 44.4	+0.6
NKC				⇑	*e*PKP	PKiKP	21 35 52.2	+0.9
NKC					*e*PKPAB	PKPab	21 36 04.3	+0.3
NKC	Novy Kostel	152.41	342		*e*PKIKP	PKPdf	21 35 44.4	+0.6
NKC					*e*		21 36 04.3	
MCH1	Michaelchurch	152.47	3		*e*P	PKPbc	21 35 49.9	-1.3
SSW	Stow on the Wo	152.55	2		*e*P	PKPbc	21 35 51.0	-0.4
MPEP	Malo Peshtene	152.63	319		*e*P	PKPbc	21 35 51.5	-0.4
BANR	Banloc	152.80	325	ǁ	*i*P	PKPbc	21 35 52.4	+0.3
MDVR	Moldovita	152.90	324	ǁ	*i*P	PKPbc	21 35 52.0	-0.5
SWN1	Swindon	153.00	2		*e*P	PKPbc	21 35 51.7	-0.7
KHC	Kasperske Hory	153.05	339		*e*PKPDF	PKPdf	21 35 45.1	+0.3
KHC				⇑	*e*PKP	PKPbc	21 35 52.3	-0.3
KHC					*e*PKPAB	PKPab	21 36 06.9	+0.2
KHC					*ep*PKP	pPKPdf	21 38 00.1	+9.4
KHC					*e*SS	SS	21 58 38.5	+6.8
KHC	Kasperske Hory	153.05	339		*e*PKIKP	PKPdf	21 35 45.1	+0.3
KHC					*e*		21 35 52.3	
KHC					*e*		21 36 06.9	
KHC					*e*		21 58 38.5	
KHC	Kasperske Hory	153.05	339		*e*PKPdf	PKPdf	21 35 44.3	-0.4
KHC					*e*PKPbc	PKiKP	21 35 52.8	+0.1
KHC					*e*PKPab	PKPab	21 36 07.7	+1.0
WOL	Wolverton	153.22	1		*e*P	PKPbc	21 35 52.1	-0.7
GRFO	Grafenberg	153.24	343		*e*PKIKP	PKPdf	21 35 45.9	+0.9
GRFO	Grafenberg	153.24	343		*e*PKPdf	PKPdf	21 35 45.9	+0.9
GRFO					*e*PKPbc	PKiKP	21 35 53.7	+0.7
GERES	GERESS Array B	153.25	339		PKP	PKPdf	21 35 44.5	-0.7
	comp=Z,2.7nm,0.8s,baz=48,slow=2.0,SNR=24							
GERES					PKPbc	PKPbc	21 35 52.6	-0.5
	comp=Z,5.4nm,0.7s,baz=41,slow=1.8,SNR=28							
GERES					PKPab	PKPab	21 36 07.3	-0.4
	comp=Z,4.0nm,0.7s,baz=64,slow=6.4,SNR=6.3							
GERES					pPKPbc	pPKPbc	21 37 57.9	-0.2
	comp=Z,2.3nm,0.8s,baz=46,slow=3.9,SNR=3.7							
CONA	Conrad Observa	153.26	335		*i* PKPdf	PKPdf	21 35 45.3	+0.1
	comp=Z,9.0nm,1.0s,SNR=6.3							
CONA					*i* PKiKP	PKiKP	21 35 54.3	+1.1
	comp=Z,34nm,1.3s							
CONA					*i* PKPab	PKPab	21 36 08.4	+0.6
	comp=Z,26nm,1.3s							
HGN	Heimansgroeve	153.31	351		*e*PKPdf	PKPdf	21 35 45.2	+0.2
HGN					*e*PKPbc	PKiKP	21 35 53.4	+0.3
HGN					*ep*PKPab	PKPab	21 36 07.6	-0.1
BEBN	Eben Emael	153.31	351		PKPab	PKPab	21 36 08.5	+0.8
MEM	Membach	153.45	351		PKP	PKPdf	21 35 46.2	+1.0
MEM					PKPbc	PKiKP	21 35 54.0	+0.5
MEM					PKPab	PKPab	21 36 08.9	+0.7
MMB	Musomiste	153.63	316		*e*P	PKPbc	21 35 53.4	-0.7
BCLA	Clavier	153.73	352		PKPab	PKPab	21 36 09.1	-0.4
MOA	Molln	153.92	337		*i* PKPdf	PKPdf	21 35 45.7	-0.3
	comp=Z,7.0nm,0.9s							
MOA					*i* PKPbc	PKiKP	21 35 54.7	+0.2
	comp=Z,14nm,1.1s							
MOA					*i* PKPab	PKPab	21 36 10.8	+0.4
	comp=Z,19nm,1.3s							
ARSA	Arzberg	153.95	335		*i* PKPdf	PKPdf	21 35 45.9	-0.2
	comp=Z,5.5nm,1.0s							
ARSA					*i* PKiKP	PKiKP	21 35 55.1	+0.5
	comp=Z,7.5nm,1.4s							
DOU	Dourbes	154.14	352		PKPbc	PKPbc	21 35 55.5	+0.7
DOU					PKPab	PKPab	21 36 10.8	-0.5
WLF	Walferdange	154.34	350		PKP	PKPdf	21 35 46.9	+0.4
WLF					PKPbc	PKPbc	21 35 55.9	+0.6
WLF					PKPab	PKPab	21 36 12.1	-0.1
WLF	Walferdange	154.34	350		*e*PKIKP	PKPdf	21 35 47.0	+0.5
WLF	Walferdange	154.34	350		*e*PKPdf	PKPdf	21 35 47.0	+0.5
WLF					*e*PKPbc	PKPbc	21 35 56.5	+1.2
STU	Stuttgart	154.60	345		*e*PKIKP	PKPdf	21 35 46.7	-0.2
STU					*e*		21 36 13.8	
STU	Stuttgart	154.60	345		*e*PKPdf	PKPdf	21 35 46.7	-0.2
STU					*e*PKPbc	PKPbc	21 35 56.8	+0.9
STU					*e*PKPab	PKPab	21 36 13.8	+0.5
GROS	Grobnik	154.60	334		*e*PKPdf	PKPdf	21 35 46.3	-0.8
GROS					*i*		21 35 56.2	
GROS					*e*PKPab	PKPab	21 36 13.1	-0.4
SOKA	Soboth	154.61	335		*i* PKPdf	PKPdf	21 35 46.9	-0.1
	comp=Z,12nm,1.2s,SNR=5.6							
SOKA					*i* PKPab	PKPab	21 36 13.6	+0.1
	comp=Z,24nm,1.2s							
LANF	Langenberg	154.71	347		PKP	PKPdf	21 35 47.1	+0.1
KBA	Koelnbreinsper	154.90	337		*i* PKPdf	PKPdf	21 35 46.8	-0.8
	comp=Z,12nm,1.2s							
OBKA	Obir	154.94	335		*i* PKPdf	PKPdf	21 35 47.4	-0.2
	comp=Z,10.0nm,1.7s							
OBKA					*i* PKPab	PKPab	21 36 15.4	+0.4
	comp=Z,9.6nm,0.9s							
MYKA	Terra Mystica	155.18	336	ǁ	*i* PKPdf	PKPdf	21 35 47.2	-0.7
	comp=Z,7.6nm,1.0s							
BFO	Black Forest	155.21	346	ǁ	*e*PKIKP	PKPdf	21 35 57.4	+10
BFO	Black Forest	155.21	346		*e*PKPdif	PKPdf	21 35 57.4	+10
WATA	Walderalm	155.26	340		*i* PKPdf	PKPdf	21 35 47.8	-0.2
	comp=Z,8.5nm,1.0s							
WATA					*i* PKPab	PKPab	21 36 16.5	+0.1
	comp=Z,14nm,0.5s,SNR=5.5							
WTTA	Wattenberg	155.31	340		*i* PKPdf	PKPdf	21 35 48.2	0.0
	comp=Z,8.9nm,0.8s							
WTTA					*i* PKPab	PKPab	21 36 17.0	+0.4
	comp=Z,15nm,0.6s							
LJU	Ljubljana	155.33	334		*e*PKPdf	PKPdf	21 35 47.6	-0.4
LJU					*i*		21 35 58.3	
LJU					*e*PKPab	PKPab	21 36 15.6	-1.0
LJU					*i*		21 38 08.8	
RETA	Reutte	155.37	342		*i* PKPdf	PKPdf	21 35 48.1	0.0
	comp=Z,6.2nm,1.1s							
RETA					*i* PKPab	PKPab	21 36 16.6	-0.1
	comp=Z,26nm,0.8s,SNR=6.1							
MOTA	Moosalm	155.40	341		*i* PKPdf	PKPdf	21 35 48.0	-0.2
	comp=Z,17nm,1.1s,SNR=11							
MOTA					*i* PKPab	PKPab	21 36 17.1	+0.1
	comp=Z,12nm,0.7s							
CRNS	Crni Vrh	155.41	335		*e*PKPdf	PKPdf	21 35 47.5	-0.6
CRNS					*i*		21 35 58.1	
ABTA	Abfaltersbach	155.48	338		*e*PKPdf	PKPdf	21 35 47.6	-0.7
	comp=Z,23nm,1.1s,SNR=9.7							
BOJS	Bojanci	155.48	333		*e*PKPdf	PKPdf	21 35 47.9	-0.2
ECH	Echery	155.56	348		PKP	PKPdf	21 35 48.6	+0.4
DAVA	Damuels	155.80	343		*i* PKPdf	PKPdf	21 35 48.7	-0.1
	comp=Z,9.7nm,1.4s							
DAVA					*i* PKPab	PKPab	21 36 18.9	+0.2
	comp=Z,28nm,0.8s,SNR=6.6							
FETA	Feichten	155.80	341		*i* PKPdf	PKPdf	21 35 48.9	+0.2
	comp=Z,19nm,1.0s,SNR=9.3							
MOF	Molkenrain	155.92	347		PKP	PKPdf	21 35 48.0	-0.8
LOMF	Lomont	156.46	347		PKP	PKPdf	21 35 46.7	-2.8
AGO	Saint Agoulin	158.29	353		PKP	PKPdf	21 35 52.7	+1.0
PLDF	La Plantade	158.32	352		PKP	PKPdf	21 35 52.4	+0.6
PYM	Petit Puy Mans	158.60	353		PKP	PKPdf	21 35 53.5	+1.3
SSB	Saint Sauveur	158.87	350		PKP	PKPab	21 36 31.9	0.0
FRNF	Fournols	159.01	354		PKP	PKPab	21 36 32.7	+0.2
LBL	Lubilhac	159.09	353		PKP	PKPdf	21 35 54.3	+1.5
LIC	Lamto	161.32	166		*e*PKP1	PKPdf	21 35 55.7	-0.3
LIC	Lamto	161.32	166		*e*PKP1	PKPab	21 36 43.7	+0.4
	comp=Z,30nm,0.7s							
PGAV	Gavieira, Arco	161.41	18		*e*PKPdf	PKPdf	21 35 56.1	+0.7
KIC	Kosan Boka	161.51	167		*e*PKP1	PKPdf	21 35 55.9	-0.3
	comp=Z,58nm,1.2s							
KIC	Kosan Boka	161.51	167		*e*PKP1	PKPab	21 36 44.2	0.0
	comp=Z,43nm,0.7s							
PCAB	Cabril	161.72	18		*e*PKPdf	PKPdf	21 35 56.9	+1.2
PCAB	Cabril	161.72	18		*e*PKPab	PKPab	21 36 45.7	+1.2
TIC	Toumodi	161.73	165		*e*PKP1	PKPdf	21 35 57.1	+0.6
TIC	Toumodi	161.73	165		*e*PKP1	PKPab	21 36 44.9	-0.2
DBIC	Dimbokro	161.79	166		PKP	PKPdf	21 35 55.5	-1.0
	comp=Z,13nm,0.9s,baz=57,slow=2.2,SNR=8.1							
DBIC					PKPab	PKPab	21 36 45.6	+0.3
	comp=Z,15nm,0.8s,baz=169,slow=7.1,SNR=9.1							
POLO	Lamas de Olo	162.09	18		*e*PKPdf	PKPdf	21 35 56.7	+0.6
POLO	Lamas de Olo	162.09	18		*e*PKPab	PKPab	21 36 47.6	+1.3
PVRL	Vila Real	162.21	18		*e*PKPdf	PKPdf	21 35 57.0	+0.8
PVRL	Vila Real	162.21	18		*e*PKPab	PKPab	21 36 47.7	+1.0
MVO	Moncorvo	162.50	17		*e*PKPdf	PKPdf	21 35 58.0	+1.5
MVO	Moncorvo	162.50	17		*e*PKPab	PKPab	21 36 49.0	+1.0
PVIS	Viseu	162.67	19		*e*PKPdf	PKPdf	21 35 57.5	+0.8
PVIS	Viseu	162.67	19		*e*PKPab	PKPab	21 36 49.3	+0.5
MTE	Manteigas	163.07	19		*e*PKPdf	PKPdf	21 35 57.6	+0.5
MTE	Manteigas	163.07	19		*e*PKPab	PKPab	21 36 51.0	+0.5
PCAS	Casmilo, Conde	163.08	22		*e*PKPdf	PKPdf	21 35 56.2	-0.8
PCAS	Casmilo, Conde	163.08	22		*e*PKPab	PKPab	21 36 50.9	+0.4
PTOM	Tomar	163.50	22		*e*PKPdf	PKPdf	21 35 58.6	+1.2
PTOM	Tomar	163.50	22		*e*PKPab	PKPab	21 36 52.8	+0.4
PCBR	Castelo Branco	163.60	19		*e*PKPdf	PKPdf	21 35 57.9	+0.4
PCBR	Castelo Branco	163.60	19		*e*PKPab	PKPab	21 36 53.4	+0.6
PMPS	Porto Santo	163.70	55		*e*PKPdf	PKPdf	21 35 59.1	+1.3
PMAFR	Mafra	163.77	25		*e*PKPdf	PKPdf	21 35 59.1	+1.4
PMAFR	Mafra	163.77	25		*e*PKPab	PKPab	21 36 52.7	-0.9
PMST	Lisbon--Monsan	163.99	25		*e*PKPdf	PKPdf	21 35 59.0	+1.1
PMRV	Marv??o	164.00	20		*e*PKPdf	PKPdf	21 35 57.1	-0.8
PMRV	Marv??o	164.00	20		*e*PKPab	PKPab	21 36 54.8	+0.2
PESTR	Estremoz	164.45	21		*e*PKPdf	PKPdf	21 35 59.3	+1.0
PESTR	Estremoz	164.45	21		*e*PKPab	PKPab	21 36 56.6	0.0
ESDC	Sonseca Array	164.58	10		PKP	PKPdf	21 35 58.1	-0.3
	comp=Z,0.6nm,0.6s,baz=350,slow=2.7,SNR=7.5							
ESDC					PKPab	PKPab	21 36 56.6	-0.6
	comp=Z,14nm,0.8s,baz=344,slow=4.2,SNR=50							
EVO	Evora	164.61	23		*e*PKPdf	PKPdf	21 35 58.2	-0.2
EVO	Evora	164.61	23		*e*PKPab	PKPab	21 36 57.8	+0.5
PNCL	Nicolau / Gran	164.79	25		*e*PKPdf	PKPdf	21 35 59.7	+1.1
PNCL	Nicolau / Gran	164.79	25		*e*PKPab	PKPab	21 36 58.6	+0.5
PBEJ	Beja	165.11	23		*e*PKPdf	PKPdf	21 36 00.5	+1.6
PBEJ	Beja	165.11	23		*e*PKPab	PKPab	21 37 00.1	+0.6
MESJ	Messejana	165.15	25		*e*P	PKPdf	21 35 59.4	+0.5
PTEO	Sao Teotonio	165.20	27		*e*PKPdf	PKPdf	21 36 00.5	+1.6
PTEO	Sao Teotonio	165.20	27		*e*PKPab	PKPab	21 37 00.6	+0.7
PBAR	Barrancos	165.26	21		*e*PKPdf	PKPdf	21 36 00.0	+1.0
PBAR	Barrancos	165.26	21		*e*PKPab	PKPab	21 37 01.0	+0.8
PCVE	Castro Verde	165.40	24		*e*PKPdf	PKPdf	21 36 00.5	+1.4
PCVE	Castro Verde	165.40	24		*e*PKPab	PKPab	21 37 01.5	+0.7
MORF	Marmelete	165.44	27		*e*P	PKPdf	21 35 59.7	+0.5
MORF	Marmelete	165.44	27		*e*PKPdf	PKPdf	21 36 00.3	+1.1
MORF	Marmelete	165.44	27		*e*PKPab	PKPab	21 37 01.7	+0.6
PFVI	Vila Bisbo	165.51	28		*e*PKPdf	PKPdf	21 36 00.8	+1.6
PVAQ	Vaqueiros	165.72	24		*e*PKPdf	PKPdf	21 36 00.8	+1.4
PVAQ	Vaqueiros	165.72	24		*e*PKPab	PKPab	21 37 03.0	+0.8
PBDV	Barranco-do-Ve	165.78	25		*e*PKPdf	PKPdf	21 36 01.2	+1.7
KEST	Kesra	165.95	325		PKPab	PKPab	21 37 02.4	-1.1
	comp=Z,6.4nm,0.8s,baz=289,slow=2.2,SNR=8.4							
TORD	Torodi Ar. Bea	168.53	191		PKP	PKPdf	21 36 00.9	-1.1
	comp=Z,7.2nm,0.8s,baz=45,slow=0.3,SNR=35							
TORD					PKPab	PKPab	21 37 15.2	+0.2
	comp=Z,6.0nm,0.6s,baz=176,slow=3.5,SNR=16							
TAM	Tamanrasset	174.24	254		*e*PKIKP	PKPdf	21 36 05.9	+1.1
TAM	Tamanrasset	174.24	254		*e*PKPdf	PKPdf	21 36 05.8	+1.1

ISK ***25*** *21:21:21.9, 38.60N×39.67E, h9km, MD2.8*
DDA ***25*** *21:21:22.7, 38.61N×39.63E, h7km, Md2.7*
CSEM ***25*** *21:21:22.7±0.3, 38.62N×39.62E, h10km, MD2.8,

JFY				*e*S		**Sn**	21 38 54.7	**0.0**
JOU	**Okura**	**1.50**	**346**	P		**Pn**	21 38 42.6	**0.0**
JOU				*e*S		**Sn**	21 39 01.2	**+0.2**
MJAR	**Matsushiro Arr**	**2.37**	**262**	P		**Pn**	21 38 55.2	**+0.6**
	18nm,0.3s,baz=83,slow=15,SNR=202							
MJAR				S		**Sn**	21 39 23.2	**+0.6**
	36nm,0.3s,baz=79,slow=29,SNR=10							
MJAR				LR		LR	21 40 10.3	
	comp=Z,235nm,19.7s,baz=90,slow=49							
MAT	**Matsushiro**	**2.38**	**262**	P		**Pn**	21 38 55.6	**+1.0**
MAT				S		**Sn**	21 39 23.2	**+0.6**
JHJ	**Hachijo jima 2**	**3.94**	**197**	P		**Pn**	21 39 16.6	**+0.5**
	34nm,0.3s,baz=315,slow=21,SNR=9.5							
JHJ				S		**Sn**	21 40 01.8	**+0.7**
	93nm,0.3s,baz=46,slow=23,SNR=7.5							
ASAJ	**Asahikawa**	**7.28**	**8**	P		**Pn**	21 40 01.5	**-0.4**
	1.8nm,0.3s,baz=216,slow=14,SNR=12							
ASAJ				S		**Sn**	21 41 25.2	**+2.0**
	1.4nm,0.3s,baz=347,slow=18,SNR=3.4							
USRK	**Ussuriysk Ar.**	**10.06**	**319**	P		**Pn**	21 40 44.5	**+4.5**
	0.4nm,0.3s,baz=135,slow=12,SNR=32							
KSRS	**Korea Array**	**10.55**	**277**	P		**Pn**	21 40 48.5	**+1.8**
	0.1nm,0.3s,baz=89,slow=14,SNR=2.6							
KSRS				LR		LR	21 44 28.9	
	comp=Z,111nm,21.0s,baz=115,slow=35							
KLR	**Kul'dur**	**14.07**	**334**	P		**P**	21 41 40.5	**-0.8**
	0.2nm,0.3s,baz=136,slow=13,SNR=4.2							
SEY	**Seymchan**	**26.95**	**11**	P		**P**	21 43 54.9	**0.0**
	0.8nm,0.4s,baz=226,slow=5.3,SNR=3.8							
SONM	**Songino Array**	**27.66**	**304**	P		**P**	21 44 00.6	**-1.1**
	0.9nm,0.5s,baz=102,slow=8.5,SNR=9.1							
H11N2	**WAKE ISLAND Hy 28.28**	**120**		T		T	22 14 02.3	
	baz=313,slow=75,SNR=75							
H11N1	**WAKE ISLAND Hy 28.29**	**120**		T		T	22 13 50.8	
	baz=313,slow=75,SNR=77							
H11N3	**WAKE ISLAND Hy 28.30**	**120**		T		T	22 14 03.8	
	baz=313,slow=75,SNR=82							
H11S1	**WAKE ISLAND Hy 28.99**	**122**		T		T	22 14 59.2	
	baz=314,slow=75,SNR=54							
H11S3	**WAKE ISLAND Hy 28.99**	**122**		T		T	22 15 01.0	
	baz=314,slow=75,SNR=53							
H11S2	**WAKE ISLAND Hy 29.00**	**122**		T		T	22 15 00.7	
	baz=314,slow=75,SNR=35							
ZALV	**Zalesovo Beam**	**41.83**	**312**	P		**P**	21 46 02.4	**-0.8**
	1.2nm,0.5s,baz=89,slow=7.2,SNR=6.4							
MKAR	**Makanchi Array**	**43.99**	**302**	P		**P**	21 46 20.4	**-0.4**
	0.6nm,0.7s,baz=81,slow=7.2,SNR=3.2							
ILAR	**Eielson Array**	**49.72**	**32**	P		**P**	21 47 06.0	**+0.7**
	0.8nm,0.7s,baz=266,slow=6.3,SNR=10.0							
FITZ	**Fitzroy Crossi**	**56.64**	**198**	P		**P**	21 47 55.4	**-1.1**
	1.5nm,0.7s,baz=0.0,slow=8.1,SNR=3.4							
WRA	**Warramunga Arr**	**56.91**	**188**	P		**P**	21 47 57.5	**-1.0**
	2.3nm,0.6s,baz=4.8,slow=7.4,SNR=22							
ASAR	**Alice Springs**	**60.64**	**188**	P		**P**	21 48 23.9	**-0.5**
	0.6nm,0.7s,baz=25,slow=7.1,SNR=7.0							
DZM	**Mont Dzumac**	**63.34**	**154**	P		**P**	21 48 43.3	**+0.7**
	6.2nm,0.8s,baz=46,slow=23,SNR=3.2							
FINES	**FINESS Array B**	**68.81**	**332**	P		**P**	21 49 16.5	**-0.7**
	0.4nm,0.7s,baz=49,slow=8.6,SNR=4.7							
NB2	**NORSAR Subarra**	**74.21**	**337**	P		**P**	21 49 49.1	**-0.7**
	comp=Z,1.3nm,0.8s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**74.21**	**337**	P		**P**	21 49 49.3	**-0.4**
	comp=Z,0.7nm,0.8s,baz=39,slow=5.7,SNR=2.9							
GERES	**GERESS Array B**	**82.69**	**328**	P		**P**	21 50 36.3	**-0.6**
	comp=Z,0.2nm,0.4s,baz=27,slow=5.5,SNR=2.8							
TXAR	**Lajitas Array**	**90.38**	**52**	P		**P**	21 51 15.2	**+0.4**
	comp=Z,0.5nm,0.7s,baz=292,slow=3.5,SNR=5.7							
LPAZ	**La Paz**	**146.95**	**59**	PKPbc		**PKPbc**	21 57 56.8	**0.0**
	comp=Z,1.2nm,0.6s,baz=313,slow=2.4,SNR=6.0							

*IDC **25** 21:45:09.9±5.9, 5°.71S×146°.33E, h48km±72km, mb3.1/3, mb1 3.5/6, mb1mx3.3/27, mbtmp3.6/6, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/12, Error ellipse: s-maj=56.6km s-min=39.1km az=117.0*

*ISCJB **25** 21:45:10.3±1.8, 5°.8S±0°.1×146°.5E±0°.2, h78km, mb3.2/3, Error ellipse: s-maj=34.3km s-min=12.3km az=158.5*

ISC 25 21:45:11.6±1.6, 5°.8S±0°.1×146°.5E±0°.3, h78km, n7, σ1°.57/8, mb3.5/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.61**	**170**	P	**Pn**	**21 46 05.0**	**-0.2**
	14nm,0.3s,baz=321,slow=8.7,SNR=29						
PMG				S	**Sn**	21 46 48.9	**+2.2**
	8.5nm,0.3s,baz=138,slow=23,SNR=9.0						
CTA	**Charters Tower**	**14.18**	**181**	P	**P**	21 48 31.5	**-2.4**
	0.3nm,0.3s,baz=12,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**18.36**	**219**	P	**Pn**	21 49 21.2	**+0.2**
	0.2nm,0.3s,baz=45,slow=12,SNR=8.3						
ASAR	**Alice Springs**	**21.50**	**213**	P	**P**	21 49 55.0	**+0.9**
	0.3nm,0.7s,baz=50,slow=8.6,SNR=5.1						
ASAR				LR	LR	21 59 03.5	
	comp=Z,58nm,18.8s,baz=45,slow=39						
FITZ	**Fitzroy Crossi**	**23.76**	**237**	P	**P**	21 50 16.7	**-0.4**
	0.6nm,0.3s,baz=53,slow=9.5,SNR=10						
SONM	**Songino Array**	**64.02**	**331**	P	**P**	21 55 37.6	**+0.5**
	0.2nm,0.3s,baz=127,slow=3.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**144.58**	**284**	PKP	**PKPdf**	22 04 41.0	**+0.8**
	0.4nm,0.8s,baz=75,slow=2.1,SNR=2.5						

FUNV 25 22:41:06.2, 10°.12N×63°.52W, h12km, MW3.6, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUNV	**Guanoco**	**0.57**	**86**	↑*i*P	Pg	22 41 17.5	+0.2
GUNV				*e*S	Sg	22 41 24.5	-0.5
CRUV	**Carupano**	**0.61**	**27**	*e*P	Pg	22 41 18.1	-0.1
CRUV				*e*S	Sg	22 41 25.4	-0.9
ORIV	**Oritupano**	**1.05**	**174**	*e*P	Pb	22 41 25.1	-1.3
ORIV				*e*S	Sb	22 41 39.8	-0.4
PCRV	**Puerto La Cruz**	**1.10**	**273**	↑*i*P	Pb	22 41 25.1	-2.1
GUIV	**Guiria**	**1.38**	**68**	*e*P	Pn	22 41 30.7	-0.6
GUIV				*e*S	Sn	22 41 49.5	-0.1
CUPV	**Cœpira**	**2.23**	**268**	*e*P	Pn	22 41 42.5	-0.6
CUPV				*e*S	Sn	22 42 09.6	-1.2
GURV	**El Guri**	**2.39**	**170**	*e*P	Pn	22 41 43.9	-1.4
RIOV	**Rio Grande**	**2.65**	**140**	*e*P	Pn	22 41 48.8	-0.1
RIOV				*e*S	Sn	22 42 18.9	-2.0
BIRV	**Birongo**	**2.73**	**278**	*e*P	Pn	22 41 49.2	-0.7
BIRV				*e*S	Sn	22 42 20.4	-2.4
MERV	**Las Mercedes**	**2.87**	**253**	*e*P	Pn	22 41 51.2	-0.7
MERV				*e*S	Sn	22 42 24.3	-2.1
TURV	**Turiamo**	**4.26**	**275**	*e*P	Pn	22 42 09.7	-1.3
TURV				*e*S	Sn	22 42 56.6	-4.2
BAUV	**El Baul**	**4.61**	**256**	*e*P	Pn	22 42 14.6	-1.2
BAUV				*e*S	Sn	22 43 04.6	-4.7
LUEV	**Luepa**	**4.72**	**154**	*e*P	Pn	22 42 15.9	-1.5
LUEV				*e*S	Sn	22 43 07.8	-4.5
MAPV	**Macapo**	**4.87**	**267**	*e*P	Pn	22 42 17.8	-1.6
MAPV				*e*S	Sn	22 43 10.5	-5.3
TEPV	**Terepaima**	**5.59**	**269**	*e*P	Pn	22 42 28.0	-1.3
TEPV				*e*S	Sn	22 43 27.1	-6.4
MONV	**Montecano**	**6.59**	**287**	*e*P	Pn	22 42 40.5	-2.5

*ISCJB **25** 22:45:43.7±1.0, 67°.67N±0°.04×33°.9E±0°.1, h0km, Error ellipse: s-maj=8.3km s-min=5.8km az=13.5*

*HEL **25** 22:45:45.7±0.4, 67°.71N×33°.93E, h0km, ML2.0, Explosion*

*KOLA **25** 22:45:47.2, 67°.68N×33°.77E, h0km*

*IDC **25** 22:45:49.0±1.8, 67°.74N×33°.51E, h0km, mb1 3.2/5, mb1mx3.0/51, mbtmp3.2/5, ML2.6/5, Error ellipse: s-maj=19.2km s-min=9.3km az=83.0*

ISC 25 22:45:44.3±1.6, 67°.71N±0°.05×33°.88E±0°.09, h0km, n17, σ2s03/30, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.23**	**231**	P	**Pg**	**22 45 50.4**	**+1.7**
APA				S	**Sg**	**22 45 52.7**	**+1.0**
APA0	**Apatity Array**	**0.36**	**253**	P	**Pb**	**22 45 52.6**	**-0.9**
APA0				S	**Sg**	**22 45 56.6**	**+0.9**
VRF	**Varrio**	**1.63**	**273**	PG	**Pb**	**22 46 15.3**	**+0.1**
	baz=89						
VRF				MSG		22 46 35.0	
	comp=Z,11nm,0.2s						
VRF				SG	**Sb**	**22 46 35.8**	**-0.4**
KU6	**Riekki**	**2.31**	**225**	PG	**Pb**	**22 46 26.0**	**-0.9**
	baz=46						
KU6				MSG		22 46 54.4	
	comp=Z,7.0nm,0.2s						
KU6				SG	**Sg**	**22 46 56.7**	**-1.8**
MSF	**Maaselka**	**2.63**	**229**	PB	**Pb**	**22 46 31.4**	**-0.9**
MSF				SG	**Sg**	**22 47 07.3**	**-1.5**
SGF	**Sodankyl**	**2.83**	**268**	PB	**Pb**	**22 46 34.9**	**-0.8**
SGF				SG	**Sg**	**22 47 13.6**	**-1.6**
KEV	**Kevo**	**3.24**	**312**	PN	**Pn**	**22 46 39.3**	**+3.0**
KEV				SN	**Sn**	**22 47 17.5**	**+2.1**
RNF	**Rovaniemi**	**3.26**	**254**	PN	**Pn**	**22 46 38.5**	**+1.9**
RNF				SN	**Sn**	**22 47 17.9**	**+1.8**
ARCES	**ARCESS Array B**	**3.57**	**305**	Pn	**Pn**	**22 46 42.9**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=122,slow=14,SNR=91						
ARCES				Sn	**Sn**	**22 47 24.0**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=119,slow=27,SNR=14						
ARCES				Lg	Lg	22 47 36.3	
	comp=Z,2.7nm,0.3s,baz=116,slow=32,SNR=14						
HEF	**Hetta**	**3.90**	**285**	PN	**Pn**	**22 46 47.2**	**+1.8**
HEF				SN	**Sn**	**22 47 32.8**	**+1.0**
TOF	**Tornio**	**4.11**	**251**	PN	**Pn**	**22 46 49.5**	**+1.3**
OUL	**Oulu**	**4.15**	**234**	PN	**Pn**	**22 46 52.4**	**+3.5**
LANU	**Lannavaara**	**4.51**	**280**	PN	**Pn**	**22 46 54.5**	**+0.8**
LANU				SN	**Sn**	**22 47 42.6**	**-4.2**
FINES	**FINESS Array B**	**7.13**	**212**	Pn	**Pn**	**22 47 30.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=24,slow=12,SNR=4.9						
FINES				Sn	**Sn**	**22 48 49.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=24,slow=21,SNR=3.0						
FINES				Lg	Lg	22 49 24.5	
	comp=Z,0.3nm,0.3s,baz=28,slow=22,SNR=5.8						
SPITS	**Spitsbergen Ar**	**11.61**	**342**	Pn	**Pn**	**22 48 32.3**	**+1.4**
	baz=166,slow=18,SNR=3.2						
SPITS				Sn	**Sn**	**22 50 35.8**	**-5.3**
	baz=144,slow=23,SNR=4.7						
HFS	**Hagfors**	**11.63**	**239**	Pn	**Pn**	**22 48 31.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=46,slow=16,SNR=2.6						
HFS				Lg	Lg	22 51 45.0	
	comp=Z,0.1nm,0.3s,baz=49,slow=34,SNR=3.0						
NOA	**NORSAR Array B**	**11.81**	**246**	Pn	**Pn**	**22 48 34.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=53,slow=13,SNR=3.1						
NOA				Lg	Lg	22 51 57.6	
	comp=Z,0.1nm,0.3s,baz=326,slow=22,SNR=2.9						

IDC 25 22:48:30.6±2.1, 3°.31N×127°.87E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/40, mbtmp3.5/3, Error ellipse: s-maj=157.8km s-min=24.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.96**	**165**	P	P	22 53 45.6	-1.3
	0.4nm,0.6s,baz=344,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**27.45**	**168**	P	P	22 54 19.5	+1.0
	0.2nm,0.4s,baz=348,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**58.55**	**325**	P	P	22 58 29.2	+0.1
	0.8nm,0.4s,baz=112,slow=8.1,SNR=17						

*NIED **25** 22:58:00, 36°.00N×140°.10E, h71km, Mw3.8 Best double couple: M0 5.32000×10^14 NP1: ϕs172.00000°, δ23.00000°, λ88.00000°. NP2: ϕs354.00000°, δ67.00000°, λ91.00000°.*

*ISCJB **25** 22:58:15.3±0.6, 35°.96N±0°.04×140°.19E±0°.06, h74km±4km, mb3.4/7, Error ellipse: s-maj=8.5km s-min=5.8km az=172.4*

*IDC **25** 22:58:17.0±1.8, 35°.96N×140°.22E, h76km±16km, mb3.2/7, mb1 3.4/10, mb1mx3.2/46, mbtmp3.6/10, MS2.6/1, Ms1 2.6/1, ms1mx2.2/17, Error ellipse: s-maj=22.2km s-min=8.8km az=64.0*

*JMA **25** 22:58:17.2, 35°.97N×140°.09E, h62km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕs1.00000°, δ65.00000°, λ89.00000°. NP2: ϕs184.00000°, δ25.00000°, λ92.00000°. Principal axes: T Plg70.0000°, Azm269.0000°; N Plg1.0000°, Azm2.0000°; P Plg20.0000°, Azm92.0000°;*

JMA Felt II J1.

ISC 25 22:58:16.3±0.9, 36°.00N±0°.05×140°.17E±0°.06, h66km±7km, n21, σ1s18/31, mb3.5/7, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.23**	**5**	⇑P	**Pn**	**22 58 27.4**	**+0.8**
JYT				S	**Sn**	**22 58 34.8**	**+0.8**
JAG	**Ashikaga**	**0.72**	**306**	⇓P	**Pn**	**22 58 31.7**	**+0.5**
JAG				S	**Sn**	**22 58 42.2**	**+0.1**
JRY	**Ryogami san**	**1.03**	**271**	⇓P	**Pn**	**22 58 35.3**	**+0.3**
JRY				S	**Sn**	**22 58 48.9**	**0.0**
JKT	**Katashina**	**1.07**	**316**	⇓P	**Pn**	**22 58 36.1**	**+0.5**
JKT				S	**Sn**	**22 58 50.2**	**+0.3**
JOD2	**Odawara 2**	**1.15**	**230**	⇓P	**Pn**	**22 58 36.3**	**-0.2**
JOD2				S	**Sn**	**22 58 49.9**	**-1.7**
BSO3	**Boso 3**	**1.23**	**167**	⇑P	**Pn**	**22 58 37.5**	**+0.2**
JYN	**Shimob**	**1.42**	**250**	⇓P	**Pn**	**22 58 40.4**	**+0.3**
JYN				S	**Sn**	**22 58 57.3**	**-0.7**
JIM2	**Oshima 3**	**1.42**	**206**	P	**Pn**	**22 58 39.3**	**-0.8**
JIM2				S	**Sn**	**22 58 55.7**	**-2.2**
MJAR	**Matsushiro Arr**	**1.68**	**289**	P	**Pn**	**22 58 43.8**	**+0.3**
	47nm,0.3s,baz=94,slow=8.8,SNR=685						
MJAR				S	**Sn**	**22 59 06.2**	**+2.1**
	13nm,0.3s,baz=102,slow=21,SNR=9.1						
MJAR				LR	LR	22 59 34.8	
	comp=Z,87nm,21.8s,baz=145,slow=46						
MAT	**Matsushiro**	**1.68**	**289**	P	**Pn**	**22 58 44.5**	**+1.0**
MAT				S	**Sn**	**22 59 05.0**	**+0.9**
JHJ	**Hachijo jima 2**	**2.89**	**186**	P	**Pn**	**22 59 00.9**	**+0.9**
	31nm,0.3s,baz=255,slow=20,SNR=5.4						
JHJ				S	**Sn**	**22 59 33.9**	**+0.2**
	58nm,0.3s,baz=252,slow=20,SNR=4.0						
ASAJ	**Asahikawa**	**8.32**	**12**	P	**Pn**	**23 00 14.4**	**+0.3**
	0.7nm,0.3s,baz=217,slow=8.8,SNR=7.0						
ASAJ				S	**Sn**	**23 01 42.8**	**-3.7**
	0.2nm,0.3s,baz=320,slow=9.8,SNR=1.8						
KSRS	**Korea Array**	**9.94**	**282**	P	**Pn**	**23 00 38.5**	**+2.2**
	0.2nm,0.3s,baz=99,slow=15,SNR=3.1						
GUMO	**Guam**	**22.71**	**168**	LR	LR	23 10 55.3	
	comp=Z,15nm,21.4s,baz=144,slow=34						
SONM	**Songino Array**	**27.55**	**306**	P	**P**	**23 03 56.6**	**-0.4**
	0.3nm,0.6s,baz=81,slow=8.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**41.88**	**313**	P	**P**	**23 05 59.6**	**-0.3**
	0.3nm,0.3s,baz=103,slow=6.7,SNR=5.2						
MKAR	**Makanchi Array**	**43.83**	**303**	P	**P**	**23 06 15.4**	**-0.3**
	1.0nm,0.9s,baz=91,slow=8.5,SNR=6.2						
ILAR	**Eielson Array**	**50.90**	**32**	P	**P**	**23 07 10.9**	**+0.5**
	0.2nm,0.6s,baz=270,slow=5.4,SNR=4.0						
WRA	**Warramunga Arr**	**55.91**	**187**	P	**P**	**23 07 46.6**	**-0.9**
	0.5nm,0.5s,baz=1.2,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**59.64**	**187**	P	**P**	**23 08 13.6**	**-0.1**
	0.3nm,0.9s,baz=21,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**69.26**	**332**	P	**P**	**23 09 15.7**	**-0.3**
	0.6nm,0.7s,baz=58,slow=5.2,SNR=2.9						

*CSEM **25** 23:17:50.6±0.3, 42°.42N×43°.62E, h2km, MD2.7, Error ellipse: s-maj=11.1km s-min=5.4km az=150.0*

*TIF **25** 23:17:50.0, 42°.45N×43°.63E, h8km±1km*

*DDA **25** 23:18:00.9, 42°.64N×43°.67E, h11km, Md2.7*

ISC 25 23:17:50.8±1.2, 42°.41N±0°.04×43°.60E±0°.03, h3km±12km, n16, σ0s66/32, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.21**	**329**	P	**Pg**	**23 17 54.5**	**-0.3**
ONI				S	**Sg**	**23 17 57.8**	**+0.1**
ONI	**Oni**	**0.21**	**329**	P	**Pg**	**23 17 54.5**	**-0.3**
ONI				S	**Sg**	**23 17 57.7**	**+0.1**
GUDG	**Gudauri**	**0.65**	**85**	P	**Pg**	**23 18 03.3**	**0.0**
GUDG				S	**Sg**	**23 18 12.2**	**+0.4**
GUDG	**Gudauri**	**0.65**	**85**	P	**Pg**	**23 18 03.0**	**-0.3**
GUDG				S	**Sg**	**23 18 11.9**	**+0.1**
TBLG	**Delisi**	**1.09**	**128**	P	**Pg**	**23 18 11.4**	**-0.2**
TBLG				S	**Sn**	**23 18 27.9**	**-0.6**
SEAG	**Tbilisi Sea**	**1.11**	**125**	P	**Pg**	**23 18 11.5**	**-0.4**
SEAG				S	**Sn**	**23 18 28.0**	**-0.9**
EPOS	**Posof**	**1.11**	**216**	P	**Pg**	**23 18 11.6**	**-0.5**
EPOS				S	**Sb**	**23 18 28.0**	**+0.3**
EPOS	**Posof**	**1.11**	**216**	*i*P	**Pg**	**23 18 11.7**	**-0.5**
EPOS				*i*S	**Sb**	**23 18 28.0**	**+0.3**
CHVG	**Ch'k'valeri**	**1.16**	**286**	P	**Pn**	**23 18 13.5**	**-0.4**
CHVG				S	**Sn**	**23 18 30.7**	**+0.5**
ARTV	**Artvin**	**1.75**	**226**	P	**Pn**	**23 18 22.5**	**+0.4**
ARTV				S	**Sn**	**23 18 43.5**	**-1.5**
ARTV	**Artvin**	**1.75**	**226**	*i*P	**Pn**	**23 18 22.5**	**+0.4**
ARTV				*i*S	**Sn**	**23 18 43.5**	**-1.5**
DBOC	**Borcka**	**1.79**	**234**	P	**Pn**	**23 18 22.7**	**+0.1**
DBOC				S	**Sb**	**23 18 47.4**	**+0.3**
DBOC	**Borcka**	**1.79**	**234**	*i*P	**Pn**	**23 18 22.7**	**+0.1**
DBOC				*i*S	**Sb**	**23 18 47.4**	**+0.3**
DAGI	**Agillar**	**1.83**	**224**	*i*P	**Pn**	**23 18 23.9**	**+0.7**
DAGI				*i*S	**Sn**	**23 18 47.5**	**+0.6**
DBAD	**Bademkaya**	**1.99**	**226**	P	**Pn**	**23 18 26.5**	**+1.1**
DBAD				S	**Sb**	**23 18 53.4**	**+0.5**
DBAD	**Bademkaya**	**1.99**	**226**	*i*P	**Pn**	**23 18 26.5**	**+1.1**
DBAD				*i*S	**Sb**	**23 18 53.4**	**+0.5**

FUNV 25 23:25:57.2, 11°.39N×70°.59W, h28km, MW3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MONV	**Montecano**	**0.83**	**47**	*e*P	Pn	23 26 12.9	-0.1
MONV				*e*S	Sn	23 26 24.8	+0.4
SIQV	**Siquisique**	**1.06**	**134**	*e*P	Pn	23 26 16.3	0.0
SIQV				*e*S	Sn	23 26 30.1	-0.1
CURV	**Curarigua**	**1.50**	**156**	*e*P	Pn	23 26 21.7	-0.6
CURV				*e*S	Sn	23 26 40.4	-0.6
JACV	**Jacura**	**1.75**	**100**	*e*P	Pn	23 26 25.0	-0.8
JACV				*e*S	Sn	23 26 46.2	-1.0
TEPV	**Terepaima**	**1.97**	**136**	*e*P	Pn	23 26 27.7	-1.1
TEPV				*e*S	Sn	23 26 50.9	-1.8
VIRV	**Villa del Rosa**	**1.99**	**244**	*e*P	Pn	23 26 28.2	-0.8
VIRV				*e*S	Sn	23 26 51.6	-1.3
SANV	**Sanarito**	**2.14**	**151**	*e*P	Pn	23 26 31.0	-0.2
SANV				*e*S	Sn	23 26 55.4	-1.6
MAPV	**Macapo**	**2.60**	**126**	*e*P	Pn	23 26 37.0	-0.5
MAPV				*e*S	Sn	23 27 06.2	-2.1
VIGV	**El Vigia**	**2.64**	**197**	*e*P	Pn	23 26 37.0	-1.0
VIGV				*e*S	Sn	23 27 06.6	-2.6
TURV	**Turiamo**	**2.86**	**109**	*e*P	Pn	23 26 39.2	-1.7
TURV				*e*S	Sn	23 27 11.8	-2.7
SOCV	**Socops**	**3.09**	**185**	*e*P	Pn	23 26 43.6	-0.6
SOCV				*e*S	Sn	23 27 17.3	-3.0
BAUV	**El Baul**	**3.49**	**134**	*e*P	Pn	23 26 48.2	-1.5
BAUV				*e*S	Sn	23 27 27.0	-3.2
CUPV	**Cœpira**	**4.90**	**105**	*e*P	Pn	23 27 08.1	-1.0
CUPV				*e*S	Sn	23 27 59.2	-5.9

*ISCJB **25** 23:30:20.5±0.6, 8°.4S±0°.1×116°.00E±0°.05, h191km±5km, mb3.5/5, Error ellipse: s-maj=17.4km s-min=6.4km az=12.5*

*DJA **25** 23:30:23.1±0.7, 9°.S±29°.×11°.6E±°, h171km±6km, M4.0/6, MLv4.0/6*

*IDC **25** 23:30:25.7±6.9, 8°.03S×116°.28E, h243km±59km, mb3.1/5, mb1 3.3/7, mb1mx3.0/42, mbtmp3.8/7, Error ellipse: s-maj=104.7km s-min=14.3km az=62.0*

ISC 25 23:30:20.3±0.8, 8°.4S±0°.1×116°.02E±0°.05, h194km±7km, n15, σ2s04/22, mb3.6/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**0.85**	**250**	P	**Pn**	**23 30 49.7**	**+1.3**
DNP				S	**Sn**	**23 31 10.0**	**-0.1**
TWSI	**Taliwang, Sumb**	**0.93**	**112**	P	**Pn**	**23 30 49.8**	**+0.9**
TWSI				S	**Sn**	**23 31 10.2**	**-0.8**
PLAI	**Plampang**	**1.79**	**104**	P	**Pn**	**23 30 57.6**	**+1.3**
PLAI				S	**Sn**	**23 31 23.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.85**	**267**	P	**Pn**	**23 30 56.9**	**+0.1**
JAGI				S	**Sn**	**23 31 24.0**	**-1.1**
ABJI	**Asem Bagus**	**1.86**	**288**	P	**Pn**	**23 30 58.9**	**+2.0**
GMJI	**Gumukmas**	**2.55**	**272**	P	**Pn**	**23 31 05.2**	**+0.8**
GMJI				S	**Sn**	**23 31 38.1**	**-0.5**
PWJI	**Pagerwojo**	**4.18**	**275**	P	**Pn**	**23 31 26.0**	**+1.8**
PWJI				S	**Sn**	**23 32 12.0**	**-2.4**
PCJI	**Pacitan**	**4.79**	**272**	P	**Pn**	**23 31 34.1**	**+2.2**
KAPI	**Kappang**	**5.00**	**48**	P	**Pn**	**23 31 36.0**	**+1.4**
	4.7nm,0.3s,baz=226,slow=7.4,SNR=23						
FITZ	**Fitzroy Crossi**	**13.45**	**137**	P	**P**	**23 33 29.4**	**+3.0**
	0.4nm,0.3s,baz=318,slow=4.1,SNR=8.8						
FITZ				S	**Sn**	**23 35 48.7**	**-5.0**
	0.1nm,0.3s,baz=45,slow=4.3,SNR=2.8						
WRA	**Warramunga Arr**	**21.13**	**125**	P	**P**	**23 34 51.5**	**+1.2**
	1.6nm,0.6s,baz=308,slow=11,SNR=39						
ASAR	**Alice Springs**	**22.90**	**134**	P	**P**	**23 35 09.8**	**+2.4**
	1.8nm,0.4s,baz=308,slow=9.0,SNR=44

KKN eSn Sn 23 44 16.2 -7.9
DMN Daman 8.95 298 ePn Pn **23 42 45.1 -1.4**
LOEI Loei 9.15 131 P Pn **23 42 52.9 +3.8**
GKN Gorkha 9.49 299 ePn Pn **23 42 52.1 -1.6**
GKN eSn Sn 23 44 29.7 -9.1
PBKT Sadao Pong 9.63 136 P Pn **23 42 56.5 +0.9**
NONG Nongkai 10.19 122 P Pn **23 43 05.5 +2.2**
comp=Z,77nm,1.0s,comp=Z,6µmcomp=Z,0.3nm
KOLN Koldanda 10.24 295 ePn Pn **23 43 01.9 -2.2**
KOLN eSn Sn 23 44 46.6 -11
DGPR DIGLIPUR 10.54 186 eP Pn **23 43 07.4 -0.5**
CHAI Chaiyaphum 10.78 135 P Pn **23 43 14.4 +3.1**
comp=Z,22nm,0.9s,comp=Z,167nmcomp=Z,0.1nm
PYUN Piuthan 10.87 296 ePn Pn **23 43 09.8 -2.8**
PYUN eSn Sn 23 45 01.8 -11
KHON Khomkaen 11.04 130 P Pn **23 43 17.0 +2.2**
comp=Z,21nm,0.8s,comp=Z,1µmcomp=Z,0.1nm
CD2 Chengdu 11.22 48 P Pn **23 43 14.3 -2.9**
CD2 S Sn **23 45 16.5 -4.3**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
SKNT Sakolnakorn 11.48 124 P Pn **23 43 23.6 +2.8**
VIS Vishakhapatnam 11.66 241 eP Pn **23 43 23.0 -0.3**
GYA Guiyang 11.76 74 P Pn **23 43 22.5 -2.2**
GYA pP 23 43 32.8
GYA sP 23 43 44.0
GYA S Sn **23 45 30.5 -3.7**
GYA PMZ
comp=Z,10.0nm,0.7s
GYA PMZ
comp=Z,110nm,4.6s
GYA LN
comp=Z,460nm,12.0s
GYA LE
comp=Z,410nm,12.6s
GYA LZ
comp=Z,400nm,12.4s
PBA Port Blair 12.06 186 eP Pn 23 43 28.4 -0.3
PBA IAmb IAmb 23 43 31.5
comp=Z,64nm,0.7s
LGTI Lohaghat 13.60 298 eP Pn **23 43 49.1 -0.2**
LGTI ex x 23 46 14.1
LZH Lanzhou 14.96 32 eP Pn **23 44 07.0 -0.2**
LZH pP P 23 44 19.5 +8.6
LZH sP 23 44 30.5
LZH PMZ
comp=Z,44nm,1.4s
ENH Enshi 15.23 61 ePn Pn **23 44 10.4 -0.1**
comp=Z,39nm,0.7s
BHPL Bhopal 15.26 272 eP Pn **23 44 10.4 -0.5**
DDI Dehra Dun 15.69 298 eP Pn **23 44 15.0 -1.4**
DDI ex x 23 47 00.6
HYB Hyderabad 15.80 250 *i* P P **23 44 22.0 +1.8**
HYB eS Sn **23 47 14.0 +1.7**
HYB Hyderabad 15.80 250 eP P **23 44 21.8 +1.6**
HYB IAmb IAmb 23 44 24.2
comp=Z,24nm,0.8s
GTA Gaotai 16.39 16 P Pn **23 44 24.0 -1.2**
GTA pP pP 23 44 35.0 -6.9
GTA sP sP 23 44 43.5 -8.0
GTA S Sn **23 47 23.3 -3.3**
GTA sS S 23 47 39.5 +4.9
GTA PMZ
comp=Z,7.0nm,1.0s
GTA PMZ
comp=Z,120nm,4.9s
XAN Xi'an 16.58 48 P Pn **23 44 25.8 -1.7**
XAN PMZ
comp=Z,6.0nm,0.8s
SMLA Simla 16.70 300 IAmb IAmb 23 43 11.5
comp=Z,6.1nm,0.3s
SMLA eP Pn **23 44 26.1 -2.8**
POO Poona 19.53 259 ex P 23 44 53.5 -7.8
IPM Ipoh 20.28 160 eP P **23 45 09.1 -0.3**
comp=Z,23nm,0.8s
KCSI Kotacane, Aceh 20.40 169 P Pn 23 45 13.4 0.0
TSI Tuntungan 20.57 167 P Pn 23 45 15.2 -0.2
comp=Z,126nm,0.7s
SARP Sargodha 20.57 298 P P **23 45 13.1 +0.6**
CHCP Chirah Chowk 20.71 303 P P **23 45 14.8 +0.7**
WMQ Urumqi 20.72 347 P P **23 45 15.3 +1.2**
WMQ pP pP 23 45 31.3 +1.8
WMQ sP sP 23 45 39.0 -0.1
WMQ S S **23 48 59.5 -1.7**
WMQ PMZ
comp=Z,11nm,0.8s
WMQ PMZ
comp=Z,84nm,4.0s
WMQ LN
comp=Z,90nm,6.0s
WMQ LE
comp=Z,89nm,6.8s
PALK Pallekele 20.77 220 P Pn 23 45 17.2 -0.6
comp=Z,27nm,1.0s,baz=287,slow=0.5,SNR=4.7
PALK S S **23 48 56.7 -5.8**
comp=Z,13nm,0.9s,baz=296,slow=4.0,SNR=4.3
PALK LR LR 23 53 34.2
comp=Z,60nm,20.9s,baz=296,slow=37
PSI Prapat 21.32 166 eP P **23 45 22.1 +1.4**
PSI pmax pmax
comp=Z,12nm,0.9s
PSI Prapat 21.32 166 eP P **23 45 22.1 +1.4**
comp=Z,12nm,0.9s
THW Thamme Wali 21.59 300 P P **23 45 24.4 +0.9**
CEP Cherat 21.82 302 P P **23 45 26.5 +0.5**
CEP S S **23 49 20.0 -3.2**
KSH Kashi 21.96 320 P P **23 45 29.8 +2.4**
KSH pP pP 23 45 44.3 +1.3
KSH S S **23 49 20.0 -5.6**
KSH PMZ
comp=Z,23nm,0.6s
KSH PMZ
comp=Z,94nm,2.9s
KSH LN
comp=Z,380nm,10.7s
KSH LE
comp=Z,190nm,9.8s
HHC Hu-ho-hao-te 22.54 37 eP P **23 45 33.0 -0.6**
HHC PMZ
comp=Z,8.0nm,0.9s
HHC PMZ
comp=Z,100nm,7.6s
PDGK Podgornoye 22.96 332 *i* P P **23 45 38.4 +0.7**
PDGK pmax pmax
comp=Z,31nm,1.2s
KBL Kabul 24.30 302 eP P **23 45 52.6 +2.2**
KBL pmax pmax
comp=Z,38nm,1.0s
KBL Kabul 24.30 302 eP P **23 45 52.6 +2.2**
comp=Z,38nm,1.0s
TKM2 Tokmak 2 24.49 326 eP P **23 45 54.6 +2.5**
TKM2 pmax pmax
comp=Z,34nm,1.2s
TKM2 Tokmak 2 24.49 326 eP P **23 45 54.6 +2.5**
comp=Z,34nm,1.2s
MK01 Makanchi Array 24.87 341 eP P **23 45 56.3 +1.0**
AAK Ala-Archa 24.87 324 P P **23 45 57.6 +2.1**
comp=Z,2.8nm,0.4s,baz=149,slow=8.4,SNR=4.5
AAK Ala-Archa 24.87 324⇓ eP P **23 45 58.4 +2.9**
AAK pmax pmax
comp=Z,16nm,1.1s
AAK Ala-Archa 24.87 324 eP P **23 45 56.8 +1.3**
comp=Z,45nm,1.6s
MK31 Makanchi Array 24.89 341 *ce*P P **23 45 56.3 +0.8**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 24.89 341 eP P **23 45 56.5 +1.0**
MKAR Makanchi Array 24.89 341 P P **23 45 56.5 +1.1**
comp=Z,6.4nm,0.7s,baz=146,slow=9.4,SNR=28
FRU Bishkek 24.94 325 eP **pP** **23 46 14.0 +0.5**
FRU *e* 23 46 35.0
FRU pmax pmax
comp=Z,60nm,1.8s
EKS2 Erkin-Say 25.28 323 eP P **23 46 01.4 +2.2**
EKS2 pmax pmax
comp=Z,32nm,0.9s
EKS2 Erkin-Say 25.28 323 eP P **23 46 01.4 +2.2**
comp=Z,32nm,0.9s
MNAS Manas 25.88 322 *i* P P **23 46 07.1 +2.5**
MNAS pmax pmax
comp=Z,7.0nm,0.6s
SONM Songino Array 26.00 19 P P **23 46 05.9 +0.3**
comp=Z,11nm,0.7s,baz=194,slow=9.4,SNR=91
SONM ScP **ScP** **23 53 03.9 -1.2**
comp=Z,1.8nm,0.8s,baz=205,slow=4.0,SNR=10
SONA1 Songino Array 26.02 19 eP P **23 46 05.6 -0.2**
SONA1 *e*ScP **ScP** **23 53 04.3 -0.8**
ULN Ulaanbaatar 26.23 20*d* *i*P P **23 46 07.5 -0.2**
ULN pmax pmax
comp=Z,15nm,0.8s
ULN Ulaanbaatar 26.23 20 eP P **23 46 07.3 -0.4**
comp=Z,13nm,0.8s
KKAR Karatay Array 27.41 321 eP P **23 46 20.0 +1.8**
KKAR Karatay Array 27.41 321 eP P **23 46 20.0 +1.8**
ZAK Zakamensk 27.57 13 eP P **23 46 18.9 -0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TLY Talaya 28.88 12 LR LR 23 59 16.0
comp=Z,56nm,19.3s,baz=184,slow=39
KURBB Kurchatov Arra 29.44 340 P P **23 46 37.2 +1.1**
comp=Z,3.7nm,0.8s,baz=153,slow=8.1,SNR=28
KURBB ScP **ScP** **23 53 15.2 -0.2**
comp=Z,1.3nm,1.0s,baz=162,slow=2.1,SNR=5.6
KURK Kurchatov 29.50 340 eP P **23 46 37.7 +1.1**
KURK pmax pmax
comp=Z,16nm,0.8s
KURK Kurchatov 29.50 340 eP P **23 46 37.6 +1.1**
comp=Z,16nm,0.8s
KURK ScP **ScP** **23 53 15.2 -0.4**
ZAA0 Zalesovo Array 30.98 349 eP P **23 46 50.6 +1.0**
ZALV Zalesovo Beam 30.98 349 P P **23 46 50.6 +1.0**
comp=Z,8.6nm,0.8s,baz=178,slow=8.6,SNR=30
KSRS Korea Array 32.03 57 LR LR 00 01 00.3
comp=Z,72nm,18.2s,baz=235,slow=38
NVS Novosibirsk 32.11 348⇑ *i*P P **23 47 00.4 +0.8**
NVS *i* 23 47 17.3
NVS eS S **23 52 03.4 -3.0**
NVS pmax pmax
comp=Z,15nm,1.0s
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS smax smax
comp=N,11nm,1.9s
NVS smax smax
comp=E,14nm,1.9s
GEYT Alibeck 33.73 303 P P **23 47 16.0 +2.0**
comp=E,3.3nm,0.9s,baz=120,slow=8.7,SNR=9.0
GEYT pP **pP** **23 47 34.3 +2.4**
comp=E,5.1nm,0.9s,baz=104,slow=4.9,SNR=7.6
VOSK Vostochnaya 33.86 335⇑ eP P **23 47 15.5 +0.5**
VOSK pmax pmax
comp=Z,7.0nm,0.9s
BVAR Borovoye Array 34.33 335 P P **23 47 19.5 +0.5**
comp=Z,1.7nm,0.8s,baz=134,slow=8.5,SNR=8.9
BVAR pP **pP** **23 47 38.7 +1.8**
comp=Z,4.4nm,0.7s,baz=131,slow=10,SNR=12
BRVK Borovoye 34.39 334⇑ eP P **23 47 21.7 +2.2**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 34.39 334 eP P **23 47 21.4 +1.9**
comp=Z,10nm,0.6s
ZRNK Zerenda 34.83 333 eP P **23 47 24.3 +1.0**
ZRNK pmax pmax
comp=Z,7.0nm,0.6s
ZRNK Zerenda 34.83 333 eP P **23 47 24.3 +1.0**
comp=Z,6.9nm,0.6s
MDJ Mudanjiang 35.66 45 P P **23 47 29.5 -1.0**
MDJ PMZ
comp=Z,5.0nm,0.7s
AB31 Akbulak array 36.93 322*ce*P P **23 47 42.5 +1.2**
AB31 pmax pmax
comp=Z,6.0nm,0.9s
ABKAR Akbulak array 36.93 322 eP P **23 47 43.0 +1.7**
BOD Bodaibo 36.98 18 eP P **23 47 41.1 -0.4**
BOD pmax pmax
comp=Z,16nm,1.5s
AKTO Aktyubinsk 38.60 323 P P **23 47 56.7 +1.3**
comp=Z,2.1nm,0.6s,baz=116,slow=9.9,SNR=7.8
AKTO pP **pP** **23 48 15.0 +1.4**
comp=Z,6.4nm,0.6s,baz=119,slow=11,SNR=10
MJAR Matsushiro Arr 39.95 61 P P **23 48 04.1 -2.7**
comp=Z,0.6nm,0.7s,baz=282,slow=12,SNR=2.5
SVE Sverdlovsk 41.00 333 eP **pP** **23 48 35.5 +2.0**
SVE pmax pmax
comp=Z,18nm,0.9s
ARU Arti 41.66 331 P P **23 48 20.6 +0.1**
comp=Z,1.1nm,0.3s,baz=141,slow=9.1,SNR=3.8
ARU pP **pP** **23 48 40.2 +1.2**
comp=Z,3.9nm,0.5s,baz=108,slow=5.6,SNR=7.0
ARU Arti 41.66 331*c* *i*P P **23 48 22.9 +2.4**
ARU *e**PP **pP** **23 48 40.1 +1.2**
ARU 23 49 58.3
ARU 23 50 16.4
ARU S S **23 54 36.4 +5.0**
ARU SS SS **23 57 39.6 +0.5**
ARU pmax pmax
comp=Z,6.0nm,2.5s
ARU Arti 41.66 331 eP P **23 48 22.0 +1.5**
comp=Z,5.7nm,0.6s
ARU pP **pP** **23 48 40.2 +1.2**
ZEI Tsey 45.33 307 eP P **23 48 52.0 +1.5**
ZEI pmax pmax
comp=Z,21nm,0.6s
NCK Nalchik 45.65 308⇓ eP P **23 48 54.5 +1.6**
NCK pmax pmax
comp=Z,8.0nm,0.6s
NRIK Noril'sk 45.80 357 P P **23 48 53.4 -0.3**
comp=Z,2.9nm,0.7s,baz=169,slow=7.4,SNR=8.3
NRIK LR LR 00 10 11.6
comp=Z,28nm,19.2s,baz=178,slow=39
KBZ Khabaz 46.19 309 P P **23 48 57.9 +0.9**
comp=Z,1.0nm,0.5s,baz=99,slow=17,SNR=3.4
KBZ LR LR 00 10 45.2
comp=Z,31nm,21.2s,baz=54,slow=39
NEY Neytrino 46.25 308⇓ eP P **23 49 00.6 +2.9**
NEY pmax pmax
comp=Z,1.0nm,0.6s
KVAR Kislovodsk Arr 46.37 309 P P **23 48 59.1 +0.5**
comp=Z,2.9nm,0.6s,baz=75,slow=4.9,SNR=6.3
KIV Kislovodsk 46.37 309⇑ eP P **23 49 01.4 +2.8**
KIV *e* 23 49 19.2
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 46.37 309 eP P **23 49 00.2 +1.6**
comp=Z,12nm,1.2s
VRH Novokhopyorsk 48.45 318 eP **pP** **23 49 33.5 +0.3**
VRH pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 50.02 318 eP **pP** **23 49 44.9 -0.4**
VSR pmax pmax
comp=Z,8.0nm,0.6s
ANN Anapa 50.21 309 eP P **23 49 26.3 -1.7**
ANN *e**PP **pP** **23 49 43.0 -3.9**
ANN *e* 23 51 24.2
ANN *e*S S **23 56 33.9 -0.6**
ANN pmax pmax
comp=Z,19nm,1.0s
FITZ Fitzroy Crossi 51.76 141 P P **23 49 38.6 -1.2**
comp=Z,5.3nm,0.9s,baz=115,slow=6.7,SNR=4.9
TIXI Tiksi 51.85 13⇓ eP P **23 49 39.0 -0.8**
TIXI pmax pmax
comp=Z,15nm,1.7s
TIXI Tiksi 51.85 13 eP P **23 49 39.4 -0.5**
comp=Z,13nm,1.2s
KLMR Klimovskoe 52.47 330 eP P **23 49 46.9 +2.3**
KLMR pmax pmax
comp=Z,7.0nm,0.7s
BRTR Keskin Array B 52.87 303 P P **23 49 48.4 +0.3**
comp=Z,0.8nm,0.6s,baz=105,slow=6.3,SNR=5.9
AKASG Malin Array Be 56.18 316 P P **23 50 11.4 -0.2**
comp=Z,1.5nm,0.5s,baz=82,slow=6.4,SNR=5.3
AKASG pP **pP** **23 50 30.4 -0.5**
comp=Z,2.7nm,0.4s,baz=80,slow=6.8,SNR=8.0
AKASG LR LR 00 18 08.9
comp=Z,36nm,19.9s,baz=70,slow=40
KIEV Kiev 56.19 316⇑ eP P **23 50 11.9 +0.2**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 56.19 316 eP P **23 50 12.9 +1.1**
comp=Z,5.8nm,0.6s
VRI Vrincioaia 57.79 310 *i*P P **23 50 25.5 +2.3**
VRI Vrincioaia 57.79 310⇓ P P **23 50 25.5 +2.3**
PLOR Plostina 57.84 310⇑ *i*P P **23 50 25.8 +2.2**
PLOR Plostina 57.84 310⇑ P P **23 50 25.8 +2.2**
NACGM Naroch 57.92 321 *e* pP 23 50 43.0 -0.2
MLR Muntele Rosu 58.35 310 *i*P P **23 50 29.7 +2.4**
MLR Muntele Rosu 58.35 310⇑ P P **23 50 29.7 +2.4**
MLR Muntele Rosu 58.35 310 eP P **23 50 29.1 +1.9**
comp=Z,11nm,0.9s
WRA Warramunga Arr 58.53 134 P P **23 50 28.0 -0.6**
comp=Z,4.1nm,0.8s,baz=322,slow=7.4,SNR=43
BURAR Bucovina Array 58.77 312 *i*P pP 23 50 50.9 +1.4
FINES FINESS Array B 58.94 329 P P **23 50 32.9 +2.1**
comp=Z,0.8nm,0.6s,baz=95,slow=6.5,SNR=6.0
FINES pP **pP** **23 50 50.8 +0.5**
comp=Z,9.0nm,0.6s,baz=99,slow=8.6,SNR=24
FINES LR LR 00 18 25.5
comp=Z,53nm,18.1s,baz=148,slow=38
KWP Kalwaria Pacla 60.36 315⇑ *i*P P **23 50 42.3 +1.4**
KWP Kalwaria Pacla 60.36 315⇑ P P **23 50 42.3 +1.4**
ARCES ARCESS Array B 60.51 338 P P **23 50 43.4 +1.8**
comp=Z,1.5nm,0.8s,baz=100,slow=6.8,SNR=4.0
ARCES pP **pP** **23 51 02.1 +1.1**
comp=Z,5.6nm,0.7s,baz=72,slow=7.8,SNR=6.9
DRGR 60.52 312⇑ *i*P P **23 50 44.0 +1.9**
DRGR 60.52 312⇑ P P **23 50 44.0 +1.9**
AS31 Alice Springs 60.96 138 eP P **23 50 44.8 -0.5**
comp=Z,2.7nm,0.5s
ASAR Alice Springs 60.96 138 P P **23 50 45.1 -0.1**
comp=Z,3.7nm,0.8s,baz=321,slow=6.9,SNR=31
AS01 Alice Springs 60.98 138 eP P **23 50 45.0 -0.5**
MDVR Moldovita 61.39 309⇑ *i*P P **23 50 50.3 +2.3**
BILL Bilibino 61.59 24⇓ eP P **23 50 49.0 +0.1**
BILL *i* 23 51 07.1
BILL pmax pmax
comp=Z,3.0nm,0.9s
OKC Ostrava-Krasne 63.30 315 eP P **23 51 04.3 +3.7**
OKC epP **pP** **23 51 20.6 +0.4**
OKC Ostrava-Krasne 63.30 315 eP P **23 51 04.3 +3.7**
OKC *e* 23 51 20.6
MORC Moravsky Berou 63.69 315⇑ *i*P P **23 51 07.3 +4.0**
MORC Moravsky Berou 63.69 315⇑ P P **23 51 07.3 +4.0**
VRAC Vranov 64.36 315⇓ *i*P P **23 51 09.7 +2.1**
VRAC Vranov 64.36 315⇓ P P **23 51 09.7 +2.1**
DPC Dobruska-Polom 64.41 316 eP P 23 51 12.8 +4.9
DPC epP pP 23 51 28.7 +1.1
DPC *ex* x 23 51 50.9
DPC Dobruska-Polom 64.41 316 eP P 23 51 12.8 +4.9
DPC *e* 23 51 28.7
PRU Pruhonice 65.59 316 eP P 23 51 22.8 +7.2
PRU epP pP 23 51 36.1 +0.9
PRU Pruhonice 65.59 316 eP P 23 51 22.8 +7.2
PRU *e* 23 51 36.1
BRG Berggiesshubel 65.84 317 eP pP 23 51 37.5 +0.6
comp=Z,6.4nm,1.0s
NB2 NORSAR Subarra 66.11 328 P pP 23 51 38.5 +0.1
comp=Z,8.1nm,0.8s,baz=84,slow=6.5
NOA NORSAR Array B 66.11 328 P P **23 51 21.4 +2.7**
comp=Z,0.6nm,0.7s,baz=85,slow=6.5,SNR=3.2
NOA pP **pP** **23 51 38.5 +0.1**
comp=Z,5.5nm,0.7s,baz=85,slow=6.5,SNR=23
NOA LR LR 00 21 36.1
comp=Z,29nm,19.5s,baz=65,slow=37
GEC2 GERESS Array S 66.31 315 eP P **23 51 22.2 +1.9**
GEC2 pmax pmax
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 66.31 315 eP P **23 51 22.2 +1.9**
comp=Z,4.9nm,0.7s
GERES GERESS Array B 66.31 315 P P **23 51 22.1 +1.8**
comp=Z,1.8nm,0.8s,baz=79,slow=6.9,SNR=14
GERES pP **pP** **23 51 40.8 +0.8**
comp=Z,3.7nm,0.6s,baz=74,slow=5.8,SNR=13
GERES LR LR 00 23 40.2
comp=Z,20nm,19.0s,baz=339,slow=39
GEA0 GERESS Array S 66.31 315 eP P **23 51 21.8 +1.4**
KHC Kasperske Hory 66.34 315 eP P **23 51 24.0 +3.5**
KHC epP **pP** **23 51 40.8 +0.6**
KHC Kasperske Hory 66.34 315 eP P **23 51 24.0 +3.5**
KHC *e* 23 51 40.8
CLL Collm 66.36 317 *i* pP pP 23 51 40.4 +0.2
comp=Z,5.0nm,1.1s
ILAR Eielson Array 80.18 22 P P **23 52 40.0 -1.6**
comp=Z,0.3nm,0.8s,baz=290,slow=3.7,SNR=3.2
ILAR pP **pP** **23 53 02.0 +0.1**
comp=Z,1.1nm,0.6s,baz=297,slow=4.8,SNR=7.7
ILAR LR LR 00 33 21.6
comp=Z,31nm,19.0s,baz=201,slow=40
ILAR Eielson Array 80.18 22 P P **23 52 40.0 -1.6**
ILAR *PP **pP** **23 53 02.0 +0.1**
ESDC Sonseca Array 81.04 309 P P **23 52 47.6 +0.9**
comp=Z,0.1nm,0.2s,baz=68,slow=4.6,SNR=2.9
ESDC pP **pP** **23 53 07.5 +0.5**
comp=Z,1.8nm,1.0s,baz=64,slow=5.9,SNR=5.9
BOSA Boshof 84.20 235 P P **23 53 04.2 +0.9**
comp=Z,5.2nm,1.0s,baz=358,slow=1.9,SNR=7.1
BOSA LR LR 00 30 47.7
comp=Z,10nm,19.3s,baz=58,slow=36
TORD Torodi Ar. Bea 86.92 283 P P **23 53 18.7 +1.7**
comp=Z,0.6nm,0.8s,baz=53,slow=4.5,SNR=6.4
TORD pP **pP** **23 53 38.2 +0.7**
comp=Z,1.9nm,0.8s,baz=79,slow=3.2,SNR=9.6
TXAR Lajitas Array 124.57 19 PKP **PKPdf** **23 59 33.2 +2.1**
comp=Z,0.2nm,0.5s,baz=88,slow=0.7,SNR=4.8
TXAR pPKP **pPKPdf** **23 59 53.1 +0.5**
comp=Z,0.4nm,0.5s,baz=100,slow=1.0,SNR=5.0

IDC ***25*** *23:45:30.2±1.0, 37.°30S×176.°93E, h213km±8km, mb3.8/5, mb1 3.9/6, mb1mx3.6/23, mbtmp4.3/6, Error ellipse: s-maj=35.5km s-min=21.8km az=23.0*
ISCJB ***25*** *23:45:31.2±0.5, 37.°39S±0.°04×176.°63E±0.°07, h228km±4km, mb3.9/5, Error ellipse: s-maj=8.6km s-min=7.0km az=1.5*
NEIC ***25*** *23:45:31.8, 37.°24S×176.°77E, h214km, MG4.7(WEL), After WEL.*
WEL ***25*** *23:45:32.9±0.3, 37.°26S×176.°83E, h206km±2km, ML4.6/19, Error ellipse: s-maj=2.6km s-min=2.5km az=0.0*

ISC 25 23:45:31.6±0.7, 37°42S±0.°06×176°68E±0.°06, h223km±5km, n202, σ1$25/210, mb3.9/5, 19C-8D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.43**	**193**	⇑PN	**Pn**	**23 46 00.9**	**-0.2**
OPRZ				SN	**S**	**23 46 22.3**	**-2.1**
OPRZ	**Ohinepanea**	**0.43**	**193**	Pn	**Pn**	**23 46 00.9**	**-0.2**
TGRZ	**Tauranga**	**0.45**	**227**	⇑PN	**Pn**	**23 46 01.3**	**+0.1**
TGRZ				SN	**S**	**23 46 24.3**	**-0.1**
TGRZ	**Tauranga**	**0.45**	**227**	Pn	**Pn**	**23 46 01.3**	**+0.1**
LIRZ	**Lichensteins R**	**0.62**	**202**	PN	**Pn**	**23 46 02.3**	**+0.4**
LIRZ	**Lichensteins R**	**0.62**	**202**	Pn	**Pn**	**23 46 02.3**	**+0.4**
KARZ	**Kaharoa**	**0.69**	**210**	PN	**Pn**	**23 46 02.6**	**+0.5**
KARZ	**Kaharoa**	**0.69**	**210**	Pn	**Pn**	**23 46 02.6**	**+0.5**
OMRZ	**Omania**	**0.72**	**199**	PN	**Pn**	**23 46 02.9**	**+0.6**
OMRZ	**Omania**	**0.72**	**199**	Pn	**Pn**	**23 46 02.9**	**+0.6**
TARZ	**Mount Tarawera**	**0.82**	**189**	⇓PN	**Pn**	**23 46 04.0**	**+1.2**
TARZ	**Mount Tarawera**	**0.82**	**189**	Pn	**Pn**	**23 46 04.0**	**+1.2**
URZ	**Urewera**	**0.90**	**158**	P	**Pn**	**23 46 02.6**	**-0.5**
URZ	131nm,0.3s,baz=265,slow=3.1,SNR=539			S	**S**	**23 46 25.4**	**-2.5**
	115nm,0.3s,baz=203,slow=24,SNR=27						
URZ	**Urewera**	**0.90**	**158**	PN	**Pn**	**23 46 03.0**	**-0.1**
URZ				SN	**S**	**23 46 25.7**	**-2.2**
URZ				AML	AML	23 46 29.6	
URZ	**Urewera**	**0.90**	**158**	Pn	**Pn**	**23 46 03.0**	**-0.1**
URZ				S	**S**	**23 46 25.4**	**-2.5**
RRRZ	**Republican Roa**	**0.92**	**188**	⇓PN	**Pn**	**23 46 04.2**	**+0.9**
RRRZ	**Republican Roa**	**0.92**	**188**	Pn	**Pn**	**23 46 04.2**	**+0.9**
HAZ	**Te Kaha**	**0.94**	**111**	⇑PN	**Pn**	**23 46 02.3**	**-1.1**
TOZ	**Tahuroa Road**	**0.98**	**251**	PN	**Pn**	**23 46 04.0**	**+0.4**
TOZ	**Tahuroa Road**	**0.98**	**251**	Pn	**Pn**	**23 46 04.0**	**+0.4**
KUZ	**Kuaotunu**	**1.02**	**311**	PN	**Pn**	**23 46 02.4**	**-1.5**
KUZ				SN	**S**	**23 46 26.8**	**-2.2**
KUZ	**Kuaotunu**	**1.02**	**311**	Pn	**Pn**	**23 46 02.4**	**-1.5**
KUZ				Sn	**S**	**23 46 26.8**	**-2.2**
MUGZ	**Murupara**	**1.05**	**176**	⇑PN	**Pn**	**23 46 04.5**	**+0.4**
MWZ	**Matawai**	**1.13**	**144**	PN	**Pn**	**23 46 04.4**	**-0.2**
MWZ				AML	AML	23 46 38.9	
MWZ				AML	AML	23 46 39.5	
MWZ				AML	AML	23 46 39.6	
MWZ	**Matawai**	**1.13**	**144**	Pn	**Pn**	**23 46 04.5**	**-0.2**
ALRZ	**Allen Road**	**1.17**	**193**	PN	**Pn**	**23 46 06.0**	**+1.2**
ALRZ	**Allen Road**	**1.17**	**193**	Pn	**Pn**	**23 46 06.0**	**+1.2**
WPRZ	**Whakapapatarin**	**1.17**	**200**	PN	**Pn**	**23 46 06.3**	**+1.4**
WPRZ	**Whakapapatarin**	**1.17**	**200**	Pn	**Pn**	**23 46 06.3**	**+1.4**
RTZ	**Ruatahuna**	**1.21**	**169**	⇑PN	**Pn**	**23 46 05.7**	**+0.5**
RAGZ	**Rawiri**	**1.22**	**152**	PN	**Pn**	**23 46 05.8**	**+0.5**
RAGZ	**Rawiri**	**1.22**	**152**	Pn	**Pn**	**23 46 05.8**	**+0.5**
MKAZ	**Moumakai**	**1.25**	**284**	PN	**Pn**	**23 46 05.5**	**+0.1**
TWGZ	**Tauwhareparae**	**1.28**	**126**	PN	**Pn**	**23 46 06.1**	**+0.4**
TWGZ	**Tauwhareparae**	**1.28**	**126**	Pn	**Pn**	**23 46 06.1**	**+0.4**

MXZ	Matakaoa Point	1.30	97	⇑PN	Pn	23 46 04.8	-1.0	
MXZ				SN	S	23 46 29.3	-3.1	
MXZ				AML	AML	23 46 32.1		
MXZ				AML	AML	23 46 32.3		
MXZ				AML	AML	23 46 32.5		
MXZ	Matakaoa Point	1.30	97	Pn	Pn	23 46 04.8	-1.0	
TKGZ	Te Karaka	1.37	138	PN	Pn	23 46 06.8	+0.4	
WIAZ	Waiheke Island	1.38	297	⇓PN	Pn	23 46 06.0	-0.4	
PUZ	Puketiti	1.41	118	PN	Pn	23 46 06.3	-0.3	
PUZ				AML	AML	23 46 32.1		
PUZ				AML	AML	23 46 36.3		
PUZ	Puketiti	1.41	118	Pn	Pn	23 46 06.3	-0.3	
MRHZ	Matea Rd	1.42	188	PN	Pn	23 46 07.8	+1.0	
WMGZ	Waiomatatini S	1.44	106	⇑PN	Pn	23 46 06.5	-0.3	
WMGZ	Waiomatatini S	1.44	106	Pn	Pn	23 46 06.5	-0.3	
SNGZ	Shannon Statio	1.45	159	⇑PN	Pn	23 46 07.8	+0.8	
SNGZ	Shannon Statio	1.45	159	Pn	Pn	23 46 07.8	+0.8	
RAHZ	Arahi	1.52	168	PN	Pn	23 46 08.9	+1.4	
RAHZ				SN	S	23 46 36.2	+0.4	
RAHZ	Arahi	1.52	168	Pn	Pn	23 46 08.9	+1.4	
RIGZ	Rimuhau	1.54	146	⇑PN	Pn	23 46 08.8	+1.0	
CNGZ	Carnagh Statio	1.61	132	⇑PN	Pn	23 46 09.2	+1.0	
CNGZ	Carnagh Statio	1.61	132	Pn	Pn	23 46 09.2	+1.0	
NMHZ	Naumai	1.67	176	PN	Pn	23 46 10.6	+1.7	
NMHZ	Naumai	1.67	176	Pn	Pn	23 46 10.6	+1.7	
WHHZ	Waihua	1.71	165	PN	Pn	23 46 10.5	+1.4	
KATZ	Kakaramea	1.73	206	PN	Pn	23 46 11.8	+2.3	
KATZ	Kakaramea	1.73	206	Pn	Pn	23 46 11.8	+2.3	
BKZ	Black Stump Fm	1.75	185	⇑PN	Pn	23 46 10.3	+0.8	
BKZ				AML	AML	23 46 41.0		
BKZ				AML	AML	23 46 42.4		
BKZ	Black Stump Fm	1.75	185	Pn	Pn	23 46 10.3	+0.8	
PRGZ	Paritu Road	1.77	148	PN	Pn	23 46 10.9	+1.2	
PRGZ	Paritu Road	1.77	148	Pn	Pn	23 46 10.9	+1.2	
HIZ	Hauiti	1.80	232	PN	Pn	23 46 12.0	+2.0	
HIZ	Hauiti	1.80	232	Pn	Pn	23 46 12.0	+2.0	
ARHZ	Aropaoanui	1.85	172	PN	Pn	23 46 12.0	+1.6	
ARHZ	Aropaoanui	1.85	172	Pn	Pn	23 46 12.0	+1.6	
WTVZ	West Tongariro	1.89	206	Pn	Pn	23 46 07.2	-3.7	
OTVZ	Oturere	1.91	204	⇓PN	Pn	23 46 13.0	+1.9	
OTVZ	Oturere	1.91	204	Pn	Pn	23 46 13.0	+1.9	
TWVZ	Taurewa	1.91	210	PN	Pn	23 46 12.9	+1.8	
TWVZ	Taurewa	1.91	210	Pn	Pn	23 46 12.9	+1.8	
NGZ	Ngauruhoe	1.94	205	PN	Pn	23 46 13.6	+2.2	
NGZ	Ngauruhoe	1.94	205	Pn	Pn	23 46 13.6	+2.2	
MHGZ	Mahia Peninsul	1.98	151	PN	Pn	23 46 12.7	+1.1	
MHGZ	Mahia Peninsul	1.98	151	Pn	Pn	23 46 12.7	+1.1	
KWHZ	Kaweka Forest	2.01	186	⇑PN	Pn	23 46 13.3	+1.3	
TUVZ	Tukino	2.01	203	PN	Pn	23 46 13.6	+1.6	
TUVZ	Tukino	2.01	203	Pn	Pn	23 46 13.6	+1.6	
MCHZ	McNeill Hill	2.02	180	PN	Pn	23 46 13.8	+1.8	
MCHZ	McNeill Hill	2.02	180	Pn	Pn	23 46 13.8	+1.8	
FWVZ	Far West T-bar	2.03	205	⇓PN	Pn	23 46 14.1	+1.7	
FWVZ	Far West T-bar	2.03	205	Pn	Pn	23 46 14.1	+1.7	
WHVZ	Whangaehu Hut	2.04	204	PN	Pn	23 46 14.0	+1.5	
WHVZ	Whangaehu Hut	2.04	204	Pn	Pn	23 46 14.0	+1.5	
TRVZ	Turoa	2.07	205	PN	Pn	23 46 14.3	+1.5	
TRVZ	Turoa	2.07	205	Pn	Pn	23 46 14.3	+1.5	
WNVZ	Wahianoa	2.08	204	⇑PN	Pn	23 46 14.2	+1.4	
WNVZ	Wahianoa	2.08	204	Pn	Pn	23 46 14.2	+1.4	
MOVZ	Moawhango	2.11	200	PN	Pn	23 46 14.0	+1.1	
MOVZ	Moawhango	2.11	200	Pn	Pn	23 46 14.0	+1.1	
PKVZ	Pokaka	2.13	209	PN	Pn	23 46 14.9	+1.7	
PKVZ	Pokaka	2.13	209	Pn	Pn	23 46 14.9	+1.7	
MTVZ	Mangateitei	2.17	205	PN	Pn	23 46 15.6	+2.0	
MTVZ	Mangateitei	2.17	205	Pn	Pn	23 46 15.6	+2.0	
KRHZ	Kereru	2.23	186	PN	Pn	23 46 15.2	+1.1	
CKHZ	Cape Kidnapper	2.25	172	PN	Pn	23 46 15.9	+1.6	
CKHZ	Cape Kidnapper	2.25	172	Pn	Pn	23 46 15.9	+1.6	
VRZ	Vera Road	2.27	221	PN	Pn	23 46 17.1	+2.6	
VRZ	Vera Road	2.27	221	Pn	Pn	23 46 17.1	+2.6	
KAHZ	Kahuranaki	2.37	176	⇓PN	Pn	23 46 17.0	+1.4	
KAHZ	Kahuranaki	2.37	176	Pn	Pn	23 46 17.0	+1.4	
PNHZ	Pukenui	2.51	188	PN	Pn	23 46 18.0	+0.9	
PNHZ	Pukenui	2.51	188	Pn	Pn	23 46 18.0	+0.9	
PXZ	Pawanui	2.61	177	⇑PN	Pn	23 46 19.0	+1.0	
PXZ				AML	AML	23 46 57.4		
PXZ				AML	AML	23 46 57.5		
PXZ				AML	AML	23 46 57.6		
PXZ				AML	AML	23 46 58.3		
PXZ	Pawanui	2.61	177	Pn	Pn	23 46 19.0	+1.0	
WPHZ	Waipukurau	2.64	184	⇑PN	Pn	23 46 19.4	+1.0	
WPHZ	Waipukurau	2.64	184	Pn	Pn	23 46 19.4	+1.0	
WAZ	Wanganui	2.68	209	PN	Pn	23 46 20.4	+1.6	
WAZ	Wanganui	2.68	209	Pn	Pn	23 46 20.4	+1.6	
TSZ	Takapari Road	2.69	192	⇑PN	Pn	23 46 20.0	+1.0	
TSZ				AML	AML	23 46 58.2		
TSZ				AML	AML	23 46 58.6		
TSZ	Takapari Road	2.69	192	Pn	Pn	23 46 20.0	+1.0	
PKEZ	Pukeiti	2.76	229	PN	Pn	23 46 22.9	+3.2	
PKEZ	Pukeiti	2.76	229	Pn	Pn	23 46 22.9	+3.2	
PRHZ	Porangahau	2.84	181	PN	Pn	23 46 21.7	+1.1	
PRHZ	Porangahau	2.84	181	Pn	Pn	23 46 21.7	+1.1	
DVHZ	Dannevirke	2.90	188	PN	Pn	23 46 21.8	+0.6	
DVHZ	Dannevirke	2.90	188	Pn	Pn	23 46 21.8	+0.6	
OHWZ	Ohakea	2.97	201	PN	Pn	23 46 23.6	+1.5	
ANWZ	Angora Road	3.04	183	PN	Pn	23 46 23.9	+1.2	
POWZ	Post Office Ro	3.05	193	PN	Pn	23 46 23.7	+0.8	
POWZ	Post Office Ro	3.05	193	Pn	Pn	23 46 23.7	+0.8	
PRWZ	Pori Road	3.17	190	PN	Pn	23 46 25.3	+0.9	
PRWZ	Pori Road	3.17	190	Pn	Pn	23 46 25.3	+0.9	
BFZ	Birch Farm	3.27	186	PN	Pn	23 46 25.9	+0.4	
BFZ				AML	AML	23 47 11.8		
BFZ				AML	AML	23 47 14.8		
BFZ				AML	AML	23 47 15.6		
BFZ				AML	AML	23 47 15.6		
BFZ	Birch Farm	3.27	186	Pn	Pn	23 46 25.9	+0.4	
MRZ	Mangatainoka R	3.34	194	⇓PN	Pn	23 46 26.6	+0.2	
MRZ	Mangatainoka R	3.34	194	Pn	Pn	23 46 26.6	+0.2	
TIWZ	Tintock	3.40	190	PN	Pn	23 46 27.7	+0.6	
TIWZ				AML	AML	23 47 14.8		
TIWZ				AML	AML	23 47 14.9		
TIWZ	Tintock	3.40	190	Pn	Pn	23 46 27.7	+0.6	
CPWZ	Castlepoint	3.50	186	PN	Pn	23 46 29.9	+1.7	
CPWZ	Castlepoint	3.50	186	Pn	Pn	23 46 29.9	+1.7	
HOWZ	Holdsworth Sta	3.58	194	⇑PN	Pn	23 46 29.2	0.0	
HOWZ	Holdsworth Sta	3.58	194	Pn	Pn	23 46 29.2	0.0	
OGWZ	Otaki Gorge	3.58	199	⇑PN	Pn	23 46 29.5	+0.3	
OGWZ	Otaki Gorge	3.58	199	Pn	Pn	23 46 29.5	+0.3	
KIWZ	Kapiti Island	3.70	201	PN	Pn	23 46 30.6	+0.1	
KIW				AML	AML	23 47 18.5		
KIW				AML	AML	23 47 19.2		
KIW	Kapiti Island	3.70	201	Pn	Pn	23 46 30.6	+0.1	
TMWZ	Te Maipa	3.73	189	ePN	Pn	23 46 31.2	+0.3	
TMWZ	Te Maipa	3.73	189	ePn	Pn	23 46 31.2	+0.3	
MTWZ	Mount Morrison	3.84	193	PN	Pn	23 46 32.0	-0.2	
MTW				AML	AML	23 47 23.8		
MTW				AML	AML	23 47 27.8		
MTWZ	Mount Morrison	3.84	193	Pn	Pn	23 46 32.0	-0.2	
CAWZ	Cannon Point	3.88	198	PN	Pn	23 46 32.6	-0.1	
CAW				AML	AML	23 47 22.3		
CAW				AML	AML	23 47 24.6		
CAWZ	Cannon Point	3.88	198	Pn	Pn	23 46 32.6	-0.1	
DUWZ	D'Urville Isla	4.00	212	PN	Pn	23 46 34.0	-0.1	
DUWZ	D'Urville Isla	4.00	212	Pn	Pn	23 46 34.0	-0.1	
TRWZ	Traveller	4.04	191	PN	Pn	23 46 34.7	+0.1	
TRWZ				AML	AML	23 47 28.6		
TRWZ				AML	AML	23 47 29.9		
TRWZ	Traveller	4.04	191	Pn	Pn	23 46 34.7	+0.1	
PAWZ	Paruwai Farm	4.07	193	PN	Pn	23 46 34.8	-0.3	
PAWZ				AML	AML	23 47 26.6		
PAWZ				AML	AML	23 47 27.8		
PAWZ	Paruwai Farm	4.07	193	Pn	Pn	23 46 34.8	-0.3	
WELZ	Wellington	4.13	200	PN	Pn	23 46 35.8	+0.1	
WELZ	Wellington	4.13	200	Pn	Pn	23 46 35.8	+0.1	
MSWZ	Moikau Station	4.14	195	⇓PN	Pn	23 46 35.5	-0.3	
MSWZ				AML	AML	23 47 32.7		
MSWZ				AML	AML	23 47 33.2		
MSWZ	Moikau Station	4.14	195	Pn	Pn	23 46 35.5	-0.3	
TCWZ	Tory Channel	4.21	205	PN	Pn	23 46 36.7	-0.1	
TCW				AML	AML	23 47 32.3		
TCW				AML	AML	23 47 32.3		
TCWZ	Tory Channel	4.21	205	Pn	Pn	23 46 36.7	-0.1	
BHWZ	Baring Head	4.22	199	PN	Pn	23 46 36.6	-0.2	
BHW				AML	AML	23 46 37.6		
BHWZ	Baring Head	4.22	199	Pn	Pn	23 46 36.6	-0.2	
PLWZ	Palliser	4.28	194	PN	Pn	23 46 37.2	-0.5	
PLWZ	Palliser	4.28	194	Pn	Pn	23 46 37.2	-0.5	
TUWZ	Tuamarina	4.53	207	PN	Pn	23 46 40.3	-0.2	
TUWZ				AML	AML	23 47 37.1		
TUWZ				AML	AML	23 47 39.5		
TUWZ	Tuamarina	4.53	207	Pn	Pn	23 46 40.3	-0.2	
NNZ	Nelson	4.57	213	PN	Pn	23 46 41.1	0.0	
NNZ	Nelson	4.57	213	Pn	Pn	23 46 41.1	0.0	
QRZ	Quartz Range	4.68	222	PN	Pn	23 46 42.4	-0.1	
QRZ	Quartz Range	4.68	222	Pn	Pn	23 46 42.4	-0.1	
BSWZ	Blackbirch Sta	4.80	206	PN	Pn	23 46 44.4	+0.4	
BSWZ				AML	AML	23 47 44.8		
BSWZ				AML	AML	23 47 48.5		
BSWZ	Blackbirch Sta	4.80	206	Pn	Pn	23 46 44.4	+0.4	
THZ	Tophouse	5.22	213	PN	Pn	23 46 49.5	+0.2	
THZ	Tophouse	5.22	213	Pn	Pn	23 46 49.5	+0.2	
KHZ	Kahutara	5.54	205	PN	Pn	23 46 52.8	-0.4	
KHZ	Kahutara	5.54	205	Pn	Pn	23 46 52.8	-0.4	
DSZ	Denniston Nort	5.72	220	PN	Pn	23 46 55.2	-0.5	
DSZ	Denniston Nort	5.72	220	Pn	Pn	23 46 55.2	-0.5	
LTZ	Lake Taylor	6.33	211	PN	Pn	23 47 02.8	-0.5	
LTZ	Lake Taylor	6.33	211	Pn	Pn	23 47 02.8	-0.5	
INZ	Inchbonnie	6.64	216	PN	Pn	23 47 06.4	-0.9	
OXZ	Oxford	6.88	210	PN	Pn	23 47 09.3	-1.0	
OXZ	Oxford	6.88	210	Pn	Pn	23 47 09.3	-1.0	
MQZ	McQueen's Vall	6.98	205	PN	Pn	23 47 10.5	-1.1	
WVZ	Waitaha Valley	7.24	217	PN	Pn	23 47 14.7	-0.2	
WVZ	Waitaha Valley	7.24	217	Pn	Pn	23 47 14.7	-0.2	
RPZ	Rata Peaks	7.60	212	P	Pn	23 47 18.9	-0.6	
	2.0nm,0.3s,baz=188,slow=3.4,SNR=15							
RPZ				S	S	23 48 42.1	-3.8	
	9.2nm,0.3s,baz=152,slow=19,SNR=14							
RPZ	Rata Peaks	7.60	212	PN	Pn	23 47 18.8	-0.8	
FOZ	Fox Glacier	8.03	218	PN	Pn	23 47 24.7	-0.4	
CTZ	Chatham Island	8.11	143	PN	Pn	23 47 35.7	+10	
CTZ	Chatham Island	8.11	143	Pn	Pn	23 47 35.7	+10	
LBZ	Lake Benmore	8.51	213	PN	Pn	23 47 30.0	-1.3	
LBZ	Lake Benmore	8.51	213	Pn	Pn	23 47 30.0	-1.3	
ODZ	Otahua Downs	8.86	209	PN	Pn	23 47 35.6	-0.2	
ODZ	Otahua Downs	8.86	209	Pn	Pn	23 47 35.6	-0.2	
JCZ	Jackson Bay	8.94	220	PN	Pn	23 47 36.0	-0.9	
JCZ	Jackson Bay	8.94	220	Pn	Pn	23 47 36.0	-0.9	
TUZ	Tuapeka	10.02	209	PN	Pn	23 47 51.7	+1.2	
TUZ	Tuapeka	10.02	209	Pn	Pn	23 47 51.7	+1.2	
CTA	Charters Tower	31.58	295	P	P	23 51 33.5	+0.1	
	7.9nm,0.9s,baz=135,slow=7.1,SNR=3.7							
ASAR	Alice Springs	38.98	278	P	P	23 52 37.8	+1.3	
	1.9nm,0.6s,baz=117,slow=6.3,SNR=14							
WRA	Warramunga Arr	40.64	283	P	P	23 52 50.9	+0.8	
	1.3nm,0.3s,baz=123,slow=7.0,SNR=33							
FITZ	Fitzroy Crossi	48.47	279	P	P	23 53 52.9	+1.0	
	2.5nm,0.8s,baz=143,slow=9.4,SNR=6.2							
SYO	Syowa Base	69.24	195⇑	eX	P	23 56 05.0	-8.8	
CMAR	Chiang Mai Arr	91.71	292	P	P	23 58 15.2	+1.3	
	0.8nm,0.4s,baz=147,slow=3.7,SNR=4.7							
ARCES	ARCESS Array B	144.27	343	PKP	PKPab	00 04 37.9	-0.4	
	1.9nm,0.6s,baz=53,slow=1.7,SNR=17							
FINES	FINESS Array B	149.76	332	PKPbc	PKPbc	00 04 51.5	-2.5	
	0.8nm,0.8s,baz=53,slow=3.8,SNR=6.8							
BRTR	Keskin Array B	151.14	286	PKPbc	PKPbc	00 04 58.3	+0.1	
	0.3nm,0.5s,baz=268,slow=0.6,SNR=3.2							
TORD	Torodi Ar. Bea	155.41	192	PKP	PKPdf	00 04 58.8	+0.1	
	0.4nm,0.9s,baz=196,slow=1.0,SNR=2.2							
TORD				PKPbc	PKPbc	00 05 09.3		
	0.1nm,0.4s,baz=149,slow=2.3,SNR=8.0							
TORD				PKPab	PKPab	00 05 26.0	+0.8	
	0.4nm,0.5s,baz=146,slow=4.6,SNR=7.1							

GUC 25 23:48:34.8±0.4, 35°.13S×73°.05W, h19km±4km, ML3.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CHPI	Pichilemu	1.13	50	eP		Pb	23 48 55.7	0.0
CHPI				eS		Sg	23 49 12.0	+0.4
CHPI				IAML			23 49 15.3	
	comp=N,3μm,0.4s							
TALC	Talca	1.19	103	eP		Pb	23 48 57.0	+0.4
TALC				eS		Sg	23 49 13.6	+0.2
NICH	Los Niches	1.50	86	eP		Pb	23 49 02.0	0.0
NICH				eS		Sg	23 49 22.4	-0.8
ANTU	Antumapu	2.53	53	eP		Pb	23 49 17.7	-2.0
ANTU				eS		Sb	23 49 50.3	-0.1
CLCH	Cerro Calan	2.71	51	eP		Pb	23 49 20.2	-2.4
CLCH				eS		Sb	23 49 54.6	-0.8
CLCH				IAML			23 50 13.6	
	comp=N,927nm,0.6s							
ROCH	El Roble	2.74	39	eP		Pb	23 49 20.9	-2.3
ROCH				eS		Sb	23 49 56.3	-0.2
ROCH				IAML			23 50 15.3	
	comp=N,617nm,0.2s							
PEL	Peldehue	2.79	45	eP		Pn	23 49 21.1	+2.7
PEL				eS		Sb	23 49 56.3	-1.4
PEL				IAML			23 50 09.8	
	comp=E,440nm,0.3s							

MEX 25 23:59:07.2±0.4, 15°.54N×93°.33W, h110km±6km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PCIG		0.19	33	eP		Pn	23 59 21.3	-1.3
CCIG	Comitan	1.36	57	eP		Pn	23 59 31.5	-1.1
CCIG				eS		Sn	23 59 50.0	-1.7

*BJI **26** 00:08:14.5, 15°.90S×71°.30W, h99km, mB5.3/5*
*SCB **26** 00:08:23.4±0.6, 16°.58S×69°.16W, h190km, Ml3.8/1, Error ellipse: s-maj=20.9km s-min=12.8km az=122.0*
*ISCJB **26** 00:08:23.6±0.3, 16°.81S±0°.03×69°.49W±0°.05, h184km±3km, mb4.4/31, Error ellipse: s-maj=8.4km s-min=4.4km az=10.0*
*NEIC **26** 00:08:23.3±0.5, 16°.70S×69°.33W, h165km±5km, mb4.5/20, Error ellipse: s-maj=7.1km s-min=5.1km az=77.0*
NEIC Felt [III] at Juliaca. Also felt at Puno.
*GUC **26** 00:08:25.6±0.4, 16°.95S×69°.39W, h159km±4km, ML4.8*
*IDC **26** 00:08:26.1±0.7, 16°.62S×69°.26W, h187km±4km, mb4.3/13, mb1 4.4/17, mb1mx4.2/31, mbtmp4.7/17, Error ellipse: s-maj=12.3km s-min=10.5km az=101.0*

ISC 26 00:08:24.6±0.5, 16°.82S±0°.04×69°.50W±0°.05, h181km±4km, n99, σ2°35/122, mb4.5/31, 4C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BBOD	La Paz, Gloria	0.88	78	ePn		Pn	00 08 52.4	+0.1
BBOJ	La Paz, Jacaqu	1.26	97	ePn		Pn	00 08 55.8	+0.7
LPAZ	La Paz	1.42	68	P		Pn	00 08 57.0	+0.4
LPAZ				S		Sn	00 09 20.1	-1.1
	70nm,0.3s,baz=141,slow=24,SNR=12							
LPAZ	La Paz	1.42	68⇓	eP		Pn	00 08 56.9	+0.3
LPAZ			⇓	eS		Sn	00 09 20.1	-1.1
LPAZ	La Paz	1.42	68	ePn		Pn	00 08 56.5	-0.1
LPAZ				eSn		Sn	00 09 19.7	-1.5
BBOE	La Paz, Chanca	1.45	90	ePn		Pn	00 08 58.0	+1.1
BBOB	La Paz, Bander	1.48	63	ePn		Pn	00 08 56.8	-0.2
BBOB				eSn		Sn	00 09 20.7	-1.3
	248nm,0.3s							
PB13	IPOC Station P	1.51	180⇑	eP		Pn	00 08 56.6	-0.8
PB13				eS		Sn	00 09 20.4	-2.5
PB13				IAML			00 09 31.2	
	comp=E,9μm,1.5s							
PB12	IPOC Station P	1.95	204⇑	eP		Pn	00 09 00.9	-0.5
PB12				eS		Sn	00 09 27.8	-2.2
PB12				IAML			00 09 30.0	
	comp=N,13μm,0.5s							
MNMC	Minye Minye	2.30	182	eP		Pn	00 09 04.8	-0.6
MNMC				eS		Sn	00 09 34.5	-2.7
MNMC				IAML			00 09 41.5	
	comp=E,4μm,0.5s							
PB08	IPOC Station P	3.32	174⇑	eP		Pn	00 09 17.8	+0.2
PB08				eS		Sn	00 09 57.4	-1.6
PB08				IAML			00 10 01.6	
	comp=E,1μm,0.5s							
PB01	IPOC Station P	4.20	180	ePn		Pn	00 09 28.5	+0.1
PB04	IPOC Station P	5.52	186	ePn		Pn	00 09 44.2	-1.3
LVC	Limon Verde	5.79	175	P		Pn	00 09 49.2	+0.1
	comp=E,1μm,0.3s,baz=354,slow=8.4,SNR=226							
LVC				S		Sn	00 10 52.0	-3.7
	comp=E,1μm,0.3s,baz=79,slow=22,SNR=14							
PB10	IPOC Station P	6.73	188	ePn		Pn	00 09 59.3	-1.9
PB10				eSn		Sn	00 11 07.9	-10
HJA	Humahuaca	7.43	149	eP		Sn	00 11 32.7	-1.9
SIV	San Ignacio	8.13	85	P		Pn	00 10 16.5	-3.2
	comp=E,17nm,0.3s,baz=279,slow=11,SNR=79							
SIV	San Ignacio	8.13	85	eP		Pn	00 10 15.0	-4.7
AZAP	Zapla	8.46	151	eP		Sn	00 11 53.8	-5.1
NNA	Nana	8.58	303	P		Pn	00 10 24.9	-0.8
	comp=E,12nm,0.3s,baz=134,slow=11,SNR=27							
NNA				S		Sn	00 11 55.2	-6.6
	comp=E,7.8nm,0.3s,baz=178,slow=9.9,SNR=11							
NNA	Nana	8.58	303	ePn		Pn	00 10 24.8	-0.9
	comp=E,148nm,0.6s							
SAML	Samuel	9.95	39	ePn		Pn	00 10 39.9	-3.8
LCO	Las Campanas	12.19	185	ePn		Pn	00 11 11.9	-0.7
AGUA	GUANDACOL	12.64	176	eP		Pn	00 11 17.4	-0.9
ATAH	Atahualpa	12.97	317	P		Pn	00 11 24.0	+1.1
	comp=E,0.3nm,0.3s,baz=120,slow=7.5,SNR=5.0							
AROD	Rodeo	13.29	180	eP		Pn	00 11 27.2	+0.5
ACDV	Cuesta del Vie	13.29	179	eP		Pn	00 11 27.0	+0.4
ACCO	Cerro Coronel	13.71	178	eP		Pn	00 11 32.4	+0.4
ACCO				IAML			00 11 35.4	
	comp=E,41nm,0.5s							
AVFE	Valle Fertil	13.90	173	eP		Pn	00 11 35.0	+0.9
AVFE				IAML			00 11 40.2	
	comp=E,54nm,0.5s							
CPUP	Villa Florida	14.74	132	P		P	00 11 46.1	+0.2
	comp=Z,0.2nm,0.3s,baz=321,slow=9.8,SNR=13							
RTLS	Leoncito	14.91	179	eP		Pn	00 11 47.5	+0.7
RTCV	Cerro Valdivia	15.00	177	eP		Pn	00 11 47.8	+0.2
TCA	Tanti	15.13	164	eP		Pn	00 11 47.3	-1.9
TCA				IAML			00 11 53.5	
	comp=E,18nm,0.5s							
AUSP	Upsallata	15.34	180	eP		Pn	00 11 50.5	-1.6
ACAN	Cantantal	15.53	173	eP		Pn	00 11 53.9	-0.2
ASAL	Salagasta	15.71	178	eP		P	00 11 58.3	+1.6
MRA	San Martin	15.90	168	eP		Pn	00 11 58.1	-0.7
MRA				IAML			00 12 03.5	
	comp=E,38nm,0.6s							
ROC1	El Roble	16.14	185	ePn		Pn	00 12 02.7	+0.9
	comp=Z,48nm,1.0s							
AAGR	Agrelo	16.21	178	eP		Pn	00 12 03.9	+1.5
SUCO	SUCO	16.97	167	eP		Pn	00 12 11.5	0.0
PTGA	Pitinga	18.54	31	P		P	00 12 26.1	-1.6
	comp=Z,1.9nm,0.3s,baz=200,slow=12,SNR=33							
PTGA				S		S	00 15 45.4	-4.4
	comp=Z,0.4nm,0.3s,baz=26,slow=20,SNR=4.5							
PTGA	Pitinga	18.54	31	eP		P	00 12 25.5	-2.3
	comp=Z,28nm,1.1s							
PTGA				S		S	00 15 45.4	-4.4
TRQA	Tornquist	22.17	164	eP		P	00 13 06.8	+0.9
	comp=Z,40nm,1.2s							
PLCA	Paso Flores	23.85	182	P		P	00 13 22.6	+1.3
	comp=Z,50nm,0.8s,baz=21,slow=12,SNR=35							
PLCA	Paso Flores	23.85	182	eP		P	00 13 22.8	+1.5
	comp=Z,55nm,0.8s							
CHRN	Cochrane	30.45	184	eP		P	00 14 22.2	+2.1
	comp=Z,15nm,0.7s							
RCBR	Riachuelo	34.65	76	P		P	00 14 55.7	-1.3
	comp=Z,32nm,0.9s,baz=246,slow=8.9,SNR=18							
USHA	Ushuaia	37.95	179	P		P	00 15 26.1	+1.7
	comp=Z,76nm,0.8s,baz=340,slow=5.7,SNR=5.8							
CMIG	Matias Romero	41.97	322	P		P	00 15 59.0	+1.0
	comp=Z,1.7nm,0.8s,baz=97,slow=7.6,SNR=3.1							
JCT	Junction City	55.34	328	eP		P	00 17 40.0	+0.3
	comp=Z,5.5nm,0.8s							
TXAR	Lajitas Array	56.51	324	P

comp=Z,2.8nm,0.8s,baz=42,slow=4.9,SNR=2.8
MJAR Matsushiro Arr 148.58 314 PKPbc **PKPbc 00 27 51.3 +0.8**
comp=Z,2.6nm,0.8s,baz=117,slow=2.1,SNR=10
MJAR pPKPbc **pPKPbc 00 28 42.1 +4.6**
comp=Z,2.8nm,1.0s,baz=76,slow=2.3,SNR=4.7
SONM Songino Array 148.89 5 PKPbc **PKPbc 00 27 52.0 +0.9**
comp=Z,12nm,0.7s,baz=325,slow=1.8,SNR=33
ULN Ulaanbaatar 148.91 4 *e*PKPbc **PKPbc 00 27 51.8 +0.7**
CN2 Changchun 150.27 338 *e*PKPbc **PKPdf 00 27 51.5 +2.5**
HHC Hu-ho-hao-te 156.04 358 *e*PKPbc **PKPdf 00 27 52.0 -5.6**
LZH Lanzhou 159.92 16 *e*PKP **PKPdf 00 27 58.3 -4.3**
LZH sPKP 00 28 35.5
LZH PKPab **PKPab 00 28 38.8 -3.9**
LZH LN
comp=Z,130nm,18.0s
LZH LE
comp=Z,140nm,18.1s
LZH LZ
comp=Z,160nm,20.0s
CMAR Chiang Mai Arr 168.86 80 PKPab **PKPab 00 29 21.0 -1.6**
comp=Z,1.3nm,0.6s,baz=276,slow=6.1,SNR=7.0

*ISCJB **26** 00:08:45.0±0.3, 43.93°N±0.03°×11.97°E±0.02, h15km±4km, Error ellipse: s-maj=4.6km s-min=2.5km az=23.1*
*ROM **26** 00:08:45.0±0.1, 43.88°N×11.96°E, h8km±1km, Md2.7/26, Ml2.3/27, Error ellipse: s-maj=1.5km s-min=1.0km az=8.0*
*CSEM **26** 00:08:45.2±0.1, 43.89°N×11.98°E, h10km, ML3.1/11, Error ellipse: s-maj=3.1km s-min=1.7km az=36.0*
*GEN **26** 00:08:46.0, 43.82°N×11.92°E, h2km, ML2.2*
*LDG **26** 00:09:05.0±0.2, 44.74°N×10.80°E, h25km, Ml2.2/5, Error ellipse: s-maj=4.1km s-min=1.7km az=84.0*

ISC 26 00:08:45.1±0.8, 43.89°N±0.02×11.96°E±0.02, h12km±4km, n84, σ0.86/118, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SFI	**Santa Sofia**	**0.08**	**283**	Pg	**Pg**		**00 08 47.5**	**-0.3**
SFI				Sg	**Sg**		**00 08 49.4**	**-0.4**
	4μm,0.2s							
SFI	**Santa Sofia**	**0.08**	**283**	Pg	**Pg**		**00 08 47.5**	**-0.3**
SFI				Sg	**Sg**		**00 08 49.4**	**-0.4**
	4μm,0.2s							
T0502	**Localita San**	**0.13**	**84**	Pg	**Pg**		**00 08 48.1**	**-0.4**
T0502				Sg	**Sg**		**00 08 50.8**	**-0.1**
	2μm,0.3s							
ASQU	**Asqua**	**0.15**	**233**	Pg	**Pg**		**00 08 48.9**	**+0.1**
ASQU				Sg	**Sg**		**00 08 51.8**	**+0.4**
	2μm,0.2s							
ASQU	**Asqua**	**0.15**	**233**	Pg	**Pg**		**00 08 48.9**	**+0.1**
ASQU				Sg	**Sg**		**00 08 51.8**	**+0.4**
	2μm,0.2s							
CRE	**Caprese Michel**	**0.27**	**181**	Pg	**Pg**		**00 08 50.9**	**+0.2**
CRE				Sg	**Sg**		**00 08 55.7**	**+1.2**
	1μm,0.5s							
CRE	**Caprese Michel**	**0.27**	**181**	Pg	**Pg**		**00 08 50.9**	**+0.2**
CRE				Sg	**Sg**		**00 08 55.7**	**+1.2**
	1μm,0.5s							
CPGN	**Carpegna, Ital**	**0.28**	**108**	Pg	**Pg**		**00 08 51.6**	**+0.6**
CPGN				Sg	**Sb**		**00 08 57.2**	**+0.4**
	1μm,0.9s							
CPGN	**Carpegna, Ital**	**0.28**	**108**	Pg	**Pg**		**00 08 51.6**	**+0.6**
BADI	**Badiali**	**0.43**	**151**	Pg	**Pg**		**00 08 53.6**	**-0.1**
BADI				Sg	**Sg**		**00 09 01.0**	**+1.6**
	158nm,0.2s							
BADI	**Badiali**	**0.43**	**151**	Pg	**Pg**		**00 08 53.6**	**-0.1**
BADI				Sg	**Sg**		**00 09 01.0**	**+1.6**
	158nm,0.2s							
ATMC	**Monte Cedrone**	**0.47**	**159**	Pg	**Pg**		**00 08 54.2**	**-0.2**
	261nm,0.3s							
ATMC	**Monte Cedrone**	**0.47**	**159**	Pg	**Pg**		**00 08 54.2**	**-0.2**
	261nm,0.3s							
IMOL	**Imola, Italy**	**0.50**	**342**	Pg	**Pg**		**00 08 55.8**	**+0.9**
	100μm,32.0s							
IMOL	**Imola, Italy**	**0.50**	**342**	Pg	**Pg**		**00 08 55.8**	**+0.9**
	100μm,32.0s							
ATPC	**Poggio Castell**	**0.55**	**138**	Pg	**Pg**		**00 08 55.5**	**-0.3**
ATPC				Sg	**Sg**		**00 09 04.5**	**+1.5**
	212nm,0.4s							
ATPC	**Poggio Castell**	**0.55**	**138**	Pg	**Pg**		**00 08 55.5**	**-0.3**
ATPC				Sg	**Sg**		**00 09 04.5**	**+1.5**
	212nm,0.4s							
PIEI	**Pieia**	**0.55**	**130**	Pg	**Pg**		**00 08 55.2**	**-0.7**
PIEI				Sg	**Sg**		**00 09 03.9**	**+0.8**
	74nm,0.4s							
PIEI	**Pieia**	**0.55**	**130**	Pg	**Pg**		**00 08 55.2**	**-0.7**
PIEI				Sg	**Sg**		**00 09 03.9**	**+0.8**
	74nm,0.4s							
CAFI	**Castiglion Fio**	**0.56**	**179**	Pg	**Pg**		**00 08 56.0**	**0.0**
	150nm,0.4s							
CAFI	**Castiglion Fio**	**0.56**	**179**	Pg	**Pg**		**00 08 56.0**	**0.0**
	150nm,0.4s							
ATVO	**AVT- Monte Val**	**0.60**	**147**	Pg	**Pg**		**00 08 56.5**	**-0.4**
ATVO				Sg	**Sb**		**00 09 06.7**	**+0.7**
	160nm,0.7s							
ATVO	**AVT- Monte Val**	**0.60**	**147**	Pg	**Pg**		**00 08 56.5**	**-0.4**
ATVO				Sg	**Sb**		**00 09 06.7**	**+0.7**
	160nm,0.7s							
MTRZ	**Monterenzio**	**0.60**	**324**	Pg	**Pg**		**00 08 56.9**	**0.0**
	313nm,0.6s							
MTRZ	**Monterenzio**	**0.60**	**324**	Pg	**Pg**		**00 08 56.9**	**0.0**
	313nm,0.6s							
FSSB	**Fossombrone**	**0.63**	**108**	Pg	**Pg**		**00 08 56.8**	**-0.5**
FSSB				Sg	**Sg**		**00 09 06.7**	**+1.1**
	203nm,0.3s							
FSSB	**Fossombrone**	**0.63**	**108**	Pg	**Pg**		**00 08 56.8**	**-0.5**
FSSB				Sg	**Sg**		**00 09 06.7**	**+1.1**
	203nm,0.3s							
FNVD	**Fontana Vidola**	**0.66**	**295**	Pg	**Pg**		**00 08 57.8**	**-0.3**
FNVD				Sg	**Sb**		**00 09 08.7**	**+0.8**
	293nm,0.8s							
FNVD	**Fontana Vidola**	**0.66**	**295**	Pg	**Pg**		**00 08 57.8**	**-0.3**
FNVD				Sg	**Sb**		**00 09 08.7**	**+0.8**
	293nm,0.8s							
CRMI	**Carmignano**	**0.72**	**263**	Pg	**Pg**		**00 08 59.2**	**+0.1**
	70nm,0.6s							
CRMI	**Carmignano**	**0.72**	**263**	Pg	**Pg**		**00 08 59.2**	**+0.1**
	70nm,0.6s							
ATTE	**AVT- Monte Tez**	**0.75**	**157**	Pg	**Pg**		**00 08 59.2**	**-0.4**
	96nm,0.4s							
ATTE	**AVT- Monte Tez**	**0.75**	**157**	Pg	**Pg**		**00 08 59.2**	**-0.4**
	96nm,0.4s							
SSFR	**Montelago di S**	**0.75**	**127**	Pg	**Pg**		**00 08 59.0**	**-0.7**
SSFR				Sg	**Sb**		**00 09 11.1**	**+0.8**
	114nm,0.2s							
SSFR	**Montelago di S**	**0.75**	**127**	Pg	**Pg**		**00 08 59.0**	**-0.7**
SSFR				Sg	**Sb**		**00 09 11.1**	**+0.8**
	114nm,0.2s							
ARVD	**Arcevia**	**0.81**	**118**	Pg	**Pg**		**00 09 00.4**	**-0.5**
ARVD				Sg	**Sb**		**00 09 13.3**	**+1.2**
	47nm,0.3s							
ARVD	**Arcevia**	**0.81**	**118**	Pg	**Pg**		**00 09 00.4**	**-0.5**
ATCC	**AVT- Casa Cast**	**0.86**	**144**	Pg	**Pg**		**00 09 01.5**	**-0.3**
	137nm,0.8s							
ATCC	**AVT- Casa Cast**	**0.86**	**144**	Pg	**Pg**		**00 09 01.5**	**-0.3**
	137nm,0.8s							
POPM	**Popiglio**	**0.88**	**281**	P	**Pg**		**00 09 02.3**	**+0.2**
POPM				S	**Sg**		**00 09 14.7**	**+1.1**
FROS	**Frosini**	**0.89**	**221**	Pg	**Pg**		**00 09 02.8**	**+0.4**
FROS				Sg	**Sg**		**00 09 14.5**	**+0.5**
	135nm,0.7s							
FROS	**Frosini**	**0.89**	**221**	Pg	**Pg**		**00 09 02.8**	**+0.4**
FROS				Sg	**Sg**		**00 09 14.5**	**+0.5**
	135nm,0.7s							
SNTG	**Esanatoglia**	**0.95**	**131**	Pg	**Pg**		**00 09 03.0**	**-0.6**
	43nm,0.5s							
SNTG	**Esanatoglia**	**0.95**	**131**	Pg	**Pg**		**00 09 03.0**	**-0.6**
	43nm,0.5s							
MGAB	**Montegabbione**	**0.98**	**173**	Pg	**Pg**		**00 09 03.8**	**-0.2**
	136nm,0.6s							
MGAB	**Montegabbione**	**0.98**	**173**	Pg	**Pg**		**00 09 03.8**	**-0.2**
	136nm,0.6s							
BDI	**Bagni Di Lucca**	**1.00**	**281**	Pg	**Pg**		**00 09 04.3**	**-0.1**
	54nm,0.7s							
BDI	**Bagni Di Lucca**	**1.00**	**281**	Pg	**Pg**		**00 09 04.3**	**-0.1**
	54nm,0.7s							
SACS	**San Casciano d**	**1.04**	**182**	Pg	**Pg**		**00 09 04.8**	**-0.3**
	55nm,0.5s							
MAIM	**Mastiano**	**1.06**	**272**	Pg	**Pg**		**00 09 04.9**	**-0.6**
	29nm,0.5s							
MAIM	**Mastiano**	**1.06**	**272**	P	**Pg**		**00 09 04.9**	**-0.6**
MAIM				S	**Sg**		**00 09 18.1**	**-1.2**
ARCI	**Arcidosso**	**1.09**	**199**	Pg	**Pg**		**00 09 05.8**	**-0.4**
	92nm,1.0s							
ARCI	**Arcidosso**	**1.09**	**199**	Pg	**Pg**		**00 09 05.8**	**-0.4**
	92nm,1.0s							
SASS	**Sassa**	**1.11**	**236**	Pg	**Pb**		**00 09 06.2**	**-0.1**
	18nm,0.8s							
SASS	**Sassa**	**1.11**	**236**	Pg	**Pb**		**00 09 06.2**	**-0.1**
	18nm,0.8s							
SARO	**Sassorosso**	**1.16**	**285**	P	**Pb**		**00 09 07.0**	**-0.2**
FDMO	**Fiordimonte**	**1.18**	**135**	Pg	**Pb**		**00 09 06.8**	**-0.7**
FDMO	**Fiordimonte**	**1.18**	**135**	Pg	**Pb**		**00 09 06.8**	**-0.7**
GRAM	**Graiana**	**1.49**	**295**	P	**Pb**		**00 09 14.0**	**+1.3**
CODM	**Codolo**	**1.60**	**289**	P	**Pn**		**00 09 14.4**	**+1.2**
CODM				S	**Sn**		**00 09 33.1**	**-0.7**
SC2M	**Scurtabo**	**1.82**	**287**	P	**Pn**		**00 09 17.4**	**+1.1**
NVLJ	**Novalja**	**2.20**	**71**	*e*Pn	**Pn**		**00 09 20.6**	**-0.9**
NVLJ				Sn	**Sn**		**00 09 47.7**	**-0.9**
UDBI	**Udbina**	**2.81**	**76**	*i* Pn	**Pn**		**00 09 29.5**	**-0.4**
UDBI				Sn	**Sn**		**00 10 03.8**	**0.0**
UDBI	**Udbina**	**2.81**	**76**	*i* Pn	**Pn**		**00 09 29.5**	**-0.5**
UDBI				Sn	**Sn**		**00 10 03.8**	**0.0**
SBF	**Sospel**	**3.27**	**271**	*e*Pn	**Pb**		**00 09 43.9**	**+0.8**
SBF				*e*Sn	**Sn**		**00 10 11.8**	**-3.2**
	2.3nm,0.3s							
FRF	**La Foret Royal**	**3.86**	**267**	*e*Pn	**Pb**		**00 09 51.8**	**-1.4**
FRF				*e*Sn	**Sn**		**00 10 27.1**	**-2.5**
	1.2nm,0.3s							
LMR	**La Mourre**	**3.99**	**264**	*e*Pn	**Pb**		**00 09 54.4**	**-1.0**
LMR				*e*Sn	**Sn**		**00 10 30.3**	**-2.5**
	0.7nm,0.2s							
LPL	**La Plagne**	**4.07**	**295**	*e*Pn	**Pn**		**00 09 49.0**	**+1.7**
LPL	**La Plagne**	**4.07**	**295**	*e*Pn	**Pn**		**00 09 49.0**	**+1.7**
CABF	**La Chapelle**	**4.96**	**305**	*e*Pn	**Pn**		**00 10 00.9**	**+1.4**
CABF	**La Chapelle**	**4.96**	**305**	*e*Pn	**Pn**		**00 10 00.9**	**+1.4**
HINF	**Hinteralfeld**	**5.30**	**320**	*e*Pn	**Pn**		**00 10 03.8**	**-0.4**
HINF				Sn			00 10 48.6	-17
	1.2nm,0.4s							
HINF	**Hinteralfeld**	**5.30**	**320**	*e*Pn	**Pn**		**00 10 03.8**	**-0.4**
KHC	**Kasperske Hory**	**5.36**	**11**	*e*SN	**Sn**		**00 11 05.1**	**-1.5**
CDF	**Champ du Feu**	**5.57**	**326**	*e*Pn	**Pn**		**00 10 08.2**	**+0.3**
CDF	**Champ du Feu**	**5.57**	**326**	*e*Pn	**Pn**		**00 10 08.2**	**+0.3**
HAU	**Haudompre**	**5.68**	**318**	*e*Pn	**Pn**		**00 10 09.4**	**+0.1**
HAU				*e*Sn	Sn		00 10 58.3	-16
	2.6nm,0.3s							
HAU	**Haudompre**	**5.68**	**318**	*e*Pn	**Pn**		**00 10 09.4**	**+0.1**
SMF	**Signal de Mont**	**6.36**	**299**	*e*Pn	**Pn**		**00 10 19.6**	**+1.0**
SMF	**Signal de Mont**	**6.36**	**299**	*e*Pn	**Pn**		**00 10 19.6**	**+1.0**
LOR	**Lormes**	**6.61**	**304**	*e*Pn	**Pn**		**00 10 22.6**	**+0.5**
LOR	**Lormes**	**6.61**	**304**	*e*Pn	**Pn**		**00 10 22.6**	**+0.5**
AVF	**Avril sur Loir**	**6.72**	**299**	*e*Pn	**Pn**		**00 10 24.3**	**+0.7**
AVF	**Avril sur Loir**	**6.72**	**299**	*e*Pn	**Pn**		**00 10 24.3**	**+0.7**

ROM 26 00:18:09.0±0.1, 43.90°N×11.96°E, h10km±1km, Ml1.1/1, Error ellipse: s-maj=1.1km s-min=0.3km az=170.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SFI	**Santa Sofia**	**0.08**	**273**	Pg	Pg		00 18 11.8	+0.4
SFI				Sg	Sg		00 18 13.7	+0.6
	30nm,0.1s							
T0502	**Localita San**	**0.13**	**90**	Pg	Pg		00 18 12.5	+0.5
T0502				Sg	Sg		00 18 15.1	+1.0
	14μm,14.0s							
ASQU	**Asqua**	**0.16**	**230**	Pg	Pg		00 18 13.2	+0.6
ASQU				Sg	Sg		00 18 16.1	+1.1

*ISCJB **26** 00:18:54.9±0.3, 43.96°N±0.03°×11.92°E±0.03, h18km±4km, Error ellipse: s-maj=5.0km s-min=3.0km az=11.3*
*ROM **26** 00:18:55.6±0.1, 43.89°N×11.97°E, h8km, Md2.5/24, Ml2.1/22, Error ellipse: s-maj=1.5km s-min=1.0km az=175.0*
*CSEM **26** 00:18:55.6±0.1, 43.89°N×11.95°E, h15km, ML2.9/14, Error ellipse: s-maj=2.7km s-min=1.7km az=28.0*
*LDG **26** 00:18:55.8±0.2, 43.91°N×12.00°E, h2km, Ml2.2/5, Error ellipse: s-maj=3.3km s-min=1.7km az=86.0*

ISC 26 00:18:55.6±0.8, 43.90°N±0.02×11.93°E±0.02, h15km±4km, n81, σ1.17/121, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SFI	**Santa Sofia**	**0.06**	**275**	Pg	**Pg**		**00 18 58.1**	**-0.5**
SFI				Sg	**Sg**		**00 19 00.0**	**-0.5**
	3μm,0.2s							
SFI	**Santa Sofia**	**0.06**	**275**	Pg	**Pg**		**00 18 58.1**	**-0.5**
SFI				Sg	**Sg**		**00 19 00.0**	**-0.5**
	3μm,0.2s							
ASQU	**Asqua**	**0.14**	**224**	Pg	**Pg**		**00 18 59.5**	**0.0**
ASQU				Sg	**Sg**		**00 19 02.5**	**+0.4**
	905nm,0.3s							
ASQU	**Asqua**	**0.14**	**224**	Pg	**Pg**		**00 18 59.5**	**0.0**
ASQU				Sg	**Sg**		**00 19 02.5**	**+0.4**
	905nm,0.3s							
T0502	**Localita San**	**0.15**	**90**	Pg	**Pg**		**00 18 58.8**	**-0.8**
T0502				Sg	**Sg**		**00 19 01.4**	**-0.9**
	1μm,0.2s							
CRE	**Caprese Michel**	**0.28**	**176**	Pg	**Pg**		**00 19 01.5**	**-0.1**
CRE				Sg	**Sg**		**00 19 06.3**	**+0.5**
	661nm,0.4s							
CRE	**Caprese Michel**	**0.28**	**176**	Pg	**Pg**		**00 19 01.5**	**-0.1**
CRE				Sg	**Sg**		**00 19 06.3**	**+0.5**
	661nm,0.4s							
CPGN	**Carpegna, Ital**	**0.30**	**109**	Pg	**Pg**		**00 19 02.2**	**+0.2**
	412nm,0.5s							
CPGN	**Carpegna, Ital**	**0.30**	**109**	Pg	**Pg**		**00 19 02.2**	**+0.2**
	412nm,0.5s							
BADI	**Badiali**	**0.45**	**149**	Pg	**Pg**		**00 19 04.1**	**-0.5**
BADI				Sg	**Sb**		**00 19 11.6**	**-0.2**
	107nm,0.2s							
BADI	**Badiali**	**0.45**	**149**	Pg	**Pg**		**00 19 04.1**	**-0.5**
BADI				Sg	**Sb**		**00 19 11.6**	**-0.2**
	107nm,0.2s							
ATMC	**Monte Cedrone**	**0.49**	**157**	Pg	**Pg**		**00 19 04.8**	**-0.6**
	157nm,0.3s							
ATMC	**Monte Cedrone**	**0.49**	**157**	Pg	**Pg**		**00 19 04.8**	**-0.6**
	157nm,0.3s							
ATPC	**Poggio Castell**	**0.57**	**137**	Pg	**Pg**		**00 19 06.1**	**-0.7**
ATPC				Sg	**Sb**		**00 19 15.2**	**+0.1**
	126nm,0.4s							
ATPC	**Poggio Castell**	**0.57**	**137**	Pg	**Pg**		**00 19 06.1**	**-0.7**
ATPC				Sg	**Sb**		**00 19 15.2**	**+0.1**
	126nm,0.4s							
CAFI	**Castiglion Fio**	**0.57**	**177**	Pg	**Pg**		**00 19 06.7**	**-0.1**
CAFI				Sg	**Sb**		**00 19 15.6**	**+0.4**
	92nm,0.4s							
CAFI	**Castiglion Fio**	**0.57**	**177**	Pg	**Pg**		**00 19 06.7**	**-0.1**
CAFI				Sg	**Sb**		**00 19 15.6**	**+0.4**
	92nm,0.4s							
PIEI	**Pieia**	**0.57**	**129**	Pg	**Pg**		**00 19 05.9**	**-1.0**
PIEI				Sg	**Sg**		**00 19 14.5**	**0.0**
	55nm,0.1s							
PIEI	**Pieia**	**0.57**	**129**	Pg	**Pg**		**00 19 05.9**	**-1.0**
PIEI				Sg	**Sg**		**00 19 14.5**	**0.0**
	55nm,0.1s							
MTRZ	**Monterenzio**	**0.58**	**325**	Pg	**Pb**		**00 19 07.7**	**+0.3**
	133nm,0.5s							
MTRZ	**Monterenzio**	**0.58**	**325**	Pg	**Pb**		**00 19 07.7**	**+0.3**
	133nm,0.5s							
ATVO	**AVT- Monte Val**	**0.62**	**146**	Pg	**Pg**		**00 19 07.2**	**-0.6**
	77nm,0.5s							
ATVO	**AVT- Monte Val**	**0.62**	**146**	Pg	**Pg**		**00 19 07.2**	**-0.6**
	77nm,0.5s							
FSSB	**Fossombrone**	**0.65**	**108**	Pg	**Pg**		**00 19 07.5**	**-0.8**
FSSB				Sg	**Sb**		**00 19 17.5**	**0.0**
	179nm,0.2s							
FSSB	**Fossombrone**	**0.65**	**108**	Pg	**Pg**		**00 19 07.5**	**-0.8**
FSSB				Sg	**Sb**		**00 19 17.5**	**0.0**
	179nm,0.2s							
PESA	**Pesaro**	**0.66**	**86**	Pg	**Pg**		**00 19 08.2**	**-0.3**
PESA	**Pesaro**	**0.66**	**86**	Pg	**Pg**		**00 19 08.2**	**-0.3**
CRMI	**Carmignano**	**0.70**	**261**	Pg	**Pb**		**00 19 09.8**	**+0.4**
CRMI				Sg	**Sb**		**00 19 19.7**	**+0.8**
	29nm,0.4s							
CRMI	**Carmignano**	**0.70**	**261**	Pg	**Pb**		**00 19 09.8**	**+0.4**
CRMI				Sg	**Sb**		**00 19 19.7**	**+0.8**
	29nm,0.4s							
ATTE	**AVT- Monte Tez**	**0.77**	**156**	Pg	**Pg**		**00 19 09.8**	**-0.7**
	51nm,0.3s							
ATTE	**AVT- Monte Tez**	**0.77**	**156**	Pg	**Pg**		**00 19 09.8**	**-0.7**
	51nm,0.3s							
SSFR	**Montelago di S**	**0.78**	**126**	Pg	**Pg**		**00 19 09.5**	**-1.2**
SSFR				Sg	**Sb**		**00 19 21.6**	**+0.5**
	91nm,0.2s							
SSFR	**Montelago di S**	**0.78**	**126**	Pg	**Pg**		**00 19 09.5**	**-1.2**
SSFR				Sg	**Sb**		**00 19 21.6**	**+0.5**
	91nm,0.2s							
ARVD	**Arcevia**	**0.84**	**118**	Pg	**Pg**		**00 19 10.8**	**-1.1**
ARVD				Sg	**Sb**		**00 19 23.5**	**+0.6**
	28nm,0.2s							
ARVD	**Arcevia**	**0.84**	**118**	Pg	**Pg**		**00 19 10.8**	**-1.1**
ARVD				Sg	**Sb**		**00 19 23.5**	**+0.6**
	28nm,0.2s							
ATCC	**AVT- Casa Cast**	**0.88**	**144**	Pg	**Pg**		**00 19 12.2**	**-0.5**
	56nm,0.3s							
ATCC	**AVT- Casa Cast**	**0.88**	**144**	Pg	**Pg**		**00 19 12.2**	**-0.5**
	56nm,0.3s							
FROS	**Frosini**	**0.89**	**219**	Pg	**Pn**		**00 19 13.4**	**-0.1**
FROS				Sg	**Sb**		**00 19 25.2**	**+0.9**
	55nm,0.4s							
FROS	**Frosini**	**0.89**	**219**	Pg	**Pn**		**00 19 13.4**	**-0.1**
FROS				Sg	**Sb**		**00 19 25.2**	**+0.9**
	55nm,0.4s							
BDI	**Bagni Di Lucca**	**0.97**	**280**	Pg	**Pn**		**00 19 15.2**	**+0.5**
	19nm,0.4s							
BDI	**Bagni Di Lucca**	**0.97**	**280**	Pg	**Pn**		**00 19 15.2**	**+0.5**
	19nm,0.4s							
MGAB	**Montegabbione**	**1.00**	**172**	Pg	**Pb**		**00 19 14.5**	**0.0**
	73nm,0.7s							
MGAB	**Montegabbione**	**1.00**	**172**	Pg	**Pb**		**00 19 14.5**	**0.0**
	73nm,0.7s							
CING	**Cingoli**	**1.06**	**119**	Pg	**Pb**		**00 19 15.6**	**0.0**
CING	**Cingoli**	**1.06**	**119**	Pg	**Pb**		**00 19 15.6**	**0.0**
ARCI	**Arcidosso**	**1.10**	**198**	Pg	**Pn**		**00 19 16.6**	**+0.2**
	34nm,0.7s							
ARCI	**Arcidosso**	**1.10**	**198**	Pg	**Pn**		**00 19 16.6**	**+0.2**
	34nm,0.7s							
MCIV	**Monte Civitell**	**1.14**	**189**	Pg	**Pg**		**00 19 17.5**	**0.0**
	112nm,2.8s							
MCIV	**Monte Civitell**	**1.14**	**189**	Pg	**Pg**		**00 19 17.5**	**0.0**
	112nm,2.8s							
NVLJ	**Novalja**	**2.22**	**72**	*e*Pn	**Pn**		**00 19 31.3**	**-0.5**
NVLJ				Sn	**Sn**		**00 19 58.2**	**-0.7**
NVLJ	**Novalja**	**2.22**	**72**	*e*Pn	**Pn**		**00 19 31.2**	**-0.5**
NVLJ				Sn	**Sn**		**00 19 58.1**	**-0.7**
PGF	**Pioggiola**	**2.53**	**239**	*e*Pn	**Pn**		**00 19 36.6**	**+0.5**
PGF	**Pioggiola**	**2.53**	**239**	*e*Pn	**Pn**		**00 19 36.6**	**+0.5**
UDBI	**Udbina**	**2.83**	**76**	*e*Pn	**Pn**		**00 19 42.1**	**+1.8**
UDBI				Sn	**Sn**		**00 20 16.5**	**+2.4**
UDBI	**Udbina**	**2.83**	**76**	*e*Pn	**Pn**		**00 19 42.0**	**+1.8**
UDBI				Sn	**Sn**		**00 20 16.5**	**+2.4**
SBF	**Sospel**	**3.25**	**271**	*e*Pn	**Pn**		**00 19 47.1**	**+1.1**
SBF				*e*Sn	**Sn**		**00 20 24.1**	**-0.2**
	3.0nm,0.5s							
SBF	**Sospel**	**3.25**	**271**	*e*Pn	**Pn**		**00 19 47.1**	**+1.1**
SBF				*e*Sn	**Sn**		**00 20 24.1**	**-0.2**
	1.5nm,0.5s							
MBDF	**Montbardon**	**3.79**	**284**	*e*Pn	**Pn**		**00 19 54.2**	**+0.7**
MBDF	**Montbardon**	**3.79**	**284**	*e*Pn	**Pn**		**00 19 54.2**	**+0.7**
FRF	**La Foret Royal**	**3.84**	**267**	*e*Pn	**Pn**		**00 19 55.0**	**+0.9**
FRF				*e*Sn	**Sn**		**00 20 36.1**	**-2.8**
	0.4nm,0.2s							
FRF	**La Foret Royal**	**3.84**	**267**	*e*Pn	**Pn**		**00 19 55.0**	**+0.9**
FRF				*e*Sn	**Sn**		**00 20 36.1**	**-2.8**
	0.2nm,0.2s							
LMR	**La Mourre**	**3.97**	**264**	*e*Pn	**Pn**		**00 19 56.4**	**+0.5**
LMR				*e*Sn	**Sn**		**00 20 41.3**	**-0.8**
LMR	**La Mourre**	**3.97**	**264**	*e*Pn	**Pn**		**00 19 56.4**	**+0.5**
LMR				*e*Sn	**Sn**		**00 20 41.3**	**-0.8**
LPL	**La Plagne**	**4.04**	**295**	*e*Pn	**Pn**		**00 19 57.7**	**+0.7**
LPL	**La Plagne**	**4.04**	**295**	*e*Pn	**Pn**		**00 19 57.7**	**+0.7**
SMRF	**Simiane la Rot**	**4.59**	**273**	*e*Pn	**Pn**		**00 20 04.7**	**+0.3**
SMRF	**Simiane la Rot**	**4.59**	**273**	*e*Pn	**Pn**		**00 20 04.7**	**+0.3**
CABF	**La Chapelle**	**4.93**	**305**	*e*Pn	**Pn**		**00 20 09.2**	**+0.1**
CABF	**La Chapelle**	**4.93**	**305**	*e*P	**Pn**		**00 20 12.9**	**+3.8**
CABF	**La Chapelle**	**4.93**	**305**	*e*Pn	**Pn**		**00 20 09.2**	**+0.1**
CABF	**La Chapelle**	**4.93**	**305**	*e*P	**Pn**		**00 20 12.9**	**+3.8**
HINF	**Hinteralfeld**	**5.28**	**320**	*e*Pn	**Pn**		**00 20 13.9**	**0.0**
HINF	**Hinteralfeld**	**5.28**	**320**	*e*P	**Pn**		**00 20 18.3**	**+4.4**
HINF				*e*Sn	**Sn**		**00 21 12.0**	**-2.4**
	0.6nm,0.3s							
HINF	**Hinteralfeld**	**5.28**	**320**	*e*Pn	**Pn**		**00 20 13.9**	**0.0**
HINF	**Hinteralfeld**	**5.28**	**320**	*e*P	**Pn**		**00 20 18.3**	**+4.4**
HINF				*e*Sn	**Sn**		**00 21

baz=264
YHNB Yeheng 0.78 309 *e*Pg **Pb 00 31 35.5 -0.1**
NSK Sanguang 0.80 309⇓*i*P **Pg 00 31 35.9 -0.3**
baz=301
NSK *e*S **Sb 00 31 45.9 -0.4**
baz=301
TWB1 Santiao Chiao 0.83 357⇓*i*P **Pn 00 31 37.7 +0.4**
baz=3.0
TWB1 S **Sn 00 31 49.7 +0.6**
baz=3.0
JYNG Yonagunijimaku 0.87 71 P **Pn 00 31 39.4 +1.6**
JYNG *e*S **Sn 00 31 53.0 +3.1**
TWA Mucha 0.91 333⇓*e*P **Pn 00 31 38.4 +0.1**
baz=328
TWA S **Sn 00 31 50.6 -0.3**
baz=328
NWF Wu-fen Shan 0.93 345⇓*i*P **Pn 00 31 39.6 +0.9**
baz=343
NWF *i* S **Sn 00 31 52.5 +1.0**
baz=343
WDT Danda 0.93 244⇑*i*P **Pg 00 31 38.6 -0.2**
baz=237
WDT *e*S **Sb 00 31 50.7 +0.4**
baz=237
YOJ Yonaguni jima 0.93 72 P **Pn 00 31 40.4 +1.8**
YOJ S **Sn 00 31 53.9 +2.5**
YOJ Yonaguni jima 0.93 72⇓*i*P **Pn 00 31 40.4 +1.8**
baz=89
YOJ *e*S **Sn 00 31 54.0 +2.5**
baz=89
YOJ Yonaguni jima 0.93 72 *e*Pn **Pn 00 31 40.3 +1.8**
EHY Hungye 0.94 225 *e*P **Pb 00 31 38.2 0.0**
baz=218
TATO Taipei 0.94 328 *e*Pn **Pn 00 31 38.9 0.0**
TAP1 Taipei 0.98 331⇓*i*P **Pg 00 31 39.7 0.0**
baz=319
TAP1 *i* S **Sn 00 31 53.1 +0.4**
baz=319
TAP Taipei 0.99 331 *e*P **Pn 00 31 39.3 -0.1**
baz=319
TAP *i* S **Sn 00 31 53.8 +0.9**
baz=319
YULB Yu-li 1.03 221 *e*Pn **Pb 00 31 39.6 -0.2**
NSTT Nanjuang 1.05 296⇓*i*P **Pg 00 31 40.7 -0.3**
baz=288
NSTT *i* S **Sb 00 31 54.0 +0.4**
baz=288
TWF1 Yuli 1.06 220 *e*P **Pb 00 31 40.3 -0.1**
baz=227
SSLB Suanglung 1.07 249 *e*Pn **Pb 00 31 40.1 -0.3**
SMLT Sun Moon Lake 1.08 255⇑P **Pn 00 31 40.9 +0.1**
baz=242
SMLT *e*S **Sb 00 31 54.4 -0.2**
baz=242
TWS1 Kuangyinshan 1.08 329⇓P **Pg 00 31 41.1 -0.5**
baz=319
TWS1 S **Sg 00 31 56.8 +0.9**
baz=319
NCU National Centr 1.11 316⇓*e*P **Pg 00 31 41.5 -0.6**
baz=317
NCU S **Sg 00 31 57.4 +0.7**
baz=317
TYC Yuchr 1.12 256⇑P **Pn 00 31 41.2 +0.1**
baz=244
TYC *e*S **Sb 00 31 55.7 +0.3**
baz=244
HSN Hsinchu 1.16 303 *e*P **Pb 00 31 42.2 +0.2**
baz=305
HSN *e*S **Sg 00 31 58.4 +0.1**
baz=305
TWY Chenhua 1.17 340⇓P **Pg 00 31 42.7 -0.5**
baz=343
TWY *e*S **Sg 00 31 59.0 +0.4**
baz=343
TWQ1 Liyutan 1.17 279 P **Pg 00 31 43.3 +0.1**
baz=276
TWQ1 S **Sn 00 31 58.1 +0.6**
baz=276
NSY Sanyi 1.19 282⇓P **Pg 00 31 43.8 +0.2**
baz=280
NSY *e*S **Sg 00 31 59.1 -0.3**
baz=280
YUS Yu-Shan 1.21 236⇑P **Pb 00 31 43.4 +0.3**
baz=230
YUS *e*S **Sb 00 31 58.6 0.0**
baz=230
CHKT Chengkung 1.24 210 *e*P **Pn 00 31 42.6 -0.2**
baz=190
TCU Taichung 1.25 269⇓P **Pg 00 31 44.5 -0.2**
baz=265
TCU *e*S **Sg 00 32 00.7 -0.4**
baz=265
WNT Mingjian 1.28 257⇑P **Pg 00 31 45.0 -0.2**
baz=238
WNT *e*S **Sg 00 32 02.0 0.0**
baz=238
ALS Alishan 1.31 240⇑P **Pb 00 31 45.2 +0.4**
baz=222
ALS *e*S **Sn 00 32 01.6 +0.4**
baz=222
ELDTW Lidau 1.36 224 *e*P **Pb 00 31 45.2 -0.2**
baz=207
CHN5 Tsauling 1.37 246⇓P **Pg 00 31 46.4 -0.7**
baz=241
CHN5 *e*S **Sb 00 32 03.8 +0.9**
baz=241
WGK Gukeng 1.44 251 *e*P **Pg 00 31 47.6 -0.7**
baz=246
PCYT Pengchaiyu 1.45 1⇓*e*P **Pb 00 31 46.8 -0.1**
baz=5.0
PCYT *e*S **Sg 00 32 06.7 -0.8**
baz=5.0
IRIF Iriomote-Funau 1.55 84 P **Pb 00 31 48.8 +0.2**
IRIF *e*S **Sg 00 32 10.3 -0.3**
STYT Tauyuan 1.55 230⇑*e*P **Pb 00 31 48.5 -0.2**
baz=224
STYT *e*S **Sb 00 32 09.0 +1.1**
baz=224
CHN4 Tsaushan 1.56 239⇓P **Pb 00 31 49.4 +0.6**
baz=223
CHN4 *e*S **Sg 00 32 10.1 -0.9**
baz=223
TPUB Ta-pu 1.56 236 *e*Pn **Pn 00 31 46.9 -0.4**
CHN2 Minshiung 1.57 246 *e*P **Pb 00 31 49.7 +0.7**
baz=242
CHN2 *e*S **Sb 00 32 10.2 +1.7**
baz=242
WTP Ta-pu 1.60 235 P **Pb 00 31 49.8 +0.3**
baz=230
WTP *e*S **Sb 00 32 10.3 +0.8**
baz=230
TWG Pinlang 1.61 214 *e*P **Pn 00 31 47.8 -0.3**
baz=208
TWG Pinlang 1.61 214 *e*Pn **Pn 00 31 47.0 -1.0**
HATJ Hateruma jima 1.61 94 P **Pb 00 31 50.0 +0.3**
CHY Chiayi 1.63 246 *e*P **Pb 00 31 50.2 +0.3**
baz=241
CHY *e*S **Sb 00 32 11.8 +1.6**
baz=241
WTCT Ta-ch'eng 1.64 260 *e*P **Pb 00 31 49.6 -0.6**
baz=256
WTCT *e*S **Sb 00 32 12.1 +1.6**
baz=256
TWK Hsinying 1.69 238 *e*P **Pb 00 31 51.0 0.0**
baz=233
SGST Jiashian 1.72 231⇓*e*P **Pb 00 31 51.6 0.0**
baz=226
SGST *e*S **Sb 00 32 14.6 +1.7**
baz=226
WSF Szhu 1.75 253 *e*P **Pb 00 31 51.8 -0.2**
baz=249
WSF *e*S **Sb 00 32 15.0 +1.4**
baz=249
JKRS Kuro-shima 1.80 88 P **Pb 00 31 53.0 +0.1**
JKRS S **Sb 00 32 15.7 +0.7**
CHN8 Yiju 1.87 244 *e*P **Pn 00 31 52.5 +1.0**
baz=240
CHN8 *e*S **Sb 00 32 17.5 +0.4**
baz=240
SSD Sandimen 1.92 223 *e*P **Pb 00 31 54.7 -0.3**
baz=203
SSD *e*S **Sb 00 32 19.0 +0.4**
baz=203
JIJ Ishigaki jima 1.93 84 P **Pb 00 31 53.9 -1.2**
JIJ S **Sb 00 32 18.3 -0.5**
SCLT Jiali 1.96 240 *e*P **Pb 00 31 55.8 +0.1**
baz=236
SCLT *e*S **Sb 00 32 21.2 +1.4**
baz=236
TWM1 Shoushan 2.00 228 *e*P **Pb 00 31 57.1 +0.7**
baz=224
TAI1 Yung-k'ang 2.01 236 *e*P **Pb 00 31 56.0 -0.4**
baz=232
SGLT Jiouru 2.03 225 *e*P **Pb 00 31 57.7 +0.9**
baz=206
TAW Tawu 2.09 210 *e*P **Pn 00 31 54.1 -0.5**
baz=206
EAST Anshuo 2.09 212 *e*P **Pn 00 31 55.0 +0.4**
baz=207
JISG Ishigakijimahi 2.11 78 P **Pb 00 31 56.3 -1.9**
JISG S **Sb 00 32 22.2 -1.8**
LAY Lan-yu 2.17 192 *e*P **Pn 00 31 56.3 +0.6**
baz=187
SCZT Fangliau 2.22 216 *e*P **Pb 00 31 59.2 -0.9**
baz=201
PNG Penghu 2.35 256⇓*e*P **Pn 00 31 58.8 +0.6**
baz=252
PNG *e*S **Sn 00 32 26.7 0.0**
baz=252
WDGT Dungji 2.37 248⇑P **Pn 00 31 59.8 +1.4**
baz=244
WDGT *e*S **Sn 00 32 27.0 +0.2**
baz=244
TWP Hsiaoliuchiu 2.39 221 *e*P **Pb 00 32 04.2 +1.3**
baz=216
HEN Hengchun 2.47 209 *e*P **Pb 00 32 02.4 -1.9**
baz=193
JTJ Tarama 2.47 79 P **Pb 00 32 02.2 -2.1**
TWK1 Hengchun 2.49 207 *e*P **Pn 00 31 60.0 -0.2**
baz=194
JIRB Irabujima 2.93 76 P **Pn 00 32 08.0 +1.9**
JIKM Ikemajima 3.01 75 P **Pn 00 32 09.8 +2.5**
QZH Quanzhou 3.23 284⇑*i*Pn Pn 00 32 01.8 -8.5
QZH Sn Sn 00 32 37.0 -11
QZH smax smax
comp=N,1μm,1.0s
QZH smax smax
comp=E,760nm,0.8s
QZH LR LR
comp=Z,2μm,12.8s
KNM Kinmen 3.30 275⇓*e*P **Pn 00 32 12.8 +1.5**
baz=270
WHN Wuhan 9.33 315⇓P **Pn 00 33 38.0 +4.0**
WHN *e*S Sn 00 35 30.0 +12
JNU Nakatsue 11.81 39 LR LR 00 38 55.1
comp=Z,169nm,20.5s,baz=295,slow=39
GYA Guiyang 14.09 283 P **Pn 00 34 39.3 -0.1**
GYA pP P 00 34 45.8 -1.2
GYA PP **PnPn 00 34 51.0 +3.7**
GYA S **Sn 00 37 15.5 +0.1**
GYA sS S 00 37 25.3 -11
GYA SS **SnSn 00 37 32.0 +4.1**
GYA PMZ
comp=Z,20nm,0.8s
GYA LN
comp=Z,310nm,15.0s
GYA LE
comp=Z,340nm,15.2s
GYA LZ
comp=Z,280nm,15.8s
KSRS Korea Array 14.16 19 LR LR 00 40 46.6
comp=Z,80nm,20.2s,baz=210,slow=41
CD2 Chengdu 17.54 297 *e*P **Pn 00 35 22.8 -1.3**
CD2 pP sP 00 35 31.3 -1.6
CD2 sP pP 00 35 35.0 +4.6
CD2 S **Sn 00 38 37.3 -1.7**
CD2 PMZ
comp=Z,20nm,0.5s
KMI Kunming 17.57 277 P **P 00 35 25.3 -0.5**
KMI pP sP 00 35 31.8 -1.7
KMI sP pP 00 35 34.0 +3.0
KMI PMZ
comp=Z,16nm,0.7s
KMI LE
comp=Z,480nm,14.6s
KMI LZ
comp=Z,450nm,14.4s
MJAR Matsushiro Arr 18.59 45 LR LR 00 43 33.1
comp=Z,101nm,20.1s,baz=185,slow=40
HHC Hu-ho-hao-te 18.80 335 *e*P **Pn 00 35 41.0 +1.4**
HHC pP sP 00 35 47.0 +0.2
HHC sP pP 00 35 51.0 +6.6
HHC S **Sn 00 39 06.5 -3.1**
HHC PMZ
comp=Z,11nm,0.9s
HHC PMZ
comp=Z,130nm,5.6s
MYLDM Lahad Datu 19.19 191 *e*P **P 00 35 42.9 -0.4**
comp=Z,14nm,0.9s
LZH Lanzhou 19.68 311 *e*P **Pn 00 35 51.0 +0.8**
LZH pP sP 00 35 58.3 +1.8
LZH sP pP 00 36 01.8 +7.7
LZH PP **PnPn 00 36 09.0 +5.0**
LZH PMZ
comp=Z,25nm,1.0s
LZH PMZ
comp=Z,56nm,4.2s
LZH LN
comp=Z,220nm,11.2s
LZH LE
comp=Z,200nm,10.8s
LZH LZ
comp=Z,280nm,12.7s
CN2 Changchun 19.78 7 *e*P **Pn 00 35 52.0 +0.9**
CN2 PMZ
comp=Z,10.0nm,0.5s
CHTO Chiang Mai 22.13 261 *e*P **P 00 36 14.8 -0.4**
comp=Z,4.7nm,0.8s
CMAR Chiang Mai Arr 22.25 260 P **P 00 36 18.1 +1.6**
comp=Z,1.7nm,0.6s,baz=65,slow=8.6,SNR=11
CMAR LR LR 00 46 19.9
comp=Z,140nm,18.2s,baz=98,slow=40
GUMO Guam 23.99 112 LR LR 00 46 10.5
comp=Z,66nm,18.6s,baz=122,slow=37
GTA Gaotai 24.15 314 *e*P **P 00 36 36.5 +0.8**
GTA pP sP 00 36 43.5 -0.2
GTA sP pP 00 36 47.0 +5.6
GTA S **S 00 40 54.3 +1.4**
GTA PMZ
comp=Z,4.0nm,1.2s
GTA PMZ
comp=Z,120nm,7.4s
GTA LN
comp=Z,130nm,15.7s
GTA LE
comp=Z,150nm,15.7s
GTA LZ
comp=Z,150nm,17.1s
KLR Kul'dur 26.15 15 P **P 00 36 54.5 +1.0**
comp=Z,1.4nm,0.6s,baz=149,slow=11,SNR=5.2
ULN Ulaanbaatar 26.48 337 *e*P **P 00 36 56.4 -0.2**
comp=Z,4.7nm,0.7s
SONM Songino Array 26.69 336 P **P 00 36 57.6 -1.0**
comp=Z,3.4nm,0.8s,baz=151,slow=10,SNR=22
SONM LR LR 00 48 51.9
comp=Z,152nm,18.4s,baz=152,slow=40
SONA1 Songino Array 26.70 336 *e*P **P 00 36 58.0 -0.7**
TLY Talaya 30.88 337 P **P 00 37 35.4 -0.3**
comp=Z,1.7nm,0.4s,baz=187,slow=12,SNR=4.4
TLY Talaya 30.88 337 *e*P **P 00 37 35.4 -0.3**
comp=Z,4.6nm,0.8s
WMQ Urumqi 34.23 313 P **P 00 38 06.0 +0.8**
WMQ pP sP 00 38 13.0 -0.3
WMQ sP pP 00 38 17.5 +6.5
WMQ PMZ
comp=Z,4.0nm,0.8s
WMQ LN
comp=Z,18nm,20.3s
WMQ LE
comp=Z,29nm,17.1s
WMQ LZ
comp=Z,29nm,18.1s
MK01 Makanchi Array 38.88 316 *e*P **P 00 38 44.2 -0.6**
MKAR Makanchi Array 38.89 316 P **P 00 38 44.6 -0.3**
comp=Z,1.1nm,0.5s,baz=98,slow=10.0,SNR=14
MKAR LR LR 00 56 08.2
comp=Z,69nm,18.5s,baz=94,slow=38
PETK Petropavlovsk- 39.44 34 LR LR 00 56 16.6
comp=Z,34nm,18.3s,baz=207,slow=38
ZAA0 Zalesovo Array 40.68 327 *e*P **P 00 38 58.7 -0.9**
ZALV Zalesovo Beam 40.68 327 P **P 00 38 57.5 -2.1**
comp=Z,2.8nm,0.5s,baz=117,slow=7.6,SNR=15
ZALV LR LR 00 56 57.6
comp=Z,68nm,18.6s,baz=70,slow=38
H11N1 WAKE ISLAND Hy 41.70 87 T T 01 24 34.3
baz=283,slow=74,SNR=5.9
H11N2 WAKE ISLAND Hy 41.71 87 T T 01 24 32.2
baz=283,slow=74,SNR=5.9
H11N3 WAKE ISLAND Hy 41.72 87 T T 01 24 38.5
baz=283,slow=74,SNR=5.6
H11S3 WAKE ISLAND Hy 41.84 89 T T 01 24 34.0
baz=284,slow=74,SNR=15
H11S1 WAKE ISLAND Hy 41.84 89 T T 01 24 35.6
baz=284,slow=74,SNR=7.2
H11S2 WAKE ISLAND Hy 41.85 89 T T 01 24 52.4
baz=284,slow=74,SNR=5.6
TKM2 Tokmak 2 42.39 308 *e*P **P 00 39 13.0 -1.1**
comp=Z,3.0nm,0.6s
KURK Kurchatov 42.60 320 *e*P **P 00 39 15.2 -0.2**
comp=Z,1.4nm,1.2s
KURBB Kurchatov Arra 42.62 320 P **P 00 39 14.5 -1.1**
comp=Z,0.9nm,0.4s,baz=108,slow=9.9,SNR=25
WRA Warramunga Arr 45.46 164 P **P 00 39 38.5 -0.1**
comp=Z,0.9nm,0.4s,baz=346,slow=8.6,SNR=13
KKAR Karatay Array 46.10 307 *e*P **P 00 39 43.0 -0.5**
KBL Kabul 46.88 295 *e*P **P 00 39 49.0 -0.9**
comp=Z,7.4nm,1.0s
TIXI Tiksi 47.66 3 *e*P **P 00 39 53.5 -1.7**
comp=Z,2.0nm,0.8s
BRVK Borovoye 48.25 321 *e*P **P 00 39 59.7 -0.4**
comp=Z,6.1nm,0.7s
ASAR Alice Springs 48.93 166 P **P 00 40 07.5 +1.9**
comp=Z,0.4nm,0.7s,baz=335,slow=8.5,SNR=3.9
ZRNK Zerenda 48.97 320 *e*P **P 00 40 04.0 -1.6**
comp=Z,2.9nm,0.7s
NRIK Noril'sk 49.62 345 P **P 00 40 08.2 -2.2**
comp=Z,1.8nm,0.7s,baz=140,slow=8.1,SNR=3.5
ABKAR Akbulak array 54.01 314 *e*P **P 00 40 42.8 -0.6**
GEYT Ailbeck 55.48 300 P **P 00 40 55.0 +0.7**
comp=Z,1.8nm,0.8s,baz=146,slow=1.1,SNR=4.5
ARU Arti 55.59 323 *e*P **P 00 40 53.6 -1.2**
comp=Z,3.7nm,0.7s
KBZ Khabaz 66.10 309 P **P 00 42 06.2 -0.2**
comp=Z,1.3nm,0.8s,baz=145,slow=7.3,SNR=3.8
KVAR Kislovodsk Arr 66.20 309 LR LR 01 14 25.6
comp=Z,40nm,20.1s,slow=39
OBN Obninsk 67.99 322 LR LR 01 14 57.5
comp=Z,48nm,18.8s,baz=89,slow=39
ILAR Eielson Array 68.86 27 P **P 00 42 23.3 -0.3**
comp=Z,0.2nm,0.6s,baz=260,slow=5.4,SNR=3.3
FINES FINESS Array B 71.85 330 P **P 00 42 41.1 -0.8**
comp=Z,1.0nm,0.5s,baz=52,slow=5.5,SNR=27
FINES LR LR 01 17 22.7
comp=Z,64nm,19.2s,baz=312,slow=38
BRTR Keskin Array B 73.81 307 P **P 00 42 53.6 -0.6**
comp=Z,1.1nm,0.8s,baz=99,slow=4.8,SNR=6.2
NB2 NORSAR Subarra 78.60 332 P **P 00 43 18.9 -2.0**
comp=Z,0.7nm,0.6s,baz=54,slow=5.6
NOA NORSAR Array B 78.60 332 P **P 00 43 19.4 -1.5**
comp=Z,0.9nm,0.8s,baz=60,slow=5.3,SNR=4.5
NOA LR LR 01 21 26.1
comp=Z,54nm,19.0s,baz=90,slow=38
GERES GERESS Array B 83.35 321 P **P 00 43 46.0 -0.5**
comp=Z,0.8nm,0.8s,baz=64,slow=3.1,SNR=6.9
KMBO Kilima Mbogo 85.70 267 P **P 00 43 59.5 +0.3**
comp=Z,0.5nm,0.3s,baz=40,slow=13,SNR=4.0
KEST Kesra 92.86 311 P **P 00 44 32.6 0.0**
comp=Z,4.1nm,0.9s,baz=27,slow=17,SNR=3.0

GUC ***26*** *01:01:34.7±0.5,31.36S×69.68W,h158km±10km, ML3.6*
ISCJB ***26*** *01:01:35.2±1.1,31.36S±0.03×69.21W±0.05,*
h110km±12km, Error ellipse: s-maj=7.9km s-min=4.8km az=15.0
SJA ***26*** *01:01:35.1±0.8,31.38S×69.14W,h108km±7km, ML3.3, MW3.5*
ISC 26 01:01:35.1±1.8,31.36S±0.04×69.19W±0.06,
h113km±15km,n18,σ0°78/27,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.45**	**192**	*e*P		**Pn**		**01 01 52.7**	**+0.3**
RTLL	**Cerro Villicun**	**0.61**	**87**	*e*P		**Pn**		**01 01 53.3**	**+0.1**
RTLL				*e*S		**Sn**		**01 02 05.8**	**-1.0**
AMOG	**MOGNA**	**0.73**	**55**	*e*P		**Pn**		**01 01 54.6**	**+0.5**
RTCV	**Cerro Valdivia**	**0.75**	**132**	*e*P		**Pn**		**01 01 54.5**	**+0.2**
RTCV				*e*S		**Sn**		**01 02 07.9**	**-0.8**
ACCO	**Cerro Coronel**	**0.78**	**8**	*e*P		**Pn**		**01 01 55.7**	**+0.8**
ACCO				IAML				01 01 56.4	
comp=Z,607nm,0.4s									
AUSP	**Uspallata**	**0.88**	**191**	*e*P		**Pn**		**01 01 55.9**	**+0.1**
ACDV	**Cuesta del Vie**	**1.19**	**3**	*e*P		**Pn**		**01 01 59.6**	**+0.9**
AROD	**Rodeo**	**1.21**	**348**	*e*P		**Pn**		**01 02 00.3**	**+1.1**
ASAL	**Salagasta**	**1.27**	**166**	*e*P		**Pn**		**01 01 59.5**	**0.0**
AVFE	**Valle Fertil**	**1.65**	**65**	*e*P		**Pn**		**01 02 04.2**	**+0.2**
AVFE				*e*S		**Sn**		**01 02 25.5**	**-0.4**
AVFE				IAML				01 02 27.9	
comp=Z,263nm,0.3s									
TLL	**Tololo Astrono**	**1.83**	**310**	*i*P		**Pn**		**01 02 06.0**	**-0.4**
TLL				*i*S		**Sn**		**01 02 30.3**	**+0.1**
TLL				IAML				01 02 34.2	
comp=N,672nm,0.7s									
FCH	**Farellones**	**2.17**	**205**	*i*P		**Pn**		**01 02 11.6**	**+0.9**
FCH				*i*S		**Sn**		**01 02 40.2**	**+2.2**
FCH				IAML				01 02 45.2	
comp=N,186nm,0.3s									
PEL	**Peldehue**	**2.18**	**215**	*i*P		**Pn**		**01 02 10.4**	**-0.2**
PEL				*i*S		**Sn**		**01 02 37.1**	**-0.7**
PEL				IAML				01 02 39.8	
comp=N,374nm,0.2s									
ROCH	**El Roble**	**2.23**	**223**	*i*P		**Pn**		**01 02 11.2**	**-0.2**
ROCH				*i*S		**Sn**		**01 02 38.3**	**-0.8**
ROCH				IAML				01 02 41.1	
comp=N,298nm,0.1s									
CLCH	**Cerro Calan**	**2.33**	**209**	*i*P		**Pn**		**01 02 12.8**	**+0.3**
CLCH				*i*S		**Sn**		**01 02 41.2**	**+0.1**
CLCH				IAML				01 02 43.7	
comp=E,271nm,0.6s									
ANTU	**Antumapu**	**2.52**	**209**	*e*S		**Sn**		**01 02 45.0**	**-0.5**
ANTU				IAML				01 02 48.2	
comp=N,232nm,0.5s									
LCO	**Las Campanas**	**2.68**	**330**	*i*P		**Pn**		**01 02 17.3**	**0.0**
LCO				*i*S		**Sn**		**01 02 49.6**	**-0.1**
LCO				IAML				01 02 50.7	
comp=E,264nm,0.5s									
VACH	**Vallenar**	**3.09**	**333**	*i*S		**Sn**		**01 02 57.7**	**-1.2**

ISCJB ***26*** *01:37:34.0±0.7,24.9S±0.1×180.0E±0.1,h501km, mb4.0/7, Error ellipse: s-maj=17.7km s-min=12.8km az=144.7*
IDC ***26*** *01:37:33.5±1.5,24.87S×179.93E,h481km±15km,mb3.7/8, mb1 3.9/10,mb1mx3.6/26,mbtmp4.6/10, Error ellipse: s-maj=18.1km s-min=13.0km az=165.0*
ISC 26 01:37:35.0±0.7,24.8S±0.1×180.0E±0.1,h501km,n13,
σ1°61/21,mb3.9/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**13.31**	**37**	P		**P**		**01 40 25.9**	**-1.7**
4.2nm,0.3s,baz=257,slow=24,SNR=4.0									
URZ	**Urewera**	**13.65**	**190**	P		**P**		**01 40 28.6**	**-2.2**
6.8nm,0.3s,baz=12,slow=1.9,SNR=17									
URZ				S		**S**		**01 42 58.0**	**+2.2**
1.5nm,0.3s,baz=262,slow=22,SNR=10									
RPZ	**Rata Peaks**	**20.25**	**199**	P		**P**		**01 41 32.9**	**-2.7**
18nm,0.5s,baz=9.9,slow=1.5,SNR=20									
STKA	**Stephens Creek**	**34.40**	**249**	P		**P**		**01 43 39.7**	**-0.1**
7.4nm,0.4s,baz=94,slow=11,SNR=25									
ASAR	**Alice Springs**	**41.90**	**262**	P		**P**		**01 44 40.5**	**-0.7**
4.1nm,0.3s,baz=94,slow=7.1,SNR=116									
ASAR				ScP		**ScP**		**01 49 29.6**	**+1.7**
0.9nm,0.9s,baz=126,slow=4.3,SNR=4.8									
ASAR				S		**S**		**01 50 24.3**	**+1.5**
0.6nm,1.0s,baz=137,slow=33,SNR=4.8									
WRA	**Warramunga Arr**	**42.35**	**267**	P		**P**		**01 44 43.9**	**-0.9**
15nm,0.5s,baz=99,slow=6.9,SNR=273									
WRA				ScP		**ScP**		**01 49 32.1**	**+2.5**
2.9nm,0.8s,baz=100,slow=4.0,SNR=11									
WRA				S		**S**		**01 50 29.4**	**0.0**
2.0nm,0.9s,baz=104,slow=14,SNR=5.5									
VNDA	**Vanda**	**53.50**	**185**	P		**P**		**01 46 08.1**	**+0.8**
0.9nm,0.6s,baz=0.6,slow=6.4,SNR=10									
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P		**P**		**01 49 40.4**	**+0.1**
0.6nm,0.6s,baz=148,slow=3.3,SNR=4.6									
TXAR	**Lajitas Array**	**90.90**	**58**	P		**P**		**01 49 46.6**	**+1.4**
1.1nm,0.8s,baz=216,slow=6.5,SNR=17									
PDAR	**Pinedale Array**	**93.33**	**44**	P		**P**		**01 49 58.2**	**+2.0**
0.3nm,0.5s,baz=209,slow=2.7,SNR=2.5									

FINES	**FINESS Array B**	**139.28**	**341**	PKP	**PKPdf**	**01 56 04.9**	**+0.8**
	0.6nm,0.8s,baz=137,slow=29,SNR=2.6						
FINES				SKPbc	**SKPbc**	**01 58 52.5**	**+0.6**
	2.1nm,0.8s,baz=36,slow=7.1,SNR=7.9						
BRTR	**Keskin Array B**	**148.10**	**306**	PKP	**PKPdf**	**01 56 18.6**	**-1.7**
	0.4nm,0.8s,baz=150,slow=30,SNR=3.5						
BRTR				PKPbc	**PKPbc**	**01 56 23.5**	**-0.7**
	0.6nm,0.8s,baz=70,slow=1.4,SNR=3.5						
BRTR				PKPab	**PKPab**	**01 56 29.1**	**+0.2**
	0.8nm,0.6s,baz=105,slow=4.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**168.31**	**188**	PKPab	**PKPab**	**01 57 54.9**	**-1.6**
	0.6nm,0.6s,baz=172,slow=3.8,SNR=9.6						

IDC 26 01:52:11.7±1.8, 2.65S×128.92E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/38, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=110.3km s-min=24.9km az=75.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.69**	**192**	Pn	**Pn**	01 55 55.6	+1.4
	0.1nm,0.3s,baz=40,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**17.98**	**163**	P	**Pn**	01 56 23.0	-0.3
	0.1nm,0.3s,baz=341,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**21.44**	**167**	P	P	01 57 00.5	-1.1
	0.4nm,0.3s,baz=346,slow=11,SNR=7.2						
ZALV	**Zalesovo Beam**	**67.23**	**334**	P	P	02 03 08.1	+0.4
	0.3nm,0.3s,baz=120,slow=5.5,SNR=2.4						

*IDC **26** 01:58:09.1±1.2, 36.50N×141.57E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/36, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=32.1km s-min=25.6km az=90.0*
*JMA **26** 01:58:16.0±0.1, 36.29N×141.01E, h45km±1km, M3.4*
JMA Felt I J1.

ISC 26 01:58:11.8±2.2, 36.33N±0.05×141.12E±0.07, h14km±13km, n18, σ1s44/20, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.52**	**303**	P	**Pn**	**01 58 26.4**	**+1.5**
JHO				eS	**Sn**	**01 58 33.5**	**-0.1**
CHOJ	**Chosi**	**0.66**	**199**	P	**Pn**	**01 58 28.2**	**+1.5**
CHOJ				eS	**Sn**	**01 58 36.6**	**-0.2**
JYT	**Yasato**	**0.75**	**263**	P	**Pn**	**01 58 29.2**	**+1.2**
JYT				S	**Sb**	**01 58 38.0**	**+1.2**
ONAJ	**Iwakimizuishiy**	**0.81**	**342**	P	**Pn**	**01 58 30.8**	**+1.9**
ONAJ				S	**Sn**	**01 58 41.0**	**+0.2**
JFK	**Kawauchi**	**1.05**	**349**	P	**Pn**	**01 58 34.1**	**+1.9**
JFK				S	**Sn**	**01 58 46.6**	**-0.1**
JAG	**Ashikaga**	**1.35**	**275**	P	**Pg**	**01 58 37.8**	**+0.1**
JAG				S	**Sb**	**01 58 52.9**	**-1.0**
MJAR	**Matsushiro Arr**	**2.35**	**276**	Pn	**Pb**	**01 58 53.0**	**-1.0**
	3.3nm,0.3s,baz=115,slow=8.6,SNR=39						
MJAR				Sn	**Sb**	**01 59 22.3**	**-0.7**
	7.4nm,0.3s,baz=242,slow=35,SNR=9.3						
MAT	**Matsushiro**	**2.36**	**276**	P	**Pb**	**01 58 52.9**	**-1.1**
MAT				S	**Sn**	**01 59 18.5**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**28.00**	**119**	T	T	02 33 27.2	
	baz=312,slow=75,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**28.01**	**119**	T	T	02 33 34.5	
	baz=312,slow=75,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**28.02**	**119**	T	T	02 33 34.4	
	baz=312,slow=75,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**28.69**	**121**	T	T	02 34 27.1	
	baz=314,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.69**	**121**	T	T	02 34 21.6	
	baz=314,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**28.70**	**121**	T	T	02 34 20.4	
	baz=314,slow=76,SNR=17						
KURBB	**Kurchatov Arra**	**46.25**	**308**	P	**P**	**02 06 37.5**	**+1.1**
	0.7nm,0.6s,baz=85,slow=8.2,SNR=9.4						
ILAR	**Eielson Array**	**50.22**	**32**	P	**P**	**02 07 03.5**	**-3.4**
	0.2nm,0.6s,baz=268,slow=8.9,SNR=2.7						
WRA	**Warramunga Arr**	**56.33**	**188**	P	**P**	**02 07 52.9**	**+0.6**
	0.2nm,0.4s,baz=4.9,slow=7.4,SNR=6.5						
ASAR	**Alice Springs**	**60.06**	**188**	P	**P**	**02 08 19.6**	**+1.3**
	0.1nm,0.3s,baz=17,slow=7.9,SNR=3.6						

KRSC 26 01:59:01.1±2.5, 49.95N×157.57E, h15km±6km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.19**	**309**	*i* P	Pn	01 59 21.7	-1.4
SKR				*i* S	Sb	01 59 34.8	-3.6
PAU	**Pauzhetka**	**1.59**	**343**	*i* P	Pb	01 59 29.8	-0.4
PAU				*i* S	Sn	01 59 48.4	-0.6
ASAK	**Asacha**	**2.44**	**5**	*e*P	Pb	01 59 42.7	-2.1
ASAK				S	Sb	02 00 13.2	-1.5
RUS	**Russkaya**	**2.56**	**13**	*e*P	Pn	01 59 44.1	+2.1
RUS				*e*S	Sn	02 00 14.7	+2.0
KRMR	**Karymshinskiy**	**2.90**	**7**	P	Pn	01 59 49.0	+2.2
PET	**Petropavlovsk**	**3.15**	**12**	S	Sn	02 00 30.1	+2.7
DALK	**Dalny**	**3.17**	**13**	*e*P	Pn	01 59 53.6	+3.2
DALK				*e*S	Sn	02 00 29.9	+2.0
UGLR	**Uglovaya**	**3.35**	**13**	*e*P	Pb	01 59 56.9	-3.4
UGLR				S	Sb	02 00 37.3	-3.7
AVH	**Avacha**	**3.40**	**12**	*e*P	Pb	01 59 58.0	-3.0
AVH				S	Sb	02 00 38.4	-3.8
NLC	**Nalytchevo**	**3.41**	**18**	S	Sb	02 00 38.6	-3.8
SDLR	**Sedlovina**	**3.43**	**13**	P	Pn	01 59 57.3	+3.2
SDLR				S	Sn	02 00 38.3	+3.8
KRER	**Koryakskii**	**3.44**	**12**	*e*P	Pb	01 59 58.2	-3.6
KRER				*e*S	Sn	02 00 39.0	+4.2
KRX	**Arik**	**3.48**	**11**	*e*P	Pb	01 59 58.9	-3.6
KRX				*e*S	Sb	02 00 40.9	-3.6
GNL	**Ganaly**	**3.76**	**3**	*e*P	Pn	02 00 02.2	+3.6
MKZ	**Mys Kozlova**	**5.27**	**27**	P	Pn	02 00 21.8	+2.5

*IDC **26** 02:01:50.3±1.4, 37.74N×144.32E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.4/35, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=38.2km s-min=24.8km az=124.0*
*ISCJB **26** 02:01:53.3±0.9, 38.00N±0.04×144.25E±0.06, h33km, mb3.6/2, Error ellipse: s-maj=7.5km s-min=5.2km az=41.9*
*JMA **26** 02:01:54.9±0.2, 37.92N×144.09E, h39km, M3.5*

ISC 26 02:01:54.0±1.5, 37.93N±0.06×144.30E±0.08, h35km, n17, σ1s01/26, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.36**	**300**	P	**Pn**	**02 02 30.7**	**+0.5**
OFUJ				*e*S	**Sn**	**02 02 57.0**	**-1.0**
JIO	**Ouri**	**2.38**	**284**	P	**Pn**	**02 02 30.5**	**0.0**
JIO				S	**Sn**	**02 02 57.0**	**-1.5**
JMK	**Ichinoseki**	**2.62**	**294**	P	**Pn**	**02 02 34.1**	**+0.3**
JMK				*e*S	**Sn**	**02 03 04.2**	**-0.2**
JOU	**Okura**	**2.90**	**280**	P	**Pn**	**02 02 38.4**	**+0.7**
JOU				S	**Sn**	**02 03 11.1**	**-0.2**
JFT	**Otama**	**3.17**	**264**	P	**Pn**	**02 02 42.1**	**+0.7**
JFT				S	**Sn**	**02 03 17.2**	**-0.8**
JRG	**Rokugo**	**3.22**	**298**	P	Pn	02 02 43.2	+1.1
JRG				*e*S	**Sn**	**02 03 19.6**	**+0.4**
JYK	**Kaneyama**	**3.25**	**289**	P	**Pn**	**02 02 43.3**	**+0.9**
JYK				S	**Sn**	**02 03 19.9**	**0.0**
JANG	**Nango**	**3.26**	**319**	*e*S	**Sn**	**02 03 19.6**	**-0.6**
JTM	**Tenmabayashi**	**3.79**	**320**	*e*S	**Sn**	**02 03 32.1**	**-1.2**
JRY	**Ryogami san**	**4.73**	**248**	P	**Pn**	**02 03 02.7**	**-0.1**
JRY				*e*S	**Sn**	**02 03 53.5**	**-2.9**
JCH	**Churui**	**4.73**	**352**	P	**Pn**	**02 03 03.8**	**+1.0**
JCH				*e*S	**Sn**	**02 03 56.2**	**-0.2**
MJAR	**Matsushiro Arr**	**5.05**	**256**	Pn	**Pn**	**02 03 08.6**	**+1.2**
	1.7nm,0.3s,baz=79,slow=15,SNR=15						
MJAR				Sn	**Sn**	**02 04 05.3**	**+0.8**
	0.5nm,0.3s,baz=91,slow=26,SNR=3.9						
MAT	**Matsushiro**	**5.06**	**256**	P	Pn	02 03 08.9	+1.6
MAT				S	**Sn**	**02 04 05.8**	**+1.3**
JTKR	**Abashiri--Toko**	**6.04**	**357**	P	**Pn**	**02 03 21.0**	**+0.3**
JTKR				*e*S	**Sn**	**02 04 27.4**	**-1.2**
ASAJ	**Asahikawa**	**6.31**	**349**	Pn	**Pn**	**02 03 25.2**	**+0.7**
	0.7nm,0.3s,baz=201,slow=12,SNR=6.2						
ILAR	**Eielson Array**	**47.50**	**33**	P	P	02 10 28.5	+3.2
	0.3nm,0.7s,baz=270,slow=4.5,SNR=3.2						
WRA	**Warramunga Arr**	**58.33**	**191**	P	**P**	**02 11 45.3**	**-0.2**
	1.0nm,0.8s,baz=11,slow=7.4,SNR=7.6						

*NIED **26** 02:09:00, 40.00N×142.50E, h38km, Mw3.5 Best double couple: M0=1.85000×10^14 NP1:φ=239.00000°, δ=24.00000°, λ=154.00000°. NP2:φ=352.00000°, δ=80.00000°, λ=68.00000°.*

JMA 26 02:09:32.9±0.1, 39.96N×142.50E, h36km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.49**	**268**	P	Pn	02 09 43.3	0.0
JTH				S	Sn	02 09 50.9	+0.3
MIYJ	**Miyakonagasawa**	**0.65**	**234**	P	Pn	02 09 45.4	-0.3
MIYJ				S	Sn	02 09 54.1	-0.6
JANG	**Nango**	**0.86**	**299**	P	Pn	02 09 48.4	-0.1
JKZ	**Kuzumaki**	**0.90**	**272**	P	Pn	02 09 49.7	+0.6
JKZ				S	Sn	02 10 01.5	+0.6
JOM	**Ohasama**	**1.05**	**243**	P	Pn	02 09 51.5	+0.4
OFUJ	**Ofunato**	**1.09**	**216**	P	Pn	02 09 51.9	+0.3
OFUJ				*e*S	Sn	02 10 05.8	+0.4
JTM	**Tenmabayashi**	**1.37**	**308**	P	Pn	02 09 56.6	+1.1
JTM				S	Sn	02 10 13.7	+1.3
JMK	**Ichinoseki**	**1.41**	**225**	P	Pn	02 09 56.7	+0.7
JAH	**Hinai**	**1.45**	**280**	P	Pn	02 09 58.1	+1.6
JAH				*e*S	Sn	02 10 15.6	+1.3
JRG	**Rokugo**	**1.55**	**249**	P	Pn	02 09 59.7	+1.8

*ISCJB **26** 02:16:32.3±0.4, 50.12N±0.02×18.30E±0.02, h0km, Error ellipse: s-maj=3.6km s-min=2.2km az=10.2*
*IPEC **26** 02:16:33.5±0.2, 50.06N×18.45E, h0km±2km, ML2.1/3, Error ellipse: s-maj=2.0km s-min=1.1km az=160.0*
*WAR **26** 02:16:33.4, 50.06N×18.41E, h1km, Mw2.6*
*CSEM **26** 02:16:33.3±0.2, 50.10N×18.34E, h2km, ML2.8/9, Error ellipse: s-maj=4.5km s-min=2.7km az=4.0*

ISC 26 02:16:33.5±0.7, 50.11N±0.03×18.39E±0.01, h0km, n47, σ0s75/80, 5C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.32**	**210**	⇓*i*Pg	**Pg**	**02 16 39.8**	**+0.3**
OKC				*e*SG	**Sg**	**02 16 43.4**	**-0.1**
	130nm,0.4s						
OKC	**Ostrava-Krasne**	**0.32**	**210**	Pg	**Pg**	**02 16 39.8**	**+0.3**
OKC				Sg	**Sg**	**02 16 43.4**	**-0.1**
	130nm,0.4s						
CHZP	**Chorzow**	**0.43**	**65**	*e*Pg	**Pb**	**02 16 43.5**	**-0.4**
CHZP				*e*Sg	**Sb**	**02 16 49.9**	**-1.0**
CHZP	**Chorzow**	**0.43**	**65**	*e*Pg	**Pb**	**02 16 43.5**	**-0.4**
CHZP				*e*Sg	**Sb**	**02 16 49.9**	**-1.0**
MORC	**Moravsky Berou**	**0.64**	**239**	*e*Pg	**Pg**	**02 16 45.9**	**+0.2**
MORC				*e*Sg	**Sg**	**02 16 53.9**	**-0.1**
	43nm,0.3s						
OJC	**Ojcow**	**0.91**	**83**	*e*Pg	**Pg**	**02 16 50.6**	**-0.4**
OJC				*e*Sg	**Sg**	**02 17 03.5**	**+0.7**
OJC	**Ojcow**	**0.91**	**83**	*e*Pg	**Pg**	**02 16 50.6**	**-0.4**
OJC				*e*Sg	**Sg**	**02 17 03.5**	**+0.7**
OJC	**Ojcow**	**0.91**	**83**	*e*Pg	**Pg**	**02 16 50.6**	**-0.3**
OJC				*e*Sg	**Sg**	**02 17 03.5**	**+0.7**
KRLC	**Kraliky**	**1.04**	**269**	*e*PG	**Pg**	**02 16 52.9**	**-0.4**
KRLC				*e*SG	**Sg**	**02 17 06.5**	**-0.2**
KRLC	**Kraliky**	**1.04**	**269**	Pg	**Pg**	**02 16 52.9**	**-0.4**
KRLC				Sg	**Sg**	**02 17 06.5**	**-0.2**
LANS	**Liptovska Anna**	**1.19**	**143**	*e*Pg	**Pg**	**02 16 55.8**	**-0.4**
LANS				*e*Sg	**Sb**	**02 17 12.4**	**-0.5**
LANS	**Liptovska Anna**	**1.19**	**143**	*e*PG	**Pg**	**02 16 55.8**	**-0.4**
LANS				*e*SG	**Sb**	**02 17 12.4**	**-0.5**
JAVC	**Velka Javorina**	**1.34**	**201**	*e*Pg	**Pg**	**02 16 59.1**	**0.0**
DPC	**Dobruska-Polom**	**1.35**	**281**	*e*PG	**Pg**	**02 16 59.4**	**+0.1**
DPC				*e*SG	**Sb**	**02 17 17.4**	**-0.1**
	28nm,0.5s						
DPC	**Dobruska-Polom**	**1.35**	**281**	Pg	**Pg**	**02 16 59.4**	**+0.1**
DPC				Sg	**Sb**	**02 17 17.4**	**-0.1**
	28nm,0.5s						
VRAC	**Vranov**	**1.42**	**236**	*e*Pg	**Pn**	**02 16 59.8**	**-0.7**
VRAC				*e*Sg	**Sg**	**02 17 18.0**	**-0.9**
	32nm,0.4s						
NIE	**Niedzica**	**1.42**	**119**	*e*Pg	**Pn**	**02 17 00.5**	**0.0**
NIE				*e*Sg	**Sn**	**02 17 20.6**	**+0.6**
NIE	**Niedzica**	**1.42**	**119**	*e*Pg	**Pn**	**02 17 00.5**	**0.0**
NIE				*e*Sg	**Sn**	**02 17 20.6**	**+0.6**
NIE	**Niedzica**	**1.42**	**119**	*e*Pg	**Pn**	**02 17 00.5**	**-0.1**
NIE				*e*Sg	**Sn**	**02 17 20.6**	**+0.7**
KSP	**Ksiaz**	**1.53**	**299**	*e*Pg	**Pn**	**02 17 01.9**	**-0.1**
KSP				*e*Sg	**Sn**	**02 17 22.7**	**+0.1**
KSP	**Ksiaz**	**1.53**	**299**	*e*Pg	**Pn**	**02 17 01.9**	**-0.1**
KSP				*e*Sg	**Sn**	**02 17 22.7**	**+0.1**
KSP	**Ksiaz**	**1.53**	**299**	*e*Pg	**Pn**	**02 17 01.9**	**-0.1**
KSP				*e*Sg	**Sn**	**02 17 22.7**	**+0.1**
UPC	**Upice**	**1.57**	**286**	⇑PG	**Pn**	**02 17 02.7**	**0.0**
UPC	**Upice**	**1.57**	**286**	Pg	**Pn**	**02 17 02.7**	**0.0**
VYHS	**Vyhne**	**1.65**	**170**	*e*Pn	**Pn**	**02 17 02.5**	**-1.1**
VYHS				*e*Sn	**Sn**	**02 17 25.0**	**-0.5**
VYHS	**Vyhne**	**1.65**	**170**	*e*PN	**Pn**	**02 17 02.5**	**-1.1**
VYHS				*e*SN	**Sn**	**02 17 25.0**	**-0.5**
VYHS				*e*LG	Lg	02 17 27.8	
KRUC	**Moravsky**	**1.67**	**232**	*e*Pn	**Pn**	**02 17 03.9**	**-0.1**
KRUC				*e*Sg	**Sn**	**02 17 25.8**	**-0.3**
STHS	**Stebnicka Huta**	**1.98**	**109**	*e*Pn	**Pg**	**02 17 11.3**	**0.0**
STHS				*e*Sn	**Sg**	**02 17 38.2**	**+1.3**
STHS	**Stebnicka Huta**	**1.98**	**109**	*e*PN	**Pg**	**02 17 11.3**	**0.0**
STHS				*e*SN	**Sg**	**02 17 38.2**	**+1.3**
STHS				*e*LG	Lg	02 17 41.1	
TREC	**Trest**	**2.05**	**248**	⇑*e*SG	**Sb**	**02 17 37.2**	**-0.5**
	12nm,0.3s						
TREC	**Trest**	**2.05**	**248**	Sg	**Sb**	**02 17 37.2**	**-0.5**
	12nm,0.3s						
KECS	**Kecovo**	**2.13**	**139**	*e*Sn	**Sn**	**02 17 37.7**	**+0.3**
KECS	**Kecovo**	**2.13**	**139**	*e*SN	**Sn**	**02 17 37.7**	**+0.3**
KECS				*e*LG	Lg	02 17 43.7	
PRU	**Pruhonice**	**2.48**	**269**	⇑*e*PG	**Pb**	**02 17 18.5**	**-0.4**
PRU				*e*SG	**Sb**	**02 17 50.6**	**+0.6**
	5.4nm,0.2s						
PRU	**Pruhonice**	**2.48**	**269**	Pg	**Pb**	**02 17 18.5**	**-0.4**
PRU				Sg	**Sb**	**02 17 50.6**	**+0.6**
	5.4nm,0.2s						
PVCC	**Panska Ves**	**2.48**	**281**	⇑*e*SG	**Sg**	**02 17 53.4**	**+0.2**
	14nm,0.2s						
PVCC	**Panska Ves**	**2.48**	**281**	Sg	**Sg**	**02 17 53.4**	**+0.2**
	14nm,0.2s						
CONA	**Conrad Observa**	**2.75**	**218**	Pn	**Pn**	**02 17 18.4**	**-0.4**
	0.3nm,0.2s						
CONA				Sn	**Sn**	**02 17 52.7**	**-0.1**
	2.0nm,0.3s						
CONA	**Conrad Observa**	**2.75**	**218**	Pn	**Pn**	**02 17 18.4**	**-0.4**
	0.3nm,0.2s						
BRG	**Berggiesshubel**	**2.94**	**287**	PG	**Pb**	**02 17 27.8**	**+1.1**
BRG				SG	**Sg**	**02 18 07.1**	**-0.7**
	3.7nm,0.5s						
KHC	**Kasperske Hory**	**3.28**	**254**	*e*PG	**Pb**	**02 17 33.8**	**+1.3**
KHC				*e*SG	**Sg**	**02 18 16.7**	**-2.0**
	5.6nm,0.2s						
KHC	**Kasperske Hory**	**3.28**	**254**	Pg	**Pb**	**02 17 33.8**	**+1.3**
KHC				Sg	**Sg**	**02 18 16.7**	**-2.0**
	5.6nm,0.2s						
ARSA	**Arzberg**	**3.44**	**215**	Sn	**Sn**	**02 18 09.2**	**-0.5**
	0.4nm,0.3s						
ARSA	**Arzberg**	**3.44**	**215**	Sn	**Sn**	**02 18 09.2**	**-0.5**
	0.4nm,0.3s						
MOA	**Molln**	**3.54**	**232**	Sg	**Sb**	**02 18 22.9**	**+2.5**
	0.6nm,0.2s						
MOA	**Molln**	**3.54**	**232**	Sg	**Sb**	**02 18 22.9**	**+2.5**
	0.6nm,0.2s						
CLL	**Collm**	**3.63**	**291**	*e*Pg	**Pg**	**02 17 43.0**	**+0.1**
CLL				*e*Sg	**Sg**	**02 18 30.0**	**+0.1**
	comp=Z,5.0nm,0.6s						

JMA 26 02:20:30.5±0.3, 36.86N×143.86E, h46km, M3.6, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.46**	**277**	P	Pn	02 21 09.4	+1.2
ONAJ				S	Sn	02 21 37.9	+0.8
JIO	**Ouri**	**2.55**	**309**	P	Pn	02 21 10.5	+1.2
JIO				S	Sn	02 21 39.9	+0.8
JFT	**Otama**	**2.89**	**284**	P	Pn	02 21 16.1	+2.1
JFT				*e*S	Sn	02 21 49.8	+2.3
JMK	**Ichinoseki**	**2.95**	**316**	P	Pn	02 21 16.1	+1.2
JMK				S	Sn	02 21 50.0	+0.9
JOM	**Ohasama**	**3.30**	**323**	P	Pn	02 21 21.5	+1.8
JOM				S	Sn	02 21 57.8	+0.1
JYK	**Kaneyama**	**3.45**	**308**	⇑P	Pn	02 21 23.7	+2.0
JAG	**Ashikaga**	**3.57**	**264**	P	Pn	02 21 24.9	+1.5
JRY	**Ryogami san**	**4.08**	**260**	P	Pn	02 21 31.6	+1.1

*IDC **26** 02:26:58.7±1.7, 23.25N×95.81E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.5/52, mbtmp3.9/6, MS3.6/1, Ms1 3.6/1, ms1mx2.5/54, Error ellipse: s-maj=157.1km s-min=17.8km az=59.0*
*ISCJB **26** 02:27:03.9±0.5, 22.5N±0.1×94.2E±0.1, h88km, mb3.9/9, Error ellipse: s-maj=21.9km s-min=6.3km az=41.4*
*NEIC **26** 02:27:08.1±1.5, 23.81N×96.39E, h66km±21km, mb4.3/3, Error ellipse: s-maj=97.5km s-min=8.8km az=56.0*

ISC 26 02:27:05.3±0.8, 22.5N±0.1×94.1E±0.1, h88km, n23, σ2s23/24, mb4.1/9, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.65**	**327**	*i* P	**Pn**	**02 28 01.3**	**+1.5**
SHL				*e*S	**Sn**	**02 28 38.6**	**-3.3**
CHTO	**Chiang Mai**	**5.84**	**128**	*e*Pn	**Pn**	**02 28 28.3**	**-1.2**
	7.1nm,0.7s						
CHTO				*e*Lg	Lg	02 29 45.6	
CMAR	**Chiang Mai Arr**	**6.08**	**131**	Pn	**Pn**	**02 28 32.6**	**-0.1**
	1.5nm,0.3s,baz=312,slow=14,SNR=7.6						
CMAR				Lg	Lg	02 30 05.7	
	0.7nm,0.3s,baz=304,slow=15,SNR=4.2						
LSA	**Lhasa**	**7.63**	**340**	*e*Pn	**Pn**	**02 28 54.0**	**-0.2**
	14nm,0.3s						
RAMN	**Ramite**	**8.12**	**304**	*e*P	**Pn**	**02 29 02.0**	**+1.3**
	56nm,0.5s						
GUN	**Gumba**	**9.18**	**307**	*e*S	**Sn**	**02 30 55.1**	**-1.8**
PKIN	**Phulchoki**	**9.36**	**304**	*e*P	**Pn**	**02 29 19.1**	**+1.5**
	26nm,0.3s						
KKN	**Kakani**	**9.56**	**305**	*e*P	**Pn**	**02 29 21.7**	**+1.4**
	11nm,0.2s						
DMN	**Daman**	**9.60**	**304**	*e*P	**Pn**	**02 29 22.2**	**+1.3**
	13nm,0.3s						
GKN	**Gorkha**	**10.15**	**304**	*e*P	**Pn**	**02 29 29.5**	**+1.1**
	40nm,0.3s						
GKN				*e*S	**Sn**	**02 31 18.0**	**-2.5**
KOLN	**Koldanda**	**10.85**	**301**	*e*P	**Pn**	**02 29 38.5**	**+0.6**
	37nm,0.2s						
KOLN				*e*S	**Sn**	**02 31 33.2**	**-4.3**
PYUN	**Piuthan**	**11.48**	**301**	*e*P	**Pn**	**02 29 46.5**	**+0.1**
	14nm,0.3s						
TKM2	**Tokmak 2**	**25.51**	**327**	*e*P	**P**	**02 32 31.9**	**+6.1**
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**26.03**	**341**	P	**P**	**02 32 32.0**	**+1.7**
	1.3nm,0.6s,baz=145,slow=9,SNR=8.5						
KKM	**Kota Kinabalu**	**26.91**	**124**	*e*P	**P**	**02 32 35.6**	**-2.9**
	8.8nm,0.8s						
KURBB	**Kurchatov Arra**	**30.58**	**340**	P	**P**	**02 33 12.2**	**+1.6**
	0.4nm,0.5s,baz=146,slow=8.6,SNR=3.6						
KURK	**Kurchatov**	**30.63**	**341**	P	**P**	**02 33 12.2**	**+1.1**
ZALV	**Zalesovo Beam**	**32.16**	**350**	P	**P**	**02 33 24.8**	**+0.3**
	1.1nm,0.3s,baz=158,slow=8.5,SNR=4.8						
JHJ	**Hachijo jima 2**	**41.48**	**65**	LR	LR	02 54 00.7	
	comp=Z,70nm,18.1s,baz=97,slow=41						
WRA	**Warramunga Arr**	**57.66**	**134**	P	**P**	**02 36 47.0**	**+0.1**
	1.2nm,0.4s,baz=321,slow=7.5,SNR=31						
WRAB	**Tennant Creek**	**57.66**	**134**	*e*P	**P**	**02 36 47.3**	**+0.5**
	2.5nm,0.6s						
FINES	**FINESS Array B**	**59.98**	**329**	P	P	02 37 08.9	+6.6
	0.6nm,0.6s,baz=104,slow=8.0,SNR=5.2						
ASAR	**Alice Springs**	**60.05**	**137**	P	**P**	**02 37 04.0**	**+0.7**
	0.8nm,0.5s,baz=321,slow=7.1,SNR=20						

*SJA **26** 02:42:32.9±0.3, 31.64S×69.77W, h112km±6km, ML2.7, MW3.2*
*ISCJB **26** 02:42:33.3±1.6, 31.66S±0.1×69.8W±0.1, h114km±21km, Error ellipse: s-maj=24.8km s-min=7.6km az=143.2*
*GUC **26** 02:42:33.9±0.4, 31.67S×70.01W, h132km±14km, ML2.8*

ISC 26 02:42:33.1±3.2, 31.6S±0.1×69.8W±0.1, h115km±27km, n11, σ0s50/17, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.48**	**114**	*i* P	**Pn**	**02 42 50.9**	**+0.2**
AUSP	**Uspallata**	**0.72**	**150**	*i* P	**Pn**	**02 42 52.8**	**+0.4**
RTCV	**Cerro Valdivia**	**1.11**	**104**	*i* P	**Pn**	**02 42 55.9**	**0.0**
RTCV				*i* S	**Sn**	**02 43 12.9**	**-0.2**
RTLL	**Cerro Villicun**	**1.18**	**77**	*i* P	**Pn**	**02 42 56.8**	**+0.2**
ASAL	**Salagasta**	**1.29**	**140**	*i* P	**Pn**	**02 42 57.8**	**0.0**
ARCO	**CERRO ARCO**	**1.44**	**149**	*i* S	**Sn**	**02 43 19.6**	**-0.3**
ARCO				IAML		02 43 20.9	
	comp=Z,83nm,0.3s						
ROCH	**El Roble**	**1.70**	**216**	*i* P	**Pn**	**02 43 03.0**	**+0.2**
ROCH				*i* S	**Sn**	**02 43 25.3**	**-0.2**
ROCH				IAML		02 43 28.4	
	comp=N,86nm,0.3s						
PEL	**Peldehue**	**1.70**	**205**	*i* P	**Pn**

LPAZ La Paz 147.40 59 PKPbc **PKPbc 03 02 37.3 -0.9**
0.7nm,0.8s,baz=270,slow=3.0,SNR=2.4

ISCJB ***26*** *02:54:37.2±0.7,52.9N±0.1×35.3W±0.1, h13km, mb4.0/17, MS3.1/11, Error ellipse: s-maj=20.2km s-min=11.6km az=4.4*
IDC ***26*** *02:54:37.2±1.4,52.91N×35.20W, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.6/67, mbtmp3.8/12, ML3.7/1, MS3.2/11, Ms1 3.2/11, ms1mx2.9/49, Error ellipse: s-maj=33.5km s-min=24.1km az=40.0*
NEIC ***26*** *02:54:38.3±0.4, 52.89N×35.27W, h10km, mb4.2/5, Error ellipse: s-maj=13.0km s-min=7.5km az=184.0*

ISC 26 02:54:38.8±0.9, 52.9N±0.2×35.3W±0.1, h13km, n30, σ0s56/22, mb4.1/17, MS3.2/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**18.90**	**70**	P	**P**	**02 58 58.4**	**-0.4**
	baz=278,slow=9.2,SNR=7.5						
FRB	**Frobisher Bay**	**20.32**	**315**	LR	LR	03 05 27.7	
	comp=Z,68nm,18.1s,baz=317,slow=32						
JMIC	**Jan Mayen**	**21.75**	**23**	LR	LR	03 05 36.9	
	comp=Z,48nm,19.6s,baz=250,slow=30						
ESDC	**Sonseca Array**	**25.12**	**109**	P	**P**	**03 00 03.6**	**+0.4**
	1.1nm,0.7s,baz=313,slow=8.0,SNR=12						
NOA	**NORSAR Array B**	**26.12**	**53**	P	**P**	**03 00 10.8**	**-1.3**
	0.9nm,0.8s,baz=276,slow=9.7,SNR=3.6						
NOA				LR	LR	03 09 22.0	
	comp=Z,22nm,18.3s,baz=255,slow=34						
HFS	**Hagfors**	**27.41**	**55**	P	**P**	**03 00 23.6**	**-0.1**
	2.4nm,1.0s,baz=262,slow=10.0,SNR=2.9						
SADO	**Sadowa**	**29.60**	**272**	LR	LR	03 11 45.2	
	comp=Z,54nm,18.1s,baz=22,slow=35						
VRAC	**Vranov**	**32.19**	**75**	LR	LR	03 13 31.3	
	comp=Z,46nm,19.0s,baz=310,slow=35						
FINES	**FINESS Array B**	**33.16**	**50**	P	**P**	**03 01 13.9**	**-0.6**
	3.2nm,0.8s,baz=312,slow=6.6,SNR=14						
FINES				LR	LR	03 12 53.3	
	comp=Z,57nm,19.7s,baz=284,slow=33						
AKASG	**Malin Array Be**	**38.76**	**66**	LR	LR	03 17 16.0	
	comp=Z,20nm,19.4s,baz=265,slow=35						
INK	**Inuvik**	**45.09**	**329**	LR	LR	03 20 51.8	
	comp=Z,35nm,18.5s,baz=162,slow=35						
BRTR	**Keskin Array B**	**47.59**	**77**	P	**P**	**03 03 14.9**	**+0.7**
	1.3nm,0.8s,baz=305,slow=6.6,SNR=5.1						
BRTR				LR	LR	03 24 31.1	
	comp=Z,19nm,18.0s,baz=340,slow=38						
TORD	**Torodi Ar. Bea**	**49.34**	**129**	P	**P**	**03 03 27.7**	**0.0**
	0.3nm,0.8s,baz=330,slow=7.7,SNR=3.5						
NEW	**Newport**	**49.52**	**300**	*e*P	**P**	**03 03 28.5**	**-0.3**
	3.6nm,0.9s						
SDCO	**Great Sand Dun**	**49.65**	**282**	*e*P	**P**	**03 03 29.8**	**-0.4**
	0.7nm,0.5s						
ARU	**Arti**	**50.30**	**46**	P	**P**	**03 03 35.3**	**+0.7**
	1.0nm,0.3s,baz=143,slow=2.7,SNR=4.8						
ARU	**Arti**	**50.30**	**46**	*e*P	**P**	**03 03 33.8**	**-0.8**
	2.4nm,0.8s						
HWUT	**Hardware Ranch**	**50.66**	**290**	*e*P	**P**	**03 03 37.9**	**+0.2**
	2.6nm,0.9s						
ILAR	**Eielson Array**	**51.47**	**329**	P	**P**	**03 03 43.7**	**+0.4**
	0.2nm,0.4s,baz=51,slow=5.9,SNR=6.3						
DBIC	**Dimbokro**	**52.34**	**141**	LR	LR	03 22 54.4	
	comp=Z,33nm,18.8s,baz=79,slow=32						
TXAR	**Lajitas Array**	**54.37**	**273**	LR	LR	03 26 31.3	
	comp=Z,30nm,18.4s,baz=0.0,slow=35						
BRVK	**Borovoye**	**57.59**	**44**	*e*P	**P**	**03 04 27.7**	**-0.2**
	5.5nm,0.6s						
BVAR	**Borovoye Array**	**57.66**	**44**	P	**P**	**03 04 29.1**	**+0.8**
	0.8nm,0.5s,baz=359,slow=6.1,SNR=5.3						
EKS2	**Erkin-Say**	**66.98**	**49**	*e*P	**P**	**03 05 31.6**	**+0.5**
	2.5nm,0.8s						
MKAR	**Makanchi Array**	**67.35**	**41**	P	**P**	**03 05 33.0**	**-0.2**
	0.9nm,0.6s,baz=337,slow=5.8,SNR=5.0						
SONM	**Songino Array**	**74.49**	**26**	P	**P**	**03 06 17.1**	**+0.3**
	0.5nm,0.8s,baz=331,slow=8.6,SNR=2.4						
LSZ	**Lusaka**	**86.96**	**120**	*e*P	**P**	**03 07 23.2**	**-0.4**
	3.3nm,0.9s						
WRAB	**Tennant Creek**	**146.15**	**18**	*e*PKPbc	**PKPbc**	**03 14 18.3**	**-0.3**
WRA	**Warramunga Arr**	**146.16**	**18**	PKPbc	**PKPbc**	**03 14 18.3**	**-0.3**
	2.8nm,0.7s,baz=338,slow=3.3,SNR=16						
ASAR	**Alice Springs**	**149.70**	**20**	PKPbc	**PKPbc**	**03 14 27.9**	**-0.2**
	1.5nm,0.8s,baz=353,slow=2.5,SNR=10						

WEL 26 02:55:10.5±0.0, 43.59S×172.59E, h2km, ML3.5/3, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.02**	**66**	PG	Pg	02 55 10.9	-0.1
CRLZ				SG	Sg	02 55 11.5	+0.1
CRLZ				AML	AML	02 55 11.5	
CRLZ				AML	AML	02 55 11.6	
CRLZ				AML	AML	02 55 11.6	
MQZ	**McQueen's Vall**	**0.13**	**160**	⇑PG	Pg	02 55 13.1	+0.1
MQZ				SG	Sg	02 55 15.1	+0.4
MQZ				AML	AML	02 55 15.3	
OXZ	**Oxford**	**0.48**	**302**	⇓PG	Pg	02 55 20.1	+0.4
LTZ	**Lake Taylor**	**0.84**	**344**	P*	Pg	02 55 27.0	+0.5
LTZ				AML	AML	02 55 39.7	
LTZ				AML	AML	02 55 40.0	
RPZ	**Rata Peaks**	**1.12**	**263**	P*	Pg	02 55 32.0	0.0
INZ	**Inchbonnie**	**1.20**	**315**	P*	Pg	02 55 33.5	0.0
KHZ	**Kahutara**	**1.36**	**31**	P*	Pn	02 55 34.1	-2.3
WVZ	**Waitaha Valley**	**1.45**	**290**	PN	Pg	02 55 38.5	+0.3
THZ	**Tophouse**	**1.84**	**7**	PN	Pn	02 55 40.8	-2.2
LBZ	**Lake Benmore**	**1.91**	**244**	PN	Pb	02 55 46.1	0.0
DSZ	**Denniston Nort**	**1.93**	**342**	PN	Pn	02 55 42.9	-1.4
FOZ	**Fox Glacier**	**2.02**	**271**	PN	Pn	02 55 46.3	+0.8
ODZ	**Otahua Downs**	**2.02**	**223**	*e*PN	Pn	02 55 43.7	-1.8

NIED ***26*** *03:00:00, 36.60N×141.00E, h59km, Mw3.6 Best double couple: M₀2.51000×10¹⁴ NP1:φ₀=203.00000°, δ22.00000°, λ90.00000°. NP2:φ₀=23.00000°, δ68.00000°, λ90.00000°.*
IDC ***26*** *03:00:13.9±9.3, 36.69N×141.31E, h35km±67km, mb3.5/2, mb1 3.7/4, mb1mx3.2/67, mbtmp3.7/4, ML3.4/2, MS3.5/1, Ms1 3.7/1, ms1mx2.5/32, Error ellipse: s-maj=63.7km s-min=24.3km az=66.0*
ISCJB ***26*** *03:00:14.2±0.9, 36.62N±0.04×141.19E±0.09, h44km±10km, mb3.6/2, MS3.4/1, Error ellipse: s-maj=12.1km s-min=6.1km az=15.0*
JMA ***26*** *03:00:15.6±0.1, 36.63N×141.04E, h47km±1km, M3.8*
JMA Felt II J1.

ISC 26 03:00:14.7±1.6, 36.64N±0.04×141.16E±0.08, h33km±10km, n18, σ1s14/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.48**	**266**	P	**Pn**	**03 00 25.2**	**0.0**
JHO				S	**Sb**	**03 00 31.8**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.54**	**328**	P	**Pn**	**03 00 26.4**	**+0.3**
ONAJ				S	**Sb**	**03 00 33.9**	**+0.2**
JFK	**Kawauchi**	**0.76**	**342**	P	**Pb**	**03 00 29.4**	**-0.1**
JFK				S	**Sn**	**03 00 39.1**	**-0.3**
JYT	**Yasato**	**0.88**	**242**	P	**Pn**	**03 00 30.2**	**-0.6**
JYT				S	**Sn**	**03 00 40.7**	**-1.7**
JFT	**Otama**	**1.09**	**323**	P	**Pb**	**03 00 34.9**	**-0.2**
JFT				S	**Sn**	**03 00 48.3**	**+0.6**
JMM	**Marumori**	**1.25**	**347**	P	**Pn**	**03 00 36.6**	**+0.7**
JMM				S	**Sn**	**03 00 52.3**	**+0.7**
MJAR	**Matsushiro Arr**	**2.38**	**268**	Pn	**Pn**	**03 00 51.2**	**-0.1**
	6.9nm,0.3s,baz=84,slow=12,SNR=68						
MJAR				Sn	**Sn**	**03 01 21.2**	**+1.8**
	5.8nm,0.3s,baz=93,slow=29,SNR=8.0						
MAT	**Matsushiro**	**2.38**	**268**	P	**Pn**	**03 00 52.4**	**+1.0**
MAT				S	**Sn**	**03 01 21.2**	**+1.8**
JHJ	**Hachijo jima 2**	**3.69**	**198**	Pn	**Pn**	**03 01 09.8**	**+0.4**
	8.9nm,0.3s,baz=358,slow=19,SNR=4.7						
JHJ				Sn	**Sn**	**03 01 54.5**	**+2.6**
	19nm,0.3s,baz=129,slow=22,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	03 36 07.1	
	baz=313,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	03 36 06.6	
	baz=313,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	03 35 54.8	
	baz=313,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	03 36 58.7	
	baz=314,slow=75,SNR=73						
H11S3	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	03 36 56.7	
	baz=314,slow=75,SNR=54						
H11S2	**WAKE ISLAND Hy**	**28.84**	**122**	T	T	03 36 56.9	
	baz=314,slow=75,SNR=41						
CMAR	**Chiang Mai Arr**	**41.20**	**256**	LR	LR	03 25 56.6	
	comp=Z,53nm,18.5s,baz=128,slow=37						
ZALV	**Zalesovo Beam**	**42.03**	**313**	P	**P**	**03 08 02.3**	**-0.5**
	0.5nm,0.4s,baz=75,slow=7.1,SNR=3.1						
WRA	**Warramunga Arr**	**56.65**	**188**	P	**P**	**03 09 53.7**	**-0.9**
	0.6nm,0.6s,baz=5.1,slow=7.3,SNR=13						

ISCJB ***26*** *03:03:29.4±0.2, 59.92N±0.02×152.96W±0.04, h121km±2km, mb4.1/21, Error ellipse: s-maj=4.1km s-min=2.7km az=137.7*
IDC ***26*** *03:03:30.9±2.6, 60.00N×153.00W, h114km±22km, mb3.7/17, mb1 3.8/21, mb1mx3.5/72, mbtmp4.1/21, MS3.1/1, Ms1 3.1/1, ms1mx2.3/35, Error ellipse: s-maj=25.3km s-min=13.4km az=161.0*
NEIC ***26*** *03:03:31.6, 59.89N×152.99W, h108km, MG4.1(AEIC), After AEIC.*
NEIC Felt [II] at Homer.

ISC 26 03:03:30.7±0.6, 59.91N±0.03×152.97W±0.04, h115km±5km, n141, σ0s81/158, mb4.1/21, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.07**	**312**	P	**Pn**	**03 03 46.1**	**-0.5**
IVE	**Iliamna Volcan**	**0.11**	**347**	P	**Pn**	**03 03 46.3**	**-0.4**
ILIM	**Iliamna**	**0.17**	**1**	P	**Pn**	**03 03 46.2**	**-0.5**
OPT	**Oil Point**	**0.29**	**207**	P	**Pn**	**03 03 46.8**	**-0.3**
RED	**Redoubt Volcan**	**0.52**	**11**	P	**Pn**	**03 03 48.1**	**-0.2**
RED				S	**Sn**	**03 04 01.3**	**-0.3**
RSO	**Redoubt South**	**0.56**	**11**	*e*Pn	**Pn**	**03 03 48.6**	**-0.2**
AUL	**Augustine Lava**	**0.58**	**204**	P	**Pn**	**03 03 48.4**	**-0.2**
AUL				S	**Sn**	**03 04 01.9**	**-0.2**
RDWB	**Redoubt West**	**0.58**	**6**	P	**Pn**	**03 03 48.4**	**-0.4**
RDWB				S	**Sn**	**03 04 01.8**	**-0.7**
AUE	**Augustine Isla**	**0.59**	**201**	P	**Pn**	**03 03 48.3**	**-0.4**
AUSE	**Augustine SEas**	**0.61**	**201**	P	**Pn**	**03 03 48.4**	**-0.4**
AUI	**Augustine Isla**	**0.62**	**202**	P	**Pn**	**03 03 48.5**	**-0.4**
NCT	**North Crescent**	**0.65**	**2**	P	**Pn**	**03 03 49.2**	**-0.1**
RDJH	**Redoubt Jeurge**	**0.69**	**7**	P	**Pn**	**03 03 49.4**	**-0.2**
RDJH				S	**Sn**	**03 04 03.4**	**-0.4**
HOM	**Homer**	**0.72**	**110**	P	**Pn**	**03 03 49.9**	**+0.3**
HOM				S	**Sn**	**03 04 04.8**	**+0.9**
BGRM	**Barrier Glacie**	**0.89**	**18**	P	**Pn**	**03 03 51.2**	**-0.1**
CNPM	**China Poot**	**0.96**	**113**	P	**Pn**	**03 03 51.8**	**-0.1**
CNPM				S	**Sn**	**03 04 07.8**	**-0.1**
MCNL	**McNeil River**	**1.01**	**224**	P	**Pn**	**03 03 51.7**	**-0.7**
CDD	**Cape Douglas**	**1.04**	**200**	P	**Pn**	**03 03 52.0**	**-0.8**
BRLK	**Bradley Lake**	**1.06**	**97**	P	**Pn**	**03 03 52.8**	**-0.1**
BRLK				S	**Sn**	**03 04 09.8**	**0.0**
FOPK	**Fourpeaked Vol**	**1.19**	**193**	P	**Pn**	**03 03 52.7**	**-1.0**
NKA	**Nikishka**	**1.20**	**45**	P	**Pn**	**03 03 56.2**	**+2.0**
CKL	**Chakachamna La**	**1.33**	**13**	P	**Pn**	**03 03 56.1**	**+0.2**
SPCR	**Spurr Chakacha**	**1.35**	**16**	P	**Pn**	**03 03 56.2**	**+0.1**
SPU	**Mount Spurr**	**1.35**	**19**	*e*Pn	**Pn**	**03 03 56.2**	**+0.1**
SLKM	**Skilak Lake**	**1.50**	**65**	P	**Pn**	**03 03 57.7**	**-0.1**
KAPH	**Katmai Pasha**	**1.50**	**209**	P	**Pn**	**03 03 57.6**	**-0.2**
KAHC	**Katmai Hardscr**	**1.64**	**220**	P	**Pn**	**03 03 59.0**	**-0.6**
VOGL	**Vogel Lake**	**1.66**	**48**	P	**Pn**	**03 04 01.4**	**+1.7**
STLK	**Strandline Lak**	**1.69**	**19**	P	**Pn**	**03 04 00.5**	**+0.5**
SVW2	**Sparrevohn**	**1.76**	**314**	P	**Pn**	**03 04 00.2**	**-0.7**
KAWH	**Katmai**	**1.80**	**212**	P	**Pn**	**03 04 00.9**	**-0.6**
FIB	**Fire Island**	**1.87**	**46**	P	**Pn**	**03 04 03.3**	**+1.2**
SUA	**Susitna One**	**1.90**	**34**	P	**Pn**	**03 04 03.3**	**+0.5**
SUA				S	**Sn**	**03 04 27.8**	**+0.6**
KAKN	**Katmai Knife C**	**1.95**	**215**	P	**Pn**	**03 04 02.9**	**-0.4**
KVTA	**Katmai Vly 10**	**1.95**	**219**	P	**Pn**	**03 04 02.9**	**-0.3**
RC01	**Rabbit Creek A**	**1.99**	**52**	S	**Sn**	**03 04 28.5**	**-0.4**
KABU	**Katmai Buttres**	**2.04**	**217**	P	**Pn**	**03 04 04.3**	**-0.1**
KABU				S	**Sn**	**03 04 29.1**	**-1.0**
KELA	**Mount Kelaz**	**2.05**	**225**	P	**Pn**	**03 04 04.0**	**-0.6**
KABR	**Katmai Barrier**	**2.06**	**211**	P	**Pn**	**03 04 04.2**	**-0.5**
KDAK	**Kodiak Island**	**2.15**	**175**	P	**Pn**	**03 04 04.2**	**-1.5**
KDAK				S	**Sn**	**03 04 31.0**	**-1.4**
KNK	**Knik Glacier**	**2.68**	**54**	P	**Pn**	**03 04 11.8**	**-0.8**
OHAK	**Old Harbor**	**2.70**	**184**	P	**Pn**	**03 04 11.1**	**-1.8**
GHO	**Glory Hole Cre**	**2.72**	**45**	P	**Pn**	**03 04 12.8**	**-0.3**
GHO				S	**Sn**	**03 04 43.9**	**-2.0**
PLK2	**Peulik 2**	**2.77**	**220**	P	**Pn**	**03 04 13.9**	**+0.1**
PLK3	**Peulik 3**	**2.81**	**219**	P	**Pn**	**03 04 14.4**	**+0.1**
PLK1	**Peulik 1**	**2.84**	**223**	P	**Pn**	**03 04 14.7**	**+0.1**
PLK4	**Peulik 4**	**2.89**	**219**	P	**Pn**	**03 04 15.4**	**0.0**
SML	**Sawmill**	**2.96**	**48**	P	**Pn**	**03 04 15.8**	**-0.5**
SML				S	**Sn**	**03 04 49.2**	**-2.2**
HIN	**Hinchinbrook I**	**3.27**	**79**	P	**Pn**	**03 04 19.2**	**-1.1**
TTD1	**Tatalina**	**3.34**	**335**	P	**Pn**	**03 04 20.9**	**-0.5**
SCM	**Sheep Creek Mo**	**3.36**	**53**	P	**Pn**	**03 04 20.9**	**-0.8**
TTA	**Tatalina**	**3.36**	**336**	P	**Pn**	**03 04 21.4**	**-0.2**
HUR	**Hurricane**	**3.47**	**26**	P	**Pn**	**03 04 23.5**	**+0.6**
VMT	**TAPS TI Valdez**	**3.47**	**67**	P	**Pn**	**03 04 22.9**	**0.0**
VLZ	**Valdez**	**3.50**	**67**	P	**Pn**	**03 04 22.5**	**-0.8**
CAST	**Castle Rocks**	**3.54**	**6**	*e*Pn	**Pn**	**03 04 23.9**	**0.0**
EYAK	**Cordova Ski Ar**	**3.66**	**77**	P	**Pn**	**03 04 24.7**	**-0.7**
DIV	**Divide**	**3.76**	**68**	P	**Pn**	**03 04 26.8**	**-0.1**
KLU	**Klutina**	**3.81**	**62**	P	**Pn**	**03 04 26.7**	**-0.9**
RND	**Reindeer**	**4.02**	**27**	P	**Pn**	**03 04 30.1**	**-0.3**
ANNW	**Aniakchak Nort**	**4.04**	**225**	P	**Pn**	**03 04 30.7**	**0.0**
DHY	**Denali Highway**	**4.16**	**38**	*e*Pn	**Pn**	**03 04 31.8**	**-0.4**
RAGM	**Ragged Mountai**	**4.17**	**80**	P	**Pn**	**03 04 31.7**	**-0.7**
PS11	**TAPS Pump St11**	**4.25**	**56**	P	**Pn**	**03 04 33.3**	**0.0**
BMRM	**Bremner River**	**4.28**	**72**	P	**Pn**	**03 04 33.1**	**-0.7**
BPAW	**Bear Paw Mtn.**	**4.31**	**12**	P	**Pn**	**03 04 33.6**	**-0.6**
NICHA	**Nichawak Mount**	**4.52**	**22**	P	**Pn**	**03 04 36.4**	**-0.6**
BWN	**Browne**	**4.58**	**20**	P	**Pn**	**03 04 38.1**	**+0.3**
SUCK	**Suckling Hills**	**4.62**	**84**	P	**Pn**	**03 04 38.7**	**+0.3**
CHGN	**Chignik**	**4.63**	**221**	*e*Pn	**Pn**	**03 04 37.8**	**-0.7**
BERG	**Berg Lake**	**4.66**	**80**	P	**Pn**	**03 04 38.7**	**-0.1**
GRIN	**Grindle Hills**	**4.84**	**81**	P	**Pn**	**03 04 41.1**	**-0.3**
VRDI	**Verde Repeater**	**4.88**	**70**	P	**Pn**	**03 04 41.5**	**-0.5**
KHIT	**Khitrov Hills**	**4.88**	**80**	P	**Pn**	**03 04 41.9**	**-0.1**
PS10	**TAPS Pump St10**	**4.92**	**41**	P	**Pn**	**03 04 42.6**	**+0.3**
CRQM	**Cirque**	**4.96**	**76**	P	**Pn**	**03 04 43.3**	**-0.4**
NEA	**Nenana**	**5.02**	**20**	P	**Pn**	**03 04 43.3**	**-0.4**
TGL	**Tana Glacier**	**5.11**	**76**	P	**Pn**	**03 04 43.9**	**-1.1**
MCARA	**McCarthy VSAT**	**5.11**	**69**	P	**Pn**	**03 04 44.4**	**-0.6**
WRH	**Wood River Hil**	**5.11**	**24**	P	**Pn**	**03 04 44.0**	**-1.0**
KULT	**Kultieth River**	**5.14**	**82**	P	**Pn**	**03 04 45.6**	**+0.2**
MLY	**Manley**	**5.24**	**10**	P	**Pn**	**03 04 45.5**	**-1.2**
BARK	**Barkley Ridge**	**5.26**	**80**	P	**Pn**	**03 04 46.5**	**-0.5**
CCB	**Clear Creek Bu**	**5.33**	**25**	P	**Pn**	**03 04 46.6**	**-1.2**
ISLE	**Juniper Island**	**5.34**	**78**	P	**Pn**	**03 04 47.3**	**+0.2**
PTPK	**Patty Peak**	**5.34**	**72**	P	**Pn**	**03 04 48.5**	**+0.3**
KIAG	**Kiagna River**	**5.35**	**75**	P	**Pn**	**03 04 48.5**	**+0.1**
BALM	**Baldy**	**5.37**	**73**	*e*Pn	**Pn**	**03 04 48.5**	**-0.1**
MENT	**Mentasta**	**5.38**	**52**	P	**Pn**	**03 04 47.1**	**-1.5**
PS08	**TAPS Pump Stn8**	**5.46**	**29**	P	**Pn**	**03 04 48.9**	**-0.7**
COLA	**College**	**5.52**	**23**	P	**Pn**	**03 04 49.5**	**-0.8**
MDM	**Murphy Dome**	**5.52**	**21**	P	**Pn**	**03 04 49.5**	**-1.0**
MESA	**MESA**	**5.53**	**82**	P	**Pn**	**03 04 51.0**	**+0.2**
GRNC	**Granite Creek**	**5.63**	**77**	P	**Pn**	**03 04 52.5**	**+0.3**
ILAR	**Eielson Array**	**5.64**	**28**	P	**Pn**	**03 04 51.0**	**-1.0**
	16nm,0.3s,baz=218,slow=14,SNR=410						
ILAR				S	**Sn**	**03 05 54.0**	**-1.5**
	16nm,0.3s,baz=217,slow=23,SNR=8.5						
ILB	**Eielson Array**	**5.64**	**28**	P	**Pn**	**03 04 51.0**	**-1.0**
IL1	**Eielson Array**	**5.64**	**28**	*e*Pn	**Pn**	**03 04 50.4**	**-1.6**
TABL	**Table Mountain**	**5.93**	**80**	P	**Pn**	**03 04 56.2**	**+0.1**
IM3	**Indian Mountai**	**6.11**	**357**	P	**Pn**	**03 04 58.0**	**-0.3**
PS06	**TAPS Pump Stn6**	**6.14**	**13**	P	**Pn**	**03 04 58.9**	**+0.1**
BCA3	**Beaver Creek A**	**6.22**	**55**	P	**Pn**	**03 04 59.6**	**-0.3**
PCA	**Pinnacle**	**6.38**	**83**	P	**Pn**	**03 05 02.6**	**+0.5**
COLD	**Coldfoot**	**7.45**	**8**	P	**Pn**	**03 05 16.1**	**-0.4**
FYU	**Fort Yukon**	**7.53**	**24**	*e*Pn	**Pn**	**03 05 17.1**	**-0.4**
DHAK	**Deception Hill**	**7.55**	**90**	P	**Pn**	**03 05 17.9**	**-0.1**
HYT	**Haines Junctio**	**7.72**	**77**	P	**Pn**	**03 05 20.2**	**-0.2**
PLBC	**Pleasant Camp**	**8.41**	**86**	P	**Pn**	**03 05 30.1**	**+0.5**
SKAG	**Skagway**	**8.93**	**85**	*e*Pn	**Pn**	**03 05 37.8**	**+1.2**
WRAK	**Wrangell Islan**	**11.42**	**99**	*e*Pn	**Pn**	**03 06 10.8**	**+0.7**
	15nm,0.4s						
CRAG	**Craig**	**11.49**	**104**	*e*Pn	**Pn**	**03 06 10.8**	**-0.3**
DLBC	**Dease Lake**	**11.85**	**87**	P	**Pn**	**03 06 17.7**	**+1.9**
	6.0nm,0.3s,baz=266,slow=9.4,SNR=24						
DLBC				S	**Sn**	**03 08 26.4**	**+0.5**
	0.5nm,0.3s,baz=279,slow=27,SNR=5.1						
DLBC	**Dease Lake**	**11.85**	**87**	P	**Pn**	**03 06 15.9**	**+0.1**
DLBC				S	**Sn**	**03 08 26.4**	**+0.5**
INK	**Inuvik**	**11.90**	**37**	P	**Pn**	**03 06 16.3**	**0.0**
	0.5nm,0.3s,baz=221,slow=11,SNR=6.2						
INK				S	**Sn**	**03 08 24.9**	**-2.0**
	0.2nm,0.3s,baz=261,slow=10,SNR=2.4						
INK	**Inuvik**	**11.90**	**37**	*e*Pn	**Pn**	**03 06 16.6**	**+0.3**
INK				S	**Sn**	**03 08 24.9**	**-2.0**
YKA	**Yellowknife Ar**	**18.47**	**65**	P	**P**	**03 07 37.3**	**+0.1**
	1.7nm,0.3s,baz=277,slow=9.8,SNR=24						
SEY	**Seymchan**	**25.65**	**300**	P	**P**	**03 08 50.0**	**+0.8**
	1.8nm,0.6s,baz=130,slow=22,SNR=4.2						
PETK	**Petropavlovsk-**	**27.49**	**278**	P	**P**	**03 09 05.7**	**-0.1**
	1.9nm,0.5s,baz=68,slow=14,SNR=7.6						
ASAJ	**Asahikawa**	**40.90**	**277**	P	**P**	**03 11 01.1**	**-0.1**
	3.2nm,0.7s,baz=290,slow=21,SNR=4.9						
SPITS	**Spitsbergen Ar**	**42.00**	**3**	P	**P**	**03 11 09.1**	**-0.7**
	2.1nm,0.5s,baz=21,slow=2.8,SNR=12						
KLR	**Kul'dur**	**42.59**	**290**	P	**P**	**03 11 14.1**	**-0.7**
	0.6nm,0.3s,baz=348,slow=12,SNR=3.7						
SCHQ	**Schefferville**	**43.60**	**57**	P	**P**	**03 11 22.1**	**-0.8**
	2.9nm,0.6s,baz=304,slow=7.3,SNR=5.4						
MJB9	**Matsu-Tunnel**	**48.80**	**274**	*e*P	**P**	**03 12 04.6**	**+0.7**
	3.8nm,0.8s						
MAJO	**Matsushiro**	**48.80**	**274**	*e*P	**P**	**03 12 04.2**	**+0.3**
	15nm,0.8s						
MJAR	**Matsushiro Arr**	**48.80**	**274**	P	**P**	**03 12 03.6**	**-0.3**
	2.6nm,1.0s,baz=11,slow=8.5,SNR=5.3						
ARCES	**ARCESS Array B**	**50.84**	**1**	LR	LR	03 35 07.6	
	comp=Z,19nm,19.4s,baz=28,slow=37						
KSRS	**Korea Array**	**53.22**	**283**	P	**P**	**03 12 36.4**	**-0.4**
	3.4nm,0.5s,baz=40,slow=7.1,SNR=11						
KSAR	**Wonju Array Be**	**53.24**	**283**	P	**P**	**03 12 36.4**	**-0.6**
SONA1	**Songino Array**	**54.84**	**306**	*e*P	**P**	**03 12 49.2**	**+0.5**
SONM	**Songino Array**	**54.86**	**306**	P	**P**	**03 12 49.7**	**+1.0**
	2.2nm,0.5s,baz=41,slow=6.2,SNR=19						
ZALV	**Zalesovo Beam**	**57.45**	**324**	P	**P**	**03 13 06.8**	**-0.1**
	0.9nm,0.4s,baz=55,slow=6.3,SNR=2.3						
HHC	**Hu-ho-hao-te**	**58.24**	**297**	*e*P	**P**	**03 13 14.5**	**+1.7**
HHC				pmax	pmax		
	comp=Z,19nm,1.1s						
HHC				pmax	pmax		
	comp=Z,80nm,6.3s						
FINES	**FINESS Array B**	**58.97**	**1**	P	**P**	**03 13 17.8**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=8.9,slow=9.1,SNR=8.4						
HFS	**Hagfors**	**59.84**	**8**	P	**P**	**03 13 24.2**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=50,slow=4.6,SNR=6.3						
KURK	**Kurchatov**	**62.11**	**326**	P	**P**	**03 13 38.8**	**0.0**
BVAR	**Borovoye Array**	**62.15**	**332**	P	**P**	**03 13 38.3**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=241,slow=35,SNR=4.7						
KURBB	**Kurchatov Arra**	**62.22**	**326**	P	**P**	**03 13 38.8**	**-0.8**
	comp=Z,0.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**62.61**	**19**	P	**P**	**03 13 41.4**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=

*IDC **26** 03:13:45.4±1.3,22°.11S×67°.94W,h101km±15km,mb3.0/2, mb1 3.3/4,mb1mx3.2/20,mbtmp3.4/4,Error ellipse: s-maj=37.4km s-min=22.4km az=141.0*

*GUC **26** 03:13:46.0±0.6,21°.85S×68°.63W,h114km±4km,ML3.1*

ISC 26 03:13:44.5±1.1,21°.83S±0°.05×68°.50W±0°.09, h115km±11km,n13,σ2§06/22,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.69**	**273**	*i* P	**Pn**	**03 14 04.7**	**+1.3**
PB09				*i* S	**Sn**	**03 14 18.7**	**+1.0**
PB09				IAML		03 14 20.9	
	comp=N,1μm,0.3s						
LVC	**Limon Verde**	**0.87**	**206**	P	**Pn**	**03 14 06.8**	**+1.6**
	comp=N,609nm,0.3s,baz=34,slow=7.8,SNR=328						
LVC				S	**Sn**	**03 14 22.6**	**+1.9**
	comp=N,2μm,0.3s,baz=106,slow=22,SNR=119						
LVC	**Limon Verde**	**0.87**	**206**	*i* P	**Pn**	**03 14 06.7**	**+1.5**
LVC				*i* S	**Sn**	**03 14 21.8**	**+1.1**
PB01	**IPOC Station P**	**1.21**	**310**	*i* P	**Pn**	**03 14 09.7**	**+1.3**
PB01				*i* S	**Sn**	**03 14 27.4**	**+1.0**
PB01				IAML		03 14 29.5	
	comp=N,342nm,0.2s						
PB07	**IPOC Station P**	**1.29**	**274**	*i* P	**Pn**	**03 14 10.4**	**+1.1**
PB07				*i* S	**Sn**	**03 14 28.4**	**+0.1**
PB07				IAML		03 14 30.1	
	comp=N,697nm,0.3s						
PB06	**IPOC Station P**	**1.32**	**229**	*i* P	**Pn**	**03 14 10.9**	**+1.2**
PB06				*i* S	**Sn**	**03 14 29.2**	**+0.4**
PB06				IAML		03 14 30.7	
	comp=N,553nm,0.3s						
PB04	**IPOC Station P**	**1.61**	**252**	*i* P	**Pn**	**03 14 13.7**	**+0.6**
PB04				*e*S	**Sn**	**03 14 33.8**	**-1.0**
PB04				IAML		03 14 37.6	
	comp=N,269nm,0.2s						
PB08	**IPOC Station P**	**1.79**	**340**	*i* P	**Pn**	**03 14 17.6**	**+2.1**
PB08				*i* S	**Sn**	**03 14 41.6**	**+2.7**
PB08				IAML		03 14 43.3	
	comp=E,172nm,0.7s						
HMBC	**Humberstone**	**2.02**	**320**	*e*P	**Pn**	**03 14 18.5**	**+0.5**
HMBC				*e*S	**Sn**	**03 14 42.0**	**-1.7**
HMBC				IAML		03 14 46.3	
	comp=E,155nm,0.4s						
LPAZ	**La Paz**	**5.52**	**4**	P	**Pn**	**03 15 08.7**	**+3.7**
	comp=E,0.6nm,0.3s,baz=197,slow=8.8,SNR=29						
SIV	**San Ignacio**	**9.12**	**52**	P	**Pn**	**03 15 52.1**	**-1.0**
	comp=E,0.7nm,0.3s,baz=246,slow=11,SNR=6.5						
TXAR	**Lajitas Array**	**61.12**	**325**	P	P	03 23 53.0	+6.2
	comp=E,0.1nm,0.6s,baz=161,slow=7.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**77.11**	**70**	P	**P**	**03 25 25.6**	**-0.1**
	comp=E,0.3nm,0.7s,baz=237,slow=4.5,SNR=4.5						
TORD				pP	**pP**	**03 25 49.5**	**-5.3**
	comp=E,1.5nm,0.9s,baz=234,slow=3.8,SNR=9.8						

*NIED **26** 03:17:00,37°.60N×141°.90E,h8km,Mw3.5 Best double couple: M₀2.29000×10¹⁴ NP1:φ₀33.00000°,δ40.00000°, λ-61.00000°. NP2:φ₀177.00000°,δ56.00000°, λ-112.00000°.*

*ISCJB **26** 03:17:51.5±1.6,37°.58N±0°.05×141°.97E±0°.07,h8km±12km, mb3.5/5,Error ellipse: s-maj=10.0km s-min=6.6km az=30.9*

*JMA **26** 03:17:52.8±0.1,37°.56N×141°.93E,h23km±3km,M3.9*

*IDC **26** 03:17:52.4±2.2,37°.58N×141°.84E,h0km,mb3.6/5, mb1 3.5/7,mb1mx3.4/43,mbtmp3.5/7,ML3.3/2,Error ellipse: s-maj=47.1km s-min=32.3km az=157.0*

ISC 26 03:17:52.4±2.1,37°.57N±0°.05×141°.87E±0°.08,h5km±12km, n25,σ1§06/28,mb3.6/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.82**	**256**	P	**Pb**	**03 18 08.8**	**-0.4**
JMM	**Marumori**	**0.91**	**289**	P	**Pg**	**03 18 10.3**	**+0.5**
JMM				S	**Sg**	**03 18 22.4**	**+0.8**
JIO	**Ouri**	**0.97**	**335**	P	**Pg**	**03 18 11.0**	**-0.1**
JIO				S	**Sg**	**03 18 23.9**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.98**	**242**	P	**Pg**	**03 18 11.0**	**-0.2**
ONAJ				S	**Sg**	**03 18 24.0**	**+0.1**
JFT	**Otama**	**1.22**	**268**	P	**Pn**	**03 18 15.7**	**-0.5**
JFT				S	**Sb**	**03 18 31.7**	**-0.5**
JOU	**Okura**	**1.24**	**310**	P	**Pb**	**03 18 16.3**	**-0.1**
JOU				S	**Sb**	**03 18 32.1**	**-0.6**
JMK	**Ichinoseki**	**1.47**	**340**	P	**Pn**	**03 18 18.5**	**-1.1**
JYS	**Shirataka**	**1.57**	**295**	P	**Pb**	**03 18 21.7**	**-0.3**
JYS				S	**Sb**	**03 18 42.2**	**0.0**
JFY	**Yanaizu**	**1.73**	**265**	P	**Pn**	**03 18 23.6**	**+0.3**
JFY				S	**Sb**	**03 18 46.0**	**-0.9**
JYK	**Kaneyama**	**1.79**	**319**	P	**Pn**	**03 18 23.7**	**-0.4**
JYK				S	**Sb**	**03 18 47.5**	**-1.1**
MJAR	**Matsushiro Arr**	**3.11**	**252**	Pn	**Pn**	**03 18 42.8**	**+0.7**
	2.6nm,0.3s,baz=82,slow=16,SNR=27						
MAT	**Matsushiro**	**3.11**	**252**	P	**Pn**	**03 18 43.4**	**+1.2**
MAT				S	**Sb**	**03 19 23.1**	**-3.4**
ASAJ	**Asahikawa**	**6.56**	**5**	Pn	**Pn**	**03 19 29.4**	**-0.1**
	0.6nm,0.3s,baz=261,slow=15,SNR=5.4						
SONM	**Songino Array**	**27.79**	**303**	P	**P**	**03 23 42.7**	**+0.3**
	0.4nm,0.5s,baz=93,slow=27,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**28.12**	**122**	T	T	03 53 15.4	
	baz=315,slow=75,SNR=178						
H11N1	**WAKE ISLAND Hy**	**28.12**	**122**	T	T	03 53 14.4	
	baz=315,slow=75,SNR=104						
H11N3	**WAKE ISLAND Hy**	**28.13**	**122**	T	T	03 53 11.6	
	baz=315,slow=75,SNR=142						
H11S1	**WAKE ISLAND Hy**	**28.85**	**124**	T	T	03 54 03.7	
	baz=316,slow=76,SNR=108						
H11S3	**WAKE ISLAND Hy**	**28.85**	**124**	T	T	03 54 01.6	
	baz=316,slow=76,SNR=68						
H11S2	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	03 54 05.2	
	baz=316,slow=76,SNR=79						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**03 25 43.7**	**+0.7**
	0.4nm,0.3s,baz=125,slow=6.6,SNR=2.1						
MKAR	**Makanchi Array**	**44.15**	**302**	P	**P**	**03 26 01.6**	**-0.4**
	0.4nm,0.6s,baz=82,slow=5.9,SNR=2.0						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**03 26 15.5**	**-0.8**
	0.4nm,0.5s,baz=82,slow=7.9,SNR=4.4						
FINES	**FINESS Array B**	**68.51**	**332**	P	**P**	**03 28 57.7**	**+2.3**
	0.8nm,0.8s,baz=181,slow=32,SNR=2.8						
LPAZ	**La Paz**	**146.10**	**59**	PKPbc	**PKPab**	**03 37 34.1**	**-1.3**
	0.6nm,0.6s,baz=21,slow=3.3,SNR=7.1						

*ISCJB **26** 03:22:51.4±0.6,8°.00S±0°.06×117°.21E±0°.09,h200km, mb4.0/11,Error ellipse: s-maj=13.1km s-min=7.4km az=156.0*

*NEIC **26** 03:22:53.0±2.7,8°.05S×117°.29E,h200km±24km,mb4.1/4, Error ellipse: s-maj=44.3km s-min=9.9km az=65.0*

*IDC **26** 03:22:55.3±3.5,8°.02S×117°.46E,h219km±30km,mb3.8/8, mb1 3.9/10,mb1mx3.5/38,mbtmp4.4/10,Error ellipse: s-maj=50.4km s-min=11.1km az=64.0*

ISC 26 03:22:53.5±0.8,8°.01S±0°.07×117°.3E±0°.1,h200km,n17, σ3§07/22,mb4.2/11,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.87**	**40**	P	**Pn**	**03 23 55.1**	**+1.5**
	4.7nm,0.3s,baz=203,slow=6.5,SNR=17						
KAPI				S	**Sn**	**03 24 39.6**	**-1.3**
	0.2nm,0.3s,baz=141,slow=19,SNR=3.3						
KAPI	**Kappang**	**3.87**	**40**	*e*Pn	**Pn**	**03 23 54.4**	**+0.7**
KAPI				S	**Sn**	**03 24 39.6**	**-1.3**
SOEI	**Soe**	**7.13**	**105**	*e*Pn	**Pn**	**03 24 33.1**	**-2.5**
FITZ	**Fitzroy Crossi**	**12.93**	**142**	P	**Pn**	**03 25 49.5**	**-0.6**
	1.0nm,0.3s,baz=327,slow=7.3,SNR=40						
FITZ				S	**S**	**03 28 10.8**	**-3.6**
	1.7nm,0.3s,baz=144,slow=22,SNR=8.4						
WRA	**Warramunga Arr**	**20.35**	**127**	P	**P**	**03 27 12.6**	**-2.2**
	7.0nm,0.3s,baz=302,slow=12,SNR=259						
WRA				S	**S**	**03 30 58.3**	**+6.5**
	3.6nm,0.7s,baz=310,slow=24,SNR=6.9						
ASAR	**Alice Springs**	**22.29**	**136**	P	**P**	**03 27 33.6**	**-1.0**
	5.0nm,0.3s,baz=313,slow=8.8,SNR=184						
ASAR				S	**S**	**03 31 34.9**	**+10**
	3.6nm,1.2s,baz=319,slow=24,SNR=7.4						
STKA	**Stephens Creek**	**32.81**	**140**	P	**P**	**03 29 08.2**	**+0.1**
	3.1nm,0.4s,baz=324,slow=9.1,SNR=15						
CAN	**Canberra**	**39.78**	**138**	*e*P	**P**	**03 30 07.7**	**+0.5**
	5.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.64**	**13**	P	**P**	**03 31 54.0**	**-0.2**
	1.4nm,0.5s,baz=193,slow=10.0,SNR=5.0						
ULN	**Ulaanbaatar**	**56.36**	**352**	*e*P	**P**	**03 32 14.5**	**+0.6**
	1.6nm,0.3s						
SONM	**Songino Array**	**56.42**	**351**	P	**P**	**03 32 14.8**	**+0.5**
	3.4nm,0.7s,baz=169,slow=8.3,SNR=15						
MKAR	**Makanchi Array**	**62.80**	**334**	P	**P**	**03 32 58.5**	**+0.7**
	2.0nm,0.4s,baz=150,slow=6.4,SNR=22						
EKS2	**Erkin-Say**	**64.11**	**326**	*e*P	**P**	**03 33 05.0**	**-1.6**
	2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**67.52**	**340**	P	**P**	**03 33 27.2**	**-0.6**
	2.3nm,0.4s,baz=150,slow=5.7,SNR=8.8						
SEY	**Seymchan**	**75.67**	**16**	P	**P**	**03 34 15.8**	**-0.5**
	1.2nm,0.6s,baz=194,slow=23,SNR=4.2						
ABKAR	**Akbulak array**	**75.77**	**325**	*e*P	**P**	**03 34 16.3**	**-0.9**
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**116.59**	**281**	PKP	**PKPdf**	**03 41 14.0**	**-0.7**
	0.3nm,0.5s,baz=56,slow=2.8,SNR=9.6						

*ISK **26** 03:29:19.1,38°.60N×39°.64E,h13km,MD2.7*

*ISCJB **26** 03:29:20.2±0.8,38°.61N±0°.03×39°.59E±0°.06,h9km±6km, Error ellipse: s-maj=8.5km s-min=5.0km az=178.8*

*DDA **26** 03:29:20.0,38°.62N×39°.60E,h7km,Ml2.7*

*CSEM **26** 03:29:20.0±0.2,38°.61N×39°.58E,h10km,MD2.7,Error ellipse: s-maj=4.7km s-min=2.9km az=81.0*

ISC 26 03:29:20.5±1.1,38°.61N±0°.02×39°.59E±0°.04,h10km±11km, n14,σ0§62/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.32**	**225**	*e*PG	**Pg**	**03 29 26.2**	**-0.7**
SVRC				*e*SG	**Sg**	**03 29 32.0**	**+0.8**
SVRC	**Sivrice-ELAZID**	**0.32**	**225**	*e*Pg	**Pg**	**03 29 26.2**	**-0.7**
SVRC				*e*Sg	**Sg**	**03 29 32.0**	**+0.8**
PTK	**Pertek**	**0.33**	**331**	*e*PG	**Pg**	**03 29 26.4**	**-0.6**
PTK				*e*SG	**Sg**	**03 29 32.3**	**+0.9**
PTK	**Pertek**	**0.33**	**331**	*e*Pg	**Pg**	**03 29 26.5**	**-0.6**
PTK				*e*Sg	**Sg**	**03 29 32.3**	**+0.9**
ELZG	**Elazig**	**0.49**	**257**	P	**Pg**	**03 29 29.5**	**-0.5**
ELZG				S	**Sg**	**03 29 36.7**	**+0.2**
ELZG	**Elazig**	**0.49**	**257**	*i* P	**Pg**	**03 29 29.5**	**-0.5**
ELZG				*i* S	**Sg**	**03 29 36.7**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.51**	**356**	P	**Pg**	**03 29 29.8**	**-0.6**
TNCL				S	**Sg**	**03 29 37.5**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.51**	**356**	*i* P	**Pg**	**03 29 29.8**	**-0.6**
TNCL				*i* S	**Sg**	**03 29 37.5**	**+0.4**
DIYA	**Diyarbakir**	**0.80**	**148**	P	**Pg**	**03 29 35.6**	**-0.3**
DIYA				S	**Sb**	**03 29 47.5**	**+0.1**
DIYA	**Diyarbakir**	**0.80**	**148**	*i* P	**Pg**	**03 29 35.6**	**-0.3**
DIYA				*i* S	**Sb**	**03 29 47.5**	**+0.1**
ILIC	**ilic-Erzincan**	**1.16**	**317**	*e*PN	**Pg**	**03 29 42.1**	**-0.7**
ILIC				*e*SN	**Sb**	**03 29 58.5**	**+0.6**
ILIC	**ilic-Erzincan**	**1.16**	**317**	*e*Pn	**Pg**	**03 29 42.1**	**-0.7**
ILIC				*e*Sn	**Sb**	**03 29 58.6**	**+0.6**
URFA	**Urfa**	**1.31**	**208**	*e*PN	**Pn**	**03 29 44.8**	**-0.2**
URFA	**Urfa**	**1.31**	**208**	*e*Pn	**Pn**	**03 29 44.8**	**-0.2**

*ISCJB **26** 03:38:03.6±2.0,35°.09S±0°.03×73°.01W±0°.05,h14km±13km, mb3.9/9,MS3.1/2,Error ellipse: s-maj=7.5km s-min=5.3km az=178.6*

*IDC **26** 03:38:03.2±1.6,35°.13S×72°.81W,h0km,mb4.0/4, mb1 4.2/7,mb1mx4.0/19,mbtmp4.1/7,ML3.5/2,MS3.2/3, Ms1 3.2/3,ms1mx2.9/21,Error ellipse: s-maj=43.5km s-min=28.0km az=77.0*

*GUC **26** 03:38:04.7±0.6,35°.06S×73°.00W,h33km±4km,ML4.2*

*NEIC **26** 03:38:05.0±4.9,35°.10S×72°.79W,h11km±30km,mb4.0/4, ML4.2(GUC),Error ellipse: s-maj=24.2km s-min=10.1km az=85.0*

ISC 26 03:38:04.5±1.7,35°.13S±0°.03×72°.90W±0°.07,h11km±10km, n34,σ1§43/39,mb4.0/9,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.00**	**175**	⇓*i* P	**Pb**	**03 38 23.6**	**-0.3**
COCH				*i* S	**Sg**	**03 38 36.2**	**-0.7**
COCH				IAML		03 38 40.3	
	comp=E,3μm,0.5s						
CHPI	**Pichilemu**	**1.04**	**45**	⇑*i* P	**Pb**	**03 38 23.7**	**-0.8**
CHPI				*i* S	**Sn**	**03 38 37.4**	**-2.1**
CHPI				IAML		03 38 42.5	
	comp=N,4μm,0.4s						
TALC	**Talca**	**1.07**	**105**	⇓*i* P	**Pn**	**03 38 25.5**	**+0.1**
TALC				*i* S	**Sn**	**03 38 40.5**	**+0.3**
NICH	**Los Niches**	**1.37**	**85**	⇑*i* P	**Pg**	**03 38 29.9**	**-1.0**
NICH				*i* S	**Sg**	**03 38 49.1**	**+0.3**
CCHI	**Chillan**	**1.61**	**156**	*e*P	**Pn**	**03 38 33.6**	**+0.7**
CCHI				*i* S	**Sn**	**03 38 54.1**	**+0.4**
CCHI				IAML		03 39 05.2	
	comp=E,18μm,0.8s						
RCDM	**Rinconada Maip**	**2.38**	**47**	⇓*i* P	**Pn**	**03 38 42.9**	**-0.7**
ANTU	**Antumapu**	**2.44**	**51**	*e*P	**Pn**	**03 38 43.9**	**-0.4**
ANTU				IAML		03 39 28.8	
	comp=E,2μm,0.7s						
CLCH	**Cerro Calan**	**2.61**	**49**	*e*P	**Pn**	**03 38 46.1**	**-0.6**
CLCH				IAML		03 39 40.4	
	comp=N,2μm,0.7s						
ROC1	**El Roble**	**2.66**	**37**	*i* P	**Pn**	**03 38 47.1**	**-0.4**
ROC1				*i* S	**Sg**	**03 39 35.4**	**+5.5**
ROCH	**El Roble**	**2.66**	**37**	⇑*i* P	**Pn**	**03 38 47.0**	**-0.5**
ROCH				IAML		03 39 42.6	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**2.70**	**43**	⇑*i* P	**Pn**	**03 38 47.7**	**-0.2**
PEL				IAML		03 39 32.0	
	comp=N,849nm,0.9s						
FCH	**Farellones**	**2.81**	**51**	*e*P	**Pn**	**03 38 49.8**	**+0.1**
FCH				IAML		03 39 37.0	
	comp=E,717nm,0.7s						
CANA	**Caviahue**	**3.12**	**152**	*i* P	**Pb**	**03 38 58.8**	**-1.4**
ARCO	**CERRO ARCO**	**4.01**	**56**	*i* P	Pb	03 39 09.7	-5.6
ARCO				IAML		03 39 26.0	
	comp=Z,134nm,0.5s						
ARCO				*i* S	**Sg**	**03 40 13.6**	**+0.4**
AUSP	**Uspallata**	**4.12**	**46**	*i* P	**Pn**	**03 39 09.0**	**+1.3**
ASAL	**Salagasta**	**4.22**	**54**	*i* P	**Pn**	**03 39 11.9**	**+3.0**
RTLS	**Leoncito**	**4.48**	**43**	*i* P	**Pn**	**03 39 12.5**	**-0.2**
PLCA	**Paso Flores**	**5.89**	**162**	Pn	**Pn**	**03 39 32.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=246,slow=8.9,SNR=3.1						
PLCA				Lg	Lg	03 41 06.4	
	comp=Z,1.0nm,0.3s,baz=285,slow=14,SNR=2.8						
LCO	**Las Campanas**	**6.38**	**18**	*e*Pn	**Pn**	**03 39 36.4**	**-2.3**
LCO				*e*Sn	**Sn**	**03 40 48.9**	**-2.7**
LVC	**Limon Verde**	**12.95**	**17**	Pn	**Pn**	**03 41 09.4**	**+0.5**
	comp=Z,12nm,0.3s,baz=258,slow=4.2,SNR=3.2						
CPUP	**Villa Florida**	**15.99**	**61**	LR	LR	03 47 55.4	
	comp=Z,50nm,20.0s,baz=244,slow=37						
LPAZ	**La Paz**	**19.24**	**14**	P	**Pn**	**03 42 31.5**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=181,slow=6.4,SNR=30						
SIV	**San Ignacio**	**21.80**	**32**	P	**P**	**03 42 55.7**	**-1.0**
	comp=Z,4.9nm,0.6s,baz=222,slow=9.4,SNR=12						
SIV				LR	LR	03 52 48.7	
	comp=Z,95nm,19.2s,baz=93,slow=41						
NNA	**Nana**	**23.32**	**350**	LR	LR	03 49 58.6	
	comp=Z,52nm,20.3s,baz=194,slow=31						
SNAA	**Sanae**	**50.81**	**157**	*e*P	**P**	**03 47 04.8**	**+0.2**
TXAR	**Lajitas Array**	**70.38**	**332**	P	**P**	**03 49 19.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=154,slow=8.8,SNR=9.2						
MNTX	**Cornudas Mount**	**73.15**	**331**	*e*P	**P**	**03 49 34.7**	**-0.4**
	comp=Z,0.4nm,0.6s						
DBIC	**Dimbokro**	**76.21**	**72**	P	**P**	**03 49 53.6**	**+0.4**
	comp=Z,5.7nm,1.1s,baz=201,slow=6.8,SNR=2.9						
ANMO	**Albuquerque**	**76.44**	**332**	*e*P	**P**	**03 49 55.6**	**+1.3**
	comp=Z,1.0nm,0.8s						
SDCO	**Great Sand Dun**	**78.57**	**334**	*e*P	**P**	**03 50 06.8**	**+0.6**
	comp=Z,0.8nm,0.8s						
DUG	**Dugway, Tooele**	**83.49**	**330**	*e*P	**P**	**03 50 33.0**	**+0.7**
	comp=Z,1.2nm,0.8s						
HWUT	**Hardware Ranch**	**84.20**	**332**	*e*P	**P**	**03 50 35.9**	**0.0**
	comp=Z,1.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**85.26**	**70**	P	**P**	**03 50 41.3**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=231,slow=5.3,SNR=7.4						
ZALV	**Zalesovo Beam**	**155.56**	**33**	PKPab	**PKPab**	**03 58 23.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=316,slow=8.3,SNR=4.3						

*NIED **26** 04:12:00,39°.30N×143°.20E,h17km,Mw4.0 Best double couple: M₀9.56000×10¹⁴ NP1:φ₀204.00000°,δ38.00000°, λ-126.00000°. NP2:φ₀67.00000°,δ60.00000°, λ-65.00000°.*

*ISCJB **26** 04:12:11.8±1.0,39°.33N±0°.05×143°.30E±0°.07,h35km±9km, mb3.9/15,MS3.0/5,Error ellipse: s-maj=9.5km s-min=7.6km az=19.9*

*JMA **26** 04:12:11.2±0.1,39°.34N×143°.24E,h21km±2km,M3.9*

*IDC **26** 04:12:15.4±2.9,39°.24N×143°.06E,h52km±26km,mb3.7/16, mb1 3.8/19,mb1mx3.7/48,mbtmp3.9/19,ML2.8/3,MS3.1/9, Ms1 3.1/9,ms1mx2.9/43,Error ellipse: s-maj=19.5km s-min=15.3km az=105.0*

ISC 26 04:12:13.0±2.7,39°.37N±0°.06×143°.21E±0°.08,h26km±18km, n44,σ1§34/44,mb4.0/15,MS3.2/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.09**	**281**	P	**Pn**	**04 12 31.6**	**-0.9**
MIYJ				S	**Sb**	**04 12 45.9**	**-1.1**
JTH	**Tanohata**	**1.18**	**299**	P	**Pn**	**04 12 33.2**	**-0.6**
JTH				S	**Sb**	**04 12 49.2**	**-0.4**
OFUJ	**Ofunato**	**1.23**	**257**	P	**Pn**	**04 12 33.3**	**-1.1**
OFUJ				S	**Sn**	**04 12 49.2**	**-0.9**
JOM	**Ohasama**	**1.48**	**275**	P	**Pn**	**04 12 37.8**	**-0.2**
JOM				S	**Sn**	**04 12 56.9**	**+0.4**
JMK	**Ichinoseki**	**1.60**	**255**	P	**Pn**	**04 12 39.2**	**-0.3**
JMK				S	**Sn**	**04 13 00.2**	**+0.9**
JANG	**Nango**	**1.64**	**308**	P	**Pn**	**04 12 39.5**	**-0.6**
JIO	**Ouri**	**1.71**	**238**	P	**Pn**	**04 12 40.4**	**-0.7**
JRG	**Rokugo**	**1.99**	**272**	P	**Pn**	**04 12 45.1**	**+0.2**
JRG				S	**Sb**	**04 13 11.9**	**-1.0**
JAH	**Hinai**	**2.14**	**293**	P	**Pn**	**04 12 47.3**	**+0.3**
JAH				S	**Sn**	**04 13 14.2**	**+1.5**
JTM	**Tenmabayashi**	**2.17**	**311**	P	**Pn**	**04 12 47.4**	**+0.1**
JTM				*e*S	**Sn**	**04 13 15.4**	**+2.1**
JOU	**Okura**	**2.22**	**244**	P	**Pn**	**04 12 48.1**	**0.0**
ASAJ	**Asahikawa**	**4.76**	**355**	P	**Pn**	**04 13 23.4**	**+0.4**
	2.0nm,0.3s,baz=182,slow=15,SNR=14						
ASAJ				S	**Sn**	**04 14 16.2**	**-1.2**
	1.7nm,0.3s,baz=215,slow=30,SNR=3.8						
MJAR	**Matsushiro Arr**	**4.85**	**236**	P	**Pn**	**04 13 24.1**	**-0.2**
	1.3nm,0.3s,baz=36,slow=12,SNR=50						
MJAR				LR	LR	04 15 37.3	
	comp=Z,246nm,18.8s,baz=50,slow=43						
MAT	**Matsushiro**	**4.86**	**236**	P	**Pn**	**04 13 25.5**	**+1.2**
MAT				*e*S	**Sn**	**04 14 24.8**	**+5.1**
USRK	**Ussuriysk Ar.**	**9.66**	**304**	P	**Pn**	**04 14 31.7**	**+1.4**
	0.1nm,0.3s,baz=95,slow=13,SNR=2.2						
JNU	**Nakatsue**	**11.74**	**242**	LR	LR	04 19 58.3	
	comp=Z,149nm,18.3s,baz=201,slow=40						
KSRS	**Korea Array**	**12.14**	**266**	LR	LR	04 19 23.0	
	comp=Z,63nm,19.2s,baz=70,slow=36						
KLR	**Kul'dur**	**12.81**	**324**	P	**Pn**	**04 15 15.6**	**+2.3**
	0.1nm,0.3s,baz=176,slow=15,SNR=2.3						
KLR				LR	LR	04 20 16.7	
	comp=Z,64nm,18.6s,baz=116,slow=37						
MA2	**Magadan**	**20.79**	**11**	P	**P**	**04 16 52.1**	**+0.3**
	12nm,0.8s,baz=195,slow=13,SNR=4.0						
MA2				LR	LR	04 24 17.9	
	comp=Z,48nm,19.9s,baz=130,slow=34						
SEY	**Seymchan**	**24.24**	**10**	P	**P**	**04 17 28.1**	**+0.7**
	13nm,0.8s,baz=189,slow=6.3,SNR=38						
GUMO	**Guam**	**25.72**	**176**	LR	LR	04 29 30.7	
	comp=Z,9.7nm,18.7s,baz=118,slow=40						
SONM	**Songino Array**	**27.75**	**300**	P	**P**	**04 17 58.4**	**-1.1**
	0.9nm,0.6s,baz=87,slow=8.9,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**28.28**	**127**	T	T	04 47 39.7	
	baz=318,slow=75,SNR=62						
H11N1	**WAKE ISLAND Hy**	**28.29**	**127**	T	T	04 47 39.7	
	baz=318,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**28.29**	**127**	T	T	04 47 39.7	
	baz=318,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**29.08**	**129**	T	T	04 48 40.9	
	SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**29.09**	**129**	T	T	04 48 42.2	
H11S2	**WAKE ISLAND Hy**	**29.10**	**129**	T	T	04 48 42.2	
TLY	**Talaya**	**29.95**	**307**	LR	LR	04 30 58.2	
	comp=Z,55nm,19.6s,baz=110,slow=38						
ZALV	**Zalesovo Beam**	**41.43**	**310**	P	**P**	**04 19 57.1**	**+0.1**
	1.6nm,0.5s,baz=100,slow=8.5,SNR=6.6						
ZALV				PcP	**PcP**	**04 21 54.7**	**+0.1**
	0.5nm,0.5s,baz=122,slow=1.9,SNR=3.9						
NRIK	**Noril'sk**	**41.77**	**334**	LR	LR	04 40 53.5	
	comp=Z,36nm,18.0s,baz=104,slow=41						
MKAR	**Makanchi Array**	**44.12**	**300**	P	**P**	**04 20 18.8**	**-0.1**
	1.8nm,0.7s,baz=85,slow=9.1,SNR=12						
ILAR	**Eielson Array**	**46.77**	**34**	P	**P**	**04 20 40.0**	**+0.4**
	2.0nm,0.7s,baz=264,slow=6.5,SNR=30						
BVAR	**Borovoye Array**	**50.07**	**311**	P	**P**	**04 21 04.7**	**-0.6**
	2.3nm,0.8s,baz=69,slow=8.1,SNR=9.7						
DLBC	**Dease Lake**	**55.92**	**39**	P	**P**	**04 21 50.3**	**+1.9**
	1.2nm,0.6s,baz=256,slow=7.9,SNR=3

NWF				S		Sn	04 25 02.9	-0.4
	baz=307							
WHF	**Hehuan Shan**	**1.47**	**276**	*eP*		**Pn**	**04 24 45.3**	**0.0**
	baz=273							
EHY	**Hungye**	**1.49**	**251**	*eP*		**Pn**	**04 24 45.5**	**+0.3**
	baz=241							
EHY				*eS*		**Sn**	**04 25 03.1**	**-1.2**
	baz=241							
NSK	**Sanguang**	**1.53**	**297**	*eP*		**Pn**	**04 24 45.3**	**-0.5**
	baz=295							
NSK				*eS*		**Sn**	**04 25 05.3**	**+0.1**
	baz=295							
TWF1	**Yuli**	**1.57**	**246**	⇑*iP*		**Pb**	**04 24 47.1**	**-0.8**
	baz=236							
TWF1				*eS*		**Sn**	**04 25 05.2**	**-1.1**
	baz=236							
WDT	**Danda**	**1.60**	**262**	P		**Pn**	**04 24 47.4**	**+0.4**
	baz=258							
WDT				*eS*		**Sn**	**04 25 06.1**	**-1.2**
	baz=258							
JTJ	**Tarama**	**1.80**	**69**	*eS*		**Sn**	**04 25 11.0**	**-0.8**
SMLT	**Sun Moon Lake**	**1.80**	**267**	*eP*		**Pn**	**04 24 50.0**	**+0.5**
	baz=263							
YUS	**Yu-Shan**	**1.82**	**254**	*eP*		**Pn**	**04 24 51.0**	**+0.7**
	baz=244							
TYC	**Yuchr**	**1.84**	**267**	P		**Pn**	**04 24 50.8**	**+0.8**
	baz=264							
ELDTW	**Lidau**	**1.87**	**245**	*eP*		**Pn**	**04 24 50.4**	**-0.2**
	baz=241							
TWQ1	**Liyutan**	**1.94**	**281**	*eP*		**Pn**	**04 24 52.2**	**+0.8**
	baz=277							
ALS	**Alishan**	**1.94**	**256**	*eP*		**Pb**	**04 24 53.3**	**-1.2**
	baz=259							
CHN5	**Tsauling**	**2.04**	**259**	*eP*		**Pb**	**04 24 54.6**	**-1.3**
	baz=250							
CHN5				*eS*		**Sn**	**04 25 18.7**	**+0.8**
	baz=250							
STYT	**Tauyuan**	**2.10**	**247**	*eP*		**Pn**	**04 24 54.8**	**+1.1**
	baz=238							
CHN4	**Tsaushan**	**2.18**	**253**	*eP*		**Pn**	**04 24 55.9**	**+1.2**
	baz=250							
CHN4				*eS*		**Sn**	**04 25 22.5**	**+1.3**
	baz=250							
WTP	**Ta-pu**	**2.19**	**250**	*eP*		**Pb**	**04 24 57.0**	**-1.5**
	baz=241							
SGST	**Jiashian**	**2.28**	**247**	*eP*		**Pn**	**04 24 57.1**	**+1.0**
	baz=238							

IDC 26 04:35:50.3±3.0, 6°52S×148°00E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/31, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=75.4km s-min=32.3km az=101.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.98**	**196**	Pn	Pn	04 36 40.1	+1.2
	10.0nm,0.3s,baz=55,slow=4.7,SNR=12						
PMG				Sn	Sn	04 37 18.3	+2.9
	8.7nm,0.3s,baz=115,slow=5.9,SNR=8.8						
WRA	**Warramunga Arr**	**18.81**	**224**	P	P	04 40 10.8	-0.8
	0.2nm,0.3s,baz=50,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**21.77**	**217**	P	P	04 40 42.8	-1.1
	0.6nm,0.4s,baz=53,slow=9.2,SNR=19						
FITZ	**Fitzroy Crossi**	**24.65**	**240**	P	P	04 41 12.1	-0.8
	2.4nm,0.4s,baz=53,slow=8.1,SNR=30						
TORD	**Torodi Ar. Bea**	**146.18**	**284**	PKPbc	PKPab	04 55 34.0	-0.3
	0.4nm,0.6s,baz=64,slow=3.1,SNR=9.9						

IDC 26 04:39:56.5±2.8, 26°89N×143°13E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/34, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=126.6km s-min=21.3km az=78.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.49**	**338**	Pn	Pn	04 42 26.5	-1.7
	0.2nm,0.3s,baz=150,slow=9.9,SNR=5.5						
WRA	**Warramunga Arr**	**47.33**	**191**	P	P	04 48 32.1	-0.1
	0.7nm,0.6s,baz=12,slow=8.6,SNR=8.8						
ZALV	**Zalesovo Beam**	**50.20**	**319**	P	P	04 48 53.2	-0.7
	0.2nm,0.3s,baz=113,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**51.05**	**191**	P	P	04 49 00.2	-0.4
	0.2nm,0.8s,baz=12,slow=5.1,SNR=3.8						
MKAR	**Makanchi Array**	**51.26**	**310**	P	P	04 49 02.6	+0.5
	0.3nm,0.7s,baz=69,slow=7.9,SNR=2.9						
FINES	**FINESS Array B**	**78.50**	**334**	P	P	04 51 59.7	+0.4
	0.4nm,0.7s,baz=90,slow=5.6,SNR=2.2						

MEX 26 04:40:24.3±0.4, 26°95N×112°22W, h20km±100km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.37**	**357**	*i* P	Pb	04 40 30.9	-1.3
SRIG				*i* S	Sb	04 40 36.0	-1.5
GUYB	**Guaymas**	**1.52**	**51**	*i* P	Pn	04 40 47.5	-3.0
GUYB				*eP*	Pn	04 40 47.5	-3.0
CBX	**Cerro Bola**	**6.60**	**325**	*eP*	Pn	04 42 01.2	+0.9

IDC 26 04:47:45.8±6.2, 26°46N×143°11E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/46, mbtmp3.3/3, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/19, Error ellipse: s-maj=310.2km s-min=36.1km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.88**	**339**	Pn	Pn	04 50 22.3	-0.5
	0.3nm,0.3s,baz=159,slow=10.0,SNR=5.1						
SONM	**Songino Array**	**35.74**	**316**	LR	LR	05 09 17.3	
	comp=Z,21nm,19.0s,baz=53,slow=36						
WRA	**Warramunga Arr**	**46.91**	**191**	P	P	04 56 18.3	+0.1
	0.4nm,0.5s,baz=12,slow=8.7,SNR=5.8						
ASAR	**Alice Springs**	**50.63**	**191**	P	P	04 56 46.5	-0.3
	0.1nm,0.4s,baz=8.5,slow=6.9,SNR=3.4						

SJA 26 05:11:32.5±0.7, 31°23S×68°29W, h106km±4km, ML3.1, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.19**	**237**	*i* P	Pn	05 11 47.9	+0.4
AMOG	**MOGNA**	**0.33**	**329**	*i* P	Pn	05 11 48.8	+0.7
RTCV	**Cerro Valdivia**	**0.67**	**198**	*i* P	Pn	05 11 50.8	+0.5
RTCV				*i* S	Sn	05 12 04.5	+0.9
AVFE	**Valle Fertil**	**0.91**	**52**	*i* P	Pn	05 11 53.5	+1.0
AVFE				*i* S	Sn	05 12 08.7	+1.1
AVFE				IAML		05 12 09.3	
	comp=Z,507nm,0.3s						
ACCO	**Cerro Coronel**	**0.92**	**313**	*i* P	Pn	05 11 53.9	+0.9
RTLS	**Leoncito**	**1.03**	**236**	*i* P	Pn	05 11 55.2	+1.2
RTLS				*i* S	Sn	05 12 12.4	+2.2
ACDV	**Cuesta del Vie**	**1.27**	**326**	*i* P	Pn	05 11 57.7	+1.1
AUSP	**Uspallata**	**1.36**	**223**	*i* P	Pn	05 11 58.9	+1.1
ACHE	**Chepes**	**1.40**	**88**	*i* P	Pn	05 11 59.0	+1.0
ACAN	**Cantantal**	**1.41**	**138**	*i* P	Pn	05 11 59.2	+1.2
ARCO	**CERRO ARCO**	**1.70**	**199**	*i* P	Pn	05 12 02.3	+0.6
ARCO				*i* S	Sn	05 12 25.5	+1.6
ARCO				IAML		05 12 26.4	
	comp=Z,103nm,0.2s						
AGUA	**GUANDACOL**	**1.74**	**354**	*i* P	Pn	05 12 03.5	+1.4

WEL 26 05:32:24.7±0.7, 38°60S×175°47E, h254km±5km, ML3.6/7, 1C-4D, Error ellipse: s-maj=11.4km s-min=7.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WNVZ	**Wahianoa**	**0.73**	**172**	PN	Pn	05 32 59.0	-0.1
WNVZ				SN	S	05 33 25.1	-1.0
MOVZ	**Moawhango**	**0.83**	**165**	PN	Pn	05 32 58.9	-0.4
BKZ	**Black Stump Fm**	**0.98**	**126**	⇓PN	Pn	05 33 00.3	+0.2
BKZ				SN	S	05 33 27.6	-0.4
KWHZ	**Kaweka Forest**	**1.11**	**138**	PN	Pn	05 33 01.3	+0.5
KRHZ	**Kereru**	**1.25**	**146**	PN	Pn	05 33 01.7	+0.1
URZ	**Urewera**	**1.33**	**76**	⇓PN	Pn	05 33 02.0	-0.2
URZ				SN	S	05 33 30.9	-0.8
PNHZ	**Pukenui**	**1.43**	**157**	PN	Pn	05 33 02.4	-0.4
TSZ	**Takapari Road**	**1.50**	**166**	⇓PN	Pn	05 33 02.9	-0.5
MWZ	**Matawai**	**1.64**	**81**	⇓PN	Pn	05 33 04.8	+0.3
HAZ	**Te Kaha**	**2.01**	**66**	PN	Pn	05 33 07.2	-0.3
MRZ	**Mangatainoka R**	**2.06**	**178**	PN	Pn	05 33 06.3	-1.7
MRZ				SN	S	05 33 39.4	-2.8
HOWZ	**Holdsworth Sta**	**2.29**	**179**	PN	Pn	05 33 07.9	-2.3
DUWZ	**D'Urville Isla**	**2.50**	**208**	PN	Pn	05 33 09.5	-2.7
CAW	**Cannon Point**	**2.52**	**187**	PN	Pn	05 33 10.1	-2.3
CAW				SN	S	05 33 46.4	-3.8
CAW				AML	AML	05 33 47.3	
MTW	**Mount Morrison**	**2.55**	**179**	PN	Pn	05 33 12.3	-0.4
TCW	**Tory Channel**	**2.76**	**199**	PN	Pn	05 33 12.1	-2.7
TUWZ	**Tuamarina**	**3.06**	**202**	PN	Pn	05 33 15.1	-2.8
TUWZ				AML	AML	05 33 55.7	
NNZ	**Nelson**	**3.07**	**211**	⇑PN	Pn	05 33 14.5	-3.6
QRZ	**Quartz Range**	**3.17**	**225**	PN	Pn	05 33 14.7	-4.5
THZ	**Tophouse**	**3.72**	**211**	PN	Pn	05 33 21.4	-4.0
LTZ	**Lake Taylor**	**4.83**	**209**	PN	Pn	05 33 33.9	-4.6
MQZ	**McQueen's Vall**	**5.52**	**202**	PN	Pn	05 33 41.5	-5.4

*ISCJB **26** 05:36:27.4±0.5, 6°82N±0°03×73°07W±0°04, h154km±5km, Error ellipse: s-maj=7.6km s-min=4.1km az=33.9*
*RSNC **26** 05:36:29.6±0.9, 6°79N×73°12W, h144km±4km, ML3.0*
*FUNV **26** 05:36:29.7, 6°97N×73°15W, h159km, MW3.1*

ISC 26 05:36:26.8±1.4, 6°85N±0°04×73°10W±0°05, h161km±7km, n29, σ1°35/46, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.18**	**293**	*i* P	**Pn**	**05 36 49.1**	**+0.5**
BTLC				*eS*	**Sn**	**05 37 04.5**	**-0.8**
GIRC	**Giron, Santand**	**0.25**	**338**	*i* P	**Pn**	**05 36 49.1**	**+0.4**
GIRC				*eS*	**Sn**	**05 37 03.4**	**-2.0**
BARC	**Barichara**	**0.27**	**198**	*i* P	**Pn**	**05 36 49.0**	**+0.2**
BARC				*eS*	**Sn**	**05 37 04.0**	**-1.7**
BARC				*i*		05 37 05.1	
	comp=Z,172nm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**39**	*eP*	**Pn**	**05 36 51.5**	**+0.9**
PAMC				*eS*	**Sn**	**05 37 09.3**	**+0.5**
BRRC	**Barranca, Sant**	**0.66**	**293**	⇑*iP*	**Pn**	**05 36 50.8**	**+0.6**
BRRC				*i*		05 36 51.1	
	comp=Z,300nm,0.1s						
BRRC				*eS*	**Sn**	**05 37 07.8**	**-0.3**
GRMC	**Gramalote, San**	**0.91**	**19**	*eP*	**Pn**	**05 36 54.5**	**+2.4**
CBRI	**Barrientos, No**	**0.91**	**19**	*eP*	**Pn**	**05 36 53.6**	**+1.5**
RUSC	**La Rusia**	**0.95**	**179**	*eP*	**Pn**	**05 36 53.0**	**+0.5**
RUSC				*eS*	**Sn**	**05 37 11.8**	**-0.9**
CAPV	**Capacho**	**1.27**	**38**	*eP*	**Pn**	**05 36 56.6**	**+1.4**
CAPV				*eS*	**Sn**	**05 37 17.0**	**-0.1**
OCAC	**Ocana**	**1.40**	**351**	*eP*	**Pn**	**05 36 57.6**	**+1.3**
OCAC				*eS*	**Sn**	**05 37 20.0**	**+0.8**
OCAC				*i*		05 37 27.9	
	comp=Z,62nm,0.3s						
YOPC	**Yopal, Colombi**	**1.63**	**156**	*eP*	**Pn**	**05 36 59.6**	**+0.9**
YOPC				*eS*	**Sn**	**05 37 22.3**	**-0.9**
NORC	**Norcasia**	**2.17**	**234**	*eP*	**Pn**	**05 37 04.9**	**+0.2**
NORC				*eS*	**Sn**	**05 37 32.3**	**-1.5**
CHIC	**Chingaza**	**2.29**	**196**	*eP*	**Pn**	**05 37 07.2**	**+0.9**
CHIC				*eS*	**Sn**	**05 37 36.8**	**-0.2**
CHIC				*i*		05 37 39.1	
	comp=Z,52nm,0.4s						
ROSC	**El Rosal**	**2.34**	**211**	*eP*	**Pn**	**05 37 08.7**	**+1.8**
ROSC				*i*		05 37 43.7	
	comp=Z,79nm,0.4s						
HELC	**Santa Helena**	**2.50**	**255**	*eP*	**Pn**	**05 37 10.5**	**+1.7**
HELC				*i*		05 37 48.6	
	comp=Z,28nm,0.3s						
VIGV	**El Vigia**	**2.62**	**41**	*eP*	**Pn**	**05 37 11.1**	**+1.1**
VIGV				*eS*	**Sn**	**05 37 41.0**	**-2.4**
SOCV	**Socops**	**2.64**	**57**	*eP*	**Pn**	**05 37 11.6**	**+1.4**
SOCV				*eS*	**Sn**	**05 37 43.0**	**-0.8**
VILC	**Villavicencio,**	**2.78**	**192**	*eP*	**Pn**	**05 37 11.3**	**-0.7**
VILC				*eS*	**Sn**	**05 37 45.6**	**-1.5**
VILC				*i*		05 37 57.5	
	comp=Z,29nm,0.5s						
DBBC	**Dabeiba**	**3.09**	**273**	*eP*	**Pn**	**05 37 17.1**	**+1.3**
TOLC	**Tolima**	**3.15**	**225**	*eP*	**Pn**	**05 37 18.6**	**+1.7**
PRAC	**Prado**	**3.59**	**210**	*eP*	**Pn**	**05 37 22.7**	**+0.6**
PRAC				*eS*	**Sn**	**05 38 05.1**	**0.0**
PRAC				*i*		05 38 08.0	
	comp=Z,80nm,0.2s						
ELOV	**Elorza**	**3.59**	**87**	*eP*	**Pn**	**05 37 23.5**	**+1.5**
ELOV				*eS*	**Sn**	**05 38 04.9**	**-0.2**
SJAC	**San Juan de Ar**	**3.65**	**193**	*eP*	**Pn**	**05 37 24.1**	**+1.1**
SJAC				*i*		05 38 06.8	
	comp=Z,51nm,0.4s						
VIRV	**Villa del Rosa**	**3.70**	**11**	*eP*	**Pn**	**05 37 23.5**	**+0.1**
VIRV				*eS*	**Sn**	**05 38 03.4**	**-4.2**
CURV	**Curarigua**	**4.42**	**44**	*eP*	**Pn**	**05 37 34.2**	**+1.4**
TEPV	**Terepaima**	**4.95**	**51**	*eP*	**Pn**	**05 37 41.0**	**+1.2**
SIQV	**Siquisique**	**4.98**	**40**	*eP*	**Pn**	**05 37 40.3**	**+0.1**
MAPV	**Macapo**	**5.46**	**57**	*eP*	**Pn**	**05 37 47.0**	**+0.5**
MONV	**Montecano**	**5.94**	**31**	*eP*	**Pn**	**05 37 53.3**	**+0.5**

*IDC **26** 05:59:59.6±4.4, 36°17N×70°34E, h161km±39km, mb3.4/9, mb1 3.5/14, mb1mx3.2/55, mbtmp3.9/14, Error ellipse: s-maj=28.6km s-min=16.7km az=23.0*

ISC 26 06:00:04.8±0.7, 36°47N±0°06×70°70E±0°09, h200km, n27, σ2°32/32, mb3.4/8, 2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.82**	**159**	⇓P	**Pn**	**06 00 54.4**	**+1.9**
CEP				S	**Sn**	**06 01 32.0**	**+2.3**
CHCP	**Chirah Chowk**	**3.50**	**142**	P	**Pn**	**06 01 03.6**	**+3.1**
THW	**Thamme Wali**	**3.76**	**166**	⇓P	**Pn**	**06 01 04.9**	**+1.2**
THN	**Thein Dam**	**5.78**	**133**	*eP*	**Pn**	**06 01 28.0**	**-1.1**
THN				*eS*	**Sn**	**06 02 35.0**	**-0.8**
AAK	**Ala-Archa**	**6.82**	**24**	P	**Pn**	**06 01 43.0**	**+0.2**
	5.7nm,0.3s,baz=191,slow=6.7,SNR=17						
AAK				S	**Sn**	**06 02 59.5**	**-0.9**
	4.8nm,0.3s,baz=177,slow=23,SNR=21						
PYUN	**Piuthan**	**13.32**	**125**	*eP*	**P**	**06 03 08.6**	**-0.7**
	27nm,0.6s						
PYUN				*eS*	**S**	**06 05 29.3**	**-5.9**
MKAR	**Makanchi Array**	**13.46**	**36**	P	**P**	**06 03 11.0**	**+0.6**
	0.1nm,0.3s,baz=202,slow=12,SNR=4.2						
KOLN	**Koldanda**	**13.94**	**125**	*eP*	**P**	**06 03 16.4**	**+0.2**
	9.3nm,0.5s						
GKN	**Gorkha**	**14.49**	**122**	*eP*	**P**	**06 03 23.5**	**+1.3**
	27nm,0.5s						
GKN				*eS*	**S**	**06 05 56.5**	**-5.7**
DMN	**Daman**	**15.06**	**122**	*eP*	**P**	**06 03 30.4**	**+1.8**
	11nm,0.4s						
KKN	**Kakani**	**15.07**	**121**	*eP*	**P**	**06 03 30.6**	**+1.9**
	17nm,0.5s						
KURBB	**Kurchatov Arra**	**15.23**	**19**	P	**Pn**	**06 03 29.2**	**-0.3**
	0.0nm,0.3s,baz=210,slow=10,SNR=6.5						
PKIN	**Phulchoki**	**15.28**	**121**	*eP*	**P**	**06 03 33.7**	**+2.6**
	22nm,0.4s						
GUN	**Gumba**	**15.41**	**119**	*eP*	**P**	**06 03 35.1**	**+2.5**
	29nm,0.7s						
RAMN	**Ramite**	**16.51**	**121**	*eP*	**Pn**	**06 03 49.3**	**+3.8**
	28nm,0.6s						
BVAR	**Borovoye Array**	**16.56**	**359**	P	**P**	**06 03 43.7**	**-0.9**
	0.4nm,0.3s,baz=184,slow=11,SNR=10						
AKTO	**Aktyubinsk**	**16.69**	**331**	P	**P**	**06 03 44.5**	**-1.6**
	0.7nm,0.3s,baz=127,slow=12,SNR=24						
ZALV	**Zalesovo Beam**	**20.05**	**25**	P	**P**	**06 04 22.7**	**+0.4**
	2.1nm,0.4s,baz=227,slow=11,SNR=8.8						
SONM	**Songino Array**	**28.55**	**55**	P	**P**	**06 05 45.3**	**+3.4**
	0.3nm,0.4s,baz=279,slow=9.6,SNR=3.1						
FINES	**FINESS Array B**	**37.38**	**326**	P	**P**	**06 06 57.5**	**-0.3**
	1.9nm,0.7s,baz=100,slow=10,SNR=11						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**06 07 28.7**	**+0.3**
	2.6nm,0.7s,baz=117,slow=7.8,SNR=14						
NB2	**NORSAR Subarra**	**44.26**	**323**	P	**P**	**06 07 52.5**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=96,slow=8.6						
NOA	**NORSAR Array B**	**44.26**	**323**	P	**P**	**06 07 53.0**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=97,slow=7.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**65.47**	**268**	P	**P**	**06 10 23.8**	**-2.9**
	comp=Z,0.7nm,0.7s,baz=47,slow=5.6,SNR=7.6						
ILAR	**Eielson Array**	**74.88**	**16**	P	**P**	**06 11 23.7**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=316,slow=6.3,SNR=6.2						
WRA	**Warramunga Arr**	**82.18**	**122**	P	**P**	**06 12 03.0**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=322,slow=5.0,SNR=8.3						
ASAR	**Alice Springs**	**84.44**	**125**	P	**P**	**06 12 14.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=310,slow=5.2,SNR=7.5						

IDC 26 06:05:31.6±7.9, 36°80S×73°80W, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.4/20, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=217.3km s-min=23.5km az=72.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.68**	**148**	Pn	Pn	06 06 45.2	+1.6
	0.5nm,0.3s,baz=326,slow=5.7,SNR=4.9						
PLCA				Lg	Lg	06 08 00.4	
	0.3nm,0.3s,baz=9.5,slow=21,SNR=3.6						
LPAZ	**La Paz**	**21.04**	**15**	P	P	06 10 19.1	+1.3
	0.9nm,0.7s,baz=184,slow=8.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**86.50**	**71**	P	P	06 18 15.7	-1.0
	0.2nm,0.5s,baz=228,slow=4.2,SNR=2.6						

*ISK **26** 06:16:06.7, 37°42N×34°89E, h8km, MD2.6, ML2.4*
*CSEM **26** 06:16:07.6±0.2, 37°40N×34°87E, h8km, MD2.8, Error ellipse: s-maj=4.5km s-min=3.8km az=27.0*
*DDA **26** 06:16:07.6, 37°41N×34°90E, h6km, Md2.8*

ISC 26 06:16:07.5±0.9, 37°40N±0°02×34°87E±0°02, h13km±7km, n30, σ0°49/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GULE	**Gulek**	**0.14**	**213**	P	**Pg**	**06 16 11.6**	**+0.6**
GULE				*i* S	**Sb**	**06 16 15.0**	**0.0**
GULE	**Gulek**	**0.14**	**213**	*i* P	**Pg**	**06 16 11.6**	**+0.6**
GULE				*i* S	**Sb**	**06 16 15.0**	**0.0**
KARA	**Karaisali**	**0.20**	**133**	*e*PG	**Pg**	**06 16 11.6**	**-0.3**
KARA				*e*SG	**Sg**	**06 16 14.4**	**-0.6**
KARA	**Karaisali**	**0.20**	**133**	*e*Pg	**Pg**	**06 16 11.6**	**-0.3**
KARA				*e*Sg	**Sg**	**06 16 14.4**	**-0.6**
DED	**Mersin**	**0.44**	**187**	*i* P	**Pg**	**06 16 15.3**	**-0.8**
DED				*i* S	**Sg**	**06 16 21.2**	**-0.8**
AKO	**Adana**	**0.46**	**82**	*i* P	**Pg**	**06 16 16.2**	**-0.5**
AKO				*i* S	**Sg**	**06 16 22.7**	**-0.2**
KERG	**Konya-Eregli**	**0.59**	**272**	P	**Pg**	**06 16 19.4**	**+0.3**
KERG				S	**Sb**	**06 16 28.3**	**+0.1**
KERG	**Konya-Eregli**	**0.59**	**272**	*i* P	**Pg**	**06 16 19.4**	**+0.3**
KERG				*i* S	**Sb**	**06 16 28.3**	**+0.1**
MERS	**Mersin**	**0.60**	**208**	*e*PG	**Pg**	**06 16 18.9**	**-0.3**
MERS				*e*SG	**Sb**	**06 16 28.3**	**+0.1**
MERS	**Mersin**	**0.60**	**208**	*e*Pg	**Pg**	**06 16 18.9**	**-0.3**
MERS				*e*Sg	**Sb**	**06 16 28.3**	**+0.1**
NIG	**Nigde**	**0.74**	**344**	*e*PG	**Pg**	**06 16 21.9**	**0.0**
NIG	**Nigde**	**0.74**	**344**	*e*Pg	**Pg**	**06 16 21.9**	**0.0**
KOZT	**Kozan**	**0.77**	**84**	*e*PG	**Pg**	**06 16 21.8**	**-0.6**
KOZT				*e*SG	**Sg**	**06 16 32.0**	**-0.4**
KOZT	**Kozan**	**0.77**	**84**	*e*Pg	**Pg**	**06 16 21.8**	**-0.6**
KOZT				*e*Sg	**Sg**	**06 16 32.0**	**-0.4**
YAHY	**KAYSERI_Yahyal**	**0.80**	**29**	P	**Pg**	**06 16 22.6**	**-0.4**
YAHY				S	**Sb**	**06 16 34.8**	**+0.7**
YAHY	**KAYSERI_Yahyal**	**0.80**	**29**	*i* P	**Pg**	**06 16 22.6**	**-0.4**
YAHY				*i* S	**Sb**	**06 16 34.8**	**+0.7**
CEYT	**Ceyhan**	**0.80**	**119**	*e*PG	**Pg**	**06 16 22.5**	**-0.5**
CEYT				*e*SG	**Sb**	**06 16 34.8**	**+0.8**
CEYT	**Ceyhan**	**0.80**	**119**	*e*Pg	**Pg**	**06 16 22.5**	**-0.5**
CEYT				*e*Sg	**Sb**	**06 16 34.8**	**+0.8**
YURE	**YUREGIR**	**0.84**	**133**	P	**Pb**	**06 16 24.4**	**+0.5**
YURE				S	**Sb**	**06 16 35.8**	**+0.7**
YURE	**YUREGIR**	**0.84**	**133**	*i* P	**Pb**	**06 16 24.4**	**+0.5**
YURE				*i* S	**Sb**	**06 16 35.8**	**+0.7**
KRTS	**Karatas**	**0.92**	**154**	*e*PG	**Pb**	**06 16 25.4**	**+0.1**
KRTS	**Karatas**	**0.92**	**154**	*e*Pg	**Pb**	**06 16 25.4**	**+0.1**
YESY	**Yesilyurt**	**0.97**	**294**	*e*PG	**Pb**	**06 16 25.6**	**-0.7**
YESY	**Yesilyurt**	**0.97**	**294**	*e*Pg	**Pb**	**06 16 25.6**	**-0.7**
TAHT	**Tahtakopru-Hat**	**1.47**	**134**	*e*PN	**Pn**	**06 16 34.3**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.47**	**134**	*e*Pn	**Pn**	**06 16 34.3**	**+0.6**
KMRS	**Kahramanmaras**	**1.62**	**86**	*e*PN	**Pn**	**06 16 35.9**	**+0.1**
KMRS	**Kahramanmaras**	**1.62**	**86**	*e*Pn	**Pn**	**06 16 35.9**	**+0.1**
PINB	**Pinarbasi**	**1.76**	**43**	P	**Pg**	**06 16 41.0**	**-0.3**
PINB	**Pinarbasi**	**1.76**	**43**	*i* P	**Pg**	**06 16 41.0**	**-0.3**
PINB				*i* S	**Sg**	**06 17 04.3**	**+0.2**

*KRNET **26** 06:27:51.8±0.1, 41°05N×69°55E, mb2.4*
*NNC **26** 06:27:53.2±2.0, 41°04N×69°54E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=29.0km s-min=13.3km az=113.0*

ISC 26 06:27:51.3±3.5, 40°69N±0°08×68°6E±0°2, h35km, n11, σ2°27/16, 10C-11D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.78**	**110**	⇓*iP*	**Pn**	**06 28 18.8**	**-0.8**
	baz=135						
BTK				⇓*iS*	**Sn**	**06 28 38.4**	**-2.7**
	baz=135						
DZET	**Dzherino**	**1.89**	**176**	⇓Pg	Pn	06 28 35.2	+14
	0.8nm,0.4s						
DZET				⇑Lg	Lg	06 29 06.6	
	5.1nm,0.4s						
DRK	**Karamyk**	**2.71**	**116**	⇑*iP*	**Pn**	**06 28 33.9**	**+1.3**
	baz=132						
DRK				⇑*iS

KURBB **Kurchatov Arra** 6.67 237 Pn Pn 06 30 39.7 +1.1
0.1nm,0.3s,baz=53,slow=14,SNR=5.1
KURBB Lg Lg 06 32 31.6
0.0nm,0.3s,baz=49,slow=32,SNR=5.0
MKAR Makanchi Array 8.44 204 Pn Pn 06 31 03.9 +0.8
0.2nm,0.3s,baz=25,slow=14,SNR=5.6

MEX 26 06:51:06.6±0.5, 17°62N×95°51W, h20km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXBJ	**Oaxaca**	**1.28**	**245**	*eP*	Pn	06 51 26.2	-3.4
VHO	**Vista Hermosa**	**1.29**	**245**	*eP*	Pn	06 51 26.3	-3.4
VHO				*i* S	Sn	06 51 42.0	-4.5

*ISK **26** 07:18:40.8, 36°.80N×28°.95E, h7km, MD3.0*
*ISCJB **26** 07:18:41.3±0.6, 36°.80N±0°.04×28°.94E±0°.03, h6km±5km, Error ellipse: s-maj=7.3km s-min=4.0km az=171.7*
*CSEM **26** 07:18:41.6±0.2, 36°.85N×28°.95E, h8km, MD3.0, Error ellipse: s-maj=4.5km s-min=2.7km az=175.0*
*DDA **26** 07:18:41.3, 36°.87N×28°.89E, h7km, Md3.0*
ISC 26 07:18:41.5±1.2, 36°.86N±0°.03×28°.95E±0°.02, h2km±11km, n37, σ1§10/52, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mu¨la**	**0.24**	**259**	*e*PG	**Pg**	**07 18 46.1**	**+0.1**
DALY				*e*SG	**Sg**	**07 18 49.5**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.24**	**259**	*e*Pg	**Pg**	**07 18 46.1**	**+0.1**
DALY				*e*Sg	**Sg**	**07 18 49.6**	**+0.5**
TURN	**Turunc**	**0.27**	**272**	*i* P	**Pn**	**07 18 51.7**	**-0.8**
TURN				*i* S	**Sb**	**07 18 59.2**	**+5.0**
GLHS	**Glhisar (BURDU**	**0.53**	**56**	*e*PG	**Pg**	**07 18 51.7**	**0.0**
GLHS				*e*SG	**Sb**	**07 19 01.4**	**-0.4**
GLHS	**Glhisar (BURDU**	**0.53**	**56**	*e*Pg	**Pg**	**07 18 51.7**	**0.0**
GLHS				*e*Sg	**Sb**	**07 19 01.4**	**-0.4**
YER	**Yerkesik**	**0.60**	**297**	*e*PG	**Pg**	**07 18 53.3**	**+0.4**
YER				*e*SG	**Sb**	**07 19 03.1**	**-0.5**
YER	**Yerkesik**	**0.60**	**297**	*e*Pg	**Pg**	**07 18 53.3**	**+0.4**
YER				*e*Sg	**Sb**	**07 19 03.1**	**-0.5**
GOLH	**Golhisar**	**0.62**	**53**	P	**Pg**	**07 18 53.7**	**+0.4**
GOLH				S	**Sb**	**07 19 04.2**	**-0.1**
GOLH	**Golhisar**	**0.62**	**53**	*i* P	**Pg**	**07 18 53.7**	**+0.4**
GOLH				*i* S	**Sb**	**07 19 04.2**	**-0.1**
ELL	**Elmali**	**0.78**	**98**	*e*PG	**Pg**	**07 18 56.0**	**-0.4**
ELL	**Elmali**	**0.78**	**98**	*e*Pg	**Pg**	**07 18 56.0**	**-0.4**
AKAS	**Kas**	**0.82**	**140**	P	**Pb**	**07 18 58.0**	**-0.5**
AKAS	**Kas**	**0.82**	**140**	*i* P	**Pb**	**07 18 58.0**	**-0.5**
AKAS				*i* S	**Sn**	**07 19 12.6**	**-0.4**
DNZL	**Cakiroluk**	**0.83**	**6**	P	**Pg**	**07 18 57.0**	**-0.4**
DNZL				S	**Sn**	**07 19 12.4**	**-0.9**
DNZL	**Cakiroluk**	**0.83**	**6**	*i* P	**Pg**	**07 18 57.0**	**-0.4**
DNZL				*i* S	**Sn**	**07 19 12.4**	**-0.9**
DENT	**Denizli**	**0.89**	**4**	*e*PG	**Pg**	**07 18 58.7**	**+0.1**
DENT	**Denizli**	**0.89**	**4**	*e*Pg	**Pg**	**07 18 58.7**	**+0.1**
KORT	**Korkueli**	**1.14**	**83**	P	**Pg**	**07 19 03.3**	**+0.1**
KORT	**Korkueli**	**1.14**	**83**	*i* P	**Pg**	**07 19 03.3**	**+0.1**
KORT				*i* S	**Sn**	**07 19 25.2**	**+4.4**
BDRM	**Kayabasi**	**1.22**	**280**	P	**Pb**	**07 19 04.9**	**-0.4**
BDRM				S	**Sb**	**07 19 19.9**	**-1.6**
BDRM	**Kayabasi**	**1.22**	**280**	*i* P	**Pb**	**07 19 04.9**	**-0.4**
BDRM				*i* S	**Sb**	**07 19 19.9**	**-1.6**
BODT	**Bodrum**	**1.32**	**279**	*e*PN	**Pb**	**07 19 06.8**	**-0.3**
BODT	**Bodrum**	**1.32**	**279**	*e*Pn	**Pb**	**07 19 06.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.37**	**323**	*e*PN	**Pb**	**07 19 07.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.37**	**323**	*e*Pn	**Pb**	**07 19 07.8**	**-0.1**
BCK	**Bucak**	**1.44**	**65**	*e*PN	**Pn**	**07 19 08.4**	**-0.3**
BCK	**Bucak**	**1.44**	**65**	*e*Pn	**Pn**	**07 19 08.4**	**-0.3**
KHL	**Karahalli**	**1.53**	**17**	*e*PN	**Pn**	**07 19 09.8**	**-0.1**
KHL	**Karahalli**	**1.53**	**17**	*e*Pn	**Pn**	**07 19 09.8**	**-0.1**
KULA	**Kula-Manisa**	**1.66**	**352**	*e*PN	**Pn**	**07 19 11.8**	**+0.1**
KULA	**Kula-Manisa**	**1.66**	**352**	*e*Pn	**Pn**	**07 19 11.8**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.75**	**69**	*e*PN	**Pn**	**07 19 13.0**	**0.0**
SUTC	**Sutluce-Ispart**	**1.75**	**69**	*e*Pn	**Pn**	**07 19 13.0**	**0.0**
KARP	**Karpathos**	**1.95**	**228**	*e*PN	**Pn**	**07 19 15.0**	**-0.6**
KARP	**Karpathos**	**1.95**	**228**	*e*Pn	**Pn**	**07 19 15.0**	**-0.6**
IZM	**Izmir**	**2.03**	**319**	*e*PN	**Pn**	**07 19 16.2**	**-0.6**
IZM	**Izmir**	**2.03**	**319**	*e*Pn	**Pn**	**07 19 16.2**	**-0.6**

NNC 26 07:27:14.4±1.4, 50°.79N×79°.65E, h0km, mb3.5, mpv3.2, 19C-12D, Error ellipse: s-maj=12.4km s-min=6.1km az=14.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**0.66**	**264**	⇑P	Pb	07 27 29.8	+1.0
KURK				⇓S	Sb	07 27 38.4	-0.1
KURBB	**Kurchatov Arra**	**0.73**	**257**	⇑P	Pb	07 27 29.4	-0.7
	55nm,0.3s						
KURBB				⇓S	Sg	07 27 38.3	+0.5
	73nm,0.3s						
MAKZ	**Makanchi**	**4.27**	**158**	⇑Pn	Pn	07 28 20.0	-0.8
	0.8nm,0.4s						
MAKZ				⇑Pg	Pb	07 28 31.2	+0.8
	2.9nm,0.6s						
MAKZ				⇑Sn	Sn	07 29 13.9	+2.5
	17nm,0.6s						
MK31	**Makanchi Array**	**4.37**	**155**	⇓Pn	Pn	07 28 21.6	-0.4
	0.7nm,0.3s						
MK31				⇑Pg	Pb	07 28 32.6	+0.6
	1.8nm,0.3s						
MK31				⇑Sn	Sn	07 29 12.2	-1.4
	2.2nm,0.3s						
MK31				⇓Lg	Lg	07 29 30.7	
	10.0nm,0.3s						
OTUK	**Ortayu**	**5.40**	**245**	⇑Pn	Pn	07 28 37.9	+1.7
	4.5nm,0.4s						
OTUK				⇓Sn	Sn	07 29 40.3	+1.2
	4.8nm,0.5s						
VOSK	**Vostochnaya**	**5.72**	**293**	⇑Pn	Pn	07 28 41.5	+1.0
	1.1nm,0.7s						
VOSK				⇑Pg	Pb	07 28 57.2	+2.1
	1.0nm,0.4s						
VOSK				⇑Sn	Sn	07 29 46.1	-0.8
	2.8nm,0.5s						
BVA0	**Borovoye Array**	**6.15**	**295**	⇑Pn	Pn	07 28 47.0	+0.5
	0.9nm,0.5s,baz=96,slow=13,SNR=9.6						
BVA0				⇑Pg	Pb	07 29 04.4	+2.0
	0.7nm,0.3s,baz=104,slow=14,SNR=9.2						
BVA0				⇓Sn	Sn	07 29 56.5	-1.0
	3.1nm,0.7s,baz=105,slow=26,SNR=8.6						
CHKZ	**Chkalovo**	**6.25**	**301**	⇓Pn	Pn	07 28 48.5	+0.7
	0.6nm,0.3s						
CHKZ				⇑Sn	Sn	07 29 59.0	-1.0
	1.4nm,0.5s						
ZRNK	**Zerenda**	**6.94**	**292**	⇑Pn	Pn	07 28 57.8	+0.6
	0.7nm,0.3s						
ZRNK				⇑Pg	Pb	07 29 20.8	+5.1
	0.5nm,0.5s						
ZRNK				⇓Sn	Sn	07 30 15.1	-1.7
	0.9nm,0.3s						
TKM2	**Tokmak 2**	**8.35**	**201**	⇓Pg	Pg	07 29 47.9	-6.4
	1.4nm,0.8s						
TKM2				⇑Lg	Lg	07 31 22.4	
	5.5nm,0.6s						
AAK	**Ala-Archa**	**8.89**	**205**	Pg	Pg	07 29 54.3	-10
	1.0nm,0.5s						
AAK				Lg	Lg	07 31 37.5	
	3.5nm,0.6s						
MNAS	**Manas**	**9.65**	**213**	⇓Pn	Pn	07 29 38.1	+3.5
	0.7nm,0.5s						
MNAS				⇑Sn	Sn	07 31 15.9	-7.8
	0.9nm,0.6s						
MNAS				⇑Lg	Lg	07 32 01.7	
	1.0nm,0.6s						
KK31	**Karatay Array**	**9.90**	**223**	⇓Pn	Pn	07 29 40.5	+2.5
	0.2nm,0.3s,baz=40,slow=12,SNR=8.0						
KK31				⇓Sn	Sn	07 31 22.3	-7.5
	0.5nm,0.4s,baz=36,slow=29						

IDC 26 07:38:06.3±1.2, 21°.53N×146°.26E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/34, mbtmp3.3/4, Error ellipse: s-maj=55.9km s-min=24.5km az=99.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.83**	**197**	P	P	07 46 06.1	-0.2
	0.4nm,0.5s,baz=18,slow=8.5,SNR=8.2						

ASAR Alice Springs 46.50 196 P P 07 46 35.5 -0.1
0.1nm,0.4s,baz=13,slow=7.5,SNR=4.6
KURBB Kurchatov Arra 59.60 317 P P 07 48 12.0 0.0
0.2nm,0.4s,baz=92,slow=7.3,SNR=3.2
ILAR Eielson Array 60.89 27 P P 07 48 20.5 -0.1
0.1nm,0.6s,baz=272,slow=6.0,SNR=3.2

*SCB **26** 07:43:39.6±0.5, 8°.84S×73°.84W, h40km, Ml4.8/1, Error ellipse: s-maj=79.2km s-min=9.7km az=51.0*
*IDC **26** 07:44:19.9±1.2, 11°.66S×72°.52W, h0km, mb3.7/3, mb1 3.9/8, mb1mx3.8/28, mbtmp3.9/8, ML3.9/5, MS3.1/6, Ms1 3.2/6, ms1mx3.0/31, Error ellipse: s-maj=32.5km s-min=17.0km az=31.0*
*ISCJB **26** 07:44:23.2±0.6, 11°.52S±0°.08×72°.55W±0°.05, h33km, mb3.7/3, Error ellipse: s-maj=11.9km s-min=6.6km az=22.7*
ISC 26 07:44:25.4±0.8, 11°.5S±0°.1×72°.53W±0°.08, h35km, n14, σ1§14/14, mb3.7/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.25**	**263**	Pn	**Pn**	**07 45 26.4**	**-1.3**
	22nm,0.3s,baz=90,slow=8.4,SNR=21						
NNA				Sn	**Sn**	**07 46 16.4**	**+0.3**
	29nm,0.3s,baz=197,slow=18,SNR=7.9						
NNA				LR	LR	07 47 25.0	
	comp=Z,337nm,18.2s,baz=72,slow=44						
BBOB	**La Paz, Bander**	**6.26**	**138**	*e*Pn	**Pn**	**07 45 56.1**	**+0.3**
BBOD	**La Paz, Gloria**	**6.34**	**144**	*e*Pn	**Pn**	**07 45 57.9**	**+0.9**
LPAZ	**La Paz**	**6.37**	**138**	Pn	**Pn**	**07 45 54.9**	**-2.4**
	0.5nm,0.3s,baz=311,slow=8.7,SNR=17						
LPAZ				Lg	Lg	07 47 38.8	
	5.4nm,0.3s,baz=189,slow=18,SNR=8.0						
LPAZ				LR	LR	07 48 43.0	
	comp=Z,109nm,20.1s,baz=220,slow=42						
LPAZ	**La Paz**	**6.37**	**138**	*e*Pn	**Pn**	**07 45 57.9**	**+0.6**
BBOJ	**La Paz, Jacaqu**	**6.85**	**143**	*e*Pn	**Pn**	**07 46 05.2**	**+1.3**
BBOE	**La Paz, Chanca**	**6.85**	**141**	*e*Pn	**Pn**	**07 46 05.0**	**+1.1**
ATAH	**Atahualpa**	**7.25**	**307**	Pn	**Pn**	**07 46 08.9**	**-0.4**
	1.7nm,0.3s,baz=104,slow=3.4,SNR=7.3						
ATAH				LR	LR	07 49 08.4	
	comp=Z,64nm,21.4s,baz=130,slow=39						
SIV	**San Ignacio**	**11.97**	**113**	Pn	**Pn**	**07 47 12.8**	**-0.9**
	0.5nm,0.3s,baz=294,slow=10,SNR=4.1						
SIV				Lg	Lg	07 50 35.4	
	2.2nm,0.3s,baz=221,slow=22,SNR=3.9						
SIV				LR	LR	07 52 26.8	
	comp=Z,128nm,18.8s,baz=128,slow=41						
ROSC	**El Rosal**	**16.36**	**354**	LR			
	comp=Z,67nm,21.5s,baz=187,slow=40				LR	07 55 13.3	
PTGA	**Pitinga**	**16.45**	**50**	Pn	**Pn**	**07 48 14.1**	**+0.4**
	3.7nm,0.3s,baz=207,slow=23,SNR=19						
PTGA				LR	LR	07 55 05.5	
	comp=Z,189nm,18.4s,baz=233,slow=39						
TXAR	**Lajitas Array**	**50.53**	**324**	P	**P**	**07 53 21.0**	**+0.4**
	0.2nm,0.5s,baz=139,slow=8.2,SNR=4.7						
ULM	**Lac du Bonnet**	**64.83**	**344**	P	**P**	**07 55 01.5**	**+0.9**
	1.5nm,0.5s,baz=180,slow=4.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.60**	**74**	P	**P**	**07 56 18.1**	**-0.6**
	0.4nm,0.5s,baz=256,slow=3.3,SNR=7.0						

*IDC **26** 07:48:11.9±0.4, 32°.41N×95°.97E, h0km, mb4.9/29, mb1 5.0/33, mb1mx5.0/38, mbtmp4.9/33, ML4.5/4, MS4.5/29, Ms1 4.5/29, ms1mx4.5/33, Error ellipse: s-maj=14.2km s-min=10.2km az=31.0*
*MOS **26** 07:48:15.8±0.8, 32°.42N×95°.97E, h36km, mb5.4/84, MS4.7/40, Error ellipse: s-maj=5.7km s-min=3.4km az=120.2*
*ISCJB **26** 07:48:15.2±0.1, 32°.41N±0°.02×95°.92E±0°.02, h31km, mb5.2/211, MS4.7/56, Error ellipse: s-maj=2.5km s-min=1.8km az=42.6*
*BJI **26** 07:48:15.4, 32°.40N×96°.05E, h20km, mb5.1/61, mB5.5/40, ML5.1/9, Ms5.3/77, Ms7 5.2/68*
*GCMT **26** 07:48:16.8±0.1, 32°.33N×95°.98E, h16km, MW5.3/103, Moment Tensor Solution. s67,c110; s103,c192; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.45±.02; Mθθ 0.07±.01; Mφφ 0.38±.02; Mrθ-0.36±.04; Mθφ 0.81±.01; Mφr 0.29±.05; Best double couple: M0 1.02500×10^17 NP1:φs77.00000°, δ63.00000°, λ-31.00000°. NP2:φs182.00000°, δ63.00000°, λ-149.00000°. Principal axes: T 1.0540, Plg0.0000°, Azm129.0000°; N -0.0580, Plg50.0000°, Azm220.0000°; P -0.9970, Plg40.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 07:48:16.8±0.1, 32°.45N×95°.95E, mb5.3/120 Error ellipse: s-maj=3.0km s-min=2.2km az=47.0*
NEIC Ten houses destroyed and cracks developed in 90 percent of houses in the epicentral area. Felt at Gyegu.
ISC 26 07:48:16.9±0.4, 32°.41N±0°.03×95°.96E±0°.02, h30km±2km, h29km: pP-P, n692, σ1§48/792, mb5.2/222, MS4.7/56, 70C-39D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.94**	**238**	Pn	**Pn**	**07 49 31.8**	**+2.3**
LSA				Pg	**Pb**	**07 49 46.0**	**+3.1**
LSA				Sn	**Sn**	**07 50 28.8**	**+3.0**
LSA				Sg	**Sb**	**07 50 45.3**	**+3.3**
LSA	**Lhasa**	**4.94**	**238**	*e*P	**Pn**	**07 49 31.7**	**+2.3**
LSA	**Lhasa**	**4.94**	**238**	*e*Pn	**Pn**	**07 49 31.7**	**+2.3**
CD2	**Chengdu**	**6.81**	**101**	Pn	**Pn**	**07 49 58.8**	**+3.9**
CD2				Pg	Pb	07 50 20.8	+6.2
CD2				Sn	**Sn**	**07 51 09.8**	**-1.6**
CD2				Sg	Sb	07 51 53.0	+18
CD2				smax	smax		
	comp=N,2μm,1.6s						
CD2				smax	smax		
	comp=E,1μm,1.2s						
CD2				LR	LR		
	comp=N,80μm,7.7s						
CD2				LR	LR		
	comp=E,25μm,7.2s						
CD2				LR	LR		
	comp=Z,28μm,6.9s						
LZH	**Lanzhou**	**7.48**	**59**	⇓Pn	**Pn**	**07 50 06.5**	**+2.3**
LZH				Sn	**Sn**	**07 51 31.5**	**+3.4**
LZH				SMN			
	comp=Z,3μm,1.1s						
LZH				SME			
	comp=Z,3μm,1.2s						
LZH				LN			
	comp=Z,28μm,11.0s						
LZH				LE			
	comp=Z,14μm,9.2s						
LZH				LZ			
	comp=Z,15μm,12.3s						
GTA	**Gaotai**	**7.65**	**23**	⇓Pn	**Pn**	**07 50 07.8**	**+1.4**
GTA				Sn	**Sn**	**07 51 36.5**	**+4.4**
GTA				LN			
	comp=Z,12μm,12.1s						
GTA				LZ			
	comp=Z,4μm,11.2s						
SHL	**Shillong**	**7.70**	**209**	*i* P	**Pn**	**07 50 07.0**	**-0.2**
SHL				*e*S	**Sn**	**07 51 30.2**	**-3.3**
KMI	**Kunming**	**9.38**	**139**	P	**Pn**	**07 50 33.0**	**+2.7**
KMI				pP		07 50 37.5	
KMI				sP		07 50 41.3	
KMI				S	**Sn**	**07 52 17.8**	**+2.8**
KMI				sS		07 52 27.0	
KMI				SS	**SnSn**	**07 52 32.0**	**+5.3**
KMI				PMZ			
	comp=Z,43nm,0.7s						
KMI				PMZ			
	comp=Z,450nm,4.4s						
KMI				LN			
	comp=Z,15μm,7.8s						
KMI				LE			
	comp=Z,21μm,8.5s						
KMI				LZ			
	comp=Z,14μm,9.8s						
RAMN	**Ramite**	**9.79**	**239**	*e*P	**Pn**	**07 50 33.1**	**-2.9**
	comp=Z,185nm,0.6s						
GUN	**Gumba**	**9.81**	**245**	*e*P	**Pn**	**07 50 34.3**	**-2.0**
	comp=Z,423nm,0.8s						
KKN	**Kakani**	**10.33**	**246**	*e*P	**Pn**	**07 50 41.2**	**-2.1**
	comp=Z,270nm,0.8s						
PKIN	**Phulchoki**	**10.35**	**245**	*e*P	**Pn**	**07 50 41.2**	**-2.4**
	comp=Z,274nm,0.7s						

DMN Daman 10.56 246 *e*P **Pn** **07 50 43.9 -2.5**
comp=Z,600nm,1.2s
GKN Gorkha 10.74 249 *e*P **Pn** **07 50 46.3 -2.5**
comp=Z,161nm,0.6s
XAN Xi'an 10.97 78 P **Pn** **07 50 53.5 +1.6**
XAN pP 07 50 59.0
XAN PP **PnPn** **07 51 02.0 +2.4**
XAN S **Sn** **07 52 53.8 +0.1**
XAN SS **SnSn** **07 53 08.3 +2.9**
XAN PMZ
comp=Z,140nm,1.1s
XAN PMZ
comp=Z,290nm,7.1s
XAN LN
comp=Z,28μm,15.7s
XAN LE
comp=Z,10μm,16.3s
XAN LZ
comp=Z,15μm,9.0s
GYA Guiyang 11.05 120 ⇑*i*P **Pn** **07 50 53.0 -0.1**
GYA pP 07 51 01.0
GYA S **Sn** **07 52 56.0 +0.3**
GYA SS **SnSn** **07 53 13.5 +5.9**
GYA PMZ
comp=Z,210nm,0.8s
GYA PMZ
comp=Z,430nm,5.9s
GYA LN
comp=Z,19μm,11.2s
GYA LE
comp=Z,13μm,10.6s
GYA LZ
comp=Z,13μm,10.4s
KOLN Koldanda 11.66 250 *e*P **Pn** **07 50 58.5 -3.0**
comp=Z,131nm,0.7s
ENH Enshi 11.76 97 *e*Pn **Pn** **07 51 03.3 +0.7**
comp=Z,222nm,1.0s
ENH *e*Sn **Sn** **07 53 13.1 +0.2**
PYUN Piuthan 12.01 252 *e*P **Pn** **07 51 03.3 -3.0**
comp=Z,675nm,1.0s
BOK Bokaro 12.36 229 *e*P **Pn** **07 51 07.8 -3.0**
BOK IAmb IAmb 07 51 09.5
comp=Z,102nm,0.7s
WMQ Urumqi 13.11 333 P **Pn** **07 51 20.3 -0.8**
WMQ pP P 07 51 28.3 -2.6
WMQ sP 07 51 32.3
WMQ S **Sn** **07 53 50.3 +4.4**
WMQ SS **S** **07 54 05.3 -5.0**
WMQ PcP **PcP** **07 56 55.0 +3.2**
WMQ PMZ
comp=Z,53nm,0.9s
WMQ PMZ
comp=Z,210nm,4.3s
WMQ LN
comp=Z,5μm,11.3s
WMQ LE
comp=Z,5μm,6.3s
WMQ LZ
comp=Z,3μm,8.1s
CHTO Chiang Mai 13.80 168 *e*P **Pn** **07 51 30.9 +0.3**
CHTO pmax pmax
comp=Z,56nm,1.0s
CHTO Chiang Mai 13.80 168 *e*Pn **Pn** **07 51 30.9 +0.3**
comp=Z,56nm,1.0s
CMMT Chiang Mai 13.81 168 P **Pn** **07 51 32.4 +1.7**
comp=Z,69nm,1.7s,comp=Z,940nm
BTO Baotou 13.94 50 *e*P **Pn** **07 51 29.5 -3.0**
CM31 Chiang Mai Arr 14.15 168 *e*Pn **Pn** **07 51 37.1 +1.7**
CMAR Chiang Mai Arr 14.15 168 Pn **Pn** **07 51 34.3 -1.1**
comp=Z,0.8nm,0.3s,baz=340,slow=12,SNR=88
CMAR Lg Lg 07 55 46.0
baz=348,slow=27,SNR=3.7
CMAR LR LR 07 57 13.3
comp=Z,5μm,18.8s,baz=346,slow=38
CM01 Chiang Mai Arr 14.19 168 *e*Pn **Pn** **07 51 37.0 +1.0**
LAMP Lampang 14.22 166 P **Pn** **07 51 38.5 +2.2**
comp=Z,22nm,0.9s,comp=Z,168nm
TIY Taiyuan 14.48 64 *e*P **P** **07 51 43.3 -2.9**
TIY PP **PnPn** **07 51 55.8 +8.0**
TIY S **Sn** **07 54 22.0 +2.5**
TIY SS **S** **07 54 38.5 0.0**
TIY PMZ
comp=Z,41nm,0.5s
TIY LN
comp=Z,6μm,8.3s
TIY LE
comp=Z,6μm,6.9s
TIY LZ
comp=Z,6μm,7.9s
HHC Hu-ho-hao-te 15.08 52 *e*P **Pn** **07 51 46.3 -1.6**
HHC S **Sn** **07 54 31.3 -2.6**
HHC LN
comp=Z,4μm,11.8s
HHC LE
comp=Z,5μm,10.6s
UTTA Uttaradit 15.18 163 P **Pn** **07 51 49.9 +0.7**
comp=Z,20nm,1.1s,comp=Z,162nm
SUKH Sukhothai 15.23 167 P **Pn** **07 51 50.5 +0.6**
comp=Z,26nm,1.0s,comp=Z,208nm
DDI Dehra Dun 15.44 267 *e*P **Pn** **07 51 51.4 -1.3**
DDI IAmb IAmb 07 51 54.0
comp=Z,93nm,0.5s
NONG Nongkai 15.69 154 P **Pn** **07 51 56.7 +0.9**
comp=Z,71nm,1.1s
WHN Wuhan 15.80 92 ⇓P **Pn** **07 51 56.0 -1.2**
WHN LZ
comp=Z,17μm,17.6s
SMLA Simla 16.04 270 *e*P **Pn** **07 51 56.2 -4.1**
SMLA IAmb IAmb 07 52 02.8
comp=Z,125nm,0.5s
SMLA *e*S **Sn** **07 55 00.9 +3.7**
SMLA IAML 07 57 32.2
comp=N,98nm,9.7s
SMLA IAML 07 58 03.4
comp=E,36nm,3.8s
SDNR Sundarnagar 16.15 272 *ex* **P** **07 52 03.0 -1.7**
UMPA Umpang Tak 16.35 170 P **P** **07 52 07.3 +0.3**
comp=E,39nm,1.4s,comp=E,1μm
PBKT Sadao Pong 16.41 163 P **Pn** **07 52 05.0 -0.1**
comp=E,96nm,1.0s,comp=E,1μm
NDI New Delhi 16.57 262 *ex* Pn 07 51 57.0 -10
NDI *e*S **Sn** **07 55 13.0 +2.8**
SHLS Shalkode 16.60 315 *i* P **Pn** **07 52 05.2 -2.4**
comp=E,200nm,1.1s
SHLS *e*S **Sn** **07 55 09.2 -2.0**
SHLS LRM MLR 08 00 08.0
comp=E,1μm,11.0s
BHK Bhakra 16.63 272 *ex* **P** **07 52 10.0 0.0**
SKNT Sakolnakorn 17.00 153 P **P** **07 52 14.3 +0.1**
comp=E,141nm,1.9s
THN Thein Dam 17.10 276 *e*P **Pn** **07 52 09.6 -4.1**
THN *ex* x 07 55 29.0
UZB Uzynbulak 17.12 314 *i* P **Pn** **07 52 11.9 -2.1**
comp=E,80nm,0.9s
UZB *e*S **Sn** **07 55 22.0 -1.5**
UZB LRM MLR 08 00 59.6
comp=E,1μm,11.7s
KHON Khomkaen 17.17 157 P **Pn** **07 52 14.6 -0.1**
comp=E,28nm,1.0s
SONM Songino Array 17.32 24 P **Pn** **07 52 14.3 -2.2**
comp=E,1.1nm,0.3s,baz=211,slow=12,SNR=36
SONM LR LR 07 59 38.1
comp=E,2μm,18.2s,baz=208,slow=40
CHAI Chaiyaphum 17.32 160 P **Pn** **07 52 16.0 -0.6**
comp=E,27nm,0.8s,comp=E,411nm
SONA1 Songino Array 17.33 24 *e*Pn **Pn** **07 52 15.6 -1.1**
ZSN Zaisan 17.41 333 *i* P **Pn** **07 52 16.1 -1.4**
comp=E,842nm,1.3s
ZSN *e*S **Sn** **07 55 29.4 -0.9**
ZSN LR LR 07 58 48.9
ZSN LRM MLR 08 00 46.9
comp=E,942nm,9.1s
SATY Saty 17.45 313 *e*P **Pn** **07 52 17.1 -1.1**
comp=E,600nm,1.4s
SATY *e*S **Sn** **07 55 31.4 -0.2**
SATY LRM MLR 08 00 30.2
comp=E,2μm,11.9s
ULN Ulaanbaatar 17.58 25 *ce*P **Pn** **07 52 18.9 -0.9**
ULN pmax pmax
comp=Z,177nm,1.7s
ULN Ulaanbaatar 17.58 25 P **Pn** **07 52 19.3 -0.4**
SNR=75
ULN Ulaanbaatar 17.58 25 Pn **Pn** **07 52 19.3 -0.4**
SNR=75
ULN Ulaanbaatar 17.58 25 *e*Pn **Pn** **07 52 18.8 -0.9**
comp=Z,153nm,1.1s

KSH	**Kashi**	**17.65**	**299**		P		**P**	07 52 23.5	**+2.1**
KSH					pP		sP	07 52 30.0	-3.1
KSH					PP		**PnPn**	**07 52 38.8**	**+7.5**
KSH					S		**Sn**	**07 55 38.5**	**+2.1**
KSH					sS		sS	07 55 49.3	-6.5
KSH					SS		**SnSn**	**07 56 01.5**	**+12**
KSH					PMZ				
	comp=Z,29nm,0.7s								
KSH					PMZ				
	comp=Z,340nm,4.1s								
KSH					LE				
	comp=Z,3µm,9.5s								
KSH					LZ				
	comp=Z,5µm,12.3s								
KHLT	**Khaolaem Dam**	**17.70**	**172**		P		**P**	**07 52 23.3**	**+1.4**
	comp=Z,40nm,1.3s								
MK01	**Makanchi Array**	**17.75**	**328**	*e*	Pn		**Pn**	**07 52 19.6**	**-2.1**
MK31	**Makanchi Array**	**17.77**	**328**	*e*	P		**Pn**	**07 52 21.3**	**-0.7**
MK31	**Makanchi Array**	**17.77**	**328**	*e*	Pn		**Pn**	**07 52 21.3**	**-0.7**
MKAR	**Makanchi Array**	**17.77**	**328**		P		**Pn**	**07 52 19.3**	**-2.7**
	comp=Z,0.8nm,0.3s,baz=141,slow=14,SNR=28								
MKAR					PcP		**PcP**	**07 56 57.0**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=234,slow=3.6,SNR=7.7								
MKAR					LR		LR	07 59 34.2	
	comp=Z,1µm,20.9s,baz=150,slow=38								
MKAR					ScP		**ScP**	**08 00 34.0**	**+2.5**
	baz=103,slow=5.2,SNR=3.9								
MKAR	**Makanchi Array**	**17.77**	**328**	*e*	Pn		**Pn**	**07 52 21.0**	**-1.0**
MKAR					PcP		**PcP**	**07 56 57.0**	**-1.5**
MKAR					ScP		**ScP**	**08 00 34.0**	**+2.5**
TIA	**Tai'an**	**17.88**	**72**	⇑	P		**P**	**07 52 24.3**	**+0.5**
TIA					PMZ				
	comp=Z,160nm,1.0s								
TIA					LE				
	comp=Z,3µm,8.0s								
MAKZ	**Makanchi**	**17.93**	**327**	*i*	P		**Pn**	**07 52 22.0**	**-1.9**
MAKZ					pmax		pmax		
	comp=Z,74nm,1.5s								
MAKZ	**Makanchi**	**17.93**	**327**	*e*	Pn		**Pn**	**07 52 22.9**	**-0.9**
	comp=Z,110nm,1.5s								
GZH	**Guangzhou**	**17.95**	**117**		P		**Pn**	**07 52 24.0**	**-0.3**
GZH					S		**Sn**	**07 55 46.3**	**+2.7**
GZH					PMZ				
	comp=Z,160nm,1.3s								
BJT	**Baijiatuau**	**17.96**	**59**	*e*	P		**Pn**	**07 52 23.8**	**-0.5**
BJT					pmax		pmax		
	comp=Z,207nm,1.4s								
BJT	**Baijiatuau**	**17.96**	**59**	*e*	P		**Pn**	**07 52 23.8**	**-0.5**
	comp=Z,206nm,1.4s								
BJI	**Beijing**	**17.97**	**59**		P		**P**	**07 52 24.8**	**0.0**
BJI					LN				
	comp=Z,12µm,14.8s								
BJI					LE				
	comp=Z,6µm,13.2s								
BJI					LZ				
	comp=Z,3µm,17.9s								
SRDT	**SRDT**	**18.21**	**170**		P		**P**	**07 52 27.7**	**+0.2**
	comp=Z,209nm,1.2s,comp=Z,5µm								
QIZ	**Qiongzhong**	**18.25**	**134**		P		**P**	**07 52 28.5**	**+0.5**
QIZ					S		**S**	**07 55 53.3**	**-2.0**
QIZ					PMZ				
	comp=Z,75nm,1.4s								
QIZ					PMZ				
	comp=Z,870nm,7.5s								
QIZ					LN				
	comp=Z,10µm,9.0s								
QIZ					LE				
	comp=Z,11µm,9.1s								
QIZ					LZ				
	comp=Z,20µm,9.6s								
QIZ	**Qiongzhong**	**18.25**	**134**	*e*	P		**P**	**07 52 28.0**	**0.0**
	comp=Z,68nm,1.0s								
QIZ					eS		**S**	**07 55 53.2**	**-2.1**
MDOK	**Medeo**	**18.36**	**311**	*i*	P		**P**	**07 52 29.0**	**-0.3**
	comp=Z,254nm,1.0s								
MDOK				*i*	S		**Sn**	**07 55 54.2**	**+0.6**
MDOK					LRM		MLR	08 00 44.1	
	comp=Z,2µm,13.9s								
AAA	**Alma-Ata**	**18.48**	**311**	*e*	P		**Pn**	**07 52 32.5**	**+1.8**
AAA				*e*	S		**Sn**	**07 55 55.8**	**-0.5**
AAA					pmax		pmax		
	comp=Z,2µm,3.5s								
AAA					smax		smax		
	comp=N,4µm,9.0s								
AAA					MLR		MLR		
	comp=Z,4µm,14.0s								
AAA	**Alma-Ata**	**18.48**	**311**	*e*	P		**P**	**07 52 29.0**	**-1.5**
	comp=Z,795nm,1.2s								
AAA				*e*	S		**Sn**	**07 55 55.2**	**-1.1**
AAA					LRM		MLR	08 00 57.6	
	comp=Z,2µm,14.4s								
VIS	**Vishakhapatnam**	**18.55**	**221**	*e*	P		**P**	**07 52 30.6**	**-0.6**
VIS					IAmb		IAmb	07 52 32.7	
	comp=Z,35nm,0.6s								
MCO	**Taipa Grande**	**18.68**	**119**		P		**P**	**07 52 32.0**	**-0.6**
BHPL	**Bhopal**	**18.75**	**245**	*e*	P		**P**	**07 52 30.3**	**-3.2**
BHPL					IAmb		IAmb	07 52 30.6	
	comp=Z,484nm,0.1s								
ZAK	**Zakamensk**	**18.76**	**15**	*e*	P		**Pn**	**07 52 33.7**	**-0.4**
ZAK					pmax		pmax		
	comp=Z,67nm,1.3s								
UBPT	**Khong Chiam**	**19.12**	**151**		P		**P**	**07 52 37.4**	**-0.2**
	comp=Z,90nm,1.2s								
SRAK	**Srakaew**	**19.14**	**162**		P		**Pn**	**07 52 40.2**	**+1.4**
	comp=Z,117nm,0.8s,comp=Z,1µm								
KUU	**Kurty**	**19.17**	**312**	*i*	P		**P**	**07 52 36.8**	**-1.2**
	comp=Z,469nm,1.2s								
KUU					eS		**Sn**	**07 56 12.6**	**-0.3**
KUU					LRM		MLR	08 01 11.7	
	comp=Z,808nm,9.6s								
TKM2	**Tokmak 2**	**19.19**	**309**	*e*	P		**Pn**	**07 52 39.4**	**-0.1**
TKM2					pmax		pmax		
	comp=Z,113nm,1.4s								
TKM2	**Tokmak 2**	**19.19**	**309**	*e*	P		**Pn**	**07 52 39.4**	**-0.1**
	comp=Z,113nm,1.4s								
DGPR	**DIGLIPUR**	**19.35**	**189**	*e*	P		**P**	**07 52 38.4**	**-1.6**
DGPR					IAmb		IAmb	07 52 44.1	
	comp=Z,132nm,0.9s								
NJ2	**Nanjing**	**19.37**	**85**	*e*	P		**Pn**	**07 52 41.5**	**+0.1**
NJ2					S		**Sn**	**07 56 20.0**	**+2.2**
NJ2					sS		**sS**	**07 56 27.3**	**-3.1**
NJ2					PMZ				
	comp=Z,51nm,1.0s								
NJ2					LN				
	comp=Z,10µm,8.1s								
NJ2					LE				
	comp=Z,5µm,9.8s								
NJ2					LZ				
	comp=Z,4µm,9.2s								
AAK	**Ala-Archa**	**19.80**	**307**		P		**P**	**07 52 45.4**	**+0.4**
	comp=Z,4.5nm,0.3s,baz=104,slow=7.4,SNR=53								
AAK	**Ala-Archa**	**19.80**	**307**	*d*	*i*P		**Pn**	**07 52 46.6**	**-0.1**
AAK					pmax		pmax		
	comp=Z,130nm,0.7s								
AAK	**Ala-Archa**	**19.80**	**307**		P		**Pn**	**07 52 46.6**	**-0.1**
	SNR=73								
AAK	**Ala-Archa**	**19.80**	**307**		P		**Pn**	**07 52 46.6**	**-0.1**
	SNR=73								
AAK	**Ala-Archa**	**19.80**	**307**	*e*	P		**Pn**	**07 52 46.2**	**-0.5**
	comp=Z,58nm,0.8s								
FRU	**Bishkek**	**19.80**	**308**	⇓	*i*P		**P**	**07 52 45.0**	**+0.1**
FRU					eS		**S**	**07 56 24.0**	**-2.4**
FRU					pmax		pmax		
	comp=Z,250nm,1.6s								
FRU					smax		smax		
	comp=E,3µm,9.0s								
FRU					pmax		pmax		
	comp=E,4µm,10.0s								
PATY	**Pattaya**	**19.91**	**166**		P		**Pn**	**07 52 48.6**	**+0.6**
	comp=E,26nm,0.8s								
TLY	**Talaya**	**20.06**	**14**		P		**P**	**07 52 47.5**	**-0.1**
	comp=E,16nm,0.9s,baz=200,slow=11,SNR=16								
TLY	**Talaya**	**20.06**	**14**	*e*	P		Pn	07 52 49.5	0.0
TLY					eS		**S**	**07 56 23.9**	**-7.5**
TLY					pmax		pmax		
	comp=Z,25nm,0.9s								
TLY					MLR		MLR		
	comp=Z,2µm,12.0s								
EKS2	**Erkin-Say**	**20.30**	**307**	*e*	P		Pn	07 52 51.7	-0.8
EKS2					pmax		pmax		
	comp=Z,62nm,0.9s								
EKS2	**Erkin-Say**	**20.30**	**307**	*e*	P		Pn	07 52 51.7	-0.8
	comp=Z,62nm,0.9s								
IRK	**Irkutsk**	**20.72**	**15**	*e*	P		**P**	**07 52 55.7**	**+0.9**
IRK					pmax		pmax		
	comp=Z,539nm,1.8s								

PBA	**Port Blair**	**20.87**	**189**	*e*	P		**P**	07 52 55.7	-0.9
QZH	**Quanzhou**	**21.18**	**105**	⇑	P		**P**	**07 52 56.0**	**-3.9**
QZH					S		**S**	**07 56 47.0**	**-6.9**
QZH					LR		LR		
	comp=N,19µm,12.3s								
QZH					LR		LR		
	comp=E,10µm,10.5s								
QZH					LR		LR		
	comp=Z,10µm,9.5s								
SEM	**Semipalatinsk**	**21.42**	**332**	*e*	P		**P**	**07 53 01.7**	**-0.5**
	comp=Z,236nm,1.6s								
SEM				*e*	S		**S**	**07 56 59.0**	**+0.7**
SEM					LR		LR	08 00 59.3	
	comp=Z,1µm,14.7s								
SSE	**Sheshan**	**21.48**	**87**		P		**P**	**07 53 04.3**	**+1.2**
SSE					S		**S**	**07 57 03.0**	**+3.2**
SSE					PMZ				
	comp=Z,83nm,1.0s								
SSE					PMZ				
	comp=Z,880nm,3.6s								
SSE					LE				
	comp=Z,4µm,11.5s								
SSE					LZ				
	comp=Z,5µm,10.5s								
HYB	**Hyderabad**	**21.68**	**231**	*i*	P		**P**	**07 53 04.0**	**-1.3**
HYB				*e*	sP		**sP**	**07 53 18.0**	**+0.8**
HYB				*e*	S		**S**	**07 57 04.0**	**0.0**
HYB	**Hyderabad**	**21.68**	**231**	*e*	P		**P**	**07 53 04.1**	**-1.3**
HYB					IAmb		IAmb	07 53 04.7	
	comp=Z,77nm,0.8s								
DL2	**Dalian**	**21.80**	**66**		P		**P**	**07 53 09.3**	**+2.9**
DL2					S		**S**	**07 57 09.8**	**+3.9**
DL2					PMZ				
	comp=Z,220nm,1.1s								
DL2					PMZ				
	comp=Z,920nm,4.2s								
DL2					LE				
	comp=Z,6µm,15.6s								
DL2					LZ				
	comp=Z,6µm,13.8s								
KURBB	**Kurchatov Arra**	**22.29**	**330**		P		**P**	**07 53 10.7**	**-0.9**
	comp=Z,36nm,0.9s,baz=139,slow=11,SNR=128								
KURBB					PcP		**PcP**	**07 57 06.2**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=152,slow=1.6,SNR=7.3								
KURK	**Kurchatov**	**22.32**	**330**	*de*	P		**P**	**07 53 11.0**	**-1.0**
KURK					pmax		pmax		
	comp=Z,227nm,1.1s								
KURK	**Kurchatov**	**22.32**	**330**	*e*	P		**P**	**07 53 11.3**	**-0.7**
	comp=Z,449nm,1.0s								
KURK					PcP		**PcP**	**07 57 06.2**	**-0.4**
KBL	**Kabul**	**22.53**	**283**	*e*	P		**P**	**07 53 13.9**	**-0.7**
KBL					pmax		pmax		
	comp=Z,190nm,1.0s								
KBL	**Kabul**	**22.53**	**283**	*e*	P		**P**	**07 53 13.9**	**-0.7**
	comp=Z,190nm,1.0s								
KK31	**Karatay Array**	**22.70**	**305**	*i*	P		**P**	**07 53 15.6**	**-0.4**
KK31					pmax		pmax		
	comp=Z,53nm,1.1s								
KKAR	**Karatay Array**	**22.70**	**305**	*e*	P		**P**	**07 53 15.6**	**-0.5**
KKAR	**Karatay Array**	**22.70**	**305**	*e*	P		**P**	**07 53 15.6**	**-0.5**
ZAA0	**Zalesovo Array**	**22.95**	**343**	*e*	P		**P**	**07 53 17.7**	**-0.9**
ZALV	**Zalesovo Beam**	**22.95**	**343**		P		**P**	**07 53 18.1**	**-0.5**
	comp=Z,43nm,0.9s,baz=161,slow=7.2,SNR=121								
ZALV					LR		LR	08 01 31.8	
	comp=Z,875nm,20.0s,baz=252,slow=35								
SURA	**Surathani**	**23.38**	**171**		P		**P**	**07 53 24.7**	**+1.6**
	comp=Z,74nm,1.4s								
CIT	**Chita**	**23.42**	**28**	*e*	P		**P**	**07 53 23.2**	**-0.1**
CIT				*e*				07 53 31.1	
CIT				*e*				07 53 36.5	
CIT				*e*				07 53 58.9	
CIT					pmax		pmax		
	comp=Z,105nm,2.5s								
SURT	**Suratani**	**23.49**	**173**		P		**P**	**07 53 25.7**	**+1.5**
	comp=Z,40nm,1.7s,comp=Z,863nm								
TATO	**Taipei**	**23.55**	**102**	*e*	P		**P**	**07 53 26.2**	**+1.4**
YHNB	**Yeheng**	**23.58**	**103**	*e*	P		**P**	**07 53 25.5**	**+0.3**
	comp=Z,118nm,1.0s								
SSLB	**Suanglung**	**23.62**	**105**	*e*	P		**P**	**07 53 25.8**	**+0.3**
	comp=Z,50nm,0.9s								
SNY	**Shenyang**	**23.86**	**59**	⇓	P		**P**	**07 53 27.5**	**0.0**
SNY					S		**S**	**07 57 44.5**	**+2.9**
SNY					PMZ				
	comp=Z,97nm,1.1s								
SNY					PMZ				
	comp=Z,1µm,4.2s								
SNY					LE				
	comp=Z,5µm,11.2s								
SNY					LZ				
	comp=Z,5µm,14.7s								
NACB	**Ninganchiao**	**23.97**	**103**	*e*	P		**P**	**07 53 29.5**	**+0.7**
	comp=Z,338nm,1.4s								
MDRS	**Chennai**	**24.04**	**220**	*e*	P		**P**	**07 53 28.7**	**-0.8**
MDRS					IAmb		IAmb	07 53 38.2	
	comp=Z,51nm,0.8s								
YULB	**Yu-li**	**24.08**	**106**	*e*	P		**P**	**07 53 30.4**	**+0.6**
	comp=Z,54nm,1.0s								
NVS	**Novosibirsk**	**24.16**	**342**	⇑	*i*P		**P**	**07 53 30.3**	**0.0**
NVS				*i*	S		**S**	**07 57 49.7**	**+3.4**
NVS					pmax		pmax		
	comp=N,123nm,1.7s								
NVS					pmax		pmax		
	comp=Z,207nm,1.7s								
NVS					smax		smax		
	comp=N,123nm,2.4s								
NVS					smax		smax		
	comp=E,121nm,2.4s								
TWG	**Pinlang**	**24.16**	**107**	*e*	P		**P**	**07 53 31.9**	**+1.3**
	comp=E,574nm,1.3s								
POO	**Poona**	**24.22**	**241**	*e*	P		**P**	**07 53 29.2**	**-2.0**
HIA	**Hailar**	**24.48**	**40**	*e*	P		**P**	**07 53 34.4**	**+1.1**
HIA				*e*				07 57 11.4	
HIA					pmax		pmax		
	comp=Z,286nm,1.5s								
HIA	**Hailar**	**24.48**	**40**	*e*	P		**P**	**07 53 34.4**	**+1.1**
	comp=Z,286nm,1.5s								
HIA				*e*	PcP		**PcP**	**07 57 11.4**	**+0.1**
PKDT	**Phuket**	**24.50**	**174**		P		**P**	**07 53 34.4**	**+0.8**
	comp=Z,180nm,1.0s,comp=Z,52µm								
BRZS	**Berezniki**	**24.64**	**322**	*e*	P		**P**	**07 53 34.4**	**-0.3**
BRZS				*e*	S		**S**	**07 57 54.5**	**+0.4**
BRZS					LR		LR	08 02 58.7	
	comp=Z,385nm,12.4s								
TRTT	**Trang**	**24.70**	**171**		P		**P**	**07 53 36.3**	**+0.8**
	comp=Z,141nm,1.2s,comp=Z,2µm								
BHJ	**Bhuj**	**24.94**	**255**	*e*	P		**P**	**07 53 36.1**	**-1.5**
BHJ					IAmb		IAmb	07 53 40.5	
	comp=Z,99nm,1.0s								
INCN	**Inchon**	**25.58**	**70**	*e*	P		**P**	**07 53 42.8**	**-0.5**
	comp=Z,252nm,1.2s								
CN2	**Changchun**	**25.70**	**55**	⇑	P		**P**	**07 53 45.3**	**+0.9**
CN2				*e*	sP		sP	07 53 53.8	-2.9
CN2				*e*	S		**S**	**07 58 10.0**	**-1.2**
CN2					PMZ				
	comp=Z,100nm,1.1s								
CN2					PMZ				
	comp=Z,600nm,3.0s								
CN2					LN				
	comp=Z,4µm,13.0s								
CN2					LE				
	comp=Z,2µm,13.0s								
CN2					LZ				
	comp=Z,3µm,15.0s								
TJN	**Taejon**	**26.15**	**73**	*ce*	P		**P**	**07 53 49.7**	**+1.2**
GOA	**Goa**	**26.24**	**235**	*e*	P		**P**	**07 53 48.2**	**-1.2**
GOA					IAmb		IAmb	07 53 54.6	
	comp=Z,270nm,1.6s								
KS15	**Wonju Array Si**	**26.57**	**70**	*e*	P		**P**	**07 53 54.2**	**+1.8**
KSAR	**Wonju Array Be**	**26.57**	**70**		P		**P**	**07 53 52.1**	**-0.2**
KSAR	**Wonju Array Be**	**26.57**	**70**		P		**P**	**07 53 52.0**	**-0.2**
KS01	**Wonju Array Si**	**26.58**	**70**	*e*	P		**P**	**07 53 50.7**	**-1.7**
KSRS	**Korea Array**	**26.61**	**70**		P		**P**	**07 53 52.0**	**-0.5**
	comp=Z,24nm,0.8s,baz=260,slow=8.9,SNR=33								
KSRS					LR		LR	08 05 53.1	
	comp=Z,987nm,18.4s,baz=265,slow=40								
KULM	**Kulim**	**27.34**	**170**	*e*	P		**P**	**07 53 59.3**	**0.0**
	comp=Z,75nm,1.1s								
BVA0	**Borovoye Array**	**27.63**	**326**	*i*	P		**P**	**07 54 01.5**	**-0.1**
BVA0					pmax		pmax		
	comp=Z,31nm,1.3s								
BVAR	**Borovoye Array**	**27.63**	**326**		P		**P**	**07 54 01.4**	**-0.2**
	comp=Z,9.9nm,0.7s,baz=122,slow=11,SNR=47								
BVAR					PcP		**PcP**	**07 57 18.4**	**0.0**
	comp=Z,7.5nm,0.6s,baz=158,slow=1.8,SNR=11								
BRVK	**Borovoye**	**27.70**	**326**	*ce*	P		**P**	**07 54 02.4**	**+0.2**
BRVK					pmax		pmax		
	comp=Z,76nm,1.0s								
BRVK	**Borovoye**	**27.70**	**326**	*e*	P		**P**	**07 54 02.4**	**+0.2**
	comp=Z,65nm,0.9s								
CHKZ	**Chkalovo**	**27.93**	**327**		P		**P**	**07 54 03.7**	**-0.6**
CHKZ					pmax		pmax		
	comp=Z,30nm,1.5s								
IPM	**Ipoh**	**28.19**	**169**	*e*	P		**P**	**07 54 06.2**	**-0.7**
	comp=Z,46nm,1.0s								
BOD	**Bodaibo**	**28.23**	**21**	*e*	P		**P**	**07 54 06.2**	**-0.8**
BOD					pmax		pmax		
	comp=Z,56nm,1.7s								
ZRNK	**Zerenda**	**28.25**	**325**	*e*	P		**P**	**07 54 07.5**	**+0.3**
ZRNK				*e**	PP		**pP**	**07 54 16.9**	**+1.0**
ZRNK	**Zerenda**	**28.25**	**325**	*e*	P		**P**	**07 54 07.5**	**+0.3**
ZRNK				*e*	pP		**pP**	**07 54 16.9**	**+1.0**
TSI	**Tuntungan**	**28.86**	**175**		P		**P**	**07 54 12.8**	**-0.1**
JNU	**Nakatsue**	**29.29**	**79**		P		**P**	**07 54 16.9**	**+0.2**
	comp=Z,56nm,1.1s,baz=223,slow=2.4,SNR=7.0								
JNU					PcP		**PcP**	**07 57 22.9**	**-0.1**
	comp=Z,38nm,1.0s,baz=338,slow=4.6,SNR=4.9								
MSHR	**Mys Shultsa**	**29.52**	**60**	*ce*	P		**P**	**07 54 19.7**	**+1.1**
PSI	**Prapat**	**29.59**	**174**	*e*	P		**P**	**07 54 19.5**	**0.0**
PSI					pmax		pmax		
	comp=Z,31nm,0.9s								
PSI	**Prapat**	**29.59**	**174**	*e*	P		**P**	**07 54 19.5**	**0.0**
	comp=Z,31nm,0.9s								
VLA	**Vladivostok**	**30.13**	**59**	⇑	*e*P		**P**	**07 54 23.8**	**-0.2**
VLA				*i*	*PP		**pP**	**07 54 32.5**	**-0.2**
VLA				*i*	*SP		**sP**	**07 54 37.1**	**+0.8**
VLA				*e*				07 55 22.2	
VLA					pmax		pmax		
	comp=Z,22nm,0.6s								
USRK	**Ussuriysk Ar.**	**30.39**	**57**		P		**P**	**07 54 26.2**	**0.0**
	comp=Z,5.3nm,0.8s,baz=254,slow=5.1,SNR=7.1								
USRK					LR		LR	08 07 52.0	
	comp=Z,1µm,18.4s,baz=247,slow=39								
GSI	**Gunungsitoli**	**30.98**	**177**		P		**P**	**07 54 28.4**	**-3.3**
GSI	**Gunungsitoli**	**30.98**	**177**	*e*	P		**P**	**07 54 30.8**	**-0.9**
	comp=Z,208nm,1.0s								
KGM	**Kluang**	**31.02**	**166**	⇑	P		**P**	**07 54 33.2**	**+1.2**
GEYT	**Alibeck**	**31.27**	**291**		P		**P**	**07 54 35.2**	**+1.0**
	comp=Z,31nm,1.0s,baz=101,slow=7.7,SNR=52								
GEYT					PcP		**PcP**	**07 57 27.6**	**-0.4**
	comp=Z,6.6nm,0.8s,baz=77,slow=1.9,SNR=4.6								
GEYT					ScP		**ScP**	**08 01 11.8**	**+2.8**
	comp=Z,2.5nm,0.8s,baz=81,slow=2.0,SNR=4.2								
GEYT					LR		LR	08 09 17.7	
	comp=Z,2µm,19.9s,baz=70,slow=40								
MYKOM	**Kota Tinggi**	**31.35**	**165**	⇑	P		**P**	**07 54 36.3**	**+1.3**
MYKOM	**Kota Tinggi**	**31.35**	**165**	*e*	P		**P**	**07 54 35.5**	**+0.6**
	comp=Z,62nm,1.0s								
KLR	**Kul'dur**	**31.50**	**47**	*d*	*i*P		**P**	**07 54 36.2**	**+0.2**
CLNS	**Chul'man**	**31.51**	**31**	*e*	P		**P**	**07 54 36.1**	**0.0**
CLNS					pmax		pmax		
	comp=Z,35nm,1.0s								
CLNS					pmax		pmax		
	comp=N,20nm,1.1s								
CLNS					pmax		pmax		
	comp=E,27nm,1.1s								
CLNS					MLR		MLR		
	comp=E,1µm,11.0s								
CLNS					MLR		MLR		
	comp=Z,1µm,10.0s								
CLNS					MLR		MLR		
	comp=N,684nm,10.0s								
MNSI	**Mandailing Nat**	**31.63**	**173**		P		**P**	**07 54 36.9**	**-0.5**
AB31	**Akbulak array**	**31.66**	**313**		P		**P**	**07 54 37.4**	**+0.1**
AB31					pmax		pmax		
	comp=Z,46nm,1.4s								
ABKAR	**Akbulak array**	**31.66**	**313**	*e*	P		**P**	**07 54 37.6**	**+0.3**
ABKAR				*e*	PcP		**PcP**	**07 57 28.6**	**-0.2**
ABKAR				*e*	ScP		**ScP**	**08 01 11.3**	**+1.3**
BKNI	**Bangkinang**	**32.27**	**170**		P		**P**	**07 54 43.2**	**+0.2**
KKM	**Kota Kinabalu**	**32.33**	**140**	*e*	P		**P**	**07 54 44.6**	**+1.0**
	comp=Z,222nm,1.2s								
TPRI	**Tanjung Pinang**	**32.35**	**164**		P		**P**	**07 54 42.9**	**-0.8**
SDKM	**Sandakan**	**33.20**	**139**	⇑	P		**P**	**07 54 52.3**	**+1.0**
AKTO	**Aktyubinsk**	**33.21**	**314**		P		**P**	**07 54 51.0**	**0.0**
AKTO					pmax		pmax		
	comp=Z,48nm,1.2s								
PDSI	**Padang**	**33.42**	**172**		P		**P**	**07 54 51.5**	**-1.6**
SBUM	**Sibu**	**33.49**	**150**	*e*	P		**P**	**07 54 55.0**	**+1.2**
	comp=Z,86nm,1.3s								
KSM	**Kuching**	**33.61**	**153**	⇑	P		**P**	**07 54 56.3**	**+1.6**
KSM	**Kuching**	**33.61**	**153**	*e*	P		**P**	**07 54 55.7**	**+0.9**
	comp=Z,155nm,1.7s								
MYLDM	**Lahad Datu**	**34.32**	**137**	*e*	P		**P**	**07 55 02.8**	**+1.9**
	comp=Z,314nm,1.2s								
SVE	**Sverdlovsk**	**34.41**	**326**	*c*	*i*P		**P**	**07 55 02.1**	**+0.8**
SVE				*e*	S		**S**	**08 00 27.2**	**-0.1**
SVE					pmax		pmax		
	comp=Z,78nm,1.0s								
SVE					MLR		MLR		
	comp=Z,1µm,12.0s								
TSM	**Tawau**	**34.69**	**139**	⇑	P		**P**	**07 55 05.2**	**+1.1**
MAJO	**Matsushiro**	**34.86**	**71**	*e*	P		**P**	**07 55 04.3**	**-1.2**
MAJO				*e*				07 57 38.2	
MAJO					pmax		pmax		
	comp=Z,17nm,1.1s								
MAJO	**Matsushiro**	**34.86**	**71**	*e*	P		**P**	**07 55 04.3**	**-1.2**
	comp=Z,17nm,1.1s								
MAJO				*e*	PcP		**PcP**	**07 57 38.2**	**+0.1**
MAT	**Matsushiro**	**34.86**	**71**		P		**P**	**07 55 04.4**	**-1.1**
MJAR	**Matsushiro Arr**	**34.87**	**71**		P		**P**	**07 55 04.3**	**-1.3**
	comp=Z,13nm,1.0s,baz=279,slow=9.6,SNR=24								
MJAR					PcP		**PcP**	**07 57 37.8**	**-0.3**
	comp=Z,9.8nm,1.1s,baz=274,slow=3.6,SNR=12								
MJAR					LR		LR

ASAJ Asahikawa 37.97 58 *e*P P 07 55 32.5 +0.6
comp=Z,129nm,1.0s
YSS Yuzh-Sakhalins 38.25 54⇑*i*P P 07 55 34.6 +0.4
YSS *e*S S 08 01 26.0 -0.1
YSS pmax pmax
comp=Z,90nm,0.9s
YSS pmax pmax
comp=Z,100nm,7.0s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS Yuzh-Sakhalins 38.25 54 *e*P P 07 55 34.4 +0.2
comp=Z,117nm,1.0s
ERM Erimo 38.37 62*ce*P P 07 55 36.5 +1.2
ERM pmax pmax
comp=Z,89nm,1.7s
ERM Erimo 38.37 62 *e*P P 07 55 35.4 +0.1
comp=Z,111nm,1.5s
CGJI Cibinong 39.90 165 P P 07 55 44.0 -4.3
BBKI Banjar Baru 39.92 150 P P 07 55 49.8 +1.3
PCI Palu 40.09 141 P P 07 55 50.5 +0.6
MRSI Marisa 40.11 137 P P 07 55 49.8 -0.3
DGRG David-gareji 40.93 298 P P 07 55 56.5 -0.2
DGRG David-gareji 40.93 298 P P 07 55 56.5 -0.2
KPJI Karang Pucung 41.41 160 P P 07 56 01.2 +0.5
GNI Garni 41.53 296 *i* P P 07 56 03.0 +1.3
SNR=6.7
GNI Garni 41.53 296*de*P P 07 56 02.5 +0.8
GNI pmax pmax
comp=Z,137nm,1.1s
GNI Garni 41.53 296 P P 07 56 03.3 +1.5
SNR=15
GNI Garni 41.53 296 *e*P P 07 56 02.6 +0.8
comp=Z,51nm,1.1s
GUDG Gudauri 41.53 299 P P 07 56 03.5 +1.6
TTSI Tana Toraja 41.90 143 P P 07 56 03.8 -1.0
ZEI Tsey 41.94 300 *e*P P 07 56 03.5 -1.6
ZEI pmax pmax
comp=Z,54nm,1.0s
NCK Nalchik 42.12 301 *i* P P 07 56 06.4 0.0
NCK pmax pmax
comp=Z,10.0nm,1.0s
BGD Bogdanovka 42.28 297 P P 07 56 09.7 +1.7
ONI Oni 42.28 299 P P 07 56 08.8 +1.0
ONI Oni 42.28 299 P P 07 56 08.8 +1.0
AKH Akhalkalaki 42.35 298 P P 07 56 09.6 +1.1
AKH Akhalkalaki 42.35 298 P P 07 56 09.6 +1.1
GOF Gofitskoye 42.46 303⇓*i*P P 07 56 09.6 +0.5
GOF *e*S S 08 02 33.2 +4.2
GOF pmax pmax
comp=Z,88nm,0.8s
GOF smax smax
comp=E,77nm,1.9s
KBZ Khabaz 42.62 301 P P 07 56 09.8 -0.5
comp=E,5.7nm,0.9s,baz=101,slow=3.6,SNR=14
KBZ LR LR 08 16 36.8
comp=E,870nm,20.0s,baz=87,slow=40
KIV Kislovodsk 42.76 301 *i* P P 07 56 11.8 +0.2
SNR=13
KIV Kislovodsk 42.76 301 *e*P P 07 56 11.4 -0.3
KIV *e* 07 57 50.0
KIV *e*S S 08 02 33.2 -0.4
KIV pmax pmax
comp=Z,40nm,1.1s
KIV MLR MLR
comp=Z,506nm,16.0s
KIV Kislovodsk 42.76 301 P P 07 56 12.0 +0.3
SNR=14
KIV Kislovodsk 42.76 301 P P 07 56 12.0 +0.3
SNR=14
KIV Kislovodsk 42.76 301 *e*P P 07 56 12.0 +0.3
comp=Z,43nm,1.1s
NEY Neytrino 42.77 300*c* *i*P P 07 56 13.6 +1.7
NEY pmax pmax
comp=Z,4.0nm,1.1s
PWJI Pagerwojo 42.95 157 P P 07 56 12.6 -0.7
TIXI Tiksi 43.04 15*ce*P P 07 56 12.8 -0.6
TIXI pmax pmax
comp=Z,76nm,1.7s
TIXI MLR MLR
comp=Z,433nm,15.0s
TIXI Tiksi 43.04 15 *e*P P 07 56 12.6 -0.8
comp=Z,182nm,2.0s
CHVG Ch'k'valeri 43.28 300 P P 07 56 16.9 +1.1
VRH Novokhopyorsk 43.48 312 *e*P P 07 56 16.9 -0.3
VRH pmax pmax
comp=Z,60nm,0.8s
VRH MLR MLR
comp=Z,600nm,12.0s
GMJI Gumukmas 43.76 155 P P 07 56 19.6 -0.2
SRBI Singaraja 44.26 152 P P 07 56 24.1 +0.3
SANI Sanana 44.53 135 P P 07 56 28.0 +2.0
comp=Z,45nm,1.2s,comp=Z,1μm
SOC Sochi 44.93 301 *e*P P 07 56 27.6 -1.4
SOC *e* 07 58 09.2
SOC *e*PPP PPP 07 58 57.1
SOC *e*S S 08 03 01.1 -4.0
SOC pmax pmax
comp=Z,30nm,0.8s
SOC MLR MLR
comp=Z,933nm,20.0s
MA2 Magadan 44.98 36⇑*e*P P 07 56 30.3 +1.1
VSR Storozhevoye 45.09 312 *e*P P 07 56 29.0 -1.1
VSR pmax pmax
comp=Z,60nm,1.0s
KLMR Klimovskoe 46.05 325 *e*P P 07 56 34.3 -3.3
KLMR *e* 07 58 11.3
KLMR *e*S S 08 03 19.0 -1.8
KLMR pmax pmax
comp=Z,140nm,1.4s
MOS Moscow 46.29 318 *e*P P 07 56 39.1 -0.4
MOS *e* 07 58 13.0
MOS *e* 07 59 07.0
MOS *e*S S 08 03 25.5 +1.2
MOS *e* 08 06 33.1
MOS pmax pmax
comp=Z,194nm,1.2s
MOS pmax pmax
comp=Z,400nm,1.7s
MOS MLR MLR
comp=Z,1μm,20.0s
ANN Anapa 46.45 303*c* *i*P P 07 56 39.2 -1.8
ANN *e* 07 58 30.1
ANN *e*PPP PPP 07 59 12.3
ANN *e*S S 08 03 24.9 -2.1
ANN *e*SSS SSS 08 07 49.9
ANN pmax pmax
comp=Z,94nm,1.3s
ANN MLR MLR
comp=Z,1μm,23.0s
SEY Seymchan 46.50 32*ce*P P 07 56 41.6 +0.5
OBN Obninsk 46.84 317*de*P P 07 56 43.2 -0.6
OBN *e* 07 58 13.9
OBN *e* 07 58 37.4
OBN *e*PPP PPP 07 59 17.8
OBN *e*S S 08 03 36.0 +3.8
OBN pmax pmax
comp=Z,60nm,1.3s
OBN MLR MLR
comp=Z,873nm,18.0s
OBN Obninsk 46.84 317 *e*P P 07 56 44.2 +0.3
comp=Z,142nm,1.4s
PEA0 Petropavlovsk- 48.16 45 *e*P P 07 56 54.5 +0.3
PEA0B Petropavlovsk- 48.16 45 *e*P P 07 56 57.9 +3.7
comp=Z,126nm,1.4s
PETK Petropavlovsk- 48.16 45 P P 07 56 53.9 -0.3
comp=Z,30nm,1.1s,baz=235,slow=5.2,SNR=9.6
PETK LR LR 08 20 33.5
comp=Z,606nm,20.4s,baz=247,slow=40
GUMO Guam 48.31 101 LR LR 08 16 45.2
comp=Z,265nm,20.3s,baz=305,slow=36
SIM Simferopol' 48.78 304 *e*P P 07 56 59.5 +0.4
SIM *e* 07 58 51.0
SIM *e*S S 08 04 01.4 +1.3
SIM pmax pmax
comp=Z,31nm,0.4s
SIM pmax pmax
comp=Z,30nm,7.0s
SIM MLR MLR
comp=Z,2μm,20.7s
LVZ Lovozero 49.65 334*ce*P P 07 57 05.8 +0.4
LVZ pmax pmax
comp=Z,75nm,1.2s
LVZ Lovozero 49.65 334 *e*P P 07 57 05.3 -0.1
comp=Z,62nm,1.1s
SOEI Soe 49.89 142 P P 07 57 06.5 -1.4

SOEI Soe 49.89 142 *e*P P 07 57 06.8 -1.1
SOEI *e*pP pP 07 57 16.2 -0.8
BR131 Keskin Array S 50.02 297 *e*P P 07 57 08.1 -0.7
BR131 *e*pP pP 07 57 16.7 -1.1
BRTR Keskin Array B 50.02 297 P P 07 57 07.5 -1.2
comp=Z,5.6nm,1.0s,baz=107,slow=6.7,SNR=18
APA Apatity 50.05 334⇑*i*P P 07 57 08.2 -0.2
APA *i* 07 59 07.0
APA *i* S S 08 04 17.0 -0.2
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,2μm,13.0s
ANTO Ankara 50.62 297 *e*P P 07 57 13.2 -0.1
ANTO pmax pmax
comp=Z,60nm,1.3s
ANTO Ankara 50.62 297 *e*P P 07 57 13.2 -0.1
comp=Z,60nm,1.3s
AKASG Malin Array Be 51.38 312 P P 07 57 17.9 -0.8
comp=Z,16nm,0.7s,baz=74,slow=6.9,SNR=66
AKASG LR LR 08 20 48.4
comp=Z,564nm,18.1s,baz=60,slow=38
AKASG Malin Array Be 51.38 312 P P 07 57 17.9 -0.8
AKASG pmax pmax
comp=Z,28nm,0.7s
AKASG MLR MLR
comp=Z,564nm,18.1s
AKBB Malin Array Si 51.38 312 *e*P P 07 57 18.3 -0.4
AKBB pmax pmax
comp=Z,32nm,0.8s
AKBB Malin Array Si 51.38 312 *e*P P 07 57 18.3 -0.4
comp=Z,32nm,0.8s
KIEV Kiev 51.39 312*d* *i*P P 07 57 17.6 -1.2
KIEV pmax pmax
comp=Z,31nm,1.0s
KIEV Kiev 51.39 312 *e*P P 07 57 17.8 -0.9
comp=Z,32nm,0.8s
AK11 Malin Array Si 51.42 312 *e*P P 07 57 18.3 -0.7
MICGM Minsk 51.87 317 *e*P P 07 57 21.0 -1.3
MICGM *e*LR LR 08 17 40.0
MNK Minsk 51.87 317 *e*P P 07 57 21.0 -1.3
KIS Kishinev 52.14 307 *e*P P 07 57 24.0 -0.4
KIS XM 07 57 24.5
comp=Z,100nm,1.0s
KIS Kishinev 52.14 307 *e*P P 07 57 24.0 -0.4
KIS *i* 07 57 34.0
KIS *i* 07 57 42.0
KIS pmax pmax
comp=Z,110nm,1.0s
SORM Soroca 52.27 308⇑*i*P P 07 57 24.6 -0.8
SORM Soroca 52.27 308 ⇑P P 07 57 24.6 -0.8
VSU Vasula 52.30 322*ce*P P 07 57 25.7 +0.3
VSU pmax pmax
comp=Z,223nm,1.2s
IDID Didziasalis 52.47 318 *e*P P 07 57 26.3 -0.4
IDID IAmb IAmb 07 57 31.8
comp=Z,28nm,1.1s
NACGM Naroch 52.48 317 *e* P 07 57 26.0 -0.8
NACGM *e*LQ LQ 08 14 53.0
NACGM *e*LR LR 08 19 22.0
FIA1 FINESS Array S 52.58 325 *e*P P 07 57 27.3 -0.2
FINES FINESS Array B 52.59 325 P P 07 57 27.4 0.0
comp=Z,9.7nm,0.6s,baz=85,slow=7.2,SNR=64
FINES LR LR 08 19 20.5
comp=Z,794nm,18.6s,baz=90,slow=36
FINES FINESS Array B 52.59 325 *e*P P 07 57 26.9 -0.6
KEVO Kevo 52.71 336 *e*P P 07 57 29.1 +0.8
KEV pmax pmax
comp=Z,43nm,1.1s
KEV Kevo 52.71 336 *e*P P 07 57 29.1 +0.8
comp=Z,43nm,1.1s
IZAR Zarasai 52.72 318 *e*P P 07 57 28.2 -0.3
IZAR IAmb IAmb 07 57 32.6
comp=Z,19nm,1.1s
ISAL Salakas 52.80 318 *e*P P 07 57 28.8 -0.4
ISAL IAmb IAmb 07 57 30.6
comp=Z,38nm,1.2s
CFR Carcaliu 52.92 305⇑*i*P P 07 57 30.5 +0.3
CFR Carcaliu 52.92 305 ⇑P P 07 57 30.5 +0.3
BILL Bilibino 53.02 26*de*P P 07 57 30.9 +0.3
BILL *e* 07 58 41.0
BILL *e* 07 59 30.0
BILL *e*PPP PPP 08 00 38.9
BILL *e*S S 08 04 57.9 -0.3
BILL pmax pmax
comp=Z,59nm,1.2s
BILL MLR MLR
comp=Z,844nm,16.0s
BILL Bilibino 53.02 26 *e*P P 07 57 31.0 +0.4
comp=Z,44nm,1.0s
HARR Harsova 53.16 304⇑*i*P P 07 57 32.3 +0.3
HARR Harsova 53.16 304 ⇑P P 07 57 32.3 +0.3
ARA0 ARCESS Array S 53.21 336 *e*P P 07 57 32.2 +0.2
ARCES ARCESS Array B 53.21 336 P P 07 57 32.1 +0.1
comp=Z,9.3nm,0.6s,baz=91,slow=6.9,SNR=51
ARCES PcP PcP 07 58 39.3 -0.3
comp=Z,4.1nm,0.5s,baz=112,slow=3.6,SNR=11
ARCES LR LR 08 23 12.2
comp=Z,868nm,18.3s,baz=98,slow=40
ARCES ARCESS Array B 53.21 336 *e*P P 07 57 31.8 -0.2
ARE0 ARCESS Array S 53.21 336 *e*P P 07 57 31.3 -0.7
ARE0 ARCESS Array S 53.21 336 *e*P P 07 57 32.3 +0.3
comp=Z,57nm,1.4s
PETR Petresti 53.44 306⇓*i*P P 07 57 38.0 +3.9
TESR Tescani 53.69 307⇑*i*P P 07 57 35.9 0.0
VRI Vrincioaia 53.76 306⇑*i*P P 07 57 37.2 +0.8
VRI Vrincioaia 53.76 306 ⇑P P 07 57 37.2 +0.8
PLOR Plostina 53.82 306⇑*i*P P 07 57 37.2 +0.3
PLOR Plostina 53.82 306 ⇑P P 07 57 37.2 +0.3
KTK1 Kautokeino 53.98 335 *e*P P 07 57 37.0 -0.6
KTK1 IAmb IAmb 07 57 39.3
comp=Z,30nm,0.8s
ISR Istrita 54.04 305⇓*i*P P 07 57 40.9 +2.4
ISR Istrita 54.04 305 ⇓P P 07 57 40.9 +2.4
MLR Muntele Rosu 54.38 306⇑*i*P P 07 57 41.8 +0.7
MLR Muntele Rosu 54.38 306 *e*P P 07 57 41.5 +0.5
MLR pmax pmax
comp=Z,52nm,1.0s
MLR Muntele Rosu 54.38 306 *e*P P 07 57 41.5 +0.5
comp=Z,52nm,1.0s
GENI Genyem 54.42 121 P P 07 57 42.7 +1.1
BURAR Bucovina Array 54.44 308⇑*i*P P 07 57 41.3 -0.2
BURAR Bucovina Array 54.44 308 ⇑P P 07 57 41.3 -0.2
BUR08 Bucovina Ar. S 54.45 308 *e*P P 07 57 41.0 -0.5
DOPR Dopca 54.66 306⇓*i*P P 07 57 43.8 +0.8
SUW Suwalki 54.66 316 *e*P P 07 57 42.3 -0.5
SUW Suwalki 54.66 316 *e*P P 07 57 42.3 -0.5
JAY Jayapura 54.76 121 P P 07 57 47.2 +3.1
LVV L'vov 54.81 311⇓*i*P P 07 57 43.8 -0.2
LVV *e* 07 59 43.2
LVV *e*S S 08 05 19.6 -3.2
LVV MLR MLR
comp=Z,300nm,17.0s
VOIR 55.00 306⇓*i*P P 07 57 45.9 +0.4
VOIR 55.00 306 ⇓P P 07 57 45.9 +0.4
MTUR Matau 55.04 305⇑*i*P P 07 57 47.8 +2.0
MTUR Matau 55.04 305 ⇑P P 07 57 47.8 +2.0
ARCR ARCALIA 55.12 308⇓*i*P P 07 57 47.9 +1.6
TRO Tromso 55.52 336 *e*P P 07 57 48.0 -0.8
BMR Baia Mare 55.57 309⇑*i*P P 07 57 50.6 +1.1
BMR Baia Mare 55.57 309 ⇑P P 07 57 50.6 +1.1
KWP Kalwaria Pacla 55.69 311 *e*P P 07 57 50.6 +0.3
KWP Kalwaria Pacla 55.69 311⇑*i*P P 07 57 50.9 +0.6
KWP Kalwaria Pacla 55.69 311 ⇑P P 07 57 50.9 +0.6
CJR Cluj-Napoca 55.71 307⇑*i*P P 07 57 51.7 +1.1
CJR Cluj-Napoca 55.71 307 ⇑P P 07 57 51.7 +1.1
LOT Lotru 55.88 306⇑*i*P P 07 57 52.1 +0.2
KOLS Kolonicke sedl 56.11 310 *e*P P 07 57 53.5 +0.2
KOLS pmax pmax
comp=Z,13nm,1.1s
KOLS Kolonicke sedl 56.11 310 *e*P P 07 57 53.5 +0.2
UZH Uzhgorod 56.16 310⇑*i*P P 07 57 52.8 -0.9
UZH *e* 07 57 59.6
UZH *e* 07 58 52.8
UZH *e*S S 08 05 39.0 -1.9
UZH MLR MLR
comp=Z,800nm,23.0s
DRGR 56.29 308⇓*i*P P 07 57 54.8 +0.1
DRGR 56.29 308 ⇓P P 07 57 54.8 +0.1
DEV Deva 56.37 307⇑*i*P P 07 57 54.9 -0.3
DEV Deva 56.37 307 ⇑P P 07 57 54.9 -0.3
SPA0 Spitsbergen Ar 56.39 346 *e*P P 07 57 56.4 +1.4
SPA0 Spitsbergen Ar 56.39 346 *e*P P 07 57 55.5 +0.5

BEL Belsk 56.45 314 *e*P P 07 57 55.6 -0.1
BEL Belsk 56.45 314 *e*P P 07 57 55.6 -0.1
HSPB Hornsund (broa 56.53 344 *e*P P 07 57 57.1 +1.2
GZR Gura Zlata 56.57 306⇑*i*P P 07 57 56.8 0.0
GZR Gura Zlata 56.57 306 ⇑P P 07 57 56.8 0.0
CRVS Cervenica-Dubn 56.64 310 *e*P P 07 57 56.1 -1.0
CRVS Cervenica-Dubn 56.64 310 *e*P P 07 57 56.1 -1.0
STHS Stebnicka Huta 56.66 311 *e*P P 07 57 57.1 -0.2
STHS pmax pmax
comp=Z,10.0nm,0.8s
STHS Stebnicka Huta 56.66 311 *e*P P 07 57 57.1 -0.2
SIRR Siria 57.12 307⇑*i*P P 07 58 01.4 +0.8
NIE Niedzica 57.27 311 *e*P P 07 58 01.9 +0.2
NIE Niedzica 57.27 311 *e*P P 07 58 01.8 +0.2
KBS Kingsbay 57.29 347 *e*P P 07 58 01.0 -0.2
KBS pmax pmax
comp=Z,37nm,1.3s
KBS Kingsbay 57.29 347 *e*P P 07 58 01.0 -0.2
comp=Z,37nm,1.3s
BZS Buzias 57.31 307⇑*i*P P 07 58 02.3 +0.4
BZS Buzias 57.31 307 ⇑P P 07 58 02.3 +0.4
KECS Kecovo 57.36 310 *e*P P 07 58 02.4 +0.2
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS Kecovo 57.36 310 *e*P P 07 58 02.4 +0.2
OJC Ojcow 57.40 312 *e*P P 07 58 02.0 -0.5
OJC Ojcow 57.40 312 *e*P P 07 58 02.0 -0.5
OJC Ojcow 57.40 312 *e*P P 07 58 02.8 +0.3
comp=Z,36nm,1.1s
MDVR Moldovita 57.45 306⇑*i*P P 07 58 03.7 +0.7
LOF Lofoten 57.56 334 *e*P P 07 58 02.6 -0.7
LOF IAmb IAmb 07 58 04.0
comp=Z,83nm,0.9s
FITZ Fitzroy Crossi 57.71 146 LR LR 08 26 19.4
comp=Z,234nm,18.3s,slow=40
FITZ Fitzroy Crossi 57.71 146 *e*P P 07 58 04.8 -0.1
comp=Z,16nm,1.3s
LANS Liptovska Anna 57.86 311 *e*P P 07 58 07.0 +1.2
LANS Liptovska Anna 57.86 311 *e*P P 07 58 07.0 +1.2
PSZ Piszkesteto 57.88 310⇑*i*P P 07 58 05.5 -0.5
PSZ Piszkesteto 57.88 310⇓*e*P P 07 58 05.5 -0.5
PSZ Piszkesteto 57.88 310 ⇑P P 07 58 05.5 -0.5
PSZ Piszkesteto 57.88 310 *e*P P 07 58 05.6 -0.5
comp=Z,16nm,1.1s
MBWA Marble Bar 57.92 154 *e*P P 07 58 06.2 -0.2
comp=Z,53nm,1.0s
KONS Konsvik 57.93 332 *e*P P 07 58 06.2 +0.3
GKP Gorka Klasztor 58.28 316 *e*P P 07 58 09.2 +0.7
GKP Gorka Klasztor 58.28 316 *e*P P 07 58 09.2 +0.7
VYHS Vyhne 58.42 310 *e*P P 07 58 09.4 -0.3
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 58.42 310 *e*P P 07 58 09.4 -0.3
VYHS *e*PP PP 08 00 18.0 -0.9
OKC Ostrava-Krasne 58.53 312 *e*P P 07 58 11.0 +0.6
OKC *e*sP sP 07 58 23.5 +0.4
OKC *e*S S 08 06 13.5 +1.5
OKC AMS AMS 08 24 20.0
comp=Z,500nm,14.1s
OKC Ostrava-Krasne 58.53 312 *e*P P 07 58 11.0 +0.6
OKC *e* 07 58 23.5
OKC *e*S S 08 06 13.5 +1.5
OKC MLR MLR
comp=Z,500nm,14.1s
NSS Namsos 58.72 330 *e*P P 07 58 12.0 +0.6
MORC Moravsky Berou 58.92 312⇑*i*P P 07 58 13.7 +0.5
MORC Moravsky Berou 58.92 312 ⇑P P 07 58 13.7 +0.5
MORC Moravsky Berou 58.92 312 *e*P P 07 58 13.6 +0.4
comp=Z,83nm,1.0s
KRLC Kraliky 59.32 313 *e*P P 07 58 16.3 +0.3
KRLC Kraliky 59.32 313 *e*P P 07 58 16.3 +0.3
KSP Ksiaz 59.42 314 *e*P P 07 58 16.2 -0.4
KSP Ksiaz 59.42 314 *e*P P 07 58 16.2 -0.4
NC405 NORSAR Array S 59.50 326 *e*P P 07 58 16.7 -0.3
DPC Dobruska-Polom 59.53 313 *e*P P 07 58 17.7 +0.3
DPC *e*pP sP 07 58 30.0 -0.1
DPC *e*S S 08 06 28.4 +3.2
DPC AMS AMS 08 25 10.0
comp=Z,1μm,17.9s
DPC Dobruska-Polom 59.53 313 *e*P P 07 58 17.7 +0.3
DPC *e* 07 58 30.0
DPC *e*S S 08 06 28.4 +3.2
VRAC Vranov 59.64 312⇑*i*P P 07 58 19.1 +1.0
VRAC Vranov 59.64 312 ⇑P P 07 58 19.1 +1.0
NC303 NORSAR Array S 59.64 326 *e*P P 07 58 17.5 -0.4
NC602 NORSAR Array S 59.67 325 *e*P P 07 58 17.4 -0.7
NC602 NORSAR Array S 59.67 325 *e*P P 07 58 17.6 -0.5
UPC Upice 59.68 313 *e*P P 07 58 19.1 +0.7
UPC *e*S S 08 06 28.5 +1.5
UPC AMS AMS 08 25 00.0
comp=Z,1μm,16.5s
UPC Upice 59.68 313 *e*P P 07 58 19.1 +0.7
UPC *e*S S 08 06 28.5 +1.5
UPC MLR MLR
comp=Z,1μm,16.5s
TBLU Trondheim 59.71 328 *e*P P 07 58 16.0 -2.3
NB201 NORSAR Array S 59.72 326 *e*P P 07 58 17.9 -0.5
NB2 NORSAR Subarra 59.76 326 P P 07 58 17.8 -1.0
comp=Z,23nm,0.7s,baz=78,slow=6.9
NB2 NORSAR Subarra 59.76 326 P P 07 58 17.8 -1.0
baz=78,slow=6.9
NOA NORSAR Array B 59.76 326 P P 07 58 18.0 -0.8
comp=Z,15nm,0.6s,baz=78,slow=7.0,SNR=111
NOA LR LR 08 24 48.6
comp=Z,482nm,19.4s,baz=85,slow=37
NC204 NORSAR Array S 59.92 326 *e*P P 07 58 18.9 -0.9
NBO02 NORSAR Array S 59.92 326 *e*P P 07 58 19.1 -0.7
NAO01 NORSAR Array S 59.96 326 *e*P P 07 58 19.3 -0.8
NBO00 NORSAR Array S 59.97 326 *e*P P 07 58 19.7 -0.5
SOP Sopron 60.11 310⇓*e*P P 07 58 21.0 -0.4
OSL Oslo 60.25 325 *e*P P 07 58 19.6 -2.4
TREC Trest 60.34 312 *e*P P 07 58 23.6 +0.7
TREC AMS AMS 08 25 20.0
comp=Z,800nm,17.2s
TREC Trest 60.34 312 *e*P P 07 58 23.6 +0.7
TREC MLR MLR
comp=Z,800nm,17.2s
COP Copenhagen 60.42 320 *e*P P 07 58 23.4 +0.1
COP Copenhagen 60.42 320 *i* P P 07 58 23.4 +0.1
CONA Conrad Observa 60.49 310 *i* P P 07 58 24.0 -0.1
comp=Z,30nm,1.0s,SNR=18
PVCC Panska Ves 60.56 314 *e*P P 07 58 25.2 +0.8
PVCC AMS AMS 08 25 30.0
comp=Z,700nm,16.7s
PVCC Panska Ves 60.56 314 *e*P P 07 58 25.2 +0.8
PVCC MLR MLR
comp=Z,700nm,16.7s
GOPC GO Pecny, Ondr 60.60 313 *e*P P 07 58 25.4 +0.7
GOPC *e*sP sP 07 58 37.8 +0.3
GOPC *e*S S 08 06 38.5 -0.3
GOPC AMS AMS 08 25 30.0
comp=Z,1μm,18.6s
GOPC GO Pecny, Ondr 60.60 313 *e*P P 07 58 25.4 +0.7
GOPC *e* 07 58 37.8
GOPC *e*S S 08 06 38.5 -0.3
GOPC MLR MLR
comp=Z,1μm,18.6s
PRU Pruhonice 60.73 313 *e*P P 07 58 26.2 +0.6
PRU *e*S S 08 06 41.0 +0.5
PRU AMS AMS 08 26 00.0
comp=Z,1μm,15.2s
PRU Pruhonice 60.73 313 *e*P P 07 58 26.2 +0.6
PRU *e*S S 08 06 41.0 +0.5
PRU MLR MLR
comp=Z,1μm,15.2s
BRG Berggiesshubel 60.85 314⇑*i*P P 07 58 26.3 0.0
comp=Z,30nm,1.3s
BRG *i* PCP PcP 07 59 15.5 +5.7
comp=Z,15nm,1.1s
BRG *e*PP PP 08 00 37.1 -3.1
comp=Z,6.5nm,1.2s
BRG S S 08 06 36.0 -5.9
comp=N,1μm,22.7s
comp=E,984nm,26.8s
comp=Z,811nm,17.0s
BRG Berggiesshubel 60.85 314⇑*i*P P 07 58 26.3 0.0
BRG *i* 07 59 15.5
BRG *e* 08 00 37.2
BRG S S 08 06 36.0 -5.9
BRG pmax pmax
comp=Z,30nm,1.3s
BRG pmax pmax
comp=Z,15nm,1.1s

BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG MLR MLR
comp=N,1µm,22.7s
BRG MLR MLR
comp=E,984nm,26.8s
BRG MLR MLR
comp=Z,811nm,17.0s
KONO Kongsberg 60.87 325 *e*P **P** **07 58 26.2 -0.2**
KONO *e*S **S** **08 06 42.4 +0.5**
KONO Kongsberg 60.87 325*ce*P **P** **07 58 26.5 +0.2**
KONO pmax pmax
comp=Z,234nm,1.2s
KONO Kongsberg 60.87 325 *e*P **P** **07 58 25.9 -0.5**
comp=Z,49nm,1.3s
ARSA Arzberg 60.91 310 *i* P **P** **07 58 26.4 -0.5**
comp=Z,12nm,1.3s,SNR=7.6
MOL Molde 61.08 328 *e*P **P** **07 58 27.5 -0.2**
CLL Collm 61.29 315 ⇓*i*P **P** **07 58 28.8 -0.5**
comp=Z,36nm,1.4s
CLL *i* 07 58 32.2
comp=Z,37nm,1.4s
CLL *e*S **S** **08 06 46.0 -1.5**
CLL *e*(SS) 08 11 24.0
CLL *e* 08 15 48.0
CLL Lm MLR 08 28 00.0
comp=Z,700nm,18.4s
CLL Collm 61.29 315 ⇓*i*P **P** **07 58 28.8 -0.5**
CLL *e*S **S** **08 06 46.0 -1.5**
CLL pmax pmax
comp=Z,36nm,1.4s
CLL MLR MLR
comp=Z,700nm,18.4s
CLL Collm 61.29 315 *e*P **P** **07 58 28.9 -0.4**
comp=Z,31nm,1.3s
CRES Cresnjev 61.39 308 *i* P **P** **07 58 29.9 -0.2**
SOKA Soboth 61.40 309 *i* P **P** **07 58 29.8 -0.5**
comp=Z,25nm,1.3s,SNR=12
AKN Aaknes 61.43 328 *e*P **P** **07 58 28.2 -1.9**
MOA Molln 61.54 311 *i* P **P** **07 58 31.3 +0.2**
comp=Z,12nm,0.9s,SNR=9.0
KHC Kasperske Hory 61.59 312 *e*P **P** **07 58 31.7 +0.3**
KHC *es*P **sP** **07 58 44.3 +0.1**
KHC *e*S **S** **08 06 53.1 +1.7**
KHC AMS AMS 08 26 20.0
comp=Z,1µm,19.0s
KHC Kasperske Hory 61.59 312 *e*P **P** **07 58 31.7 +0.3**
KHC *e* 07 58 44.3
KHC *e*S **S** **08 06 53.1 +1.7**
KHC MLR MLR
comp=Z,1µm,19.0s
KHC Kasperske Hory 61.59 312 *e*P **P** **07 58 31.8 +0.3**
comp=Z,7.3nm,1.3s
GEC2 GERESS Array S 61.59 312 *e*P **P** **07 58 31.5 -0.1**
GEC2 pmax pmax
comp=Z,19nm,1.1s
GEC2 GERESS Array S 61.59 312 *e*P **P** **07 58 31.5 -0.1**
comp=Z,19nm,1.1s
GERES GERESS Array B 61.59 312 P **P** **07 58 31.0 -0.6**
comp=Z,5.8nm,0.8s,baz=74,slow=5.7,SNR=59
GERES LR LR 08 26 55.1
comp=Z,932nm,20.2s,baz=79,slow=38
GERES GERESS Array B 61.59 312 P **P** **07 58 31.0 -0.6**
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES MLR MLR
comp=Z,932nm,20.2s
GEA0 GERESS Array S 61.60 312 *e*P **P** **07 58 30.8 -0.8**
BOJS Bojanci 61.62 308 *i* P **P** **07 58 31.7 0.0**
OBKA Obir 61.77 309 *i* P **P** **07 58 32.6 -0.2**
comp=Z,16nm,1.3s
HOMB Homborsund 61.79 323 *e*P **P** **07 58 28.8 -3.7**
VISS Visnje 61.80 308 *i* P **P** **07 58 32.5 -0.4**
NKC Novy Kostel 61.95 314 *e*P **P** **07 58 34.3 +0.5**
NKC AMS AMS 08 26 30.0
comp=Z,900nm,18.4s
NKC Novy Kostel 61.95 314 *e*P **P** **07 58 34.3 +0.5**
NKC MLR MLR
comp=Z,900nm,18.4s
MUD Monsted U'grnd 61.97 321 ⇓*i*P **P** **07 58 34.2 +0.4**
MUD Monsted U'grnd 61.97 321 ⇓*i*P **P** **07 58 34.2 +0.4**
HYA Hoyanger 62.08 327 *e*P **P** **07 58 34.3 -0.2**
ODD1 Odda 62.24 325 *e*P **P** **07 58 36.7 +1.1**
JAVS Javornik 62.29 309 *i* P **P** **07 58 35.9 -0.3**
MYKA Terra Mystica 62.33 310 *i* P **P** **07 58 36.2 -0.3**
comp=Z,9.7nm,1.0s
KBA Koelnbreinsper 62.38 310 *i* P **P** **07 58 36.6 -0.3**
comp=Z,8.6nm,1.1s
SNART Snartemo 62.42 323 *e*P **P** **07 58 36.7 -0.1**
SNART IAmb IAmb 07 58 38.3
comp=Z,26nm,0.7s
FOO Floro 62.48 327 *e*P **P** **07 58 36.7 -0.4**
TRI Trieste 62.55 309 *e*P **P** **07 58 37.4 -0.5**
TRI pmax pmax
comp=Z,34nm,0.9s
TRI Trieste 62.55 309 *e*P **P** **07 58 37.4 -0.5**
comp=Z,34nm,0.9s
BER Bergen 62.72 326 *e*P **P** **07 58 37.9 -0.8**
BER IAmb IAmb 07 58 40.2
comp=Z,35nm,1.0s
BER *e*S **S** **08 07 05.0 -0.2**
ASK Askoy 62.75 326 *e*P **P** **07 58 39.1 +0.2**
SUE Sulen 62.78 327 *e*P **P** **07 58 38.6 -0.4**
GRFO Grafenberg 62.87 313 *e*P **P** **07 58 40.6 +0.6**
GRFO pmax pmax
comp=Z,116nm,1.7s
GRFO Grafenberg 62.87 313 *e*P **P** **07 58 40.6 +0.6**
comp=Z,116nm,1.7s
ABTA Abfaltersbach 63.02 310 *i* P **P** **07 58 39.6 -1.5**
comp=Z,11nm,1.1s
KMY Karmoy 63.13 325 *e*P **P** **07 58 41.6 +0.2**
WTTA Wattenberg 63.41 311 *i* P **P** **07 58 43.7 -0.1**
comp=Z,26nm,1.7s,SNR=7.9
WATA Walderalm 63.43 311 *i* P **P** **07 58 43.8 -0.1**
comp=Z,42nm,1.7s,SNR=6.6
WRAB Tennant Creek 63.71 139*ce*P **P** **07 58 45.7 -0.1**
WRAB pmax pmax
comp=Z,124nm,1.1s
WRAB Tennant Creek 63.71 139 *e*P **P** **07 58 45.7 -0.1**
comp=Z,41nm,1.0s
WRA Warramunga Arr 63.71 139 P **P** **07 58 45.4 -0.4**
comp=Z,26nm,1.0s,baz=333,slow=7.3,SNR=79
WRA PKPPKP **P'P'df** **08 27 34.5 -1.8**
comp=Z,3.0nm,1.1s,baz=124,slow=3.2,SNR=5.1
WRA PKP2bc 08 27 45.5
comp=Z,4.9nm,1.1s,baz=133,slow=2.1,SNR=8.7
WRA LR LR 08 29 05.0
comp=Z,124nm,20.6s,baz=310,slow=38
WRA Warramunga Arr 63.71 139 P **P** **07 58 45.4 -0.4**
WRA pmax pmax
comp=Z,24nm,1.0s
WB2 Warramunga Arr 63.71 139 *e*P **P** **07 58 45.7 -0.2**
comp=Z,43nm,1.0s
MOTA Moosalm 63.73 311 *i* P **P** **07 58 45.8 -0.1**
comp=Z,28nm,1.2s,SNR=10
RETA Reutte 63.90 311 *i* P **P** **07 58 46.2 -0.7**
comp=Z,16nm,1.1s,SNR=7.3
AQU L'Aquila 63.95 305 *e*P **P** **07 58 46.8 -0.5**
AQU pmax pmax
comp=Z,129nm,1.8s
AQU L'Aquila 63.95 305 *e*P **P** **07 58 46.8 -0.5**
comp=Z,129nm,1.8s
DAG Danmarks Havn 64.03 347 *i* P **P** **07 58 45.4 -1.8**
DAG Danmarks Havn 64.03 347 *i* P **P** **07 58 45.4 -1.8**
FETA Feichten 64.08 311 *i* P **P** **07 58 47.8 -0.4**
comp=Z,23nm,1.0s,SNR=11
PMG Port Moresby 64.12 121*ce*P **P** **07 58 50.1 +1.4**
PMG pmax pmax
comp=Z,198nm,0.8s
PMG Port Moresby 64.12 121 *e*P **P** **07 58 48.6 -0.1**
comp=Z,68nm,1.0s
JMIC Jan Mayen 64.23 339 *e*P **P** **07 58 46.9 -1.7**
STU Stuttgart 64.43 313 *e*P **P** **07 58 50.3 0.0**
STU Stuttgart 64.43 313 *e*P **P** **07 58 50.2 0.0**
RABL Rabaul 64.50 113 *e*P **P** **07 58 52.7 +1.6**
comp=Z,201nm,1.1s
FUORN Ofenpass-Fuorn 64.52 310 *e*P **P** **07 58 50.9 -0.3**
comp=Z,68nm,1.8s
DAVA Damuels 64.53 311 *i* P **P** **07 58 50.1 -1.0**
comp=Z,9.7nm,0.8s
COEN Coen 64.53 128 *e*P **P** **07 58 51.6 +0.3**
comp=Z,76nm,1.3s
KMBO Kilima Mbogo 64.61 251 P **P** **07 58 52.0 -0.2**
comp=Z,6.7nm,1.0s,baz=42,slow=9.9,SNR=15
KMBO Kilima Mbogo 64.61 251 *e*P **P** **07 58 51.9 -0.3**
KMBO pmax pmax
comp=Z,26nm,1.4s
KMBO Kilima Mbogo 64.61 251 P **P** **07 58 51.9 -0.3**
SNR=8.3
KMBO Kilima Mbogo 64.61 251 P **P** **07 58 51.9 -0.3**
SNR=8.3
KMBO Kilima Mbogo 64.61 251 *e*P **P** **07 58 51.9 -0.3**
comp=Z,26nm,1.4s
BFO Black Forest 65.13 313*ce*P **P** **07 58 54.7 -0.2**
BFO Black Forest 65.13 313 *e*P **P** **07 58 54.4 -0.5**
comp=Z,28nm,1.2s
LANF Langenberg 65.22 314 *e*P **P** **07 58 55.5 +0.1**
VLC Villacollemand 65.34 308 *e*P **P** **07 58 56.2 -0.1**
comp=Z,17nm,1.1s
MEM Membach 65.70 316 P **P** **07 58 58.6 +0.1**
comp=Z,11nm,1.4s
ECH Echery 65.90 313 *e*P **P** **07 58 59.6 -0.2**
WLF Walferdange 65.97 315 P **P** **07 59 01.2 +1.0**
comp=Z,48nm,1.5s
WLF Walferdange 65.97 315 *e*P **P** **07 59 00.6 +0.4**
WLF pmax pmax
comp=Z,73nm,1.2s
WLF Walferdange 65.97 315 *e*P **P** **07 59 00.6 +0.4**
comp=Z,73nm,1.2s
MOF Molkenrain 66.05 313 *e*P **P** **07 59 00.9 0.0**
BCLA Clavier 66.19 316 P **P** **07 59 01.6 +0.1**
comp=Z,17nm,2.2s
AS31 Alice Springs 66.50 142 *e*P **P** **07 59 04.2 +0.3**
comp=Z,7.5nm,1.3s
ASAR Alice Springs 66.50 142 P **P** **07 59 03.9 -0.1**
comp=Z,13nm,1.0s,baz=327,slow=6.2,SNR=66
ASAR PKPPKP **P'P'df** **08 27 30.6 -0.9**
comp=Z,1.0nm,1.0s,baz=132,slow=2.8,SNR=6.0
ASAR PKP2bc 08 27 38.9
comp=Z,2.2nm,0.9s,baz=164,slow=3.3,SNR=14
ASAR LR LR 08 33 16.1
comp=Z,146nm,18.3s,baz=318,slow=41
SENIN Lac Senin/Sane 66.52 311 *e*P **P** **07 59 03.4 -0.7**
comp=Z,15nm,0.9s
AS01 Alice Springs 66.53 142 *e*P **P** **07 59 03.8 -0.2**
DOU Dourbes 66.73 316 P **P** **07 59 05.4 +0.4**
comp=Z,12nm,1.9s
GDM Grand'Maison 67.74 310 *e*P **P** **07 59 11.8 0.0**
GRN Grenoble 67.96 310 *e*P **P** **07 59 13.6 +0.5**
NWAO Narrogin (SRO) 68.02 161 *e*P **P** **07 59 12.8 -0.5**
NWAO pmax pmax
comp=Z,59nm,1.3s
NWAO Narrogin (SRO) 68.02 161 *e*P **P** **07 59 12.8 -0.5**
comp=Z,59nm,1.3s
SCO Scoresbysund 68.33 341 ⇓*i*P **P** **07 59 15.3 +0.5**
SCO pmax pmax
comp=Z,47nm,1.3s
SCO Scoresbysund 68.33 341 ⇓*i*P **P** **07 59 15.3 +0.5**
comp=Z,47nm,1.3s
OG26 St.-Nazaire-De 68.52 310 *e*P **P** **07 59 17.1 +0.5**
SSB Saint Sauveur 68.72 311 *e*P **P** **07 59 17.3 -0.5**
SSB pmax pmax
comp=Z,35nm,1.7s
SSB Saint Sauveur 68.72 311 *e*P **P** **07 59 17.3 -0.5**
comp=Z,36nm,1.7s
ESK Eskdalemuir 68.86 323 *e*P **P** **07 59 18.7 +0.3**
ESK pmax pmax
comp=Z,73nm,1.5s
ESK Eskdalemuir 68.86 323 *e*P **P** **07 59 18.7 +0.3**
comp=Z,73nm,1.5s
COLD Coldfoot 69.00 22 *e*P **P** **07 59 19.6 +0.4**
comp=Z,14nm,1.1s
PLDF La Plantade 69.01 312 *e*P **P** **07 59 20.7 +1.1**
TTA Tatalina 69.23 28 *e*P **P** **07 59 20.2 -0.5**
TTA pmax pmax
comp=Z,45nm,1.4s
TTA Tatalina 69.23 28 *e*P **P** **07 59 20.2 -0.5**
comp=Z,45nm,1.4s
TT01 Tatalina 69.24 28 *e*P **P** **07 59 20.8 +0.2**
AGO Saint Agoulin 69.29 312 *e*P **P** **07 59 22.6 +1.3**
KEST Kesra 69.47 300 P **P** **07 59 21.4 -1.2**
comp=Z,13nm,1.1s,baz=122,slow=1.8,SNR=5.4
KEST Kesra 69.47 300 *e*P **P** **07 59 20.5 -2.2**
comp=Z,32nm,1.3s
PYM Petit Puy Mans 69.49 312 *e*P **P** **07 59 23.5 +0.9**
LBL Lubilhac 69.57 311 *e*P **P** **07 59 24.2 +1.1**
SVW2 Sparrevohn 70.36 29 *e*P **P** **07 59 28.3 +0.7**
comp=Z,24nm,1.0s
BPAW Bear Paw Mtn. 70.50 25 *e*P **P** **07 59 28.5 +0.1**
comp=Z,47nm,1.4s
SUMG Summit 70.71 347 ⇓*i*P **P** **07 59 29.5 -0.5**
SUMG pmax pmax
comp=Z,110nm,1.4s
SUMG Summit 70.71 347 *i* P **P** **07 59 29.2 -0.8**
SUMG Summit 70.71 347 ⇓*i*P **P** **07 59 29.5 -0.5**
comp=Z,109nm,1.4s
SUMG Summit 70.71 347 *e*P **P** **07 59 29.4 -0.5**
comp=Z,91nm,1.3s
PPLA Purkeypile 70.73 27 *e*P **P** **07 59 30.4 +0.4**
comp=Z,226nm,1.7s
KTH Kantishna Hill 70.83 26 *e*P **P** **07 59 31.1 +0.6**
comp=Z,54nm,1.3s
MDM Murphy Dome 70.97 24 *e*P **P** **07 59 31.2 -0.1**
comp=Z,40nm,1.5s
TRF Thorofare Moun 71.13 26 *e*P **P** **07 59 31.9 -0.5**
comp=Z,18nm,1.2s
COLA College 71.16 24 *e*P **P** **07 59 32.2 -0.1**
COLA pmax pmax
comp=Z,31nm,1.1s
COLA College 71.16 24 *e*P **P** **07 59 32.2 -0.1**
comp=Z,31nm,1.1s
FILF Fillols 71.19 309 *e*P **P** **07 59 33.2 +0.1**
CCB Clear Creek Bu 71.31 24 *e*P **P** **07 59 32.5 -0.7**
comp=Z,19nm,1.5s
MCK McKinley 71.45 25 *e*P **P** **07 59 34.1 -0.1**
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 71.45 25 *e*P **P** **07 59 34.1 -0.1**
comp=Z,11nm,1.0s
IL1 Eielson Array 71.55 24 *e*P **P** **07 59 33.0 -1.7**
ILAR Eielson Array 71.55 24 P **P** **07 59 33.6 -1.1**
comp=Z,9.2nm,1.1s,baz=292,slow=5.0,SNR=46
ILAR PP **PP** **08 02 13.9 +0.8**
comp=Z,2.3nm,1.0s,baz=298,slow=8.1,SNR=4.3
ILAR LR LR 08 33 55.3
comp=Z,459nm,18.7s,baz=336,slow=38
ILB Eielson Array 71.55 24 *e*P **P** **07 59 33.9 -0.8**
RND Reindeer 71.68 25 *e*P **P** **07 59 35.3 -0.3**
RND pmax pmax
comp=Z,59nm,1.9s
RND Reindeer 71.68 25 *e*P **P** **07 59 35.3 -0.3**
comp=Z,59nm,1.9s
SPU Mount Spurr 71.75 28 *e*P **P** **07 59 35.6 -0.4**
KULLO Kullorsuaq 71.82 353 ⇓*i*P **P** **07 59 35.7 -0.5**
KULLO pmax pmax
comp=Z,82nm,1.1s
KULLO Kullorsuaq 71.82 353 ⇓*i*P **P** **07 59 35.7 -0.5**
comp=Z,82nm,1.1s
RSO Redoubt South 71.87 29 *e*P **P** **07 59 37.5 +0.5**
SUA Susitna One 72.10 28 *e*P **P** **07 59 37.9 -0.3**
comp=Z,34nm,1.0s
DHY Denali Highway 72.41 25 *e*P **P** **07 59 39.7 -0.5**
comp=Z,20nm,1.2s
PMR Palmer 72.65 27 *e*P **P** **07 59 41.0 -0.4**
PMR pmax pmax
comp=Z,37nm,1.0s
PMR Palmer 72.65 27 *e*P **P** **07 59 41.0 -0.4**
comp=Z,37nm,1.0s
VIEF Viey 72.70 310 *e*P **P** **07 59 42.7 +0.6**
RC01 Rabbit Creek A 72.72 28 *e*P **P** **07 59 41.8 0.0**
comp=Z,28nm,1.0s
SML Sawmill 72.83 27 *e*P **P** **07 59 42.4 -0.1**
SML pmax pmax
comp=Z,15nm,1.0s
SML Sawmill 72.83 27 *e*P **P** **07 59 42.4 -0.1**
comp=Z,15nm,1.0s
CNPM China Poot 73.03 29 *e*P **P** **07 59 43.0 -0.6**
comp=Z,24nm,1.1s
BRLK Bradley Lake 73.03 29 *e*P **P** **07 59 43.1 -0.7**
comp=Z,20nm,0.8s
INK Inuvik 73.09 17 *e*P **P** **07 59 43.2 -0.6**
INK pmax pmax
comp=Z,14nm,1.0s
INK Inuvik 73.09 17 *e*P **P** **07 59 43.2 -0.6**
comp=Z,14nm,1.0s
PAX Paxson 73.16 25 *e*P **P** **07 59 43.3 -1.2**
PAX pmax pmax
comp=Z,13nm,1.2s
PAX Paxson 73.16 25 *e*P **P** **07 59 43.2 -1.2**
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 73.19 26 *e*P **P** **07 59 44.7 0.0**
SCM pmax pmax
comp=Z,89nm,1.5s
SCM Sheep Creek Mo 73.19 26 *e*P **P** **07 59 44.7 0.0**
comp=Z,89nm,1.5s
DOT Dot Lake 73.22 24 *e*P **P** **07 59 44.2 -0.5**
comp=Z,40nm,1.3s
SEW Seward 73.42 28 *e*P **P** **07 59 45.7 -0.2**
comp=Z,99nm,2.0s
KDAK Kodiak Island 73.46 31 *e*P **P** **07 59 45.3 -0.9**
KDAK Kodiak Island 73.46 31 *e*P **P** **07 59 45.3 -0.9**
OHAK Old Harbor 73.46 32 *e*P **P** **07 59 45.9 -0.3**
comp=Z,38nm,1.2s
HNR Honiara 73.79 113 LR LR 08 30 04.5
comp=Z,152nm,21.4s,baz=300,slow=34
DIV Divide 74.22 26 *e*P **P** **07 59 51.2 +0.6**
comp=Z,20nm,1.0s
DAWY Dawson 74.47 22 *e*P **P** **07 59 52.2 +0.1**
comp=Z,20nm,1.3s
EYAK Cordova Ski Ar 74.59 27 *e*P **P** **07 59 53.6 +0.9**
comp=Z,20nm,1.0s
BMRM Bremner River 74.76 26 *e*P **P** **07 59 54.4 +0.6**
comp=Z,42nm,1.1s
BBOO Buckleboo 75.09 146 *e*P **P** **07 59 55.8 -0.1**
comp=Z,32nm,1.1s
CRQM Cirque 75.44 26 *e*P **P** **07 59 58.0 +0.1**
comp=Z,15nm,0.9s
BALM Baldy 75.54 25 *e*P **P** **07 59 58.6 +0.2**
BALM pmax pmax
comp=Z,24nm,1.0s
BALM Baldy 75.54 25 *e*P **P** **07 59 58.6 +0.2**
comp=Z,24nm,1.0s
ILULI Ilulissat 75.83 348 *e*P **P** **07 59 59.2 -0.5**
ILULI Ilulissat 75.83 348 *i* P **P** **07 59 59.2 -0.5**
ES19 SONSECA Array 76.84 309 *e*P **P** **08 00 06.0 -0.1**
ESDC Sonseca Array 76.90 309 P **P** **08 00 06.7 +0.3**
comp=Z,6.0nm,0.9s,baz=49,slow=6.1,SNR=30
ESDC LR LR 08 37 49.8
comp=Z,224nm,18.6s,baz=35,slow=39
ESLA Sonseca Array 76.90 309 *e*P **P** **08 00 06.6 +0.1**
comp=Z,54nm,1.8s
STKA Stephens Creek 77.12 141 P **P** **08 00 07.2 -0.4**
comp=Z,13nm,1.1s,baz=327,slow=4.6,SNR=13
STKA LR LR 08 38 06.9
comp=Z,259nm,18.8s,baz=311,slow=39
PAB San Pablo 77.22 309 *e*P **P** **08 00 07.2 -1.1**
PAB pmax pmax
comp=Z,27nm,1.5s
PAB San Pablo 77.22 309 *e*P **P** **08 00 07.2 -1.1**
comp=Z,26nm,1.5s
HYT Haines Junctio 77.39 24 *e*P **P** **08 00 09.8 +0.9**
PBRG Braganca 77.57 312 *e*P **P** **08 00 10.4 +0.2**
comp=Z,21nm,1.4s
SFJD Kangerlussuaq 77.70 347 ⇓*i*P **P** **08 00 09.5 -0.8**
SFJD Kangerlussuaq 77.70 347 ⇓*i*P **P** **08 00 09.5 -0.8**
SFJD Kangerlussuaq 77.70 347 *e*P **P** **08 00 09.6 -0.8**
comp=Z,110nm,1.1s
EIDS Eidsvold 77.86 131 *e*P **P** **08 00 11.1 -0.7**
comp=Z,67nm,1.4s
MVO Moncorvo 78.10 311 *e*P **P** **08 00 13.7 +0.6**
comp=Z,23nm,1.8s
MVO *e*S **S** **08 10 08.9 +3.5**
MVO Moncorvo 78.10 311 *e*LQ LQ 08 31 07.7
MVO *e*LR LR 08 32 55.1
comp=Z,282nm,18.0s
PCAB Cabril 78.43 312 *e*P **P** **08 00 15.7 +0.8**
comp=Z,37nm,1.7s
PGAV Gavieira, Arco 78.45 312 *e*P **P** **08 00 15.2 +0.1**
PGAV Gavieira, Arco 78.45 312 *e*P **P** **08 00 15.9 +0.8**
comp=Z,42nm,1.3s
PGAV *e*S S 08 10 00.3 -8.9
PGAV Gavieira, Arco 78.45 312 *e*LQ LQ 08 30 59.3
PGAV *e*LR LR 08 33 41.4
comp=Z,263nm,18.0s
POLO Lamas de Olo 78.47 312 *e*P **P** **08 00 16.0 +0.8**
comp=Z,7.2nm,1.4s
PVRL Vila Real 78.47 312 *e*P **P** **08 00 15.9 +0.7**
comp=Z,16nm,1.4s
TAM Tamanrasset 78.49 290 *e*P **P** **08 00 15.2 -0.5**
TAM pmax pmax
comp=Z,6.0nm,1.1s
TAM Tamanrasset 78.49 290 *e*P **P** **08 00 15.2 -0.5**
comp=Z,6.3nm,1.1s
MTE Manteigas 78.84 311 *e*P **P** **08 00 17.4 +0.1**
comp=Z,48nm,1.6s
MTE *e*S **S** **08 10 15.3 +1.9**
MTE Manteigas 78.84 311 *e*LQ LQ 08 32 25.4
MTE *e*LR LR 08 33 38.5
comp=Z,258nm,18.0s
MTE Manteigas 78.84 311 *e*P **P** **08 00 17.9 +0.6**
comp=Z,82nm,1.8s
PVIS Viseu 78.89 311 *e*P **P** **08 00 18.5 +1.0**
comp=Z,32nm,1.8s
PCBR Castelo Branco 79.11 310 *e*P **P** **08 00 19.1 +0.5**
comp=Z,20nm,1.5s
SKAG Skagway 79.13 24 *e*P **P** **08 00 19.0 +0.6**
comp=Z,47nm,1.2s
PMRV Marv??o 79.27 310 *e*P **P** **08 00 19.9 +0.3**
comp=Z,34nm,1.6s
PMRV Marv??o 79.27 310 *e*LR LR 08 33 33.0
comp=Z,261nm,20.0s
PESTR Estremoz 79.71 310 *e*P **P** **08 00 23.0 +1.0**
comp=Z,21nm,1.7s
PBAR Barrancos 79.73 309 *e*P **P** **08 00 20.9 -1.1**
comp=Z,101nm,1.3s
PTOM Tomar 79.83 311 *e*P **P** **08 00 23.6 +1.1**
comp=Z,46nm,1.6s
EVO Evora 80.17 309 *e*P **P** **08 00 25.1 +0.7**
comp=Z,34nm,1.8s
LSZ Lusaka 80.27 245 *e*P **P** **08 00 24.0 -1.3**
LSZ pmax pmax
comp=Z,5.0nm,0.8s
LSZ Lusaka 80.27 245 *e*P **P** **08 00 24.0 -1.3**
comp=Z,5.3nm,0.8s
PBEJ Beja 80.35 309 *e*P **P** **08 00 26.4 +1.0**
comp=Z,33nm,1.7s
PVAQ Vaqueiros 80.60 308 *e*P **P** **08 00 27.0 +0.3**
comp=Z,42nm,1.5s
PVAQ Vaqueiros 80.60 308 *e*LQ LQ 08 33 06.4
PVAQ *e*LR LR 08 34 23.1
comp=Z,358nm,18.0s
MESJ Messejana 80.69 309 *e*P **P** **08 00 28.3 +1.1**
comp=Z,24nm,1.4s
PNCL Nicolau / Gran 80.74 309 *e*P **P** **08 00 28.6 +1.1**
comp=Z,36nm,1.6s
NRS Narsarsuaq 81.60 342 *e*P **P** **08 00 30.9 -0.7**
NRS Narsarsuaq 81.60 342 *i* P **P** **08 00 30.9 -0.7**
DLBC Dease Lake 81.69 22 *e*P **P** **08 00 32.7 +0.4**
comp=Z,32nm,1.4s
DLBC *e*PcP **PcP** **08 00 37.6 -0.4**
DLBC *ep*P **pP** **08 00 40.5 -1.2**
ARMA Armidale 81.76 134 *e*P **P** **08 00 34.2 +1.3**
comp=Z,44nm,1.0s
ARMA *e*PcP **PcP** **08 00 38.2 -0.4**
ARMA *e*PP **PP** **08 03 39.3 -1.2**
YKA Yellowknife Ar 82.28 14 P **P** **08 00 33.9 -1.2**
comp=Z,14nm,1.1s,baz=336,slow=4.5,SNR=16
YKA LR LR 08 42 44.8
comp=Z,18nm,18.0s,baz=0.0,slow=40
WRAK Wrangell Islan 82.48 25 *e*P **P** **08 00 37.4 +1.1**
comp=Z,16nm,1.1s
CAN Canberra 83.75 139 *e*P **P** **08 00 43.7 +0.6**
CAN pmax pmax
comp=Z,63nm,1.6s
CAN Canberra 83.75 139 *e*P **P** **08 00 43.7 +0.6**
comp=Z,63nm,1.6s
DZM Mont Dzumac 86.40 119 *e*LR LR 08 28 22.0
comp=Z,279nm,24.1s
TOA0 Torodi Ar. Sit 86.60 283 *e*P **P** **08 00 57.2 -0.7**
TORD Torodi Ar. Bea 86.60 283 P **P** **08 00 57.2 -0.7**
comp=Z,9.3nm,0.6s,baz=52,slow=4.1,SNR=59
TORD PP **PP** **08 04 18.9 -1.0**
comp=Z,3.9nm,0.9s,baz=59,slow=7.5,SNR=6.2
TORD PKKPbc **PKKPbc** **08 18 52.3 +0.3**
comp=Z,1.0nm,1.0s,baz=296,slow=1.8,SNR=4.6
TORD LR LR 08 44 27.2
comp=Z,245nm,19.2s,baz=60,slow=39
PMOZ Porto Moniz, M 89.56 309 *e*LR LR 08 40 02.2
comp=Z,162nm,20.0s
BOSA Boshof 90.48 236 LR LR 08 41 23.6
comp=Z,119nm,18.2s,baz=49,slow=35
LLLB Lillooet 90.83 23 *e*P **P** **08 01 18.0 +0.7**
EDM Edmonton 90.99 17 *e*P **P** **08 01 18.5 +0.5**
EDM Edmonton 90.99 17 *e*P **P** **08 01 18.5 +0.5**
FFC Flin Flon 91.85 10 *e*P **P** **08 01 21.0 -0.9**
FFC pmax pmax
comp=Z,22nm,1.1s
FFC Flin Flon 91.85 10 *e*P **P** **08 01 21.0 -0.9**
comp=Z,22nm,1.1s

SCHQ	**Schefferville**	**91.86**	**350**	P	**P**	**08 01 21.7**	**-0.3**	
	comp=Z,10nm,0.8s,baz=60,slow=5.1,SNR=5.6							
SCHQ				LR	LR	08 45 53.7		
	comp=Z,244nm,19.3s,baz=338,slow=38							
DBIC	**Dimbokro**	**95.52**	**281**	P	**P**	**08 01 39.1**	**-0.4**	
	comp=Z,4.4nm,0.6s,baz=40,slow=4.2,SNR=7.5							
DBIC				LR	LR	08 49 15.5		
	comp=Z,393nm,18.5s,baz=40,slow=38							
ULM	**Lac du Bonnet**	**97.03**	**8**	LR	LR	08 47 56.5		
	comp=Z,302nm,20.9s,baz=24,slow=37							
PDAR	**Pinedale Array**	**101.61**	**19**	PP	PP	08 06 20.7	+4.8	
	comp=Z,0.7nm,0.7s,baz=298,slow=3.2,SNR=3.9							
JCT	**Junction City**	**115.69**	**15**	*e*PKIKP	**PKPdf**	**08 06 55.6**	**-1.1**	
JCT	**Junction City**	**115.69**	**15**	*e*PKPdf	**PKPdf**	**08 06 55.6**	**-1.1**	
TXAR	**Lajitas Array**	**115.83**	**19**	PKP	**PKPdf**	**08 06 56.9**	**-0.1**	
	comp=Z,0.9nm,0.6s,baz=238,slow=0.3,SNR=15							
TXAR				PKKPbc	**PKKPbc**	**08 17 28.1**	**-0.2**	
	comp=Z,0.9nm,1.0s,baz=167,slow=5.9,SNR=5.1							
TXAR	**Lajitas Array**	**115.83**	**19**	PKIKP	**PKPdf**	**08 06 56.9**	**-0.1**	
TXAR						08 17 28.2		
TXAR	comp=Z,1.0nm,0.6s			pmax	pmax			
TXAR	comp=Z,1.0nm,1.0s			pmax	pmax			
VNDA	**Vanda**	**116.45**	**167**	PKP	**PKPdf**	**08 06 55.5**	**-1.1**	
	comp=Z,2.6nm,1.0s,baz=288,slow=5.2,SNR=9.5							
VNDA				PKKPbc	**PKKPbc**	**08 17 25.1**	**-1.8**	
	comp=Z,1.3nm,1.0s,baz=127,slow=5.1,SNR=4.8							
PPT2	**Papeete2**	**119.62**	**93**	eLR	LR	08 43 28.9		
	comp=Z,383nm,28.5s							
QSPA	**South Pole Qui**	**122.19**	**180**	*e*PKPdf	**PKPdf**	**08 07 06.8**	**-1.1**	
SNAA	**Sanae**	**123.16**	**202**	P	**PKPdf**	**08 07 09.1**	**-0.6**	
TAOE	**Nuku Hiva Isla**	**123.21**	**79**	eLR	LR	08 45 27.7		
	comp=Z,230nm,24.0s							
VNA1	**Neumayer--Stat**	**124.91**	**203**	P	**PKPdf**	**08 07 13.4**	**+0.5**	
RKT	**Rikitea**	**134.35**	**92**	eLR	LR	08 50 19.3		
	comp=Z,220nm,39.5s							
MOTC	**Monteria, Cord**	**138.27**	**348**	*e*P	**PKPdf**	**08 07 38.5**	**-1.4**	
OCAC	**Ocana**	**138.30**	**344**	*e*P	**PKPdf**	**08 07 39.7**	**-0.5**	
GRMC	**Gramalote, San**	**138.68**	**343**	*e*P	**PKPdf**	**08 07 39.1**	**-1.7**	
GIRC	**Giron, Santand**	**139.39**	**343**	*e*P	**PKPdf**	**08 07 38.5**	**-3.6**	
BRRC	**Barranca, Sant**	**139.49**	**344**	*e*P	PKPpre	08 07 33.5		
BTLC	**Betulia, Santa**	**139.56**	**343**	*e*P	PKPpre	08 07 37.4		
BARC	**Barichara**	**139.86**	**343**	*e*P	**PKPdf**	**08 07 43.1**	**0.0**	
RUSC	**La Rusia**	**140.51**	**343**	*e*P	PKPpre	08 07 36.9		
HELC	**Santa Helena**	**140.77**	**347**	*e*P	PKPpre	08 07 36.9		
NORC	**Norcasia**	**141.24**	**345**	*e*P	PKPpre	08 07 38.5		
GUYC	**Guyana, Colomb**	**141.68**	**346**	*e*P	PKPpre	08 07 41.4		
VILC	**Villavicencio,**	**142.37**	**343**	*e*P	PKPpre	08 07 42.0		
PRAC	**Prado**	**143.04**	**345**	*e*P	PKPab	08 07 42.5	-1.3	
SJAC	**San Juan de Ar**	**143.24**	**343**	*e*P	PKPab	08 07 44.8	0.0	
CRUC	**La Cruz**	**145.54**	**347**	*e*P	**PKPab**	**08 07 53.8**	**+0.2**	
CMBC	**Cumbal**	**146.31**	**349**	*e*P	**PKPdf**	**08 07 55.0**	**+0.2**	
OTAV	**Otavalo**	**147.10**	**350**	*e*P	**PKPdf**	**08 07 56.7**	**+0.6**	
OTAV	**Otavalo**	**147.10**	**350**	*e*PKPdf	**PKPdf**	**08 07 56.8**	**+0.7**	
SAML	**Samuel**	**149.70**	**316**	*e*PKPdf	**PKPdf**	**08 07 59.1**	**-0.6**	
SAML				*e*PKPbc	**PKPbc**	**08 08 03.7**	**-0.7**	
SAML				*e*PKPab	**PKPab**	**08 08 07.9**	**-1.7**	
CPUP	**Villa Florida**	**155.98**	**278**	PKP	**PKPdf**	**08 08 07.4**	**-1.1**	
	comp=Z,5.5nm,1.1s,baz=62,slow=7.7,SNR=5.1							
LPAZ	**La Paz**	**158.42**	**314**	PKP	**PKPdf**	**08 08 11.4**	**-1.3**	
	comp=Z,6.0nm,1.2s,baz=44,slow=4.3,SNR=12							

CSEM ***26*** *07:49:46.3±0.5, 67.16N×20.72E, h2km, ML1.9, Error ellipse: s-maj=9.4km s-min=5.8km az=72.0, Suspected Mining explosion.*
NAO ***26*** *07:49:46.8±1.2, 67.15N×21.08E, ML1.8*
ISCJB ***26*** *07:49:47.4±1.2, 67.23N±0.04×21.0E±0.2, h0km, Error ellipse: s-maj=9.4km s-min=5.0km az=154.3*
HEL ***26*** *07:49:47.1±0.3, 67.19N×20.61E, h0km, ML1.9, Suspected explosion*

ISC 26 07:49:45.9±1.0, **67.16N**±0.03×**20.64E**±0.06, **h0km**, **n22**, σ**0s99**/35, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**1.04**	**29**	*e*P	**Pg**	**07 50 05.8**	**+0.1**
LANU				*e*S	**Sg**	**07 50 17.9**	**-1.3**
LANU	**Lannavaara**	**1.04**	**29**	P	**Pg**	**07 50 05.8**	**+0.1**
LANU				S	**Sg**	**07 50 17.8**	**-1.3**
HEF	**Hetta**	**1.70**	**41**	*e*P	**Pn**	**07 50 16.5**	**-0.3**
HEF				*e*S	**Sn**	**07 50 38.9**	**-0.4**
HEF	**Hetta**	**1.70**	**41**	P	**Pn**	**07 50 16.5**	**-0.3**
HEF				S	**Sn**	**07 50 38.9**	**-0.4**
TOF	**Tornio**	**1.83**	**125**	*e*P	**Pn**	**07 50 19.5**	**+1.1**
TOF				*e*S	**Sb**	**07 50 43.8**	**+0.3**
TOF	**Tornio**	**1.83**	**125**	P	**Pn**	**07 50 19.5**	**+1.1**
TOF				S	**Sb**	**07 50 43.7**	**+0.3**
KIF	**Kilpisjarvi**	**1.86**	**2**	Pn	**Pn**	**07 50 20.1**	**+1.2**
KIF				Lg	Lg	07 50 46.1	
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*PG	**Pb**	**07 50 20.7**	**0.0**
KIF				*e*S	**Sg**	**07 50 45.6**	**+0.1**
KIF				MSG		07 50 49.1	
	comp=Z,7.7nm,0.3s						
KIF	**Kilpisjarvi**	**1.86**	**2**	Pn	**Pn**	**07 50 20.1**	**+1.2**
KIF	**Kilpisjarvi**	**1.86**	**2**	Pg	**Pb**	**07 50 20.6**	**0.0**
KIF				S	**Sg**	**07 50 45.6**	**+0.1**
KIF				Lg	Lg	07 50 46.1	
RNF	**Rovaniemi**	**2.19**	**102**	*e*PB	**Pn**	**07 50 25.6**	**+2.1**
RNF				*e*SB	**Sb**	**07 50 53.7**	**-0.3**
RNF	**Rovaniemi**	**2.19**	**102**	Pb	**Pn**	**07 50 25.6**	**+2.1**
RNF				Sb	**Sb**	**07 50 53.7**	**-0.3**
SGF	**Sodankyl**	**2.30**	**80**	*e*PG	**Pg**	**07 50 29.7**	**-0.3**
SGF				*e*SG	**Sb**	**07 50 58.6**	**+1.3**
SGF	**Sodankyl**	**2.30**	**80**	Pg	**Pg**	**07 50 29.6**	**-0.3**
SGF				Sg	**Sb**	**07 50 58.5**	**+1.3**
ARA0	**ARCESS Array S**	**3.00**	**35**	Pn	**Pn**	**07 50 35.2**	**+0.7**
	baz=211,slow=14						
ARA0				Sn	**Sn**	**07 51 10.1**	**-1.0**
	baz=216,slow=22						
ARA0	**ARCESS Array S**	**3.00**	**35**	Pn	**Pn**	**07 50 35.2**	**+0.7**
	SNR=7.8						
ARA0				Sn	**Sn**	**07 51 10.1**	**-1.0**
	SNR=5.9						
ARE0	**ARCESS Array S**	**3.00**	**35**	*e*SG	**Sb**	**07 51 17.8**	**+0.7**
ARE0				MSG		07 51 18.5	
	comp=Z,2.6nm,0.3s						
FIA0	**FINESS Array S**	**6.20**	**155**	Sn	**Sn**	**07 52 28.6**	**-1.4**
	baz=350,slow=16						
FIA0				Lg	Lg	07 52 58.5	
	baz=342,slow=37						
FIA0	**FINESS Array S**	**6.20**	**155**	Sn	**Sn**	**07 52 28.6**	**-1.4**
NB2	**NORSAR Subarra**	**7.39**	**218**	Lg	Lg	07 53 38.9	
	baz=29,slow=37						
HFS	**Hagfors**	**7.69**	**207**	Sn	**Sn**	**07 53 05.7**	**-0.9**
	baz=28,slow=22						
HFS				Lg	Lg	07 53 50.7	
	baz=32,slow=28						
HFS	**Hagfors**	**7.69**	**207**	Sn	**Sn**	**07 53 05.7**	**-0.9**
	SNR=5.7						

BJI 26 07:52:39.9, 32.41N×95.84E, h10km, ML3.5/1, Ms3.5/1, Ms7 3.3/1, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**6.91**	**100**	Pn	Pn	07 54 22.3	+0.9
CD2				Sn	Sn	07 55 36.3	-3.8
CD2				Sg	Sg	07 56 16.3	-5.6
LZH	**Lanzhou**	**7.57**	**59**	*e*Pn	Pn	07 54 32.5	+2.0
LZH				LN			
	180nm,10.0s						
LZH				LE			
	200nm,9.2s						
LZH				LZ			
	240nm,11.7s						
WMQ	**Urumqi**	**13.06**	**333**	P	Pn	07 55 49.0	+3.4

IDC ***26*** *08:02:19.0±13.0, 38.94N×143.05E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/39, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=287.8km s-min=61.2km az=180.0*
JMA ***26*** *08:02:24.6±0.2, 38.28N×142.83E, h25km±3km, M3.5*

ISC 26 08:02:15.0±4.9, **38.01N**±0.10×**143.3E**±0.2, **h32km**±19km, **n13**, σ**1s74**/18, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.61**	**287**	P	**Pb**	**08 02 45.5**	**+1.4**
JIO				*e*S	**Sn**	**08 03 00.8**	**-0.1**
OFUJ	**Ofunato**	**1.68**	**310**	P	**Pb**	**08 02 45.9**	**+0.7**
OFUJ				S	**Sn**	**08 03 01.4**	**-1.2**
JMK	**Ichinoseki**	**1.90**	**300**	P	**Pb**	**08 02 49.3**	**+0.4**
JMK				*e*S	**Sn**	**08 03 07.4**	**-0.5**
JMM	**Marumori**	**2.00**	**267**	P	**Pb**	**08 02 52.3**	**+1.6**
JMM				*e*S	**Sn**	**08 03 12.2**	**+1.7**
JFK	**Kawauchi**	**2.04**	**252**	P	**Pb**	**08 02 54.0**	**+2.6**
JOU	**Okura**	**2.12**	**280**	P	**Pb**	**08 02 54.1**	**+1.4**
JOM	**Ohasama**	**2.15**	**313**	P	**Pb**	**08 02 53.9**	**+0.6**
JFT	**Otama**	**2.41**	**259**	P	**Pb**	**08 02 59.9**	**+2.2**
JFT				*e*S	**Sb**	**08 03 26.0**	**-1.0**
JYK	**Kaneyama**	**2.49**	**292**	P	**Pb**	**08 02 59.6**	**+0.5**
JYK				*e*S	**Sn**	**08 03 24.8**	**+2.1**
MJAR	**Matsushiro Arr**	**4.33**	**252**	Pn	**Pb**	**08 03 28.6**	**-1.7**
	1.3nm,0.3s,baz=52,slow=11,SNR=12						
MAT	**Matsushiro**	**4.33**	**252**	P	**Pb**	**08 03 28.6**	**-1.7**
MAT				*e*S	**Sb**	**08 04 19.5**	**-2.6**
WRA	**Warramunga Arr**	**58.26**	**190**	P	P	08 12 19.7	+13
	0.7nm,0.8s,baz=7.7,slow=7.0,SNR=7.2						
ASAR	**Alice Springs**	**61.98**	**190**	P	P	08 12 48.3	+16
	0.4nm,0.9s,baz=13,slow=8.6,SNR=2.8						

IDC 26 08:26:34.7±48.0, **16.52S×175.74W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/22, mbtmp3.7/3, Error ellipse: s-maj=906.3km s-min=161.5km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.53**	**240**	P	P	08 34 24.2	+0.2
	1.2nm,0.9s,baz=107,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**47.40**	**258**	P	P	08 35 11.0	-0.2
	0.1nm,0.3s,baz=93,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**47.63**	**253**	P	P	08 35 12.6	-0.4
	1.4nm,0.5s,baz=89,slow=8.3,SNR=38						

MEX 26 08:35:19.0±1.7, **14.11N×93.28W, h17km**±999km, **MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.58**	**2**	*e*P	Pn	08 35 41.4	-4.8
CCIG	**Comitan**	**2.42**	**27**	*e*P	Pn	08 35 56.9	-1.1
CCIG				*e*S	Sn	08 36 22.8	-4.5

NIED ***26*** *08:41:00, 36.70N×142.40E, h20km, Mw3.7 Best double couple: M0=4.03000×10^14 NP1:φ=200.00000°, δ=30.00000°, λ=94.00000°. NP2:φ=16.00000°, δ=60.00000°, λ=88.00000°.*
IDC ***26*** *08:41:21.0±1.8, 36.68N×142.66E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.5/34, mbtmp3.8/7, ML3.7/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/44, Error ellipse: s-maj=37.2km s-min=23.5km az=81.0*
ISCJB ***26*** *08:41:21.7±1.0, 36.66N±0.05×142.57E±0.10, h15km, mb3.6/4, Error ellipse: s-maj=11.2km s-min=7.6km az=7.4*
JMA ***26*** *08:41:22.8±0.3, 36.67N×142.42E, h17km, M3.8*

ISC 26 08:41:23.5±1.3, **36.64N**±0.06×**142.46E**±0.09, **h15km**, **n23**, σ**1s62/24**, **mb3.6/4**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.41**	**289**	P	**Pn**	**08 41 46.8**	**-1.9**
JFK	**Kawauchi**	**1.46**	**300**	P	**Pn**	**08 41 48.0**	**-1.4**
JHO	**Hitachi**	**1.52**	**269**	P	**Pn**	**08 41 49.3**	**-0.9**
JMM	**Marumori**	**1.81**	**313**	P	**Pn**	**08 41 53.0**	**-1.1**
JFT	**Otama**	**1.91**	**298**	*e*S	**Sn**	**08 42 18.8**	**-0.6**
JIO	**Ouri**	**2.01**	**334**	P	**Pn**	**08 41 56.6**	**-0.3**
JIO				*e*S	**Sn**	**08 42 20.7**	**-1.1**
JOU	**Okura**	**2.24**	**321**	P	**Pn**	**08 42 00.8**	**+0.8**
JAG	**Ashikaga**	**2.43**	**266**	P	**Pn**	**08 42 02.8**	**+0.1**
JMK	**Ichinoseki**	**2.51**	**337**	P	**Pn**	**08 42 04.0**	**+0.3**
JYK	**Kaneyama**	**2.82**	**324**	P	**Pn**	**08 42 07.9**	**-0.1**
JRY	**Ryogami san**	**2.94**	**259**	P	**Pn**	**08 42 09.7**	**-0.1**
JOM	**Ohasama**	**2.97**	**342**	P	**Pn**	**08 42 10.1**	**0.0**
MJAR	**Matsushiro Arr**	**3.42**	**270**	Pn	**Pn**	**08 42 17.4**	**+1.1**
	7.0nm,0.3s,baz=94,slow=12,SNR=72						
MJAR				Sn	**Sb**	**08 43 02.8**	**-2.6**
	2.3nm,0.3s,baz=95,slow=17,SNR=4.9						
MAT	**Matsushiro**	**3.43**	**270**	P	**Pn**	**08 42 17.5**	**+1.1**
MAT				S	**Sn**	**08 43 01.8**	**+5.0**
JHJ	**Hachijo jima 2**	**4.15**	**213**	Pn	**Pn**	**08 42 27.1**	**+0.8**
	14nm,0.3s,baz=243,slow=16,SNR=5.2						
JHJ				Sn	**Sn**	**08 43 11.8**	**-2.8**
	22nm,0.3s,baz=76,slow=22,SNR=6.8						
JHJ				LR	LR	08 44 00.2	
	comp=Z,68nm,19.6s,baz=121,slow=37						
ASAJ	**Asahikawa**	**7.47**	**1**	Pn	**Pn**	**08 43 11.6**	**-0.3**
	1.3nm,0.3s,baz=210,slow=14,SNR=12						
H11N2	**WAKE ISLAND Hy**	**27.23**	**122**	T	T	09 15 50.6	
	baz=313,slow=75,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**27.23**	**122**	T	T	09 15 50.6	
	baz=313,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**27.24**	**122**	T	T	09 15 50.6	
	baz=313,slow=75,SNR=7.1						
SONM	**Songino Array**	**28.70**	**304**	P	**P**	**08 47 21.3**	**+1.2**
	1.3nm,0.7s,baz=101,slow=8.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**42.80**	**313**	P	**P**	**08 49 20.7**	**+0.3**
	0.4nm,0.4s,baz=71,slow=9.8,SNR=2.6						
MKAR	**Makanchi Array**	**45.04**	**303**	P	**P**	**08 49 37.9**	**-0.7**
	0.5nm,0.6s,baz=82,slow=9.9,SNR=3.8						
WRA	**Warramunga Arr**	**56.80**	**189**	P	**P**	**08 51 07.6**	**+0.4**
	0.5nm,0.9s,baz=8.3,slow=6.9,SNR=3.0						

ISCJB ***26*** *08:56:30.0±0.5, 33.12N±0.02×115.68W±0.02, h8km±4km, Error ellipse: s-maj=3.3km s-min=3.2km az=151.7*
NEIC ***26*** *08:56:30.2, 33.17N×115.65W, h1km, ML3.1(PAS), After PAS.*
MEX ***26*** *08:56:36.5±0.5, 32.80N×115.75W, h16km±999km, MD4.0*
ECX ***26*** *08:56:41.8±0.6, 32.25N×115.54W, h6km, MD2.4, ML2.6*

ISC 26 08:56:30.0±0.9, **33.13N**±0.02×**115.69W**±0.02, **h14km**±9km, **n40**, σ**1s85/60**, **1C-1D, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.20**	**207**	P	**Pg**	**08 56 35.4**	**+0.8**
	baz=29,SNR=216						
SWSC				S	**Sg**	**08 56 37.6**	**0.0**
	baz=29						
BC3	**Big Chuckawall**	**0.56**	**21**	P	**Pg**	**08 56 40.2**	**-0.9**
	baz=199,SNR=210						
BC3				S	**Sg**	**08 56 47.5**	**-1.1**
	baz=199						
IKP	**In-Ko-Pah, Jac**	**0.59**	**217**	P	**Pg**	**08 56 42.3**	**+0.6**
	baz=36,SNR=72						
IKP				S	**Sg**	**08 56 51.4**	**+1.9**
	baz=36						
MONP2	**Monument Peak**	**0.66**	**249**	P	**Pg**	**08 56 43.4**	**+0.5**
	baz=66,SNR=72						
MONP2				S	**Sg**	**08 56 53.6**	**+1.9**
	baz=66						
GLA	**Glamis**	**0.73**	**96**	P	**Pg**	**08 56 43.4**	**-0.7**
	baz=280,SNR=44						
GLA				S	**Sb**	**08 56 54.1**	**-0.3**
	baz=280						
CPBX	**Cerro Prieto**	**0.78**	**155**	*e*P	**Pb**	**08 56 46.8**	**+1.5**
CPBX				*e*S	**Sg**	**08 56 50.4**	**-4.9**
CPBX				⇑*e*		08 56 52.4	
CPBX				IAML		08 56 52.4	
	comp=N,2μm,0.1s						
CPBX				⇓*e*		08 56 53.5	
CPBX				IAML		08 56 53.5	
	comp=E,4μm,0.3s						
CPBX	**Cerro Prieto**	**0.78**	**155**	*e*P	**Pg**	**08 56 45.9**	**+0.8**
TPFO	**Pinon Flats**	**0.80**	**307**	P	**Pg**	**08 56 44.8**	**-0.7**
	baz=123,SNR=29						
TPFO				S	**Sg**	**08 56 55.8**	**-0.2**
	baz=123						
PFO	**Pinyon Flats O**	**0.80**	**307**	P	**Pg**	**08 56 45.1**	**-0.5**
	baz=123						
PFO				S	**Sg**	**08 56 56.0**	**-0.2**
	baz=123						
PFO	**Pinyon Flats O**	**0.80**	**307**	*e*Pg	**Pg**	**08 56 44.6**	**-1.0**
MBIG	**Mexicali**	**0.83**	**150**	*e*P	**Pg**	**08 56 46.4**	**+0.3**
MBIG				*e*S	**Sg**	**08 56 54.7**	**-2.2**
BELC	**Belle Mtn. Jos**	**0.91**	**344**	P	**Pg**	**08 56 46.7**	**-0.8**
	baz=161,SNR=32						
BELC				S	**Sg**	**08 56 59.4**	**-0.1**
	baz=161						
TJIG	**Tijuana**	**1.08**	**230**	*e*P	**Pg**	**08 56 50.0**	**-0.9**
TJIG				*e*S	**Sg**	**08 57 00.6**	**-4.4**
IRM	**Iron Mountain**	**1.12**	**24**	P	**Pb**	**08 56 51.4**	**+0.1**
	baz=203,SNR=233						
IRM				S	**Sb**	**08 57 06.1**	**+0.4**
	baz=203						
Y12C	**Blythe**	**1.16**	**57**	P	**Pg**	**08 56 51.7**	**-0.6**
	baz=239,SNR=153						
Y12C				S	**Sb**	**08 57 07.1**	**+0.5**
	baz=239						
CBX	**Cerro Bola**	**1.16**	**226**	*e*P	**Pg**	**08 56 51.4**	**-0.9**
CBX				*e*S	**Sg**	**08 57 01.8**	**-5.5**
CBX	**Cerro Bola**	**1.16**	**226**	*e*P	**Pg**	**08 56 51.4**	**-0.9**
CBX				*e*S	**Sg**	**08 57 01.8**	**-5.5**
109C	**Camp Elliot, M**	**1.21**	**259**	P	**Pg**	**08 56 52.0**	**-1.4**
	baz=76,SNR=28						
109C				S	**Sg**	**08 57 09.3**	**+0.2**
	baz=76						
MURC	**Murrieta**	**1.34**	**291**	P	**Pg**	**08 56 55.3**	**-0.6**
	baz=108,SNR=60						
MURC				S	**Sg**	**08 57 13.7**	**+0.4**
	baz=108						
BBRC	**Big Bear Solar**	**1.53**	**318**	P	**Pn**	**08 56 57.3**	**+0.2**
	baz=136,SNR=6.3						
GMRC	**Granite Mounta**	**1.65**	**1**	P	**Pb**	**08 57 00.7**	**+0.3**
	baz=180,SNR=86						
GMRC				S	**Sg**	**08 57 22.4**	**-0.8**
	baz=180						
ECNX	**Esteban Cantu**	**1.66**	**208**	*e*P	**Pn**	**08 57 00.2**	**+1.5**
ZAX	**El Zacaton**	**1.69**	**197**	*e*P	**Pn**	**08 56 58.9**	**-0.3**
ZAX				*e*		08 57 19.1	
ZAX				IAML		08 57 19.1	
	comp=N,144nm,0.4s						
ECBX	**El Chinero**	**1.74**	**162**	*e*P	Pn	08 56 54.9	-4.9
ECBX				*e*S	Sn	08 57 06.5	-15
PDMCI	**Parker Dam,Lak**	**1.74**	**47**	Pb	**Pg**	**08 57 02.6**	**-0.9**
	baz=228,SNR=43						
HEC	**Hector,Ludlow**	**1.78**	**343**	Pb	**Pg**	**08 57 03.7**	**-0.4**
	baz=161,SNR=20						
NEE2	**Needles Airpor**	**1.86**	**28**	Pb	**Pb**	**08 57 04.2**	**+0.4**
	baz=208,SNR=31						
BFSC	**Mount Baldy Ra**	**1.98**	**305**	Pb	**Pb**	**08 57 07.1**	**+1.2**
	baz=122						
SPIG	**San Pedro Mart**	**2.09**	**175**	*e*P	**Pn**	**08 57 02.6**	**-2.3**
SPX	**San Pedro Mart**	**2.09**	**175**	*e*P	**Pn**	**08 57 02.6**	**-2.3**
TUQ	**Turquoise Moun**	**2.31**	**355**	Pb	**Pg**	**08 57 13.4**	**-0.9**
	baz=174,SNR=7.7						
PASC	**Pasadena Art C**	**2.33**	**297**	Pn	**Pn**	**08 57 09.1**	**+1.1**
PASC				*e*Sn	**Sb**	**08 57 42.5**	**+2.1**
GSC	**Goldstone, Bar**	**2.36**	**337**	Pb	**Pb**	**08 57 13.4**	**+1.1**
	baz=156,SNR=19						
214A	**Organ Pipe Nat**	**2.70**	**115**	Pb	**Pb**	**08 57 19.0**	**+0.9**
	baz=298						
214A	**Organ Pipe Nat**	**2.70**	**115**	*e*Pn	**Pn**	**08 57 14.2**	**+1.2**
214A				*e*Sg	**Sg**	**08 58 00.6**	**+3.9**
DAC	**Darwin (Calif)**	**3.51**	**334**	*e*Pn	**Pn**	**08 57 23.8**	**-0.6**
TUC	**Tucson**	**4.21**	**100**	*e*Pn	**Pn**	**08 57 35.4**	**+1.4**
TUC				*e*Sg	**Sg**	**08 58 44.8**	**-0.6**
WUAZ	**Wupatki**	**4.29**	**55**	Pn	**Pb**	**08 57 47.6**	**+2.2**
R11A	**Troy Canyon, C**	**5.21**	**1**	*e*Pg	**Pg**	**08 58 08.4**	**-1.3**
	comp=N,3.3nm,0.7s						
PV04	**Paradox Valley**	**7.61**	**44**	Pn	Pn	08 58 15.6	-5.1
PV04				*e*Sg	**Sg**	**09 00 31.2**	**-3.1**

IDC 26 08:59:47.6±2.7, **13.14N×144.23E, h155km**±20km, **mb3.2/4, mb1 3.5/4, mb1mx3.1/32, mbtmp3.6/4, Error ellipse: s-maj=168.9km s-min=17.1km az=111.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.76**	**54**	P	Pn	09 00 12.0	+1.0
	44nm,0.3s,baz=356,slow=2.7,SNR=50						
GUMO				S	Sn	09 00 29.5	+0.5
	60nm,0.3s,baz=20,slow=22,SNR=7.7						
WRA	**Warramunga Arr**	**34.29**	**197**	P	P	09 06 19.4	+0.1
	1.3nm,0.7s,baz=18,slow=9.3,SNR=19						
ASAR	**Alice Springs**	**37.95**	**196**	P	P	09 06 49.6	-0.7
	0.2nm,0.5s,baz=20,slow=12,SNR=9.0						
ILAR	**Eielson Array**	**69.23**	**25**	P	P	09 10 36.3	-1.1
	0.2nm,0.5s,baz=260,slow=6.6,SNR=3.7						
YKA	**Yellowknife Ar**	**83.54**	**27**	P	P	09 11 59.3	+1.3
	0.4nm,0.4s,baz=292,slow=5.2,SNR=3.2						

NSSC 26 09:00:09.4±1.4, **35.00N×36.70E, h10km**±5km, **ML1.8, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFRA	**Kufra**	**0.23**	**20**	*e*P	Pg	09 00 13.5	-0.7
KFRA				*e*S	Sg	09 00 17.9	+0.6
KFRA				AML	AML	09 00 21.1	
	comp=E,881nm,0.3s						
KFRA				AML	AML	09 00 28.2	
	comp=N,1μm,0.6s						
BIDA	**Albida**	**0.31**	**273**	*e*P	Pg	09 00 15.5	-0.2
BIDA				*e*S	Sg	09 00 20.7	+0.8
BIDA				AML	AML	09 00 22.1	
	comp=E,246nm,0.3s						
BIDA				AML	AML	09 00 22.5	
	comp=N,309nm,0.4s						
BIDA	**Albida**	**0.31**	**273**	*e*P	Pg	09 00 15.6	-0.2
BIDA				*e*S	Sg	09 00 20.7	+0

ZALF				AML	AML	09 01 17.2
	comp=N,9.7nm,0.5s					
ZALF				AML	AML	09 01 19.1
	comp=E,5.1nm,0.6s					
ZALF	**Zalf**	**2.14**	**166**	*e*P	Pn	09 00 46.5 +1.3
ZALF				*e*S	Sn	09 01 10.8 -1.1
ZALF				AML	AML	09 01 17.2
	comp=N,9.7nm,0.5s					
ZALF				AML	AML	09 01 19.1
	comp=E,5.1nm,0.6s					
SALA	**Sala**	**2.28**	**179**	*e*P	Pn	09 00 47.8 +0.5
SALA				*e*S	Sn	09 01 15.0 -0.7
SALA				AML	AML	09 01 19.9
	comp=E,0.9nm,0.3s					
SALA				AML	AML	09 01 24.1
	comp=N,5.5nm,0.3s					

BJI ***26*** *09:19:43.7, 18˚.75N×146˚.65E, h99km, mb5.1/62, mB5.2/48*
ISCJB ***26*** *09:19:45.8±0.5, 18˚.90N±0˚.02×146˚.29E±0˚.02, h92km±4km, mb5.5/371, Error ellipse: s-maj=3.1km s-min=2.7km az=174.1*
MOS ***26*** *09:19:46.5±0.9, 18˚.91N×146˚.19E, h100km, mb5.6/85, MS4.6/22, Error ellipse: s-maj=6.9km s-min=4.1km az=101.9*
IDC ***26*** *09:19:47.6±0.5, 18˚.86N×146˚.25E, h98km±3km, mb5.0/46, mb1 5.1/50, mb1mx5.0/59, mbtmp5.4/50, MS4.4/37, Ms1 4.4/37, ms1mx4.3/44, Error ellipse: s-maj=11.8km s-min=6.7km az=91.0*
GCMT ***26*** *09:19:48.1±0.1, 18˚.91N×146˚.49E, h77km±1km, MW5.5/133, Moment Tensor Solution. s120,c221; s133,c295; Duration: 1ˢ4 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.08±.03; Mθθ 1.99±.03; Mϕϕ-0.91±.03; Mrθ-1.60±.02; Mθϕ 0.26±.03; Mϕr 1.09±.02; Best double couple: M₀2.60200×10¹⁷ NP1:ϕs117.00000°, δ75.00000°, λ-59.00000°. NP2:ϕs230.00000°, δ34.00000°, λ-153.00000°. Principal axes: T 2.6830, Plg24.0000°, Azm184.0000°; N -0.1640, Plg30.0000°, Azm288.0000°; P -2.5210, Plg50.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***26*** *09:19:48.1±0.5, 18˚.86N×146˚.28E, h99km±4km, mb5.6/279, MW5.5 Error ellipse: s-maj=2.6km s-min=2.3km az=110.0, Moment Tensor Solution. s31 Moment tensor: Scale 10¹⁷Nm; Mrr-1.49; Mθθ 1.92; Mϕϕ-0.43; Mrθ-1.16; Mθϕ 0.05; Mϕr 1.04; Best double couple: M₀2.30000×10¹⁷ NP1: ϕs243.00000°, δ34.00000°, λ-137.00000°. NP2: ϕs116.00000°, δ68.00000°, λ-64.00000°. Principal axes: T 2.3000, Plg18.0000°, Azm186.0000°; N 0.0700, Plg24.0000°, Azm285.0000°; P -2.3700, Plg59.0000°, Azm63.0000°;*

ISC 26 09:19:47.5±0.2, 18˚.93N±0˚.03×146˚.28E±0˚.03, h97km±1km, h96km:pP-P, n1146, σ1ˢ39/1262, mb5.6/380, 22C-30D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.27**	**192**	*e*Pn		**Pn**	**09 20 23.4**	**-0.2**
ANA2	**Anatahan**	**2.63**	**192**	*e*Pn		**Pn**	**09 20 28.4**	**+0.1**
GUMO	**Guam**	**5.48**	**195**	P		**Pn**	**09 21 07.3**	**+0.5**
	846nm,0.3s,baz=105,slow=1.4,SNR=321							
GUMO				S		**Sn**	**09 22 08.5**	**0.0**
	236nm,0.3s,baz=343,slow=19,SNR=3.5							
GUMO	**Guam**	**5.48**	**195**	*e*Pn		**Pn**	**09 21 07.7**	**+0.9**
GUMO				*e*Sn		**Sn**	**09 22 10.8**	**+2.2**
JCJ	**Chichijima**	**8.96**	**336**	S		**Sn**	**09 23 28.1**	**-5.2**
	12nm,0.3s,baz=180,slow=24,SNR=11							
CBIJ	**Chichi jima**	**8.96**	**336**	*e*Pn		**Pn**	**09 21 53.2**	**-0.9**
CBIJ				*e*Sn		**Sn**	**09 23 30.9**	**-2.3**
JHJ2	**Mitsune**	**15.27**	**339**	*e*Pn		**P**	**09 23 19.9**	**-0.5**
	451nm,0.8s							
JHJ2				*e*Sn		**Sn**	**09 26 05.8**	**-0.5**
JHJ	**Hachijo jima 2**	**15.28**	**339**	P		**P**	**09 23 19.7**	**-0.9**
	30nm,0.3s,baz=187,slow=12,SNR=8.1							
JHJ				S		**Sn**	**09 26 04.2**	**-2.5**
	18nm,0.3s,baz=291,slow=18,SNR=4.3							
PATS	**Pohnpei**	**16.78**	**134**	*e*Pn		**Pn**	**09 23 35.2**	**-1.5**
	214nm,0.6s							
PATS				*e*Sn		Sn	09 26 27.9	-15
INU	**Inuyama**	**18.30**	**335**	*e*P		**Pn**	**09 23 55.1**	**+0.1**
	181nm,0.6s							
JOW	**Kunigami**	**18.35**	**299**	*e*P		**Pn**	**09 23 57.0**	**+1.4**
	114nm,0.9s							
MJAR	**Matsushiro Arr**	**18.93**	**340**	P		**P**	**09 24 01.0**	**+0.1**
	12nm,0.3s,baz=162,slow=10,SNR=157							
MJAR				S		**S**	**09 27 27.1**	**-3.7**
	1.0nm,0.3s,baz=148,slow=7.4,SNR=4.0							
MJAR				LR		LR	09 31 13.0	
	comp=Z,839nm,21.1s,baz=165,slow=36							
MJAR				ScP		**ScP**	**09 31 46.9**	**-3.1**
	0.3nm,0.3s,baz=164,slow=4.6,SNR=7.1							
MAJO	**Matsushiro**	**18.93**	**340**	*d*	*i*P	**Pn**	**09 24 02.0**	**-0.5**
MAJO	**Matsushiro**	**18.93**	**340**	*e*P		**Pn**	**09 24 01.7**	**-0.8**
	205nm,1.1s							
MAJO				*e*S		**Sn**	**09 27 34.0**	**-0.5**
MAT	**Matsushiro**	**18.93**	**340**	P		**P**	**09 24 00.5**	**-0.3**
MAT				S		**S**	**09 27 29.2**	**-1.6**
MJB9	**Matsu-Tunnel**	**18.93**	**340**	*e*P		**P**	**09 24 01.7**	**+0.8**
	52nm,1.1s							
H11S3	**WAKE ISLAND Hy 19.33**	**88**		P		**P**	**09 24 04.3**	**-0.9**
	baz=256,slow=8.4,SNR=7.0							
H11S3				T		T	09 45 06.7	
	baz=275,slow=74,SNR=16							
H11S1	**WAKE ISLAND Hy 19.34**	**88**		P		**Pn**	**09 24 07.0**	**-0.3**
	baz=256,slow=8.4,SNR=4.6							
H11S1				T		T	09 44 59.1	
	baz=275,slow=74,SNR=29							
H11S2	**WAKE ISLAND Hy 19.35**	**88**		P		**Pn**	**09 24 08.8**	**+1.4**
	baz=256,slow=8.4,SNR=5.0							
H11S2				T		T	09 45 00.9	
	baz=275,slow=74,SNR=25							
H11N1	**WAKE ISLAND Hy 19.46**	**84**		P		**P**	**09 24 07.1**	**+0.6**
	baz=259,slow=12,SNR=12							
H11N1				T		T	09 45 17.5	
	baz=267,slow=74,SNR=3.9							
H11N2	**WAKE ISLAND Hy 19.47**	**84**		P		**P**	**09 24 07.3**	**+0.7**
	baz=259,slow=12,SNR=18							
H11N2				T		T	09 45 22.9	
	baz=267,slow=74,SNR=16							
H11N3	**WAKE ISLAND Hy 19.48**	**84**		P		**P**	**09 24 05.9**	**-0.9**
	baz=259,slow=12,SNR=11							
H11N3				T		T	09 45 15.6	
	baz=267,slow=74,SNR=16							
JNU	**Nakatsue**	**19.75**	**319**	P		**P**	**09 24 10.1**	**+0.3**
	2.4nm,0.3s,baz=156,slow=3.0,SNR=13							
JNU	**Nakatsue**	**19.75**	**319**	*e*P		**Pn**	**09 24 12.1**	**-0.1**
	222nm,1.1s							
MANU	**Manus Island**	**20.87**	**177**	*e*P		**P**	**09 24 22.7**	**+0.7**
	9μm,0.6s							
PLP	**Palo**	**21.96**	**252**	||*e*P		**P**	**09 24 31.1**	**-2.5**
JAY	**Jayapura**	**22.00**	**195**	P		**P**	**09 24 32.3**	**-1.8**
	7.6nm,0.9s,baz=266,slow=23,SNR=24							
JAY				LR		LR	09 33 40.2	
	comp=Z,63nm,18.2s,baz=359,slow=38							
JAY	**Jayapura**	**22.00**	**195**	P		**P**	**09 24 33.0**	**-1.1**
	183nm,1.1s,2μm							
JAY				S		**sP**	**09 25 02.9**	**-2.2**
	2μm183nm,1.1s							
GENI	**Genyem**	**22.22**	**196**	P		**P**	**09 24 35.2**	**-1.1**
	439nm,1.1s							
GENI				S		**sP**	**09 25 11.4**	**+4.1**
	439nm,1.1s							
ERM	**Erimo**	**23.16**	**354**	*ce*P		**P**	**09 24 46.6**	**+1.0**
ERM				pmax		pmax		
	comp=Z,38nm,0.8s							
ERM	**Erimo**	**23.16**	**354**	*e*P		**P**	**09 24 47.0**	**+1.5**
	comp=Z,132nm,0.8s							
LLP	**Lapu-Lapu**	**23.21**	**251**	*e*P		**P**	**09 24 45.8**	**-0.5**
LLP				*e*S		**sP**	**09 25 12.0**	**-5.9**
DAV	**Davao City (W)**	**23.33**	**242**	LR		LR	09 32 04.4	
	comp=Z,1μm,20.2s,baz=68,slow=32							
DAV	**Davao City (W)**	**23.33**	**242**	||*e*P		**P**	**09 24 48.6**	**+1.1**
DAV	**Davao City (W)**	**23.33**	**242**	*e*P		**P**	**09 24 47.8**	**+0.3**
	comp=Z,674nm,1.1s							
BUKP	**Musuan**	**23.35**	**245**	*e*P		**P**	**09 24 48.8**	**+1.1**
CGP	**Cagayan de Oro**	**23.39**	**246**	||*e*P		**P**	**09 24 47.6**	**-0.3**
NACB	**Ninganchiao**	**23.53**	**287**	*e*P		**P**	**09 24 50.3**	**+1.1**
	comp=Z,127nm,1.1s							
RABL	**Rabaul**	**23.69**	**165**	*e*P		**P**	**09 24 50.4**	**-0.3**
	comp=Z,315nm,1.0s							
YULB	**Yu-li**	**23.71**	**285**	*e*P		**P**	**09 24 51.2**	**+0.4**
	comp=Z,103nm,0.9s							
YHNB	**Yeheng**	**23.80**	**288**	*e*P		**P**	**09 24 52.1**	**+0.4**
	comp=Z,102nm,0.7s							
RCP	**Roxas**	**23.84**	**255**	||*e*P		**P**	**09 24 53.7**	**+1.6**
TWG	**Pinlang**	**23.86**	**284**	*e*P		**P**	**09 24 53.4**	**+1.2**
	comp=Z,235nm,0.9s							
SSLB	**Suanglung**	**24.07**	**286**	*e*P		**P**	**09 24 54.5**	**+0.5**
	comp=Z,199nm,1.0s							
LQP	**Lukban**	**24.19**	**262**	||*e*P		**P**	**09 25 02.0**	**+6.6**
TPUB	**Ta-pu**	**24.31**	**285**	*e*P		**P**	**09 24 58.0**	**+1.7**
	comp=Z,117nm,1.1s							
CTBH	**Cotabato--PC H**	**24.38**	**244**	*e*P		**P**	**09 24 58.5**	**+1.5**
KSRS	**Korea Array**	**24.46**	**323**	P		**P**	**09 24 57.6**	**+0.2**
	comp=Z,55nm,0.7s,baz=148,slow=8.6,SNR=90							
KSRS				ScP		**ScP**	**09 32 01.0**	**-2.9**
	comp=Z,3.7nm,0.8s,baz=148,slow=1.9,SNR=5.3							
KSRS				LR		LR	09 33 58.9	
	comp=Z,1μm,21.7s,baz=130,slow=35							
KS15	**Wonju Array Si**	**24.48**	**323**	*e*P		**P**	**09 24 58.3**	**+0.7**
KSAR	**Wonju Array Be**	**24.48**	**323**	P		**P**	**09 24 57.6**	**0.0**
KSAR	**Wonju Array Be**	**24.48**	**323**	P		**P**	**09 24 57.6**	**0.0**
KSAR				ScP		**ScP**	**09 32 01.0**	**-2.9**
KS01	**Wonju Array Si**	**24.50**	**323**	*e*P		**P**	**09 24 59.1**	**+1.3**
DCPH	**Dipolog City**	**24.50**	**248**	||*e*P		**P**	**09 24 59.9**	**+1.9**
SWI	**Sorong**	**24.59**	**219**	P		**P**	**09 24 59.0**	**+0.2**
	comp=Z,424nm,1.4s,comp=Z,5μm							
SWI				S		**pP**	**09 25 15.3**	**-4.9**
	comp=Z,5μmcomp=Z,424nm,1.4s							
TGY	**Tagaytay City**	**24.76**	**263**	LR		LR	09 32 51.0	
	comp=Z,1μm,21.7s,baz=76,slow=32							
ASAJ	**Asahikawa**	**25.30**	**354**	P		**P**	**09 25 06.7**	**+1.7**
	comp=Z,114nm,0.9s,baz=222,slow=12,SNR=48							
ASAJ	**Asahikawa**	**25.30**	**354**	*e*P		**P**	**09 25 06.5**	**+1.5**
	comp=Z,267nm,1.0s							
SGSI	**Sangihe**	**25.32**	**236**	P		**P**	**09 25 08.0**	**+2.5**
	comp=Z,442nm,1.0s							
FAKI	**Fak Fak**	**25.73**	**214**	P		**P**	**09 25 08.8**	**-0.4**
	comp=Z,230nm,1.1s,comp=Z,3μm							
FAKI	**Fak Fak**	**25.73**	**214**	*e*P		**P**	**09 25 09.0**	**-0.2**
	comp=Z,178nm,0.8s							
KUR	**Kuril'sk**	**26.26**	**3**	*de*P		**P**	**09 25 06.5**	**-7.1**
KUR				*i* S		**S**	**09 29 31.9**	**-7.0**
KUR				pmax		pmax		
	comp=N,44nm,1.2s							
KUR				pmax		pmax		
	comp=E,101nm,1.2s							
KUR				pmax		pmax		
	comp=Z,275nm,1.2s							
KUR				pmax		pmax		
	comp=Z,751nm,3.3s							
QZH	**Quanzhou**	**26.35**	**288**	P		**P**	**09 25 16.0**	**+1.3**
QZH				*e*S		**S**	**09 29 39.5**	**-1.3**
QZH				PMZ				
	comp=Z,200nm,0.9s							
QZH				LZ				
	comp=Z,3μm,23.9s							
MSHR	**Mys Shultsa**	**26.84**	**335**	*ce*P		**P**	**09 25 20.3**	**+1.5**
VLA	**Vladivostok**	**27.01**	**336**	||*i*P		**P**	**09 25 21.4**	**+1.0**
VLA				*i* *SP		**pP**	**09 25 39.6**	**-2.4**
VLA				*i*			09 26 05.3	
VLA				*i*			09 28 40.0	
VLA				*i* S		**S**	**09 29 57.2**	**+6.4**
VLA				pmax		pmax		
	comp=Z,198nm,1.4s							
USRK	**Ussuriysk Ar.**	**27.90**	**338**	P		**P**	**09 25 29.4**	**+1.1**
	comp=Z,32nm,0.7s,baz=133,slow=8.9,SNR=90							
USRK				LR		LR	09 36 12.2	
	comp=Z,789nm,21.4s,baz=134,slow=35							
NJ2	**Nanjing**	**27.90**	**303**	*e*P		**P**	**09 25 29.0**	**+0.5**
NJ2				S		**S**	**09 30 09.3**	**+4.1**
NJ2				PMZ				
	comp=Z,14nm,1.2s							
NJ2				LN				
	comp=Z,960nm,11.4s							
NJ2				LE				
	comp=Z,660nm,8.7s							
NJ2				LZ				
	comp=Z,890nm,8.7s							
YSS	**Yuzh-Sakhalins**	**28.10**	**355**	||*i*P		**P**	**09 25 30.6**	**+0.6**
YSS				*e**PP		**pP**	**09 25 53.4**	**+1.6**
YSS				*e*S		**S**	**09 30 11.2**	**+3.3**
YSS				pmax		pmax		
	comp=Z,80nm,0.5s							
YSS				MLR		MLR		
	comp=Z,1μm,15.0s							
YSS				MLR		MLR		
	comp=N,1μm,16.0s							
YSS	**Yuzh-Sakhalins**	**28.10**	**355**	*e*P		**P**	**09 25 30.6**	**+0.6**
	comp=N,121nm,1.0s							
PMG	**Port Moresby**	**28.17**	**178**	P		**P**	**09 25 29.7**	**-1.3**
	comp=N,144nm,1.0s,baz=51,slow=5.0,SNR=27							
PMG				LR		LR	09 36 22.8	
	comp=N,366nm,20.4s,baz=14,slow=35							
PMG	**Port Moresby**	**28.17**	**178**	*e*P		**P**	**09 25 29.7**	**-1.3**
PMG				pmax		pmax		
	comp=Z,240nm,1.0s							
PMG	**Port Moresby**	**28.17**	**178**	*e*P		**P**	**09 25 29.7**	**-1.3**
	comp=Z,238nm,1.0s							
SANI	**Sanana**	**28.86**	**226**	P		**P**	**09 25 37.4**	**+0.2**
MDJ	**Mudanjiang**	**29.16**	**335**	P		**P**	**09 25 40.8**	**+1.3**
MDJ				pP		pP	09 25 59.3	-2.0
MDJ				sP		sP	09 26 11.5	-1.1
MDJ				S		**S**	**09 30 28.3**	**+3.6**
MDJ				PMZ				
	comp=Z,26nm,1.0s							
MDJ				PMZ				
	comp=Z,250nm,6.1s							
MDJ				LN				
	comp=Z,1μm,34.1s							
MDJ				LE				
	comp=Z,920nm,30.8s							
MDJ				LZ				
	comp=Z,2μm,33.3s							
MDJ	**Mudanjiang**	**29.16**	**335**	*e*P		**P**	**09 25 41.1**	**+1.6**
	comp=Z,47nm,1.0s							
DL2	**Dalian**	**29.20**	**318**	*e*P		**P**	**09 25 42.8**	**+2.9**
DL2				*e*S		**S**	**09 30 30.5**	**+5.1**
DL2				PMZ				
	comp=Z,96nm,1.8s							
DL2				LN				
	comp=Z,1μm,14.2s							
DL2				LE				
	comp=Z,2μm,13.5s							
DL2				LZ				
	comp=Z,1μm,18.8s							
MRSI	**Marisa**	**30.11**	**235**	P		**P**	**09 25 49.0**	**+0.8**
	comp=Z,210nm,1.3s,comp=Z,3μm							
MYLDM	**Lahad Datu**	**30.34**	**247**	||P		**P**	**09 25 53.4**	**+3.0**
MYLDM	**Lahad Datu**	**30.34**	**247**	*e*P		**P**	**09 25 52.8**	**+2.5**
	comp=Z,170nm,1.1s							
CN2	**Changchun**	**30.35**	**329**	*e*P		**P**	**09 25 54.0**	**+4.0**
CN2				*e*pP		pP	09 26 15.8	+4.0
CN2				*e*S		**S**	**09 30 47.0**	**+3.7**
CN2				PMZ				
	comp=Z,10.0nm,0.6s							
CN2				PMZ				
	comp=Z,200nm,4.0s							
HABR	**Khabarovsk**	**30.85**	**345**	*ce*P		**P**	**09 25 53.2**	**-1.1**
HABR				*e**PP		**pP**	**09 26 15.6**	**-0.6**
HABR				*e**SP		**sP**	**09 26 27.4**	**0.0**
HABR				*e*			09 26 58.2	
HABR				*e*			09 28 46.9	
HABR				*e*S		**S**	**09 30 51.0**	**+0.1**
HABR				*e**SS		**sS**	**09 31 30.7**	**+1.9**
HABR				*e*SS		**SnSn**	**09 32 42.9**	**+2.3**
HABR				*e*			09 36 17.6	
HABR				pmax		pmax		
	comp=N,27nm,1.0s							
HABR				pmax		pmax		
	comp=E,16nm,1.0s							
HABR				pmax		pmax		
	comp=Z,68nm,1.0s							
HABR				MLR		MLR		
	comp=Z,221nm,18.0s							
TIA	**Tai'an**	**30.89**	**310**	||P		**P**	**09 25 56.5**	**+1.6**
TIA				PMZ				
	comp=Z,40nm,1.1s							
WHN	**Wuhan**	**31.12**	**298**	*e*P		**P**	**09 26 00.8**	**+3.8**
WHN				S		**S**	**09 30 58.8**	**+3.2**
WHN				LZ				
	comp=Z,3μm,12.7s							
HNR	**Honiara**	**31.24**	**153**	LR		LR	09 39 09.9	
	comp=Z,388nm,18.1s,baz=334,slow=37							
HNR	**Honiara**	**31.24**	**153**	P		**P**	**09 25 57.0**	**-1.1**
TSM	**Tawau**	**31.32**	**246**	||P		**P**	**09 26 00.5**	**+1.6**
TYV	**Tymovskoe**	**31.99**	**356**	*e*P		**P**	**09 26 04.0**	**-0.4**
TYV				pmax		pmax		
	comp=Z,700nm,5.0s							
TYV				pmax		pmax		
	comp=N,31nm,1.0s							
TYV				MLR		MLR		
	comp=N,900nm,18.0s							
TYV				MLR		MLR		
	comp=Z,1μm,18.0s							
KLR	**Kul'dur**	**32.42**	**342**	P		**P**	**09 26 09.0**	**+0.9**
	comp=Z,67nm,0.6s,baz=149,slow=7.8,SNR=191							
KLR				ScP		**ScP**	**09 32 28.2**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=197,slow=2.6,SNR=4.0							
KLR				LR		LR	09 39 39.9	
	comp=Z,226nm,19.2s,baz=154,slow=37							
KLR	**Kul'dur**	**32.42**	**342**	*d*	*i*P	**P**	**09 26 08.8**	**+0.7**
KDI	**Kendari**	**32.56**	**228**	P		**P**	**09 26 11.0**	**+1.2**
	comp=Z,145nm,1.4s,comp=Z,2μm							
PCI	**Palu**	**32.61**	**236**	P		**P**	**09 26 10.6**	**+0.4**
	comp=Z,92nm,1.4s,comp=Z,2μm							
COEN	**Coen**	**32.82**	**186**	*e*P		**P**	**09 26 10.8**	**-1.2**
	comp=Z,149nm,1.4s							
BJT	**Baijiatuan**	**33.35**	**315**	*e*P		**P**	**09 26 17.0**	**+0.6**
BJT				pmax		pmax		
	comp=Z,190nm,1.7s							
BJT	**Baijiatuan**	**33.35**	**315**	*e*P		**P**	**09 26 17.0**	**+0.6**
	comp=Z,190nm,1.7s							
BJI	**Beijing**	**33.35**	**316**	P		**P**	**09 26 17.0**	**+0.6**
BJI				sP		**sP**	**09 26 49.3**	**-0.3**
BJI				PP		**PP**	**09 27 36.0**	**+2.4**
BJI				S		**S**	**09 31 29.8**	**-0.4**
BJI				PMZ				
	comp=Z,49nm,1.5s							
BJI				LN				
	comp=Z,690nm,17.4s							
BJI				LE				
	comp=Z,1μm,18.8s							
BJI				LZ				
	comp=Z,1μm,36.7s							
TTSI	**Tana Toraja**	**33.98**	**233**	P		**P**	**09 26 23.9**	**+1.7**
	comp=Z,302nm,0.8s,comp=Z,5μm							
TTSI				S		**sP**	**09 26 55.4**	**+0.1**
	comp=Z,5μmcomp=Z,302nm,0.8s							
QIZ	**Qiongzhong**	**34.42**	**276**	P		**P**	**09 26 26.5**	**+0.5**
QIZ				pP		**pP**	**09 26 47.0**	**-1.0**
QIZ				S		**S**	**09 31 48.3**	**+1.1**
QIZ				LE				
	comp=Z,680nm,17.5s							
QIZ				LZ				
	comp=Z,880nm,23.0s							
MIDW	**Midway**	**34.46**	**68**	*e*P		**P**	**09 26 25.5**	**-0.7**
	comp=Z,316nm,1.3s							
MTN	**Manton Dam**	**34.93**	**206**	*e*P		**P**	**09 26 29.4**	**-0.9**
	comp=Z,101nm,0.8s							
PEA0	**Petropavlovsk-**	**35.25**	**12**	*e*P		**P**	**09 26 33.8**	**+1.1**
PEA0B	**Petropavlovsk-**	**35.25**	**12**	*e*P		**P**	**09 26 34.2**	**+1.6**
	comp=Z,66nm,1.0s							
PETK	**Petropavlovsk-**	**35.25**	**12**	P		**P**	**09 26 33.7**	**+1.0**
	comp=Z,24nm,0.9s,baz=176,slow=5.6,SNR=26							
PETK				ScP		**ScP**	**09 32 39.9**	**+1.5**
	comp=Z,3.4nm,0.6s,baz=141,slow=3.3,SNR=6.1							
PETK				LR		LR	09 39 01.4	
	comp=Z,858nm,21.2s,baz=193,slow=33							
KAPI	**Kappang**	**35.34**	**230**	P		**P**	**09 26 34.2**	**+0.3**
	comp=Z,48nm,0.8s,baz=53,slow=4.6,SNR=9.9							
KAPI	**Kappang**	**35.34**	**230**	*e*P		**P**	**09 26 33.5**	**-0.3**
	comp=Z,219nm,1.0s							
PET	**Petropavlovsk**	**35.36**	**13**	*d*	*i*P	**P**	**09 26 33.4**	**-0.1**
PET				*e**PP		**pP**	**09 26 55.0**	**-0.7**
PET				*e*			09 28 02.4	
PET				*e*S		**S**	**09 32 05.6**	**+4.8**
PET							09 34 28.9	
PET				pmax		pmax		
	comp=Z,90μm,1.2s							
PET				pmax		pmax		
	comp=Z,600nm,15.4s							
PET				MLR		MLR		
	comp=Z,1μm,17.0s							
PET	**Petropavlovsk**	**35.36**	**13**	*e*P		**P**	**09 26 33.4**	**-0.1**
	comp=Z,113nm,1.2s							
BSSI	**Bau Bau, Buton**	**35.59**	**228**	P		**P**	**09 26 37.2**	**+1.2**
	comp=Z,269nm,1.1s,comp=Z,6μm							
SOEI	**Soe**	**35.83**	**219**	P		**P**	**09 26 36.8**	**-1.4**
	comp=Z,309nm,1.0s,comp=Z,3μm							
SOEI	**Soe**	**35.83**	**219**	*e*P		**P**	**09 26 36.6**	**-1.5**
	comp=Z,322nm,1.0s							
MMRI	**Maumere**	**36.23**	**223**	P		**P**	**09 26 41.0**	**-0.4**
	comp=Z,207nm,1.2s							
MMRI	**Maumere**	**36.23**	**223**	*e*P		**P**	**09 26 40.4**	**-1.0**
	comp=Z,189nm,1.0s							
XAN	**Xi'an**	**36.45**	**302**	*e*P		**P**	**09 26 42.0**	**-1.2**
XAN				pP		pP	09 27 04.3	-1.1
XAN				PP		**PnPn**	**09 28 09.8**	**+1.1**
XAN				PcP		**PcP**	**09 29 03.3**	**-2.1**
XAN				S		**S**	**09 32 17.0**	**-1.0**
XAN				SS		**SnSn**	**09 34 49.3**	**-7.1**
XAN				ScS		**ScS**	**09 36 44.8**	**-5.1**
XAN				PMZ				
	comp=Z,7.0nm,1.0s							
XAN				PMZ				
	comp=Z,150nm,4.6s							
XAN				LN				
	comp=Z,1μm,15.1s							
XAN				LE				
	comp=Z,770nm,14.5s							
XAN				LZ				
	comp=Z,900nm,19.6s							
MTKI	**Muara Teweh, K**	**36.61**	**241**	P		pP	09 27 08.5	+1.5
HHC	**Hu-ho-hao-te**	**36.84**	**314**	*e*P		P	09 26 52.0	+5.5
HHC				sP		sP	09 27 26.5	+6.6
HHC				S		**S**	**09 32 29.0**	**+5.0**
HHC				PMZ				
	comp=Z,21nm,1.0s							
HHC				PMZ				
	comp=Z,180nm,6.7s							
HHC				LN				
	comp=Z,500nm,13.7s							
HHC				LE				
	comp=Z,640nm,14.1s							
HHC				LZ				
	comp=Z,600nm,18.4s							
HIA	**Hailar**	**37.03**	**331**	*e*P		**P**	**09 26 48.4**	**+0.5**
HIA				pmax		pmax		
	comp=Z,69nm,0.7s							
HIA	**Hailar**	**37.03**	**331**	*e*P		**P**	**09 26 48.4**	**+0.5**
	comp=Z,69nm,0.7s							
SBUM	**Sibu**	**37.14**	**248**	||P		**P**	**09 26 51.3**	**+2.0**
SBUM	**Sibu**	**37.14**	**248**	*e*P		**P**	**09 26 50.0**	**+0.7**
	comp=Z,327nm,1.2s							
GYA	**Guiyang**	**37.20**	**289**	P		**P**	**09 26 51.0**	**

comp=Z,30nm,0.5s
CD2 PMZ
comp=Z,220nm,5.2s
CD2 LN
comp=Z,2µm,16.9s
CD2 LE
comp=Z,1µm,17.9s
CD2 LZ
comp=Z,1µm,15.3s
SKNT Sakolnakorn 40.22 274 P **P** **09 27 17.6 +2.6**
comp=Z,133nm,1.1s,comp=Z,4µm
WRAB Tennant Creek 40.36 197 *e*P **P** **09 27 15.0 -0.9**
WRAB pmax pmax
comp=Z,86nm,0.9s
WRAB Tennant Creek 40.36 197 *e*P **P** **09 27 15.0 -0.9**
comp=Z,86nm,0.9s
WRA Warramunga Arr 40.37 197 P **P** **09 27 14.5 -1.5**
comp=Z,33nm,0.5s,baz=22,slow=8.4,SNR=234
WRA ScP **ScP** **09 32 57.0 -1.3**
comp=Z,5.8nm,1.1s,baz=10,slow=3.7,SNR=6.9
WRA S **S** **09 33 19.5 +2.3**
comp=Z,12nm,1.2s,baz=2.0,slow=14,SNR=4.8
WRA LR LR 09 44 22.6
comp=Z,868nm,21.1s,baz=20,slow=37
KMI Kunming 40.70 287 P **P** **09 27 21.0 +1.9**
KMI pP pP 09 27 43.0 +1.3
KMI sP sP 09 27 54.3 +1.6
KMI S **S** **09 33 23.0 +0.4**
KMI sS sS 09 34 00.3 -1.1
KMI SS **SS** **09 36 28.0 +1.2**
KMI PMZ
comp=Z,17nm,0.5s
KMI PMZ
comp=Z,140nm,4.5s
KMI LN
comp=Z,230nm,4.7s
KMI LE
comp=Z,340nm,6.0s
KMI LZ
comp=Z,210nm,5.5s
MA2 Magadan 40.73 3 P **P** **09 27 19.7 +1.1**
comp=Z,136nm,1.0s,baz=186,slow=6.4,SNR=27
MA2 LR LR 09 42 20.8
comp=Z,556nm,20.7s,baz=212,slow=33
MA2 Magadan 40.73 3 *e*P **P** **09 27 19.3 +0.7**
MA2 pmax pmax
comp=Z,585nm,1.0s
MA2 Magadan 40.73 3 *e*P **P** **09 27 19.3 +0.7**
comp=Z,585nm,1.0s
SRBI Singaraja 40.73 232 P pP 09 27 45.1 +3.4
LZH Lanzhou 40.98 304 ⇓P **P** **09 27 23.5 +2.3**
LZH pP pP 09 27 47.3 +3.5
LZH sP sP 09 27 59.5 +4.7
LZH PP **PnPn** **09 29 03.0 +0.4**
LZH S **S** **09 33 28.0 +1.6**
LZH SS **SS** **09 36 31.0 -0.9**
LZH PMZ
comp=Z,37nm,1.0s
LZH PMZ
comp=Z,320nm,5.2s
LZH LN
comp=Z,1µm,15.0s
LZH LE
comp=Z,870nm,14.2s
LZH LZ
comp=Z,2µm,17.5s
CLNS Chul'man 41.08 342 *e*P **P** **09 27 21.9 +0.3**
CLNS *e**PP **sP** **09 27 54.4 -0.8**
CLNS *e* 09 28 55.4
CLNS *e* 09 29 13.5
CLNS *e*PPP PPP 09 29 36.4
CLNS *e*S **S** **09 33 27.4 +0.4**
CLNS *e**SS **sS** **09 34 07.3 +1.4**
CLNS pmax pmax
comp=Z,43nm,1.1s
CLNS pmax pmax
comp=E,20nm,0.8s
CLNS pmax pmax
comp=N,32nm,1.1s
CLNS pmax pmax
comp=Z,15nm,0.9s
CLNS pmax pmax
comp=N,35nm,0.9s
CLNS pmax pmax
comp=E,26nm,0.8s
CLNS smax smax
comp=E,279nm,11.8s
CLNS smax smax
comp=N,400nm,12.4s
ABJI Asem Bagus 41.28 233 P pP 09 27 49.4 +3.2
KHON Khomkaen 41.42 273 P **P** **09 27 27.7 +2.8**
comp=N,18nm,0.9s,comp=N,757nm
JAGI Jajag, Banyuwa 41.77 232 P pP 09 27 47.0 -3.3
JAGI Jajag, Banyuwa 41.77 232 *e*P **P** **09 27 27.3 -0.4**
comp=N,288nm,1.1s
CIT Chita 41.79 330 *e*P **P** **09 27 26.6 -0.9**
CIT pmax pmax
comp=Z,185nm,1.2s
FITZ Fitzroy Crossi 42.02 210 P **P** **09 27 29.6 0.0**
comp=Z,65nm,0.8s,baz=34,slow=7.9,SNR=148
GRJI Gresik 42.07 236 P pP 09 27 52.8 +0.1
GMJI Gumukmas 42.18 233 P pP 09 27 56.1 +2.5
CHAI Chaiyaphum 42.29 273 P **P** **09 27 33.2 +1.2**
comp=Z,13nm,0.8s,comp=Z,543nm
SRAK Srakaew 42.62 270 P **P** **09 27 32.1 -2.6**
comp=Z,90nm,1.0s,comp=Z,4µm
LOEI Loei 42.70 276 P **P** **09 27 33.8 -1.5**
comp=Z,12nm,1.7s,comp=Z,928nm
ULN Ulaanbaatar 42.94 321 *de*P **P** **09 27 37.4 +0.5**
ULN pmax pmax
comp=Z,52nm,1.0s
ULN Ulaanbaatar 42.94 321 *e*P **P** **09 27 38.5 +1.6**
comp=Z,63nm,0.9s
PBKT Sadao Pong 43.13 274 P **P** **09 27 40.4 +1.7**
comp=Z,106nm,1.2s,comp=Z,2µm
NGJI Ngawi 43.14 236 P pP 09 28 06.0 +4.5
PWJI Pagerwojo 43.28 235 P **P** **09 27 40.0 +0.1**
comp=Z,261nm,1.3s,comp=Z,3µm
SONM Songino Array 43.31 321 P **P** **09 27 40.5 +0.6**
comp=Z,38nm,0.8s,baz=131,slow=9.2,SNR=157
SONM ScP **ScP** **09 33 07.0 -2.8**
comp=Z,12nm,1.2s,baz=137,slow=3.0,SNR=8.2
SONA1 Songino Array 43.31 321 *e*P **P** **09 27 40.9 +1.0**
UTTA Uttaradit 43.33 276 P **P** **09 27 42.1 +1.8**
comp=Z,4.6nm,0.8s,comp=Z,178nm
PCJI Pacitan 43.87 235 P pP 09 28 09.2 +1.8
AS01 Alice Springs 44.01 196 *e*P **P** **09 27 44.9 -0.8**
AS31 Alice Springs 44.02 196 *e*P **P** **09 27 45.1 -0.7**
comp=Z,11nm,0.5s
ASAR Alice Springs 44.03 196 P **P** **09 27 44.4 -1.4**
comp=Z,9.5nm,0.4s,baz=17,slow=6.9,SNR=136
ASAR S **S** **09 34 09.7 -1.2**
comp=Z,10nm,1.1s,baz=19,slow=21,SNR=13
ASAR LR LR 09 45 17.6
comp=Z,522nm,21.9s,baz=15,slow=35
SEY Seymchan 44.17 4 P **P** **09 27 47.8 +1.4**
comp=Z,51nm,0.7s,baz=184,slow=7.3,SNR=93
SEY Seymchan 44.17 4 *de*P **P** **09 27 47.6 +1.2**
SUKH Sukhothai 44.24 276 P **P** **09 27 50.4 +2.8**
comp=Z,6.8nm,0.8s,comp=Z,178nm
EIDS Eidsvold 44.28 174 *e*P **P** **09 27 46.5 -1.2**
comp=Z,94nm,1.6s
YAK Yakutsk 44.60 349 P **P** **09 27 49.9 +0.1**
comp=Z,141nm,0.7s,baz=144,slow=1.4,SNR=42
YAK LR LR 09 46 12.8
comp=Z,416nm,21.8s,baz=150,slow=36
YAK Yakutsk 44.60 349 *e*P **P** **09 27 49.6 -0.2**
YAK *e**PP **pP** **09 28 12.0 -0.6**
YAK *e* 09 29 34.5
YAK *e*S **S** **09 34 14.4 -3.9**
YAK *e*SS **ScS** **09 37 33.7 -3.8**
YAK pmax pmax
comp=N,139nm,1.2s
YAK pmax pmax
comp=E,40nm,1.1s
YAK pmax pmax
comp=Z,238nm,1.0s
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=N,38nm,1.2s
YAK pmax pmax
comp=E,49nm,1.3s
YAK smax smax
comp=E,225nm,3.0s
YAK smax smax
comp=N,275nm,2.0s
YAK Yakutsk 44.60 349 *e*P **P** **09 27 50.0 +0.1**
comp=N,219nm,0.9s
CMMT Chiang Mai 44.68 278 P **P** **09 27 54.5 +3.3**
comp=N,42nm,1.1s
CHTO Chiang Mai 44.69 278 *e*P **P** **09 27 52.3 +1.1**
CHTO pmax pmax
comp=Z,42nm,1.1s
CHTO Chiang Mai 44.69 278 *e*P **P** **09 27 52.3 +1.1**
comp=Z,42nm,1.1s
CM01 Chiang Mai Arr 44.73 277 *e*P **P** **09 27 52.3 +0.8**
CM31 Chiang Mai Arr 44.74 277 *e*P **P** **09 27 53.5 +1.8**
CMAR Chiang Mai Arr 44.74 277 P **P** **09 27 52.0 +0.3**
comp=Z,7.4nm,0.7s,baz=68,slow=6.8,SNR=34
CMAR pP **pP** **09 28 14.1 -0.4**
comp=Z,42nm,1.0s,baz=66,slow=6.9,SNR=8.7
CMAR LR LR 09 46 13.5
comp=Z,205nm,20.2s,baz=81,slow=36
GTA Gaotai 44.85 307 ⇑P **P** **09 27 53.5 +1.1**
GTA pP pP 09 28 16.3 +1.1
GTA sP sP 09 28 27.8 +1.6
GTA PcP **PcP** **09 29 33.5 +0.9**
GTA PP **PP** **09 29 41.0 +2.2**
GTA ScP **ScP** **09 33 15.5 -0.8**
GTA S **S** **09 34 23.0 +0.1**
GTA sS sS 09 35 02.5 +0.3
GTA SS **ScS** **09 37 36.5 -3.8**
GTA PMZ
comp=Z,10.0nm,1.7s
GTA PMZ
comp=Z,140nm,6.2s
GTA LN
comp=Z,1µm,16.6s
GTA LE
comp=Z,640nm,15.7s
GTA LZ
comp=Z,650nm,16.6s
MYKOM Kota Tinggi 44.90 253 *e*P **P** **09 27 54.6 +1.6**
comp=Z,196nm,1.1s
KPJI Karang Pucung 45.13 238 P **P** **09 27 55.4 +0.7**
comp=Z,157nm,1.1s,comp=Z,3µm
UMPA Umpang Tak 45.19 274 P **P** **09 27 58.5 +3.3**
comp=Z,15nm,0.9s,comp=Z,1µm
DZM Mont Dzumac 45.27 153 *e*P **P** **09 27 55.0 -0.7**
comp=Z,344nm,1.3s
DZM *e*S **S** **09 34 34.3 +5.2**
comp=Z,355nm,30.2s
DZM *e*LR LR 09 40 28.5
comp=Z,5µm,25.4s
DZM Mont Dzumac 45.27 153 *e*P **P** **09 27 55.0 -0.7**
comp=Z,211nm,1.3s
BOD Bodaibo 45.52 336 *e*P **P** **09 27 57.0 -0.2**
BOD *e*S **ScS** **09 37 41.4 -2.2**
BOD pmax pmax
comp=Z,33nm,1.6s
CISI Cisompet, Garu 46.16 239 *e*P **P** **09 28 01.2 -1.6**
comp=Z,104nm,0.8s
ZAK Zakamensk 46.30 323 *e*P **P** **09 28 03.0 -0.6**
ZAK pmax pmax
comp=Z,55nm,1.1s
ZAK pmax pmax
comp=Z,8.0nm,1.6s
IPM Ipoh 46.42 258 *e*P **P** **09 28 06.5 +1.6**
comp=Z,222nm,1.3s
KULM Kulim 46.48 259 *e*P **P** **09 28 07.4 +2.1**
comp=Z,174nm,1.1s
IRK Irkutsk 46.63 326 *e*P **P** **09 28 04.6 -1.4**
IRK *e*S **S** **09 34 49.2 +1.4**
IRK pmax pmax
comp=Z,188nm,1.4s
TLY Talaya 46.70 325 P **P** **09 28 07.4 +0.8**
comp=Z,31nm,0.9s,baz=147,slow=6.3,SNR=54
TLY LR LR 09 47 44.3
comp=Z,439nm,20.2s,baz=114,slow=36
TLY Talaya 46.70 325 *e*P **P** **09 28 07.7 +1.1**
TLY *e* 09 29 31.9
TLY *e*S **S** **09 34 56.5 +7.7**
TLY pmax pmax
comp=Z,93nm,1.3s
TLY MLR MLR
comp=Z,298nm,19.0s
TLY Talaya 46.70 325 *e*P **P** **09 28 06.8 +0.2**
comp=Z,88nm,1.2s
CGJI Cibinong 47.38 241 P pP 09 28 31.2 -4.1
MBWA Marble Bar 47.58 214 *e*P **P** **09 28 13.6 -0.1**
comp=Z,168nm,0.8s
KASI Kota Agung 47.80 244 P **P** **09 28 16.1 +0.5**
comp=Z,200nm,1.2s,comp=Z,2µm
KSI Kapahiang 48.49 247 P **P** **09 28 21.1 +0.1**
comp=Z,143nm,1.1s,comp=Z,6µm
PSI Prapat 49.00 257 *e*P **P** **09 28 26.3 +1.3**
PSI pmax pmax
comp=Z,140nm,1.3s
PSI Prapat 49.00 257 *e*P **P** **09 28 26.3 +1.3**
comp=Z,145nm,1.3s
TSI Tuntungan 49.06 258 P pP 09 28 51.1 +2.6
MNSI Mandailing Nat 49.19 254 P **P** **09 28 27.8 +1.5**
comp=Z,188nm,0.8s,comp=Z,2µm
ARMA Armidale 49.33 174 *e*P **P** **09 28 26.7 -0.4**
comp=Z,225nm,1.7s
KCSI Kotacane, Aceh 49.79 258 P pP 09 28 54.2 +0.1
LHMI Lhok Sumawe 49.95 261 *e*P **P** **09 28 34.3 +2.2**
comp=Z,93nm,0.8s
UNV Unalaska Valle 50.15 34 *e*P **P** **09 28 32.4 -0.6**
comp=Z,46nm,1.0s
SHL Shillong 50.50 288 ⇑*i*P **P** **09 28 37.0 +0.7**
BILL Bilibino 50.70 10 *e*P **P** **09 28 37.6 +0.7**
BILL pmax pmax
comp=Z,190nm,1.2s
BILL Bilibino 50.70 10 *e*P **P** **09 28 37.6 +0.7**
comp=Z,186nm,1.2s
STKA Stephens Creek 50.72 185 P **P** **09 28 36.1 -1.4**
comp=Z,10nm,0.4s,baz=13,slow=7.3,SNR=67
STKA pP **pP** **09 29 00.1 -0.7**
comp=Z,43nm,1.0s,baz=346,slow=8.2,SNR=8.0
STKA LR LR 09 51 34.5
comp=Z,418nm,19.4s,baz=356,slow=38
STKA Stephens Creek 50.72 185 *e*P **P** **09 28 36.1 -1.4**
STKA pmax pmax
comp=Z,17nm,1.1s
STKA Stephens Creek 50.72 185 *e*P **P** **09 28 36.1 -1.4**
comp=Z,17nm,1.1s
STKA pP **pP** **09 29 00.1 -0.7**
GSI Gunungsitoli 50.82 256 *e*P **P** **09 28 39.0 +0.4**
comp=Z,160nm,0.9s
LSA Lhasa 50.97 293 *e*P **P** **09 28 42.2 +2.1**
LSA pmax pmax
comp=Z,42nm,0.8s
LSA Lhasa 50.97 293 *e*P **P** **09 28 42.1 +2.1**
comp=Z,42nm,0.8s
KIP Kipapa 52.12 77 *ce*P **P** **09 28 49.2 +1.0**
KIP pmax pmax
comp=Z,2µm,1.7s
KIP Kipapa 52.12 77 *e*P **P** **09 28 48.8 +0.6**
comp=Z,145nm,0.8s
BBOO Buckleboo 52.37 191 *e*P **P** **09 28 48.7 -1.0**
comp=Z,79nm,0.8s
GAMB Gambell 53.03 22 *e*P **P** **09 28 55.3 +1.1**
comp=Z,75nm,1.2s
TIXI Tiksi 53.70 353 P **P** **09 28 59.1 0.0**
comp=Z,24nm,0.9s,baz=142,slow=6.6,SNR=34
TIXI Tiksi 53.70 353 *e*P **P** **09 28 59.3 +0.2**
TIXI pmax pmax
comp=Z,28nm,0.9s
TIXI Tiksi 53.70 353 *e*P **P** **09 28 59.3 +0.2**
comp=Z,28nm,0.9s
SDPT Sand Point 53.97 34 *e*P **P** **09 29 00.6 -0.6**
comp=Z,344nm,1.3s
CAN Canberra 54.01 177 *e*P **P** **09 29 01.9 0.0**
CAN pmax pmax
comp=Z,280nm,1.6s
CAN Canberra 54.01 177 *e*P **P** **09 29 01.9 0.0**
comp=Z,282nm,1.6s
HPAH Hawaii Prepara 54.47 79 *e*P **P** **09 29 06.1 +0.6**
comp=Z,287nm,1.1s
WMQ Urumqi 54.58 311 P **P** **09 29 07.8 +1.8**
WMQ pP pP 09 29 31.5 +1.9
WMQ sP sP 09 29 43.5 +3.1
WMQ S **S** **09 36 39.0 +0.8**
WMQ ScS **ScS** **09 38 44.8 -1.3**
WMQ SS **SS** **09 40 22.5 +0.4**
WMQ PMZ
comp=Z,28nm,0.7s
WMQ PMZ
comp=Z,100nm,3.8s
WMQ LN
comp=Z,400nm,15.3s
WMQ LE
comp=Z,340nm,17.9s
WMQ LZ
comp=Z,250nm,22.9s
MLOA Mauna Loa Obse 54.66 79 *e*P **P** **09 29 06.8 -0.6**
POHA Pohakuloa 54.66 79 *e*P **P** **09 29 07.9 +0.7**
comp=Z,292nm,1.1s
UWE Uwekahuna 54.94 79 *e*P **P** **09 29 10.0 +0.9**
comp=Z,487nm,1.3s
CHGN Chignik 55.38 34 *e*P **P** **09 29 11.5 0.0**
GUN Gumba 55.68 291 *e*P **P** **09 29 15.0 +0.5**
comp=Z,120nm,1.1s
KKN Kakani 56.22 291 *e*P **P** **09 29 18.3 +0.1**
comp=Z,62nm,0.9s
DMN Daman 56.38 291 *e*P **P** **09 29 19.7 +0.2**
GKN Gorkha 56.76 292 *e*P **P** **09 29 22.1 +0.1**
comp=Z,176nm,1.1s
KOLN Koldanda 57.70 291 *e*P **P** **09 29 28.6 -0.1**
comp=Z,35nm,0.9s
ZAA0 Zalesovo Array 58.17 322 *e*P **P** **09 29 31.6 +0.4**
ZALV Zalesovo Beam 58.17 322 P **P** **09 29 31.1 -0.2**
comp=Z,70nm,0.9s,baz=101,slow=6.6,SNR=200
ZALV pP **pP** **09 29 54.9 -0.2**
comp=Z,29nm,0.6s,baz=106,slow=7.9,SNR=5.4
ZALV ScP **ScP** **09 34 10.4 -2.8**
comp=Z,2.2nm,0.6s,baz=111,slow=3.6,SNR=4.4
ZALV LR LR 09 53 53.0
comp=Z,275nm,21.0s,baz=69,slow=35
PYUN Piuthan 58.20 292 *e*P **P** **09 29 32.3 +0.1**
OHAK Old Harbor 58.35 34 *e*P **P** **09 29 32.8 +0.4**
comp=Z,118nm,1.2s
SVW2 Sparrevohn 58.36 29 *e*P **P** **09 29 33.5 +1.1**
comp=Z,68nm,1.2s
NWAO Narrogin (SRO) 58.57 209 P **P** **09 29 34.2 0.0**
comp=Z,49nm,0.6s,baz=268,slow=7.7,SNR=44
NWAO pP **pP** **09 29 57.9 -0.2**
comp=Z,81nm,1.0s,baz=270,slow=8.4,SNR=7.7
NWAO Narrogin (SRO) 58.57 209 *e*P **P** **09 29 34.2 0.0**
NWAO *e**PP **pP** **09 29 58.6 +0.5**
NWAO Narrogin (SRO) 58.57 209 *e*P **P** **09 29 34.2 0.0**
comp=Z,85nm,0.9s
NWAO *e*pP **pP** **09 29 58.6 +0.5**
CHLP Challavanipeta 58.65 281 *e*P **P** **09 29 36.4 +1.2**
CHLP IAmb IAmb 09 29 37.0
comp=Z,20nm,0.9s
MK01 Makanchi Array 58.70 314 *e*P **P** **09 29 35.7 +0.6**
MK31 Makanchi Array 58.70 314 *e*P **P** **09 29 36.3 +1.2**
MK31 Makanchi Array 58.70 314 *e*P **P** **09 29 36.3 +1.2**
MKAR Makanchi Array 58.70 314 P **P** **09 29 35.7 +0.6**
comp=Z,26nm,0.7s,baz=92,slow=9.1,SNR=170
MKAR pP **pP** **09 29 59.5 +0.5**
comp=Z,26nm,0.8s,baz=91,slow=9.7,SNR=7.7
MKAR ScP **ScP** **09 34 13.6 -2.2**
comp=Z,3.0nm,1.0s,baz=108,slow=4.7,SNR=3.9
MKAR LR LR 09 55 43.2
comp=Z,252nm,19.8s,baz=91,slow=37
MKAR PKP2bc 09 59 20.7
comp=Z,3.7nm,1.1s,baz=354,slow=1.2,SNR=12
MKAR Makanchi Array 58.70 314 *e*P **P** **09 29 36.2 +1.0**
MKAR *PP **pP** **09 29 59.6 +0.5**
MKAR Makanchi Array 58.70 314 *e*P **P** **09 29 36.1 +1.0**
MKAR pP **pP** **09 29 59.5 +0.5**
MKAR ScP **ScP** **09 34 13.6 -2.2**
MKAR ⇑*e* 09 59 20.7
TT01 Tatalina 58.78 27 *e*P **P** **09 29 36.2 +0.8**
TTA Tatalina 58.79 27 *e*P **P** **09 29 36.6 +1.1**
TTA pmax pmax
comp=Z,68nm,1.2s
TTA Tatalina 58.79 27 *e*P **P** **09 29 36.6 +1.1**
comp=Z,68nm,1.2s
KDAK Kodiak Island 58.86 33 *i* P **P** **09 29 36.0 +0.1**
KDAK Kodiak Island 58.86 33 *e*P **P** **09 29 36.3 +0.4**
comp=Z,99nm,1.1s
MAKZ Makanchi 58.92 314 *e*P **P** **09 29 36.8 +0.2**
MAKZ pmax pmax
comp=Z,45nm,0.9s
MAKZ Makanchi 58.92 314 *e*P **P** **09 29 36.8 +0.2**
comp=Z,44nm,0.8s
NVS Novosibirsk 59.26 323 ⇑*i*P **P** **09 29 39.4 +0.7**
NVS *i* *PP **pP** **09 30 03.4 +0.8**
NVS *i* S **S** **09 37 40.4 +1.2**
NVS pmax pmax
comp=N,22nm,1.3s
NVS pmax pmax
comp=E,48nm,1.3s
NVS pmax pmax
comp=Z,86nm,1.3s
NVS smax smax
comp=N,46nm,2.6s
NVS smax smax
comp=E,34nm,2.6s
HOM Homer 59.81 31 *e*P **P** **09 29 42.5 +0.1**
comp=E,138nm,1.0s
CNPM China Poot 59.98 31 *e*P **P** **09 29 43.4 -0.2**
comp=E,188nm,1.2s
SPU Mount Spurr 60.01 29 *e*P **P** **09 29 44.2 +0.3**
BRLK Bradley Lake 60.21 31 *e*P **P** **09 29 44.6 -0.6**
comp=E,85nm,1.1s
PPLA Purkeypile 60.44 28 *e*P **P** **09 29 47.7 +0.8**
comp=E,211nm,1.7s
SUA Susitna One 60.70 29 *e*P **P** **09 29 48.6 0.0**
comp=E,60nm,1.0s
SEW Seward 60.99 31 *e*P **P** **09 29 50.4 0.0**
comp=E,153nm,1.1s
RC01 Rabbit Creek A 61.08 30 *e*P **P** **09 29 51.5 +0.4**
comp=E,121nm,1.2s
PVM Polavaram 61.17 280 *e*P **P** **09 29 53.1 +0.7**
PVM IAmb IAmb 09 29 53.8
comp=Z,16nm,0.9s
KTH Kantishna Hill 61.18 27 *e*P **P** **09 29 52.4 +0.6**
comp=Z,174nm,1.1s
BPAW Bear Paw Mtn. 61.30 26 *e*P **P** **09 29 53.5 +0.9**
comp=Z,149nm,1.0s
TRF Thorofare Moun 61.42 27 *e*P **P** **09 29 53.8 +0.2**
comp=Z,139nm,1.0s
KURK Kurchatov 61.47 318 *ce*P **P** **09 29 53.6 -0.3**
KURK pmax pmax
comp=Z,368nm,1.7s
KURK Kurchatov 61.47 318 *e*P **P** **09 29 54.6 +0.7**
comp=Z,254nm,1.1s
KURK pP **pP** **09 30 18.3 +0.3**
PMR Palmer 61.48 29 *e*P **P** **09 29 53.2 -0.5**
PMR pmax pmax
comp=Z,90nm,1.1s
PMR Palmer 61.48 29 *e*P **P** **09 29 53.7 0.0**
comp=Z,90nm,1.1s
KURBB Kurchatov Arra 61.52 318 P **P** **09 29 54.1 -0.1**
comp=Z,62nm,0.8s,baz=96,slow=7.1,SNR=489
KURBB pP **pP** **09 30 18.3 0.0**
comp=Z,43nm,0.5s,baz=92,slow=7.4,SNR=7.4
NRIK Noril'sk 61.59 340 P **P** **09 29 54.8 +0.5**
comp=Z,35nm,0.4s,baz=111,slow=7.8,SNR=70
NRIK pP **pP** **09 30 19.4 +1.0**
comp=Z,46nm,0.7s,baz=92,slow=8.6,SNR=5.6
NRIK LR LR 09 57 12.8
comp=Z,542nm,21.7s,baz=116,slow=36
MLY Manley 61.67 25 *e*P **P** **09 29 55.8 +0.7**
comp=Z,105nm,1.0s
SML Sawmill 61.90 29 *e*P **P** **09 29 56.7 +0.1**
SML pmax pmax
comp=Z,220nm,1.0s
SML Sawmill 61.90 29 *e*P **P** **09 29 56.7 +0.1**
comp=Z,222nm,1.0s
BWN Browne 61.97 27 *e*P **P** **09 29 57.7 +0.7**
comp=Z,289nm,1.1s
RND Reindeer 62.03 27 *e*P **P** **09 29 57.0 -0.6**
RND pmax pmax
comp=Z,82nm,1.1s
RND Reindeer 62.03 27 *e*P **P** **09 29 57.0 -0.6**
comp=Z,82nm,1.2s
MCK McKinley 62.08 27 *e*P **P** **09 29 58.1 +0.3**
MCK pmax pmax
comp=Z,86nm,1.2s
MCK McKinley 62.08 27 *e*P **P** **09 29 58.0 +0.3**
comp=Z,86nm,1.2s
AAA Alma-Ata 62.34 310 *e*P **P** **09 30 01.4 +1.4**
AAA pmax pmax
comp=Z,100nm,1.4s
AAA MLR MLR
comp=Z,300nm,15.0s
SCM Sheep Creek Mo 62.37 29 *e*P **P** **09 30 00.3 +0.5**
SCM pmax pmax
comp=Z,240nm,1.0s
SCM Sheep Creek Mo 62.37 29 *e*P **P** **09 30 00.3 +0.5**
comp=Z,244nm,1.0s

COLD **Coldfoot** 62.52 23 *e*P P 09 30 01.8 +1.1
comp=Z,70nm,1.0s
DHY **Denali Highway** 62.61 28 *e*P P 09 30 01.4 -0.1
comp=Z,64nm,1.1s
WRH **Wood River Hil** 62.62 26 *e*P P 09 30 01.0 -0.3
comp=Z,62nm,1.0s
MDM **Murphy Dome** 62.68 26 *e*P P 09 30 02.1 +0.3
comp=Z,62nm,1.0s
CCB **Clear Creek Bu** 62.78 26 *e*P P 09 30 01.8 -0.6
comp=Z,79nm,1.2s
COLA **College** 62.82 26 *e*P P 09 30 02.7 +0.1
COLA pmax pmax
comp=Z,43nm,0.9s
COLA **College** 62.82 26 *e*P P 09 30 02.7 +0.1
comp=Z,43nm,0.9s
EYAK **Cordova Ski Ar** 62.88 31 *e*P P 09 30 03.8 +0.7
comp=Z,93nm,1.1s
KLU **Klutina** 62.96 30 *e*P P 09 30 04.4 +0.6
comp=Z,84nm,1.1s
DIV **Divide** 62.97 30 *e*P P 09 30 04.6 +0.8
comp=Z,119nm,1.2s
RPR **Rampur** 63.00 282 *e*P P 09 30 04.7 +0.1
RPR IAmb IAmb 09 30 05.4
comp=Z,19nm,1.0s
NDI **New Delhi** 63.19 293 *e*P P 09 30 00.0 -5.7
KSH **Kashi** 63.19 305 P P 09 30 09.5 +3.7
KSH pP pP 09 30 33.8 +3.9
KSH PcP **PcP** 09 30 45.5 +3.1
KSH PP **PP** 09 32 33.0 +7.3
KSH S **S** 09 38 31.3 +1.4
KSH PMZ
comp=Z,27nm,0.9s
KSH PMZ
comp=Z,130nm,4.3s
KSH LN
comp=Z,450nm,13.9s
KSH LE
comp=Z,300nm,9.1s
KSH LZ
comp=Z,300nm,14.0s
IL1 **Eielson Array** 63.19 26 *e*P P 09 30 04.6 -0.6
ILAR **Eielson Array** 63.19 26 P P 09 30 04.2 -0.9
comp=Z,49nm,0.9s,baz=259,slow=5.2,SNR=221
ILAR LR LR 09 54 36.8
comp=Z,317nm,21.4s,baz=266,slow=33
ILB **Eielson Array** 63.19 26 *e*P P 09 30 04.2 -0.9
TKM2 **Tokmak 2** 63.34 309 *e*P P 09 30 07.7 +0.9
TKM2 pmax pmax
comp=Z,22nm,0.9s
TKM2 **Tokmak 2** 63.34 309 *e*P P 09 30 07.7 +0.9
comp=Z,22nm,0.8s
RAGM **Ragged Mountai** 63.38 31 *e*P P 09 30 07.7 +1.1
comp=Z,277nm,1.6s
PAX **Paxson** 63.44 28 *e*P P 09 30 07.3 +0.4
PAX pmax pmax
comp=Z,79nm,1.0s
PAX **Paxson** 63.44 28 *e*P P 09 30 07.3 +0.4
comp=Z,79nm,1.1s
NJS **Nagarjunasagar** 63.49 279 *e*P P 09 30 08.3 +0.4
NJS IAmb IAmb 09 30 09.4
comp=Z,61nm,1.6s
BMRM **Bremner River** 63.51 31 *e*P P 09 30 08.0 +0.7
comp=Z,169nm,1.1s
URZ **Urewera** 63.83 153 LR LR 09 54 27.2
comp=Z,488nm,21.5s,baz=328,slow=33
SRSP **Sriramsagar** 63.87 282 *e*P P 09 30 09.9 -0.5
SRSP IAmb IAmb 09 30 11.3
comp=Z,26nm,0.9s
SRLM **Srisailam** 63.98 279 *e*P P 09 30 11.1 -0.1
SRLM IAmb IAmb 09 30 12.0
comp=Z,21nm,0.8s
HYB **Hyderabad** 64.00 281 *i*P P 09 30 12.0 +0.7
HYB *e*pP **pP** 09 30 37.0 +1.5
HYBB **Hyderabad (bro** 64.00 281 *e*P P 09 30 11.4 +0.1
HYBB IAmb IAmb 09 30 11.9
comp=Z,19nm,0.8s
FRU **Bishkek** 64.06 309 *e*P P 09 30 11.0 -0.3
FRU *e* 09 30 38.0
FRU *e* 09 39 18.0
FRU pmax pmax
comp=Z,50nm,2.1s
RCLA **Racherla** 64.07 278 *e*P P 09 30 11.8 +0.1
RCLA IAmb IAmb 09 30 12.5
comp=Z,23nm,1.4s
AAK **Ala-Archa** 64.16 309 P P 09 30 12.1 0.0
comp=Z,5.2nm,0.4s,baz=89,slow=7.7,SNR=11
AAK **Ala-Archa** 64.16 309 *e*P P 09 30 12.7 +0.6
AAK pmax pmax
comp=Z,38nm,1.5s
AAK **Ala-Archa** 64.16 309 *e*P P 09 30 12.7 +0.6
comp=Z,38nm,1.5s
CRQM **Cirque** 64.19 31 *e*P P 09 30 12.6 +0.6
comp=Z,161nm,1.1s
DOT **Dot Lake** 64.19 28 *e*P P 09 30 11.9 +0.1
comp=Z,177nm,1.0s
MENT **Mentasta** 64.22 29 *e*P P 09 30 12.8 +0.8
comp=Z,37nm,1.0s
FYU **Fort Yukon** 64.25 24 *e*P P 09 30 13.6 +1.6
comp=Z,281nm,1.2s
BKZ **Black Stump Fm** 64.33 154 *e*P P 09 30 12.5 -0.5
BALM **Baldy** 64.61 31 *e*P P 09 30 15.1 +0.5
BALM pmax pmax
comp=Z,81nm,1.1s
BALM **Baldy** 64.61 31 *e*P P 09 30 15.1 +0.5
comp=Z,81nm,1.1s
EKS2 **Erkin-Say** 64.68 309 *e*P P 09 30 16.3 +0.8
EKS2 pmax pmax
comp=Z,14nm,0.8s
EKS2 **Erkin-Say** 64.68 309 *e*P P 09 30 16.3 +0.8
comp=Z,14nm,0.8s
PCA **Pinnacle** 65.54 32 *e*P P 09 30 21.5 +0.9
comp=Z,132nm,1.2s
KLRI **Killari** 65.67 282 *e*P P 09 30 21.6 -0.5
KLRI IAmb IAmb 09 30 21.7
comp=Z,50nm,1.2s
LTZ **Lake Taylor** 65.91 159 *e*P P 09 30 22.6 -0.4
comp=Z,34nm,0.8s
LTZ *e*pP **pP** 09 30 49.3 +1.9
DAWY **Dawson** 66.29 28 *e*P P 09 30 26.1 +0.7
comp=Z,79nm,1.0s
OXZ **Oxford** 66.32 160 *e*P P 09 30 24.5 -1.1
comp=Z,40nm,0.7s
RPZ **Rata Peaks** 66.35 161 *e*P P 09 30 24.6 -1.2
comp=Z,85nm,1.2s
CHKZ **Chkalovo** 66.51 321 P P 09 30 25.8 -1.0
CHKZ pmax pmax
comp=Z,80nm,1.5s
DHAK **Deception Hill** 66.52 33 *e*P P 09 30 28.1 +1.2
comp=Z,112nm,1.1s
BVA0 **Borovoye Array** 66.65 320 *i*P P 09 30 27.5 -0.3
BVA0 pmax pmax
comp=Z,97nm,0.8s
BVAR **Borovoye Array** 66.65 320 P P 09 30 27.9 +0.1
comp=Z,86nm,0.6s,baz=95,slow=7.4,SNR=570
BVAR pP **pP** 09 30 52.7 +0.5
comp=Z,54nm,0.6s,baz=90,slow=7.6,SNR=5.9
BVAR **Borovoye Array** 66.65 320 P P 09 30 27.9 +0.1
BVAR *PP **pP** 09 30 52.7 +0.5
BVAR pmax pmax
comp=Z,88nm,0.6s
BVAR pmax pmax
comp=Z,54nm,0.6s
BRVK **Borovoye** 66.72 320 *ce*P P 09 30 28.3 +0.1
BRVK *e*PP **sP** 09 31 04.5 +1.3
BRVK pmax pmax
comp=Z,251nm,0.8s
BRVK **Borovoye** 66.72 320 *e*P P 09 30 29.1 +0.9
comp=Z,238nm,0.8s
DCZ **Deep Cove** 66.84 164 *e*P P 09 30 28.5 -0.3
comp=Z,52nm,1.1s
HYT **Haines Junctio** 66.94 31 *e*P P 09 30 31.0 +1.4
comp=Z,178nm,1.1s
MLZ **Mavora Lakes** 67.00 163 *e*P P 09 30 29.1 -0.9
comp=Z,43nm,1.0s
MLZ *e*pP **pP** 09 30 55.5 +1.1
KK31 **Karatay Array** 67.05 310 *i*P P 09 30 29.7 -0.8
KK31 pmax pmax
comp=Z,24nm,0.9s
KKAR **Karatay Array** 67.05 310 *e*P P 09 30 30.5 0.0
KKAR **Karatay Array** 67.05 310 *e*P P 09 30 30.5 0.0
ZRNK **Zerenda** 67.49 320 *e*P P 09 30 33.1 0.0
ZRNK **Zerenda** 67.49 320 *e*P P 09 30 33.1 0.0
comp=Z,94nm,1.1s
SKAG **Skagway** 68.00 33 *e*P P 09 30 37.2 +1.1
comp=Z,80nm,1.2s
DZET **Dzherino** 68.78 305 P P 09 30 41.5 -0.1
DZET pmax pmax
comp=Z,43nm,0.8s
INK **Inuvik** 68.94 23 P P 09 30 41.8 -0.1
comp=Z,75nm,1.0s,baz=264,slow=7.3,SNR=46
INK **Inuvik** 68.94 23 *e*P P 09 30 41.9 +0.1
comp=Z,83nm,1.0s
KBL **Kabul** 69.23 301 *e*P P 09 30 44.6 0.0
KBL **Kabul** 69.23 301 *e*P P 09 30 44.6 0.0
comp=Z,45nm,0.8s
CRAG **Craig** 69.32 37 *e*P P 09 30 45.2 +0.8
comp=Z,49nm,1.2s
WRAK **Wrangell Islan** 69.69 36 *e*P P 09 30 47.6 +0.9
comp=Z,53nm,1.2s
DIB **Dawson Inlet,** 69.86 39 *e*P P 09 30 48.2 +0.4
comp=Z,48nm,1.1s
DLBC **Dease Lake** 70.79 34 P P 09 30 54.7 +1.2
comp=Z,70nm,1.0s,baz=272,slow=6.4,SNR=96
DLBC **Dease Lake** 70.79 34 *e*P P 09 30 54.7 +1.2
comp=Z,121nm,1.1s
SVE **Sverdlovsk** 72.01 325 *c*P P 09 31 01.3 +0.6
SVE pmax pmax
comp=Z,160nm,1.0s
BBB **Bella Bella** 72.62 40 *e*P P 09 31 04.9 +0.5
comp=Z,52nm,1.1s
PPT **Papeete** 72.72 116 P P 09 31 07.0 +1.5
comp=Z,51nm,0.9s,baz=345,slow=7.7,SNR=3.7
PPT LR LR 09 55 55.5
comp=Z,407nm,19.6s,baz=290,slow=30
PPT2 **Papeete2** 72.72 116 *e*S **SKiKP** 09 40 31.0 +0.5
comp=Z,724nm,25.2s
PPT2 **Papeete2** 72.72 116 *e*LR LR 09 53 14.1
comp=Z,826nm,23.8s,baz=300
ARU **Arti** 73.20 325 P P 09 31 08.0 +0.2
comp=Z,74nm,0.7s,baz=90,slow=4.0,SNR=137
ARU **Arti** 73.20 325 *d*P P 09 31 07.8 0.0
ARU *PP **pP** 09 31 33.9 +1.3
ARU 09 33 54.5
ARU PPP PPP 09 35 36.0
ARU S **S** 09 40 28.7 +0.7
ARU *SS **SKSac** 09 41 01.4 -3.5
ARU SS **SS** 09 45 06.7 -4.1
ARU pmax pmax
comp=Z,200nm,1.2s
ARU **Arti** 73.20 325 *e*P P 09 31 08.5 +0.7
comp=Z,146nm,1.0s
AB31 **Akbulak array** 73.55 317 P P 09 31 09.2 -0.8
AB31 pmax pmax
comp=Z,24nm,0.6s
ABKAR **Akbulak array** 73.55 317 *e*P P 09 31 09.7 -0.3
AKTO **Aktyubinsk** 74.56 318 P P 09 31 15.5 -0.4
comp=Z,12nm,0.6s,baz=86,slow=7.9,SNR=35
TBI **Tubuai** 75.47 121 *e*S S 09 40 57.7 +3.3
comp=Z,519nm,26.3s
TBI **Tubuai** 75.47 121 *e*LR LR 09 54 20.1
comp=Z,324nm,29.0s
PGC **Sidney** 76.20 43 *e*P P 09 31 26.3 +1.0
comp=Z,58nm,1.1s
NLWA **Neilton Lookou** 76.21 44 *e*P P 09 31 26.9 +1.4
comp=Z,84nm,1.0s
E03A **Leban** 76.61 45 *e*P P 09 31 28.9 +1.3
comp=Z,96nm,0.9s
A04D **Lummi Island** 76.67 43 P P 09 31 29.1 +1.2
baz=283
LLLB **Lillooet** 76.75 41 *e*P P 09 31 29.5 +1.1
comp=Z,69nm,1.1s
F04D **Rainier, OR** 77.09 46 P P 09 31 31.2 +0.8
baz=284
G03D **McMinnville, O** 77.13 46 P P 09 31 31.3 +0.7
baz=284,SNR=8.9
B05A **Bryant** 77.17 43 P P 09 31 31.9 +1.1
baz=284
GEYT **Alibeck** 77.21 306 P P 09 31 31.4 +0.1
comp=Z,24nm,0.9s,baz=45,slow=2.5,SNR=33
GEYT LR LR 10 08 48.6
comp=Z,120nm,19.6s,baz=170,slow=38
COR **Corvallis** 77.25 47 *e*P P 09 31 32.5 +1.3
COR **Corvallis** 77.25 47 *e*P P 09 31 32.5 +1.3
comp=Z,96nm,1.3s
I03D **Drain, OR** 77.43 48 P P 09 31 33.6 +1.3
baz=284,SNR=19
D05A **Enumclaw** 77.50 44 *e*P P 09 31 34.1 +1.4
comp=Z,100nm,1.0s
YKA **Yellowknife Ar** 77.53 28 P P 09 31 32.5 +0.1
comp=Z,28nm,0.7s,baz=290,slow=5.6,SNR=71
YKA LR LR 10 03 46.3
comp=Z,74nm,21.9s,baz=0.0,slow=34
TAOE **Nuku Hiva Isla** 77.57 104 *e*LR LR 09 55 10.3
comp=Z,585nm,32.4s
L02D **Cave Junction,** 77.63 50 P P 09 31 34.6 +1.1
baz=284,SNR=14
OBSR **Observation Ro** 77.69 45 *e*P P 09 31 35.1 +1.1
LON **Longmire** 77.73 45 *e*P P 09 31 34.5 +0.5
LON **Longmire** 77.73 45 *e*P P 09 31 34.5 +0.5
comp=Z,30nm,1.1s
KHMM **Horse Mountain** 77.85 51 *e*P P 09 31 36.5 +1.6
comp=Z,117nm,1.1s
HUMO **Hull Mountain** 77.98 49 *e*P P 09 31 36.5 +1.1
comp=Z,57nm,1.1s
KMRM **Mail Ridge** 78.03 52 *e*P P 09 31 37.6 +1.8
comp=Z,90nm,1.2s
C06D **Leavenworth** 78.04 43 P P 09 31 36.7 +1.1
baz=285
I04A **Tendick Farm,** 78.07 48 P P 09 31 36.5 +0.6
baz=285
M02C **Callahan** 78.36 50 P P 09 31 38.9 +1.3
baz=285,SNR=21
G05D **Wamic, OR** 78.45 46 P P 09 31 39.0 +1.0
baz=285
N02D **Trinity Center** 78.58 51 P P 09 31 40.0 +1.2
baz=285,SNR=18
I05D **Terrebonne, OR** 78.67 47 P P 09 31 40.2 +0.9
baz=285
WDC **Whiskeytown Da** 78.80 51 *e*P P 09 31 40.8 +0.8
WDC **Whiskeytown Da** 78.80 51 *e*P P 09 31 40.8 +0.8
comp=Z,42nm,1.1s
HOPS **Hopland Field** 78.83 53 *e*P P 09 31 40.8 +0.7
comp=Z,60nm,1.1s
K04D **Chiloquin, OR** 78.83 49 P P 09 31 41.1 +0.8
baz=285,SNR=9.0
G06A **Carlson Farm,** 78.92 46 *e*P P 09 31 41.6 +1.0
comp=Z,49nm,1.2s
B08A **Colville Reser** 78.93 43 *e*P P 09 31 41.1 +0.5
comp=Z,65nm,1.0s
M04C **Macdoel** 79.00 50 P P 09 31 42.0 +0.8
baz=286
J05D **Fort Rock, OR** 79.03 48 P P 09 31 42.4 +1.1
baz=286
SPA0 **Spitsbergen Ar** 79.03 351 *e*P P 09 31 41.5 +1.0
SPA0 **Spitsbergen Ar** 79.03 351 *e*P P 09 31 41.2 +0.6
SPITS **Spitsbergen Ar** 79.03 351 P P 09 31 40.5 -0.1
comp=Z,8.6nm,0.5s,baz=129,slow=6.6,SNR=36
SPITS LR LR 10 07 29.4
comp=Z,129nm,21.7s,baz=35,slow=36
RES **Resolute Bay** 79.07 14 *e*P P 09 31 41.6 +0.9
RES **Resolute Bay** 79.07 14 *e*P P 09 31 41.6 +0.9
comp=Z,124nm,1.0s
E07A **Sunnyside** 79.08 45 *e*P P 09 31 42.4 +1.0
comp=Z,88nm,1.0s
KBS **Kingsbay** 79.14 352 *e*P P 09 31 42.1 +1.1
KBS *e*pP **pP** 09 32 07.8 +1.7
KBS *e*S **S** 09 41 33.8 +1.4
KBS **Kingsbay** 79.14 352 *e*P P 09 31 41.9 +0.9
KBS **Kingsbay** 79.14 352 *e*P P 09 31 41.9 +0.9
comp=Z,51nm,0.8s
HAWA **Hanford** 79.34 45 *e*P P 09 31 43.6 +0.8
comp=Z,54nm,1.0s
K05A **Summer Lake** 79.42 48 *e*P P 09 31 44.2 +0.6
comp=Z,152nm,1.1s
O03D **Paynes Creek** 79.42 51 P P 09 31 43.7 +0.3
baz=286,SNR=36
D08A **Wollman Farm,** 79.56 44 *e*P P 09 31 44.8 +0.8
comp=Z,98nm,1.1s
C09A **Chrisman Ranch** 79.77 43 *e*P P 09 31 45.7 +0.6
comp=Z,69nm,1.1s
ORV **Oroville** 79.85 52 *e*P P 09 31 46.0 +0.3
ORV **Oroville** 79.85 52 *e*P P 09 31 46.0 +0.3
comp=Z,84nm,1.1s
HSPB **Hornsund (broa** 79.97 350 *e*P P 09 31 46.2 +0.6
G08A **Pilot Rock** 80.04 46 *e*P P 09 31 47.3 +0.5
comp=Z,43nm,1.1s
MOD **Modoc Plateau** 80.07 49 *e*P P 09 31 47.5 +0.5
comp=Z,65nm,1.1s
E09A **Wood Farm, Sta** 80.23 44 *e*P P 09 31 48.5 +0.9
comp=Z,80nm,1.0s
NEW **Newport** 80.37 42 LR LR 10 05 11.2
comp=Z,306nm,18.3s,baz=295,slow=34
NEW **Newport** 80.37 42 P P 09 31 49.0 +0.6
baz=288
NEW **Newport** 80.37 42 *e*P P 09 31 48.8 +0.4
NEW **Newport** 80.37 42 *e*P P 09 31 48.8 +0.4
comp=Z,74nm,1.1s
AFDM **Forest Hills D** 80.41 52 *e*P P 09 31 49.3 +0.5
comp=Z,56nm,1.1s
LVZ **Lovozero** 80.42 339 *ce*P P 09 31 47.7 -0.5
LVZ pmax pmax
comp=Z,72nm,1.2s
LVZ **Lovozero** 80.42 339 *e*P P 09 31 48.4 +0.2
comp=Z,75nm,1.1s
WSAR **Wadi Sarin** 80.67 291 P P 09 31 51.3 +0.9
comp=Z,9.8nm,1.0s,baz=134,slow=2.5,SNR=4.1
SAO **San Andreas Ge** 80.67 54 *e*P P 09 31 50.9 +0.8
SAO **San Andreas Ge** 80.67 54 *e*P P 09 31 50.9 +0.8
comp=Z,32nm,1.1s
APA **Apatity** 80.99 339 ⇑ *i*P P 09 31 49.8 -1.4
APA *i* *PP **pP** 09 32 15.5 -0.9
APA *i* 09 35 03.0
APA *i* S **S** 09 41 48.0 -4.2
APA *i* 09 42 57.0
APA pmax pmax
comp=Z,54nm,1.0s
APA MLR MLR
comp=Z,500nm,22.0s
F10A **Beach Ranch, E** 81.00 45 *e*P P 09 31 52.3 +0.5
comp=Z,39nm,1.2s
EDM **Edmonton** 81.07 37 *e*P P 09 31 52.4 +0.4
EDM **Edmonton** 81.07 37 *e*P P 09 31 52.4 +0.4
comp=Z,138nm,1.2s
WVOR **Wild Horse Val** 81.10 48 *e*P P 09 31 53.0 +0.5
WVOR **Wild Horse Val** 81.10 48 *e*P P 09 31 53.0 +0.5
comp=Z,76nm,1.1s
CMB **Columbia Colle** 81.12 53 *e*P P 09 31 53.1 +0.5
CMB **Columbia Colle** 81.12 53 *e*P P 09 31 53.1 +0.5
comp=Z,73nm,1.1s
BMO **Blue Mountains** 81.29 46 *e*P P 09 31 53.8 +0.4
BMO **Blue Mountains** 81.29 46 *e*P P 09 31 53.8 +0.4
comp=Z,84nm,1.2s
PAHR **Pah Rah Range** 81.37 51 *e*P P 09 31 54.4 +0.4
comp=Z,58nm,1.1s
KLMR **Klimovskoe** 81.52 332 *e*P P 09 31 49.5 -4.6
KLMR *e*S **S** 09 41 54.0 -3.8
KLMR pmax pmax
comp=Z,184nm,1.2s
WAKR **Walker** 81.69 52 *e*P P 09 31 56.8 +1.0
comp=Z,42nm,1.1s
KEV **Kevo** 81.89 342 *e*P P 09 31 56.3 +0.5
KEV **Kevo** 81.89 342 *e*P P 09 31 56.3 +0.5
comp=Z,82nm,1.0s
BSMT **Bassoo Peak** 81.99 42 *e*P P 09 31 58.0 +0.8
WALA **Waterton Lakes** 82.13 41 *e*P P 09 31 58.8 +1.0
comp=Z,108nm,1.2s
BLMT **Blacktail Moun** 82.20 42 *e*P P 09 31 59.1 +0.8
SMMC **Simmler** 82.22 55 P P 09 31 59.3 +0.9
baz=288,SNR=5.7
UOSS **Minazif** 82.30 294 *e*P P 09 31 58.7 -0.2
comp=Z,1.6nm,1.0s
HAMF **Hammerfest** 82.30 344 *e*P P 09 31 58.5 +0.4
HAMF *e*pP **pP** 09 32 24.0 +0.7
HAMF *e*S **S** 09 42 05.6 +0.1
JTMT **Jette** 82.34 42 *e*P P 09 32 00.1 +1.2
MLAC **Mammoth, Mammo** 82.41 53 P P 09 32 00.5 +0.9
baz=288
ARA0 **ARCESS Array S** 82.44 342 *e*P P 09 31 59.0 +0.2
ARCES **ARCESS Array B** 82.44 342 P P 09 31 59.0 +0.2
comp=Z,68nm,0.9s,baz=56,slow=6.5,SNR=105
ARCES pP **pP** 09 32 24.6 +0.5
comp=Z,45nm,0.5s,baz=70,slow=7.1,SNR=8.8
ARCES PKKPbc **PKKPbc** 09 50 24.0 -2.6
comp=Z,1.9nm,1.0s,baz=235,slow=4.3,SNR=4.2
ARCES LR LR 10 15 09.2
comp=Z,135nm,19.3s,baz=67,slow=40
ARE0 **ARCESS Array S** 82.44 342 *e*P P 09 31 58.5 -0.3
ARE0 *e*pP **pP** 09 32 24.7 +0.6
ARE0 **ARCESS Array S** 82.44 342 *e*P P 09 31 59.6 +0.8
comp=Z,104nm,1.0s
YBMT **Yellow Bay** 82.48 42 *e*P P 09 32 00.7 +1.1
PKM **Mcpherson Peak** 82.49 56 P P 09 32 00.7 +0.7
baz=288,SNR=16
RCTC **Rector, Farmer** 82.50 54 P P 09 32 00.1 +0.4
baz=288
SWMT **Swartz Lake** 82.60 42 *e*P P 09 32 00.9 +0.7
SBC **Santa Barbara** 82.71 56 P P 09 32 01.5 +0.7
baz=288
BMN **Battle Mountai** 82.73 50 *e*P P 09 32 01.9 +0.8
BMN **Battle Mountai** 82.73 50 *e*P P 09 32 01.9 +0.8
comp=Z,46nm,1.2s
MFID **Camas Ranch** 82.75 47 *e*P P 09 32 01.6 +0.5
comp=Z,84nm,1.1s
VES **Vestal, Richgr** 82.77 55 P P 09 32 00.9 -0.2
baz=288,SNR=28
MSO **Missoula** 82.87 43 P P 09 32 01.4 -0.3
baz=290
MSO **Missoula** 82.87 43 *e*P P 09 32 01.2 -0.4
comp=Z,33nm,1.4s
SCZ2 **Santa Cruz Isl** 82.91 57 P P 09 32 02.0 0.0
baz=288
TIN **Tinemaha, Big** 83.05 53 P P 09 32 03.2 +0.5
baz=288
ARVC **Arvin** 83.19 55 P P 09 32 03.6 +0.2
baz=288,SNR=8.7
SNCC **San Nicolas Is** 83.22 57 P P 09 32 03.8 +0.2
baz=288
CHMT **Chamberlain Mo** 83.29 43 *e*P P 09 32 03.6 -0.3
ISA **Isabella, Lake** 83.30 55 P P 09 32 03.9 -0.1
baz=288,SNR=6.7
ISA **Isabella, Lake** 83.30 55 *e*P P 09 32 04.1 +0.1
ISA **Isabella, Lake** 83.30 55 *e*P P 09 32 04.1 +0.1
comp=Z,24nm,1.0s
BLG **Laguna Peak, P** 83.32 56 P P 09 32 04.0 -0.1
baz=288
CWC **Cottonwood Cre** 83.35 54 P P 09 32 04.9 +0.4
baz=288
KTK1 **Kautokeino** 83.41 342 *e*P P 09 32 03.6 -0.2
KTK1 IAmb IAmb 09 32 05.1
comp=Z,45nm,0.9s
KTK1 *e*pP **pP** 09 32 30.4 +1.3
OSI **Osito Audit: C** 83.43 56 P P 09 32 04.7 -0.1
baz=288
HLID **Hailey** 83.67 46 P P 09 32 06.4 +0.5
baz=290
HLID **Hailey** 83.67 46 *e*P P 09 32 06.5 +0.5
comp=Z,31nm,1.1s
GRAC **Grapevine Rang** 83.72 53 P P 09 32 06.5 +0.4
baz=289
DAC **Darwin (Calif)** 83.78 54 *e*P P 09 32 00.1 -6.5
DECC **Green Verdugo** 83.85 56 P P 09 32 07.0 +0.2
baz=289,SNR=11
EDW2 **Edwards Air Fo** 83.92 55 P P 09 32 07.7 +0.5
baz=289,SNR=21
MPMC **Manual Prospec** 83.93 54 P P 09 32 07.7 +0.3
baz=289,SNR=60
LRMC **Laurel Mtn Rad** 83.97 55 P P 09 32 07.9 +0.4
baz=289
PASC **Pasadena Art C** 83.99 56 *e*P P 09 32 07.7 +0.2
comp=Z,48nm,1.1s
ELK **Elko** 84.05 49 *e*P P 09 32 08.7 +0.7
ELK **Elko** 84.05 49 *e*P P 09 32 08.7 +0.7
comp=Z,49nm,1.0s
FMP **Fort Macarthur** 84.05 57 P P 09 32 07.8 0.0
baz=289
DAG **Danmarks Havn** 84.07 357 *i*P P 09 32 07.0 0.0
DAG *i* 09 32 36.6
DAG pmax pmax
comp=Z,18nm,0.9s
DAG **Danmarks Havn** 84.07 357 *i*P P 09 32 07.0 0.0
comp=Z,21nm,0.9s
DAG *i* 09 32 36.6
MWC **Mount Wilson** 84.08 56 *e*P P 09 32 08.0 -0.2
MWC **Mount Wilson** 84.08 56 *e*P P 09 32 08.0 -0.2
comp=Z,54nm,1.1s
GNBR **Gunib** 84.09 313 *e*P P 09 32 08.3 +0.4
GNBR pmax pmax
comp=Z,29nm,0.9s
LRM **Limekiln Ridge** 84.19 44 *e*P P 09 32 08.9 +0.3
TRO **Tromso** 84.20 344 *e*P P 09 32 07.8 0.0
TRO IAmb IAmb 09 32 09.0
comp=Z,81nm,0.9s
TRO *e*pP **pP** 09 32 33.4 +0.3
TRO *e*SKSac **SKSac** 09 42 19.8 -2.4
VRH **Novokhopyorsk** 84.21 322 *e*P P 09 32 06.7 -1.5
VRH *e**PP **pP** 09 32 31.7 -1.8
VRH *e*S **S** 09 42 21.1 -4.3
VRH pmax pmax
comp=Z,20nm,1.5s

VRH smax smax
comp=N,1µm,6.9s
DLMT Dillon 84.26 44 *e*P **P 09 32 09.0 +0.1**
comp=N,93nm,1.8s
HRY Holter Researc 84.27 43 *e*P **P 09 32 10.1 +1.3**
FURC Furnace Creek, 84.27 54 P **P 09 32 09.5 +0.6**
baz=289
MCMT McKenzie Canyo 84.29 45 *e*P **P 09 32 09.4 +0.3**
BFSC Mount Baldy Ra 84.39 56 P **P 09 32 09.6 -0.1**
baz=289,SNR=7.6
MOS Moscow 84.57 327 *e*P **P 09 32 06.9 -3.0**
MOS *e* 09 32 34.1
MOS *e*S **S 09 42 22.9 -5.9**
MOS pmax pmax
comp=Z,153nm,1.0s
MOS pmax pmax
comp=Z,300nm,1.4s
TPNV Topopah Spring 84.58 53 P **P 09 32 11.0 +0.4**
baz=290
TPNV Topopah Spring 84.58 53 *e*P **P 09 32 11.0 +0.4**
TPNV Topopah Spring 84.58 53 *e*P **P 09 32 11.0 +0.4**
comp=Z,47nm,1.0s
R11A Troy Canyon, C 84.61 51 P **P 09 32 11.4 +0.6**
baz=290
R11A Troy Canyon, C 84.61 51 *e*P **P 09 32 11.3 +0.6**
comp=Z,68nm,1.3s
BGMT Barton Gulch 84.67 44 *e*P **P 09 32 11.6 +0.6**
RRX Edison Barstow 84.69 55 P **P 09 32 11.7 +0.7**
baz=289
GSC Goldstone, Bar 84.70 55 P **P 09 32 11.5 +0.3**
baz=289,SNR=17
GSC Goldstone, Bar 84.70 55 *e*P **P 09 32 11.5 +0.3**
GSC Goldstone, Bar 84.70 55 *e*P **P 09 32 11.5 +0.3**
comp=Z,42nm,1.1s
BOZ Bozeman (W) 84.79 44 P **P 09 32 11.9 +0.5**
baz=292
BOZ Bozeman (W) 84.79 44 *e*P **P 09 32 12.0 +0.5**
BOZ Bozeman (W) 84.79 44 *e*P **P 09 32 12.0 +0.5**
comp=Z,61nm,1.2s
SHOC Shoshone, Teco 84.91 54 P **P 09 32 12.6 +0.5**
baz=290,SNR=7.4
BBRC Big Bear Solar 84.95 56 P **P 09 32 12.3 -0.4**
baz=289
MURC Murrieta 84.96 56 P **P 09 32 12.3 -0.1**
baz=289,SNR=10
HEC Hector,Ludlow 85.22 55 P **P 09 32 13.8 0.0**
baz=290,SNR=12
QLMT Earthquake Lak 85.22 44 *e*P **P 09 32 15.0 +1.2**
109C Camp Elliot, M 85.26 57 P **P 09 32 14.0 +0.1**
baz=289,SNR=9.7
TUQ Turquoise Moun 85.33 54 P **P 09 32 14.8 +0.4**
baz=290,SNR=10
OBN Obninsk 85.39 327 *ce*P **P 09 32 13.4 -0.6**
OBN *e**PP **pP 09 32 38.0 -1.4**
OBN *e**SP **sP 09 32 48.5 -1.3**
OBN *e* 09 35 36.2
OBN *e*PPP PPP 09 37 28.6
OBN pmax pmax
comp=Z,78nm,1.2s
OBN Obninsk 85.39 327 *e*P **P 09 32 13.5 -0.6**
comp=Z,63nm,1.1s
YHB Horse Butte 85.41 44 *e*P **P 09 32 16.1 +1.4**
HVU Hansel Valley 85.43 47 *e*P **P 09 32 15.8 +1.0**
HVU Hansel Valley 85.43 47 *e*P **P 09 32 15.8 +1.0**
comp=Z,102nm,1.2s
KULLO Kullorsuaq 85.50 6 ǁ *i*P **P 09 32 14.6 +0.4**
KULLO pmax pmax
comp=Z,260nm,1.3s
KULLO Kullorsuaq 85.50 6 ǁ *i*P **P 09 32 14.6 +0.4**
comp=Z,262nm,1.3s
YMC Maple Creek 85.53 44 *e*P **P 09 32 16.9 +1.6**
PFO Pinyon Flats O 85.53 56 LR LR 10 05 06.2
comp=Z,142nm,19.9s,baz=298,slow=32
PFO Pinyon Flats O 85.53 56 P **P 09 32 15.3 -0.1**
baz=290
PFO Pinyon Flats O 85.53 56 *e*P **P 09 32 15.6 +0.2**
PFO Pinyon Flats O 85.53 56 *e*P **P 09 32 15.6 +0.2**
comp=Z,56nm,1.1s
TPFO Pinon Flats 85.54 56 P **P 09 32 15.5 0.0**
baz=290,SNR=21
SHPR Sheep Range 85.55 53 *e*P **P 09 32 16.2 +0.7**
comp=Z,42nm,1.2s
YMR Madison River 85.59 44 *e*P **P 09 32 17.2 +1.6**
comp=Z,149nm,1.1s
YHH Holmes Hill 85.62 44 *e*P **P 09 32 17.4 +1.5**
comp=Z,88nm,1.1s
VSR Storozhevoye 85.67 323 *e*P **P 09 32 14.1 -1.4**
VSR *e**PP **pP 09 32 39.8 -1.1**
VSR *e*S **S 09 42 32.5 -7.4**
VSR pmax pmax
comp=Z,30nm,1.0s
VSR smax smax
comp=N,420nm,3.7s
BAR Barrett 85.68 57 *e*P **P 09 32 16.0 0.0**
comp=N,44nm,1.3s
MTUT Morton Thiokol 85.68 47 *e*P **P 09 32 16.9 +0.9**
FSU Fish Springs 85.73 50 *e*P **P 09 32 16.7 +0.4**
GMRC Granite Mounta 85.76 55 P **P 09 32 16.8 +0.3**
baz=290,SNR=20
YFT Old Faithful 85.76 44 *e*P **P 09 32 19.1 +2.7**
comp=N,127nm,1.2s
BELC Belle Mtn. Jos 85.76 56 P **P 09 32 16.6 0.0**
baz=290,SNR=17
GUDG Gudauri 85.78 313 P **P 09 32 16.6 0.0**
MONP2 Monument Peak 85.80 57 P **P 09 32 17.1 +0.2**
baz=290,SNR=12
SPUT South Promonto 85.83 48 *e*P **P 09 32 17.9 +1.1**
comp=N,87nm,1.3s
YPP Pitchstone Pla 85.85 45 *e*P **P 09 32 18.8 +1.8**
comp=N,31nm,1.2s
IMW Indian Meadow 85.90 45 *e*P **P 09 32 18.4 +1.2**
comp=N,88nm,1.2s
H17A Grant Village 85.95 44 P **P 09 32 19.6 +2.1**
baz=292
H17A Grant Village 85.95 44 *e*P **P 09 32 19.9 +2.5**
comp=N,115nm,1.1s
DUG Dugway, Tooele 85.98 49 P **P 09 32 18.0 +0.5**
baz=291
DUG Dugway, Tooele 85.98 49 *e*P **P 09 32 18.0 +0.5**
DUG Dugway, Tooele 85.98 49 *e*P **P 09 32 18.0 +0.5**
comp=N,86nm,1.3s
FLWY Flagg Ranch 85.99 45 *e*P **P 09 32 19.2 +1.6**
comp=N,124nm,1.1s
NCK Nalchik 85.99 315 *i*P **P 09 32 17.0 -0.4**
NCK pmax pmax
comp=Z,9.0nm,0.7s
LKWY Lake 86.00 44 *e*P **P 09 32 20.5 +2.8**
LKWY Lake 86.00 44 *e*P **P 09 32 20.5 +2.8**
comp=Z,96nm,1.2s
GCMT Greycliff 86.01 43 *e*P **P 09 32 18.5 +0.9**
TPAW Teton Pass 86.05 45 *e*P **P 09 32 19.0 +1.1**
comp=Z,62nm,1.1s
ZEI Tsey 86.05 314 *e*P **P 09 32 16.2 -1.7**
ZEI pmax pmax
comp=Z,29nm,0.7s
WVUT Wellsville 86.06 47 *e*P **P 09 32 18.6 +0.6**
LDFC Landfair 86.08 54 *e*P **P 09 32 18.7 +0.6**
comp=Z,90nm,1.1s
MOOW Moose Ponds 86.09 45 *e*P **P 09 32 18.6 +0.5**
comp=Z,51nm,1.1s
HDU Hyde Park 86.12 47 *e*P **P 09 32 18.9 +0.7**
IKP In-Ko-Pah, Jac 86.13 57 P **P 09 32 18.6 +0.3**
baz=290,SNR=6.1
REDW Red Top Meadow 86.16 45 *e*P **P 09 32 19.1 +0.6**
comp=Z,91nm,1.5s
SNOW Snow King Moun 86.19 45 *e*P **P 09 32 19.5 +0.9**
comp=Z,45nm,1.3s
AHID Auburn Hatcher 86.22 46 *e*P **P 09 32 19.3 +0.5**
comp=Z,105nm,1.0s
LOHW Long Hollow 86.23 45 *e*P **P 09 32 19.5 +0.7**
comp=Z,36nm,1.1s
SWSC Sam W. Stewart 86.28 57 P **P 09 32 19.3 +0.4**
baz=290,SNR=5.1
BC3 Big Chuckawall 86.31 56 P **P 09 32 19.5 +0.3**
baz=290,SNR=29
HWUT Hardware Ranch 86.34 47 *e*P **P 09 32 19.7 +0.4**
comp=Z,94nm,1.1s
STEI Steigen 86.35 343 *e*P **P 09 32 18.4 -0.1**
KBZ Khabaz 86.37 315 P **P 09 32 18.3 -0.8**
comp=Z,11nm,0.9s,baz=142,slow=1.9,SNR=17
KBZ LR LR 10 12 24.7
comp=Z,223nm,20.5s,baz=61,slow=36
IRM Iron Mountain 86.38 55 P **P 09 32 19.7 +0.3**
baz=290,SNR=21
KIV Kislovodsk 86.43 315 *e*P **P 09 32 20.2 +0.6**
KIV *e**PP **pP 09 32 46.3 +1.3**
KIV *e* 09 42 36.5
KIV *e*SS SS 09 48 31.9 +2.7
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV MLR MLR
comp=Z,305nm,19.0s
RSUT Red Spur Mount 86.43 47 *e*P **P 09 32 20.5 +0.6**
ONI Oni 86.43 314 P **P 09 32 17.6 -2.1**
ONI Oni 86.43 314 P **P 09 32 17.5 -2.1**
GNI Garni 86.45 311 *i*P **P 09 32 20.1 +0.2**
GNI pmax pmax
comp=Z,36nm,1.2s
RLMT Red Lodge 86.53 43 P **P 09 32 21.4 +1.2**
baz=293
RLMT Red Lodge 86.53 43 *e*P **P 09 32 21.5 +1.3**
comp=Z,343nm,1.8s
CCUT Cedar City 86.53 52 *e*P **P 09 32 21.3 +0.9**
comp=Z,63nm,1.2s
CTU Camp Tracy 86.55 48 *e*P **P 09 32 20.8 +0.5**
comp=Z,183nm,1.2s
NEE2 Needles Airpor 86.57 55 P **P 09 32 20.5 +0.1**
baz=291
TCUT Toone Canyon 86.63 48 *e*P **P 09 32 21.3 +0.5**
comp=Z,68nm,1.1s
LOF Lofoten 86.66 344 *e*P **P 09 32 19.9 -0.1**
LOF *e*pP **pP 09 32 45.6 +0.1**
LOF *e*SKSac **SKSac 09 42 37.4 -0.3**
NEY Neytrino 86.68 315 *i*P **P 09 32 21.0 +0.1**
NEY pmax pmax
comp=Z,2.0nm,0.9s
JLU Joanelle 86.79 48 *e*P **P 09 32 22.2 +0.6**
comp=Z,100nm,1.2s
LCMT Little Creek M 86.81 52 *e*P **P 09 32 22.5 +0.8**
comp=Z,61nm,1.2s
FIA1 FINESS Array S 86.91 335 *e*P **P 09 32 20.3 -1.0**
comp=Z,54nm,0.4s
FINES FINESS Array B 86.91 335 P **P 09 32 20.2 -1.2**
comp=Z,36nm,0.3s,baz=67,slow=4.5,SNR=735
FINES LR LR 10 14 36.5
comp=Z,382nm,20.4s,baz=52,slow=38
Y12C Blythe 87.00 55 P **P 09 32 23.1 +0.7**
baz=291,SNR=11
Y12C Blythe 87.00 55 *e*P **P 09 32 22.9 +0.5**
comp=Z,42nm,1.2s
GLA Glamis 87.01 56 P **P 09 32 23.1 +0.6**
baz=291,SNR=8.0
GLA Glamis 87.01 56 *e*P **P 09 32 23.1 +0.6**
GLA pmax pmax
comp=Z,48nm,1.3s
GLA Glamis 87.01 56 *e*P **P 09 32 23.1 +0.6**
comp=Z,48nm,1.3s
W13A Hualapai Mount 87.02 54 *e*P **P 09 32 23.4 +0.6**
comp=Z,26nm,1.1s
MSU Marysvale 87.05 50 *e*P **P 09 32 23.7 +0.8**
MSU Marysvale 87.05 50 *e*P **P 09 32 23.7 +0.8**
PDMCI Parker Dam,Lak 87.10 55 P **P 09 32 23.5 +0.6**
baz=291,SNR=26
KNB Kanab 87.13 52 *e*P **P 09 32 24.3 +1.0**
KNB Kanab 87.13 52 *e*P **P 09 32 24.2 +1.0**
comp=Z,139nm,1.2s
MTPU Mount Pierson 87.22 51 *e*P **P 09 32 24.1 +0.2**
comp=Z,32nm,1.2s
BW06 Boulder Array 87.27 46 P **P 09 32 23.9 0.0**
baz=293
BW06 Boulder Array 87.27 46 *e*P **P 09 32 23.8 0.0**
comp=Z,25nm,1.1s
PD31 Pinedale Array 87.27 46 *e*P **P 09 32 23.9 0.0**
PDAR Pinedale Array 87.27 46 P **P 09 32 23.8 0.0**
comp=Z,4.4nm,0.4s,baz=267,slow=3.0,SNR=36
PDAR LR LR 10 06 16.9
comp=Z,207nm,20.8s,baz=310,slow=32
TMUT Trail Mountain 87.46 49 *e*P **P 09 32 25.6 +0.7**
comp=Z,41nm,1.2s
RKT Rikitea 87.47 115 *e*S **S 09 42 59.8 +1.7**
comp=Z,252nm,35.0s
RKT Rikitea 87.47 115 *e*LR LR 09 59 51.0
comp=Z,557nm,34.5s,baz=292
Q16A Castle Valley 87.63 50 *e*P **P 09 32 26.5 +0.9**
comp=Z,141nm,1.3s
P17A Butcher Ranch, 87.73 49 *e*P **P 09 32 26.6 +0.6**
comp=Z,82nm,1.2s
U15A North Rim 87.74 52 *e*P **P 09 32 27.1 +0.8**
comp=Z,60nm,1.1s
MMU Miners Mountai 87.81 50 *e*P **P 09 32 26.1 -0.6**
LAO LASA Array 87.82 41 P **P 09 32 26.8 +0.6**
baz=295
LAO LASA Array 87.82 41 *e*P **P 09 32 27.3 +1.1**
comp=Z,161nm,1.1s
113A Mohawk Valley, 87.94 56 *e*P **P 09 32 27.3 +0.3**
comp=Z,27nm,1.2s
P18A Preston Nutter 88.02 49 *e*P **P 09 32 28.1 +0.5**
comp=Z,36nm,1.2s
SRU San Rafael Swe 88.02 49 *e*P **P 09 32 27.7 +0.2**
SRU San Rafael Swe 88.02 49 *e*P **P 09 32 27.7 +0.2**
comp=Z,77nm,1.2s
Y14A Wickenburg 88.11 55 *e*P **P 09 32 28.5 +0.7**
comp=Z,222nm,1.1s
FCC Fort Churchill 88.20 27 *e*P **P 09 32 27.7 +0.1**
FCC pmax pmax
comp=Z,136nm,1.1s
FCC Fort Churchill 88.20 27 *e*P **P 09 32 27.7 +0.1**
comp=Z,136nm,1.1s
DGMT Dagmar 88.27 39 P **P 09 32 28.0 -0.2**
baz=297
DGMT Dagmar 88.27 39 *e*P **P 09 32 28.5 +0.2**
comp=Z,38nm,1.1s
VSU Vasula 88.34 333 *ce*P **P 09 32 27.2 -1.1**
VSU pmax pmax
comp=Z,194nm,1.2s
JMIC Jan Mayen 88.63 352 P **P 09 32 29.8 +0.3**
comp=Z,40nm,0.9s,baz=136,slow=9.4,SNR=3.1
SUMG Summit 88.67 1 ǁ *i*P **P 09 32 31.0 +0.9**
SUMG pmax pmax
comp=Z,22nm,0.8s
SUMG Summit 88.67 1 ǁ *i*P **P 09 32 31.0 +0.9**
comp=Z,22nm,0.8s
SUMG Summit 88.67 1 *e*P **P 09 32 31.5 +1.5**
comp=Z,25nm,0.9s
A25A Svangstu Ranch 88.69 38 P **P 09 32 30.4 +0.1**
baz=298
WUAZ Wupatki 88.77 53 P **P 09 32 32.1 +1.1**
baz=292,SNR=47
WUAZ Wupatki 88.77 53 *e*P **P 09 32 32.1 +1.1**
comp=Z,105nm,1.1s
B25A Knox Farm, Ray 88.97 39 P **P 09 32 32.0 +0.4**
baz=298
214A Organ Pipe Nat 88.99 57 P **P 09 32 32.9 +0.9**
baz=292
214A Organ Pipe Nat 88.99 57 *e*P **P 09 32 32.8 +0.9**
comp=Z,254nm,1.1s
X16A Lo Mia Camp, P 89.14 54 *e*P **P 09 32 34.0 +1.1**
comp=Z,32nm,1.2s
C25A Freed Ranch, W 89.18 39 P **P 09 32 33.0 +0.5**
baz=298
O20A White River Ci 89.23 48 P **P 09 32 33.4 +0.2**
baz=294
O20A White River Ci 89.23 48 *e*P **P 09 32 33.4 +0.2**
comp=Z,76nm,1.1s
PV09 Paradox Valley 89.26 49 *e*P **P 09 32 34.1 +0.7**
A26A Wade Farm, Ken 89.34 38 P **P 09 32 33.3 +0.1**
baz=298,SNR=9.9
K22A Casper 89.36 45 P **P 09 32 34.0 +0.3**
baz=295
K22A Casper 89.36 45 *e*P **P 09 32 34.0 +0.3**
comp=Z,62nm,1.2s
PV10 Paradox Valley 89.38 49 *e*P **P 09 32 34.6 +0.6**
PV05 Paradox Valley 89.45 50 *e*P **P 09 32 34.9 +0.6**
PV04 Paradox Valley 89.47 49 *e*P **P 09 32 34.5 +0.2**
B26A Jensen Ranch, 89.47 38 P **P 09 32 33.9 0.0**
baz=298
ANN Anapa 89.50 318 *e*P **P 09 32 32.1 -1.9**
ANN *e**PP **pP 09 32 57.3 -2.3**
ANN *e*S **SKSac 09 42 52.4 -3.2**
ANN pmax pmax
comp=Z,33nm,1.1s
NSS Namsos 89.72 342 *e*P **P 09 32 33.9 -0.8**
A27A Ledoux Ranch, 89.77 38 P **P 09 32 35.5 +0.3**
baz=299,SNR=7.0
PV01 Paradox Valley 89.81 50 *e*P **P 09 32 36.2 +0.3**
D26A Manning 89.99 40 P **P 09 32 36.7 +0.4**
baz=298
MICGM Minsk 90.04 329 ǁ *e*P **P 09 32 36.0 -0.3**
MICGM PM 09 32 37.0
MICGM *e*pP **pP 09 33 00.0 -1.9**
MICGM *e*sP sP 09 33 30.0 +18
MICGM *e*SKS **SKSac 09 42 57.0 -1.4**
MICGM *e*S **S 09 43 17.0 -4.3**
MICGM *e*sS ScS 09 43 36.0 +11
MNK Minsk 90.04 329 ǁ *e*P **P 09 32 36.0 -0.3**
MNK *e**PP **pP 09 33 00.0 -1.9**
MNK *e* 09 42 57.0
MNK *e*S **S 09 43 17.0 -4.3**
MNK pmax pmax
comp=Z,250nm,1.0s
IZAR Zarasai 90.11 331 *e*P **P 09 32 36.3 -0.3**
IZAR IAmb IAmb 09 32 37.3
comp=Z,60nm,0.9s
IDID Didziasalis 90.13 330 *e*P **P 09 32 36.4 -0.3**
IDID IAmb IAmb 09 32 37.3
comp=Z,51nm,0.9s
W18A Petrified Fore 90.16 53 P **P 09 32 38.8 +1.2**
baz=293,SNR=5.8
W18A Petrified Fore 90.16 53 *e*P **P 09 32 38.4 +0.8**
comp=Z,101nm,1.4s
MVCO Mesa Verde 90.24 50 P **P 09 32 38.5 +0.6**
baz=294,SNR=26
MVCO Mesa Verde 90.24 50 *e*P **P 09 32 38.6 +0.6**
comp=Z,90nm,1.4s
ISAL Salakas 90.27 331 *e*P **P 09 32 37.0 -0.3**
ISAL IAmb IAmb 09 32 38.0
comp=Z,53nm,1.0s
RSSD Black Hills 90.34 43 P **P 09 32 38.1 -0.2**
baz=297
RSSD Black Hills 90.34 43 *e*P **P 09 32 38.6 +0.3**
RSSD pmax pmax
comp=Z,40nm,1.1s
RSSD Black Hills 90.34 43 *e*P **P 09 32 38.6 +0.3**
comp=Z,40nm,1.1s
NACGM Naroch 90.34 330 *e*P **P 09 32 35.0 -2.7**
NACGM PM 09 32 37.0
comp=Z,0.4nm,1.0s
A28A Rude Farm, Bot 90.36 37 P **P 09 32 38.2 +0.2**
baz=300,SNR=8.8
H25A Fruitdale 90.39 42 P **P 09 32 38.6 +0.3**
baz=297
SCO Scoresbysund 90.44 356 ǁ *i*P **P 09 32 38.2 +0.3**
SCO pmax pmax
comp=Z,21nm,1.1s
SCO Scoresbysund 90.44 356 ǁ *i*P **P 09 32 38.2 +0.3**
comp=Z,21nm,1.1s
TUC Tucson 90.45 56 P **P 09 32 39.8 +0.9**
baz=293
TUC Tucson 90.45 56 *e*P **P 09 32 40.0 +1.1**
TUC Tucson 90.45 56 *e*P **P 09 32 40.0 +1.1**
comp=Z,66nm,1.4s
N23A Red Feather La 90.50 46 P **P 09 32 40.5 +1.3**
baz=296
N23A Red Feather La 90.50 46 *e*P **P 09 32 40.5 +1.3**
comp=Z,206nm,1.3s
SMCO Snowmass 90.52 48 *e*P **P 09 32 40.0 +0.5**
comp=Z,106nm,1.3s
B28A Dugan Ranch, T 90.53 38 P **P 09 32 39.1 +0.3**
baz=300,SNR=14
PHWY Pilot Hill 90.65 46 *e*P **P 09 32 40.6 +0.7**
comp=Z,64nm,1.3s
C28A Hausauer Farms 90.88 38 P **P 09 32 40.9 +0.5**
baz=300,SNR=10.0
A29A Manning Farm, 90.94 37 P **P 09 32 41.0 +0.3**
baz=300,SNR=34
D28A Regan 91.03 39 P **P 09 32 41.6 +0.4**
baz=300
B29A Wagenman Farm, 91.10 37 P **P 09 32 41.7 +0.3**
baz=300,SNR=9.7
ISCO Idaho Springs 91.20 47 P **P 09 32 43.3 +0.8**
baz=296,SNR=33
ISCO Idaho Springs 91.20 47 *e*P **P 09 32 43.4 +0.9**
ISCO Idaho Springs 91.20 47 *e*P **P 09 32 43.4 +0.9**
comp=Z,39nm,1.1s
ILULI Ilulissat 91.22 6 *i*P **P 09 32 41.5 0.0**
ILULI Ilulissat 91.22 6 *i*P **P 09 32 41.5 0.0**
S22A 4UR Ranch, Cre 91.23 49 P **P 09 32 43.4 +0.8**
baz=295,SNR=43
S22A 4UR Ranch, Cre 91.23 49 *e*P **P 09 32 43.5 +0.9**
comp=Z,60nm,1.3s
MDND Maddock 91.27 38 P **P 09 32 42.0 -0.3**
baz=300,SNR=5.2
MDND Maddock 91.27 38 *e*P **P 09 32 42.5 +0.3**
comp=Z,107nm,1.3s
AKASG Malin Array Be 91.43 325 P **P 09 32 42.5 -0.3**
comp=Z,1.1nm,0.3s,baz=49,slow=6.2,SNR=12
AKASG LR LR 10 16 14.3
comp=Z,362nm,20.6s,baz=45,slow=37
KIEV Kiev 91.44 325 *e*P **P 09 32 42.9 0.0**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
KIEV Kiev 91.44 325 *e*P **P 09 32 42.9 0.0**
comp=Z,10.0nm,1.0s
A30A Hoffart Farm, 91.46 37 P **P 09 32 43.0 -0.1**
baz=301,SNR=38
AK11 Malin Array Si 91.47 325 *e*P **P 09 32 43.2 +0.1**
SIM Simferopol' 91.52 319 *e*P **P 09 32 43.5 0.0**
SIM *e**PP **pP 09 33 09.0 -0.1**
SIM *e* 09 43 08.0
SIM *e*S **S 09 43 34.1 -1.2**
SIM pmax pmax
comp=Z,14nm,0.7s
SIM MLR MLR
comp=Z,200nm,18.2s
HSIG 91.58 59 *e*P **P 09 32 44.8 +0.8**
comp=Z,83nm,1.2s
D29A Pettibone, Tap 91.67 39 P **P 09 32 44.0 -0.1**
baz=300,SNR=7.9
B30A Myrvik Farm, E 91.69 37 P **P 09 32 44.3 +0.1**
baz=301,SNR=53
E29A Napoleon 91.89 39 P **P 09 32 44.7 -0.4**
baz=300,SNR=11
Q24A Divide 91.89 48 P **P 09 32 46.4 +0.6**
baz=296,SNR=12
Q24A Divide 91.89 48 *e*P **P 09 32 46.5 +0.8**
comp=Z,41nm,1.3s
319A Douglas 91.99 56 *e*P **P 09 32 47.7 +1.6**
comp=Z,54nm,1.4s
C30A Mose, Pekin 92.00 38 P **P 09 32 44.8 -0.8**
baz=301,SNR=24
B31A Greenbush Farm 92.09 37 P **P 09 32 46.0 0.0**
baz=302,SNR=30
ULM Lac du Bonnet 92.10 35 P **P 09 32 45.8 -0.2**
comp=Z,41nm,1.0s,baz=308,slow=5.5,SNR=30
ULM LR LR 10 15 13.0
comp=Z,114nm,18.8s,baz=329,slow=36
ULM Lac du Bonnet 92.10 35 *e*P **P 09 32 45.9 -0.1**
ULM pmax pmax
comp=Z,70nm,1.1s
ULM Lac du Bonnet 92.10 35 *e*P **P 09 32 45.9 -0.1**
comp=Z,70nm,1.1s
F29A Eureka 92.15 40 P **P 09 32 46.4 0.0**
baz=300,SNR=15
SDCO Great Sand Dun 92.18 49 P **P 09 32 47.4 +0.4**
baz=296,SNR=52
SDCO Great Sand Dun 92.18 49 *e*P **P 09 32 47.5 +0.5**
comp=Z,37nm,1.2s
NC405 NORSAR Array S 92.33 340 *e*P **P 09 32 46.2 -0.7**
NC303 NORSAR Array S 92.36 340 *e*P **P 09 32 46.4 -0.6**
C31A Landman Farms, 92.38 37 P **P 09 32 47.4 0.0**
baz=302,SNR=37
LAZ Ladron 92.40 52 *e*P **P 09 32 49.0 +1.0**
G29A Hoven 92.41 40 P **P 09 32 47.2 -0.4**
baz=300,SNR=5.5
A32A Rocking H Ranc 92.48 36 P **P 09 32 47.6 -0.2**
baz=303,SNR=29
NB201 NORSAR Array S 92.52 340 *e*P **P 09 32 47.5 -0.3**
NC204 NORSAR Array S 92.52 340 *e*P **P 09 32 47.6 -0.2**
NB2 NORSAR Subarra 92.55 340 P **P 09 32 46.4 -1.5**
comp=Z,35nm,1.2s,baz=42,slow=4.8
NB2 NORSAR Subarra 92.55 340 P **P 09 32 46.4 -1.5**
comp=Z,42,slow=4.8
NOA NORSAR Array B 92.55 340 P **P 09 32 46.7 -1.2**
comp=Z,5.4nm,0.6s,baz=45,slow=4.4,SNR=36
NOA PP **PP 09 36 30.3 +0.6**
comp=Z,3.7nm,0.8s,baz=38,slow=7.5,SNR=5.4
NOA LR LR 10 18 45.8
comp=Z,212nm,20.4s,baz=30,slow=38
F30A Leola 92.63 39 P **P 09 32 48.4 -0.2**
baz=301,SNR=13
NBO02 NORSAR Array S 92.66 340 *e*P **P 09 32 48.3 -0.1**
NC602 NORSAR Array S 92.67 340 *e*P **P 09 32 47.7 -0.7**
ANMO Albuquerque 92.69 52 P **P 09 32 49.6 +0.3**
baz=295
ANMO Albuquerque 92.69 52 *e*P **P 09 32 50.1 +0.8**
ANMO Albuquerque 92.69 52 *e*P **P 09 32 50.1 +0.8**
comp=Z,48nm,1.2s
121A Cookes Peak, D 92.69 54 P **P 09 32 49.9 +0.6**
baz=294

121A	**Cookes Peak, D**	92.69	54	*e*P		P	09 32 50.6	+1.3		
	comp=Z,61nm,1.3s									
NBO00	**NORSAR Array S**	92.70	340	*e*P		P	09 32 48.0	-0.6		
B32A	**Ashes, Strandq**	92.74	36	P		P	09 32 48.7	-0.3		
	baz=303,SNR=24									
D31A	**Mcclaflin, Tow**	92.78	38	P		P	09 32 49.0	-0.2		
	baz=302									
NAO01	**NORSAR Array S**	92.80	340	*e*P		P	09 32 48.3	-0.8		
LPM	**Los Pinos Moun**	92.82	52	*e*P		P	09 32 50.7	+0.8		
BNM	**Barren Site**	92.89	53	*e*P		P	09 32 51.1	+0.8		
G30A	**Faulkton**	92.92	40	P		P	09 32 49.5	-0.4		
	baz=300,SNR=11									
E31A	**Nome**	92.93	38	P		P	09 32 49.7	-0.3		
	baz=302,SNR=9.8									
AKN	**Aaknes**	92.97	342	*e*P		P	09 32 49.9	+0.1		
C32A	**Crookston**	93.05	37	P		P	09 32 50.3	-0.1		
	baz=303									
A33A	**Warroad**	93.08	36	P		P	09 32 50.4	-0.2		
	baz=304,SNR=14									
F31A	**Hecla**	93.08	39	P		P	09 32 50.3	-0.4		
	baz=301,SNR=11									
OGNE	**Ogallala**	93.12	45	P		P	09 32 50.9	-0.2		
	baz=298									
OGNE	**Ogallala**	93.12	45	*e*P		P	09 32 51.5	+0.5		
	comp=Z,87nm,1.5s									
AGMN	**Agassiz Nation**	93.17	36	P		P	09 32 50.7	-0.3		
	baz=303,SNR=25									
AGMN	**Agassiz Nation**	93.17	36	*e*P		P	09 32 50.6	-0.3		
	comp=Z,65nm,1.2s									
T25A	**Trinidad**	93.22	49	P		P	09 32 51.5	-0.3		
	baz=297,SNR=32									
T25A	**Trinidad**	93.22	49	*e*P		P	09 32 52.5	+0.8		
	comp=Z,61nm,1.1s									
B33A	**Robert and Kas**	93.34	36	P		P	09 32 51.6	-0.1		
	baz=303,SNR=9.0									
I30A	**Oacoma**	93.36	41	P		P	09 32 51.7	-0.3		
	baz=300									
SUSD	**Miller**	93.38	41	P		P	09 32 51.5	-0.6		
	baz=301									
E32A	**Braaten, Kindr**	93.40	38	P		P	09 32 51.8	-0.3		
	baz=302									
SFJD	**Kangerlussuaq**	93.41	7	*i* P		P	09 32 51.5	-0.1		
SFJD				pmax		pmax				
	comp=Z,45nm,1.2s									
SFJD	**Kangerlussuaq**	93.41	7	*i* P		P	09 32 51.5	-0.1		
	comp=Z,45nm,1.2s									
G31A	**Conde**	93.44	40	P		P	09 32 52.0	-0.2		
	baz=301,SNR=5.8									
C33A	**Trail**	93.51	37	P		P	09 32 52.3	-0.3		
	baz=303,SNR=6.4									
J30A	**Dallas**	93.61	42	P		P	09 32 52.7	-0.4		
	baz=300,SNR=22									
KSCO	**Kaye Shedlock'**	93.62	47	P		P	09 32 53.7	+0.3		
	baz=298,SNR=17									
KSCO	**Kaye Shedlock'**	93.62	47	*e*P		P	09 32 54.0	+0.5		
	comp=Z,142nm,1.5s									
H31A	**Wolsey**	93.66	40	P		P	09 32 53.0	-0.3		
	baz=301									
B34A	**Aery, Baudette**	93.74	36	P		P	09 32 53.2	-0.4		
	baz=304,SNR=18									
F32A	**Veblen**	93.75	39	P		P	09 32 52.8	-0.9		
	baz=302									
G32A	**Webster**	93.85	39	P		P	09 32 53.7	-0.5		
	baz=302									
I31A	**Royce, Wessing**	93.85	41	P		P	09 32 54.0	-0.2		
	baz=301,SNR=10									
K30A	**Basset**	93.86	42	P		P	09 32 54.0	-0.4		
	baz=300,SNR=10									
HYA	**Hoyanger**	94.01	342	*e*P		P	09 32 54.4	-0.1		
C34A	**RKJ Ranch, Bem**	94.06	36	P		P	09 32 54.8	-0.3		
	baz=304									
J31A	**Geddes**	94.10	42	P		P	09 32 54.7	-0.7		
	baz=301									
D34A	**Park Rapids**	94.21	37	P		P	09 32 55.6	-0.3		
	baz=304,SNR=18									
F33A	**5 Mile Ranch,**	94.25	38	P		P	09 32 55.8	-0.2		
	baz=303,SNR=27									
H32A	**Carlson Farm,**	94.28	40	P		P	09 32 55.5	-0.7		
	baz=302,SNR=8.1									
B35A	**Bob, Littlefor**	94.32	35	P		P	09 32 56.1	-0.1		
	baz=305,SNR=21									
BR131	**Keskin Array S**	94.35	314	*e*P		P	09 32 55.4	-1.4		
BRTR	**Keskin Array B**	94.35	314	P		P	09 32 55.0	-1.8		
	comp=Z,5.3nm,0.8s,baz=83,slow=3.3,SNR=18									
BRTR				LR		LR	10 20 12.1			
	comp=Z,60nm,18.9s,baz=36,slow=38									
BRTR	**Keskin Array B**	94.35	314	P		P	09 32 55.0	-1.8		
BRTR				pmax		pmax				
	comp=Z,5.0nm,0.8s									
K31A	**O'Neill**	94.43	42	P		P	09 32 56.5	-0.5		
	baz=301									
SLBS	**Sierra La Lagu**	94.46	63	*e*P		P	09 32 59.5	+2.0		
	comp=Z,47nm,1.2s									
I32A	**Karley and Nic**	94.51	40	P		P	09 32 56.5	-0.8		
	baz=302									
G33A	**Ortonville**	94.52	39	P		P	09 32 56.9	-0.3		
	baz=302,SNR=5.5									
E34A	**Wadena**	94.54	37	P		P	09 32 57.0	-0.3		
	baz=304,SNR=5.4									
C35A	**Jirik Farms, M**	94.55	36	P		P	09 32 56.6	-0.8		
	baz=304,SNR=12									
L31A	**Butterfield Fa**	94.61	43	P		P	09 32 57.2	-0.6		
	baz=301,SNR=5.4									
H33A	**Prehn Over Nor**	94.61	40	P		P	09 32 57.2	-0.5		
	baz=302,SNR=10									
J32A	**Parkston**	94.62	41	P		P	09 32 56.8	-1.0		
	baz=301									
D35A	**Remer**	94.86	37	P		P	09 32 58.0	-0.8		
	baz=304,SNR=5.6									
BR231	**Keskin MP Arra**	94.87	315	*e*P		P	09 32 56.0	-3.1		
F34A	**Alexandria**	94.89	38	P		P	09 32 58.5	-0.4		
	baz=303									
MNTX	**Cornudas Mount**	94.89	54	*e*P		P	09 32 60.0	+0.7		
	comp=Z,30nm,1.3s									
K32A	**Verdigre**	94.91	42	P		P	09 32 58.2	-1.0		
	baz=301									
I33A	**Coleman**	94.91	40	P		P	09 32 58.6	-0.5		
	baz=302									
E35A	**Pequot Lakes**	94.96	37	P		P	09 32 58.8	-0.5		
	baz=304									
C36A	**Pine Crest Far**	95.15	36	P		P	09 32 59.6	-0.5		
	baz=305,SNR=11									
ECSD	**EROS Data Cent**	95.19	40	P		P	09 32 59.8	-0.6		
	baz=302,SNR=14									
ECSD	**EROS Data Cent**	95.19	40	*e*P		P	09 32 59.7	-0.6		
	comp=Z,33nm,1.4s									
J33A	**Davis**	95.19	41	P		P	09 32 59.5	-0.9		
	baz=302									
H34A	**Spellman Lake,**	95.19	39	P		P	09 32 60.0	-0.4		
	baz=303									
N31A	**Bailey Ranch,**	95.22	44	P		P	09 32 59.6	-1.0		
	baz=300									
L32A	**Elgin**	95.22	42	P		P	09 32 59.7	-0.9		
	baz=301									
F35A	**Swanville**	95.25	38	P		P	09 33 00.3	-0.3		
	baz=304,SNR=9.7									
D36A	**Goodland**	95.31	36	P		P	09 33 00.3	-0.5		
	baz=305,SNR=5.6									
O31A	**Woolen Ranch,**	95.31	45	P		P	09 33 00.4	-0.7		
	baz=300									
BUR08	**Bucovina Ar. S**	95.33	324	*e*P		P	09 33 00.3	-0.8		
BURAR	**Bucovina Array**	95.34	324	⇑*i*P		P	09 33 00.3	-0.8		
BGNE	**Belgrade**	95.44	43	P		P	09 33 00.6	-1.0		
	baz=301									
BGNE	**Belgrade**	95.44	43	*e*P		P	09 33 01.4	-0.2		
	comp=Z,45nm,1.3s									
BSD	**Bornholm Skovb**	95.48	334	*i* P		P	09 32 59.7	-1.7		
BSD				pmax		pmax				
	comp=Z,35nm,1.0s									
BSD	**Bornholm Skovb**	95.48	334	*i* P		P	09 32 59.7	-1.7		
	comp=Z,35nm,1.0s									
I34A	**Hadley**	95.49	40	P		P	09 33 00.8	-0.9		
	baz=303									
C37A	**Embarrass**	95.53	35	P		P	09 33 01.0	-0.8		
	baz=306,SNR=6.0									
K33A	**Hardington**	95.55	41	P		P	09 33 01.3	-0.8		
	baz=302									
L33A	**Hoskins**	95.61	42	P		P	09 33 01.3	-1.0		
	baz=302									
E36A	**McGregor**	95.63	37	P		P	09 33 01.9	-0.4		
	baz=305,SNR=7.0									
CBKS	**Cedar Bluff**	95.69	46	P		P	09 33 02.2	-0.6		
	baz=300									
CBKS	**Cedar Bluff**	95.69	46	*e*P		P	09 33 02.9	+0.1		
CBKS				pmax		pmax				
	comp=Z,21nm,1.1s									
CBKS	**Cedar Bluff**	95.69	46	*e*P		P	09 33 02.9	+0.1		
	comp=Z,21nm,1.1s									
D37A	**Cotton**	95.73	36	P		P	09 33 02.2	-0.6		
	baz=306,SNR=6.8									
H35A	**Sunnyside Ranc**	95.74	39	P		P	09 33 02.7	-0.2		
	baz=304,SNR=7.8									
EYMN	**Ely**	95.77	35	P		P	09 33 02.6	-0.4		
	baz=306,SNR=11									
EYMN	**Ely**	95.77	35	*e*P		P	09 33 02.8	-0.1		
	comp=Z,24nm,1.2s									
MSTX	**Muleshoe**	95.85	51	P		P	09 33 03.5	-0.2		
	baz=297									
MSTX	**Muleshoe**	95.85	51	*e*P		P	09 33 04.0	+0.3		
	comp=Z,30nm,1.4s									
F36A	**Milaca**	95.85	37	P		P	09 33 03.0	-0.4		
	baz=305,SNR=18									
O32A	**Brockman Farm,**	95.94	44	P		P	09 33 02.8	-1.1		
	baz=301									
M33A	**Taylor Creek F**	95.97	42	P		P	09 33 02.6	-1.3		
	baz=302									
C38A	**Sawbill Land.**	96.03	35	P		P	09 33 04.0	-0.2		
	baz=307,SNR=12									
P32A	**Huiting Farm,**	96.06	45	P		P	09 33 03.5	-1.0		
	baz=300									
COP	**Copenhagen**	96.06	336	*e*P		P	09 33 03.1	-0.9		
COP				pmax		pmax				
	comp=Z,14nm,0.9s									
COP	**Copenhagen**	96.06	336	*i* P		P	09 33 03.1	-0.9		
	comp=Z,14nm,0.9s									
K34A	**Le Mars**	96.07	41	P		P	09 33 03.3	-1.1		
	baz=303									
G36A	**St. Michael**	96.08	38	P		P	09 33 04.0	-0.4		
	baz=304									
I35A	**Creekview Farm**	96.12	40	P		P	09 33 04.1	-0.5		
	baz=304,SNR=5.6									
KOLS	**Kolonicke sedl**	96.13	327	*e*P		P	09 33 02.4	-2.1		
KOLS				pmax		pmax				
	comp=Z,3.0nm,1.1s									
KOLS	**Kolonicke sedl**	96.13	327	*e*P		P	09 33 02.4	-2.1		
AMTX	**Amarillo**	96.22	50	P		P	09 33 05.2	-0.1		
	baz=298									
AMTX	**Amarillo**	96.22	50	*e*P		P	09 33 06.3	+0.9		
	comp=Z,46nm,1.1s									
N33A	**J Bar K, Exete**	96.24	43	P		P	09 33 04.0	-1.2		
	baz=301									
J35A	**Milford**	96.25	40	P		P	09 33 04.5	-0.7		
	baz=303									
L34A	**Svendsen Farm,**	96.28	42	P		P	09 33 04.5	-0.9		
	baz=302									
STHS	**Stebnicka Huta**	96.36	327	*e*P		P	09 33 05.6	0.0		
STHS				pmax		pmax				
	comp=Z,3.0nm,1.0s									
STHS	**Stebnicka Huta**	96.36	327	*e*P		P	09 33 05.6	0.0		
M34A	**Aspy Farms, Fr**	96.39	42	P		P	09 33 04.7	-1.2		
	baz=302									
Q32A	**Meitler Ranch,**	96.40	45	P		P	09 33 05.5	-0.5		
	baz=300									
O33A	**Hebron**	96.50	44	P		P	09 33 05.5	-0.9		
	baz=301									
CRVS	**Cervenica-Dubn**	96.57	327	*e*P		P	09 33 06.1	-0.4		
CRVS	**Cervenica-Dubn**	96.57	327	*e*P		P	09 33 06.1	-0.4		
OJC	**Ojcow**	96.57	329	*e*P		P	09 33 07.4	+0.9		
OJC				pmax		pmax				
	comp=Z,8.0nm,1.0s									
OJC	**Ojcow**	96.57	329	*e*P		P	09 33 07.4	+0.9		
	comp=Z,8.4nm,1.0s									
K35A	**Storm Lake**	96.59	41	P		P	09 33 05.8	-0.9		
	baz=303,SNR=5.9									
C39A	**Grand Marais**	96.59	34	P		P	09 33 05.9	-0.7		
	baz=308									
R32A	**Long Quarter,**	96.59	46	P		P	09 33 06.6	-0.2		
	baz=300									
I36A	**Fitzsimmons Fa**	96.61	39	P		P	09 33 06.3	-0.5		
	baz=304									
SPMN	**Marine on St.**	96.63	38	P		P	09 33 06.6	-0.2		
	baz=305,SNR=8.1									
SPMN	**Marine on St.**	96.63	38	*e*P		P	09 33 06.7	-0.2		
	comp=Z,18nm,1.1s									
VNDA	**Vanda**	96.68	177	P		P	09 33 06.2	0.0		
	comp=Z,1.1nm,0.9s,baz=325,slow=4.2,SNR=6.2									
VNDA				PP		PP	09 37 01.6	-0.7		
	comp=Z,2.6nm,1.1s,baz=0.4,slow=6.4,SNR=4.3									
VNDA				LR		LR	10 15 48.4			
	comp=Z,109nm,19.6s,baz=346,slow=35									
VNDA	**Vanda**	96.68	177	*e*P		P	09 33 08.4	+2.1		
	comp=Z,7.4nm,1.4s									
VNDA				PP		PP	09 37 01.6	-0.7		
L35A	**Bielow Farm, R**	96.72	41	P		P	09 33 06.3	-1.0		
	baz=303,SNR=5.6									
P33A	**Williams Farm,**	96.75	44	P		P	09 33 07.2	-0.4		
	baz=301									
S32A	**Newby Ranch, P**	96.80	46	P		P	09 33 07.6	-0.2		
	baz=300,SNR=6.0									
J36A	**Seneca 1, Swea**	96.80	40	P		P	09 33 06.7	-0.9		
	baz=304									
N34A	**Lincoln**	96.80	43	P		P	09 33 06.5	-1.3		
	baz=302,SNR=7.5									
Q33A	**Connelly Farm,**	96.89	45	P		P	09 33 07.9	-0.3		
	baz=301									
H37A	**Dierke Farm, C**	96.94	38	P		P	09 33 08.3	0.0		
	baz=305									
I37A	**Lemond, Waseca**	96.98	39	P		P	09 33 08.6	+0.1		
	baz=305									
M35A	**Neola**	96.98	42	P		P	09 33 07.9	-0.6		
	baz=303									
O34A	**Beatrice**	97.02	43	P		P	09 33 07.5	-1.2		
	baz=302									
T32A	**Huddler Ranch,**	97.06	47	P		Pdif	09 33 09.2	0.0		
	baz=300									
K36A	**Gilmore City**	97.11	40	P		P	09 33 08.9	-0.2		
	baz=304,SNR=6.6									
R33A	**Olander Ranch,**	97.14	46	P		P	09 33 09.0	-0.3		
	baz=301									
DRGR		97.20	325	⇑*i* P		P	09 33 08.7	-0.8		
TX31	**Lajitas Ar. Si**	97.25	56	*e*P		Pdif	09 33 10.2	0.0		
TXAR	**Lajitas Array**	97.25	56	P		Pdif	09 33 10.2	0.0		
	comp=Z,4.2nm,1.0s,baz=282,slow=2.4,SNR=28									
TXAR				PP		PP	09 37 07.6	+0.2		
	comp=Z,1.0nm,1.0s,baz=303,slow=8.5,SNR=3.5									
TXAR				PKKPbc		PKKPbc	09 49 48.8	+0.1		
	comp=Z,0.2nm,0.7s,baz=132,slow=5.2,SNR=3.5									
TXAR				LR		LR	10 16 31.0			
	comp=Z,94nm,18.0s,baz=0.0,slow=35									
P34A	**Walnut Farm, R**	97.27	44	P		P	09 33 09.6	-0.3		
	baz=302,SNR=5.2									
L36A	**Harm Buss Farm**	97.28	41	P		Pdif	09 33 10.0	0.0		
	baz=304									
J37A	**Redenius Farm,**	97.28	40	P		P	09 33 09.6	-0.3		
	baz=304,SNR=5.3									
KECS	**Kecovo**	97.33	327	*e*PP		PP	09 37 05.7	-1.4		
U32A	**Winter Ranch,**	97.41	48	P		P	09 33 09.6	-1.0		
	baz=300									
LANS	**Liptovska Anna**	97.42	328	*e*PP		PP	09 37 05.2	-2.7		
O35A	**Humboldt**	97.48	43	P		P	09 33 10.3	-0.6		
	baz=302									
Q34A	**Chapman**	97.52	45	P		P	09 33 10.9	-0.1		
	baz=302									
K37A	**Belmond**	97.54	40	P		P	09 33 10.7	-0.4		
	baz=304									
M36A	**Felix, Anita**	97.55	42	P		P	09 33 10.5	-0.6		
	baz=303									
I38A	**Scanlan Farm,**	97.59	38	P		P	09 33 11.0	-0.2		
	baz=305									
OKC	**Ostrava-Krasne**	97.63	329	*e*SKS		SKSac	09 43 39.9	-0.1		
OKC				AMS		AMS	10 18 10.0			
	comp=Z,600nm,21.8s									
KSU1	**Kansas State U**	97.65	44	P		Pdif	09 33 11.8	+0.2		
	baz=302									
V32A	**Arapaho**	97.71	48	P		P	09 33 11.1	-0.9		
	baz=300									
N36A	**Muff Farm, Cla**	97.80	42	P		Pdif	09 33 12.4	+0.1		
	baz=303									
P35A	**Duane Minner,**	97.81	44	P		P	09 33 12.2	-0.2		
	baz=302									
L37A	**Phoenix Point,**	97.83	41	P		P	09 33 11.8	-0.5		
	baz=304									
W32A	**Sentinel**	97.86	49	P		Pdif	09 33 12.8	+0.1		
	baz=300,SNR=7.6									
J38A	**Wedel Dairy, R**	97.92	39	P		P	09 33 12.7	0.0		
	baz=305									
MORC	**Moravsky Berou**	97.96	329	⇓*i* P		P	09 33 12.1	-0.7		
MORC	**Moravsky Berou**	97.96	329	*e*P		P	09 33 12.2	-0.7		
MORC				pmax		pmax				
	comp=Z,14nm,1.0s									
MORC	**Moravsky Berou**	97.96	329	*e*P		P	09 33 12.2	-0.7		
	comp=Z,14nm,1.0s									
U33A	**Lingo Farm, Me**	98.00	47	P		P	09 33 13.3	0.0		
	baz=300									
S34A	**Willow Spring**	98.04	46	P		P	09 33 13.2	-0.2		
	baz=301									
M37A	**Trindle Farm,**	98.04	41	P		P	09 33 13.3	-0.1		
	baz=304									
KRLC	**Kraliky**	98.13	330	*e*PP		PP	09 37 13.6	+0.4		
Q35A	**Mercer Eighty,**	98.15	44	P		P	09 33 13.5	-0.4		
	baz=302,SNR=5.8									
DPC	**Dobruska-Polom**	98.16	330	*e*PDIFF		P	09 33 13.1	-0.6		
DPC				*ex*		x	09 33 33.1			
DPC				*e*PP		PP	09 37 14.1	+0.7		
DPC				*ex*		x	09 44 23.4			
DPC				AMS		AMS	10 13 50.0			
	comp=Z,500nm,25.5s									
DPC	**Dobruska-Polom**	98.16	330	*e*P		P	09 33 13.1	-0.6		
DPC				*e*			09 37 14.1			
DPC				*e*			09 44 23.4			
DPC				MLR		MLR				
	comp=Z,500nm,25.5s									
VYHS	**Vyhne**	98.17	328	*e*P		P	09 33 13.0	-0.7		
VYHS				pmax		pmax				
	comp=Z,3.0nm,0.9s									
VYHS	**Vyhne**	98.17	328	*e*P		P	09 33 13.0	-0.7		
VYHS				*e*PP		PP	09 37 12.4	-1.1		
X32A	**Elmer**	98.17	49	P		P	09 33 13.8	-0.3		
	baz=300,SNR=5.9									
COWI	**Conover**	98.18	35	*e*P		P	09 33 13.5	-0.3		
	comp=Z,12nm,1.4s									
V33A	**Lossen Ranch,**	98.19	48	P		Pdif	09 33 14.2	+0.1		
	baz=300									
UPC	**Upice**	98.19	331	*e*PDIFF		P	09 33 13.5	-0.3		
UPC				*ex*		x	09 44 24.3			
UPC				*ex*		x	09 46 26.4			
UPC				AMS		AMS	10 16 00.0			
	comp=Z,500nm,30.1s									
UPC	**Upice**	98.19	331	*e*P		P	09 33 13.5	-0.3		
UPC				*e*			09 44 24.3			
UPC				MLR		MLR				
	comp=Z,500nm,30.1s									
SCIA	**State Center**	98.28	41	*e*P		Pdif	09 33 14.6	+0.2		
	comp=Z,24nm,1.3s									
P36A	**Good Intent, A**	98.29	43	P		P	09 33 14.1	-0.3		
	baz=303									
N37A	**Lee Faris, Mou**	98.31	42	P		P	09 33 13.9	-0.6		
	baz=304									
R35A	**Emporia Munici**	98.33	45	P		P	09 33 14.2	-0.5		
	baz=302									
T34A	**McClaskey Farm**	98.34	46	P		P	09 33 14.4	-0.4		
	baz=301									
J39A	**Decorah**	98.37	39	P		P	09 33 14.2	-0.5		
	baz=306									
WMOK	**Wichita Mounta**	98.38	49	P		Pdif	09 33 15.1	0.0		
	baz=300,SNR=6.2									
WMOK	**Wichita Mounta**	98.38	49	*e*P		Pdif	09 33 15.3	+0.3		
WMOK				pmax		pmax				
	comp=Z,18nm,1.1s									
WMOK	**Wichita Mounta**	98.38	49	*e*P		Pdif	09 33 15.2	+0.2		
	comp=Z,18nm,1.1s									
W33A	**Caddo, Fort Co**	98.40	49	P		P	09 33 15.0	-0.1		
	baz=300,SNR=6.4									
U34A	**Anderson Ranch**	98.40	47	P		Pdif	09 33 15.1	0.0		
	baz=301									
M38A	**Pleasantville**	98.57	41	P		P	09 33 15.3	-0.3		
	baz=304									
S35A	**Otter Creek Ra**	98.59	45	P		P	09 33 15.3	-0.5		
	baz=302,SNR=7.2									
K39A	**Oelwein**	98.63	39	P		P	09 33 15.1	-0.9		
	baz=306									
O37A	**Wolven Farm, M**	98.67	42	P		P	09 33 15.5	-0.6		
	baz=304									
X33A	**Lawton**	98.68	49	P		Pdif	09 33 16.5	+0.1		
	baz=300,SNR=9.8									
V34A	**Guthrie**	98.72	48	P		P	09 33 16.4	-0.1		
	baz=301									
V34A	**Guthrie**	98.72	48	*e*P		Pdif	09 33 17.1	+0.6		
	comp=Z,24nm,1.1s									
VRAC	**Vranov**	98.73	329	⇓*i* P		P	09 33 15.5	-0.8		
ABTX	**Abilene, Hawle**	98.79	51	P		P	09 33 16.5	-0.4		
	baz=299,SNR=7.6									
ABTX	**Abilene, Hawle**	98.79	51	*e*P		Pdif	09 33 17.7	+0.8		
	comp=Z,37nm,1.2s									
R36A	**Gordon, Harris**	98.79	45	P		P	09 33 16.5	-0.3		
	baz=302									
PVCC	**Panska Ves**	98.85	331	*e*PP		PP	09 37 19.5	+0.9		
PVCC				AMS		AMS	10 22 10.0			
	comp=Z,400nm,17.0s									
W34A	**Bridge Creek,**	98.85	48	P		P	09 33 17.1	0.0		
	baz=301									
W34A	**Bridge Creek,**	98.85	48	*e*P		Pdif	09 33 17.6	+0.5		
	comp=Z,21nm,1.1s									
Y33A	**Hilltop Ranch,**	98.85	50	P		P	09 33 17.0	-0.2		
	baz=300									
T35A	**Sooner Cattle**	98.86	46	P		P	09 33 16.8	-0.2		
	baz=302									
P37A	**Lathrop**	98.86	43	P		P	09 33 15.7	-1.4		
	baz=304									
BRG	**Berggiesshubel**	98.89	332	*e*PDIFF		P	09 33 16.0	-0.9		
	comp=Z,14nm,1.4s									
BRG				*i* pPDIFF			09 33 41.2			
	comp=Z,6.9nm,1.1s							

PRU	**Pruhonice**	**99.24**	**331**	*e*P		**Pdif**	**09 33 17.6**	**-0.9**
PRU				*e*			09 37 21.7	
PRU				*e*			09 44 33.7	
PRU	comp=Z,400nm,16.9s				MLR	MLR		
R37A	**Teagarden Farm** baz=303	**99.24**	**44**	P		**Pdif**	**09 33 18.1**	**-0.7**
TREC	**Trest** comp=Z,300nm,18.9s	**99.27**	**330**	AMS		AMS	10 20 30.0	
N39A	**Derby Farms, D** baz=305	**99.31**	**41**	P		**Pdif**	**09 33 18.3**	**-0.7**
133A	**Hamilton Ranch** baz=300	**99.33**	**51**	P		**Pdif**	**09 33 18.6**	**-0.7**
J41A	**Loganville** baz=307	**99.35**	**38**	P		**Pdif**	**09 33 19.0**	**-0.1**
P38A	**Dawn** baz=304	**99.37**	**43**	P		**Pdif**	**09 33 18.1**	**-1.2**
JFWS	**Jewell Farm**	**99.48**	**38**	*e*P		**Pdif**	**09 33 19.4**	**-0.3**
JFWS	comp=Z,8.0nm,1.0s			pmax		pmax		
JFWS	**Jewell Farm** comp=Z,8.3nm,1.0s	**99.48**	**38**	*e*Pdif		**Pdif**	**09 33 19.4**	**-0.3**
Y34A	**Reagan Ranch,** baz=300,SNR=5.2	**99.50**	**49**	P		**Pdif**	**09 33 19.4**	**-0.6**
W35A	**Tecumseh** baz=301	**99.52**	**48**	P		**Pdif**	**09 33 19.7**	**-0.4**
S37A	**Fort Scott** baz=303	**99.54**	**45**	P		**Pdif**	**09 33 19.6**	**-0.5**
K41A	**Shullsburg** baz=307	**99.63**	**39**	P		**Pdif**	**09 33 19.9**	**-0.5**
233A	**Rising Star** baz=299,SNR=8.4	**99.63**	**51**	P		**Pdif**	**09 33 20.3**	**-0.4**
JCT	**Junction City** baz=299,SNR=7.7	**99.70**	**53**	P		**Pdif**	**09 33 20.8**	**-0.2**
JCT	**Junction City**	**99.70**	**53**	*e*P		**Pdif**	**09 33 21.2**	**+0.2**
JCT	comp=Z,32nm,1.5s			pmax		pmax		
JCT	**Junction City** comp=Z,32nm,1.5s	**99.70**	**53**	*e*Pdif		**Pdif**	**09 33 21.2**	**+0.2**
T37A	**Cheneyville 18** baz=303	**99.83**	**45**	P		**Pdif**	**09 33 20.9**	**-0.5**
L41A	**Preston** baz=307	**99.83**	**39**	P		**Pdif**	**09 33 20.8**	**-0.5**
X35A	**Drake** baz=301	**99.84**	**49**	P		**Pdif**	**09 33 21.1**	**-0.4**
V36A	**Jenks** baz=302	**99.84**	**47**	P		**Pdif**	**09 33 21.1**	**-0.3**
TUL1	**Leonard** baz=302	**99.88**	**47**	P		**Pdif**	**09 33 21.3**	**-0.4**
333A	**Richland Sprin** baz=299,SNR=7.8	**99.91**	**52**	P		**Pdif**	**09 33 21.4**	**-0.5**
R38A	**Fenwick Farm,** baz=304	**99.92**	**44**	P		**Pdif**	**09 33 20.5**	**-1.3**
P39B	**Salisbury** baz=305	**99.94**	**42**	P		**Pdif**	**09 33 21.2**	**-0.6**
134A	**White-Moore Ra** baz=300	**99.96**	**51**	P		**Pdif**	**09 33 21.4**	**-0.7**
W36A	**Wetumka** baz=302	**99.98**	**48**	P		**Pdif**	**09 33 21.9**	**-0.2**
NKC	**Novy Kostel**	**100.01**	**332**	*e*PDIFF		**Pdif**	**09 33 21.8**	**-0.1**
NKC	comp=Z,400nm,22.6s			AMS		AMS	10 18 00.0	
NKC	**Novy Kostel** comp=Z,400nm,22.6s	**100.01**	**332**	*e*P		**Pdif**	**09 33 21.8**	**-0.1**
NKC				MLR		MLR		
CONA	**Conrad Observa** comp=Z,4.4nm,1.0s	**100.03**	**329**	*i* Pdiff		**Pdif**	**09 33 21.9**	**-0.3**
CONA	comp=Z,14nm,1.2s			*i* PP		**PP**	**09 37 29.5**	**+1.8**
Y35A	**Marietta** baz=301	**100.05**	**49**	P		**Pdif**	**09 33 22.2**	**-0.3**
Q39A	**Willow Grove F** baz=304	**100.05**	**43**	P		**Pdif**	**09 33 21.5**	**-0.8**
U37A	**Salina** baz=302	**100.08**	**46**	P		**Pdif**	**09 33 22.2**	**-0.3**
433A	**Art** baz=299	**100.11**	**53**	P		**Pdif**	**09 33 22.5**	**-0.3**
X36A	**Centrahoma** baz=301	**100.19**	**48**	P		**Pdif**	**09 33 22.7**	**-0.3**
234A	**Clairette** baz=300	**100.20**	**51**	P		**Pdif**	**09 33 22.9**	**-0.3**
S38A	**Stockton** baz=304	**100.23**	**44**	P		**Pdif**	**09 33 22.2**	**-1.0**
KHC	**Kasperske Hory**	**100.28**	**331**	*e*PDIFF		**Pdif**	**09 33 22.5**	**-0.7**
KHC				*ex*		x	09 33 42.3	
KHC				*ex*		x	09 36 20.5	
KHC				*e*PP		**PP**	**09 37 25.8**	**-3.8**
KHC	comp=Z,500nm,25.0s			AMS		AMS	10 16 10.0	
KHC	**Kasperske Hory**	**100.28**	**331**	*e*P		**Pdif**	**09 33 22.5**	**-0.7**
KHC				*e*			09 37 25.8	
KHC	comp=Z,500nm,25.0s			MLR		MLR		
T38A	**Diamond** baz=303	**100.30**	**45**	P		**Pdif**	**09 33 22.9**	**-0.6**
V37A	**Hulbert** baz=302	**100.34**	**46**	P		**Pdif**	**09 33 23.3**	**-0.3**
P40A	**Paris** baz=305	**100.36**	**42**	P		**Pdif**	**09 33 22.3**	**-1.4**
GERES	**GERESS Array B** comp=Z,1.6nm,0.9s,baz=38,slow=5.0,SNR=10	**100.43**	**330**	P		**Pdif**	**09 33 22.4**	**-1.5**
GERES	comp=Z,0.6nm,0.3s,baz=57,slow=9.7,SNR=6.7			PP		**PP**	**09 37 32.3**	**+1.6**
GERES	comp=Z,0.6nm,0.8s,baz=191,slow=4.1,SNR=4.5			PKKPbc		**PKKPbc**	**09 49 38.5**	**-2.1**
GERES	**GERESS Array B**	**100.43**	**330**	P		**Pdif**	**09 33 22.5**	**-1.5**
GERES							09 37 32.3	
GERES	comp=Z,1.0nm,0.8s			pmax		pmax		
GERES	comp=Z,1.0nm,0.3s			pmax		pmax		
GERES	comp=Z,1.0nm,0.8s			pmax		pmax		
GEA0	**GERESS Array S**	**100.44**	**330**	*e*Pdif		**Pdif**	**09 33 23.0**	**-0.9**
334A	**Lometa** baz=300	**100.46**	**52**	P		**Pdif**	**09 33 24.3**	**-0.1**
W37B	**Quinton** baz=302	**100.54**	**47**	P		**Pdif**	**09 33 24.2**	**-0.4**
U38A	**Gravette** baz=303	**100.56**	**46**	P		**Pdif**	**09 33 24.2**	**-0.5**
S39A	**Bolivar** baz=304	**100.58**	**44**	P		**Pdif**	**09 33 23.5**	**-1.2**
Y36A	**Durant** baz=301	**100.58**	**49**	P		**Pdif**	**09 33 24.0**	**-0.8**
Q40A	**Laux Farm, Aux** baz=305	**100.65**	**42**	P		**Pdif**	**09 33 24.0**	**-1.0**
ARSA	**Arzberg** comp=Z,4.5nm,1.1s	**100.66**	**328**	*i* Pdiff		**Pdif**	**09 33 25.0**	**+0.1**
ARSA	comp=Z,8.5nm,1.1s			*i* PP		**PP**	**09 37 33.9**	**+1.4**
WHTX	**Lake Whitney,** baz=300	**100.71**	**51**	P		**Pdif**	**09 33 24.9**	**-0.5**
O41A	**Passleys Farm,** baz=306	**100.76**	**41**	P		**Pdif**	**09 33 24.2**	**-1.2**
Z36A	**Blue Ridge** baz=301	**100.80**	**49**	P		**Pdif**	**09 33 24.5**	**-1.3**
V38A	**Canehill** baz=303	**100.85**	**46**	P		**Pdif**	**09 33 25.9**	**-0.1**
MOA	**Molln** comp=Z,4.4nm,1.1s	**100.86**	**329**	*i* Pdiff		**Pdif**	**09 33 25.8**	**+0.1**
MOA	comp=Z,7.1nm,1.2s			*i* PP		**PP**	**09 37 31.7**	**-2.2**
X37A	**Clayton** baz=302	**100.87**	**48**	P		**Pdif**	**09 33 26.0**	**-0.1**
P41A	**Barry, Barry** baz=306	**100.90**	**41**	P		**Pdif**	**09 33 26.1**	**+0.1**
T39A	**Clever** baz=304	**100.91**	**45**	P		**Pdif**	**09 33 25.6**	**-0.6**
534A	**Blanco** baz=299	**100.92**	**53**	P		**Pdif**	**09 33 26.3**	**-0.1**
R40A	**Maddies Statio** baz=305	**100.93**	**43**	P		**Pdif**	**09 33 25.1**	**-1.1**
HHAR	**Hobbs**	**100.94**	**46**	*e*Pdif		**Pdif**	**09 33 26.1**	**-0.3**
Y37A	**Hugo** baz=302	**101.01**	**48**	P		**Pdif**	**09 33 26.5**	**-0.2**
833A	**Chaparral WMA,** baz=299	**101.04**	**55**	P		**Pdif**	**09 33 26.7**	**-0.2**
S40A	**Lebanon** baz=304	**101.17**	**44**	P		**Pdif**	**09 33 26.5**	**-0.9**
U39A	**Green Forest** baz=304	**101.20**	**45**	P		**Pdif**	**09 33 26.7**	**-0.8**
X38A	**Whitesboro** baz=302	**101.20**	**47**	P		**Pdif**	**09 33 27.5**	**-0.1**
SCHQ	**Schefferville** comp=Z,13nm,1.1s,baz=334,slow=2.4,SNR=5.3	**101.28**	**19**	P		**Pdif**	**09 33 27.0**	**-0.5**
SCHQ	**Schefferville**	**101.28**	**19**	*e*Pdif		**Pdif**	**09 33 28.0**	**+0.5**
SOKA	**Soboth**	**101.30**	**328**	*i* Pdiff		**Pdif**	**09 33 27.3**	**-0.6**
SOKA	comp=Z,5.6nm,1.1s			*i* PP		**PP**	**09 37 38.2**	**+0.9**
V39A	**Pettigrew** baz=303	**101.39**	**46**	P		**Pdif**	**09 33 28.0**	**-0.4**
P42A	**Winchester** baz=306	**101.40**	**41**	P		**Pdif**	**09 33 28.2**	**-0.1**
T40A	**Mansfield** baz=304	**101.41**	**44**	P		**Pdif**	**09 33 27.4**	**-1.0**
734A	**La Parita Cree** baz=299	**101.44**	**54**	P		**Pdif**	**09 33 28.5**	**-0.1**
336A	**Riesel** baz=301	**101.47**	**51**	P		**Pdif**	**09 33 29.1**	**+0.3**
EKA	**Eskdalemuir Ar** comp=Z,0.3nm,0.4s,baz=43,slow=4.4,SNR=4.2	**101.60**	**343**	P		**Pdif**	**09 33 28.9**	**0.0**
U40A	**Yellville** baz=304	**101.63**	**45**	P		**Pdif**	**09 33 29.1**	**-0.3**
OBKA	**Obir** comp=Z,6.8nm,1.5s	**101.66**	**328**	*i* Pdiff		**Pdif**	**09 33 30.2**	**+0.7**
OBKA	comp=Z,13nm,1.1s			*i* PP		**PP**	**09 37 38.9**	**-1.1**
Y38A	**Idabel** baz=302	**101.67**	**48**	P		**Pdif**	**09 33 29.4**	**-0.2**
S41A	**Jillco Farms,** baz=305	**101.67**	**43**	P		**Pdif**	**09 33 29.5**	**-0.1**
X39A	**Fountain Ranch** baz=303	**101.79**	**47**	P		**Pdif**	**09 33 30.0**	**-0.1**
KBA	**Koelnbreinsper** comp=Z,23nm,1.1s	**101.85**	**329**	*i* PP		PP	09 37 39.2	-2.3
T41A	**Mountain View** baz=305	**101.97**	**44**	P		**Pdif**	**09 33 30.3**	**-0.6**
MYKA	**Terra Mystica** comp=Z,1.3nm,0.4s	**102.02**	**329**	*i* Pdiff		**Pdif**	**09 33 30.0**	**-1.1**
MYKA	comp=Z,12nm,1.1s			*i* PP		**PP**	**09 37 41.9**	**-0.8**
Y39A	**Lockesburg** baz=303	**102.11**	**48**	P		**Pdif**	**09 33 31.2**	**-0.4**
W40A	**Ferguson Farm,** baz=304	**102.13**	**46**	P		**Pdif**	**09 33 31.1**	**-0.6**
MIAR	**Mount Ida** baz=303	**102.14**	**47**	P		**Pdif**	**09 33 31.6**	**-0.1**
MIAR	**Mount Ida**	**102.14**	**47**	*e*P		**Pdif**	**09 33 31.8**	**+0.1**
MIAR	**Mount Ida**	**102.14**	**47**	*e*Pdif		**Pdif**	**09 33 31.8**	**+0.1**
U41A	**Viola** baz=305	**102.26**	**45**	P		**Pdif**	**09 33 31.7**	**-0.6**
V41A	**Mountainview** baz=304	**102.42**	**45**	P		**Pdif**	**09 33 32.6**	**-0.3**
ABTA	**Abfaltersbach** comp=Z,6.0nm,1.9s	**102.48**	**329**	*i* Pdiff		**Pdif**	**09 33 32.3**	**-0.8**
ABTA	comp=Z,7.9nm,1.4s			*i* PP		**PP**	**09 37 48.5**	**+2.2**
WATA	**Walderalm** comp=Z,4.7nm,0.7s	**102.51**	**330**	*i* PP		PP	09 37 47.8	+1.3
WTTA	**Wattenberg** comp=Z,15nm,1.2s	**102.53**	**330**	*i* PP		PP	09 37 46.2	-0.4
338A	**Crockett** baz=302	**102.61**	**50**	P		**Pdif**	**09 33 32.9**	**-1.0**
MOTA	**Moosalm** comp=Z,4.2nm,1.1s	**102.72**	**331**	*i* pPdiff		**pPdif**	**09 33 59.7**	**-0.2**
MOTA	comp=Z,6.2nm,0.9s			*i* PP		**PP**	**09 37 47.9**	**-0.1**
RETA	**Reutte** comp=Z,4.0nm,1.3s	**102.77**	**331**	*i* Pdiff		**Pdif**	**09 33 31.7**	**-2.7**
RETA	comp=Z,6.7nm,1.2s			*i* PKiKP		**PP**	**09 37 50.9**	**+2.6**
BCLA	**Clavier**	**102.86**	**336**	P		**Pdif**	**09 33 34.3**	**-0.3**
Z40A	**Long Farm, Mag** baz=303	**102.96**	**48**	P		**Pdif**	**09 33 33.8**	**-1.6**
WLF	**Walferdange** comp=Z,15nm,1.7s	**103.12**	**335**	P		**Pdif**	**09 33 35.9**	**+0.2**
WLF	**Walferdange**	**103.12**	**335**	*e*P		**Pdif**	**09 33 36.0**	**+0.2**
WLF	**Walferdange**	**103.12**	**335**	*e*Pdif		**Pdif**	**09 33 36.0**	**+0.3**
FETA	**Feichten** comp=Z,10nm,1.3s	**103.13**	**331**	*i* PP		PP	09 37 51.8	+0.7
CWF	**Chatwood Fore**	**103.29**	**340**	*e*Pdif		**Pdif**	**09 33 36.7**	**+0.3**
DAVA	**Damuels** comp=Z,5.8nm,1.1s	**103.33**	**331**	*i* Pdiff		**Pdif**	**09 33 36.4**	**-0.6**
DAVA	comp=Z,6.6nm,1.1s			*i* PP		**PP**	**09 37 49.5**	**-3.1**
SYO	**Syowa Base**	**113.50**	**202**	*e*X		**Pdif**	**09 34 26.0**	**+4.7**
SYO	**Syowa Base**	**113.50**	**202**	*e*P		**PKKPbc**	**09 49 03.6**	**+3.1**
PBRG	**Braganca**	**114.62**	**338**	*e*PKPdf		PKPdf	09 38 16.8	0.0
PGAV	**Gavieira, Arco** comp=Z,134nm,20.0s	**115.00**	**339**	*e*LR		LR	10 15 13.6	
PCAB	**Cabril**	**115.15**	**339**	*e*PKPdf		**PKPdf**	**09 38 18.2**	**+0.4**
MVO	**Mocorvo** comp=Z,129nm,22.0s	**115.28**	**338**	*e*LR		LR	10 15 39.1	
POLO	**Lamas de Olo**	**115.37**	**339**	*e*PKPdf		**PKPdf**	**09 38 18.9**	**+0.5**
ES19	**SONSECA Array**	**115.37**	**335**	*e*PKPdf		**PKPdf**	**09 38 18.5**	**+0.2**
ESDC	**Sonseca Array** comp=Z,0.2nm,0.4s,baz=30,slow=2.9,SNR=4.9	**115.42**	**335**	PKP		**PKPdf**	**09 38 17.7**	**-0.7**
ESDC				pPKP		pPKP	09 38 43.8	
ESDC	comp=Z,0.5nm,0.6s,baz=15,slow=2.2,SNR=2.9			PP		**PP**	**09 39 19.5**	**-0.4**
ESDC	comp=Z,5.2nm,1.0s,baz=33,slow=7.0,SNR=12			PKKPbc		**PKKPbc**	**09 48 54.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=212,slow=3.4,SNR=5.6							
PVRL	**Vila Real**	**115.43**	**339**	*e*PKPdf		**PKPdf**	**09 38 19.1**	**+0.7**
MTE	**Manteigas**	**116.14**	**338**	*e*PKPdf		**PKPdf**	**09 38 20.4**	**+0.6**
MTE	**Manteigas** comp=Z,165nm,20.0s	**116.14**	**338**	*e*LR		LR	10 15 50.5	
MTE	**Manteigas**	**116.14**	**338**	*e*PKPdf		**PKPdf**	**09 38 20.2**	**+0.3**
PCBR	**Castelo Branco**	**116.61**	**338**	*e*PKPdf		**PKPdf**	**09 38 20.8**	**+0.2**
PCAS	**Casmilo, Conde**	**116.78**	**339**	*e*PKPdf		**PKPdf**	**09 38 21.0**	**0.0**
PMRV	**Marv??o**	**116.94**	**337**	*e*PKPdf		**PKPdf**	**09 38 21.8**	**+0.5**
PMRV	**Marv??o** comp=Z,249nm,20.0s	**116.94**	**337**	*e*LR		LR	10 15 51.8	
PTOM	**Tomar**	**117.14**	**338**	*e*PKPdf		**PKPdf**	**09 38 22.0**	**+0.3**
PESTR	**Estremoz**	**117.51**	**337**	*e*PKPdf		**PKPdf**	**09 38 22.8**	**+0.4**
PBEJ	**Beja**	**118.36**	**337**	*e*PKPdf		**PKPdf**	**09 38 24.8**	**+0.7**
PNCL	**Nicolau / Gran**	**118.52**	**338**	*e*PKPdf		**PKPdf**	**09 38 25.1**	**+0.7**
PCVE	**Castro Verde**	**118.77**	**337**	*e*PKPdf		**PKPdf**	**09 38 25.6**	**+0.7**
PVAQ	**Vaqueiros** comp=Z,309nm,22.0s	**118.85**	**337**	*e*LR		LR	10 19 41.4	
LSZ	**Lusaka** comp=Z,6.1nm,0.6s,baz=67,slow=2.8,SNR=8.6	**120.97**	**263**	PKP		**PKPdf**	**09 38 29.8**	**+0.1**
MATP	**Matopo** comp=Z,2.0nm,0.8s,baz=93,slow=5.2,SNR=3.6	**121.72**	**257**	PKP		**PKPdf**	**09 38 30.9**	**-0.2**
SNAA	**Sanae**	**124.26**	**191**	*e*PKIKP		**PKPdf**	**09 38 33.9**	**-0.5**
SNAA	**Sanae**	**124.26**	**191**	*e*PKPdf		**PKPdf**	**09 38 33.9**	**-0.5**
LBTB	**Lobatse** comp=Z,4.9nm,0.8s,baz=217,slow=2.1,SNR=4.9	**125.02**	**252**	PKP		**PKPdf**	**09 38 36.7**	**-0.5**
BOSA	**Boshof** comp=Z,2.3nm,0.7s,baz=192,slow=4.4,SNR=3.6	**125.64**	**248**	PKP		**PKPdf**	**09 38 37.5**	**-0.9**
PMOZ	**Porto Moniz, M** comp=Z,109nm,22.0s	**126.17**	**343**	*e*LR		LR	10 20 15.9	
MOTC	**Monteria, Cord**	**130.31**	**60**	*e*P		**PKPdf**	**09 38 45.4**	**-2.2**
HELC	**Santa Helena**	**131.83**	**63**	*e*P		**PKPdf**	**09 38 49.9**	**-1.0**
OTAV	**Otavalo**	**132.15**	**72**	*e*PKPdf		**PKPdf**	**09 38 52.4**	**+0.8**
CMBC	**Cumbal**	**132.40**	**70**	*e*P		**PKPdf**	**09 38 52.8**	**+0.7**
GUYC	**Guyana, Colomb**	**132.45**	**64**	*e*P		**PKPdf**	**09 38 51.2**	**-1.2**
OCAC	**Ocana**	**132.53**	**59**	*e*P		**PKPdf**	**09 38 52.2**	**+0.7**
POPC	**Popayan, Colom**	**132.68**	**68**	*e*P		**PKPdf**	**09 38 51.6**	**-0.7**
TOA0	**Torodi Ar. Sit**	**132.74**	**310**	*e*PKPdf		**PKPdf**	**09 38 51.8**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,1.7nm,0.6s,baz=54,slow=2.5,SNR=13	**132.74**	**310**	PKP		**PKPdf**	**09 38 51.0**	**-1.1**
TORD	comp=Z,3.5nm,0.9s,baz=15,slow=2.1,SNR=5.5			pPKP		**pPKPdf**	**09 39 17.1**	**-1.8**
TORD	comp=Z,4.0nm,1.1s,baz=36,slow=5.8,SNR=4.6			PP		**PP**	**09 41 20.4**	**+3.5**
BRRC	**Barranca, Sant**	**132.85**	**60**	*e*P		**PKPdf**	**09 38 51.0**	**-1.3**
CRUC	**La Cruz**	**132.89**	**69**	*e*P		**PKPdf**	**09 38 53.3**	**+0.4**
GRMC	**Gramalote, San**	**133.25**	**59**	*e*P		**PKPdf**	**09 38 51.6**	**-1.7**
CBRI	**Barrientos, No**	**133.25**	**59**	*e*P		**PKPdf**	**09 38 52.8**	**-0.6**
GIRC	**Giron, Santand**	**133.29**	**60**	*e*P		**PKPdf**	**09 38 51.6**	**-1.8**
PAMC	**Pamplona, Colo**	**133.55**	**59**	*e*P		**PKPdf**	**09 38 53.3**	**-1.0**
BARC	**Barichara**	**133.57**	**61**	*e*P		**PKPdf**	**09 38 52.2**	**-1.8**
RUSC	**La Rusia**	**134.03**	**61**	*e*P		**PKPdf**	**09 38 54.4**	**-0.8**
CHIC	**Chingaza**	**134.17**	**63**	*e*P		**PKPdf**	**09 38 53.3**	**-2.1**
GUVC	**San Jose del G**	**136.19**	**65**	*e*P		**PKPdf**	**09 38 58.4**	**-0.2**
PLCA	**Paso Flores** comp=Z,15nm,1.0s,baz=138,slow=3.5,SNR=8.1	**141.75**	**133**	PKP		**PKPdf**	**09 39 07.7**	**-0.4**
PLCA	**Paso Flores**	**141.75**	**133**	*e*PKPdf		**PKPdf**	**09 39 09.7**	**+1.6**
DBIC	**Dimbokro** comp=Z,6.7nm,0.7s,baz=353,slow=4.7,SNR=5.2	**141.84**	**309**	PKhKP		PKPpre	09 39 02.0	
DBIC	comp=Z,3.1nm,0.5s,baz=142,slow=1.0,SNR=4.6			SKP			09 42 36.5	
KIC	**Kosan Boka** comp=Z,49nm,1.1s	**141.96**	**309**	*e*PKP2		PKPpre	09 39 01.7	
TIC	**Toumodi**	**141.98**	**309**	*e*PKP2		PKPpre	09 39 03.1	
LIC	**Lamto** comp=Z,35nm,1.3s	**142.26**	**309**	*e*PKP2		PKPpre	09 39 01.5	
LCO	**Las Campanas**	**144.87**	**114**	*e*PKPbc		**PKPdf**	**09 39 14.2**	**0.0**
SACV	**Santiago Islan**	**144.87**	**343**	*e*PKPbc		**PKPdf**	**09 39 14.0**	**-0.3**
AUSP	**Uspallata**	**145.38**	**120**	*i* P		**PKPab**	**09 39 16.0**	**+0.7**
RTLS	**Leoncito**	**145.55**	**119**	*i* P		**PKPdf**	**09 39 12.7**	**-2.6**
ARCO	**CERRO ARCO**	**145.59**	**121**	*i* P		**PKPab**	**09 39 15.8**	**-0.2**
AROD	**Rodeo**	**145.74**	**116**	*i* P		**PKPab**	**09 39 17.1**	**+0.3**
ASAL	**Salagasta**	**145.74**	**120**	*i* P		**PKPdf**	**09 39 14.1**	**-1.3**
PB04	**IPOC Station P**	**145.79**	**102**	*e*PKPdf		**PKPab**	**09 39 17.2**	**+0.2**
PB01	**IPOC Station P**	**146.36**	**100**	*e*PKPdf		**PKPdf**	**09 39 17.3**	**+0.6**
LVC	**Limon Verde**	**146.94**	**103**	*e*PKPdf		**PKPbc**	**09 39 19.6**	**-0.4**
LPAZ	**La Paz** comp=Z,36nm,0.9s,baz=27,slow=6.2,SNR=91	**147.12**	**91**	PKP		**PKPdf**	**09 39 18.9**	**+0.2**
LPAZ	comp=Z,36nm,0.9s,baz=357,slow=3.6,SNR=106			PKPbc		**PKPbc**	**09 39 21.9**	**+0.8**
LPAZ	**La Paz** comp=Z,36nm,0.9s	**147.12**	**91**	PKP2		**PKPdf**	**09 39 19.0**	**+0.2**
LPAZ				pmax		pmax		
LPAZ	comp=Z,36nm,0.9s			pmax		pmax		
LPAZ	**La Paz** comp=Z,36nm,0.9s	**147.12**	**91**	*e*PKPdf		**PKPdf**	**09 39 19.4**	**+0.6**
LPAZ				*e*PKPbc		**PKPab**	**09 39 22.1**	**-0.7**
PTGA	**Pitinga**	**148.54**	**58**	*e*PKPdf		**PKPdf**	**09 39 21.7**	**+1.3**
TRQA	**Tornquist**	**148.88**	**134**	*e*PKPbc		**PKPbc**	**09 39 24.4**	**0.0**
SAML	**Samuel**	**149.78**	**75**	*e*PKPdf		**PKPdf**	**09 39 22.8**	**+0.4**
SAML				*e*PKPbc		**PKPbc**	**09 39 27.5**	**+0.3**
SAML				*e*PKPab		**PKPab**	**09 39 32.6**	**-0.2**
CPUP	**Villa Florida** comp=Z,2.2nm,0.9s,baz=314,slow=3.7,SNR=4.3	**157.02**	**113**	PKP		**PKPdf**	**09 39 32.5**	**+0.1**
CPUP	**Villa Florida**	**157.02**	**113**	*e*PKPdf		**PKPdf**	**09 39 33.5**	**+1.1**
CPUP				*e*PKPab		**PKPab**	**09 40 01.7**	**-1.5**

ISCJB ***26*** *09:30:00.9±0.2, 18°.92N±0°.03×146°.25E±0°.05, h83km, mb4.6/86, Error ellipse: s-maj=6.7km s-min=4.0km az=12.4*

IDC ***26*** *09:30:02.3±0.8, 18°.84N×146°.51E, h90km±7km, mb4.0/19, mb1 4.1/20, mb1mx4.0/39, mbtmp4.3/20, Error ellipse: s-maj=21.1km s-min=9.0km az=95.0*

BJI ***26*** *09:30:03.0, 18°.90N×146°.20E, h100km, mb4.6/15, mB5.0/11*

NEIC ***26*** *09:30:04.0±0.5, 18°.88N×146°.23E, h99km±4km, mb4.7/68, Error ellipse: s-maj=6.3km s-min=3.4km az=101.0*

ISC 26 09:30:02.3±0.4, 18°.95N±0°.04×146°.28E±0°.08, h83km, n127, σ1§46/137, mb4.7/86, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.29**	**192**	*e*Pn		**Pn**		**09 30 38.9**	**+0.6**
SARN				*e*Sn		**Sn**		**09 31 07.2**	**+1.5**
ANA2	**Anatahan**	**2.65**	**192**	*e*Pn		**Pn**		**09 30 44.1**	**+1.0**
ANA2				*e*Sn		**Sn**		**09 31 17.0**	**+2.6**
GUMO	**Guam** 153nm,0.3s,baz=198,slow=1.7,SNR=42	**5.50**	**194**	P		**Pn**		**09 31 22.4**	**+0.6**
GUMO	82nm,0.3s,baz=198,slow=20,SNR=3.2			S		**Sn**		**09 32 25.9**	**+2.2**
GUMO	**Guam**	**5.50**	**194**	*e*Pn		**Pn**		**09 31 24.0**	**+2.2**
GUMO				*e*Sn		**Sn**		**09 32 28.9**	**+5.2**
PATS	**Pohnpei** 242nm,1.6s	**16.79**	**134**	*e*Pn		**P**		**09 33 52.8**	**-0.4**
MJAR	**Matsushiro Arr** 1.0nm,0.3s,baz=156,slow=9.7,SNR=21	**18.91**	**340**	P		**P**		**09 34 17.3**	**+0.9**
MAJO	**Matsushiro** 19nm,1.3s	**18.91**	**340**	*e*P		**Pn**		**09 34 18.1**	**+0.1**
MJB9	**Matsu-Tunnel** 5.2nm,1.3s	**18.91**	**340**	*e*P		**Pn**		**09 34 17.8**	**-0.1**
H11S3	**WAKE ISLAND Hy** baz=274,slow=74,SNR=12	**19.34**	**88**	T		T		09 55 14.8	
H11S1	**WAKE ISLAND Hy** baz=274,slow=74,SNR=11	**19.35**	**88**	T		T		09 55 15.6	
H11S2	**WAKE ISLAND Hy** baz=274,slow=74,SNR=11	**19.35**	**88**	T		T		09 55 28.0	
JAY	**Jayapura** 0.6nm,0.7s,baz=268,slow=22,SNR=5.0	**22.02**	**195**	P		**P**		**09 34 50.2**	**0.0**
RABL	**Rabaul** 33nm,0.5s	**23.71**	**165**	*e*P		**P**		**09 35 04.6**	**-2.4**
KSRS	**Korea Array** 1.6nm,0.5s,baz=147,slow=8.6,SNR=7.3	**24.45**	**323**	P		**P**		**09 35 15.6**	**+2.3**
KSAR	**Wonju Array Be**	**24.46**	**323**	P		**P**		**09 35 15.6**	**+2.1**
ASAJ	**Asahikawa** 3.2nm,0.5s,baz=213,slow=14,SNR=4.8	**25.28**	**354**	P		**P**		**09 35 22.1**	**+1.1**
ASAJ	**Asahikawa** 16nm,1.1s	**25.28**	**354**	*e*P		**P**		**09 35 21.9**	**+1.1**
FAKI	**Fak Fak** 65nm,1.5s	**25.75**	**214**	*e*P		**P**		**09 35 25.0**	**-0.4**
USRK	**Ussuriysk Ar.** 1.0nm,0.6s,baz=150,slow=8.1,SNR=4.1	**27.88**	**338**	P		**P**		**09 35 46.8**	**+2.6**
CN2	**Changchun**	**30.33**	**329**	*e*P		**P**		**09 36 08.0**	**+2.0**
KLR	**Kul'dur** 4.2nm,0.6s,baz=133,slow=7.4,SNR=8.4	**32.40**	**342**	P		**P**		**09 36 25.2**	**+1.1**
COEN	**Coen** 74nm,2.0s	**32.84**	**186**	*e*P		**P**		**09 36 27.9**	**-0.4**
MTN	**Manton Dam** 66nm,1.8s	**34.94**	**206**	*e*P		**P**		**09 36 45.3**	**-1.2**
SOEI	**Soe** 38nm,0.8s	**35.84**	**219**	*e*P		**P**		**09 36 53.2**	**-1.2**
HHC	**Hu-ho-hao-te**	**36.82**	**314**	*e*P		**P**		**09 37 04.0**	**+1.5**
HHC				sP		sP		09 37 37.8	+6.2
HHC				S		**S**		**09 42 39.8**	**-1.1**
HHC	21nm,1.0s			PMZ					
HHC	190nm,6.6s			PMZ	

	5.0nm,0.7s							
WMQ				PMZ				
	55nm,4.5s							
WMQ				LN				
	82nm,18.3s							
WMQ				LE				
	120nm,16.9s							
WMQ				LZ				
	150nm,20.5s							
ZALV	**Zalesovo Beam**	**58.15**	**322**	P		**P**	**09 39 47.0**	**-0.3**
	0.7nm,0.3s,baz=102,slow=8.9,SNR=3.8							
OHAK	**Old Harbor**	**58.34**	**34**	*eP*		**P**	**09 39 48.4**	**-0.1**
	42nm,1.7s							
SVW2	**Sparrevohn**	**58.34**	**29**	*eP*		**P**	**09 39 49.3**	**+0.7**
	12nm,1.6s							
NWAO	**Narrogin (SRO)**	**58.58**	**209**	*eP*		**P**	**09 39 50.1**	**-0.4**
	124nm,1.8s							
MKAR	**Makanchi Array**	**58.69**	**314**	P		**P**	**09 39 50.9**	**-0.3**
	0.6nm,0.6s,baz=87,slow=5.9,SNR=3.9							
MKAR				pP		**pP**	**09 40 14.4**	**+2.2**
	1.7nm,0.6s,baz=92,slow=9.4,SNR=7.0							
TT01	**Tatalina**	**58.77**	**27**	*eP*		**P**	**09 39 52.0**	**+0.5**
TTA	**Tatalina**	**58.78**	**27**	*eP*		**P**	**09 39 53.0**	**+1.4**
	6.6nm,0.9s							
MAKZ	**Makanchi**	**58.90**	**314**	*eP*		**P**	**09 39 52.9**	**+0.1**
	2.7nm,0.6s							
CNPM	**China Poot**	**59.96**	**31**	*eP*		**P**	**09 39 59.4**	**-0.4**
	12nm,1.2s							
KTH	**Kantishna Hill**	**61.16**	**27**	*eP*		**P**	**09 40 08.1**	**+0.1**
	12nm,1.1s							
BPAW	**Bear Paw Mtn.**	**61.29**	**26**	*eP*		**P**	**09 40 08.9**	**+0.2**
	8.1nm,0.8s							
TRF	**Thorofare Moun**	**61.41**	**27**	*eP*		**P**	**09 40 09.4**	**-0.3**
	8.2nm,0.9s							
PMR	**Palmer**	**61.46**	**29**	*eP*		**P**	**09 40 09.2**	**-0.7**
MLY	**Manley**	**61.66**	**25**	*eP*		**P**	**09 40 11.9**	**+0.7**
	3.9nm,0.9s							
SML	**Sawmill**	**61.88**	**29**	*eP*		**P**	**09 40 13.3**	**+0.5**
	14nm,1.0s							
SCM	**Sheep Creek Mo**	**62.35**	**29**	*eP*		**P**	**09 40 16.3**	**+0.3**
	13nm,0.9s							
COLD	**Coldfoot**	**62.51**	**23**	*eP*		**P**	**09 40 17.9**	**+1.0**
	4.7nm,1.0s							
DHY	**Denali Highway**	**62.59**	**28**	*eP*		**P**	**09 40 17.9**	**+0.2**
	21nm,1.9s							
MDM	**Murphy Dome**	**62.66**	**26**	*eP*		**P**	**09 40 18.4**	**+0.5**
	5.7nm,0.8s							
KSH	**Kashi**	**63.17**	**305**	*eP*		**P**	**09 40 22.8**	**+0.9**
KSH				pP		pP	09 40 45.8	+2.7
KSH				PcP		**PcP**	**09 40 57.8**	**-1.0**
KSH				PP		**PP**	**09 42 46.0**	**+4.4**
KSH				S		**S**	**09 48 41.3**	**-5.9**
KSH				ScS		**SKKSac**	**09 50 00.5**	**-7.1**
KSH				SS		**SS**	**09 52 53.5**	**-0.9**
KSH				PMZ				
	3.0nm,0.5s							
KSH				PMZ				
	64nm,3.6s							
KSH				LN				
	310nm,11.8s							
KSH				LE				
	240nm,9.6s							
KSH				LZ				
	160nm,10.2s							
IL1	**Eielson Array**	**63.18**	**26**	*eP*		**P**	**09 40 20.2**	**-1.1**
ILAR	**Eielson Array**	**63.18**	**26**	P		**P**	**09 40 20.0**	**-1.3**
	2.7nm,0.9s,baz=260,slow=5.1,SNR=19							
ILB	**Eielson Array**	**63.18**	**26**	*eP*		**P**	**09 40 20.1**	**-1.3**
PAX	**Paxson**	**63.42**	**28**	*eP*		**P**	**09 40 23.3**	**+0.2**
	3.6nm,0.7s							
DOT	**Dot Lake**	**64.17**	**28**	*eP*		**P**	**09 40 27.8**	**-0.1**
	12nm,0.8s							
DAWY	**Dawson**	**66.28**	**28**	*eP*		**P**	**09 40 42.2**	**+0.6**
	4.8nm,0.9s							
HYT	**Haines Junctio**	**66.93**	**31**	*eP*		**P**	**09 40 47.1**	**+1.2**
	9.0nm,0.9s							
INK	**Inuvik**	**68.93**	**23**	P		**P**	**09 40 57.9**	**-0.2**
	4.7nm,0.8s,baz=264,slow=6.2,SNR=6.7							
DLBC	**Dease Lake**	**70.78**	**34**	P		**P**	**09 41 09.1**	**-0.7**
	5.1nm,0.9s,baz=288,slow=9.1,SNR=10							
DLBC	**Dease Lake**	**70.78**	**34**	*eP*		**P**	**09 41 10.7**	**+1.0**
	4.9nm,0.8s							
ABKAR	**Akbulak array**	**73.53**	**317**	*eP*		**P**	**09 41 25.6**	**-0.6**
YKA	**Yellowknife Ar**	**77.51**	**28**	P		**P**	**09 41 48.4**	**-0.2**
	4.0nm,0.6s,baz=289,slow=5.4,SNR=9.4							
K05A	**Summer Lake**	**79.41**	**48**	*eP*		**P**	**09 42 00.5**	**+0.7**
	10nm,0.9s							
NEW	**Newport**	**80.36**	**42**	*eP*		**P**	**09 42 05.1**	**+0.5**
	3.8nm,0.7s							
EDM	**Edmonton**	**81.06**	**37**	*eP*		**P**	**09 42 08.6**	**+0.3**
	5.5nm,0.6s							
WVOR	**Wild Horse Val**	**81.09**	**48**	*eP*		**P**	**09 42 09.1**	**+0.3**
	3.3nm,0.9s							
PAHR	**Pah Rah Range**	**81.36**	**51**	*eP*		**P**	**09 42 10.5**	**+0.2**
	5.7nm,1.1s							
BSMT	**Bassoo Peak**	**81.97**	**42**	*eP*		**P**	**09 42 14.1**	**+0.7**
ARA0	**ARCESS Array S**	**82.42**	**342**	*eP*		**P**	**09 42 14.7**	**-0.4**
ARCES	**ARCESS Array B**	**82.42**	**342**	P		**P**	**09 42 16.3**	**+1.2**
	2.0nm,0.7s,baz=75,slow=5.3,SNR=11							
ARCES				pP		**pP**	**09 42 38.9**	**+1.7**
	2.0nm,0.5s,baz=72,slow=7.8,SNR=3.0							
MFID	**Camas Ranch**	**82.74**	**47**	*eP*		**P**	**09 42 17.8**	**+0.4**
	3.2nm,0.8s							
ELK	**Elko**	**84.04**	**49**	*eP*		**P**	**09 42 24.6**	**+0.3**
	3.3nm,0.8s							
LRM	**Limekiln Ridge**	**84.18**	**44**	*eP*		**P**	**09 42 25.1**	**+0.2**
TPNV	**Topopah Spring**	**84.57**	**53**	*eP*		**P**	**09 42 26.8**	**-0.2**
	16nm,1.6s							
R11A	**Troy Canyon, C**	**84.60**	**51**	*eP*		**P**	**09 42 27.6**	**+0.5**
	9.2nm,1.9s							
YMR	**Madison River**	**85.58**	**44**	*eP*		**P**	**09 42 32.8**	**+0.8**
	10nm,0.7s							
YHH	**Holmes Hill**	**85.61**	**44**	*eP*		**P**	**09 42 32.6**	**+0.4**
	9.3nm,1.2s							
IMW	**Indian Meadow**	**85.89**	**45**	*eP*		**P**	**09 42 34.5**	**+0.9**
	3.8nm,0.6s							
H17A	**Grant Village**	**85.94**	**44**	*eP*		**P**	**09 42 34.6**	**+0.8**
	5.6nm,1.1s							
DUG	**Dugway, Tooele**	**85.97**	**49**	*eP*		**P**	**09 42 34.2**	**+0.3**
	13nm,1.6s							
GCMT	**Greycliff**	**86.00**	**43**	*eP*		**P**	**09 42 34.5**	**+0.7**
TPAW	**Teton Pass**	**86.04**	**45**	*eP*		**P**	**09 42 35.0**	**+0.8**
	13nm,1.8s							
REDW	**Red Top Meadow**	**86.15**	**45**	*eP*		**P**	**09 42 35.0**	**+0.2**
	10nm,1.6s							
SNOW	**Snow King Moun**	**86.18**	**45**	*eP*		**P**	**09 42 35.9**	**+1.0**
	18nm,2.0s							
HWUT	**Hardware Ranch**	**86.33**	**47**	*eP*		**P**	**09 42 35.9**	**+0.2**
	4.4nm,0.8s							
BMUT	**Black Mountain**	**86.42**	**47**	*eP*		**P**	**09 42 34.9**	**-1.2**
RLMT	**Red Lodge**	**86.52**	**43**	*eP*		**P**	**09 42 37.6**	**+1.0**
	5.6nm,0.7s							
CCUT	**Cedar City**	**86.52**	**52**	*eP*		**P**	**09 42 37.3**	**+0.6**
	3.6nm,1.3s							
TCUT	**Toone Canyon**	**86.62**	**48**	*eP*		**P**	**09 42 37.5**	**+0.3**
	5.1nm,0.9s							
FIA1	**FINESS Array S**	**86.89**	**335**	*eP*		**P**	**09 42 36.1**	**-1.5**
	18nm,1.4s							
FINES	**FINESS Array B**	**86.89**	**335**	P		**P**	**09 42 36.2**	**-1.4**
	2.4nm,0.4s,baz=68,slow=4.4,SNR=55							
FINES				pP		**pP**	**09 43 00.6**	**+0.7**
	1.5nm,0.4s,baz=74,slow=5.1,SNR=3.4							
KNB	**Kanab**	**87.12**	**52**	*eP*		**P**	**09 42 40.5**	**+0.9**
	6.3nm,1.3s							
PDAR	**Pinedale Array**	**87.26**	**46**	P		**P**	**09 42 38.4**	**-1.9**
	0.5nm,0.4s,baz=257,slow=5.3,SNR=4.4							
Q16A	**Castle Valley**	**87.62**	**50**	*eP*		**P**	**09 42 42.6**	**+0.7**
	12nm,1.7s							
U15A	**North Rim**	**87.73**	**52**	*eP*		**P**	**09 42 43.1**	**+0.5**
	12nm,1.8s							
SRU	**San Rafael Swe**	**88.01**	**49**	*eP*		**P**	**09 42 44.2**	**+0.4**
	2.5nm,0.7s							
Y14A	**Wickenburg**	**88.10**	**55**	*eP*		**P**	**09 42 44.5**	**+0.3**
	21nm,1.3s							
N23A	**Red Feather La**	**90.49**	**46**	*eP*		**P**	**09 42 56.6**	**+1.1**
	9.3nm,1.1s							
ULM	**Lac du Bonnet**	**92.08**	**35**	P		**P**	**09 43 01.3**	**-1.0**
	3.4nm,0.7s,baz=304,slow=1.4,SNR=3.1							
LVC	**Limon Verde**	**146.94**	**102**	*e*PKPbc		**PKPbc**	**09 49 36.2**	**-0.3**
LPAZ	**La Paz**	**147.13**	**91**	PKPbc		**PKPdf**	**09 49 35.9**	**+0.6**
	1.5nm,0.6s,baz=42,slow=9.1,SNR=3.5							
TRQA	**Tornquist**	**148.90**	**134**	*e*PKPbc		**PKPbc**	**09 49 40.4**	**-0.4**
TRQA				*e*PKPab		**PKPab**	**09 49 45.7**	**+0.7**
SAML	**Samuel**	**149.77**	**75**	*e*PKPbc		**PKPab**	**09 49 48.1**	**-1.1**
SHEL	**Horse Pasture**	**153.16**	**272**	*e*PKPbc		**PKPbc**	**09 49 48.3**	**-3.1**
ASCN	**Ascension**	**158.24**	**298**	*e*PKPdf		**PKPdf**	**09 49 52.1**	**+1.3**

IDC ***26*** *09:40:15.0±1.1, 40.°09N×140.°44E, h0km, mb3.5/3, mb1 3.7/7, mb1mx3.4/46, mbtmpb3.5/7, ML3.3/4, Error ellipse: s-maj=31.1km s-min=17.7km az=114.0*

ISCJB ***26*** *09:40:16.3±0.5, 40.°23N±0.°03×140.°37E±0.°05, h21km±6km, mb3.5/3, Error ellipse: s-maj=6.4km s-min=5.1km az=167.5*

JMA ***26*** *09:40:16.6, 40.°24N×140.°38E, h13km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs140.00000°, δ65.00000°, λ30.00000°. NP2: ϕs37.00000°, δ63.00000°, λ152.00000°. Principal axes: T Plg38.0000°, Azm359.0000°; N Plg52.0000°, Azm177.0000°; P Plg1.0000°, Azm268.0000°;*

JMA Felt II J1.

ISC 26 09:40:16.7±0.9, 40°26N±0.°03×140°41E±0.°04, h15km±7km, n14, σ1s60/25, mb3.6/3, 1C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JAH	**Hinai**	**0.18**	**112**	⇓P		**Pg**		**09 40 21.2**	**+0.1**
JAH				S		**Sg**		**09 40 24.3**	**+0.2**
JIW	**Iwasaki**	**0.46**	**317**	⇓P		**Pg**		**09 40 25.6**	**-0.2**
JIW				S		**Sg**		**09 40 31.8**	**-0.2**
JTM	**Tenmabayashi**	**0.73**	**43**	⇓P		**Pb**		**09 40 31.1**	**0.0**
JTM				*e*S		**Sb**		**09 40 41.4**	**+0.5**
JANG	**Nango**	**0.85**	**82**	⇓P		**Pb**		**09 40 32.8**	**-0.4**
JANG				S		**Sg**		**09 40 44.5**	**+0.1**
JRG	**Rokugo**	**0.88**	**169**	⇑P		**Pb**		**09 40 32.9**	**-0.7**
JRG				S		**Sb**		**09 40 44.6**	**-0.6**
JOM	**Ohasama**	**1.04**	**139**	⇓P		**Pb**		**09 40 35.5**	**-0.9**
JOM				*e*S		**Sb**		**09 40 49.1**	**-0.7**
MAT	**Matsushiro**	**4.09**	**206**	P		**Pn**		**09 41 20.0**	**+1.2**
MAT				S		**Sn**		**09 42 06.2**	**-0.2**
MJAR	**Matsushiro Arr**	**4.09**	**206**	Pn		**Pn**		**09 41 18.2**	**-0.6**
	1.2nm,0.3s,baz=21,slow=14,SNR=15								
MJAR				Sn		**Sn**		**09 42 05.8**	**-0.6**
	1.5nm,0.3s,baz=32,slow=25,SNR=5.7								
ASAJ	**Asahikawa**	**4.18**	**22**	Pn		**Pn**		**09 41 22.6**	**+2.6**
	2.5nm,0.3s,baz=212,slow=12,SNR=21								
ASAJ				Sn		**Sb**		**09 42 15.9**	**-4.4**
	0.6nm,0.3s,baz=81,slow=19,SNR=3.1								
USRK	**Ussuriysk Ar.**	**7.39**	**305**	Pn		**Pn**		**09 42 04.6**	**+0.7**
	0.7nm,0.3s,baz=120,slow=14,SNR=14								
USRK				Sn		**Sn**		**09 43 25.3**	**-2.1**
	0.5nm,0.3s,baz=118,slow=25,SNR=4.9								
KSRS	**Korea Array**	**10.13**	**258**	Pn		**Pn**		**09 42 42.2**	**+0.6**
	0.6nm,0.3s,baz=68,slow=14,SNR=6.7								
KSRS				Sn		**Sn**		**09 44 38.7**	**+3.7**
	0.8nm,0.3s,baz=72,slow=24,SNR=7.6								
ILAR	**Eielson Array**	**47.23**	**34**	P		**P**		**09 48 50.2**	**+1.6**
	0.4nm,0.7s,baz=282,slow=8.3,SNR=5.9								
WRA	**Warramunga Arr**	**60.16**	**187**	P		**P**		**09 50 22.6**	**-1.1**
	0.3nm,0.4s,baz=4.2,slow=7.1,SNR=16								
ASAR	**Alice Springs**	**63.88**	**187**	P		**P**		**09 50 48.5**	**-0.3**
	0.2nm,0.4s,baz=1.5,slow=6.9,SNR=6.7								

CSEM ***26*** *09:50:25.5±0.4, 29.°99N×57.°69E, h2km, ML3.7, Error ellipse: s-maj=12.0km s-min=8.3km az=131.0*

TEH 26 09:50:21.9, 29.°91N×57.°82E, h6km, ML3.7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CHMN	**Cheshme madani**	**0.25**	**259**	*e*Pg		Pg		09 50 28.6	+1.7
CHMN	**Cheshme madani**	**0.25**	**259**	*e*Pg		Pg		09 50 28.6	+1.7
KRBR	**Kerman**	**0.92**	**275**	*e*Pg		Pn		09 50 41.3	-0.4
KRBR				*e*Sg		Sg		09 50 51.9	+0.2
TVBK	**TV Kerman**	**0.92**	**275**	*e*Pg		Pn		09 50 41.4	-0.3
TVBK	**TV Kerman**	**0.92**	**275**	*e*Pg		Pn		09 50 41.4	-0.3
NGRK	**Negar Kerman**	**0.98**	**255**	*e*Pg		Pb		09 50 41.8	+0.2
NGRK	**Negar Kerman**	**0.98**	**255**	*e*Pg		Pb		09 50 41.8	+0.2
KHGB	**Koh Gabri**	**1.25**	**292**	*e*Pg		Pn		09 50 46.7	+0.5
KHGB	**Koh Gabri**	**1.25**	**292**	*e*Pg		Pn		09 50 46.7	+0.5
NIAN	**Nian**	**2.50**	**201**	*e*Pn		Pg		09 51 09.3	-0.4
NIAN	**Nian**	**2.50**	**201**	*e*Pn		Pg		09 51 09.3	-0.4
IBAF	**Bafgh**	**2.56**	**311**	*e*		Pn		09 51 03.5	-0.6
IBAF				*e*Pn		Pb		09 51 07.1	-1.3
ZHSF	**Zahedan**	**2.59**	**96**	*e*Pn		Pg		09 51 15.9	+4.4
IKOO	**Kooshah**	**2.71**	**22**	*e*Pn		Pb		09 51 09.6	-1.3
IKOO				*e*AMB		AMB		09 52 03.3	
	comp=Z,4μm,0.2s								
IKOO	**Kooshah**	**2.71**	**22**	*e*Pn		Pb		09 51 09.6	-1.3
GENO	**Geno**	**2.89**	**211**	*e*Pn		Pb		09 51 13.2	-0.7
GENO	**Geno**	**2.89**	**211**	*e*Pn		Pb		09 51 13.2	-0.7
BNDS	**Bandar-Abbas**	**2.89**	**211**	*e*Pn		Pb		09 51 13.1	-0.8
ITEG	**Tejag**	**3.08**	**15**	*e*Pn		Pn		09 51 13.8	+2.5
ITEG				*e*AMB		AMB		09 52 09.3	
	comp=Z,2μm,0.2s								
ITEG	**Tejag**	**3.08**	**15**	*e*Pn		Pn		09 51 13.8	+2.5
IMEH	**Mehriz**	**3.13**	**299**	*e*Pn		Pb		09 51 16.8	-1.4
IMEH				*e*AMB		AMB		09 52 05.9	
	comp=N,2μm,0.2s								
IMEH	**Mehriz**	**3.13**	**299**	*e*Pn		Pb		09 51 16.8	-1.4
IDAH	**Dahanechah**	**3.32**	**31**	*e*Pn		Pb		09 51 18.4	-3.0
IDAH				*e*AMB		AMB		09 52 22.4	
	comp=Z,995nm,0.3s								
IDAH	**Dahanechah**	**3.32**	**31**	*e*Pn		Pb		09 51 18.4	-3.0
TABS	**Tabas**	**3.78**	**351**	*e*P		Pb		09 51 29.5	+0.5

IDC 26 09:50:57.5±1.5, 15.°17S×173.°55W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/46, mbtmpb3.9/7, ML4.4/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/36, Error ellipse: s-maj=100.3km s-min=18.5km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AFI	**Afiamalu**	**2.13**	**54**	Pn		Pn		09 51 32.8	-1.7
	110nm,0.3s,baz=190,slow=3.1,SNR=92								
AFI				Sn		Sn		09 51 52.1	-10
	131nm,0.3s,baz=9.6,slow=22,SNR=6.0								
AFI				LR		LR		09 52 25.9	
	comp=Z,457nm,21.8s,baz=262,slow=42								
STKA	**Stephens Creek**	**44.02**	**240**	P		P		09 59 07.1	-0.1
	1.5nm,0.7s,baz=45,slow=8.6,SNR=4.0								
WRA	**Warramunga Arr**	**49.75**	**257**	P		P		09 59 51.5	-0.7
	1.0nm,0.7s,baz=90,slow=7.0,SNR=22								
ASAR	**Alice Springs**	**50.04**	**252**	P		P		09 59 54.0	-0.3
	3.1nm,0.5s,baz=86,slow=8.2,SNR=69								
ASAR				LR		LR		10 18 59.3	
	comp=Z,108nm,21.1s,baz=96,slow=34								
TXAR	**Lajitas Array**	**80.61**	**56**	P		P		10 03 12.8	+0.3
	0.4nm,0.9s,baz=218,slow=5.7,SNR=4.1								
PDAR	**Pinedale Array**	**82.20**	**42**	P		P		10 03 21.6	+0.7
	0.4nm,0.5s,baz=213,slow=3.1,SNR=3.5								
ILAR	**Eielson Array**	**82.25**	**11**	P		P		10 03 20.1	-0.3
	0.2nm,0.8s,baz=221,slow=6.7,SNR=2.7								
BRTR	**Keskin Array B**	**145.89**	**321**	PKPbc		PKPab		10 10 40.0	+0.1
	1.1nm,0.7s,baz=86,slow=4.6,SNR=4.1								

ISCJB ***26*** *09:55:36.7±1.0, 60.°71N×0.°2×177.°7W±0.°1, h10km, mb3.9/11, MS3.6/1, Error ellipse: s-maj=23.0km s-min=6.8km az=170.2*

IDC ***26*** *09:55:37.4±1.8, 60.°71N×177.°80W, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.7/58, mbtmpb3.8/13, ML2.4/2, MS3.7/2, Ms1 3.7/2, ms1mx3.0/63, Error ellipse: s-maj=44.8km s-min=22.4km az=4.0*

NEIC ***26*** *09:55:38.1±3.1, 60.°68N×177.°78W, h4km±21km, mb4.0/4, Error ellipse: s-maj=18.4km s-min=6.8km az=169.0*

ISC 26 09:55:39.2±1.0, 60.°8N±0.°1×177.°74W±0.°07, h10km, n25, σ0s94/25, mb3.9/11, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
GAMB	**Gambell**	**4.12**	**41**	*e*Pn		**Pn**		**09 56 41.7**	**-0.5**
GAMB				*e*Sg		**Sg**		**09 57 49.7**	**-1.8**
PPLA	**Purkeypile**	**12.22**	**69**	*e*Pn		**Pn**		**09 58 32.8**	**-0.5**
	2.6nm,0.4s								
PPLA				*e*Sn		**Sn**		**10 00 50.8**	**+1.2**
COLD	**Coldfoot**	**13.60**	**50**	*e*Pn		**Pn**		**09 58 53.8**	**+2.0**
	8.4nm,1.1s								
COLA	**College**	**14.17**	**60**	*e*P		**P**		**09 59 05.9**	**-1.3**
	5.8nm,0.8s								
SEY	**Seymchan**	**14.20**	**292**	Pn		**Pn**		**09 58 59.8**	**-0.3**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.7								
ILAR	**Eielson Array**	**14.58**	**61**	Pn		**Pn**		**09 59 05.3**	**0.0**
	0.1nm,0.3s,baz=274,slow=13,SNR=5.0								
PETK	**Petropavlovsk-**	**15.37**	**251**	Pn		**Pn**		**09 59 14.7**	**-1.3**
	0.0nm,0.3s,baz=77,slow=15,SNR=2.3								
MA2	**Magadan**	**15.63**	**279**	LR		LR		10 05 59.8	
	comp=Z,178nm,18.0s,baz=143,slow=40								
DAWY	**Dawson**	**17.86**	**63**	*e*P		**P**		**09 59 49.0**	**+0.8**
	3.9nm,0.8s								
INK	**Inuvik**	**20.01**	**49**	P		**P**		**10 00 12.1**	**+0.5**
	2.2nm,0.7s,baz=299,slow=15,SNR=4.2								
INK	**Inuvik**	**20.01**	**49**	*e*P		**P**		**10 00 11.9**	**+0.3**
	5.9nm,0.8s								
TIXI	**Tiksi**	**23.20**	**320**	P		**P**		**10 00 45.6**	**0.0**
	1.2nm,0.6s,baz=90,slow=12,SNR=5.6								
TIXI	**Tiksi**	**23.20**	**320**	*e*P		**P**		**10 00 46.9**	**+1.2**
	3.7nm,0.8s								
YAK	**Yakutsk**	**24.63**	**296**	LR		LR		10 11 39.4	
	comp=Z,193nm,18.8s,baz=76,slow=39								
ARCES	**ARCESS Array B**	**48.92**	**349**	P		**P**		**10 04 25.0**	**+0.3**
	2.4nm,0.8s,baz=42,slow=8.2,SNR=4.5								
KURK	**Kurchatov**	**53.20**	**310**	P		**P**		**10 04 58.1**	**+1.0**
KURBB	**Kurchatov Arra**	**53.31**	**309**	P		**P**		**10 04 58.1**	**+0.2**
	2.2nm,0.2s,baz=36,slow=8.1,SNR=2.9								
BVAR	**Borovoye Array**	**54.27**	**316**	P		**P**		**10 05 04.9**	**+0.1**
	0.7nm,0.5s,baz=57,slow=10,SNR=4.1								
MKAR	**Makanchi Array**	**54.92**	**304**	P		**P**		**10 05 08.9**	**-0.8**
	0.4nm,0.5s,baz=48,slow=7.2,SNR=5.8								
FINES	**FINESS Array B**	**56.74**	**347**	P		**P**		**10 05 23.0**	**+0.5**
	1.0nm,0.5s,baz=15,slow=7.5,SNR=8.6								
TXAR	**Lajitas Array**	**57.16**	**88**	P		**P**		**10 05 26.1**	**0.0**
	0.3nm,0.7s,baz=291,slow=3.9,SNR=4.7								
NOA	**NORSAR Array B**	**58.31**	**355**	P		**P**		**10 05 33.2**	**-0.4**
	0.4nm,0.6s,baz=357,slow=7.0,SNR=3.3								
ABKAR	**Akbulak array**	**60.90**	**321**	*e*P		**P**		**10 05 52.3**	**+0.8**
	2.3nm,0.8s								
AKASG	**Malin Array Be**	**66.77**	**342**	P		**P**		**10 06 29.5**	**-0.7**
	0.8nm,0.5s,baz=20,slow=6.6,SNR=3.7								
GERES	**GERESS Array B**	**70.34**	**352**	P		**P**		**10 06 53.6**	**+0.9**
	0.2nm,0.4s,baz=21,slow=6.8,SNR=3.2								

NIED ***26*** *09:58:00, 44.°60N×149.°30E, h35km, Mw4.1 Best double couple: M0 1.63000×10^15 NP1: ϕs237.00000°, δ29.00000°, λ109.00000°. NP2: ϕs36.00000°, δ63.00000°, λ80.00000°.*

JMA ***26*** *09:58:05.9±0.4, 44.°60N×149.°29E, h30km, M4.5*

SKHL ***26*** *09:58:06.6±0.4, 44.°29N×149.°40E, h61km±5km, mb4.6/5*

MOS ***26*** *09:58:06.0±1.2, 44.°37N×149.°27E, h46km, mb4.2/14, Error ellipse: s-maj=11.7km s-min=10.1km az=88.2*

ISCJB ***26*** *09:58:07.4±1.0, 44.°30N±0.°05×149.°14E±0.°08, h58km±7km, mb4.0/19, Error ellipse: s-maj=11.4km s-min=6.7km az=39.4*

IDC ***26*** *09:58:08.8±0.7, 44.°48N×149.°14E, h50km±6km, mb3.7/16, mb1 3.8/21, mb1mx3.7/52, mbtmpb3.9/21, MS3.3/3, Ms1 3.3/3, ms1mx2.8/60, Error ellipse: s-maj=17.4km s-min=14.6km az=125.0*

ISC 26 09:58:07.9±0.8, 44°25N±0.°05×149°21E±0.°07, h51km±7km, n76, σ1s68/88, mb4.0/19, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KUR	**Kuril'sk**	**1.37**	**316**	*c*	*i*Pn	**Pn**		**09 58 29.3**	**-1.3**
KUR					*i*S	**Sn**		**09 58 46.5**	**-1.1**
KUR					pmax	pmax			
	comp=Z,280nm,0.6s								
KUR					pmax	pmax			
	comp=N,113nm,0.3s								
KUR					pmax	pmax			
	comp=E,78nm,0.3s								
KUR					smax	smax			
	comp=N,161nm,0.5s								
KUR					smax	smax			
	comp=E,960nm,0.5s								
KUR	**Kuril'sk**	**1.37**	**316**	*e*P		**Pn**		**09 58 29.3**	**-1.3**
KUR					AMB	AMB		09 58 30.2	
	comp=E,113nm,0.4s								
KUR					AMB	AMB		09 58 30.2	
	comp=E,78nm,0.4s								
KUR					AMB	AMB		09 58 30.2	
	comp=E,280nm,0.4s								
KUR					*i*S	**Sn**		**09 58 46.0**	**-1.6**
KUR					A	A		09 58 48.5	
	comp=E,2μm,0.5s								
KUR					A	A		09 58 48.5	
	comp=E,960nm,0.5s								
SHO	**Shikotan**	**1.76**	**258**	*c*	*i*PN	**Pn**		**09 58

	comp=E,220nm,18.2s,baz=254,slow=38								
MJAR	**Matsushiro Arr**	**11.38**	**231**	P		**Pn**	**10 00 48.0**	**+0.3**
	comp=E,0.1nm,0.3s,baz=34,slow=14,SNR=5.7								
MJAR	**Matsushiro Arr**	**11.38**	**231**	PN		**Pn**	**10 00 48.0**	**+0.3**
USRK	**Ussuriysk Ar.**	**12.36**	**276**	P		**Pn**	**10 01 00.0**	**-1.0**
	comp=E,0.2nm,0.3s,baz=84,slow=13,SNR=8.2								
USRK				LR		LR	10 05 57.1		
	comp=E,143nm,18.2s,baz=109,slow=38								
KLR	**Kul'dur**	**12.96**	**299**	LR		LR	10 06 47.3		
	comp=E,62nm,19.1s,baz=77,slow=40								
KLR	**Kul'dur**	**12.96**	**299**	*e*PN		Pn	10 01 00.0	-9.2	
EKMR	**Ekimchan**	**13.88**	**315**	*e*P		**Pn**	**10 01 19.5**	**-2.2**	
EKMR				AMB		AMB	10 01 26.5		
	comp=E,6.0nm,0.8s								
SEY	**Seymchan**	**18.81**	**5**	P		**P**	**10 02 20.2**	**-2.7**	
	comp=E,0.3nm,0.3s,baz=186,slow=10,SNR=7.2								
YAK	**Yakutsk**	**21.16**	**334**	*e*P		**P**	**10 02 50.8**	**+2.4**	
YAK				pmax		pmax			
	comp=E,13nm,1.2s								
YAK				pmax		pmax			
	comp=Z,29nm,1.0s								
YAK				pmax		pmax			
	comp=N,10.0nm,1.1s								
BILL	**Bilibino**	**25.48**	**15**	*i* P		P	10 03 43.1	+12	
BILL				pmax		pmax			
	comp=Z,8.0nm,1.1s								
H11N2	**WAKE ISLAND Hy**	**28.56**	**143**	T		T	10 34 52.6		
	baz=334,slow=76,SNR=118								
H11N1	**WAKE ISLAND Hy**	**28.57**	**143**	T		T	10 35 02.1		
	baz=334,slow=76,SNR=89								
H11N3	**WAKE ISLAND Hy**	**28.58**	**143**	T		T	10 34 51.9		
	baz=334,slow=76,SNR=82								
H11S1	**WAKE ISLAND Hy**	**29.57**	**145**	T		T	10 36 16.1		
	baz=335,slow=76,SNR=63								
H11S3	**WAKE ISLAND Hy**	**29.57**	**145**	T		T	10 36 17.2		
	baz=335,slow=76,SNR=50								
H11S2	**WAKE ISLAND Hy**	**29.58**	**145**	T		T	10 36 17.5		
	baz=335,slow=76,SNR=53								
SONM	**Songino Array**	**29.65**	**292**	P		**P**	**10 04 07.0**	**-1.5**	
	comp=Z,1.5nm,0.7s,baz=68,slow=7.6,SNR=6.8								
SONM	**Songino Array**	**29.65**	**292**	*e*P		**P**	**10 04 09.8**	**+1.2**	
SONM				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ILAR	**Eielson Array**	**40.20**	**37**	P		**P**	**10 05 38.4**	**-0.5**	
	comp=Z,1.0nm,0.8s,baz=266,slow=8.1,SNR=7.6								
ZALV	**Zalesovo Beam**	**41.88**	**307**	P		**P**	**10 05 52.9**	**+0.1**	
	comp=Z,0.5nm,0.3s,baz=80,slow=11,SNR=2.5								
ZALV				PcP		**PcP**	**10 07 48.3**	**+0.7**	
	comp=Z,0.5nm,0.3s,baz=57,slow=5.5,SNR=3.6								
ZALV	**Zalesovo Beam**	**41.88**	**307**	P		**P**	**10 05 52.9**	**+0.1**	
ZALV							10 07 48.3		
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**45.67**	**298**	P		**P**	**10 06 24.0**	**+0.7**	
	comp=Z,1.9nm,0.8s,baz=72,slow=7.7,SNR=9.5								
KURK	**Kurchatov**	**46.48**	**304**	P		**P**	**10 06 29.3**	**-0.3**	
KURK							10 08 04.4		
KURK				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KURK				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KURK	**Kurchatov**	**46.48**	**304**	*e*P		**P**	**10 06 29.3**	**-0.3**	
KURBB	**Kurchatov Arra**	**46.56**	**304**	P		**P**	**10 06 29.3**	**-1.0**	
	comp=Z,0.9nm,0.3s,baz=73,slow=8.3,SNR=3.1								
KURBB				PcP		**PcP**	**10 08 04.3**	**+0.7**	
	comp=Z,0.5nm,0.5s,baz=79,slow=3.6,SNR=4.4								
BVAR	**Borovoye Array**	**50.33**	**310**	P		**P**	**10 06 59.4**	**+0.2**	
	comp=Z,0.5nm,0.5s,baz=254,slow=41,SNR=2.8								
FINES	**FINESS Array B**	**65.09**	**334**	P		**P**	**10 08 41.7**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=56,slow=7.4,SNR=7.2								
WRA	**Warramunga Arr**	**65.31**	**195**	P		**P**	**10 08 46.5**	**+1.9**	
	comp=Z,0.3nm,0.7s,baz=12,slow=6.7,SNR=2.9								
WRA				pP		**pP**	**10 09 00.8**	**+2.0**	
	comp=Z,0.9nm,0.6s,baz=17,slow=7.1,SNR=5.1								
GEYT	**Alibeck**	**65.49**	**300**	P		**P**	**10 08 46.3**	**+0.6**	
	comp=Z,2.5nm,0.5s,baz=0,0,slow=4.4,SNR=5.0								
PDAR	**Pinedale Array**	**68.44**	**51**	pP		pP	10 09 19.1	0.0	
	comp=Z,0.8nm,0.6s,baz=249,slow=4.1,SNR=3.7								
ASAR	**Alice Springs**	**69.03**	**195**	P		**P**	**10 09 10.4**	**+2.4**	
	comp=Z,0.2nm,0.7s,baz=18,slow=6.8,SNR=3.4								
ASAR				pP		**pP**	**10 09 24.9**	**+2.5**	
	comp=Z,1.0nm,0.8s,baz=7.4,slow=5.5,SNR=6.2								
NB2	**NORSAR Subarra**	**69.66**	**340**	P		**P**	**10 09 10.8**	**-0.8**	
	comp=Z,1.1nm,0.5s,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**69.66**	**340**	P		**P**	**10 09 10.9**	**-0.7**	
	comp=Z,1.7nm,0.6s,baz=33,slow=6.6,SNR=14								
NOA	**NORSAR Array B**	**69.66**	**340**	*e*P		**P**	**10 09 10.9**	**-0.7**	
NOA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KBZ	**Khabaz**	**70.57**	**312**	P		**P**	**10 09 17.1**	**-0.3**	
	comp=Z,3.5nm,0.8s,baz=52,slow=5.3,SNR=9.7								
AKASG	**Malin Array Be**	**72.04**	**325**	P		**P**	**10 09 26.2**	**0.0**	
	comp=Z,2.2nm,0.6s,baz=38,slow=6.3,SNR=8.2								
BRTR	**Keskin Array B**	**78.26**	**315**	P		**P**	**10 10 02.0**	**-0.3**	
	comp=Z,1.4nm,0.8s,baz=94,slow=2.7,SNR=4.2								
KHC	**Kasperske Hory**	**79.23**	**332**	*e*P		**P**	**10 10 07.5**	**+0.2**	
KHC				*ex*		x	10 10 25.0		
KHC	**Kasperske Hory**	**79.23**	**332**	*e*P		**P**	**10 10 07.5**	**+0.2**	
KHC				*e*			10 10 25.0		
KHC	**Kasperske Hory**	**79.23**	**332**	*e*P		**P**	**10 10 07.5**	**+0.2**	
GERES	**GERESS Array B**	**79.43**	**332**	P		**P**	**10 10 08.2**	**-0.3**	
	comp=Z,0.4nm,0.4s,baz=42,slow=6.1,SNR=4.5								
GERES	**GERESS Array B**	**79.43**	**332**	*e*P		**P**	**10 10 09.4**	**+0.9**	
GERES	**GERESS Array B**	**79.43**	**332**	*e*P		**P**	**10 10 09.4**	**+0.9**	
TXAR	**Lajitas Array**	**81.13**	**58**	P		**P**	**10 10 19.1**	**+1.1**	
	comp=Z,0.5nm,0.7s,baz=318,slow=4.8,SNR=7.7								
TXAR				pP		**pP**	**10 10 33.1**	**+0.4**	
	comp=Z,1.1nm,0.5s,baz=300,slow=4.4,SNR=14								

IDC 26 10:02:49.5±12.0, 4°21'S×127°41'E, h256km±130km, mb3.3/3, mb1 3.6/4, mb1mx3.1/44, mbtmp4.2/4, MS3.4/1, Ms1 3.3/1, ms1mx2.6/21, Error ellipse: s-maj=129.4km s-min=39.6km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.04**	**157**	P	P	10 06 32.0	+0.5
	1.9nm,0.3s,baz=336,slow=11,SNR=159						
ASAR	**Alice Springs**	**20.34**	**163**	P	P	10 07 06.7	-0.3
	2.6nm,0.3s,baz=346,slow=11,SNR=66						
STKA	**Stephens Creek**	**30.58**	**156**	P	P	10 08 39.8	0.0
	1.7nm,0.5s,baz=332,slow=8.0,SNR=8.3						
STKA				LR	LR	10 21 02.2	
	comp=Z,69nm,18.1s,baz=21,slow=36						
MKAR	**Makanchi Array**	**64.49**	**327**	P	P	10 12 59.1	0.0
	0.4nm,0.6s,baz=132,slow=8.3,SNR=3.6						

*NNC **26** 10:06:48.0±3.6, 44°23'N×83°24'E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=31.6km s-min=13.6km az=125.0*
*SOME **26** 10:06:54.1, 44°42'N×82°82'E, h15km*

ISC 26 10:06:52.5±2.5, 44°36'N±0.07'×83°0E±0.1', h17km, n8, σ1§24/13, 5C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.10**	**245**	*e*P	**Pg**	**10 07 32.1**	**-0.8**
	5.4nm,0.2s						
KTMS				*e*S	**Sg**	**10 07 59.3**	**-0.9**
	20nm,0.2s						
DJR	**Jarkent**	**2.28**	**270**	*e*P	**Pb**	**10 07 34.6**	**+1.3**
	9.8nm,0.2s						
DJR				*e*S	**Sb**	**10 08 03.6**	**+2.2**
	9.2nm,0.3s						
MK31	**Makanchi Array**	**2.48**	**349**	⇓Pg	**Pb**	**10 07 37.5**	**+0.8**
	0.9nm,0.5s,baz=162,slow=17,SNR=36						
MK31				⇑Lg	Lg	10 08 11.2	
	3.1nm,0.5s,baz=164,slow=27,SNR=11						
SHLS	**Shalkode**	**2.54**	**243**	*e*P	**Pb**	**10 07 38.4**	**+0.5**
	6.5nm,0.1s						
SHLS				*e*S	**Sb**	**10 08 09.8**	**+0.9**
	22nm,0.2s						
MAKZ	**Makanchi**	**2.55**	**344**	⇑Pg	**Pb**	**10 07 38.0**	**+0.2**
	0.9nm,0.5s						
MAKZ				⇓Lg	Lg	10 08 12.7	
	1.1nm,0.4s						
PDGK	**Podgornoye**	**2.73**	**249**	⇑Pg	**Pb**	**10 07 40.2**	**-0.6**
	0.5nm,0.3s						
PDGK				⇑Lg	Lg	10 08 17.0	
	5.5nm,0.8s						
KAPS	**Kapalarasan**	**2.73**	**291**	⇑*i*P	**Pg**	**10 07 43.8**	**-1.2**
	1.3nm,0.2s						
KAPS				⇓*i*S	**Sg**	**10 08 19.0**	**-1.4**
	3.8nm,0.3s						
UZB	**Uzynbulak**	**3.11**	**248**	*e*P	**Pb**	**10 07 48.1**	**+0.6**
	1.6nm,0.4s						
UZB				*e*S	**Sb**	**10 08 26.3**	**+1.2**
	2.8nm,0.3s						

IDC 26 10:08:49.0±20.0, 15°11'S×165°67'E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/45, mbtmp3.7/4, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/30, Error ellipse: s-maj=364.6km s-min=45.5km az=50.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.96**	**174**	Pn	Pn	10 10 32.2	-0.1
	1.7nm,0.3s,baz=350,slow=18,SNR=12						
STKA	**Stephens Creek**	**27.57**	**229**	P	P	10 14 38.2	+0.3
	1.2nm,0.3s,baz=7.1,slow=8.1,SNR=6.6						
WRA	**Warramunga Arr**	**30.23**	**256**	P	P	10 15 01.4	-0.3
	0.3nm,0.9s,baz=89,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**31.09**	**249**	P	P	10 15 09.3	0.0
	0.3nm,0.6s,baz=78,slow=9.2,SNR=7.8						
PPT	**Papeete**	**42.95**	**100**	LR	LR	10 33 14.7	
	comp=Z,77nm,19.3s,baz=328,slow=34						

*ISCJB **26** 10:11:25.9±0.6, 39°.08N±0°.05×29°.03E±0°.04, h11km±9km, Error ellipse: s-maj=8.9km s-min=4.8km az=168.8*
*DDA **26** 10:11:25.5, 39°.11N×29°.04E, h6km, Md2.9*
*ISK **26** 10:11:25.8, 39°.07N×29°.03E, h10km, MD2.5*
*CSEM **26** 10:11:26.1±0.1, 39°.08N×29°.03E, h8km, MD2.5, Error ellipse: s-maj=4.3km s-min=2.9km az=5.0*

ISC 26 10:11:25.9±0.9, 39°.09N±0°.03×29°.03E±0°.03, h15km±8km, n17, σ0§44/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**258**	P	**Pg**	**10 11 31.4**	**+0.1**
DEMI				S	**Sg**	**10 11 35.0**	**0.0**
DEMI	**Demirci**	**0.25**	**258**	*i* P	**Pg**	**10 11 31.4**	**+0.1**
DEMI				*i* S	**Sg**	**10 11 35.0**	**0.0**
GEDZ	**Gediz**	**0.30**	**99**	*e*PG	**Pg**	**10 11 32.4**	**+0.1**
GEDZ				*e*SG	**Sg**	**10 11 37.0**	**+0.3**
GEDZ	**Gediz**	**0.30**	**99**	*e*Pg	**Pg**	**10 11 32.4**	**+0.1**
GEDZ				*e*Sg	**Sg**	**10 11 37.0**	**+0.3**
GDZ	**Gediz**	**0.35**	**91**	P	**Pg**	**10 11 32.8**	**-0.4**
GDZ				S	**Sg**	**10 11 37.8**	**-0.4**
GDZ	**Gediz**	**0.35**	**91**	*i* P	**Pg**	**10 11 32.9**	**-0.4**
GDZ				*i* S	**Sg**	**10 11 37.8**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG	**Pb**	**10 11 38.7**	**-0.2**
KULA				*e*SG	**Sb**	**10 11 47.4**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg	**Pb**	**10 11 38.7**	**-0.2**
KULA				*e*Sg	**Sb**	**10 11 47.4**	**-0.4**
KHL	**Karahalli**	**0.86**	**153**	*e*PG	**Pb**	**10 11 42.6**	**-0.1**
KHL	**Karahalli**	**0.86**	**153**	*e*Pg	**Pb**	**10 11 42.6**	**-0.1**
AKS	**Akhisar**	**0.97**	**258**	*e*PG	**Pg**	**10 11 44.0**	**-0.6**
AKS	**Akhisar**	**0.97**	**258**	*e*Pg	**Pg**	**10 11 44.0**	**-0.6**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pn**	**10 11 46.9**	**+0.9**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pn**	**10 11 46.9**	**+0.9**
IGD	**Bursa**	**1.18**	**7**	*i* P	**Pb**	**10 11 47.2**	**-0.7**
IGD				*i* S	**Sg**	**10 12 04.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pg**	**10 11 50.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pg**	**10 11 50.6**	**0.0**

*NIED **26** 10:11:00, 40°.60N×142°.50E, h41km, Mw4.4 Best double couple: M0 5.24000×10^15 NP1:φ=169.00000°, δ=23.00000°, λ=54.00000°. NP2:φ=27.00000°, δ=72.00000°, λ=104.00000°.*
*BJI **26** 10:11:31.9, 40°.69N×142°.89E, h57km, mb4.6/33, mB4.9/17, Ms4.2/15, Ms7 3.9/16*
*MOS **26** 10:11:32.8±1.1, 40°.62N×142°.44E, h33km, mb4.8/22, Error ellipse: s-maj=9.9km s-min=5.4km az=106.5*
*JMA **26** 10:11:33.6±0.1, 40°.57N×142°.55E, h30km±2km, M4.4*
JMA Felt I J1.
*ISCJB **26** 10:11:34.7±0.5, 40°.62N±0°.03×142°.49E±0°.04, h50km±3km, mb4.4/73, MS3.7/13, Error ellipse: s-maj=6.1km s-min=3.9km az=31.0*
*NEIC **26** 10:11:34.7±0.4, 40°.64N×142°.51E, h35km, mb4.7/18, Error ellipse: s-maj=9.8km s-min=6.0km az=114.0*
NEIC Recorded [1 JMA] in Aomori and Ibaraki. Also recorded [1 JMA] in southwestern Hokkaido.
*IDC **26** 10:11:35.4±0.7, 40°.58N×142°.45E, h46km±5km, mb4.0/26, mb1 4.1/28, mb1mx3.9/64, mbtmp4.2/28, MS3.6/18, Ms1 3.6/18, ms1mx3.4/60, Error ellipse: s-maj=19.1km s-min=11.0km az=80.0*

ISC 26 10:11:35.3±0.5, 40°.61N±0°.04×142°.48E±0°.04, h43km±3km, h43km:pP-P, n203, σ1§37/215, mb4.4/73, MS3.7/13, 18C-18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.77**	**253**	P	**Pn**	**10 11 48.8**	**-1.0**
JANG				*e*S	**Sn**	**10 11 59.3**	**-1.0**
JTH	**Tanohata**	**0.82**	**215**	⇓P	**Pn**	**10 11 48.7**	**-1.7**
JKZ	**Kuzumaki**	**1.08**	**235**	⇓P	**Pn**	**10 11 53.1**	**-0.9**
JKZ				S	**Sn**	**10 12 07.0**	**-0.8**
JTM	**Tenmabayashi**	**1.09**	**280**	⇓P	**Pn**	**10 11 53.7**	**-0.4**
JTM				S	**Sn**	**10 12 08.0**	**0.0**
JOT	**Ohata**	**1.33**	**306**	⇓P	**Pn**	**10 11 57.1**	**-0.3**
JOT				*e*S	**Sn**	**10 12 14.0**	**+0.1**
JOM	**Ohasama**	**1.45**	**219**	⇓P	**Pn**	**10 11 58.7**	**-0.4**
JAH	**Hinai**	**1.47**	**254**	⇓P	**Pn**	**10 11 59.7**	**+0.4**
JAH				S	**Sn**	**10 12 18.7**	**+1.4**
ERM	**Erimo**	**1.50**	**20**	*ce*P	**Pn**	**10 12 00.0**	**+0.3**
ERM				pmax	pmax		
	comp=Z,58nm,0.6s						
ERM	**Erimo**	**1.50**	**20**	*e*Pn	**Pn**	**10 12 00.6**	**+0.9**
ERM				*e*Sn	**Sn**	**10 12 18.6**	**+0.6**
JEM	**Erimo**	**1.50**	**20**	P	**Pn**	**10 11 59.6**	**-0.1**
JKB	**Kayabe**	**1.68**	**320**	⇓P	**Pn**	**10 12 02.1**	**-0.1**
JKB				*e*S	**Sn**	**10 12 22.9**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.68**	**7**	P	**Pn**	**10 12 02.8**	**+0.5**
ASAJ	**Asahikawa**	**3.51**	**1**	P	**Pn**	**10 12 28.1**	**+0.8**
ASAJ	**Asahikawa**	**3.51**	**1**	*e*Pn	**Pn**	**10 12 27.9**	**+0.6**
MJB9	**Matsu-Tunnel**	**5.26**	**221**	*e*Pn	**Pn**	**10 12 54.0**	**+2.5**
MAJO	**Matsushiro**	**5.26**	**221**	*d* P	**Pn**	**10 12 53.8**	**+2.4**
MAJO	**Matsushiro**	**5.26**	**221**	*e*Pn	**Pn**	**10 12 53.9**	**+2.4**
MAT	**Matsushiro**	**5.26**	**221**	P	**Pn**	**10 12 53.4**	**+2.0**
MAT				*e*S	**Sn**	**10 13 54.9**	**+4.1**
MJAR	**Matsushiro Arr**	**5.26**	**221**	P	**Pn**	**10 12 53.5**	**+2.1**
	comp=Z,2.2nm,0.3s,baz=35,slow=13,SNR=91						
MJAR				LR	LR	10 15 09.0	
	comp=Z,351nm,21.4s,baz=45,slow=41						
KUR	**Kuril'sk**	**6.08**	**39**	*e*P	**Pn**	**10 13 01.9**	**-0.7**
KUR				*e*S	**Sn**	**10 14 09.0**	**-1.9**
KUR				pmax	pmax		
	comp=N,32nm,0.6s						
KUR				pmax	pmax		
	comp=E,30nm,0.6s						
KUR				pmax	pmax		
	comp=Z,72nm,0.6s						
KUR				smax	smax		
	comp=N,39nm,0.4s						
KUR				smax	smax		
	comp=E,65nm,0.4s						
YSS	**Yuzh-Sakhalins**	**6.35**	**2**	⇓*i*P	**Pn**	**10 13 07.2**	**+1.0**
YSS				*e*S	**Sn**	**10 14 18.6**	**+1.2**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.35**	**2**	*e*Pn	**Pn**	**10 13 06.8**	**+0.5**
INU	**Inuyama**	**6.79**	**221**	*e*Pn	**Pn**	**10 13 16.2**	**+3.8**
JHJ	**Hachijo jima 2**	**7.78**	**197**	P	**Pn**	**10 13 26.6**	**+0.7**
	comp=Z,9.2nm,0.3s,baz=72,slow=20,SNR=1.4						
JHJ				S	**Sn**	**10 14 48.2**	**-4.5**
	comp=Z,9.3nm,0.3s,baz=69,slow=23,SNR=1.3						
VLA	**Vladivostok**	**8.29**	**291**	*e*P	**Pn**	**10 13 35.5**	**+2.5**
VLA				*e*S	**Sn**	**10 15 09.0**	**+3.7**
VLA				pmax	pmax		
	comp=Z,25nm,1.3s						
USRK	**Ussuriysk Ar.**	**8.55**	**298**	P	**Pn**	**10 13 39.2**	**+2.8**
	comp=Z,0.5nm,0.3s,baz=104,slow=15,SNR=17						
USRK				LR	LR	10 16 52.3	
	comp=Z,345nm,19.0s,baz=113,slow=37						
HABR	**Khabarovsk**	**9.48**	**329**	*e*P	**Pn**	**10 13 46.4**	**-2.8**
HABR				*e*S	**Sn**	**10 15 31.4**	**-2.9**
HABR				pmax	pmax		
	comp=N,11nm,1.8s						
HABR				pmax	pmax		
	comp=E,17nm,1.8s						
HABR				pmax	pmax		
	comp=Z,13nm,1.8s						
HABR				MLR	MLR		
	comp=Z,308nm,18.0s						
MDJ	**Mudanjiang**	**10.31**	**297**	P	**Pn**	**10 14 04.3**	**+3.8**
MDJ				S	**Sn**	**10 15 54.5**	**-0.1**
MDJ				PMZ			
	comp=Z,22nm,0.9s						
MDJ				LN			
	comp=Z,130nm,27.8s						
MDJ				LE			
	comp=Z,220nm,29.4s						
MDJ				LZ			
	comp=Z,300nm,21.2s						
KLR	**Kul'dur**	**11.49**	**322**	P	**Pn**	**10 14 18.5**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=143,slow=13,SNR=6.4						
KLR				LR	LR	10 18 49.0	
	comp=Z,366nm,19.2s,baz=132,slow=38						
KLR	**Kul'dur**	**11.49**	**322**	*i* P	**Pn**	**10 14 17.6**	**+1.0**
KSRS	**Korea Array**	**11.75**	**259**	P	**Pn**	**10 14 24.7**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=76,slow=14,SNR=3.0						
KSAR	**Wonju Array Be**	**11.78**	**259**	P	**Pn**	**10 14 24.7**	**+4.0**
KSAR	**Wonju Array Be**	**11.78**	**259**	P	**Pn**	**10 14 24.7**	**+4.0**
CN2	**Changchun**	**13.02**	**290**	*e*P	**Pn**	**10 14 40.5**	**+2.9**
PETK	**Petropavlovsk-**	**16.23**	**35**	LR	LR	10 21 51.0	
	comp=Z,103nm,18.5s,baz=213,slow=38						
MA2	**Magadan**	**19.69**	**13**	LR	LR	10 25 17.3	
	comp=Z,63nm,19.4s,baz=258,slow=42						
YAK	**Yakutsk**	**22.81**	**344**	LR	LR	10 27 07.3	
	comp=Z,58nm,19.8s,baz=210,slow=41						
YAK	**Yakutsk**	**22.81**	**344**	*e*P	**P**	**10 16 34.3**	**+0.2**
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
SEY	**Seymchan**	**23.13**	**12**	P	**P**	**10 16 35.1**	**-2.2**
	comp=Z,11nm,1.0s,baz=193,slow=7.7,SNR=13						
SEY	**Seymchan**	**23.13**	**12**	*ce*P	**P**	**10 16 36.4**	**-0.9**
HHC	**Hu-ho-hao-te**	**23.37**	**281**	*e*P	**P**	**10 16 39.3**	**-0.8**
HHC				pP	sP	10 16 54.3	-2.1
HHC				S	**S**	**10 20 43.3**	**-6.7**
HHC				sS	Sn	10 21 10.5	-0.6
HHC				PMZ			
	comp=Z,20nm,1.0s						
HHC				PMZ			
	comp=Z,160nm,7.0s						
HHC				LN			
	comp=Z,190nm,8.8s						
HHC				LE			
	comp=Z,220nm,9.6s						
HHC				LZ			
	comp=Z,180nm,12.9s						
WHN	**Wuhan**	**24.89**	**255**	⇑P	**P**	**10 16 54.5**	**+0.5**
BOD	**Bodaibo**	**25.06**	**323**	*e*P	**P**	**10 16 53.6**	**-1.7**
BOD				pmax	pmax		
	comp=Z,17nm,1.1s						
ULN	**Ulaanbaatar**	**26.22**	**298**	*ce*P	**P**	**10 17 06.7**	**+0.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,2.5s						
SONA1	**Songino Array**	**26.66**	**298**	*e*P	**P**	**10 17 10.4**	**+0.3**
SONM	**Songino Array**	**26.66**	**298**	P	**P**	**10 17 09.8**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=86,slow=9.3,SNR=8.0						
SONM				LR	LR	10 28 19.0	
	comp=Z,209nm,18.8s,baz=71,slow=38						
TLY	**Talaya**	**28.77**	**306**	LR	LR	10 29 25.9	
	comp=Z,105nm,18.5s,baz=104,slow=37						
ZAK	**Zakamensk**	**28.86**	**303**	*e*P	**P**	**10 17 27.8**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**29.47**	**128**	T	T	10 48 30.1	
	baz=319,slow=75,SNR=172						
H11N1	**WAKE ISLAND Hy**	**29.48**	**128**	T	T	10 48 28.8	
	baz=319,slow=75,SNR=127						
H11N3	**WAKE ISLAND Hy**	**29.49**	**128**	T	T	10 48 31.5	
	baz=319,slow=75,SNR=79						
H11S1	**WAKE ISLAND Hy**	**30.30**	**129**	T	T	10 49 44.6	
	baz=321,slow=76,SNR=74						
H11S3	**WAKE ISLAND Hy**	**30.30**	**130**	T	T	10 49 46.1	
	baz=321,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**30.31**	**130**	T	T	10 49 45.9	
	baz=321,slow=76,SNR=50						
BILL	**Bilibino**	**30.37**	**17**	*e*P	**P**	**10 17 44.3**	**+1.6**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LZH	**Lanzhou**	**30.47**	**274**	*e*P	**P**	**10 17 41.5**	**-2.6**
LZH				pP	pP	10 17 54.5	-1.2
LZH				sP	sP	10 18 02.3	+1.4
LZH				PP	**PnPn**	**10 18 42.0**	**-1.9**
LZH				PMZ			
	comp=Z,24nm,1.1s						
LZH				PMZ			
	comp=Z,75nm,5.2s						
LZH				LN			
	comp=Z,380nm,12.9s						
LZH				LE			
	comp=Z,390nm,13.2s						
LZH				LZ			
	comp=Z,430nm,16.7s						
TIXI	**Tiksi**	**31.86**	**352**	*i* P	**P**	**10 17 56.7**	**+0.9**
TIXI				pmax

KURK pmax pmax
comp=Z,49nm,0.9s
KURK Kurchatov 44.46 305 *e*P **P 10 19 41.7 -0.2**
comp=Z,49nm,1.0s
KURBB Kurchatov Arra 44.54 305 P **P 10 19 41.6 -0.9**
comp=Z,10nm,0.9s,baz=80,slow=8.5,SNR=61
ILAR Eielson Array 46.05 34 P **P 10 19 54.5 +0.1**
comp=Z,0.9nm,1.0s,baz=264,slow=6.1,SNR=6.2
TKM2 Tokmak 2 48.74 296 *e*P **P 10 20 16.1 +0.3**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 48.74 296 *e*P **P 10 20 16.1 +0.3**
comp=Z,9.4nm,0.8s
BVAR Borovoye Array 48.84 310 P **P 10 20 15.4 -0.8**
comp=Z,2.4nm,0.6s,baz=74,slow=8.2,SNR=13
BRVK Borovoye 48.90 310 *ce*P **P 10 20 16.9 +0.3**
BRVK pmax pmax
comp=Z,14nm,1.7s
BRVK Borovoye 48.90 310 *e*P **P 10 20 16.4 -0.2**
comp=Z,12nm,1.1s
AAK Ala-Archa 49.60 296 *i*P **P 10 20 21.3 -1.0**
AAK pmax pmax
comp=Z,3.0nm,0.9s
ZRNK Zerenda 49.67 310 *e*P **P 10 20 22.8 +0.3**
ZRNK pmax pmax
comp=Z,8.0nm,1.0s
ZRNK Zerenda 49.67 310 *e*P **P 10 20 22.8 +0.3**
comp=Z,8.2nm,1.0s
KSH Kashi 49.78 292 *e*P **P 10 20 26.5 +2.8**
KSH PMZ
comp=Z,2.0nm,0.5s
INK Inuvik 50.84 28 P **P 10 20 31.7 +0.6**
comp=Z,0.7nm,0.4s,baz=273,slow=7.3,SNR=3.3
HYT Haines Junctio 50.96 38 *e*P **P 10 20 33.8 +1.5**
comp=Z,6.6nm,1.0s
KKAR Karatay Array 52.12 298 *e*P **P 10 20 41.2 +0.1**
KKAR Karatay Array 52.12 298 *e*P **P 10 20 41.2 +0.1**
HNR Honiara 52.34 158 LR LR 10 41 20.1
comp=Z,60nm,20.9s,baz=242,slow=34
SVE Sverdlovsk 53.06 317 *e*P **P 10 20 48.2 +0.4**
SVE pmax pmax
comp=Z,14nm,0.9s
ARU Arti 54.27 317 P **P 10 20 56.5 -0.2**
comp=Z,1.6nm,0.3s,baz=43,slow=3.9,SNR=8.5
ARU pP **pP 10 21 09.5 +0.5**
comp=Z,2.1nm,0.3s,baz=9.6,slow=3.1,SNR=2.8
ARU Arti 54.27 317 *c i*P **P 10 20 56.3 -0.4**
ARU 10 21 58.7
ARU PPP PPP 10 24 09.7
ARU S **S 10 28 32.3 +1.4**
ARU SS **SS 10 32 11.7 -1.0**
ARU pmax pmax
comp=Z,15nm,1.7s
ARU Arti 54.27 317 *e*P **P 10 20 56.9 +0.2**
comp=Z,8.4nm,1.0s
ARU pP **pP 10 21 09.5 +0.5**
ABKAR Akbulak array 56.32 309 *e*P **P 10 21 11.2 -0.3**
AKTO Aktyubinsk 56.95 311 P **P 10 21 15.7 -0.3**
comp=Z,2.6nm,0.8s,baz=70,slow=13,SNR=10
AKTO LR LR 10 47 03.3
comp=Z,85nm,18.4s,slow=37
FITZ Fitzroy Crossi 60.47 198 P **P 10 21 40.5 -0.2**
comp=Z,1.7nm,0.7s,baz=40,slow=7.9,SNR=3.7
WRA Warramunga Arr 60.71 189 P **P 10 21 41.2 -1.1**
comp=Z,2.0nm,0.8s,baz=7.6,slow=6.9,SNR=15
WRA pP **pP 10 21 55.0 +0.2**
comp=Z,3.1nm,0.7s,baz=6.2,slow=7.1,SNR=12
ARCES ARCESS Array B 60.96 339 P **P 10 21 43.3 -0.2**
comp=Z,1.2nm,0.7s,baz=38,slow=6.1,SNR=5.4
KLMR Klimovskoe 61.20 327 *e*P **P 10 21 43.7 -1.5**
KLMR *e* 10 22 27.5
KLMR pmax pmax
comp=Z,9.0nm,1.1s
GEYT Alibeck 62.87 298 P **P 10 21 56.6 -0.3**
comp=Z,6.1nm,0.9s,baz=40,slow=2.5,SNR=8.9
GEYT LR LR 10 49 47.9
comp=Z,126nm,18.1s,baz=40,slow=36
AS01 Alice Springs 64.43 189 *e*P **P 10 22 06.3 -0.8**
ASAR Alice Springs 64.44 189 P **P 10 22 06.6 -0.6**
comp=Z,1.6nm,0.9s,baz=8.5,slow=6.4,SNR=15
ASAR pP **pP 10 22 19.7 0.0**
comp=Z,2.1nm,0.8s,baz=9.8,slow=6.3,SNR=11
VRH Novokhopyorsk 65.51 317 *e*P **P 10 22 11.9 -2.0**
VRH pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 65.75 323 *e*P **P 10 22 14.4 -0.9**
OBN pmax pmax
comp=Z,9.0nm,0.4s
FIA1 FINESS Array S 66.05 332 *e*P **P 10 22 17.1 -0.1**
comp=Z,9.7nm,0.8s
FINES FINESS Array B 66.05 332 P **P 10 22 16.6 -0.6**
comp=Z,9.4nm,0.7s,baz=46,slow=8.2,SNR=43
FINES LR LR 10 53 26.8
comp=Z,74nm,19.0s,baz=28,slow=38
VSR Storozhevoye 66.81 318 *e*P **P 10 22 21.1 -1.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 67.11 0 *e*P **P 10 22 24.9 +0.6**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 67.11 0 *e*P **P 10 22 24.9 +0.6**
comp=Z,6.0nm,0.8s
VSU Vasula 67.81 329 *ce*P **P 10 22 29.3 +0.9**
VSU pmax pmax
comp=Z,27nm,1.2s
KIV Kislovodsk 69.21 310 *e*P **P 10 22 38.4 +0.8**
KIV pmax pmax
comp=Z,20nm,0.9s
KIV Kislovodsk 69.21 310 *e*P **P 10 22 39.0 +1.5**
comp=Z,26nm,1.1s
KBZ Khabaz 69.22 310 P **P 10 22 37.7 +0.2**
comp=Z,5.9nm,0.8s,baz=47,slow=5.0,SNR=15
NEY Neytrino 69.61 310 *e*P **P 10 22 41.7 +1.5**
NEY pmax pmax
comp=Z,1.0nm,0.9s
GNI Garni 70.25 306 *ce*P **P 10 22 45.4 +1.2**
GNI pmax pmax
comp=Z,9.0nm,0.5s
NC405 NORSAR Array S 71.01 337 *e*P **P 10 22 48.2 0.0**
NC303 NORSAR Array S 71.02 337 *e*P **P 10 22 48.2 -0.1**
NC204 NORSAR Array S 71.16 338 *e*P **P 10 22 48.9 -0.2**
NB201 NORSAR Array S 71.19 337 *e*P **P 10 22 49.2 0.0**
NB2 NORSAR Subarra 71.22 337 P **P 10 22 49.0 -0.5**
comp=Z,5.9nm,0.8s,baz=39,slow=6.5
NOA NORSAR Array B 71.22 337 P **P 10 22 49.0 -0.5**
comp=Z,4.8nm,0.8s,baz=39,slow=6.1,SNR=23
NOA pP **pP 10 23 02.7 +0.5**
comp=Z,1.8nm,0.8s,baz=39,slow=6.1,SNR=6.6
NOA LR LR 10 58 17.9
comp=Z,19nm,18.8s,baz=210,slow=39
NBO02 NORSAR Array S 71.31 337 *e*P **P 10 22 49.5 -0.5**
NBO00 NORSAR Array S 71.35 337 *e*P **P 10 22 50.2 -0.1**
BOZ Bozeman (W) 71.59 45 *e*P **P 10 22 53.2 +1.0**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 71.59 45 *e*P **P 10 22 53.2 +1.0**
comp=Z,3.2nm,0.8s
AKASG Malin Array Be 71.99 322 P **P 10 22 53.5 -0.7**
comp=Z,4.0nm,0.7s,baz=44,slow=6.9,SNR=15
AKASG pP **pP 10 23 07.9 +1.0**
comp=Z,2.0nm,0.6s,baz=41,slow=6.8,SNR=3.8
KIEV Kiev 72.00 322 *e*P **P 10 22 54.0 -0.3**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
KIEV Kiev 72.00 322 *e*P **P 10 22 54.0 -0.3**
comp=Z,9.9nm,1.0s
KWP Kalwaria Pacla 75.71 324 ⇓*i*P **P 10 23 17.2 +1.1**
KWP Kalwaria Pacla 75.71 324 ⇓P **P 10 23 17.2 +1.1**
BUR08 Bucovina Ar. S 76.01 322 *e*P **P 10 23 17.9 0.0**
BUR08 *ep*P **sP 10 23 33.6 -2.1**
BURAR Bucovina Array 76.03 322 ⇓*i*P **P 10 23 18.5 +0.5**
BURAR Bucovina Array 76.03 322 ⇓P **P 10 23 18.5 +0.5**
KOLS Kolonicke sedl 76.42 324 *e*P **P 10 23 20.3 +0.2**
KOLS pmax pmax
comp=Z,46nm,3.2s
KOLS Kolonicke sedl 76.42 324 *e*P **P 10 23 20.3 +0.2**
STHS Stebnicka Huta 76.52 325 *e*P **P 10 23 21.1 +0.4**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 76.52 325 *e*P **P 10 23 21.1 +0.4**
OJC Ojcow 76.54 326 *e*P **P 10 23 21.1 +0.4**
OJC pmax pmax
comp=Z,10.0nm,1.0s
OJC Ojcow 76.54 326 *e*P **P 10 23 21.1 +0.4**
comp=Z,10nm,1.0s
PLOR Plostina 76.59 320 ⇑*i*P **P 10 23 22.1 +0.9**
PLOR Plostina 76.59 320 ⇑P **P 10 23 22.1 +0.9**
CRVS Cervenica-Dubn 76.80 324 *e*P **P 10 23 22.5 +0.2**
CRVS Cervenica-Dubn 76.80 324 *e*P **P 10 23 22.5 +0.2**
BRTR Keskin Array B 77.11 312 P **P 10 23 24.5 +0.2**
comp=Z,2.1nm,0.7s,baz=73,slow=4.2,SNR=7.7
BRTR LR LR 11 01 56.9
comp=Z,33nm,18.1s,baz=342,slow=39
BR231 Keskin MP Arra 77.52 312 *e*P **P 10 23 25.1 -1.5**
VOIR 77.67 320 ⇑*i*P **P 10 23 28.6 +1.3**
VOIR 77.67 320 ⇑P **P 10 23 28.6 +1.3**
DRGR 77.80 322 ⇑*i*P **P 10 23 28.8 +0.8**
DRGR 77.80 322 ⇑P **P 10 23 28.8 +0.8**
MORC Moravsky Berou 77.82 327 ⇓*i*P **P 10 23 28.9 +0.9**
MORC Moravsky Berou 77.82 327 ⇓P **P 10 23 28.9 +0.9**
MORC Moravsky Berou 77.82 327 *e*P **P 10 23 28.8 +0.9**
comp=Z,22nm,1.0s
DPC Dobruska-Polom 77.87 328 *e*P **P 10 23 28.8 +0.5**
DPC *es*P **sP 10 23 44.6 -1.4**
DPC Dobruska-Polom 77.87 328 *e*P **P 10 23 28.8 +0.5**
DPC *e* 10 23 44.6
UPC Upice 77.88 328 *e*P **P 10 23 28.6 +0.4**
UPC Upice 77.88 328 *e*P **P 10 23 28.6 +0.4**
VYHS Vyhne 78.26 326 *e*P **P 10 23 30.9 +0.5**
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS Vyhne 78.26 326 *e*P **P 10 23 30.9 +0.5**
CLL Collm 78.41 330 *i*P **P 10 23 30.9 -0.3**
comp=Z,7.0nm,1.1s
CLL Collm 78.41 330 *i*P **P 10 23 30.9 -0.3**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 78.41 330 *e*P **P 10 23 30.9 -0.3**
comp=Z,5.6nm,0.9s
VRAC Vranov 78.57 327 ⇑*i*P **P 10 23 32.6 +0.5**
VRAC Vranov 78.57 327 ⇑P **P 10 23 32.6 +0.5**
GZR Gura Zlata 78.80 321 ⇓*i*P **P 10 23 33.5 0.0**
GZR Gura Zlata 78.80 321 ⇓P **P 10 23 33.5 0.0**
PRU Pruhonice 78.87 329 *e*P **P 10 23 34.3 +0.6**
PRU Pruhonice 78.87 329 *e*P **P 10 23 34.3 +0.6**
KHC Kasperske Hory 79.93 329 *e*P **P 10 23 40.2 +0.6**
KHC *ep*P **pP 10 23 50.4 -2.0**
KHC Kasperske Hory 79.93 329 *e*P **P 10 23 40.2 +0.6**
KHC *e* 10 23 50.4
KHC Kasperske Hory 79.93 329 *e*P **P 10 23 39.9 +0.3**
comp=Z,2.3nm,0.9s
CONA Conrad Observa 79.96 327 *i*P **P 10 23 40.9 +1.1**
comp=Z,4.0nm,0.8s
GERES GERESS Array B 80.11 328 P **P 10 23 40.7 +0.1**
comp=Z,1.4nm,0.9s,baz=46,slow=3.9,SNR=11
GEA0 GERESS Array S 80.12 328 *e*P **P 10 23 40.2 -0.4**
MMAI Mount Meron Ar 80.58 305 P **P 10 23 43.6 +0.2**
comp=Z,1.2nm,0.5s,baz=40,slow=12,SNR=3.6
ARSA Arzberg 80.63 327 *i*P **P 10 23 43.7 +0.3**
comp=Z,3.0nm,1.1s
MOA Molln 80.68 328 *i*P **P 10 23 43.2 -0.4**
comp=Z,2.9nm,1.4s
SOKA Soboth 81.29 326 *i*P **P 10 23 47.4 +0.5**
comp=Z,6.7nm,0.8s
OBKA Obir 81.63 327 *i*P **P 10 23 49.0 +0.2**
comp=Z,3.2nm,0.7s
KBA Koelnbreinsper 81.67 328 *i*P **P 10 23 50.3 +1.2**
comp=Z,4.9nm,0.9s
MYKA Terra Mystica 81.91 327 *i*P **P 10 23 50.0 -0.2**
comp=Z,1.7nm,0.4s
WATA Walderalm 82.17 329 *i*P **P 10 23 50.9 -0.7**
comp=Z,2.6nm,0.7s
WTTA Wattenberg 82.21 329 *i*P **P 10 23 51.9 0.0**
comp=Z,3.8nm,1.0s
ABTA Abfaltersbach 82.27 328 *i*sP sP 10 24 08.4 -1.5
comp=Z,5.4nm,1.2s
MOTA Moosalm 82.35 329 *i*P **P 10 23 53.0 +0.4**
comp=Z,6.5nm,0.9s
RETA Reutte 82.37 329 *i*P **P 10 23 53.3 +0.7**
comp=Z,5.4nm,0.8s
BFO Black Forest 82.59 331 *i*P **P 10 23 54.3 +0.6**
FETA Feichten 82.76 329 *i*P **P 10 23 54.8 0.0**
comp=Z,4.9nm,1.2s
DAVA Damuels 82.87 330 *i*P **P 10 23 55.0 -0.3**
comp=Z,7.1nm,0.9s
EIL Elat 83.12 303 P **P 10 23 57.5 +0.8**
comp=Z,1.9nm,0.5s,baz=82,slow=7.1,SNR=3.5
FUORN Ofenpass-Fuorn 83.27 329 *e*P **P 10 23 57.8 +0.3**
comp=Z,6.9nm,0.8s
PPT Papeete 85.52 118 LR LR 10 53 35.4
comp=Z,54nm,21.4s,baz=12,slow=30
PPT2 Papeete2 85.53 118 *e*LR LR 10 50 56.3
comp=Z,107nm,22.5s
PPT2 Papeete2 85.53 118 *e*T T 11 58 24.4
comp=Z,1.2nm,0.3s
TAOE Nuku Hiva Isla 86.25 105 *e*LR LR 10 51 06.6
comp=Z,73nm,22.3s
MEH Mehetia 86.75 117 *e*T T 11 59 56.8
comp=Z,8.3nm,0.3s
TXAR Lajitas Array 87.30 53 P **P 10 24 17.7 0.0**
comp=Z,0.2nm,0.7s,baz=338,slow=3.0,SNR=3.8
TBI Tubuai 89.66 122 *e*T T 12 03 24.7
comp=Z,3.7nm,0.3s
ESDC Sonseca Array 94.44 335 P **P 10 24 50.4 -0.4**
comp=Z,0.2nm,0.4s,baz=18,slow=3.8,SNR=3.3
TORD Torodi Ar. Bea 115.34 317 PKP **PKPdf 10 30 11.5 -1.2**
comp=Z,0.2nm,0.8s,baz=1.6,slow=4.7,SNR=2.4
SNAA Sanae 144.40 198 PKP **PKPab 10 31 03.1 -0.7**
VNA1 Neumayer--Stat 146.37 197 PKP **PKPab 10 31 10.9 -0.3**

JMA 26 10:16:54.7±0.1,**38°.91N**×**142°.34E**,**h31**km±2km,**M3.6,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.55**	**288**	P	Pb	10 17 05.9	-0.1
OFUJ				*es*	Sb	10 17 13.4	-0.3
MIYJ	**Miyakonagasawa**	**0.78**	**329**	P	Pn	10 17 08.9	-0.7
MIYJ				S	Sb	10 17 19.2	-0.9
JMK	**Ichinoseki**	**0.88**	**273**	P	Pn	10 17 10.7	-0.1
JMK				S	Sn	10 17 22.0	-0.5
JIO	**Ouri**	**0.90**	**240**	P	Pn	10 17 10.5	-0.7
JIO				S	Sn	10 17 21.2	-1.9
JOM	**Ohasama**	**0.99**	**305**	P	Pn	10 17 12.8	+0.3
JOM				S	Sn	10 17 25.2	-0.2
JTH	**Tanohata**	**1.09**	**340**	P	Pn	10 17 13.7	-0.2
JTH				*es*	Sn	10 17 27.8	-0.1
JRG	**Rokugo**	**1.41**	**291**	P	Pb	10 17 19.8	-0.6
JRG				S	Sb	10 17 37.6	-0.5
JOU	**Okura**	**1.42**	**248**	P	Pn	10 17 19.1	+0.7
JOU				S	Sn	10 17 36.4	+0.4
JYK	**Kaneyama**	**1.54**	**271**	P	Pb	10 17 21.4	-1.3
JYK				*es*	Sb	10 17 40.6	-1.3
JANG	**Nango**	**1.59**	**337**	P	Pn	10 17 22.1	+1.3
JANG				*es*	Sb	10 17 42.1	-1.2
JMM	**Marumori**	**1.60**	**230**	P	Pn	10 17 21.1	+0.3
JMM				S	Sn	10 17 40.6	+0.1
MAT	**Matsushiro**	**4.04**	**235**	P	Pn	10 17 58.8	+4.4
MAT				*es*	Sn	10 18 44.0	+3.3

DJA ***26*** *10:18:20.9*±*0.4,3°*.*S*±*3°*×*10°*.*0E*±°*,h10km,M4.8/13,mb4.9/8, mB5.9/3,MLv4.8/13,Mw(mB)5.5/3*
ISCJB ***26*** *10:18:27.5*±*0.6,2°*.*90S*±*0°*.*05*×*100°*.*10E*±*0°*.*06,h33km*±*5km, mb4.2/23,MS3.5/7,Error ellipse: s-maj=11.8km s-min=6.4km az=143.5*
NEIC ***26*** *10:18:28.1*±*0.8,2°*.*90S*×*100°*.*19E,h24km*±*5km,mb4.8/5, Error ellipse: s-maj=10.8km s-min=5.7km az=53.0*
IDC ***26*** *10:18:28.4*±*0.5,2°*.*86S*×*100°*.*15E,h24km*±*2km,mb3.9/19, mb1 4.0/19,mb1mx3.9/55,mbtmp4.1/19,MS3.6/7, Ms1 3.6/7,ms1mx3.2/56,Error ellipse: s-maj=17.8km s-min=11.1km az=57.0*
ISC 26 10:18:27.3±0.5,**2°.88S**±0°.06×**100°.12E**±0°.05,**h18**km±2km, **h17**km:**pP-P,n63,**σ1**°70/67,mb4.2**/23,**MS3.6**/7,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.16**	**315**	P	**Pb**	**10 18 33.6**	**+2.0**
PPSI				S	**Sb**	**10 18 38.2**	**+3.8**
PDSI	**Padang**	**1.98**	**10**	P	**Pn**	**10 19 00.0**	**0.0**
PDSI				S	**Sn**	**10 19 25.7**	**+1.3**
KSI	**Kapahiang**	**2.58**	**107**	P	**Pb**	**10 19 13.9**	**+0.7**
KSI				S	**Sg**	**10 19 49.8**	**-0.7**
MNAI	**Manna**	**3.19**	**118**	P	**Pn**	**10 19 17.6**	**+1.0**
MNAI	**Manna**	**3.19**	**118**	*ePn*	**Pn**	**10 19 16.6**	**0.0**
BKNI	**Bangkinang**	**3.31**	**16**	P	**Pg**	**10 19 30.5**	**-0.3**
BKNI	**Bangkinang**	**3.31**	**16**	*ePn*	**Pn**	**10 19 20.4**	**+2.1**
LHSI	**Lahat**	**3.52**	**106**	P	**Pn**	**10 19 24.5**	**+3.3**
LHSI				S	**Sb**	**10 20 14.2**	**+2.5**
MNSI	**Mandailing Nat**	**3.69**	**352**	P	**Pn**	**10 19 23.0**	**-0.5**
MNSI				S	**Sn**	**10 20 02.6**	**-3.9**
JMBI	**JAMBI**	**3.73**	**71**	P	**Pn**	**10 19 27.1**	**+3.1**
LWLI	**Liwa**	**4.47**	**119**	P	**Pn**	**10 19 34.5**	**+0.2**
GSI	**Gunungsitoli**	**4.87**	**328**	P	**Pn**	**10 19 38.7**	**-1.1**
GSI	**Gunungsitoli**	**4.87**	**328**	*ePn*	**Pn**	**10 19 38.9**	**-0.9**
KASI	**Kota Agung** 139nm,0.7s,0.5nm	**5.09**	**121**	P	**Pn**	**10 19 42.7**	**-0.1**
PPBI	**Pangkal Pinang**	**6.05**	**83**	P	Pn	10 20 02.0	+6.0
TSI	**Tuntungan** 82nm,0.7s,0.5nm	**6.52**	**346**	P	Pn	10 19 54.2	-8.3
CGJI	**Cibinong** 112nm,0.8s,0.4nm	**6.68**	**124**	P	**Pn**	**10 20 02.9**	**-1.7**
KCSI	**Kotacane, Aceh** 32nm,0.7s,2μm0.5nm	**6.78**	**340**	P	Pn	10 19 59.8	-6.2
KCSI	32nm,0.7s,2μm0.5nm			S	**Sn**	**10 21 15.3**	**-7.5**
IPM	**Ipoh** 19nm,0.6s	**7.36**	**7**	*ePn*	**Pn**	**10 20 15.4**	**+1.3**
KULM	**Kulim**	**8.13**	**4**	*ePn*	**Pn**	**10 20 24.8**	**+0.2**
CISI	**Cisompet, Garu**	**8.96**	**122**	P	**Pn**	**10 20 34.3**	**-1.7**
CISI	**Cisompet, Garu** 108nm,0.6s	**8.96**	**122**	*ePn*	**Pn**	**10 20 33.8**	**-2.3**
COCO	**West Island**	**9.81**	**199**	*ePn*	Pn	10 20 54.0	+6.4
JAGI	**Jajag, Banyuwa** 61nm,1.3s	**15.02**	**112**	*eP*	**Pn**	**10 21 59.8**	**+0.9**
CMAR	**Chiang Mai Arr** 2.5nm,0.8s,baz=187,slow=9.7,SNR=7.3	**21.23**	**357**	P	**P**	**10 23 11.6**	**-0.9**
CMAR				LR	LR	10 31 39.7	
	comp=Z,125nm,19.5s,baz=60,slow=37						
PALK	**Pallekele**	**21.85**	**298**	LR	LR	10 30 55.0	
	comp=Z,92nm,19.6s,baz=116,slow=34						
SOEI	**Soe** 24nm,0.6s	**24.94**	**107**	*eP*	**P**	**10 23 48.0**	**-2.0**
H08S2	**Diego Garcia H** baz=82,slow=75,SNR=553	**27.91**	**259**	T	T	10 53 07.3	
H08S3	**Diego Garcia H** baz=82,slow=75,SNR=605	**27.91**	**259**	T	T	10 53 08.0	
H08S1	**Diego Garcia H** baz=82,slow=75,SNR=672	**27.93**	**259**	T	T	10 53 09.9	
FITZ	**Fitzroy Crossi** 1.0nm,0.7s,baz=282,slow=9.3,SNR=2.3	**29.23**	**123**	P	**P**	**10 24 30.1**	**+1.7**
FITZ				LR	LR	10 38 12.7	
	comp=Z,103nm,19.1s,baz=356,slow=40						
FITZ	**Fitzroy Crossi** 31nm,1.8s	**29.23**	**123**	*eP*	**P**	**10 24 32.6**	**+4.2**
H01W3	**Cape Leeuwin H** baz=335,slow=76,SNR=60	**34.41**	**159**	T	T	11 01 15.5	
H01W2	**Cape Leeuwin H** baz=335,slow=76,SNR=52	**34.42**	**159**	T	T	11 01 16.4	
H01W1	**Cape Leeuwin H** baz=335,slow=76,SNR=48	**34.42**	**159**	T	T	11 01 16.6	
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=285,slow=7.6,SNR=15	**37.45**	**120**	P	**P**	**10 25 38.7**	**-1.3**
WRA				PcP	**PcP**	**10 27 58.2**	**-0.4**
	0.8nm,0.8s,baz=307,slow=2.3,SNR=4.3						
WRA				PcP		10 28 06.6	
	0.6nm,0.7s,baz=310,slow=2.2,SNR=3.7						
WRAB	**Tennant Creek** 12nm,1.3s	**37.46**	**120**	*eP*	**P**	**10 25 38.8**	**-1.4**
ASAR	**Alice Springs** 1.7nm,0.7s,baz=297,slow=7.3,SNR=26	**38.65**	**125**	P	**P**	**10 25 49.3**	**-0.9**
ASAR				PcP	**PcP**	**10 28 02.4**	**+0.1**
	0.5nm,0.6s,baz=294,slow=2.3,SNR=4.4						
ASAR				pPcP		10 28 09.8	
	0.5nm,0.6s,baz=300,slow=2.5,SNR=4.4						
ASAR				LR	LR	10 43 44.6	
	comp=Z,109nm,20.4s,baz=322,slow=39						
WSAR	**Wadi Sarin** comp=Z,66nm,18.8s,slow=34	**48.04**	**305**	LR	LR	10 45 56.5	
STKA	**Stephens Creek** 4.1nm,0.8s,baz=320,slow=8.4,SNR=10	**48.48**	**131**	P	**P**	**10 27 09.4**	**+0.1**
STKA				pP	**sP**	**10 27 16.7**	**-0.3**
	1.6nm,0.5s,baz=315,slow=9.9,SNR=2.8						
SONM	**Songino Array** 4.2nm,0.8s,baz=190,slow=8.3,SNR=18	**50.80**	**5**	P	**P**	**10 27 27.4**	**+0.6**
SONM				pP	**sP**	**10 27 34.8**	**+0.3**
	2.7nm,0.6s,baz=188,slow=9.3,SNR=8.5						
ULN	**Ulaanbaatar** 4.3nm,0.9s	**50.90**	**6**	*eP*	**P**	**10 27 28.1**	**+0.6**
EKS2	**Erkin-Say**	**51.20**	**335**	*eP*	**P**	**10 27 31.6**	**+1.7**
MKAR	**Makanchi Array** 2.0nm,0.4s,baz=156,slow=9.1,SNR=18	**51.90**	**344**	P	**P**	**10 27 35.3**	**+0.3**
MKAR				pP	**sP**	**10 27 43.1**	**+0.4**
	2.8nm,0.6s,baz=150,slow=7.8,SNR=7.3						
MJAR	**Matsushiro Arr** 0.8nm,0.6s,baz=214,slow=8.0,SNR=5.0	**52.88**	**39**	P	**P**	**10 27 41.1**	**-1.2**
OPO	**Ambohidratompo** 0.6nm,0.5s,baz=60,slow=8.1,SNR=3.7	**54.07**	**249**	P	**P**	**10 27 52.5**	**+0.9**
USRK	**Ussuriysk Ar.** 3.8nm,0.8s,baz=225,slow=5.5,SNR=6.9	**54.87**	**28**	P	**P**	**10 27 57.1**	**+0.4**
USRK				pP	**pP**	**10 28 02.8**	**+0.4**
	1.8nm,0.6s,baz=219,slow=5.8,SNR=3.9						
KURBB	**Kurchatov Arra** 1.9nm,0.9s,baz=160,slow=7.1,SNR=8.5	**56.42**	**344**	P	**P**	**10 28 08.0**	**+0.2**
KURBB				pP	**sP**	**10 28 15.0**	**-0.6**
	5.0nm,0.8s,baz=162,slow=6.9,SNR=19						
KURK	**Kurchatov** 72nm,0.9s	**56.48**	**344**	*eP*	**P**	**10 28 08.7**	**+0.5**
KURK				pP	**sP**	**10 28 15.0**	**-1.0**
ZALV	**Zalesovo Beam** 3.2nm,0.7s,baz=179,slow=5.9,SNR=7.9	**58.05**	**349**	P	**P**	**10 28 19.0**	**-0.2**
BVAR	**Borovoye Array** 0.4nm,0.5s,baz=151,slow=12,SNR=2.6	**61.04**	**340**	P	**P**	**10 28 39.9**	**0.0**
BVAR				pP	**pP**	**10 28 46.2**	**+0.5**
	1.8nm,0.7s,baz=131,slow=8.4,SNR=4.0						
YAK	**Yakutsk** comp=Z,50nm,18.3s,baz=212,slow=38	**68.56**	**14**	LR	LR	11 02 20.3	
KBZ	**Khabaz** 1.1nm,0.7s,baz=198,slow=9.6,SNR=2.5	**69.05**	**319**	P	**P**	**10 29 32.6**	**+0.5**
KBZ				pP	**sP**	**10 29 39.6**	**-0.4**
	2.0nm,0.7s,baz=117,slow=8.7,SNR=4.2						
MATP	**Matopo** 3.2nm,0.6s,baz=89,slow=5.6,SNR=7.9	**71.78**	**250**	P	**P**	**10 29 49.6**	**+0.1**
MATP				pP	**sP**	**10 29 57.6**	**+0.1**
	1.9nm,0.6s,baz=82,slow=3.5,SNR=2.3						
BRTR	**Keskin Array B** 0.8nm,0.6s,baz=118,slow=7.6,SNR=4.4	**74.00**	**313**	P	**P**	**10 30 01.6**	**-0.7**
BRTR				pP	**pP**	**10 30 08.6**	**+0.4**
	1.5nm,0.8s,baz=116,slow=5.7,SNR=3.8						
VNDA	**Vanda** 0.6nm,0.8s,baz=338,slow=5.4,SNR=9.7	**81.28**	**169**	P	**P**	**10 30 42.0**	**-0.1**
FINES	**FINESS Array B** 0.8nm,0.5s,baz=90,slow=5.7,SNR=6.8	**84.94**	**332**	P	**P**	**10 31 01.6**	**+0.5**
FINES				pP	**sP**	**10 31 08.5**	**-0.7**
	1.7nm,0.9s,baz=104,slow=8.0,SNR=2.4						
ARCES	**ARCESS Array B** 1.0nm,0.7s,baz=126,slow=6.2,SNR=4.2	**87.33**	**340**	P	**P**	**10 31 13.2**	**+0.3**
GERES	**GERESS Array B** 0.4nm,0.5s,baz=90,slow=6.9,SNR=2.7	**89.78**	**319**	pP	pP	10 31 33.2	+2.3
TORD	**Torodi Ar. Bea** comp=Z,30nm,20.5s,baz=250,slow=33	**98.85**	**283**	LR	LR	11 13 02.7	
TXAR	**Lajitas Array** 1.5nm,0.6s,baz=308,slow=1.0,SNR=32	**145.32**	**38**	PKPbc	**PKPdf**	**10 38 05.3**	**+0.3**
TXAR				pPKPbc	pPKPbc	10 38 13.1	+2.1
	3.3nm,0.7s,baz=270,slow=0.9,SNR=22						
MIAR	**Mount Ida**	**146.01**	**20**	*e*PKPdf	**PKPdf**	**10 38 06.2**	**+0.3**
JCT	**Junction City**	**146.70**	**32**	*e*PKPbc	**PKPbc**	**10 38 08.8**	**-0.1**

ISCJB ***26*** *10:20:39.9*±*0.5,35°.92N*±*0°.04×69°.87E*±*0°.06,h100km, mb3.6/8,Error ellipse: s-maj=8.0km s-min=4.3km az=154.6*
IDC ***26*** *10:20:41.8*±*0.9,35°.84N×69°.73E,h101km*±*8km,mb3.4/9, mb1 3.6/14,mb1mx3.4/52,mbtmp3.9/14,Error ellipse: s-maj=21.7km s-min=16.4km az=51.0*
NNC ***26*** *10:20:46.5*±*1.6,36°.43N×69°.50E,h145km*±*32km,mb3.2, mpv4.1,Error ellipse: s-maj=30.4km s-min=12.6km az=118.0*
ISC 26 10:20:40.6±0.6,**35°.88N**±0°.05×**69°.78E**±0°.06,**h100**km,**n37,** σ**2°.38/48,mb3.6/8,5C-2D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.70**	**139**	P	**Pn**	**10 21 26.1**	**+3.6**
DZET	**Dzherino** 43nm,0.5s	**3.02**	**346**	⇑P	**Pn**	**10 21 26.3**

MNAS	**Manas**	**6.93**	**17**	⇑P		**Pn**	**10 22 20.3**	**+0.7**
	5.8nm,0.6s							
MNAS				⇑S		**Sn**	**10 23 32.7**	**-4.3**
	27nm,0.8s							
KK31	**Karatay Array**	**7.24**	**4**	P		**Pn**	**10 22 23.1**	**-0.5**
	9.2nm,0.7s,baz=197,slow=15,SNR=42							
KK31				⇑S		**Sn**	**10 23 38.1**	**-6.1**
	22nm,0.8s,baz=194,slow=30,SNR=10							
SDNR	**Sundarnagar**	**7.42**	**124**	*e*P		**Pn**	**10 22 27.0**	**+0.8**
AAK	**Ala-Archa**	**7.68**	**27**	P		**Pn**	**10 22 30.2**	**+0.5**
	4.2nm,0.3s,baz=188,slow=6.5,SNR=12							
AAK				S		**Sn**	**10 23 53.0**	**-2.1**
	1.8nm,0.3s,baz=304,slow=20,SNR=6.6							
TKM2	**Tokmak 2**	**8.35**	**31**	⇑P		**Pn**	**10 22 40.3**	**+1.4**
	13nm,0.7s							
TKM2				⇓S		**Sn**	**10 24 09.7**	**-1.9**
	6.7nm,0.6s							
KHET	**Khetri**	**9.31**	**145**	*e*P		**Pn**	**10 22 51.5**	**-0.4**
KHET				*e*S		**Sn**	**10 24 29.7**	**-5.2**
KHET				IAML			10 24 39.8	
	comp=N,6.5nm,0.1s							
KHET				IAML			10 24 41.6	
	comp=E,11nm,0.5s							
NDI	**New Delhi**	**9.54**	**137**	*e*P		Pn	10 22 50.0	-5.1
NDI				*e*S		Sn	10 24 31.0	-9.5
GEYT	**Alibeck**	**9.56**	**286**	P		**Pn**	**10 22 54.6**	**-0.6**
	comp=E,1.2nm,0.3s,baz=126,slow=10.0,SNR=10							
GEYT				S		**Sn**	**10 24 37.7**	**-3.1**
	comp=E,0.8nm,0.3s,baz=132,slow=20,SNR=4.1							
KUDL	**Kundal**	**9.59**	**142**	*e*P		**Pn**	**10 22 54.8**	**-0.8**
KUDL				*e*S		**Sn**	**10 24 34.7**	**-6.8**
KUDL				IAML			10 26 02.7	
	comp=N,8.5nm,0.4s							
KUDL				IAML			10 26 12.0	
	comp=E,11nm,1.4s							
SONA	**Sohna**	**9.81**	**139**	*e*S		**Sn**	**10 24 43.0**	**-4.0**
SONA				IAML			10 24 45.7	
	comp=E,20nm,0.3s							
SONA				IAML			10 24 46.0	
	comp=N,16nm,0.2s							
PYUN	**Piuthan**	**13.63**	**121**	*e*P		**Pn**	**10 23 48.7**	**-1.2**
	comp=N,32nm,0.4s							
KOLN	**Koldanda**	**14.25**	**121**	*e*P		**Pn**	**10 23 56.7**	**-1.3**
	comp=N,16nm,0.3s							
MKAR	**Makanchi Array**	**14.38**	**37**	P		**Pn**	**10 24 00.4**	**+1.2**
	comp=N,0.2nm,0.3s,baz=230,slow=14,SNR=5.3							
GKN	**Gorkha**	**14.85**	**118**	*e*P		**Pn**	**10 24 05.3**	**-0.2**
	comp=N,23nm,0.4s							
DMN	**Daman**	**15.42**	**118**	*e*P		**Pn**	**10 24 12.0**	**-0.8**
KKN	**Kakani**	**15.44**	**117**	*e*P		**Pn**	**10 24 12.9**	**-0.1**
	comp=N,27nm,0.6s							
PKIN	**Phulchoki**	**15.64**	**118**	*e*P		**Pn**	**10 24 15.2**	**-0.5**
	comp=N,17nm,0.4s							
GUN	**Gumba**	**15.80**	**116**	*e*P		**Pn**	**10 24 17.6**	**-0.1**
	comp=N,27nm,0.5s							
KURBB	**Kurchatov Arra**	**16.04**	**21**	P		**Pn**	**10 24 19.6**	**-0.5**
	comp=N,0.1nm,0.3s,baz=211,slow=10,SNR=20							
AKTO	**Aktyubinsk**	**16.86**	**333**	P		**Pn**	**10 24 29.6**	**-0.6**
	comp=N,0.6nm,0.3s,baz=150,slow=14,SNR=15							
BVAR	**Borovoye Array**	**17.15**	**1**	P		**P**	**10 24 34.6**	**+0.8**
	comp=N,0.5nm,0.3s,baz=166,slow=13,SNR=8.4							
ZALV	**Zalesovo Beam**	**20.89**	**25**	P		**P**	**10 25 16.2**	**+1.6**
	comp=N,8.6nm,0.5s,baz=221,slow=11,SNR=36							
ARU	**Arti**	**21.92**	**343**	P		**P**	**10 25 27.9**	**+2.4**
	comp=N,2.3nm,0.6s,baz=175,slow=4.8,SNR=5.6							
FINES	**FINESS Array B**	**37.45**	**327**	P		**P**	**10 27 45.3**	**+1.4**
	comp=N,1.0nm,0.8s,baz=90,slow=6.1,SNR=4.3							
ARCES	**ARCESS Array B**	**41.35**	**338**	P		**P**	**10 28 18.1**	**+1.9**
	comp=N,2.6nm,0.7s,baz=120,slow=8.5,SNR=18							
NB2	**NORSAR Subarra**	**44.28**	**324**	P		**P**	**10 28 39.6**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=99,slow=7.9							
NOA	**NORSAR Array B**	**44.28**	**324**	P		**P**	**10 28 40.9**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=98,slow=7.8,SNR=5.1							
NOA				pP		**pP**	**10 29 05.1**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=97,slow=8.3,SNR=2.3							
TORD	**Torodi Ar. Bea**	**64.71**	**268**	P		**P**	**10 31 08.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=42,slow=5.6,SNR=4.4							
ILAR	**Eielson Array**	**75.64**	**15**	P		**P**	**10 32 15.1**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=310,slow=4.4,SNR=4.0							
WRA	**Warramunga Arr**	**82.51**	**121**	P		**P**	**10 32 53.3**	**+0.9**
	comp=Z,0.8nm,1.1s,baz=326,slow=5.0,SNR=5.1							
WRA				pP		**pP**	**10 33 19.7**	**+1.3**
	comp=Z,0.5nm,1.0s,baz=323,slow=4.7,SNR=1.5							
ASAR	**Alice Springs**	**84.72**	**124**	P		**P**	**10 33 05.0**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=317,slow=4.4,SNR=4.5							
ASAR				pP		**pP**	**10 33 31.7**	**+2.0**
	comp=Z,0.6nm,1.0s,baz=303,slow=5.4,SNR=2.8							

WEL 26 10:36:33.2±0.2, 37.55S×176.90E, h150km±2km, ML3.7/7, 11C-1D, Error ellipse: s-maj=2.7km s-min=2.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**0.73**	**167**	PN		Pn	10 36 55.7	-0.2
URZ				SN		Sn	10 37 13.5	+0.3
URZ				AML		AML	10 37 14.5	
HAZ	**Te Kaha**	**0.73**	**107**	⇓PN		Pn	10 36 55.8	0.0
HAZ				SN		Sn	10 37 12.4	-0.6
MWZ	**Matawai**	**0.93**	**148**	⇑PN		Pn	10 36 57.3	-0.1
MWZ				SN		Sn	10 37 15.4	-0.5
MWZ				AML		AML	10 37 17.0	
RAGZ	**Rawiri**	**1.03**	**157**	PN		Pn	10 36 58.3	0.0
TWGZ	**Tauwhareparae**	**1.06**	**127**	⇑PN		Pn	10 36 58.7	+0.2
TWGZ				SN		Sn	10 37 18.9	+1.0
RTZ	**Ruatahuna**	**1.07**	**177**	⇑PN		Pn	10 36 58.7	+0.1
RTZ				SN		Sn	10 37 18.3	+0.2
MXZ	**Matakaoa Point**	**1.12**	**91**	⇑PN		Pn	10 36 59.0	+0.1
MXZ				AML		AML	10 37 20.7	
MXZ				AML		AML	10 37 22.1	
TKGZ	**Te Karaka**	**1.16**	**140**	⇑PN		Pn	10 36 59.2	-0.2
PUZ	**Puketiti**	**1.19**	**116**	⇑PN		Pn	10 36 59.3	-0.4
PUZ				AML		AML	10 37 19.0	
PUZ				AML		AML	10 37 22.1	
WMGZ	**Waiomatatini S**	**1.23**	**103**	⇑PN		Pn	10 36 60.0	0.0
WMGZ				SN		Sn	10 37 19.8	-0.7
SNGZ	**Shannon Statio**	**1.28**	**164**	⇑PN		Pn	10 37 00.5	0.0
SNGZ				SN		Sn	10 37 20.5	-1.0
MRHZ	**Matea Rd**	**1.34**	**196**	PN		Pn	10 37 01.4	+0.2
RIGZ	**Rimuhau**	**1.34**	**150**	PN		Pn	10 37 01.3	+0.2
RIGZ				SN		Sn	10 37 22.2	-0.4
RAHZ	**Arahi**	**1.37**	**174**	⇑PN		Pn	10 37 01.8	+0.3
RAHZ				SN		Sn	10 37 22.9	-0.3
CNGZ	**Carnagh Statio**	**1.39**	**133**	⇑PN		Pn	10 37 01.7	+0.1
NMHZ	**Naumai**	**1.55**	**183**	PN		Pn	10 37 03.6	+0.3
WHHZ	**Waihua**	**1.55**	**170**	PN		Pn	10 37 03.2	0.0
KNZ	**Kokohu**	**1.59**	**158**	PN		Pn	10 37 03.0	-0.7
KNZ				AML		AML	10 37 06.7	
KNZ				AML		AML	10 39 25.3	
BKZ	**Black Stump Fm**	**1.65**	**191**	⇑PN		Pn	10 37 03.9	-0.5
BKZ				SN		Sn	10 37 27.4	-0.9
BKZ				AML		AML	10 37 28.2	
ARHZ	**Aropaoanui**	**1.71**	**178**	PN		Pn	10 37 04.6	-0.5
ARHZ				SN		Sn	10 37 29.0	-0.5
MCHZ	**McNeill Hill**	**1.90**	**185**	PN		Pn	10 37 06.9	-0.2
KWHZ	**Kaweka Forest**	**1.91**	**191**	PN		Pn	10 37 07.0	-0.3
KWHZ				SN		Sn	10 37 33.3	-0.3
WNVZ	**Wahianoa**	**2.05**	**210**	PN		Pn	10 37 08.9	-0.1
MOVZ	**Moawhango**	**2.06**	**206**	PN		Pn	10 37 08.4	-0.7
KRHZ	**Kereru**	**2.13**	**191**	PN		Pn	10 37 08.9	-1.0
KAHZ	**Kahuranaki**	**2.24**	**180**	PN		Pn	10 37 10.3	-0.9
PNHZ	**Pukenui**	**2.42**	**193**	PN		Pn	10 37 12.0	-1.4
WPHZ	**Waipukurau**	**2.54**	**188**	PN		Pn	10 37 13.4	-1.3
TSZ	**Takapari Road**	**2.61**	**196**	PN		Pn	10 37 14.0	-1.7
TSZ				AML		AML	10 37 47.1	
TSZ				AML		AML	10 37 47.6	
ANWZ	**Angora Road**	**2.93**	**186**	PN		Pn	10 37 17.7	-1.9
POWZ	**Post Office Ro**	**2.97**	**197**	PN		Pn	10 37 18.5	-1.7
PRWZ	**Pori Road**	**3.09**	**193**	PN		Pn	10 37 19.9	-1.7
BFZ	**Birch Farm**	**3.17**	**189**	PN		Pn	10 37 20.1	-2.6
MRZ	**Mangatainoka R**	**3.27**	**198**	PN		Pn	10 37 21.6	-2.4
MRZ				SN		Sn	10 37 59.4	-4.0
HOWZ	**Holdsworth Sta**	**3.51**	**197**	PN		Pn	10 37 24.2	-2.9
OGWZ	**Otaki Gorge**	**3.53**	**202**	PN		Pn	10 37 25.1	-2.2
KIW	**Kapiti Island**	**3.65**	**204**	PN		Pn	10 37 26.5	-2.3
MTW	**Mount Morrison**	**3.76**	**196**	PN		Pn	10 37 27.2	-3.1
CAW	**Cannon Point**	**3.83**	**201**	PN		Pn	10 37 28.0	-3.1
TCW	**Tory Channel**	**4.18**	**208**	PN		Pn	10 37 32.4	-3.3
TUWZ	**Tuamarina**	**4.50**	**210**	PN		Pn	10 37 37.0	-2.9
NNZ	**Nelson**	**4.57**	**216**	PN		Pn	10 37 38.3	-2.5
QRZ	**Quartz Range**	**4.72**	**225**	PN		Pn	10 37 40.1	-2.7

MEX 26 10:40:52.9±0.3, 13.96N×91.77W, h15km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**2.23**	**321**	*e*P		Pn	10 41 26.8	-2.5
PCIG				*e*S		Sn	10 41 52.1	-4.5
CCIG	**Comitan**	**2.33**	**351**	*e*P		Pn	10 41 28.1	-2.9
CCIG				*e*S		Sn	10 41 55.1	-4.4

*IDC **26** 10:45:21.8±2.0, 31.83N×55.71E, h0km, mb3.8/9, mb1 3.9/13, mb1mx3.7/56, mbtmp3.8/13, ML3.8/4, Error ellipse: s-maj=43.3km s-min=18.3km az=158.0*
*ISCJB **26** 10:45:23.3±0.3, 32.01N±0.03×55.69E±0.03, h10km, mb3.8/12, Error ellipse: s-maj=4.7km s-min=3.9km az=146.3*
*CSEM **26** 10:45:23.4±0.2, 32.02N×55.72E, h2km, ML4.0, Error ellipse: s-maj=5.3km s-min=5.0km az=174.0*
*TEH **26** 10:45:24.5, 31.99N×55.73E, h5km, ML4.0*
*NEIC **26** 10:45:24.0, 31.99N×55.73E, h5km, mb3.8/2, MN4.0(TEH), After TEH.*

ISC 26 10:45:24.0±0.6, 32.01N±0.03×55.71E±0.03, h10km, n69, σ1.9 07/78, mb3.8/12, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBAF	**Bafgh**	**0.43**	**197**	*e*Pg		**Pg**	**10 45 31.6**	**-1.0**
IBAF				*e*Sg		**Sg**	**10 45 37.8**	**-0.6**
IBAF				*e*AMB		AMB	10 45 38.3	
	comp=Z,19μm,0.1s							
IBAF	**Bafgh**	**0.43**	**197**	*e*Pg		**Pg**	**10 45 31.6**	**-1.0**
IBAF				Sg		**Sg**	**10 45 37.7**	**-0.6**
IBAF	**Bafgh**	**0.43**	**197**	Pg		**Pg**	**10 45 31.6**	**-1.0**
IBAF				Sg		**Sg**	**10 45 37.7**	**-0.6**
IMEH	**Mehriz**	**1.12**	**237**	*e*Pg		**Pg**	**10 45 44.5**	**-1.1**
IMEH				*e*Sg		**Sg**	**10 45 59.4**	**-0.8**
IMEH				*e*AMB		AMB	10 46 01.7	
	comp=Z,26μm,0.1s							
IMEH	**Mehriz**	**1.12**	**237**	*e*Pg		**Pg**	**10 45 44.5**	**-1.1**
IMEH				Sg		**Sg**	**10 45 59.3**	**-0.9**
IMEH	**Mehriz**	**1.12**	**237**	Pg		**Pg**	**10 45 44.5**	**-1.1**
IMEH				Sg		**Sg**	**10 45 59.3**	**-0.9**
ICHK	**Chekchek**	**1.13**	**282**	*e*Pg		**Pg**	**10 45 44.7**	**-1.1**
ICHK				*e*AMB		AMB	10 45 45.9	
	comp=Z,34μm,0.1s							
ICHK				*e*Sg		**Sg**	**10 45 59.9**	**-0.6**
ICHK	**Chekchek**	**1.13**	**282**	*e*Pg		**Pg**	**10 45 44.7**	**-1.1**
ICHK				Sg		**Sg**	**10 45 59.8**	**-0.7**
ICHK	**Chekchek**	**1.13**	**282**	Pg		**Pg**	**10 45 44.7**	**-1.1**
ICHK				Sg		**Sg**	**10 45 59.8**	**-0.7**
ISAD	**Sadrabad**	**1.73**	**267**	*e*Pn		**Pb**	**10 45 55.2**	**-0.8**
ISAD				*e*AMB		AMB	10 46 19.9	
	comp=Z,23μm,0.2s							
ISAD	**Sadrabad**	**1.73**	**267**	Pn		**Pb**	**10 45 55.1**	**-0.9**
ISAD	**Sadrabad**	**1.73**	**267**	Pn		**Pb**	**10 45 55.1**	**-0.9**
KHGB	**Koh Gabri**	**1.75**	**158**	*e*Pg		**Pb**	**10 45 55.6**	**-0.8**
KHGB	**Koh Gabri**	**1.75**	**158**	*e*Pg		**Pb**	**10 45 55.6**	**-0.8**
TVBK	**TV Kerman**	**2.21**	**156**	*e*Pn		**Pb**	**10 46 03.7**	**-0.5**
TVBK	**TV Kerman**	**2.21**	**156**	*e*Pn		**Pb**	**10 46 03.7**	**-0.5**
NGRK	**Negar Kerman**	**2.51**	**159**	*e*Pn		**Pn**	**10 46 06.4**	**+1.1**
NGRK	**Negar Kerman**	**2.51**	**159**	*e*Pn		**Pn**	**10 46 06.4**	**+1.1**
ITEG	**Tejag**	**2.71**	**70**	*e*AMB		AMB	10 46 56.3	
	comp=Z,8μm,0.1s							
ITEG				*e*Pn		**Pn**	**10 46 08.0**	**+0.1**
ITEG	**Tejag**	**2.71**	**70**	Pn		**Pn**	**10 46 07.9**	**+0.1**
IKOO	**Kooshah**	**2.82**	**81**	*e*AMB		AMB	10 46 58.6	
	comp=Z,11μm,0.2s							
IKOO				*e*Pn		**Pn**	**10 46 09.8**	**+0.4**
IRAM	**Ramesheh**	**2.84**	**267**	*e*Pn		**Pn**	**10 46 10.8**	**+1.2**
IRAM				*e*AMB		AMB	10 46 59.5	
	comp=Z,2μm,0.3s							
IRAM	**Ramesheh**	**2.84**	**267**	*e*Pn		**Pn**	**10 46 10.8**	**+1.2**
IRAM	**Ramesheh**	**2.84**	**267**	Pn		**Pn**	**10 46 10.8**	**+1.2**
IZEF	**Zefreh**	**2.99**	**288**	*e*Pn		**Pn**	**10 46 13.1**	**+1.3**
IZEF				*e*AMB		AMB	10 47 00.0	
	comp=Z,3μm,0.2s							
IZEF	**Zefreh**	**2.99**	**288**	Pn		**Pn**	**10 46 13.0**	**+1.3**
IZEF	**Zefreh**	**2.99**	**288**	Pn		**Pn**	**10 46 13.0**	**+1.3**
IGAR	**Gharneh**	**3.14**	**278**	*e*Pn		**Pn**	**10 46 14.8**	**+1.1**
IGAR				*e*AMB		AMB	10 47 06.1	
	comp=Z,2μm,0.3s							
IDAH	**Dahanechah**	**3.59**	**77**	*e*Pn		**Pn**	**10 46 20.6**	**+0.6**
IDAH				*e*AMB		AMB	10 46 37.3	
	comp=Z,4μm,0.2s							
IDAH	**Dahanechah**	**3.59**	**77**	Pn		**Pn**	**10 46 20.5**	**+0.6**
IDAH	**Dahanechah**	**3.59**	**77**	Pn		**Pn**	**10 46 20.5**	**+0.6**
IKLH	**Kolahrood**	**3.72**	**292**	*e*Pn		**Pn**	**10 46 23.3**	**+1.5**
IKLH				*e*AMB		AMB	10 47 30.5	
	comp=Z,3μm,0.3s							
IKLH	**Kolahrood**	**3.72**	**292**	*e*Pn		**Pn**	**10 46 23.3**	**+1.5**
IKLH	**Kolahrood**	**3.72**	**292**	Pn		**Pn**	**10 46 23.3**	**+1.5**
IPIR	**Pirpir**	**4.14**	**281**	*e*Pn		**Pn**	**10 46 29.7**	**+2.2**
IPIR				*e*AMB		AMB	10 47 41.4	
	comp=Z,1μm,0.2s							
IPIR	**Pirpir**	**4.14**	**281**	*e*Pn		**Pn**	**10 46 29.7**	**+2.2**
IPIR	**Pirpir**	**4.14**	**281**	Pn		**Pn**	**10 46 29.7**	**+2.2**
IFIR	**Firoozkooh**	**4.38**	**327**	*e*Pn		**Pn**	**10 46 30.8**	**-0.1**
IFIR				*e*AMB		AMB	10 47 58.6	
	comp=Z,1μm,0.2s							
IFIR	**Firoozkooh**	**4.38**	**327**	*e*Pn		**Pn**	**10 46 30.8**	**-0.1**
IFIR	**Firoozkooh**	**4.38**	**327**	Pn		**Pn**	**10 46 30.7**	**-0.1**
GENO	**Geno**	**4.61**	**175**	*e*Pn		**Pn**	**10 46 35.7**	**+1.8**
GENO	**Geno**	**4.61**	**175**	*e*Pn		**Pn**	**10 46 35.7**	**+1.8**
IDMV	**Damavand**	**4.70**	**320**	*e*Pn		**Pn**	**10 46 36.4**	**+1.2**
IDMV				*e*AMB		AMB	10 48 08.6	
	comp=Z,1μm,0.5s							
IDMV	**Damavand**	**4.70**	**320**	*e*Pn		**Pn**	**10 46 36.4**	**+1.2**
IDMV	**Damavand**	**4.70**	**320**	Pn		**Pn**	**10 46 36.4**	**+1.2**
GEYT	**Alibeck**	**6.23**	**18**	Pn		**Pn**	**10 46 57.3**	**+1.3**
	comp=Z,3.6nm,0.3s,baz=196,slow=14,SNR=54							
ASF	**Jabal al Asfar**	**15.95**	**276**	Pn		**Pn**	**10 49 07.0**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=30,slow=5.9,SNR=4.3							
ABKAR	**Akbulak array**	**17.52**	**9**	*e*Pn		**P**	**10 49 28.9**	**-0.5**
	comp=Z,3.1nm,0.9s							
ABKAR	**Akbulak array**	**17.52**	**9**	*e*Pn		**P**	**10 49 28.9**	**-0.5**
	comp=Z,3.1nm,0.9s							
AKTO	**Aktyubinsk**	**18.49**	**5**	P		**Pn**	**10 49 40.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=169,slow=13,SNR=5.9							
BRTR	**Keskin Array B**	**19.45**	**299**	P		**Pn**	**10 49 52.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=118,slow=14,SNR=4.1							
BRVK	**Borovoye**	**23.53**	**22**	*e*P		**P**	**10 50 33.7**	**-0.5**
	comp=Z,3.8nm,0.7s							
BRVK	**Borovoye**	**23.53**	**22**	*e*P		**P**	**10 50 33.6**	**-0.5**
	comp=Z,3.8nm,0.7s							
BVAR	**Borovoye Array**	**23.54**	**23**	P		**P**	**10 50 35.5**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=212,slow=8.1,SNR=14							
KURBB	**Kurchatov Arra**	**25.12**	**36**	P		**P**	**10 50 50.0**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=234,slow=9.6,SNR=7.8							
MKAR	**Makanchi Array**	**25.14**	**46**	P		**P**	**10 50 49.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=216,slow=7.1,SNR=5.6							
KURK	**Kurchatov**	**25.22**	**36**	P		**P**	**10 50 50.0**	**+0.2**
KURK	**Kurchatov**	**25.22**	**36**	P		**P**	**10 50 50.0**	**+0.2**
AKASG	**Malin Array Be**	**27.05**	**321**	P		**P**	**10 51 06.8**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=134,slow=8.4,SNR=4.1							
ZALV	**Zalesovo Beam**	**30.20**	**35**	P		**P**	**10 51 34.8**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=262,slow=10.0,SNR=3.5							
KOLS	**Kolonicke sedl**	**30.23**	**314**	*e*P		**P**	**10 51 36.8**	**+2.1**
	comp=Z,4.9nm,1.3s							
KOLS	**Kolonicke sedl**	**30.23**	**314**	*e*P		**P**	**10 51 36.8**	**+2.1**
FINES	**FINESS Array B**	**35.17**	**336**	P		**P**	**10 52 18.3**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=120,slow=16,SNR=2.7							
GERES	**GERESS Array B**	**35.61**	**311**	P		**P**	**10 52 22.3**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=99,slow=8.4,SNR=8.9							
GTA	**Gaotai**	**36.28**	**66**	*e*P		**P**	**10 52 29.0**	**+1.3**
GTA				pP		sP	10 52 32.8	+0.8
GTA				sP		pP	10 52 34.8	+4.0
GTA				pmax		pmax		
	comp=Z,4.0nm,1.3s							
NB2	**NORSAR Subarra**	**40.91**	**329**	P		**P**	**10 53 06.5**	**+0.3**
	comp=Z,1.1nm,1.0s,baz=117,slow=8.6							
NB2	**NORSAR Subarra**	**40.91**	**329**	P		**P**	**10 53 06.5**	**+0.3**
	comp=Z,1.1nm,1.0s,SNR=3.7							
NOA	**NORSAR Array B**	**40.91**	**329**	P		**P**	**10 53 06.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=117,slow=8.2,SNR=3.7							
TORD	**Torodi Ar. Bea**	**52.74**	**262**	P		**P**	**10 54 38.3**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=60,slow=7.6,SNR=11							

*CSEM **26** 10:55:48.1, 13.93N×44.07E, h23km, ML3.8*
DHMR 26 10:55:48.1±1.2, 13.93N×44.07E, h23km±4km, ML3.8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UDYN	**Al 'Udayn**	**0.10**	**293**	*i* P		Pb	10 55 52.8	0.0
UDYN				*i* S		Sb	10 55 54.3	-1.6
UDYN				AML		AML	10 55 54.7	
	comp=Z,21μm,0.5s							
DHBB	**Dhamar BB**	**0.71**	**26**	*i* P		Pb	10 56 01.9	-0.1
DHBB				*i* S		Sn	10 56 12.7	-0.7
BDHA	**Al Bayda'**	**1.46**	**88**	*i* P		Pn	10 56 14.0	+0.7
BDHA				*i* S		Sb	10 56 33.5	+0.5
BDHA	**Al Bayda'**	**1.46**	**88**	*i* P		Pb	10 56 14.0	-0.7
BDHA				*i* S		Sb	10 56 33.5	+0.5
HAJJ	**Hajjah**	**1.82**	**346**	*i* P		Pb	10 56 19.6	-1.2
HAJJ				*i* S		Sb	10 56 43.7	+0.4
HAJJ				AML		AML	10 56 51.8	
	comp=Z,626nm,0.2s							
HAJJ	**Hajjah**	**1.82**	**346**	*i* P		Pb	10 56 19.6	-1.2
HAJJ				*i* S		Sb	10 56 43.7	+0.4
	comp=Z,313nm,0.2s							

*NIED **26** 11:02:00, 37.60N×141.80E, h5km, Mw3.6 Best double couple: M0 2.56000×10^14 NP1:φs 91.00000°, δ56.00000°, λ-20.00000°. NP2:φs 193.00000°, δ73.00000°, λ-144.00000°.*
*IDC **26** 11:02:37.0±1.1, 37.41N×142.05E, h0km, mb3.6/5, mb1 3.6/8, mb1mx3.4/42, mbtmp3.5/8, ML2.8/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/49, Error ellipse: s-maj=25.3km s-min=24.7km az=11.0*
*JMA **26** 11:02:37.3±0.1, 37.57N×141.85E, h16km±1km, M3.6*
ISC 26 11:02:37.6±2.1, 37.58N±0.06×141.76E±0.07, h5km±11km, n26, σ1.9 45/25, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.73**	**253**	P		**Pb**	**11 02 52.5**	**-0.4**
JFK				*e*S		**Sb**	**11 03 03.2**	**-0.1**
JMM	**Marumori**	**0.82**	**291**	P		**Pg**	**11 02 53.7**	**+0.4**
JMM				S		**Sb**	**11 03 05.4**	**-0.2**
JIO	**Ouri**	**0.93**	**340**	P		**Pg**	**11 02 55.1**	**-0.4**
JIO				S		**Sg**	**11 03 07.9**	**+0.3**
JFT	**Otama**	**1.13**	**267**	P		**Pb**	**11 02 59.4**	**-0.3**
JFT				S		**Sn**	**11 03 15.1**	**-1.0**
JOU	**Okura**	**1.17**	**313**	P		**Pb**	**11 02 59.8**	**-0.5**
JOU				S		**Sn**	**11 03 16.0**	**-1.0**
JMK	**Ichinoseki**	**1.43**	**343**	P		**Pn**	**11 03 03.2**	**-1.1**
JMK				*e*S		**Sn**	**11 03 21.7**	**-1.9**
JYS	**Shirataka**	**1.48**	**296**	P		**Pb**	**11 03 05.4**	**-0.3**
JYS				S		**Sg**	**11 03 25.8**	**+0.5**
MJAR	**Matsushiro Arr**	**3.02**	**251**	Pn		**Pn**	**11 03 27.9**	**+1.7**
	1.4nm,0.3s,baz=90,slow=16,SNR=9.9							
MJAR				Sn		**Sb**	**11 04 08.4**	**-0.8**
	1.6nm,0.3s,baz=67,slow=19,SNR=5.9							
MAT	**Matsushiro**	**3.02**	**251**	P		**Pb**	**11 03 29.6**	**-2.4**
MAT				S		**Sb**	**11 04 06.8**	**-2.4**
ASAJ	**Asahikawa**	**6.56**	**5**	Pn		**Pn**	**11 04 15

I48TN KESRA INFRASON 29.05 261 *i* 14 18 20.0
baz=57,slow=305,SNR=0.6

*ISK **26** 11:23:54.2, 38.33N×37.74E, h2km, MD3.0*
*ISCJB **26** 11:23:55.7±0.5, 38.37N±0.03×37.71E±0.04, h0km, Error ellipse: s-maj=5.0km s-min=3.9km az=32.1*
*CSEM **26** 11:23:55.3±0.4, 38.33N×37.73E, h1km, MD2.9, Error ellipse: s-maj=11.1km s-min=7.7km az=20.0, Suspected Mining explosion.*
*DDA **26** 11:23:56.5, 38.37N×37.66E, h7km, Md2.9, Suspected Mining explosion.*

ISC 26 11:23:55.8±0.8, 38.36N±0.03×37.65E±0.02, h0km, n29, σ1s35/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.22**	**106**	**P**	**Pg**	**11 24 00.6**	**+0.6**
AKCD				S	**Sg**	**11 24 06.0**	**+3.1**
AKCD	**Akcadag**	**0.22**	**106**	*i* P	**Pg**	**11 24 00.6**	**+0.6**
AKCD				*i* S	**Sg**	**11 24 06.0**	**+3.1**
DARE	**Darende-Malaty**	**0.25**	**328**	*e*PG	**Pg**	**11 24 00.8**	**+0.1**
DARE				*e*SG	**Sb**	**11 24 06.8**	**-1.6**
DARE	**Darende-Malaty**	**0.25**	**328**	*e*Pg	**Pg**	**11 24 00.8**	**+0.1**
DARE				*e*Sg	**Sb**	**11 24 06.8**	**-1.6**
SARI	**SarD1z-Kayseri**	**0.97**	**273**	*e*PG	**Pb**	**11 24 15.0**	**-0.6**
SARI				*e*SG	**Sn**	**11 24 30.2**	**-1.3**
ATAB	**Bozova**	**1.02**	**150**	*i* P	**Pn**	**11 24 17.6**	**+0.2**
ATAB				*i* S	**Sn**	**11 24 34.3**	**+1.9**
PINB	**Pinarbasi**	**1.03**	**288**	P	**Pg**	**11 24 15.5**	**-0.1**
PINB				S	**Sn**	**11 24 32.3**	**-0.8**
PINB	**Pinarbasi**	**1.03**	**288**	*i* P	**Pg**	**11 24 15.5**	**-0.1**
PINB				*i* S	**Sn**	**11 24 32.3**	**-0.8**
KMRS	**Kahramanmaras**	**1.04**	**215**	*e*PG	**Pb**	**11 24 15.6**	**-1.1**
KMRS	**Kahramanmaras**	**1.04**	**215**	*e*Pg	**Pb**	**11 24 15.6**	**-1.1**
ELZG	**Elazig**	**1.05**	**82**	P	**Pg**	**11 24 16.0**	**-0.1**
ELZG	**Elazig**	**1.05**	**82**	*i* P	**Pg**	**11 24 16.0**	**-0.1**
ELZG				*i* S	**Sn**	**11 24 34.0**	**+0.5**
CUALT	**Altinyayla-SIV**	**1.15**	**323**	P	**Pg**	**11 24 17.6**	**-0.3**
CUALT	**Altinyayla-SIV**	**1.15**	**323**	*i* P	**Pg**	**11 24 17.6**	**-0.3**
CUALT				*i* S	**Sn**	**11 24 36.7**	**+0.8**
GAZ	**Gaziantep**	**1.23**	**197**	*e*PN	**Pg**	**11 24 18.6**	**-0.8**
GAZ	**Gaziantep**	**1.23**	**197**	*e*Pn	**Pg**	**11 24 18.6**	**-0.8**
URFA	**Urfa**	**1.30**	**134**	*e*PN	**Pg**	**11 24 18.8**	**-1.9**
URFA	**Urfa**	**1.30**	**134**	*e*Pn	**Pg**	**11 24 18.8**	**-1.9**
SVRC	**Sivrice-ELAZID**	**1.30**	**88**	*e*PN	**Pg**	**11 24 18.5**	**-2.2**
SVRC	**Sivrice-ELAZID**	**1.30**	**88**	*e*Pn	**Pg**	**11 24 18.5**	**-2.2**
KAMA	**Osmaniye**	**1.41**	**214**	*i* P	**Pg**	**11 24 22.1**	**-0.6**
KAMA				*i* S	**Sn**	**11 24 43.5**	**+1.4**
PTK	**Pertek**	**1.46**	**68**	*e*PN	**Pn**	**11 24 21.8**	**-1.9**
PTK	**Pertek**	**1.46**	**68**	*e*Pn	**Pn**	**11 24 21.8**	**-1.9**
BNN	**Bunyan**	**1.50**	**290**	*e*PN	**Pg**	**11 24 24.2**	**-0.4**
BNN	**Bunyan**	**1.50**	**290**	*e*Pn	**Pg**	**11 24 24.2**	**-0.4**
KUZU	**Kuzuini**	**1.65**	**196**	P	**Pg**	**11 24 26.8**	**-0.5**
KUZU	**Kuzuini**	**1.65**	**196**	*i* P	**Pg**	**11 24 26.8**	**-0.5**
KUZU				*i* S	**Sg**	**11 24 50.7**	**+2.0**
KOZT	**Kozan**	**1.69**	**239**	*e*PN	**Pn**	**11 24 26.3**	**-0.3**
KOZT	**Kozan**	**1.69**	**239**	*e*Pn	**Pn**	**11 24 26.3**	**-0.3**

*ISCJB **26** 11:26:17.2±1.0, 39.80N±0.04×144.37E±0.07, h45km±13km, mb3.6/3, MS3.4/2, Error ellipse: s-maj=10.2km s-min=4.5km az=36.1*
*JMA **26** 11:26:17.9±0.2, 39.80N×144.30E, h45km, M3.2*
*IDC **26** 11:26:18.6±8.0, 39.68N×144.54E, h34km±59km, mb3.3/3, mb1 3.5/5, mb1mx3.1/56, mbtmp3.4/5, ML2.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/24, Error ellipse: s-maj=68.6km s-min=24.6km az=83.0*

ISC 26 11:26:16.9±1.3, 39.74N±0.06×144.44E±0.07, h25km±7km, n22, σ1s37/35, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.99**	**277**	P	**Pn**	**11 26 48.5**	**-0.4**
JTH				*e*S	**Sn**	**11 27 11.0**	**-2.1**
MIYJ	**Miyakonagasawa**	**2.03**	**266**	P	**Pn**	**11 26 49.3**	**-0.1**
MIYJ				S	**Sn**	**11 27 12.2**	**-1.7**
JANG	**Nango**	**2.33**	**287**	P	**Pn**	**11 26 53.1**	**-0.5**
JANG				*e*S	**Sn**	**11 27 19.0**	**-2.5**
JOM	**Ohasama**	**2.44**	**265**	P	**Pn**	**11 26 55.5**	**+0.3**
JOM				S	**Sn**	**11 27 22.9**	**-1.3**
JMK	**Ichinoseki**	**2.62**	**254**	P	**Pn**	**11 26 57.5**	**0.0**
JMK				*e*S	**Sn**	**11 27 26.4**	**-2.0**
JNBK	**Urakawa-nobuka**	**2.84**	**334**	P	**Pn**	**11 27 01.2**	**+0.6**
JCH	**Churui**	**2.99**	**345**	P	**Pn**	**11 27 02.7**	**+0.1**
JCH				*e*S	**Sn**	**11 27 36.6**	**-1.0**
JOT	**Ohata**	**3.06**	**304**	P	**Pn**	**11 27 04.3**	**+0.7**
JAK	**Akkeshi**	**3.26**	**3**	P	**Pn**	**11 27 05.9**	**-0.4**
JAK				*e*S	**Sn**	**11 27 42.8**	**-1.5**
JYK	**Kaneyama**	**3.27**	**257**	P	**Pn**	**11 27 07.2**	**+0.7**
JYK				*e*S	**Sn**	**11 27 43.9**	**-0.7**
JKB	**Kayabe**	**3.36**	**311**	P	**Pn**	**11 27 08.8**	**+1.1**
JKB				*e*S	**Sn**	**11 27 45.6**	**-1.2**
JAR	**Ashorobuto**	**3.59**	**352**	P	**Pn**	**11 27 10.5**	**-0.4**
JAR				*e*S	**Sn**	**11 27 49.9**	**-2.6**
JFR	**Furan**	**3.69**	**339**	P	**Pn**	**11 27 13.2**	**+0.9**
JFR				*e*S	**Sn**	**11 27 54.3**	**-0.7**
NEM2	**Nemuro 2**	**3.75**	**15**	P	**Pn**	**11 27 12.3**	**-0.8**
NEM2				*e*S	**Sn**	**11 27 54.2**	**-2.3**
JTKR	**Abashiri--Toko**	**4.25**	**355**	P	**Pn**	**11 27 20.5**	**+0.6**
JTKR				*e*S	**Sn**	**11 28 07.1**	**-1.5**
ASAJ	**Asahikawa**	**4.58**	**343**	Pn	**Pn**	**11 27 26.9**	**+2.4**
	0.4nm,0.3s,baz=207,slow=11,SNR=3.9						
ASAJ				Sn	**Sn**	**11 28 19.2**	**+2.3**
	baz=342,slow=20						
MJAR	**Matsushiro Arr**	**5.86**	**239**	Pn	**Pn**	**11 27 43.1**	**+1.0**
	0.8nm,0.3s,baz=58,slow=11,SNR=11						
NRIK	**Noril'sk**		**41.86 334**	LR	LR	11 55 12.5	
	comp=Z,31nm,18.5s,baz=88,slow=41						
KURBB	**Kurchatov Arra**	**46.26**	**306**	P	**P**	**11 34 41.1**	**+1.2**
	0.4nm,0.5s,baz=79,slow=8.7,SNR=3.3						
KURBB				pP	**sP**	**11 34 50.6**	**-0.1**
	0.9nm,0.6s,baz=80,slow=8.5,SNR=5.4						
WRA	**Warramunga Arr**	**60.12**	**191**	P	**P**	**11 36 22.0**	**-0.1**
	0.4nm,0.4s,baz=8.6,slow=7.0,SNR=14						
ASAR	**Alice Springs**		**63.84 191**	P	**P**	**11 36 47.6**	**+0.6**
	0.3nm,0.7s,baz=8.3,slow=7.0,SNR=4.3						
MMAI	**Mount Meron Ar**	**82.30**	**307**	LR	LR	12 18 42.9	
	comp=Z,20nm,18.8s,baz=120,slow=38						

*NIED **26** 11:43:00, 36.40N×141.80E, h17km, Mw3.8 Best double couple: M0 5.45000×10^14 NP1:φs 139.00000°, δ24.00000°, λ20.00000°. NP2:φs 30.00000°, δ82.00000°, λ112.00000°.*
*IDC **26** 11:43:11.6±0.9, 36.30N×141.95E, h0km, mb3.6/8, mb1 3.7/11, mb1mx3.6/40, mbtmp3.6/11, ML3.4/3, MS2.9/5, Ms1 2.9/5, ms1mx2.6/55, Error ellipse: s-maj=22.6km s-min=18.5km az=90.0*
*ISCJB **26** 11:43:13.3±1.8, 36.31N±0.04×141.95E±0.06, h23km±14km, mb3.5/8, MS3.2/1, Error ellipse: s-maj=8.7km s-min=6.1km az=23.1*
*JMA **26** 11:43:15.4±0.1, 36.37N×141.78E, h56km±4km, M3.6*

ISC 26 11:43:12.3±3.5, 36.31N±0.05×141.91E±0.07, h5km±22km, n34, σ1s18/32, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.05**	**235**	P	**Pb**	**11 43 33.6**	**+0.7**
JHO	**Hitachi**	**1.12**	**286**	P	**Pb**	**11 43 33.2**	**-1.0**
JFK	**Kawauchi**	**1.34**	**322**	P	**Pn**	**11 43 36.8**	**-1.0**
JFT	**Otama**	**1.75**	**314**	P	**Pn**	**11 43 43.2**	**-0.1**
JMM	**Marumori**	**1.79**	**330**	P	**Pn**	**11 43 43.2**	**-0.7**
BSO1	**Boso 1**	**1.82**	**205**	P	**Pn**	**11 43 44.3**	**+0.5**
BSO1				*e*S	**Sn**	**11 44 07.6**	**+0.7**
BSO3	**Boso 3**	**1.89**	**218**	P	**Pn**	**11 43 45.7**	**+0.7**
BSO3				S	**Sn**	**11 44 08.5**	**-0.6**
JAG	**Ashikaga**	**1.99**	**274**	P	**Pn**	**11 43 45.8**	**-0.8**
JFY	**Yanaizu**	**2.08**	**302**	P	**Pn**	**11 43 48.0**	**+0.1**
JRY	**Ryogami san**	**2.45**	**264**	P	**Pn**	**11 43 52.7**	**-0.3**
JRY				*e*S	**Sn**	**11 44 21.4**	**-2.0**
JOD2	**Odawara 2**	**2.52**	**246**	P	**Pn**	**11 43 54.8**	**+0.9**
JOD2				*e*S	**Sn**	**11 44 22.8**	**-2.3**
JMK	**Ichinoseki**	**2.69**	**348**	P	**Pn**	**11 43 56.9**	**+0.6**
JYN	**Shimob**	**2.85**	**254**	P	**Pn**	**11 43 59.9**	**+1.4**
MJAR	**Matsushiro Arr**	**2.99**	**276**	Pn	**Pn**	**11 44 00.9**	**+0.5**
	5.3nm,0.3s,baz=95,slow=8.5,SNR=62						
MJAR				Sn	**Sn**	**11 44 38.8**	**+2.1**
	5.1nm,0.3s,baz=92,slow=16,SNR=5.7						
MJAR				LR	LR	11 45 26.0	
	comp=Z,225nm,18.7s,baz=110,slow=45						
MAT	**Matsushiro**	**3.00**	**276**	P	**Pn**	**11 44 01.6**	**+1.1**
MAT				S	**Sn**	**11 44 38.1**	**+1.3**
JHJ	**Hachijo jima 2**	**3.63**	**209**	Pn	**Pn**	**11 44 10.0**	**+0.8**
	17nm,0.3s,baz=89,slow=22,SNR=12						
JHJ				Sn	**Sn**	**11 44 49.5**	**-3.0**
	63nm,0.3s,baz=126,slow=23,SNR=9.3						
JHJ				LR	LR	11 45 16.3	
	comp=Z,62nm,19.6s,baz=56,slow=34						
ASAJ	**Asahikawa**	**7.82**	**4**	Pn	**Pn**	**11 45 05.9**	**-0.7**
	0.5nm,0.3s,baz=231,slow=7.0,SNR=7.3						
USRK	**Ussuriysk Ar.**	**10.93**	**319**	Pn	Pn	11 45 55.7	+6.4
	0.2nm,0.3s,baz=118,slow=13,SNR=4.9						
KSRS	**Korea Array**	**11.26**	**280**	LR	LR	11 50 18.9	
	comp=Z,73nm,19.0s,baz=80,slow=38						
KLR	**Kul'dur**	**14.89**	**333**	LR	LR	11 52 02.8	
	comp=Z,57nm,18.0s,baz=132,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.44**	**120**	T	T	12 17 37.6	
	baz=312,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy**	**27.44**	**120**	T	T	12 17 38.9	
	baz=312,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.45**	**120**	T	T	12 17 38.8	
	baz=312,slow=74,SNR=10						
H11S1	**WAKE ISLAND Hy**	**28.13**	**122**	T	T	12 18 30.0	
	baz=315,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.13**	**122**	T	T	12 18 31.0	
	baz=315,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.15**	**122**	T	T	12 18 30.5	
	baz=315,slow=75,SNR=9.6						
SONM	**Songino Array**	**28.52**	**305**	P	**P**	**11 49 08.5**	**-0.3**
	1.6nm,0.8s,baz=110,slow=8.4,SNR=6.3						
ZALV	**Zalesovo Beam**	**42.70**	**313**	P	**P**	**11 51 09.8**	**-0.2**
	0.8nm,0.7s,baz=129,slow=5.9,SNR=3.6						
MKAR	**Makanchi Array**	**44.84**	**303**	P	**P**	**11 51 27.3**	**-0.1**
	0.4nm,0.6s,baz=82,slow=10,SNR=3.6						
MKAR				LR	LR	12 10 54.3	
	comp=Z,27nm,18.4s,baz=34,slow=37						
ILAR	**Eielson Array**	**49.89**	**32**	P	**P**	**11 52 06.3**	**-0.1**
	0.2nm,0.6s,baz=259,slow=5.2,SNR=5.4						
WRA	**Warramunga Arr**	**56.40**	**189**	P	**P**	**11 52 53.9**	**-0.9**
	0.3nm,0.6s,baz=6.5,slow=7.0,SNR=9.2						
ASAR	**Alice Springs**	**60.13**	**188**	P	**P**	**11 53 21.2**	**+0.4**
	0.3nm,0.7s,baz=14,slow=7.8,SNR=3.4						
NOA	**NORSAR Array B**	**75.01**	**338**	P	**P**	**11 54 56.1**	**+1.6**
	0.4nm,0.8s,baz=4.5,slow=4.5,SNR=3.5						
TXAR	**Lajitas Array**	**90.24**	**53**	P	**P**	**11 56 14.6**	**+0.2**
	0.2nm,0.6s,baz=297,slow=4.0,SNR=2.8						

MEX 26 11:44:48.2±0.4, 13.98N×92.78W, h14km±114km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.77**	**346**	*e*P	Pn	11 45 15.0	-3.5
PCIG				*e*S	Sn	11 45 36.4	-4.3
CCIG	**Comitan**	**2.37**	**15**	*e*P	Pn	11 45 24.7	-2.2
CCIG				*e*S	Sn	11 45 52.5	-3.5

*NIED **26** 11:51:00, 38.10N×142.70E, h26km, Mw3.6 Best double couple: M0 2.76000×10^14 NP1:φs 176.00000°, δ16.00000°, λ23.00000°. NP2:φs 64.00000°, δ84.00000°, λ105.00000°.*
*JMA **26** 11:51:33.5±0.1, 38.06N×142.71E, h25km, M3.7*
*IDC **26** 11:51:35.8±4.8, 38.04N×142.91E, h36km±37km, mb3.4/4, mb1 3.4/7, mb1mx3.2/47, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=53.0km s-min=25.0km az=86.0*

ISC 26 11:51:34.5±1.3, 38.04N±0.05×142.78E±0.09, h25km±8km, n20, σ1s90/30, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.20**	**291**	*e*S	**Sn**	**11 52 09.0**	**-2.0**
OFUJ	**Ofunato**	**1.35**	**320**	P	**Pn**	**11 51 56.7**	**-1.0**
OFUJ				*e*S	**Sn**	**11 52 13.0**	**-1.9**
JMK	**Ichinoseki**	**1.52**	**307**	P	**Pn**	**11 51 59.0**	**-1.1**
JMK				*e*S	**Sn**	**11 52 17.6**	**-1.5**
JMM	**Marumori**	**1.58**	**264**	P	**Pn**	**11 52 00.0**	**-0.8**
JMM				S	**Sn**	**11 52 18.8**	**-1.6**
JFK	**Kawauchi**	**1.65**	**246**	P	**Pn**	**11 52 00.2**	**-1.7**
JFK				*e*S	**Sn**	**11 52 19.8**	**-2.5**
JOU	**Okura**	**1.69**	**282**	P	**Pn**	**11 52 01.6**	**-0.9**
JOM	**Ohasama**	**1.84**	**321**	P	**Pn**	**11 52 04.2**	**-0.3**
JFT	**Otama**	**2.00**	**256**	P	**Pn**	**11 52 06.5**	**-0.2**
JFT				*e*S	**Sn**	**11 52 30.7**	**-0.3**
JYK	**Kaneyama**	**2.09**	**296**	P	**Pn**	**11 52 07.4**	**-0.5**
JYK				*e*S	**Sn**	**11 52 32.2**	**-0.9**
JYS	**Shirataka**	**2.14**	**276**	P	**Pn**	**11 52 08.6**	**-0.1**
JYS				*e*S	**Sn**	**11 52 34.7**	**+0.2**
JRG	**Rokugo**	**2.15**	**310**	P	**Pn**	**11 52 08.9**	**+0.1**
JANG	**Nango**	**2.53**	**338**	P	**Pn**	**11 52 14.8**	**+0.9**
MJAR	**Matsushiro Arr**	**3.94**	**249**	Pn	**Pn**	**11 52 36.3**	**+3.0**
	1.0nm,0.3s,baz=55,slow=11,SNR=11						
MAT	**Matsushiro**	**3.94**	**249**	P	**Pn**	**11 52 36.6**	**+3.3**
MAT				S	**Sn**	**11 53 23.3**	**+4.6**
JHJ	**Hachijo jima 2**	**5.48**	**207**	Pn	**Pn**	**11 52 53.7**	**-0.8**
	4.2nm,0.3s,baz=62,slow=21,SNR=0.7						
JHJ				Sn	**Sn**	**11 53 52.0**	**-4.9**
	17nm,0.3s,baz=65,slow=21,SNR=1.7						
ASAJ	**Asahikawa**	**6.07**	**359**	Pn	**Pn**	**11 53 03.4**	**+0.8**
	0.7nm,0.3s,baz=220,slow=9.3,SNR=6.5						
SONM	**Songino Array**	**28.14**	**302**	P	**P**	**11 57 25.0**	**+0.4**
	0.4nm,0.5s,baz=108,slow=9.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.05**	**312**	P	**P**	**11 59 23.7**	**-0.1**
	1.0nm,0.4s,baz=76,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**44.51**	**301**	P	**P**	**11 59 44.5**	**+0.7**
	0.5nm,0.7s,baz=87,slow=9.1,SNR=3.7						
ASAR	**Alice Springs**	**61.94**	**189**	P	**P**	**12 01 52.5**	**+0.3**
	0.4nm,1.0s,baz=11,slow=11,SNR=2.8						
ASAR				pP	**sP**	**12 02 02.9**	**-0.1**
	0.3nm,0.9s,baz=18,slow=7.1,SNR=2.0						

*NIED **26** 12:05:00, 41.10N×142.60E, h32km, Mw3.7 Best double couple: M0 3.72000×10^14 NP1:φs 191.00000°, δ31.00000°, λ70.00000°. NP2:φs 34.00000°, δ61.00000°, λ101.00000°.*
*ISCJB **26** 12:05:21.8±0.6, 41.16N±0.04×142.56E±0.06, h57km±6km, mb3.8/8, Error ellipse: s-maj=8.6km s-min=4.3km az=34.0*
*JMA **26** 12:05:21.5±0.1, 41.13N×142.57E, h33km±4km, M4.0*
JMA Felt I J1.
*IDC **26** 12:05:25.3±2.6, 41.24N×142.38E, h68km±22km, mb3.6/7, mb1 3.7/10, mb1mx3.5/55, mbtmp3.9/10, MS2.8/1, Ms1 2.8/1, ms1mx2.2/52, Error ellipse: s-maj=35.3km s-min=20.8km az=152.0*

ISC 26 12:05:22.3±1.2, 41.15N±0.04×142.56E±0.06, h48km±12km, n32, σ0s97/36, mb3.8/8, 1C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.97**	**27**	↓P	**Pn**	**12 05 39.2**	**-0.4**
JEM				*e*S	**Sn**	**12 05 52.0**	**-0.3**
JANG	**Nango**	**1.11**	**226**	↑P	**Pn**	**12 05 40.7**	**-0.8**
JANG				*e*S	**Sn**	**12 05 54.8**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.14**	**7**	↓P	**Pn**	**12 05 42.1**	**+0.2**
JOT	**Ohata**	**1.17**	**282**	↓P	**Pn**	**12 05 41.8**	**-0.4**
JOT				S	**Sn**	**12 05 56.4**	**-0.6**
JTM	**Tenmabayashi**	**1.19**	**253**	↓P	**Pn**	**12 05 42.7**	**+0.2**
JTM				S	**Sn**	**12 05 57.8**	**+0.3**
JKB	**Kayabe**	**1.37**	**303**	↓P	**Pn**	**12 05 44.4**	**-0.5**
JKB				*e*S	**Sn**	**12 06 01.2**	**-0.7**
JCH	**Churui**	**1.58**	**22**	P	**Pn**	**12 05 47.9**	**0.0**
JCH				*e*S	**Sn**	**12 06 07.8**	**+0.6**
JBT2	**Biratori 2**	**1.64**	**355**	P	**Pn**	**12 05 49.0**	**+0.4**
JSR	**Shiriuchi**	**1.66**	**284**	↓P	**Pn**	**12 05 49.3**	**+0.4**
JSR				*e*S	**Sn**	**12 06 10.0**	**+1.0**
JAH	**Hinai**	**1.75**	**237**	P	**Pn**	**12 05 50.9**	**+0.7**
JAH				S	**Sn**	**12 06 12.9**	**+1.6**
JEW	**Eniwo**	**1.88**	**334**	↓P	**Pn**	**12 05 52.6**	**+0.6**
JEW				*e*S	**Sn**	**12 06 16.1**	**+1.5**
JOM	**Ohasama**	**1.94**	**211**	P	**Pn**	**12 05 53.0**	**+0.3**
JOM				*e*S	**Sn**	**12 06 16.0**	**+0.2**
JFR	**Furan**	**2.01**	**1**	P	**Pn**	**12 05 54.2**	**+0.4**
ASAJ	**Asahikawa**	**2.97**	**0**	P	**Pn**	**12 06 08.2**	**+1.3**
	baz=270,slow=20						
ASAJ				S	**Sn**	**12 06 41.0**	**-0.2**
	baz=234,slow=19						
MJAR	**Matsushiro Arr**	**5.72**	**218**	P	**Pn**	**12 06 47.2**	**+2.5**
	1.4nm,0.3s,baz=33,slow=13,SNR=21						
USRK	**Ussuriysk Ar.**	**8.37**	**295**	P	**Pn**	**12 07 22.9**	**+2.0**
	0.3nm,0.3s,baz=93,slow=15,SNR=5.9						
USRK				LR	LR	12 10 08.5	
	comp=Z,68nm,20.5s,baz=1.4,slow=34						
KSRS	**Korea Array**	**11.93**	**257**	P	Pn	12 08 14.7	+5.2
	0.1nm,0.3s,baz=64,slow=14,SNR=2.9						
SEY	**Seymchan**	**22.59**	**12**	P	**P**	**12 10 16.4**	**-2.0**
	0.7nm,0.5s,baz=219,slow=9.9,SNR=5.2						
SONM	**Songino Array**	**26.47**	**297**	P	**P**	**12 10 54.4**	**-0.5**
	0.8nm,0.6s,baz=76,slow=7.6,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**29.75**	**129**	T	T	12 43 07.7	
	baz=321,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**29.76**	**129**	T	T	12 43 11.7	
	baz=321,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**29.77**	**129**	T	T	12 43 05.8	
	baz=321,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**30.59**	**130**	T	T	12 44 05.6	
	baz=323,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**30.60**	**130**	T	T	12 44 02.6	
	baz=323,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**30.61**	**130**	T	T	12 44 18.6	
	baz=323,slow=76,SNR=18						
ZALV	**Zalesovo Beam**	**39.92**	**309**	P	**P**	**12 12 51.0**	**-0.4**
	2.2nm,0.4s,baz=90,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**42.81**	**299**	P	**P**	**12 13 15.1**	**-0.3**
	1.8nm,0.7s,baz=84,slow=10,SNR=14						
ILAR	**Eielson Array**	**45.57**	**34**	P	**P**	**12 13 38.0**	**+0.9**
	0.6nm,0.6s,baz=263,slow=5.9,SNR=13						
INK	**Inuvik**	**50.34**	**29**	P	**P**	**12 14 15.2**	**+1.4**
	1.3nm,0.5s,baz=303,slow=11,SNR=5.7						
FINES	**FINESS Array B**	**65.61**	**332**	P	**P**	**12 16 00.3**	**-0.5**
	1.3nm,0.7s,baz=42,slow=8.9,SNR=7.6						
NB2	**NORSAR Subarra**	**70.74**	**337**	P	**P**	**12 16 32.6**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**70.74**	**337**	P	**P**	**12 16 32.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=39,slow=6.0,SNR=4.4						

*IDC **26** 12:07:45.9±1.2, 3.50N×126.67E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/51, mbtmp3.7/6, Error ellipse: s-maj=96.4km s-min=18.4km az=71.0*

ISC 26 12:07:52.7±1.0, 3.5N±0.2×126.7E±0.3, h53km, n8, σ0s55/7, mb3.6/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.72**	**342**	Lg	Lg	12 09 42.4	
	23nm,0.3s,baz=227,slow=19,SNR=3.8						
JAY	**Jayapura**	**15.20**	**113**	Pn	**P**	**12 11 28.1**	**-0.1**
	0.0nm,0.3s,baz=270,slow=20,SNR=5.6						
FITZ	**Fitzroy Crossi**	**21.49**	**183**	P	**P**	**12 12 36.5**	**-0.6**
	1.9nm,0.8s,baz=23,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**24.47**	**162**	P	**P**	**12 13 06.5**	**-0.5**
	4.5nm,0.7s,baz=341,slow=10,SNR=28						
ASAR	**Alice Springs**	**27.90**	**166**	P	**P**	**12 13 38.0**	**+0.1**
	0.5nm,0.6s,baz=346,slow=6.9,SNR=15						
STKA	**Stephens Creek**	**37.92**	**159**	P	**P**	**12 15 05.7**	**+0.6**
	1.3nm,0.6s,baz=326,slow=10,SNR=6.1						
SONM	**Songino Array**	**47.51**	**341**	P	**P**	**12 16 22.4**	**-0.4**
	0.2nm,0.4s,baz=142,slow=6.6,SNR=2.7						
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**12 17 38.6**	**+0.4**
	0.5nm,0.7s,baz=110,slow=8.9,SNR=5.2						

*IDC **26** 12:09:19.5±0.6, 3.50N×126.66E, h0km, mb4.1/19, mb1 4.2/19, mb1mx4.0/51, mbtmp4.1/19, Error ellipse: s-maj=30.8km s-min=12.5km az=77.0*
*ISCJB **26** 12:09:24.7±0.3, 3.51N±0.06×126.73E±0.09, h53km, mb4.2/28, Error ellipse: s-maj=14.2km s-min=5.8km az=149.7*
*NEIC **26** 12:09:25.8±1.5, 3.46N×126.54E, h44km±15km, mb4.3/10, Error ellipse: s-maj=12.4km s-min=7.6km az=66.0*

ISC 26 12:09:26.5±0.5, 3.47N±0.08×126.6E±0.1, h53km, n35, σ1s11/35, mb4.2/28, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.73**	**344**	Lg	Lg	12 11 15.8	
	20nm,0.3s,baz=239,slow=23,SNR=6.3						
SIJI	**Sorong**	**6.32**	**133**	Pn	**Pn**	**12 10 57.4**	**+0.3**
	16nm,0.3s,baz=353,slow=17,SNR=3.2						
SIJI				Sn	**Sn**	**12 12 06.9**	**-1.1**
	12nm,0.3s,baz=11,slow=18,SNR=2.2						
FAKI	**Fak Fak**	**8.46**	**138**	*

JMA 26 12:16:32.0 0.1, 38°35N × 142°31E, h30 km △2 km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.76**	**278**	P	Pn	12 16 46.4	-0.3
JIO				S	Sb	12 16 56.2	-0.6
OFUJ	**Ofunato**	**0.89**	**326**	P	Pn	12 16 48.4	0.0
OFUJ				S	Sn	12 16 59.8	-0.4
JMK	**Ichinoseki**	**1.04**	**305**	P	Pn	12 16 50.8	+0.2
JMK				*e*S	Sn	12 17 04.4	+0.3
JMM	**Marumori**	**1.29**	**248**	P	Pn	12 16 53.8	-0.2
JMM				S	Sn	12 17 08.8	-1.4
JOU	**Okura**	**1.29**	**271**	P	Pn	12 16 54.8	+0.8
JOU				S	Sb	12 17 11.2	-0.8
JOM	**Ohasama**	**1.37**	**325**	P	Pn	12 16 55.9	+0.8
JOM				S	Sb	12 17 13.7	-0.6
JFK	**Kawauchi**	**1.50**	**230**	P	Pn	12 16 56.1	-0.8
JFK				S	Sn	12 17 12.8	-2.7
JYK	**Kaneyama**	**1.63**	**291**	P	Pn	12 16 59.6	+1.0
JRG	**Rokugo**	**1.67**	**309**	P	Pb	12 17 01.0	-1.2
JFT	**Otama**	**1.77**	**243**	P	Pn	12 17 01.8	+1.2
JFT				S	Sn	12 17 22.4	+0.4

ISCJB ***26*** *12:16:34.8 0.6, 2°34S × 0°02 × 136°63E × 0°02, h6 km △ 3 km, mb5.8/253, MS6.4/290, Error ellipse: s-maj=3.0km s-min=2.2km az=36.7*

IDC ***26*** *12:16:34.9 0.3, 2°35S × 136°60E, h0 km, mb5.5/39, mb1 5.4/44, mb1mx5.4/48, mbtmp5.4/44, ML4.7/4, MS6.3/26, Ms1 6.3/26, ms1mx6.1/39, Error ellipse: s-maj=13.4km s-min=8.4km az=71.0*

BJI ***26*** *12:16:36.2, 2°35S × 136°65E, h15 km, mb5.7/75, mB6.1/68, Ms6.3/95, Ms7 6.2/84*

MOS ***26*** *12:16:38.8 1.2, 2°35S × 136°65E, h35 km, mb6.2/65, MS6.2/52, Error ellipse: s-maj=7.8km s-min=4.4km az=110.3*

DJA ***26*** *12:16:38.0 0.1, 2°S 2°× 13°7E ± , h10 km, M6.2/54, mb5.9/54, mB6.5/50, Mw(mB)6.2/50, Mwp6.2/16*

NEIC ***26*** *12:16:38.6 0.1, 2°38S × 136°63E, h17 km, mb6.0/165, ME6.5, MS6.4/231, MW6.3, MW6.4, MW6.3, Error ellipse: s-maj=3.7km s-min=3.0km az=65.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.07; $M_{\theta\theta}$=-2.98; $M_{\phi\phi}$=2.91; $M_{r\theta}$=-0.18; $M_{r\phi}$=1.27; $M_{\theta\phi}$=-0.61; Best double couple: M_o3.30000×10^{18} NP1:ϕ_s146.00000°, δ81.00000°, λ173.00000°. NP2:ϕ_s237.00000°, δ83.00000°, λ9.00000°. Principal axes: T 3.3000, Plg11.0000°, Azm102.0000°; N -0.0600, Plg79.0000°, Azm277.0000°; P -3.2400, Plg1.0000°, Azm12.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s234.00000°, δ75.00000°, λ-5.00000°. NP2:ϕ_s325.00000°, δ85.00000°, λ-165.00000°. Principal axes: T Plg7.0000°, Azm98.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm190.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] at Serui and Waren; [IV] at Biak, Nabire and Sarmi; [III] at Timika and Wamena.

GCMT ***26*** *12:16:38.6 0.0, 2°27S × 136°61E, h13 km, MW6.4/147, Moment Tensor Solution. s144, c323; s147, c562; Duration: 3 7 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.19±.02; $M_{\theta\theta}$=-4.17±.02; $M_{\phi\phi}$=3.97±.02; $M_{r\theta}$=-0.06±.04; $M_{r\phi}$=1.30±.02; $M_{\theta\phi}$=0.74±.05; Best double couple: M_o4.33900×10^{18} NP1:ϕ_s323.00000°, δ85.00000°, λ171.00000°. NP2:ϕ_s54.00000°, δ81.00000°, λ5.00000°. Principal axes: T 4.2990, Plg10.0000°, Azm279.0000°; N 0.0750, Plg80.0000°, Azm112.0000°; P -4.3790, Plg2.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***26*** *12:16:39.0 0.0, 2°08S × 137°03E, h11 km, Moment Tensor Solution. s36 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.97; $M_{\theta\theta}$=-3.02; $M_{\phi\phi}$=2.06; $M_{r\theta}$=-0.17; $M_{r\phi}$=1.24; $M_{\theta\phi}$=1.52; Best double couple: M_o3.30000×10^{18} NP1:ϕ_s323.00000°, δ73.00000°, λ151.00000°. NP2:ϕ_s62.00000°, δ62.00000°, λ19.00000°. Principal axes: T 3.2700, Plg32.0000°, Azm280.0000°; N 0.1100, Plg56.0000°, Azm115.0000°; P -3.3700, Plg7.0000°, Azm14.0000°;*

NEIC ***26*** *12:16:54.1 0.0, 2°24S × 136°92E, h10 km, Moment Tensor Solution. s46 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.03; $M_{\theta\theta}$=-3.87; $M_{\phi\phi}$=3.85; $M_{r\theta}$=1.10; $M_{\theta\phi}$=1.56; $M_{r\phi}$=-2.09; Best double couple: M_o4.80000×10^{18} NP1:ϕ_s146.00000°, δ88.00000°, λ151.00000°. NP2:ϕ_s237.00000°, δ61.00000°, λ2.00000°. Principal axes: T 4.8900, Plg22.0000°, Azm97.0000°; N -0.2000, Plg61.0000°, Azm322.0000°; P -4.6900, Plg19.0000°, Azm195.0000°;*

ISC 26 12:16:39.6 0.3, 2°39S × 0°03 × 136°66E × 0°03, h25 km △ 2 km, h25 km:pP-P, n11 15, σ2s 30/1131, mb6.0/265, MS6.4/293, 32C-25D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**2.63**	**289**	P	**Pn**	**12 17 17.9**	**-2.5**
RKPI				S	**Sb**	**12 18 06.8**	**+8.9**
GENI	**Genyem**	**3.51**	**93**	P	**Pn**	**12 17 32.4**	**-0.1**
JAY	**Jayapura**	**4.04**	**92**	Pn	**Pn**	**12 17 38.2**	**-1.7**
	29nm,0.3s,baz=260,slow=22,SNR=463						
JAY				Sn	**Sn**	**12 18 25.1**	**-1.4**
	38nm,0.3s,baz=261,slow=19,SNR=5.6						
JAY	**Jayapura**	**4.04**	**92**	P	**Pn**	**12 17 38.4**	**-1.5**
FAKI	**Fak Fak**	**4.44**	**263**	P	**Pn**	**12 17 44.0**	**-1.3**
FAKI				S	**Sn**	**12 18 38.7**	**+2.5**
FAKI	**Fak Fak**	**4.44**	**263**	*e*Pn	**Pn**	**12 17 46.0**	**+0.6**
SIJI	**Sorong**	**5.60**	**286**	Pn	**Pn**	**12 17 59.4**	**-1.9**
	7.6nm,0.3s,baz=90,slow=24,SNR=14						
SIJI				Sn	**Sn**	**12 19 04.5**	**-0.4**
	17nm,0.3s,baz=90,slow=20,SNR=2.1						
SWI	**Sorong**	**5.61**	**286**	P	**Pn**	**12 17 59.7**	**-1.7**
BNDI	**Bandanaira**	**7.07**	**252**	P	**Pn**	**12 18 22.5**	**+1.0**
BNDI				S	**Sn**	**12 19 41.6**	**+0.5**
MMPI	**Merauke**	**7.08**	**149**	P	**Pn**	**12 18 24.3**	**+2.6**
MMPI				S	**Sn**	**12 19 45.7**	**+4.3**
SAUI	**Saumlaki**	**7.71**	**224**	P	Pn	12 18 38.2	+8.0
SAUI	**Saumlaki**	**7.71**	**224**	*e*Pn	**Pn**	**12 18 33.9**	**+3.7**
MSAI	**Masohi**	**7.78**	**263**	P	**Pn**	**12 18 32.2**	**+0.9**
MSAI				S	**Sn**	**12 20 00.5**	**+1.9**
PALU	**Palau**	**9.91**	**347**	P	**Pn**	**12 18 59.9**	**-0.6**
	baz=10.0,SNR=13						
I39PW	**PALAU INFRASON**	**10.08**	**348**	*i*		13 20 20.0	
	baz=165,slow=303,SNR=9.7						
SANI	**Sanana**	**10.67**	**272**	P	**Pn**	**12 19 07.3**	**-3.6**
SANI				S	**Sn**	**12 21 04.7**	**-5.0**
MANU	**Manus Island**	**10.70**	**88**	*e*Pn	**Pn**	**12 19 11.3**	**-0.1**
KDU	**Kakadu**	**11.04**	**202**	P	**Pn**	**12 19 14.8**	**-1.1**
	baz=11,SNR=52						
MTN	**Manton Dam**	**11.74**	**207**	P	**Pn**	**12 19 26.3**	**+0.7**
	baz=12,SNR=125						
MTN	**Manton Dam**	**11.74**	**207**	*e*Pn	**Pn**	**12 19 27.0**	**+1.4**
PMG	**Port Moresby**	**12.55**	**124**	Pn	**Pn**	**12 19 37.5**	**+0.8**
	3.8nm,0.3s,baz=310,slow=8.9,SNR=14						
PMG				LR	LR	12 25 13.5	
	comp=Z,238μm,21.3s,baz=306,slow=41						
PMG	**Port Moresby**	**12.55**	**124**	*c iP*	**Pn**	**12 19 35.4**	**-1.3**
PMG	**Port Moresby**	**12.55**	**124**	*e*Pn	**Pn**	**12 19 37.9**	**+1.3**
SGSI	**Sangihe**	**12.66**	**298**	P	**Pn**	**12 19 38.0**	**-0.1**
KMSI	**Cibinong**	**13.01**	**283**	P	**Pn**	**12 19 41.2**	**-1.8**
	2μm,1.3s,24μm176μm						
COEN	**Coen**	**13.17**	**151**	P	**Pn**	**12 19 43.7**	**-1.5**
	baz=13,SNR=143						
COEN	**Coen**	**13.17**	**151**	*e*Pn	**Pn**	**12 19 43.6**	**-1.5**
LUWI	**Luwuk**	**13.95**	**275**	P	**Pn**	**12 19 53.5**	**-2.2**
LUWI	**Luwuk**	**13.95**	**275**	*e*Pn	**Pn**	**12 19 53.4**	**-2.4**
KDI	**Kendari**	**14.11**	**263**	P	**Pn**	**12 19 57.5**	**-0.4**
	597nm,1.1s,20μm118μm						
SOEI	**Soe**	**14.33**	**239**	P	**Pn**	**12 19 59.4**	**-1.6**
SOEI	**Soe**	**14.33**	**239**	*e*Pn	**Pn**	**12 20 00.9**	**-0.1**
DAV	**Davao City (W)**	**14.51**	**310**	Pn	**Pn**	**12 20 03.4**	**-0.1**
	23nm,0.3s,baz=120,slow=10,SNR=5.8						
DAV	**Davao City (W)**	**14.51**	**310**	*e*P	**Pn**	**12 20 04.3**	**+0.9**
DAV	**Davao City (W)**	**14.51**	**310**	*e*S	**S**	**12 23 02.0**	**-0.8**
DAV	**Davao City (W)**	**14.51**	**310**	P	**Pn**	**12 20 06.1**	**+2.6**
	SNR=41						
DAV	**Davao City (W)**	**14.51**	**310**	Pn	**Pn**	**12 20 06.1**	**+2.6**
	SNR=41						
DAV	**Davao City (W)**	**14.51**	**310**	*e*Pn	**Pn**	**12 20 05.6**	**+2.1**
MRSI	**Marisa**	**14.99**	**281**	P	**Pn**	**12 20 07.2**	**-2.7**
BUKP	**Musuan**	**15.42**	**312**	*e*P	**Pn**	**12 20 15.6**	**-0.1**
RABL	**Rabaul**	**15.58**	**97**	*e*Pn	**Pn**	**12 20 17.0**	**-0.7**
	942nm,0.8s						
MMRI	**Maumere**	**15.63**	**246**	P	**P**	**12 20 22.0**	**-0.3**
MMRI	**Maumere**	**15.63**	**246**	*e*Pn	**P**	**12 20 21.3**	**-1.1**
	2μm,1.3s						
CTBH	**Cotabato--PC H**	**15.64**	**308**	*e*P	**Pn**	**12 20 19.9**	**+1.4**
CGP	**Cagayan de Oro**	**16.07**	**312**	*e*P	**P**	**12 20 27.6**	**+0.3**
BSSI	**Bau Bau, Buton**	**16.55**	**256**	P	**P**	**12 20 31.4**	**-1.1**
	1μm,2.2s,30μm84μm						
PAGZ	**Pagadian**	**16.70**	**308**	*e*P	**Pn**	**12 20 29.2**	**-2.8**
TTSI	**Tana Toraja**	**16.84**	**267**	P	**Pn**	**12 20 33.9**	**+0.2**
PCI	**Palu**	**16.88**	**275**	P	**Pn**	**12 20 34.9**	**+0.6**
	1μm,1.6s,31μm100μm						
SPSI	**Sidrap Palu**	**16.94**	**264**	P	**Pn**	**12 20 35.5**	**+0.5**
KAPI	**Kappang**	**17.07**	**261**	Pn	**Pn**	**12 20 37.1**	**+0.4**
	3.6nm,0.3s,baz=79,slow=6.1,SNR=17						
KAPI	**Kappang**	**17.07**	**261**	*e*Pn	**P**	**12 20 38.1**	**-0.2**
	505nm,1.0s						
MTSU	**Mount Surprise**	**17.36**	**155**	P	**Pn**	**12 20 39.7**	**-0.5**
	baz=18,SNR=61						
WRAB	**Tennant Creek**	**17.58**	**187**	*d iP*	**Pn**	**12 20 42.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,3μm,1.1s						
WRAB	**Tennant Creek**	**17.58**	**187**	*e*Pn	**Pn**	**12 20 40.6**	**-2.5**
	comp=Z,2μm,1.1s						
WB2	**Warramunga Arr**	**17.59**	**187**	*e*Pn	**Pn**	**12 20 42.2**	**-1.0**
	comp=Z,2μm,1.3s						
WRA	**Warramunga Arr**	**17.59**	**187**	P	**Pn**	**12 20 38.1**	**-5.0**
	comp=Z,2.2nm,0.3s,baz=4.2,slow=13,SNR=38						
WRA				S	**Sn**	**12 23 49.1**	**-9.4**
	comp=Z,27nm,0.3s,baz=8.3,slow=22,SNR=5.4						
WRA				LR	LR	12 28 18.3	
	comp=Z,272μm,18.1s,baz=5.0,slow=40						
WC3	**Warramunga Arr**	**17.61**	**187**	*e*Pn	**Pn**	**12 20 43.6**	**+0.3**
	comp=Z,1μm,1.0s						
SNPH	**Sibulan**	**17.74**	**311**	*e*P	**Pn**	**12 20 43.7**	**-1.4**
BASI	**Baing, Sumba**	**17.77**	**243**	P	**P**	**12 20 47.8**	**+1.8**
PLP	**Palo**	**17.79**	**319**	*e*P	**Pn**	**12 20 43.8**	**-1.8**
WSI	**Waingapu**	**17.80**	**245**	P	**P**	**12 20 46.7**	**+0.4**
BESP	**Borongan**	**17.82**	**321**	*e*P	**Pn**	**12 20 45.8**	**-0.2**
GUMO	**Guam**	**17.84**	**27**	P	**P**	**12 20 47.4**	**+0.7**
	comp=Z,5.4nm,0.3s,baz=159,slow=6.8,SNR=6.6						
GUMO				LR	LR	12 27 29.0	
	comp=Z,59μm,18.6s,baz=210,slow=37						
GUMO	**Guam**	**17.84**	**27**	*e*P	**Pn**	**12 20 46.0**	**-0.2**
GUMO				pmax	pmax		
	comp=Z,1μm,1.3s						
GUMO	**Guam**	**17.84**	**27**	*e*Pn	**Pn**	**12 20 46.0**	**-0.2**
	comp=Z,1μm,1.3s						
FITZ	**Fitzroy Crossi**	**18.99**	**214**	P	**P**	**12 20 56.9**	**-2.6**
	comp=Z,1.6nm,0.3s,baz=41,slow=12,SNR=43						
FITZ				S	**Sn**	**12 24 23.8**	**-8.6**
	comp=Z,20nm,0.3s,baz=96,slow=16,SNR=3.4						
FITZ	**Fitzroy Crossi**	**18.99**	**214**	P	**P**	**12 20 57.7**	**-1.7**
	baz=19,SNR=198						
FITZ	**Fitzroy Crossi**	**18.99**	**214**	*e*P	**P**	**12 20 57.9**	**-1.6**
	comp=Z,588nm,1.1s						
FITZ				S	**Sn**	**12 24 23.8**	**-8.6**
GUIM	**Jordan**	**19.06**	**313**	*e*P	**P**	**12 20 59.2**	**-1.1**
GUIM				*e*S	**Sn**	**12 24 32.9**	**-1.2**
RCP	**Roxas**	**19.58**	**315**	*e*P	**P**	**12 21 06.1**	**+0.1**
JAP	**San Jose, Anti**	**19.61**	**312**	*e*P	**P**	**12 21 06.2**	**0.0**
MYLDM	**Lahad Datu**	**19.64**	**293**	*e*P	**Pn**	**12 21 10.3**	**+2.2**
MYLDM	**Lahad Datu**	**19.64**	**293**	*e*P	**P**	**12 21 06.5**	**-0.1**
	comp=Z,3μm,1.5s						
BKB	**Balikpapan**	**19.79**	**273**	P	**Pn**	**12 21 10.4**	**+0.6**
PLAI	**Plampang**	**19.84**	**250**	P	**P**	**12 21 08.4**	**-0.4**
TSM	**Tawau**	**19.91**	**289**	*e*P	**Pn**	**12 21 11.9**	**+0.6**
CTA	**Charters Tower**	**19.93**	**153**	P	**P**	**12 21 08.7**	**-1.1**
	comp=Z,4.7nm,0.3s,baz=331,slow=12,SNR=18						
CTA				S	**Sn**	**12 24 54.8**	**-0.2**
	comp=Z,4.5nm,0.3s,baz=255,slow=20,SNR=3.2						
CTA				Lg	Lg	12 27 10.7	
	comp=Z,2.0nm,0.3s,baz=246,slow=20,SNR=2.0						
CTAO	**Charters Tower**	**19.93**	**153**	*e*P	**P**	**12 21 10.0**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,650nm,1.0s						
CTAO	**Charters Tower**	**19.93**	**153**	*e*P	**P**	**12 21 10.0**	**+0.3**
	comp=Z,648nm,1.0s						
PVCP	**Virac**	**20.15**	**322**	*e*P	**P**	**12 21 09.8**	**-2.3**
PVCP				*e*S	Sn	12 25 04.2	+3.8
CUYO	**Cuyo Island**	**20.38**	**310**	*e*P	**P**	**12 21 13.1**	**-1.5**
OTRP	**Odiongan**	**20.65**	**316**	*e*P	**P**	**12 21 15.5**	**-2.0**
ANAJ	**Anatiban**	**20.65**	**25**	*e*P	**P**	**12 21 18.2**	**+0.7**
TWSI	**Taliwang, Sumb**	**20.66**	**251**	P	**P**	**12 21 17.7**	**0.0**
SARN	**Sarigan**	**21.00**	**25**	*e*P	**P**	**12 21 20.6**	**-0.7**
SDKM	**Sandakan**	**21.02**	**292**	P	**P**	**12 21 22.2**	**+0.6**
AS01	**Alice Springs**	**21.31**	**187**	*e*P	**P**	**12 21 24.8**	**+0.1**
AS31	**Alice Springs**	**21.32**	**187**	*e*P	**P**	**12 21 24.5**	**-0.2**
	comp=Z,360nm,0.8s						
AS31				LR	LR		
	comp=Z,3μm,21.0s						
ASAR	**Alice Springs**	**21.32**	**187**	P	**P**	**12 21 23.6**	**-1.2**
	comp=Z,215nm,0.7s,baz=10,slow=9.9,SNR=381						
ASAR				S	**S**	**12 25 22.0**	**+1.5**
	comp=Z,322nm,1.0s,baz=8.6,slow=26,SNR=7.4						
ASAR				LR	LR	12 30 26.0	
	comp=Z,218μm,21.4s,baz=10.0,slow=39						
SJMP	**San Jose**	**21.35**	**314**	*e*P	**P**	**12 21 25.6**	**+0.5**
GQP	**Guinayangan**	**21.46**	**319**	*e*P	**P**	**12 21 24.1**	**-2.2**
BUSP	**Coron**	**21.73**	**312**	*e*P	**P**	**12 21 27.9**	**-1.3**
MTKI	**Muara Teweh, K**	**21.80**	**273**	P	**P**	**12 21 32.4**	**+2.4**
BBKI	**Banjar Baru**	**21.82**	**267**	P	**P**	**12 21 33.0**	**+2.8**
ENPP	**El Nido**	**21.82**	**309**	*e*P	**P**	**12 21 28.9**	**-1.3**
BATP	**Bataraza**	**21.84**	**301**	*e*P	**P**	**12 21 27.6**	**-2.7**
BATP				*e*S	Sn	12 25 38.4	-2.7
KDM	**Kudat**	**21.84**	**295**	P	P	12 21 38.1	+7.7
KKM	**Kota Kinabalu**	**22.07**	**292**	*e*P	**P**	**12 21 34.1**	**+1.1**
	comp=Z,561nm,1.2s						
KKM				LR	LR		
	comp=Z,39μm,21.0s						
SRBI	**Singaraja**	**22.09**	**254**	P	**P**	**12 21 34.9**	**+1.9**
LQP	**Lukban**	**22.21**	**318**	*e*P	**P**	**12 21 30.8**	**-3.8**
DNP	**Denpasar**	**22.23**	**253**	P	**P**	**12 21 36.3**	**+1.7**
TGY	**Tagaytay City**	**22.61**	**317**	P	**P**	**12 21 39.3**	**+0.6**
	comp=Z,1μm,1.3s,baz=149,slow=3.0,SNR=14						
TGY				LR	LR	12 30 46.0	
	comp=Z,60μm,21.9s,baz=130,slow=38						
LUBP	**Lubang**	**22.84**	**315**	*e*P	**P**	**12 21 39.0**	**-2.0**
LUBP				*e*S	**S**	**12 25 46.4**	**-2.8**
ABJI	**Asem Bagus**	**22.97**	**256**	P	**P**	**12 21 44.4**	**+2.0**
JAGI	**Jajag, Banyuwa**	**23.20**	**254**	P	**P**	**12 21 43.8**	**-1.0**
JAGI	**Jajag, Banyuwa**	**23.20**	**254**	*e*P	**P**	**12 21 42.8**	**-2.0**
	comp=Z,579nm,1.1s						
JAGI				LR	LR		
	comp=Z,46μm,20.0s						
BALP	**Baler**	**23.39**	**321**	*e*P	**P**	**12 21 45.8**	**-0.8**
PATS	**Pohnpei**	**23.48**	**67**	P	**P**	**12 21 47.3**	**-0.2**
	baz=24,SNR=3.7						
PATS	**Pohnpei**	**23.48**	**67**	*e*P	**P**	**12 21 47.6**	**+0.1**
	comp=Z,801nm,1.3s						
PATS				LR	LR		
	comp=Z,119μm,19.0s						
PCPH	**Palayan**	**23.56**	**320**	*e*P	**P**	**12 21 47.6**	**-0.7**
GMJI	**Gumukmas**	**23.83**	**255**	P	**P**	**12 21 49.3**	**-1.7**
CAUP	**Cauayan**	**24.16**	**323**	*e*P	**P**	**12 21 52.3**	**-1.6**
HNR	**Honiara**	**24.18**	**108**	P	**P**	**12 21 52.7**	**-1.5**
	comp=Z,296nm,0.8s,baz=187,slow=4.3,SNR=24						
HNR				LR	LR	12 31 47.2	
	comp=Z,57μm,21.1s,baz=276,slow=38						
HNR	**Honiara**	**24.18**	**108**	*e*P	**P**	**12 21 53.0**	**-1.2**
HNR				*e*S	**S**	**12 26 04.0**	**-7.2**
HNR	**Honiara**	**24.18**	**108**	*e*P	**P**	**12 21 52.7**	**-1.5**
HNR				pmax	pmax		
	comp=Z,1μm,0.9s						
HNR	**Honiara**	**24.18**	**108**	*e*P	**P**	**12 21 52.7**	**-1.5**
	comp=Z,1μm,0.9s						
BWJI	**Bawean**	**24.18**	**261**	P	**P**	**12 21 57.1**	**+2.9**
BTM	**Bintulu**	**24.21**	**283**	P	**P**	**12 21 56.0**	**+1.4**
GRJI	**Gresik**	**24.51**	**259**	P	**P**	**12 21 59.5**	**+2.3**
MBWA	**Marble Bar**	**24.90**	**220**	P	**P**	**12 22 00.9**	**+0.2**
	SNR=54						
MBWA				P	**P**	**12 22 00.9**	**+0.2**
	SNR=54						
MBWA	**Marble Bar**	**24.90**	**220**	P	**P**	**12 22 00.9**	**+0.2**
	SNR=54						
MBWA	**Marble Bar**	**24.90**	**220**	*e*P	**P**	**12 22 01.4**	**+0.8**
	comp=Z,507nm,0.9s						
MBWA				LR	LR		
	comp=Z,90μm,21.0s						
SBUM	**Sibu**	**24.90**	**281**	P	**P**	**12 22 02.4**	**+1.6**
SBUM	**Sibu**	**24.90**	**281**	*e*P	**P**	**12 22 01.2**	**+0.4**
	comp=Z,195nm,0.9s						
BOLP	**Bolinao**	**24.93**	**319**	*e*P	**P**	**12 21 59.9**	**-1.1**
PBKI	**Pangkalan Bun**	**24.97**	**269**	P	**P**	**12 22 01.8**	**+0.4**
QLP	**Quilpie**	**25.13**	**164**	P	**P**	**12 22 01.3**	**-1.3**
	baz=25,SNR=88						
APYP	**Conner**	**25.22**	**324**	*e*P	**P**	**12 22 01.4**	**-2.1**
STKI	**Sintang**	**25.29**	**275**	P	**P**	**12 22 04.9**	**+0.6**
	comp=Z,254nm,1.1s,comp=Z,17μm						
PWJI	**Pagerwojo**	**25.37**	**256**	P	**P**	**12 22 04.6**	**-0.4**
ABRA	**Dolores**	**25.37**	**322**	*e*P	**P**	**12 22 02.0**	**-2.9**
NGJI	**Ngawi**	**25.58**	**258**	P	**P**	**12 22 09.9**	**+3.0**
PCJI	**Pacitan**	**26.01**	**256**	P	**P**	**12 22 10.8**	**0.0**
KSM	**Kuching**	**26.62**	**278**	P	**P**	**12 22 16.4**	**0.0**
KSM	**Kuching**	**26.62**	**278**	*e*P	**P**	**12 22 16.1**	**-0.4**
	comp=Z,494nm,1.4s						
KSM				LR	LR		
	comp=Z,41μm,20.0s						
RMQ	**Roma**	**26.63**	**155**	P	**P**	**12 22 17.7**	**+1.5**
	baz=27,SNR=58						
EIDS	**Eidsvold**	**26.74**	**150**	P	**P**	**12 22 18.7**	**+1.5**
	baz=27,SNR=54						
EIDS	**Eidsvold**	**26.74**	**150**	*e*P	**P**	**12 22 18.8**	**+1.5**
	comp=Z,631nm,1.3s						
EIDS				LR	LR		
	comp=Z,128μm,21.0s						
KPJI	**Karang Pucung**	**28.05**	**259**	P	**P**	**12 22 29.4**	**+0.2**
JCJI	**Jatiwangi**	**28.59**	**261**	P	P	12 22 43.9	+10
CMJI	**Cimerak**	**28.60**	**258**	P	**P**	**12 22 36.6**	**+2.5**
CISI	**Cisompet, Garu**	**29.18**	**259**	P	**P**	**12 22 38.5**	**-0.8**
CISI	**Cisompet, Garu**	**29.18**	**259**	*e*P	**P**	**12 22 41.0**	**+1.7**
	comp=Z,482nm,1.0s						
CISI				LR	LR		
	comp=Z,44μm,22.0s						
LEM	**Lembang**	**29.27**	**260**	P	P	12 22 46.0	+5.7
TWG	**Pinlang**	**29.31**	**330**	PFAKE		12 22 50.0	+10
TWG				LR	LR		
	comp=Z,101μm,20.0s						
GIRL	**Giralia**	**29.65**	**225**	P	**P**	**12 22 43.1**	**-0.2**
	baz=30,SNR=12						
YULB	**Yu-li**	**29.68**	**331**	*e*P	**P**	**12 22 45.1**	**+1.6**
	comp=Z,36nm,0.8s						
YULB				LR	LR		
	comp=Z,34μm,20.0s						
STKA	**Stephens Creek**	**29.70**	**172**	P	**P**	**12 22 41.4**	**-2.2**
	comp=Z,72nm,0.8s,baz=342,slow=8.5,SNR=60						
STKA				PP	**PnPn**	**12 23 32.0**	**-7.4**
	comp=Z,77nm,0.6s,baz=325,slow=9.7,SNR=4.3						
STKA				LR	LR	12 37 13.0	
	comp=Z,99μm,18.0s,baz=343,slow=42						
STKA	**Stephens Creek**	**29.70**	**172**	*e*P	**P**	**12 22 42.7**	**-0.9**
	comp=Z,44nm,1.0s						
STKA				PP	**PnPn**	**12 23 32.0**	**-7.4**
CBIJ	**Chichi jima**	**29.79**	**10**	PFAKE		12 23 00.0	+16
CBIJ				LR	LR		
	comp=Z,40μm,21.0s						
YOJ	**Yonaguni jima**	**29.80**	**334**	*e*P	**P**	**12 22 45.4**	**+0.8**
YOJ				pmax	pmax		
	comp=Z,300nm,1.3s						
YOJ	**Yonaguni jima**	**29.80**	**334**	*e*P	**P**	**12 22 45.4**	**+0.8**
	comp=Z,298nm,1.3s						
YOJ				LR	LR		
	comp=Z,45μm,20.0s						
CNJI	**Cibinong**	**29.82**	**260**	P	**P**	**12 22 44.5**	**-0.4**
TPUB	**Ta-pu**	**29.93**	**329**	*e*P	**P**	**12 22 45.7**	**-0.1**
	comp=Z,41nm,0.8s						
TPUB				LR	LR		
	comp=Z,22μm,20.0s						
CBJI	**Citeko**	**29.98**	**261**	P	P	12 22 51.6	+5.2
	comp=Z,324nm,0.8s,comp=Z,20μm						
JOW	**Kunigami**	**30.16**	**345**	*e*P	**P**	**12 22 47.6**	**-0.1**
	comp=Z,913nm,1.7s						
JOW				LR	LR		
	comp=Z,49μm,20.0s						
SSLB	**Suanglung**	**30.18**	**330**	*e*P	**P**	**12 22 48.1**	**+0.1**
	comp=Z,83nm,1.1s						
SSLB				LR	LR		
	comp=Z,44μm,20.0s						
NACB	**Ninganchiao**	**30.20**	**332**	*e*P	**P**	**12 22 48.1**	**0.0**
	comp=Z,202nm,1.1s						
NACB				LR	LR		
	comp=Z,32μm,20.0s						
CMSA	**Cobar Meteorol**	**30.22**	**165**	P	**P**	**12 22 47.9**	**-0.3**
	baz=30,SNR=98						
BBOO	**Buckleboo**	**30.27**	**181**	*e*P	**P**	**12 22 47.1**	**-1.5**
	comp=Z,192nm,0.9s						
BBOO		

baz=34,SNR=167
ARPS Mount Arapiles 34.55 173 P **P** **12 23 25.2 -0.8**
baz=35,SNR=29
CAN Canberra 34.71 162 *e*P **P** **12 23 27.7 +0.1**
CAN pmax pmax
comp=Z,190nm,1.0s
CAN Canberra 34.71 162 *e*P **P** **12 23 27.7 +0.1**
comp=Z,195nm,1.0s
CAN LR LR
comp=Z,115µm,20.0s
CNB Canberra Magne 34.82 162 P **P** **12 23 29.4 +0.8**
baz=35,SNR=24
DZM Mont Dzumac 34.93 126 *e*P **P** **12 23 30.1 +0.4**
comp=Z,290nm,1.7s
DZM *e*S **S** **12 28 54.5 -5.6**
comp=Z,21µm,25.1s
DZM *e*LQ LQ 12 31 10.1
comp=Z,43µm,31.8s
DZM *e*LR LR 12 32 42.6
comp=Z,235µm,25.4s
DZM Mont Dzumac 34.93 126 P **P** **12 23 30.4 +0.7**
comp=Z,24nm,1.0s,baz=321,slow=8.5,SNR=10
DZM LR LR 12 38 10.4
comp=Z,60µm,21.2s,baz=304,slow=37
DZM Mont Dzumac 34.93 126 *e*P **P** **12 23 30.8 +1.1**
comp=Z,363nm,1.7s
NWAO Narrogin (SRO) 35.43 209 P **P** **12 23 32.4 -1.4**
comp=Z,110nm,0.9s,baz=306,slow=8.7,SNR=23
NWAO LR LR 12 38 43.3
comp=Z,62µm,20.6s,baz=276,slow=38
NWAO Narrogin (SRO) 35.43 209 P **P** **12 23 33.3 -0.4**
baz=36,SNR=16
NWAO Narrogin (SRO) 35.43 209 *e*P **P** **12 23 33.6 -0.1**
NWAO pmax pmax
comp=Z,190nm,0.9s
NWAO Narrogin (SRO) 35.43 209 P **P** **12 23 33.7 -0.1**
SNR=8.7
NWAO P **P** **12 23 33.7 -0.1**
SNR=8.7
NWAO Narrogin (SRO) 35.43 209 P **P** **12 23 33.7 -0.1**
SNR=8.7
NWAO Narrogin (SRO) 35.43 209 *e*P **P** **12 23 33.6 -0.1**
comp=Z,185nm,0.8s
JHJ2 Mitsune 35.44 5 PFAKE
JHJ2 LR LR 12 23 50.0 +16
comp=Z,54µm,21.0s
JHJ Hachijo jima 2 35.44 5 LR LR 12 35 32.1
comp=Z,49µm,19.1s,baz=176,slow=32
UBPT Khong Chiam 35.51 301 P **P** **12 23 32.6 -2.0**
comp=Z,299nm,1.0s,comp=Z,4µm
BKNI Bangkinang 35.71 274 P **P** **12 23 36.1 -0.4**
comp=Z,408nm,1.0s,comp=Z,7µmcomp=Z,22µm
BKNI Bangkinang 35.71 274 *e*P **P** **12 23 36.1 -0.4**
comp=Z,411nm,1.0s
BKNI LR LR
comp=Z,28µm,21.0s
JNU Nakatsue 35.74 352 P **P** **12 23 34.8 -1.6**
comp=Z,71nm,0.8s,baz=151,slow=4.9,SNR=26
JNU LR LR 12 37 10.8
comp=Z,36µm,19.5s,baz=148,slow=35
JNU Nakatsue 35.74 352 *e*P **P** **12 23 36.5 0.0**
comp=Z,279nm,1.2s
LHI Lord Howe Isla 35.86 146 P **P** **12 23 38.4 +0.9**
baz=36,SNR=12
LHI Lord Howe Isla 35.86 146 *e*P **P** **12 23 36.9 -0.6**
comp=Z,583nm,1.5s
LHI LR LR
comp=Z,49µm,20.0s
TOO Toolangi 35.94 168 P **P** **12 23 39.5 +1.4**
baz=36,SNR=22
PDSI Padang 36.21 272 P **P** **12 23 40.1 -0.7**
comp=Z,166nm,1.3s
IPM Ipoh 36.26 281 ⇓P **P** **12 23 41.3 +0.1**
IPM Ipoh 36.26 281 *e*P **P** **12 23 39.9 -1.3**
comp=Z,134nm,1.1s
IPM LR LR
comp=Z,26µm,20.0s
MILA Mila 36.37 163 P **P** **12 23 41.8 0.0**
baz=36,SNR=18
SSE Sheshan 36.41 337 P **P** **12 23 41.5 -0.7**
SSE S **S** **12 29 25.5 +3.1**
SSE PMZ
comp=Z,95nm,1.3s
SSE PMZ
comp=Z,490nm,4.3s
SSE LN
comp=Z,30µm,24.2s
SSE LE
comp=Z,47µm,23.8s
SSE LZ
comp=Z,35µm,26.3s
TARA Tarawa 36.44 85 *e*P **P** **12 23 42.5 -0.2**
comp=Z,310nm,1.1s
TARA LR LR
comp=Z,58µm,21.0s
KULM Kulim 36.77 282 *e*P **P** **12 23 44.2 -1.3**
comp=Z,106nm,1.0s
KULM LR LR
comp=Z,12µm,21.0s
RKGY Rocky Gully 36.93 208 P **P** **12 23 47.2 +0.6**
baz=37,SNR=15
SKLT Songkhla 37.20 285 P P 12 23 55.8 +6.6
MNSI Mandailing Nat 37.21 274 P **P** **12 23 48.3 -0.9**
comp=Z,206nm,0.8s,comp=Z,4µm
INU Inuyama 37.54 0 *e*P **P** **12 23 52.1 +0.4**
comp=Z,117nm,1.4s
INU LR LR
comp=Z,35µm,19.0s
SKNT Sakolnakorn 37.55 302 P **P** **12 23 50.1 -2.0**
comp=Z,596nm,0.9s,comp=Z,6µm
SRAK Srakaew 37.99 296 P P 12 23 49.8 -6.0
PSI Prapat 38.07 278 *e*P **P** **12 23 55.0 -1.7**
PSI pmax pmax
comp=Z,280nm,1.1s
PSI Prapat 38.07 278 *e*P **P** **12 23 55.0 -1.7**
comp=Z,281nm,1.1s
PSI LR LR
comp=Z,19µm,22.0s
NJ2 Nanjing 38.19 335 *e*P **P** **12 23 56.5 -0.8**
NJ2 pP **pP** **12 24 02.8 -2.1**
NJ2 S **S** **12 29 47.5 -1.9**
NJ2 PMZ
comp=Z,97nm,0.7s
NJ2 PMZ
comp=Z,4µm,4.8s
NJ2 LN
comp=Z,25µm,19.5s
NJ2 LE
comp=Z,27µm,19.5s
NJ2 LZ
comp=Z,37µm,23.6s
TRTT Trang 38.25 286 P **P** **12 23 57.4 -0.7**
comp=Z,220nm,1.3s,comp=Z,4µm
KHON Khomkaen 38.26 300 P **P** **12 23 56.8 -1.2**
comp=Z,125nm,0.9s,comp=Z,879nm
TSI Tuntungan 38.52 279 P **P** **12 23 58.1 -2.3**
comp=Z,454nm,0.9s,comp=Z,8µm
SURA Surathani 38.65 288 P **P** **12 24 01.8 +0.4**
comp=Z,86nm,1.5s,comp=Z,2µm
MJAR Matsushiro Arr 38.76 2 P **P** **12 23 59.9 -2.1**
comp=Z,24nm,0.7s,baz=178,slow=7.1,SNR=44
MJAR PcP **PcP** **12 26 13.5 +0.1**
comp=Z,12nm,0.8s,baz=163,slow=3.0,SNR=5.3
MJAR LR LR 12 37 36.9
comp=Z,37µm,20.2s,baz=185,slow=33
MAJO Matsushiro 38.76 2*ce*P **P** **12 24 01.4 -0.6**
MAJO pmax pmax
comp=Z,315nm,0.8s
MAJO Matsushiro 38.76 2 *e*P **P** **12 24 02.0 0.0**
comp=Z,66nm,0.9s
MAJO LR LR
comp=Z,39µm,20.0s
MAT Matsushiro 38.76 2 P **P** **12 23 59.8 -2.2**
MAT S **S** **12 30 03.8 +5.9**
MJB9 Matsu-Tunnel 38.76 2 *e*P **P** **12 24 01.4 -0.7**
comp=Z,17nm,0.9s
MJB9 *e*S **S** **12 29 59.0 +1.0**
MJB9 LR LR
comp=Z,10µm,20.0s
CHAI Chaiyaphum 38.80 299 P **P** **12 24 00.9 -1.7**
comp=Z,36nm,1.0s,comp=Z,335nm
WHN Wuhan 39.06 329 P **P** **12 24 04.5 0.0**
WHN S **S** **12 30 04.3 +1.8**
WHN PMZ
comp=Z,7µm,3.4s
WHN LN
comp=Z,23µm,15.2s
WHN LE
comp=Z,43µm,16.9s
WHN LZ
comp=Z,47µm,20.0s
GSI Gunungsitoli 39.25 275 P **P** **12 24 05.7 -0.8**
comp=Z,272nm,1.1s,comp=Z,5µm
GSI Gunungsitoli 39.25 275 *e*P **P** **12 24 06.3 -0.2**
comp=Z,325nm,1.1s
GSI LR LR
comp=Z,36µm,22.0s
KCSI Kotacane, Aceh 39.31 278 P **P** **12 24 05.9 -1.1**
comp=Z,265nm,1.0s,comp=Z,5µm
SURT Suratani 39.39 287 P **P** **12 24 11.3 +3.7**
comp=Z,77nm,0.9s,comp=Z,1µm
TJN Taejon 39.53 348 *i* P **P** **12 24 07.4 -1.0**
PKDT Phuket 39.57 285 P **P** **12 24 12.7 +3.6**
comp=Z,197nm,1.5s,comp=Z,5µm
PHET Kaeng Krachan 39.78 293 P **P** **12 24 10.8 0.0**
comp=Z,42nm,1.0s,comp=Z,393nm
NFK Norfolk Island 39.85 135 P **P** **12 24 11.4 +0.2**
baz=40,SNR=4.7
TPTI 39.86 278 P **P** **12 24 10.7 -0.8**
PBKT Sadao Pong 39.96 299 P **P** **12 24 11.2 -1.1**
comp=Z,91nm,1.3s,comp=Z,2µm
LOEI Loei 40.11 301 P **P** **12 24 08.8 -4.8**
LHMI Lhok Sumawe 40.39 281 P **P** **12 24 17.2 +1.3**
comp=Z,864nm,1.1s,comp=Z,9µmcomp=Z,23µm
LHMI Lhok Sumawe 40.39 281 *e*P **P** **12 24 15.6 -0.4**
comp=Z,786nm,1.0s
KS15 Wonju Array Si 40.46 349 *e*P **P** **12 24 19.2 +3.1**
KSAR Wonju Array Be 40.46 349 P **P** **12 24 14.9 -1.2**
KSAR 12 26 20.1
KSAR Wonju Array Be 40.46 349 P **P** **12 24 14.8 -1.2**
KSAR PcP **PcP** **12 26 20.1 +1.4**
KSRS Korea Array 40.46 349 P **P** **12 24 14.8 -1.3**
comp=Z,22nm,0.9s,baz=170,slow=9.1,SNR=16
KSRS PcP **PcP** **12 26 20.1 +1.4**
comp=Z,19nm,0.8s,baz=184,slow=3.5,SNR=8.8
KSRS LR LR 12 39 01.4
comp=Z,30µm,21.6s,baz=169,slow=33
KS01 Wonju Array Si 40.49 349 *e*P **P** **12 24 17.0 +0.6**
COCO West Island 40.63 254 PFAKE
COCO LR LR 12 24 30.0 +12
comp=Z,21µm,21.0s
SRDT SRDT 40.74 295 P **P** **12 24 19.2 +0.4**
comp=Z,309nm,1.9s,comp=Z,8µm
INCN Inchon 40.75 348 PFAKE 12 24 30.0 +11
INCN LR LR
comp=Z,31µm,19.0s
MLSI Meulaboh, Aceh 40.77 279 P **P** **12 24 18.6 -0.5**
comp=Z,907nm,1.0s,comp=Z,9µm
GYA Guiyang 40.77 317⇑ *i*P **P** **12 24 18.3 -0.7**
GYA pP pP 12 24 27.0 +0.3
GYA PP **PnPn** **12 25 59.0 +1.5**
GYA ScP **ScP** **12 30 09.5 +1.2**
GYA S **S** **12 30 27.0 -1.6**
GYA sS sS 12 30 41.0 -0.2
GYA PMZ
comp=Z,60nm,1.0s
GYA PMZ
comp=Z,2µm,9.9s
GYA LN
comp=Z,25µm,22.5s
GYA LE
comp=Z,20µm,21.9s
GYA LZ
comp=Z,40µm,23.1s
UTTA Uttaradit 40.82 301 P **P** **12 24 17.8 -1.6**
comp=Z,48nm,0.9s,comp=Z,401nm
MOO Moorlands 40.98 168 P **P** **12 24 21.4 +1.0**
baz=41,SNR=8.7
KHLT Khaolaem Dam 41.38 296 P **P** **12 24 27.8 +3.7**
comp=Z,48nm,2.1s,comp=Z,1µm
TAU Tasmania Unive 41.45 168 *e*P **P** **12 24 24.2 -0.1**
TAU pmax pmax
comp=Z,340nm,1.7s
TAU Tasmania Unive 41.45 168 *e*P **P** **12 24 24.1 -0.1**
comp=Z,339nm,1.7s
SUKH Sukhothai 41.51 300 P **P** **12 24 24.1 -0.9**
comp=Z,25nm,0.9s,comp=Z,193nm
ENH Enshi 41.57 323 *e*P **P** **12 24 23.7 -1.7**
comp=Z,465nm,1.6s
ENH LR LR
comp=Z,21µm,20.0s
UMPA Umpang Tak 41.67 298 P **P** **12 24 25.3 -1.1**
comp=Z,64nm,1.0s,comp=Z,505nm
LAMP Lampang 41.95 301 P **P** **12 24 27.3 -1.4**
comp=Z,93nm,0.9s,comp=Z,681nm
CM01 Chiang Mai Arr 42.48 301 *e*P **P** **12 24 30.5 -2.5**
CM31 Chiang Mai Arr 42.51 301 *e*P **P** **12 24 32.2 -1.1**
CMAR Chiang Mai Arr 42.51 301 P **P** **12 24 31.9 -1.4**
comp=Z,35nm,0.8s,baz=123,slow=6.6,SNR=102
CMAR LR LR 12 41 45.1
comp=Z,6µm,20.7s,baz=110,slow=36
CMAR PKPPKP **P'P'df** **12 56 39.0 +3.5**
comp=Z,0.5nm,0.4s,baz=261,slow=4.6,SNR=5.6
TIA Tai'an 42.51 336 ⇓P **P** **12 24 31.8 -1.2**
TIA S **S** **12 30 54.3 +0.5**
TIA PMZ
comp=Z,50nm,1.0s
TIA PMZ
comp=Z,3µm,6.0s
TIA LN
comp=Z,25µm,20.1s
TIA LE
comp=Z,24µm,20.7s
CMMT Chiang Mai 42.66 301 P **P** **12 24 32.7 -1.8**
comp=Z,205nm,1.0s,comp=Z,3µm
CHTO Chiang Mai 42.66 301 *e*P **P** **12 24 32.0 -2.5**
CHTO pmax pmax
comp=Z,140nm,0.9s
CHTO MLR MLR
comp=Z,12µm,19.0s
CHTO Chiang Mai 42.66 301 *e*P **P** **12 24 32.0 -2.5**
comp=Z,140nm,0.9s
CHTO LR LR
comp=Z,12µm,19.0s
FUNA Funafuti 42.75 100 *e*P **P** **12 24 35.1 -0.2**
comp=Z,421nm,1.4s
FUNA LR LR
comp=Z,51µm,22.0s
KMI Kunming 42.77 312 P **P** **12 24 35.8 +0.2**
KMI pP pP 12 24 42.3 -0.9
KMI PP **PP** **12 26 18.0 +2.9**
KMI S **S** **12 30 58.0 -0.4**
KMI SS **SS** **12 34 05.3 -4.6**
KMI PMZ
comp=Z,66nm,1.4s
KMI PMZ
comp=Z,2µm,8.2s
KMI LN
comp=Z,21µm,19.5s
KMI LE
comp=Z,9µm,17.3s
KMI LZ
comp=Z,24µm,22.4s
DL2 Dalian 43.37 343⇑ *i*P **P** **12 24 43.5 +3.7**
DL2 S **S** **12 31 09.3 +3.0**
DL2 PMZ
comp=Z,230nm,2.2s
DL2 PMZ
comp=Z,2µm,5.9s
DL2 LN
comp=Z,17µm,21.9s
DL2 LE
comp=Z,28µm,22.2s
DL2 LZ
comp=Z,23µm,21.3s
MSVF Nonsavu 43.37 113*ce*P **P** **12 24 41.2 +0.9**
MSVF pmax pmax
comp=Z,449nm,1.5s
MSVF pmax pmax
comp=Z,274nm,1.2s
MSVF Nonsavu 43.37 113 *e*P **P** **12 24 40.0 -0.3**
comp=Z,394nm,1.4s
MSVF LR LR
comp=Z,45µm,22.0s
CMBY CAMPBELL BAY 43.66 283 *e*P **P** **12 24 43.0 +0.4**
ERM Erimo 44.59 7*ce*P **P** **12 24 48.1 -1.5**
ERM pmax pmax
comp=Z,45nm,0.7s
ERM MLR MLR
comp=Z,21µm,21.0s
ERM Erimo 44.59 7 *e*P **P** **12 24 50.6 +1.0**
comp=Z,99nm,0.9s
ERM LR LR
comp=Z,22µm,22.0s
XAN Xi'an 44.66 327 P **P** **12 24 48.3 -2.1**
XAN sP pP 12 24 57.3 -0.9
XAN PP **PcP** **12 26 32.8 -0.1**
XAN S **S** **12 31 20.8 -4.7**
XAN ScS **SS** **12 34 46.0 -0.5**
XAN PMZ
comp=Z,140nm,1.2s
XAN PMZ
comp=Z,2µm,7.5s
XAN LN
comp=Z,12µm,17.3s
XAN LE
comp=Z,19µm,23.3s
XAN LZ
comp=Z,24µm,19.9s
MSHR Mys Shultsa 45.04 354 *e*P **P** **12 24 53.3 +0.1**
VLA Vladivostok 45.51 355*b i*P **P** **12 24 55.9 -1.0**
VLA *i* *PP **pP** **12 25 03.1 -1.5**
VLA *e**SP **sP** **12 25 09.0 +1.3**
VLA *i* 12 26 42.0
VLA *i* S **S** **12 31 35.4 -1.8**
VLA pmax pmax
comp=Z,64nm,1.1s
VLA MLR MLR
comp=E,269µm,21.0s
CD2 Chengdu 45.59 319⇑ *i*P **P** **12 24 58.0 +0.2**
CD2 pP sP 12 25 08.8 +0.2
CD2 PcS **PcS** **12 30 30.0 -0.4**
CD2 S **S** **12 31 39.5 +0.5**
CD2 PMZ
comp=E,130nm,0.8s
CD2 PMZ
comp=E,4µm,5.4s
CD2 LN
comp=E,38µm,25.8s
CD2 LE
comp=E,44µm,24.8s
CD2 LZ
comp=E,24µm,21.4s
SNY Shenyang 45.59 346 ⇓P **P** **12 24 57.0 -0.5**
SNY S **S** **12 31 38.0 -0.4**
SNY PMZ
comp=E,110nm,2.3s
SNY PMZ
comp=E,4µm,4.9s
SNY LN
comp=E,23µm,22.4s
SNY LE
comp=E,13µm,21.3s
SNY LZ
comp=E,34µm,19.9s
TIY Taiyuan 45.78 333 *e*P **P** **12 24 59.3 0.0**
TIY PP **PP** **12 26 50.8 +3.9**
TIY S **S** **12 31 39.3 -2.3**
TIY PMZ
comp=E,32nm,0.5s
TIY PMZ
comp=E,2µm,6.4s
TIY LN
comp=E,15µm,16.8s
TIY LE
comp=E,2µm,14.0s
TIY LZ
comp=E,19µm,20.7s
PBA Port Blair 45.83 289 *e*P P 12 24 58.8 -1.1
DGPR DIGLIPUR 46.07 291 *e*P **P** **12 25 01.2 -0.6**
DGPR IAmb IAmb 12 25 10.0
comp=Z,1µm,2.7s
BJT Baijiatuau 46.19 338 *e*P **P** **12 25 01.1 -1.3**
BJT pmax pmax
comp=Z,814nm,2.0s
BJT MLR MLR
comp=Z,46µm,22.0s
BJT Baijiatuau 46.19 338 *e*P **P** **12 25 01.1 -1.3**
comp=Z,814nm,2.0s
BJT LR LR
comp=Z,46µm,22.0s
BJI Beijing 46.21 338 P **P** **12 25 01.8 -0.7**
BJI PP **PP** **12 26 51.3 0.0**
BJI S **S** **12 31 43.0 -4.5**
BJI pmax pmax
comp=Z,65nm,1.0s
BJI AMB AMB
comp=Z,2µm,4.2s
BJI LR LR
comp=N,28µm,23.0s
BJI LR LR
comp=E,35µm,25.3s
BJI LR LR
comp=Z,39µm,23.0s
USRK Ussuriysk Ar. 46.57 355 P **P** **12 25 04.3 -1.0**
comp=Z,19nm,0.7s,baz=175,slow=7.1,SNR=31
USRK LR LR 12 42 33.9
comp=Z,45µm,19.5s,baz=164,slow=34
ASAJ Asahikawa 46.60 6 P **P** **12 25 04.7 -0.8**
comp=Z,74nm,0.7s,baz=233,slow=9.0
ASAJ Asahikawa 46.60 6 *e*P **P** **12 25 05.1 -0.4**
comp=Z,694nm,2.0s
ASAJ LR LR
comp=Z,27µm,22.0s
CN2 Changchun 47.07 349 ⇑P **P** **12 25 09.5 +0.3**
CN2 *e*S **S** **12 32 00.5 +0.7**
CN2 PMZ
comp=Z,40nm,0.7s
CN2 PMZ
comp=Z,2µm,6.0s
CN2 LN
comp=Z,24µm,19.0s
CN2 LE
comp=Z,13µm,19.0s
CN2 LZ
comp=Z,31µm,20.0s
MDJ Mudanjiang 47.22 353 P **P** **12 25 10.3 -0.1**
MDJ pP pP 12 25 15.5 -2.6
MDJ sP sP 12 25 17.8 -3.4
MDJ S **S** **12 32 04.5 +2.6**
MDJ PMZ
comp=Z,42nm,0.9s
MDJ PMZ
comp=Z,1µm,7.1s
MDJ LN
comp=Z,16µm,19.8s
MDJ LE
comp=Z,14µm,23.4s
MDJ LZ
comp=Z,26µm,18.0s
MDJ Mudanjiang 47.22 353 *e*P **P** **12 25 10.0 -0.4**
comp=Z,184nm,1.3s
MDJ LR LR
comp=Z,19µm,20.0s
OUZ Omahuta 47.34 138 *e*P **P** **12 25 10.6 -0.8**
comp=Z,950nm,1.9s
OUZ LR LR
comp=Z,108µm,20.0s
KUR Kuril'sk 48.45 11 *e*P **P** **12 25 21.4 +1.5**
KUR *e* 12 27 10.3
KUR *e*S **S** **12 32 15.6 -3.6**
KUR pmax pmax
comp=N,184nm,2.5s
KUR pmax pmax
comp=E,49nm,2.5s
KUR pmax pmax
comp=Z,356nm,2.5s
KUR pmax pmax
comp=Z,2µm,4.0s
KUR MLR MLR
comp=N,9µm,17.0s
KUR MLR MLR
comp=E,3µm,17.0s
KUR MLR MLR
comp=Z,13µm,17.0s
HHC Hu-ho-hao-te 48.74 335 *e*P **P** **12 25 22.8 +0.4**
HHC pP pP 12 25 28.5 -1.7
HHC S **S** **12 32 23.5 -0.3**
HHC PMZ
comp=Z,38nm,1.0s
HHC PMZ
comp=Z,3µm,5.0s
HHC LN
comp=Z,16µm,20.5s
HHC LE
comp=Z,25µm,21.0s
HHC LZ
comp=Z,17µm,20.2s
LZH Lanzhou 49.02 324 ⇓P **P** **12 25 24.5 -0.1**
LZH pP pP 12 25 30.5 -1.9

LZH sP sP 12 25 33.5 -1.9
LZH S **S** **12 32 28.3 +0.4**
LZH SS **SS** **12 35 55.0 -4.2**
LZH PMZ
comp=Z,240nm,1.0s
LZH PMZ
comp=Z,4µm,7.0s
LZH LN
comp=Z,11µm,14.0s
LZH LE
comp=Z,13µm,15.1s
LZH LZ
comp=Z,23µm,17.6s
BTO Baotou 49.22 333 *e*P **P** **12 25 26.0 -0.1**
YSS Yuzh-Sakhalins 49.43 5⇑ *i*P **P** **12 25 27.3 0.0**
YSS *e*S **S** **12 32 31.5 -1.4**
YSS pmax pmax
comp=Z,130nm,1.7s
YSS pmax pmax
comp=Z,2µm,3.0s
YSS smax smax
comp=N,10µm,20.0s
YSS MLR MLR
comp=Z,13µm,21.0s
YSS MLR MLR
comp=N,13µm,20.0s
YSS Yuzh-Sakhalins 49.43 5 *e*P **P** **12 25 27.8 +0.5**
comp=N,124nm,0.7s
YSS LR LR
comp=Z,12µm,21.0s
MKAZ Moumakai 49.46 139 PN **P** **12 25 29.3 +1.5**
KUZ Kuaotunu 49.62 138 PN **P** **12 25 30.3 +1.3**
TOZ Tahuroa Road 50.04 140 PN **P** **12 25 33.9 +1.7**
HIZ Hauiti 50.08 141 *e*P **P** **12 25 32.9 +0.4**
HIZ LR LR
comp=Z,972nm,1.4s
comp=Z,71µm,20.0s
HIZ Hauiti 50.08 141 PN **P** **12 25 34.4 +1.9**
QRZ Quartz Range 50.10 145 PN **P** **12 25 33.9 +1.3**
DSZ Denniston Nort 50.29 146 *e*PN **P** **12 25 34.9 +0.7**
JCZ Jackson Bay 50.31 150 PN **P** **12 25 35.4 +1.1**
MSZ Milford Sound 50.33 151 PN **P** **12 25 35.7 +1.4**
KMRZ Kaimai 50.39 139 PN **P** **12 25 37.0 +2.1**
FOZ Fox Glacier 50.45 149 *e*P **P** **12 25 36.7 +1.6**
comp=Z,316nm,1.3s
FOZ LR LR
comp=Z,39µm,20.0s
DCZ Deep Cove 50.56 152 *e*P **P** **12 25 37.0 +1.0**
comp=Z,530nm,1.1s
DCZ LR LR
comp=Z,57µm,18.0s
DCZ Deep Cove 50.56 152 *e*PN **P** **12 25 36.8 +0.9**
WVZ Waitaha Valley 50.61 148 PN **P** **12 25 36.8 +0.4**
HABR Khabarovsk 50.67 359 *d i*P **P** **12 25 34.5 -2.3**
HABR *e**PP **pP** **12 25 44.4 -0.2**
HABR *e**SP **sP** **12 25 48.7 +1.1**
HABR *e* 12 26 51.6
HABR *e* 12 27 30.7
HABR *e*PPP PPP 12 28 27.6
HABR *e*S **S** **12 32 47.5 -2.8**
HABR *e**SS **sS** **12 33 04.5 +1.4**
HABR *e* 12 35 22.5
HABR *e*SS **SS** **12 36 22.3 -2.7**
HABR *e*SSS SSS 12 37 54.1
HABR pmax pmax
comp=E,65nm,1.9s
HABR pmax pmax
comp=N,92nm,1.9s
HABR pmax pmax
comp=Z,293nm,1.9s
HABR pmax pmax
comp=Z,625nm,2.7s
HABR MLR MLR
comp=Z,4µm,18.0s
RAO Raoul Island 50.73 126 PFAKE 12 25 50.0 +12
RAO LR LR
comp=Z,36µm,19.0s
INZ Inchbonnie 50.75 147 *e*PN **P** **12 25 37.0 -0.4**
OMRZ Omania 50.82 139 *e*PN **P** **12 25 38.8 +0.7**
NNZ Nelson 50.85 144 *e*PN **P** **12 25 38.5 +0.2**
RATZ Rangitukua 50.87 141 *e*PN **P** **12 25 40.4 +1.9**
PYZ Puysegur Point 50.88 153 *e*P **P** **12 25 39.8 +1.5**
comp=Z,436nm,1.2s
PYZ LR LR
comp=Z,50µm,21.0s
DUWZ D'Urville Isla 50.90 144 *e*PN **P** **12 25 39.3 +0.6**
THZ Tophouse 50.93 145 *e*P **P** **12 25 39.4 +0.4**
comp=Z,868nm,2.0s
THZ LR LR
comp=Z,113µm,18.0s
THZ Tophouse 50.93 145 *e*PN **P** **12 25 36.8 -2.1**
MLZ Mavora Lakes 50.94 152 *e*P **P** **12 25 39.7 +0.8**
comp=Z,354nm,1.1s
MLZ LR LR
comp=Z,71µm,21.0s
MLZ Mavora Lakes 50.94 152 PN **P** **12 25 39.4 +0.5**
NGZ Ngauruhoe 50.94 141 *e*PN **P** **12 25 40.6 +1.4**
WKZ Wanaka 50.97 151 *e*P **P** **12 25 40.4 +1.2**
comp=Z,439nm,1.0s
WKZ LR LR
comp=Z,62µm,19.0s
WKZ Wanaka 50.97 151 *e*PN **P** **12 25 39.7 +0.5**
OTVZ Oturere 50.98 141 *e*PN **P** **12 25 40.4 +1.0**
RPZ Rata Peaks 51.22 148 P **P** **12 25 40.4 -0.7**
comp=Z,426nm,1.0s,baz=216,slow=0.9,SNR=55
RPZ Rata Peaks 51.22 148 *e*P **P** **12 25 41.2 +0.2**
comp=Z,611nm,1.1s
RPZ LR LR
comp=Z,77µm,18.0s
RPZ Rata Peaks 51.22 148 *e*PN **P** **12 25 40.8 -0.3**
LBZ Lake Benmore 51.24 149 *e*P **P** **12 25 41.4 +0.2**
comp=Z,735nm,1.5s
LBZ LR LR
comp=Z,70µm,19.0s
LBZ Lake Benmore 51.24 149 PN **P** **12 25 41.2 0.0**
LTZ Lake Taylor 51.24 147 *e*P **P** **12 25 41.8 +0.6**
comp=Z,711nm,1.4s
LTZ LR LR
comp=Z,83µm,19.0s
LTZ Lake Taylor 51.24 147 *e*PN **P** **12 25 41.2 0.0**
WHZ Wether Hill Ro 51.25 152 *e*P **P** **12 25 41.8 +0.6**
comp=Z,234nm,1.2s
WHZ LR LR
comp=Z,64µm,22.0s
WHZ Wether Hill Ro 51.25 152 *e*PN **P** **12 25 41.1 -0.1**
TUWZ Tuamarina 51.31 144 *e*PN **P** **12 25 41.3 -0.5**
URZ Urewera 51.38 139 *e*P **P** **12 25 43.0 +0.6**
comp=Z,148nm,0.8s
URZ LR LR
comp=Z,83µm,22.0s
URZ Urewera 51.38 139 *e*PN **P** **12 25 42.0 -0.3**
EAZ Earnscleugh 51.41 151 *e*PN **P** **12 25 42.3 -0.1**
OXZ Oxford 51.48 147 *e*P **P** **12 25 43.6 +0.7**
comp=Z,803nm,1.9s
OXZ LR LR
comp=Z,64µm,20.0s
OXZ Oxford 51.48 147 PN **P** **12 25 42.8 -0.2**
SHL Shillong 51.48 306 *e*P **P** **12 25 43.0 -0.5**
SHL *ex* x 12 33 08.0
BKZ Black Stump Fm 51.50 140 *e*P **P** **12 25 43.8 +0.5**
comp=Z,283nm,1.1s
BKZ LR LR
comp=Z,84µm,20.0s
BKZ Black Stump Fm 51.50 140 PN **P** **12 25 43.5 +0.3**
HAZ Te Kaha 51.55 138 *e*PN **P** **12 25 44.5 +0.9**
KLR Kul'dur 51.59 356 P **P** **12 25 42.4 -1.2**
comp=Z,39nm,0.8s,baz=202,slow=2.7,SNR=76
KLR LR LR 12 45 41.6
comp=Z,53µm,20.1s,baz=172,slow=34
KLR Kul'dur 51.59 356 *e*P **P** **12 25 43.0 -0.6**
SNZO South Karori 51.68 144 *e*P **P** **12 25 45.1 +0.6**
comp=Z,443nm,1.1s
SNZO LR LR
comp=Z,90µm,22.0s
TSZ Takapari Road 51.69 142 *e*PN **P** **12 25 44.8 +0.2**
KRHZ Kereru 51.70 141 *e*PN **P** **12 25 45.3 +0.5**
MWZ Matawai 51.70 139 *e*PN **P** **12 25 45.6 +0.8**
KHZ Kahutara 51.71 146 *e*P **P** **12 25 44.7 0.0**
comp=Z,710nm,1.7s
KHZ LR LR
comp=Z,124µm,20.0s
KHZ Kahutara 51.71 146 PN **P** **12 25 43.6 -1.1**
MCHZ McNeill Hill 51.79 141 *e*PN **P** **12 25 47.2 +1.9**
MXZ Matakaoa Point 51.80 138 PFAKE 12 26 00.0 +15
MXZ LR LR
comp=Z,113µm,20.0s
MRZ Mangatainoka R 51.81 143 PN **P** **12 25 44.9 -0.6**
HOWZ Holdsworth Sta 51.91 143 *e*PN **P** **12 25 45.4 -0.9**
ODZ Otahua Downs 51.94 150 *e*P **P** **12 25 47.0 +0.7**
comp=Z,349nm,1.4s
ODZ LR LR
comp=Z,72µm,18.0s
ODZ Otahua Downs 51.94 150 PN **P** **12 25 46.4 0.0**
CRLZ Canterbury Las 51.96 147 *e*P **P** **12 25 47.2 +0.7**
comp=Z,672nm,1.2s
CRLZ LR LR
comp=Z,50µm,19.0s
CRLZ Canterbury Las 51.96 147 *e*PN **P** **12 25 46.3 -0.2**
APZ The Paps 51.97 153 PN **P** **12 25 46.9 +0.3**
WMGZ Waiomatatini S 52.01 138 PN **P** **12 25 47.4 +0.4**
MQZ McQueen's Vall 52.06 147 *e*P **P** **12 25 47.5 +0.2**
comp=Z,726nm,1.4s
MQZ LR LR
comp=Z,45µm,19.0s
MQZ McQueen's Vall 52.06 147 PN **P** **12 25 46.5 -0.8**
TUZ Tuapeka 52.09 151 PN **P** **12 25 47.7 +0.3**
KNZ Kokohu 52.18 140 *e*PN **P** **12 25 49.8 +1.5**
AFI Afiamalu 52.19 106 *e*P **P** **12 25 49.0 +0.2**
AFI pmax pmax
comp=Z,400nm,1.6s
AFI Afiamalu 52.19 106 *e*P **P** **12 25 49.0 +0.2**
comp=Z,401nm,1.6s
AFI LR LR
comp=Z,30µm,18.0s
BFZ Birch Farm 52.23 142 *e*P **P** **12 25 48.8 +0.1**
comp=Z,351nm,1.1s
BFZ LR LR
comp=Z,90µm,21.0s
ANWZ Angora Road 52.24 142 *e*PN **P** **12 25 48.4 -0.2**
TYV Tymovskoe 53.30 5 *e*P **P** **12 25 54.2 -2.0**
TYV *e*S **S** **12 33 20.0 -6.2**
TYV pmax pmax
comp=N,4µm,4.0s
TYV pmax pmax
comp=Z,6µm,4.0s
TYV pmax pmax
comp=N,24nm,0.8s
TYV smax smax
comp=E,5µm,9.0s
HIA Hailar 53.50 346 *e*P **P** **12 25 58.0 +0.2**
HIA pmax pmax
comp=Z,191nm,1.6s
HIA MLR MLR
comp=Z,12µm,19.0s
HIA Hailar 53.50 346 *e*P **P** **12 25 58.0 +0.2**
comp=Z,191nm,1.6s
HIA LR LR
comp=Z,12µm,19.0s
MIDW Midway 53.60 52 PFAKE 12 26 10.0 +11
MIDW LR LR
comp=Z,25µm,20.0s
GTA Gaotai 53.61 325⇑ P **P** **12 25 58.0 -1.0**
GTA pP pP 12 26 04.0 -2.9
GTA sP sP 12 26 06.5 -3.4
GTA ScP **ScP** **12 30 59.5 -2.3**
GTA S **S** **12 33 30.3 -0.9**
GTA SS **SS** **12 37 10.5 -1.6**
GTA PMZ
comp=Z,61nm,1.3s
GTA PMZ
comp=Z,920nm,5.5s
GTA LN
comp=Z,18µm,20.9s
GTA LE
comp=Z,12µm,19.5s
GTA LZ
comp=Z,14µm,18.8s
LSA Lhasa 53.93 310 P **P** **12 26 01.8 -0.1**
LSA pP **pP** **12 26 03.8 -6.0**
LSA sP **sP** **12 26 08.0 -4.8**
LSA S **S** **12 33 33.8 -2.7**
LSA LN
comp=Z,17µm,33.1s
LSA LE
comp=Z,15µm,34.4s
LSA LZ
comp=Z,20µm,31.8s
LSA Lhasa 53.93 310 *e*P **P** **12 26 02.0 +0.1**
LSA pmax pmax
comp=Z,193nm,1.3s
LSA MLR MLR
comp=Z,15µm,21.0s
LSA Lhasa 53.93 310 *e*P **P** **12 26 02.0 +0.1**
comp=Z,193nm,1.3s
LSA LR LR
comp=Z,15µm,21.0s
BWNR Bhubaneshwar 54.70 297 *e*P **P** **12 26 06.4 -0.7**
BWNR IAmb IAmb 12 26 15.7
comp=Z,141nm,0.9s
MCQ Macquarie Isla 55.05 164 P **P** **12 26 09.7 +0.8**
baz=55,SNR=5.0
MCQ Macquarie Isla 55.05 164 *e*P **P** **12 26 12.4 +3.4**
MCQ Macquarie Isla 55.05 164 *e*P **P** **12 26 12.4 +3.4**
MCQ LR LR
comp=Z,88µm,18.0s
SKR Severo-Kuril's 55.43 15 *e*P **P** **12 26 15.7 +3.9**
SKR pmax pmax
comp=Z,4µm,3.8s
SKR MLR MLR
comp=Z,10µm,20.0s
CHLP Challavanipeta 55.75 294 *e*P **P** **12 26 14.8 +0.1**
CHLP IAmb IAmb 12 26 24.4
comp=Z,198nm,1.1s
CHLP *e*S **S** **12 34 01.8 +1.5**
CHLP IVMs_BB IVMs_BB 12 45 27.0
comp=Z,5µm,29.1s
BOK Bokaro 55.80 301 *e*P **P** **12 26 14.9 0.0**
BOK IAmb IAmb 12 26 24.1
comp=Z,118nm,1.0s
VIS Vishakhapatnam 56.21 293 *e*P **P** **12 26 16.2 -1.7**
VIS IAmb IAmb 12 26 23.2
comp=Z,67nm,1.0s
ULN Ulaanbaatar 56.34 336 *de*P **P** **12 26 17.5 -1.1**
ULN pmax pmax
comp=Z,146nm,2.5s
ULN Ulaanbaatar 56.34 336 P **P** **12 26 18.1 -0.5**
SNR=72
ULN P **P** **12 26 18.1 -0.5**
SNR=72
ULN Ulaanbaatar 56.34 336 P **P** **12 26 18.1 -0.5**
SNR=72
ULN Ulaanbaatar 56.34 336 *e*P **P** **12 26 18.5 -0.1**
comp=Z,332nm,1.9s
ULN LR LR
comp=Z,18µm,20.0s
RAMN Ramite 56.37 305 *e*P **P** **12 26 18.6 -0.7**
comp=Z,820nm,1.2s
JOHN Johnston Islan 56.40 68 PFAKE 12 26 30.0 +11
JOHN LR LR
comp=Z,27µm,20.0s
SONM Songino Array 56.58 336 P **P** **12 26 18.4 -1.9**
comp=Z,9.8nm,0.7s,baz=150,slow=7.1,SNR=36
SONM PKPPKP **P'P'df** **12 56 13.7 -0.5**
comp=Z,0.8nm,0.7s,baz=273,slow=2.5,SNR=4.2
SONA1 Songino Array 56.58 336 *e*P **P** **12 26 19.6 -0.7**
PALK Pallekele 56.66 280 P **P** **12 26 21.0 -0.3**
comp=Z,43nm,0.9s,baz=116,slow=12,SNR=5.2
PALK Pallekele 56.66 280 *e*P **P** **12 26 23.9 +2.6**
comp=Z,143nm,1.4s
PALK LR LR
comp=Z,10µm,22.0s
GUN Gumba 57.33 305 *e*P **P** **12 26 25.2 -1.0**
PKIN Phulchoki 57.60 305 *e*P **P** **12 26 26.9 -1.1**
comp=Z,139nm,0.9s
CIT Chita 57.63 343 *e*P **P** **12 26 26.9 -0.7**
CIT *e* 12 26 43.3
CIT pmax pmax
comp=Z,824nm,2.6s
PVM Polavaram 57.66 292 *e*P **P** **12 26 28.0 -0.3**
PVM IAmb IAmb 12 26 41.8
comp=Z,190nm,1.3s
PVM *e*S **S** **12 34 26.5 +0.9**
PVM IVMs_BB IVMs_BB 12 54 40.4
comp=Z,5µm,23.7s
KKN Kakani 57.77 305 *e*P **P** **12 26 28.5 -0.7**
comp=Z,528nm,1.1s
DMN Daman 57.85 305 *e*P **P** **12 26 28.9 -0.9**
comp=Z,1µm,1.4s
MDRS Chennai 58.04 287 *e*P **P** **12 26 31.1 +0.1**
MDRS IAmb IAmb 12 26 35.5
comp=Z,80nm,1.0s
PEA0 Petropavlovsk- 58.05 15 *e*P **P** **12 26 30.3 -0.1**
PEA0B Petropavlovsk- 58.05 15 *e*P **P** **12 26 31.9 +1.5**
comp=Z,1µm,1.9s
PEA0B LR LR
comp=Z,11µm,20.0s
PETK Petropavlovsk- 58.05 15 P **P** **12 26 30.1 -0.3**
comp=Z,61nm,0.8s,baz=179,slow=4.9,SNR=53
PETK LR LR 12 50 52.5
comp=Z,8µm,19.5s,baz=206,slow=36
PET Petropavlovsk 58.22 15 *d i*P **P** **12 26 33.0 +1.4**
PET *e* 12 27 27.7
PET *e* 12 28 41.2
PET *i*S **S** **12 34 31.6 -0.2**
PET *e*SS **SS** **12 38 25.0 +1.1**
PET pmax pmax
comp=Z,223nm,1.5s
PET pmax pmax
comp=Z,2µm,15.5s
PET pmax pmax
comp=Z,800nm,17.7s
PET smax smax
comp=N,28µm,25.9s
PET smax smax
comp=N,13µm,25.7s
PET Petropavlovsk 58.22 15 *e*P **P** **12 26 32.9 +1.4**
comp=N,467nm,1.5s
PET LR LR
comp=Z,16µm,21.0s
GKN Gorkha 58.38 305 *e*P **P** **12 26 32.3 -1.1**
comp=Z,1µm,1.4s
ADKI Addanki 58.88 290 *e*P **P** **12 26 36.5 -0.3**
ADKI IAmb IAmb 12 26 41.4
comp=Z,60nm,0.9s
ADKI *e*S **S** **12 34 41.6 0.0**
ADKI IVMs_BB IVMs_BB 12 50 22.7
comp=Z,6µm,26.3s
KOLN Koldanda 59.14 304 *e*P **P** **12 26 37.9 -0.9**
comp=Z,480nm,1.0s
NJS Nagarjunasagar 59.66 291 *e*P **P** **12 26 41.4 -0.9**
NJS IAmb IAmb 12 26 50.5
comp=Z,252nm,1.4s
NJS *e*S **S** **12 34 50.3 -1.3**
NJS IVMs_BB IVMs_BB 12 53 53.3
comp=Z,5µm,16.9s
RCLA Racherla 59.75 289 *e*P **P** **12 26 42.9 0.0**
RCLA IAmb IAmb 12 26 50.8
comp=Z,457nm,1.8s
RCLA *e*S **S** **12 34 52.7 -0.2**
RCLA IVMs_BB IVMs_BB 12 54 58.7
comp=Z,4µm,20.6s
PYUN Piuthan 59.77 305 *e*P **P** **12 26 42.3 -0.8**
comp=Z,2µm,1.0s
CLNS Chul'man 59.80 353 *e*P **P** **12 26 40.7 -1.8**
CLNS *e**PP **sP** **12 26 52.8 -0.7**
CLNS *e* 12 27 25.2
CLNS *e* 12 28 53.1
CLNS *e*S **S** **12 34 48.4 -3.9**
CLNS pmax pmax
comp=Z,38nm,0.9s
CLNS pmax pmax
comp=N,17nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=Z,16nm,1.1s
CLNS pmax pmax
comp=N,25nm,0.8s
CLNS pmax pmax
comp=E,19nm,0.9s
CLNS smax smax
comp=E,2µm,12.4s
CLNS smax smax
comp=N,4µm,15.0s
CLNS MLR MLR
comp=N,12µm,20.0s
CLNS MLR MLR
comp=Z,13µm,19.0s
CLNS MLR MLR
comp=E,8µm,20.0s
ZAK Zakamensk 59.85 336 *e*P **P** **12 26 41.3 -1.7**
ZAK pmax pmax
comp=Z,167nm,2.4s
ZAK pmax pmax
comp=Z,18nm,1.3s
SRLM Srisailam 59.95 290 *e*P **P** **12 26 42.7 -1.6**
SRLM IAmb IAmb 12 26 52.3
comp=Z,502nm,1.6s
SRLM *e*S **S** **12 34 54.2 -1.2**
SRLM IVMs_BB IVMs_BB 12 51 10.3
comp=Z,5µm,19.5s
RPR Rampur 60.20 293 *e*P **P** **12 26 44.9 -1.1**
RPR IAmb IAmb 12 26 54.6
comp=Z,173nm,1.2s
RPR *e*S **S** **12 34 56.7 -2.0**
RPR IVMs_BB IVMs_BB 12 55 55.6
comp=Z,7µm,26.8s
TRD Trivandrum 60.49 281 *e*P **P** **12 26 47.2 -0.8**
HYB Hyderabad 60.55 291 *i*P **P** **12 26 47.5 -0.9**
HYB *e*S **S** **12 35 04.0 +0.8**
HYB LR LR
comp=Z,29nm,24.0s
HYB Hyderabad 60.55 291 *e*P **P** **12 26 47.6 -0.8**
HYB IAmb IAmb 12 26 52.1
comp=Z,174nm,1.2s
HYBB Hyderabad (bro 60.55 291 *e*P **P** **12 26 47.8 -0.6**
HYBB IAmb IAmb 12 26 56.4
comp=Z,392nm,1.7s
HYBB *e*S **S** **12 35 02.9 -0.4**
HYBB IVMs_BB IVMs_BB 12 55 25.0
comp=Z,6µm,23.9s
TLY Talaya 60.71 337 P **P** **12 26 48.0 -0.9**
comp=Z,28nm,0.8s,baz=199,slow=2.9,SNR=24
TLY LR LR 12 52 23.9
comp=Z,19µm,21.3s,baz=136,slow=35
TLY Talaya 60.71 337 *e*P **P** **12 26 48.5 -0.3**
TLY *e*S **S** **12 35 03.9 -0.2**
TLY pmax pmax
comp=Z,238nm,2.2s
TLY Talaya 60.71 337 *e*P **P** **12 26 48.8 -0.1**
comp=Z,366nm,1.9s
IRK Irkutsk 60.91 338 *e*P **P** **12 26 49.4 -0.8**
IRK *e*S **S** **12 35 11.2 +4.5**
IRK pmax pmax
comp=Z,978nm,2.4s
SRSP Sriramsagar 61.09 293 *e*P **P** **12 26 50.2 -1.8**
SRSP IAmb IAmb 12 27 00.3
comp=Z,203nm,1.3s
SRSP *e*S **S** **12 35 08.9 -1.1**
SRSP IVMs_BB IVMs_BB 12 59 26.5
comp=Z,4µm,21.5s
MOY Mondy 61.76 336 *e*P **P** **12 26 55.2 -0.9**
MOY pmax pmax
comp=Z,867nm,2.7s
LGTI Lohaghat 62.50 305 *e*P **P** **12 27 02.1 +0.8**
KLRI Killari 62.51 292 *e*P **P** **12 27 01.4 -0.3**
KLRI IAmb IAmb 12 27 04.2
comp=Z,759nm,2.1s
KLRI *e*S **S** **12 35 28.6 +0.4**
KLRI IVMs_BB IVMs_BB 12 54 48.9
comp=Z,6µm,18.2s
BOD Bodaibo 62.71 347 *e*P **P** **12 27 00.5 -1.6**
BOD pmax pmax
comp=Z,264nm,1.9s
MA2 Magadan 62.77 8 P **P** **12 27 02.4 -0.1**
comp=Z,48nm,0.8s,baz=219,slow=6.4,SNR=19
MA2 LR LR 12 53 45.0
comp=Z,7µm,20.6s,baz=212,slow=36
MA2 Magadan 62.77 8 *e*P **P** **12 27 03.1 +0.5**
MA2 pmax pmax
comp=Z,6µm,2.4s
MA2 Magadan 62.77 8 *e*P **P** **12 27 03.1 +0.5**
comp=Z,6µm,2.4s
BHPL Bhopal 63.01 298 *e*P **P** **12 27 04.0 -0.9**
BHPL IAmb IAmb 12 27 09.1
comp=Z,105nm,1.0s
SMY Shemya 63.28 24 PFAKE 12 27 20.0 +14
SMY LR LR
comp=Z,23µm,20.0s
WMQ Urumqi 63.50 322 P **P** **12 27 07.0 -0.8**
WMQ ScP 12 31 45.0
WMQ S **S** **12 35 39.5 -0.2**
WMQ ScS **SKSac** **12 36 56.8 -2.8**
WMQ PMZ
comp=Z,110nm,1.1s
WMQ PMZ
comp=Z,2µm,8.5s

WMQ LN
comp=Z,9μm,22.1s
WMQ LE
comp=Z,4μm,20.7s
WMQ LZ
comp=Z,7μm,25.5s
DGAR Diego Garcia 64.12 263 PFAKE 12 27 20.0 +7.7
DGAR LR LR
comp=Z,10μm,22.0s
YAK Yakutsk 64.47 356 P **P** **12 27 12.3 -1.3**
comp=Z,204nm,0.7s,baz=140,slow=0.4,SNR=45
YAK LR LR 12 53 27.9
comp=Z,43μm,20.1s,baz=178,slow=34
YAK Yakutsk 64.47 356 *e*P **P** **12 27 12.4 -1.3**
YAK *e**PP **pP** **12 27 20.6 -1.0**
YAK *e* 12 27 42.1
YAK *e*S **S** **12 35 49.1 -1.7**
YAK *e**SS **sS** **12 36 03.3 -0.7**
YAK pmax pmax
comp=E,14nm,0.9s
YAK pmax pmax
comp=E,178nm,0.8s
YAK pmax pmax
comp=E,197nm,2.3s
YAK pmax pmax
comp=N,586nm,3.0s
YAK pmax pmax
comp=Z,593nm,3.3s
YAK smax smax
comp=N,170nm,3.0s
YAK smax smax
comp=E,451nm,2.7s
YAK Yakutsk 64.47 356 *e*P **P** **12 27 13.7 +0.1**
comp=E,306nm,0.9s
RAR Rarotonga 64.54 112 *e*P **P** **12 27 14.2 -0.7**
RAR pmax pmax
comp=Z,324nm,1.9s
RAR MLR MLR
comp=Z,10μm,22.0s
RAR Rarotonga 64.54 112 *e*P **P** **12 27 14.2 -0.7**
comp=Z,324nm,1.9s
RAR LR LR
comp=Z,10μm,22.0s
DDI Dehra Dun 64.58 305 *e*P **P** **12 27 14.8 -0.4**
GOA Goa 64.61 288 *e*P **P** **12 27 18.3 +2.8**
NDI New Delhi 64.75 303 *e*P P 12 27 09.5 -6.7
NDI *e*S **S** **12 35 49.0 -6.6**
POO Poona 65.16 292 *e*P **P** **12 27 17.9 -1.2**
SMLA Simla 65.57 306 *e*P **P** **12 27 21.3 -0.2**
SDNR Sundarnagar 65.85 306 *e*P **P** **12 27 23.0 -0.3**
XMAS Kiritimati 66.02 87 PFAKE 12 27 40.0 +15
XMAS LR LR
comp=Z,39μm,22.0s
SEY Seymchan 66.22 8 P **P** **12 27 24.2 -0.8**
comp=Z,27nm,0.7s,baz=187,slow=5.0,SNR=43
SEY LR LR 12 55 21.9
comp=Z,8μm,21.3s,baz=181,slow=35
SEY Seymchan 66.22 8*c i*P **P** **12 27 26.1 +1.1**
CASY Casey 66.37 191 *e*P **P** **12 27 25.7 -0.2**
comp=Z,164nm,1.1s
CASY LR LR
comp=Z,56μm,21.0s
KEKH Kekaha 66.64 65 PFAKE 12 27 40.0 +12
KEKH LR LR
comp=Z,26μm,20.0s
THN Thein Dam 67.16 307 *e*P P 12 27 26.4 -5.2
THN *e*S **S** **12 36 19.0 -5.7**
ZSN Zaisan 67.38 324 *e*P **P** **12 27 30.1 -2.7**
comp=Z,413nm,1.1s
ZSN *e*PP **PP** **12 29 58.5 -3.0**
ZSN *e*S **S** **12 36 24.1 -2.9**
ZSN LR LR 12 55 48.4
comp=Z,2μm,14.4s
KIP Kipapa 68.06 66*ce*P **P** **12 27 38.7 +1.2**
KIP pmax pmax
comp=Z,523nm,0.7s
KIP MLR MLR
comp=Z,104μm,19.0s
KIP Kipapa 68.06 66 *e*P **P** **12 27 37.3 -0.2**
comp=Z,298nm,1.4s
KIP LR LR
comp=Z,18μm,20.0s
OPA Opana 68.12 66 PFAKE 12 27 50.0 +12
OPA LR LR
comp=Z,23μm,20.0s
SHLS Shalkode 68.14 319 *e*P **P** **12 27 35.3 -2.6**
comp=Z,229nm,1.2s
SHLS *e*S **S** **12 36 33.6 -3.1**
SHLS LR LR 12 56 03.4
comp=Z,1μm,18.9s
KRAR Krasnoyarsk 68.23 335 *e*P **P** **12 27 36.7 -1.2**
KRAR pmax pmax
comp=Z,2μm,0.6s
KRAR MLR MLR
comp=Z,279μm,19.0s
MK01 Makanchi Array 68.28 323 *e*P **P** **12 27 37.9 -0.6**
MK31 Makanchi Array 68.30 323 *e*P **P** **12 27 37.7 -0.9**
MK31 Makanchi Array 68.30 323 *e*P **P** **12 27 37.7 -0.9**
MKAR Makanchi Array 68.30 323 P **P** **12 27 37.2 -1.4**
MKAR PKPPKP **P'P'df** **12 55 56.9 +0.8**
comp=Z,45nm,0.8s,baz=115,slow=8.2,SNR=61
comp=Z,1.4nm,0.8s,baz=291,slow=3.8,SNR=8.1
MKAR Makanchi Array 68.30 323 *e*P **P** **12 27 37.7 -0.9**
MKAR Makanchi Array 68.30 323 *e*P **P** **12 27 37.7 -0.9**
MKAR P'P' 12 55 56.9
MAKZ Makanchi 68.49 323 *i*P **P** **12 27 38.3 -1.5**
MAKZ pmax pmax
comp=Z,198nm,1.2s
MAKZ Makanchi 68.49 323 *e*P **P** **12 27 39.2 -0.5**
comp=Z,125nm,0.9s
MAKZ LR LR
comp=Z,13μm,20.0s
UZB Uzynbulak 68.70 318 *i*P **P** **12 27 38.6 -2.8**
comp=Z,317nm,1.1s
UZB *e*S **S** **12 36 39.9 -3.3**
UZB LR LR 12 58 00.7
comp=Z,3μm,22.3s
SATY Saty 69.08 318 *e*P **P** **12 27 41.7 -1.9**
comp=Z,728nm,1.1s
SATY *e*S **S** **12 36 45.0 -2.7**
SATY LR LR 12 58 10.6
comp=Z,5μm,23.0s
KSH Kashi 69.38 314 P **P** **12 27 46.8 +1.2**
KSH pP pP 12 27 52.8 -0.9
KSH PcP **PcP** **12 28 09.8 +0.8**
KSH PP **PP** **12 30 21.8 +2.6**
KSH S **S** **12 36 49.8 -1.6**
KSH ScS **SKSac** **12 37 39.3 -5.3**
KSH PMZ
comp=Z,74nm,0.9s
KSH PMZ
comp=Z,2μm,2.9s
KSH LN
comp=Z,8μm,17.6s
KSH LE
comp=Z,9μm,18.3s
KSH LZ
comp=Z,13μm,20.2s
HLK Haleakala 69.55 67 PFAKE 12 28 00.0 +13
HLK LR LR
comp=Z,25μm,21.0s
HPAH Hawaii Prepara 69.92 68 PFAKE 12 28 00.0 +11
HPAH LR LR
comp=Z,23μm,20.0s
MLOA Mauna Loa Obse 69.95 68 *e*P **P** **12 27 50.1 +0.3**
BHJ Bhuj 69.96 296 *e*P **P** **12 27 49.7 +0.4**
MDOK Medeo 70.03 318 *e*P **P** **12 27 47.3 -2.2**
comp=Z,204nm,1.1s
MDOK *i*P **PP** **12 30 21.7 -3.1**
MDOK *e*S **S** **12 36 56.2 -2.6**
MDOK LR LR 12 56 13.7
comp=Z,3μm,23.6s
POHA Pohakuloa 70.03 68 *e*P **P** **12 27 50.5 +0.4**
comp=Z,656nm,1.8s
POHA LR LR
comp=Z,22μm,22.0s
AAA Alma-Ata 70.14 318 *e*P **P** **12 27 54.6 +4.5**
AAA *e*S **S** **12 37 05.7 +5.7**
AAA pmax pmax
comp=Z,3μm,4.8s
AAA smax smax
comp=E,6μm,12.8s
AAA MLR MLR
comp=Z,8μm,21.0s
AAA Alma-Ata 70.14 318 *e*P **P** **12 27 47.6 -2.5**
comp=Z,250nm,0.9s
AAA *e*S **S** **12 36 56.6 -3.3**
AAA LR LR 12 56 30.2
comp=Z,3μm,22.8s
UWE Uwekahuna 70.19 68 PFAKE 12 28 00.0 +9.0
UWE LR LR
comp=Z,22μm,21.0s
ZAA0 Zalesovo Array 70.64 330 *e*P **P** **12 27 53.1 +0.3**
ZALV Zalesovo Beam 70.64 330 P **P** **12 27 50.3 -2.5**
comp=Z,37nm,0.8s,baz=108,slow=4.8,SNR=48
ZALV PKP2bc 12 55 46.6
comp=Z,1.9nm,0.9s,baz=267,slow=3.0,SNR=6.5
KUU Kurty 70.79 318 *e*P **P** **12 27 51.9 -2.1**
comp=Z,618nm,1.5s
KUU *e*S **S** **12 37 05.3 -2.2**
KUU LR LR 12 58 59.3
comp=Z,3μm,18.2s
MIR Mirnyy 70.90 197 ⇓ *i*P **P** **12 27 57.0 +2.9**
MIR *i*S **S** **12 37 14.0 +6.2**
MIR pmax pmax
comp=Z,20nm,1.6s
MIR pmax pmax
comp=Z,4μm,16.0s
MIR smax smax
comp=N,5μm,11.0s
MIR MLR MLR
comp=N,15μm,20.0s
MIR MLR MLR
comp=E,9μm,20.0s
MIR MLR MLR
comp=Z,44μm,20.0s
TKM2 Tokmak 2 70.91 317 PFAKE 12 28 10.0 +15
TKM2 LR LR
comp=Z,13μm,20.0s
SEM Semipalatinsk 71.22 326 *e*P **P** **12 27 54.1 -2.4**
comp=Z,200nm,1.3s
SEM *i*PP **PP** **12 30 31.5 -3.2**
SEM *e*S **S** **12 37 09.4 -2.8**
SEM LR LR 12 58 51.2
comp=Z,2μm,18.4s
NIKH Nikolski High 71.46 31 PFAKE 12 28 10.0 +12
NIKH LR LR
comp=Z,14μm,20.0s
FRU Bishkek 71.55 317 *i*P **P** **12 27 59.0 +0.3**
FRU *e* 12 28 11.0
FRU *i* 12 28 18.0
FRU *e*S **S** **12 37 19.0 +2.6**
FRU *e*PS **PnS** **12 37 48.0 +0.7**
FRU pmax pmax
comp=Z,700nm,2.4s
FRU smax smax
comp=E,4μm,14.0s
AAK Ala-Archa 71.56 317 P **P** **12 27 57.9 -1.0**
comp=E,34nm,1.0s,baz=120,slow=4.7,SNR=21
AAK Ala-Archa 71.56 317*c i*P **P** **12 28 00.3 +1.4**
AAK pmax pmax
comp=Z,498nm,1.9s
AAK MLR MLR
comp=Z,39μm,23.0s
AAK Ala-Archa 71.56 317 P **P** **12 27 58.9 0.0**
SNR=89
AAK P **P** **12 27 58.9 0.0**
SNR=89
AAK Ala-Archa 71.56 317 P **P** **12 27 58.9 0.0**
SNR=89
AAK Ala-Archa 71.56 317 *e*P **P** **12 27 59.2 +0.3**
comp=Z,467nm,1.9s
AAK LR LR
comp=Z,16μm,20.0s
NVS Novosibirsk 71.91 331 ⇑ *i*P **P** **12 27 59.0 -1.4**
NVS *e*S **S** **12 37 21.9 +2.1**
NVS pmax pmax
comp=N,334nm,2.2s
NVS pmax pmax
comp=E,334nm,2.2s
NVS pmax pmax
comp=Z,81nm,2.2s
NVS smax smax
comp=N,66nm,2.5s
NVS smax smax
comp=E,97nm,2.5s
EKS2 Erkin-Say 72.06 316 *e*P **P** **12 28 01.6 -0.3**
EKS2 pmax pmax
comp=Z,214nm,1.6s
EKS2 MLR MLR
comp=Z,16μm,20.0s
EKS2 Erkin-Say 72.06 316 *e*P **P** **12 28 01.6 -0.3**
comp=Z,214nm,1.6s
EKS2 LR LR
comp=Z,16μm,20.0s
KURK Kurchatov 72.29 326*de*P **P** **12 28 01.4 -1.4**
KURK pmax pmax
comp=Z,580nm,0.8s
KURK Kurchatov 72.29 326 *e*P **P** **12 28 02.8 -0.1**
comp=Z,662nm,1.1s
KURK LR LR
comp=Z,42μm,20.0s
KURBB Kurchatov Arra 72.30 325 P **P** **12 28 01.5 -1.4**
comp=Z,61nm,0.9s,baz=118,slow=5.7,SNR=61
PAF Port-aux-Franc 73.00 219 PFAKE 12 28 20.0 +13
PAF LR LR
comp=Z,34μm,22.0s
SPIA Saint Paul Isl 73.02 27 PFAKE 12 28 20.0 +13
SPIA LR LR
comp=Z,12μm,21.0s
KBL Kabul 73.10 307 *e*P **P** **12 28 09.5 +1.2**
KBL pmax pmax
comp=Z,176nm,1.1s
KBL MLR MLR
comp=Z,9μm,22.0s
KBL Kabul 73.10 307 *e*P **P** **12 28 09.5 +1.2**
comp=Z,176nm,1.1s
KBL LR LR
comp=Z,9μm,22.0s
UNV Unalaska Valle 73.11 31 *e*P **P** **12 28 08.8 +1.2**
comp=Z,337nm,1.4s
UNV LR LR
comp=Z,14μm,22.0s
BILL Bilibino 73.24 11*ce*P **P** **12 28 08.8 +0.6**
BILL *e* 12 28 21.6
BILL *e* 12 30 54.5
BILL *e*S **S** **12 37 30.2 -4.5**
BILL pmax pmax
comp=Z,20nm,1.0s
BILL MLR MLR
comp=Z,8μm,19.0s
BILL Bilibino 73.24 11 *e*P **P** **12 28 09.5 +1.3**
comp=Z,96nm,1.2s
BILL LR LR
comp=Z,8μm,20.0s
AKUT Akutan 73.63 31 *e*P **P** **12 28 11.6 +0.9**
comp=Z,376nm,1.3s
AKUT LR LR
comp=Z,11μm,21.0s
PPT Papeete 73.80 107 P **P** **12 28 15.0 +2.5**
comp=Z,32nm,0.9s,baz=308,slow=19,SNR=3.6
PPT Papeete 73.80 107 P **P** **12 28 15.0 +2.5**
PAE Paea 73.81 108 *e*P **P** **12 28 15.0 +2.5**
comp=Z,15nm,0.9s
PPT2 Papeete2 73.81 108 *e*P **P** **12 28 15.5 +2.9**
comp=Z,121nm,1.1s
PPT2 *e*S **SKiKP** **12 37 40.2 -0.6**
comp=Z,6μm,25.2s
PPT2 *e*LQ LQ 12 47 38.6
comp=Z,97μm,37.5s
PPT2 *e*LR LR 12 50 43.2
comp=Z,50μm,24.2s
TIAR Tiarei 74.02 107 *e*P **P** **12 28 16.7 +2.9**
comp=Z,65nm,1.2s
TIXI Tiksi 74.08 357 P **P** **12 28 10.7 -2.4**
comp=Z,12nm,0.6s,baz=153,slow=2.8,SNR=28
TIXI LR LR 12 59 30.3
comp=Z,34μm,19.9s,baz=189,slow=35
TIXI Tiksi 74.08 357*ce*P **P** **12 28 12.3 -0.7**
TIXI pmax pmax
comp=Z,181nm,1.5s
TIXI Tiksi 74.08 357 *e*P **P** **12 28 13.7 +0.6**
comp=Z,176nm,1.3s
TVO Taravao 74.12 108 *e*P **P** **12 28 17.5 +3.1**
comp=Z,72nm,1.5s
TBI Tubuai 74.26 113 *e*P **P** **12 28 17.6 +2.5**
comp=Z,517nm,1.4s
TBI *e*S **S** **12 37 44.5 -3.3**
comp=Z,7μm,24.0s
TBI Tubuai 74.26 113 *e*LQ LQ 12 47 54.3
comp=Z,24μm,38.2s
TBI *e*LR LR 12 50 54.2
comp=Z,55μm,37.0s
DZET Dzherino 74.41 311 P **P** **12 28 14.7 -1.1**
DZET pmax pmax
comp=Z,162nm,1.0s
KK31 Karatay Array 74.47 316 *i*P **P** **12 28 14.9 -1.1**
KK31 pmax pmax
comp=Z,50nm,0.9s
KKAR Karatay Array 74.47 316 *e*P **P** **12 28 15.1 -0.9**
KKAR Karatay Array 74.47 316 *e*P **P** **12 28 15.1 -0.9**
GAMB Gambell 76.21 21 *e*P **P** **12 28 26.1 +0.7**
comp=Z,279nm,1.8s
VNDA Vanda 76.28 175 P **P** **12 28 24.9 -0.8**
comp=Z,48nm,0.8s,baz=321,slow=6.1,SNR=92
VNDA LR LR 13 03 47.0
comp=Z,69μm,18.0s,baz=354,slow=37
VNDA Vanda 76.28 175 *e*P **P** **12 28 25.9 +0.2**
VNDA pmax pmax
comp=Z,112nm,1.0s
VNDA Vanda 76.28 175 *e*P **P** **12 28 25.9 +0.2**
comp=Z,112nm,1.0s
SDPT Sand Point 76.92 31 *e*P **P** **12 28 30.4 +0.8**
comp=Z,326nm,1.2s
SDPT LR LR
comp=Z,18μm,21.0s
SBA Scott Base 77.08 174 *e*P **P** **12 28 30.8 +0.6**
SBA pmax pmax
comp=Z,142nm,1.1s
SBA MLR MLR
comp=Z,32μm,19.0s
SBA Scott Base 77.08 174 *e*P **P** **12 28 30.8 +0.6**
comp=Z,142nm,1.1s
SBA LR LR
comp=Z,32μm,19.0s
VOSK Vostochnaya 77.44 325 *e*P **P** **12 28 31.7 -1.0**
VOSK pmax pmax
comp=Z,355nm,1.8s
VOSK Vostochnaya 77.44 325 *e*P **P** **12 28 31.7 -1.0**
comp=Z,355nm,1.8s
BVAR Borovoye Array 77.89 326 P **P** **12 28 32.9 -2.2**
comp=Z,108nm,0.8s,baz=116,slow=6.7,SNR=54
BRVK Borovoye 77.96 326*ce*P **P** **12 28 34.2 -1.3**
BRVK pmax pmax
comp=Z,363nm,0.8s
BRVK pmax pmax
comp=Z,617nm,0.9s
BRVK Borovoye 77.96 326 *e*P **P** **12 28 35.1 -0.4**
comp=Z,336nm,0.8s
BRVK LR LR
comp=Z,22μm,20.0s
CHKZ Chkalovo 77.99 326 P **P** **12 28 33.9 -1.7**
CHKZ pmax pmax
comp=Z,308nm,1.5s
CHGN Chignik 78.37 31 *e*P **P** **12 28 37.8 +0.2**
ZRNK Zerenda 78.65 325 *e*P **P** **12 28 38.4 -0.9**
ZRNK pmax pmax
comp=Z,338nm,1.5s
ZRNK MLR MLR
comp=Z,8μm,21.0s
ZRNK Zerenda 78.65 325 *e*P **P** **12 28 38.4 -0.9**
comp=Z,338nm,1.5s
ZRNK LR LR
comp=Z,8μm,21.0s
NRIK Noril'sk 78.85 344 P **P** **12 28 38.2 -1.9**
comp=Z,54nm,0.8s,baz=132,slow=6.2,SNR=26
NRIK LR LR 13 05 41.6
comp=Z,12μm,20.0s,baz=128,slow=37
MRIV Mauritius Mete 79.01 250 *e*P **P** **12 28 44.6 +2.6**
WSAR Wadi Sarin 79.96 294 P **P** **12 28 47.4 +0.2**
comp=Z,12nm,0.9s,baz=115,slow=5.8,SNR=4.7
BIDO Bidbid 80.45 294 P **P** **12 28 51.8 +2.0**
SNR=15
BIDO Bidbid 80.45 294 P **P** **12 28 51.8 +2.0**
SNR=15
SMDO Samad 80.47 294 P **P** **12 28 51.9 +1.9**
SNR=7.7
SMDO Samad 80.47 294 P **P** **12 28 51.9 +1.9**
SNR=7.7
RER Riviere de l'E 80.67 249 PFAKE 12 29 00.0 +8.9
RER LR LR
comp=Z,15μm,22.0s
OHAK Old Harbor 81.33 31 *e*P **P** **12 28 53.3 -0.4**
comp=Z,105nm,0.8s
SVW2 Sparrevohn 81.52 27 *e*P **P** **12 28 54.5 -0.2**
comp=Z,92nm,1.3s
MAW Mawson 81.66 202 P **P** **12 28 55.1 -0.1**
comp=Z,34nm,1.0s,baz=80,slow=5.2,SNR=21
MAW Mawson 81.66 202 P **P** **12 28 55.4 +0.1**
baz=82,SNR=34
MAW Mawson 81.66 202 *e*P **P** **12 28 55.6 +0.4**
MAW pmax pmax
comp=Z,17nm,1.3s
MAW Mawson 81.66 202 *e*P **P** **12 28 55.6 +0.4**
comp=Z,17nm,1.3s
KDAK Kodiak Island 81.87 31 *i*P **P** **12 28 56.0 -0.5**
KDAK Kodiak Island 81.87 31 *e*P **P** **12 28 56.3 -0.2**
comp=Z,108nm,0.9s
KDAK LR LR
comp=Z,25μm,21.0s
ARQ Araqi 81.90 294 P **P** **12 28 59.3 +1.8**
SNR=17
ARQ Araqi 81.90 294 P **P** **12 28 59.3 +1.8**
SNR=17
TT01 Tatalina 81.98 25 *e*P **P** **12 28 56.9 -0.1**
TTA Tatalina 81.99 25 *e*P **P** **12 28 57.9 +0.7**
TTA pmax pmax
comp=Z,124nm,1.4s
TTA Tatalina 81.99 25 *e*P **P** **12 28 57.9 +0.7**
comp=Z,124nm,1.4s
UOSS Minazif 82.36 295 *e*P **P** **12 28 60.0 +0.1**
comp=Z,2.7nm,0.8s
BANOM Banah 82.38 296 *i*P **P** **12 29 00.8 +0.8**
SNR=10
BANOM Banah 82.38 296 P **P** **12 29 00.5 +0.5**
SNR=13
BANOM Banah 82.38 296 P **P** **12 29 00.5 +0.5**
SNR=13
HATD Hatta, Dubai 82.41 295 *i*P **P** **12 29 01.5 +1.4**
SNR=12
HATD Hatta, Dubai 82.41 295 P **P** **12 29 01.6 +1.4**
SNR=13
HATD Hatta, Dubai 82.41 295 P **P** **12 29 01.6 +1.4**
SNR=13
GEYT Alibeck 82.44 309 P **P** **12 28 59.5 -0.5**
comp=Z,34nm,0.8s,baz=132,slow=2.2,SNR=27
ASHO Ashiyiah 82.46 295 *i*P **P** **12 29 01.8 +1.3**
SNR=12
ASHO Ashiyiah 82.46 295 P **P** **12 29 00.8 +0.3**
SNR=15
ASHO P **P** **12 29 00.8 +0.3**
SNR=15
ASHO Ashiyiah 82.46 295 P **P** **12 29 00.8 +0.3**
SNR=15
NAZ Nazwa, Dubai 82.85 295 P **P** **12 29 03.7 +1.3**
FAQ Al Faqa, Dubai 82.89 295 P **P** **12 29 02.9 +0.3**
FAQ Al Faqa, Dubai 82.89 295 P **P** **12 29 02.5 -0.2**
SNR=9.9
FAQ Al Faqa, Dubai 82.89 295 P **P** **12 29 02.5 -0.2**
SNR=9.9
HOM Homer 82.90 29 *e*P **P** **12 29 03.1 +1.2**
comp=Z,124nm,0.6s
TAOE Nuku Hiva Isla 82.91 99 *e*S **S** **12 39 19.0 -2.0**
comp=Z,8μm,21.7s
TAOE Nuku Hiva Isla 82.91 99 *e*LQ LQ 12 51 35.9
comp=Z,27μm,37.4s
TAOE *e*LR LR 12 54 58.0
comp=Z,35μm,22.3s
CNPM China Poot 83.06 29 *e*P **P** **12 29 02.9 +0.1**
comp=Z,182nm,1.5s
AB31 Akbulak array 83.16 320 *i*P **P** **12 29 01.8 -1.7**
AB31 pmax pmax
comp=Z,53nm,1.0s
ABKAR Akbulak array 83.16 320 *e*P **P** **12 29 03.7 +0.2**
SPU Mount Spurr 83.16 28 *e*P **P** **12 29 03.6 +0.2**
BRLK Bradley Lake 83.30 29 *e*P **P** **12 29 05.0 +1.0**
comp=Z,55nm,1.1s
PPLA Purkeypile 83.62 26 *e*P **P** **12 29 06.8 +1.0**
comp=Z,243nm,1.6s
SUA Susitna One 83.85 27 *e*P **P** **12 29 07.7 +0.8**
comp=Z,197nm,1.6s
SEW Seward 84.08 29 *e*P **P** **12 29 08.5 +0.5**
comp=Z,127nm,1.3s
RC01 Rabbit Creek A 84.21 28 *e*P **P** **12 29 07.8 -0.9**
comp=Z,69nm,0.7s
KTH Kantishna Hill 84.37 25 *e*P **P** **12 29 08.8 -0.6**
comp=Z,112nm,1.4s
SVE Sverdlovsk 84.37 328 ⇑ *e*P **P** **12 29 08.7 -0.8**
SVE *e* 12 32 24.4
SVE *e*PPP PPP 12 34 24.0

SVE eS S 12 39 31.0 -2.9
SVE eSS SS 12 45 10.3 +6.1
SVE pmax pmax
comp=Z,535nm,2.0s
SVE pmax pmax
comp=Z,778nm,9.1s
SVE MLR MLR
comp=Z,11µm,24.0s
SVE MLR MLR
comp=E,13µm,25.0s
BPAW Bear Paw Mtn. 84.50 25 eP P 12 29 10.7 +0.6
comp=E,80nm,1.5s
AKTO Aktyubinsk 84.61 321 P P 12 29 09.2 -1.7
comp=E,41nm,0.8s,baz=100,slow=4.9,SNR=54
TRF Thorofare Moun 84.61 26 eP P 12 29 11.2 +0.3
comp=E,140nm,1.7s
PMR Palmer 84.62 28 eP P 12 29 11.1 +0.4
PMR pmax pmax
comp=Z,73nm,1.0s
PMR Palmer 84.62 28 eP P 12 29 11.1 +0.4
comp=Z,73nm,1.0s
MLY Manley 84.88 24 eP P 12 29 13.0 +1.1
comp=Z,65nm,0.7s
SML Sawmill 85.05 27 eP P 12 29 12.5 -0.4
SML pmax pmax
comp=Z,161nm,1.1s
SML Sawmill 85.05 27 eP P 12 29 12.5 -0.4
comp=Z,161nm,1.1s
BWN Browne 85.16 25 eP P 12 29 14.6 +1.2
comp=Z,368nm,1.6s
RND Reindeer 85.22 26 eP P 12 29 12.7 -1.1
RND pmax pmax
comp=Z,64nm,0.7s
RND Reindeer 85.22 26 eP P 12 29 12.7 -1.1
comp=Z,64nm,0.7s
MCK McKinley 85.27 25 eP P 12 29 13.7 -0.3
MCK pmax pmax
comp=Z,386nm,2.0s
MCK McKinley 85.27 25 eP P 12 29 13.7 -0.3
comp=Z,386nm,2.0s
ARU Arti 85.41 327 eP P 12 29 14.7 -0.1
ARU 12 32 28.6
ARU PPP PPP 12 34 27.4
ARU S S 12 39 36.8 -7.4
ARU MLR MLR
comp=Z,10µm,24.0s
ARU Arti 85.41 327 eP P 12 29 14.2 -0.6
comp=Z,680nm,2.0s
ARU LR LR
comp=Z,10µm,20.0s
SCM Sheep Creek Mo 85.52 28 eP P 12 29 14.6 -0.7
SCM pmax pmax
comp=Z,192nm,1.3s
SCM Sheep Creek Mo 85.52 28 eP P 12 29 14.6 -0.7
comp=Z,192nm,1.3s
COLD Coldfoot 85.72 22 eP P 12 29 16.4 +0.3
comp=Z,156nm,1.1s
DHY Denali Highway 85.79 26 eP P 12 29 16.4 -0.4
comp=Z,104nm,1.0s
WRH Wood River Hil 85.82 25 eP P 12 29 15.5 -1.1
comp=Z,87nm,1.0s
MDM Murphy Dome 85.88 24 eP P 12 29 17.1 +0.1
comp=Z,76nm,1.4s
EYAK Cordova Ski Ar 85.98 29 eP P 12 29 18.8 +1.3
comp=Z,49nm,1.1s
CCB Clear Creek Bu 85.98 25 eP P 12 29 15.8 -1.6
comp=Z,103nm,1.1s
COLA College 86.02 24 eP P 12 29 18.0 +0.4
COLA pmax pmax
comp=Z,143nm,1.5s
COLA MLR MLR
comp=Z,11µm,21.0s
COLA College 86.02 24 eP P 12 29 18.0 +0.4
comp=Z,143nm,1.5s
COLA LR LR
comp=Z,11µm,21.0s
DIV Divide 86.09 28 eP P 12 29 17.8 -0.3
comp=Z,220nm,1.2s
KLU Klutina 86.10 28 eP P 12 29 18.8 +0.6
comp=Z,114nm,1.4s
HDA Harding Lake 86.28 25 eP P 12 29 20.0 +1.0
comp=Z,41nm,0.9s
IL1 Eielson Array 86.39 25 eP P 12 29 18.6 -0.9
ILAR Eielson Array 86.39 25 P P 12 29 17.1 -2.4
comp=Z,20nm,0.8s,baz=263,slow=4.4,SNR=108
ILAR PKPPbc **PKKPbc** 12 47 21.7 +2.1
comp=Z,0.3nm,0.5s,baz=80,slow=0.9,SNR=4.5
ILAR PKPPKP **P'P'df** 12 55 28.5 +5.4
comp=Z,1.2nm,1.0s,baz=20,slow=1.7,SNR=5.0
ILAR LR LR 13 04 13.1
comp=Z,9µm,21.9s,baz=261,slow=33
ILB Eielson Array 86.39 25 eP P 12 29 18.9 -0.6
PAX Paxson 86.61 27 eP P 12 29 22.6 +1.9
PAX pmax pmax
comp=Z,141nm,1.4s
PAX Paxson 86.61 27 eP P 12 29 22.6 +1.9
comp=Z,141nm,1.4s
BMRM Bremner River 86.61 29 eP P 12 29 21.4 +0.7
comp=Z,136nm,1.2s
CRQM Cirque 87.28 29 eP P 12 29 24.0 -0.1
comp=Z,67nm,0.9s
DOT Dot Lake 87.37 26 eP P 12 29 25.2 +1.0
comp=Z,197nm,1.0s
MENT Mentasta 87.39 27 eP P 12 29 24.6 +0.1
comp=Z,136nm,1.5s
FYU Fort Yukon 87.45 23 eP P 12 29 25.8 +1.2
comp=Z,637nm,1.6s
QSPA South Pole Qui 87.56 180 eP P 12 29 24.8 -0.4
QSPA LR LR
comp=Z,77µm,20.0s
RKT Rikitea 87.57 113 eP P 12 29 28.3 +2.2
comp=Z,132nm,1.4s
RKT Rikitea 87.57 113 eS S 12 40 02.6 -4.0
comp=Z,5µm,22.5s
RKT Rikitea 87.57 113 eLQ LQ 12 53 24.7
comp=Z,8µm,32.0s
RKT eLR LR 12 57 04.1
comp=Z,48µm,33.8s
BALM Baldy 87.71 29 eP P 12 29 27.0 +0.9
BALM pmax pmax
comp=Z,104nm,1.3s
BALM Baldy 87.71 29 eP P 12 29 27.0 +0.9
comp=Z,104nm,1.3s
PCA Pinnacle 88.60 30 eP P 12 29 30.6 +0.3
comp=Z,158nm,1.0s
ABPO Ambohimpanom 88.70 251 eP P 12 29 33.1 +1.4
ABPO pmax pmax
comp=Z,73nm,1.1s
ABPO MLR MLR
comp=Z,4µm,20.0s
ABPO Ambohimpanom 88.70 251 eP P 12 29 33.1 +1.4
comp=Z,73nm,1.1s
ABPO LR LR
comp=Z,4µm,20.0s
EGAK Eagle 88.81 25 eP P 12 29 31.1 +0.1
comp=Z,53nm,0.9s
EGAK LR LR
comp=Z,15µm,20.0s
DAWY Dawson 89.48 26 eP P 12 29 34.4 +0.1
comp=Z,103nm,1.0s
HYT Haines Junctio 90.03 29 eP P 12 29 38.4 +1.3
comp=Z,60nm,1.0s
SYO Syowa Base 90.33 201⇑ eP P 12 29 35.6 -2.5
SYO Syowa Base 90.33 201 ⇓ iPcP PcP 12 29 39.0 -0.2
SYO Syowa Base 90.33 201⇑ pP pP 12 29 46.0 -0.3
SKAG Skagway 91.03 31 eP P 12 29 42.9 +1.4
comp=Z,87nm,1.0s
PTCN Pitcairn Islan 91.94 115 PFAKE 12 30 00.0 +13
PTCN LR LR
comp=Z,13µm,22.0s
INK Inuvik 92.14 22 P P 12 29 46.3 -0.2
comp=Z,11nm,0.8s,baz=265,slow=5.2,SNR=11
INK Inuvik 92.14 22 eP P 12 29 46.7 +0.2
comp=Z,37nm,1.0s
DIB Dawson Inlet, 92.41 37 eP P 12 29 49.5 +1.5
comp=Z,48nm,1.1s
WRAK Wrangell Islan 92.52 34 PFAKE 12 30 00.0 +12
WRAK LR LR
comp=Z,17µm,19.0s
DGRG David-gareji 92.53 311 P P 12 29 55.1 +6.1
DGRG David-gareji 92.53 311 P P 12 29 55.1 +6.1
GNI Garni 93.00 310 eP P 12 29 51.5 +0.2
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 93.00 310 P P 12 29 56.4 +5.1
SNR=8.4
GNI Garni 93.00 310 eP P 12 29 52.6 +1.3
comp=Z,607nm,1.6s
GNI LR LR
comp=Z,7µm,22.0s
TBLG Delisi 93.01 311 P P 12 29 55.8 +4.5
TBLG Delisi 93.01 311 P P 12 29 55.7 +4.5
GUDG Gudauri 93.21 312 P P 12 29 58.1 +5.8
ZEI Tsey 93.64 313 eP P 12 29 52.1 -2.2
ZEI pmax pmax
comp=Z,46nm,0.6s
DLBC Dease Lake 93.76 32 P P 12 29 54.5 +0.2
comp=Z,3.6nm,0.9s,baz=280,slow=4.4,SNR=6.4
DLBC Dease Lake 93.76 32 eP P 12 29 55.6 +1.3
comp=Z,50nm,1.4s
NCK Nalchik 93.86 313 eP P 12 29 54.5 -0.5
NCK pmax pmax
comp=Z,8.0nm,1.1s
NCK MLR MLR
comp=Z,5µm,19.0s
AKH Akhalkalaki 93.95 311 P P 12 29 56.0 +0.3
AKH Akhalkalaki 93.95 311 P P 12 29 56.0 +0.3
ONI Oni 93.97 312 P P 12 29 53.7 -1.9
ONI Oni 93.97 312 P P 12 29 53.7 -1.9
GOF Gofitskoye 94.24 315⇑ eP P 12 29 56.9 +0.2
GOF pmax pmax
comp=Z,60nm,1.5s
KBZ Khabaz 94.36 313 P P 12 29 56.2 -1.0
comp=Z,2.3nm,0.8s,baz=144,slow=2.9,SNR=6.2
KIV Kislovodsk 94.51 314 eP P 12 29 57.5 -0.6
KIV e 12 33 46.8
KIV e 12 40 29.4
KIV eSS SS 12 47 31.6 -0.5
KIV pmax pmax
comp=Z,15nm,1.1s
KIV pmax pmax
comp=Z,118nm,5.4s
KIV Kislovodsk 94.51 314 P P 12 30 02.6 +4.5
SNR=6.2
KIV Kislovodsk 94.51 314 PFAKE 12 30 10.0 +12
KIV LR LR
comp=Z,7µm,20.0s
VRH Novokhopyorsk 94.95 321 eP P 12 29 58.5 -1.3
VRH pmax pmax
comp=Z,40nm,0.9s
VRH MLR MLR
comp=Z,11µm,24.0s
BBB Bella Bella 95.09 38 eP P 12 30 01.4 +1.0
comp=Z,14nm,1.1s
KLMR Klimovskoe 95.56 331 eP P 12 29 58.1 -4.3
KLMR pmax pmax
comp=Z,104nm,1.5s
VSR Storozhevoye 96.56 321 eP P 12 30 06.1 -1.0
VSR e 12 40 33.2
VSR pmax pmax
comp=Z,40nm,1.0s
VSR MLR MLR
comp=Z,8µm,26.0s
SOC Sochi 96.67 313 eP P 12 30 05.3 -2.5
SOC e 12 34 00.1
SOC eS SKSac 12 40 39.9 -3.4
SOC i SS SS 12 47 58.1 -4.5
LVZ Lovozero 96.72 338 eP P 12 30 07.5 -0.1
LVZ pmax pmax
comp=Z,155nm,1.9s
LVZ MLR MLR
comp=Z,11µm,20.0s
LVZ Lovozero 96.72 338 eP P 12 30 07.5 -0.1
comp=Z,155nm,1.9s
LVZ LR LR
comp=Z,11µm,20.0s
MOS Moscow 97.06 326 eP P 12 30 09.1 -0.2
MOS e 12 34 06.6
MOS pmax pmax
comp=Z,73nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.1s
APA Apatity 97.25 338⇑ iP P 12 30 09.3 -0.6
APA i 12 34 11.0
APA i PPP PPP 12 36 12.0
APA i 12 40 48.0
APA i S S 12 41 25.0 -6.8
APA i PS PS 12 42 54.0 -2.8
APA i SS SS 12 48 04.0 -5.4
APA pmax pmax
comp=Z,14nm,1.1s
APA MLR MLR
comp=Z,14µm,24.0s
OBN Obninsk 97.73 325 P P 12 30 10.8 -1.5
comp=Z,50nm,0.3s,baz=115,slow=4.5,SNR=9.5
OBN Obninsk 97.73 325 eP P 12 30 10.6 -1.7
OBN e 12 34 07.2
OBN e 12 40 46.2
OBN eSS SS 12 48 13.0 -3.7
OBN eSSS SSS 12 51 59.4
OBN pmax pmax
comp=Z,48nm,1.0s
OBN Obninsk 97.73 325 P P 12 30 10.8 -1.5
OBN LR LR
comp=Z,13µm,22.0s
NLWA Neilton Lookou 98.17 43 PFAKE 12 30 30.0 +15
NLWA LR LR
comp=Z,10µm,21.0s
ANN Anapa 98.23 315 eP Pdif 12 30 16.4 +1.6
ANN e 12 34 16.9
ANN eS SKSac 12 40 52.2 +1.0
ANN eSS SS 12 48 29.5 +5.1
ANN pmax pmax
comp=Z,67nm,1.0s
ANN MLR MLR
comp=Z,6µm,24.0s
SPB1 Spitsbergen Ar 98.30 350 eP Pdif 12 30 14.8 +0.3
SPA1 Spitsbergen Ar 98.30 350 eP Pdif 12 30 15.3 +0.8
SPB2 Spitsbergen Ar 98.30 350 eP Pdif 12 30 14.6 +0.1
SPA0 Spitsbergen Ar 98.30 350 eP Pdif 12 30 14.8 +0.3
SPA0 IVmB_BB 12 30 22.6
SPA0 comp=Z,1µm,2.7s
SPA0 ePP PP 12 34 11.9 -2.3
SPA0 eSKSac SKSac 12 40 49.8 -0.6
SPA0 IVMs_BB IVMs_BB 13 14 48.5
comp=Z,5µm,21.5s
SPA0 Spitsbergen Ar 98.30 350 eP Pdif 12 30 15.0 +0.4
SPITS Spitsbergen Ar 98.30 350 P P 12 30 13.6 -0.9
comp=Z,32nm,0.9s,baz=136,slow=11,SNR=13
SPA3 Spitsbergen Ar 98.31 350 eP Pdif 12 30 15.2 +0.7
SPB3 Spitsbergen Ar 98.31 350 eP Pdif 12 30 15.7 +1.2
SPB4 Spitsbergen Ar 98.31 350 eP Pdif 12 30 15.3 +0.8
PGC Sidney 98.32 41 eP Pdif 12 30 15.4 +0.3
comp=Z,19nm,1.3s
NVL N'lazarevskaya 98.63 196 eP Pdif 12 30 20.5 +4.4
NVL e 12 34 19.3
NVL eS SKSac 12 40 55.6 +3.4
NVL eSS SS 12 48 25.6 -2.7
NVL MLR MLR
comp=Z,47µm,23.0s
KBS Kingsbay 98.66 351 PFAKE 12 30 30.0 +14
KBS LR LR
comp=Z,10µm,22.0s
KEV Kevo 98.96 341 eP Pdif 12 30 18.0 +0.4
KEV Kevo 98.96 341 eP Pdif 12 30 17.8 +0.3
KEV pmax pmax
comp=Z,152nm,1.8s
KEV MLR MLR
comp=Z,12µm,21.0s
KEV Kevo 98.96 341 eP Pdif 12 30 17.8 +0.2
comp=Z,152nm,1.8s
KEV LR LR
comp=Z,12µm,21.0s
HUMO Hull Mountain 99.26 47 eP **Pdif** **12 30 21.5 +2.0**
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 99.35 268 P **Pdif** **12 30 21.4 +0.5**
comp=Z,1.7nm,0.5s,baz=45,slow=6.0,SNR=6.4
KMBO Kilima Mbogo 99.35 268 eP **Pdif** **12 30 22.3 +1.4**
comp=Z,7.2nm,1.1s
KMBO LR LR
comp=Z,4µm,20.0s
ARA0 ARCESS Array S 99.53 341 eP **Pdif** **12 30 18.5 -1.6**
ARCES ARCESS Array B 99.53 341 P **Pdif** **12 30 18.1 -2.1**
comp=Z,31nm,1.0s,baz=69,slow=6.6,SNR=24
ARCES PKKPbc **PKKPbc** **12 46 44.5 -0.9**
comp=Z,1.8nm,0.9s,baz=300,slow=2.4,SNR=3.8
ARCES LR LR 13 18 18.4
comp=Z,12µm,21.9s,baz=76,slow=37
ARE0 ARCESS Array S 99.53 341 eP **Pdif** **12 30 18.9 -1.3**
ARE0 IVmB_BB 12 30 27.6
ARE0 comp=Z,1µm,2.7s
ARE0 e 12 33 43.2
ARE0 eSS SS 12 48 42.3 +0.9
ARE0 IVMs_BB IVMs_BB 13 17 41.3
comp=Z,4µm,21.0s
ARE0 ARCESS Array S 99.53 341 eP **Pdif** **12 30 20.8 +0.7**
comp=Z,97nm,1.3s
HAMF Hammerfest 99.73 342 eP **Pdif** **12 30 21.2 +0.3**
HAMF IVmB_BB 12 30 28.1
comp=Z,688nm,2.8s
HAMF e 12 33 45.5
HAMF eSKSac **SKSac** **12 40 55.7 -2.0**
HAMF eSS **SS** **12 48 49.8 +5.7**
HAMF IVMs_BB IVMs_BB 13 18 09.1
comp=Z,5µm,22.6s
HEF Hetta 100.54 340 eP **Pdif** **12 30 23.8 -0.9**
SIM Simferopol' 100.56 315 eP **Pdif** **12 30 28.0 +2.8**
SIM e 12 34 40.0
SIM i PS **PS** **12 43 37.0 +3.5**
SIM i SS SS 12 49 07.0 +10
SIM pmax pmax
comp=Z,490nm,11.2s
SIM MLR MLR
comp=Z,10µm,22.2s
YKA Yellowknife Ar 100.70 27 P **Pdif** **12 30 25.1 -0.3**
comp=Z,2.0nm,0.8s,baz=290,slow=4.5,SNR=5.3
K05A Summer Lake 100.76 47 ePdif **Pdif** **12 30 27.8 +1.3**
AFDM Forest Hills D 101.12 51 ePdif **Pdif** **12 30 28.7 +0.8**
HAWA Hanford 101.24 43 PFAKE 12 30 40.0 +12
HAWA LR LR
comp=Z,12µm,20.0s
KIF Kilpisjarvi 101.28 341 eP **Pdif** **12 30 27.6 -0.3**
MOD Modoc Plateau 101.29 48 ePdif **Pdif** **12 30 30.1 +1.4**
BRTR Keskin Array B 101.54 310 P **Pdif** **12 30 29.3 -0.6**
comp=Z,2.0nm,0.8s,baz=129,slow=5.1,SNR=8.4
BRTR PP **PP** **12 34 39.2 -0.7**
comp=Z,1.6nm,0.7s,baz=101,slow=7.5,SNR=4.0
SNAA Sanae 101.60 192 eP **Pdif** **12 30 30.3 +0.9**
SNAA Sanae 101.60 192 ePdif **Pdif** **12 30 30.2 +0.9**
TRO Tromso 101.63 342 eP **Pdif** **12 30 28.5 -0.9**
TRO ePP **PP** **12 34 37.1 -2.3**
TRO eSKSac **SKSac** **12 41 04.9 -2.0**
TRO IVMs_BB IVMs_BB 13 19 15.9
comp=Z,6µm,22.2s
FIA1 FINESS Array S 101.83 333 ePdif **Pdif** **12 30 30.9 +0.4**
FINES FINESS Array B 101.83 333 P **Pdif** **12 30 29.1 -1.5**
comp=Z,5.5nm,0.9s,baz=102,slow=8.0,SNR=12
FINES PP **PP** **12 34 43.7 +2.4**
comp=Z,2.3nm,0.8s,baz=101,slow=9.9,SNR=3.8
FINES PKKPbc **PKKPbc** **12 46 38.4 0.0**
comp=Z,2.4nm,0.9s,baz=123,slow=7.0,SNR=5.5
ANTO Ankara 102.17 310 PFAKE 12 30 40.0 +7.4
ANTO LR LR
comp=Z,4µm,22.0s
BR231 Keskin MP Arra 102.18 310 ePdif **Pdif** **12 30 30.3 -2.4**
PAHR Pah Rah Range 102.25 50 ePdif **Pdif** **12 30 34.6 +1.5**
CSS Mathiatis 102.29 305 ePdif **Pdif** **12 30 34.0 +0.8**
CSS LR LR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 102.45 47 eP **Pdif** **12 30 34.6 +0.7**
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR MLR MLR
comp=Z,13µm,20.0s
WVOR Wild Horse Val 102.45 47 ePdif **Pdif** **12 30 34.6 +0.7**
comp=Z,10.0nm,1.1s
WVOR LR LR
comp=Z,13µm,20.0s
NEW Newport 102.55 41 PFAKE 12 30 50.0 +16
NEW LR LR
comp=Z,12µm,19.0s
MICGM Minsk 102.78 326 eP **Pdif** **12 30 35.0 +0.1**
MICGM ePP PKiKP 12 35 18.0 +23
MICGM ePPP PPP 12 37 20.0
MICGM eSKS 12 41 20.0
MICGM eS **Sdif** **12 42 10.0 -8.8**
MICGM ePS **PS** **12 43 52.0 -4.6**
MICGM eSS SS 12 49 10.0 -17
MICGM eSSS SSS 12 53 20.0
MICGM eLQ LQ 13 06 05.0
MICGM LQM 13 09 30.0
comp=E,12nm,26.0s
MICGM LQM 13 09 40.0
comp=N,19nm,26.0s
MICGM eLR LR 13 16 50.0
MICGM LRM MLR 13 20 42.0
comp=Z,14nm,20.0s
MICGM LRM MLR 13 20 44.0
comp=E,6.4nm,20.0s
MNK Minsk 102.78 326 eP **Pdif** **12 30 35.0 +0.1**
MNK eS **Sdif** **12 42 10.0 -8.8**
MNK ePS **PS** **12 43 52.0 -4.6**
MNK eSSS SSS 12 53 20.0
AKASG Malin Array Be 102.85 322 P **Pdif** **12 30 33.0 -2.2**
comp=E,5.3nm,0.8s,baz=64,slow=4.4,SNR=15
AKASG PP **PP** **12 34 48.4 -0.9**
comp=E,1.0nm,0.6s,baz=65,slow=6.7,SNR=4.6
KIEV Kiev 102.86 322 eP **Pdif** **12 30 35.5 +0.2**
KIEV MLR MLR
comp=Z,8µm,20.0s
KIEV Kiev 102.86 322 ePdif **Pdif** **12 30 35.5 +0.2**
KIEV LR LR
comp=Z,8µm,20.0s
BMO Blue Mountains 103.03 45 PFAKE 12 30 50.0 +14
BMO LR LR
comp=Z,14µm,20.0s
NACGM Naroch 103.30 326 eP **Pdif** **12 30 37.0 -0.2**
NACGM ePP **PP** **12 34 52.0 -0.4**
NACGM ePPP PPP 12 37 18.0
NACGM eSKS 12 40 54.0
NACGM eSKKS SKSac 12 41 32.0 +17
NACGM ePS **PS** **12 44 16.0 +14**
NACGM eSS SS 12 49 16.0 -18
NACGM eSSS SSS 12 52 40.0
NACGM eLQ LQ 13 08 56.0
NACGM eLR LR 13 16 19.0
NACGM LRM MLR 13 23 40.0
comp=Z,22nm,20.0s
KIS Kishinev 103.87 318 ePP PP 12 34 52.0 -5.0
comp=Z,1µm,13.0s
KIS Kishinev 103.87 318 ePPP PPP 12 37 25.0
KIS eSKKS 12 41 50.0
KIS Kishinev 103.87 318 ePS PS 12 43 56.0 -12
KIS Kishinev 103.87 318 ePPS PPS 12 44 46.0
KIS eSS SS 12 49 46.0 +3.4
KIS eSSS SSS 12 53 53.0
KIS eL L 13 08 00.0
KIS LRM MLR 13 30 32.0
comp=Z,5µm,19.0s
MFID Camas Ranch 104.33 46 ePdif **Pdif** **12 30 43.3 +1.1**
comp=Z,8.4nm,1.1s
DAG Danmarks Havn 104.44 354 i P PP 12 35 09.3 +9.0
comp=Z,7µm,23.0s
HLID Hailey 105.31 45 ePdif **Pdif** **12 30 47.6 +1.0**
comp=Z,2.9nm,0.9s
HLID LR LR
comp=Z,15µm,20.0s
PFO Pinyon Flats O 105.36 56 PFAKE 12 35 10.0
PFO LR LR
comp=Z,19µm,21.0s
R11A Troy Canyon, C 105.38 51 ePdif **Pdif** **12 30 48.6 +1.5**
SUW Suwalki 105.57 326 eP **Pdif** **12 30 48.2 +0.9**
SUW ePP **PP** **12 35 08.6 -0.7**
SUW LMZ LR 13 19 51.4
comp=Z,10µm,25.5s
SUW Suwalki 105.57 326 eP **Pdif** **12 30 48.2 +0.9**
SUW e 12 35 08.6
SUW MLR MLR
comp=Z,10µm,25.5s
BURAR Bucovina Array 106.12 319 ⇓ iP **Pdif** **12 30 50.9 +0.9**
BUR08 Bucovina Ar. S 106.12 319 ePdif **Pdif** **12 30 51.1 +1.0**
LVV L'vov 106.29 321 eP **Pdif** **12 30 56.4 +5.8**
LVV e 12 35 19.4
LVV e 12 41 24.2
DOPR Dopca 106.41 317 ⇓ iP **Pdif** **12 30 51.0 -0.3**
BOZ Bozeman (W) 106.78 43 PFAKE 12 35 20.0
BOZ LR LR
comp=Z,13µm,20.0s
LSZ Lusaka 107.14 253 PFAKE 12 35 20.0
LSZ LR LR
comp=Z,7µm,20.0s
DUG Dugway, Tooele 107.16 49 PFAKE 12 35 20.0
DUG LR LR
comp=Z,18µm,20.0s
KWP Kalwaria Pacla 107.17 322 eP **Pdif** **12 31 00.9 +6.3**
KWP ePP **PP** **12 35 19.8 -1.5**

KWP LMZ LR 13 20 13.9
comp=Z,13µm,26.7s
KWP Kalwaria Pacla 107.17 322 ⇑ *i*P **Pdif 12 30 56.7 +2.1**
KWP Kalwaria Pacla 107.17 322 *e*P **Pdif 12 31 00.9 +6.3**
KWP *e* 12 35 19.8
KWP MLR MLR
comp=Z,13µm,26.7s
BOSA Boshof 107.51 239 PKKPbc PKKPbc 12 46 23.2 +2.8
comp=Z,2.7nm,0.8s,baz=324,slow=3.2,SNR=3.7
BEL Belsk 107.64 324 *e*P **Pdif 12 31 03.0 +6.4**
BEL *e*PP **PP 12 35 32.2 +7.6**
BEL LMZ LR 13 21 31.8
comp=Z,10µm,24.4s
BEL Belsk 107.64 324 *e*P **Pdif 12 31 02.9 +6.4**
BEL *e* 12 35 32.2
BEL MLR MLR
comp=Z,10µm,24.4s
KOLS Kolonicke sedl 107.65 321 *e*P **Pdif 12 30 57.7 +1.0**
KOLS MLR MLR
comp=Z,7µm,23.9s
KOLS Kolonicke sedl 107.65 321 *e*PDIFF **Pdif 12 30 57.6 +0.9**
KOLS *e* 13 01 42.9
KOLS *e*L L 13 21 01.1
UZH Uzhgorod 107.73 321 *e*P **Pdif 12 31 02.2 +5.2**
UZH *i* 12 35 30.0
UZH *e* 12 41 32.0
UZH *e*PS **PS 12 44 43.8 -4.5**
UZH *e*SS SS 12 50 33.2 -1.8
HWUT Hardware Ranch 107.78 47 PFAKE 12 35 20.0
HWUT LR LR
comp=Z,16µm,19.0s
AHID Auburn Hatcher 107.85 46 PFAKE 12 35 20.0
AHID LR LR
comp=Z,15µm,20.0s
LKWY Lake 107.90 44 PFAKE 12 35 20.0
LKWY LR LR
comp=Z,18µm,21.0s
SNOW Snow King Moun 107.92 45 *e*PKPdf **PKiKP 12 35 08.2 +2.5**
DRGR 107.98 319 ⇓ *i*P **Pdif 12 30 59.7 +1.4**
STHS Stebnicka Huta 108.14 322 *e*P **Pdif 12 30 51.0 -7.9**
STHS Stebnicka Huta 108.14 322 *e* **Pdif 12 30 51.0 -7.9**
STHS *e*PDIFF 12 31 01.3
CRVS Cervenica-Dubn 108.17 321 *e*P **Pdif 12 31 01.5 +2.5**
CRVS Cervenica-Dubn 108.17 321 *e*PDIFF **Pdif 12 31 01.5 +2.5**
CRVS *e* 12 34 48.3
U15A North Rim 108.29 52 *e*PKiKP **PKiKP 12 35 10.3 +3.8**
SANT Santorini 108.43 308 PFAKE 12 35 20.0
SANT LR LR
comp=Z,3µm,22.0s
RLMT Red Lodge 108.53 43 PFAKE 12 35 20.0
RLMT LR LR
comp=Z,12µm,19.0s
NB2 NORSAR Subarra 108.55 335 P **Pdif 12 31 01.2 +0.7**
comp=Z,18nm,1.7s,baz=58,slow=4.6
NB2 NORSAR Subarra 108.55 335 P **Pdif 12 31 01.2 +0.7**
baz=58,slow=4.6
NOA NORSAR Array B 108.55 335 Pdiff **Pdif 12 31 01.6 +1.1**
comp=Z,1.3nm,0.9s,baz=59,slow=4.6,SNR=3.4
NOA PP **PP 12 35 27.5 -3.5**
comp=Z,3.5nm,0.9s,baz=58,slow=6.7,SNR=7.5
NOA PKKPbc **PKKPbc 12 46 17.8 -0.3**
comp=Z,0.9nm,0.8s,baz=242,slow=3.5,SNR=5.7
NIE Niedzica 108.73 322 *e*P **Pdif 12 31 08.2 +6.7**
NIE LMZ LR 13 19 45.9
comp=Z,6µm,25.0s
NIE Niedzica 108.73 322 *e*P **Pdif 12 31 08.2 +6.7**
NIE MLR MLR
comp=Z,6µm,25.0s
OJC Ojcow 108.77 323 *e*P **Pdif 12 31 07.7 +6.1**
OJC LMZ LR 13 21 23.6
comp=Z,8µm,25.9s
OJC Ojcow 108.77 323 *e*P **Pdif 12 31 07.7 +6.1**
OJC MLR MLR
comp=Z,8µm,25.9s
KECS Kecovo 108.91 321 *e*P **Pdif 12 31 03.7 +1.4**
KECS Kecovo 108.91 321 *e*PDIFF **Pdif 12 31 03.7 +1.4**
BW06 Boulder Array 108.95 45 PFAKE 12 35 20.0
BW06 LR LR
comp=Z,11µm,19.0s
PDAR Pinedale Array 108.95 45 Pdiff **Pdif 12 31 02.5 -0.5**
comp=Z,0.3nm,0.4s,baz=251,slow=4.7,SNR=2.4
PDAR PKiKP **PKiKP 12 35 07.3 -0.2**
comp=Z,1.1nm,0.7s,baz=256,slow=1.2,SNR=5.9
PDAR PKKPbc **PKKPbc 12 46 21.1 +4.6**
comp=Z,1.0nm,0.7s,baz=90,slow=6.3,SNR=4.6
GKP Gorka Klasztor 109.14 326 *e*P **Pdif 12 31 09.4 +6.2**
GKP *e*PP **PP 12 35 41.1 +5.7**
GKP LMZ LR 13 23 48.2
comp=Z,23µm,22.3s
GKP Gorka Klasztor 109.14 326 *e*P **Pdif 12 31 09.4 +6.2**
GKP *e* 12 35 41.2
GKP MLR MLR
comp=Z,23µm,22.3s
WUAZ Wupatki 109.20 53 PFAKE 12 35 20.0
WUAZ LR LR
comp=Z,25µm,20.0s
PSZ Piszkesteto 109.47 320 PFAKE 12 35 20.0
PSZ LR LR
comp=Z,11µm,21.0s
FFC Flin Flon 109.59 32 PFAKE 12 35 20.0
FFC LR LR
comp=Z,16µm,20.0s
BSD Bornholm Skovb 109.63 329 *i*P **PP 12 35 44.6 +5.7**
comp=Z,11µm,19.0s
OKC Ostrava-Krasne 109.90 323 *e*PP PP 12 35 48.2 +7.1
OKC *ex* x 12 42 03.1
OKC AMS AMS 13 27 30.0
comp=Z,9µm,20.7s
VYHS Vyhne 109.95 321 *i*P **Pdif 12 31 04.9 -2.0**
VYHS *e* 12 35 49.2
VYHS MLR MLR
comp=Z,6µm,24.5s
VYHS Vyhne 109.95 321 *e*PDIFF **Pdif 12 31 04.9 -2.0**
VYHS *e*PP **PP 12 35 49.2 +7.7**
VYHS *e* 12 44 54.7
VYHS *e*L L 13 21 39.4
KONO Kongsberg 109.97 334 PFAKE 12 35 20.0
KONO LR LR
comp=Z,19µm,20.0s
RPN Rapa Nui 110.09 120 PFAKE 12 35 20.0
RPN LR LR
comp=Z,2µm,22.0s
LAO LASA Array 110.09 41 PFAKE 12 35 20.0
LAO LR LR
comp=Z,10µm,20.0s
SUR Sutherland 110.28 234 PFAKE 12 35 20.0
SUR LR LR
comp=Z,17µm,21.0s
TUC Tucson 110.28 56 *e*PKIKP **PKiKP 12 35 12.6 +2.5**
TUC MLR MLR
comp=Z,14µm,20.0s
TUC Tucson 110.28 56 *e*PKPdf **PKiKP 12 35 12.6 +2.5**
TUC LR LR
comp=Z,14µm,20.0s
MORC Moravsky Berou 110.29 323 ⇓ *i*P **Pdif 12 31 09.6 +1.1**
O20A White River Ci 110.58 48 *e*PKPdf **PKiKP 12 35 12.2 +1.6**
SCO Scoresbysund 110.59 352 *i*P **PP 12 35 50.2 +4.9**
comp=Z,6µm,24.0s
KSP Ksiaz 110.63 324 *e*Pdiff **Pdif 12 31 12.1 +2.1**
KSP LMZ LR 13 24 05.5
comp=Z,10µm,22.6s
KSP Ksiaz 110.63 324 *e*P **Pdif 12 31 12.0 +2.1**
KSP MLR MLR
comp=Z,10µm,22.6s
DGMT Dagmar 110.78 38 PFAKE 12 35 20.0
DGMT LR LR
comp=Z,13µm,21.0s
DPC Dobruska-Polom 110.80 324 *e*PDIFF **Pdif 12 31 12.3 +1.6**
DPC *e*P 12 31 19.3
DPC *ex* x 12 42 08.2
DPC AMS AMS 13 27 50.0
comp=Z,12µm,19.7s
DPC Dobruska-Polom 110.80 324 *i*P **Pdif 12 31 12.3 +1.6**
DPC *e* 12 42 08.2
DPC MLR MLR
comp=Z,12µm,19.7s
PV01 Paradox Valley 110.83 50 *e*PKPdf **PKiKP 12 35 12.7 +1.4**
UPC Upice 110.92 324 *e*PP PP 12 35 56.1 +7.7
UPC AMS AMS 13 28 00.0
comp=Z,12µm,19.5s
VRAC Vranov 111.03 323 Pdiff **Pdif 12 31 12.0 +0.3**
comp=Z,3.7nm,0.9s,baz=26,slow=2.5,SNR=5.5
VRAC Vranov 111.03 323 ⇑ *i*P **Pdif 12 31 13.1 +1.3**
MVCO Mesa Verde 111.10 51 *e*PKPdf **PKiKP 12 35 13.6 +1.9**
MVCO LR LR
comp=Z,10µm,21.0s
PMSA Palmer Station 111.29 171 PFAKE 12 35 20.0
PMSA LR LR
comp=Z,24µm,19.0s
TIR Tirane 111.49 314 PFAKE 12 35 20.0
TIR LR LR
comp=Z,8µm,22.0s
TREC Trest 111.71 323 AMS AMS 13 28 20.0
comp=Z,12µm,20.0s
PVCC Panska Ves 111.76 324 AMS AMS 13 28 00.0
comp=Z,12µm,19.6s
MUD Monsted U'grnd 111.84 332 *i*P **PP 12 36 01.4 +6.7**
comp=Z,18µm,22.0s
GOPC GO Pecny, Ondr 111.88 324 *e*pP **Pdif 12 31 22.6 +7.1**
GOPC *e*PP **PP 12 36 00.2 +4.8**
GOPC AMS AMS 13 28 30.0
comp=Z,12µm,19.4s
GOPC GO Pecny, Ondr 111.88 324 *i*P **Pdif 12 31 22.6 +7.1**
GOPC *e* 12 36 00.2
GOPC MLR MLR
comp=Z,12µm,19.4s
BRG Berggiesshubel 111.97 325 *e*PDIFF **Pdif 12 31 17.5 +1.6**
comp=Z,6.4nm,1.0s
BRG PP **PP 12 35 56.1 +0.1**
comp=Z,118nm,2.4s
BRG SKS **SKSac 12 42 02.0 +8.8**
BRG SDIFF **Sdif 12 43 46.0 +10**
BRG PS **PS 12 45 19.0 -11**
BRG *e*PKKP **PKKPab 12 46 15.2 +1.0**
comp=Z,7.2nm,1.4s
BRG SS **SS 12 51 42.0 +10**
comp=N,10µm,21.7s
comp=E,8µm,21.0s
comp=Z,16µm,21.9s
BRG Berggiesshubel 111.97 325 *e*P **Pdif 12 31 17.5 +1.6**
BRG 12 35 56.1
BRG PS **PS 12 45 19.0 -11**
BRG SS SS 12 51 42.0 +10
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,118nm,2.4s
BRG pmax pmax
comp=Z,7.0nm,1.4s
BRG MLR MLR
comp=N,10µm,21.7s
BRG MLR MLR
comp=E,8µm,21.0s
BRG MLR MLR
comp=Z,16µm,21.9s
PRU Pruhonice 112.00 324 *e*pP **Pdif 12 31 22.5 +6.5**
PRU *e*PP **PP 12 36 03.8 +7.7**
PRU AMS AMS 13 28 30.0
comp=Z,15µm,20.3s
PRU Pruhonice 112.00 324 *i*P **Pdif 12 31 22.5 +6.5**
PRU *e* 12 36 03.8
PRU MLR MLR
comp=Z,15µm,20.3s
CONA Conrad Observa 112.01 321 PKiKP **PKiKP 12 35 14.4 +1.5**
comp=Z,0.8nm,0.5s
CLL Collm 112.32 326 *e*Pdif **Pdif 12 31 19.0 +1.6**
comp=Z,9.0nm,1.4s
CLL *i* 12 31 24.7
comp=Z,10.0nm,1.0s
CLL *e*PKiKP **PKiKP 12 35 15.0 +1.7**
CLL *e*PP **PP 12 36 02.0 +3.6**
comp=Z,128nm,2.5s
CLL *i* 12 36 13.3
CLL *e*SKSac **SKSac 12 41 57.0 +2.4**
CLL *e*Sdif **Sdif 12 43 42.0 +3.4**
CLL *e*PS **PS 12 45 36.0 +3.3**
CLL *e*PKKPbc **PKKPbc 12 46 07.0 +1.6**
CLL *e*PKKPdf **PKKPdf 12 46 24.0 -1.1**
comp=Z,9.0nm,1.2s
CLL *e* 12 47 30.0
CLL *e*SS **SS 12 51 42.0 +5.7**
CLL *e* 12 54 00.0
CLL LmV 13 29 00.0
comp=Z,15µm,20.4s
CLL Collm 112.32 326 *e*P **Pdif 12 31 19.0 +1.6**
CLL *e* 12 41 57.0
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL MLR MLR
comp=Z,15µm,20.4s
RSSD Black Hills 112.39 43 *e*PKIKP **PKiKP 12 35 14.1 +0.1**
RSSD Black Hills 112.39 43 *e*PKPdf **PKiKP 12 35 14.1 +0.1**
ARSA Arzberg 112.47 321 *i* PKKPab PKKPab 12 46 10.7 -1.3
comp=Z,4.0nm,1.1s
ISCO Idaho Springs 112.61 48 PFAKE 12 35 30.0
ISCO LR LR
comp=Z,11µm,21.0s
121A Cookes Peak, D 112.72 56 *e*PKPdf **PKiKP 12 35 16.9 +2.0**
KHC Kasperske Hory 112.92 323 *e*PDIFF **Pdif 12 31 19.9 -0.3**
KHC *e*pP 12 31 28.5
KHC *e*PKP **PKiKP 12 35 11.5 -3.1**
KHC *e*PP **PP 12 36 02.5 -0.3**
KHC *ex* x 12 36 09.6
KHC *e*PKKP **PKKPbc 12 46 05.5 +2.1**
KHC AMS AMS 13 28 50.0
comp=Z,16µm,20.7s
KHC Kasperske Hory 112.92 323 *i*P **Pdif 12 31 19.9 -0.3**
KHC *e* 12 35 11.5
KHC *e* 12 36 02.5
KHC MLR MLR
comp=Z,16µm,20.7s
GERES GERESS Array B 112.97 323 Pdiff **Pdif 12 31 20.1 -0.4**
comp=Z,1.5nm,0.9s,baz=59,slow=6.4,SNR=10
GERES PKiKP **PKiKP 12 35 15.9 +1.1**
comp=Z,0.6nm,0.5s,baz=90,slow=1.7,SNR=5.4
SOKA Soboth 113.00 320 *e*PKiKP **PKiKP 12 35 12.2 -2.7**
comp=Z,0.4nm,0.3s
SOKA *i* PKKPab **PKKPab 12 46 06.9 -2.8**
comp=Z,7.0nm,1.4s
MOA Molln 113.03 322 *i* PKiKP **PKiKP 12 35 15.1 +0.3**
comp=Z,5.2nm,1.4s
MOA *i* PKKPab **PKKPab 12 46 10.9 +1.3**
comp=Z,13nm,1.4s
ILULI Ilulissat 113.08 3 *i*P **PP 12 36 08.8 +5.7**
comp=Z,7µm,21.0s
NKC Novy Kostel 113.11 325 AMS AMS 13 27 20.0
comp=Z,16µm,19.1s
ANMO Albuquerque 113.25 53 *e*PKiKP **PKiKP 12 35 18.1 +2.3**
ANMO LR LR
comp=Z,18µm,21.0s
LPM Los Pinos Moun 113.26 54 *e*PKiKP **PKiKP 12 35 19.2 +3.3**
SDCO Great Sand Dun 113.27 50 *e*PKiKP **PKiKP 12 35 18.5 +2.6**
SDCO LR LR
comp=Z,15µm,19.0s
BNM Barren Site 113.30 54 *e*PKiKP **PKiKP 12 35 19.2 +3.1**
OBKA Obir 113.38 320 *i* PKKPab PKKPab 12 46 06.9 -1.2
comp=Z,4.6nm,0.8s
MYKA Terra Mystica 113.90 321 *i* PKKPdf PKKPdf 12 46 15.5 -6.6
comp=Z,2.4nm,0.5s
KBA Koelnbreinsper 113.91 321 *i* PKiKP **PKiKP 12 35 15.2 -1.6**
comp=Z,4.3nm,1.1s
KBA *i* PKKPab **PKKPab 12 46 07.6 +1.7**
comp=Z,5.0nm,0.8s
T25A Trinidad 114.28 50 *e*PKiKP **PKiKP 12 35 20.4 +2.6**
TIP Timpagrande 114.41 312 PFAKE 12 35 30.0 +12
TIP LR LR
comp=Z,5µm,21.0s
ABTA Abfaltersbach 114.57 321 *i* PKiKP PKPdf 12 35 18.2 +0.3
comp=Z,9.8nm,1.2s
ABTA *i* PKKPab **PKKPab 12 46 05.0 +2.1**
comp=Z,11nm,1.3s
CUC Castrocucco 114.84 313 PFAKE 12 35 30.0 +11
CUC LR LR
comp=Z,6µm,21.0s
OGNE Ogallala 114.85 46 PFAKE 12 35 30.0 +11
OGNE LR LR
comp=Z,12µm,20.0s
WTTA Wattenberg 114.89 322 *i* pPKPdf PKPdf 12 35 21.0 +2.4
comp=Z,17nm,1.7s
WTTA *i* PKKPbc **PKKPbc 12 45 55.7 -1.2**
comp=Z,12nm,1.4s
MNTX Cornudas Mount 114.89 56 PFAKE 12 35 30.0 +11
MNTX LR LR
comp=Z,14µm,20.0s
WATA Walderalm 114.89 322 *i* PKiKP PKPdf 12 35 19.8 +1.2
comp=Z,4.6nm,0.7s
WATA *i* PKKPab **PKKPab 12 46 01.2 -0.3**
comp=Z,4.1nm,0.9s
ULM Lac du Bonnet 114.95 34 PKP PKPdf 12 35 19.2 +0.9
comp=Z,3.8nm,0.8s,baz=277,slow=4.4,SNR=3.2
MOTA Moosalm 115.18 322 *i* sPKPdf **PKPdf 12 35 25.7 +6.6**
comp=Z,3.5nm,1.0s
MOTA *i* PKKPab **PKKPab 12 46 02.3 +2.1**
comp=Z,5.6nm,1.0s
SFJD Kangerlussuaq 115.31 3 *i*P PP 12 36 28.3 +9.4
SFJD Kangerlussuaq 115.31 3 PFAKE 12 35 30.0 +11
SFJD LR LR
comp=Z,6µm,22.0s
RETA Reutte 115.33 323 *i* PKKPab PKKPab 12 46 03.5 +4.0
comp=Z,13nm,1.3s
CEL Celeste 115.33 312 PFAKE 12 35 30.0 +10
CEL LR LR
comp=Z,4µm,20.0s
FETA Feichten 115.55 322 *i* PKiKP **PKPdf 12 35 22.0 +2.2**
comp=Z,5.2nm,1.1s
FETA *i* PKKPbc **PKKPbc 12 45 47.7 -6.8**
comp=Z,8.9nm,1.2s
HPIG 115.65 61 *e*PKPdf **PKPdf 12 35 21.0 +0.4**
AQU L'Aquila 115.72 317 PFAKE 12 35 30.0 +10
AQU LR LR
comp=Z,9µm,22.0s
BORG Borgarnes 115.77 350 PFAKE 12 35 30.0 +11
BORG LR LR
comp=Z,5µm,22.0s
AGMN Agassiz Nation 115.90 36 *e*PKPdf **PKPdf 12 35 20.7 +0.4**
AGMN LR LR
comp=Z,17µm,21.0s
DAVA Damuels 115.95 323 *i* PKiKP **PKPdf 12 35 21.4 +0.8**
comp=Z,6.5nm,0.7s
DAVA *i* PKKPab **PKKPbc 12 45 54.2 +1.0**
comp=Z,8.6nm,1.4s
BFO Black Forest 116.38 324 PFAKE 12 35 30.0 +8.8
BFO LR LR
comp=Z,10µm,21.0s
MSTX Muleshoe 116.44 53 *e*PKPdf **PKPdf 12 35 22.8 +0.9**
TSUM Tsumeb 116.45 247 PFAKE 12 35 30.0 +7.7
TSUM LR LR
comp=Z,8µm,20.0s
TX31 Lajitas Ar. Si 116.88 58 *e*PKPdf **PKPdf 12 35 22.0 -0.8**
TXAR Lajitas Array 116.88 58 Pdiff **Pdif 12 31 43.6 +5.4**
comp=Z,0.1nm,0.7s,baz=270,slow=2.7,SNR=2.4
TXAR PKP **PKPdf 12 35 21.7 -1.1**
comp=Z,3.8nm,0.8s,baz=196,slow=1.9,SNR=26
TXAR PKKPab **PKKPab 12 45 54.2 +1.3**
comp=Z,1.1nm,0.8s,baz=120,slow=6.8,SNR=7.5
WLF Walferdange 116.95 326 PFAKE 12 35 30.0 +7.8
WLF LR LR
comp=Z,13µm,20.0s
BCLA Clavier 117.01 327 APKP pPKPdf 12 35 28.8 -2.0
VLC Villacollemand 117.02 319 PFAKE 12 35 30.0 +7.4
VLC LR LR
comp=Z,5µm,21.0s
ECH Echery 117.12 325 *e*P **PP 12 36 36.7 +4.4**
WDD Wied Dalam 117.13 309 PFAKE 12 35 30.0 +7.0
WDD LR LR
comp=Z,3µm,20.0s
CBKS Cedar Bluff 117.25 47 PFAKE 12 35 40.0 +17
CBKS LR LR
comp=Z,13µm,19.0s
MOF Molkenrain 117.32 324 *e*P **PP 12 36 35.6 +1.8**
ECSD EROS Data Cent 117.49 41 *e*PKPdf **PKPdf 12 35 23.2 -0.3**
ECSD LR LR
comp=Z,11µm,19.0s
CLTB Caltabellotta 117.56 312 PFAKE 12 35 40.0 +16
CLTB LR LR
comp=Z,4µm,20.0s
LOMF Lomont 117.75 324 *e*P **PP 12 36 36.9 +0.1**
ESK Eskdalemuir 118.08 335 PFAKE 12 35 40.0 +16
ESK LR LR
comp=Z,12µm,20.0s
EYMN Ely 118.61 35 PFAKE 12 35 40.0 +14
EYMN LR LR
comp=Z,17µm,20.0s
BNI Bardonecchia 118.97 322 PFAKE 12 35 40.0 +14
BNI LR LR
comp=Z,18µm,20.0s
ZAIG Zacatecas 119.19 65 *e*PKPdf **PKPdf 12 35 29.3 +1.6**
SPMN Marine on St. 119.22 38 *e*PKPdf **PKPdf 12 35 26.9 +0.1**
GDM Grand'Maison 119.24 322 *e*P **PP 12 36 51.8 +4.5**
ABTX Abilene, Hawle 119.34 54 *e*PKPdf **PKPdf 12 35 27.2 -0.2**
WMOK Wichita Mounta 119.36 51 *e*PKIKP **PKPdf 12 35 27.8 +0.4**
WMOK MLR MLR
comp=Z,11µm,19.0s
WMOK Wichita Mounta 119.36 51 *e*PKPdf **PKPdf 12 35 27.8 +0.4**
WMOK LR LR
comp=Z,11µm,19.0s
KSU1 Kansas State U 119.40 46 *e*PKPdf **PKPdf 12 35 27.5 +0.2**
KSU1 LR LR
comp=Z,16µm,20.0s
GRN Grenoble 119.45 322 *e*P **PP 12 36 51.5 +2.9**
VSL Villasalto 119.64 315 PFAKE 12 35 40.0 +12
VSL LR LR
comp=Z,6µm,21.0s
U34A Anderson Ranch 119.72 49 *e*PKPdf **PKPdf 12 35 28.1 +0.1**
JCT Junction City 119.83 56 *e*PKIKP **PKPdf 12 35 27.8 -0.6**
JCT MLR MLR
comp=Z,14µm,20.0s
JCT Junction City 119.83 56 *e*PKPdf **PKPdf 12 35 27.8 -0.6**
JCT LR LR
comp=Z,14µm,20.0s
V34A Guthrie 119.95 50 *e*PKPdf **PKPdf 12 35 29.5 +1.1**
W34A Bridge Creek, 119.97 50 *e*PKPdf **PKPdf 12 35 28.5 0.0**
OG26 St.-Nazaire-De 120.05 322 *e*P **PP 12 36 59.7 +6.9**
SSB Saint Sauveur 120.16 323 PFAKE 12 35 40.0 +11
SSB LR LR
comp=Z,7µm,20.0s
SCIA State Center 120.54 42 PFAKE 12 35 40.0 +11
SCIA LR LR
comp=Z,12µm,22.0s
COWI Conover 120.96 36 *e*PKPdf **PKPdf 12 35 30.4 +0.3**
COWI LR LR
comp=Z,18µm,21.0s
KEST Kesra 121.12 311 PKP **PKPdf 12 35 31.9 +1.1**
comp=Z,7.5nm,0.8s,baz=300,slow=4.7,SNR=7.5
KEST Kesra 121.12 311 *e*PKPdf **PKPdf 12 35 31.4 +0.6**
NRS Narsarsuaq 121.36 1 *i*P **PP 12 37 08.3 +7.6**
comp=Z,9µm,21.0s
JFWS Jewell Farm 121.97 39 *e*PKIKP **PKPdf 12 35 31.7 -0.4**
JFWS MLR MLR
comp=Z,13µm,21.0s
JFWS Jewell Farm 121.97 39 *e*PKPdf **PKPdf 12 35 31.7 -0.4**
JFWS LR LR
comp=Z,13µm,21.0s
KVTX Kingsville 122.25 59 PFAKE 12 35 40.0 +7.0
KVTX LR LR
comp=Z,8µm,20.0s
HHAR Hobbs 122.47 48 *e*PKPdf **PKPdf 12 35 33.2 0.0**
HOPE Hope Point 123.24 185 PFAKE 12 35 50.0 +16
HOPE LR LR
comp=Z,16µm,19.0s
MIAR Mount Ida 123.43 49 *e*PKIKP **PKPdf 12 35 35.5 +0.4**
MIAR MLR MLR
comp=Z,18µm,22.0s
MIAR Mount Ida 123.43 49 *e*PKPdf **PKPdf 12 35 35.5 +0.4**
MIAR LR LR
comp=Z,18µm,22.0s
NATX Nacogdoches 123.61 53 *e*PKPdf **PKPdf 12 35 35.9 +0.3**
NATX LR LR
comp=Z,14µm,20.0s
TLIG Tlapa 123.78 71 *e*PKPdf **PKPdf 12 35 36.0 -0.4**
HDIL Hopedale 123.78 41 *e*PKPdf **PKPdf 12 35 36.2 +0.6**
HDIL LR LR
comp=Z,8µm,19.0s
X301 Greenbrier Sit 124.03 48 *e*PKPdf **PKPdf 12 35 37.7 +1.5**
X201 Greenbrier Sit 124.04 48 *e*PKPdf **PKPdf 12 35 36.9 +0.6**
WHAR Wooly Hollow 124.10 48 *e*PKPdf **PKPdf 12 35 37.7 +1.3**
WLAR White Oak Lake 124.12 50 *e*PKPdf **PKPdf 12 35 36.8 +0.3**
UALR University of 124.27 49 *e*PKPdf **PKPdf 12 35 36.9 +0.2**
SCHQ Schefferville 124.33 16 PKP **PKPdf 12 35 37.4 +1.1**
comp=Z,30nm,1.0s,baz=10,slow=1.9,SNR=8.7
SCHQ Schefferville 124.33 16 *e*PKPdf **PKPdf 12 35 37.6 +1.3**
EFI East Falkland 124.70 169 PFAKE 12 35 50.0 +13
EFI LR LR
comp=Z,15µm,22.0s
SIUC Southern Illin 125.23 44 *e*PKPdf **PKPdf 12 35 38.1 -0.4**
SFIN Lafayette 125.31 40 *e*PKPdf **PKPdf 12 35 38.1 -0.5**
OLIL Olney 125.50 43 *e*PKPdf **PKPdf 12 35 38.6 -0.4**
VLDQ Val d'Or 125.81 28 *e*PKPdf **PKPdf 12 35 38.9 -0.4**
USIN University of 126.18 43 *e*PKPdf **PKPdf 12 35 40.0 -0.3**
AAM Ann Arbor 126.36 37 *e*PKIKP **PKPdf 12 35 42.4 +1.9**
AAM MLR MLR
comp=Z,17µm,22.0s
AAM Ann Arbor 126.36 37 *e*PKPdf **PKPdf 12 35 42.4 +1.9**

AAM LR LR
comp=Z,17µm,22.0s
WVT Waverly 126.97 45 *e*PKIKP **PKPdf** 12 35 40.8 -1.1
WVT Waverly 126.97 45 *e*PKPdf **PKPdf** 12 35 40.8 -1.1
SADO Sadowa 127.32 32 *e*PKPdf **PKPdf** 12 35 42.7 +0.4
ACSO Alum Creek Sta 128.00 38 *e*PKPdf **PKPdf** 12 35 43.5 -0.3
ACSO LR LR
comp=Z,14µm,22.0s
ES19 SONSECA Array 128.44 321 *e*PKPdf **PKPdf** 12 35 46.1 +1.4
ESDC Sonseca Array 128.49 321 PKP **PKPdf** 12 35 45.4 +0.6
comp=Z,0.2nm,0.5s,baz=26,slow=3.4,SNR=4.9
ESDC PP **PP** 12 37 49.5 0.0
comp=Z,1.0nm,0.7s,baz=46,slow=8.2,SNR=4.6
TAM Tamanrasset 128.50 297 PFAKE 12 36 00.0 +15
TAM LR LR
comp=Z,5µm,20.0s
TRQ Mont Tremblant 128.54 27 *e*PKPdf **PKPdf** 12 35 46.4 +1.8
SWET Sewanee 128.76 45 *e*PKPdf **PKPdf** 12 35 44.8 -0.6
PAB San Pablo 128.81 321 PFAKE 12 36 00.0 +15
PAB LR LR
comp=Z,7µm,21.0s
PBRG Bragança 128.84 325 *e*PP PP 12 37 56.0 +4.4
LMQ La Malbaie 129.32 23 *e*PKPdf **PKPdf** 12 35 47.2 +1.2
MMNY Mt. Morris Dam 129.36 33 *e*PKPdf **PKPdf** 12 35 47.5 +1.3
MVO Moncorvo 129.42 325 *e*PP PP 12 38 04.7 +9.3
MVO Moncorvo 129.42 325 *e*LQ LQ 13 13 40.0
MVO *e*LR LR 13 21 39.7
comp=Z,7µm,20.0s
PGAV Gavieira, Arco 129.60 326 *e*PP PP 12 38 05.1 +8.6
PGAV Gavieira, Arco 129.60 326 *e*LQ LQ 13 11 17.1
PGAV *e*LR LR 13 19 58.8
comp=Z,15µm,20.0s
CPCT Cooper Cave 129.63 44 *e*PKPdf **PKPdf** 12 35 48.8 +1.8
LONY Lake Ozonia 129.72 29 *e*PKPdf **PKPdf** 12 35 49.6 +2.7
LONY LR LR
comp=Z,11µm,20.0s
TZTN Tazewell 129.72 43 *e*PKPdf **PKPdf** 12 35 48.1 +0.9
POLO Lamas de Olo 129.72 325 *e*PKPdf **PKPdf** 12 35 48.9 +1.8
POLO Lamas de Olo 129.72 325 *e*PP PP 12 38 07.1 +10
BRAL Brewton 129.82 50 *e*PKPdf **PKPdf** 12 35 48.4 +0.9
BRAL LR LR
comp=Z,10µm,21.0s
FRNY Flat Rock 130.03 28 *e*PKPdf **PKPdf** 12 35 48.1 +0.7
TKL Tuckaleechee C 130.04 44 *e*PKIKP **PKPdf** 12 35 47.7 -0.1
TKL Tuckaleechee C 130.04 44 *e*PKPdf **PKPdf** 12 35 47.7 -0.1
CCIG Comitan 130.06 71 *e*PKPdf **PKPdf** 12 35 49.2 +0.7
PVIS Viseu 130.21 325 *e*PP PP 12 38 05.2 +4.7
MTE Manteigas 130.21 324 *e*PP PP 12 38 10.9 +10
MTE Manteigas 130.21 324 *e*LQ LQ 13 14 14.1
MTE *e*LR LR 13 22 08.8
comp=Z,8µm,20.0s
MTE Manteigas 130.21 324 PFAKE 12 36 00.0 +12
MTE LR LR
comp=Z,10µm,22.0s
NCB Newcomb 130.37 29 *e*PKPdf **PKPdf** 12 35 49.3 +1.2
PLCA Paso Flores 130.41 153 PKP **PKPdf** 12 35 49.4 +0.9
comp=Z,9.0nm,0.7s,baz=198,slow=3.5,SNR=10
PMRV Marv??o 130.74 323 *e*PP PP 12 38 11.3 +7.3
PMRV Marv??o 130.74 323 *e*LQ LQ 13 11 43.1
PMRV Marv??o 130.74 323 *e*LR LR 13 22 33.3
comp=Z,8µm,20.0s
BINY Binghamton 130.76 32 *e*PKPdf **PKPdf** 12 35 51.1 +2.2
BINY LR LR
comp=Z,19µm,20.0s
SSPA Standing Stone 130.78 35 *e*PKPdf **PKPdf** 12 35 48.7 -0.3
PCAS Casmilo, Conde 130.99 324 *e*PP PP 12 38 18.4 +13
ACCN Adirondack Com 131.08 29 *e*PKPdf **PKPdf** 12 35 51.4 +1.9
PESTR Estremoz 131.22 323 *e*PKPdf **PKPdf** 12 35 52.8 +2.9
PESTR Estremoz 131.22 323 *e*PP PP 12 38 15.4 +8.3
TRIS Tristan da Cun 131.30 213 PFAKE 12 36 00.0 +10
TRIS LR LR
comp=Z,13µm,21.0s
PBAR Barrancos 131.31 322 *e*PP PP 12 38 19.9 +12
BLA Blacksburg 131.40 40 *e*PKIKP **PKPdf** 12 35 51.6 +1.2
BLA MLR MLR
comp=Z,18µm,20.0s
BLA Blacksburg 131.40 40 *e*PKPdf **PKPdf** 12 35 51.6 +1.2
BLA LR LR
comp=Z,18µm,20.0s
GOGA Godfrey 131.43 46 *e*PKIKP **PKPdf** 12 35 51.7 +1.2
GOGA MLR MLR
comp=Z,21µm,20.0s
GOGA Godfrey 131.43 46 *e*PKPdf **PKPdf** 12 35 51.7 +1.2
GOGA LR LR
comp=Z,21µm,20.0s
TRY Troy 131.56 30 *e*PKPdf **PKPdf** 12 35 53.4 +2.9
PKME Peaks-Kenny Pk 131.59 24 PFAKE 12 36 00.0 +10
PKME LR LR
comp=Z,12µm,20.0s
EVO Evora 131.68 323 *e*PP PP 12 38 20.6 +11
KMSC Kings Mountain 131.99 43 *e*PKPdf **PKPdf** 12 35 52.9 +1.4
WVL Waterville 132.00 25 *e*PKPdf **PKPdf** 12 35 52.9 +1.7
MVL Millersville 132.08 34 *e*PKPdf **PKPdf** 12 35 53.2 +1.7
SDMD Soldier's Deli 132.19 35 *e*PKPdf **PKPdf** 12 35 52.6 +0.9
PVAQ Vaqueiros 132.21 321 *e*PP PP 12 38 22.1 +8.6
PVAQ Vaqueiros 132.21 321 *e*LQ LQ 13 14 44.2
PVAQ *e*LR LR 13 23 59.1
comp=Z,7µm,20.0s
LIS Lisbon 132.25 324 *e*P **PKPdf** 12 35 50.9 -0.9
LIS *e*PP **PP** 12 38 13.6 0.0
LIS AMS AMS 13 38 19.4
comp=Z,8µm,19.9s
MESJ Messejana 132.25 322 *e*P **PKPdf** 12 35 51.1 -0.7
MESJ *e*PP **PP** 12 38 13.8 +0.1
MESJ AMS AMS 13 42 28.9
comp=Z,9µm,15.0s
MESJ Messejana 132.25 322 *e*PKPdf **PKPdf** 12 35 56.0 +4.1
MESJ Messejana 132.25 322 *e*PP PP 12 38 19.3 +5.6
PNCL Nicolau / Gran 132.26 323 *e*PP PP 12 38 15.0 +1.2
ODNJ Ogdensburg 132.28 32 *e*PKPdf **PKPdf** 12 35 55.0 +3.2
JSC Jenkinsville 132.52 44 *e*PKIKP **PKPdf** 12 35 54.1 +1.6
JSC Jenkinsville 132.52 44 *e*PKPdf **PKPdf** 12 35 54.1 +1.6
CBN Corbin Frederi 132.67 37 PFAKE 12 36 00.0 +7.4
CBN LR LR
comp=Z,20µm,22.0s
GGN Saint George 132.69 23 *e*PKPdf **PKPdf** 12 35 53.5 +1.0
JSRW J. Sargeant Re 132.69 38 *e*PKPdf **PKPdf** 12 35 53.9 +1.2
TEIG Tepich 132.72 65 PFAKE 12 36 10.0 +17
TEIG LR LR
comp=Z,4µm,20.0s
LMN Caledonia Moun 132.80 20 *e*PKPdf **PKPdf** 12 35 55.2 +2.5
MORF Marmelete 132.85 322 *e*P **PKPdf** 12 35 52.3 -0.8
MORF *e*PP **PP** 12 38 17.8 +0.2
MORF AMS AMS 13 42 02.0
comp=Z,9µm,17.0s
MORF Marmelete 132.85 322 *e*PKPdf **PKPdf** 12 35 52.3 -0.8
MORF Marmelete 132.85 322 *e*PP PP 12 38 18.3 +0.7
PAYG Puerto Ayora 132.97 93 PFAKE 12 36 10.0 +16
PAYG LR LR
comp=Z,14µm,19.0s
RTC Rabat Centre 133.67 317 PFAKE 12 36 10.0 +15
RTC LR LR
comp=Z,24µm,20.0s
NHSC New Hope 133.92 44 PFAKE 12 36 10.0 +15
NHSC LR LR
comp=Z,15µm,21.0s
TOA0 Torodi Ar. Sit 134.20 286 *e*PKPpre PKPpre 12 35 43.5
TOA0 *e*PKPdf **PKPdf** 12 35 55.6 -0.5
TOA0 *e*PKPdf **PKiKP** 12 35 56.3 -1.2
TORD Torodi Ar. Bea 134.20 286 PKhKP PKPpre 12 35 44.6
comp=Z,0.6nm,0.7s,baz=78,slow=4.5,SNR=3.9
TORD PKP **PKPdf** 12 35 56.1 0.0
comp=Z,8.5nm,0.9s,baz=66,slow=2.1,SNR=15
TORD SKKPbc SKKPbc 12 48 27.9 -7.3
comp=Z,4.5nm,1.1s,baz=246,slow=3.1,SNR=5.0
CNNC Cliffs of the 134.22 40 PFAKE 12 36 10.0 +14
CNNC LR LR
comp=Z,16µm,19.0s
TRQA Tornquist 136.22 159 PFAKE 12 36 10.0 +11
TRQA LR LR
comp=Z,26µm,19.0s
AUSP Uspallata 137.63 146 *e*P PKPpre 12 35 57.3
ASAL Salagasta 137.66 147 *e*P PKPpre 12 35 56.8
SHEL Horse Pasture 138.61 243 PFAKE 12 36 20.0 +16
SHEL LR LR
comp=Z,4µm,20.0s
AROD Rodeo 139.12 144 *e*P **PKPdf** 12 36 00.2 -5.1
LCO Las Campanas 139.22 142 *e*PKPdf **PKPdf** 12 36 05.6 +0.1
LCO LR LR
comp=Z,12µm,22.0s
ACHE Chepes 139.93 148 *e*P **PKPdf** 12 36 03.6 -2.9
AGUA GUANDACOL 140.20 145 *e*P PKPpre 12 36 00.3
TCA Tanti 140.84 151 *e*P PKPpre 12 35 57.6

PGRA Graciosa 140.93 341 *e*PKPdf **PKPdf** 12 36 09.1 +1.2
PGRA Graciosa 140.93 341 *e*LQ LQ 13 15 33.0
PMOZ Porto Moniz, M 141.04 324 *e*LQ LQ 13 15 43.4
PMOZ *e*LR LR 13 24 39.5
comp=Z,5µm,20.0s
CMLA Cha da Macela 141.18 337 *e*PKPdf **PKPdf** 12 36 10.8 +2.4
CMLA Cha da Macela 141.18 337 *e*LQ LQ 13 15 10.0
CMLA Cha da Macela 141.18 337 PFAKE 12 36 20.0 +12
CMLA LR LR
comp=Z,5µm,22.0s
PSET Sete Cidades 141.21 338 *e*PKPdf **PKPdf** 12 36 08.0 -0.5
PSET Sete Cidades 141.21 338 *e*LQ LQ 13 15 28.0
ROSA Rosais 141.30 341 *e*PKPdf **PKPdf** 12 36 06.4 -2.2
ROSA Rosais 141.30 341 *e*LQ LQ 13 15 30.0
DBIC Dimbokro 141.41 278 PKhKP PKPpre 12 36 03.9
comp=Z,15nm,0.8s,baz=63,slow=4.0,SNR=10
DBIC Dimbokro 141.41 278 *e*PKIKP PKPpre 12 36 06.4
DBIC Dimbokro 141.41 278 *e*PKPdf PKPpre 12 36 06.3
TIC Toumodi 141.58 278 *e*PKP1 PKPpre 12 36 05.3
LIC Lamto 141.62 277 *e*PKP1 PKPpre 12 36 05.7
comp=Z,68nm,1.4s
PSMN Pico do Norte, 141.66 336 *e*PKPdf **PKPdf** 12 36 09.2 -0.1
PSMN Pico do Norte, 141.66 336 *e*LQ LQ 13 15 21.0
CYA Choya 142.51 146 *e*P **PKPdf** 12 36 07.0 -4.2
MTDJ Mount Denham 142.97 63 *e*PKPdf **PKPdf** 12 36 11.3 -0.9
MTDJ LR LR
comp=Z,5µm,19.0s
BCIP Isla Barro Col 143.09 78 *e*P PKPbc 12 36 10.2 +0.9
BCIP Isla Barro Col 143.09 78 PFAKE 12 36 20.0 +7.6
BCIP LR LR
comp=Z,16µm,21.0s
ATAH Atahualpa 143.76 105 PKP PKPbc 12 36 12.9 +1.1
comp=Z,92nm,0.8s,baz=279,slow=4.8,SNR=29
NNA Nana 143.77 114 PKP PKPbc 12 36 11.4 +0.1
comp=Z,34nm,0.9s,baz=240,slow=4.6,SNR=8.8
NNA Nana 143.77 114 *e*PKPdf **PKPdf** 12 36 13.0 -0.7
NNA LR LR
comp=Z,7µm,20.0s
BBSR BB Station 144.05 32 *e*PKPdf **PKPdf** 12 36 13.3 -0.4
BBSR LR LR
comp=Z,8µm,20.0s
PB04 IPOC Station P 144.10 135 *e*PKPdf **PKPdf** 12 36 14.4 +0.1
FSA Cafayete 144.19 144 *e*P PKPbc 12 36 12.2 -0.2
GTBY Guantanamo Bay 144.41 58 *e*PKPdf **PKPdf** 12 36 13.8 -0.8
GTBY LR LR
comp=Z,7µm,22.0s
LVC Limon Verde 144.79 136 PKP **PKPdf** 12 36 15.4 -0.2
comp=Z,171nm,0.8s,baz=254,slow=4.5,SNR=24
LVC Limon Verde 144.79 136 *e*PKPdf **PKPdf** 12 36 15.8 +0.1
LVC LR LR
comp=Z,10µm,20.0s
OTAV Otavalo 144.84 93 *e*P **PKPab** 12 36 14.2 -0.9
OTAV Otavalo 144.84 93 *e*PKPdf **PKPab** 12 36 14.9 -0.2
OTAV LR LR
comp=Z,9µm,21.0s
GRGC Isla de Gorgon 145.21 88 *e*P **PKPbc** 12 36 14.8 -1.1
PB01 IPOC Station P 145.39 134 *e*PKPbc **PKPab** 12 36 17.0 +0.6
CMBC Cumbal 145.50 92 *e*P **PKPbc** 12 36 17.2 -0.1
SLA San Lorenzo 145.51 143 *e*P **PKPab** 12 36 17.5 +0.6
MALC Bahia Malaga 146.02 86 *e*P **PKPab** 12 36 20.3 +1.3
PB11 IPOC Station P 146.06 132 *e*PKPdf **PKPab** 12 36 18.8 -0.2
AZAP Zapla 146.15 143 *e*P **PKPab** 12 36 19.2 -0.2
CRUC La Cruz 146.40 91 *e*P **PKPbc** 12 36 19.8 -0.2
HJA Humahuaca 146.69 141 *e*P **PKPab** 12 36 22.1 +0.4
POPC Popayan, Colom 146.69 89 *e*P **PKPdf** 12 36 19.2 +0.2
GRTK Grand Turk 146.94 53 *e*PKPdf **PKPbc** 12 36 20.7 -0.1
GRTK LR LR
comp=Z,9µm,21.0s
MOTC Monteria, Cord 147.23 78 *e*P **PKPbc** 12 36 21.8 -0.1
HELC Santa Helena 147.69 82 *e*P **PKPbc** 12 36 22.8 -0.8
HELC Santa Helena 147.69 82 *e*PKPbc **PKPab** 12 36 24.8 -1.0
SDDR Presa de Saban 148.06 57 *e*PKPbc **PKPbc** 12 36 24.2 +0.2
SDDR LR LR
comp=Z,11µm,22.0s
NORC Norcasia 148.39 83 *e*P **PKPbc** 12 36 24.3 -0.8
CPUP Villa Florida 148.41 156 *e*P **PKPdf** 12 36 22.8 +1.6
CPUP Villa Florida 148.41 156 PKPbc **PKPdf** 12 36 22.9 +1.6
comp=Z,40nm,0.8s,baz=233,slow=1.7,SNR=21
CPUP Villa Florida 148.41 156 *e*PKPbc **PKPbc** 12 36 24.2 -0.5
PRAC Prado 148.47 87 *e*P **PKPdf** 12 36 22.8 +1.0
PRAC Prado 148.47 87 *e*PKPbc **PKPbc** 12 36 24.7 -0.6
ROSC El Rosal 148.99 85 PKP **PKPdf** 12 36 22.4 -0.5
comp=Z,16nm,0.8s,baz=282,slow=1.4,SNR=11
ROSC PKPbc **PKPbc** 12 36 25.7 -1.4
comp=Z,68nm,0.7s,baz=198,slow=2.8,SNR=36
ROSC El Rosal 148.99 85 *e*P **PKPdf** 12 36 24.3 +1.3
ROSC El Rosal 148.99 85 *e*PKPdf **PKPdf** 12 36 24.4 +1.4
LPAZ La Paz 149.27 128 PKP **PKPdf** 12 36 24.1 +0.5
comp=Z,34nm,1.2s,baz=21,slow=1.1,SNR=21
LPAZ PKPbc **PKPbc** 12 36 26.5 -1.4
comp=Z,52nm,1.1s,baz=274,slow=1.8,SNR=33
LPAZ La Paz 149.27 128 *e*PKPdf **PKPdf** 12 36 24.9 +1.3
ASCN Ascension 149.33 250 *e*PKPbc **PKPbc** 12 36 28.6 +1.2
ASCN LR LR
comp=Z,6µm,20.0s
BRRC Barranca, Sant 149.38 80 *e*P **PKPbc** 12 36 26.8 -0.8
SJAC San Juan de Ar 149.41 88 *e*P **PKPdf** 12 36 23.8 +0.4
CHIC Chingaza 149.59 85 *e*P **PKPdf** 12 36 29.3 +0.7
OCAC Ocaña 149.60 78 *e*P **PKPbc** 12 36 26.3 -2.0
BARC Barichara 149.96 81 *e*P **PKPbc** 12 36 28.3 -1.0
RUSC La Rusia 150.14 82 *e*P **PKPbc** 12 36 27.8 -2.2
GRMC Gramalote, San 150.19 79 *e*P **PKPbc** 12 36 29.3 -0.4
PAMC Pamplona, Colo 150.34 79 *e*P **PKPbc** 12 36 31.3 +0.8
SDV Santo Domingo 152.10 76 PKP **PKPdf** 12 36 27.7 +0.2
comp=Z,22nm,0.7s,baz=318,slow=1.1
SDV PKPbc **PKPbc** 12 36 34.2 0.0
baz=258,slow=2.6
SDV Santo Domingo 152.10 76 *e*P **PKPbc** 12 36 35.3 +1.1
SDV Santo Domingo 152.10 76 *e*PKPdf **PKPdf** 12 36 29.6 +2.0
SDV *e*PKPbc **PKiKP** 12 36 34.6 +0.1
SDV *e*PKPab **PKPab** 12 36 42.0 -1.8
SDV LR LR
comp=Z,13µm,20.0s
CELP Cerrillos 152.39 54 *e*PKPdf **PKPdf** 12 36 29.3 +1.7
SJG San Juan 152.71 54 *e*PKIKP **PKPdf** 12 36 29.7 +1.6
SJG MLR MLR
comp=Z,7µm,22.0s
SJG San Juan 152.71 54 *e*PKPdf **PKPdf** 12 36 29.7 +1.6
SJG LR LR
comp=Z,7µm,22.0s
SPB Sao Paulo 153.87 171 PFAKE 12 36 40.0 +2.4
SPB LR LR
comp=Z,18µm,22.0s
SIV San Ignacio 154.69 137 PKPbc **PKPbc** 12 36 38.7 -0.8
comp=Z,8.1nm,0.9s,baz=236,slow=6.9,SNR=9.7
ANWB Willy Bob 156.37 49 PFAKE 12 36 40.0 +6.8
ANWB LR LR
comp=Z,7µm,20.0s
SACV Santiago Islan 156.87 304 PFAKE 12 36 50.0 -14
SACV LR LR
comp=Z,4µm,20.0s
SAML Samuel 157.24 120 *e*PKPdf **PKPdf** 12 36 34.5 +0.1
SAML *e*PKPab **PKPab** 12 37 11.4 +6.1
SAML LR LR
comp=Z,13µm,20.0s
FDF Fort de France 158.57 54 PFAKE 12 36 50.0 +14
FDF LR LR
comp=Z,8µm,20.0s
GRGR Grenville 159.43 61 PFAKE 12 36 50.0 +13
GRGR LR LR
comp=Z,6µm,20.0s
BBGH Gun Hill 160.72 55 PFAKE 12 36 50.0 +12
BBGH LR LR
comp=Z,11µm,21.0s
PTGA Pitinga 163.09 100 PKP **PKPdf** 12 36 40.3 -0.7
comp=Z,7.3nm,1.0s,baz=169,slow=1.6,SNR=9.4
PTGA PKPab **PKPab** 12 37 31.2 +0.3
comp=Z,25nm,1.0s,baz=255,slow=7.2,SNR=9.1
PTGA Pitinga 163.09 100 *e*PKPdf **PKPdf** 12 36 40.8 -0.2
PTGA PKPab **PKPab** 12 37 31.2 +0.3
RCBR Riachuelo 168.96 222 PKPab **PKPab** 12 37 56.5 -0.2
comp=Z,16nm,1.0s,baz=98,slow=7.1,SNR=1.6
RCBR Riachuelo 168.96 222 PKPab **PKPab** 12 37 56.5 -0.2
RCBR LR LR
comp=Z,12µm,20.0s

*IDC **26** 12:19:13.7±0.6,2°.45S×136°.56E, h0km, mb4.9/16, mb1 5.0/18, mb1mx4.8/45, mbtmp5.0/18, ML4.2/1, MS6.2/1, Ms1 6.2/1, ms1mx5.3/39, Error ellipse: s-maj=29.1km s-min=14.3km az=73.0*
*NEIC **26** 12:19:16.7±3.3,2°.41S×136°.66E, h19km±20km, mb5.6/14, Error ellipse: s-maj=8.8km s-min=7.0km az=56.0*

*ISCJB **26** 12:19:17.9±0.3,2°.41S±0°.05×136°.67E±0°.06, h42km, mb5.2/29, Error ellipse: s-maj=9.8km s-min=5.7km az=149.2*

ISC 26 12:19:19.6±0.4,2°.44S±0°.08×136°.69E±0°.07, h42km, n67, σ1s13/67, mb5.0/28, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.01**	**91**	Pn	**Pn**	**12 20 16.7**	**-1.9**
	14nm,0.3s,baz=270,slow=20,SNR=4.3						
JAY				Sn	**Sn**	**12 21 01.4**	**-3.0**
	5.8nm,0.3s,baz=270,slow=20,SNR=2.2						
LUWI	**Luwuk**	**13.98**	**275**	*e*Pn	**Pn**	**12 22 32.5**	**-2.8**
KAPI	**Kappang**	**17.09**	**261**	LR	LR	12 31 17.4	
	comp=Z,80µm,21.1s,baz=101,slow=43						
WRA	**Warramunga Arr**	**17.55**	**187**	P	**Pn**	**12 23 21.4**	**+0.2**
	baz=7.9,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**21.27**	**187**	P	**P**	**12 24 02.3**	**-0.3**
	110nm,0.9s,baz=9.5,slow=8.5,SNR=2.2						
KKM	**Kota Kinabalu**	**22.12**	**292**	*e*P	**P**	**12 24 11.3**	**-0.5**
	43nm,0.7s						
JAGI	**Jajag, Banyuwa**	**23.21**	**254**	*e*P	**P**	**12 24 21.8**	**-1.4**
	153nm,1.0s						
MBWA	**Marble Bar**	**24.88**	**220**	*e*P	**P**	**12 24 38.5**	**-0.1**
	832nm,1.1s						
EIDS	**Eidsvold**	**26.68**	**150**	*e*P	**P**	**12 24 56.8**	**+1.9**
	104nm,0.9s						
NACB	**Ninganchiao**	**30.25**	**332**	*e*P	**P**	**12 25 26.9**	**+0.2**
	65nm,1.0s						
QIZ	**Qiongzhong**	**33.94**	**310**	*e*P	**P**	**12 25 59.8**	**+0.7**
	44nm,1.1s						
MJAR	**Matsushiro Arr**	**38.81**	**2**	P	**P**	**12 26 41.0**	**+0.5**
	5.3nm,0.8s,baz=191,slow=6.1,SNR=4.7						
MJAR	**Matsushiro Arr**	**38.81**	**2**	P	**P**	**12 26 41.0**	**+0.5**
LHMI	**Lhok Sumawe**	**40.43**	**281**	*e*P	**P**	**12 26 53.0**	**-1.3**
	233nm,0.8s						
CHTO	**Chiang Mai**	**42.71**	**301**	*e*P	**P**	**12 27 13.7**	**+0.8**
	20nm,1.0s						
USRK	**Ussuriysk Ar.**	**46.62**	**355**	P	**P**	**12 27 44.5**	**+0.9**
	3.0nm,0.4s,baz=180,slow=5.8,SNR=4.9						
ASAJ	**Asahikawa**	**46.65**	**6**	P	**P**	**12 27 44.4**	**+0.5**
	21nm,0.6s,baz=218,slow=8.5						
ASAJ	**Asahikawa**	**46.65**	**6**	*e*P	**P**	**12 27 43.6**	**-0.3**
	9.4nm,0.7s						
YSS	**Yuzh-Sakhalins**	**49.48**	**5**	*e*P	**P**	**12 28 05.1**	**-0.6**
	47nm,1.1s						
KUZ	**Kuaotunu**	**49.56**	**138**	*e*PN	**P**	**12 28 08.1**	**+1.5**
TOZ	**Tahuroa Road**	**49.98**	**140**	*e*PN	**P**	**12 28 11.7**	**+2.0**
HIZ	**Hauiti**	**50.02**	**141**	*e*PN	**P**	**12 28 11.2**	**+1.2**
QRZ	**Quartz Range**	**50.04**	**145**	*e*PN	**P**	**12 28 11.4**	**+1.2**
WVZ	**Waitaha Valley**	**50.55**	**148**	*e*PN	**P**	**12 28 14.3**	**+0.4**
NNZ	**Nelson**	**50.79**	**144**	*e*PN	**P**	**12 28 16.8**	**+1.1**
DUWZ	**D'Urville Isla**	**50.84**	**144**	*e*PN	**P**	**12 28 16.5**	**+0.3**
THZ	**Tophouse**	**50.87**	**145**	*e*PN	**P**	**12 28 16.2**	**-0.2**
WKZ	**Wanaka**	**50.91**	**151**	*e*PN	**P**	**12 28 19.5**	**+2.8**
RPZ	**Rata Peaks**	**51.16**	**148**	P	**P**	**12 28 19.4**	**+0.8**
	63nm,0.7s,baz=276,slow=4.3,SNR=6.1						
RPZ	**Rata Peaks**	**51.16**	**148**	*e*PN	**P**	**12 28 19.1**	**+0.5**
LBZ	**Lake Benmore**	**51.18**	**149**	*e*PN	**P**	**12 28 18.9**	**+0.2**
WHZ	**Whether Hill Re**	**51.19**	**152**	*e*PN	**P**	**12 28 19.8**	**+1.1**
BKZ	**Black Stump Fm**	**51.44**	**140**	*e*PN	**P**	**12 28 21.1**	**+0.3**
TSZ	**Takapari Road**	**51.63**	**142**	*e*PN	**P**	**12 28 22.8**	**+0.7**
MWZ	**Matawai**	**51.64**	**139**	PN	**P**	**12 28 23.7**	**+1.4**
KLR	**Kul'dur**	**51.64**	**356**	P	**P**	**12 28 22.7**	**+0.7**
	9.2nm,0.7s,baz=163,slow=11,SNR=3.5						
KHZ	**Kahutara**	**51.65**	**146**	PN	**P**	**12 28 21.6**	**-0.6**
MRZ	**Mangatainoka R**	**51.75**	**143**	*e*PN	**P**	**12 28 22.2**	**-0.8**
TUZ	**Tuapeka**	**52.03**	**151**	*e*PN	**P**	**12 28 26.3**	**+1.4**
SONM	**Songino Array**	**56.64**	**336**	P	**P**	**12 28 60.0**	**+1.4**
	5.9nm,1.0s,baz=157,slow=6.2,SNR=3.2						
TLY	**Talaya**	**60.77**	**337**	P	**P**	**12 29 28.0**	**+0.9**
	4.0nm,0.4s,baz=173,slow=5.7,SNR=3.0						
YAK	**Yakutsk**	**64.52**	**356**	P	**P**	**12 29 52.6**	**+0.8**
	34nm,0.7s,baz=156,slow=3.0,SNR=3.1						
YAK	**Yakutsk**	**64.52**	**356**	*e*P	**P**	**12 29 51.9**	**0.0**
	135nm,1.3s						
SEY	**Seymchan**	**66.27**	**8**	P	**P**	**12 30 04.0**	**+0.8**
	15nm,1.0s,baz=179,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**68.36**	**323**	P	**P**	**12 30 16.6**	**-0.2**
	13nm,0.9s,baz=125,slow=7.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**70.70**	**330**	P	**P**	**12 30 30.7**	**-0.4**
	7.7nm,0.7s,baz=111,slow=5.4,SNR=4.6						
KURK	**Kurchatov**	**72.35**	**326**	*e*P	**P**	**12 30 41.9**	**+0.9**
	203nm,0.8s						
KURBB	**Kurchatov Arra**	**72.36**	**325**	P	**P**	**12 30 39.5**	**-1.6**
	16nm,0.9s,baz=114,slow=6.7,SNR=3.4						
TIXI	**Tiksi**	**74.13**	**357**	P	**P**	**12 30 50.4**	**-0.7**
	2.4nm,0.4s,baz=163,slow=7.8,SNR=3.1						
BVAR	**Borovoye Array**	**77.95**	**326**	P	**P**	**12 31 11.6**	**-1.6**
	8.8nm,0.7s,baz=123,slow=7.7,SNR=2.1						
BRVK	**Borovoye**	**78.02**	**326**	*e*P	**P**	**12 31 13.3**	**-0.4**
	96nm,1.0s						
PMR	**Palmer**	**84.66**	**28**	*e*P	**P**	**12 31 50.3**	**+1.7**
	61nm,1.4s						
ILAR	**Eielson Array**	**86.43**	**25**	P	**P**	**12 31 56.0**	**-1.5**
	7.7nm,1.1s,baz=258,slow=5.1,SNR=4.0						
SYO	**Syowa Base**	**90.29**	**201**	*e*P	**P**	**12 32 15.7**	**0.0**
ARCES	**ARCESS Array B**	**99.59**	**341**	P	**Pdif**	**12 32 57.2**	**-0.9**
	4.9nm,0.9s,baz=64,slow=6.1,SNR=3.7						
TXAR	**Lajitas Array**	**116.88**	**58**	PKP	**PKPdf**	**12 38 00.3**	**-0.2**
	2.1nm,0.9s,baz=242,slow=1.8,SNR=3.9						
JCT	**Junction City**	**119.83**	**56**	*e*PKPdf	**PKPdf**	**12 38 06.3**	**+0.2**
MIAR	**Mount Ida**	**123.44**	**50**	*e*PKPdf	**PKPdf**	**12 38 12.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**134.24**	**286**	PKP	**PKPdf**	**12 38 33.5**	**-0.3**
	5.7nm,0.9s,baz=82,slow=2.9,SNR=3.3						
TRQA	**Tornquist**	**136.16**	**159**	*e*PKPdf	**PKPdf**	**12 38 38.5**	**+1.5**
KIC	**Kosan Boka**	**141.36**	**277**	*e*PKP1	**Pdif**	**12 36 04.8**	**-0.3**
	42nm,0.9s						
ATAH	**Atahualpa**	**143.72**	**105**	PKP	**PKPdf**	**12 38 51.7**	**-0.1**
	12nm,0.7s,baz=199,slow=4.1,SNR=2.4						
LVC	**Limon Verde**	**144.73**	**136**	PKP	**PKPdf**	**12 38 54.1**	**+0.8**
	77nm,0.8s,baz=266,slow=7.0,SNR=6.1						
CPUP	**Villa Florida**	**148.35**	**156**	PKPbc	**PKPbc**	**12 39 03.0**	**+0.8**
	14nm,0.8s,baz=119,slow=2.7,SNR=2.9						
ROSC	**El Rosal**	**148.96**	**85**	PKPbc	**PKPbc**	**12 39 05.2**	**+0.6**
	17nm,0.6s,baz=230,slow=16,SNR=4.1						
LPAZ	**La Paz**	**149.21**	**128**	PKPbc	**PKPbc**	**12 39 06.7**	**+1.3**
	4.6nm,0.7s,baz=259,slow=3.4,SNR=1.8						
SDV	**Santo Domingo**	**152.08**	**76**	PKPbc	**PKPbc**	**12 39 10.7**	**-1.1**
	29nm,0.8s,baz=359,slow=1.8,SNR=2.4						

*IDC **26** 12:21:18.3±0.7,2°.29S×136°.65E, h0km, mb4.8/21, mb1 4.8/22, mb1mx4.7/44, mbtmp4.8/22, ML4.0/1, Error ellipse: s-maj=27.1km s-min=15.9km az=68.0*
*NEIC **26** 12:21:21.4±2.4,2°.27S×136°.68E, h21km±17km, mb5.3/18, Error ellipse: s-maj=7.6km s-min=6.7km az=177.0*
*ISCJB **26** 12:21:22.0±0.4,2°.30S±0°.07×136°.73E±0°.05, h42km, mb5.0/36, Error ellipse: s-maj=10.3km s-min=6.9km az=4.1*

ISC 26 12:21:24.0±0.5,2°.30S±0°.09×136°.72E±0°.06, h42km, n49, σ0s87/50, mb5.0/35, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.98**	**93**	Pn	**Pn**	**12 22 21.6**	**-1.0**
	10nm,0.3s,baz=270,slow=20,SNR=5.5						
JAY				Sn	**Sn**	**12 23 06.8**	**-1.4**
	5.8nm,0.3s,baz=270,slow=20,

USRK	Ussuriysk Ar.	46.48	355	P		P	12 29 47.4	+0.4
	4.7nm,0.9s,baz=202,slow=3.1,SNR=3.0							
ASAJ	Asahikawa	46.50	6	P		P	12 29 47.5	+0.4
	21nm,0.7s,baz=223,slow=10,SNR=6.2							
ASAJ	Asahikawa	46.50	6	*e*P		P	12 29 47.1	-0.1
	12nm,0.9s							
YSS	Yuzh-Sakhalins	49.33	5	*e*P		P	12 30 08.5	-0.4
RPZ	Rata Peaks	51.27	148	P		P	12 30 23.5	-0.2
	55nm,1.1s,baz=1.5,slow=9.0,SNR=4.5							
KLR	Kul'dur	51.50	356	P		P	12 30 25.6	+0.3
	16nm,0.8s,baz=191,slow=3.4,SNR=6.0							
LSA	Lhasa	53.92	310	*e*P		P	12 30 45.7	+1.5
	16nm,1.0s							
ULN	Ulaanbaatar	56.28	336	*e*P		P	12 31 00.1	-0.4
	28nm,1.3s							
SONM	Songino Array	56.52	336	P		P	12 31 03.7	+1.5
	2.8nm,0.8s,baz=133,slow=6.1,SNR=4.2							
PETK	Petropavlovsk-	57.94	15	P		P	12 31 12.7	+0.7
	20nm,0.8s,baz=186,slow=5.8,SNR=5.9							
YAK	Yakutsk	64.38	356	P		P	12 31 56.1	+0.8
	35nm,0.6s,baz=116,slow=1.7,SNR=8.1							
YAK	Yakutsk	64.38	356	*e*P		P	12 31 55.4	+0.1
	71nm,1.0s							
SEY	Seymchan	66.12	8	P		P	12 32 07.2	+0.5
	5.7nm,0.8s,baz=245,slow=10,SNR=4.7							
MKAR	Makanchi Array	68.26	323	P		P	12 32 20.8	+0.2
	4.1nm,0.5s,baz=119,slow=7.3,SNR=8.3							
ZALV	Zalesovo Beam	70.59	330	P		P	12 32 34.2	-0.6
	5.5nm,0.8s,baz=115,slow=5.4,SNR=4.1							
KURK	Kurchatov	72.25	325	*e*P		P	12 32 44.9	0.0
	172nm,1.1s							
KURBB	Kurchatov Arra	72.25	325	P		P	12 32 44.8	-0.1
	6.8nm,0.9s,baz=118,slow=5.3,SNR=4.1							
TIXI	Tiksi	73.99	357	P		P	12 32 55.1	+0.3
	2.9nm,0.6s,baz=198,slow=5.4,SNR=3.3							
VNDA	Vanda	76.37	175	P		P	12 33 09.4	+1.0
	3.4nm,0.7s,baz=329,slow=6.9,SNR=5.7							
BVAR	Borovoye Array	77.84	326	P		P	12 33 17.3	+0.2
	12nm,0.8s,baz=114,slow=7.3,SNR=4.0							
BRVK	Borovoye	77.92	326	*e*P		P	12 33 17.7	+0.2
	56nm,1.0s							
NRIK	Noril'sk	78.77	344	P		P	12 33 22.2	+0.3
	13nm,0.9s,baz=134,slow=7.4,SNR=3.0							
RC01	Rabbit Creek A	84.10	28	*e*P		P	12 33 50.1	-0.1
	30nm,1.1s							
PMR	Palmer	84.51	28	*e*P		P	12 33 52.2	-0.1
	12nm,1.1s							
ARU	Arti	85.36	327	*e*P		P	12 33 56.2	-0.5
	8.0nm,0.6s							
ILAR	Eielson Array	86.28	25	P		P	12 34 00.3	-0.8
	5.6nm,0.9s,baz=261,slow=4.2,SNR=5.5							
QSPA	South Pole Qui	87.65	180	*e*P		P	12 34 08.0	+0.1
	52nm,1.0s							
ARCES	ARCESS Array B	99.46	341	P		Pdif	12 35 01.9	-0.1
	2.9nm,0.7s,baz=77,slow=6.4,SNR=6.5							
SUMG	Summit	109.75	358	*i* P		Pdif	12 35 47.9	-0.3
	comp=Z,12μm,23.0s							
COP	Copenhagen	110.58	330	*i* P		Pdif	12 35 53.9	+2.2
	comp=Z,6μm,21.0s							
JCT	Junction City	119.73	56	*e*PKPdf		PKPdf	12 40 10.7	+0.4
CPUP	Villa Florida	148.47	155	PKPbc		PKPbc	12 41 08.2	+1.3
	comp=Z,3.6nm,0.7s,baz=281,slow=2.7,SNR=3.4							
ROSC	El Rosal	148.92	84	PKPbc		PKPbc	12 41 09.8	+0.8
	comp=Z,6.9nm,0.6s,baz=328,slow=16,SNR=3.1							

ISK ***26*** *12:22:03.0,37.˚21N×28.˚24E,h27km,MD2.7*
ISCJB ***26*** *12:22:04.9±0.5,37.˚23N±0.˚03×28.˚10E±0.˚03,h0km,Error ellipse: s-maj=5.1km s-min=3.6km az=20.1*
CSEM ***26*** *12:22:04.9±0.3,37.˚22N×28.˚09E,h1km,MD2.7,Error ellipse: s-maj=6.8km s-min=4.7km az=1.0,Suspected Mining explosion.*
DDA ***26*** *12:22:04.8,37.˚26N×28.˚06E,h7km,Md2.8,Suspected Mining explosion.*

ISC 26 12:22:03.4±0.8,37.˚38N±0.˚05×28.˚14E±0.˚03,h0km,n13, σ0s50/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YER	Yerkesik	0.27	155	*e*PG		Pg	12 22 08.2	-0.3
YER				*e*SG		Sg	12 22 12.3	+0.3
YER	Yerkesik	0.27	155	*e*Pg		Pg	12 22 08.2	-0.3
YER				*e*Sg		Sg	12 22 12.3	+0.3
AYDB	Zeytinkoy-Aydi	0.60	341	*e*PG		Pn	12 22 18.8	-0.5
AYDB				*e*SG		Sn	12 22 29.7	-0.1
AYDB	Zeytinkoy-Aydi	0.60	341	*e*Pg		Pn	12 22 18.8	-0.5
AYDB				*e*Sg		Sn	12 22 29.7	-0.1
TURN	Turunc	0.63	144	*i* P		Pg	12 22 14.2	-1.2
TURN				*i* S		Sg	12 22 23.3	-0.2
BDRM	Kayabasi	0.64	241	P		Pg	12 22 14.8	-0.7
BDRM				S		Sg	12 22 23.2	-0.6
BDRM	Kayabasi	0.64	241	*i* P		Pg	12 22 14.8	-0.7
BDRM				*i* S		Sg	12 22 23.2	-0.6
BODT	Bodrum	0.73	245	*e*PG		Pg	12 22 17.3	-0.1
BODT				*e*SG		Sb	12 22 29.8	+0.2
BODT	Bodrum	0.73	245	*e*Pg		Pg	12 22 17.3	-0.1
BODT				*e*Sg		Sb	12 22 29.8	+0.2
DNZL	Cakiroluk	0.79	66	P		Pn	12 22 22.2	+0.3
DNZL				S		Sn	12 22 34.4	0.0
DNZL	Cakiroluk	0.79	66	*i* P		Pn	12 22 22.2	+0.3
DNZL				*i* S		Sn	12 22 34.4	0.0
GCAM	G?zelcaml?	0.79	294	P		Pb	12 22 20.6	+0.7
GCAM				S		Sn	12 22 34.7	+0.5
GCAM	G?zelcaml?	0.79	294	*i* P		Pb	12 22 20.6	+0.7
GCAM				*i* S		Sn	12 22 34.7	+0.5

ISCJB ***26*** *12:24:24.2±0.4,50.˚19N±0.˚03×18.˚91E±0.˚03,h0km,Error ellipse: s-maj=4.2km s-min=2.8km az=5.8*
CSEM ***26*** *12:24:24.7±0.2,50.˚20N×18.˚95E,h2km,ML2.6,Error ellipse: s-maj=5.2km s-min=3.4km az=7.0*
WAR ***26*** *12:24:25.1,50.˚23N×19.˚06E,h1km,Mw2.6*
PRU ***26*** *12:24:25.1,50.˚24N×18.˚95E,h0km*

ISC 26 12:24:24.6±0.8,50.˚16N±0.˚03×19.˚00E±0.˚02,h0km,n25, σ0s54/49,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHZP	Chorzow	0.13	359	*e*Pg		Pg	12 24 27.6	+0.5
CHZP				*e*Sg		Sg	12 24 29.8	+1.0
CHZP	Chorzow	0.13	359	*e*Pg		Pg	12 24 27.6	+0.5
CHZP				*e*Sg		Sg	12 24 29.8	+1.0
OJC	Ojcow	0.52	83	*e*Pg		Pg	12 24 34.0	-0.6
OJC				*e*Sg		Sg	12 24 41.0	-0.3
OJC	Ojcow	0.52	83	*e*Pg		Pg	12 24 34.0	-0.6
OJC				*e*Sg		Sg	12 24 41.0	-0.3
OJC	Ojcow	0.52	83	*e*Pgd		Pg	12 24 34.0	-0.6
OJC				*e*Sg		Sg	12 24 41.0	-0.3
MORC	Moravsky Berou	1.02	248	*e*Pg		Pg	12 24 44.5	+0.4
MORC				*e*Sg		Sb	12 24 59.1	+0.1
LANS	Liptovska Anna	1.06	163	*e*Pg		Pb	12 24 46.2	+0.4
LANS				*e*Sg		Sb	12 25 01.2	+0.9
LANS	Liptovska Anna	1.06	163	*e*PG		Pb	12 24 46.1	+0.3
LANS				*e*SG		Sb	12 25 01.2	+0.9
NIE	Niedzica	1.13	131	*e*Pg		Pb	12 24 47.2	+0.2
NIE				*e*Sg		Sn	12 25 03.3	-0.6
NIE	Niedzica	1.13	131	*e*Pg		Pb	12 24 47.2	+0.2
NIE				*e*Sg		Sn	12 25 03.3	-0.6
NIE	Niedzica	1.13	131	*e*Pg		Pb	12 24 47.2	+0.2
NIE				*e*Sg		Sn	12 25 03.3	-0.6
KRLC	Kraliky	1.43	267	*i* PG		Pn	12 24 50.8	-1.1
KRLC				*e*SG		Sg	12 25 10.1	-0.4
KRLC	Kraliky	1.43	267	Pg		Pn	12 24 50.8	-1.1
KRLC				Sg		Sg	12 25 10.1	-0.4
STHS	Stebnicka Huta	1.64	116	*e*Pn		Pg	12 24 55.9	-0.1
STHS				*e*Sn		Sg	12 25 18.1	+0.9
STHS	Stebnicka Huta	1.64	116	*e*PN		Pg	12 24 55.9	-0.1
STHS				*e*SN		Sg	12 25 18.1	+0.9
STHS				*e*LG		Lg	12 25 24.8	
VYHS	Vyhne	1.67	184	*e*Pn		Pn	12 24 55.2	0.0
VYHS				*e*Sn		Sg	12 25 18.1	-0.3
VYHS	Vyhne	1.67	184	*e*PN		Pn	12 24 55.1	-0.1
VYHS				*e*SN		Sg	12 25 18.1	-0.3
VYHS				*e*LG		Lg	12 25 20.8	
DPC	Dobruska-Polom	1.73	277	*e*PG		Pn	12 24 55.2	-0.8
DPC				*e*SG		Sn	12 25 18.4	-0.3
	7.3nm,0.7s							
DPC	Dobruska-Polom	1.73	277	Pg		Pn	12 24 55.2	-0.8
DPC				Sg		Sn	12 25 18.4	-0.3
	7.3nm,0.7s							
VRAC	Vranov	1.78	242	*e*Pn		Pn	12 24 56.8	+0.2
VRAC				*e*Sg		Sg	12 25 22.0	+0.3
KSP	Ksiaz	1.86	293	*e*Pg		Pb	12 24 59.5	+0.1
KSP				*e*Sg		Sg	12 25 24.1	-0.1
KSP	Ksiaz	1.86	293	*e*Pg		Pb	12 24 59.5	+0.1
KSP				*e*Sg		Sg	12 25 24.1	-0.1
KSP	Ksiaz	1.86	293	*e*Pg		Pb	12 24 59.5	+0.1
KSP				*e*Sg		Sg	12 25 24.1	-0.1
KECS	Kecovo	1.94	149	*e*PN		Pg	12 25 02.2	+0.3
KECS				*e*LG		Lg	12 25 35.3	
KRUC	Moravsky	2.02	238	*e*Pn		Pn	12 25 00.0	+0.1
KRUC				*e*Sg		Sg	12 25 29.6	+0.1

VIE ***26*** *12:25:38.8±0.8,51.˚57N×15.˚98E,h0km,mb2.2/2,ML2.7/5, Error ellipse: s-maj=4.9km s-min=2.1km az=29.0, Suspected Mining induced.*
ISCJB ***26*** *12:25:43.8±0.6,51.˚45N±0.˚03×16.˚14E±0.˚03,h0km,Error ellipse: s-maj=4.2km s-min=2.7km az=25.5*
CSEM ***26*** *12:25:45.2±0.3,51.˚47N×16.˚12E,h2km,ML3.2/11,Error ellipse: s-maj=5.2km s-min=4.3km az=21.0*
IDC ***26*** *12:25:46.6±1.1,51.˚45N×16.˚05E,h0km,mb1 3.2/4, mb1mx3.2/53,mbtmp3.1/4,ML2.7/4, Error ellipse: s-maj=19.8km s-min=9.2km az=111.0*
PRU ***26*** *12:25:46.9,51.˚43N×16.˚07E,h0km*

ISC 26 12:25:44.1±0.8,51.˚54N±0.˚03×16.˚13E±0.˚02,h0km,n44, σ1s26/79,1D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	172	*i* Pg		Pg	12 25 58.3	+0.7
KSP				*e*Sg		Sg	12 26 06.6	-0.2
KSP	Ksiaz	0.71	172	*i*/Pg		Pg	12 25 58.3	+0.7
KSP				*e*Sg		Sg	12 26 06.6	-0.2
KSP	Ksiaz	0.71	172	*i* Pgd		Pg	12 25 58.3	+0.7
KSP				*e*Sg		Sg	12 26 06.6	-0.2
UPC	Upice	1.04	184	*e*PG		Pg	12 26 04.3	+0.3
UPC				*e*SG		Sg	12 26 17.2	-0.2
	49nm,0.2s							
UPC	Upice	1.04	184	Pg		Pg	12 26 04.3	+0.3
UPC				Sg		Sg	12 26 17.2	-0.2
	49nm,0.2s							
DPC	Dobruska-Polom	1.20	174	*e*PG		Pg	12 26 07.0	-0.1
DPC				*e*SG		Sg	12 26 21.6	-1.0
	23nm,0.3s							
DPC	Dobruska-Polom	1.20	174	Pg		Pg	12 26 07.0	-0.1
DPC				Sg		Sg	12 26 21.6	-1.0
	23nm,0.3s							
PVCC	Panska Ves	1.42	225	*e*PG		Pg	12 26 11.4	+0.2
PVCC				*e*SG		Sg	12 26 29.5	0.0
	106nm,0.2s							
PVCC	Panska Ves	1.42	225	Pg		Pg	12 26 11.4	+0.2
PVCC				Sg		Sg	12 26 29.5	0.0
	106nm,0.2s							
KRLC	Kraliky	1.53	164	*e*PG		Pg	12 26 13.4	+0.1
KRLC				*e*SG		Sg	12 26 31.4	-1.7
KRLC	Kraliky	1.53	164	Pg		Pg	12 26 13.4	+0.1
KRLC				Sg		Sg	12 26 31.4	-1.7
BRG	Berggiesshubel	1.53	245	PN		Pn	12 26 13.0	+0.3
BRG				PG		Pg	12 26 14.1	+0.7
BRG				SG		Sb	12 26 33.5	+0.2
	37nm,0.4s							
GOPC	GO Pecny, Ondr	1.84	208	*e*PG		Pb	12 26 18.6	0.0
GOPC				*e*SG		Sb	12 26 42.6	+0.4
	10nm,0.2s							
GOPC	GO Pecny, Ondr	1.84	208	Pg		Pb	12 26 18.6	0.0
GOPC				Sg		Sb	12 26 42.6	+0.4
	10nm,0.2s							
PRU	Pruhonice	1.86	214	*e*SG		Sb	12 26 42.2	-0.4
	16nm,0.3s							
PRU	Pruhonice	1.86	214	Sg		Sb	12 26 42.2	-0.4
	16nm,0.3s							
CLL	Collm	1.97	264	*e*Pn		Pn	12 26 19.0	+0.3
CLL				*e*Pg		Pb	12 26 21.0	+0.2
CLL				*i*			12 26 25.6	
CLL				*e*Sg		Sg	12 26 49.0	+1.6
	comp=Z,16nm,0.3s							
MORC	Moravsky Berou	1.98	153	*e*Pn		Pn	12 26 19.1	+0.2
MORC				*e*Sg		Sb	12 26 46.7	+0.4
OKC	Ostrava-Krasne	2.14	142	*e*SG		Sb	12 26 50.6	0.0
	comp=Z,17nm,0.5s							
OKC	Ostrava-Krasne	2.14	142	Sg		Sb	12 26 50.6	0.0
	comp=Z,17nm,0.5s							
VRAC	Vranov	2.26	172	Pn		Pn	12 26 24.0	+1.4
	comp=Z,2.2nm,0.3s,baz=346,slow=15,SNR=9.7							
VRAC				Lg		Lg	12 26 54.6	
	comp=Z,3.0nm,0.3s,baz=102,slow=19,SNR=6.6							
VRAC	Vranov	2.26	172	*e*Pn		Pn	12 26 23.6	+1.0
VRAC				*e*Sg		Sb	12 26 54.7	+0.5
TREC	Trest	2.29	191	*e*PN		Pn	12 26 24.6	+1.5
TREC	Trest	2.29	191	Pn		Pn	12 26 24.6	+1.5
KRUC	Moravsky	2.49	176	*e*Pn		Pn	12 26 27.3	+1.5
KRUC				*e*Sg		Sb	12 27 02.4	+1.6
NKC	Novy Kostel	2.68	242	*e*PN		Pn	12 26 29.3	+0.9
NKC				*e*PG		Pg	12 26 35.4	+0.1
NKC				*e*SG		Sg	12 27 10.8	+0.8
	comp=Z,26nm,0.3s							
NKC	Novy Kostel	2.68	242	Pn		Pn	12 26 29.3	+0.9
JAVC	Velka Javorina	2.86	159	*e*Pn		Pn	12 26 32.4	+1.4
JAVC				*e*Sg		Sg	12 27 16.3	+0.3
KHC	Kasperske Hory	2.92	215	*e*PN		Pn	12 26 32.5	+0.8
KHC				*e*PG		Pb	12 26 38.4	+1.5
KHC				*e*SG		Sb	12 27 15.1	+1.9
	comp=Z,7.2nm,0.3s							
KHC	Kasperske Hory	2.92	215	Pn		Pn	12 26 32.5	+0.8
GERES	GERESS Array B	3.12	211	Pn		Pn	12 26 35.7	+1.1
	comp=Z,0.6nm,0.3s,baz=26,slow=12,SNR=8.4							
GERES				Pg		Pb	12 26 41.5	+1.1
	comp=Z,2.0nm,0.3s,baz=29,slow=17,SNR=20							
GERES				Sn		Sn	12 27 12.7	+0.1
	comp=Z,1.2nm,0.3s,baz=28,slow=27,SNR=4.1							
GERES				Lg		Lg	12 27 21.2	
	comp=Z,2.6nm,0.3s,baz=32,slow=26,SNR=7.7							
LANS	Liptovska Anna	3.21	137	*e*Pg		Pg	12 26 44.4	-1.2
LANS				*e*Sg		Sg	12 27 27.4	+0.3
LANS	Liptovska Anna	3.21	137	*e*PG		Pg	12 26 44.4	-1.2
LANS				*e*SG		Sg	12 27 27.4	+0.3
VYHS	Vyhne	3.52	149	*e*Pg		Pg	12 26 50.2	-1.2
VYHS	Vyhne	3.52	149	*e*PG		Pg	12 26 50.2	-1.2
VYHS				*e*SG		Sg	12 27 36.0	-1.0
VYHS				*e*LG		Lg	12 27 44.4	
CONA	Conrad Observa	3.62	183	Pn		Pn	12 26 36.9	-4.6
	comp=Z,0.6nm,0.2s							
CONA				Sg		Sg	12 27 38.9	-1.5
	comp=Z,5.6nm,0.3s							
BSD	Bornholm Skovb	3.65	349	*i* P		Pn	12 26 42.7	+1.0
BSD				*e*S		Sn	12 27 23.1	-2.4
BSD	Bornholm Skovb	3.65	349	*i* P		Pn	12 26 42.8	+1.0
	SNR=56							
BSD				*e*S		Sn	12 27 23.1	-2.4
MOA	Molln	3.89	199	Sg		Sg	12 27 47.8	-1.2
	comp=Z,3.1nm,0.2s							
STHS	Stebnicka Huta	3.90	121	*e*Pg		Pg	12 26 59.8	+1.1
STHS				*e*Sg		Sg	12 27 53.0	+3.8
STHS	Stebnicka Huta	3.90	121	*e*PG		Pg	12 26 59.8	+1.1
STHS				*e*SG		Sg	12 27 53.0	+3.8
STHS				*e*LG		Lg	12 28 02.4	
ARSA	Arzberg	4.32	186	Sg		Sg	12 28 02.4	-0.2
	comp=Z,7.2nm,0.7s							
FINES	FINESS Array B	11.33	25	Pn		Pn	12 28 26.6	-0.3
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=4.6							
ARCES	ARCESS Array B	18.59	10	Pn		P	12 30 00.1	-2.2
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=6.2							

IDC ***26*** *12:26:23.9±0.8,2.˚22S×136.˚70E,h0km,mb4.3/8, mb1 4.6/10,mb1mx4.2/40,mbtmp4.3/10,ML4.3/2, Error ellipse: s-maj=29.9km s-min=18.8km az=77.0*
NEIC ***26*** *12:26:26.6±0.5,2.˚18S×136.˚61E,h10km,mb5.4/23,Error ellipse: s-maj=9.5km s-min=9.1km az=19.0*
BJI ***26*** *12:26:31.2,2.˚50S×136.˚50E,h30km,mb5.0/8,mB5.8/9, Ms5.9/9,Ms7 5.8/8*
ISCJB ***26*** *12:26:32.3±0.3,2.˚68S±0.˚05×136.˚62E±0.˚06,h42km, mb5.1/30,Error ellipse: s-maj=8.9km s-min=6.2km az=144.5*

ISC 26 12:26:33.1±0.4,2.˚52S±0.˚06×136.˚57E±0.˚06,h42km,n54, σ2s55/65,mb5.3/30,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	Jayapura	4.13	90	Pn		Pn	12 27 28.2	-5.6
	3.3nm,0.3s,baz=261,slow=22,SNR=10							
JAY				Sn		Sn	12 28 14.3	-6.6
	3.7nm,0.3s,baz=96,slow=23,SNR=4.2							
FAKI	Fak Fak	4.33	265	*e*Pn		Pn	12 27 34.3	-2.2
SAUI	Saumlaki	7.55	224	*e*Pn		Pn	12 28 19.6	-1.1
MANU	Manus Island	10.80	88	*e*Pn		Pn	12 29 07.1	+1.9
MTN	Manton Dam	11.58	207	*e*Pn		Pn	12 29 15.9	0.0
PMG	Port Moresby	12.55	123	Pn		Pn	12 29 28.7	-0.5
	2.0nm,0.3s,baz=333,slow=11,SNR=4.8							
PMG	Port Moresby	12.55	123	*e*Pn		Pn	12 29 31.3	+2.1
COEN	Coen	13.10	150	*e*Pn		Pn	12 29 35.3	-1.5
RABL	Rabaul	15.65	96	*e*Pn		Pn	12 30 09.4	-1.5
	81nm,0.8s							
WRA	Warramunga Arr	17.45	187	P		Pn	12 30 33.3	-0.2
	2.2nm,0.3s,baz=9.7,slow=12,SNR=4.7							
FITZ	Fitzroy Crossi	18.83	214	P		Pn	12 30 52.6	+2.2
	0.8nm,0.3s,baz=15,slow=12,SNR=2.8							
AS31	Alice Springs	21.17	187	*e*P		P	12 31 15.6	+0.5
	105nm,1.2s							
ASAR	Alice Springs	21.18	187	P		P	12 31 14.6	-0.5
	21nm,0.6s,baz=8.5,slow=11,SNR=6.0							
EIDS	Eidsvold	26.67	150	*e*P		P	12 32 09.1	+0.8
	1μm,1.8s							
CAN	Canberra	34.61	162	*e*P		P	12 33 19.5	+1.2
	656nm,2.0s							
DZM	Mont Dzumac	34.92	126	*e*P		P	12 33 23.9	+2.7
	114nm,1.9s							
GYA	Guiyang	40.80	317	P		P	12 34 13.0	+2.1
GYA				pP		pP	12 34 21.8	-0.7
GYA				PP		PnPn	12 35 51.0	+1.1
GYA				PcP		PcP	12 36 13.3	+1.8
GYA				S		S	12 40 22.5	+3.3
GYA				sS		sS	12 40 37.0	-1.7
GYA				SS		SS	12 43 18.0	-3.6
GYA				PMZ				
	20nm,1.0s							
GYA				PMZ				
	130nm,6.0s							
CMAR	Chiang Mai Arr	42.50	301	P		P	12 34 21.2	-3.5
	4.5nm,0.8s,baz=118,slow=6.2,SNR=12							
KMI	Kunming	42.79	312	P		P	12 34 31.0	+3.7
KMI				pP		pP	12 34 37.5	-1.5
KMI				PMZ				
	13nm,0.5s							
CD2	Chengdu	45.63	319	P		P	12 34 50.5	+0.8
CD2				pP		pP	12 34 59.5	-2.0
CD2				sP		sP	12 35 03.5	-2.9
CD2				S		S	12 41 32.8	+3.1
CD2				sS		sS	12 41 48.0	-1.3
CD2				PMZ				
	20nm,0.5s							
CD2				PMZ				
	420nm,5.4s							
CD2				LN				
	7μm,18.5s							
CD2				LE				
	4μm,15.9s							
CD2				LZ				
	8μm,18.1s							
CN2	Changchun	47.19	349	*e*P		P	12 35 06.0	+4.4
CN2				*es*P		sP	12 35 21.0	+2.6
CN2				*e*S		S	12 41 57.8	+6.3
CN2				PMZ				
	10.0nm,0.5s							
CN2				PMZ				
	200nm,4.0s							
CN2				LN				
	5μm,17.0s							
CN2				LE				
	4μm,17.0s							
CN2				LZ				
	5μm,18.0s							
HHC	Hu-ho-hao-te	48.83	335	*e*P		P	12 35 17.5	+3.0
HHC				PMZ				
	20nm,1.0s							
HHC				PMZ				
	2μm,12.7s							
LZH	Lanzhou	49.07	325	*e*P		P	12 35 17.5	+1.0
LZH				pP		pP	12 35 27.0	-1.4
LZH				sP		sP	12 35 30.8	-2.6
LZH				PP		PP	12 37 12.0	+1.5
LZH				*e*S		S	12 42 20.3	+1.5
LZH				sS		sS	12 42 35.8	-2.7
LZH				SS		SS	12 45 47.5	-2.9
LZH				PMZ				
	110nm,1.3s							
LZH				PMZ				
	1μm,6.2s							
LZH				LN				
	10μm,16.5s							
LZH				LE				
	8μm,17.0s							
LZH				LZ				
	12μm,19.0s							
DCZ	Deep Cove	50.48	152	*e*P		P	12 35 26.6	-0.2
	44nm,1.2s							
MLZ	Mavora Lakes	50.86	152	*e*P		P	12 35 30.4	+0.6
	17nm,0.8s							
WKZ	Wanaka	50.90	151	*e*P		P	12 35 30.2	+0.1
	72nm,1.4s							
RPZ	Rata Peaks	51.15	148	*e*P		P	12 35 32.6	+0.6
	24nm,0.7s							
LBZ	Lake Benmore	51.17	149	*e*P		P	12 35 31.1	-1.0
	83nm,1.7s							
WHZ	Wether Hill Ro	51.17	152	*e*P		P	12 35 31.9	-0.2
	59nm,1.5s							
LTZ	Lake Taylor	51.18	147	*e*P		P	12 35 33.0	+0.7
	37nm,1.1s							
URZ	Urewera	51.34	139	*e*P		P	12 35 33.8	+0.3
	42nm,1.1s							
OXZ	Oxford	51.41	147	*e*P		P	12 35 34.9	+0.9
	91nm,1.7s							
BKZ	Black Stump Fm	51.45	140	*e*P		P	12 35 33.2	-1.2
	211nm,2.0s						

ILAR	**Eielson Array**	**86.55**	**25**	P		P	12 39 05.6	-6.0
	0.9nm,1.0s,baz=248,slow=4.8,SNR=3.8							
LVZ	**Lovozero**	**96.81**	**338**	*e*P		**P**	**12 40 03.0**	**+3.8**
	11nm,0.8s							
OTAV	**Otavalo**	**144.92**	**93**	*e*PKPbc		**PKPab**	**12 46 04.8**	**-1.9**
PB11	**IPOC Station P**	**146.03**	**132**	*e*PKPdf		**PKPbc**	**12 46 10.0**	**+0.4**
RCBR	**Riachuelo**	**168.80**	**222**	*e*PKPdf		**PKPdf**	**12 46 37.0**	**+0.2**

JMA 26 12:28:18.4±0.2, 37.47N×142.22E, h9km±2km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JFK	**Kawauchi**	**1.08**	**265**	P	Pg		12 28 38.9	-0.2
ONAJ	**Iwakimizuishiy**	**1.19**	**252**	P	Pb		12 28 40.4	-0.8
JMM	**Marumori**	**1.20**	**290**	P	Pb		12 28 40.7	-0.6
JMM				*e*S	Sb		12 28 56.2	-0.7
JIO	**Ouri**	**1.20**	**325**	*e*S	Sb		12 28 56.1	-0.8
JFT	**Otama**	**1.50**	**272**	P	Pb		12 28 46.0	-0.4
JFT				*e*S	Sb		12 29 05.8	+0.3
JOU	**Okura**	**1.52**	**306**	P	Pn		12 28 45.9	+0.1
JOU				*e*S	Sn		12 29 05.6	-0.1
JYS	**Shirataka**	**1.86**	**294**	P	Pn		12 28 51.4	+0.9
JYS				*e*S	Sb		12 29 15.9	-0.1
MAT	**Matsushiro**	**3.34**	**255**	P	Pn		12 29 13.8	+2.9

*CSEM **26** 12:28:29.2, 42.66N×13.16E, h11km, MD1.8/6*
ROM 26 12:28:29.2±0.1, 42.66N×13.16E, h11km±1km, Md1.8/6, MI1.7/4, Error ellipse: s-maj=3.0km s-min=0.8km az=78.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RM29	**Verrico (Monte**	**0.10**	**164**	Pg	Pg		12 28 32.6	+0.6
RM29				Sg	Sg		12 28 34.9	+0.8
	382nm,0.2s							
RM29	**Verrico (Monte**	**0.10**	**164**	Pg	Pg		12 28 32.6	+0.6
RM29				Sg	Sg		12 28 34.9	+0.8
	382nm,0.2s							
RM32	**Poggio Cancell**	**0.13**	**133**	Pg	Pg		12 28 32.9	+0.5
RM32				Sg	Sg		12 28 35.2	+0.5
	48nm,0.3s							
RM32	**Poggio Cancell**	**0.13**	**133**	Pg	Pg		12 28 32.9	+0.5
RM32				Sg	Sg		12 28 35.2	+0.5
	48nm,0.3s							
RM33	**Pellescritta (**	**0.15**	**166**	Pg	Pg		12 28 33.3	+0.5
RM33				Sg	Sg		12 28 36.0	+0.7
	133nm,0.1s							
RM33	**Pellescritta (**	**0.15**	**166**	Pg	Pg		12 28 33.3	+0.5
RM33				Sg	Sg		12 28 36.0	+0.7
	133nm,0.1s							
NRCA	**Norcia**	**0.18**	**348**	Pg	Pg		12 28 33.7	+0.6
NRCA				Sg	Sg		12 28 36.7	+0.8
	167nm,0.1s							
NRCA	**Norcia**	**0.18**	**348**	Pg	Pg		12 28 33.7	+0.6
NRCA				Sg	Sg		12 28 36.7	+0.8
	167nm,0.1s							
FDMO	**Fiordimonte**	**0.38**	**352**	Pg	Pg		12 28 37.2	+0.4
FDMO				Sg	Sb		12 28 43.4	-0.6
FDMO	**Fiordimonte**	**0.38**	**352**	Pg	Pg		12 28 37.2	+0.4
FDMO				Sg	Sb		12 28 43.4	-0.6
FIAM	**Fiamignano**	**0.39**	**185**	Pg	Pg		12 28 37.3	+0.3
FIAM				Sg	Sg		12 28 43.2	+1.0
FIAM	**Fiamignano**	**0.39**	**185**	Pg	Pg		12 28 37.3	+0.3
FIAM				Sg	Sg		12 28 43.2	+1.0

*ISCJB **26** 12:29:05.0±0.7, 38.34N±0.04×141.86E±0.09, h66km±5km, mb3.9/11, Error ellipse: s-maj=12.1km s-min=5.5km az=16.3*
*JMA **26** 12:29:06.1, 38.37N×141.83E, h59km±1km, M3.9*
JMA Felt II J1.
*IDC **26** 12:29:08.0±2.6, 38.32N×141.73E, h78km±23km, mb3.7/11, mb1 3.9/14, mb1mx3.6/49, mbtmp4.0/14, Error ellipse: s-maj=24.7km s-min=15.4km az=84.0*
ISC 26 12:29:05.5±1.2, 38.31N±0.04×141.94E±0.09, h56km±10km, n34, σ1s12/39, mb4.0/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JIO	**Ouri**	**0.49**	**287**	P	**Pn**		**12 29 17.0**	**0.0**
JIO				S	**Sn**		**12 29 24.4**	**-0.9**
OFUJ	**Ofunato**	**0.80**	**344**	P	**Pn**		**12 29 20.5**	**-0.2**
OFUJ				*e*S	**Sn**		**12 29 31.1**	**-0.8**
JMK	**Ichinoseki**	**0.85**	**319**	P	**Pn**		**12 29 21.3**	**-0.1**
JMK				S	**Sn**		**12 29 32.0**	**-1.2**
JOU	**Okura**	**1.01**	**273**	P	**Pn**		**12 29 23.2**	**-0.3**
JOU				S	**Sn**		**12 29 35.9**	**-0.9**
JMM	**Marumori**	**1.01**	**244**	P	**Pn**		**12 29 23.3**	**-0.2**
JMM				S	**Sn**		**12 29 35.8**	**-1.0**
JOM	**Ohasama**	**1.27**	**337**	P	**Pn**		**12 29 26.9**	**0.0**
JOM				*e*S	**Sn**		**12 29 42.2**	**0.7**
JFK	**Kawauchi**	**1.27**	**222**	P	**Pn**		**12 29 27.4**	**+0.4**
JFK				S	**Sn**		**12 29 43.0**	**0.0**
JYK	**Kaneyama**	**1.38**	**296**	P	**Pn**		**12 29 28.1**	**-0.3**
JYS	**Shirataka**	**1.48**	**267**	P	**Pn**		**12 29 29.8**	**0.0**
JYS				*e*S	**Sn**		**12 29 47.1**	**-1.0**
JRG	**Rokugo**	**1.49**	**317**	P	**Pn**		**12 29 29.9**	**0.0**
JRG				*e*S	**Sn**		**12 29 47.5**	**-0.8**
JFT	**Otama**	**1.50**	**239**	P	**Pn**		**12 29 30.8**	**+0.8**
JFT				*e*S	**Sn**		**12 29 48.5**	**0.0**
MJAR	**Matsushiro Arr**	**3.46**	**240**	P	**Pn**		**12 29 58.5**	**+1.6**
	10nm,0.3s,baz=34,slow=14,SNR=23							
JHJ	**Hachijo jima 2**	**5.47**	**199**	P	**Pn**		**12 30 25.1**	**+0.8**
	15nm,0.3s,baz=66,slow=20,SNR=5.6							
JHJ				S	**Sn**		**12 31 21.9**	**-4.1**
	22nm,0.3s,baz=119,slow=21,SNR=7.8							
USRK	**Ussuriysk Ar.**	**9.53**	**311**	P	**Pn**		**12 31 20.0**	**+0.2**
	0.7nm,0.3s,baz=118,slow=14,SNR=9.5							
KSRS	**Korea Array**	**11.12**	**270**	P	**Pn**		**12 31 44.5**	**+3.0**
	1.0nm,0.3s,baz=78,slow=14,SNR=9.6							
MA2	**Magadan**	**22.02**	**12**	P	**P**		**12 33 56.3**	**+1.4**
	7.2nm,0.7s,baz=196,slow=16,SNR=4.0							
H11N2	**WAKE ISLAND Hy 28.47**	**124**		T	T		13 05 22.9	
	baz=316,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy 28.48**	**124**		T	T		13 05 19.1	
	baz=316,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy 28.49**	**124**		T	T		13 05 23.9	
	baz=316,slow=75,SNR=18							
H11S1	**WAKE ISLAND Hy 29.23**	**126**		T	T		13 06 18.5	
	baz=318,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy 29.23**	**126**		T	T		13 06 17.2	
	baz=318,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy 29.25**	**126**		T	T		13 06 22.2	
	baz=318,slow=76,SNR=15							
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**		**12 36 45.0**	**-0.8**
	1.0nm,0.4s,baz=88,slow=7.0,SNR=4.4							
MKAR	**Makanchi Array**	**43.81**	**301**	P	**P**		**12 37 05.0**	**-0.7**
	0.5nm,0.5s,baz=86,slow=9.8,SNR=5.3							
KURBB	**Kurchatov Array**	**45.56**	**307**	P	**P**		**12 37 18.3**	**-1.2**
	2.4nm,0.6s,baz=81,slow=8.2,SNR=8.8							
ILAR	**Eielson Array**	**48.19**	**33**	P	**P**		**12 37 40.5**	**+0.6**
	0.6nm,0.7s,baz=274,slow=6.2,SNR=4.3							
WRA	**Warramunga Arr**	**58.38**	**188**	P	**P**		**12 38 55.0**	**-0.2**
	4.1nm,0.6s,baz=6.4,slow=6.9,SNR=5.3							
ASAR	**Alice Springs**	**62.11**	**188**	P	**P**		**12 39 20.5**	**-0.1**
	2.6nm,0.9s,baz=20,slow=8.3,SNR=2.5							
ARCES	**ARCESS Array B**	**62.95**	**339**	P	**P**		**12 39 25.1**	**-0.5**
	0.6nm,0.5s,baz=52,slow=7.9,SNR=5.3							
FINES	**FINESS Array B**	**67.88**	**332**	P	**P**		**12 39 57.0**	**-0.5**
	1.1nm,0.6s,baz=44,slow=6.4,SNR=3.4							
NB2	**NORSAR Subarra**	**73.17**	**337**	P	**P**		**12 40 29.2**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**73.17**	**337**	P	**P**		**12 40 29.1**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=39,slow=5.8,SNR=6.6							
TXAR	**Lajitas Array**	**89.01**	**53**	P	**P**		**12 41 55.2**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=302,slow=3.0,SNR=4.0							
LPAZ	**La Paz**	**145.68**	**59**	PKPbc	**PKPbc**		**12 48 39.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=21,slow=6.3,SNR=3.6							

IDC 26 12:29:18.7±1.5, 2.35S×136.67E, h0km, mb3.9/2, mb1 4.2/4, mb1mx3.7/37, mbtmp4.0/4, ML3.1/1, Error ellipse: s-maj=40.2km s-min=28.1km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAY	**Jayapura**	**4.03**	**92**	Pn	Pn		12 30 21.8	0.0
	1.2nm,0.3s,baz=270,slow=20,SNR=3.5							
JAY				Sn	Sn		12 31 06.3	-3.5
	0.5nm,0.3s,baz=270,slow=20,SNR=2.2							
WRA	**Warramunga Arr**	**17.63**	**187**	P	Pn		12 33 25.8	-0.2
	baz=8.1,slow=11,SNR=2.5							
ASAR	**Alice Springs**	**21.36**	**187**	P	P		12 34 07.5	-0.3
	3.4nm,0.8s,baz=12,slow=11,SNR=2.1							
MKAR	**Makanchi Array**	**68.28**	**323**	P	P		12 40 21.8	+0.2
	1.1nm,0.8s,baz=111,slow=7.9,SNR=3.2							

IDC 26 12:31:24.9±1.5, 2.33S×136.73E, h0km, mb3.7/2, mb1 4.2/4, mb1mx3.7/37, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=39.7km s-min=28.2km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAY	**Jayapura**	**3.98**	**93**	Pn	Pn		12 32 28.2	+0.9
	1.3nm,0.3s,baz=270,slow=20,SNR=7.1							
JAY				Sn	Sn		12 33 13.7	-1.1
	0.6nm,0.3s,baz=90,slow=20,SNR=2.4							
WRA	**Warramunga Arr**	**17.66**	**187**	P	Pn		12 35 32.4	-0.2
	baz=12,slow=12,SNR=2.3							
ASAR	**Alice Springs**	**21.39**	**187**	P	P		12 36 14.1	-0.3
	3.5nm,0.7s,baz=19,slow=11,SNR=2.3							
MKAR	**Makanchi Array**	**68.28**	**323**	P	P		12 42 27.9	0.0
	0.5nm,0.7s,baz=118,slow=5.7,SNR=2.2							

IDC 26 12:39:44.3±1.2, 2.39S×136.54E, h0km, mb3.8/4, mb1 4.2/5, mb1mx3.7/34, mbtmp3.9/5, ML3.8/2, Error ellipse: s-maj=35.6km s-min=23.5km az=66.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAY	**Jayapura**	**4.16**	**92**	Pn	Pn		12 40 48.3	-0.9
	0.8nm,0.3s,baz=270,slow=20,SNR=11							
JAY				Sn	Sn		12 41 33.8	-4.8
	0.4nm,0.3s,baz=90,slow=20,SNR=4.0							
WRA	**Warramunga Arr**	**17.58**	**187**	P	Pn		12 43 49.9	-1.0
	0.7nm,0.3s,baz=6.1,slow=13,SNR=12							
ASAR	**Alice Springs**	**21.31**	**187**	P	P		12 44 33.1	+0.3
	3.9nm,0.5s,baz=8.3,slow=12,SNR=21							
CMAR	**Chiang Mai Arr**	**42.41**	**301**	P	P		12 47 41.4	+0.3
	0.7nm,0.4s,baz=121,slow=8.5,SNR=3.5							
MKAR	**Makanchi Array**	**68.22**	**323**	P	P		12 50 47.4	+0.6
	0.3nm,0.5s,baz=107,slow=6.7,SNR=3.6							
ZALV	**Zalesovo Beam**	**70.58**	**331**	P	P		12 51 00.6	-0.6
	0.2nm,0.4s,baz=114,slow=6.5,SNR=2.5							

IDC 26 12:42:57.9±1.5, 2.79S×137.00E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/38, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=30.6km s-min=29.3km az=64.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAY	**Jayapura**	**3.71**	**86**	Pn	Pn		12 43 56.8	+0.2
	0.3nm,0.3s,baz=270,slow=20,SNR=2.8							
JAY				Sn	Sn		12 44 42.2	+1.0
	0.1nm,0.3s,baz=90,slow=20,SNR=1.8							
WRA	**Warramunga Arr**	**17.25**	**188**	P	P		12 47 01.6	-0.5
	0.3nm,0.3s,baz=10,slow=13,SNR=4.5							
ASAR	**Alice Springs**	**20.97**	**188**	P	P		12 47 42.3	-0.6
	0.9nm,0.7s,baz=16,slow=10,SNR=2.9							
MKAR	**Makanchi Array**	**68.81**	**323**	P	P		12 54 04.2	0.0
	0.2nm,0.4s,baz=109,slow=7.9,SNR=3.3							

IDC 26 12:49:25.5±1.5, 2.26S×136.72E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/39, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=35.4km s-min=26.4km az=88.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAY	**Jayapura**	**3.99**	**94**	Pn	Pn		12 50 28.3	+0.3
	1.1nm,0.3s,baz=270,slow=20,SNR=13							
JAY				Sn	Sn		12 51 14.4	-1.2
	0.5nm,0.3s,baz=88,slow=23,SNR=4.6							
WRA	**Warramunga Arr**	**17.73**	**187**	P	Pn		12 53 33.6	-0.3
	0.3nm,0.3s,baz=9.3,slow=12,SNR=5.5							
FITZ	**Fitzroy Crossi**	**19.13**	**214**	P	P		12 53 50.5	+0.2
	0.1nm,0.3s,baz=58,slow=11,SNR=3.0							
ASAR	**Alice Springs**	**21.45**	**187**	P	P		12 54 15.3	-0.3
	3.6nm,0.9s,baz=13,slow=10,SNR=8.2							
MKAR	**Makanchi Array**	**68.23**	**323**	P	P		13 00 28.1	+0.1
	0.3nm,0.6s,baz=114,slow=6.9,SNR=2.9							

*IDC **26** 12:51:40.6±0.5, 2.29S×136.65E, h0km, mb4.4/20, mb1 4.5/23, mb1mx4.4/37, mbtmp4.4/23, ML2.7/2, Error ellipse: s-maj=20.6km s-min=11.4km az=80.0*
*BJI **26** 12:51:40.0, 2.65S×136.91E, h23km, mb4.7/29, mB5.5/4, Ms5.3/9, Ms7 5.2/9*
*NEIC **26** 12:51:42.8±2.6, 2.26S×136.65E, h11km±16km, mb5.0/42, Error ellipse: s-maj=6.5km s-min=4.8km az=62.0*
*DJA **26** 12:51:44.1±1.3, 2.5S×137.7E±*, h15km±10km, M5.2/5, mb5.1/4, MLv5.2/5*
*MOS **26** 12:51:44.0±1.1, 2.33S×136.53E, h33km, mb4.9/18, Error ellipse: s-maj=15.4km s-min=7.3km az=108.9*
*ISCJB **26** 12:51:45.3±0.2, 2.33S±0.03×136.62E±0.03, h42km, mb4.8/63, Error ellipse: s-maj=5.0km s-min=3.7km az=43.3*
ISC 26 12:51:47.1±0.3, 2.39S±0.04×136.62E±0.04, h42km, n151, σ2s17/166, mb4.8/62, 5C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RKPI	**Ransiki, Papua**	**2.59**	**290**	P	**Pn**		**12 52 26.7**	**+0.2**
RKPI				S	Sn		12 53 09.3	+12
GENI	**Genyem**	**3.55**	**93**	P	**Pn**		**12 52 38.9**	**-0.8**
GENI				S	**Sn**		**12 53 21.0**	**+0.6**
JAY	**Jayapura**	**4.08**	**92**	Pn	**Pn**		**12 52 43.7**	**-3.4**
	2.2nm,0.3s,baz=252,slow=21,SNR=20							
JAY				Sn	**Sn**		**12 53 29.9**	**-3.7**
	1.5nm,0.3s,baz=270,slow=20,SNR=2.7							
JAY	**Jayapura**	**4.08**	**92**	P	**Pn**		**12 52 44.5**	**-2.5**
FAKI	**Fak Fak**	**4.40**	**263**	P	**Pn**		**12 52 51.4**	**0.0**
FAKI				S	**Sn**		**12 53 40.0**	**-1.4**
FAKI	**Fak Fak**	**4.40**	**263**	*e*Pn	**Pn**		**12 52 50.6**	**-0.7**
SWI	**Sorong**	**5.57**	**286**	P	**Pn**		**12 53 07.0**	**-0.5**
SWI				S	**Sn**		**12 54 12.5**	**+2.3**
MMPI	**Merauke**	**7.11**	**148**	P	**Pn**		**12 53 31.3**	**+2.8**
MMPI				S	**Sn**		**12 54 52.7**	**+4.6**
SANI	**Sanana**	**10.63**	**272**	P	Pn		12 54 07.6	-9.3
MTN	**Manton Dam**	**11.72**	**207**	*e*Pn	Pn		12 54 26.8	-5.1
PMG	**Port Moresby**	**12.58**	**124**	Pn	**Pn**		**12 54 41.9**	**-1.7**
	0.6nm,0.3s,baz=319,slow=11,SNR=2.5							
PMG	**Port Moresby**	**12.58**	**124**	*e*P	**Pn**		**12 54 44.2**	**+0.6**
PMG	**Port Moresby**	**12.58**	**124**	*e*Pn	**Pn**		**12 54 44.2**	**+0.6**
COEN	**Coen**	**13.20**	**151**	*e*Pn	**Pn**		**12 54 50.3**	**-1.7**
SOEI	**Soe**	**14.29**	**239**	P	**Pn**		**12 55 04.9**	**-2.2**
SOEI	**Soe**	**14.29**	**239**	*e*Pn	**Pn**		**12 55 10.7**	**+3.6**
MRSI	**Marisa**	**14.95**	**281**	P	P		12 55 26.9	+6.3
TTSI	**Tana Toraja**	**16.80**	**267**	P	**P**		**12 55 42.9**	**+1.8**
PCI	**Palu**	**16.84**	**275**	P	P		12 55 49.8	+8.2
SPSI	**Sidrap Palu**	**16.90**	**264**	P	**Pn**		**12 55 41.9**	**+1.2**
KAPI	**Kappang**	**17.04**	**261**	P	**P**		**12 55 44.4**	**+0.7**
	0.4nm,0.3s,baz=56,slow=18,SNR=2.6							
WRAB	**Tennant Creek**	**17.58**	**187**	*e*P	**Pn**		**12 55 48.8**	**-0.3**
WRAB				pmax	pmax			
	comp=Z,42nm,0.9s							
WRAB	**Tennant Creek**	**17.58**	**187**	*e*Pn	**Pn**		**12 55 48.8**	**-0.3**
	comp=Z,42nm,0.9s							
WB2	**Warramunga Arr**	**17.59**	**187**	*e*Pn	Pn		12 55 47.5	-1.6
	comp=Z,51nm,1.0s							
WRA	**Warramunga Arr**	**17.59**	**187**	P	**Pn**		**12 55 45.2**	**-4.0**
	comp=Z,2.5nm,0.3s,baz=8.0,slow=13,SNR=25							
WRA				S	**Sn**		**12 58 55.3**	**-9.0**
	comp=Z,0.9nm,0.3s,baz=11,slow=21,SNR=5.0							
FITZ	**Fitzroy Crossi**	**18.97**	**214**	P	**P**		**12 56 06.0**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=24,slow=11,SNR=11							
FITZ				S	**Sn**		**12 59 29.2**	**-8.5**
	comp=Z,0.4nm,0.3s,baz=103,slow=19,SNR=3.1							
FITZ	**Fitzroy Crossi**	**18.97**	**214**	*e*P	**P**		**12 56 06.3**	**+1.3**
	comp=Z,15nm,1.0s							
FITZ				S	**Sn**		**12 59 29.2**	**-8.5**
FITZ				*e*Sn	**S**		**12 59 41.5**	**+3.0**
CTA	**Charters Tower**	**19.95**	**153**	P	**P**		**12 56 14.9**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=345,slow=11,SNR=6.6							
CTAO	**Charters Tower**	**19.95**	**153**	*e*P	**P**		**12 56 15.6**	**-0.2**
CTAO				pmax	pmax			
	comp=Z,29nm,0.8s							
CTAO	**Charters Tower**	**19.95**	**153**	*e*P	**P**		**12 56 15.6**	**-0.2**
	comp=Z,29nm,0.8s							
AS01	**Alice Springs**	**21.31**	**187**	*e*P	**P**		**12 56 30.2**	**-0.2**
AS31	**Alice Springs**	**21.32**	**187**	*e*P	**P**		**12 56 30.3**	**-0.2**
	comp=Z,18nm,0.6s							
ASAR	**Alice Springs**	**21.32**	**187**	P	**P**		**12 56 29.7**	**-0.8**
	comp=Z,14nm,0.5s,baz=14,slow=10,SNR=28							
HNR	**Honiara**	**24.22**	**108**	P	**P**		**12 57 01.9**	**+1.7**
	comp=Z,32nm,0.8s,baz=270,slow=4.0,SNR=3.1							
MBWA	**Marble Bar**	**24.88**	**220**	*e*P	**P**		**12 57 06.8**	**+0.8**
	comp=Z,33nm,1.0s							
EIDS	**Eidsvold**	**26.76**	**150**	*e*P	**P**		**12 57 25.0**	**+2.0**
	comp=Z,97nm,2.0s							
STKA	**Stephens Creek**	**29.71**	**171**	P	**P**		**12 57 49.0**	**-0.3**
	comp=Z,8.1nm,0.8s,baz=341,slow=7.1,SNR=13							
STKA	**Stephens Creek**	**29.71**	**171**	*e*P	**P**		**12 57 50.2**	**+0.9**
STKA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
STKA	**Stephens Creek**	**29.71**	**171**	*e*P	**P**		**12 57 50.1**	**+0.9**
	comp=Z,1.9nm,0.8s							
BBOO	**Buckleboo**	**30.27**	**181**	*e*P	**P**		**12 57 54.8**	**+0.6**
	comp=Z,36nm,1.4s							
ARMA	**Armidale**	**31.30**	**154**	*e*P	**P**		**12 58 04.9**	**+1.5**
	comp=Z,43nm,1.7s							
CAN	**Canberra**	**34.73**	**162**	*e*P	**P**		**12 58 34.9**	**+1.6**
CAN				pmax	pmax			
	comp=Z,32nm,1.5s							
CAN	**Canberra**	**34.73**	**162**	*e*P	**P**		**12 58 34.9**	**+1.6**
	comp=Z,32nm,1.5s							
NWAO	**Narrogin (SRO)**	**35.41**	**209**	P	**P**		**12 58 38.8**	**-0.4**
	comp=Z,7.6nm,0.8s,baz=18,slow=3.9,SNR=5.1							
NWAO	**Narrogin (SRO)**	**35.41**	**209**	*e*P	**P**		**12 58 39.2**	**+0.1**
NWAO				pmax	pmax			
	comp=Z,92nm,1.8s							
NWAO	**Narrogin (SRO)**	**35.41**	**209**	*e*P	**P**		**12 58 39.2**	**+0.1**
	comp=Z,92nm,1.8s							
MJAR	**Matsushiro Arr**	**38.76**	**2**	P	**P**		**12 59 05.7**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=186,slow=8.5,SNR=6.3							
MJAR				PcP	**PcP**		**13 01 18.4**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=192,slow=3.2,SNR=4.5							
MAJO	**Matsushiro**	**38.76**	**2**	*i* P	**P**		**12 59 05.8**	**-1.7**
MAJO				pmax	pmax			
	comp=Z,20nm,0.9s							
GYA	**Guiyang**	**40.74**	**317**	*e*P	**P**		**12 59 25.8**	**+1.5**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**42.48**	**301**	P	**P**		**12 59 38.0**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=121,slow=6.1,SNR=9.1							
KMI	**Kunming**	**42.74**	**312**	P	**P**		**12 59 43.5**	**+2.7**
KMI				PMZ				
	comp=Z,13nm,0.5s							
CD2	**Chengdu**	**45.56**	**319**	*e*P	**P**		**13 00 02.5**	**-0.6**
CD2				pP	pP		13 00 11.3	-3.6
CD2				sP	sP		13 00 15.3	-4.5
CD2				PcS	**PcS**		**13 05 34.5**	**-1.0**
CD2				S	**S**		**13 06 43.8**	**+1.2**
CD2				sS	sS		13 06 59.0	-3.3
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,160nm,5.2s							
USRK	**Ussuriysk Ar.**	**46.56**	**355**	P	**P**		**13 00 09.4**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=234,slow=12,SNR=4.1							
ASAJ	**Asahikawa**	**46.60**	**6**	P	**P**		**13 00 09.8**	**-1.2**
	comp=Z,4.8nm,0.7s,baz=206,slow=9.9,SNR=8.6							
CN2	**Changchun**	**47.06**	**349**	*e*P	**P**		**13 00 18.5**	**+3.9**
CN2				PMZ				
	comp=Z,10.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**48.73**	**335**	*e*P	**P**		**13 00 29.0**	**+1.3**
HHC				PMZ				
	comp=Z,31nm,1.1s							
LZH	**Lanzhou**	**48.99**	**324**	*e*P	**P**		**13 00 30.3**	**+0.4**
LZH				pP	pP		13 00 39.8	-2.0
LZH				sP	sP		13 00 43.5	-3.2
LZH				PP	**PP**		**13 02 24.5**	**+0.8**
LZH				PMZ				
	comp=Z,35nm,1.3s							
LZH				PMZ				
	comp=Z,120nm,6.0s							
LZH				LN				
	comp=Z,790nm,14.9s							
LZH				LE				
	comp=Z,690nm,15.2s							
LZH				LZ				
	comp=Z,870nm,18.7s							
DCZ	**Deep Cove**	**50.58**	**152**	*e*P	**P**		**13 00 43.0**	**+1.4**
	comp=Z,101nm,1.8s							
THZ	**Tophouse**	**50.95**	**145**	*e*P	**P**		**13 00 45.8**	**+1.3**
	comp=Z,179nm,1.9s							
MLZ	**Mavora Lakes**	**50.95**	**152**	*e*P	**P**		**13 00 45.4**	**+0.9**
	comp=Z,90nm,1.9s							
**WKZ

KSH PMZ
comp=Z,7.0nm,0.9s
KSH LN
comp=Z,1μm,15.1s
KSH LE
comp=Z,1μm,15.0s
KSH LZ
comp=Z,3μm,18.7s

ZAA0	**Zalesovo Array**	**70.62**	**330**	*e*P		**P**	**13 02 56.6**	**-1.4**
ZALV	**Zalesovo Beam**	**70.62**	**330**	P		**P**	**13 02 56.5**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=112,slow=5.8,SNR=8.0							
AAK	**Ala-Archa**	**71.53**	**317**	*e*P		**P**	**13 03 01.7**	**-2.3**
AAK				pmax	pmax			
	comp=Z,9.0nm,1.1s							
NVS	**Novosibirsk**	**71.88**	**331**	*e*P		**P**	**13 03 03.9**	**-1.7**
KURK	**Kurchatov**	**72.26**	**326**	*ce*P		**P**	**13 03 07.7**	**-0.3**
KURK				pmax	pmax			
	comp=Z,28nm,1.2s							
KURK	**Kurchatov**	**72.26**	**326**	*e*P		**P**	**13 03 07.3**	**-0.7**
	comp=Z,24nm,0.9s							
BILL	**Bilibino**	**73.25**	**11**	*e*P		**P**	**13 03 16.6**	**+3.1**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s							
TIXI	**Tiksi**	**74.08**	**357**	P		**P**	**13 03 17.1**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=175,slow=5.5,SNR=8.6							
TIXI	**Tiksi**	**74.08**	**357**	*e*P		**P**	**13 03 17.4**	**-0.9**
TIXI				pmax	pmax			
	comp=Z,11nm,1.6s							
TIXI	**Tiksi**	**74.08**	**357**	*e*P		**P**	**13 03 17.4**	**-0.9**
	comp=Z,11nm,1.6s							
KKAR	**Karatay Array**	**74.44**	**316**	*e*P		**P**	**13 03 21.1**	**0.0**
KKAR	**Karatay Array**	**74.44**	**316**	*e*P		**P**	**13 03 21.1**	**0.0**
VNDA	**Vanda**	**76.29**	**175**	P		**P**	**13 03 31.1**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=337,slow=6.1,SNR=15							
VNDA	**Vanda**	**76.29**	**175**	*e*P		**P**	**13 03 31.7**	**+0.7**
VNDA				pmax	pmax			
	comp=Z,6.0nm,1.5s							
VNDA	**Vanda**	**76.29**	**175**	*e*P		**P**	**13 03 31.7**	**+0.7**
	comp=Z,6.3nm,1.5s							
SBA	**Scott Base**	**77.09**	**174**	*e*P		**P**	**13 03 37.2**	**+1.7**
SBA				pmax	pmax			
	comp=Z,31nm,2.0s							
SBA	**Scott Base**	**77.09**	**174**	*e*P		**P**	**13 03 37.2**	**+1.7**
	comp=Z,31nm,2.0s							
VOSK	**Vostochnaya**	**77.42**	**325**	*e*P		**P**	**13 03 36.8**	**-1.0**
VOSK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
VOSK	**Vostochnaya**	**77.42**	**325**	*e*P		**P**	**13 03 36.8**	**-1.0**
	comp=Z,2.5nm,0.6s							
BRVK	**Borovoye**	**77.93**	**326**	*ce*P		**P**	**13 03 40.8**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
BRVK	**Borovoye**	**77.93**	**326**	*e*P		**P**	**13 03 40.1**	**-0.6**
	comp=Z,17nm,0.7s							
ZRNK	**Zerenda**	**78.62**	**325**	*e*P		**P**	**13 03 43.8**	**-0.7**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
ZRNK	**Zerenda**	**78.62**	**325**	*e*P		**P**	**13 03 43.8**	**-0.7**
	comp=Z,3.6nm,0.8s							
NRIK	**Noril'sk**	**78.83**	**344**	P		**P**	**13 03 44.1**	**-1.1**
	comp=Z,4.3nm,0.6s,baz=135,slow=4.9,SNR=4.9							
OHAK	**Old Harbor**	**81.35**	**31**	*e*P		**P**	**13 03 58.9**	**-0.1**
	comp=Z,56nm,1.9s							
SVW2	**Sparrevohn**	**81.53**	**27**	*e*P		**P**	**13 04 00.2**	**+0.2**
	comp=Z,15nm,1.8s							
MAW	**Mawson**	**81.64**	**202**	P		**P**	**13 04 03.5**	**+3.1**
	comp=Z,3.5nm,1.0s,baz=65,slow=5.2,SNR=3.7							
KDAK	**Kodiak Island**	**81.89**	**31**	*ce*P		**P**	**13 04 01.9**	**0.0**
KDAK	**Kodiak Island**	**81.89**	**31**	*e*P		**P**	**13 04 01.6**	**-0.3**
	comp=Z,14nm,1.0s							
TT01	**Tatalina**	**81.99**	**25**	*e*P		**P**	**13 04 02.4**	**0.0**
GEYT	**Alibeck**	**82.41**	**309**	P		**P**	**13 04 04.7**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=166,slow=3.1,SNR=7.2							
ABKAR	**Akbulak array**	**83.13**	**320**	*e*P		**P**	**13 04 08.0**	**-0.7**
SVE	**Sverdlovsk**	**84.35**	**328**	*e*P		**P**	**13 04 11.8**	**-2.9**
SVE				pmax	pmax			
	comp=Z,10.0nm,0.7s							
RND	**Reindeer**	**85.24**	**26**	*e*P		**P**	**13 04 18.7**	**-0.4**
RND				pmax	pmax			
	comp=Z,7.0nm,1.0s							
RND	**Reindeer**	**85.24**	**26**	*e*P		**P**	**13 04 18.6**	**-0.4**
	comp=Z,6.6nm,1.0s							
ARU	**Arti**	**85.39**	**327**	*d*iP		**P**	**13 04 18.8**	**-1.1**
ARU							13 07 33.0	
ARU				S		**S**	**13 14 40.2**	**-7.5**
ARU				SS		**SS**	**13 20 16.3**	**-6.9**
ARU				pmax	pmax			
	comp=Z,4.0nm,0.7s							
COLD	**Coldfoot**	**85.73**	**22**	*e*P		**P**	**13 04 22.0**	**+0.6**
	comp=Z,6.5nm,1.0s							
DHY	**Denali Highway**	**85.80**	**26**	*e*P		**P**	**13 04 22.1**	**0.0**
	comp=Z,4.2nm,0.8s							
CCB	**Clear Creek Bu**	**86.00**	**25**	*e*P		**P**	**13 04 21.6**	**-1.2**
	comp=Z,18nm,2.0s							
DIV	**Divide**	**86.11**	**28**	*e*P		**P**	**13 04 23.9**	**+0.4**
	comp=Z,7.6nm,0.8s							
IL1	**Eielson Array**	**86.41**	**25**	*e*P		**P**	**13 04 22.3**	**-2.5**
ILAR	**Eielson Array**	**86.41**	**25**	P		**P**	**13 04 23.1**	**-1.8**
	comp=Z,2.1nm,0.8s,baz=262,slow=4.4,SNR=18							
DAWY	**Dawson**	**89.49**	**26**	*e*P		**P**	**13 04 40.4**	**+0.8**
	comp=Z,5.8nm,1.0s							
HYT	**Haines Junctio**	**90.05**	**29**	*e*P		**P**	**13 04 42.8**	**+0.5**
	comp=Z,3.9nm,1.0s							
KLMR	**Klimovskoe**	**95.54**	**331**	*e*P		**P**	**13 05 03.2**	**-4.3**
KLMR				pmax	pmax			
	comp=Z,5.0nm,1.1s							
ARCES	**ARCESS Array B**	**99.52**	**341**	P		**Pdif**	**13 05 24.1**	**-1.2**
	comp=Z,3.0nm,1.0s,baz=81,slow=7.5,SNR=8.7							
LAO	**LASA Array**	**110.12**	**41**	*e*Pdif		**Pdif**	**13 06 20.7**	**+7.7**
TX31	**Lajitas Ar. Si**	**116.91**	**58**	*e*PKPdf		**PKPdf**	**13 10 27.9**	**-0.1**
TXAR	**Lajitas Array**	**116.91**	**58**	PKP		**PKPdf**	**13 10 27.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=242,slow=1.9,SNR=5.2							
JCT	**Junction City**	**119.86**	**56**	*e*PKIKP		**PKPdf**	**13 10 33.7**	**+0.1**
JCT	**Junction City**	**119.86**	**56**	*e*PKPdf		**PKPdf**	**13 10 33.7**	**+0.1**
SADO	**Sadowa**	**127.34**	**32**	*e*PKPdf		**PKPdf**	**13 10 48.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**134.16**	**286**	PKP		**PKPdf**	**13 11 01.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=101,slow=1.9,SNR=3.4							
ATAH	**Atahualpa**	**143.80**	**105**	PKP		**PKPdf**	**13 11 18.3**	**-1.1**
	comp=Z,7.6nm,0.8s,baz=333,slow=3.4,SNR=3.7							
OTAV	**Otavalo**	**144.87**	**93**	*e*PKPdf		PKPbc	13 11 20.6	+0.1
CPUP	**Villa Florida**	**148.43**	**156**	PKPbc		**PKPbc**	**13 11 30.4**	**+0.5**
	comp=Z,4.5nm,0.7s,baz=212,slow=6.5,SNR=4.6							
PRAC	**Prado**	**148.51**	**87**	*e*PKPbc		**PKPbc**	**13 11 30.5**	**0.0**
ROSC	**El Rosal**	**149.03**	**85**	PKPbc		**PKPbc**	**13 11 32.1**	**-0.1**
	comp=Z,8.6nm,0.6s,baz=10,slow=17,SNR=7.5							
LRS	**Lares**	**152.09**	**54**	*e*PKPbc		**PKPbc**	**13 11 38.8**	**-0.2**
SDV	**Santo Domingo**	**152.13**	**76**	PKPbc		**PKPbc**	**13 11 39.3**	**-0.1**
	comp=Z,13nm,0.6s,baz=262,slow=1.8,SNR=6.8							
CELP	**Cerrillos**	**152.42**	**54**	*e*PKPbc		**PKPbc**	**13 11 39.7**	**0.0**

*IDC **26** 12:55:03.6±2.9, 23°.80S×179°.96W, h498km±30km, mb3.6/6, mb1 3.7/7, mb1mx3.2/41, mbtmp4.5/7, Error ellipse: s-maj=41.9km s-min=24.8km az=175.0*
*ISCJB **26** 12:55:04.6±1.3, 24°.0S±0°.1×179°.9E±0°.2, h518km, mb4.1/6, Error ellipse: s-maj=24.0km s-min=13.8km az=167.7*

ISC 26 12:55:05.1±1.2, 24°.1S±0°.1×180°.0W±0°.2, h518km, n8, σ1§42/10, mb4.2/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
URZ	**Urewera**	**14.35**	**189**	P		**P**	**P**	**12 58 08.9**	**+0.9**
URZ	0.5nm,0.3s,baz=337,slow=1.3,SNR=3.4			S		**S**	**S**	**13 00 37.7**	**-1.3**
CTA	**Charters Tower**	**31.48**	**271**	P		**P**	**P**	**13 00 45.0**	**+0.7**
	7.2nm,0.5s,baz=99,slow=11,SNR=11								
PMG	**Port Moresby**	**34.56**	**288**	P		**P**	**P**	**13 01 09.7**	**-0.7**
	12nm,0.7s,baz=135,slow=10.0,SNR=3.0								
ASAR	**Alice Springs**	**42.01**	**261**	P		**P**	**P**	**13 02 10.9**	**-0.1**
ASAR	2.4nm,0.5s,baz=94,slow=9.0,SNR=5.5			ScP		**ScP**	**ScP**	**13 06 57.8**	**+2.5**
	0.4nm,0.5s,baz=99,slow=5.7,SNR=3.3								
WRA	**Warramunga Arr**	**42.40**	**266**	P		**P**	**P**	**13 02 13.7**	**-0.5**
	3.4nm,0.3s,baz=96,slow=8.4,SNR=9.8								
FITZ	**Fitzroy Crossi**	**50.82**	**266**	P		**P**	**P**	**13 03 18.3**	**+0.4**
	5.5nm,0.8s,baz=111,slow=8.6,SNR=5.0								
TXAR	**Lajitas Array**	**90.52**	**58**	P		**P**	**P**	**13 07 12.2**	**+0.3**
	0.4nm,0.6s,baz=215,slow=6.1,SNR=7.2								
GERES	**GERESS Array B**	**153.03**	**340**	PKPbc		**PKPbc**	**PKPbc**	**13 14 01.6**	**-2.0**
	0.2nm,0.5s,baz=40,slow=3.2,SNR=3.5								

IDC 26 12:57:14.7±1.3, 2°.35S×136°.71E, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.7/38, mbtmp3.8/5, ML3.3/2, Error ellipse: s-maj=39.0km s-min=25.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JAY	**Jayapura**	**3.99**	**92**	Pn		Pn	Pn	12 58 17.1	-0.2
JAY	1.0nm,0.3s,baz=270,slow=20,SNR=8.6			Sn		Sn	Sn	12 59 01.8	-3.1
	0.6nm,0.3s,baz=90,slow=20,SNR=2.8								
WRA	**Warramunga Arr**	**17.64**	**187**	P		Pn		13 01 22.6	+0.5
	0.2nm,0.3s,baz=8.4,slow=12,SNR=3.3								
ASAR	**Alice Springs**	**21.37**	**187**	P		P		13 02 03.5	-0.4
	0.5nm,0.6s,baz=116,slow=6.6,SNR=4.4								
MKAR	**Makanchi Array**	**68.29**	**323**	P		P		13 08 17.9	+0.2
	0.4nm,0.4s,baz=116,slow=5.2,SNR=3.3								
ZALV	**Zalesovo Beam**	**70.63**	**330**	P		P		13 08 32.0	+0.1

*SCB **26** 13:07:55.3±0.8, 22°.53S×66°.51W, h200km, Ml3.7/1, Error ellipse: s-maj=23.6km s-min=10.8km az=27.0*
*ISCJB **26** 13:07:56.6±0.6, 22°.65S±0°.06×66°.15W±0°.07, h245km, mb3.9/8, Error ellipse: s-maj=9.7km s-min=7.8km az=160.6*
*IDC **26** 13:07:57.9±1.4, 22°.60S×66°.16W, h246km±14km, mb3.7/8, mb1 3.7/12, mb1mx3.6/34, mbtmp4.2/12, Error ellipse: s-maj=16.8km s-min=16.3km az=123.0*

ISC 26 13:07:58.3±0.7, 22°.52S±0°.07×66°.25W±0°.08, h245km, n21, σ1§29/25, mb3.9/8, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LVC	**Limon Verde**	**2.46**	**267**	P		Pn	**Pn**	**13 08 45.1**	**-0.1**
LVC	3μm,0.3s,baz=95,slow=5.6,SNR=575			S			**S**	**13 09 20.4**	**-1.7**
	918nm,0.3s,baz=204,slow=22,SNR=22								
BBOJ	**La Paz, Jacaqu**	**5.81**	**341**	*e*Pn			**Pn**	**13 09 26.0**	**+1.4**
BBOE	**La Paz, Chanca**	**5.91**	**344**	*e*Pn			**Pn**	**13 09 27.7**	**+1.9**
BBOD	**La Paz, Gloria**	**6.26**	**339**	*e*Pn			**Pn**	**13 09 31.4**	**+1.2**
LPAZ	**La Paz**	**6.45**	**344**	P			**Pn**	**13 09 34.0**	**+1.4**
	1.6nm,0.3s,baz=134,slow=5.4,SNR=35								
LPAZ				S			**S**	**13 10 47.1**	**-1.0**
	0.8nm,0.3s,baz=298,slow=20,SNR=7.6								
LPAZ	**La Paz**	**6.45**	**344**	*e*Pn			**Pn**	**13 09 34.2**	**+1.5**
LPAZ				*e*Sn			**S**	**13 10 47.2**	**-0.9**
BBOB	**La Paz, Bander**	**6.59**	**344**	*e*Pn			**Pn**	**13 09 35.2**	**+0.9**
BBOB				*e*Sn			**S**	**13 10 49.0**	**-2.1**
	21nm,0.6s								
SIV	**San Ignacio**	**8.13**	**38**	P			**Pn**	**13 09 53.4**	**0.0**
	3.5nm,0.3s,baz=240,slow=8.2,SNR=33								
SIV	**San Ignacio**	**8.13**	**38**	*e*P			**Pn**	**13 09 53.2**	**-0.1**
CPUP	**Villa Florida**	**8.97**	**117**	P			**Pn**	**13 10 06.1**	**+2.3**
	0.2nm,0.3s,baz=290,slow=15,SNR=3.2								
NNA	**Nana**	**14.56**	**314**	P			**P**	**13 11 15.8**	**+2.1**
	1.3nm,0.3s,baz=190,slow=6.1,SNR=4.0								
PLCA	**Paso Flores**	**18.52**	**190**	P			**P**	**13 11 56.0**	**-0.8**
	0.2nm,0.3s,baz=35,slow=16,SNR=2.9								
PTGA	**Pitinga**	**22.51**	**17**	P			**P**	**13 12 36.3**	**-1.1**
	1.3nm,0.3s,baz=198,slow=9.7,SNR=6.5								
RCBR	**Riachuelo**	**33.66**	**65**	P			**P**	**13 14 16.1**	**-0.4**
	4.4nm,0.5s,baz=226,slow=7.2,SNR=6.5								
CMIG	**Matias Romero**	**48.33**	**322**	P			**P**	**13 16 15.4**	**0.0**
	2.1nm,0.8s,baz=153,slow=12,SNR=2.9								
TXAR	**Lajitas Array**	**62.90**	**323**	P			**P**	**13 17 59.1**	**+0.3**
	0.2nm,0.7s,baz=153,slow=8.1,SNR=3.9								
DBIC	**Dimbokro**	**66.68**	**72**	P			**P**	**13 18 22.4**	**-1.0**
	6.9nm,1.1s,baz=229,slow=2.7,SNR=12								
TORD	**Torodi Ar. Bea**	**75.39**	**69**	P			**P**	**13 19 14.6**	**-1.0**
	5.7nm,0.3s,baz=255,slow=5.7,SNR=112								
MAW	**Mawson**	**82.63**	**163**	P			**P**	**13 19 52.6**	**-1.2**
	1.4nm,0.7s,baz=253,slow=5.4,SNR=2.9								
ESDC	**Sonseca Array**	**84.85**	**43**	P			**P**	**13 20 05.8**	**+0.3**
	1.3nm,0.7s,baz=247,slow=4.4,SNR=11								
WRA	**Warramunga Arr**	**133.25**	**207**	PKP			**PKPdf**	**13 26 45.7**	**0.0**
	0.2nm,0.7s,baz=156,slow=1.7,SNR=3.6								

IDC 26 13:11:00.8±1.6, 2°.82S×136°.88E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/41, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=39.2km s-min=29.8km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JAY	**Jayapura**	**3.84**	**86**	Pn		Pn	Pn	13 12 01.2	+0.1
JAY	0.5nm,0.3s,baz=270,slow=20,SNR=12			Sn		Sn	Sn	13 12 46.7	-0.4
	0.5nm,0.3s,baz=278,slow=23,SNR=4.9								
WRA	**Warramunga Arr**	**17.20**	**188**	P		Pn		13 15 02.1	-0.5
	0.1nm,0.3s,baz=10,slow=12,SNR=3.5								
ASAR	**Alice Springs**	**20.92**	**188**	P		P		13 15 45.4	+0.2
	1.3nm,0.6s,baz=12,slow=12,SNR=5.2								
MKAR	**Makanchi Array**	**68.77**	**323**	P		P		13 22 06.7	0.0
	0.3nm,0.6s,baz=128,slow=6.6,SNR=3.1								

TAP 26 13:19:13.3, 24°.85N×122°.00E, h8km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
EGS		**0.06**	**261**	*i* P		Pg		13 19 15.5	+0.4
TWB1	**Santiao Chiao**	**0.15**	**357**	*i* P		Pg		13 19 17.1	+0.5
TWB1	baz=359			*i* S		Sg		13 19 19.4	+0.7
TWC	baz=359 **Suao**	**0.28**	**209**	*e*P		Pg		13 19 19.2	+0.4
NWF	baz=208 **Wu-fen Shan**	**0.29**	**318**	P		Pb		13 19 20.1	-0.7
NWF	baz=317			S		Sb		13 19 24.7	-1.3
TWE	baz=317 **Neicheng**	**0.33**	**246**	P		Pg		13 19 20.2	+0.4
ENTT	baz=245 **Nioudou**	**0.45**	**242**	*e*P		Pg		13 19 22.4	+0.4
	baz=242								

*BJI **26** 13:19:12.5, 23°.90N×121°.00E, h6km, mb4.5/36, mB5.0/14, ML4.7/9, Ms4.6/20, Ms7 4.5/18*
*JMA **26** 13:19:13.5±0.1, 23°.86N×121°.03E, h0km, M4.8*
*MOS **26** 13:19:13.3±0.9, 23°.73N×121°.10E, h27km, mb4.9/21, Error ellipse: s-maj=10.3km s-min=7.1km az=106.9*
*TAP **26** 13:19:14.1, 23°.85N×121°.00E, h15km, ML5.0, B*
*IDC **26** 13:19:14.3±3.2, 23°.76N×121°.18E, h22km±20km, mb4.0/21, mb1 4.1/23, mb1mx4.0/47, mbtmp4.1/23, ML3.7/2, MS4.6/1, Ms1 4.6/1, ms1mx3.9/60, Error ellipse: s-maj=18.0km s-min=13.3km az=82.0*
*ISCJB **26** 13:19:14.9±0.2, 23°.87N±0°.01×121°.01E±0°.01, h26km±1km, mb4.4/48, Error ellipse: s-maj=2.2km s-min=1.6km az=140.3*
*NEIC **26** 13:19:14.3±0.5, 23°.80N×121°.06E, h18km±3km, mb4.7/20, ML5.1(TAP), Error ellipse: s-maj=5.4km s-min=4.2km az=129.0*
NEIC Felt at Bate, Danshui, Hsinchu, Sanxia, Taichung and Taipei. Recorded [3 TAP] in Changhua, Hualien and Nantou; [2 TAP] in Chiayi, Taichung, Yilan and Yunlin; [1 TAP] in Miaoli, Penghu and Taitung.
*IASPEI **26** 13:19:14.4±0.8, 23°.85N±0°.01×121°.02E±0°.02, h13km±6km, mb4.5/48, Error ellipse: s-maj=2.7km s-min=1.9km az=116.9, GT5 selection from ISC bulletin GT5 identified by Bond¨¡r and McLaughlin (2009) selection criteria Bond¨¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ISC 26 13:19:14.7±0.7, 23°.85N±0°.01×121°.03E±0°.02, h16km±4km, n225, σ1§39/296, mb4.5/47, 42C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SSLB	**Suanglung**	**0.09**	**228**	*e*Pg		**Pg**	**Pg**	**13 19 16.9**	**-1.1**
SMLT	**Sun Moon Lake**	**0.12**	**287**	*i*P		**Pg**	**Pg**	**13 19 17.7**	**-0.8**
	baz=294								
WDT	**Danda**	**0.13**	**133**	*i*P		**Pb**	**Pb**	**13 19 19.0**	**0.0**
	baz=116								
TYC	**Yuchr**	**0.17**	**290**	*i*P		**Pg**	**Pg**	**13 19 18.1**	**-0.8**
	baz=297								
WNT	**Mingjian**	**0.32**	**276**	*i*P		**Pg**	**Pg**	**13 19 21.3**	**0.0**
	baz=277								
WNT				S		**Sb**	**Sb**	**13 19 26.9**	**+0.1**
	baz=277								
YUS	**Yu-Shan**	**0.36**	**191**	*i*P		**Pg**	**Pg**	**13 19 22.3**	**-0.1**
	baz=181								
ESL	**Shilin**	**0.37**	**95**	*i*P			**Pb**	**13 19 22.8**	**-0.1**
	baz=93								
ALS	**Alishan**	**0.39**	**211**	P			**Pg**	**13 19 22.8**	**0.0**
	baz=199								
ALS				*e*S			**Sg**	**13 19 28.7**	**+0.4**
	baz=199								
CHN5	**Tsauling**	**0.41**	**232**	*i*P			**Pg**	**13 19 22.8**	**-0.1**
	baz=230								
EHY	**Hungye**	**0.43**	**141**	*i*P			**Pb**	**13 19 23.9**	**0.0**
	baz=132								
EHY				*e*S			**Sb**	**13 19 30.3**	**+0.1**
	baz=132								
TCU	**Taichung**	**0.44**	**313**	*i*P			**Pb**	**13 19 23.8**	**-0.2**
	baz=302								
TCU				S			**Sb**	**13 19 30.8**	**+0.4**
	baz=302								
ESF	**Shoufeng Towns**	**0.44**	**87**	*i*P			**Pb**	**13 19 24.5**	**+0.5**
	baz=86								
ESF				*i* S			**Sb**	**13 19 31.3**	**+0.9**
	baz=86								
WGK	**Gukeng**	**0.46**	**249**	*i*P			**Pg**	**13 19 23.9**	**+0.1**
	baz=248								
WGK				*e*S			**Sg**	**13 19 30.7**	**-0.1**
	baz=248								
TEGC	**Jichi Village**	**0.49**	**106**	*e*P			**Pn**	**13 19 26.1**	**-0.9**
	baz=105								
TEGC				*e*S			**Sn**	**13 19 34.2**	**-0.9**
	baz=105								
YULB	**Yu-li**	**0.52**	**151**	*e*Pg			**Pg**	**13 19 25.0**	**0.0**
HWA	**Hwalien**	**0.55**	**76**	*i*P			**Pb**	**13 19 26.0**	**+0.2**
	baz=77								
TWQ1	**Liyutan**	**0.55**	**335**	*i*P			**Pb**	**13 19 26.0**	**0.0**
	baz=339								
TWQ1				*e*S			**Sb**	**13 19 34.2**	**+0.6**
	baz=339								
TWF1	**Yuli**	**0.55**	**153**	*i*P			**Pb**	**13 19 25.9**	**0.0**
	baz=150								
TWF1				*e*S			**Sg**	**13 19 32.2**	**-0.8**
	baz=150								
TWD	**Chiawan**	**0.57**	**66**	*i*P			**Pg**	**13 19 26.0**	**+0.1**
	baz=67								
TWD				*e*S			**Sg**	**13 19 33.8**	**+0.2**
	baz=67								
CHN2	**Minshiung**	**0.59**	**238**	*i*P			**Pg**	**13 19 26.4**	**-0.1**
	baz=237								
CHN2				S			**Sb**	**13 19 35.4**	**+0.6**
	baz=237								
NACB	**Ninganchiao**	**0.61**	**58**	*e*Pg			**Pg**	**13 19 26.3**	**-0.5**
NACB				*e*Sg			**Sg**	**13 19 35.0**	**0.0**
NSY	**Sanyi**	**0.62**	**337**	*i*P			**Pb**	**13 19 27.5**	**+0.5**
	baz=340								
NSY				S			**Sn**	**13 19 37.1**	**-1.2**
	baz=340								
CHN4	**Tsaushan**	**0.63**	**219**	*i*P			**Pg**	**13 19 27.0**	**-0.2**
	baz=217								
CHY	**Chiayi**	**0.65**	**238**	*i*P			**Pg**	**13 19 27.2**	**-0.3**
	baz=236								
CHY				*i* S			**Sb**	**13 19 36.8**	**+0.3**
	baz=236								
TPUB	**Ta-pu**	**0.65**	**214**	*e*Pg			**Pg**	**13 19 27.1**	**-0.5**
TPUB				*e*Sg			**Sb**	**13 19 36.6**	**+0.1**
ELDTW	**Lidau**	**0.66**	**181**	*e*P			**Pg**	**13 19 27.0**	**-0.6**
	baz=184								
NNS	**Nan Shan**	**0.67**	**28**	*i*P			**Pg**	**13 19 27.2**	**-0.7**
	baz=35								
NNS				*e*S			**Sg**	**13 19 35.5**	**-1.3**
	baz=35								
WTCT	**Ta-ch'eng**	**0.68**	**272**	*i*P			**Pg**	**13 19 27.3**	**-0.7**
	baz=272								
WTCT				S			**Sb**	**13 19 37.4**	**0.0**
	baz=272								
WTP	**Ta-pu**	**0.71**	**212**	*i*P			**Pg**	**13 19 28.1**	**-0.4**
	baz=210								
WTP				S			**Sg**	**13 19 37.8**	**-0.1**
	baz=210								
STYT	**Tauyuan**	**0.72**	**200**	*i*P			**Pg**	**13 19 28.8**	**-0.1**
	baz=197								
STYT				S			**Sb**	**13 19 38.7**	**+0.1**
	baz=197								
TWK	**Hsinying**	**0.76**	**221**	*i*P			**Pg**	**13 19 29.0**	**-0.5**
	baz=218								
TWK				S			**Sb**	**13 19 39.7**	**0.0**
	baz=218								
WSF	**Szhu**	**0.77**	**254**	*i*P			**Pb**	**13 19 28.4**	**-1.2**
	baz=254								
WSF				S			**Sg**	**13 19 39.8**	**0.0**
	baz=254								
NSTT	**Nanjuang**	**0.78**	**358**	*i*P			**Pb**	**13 19 29.9**	**0.0**
	baz=348								
NSTT				S			**Sg**	**13 19 40.4**	**+0.1**
	baz=348								
EHP	**Heping Village**	**0.80**	**55**	*e*P			**Pb**	**13 19 29.0**	**-1.2**
	baz=63								
CHN1	**Nanshi**	**0.80**	**215**	*e*P			**Pb**	**13 19 29.7**	**-0.5**
	baz=213								
CHN1				*i* S			**Sg**	**13 19 41.3**	**+0.4**
	baz=213								
CHKT	**Chengkung**	**0.81**	**157**	*i*P			**Pn**	**13 19 31.2**	**-0.1**
	baz=137								
CHKT				S			**Sn**	**13 19 43.7**	**+0.7**
	baz=137								
**SG

ECL					*e*S		**Sg**	**13 19 54.7**	**-0.3**
	baz=181										
TAP	**Taipei**	**1.27**	**20**	*e*P			**Pg**	**13 19 38.9**	**-0.2**
	baz=30										
TAP					*e*S		**Sg**	**13 19 57.1**	**+1.5**
	baz=30										
TAP1	**Taipei**	**1.27**	**21**⇑	*e*P			**Pb**	**13 19 38.0**	**-0.2**
	baz=30										
TAP1					S		**Sg**	**13 19 57.0**	**+1.2**
	baz=30										
EGS		**1.29**	**40**	P			**Pb**	**13 19 38.9**	**+0.3**
	baz=51										
EGS					*e*S		**Sg**	**13 19 59.0**	**+2.5**
	baz=51										
TWS1	**Kuangyinshan**	**1.30**	**16**	*e*P			**Pn**	**13 19 38.3**	**+0.2**
	baz=4.0										
TWS1					*e*S		**Sg**	**13 19 56.7**	**0.0**
	baz=4.0										
PNG	**Penghu**	**1.38**	**259**⇑	*i*P			**Pn**	**13 19 38.0**	**-1.2**
	baz=258										
PNG					*e*S		**Sn**	**13 19 55.7**	**-1.4**
	baz=258										
WDGT	**Dungji**	**1.38**	**245**⇑	*e*P			**Pn**	**13 19 38.1**	**-1.2**
	baz=244										
WDGT					*e*S		**Sn**	**13 19 56.4**	**-0.9**
	baz=244										
NWF	**Wu-fen Shan**	**1.40**	**29**	*e*P			**Pb**	**13 19 40.7**	**+0.2**
	baz=30										
NWF					*e*S		**Sg**	**13 20 01.4**	**+1.5**
	baz=30										
KAU	**Kaohsiung**	**1.43**	**208**	*e*P			**Pb**	**13 19 41.4**	**+0.4**
	baz=207										
TWB1	**Santiao Chiao**	**1.45**	**37**	P			**Pb**	**13 19 41.6**	**+0.3**
	baz=47										
TWB1					*e*S		**Sg**	**13 20 02.4**	**+0.8**
	baz=47										
EAST	**Anshuo**	**1.47**	**186**	⇓P			**Pb**	**13 19 41.5**	**-0.1**
	baz=177										
EAST					S		**Sg**	**13 20 02.2**	**+0.2**
	baz=177										
TAW	**Tawu**	**1.49**	**185**	⇓P			**Pb**	**13 19 41.7**	**-0.2**
	baz=198										
TAW					*e*S		**Sg**	**13 20 03.4**	**+0.7**
	baz=198										
SCZT	**Fangliau**	**1.52**	**194**	*e*P			**Pb**	**13 19 42.0**	**-0.4**
	baz=203										
SCZT					*e*S		**Sb**	**13 20 02.3**	**+1.0**
	baz=203										
TWY	**Chenhua**	**1.52**	**20**	*e*P			**Pn**	**13 19 41.5**	**+0.4**
	baz=23										
TWP	**Hsiaoliuchiu**	**1.61**	**202**	*e*P			**Pg**	**13 19 45.6**	**-0.1**
	baz=202										
HEN	**Hengchun**	**1.85**	**188**	*e*P			**Pn**	**13 19 46.8**	**+1.1**
	baz=187										
HEN					*e*S		**Sg**	**13 20 16.0**	**+1.6**
	baz=187										
JYNG	**Yonagunijimaku**	**1.85**	**71**	P			**Pn**	**13 19 46.3**	**+0.5**
JYNG					*e*S		**Sb**	**13 20 11.0**	**-0.1**
LAY	**Lan-yu**	**1.86**	**165**	⇓P			**Pn**	**13 19 45.6**	**-0.4**
	baz=151										
TWK1	**Hengchun**	**1.91**	**186**	*e*P			**Pn**	**13 19 47.3**	**+0.8**
	baz=202										
YOJ	**Yonaguni jima**	**1.91**	**71**	P			**Pn**	**13 19 46.9**	**+0.3**
YOJ					*e*S		**Sn**	**13 20 11.4**	**+1.1**
YOJ	**Yonaguni jima**	**1.91**	**71**⇑	*i*P			**Pn**	**13 19 47.1**	**+0.6**
	baz=69										
YOJ					*e*S		**Sn**	**13 20 10.5**	**+0.1**
	baz=69										
YOJ	**Yonaguni jima**	**1.91**	**71**	*e*P			**Pn**	**13 19 46.9**	**+0.3**
YOJ	**Yonaguni jima**	**1.91**	**71**	*e*Pn			**Pn**	**13 19 46.9**	**+0.3**
TSEB	**Hengchuen, Pin**	**1.94**	**183**	*e*P			**Pg**	**13 19 50.9**	**-1.0**
	baz=200										
PCYT	**Pengchaiyu**	**2.01**	**28**	*e*P			**Pn**	**13 19 48.3**	**+0.3**
	baz=16										
KNM	**Kinmen**	**2.44**	**284**⇑	*e*P			**Pn**	**13 19 53.8**	**+0.1**
	baz=283										
QZH	**Quanzhou**	**2.47**	**297**		Pg		**Pn**	**13 19 52.0**	**-2.3**
QZH					SMN						
	2µm,0.7s										
QZH					SME						
	2µm,0.6s										
IRIF	**Iriomote-Funau**	**2.52**	**78**	P			**Pn**	**13 19 55.2**	**+0.3**
IRIF					*e*S		**Sn**	**13 20 27.6**	**+2.3**
HATJ	**Hateruma jima**	**2.55**	**85**	P			**Pn**	**13 19 55.8**	**+0.5**
HATJ					*e*S		**Sn**	**13 20 27.4**	**+1.3**
JKRS	**Kuro-shima**	**2.75**	**81**	P			**Pn**	**13 19 58.9**	**+0.7**
JKRS					S		**Sn**	**13 20 33.4**	**+2.3**
JIJ	**Ishigaki jima**	**2.89**	**79**	P			**Pn**	**13 20 00.2**	**+0.1**
JIJ					*e*S		**Sn**	**13 20 34.1**	**-0.4**
JISG	**Ishigakijimahi**	**3.09**	**76**	P			**Pn**	**13 20 03.0**	**+0.3**
JISG					S		**Sn**	**13 20 39.1**	**-0.2**
JTJ	**Tarama**	**3.45**	**76**	P			**Pn**	**13 20 08.4**	**+0.7**
JTJ					*e*S		**Sn**	**13 20 48.5**	**+0.3**
JIRB	**Irabujima**	**3.91**	**75**	P			**Pn**	**13 20 15.5**	**+1.5**
JIRB					*e*S		**Sn**	**13 21 01.4**	**+1.9**
JIKM	**Ikemajima**	**4.00**	**74**	P			**Pn**	**13 20 16.3**	**+1.1**
JIKM					*e*S		**Sn**	**13 21 02.8**	**+1.1**
JMJ	**Miyako jima 2**	**4.01**	**75**	P			**Pn**	**13 20 17.0**	**+1.6**
JMJ					*e*S		**Sn**	**13 21 05.4**	**+3.3**
JOGS	**Gusukube**	**4.10**	**76**	P			**Pn**	**13 20 17.2**	**+0.6**
JOGS					*e*S		**Sn**	**13 21 07.9**	**+3.6**
JKE	**Kume jima 2**	**5.78**	**64**	P			**Pn**	**13 20 40.4**	**+0.7**
JKE					*e*S		**Sn**	**13 21 47.6**	**+2.0**
JAGN	**Aguni-jima**	**6.26**	**63**	P			**Pn**	**13 20 47.2**	**+0.9**
JNTH	**Nagotoyohara**	**6.87**	**66**	P			**Pn**	**13 20 54.7**	**-0.1**
JIH	**Iheya**	**7.03**	**62**	P			**Pn**	**13 20 58.1**	**+1.2**
MCO	**Taipa Grande**	**7.09**	**257**	P			**Pn**	**13 21 00.0**	**+2.2**
GZH	**Guangzhou**	**7.09**	**265**	P			Pn	13 20 51.5	-6.3
GZH					S		Sn	13 22 05.5	-13
GZH					pmax	pmax			
	comp=Z,170nm,0.5s								
JOW	**Kunigami**	**7.20**	**64**	P			**Pn**	**13 20 59.5**	**+0.2**
JOW	**Kunigami**	**7.20**	**64**	*e*P			**Pn**	**13 20 58.7**	**-0.6**
	baz=62										
JOW	**Kunigami**	**7.20**	**64**	*e*Pn			**Pn**	**13 20 58.6**	**-0.7**
JOKE	**Okinoerabujima**	**7.66**	**61**	P			**Pn**	**13 21 04.8**	**-0.8**
JTK	**Tokunoshima**	**8.15**	**60**	P			**Pn**	**13 21 11.2**	**-1.1**
JTK					*e*S		**Sn**	**13 22 43.5**	**-0.5**
JAMN	**Amaminishikomi**	**8.54**	**57**	P			**Pn**	**13 21 16.6**	**-1.0**
WHN	**Wuhan**	**8.93**	**320**	P			**Pn**	**13 21 21.5**	**-1.5**
WHN					LN				
	comp=Z,5µm,11.8s								
WHN					LE				
	comp=Z,6µm,12.0s								
JAM	**Amami Oshima**	**8.95**	**58**	P			**Pn**	**13 21 22.1**	**-1.2**
JNU	**Nakatsue**	**12.66**	**41**	Pn			**Pn**	**13 22 15.9**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=195,slow=14,SNR=3.2								
GYA	**Guiyang**	**13.27**	**284**⇑	*i*P			**Pn**	**13 22 21.8**	**-0.7**
GYA					PP		**P**	**13 22 34.0**	**+1.7**
GYA					S		**Sn**	**13 24 52.5**	**+2.7**
GYA					SS		**SnSn**	**13 25 07.8**	**+5.7**
GYA					PMZ				
	comp=Z,20nm,1.1s								
GYA					PMZ				
	comp=Z,120nm,4.6s								
GYA					LN				
	comp=Z,900nm,11.8s								
GYA					LE				
	comp=Z,2µm,12.4s								
XAN	**Xi'an**	**14.66**	**317**		P		**P**	**13 22 48.8**	**+1.1**
XAN					pP	pP		13 22 54.8	
XAN					pmax	pmax			
	comp=Z,18nm,1.0s								
KSAR	**Wonju Array Be**	**14.77**	**22**		P		**Pn**	**13 22 44.0**	**+1.1**
KSAR	**Wonju Array Be**	**14.77**	**22**		Pn		**Pn**	**13 22 44.0**	**+1.1**
KSRS	**Korea Array**	**14.80**	**22**		Pn		**Pn**	**13 22 44.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=202,slow=12,SNR=4.1								
KMI	**Kunming**	**16.70**	**278**		P		**P**	**13 23 11.5**	**+1.0**
KMI					pP	sP		13 23 17.3	+0.1
KMI					sP	pP		13 23 19.0	+3.9
KMI					PMZ				
	comp=Z,16nm,0.8s								
KMI					LN				
	comp=Z,920nm,9.8s								
KMI					LE				
	comp=Z,2µm,10.8s								
KMI					LZ				
	comp=Z,2µm,10.8s								
CD2	**Chengdu**	**16.86**	**298**	*e*P			**Pn**	**13 23 09.5**	**-0.7**
CD2					pP		pP	13 23 16.0	-0.7
CD2					sP		sP	13 23 18.3	-0.6
CD2					S		**Sn**	**13 26 17.8**	**+0.5**
CD2					PMZ				
	comp=Z,20nm,0.5s								
CD2					PMZ				
	comp=Z,180nm,5.2s								
HHC	**Hu-ho-hao-te**	**18.72**	**337**	*e*P			**Pn**	**13 23 35.3**	**+2.2**
HHC					PMZ				
	comp=Z,28nm,1.0s								
JHJ	**Hachijo jima 2**	**18.88**	**57**	LR			LR	13 30 15.9	
	comp=Z,2µm,21.0s,baz=121,slow=35								
LZH	**Lanzhou**	**19.21**	**313**	*e*P			**Pn**	**13 23 39.0**	**-0.1**
LZH					pP		pP	13 23 43.3	+0.6
LZH					sP		sP	13 23 46.0	+1.2
LZH					PP		**PnPn**	**13 23 56.3**	**+4.3**
LZH					*e*S		**Sn**	**13 27 10.5**	**-3.7**
LZH					sS		S	13 27 14.5	-0.9
LZH					SS		**SnSn**	**13 27 34.0**	**+5.6**
LZH					PMZ				
	comp=Z,48nm,1.0s								
LZH					PMZ				
	comp=Z,560nm,8.2s								
MAJO	**Matsushiro**	**19.47**	**46**	*e*P			**P**	**13 23 41.3**	**+0.5**
MAJO					pmax	pmax			
	comp=Z,6.0nm,0.9s								
MAJO	**Matsushiro**	**19.47**	**46**	*e*P			**P**	**13 23 41.3**	**+0.5**
	comp=Z,6.2nm,0.9s								
MJAR	**Matsushiro Arr**	**19.47**	**46**	P			**P**	**13 23 39.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=230,slow=9.5,SNR=9.0								
CN2	**Changchun**	**20.23**	**9**	*e*P			**P**	**13 23 50.0**	**+1.0**
CN2					PMZ				
	comp=Z,10.0nm,0.6s								
LAMP	**Lampang**	**20.63**	**259**	P			Pn	13 23 58.8	+2.9
	comp=Z,3.6nm,1.0s								
CMMT	**Chiang Mai**	**21.16**	**261**	P			**P**	**13 24 02.4**	**+3.1**
	comp=Z,14nm,1.2s								
CM01	**Chiang Mai Arr**	**21.27**	**259**	*e*P			**P**	**13 24 01.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**21.27**	**260**	P			**P**	**13 24 01.4**	**+0.8**
	comp=Z,4.7nm,0.8s,baz=62,slow=7.8,SNR=23								
USRK	**Ussuriysk Ar.**	**22.20**	**21**	P			**P**	**13 24 09.7**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=206,slow=13,SNR=6.6								
GTA	**Gaotai**	**23.72**	**316**	⇑P			**P**	**13 24 26.3**	**+0.1**
GTA					pP		pP	13 24 31.0	0.0
GTA					sP		sP	13 24 33.5	+0.4
ULN	**Ulaanbaatar**	**26.42**	**339**	*c*e P			**P**	**13 24 51.0**	**+0.3**
ULN					pmax	pmax			
	comp=Z,8.0nm,1.4s								
ULN	**Ulaanbaatar**	**26.42**	**339**	*e*P			**P**	**13 24 50.6**	**-0.2**
	comp=Z,19nm,1.4s								
SHL	**Shillong**	**26.51**	**280**	*e*P			**P**	**13 24 52.5**	**+0.7**
SONM	**Songino Array**	**26.62**	**338**	P			**P**	**13 24 52.3**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=158,slow=9.5,SNR=17								
SONM					ScP		**ScP**	**13 31 53.5**	**-2.3**
	comp=Z,0.5nm,0.6s,baz=151,slow=3.3,SNR=2.8								
SONA1	**Songino Array**	**26.63**	**338**	*e*P			**P**	**13 24 52.4**	**-0.2**
KLR	**Kul'dur**	**26.70**	**16**	P			**P**	**13 24 53.9**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=215,slow=3.5,SNR=6.6								
KLR	**Kul'dur**	**26.70**	**16**	*e*P			**P**	**13 24 52.0**	**-1.0**
WMQ	**Urumqi**	**33.78**	**314**	P			**P**	**13 25 57.5**	**+1.6**
WMQ					pP		sP	13 26 02.5	-0.4
WMQ					sP		pP	13 26 04.5	+3.6
WMQ					PMZ				
	comp=Z,4.0nm,0.9s								
WMQ					LN				
	comp=Z,530nm,17.5s								
WMQ					LE				
	comp=Z,460nm,15.9s								
WMQ					LZ				
	comp=Z,470nm,19.9s								
MK01	**Makanchi Array**	**38.46**	**316**	*e*P			**P**	**13 26 35.7**	**-0.1**
MK31	**Makanchi Array**	**38.48**	**316**	*e*P			**P**	**13 26 35.8**	**-0.1**
MK31	**Makanchi Array**	**38.48**	**316**	*e*P			**P**	**13 26 35.8**	**-0.1**
MKAR	**Makanchi Array**	**38.48**	**316**	P			**P**	**13 26 36.0**	**0.0**
	comp=Z,7.4nm,0.7s,baz=109,slow=10,SNR=75								
MKAR					ScP		**ScP**	**13 32 35.5**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=151,slow=3.3,SNR=4.3								
YAK	**Yakutsk**	**38.62**	**7**	*i*P			**P**	**13 26 36.7**	**-0.1**
YAK					pmax	pmax			
	comp=Z,6.0nm,1.0s								
MAKZ	**Makanchi**	**38.68**	**316**	*e*P			**P**	**13 26 37.6**	**0.0**
MAKZ					pmax	pmax			
	comp=Z,13nm,1.1s								
MAKZ	**Makanchi**	**38.68**	**316**	*e*P			**P**	**13 26 37.6**	**0.0**
	comp=Z,13nm,1.1s								
ZAA0	**Zalesovo Array**	**40.45**	**327**	*e*P			**P**	**13 26 51.7**	**-0.5**
ZALV	**Zalesovo Beam**	**40.45**	**327**	P			**P**	**13 26 51.0**	**-1.2**
	comp=Z,5.2nm,0.8s,baz=115,slow=7.9,SNR=21								
KSH	**Kashi**	**40.96**	**303**	*e*P			**P**	**13 27 00.8**	**+4.0**
KSH					pP		sP	13 27 05.5	+1.6
KSH					PP		**PnPn**	**13 28 38.5**	**+2.9**
KSH					PcP		**PcP**	**13 28 59.0**	**+2.0**
KSH					S		**S**	**13 33 14.0**	**+5.7**
KSH					SS		**SS**	**13 36 11.5**	**+1.3**
KSH					ScS		**ScS**	**13 37 01.8**	**+0.4**
KSH					PMZ				
	comp=Z,7.0nm,0.9s								
KSH					PMZ				
	comp=Z,560nm,10.6s								
KSH					LN				
	comp=Z,160nm,9.9s								
KSH					LE				
	comp=Z,190nm,8.8s								
KSH					LZ				
	comp=Z,1µm,17.8s								
RABL	**Rabaul**	**41.20**	**128**	*e*P			P	13 26 53.7	-5.1
	comp=Z,26nm,0.5s								
NVS	**Novosibirsk**	**41.71**	**328**	*e*P			**P**	**13 27 06.1**	**+3.5**
NVS					pmax	pmax			
	comp=N,11nm,1.7s								
NVS					pmax	pmax			
	comp=E,9.0nm,1.7s								
NVS					pmax	pmax			
	comp=Z,15nm,1.7s								
TKM2	**Tokmak 2**	**41.86**	**308**	*e*P			**P**	**13 27 04.8**	**+0.5**
TKM2					pmax	pmax			
	comp=Z,10.0nm,0.8s								
TKM2	**Tokmak 2**	**41.86**	**308**	*e*P			**P**	**13 27 04.8**	**+0.5**
	comp=Z,9.8nm,0.8s								
KURK	**Kurchatov**	**42.26**	**320**	*e*P			**P**	**13 27 07.0**	**-0.1**
KURK					pmax	pmax			
	comp=Z,33nm,1.2s								
KURK	**Kurchatov**	**42.26**	**320**	*e*P			**P**	**13 27 07.0**	**-0.1**
	comp=Z,33nm,1.2s								
AAK	**Ala-Archa**	**42.59**	**308**	*i*P			**P**	**13 27 09.0**	**-1.2**
AAK					pmax	pmax			
	comp=Z,7.0nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**42.65**	**86**	T			T	14 12 19.2	
	baz=283,slow=74,SNR=25								
H11N2	**WAKE ISLAND Hy**	**42.65**	**86**	T			T	14 12 14.6	
	baz=283,slow=74,SNR=25								
H11N3	**WAKE ISLAND Hy**	**42.67**	**86**	T			T	14 12 23.2	
	baz=283,slow=74,SNR=26								
H11S3	**WAKE ISLAND Hy**	**42.77**	**88**	T			T	14 12 23.9	
	baz=284,slow=74,SNR=47								
H11S1	**WAKE ISLAND Hy**	**42.78**	**88**	T			T	14 12 22.6	
	baz=284,slow=74,SNR=17								
H11S2	**WAKE ISLAND Hy**	**42.79**	**88**	T			T	14 12 23.9	
	baz=284,slow=74,SNR=18								
SEY	**Seymchan**	**44.34**	**20**	P			**P**	**13 27 24.6**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=215,slow=16,SNR=3.2								
WRA	**Warramunga Arr**	**45.42**	**162**	P			**P**	**13 27 29.4**	**-3.4**
	comp=Z,1.2nm,0.5s,baz=344,slow=8.8,SNR=31								
KKAR	**Karatay Array**	**45.56**	**308**	*e*P			**P**	**13 27 34.2**	**+0.4**
KKAR	**Karatay Array**	**45.56**	**308**	*e*P			**P**	**13 27 34.2**	**+0.4**
KBL	**Kabul**	**46.18**	**296**	*e*P			**P**	**13 27 39.6**	**+0.5**
KBL					pmax	pmax			
	comp=Z,16nm,1.3s								
KBL	**Kabul**	**46.18**	**296**	*e*P			**P**	**13 27 39.6**	**+0.5**
	comp=Z,16nm,1.3s								
VOSK	**Vostochnaya**	**47.41**	**321**	*e*P			**P**	**13 27 47.9**	**-0.3**
VOSK					pmax	pmax			
	comp=Z,6.0nm,1.0s								
VOSK	**Vostochnaya**	**47.41**	**321**	*e*P			**P**	**13 27 47.9**	**-0.3**
	comp=Z,5.6nm,1.0s								
BRVK	**Borovoye**	**47.91**	**321**	*e*P			**P**	**13 27 51.8**	**-0.2**
BRVK					pmax	pmax			
	comp=Z,17nm,1.0s								
BRVK	**Borovoye**	**47.91**	**321**	*e*P			**P**	**13 27 51.8**	**-0.2**
	comp=Z,17nm,1.0s								
TIXI	**Tiksi**	**48.04**	**3**	P			**P**	**13 27 50.8**	**-1.9**
	comp=Z,1.4nm,0.6s,baz=158,slow=5.6,SNR=6.1								
TIXI	**Tiksi**	**48.04**	**3**	*e*P			**P**	**13 27 51.4**	**-1.3**
TIXI					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TIXI	**Tiksi**	**48.04**	**3**	*e*P			**P**	**13 27 51.4**	**-1.3**
	comp=Z,2.9nm,0.8s								
ZRNK	**Zerenda**	**48.62**	**321**	*e*P			**P**	**13 27 57.5**	**0.0**
ZRNK					pmax	pmax			
	comp=Z,9.0nm,1.0s								
ZRNK	**Zerenda**	**48.62**	**321**	*e*P			**P**	**13 27 57.5**	**0.0**
	comp=Z,9.3nm,1.0s								
ASAR	**Alice Springs**	**48.86**	**164**	ScP			**ScP**	**13 33 15.4**	**-3.2**
	comp=Z,1.2nm,1.2s,baz=1.1,slow=4.6,SNR=4.8								
AS01	**Alice Springs**	**48.87**	**164**	*e*P			**P**	**13 27 57.8**	**-1.9**
BILL	**Bilibino**	**52.05**	**20**	*i*P			**P**	**13 28 22.8**	**-0.4**
BILL					pmax	pmax			
	comp=Z,2.0nm,1.0s								
ABKAR	**Akbulak array**	**53.57**	**315**	*e*P			**P**	**13 28 35.1**	**+0.3**
SVE	**Sverdlovsk**	**54.23**	**324**⇓	*e*P			P	13 28 45.2	+5.7
SVE					pmax	pmax			
	comp=Z,21nm,1.3s								
GEYT	**Alibeck**	**54.84**	**301**	P			**P**	**13 28 45.2**	**+0.9**
	comp=Z,5.8nm,0.8s,baz=82,slow=2.1,SNR=15								
ARU	**Arti**	**55.29**	**323**	*d*P			**P**	**13 28 47.1**	**0.0**
ARU								13 29 41.7	
ARU					S		**S**	**13 36 31.1**	**+0.8**
ARU					SS		**SS**	**13 40 10.1**	**-4.2**
ARU					pmax	pmax			
	comp=Z,4.0nm,0.7s								
ARU	**Arti**	**55.29**	**323**	*e*P			**P**	**13 28 47.0**	**-0.2**
	comp=Z,11nm,0.9s								
NWAO	**Narrogin (SRO)**	**56.57**	**184**	P			**P**	**13 28 55.8**	**-0.7**
	comp=Z,6.7nm,0.9s,baz=15,slow=12,SNR=2.7								
STKA	**Stephens Creek**	**58.80**	**160**	P			**P**	**13 29 10.1**	**-2.2**
	comp=Z,3.0nm,0.6s,baz=347,slow=5.4,SNR=18								
STKA	**Stephens Creek**	**58.80**	**160**	*e*P			**P**	**13 29 10.2**	**-2.0**
STKA					pmax	pmax			
	comp=Z,2.0nm,1.2s								
STKA	**Stephens Creek**	**58.80**	**160**	*e*P			**P**	**13 29 10.2**	**-2.0**
	comp=Z,2.3nm,1.2s								
GNI	**Garni**	**64.88**	**305**	*c*e P			**P**	**13 29 52.5**	**-0.9**
GNI					pmax	pmax			
	comp=Z,8.0nm,0.9s								
VRH	**Novokhopyorsk**	**65.20**	**317**	*e*P			P	13 30 00.1	+5.0
VRH					pmax	pmax			
	comp=Z,30nm,1.7s								
KLMR	**Klimovskoe**	**65.37**	**328**	*e*P			**P**	**13 29 58.8**	**+2.8**
KLMR					pmax	pmax			
	comp=Z,13nm,1.2s								
KBZ	**Khabaz**	**65.58**	**309**	P			**P**	**13 29 57.2**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=100,slow=5.9,SNR=3.1								
KIV	**Kislovodsk**	**65.69**	**309**	*e*P			**P**	**13 29 59.2**	**+0.7**
KIV					pmax	pmax			
	comp=Z,11nm,1.1s								
TT01	**Tatalina**	**65.87**	**30**	*e*P			**P**	**13 29 59.4**	**+0.1**
VSR	**Storozhevoye**	**66.79**	**317**	*e*P			**P**	**13 30 09.2**	**+3.9**
VSR					pmax	pmax			
	comp=Z,10.0nm,1.2s								
OBN	**Obninsk**	**67.67**	**322**	*i*P			**P**	**13 30 11.4**	**+0.6**
OBN					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KDAK	**Kodiak Island**	**68.26**	**35**	*i*P			**P**	**13 30 16.3**	**+1.8**
SUA	**Susitna One**	**68.52**	**31**	*e*P			**P**	**13 30 15.3**	**-1.0**
	comp=Z,8.2nm,0.8s								
RND	**Reindeer**	**69.01**	**29**	*e*P			**P**	**13 30 18.4**	**-0.8**
RND					pmax	pmax			
	comp=Z,8.0nm,0.8s								
RND	**Reindeer**	**69.01**	**29**	*e*P			**P**	**13 30 18.4**	**-0.8**
	comp=Z,8.0nm,0.8s								
ILAR	**Eielson Array**	**69.58**	**27**	P			**P**	**13 30 20.6**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=273,slow=5.9,SNR=8.6								
ARCES	**ARCESS Array B**	**69.80**	**338**	P			**P**	**13 30 23.3**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=72,slow=5.6,SNR=5.8								
SCM	**Sheep Creek Mo**	**70.04**	**30**	*e*P			**P**	**13 30 25.1**	**-0.5**
SCM					pmax	pmax			
	comp=Z,10.0nm,0.7s								
SCM	**Sheep Creek Mo**	**70.04**	**30**	*e*P			**P**	**13 30 25.1**	**-0.5**
	comp=Z,9.9nm,0.7s								
FINES	**FINESS Array B**	**71.66**	**330**	P			**P**	**13 30 34.9**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=58,slow=4.8,SNR=9.5								
EGAK	**Eagle**	**71.95**	**27**	*e*P			**P**	**13 30 36.6**	**-0.4**
	comp=Z,3.7nm,0.8s								
DAWY	**Dawson**	**72.90**	**27**	*e*P			**P**	**13 30 42.2**	**-0.6**
	comp=Z,4.6nm,0.9s								
AKASG	**Malin Array Be**	**73.03**	**318**	P			**P**	**13 30 42.7**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=65,slow=6.3,SNR=2.5								
BRTR	**Keskin Array B**	**73.26**	**306**	P			**P**	**13 30 46.0**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=95,slow=5.7,SNR=3.1								
HYT	**Haines Junctio**	**74.86**	**30**	*e*P			**P**	**13 30 54.0**	**-0.4**
	comp=Z,6.9nm,1.1s								
NC405	**NORSAR Array S**	**78.20**	**332**	*e*P			**P**	**13 31 12.4**	**-0.8**
NB2	**NORSAR Subarra**	**78.45**	**332**	P			**P**	**13 31 14.0**	**-0.6**
	comp=Z,6.4nm,1.1s,baz=62,slow=5.6

DSZ				AML	AML	13 21 48.0	
DSZ	**Denniston Nort**	**1.95**	**336**	Pn	**Pn**	**13 21 14.3**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.95**	**23**	⇑PN	**Pn**	**13 21 15.0**	**+0.7**
BSWZ				AML	AML	13 21 41.7	
BSWZ				AML	AML	13 21 43.3	
BSWZ	**Blackbirch Sta**	**1.95**	**23**	Pn	**Pn**	**13 21 15.0**	**+0.7**
LBZ	**Lake Benmore**	**2.12**	**245**	PN	**Pn**	**13 21 16.3**	**-0.4**
LBZ				AML	AML	13 21 55.4	
LBZ				AML	AML	13 22 01.3	
LBZ	**Lake Benmore**	**2.12**	**245**	Pn	**Pn**	**13 21 16.3**	**-0.4**
ODZ	**Otahua Downs**	**2.21**	**226**	⇑PN	**Pn**	**13 21 17.1**	**-0.6**
ODZ				AML	AML	13 21 56.0	
ODZ				AML	AML	13 21 56.0	
ODZ				AML	AML	13 21 59.5	
ODZ				AML	AML	13 21 59.5	
ODZ	**Otahua Downs**	**2.21**	**226**	*e*Pn	**Pn**	**13 21 17.2**	**-0.6**
FOZ	**Fox Glacier**	**2.23**	**269**	⇑PN	**Pn**	**13 21 18.5**	**+0.5**
FOZ				AML	AML	13 21 45.9	
FOZ				AML	AML	13 22 00.4	
FOZ	**Fox Glacier**	**2.23**	**269**	Pn	**Pn**	**13 21 18.5**	**+0.5**
TUWZ	**Tuamarina**	**2.24**	**21**	PN	**Pn**	**13 21 18.4**	**+0.2**
TUWZ				AML	AML	13 22 10.6	
TUWZ				AML	AML	13 22 10.8	
TUWZ	**Tuamarina**	**2.24**	**21**	Pn	**Pn**	**13 21 18.4**	**+0.2**
NNZ	**Nelson**	**2.34**	**9**	⇓PN	**Pn**	**13 21 20.1**	**+0.6**
NNZ				AML	AML	13 21 49.7	
NNZ				AML	AML	13 21 51.0	
NNZ	**Nelson**	**2.34**	**9**	Pn	**Pn**	**13 21 20.1**	**+0.6**
TCW	**Tory Channel**	**2.54**	**25**	PN	**Pn**	**13 21 22.2**	**-0.1**
TCW				AML	AML	13 21 59.1	
TCW				AML	AML	13 22 05.6	
TCW	**Tory Channel**	**2.54**	**25**	Pn	**Pn**	**13 21 22.2**	**-0.1**
BHW	**Baring Head**	**2.58**	**36**	PN	**Pn**	**13 21 22.9**	**+0.1**
BHW				AML	AML	13 22 27.1	
BHW				AML	AML	13 22 28.4	
BHW	**Baring Head**	**2.58**	**36**	Pn	**Pn**	**13 21 22.9**	**+0.1**
SNZO	**South Karori**	**2.59**	**32**	*e*Pn	**Pn**	**13 21 22.9**	**-0.2**
PLWZ	**Palliser**	**2.63**	**43**	PN	**Pn**	**13 21 23.4**	**-0.1**
PLWZ	**Palliser**	**2.63**	**43**	Pn	**Pn**	**13 21 23.4**	**-0.1**
WEL	**Wellington**	**2.64**	**33**	PN	**Pn**	**13 21 23.8**	**+0.1**
WEL	**Wellington**	**2.64**	**33**	Pn	**Pn**	**13 21 23.8**	**+0.1**
QRZ	**Quartz Range**	**2.71**	**354**	PN	**Pn**	**13 21 24.9**	**+0.2**
QRZ				AML	AML	13 22 01.0	
QRZ				AML	AML	13 22 01.1	
QRZ				AML	AML	13 22 11.7	
QRZ				AML	AML	13 22 11.7	
QRZ	**Quartz Range**	**2.71**	**354**	Pn	**Pn**	**13 21 24.9**	**+0.2**
MSWZ	**Moikau Station**	**2.74**	**41**	PN	**Pn**	**13 21 24.9**	**-0.2**
MSWZ				AML	AML	13 21 59.0	
MSWZ				AML	AML	13 21 59.9	
MSWZ	**Moikau Station**	**2.74**	**41**	Pn	**Pn**	**13 21 24.9**	**-0.2**
PAWZ	**Paruwai Farm**	**2.85**	**42**	PN	**Pn**	**13 21 26.3**	**-0.4**
PAWZ				AML	AML	13 22 00.9	
PAWZ				AML	AML	13 22 05.0	
PAWZ	**Paruwai Farm**	**2.85**	**42**	Pn	**Pn**	**13 21 26.3**	**-0.4**
HHSZ	**Highcliff Hill**	**2.86**	**214**	PN	**Pn**	**13 21 26.2**	**-0.6**
HHSZ	**Highcliff Hill**	**2.86**	**214**	Pn	**Pn**	**13 21 26.2**	**-0.6**
CAW	**Cannon Point**	**2.91**	**35**	PN	**Pn**	**13 21 27.2**	**-0.2**
CAW				AML	AML	13 22 04.3	
CAW				AML	AML	13 22 06.4	
CAW	**Cannon Point**	**2.91**	**35**	Pn	**Pn**	**13 21 27.2**	**-0.2**
TRWZ	**Traveller**	**2.98**	**45**	PN	**Pn**	**13 21 28.1**	**-0.2**
TRWZ				AML	AML	13 22 09.8	
TRWZ				AML	AML	13 22 12.1	
TRWZ	**Traveller**	**2.98**	**45**	Pn	**Pn**	**13 21 28.1**	**-0.2**
JCZ	**Jackson Bay**	**3.01**	**258**	⇑PN	**Pn**	**13 21 28.2**	**-0.6**
JCZ				AML	AML	13 22 19.9	
JCZ				AML	AML	13 22 28.6	
JCZ	**Jackson Bay**	**3.01**	**258**	Pn	**Pn**	**13 21 28.2**	**-0.6**
KIW	**Kapiti Island**	**3.06**	**30**	PN	**Pn**	**13 21 29.6**	**+0.1**
KIW				AML	AML	13 22 06.5	
KIW				AML	AML	13 22 39.2	
KIW	**Kapiti Island**	**3.06**	**30**	Pn	**Pn**	**13 21 29.6**	**+0.1**
MTW	**Mount Morrison**	**3.06**	**40**	⇓PN	**Pn**	**13 21 29.1**	**-0.4**
MTW				AML	AML	13 22 06.0	
MTW				AML	AML	13 22 11.0	
MTW	**Mount Morrison**	**3.06**	**40**	Pn	**Pn**	**13 21 29.1**	**-0.4**
WKZ	**Wanaka**	**3.06**	**244**	PN	**Pn**	**13 21 28.6**	**-1.0**
WKZ				AML	AML	13 22 24.8	
WKZ				AML	AML	13 22 28.7	
WKZ	**Wanaka**	**3.06**	**244**	Pn	**Pn**	**13 21 28.6**	**-1.0**
EAZ	**Earnscleugh**	**3.07**	**235**	⇑PN	**Pn**	**13 21 29.0**	**-0.6**
EAZ				AML	AML	13 22 21.3	
EAZ				AML	AML	13 22 21.6	
EAZ				AML	AML	13 22 21.6	
EAZ				AML	AML	13 22 22.6	
EAZ	**Earnscleugh**	**3.07**	**235**	Pn	**Pn**	**13 21 29.0**	**-0.6**
OGWZ	**Otaki Gorge**	**3.20**	**33**	PN	**Pn**	**13 21 31.1**	**-0.3**
OGWZ	**Otaki Gorge**	**3.20**	**33**	Pn	**Pn**	**13 21 31.1**	**-0.3**
HOWZ	**Holdsworth Sta**	**3.28**	**38**	PN	**Pn**	**13 21 32.0**	**-0.5**
HOWZ	**Holdsworth Sta**	**3.28**	**38**	Pn	**Pn**	**13 21 32.0**	**-0.5**
TMWZ	**Te Maipa**	**3.29**	**44**	PN	**Pn**	**13 21 32.2**	**-0.4**
TUZ	**Tuapeka**	**3.35**	**222**	PN	**Pn**	**13 21 32.9**	**-0.6**
TUZ				AML	AML	13 22 35.0	
TUZ				AML	AML	13 22 35.8	
TUZ	**Tuapeka**	**3.35**	**222**	Pn	**Pn**	**13 21 32.9**	**-0.6**
MRZ	**Mangatainoka R**	**3.50**	**36**	PN	**Pn**	**13 21 34.8**	**-0.7**
MRZ	**Mangatainoka R**	**3.50**	**36**	Pn	**Pn**	**13 21 34.8**	**-0.7**
TIWZ	**Tintock**	**3.54**	**40**	PN	**Pn**	**13 21 35.6**	**-0.6**
TIWZ				AML	AML	13 22 19.3	
TIWZ				AML	AML	13 22 19.4	
MSZ	**Milford Sound**	**3.75**	**250**	PN	**Pn**	**13 21 37.7**	**-1.1**
MSZ				AML	AML	13 22 41.0	
MSZ				AML	AML	13 22 41.0	
MSZ				AML	AML	13 22 51.3	
MSZ				AML	AML	13 22 51.3	
MSZ	**Milford Sound**	**3.75**	**250**	Pn	**Pn**	**13 21 37.7**	**-1.1**
PRWZ	**Pori Road**	**3.76**	**39**	PN	**Pn**	**13 21 38.6**	**-0.5**
PRWZ	**Pori Road**	**3.76**	**39**	Pn	**Pn**	**13 21 38.6**	**-0.5**
BFZ	**Birch Farm**	**3.79**	**43**	PN	**Pn**	**13 21 38.8**	**-0.7**
BFZ				AML	AML	13 22 24.2	
BFZ				AML	AML	13 22 29.0	
BFZ	**Birch Farm**	**3.79**	**43**	Pn	**Pn**	**13 21 38.8**	**-0.7**
POWZ	**Post Office Ro**	**3.80**	**36**	PN	**Pn**	**13 21 39.7**	**+0.1**
POWZ	**Post Office Ro**	**3.80**	**36**	Pn	**Pn**	**13 21 39.7**	**+0.1**
MLZ	**Mavora Lakes**	**3.87**	**240**	PN	**Pn**	**13 21 39.5**	**-1.2**
MLZ				AML	AML	13 22 51.9	
MLZ				AML	AML	13 22 52.6	
MLZ	**Mavora Lakes**	**3.87**	**240**	Pn	**Pn**	**13 21 39.5**	**-1.2**
SYZ	**Scrubby Hill**	**4.01**	**220**	PN	**Pn**	**13 21 42.1**	**-0.4**
SYZ				AML	AML	13 22 53.6	
SYZ				AML	AML	13 22 57.1	
SYZ	**Scrubby Hill**	**4.01**	**220**	Pn	**Pn**	**13 21 42.1**	**-0.4**
DVHZ	**Dannevirke**	**4.05**	**38**	PN	**Pn**	**13 21 42.0**	**-1.1**
DVHZ	**Dannevirke**	**4.05**	**38**	Pn	**Pn**	**13 21 42.0**	**-1.1**
ANWZ	**Angora Road**	**4.07**	**42**	PN	**Pn**	**13 21 42.8**	**-0.6**
WAZ	**Wanganui**	**4.09**	**23**	PN	**Pn**	**13 21 45.1**	**+1.5**
WAZ				AML	AML	13 22 45.3	
WAZ				AML	AML	13 22 49.6	
WAZ	**Wanganui**	**4.09**	**23**	Pn	**Pn**	**13 21 45.1**	**+1.5**
TSZ	**Takapari Road**	**4.16**	**35**	PN	**Pn**	**13 21 43.6**	**-1.0**
TSZ				AML	AML	13 22 38.4	
TSZ				AML	AML	13 22 38.5	
TSZ	**Takapari Road**	**4.16**	**35**	Pn	**Pn**	**13 21 43.6**	**-1.0**
WHZ	**Wether Hill Ro**	**4.24**	**234**	⇓PN	**Pn**	**13 21 44.1**	**-1.5**
WHZ				AML	AML	13 23 07.4	
WHZ				AML	AML	13 23 08.2	
WHZ	**Wether Hill Ro**	**4.24**	**234**	Pn	**Pn**	**13 21 44.1**	**-1.5**
NWEZ	**Newall Road**	**4.31**	**10**	PN	**Pn**	**13 21 48.9**	**+2.3**
KHEZ	**Kahui Hut**	**4.31**	**12**	PN	**Pn**	**13 21 48.7**	**+1.9**
KHEZ	**Kahui Hut**	**4.31**	**12**	Pn	**Pn**	**13 21 48.7**	**+1.9**
NEZ	**North Egmont**	**4.35**	**13**	PN	**Pn**	**13 21 48.9**	**+1.6**
NEZ	**North Egmont**	**4.35**	**13**	Pn	**Pn**	**13 21 48.9**	**+1.6**
WPHZ	**Waipukurau**	**4.37**	**39**	PN	**Pn**	**13 21 48.2**	**+0.8**
PKE	**Pukeiti**	**4.41**	**11**	PN	**Pn**	**13 21 49.6**	**+1.6**
PKE				AML	AML	13 22 43.8	
PKE				AML	AML	13 22 44.4	
DREZ	**Durham Road**	**4.45**	**13**	PN	**Pn**	**13 21 50.3**	**+1.8**
DREZ	**Durham Road**	**4.45**	**13**	Pn	**Pn**	**13 21 50.3**	**+1.8**
DCZ	**Deep Cove**	**4.53**	**243**	PN	**Pn**	**13 21 48.4**	**-1.2**
DCZ				AML	AML	13 23 10.5	
DCZ				AML	AML	13 23 16.1	
DCZ	**Deep Cove**	**4.53**	**243**	Pn	**Pn**	**13 21 48.4**	**-1.2**
MTVZ	**Mangateitei**	**4.57**	**26**	AML	AML	13 23 16.9	
MTVZ				AML	AML	13 23 24.2	
VRZ	**Vera Road**	**4.62**	**19**	⇓PN	**Pn**	**13 21 52.2**	**+1.3**
VRZ				AML	AML	13 22 51.8	
VRZ				AML	AML	13 22 52.6	
VRZ	**Vera Road**	**4.62**	**19**	Pn	**Pn**	**13 21 52.2**	**+1.3**
PKVZ	**Pokaka**	**4.62**	**25**	AML	AML	13 23 04.0	
PKVZ				AML	AML	13 23 19.7	
MOVZ	**Moawhango**	**4.65**	**29**	AML	AML	13 22 54.8	
MOVZ				AML	AML	13 23 17.9	
TRVZ	**Turoa**	**4.68**	**26**	PN	**Pn**	**13 21 53.3**	**+1.4**
TRVZ				AML	AML	13 22 50.2	
TRVZ				AML	AML	13 23 17.4	
TRVZ	**Turoa**	**4.68**	**26**	Pn	**Pn**	**13 21 53.3**	**+1.4**
APZ	**The Paps**	**4.78**	**225**	PN	**Pn**	**13 21 52.2**	**-1.0**
APZ				AML	AML	13 23 19.7	
APZ				AML	AML	13 23 20.2	
APZ	**The Paps**	**4.78**	**225**	Pn	**Pn**	**13 21 52.2**	**-1.0**
NGZ	**Ngauruhoe**	**4.80**	**26**	AML	AML	13 23 00.6	
NGZ				AML	AML	13 23 27.1	
OTVZ	**Oturere**	**4.84**	**27**	AML	AML	13 23 00.8	
OTVZ				AML	AML	13 23 48.0	
WTVZ	**West Tongariro**	**4.86**	**26**	AML	AML	13 22 53.9	
WTVZ				AML	AML	13 23 29.2	
KRVZ	**Karewarewa**	**4.89**	**26**	PN	**Pn**	**13 21 55.8**	**+1.0**
KRVZ				AML	AML	13 22 59.5	
KRVZ				AML	AML	13 23 03.2	
KRVZ	**Karewarewa**	**4.89**	**26**	Pn	**Pn**	**13 21 55.8**	**+1.0**
HIZ	**Hauiti**	**5.23**	**17**	⇑PN	**Pn**	**13 21 60.0**	**+0.8**
HIZ				AML	AML	13 23 03.8	
HIZ				AML	AML	13 24 03.7	
HIZ	**Hauiti**	**5.23**	**17**	Pn	**Pn**	**13 22 00.0**	**+0.8**
MRHZ	**Matea Rd**	**5.39**	**31**	PN	**Pn**	**13 22 00.9**	**-0.8**
TOZ	**Tahuroa Road**	**6.12**	**20**	PN	**Pn**	**13 22 11.6**	**0.0**
TOZ	**Tahuroa Road**	**6.12**	**20**	Pn	**Pn**	**13 22 11.6**	**0.0**
URZ	**Urewera**	**6.16**	**33**	Pn	**Pn**	**13 22 10.5**	**-1.6**
	4.2nm,0.3s,baz=235,slow=5.2,SNR=26						
URZ				Sn	**Sn**	**13 23 17.7**	**-4.9**
	6.9nm,0.3s,baz=198,slow=16,SNR=7.5						
URZ	**Urewera**	**6.16**	**33**	PN	**Pn**	**13 22 10.2**	**-1.9**
MWZ	**Matawai**	**6.27**	**36**	PN	**Pn**	**13 22 11.7**	**-1.9**
MWZ				AML	AML	13 23 23.6	
MWZ				AML	AML	13 23 27.5	
MWZ	**Matawai**	**6.27**	**36**	Pn	**Pn**	**13 22 11.7**	**-1.9**
AWAZ	**Awhitu Peninsu**	**6.59**	**12**	PN	**Pn**	**13 22 18.8**	**+0.8**
KBAZ	**Karaka Road Bo**	**6.61**	**14**	PN	**Pn**	**13 22 19.4**	**+1.2**
KBAZ	**Karaka Road Bo**	**6.61**	**14**	Pn	**Pn**	**13 22 19.4**	**+1.2**
MKAZ	**Moumakai**	**6.65**	**16**	PN	**Pn**	**13 22 18.8**	**+0.1**
MKAZ	**Moumakai**	**6.65**	**16**	Pn	**Pn**	**13 22 18.8**	**+0.1**
ETAZ	**East Tamaki Re**	**6.75**	**14**	PN	**Pn**	**13 22 21.0**	**+0.8**
ETAZ	**East Tamaki Re**	**6.75**	**14**	Pn	**Pn**	**13 22 21.0**	**+0.8**
HAZ	**Te Kaha**	**6.86**	**36**	PN	**Pn**	**13 22 20.0**	**-1.7**
RVAZ	**Riverhead Bore**	**6.87**	**12**	PN	**Pn**	**13 22 22.7**	**+0.8**
RVAZ	**Riverhead Bore**	**6.87**	**12**	Pn	**Pn**	**13 22 22.7**	**+0.8**
WIAZ	**Waiheke Island**	**6.94**	**15**	PN	**Pn**	**13 22 23.4**	**+0.6**
KUZ	**Kuaotunu**	**7.11**	**19**	PN	**Pn**	**13 22 25.1**	**-0.1**
KUZ	**Kuaotunu**	**7.11**	**19**	Pn	**Pn**	**13 22 25.1**	**-0.1**
ASAR	**Alice Springs**	**37.59**	**289**	P	**P**	**13 27 57.3**	**+1.4**
	1.1nm,0.6s,baz=126,slow=6.9,SNR=16						
WRA	**Warramunga Arr**	**39.83**	**294**	P	**P**	**13 28 15.2**	**+0.5**
	1.1nm,0.5s,baz=134,slow=7.8,SNR=10						
TORD	**Torodi Ar. Bea**	**148.79**	**197**	PKPbc	**PKPbc**	**13 40 30.6**	**+1.5**
	1.4nm,1.1s,baz=157,slow=2.3,SNR=6.0						
ARCES	**ARCESS Array B**	**149.07**	**338**	PKPbc	**PKPbc**	**13 40 28.8**	**+0.6**
	1.8nm,0.8s,baz=46,slow=3.5,SNR=6.3						
BRTR	**Keskin Array B**	**149.51**	**277**	PKPbc	**PKPbc**	**13 40 30.8**	**+0.3**
	1.4nm,0.7s,baz=130,slow=5.8,SNR=5.5						
FINES	**FINESS Array B**	**153.41**	**324**	PKPbc	**PKPbc**	**13 40 39.1**	**+0.7**
	1.1nm,0.6s,baz=93,slow=2.8,SNR=7.0						

*ISCJB **26** 13:30:05.1±1.5,4.°8S±0.°2×153.°1E±0.°2, h43km, mb4.0/11, Error ellipse: s-maj=41.1km s-min=10.0km az=34.1*
*IDC **26** 13:30:06.5±6.1,4.°89S×153.°34E, h50km±48km, mb3.7/11, mb1 3.9/12, mb1mx3.7/43, mbtmp4.0/12, ML1.9/1, Error ellipse: s-maj=52.3km s-min=21.8km az=106.0*

ISC 26 13:30:06.1±1.6,4.°9S±0.°2×153.°3E±0.°3,h43km,n14, σ0°98/15,mb4.0/11,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.56**	**233**	P	**Pn**	**13 31 55.7**	**+1.9**
	1.1nm,0.3s,baz=28,slow=8.4,SNR=6.0						
PMG				S	**Sn**	**13 33 16.3**	**-2.0**
	1.7nm,0.3s,baz=328,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**23.76**	**229**	P	**P**	**13 35 14.6**	**-0.2**
	2.4nm,0.5s,baz=48,slow=9.3,SNR=20						
ASAR	**Alice Springs**	**26.43**	**223**	P	**P**	**13 35 39.6**	**+0.6**
	0.5nm,0.5s,baz=55,slow=8.9,SNR=12						
FITZ	**Fitzroy Crossi**	**30.05**	**242**	P	**P**	**13 36 10.3**	**-1.0**
	4.5nm,0.7s,baz=54,slow=8.1,SNR=22						
KSRS	**Korea Array**	**48.26**	**333**	P	**P**	**13 38 42.7**	**-0.1**
	0.7nm,0.5s,baz=150,slow=7.8,SNR=3.1						
USRK	**Ussuriysk Ar.**	**52.45**	**341**	P	**P**	**13 39 14.9**	**+0.4**
	1.0nm,0.6s,baz=185,slow=6.9,SNR=3.7						
CMAR	**Chiang Mai Arr**	**58.32**	**295**	P	**P**	**13 39 57.9**	**+0.6**
	1.1nm,0.7s,baz=120,slow=5.4,SNR=8.4						
SONM	**Songino Array**	**66.62**	**328**	P	**P**	**13 40 52.4**	**+0.1**
	0.4nm,0.4s,baz=120,slow=5.8,SNR=3.4						
MKAR	**Makanchi Array**	**80.67**	**319**	P	**P**	**13 42 14.9**	**+0.2**
	1.3nm,0.8s,baz=98,slow=7.5,SNR=7.7						
ZALV	**Zalesovo Beam**	**81.46**	**326**	P	**P**	**13 42 18.2**	**-0.4**
	1.0nm,0.4s,baz=114,slow=6.1,SNR=5.4						
ILAR	**Eielson Array**	**82.03**	**22**	P	**P**	**13 42 20.3**	**-1.1**
	0.4nm,0.7s,baz=237,slow=6.3,SNR=5.3						
BVAR	**Borovoye Array**	**89.57**	**323**	P	**P**	**13 42 58.7**	**-0.3**
	4.2nm,0.6s,baz=104,slow=6.3,SNR=21						
GERES	**GERESS Array B**	**124.34**	**329**	PKP	**PKPdf**	**13 49 01.2**	**+0.5**
	0.4nm,0.5s,baz=77,slow=1.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.77**	**288**	PKPbc	**PKPbc**	**13 49 54.8**	**-0.1**
	3.3nm,0.6s,baz=79,slow=2.7,SNR=25						

*ISCJB **26** 13:34:26.7±1.3,36.°94N±0.°04×141.°49E±0.°06, h11km±7km, mb3.6/2, Error ellipse: s-maj=8.1km s-min=6.7km az=11.1*
*IDC **26** 13:34:26.4±1.8,36.°85N×141.°52E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.2/50, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=34.0km s-min=31.5km az=66.0*
*JMA **26** 13:34:29.7±0.1,36.°96N×141.°31E, h27km±1km, M3.4*

ISC 26 13:34:28.5±2.0,36.°95N±0.°04×141.°36E±0.°08,h16km±11km, n19,σ0°86/23,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**289**	P	**Pb**	**13 34 38.6**	**0.0**
ONAJ				S	**Sg**	**13 34 44.9**	**+0.3**
JFK	**Kawauchi**	**0.57**	**317**	P	**Pb**	**13 34 40.2**	**0.0**
JFK				S	**Sg**	**13 34 47.6**	**+0.1**
JHO	**Hitachi**	**0.72**	**242**	P	**Pb**	**13 34 42.8**	**+0.1**
JHO				S	**Sg**	**13 34 52.3**	**+0.1**
JFT	**Otama**	**1.00**	**305**	P	**Pn**	**13 34 47.7**	**-0.1**
JFT				S	**Sb**	**13 35 00.6**	**+0.3**
JMM	**Marumori**	**1.02**	**334**	P	**Pn**	**13 34 47.5**	**-0.7**
JMM				S	**Sb**	**13 35 00.6**	**-0.4**
JSB	**Shiboa**	**1.16**	**271**	P	**Pg**	**13 34 50.6**	**-0.3**
JSB				S	**Sb**	**13 35 05.5**	**+0.6**
JYT	**Yasato**	**1.18**	**233**	P	**Pn**	**13 34 49.9**	**-0.5**
JYT				S	**Sb**	**13 35 05.3**	**-0.3**
JFY	**Yanaizu**	**1.40**	**290**	P	**Pb**	**13 34 54.2**	**-0.1**
JFY				S	**Sn**	**13 35 11.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.56**	**262**	Pn	**Pn**	**13 35 10.7**	**+1.2**
	1.6nm,0.3s,baz=86,slow=14,SNR=15						
MJAR				Sn	**Sb**	**13 35 43.7**	**-1.8**
	4.1nm,0.3s,baz=63,slow=22,SNR=7.6						
MAT	**Matsushiro**	**2.57**	**262**	P	**Pn**	**13 35 11.3**	**+1.9**
MAT				S	**Sb**	**13 35 44.1**	**-1.4**
ASAJ	**Asahikawa**	**7.22**	**7**	Pn	**Pn**	**13 36 14.0**	**+0.7**
	0.1nm,0.3s,baz=190,slow=11,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	14 09 47.5	
	baz=313,slow=75,SNR=68						
H11N1	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	14 09 48.1	
	baz=313,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	14 09 48.8	
	baz=313,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	14 10 42.1	
	baz=314,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	14 10 45.8	
	baz=314,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	14 10 45.0	
	baz=314,slow=76,SNR=17						
WRA	**Warramunga Arr**	**56.97**	**188**	P	**P**	**13 44 14.2**	**+0.9**
	0.3nm,0.5s,baz=4.9,slow=7.4,SNR=5.0						
ASAR	**Alice Springs**	**60.70**	**188**	P	**P**	**13 44 38.1**	**-1.0**
	0.5nm,0.9s,baz=12,slow=9.1,SNR=3.9						

IDC 26 13:34:57.7±17.0,20.°18S×174.°79W,h0km,mb4.2/5, mb1 4.4/5,mb1mx3.9/43,mbtmp4.2/5,Error ellipse:
s-maj=318.1km s-min=140.1km az=81.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.52**	**263**	P	P	13 42 06.5	+1.4
	29nm,1.2s,baz=91,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**40.64**	**244**	P	P	13 42 39.2	-0.5
	1.3nm,0.5s,baz=76,slow=9.1,SNR=6.0						
ASAR	**Alice Springs**	**47.52**	**256**	P	P	13 43 34.3	-0.8
	2.2nm,0.7s,baz=97,slow=8.1,SNR=27						
WRA	**Warramunga Arr**	**47.62**	**261**	P	P	13 43 35.3	-0.7
	0.8nm,0.3s,baz=95,slow=7.9,SNR=71						
FITZ	**Fitzroy Crossi**	**56.05**	**261**	P	P	13 44 39.2	+0.3
	0.6nm,0.3s,baz=89,slow=5.5,SNR=9.7						

KRSC 26 13:38:49.3±0.8,56.°27N×162.°85E,h18km±4km,ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.08**	**262**	*e*P	Pg	13 38 53.8	+1.0
KBG				*e*S	Sg	13 38 56.6	+1.5
SMKR	**Semkarok**	**0.83**	**293**	*e*P	Pb	13 39 04.8	-0.5
SMKR				*e*S	Sb	13 39 15.5	-0.6
BDR	**Baidarnaya**	**0.96**	**289**	*e*P	Pb	13 39 07.2	-0.3
BDR				*e*S	Sb	13 39 20.1	+0.2
SRKR	**Sorokina**	**1.01**	**293**	*e*P	Pb	13 39 08.0	-0.3
SRKR				*e*S	Sb	13 39 21.1	-0.2
ZLN	**Zelenaya**	**1.17**	**259**	*e*P	Pb	13 39 11.1	0.0
ZLN				*e*S	Sn	13 39 26.5	0.0
CIRR	**Tsirk**	**1.18**	**264**	*e*P	Pn	13 39 11.1	0.0
CIRR				*e*S	Sn	13 39 26.7	-0.2
LGNR	**Loginova**	**1.22**	**262**	*e*P	Pb	13 39 12.0	-0.1
LGNR				*e*S	Sn	13 39 28.1	+0.1
KLY	**Klyuchi**	**1.23**	**273**	*e*P	Pn	13 39 09.4	-2.1
KLY				*e*S	Sb	13 39 23.7	-3.7
KRSR	**Krestovskiy**	**1.28**	**269**	*e*P	Pn	13 39 11.9	-0.5
KRSR				*e*S	Sb	13 39 27.9	-1.1
BZMR	**Bezymyannaya**	**1.36**	**257**	*e*P	Pn	13 39 13.8	+0.2
KIRR	**Kirishev**	**1.44**	**258**	*e*P	Pn	13 39 15.1	+0.5
KIRR				*e*S	Sn	13 39 33.3	+0.1
KPT	**Kopyto**	**1.50**	**260**	*e*P	Pb	13 39 16.1	-0.6
KPT				*e*S	Sb	13 39 35.3	-0.2
KMNR	**Kamenistaya**	**1.55**	**252**	*e*P	Pb	13 39 17.2	-0.4
KOZ	**Kozyrevsk**	**1.68**	**264**	*e*P	Pb	13 39 19.2	-0.5
KOZ				*e*S	Sb	13 39 40.5	0.0
TUMD	**Tumrok D**	**1.75**	**233**	*e*P	Pn	13 39 19.6	+0.8
TUMR	**Tumrok**	**1.82**	**238**	*e*P	Pn	13 39 21.5	-0.6
MKZ	**Mys Kozlova**	**1.83**	**201**	*e*P	Pb	13 39 22.4	+0.2
MKZ				*e*S	Sb	13 39 46.0	+1.3
BKI	**Bering**	**2.06**	**120**	*e*P	Pn	13 39 24.5	+1.5
BKI				*e*S	Sn	13 39 49.6	+1.4
ESO	**Esso**	**2.35**	**263**	*e*P	Pb	13 39 29.9	-1.2
OSSR	**Ossora**	**2.99**	**2**	*e*P	Pn	13 39 38.2	+2.4
PALN	**Palana**	**3.23**	**333**	*e*S	Sb	13 40 23.4	-1.5
SDLR	**Sedlovina**	**3.77**	**219**	*e*P	Pn	13

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.23**	**115**	*e*Pg	**Pg**	**13 41 24.5**	**+1.2**
LAUG				*e*Sg	**Sg**	**13 41 28.6**	**+2.3**
	213nm,1.3s						
LAUG	**Laupendahl**	**0.23**	**115**	Pg	**Pg**	**13 41 24.5**	**+1.2**
LAUG				Sg	**Sg**	**13 41 28.6**	**+2.3**
	213nm,1.3s						
HES	**Velbert-Hesper**	**0.28**	**107**	*e*Pg	**Pg**	**13 41 24.7**	**+0.4**
HES				*e*Sg	**Sg**	**13 41 29.3**	**+1.4**
HES	**Velbert-Hesper**	**0.28**	**107**	Pg	**Pg**	**13 41 24.7**	**+0.4**
HES				Sg	**Sg**	**13 41 29.3**	**+1.4**
BUG	**Bochum--Univer**	**0.41**	**91**	*e*Pg	**Pg**	**13 41 27.8**	**+1.0**
BUG				*e*Sg	**Sb**	**13 41 34.5**	**-1.3**
PLH	**Pulheim**	**0.46**	**164**	*e*Pg	**Pb**	**13 41 28.9**	**-1.1**
PLH				*e*Sg	**Sb**	**13 41 36.1**	**-1.3**
	111nm,0.1s						
PLH	**Pulheim**	**0.46**	**164**	Pg	**Pb**	**13 41 28.9**	**-1.1**
PLH				Sg	**Sb**	**13 41 36.1**	**-1.3**
	111nm,0.1s						
WTSB	**Winterswijk**	**0.53**	**12**	*e*Pg	**Pg**	**13 41 28.8**	**-0.3**
WTSB				*e*Sg	**Sg**	**13 41 36.6**	**+0.5**
WTSB	**Winterswijk**	**0.53**	**12**	*e*Pg	**Pg**	**13 41 28.9**	**-0.3**
WTSB				*e*Sg	**Sg**	**13 41 36.8**	**+0.7**
WTSB	**Winterswijk**	**0.53**	**12**	Pg	**Pg**	**13 41 28.9**	**-0.3**
WTSB				Sg	**Sg**	**13 41 36.8**	**+0.7**
HOBG	**Hohbusch**	**0.65**	**136**	*e*Pg	**Pb**	**13 41 33.2**	**0.0**
HOBG	**Hohbusch**	**0.65**	**136**	Pg	**Pb**	**13 41 33.2**	**0.0**
GSH	**Grosshau**	**0.73**	**192**	*e*Pg	**Pb**	**13 41 34.2**	**-0.4**
GSH				*e*Sg	**Sb**	**13 41 44.7**	**-0.4**
	28nm,0.2s						
GSH	**Grosshau**	**0.73**	**192**	Pg	**Pb**	**13 41 34.2**	**-0.4**
GSH				Sg	**Sb**	**13 41 44.7**	**-0.4**
	28nm,0.2s						
HGN	**Heimansgroeve**	**0.81**	**213**	*e*Pg	**Pn**	**13 41 36.8**	**-0.9**
HGN				*e*Sg	**Sb**	**13 41 47.5**	**0.0**
HGN	**Heimansgroeve**	**0.81**	**213**	*e*Pg	**Pb**	**13 41 36.4**	**+0.5**
HGN				*e*Sg	**Sb**	**13 41 47.6**	**+0.2**
HGN	**Heimansgroeve**	**0.81**	**213**	Pg	**Pb**	**13 41 36.4**	**+0.5**
HGN				Sg	**Sb**	**13 41 47.6**	**+0.2**
DREG	**Dreilaegerbach**	**0.82**	**197**	*e*Pg	**Pb**	**13 41 35.6**	**-0.6**
DREG	**Dreilaegerbach**	**0.82**	**197**	Pg	**Pb**	**13 41 35.6**	**-0.6**
KLL	**Kalltalsperre**	**0.82**	**194**	*e*Pg	**Pb**	**13 41 35.8**	**-0.4**
KLL	**Kalltalsperre**	**0.82**	**194**	Pg	**Pb**	**13 41 35.8**	**-0.4**
STB	**Steinbach**	**0.87**	**171**	*e*Pg	**Pn**	**13 41 37.7**	**-0.8**
STB				*e*Sg	**Sb**	**13 41 49.1**	**0.0**
	62nm,0.4s						
STB	**Steinbach**	**0.87**	**171**	Pg	**Pn**	**13 41 37.7**	**-0.8**
STB				Sg	**Sb**	**13 41 49.1**	**0.0**
	62nm,0.4s						
BEBN	**Eben Emael**	**0.88**	**223**	P	**Pn**	**13 41 38.6**	**-0.1**
BEBN	**Eben Emael**	**0.88**	**223**	P	**Pn**	**13 41 38.5**	**-0.1**
TDN	**Todenfeld**	**0.90**	**167**	*e*Pg	**Pb**	**13 41 37.3**	**-0.2**
TDN				*e*Sg	**Sb**	**13 41 49.9**	**-0.1**
	39nm,0.2s						
TDN	**Todenfeld**	**0.90**	**167**	Pg	**Pb**	**13 41 37.3**	**-0.2**
TDN				Sg	**Sb**	**13 41 49.9**	**-0.1**
	39nm,0.2s						
MEM	**Membach**	**0.92**	**205**	P	**Pb**	**13 41 37.7**	**-0.3**
MEM	**Membach**	**0.92**	**205**	P	**Pb**	**13 41 37.8**	**-0.1**
MEM	**Membach**	**0.92**	**205**	*e*Pg	**Pb**	**13 41 37.3**	**-0.6**
MEM				*e*Sg	**Sb**	**13 41 51.6**	**+0.9**
MEM	**Membach**	**0.92**	**205**	Pg	**Pb**	**13 41 37.3**	**-0.6**
MEM	**Membach**	**0.92**	**205**	P	**Pb**	**13 41 37.6**	**-0.3**
MEM				Sg	**Sb**	**13 41 51.6**	**+0.9**
AHRW	**Bad Neuenahr-A**	**0.95**	**162**	*e*Pg	**Pn**	**13 41 39.0**	**0.0**
AHRW				*e*Sg	**Sn**	**13 41 53.0**	**+0.9**
OLFT	**Oleftalsperre**	**0.96**	**188**	*e*Pg	**Pb**	**13 41 38.4**	**-0.2**
OLFT				*e*Sg	**Sb**	**13 41 52.4**	**+0.5**
OLFT	**Oleftalsperre**	**0.96**	**188**	Pg	**Pb**	**13 41 38.4**	**-0.2**
OLFT				Sg	**Sb**	**13 41 52.4**	**+0.5**
IBBN	**Ibbenburen**	**1.11**	**39**	*e*Pg	**Pg**	**13 41 40.4**	**0.0**
IBBN				*e*Sg	**Sb**	**13 41 56.9**	**+0.7**
IBBN	**Ibbenburen**	**1.11**	**39**	Pg	**Pg**	**13 41 40.4**	**0.0**
HILG	**Hillesheim**	**1.16**	**178**	*e*Pg	**Pn**	**13 41 42.7**	**+0.2**
HILG	**Hillesheim**	**1.16**	**178**	Pg	**Pn**	**13 41 42.7**	**+0.2**
BCLA	**Clavier**	**1.32**	**219**	P	**Pn**	**13 41 45.2**	**+0.5**
BCLA	**Clavier**	**1.32**	**219**	P	**Pn**	**13 41 45.2**	**+0.5**
BGES	**Gesves**	**1.44**	**223**	P	**Pb**	**13 41 46.8**	**0.0**
BGES	**Gesves**	**1.44**	**223**	P	**Pb**	**13 41 46.7**	**0.0**
RCHB	**Rochefort**	**1.57**	**215**	P	**Sg**	**13 42 10.8**	**+1.5**
TNS	**Taunus Mts**	**1.69**	**136**	*e*Pg	**Pg**	**13 41 51.9**	**+0.6**
TNS				*e*Sg	**Sb**	**13 42 13.1**	**+0.3**
TNS	**Taunus Mts**	**1.69**	**136**	Pg	**Pg**	**13 41 51.9**	**+0.6**
TNS				Sg	**Sb**	**13 42 13.1**	**+0.3**
GIVF	**Givet**	**1.77**	**221**	*e*Pn	**Pn**	**13 41 50.3**	**-0.5**
GIVF	**Givet**	**1.77**	**221**	*e*P	**Pb**	**13 41 52.3**	**+0.1**
GIVF				*e*Sg	**Sg**	**13 42 16.8**	**+1.1**
	18nm,0.2s						
GIVF	**Givet**	**1.77**	**221**	*e*Pn	**Pn**	**13 41 50.3**	**-0.5**
GIVF	**Givet**	**1.77**	**221**	*e*P	**Pb**	**13 41 52.3**	**+0.1**
GIVF				*e*Sg	**Sg**	**13 42 16.8**	**+1.1**
	8.8nm,0.2s						
WLF	**Walferdange**	**1.81**	**190**	P	**Pg**	**13 41 54.9**	**+1.1**
WLF	**Walferdange**	**1.81**	**190**	P	**Sg**	**13 42 18.6**	**+1.4**
WLF	**Walferdange**	**1.81**	**190**	*e*Pg	**Pg**	**13 41 54.3**	**+0.6**
WLF				*e*Sg	**Sg**	**13 42 17.0**	**-0.1**
WLF	**Walferdange**	**1.81**	**190**	Pg	**Pg**	**13 41 54.3**	**+0.6**
WLF	**Walferdange**	**1.81**	**190**	P	**Sg**	**13 41 54.8**	**+1.1**
WLF				Sg	**Sg**	**13 42 17.0**	**-0.1**
DOU	**Dourbes**	**1.87**	**224**	P	**Pg**	**13 41 54.9**	**+0.2**
DOU	**Dourbes**	**1.87**	**224**	P	**Pg**	**13 41 54.9**	**+0.2**
BBOU	**Bougnies**	**2.00**	**239**	P	**Pg**	**13 42 00.9**	**+3.6**
BAIF	**Baives**	**2.07**	**229**	*e*Pn	**Pn**	**13 41 54.4**	**-0.6**
BAIF	**Baives**	**2.07**	**229**	*e*Pg	**Pg**	**13 41 59.5**	**+0.9**
BAIF				*e*Sg	**Sg**	**13 42 26.4**	**+1.0**
	6.0nm,0.2s						
BAIF	**Baives**	**2.07**	**229**	*e*Pn	**Pn**	**13 41 54.4**	**-0.6**
BAIF	**Baives**	**2.07**	**229**	*e*Pg	**Pg**	**13 41 59.5**	**+0.9**
BAIF				*e*Sg	**Sg**	**13 42 26.4**	**+1.0**
	3.0nm,0.2s						
CLZ	**Clausthal**	**2.37**	**79**	*e*Pg	**Pg**	**13 42 04.3**	**-0.2**
CLZ				*e*Sg	**Sb**	**13 42 33.8**	**+1.4**
CLZ	**Clausthal**	**2.37**	**79**	Pg	**Pg**	**13 42 04.3**	**-0.2**
CLZ				Sg	**Sb**	**13 42 33.8**	**+1.4**
PAGF	**Fort de Pagny**	**2.95**	**192**	*e*Pg	**Pg**	**13 42 15.6**	**0.0**
PAGF				*e*Sg	**Sg**	**13 42 54.3**	**+0.5**
	1.5nm,0.3s						
PAGF	**Fort de Pagny**	**2.95**	**192**	*e*Pg	**Pg**	**13 42 15.6**	**0.0**
PAGF				*e*Sg	**Sg**	**13 42 54.3**	**+0.5**
	0.8nm,0.3s						
CDF	**Champ du Feu**	**3.07**	**172**	*e*Pn	**Pn**	**13 42 08.7**	**-0.1**
CDF	**Champ du Feu**	**3.07**	**172**	*e*Pg	**Pg**	**13 42 18.0**	**+0.2**
CDF				*e*Sg	**Sg**	**13 42 57.8**	**+0.2**
	2.2nm,0.3s						
CDF	**Champ du Feu**	**3.07**	**172**	*e*Pn	**Pn**	**13 42 08.7**	**-0.1**
CDF	**Champ du Feu**	**3.07**	**172**	*e*Pg	**Pg**	**13 42 18.0**	**+0.2**
CDF				*e*Sg	**Sg**	**13 42 57.8**	**+0.2**
	1.1nm,0.3s						
HAU	**Haudompre**	**3.45**	**183**	*e*Sg	**Sg**	**13 43 09.8**	**0.0**
	7.4nm,0.4s						
HAU	**Haudompre**	**3.45**	**183**	*e*Sg	**Sg**	**13 43 09.8**	**0.0**
	3.7nm,0.4s						
HINF	**Hinteralfeld**	**3.64**	**178**	*e*Sg	**Sg**	**13 43 14.8**	**-1.0**
	3.2nm,0.4s						
HINF	**Hinteralfeld**	**3.64**	**178**	*e*Sg	**Sg**	**13 43 14.8**	**-1.0**
	1.6nm,0.4s						
LOR	**Lormes**	**4.55**	**204**	*e*Pn	**Pn**	**13 42 28.4**	**-0.8**
LOR				*e*Sg	**Sg**	**13 43 44.2**	**-1.1**
	2.7nm,0.3s						
LOR	**Lormes**	**4.55**	**204**	*e*Pn	**Pn**	**13 42 28.4**	**-0.8**
LOR				*e*Sg	**Sg**	**13 43 44.2**	**-1.1**
	1.4nm,0.3s						
SSF	**Saint Saulge**	**4.84**	**206**	*e*Pn	**Pn**	**13 42 32.0**	**-1.1**
SSF				*e*Sg	**Sg**	**13 43 53.0**	**-1.4**
	3.7nm,0.3s						
SSF	**Saint Saulge**	**4.84**	**206**	*e*Pn	**Pn**	**13 42 32.0**	**-1.1**
SSF				*e*Sg	**Sg**	**13 43 53.0**	**-1.4**
	1.9nm,0.3s						
SMF	**Signal de Mont**	**5.14**	**202**	*e*Pn	**Pn**	**13 42 36.7**	**-0.5**
SMF	**Signal de Mont**	**5.14**	**202**	*e*Pn	**Pn**	**13 42 36.7**	**-0.5**
FLN	**La Foliniere**	**5.30**	**242**	*e*Pn	**Pn**	**13 42 38.5**	**-0.9**
FLN	**La Foliniere**	**5.30**	**242**	*e*Pn	**Pn**	**13 42 38.5**	**-0.9**

*ISCJB **26** 13:48:52.5±0.5, 5.°84S±0.°05×127.°87E±0.°08, h400km, mb3.2/3, Error ellipse: s-maj=10.8km s-min=6.0km az=20.1*
*IDC **26** 13:48:54.4±2.0, 5.°76S×128.°16E, h423km±27km, mb2.9/3, mb1 3.4/7, mb1mx3.0/47, mbtmp4.2/7, Error ellipse: s-maj=42.7km s-min=11.7km az=74.0*

*DJA **26** 13:48:54.1±0.7, 6.°3S×6.°12°8E±.°, h394km±10km, M4.4/5, mB4.8/2, mb4.4/3, MLv4.4/5, Mw(mB)4.1/2*
ISC 26 13:48:52.6±0.8, 5.°84S±0.°07×127.°91E±0.°09, h400km, n13, σ1s65/18, mb3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.68**	**22**	P	**Pn**	**13 49 53.8**	**+0.4**
LBMI	**Labuha**	**5.18**	**356**	P	**Pn**	**13 50 18.9**	**+2.3**
FAKI	**Fak Fak**	**5.21**	**56**	P	**Pn**	**13 50 18.5**	**+1.6**
FAKI				S	**S**	**13 51 21.7**	**-3.7**
SOEI	**Soe**	**5.30**	**223**	P	**Pn**	**13 50 19.1**	**+1.1**
SOEI				S	**S**	**13 51 25.9**	**-1.4**
SIJI	**Sorong**	**5.97**	**34**	P	**Pn**	**13 50 26.6**	**+1.5**
	12nm,0.3s,baz=270,slow=20,SNR=4.4						
SIJI				S	**S**	**13 51 38.7**	**-1.6**
	18nm,0.3s,baz=180,slow=20,SNR=2.7						
SWI	**Sorong**	**5.97**	**34**	P	**Pn**	**13 50 26.7**	**+1.7**
PLAI	**Plampang**	**10.48**	**253**	P	**P**	**13 51 13.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**12.38**	**190**	P	**P**	**13 51 37.4**	**+0.8**
	0.8nm,0.3s,baz=360,slow=8.6,SNR=15						
WRA	**Warramunga Arr**	**15.35**	**157**	P	**P**	**13 52 10.2**	**+1.2**
	3.3nm,0.3s,baz=336,slow=11,SNR=61						
WRA				S	**S**	**13 54 50.3**	**-1.2**
	0.9nm,0.3s,baz=339,slow=20,SNR=16						
ASAR	**Alice Springs**	**18.64**	**163**	P	**P**	**13 52 44.9**	**+0.8**
	1.8nm,0.3s,baz=343,slow=11,SNR=48						
ASAR				S	**S**	**13 55 54.0**	**-0.5**
	0.2nm,0.3s,baz=346,slow=18,SNR=6.8						
STKA	**Stephens Creek**	**28.89**	**155**	P	**P**	**13 54 17.8**	**+1.1**
	0.6nm,0.5s,baz=333,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**66.13**	**328**	P	**P**	**13 58 58.7**	**+0.1**
	0.3nm,0.4s,baz=122,slow=8.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**70.45**	**329**	P	**P**	**13 59 24.8**	**-0.1**
	0.3nm,0.4s,baz=130,slow=5.1,SNR=5.3						

*ISCJB **26** 13:49:17.9±0.6, 23.°3N±0.°1×94.°12E±0.°08, h100km, mb3.8/12, Error ellipse: s-maj=18.3km s-min=5.1km az=31.3*
*IDC **26** 13:49:17.3±0.8, 23.°50N×94.°40E, h75km±6km, mb3.5/12, mb1 3.6/13, mb1mx3.3/65, mbtmp3.8/13, Error ellipse: s-maj=55.0km s-min=11.8km az=57.0*
ISC 26 13:49:18.6±0.6, 23.°3N±0.°1×94.°2E±0.°1, h100km, n23, σ2s09/37, mb3.7/12, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.11**	**318**	*e*P	**Pn**	**13 50 07.5**	**+1.5**
SHL				*e*S	**Sn**	**13 50 41.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**6.53**	**136**	P	**Pn**	**13 50 52.7**	**+0.5**
	0.2nm,0.3s,baz=316,slow=13,SNR=5.7						
RAMN	**Ramite**	**7.78**	**300**	*e*Pn	**Pn**	**13 51 11.6**	**+2.2**
RAMN				*e*Sn	**Sn**	**13 52 35.2**	**-0.9**
	75nm,0.4s						
GUN	**Gumba**	**8.80**	**304**	*e*Pn	**Pn**	**13 51 24.8**	**+1.4**
GUN				*e*Sn	**Sn**	**13 53 00.5**	**-0.5**
	84nm,0.4s						
PKIN	**Phulchoki**	**9.02**	**300**	*e*Pn	**Pn**	**13 51 27.7**	**+1.4**
PKIN				*e*Sn	**Sn**	**13 53 04.8**	**-1.4**
	70nm,0.3s						
KKN	**Kakani**	**9.21**	**301**	*e*Pn	**Pn**	**13 51 30.1**	**+1.3**
KKN				*e*Sn	**Sn**	**13 53 09.6**	**-1.1**
	34nm,0.3s						
DMN	**Daman**	**9.27**	**300**	*e*Pn	**Pn**	**13 51 31.4**	**+1.8**
DMN				*e*Sn	**Sn**	**13 53 09.9**	**-2.3**
	31nm,0.4s						
GKN	**Gorkha**	**9.81**	**301**	*e*Pn	**Pn**	**13 51 38.1**	**+1.2**
GKN				*e*Sn	**Sn**	**13 53 23.4**	**-1.9**
	80nm,0.3s						
KOLN	**Koldanda**	**10.55**	**297**	*e*Pn	**Pn**	**13 51 47.8**	**+0.8**
KOLN				*e*Sn	**Sn**	**13 53 39.7**	**-3.6**
	38nm,0.5s						
PYUN	**Piuthan**	**11.17**	**298**	*e*Pn	**Pn**	**13 51 55.8**	**+0.3**
PYUN				*e*Sn	**Sn**	**13 53 55.4**	**-3.1**
	51nm,0.6s						
MKAR	**Makanchi Array**	**25.37**	**341**	P	**P**	**13 54 36.4**	**0.0**
	2.7nm,0.6s,baz=146,slow=9.9,SNR=21						
MKAR				pP	**pP**	**13 54 54.0**	**-4.5**
	0.6nm,0.5s,baz=146,slow=11,SNR=2.4						
MKAR				sP	**sP**	**13 55 01.4**	**-8.8**
	1.5nm,0.5s,baz=145,slow=9.9,SNR=5.5						
MKAR				PcP	**PcP**	**13 58 06.4**	**0.0**
	0.1nm,0.3s,baz=152,slow=3.0,SNR=4.0						
KURBB	**Kurchatov Arra**	**29.92**	**340**	P	**P**	**13 55 16.5**	**-0.4**
	0.3nm,0.4s,baz=150,slow=9.7,SNR=3.9						
KURBB				PcP	**PcP**	**13 58 17.7**	**+0.4**
	0.5nm,0.7s,baz=159,slow=2.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**31.46**	**349**	P	**P**	**13 55 30.9**	**+0.4**
	0.5nm,0.4s,baz=181,slow=5.7,SNR=2.4						
BVAR	**Borovoye Array**	**34.79**	**335**	P	**P**	**13 55 59.8**	**+0.3**
	0.6nm,0.5s,baz=134,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**58.12**	**134**	P	**P**	**13 59 03.1**	**+1.1**
	1.8nm,0.4s,baz=322,slow=7.4,SNR=25						
FINES	**FINESS Array B**	**59.39**	**329**	P	**P**	**13 59 10.2**	**-0.1**
	1.7nm,1.0s,baz=124,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	**60.54**	**138**	P	**P**	**13 59 20.1**	**+1.5**
	1.7nm,0.5s,baz=320,slow=6.9,SNR=35						
ASAR				pP	**pP**	**13 59 40.1**	**-3.3**
	0.3nm,0.4s,baz=330,slow=8.0,SNR=2.3						
ASAR				sP	**sP**	**13 59 48.1**	**-6.3**
	0.4nm,0.7s,baz=318,slow=6.8,SNR=1.8						
ARCES	**ARCESS Array B**	**60.98**	**338**	P	**P**	**13 59 20.9**	**-0.1**
	1.2nm,0.7s,baz=96,slow=7.4,SNR=5.7						
NOA	**NORSAR Array B**	**66.56**	**328**	P	**P**	**13 59 57.8**	**0.0**
	0.6nm,0.7s,baz=86,slow=6.3,SNR=3.2						
GERES	**GERESS Array B**	**66.71**	**315**	P	**P**	**14 00 00.4**	**+1.3**
	0.4nm,0.5s,baz=81,slow=7.1,SNR=3.2						
EKA	**Eskdalemuir Ar**	**75.22**	**324**	P	**P**	**14 00 51.0**	**+0.8**
	0.6nm,0.6s,baz=82,slow=7.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**87.13**	**283**	P	**P**	**14 01 57.5**	**+3.5**
	0.5nm,0.6s,baz=81,slow=4.8,SNR=4.3						
ROSC	**El Rosal**	**149.90**	**337**	PKPbc	**PKPbc**	**14 09 00.7**	**+2.0**
	4.1nm,0.4s,baz=90,slow=19,SNR=4.0						

JMA 26 13:55:41.1, 35.°45N×139.°04E, h21km±1km, M3.0, 1C-2D Broadband fault plane solution: P waves. NP1: ϕs18.00000°, δ59.00000°, λ73.00000°. **NP2:** ϕs228.00000°, δ35.00000°, λ116.00000°. **Principal axes:** T Plg71.0000°, Azm248.0000°; N Plg15.0000°, Azm27.0000°; P Plg12.0000°, Azm120.0000°; **Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.19**	**168**	↑P	**Pb**	**13 55 45.9**	**-1.1**
JOD2				S	**Sb**	**13 55 49.7**	**-1.5**
JYN	**Shimob**	**0.41**	**277**	↓P	**Pb**	**13 55 49.2**	**-0.3**
JYN				S	**Sb**	**13 55 55.6**	**+0.3**
JRY	**Ryogami san**	**0.58**	**349**	↓P	**Pb**	**13 55 52.2**	**-0.4**
JRY				S	**Sb**	**13 56 00.0**	**-0.5**
JIZS	**Izushimoda**	**0.74**	**190**	P	**Pb**	**13 55 54.6**	**-0.7**
JIZS				S	**Sb**	**13 56 04.5**	**-0.5**
SHZ3	**Shizuoka 3**	**0.78**	**241**	P	**Pb**	**13 55 55.9**	**-0.1**
SHZ3				S	**Sb**	**13 56 06.6**	**+0.5**
JIM2	**Oshima 3**	**0.80**	**156**	P	**Pb**	**13 55 55.2**	**-1.1**
JIM2				S	**Sb**	**13 56 06.1**	**-0.5**
MAT	**Matsushiro**	**1.28**	**328**	P	**Pn**	**13 56 03.9**	**+0.1**
MAT				S	**Sb**	**13 56 20.7**	**+0.1**

*IDC **26** 14:00:41.7±0.8, 28.°40N×105.°07E, h0km, mb3.9/16, mb1 4.0/17, mb1mx3.8/59, mbtmp3.9/17, ML3.4/1 Error ellipse: s-maj=25.2km s-min=15.6km az=48.0*
*ISCJB **26** 14:00:43.1±0.5, 28.°45N±0.°05×105.°00E±0.°07, h19km, mb3.9/19, Error ellipse: s-maj=8.4km s-min=6.8km az=166.0*
*BJI **26** 14:00:45.0, 28.°36N×104.°91E, h15km, mb4.1/4, ML3.9/15*
*NEIC **26** 14:00:48.2±1.0, 28.°42N×105.°03E, h46km±10km, mb4.0/4, Error ellipse: s-maj=9.3km s-min=8.9km az=219.0*
ISC 26 14:00:45.2±0.5, 28.°49N±0.°03×105.°08E±0.°05, h19km, n34, σ1s24/45, mb3.9/19, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.46**	**145**	↑P	**Pb**	**14 01 26.5**	**-2.5**
GYA				Pg	**Pg**	**14 01 32.3**	**-0.2**
GYA				Sn	**Sb**	**14 01 58.3**	**-0.7**
GYA				Sg	**Sg**	**14 02 05.3**	**+0.8**
GYA				SMN			
	700nm,0.8s						
GYA				SME			
	650nm,0.8s						
CD2	**Chengdu**	**2.67**	**335**	Pn	**Pn**	**14 01 27.3**	**0.0**
CD2				Pg	**Pb**	**14 01 33.0**	**+0.5**
CD2				Sn	**Sn**	**14 01 57.5**	**-1.7**
CD2				Sg	**Sg**	**14 02 09.5**	**-1.6**
CD2				SMN			
	1μm,0.7s						
CD2				SME			
	4μm,0.7s						
KMI	**Kunming**	**3.95**	**212**	Pg	**Pb**	**14 01 54.5**	**+0.1**
ENH	**Enshi**	**4.24**	**64**	*e*Pn	**Pn**	**14 01 51.8**	**+3.1**
XAN	**Xi'an**	**6.43**	**30**	Pn	**Pn**	**14 02 21.0**	**+2.0**
XAN				Pg	**Pg**	**14 02 47.3**	**-1.1**
XAN				Sg	**Sg**	**14 04 09.8**	**-1.9**
XAN				SMN			
	200nm,1.1s						
XAN				SME			
	110nm,0.8s						
LZH	**Lanzhou**	**7.65**	**352**	*e*Pn	**Pn**	**14 02 37.5**	**+1.8**
LZH				Pg	Pb	14 03 03.0	+5.7
LZH				Sn	**Sn**	**14 04 02.8**	**+0.9**
LZH				Sg	Sb	14 04 40.0	+12
LZH				smax	smax		
	comp=N,75nm,1.2s						
LZH				smax	smax		
	comp=E,110nm,1.2s						
LZH				LR	LR		
	comp=N,450nm,5.6s						
LZH				LR	LR		
	comp=E,490nm,7.1s						
LZH				LR	LR		
	comp=Z,490nm,8.5s						
CMAR	**Chiang Mai Arr**	**11.46**	**211**	Pn	**Pn**	**14 03 28.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=19,slow=12,SNR=23						
GTA	**Gaotai**	**11.73**	**340**	*e*P	**Pn**	**14 03 32.5**	**+0.8**
GTA				pP		14 03 39.0	
GTA				sP		14 03 42.8	
GTA				PMZ			
	comp=Z,3.0nm,1.0s						
LSA	**Lhasa**	**12.24**	**279**	*e*P	**Pn**	**14 03 38.5**	**-0.5**
	comp=Z,4.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**13.43**	**22**	*e*P	**Pn**	**14 03 58.0**	**+3.2**
HHC				PMZ			
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**19.34**	**3**	P	**Pn**	**14 05 10.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=11,SNR=14						
ULN	**Ulaanbaatar**	**19.41**	**4**	P	**P**	**14 05 10.1**	**-0.2**
	comp=Z,2.4nm,0.7s						
WMQ	**Urumqi**	**20.70**	**322**	P	**P**	**14 05 24.5**	**+0.2**
KSAR	**Wonju Array Be**	**21.07**	**59**	P	**P**	**14 05 29.6**	**+1.3**
KSRS	**Korea Array**	**21.11**	**59**	P	**P**	**14 05 29.6**	**+1.0**
	comp=Z,4.8nm,0.8s,baz=240,slow=11,SNR=8.2						
MKAR	**Makanchi Array**	**25.53**	**322**	P	**P**	**14 06 12.7**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=125,slow=11,SNR=14						
USRK	**Ussuriysk Ar.**	**26.59**	**47**	P	**P**	**14 06 22.1**	**0.0**
	comp=Z,1.9nm,0.7s,baz=240,slow=10,SNR=5.3						
ZALV	**Zalesovo Beam**	**29.44**	**335**	P	**P**	**14 06 46.2**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=134,slow=6.4,SNR=4.8						
KURBB	**Kurchatov Arra**	**29.84**	**325**	P	**P**	**14 06 50.3**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=131,slow=9.9,SNR=13						
KURBB				PcP	**PcP**	**14 09 53.2**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=131,slow=2.0,SNR=5.1						
KURK	**Kurchatov**	**29.86**	**325**	*e*P	**P**	**14 06 53.0**	**+1.8**
KURK				PcP	**PcP**	**14 09 53.2**	**-0.8**
GEYT	**Alibeck**	**40.05**	**296**	P	**P**	**14 08 19.9**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=113,slow=11,SNR=5.6						
ABKAR	**Akbulak array**	**40.06**	**314**	*e*P	**P**	**14 08 19.6**	**+0.4**
	comp=Z,0.9nm,0.6s						
AKTO	**Aktyubinsk**	**41.56**	**315**	P	**P**	**14 08 32.5**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=111,slow=8.6,SNR=3.7						
NRIK	**Noril'sk**	**42.14**	**351**	P	**P**	**14 08 35.9**	**0.0**
	comp=Z,2.9nm,0.5s,baz=145,slow=7.8,SNR=4.6						
WRAB	**Tennant Creek**	**55.83**	**146**	*e*P	**P**	**14 10 20.5**	**-1.0**
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**55.84**	**146**	P	**P**	**14 10 20.0**	**-1.5**
	comp=Z,2.4nm,0.8s,baz=335,slow=8.0,SNR=8.1		

BOZC	**Bozcaada**	**0.31**	**6**	*i* P	**Pg**	14 10 46.5	**0.0**
BOZC				*i* S	**Sg**	14 10 51.4	**+0.6**
SIGR	**SIGRI**	**0.35**	**201**	P	**Pg**	14 10 47.0	**-0.3**
SIGR				S	**Sg**	14 10 51.6	**-0.3**
SIGR	**SIGRI**	**0.35**	**201**	P	**Pg**	14 10 47.0	**-0.3**
SIGR				S	**Sg**	14 10 51.6	**-0.3**
SIGR				AML	AML	14 10 53.8	
	comp=E,271μm,0.1s						
SIGR				AML	AML	14 10 54.2	
	comp=N,425μm,0.3s						
PRK	**Paraskevi**	**0.35**	**145**	P	**Pg**	14 10 47.4	**+0.1**
PRK				S	**Sg**	14 10 52.3	**+0.2**
PRK	**Paraskevi**	**0.35**	**145**	P	**Pg**	14 10 47.4	**+0.1**
PRK				S	**Sg**	14 10 52.3	**+0.2**
PRK				AML	AML	14 10 52.8	
	comp=E,794μm,0.2s						
PRK				AML	AML	14 10 53.4	
	comp=N,531μm,0.3s						
EZN	**Ezine**	**0.38**	**40**	*e*PG	**Pg**	14 10 47.6	**-0.2**
EZN				*e*SG	**Sg**	14 10 52.8	**-0.1**
EZN	**Ezine**	**0.38**	**40**	*e*Pg	**Pg**	14 10 47.6	**-0.2**
EZN				*e*Sg	**Sg**	14 10 52.8	**-0.1**
AYVA	**Ayvalik**	**0.57**	**113**	P	**Pb**	14 10 53.1	**+1.0**
AYVA				S	**Sb**	14 10 59.3	**-0.8**
AYVA	**Ayvalik**	**0.57**	**113**	*e*P	**Pb**	14 10 53.1	**+1.0**
AYVA				*i* S	**Sb**	14 10 59.3	**-0.8**
GADA	**Gvkgeada**	**0.66**	**352**	*e*PG	**Pg**	14 10 52.8	**-0.3**
GADA	**Gvkgeada**	**0.66**	**352**	*e*Pg	**Pg**	14 10 52.8	**-0.3**
LIA	**Limnos Island**	**0.74**	**300**	P	**Pg**	14 10 54.5	**0.0**
LIA				S	**Sb**	14 11 05.3	**+0.4**
GELI	**Tayfur-Gelibol**	**0.93**	**22**	*e*PG	**Pg**	14 10 58.0	**-0.2**
GELI				*e*SG	**Sb**	14 11 11.2	**+0.7**
GELI	**Tayfur-Gelibol**	**0.93**	**22**	*e*Pg	**Pg**	14 10 58.0	**-0.2**
GELI				*e*Sg	**Sb**	14 11 11.2	**+0.7**
SMTH	**Samothraki Isl**	**1.00**	**338**	P	**Pg**	14 10 59.5	**-0.1**
SMTH				S	**Sg**	14 11 12.5	**-0.2**
SMTH	**Samothraki Isl**	**1.00**	**338**	P	**Pg**	14 10 59.5	**-0.1**
SMTH				S	**Sg**	14 11 12.5	**-0.2**
SMTH				AML	AML	14 11 14.1	
	comp=N,71μm,0.2s						
SMTH				AML	AML	14 11 14.6	
	comp=E,52μm,0.4s						
LPK	**Lapseki**	**1.01**	**34**	*e*PG	**Pg**	14 10 58.7	**-1.1**
LPK	**Lapseki**	**1.01**	**34**	*e*Pg	**Pg**	14 10 58.7	**-1.1**
CHOS	**Chios island**	**1.15**	**178**	P	**Pb**	14 11 01.5	**-0.5**
CHOS				S	**Sn**	14 11 17.9	**+0.2**
CHOS	**Chios island**	**1.15**	**178**	P	**Pb**	14 11 01.5	**-0.5**
CHOS				S	**Sn**	14 11 17.9	**+0.2**
ERIK	**Erikli-Kesan**	**1.20**	**18**	*e*PN	**Pb**	14 11 02.4	**-0.4**
ERIK	**Erikli-Kesan**	**1.20**	**18**	*e*Pn	**Pb**	14 11 02.4	**-0.4**
KRBG	**Karabiga-Canak**	**1.31**	**49**	*e*PN	**Pb**	14 11 04.8	**+0.2**
KRBG	**Karabiga-Canak**	**1.31**	**49**	*e*Pn	**Pb**	14 11 04.8	**+0.2**
ALN	**Alexandroupoli**	**1.36**	**1**	P	**Pb**	14 11 05.7	**+0.2**
ALN				S	**Sb**	14 11 22.9	**+0.1**
ALN	**Alexandroupoli**	**1.36**	**1**	P	**Pb**	14 11 05.7	**+0.2**
ALN				S	**Sb**	14 11 22.9	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.46**	**37**	*e*PN	**Pb**	14 11 07.1	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.46**	**37**	*e*Pn	**Pb**	14 11 07.1	**-0.1**
SART	**Tekirdag**	**1.46**	**37**	P	**Pn**	14 11 06.5	**+0.1**
SART				S	**Sg**	14 11 27.1	**-0.1**
SART	**Tekirdag**	**1.46**	**37**	*i* P	**Pn**	14 11 06.5	**+0.1**
SART				*i* S	**Sg**	14 11 27.1	**-0.1**
MRMT	**Marmara Adasi**	**1.61**	**48**	*e*PN	**Pn**	14 11 08.6	**+0.1**
MRMT	**Marmara Adasi**	**1.61**	**48**	*e*Pn	**Pn**	14 11 08.6	**+0.1**
OUR	**Ouranopolis**	**1.75**	**298**	P	**Pn**	14 11 10.6	**+0.3**
OUR				S	**Sn**	14 11 32.5	**0.0**
OUR	**Ouranopolis**	**1.75**	**298**	P	**Pn**	14 11 10.6	**+0.3**
OUR				S	**Sn**	14 11 32.5	**0.0**

IDC 26 14:15:06.1±1.5,**2°39S**×**136°75E**,**h0**km,**mb3.4**/2, **mb1 3.6**/5,**mb1mx3.4**/29,**mbtmp3.4**/5,**ML3.3**/3,**Error ellipse: s-maj=34.9km s-min=25.9km az=90.0**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.96**	**92**	Pn	Pn	14 16 09.0	+0.9
	0.4nm,0.3s,baz=270,slow=23,SNR=16						
JAY				Sn	Sn	14 16 52.9	-2.4
	0.2nm,0.3s,baz=270,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**17.60**	**188**	P	Pn	14 19 11.8	-1.3
	0.2nm,0.3s,baz=9.8,slow=12,SNR=10						
FITZ	**Fitzroy Crossi**	**19.04**	**214**	P	Pn	14 19 31.5	+0.9
	0.1nm,0.3s,baz=39,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**21.33**	**187**	P	P	14 19 54.2	-0.6
	1.3nm,0.6s,baz=9.7,slow=11,SNR=14						
MKAR	**Makanchi Array**	**68.35**	**323**	P	P	14 26 09.3	-0.1
	0.2nm,0.5s,baz=110,slow=7.8,SNR=3.4						

IDC 26 14:17:22.2±1.5,**2°15S**×**136°58E**,**h0**km,**mb3.0**/2, **mb1 3.3**/4,**mb1mx3.2**/35,**mbtmp3.1**/4,**ML3.1**/2,**MS2.3**/1, **Ms1 2.3**/1,**ms1mx2.3**/19,**Error ellipse: s-maj=41.4km s-min=28.3km az=74.0**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.14**	**95**	Pn	Pn	14 18 27.0	+0.2
	0.4nm,0.3s,baz=85,slow=24,SNR=8.6						
JAY				Sn	Sn	14 19 13.2	-2.8
	0.4nm,0.3s,baz=281,slow=23,SNR=4.1						
JAY				LR	LR	14 19 56.1	
	comp=Z,36nm,18.2s,baz=196,slow=37						
WRA	**Warramunga Arr**	**17.82**	**187**	P	Pn	14 21 31.4	-0.4
	0.1nm,0.3s,baz=14,slow=13,SNR=4.4						
ASAR	**Alice Springs**	**21.55**	**187**	P	P	14 22 13.6	+0.2
	0.7nm,0.8s,baz=9.9,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**68.05**	**323**	P	P	14 28 23.7	0.0
	0.1nm,0.5s,baz=107,slow=8.0,SNR=2.0						

IDC 26 14:25:13.4±7.6,**6°42S**×**153°29E**,**h77**km±57km,**mb3.0**/3, **mb1 3.4**/4,**mb1mx3.1**/43,**mbtmp3.4**/4,**ML1.7**/1,**Error ellipse: s-maj=142.8km s-min=31.5km az=126.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.76**	**244**	P	Pn	14 26 51.7	+1.7
	0.9nm,0.3s,baz=50,slow=16,SNR=3.9						
PMG				S	Sn	14 28 09.8	+4.3
	0.1nm,0.3s,baz=341,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**22.79**	**232**	P	P	14 30 09.2	-0.7
	0.5nm,0.8s,baz=57,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**25.33**	**225**	P	P	14 30 33.1	-0.2
	0.7nm,0.7s,baz=57,slow=9.7,SNR=14						
ILAR	**Eielson Array**	**83.47**	**22**	P	P	14 37 31.5	-0.8
	0.1nm,0.4s,baz=252,slow=4.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**151.24**	**286**	PKPbc	PKPbc	14 44 59.8	+0.7
	0.3nm,0.6s,baz=88,slow=2.9,SNR=2.6						

ISCJB ***26*** *14:30:13.6*±*0.3,29°.66N*±*0°.03*×*129°.65E*±*0°.06, h116*km±*3*km*, mb3.8/13, Error ellipse: s-maj=9.8km s-min=3.7km az=24.8*

JMA ***26*** *14:30:14.8*±*0.1,29°.66N*×*129°.67E, h102*km±*1*km*, M3.9*

IDC ***26*** *14:30:17.3*±*1.7,29°.71N*×*129°.68E, h137*km±*16*km*, mb3.5/13, mb1 3.6/18, mb1mx3.5/51, mbtmp4.0/18, Error ellipse: s-maj=17.4km s-min=11.0km az=80.0*

ISC 26 14:30:14.6±0.7,**29°68N**±0°.04×**129°63E**±0°.07,**h109**km±6km, **n35**,σ1**°17**/50,**mb3.8**/13,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.27**	**53**	P	**Pn**	14 30 29.5	**-0.7**
JNN				*e*S	**Sn**	14 30 41.0	**-0.9**
JTAJ	**Takarajima**	**0.64**	**215**	P	**Pn**	14 30 32.1	**-0.3**
JTAJ				S	**Sn**	14 30 45.9	**+0.2**
JKC	**Kuchinoerabu**	**0.93**	**32**	P	**Pn**	14 30 34.7	**-0.3**
JKC				*e*S	**Sn**	14 30 50.1	**-0.2**
JYAK	**Yakushimahirau**	**0.95**	**54**	P	**Pn**	14 30 34.5	**-0.7**
JYAK				*e*S	**Sn**	14 30 49.2	**-1.6**
JAM	**Amami Oshima**	**1.26**	**181**	P	**Pn**	14 30 38.0	**-0.6**
JAM				S	**Sn**	14 30 57.0	**+0.3**
JZK	**Kikaishima**	**1.39**	**167**	P	**Pn**	14 30 41.0	**+0.9**
JZK				*e*S	**Sn**	14 31 02.3	**+2.9**
JAMN	**Amaminishikomi**	**1.48**	**196**	P	**Pn**	14 30 40.8	**-0.3**
JAMN				S	**Sn**	14 31 01.9	**+0.6**
JTN	**Tanegashima 3**	**1.52**	**50**	P	**Pn**	14 30 41.3	**-0.4**
JTN				S	**Sn**	14 31 02.4	**+0.2**
JTSR	**Tashiro 2**	**1.86**	**37**	P	**Pn**	14 30 45.9	**+0.1**
JTSR				S	**Sn**	14 31 09.0	**-0.6**
JSU	**Suzuyama**	**1.96**	**21**	P	**Pn**	14 30 47.7	**+0.6**
JSU				*e*S	**Sn**	14 31 12.8	**+1.0**
JTK	**Tokunoshima**	**1.98**	**198**	P	**Pn**	14 30 46.9	**-0.4**
JTK				*e*S	**Sn**	14 31 11.6	**-0.6**
JSJ	**Shimokoshiki**	**2.00**	**2**	P	**Pn**	14 30 47.6	**+0.1**
JSJ				*e*S	**Sn**	14 31 13.4	**+0.7**
JOKE	**Okinoerabujima**	**2.49**	**202**	P	**Pn**	14 30 54.2	**+0.3**
JIH	**Iheya**	**3.01**	**209**	P	**Pn**	14 31 01.2	**+0.5**
JNU	**Nakatsue**	**3.60**	**17**	P	**Pn**	14 31 10.6	**+2.1**
	15nm,0.3s,baz=189,slow=13,SNR=124						
JNU				S	**Sn**	14 31 54.8	**+4.5**
	7.5nm,0.3s,baz=108,slow=20,SNR=6.2						
JAGN	**Aguni-jima**	**3.73**	**215**	P	**Pn**	14 31 10.0	**-0.3**
JKE	**Kume jima 2**	**4.18**	**218**	P	**Pn**	14 31 15.5	**-0.8**
KSRS	**Korea Array**	**7.89**	**350**	P	**Pn**	14 32 09.1	**+2.6**
	0.4nm,0.3s,baz=172,slow=14,SNR=11						
JHJ	**Hachijo jima 2**	**9.33**	**66**	P	**Pn**	14 32 27.2	**+1.0**
	17nm,0.3s,baz=43,slow=19,SNR=3.8						
MAT	**Matsushiro**	**9.93**	**44**	P	**Pn**	14 32 36.3	**+2.1**
MAT				*e*S	**Sn**	14 34 23.9	**+0.2**
MJAR	**Matsushiro Arr**	**9.93**	**44**	P	**Pn**	14 32 35.1	**+0.9**
	2.2nm,0.3s,baz=245,slow=14,SNR=33						
MJAR				S	**Sn**	14 34 24.3	**+0.5**
	0.5nm,0.3s,baz=245,slow=24,SNR=5.2						
KLR	**Kul'dur**	**19.60**	**4**	P	**P**	14 34 33.9	**-0.2**
	0.1nm,0.3s,baz=143,slow=5.1,SNR=3.9						
SONM	**Songino Array**	**25.47**	**322**	P	**P**	14 35 32.7	**+0.1**
	1.4nm,0.7s,baz=139,slow=9.6,SNR=8.2						
PETK	**Petropavlovsk-**	**31.14**	**33**	P	**P**	14 36 21.9	**-0.8**
	3.4nm,0.9s,baz=212,slow=8.0,SNR=3.0						
MKAR	**Makanchi Array**	**40.26**	**309**	P	**P**	14 37 41.4	**+0.7**
	0.3nm,0.7s,baz=104,slow=7.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**40.33**	**320**	P	**P**	14 37 41.1	**0.0**
	0.5nm,0.3s,baz=101,slow=7.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**43.29**	**314**	P	**P**	14 38 04.9	**-0.4**
	0.3nm,0.4s,baz=97,slow=8.8,SNR=4.6						
FITZ	**Fitzroy Crossi**	**47.66**	**185**	P	**P**	14 38 39.9	**0.0**
	1.4nm,0.6s,baz=20,slow=7.4,SNR=9.5						
WRA	**Warramunga Arr**	**49.54**	**174**	P	**P**	14 38 54.0	**-0.4**
	2.7nm,0.5s,baz=354,slow=8.3,SNR=55						
ASAR	**Alice Springs**	**53.20**	**175**	P	**P**	14 39 21.9	**+0.3**
	0.8nm,0.5s,baz=3.9,slow=14,SNR=36						
ILAR	**Eielson Array**	**60.83**	**29**	P	**P**	14 40 14.3	**-0.7**
	0.4nm,0.6s,baz=290,slow=8.0,SNR=10						
STKA	**Stephens Creek**	**62.26**	**169**	P	**P**	14 40 25.1	**+0.2**
	1.1nm,0.5s,baz=346,slow=7.9,SNR=9.1						
INK	**Inuvik**	**65.25**	**24**	P	**P**	14 40 44.1	**+0.1**
	1.8nm,0.5s,baz=283,slow=6.7,SNR=5.7						
FINES	**FINESS Array B**	**70.49**	**330**	P	**P**	14 41 14.8	**-2.2**
	0.3nm,0.4s,baz=60,slow=8.2,SNR=5.6						
YKA	**Yellowknife Ar**	**74.89**	**26**	P	**P**	14 41 43.4	**+0.3**
	0.7nm,0.4s,baz=303,slow=6.0,SNR=6.0						

BJI ***26*** *14:52:16.7,3°.93N*×*127°.12E, h5*km*, mb4.7/12, mB5.0/4, Ms4.7/2, Ms7 4.6/2*

ISCJB ***26*** *14:52:22.6*±*0.3,3°.70N*±*0°.04*×*126°.85E*±*0°.04, h48*km*, mb4.3/27, Error ellipse: s-maj=6.2km s-min=5.0km az=146.3*

DJA ***26*** *14:52:22.3*±*1.4,4°N*±*9°*×*12°7E*±*°, h10*km*, M4.5/3, mb4.7/2, MLv4.5/3*

IDC ***26*** *14:52:24.6*±*2.1,3°.58N*×*126°.53E, h49*km±*20*km*, mb3.9/21, mb1 4.0/23, mb1mx3.9/46, mbtmp4.1/23, ML3.8/3, Error ellipse: s-maj=22.6km s-min=9.0km az=73.0*

NEIC ***26*** *14:52:30.4*±*1.2,3°.60N*×*126°.70E, h107*km±*12*km*, mb4.3/8, Error ellipse: s-maj=12.1km s-min=6.6km az=57.0*

ISC 26 14:52:24.8±0.5,**3°67N**±0°.06×**126°77E**±0°.06,**h48**km,**n52**, σ1**°56**/57,**mb4.3**/27,**1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.24**	**271**	P	**Pn**	14 52 45.0	**-0.7**
SGSI				S	**Sn**	14 53 01.4	**+0.1**
KCP	**Kidapawan**	**3.72**	**333**	*e*P	**Pn**	14 53 21.6	**+1.8**
KMSI	**Cibinong**	**4.15**	**222**	P	**Pn**	14 53 28.7	**+3.1**
SANI	**Sanana**	**5.73**	**188**	P	**Pn**	14 53 45.3	**-2.1**
MRSI	**Marisa**	**5.77**	**237**	P	**Pn**	14 53 50.7	**+2.8**
MRSI				S	**Sn**	14 54 55.1	**+2.2**
LUWI	**Luwuk**	**6.15**	**221**	P	**Pn**	14 53 57.0	**+3.9**
LUWI	**Luwuk**	**6.15**	**221**	*e*Pn	Pn	14 53 59.5	+6.4
SIJI	**Sorong**	**6.36**	**135**	P	**Pn**	14 53 57.3	**+1.2**
	13nm,0.3s,baz=180,slow=20,SNR=1.8						
SIJI				S	**Sn**	14 55 06.6	**-0.9**
	25nm,0.3s,baz=0.0,slow=19,SNR=3.2						
MYLDM	**Lahad Datu**	**8.38**	**281**	*e*Pn	**Pn**	14 54 26.4	**+2.7**
FAKI	**Fak Fak**	**8.53**	**140**	*e*Pn	**Pn**	14 54 27.5	**+1.7**
TTSI	**Tana Toraja**	**9.63**	**226**	P	Pn	14 54 34.2	-6.6
KAPI	**Kappang**	**11.11**	**219**	P	**Pn**	14 54 58.0	**-3.1**
	0.7nm,0.3s,baz=197,slow=17,SNR=3.5						
JAY	**Jayapura**	**15.22**	**114**	P	**P**	14 56 00.4	**-0.6**
	0.1nm,0.3s,baz=267,slow=22,SNR=6.7						
KSM	**Kuching**	**16.59**	**263**	*e*P	**P**	14 56 17.2	**+1.2**
	7.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.66**	**183**	P	**P**	14 57 09.1	**-2.3**
	3.8nm,0.6s,baz=7.0,slow=11,SNR=7.5						
FITZ	**Fitzroy Crossi**	**21.66**	**183**	*e*P	**P**	14 57 10.4	**-1.0**
	6.6nm,0.8s						
WRAB	**Tennant Creek**	**24.61**	**163**	*e*P	**P**	14 57 39.5	**-1.2**
	29nm,0.8s						
WRA	**Warramunga Arr**	**24.61**	**163**	P	**P**	14 57 39.7	**-1.1**
	23nm,0.7s,baz=344,slow=10,SNR=119						
WRA				S	**S**	15 01 58.7	**-0.2**
	1.0nm,0.8s,baz=342,slow=16,SNR=3.3						
WB2	**Warramunga Arr**	**24.62**	**163**	*e*P	**P**	14 57 39.7	**-1.2**
	32nm,0.8s						
ASAR	**Alice Springs**	**28.04**	**166**	P	**P**	14 58 11.1	**-0.7**
	0.7nm,0.3s,baz=343,slow=7.6,SNR=22						
ASAR				PcP	**PcP**	15 01 26.4	**+0.7**
	0.8nm,0.4s,baz=354,slow=2.2,SNR=7.2						
CMAR	**Chiang Mai Arr**	**30.94**	**300**	P	**P**	14 58 36.6	**-0.8**
	0.7nm,0.8s,baz=116,slow=7.1,SNR=4.4						
KMI	**Kunming**	**31.45**	**315**	P	**P**	14 58 44.0	**+1.8**
KMI				PMZ			
	9.0nm,0.5s						
KSAR	**Wonju Array Be**	**33.63**	**2**	P	**P**	14 59 01.1	**+0.3**
KSRS	**Korea Array**	**33.64**	**2**	P	**P**	14 59 01.1	**+0.2**
	1.9nm,0.6s,baz=177,slow=9.3,SNR=8.4						
STKA	**Stephens Creek**	**38.06**	**159**	P	**P**	14 59 38.9	**+0.1**
	6.7nm,0.6s,baz=331,slow=9.0,SNR=38						
STKA				PcP	**PcP**	15 01 53.9	**+0.5**
	1.3nm,0.8s,baz=351,slow=7.1,SNR=3.4						
STKA	**Stephens Creek**	**38.06**	**159**	*e*P	**P**	14 59 38.2	**-0.6**
	1.2nm,0.7s						
STKA				PcP	**PcP**	15 01 53.9	**+0.5**
LZH	**Lanzhou**	**38.58**	**330**	*e*P	**P**	14 59 41.5	**-1.8**
LZH				pP	pP	14 59 44.8	-11
LZH				sP	sP	14 59 46.3	-15
LZH				PMZ			
	20nm,1.3s						
LZH				PMZ			
	53nm,4.9s						
LZH				LN			
	290nm,12.7s						
LZH				LE			
	280nm,13.1s						
LZH				LZ			
	340nm,16.5s						
HHC	**Hu-ho-hao-te**	**39.47**	**342**	*e*P	**P**	14 59 48.8	**-1.9**
HHC				PMZ			
	13nm,1.0s						
HHC				PMZ			
	310nm,7.1s						
CN2	**Changchun**	**39.98**	**359**	*e*P	**P**	14 59 50.5	**-4.2**
USRK	**Ussuriysk Ar.**	**40.63**	**6**	P	**P**	15 00 00.7	**+0.7**
	1.1nm,0.5s,baz=196,slow=7.0,SNR=4.4						
ASAJ	**Asahikawa**	**42.64**	**17**	P	**P**	15 00 17.3	**+0.8**
	5.0nm,0.8s,baz=204,slow=7.0,SNR=6.9						
SONM	**Songino Array**	**47.37**	**341**	P	**P**	15 00 54.0	**-0.2**
	0.9nm,0.6s,baz=156,slow=7.8,SNR=6.1						
WMQ	**Urumqi**	**52.80**	**325**	P	**P**	15 01 34.5	**-0.9**
WMQ				pP	pP	15 01 39.5	-9.2
WMQ				sP	sP	15 01 41.5	-13
WMQ				PMZ			
	4.0nm,0.7s						
PETK	**Petropavlovsk-**	**55.47**	**22**	P	**P**	15 01 55.3	**+0.7**
	3.6nm,0.6s,baz=176,slow=3.9,SNR=9.2						
MK01	**Makanchi Array**	**57.61**	**325**	*e*P	**P**	15 02 08.6	**-1.3**
MKAR	**Makanchi Array**	**57.63**	**325**	P	**P**	15 02 09.1	**-1.1**
	1.9nm,0.5s,baz=128,slow=8.5,SNR=21						
KSH	**Kashi**	**58.12**	**315**	*e*P	**P**	15 02 15.0	**+1.2**
KSH				PMZ			
	2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	15 02 30.3	**-0.6**
	0.6nm,0.4s,baz=123,slow=4.2,SNR=3.5						
KURBB	**Kurchatov Arra**	**61.81**	**327**	P	**P**	15 02 37.8	**-1.0**
	2.7nm,0.6s,baz=130,slow=6.4,SNR=39						
KURK	**Kurchatov**	**61.81**	**328**	*e*P	**P**	15 02 37.7	**-1.0**
	24nm,0.5s						
VOSK	**Vostochnaya**	**66.94**	**327**	*e*P	**P**	15 03 10.8	**-1.4**
	1.9nm,0.6s						
BVAR	**Borovoye Array**	**67.39**	**327**	P	**P**	15 03 14.7	**-0.5**
	1.2nm,0.6s,baz=128,slow=9.6,SNR=9.7						
BRVK	**Borovoye**	**67.47**	**327**	*e*P	**P**	15 03 14.8	**-0.8**
	11nm,1.1s						
ZRNK	**Zerenda**	**68.12**	**327**	*e*P	**P**	15 03 18.0	**-1.7**
	2.6nm,0.6s						
NRIK	**Noril'sk**	**70.50**	**346**	P	**P**	15 03 35.2	**+1.1**
	1.8nm,0.5s,baz=138,slow=8.3,SNR=4.7						
ABKAR	**Akbulak array**	**72.22**	**321**	*e*P	**P**	15 03 44.0	**-0.9**
AKTO	**Aktyubinsk**	**73.73**	**322**	P	**P**	15 03 52.9	**-0.9**
	0.9nm,0.5s,baz=96,slow=9.2,SNR=3.4						
VNDA	**Vanda**	**83.36**	**173**	P	**P**	15 04 46.6	**+0.4**
	0.9nm,0.7s,baz=314,slow=6.2,SNR=5.3						
ILAR	**Eielson Array**	**85.14**	**25**	P	**P**	15 04 55.8	**+0.2**
	0.3nm,0.8s,baz=248,slow=4.8,SNR=4.3						
ARCES	**ARCESS Array B**	**90.52**	**340**	P	**P**	15 05 20.0	**-1.3**
	1.4nm,0.6s,baz=60,slow=5.8,SNR=9.3						
FINES	**FINESS Array B**	**91.91**	**332**	P	**P**	15 05 27.0	**-0.8**
	1.1nm,0.8s,baz=0.0,slow=0.6,SNR=3.4						
AKASG	**Malin Array Be**	**91.97**	**321**	P	**P**	15 05 27.5	**-0.8**
	0.2nm,0.3s,baz=65,slow=5.3,SNR=2.9						

IDC 26 14:54:23.4±1.4,**7°01N**×**33°89W**,**h0**km,**mb3.7**/3, **mb1 4.0**/3,**mb1mx3.5**/35,**mbtmp3.7**/3,**Error ellipse: s-maj=69.6km s-min=27.5km az=166.0**,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**24.32**	**127**	T	T	15 25 01.2	
	baz=307,slow=75,SNR=32						
H10N2	**ASCENSION HYDR**	**24.32**	**127**	T	T	15 25 01.5	
	baz=307,slow=75,SNR=44						
H10N1	**ASCENSION HYDR**	**24.34**	**127**	T	T	15 25 04.0	
	baz=307,slow=75,SNR=36						
H10S3	**ASCENSION HYDR**	**24.87**	**129**	T	T	15 25 39.7	
	baz=308,slow=75,SNR=42						
H10S1	**ASCENSION HYDR**	**24.87**	**129**	T	T	15 25 38.6	
	baz=308,slow=75,SNR=43						
H10S2	**ASCENSION HYDR**	**24.89**	**129**	T	T	15 25 38.6	
	baz=308,slow=75,SNR=48						
TORD	**Torodi Ar. Bea**	**35.53**	**77**	P	P	15 01 22.4	-0.1
	2.8nm,0.7s,baz=269,slow=8.9,SNR=16						
LPAZ	**La Paz**	**41.04**	**235**	P	P	15 02 09.4	-0.1
	0.9nm,0.7s,baz=76,slow=6.4,SNR=4.8						
TXAR	**Lajitas Array**	**68.98**	**299**	P	P	15 05 31.2	0.0
	0.1nm,0.5s,baz=100,slow=5.4,SNR=3.8						

ISK ***26*** *14:57:09.5,35°.28N*×*31°.34E, h63*km*, ML3.5*

NIC ***26*** *14:57:10.6*±*0.2,35°.65N*×*31°.40E, h36*km*, mb4.1, ML3.8*

ISCJB ***26*** *14:57:10.2*±*1.3,35°.28N*±*0°.03*×*31°.33E*±*0°.04, h33*km±*14*km*, mb3.4/3, Error ellipse: s-maj=5.7km s-min=4.0km az=143.9*

CSEM ***26*** *14:57:11.3*±*0.3,35°.28N*×*31°.31E, h40*km*, ML3.8, Error ellipse: s-maj=6.6km s-min=3.5km az=46.0*

IDC ***26*** *14:57:12.8*±*1.4,35°.30N*×*31°.41E, h49*km±*21*km*, mb3.3/3, mb1 3.4/10, mb1mx3.2/47, mbtmp3.4/10, ML3.4/7, MS3.6/1, Ms1 3.6/1, ms1mx3.0/27, Error ellipse: s-maj=16.8km s-min=10.4km az=70.0*

DDA ***26*** *14:57:54.8,35°.27N*×*31°.56E, h70*km*, Md3.9*

ISC 26 14:57:11.7±1.1,**35°28N**±0°.04×**31°38E**±0°.03,**h33**km±6km, **n82**,σ1**°20**/110,**mb3.5**/3,**Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**0.82**	**108**	P	**Pn**	14 57 26.0	**-0.9**
	baz=309						
AKMC	**Akamas**	**0.82**	**108**	P	**Pn**	14 57 26.0	**-0.9**
PPCY	**Paphos**

MMAI S Sn 14 58 57.5 +0.2
17nm,0.3s,baz=314,slow=28,SNR=12
TAHT Tahtakopru-Hat 4.05 73 *e*Pn Pn 14 58 11.9 +0.6
TAHT Tahtakopru-Hat 4.05 73 *e*Pn Pn 14 58 12.0 +0.6
SVRH Sivrihisar-ESK 4.16 2 *e*PN Pn 14 58 13.0 +0.1
SVRH Sivrihisar-ESK 4.16 2 *e*Pn Pn 14 58 13.0 +0.1
KOZT Kozan 4.20 57 *e*PN Pn 14 58 13.9 +0.4
KOZT Kozan 4.20 57 *e*Pn Pn 14 58 13.9 +0.4
KAMA Osmaniye 4.68 65 *i* P Pn 14 58 18.2 -1.8
KAMA *i* S Sn 14 59 11.9 -1.3
BRTR Keskin Array B 4.78 21 P Pn 14 58 20.9 -0.7
0.3nm,0.3s,baz=193,slow=14,SNR=7.7
BRTR S Sn 14 59 17.1 +1.2
0.2nm,0.3s,baz=193,slow=19,SNR=2.8
KMRS Kahramanmaras 4.97 62 *e*PN Pn 14 58 24.3 +0.2
KMRS Kahramanmaras 4.97 62 *e*Pn Pn 14 58 24.3 +0.2
KZIT Kziot 5.05 149 *e*PN Pn 14 58 25.4 +0.3
KZIT Kziot 5.05 149 *e*Pn Pn 14 58 25.4 +0.3
GAZ Gaziantep 5.08 67 *e*PN Pn 14 58 25.6 +0.1
GAZ Gaziantep 5.08 67 *e*Pn Pn 14 58 25.6 +0.1
SARI SarD1z-Kayseri 5.10 51 *e*PN Pn 14 58 25.9 -0.1
IDI Anoyia 5.31 272 P Pn 14 58 30.0 +1.3
0.5nm,0.3s,baz=79,slow=16,SNR=3.7
IDI S Sn 14 59 24.9 -3.9
1.1nm,0.3s,baz=102,slow=20,SNR=4.2
ASF Jabal al Asfar 5.54 122 P Pn 14 58 33.9 +1.9
0.7nm,0.3s,baz=281,slow=9.5,SNR=3.9
ASF S Sn 14 59 37.6 +3.0
1.0nm,0.3s,baz=289,slow=18,SNR=2.3
ASF LR LR 15 02 03.4
comp=Z,504nm,18.0s,baz=274,slow=52
EIL Elat 6.36 151 P Pn 14 58 44.9 +1.8
0.8nm,0.3s,baz=341,slow=15,SNR=15
EIL S Sn 14 59 54.5 -0.1
2.0nm,0.3s,baz=311,slow=19,SNR=5.9
AKASG Malin Array Be 15.49 355 P Pn 15 00 48.2 +0.7
0.3nm,0.3s,baz=179,slow=10,SNR=4.4
GERES GERESS Array B 18.80 322 P P 15 01 27.0 -1.3
0.1nm,0.3s,baz=134,slow=12,SNR=3.9
FINES FINESS Array B 26.40 354 P P 15 02 44.5 -0.3
1.0nm,0.8s,baz=186,slow=9.8,SNR=3.2
TORD Torodi Ar. Bea 34.68 238 P P 15 03 58.5 +0.1
0.4nm,0.8s,baz=52,slow=9.3,SNR=2.8
MKAR Makanchi Array 39.44 57 P P 15 04 37.3 -1.3
0.7nm,0.8s,baz=265,slow=8.5,SNR=4.8

BJI ***26*** *15:03:16.2,2˚.65S×137˚.08E,h9km,mb5.2/69,mB5.5/43, Ms5.2/45,Ms7 5.0/45*

NEIC ***26*** *15:03:19.4±1.7,2˚.41S×136˚.70E,h2km±10km,mb5.4/114, MS5.0/48,Error ellipse: s-maj=4.1km s-min=3.2km az=55.0*

GCMT ***26*** *15:03:19.4±0.1,2˚.40S×136˚.70E,h14km,MW5.4/111, Moment Tensor Solution. s60,c78; s111,c207; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.47±.04; Mθθ-1.84±.04; Mϕϕ1.36±.03; Mrθ-0.15±.06; Mθϕ0.28±.02; Mϕr0.23±.07; Best double couple: M₀1.65700×10^17 NP1:ϕs319.00000°,δ84.00000°, λ168.00000°. NP2:ϕs51.00000°,δ78.00000°,λ6.00000°. Principal axes: T 1.4360, Plg13.0000°, Azm274.0000°; N 0.4340, Plg76.0000°, Azm113.0000°; P -1.8780, Plg4.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***26*** *15:03:19.7±0.4,2˚.42S×136˚.73E,h0km,mb5.1/19, mb1 5.1/23,mb1mx5.0/32,mbtmp5.0/23,ML4.1/4,MS4.8/29, Ms1 4.8/29,ms1mx4.6/48 Error ellipse: s-maj=18.1km s-min=10.8km az=81.0*

ISCJB ***26*** *15:03:20.9±0.9,2˚.44S±0˚.02×136˚.74E±0˚.02,h21km±6km, mb5.2/159,MS5.0/80,Error ellipse: s-maj=4.2km s-min=3.1km az=35.7*

MOS ***26*** *15:03:22.8±1.1,2˚.44S×136˚.65E,h35km,mb5.5/52, MS5.0/14,Error ellipse: s-maj=9.3km s-min=5.2km az=109.0*

DJA ***26*** *15:03:25.1±1.1,2˚S±4˝×13˚7E±˚,h26km±9km,M5.4/24, mB5.7/17,mb5.5/24,MLv5.8/5,Mw(mB)5.2/17*

ISC 26 15:03:23.6±0.5,2.44S±0.04×136.73E±0.04,h28km±3km, h28km:pP-P,n491,σ1s53/482,mb5.3/163,MS5.0/80, 29C-11D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.72**	**290**	P			**Pn**	**15 04 05.2**	**-0.2**
GENI	**Genyem**	**3.44**	**93**	P			**Pn**	**15 04 16.5**	**+1.2**
GENI				S			**Sn**	**15 04 57.9**	**+2.8**
JAY	**Jayapura**	**3.97**	**91**	Pn			**Pn**	**15 04 22.1**	**-0.5**
3.7nm,0.3s,baz=266,slow=22,SNR=128									
JAY				Sn			**Sn**	**15 05 07.5**	**-0.9**
8.5nm,0.3s,baz=91,slow=23,SNR=6.5									
JAY	**Jayapura**	**3.97**	**91**	P			**Pn**	**15 04 22.6**	**-0.1**
FAKI	**Fak Fak**	**4.50**	**264**	P			**Pn**	**15 04 31.0**	**+1.0**
FAKI	**Fak Fak**	**4.50**	**264**	*e*Pn			**Pn**	**15 04 30.3**	**+0.3**
SIJI	**Sorong**	**5.68**	**286**	Pn			**Pn**	**15 04 46.5**	**+0.2**
19nm,0.3s,baz=88,slow=23,SNR=6.6									
SIJI				Sn			**Sn**	**15 05 51.3**	**+0.7**
23nm,0.3s,baz=89,slow=23,SNR=3.9									
SWI	**Sorong**	**5.69**	**286**	P			**Pn**	**15 04 47.3**	**+1.0**
SWI				S			**Sn**	**15 05 51.4**	**+0.6**
MMPI	**Merauke**	**7.00**	**149**	P			**Pn**	**15 05 08.1**	**+3.8**
LBMI	**Labuha**	**9.40**	**281**	P			**Pn**	**15 05 39.4**	**+2.1**
PALU	**Palau**	**9.98**	**347**	P			**Pn**	**15 05 45.0**	**-0.2**
baz=10.0,SNR=15									
I39PW	**PALAU INFRASON**	**10.15**	**348**	*i*				16 09 10.0	
baz=168,slow=315,SNR=1.2									
SANI	**Sanana**	**10.74**	**272**	P			**Pn**	**15 05 55.7**	**0.0**
174nm,0.9s,2μm									
KDU	**Kakadu**	**11.02**	**202**	P			**Pn**	**15 05 59.5**	**0.0**
baz=11,SNR=18									
MTN	**Manton Dam**	**11.72**	**208**	P			**Pn**	**15 06 09.2**	**0.0**
baz=12,SNR=257									
MTN	**Manton Dam**	**11.72**	**208**	*e*Pn			**Pn**	**15 06 09.3**	**+0.2**
PMG	**Port Moresby**	**12.46**	**124**	Pn			**Pn**	**15 06 22.5**	**+3.3**
3.0nm,0.3s,baz=9.6,slow=4.4,SNR=10									
PMG	**Port Moresby**	**12.46**	**124**	*ce*P			**Pn**	**15 06 22.2**	**+3.0**
PMG				pmax			pmax		
comp=Z,688nm,0.8s									
PMG	**Port Moresby**	**12.46**	**124**	*e*Pn			**Pn**	**15 06 20.8**	**+1.6**
COEN	**Coen**	**13.09**	**151**	P			**Pn**	**15 06 27.6**	**-0.3**
baz=13,SNR=62									
COEN	**Coen**	**13.09**	**151**	*e*Pn			**Pn**	**15 06 27.3**	**-0.5**
KMSI	**Cibinong**	**13.10**	**283**	P			P	15 06 44.3	+6.5
LUWI	**Luwuk**	**14.02**	**275**	P			**Pn**	**15 06 41.3**	**+0.7**
LUWI	**Luwuk**	**14.02**	**275**	*e*Pn			Pn	15 06 35.5	-5.1
KDI	**Kendari**	**14.17**	**264**	P			**Pn**	**15 06 40.9**	**-1.7**
SOEI	**Soe**	**14.36**	**239**	P			**Pn**	**15 06 46.1**	**+0.8**
SOEI	**Soe**	**14.36**	**239**	*e*Pn			**Pn**	**15 06 44.4**	**-0.9**
DAV	**Davao City (W)**	**14.60**	**310**	LR			LR	15 10 51.2	
comp=Z,4μm,21.7s,baz=171,slow=31									
MRSI	**Marisa**	**15.07**	**281**	P			**P**	**15 06 57.4**	**-2.4**
RABL	**Rabaul**	**15.50**	**97**	*e*Pn			**Pn**	**15 06 59.4**	**-1.1**
comp=Z,200nm,0.8s									
BUKP	**Musuan**	**15.51**	**311**	*e*P			**P**	**15 07 02.9**	**-1.8**
MMRI	**Maumere**	**15.68**	**246**	P			**P**	**15 07 07.2**	**+0.7**
MMRI	**Maumere**	**15.68**	**246**	*e*Pn			**Pn**	**15 07 00.9**	**-1.8**
comp=Z,146nm,1.0s									
TTSI	**Tana Toraja**	**16.90**	**268**	P			**P**	**15 07 21.7**	**+1.6**
PCI	**Palu**	**16.96**	**275**	P			**P**	**15 07 21.0**	**+0.3**
KAPI	**Kappang**	**17.13**	**261**	P			**P**	**15 07 24.1**	**+1.4**
comp=Z,1.7nm,0.3s,baz=87,slow=8.4,SNR=6.5									
KAPI	**Kappang**	**17.13**	**261**	*e*Pn			**P**	**15 07 22.8**	**+0.1**
comp=Z,112nm,1.1s									
MTSU	**Mount Surprise**	**17.28**	**155**	P			**Pn**	**15 07 22.5**	**-0.5**
baz=17,SNR=36									
WRAB	**Tennant Creek**	**17.54**	**187**	*ce*P			**Pn**	**15 07 24.6**	**-1.6**
WRAB				pmax			pmax		
comp=Z,256nm,1.2s									
WRAB	**Tennant Creek**	**17.54**	**187**	*e*Pn			**Pn**	**15 07 23.3**	**-2.9**
comp=Z,193nm,0.9s									
WB2	**Warramunga Arr**	**17.55**	**187**	*e*Pn			**Pn**	**15 07 23.1**	**-3.2**
comp=Z,183nm,0.8s									
WRA	**Warramunga Arr**	**17.55**	**187**	P			**Pn**	**15 07 22.9**	**-3.5**
comp=Z,0.7nm,0.3s,baz=8.9,slow=13,SNR=37									
WRA				S			Sn	15 10 30.1	-11
comp=Z,1.8nm,0.3s,baz=3.0,slow=23,SNR=4.2									
WRA				LR			LR	15 14 37.7	
comp=Z,13μm,19.7s,baz=5.0,slow=39									
GUMO	**Guam**	**17.86**	**27**	LR			LR	15 14 09.0	
comp=Z,3μm,20.1s,baz=192,slow=36									
PLP	**Palo**	**17.87**	**319**	*e*P			**Pn**	**15 07 28.5**	**-1.9**
BESP	**Borongan**	**17.91**	**321**	*e*P			**P**	**15 07 32.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**18.99**	**214**	P			**P**	**15 07 41.5**	**-1.5**
comp=Z,0.9nm,0.3s,baz=36,slow=12,SNR=30									
FITZ				S			Sn	15 11 04.0	-12
comp=Z,3.9nm,0.3s,baz=220,slow=10,SNR=4.7									
FITZ	**Fitzroy Crossi**	**18.99**	**214**	P			**P**	**15 07 43.3**	**+0.2**
baz=19,SNR=40									
FITZ	**Fitzroy Crossi**	**18.99**	**214**	*e*P			**P**	**15 07 40.8**	**-2.3**
comp=Z,69nm,0.8s									
FITZ				S			Sn	15 11 04.0	-12
GUIM	**Jordan**	**19.15**	**313**	*e*P			**Pn**	**15 07 46.7**	**+0.8**
RCP	**Roxas**	**19.67**	**315**	||*e*P			**Pn**	**15 07 53.2**	**+1.1**
MYLDM	**Lahad Datu**	**19.73**	**293**	*e*P			**Pn**	**15 07 55.0**	**+2.2**
comp=Z,460nm,1.5s									
MYLDM	**Lahad Datu**	**19.73**	**293**	*e*ScS			**Pn**	**15 07 55.0**	**+2.2**
CTA	**Charters Tower**	**19.85**	**153**	P			**P**	**15 07 52.1**	**-0.5**
comp=Z,0.2nm,0.3s,baz=86,slow=20,SNR=3.5									
CTAO	**Charters Tower**	**19.85**	**153**	*e*P			**P**	**15 07 52.9**	**+0.4**
CTAO				pmax			pmax		
comp=Z,162nm,1.0s									
CTAO	**Charters Tower**	**19.85**	**153**	*e*P			**P**	**15 07 52.9**	**+0.4**
comp=Z,162nm,1.0s									
BKB	**Balikpapan**	**19.86**	**273**	P			Pn	15 08 03.4	+9.0
PLAI	**Plampang**	**19.89**	**251**	P			**P**	**15 07 52.0**	**-1.0**
TSM	**Tawau**	**20.00**	**290**	||P		**Pn**	**15 07 57.6**	**+1.5**
CUYO	**Cuyo Island**	**20.47**	**310**	*e*P			**P**	**15 07 59.5**	**+0.2**
TWSI	**Taliwang, Sumb**	**20.71**	**252**	P			**P**	**15 08 02.8**	**+0.8**
OTRP	**Odiongan**	**20.73**	**316**	*e*P			Pn	15 08 03.6	-1.1
SDKM	**Sandakan**	**21.10**	**292**	||P		**P**	**15 08 10.2**	**+4.0**
AS01	**Alice Springs**	**21.27**	**187**	*e*P			**P**	**15 08 07.7**	**-0.2**
AS31	**Alice Springs**	**21.27**	**187**	*e*P			**P**	**15 08 07.8**	**-0.1**
comp=Z,85nm,0.9s									
AS31				LR			LR		
comp=Z,200nm,21.0s									
ASAR	**Alice Springs**	**21.27**	**187**	P			**P**	**15 08 07.7**	**-0.3**
comp=Z,59nm,0.8s,baz=14,slow=11,SNR=84									
ASAR				S			**S**	**15 11 55.6**	**-7.5**
comp=Z,6.4nm,0.9s,baz=347,slow=36,SNR=2.4									
ASAR				LR			LR	15 17 32.0	
comp=Z,13μm,20.2s,baz=7.0,slow=40									
SJMP	**San Jose**	**21.44**	**314**	*e*P			**P**	**15 08 11.9**	**+2.1**
BBKI	**Banjar Baru**	**21.89**	**267**	P			**P**	**15 08 17.1**	**+2.5**
comp=Z,466nm,1.1s,comp=Z,7μm									
ENPP	**El Nido**	**21.91**	**309**	*e*P			**P**	**15 08 15.8**	**+1.0**
BATP	**Bataraza**	**21.93**	**301**	*e*P			**P**	**15 08 17.5**	**+2.5**
BATP				eS			Sn	15 12 26.2	-0.6
KKM	**Kota Kinabalu**	**22.16**	**292**	||P		**P**	**15 08 20.5**	**+2.8**
KKM	**Kota Kinabalu**	**22.16**	**292**	*e*P			**P**	**15 08 16.5**	**-1.1**
comp=Z,68nm,1.0s									
KKM				LR			LR		
comp=Z,2μm,21.0s									
TGY	**Tagaytay City**	**22.70**	**317**	P			**P**	**15 08 25.0**	**+1.6**
comp=Z,103nm,0.3s,baz=111,slow=9.3,SNR=4.3									
TGY				LR			LR	15 19 22.1	
comp=Z,1μm,18.7s,baz=129,slow=42									
LUBP	**Lubang**	**22.93**	**315**	*e*P			**P**	**15 08 24.5**	**-1.1**
ABJI	**Asem Bagus**	**23.02**	**256**	P			**P**	**15 08 30.2**	**+3.5**
JAGI	**Jajag, Banyuwa**	**23.25**	**254**	P			**P**	**15 08 29.0**	**0.0**
comp=Z,105nm,0.9s									
JAGI	**Jajag, Banyuwa**	**23.25**	**254**	*e*P			**P**	**15 08 27.1**	**-1.9**
comp=Z,198nm,1.2s									
JAGI				LR			LR		
comp=Z,2μm,21.0s									
PATS	**Pohnpei**	**23.43**	**67**	*e*P			**P**	**15 08 29.9**	**-0.9**
comp=Z,210nm,1.1s									
PATS				LR			LR		
comp=Z,4μm,18.0s									
BALP	**Baler**	**23.48**	**321**	*e*P			**P**	**15 08 30.3**	**-0.9**
GMJI	**Gumukmas**	**23.89**	**255**	P			**P**	**15 08 36.6**	**+1.5**
comp=Z,88nm,1.0s									
WRKA	**Warakurna**	**23.89**	**199**	P			**P**	**15 08 34.0**	**-1.1**
baz=24,SNR=133									
HNR	**Honiara**	**24.10**	**108**	P			**P**	**15 08 32.4**	**-4.7**
comp=Z,62nm,0.7s,baz=209,slow=11,SNR=2.5									
HNR	**Honiara**	**24.10**	**108**	*e*P			**P**	**15 08 37.0**	**-0.1**
HNR	**Honiara**	**24.10**	**108**	*e*P			**P**	**15 08 36.4**	**-0.7**
HNR				pmax			pmax		
comp=Z,383nm,1.1s									
HNR				MLR			MLR		
comp=Z,4μm,22.0s									
HNR	**Honiara**	**24.10**	**108**	*e*P			**P**	**15 08 36.4**	**-0.7**
comp=Z,383nm,1.1s									
HNR				LR			LR		
comp=Z,4μm,22.0s									
CAUP	**Cauayan**	**24.24**	**323**	*e*P			**P**	**15 08 38.5**	**+0.1**
BTM	**Bintulu**	**24.29**	**283**	||P		**P**	**15 08 39.2**	**+0.2**
GRJI	**Gresik**	**24.57**	**259**	P			**P**	**15 08 47.5**	**+6.1**
MBWA	**Marble Bar**	**24.91**	**220**	*e*P			**P**	**15 08 43.9**	**-0.5**
comp=Z,232nm,1.0s									
SBUM	**Sibu**	**24.98**	**281**	||P		**P**	**15 08 47.2**	**+2.1**
SBUM	**Sibu**	**24.98**	**281**	*e*P			**P**	**15 08 44.8**	**-0.4**
comp=Z,68nm,1.3s									
PBKI	**Pangkalan Bun**	**25.04**	**269**	P			**P**	**15 08 48.7**	**+3.0**
PWJI	**Pagerwojo**	**25.43**	**256**	P			**P**	**15 08 49.2**	**0.0**
comp=Z,76nm,0.8s									
NGJI	**Ngawi**	**25.64**	**258**	P			**P**	**15 08 54.5**	**+3.4**
comp=Z,107nm,0.9s									
RMQ	**Roma**	**26.55**	**155**	P			**P**	**15 09 01.0**	**+1.8**
baz=27,SNR=5.4									
EIDS	**Eidsvold**	**26.66**	**150**	P			**P**	**15 09 01.6**	**+1.4**
baz=27,SNR=7.6									
EIDS	**Eidsvold**	**26.66**	**150**	*e*P			**P**	**15 08 59.9**	**-0.3**
comp=Z,74nm,0.9s									
EIDS				LR			LR		
comp=Z,4μm,20.0s									
KSM	**Kuching**	**26.70**	**278**	||P		**P**	**15 09 02.9**	**+2.2**
KSM	**Kuching**	**26.70**	**278**	*e*P			**P**	**15 08 58.8**	**-2.0**
comp=Z,53nm,1.1s									
KPJI	**Karang Pucung**	**28.11**	**259**	P			**P**	**15 09 13.7**	**+0.3**
CISI	**Cisompet, Garu**	**29.24**	**259**	*e*P			**P**	**15 09 21.6**	**-1.9**
comp=Z,77nm,0.8s									
CISI				LR			LR		
comp=Z,2μm,21.0s									
TWG	**Pinlang**	**29.39**	**330**	PFAKE				15 09 40.0	+15
TWG				LR			LR		
comp=Z,9μm,21.0s									
STKA	**Stephens Creek**	**29.63**	**172**	P			**P**	**15 09 26.6**	**-0.1**
comp=Z,17nm,0.8s,baz=346,slow=7.9,SNR=31									
STKA	**Stephens Creek**	**29.63**	**172**	P			**P**	**15 09 27.1**	**+0.4**
baz=30,SNR=46									
STKA	**Stephens Creek**	**29.63**	**172**	*e*P			**P**	**15 09 26.4**	**-0.3**
STKA				pmax			pmax		
comp=Z,10.0nm,1.0s									
STKA				MLR			MLR		
comp=Z,800nm,18.0s									
STKA	**Stephens Creek**	**29.63**	**172**	*e*P			**P**	**15 09 26.4**	**-0.3**
comp=Z,10nm,1.0s									
STKA				LR			LR		
comp=Z,800nm,18.0s									
YULB	**Yu-li**	**29.76**	**330**	PFAKE				15 09 40.0	+12
YULB				LR			LR		
comp=Z,1μm,20.0s									
CBIJ	**Chichi jima**	**29.84**	**10**	PFAKE				15 09 40.0	+11
CBIJ				LR			LR		
comp=Z,3μm,21.0s									
YOJ	**Yonaguni jima**	**29.88**	**334**	PFAKE				15 09 40.0	+11
YOJ				LR			LR		
comp=Z,4μm,22.0s									
TPUB	**Ta-pu**	**30.02**	**329**	PFAKE				15 09 40.0	+10
TPUB				LR			LR		
comp=Z,3μm,21.0s									
CMSA	**Cobar Meteorol**	**30.15**	**165**	P			**P**	**15 09 33.4**	**+2.1**
baz=30,SNR=7.1									
BBOO	**Buckleboo**	**30.21**	**181**	*e*P			**P**	**15 09 31.3**	**-0.5**
comp=Z,41nm,0.8s									
BBOO				LR			LR		
comp=Z,6μm,19.0s									
SSLB	**Sunanglung**	**30.26**	**330**	*e*P			**P**	**15 09 30.7**	**-1.7**
comp=Z,20nm,1.1s									
SSLB				LR			LR		
comp=Z,2μm,20.0s									
NACB	**Ninganchiao**	**30.28**	**332**	*e*P			**P**	**15 09 30.1**	**-2.4**
comp=Z,64nm,1.1s									
HTT	**Hallett**	**30.89**	**176**	P			**P**	**15 09 40.8**	**+2.9**
baz=31,SNR=5.0									
TATO	**Taipei**	**31.01**	**332**	PFAKE				15 09 50.0	+11
TATO				LR			LR		
comp=Z,2μm,20.0s									
ARMA	**Armidale**	**31.20**	**155**	P			**P**	**15 09 44.1**	**+3.4**
baz=31,SNR=12									
ARMA	**Armidale**	**31.20**	**155**	*e*P			**P**	**15 09 40.5**	**-0.2**
comp=Z,27nm,1.0s									
ARMA				LR			LR		
comp=Z,6μm,20.0s									
KMBL	**Kambalda**	**32.00**	**204**	P			**P**	**15 09 48.3**	**+0.7**
baz=32,SNR=7.5									
KWAJ	**Kwajalein Atol**	**32.75**	**70**	PFAKE				15 10 10.0	+16
KWAJ				LR			LR		
comp=Z,4μm,21.0s									
MORW	**Morawa**	**33.00**	**215**	P			**P**	**15 09 56.8**	**+0.4**
baz=33,SNR=16									
MYKOM	**Kota Tinggi**	**33.14**	**277**	*e*P			**P**	**15 09 56.1**	**-1.8**
comp=Z,33nm,1.0s									
MYKOM				LR			LR		
comp=Z,2μm,21.0s									
YNG	**Young**	**33.51**	**162**	P			**P**	**15 10 02.8**	**+2.0**
baz=34,SNR=7.5									
MNAI	**Manna**	**33.77**	**266**	PFAKE				15 10 10.0	+6.7
MNAI				LR			LR		
comp=Z,2μm,21.0s									
BLDU	**Ballidu**	**33.83**	**212**	P			**P**	**15 10 04.1**	**+0.5**
baz=34,SNR=21									
QIZ	**Qiongzhong**	**33.98**	**310**	P			**P**	**15 10 05.8**	**+0.7**
QIZ				S			**S**	**15 15 33.3**	**+4.6**
QIZ				LN					
comp=Z,2μm,25.5s									
QIZ				LE					
comp=Z,2μm,23.7s									
QIZ				LZ					
comp=Z,2μm,20.5s									
KLBR	**Kellerberrin**	**34.07**	**210**	P			**P**	**15 10 06.2**	**+0.5**
baz=34,SNR=34									
ARPS	**Mount Arapiles**	**34.48**	**173**	P			**P**	**15 10 11.0**	**+1.8**
baz=35,SNR=10									
CAN	**Canberra**	**34.64**	**162**	*e*P			**P**	**15 10 10.0**	**-0.6**
CAN				pmax			pmax		
comp=Z,32nm,1.0s									
CAN				MLR			MLR		
comp=Z,4μm,18.0s									
CAN	**Canberra**	**34.64**	**162**	*e*P			**P**	**15 10 10.0**	**-0.6**
comp=Z,32nm,1.0s									
CAN				LR			LR		
comp=Z,4μm,18.0s									
CNB	**Canberra Magne**	**34.75**	**162**	P			**P**	**15 10 15.2**	**+3.6**
baz=35,SNR=5.5									
DZM	**Mont Dzumac**	**34.84**	**126**	*e*P			P	15 10 22.8	+10
comp=Z,112nm,1.3s									
DZM				eLR			LR	15 19 44.0	
comp=Z,6μm,27.2s									
DZM	**Mont Dzumac**	**34.84**	**126**	LR			LR	15 24 26.3	
comp=Z,2μm,21.4s,baz=286,slow=36									
NWAO	**Narrogin (SRO)**	**35.41**	**209**	P			**P**	**15 10 17.4**	**+0.1**
comp=Z,41nm,0.9s,baz=265,slow=9.9,SNR=13									
NWAO	**Narrogin (SRO)**	**35.41**	**209**	P			**P**	**15 10 18.2**	**+1.0**
baz=36,SNR=10									
NWAO	**Narrogin (SRO)**	**35.41**	**209**	*e*P			**P**	**15 10 16.5**	**-0.8**
NWAO				pmax			pmax		
comp=Z,4.0nm,1.0s									
NWAO				MLR			MLR		
comp=Z,4μm,20.0s									
NWAO	**Narrogin (SRO)**	**35.41**	**209**	*e*P			**P**	**15 10 16.5**	**-0.8**
comp=Z,3.6nm,1.0s									
NWAO				LR			LR		
comp=Z,4μm,20.0s									
JHJ	**Hachijo jima 2**	**35.49**	**4**	LR			LR	15 21 47.1	
comp=Z,2μm,20.4s,baz=140,slow=31									
UBPT	**Khong Chiam**	**35.60**	**301**	P			**P**	**15 10 19.4**	**+0.3**
comp=Z,30nm,1.2s									
LHI	**Lord Howe Isla**	**35.78**	**146**	PFAKE				15 10 30.0	+10
LHI				LR			LR		
comp=Z,3μm,18.0s									
BKNI	**Bangkinang**	**35.79**	**274**	PFAKE				15 10 30.0	+9.2
BKNI				LR			LR		
comp=Z,2μm,22.0s									
JNU	**Nakatsue**	**35.80**	**352**	P			**P**	**15 10 20.1**	**-0.6**
comp=Z,57nm,0.9s,baz=152,slow=4.4,SNR=12									
JNU				LR			LR	15 23 05.6	
comp=Z,3μm,21.2s,baz=108,slow=33									
JNU	**Nakatsue**	**35.80**	**352**	*e*P			**P**	**15 10 19.9**	**-0.8**
comp=Z,88nm,1.0s									
TOO	**Toolangi**	**35.87**	**168**	P			**P**	**15 10 25.7**	**+4.5**
baz=36,SNR=4.7									
TARA	**Tarawa**	**36.38**	**84**	PFAKE				15 10 40.0	+14
TARA				LR			LR		
comp=Z,2μm,19.0s									
KULM	**Kulim**	**36.85**	**282**	||P		**P**	**15 10 30.1**	**+0.2**
KULM	**Kulim**	**36.85**	**282**	*e*P			**P**	**15 10 29.1**	**-0.8**
comp=Z,36nm,1.3s									
SKNT	**Sakolnakorn**	**37.64**	**302**	P			**P**	**15 10 36.4**	**-0.1**
comp=Z,67nm,0.9s									
SRAK	**Srakaew**	**38.08**	**296**	P			**P**	**15 10 37.6**	**-2.6**
PSI	**Prapat**	**38.15**	**278**	*e*P			**P**	**15 10 39.9**	**-1.1**
PSI				pmax			pmax		
comp=Z,59nm,1.0s									
PSI				MLR			MLR		
comp=Z,2μm,21.0s									
PSI	**Prapat**	**38.15**	**278**	*e*P			**P**	**15 10 39.9**	**-1.1**
comp=Z,59nm,1.0s									
PSI				LR			LR		
comp=Z,2μm,21.0s									
NJ2	**Nanjing**	**38.27**	**335**	*e*P			**P**	**15 10 42.3**	**+0.7**
NJ2				PMZ					
comp=Z,30nm,0.9s									
TRTT	**

CMMT **Chiang Mai** 42.74 301 P **P** 15 11 19.1 +0.2
comp=Z,22nm,1.7s
KMI **Kunming** 42.86 312 P **P** 15 11 21.5 +1.6
KMI pP pP 15 11 24.3 -4.1
KMI PP **PcP** 15 13 05.5 -5.3
KMI S **S** 15 17 46.0 +2.8
KMI PMZ
comp=Z,25nm,1.1s
KMI PMZ
comp=Z,200nm,4.5s
KMI LN
comp=Z,600nm,15.9s
KMI LE
comp=Z,580nm,14.6s
KMI LZ
comp=Z,680nm,17.8s
MSVF **Nonsavu** 43.28 113*c i*P **P** 15 11 25.1 +1.8
MSVF pmax pmax
comp=Z,59nm,1.2s
ERM **Erimo** 44.63 7*ce*P **P** 15 11 34.7 +1.1
ERM pmax pmax
comp=Z,33nm,1.7s
ERM **Erimo** 44.63 7 *e*P **P** 15 11 33.1 -0.5
comp=Z,20nm,0.8s
XAN **Xi'an** 44.75 327 P **P** 15 11 34.8 0.0
XAN pP pP 15 11 41.3 -1.9
XAN PMZ
comp=Z,29nm,1.3s
VLA **Vladivostok** 45.56 355⇑*i*P **P** 15 11 39.9 -1.1
VLA *i**PP **pP** 15 11 49.8 +0.3
VLA *e**SP **sP** 15 11 53.7 +0.8
VLA *e* 15 13 16.8
VLA *eS* **S** 15 18 19.2 -2.3
VLA pmax pmax
comp=Z,44nm,1.1s
SNY **Shenyang** 45.66 346⇓P **P** 15 11 42.0 +0.3
SNY S **S** 15 18 30.5 +7.6
SNY PMZ
comp=Z,46nm,1.5s
SNY LN
comp=Z,1μm,18.9s
SNY LE
comp=Z,1μm,17.5s
SNY LZ
comp=Z,2μm,18.2s
CD2 **Chengdu** 45.67 319 *e*P **P** 15 11 41.8 -0.4
CD2 PcS **PcS** 15 17 13.5 -0.9
CD2 S **S** 15 18 25.5 +1.9
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,5.4s
BJT **Baijiatuau** 46.27 338 *e*P **P** 15 11 46.2 -0.5
BJT pmax pmax
comp=Z,44nm,1.0s
BJT **Baijiatuau** 46.27 338 *e*P **P** 15 11 46.2 -0.5
comp=Z,44nm,1.0s
BJI **Beijing** 46.29 338 P **P** 15 11 46.5 -0.3
BJI S **S** 15 18 31.8 -0.2
BJI PMZ
comp=Z,38nm,1.0s
BJI LN
comp=Z,1μm,16.9s
BJI LE
comp=Z,2μm,24.7s
BJI LZ
comp=Z,2μm,25.0s
USRK **Ussuriysk Ar.** 46.63 355 P **P** 15 11 49.6 +0.2
comp=Z,11nm,1.0s,baz=178,slow=7.6,SNR=17
USRK LR LR 15 28 30.4
comp=Z,2μm,20.3s,baz=113,slow=32
ASAJ **Asahikawa** 46.65 6 *e*P **P** 15 11 48.0 -1.5
comp=Z,253nm,2.0s
CN2 **Changchun** 47.14 349⇑P **P** 15 11 54.0 +0.6
CN2 *es*P pP 15 12 00.5 -1.4
CN2 *eS* **S** 15 18 44.5 +0.4
CN2 PMZ
comp=Z,20nm,0.7s
CN2 PMZ
comp=Z,400nm,4.0s
CN2 LN
comp=Z,2μm,18.0s
CN2 LE
comp=Z,1μm,18.0s
CN2 LZ
comp=Z,2μm,19.0s
OUZ **Omahuta** 47.25 138 PFAKE 15 12 10.0 +16
OUZ LR LR
comp=Z,2μm,20.0s
MDJ **Mudanjiang** 47.28 353 P **P** 15 11 54.8 +0.3
MDJ PMZ
comp=Z,32nm,0.7s
MDJ PMZ
comp=Z,280nm,6.8s
MDJ **Mudanjiang** 47.28 353 *e*P **P** 15 11 52.7 -1.8
comp=Z,30nm,0.9s
KUR **Kuril'sk** 48.49 10⇑*e*P **P** 15 12 04.8 +1.0
HHC **Hu-ho-hao-te** 48.82 335 *e*P **P** 15 12 07.3 +0.7
HHC S **S** 15 19 09.5 +1.2
HHC PMZ
comp=Z,27nm,1.0s
HHC PMZ
comp=Z,510nm,7.5s
HHC LN
comp=Z,1μm,16.1s
HHC LE
comp=Z,800nm,16.7s
HHC LZ
comp=Z,2μm,18.8s
LZH **Lanzhou** 49.10 324⇑P **P** 15 12 10.3 +1.4
LZH pP pP 15 12 16.0 -1.5
LZH sP sP 15 12 19.3 -1.5
LZH PP **PP** 15 14 04.5 +1.7
LZH S **S** 15 19 13.3 +0.8
LZH sS sS 15 19 24.0 -2.6
LZH SS **SS** 15 22 41.0 -3.0
LZH PMZ
comp=Z,75nm,1.0s
LZH PMZ
comp=Z,370nm,7.2s
LZH LN
comp=Z,2μm,17.0s
LZH LE
comp=Z,2μm,16.2s
LZH LZ
comp=Z,2μm,17.5s
YSS **Yuzh-Sakhalins** 49.48 5⇑*i*P **P** 15 12 11.3 0.0
YSS pmax pmax
comp=Z,60nm,0.8s
YSS **Yuzh-Sakhalins** 49.48 5 *e*P **P** 15 12 10.3 -1.0
comp=Z,61nm,0.9s
HABR **Khabarovsk** 50.73 359*de*P **P** 15 12 19.0 -1.8
HABR *e**PP **pP** 15 12 29.0 -0.4
HABR *e**SP **sP** 15 12 33.3 +0.5
HABR *e* 15 13 35.5
HABR *e* 15 14 15.5
HABR *e*PPP PPP 15 15 13.6
HABR *eS* **S** 15 19 32.9 -1.5
HABR *e**SS **sS** 15 19 50.0 +1.4
HABR *e* 15 22 06.9
HABR *eSS* **SS** 15 23 09.0 -0.3
HABR *eSSS* SSS 15 24 41.2
HABR pmax pmax
comp=N,34nm,1.4s
HABR pmax pmax
comp=E,32nm,1.4s
HABR pmax pmax
comp=Z,91nm,1.4s
HABR MLR MLR
comp=Z,574nm,18.0s
THZ **Tophouse** 50.84 145 *e*P **P** 15 12 21.8 -0.2
comp=Z,227nm,1.9s
THZ LR LR
comp=Z,4μm,19.0s
MLZ **Mavora Lakes** 50.85 152 *e*P **P** 15 12 23.4 +1.5
comp=Z,38nm,0.9s
WKZ **Wanaka** 50.89 151 *e*P **P** 15 12 22.9 +0.7
comp=Z,203nm,1.8s
RPZ **Rata Peaks** 51.14 148 *e*P **P** 15 12 24.5 +0.4
comp=Z,168nm,1.4s
RPZ LR LR
comp=Z,4μm,18.0s
LBZ **Lake Benmore** 51.16 150 *e*P **P** 15 12 25.1 +0.9
comp=Z,40nm,0.9s
LTZ **Lake Taylor** 51.16 147 *e*P **P** 15 12 24.1 -0.2
comp=Z,65nm,1.1s
LTZ LR LR
comp=Z,3μm,20.0s
WHZ **Wether Hill Ro** 51.16 152 *e*P **P** 15 12 23.4 -0.8
comp=Z,43nm,1.1s
URZ **Urewera** 51.30 139 *e*P **P** 15 12 25.1 -0.2
comp=Z,98nm,1.3s
URZ LR LR
comp=Z,4μm,18.0s
OXZ **Oxford** 51.39 147 *e*P **P** 15 12 26.1 +0.1
comp=Z,40nm,1.1s
BKZ **Black Stump Fm** 51.41 140 *e*P **P** 15 12 27.5 +1.2
comp=Z,49nm,0.8s
BKZ LR LR
comp=Z,3μm,20.0s
SHL **Shillong** 51.57 306 *e*P **P** 15 12 27.0 -0.8
SHL IAmb IAmb 15 12 36.6
comp=Z,27nm,1.1s
SNZO **South Karori** 51.60 144 PFAKE 15 12 40.0 +12
SNZO LR LR
comp=Z,3μm,19.0s
KHZ **Kahutara** 51.62 146 *e*P **P** 15 12 28.5 +0.9
comp=Z,40nm,0.8s
KLR **Kul'dur** 51.65 356 LR LR 15 32 24.2
comp=Z,2μm,20.4s,slow=34
KLR **Kul'dur** 51.65 356*c i*P **P** 15 12 27.7 0.0
AFI **Afiamalu** 52.11 106 LR LR 15 33 16.8
comp=Z,1μm,21.4s,baz=290,slow=34
AFI **Afiamalu** 52.11 106 *e*P **P** 15 12 31.7 -0.1
AFI pmax pmax
comp=Z,108nm,1.0s
AFI **Afiamalu** 52.11 106 *e*P **P** 15 12 31.7 -0.1
comp=Z,108nm,1.0s
BFZ **Birch Farm** 52.14 142 PFAKE 15 12 40.0 +8.4
BFZ LR LR
comp=Z,2μm,18.0s
TYV **Tymovskoe** 53.34 5 *e*P **P** 15 12 37.2 -3.0
TYV pmax pmax
comp=N,22nm,1.0s
MIDW **Midway** 53.58 52 PFAKE 15 12 50.0 +7.6
MIDW LR LR
comp=Z,2μm,19.0s
GTA **Gaotai** 53.70 325⇑P **P** 15 12 44.5 +1.2
GTA pP pP 15 12 49.0 -2.9
GTA sP sP 15 12 51.5 -3.8
GTA S **S** 15 20 17.0 +1.2
GTA PMZ
comp=Z,48nm,1.3s
GTA PMZ
comp=Z,760nm,6.4s
GTA LN
comp=Z,690nm,20.4s
GTA LE
comp=Z,620nm,20.4s
GTA LZ
comp=Z,910nm,19.0s
LSA **Lhasa** 54.02 310 P **P** 15 12 47.5 +1.3
LSA PMZ
comp=Z,15nm,1.3s
LSA **Lhasa** 54.02 310 *e*P **P** 15 12 46.9 +0.7
LSA pmax pmax
comp=Z,107nm,1.9s
LSA **Lhasa** 54.02 310 *e*P **P** 15 12 46.9 +0.7
comp=Z,107nm,1.9s
BWNR **Bhubaneshwar** 54.79 297 *e*P **P** 15 12 51.5 +0.1
BWNR IAmb IAmb 15 12 53.2
comp=Z,250nm,2.5s
BOK **Bokaro** 55.88 301 *e*P **P** 15 12 58.6 -0.6
BOK IAmb IAmb 15 13 11.7
comp=Z,13nm,0.6s
ULN **Ulaanbaatar** 56.41 336*ce*P **P** 15 13 03.3 +0.5
ULN pmax pmax
comp=Z,34nm,1.7s
ULN **Ulaanbaatar** 56.41 336 *e*P **P** 15 13 02.9 +0.1
comp=Z,33nm,1.3s
SONM **Songino Array** 56.66 336 P **P** 15 13 05.1 +0.6
comp=Z,7.6nm,0.8s,baz=149,slow=7.9,SNR=26
SONM LR LR 15 38 34.0
comp=Z,1μm,19.4s,baz=142,slow=37
SONA1 **Songino Array** 56.66 336 *e*P **P** 15 13 04.5 -0.1
PALK **Pallekele** 56.73 280 PFAKE 15 13 20.0 +14
PALK LR LR
comp=Z,1μm,21.0s
GUN **Gumba** 57.42 305 *e*P **P** 15 13 11.0 +0.5
comp=Z,88nm,0.8s
PKIN **Phulchoki** 57.69 305 *e*P **P** 15 13 12.7 +0.4
comp=Z,37nm,0.9s
CIT **Chita** 57.71 343 *e*P **P** 15 13 09.8 -1.9
CIT *e* 15 13 18.6
CIT *e* 15 13 28.2
CIT pmax pmax
comp=Z,116nm,1.5s
KKN **Kakani** 57.86 305 *e*P **P** 15 13 14.3 +0.8
comp=Z,123nm,1.1s
DMN **Daman** 57.94 305 *e*P **P** 15 13 15.0 +1.0
comp=Z,86nm,0.9s
PEA0 **Petropavlovsk-** 58.09 15 *e*P **P** 15 13 14.8 +0.5
PEA0B **Petropavlovsk-** 58.09 15 *e*P **P** 15 13 15.1 +0.8
comp=Z,68nm,1.2s
PETK **Petropavlovsk-** 58.09 15 P **P** 15 13 15.1 +0.8
comp=Z,25nm,0.9s,baz=178,slow=5.8,SNR=22
PETK PcP **PcP** 15 14 07.3 +1.5
comp=Z,9.6nm,1.1s,baz=135,slow=3.2,SNR=4.8
PET **Petropavlovsk** 58.26 15⇓*i*P **P** 15 13 16.2 +0.8
PET *eS* **S** 15 21 13.9 -1.7
PET pmax pmax
comp=Z,64nm,1.3s
PET **Petropavlovsk** 58.26 15 *e*P **P** 15 13 16.0 +0.6
comp=Z,96nm,1.3s
GKN **Gorkha** 58.47 305 *e*P **P** 15 13 18.6 +0.9
comp=Z,243nm,1.0s
KOLN **Koldanda** 59.23 304 *e*P **P** 15 13 24.3 +1.3
comp=Z,120nm,0.9s
PYUN **Piuthan** 59.86 305 *e*P **P** 15 13 28.6 +1.3
comp=Z,511nm,0.8s
ZAK **Zakamensk** 59.92 336 *e*P **P** 15 13 27.0 -0.2
ZAK pmax pmax
comp=Z,40nm,1.3s
HYB **Hyderabad** 60.64 291 *i*P **P** 15 13 33.0 +0.3
HYB **Hyderabad** 60.64 291 *e*P **P** 15 13 32.9 +0.3
HYB IAmb IAmb 15 13 37.3
comp=Z,36nm,1.2s
TLY **Talaya** 60.79 337 LR LR 15 39 10.0
comp=Z,1μm,21.7s,baz=135,slow=35
TLY **Talaya** 60.79 337*c i*P **P** 15 13 33.8 +0.8
TLY pmax pmax
comp=Z,13nm,0.6s
TLY **Talaya** 60.79 337 *e*P **P** 15 13 32.5 -0.5
comp=Z,107nm,2.0s
IRK **Irkutsk** 60.99 338 *e*P **P** 15 13 33.0 -1.4
IRK pmax pmax
comp=Z,96nm,2.2s
MOY **Mondy** 61.84 336 *e*P **P** 15 13 41.3 +1.1
MOY pmax pmax
comp=Z,83nm,2.0s
BOD **Bodaibo** 62.78 347 *e*P **P** 15 13 45.2 -1.1
BOD pmax pmax
comp=Z,40nm,1.9s
MA2 **Magadan** 62.82 8 LR LR 15 37 59.3
comp=Z,427nm,21.5s,baz=216,slow=33
MA2 **Magadan** 62.82 8⇑*e*P **P** 15 13 48.1 +1.6
BHPL **Bhopal** 63.10 298 *e*P **P** 15 13 49.7 +0.6
BHPL IAmb IAmb 15 13 50.0
comp=Z,29nm,0.7s
WMQ **Urumqi** 63.59 322 P **P** 15 13 52.5 +0.5
WMQ pP pP 15 13 56.8 -4.0
WMQ sP sP 15 13 58.8 -5.3
WMQ PMZ
comp=Z,33nm,0.7s
WMQ LN
comp=Z,400nm,19.3s
WMQ LE
comp=Z,270nm,17.7s
WMQ LZ
comp=Z,280nm,23.9s
YAK **Yakutsk** 64.53 356 LR LR 15 40 20.0
comp=Z,1μm,20.2s,baz=176,slow=34
YAK **Yakutsk** 64.53 356*c i*P **P** 15 13 57.8 +0.1
YAK pmax pmax
comp=Z,83nm,0.8s
YAK pmax pmax
comp=N,35nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK **Yakutsk** 64.53 356 *e*P **P** 15 13 57.7 +0.1
comp=E,122nm,0.8s
DDI **Dehra Dun** 64.67 305 *e*P **P** 15 14 00.8 +1.4
NDI **New Delhi** 64.84 303 *ex* P 15 13 54.0 -6.4
POO **Poona** 65.25 292 *e*P **P** 15 14 02.6 -0.7
POO *e*P **pP** 15 14 07.0 -5.1
SMLA **Simla** 65.66 306 *e*P **P** 15 14 06.5 +0.9
SEY **Seymchan** 66.27 8*ce*P **P** 15 14 10.3 +1.4
CASY **Casey** 66.33 191 *e*P **P** 15 14 09.4 +0.1
comp=E,41nm,1.3s
CASY LR LR
comp=Z,2μm,20.0s
MK01 **Makanchi Array** 68.36 323 *e*P **P** 15 14 22.9 +0.3
MK31 **Makanchi Array** 68.38 323 *e*P **P** 15 14 23.1 +0.4
MK31 **Makanchi Array** 68.38 323 *e*P **P** 15 14 23.1 +0.4
MKAR **Makanchi Array** 68.38 323 P **P** 15 14 23.3 +0.6
comp=Z,21nm,0.7s,baz=114,slow=8.2,SNR=202
MKAR PKP2bc 15 42 40.6
comp=Z,1.2nm,1.0s,baz=274,slow=1.2,SNR=5.7
MKAR LR LR 15 45 25.8
comp=Z,528nm,21.4s,baz=94,slow=37
MKAR **Makanchi Array** 68.38 323 *e*P **P** 15 14 22.8 0.0
MKAR **Makanchi Array** 68.38 323 *e*P **P** 15 14 22.8 0.0
MKAR ⇑*e* 15 42 40.6
MAKZ **Makanchi** 68.58 323 *e*P **P** 15 14 24.2 +0.2
MAKZ pmax pmax
comp=Z,33nm,0.8s
MAKZ **Makanchi** 68.58 323 *e*P **P** 15 14 24.1 +0.2
comp=Z,33nm,0.8s
KSH **Kashi** 69.47 314 P **P** 15 14 32.0 +2.2
KSH pP pP 15 14 35.0 -3.6
KSH PcP **PcP** 15 14 55.3 +2.3
KSH PP **PP** 15 17 07.0 +3.4
KSH S **S** 15 23 37.8 +2.0
KSH ScS **SKSac** 15 24 28.3 -0.3
KSH SS **SS** 15 28 09.0 +5.3
KSH PMZ
comp=Z,37nm,1.1s
KSH PMZ
comp=Z,170nm,2.7s
KSH LN
comp=Z,420nm,11.5s
KSH LE
comp=Z,270nm,10.7s
KSH LZ
comp=Z,580nm,17.2s
ZAA0 **Zalesovo Array** 70.72 330 *e*P **P** 15 14 36.0 -0.9
ZALV **Zalesovo Beam** 70.72 330 P **P** 15 14 36.4 -0.6
comp=Z,20nm,0.8s,baz=112,slow=6.1,SNR=72
MIR **Mirnyy** 70.86 197 *e*P **P** 15 14 38.5 +0.9
MIR pmax pmax
comp=Z,4.0nm,1.2s
TKM2 **Tokmak 2** 71.00 317 *e*P **P** 15 14 39.5 +0.3
TKM2 pmax pmax
comp=Z,14nm,0.9s
TKM2 MLR MLR
comp=Z,600nm,19.0s
TKM2 **Tokmak 2** 71.00 317 *e*P **P** 15 14 39.5 +0.3
comp=Z,14nm,0.9s
TKM2 LR LR
comp=Z,600nm,19.0s
FRU **Bishkek** 71.64 317 *e*P **P** 15 14 43.0 +0.2
FRU pmax pmax
comp=Z,78nm,2.3s
AAK **Ala-Archa** 71.65 317*c i*P **P** 15 14 42.3 -0.8
AAK pmax pmax
comp=Z,20nm,1.0s
AAK **Ala-Archa** 71.65 317 *e*P **P** 15 14 43.2 +0.1
comp=Z,13nm,1.1s
NVS **Novosibirsk** 71.99 331 *i*P **P** 15 14 44.4 -0.2
NVS pmax pmax
comp=N,26nm,1.0s
NVS pmax pmax
comp=E,13nm,1.0s
NVS pmax pmax
comp=Z,48nm,1.0s
EKS2 **Erkin-Say** 72.15 316 *e*P **P** 15 14 46.5 +0.5
EKS2 pmax pmax
comp=Z,17nm,0.9s
EKS2 **Erkin-Say** 72.15 316 *e*P **P** 15 14 46.5 +0.5
comp=Z,17nm,0.9s
KURK **Kurchatov** 72.37 326*c i*P **P** 15 14 46.9 -0.1
KURK pmax pmax
comp=Z,129nm,1.0s
KURK **Kurchatov** 72.37 326 *e*P **P** 15 14 46.5 -0.4
comp=Z,105nm,0.9s
KBL **Kabul** 73.19 307 *e*P **P** 15 14 52.0 -0.5
KBL pmax pmax
comp=Z,22nm,0.8s
KBL **Kabul** 73.19 307 *e*P **P** 15 14 52.0 -0.5
comp=Z,22nm,0.8s
BILL **Bilibino** 73.28 11 *e*P **P** 15 14 51.2 -0.8
BILL *e* 15 15 04.6
BILL *e* 15 17 36.0
BILL pmax pmax
comp=Z,11nm,1.2s
BILL MLR MLR
comp=Z,526nm,20.0s
PPT **Papeete** 73.72 107 LR LR 15 45 12.6
comp=Z,242nm,21.5s,baz=272,slow=34
PPT2 **Papeete2** 73.72 108 *e*LQ LQ 15 34 38.6
comp=Z,4μm,36.2s
PPT2 *e*LR LR 15 37 46.4
comp=Z,2μm,25.0s
TIXI **Tiksi** 74.14 357*c i*P **P** 15 14 55.8 -1.2
TIXI pmax pmax
comp=Z,14nm,0.8s
TIXI **Tiksi** 74.14 357 *e*P **P** 15 14 55.9 -1.0
comp=Z,15nm,0.9s
TIXI LR LR
comp=Z,1μm,22.0s
TBI **Tubuai** 74.17 113 *e*LQ LQ 15 34 51.0
comp=Z,2μm,33.2s
TBI *e*LR LR 15 37 58.6
comp=Z,2μm,35.5s
KK31 **Karatay Array** 74.56 316 *i*P **P** 15 15 00.3 +0.2
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR **Karatay Array** 74.56 316 *e*P **P** 15 14 59.5 -0.6
KKAR **Karatay Array** 74.56 316 *e*P **P** 15 14 59.5 -0.6
VNDA **Vanda** 76.22 175 P **P** 15 15 09.5 +0.6
comp=Z,14nm,1.1s,baz=325,slow=5.8,SNR=34
VNDA LR LR 15 48 34.6
comp=Z,3μm,18.5s,baz=351,slow=36
VNDA **Vanda** 76.22 175 *e*P **P** 15 15 09.4 +0.4
VNDA pmax pmax
comp=Z,12nm,0.9s
VNDA **Vanda** 76.22 175 *e*P **P** 15 15 09.4 +0.4
comp=Z,12nm,0.9s
SDPT **Sand Point** 76.93 31 PFAKE 15 15 20.0 +6.7
SDPT LR LR
comp=Z,800nm,20.0s
SBA **Scott Base** 77.02 174 *e*P **P** 15 15 15.5 +2.1
SBA pmax pmax
comp=Z,15nm,1.0s
SBA MLR MLR
comp=Z,2μm,20.0s
SBA **Scott Base** 77.02 174 *e*P **P** 15 15 15.5 +2.1
comp=Z,15nm,1.0s
SBA LR LR
comp=Z,2μm,20.0s
VOSK **Vostochnaya** 77.53 325 *e*P **P** 15 15 16.1 -0.7
VOSK pmax pmax
comp=Z,15nm,0.8s
VOSK **Vostochnaya** 77.53 325 *e*P **P** 15 15 16.1 -0.7
comp=Z,15nm,0.8s
BVA0 **Borovoye Array** 77.97 326 *i*P **P** 15 15 19.2 0.0
BVA0 pmax pmax
comp=Z,21nm,0.8s
BVAR **Borovoye Array** 77.97 326 LR LR 15 53 21.4
comp=Z,303nm,18.0s,baz=100,slow=38
BRVK **Borovoye** 78.04 326*ce*P **P** 15 15 19.8 +0.2
BRVK pmax pmax
comp=Z,102nm,0.9s
BRVK **Borovoye** 78.04 326 *e*P **P** 15 15 19.5 -0.1
comp=Z,86nm,0.8s
CHKZ **Chkalovo** 78.08 326 P **P** 15 15 19.2 -0.5
CHKZ pmax pmax
comp=Z,18nm,0.8s
CHGN **Chignik** 78.38 31 *e*P **P** 15 15 21.1 -0.2
ZRNK **Zerenda** 78.73 325 *e*P **P** 15 15 23.1 -0.3
ZRNK pmax pmax
comp=Z,23nm,0.9s
ZRNK **Zerenda** 78.73 325 *e*P **P** 15 15 23.1 -0.3
comp=Z,23nm,0.9s
NRIK **Noril'sk** 78.92 344 P **P** 15 15 24.5 +0.4
comp=Z,30nm,0.8s,baz=128,slow=5.8,SNR=66
NRIK LR LR 15 52 39.3
comp=Z,542nm,19.5s,baz=128,slow=38

MRIV	Mauritius Mete	79.06	250	*e*P		P		15 15 24.7	-1.2
WSAR	Wadi Sarin	80.05	294	LR		LR		15 53 27.2	
	comp=Z,274nm,21.1s,slow=38								
OHAK	Old Harbor	81.34	31	*e*P		P		15 15 37.9	+0.5
	comp=Z,58nm,0.9s								
OHAK				LR		LR			
	comp=Z,1μm,20.0s								
SVW2	Sparrevohn	81.53	27	*e*P		P		15 15 39.1	+0.7
	comp=Z,25nm,1.1s								
SVW2				LR		LR			
	comp=Z,700nm,19.0s								
MAW	Mawson	81.63	202	P		P		15 15 39.5	+0.8
	comp=Z,9.0nm,1.0s,baz=80,slow=6.2,SNR=10								
MAW				LR		LR		15 51 50.4	
	comp=Z,936nm,18.1s,baz=66,slow=36								
MAW	Mawson	81.63	202	P		P		15 15 40.7	+2.0
	baz=82,SNR=9.9								
MAW	Mawson	81.63	202	*e*P		P		15 15 40.3	+1.5
MAW				pmax		pmax			
	comp=Z,4.0nm,1.0s								
MAW	Mawson	81.63	202	*e*P		P		15 15 40.3	+1.5
	comp=Z,4.0nm,1.0s								
KDAK	Kodiak Island	81.88	31	*e*P		P		15 15 40.8	+0.6
KDAK				pmax		pmax			
	comp=Z,59nm,0.9s								
KDAK				MLR		MLR			
	comp=Z,1μm,20.0s								
KDAK	Kodiak Island	81.88	31	*e*P		P		15 15 40.8	+0.6
KDAK	comp=Z,59nm,0.9s								
				LR		LR			
	comp=Z,1μm,20.0s								
TT01	Tatalina	82.00	25	*e*P		P		15 15 41.5	+0.8
TTA	Tatalina	82.01	25	*e*P		P		15 15 41.8	+0.9
TTA				pmax		pmax			
	comp=Z,18nm,1.0s								
TTA				MLR		MLR			
	comp=Z,700nm,21.0s								
TTA	Tatalina	82.01	25	*e*P		P		15 15 41.8	+0.9
	comp=Z,18nm,1.0s								
TTA				LR		LR			
	comp=Z,700nm,21.0s								
GEYT	Alibeck	82.53	309	P		P		15 15 45.2	+1.0
	comp=Z,10nm,1.0s,baz=146,slow=2.9,SNR=23								
GEYT				LR		LR		15 53 59.7	
	comp=Z,399nm,21.8s,baz=40,slow=37								
TAOE	Nuku Hiva Isla	82.83	99	*e*LR		LR		15 42 01.4	
	comp=Z,123nm,1.8s								
CNPM	China Poot	83.07	29	*e*P		P		15 15 45.9	-0.6
	comp=Z,123nm,1.8s								
SPU	Mount Spurr	83.17	28	*e*P		P		15 15 45.1	-1.9
AB31	Akbulak array	83.25	320	*i* P		P		15 15 47.1	-0.5
AB31				pmax		pmax			
	comp=Z,7.0nm,0.9s								
ABKAR	Akbulak array	83.25	320	*e*P		P		15 15 46.7	-0.9
BRLK	Bradley Lake	83.31	29	*e*P		P		15 15 47.1	-0.6
	comp=Z,24nm,1.2s								
PPLA	Purkeypile	83.64	26	*e*P		P		15 15 49.6	+0.1
	comp=Z,52nm,1.4s								
SUA	Susitna One	83.86	27	*e*P		P		15 15 50.2	-0.4
	comp=Z,130nm,2.0s								
SEW	Seward	84.10	29	*e*P		P		15 15 51.6	0.0
	comp=Z,35nm,1.2s								
RC01	Rabbit Creek A	84.22	28	*e*P		P		15 15 52.0	-0.3
	comp=Z,34nm,0.8s								
KTH	Kantishna Hill	84.39	25	*e*P		P		15 15 52.5	-0.7
	comp=Z,21nm,1.0s								
SVE	Sverdlovsk	84.46	328	*de*P		P		15 15 54.0	+0.4
SVE				*e*S		S		15 26 14.3	-3.8
SVE				pmax		pmax			
	comp=Z,38nm,1.5s								
BPAW	Bear Paw Mtn.	84.52	25	*e*P		P		15 15 53.8	0.0
	comp=Z,21nm,1.6s								
TRF	Thorofare Moun	84.63	26	*e*P		P		15 15 54.0	-0.6
	comp=Z,8.6nm,0.8s								
PMR	Palmer	84.64	28	*e*P		P		15 15 54.0	-0.4
PMR				pmax		pmax			
	comp=Z,26nm,1.0s								
PMR	Palmer	84.64	28	*e*P		P		15 15 54.0	-0.4
	comp=Z,26nm,1.0s								
AKTO	Aktyubinsk	84.69	321	P		P		15 15 54.4	-0.6
AKTO				pmax		pmax			
	comp=Z,8.0nm,0.8s								
MLY	Manley	84.90	24	*e*P		P		15 15 55.5	-0.2
	comp=Z,21nm,0.8s								
SML	Sawmill	85.06	27	*e*P		P		15 15 56.5	-0.1
SML				pmax		pmax			
	comp=Z,54nm,1.0s								
SML	Sawmill	85.06	27	*e*P		P		15 15 56.5	-0.1
	comp=Z,54nm,1.0s								
BWN	Browne	85.18	25	*e*P		P		15 15 56.9	-0.2
	comp=Z,29nm,0.9s								
RND	Reindeer	85.24	26	*e*P		P		15 15 56.9	-0.6
RND				pmax		pmax			
	comp=Z,34nm,0.8s								
RND	Reindeer	85.24	26	*e*P		P		15 15 56.9	-0.6
	comp=Z,34nm,0.8s								
MCK	McKinley	85.29	25	*e*P		P		15 15 57.1	-0.6
MCK				pmax		pmax			
	comp=Z,20nm,1.0s								
MCK	McKinley	85.29	25	*e*P		P		15 15 57.1	-0.6
	comp=Z,20nm,1.0s								
ARU	Arti	85.49	327	*c i*P		P		15 15 57.9	-0.9
ARU								15 19 11.7	
ARU				PPP		PPP		15 21 10.6	
ARU				S		S		15 26 20.0	-8.4
ARU				SS		SS		15 32 02.0	-2.2
ARU				pmax		pmax			
	comp=Z,16nm,1.0s								
ARU	Arti	85.49	327	*e*P		P		15 15 57.7	-1.1
	comp=Z,13nm,0.9s								
SCM	Sheep Creek Mo	85.53	27	*e*P		P		15 15 59.0	0.0
SCM				pmax		pmax			
	comp=Z,42nm,1.0s								
SCM	Sheep Creek Mo	85.53	27	*e*P		P		15 15 59.0	0.0
	comp=Z,42nm,1.0s								
COLD	Coldfoot	85.74	22	*e*P		P		15 16 00.8	+1.0
	comp=Z,57nm,1.0s								
DHY	Denali Highway	85.81	26	*e*P		P		15 16 00.4	0.0
	comp=Z,26nm,0.8s								
WRH	Wood River Hil	85.84	25	*e*P		P		15 15 59.5	-0.8
	comp=Z,111nm,1.9s								
MDM	Murphy Dome	85.90	24	*e*P		P		15 16 00.2	-0.5
	comp=Z,34nm,1.7s								
EYAK	Cordova Ski Ar	85.99	29	*e*P		P		15 16 01.6	+0.5
	comp=Z,14nm,0.8s								
CCB	Clear Creek Bu	86.00	25	*e*P		P		15 16 00.3	-0.8
	comp=Z,102nm,1.7s								
COLA	College	86.04	24	*e*P		P		15 16 00.4	-0.9
COLA				pmax		pmax			
	comp=Z,65nm,1.8s								
COLA	College	86.04	24	*e*P		P		15 16 00.4	-0.9
	comp=Z,65nm,1.8s								
DIV	Divide	86.10	28	*e*P		P		15 16 02.5	+0.7
	comp=Z,53nm,0.8s								
KLU	Klutina	86.11	28	*e*P		P		15 16 02.4	+0.5
	comp=Z,17nm,0.9s								
HDA	Harding Lake	86.30	25	*e*P		P		15 16 01.8	-0.9
	comp=Z,31nm,1.6s								
IL1	Eielson Array	86.41	25	*e*P		P		15 16 02.1	-1.1
ILAR	Eielson Array	86.41	25	P		P		15 16 02.2	-1.0
	comp=Z,14nm,0.9s,baz=265,slow=4.5,SNR=95								
ILAR				LR		LR		15 57 29.3	
	comp=Z,192nm,18.0s,baz=270,slow=38								
ILB	Eielson Array	86.41	25	*e*P		P		15 16 02.0	-1.2
RAGM	Ragged Mountai	86.48	29	*e*P		P		15 16 03.5	-0.2
	comp=Z,24nm,0.8s								
BMRM	Bremner River	86.63	29	*e*P		P		15 16 04.1	-0.3
	comp=Z,34nm,1.2s								
MENT	Mentasta	87.41	27	*e*P		P		15 16 07.4	-0.7
	comp=Z,19nm,1.0s								
FYU	Fort Yukon	87.48	23	*e*P		P		15 16 09.7	+1.4
	comp=Z,242nm,1.4s								
RKT	Rikitea	87.48	113	*e*LR		LR		15 44 07.8	
	comp=Z,1μm,32.8s								
QSPA	South Pole Qui	87.50	180	*e*P		P		15 16 08.2	-0.4
BALM	Baldy	87.72	29	*e*P		P		15 16 10.3	+0.5
BALM				pmax		pmax			
	comp=Z,28nm,1.0s								
BALM	Baldy	87.72	29	*e*P		P		15 16 10.3	+0.5
	comp=Z,28nm,1.0s								
EGAK	Eagle	88.83	25	*e*P		P		15 16 15.4	+0.7
	comp=Z,29nm,1.1s								
DAWY	Dawson	89.50	26	*e*P		P		15 16 18.8	+0.8
	comp=Z,47nm,1.0s								
DHAK	Deception Hill	89.53	31	*e*P		P		15 16 19.2	+1.0
	comp=Z,113nm,1.4s								
HYT	Haines Junctio	90.04	29	*e*P		P		15 16 21.5	+0.8
	comp=Z,33nm,1.1s								
SYO	Syowa Base	90.30	201	*i*P		P		15 16 21.0	-0.6
SKAG	Skagway	91.03	31	*e*P		P		15 16 26.1	+0.9
	comp=Z,50nm,1.0s								
INK	Inuvik	92.16	22	*e*P		P		15 16 29.1	-1.1
INK				pmax		pmax			
	comp=Z,14nm,1.1s								
INK	Inuvik	92.16	22	*e*P		P		15 16 29.1	-1.1
	comp=Z,14nm,1.1s								
DIB	Dawson Inlet,	92.42	37	*e*P		P		15 16 31.8	+0.1
	comp=Z,54nm,1.7s								
WRAK	Wrangell Islan	92.53	34	*e*P		P		15 16 32.5	+0.3
	comp=Z,16nm,1.3s								
GNI	Garni	93.08	310	*i* P		P		15 16 33.3	-2.1
GNI				pmax		pmax			
	comp=Z,9.0nm,1.0s								
DLBC	Dease Lake	93.77	32	*e*P		P		15 16 38.1	+0.1
	comp=Z,24nm,1.4s								
KIV	Kislovodsk	94.60	314	*e*P		P		15 16 41.5	-0.6
KIV				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KIV				MLR		MLR			
	comp=Z,317nm,19.0s								
VRH	Novokhopyorsk	95.04	321	*e*P		P		15 16 41.7	-2.1
VRH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KLMR	Klimovskoe	95.64	331	*e*P		P		15 16 43.6	-2.8
KLMR				*e*				15 20 36.4	
KLMR				pmax		pmax			
	comp=Z,7.0nm,0.7s								
VSR	Storozhevoye	96.64	321	*e*P		P		15 16 48.2	-2.9
VSR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
APA	Apatity	97.33	338	*i*P		Pdif		15 17 00.5	+6.6
APA				*i*				15 20 52.0	
APA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
APA				MLR		MLR			
	comp=Z,700nm,24.0s								
OBN	Obninsk	97.81	325	*i* P		P		15 16 53.7	-2.6
OBN				*e*				15 20 51.4	
OBN				pmax		pmax			
	comp=Z,8.0nm,1.0s								
OBN				MLR		MLR			
	comp=Z,589nm,22.0s								
SPA0	Spitsbergen Ar	98.37	350	*e*P		P		15 16 57.1	-1.4
KMBO	Kilima Mbogo	99.42	268	LR		LR		15 59 26.6	
	comp=Z,288nm,21.9s,baz=90,slow=34								
ARCES	ARCESS Array B	99.61	341	P		Pdif		15 17 04.0	0.0
	comp=Z,5.0nm,0.8s,baz=68,slow=8.0,SNR=13								
ARCES				LR		LR		16 07 24.4	
	comp=Z,273nm,20.5s,baz=66,slow=39								
YKA	Yellowknife Ar	100.72	27	P		Pdif		15 17 09.3	+0.2
	comp=Z,2.7nm,0.9s,baz=284,slow=4.7,SNR=8.6								
FINES	FINESS Array B	101.92	333	P		Pdif		15 17 14.3	-0.2
	comp=Z,1.9nm,0.9s,baz=93,slow=9.5,SNR=4.8								
KOLS	Kolonicke sedl	107.74	321	*e*P		Pdif		15 17 39.6	-1.1
KOLS	Kolonicke sedl	107.74	321	*e*PDIFF		Pdif		15 17 39.6	-1.1
OKC	Ostrava-Krasne	109.99	323	AMS		AMS		16 15 50.0	
	comp=Z,400nm,17.0s								
VYHS	Vyhne	110.03	321	*e*PP		PP		15 22 18.0	-7.8
PV01	Paradox Valley	110.81	50	*e*PKiKP		PKiKP		15 21 55.4	+0.6
DPC	Dobruska-Polom	110.89	324	*e*PP		PP		15 22 33.1	+1.2
DPC				AMS		AMS		16 10 50.0	
	comp=Z,700nm,24.8s								
UPC	Upice	111.01	324	AMS		AMS		16 10 50.0	
	comp=Z,800nm,21.5s								
TREC	Trest	111.80	323	AMS		AMS		16 12 10.0	
	comp=Z,500nm,21.3s								
PVCC	Panska Ves	111.84	324	AMS		AMS		16 12 10.0	
	comp=Z,600nm,21.0s								
GOPC	GO Pecny, Ondr	111.97	324	AMS		AMS		16 11 50.0	
	comp=Z,700nm,19.0s								
PRU	Pruhonice	112.08	324	AMS		AMS		16 11 30.0	
	comp=Z,800nm,22.2s								
RSSD	Black Hills	112.38	43	*e*PKiKP		PKiKP		15 21 56.9	-0.6
RSSD	Black Hills	112.38	43	*e*PKPdf		PKiKP		15 21 56.9	-0.6
CLL	Collm	112.41	326	*e*Pdif		Pdif		15 18 01.0	-0.4
CLL				*e*PKiKP		PKiKP		15 21 58.0	+0.9
CLL				*e*PP		PP		15 22 41.0	-1.7
CLL				LmV				16 15 00.0	
	comp=Z,700nm,20.3s								
CLL	Collm	112.41	326	*e*PKiKP		PKiKP		15 21 58.0	+0.9
CLL				MLR		MLR			
	comp=Z,700nm,20.3s								
KHC	Kasperske Hory	113.01	323	*e*PP		PP		15 22 46.0	-1.1
KHC				AMS		AMS		16 11 40.0	
	comp=Z,700nm,21.7s								
ANMO	Albuquerque	113.23	53	*c i*PKiKP		PKiKP		15 22 00.0	+0.6
ANMO				pmax		pmax			
	comp=Z,2.0nm,1.0s								
ANMO	Albuquerque	113.23	53	*e*PKPdf		PKiKP		15 22 00.5	+1.1
MNTX	Cornudas Mount	114.86	56	*e*PKiKP		PKiKP		15 22 02.8	+0.4
MSTX	Muleshoe	116.42	53	*e*PKPdf		PKPdf		15 22 05.9	+0.4
TX31	Lajitas Ar. Si	116.84	58	*e*PKPdf		PKPdf		15 22 06.4	+0.1
TXAR	Lajitas Array	116.84	58	PKP		PKPdf		15 22 06.9	+0.5
	comp=Z,1.7nm,0.8s,baz=263,slow=1.6,SNR=14								
TXAR				PKKPbc		PKKPbc		15 32 32.8	-0.2
	comp=Z,0.3nm,0.7s,baz=130,slow=4.0,SNR=2.5								
ECSD	EROS Data Cent	117.49	41	*e*PKPdf		PKPdf		15 22 06.5	-0.6
JCT	Junction City	119.80	56	*e*PKiKP		PKPdf		15 22 12.0	0.0
JCT	Junction City	119.80	56	*e*PKPdf		PKPdf		15 22 12.0	0.0
COWI	Conover	120.96	36	*e*PKPdf		PKPdf		15 22 13.5	-0.2
KEST	Kesra	121.21	311	PKP		PKPdf		15 22 14.9	+0.3
	comp=Z,3.1nm,0.9s,baz=184,slow=6.2,SNR=3.9								
JFWS	Jewell Farm	121.97	39	*e*PKiKP		PKPdf		15 22 15.2	-0.5
JFWS	Jewell Farm	121.97	39	*e*PKPdf		PKPdf		15 22 15.2	-0.5
HHAR	Hobbs Ar. Si	122.45	48	*e*PKPdf		PKPdf		15 22 14.6	-2.3
MIAR	Mount Ida	123.41	50	*e*PKiKP		PKPdf		15 22 19.1	+0.4
MIAR	Mount Ida	123.41	50	*e*PKPdf		PKPdf		15 22 19.1	+0.4
X201	Greenbrier Sit	124.02	48	*e*PKPdf		PKPdf		15 22 19.5	-0.4
WLAR	White Oak Lake	124.10	50	*e*PKPdf		PKPdf		15 22 19.7	-0.3
UALR	University of	124.25	49	*e*PKPdf		PKPdf		15 22 20.3	0.0
VLDQ	Val d'Or	125.83	28	*e*PKPdf		PKPdf		15 22 21.9	-1.0
BLO	Bloomington	126.32	41	*e*PKiKP		PKPdf		15 22 24.3	+0.1
BLO	Bloomington	126.32	41	*e*PKPdf		PKPdf		15 22 24.3	+0.1
WVT	Waverly	126.95	45	*e*PKiKP		PKPdf		15 22 25.7	+0.2
WVT	Waverly	126.95	45	*e*PKPdf		PKPdf		15 22 25.7	+0.2
SADO	Sadowa	127.33	32	*e*PKPdf		PKPdf		15 22 26.5	+0.6
ACSO	Alum Creek Sta	128.00	38	*e*PKPdf		PKPdf		15 22 26.6	-0.7
TKL	Tuckaleechee C	130.03	44	*e*PKiKP		PKPdf		15 22 32.2	+0.8
TKL	Tuckaleechee C	130.03	44	*e*PKPdf		PKPdf		15 22 32.2	+0.8
PLCA	Paso Flores	130.34	153	PKP		PKPdf		15 22 34.1	+2.2
	comp=Z,2.9nm,0.7s,baz=273,slow=3.4,SNR=7.2								
TOA0	Torodi Ar. Sit	134.28	286	*e*PKPdf		PKPdf		15 22 40.1	+0.2
TORD	Torodi Ar. Bea	134.28	286	PKhKP		PKPpre		15 22 33.7	
	comp=Z,1.0nm,0.9s,baz=21,slow=0.8,SNR=4.2								
TORD				PKP		PKPdf		15 22 39.9	0.0
	comp=Z,7.0nm,0.9s,baz=58,slow=1.5,SNR=29								
DBIC	Dimbokro	141.49	278	PKhKP		PKPpre		15 22 47.2	
	comp=Z,5.9nm,0.8s,baz=73,slow=4.6,SNR=4.4								
LVC	Limon Verde	144.70	136	*e*PKPdf		PKPdf		15 22 59.9	+0.8
OTAV	Otavalo	144.76	93	*e*P		PKPbc		15 22 59.0	+0.4
OTAV	Otavalo	144.76	93	*e*PKPdf		PKPbc		15 22 59.2	-0.4
GRGC	Isla de Gorgon	145.14	88	*e*P		PKPbc		15 22 58.5	-0.7
PB01	IPOC Station P	145.30	134	*e*PKPbc		PKPdf		15 23 00.5	+0.6
CMBC	Cumbal	145.43	92	*e*P		PKPab		15 23 02.2	+1.3
MALC	Bahia Malaga	145.95	86	*e*P		PKPab		15 23 03.5	+1.3
CRUC	La Cruz	146.33	91	*e*P		PKPdf		15 23 01.5	-0.7
POPC	Popayan, Colom	146.62	89	*e*P		PKPdf		15 22 57.1	-5.4
HELC	Santa Helena	147.62	82	*e*P		PKPbc		15 23 06.2	-0.9
HELC	Santa Helena	147.62	82	*e*PKPbc		PKPbc		15 23 06.5	-0.5
GUYC	Guyana, Colomb	147.84	84	*e*P		PKPdf		15 23 04.0	-0.8
CPUP	Villa Florida	148.33	155	PKPbc		PKPbc		15 23 09.2	+1.1
	comp=Z,19nm,0.9s,baz=224,slow=2.3,SNR=24								
CPUP	Villa Florida	148.33	155	*e*PKP2		PKPbc		15 23 08.7	+0.6
CPUP	Villa Florida	148.33	155	*e*PKPbc		PKPbc		15 23 08.7	+0.6
NORC	Norcasia	148.33	83	*e*P		PKPbc		15 23 07.7	-0.8
PRAC	Prado	148.40	87	*e*PKPbc		PKPbc		15 23 08.8	+0.1
ROSC	El Rosal	148.92	85	PKP		PKPdf		15 23 06.6	+0.1
	comp=Z,21nm,0.7s,baz=95,slon=20,SNR=6.4								
ROSC				PKPbc		PKiKP		15 23 11.8	-0.1
	comp=Z,21nm,0.7s,baz=83,slow=8.1,SNR=16								
ROSC	El Rosal	148.92	85	*e*P		PKPbc		15 23 11.4	+0.9
ROSC	El Rosal	148.92	85	*e*PKPdf		PKPdf		15 23 08.2	+1.7
LPAZ	La Paz	149.18	128	PKP		PKPdf		15 23 07.6	+0.5
	comp=Z,2.5nm,0.8s,baz=27,slow=3.0,SNR=11								
LPAZ	La Paz	149.18	128	*e*PKPdf		PKPdf		15 23 08.3	+1.2
BRRC	Barranca, Sant	149.32	80	*e*P		PKPdf		15 23 07.9	+1.3
SJAC	San Juan de Ar	149.34	88	*e*P		PKPbc		15 23 10.3	-0.9
CHIC	Chingaza	149.52	85	*e*P		PKPbc		15 23 11.8	-0.2
OCAC	Ocana	149.54	78	*e*P		PKPbc		15 23 11.8	+0.1
BARC	Barichara	149.90	81	*e*P		PKPbc		15 23 10.3	-2.4
RUSC	La Rusia	150.07	82	*e*P		PKPbc		15 23 11.8	-1.6
GRMC	Gramalote, San	150.13	79	*e*P		PKPbc		15 23 12.3	-0.9
CBRI	Barrientos, No	150.14	79	*e*P		PKPbc		15 23 12.9	-0.3
SDV	Santo Domingo	152.04	76	*e*PKPbc		PKPbc		15 23 18.0	+0.4
CELP	Cerrillos	152.36	54	*e*PKPbc		PKPbc		15 23 17.7	-0.3
SJG	San Juan	152.69	54	*e*PKiKP		PKPbc		15 23 19.2	+0.5
SJG	San Juan	152.69	54	*e*PKPbc		PKPbc		15 23 19.2	+0.5
SAML	Samuel	157.15	120	*e*PKPdf		PKPdf		15 23 19.2	+1.3
SAML				*e*PKPab		PKPab		15 23 49.9	+1.4

*ISCJB **26** 15:12:52.6±0.4, 2°.36S±0°.07×136°.70E±0°.03, h42km, mb3.9/11, Error ellipse: s-maj=10.0km s-min=4.7km az=4.5*
*DJA **26** 15:12:53.1±1.5, 2°.5S×6°×13°.7E±°, h25km±13km, M4.8/5, mb4.8/3, MLv4.8/5*
*IDC **26** 15:12:54.6±2.3, 2°.37S×136°.79E, h42km±24km, mb3.7/11, mb1 3.9/14, mb1mx3.8/34, mbtmp4.0/14, ML4.0/4, Error ellipse: s-maj=16.4km s-min=15.1km az=152.0*
ISC 26 15:12:54.4±0.6, 2°.37S±0°.09×136°.72E±0°.05, h42km, n20, σ0894/24, mb3.9/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	Ransiki, Papua	2.69	289	P	Pn	15 13 34.1	-1.1
GENI	Genyem	3.45	94	P	Pn	15 13 46.0	+0.3
GENI				S	Sn	15 14 26.9	+1.6
JAY	Jayapura	3.98	92	P	Pn	15 13 51.4	-1.6
	1.6nm,0.3s,baz=253,slow=23,SNR=26						
JAY				S	Sn	15 14 37.5	-1.0
	1.5nm,0.3s,baz=273,slow=23,SNR=6.9						
JAY	Jayapura	3.98	92	P	Pn	15 13 51.6	-1.4
FAKI	Fak Fak	4.50	263	P	Pn	15 13 58.8	-1.4
FAKI				S	Sn	15 14 51.0	-0.3
SIJI	Sorong	5.66	285	P	Pn	15 14 16.6	+0.6
	21nm,0.3s,baz=90,slow=20,SNR=2.0						
SIJI				S	Sn	15 15 18.2	-1.6
	14nm,0.3s,baz=90,slow=20,SNR=3.1						
SWI	Sorong	5.66	285	P	Pn	15 14 16.4	+0.3
	62nm,1.0s						
WRA	Warramunga Arr	17.62	187	P	Pn	15 16 57.2	+0.3
	0.7nm,0.3s,baz=9.4,slow=12,SNR=6.2						
FITZ	Fitzroy Crossi	19.04	214	P	Pn	15 17 14.6	+0.3
	0.4nm,0.3s,baz=58,slow=10,SNR=2.3						
ASAR	Alice Springs	21.34	187	P	P	15 17 38.1	-0.1
	5.7nm,0.7s,baz=11,slow=11,SNR=5.5						
MJAR	Matsushiro Ar	38.74	2	P	P	15 20 15.1	+0.3
	0.8nm,0.7s,baz=187,slow=6.7,SNR=3.8						
CMAR	Chiang Mai Ar	42.55	301	P	P	15 20 46.8	+0.2
	1.1nm,0.8s,baz=114,slow=6.5,SNR=4.5						
ASAJ	Asahikawa	46.58	6	P	P	15 21 18.6	+0.4
	2.1nm,0.6s,baz=237,slow=4.3,SNR=5.8						
KLR	Kul'dur	51.59	356	P	P	15 21 57.1	+0.8
	1.5nm,0.7s,baz=187,slow=8.1,SNR=5.8						
SONM	Songino Array	56.59	336	P	P	15 22 33.8	+0.7
	0.6nm,1.0s,baz=151,slow=6.5,SNR=2.7						
MKAR	Makanchi Array	68.32	323	P	P	15 23 52.2	+0.8
	0.9nm,0.5s,baz=106,slow=8.0,SNR=11						
ZALV	Zalesovo Beam	70.66	330	P	P	15 24 04.8	-0.8
	0.5nm,0.3s,baz=104,slow=6.1,SNR=3.2						
VNDA	Vanda	76.30	175	P	P	15 24 39.0	+0.5
	0.8nm,0.6s,baz=321,slow=7.9,SNR=3.1						
NRIK	'Aqrit'sk	78.85	344	P	P	15 24 52.5	-0.3
	1.0nm,0.4s,baz=144,slow=5.5,SNR=3.2						
ILAR	Eielson Array	86.35	25	P	P	15 25 31.1	-0.8
	0.4nm,0.6s,baz=262,slow=5.0,SNR=4.1						

*IDC **26** 15:21:04.5±1.5, 2°.39S×136°.72E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/40, mbtmp3.6/4, ML3.1/3, Error ellipse: s-maj=31.4km s-min=25.5km az=71.0*
*ISCJB **26** 15:21:07.5±0.9, 2°.4S±0°.1×136°.75E±0°.07, h42km, mb3.4/2, Error ellipse: s-maj=17.6km s-min=9.3km az=176.3*
**ISC 26 15:21:09.4±1.0, 2°.5S±0°.2×136°.75E±0°.08, h42km,

IDC ***26*** *15:34:30.8±7.2, 1.°96S×136.°46E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.4/41, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=118.5km s-min=38.5km az=149.0*

DJA ***26*** *15:34:34.6±0.4, 3.°S±5.°×13.°7E±.°, h10km, M4.6/6, mB5.9/1, mb5.2/1, MLv4.3/6, Mw(mB)5.5/1*

ISCJB ***26*** *15:34:39.3±0.9, 2.°58S±0.°09×136.°74E±0.°06, h42km, mb3.6/2, Error ellipse: s-maj=12.8km s-min=8.4km az=158.7*

ISC 26 15:34:41.5±1.1, 2.°66S±0.°09×136.°67E±0.°04, h42km, n9, σ3℗14/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.74**	**295**	P	**Pn**	**15 35 22.1**	**-0.9**
RKPI				S	**Sn**	**15 35 58.8**	**+3.9**
GENI	**Genyem**	**3.50**	**89**	P	**Pn**	**15 35 31.6**	**-1.9**
GENI				S	**Sn**	**15 36 16.8**	**+3.1**
JAY	**Jayapura**	**4.04**	**88**	Pn	**Pn**	**15 35 37.9**	**-3.0**
	0.5nm,0.3s,baz=257,slow=21,SNR=27						
JAY				Sn	**Sn**	**15 36 24.1**	**-2.9**
	0.1nm,0.3s,baz=270,slow=20,SNR=2.6						
JAY	**Jayapura**	**4.04**	**88**	P	**Pn**	**15 35 37.6**	**-3.3**
JAY				S	**Sn**	**15 36 27.2**	**+0.2**
FAKI	**Fak Fak**	**4.42**	**267**	P	**Pn**	**15 35 42.0**	**-4.1**
FAKI				S	**Sn**	**15 36 32.5**	**-3.9**
MMPI	**Merauke**	**6.85**	**147**	P	Pn	15 36 09.3	-10
WRA	**Warramunga Arr**	**17.33**	**187**	P	**Pn**	**15 38 41.8**	**+1.3**
	0.4nm,0.3s,baz=9.1,slow=12,SNR=6.2						
WRA				S	**Sn**	**15 41 50.4**	**-2.0**
	0.2nm,0.3s,baz=12,slow=22,SNR=5.5						
ASAR	**Alice Springs**	**21.05**	**187**	P	**P**	**15 39 23.8**	**+1.6**
	1.1nm,0.5s,baz=8.8,slow=11,SNR=11						
ASAR				S	**S**	**15 43 18.6**	**+4.2**
	0.6nm,0.9s,baz=14,slow=23,SNR=3.1						
STKA	**Stephens Creek**	**29.43**	**171**	P	**P**	**15 40 42.6**	**+1.3**
	1.4nm,0.7s,baz=354,slow=8.2,SNR=4.6						

IDC ***26*** *15:46:44.0±2.5, 2.°47S×136.°77E, h0km, mb3.7/2, mb1 4.0/6, mb1mx3.6/42, mbtmp3.9/6, ML3.8/4, Error ellipse: s-maj=40.6km s-min=29.5km az=3.0*

ISCJB ***26*** *15:46:44.8±0.9, 2.°3S±0.°1×136.°77E±0.°05, h33km, mb3.7/2, Error ellipse: s-maj=17.0km s-min=7.4km az=7.9*

ISC 26 15:46:47.5±1.1, 2.°4S±0.°1×136.°78E±0.°07, h35km, n6, σ1℗06/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.92**	**92**	Pn	**Pn**	**15 47 46.0**	**+0.6**
	1.9nm,0.3s,baz=270,slow=20,SNR=108						
JAY				Sn	**Sn**	**15 48 28.9**	**-1.2**
	0.1nm,0.3s,baz=90,slow=20,SNR=1.3						
SIJI	**Sorong**	**5.71**	**285**	Pn	**Pn**	**15 48 10.7**	**+0.8**
	15nm,0.3s,baz=0.0,slow=14,SNR=2.2						
SIJI				Sn	**Sn**	**15 49 12.8**	**-1.5**
	20nm,0.3s,baz=8.1,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**17.63**	**188**	P	**Pn**	**15 50 50.1**	**-0.5**
	0.3nm,0.3s,baz=8.7,slow=12,SNR=15						
FITZ	**Fitzroy Crossi**	**19.08**	**214**	P	**P**	**15 51 07.7**	**+0.6**
	0.1nm,0.3s,baz=37,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**21.36**	**187**	P	**P**	**15 51 31.4**	**-0.6**
	2.0nm,0.6s,baz=16,slow=10,SNR=20						
STKA	**Stephens Creek**	**29.70**	**172**	P	**P**	**15 52 50.7**	**+0.4**
	1.7nm,1.0s,baz=350,slow=7.2,SNR=4.7						

ISCJB ***26*** *15:47:43.6±0.5, 37.°36N±0.°03×28.°09E±0.°03, h0km, Error ellipse: s-maj=5.0km s-min=3.8km az=175.9*

DDA ***26*** *15:47:43.4, 37.°21N×28.°14E, h7km, Md2.9, Suspected Mining explosion.*

CSEM ***26*** *15:47:43.8±0.3, 37.°36N×28.°10E, h1km, MD2.6, Error ellipse: s-maj=6.8km s-min=5.5km az=175.0, Suspected Mining explosion.*

ISK ***26*** *15:47:43.4, 37.°37N×28.°10E, h7km, MD2.6*

ISC 26 15:47:43.5±0.8, 37°33N±0.°03×28°10E±0.°02, h0km, n23, σ0℗77/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.25**	**142**	*e*PG	**Pg**	**15 47 48.0**	**-0.1**
YER	**Yerkesik**	**0.25**	**142**	*e*Pg	**Pg**	**15 47 48.1**	**-0.1**
BDRM	**Kayabasi**	**0.58**	**243**	P	**Pg**	**15 47 54.6**	**0.0**
BDRM				S	**Sb**	**15 48 03.8**	**-1.6**
BDRM	**Kayabasi**	**0.58**	**243**	*i* P	**Pg**	**15 47 54.6**	**0.0**
BDRM				*i* S	**Sg**	**15 48 03.9**	**-1.6**
TURN	**Turunc**	**0.61**	**138**	*i* P	**Pg**	**15 47 52.3**	**-2.8**
TURN				*i* S	**Sg**	**15 48 03.8**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**345**	*e*PG	**Pg**	**15 47 55.7**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**345**	*e*Pg	**Pg**	**15 47 55.7**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.68**	**139**	*e*PG	**Pg**	**15 47 57.3**	**+0.8**
DALY				*e*SG	**Sb**	**15 48 08.7**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.68**	**139**	*e*Pg	**Pg**	**15 47 57.3**	**+0.8**
DALY				*e*Sg	**Sb**	**15 48 08.7**	**+0.6**
BODT	**Bodrum**	**0.68**	**247**	*e*PG	**Pg**	**15 47 56.9**	**+0.4**
BODT				*e*SG	**Sb**	**15 48 07.9**	**-0.3**
BODT	**Bodrum**	**0.68**	**247**	*e*Pg	**Pg**	**15 47 56.9**	**+0.4**
BODT				*e*Sg	**Sb**	**15 48 07.9**	**-0.3**
GCAM	**G?zelcaml?**	**0.78**	**299**	P	**Pb**	**15 48 00.2**	**+0.3**
GCAM	**G?zelcaml?**	**0.78**	**299**	*i* P	**Pb**	**15 48 00.2**	**+0.3**
GCAM				*i* S	**Sn**	**15 48 14.4**	**+0.4**
DNZL	**Cakiroluk**	**0.84**	**64**	P	**Pb**	**15 48 00.5**	**-0.5**
DNZL				S	**Sb**	**15 48 13.2**	**+0.3**
DNZL	**Cakiroluk**	**0.84**	**64**	*i* P	**Pb**	**15 48 00.5**	**-0.5**
DNZL				*i* S	**Sb**	**15 48 13.2**	**+0.3**
DENT	**Denizli**	**0.86**	**60**	*e*PG	**Pg**	**15 47 59.9**	**0.0**
DENT	**Denizli**	**0.86**	**60**	*e*Pg	**Pg**	**15 47 59.9**	**0.0**
IZM	**Izmir**	**1.25**	**329**	*e*PN	**Pg**	**15 48 07.3**	**-0.2**
IZM	**Izmir**	**1.25**	**329**	*e*Pn	**Pg**	**15 48 07.3**	**-0.2**
KULA	**Kula-Manisa**	**1.26**	**21**	*e*PN	**Pg**	**15 48 07.3**	**-0.4**
KULA	**Kula-Manisa**	**1.26**	**21**	*e*Pn	**Pg**	**15 48 07.3**	**-0.4**
ELL	**Elmali**	**1.56**	**111**	*e*PN	**Pn**	**15 48 12.6**	**0.0**
ELL	**Elmali**	**1.56**	**111**	*e*Pn	**Pn**	**15 48 12.6**	**0.0**

ISCJB ***26*** *15:50:41.7±0.9, 38.°57N±0.°04×39.°51E±0.°08, h9km, Error ellipse: s-maj=9.2km s-min=4.6km az=19.4*

CSEM ***26*** *15:50:41.6±0.2, 38.°56N×39.°52E, h2km, MD2.4, Error ellipse: s-maj=5.6km s-min=3.3km az=105.0*

ISK ***26*** *15:50:41.1, 38.°57N×39.°45E, h3km, MD2.4*

DDA ***26*** *15:50:44.3, 38.°75N×39.°25E, h7km, Md2.6*

ISC 26 15:50:41.9±1.1, 38°57N±0.°03×39°48E±0.°06, h9km, n10, σ0℗48/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.23**	**215**	*e*PG	**Pg**	**15 50 46.4**	**-0.2**
SVRC				*e*SG	**Sg**	**15 50 50.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.23**	**215**	*e*Pg	**Pg**	**15 50 46.4**	**-0.2**
SVRC				*e*Sg	**Sg**	**15 50 50.2**	**+0.3**
PTK	**Pertek**	**0.33**	**349**	*e*PG	**Pg**	**15 50 48.4**	**-0.1**
PTK				*e*SG	**Sg**	**15 50 53.9**	**+0.9**
PTK	**Pertek**	**0.33**	**349**	*e*Pg	**Pg**	**15 50 48.4**	**-0.1**
PTK				*e*Sg	**Sg**	**15 50 53.9**	**+0.9**
ELZG	**Elazig**	**0.39**	**260**	P	**Pg**	**15 50 49.6**	**-0.1**
ELZG				S	**Sb**	**15 50 56.7**	**-0.6**
ELZG	**Elazig**	**0.39**	**260**	*i* P	**Pg**	**15 50 49.6**	**-0.1**
ELZG				*i* S	**Sb**	**15 50 56.7**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.55**	**5**	P	**Pg**	**15 50 52.1**	**-0.5**
TNCL				S	**Sg**	**15 50 59.9**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.55**	**5**	*i* P	**Pg**	**15 50 52.1**	**-0.5**
TNCL				*i* S	**Sg**	**15 50 59.9**	**+0.1**
MAZI	**Mazidag**	**1.34**	**145**	*e*PN	**Pb**	**15 51 07.6**	**+0.3**
MAZI	**Mazidag**	**1.34**	**145**	*e*Pn	**Pb**	**15 51 07.6**	**+0.3**

ISCJB ***26*** *15:57:09.6±0.3, 2.°41S±0.°04×136.°70E±0.°03, h42km, mb4.3/22, MS4.1/3, Error ellipse: s-maj=5.8km s-min=4.2km az=26.9*

NEIC ***26*** *15:57:09.7±2.2, 2.°37S×136.°71E, h27km±16km, mb4.4/9, Error ellipse: s-maj=7.6km s-min=6.8km az=82.0*

DJA ***26*** *15:57:10.6±1.2, 2.°S±4.°×13.°7E±.°, h27km±10km, M5.0/6, mB4.9/1, mb4.8/6, MLv5.0/6, Mw(mB)4.2/1*

IDC ***26*** *15:57:11.0±2.9, 2.°37S×136.°73E, h37km±25km, mb4.0/14, mb1 4.1/18, mb1mx4.0/32, mbtmp4.2/18, ML4.0/4, MS3.9/4, Ms1 3.9/4, ms1mx3.3/32, Error ellipse: s-maj=19.8km s-min=9.7km az=89.0*

ISC 26 15:57:11.6±0.4, 2.°40S±0.°05×136.°70E±0.°04, h42km, n49, σ1℗27/55, mb4.2/22, MS4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.67**	**289**	P	**Pn**	**15 57 52.1**	**0.0**
RKPI				S	**Sn**	**15 58 25.0**	**+1.7**
GENI	**Genyem**	**3.47**	**93**	P	**Pn**	**15 58 03.0**	**-0.1**
GENI				S	**Sn**	**15 58 43.6**	**+0.7**
JAY	**Jayapura**	**4.00**	**92**	Pn	**Pn**	**15 58 09.7**	**-0.7**
	4.3nm,0.3s,baz=255,slow=21,SNR=196						
JAY				Sn	**Sn**	**15 58 54.6**	**-1.5**
	1.7nm,0.3s,baz=93,slow=23,SNR=6.5						
JAY	**Jayapura**	**4.00**	**92**	P	**Pn**	**15 58 09.6**	**-0.8**
JAY				S	**Sn**	**15 58 54.4**	**-1.7**
FAKI	**Fak Fak**	**4.48**	**263**	P	**Pn**	**15 58 16.8**	**-0.2**
FAKI				S	**Sn**	**15 59 03.7**	**-4.1**
FAKI	**Fak Fak**	**4.48**	**263**	*e*Pn	**Pn**	**15 58 16.4**	**-0.5**
SIJI	**Sorong**	**5.64**	**286**	Pn	**Pn**	**15 58 32.5**	**-0.5**
	5.5nm,0.3s,baz=82,slow=19,SNR=3.9						
SIJI				Sn	**Sn**	**15 59 34.5**	**-2.1**
	19nm,0.3s,baz=288,slow=20,SNR=2.8						
SWI	**Sorong**	**5.65**	**286**	P	**Pn**	**15 58 32.9**	**-0.1**
	84nm,0.6s,1μm						
MMPI	**Merauke**	**7.05**	**149**	P	**Pn**	**15 58 53.5**	**+1.2**
MMPI				S	**Sn**	**16 00 14.0**	**+2.7**
MTN	**Manton Dam**	**11.75**	**208**	*e*Pn	**Pn**	**15 59 56.3**	**-0.4**
COEN	**Coen**	**13.14**	**151**	*e*Pn	**Pn**	**16 00 14.4**	**-1.4**
SOEI	**Soe**	**14.36**	**239**	*e*P	**Pn**	**16 00 29.8**	**-2.6**
	81nm,1.1s						
DAV	**Davao City (W)**	**14.55**	**310**	LR	LR	16 07 15.2	
	comp=Z,183nm,18.5s,baz=157,slow=42						
TTSI	**Tana Toraja**	**16.88**	**267**	P	**P**	**16 01 07.6**	**+1.1**
	18nm,1.1s						
WRAB	**Tennant Creek**	**17.58**	**187**	*e*Pn	**Pn**	**16 01 12.9**	**-0.6**
	28nm,0.9s						
WB2	**Warramunga Arr**	**17.59**	**187**	*e*Pn	**Pn**	**16 01 13.5**	**-0.2**
	26nm,0.8s						
WRA	**Warramunga Arr**	**17.59**	**187**	P	**Pn**	**16 01 13.6**	**-0.1**
	0.9nm,0.3s,baz=5.5,slow=12,SNR=41						
WRA				S	Sn	16 04 16.8	-12
	0.4nm,0.3s,baz=8.8,slow=21,SNR=4.6						
WRA				LR	LR	16 08 24.6	
	comp=Z,442nm,21.8s,baz=160,slow=38						
FITZ	**Fitzroy Crossi**	**19.01**	**214**	P	**P**	**16 01 30.0**	**+0.1**
	0.4nm,0.3s,baz=28,slow=12,SNR=12						
FITZ				S	Sn	16 04 48.9	-14
	0.1nm,0.3s,baz=197,slow=16,SNR=3.0						
FITZ	**Fitzroy Crossi**	**19.01**	**214**	*e*P	**Pn**	**16 01 31.0**	**+0.1**
	13nm,1.0s						
FITZ				S	Sn	16 04 48.9	-14
MYLDM	**Lahad Datu**	**19.68**	**293**	*e*P	**Pn**	**16 01 41.9**	**+2.9**
	51nm,1.5s						
AS31	**Alice Springs**	**21.31**	**187**	*e*P	**P**	**16 01 54.1**	**-0.9**
	8.1nm,0.6s						
ASAR	**Alice Springs**	**21.32**	**187**	P	**P**	**16 01 54.5**	**-0.5**
	4.8nm,0.5s,baz=12,slow=10,SNR=46						
ASAR				S	**S**	**16 05 51.2**	**+1.6**
	3.7nm,1.0s,baz=14,slow=24,SNR=5.4						
ASAR				LR	LR	16 12 00.2	
	comp=Z,586nm,19.1s,baz=8.0,slow=42						
HNR	**Honiara**	**24.14**	**108**	LR	LR	16 12 10.1	
	comp=Z,303nm,18.9s,baz=318,slow=37						
MBWA	**Marble Bar**	**24.92**	**220**	*e*P	**P**	**16 02 31.9**	**+1.0**
	17nm,0.9s						
SBUM	**Sibu**	**24.94**	**281**	*e*P	**P**	**16 02 30.7**	**-0.6**
	7.5nm,1.1s						
STKA	**Stephens Creek**	**29.68**	**172**	P	**P**	**16 03 13.8**	**+0.3**
	2.6nm,0.7s,baz=345,slow=8.7,SNR=11						
NWAO	**Narrogin (SRO)**	**35.44**	**209**	P	**P**	**16 04 04.2**	**+0.4**
	6.5nm,0.8s,baz=326,slow=18,SNR=3.1						
MJAR	**Matsushiro Arr**	**38.77**	**2**	P	**P**	**16 04 31.8**	**-0.3**
	1.4nm,0.9s,baz=186,slow=6.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**42.55**	**301**	P	**P**	**16 05 04.1**	**+0.5**
	2.1nm,0.8s,baz=124,slow=6.4,SNR=14						
ASAJ	**Asahikawa**	**46.61**	**6**	P	**P**	**16 05 36.1**	**+0.6**
	3.1nm,0.7s,baz=217,slow=5.3,SNR=5.4						
CN2	**Changchun**	**47.09**	**349**	*e*P	**P**	**16 05 40.0**	**+0.7**
HHC	**Hu-ho-hao-te**	**48.77**	**335**	*e*P	**P**	**16 05 54.5**	**+2.0**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,4.1s						
LZH	**Lanzhou**	**49.05**	**324**	*e*P	**P**	**16 05 54.0**	**-0.8**
LZH				pP	pP	16 05 57.3	-9.4
LZH				sP	sP	16 05 58.8	-13
LZH				PP	**PP**	**16 07 50.0**	**+1.3**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,55nm,7.0s						
LZH				LR	LR		
	comp=N,300nm,14.7s						
LZH				LR	LR		
	comp=E,280nm,15.2s						
LZH				LR	LR		
	comp=Z,360nm,17.4s						
GTA	**Gaotai**	**53.65**	**325**	*e*P	**P**	**16 06 30.5**	**+1.3**
GTA				pP	pP	16 06 35.0	-6.2
GTA				sP	sP	16 06 37.8	-8.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
SONM	**Songino Array**	**56.60**	**336**	P	**P**	**16 06 50.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=133,slow=8.1,SNR=2.7						
SONA1	**Songino Array**	**56.61**	**336**	*e*P	P	16 06 56.7	+6.3
WMQ	**Urumqi**	**63.53**	**322**	P	**P**	**16 07 37.8**	**-0.1**
YAK	**Yakutsk**	**64.48**	**356**	P	**P**	**16 07 42.0**	**-1.6**
	comp=Z,6.2nm,0.5s,baz=217,slow=2.2,SNR=3.9						
YAK	**Yakutsk**	**64.48**	**356**	*e*P	**P**	**16 07 41.7**	**-1.9**
	comp=Z,6.3nm,0.6s						
YAK				*e*		16 07 51.4	
MKAR	**Makanchi Array**	**68.33**	**323**	P	**P**	**16 08 08.4**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=114,slow=8.0,SNR=20						
ZALV	**Zalesovo Beam**	**70.67**	**330**	P	**P**	**16 08 22.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=130,slow=6.7,SNR=4.5						
KURK	**Kurchatov**	**72.32**	**326**	*e*P	**P**	**16 08 31.8**	**-1.0**
	comp=Z,50nm,1.0s						
TIXI	**Tiksi**	**74.09**	**357**	P	**P**	**16 08 43.3**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=207,slow=4.5,SNR=3.8						
VNDA	**Vanda**	**76.27**	**175**	P	**P**	**16 08 55.9**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=323,slow=5.3,SNR=7.5						
NRIK	**Noril'sk**	**78.87**	**344**	P	**P**	**16 09 09.2**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=168,slow=5.5,SNR=4.8						
ABKAR	**Akbulak array**	**83.19**	**320**	*e*P	**P**	**16 09 33.9**	**+0.5**
	comp=Z,1.1nm,0.6s						
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**16 09 49.0**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=260,slow=4.7,SNR=10						
CPUP	**Villa Florida**	**148.38**	**155**	PKPbc	**PKPbc**	**16 16 54.5**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=230,slow=5.9,SNR=3.1						
LPAZ	**La Paz**	**149.23**	**128**	PKPbc	**PKPbc**	**16 16 56.6**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=225,slow=2.9,SNR=2.8						

ISCJB ***26*** *16:07:56.2±0.3, 32.°32N±0.°02×115.°31W±0.°02, h21km±3km, Error ellipse: s-maj=4.0km s-min=3.4km az=176.5*

NEIC ***26*** *16:07:58.0, 32.°31N×115.°34W, h5km, ML3.2(PAS), ML3.2(ECX), After ECX.*

ECX ***26*** *16:07:58.0±0.5, 32.°31N×115.°34W, h5km, MD3.0, ML3.2*

MEX ***26*** *16:07:58.7±1.1, 32.°39N×115.°24W, h14km±40km, MD3.8*

ISC 26 16:07:55.9±0.9, 32°29N±0.°02×115°34W±0.°02, h18km±2km, n57, σ0℗87/74, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.13**	**15**	*e*P	**Pg**	**16 07 60.0**	**0.0**
CPBX				*e*S	**Sg**	**16 08 02.1**	**-0.7**
CPBX				IAML		16 08 04.9	
	comp=N,33μm,0.1s						
CPBX				⇑*e*		16 08 04.9	
CPBX	**Cerro Prieto**	**0.13**	**15**	*e*P	**Pg**	**16 08 00.0**	**0.0**
CPBX				*e*S	**Sb**	**16 08 01.0**	**+0.8**
MBIG	**Mexicali**	**0.17**	**47**	*e*P	**Pg**	**16 08 00.8**	**+0.4**
MBIG				*e*S	**Sg**	**16 08 02.9**	**-0.7**
MBIG	**Mexicali**	**0.17**	**47**	*e*P	**Pg**	**16 08 00.8**	**+0.4**
DREC	**Desert Rsrch C**	**0.52**	**350**	*e*P	**Pb**	**16 08 07.3**	**+0.8**
EMSC	**East Mesa**	**0.54**	**34**	⇑*i*P	**Pg**	**16 08 07.6**	**+0.8**
WESC	**Westside Schoo**	**0.57**	**325**	*e*P	**Pb**	**16 08 08.1**	**+0.8**
COA	**Coachella**	**0.60**	**18**	⇑*i*P	**Pg**	**16 08 08.3**	**+0.4**
YUH	**Yuha Desert**	**0.61**	**306**	⇓*i*P	**Pg**	**16 08 08.3**	**+0.3**
COK	**Cook Ranch**	**0.64**	**330**	⇓*e*P	**Pg**	**16 08 09.1**	**+0.4**
RMX	**La Rumorosa**	**0.69**	**297**	*e*P	**Pb**	**16 08 09.7**	**+0.1**
RMX				*i* S	**Sb**	**16 08 18.8**	**0.0**
RMX				IAML		16 08 19.3	
	comp=N,1μm,0.1s						
IKP	**In-Ko-Pah, Jac**	**0.74**	**299**	P	**Pg**	**16 08 10.9**	**+0.5**
	baz=118,SNR=63						
IKP				S	**Sg**	**16 08 20.6**	**+0.3**
	baz=118						
IKP	**In-Ko-Pah, Jac**	**0.74**	**299**	*e*P	**Pg**	**16 08 11.0**	**+0.5**
SWSC	**Sam W. Stewart**	**0.76**	**330**	P	**Pb**	**16 08 10.5**	**-0.1**
	baz=149,SNR=46						
SWSC				S	**Sg**	**16 08 21.1**	**+0.3**
	baz=149						
ECBX	**El Chinero**	**0.85**	**163**	*e*P	**Pn**	**16 08 13.2**	**+0.2**
ECBX				IAML		16 08 26.4	
	comp=N,774nm,0.6s						
ECBX				⇓*e*		16 08 26.4	
GLA	**Glamis**	**0.87**	**30**	P	**Pb**	**16 08 12.2**	**-0.4**
	baz=209,SNR=32						
GLA				S	**Sb**	**16 08 23.8**	**-0.1**
	baz=209						
GLA	**Glamis**	**0.87**	**30**	*e*Pg	**Pb**	**16 08 12.0**	**-0.6**
MONP2	**Monument Peak**	**1.09**	**304**	P	**Pb**	**16 08 16.5**	**+0.1**
	baz=123,SNR=42						
MONP2				S	**Sn**	**16 08 31.1**	**-0.2**
	baz=123						
ZAX	**El Zacaton**	**1.11**	**226**	⇑*e*P	**Pg**	**16 08 17.6**	**+0.2**
CBX	**Cerro Bola**	**1.12**	**271**	*e*P	**Pg**	**16 08 17.7**	**+0.1**
CBX				*e*S	**Sb**	**16 08 31.6**	**+0.5**
CBX	**Cerro Bola**	**1.12**	**271**	*e*P	**Pg**	**16 08 17.8**	**+0.1**
CBX				⇑*e*		16 08 35.9	
CBX				IAML		16 08 35.9	
	comp=E,642nm,0.2s						
CBX	**Cerro Bola**	**1.12**	**271**	*e*P	**Pg**	**16 08 17.7**	**+0.1**
CBX				*e*S	**Sb**	**16 08 31.6**	**+0.5**
TJIG	**Tijuana**	**1.14**	**278**	*e*P	**Pg**	**16 08 17.7**	**-0.2**
TJIG				*e*S	**Sb**	**16 08 31.5**	**+0.1**
TJIG	**Tijuana**	**1.14**	**278**	*i* P	**Pg**	**16 08 17.8**	**-0.2**
BAR	**Barrett**	**1.19**	**289**	*e*P	**Pb**	**16 08 18.8**	**+0.7**
BAR	**Barrett**	**1.19**	**289**	*e*Pn	**Pg**	**16 08 18.8**	**-0.2**
ECNX	**Esteban Cantu**	**1.24**	**240**	*e*P	**Pg**	**16 08 19.8**	**-0.1**
SPIG	**San Pedro Mart**	**1.25**	**185**	*e*P	**Pb**	**16 08 19.9**	**+0.8**
SPIG				*e*S	**Sb**	**16 08 34.3**	**-0.6**
SPIG	**San Pedro Mart**	**1.25**	**185**	*i* P	**Pb**	**16 08 19.9**	**+0.8**
SPIG	**San Pedro Mart**	**1.25**	**185**	*e*P	**Pb**	**16 08 19.9**	**+0.8**
SPIG				*e*S	**Sb**	**16 08 34.3**	**-0.6**
SPX	**San Pedro Mart**	**1.25**	**185**	*e*P	**Pb**	**16 08 19.9**	**+0.8**
SPX	**San Pedro Mart**	**1.25**	**185**	*e*S	**Sb**	**16 08 32.4**	**-2.6**
PBX	**Punta Banda**	**1.30**	**245**	*e*P	**Pb**	**16 08 20.4**	**+0.7**
BC3	**Big Chuckawall**	**1.36**	**356**	P	**Pn**	**16 08 19.5**	**-0.6**
	baz=176,SNR=26						
BC3				S	**Sn**	**16 08 36.6**	**-1.3**
	baz=176						
113A	**Mohawk Valley,**	**1.41**	**70**	*e*Pn	**Pn**	**16 08 20.5**	**-0.2**
109C	**Camp Elliot, M**	**1.60**	**292**	P	**Pn**	**16 08 23.4**	**+0.1**
	baz=111						
109C				S	**Sb**	**16 08 46.2**	**+1.4**
	baz=111						
TPFO	**Pinon Flats**	**1.61**	**325**	P	**Pn**	**16 08 23.1**	**-0.5**
	baz=144,SNR=19						
TPFO				S	**Sn**	**16 08 42.3**	**-1.6**
	baz=144						
Y12C	**Blythe**	**1.61**	**25**	*e*Pn	**Pb**	**16 08 25.3**	**+0.2**
PFO	**Pinyon Flats O**	**1.62**	**325**	P	**Pn**	**16 08 23.2**	**-0.4**
	baz=144						
PFO				S	**Sn**	**16 08 42.9**	**-1.2**
	baz=144						
PFO	**Pinyon Flats O**	**1.62**	**325**	*e*Pn	**Pn**	**16 08 23.0**	**-0.6**
BELC	**Belle Mtn. Jos**	**1.79**	**342**	P	**Pn**	**16 08 25.4**	**-0.7**
	baz=162						
IRM	**Iron Mountain**	**1.87**	**5**	P	**Pn**	**16 08 26.1**	**-0.9**
	baz=185						
MURC	**Murriete**	**2.03**	**310**	P	**Pn**	**16 08 29.2**	**-0.1**
	baz=129,SNR=7.8						
214A	**Organ Pipe Nat**	**2.17**	**98**	P	**Pn**	**16 08 30.8**	**-0.4**
	baz=280						
214A	**Organ Pipe Nat**	**2.17**	**98**	*e*Pn	**Pn**	**16 08 30.2**	**-1.0**
Y14A	**Wickenburg**	**2.56**	**49**	*e*Pn	**Pn**	**16 08 36.8**	**+0.2**
W13A	**Hualapai Mount**	**3.05**	**23**	*e*Pn	**Pn**	**16 08 43.1**	**-0.4**
TUC	**Tucson**	**3.86**	**89**	*e*Pn	**Pn**	**16 08 54.1**	**-0.3**
X16A	**Lo Mia Camp, P**	**3.89**	**56**	*e*Pn	**Pn**	**16 08 56.3**	**+1.3**
WUAZ	**Wupatki**	**4.61**	**45**	*e*Pn	**Pn**	**16 09 07.2**	**+2.4**
U15A	**North Rim**	**4.84**	**31**	*e*Pn	**Pn**	**16 09 10.3**	**+2.2**
LCMT	**Little Creek M**	**5.02**	**20**	*e*Pn	**Pn**	**16 09 11.2**	**+0.8**
X18A	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**3.50**	**92**	P	**Pn**	**16 46 48.7**	**+0.1**
GENI				S	**Sn**	**16 47 29.3**	**+0.5**
JAY	**Jayapura**	**4.03**	**91**	Pn	**Pn**	**16 46 55.2**	**-0.8**
	0.3nm,0.3s,baz=270,slow=20,SNR=14						
JAY				Sn	**Sn**	**16 47 41.0**	**-1.1**
	0.3nm,0.3s,baz=90,slow=20,SNR=9.1						
JAY	**Jayapura**	**4.03**	**91**	P	**Pn**	**16 46 55.1**	**-0.9**
JAY				S	**Sn**	**16 47 42.1**	**0.0**
FAKI	**Fak Fak**	**4.44**	**264**	P	**Pn**	**16 47 01.7**	**+0.1**
FAKI				S	**Sn**	**16 47 52.8**	**+0.8**
SIJI	**Sorong**	**5.63**	**286**	Pn	**Pn**	**16 47 16.0**	**-2.1**
	25nm,0.3s,baz=360,slow=2.2,SNR=2.6						
SIJI				Sn	**Sn**	**16 48 20.7**	**-0.8**
	24nm,0.3s,baz=359,slow=2.2,SNR=2.5						
WRA	**Warramunga Arr**	**17.50**	**187**	P	**Pn**	**16 49 57.9**	**+0.1**
	0.1nm,0.3s,baz=11,slow=12,SNR=5.8						
FITZ	**Fitzroy Crossi**	**18.92**	**214**	P	**P**	**16 50 13.5**	**-0.7**
	0.0nm,0.3s,baz=40,slow=17,SNR=2.4						
ASAR	**Alice Springs**	**21.23**	**187**	P	**P**	**16 50 39.8**	**+0.5**
	0.6nm,0.4s,baz=15,slow=10,SNR=11						
MKAR	**Makanchi Array**	**68.38**	**323**	P	**P**	**16 56 56.1**	**+2.0**
	0.1nm,0.5s,baz=114,slow=7.0,SNR=3.8						

JMA 26 16:50:33.1±0.1, 35.75N×140.92E, h9km±1km, M3.5, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**227**	P	Pg	16 50 35.0	-0.1
CHOJ				S	Sg	16 50 36.9	+0.3
JCN	**Nagara**	**0.67**	**241**	⇑P	Pb	16 50 47.1	+0.1
JYT	**Yasato**	**0.76**	**309**	⇑P	Pg	16 50 47.3	-0.4
JYT				S	Sg	16 50 57.2	-0.4
BSO4	**Boso 4**	**0.90**	**212**	P	Pb	16 50 50.9	+0.2
BSO4				X		16 51 05.4	
JHO	**Hitachi**	**0.91**	**342**	⇑P	Pg	16 50 49.6	-0.9
JHO				S	Sg	16 51 01.6	-0.7
BSO3	**Boso 3**	**1.00**	**200**	⇓P	Pg	16 50 52.1	-0.3
MAT	**Matsushiro**	**2.33**	**291**	P	Pn	16 51 11.0	-0.7
MAT				*eS*	Sn	16 51 37.7	-2.8

DJA 26 17:10:07.3±0.4, 1°S±3°×12°0E±°, h54km±10km, M4.4/9, mb4.8/1, MLv4.1/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.58**	**275**	P	Pn	17 10 19.6	-0.1
PCI				S	Sn	17 10 32.4	+3.7
MRSI	**Marisa**	**2.09**	**47**	P	Pn	17 10 39.3	-0.7
MRSI				S	Sn	17 11 05.6	+0.7
TTSI	**Tana Toraja**	**2.15**	**196**	P	Pn	17 10 39.1	-1.7
TTSI				S	Sn	17 11 07.0	+0.6
LUWI	**Luwuk**	**2.36**	**92**	P	Pn	17 10 42.1	-1.6
LUWI				S	Sn	17 11 12.2	+0.7
GTOI	**Gorontalo**	**3.04**	**59**	P	Pn	17 10 52.3	-0.7
SPSI	**Sidrap Palu**	**3.05**	**192**	P	Pn	17 10 51.2	-1.9
SPSI				S	Sn	17 11 26.9	-1.5
KDI	**Kendari**	**3.71**	**143**	P	Pn	17 11 03.3	+1.2
KMSI	**Cibinong**	**3.88**	**67**	P	Pn	17 11 05.2	+0.7
LBMI	**Labuha**	**7.10**	**87**	P	Pn	17 11 43.5	-5.1
MSAI	**Masohi**	**8.84**	**106**	P	Pn	17 12 14.0	+1.6

*ISCJB **26** 17:11:05.1±0.6, 14°.39S±0°.09×73°.24W±0°.07, h86km, mb3.4/3, Error ellipse: s-maj=14.7km s-min=6.2km az=36.9*
*IDC **26** 17:11:06.7±1.8, 14°.23S×73°.15W, h72km±19km, mb3.2/3, mb1 3.8/8, mb1mx3.5/42, mbtmp3.9/8, Error ellipse: s-maj=29.6km s-min=12.7km az=32.0*
ISC 26 17:11:06.7±0.8, 14.43S±0°.10×73.26W±0°.09, h86km, n10, σ1°51/13, mb3.4/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.25**	**304**	P	**Pn**	**17 12 08.9**	**-0.2**
	23nm,0.3s,baz=131,slow=9.9,SNR=31						
NNA				S	**Sn**	**17 12 56.8**	**-0.9**
	22nm,0.3s,baz=254,slow=7.1,SNR=6.5						
LPAZ	**La Paz**	**5.28**	**111**	P	**Pn**	**17 12 25.1**	**+1.4**
	3.6nm,0.3s,baz=293,slow=9.3,SNR=87						
LPAZ				S	**Sn**	**17 13 23.9**	**+0.4**
	baz=210,slow=20,SNR=3.0						
LVC	**Limon Verde**	**9.12**	**154**	P	**Pn**	**17 13 15.3**	**-0.5**
	20nm,0.3s,baz=18,slow=8.2,SNR=6.6						
LVC				S	**Sn**	**17 14 55.5**	**-1.5**
	40nm,0.3s,baz=120,slow=23,SNR=9.5						
SIV	**San Ignacio**	**11.86**	**99**	P	**Pn**	**17 13 51.0**	**-1.9**
	1.1nm,0.3s,baz=290,slow=10,SNR=10						
PTGA	**Pitinga**	**18.92**	**45**	P	**P**	**17 15 19.9**	**-0.9**
	1.1nm,0.3s,baz=204,slow=23,SNR=10						
CPUP	**Villa Florida**	**19.03**	**131**	P	**P**	**17 15 24.0**	**+2.0**
	0.1nm,0.3s,baz=312,slow=14,SNR=3.7						
PLCA	**Paso Flores**	**26.31**	**175**	P	**P**	**17 16 37.1**	**+2.7**
	2.1nm,0.9s,baz=23,slow=7.1,SNR=3.8						
TXAR	**Lajitas Array**	**52.49**	**326**	P	**P**	**17 20 12.3**	**+1.1**
	0.1nm,0.4s,baz=153,slow=10,SNR=3.0						
TORD	**Torodi Ar. Bea**	**79.10**	**73**	P	**P**	**17 23 01.7**	**-0.7**
	0.3nm,0.5s,baz=260,slow=4.5,SNR=3.0						
SONM	**Songino Array**	**146.69**	**0**	PKPbc	**PKPab**	**17 30 40.4**	**+0.3**
	0.2nm,0.5s,baz=353,slow=4.6,SNR=2.1						

*IDC **26** 17:23:43.9±0.8, 16°.92S×173°.52W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/30, mbtmp3.9/7, MS3.4/2, Ms1 3.4/2, ms1mx2.9/31, Error ellipse: s-maj=37.2km s-min=20.9km az=130.0*
*ISCJB **26** 17:23:49.4±0.8, 17°.0S±0°.2×173°.6W±0°.2, h52km, mb4.0/7, MS3.8/1, Error ellipse: s-maj=32.4km s-min=18.0km az=38.6*
ISC 26 17:23:51.1±0.8, 16.9S±0°.2×173.6W±0°.2, h52km, n21, σ1°06/11, mb3.9/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.48**	**30**	Pn	Pn	17 24 34.7	-8.1
	4.5nm,0.3s,baz=206,slow=9.7,SNR=12						
AFI				Sn	Sn	17 25 12.9	-10
	20nm,0.3s,baz=178,slow=21,SNR=6.4						
AFI				LR	LR	17 25 51.2	
	comp=Z,222nm,19.0s,baz=167,slow=37						
DZM	**Mont Dzumac**	**19.51**	**252**	*e*LR	LR	17 33 29.7	
	187nm,24.1s						
URZ	**Urewera**	**22.76**	**199**	P	**P**	**17 28 48.0**	**-0.9**
	6.5nm,0.5s,baz=50,slow=1.3,SNR=10.0						
PAE	**Paea**	**22.91**	**95**	*e*T	T	17 51 43.5	
	1.1nm,0.3s						
PPT2	**Papeete2**	**22.92**	**95**	*e*LR	LR	17 33 50.7	
	93nm,23.8s						
TVO	**Taravao**	**23.22**	**96**	*e*T	T	17 52 06.4	
	0.9nm,0.3s						
TBI	**Tubuai**	**23.50**	**110**	*e*LR	LR	17 34 19.4	
	73nm,25.5s						
TBI	**Tubuai**	**23.50**	**110**	*e*T	T	17 52 24.6	
	4.8nm,0.4s						
TAOE	**Nuku Hiva Isla**	**33.51**	**80**	*e*LR	LR	17 38 47.7	
	99nm,26.6s						
RKT	**Rikitea**	**36.70**	**106**	*e*T	T	18 08 54.3	
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**49.35**	**258**	P	**P**	**17 32 34.6**	**-1.0**
	0.6nm,0.4s,baz=96,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**49.49**	**253**	P	**P**	**17 32 37.1**	**+0.4**
	1.3nm,0.5s,baz=88,slow=9.6,SNR=55						
VNDA	**Vanda**	**61.83**	**186**	P	**P**	**17 34 04.9**	**+0.6**
	0.8nm,0.8s,baz=2.5,slow=6.0,SNR=5.3						
TXAR	**Lajitas Array**	**81.61**	**56**	P	**P**	**17 36 03.2**	**-0.8**
	1.1nm,1.1s,baz=193,slow=5.1,SNR=5.6						
PDAR	**Pinedale Array**	**83.52**	**42**	P	**P**	**17 36 13.4**	**-0.3**
	0.6nm,0.5s,baz=231,slow=5.7,SNR=3.9						
ILAR	**Eielson Array**	**83.98**	**11**	P	**P**	**17 36 15.9**	**+0.6**
	0.4nm,0.8s,baz=208,slow=7.7,SNR=4.7						
ULM	**Lac du Bonnet**	**95.23**	**39**	LR	LR	18 13 10.6	
	comp=Z,39nm,21.9s,baz=349,slow=31						
MKAR	**Makanchi Array**	**111.78**	**314**	PKiKP	**PKiKP**	**17 42 21.5**	**+1.3**
	0.3nm,0.6s,baz=76,slow=1.7,SNR=3.7						
KMBO	**Kilima Mbogo**	**144.70**	**242**	PKP	**PKPdf**	**17 43 25.1**	**+1.7**
	2.6nm,0.7s,baz=80,slow=5.9,SNR=7.3						
BRTR	**Keskin Array B**	**147.23**	**319**	PKPbc	**PKPab**	**17 43 30.1**	**-0.8**
	1.2nm,0.9s,baz=180,slow=3.7,SNR=6.0						
GERES	**GERESS Array B**	**147.63**	**351**	PKPbc	**PKPbc**	**17 43 29.4**	**-0.5**
	0.7nm,0.8s,baz=119,slow=1.7,SNR=6.0						

*IDC **26** 17:36:10.9±1.5, 2°.41S×136°.72E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/24, mbtmp3.7/3, ML3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=31.6km s-min=27.6km az=66.0*
*ISCJB **26** 17:36:13.7±0.6, 2°.49S±0°.10×136°.71E±0°.03, h33km, mb3.7/2, Error ellipse: s-maj=13.7km s-min=5.0km az=2.8*
*DJA **26** 17:36:14.6±0.6, 2°.5S±8°×13°7E±°, h93km±37km, M4.3/6, mB6.5/1, mb4.3/3, MLv4.3/6, Mw(mB)6.3/1*
ISC 26 17:36:15.2±0.9, 2.4S±0°.1×136.74E±0°.05, h35km, n11, σ1°60/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.72**	**290**	P	**Pn**	**17 36 57.0**	**+0.5**
GENI	**Genyem**	**3.43**	**93**	P	**Pn**	**17 37 08.2**	**+2.1**
GENI				S	**Sn**	**17 37 46.6**	**+1.0**
JAY	**Jayapura**	**3.96**	**91**	Pn	**Pn**	**17 37 13.9**	**+0.4**
	0.2nm,0.3s,baz=265,slow=23,SNR=13						
JAY				Sn	**Sn**	**17 38 00.4**	**+1.6**
	0.5nm,0.3s,baz=91,slow=24,SNR=5.7						
JAY	**Jayapura**	**3.96**	**91**	P	**Pn**	**17 37 13.4**	**-0.1**
JAY				S	**Sn**	**17 37 54.9**	**-3.9**
FAKI	**Fak Fak**	**4.51**	**264**	P	**Pn**	**17 37 20.7**	**-0.4**
FAKI				S	**Sn**	**17 38 12.7**	**+0.3**
SWI	**Sorong**	**5.70**	**286**	P	**Pn**	**17 37 37.6**	**+0.2**
SWI				S	**Sn**	**17 38 39.7**	**-1.9**
MMPI	**Merauke**	**7.00**	**149**	P	**Pn**	**17 37 54.8**	**-0.5**
MMPI				S	Sn	17 38 35.1	-39
KAPI	**Kappang**	**17.14**	**261**	LR	LR	17 47 43.5	
	comp=Z,65nm,18.8s,baz=157,slow=40						
WRA	**Warramunga Arr**	**17.56**	**188**	P	**P**	**17 40 17.3**	**-0.9**
	0.2nm,0.3s,baz=12,slow=13,SNR=10.0						
ASAR	**Alice Springs**	**21.28**	**187**	P	**P**	**17 41 00.0**	**+1.2**
	2.7nm,0.9s,baz=13,slow=12,SNR=17						
MKAR	**Makanchi Array**	**68.38**	**323**	P	**P**	**17 47 14.1**	**+0.7**
	0.6nm,0.6s,baz=113,slow=8.1,SNR=7.1						

*NEIC **26** 17:54:15.8, 13°.53N×90°.80W, h20km, MD4.0(MEX), After MEX.*
MEX 26 17:54:15.8±0.4, 13°.53N×90°.80W, h20km±128km, MD4.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**3.03**	**335**	*e*P	Pn	17 55 00.4	-2.4
CCIG				*e*S	Sn	17 55 35.1	-3.4
CCIG	**Comitan**	**3.03**	**335**	*e*P	Pn	17 55 00.4	-2.4
CCIG				*e*S	Sn	17 55 35.1	-3.4
PCIG		**3.19**	**313**	*e*P	Pn	17 55 02.9	-1.9
PCIG				*e*S	Sn	17 55 38.9	-3.3
PCIG		**3.19**	**313**	*e*P	Pn	17 55 02.9	-1.9
PCIG				*e*S	Sn	17 55 38.9	-3.3
TEIG	**Tepich**	**7.08**	**20**	*e*P	Pn	17 55 57.8	-0.6
BCIP	**Isla Barro Col**	**11.59**	**111**	Pn	Pn	17 56 60.0	-0.3
PAYG	**Puerto Ayora**	**14.12**	**178**	Pn	Pn	17 57 34.1	-0.8

*DJA **26** 17:58:33.0±1.3, 1°S±27°×13°9E±1°0, h159km±36km, M4.2/4, mB4.8/1, mb3.9/2, MLv4.4/4, Mw(mB)4.0/1*
*IDC **26** 17:58:36.9±0.8, 2°.75S×138°.69E, h0km, mb4.1/8, mb1 4.2/10, mb1mx3.9/33, mbtmp4.1/10, ML3.8/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/27, Error ellipse: s-maj=27.5km s-min=17.8km az=95.0*
*ISCJB **26** 17:58:40.1±0.5, 2°.83S±0°.07×138°.58E±0°.07, h35km, mb4.0/8, MS3.6/1, Error ellipse: s-maj=10.2km s-min=9.4km az=31.0*
*NEIC **26** 17:58:43.6±1.6, 2°.85S×138°.83E, h53km±18km, mb4.1/1, Error ellipse: s-maj=18.2km s-min=10.3km az=126.0*
ISC 26 17:58:41.7±0.7, 2.89S±0°.07×138.62E±0°.06, h35km, n22, σ2°22/22, mb4.0/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.58**	**79**	P	**Pn**	**17 59 07.2**	**0.0**
GENI				S	Sn	17 59 37.3	+11
JAY	**Jayapura**	**2.12**	**80**	Pn	**Pn**	**17 59 13.8**	**-0.9**
	1.4nm,0.3s,baz=270,slow=23,SNR=95						
JAY	**Jayapura**	**2.12**	**80**	P	**Pn**	**17 59 14.5**	**-0.2**
FAKI	**Fak Fak**	**6.36**	**270**	P	**Pn**	**18 00 12.1**	**-0.9**
SWI	**Sorong**	**7.62**	**285**	P	Pn	18 00 19.5	-11
PMG	**Port Moresby**	**10.68**	**128**	Pn	**Pn**	**18 01 11.7**	**-0.6**
COEN	**Coen**	**11.89**	**158**	*e*Pn	**Pn**	**18 01 31.2**	**+2.4**
SOEI	**Soe**	**15.80**	**244**	*e*Pn	**P**	**18 02 26.1**	**+0.7**
	56nm,0.9s						
WRAB	**Tennant Creek**	**17.45**	**193**	*e*Pn	**Pn**	**18 02 43.4**	**+0.9**
	12nm,0.7s						
WRA	**Warramunga Arr**	**17.46**	**194**	P	**Pn**	**18 02 42.5**	**-0.1**
	0.5nm,0.3s,baz=18,slow=12,SNR=25						
WRA				S	**Sn**	**18 05 48.0**	**-8.1**
	0.1nm,0.3s,baz=14,slow=22,SNR=4.6						
FITZ	**Fitzroy Crossi**	**19.76**	**219**	P	**P**	**18 03 10.1**	**+1.3**
	0.1nm,0.3s,baz=37,slow=15,SNR=6.4						
FITZ				S	S	18 06 40.1	-10
	0.1nm,0.3s,baz=158,slow=14,SNR=2.9						
FITZ	**Fitzroy Crossi**	**19.76**	**219**	*e*P	**Pn**	**18 03 12.1**	**+1.6**
FITZ				S	S	18 06 40.1	-10
ASAR	**Alice Springs**	**21.16**	**192**	P	**P**	**18 03 25.1**	**+1.2**
	8.8nm,0.8s,baz=18,slow=9.6,SNR=72						
ASAR				S	**S**	**18 07 18.2**	**+0.6**
	3.5nm,0.8s,baz=13,slow=24,SNR=8.7						
URZ	**Urewera**	**49.74**	**140**	LR	LR	18 27 16.4	
	comp=Z,60nm,19.0s,baz=318,slow=34						
YAK	**Yakutsk**	**65.10**	**355**	P	**P**	**18 09 18.1**	**-0.4**
	2.3nm,0.5s,baz=148,slow=1.7,SNR=3.5						
SEY	**Seymchan**	**66.47**	**7**	P	**P**	**18 09 26.2**	**-1.1**
	0.8nm,0.6s,baz=143,slow=6.6,SNR=3.6						
MKAR	**Makanchi Array**	**69.87**	**322**	P	**P**	**18 09 50.1**	**+1.0**
	0.9nm,0.8s,baz=115,slow=8.3,SNR=8.5						
ZALV	**Zalesovo Beam**	**72.04**	**330**	P	**P**	**18 10 02.2**	**+0.2**
	0.8nm,0.7s,baz=102,slow=7.1,SNR=4.4						
KURK	**Kurchatov**	**73.81**	**325**	P	**P**	**18 10 13.7**	**+1.1**
KURBB	**Kurchatov Arra**	**73.82**	**325**	P	**P**	**18 10 13.7**	**+1.0**
	1.4nm,0.2s,baz=112,slow=5.5,SNR=7.5						
VNDA	**Vanda**	**75.61**	**175**	P	**P**	**18 10 24.5**	**+1.9**
	1.0nm,0.7s,baz=318,slow=6.6,SNR=7.7						
ILAR	**Eielson Array**	**86.03**	**24**	P	**P**	**18 11 16.4**	**-1.9**
	0.6nm,0.7s,baz=262,slow=4.4,SNR=6.7						

*NIED **26** 18:05:00, 36°.40N×142°.60E, h5km, Mw3.6 Best double couple: M₀2.41000×10¹⁴ NP1:φ₀60.00000°, δ36.00000°, λ161.00000°. NP2:φ₀166.00000°, δ79.00000°, λ56.00000°.*
*ISCJB **26** 18:05:43.3±1.4, 36°.36N±0°.03×142°.47E±0°.07, h17km±13km, mb3.5/3, Error ellipse: s-maj=9.9km s-min=5.3km az=16.8*
*JMA **26** 18:05:43.3±0.2, 36°.35N×142°.57E, h34km, M3.5*
*IDC **26** 18:06:05.5±1.6, 34°.89N×137°.56E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/37, mbtmp3.6/3, Error ellipse: s-maj=42.2km s-min=25.4km az=88.0*
ISC 26 18:05:41.5±3.3, 36.35N±0°.04×142.47E±0°.09, h1km±23km, n23, σ1°28/35, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.46**	**244**	P	**Pb**	**18 06 09.4**	**-0.1**
CHOJ				*e*S	**Sb**	**18 06 28.4**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.54**	**300**	P	**Pb**	**18 06 10.5**	**-0.4**
JHO	**Hitachi**	**1.55**	**280**	P	**Pb**	**18 06 10.6**	**-0.5**
JHO				*e*S	**Sn**	**18 06 30.2**	**-1.0**
JFK	**Kawauchi**	**1.63**	**309**	P	**Pn**	**18 06 11.5**	**0.0**
JFK				*e*S	**Sn**	**18 06 31.8**	**-1.4**
JMM	**Marumori**	**2.02**	**319**	P	**Pn**	**18 06 16.7**	**-0.1**
JMM				*e*S	**Sn**	**18 06 41.6**	**-1.1**
JFT	**Otama**	**2.07**	**305**	P	**Pb**	**18 06 18.9**	**-1.0**
JFT				S	**Sb**	**18 06 44.9**	**-1.3**
BSO1	**Boso 1**	**2.08**	**216**	P	**Pn**	**18 06 17.4**	**+0.2**
BSO1				S	**Sn**	**18 06 44.3**	**+0.8**
BSO3	**Boso 3**	**2.22**	**227**	P	**Pn**	**18 06 19.7**	**+0.4**
BSO3				*e*S	**Sb**	**18 06 48.6**	**-1.7**
JIO	**Ouri**	**2.28**	**337**	P	**Pn**	**18 06 20.2**	**-0.2**
JAG	**Ashikaga**	**2.44**	**273**	P	**Pn**	**18 06 23.2**	**+0.7**
JAG				*e*S	**Sn**	**18 06 51.7**	**-1.3**
JMK	**Ichinoseki**	**2.78**	**339**	P	**Pn**	**18 06 27.7**	**+0.5**
JMK				*e*S	**Sn**	**18 07 00.3**	**-1.1**
JRY	**Ryogami san**	**2.91**	**264**	P	**Pn**	**18 06 29.5**	**+0.5**
JRY				S	**Sn**	**18 07 03.9**	**-0.7**
JOD2	**Odawara 2**	**2.96**	**249**	P	**Pn**	**18 06 30.5**	**+0.8**
JOD2				*e*S	**Sn**	**18 07 05.3**	**-0.5**
JYK	**Kaneyama**	**3.06**	**327**	P	**Pn**	**18 06 31.7**	**+0.6**
JOM	**Ohasama**	**3.25**	**344**	P	**Pn**	**18 06 34.7**	**+1.0**
JYN	**Shimob**	**3.30**	**256**	P	**Pn**	**18 06 35.8**	**+1.4**
JYN				*e*S	**Sn**	**18 07 14.9**	**+0.6**
MJAR	**Matsushiro Arr**	**3.44**	**274**	Pn	**Pn**	**18 06 37.0**	**+0.6**
	4.6nm,0.3s,baz=42,slow=24,SNR=47						
MAT	**Matsushiro**	**3.44**	**274**	P	**Pn**	**18 06 37.9**	**+1.5**
MAT				*e*S	**Sn**	**18 07 17.8**	**0.0**
MAT	**Matsushiro**	**3.44**	**274**	P	**Pn**	**18 06 38.2**	**+1.8**
JHJ	**Hachijo jima 2**	**3.91**	**215**	Pn	**Pn**	**18 06 42.8**	**0.0**
	19nm,0.3s,baz=333,slow=22,SNR=7.5						
JHJ				Sn	**Sn**	**18 07 24.9**	**-4.4**
	13nm,0.3s,baz=86,slow=22,SNR=6.0						
SONM	**Songino Array**	**28.87**	**305**	P	**P**	**18 11 44.1**	**+2.3**
	0.6nm,0.6s,baz=104,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**45.20**	**303**	P	P	18 14 04.2	+4.1
	0.8nm,0.8s,baz=93,slow=6.3,SNR=6.1						
WRA	**Warramunga Arr**	**56.51**	**189**	P	P	18 15 35.8	+10
	0.4nm,0.7s,baz=8.1,slow=7.7,SNR=2.5						

IDC 26 18:21:21.2±1.7, 2.90S×138.63E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.5/30, mbtmp3.7/3, ML3.2/2, Error ellipse: s-maj=37.2km s-min=29.4km az=124.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.11**	**80**	Pn	Pn	18 21 57.9	0.0
	1.3nm,0.3s,baz=250,slow=22,SNR=30						
WRA	**Warramunga Arr**	**17.45**	**194**	P	Pn	18 25 25.9	-0.3
	0.2nm,0.3s,baz=13,slow=13,SNR=5.6						
FITZ	**Fitzroy Crossi**	**19.75**	**219**	P	Pn	18 25 57.9	+3.5
	0.1nm,0.3s,baz=46,slow=15,SNR=3.2						
FITZ				S	S	18 29 26.5	-10
	0.1nm,0.3s,baz=49,slow=6.2,SNR=2.5						
ASAR	**Alice Springs**	**21.14**	**192**	P	P	18 26 08.2	+0.1
	3.3nm,0.8s,baz=20,slow=9.3,SNR=19						
MKAR	**Makanchi Array**	**69.89**	**322**	P	P	18 32 34.2	0.0
	0.3nm,0.7s,baz=109,slow=8.2,SNR=2.4						

*ISCJB **26** 18:22:38.3±0.5, 19°.5S±0°.1×177°.7W±0°.1, h400km, mb3.8/14, Error ellipse: s-maj=17.2km s-min=8.6km az=137.6*
*IDC **26** 18:22:40.3±2.2, 19°.58S×177°.65W, h413km±24km, mb3.5/14, mb1 3.7/16, mb1mx3.5/42, mbtmp4.3/16, Error ellipse: s-maj=15.6km s-min=12.8km az=107.0*
ISC 26 18:22:39.0±0.6, 19.6S±0°.1×177.6W±0°.1, h400km, n24, σ0°85/25, mb3.7/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.91**	**46**	P	**P**	**18 24 35.1**	**+1.6**
	2.2nm,0.3s,baz=143,slow=7.8,SNR=4.3						
AFI				S	**S**	**18 26 04.3**	**-2.1**
	3.3nm,0.3s,baz=203,slow=6.9,SNR=4.6						
URZ	**Urewera**	**19.20**	**193**	P	**P**	**18 26 35.4**	**-0.5**
	2.6nm,0.3s,baz=268,slow=2.5,SNR=12						
CTA	**Charters Tower**	**33.97**	**263**	P	**P**	**18 28 47.2**	**0.0**
	11nm,0.5s,baz=88,slow=10,SNR=21						
STKA	**Stephens Creek**	**38.55**	**243**	P	**P**	**18 29 25.2**	**-0.1**
	1.2nm,0.5s,baz=98,slow=12,SNR=4.6						
JAY	**Jayapura**	**44.11**	**287**	P	**P**	**18 30 10.9**	**+0.7**
	2.0nm,0.6s,baz=279,slow=23,SNR=16						
ASAR	**Alice Springs**	**45.11**	**256**	P	**P**	**18 30 17.2**	**-0.6**
	4.8nm,0.5s,baz=91,slow=8.4,SNR=80						
WRA	**Warramunga Arr**	**45.11**	**261**	P	**P**	**18 30 17.0**	**-0.9**
	1.8nm,0.5s,baz=98,slow=5.8,SNR=15						
VNDA	**Vanda**	**58.89**	**185**	P	**P**	**18 31 58.0**	**+0.9**
	2.3nm,0.9s,baz=167,slow=1.3,SNR=9.8						
MJAR	**Matsushiro Arr**	**69.67**	**323**	P	**P**	**18 33 06.7**	**-0.2**
	3.5nm,0.6s,baz=155,slow=5.8,SNR=18						
MAT	**Matsushiro**	**69.67**	**323**	P	**P**	**18 33 06.7**	**-0.2**
PETK	**Petropavlovsk-**	**75.45**	**345**	P	**P**	**18 33 40.0**	**-0.1**
	2.6nm,0.7s,baz=128,slow=9.6,SNR=3.6						
USRK	**Ussuriysk Ar.**	**78.39**	**326**	P	**P**	**18 33 57.4**	**+0.9**
	1.2nm,0.8s,baz=180,slow=9.3,SNR=4.7						
MAW	**Mawson**	**82.58**	**200**	P	**P**	**18 34 17.9**	**-0.3**
	1.6nm,0.6s,baz=142,slow=13,SNR=7.0						
SEY	**Seymchan**	**85.54**	**347**	P	**P**	**18 34 32.3**	**-0.5**
	4.2nm,0.8s,baz=147,slow=6.7,SNR=12						
TXAR	**Lajitas Array**	**86.22**	**57**	P	**P**	**18 34 38.0**	**+1.0**
	0.5nm,0.8s,baz=205,slow=5.5,SNR=5.8						
ILAR	**Eielson Array**	**87.31**	**13**	P	**P**	**18 34 40.9**	**-0.3**
	0.7nm,0.5s,baz=227,slow=5.1,SNR=15						
CMAR	**Chiang Mai Arr**	**90.15**	**289**	P	**P**	**18 34 55.8**	**+0.1**
	0.5nm,0.8s,baz=136,slow=4.4,SNR=4.4						
ARCES	**ARCESS Array B**	**128.06**	**350**	PKP	**PKPdf**	**18 40 56.5**	**-1.1**
	0.9nm,0.8s,baz=15,slow=1.4,SNR=4.8						
FINES	**FINESS

IDC 26 18:50:32.7±1.4, 2°38N×126°92E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/46, mbtmp3.6/5, Error ellipse: s-maj=144.9km s-min=19.1km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**162**	P	P	18 55 41.5	-1.4
	0.6nm,0.5s,baz=341,slow=10,SNR=16						
ASAR	**Alice Springs**	**26.76**	**166**	P	P	18 56 15.7	+1.3
	0.4nm,0.5s,baz=347,slow=12,SNR=7.2						
SONM	**Songino Array**	**48.63**	**342**	P	P	18 59 18.6	+0.1
	0.2nm,0.5s,baz=163,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**58.77**	**326**	P	P	19 00 32.6	-0.1
	0.8nm,0.7s,baz=120,slow=7.3,SNR=7.6						
KURBB	**Kurchatov Arra**	**62.98**	**328**	P	P	19 01 01.1	-0.1
	0.8nm,0.6s,baz=129,slow=6.2,SNR=14						

*OMAN **26** 19:01:33.6, 27°.13N×56°.03E, h11km*
*TEH **26** 19:01:33.6, 27°.13N×56°.03E, h11km, ML3.0*
*ISCJB **26** 19:01:34.7±0.4, 27°.11N±0°.03×56°.05E±0°.05, h14km, Error ellipse: s-maj=6.2km s-min=3.8km az=0.2*
*CSEM **26** 19:01:35.1±0.2, 27°.09N×56°.07E, h10km, ML3.0, Error ellipse: s-maj=6.6km s-min=4.3km az=87.0*
*DSN **26** 19:01:36.2±0.6, 27°.03N×56°.37E, h15km, ML3.1, Error ellipse: s-maj=22.1km s-min=4.6km az=97.0*

ISC 26 19:01:35.0±1.0, 27°08N±0°.03×56°05E±0°.05, h14km, n46, σ1§07/52, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.34**	**19**	*e*Pg	**Pg**	**19 01 40.9**	**-1.1**
GENO	**Geno**	**0.34**	**19**	*e*Pg	**Pg**	**19 01 40.9**	**-1.1**
GENO	**Geno**	**0.34**	**19**	*e*Pg	**Pg**	**19 01 40.9**	**-1.1**
IBND	**Bandar-abas**	**0.57**	**50**	*e*Pg	**Pg**	**19 01 45.7**	**-0.5**
IBND				*e*Sg	**Sg**	**19 01 53.3**	**-0.6**
IBND				*e*AMB	AMB	19 01 56.0	
	comp=Z,18μm,0.1s						
IBND	**Bandar-abas**	**0.57**	**50**	*e*Pg	**Pg**	**19 01 45.7**	**-0.5**
IBND				*e*Sg	**Sg**	**19 01 53.3**	**-0.6**
NIAN	**Nian**	**0.85**	**55**	*e*Pg	**Pg**	**19 01 50.9**	**-0.6**
NIAN	**Nian**	**0.85**	**55**	*e*Pg	**Pg**	**19 01 50.9**	**-0.6**
KHSK	**Kohestak**	**0.95**	**109**	*e*Pg	**Pb**	**19 01 53.1**	**-0.2**
KHSK	**Kohestak**	**0.95**	**109**	*e*Pg	**Pb**	**19 01 53.1**	**-0.2**
BANOM	**Banah**	**1.17**	**169**	*e*P	**Pn**	**19 01 56.8**	**-0.3**
	SNR=73						
BANOM				S	**Sb**	**19 02 12.4**	**+0.3**
BANOM	**Banah**	**1.17**	**169**	Pn	**Pn**	**19 01 56.8**	**-0.3**
	SNR=73						
BANOM				Sb	**Sg**	**19 02 12.9**	**0.0**
BANOM	**Banah**	**1.17**	**169**	P	**Pn**	**19 01 56.8**	**-0.3**
	SNR=73						
BANOM				Sn	**Sg**	**19 02 12.9**	**0.0**
BANOM	**Banah**	**1.17**	**169**	P	**Pn**	**19 01 56.8**	**-0.3**
	SNR=73						
BANOM				S	**Sb**	**19 02 12.4**	**+0.3**
UOSS	**Minazif**	**2.13**	**176**	P	**Pn**	**19 02 10.8**	**+0.6**
HATD	**Hatta, Dubai**	**2.25**	**178**	P	**Pn**	**19 02 13.1**	**+1.3**
HATD	**Hatta, Dubai**	**2.25**	**178**	P	**Pn**	**19 02 13.1**	**+1.3**
FAQ	**Al Faqa, Dubai**	**2.36**	**190**	*e*P	**Pn**	**19 02 14.5**	**+1.2**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**2.36**	**190**	pPn	**Pn**	**19 02 14.7**	**+1.4**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**2.36**	**190**	P	**Pn**	**19 02 14.7**	**+1.4**
	SNR=9.0						
FAQ	**Al Faqa, Dubai**	**2.36**	**190**	P	**Pn**	**19 02 14.5**	**+1.2**
	SNR=9.0						
ASHO	**Ashiyiah**	**2.38**	**180**	*e*P	**Pn**	**19 02 14.9**	**+1.2**
	SNR=18						
ASHO	**Ashiyiah**	**2.38**	**180**	pPn	**Pn**	**19 02 14.9**	**+1.2**
	SNR=18						
ASHO	**Ashiyiah**	**2.38**	**180**	P	**Pn**	**19 02 14.9**	**+1.2**
	SNR=18						
ASHO	**Ashiyiah**	**2.38**	**180**	P	**Pn**	**19 02 14.9**	**+1.2**
	SNR=18						
NGRK	**Negar Kerman**	**2.63**	**13**	*e*Pn	**Pn**	**19 02 18.6**	**+1.3**
NGRK	**Negar Kerman**	**2.63**	**13**	*e*Pn	**Pn**	**19 02 18.6**	**+1.3**
KRBR	**Kerman**	**2.96**	**12**	*e*Pn	**Pn**	**19 02 20.4**	**-1.5**
GHIR	**Ghir-Karzin**	**2.97**	**295**	*e*Pn	**Pn**	**19 02 20.8**	**-1.0**
CHMN	**Cheshme madani**	**3.07**	**25**	*e*Pn	**Pn**	**19 02 24.6**	**+1.2**
CHMN	**Cheshme madani**	**3.07**	**25**	*e*Pn	**Pn**	**19 02 24.6**	**+1.2**
KHGB	**Koh Gabri**	**3.31**	**6**	*e*Pn	**Pn**	**19 02 28.3**	**+1.7**
KHGB	**Koh Gabri**	**3.31**	**6**	*e*Pn	**Pn**	**19 02 28.3**	**+1.7**
ISRV	**Sarvestan**	**3.46**	**312**	*e*Pn	**Pn**	**19 02 29.9**	**+1.1**
ISRV				*e*AMB	AMB	19 03 19.3	
	comp=Z,204nm,0.1s						
ISRV	**Sarvestan**	**3.46**	**312**	*e*Pn	**Pn**	**19 02 29.9**	**+1.1**
IMEH	**Mehriz**	**4.48**	**344**	*e*Pn	**Pn**	**19 02 44.0**	**+1.3**
IMEH				*e*AMB	AMB	19 03 39.7	
	comp=Z,169nm,0.1s						
IMEH	**Mehriz**	**4.48**	**344**	*e*Pn	**Pn**	**19 02 44.0**	**+1.3**
IBAF	**Bafgh**	**4.51**	**355**	*e*Pn	**Pn**	**19 02 44.6**	**+1.5**
IBAF				*e*AMB	AMB	19 02 46.1	
	comp=Z,81nm,0.1s						
IBAF	**Bafgh**	**4.51**	**355**	*e*Pn	**Pn**	**19 02 44.6**	**+1.5**
ISAD	**Sadrabad**	**5.24**	**337**	*e*Pn	**Pn**	**19 02 55.0**	**+1.8**
ISAD				*e*AMB	AMB	19 02 57.3	
	comp=Z,193nm,0.2s						
ISAD	**Sadrabad**	**5.24**	**337**	*e*Pn	**Pn**	**19 02 55.0**	**+1.8**
IRAM	**Ramesheh**	**5.70**	**327**	*e*Pn	**Pn**	**19 03 00.2**	**+0.8**
IRAM				*e*AMB	AMB	19 04 07.8	
	comp=Z,105nm,0.2s						
IRAM	**Ramesheh**	**5.70**	**327**	*e*Pn	**Pn**	**19 03 00.2**	**+0.8**
IZEF	**Zefreh**	**6.63**	**332**	*e*Pn	**Pn**	**19 03 12.1**	**-0.2**
IZEF				*e*AMB	AMB	19 03 15.2	
	comp=Z,39nm,0.1s						
IZEF	**Zefreh**	**6.63**	**332**	*e*Pn	**Pn**	**19 03 12.1**	**-0.2**
IPIR	**Pirpir**	**7.16**	**323**	*e*Pn	**Pn**	**19 03 20.0**	**+0.4**
IPIR				*e*AMB	AMB	19 04 41.3	
	comp=Z,80nm,0.2s						
IPIR	**Pirpir**	**7.16**	**323**	*e*Pn	**Pn**	**19 03 20.0**	**+0.4**

*MEX **26** 19:05:01.1±1.6, 32°.43N×115°.09W, h6km, MD4.0*
*ECX **26** 19:05:01.5±0.5, 32°.42N×115°.19W, h5km, MD2.4, ML2.6*

ISC 26 19:04:59.1±3.0, 32°4N±0°.1×115°1W±0°.1, h15km±7km, n11, σ0§22/16, 1C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.07**	**236**	*e*P	**Pg**	**19 05 01.7**	**-0.3**
MBIG				*e*S	**Sg**	**19 05 04.0**	**+0.1**
CPBX	**Cerro Prieto**	**0.15**	**260**	⇑*e*P	**Pg**	**19 05 03.2**	**+0.2**
CPBX				*e*S	**Sg**	**19 05 05.5**	**0.0**
CPBX				⇓*e*		19 05 07.1	
CPBX				IAML		19 05 07.1	
	comp=N,10μm,0.4s						
CPBX				⇓*e*		19 05 07.7	
CPBX				IAML		19 05 07.7	
	comp=E,10μm,0.3s						
CPBX				*e*		19 05 10.0	
CPBX				IAML		19 05 10.0	
	comp=N,4μm,0.2s						
IKP	**In-Ko-Pah, Jac**	**0.85**	**284**	*e*P	**Pb**	**19 05 15.7**	**+0.1**
ECBX	**El Chinero**	**0.97**	**176**	*e*S	**Sg**	**19 05 31.1**	**+0.5**
CBX	**Cerro Bola**	**1.30**	**265**	*e*P	**Pb**	**19 05 23.3**	**-0.1**
CBX				*e*S	**Sb**	**19 05 39.8**	**-0.2**
CBX	**Cerro Bola**	**1.30**	**265**	*e*P	**Pb**	**19 05 23.5**	**+0.1**
CBX				*e*S	**Sn**	**19 05 39.9**	**-0.2**
TJIG	**Tijuana**	**1.30**	**270**	*e*P	**Pb**	**19 05 23.4**	**+0.1**
BAR	**Barrett**	**1.32**	**281**	*e*P	**Pb**	**19 05 23.8**	**+0.2**
SPIG	**San Pedro Mart**	**1.42**	**192**	*e*P	**Pg**	**19 05 26.4**	**-0.1**
SPIG				*i* S	**Sn**	**19 05 43.3**	**-0.1**
SPIG	**San Pedro Mart**	**1.42**	**192**	*e*P	**Pb**	**19 05 25.5**	**-0.1**
SPX	**San Pedro Mart**	**1.42**	**191**	*e*P	**Pb**	**19 05 25.8**	**+0.2**

*IDC **26** 19:07:25.5±2.1, 36°.79S×74°.04W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/24, mbtmp3.6/3, ML3.6/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/17, Error ellipse: s-maj=77.5km s-min=21.3km az=64.0*
*ISCJB **26** 19:07:27.6±1.4, 36°.9S±0°.1×74°.1W±0°.2, h33km, mb3.5/2, MS3.0/1, Error ellipse: s-maj=18.9km s-min=13.9km az=31.8*

ISC 26 19:07:30.0±1.6, 36°9S±0°.1×74°1W±0°.2, h35km, n6, σ0§99/4, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**1.26**	**54**	⇑*e*P	Pn	19 07 46.6	-4.6
COCH				*e*S	**Sn**	**19 08 07.3**	**+0.3**
PLCA	**Paso Flores**	**4.72**	**146**	Pn	**Pn**	**19 08 38.7**	**-0.1**
	0.6nm,0.3s,baz=343,slow=10,SNR=22						
PLCA				Lg	Lg	19 09 58.1	
	1.3nm,0.3s,baz=75,slow=21,SNR=4.9						
PLCA				LR	LR	19 10 17.4	
	comp=Z,130nm,21.8s,baz=344,slow=36						
CPUP	**Villa Florida**	**17.68**	**58**	LR	LR	19 18 31.4	
	comp=Z,53nm,19.3s,baz=236,slow=38						
LPAZ	**La Paz**	**21.17**	**16**	P	**P**	**19 12 12.2**	**-0.8**
	2.4nm,0.9s,baz=172,slow=7.3,SNR=5.9						
NNA	**Nana**	**24.91**	**354**	LR	LR	19 20 06.9	
	comp=Z,48nm,19.7s,baz=113,slow=31						
TXAR	**Lajitas Array**	**71.49**	**333**	P	**P**	**19 18 47.6**	**+0.5**
	0.4nm,0.7s,baz=145,slow=7.6,SNR=4.7						

*IDC **26** 19:13:20.4±0.6, 2°.66S×138°.73E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.3/23, mbtmp4.3/14, MS3.7/10, Ms1 3.7/10, ms1mx3.5/35, Error ellipse: s-maj=22.7km s-min=14.7km az=79.0*
*BJI **26** 19:13:22.2, 2°.90S×138°.60E, h25km, mb4.5/13, mB5.1/9, Ms4.9/3, Ms7 4.6/3*
*DJA **26** 19:13:24.2±0.3, 3°S±5°×13°9E±°, h10km, M4.9/7, mb4.9/7, mB5.3/3, MLv4.9/4, Mw(mB)4.7/3*
*ISCJB **26** 19:13:25.8±0.3, 2°.86S±0°.03×138°.59E±0°.04, h62km, mb4.5/34, Error ellipse: s-maj=6.3km s-min=5.0km az=179.0*
*NEIC **26** 19:13:25.5±1.0, 2°.78S×138°.69E, h41km±10km, mb4.7/26, Error ellipse: s-maj=7.9km s-min=7.5km az=224.0*

ISC 26 19:13:28.3±0.4, 2°.96S±0°.05×138°.69E±0°.05, h62km, n82, σ2§72/85, mb4.5/34, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.52**	**76**	P	**Pn**	**19 13 50.9**	**-2.5**
JAY	**Jayapura**	**2.06**	**78**	Pn	**Pn**	**19 13 56.2**	**-4.6**
	4.2nm,0.3s,baz=269,slow=24,SNR=18						
JAY	**Jayapura**	**2.06**	**78**	P	**Pn**	**19 13 58.8**	**-2.0**
JAY				S	**Sn**	**19 14 28.0**	**+2.5**
MMPI	**Merauke**	**5.72**	**163**	P	**Pn**	**19 14 55.0**	**+4.2**
	737nm,0.7s,7μm						
FAKI	**Fak Fak**	**6.43**	**270**	P	**Pn**	**19 14 58.1**	**-2.4**
FAKI	**Fak Fak**	**6.43**	**270**	*e*Pn	**Pn**	**19 14 58.1**	**-2.4**
SWI	**Sorong**	**7.71**	**286**	P	**Pn**	**19 15 13.8**	**-4.2**
	28nm,0.7s,628nm						
PMG	**Port Moresby**	**10.58**	**128**	*e*Pn	**Pn**	**19 15 58.3**	**+1.0**
	77nm,1.1s						
LBMI	**Labuha**	**11.41**	**281**	P	**Pn**	**19 16 04.5**	**-4.2**
COEN	**Coen**	**11.79**	**158**	*e*Pn	**Pn**	**19 16 14.9**	**+1.0**
COEN				*e*Sn	**Sn**	**19 18 22.5**	**-1.4**
MTN	**Manton Dam**	**12.34**	**217**	*e*Pn	**Pn**	**19 16 20.0**	**-1.3**
SOEI	**Soe**	**15.83**	**244**	P	**P**	**19 17 09.3**	**-1.1**
SOEI	**Soe**	**15.83**	**244**	*e*Pn	**Pn**	**19 17 08.3**	**+0.7**
	133nm,0.9s						
LUWI	**Luwuk**	**16.02**	**277**	*e*Pn	**Pn**	**19 17 07.3**	**-2.6**
	66nm,1.0s						
DAV	**Davao City (W)**	**16.45**	**307**	LR	LR	19 24 07.6	
	comp=Z,117nm,18.6s,baz=79,slow=40						
WRAB	**Tennant Creek**	**17.39**	**194**	*e*Pn	**Pn**	**19 17 26.5**	**-0.4**
	98nm,1.4s						
WRAB				*e*Sn	**Sn**	**19 20 35.4**	**-4.6**
WB2	**Warramunga Arr**	**17.40**	**194**	*e*Pn	**Pn**	**19 17 27.6**	**+0.5**
	147nm,1.5s						
WRA	**Warramunga Arr**	**17.40**	**194**	P	**Pn**	**19 17 25.8**	**-1.3**
	1.0nm,0.3s,baz=17,slow=13,SNR=41						
WRA				S	**Sn**	**19 20 33.8**	**-6.4**
	0.2nm,0.3s,baz=11,slow=22,SNR=6.0						
CTA	**Charters Tower**	**18.56**	**157**	P	**Pn**	**19 17 44.2**	**+3.1**
	0.2nm,0.3s,baz=6.7,slow=17,SNR=2.4						
TTSI	**Tana Toraja**	**18.84**	**269**	P	**Pn**	**19 17 51.0**	**+6.4**
PCI	**Palu**	**18.95**	**276**	P	**Pn**	**19 17 49.4**	**+3.5**
KAPI	**Kappang**	**19.00**	**263**	LR	LR	19 26 03.1	
	comp=Z,112nm,18.8s,baz=88,slow=40						
FITZ	**Fitzroy Crossi**	**19.75**	**219**	P	**Pn**	**19 17 55.5**	**+0.2**
	5.5nm,0.6s,baz=37,slow=9.6,SNR=12						
FITZ				LR	LR	19 26 22.4	
	comp=Z,339nm,18.4s,baz=37,slow=39						
FITZ	**Fitzroy Crossi**	**19.75**	**219**	*e*P	**P**	**19 17 51.6**	**-1.7**
	15nm,0.9s						
AS01	**Alice Springs**	**21.09**	**192**	*e*P	**P**	**19 18 07.7**	**-0.1**
AS31	**Alice Springs**	**21.10**	**192**	*e*P	**P**	**19 18 08.8**	**+0.9**
	25nm,0.6s						
ASAR	**Alice Springs**	**21.10**	**192**	P	**P**	**19 18 08.7**	**+0.8**
	19nm,0.7s,baz=18,slow=9.6,SNR=72						
MYLDM	**Lahad Datu**	**21.73**	**292**	*e*P	**P**	**19 18 14.8**	**+0.1**
	63nm,1.4s						
HNR	**Honiara**	**22.08**	**108**	P	**P**	**19 18 15.9**	**-2.5**
	60nm,0.8s						
TGY	**Tagaytay City**	**24.44**	**314**	LR	LR	19 28 51.0	
	comp=Z,172nm,20.0s,baz=116,slow=38						
MBWA	**Marble Bar**	**25.84**	**224**	*e*P	**P**	**19 18 54.1**	**-0.1**
STKA	**Stephens Creek**	**28.89**	**175**	P	**P**	**19 19 23.4**	**+1.9**
	1.8nm,0.7s,baz=341,slow=9.2,SNR=7.4						
KSRS	**Korea Array**	**41.44**	**347**	LR	LR	19 37 27.1	
	comp=Z,87nm,18.7s,baz=146,slow=35						
CM01	**Chiang Mai Arr**	**44.51**	**300**	*e*P	**P**	**19 21 31.9**	**-2.2**
CMAR	**Chiang Mai Arr**	**44.54**	**300**	P	**P**	**19 21 32.8**	**-1.7**
	1.9nm,0.9s,baz=114,slow=6.2,SNR=7.5						
CMAR				LR	LR	19 38 58.1	
	comp=Z,35nm,21.7s,baz=165,slow=35						
XAN	**Xi'an**	**46.27**	**325**	P	**P**	**19 21 45.5**	**-2.4**
XAN				pP	pP	19 21 53.5	-10
XAN				PMZ			
	7.0nm,0.9s						
XAN				PMZ			
	100nm,4.7s						
USRK	**Ussuriysk Ar.**	**47.33**	**353**	LR	LR	19 39 11.8	
	comp=Z,105nm,20.6s,baz=179,slow=33						
SHL	**Shillong**	**53.46**	**305**	*e*P	**P**	**19 22 45.0**	**+2.2**
GTA	**Gaotai**	**55.26**	**324**	*e*P	**P**	**19 22 53.8**	**-1.7**
GTA				pP	pP	19 23 00.8	-11
GTA				sP	sP	19 23 04.3	-15
GTA				PMZ			
	2.0nm,1.1s						
ULN	**Ulaanbaatar**	**57.68**	**335**	*e*P	**P**	**19 23 11.2**	**-1.5**
	2.5nm,0.9s						
SONM	**Songino Array**	**57.94**	**335**	P	**P**	**19 23 14.7**	**+0.3**
	1.7nm,0.7s,baz=153,slow=6.8,SNR=11						
SONA1	**Songino Array**	**57.94**	**335**	*e*P	**P**	**19 23 12.2**	**-2.3**
PETK	**Petropavlovsk-**	**58.11**	**13**	P	**P**	**19 23 13.7**	**-1.7**
	1.3nm,0.6s,baz=174,slow=6.2,SNR=4.4						
PETK				LR	LR	19 44 07.1	
	comp=Z,65nm,21.7s,baz=208,slow=32						
TLY	**Talaya**	**62.04**	**336**	*e*P	**P**	**19 23 43.1**	**+0.8**
	2.7nm,0.7s						
YAK	**Yakutsk**	**65.18**	**355**	*e*P	**P**	**19 24 01.2**	**-1.5**
	20nm,1.0s						
MK01	**Makanchi Array**	**69.96**	**322**	*e*P	**P**	**19 24 30.7**	**-2.6**
MK31	**Makanchi Array**	**69.97**	**322**	*e*P	**P**	**19 24 32.2**	**-1.1**
MKAR	**Makanchi Array**	**69.97**	**322**	P	**P**	**19 24 31.8**	**-1.6**
	4.1nm,0.9s,baz=106,slow=7.2,SNR=29						
MKAR	**Makanchi Array**	**69.97**	**322**	*e*P	**P**	**19 24 32.2**	**-1.1**
MAKZ	**Makanchi**	**70.17**	**322**	*e*P	**P**	**19 24 32.0**	**-2.6**
	7.1nm,0.9s						
KSH	**Kashi**	**71.24**	**313**	*e*P	**P**	**19 24 45.0**	**+3.7**
KSH				pP	pP	19 24 49.5	-8.8
KSH				PcP	**sP**	**19 25 03.5**	**-1.6**
KSH				PP	**PP**	**19 27 25.0**	**+4.9**
KSH				S	**S**	**19 34 01.8**	**+7.6**
KSH				ScS	**ScS**	**19 34 45.5**	**+4.6**
KSH				SS	**SS**	**19 38 36.8**	**+7.4**
KSH				PMZ			
	3.0nm,0.6s						
KSH				PMZ			
	61nm,3.6s						
KSH				LN			
	140nm,4.3s						
KSH				LE			
	170nm,3.9s						
KSH				LZ			
	260nm,5.0s						
PPT	**Papeete**	**71.70**	**107**	LR	LR	19 52 58.5	
	comp=Z,45nm,21.7s,baz=230,slow=33						
ZAA0	**Zalesovo Array**	**72.14**	**330**	*e*P	**P**	**19 24 44.8**	**-1.4**
ZALV	**Zalesovo Beam**	**72.14**	**330**	P	**P**	**19 24 44.7**	**-1.5**
	2.4nm,0.7s,baz=110,slow=5.5,SNR=12						
TKM2	**Tokmak 2**	**72.71**	**317**	*e*P	**P**	**19 24 48.5**	**-1.6**
	2.9nm,0.9s						
EKS2	**Erkin-Say**	**73.88**	**316**	*e*P	**P**	**19 24 57.8**	**+0.8**
	2.5nm,0.9s						
KURK	**Kurchatov**	**73.91**	**325**	*e*P	**P**	**19 24 55.7**	**-1.1**
TIXI	**Tiksi**	**74.75**	**357**	*e*P	**P**	**19 24 58.9**	**-2.4**
	4.3nm,0.6s						
VNDA	**Vanda**	**75.53**	**175**	P	**P**	**19 25 08.1**	**+2.4**
	2.6nm,0.7s,baz=323,slow=7.2,SNR=13						
VOSK	**Vostochnaya**	**79.06**	**325**	*e*P	**P**	**19 25 24.9**	**-1.0**
	4.1nm,0.9s						
BVAR	**Borovoye Array**	**79.50**	**325**	P	**P**	**19 25 27.1**	**-1.2**
	4.2nm,0.6s,baz=115,slow=7.3,SNR=22						
BRVK	**Borovoye**	**79.58**	**325**	*e*P	**P**	**19 25 25.9**	**-2.8**
	20nm,1.1s						
NRIK	**Noril'sk**	**79.95**	**344**	P	**P**	**19 25 30.3**	**-0.1**
	8.5nm,0.8s,baz=129,slow=5.2,SNR=7.6						
ZRNK	**Zerenda**	**80.27**	**325**	*e*P	**P**	**19 25 29.5**	**-3.0**
	15nm,1.4s						
TTA	**Tatalina**	**81.65**	**25**	*e*P	**P**	**19 25 36.0**	**-3.6**
	15nm,1.8s						
MAW	**Mawson**	**81.89**	**202**	P	**P**	**19 25 44.8**	**+4.1**
	1.5nm,0.6s,baz=47,slow=10,SNR=3.6						
MAW				LR	LR	20 00 14.6	
	comp=Z,141nm,19.1s,baz=61,slow=34						
GEYT	**Alibeck**	**84.38**	**308**	P	**P**	**19 25 55.8**	**+1.5**
	1.6nm,0.7s,baz=164,slow=5.9,SNR=6.3						
SML	**Sawmill**	**84.63**	**27**	*e*P	**P**	**19 25 54.4**	**-0.6**
	12nm,1.1s						
RND	**Reindeer**	**84.86**	**26**	*e*P	**P**	**19 25 55.2**	**-0.9**
	7.2nm,1.0s						
ABKAR	**Akbulak array**	**84.90**	**320**	*e*P	**P**	**19 25 53.9**	**-2.7**
	1.5nm,0.6s						
COLD	**Coldfoot**	**85.49**	**22**	P	**P**	**19 25 54.8**	**-4.4**
	6.0nm,1.2s						
DIV	**Divide**	**85.63**	**28**	*e*P	**P**	**19 26 00.1**	**0.0**
	9.2nm,0.6s						
CCB	**Clear Creek Bu**	**85.66**	**24**	*e*P	**P**	**19 25 58.5**	**-1.5**
ILAR	**Eielson Array**	**86.07**	**24**	P	**P**	**19 26 00.0**	**-2.1**
	2.7nm,0.7s,baz=262,slow=4.4,SNR=20						
ILB	**Eielson Array**	**86.07**	**24**	*e*P	**P**	**19 26 00.1**	**-2.1**
IL1	**Eielson Array**	**86.07**	**24**	*e*P	**P**	**19 25 59.4**	**-2.7**
QSPA	**South Pole Qui**	**86.99**	**180**	*e*P	**P**	**19 26 08.2**	**+1.5**
	17nm,0.7s						
EGAK	**Eagle**	**88.46**	**25**	*e*P	**P**	**19 26 13.5**	**-0.2**
	7.3nm,1.1s						
STHS	**Stebnicka Huta**	**109.84**	**322**	*e*PDIFF	**Pdif**	**19 27 52.2**	**+1.6**
TORD	**Torodi Ar. Bea**	**136.30**	**286**	PKP	**PKPdf**	**19 32 44.7**	**+0.7**
	0.6nm,0.7s,baz=57,slow=2.1,SNR=3.9						
CPUP	**Villa Florida**	**147.02**	**153**	PKPbc	**PKPab**	**19 33 05.8**	**-0.7**
	5.1nm,1.0s,baz=314,slow=3.2,SNR=6.0						
LPAZ	**La Paz**	**147.31**	**127**	PKPbc	**PKPbc**	**19 33 07.2**	**+0.4**
	7.5nm,1.1s,baz=337,slow=2.0,SNR=7.9						

IDC 26 19:21:25.0±2.0, 36°.74S×72°.97W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.6/19, mbtmp3.4/4, ML3.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.3/12, Error ellipse: s-maj=70.6km s-min=32.0km az=70.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.41**	**155**	Pn	Pn	19 22 34.1	+0.8
	1.3nm,0.3s,baz=338,slow=9.5,SNR=10.0						
PLCA				Lg	Lg	19 23 52.7	
	2.2nm,0.3s,baz=256,slow=18,SNR=2.3						
LVC	**Limon Verde**	**14.52**	**15**	LR	LR	19 30 31.8	
	comp=Z,604nm,19.4s,baz=210,slow=38						
CPUP	**Villa Florida**	**16.87**	**56**	LR	LR	19 30 59.8	
	comp=Z,33nm,21.2s,baz=234,slow=34						
LPAZ	**La Paz**	**20.82**	**13**	P	P	19 26 09.8	+1.0
	0.9nm,0.6s,baz=180,slow=6.0,SNR=3.8						
SIV	**San Ignacio**	**23.21**	**30**	LR	LR	19 37 42.7	
	comp=Z,179nm,19.2s,baz=120,slow=42						
VNDA	**Vanda**	**61.27**	**192**	LR	LR	19 55 20.4	
	comp=Z,82nm,20.2s,baz=352,slow=33						
TXAR	**Lajitas Array**	**71.77**	**332**	P	P	19 32 49.1	-0.2
	0.1nm,0.6s,baz=163,slow=9.4,SNR=2.0						
TORD	**Torodi Ar. Bea**	**85.85**	**70**	P	P	19 34 06.4	-0.5
	0.2nm,0.4s,baz=234,slow=4.4,SNR=3.8						

IDC 26 19:32:52.4±2.2, 36°.76S×73°.84W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.7/21, mbtmp3.6/4, ML3.7/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/22, Error ellipse: s-maj=75.4km s-min=21.6km az=65.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.72**	**148**	Pn	Pn	19 34 06.5	+1.5
	0.8nm,0.3s,baz=338,slow=9.4,SNR=12						
PLCA				LR	LR	19 35 18.9	
	comp=Z,76nm,19.0s,baz=346,slow=31						
PLCA				Lg	Lg	19 35 22.6	
	0.5nm,0.3s,baz=100,slow=20,SNR=2.3						
LPAZ	**La Paz**	**21.02**	**15**	P	P	19 37 39.6	+1.3
	1.8nm,0.8s,baz=200,slow=5.1,SNR=4.8						
TXAR	**Lajitas Array**	**71.47**	**333**	P	P	19 44 14.9	0.0
	0.1nm,0.6s,baz=159,slow=7.7

TVBK TV Kerman 0.78 267 ePg Pb 19 47 10.8 -3.5
TVBK TV Kerman 0.78 267 ePg Pb 19 47 10.8 -3.5
KRBR Kerman 0.78 266 ePg Pb 19 47 12.0 -2.5
KRBR eSg Sb 19 47 22.0 -2.5
KRBR Kerman 0.78 266 ePg Pb 19 47 12.0 -2.5
KRBR eSg Sb 19 47 22.0 -2.5
NGRK Negar Kerman 0.89 244 ePg Pb 19 47 14.0 -2.3
NGRK Negar Kerman 0.89 244 ePg Pb 19 47 14.0 -2.3
KHGB Koh Gabri 1.07 289 ePg Pb 19 47 15.5 -3.8
KHGB Koh Gabri 1.07 289 ePg Pb 19 47 15.5 -3.8
IBAF Bafgh 2.37 311 ePn Pn 19 47 38.0 +1.3
IBAF eSg Sb 19 48 11.3 +1.0
IBAF eAMB AMB 19 48 20.2
comp=Z,99μm,0.3s
IBAF Bafgh 2.37 311 ePn Pn 19 47 38.0 +1.3
IBAF eSg Sb 19 48 11.3 +1.0
NIAN Nian 2.57 196 ePn Pb 19 47 43.9 -0.7
NIAN Nian 2.57 196 ePn Pb 19 47 43.9 -0.7
IKOO Kooshah 2.65 26 ePn Pn 19 47 40.7 +0.1
IKOO eAMB AMB 19 48 26.8
comp=Z,47μm,0.3s
IKOO Kooshah 2.65 26 ePn Pn 19 47 40.7 +0.1
IBND Bandar-abas 2.75 201 ePn Pb 19 47 46.7 -1.1
IBND eSg Sb 19 48 31.7 +11
IBND eAMB AMB 19 48 41.4
comp=Z,73μm,0.4s
IBND Bandar-abas 2.75 201 ePn Pb 19 47 46.7 -1.1
IBND eSg Sb 19 48 31.7 +11
GENO Geno 2.93 207 ePn Pb 19 47 47.8 -3.1
GENO Geno 2.93 207 ePn Pb 19 47 47.8 -3.1
BNDS Bandar-Abbas 2.93 207 ePn Pn 19 47 47.3 +2.9
BNDS AML AML 19 48 33.1
comp=E,5μm,0.5s
BNDS AML AML 19 48 43.6
comp=N,6μm,0.5s
BNDS Bandar-Abbas 2.93 207 ePn Pn 19 47 47.3 +2.9
IMEH Mehriz 2.95 298 ePn Pn 19 47 46.2 +1.5
IMEH eAMB AMB 19 48 41.8
comp=Z,73μm,0.5s
IMEH Mehriz 2.95 298 ePn Pn 19 47 46.2 +1.5
ITEG Tejag 3.00 18 ePn Pn 19 47 45.5 +0.1
ITEG eAMB AMB 19 48 38.3
comp=Z,63μm,0.2s
ITEG Tejag 3.00 18 ePn Pn 19 47 45.5 +0.1
IDAH Dahanechah 3.29 35 ePn Pn 19 47 51.0 +1.5
IDAH eAMB AMB 19 48 06.2
comp=Z,85μm,0.3s
IDAH Dahanechah 3.29 35 ePn Pn 19 47 51.0 +1.5
KHSK Kohestak 3.31 189 ePn Pb 19 47 54.6 -2.6
KHSK Kohestak 3.31 189 ePn Pb 19 47 54.6 -2.6
ICHK Chekchek 3.55 309 ePn Pn 19 47 54.3 +1.3
ICHK eAMB AMB 19 48 59.5
comp=Z,58μm,0.5s
ICHK Chekchek 3.55 309 ePn Pn 19 47 54.3 +1.3
TABS Tabas 3.63 353 ePn Pn 19 47 55.0 +1.0
TABS eSg Sb 19 48 48.8 +2.3
TABS AML AML 19 48 59.9
comp=E,3μm,0.5s
TABS Tabas 3.63 353 ePn Pn 19 47 55.0 +1.0
TABS eSg Sb 19 48 48.8 +2.3
ISAD Sadrabad 3.89 300 ePn Pn 19 47 59.3 +1.6
ISAD eSg Sb 19 48 58.5 +4.5
ISAD eAMB AMB 19 49 15.6
comp=Z,28μm,0.5s
ISAD Sadrabad 3.89 300 ePn Pn 19 47 59.3 +1.6
ISAD eSg Sb 19 48 58.5 +4.5
ISRV Sarvestan 4.00 262 ePn Pn 19 48 00.8 +1.5
ISRV eAMB AMB 19 49 32.7
comp=Z,32μm,0.7s
ISRV Sarvestan 4.00 262 ePn Pn 19 48 00.8 +1.5
BANOM Banah 4.27 197 i P Pn 19 48 04.9 +2.2
SNR=31
BANOM S Sn 19 48 54.6 +2.9
BANOM Banah 4.27 197 Pn Pn 19 48 04.9 +2.2
SNR=87
BANOM Banah 4.27 197 P Pn 19 48 04.9 +2.2
SNR=87
BANOM P Pn 19 48 04.9 +2.2
SNR=87
BANOM Banah 4.27 197 P Pn 19 48 04.9 +2.2
SNR=31
BANOM S Sn 19 48 54.6 +2.9
GHIR Ghir-Karzin 4.44 248 ePn Pn 19 48 06.6 +1.5
GHIR Ghir-Karzin 4.44 248 ePn Pn 19 48 06.6 +1.5
NASN Na'in 4.97 305 ePn Pn 19 48 13.4 +0.8
NASN AML AML 19 49 43.6
comp=N,980nm,0.7s
NASN Na'in 4.97 305 ePn Pn 19 48 13.4 +0.8
UOSS Minazif 5.23 195 P Pn 19 48 18.8 +2.9
SNR=32
UOSS Minazif 5.23 195 ePn Pn 19 48 19.3 +3.4
UOSS Minazif 5.23 195 ePn Pn 19 48 19.3 +3.4
NAZ Nazwa, Dubai 5.33 200 i P Pn 19 48 19.7 +2.4
SNR=71
NAZ Nazwa, Dubai 5.33 200 Pn Pn 19 48 19.8 +2.6
SNR=14
NAZ Nazwa, Dubai 5.33 200 P Pn 19 48 19.8 +2.6
SNR=14
NAZ Nazwa, Dubai 5.33 200 P Pn 19 48 19.7 +2.4
SNR=71
HATD Hatta, Dubai 5.36 195 i P Pn 19 48 20.7 +3.0
SNR=17
HATD Hatta, Dubai 5.36 195 Pn Pn 19 48 22.3 +4.6
SNR=13
HATD Hatta, Dubai 5.36 195 P Pn 19 48 22.3 +4.6
SNR=13
HATD Hatta, Dubai 5.36 195 P Pn 19 48 20.7 +3.0
SNR=17
HATD Hatta, Dubai 5.36 195 Pn Pn 19 48 22.3 +4.6
SNR=13
ASHO Ashiyiah 5.51 195 i P Pn 19 48 22.6 +2.7
SNR=64
ASHO Ashiyiah 5.51 195 Pn Pn 19 48 22.8 +3.0
SNR=24
ASHO Ashiyiah 5.51 195 P Pn 19 48 22.8 +3.0
SNR=24
ASHO Ashiyiah 5.51 195 P Pn 19 48 22.6 +2.7
SNR=64
FAQ Al Faqa, Dubai 5.58 200 i P Pn 19 48 22.7 +2.1
SNR=104
FAQ Al Faqa, Dubai 5.58 200 Pn Pn 19 48 23.1 +2.4
SNR=53
FAQ Al Faqa, Dubai 5.58 200 P Pn 19 48 23.1 +2.4
SNR=53
FAQ Al Faqa, Dubai 5.58 200 P Pn 19 48 22.7 +2.1
SNR=104
FAQ Al Faqa, Dubai 5.58 200 Pn Pn 19 48 23.1 +2.4
SNR=53
AHBU AHRAM 5.67 260 ePn Pn 19 48 23.1 +1.3
SHRO Shahrood 6.10 347 ePn Pn 19 48 29.4 +1.5
BIDO Bidbid 6.50 176 Pn Pn 19 48 34.7 +1.3
SNR=14
BIDO Bidbid 6.50 176 P Pn 19 48 34.7 +1.3
SNR=14
BIDO Bidbid 6.50 176 Pn Pn 19 48 34.7 +1.3
SNR=14
ARQ Araqi 6.75 189 Pn Pn 19 48 38.9 +2.1
SNR=70
ARQ Araqi 6.75 189 P Pn 19 48 38.9 +2.1
SNR=70
ARQ Araqi 6.75 189 P Pn 19 48 38.9 +2.1
SNR=70
WSAR Wadi Sarin 6.83 172 Pn Pn 19 48 38.3 +0.5
comp=N,17nm,0.3s,baz=129,slow=9.3,SNR=96
WSAR Sn Sn 19 49 52.5 -2.2
baz=152,slow=21,SNR=1.1
SMDO Samad 6.96 177 Pn Pn 19 48 42.1 +2.4
SNR=20
SMDO Samad 6.96 177 P Pn 19 48 42.1 +2.4
SNR=20
SMDO Samad 6.96 177 P Pn 19 48 42.1 +2.4
SNR=20
GHVR GHOM 6.97 311 ePn Pn 19 48 41.2 +1.4
ASAO Ashtian 7.87 307 ePn Pn 19 48 53.3 +1.0
ASAO Ashtian 7.87 307 ePn Pn 19 48 53.3 +1.0
GEYT Alibeck 7.88 3 Pn Pn 19 48 54.0 +1.6
comp=N,2.3nm,0.3s,baz=186,slow=7.4,SNR=48
GEYT LR LR 19 52 42.4
comp=N,3μm,18.1s,baz=185,slow=43
CHTH Charan 8.02 319 ePn Pn 19 48 55.6 +1.2
THKV Tehran--Karaj 8.17 318 ePn Pn 19 48 57.4 +1.0
KBL Kabul 10.63 62 eP Pn 19 49 35.0 +4.8
KBL Kabul 10.63 62 ePn Pn 19 49 35.0 +4.8
THW Thamme Wali 12.35 74 P Pn 19 49 56.7 +3.2
CEP Cherat 12.68 69 P Pn 19 50 02.2 +4.0

SARP Sargodha 13.03 78 P Pn 19 50 06.9 +4.2
CHCP Chirah Chowk 13.75 71 P Pn 19 50 15.5 +2.8
GNI Garni 14.60 317 Pn Pn 19 50 24.5 +0.2
comp=N,0.5nm,0.3s,baz=199,slow=5.2,SNR=3.1
GNI LR LR 19 56 47.6
comp=N,2μm,19.9s,baz=98,slow=40
GNI Garni 14.60 317 i P P 19 50 27.5 -3.0
SNR=15
GNI Garni 14.60 317 ceP Pn 19 50 23.0 -1.3
GNI pmax pmax
comp=Z,58nm,0.8s
GNI Garni 14.60 317 ePn Pn 19 50 23.5 -0.8
GNI Garni 14.60 317 P P 19 50 27.5 -3.0
SNR=15
GNI Garni 14.60 317 ePn Pn 19 50 23.5 -0.8
GNI eSn Sn 19 53 05.5 +0.2
THN Thein Dam 15.64 77 eP Pn 19 50 36.0 -2.0
TBLG Delisi 15.65 322 P Pn 19 50 36.0 -2.2
TBLG Delisi 15.65 322 P Pn 19 50 36.0 -2.2
BGD Bogdanovka 15.98 318 P Pn 19 50 43.7 +1.2
AKH Akhalkalaki 16.13 319 P P 19 50 47.1 -0.5
AKH Akhalkalaki 16.13 319 P P 19 50 47.0 -0.6
GROC Groznyy 16.20 327 eP P 19 50 46.6 -1.5
GROC pmax pmax
comp=Z,60nm,0.9s
HOMI Horasan 16.29 312 i P P 19 50 52.5 +3.1
GUDG Gudauri 16.31 323 P Pn 19 50 46.9 +0.1
ERZM Erzurum 16.57 311 i P P 19 50 56.7 +4.2
KK31 Karatay Array 16.61 35 P Pn 19 50 49.2 -1.2
KK31 pmax pmax
comp=Z,27nm,0.9s
KKAR Karatay Array 16.61 35 eP Pn 19 50 48.1 -2.3
KKAR e 19 53 51.9
KKAR Karatay Array 16.61 35 ePn Pn 19 50 48.1 -2.3
KKAR eSn Sn 19 53 51.9 -2.1
KKAR Karatay Array 16.61 35 ePn Pn 19 50 48.1 -2.3
KKAR eSn Sn 19 53 51.9 -2.1
EPOS Posof 16.64 317 i P P 19 50 54.5 +1.4
SDNR Sundarnagar 16.67 80 ex P 19 50 53.0 -0.4
ZEI Tsey 16.84 323 eP P 19 50 56.7 +1.3
ZEI pmax pmax
comp=Z,251nm,1.3s
DAGI Agillar 16.87 315 i P P 19 50 59.3 +3.7
ARTV Artvin 16.92 315 i P P 19 50 58.0 +1.6
ONI Oni 16.94 322 P P 19 50 57.1 +0.8
ONI Oni 16.94 322 P P 19 50 57.1 +0.7
DBAD Bademkaya 16.97 315 P P 19 50 58.0 +1.3
DBAD Bademkaya 16.97 315 i P P 19 50 58.0 +1.2
NDI New Delhi 17.11 90 ex P 19 50 52.0 -6.3
DBOC Borcka 17.17 315 P Pn 19 50 58.0 +0.5
DBOC Borcka 17.17 315 i P Pn 19 50 58.0 +0.5
NCK Nalchik 17.50 324 eP Pn 19 51 01.8 +0.3
NCK pmax pmax
comp=Z,179nm,1.4s
KSH Kashi 17.75 53 P Pn 19 51 02.0 -2.7
KSH pP pP 19 51 10.8 -1.4
KSH PP PnPn 19 51 17.8 +2.3
KSH S Sn 19 54 12.0 -10
KSH SS SnSn 19 54 34.5 -0.9
KSH ScS ScS 20 02 53.0 -2.8
KSH PMZ
comp=Z,35nm,1.0s
KSH PMZ
comp=Z,530nm,2.9s
KSH LN
comp=Z,280nm,6.9s
KSH LE
comp=Z,370nm,7.8s
KSH LZ
comp=Z,400nm,8.5s
ASF Jabal al Asfar 17.90 282 Pn Pn 19 51 06.1 -0.5
comp=Z,0.4nm,0.3s,baz=49,slow=6.2,SNR=13
ASF LR LR 19 59 25.7
comp=Z,2μm,19.9s,baz=50,slow=42
KBZ Khabaz 18.02 323 P P 19 51 09.0 +0.8
comp=Z,0.1nm,0.3s,baz=121,slow=11,SNR=5.3
KBZ Khabaz 18.02 323 P P 19 51 09.0 +0.8
KBZ Khabaz 18.02 323 P P 19 51 09.0 +0.8
EKS2 Erkin-Say 18.06 41 eP Pn 19 51 07.5 -1.0
EKS2 pmax pmax
comp=Z,81nm,1.2s
EKS2 Erkin-Say 18.06 41 ePn Pn 19 51 07.5 -1.0
comp=Z,81nm,1.2s
EKS2 Erkin-Say 18.06 41 ePn Pn 19 51 07.5 -1.0
comp=Z,81nm,1.2s
KIV Kislovodsk 18.29 324 i P P 19 51 13.4 +2.1
SNR=24
KIV Kislovodsk 18.29 324 eP P 19 51 12.9 +1.6
KIV eS Sn 19 54 36.7 +1.9
KIV pmax pmax
comp=Z,86nm,1.1s
KIV MLR MLR
comp=Z,347nm,13.0s
KIV Kislovodsk 18.29 324 eP Pn 19 51 09.5 -1.8
comp=Z,225nm,1.6s
KIV Kislovodsk 18.29 324 eP Pn 19 51 09.5 -1.8
comp=Z,225nm,1.6s
AAK Ala-Archa 18.46 42 P Pn 19 51 14.5 +1.1
comp=Z,0.5nm,0.3s,baz=219,slow=12,SNR=25
AAK Ala-Archa 18.46 42 eP Pn 19 51 13.9 +0.5
AAK pmax pmax
comp=Z,121nm,1.4s
AAK Ala-Archa 18.46 42 eP Pn 19 51 13.9 +0.5
comp=Z,121nm,1.4s
AAK Ala-Archa 18.46 42 eP Pn 19 51 13.9 +0.5
comp=Z,121nm,1.4s
FRU Bishkek 18.65 42⇓eP P 19 51 15.0 -0.2
FRU eS Sn 19 54 44.0 +0.6
FRU pmax pmax
comp=Z,170nm,1.4s
FRU pmax pmax
comp=E,3μm,8.0s
GOF Gofitskoye 18.90 327⇑eP Pn 19 51 18.3 -0.3
GOF pmax pmax
comp=Z,24nm,1.5s
MMAI Mount Meron Ar 19.20 285 P Pn 19 51 22.4 0.0
comp=Z,0.8nm,0.3s,baz=92,slow=13,SNR=16
MMAI LR LR 20 00 26.8
comp=Z,2μm,18.6s,baz=90,slow=42
HAJJ Hajjah 19.24 225 eP P 19 51 19.0 -3.0
AB31 Akbulak array 19.28 5 i P P 19 51 22.2 +0.2
AB31 pmax pmax
comp=Z,60nm,1.0s
ABKAR Akbulak array 19.28 5 eP P 19 51 22.4 +0.5
ABKAR Akbulak array 19.28 5 eP P 19 51 22.4 +0.5
TKM2 Tokmak 2 19.28 43 eP P 19 51 22.5 +0.2
TKM2 pmax pmax
comp=Z,55nm,1.4s
TKM2 Tokmak 2 19.28 43 eP P 19 51 22.5 +0.2
comp=Z,55nm,1.4s
TKM2 Tokmak 2 19.28 43 eP P 19 51 22.5 +0.2
comp=Z,55nm,1.4s
BDHA Al Bayda' 19.49 218 eP P 19 51 23.1 -1.8
DAMY Dhamar 19.65 221 P P 19 51 25.4 -1.2
comp=Z,223nm,1.1s
SOC Sochi 19.67 318d i P Pn 19 51 28.7 +0.9
SOC pmax pmax
comp=Z,28nm,0.8s
SOC MLR MLR
comp=Z,1μm,17.0s
EIL Elat 19.69 275 P Pn 19 51 27.8 -0.5
comp=Z,1.2nm,0.3s,baz=50,slow=3.2,SNR=54
EIL LR LR 20 00 19.2
comp=Z,866nm,20.0s,baz=86,slow=41
AAA Alma-Ata 20.29 44 eP Pn 19 51 41.5 +6.3
AAA pmax pmax
comp=Z,2μm,7.4s
AAA MLR MLR
comp=Z,3μm,11.0s
MDOK Medeo 20.29 44 eP P 19 51 33.4 +0.1
comp=Z,173nm,0.9s
MDOK i S S 19 55 21.1 +1.4
MDOK LR LR 19 59 17.6
comp=Z,705nm,10.7s
KUU Kurty 20.29 42 eP P 19 51 32.6 -0.5
comp=Z,175nm,1.2s
KUU eS S 19 55 20.5 +1.0
KUU LR LR 19 59 21.5
comp=Z,1μm,10.3s
AKTO Aktyubinsk 20.38 1 P P 19 51 34.6 +0.6
comp=Z,25nm,0.7s,baz=180,slow=11,SNR=57
AKTO LR LR 20 01 03.1
comp=Z,1μm,19.0s,baz=170,slow=41
AKTO Aktyubinsk 20.38 1 P P 19 51 34.1 +0.1
AKTO pmax pmax

comp=Z,93nm,1.1s
SATY Saty 21.07 46 i P P 19 51 41.5 -0.2
comp=Z,334nm,1.1s
SATY eS S 19 55 36.3 +1.2
SATY LR LR 19 59 14.4
comp=Z,2μm,12.8s
CSS Mathiatis 21.07 290 P P 19 51 38.5 -3.2
comp=Z,12nm,1.1s
ZHN Zhinishke 21.15 46 eP P 19 51 41.0 -1.5
comp=Z,96nm,0.9s
ZHN eS S 19 55 36.5 0.0
ZHN LR LR 19 59 47.7
comp=Z,590nm,11.2s
UZB Uzynbulak 21.50 47 i P P 19 51 45.9 -0.5
comp=Z,119nm,1.1s
UZB eS S 19 55 44.9 +1.2
UZB LR LR 20 00 19.8
comp=Z,772nm,11.2s
ANN Anapa 21.71 318 eP P 19 51 46.9 -1.5
ANN eS S 19 55 46.5 -0.9
ANN pmax pmax
comp=Z,179nm,1.8s
ANN MLR MLR
comp=Z,545nm,16.0s
BR131 Keskin Array S 21.89 303 eP P 19 51 49.3 -1.2
BR131 Keskin Array S 21.89 303 eP P 19 51 49.4 -1.2
BRTR Keskin Array B 21.89 303 P P 19 51 50.5 0.0
comp=Z,10nm,0.7s,baz=121,slow=13,SNR=50
BRTR LR LR 20 01 10.7
comp=Z,920nm,18.3s,baz=86,slow=39
SHLS Shalkode 22.05 48 i P P 19 51 51.7 -0.7
comp=Z,302nm,0.9s
SHLS eS S 19 55 55.3 +0.8
SHLS LR LR 20 00 11.0
comp=Z,1μm,10.9s
PYUN Piuthan 22.22 89 eP P 19 51 55.8 +1.5
ANTO Ankara 22.55 302 eP P 19 51 56.5 -1.1
ANTO pmax pmax
comp=Z,66nm,1.3s
ANTO Ankara 22.55 302 eP P 19 51 56.5 -1.1
comp=Z,66nm,1.3s
ANTO Ankara 22.55 302 eP P 19 51 56.5 -1.1
comp=Z,66nm,1.3s
BR231 Keskin MP Arra 22.56 302 eP P 19 51 53.4 -4.2
KOLN Koldanda 22.81 89 eP P 19 52 02.0 +1.4
comp=Z,119nm,1.2s
HYB Hyderabad 22.84 119 i P P 19 52 02.0 +1.3
HYB eS S 19 56 16.0 +7.2
BRZS Berezniki 22.93 25 eP P 19 52 00.3 -1.0
comp=Z,94nm,1.1s
BRZS eS S 19 56 10.2 +0.4
BRZS LR LR 20 00 54.8
comp=Z,252nm,10.7s
ATD Arta Tunnel 22.99 220 LR LR 20 02 34.3
comp=Z,2μm,18.8s,baz=44,slow=41
GKN Gorkha 23.67 88 eP P 19 52 09.6 +0.5
comp=Z,260nm,1.2s
SIM Simferopol' 23.77 315 eP P 19 52 10.1 +0.4
SIM pmax pmax
comp=Z,19nm,0.8s
DMN Daman 24.15 89 eP P 19 52 14.2 +0.4
VRH Novokhopyorsk 24.26 335 eP P 19 52 13.6 -0.6
VRH pmax pmax
comp=Z,20nm,0.6s
KKN Kakani 24.27 88 eP P 19 52 15.1 +0.3
comp=Z,62nm,0.6s
PKIN Phulchoki 24.41 89 eP P 19 52 16.5 +0.3
comp=Z,63nm,0.7s
VOSK Vostochnaya 24.70 20 eP P 19 52 12.9 -5.3
VOSK pmax pmax
comp=Z,32nm,0.8s
VOSK Vostochnaya 24.70 20 eP P 19 52 12.9 -5.3
comp=Z,32nm,0.8s
GUN Gumba 24.76 88 eP P 19 52 19.9 +0.5
comp=Z,179nm,0.9s
BVA0 Borovoye Array 24.80 19 i P P 19 52 19.6 +0.5
BVA0 pmax pmax
comp=Z,70nm,0.8s
BVAR Borovoye Array 24.80 19 P P 19 52 19.7 +0.6
comp=Z,67nm,0.7s,baz=199,slow=7.7,SNR=380
BVAR PcP PcP 19 55 55.2 +0.2
comp=Z,2.0nm,0.6s,baz=198,slow=2.4,SNR=4.4
BRVK Borovoye 24.80 18ceP P 19 52 19.5 +0.4
BRVK pmax pmax
comp=Z,120nm,0.8s
BRVK Borovoye 24.80 18 eP P 19 52 19.3 +0.2
comp=Z,107nm,0.8s
BRVK Borovoye 24.80 18 eP P 19 52 19.3 +0.2
comp=Z,107nm,0.8s
MAKZ Makanchi 25.22 42 i P P 19 52 23.1 +0.1
MAKZ pmax pmax
comp=Z,152nm,1.4s
MAKZ Makanchi 25.22 42 eP P 19 52 23.4 +0.4
comp=Z,166nm,1.3s
MAKZ Makanchi 25.22 42 eP P 19 52 23.4 +0.4
comp=Z,166nm,1.3s
VSR Storozhevoye 25.25 332 eP P 19 52 23.1 -0.1
VSR eS S 19 56 47.0 -0.3
VSR pmax pmax
comp=Z,30nm,1.4s
VSR smax smax
comp=E,200nm,5.9s
VSR MLR MLR
comp=Z,430nm,16.0s
MK01 Makanchi Array 25.38 42 eP P 19 52 24.3 -0.2
MK01 Makanchi Array 25.38 42 eP P 19 52 24.3 -0.2
MK31 Makanchi Array 25.39 42 eP P 19 52 24.7 +0.2
MK31 Makanchi Array 25.39 42 eP P 19 52 24.7 +0.2
MK31 Makanchi Array 25.39 42 eP P 19 52 24.7 +0.2
MKAR Makanchi Array 25.39 42 P P 19 52 25.2 +0.7
comp=Z,17nm,0.7s,baz=228,slow=7.6,SNR=171
MKAR Makanchi Array 25.39 42 eP P 19 52 23.4 -1.2
MKAR Makanchi Array 25.39 42 eP P 19 52 23.4 -1.2
MKAR Makanchi Array 25.39 42 eP P 19 52 23.4 -1.2
RAMN Ramite 25.60 90 eP P 19 52 27.0 +0.1
comp=Z,275nm,1.1s
KURBB Kurchatov Arra 25.84 31 P P 19 52 29.5 +1.0
comp=Z,14nm,0.8s,baz=231,slow=8.8,SNR=95
KURK Kurchatov 25.95 31ceP P 19 52 30.3 +0.8
KURK pmax pmax
comp=Z,129nm,1.7s
KURK Kurchatov 25.95 31 eP P 19 52 29.4 -0.1
comp=Z,178nm,1.3s
KURK Kurchatov 25.95 31 eP P 19 52 29.4 -0.1
comp=Z,178nm,1.3s
ARU Arti 26.39 1 P P 19 52 35.4 +1.9
comp=Z,3.6nm,0.6s,baz=178,slow=3.5,SNR=9.8
ARU Arti 26.39 1d i P P 19 52 34.8 +1.3
ARU 19 53 15.4
ARU PPP PPP 19 53 25.9
ARU 19 55 59.3
ARU S S 19 57 09.5 +4.3
ARU SS SnSn 19 58 11.8 +5.1
ARU SSS SSS 19 58 32.1
ARU pmax pmax
comp=Z,18nm,1.7s
ARU MLR MLR
comp=Z,606nm,14.0s
ARU Arti 26.39 1 eP P 19 52 32.9 -0.6
comp=Z,62nm,1.6s
ARU Arti 26.39 1 eP P 19 52 32.9 -0.6
comp=Z,62nm,1.6s
SEM Semipalatinsk 26.49 33 i P P 19 52 34.1 -0.3
comp=Z,200nm,1.0s
SEM LR LR 20 03 31.3
comp=Z,2μm,14.7s
SVE Sverdlovsk 26.86 4⇓eP P 19 52 37.9 +0.2
SVE eS S 19 57 19.4 +6.7
SVE pmax pmax
comp=Z,38nm,1.6s
SVE MLR MLR
comp=Z,1μm,14.0s
ZSN Zaisan 26.96 42 eP P 19 52 40.9 +2.2
comp=Z,69nm,1.6s
ZSN eS S 19 57 17.5 +3.1
ZSN LR LR 20 03 25.0
comp=Z,1μm,13.6s
WMQ Urumqi 27.50 52 P P 19 52 45.0 +1.3
WMQ pP sP 19 52 55.3 +1.1
WMQ sP pP 19 53 01.0 +10
WMQ PP PnPn 19 53 34.5 +5.6
WMQ PcP PcP 19 56 04.3 +2.8
WMQ S S 19 57 23.3 +0.1
WMQ ScS ScS 20 03 31.3 -0.9
WMQ PMZ
comp=Z,17nm,1.3s

WMQ PMZ
comp=Z,91nm,3.7s
WMQ LN
comp=Z,560nm,9.7s
WMQ LE
comp=Z,570nm,10.7s
WMQ LZ
comp=Z,330nm,17.1s
CFR Carcaliu 27.65 311⇑ iP P 19 52 43.9 -1.0
CFR Carcaliu 27.65 311⇑ iP P 19 52 43.9 -1.0
MILM Milestii Mici 27.96 315⇑ iP P 19 52 45.9 -1.7
MILM Milestii Mici 27.96 315⇑ iP P 19 52 45.9 -1.7
IDI Anoyia 28.00 289 LR LR 20 07 05.2
comp=Z,389nm,19.5s,baz=90,slow=43
SORM Soroca 28.80 317⇓ iP P 19 52 53.1 -2.0
SORM Soroca 28.80 317⇓ iP P 19 52 53.1 -2.0
VRI Vrincioaia 28.83 312⇑ iP P 19 52 55.1 -0.4
VRI Vrincioaia 28.83 312⇑ iP P 19 52 55.1 -0.4
PLOR Plostina 28.88 312⇑ iP P 19 52 57.0 +1.1
PLOR Plostina 28.88 312⇑ iP P 19 52 57.0 +1.1
LSA Lhasa 28.99 82 P P 19 52 57.0 -0.6
LSA Lhasa 28.99 82 *e*P **P 19 52 56.8 -0.8**
LSA *e* 19 56 06.4
LSA pmax pmax
comp=Z,13nm,0.9s
LSA Lhasa 28.99 82 *e*P **P 19 52 56.8 -0.8**
comp=Z,13nm,0.9s
LSA Lhasa 28.99 82 *e*PcP **PcP 19 56 06.4 +0.4**
LSA Lhasa 28.99 82 *e*P **P 19 52 56.8 -0.8**
comp=Z,13nm,0.9s
LSA *e*PcP **PcP 19 56 06.4 +0.4**
MLR Muntele Rosu 29.20 311 P P 19 53 00.7 +1.8
comp=Z,2.7nm,0.6s,baz=154,slow=5.9,SNR=7.2
MLR Muntele Rosu 29.20 311⇑ iP P 19 52 58.8 -0.1
MLR Muntele Rosu 29.20 311⇑ iP P 19 52 58.8 -0.1
OBN Obninsk 29.25 335 *ce*P **P 19 52 57.9 -1.1**
OBN *e*PPP PPP 19 53 58.2
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,612nm,16.0s
MOS Moscow 29.37 337 *e*P P 19 53 04.9 +4.8
MOS *e* 19 53 52.5
MOS pmax pmax
comp=Z,60nm,1.7s
AKASG Malin Array Be 29.62 322 P P 19 53 02.3 -0.1
comp=Z,9.3nm,0.7s,baz=123,slow=8.7,SNR=31
AKASG PcP **PcP 19 56 05.8 -0.7**
comp=Z,3.3nm,0.6s,baz=92,slow=2.5,SNR=14
KIEV Kiev 29.63 322 *c* i P **P 19 53 02.2 -0.2**
KIEV pmax pmax
comp=Z,16nm,0.7s
KIEV Kiev 29.63 322 P P 19 53 02.5 +0.1
SNR=15
KIEV Kiev 29.63 322 *e*PcP **PcP 19 56 05.6 -0.9**
KIEV Kiev 29.63 322 *e*P **P 19 53 00.4 -2.0**
comp=Z,16nm,0.7s
KIEV *e*PcP **PcP 19 56 05.6 -0.9**
AK11 Malin Array Si 29.64 322 *e*P **P 19 53 02.8 +0.2**
AK11 Malin Array Si 29.64 322 *e*P **P 19 53 02.8 +0.2**
DOPR Dopca 29.74 311⇓ iP P 19 53 04.0 +0.5
DOPR Dopca 29.74 311⇓ iP P 19 53 04.0 +0.5
VOIR 29.77 310⇑ iP P 19 53 04.6 +0.7
VOIR 29.77 310⇑ iP P 19 53 04.6 +0.7
BURAR Bucovina Array 30.47 314⇑ iP P 19 53 08.1 -2.0
BURAR Bucovina Array 30.47 314⇑ iP P 19 53 08.1 -2.0
BUR08 Bucovina Ar. S 30.49 314 *e*P **P 19 53 07.8 -2.5**
BUR08 Bucovina Ar. S 30.49 314 *e*P **P 19 53 07.8 -2.5**
LOT Lotru 30.63 310⇑ iP P 19 53 11.4 -0.1
LOT Lotru 30.63 310⇑ iP P 19 53 11.4 -0.1
NVS Novosibirsk 30.83 29 *e*P **P 19 53 13.5 +0.5**
NVS *e*S **S 19 58 09.5 -5.6**
NVS pmax pmax
comp=N,26nm,1.6s
NVS pmax pmax
comp=E,13nm,1.6s
NVS pmax pmax
comp=Z,48nm,1.6s
NVS smax smax
comp=N,25nm,2.5s
NVS smax smax
comp=E,12nm,1.8s
ZAA0 Zalesovo Array 30.94 32 *e*P **P 19 53 13.6 -0.4**
ZAA0 Zalesovo Array 30.94 32 *e*P **P 19 53 13.6 -0.4**
ZALV Zalesovo Beam 30.94 32 P P 19 53 14.2 +0.2
comp=E,26nm,0.7s,baz=239,slow=9.4,SNR=133
ZALV LR LR 20 08 13.2
comp=E,449nm,18.1s,baz=244,slow=41
GZR Gura Zlata 31.28 309⇑ iP P 19 53 17.0 -0.2
GZR Gura Zlata 31.28 309⇑ iP P 19 53 17.0 -0.2
BARS Barje 31.29 304 *e*P **P 19 53 17.0 -0.3**
BOLS Boljevac 31.42 306 *e*P **P 19 53 17.1 -1.3**
DRGR 31.76 312⇓ iP P 19 53 22.0 +0.6
DRGR 31.76 312⇓ iP P 19 53 22.0 +0.6
MDVR Moldovita 31.83 308⇑ iP P 19 53 21.4 -0.6
MDVR Moldovita 31.83 308⇑ iP P 19 53 21.4 -0.6
SELS Selova 31.88 305 *e*P **P 19 53 20.4 -2.0**
BZS Buzias 32.12 309⇑ iP P 19 53 24.0 -0.5
BZS Buzias 32.12 309⇑ iP P 19 53 24.0 -0.5
TIR Tirane 32.46 301⇑ iP P 19 53 26.2 -1.4
TIR Tirane 32.46 301⇑ iP P 19 53 26.2 -1.4
TRUS Trudelj 32.60 306 *e*P **P 19 53 27.0 -1.7**
IVAS Ivanjica 32.64 305 *e*P **P 19 53 27.0 -2.2**
UZH Uzhgorod 32.67 315 *e*P P 19 53 34.6 +5.3
KOLS Kolonicke sedl 32.79 315 *e*P **P 19 53 31.5 +1.1**
KOLS *e* 19 53 37.4
KOLS pmax pmax
comp=Z,18nm,1.0s
KOLS Kolonicke sedl 32.79 315 *e*P **P 19 53 31.5 +1.1**
comp=Z,18nm,1.0s
KOLS Kolonicke sedl 32.79 315 *e*P **P 19 53 31.5 +1.1**
KOLS *e* 19 53 37.4
KWP Kalwaria Pacla 32.80 317 *e*P **P 19 53 30.7 +0.2**
KWP Kalwaria Pacla 32.80 317⇓ iP P 19 53 31.0 +0.6
KWP Kalwaria Pacla 32.80 317 *e*P **P 19 53 30.7 +0.3**
KWP Kalwaria Pacla 32.80 317 *e*P **P 19 53 30.7 +0.3**
KLMR Klimovskoe 33.10 344 *e*P **P 19 53 31.1 -1.8**
KLMR *e* 19 54 40.4
KLMR pmax pmax
comp=Z,29nm,1.2s
BBLS Lazići 33.23 305 *e*P **P 19 53 34.2 -0.1**
NACGM Naroch 33.23 327 *e*LQ LQ 20 01 19.0
NACGM *e*LR LR 20 11 22.0
CRVS Cervenica-Dubn 33.28 315 *e*P **P 19 53 34.1 -0.5**
CRVS Cervenica-Dubn 33.28 315 *e*P **P 19 53 34.1 -0.5**
CRVS Cervenica-Dubn 33.28 315 *e*P **P 19 53 34.1 -0.5**
KECS Kecovo 33.74 314 *e*P **P 19 53 38.4 -0.2**
KECS *e* 19 53 45.7
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 33.74 314 *e*P **P 19 53 38.4 -0.2**
comp=Z,3.5nm,1.0s
KECS Kecovo 33.74 314 *e*P **P 19 53 38.4 -0.2**
KECS *e* 19 53 45.7
SUW Suwalki 34.52 324 *e*P **P 19 53 44.9 -0.4**
SUW Suwalki 34.52 324 *e*P **P 19 53 44.9 -0.4**
SUW Suwalki 34.52 324 *e*P **P 19 53 44.9 -0.4**
OJC Ojcow 34.76 316 *e*P **P 19 53 47.6 +0.1**
OJC Ojcow 34.76 316 *e*P **P 19 53 46.0 -1.5**
OJC pmax pmax
comp=Z,16nm,0.8s
OJC Ojcow 34.76 316 *e*P **P 19 53 46.0 -1.5**
comp=Z,16nm,0.8s
OJC Ojcow 34.76 316 *e*P **P 19 53 46.0 -1.5**
comp=Z,16nm,0.8s
VYHS Vyhne 34.78 313 *e*P **P 19 53 47.7 0.0**
VYHS pmax pmax
comp=Z,19nm,2.2s
VYHS Vyhne 34.78 313 *e*P **P 19 53 47.7 0.0**
comp=Z,19nm,2.2s
VYHS Vyhne 34.78 313 *e*P **P 19 53 47.7 0.0**
VSU Vasula 35.44 332 *ce*P **P 19 53 52.1 -1.1**
VSU pmax pmax
comp=Z,33nm,1.2s
GTA Gaotai 35.62 63 ⇑P P 19 53 56.3 +1.1
GTA pP pP 19 54 01.0 -1.6
GTA PcP **PcP 19 56 25.8 +2.3**
GTA S **S 19 59 30.8 +0.7**
GTA SS **SnSn 20 01 47.8 -3.9**
GTA PMZ
comp=Z,31nm,1.2s
GTA PMZ
comp=Z,170nm,5.2s
GTA LN
comp=Z,570nm,15.2s
GTA LE
comp=Z,1μm,14.7s
GTA LZ
comp=Z,870nm,14.7s
JAVC Velka Javorina 35.63 313 *e*P **P 19 53 55.7 +0.7**
OKC Ostrava-Krasne 35.64 315 *e*PCP **PcP 19 56 23.5 +0.3**
OKC AMS AMS 20 17 20.0
comp=Z,200nm,16.4s
MORC Moravsky Berou 35.99 315⇑ iP P 19 53 57.8 -0.3
MORC Moravsky Berou 35.99 315 *e*P **P 19 53 56.5 -1.6**
MORC pmax pmax
comp=Z,17nm,0.8s
MORC Moravsky Berou 35.99 315 *e*P **P 19 53 56.5 -1.6**
comp=Z,17nm,0.8s
MORC Moravsky Berou 35.99 315 *e*P **P 19 53 56.5 -1.6**
comp=Z,17nm,0.8s
VRAC Vranov 36.44 314⇓ iP P 19 54 01.9 0.0
VRAC Vranov 36.44 314 *e*P **P 19 54 01.7 -0.2**
BOJS Bojanci 36.45 307 *i* PKP **PcP 19 56 25.7 0.0**
KRUC Moravsky 36.49 313 *e*P **P 19 54 02.1 -0.3**
CONA Conrad Observa 36.55 311 *i* P **P 19 54 02.4 -0.5**
comp=Z,7.7nm,1.2s
CONA Conrad Observa 36.55 311 P P 19 54 02.4 -0.5
comp=Z,7.7nm,1.2s
KRLC Kraliky 36.55 315 *e*P **P 19 54 02.6 -0.3**
KRLC *e*PCP **PcP 19 56 26.5 +0.5**
KRLC Kraliky 36.55 315 *e*P **P 19 54 02.6 -0.3**
KRLC *e* 19 56 26.5
KRLC Kraliky 36.55 315 P P 19 54 02.6 -0.3
KMBO Kilima Mbogo 36.59 216 P P 19 54 05.4 +1.6
comp=Z,8.4nm,0.9s,baz=27,slow=11,SNR=17
ARSA Arzberg 36.61 310 *i* P **P 19 54 03.1 -0.3**
comp=Z,10nm,1.0s,SNR=8.3
ARSA Arzberg 36.61 310 P P 19 54 03.1 -0.3
comp=Z,10nm,1.0s,SNR=8.3
PDKS Podkum 36.73 308 *i* PKP **PcP 19 56 27.2 +0.7**
VISS Visnje 36.79 307 *i* PKP **PcP 19 56 26.7 0.0**
SOKA Soboth 36.82 309 *i* P **P 19 54 04.1 -1.1**
comp=Z,2.5nm,0.6s
SOKA Soboth 36.82 309 P P 19 54 04.1 -1.1
comp=Z,2.5nm,0.6s
DPC Dobruska-Polom 36.91 315 *e*P **P 19 54 06.2 +0.2**
DPC *e*PP **PnPn 19 55 35.4 +5.1**
DPC *e*PCP **PcP 19 56 27.3 +0.2**
DPC AMS AMS 20 12 40.0
comp=Z,300nm,15.8s
DPC Dobruska-Polom 36.91 315 *e*P **P 19 54 06.2 +0.2**
DPC *e* 19 55 35.4
DPC *e* 19 56 27.3
DPC MLR MLR
comp=Z,300nm,15.8s
DPC Dobruska-Polom 36.91 315 P P 19 54 06.2 +0.2
VNDS Vrh nad Dolski 36.94 308 *e*P **P 19 54 05.7 -0.5**
VNDS Vrh nad Dolski 36.94 308 P P 19 54 05.7 -0.5
KSP Ksiaz 37.08 316 *e*P **P 19 54 07.7 +0.4**
KSP Ksiaz 37.08 316 *e*P **P 19 54 07.7 +0.4**
KSP Ksiaz 37.08 316 *e*P **P 19 54 07.7 +0.4**
OBKA Obir 37.11 309 *i* pP pP 19 54 13.1 -2.1
comp=Z,11nm,1.2s
TREC Trest 37.13 313 AMS AMS 20 12 40.0
comp=Z,400nm,15.8s
UPC Upice 37.15 315 AMS AMS 20 12 40.0
comp=Z,300nm,18.1s
TRI Trieste 37.51 307 *e*P **P 19 54 08.6 -2.4**
TRI pmax pmax
comp=Z,12nm,0.8s
TRI Trieste 37.51 307 *e*P **P 19 54 08.6 -2.4**
comp=Z,12nm,0.8s
TRI Trieste 37.51 307 *e*P **P 19 54 08.6 -2.4**
comp=Z,12nm,0.8s
MOA Molln 37.57 311 *i* P **P 19 54 11.1 -0.5**
comp=Z,11nm,0.6s,SNR=12
MOA Molln 37.57 311 P P 19 54 11.1 -0.5
comp=Z,11nm,0.6s,SNR=12
FIA1 FINESS Array S 37.65 336 *e*P **P 19 54 10.4 -1.5**
comp=Z,11nm,0.6s
FIA1 FINESS Array S 37.65 336 *e*P **P 19 54 10.4 -1.5**
comp=Z,11nm,0.6s
FINES FINESS Array B 37.65 336 P P 19 54 12.2 +0.2
comp=Z,10nm,0.7s,baz=130,slow=10.0,SNR=59
GOPC GO Pecny, Ondr 37.74 314 AMS AMS 20 13 10.0
comp=Z,300nm,15.3s
MYKA Terra Mystica 37.75 309 *i* P **P 19 54 12.8 -0.3**
comp=Z,8.6nm,0.9s
MYKA Terra Mystica 37.75 309 P P 19 54 12.8 -0.3
comp=Z,8.6nm,0.9s
PRU Pruhonice 37.91 314 *e*P **P 19 54 13.6 -0.7**
PRU *e*pP **pP 19 54 19.5 -2.3**
PRU *e*PP **PnPn 19 55 43.3 +0.9**
PRU AMS AMS 20 13 20.0
comp=Z,300nm,16.2s
PRU Pruhonice 37.91 314 *e*P **P 19 54 13.6 -0.7**
PRU *e* 19 54 19.5
PRU *e* 19 55 43.3
PRU MLR MLR
comp=Z,300nm,16.2s
PRU Pruhonice 37.91 314 P P 19 54 13.6 -0.7
KBA Koelnbreinsper 38.03 309 *i* P **P 19 54 15.4 -0.3**
comp=Z,7.8nm,0.7s
KBA Koelnbreinsper 38.03 309 P P 19 54 15.4 -0.3
comp=Z,7.8nm,0.7s
PVCC Panska Ves 38.04 315 *e*P **P 19 54 15.2 -0.2**
PVCC *e*pP **pP 19 54 20.9 -2.0**
PVCC AMS AMS 20 13 10.0
comp=Z,200nm,16.6s
PVCC Panska Ves 38.04 315 *e*P **P 19 54 15.2 -0.2**
PVCC *e* 19 54 20.9
PVCC MLR MLR
comp=Z,200nm,16.6s
PVCC Panska Ves 38.04 315 P P 19 54 15.2 -0.2
GEA0 GERESS Array S 38.16 312 *e*P **P 19 54 15.9 -0.7**
GEA0 GERESS Array S 38.16 312 *e*P **P 19 54 15.9 -0.7**
GEC2 GERESS Array S 38.16 312 *e*P **P 19 54 16.2 -0.4**
GEC2 pmax pmax
comp=Z,14nm,0.7s
GEC2 GERESS Array S 38.16 312 *e*P **P 19 54 16.2 -0.4**
comp=Z,14nm,0.7s
GEC2 GERESS Array S 38.16 312 *e*P **P 19 54 16.2 -0.4**
comp=Z,14nm,0.7s
GERES GERESS Array B 38.16 312 P P 19 54 16.1 -0.4
comp=Z,11nm,0.7s,baz=107,slow=8.7,SNR=143
GERES PcP **PcP 19 56 30.9 0.0**
comp=Z,3.4nm,0.7s,baz=128,slow=2.2,SNR=7.3
GERES GERESS Array B 38.16 312 PcP **PcP 19 56 31.0 0.0**
KHC Kasperske Hory 38.30 313 *e*P **P 19 54 17.2 -0.5**
KHC *e*pP **pP 19 54 23.1 -2.1**
KHC *e*PP **PP 19 55 44.5 -0.9**
KHC *e*PCP **PcP 19 56 31.0 -0.3**
KHC AMS AMS 20 12 50.0
comp=Z,300nm,19.2s
KHC Kasperske Hory 38.30 313 *e*P **P 19 54 17.2 -0.5**
KHC *e* 19 54 23.1
KHC *e* 19 55 44.5
KHC *e* 19 56 31.0
KHC MLR MLR
comp=Z,300nm,19.2s
KHC Kasperske Hory 38.30 313 *e*P **P 19 54 16.3 -1.5**
comp=Z,13nm,1.3s
KHC Kasperske Hory 38.30 313 *e*PcP **PcP 19 56 30.6 -0.7**
KHC Kasperske Hory 38.30 313 *e*P **P 19 54 16.3 -1.5**
comp=Z,13nm,1.3s
KHC *e*PcP **PcP 19 56 30.6 -0.7**
BRG Berggiesshubel 38.52 315 *e*P **P 19 54 19.3 -0.1**
comp=Z,3.9nm,0.9s
BRG PP **PnPn 19 55 56.0 +6.3**
BRG Berggiesshubel 38.52 315 *e*P **P 19 54 19.3 -0.1**
BRG 19 55 56.0
BRG pmax pmax
comp=Z,4.0nm,0.9s
MOY Mondy 38.52 43 *e*P **P 19 54 21.3 +1.7**
MOY pmax pmax
comp=Z,77nm,1.9s
ABTA Abfaltersbach 38.54 309 *i* P **P 19 54 18.9 -0.9**
comp=Z,14nm,0.7s,SNR=10
ABTA Abfaltersbach 38.54 309 P P 19 54 18.9 -0.9
comp=Z,14nm,0.7s,SNR=10
LZH Lanzhou 38.90 69 ⇑P P 19 54 24.0 +1.0
LZH pP sP 19 54 34.8 +1.2
LZH sP pP 19 54 39.5 +9.0
LZH PP **PnPn 19 55 57.0 +2.4**
LZH *e*S **S 20 00 19.0 -1.0**
LZH sS sS 20 00 37.0 +4.7
LZH SS **SnSn 20 03 02.3 -8.7**
LZH PMZ
comp=Z,73nm,1.5s
LZH PMZ
comp=Z,230nm,5.0s
LZH LN
comp=Z,740nm,11.0s
LZH LE
comp=Z,720nm,12.4s
LZH LZ
comp=Z,1μm,15.3s
CHTO Chiang Mai 39.03 97 *e*P **P 19 54 23.3 -0.8**
CHTO pmax pmax
comp=Z,96nm,1.4s
CHTO Chiang Mai 39.03 97 *e*P **P 19 54 23.3 -0.8**
comp=Z,96nm,1.4s
CHTO Chiang Mai 39.03 97 *e*P **P 19 54 23.3 -0.8**
comp=Z,96nm,1.4s
CMMT Chiang Mai 39.03 97 P P 19 54 24.4 +0.2
comp=Z,50nm,1.4s
CMAR Chiang Mai Arr 39.18 97 P P 19 54 25.0 -0.4
comp=Z,1.0nm,0.4s,baz=301,slow=7.9,SNR=6.9
CMAR PcP **PcP 19 56 34.5 0.0**
comp=Z,3.5nm,0.6s,baz=286,slow=4.6,SNR=5.7
CMAR LR LR 20 14 57.6
comp=Z,624nm,18.2s,baz=292,slow=43
CLL Collm 39.20 316⇑ *i*P **P 19 54 25.3 +0.1**
comp=Z,17nm,1.1s
CLL *i* 19 54 29.8
CLL *i* 19 54 31.3
CLL *e*(PP) 19 56 02.0
CLL *i* PPP PPP 19 56 13.2
CLL *e*PcP **PcP 19 56 33.0 -1.0**
CLL *e*S **S 20 00 29.0 +5.1**
CLL *e*SS **SnSn 20 03 24.0 +6.3**
CLL Lm MLR 20 15 00.0
comp=N,300nm,19.8s
CLL Lm MLR 20 15 00.0
comp=E,200nm,20.0s
CLL Lm MLR 20 15 00.0
comp=Z,400nm,18.4s
CLL Collm 39.20 316⇑ *i*P **P 19 54 25.3 +0.1**
CLL *i* 19 54 31.3
CLL *e*S **S 20 00 29.0 +5.1**
CLL pmax pmax
comp=Z,17nm,1.1s
CLL MLR MLR
comp=Z,400nm,18.4s
CLL Collm 39.20 316 *e*P **P 19 54 24.5 -0.7**
comp=Z,23nm,1.1s
CLL Collm 39.20 316 *e*P **P 19 54 24.5 -0.7**
comp=Z,23nm,1.1s
CM01 Chiang Mai Arr 39.21 98 *e*P **P 19 54 25.3 -0.3**
CM01 Chiang Mai Arr 39.21 98 *e*P **P 19 54 25.3 -0.3**
WTTA Wattenberg 39.21 309 *i* P **P 19 54 24.6 -1.0**
comp=Z,17nm,0.7s,SNR=12
WTTA Wattenberg 39.21 309 P P 19 54 24.6 -1.0
comp=Z,17nm,0.7s,SNR=12
WATA Walderalm 39.27 309 *i* P **P 19 54 24.8 -1.2**
comp=Z,11nm,0.7s,SNR=12
WATA Walderalm 39.27 309 P P 19 54 24.8 -1.2
comp=Z,11nm,0.7s,SNR=12
NKC Novy Kostel 39.27 314 *e*P **P 19 54 25.8 0.0**
NKC *e*pP **pP 19 54 31.4 -1.9**
NKC AMS AMS 20 13 20.0
comp=Z,300nm,17.4s
NKC Novy Kostel 39.27 314 *e*P **P 19 54 25.8 0.0**
NKC *e* 19 54 31.4
NKC MLR MLR
comp=Z,300nm,17.4s
NKC Novy Kostel 39.27 314 P P 19 54 25.8 0.0
BSD Bornholm Skovb 39.33 322⇑ *i*P **P 19 54 25.1 -1.0**
BSD pmax pmax
comp=Z,50nm,0.7s
BSD Bornholm Skovb 39.33 322⇑ *i*P **P 19 54 25.1 -1.0**
comp=Z,50nm,0.7s
BSD Bornholm Skovb 39.33 322⇑ *i*P **P 19 54 25.1 -1.0**
comp=Z,50nm,0.7s
CD2 Chengdu 39.53 77 *e*P **P 19 54 28.0 -0.2**
CD2 pP sP 19 54 38.5 -0.3
CD2 sP pP 19 54 43.5 +7.8
CD2 PcS **PcS 20 00 25.0 -0.6**
CD2 S **S 20 00 28.5 -0.9**
CD2 sS sS 20 00 46.5 +4.8
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,5.2s
ZAK Zakamensk 39.57 46 *e*P **P 19 54 29.3 +0.9**
ZAK pmax pmax
comp=Z,11nm,2.2s
MOTA Moosalm 39.58 309 *i* P **P 19 54 27.2 -1.4**
comp=Z,17nm,0.7s,SNR=21
MOTA Moosalm 39.58 309 P P 19 54 27.2 -1.4
comp=Z,17nm,0.7s,SNR=21
FETA Feichten 39.79 309 *i* P **P 19 54 29.2 -1.1**
comp=Z,17nm,0.6s,SNR=15
FETA Feichten 39.79 309 P P 19 54 29.2 -1.1
comp=Z,17nm,0.6s,SNR=15
RETA Reutte 39.84 309 *i* P **P 19 54 29.0 -1.6**
comp=Z,12nm,0.6s,SNR=12
RETA Reutte 39.84 309 P P 19 54 29.0 -1.6
comp=Z,12nm,0.6s,SNR=12
GRFO Grafenberg 39.93 313 *e*P **P 19 54 29.6 -1.7**
GRFO pmax pmax
comp=Z,99nm,1.8s
GRFO Grafenberg 39.93 313 *e*P **P 19 54 29.6 -1.7**
comp=Z,99nm,1.8s
GRFO Grafenberg 39.93 313 *e*P **P 19 54 29.6 -1.7**
comp=Z,99nm,1.8s
RGN Rugen 39.99 321 *e*P **P 19 54 30.3 -1.3**
comp=Z,46nm,0.8s
RGN Rugen 39.99 321 *e*P **P 19 54 30.3 -1.3**
comp=Z,46nm,0.8s
FUORN Ofenpass-Fuorn 40.05 308 *e*P **P 19 54 31.9 -0.7**
comp=Z,11nm,0.8s
FUORN Ofenpass-Fuorn 40.05 308 *e*P **P 19 54 31.9 -0.7**
comp=Z,11nm,0.8s
KMI Kunming 40.07 86 P P 19 54 33.3 +0.3
KMI pP sP 19 54 44.8 +1.2
KMI sP pP 19 54 49.8 +9.3
KMI PP **PnPn 19 56 11.3 +2.5**
KMI S **S 20 00 39.0 +1.1**
KMI sS sS 20 00 57.0 +6.7
KMI PMZ
comp=Z,54nm,1.3s
KMI PMZ
comp=Z,270nm,3.1s
KMI LN
comp=Z,190nm,10.3s
KMI LE
comp=Z,370nm,13.7s
KMI LZ
comp=Z,300nm,10.9s
TLY Talaya 40.11 44 LR LR 20 12 29.9
comp=Z,590nm,18.6s,baz=240,slow=38
TLY Talaya 40.11 44 *e*P **P 19 54 34.7 +1.9**
TLY *e* 19 56 16.6
TLY *e*S **S 20 00 36.8 -0.7**
TLY *e*SS **SS 20 03 30.2 -5.1**
TLY pmax pmax
comp=Z,42nm,2.1s
TLY MLR MLR
comp=Z,2μm,13.0s
TLY Talaya 40.11 44 *e*P **P 19 54 31.8 -1.0**
comp=Z,84nm,2.0s
TLY Talaya 40.11 44 *e*P **P 19 54 31.8 -1.0**
comp=Z,84nm,2.0s
APA Apatity 40.24 346⇓ *i*P **P 19 54 33.0 -0.6**
APA *i* S S 20 00 30.0 -9.0
APA pmax pmax
comp=Z,11nm,0.8s
APA MLR MLR
comp=Z,600nm,13.0s
VSL Villasalto 40.35 297 P **P 19 54 32.1 -2.8**
comp=Z,17nm,0.8s
VSL Villasalto 40.35 297 P **P 19 54 32.1 -2.8**
comp=Z,17nm,0.8s
DAVA Damuels 40.40 309 *i* P **P 19 54 34.0 -1.4**
comp=Z,23nm,0.6s,SNR=20
DAVA Damuels 40.40 309 P P 19 54 34.0 -1.4
comp=Z,23nm,0.6s,SNR=20
IRK Irkutsk 40.63 43 *e*P **P 19 54 36.8 -0.2**
IRK *e* 19 56 21.8
IRK pmax pmax

	comp=Z,70nm,2.2s										
KEST	**Kesra**	**40.64**	**291**		P		**P**	**19 54 36.7**	**-0.7**
	comp=Z,7.3nm,1.0s,baz=135,slow=2.0,SNR=7.0										
KEST	**Kesra**	**40.64**	**291**		P		**P**	**19 54 36.7**	**-0.7**
	comp=Z,82nm,2.0s										
KEST	**Kesra**	**40.64**	**291**		P		**P**	**19 54 36.7**	**-0.7**
	comp=Z,82nm,2.0s										
LLD	**Lille Linde**	**40.85**	**322**	*eP*			**P**	**19 54 39.4**	**+0.6**
LLD					pmax		pmax				
	comp=Z,29nm,1.0s										
LLD	**Lille Linde**	**40.85**	**322**	*i* P			**P**	**19 54 39.4**	**+0.6**
	comp=Z,29nm,1.0s										
LLD	**Lille Linde**	**40.85**	**322**	*eP*			**P**	**19 54 39.4**	**+0.6**
	comp=Z,29nm,1.0s										
COP	**Copenhagen**	**40.85**	**322**	*i* P			**P**	**19 54 39.6**	**+0.8**
COP					pmax		pmax				
	comp=Z,150nm,2.4s										
COP	**Copenhagen**	**40.85**	**322**	*i* P			**P**	**19 54 39.6**	**+0.8**
	comp=Z,148nm,2.4s										
COP	**Copenhagen**	**40.85**	**322**	*i* P			**P**	**19 54 39.6**	**+0.8**
	comp=Z,148nm,2.4s										
SONM	**Songino Array**	**41.12**	**50**		P		**P**	**19 54 42.3**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=262,slow=9.1,SNR=24										
SONM					LR		LR	20 13 55.5			
	comp=Z,619nm,18.1s,baz=260,slow=39										
SONA1	**Songino Array**	**41.13**	**50**	*eP*			**P**	**19 54 38.7**	**-2.7**
SONA1	**Songino Array**	**41.13**	**50**	*eP*			**P**	**19 54 38.7**	**-2.7**
SPAK	**Spaichingen-Ko**	**41.24**	**310**	*eP*			**P**	**19 54 41.2**	**-1.0**
TOD	**Tromm**	**41.46**	**312**	*eP*			**P**	**19 54 43.2**	**-0.7**
ULN	**Ulaanbaatar**	**41.57**	**50**	*ceP*			**P**	**19 54 46.0**	**+1.0**
ULN					pmax		pmax				
	comp=Z,21nm,1.7s										
ULN	**Ulaanbaatar**	**41.57**	**50**		P		**P**	**19 54 44.2**	**-0.8**
	SNR=5.6										
ULN	**Ulaanbaatar**	**41.57**	**50**		P		**P**	**19 54 44.2**	**-0.8**
	SNR=5.6										
ULN					P		**P**	**19 54 44.2**	**-0.8**
	SNR=5.6										
ULN					P		**P**	**19 54 44.2**	**-0.8**
	SNR=5.6										
ULN	**Ulaanbaatar**	**41.57**	**50**		P		**P**	**19 54 44.2**	**-0.8**
	SNR=5.6										
ULN	**Ulaanbaatar**	**41.57**	**50**	*eP*			**P**	**19 54 43.6**	**-1.4**
	comp=Z,15nm,0.9s										
FELD	**Feldberg im Sc**	**41.73**	**310**	*eP*			**P**	**19 54 45.7**	**-0.7**
KTD	**Kalmit**	**41.88**	**312**	*eP*			**P**	**19 54 46.4**	**-1.0**
LANF	**Langenberg**	**42.01**	**311**	*eP*			**P**	**19 54 46.6**	**-1.8**
LANF	**Langenberg**	**42.01**	**311**	*eP*			**P**	**19 54 46.6**	**-1.8**
SENIN	**Lac Senin/Sane**	**42.06**	**307**	*eP*			**P**	**19 54 45.7**	**-3.5**
	comp=Z,11nm,0.6s										
MOF	**Molkenrain**	**42.31**	**309**	*eP*			**P**	**19 54 47.6**	**-3.4**
ECH	**Echery**	**42.34**	**310**	*eP*			**P**	**19 54 48.8**	**-2.3**
ECH	**Echery**	**42.34**	**310**	*eP*			**P**	**19 54 48.8**	**-2.3**
LOMF	**Lomont**	**42.47**	**309**	*eP*			**P**	**19 54 50.9**	**-1.4**
LOMF	**Lomont**	**42.47**	**309**	*eP*			**P**	**19 54 50.9**	**-1.4**
RUP	**Ruppelstein**	**42.59**	**312**	*eP*			**P**	**19 54 52.2**	**-1.0**
MUD	**Monsted U'grnd**	**42.83**	**322**	*eP*			**P**	**19 54 55.9**	**+1.0**
MUD					pmax		pmax				
	comp=Z,14nm,0.8s										
MUD	**Monsted U'grnd**	**42.83**	**322**	*i* P			**P**	**19 54 55.9**	**+1.0**
	comp=Z,14nm,0.8s										
MUD	**Monsted U'grnd**	**42.83**	**322**	*eP*			**P**	**19 54 55.9**	**+1.0**
	comp=Z,14nm,0.8s										
NRIK	**Noril'sk**	**42.91**	**15**		P		**P**	**19 54 56.2**	**+0.8**
	comp=Z,12nm,0.8s,baz=217,slow=6.9,SNR=14										
NRIK					LR		LR	20 16 17.0			
	comp=Z,1μm,18.3s,baz=213,slow=41										
GYA	**Guiyang**	**43.06**	**82**	⇓ *i* P			**P**	**19 54 57.3**	**-0.1**
GYA					pP		sP	19 55 09.0	+1.0
GYA					PP		**PP**	**19 56 41.0**	**+3.4**
GYA					PcP		**PcP**	**19 56 49.5**	**+2.2**
GYA					S		**S**	**20 01 21.3**	**-0.8**
GYA					sS		sS	20 01 39.8	+5.2
GYA					SS		**SS**	**20 04 27.5**	**-7.2**
GYA					PMZ						
	comp=Z,20nm,1.0s										
GYA					PMZ						
	comp=Z,120nm,6.6s										
GYA					LN						
	comp=Z,560nm,17.6s										
GYA					LE						
	comp=Z,530nm,18.2s										
GYA					LZ						
	comp=Z,540nm,18.0s										
NC405	**NORSAR Array S**	**43.27**	**329**	*eP*			**P**	**19 54 58.0**	**-0.4**
NC405	**NORSAR Array S**	**43.27**	**329**	*eP*			**P**	**19 54 58.0**	**-0.4**
XAN	**Xi'an**	**43.28**	**71**		P		**P**	**19 54 58.5**	**-0.5**
XAN					sP		sP	19 55 12.0	+2.4
XAN					PP		**PP**	**19 56 38.8**	**-0.9**
XAN					PcP		**PcP**	**19 56 49.0**	**+1.2**
XAN					S		**S**	**20 01 20.5**	**-4.4**
XAN					PMZ						
	comp=Z,12nm,1.3s										
XAN					PMZ						
	comp=Z,190nm,5.1s										
XAN					LN						
	comp=Z,480nm,15.5s										
XAN					LE						
	comp=Z,610nm,15.0s										
XAN					LZ						
	comp=Z,960nm,14.9s										
NB2	**NORSAR Subarra**	**43.46**	**329**		P		**P**	**19 54 58.9**	**-1.1**
	comp=Z,4.9nm,0.8s,baz=115,slow=8.6										
NB2	**NORSAR Subarra**	**43.46**	**329**		P		**P**	**19 54 58.9**	**-1.1**
	comp=Z,4.9nm,0.8s,SNR=2.9										
NOA	**NORSAR Array B**	**43.46**	**329**		P		**P**	**19 54 59.2**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=115,slow=8.0,SNR=16										
NAO01	**NORSAR Array S**	**43.52**	**329**	*eP*			**P**	**19 55 00.3**	**-0.2**
NAO01	**NORSAR Array S**	**43.52**	**329**	*eP*			**P**	**19 55 00.3**	**-0.2**
ARCES	**ARCESS Array B**	**43.58**	**344**		P		**P**	**19 55 00.9**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=146,slow=8.8,SNR=11										
ARCES					LR		LR	20 15 28.7			
	comp=Z,259nm,18.1s,baz=126,slow=39										
NC204	**NORSAR Array S**	**43.75**	**329**	*eP*			**P**	**19 55 02.1**	**-0.3**
NC204	**NORSAR Array S**	**43.75**	**329**	*eP*			**P**	**19 55 02.1**	**-0.3**
SSB	**Saint Sauveur**	**43.93**	**306**	*eP*			**P**	**19 55 02.3**	**-1.8**
SSB	**Saint Sauveur**	**43.93**	**306**	*eP*			**P**	**19 55 00.4**	**-3.7**
SSB					pmax		pmax				
	comp=Z,13nm,0.7s										
SSB	**Saint Sauveur**	**43.93**	**306**	*eP*			**P**	**19 55 02.3**	**-1.8**
SSB	**Saint Sauveur**	**43.93**	**306**	*eP*			**P**	**19 55 00.4**	**-3.7**
	comp=Z,13nm,0.7s										
ENH	**Enshi**	**44.49**	**76**	*eP*			**P**	**19 55 07.1**	**-1.6**
	comp=Z,55nm,1.3s										
ENH	**Enshi**	**44.49**	**76**	*eP*			**P**	**19 55 07.1**	**-1.6**
	comp=Z,55nm,1.3s										
PLDF	**La Plantade**	**44.59**	**306**	*eP*			**P**	**19 55 08.6**	**-0.8**
PLDF	**La Plantade**	**44.59**	**306**	*eP*			**P**	**19 55 08.6**	**-0.8**
HHC	**Hu-ho-hao-te**	**44.60**	**61**	*eP*			**P**	**19 55 11.0**	**+1.4**
HHC					pP		sP	19 55 20.8	+0.6
HHC					sP		pP	19 55 24.5	+7.3
HHC					S		**S**	**20 01 46.5**	**+2.3**
HHC					PMZ						
	comp=Z,20nm,0.8s										
HHC					PMZ						
	comp=Z,200nm,8.8s										
HHC					LN						
	comp=Z,360nm,17.6s										
HHC					LE						
	comp=Z,370nm,15.9s										
HHC					LZ						
	comp=Z,180nm,16.2s										
LBL	**Lubilhac**	**44.84**	**305**	*eP*			**P**	**19 55 10.9**	**-0.5**
LBL	**Lubilhac**	**44.84**	**305**	*eP*			**P**	**19 55 10.9**	**-0.5**
AGO	**Saint Agoulin**	**44.94**	**307**	*eP*			**P**	**19 55 11.7**	**-0.4**
AGO	**Saint Agoulin**	**44.94**	**307**	*eP*			**P**	**19 55 11.7**	**-0.4**
CIT	**Chita**	**46.21**	**45**	*eP*			**P**	**19 55 22.4**	**+0.3**
CIT					pmax		pmax				
	comp=Z,94nm,1.7s										
TAM	**Tamanrasset**	**46.91**	**274**	*eP*			**P**	**19 55 26.4**	**-1.7**
TAM					pmax		pmax				
	comp=Z,13nm,0.9s										
TAM	**Tamanrasset**	**46.91**	**274**	*eP*			**P**	**19 55 26.4**	**-1.7**
	comp=Z,13nm,0.9s										
TAM	**Tamanrasset**	**46.91**	**274**	*eP*			**P**	**19 55 26.4**	**-1.7**
	comp=Z,13nm,0.9s										
BOD	**Bodaibo**	**47.33**	**37**	*eP*			**P**	**19 55 30.3**	**-0.4**
BOD					pmax		pmax				
	comp=Z,83nm,1.5s										
PSI	**Prapat**	**47.53**	**117**	*eP*			**P**	**19 55 31.0**	**-2.0**
PSI					pmax		pmax				
	comp=Z,34nm,1.4s										
PSI	**Prapat**	**47.53**	**117**	*eP*			**P**	**19 55 31.0**	**-2.0**
	comp=Z,34nm,1.4s										
ATE	**Arette**	**47.76**	**303**	*eP*			**P**	**19 55 33.3**	**-1.0**
ATE	**Arette**	**47.76**	**303**	*eP*			**P**	**19 55 33.3**	**-1.0**
LARF	**Larrau**	**47.97**	**303**	*eP*			**P**	**19 55 35.0**	**-1.0**
LARF	**Larrau**	**47.97**	**303**	*eP*			**P**	**19 55 35.0**	**-1.0**
QIZ	**Qiongzhong**	**48.37**	**91**		P		**P**	**19 55 40.0**	**+0.7**
QIZ					S		**S**	**20 02 36.5**	**-1.9**
ABPO	**Ambohimpanom**	**49.79**	**193**	*eP*			**P**	**19 55 52.0**	**+1.8**
ABPO					pmax		pmax				
	comp=Z,79nm,1.9s										
ABPO	**Ambohimpanom**	**49.79**	**193**	*eP*			**P**	**19 55 52.0**	**+1.8**
	comp=Z,79nm,1.9s										
ABPO	**Ambohimpanom**	**49.79**	**193**	*eP*			**P**	**19 55 52.0**	**+1.8**
	comp=Z,79nm,1.9s										
HIA	**Hailar**	**50.05**	**49**	*i* P			**P**	**19 55 53.0**	**+1.2**
HIA					pmax		pmax				
	comp=Z,7.0nm,0.8s										
ES19	**SONSECA Array**	**50.54**	**299**	*eP*			**P**	**19 55 54.0**	**-1.7**
ES19	**SONSECA Array**	**50.54**	**299**	*eP*			**P**	**19 55 54.0**	**-1.7**
ESDC	**Sonseca Array**	**50.59**	**299**		P		**P**	**19 55 54.9**	**-1.2**
	comp=Z,5.0nm,0.7s,baz=70,slow=7.4,SNR=64										
ESDC					LR		LR	20 20 42.2			
	comp=Z,108nm,18.2s,baz=100,slow=40										
ESLA	**Sonseca Array**	**50.59**	**299**	*eP*			**P**	**19 55 52.7**	**-3.4**
	comp=Z,8.4nm,0.9s										
PAB	**San Pablo**	**50.91**	**298**	*eP*			**P**	**19 55 55.2**	**-3.3**
PAB					pmax		pmax				
	comp=Z,13nm,0.9s										
PAB	**San Pablo**	**50.91**	**298**	*eP*			**P**	**19 55 55.2**	**-3.3**
	comp=Z,13nm,0.9s										
PBRG	**Braganca**	**52.34**	**302**	*eP*			**P**	**19 56 08.2**	**-0.9**
	comp=Z,14nm,1.8s										
PBRG	**Braganca**	**52.34**	**302**	*eP*			**P**	**19 56 08.2**	**-0.9**
MVO	**Moncorvo**	**52.66**	**301**	*eP*			**P**	**19 56 10.9**	**-0.6**
	comp=Z,21nm,2.4s										
MVO	**Moncorvo**	**52.66**	**301**	*eLR*			LR	20 18 30.0			
	comp=Z,118nm,22.0s										
MVO	**Moncorvo**	**52.66**	**301**	*eP*			**P**	**19 56 10.9**	**-0.6**
KBS	**Kingsbay**	**52.72**	**350**	*i* P			**P**	**19 56 11.0**	**-0.3**
	SNR=42										
MTE	**Manteigas**	**53.18**	**300**	*eP*			**P**	**19 56 15.2**	**-0.2**
	comp=Z,38nm,2.1s										
MTE	**Manteigas**	**53.18**	**300**	*eLR*			LR	20 19 13.3			
	comp=Z,156nm,18.0s										
MTE	**Manteigas**	**53.18**	**300**	*eP*			**P**	**19 56 15.2**	**-0.2**
MTE	**Manteigas**	**53.18**	**300**		P		**P**	**19 56 11.2**	**-4.2**
	comp=Z,17nm,0.9s										
POLO	**Lamas de Olo**	**53.19**	**301**	*eP*			**P**	**19 56 15.1**	**-0.4**
	comp=Z,14nm,1.7s										
POLO	**Lamas de Olo**	**53.19**	**301**	*eP*			**P**	**19 56 15.1**	**-0.4**
PBAR	**Barrancos**	**53.22**	**297**	*eP*			**P**	**19 56 15.0**	**-0.6**
	comp=Z,102nm,1.3s										
PBAR	**Barrancos**	**53.22**	**297**	*eP*			**P**	**19 56 15.0**	**-0.6**
PCBR	**Castelo Branco**	**53.23**	**299**	*eP*			**P**	**19 56 15.4**	**-0.3**
	comp=Z,63nm,1.3s										
PCBR	**Castelo Branco**	**53.23**	**299**	*eP*			**P**	**19 56 15.4**	**-0.3**
PMRV	**Marv??o**	**53.24**	**299**	*eP*			**P**	**19 56 15.1**	**-0.7**
	comp=Z,18nm,1.4s										
PMRV	**Marv??o**	**53.24**	**299**	*eLR*			LR	20 20 55.5			
	comp=Z,94nm,18.0s										
PMRV	**Marv??o**	**53.24**	**299**	*eP*			**P**	**19 56 15.1**	**-0.7**
LSZ	**Lusaka**	**53.25**	**216**	*eP*			**P**	**19 56 14.0**	**-2.1**
LSZ					pmax		pmax				
	comp=Z,16nm,0.9s										
LSZ	**Lusaka**	**53.25**	**216**	*eP*			**P**	**19 56 14.0**	**-2.1**
	comp=Z,16nm,0.9s										
PVIS	**Viseu**	**53.38**	**300**	*eP*			**P**	**19 56 15.7**	**-1.1**
	comp=Z,37nm,1.6s										
PVIS	**Viseu**	**53.38**	**300**	*eP*			**P**	**19 56 15.7**	**-1.1**
PGAV	**Gavieira, Arco**	**53.44**	**302**	*eP*			**P**	**19 56 16.9**	**-0.4**
	comp=Z,38nm,1.7s										
PGAV	**Gavieira, Arco**	**53.44**	**302**	*eLR*			LR	20 21 29.3			
	comp=Z,152nm,20.0s										
PGAV	**Gavieira, Arco**	**53.44**	**302**	*eP*			**P**	**19 56 16.9**	**-0.4**
PESTR	**Estremoz**	**53.51**	**298**	*eP*			**P**	**19 56 16.9**	**-0.8**
	comp=Z,22nm,1.4s										
PESTR	**Estremoz**	**53.51**	**298**	*eP*			**P**	**19 56 16.9**	**-0.8**
PBEJ	**Beja**	**53.89**	**297**	*eP*			**P**	**19 56 20.0**	**-0.6**
PBEJ	**Beja**	**53.89**	**297**	*eP*			**P**	**19 56 20.0**	**-0.6**
EVO	**Evora**	**53.90**	**298**	*eP*			**P**	**19 56 20.1**	**-0.5**
	comp=Z,30nm,1.5s										
EVO	**Evora**	**53.90**	**298**	*eP*			**P**	**19 56 20.1**	**-0.5**
PVAQ	**Vaqueiros**	**53.91**	**296**	*eP*			**P**	**19 56 19.9**	**-0.8**
	comp=Z,31nm,1.5s										
PVAQ	**Vaqueiros**	**53.91**	**296**	*eLR*			LR	20 18 20.9			
	comp=Z,74nm,20.0s										
PVAQ	**Vaqueiros**	**53.91**	**296**	*eP*			**P**	**19 56 19.9**	**-0.8**
PCAS	**Casmilo, Conde**	**53.96**	**300**	*eP*			**P**	**19 56 20.7**	**-0.3**
	comp=Z,30nm,1.6s										
PCAS	**Casmilo, Conde**	**53.96**	**300**	*eP*			**P**	**19 56 20.7**	**-0.3**
PTOM	**Tomar**	**53.98**	**299**	*eP*			**P**	**19 56 21.1**	**-0.1**
	comp=Z,55nm,1.3s										
PTOM	**Tomar**	**53.98**	**299**	*eP*			**P**	**19 56 21.1**	**-0.1**
PCVE	**Castro Verde**	**54.11**	**297**	*eP*			**P**	**19 56 21.4**	**-0.8**
PCVE	**Castro Verde**	**54.11**	**297**	*eP*			**P**	**19 56 21.4**	**-0.8**
TOA0	**Torodi Ar. Sit**	**54.17**	**265**	*eP*			**P**	**19 56 22.0**	**-0.8**
TOA0	**Torodi Ar. Sit**	**54.17**	**265**	*eP*			**P**	**19 56 22.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**54.17**	**265**		P		**P**	**19 56 22.1**	**-0.7**
	comp=Z,30nm,0.7s,baz=60,slow=7.0,SNR=222										
TORD					LR		LR	20 20 19.3			
	comp=Z,312nm,20.5s,baz=60,slow=37										
MESJ	**Messejana**	**54.21**	**297**	*eP*			**P**	**19 56 23.5**	**+0.7**
MESJ					*e*S		**S**	**20 04 01.3**	**+2.7**
PNCL	**Nicolau / Gran**	**54.38**	**297**	*eP*			**P**	**19 56 24.0**	**-0.1**
	comp=Z,32nm,1.3s										
PNCL	**Nicolau / Gran**	**54.38**	**297**	*eP*			**P**	**19 56 24.0**	**-0.1**
CN2	**Changchun**	**54.49**	**55**	*eP*			**P**	**19 56 27.8**	**+3.0**
CN2					*e*pP		sP	19 56 38.0	+2.4
CN2					*e*S		**S**	**20 04 03.0**	**+0.7**
CN2					PMZ						
	comp=Z,10.0nm,0.6s										
CN2					PMZ						
	comp=Z,100nm,3.0s										
CN2					LN						
	comp=Z,500nm,17.0s										
CN2					LE						
	comp=Z,400nm,17.0s										
CN2					LZ						
	comp=Z,700nm,18.0s										
MORF	**Manmelete**	**54.66**	**296**	*eP*			**P**	**19 56 26.2**	**0.0**
PMAFR	**Mafra**	**54.78**	**299**	*eP*			**P**	**19 56 27.2**	**+0.2**
	comp=Z,97nm,1.8s										
PMAFR	**Mafra**	**54.78**	**299**	*eP*			**P**	**19 56 27.2**	**+0.2**
PFVI	**Vila Bisbo**	**54.84**	**296**	*eP*			**P**	**19 56 27.1**	**-0.3**
	comp=Z,98nm,2.4s										
PFVI	**Vila Bisbo**	**54.84**	**296**	*eP*			**P**	**19 56 27.1**	**-0.3**
YAK	**Yakutsk**	**55.58**	**33**	LR			LR	20 24 25.0			
	comp=Z,177nm,18.7s,baz=273,slow=40										
YAK	**Yakutsk**	**55.58**	**33**	*eP*			**P**	**19 56 31.4**	**-0.9**
YAK					pmax		pmax				
	comp=Z,9.0nm,0.8s										
YAK					MLR		MLR				
	comp=Z,2μm,14.0s										
YAK					MLR		MLR				
	comp=E,1μm,14.0s										
TIXI	**Tiksi**	**55.89**	**21**	*ceP*			**P**	**19 56 34.9**	**+0.5**
TIXI					pmax		pmax				
	comp=Z,18nm,1.7s										
TIXI	**Tiksi**	**55.89**	**21**	*eP*			**P**	**19 56 33.9**	**-0.5**
	comp=Z,51nm,1.7s										
TIXI	**Tiksi**	**55.89**	**21**	*eP*			**P**	**19 56 33.9**	**-0.5**
	comp=Z,51nm,1.7s										
SSLB	**Suanglung**	**56.18**	**80**	*eP*			**P**	**19 56 36.1**	**-1.2**
	comp=Z,22nm,1.1s										
SSLB	**Suanglung**	**56.18**	**80**	*eP*			**P**	**19 56 36.1**	**-1.2**
	comp=Z,22nm,1.1s										
KSM	**Kuching**	**57.41**	**109**	*eP*			P	19 56 51.0	+4.9
	comp=Z,16nm,1.3s										
KSAR	**Wonju Array Be**	**57.66**	**62**		P		**P**	**19 56 47.4**	**-0.2**
KSAR	**Wonju Array Be**	**57.66**	**62**		P		**P**	**19 56 47.3**	**-0.2**
KSAR	**Wonju Array Be**	**57.66**	**62**		P		**P**	**19 56 47.4**	**-0.2**
KSRS	**Korea Array**	**57.69**	**62**		P		**P**	**19 56 47.4**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=280,slow=5.5,SNR=10										
DAG	**Danmarks Havn**	**57.87**	**345**	*i* P			**P**	**19 56 47.6**	**-0.8**
DAG					pmax		pmax				
	comp=Z,7.0nm,0.9s										
DAG	**Danmarks Havn**	**57.87**	**345**	*i* P			**P**	**19 56 47.6**	**-0.8**
	comp=Z,7.8nm,0.9s										
KLR	**Kul'dur**	**57.87**	**48**	*i* P			**P**	**19 56 53.0**	**+4.1**
USRK	**Ussuriysk Ar.**	**59.04**	**54**		P		**P**	**19 56 56.3**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=283,slow=6.9,SNR=7.9										
USRK					LR		LR	20 25 03.8			
	comp=Z,564nm,18.6s,baz=237,slow=39										
HABR	**Khabarovsk**	**60.16**	**48**	*eP*			**P**	**19 57 03.2**	**-1.5**
HABR					*e**PP		**sP**	**19 57 13.3**	**-2.2**
HABR					*e**SP		**pP**	**19 57 17.5**	**+5.0**
HABR					*e*			19 57 48.0			
HABR					*e*S		**S**	**20 05 16.1**	**-0.5**
HABR					*e**SS		**sS**	**20 05 33.8**	**+4.3**
HABR					*e*			20 06 50.8			
HABR					*e*SS		**SS**	**20 09 15.0**	**+1.6**
HABR					pmax		pmax				
	comp=N,11nm,1.7s										
HABR					pmax		pmax				
	comp=E,22nm,1.7s										
HABR					pmax		pmax				
	comp=Z,41nm,1.7s										
HABR					MLR		MLR				
	comp=Z,782nm,16.0s										
PMOZ	**Porto Moniz, M**	**62.65**	**294**	*e*LR			LR	20 30 38.0			
	comp=Z,75nm,16.0s										
LBTB	**Lobatse**	**62.78**	**213**	*eP*			**P**	**19 57 23.7**	**+0.9**
LBTB					pmax		pmax				
	comp=Z,38nm,0.8s										
LBTB	**Lobatse**	**62.78**	**213**	*eP*			**P**	**19 57 23.7**	**+0.9**
	comp=Z,38nm,0.8s										
LBTB	**Lobatse**	**62.78**	**213**	*eP*			**P**	**19 57 23.7**	**+0.9**
	comp=Z,38nm,0.8s										
DBIC	**Dimbokro**	**62.93**	**262**		P		**P**	**19 57 23.2**	**-0.7**
	comp=Z,12nm,1.0s,baz=40,slow=5.8,SNR=13										
DBIC					LR		LR	20 26 41.7			
	comp=Z,784nm,18.8s,baz=40,slow=38										
DBIC	**Dimbokro**	**62.93**	**262**	*eP*			**P**	**19 57 23.8**	**-0.1**
	comp=Z,37nm,1.4s										
DBIC	**Dimbokro**	**62.93**	**262**	*eP*			**P**	**19 57 23.8**	**-0.1**
	comp=Z,37nm,1.4s										
KIC	**Kosan Boka**	**62.99**	**261**	*e*PKP1			**P**	**19 57 23.4**	**-0.9**
	comp=Z,74nm,1.2s										
TIC	**Toumodi**	**63.08**	**262**	*e*PKP1			**P**	**19 57 24.2**	**-0.8**
LIC	**Lamto**	**63.30**	**261**	*e*PKP1			**P**	**19 57 22.9**	**-3.5**
SUMG	**Summit**	**63.44**	**340**	⇑ *i*P			**P**	**19 57 27.2**	**+0.3**
SUMG					pmax		pmax				
	comp=Z,14nm,1.0s										
SUMG	**Summit**	**63.44**	**340**	⇑ *i*P			**P**	**19 57 27.2**	**+0.3**
	comp=Z,14nm,1.0s										
SUMG	**Summit**	**63.44**	**340**	*eP*			**P**	**19 57 24.4**	**-2.5**
	comp=Z,10nm,1.0s										
SUMG	**Summit**	**63.44**	**340**	*eP*			**P**	**19 57 24.4**	**-2.5**
	comp=Z,10nm,1.0s										
YSS	**Yuzh-Sakhalins**	**65.57**	**49**	*eP*			**P**	**19 57 37.9**	**-2.9**
SEY	**Seymchan**	**65.79**	**30**	*ceP*			**P**	**19 57 42.6**	**+0.7**
MJAR	**Matsushiro Arr**	**65.81**	**61**		P		**P**	**19 57 42.4**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=304,slow=3.7,SNR=5.0										
BOSA	**Boshof**	**66.02**	**211**		P		**P**	**19 57 43.0**	**-0.9**
	comp=Z,28nm,0.7s,baz=24,slow=6.2,SNR=65										
BOSA					LR		LR	20 29 53.2			
	comp=Z,237nm,19.8s,baz=21,slow=39										
BOSA	**Boshof**	**66.02**	**211**	*eP*			**P**	**19 57 44.3**	**+0.4**
	comp=Z,30nm,0.8s										
BOSA	**Boshof**	**66.02**	**211**	*eP*			**P**	**19 57 44.3**	**+0.4**
	comp=Z,30nm,0.8s										
MA2	**Magadan**	**66.13**	**34**	LR			LR	20 27 05.3			
	comp=Z,149nm,18.6s,baz=314,slow=36										
BILL	**Bilibino**	**69.07**	**22**	*eP*			**P**	**19 58 05.9**	**+3.3**
BILL				*e*				19 58 31.9			
BILL				*e*				20 00 36.9			
BILL					pmax		pmax				
	comp=Z,8.0nm,1.1s										
BILL					MLR		MLR				
	comp=Z,358nm,14.0s										
PETK	**Petropavlovsk-**	**72.17**	**39**		P		**P**	**19 58 20.2**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=311,slow=11,SNR=2.6										
PETK					LR		LR	20 32 25.4			
	comp=Z,292nm,18.4s,baz=262,slow=38										
FRB	**Frobisher Bay**	**77.39**	**338**		LR		LR	20 33 30.1			
	comp=Z,102nm,20.7s,ba

SEW	**Seward**	**87.46**	**13**	*e*P		**P**	**19 59 43.5**	**-0.8**
	comp=Z,71nm,1.4s								
SEW	**Seward**	**87.46**	**13**	*e*P		**P**	**19 59 43.5**	**-0.8**
	comp=Z,71nm,1.4s								
BRLK	**Bradley Lake**	**87.48**	**14**	*e*P		**P**	**19 59 44.2**	**-0.3**
BRLK	**Bradley Lake**	**87.48**	**14**	*e*P		**P**	**19 59 44.2**	**-0.3**
BMRM	**Bremner River**	**87.52**	**11**	*e*P		**P**	**19 59 45.3**	**+0.6**
BMRM	**Bremner River**	**87.52**	**11**	*e*P		**P**	**19 59 45.3**	**+0.6**
YKA	**Yellowknife Ar**	**87.59**	**356**	P		**P**	**19 59 44.9**	**0.0**
	comp=Z,5.6nm,0.7s,baz=358,slow=5.0,SNR=25								
YKA				LR		LR	20 43 52.8		
	comp=Z,15nm,19.8s,baz=0.0,slow=39								
BALM	**Baldy**	**87.80**	**10**	*e*P		**P**	**19 59 46.9**	**+0.8**
BALM	**Baldy**	**87.80**	**10**	*e*P		**P**	**19 59 46.9**	**+0.8**
BALM	**Baldy**	**87.80**	**10**	*e*P		**P**	**19 59 46.9**	**+0.8**
HYT	**Haines Junctio**	**88.62**	**7**	*e*P		**P**	**19 59 51.2**	**+1.1**
HYT	**Haines Junctio**	**88.62**	**7**	*e*P		**P**	**19 59 51.2**	**+1.1**
KDAK	**Kodiak Island**	**88.90**	**16**	*i* P		**P**	**19 59 51.4**	**+0.2**
KDAK	**Kodiak Island**	**88.90**	**16**	*e*P		**P**	**19 59 51.6**	**+0.4**
KDAK	**Kodiak Island**	**88.90**	**16**	*e*P		**P**	**19 59 51.6**	**+0.4**
WRA	**Warramunga Arr**	**88.91**	**114**	P		**P**	**19 59 51.1**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=314,slow=3.9,SNR=8.7								
ASAR	**Alice Springs**	**90.56**	**117**	P		**P**	**20 00 00.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=328,slow=3.3,SNR=3.5								
PMG	**Port Moresby**	**94.21**	**98**	*ce*P		**P**	**20 00 17.0**	**+0.4**
PMG				pmax		pmax			
	comp=Z,102nm,1.2s								
ULM	**Lac du Bonnet**	**96.69**	**343**	LR		LR	20 47 12.2		
	comp=Z,141nm,18.4s,baz=346,slow=37								
TXAR	**Lajitas Array**	**118.33**	**341**	PKP		**PKPdf**	**20 05 44.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=173,slow=1.3,SNR=20								
CPUP	**Villa Florida**	**123.25**	**257**	PKP		**PKPdf**	**20 05 54.0**	**-0.3**
	comp=Z,3.3nm,1.0s,baz=61,slow=7.3,SNR=3.2								
CPUP	**Villa Florida**	**123.25**	**257**	PKIKP		**PKPdf**	**20 05 54.0**	**-0.3**
CPUP	**Villa Florida**	**123.25**	**257**	PKIKP		**PKPdf**	**20 05 54.0**	**-0.3**
CMIG	**Matias Romero**	**126.19**	**327**	PKP		**PKPdf**	**20 05 59.5**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=24,slow=4.0,SNR=9.3								

IDC 26 19:50:58.5±4.0,**3.95**S×**149.42E**, **h0**km, **mb4.0**/3, **mb1 4.2**/3, **mb1mx3.6**/36, **mbtmp4.0**/3, **MS3.1**/4, **Ms1 3.1**/4, **ms1mx2.8**/38, **Error ellipse: s-maj=122.3km s-min=51.6km az=113.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.87**	**202**	LR		LR	19 54 04.2	
	comp=Z,38nm,19.6s,baz=320,slow=32							
HNR	**Honiara**	**11.79**	**118**	LR		LR	19 58 34.7	
	comp=Z,136nm,18.2s,baz=259,slow=39							
GUMO	**Guam**	**18.00**	**346**	LR		LR	20 00 16.6	
	comp=Z,44nm,21.6s,baz=143,slow=31							
WRA	**Warramunga Arr**	**21.65**	**222**	P		P	19 55 50.5	-0.2
	3.6nm,0.9s,baz=45,slow=15.1,SNR=16							
DZM	**Mont Dzumac**	**24.43**	**139**	LR		LR	20 04 41.8	
	comp=Z,125nm,18.9s,baz=222,slow=34							
ASAR	**Alice Springs**	**24.67**	**216**	P		P	19 56 21.0	-0.3
	1.7nm,0.9s,baz=49,slow=8.2,SNR=11							
FITZ	**Fitzroy Crossi**	**27.19**	**237**	P		P	19 56 44.6	+0.5
	5.4nm,1.1s,baz=72,slow=10,SNR=9.3							
TORD	**Torodi Ar. Bea**	**146.84**	**288**	PKPbc		PKPdf	20 10 42.9	+0.9
	1.0nm,1.1s,baz=48,slow=2.2,SNR=3.7							

*GUC **26** 20:02:03.0±0.4, 36.70S×74.16W, h11km±6km, ML3.9*
*IDC **26** 20:02:04.2±1.7, 36.77S×73.98W, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.9/26, mbtmp4.0/7, ML4.0/2, MS3.7/5, Ms1 3.7/5, ms1mx3.3/28, Error ellipse: s-maj=44.2km s-min=20.5km az=67.0*
*ISCJB **26** 20:02:07.2±0.8, 36.81S±0.08×73.99W±0.10, h33km, mb4.3/7, MS3.7/3, Error ellipse: s-maj=11.3km s-min=8.5km az=163.6*
ISC 26 20:02:09.9±1.1, **36.74S**±0.08×**73.85W**±0.10, **h35**km, **n17**, σ**1**§**91**/19, **mb4.4**/6, **MS3.6**/3, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.61**	**100**	*e*P		**Pn**	**20 02 18.7**	**-3.3**
CCSP				*e*S		**Sn**	**20 02 30.8**	**+0.2**
CCSP				IAML			20 02 33.1	
	comp=N,7μm,0.7s							
COCH	**Cobquecura**	**1.05**	**55**	*e*P		**Pn**	**20 02 25.0**	**-3.1**
COCH				*e*S		**Sn**	**20 02 41.5**	**-0.1**
COCH				IAML			20 02 56.7	
	comp=N,4μm,0.7s							
CCHI	**Chillan**	**1.44**	**85**	*e*P		**Pn**	**20 02 31.8**	**-1.6**
CCHI				*e*S		**Sn**	**20 02 54.0**	**+3.0**
CCHI				IAML			20 03 15.8	
	comp=N,4μm,1.1s							
TALC	**Talca**	**2.25**	**54**	*e*P		**Pn**	**20 02 43.6**	**-0.9**
TALC				*e*S		**Sn**	**20 03 14.1**	**+3.1**
PLCA	**Paso Flores**	**4.75**	**148**	Pn		**Pn**	**20 03 18.5**	**-0.5**
	comp=N,1.6nm,0.3s,baz=342,slow=10,SNR=49							
PLCA				Lg		Lg	20 04 37.5	
	comp=N,2.1nm,0.3s,baz=56,slow=14,SNR=6.0							
PLCA				LR		LR	20 05 08.6	
	comp=N,573nm,21.8s,baz=346,slow=39							
CPUP	**Villa Florida**	**17.47**	**58**	P		**Pn**	**20 06 10.5**	**-0.3**
	comp=N,0.1nm,0.3s,baz=224,slow=11,SNR=3.0							
CPUP				LR		LR	20 14 03.9	
	comp=N,319nm,19.0s,baz=236,slow=41							
LPAZ	**La Paz**	**21.00**	**16**	P		**P**	**20 06 52.4**	**+1.4**
	comp=N,5.1nm,0.8s,baz=151,slow=5.5,SNR=8.2							
SIV	**San Ignacio**	**23.58**	**32**	P		**P**	**20 07 17.2**	**-0.2**
	comp=N,2.6nm,0.8s,baz=233,slow=14,SNR=8.3							
SIV				LR		LR	20 18 15.6	
	comp=N,199nm,18.6s,baz=243,slow=41							
NNA	**Nana**	**24.80**	**353**	LR		LR	20 15 09.9	
	comp=N,41nm,19.6s,baz=176,slow=32							
TXAR	**Lajitas Array**	**71.44**	**333**	P		**P**	**20 13 26.3**	**-0.5**
	comp=N,0.2nm,0.6s,baz=152,slow=8.4,SNR=3.7							
LIC	**Lamto**	**77.04**	**72**	*e*P		**P**	**20 14 03.1**	**+3.5**
	comp=N,41nm,0.8s							
TIC	**Toumodi**	**77.31**	**72**	*e*P		**P**	**20 14 01.8**	**+0.6**
KIC	**Kosan Boka**	**77.34**	**72**	*e*P		**P**	**20 14 01.8**	**+0.5**
	comp=N,14nm,0.8s							
DBIC	**Dimbokro**	**77.45**	**72**	P		**P**	**20 14 01.5**	**-0.4**
	comp=N,4.2nm,0.7s,baz=221,slow=4.5,SNR=5.9							
RAO	**Raoul Island**	**83.17**	**239**	LR		LR	20 41 27.8	
	comp=N,254nm,22.0s,baz=322,slow=28							
TORD	**Torodi Ar. Bea**	**86.52**	**71**	P		**P**	**20 14 49.3**	**-0.2**
	comp=N,1.3nm,0.9s,baz=238,slow=3.0,SNR=6.0							
ZALV	**Zalesovo Beam**	**157.13**	**34**	PKP		**PKPdf**	**20 22 01.1**	**-0.3**
	comp=N,0.4nm,0.4s,baz=199,slow=4.1,SNR=4.6							

*BJI **26** 20:03:00.5, 2.81S×136.61E, h21km, mb4.7/32, mB5.2/23, Ms4.8/17, Ms7 4.4/16*
*IDC **26** 20:03:00.8±0.6, 2.45S×136.60E, h0km, mb4.3/17, mb1 4.3/20, mb1mx4.2/47, mbtmp4.3/20, ML4.1/3, MS4.0/8, Ms1 4.0/8, ms1mx3.5/35, Error ellipse: s-maj=26.3km s-min=13.5km az=75.0*
*NEIC **26** 20:03:01.9±0.3, 2.40S×136.66E, h10km, mb4.7/22, Error ellipse: s-maj=6.9km s-min=4.8km az=79.0*
*ISCJB **26** 20:03:03.6±0.2, 2.49S±0.03×136.71E±0.03, h33km, mb4.5/41, MS4.0/6, Error ellipse: s-maj=4.8km s-min=3.6km az=16.9*
*DJA **26** 20:03:04.7±1.0, 2°S±4'×13'7E±', h22km±8km, M5.1/13, mb5.0/13, mB5.6/8, MLv5.1/5, Mw(mB)5.1/8*
ISC 26 20:03:05.8±0.4, **2.51S**±0.05×**136.70E**±0.04, **h35**km, **n103**, σ**1**§**54**/109, **mb4.5**/41, **MS4.0**/6, **1D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**2.71**	**291**	P		**Pn**	**20 03 45.2**	**-1.6**
RKPI				S		**Sn**	**20 04 17.7**	**-0.7**
GENI	**Genyem**	**3.47**	**91**	P		**Pn**	**20 03 57.6**	**+0.3**
GENI				S		**Sn**	**20 04 38.1**	**+0.9**
JAY	**Jayapura**	**4.00**	**90**	Pn		**Pn**	**20 04 03.4**	**-1.4**
	1.6nm,0.3s,baz=261,slow=22,SNR=44							
JAY	**Jayapura**	**4.00**	**90**	P		**Pn**	**20 04 03.5**	**-1.2**
FAKI	**Fak Fak**	**4.46**	**265**	P		**Pn**	**20 04 11.4**	**+0.4**
FAKI				S		**Sn**	**20 05 02.7**	**+1.0**
FAKI	**Fak Fak**	**4.46**	**265**	*e*Pn		**Pn**	**20 04 10.2**	**-0.8**
FAKI				*e*Sn		**Sn**	**20 05 03.8**	**+2.1**
SWI	**Sorong**	**5.68**	**287**	P		**Pn**	**20 04 27.5**	**-0.2**
	128nm,0.7s,2μm1.2nm							
MMPI	**Merauke**	**6.96**	**148**	P		**Pn**	**20 04 46.8**	**+1.4**
MMPI				S		**Sn**	**20 06 09.3**	**+5.9**
MSAI	**Masohi**	**7.80**	**264**	P		**Pn**	**20 04 57.9**	**+1.0**
SANI	**Sanana**	**10.71**	**272**	P		**Pn**	**20 05 35.2**	**-1.6**
MTN	**Manton Dam**	**11.65**	**208**	*e*Pn		**Pn**	**20 05 50.5**	**+0.8**
PMG	**Port Moresby**	**12.45**	**124**	Pn		**Pn**	**20 06 03.5**	**+2.8**
	0.7nm,0.3s,baz=322,slow=8.1,SNR=5.5							
PMG	**Port Moresby**	**12.45**	**124**	*e*Pn		**Pn**	**20 06 00.7**	**0.0**
COEN	**Coen**	**13.05**	**151**	*e*Pn		**Pn**	**20 06 08.4**	**-0.4**
COEN				*e*Sn		**Sn**	**20 08 29.8**	**-3.1**
KMSI	**Cibinong**	**13.08**	**283**	P		**Pn**	**20 06 09.1**	**-0.1**
	109nm,0.8s							
KDI	**Kendari**	**14.13**	**264**	P		**Pn**	**20 06 24.5**	**+0.9**
	46nm,1.3s							
SOEI	**Soe**	**14.30**	**239**	P		**Pn**	**20 06 26.4**	**+0.5**
	83nm,1.1s,1μm							
SOEI	**Soe**	**14.30**	**239**	*e*Pn		**Pn**	**20 06 23.7**	**-2.2**
MRSI	**Marisa**	**15.05**	**281**	P		**Pn**	**20 06 36.9**	**+0.9**
	61nm,1.1s,2μm							
TTSI	**Tana Toraja**	**16.87**	**268**	P		**Pn**	**20 06 59.9**	**+0.6**
	58nm,1.2s,9μm							
PCI	**Palu**	**16.93**	**275**	P		**Pn**	**20 07 01.3**	**+1.2**
	638nm,1.0s,20μm							
SPSI	**Sidrap Palu**	**16.96**	**265**	P		**P**	**20 07 02.0**	**-0.2**
	55nm,1.2s,1μm							
WRAB	**Tennant Creek**	**17.47**	**187**	*e*Pn		**Pn**	**20 07 06.9**	**+0.1**
	43nm,1.0s							
WB2	**Warramunga Arr**	**17.48**	**187**	*e*Pn		**Pn**	**20 07 06.3**	**-0.6**
	31nm,0.8s							
WRA	**Warramunga Arr**	**17.48**	**187**	P		**Pn**	**20 07 06.5**	**-0.4**
	1.3nm,0.3s,baz=9.0,slow=12,SNR=46							
WRA				S		**Sn**	**20 10 15.7**	**-4.9**
	0.8nm,0.3s,baz=8.8,slow=23,SNR=4.9							
GUMO	**Guam**	**17.93**	**27**	LR		LR	20 13 38.1	
	comp=Z,186nm,21.6s,baz=205,slow=36							
FITZ	**Fitzroy Crossi**	**18.91**	**214**	P		**Pn**	**20 07 27.7**	**+3.2**
	0.7nm,0.3s,baz=50,slow=14,SNR=10.0							
FITZ	**Fitzroy Crossi**	**18.91**	**214**	*e*P		**Pn**	**20 07 25.4**	**+1.0**
	24nm,0.9s							
MYLDM	**Lahad Datu**	**19.72**	**293**	*e*P		**Pn**	**20 07 34.4**	**+0.3**
	84nm,1.4s							
CTA	**Charters Tower**	**19.81**	**153**	P		**Pn**	**20 07 34.5**	**-0.7**
	0.4nm,0.3s,baz=9.3,slow=16,SNR=3.7							
CTA				LR		LR	20 15 58.2	
	comp=Z,410nm,19.6s,baz=342,slow=39							
AS01	**Alice Springs**	**21.20**	**187**	*e*P		**P**	**20 07 48.1**	**-0.4**
AS31	**Alice Springs**	**21.20**	**187**	*e*P		**P**	**20 07 49.1**	**+0.6**
	18nm,0.6s							
ASAR	**Alice Springs**	**21.21**	**187**	P		**P**	**20 07 49.1**	**+0.6**
	7.9nm,0.8s,baz=13,slow=10,SNR=54							
ASAR				S		**S**	**20 11 43.4**	**+0.7**
	7.3nm,1.1s,baz=8.4,slow=18,SNR=4.3							
KKM	**Kota Kinabalu**	**22.15**	**293**	*e*P		**P**	**20 07 57.1**	**-1.8**
	28nm,1.2s							
MBWA	**Marble Bar**	**24.83**	**220**	*e*P		**P**	**20 08 24.8**	**-0.3**
	20nm,0.9s							
SBUM	**Sibu**	**24.96**	**281**	*e*P		**P**	**20 08 25.9**	**-0.3**
	14nm,1.0s							
KSM	**Kuching**	**26.68**	**278**	*e*P		**P**	**20 08 40.5**	**-1.3**
	9.3nm,0.8s							
STKA	**Stephens Creek**	**29.57**	**172**	P		**P**	**20 09 08.6**	**+1.1**
	1.3nm,0.5s,baz=355,slow=10.0,SNR=9.1							
STKA				LR		LR	20 23 07.1	
	comp=Z,398nm,18.8s,baz=349,slow=41							
MYKOM	**Kota Tinggi**	**33.12**	**277**	*e*P		**P**	**20 09 35.7**	**-3.2**
	26nm,1.1s							
DZM	**Mont Dzumac**	**34.83**	**126**	*e*LR		LR	20 19 27.7	
	830nm,25.2s							
UBPT	**Khong Chiam**	**35.60**	**301**	P		**P**	**20 09 59.8**	**-0.6**
	20nm,1.1s							
SKNT	**Sakolnakorn**	**37.65**	**302**	P		**P**	**20 10 17.0**	**-0.8**
	38nm,0.8s							
PSI	**Prapat**	**38.13**	**278**	*e*P		**P**	**20 10 20.8**	**-1.3**
	24nm,1.0s							
KHON	**Khomkaen**	**38.35**	**300**	P		**P**	**20 10 23.6**	**-0.1**
	7.1nm,1.1s							
MJAR	**Matsushiro Arr**	**38.88**	**2**	P		**P**	**20 10 28.8**	**+0.9**
	0.9nm,0.8s,baz=180,slow=7.3,SNR=3.4							
LOEI	**Loei**	**40.20**	**301**	P		**P**	**20 10 35.5**	**-3.7**
	82nm,1.1s,9μm							
UTTA	**Uttaradit**	**40.91**	**301**	P		**P**	**20 10 44.9**	**-0.2**
	3.1nm,1.1s							
LAMP	**Lampang**	**42.04**	**301**	P		**P**	**20 10 54.5**	**+0.2**
	5.0nm,0.9s							
CM01	**Chiang Mai Arr**	**42.57**	**301**	*e*P		**P**	**20 10 58.1**	**-0.6**
CMAR	**Chiang Mai Ar**	**42.60**	**301**	P		**P**	**20 10 58.6**	**-0.3**
	5.7nm,0.9s,baz=119,slow=6.5,SNR=33							
CMMT	**Chiang Mai**	**42.75**	**301**	P		**P**	**20 10 59.7**	**-0.4**
	10nm,1.0s							
CHTO	**Chiang Mai**	**42.75**	**301**	*e*P		**P**	**20 10 58.7**	**-1.4**
	6.2nm,0.9s							
KMI	**Kunming**	**42.88**	**312**	P		**P**	**20 11 02.5**	**+1.2**
KMI				PMZ				
	7.0nm,1.2s							
ERM	**Erimo**	**44.70**	**7**	*e*P		**P**	**20 11 14.4**	**-1.0**
	81nm,1.0s							
CD2	**Chengdu**	**45.70**	**319**	*e*P		**P**	**20 11 23.5**	**-0.1**
ASAJ	**Asahikawa**	**46.72**	**6**	P		**P**	**20 11 29.6**	**-1.7**
	8.6nm,0.8s							
CN2	**Changchun**	**47.20**	**349**	*e*P		**P**	**20 11 37.0**	**+1.9**
HHC	**Hu-ho-hao-te**	**48.87**	**335**	*e*P		**P**	**20 11 50.5**	**+2.3**
HHC				pP		pP	20 11 56.5	-2.2
HHC				S		**S**	**20 18 52.3**	**+2.7**
HHC				PMZ				
	17nm,0.8s							
HHC				PMZ				
	170nm,7.0s							
HHC				LN				
	170nm,17.1s							
HHC				LE				
	370nm,15.9s							
HHC				LZ				
	120nm,13.7s							
LZH	**Lanzhou**	**49.13**	**324**	*e*P		**P**	**20 11 50.8**	**+0.4**
LZH				PP		**PP**	**20 13 45.0**	**+0.6**
LZH				PMZ				
	25nm,1.0s							
LZH				PMZ				
	76nm,7.2s							
LZH				LN				
	300nm,15.1s							
LZH				LE				
	350nm,15.6s							
LZH				LZ				
	410nm,17.9s							
RPZ	**Rata Peaks**	**51.10**	**148**	LR		LR	20 33 38.0	
	comp=Z,218nm,18.4s,baz=312,slow=36							
URZ	**Urewera**	**51.27**	**139**	LR		LR	20 35 38.3	
	comp=Z,293nm,18.5s,baz=311,slow=38							
KLR	**Kul'dur**	**51.71**	**356**	P		**P**	**20 12 09.5**	**+0.1**
	2.1nm,0.6s,baz=229,slow=3.1,SNR=7.5							
AFI	**Afiamalu**	**52.12**	**106**	LR		LR	20 32 59.0	
	comp=Z,145nm,21.9s,baz=352,slow=34							
GTA	**Gaotai**	**53.73**	**325**	||P		**P**	**20 12 25.3**	**+0.6**
GTA				S		**S**	**20 19 58.0**	**+1.2**
GTA				PMZ				
	12nm,1.1s							
GTA				PMZ				
	240nm,6.2s							
GTA				LN				
	160nm,15.7s							
GTA				LE				
	210nm,14.3s							
GTA				LZ				
	180nm,16.2s							
LSA	**Lhasa**	**54.03**	**310**	*e*P		**P**	**20 12 27.0**	**-0.5**
	26nm,1.4s							
ULN	**Ulaanbaatar**	**56.46**	**336**	*e*P		**P**	**20 12 41.6**	**-2.7**
	29nm,1.9s							
SONM	**Songino Array**	**56.70**	**336**	P		**P**	**20 12 45.4**	**-0.6**
	1.1nm,0.9s,baz=146,slow=6.5,SNR=5.6							
SONM				LR		LR	20 37 45.6	
	comp=Z,122nm,20.3s,baz=122,slow=37							
SONA1	**Songino Array**	**56.71**	**336**	*e*P		**P**	**20 12 44.6**	**-1.5**
TLY	**Talaya**	**60.84**	**337**	*e*P		**P**	**20 13 13.8**	**-0.7**
	9.1nm,1.4s							
WMQ	**Urumqi**	**63.62**	**322**	P		**P**	**20 13 34.0**	**+0.6**
WMQ				PMZ				
	11nm,1.3s							
WMQ				PMZ				
	180nm,7.1s							
WMQ				LN				
	230nm,14.9s							
WMQ				LE				
	160nm,12.7s							
WMQ				LZ				
	120nm,16.7s							
YAK	**Yakutsk**	**64.59**	**356**	P		**P**	**20 13 40.4**	**+1.2**
	22nm,0.7s,baz=217,slow=0.8,SNR=7.7							
YAK	**Yakutsk**	**64.59**	**356**	*e*P		**P**	**20 13 39.0**	**-0.3**
	20nm,0.7s							
SEY	**Seymchan**	**66.34**	**8**	P		**P**	**20 13 51.6**	**+1.0**
	2.7nm,0.8s,baz=188,slow=6.6,SNR=4.0							
MK01	**Makanchi Array**	**68.39**	**323**	*e*P		**P**	**20 14 03.6**	**-0.4**
MK31	**Makanchi Array**	**68.41**	**323**	*e*P		**P**	**20 14 03.8**	**-0.4**
MKAR	**Makanchi Array**	**68.41**	**323**	P		**P**	**20 14 03.8**	**-0.4**
	2.8nm,0.6s,baz=109,slow=7.9,SNR=32							
MKAR	**Makanchi Array**	**68.41**	**323**	*e*P		**P**	**20 14 03.4**	**-0.8**
MAKZ	**Makanchi**	**68.61**	**323**	*e*P		**P**	**20 14 02.4**	**-2.9**
	36nm,1.8s							
KSH	**Kashi**	**69.49**	**314**	*e*P		**P**	**20 14 12.8**	**+1.7**
KSH				PcP		**PcP**	**20 14 34.0**	**-0.2**
KSH				PP		**PP**	**20 16 49.0**	**+3.9**
KSH				S		**S**	**20 23 16.3**	**-0.3**
KSH				ScS		**SKSac**	**20 24 08.0**	**-1.2**
KSH				SS		**SS**	**20 27 46.0**	**+1.3**
KSH				PMZ				
	6.0nm,0.8s							
KSH				PMZ				
	140nm,4.4s							
KSH				LN				
	130nm,5.5s							
KSH				LE				
	140nm,5.2s							
ZALV	**Zalesovo Beam**	**70.76**	**330**	P		**P**	**20 14 17.0**	**-1.4**
	3.0nm,0.9s,baz=118,slow=4.9,SNR=7.6							
TKM2	**Tokmak 2**	**71.03**	**317**	*e*P		**P**	**20 14 20.3**	**-0.2**
EKS2	**Erkin-Say**	**72.17**	**316**	P		**P**	**20 14 26.3**	**-1.0**
KURK	**Kurchatov**	**72.41**	**326**	*e*P		**P**	**20 14 27.5**	**-0.9**
	257nm,1.6s							
KURBB	**Kurchatov Arra**	**72.41**	**325**	P		**P**	**20 14 27.9**	**-0.5**
	3.7nm,0.9s,baz=118,slow=5.4,SNR=25							
PPT	**Papeete**	**73.73**	**107**	LR		LR	20 44 38.4	
	comp=Z,38nm,21.8s,baz=266,slow=34							
PPT2	**Papeete2**	**73.73**	**107**	*e*LR		LR	20 37 22.0	
	172nm,25.2s							
TBI	**Tubuai**	**74.18**	**113**	*e*LR		LR	20 37 35.7	
	153nm,34.0s							
KKAR	**Karatay Array**	**74.58**	**316**	*e*P		**P**	**20 14 41.8**	**+0.4**
VNDA	**Vanda**	**76.16**	**175**	P		**P**	**20 14 50.6**	**+0.8**
	1.8nm,0.8s,baz=319,slow=6.7,SNR=9.2							
VNDA	**Vanda**	**76.16**	**175**	*e*P		**P**	**20 14 51.8**	**+2.0**
BVAR	**Borovoye Array**	**78.00**	**326**	P		**P**	**20 15 00.3**	**-0.3**
	4.9nm,0.8s,baz=103,slow=6.5,SNR=22							
CHGN	**Chignik**	**78.45**	**31**	*e*P		**P**	**20 14 59.8**	**-3.1**
ZRNK	**Zerenda**	**78.77**	**325**	*e*P		**P**	**20 15 04.3**	**-0.5**
GEYT	**Alibeck**	**82.54**	**309**	P		**P**	**20 15 25.8**	**+0.4**
	3.5nm,1.1s,baz=113,slow=3.4,SNR=9.4							
TAOE	**Nuku Hiva Isla**	**82.86**	**99**	*e*LR		LR	20 41 25.6	
	156nm,24.0s							
ABKAR	**Akbulak array**	**83.27**	**320**	*e*P		**P**	**20 15 27.4**	**-1.5**
	2.0nm,0.7s							
AKTO	**Aktyubinsk**	**84.72**	**321**	P		**P**	**20 15 36.1**	**-0.2**
	2.0nm,0.8s,baz=69,slow=10,SNR=5.2							
ARU	**Arti**	**85.53**	**327**	P		**P**	**20 15 39.4**	**-0.7**
	3.9nm,0.7s,baz=118,slow=3.2,SNR=6.2							
ARU	**Arti**	**85.53**	**327**	*e*P		**P**	**20 15 38.2**	**-2.0**
	4.2nm,0.8s							
COLD	**Coldfoot**	**85.81**	**22**	*e*P		**P**	**20 15 41.9**	**+0.5**
	5.8nm,1.1s							
ILAR	**Eielson Array**	**86.49**	**25**	P		**P**	**20 15 43.9**	**-0.8**
	0.8nm,0.9s,baz=270,slow=5.0,SNR=5.2							
RKT	**Rikitea**	**87.49**	**113**	*e*LR		LR	20 43 40.7	
	171nm,37.0s							
TORD	**Torodi Ar. Bea**	**134.27**	**286**	PKP		**PKPdf**	**20 22 21.6**	**+0.6**
	0.3nm,0.7s,baz=21,slow=1.6,SNR=3.3							

*JMA **26** 20:03:32.9±0.1, 24.05N×122.28E, h49km±3km, M2.6*
*ISCJB **26** 20:03:33.8±0.3, 24.09N±0.02×122.32E±0.02, h34km±21km, Error ellipse: s-maj=4.3km s-min=2.3km az=161.1*
*TAP **26** 20:03:34.1, 24.13N×122.27E, h31km, ML3.2, D*
ISC 26 20:03:32.7±1.0, **24.03N**±0.02×**122.30E**±0.02, **h29**km±11km, **n45**, σ**0**§**73**/89, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HWA	**Hwalien**	**0.64**	**265**	P		**Pn**	**20 03 46.8**	**+1.1**
	baz=255							
HWA				S		**Sn**	**20 03 56.7**	**+1.8**
	baz=255							
TWD	**Chiawan**	**0.65**	**275**	P		**Pn**	**20 03 46.2**	**+0.4**
	baz=265							
TWD				*e*S		**Sn**	**20 03 55.2**	**+0.2**
	baz=265							
ENA	**Nanau**	**0.65**	**308**	*e*P		**Pn**	**20 03 46.2**	**+0.4**
	baz=301							
ENA				*e*S		**Sn**	**20 03 55.0**	**-0.2**
	baz=301							
TWC	**Suao**	**0.71**	**325**	P		**Pb**	**20 03 46.7**	**+0.2**
	baz=321							
TWC				S		**Sb**	**20 03 55

ELDTW	**Lidau**	**1.44**	**235**	*e*P		**Pb**	**20 03 57.9**	**-1.1**
	baz=230							
ELDTW				*e*S		**Sb**	**20 04 15.5**	**-1.5**
	baz=230							
ALS	**Alishan**	**1.46**	**250**	*e*P		**Pb**	**20 03 59.4**	**0.0**
	baz=245							
ALS				*e*S		**Sb**	**20 04 17.4**	**-0.4**
	baz=245							
WNT	**Mingjian**	**1.49**	**265**	*e*P		**Pb**	**20 03 59.5**	**-0.2**
	baz=260							
WNT				*e*S		**Sb**	**20 04 18.7**	**+0.6**
	baz=260							
CHN5	**Tsauling**	**1.55**	**254**	*e*P		**Pb**	**20 04 00.9**	**+0.2**
	baz=249							
CHN5				*e*S		**Sb**	**20 04 19.9**	**0.0**
	baz=249							
JKRS	**Kuro-shima**	**1.57**	**82**	P		**Pn**	**20 03 59.9**	**+1.3**
JKRS				*e*S		**Sn**	**20 04 18.6**	**+0.6**
WGK	**Gukeng**	**1.63**	**258**	*e*P		**Pb**	**20 04 01.9**	**-0.1**
	baz=254							
WGK				*e*S		**Sb**	**20 04 21.7**	**-0.5**
	baz=254							
TWG	**Pinlang**	**1.65**	**223**	*e*P		**Pb**	**20 04 00.8**	**-1.6**
	baz=219							
TWG				*e*S		**Sb**	**20 04 20.9**	**-1.9**
	baz=219							
STYT	**Tauyuan**	**1.66**	**239**	P		**Pb**	**20 04 01.8**	**-0.8**
	baz=235							
STYT				S		**Sb**	**20 04 22.8**	**-0.3**
	baz=235							
CHN4	**Tsaushan**	**1.70**	**247**	P		**Pb**	**20 04 03.4**	**+0.1**
	baz=243							
CHN4				*e*S		**Sb**	**20 04 23.9**	**-0.5**
	baz=243							
JIJ	**Ishigaki jima**	**1.72**	**78**	P		**Pn**	**20 04 00.9**	**+0.3**
JIJ				S		**Sn**	**20 04 20.9**	**-0.6**
WTP	**Ta-pu**	**1.73**	**244**	*e*P		**Pb**	**20 04 03.8**	**-0.1**
	baz=239							
WTP				*e*S		**Sb**	**20 04 24.5**	**-0.7**
	baz=239							
TWK	**Hsinying**	**1.83**	**246**	*e*P		**Pb**	**20 04 04.6**	**-0.9**
	baz=241							
TWK				*e*S		**Sb**	**20 04 26.9**	**-1.1**
	baz=241							
SGST	**Jiashian**	**1.84**	**239**	P		**Pb**	**20 04 05.3**	**-0.3**
	baz=235							
SGST				*e*S		**Sb**	**20 04 27.7**	**-0.5**
	baz=235							
ECL	**Taimali**	**1.89**	**221**	*e*P		**Pn**	**20 04 03.8**	**+0.8**
	baz=218							
ECL				*e*S		**Sb**	**20 04 27.8**	**-1.9**
	baz=218							
JISG	**Ishigakijimahi**	**1.92**	**73**	P		**Pn**	**20 04 03.4**	**+0.1**
JISG				*e*S		**Sn**	**20 04 25.8**	**-0.7**
SSD	**Sandimen**	**2.00**	**231**	*e*P		**Pb**	**20 04 07.8**	**-0.5**
	baz=227							
SSD				*e*S		**Sb**	**20 04 32.2**	**-0.5**
	baz=227							
LAY	**Lan-yu**	**2.10**	**199**	*e*P		**Pn**	**20 04 07.1**	**+1.2**
	baz=197							
LAY				*e*S		**Sn**	**20 04 32.2**	**+1.1**
	baz=197							
TWM1	**Shoushan**	**2.10**	**236**	*e*P		**Pb**	**20 04 09.0**	**-1.1**
	baz=232							
TWM1				*e*S		**Sn**	**20 04 32.6**	**+1.5**
	baz=232							
EAST	**Anshuo**	**2.11**	**219**	*e*P		**Pb**	**20 04 09.4**	**-1.0**
	baz=216							
EAST				*e*S		**Sb**	**20 04 35.3**	**-0.9**
	baz=216							
JTJ	**Tarama**	**2.27**	**74**	P		**Pn**	**20 04 08.9**	**+0.6**
JTJ				*e*S		**Sn**	**20 04 35.4**	**+0.1**

NIED ***26*** *20:10:00, 39.°20N× 142.°40E, h29km, Mw4.1 Best double couple: M₀1.66000×10¹⁵ NP1:φs333.00000°, δ24.00000°, λ-108.00000°. NP2:φs173.00000°, δ68.00000°, λ-82.00000°.*

IDC ***26*** *20:10:24.4±0.9, 39.°00N× 142.°41E, h0km, mb4.1/15, mb1 4.1/15, mb1mx3.9/65, mbtmp4.1/15, MS3.3/1, Ms1 3.3/1, ms1mx2.7/42, Error ellipse: s-maj=23.0km s-min=18.0km az=96.0*

ISCJB ***26*** *20:10:27.0±0.5, 39.°07N±0.°04× 142.°50E±0.°05, h27km, mb4.0/16, Error ellipse: s-maj=6.4km s-min=4.6km az=37.5*

JMA ***26*** *20:10:28.3±0.1, 39.°16N× 142.°43E, h32km±1km, MS3.8*

JMA Felt I J1.

NEIC ***26*** *20:10:32.5±1.2, 39.°04N× 142.°41E, h64km±10km, mb4.4/1, Error ellipse: s-maj=16.4km s-min=9.2km az=119.0*

NEIC Recorded [1 JMA] in Iwate and Miyagi.

ISC 26 20:10:29.0±0.8**, 39.°08N**±0.°05×**142.°38E**±0.°07**, h27**km**, n40,** σ2ᵗ**00**/42**, mb4.0**/16**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.55**	**270**	P	**Pb**	**20 10 40.2**	**+0.1**
OFUJ				S	**Sn**	**20 10 48.4**	**-1.0**
MIYJ	**Miyakonagasawa**	**0.66**	**319**	P	**Pb**	**20 10 40.5**	**-1.4**
JMK	**Ichinoseki**	**0.91**	**262**	P	**Pn**	**20 10 45.7**	**-0.3**
JMK				S	**Sb**	**20 10 58.1**	**+0.2**
JOM	**Ohasama**	**0.93**	**295**	P	**Pn**	**20 10 45.5**	**-0.7**
JOM				S	**Sn**	**20 10 57.7**	**-1.0**
JTH	**Tanohata**	**0.94**	**335**	P	**Pb**	**20 10 44.3**	**-2.4**
JIO	**Ouri**	**1.02**	**232**	P	**Pn**	**20 10 47.1**	**-0.4**
JIO				S	**Sn**	**20 11 00.1**	**-0.8**
JKZ	**Kuzumaki**	**1.21**	**318**	P	**Pn**	**20 10 49.3**	**-0.9**
JRG	**Rokugo**	**1.39**	**284**	P	**Pn**	**20 10 52.5**	**-0.1**
JANG	**Nango**	**1.45**	**333**	P	**Pn**	**20 10 52.2**	**-1.3**
MAJO	**Matsushiro**	**4.16**	**234**	*e*Pn	**Pn**	**20 11 33.4**	**+2.7**
MAJO				*e*Sn	**Sn**	**20 12 20.8**	**+2.3**
MAT	**Matsushiro**	**4.16**	**234**	P	**Pn**	**20 11 33.2**	**+2.4**
MAT				*e*S	**Sn**	**20 12 19.9**	**+1.4**
MJAR	**Matsushiro Arr**	**4.16**	**234**	Pn	**Pn**	**20 11 33.5**	**+2.7**
	7.6nm,0.3s,baz=40,slow=11,SNR=147						
MJAR				LR	LR	20 13 32.9	
	comp=Z,375nm,18.9s,baz=55,slow=46						
ASAJ	**Asahikawa**	**5.03**	**2**	Pn	**Pn**	**20 11 45.1**	**+2.4**
	0.7nm,0.3s,baz=199,slow=11,SNR=14						
ASAJ				Sn	**Sn**	**20 12 46.0**	**+6.1**
JHJ	**Hachijo jima 2**	**6.31**	**200**	Pn	**Pn**	**20 12 02.2**	**+1.9**
	15nm,0.3s,baz=284,slow=22,SNR=6.2						
JHJ				Sn	**Sn**	**20 13 11.0**	**-0.5**
	18nm,0.3s,baz=86,slow=21,SNR=4.9						
USRK	**Ussuriysk Ar.**	**9.30**	**307**	Pn	**Pn**	**20 12 44.9**	**+3.7**
	0.2nm,0.3s,baz=114,slow=17,SNR=5.9						
KSRS	**Korea Array**	**11.48**	**266**	Pn	**Pn**	**20 13 15.8**	**+4.7**
	0.2nm,0.3s,baz=74,slow=14,SNR=4.9						
KSAR	**Wonju Array Be**	**11.51**	**266**	Pn	**Pn**	**20 13 15.8**	**+4.2**
SEY	**Seymchan**	**24.64**	**11**	P	**P**	**20 15 46.7**	**-0.2**
	2.2nm,0.7s,baz=163,slow=8.5,SNR=6.5						
SONM	**Songino Array**	**27.34**	**300**	P	**P**	**20 16 11.5**	**-0.2**
	0.9nm,0.7s,baz=88,slow=8.2,SNR=4.9						
ENH	**Enshi**	**28.32**	**262**	*e*P	**P**	**20 16 17.8**	**-2.6**
	6.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.63**	**125**	T	T	20 46 46.4	
	baz=317,slow=75,SNR=1324						
H11N1	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	20 46 44.1	
	baz=317,slow=75,SNR=1242						
H11N3	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	20 46 44.7	
	baz=317,slow=75,SNR=1170						
H11S1	**WAKE ISLAND Hy**	**29.41**	**127**	T	T	20 47 53.2	
	baz=318,slow=76,SNR=157						
H11S3	**WAKE ISLAND Hy**	**29.42**	**127**	T	T	20 47 51.5	
	baz=318,slow=76,SNR=174						
H11S2	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	20 47 49.2	
	baz=318,slow=76,SNR=122						
ZALV	**Zalesovo Beam**	**41.13**	**311**	P	**P**	**20 18 10.6**	**+0.2**
	1.6nm,0.5s,baz=85,slow=8.2,SNR=8.1						
CMAR	**Chiang Mai Arr**	**42.77**	**254**	P	**P**	**20 18 24.2**	**-0.1**
	1.0nm,0.7s,baz=42,slow=7.3,SNR=8.5						
MKAR	**Makanchi Array**	**43.70**	**300**	P	**P**	**20 18 31.8**	**+0.1**
	2.1nm,0.8s,baz=84,slow=9.5,SNR=15						
KURK	**Kurchatov**	**45.29**	**307**	*e*P	**P**	**20 18 43.8**	**-0.4**
KURBB	**Kurchatov Arra**	**45.37**	**307**	P	**P**	**20 18 44.5**	**-0.3**
	3.1nm,0.5s,baz=80,slow=8.4,SNR=36						
ILAR	**Eielson Array**	**47.36**	**33**	P	**P**	**20 19 00.2**	**0.0**
	2.0nm,0.7s,baz=267,slow=6.2,SNR=21						
BVAR	**Borovoye Array**	**49.78**	**311**	P	**P**	**20 19 18.8**	**-0.2**
	1.1nm,0.6s,baz=40,slow=6.8,SNR=7.0						
INK	**Inuvik**	**52.22**	**28**	P	**P**	**20 19 37.7**	**+0.6**
	1.7nm,0.7s,baz=314,slow=6.6,SNR=4.2						
ARU	**Arti**	**55.34**	**318**	P	**P**	**20 19 59.7**	**-0.4**
	0.7nm,0.3s,baz=113,slow=18,SNR=3.9						
WRA	**Warramunga Arr**	**59.20**	**189**	P	**P**	**20 20 25.9**	**-1.8**
	1.3nm,0.6s,baz=7.0,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**62.92**	**189**	P	**P**	**20 20 52.3**	**-0.6**
	0.7nm,0.7s,baz=11,slow=5.6,SNR=5.6						
FINES	**FINESS Array B**	**67.36**	**332**	P	**P**	**20 21 20.5**	**-0.8**
	0.7nm,0.6s,baz=155,slow=6.3,SNR=4.4						
AKASG	**Malin Array Be**	**73.14**	**322**	P	**P**	**20 21 55.8**	**-1.1**
	0.6nm,0.4s,baz=45,slow=6.3,SNR=4.8						
MMAI	**Mount Meron Ar**	**81.39**	**306**	P	**P**	**20 22 45.0**	**+1.5**
	9.1nm,0.9s,baz=112,slow=11,SNR=9.6						

ISCJB ***26*** *20:13:09.4±0.5, 37.°04N±0.°03×36.°12E±0.°03, h10km±5km, Error ellipse: s-maj=5.2km s-min=3.8km az=164.0*

DDA ***26*** *20:13:09.4, 37.°00N×36.°14E, h7km, Ml2.6*

CSEM ***26*** *20:13:09.6±0.2, 37.°03N×36.°13E, h10km, MD2.7, Error ellipse: s-maj=4.2km s-min=3.4km az=3.0*

ISK ***26*** *20:13:09.2, 37.°04N×36.°12E, h9km, MD2.7*

ISC 26 20:13:09.5±1.0**, 37.°03N**±0.°03×**36.°13E**±0.°02**, h12**km±9km**,**
n24, σ0ᵗ**45**/38**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.31**	**267**	*e*PG	**Pg**	**20 13 16.0**	**+0.2**
CEYT				*e*SG	**Sg**	**20 13 20.0**	**+0.3**
CEYT	**Ceyhan**	**0.31**	**267**	*e*Pg	**Pg**	**20 13 16.0**	**+0.2**
CEYT				*e*Sg	**Sg**	**20 13 20.3**	**+0.3**
YURE	**YUREGIR**	**0.45**	**244**	P	**Pb**	**20 13 19.2**	**-0.2**
YURE	**YUREGIR**	**0.45**	**244**	*i* P	**Pb**	**20 13 19.2**	**-0.2**
KAMA	**Osmaniye**	**0.46**	**69**	*i* P	**Pg**	**20 13 18.2**	**-0.3**
KAMA				*i* S	**Sg**	**20 13 24.4**	**-0.2**
KOZT	**Kozan**	**0.52**	**332**	*e*PG	**Pg**	**20 13 18.9**	**-0.8**
KOZT	**Kozan**	**0.52**	**332**	*e*Pg	**Pg**	**20 13 18.9**	**-0.8**
TAHT	**Tahtakopru-Hat**	**0.65**	**176**	*e*PG	**Pg**	**20 13 22.2**	**0.0**
TAHT				*e*SG	**Sb**	**20 13 32.4**	**+0.6**
TAHT	**Tahtakopru-Hat**	**0.65**	**176**	*e*Pg	**Pg**	**20 13 22.2**	**0.0**
TAHT				*e*Sg	**Sb**	**20 13 32.4**	**+0.6**
HCB	**Kahramanmara¯**	**0.69**	**63**	*e*P	**Pb**	**20 13 23.7**	**+0.1**
HCB				*i* S	**Sb**	**20 13 32.8**	**-0.3**
AKO	**Adana**	**0.70**	**309**	*i* P	**Pg**	**20 13 22.5**	**-0.7**
KMRS	**Kahramanmaras**	**0.78**	**52**	*e*PG	**Pb**	**20 13 25.3**	**+0.3**
KMRS				*e*SG	**Sb**	**20 13 35.6**	**+0.1**
KMRS	**Kahramanmaras**	**0.78**	**52**	*e*Pg	**Pb**	**20 13 25.3**	**+0.3**
KMRS				*e*Sg	**Sb**	**20 13 35.6**	**+0.1**
KUZU	**Kuzuini**	**0.80**	**108**	P	**Pb**	**20 13 25.3**	**0.0**
KUZU				S	**Sb**	**20 13 36.2**	**+0.1**
KUZU	**Kuzuini**	**0.80**	**108**	*i* P	**Pb**	**20 13 25.3**	**0.0**
KUZU				*i* S	**Sb**	**20 13 36.2**	**+0.1**
GAZ	**Gaziantep**	**0.87**	**80**	*e*PG	**Pg**	**20 13 26.4**	**0.0**
GAZ	**Gaziantep**	**0.87**	**80**	*e*Pg	**Pg**	**20 13 26.4**	**0.0**
KARA	**Karaisali**	**0.89**	**286**	*e*PG	**Pg**	**20 13 26.5**	**-0.3**
KARA	**Karaisali**	**0.89**	**286**	*e*Pg	**Pg**	**20 13 26.5**	**-0.3**
YAYL	**Yayladag**	**0.99**	**181**	P	**Pg**	**20 13 27.4**	**-1.2**
YAYL				S	**Sg**	**20 13 41.3**	**-0.2**
YAYL	**Yayladag**	**0.99**	**181**	*i* P	**Pg**	**20 13 27.4**	**-1.2**
YAYL				*i* S	**Sg**	**20 13 41.3**	**-0.2**
SARI	**SarD1z-Kayseri**	**1.40**	**9**	*e*Pn	**Pn**	**20 13 35.3**	**+0.3**
KERG	**Konya-Eregli**	**1.65**	**284**	P	**Pn**	**20 13 38.9**	**+0.5**
KERG				S	**Sn**	**20 13 59.4**	**-0.2**
KERG	**Konya-Eregli**	**1.65**	**284**	*i* P	**Pn**	**20 13 38.9**	**+0.5**
KERG				*i* S	**Sn**	**20 13 59.4**	**-0.2**

ISK ***26*** *20:16:00.9, 38.°54N× 39.°61E, h4km, ML3.5*

IDC ***26*** *20:16:01.0±1.1, 38.°63N× 39.°62E, h0km, mb3.1/2, mb1 3.4/7, mb1mx3.2/54, mbtmp3.3/7, ML3.2/4, Error ellipse: s-maj=19.9km s-min=12.2km az=149.0*

ISCJB ***26*** *20:16:01.5±0.5, 38.°55N±0.°02×39.°61E±0.°02, h3km±4km, mb3.0/2, Error ellipse: s-maj=3.1km s-min=2.8km az=149.1*

DDA ***26*** *20:16:01.3, 38.°55N× 39.°59E, h14km, Ml3.7*

CSEM ***26*** *20:16:02.5±0.2, 38.°55N× 39.°61E, h10km, ML3.5, Error ellipse: s-maj=4.4km s-min=3.7km az=164.0*

ISC 26 20:16:01.8±1.0**, 38.°54N**±0.°02×**39.°60E**±0.°02**, h5**km±8km**,**
n97, σ1ᵗ**18**/130**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.28**	**235**	PG	**Pg**	**20 16 06.8**	**-0.6**
SVRC				SG	**Sg**	**20 16 12.1**	**+0.9**
SVRC	**Sivrice-ELAZID**	**0.28**	**235**	*i* Pg	**Pg**	**20 16 06.8**	**-0.6**
SVRC				*i* Sg	**Sg**	**20 16 12.1**	**+0.9**
PTK	**Pertek**	**0.39**	**335**	PG	**Pg**	**20 16 08.7**	**-0.7**
PTK				SG	**Sg**	**20 16 15.0**	**+0.5**
PTK	**Pertek**	**0.39**	**335**	*i* Pg	**Pg**	**20 16 08.7**	**-0.7**
PTK				*i* Sg	**Sg**	**20 16 15.0**	**+0.5**
ELZG	**Elazig**	**0.49**	**265**	P	**Pg**	**20 16 10.2**	**-1.0**
ELZG				S	**Sg**	**20 16 17.6**	**0.0**
ELZG	**Elazig**	**0.49**	**265**	*i* P	**Pg**	**20 16 10.2**	**-1.0**
ELZG				*i* S	**Sg**	**20 16 17.6**	**0.0**
TNCL	**Tunceli-Merkez**	**0.57**	**355**	P	**Pg**	**20 16 12.0**	**-0.9**
TNCL				S	**Sg**	**20 16 20.8**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.57**	**355**	*i* P	**Pg**	**20 16 12.0**	**-0.9**
TNCL				*i* S	**Sg**	**20 16 20.8**	**+0.4**
DIYA	**Diyarbakir**	**0.74**	**146**	P	**Pg**	**20 16 16.4**	**+0.4**
DIYA				S	**Sb**	**20 16 28.4**	**+0.7**
DIYA	**Diyarbakir**	**0.74**	**146**	*i* P	**Pg**	**20 16 16.4**	**+0.4**
DIYA				*i* S	**Sb**	**20 16 28.4**	**+0.7**
BGOL	**Bingol**	**0.95**	**62**	P	**Pg**	**20 16 19.3**	**-0.7**
BGOL	**Bingol**	**0.95**	**62**	*i* P	**Pg**	**20 16 19.3**	**-0.7**
BNGB	**Bing¶l**	**0.95**	**62**	*e*PG	**Pb**	**20 16 20.1**	**-0.8**
BNGB				*e*SG	**Sb**	**20 16 33.4**	**-0.5**
ERZN	**Erzincan**	**1.05**	**5**	*e*PG	**Pg**	**20 16 20.6**	**-1.3**
ERZN				*e*SG	**Sb**	**20 16 36.1**	**-0.6**
YEDI	**Yedisu-Bingol**	**1.16**	**39**	*e*PN	**Pg**	**20 16 23.1**	**-0.9**
YEDI	**Yedisu-Bingol**	**1.16**	**39**	*e*Pn	**Pg**	**20 16 23.1**	**-0.9**
EUZM	**Uzumlu**	**1.17**	**4**	P	**Pg**	**20 16 22.9**	**-1.3**
EUZM				S	**Sn**	**20 16 40.8**	**-0.5**
EUZM	**Uzumlu**	**1.17**	**4**	*i* P	**Pg**	**20 16 22.9**	**-1.3**
EUZM				*i* S	**Sn**	**20 16 40.8**	**-0.5**
URFA	**Urfa**	**1.26**	**210**	*e*PN	**Pn**	**20 16 26.2**	**0.0**
URFA				*e*SN	**Sb**	**20 16 43.5**	**+0.8**
URFA	**Urfa**	**1.26**	**210**	*e*Pn	**Pn**	**20 16 26.2**	**0.0**
URFA				*e*Sn	**Sb**	**20 16 43.5**	**+0.8**
MAZI	**Mazidag**	**1.27**	**148**	*e*PN	**Pn**	**20 16 25.0**	**-1.3**
MAZI				*e*SN	**Sn**	**20 16 43.1**	**-0.7**
MAZI	**Mazidag**	**1.27**	**148**	*e*Pn	**Pn**	**20 16 25.0**	**-1.3**
MAZI				*e*Sn	**Sn**	**20 16 43.1**	**-0.7**
BNGL	**BINGOL**	**1.28**	**71**	*i* P	**Pn**	**20 16 26.4**	**-0.1**
BNGL				*i* S	**Sn**	**20 16 49.8**	**+5.6**
AKCD	**Akcadag**	**1.34**	**260**	P	**Pn**	**20 16 27.3**	**-0.1**
AKCD				S	**Sb**	**20 16 45.4**	**+0.3**
AKCD	**Akcadag**	**1.34**	**260**	*i* P	**Pn**	**20 16 27.3**	**-0.1**
AKCD				*i* S	**Sb**	**20 16 45.4**	**+0.3**
BTMN	**Batman**	**1.47**	**116**	P	**Pn**	**20 16 28.7**	**-0.3**
BTMN				S	**Sg**	**20 16 49.5**	**+0.6**
BTMN	**Batman**	**1.47**	**116**	*i* P	**Pn**	**20 16 28.7**	**-0.3**
BTMN				*i* S	**Sg**	**20 16 49.5**	**+0.6**
ATAB	**Bozova**	**1.49**	**224**	P	**Pn**	**20 16 28.7**	**-0.6**
ATAB				S	**Sb**	**20 16 50.5**	**+1.3**
ATAB	**Bozova**	**1.49**	**224**	*i* P	**Pn**	**20 16 28.7**	**-0.6**
ATAB				*i* S	**Sb**	**20 16 50.5**	**+1.3**
MARD	**Mardin**	**1.54**	**142**	*i* P	**Pn**	**20 16 29.4**	**-0.6**
MARD				*i* S	**Sg**	**20 16 50.8**	**-0.5**
VRTB	**Varto-Mus**	**1.57**	**66**	*e*PN	**Pn**	**20 16 29.9**	**-0.7**
VRTB	**Varto-Mus**	**1.57**	**66**	*e*Pn	**Pn**	**20 16 29.9**	**-0.7**
KELT	**Kelkit**	**1.63**	**351**	P	**Pn**	**20 16 31.0**	**-0.4**
KELT				S	**Sn**	**20 16 49.7**	**-3.1**
KELT	**Kelkit**	**1.63**	**351**	*i* P	**Pn**	**20 16 31.0**	**-0.4**
KELT				*i* S	**Sn**	**20 16 49.7**	**-3.1**
KOPT	**Kop Dagi**	**1.63**	**25**	P	**Pg**	**20 16 31.8**	**-0.7**
KOPT				S	**Sg**	**20 16 58.5**	**+4.3**
KOPT	**Kop Dagi**	**1.63**	**25**	*i* P	**Pg**	**20 16 31.8**	**-0.7**
KOPT				*i* S	**Sg**	**20 16 58.5**	**+4.3**
DARE	**Darende-Malaty**	**1.66**	**272**	*e*PN	**Pn**	**20 16 31.8**	**0.0**
DARE	**Darende-Malaty**	**1.66**	**272**	*e*Pn	**Pn**	**20 16 31.8**	**0.0**
CUKAN	**kangal_SIVAS**	**1.84**	**296**	P	**Pn**	**20 16 34.1**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.84**	**296**	*i* P	**Pn**	**20 16 34.1**	**-0.1**
GUMT	**Gumushane**	**1.92**	**357**	*e*PN	**Pn**	**20 16 35.9**	**+0.6**
GUMT	**Gumushane**	**1.92**	**357**	*e*Pn	**Pn**	**20 16 35.9**	**+0.6**
EZM	**Erzurum**	**1.93**	**45**	*e*PN	**Pn**	**20 16 35.5**	**-0.1**
ERZM	**Erzurum**	**1.93**	**45**	P	**Pb**	**20 16 36.9**	**-0.8**
ERZM	**Erzurum**	**1.93**	**45**	*i* P	**Pb**	**20 16 36.9**	**-0.8**
SUSE	**Susehri**	**1.99**	**327**	P	**Pb**	**20 16 38.0**	**-0.6**
SUSE				S	**Sg**	**20 17 07.5**	**+1.8**
SUSE	**Susehri**	**1.99**	**327**	*i* P	**Pb**	**20 16 38.0**	**-0.6**
SUSE				*i* S	**Sg**	**20 17 07.5**	**+1.8**
TATV	**Tatvan**	**2.09**	**90**	P	**Pb**	**20 16 39.4**	**-0.9**
TATV	**Tatvan**	**2.09**	**90**	*i* P	**Pb**	**20 16 39.4**	**-0.9**
GAZ	**Gaziantep**	**2.33**	**235**	*e*PN	**Pn**	**20 16 41.5**	**+0.5**
GAZ	**Gaziantep**	**2.33**	**235**	*e*Pn	**Pn**	**20 16 41.5**	**+0.5**
CUALT	**Altinyayla-SIV**	**2.34**	**289**	P	**Pn**	**20 16 42.5**	**+1.5**
CUALT	**Altinyayla-SIV**	**2.34**	**289**	*i* P	**Pn**	**20 16 42.5**	**+1.5**
KMRS	**Kahramanmaras**	**2.37**	**245**	*e*PN	**Pn**	**20 16 41.9**	**+0.5**
KMRS	**Kahramanmaras**	**2.37**	**245**	*e*Pn	**Pn**	**20 16 41.9**	**+0.5**
KTUT	**Trabzon**	**2.45**	**3**	*e*PN	**Pn**	**20 16 43.3**	**+0.9**
KTUT	**Trabzon**	**2.45**	**3**	*e*Pn	**Pn**	**20 16 43.3**	**+0.9**
SIRN	**S¨¨rnak**	**2.45**	**114**	P	**Pn**	**20 16 41.8**	**-0.8**
SIRN	**S¨¨rnak**	**2.45**	**114**	*i* P	**Pn**	**20 16 41.8**	**-0.8**
ESPY	**Espiye-Giresun**	**2.47**	**344**	*e*PN	**Pn**	**20 16 43.5**	**+0.8**
ESPY	**Espiye-Giresun**	**2.47**	**344**	*e*Pn	**Pn**	**20 16 43.5**	**+0.8**
SIRT	**Sirnak**	**2.47**	**114**	*e*PN	**Pn**	**20 16 42.4**	**-0.4**
SIRT	**Sirnak**	**2.47**	**114**	*e*Pn	**Pn**	**20 16 42.4**	**-0.4**
SARI	**SarD1z-Kayseri**	**2.50**	**268**	*e*PN	**Pn**	**20 16 43.2**	**-0.2**
PINB	**Pinarbasi**	**2.51**	**274**	P	**Pn**	**20 16 44.2**	**+0.6**
PINB	**Pinarbasi**	**2.51**	**274**	*i* P	**Pn**	**20 16 44.1**	**+0.6**
RSDY	**Resadiye-TOKAT**	**2.56**	**317**	*e*PN	**Pn**	**20 16 44.7**	**+0.7**
RSDY	**Resadiye-TOKAT**	**2.56**	**317**	*e*Pn	**Pn**	**20 16 44.7**	**+0.7**
GEVA	**Gevas**	**2.72**	**94**	P	**Pn**	**20 16 47.2**	**+0.8**
GEVA	**Gevas**	**2.72**	**94**	*i* P	**Pn**	**20 16 47.2**	**+0.8**
GEVA				*i* S	**Sg**	**20 17 28.0**	**-1.3**
AGRB	**Hanur-Agry**	**2.83**	**68**	*e*PN	**Pn**	**20 16 48.7**	**+0.7**
AGRB	**Hanur-Agry**	**2.83**	**68**	*e*Pn	**Pn**	**20 16 48.7**	**+0.7**
SENK	**Senkaya-Erzuru**	**2.93**	**46**	*e*PN	**Pn**	**20 16 49.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.93**	**46**	*e*Pn	**Pn**	**20 16 49.9**	**+0.6**
BNN	**Bunyan**	**2.96**	**277**	*e*PN	**Pn**	**20 16 50.2**	**+0.7**
BNN	**Bunyan**	**2.96**	**277**	*e*Pn	**Pn**	**20 16 50.2**	**+0.7**
TOKT	**Tokat**	**2.96**	**308**	*e*PN	**Pn**	**20 16 50.2**	**+0.7**
TOKT	**Tokat**	**2.96**	**308**	*e*Pn	**Pn**	**20 16 50.2**	**+0.7**
VANB	**Van**	**2.97**	**88**	*e*PN	**Pn**	**20 16 49.9**	**+0.2**
VANB	**Van**	**2.97**	**88**	*e*Pn	**Pn**	**20 16 49.9**	**+0.2**
KOZT	**Kozan**	**3.17**	**252**	*e*PN	**Pn**	**20 16 53.2**	**+0.9**
KOZT	**Kozan**	**3.17**	**252**	*e*Pn	**Pn**	**20 16 53.2**	**+0.9**
HAKT	**HAKKARI**	**3.38**	**106**	P	**Pn**	**20 16 55.6**	**0.0**
HAKT	**HAKKARI**	**3.38**	**106**	*i* P	**Pn**	**20 16 55.6**	**0.0**
CEYT	**Ceyhan**	**3.42**	**245**	*e*PN	**Pn**	**20 16 56.5**	**+0.8**
CEYT	**Ceyhan**	**3.42**	**245**	*e*Pn	**Pn**	**20 16 56.5**	**+0.8**
CLDR	**Caldiran**	**3.42**	**79**	*e*PN	**Pn**	**20 16 57.5**	**+1.5**
CLDR	**Caldiran**	**3.42**	**79**	*e*Pn	**Pn**	**20 16 57.5**	**+1.5**
TAHT	**Tahtakopru-Hat**	**3.47**	**233**	*e*PN	**Pn**	**20 16 58.1**	**+1.5**
TAHT	**Tahtakopru-Hat**	**3.47**	**233**	*e*Pn	**Pn**	**20 16 58.1**	**+1.5**
GNI	**Garni**	**4.29**	**66**	Pn	**Pn**	**20 17 08.5**	**+0.5**
	1.0nm,0.3s,baz=267,slow=6.1,SNR=5.2						
BRTR	**Keskin Array B**	**4.79**	**286**	Pn	**Pn**	**20 17 15.7**	**+0.9**
	0.5nm,0.3s,baz=106,slow=12,SNR=19						
KVAR	**Kislovodsk Arr**	**5.89**	**22**	Pn	**Pn**	**20 17 31.4**	**+1.5**
	baz=228,slow=12,SNR=2.8						
MMAI	**Mount Meron Ar**	**6.48**	**213**	Pn

WSAR Sn **Sn** **20 20 01.6 -5.0**
comp=Z,33nm,0.3s,baz=73,slow=18,SNR=12
IBAF **Bafgh** **5.14 313** *e*Pn **Pn** **20 19 11.0 +1.0**
IBAF *e*Sg **Sg** **20 20 33.3 -4.6**
IBAF *e*AMB AMB 20 20 46.7
comp=Z,3μm,0.5s
IBAF **Bafgh** **5.14 313** *e*Pn **Pn** **20 19 11.0 +1.0**
FAQ **Al Faqa, Dubai** **5.18 230** *i* P **Pn** **20 19 10.5 +0.1**
SNR=14
FAQ **Al Faqa, Dubai** **5.18 230** P **Pn** **20 19 11.2 +0.8**
SNR=14
FAQ **Al Faqa, Dubai** **5.18 230** P **Pn** **20 19 11.2 +0.8**
SNR=14
SMDO **Samad** **5.35 199** P **Pn** **20 19 14.1 +1.3**
SNR=7.0
SMDO **Samad** **5.35 199** P **Pn** **20 19 14.1 +1.3**
SNR=7.0
IMEH **Mehriz** **5.67 306** *e*Pn **Pn** **20 19 20.7 +3.3**
IMEH *e*AMB AMB 20 21 07.5
comp=Z,2μm,0.5s
IMEH **Mehriz** **5.67 306** *e*Pn **Pn** **20 19 20.7 +3.3**
ARQ **Araqi** **5.71 214** P **Pn** **20 19 18.8 +1.2**
SNR=13
ARQ **Araqi** **5.71 214** P **Pn** **20 19 18.8 +1.2**
SNR=13
TABS **Tabas** **6.01 337** *e*PN5 20 19 23.5
TABS AML AML 20 21 12.9
comp=E,116nm,0.6s
TABS AML AML 20 21 22.9
comp=N,276nm,0.7s
TABS **Tabas** **6.01 337** *e*P **Pn** **20 19 23.2 +1.3**
ISRV **Sarvestan** **6.14 283** *e*Pn **Pn** **20 19 25.5 +1.6**
ISRV *e*AMB AMB 20 21 18.9
comp=Z,1μm,0.5s
ICHK **Chekchek** **6.32 312** *e*Pn Pn 20 19 31.2 +5.0
ICHK *e*AMB AMB 20 21 54.7
comp=Z,3μm,0.5s
ISAD **Sadrabad** **6.62 306** *e*Pn **Pn** **20 19 31.9 +1.5**
ISAD *e*AMB AMB 20 21 03.0
comp=Z,862nm,0.4s
ISAD **Sadrabad** **6.62 306** *e*Pn **Pn** **20 19 31.9 +1.5**
NASN **Na'in** **7.73 309** *e*Pn **Pn** **20 19 47.1 +1.4**
NASN **Na'in** **7.73 309** *e*Pn **Pn** **20 19 47.1 +1.4**
SHRO **Shahrood** **8.52 338** *e*Pn **Pn** **20 19 58.1 +1.9**
SHRO **Shahrood** **8.52 338** *e*Pn **Pn** **20 19 58.2 +1.9**
GEYT **Alibeck** **9.88 351** Pn **Pn** **20 20 16.6 +1.7**
comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=2.5
KBL **Kabul** **10.04 48** *e*P Pn 20 20 23.3 +6.0
KBL **Kabul** **10.04 48** *e*Pn Pn 20 20 23.3 +6.0
ASTR **Astara** **13.96 321** P **Pn** **20 21 13.6 +3.0**
SNR=2.9
ASTR **Astara** **13.96 321** ⇓P **Pn** **20 21 13.6 +3.0**
SNR=2.9
LRK **Lerik** **14.27 320** ⇑P **Pn** **20 21 18.3 +3.2**
SNR=7.3
LRK **Lerik** **14.27 320** P **Pn** **20 21 18.3 +3.2**
SNR=7.3
GLBA **Clilabad** **14.66 322** ⇑P **Pn** **20 21 22.8 +2.5**
SNR=4.5
GLBA **Clilabad** **14.66 322** P **Pn** **20 21 22.8 +2.5**
SNR=4.5
PQL **Pirkuli** **15.70 326** ⇓P **P** **20 21 37.8 -0.5**
SNR=3.1
PQL **Pirkuli** **15.70 326** P **P** **20 21 37.8 -0.5**
SNR=3.1
ZRD **Zardab** **15.79 323** P **P** **20 21 38.2 -0.8**
SNR=5.4
ZRD **Zardab** **15.79 323** ⇓P **P** **20 21 38.2 -0.8**
SNR=5.4
IML **Ismayilli** **15.91 326** ⇓P **P** **20 21 40.3 -0.2**
SNR=3.8
IML **Ismayilli** **15.91 326** P **P** **20 21 40.3 -0.2**
SNR=3.8
BRDA **Brd** **16.05 322** ⇑P **P** **20 21 41.9 0.0**
SNR=12
BRDA **Brd** **16.05 322** P **P** **20 21 41.9 0.0**
SNR=12
QBL **Gabala** **16.20 325** P **P** **20 21 43.9 +0.3**
SNR=5.3
QBL **Gabala** **16.20 325** ⇓P **P** **20 21 43.9 +0.3**
SNR=5.3
XNQ **Khinaliq** **16.22 326** P **P** **20 21 45.0 +0.9**
SNR=4.1
XNQ **Khinaliq** **16.22 326** ⇑P **P** **20 21 45.0 +0.9**
SNR=4.1
NAX **Nakhchivan** **16.30 316** ⇑P **P** **20 21 48.6 +3.8**
SNR=3.4
NAX **Nakhchivan** **16.30 316** P **P** **20 21 48.6 +3.8**
SNR=3.4
MNGR **Mingechevir, A** **16.46 323** ⇓P **P** **20 21 47.5 +1.0**
SNR=3.9
MNGR **Mingechevir, A** **16.46 323** P **P** **20 21 47.5 +1.0**
SNR=3.9
SEKA **Sheki** **16.72 325** ⇑P **P** **20 21 51.1 +1.7**
SNR=16
SEKA **Sheki** **16.72 325** P **P** **20 21 51.1 +1.7**
SNR=16
GANJ **Ganja** **16.78 322** ⇓P **P** **20 21 52.0 +1.9**
SNR=9.7
GANJ **Ganja** **16.78 322** P **P** **20 21 52.0 +1.9**
SNR=9.7
GDB **GEDABAY** **17.15 321** ⇑P **P** **20 21 57.0 +2.7**
SNR=9.4
GDB **GEDABAY** **17.15 321** P **P** **20 21 57.0 +2.7**
SNR=9.4
KKAR **Karatay Array** **17.19 27** *e*P **P** **20 21 54.9 +0.3**
KKAR **Karatay Array** **17.19 27** *e*Pn **P** **20 21 54.9 +0.3**
KKAR **Karatay Array** **17.19 27** *e*Pn **P** **20 21 54.9 +0.3**
ZKTA **Zakatala** **17.32 324** ⇑P **P** **20 21 59.4 +3.3**
SNR=8.9
GNI **Garni** **17.36 318** P **Pn** **20 21 55.0 -0.3**
comp=Z,0.2nm,0.3s,baz=129,slow=2.5,SNR=4.8
GNI **Garni** **17.36 318** *i* P **P** **20 21 56.6 -0.1**
SNR=5.0
GNI **Garni** **17.36 318** *ce*P **P** **20 21 59.5 +2.8**
GNI pmax pmax
comp=Z,178nm,1.7s
GNI **Garni** **17.36 318** P **P** **20 21 56.6 -0.1**
SNR=5.0
GNI **Garni** **17.36 318** *e*P **P** **20 21 56.6 -0.1**
comp=Z,34nm,1.0s
KSH **Kashi** **17.45 45** P **Pn** **20 21 55.0 -1.4**
KSH pP P 20 21 58.3 +0.7
KSH PP **PnPn** **20 22 10.8 +4.2**
KSH S **Sn** **20 25 05.5 -5.2**
KSH sS S 20 25 12.0 -7.1
KSH PMZ
comp=Z,9.0nm,1.0s
KSH PMZ
comp=Z,76nm,3.3s
KSH LN
comp=Z,640nm,11.5s
KSH LE
comp=Z,390nm,7.2s
KSH LZ
comp=Z,690nm,10.5s
QZX **Qazax, Azerbai** **17.59 321** ⇑P **P** **20 22 03.2 +4.1**
SNR=5.3
QZX **Qazax, Azerbai** **17.59 321** P **P** **20 22 03.2 +4.1**
SNR=5.3
EKS2 **Erkin-Say** **18.31 34** P **Pn** **20 22 05.2 -1.8**
EKS2 pmax pmax
comp=Z,25nm,1.1s
EKS2 **Erkin-Say** **18.31 34** P **Pn** **20 22 05.2 -1.8**
comp=Z,25nm,1.1s
AAK **Ala-Archa** **18.65 35** P **Pn** **20 22 12.9 +1.8**
comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=9.5
AAK LR LR 20 29 32.7
comp=Z,289nm,19.7s,baz=227,slow=37
AAK **Ala-Archa** **18.65 35** *e*P **Pn** **20 22 11.1 -0.1**
AAK pmax pmax
comp=Z,17nm,1.1s
AAK **Ala-Archa** **18.65 35** P **Pn** **20 22 13.2 +2.0**
SNR=8.4
AAK **Ala-Archa** **18.65 35** *e*P **Pn** **20 22 11.1 -0.1**
comp=Z,16nm,1.1s
AAK **Ala-Archa** **18.65 35** *e*P **Pn** **20 22 11.1 -0.1**
comp=Z,16nm,1.1s
FRU **Bishkek** **18.86 35** *e*P Pn 20 22 21.4 +7.9
FRU pmax pmax
comp=Z,110nm,2.5s
TKM2 **Tokmak 2** **19.42 37** *e*P **P** **20 22 19.0 -0.4**
TKM2 pmax pmax
comp=Z,18nm,1.2s
TKM2 **Tokmak 2** **19.42 37** *e*P **P** **20 22 19.0 -0.4**
comp=Z,18nm,1.2s
TKM2 **Tokmak 2** **19.42 37** *e*P **P** **20 22 19.0 -0.4**
comp=Z,18nm,1.2s
ZEI **Tsey** **19.57 323** *e*P **P** **20 22 22.1 +1.1**
ZEI pmax pmax
comp=Z,48nm,0.7s
DAMY **Dhamar** **19.79 230** *e*P **P** **20 22 20.5 -3.2**
comp=Z,71nm,1.2s
NCK **Nalchik** **20.22 324** *d iP* Pn 20 22 30.8 +1.0
NCK pmax pmax
comp=Z,67nm,0.8s
PYUN **Piuthan** **20.30 85** *e*P Pn 20 22 32.6 +1.5
ASF **Jabal al Asfar** **20.34 287** P **P** **20 22 29.3 -0.1**
comp=Z,10nm,0.9s,baz=44,slow=7.9,SNR=6.7
ASF LR LR 20 32 52.7
comp=Z,148nm,18.2s,baz=52,slow=45
AAA **Alma-Ata** **20.38 38** *e*P **P** **20 22 30.3 +0.6**
AAA *e*S **S** **20 26 10.3 -7.8**
AAA pmax pmax
comp=N,200nm,2.5s
AAA smax smax
comp=E,400nm,10.5s
AAA MLR MLR
comp=Z,400nm,10.0s
KBZ **Khabaz** **20.75 323** P Pn 20 22 35.2 -0.7
comp=Z,11nm,1.0s,baz=129,slow=8.9,SNR=10
KOLN **Koldanda** **20.87 85** *e*P Pn 20 22 40.2 +2.4
comp=Z,53nm,1.1s
KVAR **Kislovodsk Arr** **21.01 323** P **P** **20 22 38.4 +1.9**
comp=Z,147nm,1.1s,baz=130,slow=15,SNR=30
KIV **Kislovodsk** **21.01 323** *i* P **P** **20 22 38.4 +1.9**
SNR=17
KIV **Kislovodsk** **21.01 323** *e*P **P** **20 22 38.6 +2.0**
KIV *e*S **S** **20 26 32.9 +2.3**
KIV pmax pmax
comp=Z,87nm,1.1s
KIV MLR MLR
comp=Z,57nm,14.0s
KIV **Kislovodsk** **21.01 323** P **P** **20 22 39.3 +2.7**
SNR=26
KIV P **pP** **20 22 39.6 +0.1**
SNR=22
KIV **Kislovodsk** **21.01 323** *e*P **P** **20 22 37.5 +0.9**
comp=Z,71nm,0.9s
KIV **Kislovodsk** **21.01 323** *e*P **P** **20 22 37.5 +0.9**
comp=Z,71nm,0.9s
ABKAR **Akbulak array** **21.08 360** *e*P **P** **20 22 38.3 +1.2**
ABKAR **Akbulak array** **21.08 360** *e*P **P** **20 22 38.3 +1.2**
GOF **Gofitskoye** **21.60 326** *lE*P **P** **20 22 43.7 +0.9**
GOF pmax pmax
comp=Z,37nm,1.4s
MMAI **Mount Meron Ar** **21.68 289** LR LR 20 33 06.1
comp=Z,289nm,18.5s,baz=50,slow=43
GKN **Gorkha** **21.76 85** *e*P **P** **20 22 45.8 +1.0**
comp=Z,64nm,1.2s
EIL **Elat** **21.95 280** P **P** **20 22 47.1 +0.5**
comp=Z,24nm,0.9s,baz=98,slow=5.3,SNR=13
EIL LR LR 20 31 57.9
comp=Z,120nm,21.2s,baz=80,slow=39
DMN **Daman** **22.22 85** *e*P **P** **20 22 53.5 +3.6**
comp=Z,65nm,1.1s
AKTO **Aktyubinsk** **22.31 357** P **P** **20 22 51.9 +1.5**
comp=Z,5.5nm,1.0s,baz=170,slow=14,SNR=9.2
AKTO LR LR 20 33 19.9
comp=Z,251nm,20.3s,baz=159,slow=42
KKN **Kakani** **22.35 85** *e*P **P** **20 22 52.8 +1.6**
PKIN **Phulchoki** **22.48 85** *e*P **P** **20 22 55.5 +2.8**
comp=Z,27nm,1.0s
GUN **Gumba** **22.86 84** *e*P **P** **20 22 56.7 -0.1**
ATD **Arta Tunnel** **23.03 228** LR LR 20 32 23.1
comp=Z,121nm,20.6s,baz=54,slow=38
BRTR **Keskin Array B** **24.62 305** P **P** **20 23 12.2 -1.3**
comp=Z,3.5nm,0.9s,baz=122,slow=13,SNR=12
BRTR LR LR 20 33 48.6
comp=Z,362nm,19.4s,baz=106,slow=39
MAKZ **Makanchi** **25.39 37** *e*P **P** **20 23 18.8 -1.5**
MAKZ pmax pmax
comp=Z,12nm,1.2s
MAKZ **Makanchi** **25.39 37** *e*P **P** **20 23 18.8 -1.5**
comp=Z,12nm,1.2s
MAKZ **Makanchi** **25.39 37** *e*P **P** **20 23 18.8 -1.5**
comp=Z,12nm,1.2s
MK01 **Makanchi Array** **25.54 37** *e*P **P** **20 23 19.6 -2.0**
MK01 **Makanchi Array** **25.54 37** *e*P **P** **20 23 19.6 -2.0**
MK31 **Makanchi Array** **25.55 37** *e*P **P** **20 23 21.7 0.0**
MK31 **Makanchi Array** **25.55 37** *e*P **P** **20 23 21.7 0.0**
MK31 **Makanchi Array** **25.55 37** *e*P **P** **20 23 21.7 0.0**
MKAR **Makanchi Array** **25.55 37** P **P** **20 23 22.1 +0.4**
comp=Z,8.8nm,0.9s,baz=222,slow=8.0,SNR=34
MKAR **Makanchi Array** **25.55 37** *e*P **P** **20 23 21.8 +0.1**
MKAR **Makanchi Array** **25.55 37** *e*P **P** **20 23 21.8 +0.1**
MKAR **Makanchi Array** **25.55 37** *e*P **P** **20 23 21.8 +0.1**
ZRNK **Zerenda** **25.68 13** *e*P **P** **20 23 23.8 +1.1**
ZRNK pmax pmax
comp=Z,9.0nm,1.4s
ZRNK **Zerenda** **25.68 13** *e*P **P** **20 23 23.8 +1.1**
comp=Z,9.2nm,1.4s
ZRNK **Zerenda** **25.68 13** *e*P **P** **20 23 23.8 +1.1**
comp=Z,9.2nm,1.4s
VOSK **Vostochnaya** **25.89 15** *e*P **P** **20 23 25.0 +0.4**
VOSK pmax pmax
comp=Z,5.0nm,1.1s
VOSK **Vostochnaya** **25.89 15** *e*P **P** **20 23 25.0 +0.4**
comp=Z,4.7nm,1.1s
VOSK **Vostochnaya** **25.89 15** *e*P **P** **20 23 25.0 +0.4**
comp=Z,4.7nm,1.1s
BVAR **Borovoye Array** **26.03 14** P **P** **20 23 27.3 +1.3**
comp=Z,3.2nm,0.7s,baz=183,slow=5.5,SNR=12
BVAR ScP **ScP** **20 30 31.4 -2.1**
comp=Z,1.2nm,1.0s,baz=201,slow=7.8,SNR=4.1
BVAR LR LR 20 34 44.2
comp=Z,346nm,19.4s,baz=198,slow=39
BRVK **Borovoye** **26.04 14** *ce*P **P** **20 23 28.0 +2.0**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK **Borovoye** **26.04 14** *e*P **P** **20 23 24.8 -1.2**
comp=Z,17nm,1.0s
BRVK **Borovoye** **26.04 14** *e*P **P** **20 23 24.8 -1.2**
comp=Z,17nm,1.0s
KURBB **Kurchatov Arra** **26.50 27** P **P** **20 23 30.8 +0.6**
comp=Z,5.0nm,1.0s,baz=224,slow=8.8,SNR=18
KURK **Kurchatov** **26.61 27** *ce*P **P** **20 23 35.8 +4.6**
KURK pmax pmax
comp=Z,37nm,1.2s
VRH **Novokhopyorsk** **26.83 334** *e*P **P** **20 23 32.9 -0.3**
VRH pmax pmax
comp=Z,50nm,1.5s
LSA **Lhasa** **27.30 79** *e*P **P** **20 23 38.1 -0.1**
LSA pmax pmax
comp=Z,12nm,1.3s
LSA **Lhasa** **27.30 79** *e*P **P** **20 23 38.1 -0.1**
comp=Z,12nm,1.3s
LSA **Lhasa** **27.30 79** *e*P **P** **20 23 38.1 -0.1**
comp=Z,12nm,1.3s
VSR **Storozhevoye** **27.87 331** *e*P **P** **20 23 41.8 -0.8**
VSR pmax pmax
comp=Z,8.0nm,0.9s
ARU **Arti** **28.29 358** LR LR 20 35 40.1
comp=Z,123nm,19.1s,baz=182,slow=38
ARU **Arti** **28.29 358** *c iP* **P** **20 23 50.6 +4.4**
ARU 20 24 39.0
ARU 20 27 02.2
ARU SS SS 20 30 01.6 -30
ARU pmax pmax
comp=Z,9.0nm,2.5s
PALK **Pallekele** **28.55 133** LR LR 20 36 19.9
comp=Z,205nm,19.7s,baz=296,slow=39
ZAA0 **Zalesovo Array** **31.56 28** *e*P **P** **20 24 15.3 +0.1**
ZAA0 **Zalesovo Array** **31.56 28** *e*P **P** **20 24 15.3 +0.1**
ZALV **Zalesovo Beam** **31.56 28** P **P** **20 24 15.9 +0.8**
comp=Z,3.8nm,0.7s,baz=235,slow=11,SNR=11
ZALV LR LR 20 39 36.1
comp=Z,106nm,20.8s,baz=250,slow=41
NVS **Novosibirsk** **31.57 26** *e*P **P** **20 24 15.9 +0.7**
NVS *e* 20 25 28.8
OBN **Obninsk** **31.82 334** P **P** **20 24 17.4 -0.1**
comp=Z,12nm,0.4s,baz=320,slow=20,SNR=5.5
OBN LR LR 20 38 54.1
comp=Z,140nm,18.4s,baz=98,slow=40
OBN **Obninsk** **31.82 334** *e*P **P** **20 24 16.8 -0.7**
OBN *e* 20 25 21.1
OBN pmax pmax
comp=Z,22nm,1.0s
OBN MLR MLR
comp=Z,129nm,18.0s
AKASG **Malin Array Be** **32.36 323** P **P** **20 24 21.3 -0.9**
comp=Z,3.2nm,0.6s,baz=120,slow=8.1,SNR=13
KIEV **Kiev** **32.36 323** *e*P **P** **20 24 20.9 -1.3**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV **Kiev** **32.36 323** P **P** **20 24 20.9 -1.3**
SNR=5.9
KIEV **Kiev** **32.36 323** *e*P **P** **20 24 20.9 -1.3**
comp=Z,7.5nm,0.7s
GTA **Gaotai** **34.72 61** *e*P **P** **20 24 44.0 +0.9**
GTA PMZ
comp=Z,6.0nm,1.2s
KLMR **Klimovskoe** **35.49 343** *e*P **P** **20 24 47.7 -1.6**
KLMR pmax pmax
comp=Z,11nm,1.1s
KOLS **Kolonicke sedl** **35.56 316** *e*P **P** **20 24 49.9 -0.2**
KOLS pmax pmax
comp=Z,16nm,2.1s
KOLS **Kolonicke sedl** **35.56 316** *e*P **P** **20 24 49.9 -0.2**
comp=Z,16nm,2.1s
KOLS **Kolonicke sedl** **35.56 316** *e*P **P** **20 24 49.9 -0.2**
CMAR **Chiang Mai Arr** **36.93 97** LR LR 20 43 27.6
comp=Z,161nm,21.0s,baz=280,slow=41
VSU **Vasula** **38.06 332** *ce*P **P** **20 25 12.1 +0.9**
VSU pmax pmax
comp=Z,41nm,1.7s
KMI **Kunming** **38.21 84** P **P** **20 25 14.3 +1.1**
KMI PMZ
comp=Z,12nm,1.0s
MOY **Mondy** **38.55 41** *e*P **P** **20 25 19.8 +4.2**
TLY **Talaya** **40.11 42** *e*P **P** **20 25 29.6 +1.1**
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,189nm,18.0s
FIA1 **FINESS Array S** **40.21 335** *e*P **P** **20 25 28.3 -0.8**
FIA1 **FINESS Array S** **40.21 335** *e*P **P** **20 25 28.3 -0.8**
FINES **FINESS Array B** **40.21 335** P **P** **20 25 28.6 -0.5**
comp=Z,4.6nm,0.6s,baz=132,slow=9.3,SNR=45
SONM **Songino Array** **40.81 48** P **P** **20 25 35.5 +0.9**
comp=Z,3.1nm,0.8s,baz=247,slow=9.4,SNR=17
SONA1 **Songino Array** **40.82 48** *e*P **P** **20 25 33.9 -0.7**
SONA1 **Songino Array** **40.82 48** *e*P **P** **20 25 33.9 -0.7**
GERES **GERESS Array B** **40.93 313** P **P** **20 25 33.2 -2.2**
comp=Z,0.5nm,0.7s,baz=117,slow=8.1,SNR=6.0
GERES PcP **PcP** **20 27 35.0 -0.8**
comp=Z,0.5nm,0.6s,baz=79,slow=6.1,SNR=3.1
GERES ScP **ScP** **20 31 22.7 -2.9**
comp=Z,0.1nm,0.4s,baz=104,slow=5.6,SNR=3.5
GERES LR LR 20 47 15.4
comp=Z,80nm,18.5s,baz=97,slow=43
ULN **Ulaanbaatar** **41.25 48** *ce*P **P** **20 25 39.4 +1.2**
ULN pmax pmax
comp=Z,8.0nm,1.0s
CLL **Collm** **41.97 317** *e*P **P** **20 25 44.0 +0.2**
comp=Z,5.0nm,1.4s
CLL **Collm** **41.97 317** *e*P **P** **20 25 44.0 +0.2**
CLL pmax pmax
comp=Z,5.0nm,1.4s
ENH **Enshi** **43.00 75** *e*P **P** **20 25 53.0 +0.5**
comp=Z,24nm,1.2s
ENH **Enshi** **43.00 75** *e*P **P** **20 25 53.0 +0.5**
comp=Z,24nm,1.2s
KEST **Kesra** **43.23 293** LR LR 20 47 21.3
comp=Z,135nm,18.1s,baz=275,slow=41
NRIK **Noril'sk** **44.24 14** P **P** **20 26 04.1 +2.2**
comp=Z,2.8nm,0.6s,baz=1.9,slow=1.3,SNR=3.5
NRIK LR LR 20 49 01.9
comp=Z,295nm,18.0s,baz=110,slow=42
NRIK **Noril'sk** **44.24 14** P **P** **20 26 04.1 +2.2**
NRIK pmax pmax
comp=Z,2.0nm,0.5s
NRIK MLR MLR
comp=Z,295nm,18.0s
HFS **Hagfors** **44.63 329** P **P** **20 26 02.4 -2.7**
comp=Z,1.5nm,0.5s,baz=128,slow=9.6,SNR=11
ARCES **ARCESS Array B** **45.95 344** P **P** **20 26 14.2 -1.4**
comp=Z,3.3nm,0.9s,baz=136,slow=9.5,SNR=7.9
NB2 **NORSAR Subarra** **46.11 329** P **P** **20 26 15.5 -1.5**
comp=Z,3.7nm,1.0s,baz=110,slow=8.6
NB2 **NORSAR Subarra** **46.11 329** P **P** **20 26 15.5 -1.5**
comp=Z,3.7nm,1.0s,SNR=4.9
NOA **NORSAR Array B** **46.11 329** P **P** **20 26 15.7 -1.3**
comp=Z,1.9nm,0.9s,baz=115,slow=7.9,SNR=5.6
NOA LR LR 20 48 05.5
comp=Z,75nm,18.3s,baz=120,slow=39
BOD **Bodaibo** **47.63 36** *e*P **P** **20 26 26.6 -2.2**
BOD pmax pmax
comp=Z,13nm,0.9s
EKA **Eskdalemuir Ar** **52.19 320** P **P** **20 27 00.8 -2.7**
comp=Z,0.8nm,0.7s,baz=106,slow=14,SNR=4.2
EKA PcP **PcP** **20 28 13.4 -1.7**
comp=Z,1.2nm,0.7s,baz=100,slow=8.0,SNR=4.1
ESDC **Sonseca Array** **53.28 300** LR LR 20 52 17.1
comp=Z,51nm,18.7s,baz=15,slow=39
COCO **West Island** **53.67 133** *ce*P **P** **20 27 14.9 0.0**
TOA0 **Torodi Ar. Sit** **56.06 267** *e*P **P** **20 27 30.5 -1.8**
TOA0 **Torodi Ar. Sit** **56.06 267** *e*P **P** **20 27 30.5 -1.8**
TORD **Torodi Ar. Bea** **56.06 267** P **P** **20 27 30.2 -2.1**
comp=Z,4.2nm,0.7s,baz=64,slow=7.1,SNR=44
TORD LR LR 20 52 39.5
comp=Z,128nm,19.4s,baz=325,slow=37
YAK **Yakutsk** **56.07 32** P **P** **20 27 32.0 +0.3**
comp=Z,5.0nm,0.4s,baz=79,slow=0.8,SNR=6.8
YAK **Yakutsk** **56.07 32** P **P** **20 27 32.0 +0.3**
YAK pmax pmax
comp=Z,5.0nm,0.4s
KSAR **Wonju Array Be** **56.75 62** P **P** **20 27 36.9 -0.1**
KSAR **Wonju Array Be** **56.75 62** P **P** **20 27 36.8 -0.1**
KSAR **Wonju Array Be** **56.75 62** P **P** **20 27 36.9 -0.1**
KSRS **Korea Array** **56.77 62** P **P** **20 27 36.9 -0.3**
comp=Z,4.9nm,0.9s,baz=274,slow=6.9,SNR=9.0
TIXI **Tiksi** **56.92 21** *i* P **P** **20 27 40.9 +3.3**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
KLR **Kul'dur** **57.63 47** *e*P **P** **20 27 42.3 -0.7**
MJAR **Matsushiro Arr** **64.97 60** P **P** **20 28 33.8 +0.8**
comp=Z,2.8nm,0.9s,baz=283,slow=8.0,SNR=6.7
SEY **Seymchan** **66.41 30** P **P** **20 28 43.0 +1.3**
comp=Z,5.2nm,0.8s,baz=267,slow=8.4,SNR=5.0
SEY **Seymchan** **66.41 30** *ce*P **P** **20 28 45.0 +3.2**
BILL **Bilibino** **70.03 23** *e*P **P** **20 29 06.1 +1.7**
BILL *e* 20 29 27.7
BILL *e* 20 31 39.0
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,292nm,19.0s
ILAR **Eielson Array** **85.05 11** P **P** **20 30 28.4 +0.1**
comp=Z,0.4nm,0.7s,baz=317,slow=3.5,SNR=5.8
SCHQ **Schefferville** **85.61 332** LR LR 21 09 49.5
comp=Z,90nm,22.0s,baz=23,slow=36
WRA **Warramunga Arr** **86.29 115** P **P** **20 30 35.9 +0.7**
comp=Z,1.9nm,0.7s,baz=314,slow=4.1,SNR=20
ASAR **Alice Springs** **87.89 118** P **P** **20 30 43.5 +0.5**
comp=Z,2.0nm,0.7s,baz=305,slow=4.7,SNR=26
STKA **Stephens Creek** **97.88 122** LR LR 21 17 16.4
comp=Z,48nm,20.2s,baz=336,slow=36

ISCJB ***26*** *20:19:01.1±0.5, 40.˚10N±0.˚02, 29.˚32E±0.˚03, h1km±5km, Error ellipse: s-maj=4.3km s-min=3.2km az=25.7*
CSEM ***26*** *20:19:01.5±0.1, 40.˚10N, 29.˚33E, h5km, MD2.9, Error ellipse: s-maj=2.0km s-min=1.8km az=16.0*
DDA ***26*** *20:19:01.1, 40.˚11N, 29.˚31E, h7km, Ml2.9*
ISK ***26*** *20:19:01.1, 40.˚11N, 29.˚32E, h6km, MD2.9*
ISC 26 20:19:01.2±1.0, 40.˚10N±0.˚02, 29.˚31E±0.˚02, h6km±10km, n57, σ0.53/78, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	ISC
IGD	**Bursa**	**0.19**	**333**		*i* P		**Pg**	**20 19 04.2**	**-0.8**
IGD					*i* S		**Sg**	**20 19 06.9**	**-0.5**
IZI	**Iznik**	**0.27**	**27**		*e*PG		**Pg**	**20 19 06.5**	**0.0**
IZI					*e*SG		**Sg**	**20 19 10.5**	**+0.4**
IZI	**Iznik**	**0.27**	**27**		*e*Pg		**Pg**	**20 19 06.5**	**0.0**
IZI					*e*Sg		**Sg**	**20 19 10.5**	**+0.4**
CAVI	**Cavuskoy**	**0.42**	**75**		*e*PG		**Pg**	**20 19 09.3**	**0.0**
CAVI					*e*SG		**Sg**	**20 19 15.9**	**+1.1**
CAVI	**Cavuskoy**	**0.42**	**75**		*e*Pg		**Pg**	**20 19 09.3**	**0.0**
CAVI					*e*Sg		**Sg**	**20 19 15.9**	**+1.1**
MDNY	**Mudanya-Bursa**	**0.43**	**310**		*e*PG		**Pg**	**20 19 09.7**	**+0.2**
MDNY					*e*SG		**Sg**	**20 19 15.6**	**+0.6**
MDNY	**Mudanya-Bursa**	**0.43**	**310**		*e*Pg		**Pg**	**20 19 09.7**	**+0.2**
MDNY					*e*Sg		**Sg**	**20 19 15.6**	**+0.6**
ADVT	**Abdulvahap**	**0.47**	**44**		*e*PG		**Pg**	**20 19 10.6**	**+0.4**
ADVT					*e*SG		**Sg**	**20 19 16.6**	**+0.2**
ADVT	**Abdulvahap**	**0.47**	**44**		*e*Pg		**Pg**	**20 19 10.6**	**+0.4**

ADVT				*e*Sg	**Sg**	**20 19 16.6 +0.2**
TVSB	**Tavsanli**	**0.66**	**170**	*e*PG	**Pg**	**20 19 13.7 -0.1**
TVSB				*e*SG	**Sb**	**20 19 23.8 -0.8**
TVSB	**Tavsanli**	**0.66**	**170**	*e*Pg	**Pg**	**20 19 13.7 -0.1**
TVSB				*e*Sg	**Sb**	**20 19 23.8 -0.8**
KCTX	**Karacabey (Bur**	**0.75**	**283**	*e*PG	**Pb**	**20 19 17.1 +0.4**
KCTX				*e*SG	**Sb**	**20 19 26.8 -0.5**
KCTX	**Karacabey (Bur**	**0.75**	**283**	*e*Pg	**Pb**	**20 19 17.1 +0.4**
KCTX				*e*Sg	**Sb**	**20 19 26.8 -0.5**
BUY	**Buyukada**	**0.77**	**349**	P	**Pg**	**20 19 16.2 +0.2**
BUY	**Buyukada**	**0.77**	**349**	*i* P	**Pg**	**20 19 16.2 +0.2**
HRT	**Hereke**	**0.77**	**20**	*e*PG	**Pg**	**20 19 16.2 +0.1**
HRT	**Hereke**	**0.77**	**20**	*e*Pg	**Pg**	**20 19 16.2 +0.1**
BORA	**Eskisehir**	**0.90**	**104**	P	**Pg**	**20 19 18.0 -0.5**
BORA				S	**Sg**	**20 19 29.3 -0.9**
BORA	**Eskisehir**	**0.90**	**104**	*i* P	**Pg**	**20 19 18.1 -0.5**
BORA				*i* S	**Sg**	**20 19 29.3 -0.9**
GULT	**Gulveren**	**0.98**	**70**	*e*PG	**Pb**	**20 19 20.7 0.0**
GULT	**Gulveren**	**0.98**	**70**	*e*Pg	**Pb**	**20 19 20.7 0.0**
ISK	**Istanbul-Kandi**	**0.99**	**349**	*e*PG	**Pb**	**20 19 20.2 -0.6**
ISK	**Istanbul-Kandi**	**0.99**	**349**	*e*Pg	**Pb**	**20 19 20.2 -0.6**
GDZ	**Gediz**	**1.01**	**173**	P	**Pb**	**20 19 21.1 -0.2**
GDZ				S	**Sb**	**20 19 35.2 +0.2**
GDZ	**Gediz**	**1.01**	**173**	*i* P	**Pb**	**20 19 21.1 -0.2**
GDZ				*i* S	**Sb**	**20 19 35.2 +0.2**
EDC	**Edincik**	**1.14**	**283**	*e*PN	**Pn**	**20 19 23.4 -0.3**
EDC	**Edincik**	**1.14**	**283**	*e*Pn	**Pn**	**20 19 23.4 -0.3**
DEMI	**Demirci**	**1.15**	**204**	P	**Pb**	**20 19 23.5 0.0**
DEMI				S	**Sb**	**20 19 38.9 +0.1**
DEMI	**Demirci**	**1.15**	**204**	*i* P	**Pb**	**20 19 23.5 0.0**
DEMI				*i* S	**Sb**	**20 19 38.9 +0.1**
BGKT	**Bogazkoy**	**1.16**	**339**	*e*PN	**Pb**	**20 19 23.3 -0.4**
BGKT	**Bogazkoy**	**1.16**	**339**	*e*Pn	**Pb**	**20 19 23.3 -0.4**
BALB	**Balikesir**	**1.19**	**248**	*e*PN	**Pn**	**20 19 24.9 +0.4**
BALB	**Balikesir**	**1.19**	**248**	*e*Pn	**Pn**	**20 19 24.9 +0.4**
GONE	**Gonen-Balikesi**	**1.25**	**268**	*e*PN	**Pn**	**20 19 25.7 +0.5**
GONE	**Gonen-Balikesi**	**1.25**	**268**	*e*Pn	**Pn**	**20 19 25.7 +0.5**
CTKS	**Kestanelik-??a**	**1.29**	**332**	*e*PN	**Pg**	**20 19 26.0 0.0**
CTKS	**Kestanelik-??a**	**1.29**	**332**	*e*Pn	**Pg**	**20 19 26.0 0.0**
ESKT	**Eskisehir**	**1.32**	**115**	*e*PN	**Pg**	**20 19 27.1 +0.7**
ESKT	**Eskisehir**	**1.32**	**115**	*e*Pn	**Pg**	**20 19 27.1 +0.7**
ESKT	**Eskisehir**	**1.32**	**115**	*i* P	**Pb**	**20 19 26.3 -0.1**
ESKT				*i* S	**Sn**	**20 19 44.2 -0.1**
SEYT	**Eskypehyr**	**1.32**	**115**	P	**Pb**	**20 19 26.3 -0.1**
SEYT				S	**Sn**	**20 19 44.2 0.0**
MRMT	**Marmara Adasi**	**1.41**	**292**	*e*PN	**Pg**	**20 19 28.2 0.0**
MRMT	**Marmara Adasi**	**1.41**	**292**	*e*Pn	**Pg**	**20 19 28.2 0.0**
MDUB	**Mudurnu**	**1.49**	**75**	*e*PN	**Pg**	**20 19 29.4 -0.3**
MDUB	**Mudurnu**	**1.49**	**75**	*e*Pn	**Pg**	**20 19 29.4 -0.3**
KRBG	**Karabiga-Canak**	**1.57**	**282**	*e*PN	**Pb**	**20 19 30.2 -0.5**
KRBG	**Karabiga-Canak**	**1.57**	**282**	*e*Pn	**Pb**	**20 19 30.2 -0.5**
KULA	**Kula-Manisa**	**1.66**	**198**	*e*PN	**Pb**	**20 19 32.1 -0.2**
KULA	**Kula-Manisa**	**1.66**	**198**	*e*Pn	**Pb**	**20 19 32.1 -0.2**
RKY	**Sarkoy-Tekirda**	**1.73**	**291**	*e*PN	**Pn**	**20 19 32.4 +0.4**
RKY	**Sarkoy-Tekirda**	**1.73**	**291**	*e*Pn	**Pn**	**20 19 32.4 +0.4**
SVRH	**Sivrihisar-ESK**	**1.82**	**110**	*e*PN	**Pb**	**20 19 34.2 -0.8**
SVRH	**Sivrihisar-ESK**	**1.82**	**110**	*e*Pn	**Pb**	**20 19 34.2 -0.8**
LPK	**Lapseki**	**1.97**	**279**	*e*PN	**Pb**	**20 19 36.3 -1.3**
LPK	**Lapseki**	**1.97**	**279**	*e*Pn	**Pb**	**20 19 36.3 -1.3**
GELI	**Tayfur-Gelibol**	**2.19**	**279**	*e*PN	**Pn**	**20 19 39.5 +1.3**
GELI	**Tayfur-Gelibol**	**2.19**	**279**	*e*Pn	**Pn**	**20 19 39.5 +1.3**

ATH ***26*** *20:36:50.8, 38.17N×22.10E, h53km±1km, ML3.3/10, Error ellipse: s-maj=1.7km s-min=0.9km az=305.0*
CSEM ***26*** *20:36:51.6±0.1, 38.19N×22.08E, h49km±1km, ML3.3, Error ellipse: s-maj=2.6km s-min=2.1km az=25.0*
THE ***26*** *20:36:52.2, 38.18N×22.10E, h47km±1km, ML3.4/32, Error ellipse: s-maj=1.1km s-min=0.5km az=259.0*

ISC 26 20:36:51.4±1.0, **38.19N**±0.02×**22.09E**±0.02, **h46**km±4km, **n146**, σ1**24**/230, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.10**	**300**	P	**Pn**	**20 36 59.1**	**+0.3**
LAKA				S	**Sn**	**20 37 05.0**	**+0.9**
LAKA	**Lakka**	**0.10**	**300**	P	**Pn**	**20 36 59.1**	**+0.3**
LAKA				S	**Sn**	**20 37 05.0**	**+0.9**
LAKA	**Lakka**	**0.10**	**300**	P	**Pn**	**20 36 58.7**	**-0.2**
KLV	**Kalavryta, Ach**	**0.15**	**162**	P	**Pn**	**20 36 59.2**	**+0.1**
KLV				S	**Sn**	**20 37 05.2**	**+0.7**
KLV	**Kalavryta, Ach**	**0.15**	**162**	P	**Pn**	**20 36 59.2**	**+0.1**
KLV				S	**Sn**	**20 37 05.5**	**+1.0**
KLV	**Kalavryta, Ach**	**0.15**	**162**	P	**Pn**	**20 36 59.1**	**0.0**
KLV				S	**Sn**	**20 37 05.5**	**+1.0**
KLV				AML	AML	20 37 06.0	
	comp=N,4178µm,0.2s						
KLV				AML	AML	20 37 06.2	
	comp=E,3241µm,0.2s						
TRIZ	**Trizonia**	**0.18**	**355**	P	**Pn**	**20 36 59.7**	**+0.5**
TRIZ				S	**Sn**	**20 37 07.1**	**+2.5**
KALE	**Kalithea**	**0.20**	**11**	P	**Pn**	**20 37 00.2**	**+0.7**
KALE				S	**Sn**	**20 37 05.6**	**+0.4**
KALE	**Kalithea**	**0.20**	**11**	P	**Pn**	**20 37 00.4**	**+0.9**
KALE				S	**Sn**	**20 37 06.8**	**+1.7**
KALE	**Kalithea**	**0.20**	**11**	P	**Pn**	**20 37 00.4**	**+0.9**
KALE				S	**Sn**	**20 37 06.8**	**+1.7**
KALE				AML	AML	20 37 08.2	
	comp=E,19669µm,0.2s						
KALE				AML	AML	20 37 08.3	
	comp=N,26744µm,0.2s						
SERG	**Sergoula**	**0.23**	**353**	P	**Pn**	**20 37 00.2**	**+0.6**
SERG				S	**Sn**	**20 37 06.5**	**+1.2**
SERG	**Sergoula**	**0.23**	**353**	P	**Pn**	**20 37 00.2**	**+0.6**
SERG				S	**Sn**	**20 37 06.5**	**+1.2**
UPR	**University Cam**	**0.26**	**291**	P	**Pn**	**20 37 00.2**	**+0.4**
UPR				S	**Sn**	**20 37 07.5**	**+1.8**
UPR	**University Cam**	**0.26**	**291**	P	**Pn**	**20 37 00.2**	**+0.4**
UPR				S	**Sn**	**20 37 07.2**	**+1.5**
UPR	**University Cam**	**0.26**	**291**	P	**Pn**	**20 36 59.9**	**+0.1**
UPR				S	**Sn**	**20 37 07.2**	**+1.5**
EFP	**Efpalio**	**0.28**	**329**	P	**Pn**	**20 37 00.5**	**+0.5**
EFP				S	**Sn**	**20 37 07.3**	**+1.3**
EFP	**Efpalio**	**0.28**	**329**	P	**Pn**	**20 37 00.5**	**+0.5**
EFP				S	**Sn**	**20 37 07.3**	**+1.3**
EFP	**Efpalio**	**0.28**	**329**	P	**Pn**	**20 37 00.4**	**+0.5**
EFP				S	**Sn**	**20 37 08.2**	**+2.2**
EFP				AML	AML	20 37 08.3	
	comp=E,21413µm,0.5s						
EFP				AML	AML	20 37 09.0	
	comp=N,12232µm,0.3s						
GUR	**Goura**	**0.32**	**142**	P	**Pn**	**20 37 00.9**	**+0.4**
GUR				S	**Sn**	**20 37 08.2**	**+1.2**
GUR	**Goura**	**0.32**	**142**	P	**Pn**	**20 37 01.2**	**+0.7**
GUR				S	**Sn**	**20 37 08.2**	**+1.2**
GUR	**Goura**	**0.32**	**142**	P	**Pn**	**20 37 01.2**	**+0.7**
GUR				S	**Sn**	**20 37 08.4**	**+1.5**
GUR				AML	AML	20 37 09.0	
	comp=N,23819µm,0.2s						
GUR				AML	AML	20 37 09.2	
	comp=E,15656µm,0.2s						
DRO	**Drossia**	**0.38**	**232**	P	**Pn**	**20 37 01.0**	**-0.1**
DRO				S	**Sn**	**20 37 09.3**	**+1.4**
DRO	**Drossia**	**0.38**	**232**	P	**Pn**	**20 37 01.0**	**-0.1**
DRO				S	**Sn**	**20 37 09.3**	**+1.4**
DRO	**Drossia**	**0.38**	**232**	P	**Pn**	**20 37 00.6**	**-0.5**
DRO				S	**Sn**	**20 37 09.7**	**+1.8**
DSF	**Desfina**	**0.41**	**57**	P	**Pn**	**20 37 01.9**	**+0.5**
DSF				S	**Sn**	**20 37 09.6**	**+1.1**
DSF	**Desfina**	**0.41**	**57**	P	**Pn**	**20 37 01.9**	**+0.5**
DSF				S	**Sn**	**20 37 09.2**	**+0.7**
DSF	**Desfina**	**0.41**	**57**	P	**Pn**	**20 37 02.0**	**+0.6**
DSF				S	**Sn**	**20 37 09.2**	**+0.7**
DSF				AML	AML	20 37 10.4	
	comp=N,12849µm,0.2s						
DSF				AML	AML	20 37 10.5	
	comp=E,8230µm,0.1s						
ANX	**Ano Chora**	**0.42**	**342**	P	**Pn**	**20 37 02.5**	**+0.8**
ANX				S	**Sn**	**20 37 10.6**	**+1.7**
ANX	**Ano Chora**	**0.42**	**342**	P	**Pn**	**20 37 02.5**	**+0.8**
ANX				S	**Sn**	**20 37 10.6**	**+1.7**
THAL	**Thalero**	**0.48**	**108**	P	**Pn**	**20 37 02.5**	**+0.4**
THAL				S	**Sn**	**20 37 11.1**	**+1.3**
THAL	**Thalero**	**0.48**	**108**	P	**Pn**	**20 37 02.6**	**+0.4**
THAL				S	**Sn**	**20 37 11.1**	**+1.3**
THAL	**Thalero**	**0.48**	**108**	P	**Pn**	**20 37 02.6**	**+0.4**
RLS	**Riolos of Patr**	**0.51**	**255**	P	**Pn**	**20 37 02.3**	**-0.2**
RLS				S	**Sn**	**20 37 11.6**	**+1.1**
RLS	**Riolos of Patr**	**0.51**	**255**	P	**Pn**	**20 37 02.3**	**-0.2**
RLS				S	**Sn**	**20 37 11.6**	**+1.1**
RLS	**Riolos of Patr**	**0.51**	**255**	S	**Sn**	**20 37 10.5**	**+0.1**
RLS				AML	AML	20 37 11.9	
	comp=E,3552µm,0.4s						
RLS				AML	AML	20 37 12.1	
	comp=N,3482µm,0.5s						
AXS	**Araxos**	**0.56**	**271**	P	**Pn**	**20 37 03.1**	**-0.1**
AXS				S	**Sn**	**20 37 12.8**	**+1.1**
AXS	**Araxos**	**0.56**	**271**	P	**Pn**	**20 37 03.1**	**-0.1**
AXS				S	**Sn**	**20 37 12.8**	**+1.1**
AXS	**Araxos**	**0.56**	**271**	P	**Pn**	**20 37 02.6**	**-0.6**
PVO	**Paravola**	**0.61**	**314**	P	**Pn**	**20 37 04.9**	**+1.0**
PVO				S	**Sn**	**20 37 14.1**	**+1.2**
PVO	**Paravola**	**0.61**	**314**	P	**Pn**	**20 37 04.9**	**+1.0**
PVO				S	**Sn**	**20 37 14.1**	**+1.2**
PVO	**Paravola**	**0.61**	**314**	P	**Pn**	**20 37 05.4**	**+1.5**
PROD	**Prodromos**	**0.64**	**84**	P	**Pn**	**20 37 05.5**	**+1.2**
PROD				S	**Sn**	**20 37 15.9**	**+2.4**
PROD	**Prodromos**	**0.64**	**84**	P	**Pn**	**20 37 05.5**	**+1.2**
PROD				S	**Sn**	**20 37 15.9**	**+2.4**
PROD				AML	AML	20 37 15.9	
	comp=N,5805µm,0.3s						
PROD				AML	AML	20 37 17.8	
	comp=E,6431µm,0.5s						
TRIP	**Tripoli**	**0.68**	**168**	P	**Pn**	**20 37 05.8**	**+1.0**
TRIP	**Tripoli**	**0.68**	**168**	P	**Pn**	**20 37 05.8**	**+1.0**
LTK	**Loutraki**	**0.71**	**103**	P	**Pn**	**20 37 05.5**	**+0.3**
LTK				S	**Sn**	**20 37 16.4**	**+1.3**
LTK	**Loutraki**	**0.71**	**103**	P	**Pn**	**20 37 05.8**	**+0.6**
LTK				S	**Sn**	**20 37 16.4**	**+1.3**
LTK	**Loutraki**	**0.71**	**103**	P	**Pn**	**20 37 05.8**	**+0.6**
EVR	**Evrytania**	**0.76**	**343**	P	**Pn**	**20 37 07.2**	**+1.3**
EVR				S	**Sn**	**20 37 18.6**	**+2.2**
EVR	**Evrytania**	**0.76**	**343**	P	**Pn**	**20 37 07.2**	**+1.3**
EVR				S	**Sn**	**20 37 18.6**	**+2.2**
EVR	**Evrytania**	**0.76**	**343**	P	**Pn**	**20 37 08.3**	**+2.4**
VTN	**Vitineika**	**0.77**	**249**	P	**Pn**	**20 37 07.0**	**+1.2**
VTN	**Vitineika**	**0.77**	**249**	P	**Pn**	**20 37 07.0**	**+1.2**
PDO	**Prodromos**	**0.82**	**300**	P	**Pn**	**20 37 07.5**	**+0.9**
PDO				S	**Sn**	**20 37 17.7**	**0.0**
PDO	**Prodromos**	**0.82**	**300**	P	**Pn**	**20 37 07.5**	**+0.9**
PDO				S	**Sn**	**20 37 17.7**	**0.0**
PDO	**Prodromos**	**0.82**	**300**	P	**Pn**	**20 37 07.9**	**+1.3**
LKR	**Lokris**	**0.85**	**57**	P	**Pn**	**20 37 07.3**	**+0.3**
LKR	**Lokris**	**0.85**	**57**	P	**Pn**	**20 37 07.3**	**+0.3**
LKR	**Lokris**	**0.85**	**57**	P	**Pn**	**20 37 07.3**	**+0.3**
VLX	**Vlachokerasia**	**0.85**	**164**	P	**Pn**	**20 37 07.8**	**+0.7**
VLX				S	**Sn**	**20 37 19.8**	**+1.3**
VLX	**Vlachokerasia**	**0.85**	**164**	P	**Pn**	**20 37 07.8**	**+0.7**
VLX				S	**Sn**	**20 37 19.8**	**+1.3**
AGG	**Agios Georgios**	**0.85**	**13**	P	**Pn**	**20 37 07.6**	**+0.5**
AGG				S	**Sn**	**20 37 19.7**	**+1.2**
AGG	**Agios Georgios**	**0.85**	**13**	P	**Pn**	**20 37 07.6**	**+0.5**
AGG				S	**Sn**	**20 37 19.7**	**+1.2**
AGG	**Agios Georgios**	**0.85**	**13**	P	**Pn**	**20 37 07.6**	**+0.5**
ATAL	**Atalanti**	**0.89**	**55**	P	**Pn**	**20 37 08.0**	**+0.5**
ATAL				S	**Sn**	**20 37 20.7**	**+1.4**
ATAL	**Atalanti**	**0.89**	**55**	P	**Pn**	**20 37 08.0**	**+0.5**
ATAL				S	**Sn**	**20 37 20.7**	**+1.4**
ATAL	**Atalanti**	**0.89**	**55**	P	**Pn**	**20 37 08.0**	**+0.5**
ATAL				S	**Sn**	**20 37 20.7**	**+1.4**
ATAL				AML	AML	20 37 21.0	
	comp=N,1457µm,0.4s						
ATAL				AML	AML	20 37 21.6	
	comp=E,1172µm,0.1s						
VIL2	**Platees**	**0.93**	**88**	P	**Pn**	**20 37 09.1**	**+1.0**
VILL	**Villia**	**0.96**	**91**	P	**Pn**	**20 37 09.0**	**+0.4**
VILL				S	**Sn**	**20 37 22.8**	**+1.6**
VILL	**Villia**	**0.96**	**91**	P	**Pn**	**20 37 09.1**	**+0.4**
VILL				S	**Sn**	**20 37 22.8**	**+1.6**
ITM	**Ithomi**	**1.02**	**187**	P	**Pn**	**20 37 10.5**	**+1.2**
ITM				S	**Sn**	**20 37 23.7**	**+1.2**
ITM	**Ithomi**	**1.02**	**187**	P	**Pn**	**20 37 10.5**	**+1.2**
ITM				S	**Sn**	**20 37 23.7**	**+1.2**
ITM	**Ithomi**	**1.02**	**187**	P	**Pn**	**20 37 11.1**	**+1.8**
KFL	**Anninata**	**1.03**	**266**	P	**Pn**	**20 37 10.3**	**+0.8**
KFL	**Anninata**	**1.03**	**266**	P	**Pn**	**20 37 10.3**	**+0.8**
KFL	**Anninata**	**1.03**	**266**	P	**Pn**	**20 37 10.9**	**+1.5**
SMIA	**Simia**	**1.11**	**52**	P	**Pn**	**20 37 11.2**	**+0.6**
SMIA				S	**Sn**	**20 37 26.1**	**+1.2**
SMIA	**Simia**	**1.11**	**52**	P	**Pn**	**20 37 11.2**	**+0.6**
SMIA				S	**Sn**	**20 37 26.1**	**+1.2**
SMIA	**Simia**	**1.11**	**52**	P	**Pn**	**20 37 11.2**	**+0.6**
DID	**Didima**	**1.14**	**127**	P	**Pn**	**20 37 10.8**	**-0.1**
DID				S	**Sn**	**20 37 25.9**	**+0.5**
DID	**Didima**	**1.14**	**127**	P	**Pn**	**20 37 10.8**	**-0.1**
DID				S	**Sn**	**20 37 25.9**	**+0.5**
DID	**Didima**	**1.14**	**127**	P	**Pn**	**20 37 10.6**	**-0.4**
ZKS	**Zakynthos**	**1.14**	**245**	P	**Pn**	**20 37 11.7**	**+0.7**
ZKS				S	**Sn**	**20 37 27.3**	**+1.8**
ZKS	**Zakynthos**	**1.14**	**245**	P	**Pn**	**20 37 11.5**	**+0.5**
ZKS				S	**Sn**	**20 37 27.3**	**+1.8**
ZKS	**Zakynthos**	**1.14**	**245**	P	**Pn**	**20 37 11.5**	**+0.5**
KRND	**KRANIDI**	**1.16**	**133**	P	**Pn**	**20 37 11.4**	**+0.1**
KRND				S	**Sn**	**20 37 27.1**	**+1.1**
KRND	**KRANIDI**	**1.16**	**133**	P	**Pn**	**20 37 11.4**	**+0.1**
KRND				S	**Sn**	**20 37 27.1**	**+1.1**
VLS	**Valsamata**	**1.18**	**270**	P	**Pn**	**20 37 11.7**	**+0.1**
VLS				S	**Sn**	**20 37 27.6**	**+1.1**
VLS	**Valsamata**	**1.18**	**270**	P	**Pn**	**20 37 11.7**	**+0.1**
VLS				S	**Sn**	**20 37 27.6**	**+1.1**
DSL	**Palaion Diasel**	**1.22**	**321**	P	**Pn**	**20 37 14.3**	**+2.2**
DSL				S	**Sn**	**20 37 29.6**	**+2.1**
DSL	**Palaion Diasel**	**1.22**	**321**	P	**Pn**	**20 37 14.3**	**+2.2**
DSL				S	**Sn**	**20 37 29.6**	**+2.1**
LKD2	**Lefkada island**	**1.27**	**298**	P	**Pn**	**20 37 13.8**	**+1.0**
LKD2				S	**Sn**	**20 37 29.4**	**+0.6**
LKD2	**Lefkada island**	**1.27**	**298**	P	**Pn**	**20 37 13.8**	**+1.0**
LKD2				S	**Sn**	**20 37 29.4**	**+0.6**
ATH	**Athens Observa**	**1.30**	**99**	P	**Pn**	**20 37 13.8**	**+0.7**
ATH	**Athens Observa**	**1.30**	**99**	P	**Pn**	**20 37 13.8**	**+0.7**
PYL	**PYLOS**	**1.32**	**192**	P	**Pn**	**20 37 14.8**	**+1.4**
PYL				S	**Sn**	**20 37 30.0**	**+0.1**
PYL	**PYLOS**	**1.32**	**192**	P	**Pn**	**20 37 14.8**	**+1.4**
PYL				S	**Sn**	**20 37 30.0**	**+0.1**
PYL	**PYLOS**	**1.32**	**192**	P	**Pn**	**20 37 15.4**	**+2.0**
ATHU	**Athens Univers**	**1.35**	**99**	P	**Pn**	**20 37 14.2**	**+0.3**
ATHU				S	**Sn**	**20 37 30.9**	**+0.2**
ATHU	**Athens Univers**	**1.35**	**99**	P	**Pn**	**20 37 14.2**	**+0.3**
ATHU				S	**Sn**	**20 37 30.9**	**+0.2**
ATHU	**Athens Univers**	**1.35**	**99**	P	**Pn**	**20 37 14.1**	**+0.2**
ATHU				S	**Sn**	**20 37 30.4**	**-0.3**
ATHU				AML	AML	20 37 32.0	
	comp=E,451µm,0.5s						
ATHU				AML	AML	20 37 32.2	
	comp=N,1666µm,0.4s						
THL	**Klokotos Trika**	**1.37**	**358**	P	**Pn**	**20 37 14.7**	**+0.5**
THL				S	**Sn**	**20 37 33.2**	**+2.0**
THL	**Klokotos Trika**	**1.37**	**358**	P	**Pn**	**20 37 14.7**	**+0.5**
THL				S	**Sn**	**20 37 33.2**	**+2.0**
FYTO	**Fytoko, Volos**	**1.39**	**28**	P	**Pn**	**20 37 14.6**	**+0.3**
FYTO	**Fytoko, Volos**	**1.39**	**28**	P	**Pn**	**20 37 14.6**	**+0.3**
VLY	**Voula,Athens**	**1.39**	**104**	P	**Pn**	**20 37 14.7**	**+0.4**
VLY	**Voula,Athens**	**1.39**	**104**	P	**Pn**	**20 37 14.7**	**+0.4**
VLY	**Voula,Athens**	**1.39**	**104**	P	**Pn**	**20 37 14.7**	**+0.4**
PTL	**Penteli**	**1.41**	**95**	P	**Pn**	**20 37 15.2**	**+0.6**
PTL				S	**Sn**	**20 37 32.7**	**+0.7**
PTL	**Penteli**	**1.41**	**95**	P	**Pn**	**20 37 15.2**	**+0.6**
PTL				S	**Sn**	**20 37 32.7**	**+0.7**
PTL	**Penteli**	**1.41**	**95**	P	**Pn**	**20 37 15.3**	**+0.6**
PTL				AML	AML	20 37 33.9	
	comp=N,1068µm,0.5s						
PTL				AML	AML	20 37 34.1	
	comp=E,1629µm,0.5s						
SKIA	**Skiathos**	**1.45**	**47**	P	**Pn**	**20 37 15.6**	**+0.4**
SKIA				S	**Sn**	**20 37 33.6**	**+0.5**
SKIA	**Skiathos**	**1.45**	**47**	P	**Pn**	**20 37 15.6**	**+0.4**
SKIA				S	**Sn**	**20 37 33.6**	**+0.5**
SKIA	**Skiathos**	**1.45**	**47**	P	**Pn**	**20 37 15.4**	**+0.2**
EREA	**Eretria**	**1.47**	**80**	P	**Pn**	**20 37 16.2**	**+0.8**
EREA	**Eretria**	**1.47**	**80**	P	**Pn**	**20 37 16.2**	**+0.8**
VLI	**Veliai**	**1.62**	**155**	P	**Pn**	**20 37 17.4**	**-0.1**
VLI				S	**Sn**	**20 37 36.6**	**-0.5**
VLI	**Veliai**	**1.62**	**155**	P	**Pn**	**20 37 17.4**	**-0.1**
VLI				S	**Sn**	**20 37 36.6**	**-0.5**
VLI	**Veliai**	**1.62**	**155**	P	**Pn**	**20 37 16.9**	**-0.6**
JAN	**Janina**	**1.75**	**327**	P	**Pn**	**20 37 21.4**	**+2.0**
JAN	**Janina**	**1.75**	**327**	P	**Pn**	**20 37 21.4**	**+2.0**
SGD	**Sagiada**	**2.03**	**315**	P	**Pn**	**20 37 24.0**	**+0.9**
SGD	**Sagiada**	**2.03**	**315**	P	**Pn**	**20 37 24.0**	**+0.9**
PAIG	**Paliouri**	**2.13**	**35**	P	**Pn**	**20 37 24.4**	**-0.1**
PAIG	**Paliouri**	**2.13**	**35**	P	**Pn**	**20 37 24.4**	**-0.1**
HORT	**Hortiatis**	**2.53**	**18**	P	**Pn**	**20 37 29.8**	**-0.3**
HORT	**Hortiatis**	**2.53**	**18**	P	**Pn**	**20 37 29.8**	**-0.3**
OUR	**Ouranopolis**	**2.60**	**34**	P	**Pn**	**20 37 31.1**	**+0.2**
OUR	**Ouranopolis**	**2.60**	**34**	P	**Pn**	**20 37 31.1**	**+0.2**
FNA	**Florina**	**2.65**	**348**	P	**Pn**	**20 37 32.9**	**+1.2**
FNA	**Florina**	**2.65**	**348**	P	**Pn**	**20 37 32.9**	**+1.2**
SOH	**Sokhos**	**2.80**	**20**	P	**Pn**	**20 37 34.4**	**+0.6**
SOH	**Sokhos**	**2.80**	**20**	P	**Pn**	**20 37 34.4**	**+0.6**
OHR	**Ohrid**	**3.08**	**342**	*e*Pn	Pn	20 37 47.1	+9.4
OHR				*e*Sn	**Sn**	**20 38 15.9**	**+2.6**
MMB	**Musomiste**	**3.62**	**20**	*e*P	**Pn**	**20 37 45.1**	**+0.1**
KKB	**Krupnik**	**3.75**	**11**	*e*P	**Pn**	**20 37 47.7**	**+0.9**
RZN	**Rozhen**	**4.04**	**29**	*e*P	**Pn**	**20 37 46.7**	**-4.1**
TAR1	**Taranto**	**4.39**	**304**	*e*Pn	**Pn**	**20 37 54.7**	**-0.9**
SG1	**Sgolgore (BA)**	**4.95**	**304**	*e*Pn	**Pn**	**20 38 02.4**	**-0.8**
BAI	**Bari**	**4.97**	**308**	*e*Pn	**Pn**	**20 38 02.5**	**-0.9**
UDBI	**Udbina**	**7.92**	**325**	*e*Pn	**Pn**	**20 38 42.8**	**-1.2**
UDBI					Sn	**Sn**	**20 40 06.8**	**-5.3**
UDBI	**Udbina**	**7.92**	**325**	*e*Pn	**Pn**	**20 38 42.7**	**-1.2**
NVLJ	**Novalja**	**8.36**	**322**	*e*Pn	**Pn**	**20 38 48.7**	**-1.3**
NVLJ					Sn	**Sn**	**20 40 15.8**	**-7.1**
NVLJ	**Novalja**	**8.36**	**322**	*e*Pn	**Pn**	**20 38 48.6**	**-1.3**
NB2	**NORSAR Subarra**	**23.87**	**347**	P	**P**	**20 41 58.9**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=157,slow=11						
NB2	**NORSAR Subarra**	**23.87**	**347**	P	**P**	**20 41 58.9**	**-1.4**
	comp=Z,0.2nm,0.4s,SNR=2.6						

KRNET 26 20:42:58.9±0.1, **39.42N**×**72.53E**, **h4**km, **mb2.4, 8C-2D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.57**	**277**	⇑*i* P	Pg	20 43 10.6	+0.7
	baz=277						
DRK				⇑*i* S	Sg	20 43 18.1	+0.8
	baz=277						
OHH	**Osh**	**1.12**	**10**	⇑*i* S	Sn	20 43 37.1	-0.3
	baz=10.0						
BTK	**Batken**	**1.47**	**296**	⇓*i* P	Pb	20 43 26.7	-0.1
	baz=296						
BTK				⇓*i* S	Sg	20 43 47.9	+1.8
	baz=296						
ARK	**Arkit**	**2.42**	**350**	⇑*e*P	Pb	20 43 41.8	-1.2
	baz=350						
ARK				⇑*e*S	Sb	20 44 13.1	-0.1
	baz=350						
ARLS	**Aral**	**2.79**	**29**	⇑*e*P	Pb	20 43 47.1	-2.3
	baz=29						
MNAS	**Manas**	**3.07**	**360**	⇑*e*P	Pb	20 43 55.7	+1.6
	baz=360						
MNAS				⇑*e*S	Sg	20 44 35.0	-2.4
	baz=360						

KRNET 26 20:43:03.9±0.1, **39.72N**×**72.38E**, **mb2.3, 13C-3D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.86**	**21**	⇑*i

*DJA **26** 21:13:39.6±1.0,2°N±5°×9°8E±°, h163km±9km, M3.3/5, MLv3.3/5*

ISC 26 21:13:04.2±1.3,2°1N±0°1×94°9E±0°1, h21km, n17, σ0s95/11, mb3.7/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**2.50**	**63**	P	**Sn**	**21 14 13.3**	**-0.3**
GSI	**Gunungsitoli**	**2.76**	**107**	P	Pb	21 14 01.2	+8.3
GSI				S	**Sn**	**21 14 21.1**	**+1.1**
MNSI	**Mandailing Nat**	**4.82**	**106**	P	**Pn**	**21 14 14.3**	**-1.4**
PDSI	**Padang**	**6.29**	**119**	P	**Pn**	**21 14 36.7**	**+0.8**
MNAI	**Manna**	**10.28**	**129**	P	**Pn**	**21 15 30.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.69**	**13**	P	**P**	**21 17 00.1**	**+0.9**
	0.2nm,0.3s,baz=208,slow=12,SNR=27						
H08S2	**Diego Garcia H**	**24.41**	**246**	T	T	21 44 01.2	
	baz=66,slow=75,SNR=27						
H08S3	**Diego Garcia H**	**24.41**	**246**	T	T	21 44 01.2	
	baz=66,slow=75,SNR=25						
H08S1	**Diego Garcia H**	**24.43**	**246**	T	T	21 43 60.0	
	baz=66,slow=75,SNR=27						
H01W3	**Cape Leeuwin H**	**40.99**	**156**	T	T	22 05 08.5	
	baz=325						
H01W2	**Cape Leeuwin H**	**41.00**	**156**	T	T	22 05 16.2	
	baz=325						
H01W1	**Cape Leeuwin H**	**41.01**	**156**	T	T	22 05 09.5	
	baz=325						
WRA	**Warramunga Arr**	**44.44**	**121**	P	**P**	**21 21 13.4**	**-0.7**
	0.7nm,0.6s,baz=300,slow=9.0,SNR=6.6						
ASAR	**Alice Springs**	**45.76**	**126**	P	**P**	**21 21 24.1**	**-0.4**
	0.7nm,0.8s,baz=293,slow=8.1,SNR=7.2						
MKAR	**Makanchi Array**	**45.83**	**348**	P	**P**	**21 21 24.0**	**-0.7**
	0.5nm,0.6s,baz=163,slow=8.4,SNR=5.7						
SONM	**Songino Array**	**46.59**	**11**	P	**P**	**21 21 31.9**	**+1.1**
	0.5nm,0.6s,baz=194,slow=9.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**52.31**	**352**	P	**P**	**21 22 13.8**	**-0.4**
	0.4nm,0.4s,baz=151,slow=6.3,SNR=3.4						

MAN 26 21:16:57,7°17N×122°09E, h31km, mb3.7, ML2.4, MS2.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**1.88**	**42**	*e*P	Pn	21 17 27.9	+0.8
SNPH	**Sibulan**	**2.44**	**28**	*i* P	Pn	21 17 35.5	+0.7

*NEIC **26** 21:22:12.8,37°60S×176°47E, h178km, MG4.1(WEL), After WEL.*

WEL 26 21:22:12.5±0.3,37°59S×176°46E, h181km±3km, ML4.1/19, 3C-9D, Error ellipse: s-maj=2.3km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.42**	**157**	P	Pn	21 22 37.4	+0.3
TOZ	**Tahuroa Road**	**0.78**	**260**	P	Pn	21 22 39.2	+0.5
TOZ	**Tahuroa Road**	**0.78**	**260**	*e*Pn	Pn	21 22 39.2	+0.5
URZ	**Urewera**	**0.84**	**143**	P	Pn	21 22 38.9	-0.2
URZ				AML	AML	21 22 59.3	
URZ				SN	Sn	21 22 59.4	-0.3
URZ	**Urewera**	**0.84**	**143**	*e*Pn	Pn	21 22 39.0	-0.1
URZ				*e*S	Sn	21 22 59.3	-0.4
HAZ	**Te Kaha**	**1.06**	**99**	PN	Pn	21 22 40.2	-0.4
HAZ				SN	Sn	21 23 01.7	-0.7
RTZ	**Ruatahuna**	**1.10**	**158**	PN	Pn	21 22 41.0	0.0
RTZ				SN	Sn	21 23 03.7	+0.4
MWZ	**Matawai**	**1.12**	**132**	PN	Pn	21 22 40.8	-0.4
MWZ				AML	AML	21 23 05.6	
MWZ				AML	AML	21 23 07.5	
MWZ	**Matawai**	**1.12**	**132**	*e*Pn	Pn	21 22 40.8	-0.4
MWZ				*e*S	Sn	21 23 07.5	+4.0
RAGZ	**Rawiri**	**1.17**	**140**	PN	Pn	21 22 42.0	+0.3
MRHZ	**Matea Rd**	**1.24**	**182**	PN	Pn	21 22 42.1	0.0
MRHZ				SN	Sn	21 23 04.4	-0.9
TWGZ	**Tauwhareparae**	**1.33**	**116**	PN	Pn	21 22 43.3	+0.3
TWGZ				SN	Sn	21 23 07.7	+1.1
SNGZ	**Shannon Statio**	**1.37**	**150**	PN	Pn	21 22 43.5	+0.2
SNGZ				SN	Sn	21 23 06.7	-0.6
TKGZ	**Te Karaka**	**1.38**	**128**	PN	Pn	21 22 43.6	+0.3
RATZ	**Rangitukua**	**1.38**	**203**	PN	Pn	21 22 43.7	+0.3
MXZ	**Matakaoa Point**	**1.46**	**89**	PN	Pn	21 22 44.2	+0.1
MXZ				AML	AML	21 23 09.9	
MXZ				AML	AML	21 23 15.9	
MXZ	**Matakaoa Point**	**1.46**	**89**	Pn	Pn	21 22 44.2	+0.1
MXZ				*e*S	Sn	21 23 09.9	+1.3
PUZ	**Puketiti**	**1.50**	**109**	PN	Pn	21 22 44.1	-0.4
PUZ				AML	AML	21 23 10.4	
PUZ				AML	AML	21 23 19.6	
RIGZ	**Rimuhau**	**1.51**	**138**	PN	Pn	21 22 44.9	+0.3
NMHZ	**Naumai**	**1.52**	**170**	PN	Pn	21 22 45.4	+0.7
WHGZ	**Waiomatatini S**	**1.56**	**99**	PN	Pn	21 22 45.1	+0.1
BKZ	**Black Stump Fm**	**1.57**	**179**	P	Pn	21 22 44.8	-0.4
BKZ				SN	Sn	21 23 09.2	-1.5
BKZ				AML	AML	21 23 21.8	
BKZ	**Black Stump Fm**	**1.57**	**179**	*e*Pn	Pn	21 22 44.8	-0.4
BKZ				*e*S	Sn	21 23 09.2	-1.5
WHHZ	**Waihua**	**1.60**	**158**	PN	Pn	21 22 45.8	+0.4
CNGZ	**Carnagh Statio**	**1.64**	**123**	PN	Pn	21 22 46.5	+0.7
WTVZ	**West Tongariro**	**1.67**	**204**	PN	Pn	21 22 46.2	0.0
WTVZ	**West Tongariro**	**1.67**	**204**	Pn	Pn	21 22 46.2	0.0
TWVZ	**Taurewa**	**1.68**	**208**	PN	Pn	21 22 46.4	0.0
TWVZ	**Taurewa**	**1.68**	**208**	*e*Pn	Pn	21 22 46.4	+0.1
OTVZ	**Oturere**	**1.69**	**202**	PN	Pn	21 22 46.7	+0.2
OTVZ	**Oturere**	**1.69**	**202**	*e*Pn	Pn	21 22 46.7	+0.2
KNZ	**Kokohu**	**1.71**	**147**	PN	Pn	21 22 46.5	-0.1
KNZ				AML	AML	21 23 13.9	
KNZ				AML	AML	21 23 14.0	
KNZ	**Kokohu**	**1.71**	**147**	Pn	Pn	21 22 46.5	0.0
KNZ				*e*S	Sn	21 23 14.0	+0.9
ARHZ	**Aropaoanui**	**1.72**	**166**	PN	Pn	21 22 46.9	+0.4
NGZ	**Ngauruhoe**	**1.72**	**203**	PN	Pn	21 22 47.0	+0.2
NGZ	**Ngauruhoe**	**1.72**	**203**	Pn	Pn	21 22 47.0	+0.2
PRGZ	**Paritu Road**	**1.73**	**140**	PN	Pn	21 22 46.7	-0.1
TUVZ	**Tukino**	**1.79**	**201**	PN	Pn	21 22 47.4	0.0
TUVZ	**Tukino**	**1.79**	**201**	*e*Pn	Pn	21 22 47.4	0.0
FWVZ	**Far West T-bar**	**1.81**	**203**	PN	Pn	21 22 47.8	+0.1
FWVZ	**Far West T-bar**	**1.81**	**203**	*e*Pn	Pn	21 22 47.8	+0.1
WHVZ	**Whangaehu Hut**	**1.82**	**202**	PN	Pn	21 22 47.9	0.0
KWHZ	**Kaweka Forest**	**1.83**	**181**	PN	Pn	21 22 47.6	-0.1
TRVZ	**Turoa**	**1.85**	**203**	PN	Pn	21 22 48.6	+0.4
TRVZ	**Turoa**	**1.85**	**203**	*e*Pn	Pn	21 22 48.6	+0.4
MCHZ	**McNeill Hill**	**1.86**	**174**	PN	Pn	21 22 48.2	+0.2
WNVZ	**Wahianoa**	**1.86**	**201**	PN	Pn	21 22 47.9	-0.4
WNVZ	**Wahianoa**	**1.86**	**201**	*e*Pn	Pn	21 22 47.9	-0.4
MOVZ	**Moawhango**	**1.89**	**197**	PN	Pn	21 22 47.7	-0.7
MOVZ	**Moawhango**	**1.89**	**197**	*e*Pn	Pn	21 22 47.7	-0.7
PKVZ	**Pokaka**	**1.91**	**207**	PN	Pn	21 22 48.5	-0.1
BHHZ	**Black Hill Sta**	**1.92**	**189**	PN	Pn	21 22 47.9	-0.8
BHHZ				SN	Sn	21 23 14.6	-2.5
MHGZ	**Mahia Peninsul**	**1.93**	**144**	PN	Pn	21 22 48.7	0.0
MTVZ	**Mangateitei**	**1.95**	**203**	PN	Pn	21 22 48.7	-0.3
MTVZ	**Mangateitei**	**1.95**	**203**	*e*Pn	Pn	21 22 48.7	-0.3
VRZ	**Vera Road**	**2.03**	**221**	PN	Pn	21 22 50.4	+0.5
KRHZ	**Kereru**	**2.05**	**182**	PN	Pn	21 22 49.4	-0.7
CKHZ	**Cape Kidnapper**	**2.12**	**167**	PN	Pn	21 22 50.7	-0.1
KAHZ	**Kahuranaki**	**2.22**	**172**	PN	Pn	21 22 51.6	-0.4
PNHZ	**Pukenui**	**2.33**	**185**	PN	Pn	21 22 52.1	-1.0
WAZ	**Wanganui**	**2.45**	**208**	PN	Pn	21 22 53.9	-0.7
PXZ	**Pawanui**	**2.45**	**173**	PN	Pn	21 22 53.6	-1.0
PXZ				AML	AML	21 23 28.0	
PXZ				AML	AML	21 23 28.7	
PXZ	**Pawanui**	**2.45**	**173**	*e*Pn	Pn	21 22 53.6	-1.0
PXZ				*e*S	Sn	21 23 28.0	+0.5
WPHZ	**Waipukurau**	**2.47**	**180**	PN	Pn	21 22 53.6	-1.1
TSZ	**Takapari Road**	**2.49**	**189**	PN	Pn	21 22 53.7	-1.4
TSZ				AML	AML	21 23 28.9	
TSZ				AML	AML	21 23 33.2	
NEZ	**North Egmont**	**2.50**	**227**	PN	Pn	21 22 55.8	+0.5
PRHZ	**Porangahau**	**2.67**	**177**	PN	Pn	21 22 55.8	-1.3
DVHZ	**Dannevirke**	**2.71**	**185**	PN	Pn	21 22 55.9	-1.7
OHWZ	**Ohakea**	**2.76**	**199**	PN	Pn	21 22 57.3	-0.8
POWZ	**Post Office Ro**	**2.85**	**191**	PN	Pn	21 22 57.4	-1.8
ANWZ	**Angora Road**	**2.86**	**180**	PN	Pn	21 22 58.1	-1.3
ANWZ				SN	Sn	21 23 32.8	-3.3
PRWZ	**Pori Road**	**2.98**	**187**	PN	Pn	21 22 59.1	-1.7
BFZ	**Birch Farm**	**3.09**	**183**	PN	Pn	21 22 60.0	-2.2
BFZ				AML	AML	21 23 40.5	
BFZ				AML	AML	21 23 40.7	
BFZ	**Birch Farm**	**3.09**	**183**	Pn	Pn	21 22 60.0	-2.2
BFZ				*e*S	Sn	21 23 37.8	-3.3
BFZ				*e*S	Sn	21 23 40.7	-0.4
MRZ	**Mangatainoka R**	**3.14**	**192**	PN	Pn	21 23 00.3	-2.5
MRZ	**Mangatainoka R**	**3.14**	**192**	*e*Pn	Pn	21 23 00.3	-2.5
TIWZ	**Tintock**	**3.21**	**188**	PN	Pn	21 23 01.6	-2.1
TIWZ				AML	AML	21 23 40.3	
TIWZ				AML	AML	21 23 42.9	
OGWZ	**Otaki Gorge**	**3.37**	**197**	PN	Pn	21 23 03.1	-2.5
HOWZ	**Holdsworth Sta**	**3.38**	**192**	PN	Pn	21 23 02.8	-2.9
KIW	**Kapiti Island**	**3.48**	**200**	PN	Pn	21 23 04.1	-2.9
KIW				AML	AML	21 23 47.8	
KIW	**Kapiti Island**	**3.48**	**200**	Pn	Pn	21 23 04.1	-2.9
KIW				*e*S	Sn	21 23 47.9	-1.8
TMWZ	**Te Maipa**	**3.54**	**187**	PN	Pn	21 23 04.7	-3.0
MTW	**Mount Morrison**	**3.64**	**192**	PN	Pn	21 23 05.5	-3.4
MTW				AML	AML	21 23 48.5	
MTW				AML	AML	21 23 48.6	
MTW	**Mount Morrison**	**3.64**	**192**	*e*Pn	Pn	21 23 05.5	-3.4
MTW				*e*S	Sn	21 23 48.6	-4.6
CAW	**Cannon Point**	**3.67**	**197**	PN	Pn	21 23 06.3	-3.1
CAW				AML	AML	21 23 50.8	
CAW				AML	AML	21 23 53.8	
CAW	**Cannon Point**	**3.67**	**197**	*e*Pn	Pn	21 23 06.3	-3.1
CAW				*e*S	Sn	21 23 53.8	-0.2
DUWZ	**D'Urville Isla**	**3.76**	**211**	PN	Pn	21 23 07.3	-3.3
DUWZ	**D'Urville Isla**	**3.76**	**211**	*e*Pn	Pn	21 23 07.3	-3.3
TRWZ	**Traveller**	**3.85**	**189**	PN	Pn	21 23 08.4	-3.2
TRWZ				AML	AML	21 23 55.3	
TRWZ				AML	AML	21 23 57.0	
TRWZ	**Traveller**	**3.85**	**189**	Pn	Pn	21 23 08.4	-3.2
TRWZ				*e*S	Sn	21 23 55.3	-2.7
PAWZ	**Paruwai Farm**	**3.87**	**192**	PN	Pn	21 23 08.4	-3.4
PAWZ				AML	AML	21 23 55.2	
PAWZ				AML	AML	21 23 55.5	
PAWZ	**Paruwai Farm**	**3.87**	**192**	Pn	Pn	21 23 08.4	-3.4
PAWZ				*e*S	Sn	21 23 55.2	-3.3
MSWZ	**Moikau Station**	**3.93**	**193**	PN	Pn	21 23 08.9	-3.8
MSWZ				AML	AML	21 23 54.8	
MSWZ				AML	AML	21 23 55.8	
SNZO	**South Karori**	**3.95**	**200**	*e*Pn	Pn	21 23 10.6	-2.3
SNZO				*e*Sn	Sn	21 23 53.2	-7.1
TCW	**Tory Channel**	**3.99**	**204**	PN	Pn	21 23 10.1	-3.3
TCW				AML	AML	21 23 57.9	
TCW				AML	AML	21 23 57.9	
TCW	**Tory Channel**	**3.99**	**204**	*e*Pn	Pn	21 23 10.1	-3.3
TCW				*e*S	Sn	21 23 57.9	-3.2
BHW	**Baring Head**	**4.00**	**197**	PN	Pn	21 23 09.9	-3.6
BHW				AML	AML	21 23 57.7	
BHW	**Baring Head**	**4.00**	**197**	Pn	Pn	21 23 09.9	-3.6
BHW				*e*S	Sn	21 23 57.7	-3.8
PLWZ	**Palliser**	**4.08**	**193**	PN	Pn	21 23 10.7	-3.8
TUWZ	**Tuamarina**	**4.30**	**206**	PN	Pn	21 23 13.6	-3.7
TUWZ				AML	AML	21 24 04.1	
TUWZ				AML	AML	21 24 08.7	
TUWZ	**Tuamarina**	**4.30**	**206**	*e*Pn	Pn	21 23 13.6	-3.7
TUWZ				*e*S	Sn	21 24 04.1	-4.1
NNZ	**Nelson**	**4.33**	**212**	PN	Pn	21 23 13.8	-4.0
QRZ	**Quartz Range**	**4.44**	**222**	PN	Pn	21 23 15.5	-3.7
QRZ	**Quartz Range**	**4.44**	**222**	Pn	Pn	21 23 15.5	-3.7
BSWZ	**Blackbirch Sta**	**4.57**	**205**	PN	Pn	21 23 17.3	-3.6
THZ	**Tophouse**	**4.99**	**212**	PN	Pn	21 23 22.5	-3.7
THZ	**Tophouse**	**4.99**	**212**	*e*Pn	Pn	21 23 22.5	-3.7
THZ				*e*S	Sn	21 24 21.1	-3.1
KHZ	**Kahutara**	**5.31**	**204**	PN	Pn	21 23 26.3	-4.1
KHZ	**Kahutara**	**5.31**	**204**	*e*Pn	Pn	21 23 26.3	-4.1
KHZ				*e*S	Sn	21 24 25.6	-6.1
LTZ	**Lake Taylor**	**6.09**	**210**	PN	Pn	21 23 36.0	-4.7
LTZ	**Lake Taylor**	**6.09**	**210**	Pn	Pn	21 23 36.0	-4.7
INZ	**Inchbonnie**	**6.41**	**215**	PN	Pn	21 23 39.4	-5.3

*IDC **26** 21:27:25.8±1.2,39°81N×20°55E, h0km, mb3.5/8, mb1 3.6/10, mb1mx3.4/37, mbtmp3.5/10, ML3.1/2, MS3.0/1, Ms1 3.0/1, ms1mx2.0/39, Error ellipse: s-maj=25.8km s-min=18.2km az=64.0*

*THE **26** 21:27:28.8,39°72N×20°44E, h0km±2km, ML3.3/14, Error ellipse: s-maj=2.4km s-min=0.7km az=323.0*

*CSEM **26** 21:27:28.5±0.1,39°76N×20°40E, h2km, ML3.2, Error ellipse: s-maj=3.9km s-min=2.7km az=54.0*

*ATH **26** 21:27:28.5,39°74N×20°42E, h16km±1km, ML3.2/10, Error ellipse: s-maj=1.1km s-min=0.7km az=301.0*

*ISCJB **26** 21:27:28.1±0.5,39°77N±0°02×20°30E±0°03, h11km±4km, mb3.5/7, MS2.9/1, Error ellipse: s-maj=3.5km s-min=2.5km az=152.2*

*SKO **26** 21:27:30.3,39°71N×20°49E, h9km*

ISC 26 21:27:28.6±0.8,39°73N±0°02×20°43E±0°02, h16km±5km, n192, σ1s25/236, mb3.5/7, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.20**	**232**	P	**Pg**	**21 27 32.7**	**-0.5**
SGD				S	**Sg**	**21 27 36.8**	**+0.4**
SGD	**Sagiada**	**0.20**	**232**	P	**Pg**	**21 27 32.7**	**-0.5**
SGD				S	**Sg**	**21 27 36.8**	**+0.4**
SGD	**Sagiada**	**0.20**	**232**	P	**Pg**	**21 27 32.4**	**-0.8**
SGD				AML	AML	21 27 36.8	
	comp=N,28247µm,0.4s						
SGD				S	**Sb**	**21 27 37.0**	**-0.2**
SGD				AML	AML	21 27 37.3	
	comp=E,72586µm,0.6s						
JAN	**Janina**	**0.33**	**103**	P	**Pg**	**21 27 34.9**	**-0.6**
JAN				S	**Sg**	**21 27 40.5**	**+0.2**
JAN	**Janina**	**0.33**	**103**	P	**Pg**	**21 27 34.9**	**-0.6**
JAN				S	**Sg**	**21 27 40.3**	**0.0**
JAN	**Janina**	**0.33**	**103**	S	**Sg**	**21 27 40.3**	**0.0**
JAN				AML	AML	21 27 41.6	
	comp=E,17228µm,0.2s						
KEK	**Kerkira**	**0.49**	**268**	P	**Pg**	**21 27 38.2**	**-0.1**
KEK				S	**Sb**	**21 27 46.6**	**+0.9**
KEK	**Kerkira**	**0.49**	**268**	P	**Pg**	**21 27 38.2**	**-0.1**
KEK				S	**Sb**	**21 27 46.6**	**+0.9**
PENT	**Pentalofos**	**0.71**	**49**	P	**Pg**	**21 27 42.0**	**-0.5**
PENT				S	**Sb**	**21 27 52.8**	**+0.6**
PENT	**Pentalofos**	**0.71**	**49**	P	**Pg**	**21 27 42.0**	**-0.5**
PENT				S	**Sb**	**21 27 52.8**	**+0.6**
PENT	**Pentalofos**	**0.71**	**49**	P	**Pg**	**21 27 41.8**	**-0.7**
PENT				S	**Sn**	**21 27 54.7**	**0.0**
PENT				AML	AML	21 27 56.4	
	comp=E,2217µm,0.8s						
PENT				AML	AML	21 27 57.3	
	comp=N,2844µm,0.5s						
KPRO	**Kipourio**	**0.75**	**73**	P	**Pg**	**21 27 42.3**	**-0.9**
KPRO				S	**Sb**	**21 27 54.9**	**+1.6**
KPRO	**Kipourio**	**0.75**	**73**	P	**Pg**	**21 27 42.3**	**-0.9**
KPRO				S	**Sb**	**21 27 54.9**	**+1.6**
KPRO	**Kipourio**	**0.75**	**73**	P	**Pg**	**21 27 41.5**	**-1.7**
KPRO				S	**Sn**	**21 27 56.1**	**+0.5**
KPRO				AML	AML	21 27 56.1	
	comp=E,9878µm,0.6s						
KPRO				AML	AML	21 27 56.4	
	comp=N,7562µm,0.6s						
DSL	**Palaion Diasel**	**0.79**	**139**	P	**Pg**	**21 27 42.7**	**-1.2**
DSL				S	**Sb**	**21 27 55.1**	**+0.7**
DSL	**Palaion Diasel**	**0.79**	**139**	P	**Pg**	**21 27 42.7**	**-1.2**
DSL				S	**Sb**	**21 27 55.1**	**+0.7**
DSL				AML	AML	21 27 56.5	
	comp=E,3864µm,0.7s						
DSL				AML	AML	21 27 56.5	
	comp=N,3972µm,0.5s						
NEST	**Nestorio**	**0.83**	**35**	P	**Pg**	**21 27 44.3**	**-0.4**
NEST				S	**Sn**	**21 27 57.5**	**-0.1**
NEST	**Nestorio**	**0.83**	**35**	P	**Pg**	**21 27 44.3**	**-0.4**
NEST				S	**Sn**	**21 27 57.5**	**-0.1**
NEST	**Nestorio**	**0.83**	**35**	P	**Pg**	**21 27 44.4**	**-0.4**
LKD2	**Lefkada island**	**0.96**	**169**	P	**Pb**	**21 27 46.0**	**-0.8**
LKD2				S	**Sn**	**21 28 01.1**	**+0.4**
LKD2	**Lefkada island**	**0.96**	**169**	P	**Pb**	**21 27 46.0**	**-0.8**
LKD2				S	**Sn**	**21 28 01.1**	**+0.4**
LKD2	**Lefkada island**	**0.96**	**169**	P	**Pb**	**21 27 44.6**	**-2.2**
LKD2				S	**Sn**	**21 28 01.6**	**+0.9**
LKD2				AML	AML	21 28 04.3	
	comp=E,2018µm,0.3s						
LKD2				AML	AML	21 28 04.5	
	comp=N,2048µm,0.4s						
KZN	**Kozani**	**1.18**	**60**	P	**Pn**	**21 27 50.2**	**-0.2**
KZN				S	**Sg**	**21 28 08.7**	**+2.0**
KZN	**Kozani**	**1.18**	**60**	P	**Pn**	**21 27 50.2**	**-0.2**
KZN				S	**Sg**	**21 28 08.7**	**+2.0**
THL	**Klokotos Trika**	**1.23**	**97**	P	**Pn**	**21 27 50.8**	**-0.3**
THL				S	**Sg**	**21 28 10.5**	**+2.1**
THL				S	**Sg**	**21 28 09.2**	**+0.8**
FNA	**Florina**	**1.27**	**34**	P	**Pn**	**21 27 51.9**	**+0.2**
FNA	**Florina**	**1.27**	**34**	P	**Pn**	**21 27 51.9**	**+0.2**
FNA	**Florina**	**1.27**	**34**	P	**Pn**	**21 27 51.3**	**-0.4**
FNA				S	**Sg**	**21 28 11.3**	**+1.5**
FNA				AML	AML	21 28 15.6	
	comp=E,1739µm,0.7s						
FNA				AML	AML	21 28 17.8	
	comp=N,1265µm,0.4s						
PDO	**Prodromos**	**1.27**	**153**	P	**Pn**	**21 27 52.2**	**+0.5**
PDO				S	**Sg**	**21 28 10.6**	**+0.8**
PDO	**Prodromos**	**1.27**	**153**	P	**Pb**	**21 27 52.5**	**+0.3**
PDO				S	**Sg**	**21 28 10.6**	**+0.8**
PDO	**Prodromos**	**1.27**	**153**	P	**Pb**	**21 27 52.5**	**+0.3**
PDO				S	**Sg**	**21 28 12.7**	**+2.9**
PDO				AML	AML	21 28 17.2	
	comp=E,1623µm,0.4s						
PDO				AML	AML	21 28 17.2	
	comp=N,1743µm,0.5s						
EVR	**Evrytania**	**1.34**	**127**	P	**Pn**	**21 27 53.0**	**+0.3**
EVR				S	**Sg**	**21 28 13.2**	**+1.2**
EVR	**Evrytania**	**1.34**	**127**	P	**Pn**	**21 27 53.0**	**+0.3**
EVR				S	**Sg**	**21 28 13.2**	**+1.2**
EVR	**Evrytania**	**1.34**	**127**	P	**Pn**	**21 27 52.3**	**-0.4**
EVR				S	**Sg**	**21 28 15.1**	**+3.1**
EVR				AML	AML	21 28 20.1	
	comp=N,1123µm,0.8s						
PVO	**Paravola**	**1.40**	**142**	P	**Pb**	**21 27 55.2**	**+0.9**
PVO				S	**Sg**	**21 28 15.3**	**+1.5**
PVO	**Paravola**	**1.40**	**142**	P	**Pg**	**21 27 56.2**	**+0.7**
PVO				S	**Sg**	**21 28 15.3**	**+1.5**
PVO	**Paravola**	**1.40**	**142**	P	**Pg**	**21 27 56.2**	**+0.7**
PVO				S	**Sg**	**21 28 14.3**	**+0.5**
OHR	**Ohrid**	**1.40**	**11**	*i* Pn	**Pg**	**21 27 55.7**	**+0.1**
OHR				*i* Sn	**Sg**	**21 28 15.7**	**+1.8**
OHR	**Ohrid**	**1.40**	**11**	*i* Pn	**Pg**	**21 27 55.7**	**+0.1**
OHR				*i* Sn	**Sg**	**21 28 15.7**	**+1.8**
VLS	**Valsamata**	**1.56**	**175**	P	**Pn**	**21 27 56.1**	**+0.5**
VLS				S	**Sb**	**21 28 17.5**	**+1.0**
VLS	**Valsamata**	**1.56**	**175**	P	**Pn**	**21 27 56.1**	**+0.5**
VLS				S	**Sb**	**21 28 17.5**	**+1.0**
ANX	**Ano Chora**	**1.62**	**134**	P	**Pb**	**21 27 59.1**	**+0.9**
ANX	**Ano Chora**	**1.62**	**134**	P	**Pb**	**21 27 59.1**	**+0.9**
LIT	**Litokhoron**	**1.62**	**76**	P	**Pb**	**21 27 58.2**	**+0.1**
LIT				S	**Sg**	**21 28 21.6**	**+0.7**
LIT	**Litokhoron**	**1.62**	**76**	P	**Pb**	**21 27 58.2**	**+0.1**
LIT				S	**Sg**	**21 28 21.6**	**+0.7**
LIT	**Litokhoron**	**1.62**	**76**	P	**Pn**	**21 27 57.6**	**+1.1**
AGG	**Agios Georgios**	**1.63**	**115**	P	**Pb**	**21 27 58.5**	**+0.2**
AGG				S	**Sg**	**21 28 20.9**	**-0.3**
AGG	**Agios Georgios**	**1.63**	**115**	P	**Pb**	**21 27 58.5**	**+0.2**
AGG				S	**Sg**	**21 28 20.9**	**-0.3**
AGG	**Agios Georgios**	**1.63**	**115**	P	**Pb**	**21 27 58.5**	**+0.2**
AGG				S	**Sg**	**21 28 21.7**	**+0.5**
AGG				AML	AML	21 28 24.4	
	comp=N,2296µm,0.4s						
AGG				AML	AML	21 28 28.1	
	comp=E,2628µm,0.6s						
KFL	**Anninata**	**1.65**	**170**	P	**Pn**	**21 27 56.2**	**-0.5**
AXS	**Araxos**	**1.70**	**154**	P	**Pb**	**21 28 00.5**	**+1.1**
AXS	**Araxos**	**1.70**	**154**	P	**Pb**	**21 28 00.5**	**+1.1**
EFP	**Efpalio**	**1.74**	**138**	P	**Pb**	**21 28 00.9**	**+0.9**
EFP	**Efpalio**	**1.74**	**138**	P	**Pb**	**21 28 00.9**	**+0.9**
EFP	**Efpalio**	**1.74**	**138**	P	**Pg**	**21 28 01.6**	**-0.3**
SERG	**Sergoula**	**1.83**	**136**	P	**Pb**	**21 28 02.3**	**+0.7**
SERG	**Sergoula**	**1.83**	**136**	P	**Pb**	**21 28 02.3**	**+0.7**
RLS	**Riolos of Patr**	**1.86**	**154**	P	**Pb**	**21 28 02.1**	**0.0**
TRIZ	**Trizonia**	**1.87**	**136**	P	**Pg**	**21 28 04.6**	**+0.1**
KALE	**Kalithea**	**1.89**	**135**	P	**Pb**	**21 28 03.3**	**+0.6**
KALE	**Kalithea**	**1.89**	**135**	P	**Pb**	**21 28 03.3**	**+0.6**
KALE	**Kalithea**	**1.89**	**135**	P	**Pg**	**21 28 04.2**	**-0.6**
LAKA	**Lakka**	**1.92**	**141**	P	**Pg**	**21 28 04.7**	**-0.7**
LAKA	**Lakka**	**1.92**	**141**	P	**Pg**	**21 28 04.7**	**-0.7**
GRG	**Griva**	**1.94**

LIA	Limnos Island	3.66	86	P		Pn	21 28 26.9	+2.4
RZN	Rozhen	3.80	58	*i* P		Pn	21 28 29.1	+2.6
SMTH	Samothraki Isl	3.98	78	P		Pn	21 28 29.6	+0.8
SMTH	Samothraki Isl	3.98	78	P		Pn	21 28 29.6	+0.8
PGB	Panagyurishte	3.98	44	*i* P		Pn	21 28 32.0	+3.0
BBLS	Lazići	4.20	350	*e*Pn		Pn	21 28 34.8	+2.8
DIVS	Divibare	4.37	356	*e*Pn		Pn	21 28 35.6	+1.2
MPEP	Malo Peshtene	4.39	33	*i* P		Pn	21 28 38.1	+3.6
ALN	Alexandroupoli	4.45	73	P		Pn	21 28 35.2	-0.1
ALN	Alexandroupoli	4.45	73	P		Pn	21 28 35.2	-0.1
TEKS	Tekeris	4.86	352	*e*Pn		Pn	21 28 41.9	+0.9
BLY	Banja Luka	5.56	335	*e*Pn		Pn	21 28 50.6	0.0
IDI	Anoyia	5.68	140	Pn		Pn	21 28 52.3	0.0
	comp=E,0.3nm,0.3s,baz=223,slow=19,SNR=6.2							
IDI				Sn		Sn	21 29 54.6	-2.5
	comp=E,1.2nm,0.3s,baz=289,slow=24,SNR=5.8							
UDBI	Udbina	5.91	326	*i* Pn		Pn	21 28 56.9	+1.3
UDBI				Sn		Sn	21 30 01.3	-1.6
UDBI	Udbina	5.91	326	*i* Pn		Pn	21 28 56.8	+1.3
CRES	Cresnjev	7.10	331	*e*Pn		Pn	21 29 11.8	0.0
CEY	Cerknica	7.45	326	*e*Pn		Pn	21 29 16.8	+0.2
SOKA	Soboth	7.98	332	*i* Pn		Pn	21 29 24.2	+0.3
	comp=E,0.3nm,0.1s							
SOKA	Soboth	7.98	332	Pn		Pn	21 29 24.2	+0.3
	comp=E,0.3nm,0.1s							
OBKA	Obir	8.02	330	*i* Pn		Pn	21 29 25.4	+1.0
	comp=E,0.2nm,0.1s							
OBKA	Obir	8.02	330	Pn		Pn	21 29 25.4	+1.0
	comp=E,0.2nm,0.1s							
ABTA	Abfaltersbach	9.08	323	*i* Pn		Pn	21 29 40.2	+1.2
	comp=E,0.1nm,0.1s							
ABTA	Abfaltersbach	9.08	323	Pn		Pn	21 29 40.2	+1.2
	comp=E,0.1nm,0.1s							
MOA	Molln	9.25	333	*i* Pn		Pn	21 29 42.3	+1.0
	comp=E,0.3nm,0.2s							
MOA	Molln	9.25	333	Pn		Pn	21 29 42.3	+1.0
	comp=E,0.3nm,0.2s							
WATA	Walderalm	9.95	323	*i* Pn		Pn	21 29 53.0	+2.1
	comp=E,0.2nm,0.1s							
WATA	Walderalm	9.95	323	Pn		Pn	21 29 53.0	+2.1
	comp=E,0.2nm,0.1s							
MOTA	Moosalm	10.18	321	*i* Pn		Pn	21 29 54.4	+0.3
	comp=E,0.4nm,0.2s							
MOTA	Moosalm	10.18	321	Pn		Pn	21 29 54.4	+0.3
	comp=E,0.4nm,0.2s							
GERES	GERESS Array B	10.30	334	Pn		Pn	21 29 55.6	-0.1
	comp=E,0.1nm,0.3s,baz=159,slow=16,SNR=3.3							
HFS	Hagfors	20.86	351	P		P	21 32 09.1	-0.3
	comp=E,0.4nm,0.4s,baz=161,slow=14,SNR=6.6							
FINES	FINESS Array B	22.01	7	P		P	21 32 20.8	-1.0
	comp=E,1.3nm,0.8s,baz=185,slow=12,SNR=5.4							
NB2	NORSAR Subarra	22.08	348	P		P	21 32 22.8	+0.1
	comp=Z,0.6nm,0.6s,baz=158,slow=10							
NB2	NORSAR Subarra	22.08	348	P		P	21 32 22.8	+0.1
	comp=Z,0.6nm,0.6s,SNR=4.1							
NOA	NORSAR Array B	22.08	348	P		P	21 32 21.4	-1.2
	comp=Z,0.3nm,0.5s,baz=166,slow=10,SNR=4.4							
EKA	Eskdalemuir Ar	22.14	323	P		P	21 32 22.4	-0.8
	comp=Z,0.8nm,0.8s,baz=122,slow=10,SNR=3.7							
ARU	Arti	29.96	43	LR		LR	21 46 47.3	
	comp=Z,30nm,19.9s,baz=196,slow=39							
ARCES	ARCESS Array B	29.99	4	P		P	21 33 34.8	-1.1
	comp=Z,1.6nm,1.0s,baz=192,slow=9.5,SNR=3.6							
TORD	Torodi Ar. Bea	31.21	217	P		P	21 33 47.7	+0.5
	comp=Z,0.5nm,0.6s,baz=37,slow=9.2,SNR=5.4							
MKAR	Makanchi Array	44.56	60	P		P	21 35 38.6	-1.0
	comp=Z,0.3nm,0.4s,baz=280,slow=7.5,SNR=8.4							
ZALV	Zalesovo Beam	44.72	49	P		P	21 35 38.4	-2.2
	comp=Z,0.6nm,0.4s,baz=281,slow=8.8,SNR=3.0							

IDC ***26*** *21:30:54.0±1.3,2°.37S×136°.70E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.5/28, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=27.1km s-min=23.2km az=58.0*
ISCJB ***26*** *21:30:57.6±0.9,2°.54S±0°.08×136°.70E±0°.07, h42km, mb3.5/3, Error ellipse: s-maj=12.7km s-min=8.5km az=149.6*
ISC 26 21:30:59.4±1.0, 2°.52S±0°.10×136°.71E±0°.09, h42km, n6, σ2s 26/9, mb3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	3.99	90	Pn	Pn	21 31 57.9	-0.3
	0.2nm,0.3s,baz=254,slow=22,SNR=17						
JAY				Sn	Sn	21 32 44.0	+0.2
	0.7nm,0.3s,baz=271,slow=23,SNR=14						
WRA	Warramunga Arr	17.47	187	P	Pn	21 35 01.0	+0.8
	0.3nm,0.3s,baz=9.4,slow=13,SNR=20						
WRA				S	Sn	21 38 09.5	-4.3
	0.1nm,0.3s,baz=4.9,slow=23,SNR=5.1						
FITZ	Fitzroy Crossi	18.91	214	P	Pn	21 35 18.9	+1.2
	0.1nm,0.3s,baz=45,slow=13,SNR=3.4						
FITZ				S	Sn	21 38 40.0	-8.6
	0.1nm,0.3s,baz=164,slow=15,SNR=2.7						
ASAR	Alice Springs	21.20	187	P	P	21 35 42.1	+0.5
	1.4nm,0.4s,baz=11,slow=11,SNR=23						
ASAR				S	S	21 39 38.3	+3.1
	0.5nm,0.7s,baz=11,slow=22,SNR=3.5						
CMAR	Chiang Mai Arr	42.62	301	P	P	21 38 51.4	-0.6
	0.5nm,0.8s,baz=114,slow=6.2,SNR=4.6						
MKAR	Makanchi Array	68.43	323	P	P	21 41 57.0	-0.1
	0.2nm,0.4s,baz=100,slow=8.9,SNR=4.4						

ISK ***26*** *21:41:06.8, 38°.57N×39°.54E, h5km, MD3.3*
DDA ***26*** *21:41:07.3, 38°.55N×39°.56E, h5km, Ml3.5*
CSEM ***26*** *21:41:08.2±0.2, 38°.53N×39°.57E, h2km, MD3.3, Error ellipse: s-maj=4.3km s-min=4.0km az=158.0*
ISC 26 21:41:08.0±1.0, 38°.56N±0°.02×39°.58E±0°.02, h8km±9km, n64, σ1s 08/91, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	Sivrice-ELAZID	0.28	230	*e*PG	Pg	21 41 13.3	-0.4
SVRC				*e*SG	Sb	21 41 18.2	-2.1
SVRC	Sivrice-ELAZID	0.28	230	*e*Pg	Pg	21 41 13.3	-0.4
SVRC				*e*Sg	Sb	21 41 18.2	-2.1
PTK	Pertek	0.36	336	*e*PG	Pg	21 41 15.1	-0.2
PTK				*e*SG	Sg	21 41 20.3	+0.3
PTK	Pertek	0.36	336	*e*Pg	Pg	21 41 15.1	-0.2
PTK				*e*Sg	Sg	21 41 20.3	+0.3
ELZG	Elazig	0.47	263	P	Pg	21 41 16.6	-0.6
ELZG				S	Sb	21 41 24.1	-1.7
ELZG	Elazig	0.47	263	*i* P	Pg	21 41 16.6	-0.6
ELZG				*i* S	Sb	21 41 24.1	-1.7
TNCL	Tunceli-Merkez	0.56	357	P	Pg	21 41 18.3	-0.5
TNCL				S	Sb	21 41 26.9	-1.3
TNCL	Tunceli-Merkez	0.56	357	*i* P	Pg	21 41 18.3	-0.5
TNCL				*i* S	Sb	21 41 26.9	-1.3
DIYA	Diyarbakir	0.77	146	P	Pb	21 41 22.6	-1.0
DIYA				S	Sb	21 41 34.2	0.0
DIYA	Diyarbakir	0.77	146	*i* P	Pb	21 41 22.6	-1.0
DIYA				*i* S	Sb	21 41 34.2	0.0
BGOL	Bingol	0.95	63	P	Pn	21 41 27.3	-0.5
BGOL				S	Sn	21 41 42.0	+0.3
BGOL	Bingol	0.95	63	*i* P	Pn	21 41 27.3	-0.5
BGOL				*i* S	Sn	21 41 42.0	+0.3
BNGB	Bing˜¶l	0.96	63	*e*PG	Pb	21 41 26.7	-0.3
BNGB				*e*SG	Sn	21 41 41.9	+0.1
ERZN	Erzincan	1.03	6	*e*PG	Pg	21 41 26.9	-0.9
EUZM	Uzumlu	1.15	5	P	Pg	21 41 29.3	-0.8
EUZM				S	Sn	21 41 47.0	+0.5
EUZM	Uzumlu	1.15	5	*i* P	Pg	21 41 29.3	-0.8
EUZM				*i* S	Sn	21 41 47.0	+0.5
YEDI	Yedisu-Bingol	1.16	40	*e*PN	Pn	21 41 30.5	-0.1
YEDI	Yedisu-Bingol	1.16	40	*e*Pn	Pn	21 41 30.5	-0.1
URFA	Urfa	1.27	208	*e*PN	Pn	21 41 31.8	-0.2
URFA	Urfa	1.27	208	*e*Pn	Pn	21 41 31.8	-0.2
BNGL	BINGOL	1.29	72	*i* P	Pb	21 41 32.6	0.0
BNGL				*i* S	Sn	21 41 52.9	+2.8
MAZI	Mazidag	1.29	148	*e*PN	Pb	21 41 32.6	-0.1
MAZI	Mazidag	1.29	148	*e*Pn	Pb	21 41 32.6	-0.1
AKCD	Akcadag	1.33	259	P	Pn	21 41 32.4	-0.6
AKCD				S	Sn	21 41 50.6	-0.3
AKCD	Akcadag	1.33	259	*i* P	Pn	21 41 32.4	-0.6
AKCD				*i* S	Sn	21 41 50.6	-0.3
BTMN	Batman	1.49	116	P	Pn	21 41 35.0	-0.1
BTMN				S	Sg	21 41 56.0	+0.1
BTMN	Batman	1.49	116	*i* P	Pn	21 41 35.0	-0.1
BTMN				*i* S	Sg	21 41 56.0	+0.1
MARD	Mardin	1.56	142	*i* P	Pn	21 41 35.8	-0.4
MARD				*i* S	Sb	21 41 57.0	-0.3
VRTB	Varto-Mus	1.58	67	*e*PN	Pb	21 41 37.3	-0.3
VRTB	Varto-Mus	1.58	67	*e*Pn	Pb	21 41 37.3	-0.3
KELT	Kelkit	1.61	351	P	Pb	21 41 37.6	-0.4
KELT				S	Sg	21 42 00.4	+0.7
KELT	Kelkit	1.61	351	*i* P	Pb	21 41 37.6	-0.4
KELT				*i* S	Sg	21 42 00.4	+0.7
KOPT	Kop Dagi	1.62	26	P	Pg	21 41 38.9	-0.3
KOPT	Kop Dagi	1.62	26	*i* P	Pg	21 41 38.9	-0.3
DARE	Darende-Malaty	1.64	271	*e*PN	Pb	21 41 37.6	-1.0
DARE	Darende-Malaty	1.64	271	*e*Pn	Pb	21 41 37.6	-1.0
CUKAN	kangal_SIVAS	1.81	295	P	Pb	21 41 40.8	-0.7
CUKAN	kangal_SIVAS	1.81	295	*i* P	Pb	21 41 40.8	-0.7
GUMT	Gumushane	1.90	358	*e*PN	Pb	21 41 42.1	-0.9
GUMT	Gumushane	1.90	358	*e*Pn	Pb	21 41 42.1	-0.9
EZM	Erzurum	1.93	45	*e*PN	Pb	21 41 42.3	-1.3
ERZM	Erzurum	1.93	45	P	Pg	21 41 44.5	-0.6
ERZM	Erzurum	1.93	45	*i* P	Pg	21 41 44.5	-0.6
SUSE	Susehri	1.96	328	P	Pg	21 41 45.2	-0.4
SUSE	Susehri	1.96	328	*i* P	Pg	21 41 45.2	-0.4
TATV	Tatvan	2.11	91	P	Pb	21 41 45.5	-1.1
TATV	Tatvan	2.11	91	*i* P	Pb	21 41 45.5	-1.1
CUALT	Altinyayla-SIV	2.31	289	*i* P	Pb	21 41 49.0	-1.0
CUALT				*i* S	Sg	21 42 28.2	+5.9
GAZ	Gaziantep	2.33	234	*e*PN	Pn	21 41 47.3	+0.6
GAZ	Gaziantep	2.33	234	*e*Pn	Pn	21 41 47.3	+0.6
KMRS	Kahramanmaras	2.36	244	*e*PN	Pn	21 41 48.1	+1.0
KMRS	Kahramanmaras	2.36	244	*e*Pn	Pn	21 41 48.1	+1.0
ESPY	Espiye-Giresun	2.44	345	*e*PN	Pn	21 41 49.4	+1.2
ESPY	Espiye-Giresun	2.44	345	*e*Pn	Pn	21 41 49.4	+1.2
SIRN	S¨¬rnak	2.48	114	P	Pn	21 41 48.5	-0.2
SIRN				S	Sb	21 42 24.5	+1.0
SIRN	S¨¬rnak	2.48	114	*i* P	Pn	21 41 48.5	-0.2
SIRN				*i* S	Sb	21 42 24.5	+1.0
SARI	SarD1z-Kayseri	2.48	267	*e*PN	Pn	21 41 49.6	+0.7
RSDY	Resadiye-TOKAT	2.53	317	*e*PN	Pn	21 41 50.7	+1.3
RSDY	Resadiye-TOKAT	2.53	317	*e*Pn	Pn	21 41 50.7	+1.3
KUZU	Kuzuini	2.67	229	*e*P	Pg	21 41 59.6	+0.5
KUZU				*i* S	Sg	21 42 35.1	+1.3
CUSAR	Sarkisla-SIVAS	2.74	289	P	Pb	21 41 56.1	-1.2
CUSAR	Sarkisla-SIVAS	2.74	289	*i* P	Pb	21 41 56.1	-1.2
TOKT	Tokat	2.94	308	*e*PN	Pn	21 41 56.1	+1.1
TOKT	Tokat	2.94	308	*e*Pn	Pn	21 41 56.1	+1.1

IDC ***26*** *21:43:54.4±0.8, 2°.31S×136°.68E, h0km, mb3.9/10, mb1 4.1/13, mb1mx3.9/28, mbtmp3.9/13, ML3.9/3, MS3.4/7, Ms1 3.4/7, ms1mx3.0/34, Error ellipse: s-maj=22.8km s-min=16.9km az=77.0*
ISCJB ***26*** *21:43:58.0±0.4, 2°.38S±0°.05×136°.68E±0°.04, h42km, mb4.1/15, MS3.4/6, Error ellipse: s-maj=6.9km s-min=6.0km az=0.6*
NEIC ***26*** *21:43:59.0±2.8, 2°.34S×136°.71E, h33km±21km, mb4.1/8, Error ellipse: s-maj=9.0km s-min=7.8km az=126.0*
ISC 26 21:43:59.6±0.5, 2°.47S±0°.06×136°.65E±0°.05, h42km, n37, σ2s 52/41, mb3.9/15, MS3.3/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	4.05	91	Pn	Pn	21 44 58.2	-1.0
	0.3nm,0.3s,baz=266,slow=23,SNR=13						
JAY				Sn	Sn	21 45 44.4	-1.0
	0.4nm,0.3s,baz=275,slow=24,SNR=4.5						
FAKI	Fak Fak	4.42	264	*e*Pn	Pn	21 45 05.0	+0.7
FAKI				*e*Sn	Sn	21 45 55.2	+0.7
MANU	Manus Island	10.72	88	*e*Pn	Pn	21 46 28.2	-2.4
MTN	Manton Dam	11.67	208	*e*Pn	Pn	21 46 46.6	+2.9
COEN	Coen	13.11	151	*e*Pn	Pn	21 47 05.1	+1.7
KAPI	Kappang	17.05	261	P	Pn	21 47 54.2	-0.9
	1.2nm,0.3s,baz=321,slow=4.3,SNR=6.8						
KAPI	Kappang	17.05	261	*e*Pn	Pn	21 47 51.6	-3.5
	9.2nm,0.9s						
WB2	Warramunga Arr	17.51	187	*e*Pn	Pn	21 48 01.2	+0.4
WR1	Warramunga Arr	17.52	187	*e*Pn	Pn	21 48 02.5	+1.6
	19nm,1.4s						
WR1				*e*Sn	Sn	21 51 09.4	-5.6
WRA	Warramunga Arr	17.52	187	P	Pn	21 48 02.5	+1.6
	0.5nm,0.3s,baz=8.3,slow=12,SNR=39						
WRA				S	Sn	21 51 09.4	-5.7
	0.3nm,0.3s,baz=4.9,slow=23,SNR=6.2						
GUMO	Guam	17.91	27	LR	LR	21 53 23.2	
	comp=Z,61nm,21.4s,baz=206,slow=32						
FITZ	Fitzroy Crossi	18.92	214	P	Pn	21 48 19.9	+1.9
	0.1nm,0.3s,baz=37,slow=12,SNR=4.4						
FITZ				S	Sn	21 51 42.3	-6.8
	0.2nm,0.3s,baz=201,slow=16,SNR=3.3						
FITZ	Fitzroy Crossi	18.92	214	*e*P	Pn	21 48 19.0	+1.0
	11nm,1.3s						
FITZ				*e*Sn	Sn	21 51 42.2	-6.8
AS01	Alice Springs	21.23	187	*e*P	P	21 48 43.6	+1.4
AS31	Alice Springs	21.24	187	*e*P	P	21 48 43.9	+1.6
	3.5nm,0.8s						
AS31				*e*S	S	21 52 38.5	+2.3
ASAR	Alice Springs	21.24	187	P	P	21 48 43.9	+1.6
	4.2nm,0.4s,baz=13,slow=11,SNR=51						
ASAR				S	S	21 52 38.5	+2.3
	0.9nm,0.8s,baz=13,slow=23,SNR=4.5						
ASAR				LR	LR	21 57 45.4	
	comp=Z,171nm,19.9s,baz=6.5,slow=39						
MBWA	Marble Bar	24.84	220	*e*P	P	21 49 20.8	+2.5
	15nm,1.0s						
STKA	Stephens Creek	29.62	171	P	P	21 50 02.6	+1.6
	0.7nm,0.3s,baz=338,slow=11,SNR=3.2						
STKA				LR	LR	22 03 00.4	
	comp=Z,86nm,19.6s,baz=19,slow=38						
DZM	Mont Dzumac	34.89	126	LR	LR	22 05 33.3	
	comp=Z,45nm,18.1s,baz=98,slow=37						
KULM	Kulim	36.78	282	*e*P	P	21 51 01.5	-2.2
	21nm,1.4s						
MJAR	Matsushiro Arr	38.84	2	LR	LR	22 04 50.0	
	comp=Z,41nm,20.5s,baz=200,slow=32						
KSRS	Korea Array	40.54	349	LR	LR	22 05 42.7	
	comp=Z,28nm,20.7s,baz=148,slow=32						
CM31	Chiang Mai Arr	42.54	301	*e*P	P	21 51 50.1	-1.4
CMAR	Chiang Mai Arr	42.54	301	P	P	21 51 51.9	+0.3
	0.9nm,0.7s,baz=113,slow=6.5,SNR=8.1						
MCQ	Macquarie Isla	54.98	164	*e*P	P	21 53 25.9	-0.5
	721nm,1.9s						
SONA0	Songino Array	56.64	336	*e*P	P	21 53 39.1	+0.4
	6.8nm,1.7s						
SONM	Songino Array	56.64	336	P	P	21 53 39.1	+0.3
	0.2nm,0.5s,baz=133,slow=6.3,SNR=2.4						
PETK	Petropavlovsk-	58.13	15	P	P	21 53 49.7	+0.8
	2.0nm,0.8s,baz=241,slow=12,SNR=3.2						
PEA1	Petropavlovsk-	58.13	15	*e*P	P	21 53 49.7	+0.8
MK32	Makanchi Array	68.35	323	*e*P	P	21 54 57.2	+0.4
MKAR	Makanchi Array	68.35	323	P	P	21 54 57.2	+0.4
	1.1nm,0.8s,baz=117,slow=7.5,SNR=9.7						
ZALV	Zalesovo Beam	70.70	331	P	P	21 55 11.4	+0.3
	0.4nm,0.4s,baz=123,slow=5.3,SNR=3.2						
ZAA1	Zalesovo Array	70.70	331	*e*P	P	21 55 11.4	+0.3
VNDA	Vanda	76.21	175	P	P	21 55 45.2	+2.1
	0.6nm,0.7s,baz=313,slow=9.2,SNR=3.4						
VNDA				LR	LR	22 29 23.7	
	comp=Z,55nm,18.3s,baz=60,slow=36						
GEYT	Alibeck	82.48	309	P	P	21 56 17.6	-0.6
	0.5nm,0.4s,baz=149,slow=3.0,SNR=2.9						
ILAR	Eielson Array	86.47	25	P	P	21 56 37.0	-0.7
	0.4nm,0.9s,baz=253,slow=6.3,SNR=4.3						
ILB	Eielson Array	86.47	25	*e*P	P	21 56 37.0	-0.7

ISCJB ***26*** *22:00:24.7±0.9, 41°.14S±0°.03×176°.74E±0°.07, h24km±5km, mb3.9/3, Error ellipse: s-maj=9.8km s-min=3.4km az=30.7*
IDC ***26*** *22:00:26.1±1.6, 40°.89S×176°.30E, h0km, mb3.9/3, mb1 1.4/5, mb1mx3.8/29, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=43.5km s-min=28.3km az=137.0*
WEL ***26*** *22:00:27.9±0.3, 40°.99S×176°.54E, h24km±2km, ML3.9/35, Error ellipse: s-maj=2.7km s-min=1.4km az=90.0*
WEL Felt from Hawke''s Bay to Wairarapa, maximum reported intensity MM 3.
NEIC ***26*** *22:00:28.2, 40°.97S×176°.53E, h26km, ML3.9(WEL), After WEL.*
NEIC Felt at Alfredton and Dannevirke.
ISC 26 22:00:25.5±1.5, 41°.06S±0°.03×176°.63E±0°.04, h12km±9km, n154, σ0s 92/165, mb3.9/3, 21C-6D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPWZ	Castlepoint	0.36	295	||P*	Pb	22 00 34.9	+1.1
CPWZ				S*	Sb	22 00 40.0	+0.6
CPWZ	Castlepoint	0.36	295	P*	Pb	22 00 34.9	+1.1
BFZ	Birch Farm	0.48	322	P*	Pg	22 00 35.2	+0.4
BFZ				S*	Sg	22 00 40.7	-0.5
BFZ				AML	AML	22 00 41.1	
BFZ				AML	AML	22 00 41.1	
BFZ				AML	AML	22 00 41.2	
BFZ	Birch Farm	0.48	322	P*	Pg	22 00 35.2	+0.4
BFZ				S*	Sg	22 00 40.7	-0.5
TMWZ	Te Maipa	0.56	265	||P*	Pn	22 00 39.4	0.0
TMWZ				S*	Sn	22 00 47.8	-0.9
TMWZ	Te Maipa	0.56	265	P*	Pn	22 00 39.4	0.0
TMWZ				S*	Sn	22 00 47.8	-0.9
TIWZ	Tintock	0.63	296	||P*	Pb	22 00 39.0	+0.5
TIWZ				AML	AML	22 00 50.1	
TIWZ				AML	AML	22 00 53.9	
TIWZ	Tintock	0.63	296	P*	Pb	22 00 39.0	+0.5
PRWZ	Pori Road	0.71	315	||P*	Pb	22 00 40.0	+0.2
PRWZ				S*	Sb	22 00 48.7	-0.9
PRWZ	Pori Road	0.71	315	P*	Pb	22 00 40.0	+0.2
PRWZ				S*	Sb	22 00 48.7	-0.9
TRWZ	Traveller	0.79	244	||P*	Pn	22 00 43.1	+0.7
TRWZ				AML	AML	22 01 04.1	
TRWZ				AML	AML	22 01 06.0	
TRWZ	Traveller	0.79	244	P*	Pn	22 00 43.1	+0.7
PRHZ	Porangahau	0.79	0	||P*	Pb	22 00 41.9	+0.7
PRHZ	Porangahau	0.79	0	P*	Pb	22 00 41.9	+0.7
DVHZ	Dannevirke	0.84	335	||P*	Pg	22 00 41.8	+0.2
DVHZ	Dannevirke	0.84	335	P*	Pg	22 00 41.9	+0.2
MTW	Mount Morrison	0.86	263	||P*	Pn	22 00 43.1	-0.3
MTW				AML	AML	22 01 06.4	
MTW				AML	AML	22 01 07.1	
MTW	Mount Morrison	0.86	263	P*	Pn	22 00 43.2	-0.3
HOWZ	Holdsworth Sta	0.86	281	||P*	Pb	22 00 42.6	+0.3
HOWZ	Holdsworth Sta	0.86	281	P*	Pb	22 00 42.6	+0.3
MRZ	Mangatainoka R	0.89	296	P*	Pg	22 00 42.3	-0.4
MRZ	Mangatainoka R	0.89	296	P*	Pg	22 00 42.3	-0.4
POWZ	Post Office Ro	0.94	315	||P*	Pg	22 00 43.4	-0.1
POWZ	Post Office Ro	0.94	315	P*	Pg	22 00 43.4	-0.1
PAWZ	Paruwai Farm	0.96	250	||P*	Pn	22 00 45.1	+0.2
PAWZ				AML	AML	22 01 06.1	
PAWZ				AML	AML	22 01 10.3	
PAWZ	Paruwai Farm	0.96	250	P*	Pn	22 00 45.1	+0.2
WPHZ	Waipukurau	1.01	352	||P*	Pb	22 00 44.8	0.0
WPHZ	Waipukurau	1.01	352	P*	Pb	22 00 44.8	0.0
PXZ	Pawanui	1.04	10	||P*	Pb	22 00 45.5	0.0
PXZ				AML	AML	22 01 13.7	
PXZ				AML	AML	22 01 13.7	
PXZ				AML	AML	22 01 15.7	
PXZ				AML	AML	22 01 15.7	
PXZ	Pawanui	1.04	10	P*	Pb	22 00 45.5	0.0
MSWZ	Moikau Station	1.10	251	||P*	Pb	22 00 46.7	+0.2
MSWZ				AML	AML	22 01 10.8	
MSWZ				AML	AML	22 01 11.0	
MSWZ	Moikau Station	1.10	251	P*	Pb	22 00 46.7	+0.2
TSZ	Takapari Road	1.12	333	P*	Pb	22 00 45.8	-1.0
TSZ				AML	AML	22 01 03.6	
TSZ				AML	AML	22 01 03.9	
TSZ	Takapari Road	1.12	333	P*	Pb	22 00 45.8	-1.0
OGWZ	Otaki Gorge	1.13	282	||P*	Pb	22 00 46.7	-0.3
OGWZ	Otaki Gorge	1.13	282	P*	Pb	22 00 46.7	-0.3
PLWZ	Palliser	1.16	243	P*	Pb	22 00 47.4	0.0
PLWZ	Palliser	1.16	243	P*	Pb	22 00 47.4	0.0
CAW	Cannon Point	1.18	267	||P*	Pb	22 00 47.6	-0.3
CAW				AML	AML	22 01 09.7	
CAW				AML	AML	22 01 10.2	
CAW	Cannon Point	1.18	267	P*	Pb	22 00 47.6	-0.3
PNHZ	Pukenui	1.19	344	||P*	Pb	22 00 47.3	-0.7
PNHZ	Pukenui	1.19	344	P*	Pb	22 00 47.3	-0.7
KAHZ	Kahuranaki	1.28	8	||PN	Pn	22 00 48.8	-0.4
KAHZ	Kahuranaki	1.28	8	Pn	Pn	22 00 48.8	-0.4
OHWZ	Ohakea	1.32	310	P*	Pn	22 00 49.9	+0.2
KIW	Kapiti Island	1.32	278	||P*	Pn	22 00 49.6	-0.2
KIW				AML	AML	22 01 11.8	
KIW				AML	AML	22 01 18.5	
KIW	Kap

RATZ	**Rangitukua**	**2.29**	**343**	PN	**Pn**	**22 01 03.4**	**+0.3**
RATZ				AML	AML	22 01 53.1	
RATZ				AML	AML	22 01 57.3	
RATZ	**Rangitukua**	**2.29**	**343**	Pn	**Pn**	**22 01 03.4**	**+0.3**
LREZ	**Lake Rotokare**	**2.34**	**312**	PN	**Pb**	**22 01 08.7**	**+1.1**
SNGZ	**Shannon Statio**	**2.34**	**14**	PN	**Pn**	**22 01 02.9**	**-1.0**
SNGZ	**Shannon Statio**	**2.34**	**14**	Pn	**Pn**	**22 01 02.9**	**-1.0**
VRZ	**Vera Road**	**2.41**	**323**	PN	**Pn**	**22 01 05.4**	**+0.6**
VRZ				AML	AML	22 01 52.1	
VRZ				AML	AML	22 01 54.8	
VRZ	**Vera Road**	**2.41**	**323**	Pn	**Pn**	**22 01 05.3**	**+0.6**
RTZ	**Ruatahuna**	**2.46**	**6**	PN	**Pn**	**22 01 05.1**	**-0.3**
NNZ	**Nelson**	**2.46**	**265**	PN	**Pn**	**22 01 05.2**	**-0.2**
NNZ				AML	AML	22 01 51.8	
NNZ				AML	AML	22 01 51.8	
NNZ				AML	AML	22 01 52.3	
NNZ				AML	AML	22 01 53.8	
NNZ	**Nelson**	**2.46**	**265**	Pn	**Pn**	**22 01 05.2**	**-0.2**
RIGZ	**Rimuhau**	**2.51**	**21**	PN	**Pn**	**22 01 06.8**	**+0.7**
PREZ	**Palmer Road**	**2.56**	**311**	PN	**Pn**	**22 01 08.1**	**+1.3**
RAGZ	**Rawiri**	**2.63**	**14**	PN	**Pn**	**22 01 07.0**	**-0.9**
RAGZ	**Rawiri**	**2.63**	**14**	Pn	**Pn**	**22 01 07.0**	**-0.9**
NEZ	**North Egmont**	**2.64**	**312**	PN	**Pn**	**22 01 09.1**	**+1.1**
KHEZ	**Kahui Hut**	**2.67**	**311**	PN	**Pn**	**22 01 09.7**	**+1.3**
KHZ	**Kahutara**	**2.68**	**239**	⇑PN	**Pn**	**22 01 08.0**	**-0.4**
KHZ	**Kahutara**	**2.68**	**239**	Pn	**Pn**	**22 01 08.0**	**-0.4**
MWZ	**Matawai**	**2.81**	**15**	AML	AML	22 01 47.9	
MWZ				AML	AML	22 02 03.4	
MWZ	**Matawai**	**2.81**	**15**	Pn	**Pn**	**22 01 09.2**	**-1.1**
URZ	**Urewera**	**2.82**	**8**	Pn	**Pn**	**22 01 09.4**	**-1.0**
	5.3nm,0.3s,baz=236,slow=9.1,SNR=15						
URZ				Sn	**Sn**	**22 01 41.0**	**-3.3**
	11nm,0.3s,baz=87,slow=22,SNR=9.8						
URZ	**Urewera**	**2.82**	**8**	⇓PN	**Pn**	**22 01 09.4**	**-1.0**
URZ				AML	AML	22 01 44.8	
URZ				AML	AML	22 01 47.7	
HIZ	**Hauiti**	**2.89**	**331**	PN	**Pn**	**22 01 11.7**	**+0.4**
HIZ				AML	AML	22 02 04.5	
HIZ				AML	AML	22 02 05.7	
HIZ	**Hauiti**	**2.89**	**331**	Pn	**Pn**	**22 01 11.7**	**+0.4**
THZ	**Tophouse**	**2.89**	**255**	⇓PN	**Pn**	**22 01 10.8**	**-0.6**
THZ				AML	AML	22 02 08.7	
THZ				AML	AML	22 02 14.1	
THZ	**Tophouse**	**2.89**	**255**	Pn	**Pn**	**22 01 10.8**	**-0.6**
TWGZ	**Tauwhareparae**	**3.06**	**20**	PN	**Pn**	**22 01 12.6**	**-1.2**
QRZ	**Quartz Range**	**3.12**	**273**	PN	**Pn**	**22 01 14.4**	**0.0**
QRZ				AML	AML	22 02 16.0	
QRZ				AML	AML	22 02 20.1	
QRZ	**Quartz Range**	**3.12**	**273**	Pn	**Pn**	**22 01 14.4**	**0.0**
HAZ	**Te Kaha**	**3.42**	**15**	PN	**Pn**	**22 01 17.7**	**-0.8**
LTZ	**Lake Taylor**	**3.68**	**241**	PN	**Pn**	**22 01 21.5**	**-0.7**
LTZ	**Lake Taylor**	**3.68**	**241**	Pn	**Pn**	**22 01 21.5**	**-0.7**
DSZ	**Denniston Nort**	**3.69**	**258**	PN	**Pn**	**22 01 21.9**	**-0.6**
DSZ				AML	AML	22 02 39.2	
DSZ	**Denniston Nort**	**3.69**	**258**	Pn	**Pn**	**22 01 21.9**	**-0.6**
MQZ	**McQueen's Vall**	**3.96**	**227**	PN	**Pn**	**22 01 25.0**	**-1.0**
MQZ	**McQueen's Vall**	**3.96**	**227**	Pn	**Pn**	**22 01 25.0**	**-1.0**
OXZ	**Oxford**	**4.09**	**235**	PN	**Pn**	**22 01 27.1**	**-0.8**
OXZ	**Oxford**	**4.09**	**235**	Pn	**Pn**	**22 01 27.1**	**-0.8**
INZ	**Inchbonnie**	**4.21**	**245**	PN	**Pn**	**22 01 28.7**	**-0.8**
WVZ	**Waitaha Valley**	**4.83**	**243**	PN	**Pn**	**22 01 38.3**	**+0.3**
WVZ	**Waitaha Valley**	**4.83**	**243**	Pn	**Pn**	**22 01 38.3**	**+0.3**
RPZ	**Rata Peaks**	**4.91**	**235**	Pn	**Pn**	**22 01 38.6**	**-0.5**
	2.8nm,0.3s,baz=322,slow=0.4,SNR=18						
RPZ				Sn	**Sn**	**22 02 30.7**	**-5.1**
	4.3nm,0.3s,baz=311,slow=22,SNR=12						
RPZ	**Rata Peaks**	**4.91**	**235**	⇓PN	**Pn**	**22 01 38.4**	**-0.7**
CTZ	**Chatham Island**	**5.67**	**120**	PN	**Pn**	**22 01 53.6**	**+4.1**
CTZ	**Chatham Island**	**5.67**	**120**	Pn	**Pn**	**22 01 53.6**	**+4.1**
LBZ	**Lake Benmore**	**5.79**	**233**	PN	**Pn**	**22 01 51.5**	**+0.2**
ODZ	**Otahua Downs**	**5.92**	**226**	PN	**Pn**	**22 01 52.7**	**-0.3**
ODZ	**Otahua Downs**	**5.92**	**226**	Pn	**Pn**	**22 01 52.7**	**-0.3**
JCZ	**Jackson Bay**	**6.53**	**240**	PN	**Pn**	**22 02 01.0**	**-0.4**
TUZ	**Tuapeka**	**7.06**	**224**	PN	**Pn**	**22 02 09.2**	**+0.7**
ASAR	**Alice Springs**	**39.60**	**283**	P	**P**	**22 07 57.0**	**+0.1**
	0.7nm,0.5s,baz=125,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	**41.57**	**287**	P	**P**	**22 08 13.2**	**0.0**
	1.3nm,0.5s,baz=126,slow=8.2,SNR=26						
FITZ	**Fitzroy Crossi**	**49.10**	**282**	P	**P**	**22 09 13.0**	**+0.1**
	2.6nm,1.1s,baz=151,slow=10,SNR=3.0						
ARCES	**ARCESS Array B**	**147.72**	**341**	PKPbc	**PKPab**	**22 20 11.6**	**+0.4**
	0.7nm,0.6s,baz=47,slow=4.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**151.84**	**190**	PKPbc	**PKPbc**	**22 20 23.0**	**+2.4**
	0.4nm,0.7s,baz=122,slow=3.5,SNR=4.0						
FINES	**FINESS Array B**	**152.91**	**329**	PKPbc	**PKPbc**	**22 20 23.1**	**+1.5**
	1.0nm,0.9s,baz=69,slow=7.6,SNR=2.7						
FINES				PKPab	**PKPab**	**22 20 33.9**	**+1.1**
	0.8nm,0.9s,baz=116,slow=4.4,SNR=3.6						

MEX 26 22:14:02.6±1.2, 14°65N×93°10W, h16km±56km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.05**	**354**	*e*P	Pb	22 14 18.2	-4.3
PCIG				*e*S	Sb	22 14 31.5	-4.6
CCIG	**Comitan**	**1.87**	**30**	*e*P	Pn	22 14 32.5	-1.6
CCIG				*i* S	Sn	22 14 52.7	-4.8

IDC 26 22:36:23.4±27.0, 16°56S×176°04W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/39, mbtmp4.1/4, Error ellipse: s-maj=536.2km s-min=147.1km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.25**	**240**	P	P	22 44 10.6	+0.1
	1.0nm,0.5s,baz=80,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**47.11**	**258**	P	P	22 44 57.4	-0.2
	0.8nm,0.5s,baz=95,slow=7.7,SNR=25						
ASAR	**Alice Springs**	**47.34**	**253**	P	P	22 44 59.5	+0.1
	7.4nm,0.6s,baz=88,slow=8.2,SNR=81						
FITZ	**Fitzroy Crossi**	**55.49**	**259**	P	P	22 46 00.1	-0.4
	0.5nm,0.3s,baz=92,slow=4.2,SNR=7.6						

ISC 26 22:54:32.4±1.0, 45°16N±0°04×14°75E±0°06, h9km, n9, σ0°36/13, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	**0.45**	**325**	*i* Sg	**Sb**	**22 54 48.8**	**-0.7**
BOJS	**Bojanci**	**0.49**	**46**	*i* Pg	**Pg**	**22 54 41.9**	**-0.1**
BOJS				*i* Sg	**Sg**	**22 54 48.5**	**+0.1**
NVLJ	**Novalja**	**0.60**	**172**	*e*Pg	**Pg**	**22 54 44.1**	**0.0**
NVLJ				Sg	**Sb**	**22 54 53.6**	**-0.2**
CEY	**Cerknica**	**0.62**	**339**	*i* Pg	**Pg**	**22 54 44.5**	**+0.1**
CEY				*i* Sg	**Sb**	**22 54 54.2**	**-0.1**
VISS	**Visnje**	**0.64**	**6**	*i* Pg	**Pg**	**22 54 44.9**	**0.0**
SKDS	**Skadanscina**	**0.65**	**307**	*i* Sg	**Sb**	**22 54 55.2**	**+0.2**
	comp=Z,3.0nm,0.1s						
JAVS	**Javornik**	**0.88**	**327**	*e*Sg	**Sb**	**22 55 02.5**	**+0.7**
UDBI	**Udbina**	**0.96**	**131**	*e*Pg	**Pb**	**22 54 51.2**	**0.0**
UDBI				Sg	**Sb**	**22 55 04.5**	**+0.4**
CRNS	**Crni Vrh**	**0.98**	**340**	*i* Pg	**Pn**	**22 54 52.3**	**-0.1**

*NIED **26** 22:57:00, 37°00N×140°70E, h5km, Mw3.3 Best double couple: M₀1.05000×10¹⁴ NP1:φ₈281.00000°, δ49.00000°, λ-57.00000°. NP2:φ₈56.00000°, δ51.00000°, λ-123.00000°.*

JMA 26 22:57:54.7, 37°03N×140°65E, h10km±1km, M3.6, 7C Broadband fault plane solution: P waves. NP1: φ₈103.00000°, δ56.00000°, λ-75.00000°. **NP2:** φ₈258.00000°, δ36.00000°, λ-111.00000°. **Principal axes:** T Plg10.0000°, Azm183.0000°; N Plg12.0000°, Azm275.0000°; P Plg74.0000°, Azm54.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.14**	**59**	⇑P	Pg	22 57 57.9	0.0
ONAJ				S	Sg	22 58 00.1	-0.1
JFK	**Kawauchi**	**0.38**	**28**	⇑P	Pg	22 58 02.0	-0.3
JFK				S	Sg	22 58 07.4	+0.1
JHO	**Hitachi**	**0.42**	**189**	⇑P	Pg	22 58 02.9	-0.1
JHO				S	Sg	22 58 08.8	+0.2
JFT	**Otama**	**0.55**	**333**	⇑P	Pg	22 58 05.4	0.0
JFT				S	Sg	22 58 12.9	+0.3
JSB	**Shiboa**	**0.59**	**264**	⇑P	Pb	22 58 06.8	-0.3
JSB				S	Sb	22 58 15.3	-0.2
JMM	**Marumori**	**0.84**	**8**	⇑P	Pg	22 58 10.2	-0.7
JMM				S	Sg	22 58 21.5	-0.4
JFY	**Yanaizu**	**0.84**	**297**	⇑P	Pg	22 58 10.9	-0.1
JFY				S	Sg	22 58 21.8	-0.2
MAT	**Matsushiro**	**2.02**	**257**	P	Pn	22 58 30.1	+1.2
MAT				S	Sb	22 58 56.9	+0.2

*CSEM **26** 23:02:14.3, 37°16N×25°06W, h2km±7km, MD3.7, ML2.9, 3C-4D, Error ellipse: s-maj=7.2km s-min=3.2km az=92.0, Azores Islands*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.15**	**180**	⇑*i*P	Pg	23 02 17.0	-0.2
PSMN				*e*S	Sg	23 02 19.6	+0.4
PSMN				A	A	23 02 22.3	
	357nm,0.2s						
PSMN	**Pico do Norte,**	**0.15**	**180**	⇑*i*P	Pg	23 02 17.0	-0.2
PSMN				*e*S	Sg	23 02 19.6	+0.4
PSMA	**Santa Maria**	**0.17**	**198**	⇑*i*P	Pg	23 02 17.4	-0.1
PSMA				*e*S	Sg	23 02 20.3	+0.6
PSMA				A	A	23 02 20.9	
	2μm,0.2s						
BART	**Pico Bartolome**	**0.63**	**352**	⇓*i*P	Pg	23 02 25.1	-1.2
BART				*e*S	Sg	23 02 33.6	-0.8
BART				A	A	23 02 35.5	
	306nm,0.3s						
BART	**Pico Bartolome**	**0.63**	**352**	⇓*i*P	Pg	23 02 25.1	-1.2
BART				*e*S	Sg	23 02 33.6	-0.8
CMLA	**Cha da Macela**	**0.71**	**329**	*e*P	Pg	23 02 26.2	-1.7
CMLA				*e*S	Sg	23 02 35.5	-1.6
CMLA	**Cha da Macela**	**0.71**	**329**	*e*P	Pg	23 02 26.2	-1.7
CMLA				*e*S	Sg	23 02 35.5	-1.6
GRON	**Grota Negra**	**0.72**	**329**	*e*P	Pg	23 02 25.6	-2.4
GRON				*e*S	Sg	23 02 34.8	-2.5
GRON				A	A	23 02 37.1	
	47nm,0.1s						
PCALD	**Caldeiras da R**	**0.72**	**332**	*e*P	Pg	23 02 26.5	-1.7
PCALD				*e*S	Sg	23 02 35.8	-1.8
PCALD				A	A	23 02 37.8	
	98nm,0.2s						
PDA	**Ponta Delgada**	**0.76**	**321**	*e*P	Pg	23 02 26.6	-2.2
PDA				*e*S	Sg	23 02 36.3	-2.4
PDA				A	A	23 02 37.4	
	76nm,0.3s						
PDA	**Ponta Delgada**	**0.76**	**321**	*e*P	Pg	23 02 26.6	-2.2
PDA				*e*S	Sg	23 02 36.3	-2.4
PSET	**Sete Cidades**	**0.85**	**322**	⇓*i*P	Pg	23 02 28.3	-2.2
PSET				*e*S	Sg	23 02 39.3	-2.2
PSET				A	A	23 02 44.0	
	108nm,0.3s						
PSET	**Sete Cidades**	**0.85**	**322**	⇓*i*P	Pg	23 02 28.3	-2.2
PSET				*e*S	Sg	23 02 39.3	-2.2
ADH	**Angra Heroismo**	**2.28**	**312**	*e*S	Sn	23 03 13.7	-7.9
ADH				A	A	23 03 16.7	
	46nm,0.3s						
ADH	**Angra Heroismo**	**2.28**	**312**	*e*S	Sn	23 03 13.7	-7.9
PMAN	**Manadas**	**2.81**	**303**	*e*P	Pn	23 02 55.9	-4.4
PMAN				*e*S	Sn	23 03 26.9	-7.9
PMAN				A	A	23 03 30.8	
	16nm,0.1s						
PMAN	**Manadas**	**2.81**	**303**	*e*P	Pn	23 02 55.9	-4.4
PMAN				*e*S	Sn	23 03 26.9	-7.9
ROSA	**Rosais**	**2.96**	**303**	*e*P	Pn	23 02 58.3	-4.0
ROSA				*e*S	Sn	23 03 30.1	-8.3
ROSA				A	A	23 03 31.7	
	20nm,0.3s						
ROSA	**Rosais**	**2.96**	**303**	*e*P	Pn	23 02 58.3	-4.0
ROSA				*e*S	Sn	23 03 30.1	-8.3
PICO	**Pico**	**2.98**	**298**	*e*P	Pn	23 02 58.6	-4.1
PICO				*e*S	Sn	23 03 30.8	-8.3
PICO				A	A	23 03 32.6	
	20nm,0.2s						
PICO	**Pico**	**2.98**	**298**	*e*P	Pn	23 02 58.6	-4.1
PICO				*e*S	Sn	23 03 30.8	-8.3
PCAN	**Candelaria**	**3.01**	**297**	*e*S	Sn	23 03 31.4	-8.3
PCAN				A	A	23 03 34.5	
	29nm,0.2s						
PCAN	**Candelaria**	**3.01**	**297**	*e*S	Sn	23 03 31.4	-8.3
CALA	**Caldeira**	**3.21**	**297**	*e*P	Pn	23 03 01.7	-4.2
CALA				*e*S	Sn	23 03 36.3	-8.5
CALA	**Caldeira**	**3.21**	**297**	*e*P	Pn	23 03 01.7	-4.2
CALA				*e*S	Sn	23 03 36.3	-8.5
PCED	**Cedros**	**3.23**	**298**	*e*P	Pn	23 03 01.8	-4.3
PCED				*e*S	Sn	23 03 36.1	-9.0
PCED				A	A	23 03 41.6	
	27nm,0.3s						
PCED	**Cedros**	**3.23**	**298**	*e*P	Pn	23 03 01.8	-4.3
PCED				*e*S	Sn	23 03 36.1	-9.0

IDC 26 23:19:30.3±7.2, 21°17S×179°06W, h611km±85km, mb2.6/4, mb1 3.0/4, mb1mx2.7/44, mbtmp3.6/4, Error ellipse: s-maj=118.1km s-min=36.8km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.40**	**258**	P	P	23 26 41.1	+0.2
	0.5nm,0.5s,baz=91,slow=7.7,SNR=7.0						
WRA	**Warramunga Arr**	**43.53**	**263**	P	P	23 26 41.7	-0.3
	0.3nm,0.3s,baz=96,slow=7.6,SNR=10						
TXAR	**Lajitas Array**	**88.25**	**58**	P	P	23 31 18.2	-0.1
	0.3nm,0.8s,baz=236,slow=8.1,SNR=3.4						
ILAR	**Eielson Array**	**89.18**	**13**	P	P	23 31 21.5	-0.1
	0.2nm,0.4s,baz=207,slow=5.2,SNR=3.6						
FINES	**FINESS Array B**	**136.12**	**343**	PKP	PKPdf	23 37 43.9	+1.3
	1.2nm,1.0s,baz=130,slow=4.1,SNR=2.2						
AKASG	**Malin Array Be**	**143.10**	**330**	PKP	PKPab	23 37 53.7	0.0
	1.1nm,0.5s,baz=41,slow=5.1,SNR=5.4						
BRTR	**Keskin Array B**	**146.53**	**311**	PKPbc	PKPbc	23 38 03.9	-0.8
	0.9nm,0.8s,baz=67,slow=3.9,SNR=3.2						
GERES	**GERESS Array B**	**150.55**	**343**	PKPbc	PKPbc	23 38 14.7	+0.4
	0.4nm,0.6s,baz=11,slow=1.4,SNR=4.1						

IDC 26 23:21:09.8±2.9, 45°97N×151°51E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.5/52, mbtmp3.8/5, ML2.3/1, Error ellipse: s-maj=85.8km s-min=32.8km az=2.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**13.90**	**270**	Pn	Pn	23 24 28.7	+0.7
	0.1nm,0.3s,baz=78,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**46.31**	**297**	P	P	23 29 36.7	-0.4
	0.4nm,0.5s,baz=70,slow=8.9,SNR=5.7						
ARCES	**ARCESS Array B**	**58.22**	**340**	P	P	23 31 05.5	+0.2
	2.9nm,1.1s,baz=29,slow=6.2,SNR=2.2						
FINES	**FINESS Array B**	**64.26**	**334**	P	P	23 31 46.0	-0.2
	1.3nm,0.8s,baz=43,slow=6.3,SNR=5.0						
TXAR	**Lajitas Array**	**78.85**	**59**	P	P	23 33 14.9	+0.1
	0.5nm,0.5s,baz=315,slow=4.5,SNR=7.5						

*IDC **26** 23:22:40.5±9.3, 23°64S×178°77E, h604km±90km, mb3.3/8, mb1 3.5/8, mb1mx3.1/42, mbtmp4.4/8, Error ellipse: s-maj=79.3km s-min=32.5km az=112.0*

ISC 26 23:22:34.3±1.6, 23°7S×179°2E±0°2, h548km, n16, σ0°60/16, mb3.8/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.71**	**270**	P	**P**	**23 28 05.6**	**+0.5**
	12nm,0.3s,baz=96,slow=10,SNR=12						
PMG	**Port Moresby**	**33.71**	**290**	P	**P**	**23 28 30.5**	**-0.2**
	20nm,0.8s,baz=181,slow=16,SNR=3.8						
STKA	**Stephens Creek**	**34.08**	**248**	P	**P**	**23 28 34.4**	**+0.9**
	0.9nm,0.3s,baz=103,slow=13,SNR=5.6						
ASAR	**Alice Springs**	**41.30**	**261**	P	**P**	**23 29 32.2**	**-0.3**
	1.0nm,0.3s,baz=91,slow=7.2,SNR=17						
WRA	**Warramunga Arr**	**41.65**	**266**	P	**P**	**23 29 34.4**	**-1.0**
	2.6nm,0.2s,baz=90,slow=5.8,SNR=194						
MJAR	**Matsushiro Arr**	**71.32**	**326**	P	**P**	**23 32 58.4**	**-0.4**
	2.3nm,0.9s,baz=161,slow=5.4,SNR=5.5						
PETK	**Petropavlovsk-**	**78.75**	**347**	P	**P**	**23 33 40.7**	**+0.8**
	2.6nm,0.8s,baz=120,slow=8.7,SNR=4.5						
ILAR	**Eielson Array**	**92.04**	**14**	P	**P**	**23 34 45.1**	**+0.8**
	0.2nm,0.6s,baz=246,slow=6.0,SNR=4.8						
BVAR	**Borovoye Array**	**119.80**	**319**	PKP	**PKPdf**	**23 40 21.5**	**-0.6**
	0.6nm,0.3s,baz=112,slow=1.6,SNR=6.3						
ARCES	**ARCESS Array B**	**131.56**	**348**	PKP	**PKPdf**	**23 40 43.8**	**-0.2**
	2.8nm,1.0s,baz=95,slow=1.3,SNR=6.1						
FINES	**FINESS Array B**	**138.03**	**341**	PKhKP	PKPpre	23 40 46.5	
	1.4nm,0.9s,baz=39,slow=7.3,SNR=4.2						
FINES				PKP	**PKPdf**	**23 40 56.2**	**-0.1**
	0.4nm,0.3s,baz=71,slow=6.9,SNR=3.7						
NB2	**NORSAR Subarra**	**141.79**	**351**	PKP	PKPpre	23 40 58.2	
	comp=Z,0.6nm,0.6s,baz=12,slow=3.0						
NOA	**NORSAR Array B**	**141.79**	**351**	PKhKP	PKPpre	23 40 58.9	
	comp=Z,1.4nm,0.9s,baz=16,slow=4.6,SNR=4.8						
AKASG	**Malin Array Be**	**144.41**	**327**	PKP	**PKPdf**	**23 41 07.3**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=46,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**146.86**	**307**	PKPbc	**PKPbc**	**23 41 15.3**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=140,slow=5.9,SNR=7.4						
BRTR				PKPab	**PKPab**	**23 41 18.5**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=102,slow=4.3,SNR=7.0						
GERES	**GERESS Array B**	**152.42**	**339**	PKPbc	**PKPbc**	**23 41 28.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=2.9,slow=5.3,SNR=4.4						
GERES				PKPab	**PKPab**	**23 41 41.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=36,slow=2.5,SNR=3.6						

*ISCJB **26** 23:27:45.8±0.2, 7°65S±0°03×125°19E±0°04, h371km, mb3.9/23, Error ellipse: s-maj=6.0km s-min=4.5km az=160.4*
*NEIC **26** 23:27:46.9±0.4, 7°63S×125°26E, h364km±6km, mb4.5/6, Error ellipse: s-maj=8.6km s-min=6.6km az=47.0*
*DJA **26** 23:27:47.3±0.5, 8°S±4°×12°5E±°, h355km±7km, M4.8/10, mb4.8/8, mB5.1/6, MLv4.9/10, Mw(mB)4.5/6*
*IDC **26** 23:27:47.8±1.4, 7.67S×125.18E, h378km±15km, mb3.5/19, mb1 3.6/23, mb1mx3.5/42, mbtmp4.3/23, Error ellipse: s-maj=15.6km s-min=7.8km az=69.0*

ISC 26 23:27:46.8±0.4, 7°67S±0°05×125°22E±0°06, h371km, n65, σ2°44/77, mb3.9/23, 1C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.27**	**204**	P	**Pn**	**23 28 42.6**	**+0.4**
SOEI				S	**S**	**23 29 23.9**	**-2.8**
SOEI	**Soe**	**2.27**	**204**	*e*Pn	**Pn**	**23 28 42.6**	**+0.4**
MMRI	**Maumere**	**3.10**	**252**	P	**Pn**	**23 28 48.0**	**-0.7**
MMRI				S	**S**	**23 29 34.1**	**-4.5**
MMRI	**Maumere**	**3.10**	**252**	*e*Pn	**Pn**	**23 28 48.1**	**-0.6**
KDI	**Kendari**	**4.50**	**325**	P	**Pn**	**23 29 03.1**	**+0.8**
BASI	**Baing, Sumba**	**5.24**	**241**	P	**Pn**	**23 29 09.3**	**-0.7**
WSI	**Waingapu**	**5.25**	**247**	P	**Pn**	**23 29 09.4**	**-0.8**
WSI				S	**S**	**23 30 11.1**	**-6.7**
SANI	**Sanana**	**5.64**	**8**	P	**Pn**	**23 29 15.3**	**+0.8**
	94nm,0.7s,946nm						
KAPI	**Kappang**	**6.04**	**296**	P	**Pn**	**23 29 19.8**	**+0.9**
	16nm,0.3s,baz=141,slow=7.4,SNR=36						
KAPI	**Kappang**	**6.04**	**296**	*e*Pn	**Pn**	**23 29 19.1**	**+0.2**
SPSI	**Sidrap Palu**	**6.55**	**304**	P	**Pn**	**23 29 24.4**	**-0.3**
TTSI	**Tana Toraja**	**7.07**	**310**	P	**Pn**	**23 29 31.8**	**+0.1**
PLAI	**Plampang**	**7.45**	**261**	P	**Pn**	**23 29 33.0**	**-2.0**
MTN	**Manton Dam**	**7.76**	**132**	*e*Pn	**Pn**	**23 29 39.3**	**+0.6**
FAKI	**Fak Fak**	**8.44**	**56**	P	**Pn**	**23 29 46.9**	**+0.3**
FAKI	**Fak Fak**	**8.44**	**56**	*e*Pn	**Pn**	**23 29 45.2**	**-1.4**
FAKI				*e*S	**S**	**23 31 18.0**	**-6.6**
SWI	**Sorong**	**9.06**	**42**	P	**Pn**	**23 29 53.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**10.38**	**178**	P	**P**	**23 30 09.9**	**+0.3**
	7.7nm,0.3s,baz=14,slow=11,SNR=161						
FITZ				S	**S**	**23 32 05.3**	**-0.7**
	0.8nm,0.3s,baz=146,slow=15,SNR=6.4						
MBWA	**Marble Bar**	**14.42**	**201**	*e*P	**P**	**23 30 55.2**	**+1.0**
WRAB	**Tennant Creek**	**15.06**	**145**	*e*P	**P**	**23 31 01.6**	**+0.3**
	13nm,0.6s						
WRAB				*e*S	**S**	**23 33 45.4**	**+3.0**
WRA	**Warramunga Arr**	**15.07**	**145**	P	**P**	**23 31 01.9**	**+0.6**
	3.0nm,0.3s,baz=316,slow=13,SNR=45						
WRA				S	**S**	**23 33 44.9**	**+2.4**
	0.9nm,0.3s,baz=314,slow=21,SNR=32						
WB2	**Warramunga Arr**	**15.07**	**145**	*e*P	**P**	**23 31 01.4**	**+0.1**
	16nm,0.6s						
WB2				*e*S	**S**	**23 33 45.2**	**+2.6**
AS31	**Alice Springs**	**17.95**	**153**	*e*P	**P**	**23 31 33.1**	**+0.8**
	1.8nm,0.4s						
AS31				*e*S	**S**	**23 34 43.3**	**+4.1**
ASAR	**Alice Springs**	**17.96**	**153**	P	**P**	**23 31 33.8**	**+1.4**
	1.0nm,0.3s,baz=328,slow=9.2,SNR=20						
ASAR				S	**S**	**23 34 40.8**	**+1.5**
	0.6nm,0.3s,baz=344,slow=21,SNR=6.7						
ASAR				ScP	**ScP**	**23 38 47.6**	**-0.5**
	0.2nm,0.3s,baz=341,slow=2.0,SNR=10						
AS01	**Alice Springs**	**17.98**	**153**	*e*P	**P**	**23 31 32.8

TORD	**Torodi Ar. Bea**	**124.28**	**281**	PKP	**PKPdf**	**23 46 03.1**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=131,slow=1.1,SNR=4.4						
TXAR	**Lajitas Array**	**129.33**	**58**	SKPbc	SKPbc	23 48 59.6	+1.0
	comp=Z,1.0nm,0.7s,baz=268,slow=4.4,SNR=10						
DBIC	**Dimbokro**	**130.48**	**272**	SKPbc	**SKPbc**	**23 49 02.2**	**-1.0**
	comp=Z,4.5nm,1.0s,baz=111,slow=3.9,SNR=4.5						

*ISCJB **26** 23:32:29.5±0.8,21˚.5S±0˚.1×68˚.1W±0˚.1,h121km,mb3.7/2, Error ellipse: s-maj=23.8km s-min=7.7km az=36.0*
*IDC **26** 23:32:30.2±0.9,21˚.40S×68˚.10W,h100km±13km,mb3.6/2, mb1 3.5/5,mb1mx3.4/21,mbtmp3.9/5, Error ellipse: s-maj=40.4km s-min=12.9km az=119.0*

ISC 26 23:32:30.3±1.0, 21˚.5S±0˚.1×68˚.2W±0˚.2, h121km, n7, σ1§64/9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.35**	**211**	P	**Pn**	**23 32 55.4**	**-1.0**
	712nm,0.3s,baz=35,slow=12,SNR=162						
LVC				S	**Sn**	**23 33 15.0**	**-1.3**
	3µm,0.3s,baz=240,slow=23,SNR=11						
LPAZ	**La Paz**	**5.13**	**0**	P	**Pn**	**23 33 44.5**	**-1.1**
	2.2nm,0.3s,baz=176,slow=4.7,SNR=83						
LPAZ				S	Sn	23 34 34.6	-10
	0.1nm,0.3s,baz=194,slow=8.3,SNR=2.1						
SIV	**San Ignacio**	**8.63**	**52**	P	**Pn**	**23 34 32.2**	**-0.2**
	1.3nm,0.3s,baz=255,slow=12,SNR=13						
SIV				S	**Sn**	**23 36 05.8**	**-2.3**
	0.1nm,0.3s,baz=284,slow=12,SNR=2.2						
PLCA	**Paso Flores**	**19.33**	**185**	P	**Pn**	**23 36 48.5**	**+0.1**
	0.1nm,0.3s,baz=0.0,slow=9.1,SNR=3.3						
PTGA	**Pitinga**	**22.09**	**22**	P	**P**	**23 37 17.2**	**+1.4**
	1.8nm,0.4s,baz=201,slow=14,SNR=8.8						
TORD	**Torodi Ar. Bea**	**76.68**	**70**	P	**P**	**23 44 10.6**	**+2.1**
	0.8nm,0.5s,baz=257,slow=5.2,SNR=18						
MKAR	**Makanchi Array**	**145.18**	**36**	PKPbc	**PKPdf**	**23 51 54.3**	**+0.8**
	0.8nm,0.7s,baz=306,slow=2.1,SNR=8.8						

CASC 26 23:35:06.3±1.4, 9˚.96N×84˚.03W, h67km±5km, MD3.9, ML2.6, 2C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URSC	**Urasca**	**0.28**	**116**	⇓*i*P	Pn	23 35 17.6	+0.4
URSC				*e*S	Sn	23 35 26.5	+1.2
CGA2	**Cerro Gallo 2**	**0.43**	**277**	⇑*e*P	Pn	23 35 18.5	+0.2
CGA2				*e*S	Sn	23 35 27.9	+0.8
BUS	**Buena Vista**	**0.49**	**146**	⇓*i*P	Pn	23 35 19.1	-0.2
BUS				*e*S	Sn	23 35 28.9	+0.3
QCR	**Quepos**	**0.55**	**194**	⇑*e*P	Pn	23 35 19.3	-0.1
JCR	**Jicaral**	**1.07**	**264**	⇓*i*P	Pn	23 35 25.2	-0.3
JCR				*e*S	Sn	23 35 40.5	+0.5
ACR	**Cerro Adams**	**1.56**	**147**	*e*P	Pn	23 35 33.2	+1.3
ACR				*e*S	Sn	23 35 51.9	+0.6
CONN	**Concepcion**	**2.23**	**316**	*e*P	Pn	23 35 41.6	+0.5
ESPN	**Las Esperanzas**	**2.24**	**353**	*e*P	Pn	23 35 40.9	-0.2
COPN	**Copaltepe**	**3.34**	**312**	*e*P	Pn	23 35 56.7	+0.6
CNGN	**Cerro Negro**	**3.63**	**314**	*e*P	Pn	23 36 01.1	+0.9
CNGN				AML	AML	23 36 55.3	
	comp=E,19nm,0.2s						

*DDA **26** 23:42:26.2,38˚.59N×39˚.59E,h7km,Md2.6*
*CSEM **26** 23:42:26.1±0.5,38˚.61N×39˚.52E,h5km,MD2.8, Error ellipse: s-maj=13.0km s-min=8.2km az=63.0*
*ISK **26** 23:42:26.0,38˚.64N×39˚.60E,h5km,MD2.8*

ISC 26 23:42:26.7±0.9, 38˚.63N±0˚.03×39˚.60E±0˚.03, h15km±10km, n21, σ0§97/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.30**	**328**	*e*PG	**Pg**	**23 42 32.9**	**-0.3**
PTK				*e*SG	**Sg**	**23 42 38.3**	**+0.7**
PTK	**Pertek**	**0.30**	**328**	*e*Pg	**Pg**	**23 42 32.9**	**-0.3**
PTK				*e*Sg	**Sg**	**23 42 38.3**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.48**	**355**	P	**Pg**	**23 42 36.1**	**-0.2**
TNCL				S	**Sb**	**23 42 43.9**	**-0.1**
TNCL	**Tunceli-Merkez**	**0.48**	**355**	*i* P	**Pg**	**23 42 36.1**	**-0.2**
TNCL				*i* S	**Sb**	**23 42 43.9**	**-0.1**
ELZG	**Elazig**	**0.50**	**255**	P	**Pg**	**23 42 35.4**	**-1.3**
ELZG				S	**Sb**	**23 42 44.1**	**-0.4**
ELZG	**Elazig**	**0.50**	**255**	*i* P	**Pg**	**23 42 35.4**	**-1.3**
ELZG				*i* S	**Sb**	**23 42 44.1**	**-0.4**
BINT	**Bingol**	**0.74**	**71**	*e*Pg	**Pn**	**23 42 44.0**	**+1.2**
DIYA	**Diyarbakir**	**0.82**	**150**	P	**Pg**	**23 42 41.6**	**-1.0**
DIYA				S	**Sb**	**23 42 52.9**	**-0.7**
DIYA	**Diyarbakir**	**0.82**	**150**	*i* P	**Pg**	**23 42 41.6**	**-1.0**
DIYA				*i* S	**Sb**	**23 42 52.9**	**-0.7**
BNGB	**Bing¨¶l**	**0.92**	**67**	*e*PG	**Pg**	**23 42 44.0**	**-0.5**
ERZN	**Erzincan**	**0.96**	**6**	*e*PG	**Pb**	**23 42 45.5**	**+0.4**
YEDI	**Yedisu-Bingol**	**1.09**	**42**	*e*PN	**Pn**	**23 42 48.4**	**+0.7**
YEDI	**Yedisu-Bingol**	**1.09**	**42**	*e*Pn	**Pn**	**23 42 48.4**	**+0.7**
EZC	**Erzincan**	**1.13**	**350**	*e*Pg	**Pg**	**23 42 45.5**	**-3.1**
URFA	**Urfa**	**1.34**	**208**	*e*PN	**Pb**	**23 42 53.0**	**+1.5**
MAZI	**Mazidag**	**1.35**	**150**	*e*PN	**Pg**	**23 42 53.2**	**+0.5**
MAZI	**Mazidag**	**1.35**	**150**	*e*Pn	**Pg**	**23 42 53.2**	**+0.5**
BTMN	**Batman**	**1.51**	**119**	P	**Pn**	**23 42 53.3**	**-0.1**
BTMN				S	**Sg**	**23 43 14.5**	**-0.9**
BTMN	**Batman**	**1.51**	**119**	*i* P	**Pn**	**23 42 53.3**	**-0.1**
BTMN				*i* S	**Sg**	**23 43 14.5**	**-0.9**
VRTB	**Varto-Mus**	**1.54**	**69**	*e*PN	**Pb**	**23 42 55.5**	**+0.4**
VRTB	**Varto-Mus**	**1.54**	**69**	*e*Pn	**Pb**	**23 42 55.5**	**+0.4**

NNC 26 23:43:09.3±6.5, 36˚.92N×70˚.79E, h0km, mb3.7, mpv3.3, 1C-1D, Error ellipse: s-maj=50.8km s-min=44.7km az=148.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**5.72**	**13**	⇓Pn	Pn	23 44 36.8	+1.2
	1.9nm,0.5s						
MNAS				⇑Sn	Sn	23 45 43.7	+1.7
	1.8nm,0.5s						
THN	**Thein Dam**	**6.04**	**136**	*e*P	Pn	23 44 44.6	+4.8
KK31	**Karatay Array**	**6.18**	**358**	Pn	Pn	23 44 41.8	-0.1
	1.3nm,0.5s,baz=176,slow=12,SNR=14						
KK31				Sn	Sn	23 45 52.6	-0.7
	1.4nm,0.7s,baz=176,slow=35,SNR=8.2						
AAK	**Ala-Archa**	**6.38**	**25**	Pn	Pn	23 44 43.2	-1.6
	1.2nm,0.5s						
AAK				Sn	Sn	23 46 01.5	+3.1
	2.7nm,0.7s						

*NIED **26** 23:47:00,36˚.70N×143˚.70E,h8km,Mw3.7 Best double couple: M0=4.18000×10^14 NP1:φs=352.00000°,δ56.00000°, λ-167.00000°. NP2:φs=254.00000°,δ79.00000°, λ-35.00000°.*
*JMA **26** 23:47:09.4±0.3,36˚.72N×143˚.66E,h55km,M4.0*
*NEIC **26** 23:47:13.8±3.8,35˚.77N×143˚.31E,h27km±25km,mb4.4/9, Error ellipse: s-maj=16.3km s-min=7.9km az=133.0*
*IDC **26** 23:47:13.7±3.7,36˚.31N×143˚.19E,h0km,mb4.0/4, mb1 4.0/6,mb1mx3.7/42,mbtmp4.0/6,MLv3.8/2,MS2.5/2, Ms1 2.5/2,ms1mx2.2/39, Error ellipse: s-maj=62.1km s-min=31.0km az=114.0*
*ISCJB **26** 23:47:16.3±0.6,36˚.38N±0˚.05×143˚.13E±0˚.05,h35km, mb4.3/13, Error ellipse: s-maj=7.3km s-min=5.8km az=162.7*

ISC 26 23:47:18.1±0.8, 36˚.58N±0˚.05×143˚.15E±0˚.07, h35km, n41, σ2§78/40, mb4.3/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.96**	**286**	P	**Pn**	**23 47 46.2**	**-2.6**
ONAJ				S	**Sn**	**23 48 12.2**	**+0.1**
JFK	**Kawauchi**	**1.98**	**294**	P	**Pn**	**23 47 46.3**	**-2.9**
JFK				S	**Sn**	**23 48 13.1**	**+0.3**
JHO	**Hitachi**	**2.07**	**272**	P	**Pn**	**23 47 48.6**	**-1.8**
JFT	**Otama**	**2.44**	**294**	P	**Pn**	**23 47 53.4**	**-2.0**
JFT				*e*S	**Sn**	**23 48 25.8**	**+1.8**
BSO1	**Boso 1**	**2.61**	**223**	P	**Pn**	**23 47 54.8**	**-2.4**
JMK	**Ichinoseki**	**2.82**	**328**	P	Pn	23 47 54.6	-6.0
JAG	**Ashikaga**	**2.98**	**268**	P	**Pn**	**23 48 01.7**	**-1.1**
JAG				S	**Sn**	**23 48 39.3**	**+2.0**
JYK	**Kaneyama**	**3.22**	**317**	P	**Pn**	**23 48 01.8**	**-4.3**
JYK				*e*S	**Sn**	**23 48 42.3**	**-0.9**
JOM	**Ohasama**	**3.24**	**334**	P	Pn	23 47 59.6	-6.8
JOM				S	**Sn**	**23 48 36.4**	**-7.4**
JRY	**Ryogami san**	**3.47**	**262**	P	**Pn**	**23 48 08.4**	**-1.2**
JRY				*e*S	**Sn**	**23 48 51.1**	**+1.5**
JYN	**Shimob**	**3.88**	**255**	P	**Pn**	**23 48 15.0**	**-0.3**
MJAR	**Matsushiro Arr**	**3.98**	**271**	Pn	**Pn**	**23 48 16.1**	**-0.4**
	5.1nm,0.3s,baz=89,slow=15,SNR=23						
MJAR				Sn	**Sn**	**23 49 06.1**	**+4.2**
	3.1nm,0.3s,baz=78,slow=18,SNR=5.8						
MJAR				LR	LR	23 49 59.4	
	comp=Z,50nm,21.0s,baz=105,slow=42						
MAJO	**Matsushiro**	**3.98**	**271**	*e*Pn	**Pn**	**23 48 16.2**	**-0.3**
MAJO				*e*Sn	**Sn**	**23 49 01.4**	**-0.5**
MAT	**Matsushiro**	**3.98**	**271**	P	**Pn**	**23 48 16.4**	**-0.1**
MAT				*e*S	**Sn**	**23 49 05.1**	**+3.1**
JANG	**Nango**	**4.00**	**342**	P	Pn	23 48 08.4	-8.5
JHJ2	**Mitsune**	**4.41**	**219**	P	**Pn**	**23 48 19.1**	**-3.3**
JHJ	**Hachijo jima 2**	**4.42**	**220**	Pn	**Pn**	**23 48 19.1**	**-3.6**
	18nm,0.3s,baz=89,slow=21,SNR=29						
JHJ				Sn	**Sn**	**23 49 10.6**	**-2.2**
	70nm,0.3s,baz=306,slow=20,SNR=7.4						
USRK	**Ussuriysk Ar.**	**11.41**	**315**	Pn	**Pn**	**23 49 55.8**	**-2.7**
	0.3nm,0.3s,baz=168,slow=27,SNR=4.1						
KSRS	**Korea Array**	**12.20**	**279**	LR	LR	23 53 60.0	
	comp=Z,23nm,19.6s,baz=290,slow=33						
MDJ	**Mudanjiang**	**13.05**	**312**	*e*Pn	**P**	**23 50 26.3**	**-4.4**
INCN	**Inchon**	**13.23**	**279**	Pn	**Pn**	**23 50 23.1**	**-0.3**
PET	**Petropavlovsk**	**19.72**	**29**	*e*P	**Pn**	**23 51 48.5**	**+2.5**
	7.7nm,0.6s						
NACB	**Ninganchiao**	**22.27**	**242**	*e*P	**P**	**23 52 06.4**	**-5.7**
	9.5nm,0.7s						
MA2	**Magadan**	**23.54**	**10**	*e*P	**P**	**23 52 28.2**	**+3.4**
	14nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**26.72**	**122**	T	T	00 19 39.7	
	baz=316,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**26.73**	**123**	T	T	00 19 42.6	
	baz=316,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**26.74**	**122**	T	T	00 19 42.7	
	baz=316,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**27.45**	**125**	T	T	00 20 42.9	
	baz=338						
H11S3	**WAKE ISLAND Hy**	**27.45**	**125**	T	T	00 20 43.6	
	baz=338						
H11S2	**WAKE ISLAND Hy**	**27.46**	**125**	T	T	00 20 45.4	
	baz=338						
SONM	**Songino Array**	**29.19**	**304**	P	**P**	**23 53 17.0**	**+0.8**
	1.4nm,0.7s,baz=98,slow=7.4,SNR=8.3						
BILL	**Bilibino**	**34.09**	**15**	*e*P	**P**	**23 54 02.1**	**+3.2**
	2.0nm,0.5s						
KKM	**Kota Kinabalu**	**39.12**	**226**	*e*P	P	23 54 35.0	-7.4
	8.8nm,1.0s						
ZALV	**Zalesovo Beam**	**43.25**	**313**	P	**P**	**23 55 18.5**	**+2.7**
	0.4nm,0.3s,baz=96,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**45.54**	**303**	P	**P**	**23 55 36.6**	**+2.3**
	1.1nm,0.7s,baz=87,slow=9.4,SNR=11						
KSM	**Kuching**	**46.27**	**229**	*e*P	P	23 55 33.7	-6.5
	2.6nm,0.5s						
KURK	**Kurchatov**	**47.31**	**309**	*e*P	**P**	**23 55 49.1**	**+1.1**
	16nm,0.5s						
KURBB	**Kurchatov Arra**	**47.38**	**309**	P	**P**	**23 55 51.4**	**+2.9**
	2.2nm,0.5s,baz=81,slow=8.1,SNR=22						
BRVK	**Borovoye**	**51.96**	**313**	*e*P	**P**	**23 56 24.9**	**+1.6**
	1.8nm,0.8s						
INK	**Inuvik**	**54.16**	**27**	*e*P	**P**	**23 56 41.0**	**+1.7**
	1.3nm,0.8s						
EGMT	**Eagleton**	**73.69**	**42**	*e*P	**P**	**23 58 48.0**	**-0.2**
	52nm,1.3s						

*IDC **26** 23:53:14.8±0.9,2˚.21S×136˚.70E,h0km,mb3.7/6, mb1 3.9/9,mb1mx3.8/26,mbtmp3.7/9,ML3.5/3,MS3.3/2, Ms1 3.3/2,ms1mx2.6/31, Error ellipse: s-maj=25.7km s-min=20.3km az=77.0*
*ISCJB **26** 23:53:17.6±0.6,2˚.36S±0˚.07×136˚.66E±0˚.06,h33km, mb3.6/6,MS3.4/1, Error ellipse: s-maj=9.9km s-min=8.9km az=151.3*

ISC 26 23:53:19.6±0.8, 2˚.38S±0˚.08×136˚.66E±0˚.09, h35km, n10, σ1§54/12, mb3.6/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.04**	**92**	Pn	**Pn**	**23 54 18.9**	**-0.1**
	0.7nm,0.3s,baz=92,slow=24,SNR=16						
JAY				Sn	**Sn**	**23 55 05.6**	**+0.3**
	0.3nm,0.3s,baz=87,slow=23,SNR=6.0						
PMG	**Port Moresby**	**12.56**	**124**	LR	LR	00 02 53.3	
	comp=Z,90nm,21.5s,baz=280,slow=46						
WRA	**Warramunga Arr**	**17.61**	**187**	P	**Pn**	**23 57 23.0**	**+0.7**
	0.5nm,0.3s,baz=9.6,slow=12,SNR=21						
WRA				S	**Sn**	**00 00 33.9**	**-3.7**
	0.2nm,0.3s,baz=2.1,slow=23,SNR=5.1						
FITZ	**Fitzroy Crossi**	**19.00**	**214**	P	**Pn**	**23 57 40.0**	**+0.6**
	0.1nm,0.3s,baz=40,slow=13,SNR=2.7						
FITZ				S	Sn	00 00 59.9	-11
	0.2nm,0.3s,baz=98,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**21.33**	**187**	P	**P**	**23 58 05.5**	**+1.8**
	1.2nm,0.5s,baz=15,slow=11,SNR=16						
ASAR				S	**S**	**00 02 00.2**	**+1.2**
	1.0nm,0.9s,baz=10,slow=27,SNR=3.4						
ASAR				LR	LR	00 06 39.7	
	comp=Z,135nm,18.1s,baz=17,slow=37						
CMAR	**Chiang Mai Arr**	**42.50**	**301**	P	**P**	**00 01 12.5**	**+0.5**
	1.1nm,0.8s,baz=126,slow=5.5,SNR=5.3						
SONM	**Songino Array**	**56.56**	**336**	P	**P**	**00 02 58.0**	**-0.9**
	0.3nm,0.7s,baz=154,slow=4.3,SNR=2.2						
MKAR	**Makanchi Array**	**68.28**	**323**	P	**P**	**00 04 17.6**	**+0.5**
	0.7nm,0.7s,baz=110,slow=8.0,SNR=7.0						
ZALV	**Zalesovo Beam**	**70.63**	**330**	P	**P**	**00 04 30.6**	**-0.8**
	0.5nm,0.3s,baz=120,slow=9.5,SNR=2.9						
ILAR	**Eielson Array**	**86.38**	**25**	P	**P**	**00 05 57.7**	**-0.3**
	0.3nm,0.7s,baz=283,slow=5.2,SNR=3.3						

*ISCJB **26** 23:58:38.5±0.4,39˚.07N±0˚.03×29˚.03E±0˚.03,h6km±6km, Error ellipse: s-maj=5.8km s-min=4.1km az=156.4*
*DDA **26** 23:58:38.2,39˚.10N×29˚.04E,h7km,Md2.7*
*CSEM **26** 23:58:38.7±0.1,39˚.08N×29˚.03E,h8km,MD2.7, Error ellipse: s-maj=3.2km s-min=2.4km az=134.0*
*ISK **26** 23:58:38.3,39˚.10N×29˚.03E,h7km,MD2.6*

ISC 26 23:58:38.7±0.9, 39˚.09N±0˚.02×29˚.03E±0˚.02, h13km±8km, n29, σ0§42/44, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**259**	P	**Pg**	**23 58 44.0**	**0.0**
DEMI				S	**Sg**	**23 58 47.7**	**+0.1**
DEMI	**Demirci**	**0.25**	**259**	⇑*i*P	**Pg**	**23 58 44.0**	**0.0**
DEMI				*i* S	**Sg**	**23 58 47.7**	**+0.1**
GEDZ	**Gediz**	**0.30**	**99**	*e*PG	**Pg**	**23 58 45.2**	**+0.3**
GEDZ	**Gediz**	**0.30**	**99**	*e*Pg	**Pg**	**23 58 45.2**	**+0.3**
GDZ	**Gediz**	**0.35**	**90**	P	**Pg**	**23 58 45.6**	**-0.2**
GDZ				S	**Sg**	**23 58 50.7**	**+0.1**
GDZ	**Gediz**	**0.35**	**90**	*i* P	**Pg**	**23 58 45.6**	**-0.2**
GDZ				*i* S	**Sg**	**23 58 50.7**	**+0.1**
TVSB	**Tavsanli**	**0.49**	**43**	*e*PG	**Pg**	**23 58 48.1**	**-0.3**
TVSB				*e*SG	**Sg**	**23 58 55.0**	**+0.1**
TVSB	**Tavsanli**	**0.49**	**43**	*e*Pg	**Pg**	**23 58 48.1**	**-0.3**
TVSB				*e*Sg	**Sg**	**23 58 55.0**	**+0.1**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*PG	**Pg**	**23 58 51.2**	**0.0**
KULA				*e*SG	**Sg**	**23 58 60.0**	**+0.3**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*Pg	**Pg**	**23 58 51.2**	**0.0**
KULA				*e*Sg	**Sg**	**23 59 00.0**	**+0.3**
MANT	**Manisa**	**0.70**	**212**	P	**Pg**	**23 58 51.4**	**-1.0**
MANT				S	**Sg**	**23 59 00.9**	**-0.8**
MANT	**Manisa**	**0.70**	**212**	*i* P	**Pg**	**23 58 51.4**	**-1.0**
MANT				*i* S	**Sg**	**23 59 00.8**	**-0.8**
KHL	**Karahalli**	**0.86**	**153**	*e*PG	**Pb**	**23 58 55.8**	**+0.4**
KHL	**Karahalli**	**0.86**	**153**	*e*Pg	**Pb**	**23 58 55.8**	**+0.4**
BALB	**Balikesir**	**1.05**	**302**	*e*PG	**Pb**	**23 58 58.9**	**+0.2**
BALB				*e*SG	**Sn**	**23 59 14.2**	**+0.7**
BALB	**Balikesir**	**1.05**	**302**	*e*Pg	**Pb**	**23 58 58.9**	**+0.2**
BALB				*e*Sg	**Sn**	**23 59 14.2**	**+0.7**
IGD	**Bursa**	**1.18**	**6**	*i* P	**Pb**	**23 59 00.4**	**-0.5**
IGD				*i* S	**Sn**	**23 59 17.3**	**+0.5**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN	**Pg**	**23 59 02.9**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*Pn	**Pg**	**23 59 02.9**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*PN	**Pg**	**23 59 03.1**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pg**	**23 59 03.1**	**-0.3**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pg**	**23 59 03.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pg**	**23 59 03.6**	**+0.2**
IZI	**Iznik**	**1.29**	**15**	*e*PN	**Pg**	**23 59 03.3**	**-0.2**
IZI	**Iznik**	**1.29**	**15**	*e*Pn	**Pg**	**23 59 03.3**	**-0.2**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pn**	**23 59 03.3**	**-0.1**
BORA				S	**Sg**	**23 59 22.6**	**+0.3**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pn**	**23 59 03.3**	**-0.1**
BORA				*i* S	**Sg**	**23 59 22.6**	**+0.3**
GULT	**Gulveren**	**1.76**	**40**	*e*PN	**Pb**	**23 59 10.2**	**-0.7**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn	**Pb**	**23 59 10.2**	**-0.7**

*NEIC **27** 00:09:38.0,53˚.41N×163˚.00W,h13km,ML3.4(AEIC), After AEIC.*
*IDC **27** 00:09:38.4±1.7,53˚.83N×163˚.28W,h0km,mb3.7/11, mb1 3.8/12,mb1mx3.6/44,mbtmp3.7/12,ML3.2/1,MS3.1/2, Ms1 3.1/2,ms1mx2.5/44, Error ellipse: s-maj=41.3km s-min=22.8km az=171.0*
*ISCJB **27** 00:09:41.6±1.0,53˚.58N±0˚.08×163˚.15W±0˚.07,h41km±8km, mb3.7/10,MS3.0/2, Error ellipse: s-maj=14.7km s-min=4.8km az=156.8*

ISC 27 00:09:43.0±0.9, 53˚.6N±0˚.1×163˚.18W±0˚.05, h39km±7km, n41, σ1§03/40, mb3.8/10, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISLZ	**Isanotski Laza**	**1.17**	**345**	P	**Pn**	**00 10 02.2**	**-0.8**
SSLS	**Shishaldin Sou**	**1.22**	**337**	P	**Pn**	**00 10 03.1**	**-0.5**
SSLS				S	**Sn**	**00 10 22.8**	**+3.9**
WESN	**West Dahl Nort**	**1.28**	**320**	P	**Pn**	**00 10 04.0**	**-0.4**
WESP	**Westdahl Peak**	**1.28**	**315**	P	**Pn**	**00 10 03.7**	**-0.8**
SSLN	**Shishaldin Nor**	**1.31**	**339**	P	**Pn**	**00 10 04.8**	**-0.1**
AKSA	**Akutan Strait**	**1.59**	**291**	P	**Pn**	**00 10 07.7**	**-0.9**
AKSA				S	**Sn**	**00 10 27.8**	**0.0**
DT1	**Dutton Round H**	**1.60**	**19**	P	**Pn**	**00 10 07.7**	**-1.1**
DT1				S	**Sn**	**00 10 28.2**	**0.0**
AKUT	**Akutan**	**1.63**	**290**	P	**Pn**	**00 10 08.5**	**-0.6**
AKUT				S	**Sn**	**00 10 29.4**	**+0.5**
DTNA	**Dutton South F**	**1.65**	**19**	P	**Pn**	**00 10 08.3**	**-1.1**
DOL	**Dolgoi Island**	**1.73**	**26**	P	**Pn**	**00 10 09.4**	**-1.2**
DOL				S	**Sn**	**00 10 31.2**	**-0.3**
AKGG	**Akutan Green G**	**1.77**	**291**	P	**Pn**	**00 10 10.6**	**-0.6**
HAG	**Hague Volcano**	**1.88**	**23**	P	**Pn**	**00 10 12.6**	**0.0**
PS4A	**Pavlof South-4**	**1.91**	**23**	P	**Pn**	**00 10 12.9**	**-0.2**
UNV	**Unalaska Valle**	**1.99**	**279**	P	**Pn**	**00 10 12.7**	**-1.5**
UNV				S	**Sn**	**00 10 37.9**	**+0.1**
MTBL	**Makushin Table**	**2.11**	**282**	P	**Pn**	**00 10 15.3**	**-0.6**
MGOD	**Makushin Gods**	**2.21**	**277**	P	**Pn**	**00 10 16.2**	**-1.0**
MCIR	**Makushin Cirqu**	**2.23**	**281**	P	**Pn**	**00 10 17.0**	**-0.6**
SDPT	**Sand Point**	**2.36**	**41**	P	**Pn**	**00 10 18.6**	**-0.5**
SDPT				S	**Sn**	**00 10 46.8**	**0.0**
OKER	**Okmok East Rim**	**2.91**	**269**	P	**Pn**	**00 10 27.9**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**2.92**	**268**	P	**Pn**	**00 10 26.8**	**-0.1**
VNKR	**Veniaminof 5**	**3.29**	**41**	P	**Pn**	**00 10 32.4**	**+0.4**
ANPK	**Aniakchak Peak**	**4.35**	**40**	P	**Pn**	**00 10 46.8**	**+0.2**
ILAR	**Eielson Array**	**13.91**	**30**	Pn	Pn	00 12 52.0	-5.3
	0.0nm,0.3s,baz=222,slow=14,SNR=1.9						
INK	**Inuvik**	**20.29**	**32**	P	**P**	**00 14 12.7**	**-2.2**
	0.8nm,0.5s,baz=248,slow=5.4,SNR=1.9						
PETK	**Petropavlovsk-**	**23.16**	**285**	P	**P**	**00 14 45.5**	**-0.2**
	1.4nm,0.5s,baz=74,slow=15,SNR=4.2						
PETK				LR	LR	00 23 25.2	
	comp=Z,38nm,20.7s,baz=62,slow=36						
YKA	**Yellowknife Ar**	**26.58**	**51**	P	**P**	**00 15 18.2**	**+1.2**
	0.8nm,0.6s,baz=279,slow=9.6,SNR=3.1						
KLR	**Kul'dur**	**39.55**	**291**	LR	LR	00 33 50.5	
	comp=Z,30nm,18.2s,baz=110,slow=37						
H11N2	**WAKE ISLAND Hy**	**40.88**	**226**	T	T	01 00 48.5	
	baz=26,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**40.89**	**226**	T	T	01 00 53.4	
	baz=26,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**40.90**	**226**	T	T	01 00 48.9	
	baz=26,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**42.05**	**225**	T	T	01 02 56.4	
	baz=26,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**42.06**	**225**	T	T	01 02 57.6	
	baz=26,slow=76,SNR=21						
H11S3	**WAKE ISLAND H

LWLI	**Liwa**	**1.96**	**100**	P	**Pn**	**00 23 38.7**	**+2.2**
LWLI				S	**Sn**	**00 24 00.2**	**+0.3**
KASI	**Kota Agung**	**2.51**	**110**	P	**Pn**	**00 23 46.5**	**+2.5**
KASI				S	**Sn**	**00 24 13.5**	**+0.2**
CGJI	**Cibinong**	**4.04**	**119**	P	**Pn**	**00 24 06.6**	**+1.6**
PDSI	**Padang**	**4.10**	**336**	P	**Pn**	**00 24 09.6**	**+3.7**
CMAR	**Chiang Mai Arr**	**23.21**	**352**	P	**P**	**00 28 09.3**	**-0.3**
	1.6nm,0.8s,baz=187,slow=9.3,SNR=7.7						
H08S2	**Diego Garcia H**	**29.60**	**263**	T	T	00 59 39.2	
	baz=87						
H08S3	**Diego Garcia H**	**29.61**	**263**	T	T	00 59 43.2	
	baz=87						
H08S1	**Diego Carcia H**	**29.62**	**263**	T	T	00 59 40.6	
	baz=87						
H01W3	**Cape Leeuwin H**	**32.05**	**161**	T	T	01 03 21.5	
	baz=338,slow=76,SNR=6.2						
H01W2	**Cape Leeuwin H**	**32.06**	**161**	T	T	01 03 24.8	
	baz=338,slow=76,SNR=7.0						
H01W1	**Cape Leeuwin H**	**32.06**	**161**	T	T	01 03 24.0	
	baz=338,slow=76,SNR=5.5						
WRA	**Warramunga Arr**	**34.83**	**119**	P	**P**	**00 29 54.0**	**+0.4**
	0.8nm,1.0s,baz=293,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**35.98**	**125**	P	**P**	**00 30 03.4**	**0.0**
	0.3nm,0.4s,baz=297,slow=8.0,SNR=3.5						
SONM	**Songino Array**	**52.43**	**4**	P	**P**	**00 32 15.2**	**+0.5**
	1.3nm,0.7s,baz=182,slow=9.6,SNR=8.5						
SONM				pP	**sP**	**00 32 29.1**	**-0.9**
	0.7nm,0.6s,baz=198,slow=8.5,SNR=4.1						
MKAR	**Makanchi Array**	**54.18**	**343**	P	**P**	**00 32 27.9**	**+0.4**
	1.1nm,0.6s,baz=147,slow=8.0,SNR=13						
MKAR				pP	**sP**	**00 32 40.9**	**-2.0**
	0.8nm,0.7s,baz=146,slow=8.0,SNR=5.5						
USRK	**Ussuriysk Ar.**	**55.57**	**26**	P	**P**	**00 32 36.7**	**-0.9**
	0.9nm,0.6s,baz=224,slow=4.0,SNR=1.9						
GEYT	**Alibeck**	**58.85**	**320**	P	**P**	**00 32 59.4**	**-1.5**
	0.6nm,0.5s,baz=169,slow=2.9,SNR=1.9						
ZALV	**Zalesovo Beam**	**60.19**	**348**	P	**P**	**00 33 09.7**	**-0.1**
	1.1nm,0.5s,baz=183,slow=5.8,SNR=6.5						
ZALV				pP	**sP**	**00 33 23.4**	**-1.9**
	1.2nm,0.6s,baz=160,slow=4.7,SNR=2.7						

*IDC **27** 00:30:24.0±0.4, 17.°02S×173.°68W, h0km, mb5.2/23, mb1 5.3/25, mb1mx5.3/27, mbtmp5.2/25, ML4.5/2, MS4.6/30, Ms1 4.6/30, ms1mx4.5/39, Error ellipse: s-maj=15.0km s-min=12.2km az=133.0*

*BJI **27** 00:30:27.0, 16.°86S×173.°08W, h35km, mb5.4/47, mB5.6/39, Ms5.3/30, Ms7 4.9/26*

*ISCJB **27** 00:30:28.6±0.1, 17.°12S±0.°03×173.°70W±0.°02, h40km, mb5.5/261, MS4.8/180, Error ellipse: s-maj=4.8km s-min=2.8km az=152.5*

*MOS **27** 00:30:28.8±1.1, 16.°95S×173.°65W, h33km, mb5.6/78, MS4.8/23, Error ellipse: s-maj=9.1km s-min=6.5km az=65.0*

*GCMT **27** 00:30:29.7±0.1, 17.°18S×173.°31W, h58km, MW5.4/117, Moment Tensor Solution. s116,c203; s117,c224; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.98±.02; $M_{\theta\theta}$-1.37±.02; $M_{\phi\phi}$0.39±.02; $M_{r\theta}$0.46±.02; $M_{\theta\phi}$0.12±.02; $M_{\phi r}$-0.81±.02; Best double couple: $M_0$1.54200×10^{17} NP1:ϕ_s124.00000°, δ65.00000°, λ124.00000°. NP2:ϕ_s245.00000°, δ42.00000°, λ39.00000°. Principal axes: T 1.5840, Plg56.0000°, Azm79.0000°; N -0.0820, Plg31.0000°, Azm288.0000°; P -1.5010, Plg13.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **27** 00:30:29.7±0.1, 17.°11S×173.°69W, h35km, mb5.6/217, MS4.9/143, MW5.5 Error ellipse: s-maj=4.6km s-min=2.6km az=141.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^{17}Nm; M_{rr}2.01; $M_{\theta\theta}$-2.01; $M_{\phi\phi}$0.00; $M_{r\theta}$0.78; $M_{\theta\phi}$0.45; $M_{\phi r}$-0.89; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s119.00000°, δ60.00000°, λ108.00000°. NP2:ϕ_s266.00000°, δ35.00000°, λ62.00000°. Principal axes: T 2.4200, Plg70.0000°, Azm68.0000°; N -0.1000, Plg15.0000°, Azm289.0000°; P -2.3200, Plg13.0000°, Azm196.0000°;*

ISC 27 00:30:31.2±0.6, 17.°11S±0.°05×173.°62W±0.°04, h50km±4km, n1326, σ1°16/1286, mb5.5/260, MS4.9/180, 59C-27D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.65**	**29**	Op Pn		Pn	00 31 20.5	-4.7
	84nm,0.3s,baz=196,slow=1.8,SNR=91							
AFI				Sn		Sn	00 31 57.4	-10
	546nm,0.3s,baz=161,slow=15,SNR=12							
AFI	**Afiamalu**	**3.65**	**29**	*e*Pn		Pn	00 31 20.9	-4.3
AFI				Sn		Sn	00 31 57.4	-10
NIUE	**Niue**	**4.02**	**120**	P		Pn	00 31 26.5	-3.8
	baz=3.9,SNR=269							
MSVF	**Nonsavu**	**7.97**	**264**	*e*P		**Pn**	**00 32 25.1**	**+0.5**
MSVF	**Nonsavu**	**7.97**	**264**	*e*Pn		**Pn**	**00 32 25.1**	**+0.5**
RAO	**Raoul Island**	**12.71**	**197**	LR		LR	00 36 31.5	
	comp=Z,274nm,21.4s,baz=44,slow=29							
RAR	**Rarotonga**	**13.71**	**110**	Pn		Pn	00 33 39.1	-3.7
	12nm,0.3s,baz=239,slow=9.5,SNR=20							
RAR				LR		LR	00 37 39.5	
	comp=Z,2μm,21.4s,baz=304,slow=32							
RAR	**Rarotonga**	**13.71**	**110**	*e*P		**Pn**	**00 33 40.0**	**-2.9**
RAR	**Rarotonga**	**13.71**	**110**	*e*Pn		**Pn**	**00 33 40.0**	**-2.9**
DZM	**Mont Dzumac**	**19.41**	**252**	*e*P		**Pn**	**00 34 55.1**	**+0.1**
	492nm,1.2s							
DZM	**Mont Dzumac**	**19.41**	**252**	P		**Pn**	**00 34 56.5**	**+1.5**
	1.9nm,0.3s,baz=78,slow=19,SNR=10							
DZM				LR		LR	00 41 23.6	
	comp=Z,4μm,20.3s,baz=86,slow=34							
DZM	**Mont Dzumac**	**19.41**	**252**	*e*P		**P**	**00 34 54.3**	**+0.9**
	201nm,1.1s							
OUZ	**Omahuta**	**21.34**	**210**	*e*P		**P**	**00 35 14.4**	**+0.4**
	72nm,0.9s							
OUZ				LR		LR		
	comp=Z,4μm,18.0s							
MXZ	**Matakaoa Point**	**21.58**	**198**	PFAKE			00 35 30.0	+13
MXZ				LR		LR		
	comp=Z,4μm,19.0s							
URZ	**Urewera**	**22.59**	**199**	P		**P**	**00 35 26.3**	**-1.1**
	comp=Z,40nm,0.5s,baz=272,slow=2.9,SNR=22							
URZ				S		**S**	**00 39 22.6**	**-8.9**
	comp=Z,5.0nm,0.4s,baz=37,slow=15,SNR=4.1							
URZ	**Urewera**	**22.59**	**199**	*e*P		**P**	**00 35 26.6**	**-0.8**
	comp=Z,140nm,1.1s							
URZ				S		**S**	**00 39 22.6**	**-8.9**
URZ				*e*S		Sn	00 39 35.4	-12
URZ				LR		LR		
	comp=Z,2μm,19.0s							
TARA	**Tarawa**	**22.64**	**323**	PFAKE			00 35 40.0	+12
TARA				LR		LR		
	comp=Z,2μm,21.0s							
PAE	**Paea**	**22.95**	**95**	*e*P		**P**	**00 35 31.3**	**-0.1**
	comp=Z,48nm,1.2s							
PAE	**Paea**	**22.95**	**95**	*e*T		T	00 58 46.2	
	comp=Z,12nm,0.3s							
PPT2	**Papeete2**	**22.95**	**95**	*e*P		**P**	**00 35 31.8**	**+0.3**
	comp=Z,287nm,1.2s							
PPT2				*e*LQ		LQ	00 40 06.9	
	comp=Z,2μm,28.5s							
PPT2				*e*LR		LR	00 40 46.1	
	comp=Z,6μm,27.2s,baz=262							
PPT2	**Papeete2**	**22.95**	**95**	*e*T		T	00 58 47.5	
	comp=Z,15nm,0.3s							
PPT	**Papeete**	**22.95**	**95**	P		**P**	**00 35 31.7**	**+0.2**
	comp=Z,220nm,1.0s,baz=323,slow=4.9,SNR=10							
PPT				LR		LR	00 41 52.9	
	comp=Z,1μm,20.4s,baz=197,slow=30							
PPT	**Papeete**	**22.95**	**95**	*e*P		**P**	**00 35 30.0**	**-1.5**
PPT	**Papeete**	**22.95**	**95**	*e*P		**P**	**00 35 30.0**	**-1.5**
TIAR	**Tiarei**	**23.18**	**95**	*e*P		**P**	**00 35 33.7**	**0.0**
	comp=Z,48nm,1.0s							
TIAR	**Tiarei**	**23.18**	**95**	*e*T		T	00 59 03.3	
	comp=Z,7.1nm,0.2s							
TVO	**Taravao**	**23.26**	**95**	*e*P		**P**	**00 35 34.6**	**+0.1**
	comp=Z,81nm,1.2s							
TVO	**Taravao**	**23.26**	**95**	*e*T		T	00 59 09.6	
	comp=Z,5.4nm,0.3s							
TBI	**Tubuai**	**23.49**	**109**	*e*P		**P**	**00 35 37.8**	**+1.2**
	comp=Z,516nm,1.4s							
TBI				*e*S		**S**	**00 39 47.3**	**+0.5**
	comp=Z,1μm,28.0s							
TBI				*e*LQ		LQ	00 40 13.0	
	comp=Z,2μm,29.5s							
TBI				*e*LR		LR	00 41 07.3	
	comp=Z,5μm,29.2s,baz=285							
TBI	**Tubuai**	**23.49**	**109**	*e*T		T	00 59 24.3	
	comp=Z,28nm,0.3s							
HIZ	**Hauiti**	**23.59**	**203**	*e*P		**P**	**00 35 37.0**	**-0.4**
	comp=Z,124nm,0.9s							
HIZ				LR		LR		
	comp=Z,2μm,20.0s							
BKZ	**Black Stump Fm**	**23.61**	**199**	*e*P		**P**	**00 35 36.2**	**-1.5**
	comp=Z,42nm,1.0s							
BKZ				LR		LR		
	comp=Z,3μm,19.0s							
MEH	**Mehetia**	**24.38**	**96**	*e*T		T	01 00 34.1	
	comp=Z,20nm,0.2s							
XMAS	**Kiritimati**	**24.84**	**42**	*e*P		**P**	**00 35 47.8**	**-1.2**
	comp=Z,315nm,0.9s							
XMAS				LR		LR		
	comp=Z,6.0nm,22.0s							
VAH	**Vaihoa**	**25.03**	**89**	*e*P		**P**	**00 35 50.3**	**-0.5**
	comp=Z,517nm,1.1s							
VAH	**Vaihoa**	**25.03**	**89**	*e*T		T	01 01 19.0	
	comp=Z,23nm,0.3s							
SNZO	**South Karori**	**26.13**	**200**	PFAKE			00 36 10.0	+10
SNZO				LR		LR		
	comp=Z,3μm,20.0s							
HNR	**Honiara**	**26.81**	**283**	LR		LR	00 45 17.7	
	comp=Z,2μm,18.1s,baz=120,slow=33							
THZ	**Tophouse**	**27.16**	**202**	*e*P		**P**	**00 36 09.8**	**-0.1**
	comp=Z,34nm,0.9s							
KHZ	**Kahutara**	**27.51**	**201**	*e*P		**P**	**00 36 11.9**	**-1.0**
KHZ				*epP*		pP	00 36 18.8	-6.9
LTZ	**Lake Taylor**	**28.27**	**202**	*e*P		**P**	**00 36 18.6**	**-1.2**
	comp=Z,57nm,0.8s							
OXZ	**Oxford**	**28.83**	**202**	*e*P		**P**	**00 36 23.1**	**-1.6**
	comp=Z,70nm,0.5s							
RPZ	**Rata Peaks**	**29.53**	**203**	P		**P**	**00 36 32.0**	**+1.1**
	comp=Z,17nm,0.8s,baz=69,slow=14,SNR=7.9							
RPZ	**Rata Peaks**	**29.53**	**203**	*e*P		**P**	**00 36 31.6**	**+0.7**
	comp=Z,92nm,1.2s							
FOZ	**Fox Glacier**	**29.85**	**205**	*e*P		**P**	**00 36 34.4**	**+0.7**
	comp=Z,48nm,0.8s							
MLZ	**Mavora Lakes**	**32.05**	**205**	*e*P		**P**	**00 36 53.0**	**-0.2**
	comp=Z,69nm,1.2s							
WHZ	**Wether Hill Ro**	**32.55**	**204**	*e*P		**P**	**00 36 56.3**	**-1.2**
	comp=Z,40nm,0.8s							
TAOE	**Nuku Hiva Isla**	**33.59**	**80**	*e*P		**P**	**00 37 06.4**	**-0.6**
	comp=Z,314nm,1.1s							
TAOE				*e*S		**S**	**00 42 30.2**	**+3.9**
	comp=Z,201nm,28.9s							
TAOE				*e*LQ		LQ	00 44 23.7	
	comp=Z,1μm,34.9s							
TAOE				*e*LR		LR	00 45 50.2	
	comp=Z,3μm,26.5s,baz=254							
TAOE	**Nuku Hiva Isla**	**33.59**	**80**	*e*T		T	01 11 56.5	
	comp=Z,116nm,0.2s							
EIDS	**Eidsvold**	**33.83**	**250**	P		**P**	**00 37 10.0**	**+1.1**
	baz=34,SNR=4.5							
EIDS	**Eidsvold**	**33.83**	**250**	*e*P		**P**	**00 37 09.0**	**0.0**
	comp=Z,30nm,1.0s							
ARMA	**Armidale**	**34.30**	**241**	P		**P**	**00 37 12.5**	**-0.6**
	baz=34,SNR=18							
ARMA	**Armidale**	**34.30**	**241**	*e*P		**P**	**00 37 12.4**	**-0.8**
	comp=Z,52nm,1.3s							
RMQ	**Roma**	**36.05**	**248**	P		**P**	**00 37 28.4**	**+0.3**
	baz=36,SNR=16							
RKT	**Rikitea**	**36.70**	**106**	*e*P		**P**	**00 37 33.2**	**-0.4**
	comp=Z,90nm,1.0s							
RKT				*e*S		**S**	**00 43 18.9**	**+5.0**
	comp=Z,252nm,30.8s							
RKT				*e*LQ		LQ	00 45 56.2	
	comp=Z,974nm,26.2s							
RKT				*e*LR		LR	00 47 11.2	
	comp=Z,3μm,28.8s,baz=278							
RKT	**Rikitea**	**36.70**	**106**	*e*T		T	01 16 03.0	
	comp=Z,14nm,0.3s							
CAN	**Canberra**	**37.84**	**234**	PFAKE			00 37 50.0	+6.8
CAN				LR		LR		
	comp=Z,1μm,20.0s							
CTA	**Charters Tower**	**38.08**	**259**	P		**P**	**00 37 43.9**	**-1.5**
	comp=Z,14nm,0.6s,baz=95,slow=12,SNR=15							
CTA				LR		LR	00 50 45.7	
	comp=Z,1μm,21.9s,baz=85,slow=32							
CTAO	**Charters Tower**	**38.08**	**259**	*e*P		**P**	**00 37 44.8**	**-0.6**
CTAO				pmax		pmax		
	comp=Z,52nm,1.0s							
CTAO	**Charters Tower**	**38.08**	**259**	*e*P		**P**	**00 37 44.8**	**-0.6**
	comp=Z,52nm,1.0s							
CTAO				LR		LR		
	comp=Z,2μm,22.0s							
PMG	**Port Moresby**	**38.88**	**276**	PFAKE			00 38 00.0	+7.9
PMG				LR		LR		
	comp=Z,603nm,19.0s							
CMSA	**Cobar Meteorol**	**39.52**	**241**	P		**P**	**00 37 55.3**	**-2.0**
	baz=40,SNR=34							
QLP	**Quilpie**	**40.09**	**249**	P		**P**	**00 38 00.2**	**-1.9**
	baz=40,SNR=32							
H11S2	**WAKE ISLAND Hy**	**40.33**	**330**	T		T	01 20 51.6	
	baz=149,slow=75,SNR=75							
H11S3	**WAKE ISLAND Hy**	**40.34**	**330**	T		T	01 20 46.2	
	baz=149,slow=75,SNR=41							
H11S1	**WAKE ISLAND Hy**	**40.34**	**330**	T		T	01 20 48.5	
	baz=149,slow=75,SNR=17							
POHA	**Pohakuloa**	**40.72**	**27**	*e*P		**P**	**00 38 07.3**	**-0.2**
POHA				LR		LR		
	comp=Z,1μm,20.0s							
HPAH	**Hawaii Prepara**	**40.89**	**26**	*e*P		**P**	**00 38 09.9**	**+1.2**
	comp=Z,409nm,1.2s							
MANU	**Manus Island**	**41.16**	**287**	*e*P		**P**	**00 38 11.9**	**+0.9**
	comp=Z,37nm,0.8s							
KIP	**Kipapa**	**41.24**	**22**	*e*P		**P**	**00 38 11.0**	**-0.4**
KIP				pmax		pmax		
	comp=Z,300nm,1.2s							
KIP	**Kipapa**	**41.24**	**22**	*e*P		**P**	**00 38 11.0**	**-0.4**
	comp=Z,302nm,1.2s							
KIP				LR		LR		
	comp=Z,2μm,20.0s							
TOO	**Toolangi**	**41.24**	**232**	P		**P**	**00 38 10.1**	**-1.4**
	baz=41,SNR=11							
H11N3	**WAKE ISLAND Hy**	**41.30**	**332**	T		T	01 22 01.4	
	baz=151,slow=76,SNR=105							
H11N1	**WAKE ISLAND Hy**	**41.30**	**332**	T		T	01 22 01.6	
	baz=151,slow=76,SNR=74							
H11N2	**WAKE ISLAND Hy**	**41.31**	**332**	T		T	01 22 02.8	
	baz=151,slow=76,SNR=73							
COEN	**Coen**	**41.68**	**268**	P		**P**	**00 38 15.2**	**-0.2**
	baz=42,SNR=6.4							
TAU	**Tasmania Unive**	**41.93**	**224**	PFAKE			00 38 30.0	+13
TAU				LR		LR		
	comp=Z,2μm,19.0s							
STKA	**Stephens Creek**	**43.02**	**241**	P		**P**	**00 38 24.5**	**-1.5**
	comp=Z,26nm,0.5s,baz=83,slow=9.6,SNR=36							
STKA				LR		LR	00 56 10.9	
	comp=Z,1μm,18.2s,baz=78,slow=36							
STKA	**Stephens Creek**	**43.02**	**241**	P		**P**	**00 38 24.6**	**-1.5**
	baz=43,SNR=77							
STKA	**Stephens Creek**	**43.02**	**241**	*e*P		**P**	**00 38 24.5**	**-1.5**
STKA				pmax		pmax		
	comp=Z,6.0nm,0.6s							
STKA	**Stephens Creek**	**43.02**	**241**	*e*P		**P**	**00 38 24.5**	**-1.5**
	comp=Z,6.0nm,0.6s							
ARPS	**Mount Arapiles**	**43.81**	**234**	P		**P**	**00 38 31.1**	**-1.3**
	baz=44,SNR=6.5							
QIS	**Mount Isa**	**44.29**	**258**	P		**P**	**00 38 37.1**	**+0.7**
	baz=44,SNR=3.7							
MIDW	**Midway**	**45.20**	**355**	PFAKE			00 39 00.0	+17
MIDW				LR		LR		
	comp=Z,1μm,20.0s							
HTT	**Hallett**	**45.49**	**240**	P		**P**	**00 38 44.1**	**-1.8**
	baz=46,SNR=44							
BBOO	**Buckleboo**	**47.79**	**241**	P		**P**	**00 39 01.8**	**-1.9**
	baz=48,SNR=74							
BBOO	**Buckleboo**	**47.79**	**241**	*e*P		**P**	**00 39 02.1**	**-1.7**
	comp=Z,64nm,0.6s							
WB2	**Warramunga Arr**	**49.26**	**258**	P		**P**	**00 39 12.9**	**-2.4**
	baz=49							
WB2	**Warramunga Arr**	**49.26**	**258**	*e*P		**P**	**00 39 13.1**	**-2.1**
	comp=Z,76nm,1.5s							
WRAB	**Tennant Creek**	**49.26**	**258**	*de*P		**P**	**00 39 13.2**	**-2.1**
WRAB				pmax		pmax		
	comp=Z,74nm,1.2s							
WRA	**Warramunga Arr**	**49.27**	**258**	P		**P**	**00 39 13.2**	**-2.2**
	comp=Z,12nm,0.6s,baz=96,slow=6.9,SNR=103							
WRA				PcP		**PcP**	**00 40 38.0**	**+0.2**
	comp=Z,7.8nm,0.8s,baz=90,slow=4.3,SNR=5.5							
WRA				ScP		**ScP**	**00 44 32.6**	**+3.6**
	comp=Z,1.5nm,0.9s,baz=88,slow=4.3,SNR=4.5							
WRA				LR		LR	00 59 27.4	
	comp=Z,1μm,18.5s,baz=100,slow=35							
WRA	**Warramunga Arr**	**49.27**	**258**	P		**P**	**00 39 13.2**	**-2.2**
WRA							00 40 38.0	
WRA				pmax		pmax		
	comp=Z,10.0nm,0.5s							
WRA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
WRA				pmax		pmax		
	comp=N,2.0nm,0.9s							
AS01	**Alice Springs**	**49.36**	**253**	*e*P		**P**	**00 39 14.3**	**-1.7**
AS31	**Alice Springs**	**49.40**	**253**	*e*P		**P**	**00 39 14.8**	**-1.5**
	comp=N,43nm,0.8s							
ASAR	**Alice Springs**	**49.40**	**253**	P		**P**	**00 39 14.8**	**-1.5**
	comp=N,75nm,0.8s,baz=89,slow=8.5,SNR=293							
ASAR				PcP		**PcP**	**00 40 38.1**	**-0.1**
	comp=N,14nm,0.9s,baz=101,slow=3.8,SNR=5.0							
ASAR				ScP		**ScP**	**00 44 34.1**	**+4.6**
	comp=N,1.9nm,1.0s,baz=101,slow=4.8,SNR=4.7							
ASAR				LR		LR	00 59 51.2	
	comp=N,564nm,18.0s,baz=95,slow=36							
GUMO	**Guam**	**51.09**	**304**	LR		LR	00 58 02.7	
	comp=N,235nm,20.9s,baz=124,slow=32							
MTN	**Manton Dam**	**53.40**	**267**	P		**P**	**00 39 47.2**	**+0.9**
	baz=54,SNR=7.7							
MTN	**Manton Dam**	**53.40**	**267**	*e*P		**P**	**00 39 45.7**	**-0.6**
	comp=N,29nm,1.0s							
WRKA	**Warakurna**	**54.43**	**251**	P		**P**	**00 39 51.7**	**-2.1**
	baz=54,SNR=40							
PALU	**Palau**	**56.76**	**291**	P		**P**	**00 40 11.7**	**+1.1**
	baz=57,SNR=3.3							
FITZ	**Fitzroy Crossi**	**57.66**	**259**	LR		LR	01 03 19.3	
	comp=N,564nm,21.6s,baz=99,slow=34							
FITZ	**Fitzroy Crossi**	**57.66**	**259**	P		**P**	**00 40 15.8**	**-1.1**
	baz=58,SNR=5.5							
FITZ	**Fitzroy Crossi**	**57.66**	**259**	*e*P		**P**	**00 40 15.8**	**-1.1**
	comp=N,36nm,1.2s							
SOEI	**Soe**	**60.65**	**268**	*e*P		**P**	**00 40 39.4**	**+1.6**
	comp=N,90nm,0.9s							
SBA	**Scott Base**	**61.54**	**185**	*e*P		**P**	**00 40 43.4**	**+0.8**
SBA				pmax		pmax		
	comp=Z,55nm,1.1s							
SBA	**Scott Base**	**61.54**	**185**	*e*P		**P**	**00 40 43.4**	**+0.8**
	comp=Z,55nm,1.1s							
SBA				LR		LR		
	comp=Z,402nm,19.0s							
VNDA	**Vanda**	**61.66**	**186**	P		**P**	**00 40 45.5**	**+2.1**
	comp=Z,24nm,1.1s,baz=9.1,slow=6.9,SNR=51							
VNDA				LR		LR	01 01 46.2	
	comp=Z,204nm,21.6s,baz=42,slow=30							
VNDA	**Vanda**	**61.66**	**186**	*e*P		**P**	**00 40 44.0**	**+0.5**
VNDA				pmax		pmax		
	comp=Z,36nm,1.1s							
VNDA	**Vanda**	**61.66**	**186**	*e*P		**P**	**00 40 44.0**	**+0.5**
	comp=Z,36nm,1.1s							
MBWA	**Marble Bar**	**62.69**	**255**	*e*P		**P**	**00 40 50.8**	**-0.5**
	comp=Z,57nm,1.4s							
MBWA				LR		LR		
	comp=Z,1μm,19.0s							
KLBR	**Kellerberrin**	**63.26**	**243**	P		**P**	**00 40 54.2**	**-0.8**
	baz=63,SNR=36							
NWAO	**Narrogin (SRO)**	**63.61**	**241**	P		**P**	**00 40 57.9**	**+0.7**
	comp=Z,9.0nm,0.6s,baz=302,slow=4.5,SNR=10.0							
NWAO	**Narrogin (SRO)**	**63.61**	**241**	P		**P**	**00 40 56.7**	**-0.5**
	baz=64,SNR=6.2							
NWAO	**Narrogin (SRO)**	**63.61**	**241**	P		**P**	**00 40 57.9**	**+0.7**
NWAO				LR		LR		
	comp=Z,1μm,22.0s							
BLDU	**Ballidu**	**64.24**	**244**	P		**P**	**00 41 00.5**	**-1.0**
	baz=64,SNR=28							
DAV	**Davao City (W)**	**64.70**	**287**	PFAKE			00 41 20.0	+15
DAV				LR		LR		
	comp=Z,263nm,20.0s							
KAPI	**Kappang**	**66.21**	**272**	*e*P		**P**	**00 41 14.8**	**+0.3**
	comp=Z,24nm,0.9s							
KAPI				LR		LR		
	comp=Z,202nm,21.0s							
CASY	**Casey**	**68.78**	**205**	*e*P		**P**	**00 41 30.7**	**+1.0**
	comp=Z,39nm,1.0s							
CASY				LR		LR		
	comp=Z,78nm,19.0s							
MJAR	**Matsushiro Arr**	**70.11**	**320**	P		**P**	**00 41 37.6**	**-0.7**
	comp=Z,12nm,0.7s,baz=157,slow=5.9,SNR=26							
MJAR				LR		LR	01 07 08.1	
	comp=Z,417nm,21.9s,baz=115,slow=32							
MAJO	**Matsushiro**	**70.11**	**320**	*d*P		**P**	**00 41 38.3**	**-0.1**
MAJO				pmax		pmax		
	comp=Z,149nm,0.8s							
MAJO	**Matsushiro**	**70.11**	**320**	*e*P		**P**	**00 41 38.2**	**-0.1**
	comp=Z,21nm,0.8s							
MAJO				LR		LR		
	comp=Z,586nm,22.0s							
MAT	**Matsushiro**	**70.11**	**320**	P		**P**	**00 41 37.6**	**-0.8**
MAT				*e*S		**S**	**00 50 45.8**	**-0.1**
MJB9	**Matsu-Tunnel**	**70.11**	**320**	*e*P		**P**	**00 41 38.9**	**+0.5**
	comp=Z,5.4nm,0.8s							
MYLDM	**Lahad Datu**	**70.58**	**282**	*e*P		**P**	**00 41 43.3**	**+1.6**
	comp=Z,28nm,1.0s							
JAGI	**Jajag, Banyuwa**	**70.64**	**267**	*e*P		**P**	**00 41 40.0**	**-2.1**
	comp=Z,81nm,0.8s							
ERM	**Erimo**	**71.08**	**327**	*ce*P		**P**	**00 41 46.5**	**+2.4**
ERM				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ERM	**Erimo**	**71.08**	**327**	*e*P		**P**	**00 41 46.0**	**+1.9**
	comp=Z,17nm,1.0s							
ERM				LR		LR		
	comp=Z,478nm,22.0s							
H06S1	**SOCORRO T**	**71.17**	**63**	T		T	01 59 41.6	
H06N1	**SOCORRO T-PHAS**	**71.20**	**63**	T		T	01 59 44.1	
H06E1	**SOCORRO T

WOFM	**Oak Flat**	73.79	44	*e*P		**P**	00 42 01.1	+0.5
PET	**Petropavlovsk**	73.84	343	*e*P		**P**	00 41 58.4	-1.9
PET				*e*S		**S**	00 51 27.2	-0.7
PET				*e*PS		**PnS**	00 52 05.3	-1.6
MONP2	**Monument Peak**	73.87	47	P		**P**	00 42 01.7	+0.4
	baz=237,SNR=16							
RCTC	**Rector, Farmer**	73.89	43	P		**P**	00 42 01.3	+0.3
	baz=234							
EDW2	**Edwards Air Fo**	73.89	45	P		**P**	00 42 01.7	+0.5
	baz=235,SNR=39							
KHMM	**Horse Mountain**	73.94	37	*e*P		**P**	00 42 03.1	+1.7
	comp=Z,85nm,1.3s							
IKP	**In-Ko-Pah, Jac**	73.96	48	P		**P**	00 42 02.1	+0.5
	baz=237,SNR=13							
ISA	**Isabella, Lake**	74.02	44	P		**P**	00 42 02.5	+0.7
	baz=235,SNR=16							
ISA	**Isabella, Lake**	74.02	44	*e*P		**P**	00 42 03.1	+1.2
ISA				pmax		pmax		
	comp=Z,93nm,1.1s							
ISA	**Isabella, Lake**	74.02	44	*e*P		**P**	00 42 03.1	+1.2
	comp=Z,93nm,1.1s							
SRIG	**Santa Rosalia**	74.09	54	*e*P		**P**	00 42 02.7	+0.3
	comp=Z,120nm,1.3s							
CMB	**Columbia Colle**	74.18	41	*e*P		**P**	00 42 03.2	+0.4
CMB				pmax		pmax		
	comp=Z,72nm,1.2s							
CMB	**Columbia Colle**	74.18	41	*e*P		**P**	00 42 03.2	+0.4
	comp=Z,72nm,1.2s							
PEA0	**Petropavlovsk-**	74.19	342	*e*P		**P**	00 42 02.2	-0.1
PEA0B	**Petropavlovsk-**	74.19	342	*e*P		**P**	00 42 02.8	+0.4
	comp=Z,200nm,1.5s							
PETK	**Petropavlovsk-**	74.19	342	P		**P**	00 42 02.6	+0.3
	comp=Z,35nm,0.7s,baz=151,slow=32,SNR=25							
PETK				LR		LR	01 09 30.9	
	comp=Z,90nm,21.4s,baz=152,slow=32							
SLBS	**Sierra La Lagu**	74.22	59	*e*P		**P**	00 42 04.6	+1.3
	comp=Z,68nm,1.4s							
PFO	**Pinyon Flats O**	74.24	47	P		**P**	00 42 03.6	+0.3
	baz=236,SNR=15							
PFO	**Pinyon Flats O**	74.24	47	*e*P		**P**	00 42 03.7	+0.4
PFO				pmax		pmax		
	comp=Z,47nm,1.1s							
PFO	**Pinyon Flats O**	74.24	47	*e*P		**P**	00 42 03.7	+0.4
	comp=Z,47nm,1.1s							
PFO				LR		LR		
	comp=Z,1μm,21.0s							
TPFO	**Pinon Flats**	74.24	47	P		**P**	00 42 03.6	+0.3
	baz=236,SNR=20							
CHGN	**Chignik**	74.24	9	*e*P		**P**	00 42 01.9	-0.7
BBRC	**Big Bear Solar**	74.28	46	P		**P**	00 42 04.0	+0.3
	baz=236							
SWSC	**Sam W. Stewart**	74.34	48	P		**P**	00 42 04.0	+0.3
	baz=237,SNR=8.8							
AFDM	**Forest Hills D**	74.38	40	*e*P		**P**	00 42 04.6	+0.8
	comp=Z,58nm,1.2s							
ORV	**Oroville**	74.43	39	*e*P		**P**	00 42 04.9	+0.8
ORV				pmax		pmax		
	comp=Z,64nm,1.3s							
ORV	**Oroville**	74.43	39	*e*P		**P**	00 42 04.9	+0.8
	comp=Z,64nm,1.4s							
LRMC	**Laurel Mtn Rad**	74.44	45	P		**P**	00 42 04.8	+0.4
	baz=235							
WDC	**Whiskeytown Da**	74.45	38	*e*P		**P**	00 42 05.3	+1.2
WDC				pmax		pmax		
	comp=Z,120nm,1.4s							
WDC	**Whiskeytown Da**	74.45	38	*e*P		**P**	00 42 05.3	+1.2
	comp=Z,115nm,1.4s							
RRX	**Edison Barstow**	74.57	45	P		**P**	00 42 05.4	+0.4
	baz=236							
N02D	**Trinity Center**	74.60	38	P		**P**	00 42 06.1	+0.9
	baz=230,SNR=21							
O03D	**Paynes Creek**	74.71	39	P		**P**	00 42 06.0	+0.2
	baz=231,SNR=26							
CWC	**Cottonwood Cre**	74.73	44	P		**P**	00 42 06.6	+0.5
	baz=235							
BELC	**Belle Mtn. Jos**	74.77	47	P		**P**	00 42 06.6	+0.2
	baz=237,SNR=19							
M02C	**Callahan**	74.78	37	P		**P**	00 42 07.4	+1.2
	baz=230,SNR=26							
L02D	**Cave Junction,**	74.85	36	P		**P**	00 42 07.5	+1.0
	baz=229,SNR=9.2							
YSS	**Yuzh-Sakhalins**	74.86	331	*e*P		**P**	00 42 07.1	+0.7
YSS				*e*			00 42 23.1	
YSS				pmax		pmax		
	comp=Z,100nm,0.8s							
YSS	**Yuzh-Sakhalins**	74.86	331	*e*P		**P**	00 42 07.3	+0.9
	comp=Z,98nm,0.9s							
YSS				LR		LR		
	comp=Z,176nm,21.0s							
MPMC	**Manual Prospec**	74.90	44	P		**P**	00 42 07.7	+0.6
	baz=235,SNR=116							
MLAC	**Mammoth, Mammo**	74.93	42	P		**P**	00 42 08.0	+0.7
	baz=234							
GSC	**Goldstone, Bar**	74.94	45	P		**P**	00 42 07.6	+0.4
	baz=236,SNR=48							
GSC	**Goldstone, Bar**	74.94	45	*e*P		**P**	00 42 07.2	0.0
GSC				pmax		pmax		
	comp=Z,87nm,1.2s							
GSC	**Goldstone, Bar**	74.94	45	*e*P		**P**	00 42 07.2	0.0
	comp=Z,87nm,1.2s							
DAC	**Darwin (Calif)**	74.96	44	*e*P		P	00 42 00.0	-7.5
DAC				pmax		pmax		
	comp=Z,68nm,1.3s							
BC3	**Big Chuckawall**	74.97	47	P		**P**	00 42 08.0	+0.5
	baz=237,SNR=14							
TIN	**Tinemaha, Big**	74.98	43	P		**P**	00 42 08.1	+0.6
	baz=234,SNR=9.7							
HEC	**Hector,Ludlow**	74.99	46	P		**P**	00 42 07.8	+0.2
	baz=236,SNR=17							
WAKR	**Walker**	75.06	41	*e*P		**P**	00 42 09.3	+1.3
	comp=Z,127nm,1.4s							
GLA	**Glamis**	75.08	48	P		**P**	00 42 08.7	+0.6
	baz=238							
GLA	**Glamis**	75.08	48	*e*P		**P**	00 42 09.4	+1.3
GLA				pmax		pmax		
	comp=Z,84nm,1.2s							
GLA	**Glamis**	75.08	48	*e*P		**P**	00 42 09.4	+1.3
	comp=Z,84nm,1.3s							
NACB	**Ninganchiao**	75.34	301	*e*P		**P**	00 42 08.7	-1.0
	comp=Z,74nm,1.2s							
GMRC	**Granite Mounta**	75.43	46	P		**P**	00 42 10.4	+0.3
	baz=237,SNR=41							
IRM	**Iron Mountain**	75.45	47	P		**P**	00 42 10.8	+0.6
	baz=237,SNR=37							
HUMO	**Hull Mountain**	75.51	36	*e*P		**P**	00 42 11.1	+0.9
	comp=Z,200nm,1.1s							
GRAC	**Grapevine Rang**	75.52	43	P		**P**	00 42 11.4	+0.9
	baz=235,SNR=12							
FURC	**Furnace Creek,**	75.55	44	P		**P**	00 42 11.1	+0.6
	baz=236,SNR=32							
TUQ	**Turquoise Moun**	75.61	45	P		**P**	00 42 11.4	+0.3
	baz=236,SNR=20							
SBUM	**Sibu**	75.62	277	*e*P		**P**	00 42 12.0	+0.5
	comp=Z,15nm,1.1s							
M04C	**Macdoel**	75.62	37	P		**P**	00 42 11.9	+0.8
	baz=231,SNR=35							
SHOC	**Shoshone, Teco**	75.63	45	P		**P**	00 42 11.3	+0.2
	baz=236,SNR=27							
Y12C	**Blythe**	75.67	48	P		**P**	00 42 11.8	+0.5
	baz=238,SNR=11							
Y12C	**Blythe**	75.67	48	*e*P		**P**	00 42 12.2	+0.9
	comp=Z,73nm,1.3s							
SSLB	**Suanglung**	75.70	301	*e*P		**P**	00 42 11.2	-0.6
	comp=Z,13nm,0.8s							
YHNB	**Yeheng**	75.74	302	*e*P		**P**	00 42 12.1	0.0
	comp=Z,162nm,1.7s							
YHNB				LR		LR		
	comp=Z,419nm,20.0s							
TPUB	**Ta-pu**	75.75	300	*e*P		**P**	00 42 11.2	-0.9
	comp=Z,58nm,1.2s							
PAHR	**Pah Rah Range**	75.81	40	*e*P		**P**	00 42 12.8	+0.5
	comp=Z,78nm,1.3s							
HSIG		75.91	53	*e*P		**P**	00 42 13.0	+0.1
	comp=Z,61nm,1.4s							
RNO	**Roman Nose**	75.92	35	P		**P**	00 42 13.5	+0.9
214A	**Organ Pipe Nat**	75.97	50	P		**P**	00 42 13.7	+0.6
	baz=239							
214A	**Organ Pipe Nat**	75.97	50	*e*P		**P**	00 42 13.7	+0.6
	comp=Z,340nm,1.4s							
LDFC	**Landfair**	75.97	46	*e*P		**P**	00 42 14.7	+1.4
	comp=Z,203nm,1.4s							
OHAK	**Old Harbor**	75.97	11	*e*P		**P**	00 42 12.9	+0.4
	comp=Z,75nm,1.1s							
I03D	**Drain, OR**	75.99	35	P		**P**	00 42 13.6	+0.6
	baz=229,SNR=15							
NEE2	**Needles Airpor**	76.14	47	P		**P**	00 42 14.5	+0.5
	baz=238							

K04D	**Chiloquin, OR**	76.20	37	P		**P**	00 42 15.0	+0.7
	baz=231							
TPNV	**Topopah Spring**	76.23	44	P		**P**	00 42 15.1	+0.4
	baz=236,SNR=41							
TPNV	**Topopah Spring**	76.23	44	*e*P		**P**	00 42 15.5	+0.8
TPNV				pmax		pmax		
	comp=Z,75nm,1.1s							
TPNV	**Topopah Spring**	76.23	44	*e*P		**P**	00 42 15.5	+0.8
	comp=Z,74nm,1.1s							
PDMCI	**Parker Dam,Lak**	76.23	47	P		**P**	00 42 15.0	+0.5
	baz=238,SNR=19							
I04A	**Tendick Farm,**	76.58	35	P		**P**	00 42 16.4	0.0
	baz=230,SNR=20							
MOD	**Modoc Plateau**	76.59	38	*e*P		**P**	00 42 17.4	+0.8
	comp=Z,76nm,1.1s							
COR	**Corvallis**	76.60	34	*e*P		**P**	00 42 17.7	+1.3
COR				pmax		pmax		
	comp=Z,64nm,1.1s							
COR	**Corvallis**	76.60	34	*e*P		**P**	00 42 17.7	+1.3
	comp=Z,64nm,1.1s							
KDAK	**Kodiak Island**	76.63	11	*i* P		**P**	00 42 16.5	+0.3
KDAK	**Kodiak Island**	76.63	11	*e*P		**P**	00 42 16.8	+0.6
	comp=Z,161nm,1.4s							
KDAK				LR		LR		
	comp=Z,847nm,22.0s							
SHPR	**Sheep Range**	76.71	45	*e*P		**P**	00 42 18.4	+0.9
	comp=Z,105nm,1.3s							
K05A	**Summer Lake**	76.76	37	*e*P		**P**	00 42 18.5	+0.9
	comp=Z,129nm,1.1s							
W13A	**Hualapai Mount**	76.83	47	*e*P		**P**	00 42 19.0	+0.7
	comp=Z,46nm,1.1s							
Y14A	**Wickenburg**	76.84	48	*e*P		**P**	00 42 18.8	+0.7
J05D	**Fort Rock, OR**	76.91	36	P		**P**	00 42 19.1	+0.7
	baz=231,SNR=72							
G03D	**McMinnville, O**	77.03	34	P		**P**	00 42 19.5	+0.7
	baz=229,SNR=19							
KSM	**Kuching**	77.14	276	*e*P		**P**	00 42 20.8	+0.7
	comp=Z,52nm,1.1s							
KSM				LR		LR		
	comp=Z,163nm,19.0s							
KMOR	**Kings Mountain**	77.19	34	P		**P**	00 42 20.3	+0.5
KSRS	**Korea Array**	77.23	316	P		**P**	00 42 21.6	+1.5
	comp=Z,20nm,1.0s,baz=131,slow=6.5,SNR=29							
KSRS				LR		LR	01 13 17.1	
	comp=Z,99nm,19.1s,baz=118,slow=33							
KSAR	**Wonju Array Be**	77.25	316	P		**P**	00 42 21.6	+1.4
KSAR	**Wonju Array Be**	77.25	316	P		**P**	00 42 21.6	+1.4
KS01	**Wonju Array Si**	77.26	316	*e*P		**P**	00 42 20.4	+0.1
F03A	**Seaside**	77.35	33	*e*P		**P**	00 42 21.9	+1.3
	comp=Z,71nm,1.0s							
R11A	**Troy Canyon, C**	77.44	43	P		**P**	00 42 21.7	+0.2
	baz=236,SNR=69							
R11A	**Troy Canyon, C**	77.44	43	*e*P		**P**	00 42 21.8	+0.3
I05D	**Terrebonne, OR**	77.52	36	P		**P**	00 42 22.0	+0.4
	baz=231,SNR=7.4							
BMN	**Battle Mountai**	77.58	41	*e*P		**P**	00 42 22.8	+0.6
BMN				pmax		pmax		
	comp=Z,78nm,1.2s							
BMN	**Battle Mountai**	77.58	41	*e*P		**P**	00 42 22.8	+0.6
	comp=Z,78nm,1.2s							
TUC	**Tucson**	77.63	50	P		**P**	00 42 23.8	+1.1
	baz=240							
TUC	**Tucson**	77.63	50	*e*P		**P**	00 42 22.8	+0.2
TUC				pmax		pmax		
	comp=Z,140nm,1.5s							
TUC	**Tucson**	77.63	50	*e*P		**P**	00 42 22.8	+0.2
	comp=Z,137nm,1.5s							
TUC				LR		LR		
	comp=Z,723nm,20.0s							
F04D	**Rainier, OR**	77.73	33	P		**P**	00 42 23.7	+0.9
	baz=229							
E03A	**Lebam**	77.75	33	*e*P		**P**	00 42 23.9	+1.1
	comp=Z,80nm,1.0s							
TYV	**Tymovskoe**	77.77	333	*e*P		**P**	00 42 20.0	-2.8
TYV				pmax		pmax		
	comp=N,22nm,1.0s							
TYV				MLR		MLR		
	comp=Z,1μm,18.0s							
ON2	**Olympics--Nort**	77.86	32	P		**P**	00 42 24.7	+1.3
WVOR	**Wild Horse Val**	77.90	38	*e*P		**P**	00 42 24.4	+0.5
WVOR				pmax		pmax		
	comp=Z,79nm,1.1s							
WVOR	**Wild Horse Val**	77.90	38	*e*P		**P**	00 42 24.4	+0.5
	comp=Z,79nm,1.1s							
WVOR				LR		LR		
	comp=Z,1μm,22.0s							
G05D	**Wamic, OR**	78.10	35	P		**P**	00 42 25.1	+0.3
	baz=231,SNR=6.2							
CROR	**Criterion Ridg**	78.12	35	P		**P**	00 42 25.2	+0.2
NLWA	**Neilton Lookou**	78.16	32	*e*P		**P**	00 42 26.3	+1.2
	comp=Z,48nm,1.1s							
NLWA				LR		LR		
	comp=Z,637nm,20.0s							
X16A	**Lo Mia Camp, P**	78.20	48	*e*P		**P**	00 42 27.1	+1.2
	comp=Z,49nm,0.9s							
LCMT	**Little Creek M**	78.28	45	*e*P		**P**	00 42 27.1	+0.9
	comp=Z,69nm,1.2s							
319A	**Douglas**	78.31	52	*e*P		**P**	00 42 27.5	+1.1
TDL	**Tradedollar La**	78.33	34	P		**P**	00 42 27.0	+0.8
GULW	**Guler Mountain**	78.38	34	P		**P**	00 42 26.9	+0.4
G06A	**Carlson Farm,**	78.47	35	*e*P		**P**	00 42 27.2	+0.3
	comp=Z,35nm,1.1s							
DIB	**Dawson Inlet,**	78.48	24	*e*P		**P**	00 42 27.8	+1.1
	comp=Z,40nm,1.2s							
CCUT	**Cedar City**	78.49	45	*e*P		**P**	00 42 28.6	+1.2
	comp=Z,88nm,1.2s							
CNPM	**China Poot**	78.52	11	*e*P		**P**	00 42 27.2	+0.4
	comp=Z,95nm,1.2s							
KNB	**Kanab**	78.57	45	*e*P		**P**	00 42 29.0	+1.2
KNB				pmax		pmax		
	comp=Z,120nm,1.3s							
KNB	**Kanab**	78.57	45	*e*P		**P**	00 42 29.0	+1.2
	comp=Z,125nm,1.3s							
USRK	**Ussuriysk Ar.**	78.62	323	P		**P**	00 42 28.8	+1.1
	comp=Z,8.5nm,0.9s,baz=103,slow=4.1,SNR=12							
USRK				LR		LR	01 10 50.1	
	comp=Z,583nm,21.9s,baz=120,slow=31							
U15A	**North Rim**	78.63	46	*e*P		**P**	00 42 29.5	+1.2
	comp=Z,109nm,1.2s							
PSUT	**Pine Spring**	78.68	44	*e*P		**P**	00 42 29.7	+1.3
	comp=Z,36nm,0.9s							
LON	**Longmire**	78.80	33	*e*P		**P**	00 42 28.8	+0.1
LON				pmax		pmax		
	comp=Z,18nm,1.0s							
LON	**Longmire**	78.80	33	*e*P		**P**	00 42 28.8	+0.1
	comp=Z,18nm,1.1s							
BRLK	**Bradley Lake**	78.80	12	*e*P		**P**	00 42 28.7	+0.3
	comp=Z,113nm,1.2s							
WUAZ	**Wupatki**	78.80	47	P		**P**	00 42 29.7	+0.6
	baz=240							
WUAZ	**Wupatki**	78.80	47	*e*P		**P**	00 42 30.5	+1.4
	comp=Z,86nm,1.4s							
WUAZ				LR		LR		
	comp=Z,584nm,22.0s							
D05A	**Enumclaw**	78.99	33	P		**P**	00 42 30.3	+0.7
ELK	**Elko**	79.00	41	*e*P		**P**	00 42 30.6	+0.4
ELK				pmax		pmax		
	comp=Z,48nm,1.1s							
ELK	**Elko**	79.00	41	*e*P		**P**	00 42 30.6	+0.4
	comp=Z,48nm,1.1s							
HPIG		79.12	57	*e*P		**P**	00 42 31.2	+0.1
	comp=Z,79nm,1.2s							
PKCU	**Pink Cliffs**	79.14	45	*e*P		**P**	00 42 33.4	+2.2
	comp=Z,102nm,1.2s							
PGC	**Sidney**	79.20	31	*e*P		**P**	00 42 31.1	+0.4
	comp=Z,196nm,1.8s							
F07A	**Phinny Hill Vi**	79.27	35	P		**P**	00 42 31.2	0.0
SVW2	**Sparrevohn**	79.27	9	*e*P		**P**	00 42 30.8	-0.1
	comp=Z,60nm,1.2s							
X18A	**Snowflake**	79.33	49	*e*P		**P**	00 42 33.0	+1.0
	comp=Z,60nm,1.4s							
SEW	**Seward**	79.40	12	*e*P		**P**	00 42 31.6	+0.1
	comp=Z,43nm,1.1s							
MTPU	**Mount Pierson**	79.54	45	*e*P		**P**	00 42 35.0	+1.6
A04D	**Lummi Island**	79.62	32	P		**P**	00 42 33.5	+0.5
	baz=229,SNR=19							
B05A	**Bryant**	79.63	32	P		**P**	00 42 33.4	+0.3
	baz=230,SNR=22							
B05A	**Bryant**	79.63	32	P		**P**	00 42 33.3	+0.2
HABR	**Khabarovsk**	79.67	328	*e*P		**P**	00 42 31.7	-1.6
HABR				*e*PP		**PcP**	00 42 42.1	+1.2
HABR				*e*SP		**pP**	00 42 46.1	-1.6
HABR				*e*			00 45 31.8	
HABR				*e*PPP		PPP	00 47 20.8	
HABR				*e*S		**S**	00 52 30.9	-0.8
HABR				*e*SS		**ScS**	00 52 48.8	-4.2
HABR				*e*			00 52 52.3	

HABR				*e*SS		**SS**	00 57 39.9	-1.6
HABR				*e*SSS		SSS	01 01 05.6	
HABR				pmax		pmax		
	comp=Z,100nm,1.1s							
HABR				pmax		pmax		
	comp=Z,17nm,0.8s							
HABR				pmax		pmax		
	comp=E,26nm,0.8s							
HABR				MLR		MLR		
	comp=Z,93nm,19.0s							
W18A	**Petrified Fore**	79.77	48	P		**P**	00 42 35.0	+0.6
	baz=241							
W18A	**Petrified Fore**	79.77	48	*e*P		**P**	00 42 34.5	0.0
	comp=Z,33nm,1.3s							
MSU	**Marysvale**	79.79	44	*e*P		**P**	00 42 35.7	+1.2
MSU	**Marysvale**	79.79	44	*e*P		**P**	00 42 35.6	+1.2
HAWA	**Hanford**	79.80	35	*e*P		**P**	00 42 34.6	+0.6
	comp=Z,78nm,1.3s							
HAWA				LR		LR		
	comp=Z,797nm,21.0s							
H2OWA	**Water**	79.86	35	P		**P**	00 42 35.2	+0.9
SPU	**Mount Spurr**	79.92	10	*e*P		**P**	00 42 33.4	-1.0
121A	**Cookes Peak, D**	79.97	52	P		**P**	00 42 36.6	+1.1
	baz=242							
121A	**Cookes Peak, D**	79.97	52	*e*P		**P**	00 42 36.1	+0.6
	comp=Z,67nm,1.0s							
MOIG	**Morelia**	79.97	66	*e*P		**P**	00 42 36.8	+0.9
	comp=Z,49nm,0.9s							
ZAIG	**Zacatecas**	79.98	62	*e*P		**P**	00 42 37.4	+1.5
	comp=Z,54nm,1.1s							
CRAG	**Craig**	80.00	22	*e*P		**P**	00 42 35.9	+1.0
	comp=Z,64nm,1.0s							
C06D	**Leavenworth**	80.03	33	P		**P**	00 42 35.3	-0.1
	baz=231							
BMO	**Blue Mountains**	80.11	37	*e*P		**P**	00 42 36.1	+0.1
BMO				pmax		pmax		
	comp=Z,48nm,1.1s							
BMO	**Blue Mountains**	80.11	37	*e*P		**P**	00 42 36.1	+0.1
	comp=Z,48nm,1.1s							
BMO				LR		LR		
	comp=Z,782nm,21.0s							
MFID	**Camas Ranch**	80.14	39	*e*P		**P**	00 42 36.5	+0.4
	comp=Z,47nm,1.0s							
MFID				*e*PP		**PP**	00 45 38.7	-0.5
MDJ	**Mudanjiang**	80.25	323	PFAKE			00 42 50.0	+13
MDJ				LR		LR		
	comp=Z,664nm,22.0s							
RC01	**Rabbit Creek A**	80.25	12	*e*P		**P**	00 42 36.4	+0.2
	comp=Z,140nm,1.4s							
DUG	**Dugway, Tooele**	80.25	43	*e*P		**P**	00 42 37.3	+0.4
DUG				pmax		pmax		
	comp=Z,55nm,1.3s							
DUG	**Dugway, Tooele**	80.25	43	*e*P		**P**	00 42 37.3	+0.4
	comp=Z,55nm,1.3s							
DUG				LR		LR		
	comp=Z,841nm,22.0s							
WTV	**Waterville**	80.38	34	P		**P**	00 42 37.6	+0.3
SUA	**Susitna One**	80.41	11	*e*P		**P**	00 42 36.6	-0.5
	comp=Z,40nm,0.8s							
BGU	**Big Grassy Mou**	80.50	42	*e*P		**P**	00 42 38.2	0.0
	comp=Z,18nm,1.2s							
D08A	**Wollman Farm,**	80.53	34	P		**P**	00 42 38.0	0.0
EYAK	**Cordova Ski Ar**	80.59	14	*e*P		**P**	00 42 38.1	+0.2
	comp=Z,62nm,1.3s							
E09A	**Wood Farm, Sta**	80.63	35	*e*P		**P**	00 42 39.0	+0.4
	comp=Z,61nm,1.3s							
Q16A	**Castle Valley**	80.67	45	*e*P		**P**	00 42 40.5	+1.2
	comp=Z,42nm,1.1s							
SAW	**Saint Andrews**	80.67	34	P		**P**	00 42 38.9	+0.1
RAGM	**Ragged Mountai**	80.69	14	*e*P		**P**	00 42 38.9	+0.3
	comp=Z,78nm,1.2s							
PMR	**Palmer**	80.83	12	*e*P		**P**	00 42 38.9	-0.3
PMR				pmax		pmax		
	comp=Z,150nm,1.5s							
PMR	**Palmer**	80.83	12	*e*P		**P**	00 42 38.9	-0.3
	comp=Z,154nm,1.5s							
TMUT	**Trail Mountain**	80.84	44	*e*P		**P**	00 42 41.6	+1.4
	comp=Z,85nm,1.1s							
TT01	**Tatalina**	80.94	8	*e*P		**P**	00 42 40.0	+0.2
TTA	**Tatalina**	80.97	8	*e*P		**P**	00 42 41.2	+1.1
TTA				pmax		pmax		
	comp=Z,100nm,1.2s							
TTA	**Tatalina**	80.97	8	*e*P		**P**	00 42 41.2	+1.1
	comp=Z,102nm,1.3s							
WRAK	**Wrangell Islan**	81.01	22	*e*P		**P**	00 42 41.2	+0.9
	comp=Z,48nm,1.0s							
WRAK				LR		LR		
	comp=Z,615nm,19.0s							
SPUT	**South Promonto**	81.08	42	*e*P		**P**	00 42 42.1	+0.8
	comp=Z,53nm,1.3s							
HLID	**Hailey**	81.08	39	P		**P**	00 42 41.6	+0.4
	baz=236,SNR=65							
HLID	**Hailey**	81.08	39	*e*P		**P**	00 42 41.7	+0.4
	comp=Z,56nm,1.1s							
HLID				*e*PP		**PP**	00 45 46.3	-0.7
HLID				LR		LR		
	comp=Z,600nm,21.0s							
DIV	**Divide**	81.10	13	*e*P		**P**	00 42 40

MA2 MLR MLR
comp=Z,182nm,19.0s
MA2 Magadan 81.72 343 *e*P **P 00 42 43.8 -0.2**
comp=Z,274nm,1.4s
MA2 LR LR
comp=Z,182nm,19.0s
TX31 Lajitas Ar. Si 81.74 56 *e*P **P 00 42 46.0 +1.0**
TXAR Lajitas Array 81.74 56 P **P 00 42 45.7 +0.7**
comp=Z,49nm,1.1s,baz=217,slow=5.4,SNR=127
TXAR PP **PP 00 45 50.6 -2.1**
comp=Z,2.0nm,1.1s,baz=209,slow=4.8,SNR=4.3
TXAR LR LR 01 10 46.9
comp=Z,447nm,21.9s,baz=0.0,slow=30
HWUT Hardware Ranch 81.80 42 *e*P **P 00 42 45.1 0.0**
comp=Z,62nm,1.6s
HWUT LR LR
comp=Z,1μm,20.0s
BALM Baldy 81.81 15 *e*P **P 00 42 44.7 +0.1**
BALM Baldy 81.81 15 *e*P **P 00 42 44.7 +0.1**
KLR Kul'dur 81.83 327 *c i*P **P 00 42 44.6 -0.2**
PV09 Paradox Valley 81.84 46 *e*P **P 00 42 46.2 +0.6**
PV10 Paradox Valley 81.85 46 *e*P **P 00 42 45.5 0.0**
PV04 Paradox Valley 81.95 46 *e*P **P 00 42 46.5 +0.6**
PV01 Paradox Valley 82.05 46 *e*P **P 00 42 47.3 +0.7**
ANMO Albuquerque 82.06 50 P **P 00 42 47.5 +0.8**
baz=243
ANMO Albuquerque 82.06 50 *ce*P **P 00 42 47.3 +0.6**
ANMO pmax pmax
comp=Z,70nm,1.4s
ANMO Albuquerque 82.06 50 *e*P **P 00 42 47.5 +0.8**
comp=Z,94nm,1.4s
ANMO LR LR
comp=Z,535nm,21.0s
NEW Newport 82.23 34 P **P 00 42 46.4 -0.6**
baz=234,SNR=6.3
NEW Newport 82.23 34 *e*P **P 00 42 47.1 0.0**
NEW pmax pmax
comp=Z,21nm,1.1s
NEW Newport 82.23 34 *e*P **P 00 42 47.1 0.0**
comp=Z,21nm,1.1s
NEW LR LR
comp=Z,638nm,21.0s
CN2 Changchun 82.26 320 *e*P **P 00 42 47.5 +0.3**
CN2 *e*pP pP 00 43 04.0 +2.3
CN2 PMZ
comp=Z,30nm,1.0s
CN2 LN
comp=Z,300nm,20.0s
CN2 LE
comp=Z,500nm,20.0s
CN2 LZ
comp=Z,400nm,20.0s
KTH Kantishna Hill 82.32 10 *e*P **P 00 42 46.5 -0.7**
comp=Z,49nm,1.1s
TRF Thorofare Moun 82.34 10 *e*P **P 00 42 46.8 -0.6**
comp=Z,67nm,0.9s
SNY Shenyang 82.39 318 ⇑P **P**
SNY S **S 00 53 07.5 +7.2**
SNY PMZ
comp=Z,57nm,1.2s
SNY PMZ
comp=Z,580nm,3.5s
SNY LN
comp=Z,410nm,11.5s
SNY LE
comp=Z,520nm,8.4s
SKAG Skagway 82.42 19 *e*P **P 00 42 49.0 +1.3**
comp=Z,68nm,1.1s
RND Reindeer 82.55 11 *e*P **P 00 42 48.0 -0.4**
RND pmax pmax
comp=Z,140nm,1.2s
RND Reindeer 82.55 11 *e*P **P 00 42 48.0 -0.4**
comp=Z,136nm,1.2s
AHID Auburn Hatcher 82.70 41 *e*P **P 00 42 50.5 +0.7**
comp=Z,70nm,1.2s
AHID LR LR
comp=Z,844nm,21.0s
PMSA Palmer Station 82.71 156 LR LR 01 10 48.9
comp=Z,318nm,21.9s,baz=257,slow=29
MCMT McKenzie Canyo 82.71 39 *e*P **P 00 42 50.4 +0.5**
PAX Paxson 82.81 13 *e*P **P 00 42 49.2 -0.6**
PAX pmax pmax
comp=Z,27nm,1.3s
PAX Paxson 82.81 13 *e*P **P 00 42 49.2 -0.6**
comp=Z,27nm,1.3s
BPAW Bear Paw Mtn. 82.82 10 *e*P **P 00 42 48.4 -1.4**
comp=Z,30nm,1.2s
MCK McKinley 82.83 11 *e*P **P 00 42 49.5 -0.3**
MCK pmax pmax
comp=Z,130nm,1.0s
MCK McKinley 82.83 11 *e*P **P 00 42 49.5 -0.3**
comp=Z,130nm,1.1s
HYT Haines Junctio 82.90 17 *e*P **P 00 42 51.0 +0.6**
comp=Z,90nm,1.3s
S22A 4UR Ranch, Cre 83.08 47 P **P 00 42 52.8 +0.8**
baz=242
S22A 4UR Ranch, Cre 83.08 47 *e*P **P 00 42 53.2 +1.1**
BWN Browne 83.14 10 *e*P **P 00 42 51.4 0.0**
comp=Z,202nm,1.3s
DLMT Dillon 83.15 38 *e*P **P 00 42 52.5 +0.4**
comp=Z,62nm,1.3s
MENT Mentasta 83.16 13 *e*P **P 00 42 51.8 +0.3**
comp=Z,76nm,1.4s
REDW Red Top Meadow 83.16 41 *e*P **P 00 42 53.0 +0.7**
comp=Z,116nm,1.4s
TPAW Teton Pass 83.17 41 *e*P **P 00 42 52.8 +0.5**
comp=Z,88nm,1.3s
MSO Missoula 83.17 37 P **P 00 42 51.4 -0.6**
baz=236,SNR=19
MSO Missoula 83.17 37 *e*P **P 00 42 51.5 -0.5**
comp=Z,56nm,1.4s
O20A White River Ci 83.24 45 P **P 00 42 52.8 +0.1**
baz=241
O20A White River Ci 83.24 45 *e*P **P 00 42 53.4 +0.7**
BSMT Bassoo Peak 83.27 35 *e*P **P 00 42 52.4 -0.2**
SNOW Snow King Moun 83.27 41 *e*P **P 00 42 53.7 +0.9**
comp=Z,96nm,1.3s
QIZ Qiongzhong 83.35 292 P **P 00 42 54.3 +0.9**
QIZ PP **PP 00 46 05.5 -0.5**
QIZ S **S 00 53 12.5 +1.5**
QIZ LE
comp=Z,310nm,18.6s
QIZ Qiongzhong 83.35 292 PFAKE 00 43 00.0 +6.6
QIZ LR LR
comp=Z,298nm,20.0s
DLBC Dease Lake 83.36 21 *e*P **P 00 42 53.5 +0.8**
comp=Z,49nm,1.1s
IMW Indian Meadow 83.38 40 *e*P **P 00 42 54.2 +0.7**
comp=Z,86nm,1.3s
MOOW Moose Ponds 83.43 40 *e*P **P 00 42 54.2 +0.7**
comp=Z,52nm,1.4s
LOHW Long Hollow 83.44 41 *e*P **P 00 42 54.4 +0.7**
comp=Z,53nm,1.3s
LRM Limekiln Ridge 83.49 38 *e*P **P 00 42 53.9 0.0**
JTMT Jette 83.49 36 *e*P **P 00 42 53.4 -0.3**
SWMT Swartz Lake 83.52 36 *e*P **P 00 42 53.0 -0.9**
QLMT Earthquake Lak 83.57 39 *e*P **P 00 42 55.4 +1.1**
BLMT Blacktail Moun 83.59 36 *e*P **P 00 42 54.0 -0.3**
CHMT Chamberlain Mo 83.61 37 *e*P **P 00 42 54.1 -0.4**
FLWY Flagg Ranch 83.63 40 *e*P **P 00 42 55.0 +0.4**
comp=Z,103nm,1.3s
SMCO Snowmass 83.65 46 *e*P **P 00 42 56.0 +0.9**
comp=Z,64nm,1.1s
YPP Pitchstone Pla 83.66 40 *e*P **P 00 42 56.2 +1.4**
comp=Z,39nm,1.4s
WRH Wood River Hil 83.66 11 *e*P **P 00 42 53.4 -0.6**
comp=Z,224nm,1.1s
YHB Horse Butte 83.67 39 *e*P **P 00 42 56.3 +1.5**
comp=Z,78nm,1.1s
BW06 Boulder Array 83.67 42 P **P 00 42 54.5 -0.4**
baz=240,SNR=24
BW06 Boulder Array 83.67 42 *e*P **P 00 42 54.7 -0.2**
comp=Z,61nm,1.3s
BW06 LR LR
comp=Z,921nm,21.0s
PD31 Pinedale Array 83.67 42 *e*P **P 00 42 54.8 -0.2**
PDAR Pinedale Array 83.67 42 P **P 00 42 54.7 -0.2**
comp=Z,14nm,0.9s,baz=207,slow=3.0,SNR=72
PDAR PP **PP 00 46 05.7 -2.8**
comp=Z,4.7nm,1.2s,baz=244,slow=7.7,SNR=5.0
PDAR PKKPbc **PKKPbc 01 01 13.6 -0.2**
comp=Z,0.2nm,0.3s,baz=62,slow=2.5,SNR=3.8
PDAR LR LR 01 13 14.5
comp=Z,683nm,20.9s,baz=244,slow=31
YBMT Yellow Bay 83.71 36 *e*P **P 00 42 54.3 -0.5**
DOT Dot Lake 83.71 13 *e*P **P 00 42 54.3 0.0**
comp=Z,346nm,1.5s

MLY Manley 83.73 10 *e*P **P 00 42 53.5 -0.9**
comp=Z,77nm,1.1s
YFT Old Faithful 83.73 40 *e*P **P 00 42 57.3 +2.2**
comp=Z,66nm,1.5s
H17A Grant Village 83.86 40 P **P 00 42 57.2 +1.4**
baz=239,SNR=5.7
H17A Grant Village 83.86 40 *e*P **P 00 42 57.9 +2.0**
comp=Z,40nm,1.1s
CCB Clear Creek Bu 83.87 11 *e*P **P 00 42 54.7 -0.4**
comp=Z,202nm,1.3s
BOZ Bozeman (W) 83.88 39 P **P 00 42 55.9 +0.1**
baz=238,SNR=38
BOZ Bozeman (W) 83.88 39 *e*P **P 00 42 53.4 -2.4**
BOZ pmax pmax
comp=Z,66nm,1.2s
BOZ Bozeman (W) 83.88 39 *e*P **P 00 42 53.4 -2.4**
comp=Z,66nm,1.3s
BOZ LR LR
comp=Z,855nm,21.0s
YHH Holmes Hill 83.90 40 *e*P **P 00 42 57.4 +1.3**
comp=Z,166nm,1.9s
SDCO Great Sand Dun 84.02 48 P **P 00 42 57.0 +0.2**
baz=243
SDCO Great Sand Dun 84.02 48 *e*P **P 00 42 57.5 +0.7**
comp=Z,53nm,1.4s
SDCO LR LR
comp=Z,393nm,22.0s
LKWY Lake 84.06 40 PFAKE 00 43 10.0 +13
LKWY LR LR
comp=Z,577nm,21.0s
COLA College 84.07 11 *e*P **P 00 42 56.2 +0.2**
COLA pmax pmax
comp=Z,180nm,1.0s
COLA College 84.07 11 *e*P **P 00 42 56.2 +0.2**
comp=Z,183nm,0.9s
COLA LR LR
comp=Z,656nm,21.0s
MDM Murphy Dome 84.08 11 *e*P **P 00 42 55.6 -0.6**
comp=Z,223nm,1.2s
SEY Seymchan 84.11 345 *ce*P **P 00 42 55.9 -0.4**
IL1 Eielson Array 84.16 11 *e*P **P 00 42 54.9 -1.6**
ILAR Eielson Array 84.16 11 P **P 00 42 55.8 -0.8**
comp=Z,34nm,1.0s,baz=212,slow=5.2,SNR=143
ILAR PP **PP 00 46 08.3 -3.3**
comp=Z,5.1nm,1.1s,baz=214,slow=7.9,SNR=4.6
ILAR LR LR 01 13 24.6
comp=Z,204nm,21.6s,baz=208,slow=31
ILB Eielson Array 84.16 11 *e*P **P 00 42 56.0 -0.6**
832A Faith Ranch, C 84.28 58 P **P 00 42 58.3 +0.2**
baz=247,SNR=16
HRY Holter Researc 84.33 38 *e*P **P 00 42 58.7 +0.7**
MSTX Muleshoe 84.37 52 P **P 00 42 58.8 +0.4**
baz=245
MSTX Muleshoe 84.37 52 *e*P **P 00 42 59.0 +0.5**
comp=Z,173nm,1.2s
WALA Waterton Lakes 84.43 35 *e*P **P 00 42 58.2 -0.3**
comp=Z,96nm,1.6s
T25A Trinidad 84.52 49 P **P 00 42 59.4 +0.1**
baz=244
T25A Trinidad 84.52 49 *e*P **P 00 42 59.8 +0.4**
933A Laredo 84.60 59 P **P 00 43 00.2 +0.6**
baz=248,SNR=12
USHA Ushuaia 84.63 146 LR LR 01 11 05.6
comp=Z,2μm,21.8s,baz=218,slow=29
833A Chaparral WMA, 84.77 58 P **P 00 43 00.9 +0.4**
baz=248,SNR=5.5
Q24A Divide 84.81 47 P **P 00 43 00.9 0.0**
baz=243
ISCO Idaho Springs 84.87 46 P **P 00 43 01.3 +0.2**
baz=243
ISCO Idaho Springs 84.87 46 *e*P **P 00 43 01.8 +0.7**
ISCO pmax pmax
comp=Z,38nm,1.6s
ISCO Idaho Springs 84.87 46 *e*P **P 00 43 01.8 +0.7**
comp=Z,38nm,1.6s
ISCO LR LR
comp=Z,429nm,22.0s
034A Hebbronville 84.88 60 P **P 00 43 02.4 +1.4**
baz=248
733A Divot King Ran 85.00 58 P **P 00 43 02.0 +0.4**
baz=248,SNR=5.1
RLMT Red Lodge 85.04 40 P **P 00 43 02.0 +0.3**
baz=240,SNR=10.0
RLMT Red Lodge 85.04 40 *e*P **P 00 43 02.5 +0.8**
comp=Z,38nm,1.3s
RLMT LR LR
comp=Z,537nm,20.0s
DAWY Dawson 85.12 14 *e*P **P 00 43 01.5 0.0**
comp=Z,101nm,1.1s
GCMT Greycliff 85.13 39 *e*P **P 00 43 03.2 +1.1**
N23A Red Feather La 85.14 45 P **P 00 43 02.5 +0.1**
baz=243,SNR=11
N23A Red Feather La 85.14 45 *e*P **P 00 43 03.0 +0.5**
comp=Z,40nm,1.4s
035Z Hargill 85.17 61 P **P 00 43 03.9 +1.4**
baz=248
934A Benavides 85.21 59 P **P 00 43 04.0 +1.3**
baz=248,SNR=6.4
JCT Junction City 85.27 56 P **P 00 43 02.8 -0.2**
baz=247,SNR=9.0
JCT Junction City 85.27 56 *e*P **P 00 43 03.3 +0.3**
JCT pmax pmax
comp=Z,35nm,1.1s
JCT Junction City 85.27 56 *e*P **P 00 43 03.3 +0.3**
comp=Z,35nm,1.1s
JCT LR LR
comp=Z,425nm,21.0s
035A Encino 85.31 60 P **P 00 43 04.7 +1.5**
baz=248
EGAK Eagle 85.32 13 *e*P **P 00 43 02.8 +0.4**
comp=Z,100nm,1.2s
EGAK LR LR
comp=Z,610nm,19.0s
633A Saathoff Ranch 85.38 57 P **P 00 43 04.3 +0.8**
baz=248,SNR=20
834A Tilden 85.38 59 P **P 00 43 04.8 +1.3**
baz=248,SNR=23
AMTX Amarillo 85.57 52 P **P 00 43 04.4 -0.1**
baz=246
AMTX Amarillo 85.57 52 *e*P **P 00 43 05.2 +0.7**
comp=Z,89nm,1.0s
K22A Casper 85.57 43 P **P 00 43 04.0 -0.4**
baz=242,SNR=10
K22A Casper 85.57 43 *e*P **P 00 43 04.5 +0.1**
comp=Z,60nm,1.6s
734A La Parita Cree 85.65 58 P **P 00 43 05.6 +0.8**
baz=248
KVTX Kingsville 85.71 60 PFAKE 00 43 20.0 +15
KVTX LR LR
comp=Z,568nm,21.0s
533A Kerrville 85.72 57 P **P 00 43 05.5 +0.2**
baz=248,SNR=17
COLD Coldfoot 85.86 9 *e*P **P 00 43 05.9 +0.9**
comp=Z,84nm,1.1s
433A Art 85.94 56 P **P 00 43 06.3 0.0**
baz=247,SNR=43
634A China Grove, S 86.02 58 P **P 00 43 07.2 +0.5**
baz=248
UBPT Khong Chiam 86.03 287 P **P 00 43 11.2 +4.2**
comp=Z,18nm,2.2s
835A Beeville 86.03 59 P **P 00 43 07.7 +1.0**
baz=248
MAW Mawson 86.11 199 P **P 00 43 06.9 +0.4**
comp=Z,12nm,0.9s,baz=134,slow=5.2,SNR=18
MAW LR LR 01 19 15.0
comp=Z,618nm,20.6s,baz=78,slow=34
MAW Mawson 86.11 199 P **P 00 43 06.8 +0.4**
baz=86,SNR=8.9
MAW Mawson 86.11 199 *e*P **P 00 43 07.2 +0.8**
comp=Z,2.9nm,0.8s
534A Blanco 86.16 57 P **P 00 43 07.7 +0.3**
baz=248,SNR=31
BILL Bilibino 86.17 353 *c i*P **P 00 43 05.6 -0.9**
BILL *i* S **S 00 53 29.5 -7.5**
BILL *e*SSS SSS 01 02 47.4
BILL pmax pmax
comp=Z,85nm,1.3s
BILL MLR MLR
comp=Z,349nm,20.0s
BILL Bilibino 86.17 353 *e*P **P 00 43 06.6 +0.1**
comp=Z,82nm,1.2s
BILL LR LR
comp=Z,553nm,20.0s
EGMT Eagleton 86.21 37 PFAKE 00 43 20.0 +13
EGMT LR LR
comp=Z,711nm,19.0s
ABTX Abilene, Hawle 86.22 54 P **P 00 43 08.0 +0.3**
baz=247,SNR=48

ABTX Abilene, Hawle 86.22 54 *e*P **P 00 43 08.2 +0.5**
333A Richland Sprin 86.24 56 P **P 00 43 07.8 0.0**
baz=248,SNR=36
735A Kenedy 86.26 58 P **P 00 43 08.8 +1.0**
baz=248
BJT Baijiatuau 86.48 314 *e*P **P 00 43 09.6 +0.9**
BJT pmax pmax
comp=Z,103nm,1.4s
BJT MLR MLR
comp=Z,266nm,20.0s
BJT Baijiatuau 86.48 314 *e*P **P 00 43 09.6 +0.9**
comp=Z,104nm,1.4s
BJT LR LR
comp=Z,266nm,20.0s
635A Leesville 86.48 58 P **P 00 43 09.9 +1.0**
baz=248,SNR=11
BJI Beijing 86.49 314 P **P 00 43 09.0 +0.3**
BJI S **S 00 53 44.5 +3.2**
BJI SS **SS 00 59 26.3 +3.3**
BJI PMZ
comp=Z,42nm,1.4s
BJI LN
comp=Z,210nm,4.5s
BJI LE
comp=Z,230nm,5.1s
233A Rising Star 86.57 55 P **P 00 43 09.7 +0.3**
baz=248,SNR=29
KSCO Kaye Shedlock' 86.60 48 P **P 00 43 09.2 -0.3**
baz=245
434A Burnet 86.62 56 P **P 00 43 09.8 +0.1**
baz=248,SNR=41
133A Hamilton Ranch 86.78 55 P **P 00 43 10.8 +0.3**
baz=247,SNR=31
334A Lometa 86.84 56 P **P 00 43 11.0 +0.3**
baz=248,SNR=36
CCIG Comitan 86.87 72 *e*P **P 00 43 12.3 +0.9**
comp=Z,40nm,1.1s
535A Dale 86.89 57 P **P 00 43 11.9 +0.9**
baz=248,SNR=6.4
736A Circle Diamond 86.90 59 P **P 00 43 12.9 +1.9**
baz=249,SNR=9.6
EDM Edmonton 87.05 32 *e*P **P 00 43 10.8 -0.4**
EDM Edmonton 87.05 32 *e*P **P 00 43 10.8 -0.4**
636A Smothers Creek 87.10 58 P **P 00 43 13.6 +1.6**
baz=249,SNR=9.6
435B Jarrell 87.15 57 P **P 00 43 12.8 +0.6**
baz=248,SNR=11
Z33A Whitaker Ranch 87.16 54 P **P 00 43 12.5 +0.3**
baz=248,SNR=31
234A Clairette 87.17 55 P **P 00 43 12.6 +0.4**
baz=248,SNR=40
X32A Elmer 87.20 53 P **P 00 43 12.4 0.0**
baz=247,SNR=16
536A Bastrop 87.31 58 P **P 00 43 13.8 +0.9**
baz=249
737A Port Lavaca 87.35 59 P **P 00 43 13.2 0.0**
baz=249
134A White-Moore Ra 87.42 55 P **P 00 43 14.0 +0.5**
baz=248,SNR=28
335A Moody 87.46 56 P **P 00 43 14.1 +0.4**
baz=248,SNR=12
KULM Kulim 87.47 276 PFAKE 00 43 30.0 +16
KULM LR LR
comp=Z,256nm,22.0s
W32A Sentinel 87.50 52 P **P 00 43 13.9 +0.1**
baz=247,SNR=9.8
Y33A Hilltop Ranch, 87.54 53 P **P 00 43 14.2 +0.2**
baz=248,SNR=10
ENH Enshi 87.65 303 *e*P **P 00 43 15.4 +0.7**
comp=Z,40nm,1.1s
ENH LR LR
comp=Z,295nm,20.0s
LAO LASA Array 87.66 39 P **P 00 43 14.7 +0.4**
baz=242
LAO LASA Array 87.66 39 *e*P **P 00 43 15.4 +1.1**
comp=Z,75nm,1.8s
LAO LR LR
comp=Z,777nm,22.0s
637A Eagle Lake 87.67 58 P **P 00 43 16.0 +1.3**
baz=249
WHTX Lake Whitney, 87.70 56 P **P 00 43 15.2 +0.4**
baz=248
WHTX Lake Whitney, 87.70 56 *e*P **P 00 43 15.2 +0.4**
comp=Z,107nm,1.4s
WMOK Wichita Mounta 87.70 53 P **P 00 43 14.6 -0.2**
baz=247
WMOK Wichita Mounta 87.70 53 PFAKE 00 43 30.0 +15
WMOK LR LR
comp=Z,653nm,21.0s
436A Wall Ranch, Ga 87.78 57 P **P 00 43 16.0 +0.8**
baz=249,SNR=6.3
OGNE Ogallala 87.83 46 P **P 00 43 14.8 -0.5**
baz=245
OGNE Ogallala 87.83 46 PFAKE 00 43 30.0 +15
OGNE LR LR
comp=Z,414nm,21.0s
X33A Lawton 87.84 53 P **P 00 43 15.1 -0.3**
baz=248
Z34A Collier Ranch, 87.85 54 P **P 00 43 15.6 +0.1**
baz=248,SNR=5.4
RSSD Black Hills 87.86 42 P **P 00 43 15.0 -0.6**
baz=244
RSSD Black Hills 87.86 42 *e*P **P 00 43 15.1 -0.5**
RSSD pmax pmax
comp=Z,38nm,1.6s
RSSD Black Hills 87.86 42 *e*P **P 00 43 15.1 -0.5**
comp=Z,38nm,1.6s
V32A Arapaho 87.88 52 P **P 00 43 16.3 +0.6**
baz=247
537A Green Hill Far 87.92 58 P **P 00 43 17.2 +1.3**
baz=249,SNR=10
SKNT Sakolnakorn 87.92 288 P **P 00 43 17.9 +1.7**
comp=Z,26nm,1.1s
135A Vickery Place, 87.94 55 P **P 00 43 16.3 +0.3**
baz=248,SNR=15
336A Riesel 87.96 56 P **P 00 43 16.2 +0.1**
baz=249,SNR=6.5
W33A Caddo, Fort Co 88.10 52 P **P 00 43 17.6 +1.0**
baz=248
Y34A Reagan Ranch, 88.19 54 P **P 00 43 17.1 0.0**
baz=248,SNR=5.4
437A Phantom Ranch, 88.33 57 P **P 00 43 18.7 +0.9**
baz=249,SNR=7.5
Z35A Perchaven, San 88.35 54 P **P 00 43 18.1 +0.2**
baz=248,SNR=9.0
H25A Fruitdale 88.36 42 P **P 00 43 17.7 -0.1**
baz=244
X34A Smith Ranch, M 88.37 53 P **P 00 43 18.7 +0.7**
baz=248,SNR=11
PSI Prapat 88.38 273 *e*P **P 00 43 16.5 -2.2**
PSI Prapat 88.38 273 *e*P **P 00 43 16.5 -2.2**
HIA Hailar 88.43 323 *e*P **P 00 43 18.3 +0.4**
HIA pmax pmax
comp=Z,9.0nm,0.3s
HIA MLR MLR
comp=Z,474nm,20.0s
HIA Hailar 88.43 323 *e*P **P 00 43 18.3 +0.4**
comp=Z,8.6nm,0.3s
HIA LR LR
comp=Z,474nm,20.0s
236A Katherine and 88.43 56 P **P 00 43 18.6 +0.3**
baz=249,SNR=9.5
PLCA Paso Flores 88.53 132 P **P 00 43 20.0 +1.2**
comp=Z,6.3nm,0.9s,baz=262,slow=6.8,SNR=4.8
PLCA LR LR 01 14 57.5
comp=Z,405nm,21.2s,baz=292,slow=30
T32A Huddler Ranch, 88.53 50 P **P 00 43 18.5 -0.2**
baz=247
CBKS Cedar Bluff 88.58 49 P **P 00 43 19.2 +0.3**
baz=247
CBKS Cedar Bluff 88.58 49 *e*P **P 00 43 19.8 +0.9**
CBKS Cedar Bluff 88.58 49 *e*P **P 00 43 19.8 +0.9**
136A Ennis 88.61 56 P **P 00 43 19.3 +0.2**
baz=249,SNR=9.5
538A Harpers Horsep 88.64 58 P **P 00 43 20.8 +1.5**
baz=249
GYA Guiyang 88.66 298 ⇑*i*P **P 00 43 20.5 +0.9**
GYA PP **PP 00 46 52.0 +3.0**
GYA SKS **SKSac 00 53 44.8 -0.4**
GYA S **S 00 54 03.0 +0.1**
GYA sS sS 00 54 24.3 -3.2
GYA SS **SS 00 59 58.0 +2.5**
GYA PMZ
comp=Z,30nm,1.1s
GYA PMZ
comp=Z,130nm,6.9s
GYA LN

comp=Z,860nm,20.6s
GYA LE
comp=Z,780nm,21.2s
GYA LZ
comp=Z,840nm,21.0s
W34A Bridge Creek, 88.66 53 P P 00 43 19.7 +0.4
baz=248
337A Centerville 88.70 57 P P 00 43 20.6 +1.0
baz=249,SNR=6.2
S32A Newby Ranch, P 88.72 50 P P 00 43 19.4 -0.1
baz=247
Y35A Marietta 88.73 54 P P 00 43 20.0 +0.4
baz=248
438A Sam Houston St 88.83 57 P P 00 43 21.6 +1.4
baz=249
U33A Lingo Farm, Me 88.85 51 P P 00 43 20.0 -0.2
baz=248
X35A Drake 88.96 54 P P 00 43 20.7 -0.1
baz=248,SNR=8.8
Z36A Blue Ridge 88.97 55 P P 00 43 21.3 +0.6
baz=249
T33A Patterson Ranc 89.00 51 P P 00 43 20.9 +0.1
baz=248
237A Washetta, Mont 89.01 56 P P 00 43 21.8 +0.9
baz=249,SNR=10
NONG Nongkai 89.02 289 P P 00 43 24.0 +2.7
comp=Z,12nm,1.7s,comp=Z,3µm
V34A Guthrie 89.07 52 P P 00 43 21.6 +0.4
baz=248
TRTT Trang 89.13 278 P P 00 43 24.0 +2.0
comp=Z,41nm,1.2s
R32A Long Quarter, 89.16 49 P P 00 43 21.4 -0.2
baz=247,SNR=12
338A Crockett 89.18 57 P P 00 43 22.8 +1.0
baz=249,SNR=8.2
539A Cross D Ranch, 89.22 58 P P 00 43 23.3 +1.3
baz=250
137A Heron Place, G 89.26 56 P P 00 43 23.2 +1.0
baz=249
U34A Anderson Ranch 89.28 52 P P 00 43 22.0 -0.2
baz=248
W35A Tecumseh 89.31 53 P P 00 43 22.4 0.0
baz=248,SNR=9.7
Y36A Durant 89.31 54 P P 00 43 22.7 +0.3
baz=249
S33A Kaszmaul Farm, 89.37 50 P P 00 43 22.7 +0.1
baz=248
O31A Woolen Ranch, 89.39 48 P P 00 43 22.6 -0.1
baz=247
439A Center Grove, 89.42 58 P P 00 43 24.2 +1.3
baz=250
XAN Xi'an 89.45 306 P P 00 43 23.8 +0.7
XAN pP pP 00 43 37.3 -0.4
XAN PP **PP** **00 46 57.8 +2.7**
XAN SKS **SKSac** **00 53 48.3 -1.2**
XAN S **S** **00 54 08.3 -1.7**
XAN SS **SS** **01 00 07.8 +1.1**
XAN PMZ
comp=Z,27nm,1.4s
XAN PMZ
comp=Z,56nm,4.2s
XAN LN
comp=Z,160nm,18.9s
XAN LE
comp=Z,160nm,16.7s
XAN LZ
comp=Z,240nm,22.8s
Q32A Meitler Ranch, 89.49 49 P P 00 43 22.9 -0.2
baz=248
X36A Centrahoma 89.50 54 P P 00 43 23.3 +0.1
baz=249,SNR=6.2
238A Jacksonville 89.56 56 P P 00 43 24.6 +1.0
baz=250,SNR=12
V35A Meyer Ranch, C 89.56 52 P P 00 43 23.8 +0.3
baz=248
Z37A Pogue Cattle C 89.58 55 P P 00 43 24.5 +0.9
baz=249
R33A Olander Ranch, 89.65 50 P P 00 43 24.0 +0.1
baz=248
DGMT Dagmar 89.69 39 P P 00 43 23.9 +0.1
baz=244
DGMT Dagmar 89.69 39 *e*P P 00 43 24.6 +0.8
comp=Z,83nm,1.4s
DGMT LR LR
comp=Z,877nm,21.0s
P32A Huiting Farm, 89.70 48 P P 00 43 24.3 +0.1
baz=247
T34A McClaskey Farm 89.76 51 P P 00 43 24.3 -0.2
baz=248
339A Huntington 89.78 57 P P 00 43 25.4 +0.8
baz=250
W36A Wetumka 89.80 53 P P 00 43 24.7 0.0
baz=249
138A Matatall Enter 89.81 56 P P 00 43 26.1 +1.3
baz=250
NATX Nacogdoches 89.84 57 P P 00 43 25.3 +0.4
baz=250
NATX Nacogdoches 89.84 57 *e*P P 00 43 26.7 +1.8
comp=Z,115nm,1.3s
NATX LR LR
comp=Z,424nm,21.0s
Y37A Hugo 89.85 54 P P 00 43 25.4 +0.5
baz=249
540A Vidor 89.86 58 P P 00 43 26.4 +1.4
baz=250
U35A Pawnee 89.86 52 P P 00 43 25.0 +0.1
baz=249
C25A Freed Ranch, W 89.92 39 P P 00 43 25.0 0.0
baz=244
INK Inuvik 89.97 14 *e*P P 00 43 24.3 -0.3
INK Inuvik 89.97 14 *e*P P 00 43 24.3 -0.3
Q33A Connelly Farm, 90.02 49 P P 00 43 25.3 -0.3
baz=248
HHC Hu-ho-hao-te 90.03 313 *e*P P 00 43 26.3 +0.6
HHC pP pP 00 43 37.5 -2.9
HHC SKS **SKSac** **00 53 55.3 +2.6**
HHC S **S** **00 54 14.0 -1.1**
HHC PMZ
comp=Z,38nm,0.9s
HHC PMZ
comp=Z,110nm,5.3s
HHC LN
comp=Z,160nm,17.7s
HHC LE
comp=Z,180nm,18.6s
HHC LZ
comp=Z,140nm,15.9s
440A Kirbyville 90.06 58 P P 00 43 27.1 +1.2
baz=250
S34A Willow Spring 90.06 50 P P 00 43 25.6 -0.3
baz=248
239A Gary 90.08 57 P P 00 43 26.7 +0.7
baz=250
Z38A Mt. Pleasant 90.10 55 P P 00 43 27.1 +1.0
baz=250
M31A Lambtecht Ranc 90.10 47 P P 00 43 26.7 +0.7
baz=247
D26A Manning 90.13 40 P P 00 43 26.0 0.0
baz=245
O32A Brockman Farm, 90.18 48 P P 00 43 25.7 -0.7
baz=248
K30A Basset 90.18 45 P P 00 43 25.8 -0.5
baz=247
R34A Isabella, Hill 90.19 50 P P 00 43 26.3 -0.1
baz=248
T35A Sooner Cattle 90.22 51 P P 00 43 26.3 -0.3
baz=249
V36A Jenks 90.25 53 P P 00 43 26.2 -0.5
baz=249
I29A Vivian Onida 90.25 44 P P 00 43 26.1 -0.5
baz=246
X37A Clayton 90.26 54 P P 00 43 26.8 0.0
baz=249
P33A Williams Farm, 90.28 49 P P 00 43 26.1 -0.7
baz=248
340A Bronson 90.34 57 P P 00 43 27.6 +0.4
baz=250
N32A Stulken Farm, 90.35 47 P P 00 43 27.3 +0.2
baz=248
139A Bunkhouse Ranc 90.37 56 P P 00 43 27.8 +0.5
baz=250
TUL1 Leonard 90.41 53 P P 00 43 27.0 -0.4
baz=249
TUL1 Leonard 90.41 53 *e*P P 00 43 28.0 +0.5
W37B Quinton 90.41 53 P P 00 43 27.0 -0.5
baz=249
L31A Butterfield Fa 90.52 46 P P 00 43 27.6 -0.3
baz=247
J30A Dallas 90.52 45 P P 00 43 27.3 -0.6
baz=247
Y38A Idabel 90.53 55 P P 00 43 27.7 -0.4
baz=250
A25A Svangstu Ranch 90.54 38 P P 00 43 27.9 +0.1
baz=244
PBKT Sadao Pong 90.54 287 P P 00 43 30.3 +1.8
comp=Z,22nm,1.4s,comp=Z,1µm
H29A Onida 90.56 43 P P 00 43 26.9 -1.1
baz=246
LOEI Loei 90.56 288 P P 00 43 28.3 -0.3
comp=Z,10nm,1.4s
YAK Yakutsk 90.59 337 *e*P P 00 43 27.1 -0.5
YAK pmax pmax
comp=Z,25nm,0.8s
YAK Yakutsk 90.59 337 PFAKE 00 43 40.0 +12
YAK LR LR
comp=Z,229nm,22.0s
O33A Hebron 90.60 48 P P 00 43 27.6 -0.7
baz=248
U36A Oologah 90.62 52 P P 00 43 28.6 +0.2
baz=249
Q34A Chapman 90.64 49 P P 00 43 28.7 +0.2
baz=248
S35A Otter Creek Ra 90.64 51 P P 00 43 28.5 0.0
baz=249
240A Hunter Patters 90.65 57 P P 00 43 29.5 +0.8
baz=250
TGUH Tegucigalpa,Un 90.66 76 *e*P P 00 43 30.4 +1.4
comp=Z,76nm,1.3s
441A DeRidder 90.68 58 P P 00 43 30.3 +1.5
baz=250
X38A Whitesboro 90.71 54 P P 00 43 29.0 +0.1
baz=250,SNR=13
Z39A Irene McRaven, 90.72 55 P P 00 43 30.1 +1.1
baz=250
T36A Boggs Farm, Ca 90.75 51 P P 00 43 28.8 -0.2
baz=249
B26A Jensen Ranch, 90.83 39 P P 00 43 29.5 +0.4
baz=245
SYO Syowa Base 90.89 191 *e*P P 00 43 27.0 -2.1
SYO Syowa Base 90.89 191 *i*PcP P 00 43 28.0 -1.1
V37A Hulbert 90.89 53 P P 00 43 30.0 +0.3
baz=250
341A Kurthwood 90.89 58 P P 00 43 31.2 +1.4
baz=250
N33A J Bar K, Exete 90.94 48 P P 00 43 29.5 -0.3
baz=248
KSU1 Kansas State U 90.94 49 P P 00 43 29.8 -0.1
baz=249
KSU1 Kansas State U 90.94 49 PFAKE 00 43 40.0 +10
KSU1 LR LR
comp=Z,530nm,21.0s
P34A Walnut Farm, R 90.95 49 P P 00 43 29.9 0.0
baz=249
R35A Emporia Munici 90.96 50 P P 00 43 30.0 0.0
baz=249
G29A Hoven 90.97 43 P P 00 43 28.6 -1.3
baz=247
140A Cam and Jess, 91.00 56 P P 00 43 31.2 +1.0
baz=250
J31A Geddes 91.01 45 P P 00 43 29.8 -0.3
baz=247
L32A Elgin 91.02 46 P P 00 43 29.9 -0.3
baz=248
Y39A Lockesburg 91.03 55 P P 00 43 30.3 0.0
baz=250
W38A Poteau 91.09 54 P P 00 43 31.1 +0.5
baz=250
U37A Salina 91.09 52 P P 00 43 30.7 0.0
baz=250
A26A Wade Farm, Ken 91.16 39 P P 00 43 30.5 -0.2
baz=245
S36A Lake Cedric, C 91.20 51 P P 00 43 30.6 -0.5
baz=249
X39A Fountain Ranch 91.21 54 P P 00 43 31.6 +0.3
baz=250,SNR=5.5
SNAA Sanae 91.22 177 P P 00 43 30.5 -0.2
SNAA Sanae 91.22 177 *e*P P 00 43 30.5 -0.2
SNAA pmax pmax
comp=Z,1µm,1.0s
SNAA Sanae 91.22 177 *e*P P 00 43 30.4 -0.2
comp=Z,1µm,1.0s
Q35A Mercer Eighty, 91.27 50 P P 00 43 31.0 -0.4
baz=249
O34A Beatrice 91.27 48 P P 00 43 30.8 -0.6
baz=249
UTTA Uttaradit 91.27 288 P P 00 43 33.6 +1.8
comp=Z,5.7nm,1.1s,comp=Z,56nm
F29A Eureka 91.29 42 P P 00 43 30.6 -0.7
baz=247
241A Mo Tay, Goldon 91.32 57 P P 00 43 33.1 +1.3
baz=251
Z40A Long Farm, Mag 91.35 56 P P 00 43 32.6 +0.7
baz=250
D28A Regan 91.36 41 P P 00 43 31.5 -0.1
baz=246
M33A Taylor Creek F 91.43 47 P P 00 43 32.1 0.0
baz=248
I31A Royce, Wessing 91.43 44 P P 00 43 31.1 -0.9
baz=248
V38A Canehill 91.44 53 P P 00 43 32.0 -0.2
baz=250,SNR=5.7
G30A Faulkton 91.45 43 P P 00 43 31.3 -0.9
baz=247
R36A Gordon, Harris 91.47 50 P P 00 43 32.0 -0.4
baz=249
T37A Cheneyville 18 91.49 52 P P 00 43 32.3 -0.1
baz=250,SNR=6.2
P35A Duane Minner, 91.52 49 P P 00 43 32.7 +0.1
baz=249
141A Papa Simpson, 91.52 56 P P 00 43 33.6 +0.9
baz=251
543A St. Martinvill 91.56 59 P P 00 43 34.7 +1.8
baz=251
KMI Kunming 91.57 296 P P 00 43 34.3 +0.9
KMI pP pP 00 43 47.5 -0.5
KMI sP sP 00 43 52.8 -0.8
KMI PP **PP** **00 47 15.5 +3.2**
KMI S **S** **00 54 27.5 -2.6**
KMI sS sS 00 54 50.5 -4.4
KMI SS **SS** **01 00 40.0 +2.0**
KMI PMZ
comp=Z,27nm,0.9s
KMI PMZ
comp=Z,190nm,4.2s
KMI LN
comp=Z,190nm,13.6s
KMI LE
comp=Z,270nm,12.7s
KMI LZ
comp=Z,380nm,18.6s
TEIG Tepich 91.58 69 PFAKE 00 43 40.0 +6.8
TEIG LR LR
comp=Z,275nm,22.0s
342A Flagon Creek P 91.59 58 P P 00 43 34.5 +1.5
baz=251
L33A Hoskins 91.59 46 P P 00 43 32.4 -0.4
baz=248
MIAR Mount Ida 91.64 54 P P 00 43 33.5 +0.3
baz=250,SNR=7.2
MIAR Mount Ida 91.64 54 *e*P P 00 43 33.8 +0.6
MIAR pmax pmax
comp=Z,16nm,1.2s
MIAR Mount Ida 91.64 54 *e*P P 00 43 33.8 +0.6
comp=Z,16nm,1.3s
MIAR LR LR
comp=Z,531nm,21.0s
H31A Wolsey 91.64 44 P P 00 43 32.2 -0.8
baz=248
N34A Lincoln 91.65 48 P P 00 43 32.9 -0.2
baz=249
U38A Gravette 91.66 52 P P 00 43 33.4 +0.1
baz=250
A27A Ledoux Ranch, 91.67 39 P P 00 43 33.2 +0.2
baz=246
C28A Hausauer Farms 91.68 40 P P 00 43 34.0 +0.8
baz=246
Y40A Okolona 91.69 55 P P 00 43 33.9 +0.4
baz=250
E29A Napoleon 91.69 42 P P 00 43 33.0 -0.3
baz=247
W39A Magazine 91.69 54 P P 00 43 33.7 +0.3
baz=250,SNR=8.3
WLAR White Oak Lake 91.72 55 *e*P P 00 43 35.1 +1.6
comp=Z,77nm,1.3s
Q36A Arnold C. Orve 91.73 50 P P 00 43 33.5 0.0
baz=249
YKA Yellowknife Ar 91.74 23 P P 00 43 33.0 0.0
comp=Z,11nm,1.1s,baz=236,slow=4.2,SNR=34
YKA PP **PP** **00 47 09.3 -3.2**
comp=Z,5.1nm,1.2s,baz=233,slow=8.2,SNR=8.5
YKA LR LR 01 17 52.1
comp=Z,40nm,21.1s,baz=180,slow=31
S37A Fort Scott 91.78 51 P P 00 43 33.8 +0.1
baz=250
F30A Leola 91.80 42 P P 00 43 33.2 -0.5
baz=247
Z41A Richland Creek 91.82 56 P P 00 43 34.1 0.0
baz=251
M34A Aspy Farms, Fr 91.83 47 P P 00 43 33.8 -0.2
baz=249
O35A Humboldt 91.86 48 P P 00 43 34.2 +0.1
baz=249
VNA1 Neumayer--Stat 91.88 175 P P 00 43 34.2 +0.6
D29A Pettibone, Tap 91.92 41 P P 00 43 34.0 -0.2
baz=247
T38A Diamond 91.93 52 P P 00 43 34.4 -0.1
baz=250,SNR=7.5
242A Grayson 91.95 57 P P 00 43 35.7 +1.0
baz=251
R37A Teagarden Farm 91.97 51 P P 00 43 34.5 -0.2
baz=250
B28A Dugan Ranch, T 91.99 40 P P 00 43 34.3 -0.2
baz=246
V39A Pettigrew 92.02 53 P P 00 43 34.6 -0.4
baz=250,SNR=9.9
G31A Conde 92.10 43 P P 00 43 34.1 -1.0
baz=248
P36A Good Intent, A 92.14 49 P P 00 43 35.3 -0.1
baz=250
I32A Karley and Nic 92.15 44 P P 00 43 34.7 -0.7
baz=248
Y41A Eaglett Beard 92.17 55 P P 00 43 36.6 +0.9
baz=251,SNR=7.5
X40A Basin Creek Fa 92.20 55 P P 00 43 35.8 +0.1
baz=251
MDND Maddock 92.22 40 P P 00 43 35.2 -0.5
baz=247
MDND Maddock 92.22 40 *e*P P 00 43 35.4 -0.2
J33A Davis 92.22 45 P P 00 43 34.8 -0.9
baz=249
A28A Rude Farm, Bot 92.23 39 P P 00 43 35.6 -0.1
baz=246
W40A Ferguson Farm, 92.25 54 P P 00 43 36.7 +0.8
baz=251,SNR=7.0
N35A Tabor 92.26 48 P P 00 43 36.3 +0.4
baz=249
NVL N'lazarevskaya 92.27 182 *e*P P 00 43 35.9 +0.4
142A Monroe 92.27 57 P P 00 43 37.2 +1.1
baz=251
F31A Hecla 92.31 43 P P 00 43 35.2 -0.9
baz=248
U39A Green Forest 92.32 53 P P 00 43 36.1 -0.2
baz=250,SNR=8.0
LAMP Lampang 92.34 289 P P 00 43 38.2 +1.4
comp=Z,8.5nm,1.1s,comp=Z,81nm
H32A Carlson Farm, 92.34 44 P P 00 43 35.4 -0.8
baz=248
UMPA Umpang Tak 92.37 286 P P 00 43 39.4 +2.4
comp=Z,9.7nm,1.1s,comp=Z,722nm
S38A Stockton 92.42 51 P P 00 43 36.6 -0.2
baz=250,SNR=6.6
243A Waterproof 92.43 58 P P 00 43 38.0 +1.1
baz=251
Q37A Longview Farm, 92.44 50 P P 00 43 36.3 -0.5
baz=250
M35A Neola 92.44 47 P P 00 43 36.4 -0.3
baz=249
X41A Kaden, Bauxite 92.45 55 P P 00 43 37.4 +0.4
baz=251
O36A Bolckow 92.49 49 P P 00 43 36.9 -0.1
baz=250
Z42A Norrel Spur, H 92.50 56 P P 00 43 37.8 +0.6
baz=251
CD2 Chengdu 92.52 301 *e*P P 00 43 37.3 -0.1
CD2 pP pP 00 43 50.3 -1.8
CD2 sP sP 00 43 55.3 -2.3
CD2 SKS **SKSac** **00 54 06.5 -0.7**
CD2 S **ScS** **00 54 38.3 -1.8**
CD2 sS sS 00 55 00.8 -2.0
CD2 SS **SS** **01 00 52.3 +1.3**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
G32A Webster 92.58 43 P P 00 43 36.6 -0.7
baz=248
K34A Le Mars 92.59 46 P P 00 43 36.9 -0.5
baz=249
I33A Coleman 92.60 45 P P 00 43 36.7 -0.7
baz=249
R38A Fenwick Farm, 92.61 51 P P 00 43 37.1 -0.5
baz=250,SNR=9.9
ECSD EROS Data Cent 92.61 45 P P 00 43 36.9 -0.6
baz=249
ECSD EROS Data Cent 92.61 45 *e*P P 00 43 37.1 -0.4
comp=Z,23nm,1.5s
ECSD LR LR
comp=Z,279nm,19.0s
T39A Clever 92.61 52 P P 00 43 37.6 -0.1
baz=251,SNR=7.3
B29A Wagenman Farm, 92.62 40 P P 00 43 36.6 -0.8
baz=247
V40A Witts Springs 92.64 53 P P 00 43 37.8 0.0
baz=251,SNR=8.9
LCO Las Campanas 92.65 121 *e*P P 00 43 40.2 +1.7
444A Pine Grove 92.66 59 P P 00 43 38.7 +0.7
baz=252
UALR University of 92.67 55 *e*P P 00 43 39.2 +1.2
comp=Z,30nm,1.1s
N36A Muff Farm, Cla 92.73 48 P P 00 43 37.9 -0.2
baz=250
P37A Lathrop 92.75 49 P P 00 43 37.9 -0.4
baz=250,SNR=6.0
143A Socs Landing, 92.75 57 P P 00 43 39.5 +1.2
baz=252
L35A Bielow Farm, R 92.77 47 P P 00 43 37.9 -0.4
baz=250
X301 Greenbrier Sit 92.78 54 *e*P P 00 43 39.3 +0.8
comp=Z,43nm,1.3s
U40A Yellville 92.79 53 P P 00 43 38.5 0.0
baz=251,SNR=9.8
E31A Nome 92.81 42 P P 00 43 37.4 -1.0
baz=248
Y42A Garnett, Star 92.81 56 P P 00 43 39.2 +0.6
baz=251
X201 Greenbrier Sit 92.83 54 *e*P P 00 43 39.5 +0.8
comp=Z,37nm,1.2s
C30A Mose, Pekin 92.87 41 P P 00 43 37.8 -0.8
baz=248
H33A Prehn Over Nor 92.87 44 P P 00 43 37.6 -1.1
baz=249
A29A Manning Farm, 92.87 39 P P 00 43 37.9 -0.7
baz=247
NNA Nana 92.87 103 LR LR 01 15 24.8
comp=Z,174nm,20.4s,baz=247,slow=29
NNA Nana 92.87 103 PFAKE 00 43 50.0 +11
NNA LR LR
comp=Z,5µm,21.0s
S39A Bolivar 92.88 52 P P 00 43 38.7 -0.2
baz=251,SNR=8.2
W41B Gary Mavity, V 92.88 54 P P 00 43 39.5 +0.6
baz=251,SNR=16
WHAR Wooly Hollow 92.88 54 *e*P P 00 43 39.7 +0.7
comp=Z,40nm,1.2s
ATAH Atahualpa 92.89 98 LR LR 01 15 23.3
comp=Z,533nm,21.8s,baz=224,slow=29
J34A George 92.90 46 P P 00 43 38.2 -0.6
baz=249
344A Westbrook Farm 92.90 58 P P 00 43 40.4 +1.3
baz=252
CM01 Chiang Mai Arr 92.92 288 *e*P P 00 43 39.5 0.0
CMAR Chiang Mai Arr 92.95 288 P P 00 43 40.7 +1.1
comp=Z,9.1nm,1.0s,baz=99,slow=2.8,SNR=42
CMAR LR LR 01 22 07.2
comp=Z,173nm,20.9s,baz=121,slow=33
Z43A Armstrong Fami 93.04 56 P P 00 43 40.5 +0.8
baz=252
CMMT Chiang Mai 93.05 289 P P 00 43 41.1 +1.0
comp=Z,17nm,1.2s
CHTO Chiang Mai 93.05 289 *e*P P 00 43 40.6 +0.5
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO MLR MLR
comp=Z,285nm,20.0s

CHTO **Chiang Mai** 93.05 289 *e*P P 00 43 40.6 +0.5
comp=Z,16nm,1.0s
CHTO LR LR
comp=Z,285nm,20.0s
M36A **Felix, Anita** 93.06 48 P P 00 43 39.0 -0.7
baz=250
Q38A **Cooks Store, C** 93.08 50 P P 00 43 39.0 -0.7
baz=251
O37A **Wolven Farm, M** 93.10 49 P P 00 43 39.1 -0.7
baz=250
D31A **Mcclaflin, Tow** 93.10 42 P P 00 43 38.3 -1.3
baz=248
244A **Avery, Jackson** 93.12 58 P P 00 43 40.8 +0.7
baz=252
V41A **Mountainview** 93.14 54 P P 00 43 40.2 0.0
baz=251,SNR=5.5
K35A **Storm Lake** 93.20 46 P P 00 43 39.8 -0.4
baz=250
I34A **Hadley** 93.23 45 P P 00 43 39.9 -0.5
baz=249
B30A **Myrvik Farm, E** 93.24 40 P P 00 43 39.4 -0.9
baz=248
N37A **Lee Faris, Mou** 93.25 48 P P 00 43 40.0 -0.5
baz=250
G33A **Ortonville** 93.25 44 P P 00 43 39.1 -1.4
baz=249
R39A **Chumby, Stover** 93.29 51 P P 00 43 40.6 -0.2
baz=251
T40A **Mansfield** 93.31 52 P P 00 43 40.8 -0.1
baz=251,SNR=11
P38A **Dawn** 93.36 50 P P 00 43 40.6 -0.4
baz=251
C31A **Landman Farms,** 93.37 41 P P 00 43 39.8 -1.1
baz=248
L36A **Harm Buss Farm** 93.38 47 P P 00 43 40.5 -0.6
baz=250
345A **Thompson Farm,** 93.43 58 P P 00 43 41.6 0.0
baz=252
J35A **Milford** 93.44 46 P P 00 43 40.6 -0.8
baz=250
A30A **Hoffart Farm,** 93.44 40 P P 00 43 40.5 -0.7
baz=248
S40A **Lebanon** 93.46 52 P P 00 43 41.5 -0.1
baz=251,SNR=19
H34A **Spellman Lake,** 93.51 44 P P 00 43 41.5 -0.1
baz=250
Y43A **Makayla and Ka** 93.51 56 P P 00 43 42.4 +0.6
baz=252
144A **Alexander Plac** 93.52 57 P P 00 43 42.8 +0.9
baz=252
O38A **Galt** 93.57 49 P P 00 43 41.2 -0.7
baz=251
M37A **Trindle Farm,** 93.57 48 P P 00 43 42.0 0.0
baz=250,SNR=5.5
D32A **Dogwood Acres,** 93.58 42 P P 00 43 40.7 -1.2
baz=249
Q39A **Willow Grove F** 93.58 50 P P 00 43 41.2 -0.9
baz=251
F33A **5 Mile Ranch,** 93.58 43 P P 00 43 41.6 -0.3
baz=249
FFC **Flin Flon** 93.64 33 PFAKE 00 43 50.0 +8.1
FFC LR LR
comp=Z,485nm,22.0s
B31A **Greenbush Farm** 93.65 40 P P 00 43 41.2 -0.9
baz=248
Z44A **Pea Ridge, Bel** 93.71 56 P P 00 43 43.7 +0.9
baz=252
K36A **Gilmore City** 93.71 47 P P 00 43 42.5 -0.1
baz=250
X43A **Marvell** 93.73 55 P P 00 43 43.0 +0.1
baz=252
V42A **Cord** 93.74 54 P P 00 43 42.8 -0.1
baz=252,SNR=5.3
245A **Little AP, Sta** 93.76 58 P P 00 43 44.1 +1.1
baz=252
I35A **Creekview Farm** 93.76 45 P P 00 43 42.1 -0.8
baz=250
G34A **Benson** 93.80 44 P P 00 43 42.4 -0.6
baz=250
T41A **Mountain View** 93.84 53 P P 00 43 43.3 -0.1
baz=252
R40A **Maddies Statio** 93.86 51 P P 00 43 43.0 -0.4
baz=251,SNR=15
P39B **Salisbury** 93.88 50 P P 00 43 42.8 -0.6
baz=251
145A **Houston Renfro** 93.91 57 P P 00 43 44.6 +0.9
baz=252
346A **Big Creek Wild** 93.92 59 P P 00 43 44.8 +1.1
baz=252
N38A **Joes South For** 93.96 49 P P 00 43 43.5 -0.3
baz=251
E33A **Westby DABS, E** 94.00 43 P P 00 43 43.0 -0.8
baz=249
J36A **Seneca 1, Swea** 94.02 46 P P 00 43 43.5 -0.5
baz=250
L37A **Phoenix Point,** 94.03 47 P P 00 43 43.7 -0.3
baz=251
LZH **Lanzhou** 94.06 306 *e*P P 00 43 45.5 +0.9
LZH pP pP 00 43 58.5 -0.7
LZH PP PP 00 47 34.0 +2.4
LZH PMZ
comp=Z,49nm,1.2s
LZH PMZ
comp=Z,200nm,5.3s
LZH LN
comp=Z,640nm,18.0s
LZH LE
comp=Z,440nm,17.4s
LZH LZ
comp=Z,770nm,19.5s
Y44A **Strider, Charl** 94.09 56 P P 00 43 44.6 +0.1
baz=252
A31A **Linda, St. Vin** 94.12 40 P P 00 43 43.3 -1.0
baz=249
C32A **Crookston** 94.14 41 P P 00 43 43.0 -1.4
baz=249
H35A **Sunnyside Ranc** 94.15 45 P P 00 43 44.1 -0.5
baz=250
M38A **Pleasantville** 94.19 48 P P 00 43 44.2 -0.6
baz=251
Q40A **Laux Farm, Aux** 94.23 51 P P 00 43 44.6 -0.5
baz=252,SNR=5.3
F34A **Alexandria** 94.24 43 P P 00 43 44.5 -0.5
baz=250
O39A **Kirksville** 94.28 49 P P 00 43 45.0 -0.3
baz=251
X44A **Crenshaw** 94.31 55 P P 00 43 45.7 +0.2
baz=252
K37A **Belmond** 94.32 47 P P 00 43 44.8 -0.6
baz=251
D33A **AnnSam, Waubun** 94.33 42 P P 00 43 44.5 -0.8
baz=250
Z45A **Winona** 94.33 57 P P 00 43 46.0 +0.4
baz=252
B32A **Ashes, Strandq** 94.33 41 P P 00 43 44.1 -1.2
baz=249,SNR=10
SCIA **State Center** 94.34 48 PFAKE 00 44 00.0 +15
SCIA LR LR
comp=Z,615nm,19.0s
447A **Lucedale** 94.40 59 P P 00 43 44.3 -1.7
baz=253
P40A **Paris** 94.42 50 P P 00 43 45.2 -0.7
baz=252,SNR=5.6
I36A **Fitzsimmons Fa** 94.47 45 P P 00 43 45.3 -0.8
baz=251
N39A **Derby Farms, D** 94.51 49 P P 00 43 45.4 -0.9
baz=251
A32A **Rocking H Ranc** 94.54 40 P P 00 43 45.1 -1.1
baz=249,SNR=5.9
G35A **Watkins** 94.56 44 P P 00 43 46.3 -0.2
baz=250
J37A **Redenius Farm,** 94.56 46 P P 00 43 46.0 -0.5
baz=251
C33A **Trail** 94.59 41 P P 00 43 45.5 -1.0
baz=250
L38A **Oak Wood Farm,** 94.59 47 P P 00 43 46.5 -0.1
baz=251
Y45A **Yeager Farm, C** 94.59 56 P P 00 43 46.9 +0.1
baz=253
146A **Union** 94.62 57 P P 00 43 47.6 +0.6
baz=253
347A **Saraland** 94.67 59 P P 00 43 47.6 +0.3
baz=253
F35A **Swanville** 94.71 44 P P 00 43 47.0 -0.1
baz=250
H36A **Jessemland, He** 94.72 45 P P 00 43 47.2 +0.1
baz=251
AGMN **Agassiz Nation** 94.72 41 P P 00 43 45.8 -1.3
baz=250,SNR=8.1
AGMN **Agassiz Nation** 94.72 41 *e*P P 00 43 46.1 -1.0
comp=Z,26nm,1.3s
AGMN LR LR
comp=Z,547nm,21.0s
D34A **Park Rapids** 94.72 42 P P 00 43 46.1 -1.0
baz=250
O40A **La Belle** 94.73 50 P P 00 43 46.7 -0.6
baz=252,SNR=8.1
W44A **Shelby Farms P** 94.76 55 P P 00 43 47.6 0.0
baz=252
PBMO **Poplar Bluff** 94.78 53 *e*P P 00 43 47.7 +0.1
247A **Quitman** 94.81 58 P P 00 43 48.9 +1.0
baz=253
Z46A **Louisville** 94.88 57 P P 00 43 49.3 +1.2
baz=253
X45A **UM Field Stati** 94.88 56 P P 00 43 48.0 -0.1
baz=253
B33A **Robert and Kas** 94.88 41 P P 00 43 46.8 -1.0
baz=250
K38A **Parkersburg** 94.89 47 P P 00 43 47.5 -0.5
baz=251
OTAV **Otavalo** 95.01 91 PFAKE 00 44 00.0 +10
OTAV LR LR
comp=Z,356nm,21.0s
G36A **St. Michael** 95.05 44 P P 00 43 48.6 -0.1
baz=251
E35A **Pequot Lakes** 95.06 43 P P 00 43 47.6 -1.1
baz=251
C34A **RKJ Ranch, Bem** 95.10 42 P P 00 43 47.9 -0.9
baz=250
Y46A **Houston** 95.14 56 P P 00 43 49.6 +0.3
baz=253
P41A **Barry, Barry** 95.18 50 P P 00 43 49.2 -0.2
baz=252,SNR=5.6
A33A **Warroad** 95.23 40 P P 00 43 48.3 -1.1
baz=250,SNR=9.7
W45A **Hickory Valley** 95.26 55 P P 00 43 50.0 +0.2
baz=253
147A **Livingston** 95.26 58 P P 00 43 50.5 +0.6
baz=253
L39A **Vinton** 95.26 48 P P 00 43 49.1 -0.6
baz=252,SNR=8.8
BOD **Bodaibo** 95.28 329 *e*P P 00 43 44.5 -4.9
BOD pmax pmax
comp=Z,8.0nm,1.1s
S43A **Fulton Ridge,** 95.29 52 P P 00 43 49.4 -0.5
baz=253
J38A **Wedel Dairy, R** 95.31 46 P P 00 43 49.3 -0.6
baz=252
Q42A **Golden Eagle** 95.34 51 P P 00 43 49.9 -0.3
baz=252
ULM **Lac du Bonnet** 95.39 39 P P 00 43 48.7 -1.4
comp=Z,5.3nm,0.8s,baz=237,slow=6.8,SNR=7.4
ULM LR LR 01 20 04.9
comp=Z,984nm,21.6s,baz=252,slow=31
ULM **Lac du Bonnet** 95.39 39 *e*P P 00 43 49.2 -0.8
H37A **Dierke Farm, C** 95.40 45 P P 00 43 50.1 -0.2
baz=251
F36A **Milaca** 95.41 44 P P 00 43 49.8 -0.5
baz=251,SNR=8.3
O41A **Passleys Farm,** 95.45 50 P P 00 43 50.1 -0.5
baz=252,SNR=5.3
D35A **Remer** 95.46 42 P P 00 43 49.5 -1.0
baz=251
K39A **Oelwein** 95.52 47 P P 00 43 50.0 -0.9
baz=252,SNR=5.4
248A **Dixon Mills** 95.53 58 P P 00 43 49.5 -1.6
baz=253
B34A **Aery, Baudette** 95.54 41 P P 00 43 50.0 -0.8
baz=251
ULN **Ulaanbaatar** 95.56 318 *e*P P 00 43 51.4 +0.2
ULN **Ulaanbaatar** 95.56 318 *e*P P 00 43 51.4 +0.2
ULN LR LR
comp=Z,242nm,22.0s
Z47A **Carrollton** 95.58 57 P P 00 43 50.3 -1.0
baz=253
I38A **Scanlan Farm,** 95.63 46 P P 00 43 50.8 -0.6
baz=252,SNR=8.7
SPMN **Marine on St.** 95.68 45 P P 00 43 50.9 -0.7
baz=252
SPMN **Marine on St.** 95.68 45 *e*P P 00 43 51.6 0.0
C35A **Jirik Farms, M** 95.71 42 P P 00 43 50.3 -1.3
baz=251,SNR=6.4
E36A **McGregor** 95.80 43 P P 00 43 51.4 -0.7
baz=251,SNR=7.9
BRAL **Brewton** 95.83 59 *e*P P 00 43 54.5 +2.0
BRAL LR LR
comp=Z,283nm,20.0s
J39A **Decorah** 95.84 47 P P 00 43 51.4 -0.9
baz=252,SNR=5.4
S44A **Carbondale** 95.94 53 P P 00 43 52.7 -0.2
baz=253
Y47A **UCPARC, Winfie** 95.95 57 P P 00 43 53.3 +0.2
baz=254
SONA1 **Songino Array** 95.97 318 *e*P P 00 43 52.4 -0.6
SONM **Songino Array** 95.97 318 P P 00 43 52.1 -0.9
comp=Z,2.6nm,0.8s,baz=99,slow=4.0,SNR=12
SONM PP PP 00 47 43.2 -2.9
comp=Z,0.8nm,0.8s,baz=111,slow=8.1,SNR=4.9
SONM LR LR 01 25 00.2
comp=Z,93nm,19.5s,baz=110,slow=34
Q43A **New Douglas** 95.97 51 P P 00 43 52.8 -0.2
baz=253
Z48A **Northport** 96.04 57 P P 00 43 53.1 -0.3
baz=254
K40A **Colesburg** 96.05 47 P P 00 43 52.4 -0.9
baz=252
D36A **Goodland** 96.06 43 P P 00 43 52.5 -0.7
baz=252,SNR=8.9
B35A **Bob, Littlefor** 96.08 41 P P 00 43 52.2 -1.1
baz=251,SNR=5.9
R44A **Waltonville** 96.24 52 P P 00 43 53.7 -0.5
baz=253
L41A **Preston** 96.31 48 P P 00 43 53.9 -0.6
baz=253
E37A **Wrenshall** 96.37 43 P P 00 43 54.1 -0.5
baz=252
S45A **Carrier Mills** 96.45 53 P P 00 43 55.3 +0.1
baz=254
C36A **Pine Crest Far** 96.46 42 P P 00 43 54.2 -0.9
baz=252
LVC **Limon Verde** 96.47 116 LR LR 01 17 18.7
comp=Z,2µm,21.5s,baz=243,slow=29
LVC **Limon Verde** 96.47 116 *e*P P 00 43 53.4 -2.8
Q44A **Meyer Farm, Va** 96.47 51 P P 00 43 54.6 -0.7
baz=253
PB01 **IPOC Station P** 96.53 114 *e*P P 00 43 58.3 +2.1
D37A **Cotton** 96.54 43 P P 00 43 54.8 -0.6
baz=252,SNR=6.9
TIXI **Tiksi** 96.58 344 *e*P P 00 43 54.6 -0.4
TIXI **Tiksi** 96.58 344 *e*P P 00 43 54.6 -0.4
TIXI LR LR
comp=Z,225nm,20.0s
WVT **Waverly** 96.59 54 *e*P P 00 43 56.1 +0.2
WVT **Waverly** 96.59 54 *e*P P 00 43 56.1 +0.2
JFWS **Jewell Farm** 96.74 47 *e*P P 00 43 56.2 -0.2
JFWS **Jewell Farm** 96.74 47 *e*P P 00 43 56.2 -0.2
JFWS LR LR
comp=Z,735nm,22.0s
HDIL **Hopedale** 96.74 50 P P 00 43 56.1 -0.4
baz=253
HDIL **Hopedale** 96.74 50 PFAKE 00 44 10.0 +14
HDIL LR LR
comp=Z,861nm,21.0s
C37A **Embarrass** 96.87 42 P P 00 43 55.6 -1.2
baz=252
EYMN **Ely** 97.38 42 P P 00 43 58.3 -0.9
baz=253
EYMN **Ely** 97.38 42 *e*P P 00 43 58.4 -0.8
EYMN LR LR
comp=Z,430nm,20.0s
C38A **Sawbill Land.** 97.45 42 P P 00 43 58.5 -1.1
baz=253
SWET **Sewanee** 97.83 56 *e*P Pdif 00 44 02.0 +0.3
GTA **Gaotai** 98.08 309 ||P Pdif 00 44 03.3 +0.5
GTA pP pP 00 44 15.5 -1.9
GTA sP sP 00 44 19.8 -3.1
GTA S **S** 00 55 25.5 -0.6
GTA sS sS 00 55 49.3 -1.7
GTA PMZ
comp=Z,7.0nm,1.0s
GTA PMZ
comp=Z,85nm,4.5s
GTA LN
comp=Z,110nm,19.5s
GTA LE
comp=Z,260nm,22.3s
GTA LZ
comp=Z,470nm,22.8s
SFIN **Lafayette** 98.30 50 P P 00 44 02.6 -0.9
baz=255
COWI **Conover** 98.40 44 *e*P P 00 44 03.7 -0.1
COWI LR LR
comp=Z,1µm,22.0s
ZAK **Zakamensk** 98.69 320 *e*P P 00 43 58.7 -6.4
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY **Talaya** 98.83 321 *e*P Pdif 00 44 05.9 +0.2
TLY *e*SS SS 01 02 32.0 +12
TLY pmax pmax
comp=Z,6.0nm,1.3s
TLY MLR MLR
comp=Z,137nm,16.0s
TLY **Talaya** 98.83 321 PFAKE 00 44 20.0 +14
TLY LR LR
comp=Z,287nm,20.0s
GOGA **Godfrey** 99.35 58 PFAKE 00 44 20.0 +12
GOGA LR LR
comp=Z,227nm,22.0s
LPAZ **La Paz** 99.43 110 P Pdif 00 44 09.6 -0.3
comp=Z,3.6nm,1.2s,baz=285,slow=1.3,SNR=7.2
LPAZ PP PP 00 48 13.8 +0.2
comp=Z,0.3nm,0.6s,baz=255,slow=12,SNR=3.3
LPAZ LR LR 01 18 42.6
comp=Z,306nm,21.9s,baz=261,slow=29
LPAZ **La Paz** 99.43 110 *e*P Pdif 00 44 10.1 +0.2
LPAZ PP PP 00 48 13.8 +0.2
MTDJ **Mount Denham** 100.79 74 PFAKE 00 44 30.0 +15
MTDJ LR LR
comp=Z,376nm,21.0s
AAM **Ann Arbor** 101.28 49 PFAKE 00 44 30.0 +13
AAM LR LR
comp=Z,351nm,22.0s
ACSO **Alum Creek Sta** 101.32 51 PFAKE 00 44 30.0 +13
ACSO LR LR
comp=Z,369nm,20.0s
NHSC **New Hope** 101.96 59 PFAKE 00 44 30.0 +10
NHSC LR LR
comp=Z,336nm,19.0s
BLA **Blacksburg** 102.63 55 PFAKE 00 44 30.0 +7.0
BLA LR LR
comp=Z,483nm,21.0s
LSA **Lhasa** 102.71 297 PFAKE 00 44 40.0 +16
LSA LR LR
comp=Z,241nm,21.0s
GTBY **Guantanamo Bay** 103.43 73 PFAKE 00 44 40.0 +13
GTBY LR LR
comp=Z,201nm,20.0s
CNNC **Cliffs of the** 104.25 57 PFAKE 00 44 40.0 +10
CNNC LR LR
comp=Z,461nm,19.0s
O56A **Blue Knob Stat** 104.64 52 P Pdif 00 44 30.6 -1.2
baz=260
SDV **Santo Domingo** 104.91 85 PFAKE 00 44 50.0 +16
SDV LR LR
comp=Z,284nm,22.0s
CBN **Corbin Frederi** 105.19 54 PFAKE 00 49 00.0
CBN LR LR
comp=Z,690nm,22.0s
SAML **Samuel** 106.54 105 PFAKE 00 49 00.0
SAML LR LR
comp=Z,265nm,22.0s
SDDR **Presa de Saban** 106.73 75 PFAKE 00 49 00.0
SDDR LR LR
comp=Z,583nm,22.0s
BINY **Binghamton** 106.86 50 PFAKE 00 49 00.0
BINY LR LR
comp=Z,700nm,22.0s
GRTK **Grand Turk** 107.41 72 PFAKE 00 49 10.0
GRTK LR LR
comp=Z,223nm,21.0s
LONY **Lake Ozonia** 108.18 48 PFAKE 00 49 10.0
LONY LR LR
comp=Z,646nm,22.0s
NRIK **Noril'sk** 108.99 338 PP PP 00 49 18.3 -4.6
comp=Z,1.0nm,0.4s,baz=130,slow=9.0,SNR=4.2
ZALV **Zalesovo Beam** 110.43 322 Pdiff Pdif 00 44 56.5 -0.7
comp=Z,0.5nm,0.6s,baz=83,slow=6.0,SNR=3.6
ZALV PKiKP **PKiKP** 00 48 57.1 -0.6
comp=Z,2.2nm,0.5s,baz=94,slow=0.6,SNR=15
ZALV PP PP 00 49 30.6 -3.2
comp=Z,1.2nm,0.8s,baz=90,slow=4.3,SNR=2.8
ZALV PKKPab **PKKPab** 01 00 07.5 -0.2
comp=Z,0.2nm,0.3s,baz=291,slow=4.5,SNR=3.6
SJG **San Juan** 111.31 77 PFAKE 00 49 10.0
SJG LR LR
comp=Z,151nm,22.0s
MKAR **Makanchi Array** 111.86 314 Pdiff Pdif 00 45 03.5 -0.3
comp=Z,0.4nm,0.7s,baz=69,slow=7.9,SNR=4.0
MKAR PKiKP **PKiKP** 00 48 59.7 -1.0
comp=Z,5.2nm,0.7s,baz=90,slow=0.3,SNR=40
MKAR PP PP 00 49 43.9 -0.4
comp=Z,1.9nm,1.1s,baz=72,slow=4.7,SNR=3.0
MKAR PKKPab **PKKPab** 01 00 02.4 +0.8
comp=Z,1.5nm,1.1s,baz=270,slow=4.0,SNR=5.3
PKME **Peaks-Kenny Pk** 111.97 48 PFAKE 00 49 10.0
PKME LR LR
comp=Z,760nm,21.0s
SCHQ **Schefferville** 113.47 37 Pdiff Pdif 00 45 11.3 +0.6
comp=Z,1.4nm,0.5s,baz=243,slow=11,SNR=2.0
SCHQ PP PP 00 49 51.7 -3.8
comp=Z,4.0nm,0.8s,baz=250,slow=15,SNR=4.6
KURK **Kurchatov** 114.28 318 *c i*PKiKP PKPdf 00 49 04.5 -0.6
KURK pmax pmax
comp=Z,43nm,1.2s
KURK **Kurchatov** 114.28 318 *e*PKP PKPdf 00 49 04.5 -0.6
KURK PP PP 00 49 54.5 -6.9
KURK LR LR
comp=Z,379nm,21.0s
KURBB **Kurchatov Arra** 114.34 318 PKP PKPdf 00 49 04.4 -0.8
comp=Z,5.4nm,0.7s,baz=90,slow=1.7,SNR=57
KURBB PP PP 00 49 54.5 -7.3
comp=Z,1.7nm,1.1s,baz=89,slow=6.6,SNR=9.1
KSH **Kashi** 116.31 306 *e*PKP **PKPdf** 00 49 11.0 +1.4
KSH sPKP 00 49 25.0
KSH PP PP 00 50 23.8 +7.6
KSH PKS **PKSdf** 00 52 46.0 -0.4
KSH SKS **SKSdf** 00 56 18.8 +1.0
KSH SKKS **SKKSac** 00 57 12.3 -0.7
KSH PPMZ
comp=Z,90nm,4.5s
KSH LN
comp=Z,100nm,5.4s
KSH LE
comp=Z,130nm,7.5s
KSH LZ
comp=Z,180nm,8.5s
TKM2 **Tokmak 2** 116.59 310 *e*PKiKP **PKPdf** 00 49 09.3 -0.8
TKM2 MLR MLR
comp=Z,207nm,21.0s
TKM2 **Tokmak 2** 116.59 310 *e*PKPdf **PKPdf** 00 49 09.3 -0.8
TKM2 LR LR
comp=Z,207nm,21.0s
AAK **Ala-Archa** 117.41 310 PKP **PKPdf** 00 49 11.1 -0.5
comp=Z,1.4nm,0.3s,baz=207,slow=2.3,SNR=3.1
AAK **Ala-Archa** 117.41 310 PKP **PKPdf** 00 49 11.1 -0.5
AAK LR LR
comp=Z,181nm,20.0s
EKS2 **Erkin-Say** 117.94 310 PFAKE 00 49 20.0 +7.4
EKS2 LR LR
comp=Z,165nm,20.0s
KBS **Kingsbay** 118.09 359 PFAKE 00 49 20.0 +8.3
KBS LR LR
comp=Z,204nm,22.0s
SFJD **Kangerlussuaq** 118.27 22 PFAKE 00 49 20.0 +7.7
SFJD LR LR
comp=Z,420nm,21.0s
SUMG **Summit** 118.89 14 *i* P PP 00 50 30.6 -2.6
comp=Z,12nm,1.1s
DAG **Danmarks Havn** 118.95 6 *i* P PP 00 50 29.1 -3.9
comp=Z,24nm,1.4s
BVAR **Borovoye Array** 119.09 322 PKP **PKPdf** 00 49 13.8 -0.6
comp=Z,17nm,0.7s,baz=105,slow=1.5,SNR=123
BRVK **Borovoye** 119.15 322 *c i*PKiKP **PKPdf** 00 49 14.1 -0.3
BRVK pmax pmax
comp=Z,52nm,1.0s
BRVK **Borovoye** 119.15 322 *e*PKPdf **PKPdf** 00 49 13.9 -0.5
BRVK LR LR
comp=Z,141nm,22.0s
KKAR **Karatay Array** 120.31 310 *e*PKiKP **PKPdf** 00 49 16.5 -0.5
KKAR **Karatay Array** 120.31 310 *e*PKPdf **PKPdf** 00 49 16.5 -0.5
SVE **Sverdlovsk** 123.46 328 *e*PKiKP **PKPdf** 00 49 22.7 +0.1

SVE pmax pmax
comp=Z,20nm,1.1s
ARU Arti 124.67 328 PKhKP PKPpre 00 49 21.4
comp=Z,8.8nm,0.6s,baz=48,slow=1.3,SNR=22
ARU PP **PP 00 51 10.5 -1.9**
comp=Z,0.8nm,0.3s,baz=44,slow=5.0,SNR=4.3
ARU Arti 124.67 328 *i* PKIKP **PKPdf 00 49 24.5 -0.4**
ARU 00 51 11.7
ARU 00 56 33.3
ARU SP SP 01 01 02.9 -2.8
ARU SS **SS 01 07 58.3 -4.3**
ARU MLR MLR
comp=Z,217nm,22.0s
ARU Arti 124.67 328 *e*PKPdf **PKPdf 00 49 24.4 -0.6**
ARU PP **PP 00 51 10.5 -1.9**
ARU LR LR
comp=Z,270nm,19.0s
KEV Kevo 125.85 351 PFAKE 00 49 40.0 +13
KEV LR LR
comp=Z,271nm,21.0s
LVZ Lovozero 126.11 347 PFAKE 00 49 40.0 +13
LVZ LR LR
comp=Z,220nm,21.0s
ABPO Ambohimpanom 126.13 230 PFAKE 00 49 40.0 +11
ABPO LR LR
comp=Z,317nm,19.0s
ARCES ARCESS Array B 126.26 352 PKP **PKPdf 00 49 27.4 -0.2**
comp=Z,18nm,1.0s,baz=180,slow=0.1,SNR=28
ABKAR Akbulak array 126.37 319 *e*PKPdf **PKPdf 00 49 28.4 0.0**
APA Apatity 126.65 347 ⇓ *i* PKIKP **PKPdf 00 49 26.0 -2.4**
APA pmax pmax
comp=Z,8.0nm,0.8s
AKTO Aktyubinsk 127.18 321 PKP **PKPdf 00 49 29.7 -0.2**
comp=Z,7.0nm,0.9s,baz=68,slow=2.1,SNR=16
KLMR Klimovskoe 130.31 339 *e*PKIKP **PKPdf 00 49 32.2 -3.3**
KLMR pmax pmax
comp=Z,34nm,1.3s
GEYT Alibeck 130.34 305 PKhKP PKPpre 00 49 27.2
comp=Z,0.4nm,0.5s,baz=20,slow=9.7,SNR=2.6
GEYT PKP **PKPdf 00 49 36.0 -0.4**
comp=Z,5.2nm,0.8s,baz=238,slow=1.4,SNR=19
GEYT PP **PP 00 51 48.5 -2.2**
comp=Z,2.3nm,0.9s,baz=20,slow=4.7,SNR=3.8
GEYT SKPbc **SKPbc 00 52 58.3 +2.6**
comp=Z,2.4nm,1.0s,baz=90,slow=5.0,SNR=5.2
BOSA Boshof 131.01 202 PKP **PKPdf 00 49 39.5 +1.3**
comp=Z,7.4nm,1.1s,baz=266,slow=1.9,SNR=5.5
RCBR Riachuelo 132.41 115 PFAKE 00 49 50.0 +9.0
RCBR LR LR
comp=Z,345nm,22.0s
FINES FINESS Array B 133.56 347 PKhKP PKPpre 00 49 33.1
comp=Z,4.8nm,0.9s,baz=132,slow=2.8,SNR=5.5
FINES PKP **PKPdf 00 49 41.4 -0.3**
comp=Z,7.4nm,0.8s,baz=52,slow=2.3,SNR=17
OBN Obninsk 135.58 336 *d* *i* PKIKP **PKPdf 00 49 45.6 0.0**
OBN *e* 00 52 22.7
OBN *e*PPP PPP 00 55 23.3
OBN *i* SS SS 01 10 10.1 -5.8
OBN pmax pmax
comp=Z,21nm,1.1s
OBN MLR MLR
comp=Z,146nm,22.0s
OBN Obninsk 135.58 336 PFAKE 00 50 00.0 +14
OBN LR LR
comp=Z,199nm,22.0s
VRH Novokhopyorsk 135.89 328 *e*PKIKP **PKPdf 00 49 44.7 -1.6**
VRH pmax pmax
comp=Z,20nm,1.1s
NB2 NORSAR Subarra135.99 357 PKP PKPpre 00 49 35.0
comp=Z,3.6nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B 135.99 357 PKhKP PKPpre 00 49 35.6
comp=Z,0.6nm,0.6s,baz=26,slow=2.0,SNR=4.3
NOA PKP **PKPdf 00 49 46.2 -0.1**
comp=Z,4.6nm,1.0s,baz=19,slow=3.9,SNR=7.4
NOA PP **PP 00 52 28.1 +2.8**
comp=Z,1.4nm,0.8s,baz=1.2,slow=5.8,SNR=3.4
VSU Vasula 136.06 345 *c* *i* PKIKP **PKPdf 00 49 47.7 +1.3**
VSU pmax pmax
comp=Z,34nm,1.0s
VSR Storozhevoye 137.13 330 *e*PKIKP **PKPdf 00 49 48.1 -0.6**
VSR pmax pmax
comp=Z,20nm,1.0s
KONO Kongsberg 137.46 358 *c* *i* PKIKP **PKPdf 00 49 51.0 +2.0**
KONO pmax pmax
comp=Z,92nm,1.2s
KONO Kongsberg 137.46 358 PFAKE 00 50 00.0 +11
KONO LR LR
comp=Z,240nm,21.0s
KBZ Khabaz 139.34 319 PKP **PKPdf 00 49 53.5 +0.6**
comp=Z,4.5nm,1.0s,baz=189,slow=2.3,SNR=3.9
KBZ Khabaz 139.34 319 PKIKP **PKPdf 00 49 53.5 +0.6**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 139.36 319 *i* PKIKP **PKPdf 00 49 54.8 +1.7**
KIV *e* 00 52 46.0
KIV *e*SS SS 01 11 01.9 -0.2
KIV pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 139.36 319 PFAKE 00 50 10.0 +17
KIV LR LR
comp=Z,241nm,20.0s
GNI Garni 139.69 313 *c* *i* PKIKP **PKPdf 00 49 53.6 -0.3**
GNI pmax pmax
comp=Z,65nm,1.7s
GNI Garni 139.69 313 *e*PKPdf **PKPdf 00 49 54.8 +0.9**
GNI LR LR
comp=Z,243nm,22.0s
SUW Suwalki 140.93 344 *e*PKP PKPpre 00 49 50.0
SUW Suwalki 140.93 344 *e*PKHKP PKPpre 00 49 50.0
LSZ Lusaka 141.29 215 *e*PKIKP **PKPdf 00 49 59.8 +2.3**
LSZ MLR MLR
comp=Z,522nm,19.0s
LSZ Lusaka 141.29 215 *e*PKPdf **PKPdf 00 49 59.8 +2.3**
LSZ LR LR
comp=Z,522nm,19.0s
AKASG Malin Array Be 141.82 336 PKhKP PKPpre 00 49 50.7
comp=Z,3.2nm,0.6s,baz=37,slow=4.0,SNR=8.9
AKASG PKP **PKPdf 00 49 56.2 -1.0**
comp=Z,4.9nm,0.8s,baz=31,slow=2.3,SNR=14
KIEV Kiev 141.83 336 *d* *i* PKIKP **PKPdf 00 49 56.9 -0.3**
KIEV Kiev 141.83 336 PFAKE 00 50 10.0 +13
KIEV LR LR
comp=Z,285nm,22.0s
GKP Gorka Klasztor 142.93 349 *e*PKP PKPpre 00 49 52.8
GKP Gorka Klasztor 142.93 349 *e*PKHKP PKPpre 00 49 52.8
FOEL Foel Wylfa 143.51 10 *e*P PKPbc 00 49 58.4 +0.8
BEL Belsk 143.51 345 *e*PKP **PKPdf 00 49 58.7 -1.5**
BEL Belsk 143.51 345 *e*PKIKP **PKPdf 00 49 58.7 -1.5**
CWF Charnwood Fore 143.94 8 *e*P PKPbc 00 49 59.1 +0.4
LPW Lampeter 144.11 11 *e*P **PKPab 00 49 58.8 0.0**
SORM Soroca 144.21 335 ⇓ *i* P PKPbc 00 50 00.2 +0.5
SORM Soroca 144.21 335 ⇓ PKIKP PKPbc 00 50 00.2 +0.5
LVV L'vov 144.39 340 *i* PKIKP **PKPab 00 49 59.7 -0.3**
MCH1 Michaelchurch 144.41 10 *e*P **PKPab 00 49 59.1 -0.8**
KMBO Kilima Mbogo 144.58 242 PKP **PKPdf 00 50 03.1 -0.5**
comp=Z,44nm,0.9s,baz=84,slow=4.4,SNR=88
KMBO Kilima Mbogo 144.58 242 *e*PKIKP **PKPdf 00 50 02.7 -0.9**
KMBO MLR MLR
comp=Z,280nm,19.0s
KMBO Kilima Mbogo 144.58 242 *e*PKPdf **PKPdf 00 50 02.7 -0.9**
KMBO LR LR
comp=Z,280nm,19.0s
SSW Stow on the Wo 144.62 9 *e*P PKPbc 00 50 00.9 -0.1
STRD Stroud 144.75 9 *e*P **PKPab 00 50 01.2 -0.1**
KIS Kishinev 144.90 333 *e*P **PKPab 00 50 00.0 -1.9**
KIS Kishinev 144.90 333 *e*PKIKP **PKPab 00 50 00.0 -1.9**
KIS *e* 00 50 11.0
KWP Kalwaria Pacla 144.97 341 *e*PKPc **PKPab 00 50 02.1 0.0**
KWP Kalwaria Pacla 144.97 341 ⇑ *i* P **PKPdf 00 50 02.5 -0.3**
KWP Kalwaria Pacla 144.97 341 ⇑ *e*PKIKP **PKPab 00 50 02.1 0.0**
SKP1 Kophill 145.00 8 *e*P **PKPbc 00 50 00.8 -1.3**
SHEL Horse Pasture 145.03 159 *i* PKIKP **PKPdf 00 50 05.7 +1.7**
BATH Bath 145.05 10 *e*P **PKPdf 00 50 02.8 -0.1**
SWN1 Swindon 145.06 9 *e*P **PKPbc 00 50 01.7 -0.6**
WTSB Winterswijk 145.22 360 *i* P **PKPbc 00 50 02.6 -0.2**
comp=Z,86nm,0.9s
OJC Ojcow 145.25 345 *e*PKPc **PKPbc 00 50 02.6 -0.4**
OJC Ojcow 145.25 345 ⇑ *e*PKIKP **PKPbc 00 50 02.6 -0.4**
CMLA Cha da Macela 145.26 47 *e*PKIKP **PKPab 00 50 04.6 +1.0**
CMLA MLR MLR
comp=Z,756nm,21.0s
CMLA Cha da Macela 145.26 47 *e*PKPbc **PKPab 00 50 04.6 +1.0**
CMLA LR LR
comp=Z,756nm,21.0s
WOL Wolverton 145.34 8 *e*P **PKPbc 00 50 03.0 -0.2**

KSP Ksiaz 145.42 349 *e*PKPc **PKPab 00 50 03.5 -0.2**
KSP Ksiaz 145.42 349 ⇑ *e*PKIKP **PKPab 00 50 03.5 -0.2**
CLL Collm 145.47 353 ⇑ *i*PKPdf **PKPdf 00 50 03.4 -0.2**
comp=Z,159nm,1.2s
CLL *e*PP **PP 00 53 24.0 +0.8**
CLL *e*PSKS 01 03 36.0
CLL *e* 01 05 54.0
CLL *e*SS SS 01 12 05.0 -5.9
CLL *e* 01 13 33.0
CLL *e*SSS SSS 01 17 39.0
CLL *e*SSSS 01 21 38.0
CLL Collm 145.47 353 ⇑ *i*PKIKP **PKPdf 00 50 03.4 -0.2**
CLL pmax pmax
comp=Z,159nm,1.2s
LEOM Leova 145.56 333 ⇑ *i*P **PKPab 00 50 04.8 +0.4**
LEOM Leova 145.56 333 ⇑ PKIKP **PKPab 00 50 04.8 +0.4**
STHS Stebnicka Huta 145.59 343 *e*PKIKP **PKPab 00 50 05.1 +0.6**
STHS Stebnicka Huta 145.59 343 *e*PKP **PKPab 00 50 05.1 +0.6**
CCA1 Carnmenellis 145.71 13 *e*P **PKPbc 00 50 04.1 -0.4**
KOLS Kolonicke sedl 145.72 341 *e*PKP2 **PKPab 00 50 05.0 0.0**
KOLS Kolonicke sedl 145.72 341 *e*PKP **PKPab 00 50 05.0 0.0**
RAC Raciborz 145.76 346 *e*PKP2 **PKPab 00 50 04.8 -0.2**
BRG Berggiesshubel 145.78 351 *i* PKP **PKPab 00 50 04.8 -0.2**
comp=Z,129nm,1.2s
BRG *i* 00 50 12.9
comp=Z,22nm,1.1s
BRG *e*PP **PP 00 53 29.7 +4.7**
comp=Z,12nm,1.6s
BRG Berggiesshubel 145.78 351 *i* PKP2 **PKPab 00 50 04.8 -0.2**
BRG *e* 00 53 29.7
BRG pmax pmax
comp=Z,129nm,1.3s
BRG pmax pmax
comp=Z,22nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.6s
ELSH Elham, Standar 145.78 6 *e*P **PKPbc 00 50 04.7 +0.1**
UPC Upice 145.80 349 *e*PKP **PKPbc 00 50 04.5 -0.2**
UPC AMS AMS 01 54 20.0
comp=Z,300nm,23.5s
UPC Upice 145.80 349 *e*PKP2 **PKPbc 00 50 04.5 -0.2**
UPC MLR MLR
comp=Z,300nm,23.5s
NIE Niedzica 145.85 344 *e*PKPc **PKPab 00 50 05.2 -0.2**
NIE Niedzica 145.85 344 ⇓ *e*PKP2 **PKPab 00 50 05.3 -0.2**
BURAR Bucovina Array 145.86 337 ⇑ *i*P **PKPab 00 50 05.3 -0.3**
BURAR Bucovina Array 145.86 337 ⇑ PKP2 **PKPab 00 50 05.3 -0.3**
DPC Dobruska-Polom 145.89 349 *e*PKP **PKPdf 00 50 04.5 +0.1**
DPC *e*pPKP **PKiKP 00 50 14.7 +6.1**
DPC *e*sPKP 00 50 21.7
DPC Dobruska-Polom 145.89 349 *e*PKP2 **PKPdf 00 50 04.5 +0.1**
HMNX Herstmonceux 145.98 7 *e*P **PKPbc 00 50 05.3 +0.1**
UZH Uzhgorod 145.99 341 *i* PKIKP **PKPdf 00 50 04.0 -0.6**
UZH *i* 00 50 06.2
UZH *i* 00 50 11.6
UZH *e* 00 50 16.2
CRVS Cervenica-Dubn 146.00 342 *e*PKP2 **PKPab 00 50 05.6 -0.4**
CRVS Cervenica-Dubn 146.00 342 *e*PKP **PKPab 00 50 05.6 -0.4**
OKC Ostrava-Krasne 146.00 346 *e*PKP **PKPab 00 50 05.8 -0.1**
OKC *e*pPKP **pPKPdf 00 50 21.3 +1.6**
OKC AMS AMS 01 50 50.0
comp=Z,200nm,18.2s
OKC Ostrava-Krasne 146.00 346 *e*PKP2 **PKPab 00 50 05.8 -0.1**
OKC MLR MLR
comp=Z,200nm,18.2s
PVCC Panska Ves 146.02 351 *e*PKP **PKPbc 00 50 05.0 -0.4**
PVCC AMS AMS 01 54 10.0
comp=Z,300nm,23.0s
PVCC Panska Ves 146.02 351 *e*PKP2 **PKPbc 00 50 05.0 -0.4**
PVCC MLR MLR
comp=Z,300nm,23.0s
MORC Moravsky Berou 146.19 347 ⇑ *i*P **PKPbc 00 50 06.0 0.0**
MORC Moravsky Berou 146.19 347 ⇑ PKP2 **PKPbc 00 50 06.0 0.0**
TLCR 146.29 331 ⇑ *i*P **PKPab 00 50 07.2 0.0**
TLCR 146.29 331 ⇑ PKP2 **PKPab 00 50 07.2 0.0**
LANS Liptovska Anna 146.32 344 *e*PKP2 **PKPab 00 50 07.8 +0.6**
LANS Liptovska Anna 146.32 344 *e*PKP **PKPab 00 50 07.8 +0.6**
TRPA Tarpa 146.35 340 ⇑ *e*PKPdf **PKPbc 00 50 06.2 -0.2**
UCC Uccle 146.35 2 PKP **PKPab 00 50 07.3 +0.1**
BEBN Eben Emael 146.39 1 PKP **PKPbc 00 50 06.6 +0.1**
HGN Heimansgroeve 146.43 1 *i* P **PKPbc 00 50 06.6 0.0**
comp=Z,258nm,1.8s
BMR Baia Mare 146.43 339 ⇑ *i*P **PKPab 00 50 07.7 +0.1**
BMR Baia Mare 146.43 339 ⇑ PKP2 **PKPab 00 50 07.7 +0.1**
PRU Pruhonice 146.55 350 *e*PKP **PKPdf 00 50 06.0 +0.5**
PRU *ex* x 00 50 07.4
PRU AMS AMS 01 54 40.0
comp=Z,300nm,18.1s
PRU Pruhonice 146.55 350 *e*PKP2 **PKPdf 00 50 06.0 +0.5**
PRU MLR MLR
comp=Z,300nm,18.1s
GOPC GO Pecny, Ondr 146.58 350 *e*PKP **PKPbc 00 50 06.3 -0.8**
GOPC *ex* x 00 50 07.7
GOPC AMS AMS 01 54 50.0
comp=Z,400nm,23.8s
GOPC GO Pecny, Ondr 146.58 350 *e*PKP2 **PKPbc 00 50 06.3 -0.8**
GOPC MLR MLR
comp=Z,400nm,23.8s
MEM Membach 146.58 0 PKP **PKPbc 00 50 07.2 +0.2**
NKC Novy Kostel 146.60 353 *e*PKP **PKPbc 00 50 06.3 -0.9**
NKC *ex* x 00 50 07.8
NKC Novy Kostel 146.60 353 *e*PKP2 **PKPbc 00 50 06.3 -0.9**
CFR Carcaliu 146.60 332 ⇑ *i*P **PKPbc 00 50 06.5 -0.8**
CFR Carcaliu 146.60 332 ⇑ PKP2 **PKPbc 00 50 06.5 -0.8**
ARCR ARCALIA 146.62 337 ⇑ *i*P **PKPab 00 50 07.9 -0.5**
KECS Kecovo 146.65 343 *e*PKP2 **PKPab 00 50 08.2 -0.3**
KECS Kecovo 146.65 343 *e*PKP **PKPab 00 50 08.2 -0.3**
VRI Vrincioaia 146.69 334 ⇓ *i*P **PKPab 00 50 08.1 -0.6**
VRI Vrincioaia 146.69 334 ⇓ PKP2 **PKPab 00 50 08.1 -0.6**
PLOR Plostina 146.73 334 ⇓ *i*P **PKPab 00 50 08.4 -0.6**
PLOR Plostina 146.73 334 ⇓ PKP2 **PKPab 00 50 08.4 -0.6**
BCLA Clavier 146.76 1 PKP **PKPbc 00 50 07.5 0.0**
VRAC Vranov 146.83 348 ⇑ *i*P **PKPbc 00 50 07.9 0.0**
VRAC Vranov 146.83 348 ⇓ PKP2 **PKPab 00 50 08.6 -0.6**
GRER 146.97 333 ⇓ *i*P **PKPab 00 50 10.2 +0.4**
TREC Trest 147.06 349 *e*PKP **PKPdf 00 50 07.0 +0.6**
TREC AMS AMS 01 53 50.0
comp=Z,300nm,24.5s
TREC Trest 147.06 349 *e*PKIKP **PKPdf 00 50 07.0 +0.6**
TREC MLR MLR
comp=Z,300nm,24.5s
DOU Dourbes 147.06 2 PKP **PKPbc 00 50 08.5 0.0**
HARR Harsova 147.07 331 ⇓ *i*P **PKPab 00 50 09.7 -0.5**
HARR Harsova 147.07 331 ⇓ PKP2 **PKPab 00 50 09.7 -0.5**
VYHS Vyhne 147.09 345 *e*PKIKP **PKPdf 00 50 06.9 +0.4**
VYHS *e* 00 50 08.9
VYHS Vyhne 147.09 345 *e*PKP **PKPdf 00 50 06.9 +0.4**
VYHS *e* 00 50 08.9
DOPR Dopca 147.16 335 ⇓ *i*P **PKPab 00 50 09.8 -0.8**
CJR Cluj-Napoca 147.21 338 ⇑ *i*P **PKPbc 00 50 09.8 +0.7**
CJR Cluj-Napoca 147.21 338 ⇑ PKP2 **PKPbc 00 50 09.8 +0.7**
JSA Saint Aubin 147.26 10 *e*P **PKPbc 00 50 08.9 0.0**
GRFO Grafenberg 147.27 354 *e*PKIKP **PKPdf 00 50 07.6 +0.9**
GRFO Grafenberg 147.27 354 *e*PKPdf **PKPdf 00 50 07.6 +0.9**
MLR Muntele Rosu 147.32 334 ⇑ *i*P **PKPbc 00 50 10.2 +0.7**
MLR Muntele Rosu 147.32 334 ⇑ PKP2 **PKPbc 00 50 10.2 +0.7**
BRTR Keskin Array B 147.32 319 PKPbc **PKPdf 00 50 08.0 +0.7**
comp=Z,58nm,1.0s,baz=137,slow=4.8,SNR=61
BRTR Keskin Array B 147.32 319 PKIKP **PKPdf 00 50 08.0 +0.7**
BRTR pmax pmax
comp=Z,58nm,1.0s
PSZ Piszkesteto 147.33 343 ⇑ *i*P **PKPab 00 50 10.3 -1.0**
PSZ Piszkesteto 147.33 343 ⇑ *e*PKPdf **PKPbc 00 50 09.3 -0.1**
PSZ Piszkesteto 147.33 343 ⇑ PKP2 **PKPab 00 50 10.3 -1.0**
PSZ Piszkesteto 147.33 343 *e*PKPdf **PKPdf 00 50 07.5 +0.5**
PSZ LR LR
comp=Z,224nm,21.0s
ISR Istrita 147.36 333 ⇓ *i*P **PKPab 00 50 10.5 -1.0**
ISR Istrita 147.36 333 ⇓ PKP2 **PKPab 00 50 10.5 -1.0**
SMOL Smolenice 147.40 346 *e*PKP2 **PKPab 00 50 10.4 -1.0**
SMOL Smolenice 147.40 346 *e*PKP **PKPab 00 50 10.4 -1.0**
DRGR 147.46 339 ⇓ *i*P **PKPbc 00 50 10.0 +0.2**
DRGR 147.46 339 ⇓ PKP2 **PKPbc 00 50 10.0 +0.2**
WLF Walferdange 147.53 0 PKP **PKPbc 00 50 10.6 +0.9**
WLF Walferdange 147.53 0 *e*PKIKP **PKPdf 00 50 08.0 +0.9**
WLF MLR MLR
comp=Z,393nm,21.0s
WLF Walferdange 147.53 0 *e*PKPdf **PKPdf 00 50 08.0 +0.9**
WLF LR LR
comp=Z,393nm,21.0s
KHC Kasperske Hory 147.53 351 *e*PKP **PKPdf 00 50 07.8 +0.6**
KHC *ex* x 00 50 10.3

KHC *e*pPKP **pPKPdf 00 50 24.1 +1.7**
KHC AMS AMS 01 51 10.0
comp=Z,500nm,25.7s
KHC Kasperske Hory 147.53 351 *e*PKIKP **PKPdf 00 50 07.8 +0.6**
KHC *e* 00 50 10.3
KHC *e* 00 50 24.1
KHC MLR MLR
comp=Z,500nm,25.7s
KHC Kasperske Hory 147.53 351 *e*PKPdf **PKPdf 00 50 07.7 +0.5**
SECR 147.63 334 ⇑ *i*P **PKPbc 00 50 10.7 +0.5**
VOIR 147.73 335 ⇑ *i*P **PKPab 00 50 12.0 -0.9**
VOIR 147.73 335 ⇑ PKP2 **PKPab 00 50 12.0 -0.9**
ASCN Ascension 147.76 139 PFAKE 00 50 20.0 +6.2
ASCN LR LR
comp=Z,1μm,20.0s
ANTO Ankara 147.76 320 *e*PKIKP **PKPdf 00 50 08.2 +0.2**
ANTO Ankara 147.76 320 *e*PKPdf **PKPdf 00 50 08.2 +0.2**
GERES GERESS Array B 147.79 351 PKPbc **PKPdf 00 50 08.5 +0.8**
comp=Z,27nm,1.0s,baz=25,slow=2.7,SNR=78
SULR 147.83 333 ⇓ *i*P **PKPab 00 50 14.1 +0.9**
BUD Budapest 147.97 344 ⇓ *e*PKPdf **PKPbc 00 50 11.3 +0.3**
DEV Deva 148.17 338 ⇓ *i*P **PKPbc 00 50 12.4 +0.8**
DEV Deva 148.17 338 ⇓ PKP2 **PKPbc 00 50 12.4 +0.8**
LANF Langenberg 148.19 358 PKP **PKPbc 00 50 12.0 +0.4**
LOT Lotru 148.22 336 ⇓ *i*P **PKPbc 00 50 11.7 -0.2**
SIRR Siria 148.27 340 ⇑ *i*P **PKPbc 00 50 12.5 +0.6**
CONA Conrad Observa 148.29 348 *i* PKiKP **PKPbc 00 50 12.6 +0.6**
comp=Z,113nm,1.4s,SNR=84
STU Stuttgart 148.34 356 *e*PKIKP **PKPdf 00 50 09.6 +1.1**
STU *e* 00 50 12.6
STU Stuttgart 148.34 356 *e*PKPdf **PKPdf 00 50 09.6 +1.1**
STU *e*PKPbc **PKPbc 00 50 12.6 +0.6**
SOP Sopron 148.38 347 ⇑ *e*PKPdf **PKPdf 00 50 08.5 -0.1**
GZR Gura Zlata 148.64 338 ⇑ *i*P **PKPbc 00 50 12.6 -0.3**
MOA Molln 148.67 350 *i* PKPbc **PKPbc 00 50 12.7 -0.1**
comp=Z,61nm,1.2s,SNR=17
BFO Black Forest 148.82 357 *i* PKIKP **PKPdf 00 50 10.0 +0.6**
BFO Black Forest 148.82 357 *e*PKPdf **PKPdf 00 50 09.7 +0.4**
BFO LR LR
comp=Z,296nm,22.0s
BZS Buzias 148.86 339 ⇑ *i*P **PKPbc 00 50 13.6 +0.2**
BZS Buzias 148.86 339 ⇑ PKP2 **PKPbc 00 50 13.6 +0.2**
ECH Echery 148.97 359 PKP **PKPbc 00 50 13.7 +0.1**
ARSA Arzberg 149.01 348 *i* PKPbc **PKPbc 00 50 13.6 -0.2**
comp=Z,46nm,1.1s,SNR=18
ZIMR 149.03 333 ⇑ *i*P **PKPbc 00 50 15.1 +1.2**
ZIMR 149.03 333 ⇑ PKP2 **PKPbc 00 50 15.1 +1.2**
SZH Strazhica 149.09 332 *i* P **PKPbc 00 50 14.1 0.0**
SRE Strehaia 149.10 336 ⇑ *i*P **PKPbc 00 50 14.8 +0.8**
SRE Strehaia 149.10 336 ⇑ PKP2 **PKPbc 00 50 14.8 +0.8**
BANR Banloc 149.22 339 ⇑ *i*P **PKPbc 00 50 15.2 +0.9**
MOF Molkenrain 149.34 359 PKP **PKPbc 00 50 14.6 -0.1**
PVL Pavilkeni 149.40 332 *i* P **PKPbc 00 50 15.2 +0.4**
BEHE Becsehely 149.48 346 ⇑ *e*PKPdf **PKPbc 00 50 15.2 +0.3**
RETA Reutte 149.49 354 *i* PKPbc **PKPbc 00 50 15.2 +0.2**
comp=Z,74nm,1.2s,SNR=21
MDVR Moldovita 149.55 338 ⇑ *i*P **PKPbc 00 50 15.5 +0.3**
WATA Walderalm 149.55 353 *i* PKPbc **PKPbc 00 50 15.0 -0.2**
comp=Z,24nm,0.6s,SNR=30
KBA Koelnbreinsper 149.56 351 *i* PKPbc **PKPbc 00 50 14.8 -0.5**
comp=Z,43nm,1.0s,SNR=11
MOTA Moosalm 149.60 354 *i* PKPbc **PKPbc 00 50 15.0 -0.4**
comp=Z,96nm,1.2s,SNR=62
WTTA Wattenberg 149.62 353 *i* PKiKP **PKPbc 00 50 15.5 0.0**
comp=Z,46nm,0.7s,SNR=19
SOKA Soboth 149.66 348 *i* PKPbc **PKPbc 00 50 15.0 -0.4**
comp=Z,84nm,1.2s,SNR=72
BISS Bistriski jare 149.66 348 *i* PKPbc **PKPbc 00 50 14.9 -0.5**
DAVA Damuels 149.77 355 *i* PKPbc **PKPbc 00 50 15.9 0.0**
comp=Z,117nm,1.2s,SNR=33
LOMF Lomont 149.84 359 PKP **PKPbc 00 50 16.3 +0.4**
OBKA Obir 149.91 349 *i* PKPbc **PKPbc 00 50 15.5 -0.6**
comp=Z,47nm,1.5s,SNR=14
MYKA Terra Mystica 149.95 350 *i* PKPbc **PKPbc 00 50 15.4 -0.8**
comp=Z,90nm,1.6s,SNR=14
FETA Feichten 149.96 354 *i* PKiKP **PKPbc 00 50 16.5 +0.2**
comp=Z,106nm,1.1s,SNR=56
MPEP Malo Peshtene 149.97 334 *i* P **PKPbc 00 50 16.4 +0.2**
ABTA Abfaltersbach 150.01 352 *i* PKPbc **PKPbc 00 50 15.5 -0.8**
comp=Z,153nm,1.2s,SNR=65
MAMC Mammari 150.08 312 P **PKPbc 00 50 17.1 +0.3**
CSS Mathiatis 150.10 312 P **PKPbc 00 50 17.2 +0.3**
CSS Mathiatis 150.10 312 P **PKPbc 00 50 16.9 0.0**
CSS Mathiatis 150.10 312 P **PKPbc 00 50 16.9 0.0**
CSS *e*PKPbc **PKiKP 00 50 17.1 -0.6**
CSS LR LR
comp=Z,48nm,21.0s
GORS Gorjuse 150.20 349 *i* PKPbc **PKPbc 00 50 15.9 -0.9**
DIM Dimitrovgrad 150.22 331 *i* P **PKPbc 00 50 17.0 +0.1**
LEGS Legarje 150.29 347 *i* PKPbc **PKPbc 00 50 16.6 -0.4**
LJU Ljubljana 150.36 348 *i* PKPdf **PKPdf 00 50 11.9 0.0**
LJU *e*PKPbc **PKPbc 00 50 16.4 -0.7**
PGB Panagyurishte 150.44 333 *i* P **PKPbc 00 50 17.3 -0.2**
SISC Sisak 150.51 346 P **PKPbc 00 50 18.0 +0.6**
ALFC Alefka 150.53 313 P **PKPbc 00 50 17.6 -0.3**
SZAC Souni 150.53 312 P **PKPbc 00 50 18.3 +0.4**
KDZ Kurdzhali 150.58 330 *i* P **PKPbc 00 50 16.6 -1.2**
BOJS Bojanci 150.73 347 *e*PKPdf **PKPdf 00 50 12.2 -0.2**
BOJS *i* PKPbc **PKiKP 00 50 18.2 -0.4**
DIVS Divibare 150.74 340 P **PKPbc 00 50 18.1 -0.1**
AKMC Akamas 150.78 313 P **PKPbc 00 50 17.4 -1.1**
TRI Trieste 150.82 349 *e*PKIKP **PKPdf 00 50 13.0 +0.5**
TRI Trieste 150.82 349 *e*PKPdf **PKPdf 00 50 13.0 +0.5**
OG01 Vacheresse 150.86 360 PKP **PKPbc 00 50 19.2 +0.8**
AGO Saint Agoulin 151.01 5 PKP **PKPbc 00 50 20.0 +1.3**
KULA Kula-Manisa 151.11 322 P **PKPbc 00 50 18.4 -0.8**
KULA Kula-Manisa 151.11 322 P **PKPbc 00 50 18.4 -0.8**
PLDF La Plantade 151.13 4 PKP **PKPbc 00 50 20.5 +1.5**
PYM Petit Puy Mans 151.31 5 PKP **PKPbc 00 50 20.9 +1.5**
MMB Musomiste 151.41 332 *i* P **PKPbc 00 50 19.2 -0.6**
KKB Krupnik 151.47 333 *i* P **PKPbc 00 50 19.6 -0.2**
RSL Roselend 151.50 360 PKP **PKPbc 00 50 20.5 +0.5**
KAVA Kavala 151.52 330 P **PKPbc 00 50 19.2 -0.7**
NVR Nevrokopi 151.54 332 P **PKPbc 00 50 19.2 -0.9**
NVR Nevrokopi 151.54 332 P **PKPbc 00 50 19.2 -0.9**
UDBI Udbina 151.54 346 P **PKPbc 00 50 19.5 -0.5**
COLF Collangettes 151.59 4 PKP **PKPbc 00 50 20.6 +0.6**
FRNF Fournols 151.63 6 PKP **PKPbc 00 50 20.9 +0.8**
NVLJ Novalja 151.71 347 P **PKPbc 00 50 19.5 -0.7**
LBL Lubilhac 151.84 5 PKP **PKPbc 00 50 22.5 +1.8**
SSB Saint Sauveur 151.87 3 PKP **PKPbc 00 50 21.3 +0.6**
SSB Saint Sauveur 151.87 3 *e*PKIKP **PKPdf 00 50 15.1 +0.9**
SSB *e* 00 50 21.4
SSB MLR MLR
comp=Z,492nm,21.0s
SSB Saint Sauveur 151.87 3 *e*PKPdf **PKPdf 00 50 15.1 +0.9**
SSB *e*PKPab **PKiKP 00 50 21.4 +0.4**
SSB LR LR
comp=Z,492nm,21.0s
GRN Grenoble 151.95 1 PKP **PKPbc 00 50 21.8 +0.9**
PRK Paraskevi 151.95 326 P **PKPbc 00 50 20.6 -0.4**
GDM Grand'Maison 151.99 0 PKP **PKPbc 00 50 21.9 +0.8**
LIA Limnos Island 152.03 328 P **PKPbc 00 50 20.6 -0.5**
SKO Skopje 152.06 336 *i* PKP **PKPbc 00 50 21.2 0.0**
BNI Bardonecchia 152.14 360 PFAKE 00 50 30.0 -1.1
BNI LR LR
comp=Z,341nm,22.0s
PGAV Gavieira, Arco 152.23 24 *e*PKPbc **PKPbc 00 50 22.1 +0.4**
PGAV Gavieira, Arco 152.23 24 *e*SS SS 01 12 57.1 -30
PGAV Gavieira, Arco 152.23 24 *e*LR LR 01 42 03.6
comp=Z,363nm,22.0s
PCAB Cabril 152.54 24 *e*PKPbc **PKPbc 00 50 22.6 +0.3**
OG26 St.-Nazaire-De 152.60 2 PKP **PKPbc 00 50 23.3 +0.9**
VLC Villacollemand 152.82 354 *e*PKPdf **PKPdf 00 50 17.1 +1.5**
VLC *e*pPKPdf **PKPbc 00 50 21.2 -1.6**
VLC LR LR
comp=Z,136nm,21.0s
POLO Lamas de Olo 152.92 24 *e*PKPbc **PKPbc 00 50 23.6 +0.4**
POLO Lamas de Olo 152.92 24 *e*PKPab **PKPab 00 50 34.9 +0.5**
PBRG Braganca 152.94 22 *e*PKPbc **PKPbc 00 50 23.3 +0.1**
PBRG Braganca 152.94 22 *e*PKPab **PKPab 00 50 34.3 -0.1**
OHR Ohrid 153.04 335 *i* PKP **PKPbc 00 50 23.0 -0.5**
TIR Tirane 153.20 337 PFAKE 00 50 30.0 -5.5
TIR LR LR
comp=Z,630nm,22.0s
MVO Moncorvo 153.39 23 *e*PKPbc **PKPbc 00 50 25.1 +0.9**
MVO Moncorvo 153.39 23 *e*LR LR 01 41 33.6
comp=Z,254nm,20.0s
LARF Larrau 153.41 12 PKP **PKPbc 00 50 24.5 +0.3**
PVIS Viseu 153.44 25 *e*PKPbc **PKPbc 00 50 24.4 +0.1**
PVIS Viseu 153.44 25 *e*PKPab **PKPab 00 50 37.0 +0.4**
PMOZ Porto Moniz, M 153.60 49 *e*LR LR 01 42 52.3

comp=Z,318nm,20.0s
PCAS Casmilo, Conde 153.75 26 *e*PKPbc **PKPbc 00 50 25.3 +0.3**
PCAS Casmilo, Conde 153.75 26 *e*PKPab **PKPab 00 50 38.1 +0.3**
MTE Manteigas 153.85 25 *e*PKPdf **PKPdf 00 50 18.3 +1.0**
MTE Manteigas 153.85 25 *e*PKPbc **PKPbc 00 50 25.6 +0.4**
MTE Manteigas 153.85 25 *e*SS SS 01 13 50.4 +5.3
MTE Manteigas 153.85 25 *e*LR LR 01 42 07.8
comp=Z,294nm,22.0s
MTE Manteigas 153.85 25 PFAKE 00 50 30.0 +4.8
MTE LR LR
comp=Z,368nm,20.0s
AQU L'Aquila 154.13 348 PFAKE 00 50 30.0 +4.2
AQU LR LR
comp=Z,294nm,22.0s
PTOM Tomar 154.14 27 *e*PKPbc **PKPbc 00 50 26.3 +0.5**
PTOM Tomar 154.14 27 *e*PKPab **PKPab 00 50 39.8 +0.3**
PCBR Castelo Branco 154.35 25 *e*PKPdf **PKPdf 00 50 19.0 +1.1**
PCBR Castelo Branco 154.35 25 *e*PKPbc **PKPbc 00 50 26.5 +0.3**
SANT Santorini 154.43 322 PFAKE 00 50 30.0 +3.4
SANT LR LR
comp=Z,179nm,19.0s
PMRV Marv??o 154.73 26 *e*PKPbc **PKPbc 00 50 27.3 +0.2**
PMRV Marv??o 154.73 26 *e*PKPab **PKPab 00 50 42.2 +0.1**
PMRV Marv??o 154.73 26 *e*SS SS 01 14 08.7 +14
PMRV Marv??o 154.73 26 *e*LR LR 01 42 58.9
comp=Z,237nm,22.0s
PESTR Estremoz 155.12 27 *e*PKPab **PKPab 00 50 43.6 -0.1**
EVO Evora 155.22 28 *e*PKPab **PKPab 00 50 44.2 +0.1**
PNCL Nicolau / Gran 155.32 29 *e*PKPab **PKPab 00 50 44.8 +0.2**
PBEJ Beja 155.69 28 *e*PKPdf **PKPdf 00 50 21.3 +1.5**
PBEJ Beja 155.69 28 *e*PKPab **PKPab 00 50 46.5 +0.3**
CUC Castrocucco 155.77 342 PFAKE 00 50 30.0 +10
CUC LR LR
comp=Z,209nm,22.0s
PAB San Pablo 155.77 21 PFAKE 00 50 30.0 +10
PAB LR LR
comp=Z,415nm,21.0s
ESDC Sonseca Array 155.78 20 PKP **PKPdf 00 50 20.2 +0.3**
comp=Z,0.7nm,0.8s,baz=336,slow=2.8,SNR=7.2
ESDC PKPab **PKPab 00 50 46.3 -0.3**
comp=Z,4.6nm,1.0s,baz=329,slow=2.3,SNR=4.7
ESDC PP **PP 00 54 21.3 -1.4**
comp=Z,2.2nm,1.1s,baz=335,slow=5.4,SNR=5.6
PBAR Barrancos 155.94 27 *e*PKPdf **PKPdf 00 50 20.9 +0.8**
PFVI Vila Bisbo 155.96 31 *e*PKPdf **PKPdf 00 50 21.8 +1.6**
PFVI Vila Bisbo 155.96 31 *e*PKPab **PKPab 00 50 48.3 +1.0**
TIP Timpagrande 156.22 340 PFAKE 00 50 30.0 +9.4
TIP LR LR
comp=Z,286nm,22.0s
PVAQ Vaqueiros 156.27 29 *e*PKPdf **PKPdf 00 50 21.4 +0.8**
PVAQ Vaqueiros 156.27 29 *e*PKPab **PKPab 00 50 49.3 +0.6**
PVAQ Vaqueiros 156.27 29 *e*LR LR 01 43 17.3
comp=Z,257nm,22.0s
CEL Celeste 157.34 340 PFAKE 00 50 30.0 +8.0
CEL LR LR
comp=Z,282nm,21.0s
VSL Villasalto 157.54 354 PFAKE 00 50 30.0 +7.8
VSL LR LR
comp=Z,236nm,21.0s
CLTB Caltabellotta 158.74 345 PFAKE 00 50 40.0 +16
CLTB LR LR
comp=Z,208nm,20.0s
RTC Rabat Centre 159.42 33 PFAKE 00 50 40.0 +15
RTC LR LR
comp=Z,765nm,20.0s
WDD Wied Dalam 159.96 340 PFAKE 00 50 40.0 +15
WDD LR LR
comp=Z,193nm,19.0s
KEST Kesra 161.27 352 PKP **PKPdf 00 50 26.2 -0.5**
comp=Z,7.5nm,1.1s,baz=293,slow=4.2,SNR=3.8
KEST PKPab **PKPab 00 51 09.7 -0.7**
comp=Z,8.3nm,0.9s,baz=114,slow=1.3,SNR=8.1
DBIC Dimbokro 164.89 132 PKP **PKPdf 00 50 30.0 -0.7**
comp=Z,6.5nm,1.0s,baz=114,slow=2.9,SNR=3.6
DBIC PKPab **PKPab 00 51 26.1 -0.7**
comp=Z,4.9nm,0.9s,baz=172,slow=7.1,SNR=2.7
TORD Torodi Ar. Bea 174.00 130 PKP **PKPdf 00 50 35.0 -1.2**
comp=Z,8.9nm,1.0s,baz=318,slow=1.4,SNR=40
TORD PKPab **PKPab 00 52 06.5 -0.7**
comp=Z,15nm,1.0s,baz=252,slow=3.4,SNR=24
TORD PP **PP 00 55 56.3 -2.5**
comp=Z,6.2nm,1.3s,baz=241,slow=2.7,SNR=7.0
TAM Tamanrasset 174.29 8 *e*PKIKP **PKPdf 00 50 37.3 +1.0**
TAM MLR MLR
comp=Z,350nm,20.0s
TAM Tamanrasset 174.29 8 *e*PKPdf **PKPdf 00 50 37.2 +1.0**
TAM LR LR
comp=Z,350nm,20.0s

---

*ISK **27** 00:34:58.7, 40.71N×29.25E, h8km, MD2.7*
*ISCJB **27** 00:34:59.2±0.3, 40.70N±0.02×29.26E±0.03, h7km±4km, Error ellipse: s-maj=3.9km s-min=3.3km az=158.3*
*CSEM **27** 00:34:59.4±0.1, 40.72N×29.26E, h8km±1km, MD2.8, Error ellipse: s-maj=2.6km s-min=2.1km az=39.0*
*DDA **27** 00:34:59.2, 40.69N×29.26E, h14km, Md2.8*
ISC 27 00:34:59.7±0.8, 40.70N±0.02×29.25E±0.02, h14km±6km, n49, σ0°70, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUY	**Buyukada**	**0.18**	**326**	P		**Pg**	**00 35 04.2**	**+0.2**
BUY				S		**Sg**	**00 35 07.1**	**+0.2**
BUY	**Buyukada**	**0.18**	**326**	*i* P		**Pg**	**00 35 04.2**	**+0.2**
BUY				*i* S		**Sg**	**00 35 07.1**	**+0.2**
GEMT	**Gemlik**	**0.27**	**190**	*e*PG		**Pg**	**00 35 05.0**	**-0.4**
GEMT				*e*SG		**Sg**	**00 35 08.6**	**-0.8**
GEMT	**Gemlik**	**0.27**	**190**	*e*Pg		**Pg**	**00 35 05.0**	**-0.4**
GEMT				*e*Sg		**Sg**	**00 35 08.6**	**-0.8**
HRT	**Hereke**	**0.34**	**69**	*e*PG		**Pg**	**00 35 06.6**	**0.0**
HRT				*e*SG		**Sg**	**00 35 11.3**	**0.0**
HRT	**Hereke**	**0.34**	**69**	*e*Pg		**Pg**	**00 35 06.6**	**0.0**
HRT				*e*Sg		**Sg**	**00 35 11.3**	**0.0**
ISK	**Istanbul-Kandi**	**0.39**	**338**	*e*PG		**Pg**	**00 35 06.3**	**-1.3**
ISK				*e*SG		**Sg**	**00 35 12.9**	**-0.1**
ISK	**Istanbul-Kandi**	**0.39**	**338**	*e*Pg		**Pg**	**00 35 06.3**	**-1.3**
ISK				*e*Sg		**Sg**	**00 35 12.9**	**-0.1**
IZI	**Iznik**	**0.40**	**155**	*e*PG		**Pg**	**00 35 07.3**	**-0.5**
IZI				*e*SG		**Sg**	**00 35 12.7**	**-0.6**
IZI	**Iznik**	**0.40**	**155**	*e*Pg		**Pg**	**00 35 07.3**	**-0.5**
IZI				*e*Sg		**Sg**	**00 35 12.7**	**-0.6**
MDNY	**Mudanya-Bursa**	**0.44**	**220**	*e*PG		**Pb**	**00 35 08.6**	**-0.6**
MDNY				*e*SG		**Sg**	**00 35 14.6**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.44**	**220**	*e*Pg		**Pb**	**00 35 08.6**	**-0.6**
MDNY				*e*Sg		**Sg**	**00 35 14.6**	**+0.4**
IGD	**Bursa**	**0.44**	**185**	*i* P		**Pg**	**00 35 07.3**	**-1.2**
IGD				*i* S		**Sg**	**00 35 12.9**	**-1.5**
ADVT	**Abdulvahap**	**0.46**	**126**	*e*PG		**Pg**	**00 35 08.5**	**-0.3**
ADVT				*e*SG		**Sg**	**00 35 14.6**	**-0.3**
ADVT	**Abdulvahap**	**0.46**	**126**	*e*Pg		**Pg**	**00 35 08.5**	**-0.3**
ADVT				*e*Sg		**Sg**	**00 35 14.6**	**-0.3**
KLYT	**Kilyos**	**0.57**	**344**	*e*PG		**Pg**	**00 35 09.6**	**-1.4**
KLYT	**Kilyos**	**0.57**	**344**	*e*Pg		**Pg**	**00 35 09.6**	**-1.4**
BGKT	**Bogazkoy**	**0.60**	**323**	*e*PG		**Pg**	**00 35 10.4**	**-1.1**
BGKT	**Bogazkoy**	**0.60**	**323**	*e*Pg		**Pg**	**00 35 10.4**	**-1.1**
CTKS	**Kestanelik-??a**	**0.78**	**314**	*e*PG		**Pg**	**00 35 13.7**	**-1.1**
CTKS	**Kestanelik-??a**	**0.78**	**314**	*e*Pg		**Pg**	**00 35 13.7**	**-1.1**
SPNC	**Sapanca-Adapaz**	**0.80**	**91**	*e*PG		**Pg**	**00 35 15.0**	**-0.3**
SPNC	**Sapanca-Adapaz**	**0.80**	**91**	*e*Pg		**Pg**	**00 35 15.0**	**-0.3**
KAND	**Kocaeli-Kandir**	**0.81**	**61**	P		**Pg**	**00 35 15.0**	**-0.4**
KAND				S		**Sg**	**00 35 25.1**	**-1.0**
KAND	**Kocaeli-Kandir**	**0.81**	**61**	*i* P		**Pg**	**00 35 15.0**	**-0.4**
KAND				*i* S		**Sg**	**00 35 25.1**	**-1.0**
KCTX	**Karacabey (Bur**	**0.81**	**238**	*e*PG		**Pg**	**00 35 15.2**	**-0.2**
KCTX	**Karacabey (Bur**	**0.81**	**238**	*e*Pg		**Pg**	**00 35 15.2**	**-0.2**
GULT	**Gulveren**	**1.00**	**105**	*e*PG		**Pg**	**00 35 18.1**	**-0.9**
GULT	**Gulveren**	**1.00**	**105**	*e*Pg		**Pg**	**00 35 18.1**	**-0.9**
EDC	**Edincik**	**1.12**	**252**	*e*PN		**Pg**	**00 35 20.5**	**-0.7**
EDC	**Edincik**	**1.12**	**252**	*e*Pn		**Pg**	**00 35 20.5**	**-0.7**
BORA	**Eskisehir**	**1.23**	**131**	P		**Pb**	**00 35 22.6**	**-0.1**
BORA				S		**Sn**	**00 35 39.6**	**+0.6**
BORA	**Eskisehir**	**1.23**	**131**	*i* P		**Pb**	**00 35 22.6**	**-0.1**
BORA				*i* S		**Sn**	**00 35 39.6**	**+0.6**
TVSB	**Tavsanli**	**1.26**	**173**	*e*PN		**Pn**	**00 35 22.7**	**-0.3**
TVSB	**Tavsanli**	**1.26**	**173**	*e*Pn		**Pn**	**00 35 22.7**	**-0.3**
MRMT	**Marmara Adasi**	**1.27**	**266**	*e*PN		**Pb**	**00 35 23.4**	**+0.1**
MRMT	**Marmara Adasi**	**1.27**	**266**	*e*Pn		**Pb**	**00 35 23.4**	**+0.1**
BALB	**Balikesir**	**1.50**	**225**	*e*PN		**Pb**	**00 35 27.1**	**-0.1**
BALB	**Balikesir**	**1.50**	**225**	*e*Pn		**Pb**	**00 35 27.1**	**-0.1**
KRBG	**Karabiga-Canak**	**1.52**	**259**	*e*PN		**Pb**	**00 35 27.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.52**	**259**	*e*Pn		**Pb**	**00 35 27.4**	**-0.3**
GDZ	**Gediz**	**1.62**	**174**	P		**Pb**	**00 35 29.7**	**+0.2**
GDZ				S		**Sn**	**00 35 49.6**	**+0.9**
GDZ	**Gediz**	**1.62**	**174**	*i* P		**Pb**	**00 35 29.7**	**+0.2**
GDZ				*i* S		**Sn**	**00 35 49.6**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.14**	**263**	*e*PN		**Pn**	**00 35 35.8**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.14**	**263**	*e*Pn		**Pn**	**00 35 35.8**	**+0.9**
EDRB	**Edirne**	**2.21**	**302**	*e*PN		**Pn**	**00 35 36.9**	**+1.0**
EDRB	**Edirne**	**2.21**	**302**	*e*Pn		**Pn**	**00 35 36.9**	**+1.0**
KULA	**Kula-Manisa**	**2.23**	**192**	*e*PN		**Pn**	**00 35 37.1**	**+0.8**
KULA	**Kula-Manisa**	**2.23**	**192**	*e*Pn		**Pn**	**00 35 37.1**	**+0.8**

IDC 27 00:47:42.5±1.7, 2°37S×136°63E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=36.3km s-min=28.5km az=95.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JAY	**Jayapura**	**4.07**	**92**	Pn		Pn	00 48 45.7	-0.5
	0.3nm,0.3s,baz=266,slow=23,SNR=10							
JAY				S		Sn	00 49 31.6	-3.0
	0.5nm,0.3s,baz=91,slow=24,SNR=11							
WRA	**Warramunga Arr**	**17.61**	**187**	P		Pn	00 51 48.6	-1.0
	0.2nm,0.3s,baz=6.5,slow=12,SNR=10							
WRA				S		Sn	00 54 55.8	-11
	0.1nm,0.3s,baz=8.7,slow=23,SNR=3.2							
FITZ	**Fitzroy Crossi**	**19.00**	**214**	P		Pn	00 52 07.8	+1.2
	0.1nm,0.3s,baz=24,slow=10.0,SNR=1.4							
FITZ				S		Sn	00 55 23.6	-16
	0.1nm,0.3s,baz=107,slow=20,SNR=1.9							
ASAR	**Alice Springs**	**21.34**	**187**	P		P	00 52 31.1	-0.4
	0.8nm,0.6s,baz=12,slow=11,SNR=12							
MKAR	**Makanchi Array**	**66.26**	**323**	P		P	00 58 45.3	0.0
	0.4nm,0.6s,baz=101,slow=7.8,SNR=3.3							

---

*SCB **27** 00:56:36.8±0.8, 22°.13S×67°.27W, h150km, Ml4.4/1, Error ellipse: s-maj=19.5km s-min=10.5km az=18.0*
*ISCJB **27** 00:56:38.2±0.2, 22°.31S±0°.02×67°.56W±0°.03, h181km±2km, mb4.4/40, Error ellipse: s-maj=5.7km s-min=3.3km az=151.6*
*IDC **27** 00:56:38.6±0.7, 22°.13S×67°.39W, h161km±7km, mb4.1/14, mb1 4.2/17, mb1mx4.1/22, mbtmp4.5/17, Error ellipse: s-maj=13.5km s-min=11.9km az=138.0*
*BJI **27** 00:56:38.8, 22°.30S×67°.40W, h163km, mB4.9/3*
*NEIC **27** 00:56:38.2±0.6, 22°.29S×67°.34W, h160km±5km, mb4.5/28, Error ellipse: s-maj=8.6km s-min=6.4km az=57.0*
*SJA **27** 00:56:38.4±3.3, 22°.24S×67°.37W, h203km±97km, ML4.2, MW4.1*
*GUC **27** 00:56:39.8±0.3, 22°.27S×67°.85W, h189km±3km, ML5.0*
ISC 27 00:56:38.9±0.6, 22°27S±0°.04×67°44W±0°.04, h171km±5km, n341, σ1°27/369, mb4.5/40, 8C-7D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**1.40**	**256**	P		**Pn**	**00 57 09.8**	**+0.3**
	11μm,0.3s,baz=73,slow=6.1,SNR=2915							
LVC				S		**Sn**	**00 57 32.7**	**-0.4**
	15μm,0.3s,baz=312,slow=22,SNR=108							
LVC	**Limon Verde**	**1.40**	**256**	*i* P		**Pn**	**00 57 09.9**	**+0.3**
LVC				*i* S		**Sn**	**00 57 32.8**	**-0.4**
LVC	**Limon Verde**	**1.40**	**256**	*e*Pn		**Pn**	**00 57 09.9**	**+0.3**
LVC				*e*Sn		**Sn**	**00 57 31.9**	**-1.3**
PB09	**IPOC Station P**	**1.73**	**285**	⇑*i*P		**Pn**	**00 57 12.5**	**-0.1**
PB09				*i* S		**Sn**	**00 57 37.5**	**-1.2**
PB09				IAML			00 57 43.1	
	comp=E,13μm,0.5s							
PB06	**IPOC Station P**	**2.02**	**257**	⇑*i*P		**Pn**	**00 57 15.3**	**-0.4**
PB06				*i* S		**Sn**	**00 57 42.0**	**-2.2**
HJA	**Humahuaca**	**2.10**	**117**	*e*P		**Pn**	**00 57 19.0**	**+2.2**
PB01	**IPOC Station P**	**2.26**	**302**	⇑*i*P		**Pn**	**00 57 18.1**	**-0.2**
PB01				*i* S		**Sn**	**00 57 47.4**	**-1.5**
PB01				IAML			00 57 49.4	
	comp=E,9μm,0.2s							
PB01	**IPOC Station P**	**2.26**	**302**	*e*Pn		**Pn**	**00 57 18.5**	**+0.1**
PB01				*e*Sn		**Sn**	**00 57 48.0**	**-1.0**
PB07	**IPOC Station P**	**2.33**	**283**	⇑*i*P		**Pn**	**00 57 18.5**	**-0.7**
PB07				*i* S		**Sn**	**00 57 47.8**	**-2.7**
PB07				IAML			00 57 49.0	
	comp=N,9μm,0.4s							
PB04	**IPOC Station P**	**2.51**	**268**	⇑*i*P		**Pn**	**00 57 20.4**	**-1.0**
PB04				*i* S		**Sn**	**00 57 51.2**	**-3.0**
PB04				IAML			00 57 56.3	
	comp=N,5μm,0.7s							
PB08	**IPOC Station P**	**2.65**	**323**	⇑*i*P		**Pn**	**00 57 24.2**	**+1.0**
PB08				*i* S		**Sn**	**00 57 57.5**	**-0.1**
PB08				IAML			00 58 00.4	
	comp=E,4μm,0.6s							
AZAP	**Zapla**	**2.93**	**132**	*e*P		**Pn**	**00 57 27.7**	**+1.2**
SLA	**San Lorenzo**	**3.02**	**144**	*e*P		**Pn**	**00 57 29.7**	**+2.1**
	baz=316,slow=6.9							
SLA				IAML			00 57 30.2	
	comp=Z,379nm,0.4s							
SLA				⇓*e*S		**Sn**	**00 58 06.8**	**+1.3**
PB10	**IPOC Station P**	**3.13**	**246**	*e*Pn		**Pn**	**00 57 27.6**	**-1.1**
PB10				*e*Sn		**Sn**	**00 58 03.8**	**-3.6**
ASTB	**Santa Barbara**	**3.22**	**122**	*e*P		**Pn**	**00 57 31.5**	**+1.5**
FSA	**Cafayete**	**4.06**	**161**	*e*P		**Pn**	**00 57 42.2**	**+1.7**
FSA				IAML			00 57 46.3	
	comp=Z,90nm,0.3s							
AHML	**Horco Molle**	**4.89**	**157**	*e*P		**Pn**	**00 57 52.5**	**+1.3**
	baz=0.4,slow=12							
AHML				IAML			00 57 54.6	
	comp=Z,61nm,0.4s							
AHML				*e*S		**Sn**	**00 58 48.1**	**+0.1**
BBOJ	**La Paz, Jacaqu**	**5.31**	**352**	⇓*i*Pn		**Pn**	**00 57 59.1**	**+1.8**
BBOE	**La Paz, Chanca**	**5.45**	**355**	⇑*e*Pn		**Pn**	**00 58 00.1**	**+1.0**
BBOD	**La Paz, Gloria**	**5.70**	**349**	⇓*i*Pn		**Pn**	**00 58 03.9**	**+1.5**
LPAZ	**La Paz**	**5.98**	**354**	*e*P		**Pn**	**00 58 07.3**	**+1.1**
LPAZ	**La Paz**	**5.98**	**354**	P		**Pn**	**00 58 07.2**	**+1.1**
	comp=Z,41nm,0.3s,baz=142,slow=4.7,SNR=1271							
LPAZ				S		**Sn**	**00 59 13.1**	**-1.5**
	baz=17,slow=17,SNR=1.5							
LPAZ	**La Paz**	**5.98**	**354**	*e*Pn		**Pn**	**00 58 07.2**	**+1.1**
LPAZ				S		**Sn**	**00 59 13.1**	**-1.5**
LPAZ				*e*Sn		Sn	00 59 14.7	0.0
LPAZ	**La Paz**	**5.98**	**354**	⇓*i*Pn		**Pn**	**00 58 07.2**	**+1.1**
LPAZ				*e*Sn		**Sn**	**00 59 13.3**	**-1.3**
BBOB	**La Paz, Bander**	**6.13**	**354**	⇑*i*Pn		**Pn**	**00 58 08.9**	**+0.9**
BBOB				*e*Sn		**Sn**	**00 59 18.0**	**+0.1**
	comp=Z,154nm,0.8s							
CYA	**Choya**	**6.33**	**167**	⇓*e*P		**Pn**	**00 58 10.4**	**+0.3**
CYA				IAML			00 58 12.8	
	comp=Z,45nm,0.6s							
AGUA	**GUANDACOL**	**7.25**	**187**	*e*P		**Pn**	**00 58 20.9**	**-1.5**
LCO	**Las Campanas**	**7.33**	**203**	*e*Pn		**Pn**	**00 58 20.1**	**-3.5**
LCO				*e*Sn		**Sn**	**00 59 39.4**	**-6.8**
ACDV	**Cuesta del Vie**	**8.02**	**190**	*e*P		**Pn**	**00 58 30.9**	**-1.7**
AROD	**Rodeo**	**8.08**	**193**	*e*P		**Pn**	**00 58 32.7**	**-0.8**
ACCO	**Cerro Coronel**	**8.42**	**190**	*e*P		**Pn**	**00 58 36.2**	**-1.7**
ACCO				IAML			00 58 39.5	
	comp=Z,89nm,0.2s							
SIV	**San Ignacio**	**8.67**	**45**	P		**Pn**	**00 58 39.2**	**-2.0**
	comp=Z,50nm,0.3s,baz=244,slow=11,SNR=340							
SIV				S		**Sn**	**01 00 10.9**	**-7.1**
	comp=Z,24nm,0.3s,baz=334,slow=23,SNR=14							
SIV	**San Ignacio**	**8.67**	**45**	*e*P		**Pn**	**00 58 37.7**	**-3.4**
SIV				*e*S		**Sn**	**01 00 11.2**	**-6.8**
AMOG	**MOGNA**	**8.69**	**186**	*e*P		**Pn**	**00 58 38.7**	**-2.7**
ACHE	**Chepes**	**8.89**	**176**	*e*P		**Pn**	**00 58 41.9**	**-2.1**
CPUP	**Villa Florida**	**10.07**	**116**	P		**Pn**	**00 58 59.2**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=299,slow=12,SNR=28							
CPUP	**Villa Florida**	**10.07**	**116**	*e*Pn		**Pn**	**00 58 58.5**	**-1.0**
ASAL	**Salagasta**	**10.36**	**187**	*e*P		**Pn**	**00 59 01.3**	**-2.0**
ARCO	**CERRO ARCO**	**10.62**	**187**	*e*P		**Pn**	**00 59 04.5**	**-2.3**
NNA	**Nana**	**13.60**	**317**	P		**Pn**	**00 59 46.6**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=154,slow=10,SNR=9.1							
NNA	**Nana**	**13.60**	**317**	*e*Pn		**Pn**	**00 59 46.4**	**+1.4**
TRQA	**Tornquist**	**16.43**	**165**	*e*P		**P**	**01 00 18.5**	**-0.9**
	comp=Z,15nm,0.6s							
TRQA				*e*S		**Sn**	**01 03 22.5**	**-1.1**
ATAH	**Atahualpa**	**18.38**	**323**	P		**Pn**	**01 00 43.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=137,slow=7.0,SNR=5.2							
SPB	**Sao Paulo**	**18.48**	**98**	*e*P		**P**	**01 00 41.4**	**-0.5**
	comp=Z,53nm,0.8s							
PLCA	**Paso Flores**	**18.60**	**187**	P		**P**	**01 00 43.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=30,slow=13,SNR=19							
PLCA	**Paso Flores**	**18.60**	**187**	P		**P**	**01 00 43.2**	**0.0**
	comp=Z,13nm,0.9s							
PTGA	**Pitinga**	**22.61**	**20**	P		**P**	**01 01 23.3**	**-2.0**
	comp=Z,6.9nm,0.4s,baz=201,slow=14,SNR=19							
PTGA				S		**S**	**01 05 17.5**	**-2.6**
	comp=Z,1.8nm,0.6s,baz=60,slow=20,SNR=2.9							
PTGA	**Pitinga**	**22.61**	**20**	*e*P		**P**	**01 01 25.2**	**-0.1**
PTGA				S		**S**	**01 05 17.5**	**-2.6**
OTAV	**Otavalo**	**24.81**	**333**	*e*P		**P**	**01 01 45.8**	**0.0**
	comp=Z,5.1nm,0.8s							
RCBR	**Riachuelo**	**34.57**	**67**	P		**P**	**01 03 12.7**	**+1.2**
	comp=Z,14nm,0.8s,baz=230,slow=11,SNR=6.3							
SJG	**San Juan**	**40.15**	**2**	P		**P**	**01 03 56.3**	**-1.9**
	comp=Z,17nm,0.7s,baz=69,slow=1.6,SNR=7.4							
JSC	**Jenkinsville**	**57.75**	**346**	*e*P		**P**	**01 06 12.4**	**+0.6**
146A	**Union**	**58.37**	**339**	P		**P**	**01 06 15.7**	**-0.5**
	baz=156							
244A	**Avery, Jackson**	**58.40**	**337**	P		**P**	**01 06 16.0**	**-0.4**
	baz=155							
440A	**Kirbyville**	**58.53**	**333**	P		**P**	**01 06 16.1**	**-1.3**
	baz=151							
Z48A	**Northport**	**58.56**	**340**	P		**P**	**01 06 16.6**	**-0.9**
	baz=158							
KMSC	**Kings Mountain**	**58.59**	**347**	P		**P**	**01 06 17.9**	**+0.2**
	baz=165,SNR=6.4							
KMSC	**Kings Mountain**	**58.59**	**347**	*e*P		**P**	**01 06 18.1**	**+0.3**
	comp=Z,12nm,0.8s							
833A	**Chaparral WMA,**	**58.99**	**327**	P		**P**	**01 06 20.3**	**-0.3**
	baz=145							
734A	**La Parita Cree**	**59.01**	**328**	P		**P**	**01 06 20.7**	**0.0**
	baz=146							
VNA1	**Neumayer--Stat**	**59.11**	**161**	P		**P**	01 06 27.2	+6.4
Y47A	**UCPARC, Winfie**	**59.14**	**340**	P		**P**	**01 06 21.2**	**-0.3**
	baz=158							
832A	**Faith Ranch, C**	**59.26**	**327**	P		**P**	**01 06 21.9**	**-0.6**
	baz=145							
Z44A	**Pea Ridge, Bel**	**59.43**	**338**	P		**P**	**01 06 23.5**	**0.0**
	baz=155							
437A	**Phantom Ranch,**	**59.55**	**331**	P		**P**	**01 06 24.5**	**+0.2**
	baz=149							
CPCT	**Cooper Cave**	**59.64**	**344**	*e*P		**P**	**01 06 24.9**	**0.0**
	comp=Z,5.2nm,0.9s							
TKL	**Tuckaleechee C**	**59.65**	**345**	*e*P		**P**	**01 06 24.9**	**-0.1**
	comp=Z,14nm,0.9s							
141A	**Papa Simpson,**	**59.74**	**335**	P		**P**	**01 06 26.3**	**+0.7**
	baz=153							
SWET	**Sewanee**	**59.80**	**343**	*e*P		**P**	**01 06 25.9**	**-0.1**
	comp=Z,3.8nm,0.8s							
633A	**Saathoff Ranch**	**59.82**	**328**	P		**P**	**01 06 26.1**	**-0.1**
	baz=146							
140A	**Cam and Jess,**	**60.04**	**335**	P		**P**	**01 06 28.9**	**+1.3**
	baz=152							
BLA	**Blacksburg**	**60.41**	**348**	*e*P		**P**	**01 06 30.9**	**+0.7**
	comp=Z,11nm,0.8s							
335A	**Moody**	**60.51**	**331**	P		**P**	**01 06 31.4**	**+0.5**
	baz=148							
Z40A	**Long Farm, Mag**	**60.51**	**335**	P		**P**	**01 06 31.7**	**+0.8**
	baz=152							
138A	**Matatall Enter**	**60.67**	**333**	P		**P**	**01 06 32.7**	**+0.7**
	baz=150							
Z39A	**Irene McRaven,**	**60.81**	**334**	P		**P**	**01 06 33.0**	**+0.2**
	baz=152							
433A	**Art**	**60.84**	**329**	P		**P**	**01 06 33.1**	**-0.1**
	baz=146,SNR=6.0							
JCT	**Junction City**	**60.96**	**328**	P		**P**	**01 06 33.9**	**-0.2**
	baz=146							
JCT	**Junction City**	**60.96**	**328**	*e*P		**P**	**01 06 34.5**	**+0.5**
	comp=Z,7.6nm,0.8s							
SNAA	**Sanae**	**61.12**	**161**	P		**P**	**01 06 34.5**	**-0.1**
WHTX	**Lake Whitney,**	**61.12**	**331**	P		**P**	**01 06 35.3**	**+0.3**
	baz=148							
Z38A	**Mt. Pleasant**	**61.14**	**334**	P		**P**	**01 06 35.2**	**+0.1**
	baz=151							
WVT	**Waverly**	**61.20**	**341**	*e*P		**P**	**01 06 34.6**	**-0.9**
	comp=Z,8.8nm,0.8s							
333A	**Richland Sprin**	**61.27**	**329**	P		**P**	**01 06 36.1**	**+0.1**
	baz=146							
Y39A	**Lockesburg**	**61.38**	**335**	P		**P**	**01 06 37.1**	**+0.4**
	baz=152							
MIAR	**Mount Ida**	**61.72**	**336**	P		**P**	**01 06 39.0**	**+0.1**
	baz=152							
MIAR	**Mount Ida**	**61.72**	**336**	*e*P		**P**	**01 06 38.9**	**0.0**
	comp=Z,8.4nm,1.1s							
Z36A	**Blue Ridge**	**61.76**	**333**	P		**P**	**01 06 39.5**	**+0.2**
	baz=149							
W41B	**Gary Mavity, V**	**61.78**	**337**	P		**P**	**01 06 39.4**	**0

baz=153,SNR=9.0
M54A Oil Creek Stat 64.45 350 P P 01 06 56.9 0.0
baz=167
T37A Cheneyville 18 64.50 336 P P 01 06 57.2 0.0
baz=152,SNR=7.5
U35A Pawnee 64.56 334 P P 01 06 57.5 -0.1
baz=150
W32A Sentinel 64.56 331 P P 01 06 57.5 -0.2
baz=147
S38A Stockton 64.57 337 P P 01 06 57.2 -0.5
baz=153
Q42A Golden Eagle 64.59 340 P P 01 06 56.9 -0.9
baz=156
R40A Maddies Statio 64.59 339 P P 01 06 57.4 -0.4
baz=154
MNTX Cornudas Mount 64.80 325 P P 01 06 59.0 -0.3
baz=141,SNR=6.9
MNTX Cornudas Mount 64.80 325 eP P 01 06 59.3 0.0
comp=Z,5.0nm,1.1s
T36A Boggs Farm, Ca 64.81 335 P P 01 06 58.9 -0.4
baz=151
R39A Chumby, Stover 64.88 338 P P 01 06 59.6 -0.1
baz=154
T35A Sooner Cattle 64.94 335 P P 01 06 59.8 -0.3
baz=150
U34A Anderson Ranch 64.94 333 P P 01 07 00.0 -0.1
baz=149
SFIN Lafayette 64.96 344 P P 01 06 58.7 -1.4
baz=160
S37A Fort Scott 65.03 336 P P 01 07 00.5 -0.1
baz=152,SNR=5.8
R38A Fenwick Farm, 65.07 337 P P 01 07 00.5 -0.3
baz=153,SNR=5.7
Q40A Laux Farm, Aux 65.16 339 P P 01 07 00.8 -0.7
baz=155
MSTX Muleshoe 65.26 328 P P 01 07 02.3 -0.1
baz=144,SNR=7.9
S36A Lake Cedric, C 65.28 336 P P 01 07 02.2 -0.1
baz=151
T34A McClaskey Farm 65.30 334 P P 01 07 02.4 -0.1
baz=150
P41A Barry, Barry 65.45 340 P P 01 07 02.8 -0.5
baz=156
Q39A Willow Grove F 65.51 338 P P 01 07 03.4 -0.3
baz=154
U32A Winter Ranch, 65.51 332 P P 01 07 03.3 -0.5
baz=148
R37A Teagarden Farm 65.52 337 P P 01 07 03.4 -0.4
baz=152
S35A Otter Creek Ra 65.53 335 P P 01 07 03.8 0.0
baz=151
P40A Paris 65.64 339 P P 01 07 03.7 -0.8
baz=155
Q38A Cooks Store, C 65.66 338 P P 01 07 04.6 -0.1
baz=153,SNR=5.7
R36A Gordon, Harris 65.78 336 P P 01 07 05.2 -0.3
baz=152
T33A Patterson Ranc 65.79 333 P P 01 07 05.6 0.0
baz=149
Q37A Longview Farm, 65.88 337 P P 01 07 05.2 -0.8
baz=153
P38A Dawn 66.22 338 P P 01 07 07.9 -0.3
baz=154
R34A Isabella, Hill 66.43 335 P P 01 07 09.3 -0.3
baz=150
Q35A Mercer Eighty, 66.44 336 P P 01 07 09.4 -0.3
baz=151
P37A Lathrop 66.47 338 P P 01 07 09.1 -0.7
baz=153,SNR=6.9
121A Cookes Peak, D 66.75 323 P P 01 07 13.3 +1.3
baz=139,SNR=5.3
121A Cookes Peak, D 66.75 323 eP P 01 07 13.2 +1.3
comp=Z,8.7nm,1.1s
P36A Good Intent, A 66.81 337 P P 01 07 11.7 -0.2
baz=152
Q34A Chapman 66.84 335 P P 01 07 12.2 0.0
baz=150
N39A Derby Farms, D 67.00 340 P P 01 07 13.0 -0.1
baz=155
R32A Long Quarter, 67.12 334 P P 01 07 14.2 +0.1
baz=149
LIC Lamto 67.30 73 ePKP1 P 01 07 17.0 +1.3
P34A Walnut Farm, R 67.34 336 P P 01 07 15.6 +0.2
baz=150
BNM Barren Site 67.36 325 eP P 01 07 17.5 +1.6
L41A Preston 67.48 342 P P 01 07 15.7 -0.5
baz=157
TIC Toumodi 67.50 72 ePKP1 P 01 07 16.9 0.0
KIC Kosan Boka 67.62 73 ePKP1 P 01 07 17.7 +0.1
comp=Z,20nm,0.8s
DBIC Dimbokro 67.65 72 P P 01 07 18.1 +0.2
comp=Z,6.4nm,0.6s,baz=220,slow=8.2,SNR=12
M38A Pleasantville 67.71 339 P P 01 07 17.0 -0.6
baz=154
O34A Beatrice 67.85 336 P P 01 07 18.6 +0.1
baz=151
CBKS Cedar Bluff 67.88 333 P P 01 07 19.3 +0.5
baz=148
CBKS Cedar Bluff 67.88 333 eP P 01 07 19.9 +1.1
comp=Z,21nm,0.8s
ANMO Albuquerque 67.89 326 P P 01 07 20.5 +1.4
baz=141
ANMO Albuquerque 67.89 326 eP P 01 07 20.2 +1.1
comp=Z,3.7nm,0.8s
QSPA South Pole Qui 67.93 180 eP P 01 07 20.2 +1.3
comp=Z,45nm,0.9s
L39A Vinton 67.97 341 P P 01 07 18.6 -0.6
baz=155
M37A Trindle Farm, 67.99 339 P P 01 07 19.5 +0.2
baz=153
O33A Hebron 68.09 335 P P 01 07 20.3 +0.2
baz=150
JFWS Jewell Farm 68.18 342 eP P 01 07 20.2 -0.2
comp=Z,7.7nm,0.8s
K40A Colesburg 68.24 341 P P 01 07 20.2 -0.7
baz=156
TUC Tucson 68.28 321 P P 01 07 21.9 +0.5
baz=137
TUC Tucson 68.28 321 eP P 01 07 23.1 +1.7
comp=Z,4.0nm,0.9s
M36A Felix, Anita 68.29 338 P P 01 07 21.3 0.0
baz=153
L38A Oak Wood Farm, 68.29 340 P P 01 07 20.3 -0.9
baz=155
N34A Lincoln 68.35 337 P P 01 07 20.9 -0.7
baz=151
TRQ Mont Tremblant 68.47 355 eP P 01 07 22.6 +0.3
K39A Oelwein 68.47 341 P P 01 07 21.1 -1.2
baz=156,SNR=5.7
O32A Brockman Farm, 68.52 335 P P 01 07 22.5 -0.2
baz=149
L36A Harm Buss Farm 68.81 339 P P 01 07 24.7 +0.2
baz=153
J39A Decorah 68.99 341 P P 01 07 25.0 -0.5
baz=156
214A Organ Pipe Nat 69.22 320 P P 01 07 28.4 +1.2
baz=135,SNR=7.1
214A Organ Pipe Nat 69.22 320 eP P 01 07 28.5 +1.2
comp=Z,19nm,0.8s
M33A Taylor Creek F 69.24 337 P P 01 07 27.9 +0.7
baz=151
SDCO Great Sand Dun 69.60 329 P P 01 07 30.9 +1.1
baz=142,SNR=6.9
I38A Scanlan Farm, 69.82 341 P P 01 07 30.0 -0.6
baz=155
I37A Lemond, Waseca 70.12 340 P P 01 07 32.2 -0.3
baz=154
S22A 4UR Ranch, Cre 70.25 328 P P 01 07 35.1 +1.3
baz=141
L31A Butterfield Fa 70.38 336 P P 01 07 35.1 +0.9
baz=149
Q24A Divide 70.40 330 P P 01 07 36.2 +1.5
baz=143
I35A Creekview Farm 70.48 339 P P 01 07 34.5 -0.2
baz=153
MVCO Mesa Verde 70.68 326 P P 01 07 37.5 +1.2
baz=140
MVCO Mesa Verde 70.68 326 eP P 01 07 36.7 +0.4
comp=Z,3.1nm,0.6s
H36A Jessenland, He 70.79 340 P P 01 07 37.1 +0.6
baz=154
ECSD EROS Data Cent 70.93 338 P P 01 07 37.1 -0.2
baz=152
WUAZ Wupatki 70.95 323 eP P 01 07 40.0 +2.1
SPMN Marine on St. 71.03 341 eP P 01 07 37.7 -0.2
K30A Basset 71.10 335 P P 01 07 38.8 +0.3
baz=149
H35A Sunnyside Ranc 71.19 340 P P 01 07 38.8 0.0
baz=153
ISCO Idaho Springs 71.28 330 P P 01 07 41.0 +1.0
baz=143,SNR=5.7
ISCO Idaho Springs 71.28 330 eP P 01 07 40.7 +0.7
PV01 Paradox Valley 71.42 327 eP P 01 07 42.7 +2.0
SMCO Snowmass 71.44 329 eP P 01 07 43.0 +1.9
H34A Spellman Lake, 71.47 339 P P 01 07 40.4 -0.2
baz=152
Y12C Blythe 71.50 320 P P 01 07 42.4 +1.4
baz=134
H33A Prehn Over Nor 71.80 338 P P 01 07 42.9 +0.3
baz=152
F36A Milaca 71.82 341 P P 01 07 42.2 -0.5
baz=155,SNR=7.9
H32A Carlson Farm, 71.89 338 P P 01 07 43.2 +0.1
baz=151
BC3 Big Chuckawall 72.00 319 P P 01 07 45.3 +1.2
baz=134
IRM Iron Mountain 72.16 320 P P 01 07 46.2 +1.2
baz=134
N23A Red Feather La 72.31 330 P P 01 07 47.6 +1.6
baz=143
N23A Red Feather La 72.31 330 eP P 01 07 47.6 +1.6
E36A McGregor 72.34 342 P P 01 07 45.6 -0.1
baz=155
F33A 5 Mile Ranch, 72.67 339 P P 01 07 47.3 -0.4
baz=152
C39A Grand Marais 72.68 344 P P 01 07 47.1 -0.5
baz=158
D37A Cotton 72.68 342 P P 01 07 48.0 +0.3
baz=156
E35A Pequot Lakes 72.72 341 P P 01 07 48.3 +0.4
baz=154
O20A White River Ci 72.80 328 P P 01 07 50.2 +1.3
baz=141,SNR=7.6
O20A White River Ci 72.80 328 eP P 01 07 50.7 +1.8
KNB Kanab 72.84 323 eP P 01 07 51.7 +2.6
C38A Sawbill Land. 72.88 343 P P 01 07 48.9 0.0
baz=157
GMRC Granite Mounta 72.90 320 P P 01 07 51.2 +1.7
baz=134,SNR=6.1
E34A Wadena 72.91 340 P P 01 07 49.2 +0.1
baz=153
LCMT Little Creek M 73.08 323 eP P 01 07 52.1 +1.7
D35A Remer 73.08 341 P P 01 07 50.5 +0.4
baz=154
C37A Embarrass 73.14 343 P P 01 07 50.1 -0.3
baz=156
EYMN Ely 73.15 343 P P 01 07 50.1 -0.3
baz=157
SRU San Rafael Swe 73.16 326 eP P 01 07 52.6 +1.6
E33A Westby DABS, E 73.17 340 P P 01 07 49.6 -1.0
baz=152
MTPU Mount Pierson 73.24 325 eP P 01 07 53.6 +1.9
HEC Hector,Ludlow 73.33 320 P P 01 07 50.5 -1.5
baz=133
C36A Pine Crest Far 73.35 342 P P 01 07 51.8 +0.1
baz=156
F31A Hecla 73.35 338 P P 01 07 51.3 -0.3
baz=150
CCUT Cedar City 73.53 323 eP P 01 07 55.9 +2.7
C35A Jirik Farms, M 73.62 342 P P 01 07 53.5 +0.3
baz=154
SHPR Sheep Range 73.80 322 eP P 01 07 56.9 +2.2
E31A Nome 73.83 339 P P 01 07 55.2 +0.7
baz=151
GSC Goldstone, Bar 73.94 320 P P 01 07 56.6 +1.1
baz=133
K22A Casper 73.97 331 P P 01 07 56.9 +1.3
baz=143
RSSD Black Hills 74.08 333 P P 01 07 56.7 +0.5
baz=145
RSSD Black Hills 74.08 333 eP P 01 07 57.5 +1.2
B35A Bob, Littlefor 74.14 342 P P 01 07 56.1 -0.1
baz=155
D31A Mcclaflin, Tow 74.21 339 P P 01 07 57.1 +0.4
baz=151
H25A Fruitdale 74.31 334 P P 01 07 57.8 +0.4
baz=145
B34A Aery, Baudette 74.52 342 P P 01 07 59.8 +1.4
baz=154
AGMN Agassiz Nation 74.72 341 P P 01 08 00.5 +1.0
baz=153
AGMN Agassiz Nation 74.72 341 eP P 01 07 59.8 +0.3
TPNV Topopah Spring 74.74 321 P P 01 08 02.0 +1.8
baz=134,SNR=6.5
TPNV Topopah Spring 74.74 321 eP P 01 08 02.5 +2.4
JLU Joannelle 74.75 327 eP P 01 08 02.2 +2.0
FURC Furnace Creek, 74.76 321 P P 01 08 02.0 +2.0
baz=133,SNR=5.5
MPMC Manual Prospec 74.86 320 P P 01 08 02.0 +1.1
baz=133
C31A Landman Farms, 74.86 339 P P 01 08 01.0 +0.6
baz=151
B32A Ashes, Strandq 75.01 340 P P 01 08 01.3 +0.1
baz=152
C30A Mose, Pekin 75.03 339 P P 01 08 02.2 +0.8
baz=150
DAC Darwin (Calif) 75.07 320 eP P 01 08 00.2 -1.9
comp=Z,4.4nm,0.8s
A33A Warroad 75.14 341 P P 01 08 02.4 +0.4
baz=153
DUG Dugway, Tooele 75.15 326 P P 01 08 03.8 +1.4
baz=137,SNR=7.3
DUG Dugway, Tooele 75.15 326 eP P 01 08 04.3 +1.9
SYO Syowa Base 75.31 159 eP P 01 08 02.8 +0.1
SYO Syowa Base 75.31 159 ePcP PcP 01 08 12.0 -3.2
R11A Troy Canyon, C 75.33 323 P P 01 08 05.3 +1.7
baz=135,SNR=7.8
BW06 Boulder Array 75.45 329 eP P 01 08 04.8 +0.6
PDAR Pinedale Array 75.45 329 P P 01 08 05.2 +1.0
comp=Z,1.4nm,0.7s,baz=158,slow=4.7,SNR=8.7
MDND Maddock 75.54 338 P P 01 08 04.9 +0.6
baz=149,SNR=6.5
MDND Maddock 75.54 338 eP P 01 08 05.2 +0.9
HWUT Hardware Ranch 75.55 327 eP P 01 08 05.9 +1.2
B30A Myrvik Farm, E 75.63 339 P P 01 08 05.1 +0.3
baz=151
VES Veal, Richgr 75.67 319 P P 01 08 05.0 -0.3
baz=132
BGU Big Grassy Mou 75.80 326 eP P 01 08 07.6 +1.5
B29A Wagenman Farm, 75.98 339 P P 01 08 07.2 +0.4
baz=150
VNDA Vanda 76.33 190 P P 01 08 10.4 +1.9
comp=Z,1.4nm,0.8s,baz=117,slow=4.1,SNR=7.2
TORD Torodi Ar. Bea 76.34 70 P P 01 08 09.6 +0.1
comp=Z,11nm,0.5s,baz=252,slow=5.4,SNR=240
TORD S S 01 17 38.3 -2.4
comp=Z,1.4nm,0.9s,baz=240,slow=11,SNR=7.1
A29A Manning Farm, 76.34 339 P P 01 08 08.8 0.0
baz=150,SNR=6.6
ULM Lac du Bonnet 76.46 342 P P 01 08 09.5 +0.1
comp=Z,8.2nm,0.7s,baz=156,slow=6.3,SNR=9.9
REDW Red Top Meadow 76.52 329 eP P 01 08 11.8 +1.6
LOHW Long Hollow 76.59 329 eP P 01 08 12.1 +1.4
TPAW Teton Pass 76.67 329 eP P 01 08 12.9 +1.8
MOOW Moose Ponds 76.76 329 eP P 01 08 12.7 +1.2
SCHG Schefferville 76.78 0 P P 01 08 10.4 -0.7
comp=Z,1.3nm,0.5s,baz=170,slow=6.1,SNR=2.7
LAO LASA Array 77.06 334 P P 01 08 13.5 +0.5
baz=144
RLMT Red Lodge 77.14 331 P P 01 08 14.0 +0.4
baz=141
RLMT Red Lodge 77.14 331 eP P 01 08 15.0 +1.4
A25A Svangstu Ranch 77.70 337 P P 01 08 17.5 +1.1
baz=146
DGMT Dagmar 77.72 336 P P 01 08 17.8 +1.3
baz=145
PAHR Pah Rah Range 78.42 322 eP P 01 08 22.6 +1.9
HLID Hailey 78.42 327 P P 01 08 22.3 +1.6
baz=136,SNR=18
HLID Hailey 78.42 327 eP P 01 08 22.9 +2.2
comp=Z,10nm,1.0s
TSUM Tsumeb 78.52 106 eP P 01 08 22.6 +0.7
comp=Z,5.7nm,0.8s
MCMT McKenzie Canyo 78.57 329 eP P 01 08 23.7 +2.1
BOZ Bozeman (W) 78.61 330 P P 01 08 23.2 +1.5
baz=139
DLMT Dillon 78.85 329 eP P 01 08 24.4 +1.5
comp=Z,3.7nm,1.1s
MFID Camas Ranch 79.03 326 eP P 01 08 25.5 +1.5
LRM Limekiln Ridge 79.12 330 eP P 01 08 26.2 +1.6
O03D Paynes Creek 80.20 321 P P 01 08 30.6 +0.3
baz=130
BMO Blue Mountains 80.80 327 eP P 01 08 35.0 +1.6
N02D Trinity Center 81.17 321 P P 01 08 35.0 -0.4
baz=130
M04C Macdoel 81.18 322 P P 01 08 36.3 +0.7
baz=130
M02C Callahan 81.52 321 P P 01 08 37.7 +0.5
baz=130
BSMT Bassoo Peak 81.70 330 eP P 01 08 39.5 +1.3
J05D Fort Rock, OR 81.82 323 P P 01 08 40.4 +1.5
baz=131
BOSA Boshof 81.89 117 P P 01 08 40.6 +0.9
comp=Z,1.9nm,0.6s,baz=248,slow=3.0,SNR=6.9
L02D Cave Junction, 82.44 321 P P 01 08 43.4 +1.4
baz=129
I04A Tendick Farm, 82.81 323 P P 01 08 44.8 +1.0
baz=130
NEW Newport 83.09 329 P P 01 08 46.3 +1.0
baz=135
MAW Mawson 83.21 163 P P 01 08 47.0 +1.5
comp=Z,2.9nm,0.8s,baz=224,slow=8.9,SNR=4.7
ESDC Sonseca Array 85.43 44 P P 01 08 58.0 +0.8
comp=Z,0.4nm,0.7s,baz=239,slow=3.9,SNR=6.0
ES19 SONSECA Array 85.48 44 eP P 01 08 58.4 +0.9
B05A Bryant 85.54 327 P P 01 08 57.2 -0.2
baz=131
A04D Lummi Island 86.14 327 P P 01 09 01.4 +1.0
baz=130
YKA Yellowknife Ar 92.36 340 P P 01 09 29.8 +0.5
comp=Z,5.0nm,0.7s,baz=133,slow=4.4,SNR=31
ASAR Alice Springs 129.84 206 PKP PKPdf 01 15 29.1 +0.4
comp=Z,1.7nm,0.7s,baz=142,slow=2.1,SNR=16
WRA Warramunga Arr 132.96 208 PKP PKPdf 01 15 35.2 +0.6
comp=Z,1.9nm,0.6s,baz=160,slow=1.8,SNR=34
WRA SKPbc SKPbc 01 18 47.2 +0.8
comp=Z,0.5nm,0.8s,baz=158,slow=3.2,SNR=5.3
ZALV Zalesovo Beam 142.04 27 PKhKP PKPpre 01 15 44.8
comp=Z,1.5nm,0.7s,baz=333,slow=4.8,SNR=5.3
KSH Kashi 144.50 53 ePKP PKPbc 01 15 54.5 +0.3
KSH sPKP 01 16 52.5
KSH PP PP 01 19 15.5 +2.4
KSH SKS SKSdf 01 22 45.5 -3.1
KSH SKKS SKKSac 01 25 46.8 -2.0
KSH SS SS 01 37 45.0 -1.4
KSH PPMZ
comp=Z,74nm,4.7s
KSH LN
comp=Z,47nm,3.7s
KSH LE
comp=Z,37nm,3.6s
KSH LZ
comp=Z,210nm,6.1s
MKAR Makanchi Array 145.43 38 PKPbc PKPab 01 15 57.5 +0.3
comp=Z,4.1nm,0.6s,baz=316,slow=3.9,SNR=44
WMQ Urumqi 150.26 38 PKPbc PKPdf 01 16 04.5 0.0
USRK Ussuriysk Ar. 152.88 328 PKPbc PKPbc 01 16 17.0 +1.3
comp=Z,1.2nm,0.5s,baz=11,slow=0.9,SNR=6.8
SONM Songino Array 154.01 10 PKP PKPdf 01 16 11.5 +1.5
comp=Z,0.5nm,0.4s,baz=348,slow=2.1,SNR=2.6
SONM PKPbc PKPbc 01 16 18.0 -0.2
comp=Z,0.9nm,0.7s,baz=255,slow=2.9,SNR=2.2
SONM PKPab PKPab 01 16 33.2 +1.0
comp=Z,1.0nm,0.7s,baz=330,slow=4.7,SNR=2.8
HHC Hu-ho-hao-te 161.45 2 ePKP PKPdf 01 16 18.8 -0.6
LZH Lanzhou 164.28 27 ePKP PKPdf 01 16 22.3 0.0
LZH pPKP pPKPdf 01 17 05.5 -2.0
LZH sPKP 01 17 22.5

*ISCJB **27** 01:21:38.3±0.6,38°.89N±0'.02×23°.71E±0'.03,h7^{km}±3^{km},*
Error ellipse: s-maj=4.2km s-min=2.7km az=162.5
*ATH **27** 01:21:38.1,38°.88N×23°.68E,h25^{km},ML2.1/12,Error*
ellipse: s-maj=1.1km s-min=0.7km az=69.0
*CSEM **27** 01:21:38.6±0.1,38°.88N×23°.69E,h10^{km},ML2.2,Error*
ellipse: s-maj=2.7km s-min=1.7km az=74.0
*THE **27** 01:21:38.8,38°.88N×23°.68E,h7^{km},ML2.3/13,Error*
ellipse: s-maj=0.8km s-min=0.4km az=81.0

ISC 27 01:21:38.9±0.9,**38°.86N**±0'.01×**23°.67E**±0'.02,**h15**^{km}±7^{km},
n94,σ**0°.56**/171,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKIA	**Skiathos**	**0.34**	**333**	P	**Pg**	**01 21 45.7**	**-0.2**
SKIA				S	**Sg**	**01 21 51.0**	**+0.2**
SKIA	**Skiathos**	**0.34**	**333**	P	**Pg**	**01 21 45.7**	**-0.2**
SKIA				S	**Sg**	**01 21 51.0**	**+0.2**
SKIA	**Skiathos**	**0.34**	**333**	P	**Pg**	**01 21 46.0**	**+0.1**
SKIA				S	**Sg**	**01 21 51.1**	**+0.4**
SKIA				AML	AML	01 21 51.3	
	comp=E,693μm,0.2s						
SKIA				AML	AML	01 21 51.5	
	comp=N,563μm,0.2s						
SKIA	**Skiathos**	**0.34**	**333**	P	**Pg**	**01 21 46.0**	**+0.1**
SKIA				S	**Sg**	**01 21 50.9**	**+0.1**
SKIA				AML	AML	01 21 51.7	
	comp=N,563μm,0.2s						
SKIA				AML	AML	01 21 53.9	
	comp=E,710μm,0.1s						
SMIA	**Simia**	**0.36**	**273**	P	**Pg**	**01 21 46.0**	**-0.2**
SMIA				S	**Sg**	**01 21 51.7**	**+0.4**
SMIA	**Simia**	**0.36**	**273**	P	**Pg**	**01 21 46.0**	**-0.2**
SMIA				S	**Sg**	**01 21 51.2**	**-0.1**
SMIA	**Simia**	**0.36**	**273**	P	**Pg**	**01 21 45.9**	**-0.3**
SMIA				S	**Sg**	**01 21 51.2**	**-0.1**
SMIA				AML	AML	01 21 53.6	
	comp=E,1410μm,0.6s						
SMIA				AML	AML	01 21 55.2	
	comp=N,1384μm,0.3s						
EREA	**Eretria**	**0.49**	**155**	P	**Pg**	**01 21 48.4**	**-0.2**
EREA				S	**Sb**	**01 21 56.1**	**-0.1**
EREA	**Eretria**	**0.49**	**155**	P	**Pg**	**01 21 48.4**	**-0.2**
EREA				S	**Sg**	**01 21 55.1**	**0.0**
EREA	**Eretria**	**0.49**	**155**	P	**Pg**	**01 21 48.9**	**+0.3**
EREA				S	**Sg**	**01 21 55.1**	**0.0**
EREA				AML	AML	01 21 57.6	
	comp=E,829μm,0.2s						
EREA				AML	AML	01 21 57.8	
	comp=N,671μm,0.2s						
EREA	**Eretria**	**0.49**	**155**	P	**Pg**	**01 21 48.7**	**+0.1**
EREA				S	**Sb**	**01 21 56.0**	**-0.2**
EREA				AML	AML	01 21 57.6	
	comp=E,829μm,0.2s						
EREA				AML	AML	01 21 57.8	
	comp=N,671μm,0.2s						
ATAL	**Atalanti**	**0.53**	**252**	P	**Pg**	**01 21 48.7**	**-0.7**
ATAL				S	**Sb**	**01 21 57.3**	**-0.2**
ATAL	**Atalanti**	**0.53**	**252**	P	**Pg**	**01 21 48.8**	**-0.7**
ATAL				S	**Sg**	**01 21 57.0**	**+0.5**
ATAL	**Atalanti**	**0.53**	**252**	P	**Pg**	**01 21 48.8**	**-0.7**
ATAL				S	**Sg**	**01 21 57.0**	**+0.5**
ATAL				AML	AML	01 21 57.6	
	comp=E,172μm,0.4s						
ATAL				AML	AML	01 21 57.7	
	comp=N,214μm,0.4s						
ATAL	**Atalanti**	**0.53**	**252**	P	**Pg**	**01 21 48.8**	**-0.7**
ATAL				AML	AML	01 21 57.6	
	comp=E,172μm,0.4s						
ATAL				AML	AML	01 21 57.9	
	comp=N,214μm,0.4s						
ATAL				S	**Sb**	**01 21 58.2**	**+0.7**
LKR	**Lokris**	**0.56**	**248**	P	**Pg**	**01 21 49.5**	**-0.5**
LKR				S	**Sb**	**01 21 58.7**	**+0.4**
LKR	**Lokris**	**0.56**	**248**	P	**Pg**	**01 21 49.5**	**-0.5**
LKR				S	**Sb**	**01 21 58.7**	**+0.4**
LKR	**Lokris**	**0.56**	**248**	P	**Pg**	**01 21 49.4**	**-0.5**
LKR				S	**Sb**	**01 21 59.5**	**+1.2**
LKR	**Lokris**	**0.56**	**248**	P	**Pg**	**01 21 49.3**	**-0.7**
LKR				S	**Sb**	**01 21 58.7**	**+0.4**
LKR				AML	AML	01 21 59.9	
	comp=E,210μm,0.2s						
LKR				AML	AML	01 21 60.0	
	comp=N,189μm,0.1s						
VIL2	**Platees**	**0.72**	**206**	P	**Pg**	**01 21 53.0**	**0.0**
VIL2				S	**Sn**	**01 22 05.1**	**-0.2**
VIL2				AML	AML	01 22 06.5	
	comp=N,299μm,0.6s						
VIL2				AML	AML	01 22 07.6	
	comp=E,321μm,0.2s						
VIL2	**Platees**	**0.72**	**206**	P	**Pg**	**01 21 52.7**	**-0.3**
VIL2				S	**Sn**	**01 22 04.4**	**-1.0**
VIL2				AML	AML	01 22 07.2	
	comp=N,282μm,0.3s						
VIL2				AML	AML	01 22 07.6	
	comp=E,321μm,0.2s						
VILL	**Villia**	**0.75**	**202**	P	**Pg**	**01 21 52.9**	**-0.6**
VILL				S	**Sb**	**01 22 04.7**	**+0.9**
VILL	**Villia**	**0.75**	**202**	P	**Pg**	**01 21 53.0**	**-0.6**
VILL				S	**Sb**	**01 22 04.7**	**+0.9**

FYTO	**Fytoko, Volos**	**0.79 314**	P	**Pg**	**01 21 53.7**	**-0.5**
FYTO			S	**Sg**	**01 22 04.2**	**-0.3**
FYTO	**Fytoko, Volos**	**0.79 314**	P	**Pg**	**01 21 53.7**	**-0.5**
FYTO			S	**Sg**	**01 22 04.2**	**-0.3**
PTL	**Penteli**	**0.83 169**	P	**Pg**	**01 21 54.8**	**-0.2**
PTL			S	**Sb**	**01 22 06.8**	**+0.9**
PTL	**Penteli**	**0.83 169**	P	**Pg**	**01 21 54.8**	**-0.2**
PTL			S	**Sb**	**01 22 06.8**	**+0.9**
PTL	**Penteli**	**0.83 169**	P	**Pg**	**01 21 53.6**	**-1.4**
PTL			S	**Sb**	**01 22 06.5**	**+0.5**
PROD	**Prodromos**	**0.85 225**	P	**Pb**	**01 21 54.2**	**-1.2**
PROD			S	**Sn**	**01 22 08.2**	**-0.4**
PROD	**Prodromos**	**0.85 225**	P	**Pb**	**01 21 54.2**	**-1.2**
PROD			S	**Sn**	**01 22 08.2**	**-0.4**
PROD			AML	AML	01 22 09.8	
	comp=E,408μm,0.3s					
PROD			AML	AML	01 22 12.7	
	comp=N,375μm,0.3s					
PROD	**Prodromos**	**0.85 225**	P	**Pb**	**01 21 54.1**	**-1.3**
PROD			S	**Sn**	**01 22 08.0**	**-0.6**
PROD			AML	AML	01 22 09.7	
	comp=E,408μm,0.3s					
PROD			AML	AML	01 22 12.7	
	comp=N,375μm,0.3s					
ATH	**Athens Observa**	**0.89 178**	P	**Pb**	**01 21 56.1**	**+0.1**
ATH			S	**Sn**	**01 22 09.0**	**-0.5**
ATH	**Athens Observa**	**0.89 178**	P	**Pb**	**01 21 56.1**	**+0.1**
ATH			S	**Sn**	**01 22 09.0**	**-0.5**
ATHU	**Athens Univers**	**0.90 174**	P	**Pb**	**01 21 55.8**	**-0.4**
ATHU			S	**Sg**	**01 22 08.6**	**+0.5**
ATHU	**Athens Univers**	**0.90 174**	P	**Pb**	**01 21 55.8**	**-0.4**
ATHU			S	**Sg**	**01 22 08.6**	**+0.5**
ATHU	**Athens Univers**	**0.90 174**	P	**Pb**	**01 21 55.9**	**-0.3**
ATHU			S	**Sb**	**01 22 08.1**	**+0.1**
ATHU			AML	AML	01 22 10.2	
	comp=N,91μm,0.7s					
ATHU			AML	AML	01 22 10.5	
	comp=E,41μm,0.3s					
DSF	**Desfina**	**1.00 244**	P	**Pb**	**01 21 57.4**	**-0.6**
DSF			S	**Sn**	**01 22 12.9**	**+0.6**
DSF	**Desfina**	**1.00 244**	P	**Pb**	**01 21 58.0**	**0.0**
DSF			S	**Sn**	**01 22 12.9**	**+0.6**
DSF	**Desfina**	**1.00 244**	P	**Pb**	**01 21 58.0**	**0.0**
DSF	**Desfina**	**1.00 244**	P	**Pb**	**01 21 57.4**	**-0.6**
DSF			S	**Sn**	**01 22 12.2**	**-0.1**
LTK	**Loutraki**	**1.00 214**	P	**Pg**	**01 21 58.3**	**0.0**
LTK			S	**Sn**	**01 22 13.5**	**+1.2**
LTK	**Loutraki**	**1.00 214**	P	**Pg**	**01 21 58.3**	**0.0**
LTK			S	**Sn**	**01 22 13.5**	**+1.2**
LTK	**Loutraki**	**1.00 214**	P	**Pb**	**01 21 57.0**	**-1.0**
LTK	**Loutraki**	**1.00 214**	P	**Pg**	**01 21 58.3**	**0.0**
LTK			S	**Sg**	**01 22 11.9**	**+0.5**
LTK			AML	AML	01 22 16.2	
	comp=N,227μm,0.3s					
LTK			AML	AML	01 22 16.7	
	comp=E,253μm,0.3s					
VLY	**Voula,Athens**	**1.01 174**	P	**Pb**	**01 21 58.0**	**-0.1**
VLY			S	**Sg**	**01 22 11.7**	**0.0**
VLY	**Voula,Athens**	**1.01 174**	P	**Pb**	**01 21 58.0**	**-0.1**
VLY			S	**Sg**	**01 22 11.7**	**0.0**
VLY	**Voula,Athens**	**1.01 174**	P	**Pb**	**01 21 58.2**	**+0.1**
VLY			S	**Sb**	**01 22 11.3**	**0.0**
VLY			AML	AML	01 22 14.9	
	comp=E,279μm,0.3s					
VLY			AML	AML	01 22 16.0	
	comp=N,316μm,0.6s					
AGG	**Agios Georgios**	**1.05 279**	P	**Pb**	**01 21 58.1**	**-0.8**
AGG			S	**Sn**	**01 22 13.5**	**-0.1**
AGG	**Agios Georgios**	**1.05 279**	P	**Pb**	**01 21 58.1**	**-0.8**
AGG			S	**Sn**	**01 22 13.5**	**-0.1**
AGG	**Agios Georgios**	**1.05 279**	P	**Pb**	**01 21 58.2**	**-0.7**
AGG			S	**Sg**	**01 22 13.0**	**-0.1**
PAIG	**Paliouri**	**1.06 0**	P	**Pb**	**01 21 58.8**	**-0.2**
PAIG			S	**Sg**	**01 22 13.2**	**-0.1**
PAIG	**Paliouri**	**1.06 0**	P	**Pb**	**01 21 58.8**	**-0.2**
PAIG			S	**Sg**	**01 22 13.2**	**-0.1**
PAIG	**Paliouri**	**1.06 0**	P	**Pb**	**01 21 58.5**	**-0.5**
PAIG			S	**Sg**	**01 22 13.2**	**-0.1**
THAL	**Thalero**	**1.14 224**	P	**Pn**	**01 22 00.1**	**-0.2**
THAL			S	**Sg**	**01 22 16.9**	**+1.1**
THAL	**Thalero**	**1.14 224**	P	**Pn**	**01 22 00.2**	**-0.1**
THAL			S	**Sg**	**01 22 16.9**	**+1.1**
THAL	**Thalero**	**1.14 224**	P	**Pn**	**01 22 00.2**	**-0.1**
THAL	**Thalero**	**1.14 224**	P	**Pn**	**01 22 00.2**	**-0.1**
THAL			S	**Sn**	**01 22 15.5**	**-0.2**
THAL			AML	AML	01 22 21.9	
	comp=N,291μm,0.5s					
THAL			AML	AML	01 22 23.2	
	comp=E,286μm,0.3s					
KALE	**Kalithea**	**1.29 249**	P	**Pn**	**01 22 02.5**	**+0.1**
KALE			S	**Sg**	**01 22 20.2**	**-0.2**
KALE	**Kalithea**	**1.29 249**	P	**Pn**	**01 22 02.5**	**+0.1**
KALE			S	**Sg**	**01 22 20.2**	**-0.2**
KALE	**Kalithea**	**1.29 249**	P	**Pb**	**01 22 02.7**	**-0.2**
KALE			S	**Sn**	**01 22 19.8**	**+0.4**
ANX	**Ano Chora**	**1.39 259**	P	**Pb**	**01 22 04.6**	**-0.1**
ANX			S	**Sg**	**01 22 23.5**	**-0.3**
ANX	**Ano Chora**	**1.39 259**	P	**Pb**	**01 22 04.6**	**-0.1**
ANX			S	**Sg**	**01 22 23.5**	**-0.3**
GUR	**Goura**	**1.39 229**	P	**Pn**	**01 22 04.2**	**+0.3**
GUR			S	**Sb**	**01 22 22.9**	**+0.6**
GUR	**Goura**	**1.39 229**	P	**Pn**	**01 22 04.2**	**+0.3**
GUR			S	**Sb**	**01 22 22.9**	**+0.6**
GUR	**Goura**	**1.39 229**	P	**Pb**	**01 22 04.6**	**-0.1**
GUR			S	**Sg**	**01 22 23.4**	**-0.5**
GUR			AML	AML	01 22 27.7	
	comp=E,142μm,0.3s					
GUR			AML	AML	01 22 27.8	
	comp=N,195μm,0.5s					
DID	**Didima**	**1.40 194**	P	**Pn**	**01 22 04.2**	**+0.3**
DID			S	**Sg**	**01 22 23.4**	**-0.5**
DID	**Didima**	**1.40 194**	P	**Pn**	**01 22 04.2**	**+0.3**
DID			S	**Sg**	**01 22 23.4**	**-0.5**
DID	**Didima**	**1.40 194**	P	**Pb**	**01 22 04.4**	**-0.3**
DID			S	**Sg**	**01 22 23.9**	**0.0**
DID			AML	AML	01 22 26.3	
	comp=E,210μm,0.3s					
DID			AML	AML	01 22 27.1	
	comp=N,146μm,0.3s					
KLV	**Kalavryta, Ach**	**1.45 236**	P	**Pn**	**01 22 04.9**	**+0.3**
KLV			S	**Sb**	**01 22 24.6**	**+0.8**
KLV	**Kalavryta, Ach**	**1.45 236**	P	**Pn**	**01 22 04.9**	**+0.3**
KLV			S	**Sb**	**01 22 24.6**	**+0.8**
KLV	**Kalavryta, Ach**	**1.45 236**	P	**Pn**	**01 22 04.5**	**-0.1**
KLV			S	**Sg**	**01 22 25.2**	**-0.3**
EFP	**Efpalio**	**1.45 253**	P	**Pb**	**01 22 05.2**	**-0.3**
EFP			S	**Sb**	**01 22 24.5**	**+0.8**
EFP	**Efpalio**	**1.45 253**	P	**Pb**	**01 22 05.2**	**-0.3**
EFP			S	**Sb**	**01 22 24.5**	**+0.8**
EFP	**Efpalio**	**1.45 253**	P	**Pn**	**01 22 04.4**	**-0.1**
THL	**Klokotos Trika**	**1.46 299**	P	**Pb**	**01 22 05.4**	**-0.4**
THL			S	**Sb**	**01 22 24.5**	**+0.3**
THL	**Klokotos Trika**	**1.46 299**	P	**Pb**	**01 22 05.4**	**-0.4**
THL			S	**Sb**	**01 22 24.5**	**+0.3**
LAKA	**Lakka**	**1.46 245**	P	**Pb**	**01 22 05.7**	**-0.1**
LAKA	**Lakka**	**1.46 245**	P	**Pb**	**01 22 05.7**	**-0.1**
LAKA	**Lakka**	**1.46 245**	P	**Pb**	**01 22 06.0**	**+0.2**
OUR	**Ouranopolis**	**1.49 9**	P	**Pn**	**01 22 05.1**	**0.0**
OUR	**Ouranopolis**	**1.49 9**	P	**Pn**	**01 22 05.1**	**0.0**
KRND	**KRANIDI**	**1.53 196**	P	**Pn**	**01 22 06.3**	**+0.6**
KRND			S	**Sg**	**01 22 27.4**	**-0.9**
KRND	**KRANIDI**	**1.53 196**	P	**Pn**	**01 22 06.3**	**+0.6**
KRND			S	**Sg**	**01 22 27.4**	**-0.9**
KRND	**KRANIDI**	**1.53 196**	P	**Pn**	**01 22 06.6**	**-0.4**
KRND			S	**Sb**	**01 22 25.9**	**-0.3**
LIT	**Litokhoron**	**1.54 324**	P	**Pn**	**01 22 05.2**	**-0.6**
LIT			S	**Sb**	**01 22 27.3**	**+0.9**
LIT	**Litokhoron**	**1.54 324**	P	**Pn**	**01 22 05.2**	**-0.6**
LIT			S	**Sb**	**01 22 27.3**	**+0.9**
DRO	**Drossia**	**1.79 240**	P	**Pn**	**01 22 10.1**	**+0.9**
DRO	**Drossia**	**1.79 240**	P	**Pn**	**01 22 10.1**	**+0.9**
DSL	**Palaion Diasel**	**2.02 278**	P	**Pn**	**01 22 13.6**	**+1.1**
DSL	**Palaion Diasel**	**2.02 278**	P	**Pn**	**01 22 13.6**	**+1.1**
ITM	**Ithomi**	**2.17 220**	P	**Pb**	**01 22 16.4**	**-1.5**
ITM	**Ithomi**	**2.17 220**	P	**Pb**	**01 22 16.4**	**-1.5**
VLI	**Veliai**	**2.22 195**	P	**Pn**	**01 22 16.0**	**+0.9**
VLI	**Veliai**	**2.22 195**	P	**Pn**	**01 22 16.0**	**+0.9**

*IDC **27** 01:21:35.5±1.0, 47.62N×155.66E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/37, mbtmp3.7/12, ML2.4/1, Error ellipse: s-maj=25.7km s-min=23.5km az=115.0*
*ISCJB **27** 01:21:36.3±0.8, 47.6N±0.1×155.6E±0.2, h18km, mb3.7/11, Error ellipse: s-maj=21.7km s-min=13.2km az=23.0*
ISC 27 01:21:38.1±1.0, 47.5N±0.1×155.7E±0.2, h18km, n18, σ1s93/13, mb3.8/11, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.79**	**12**	Pn	**Pn**	**01 23 00.7**	**-2.3**
	0.6nm,0.3s,baz=183,slow=13,SNR=8.2						
PETK				Sn	**Sn**	**01 24 12.5**	**+3.6**
	0.2nm,0.3s,baz=237,slow=19,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**29.15**	**158**	T	T	01 59 50.5	
	baz=347						
H11N1	**WAKE ISLAND Hy**	**29.17**	**158**	T	T	01 59 45.7	
	baz=347						
H11N3	**WAKE ISLAND Hy**	**29.17**	**158**	T	T	01 59 52.4	
	baz=347						
H11S1	**WAKE ISLAND Hy**	**30.28**	**159**	T	T	02 01 01.7	
	baz=344,slow=76,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**30.29**	**159**	T	T	02 01 11.9	
	baz=344,slow=76,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**30.30**	**159**	T	T	02 01 03.1	
	baz=344,slow=76,SNR=4.1						
ILAR	**Eielson Array**	**34.89**	**39**	P	**P**	**01 28 27.9**	**-0.2**
	0.5nm,1.1s,baz=276,slow=8.7,SNR=3.9						
MKAR	**Makanchi Array**	**48.14**	**298**	P	**P**	**01 30 15.8**	**-1.1**
	0.4nm,0.6s,baz=63,slow=5.4,SNR=4.0						
KURBB	**Kurchatov Arra**	**48.49**	**304**	P	**P**	**01 30 18.1**	**-1.4**
	1.8nm,0.6s,baz=67,slow=8.5,SNR=19						
BVAR	**Borovoye Array**	**51.73**	**310**	P	**P**	**01 30 42.3**	**-1.6**
	1.0nm,0.4s,baz=59,slow=8.2,SNR=11						
FINES	**FINESS Array B**	**64.11**	**336**	P	**P**	**01 32 08.9**	**-1.7**
	0.4nm,0.3s,baz=29,slow=10.0,SNR=3.3						
GEYT	**Alibeck**	**67.70**	**302**	P	**P**	**01 32 35.7**	**+1.5**
	0.7nm,0.4s,baz=13,slow=3.3,SNR=5						
NOA	**NORSAR Array B**	**68.08**	**342**	P	**P**	**01 32 37.4**	**+1.2**
	0.2nm,0.6s,baz=24,slow=6.4,SNR=2.6						
WRA	**Warramunga Arr**	**69.80**	**201**	P	**P**	**01 32 47.6**	**+0.4**
	0.7nm,1.0s,baz=18,slow=6.1,SNR=3.3						
ASAR	**Alice Springs**	**73.48**	**201**	P	**P**	**01 33 11.5**	**+2.1**
	0.3nm,0.5s,baz=13,slow=5.9,SNR=3.8						
TXAR	**Lajitas Array**	**75.62**	**62**	P	**P**	**01 33 21.0**	**-1.0**
	0.6nm,0.6s,baz=320,slow=4.7,SNR=5.6						
BRTR	**Keskin Array B**	**79.03**	**318**	P	**P**	**01 33 42.0**	**+0.9**
	0.8nm,0.7s,baz=53,slow=4.8,SNR=3.1						

IDC 27 01:39:55.0±4.1, 6.55S×147.56E, h0km, mb2.9/1, mb1 3.4/2, mb1mx3.2/21, mbtmp3.1/2, ML3.0/1, Error ellipse: s-maj=160.3km s-min=47.0km az=115.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.50**	**223**	P	P	01 44 11.8	-1.0
	0.1nm,0.3s,baz=48,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**21.50**	**216**	P	P	01 44 46.3	+0.8
	0.3nm,0.4s,baz=54,slow=9.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**145.77**	**284**	PKPbc	PKPdf	01 59 36.2	-0.5
	0.2nm,0.5s,baz=76,slow=3.6,SNR=8.5						

*IDC **27** 01:56:43.5±1.8, 33.84S×178.76W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/31, mbtmp4.0/4, ML4.5/1, Error ellipse: s-maj=43.9km s-min=41.0km az=27.0*
*ISCJB **27** 01:56:45.2±1.9, 34.1S±0.1×178.5W±0.3, h37km, mb3.8/3, Error ellipse: s-maj=38.8km s-min=10.6km az=16.9*
ISC 27 01:56:48.3±1.8, 34.0S±0.1×178.6W±0.3, h37km, n15, σ0s97/18, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**4.46**	**212**	*e*PN	**Pn**	**01 57 53.7**	**+0.3**
HAZ	**Te Kaha**	**4.71**	**217**	PN	**Pn**	**01 57 56.7**	**0.0**
HAZ				SN	**Sn**	**01 58 52.5**	**+2.5**
PUZ	**Puketiti**	**4.74**	**211**	*e*PN	**Pn**	**01 57 55.5**	**-1.7**
PUZ				SN	**Sn**	**01 58 50.4**	**-0.5**
CNGZ	**Carnagh Statio**	**5.11**	**209**	PN	**Pn**	**01 58 01.9**	**-0.4**
MWZ	**Matawai**	**5.28**	**215**	PN	**Pn**	**01 58 03.7**	**-1.0**
MWZ				SN	**Sn**	**01 59 03.6**	**-0.7**
URZ	**Urewera**	**5.43**	**218**	Pn	**Pn**	**01 58 06.3**	**-0.4**
	14nm,0.3s,baz=276,slow=3.0,SNR=39						
URZ	**Urewera**	**5.43**	**218**	PN	**Pn**	**01 58 06.2**	**-0.4**
RAGZ	**Rawiri**	**5.47**	**215**	*e*PN	**Pn**	**01 58 06.3**	**-0.9**
RIGZ	**Rimuhau**	**5.48**	**211**	PN	**Pn**	**01 58 06.8**	**-0.7**
SNGZ	**Shannon Statio**	**5.73**	**213**	PN	**Pn**	**01 58 10.7**	**-0.2**
ASAR	**Alice Springs**	**42.51**	**271**	P	**P**	**02 04 40.2**	**-0.1**
	0.6nm,0.6s,baz=116,slow=7.3,SNR=5.6						
WRA	**Warramunga Arr**	**43.82**	**276**	P	**P**	**02 04 50.5**	**-0.4**
	1.1nm,0.6s,baz=115,slow=8.5,SNR=22						
FITZ	**Fitzroy Crossi**	**51.91**	**273**	P	**P**	**02 05 53.2**	**-0.3**
	2.6nm,1.0s,baz=135,slow=2.9,SNR=3.1						
FINES	**FINESS Array B**	**148.33**	**337**	PKPbc	**PKPbc**	**02 16 29.9**	**+0.1**
	1.2nm,0.5s,baz=62,slow=4.1,SNR=9.6						
TORD	**Torodi Ar. Bea**	**159.19**	**181**	PKPab	**PKPab**	**02 17 21.1**	**+1.1**
	0.4nm,1.1s,baz=176,slow=5.6,SNR=3.6						

*IDC **27** 01:57:47.9±1.1, 34.13S×178.84W, h0km, mb4.4/4, mb1 4.5/6, mb1mx4.1/33, mbtmp4.4/6, ML4.4/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/24, Error ellipse: s-maj=34.7km s-min=25.2km az=141.0*
*ISCJB **27** 01:57:52.0±1.6, 34.17S±0.07×178.7W±0.2, h50km, mb4.3/5, Error ellipse: s-maj=27.4km s-min=8.0km az=11.1*
*NEIC **27** 01:57:52.7±0.7, 34.33S×178.72W, h35km, mb4.3/1, Error ellipse: s-maj=20.0km s-min=12.5km az=125.0*
ISC 27 01:57:54.5±1.0, 34.26S±0.09×178.8W±0.1, h50km, n31, σ2s11/37, mb4.3/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**4.23**	**212**	PN	**Pn**	**01 58 58.3**	**+1.9**
HAZ	**Te Kaha**	**4.47**	**218**	PN	**Pn**	**01 59 01.5**	**+1.7**
PUZ	**Puketiti**	**4.51**	**211**	PN	**Pn**	**01 59 00.4**	**+0.2**
PUZ				SN	**Sn**	**01 59 54.9**	**+3.5**
CNGZ	**Carnagh Statio**	**4.88**	**209**	PN	**Pn**	**01 59 06.2**	**+0.9**
MWZ	**Matawai**	**5.05**	**215**	PN	**Pn**	**01 59 08.9**	**+1.1**
URZ	**Urewera**	**5.20**	**219**	Pn	**Pn**	**01 59 06.6**	**-3.1**
	16nm,0.3s,baz=265,slow=4.1,SNR=20						
URZ				Sn	**Sn**	**02 00 11.0**	**+2.6**
	9.3nm,0.3s,baz=148,slow=21,SNR=9.9						
URZ	**Urewera**	**5.20**	**219**	*e*Pn	**Pn**	**01 59 07.1**	**-2.7**
URZ				*e*S	**Sn**	**02 00 10.9**	**+2.5**
URZ	**Urewera**	**5.20**	**219**	PN	**Pn**	**01 59 10.9**	**+1.2**
URZ				SN	**Sn**	**02 00 09.2**	**+0.8**
URZ	**Urewera**	**5.20**	**219**	SN	**Pn**	**01 59 06.6**	**-3.2**
RAGZ	**Rawiri**	**5.23**	**215**	PN	**Pn**	**01 59 10.6**	**+0.3**
RIGZ	**Rimuhau**	**5.25**	**211**	PN	**Pn**	**01 59 11.1**	**+0.7**
RIGZ				SN	**Sn**	**02 00 11.3**	**+1.6**
SNGZ	**Shannon Statio**	**5.50**	**214**	PN	**Pn**	**01 59 14.9**	**+1.1**
SNGZ				SN	**Sn**	**02 00 18.9**	**+3.2**
OUZ	**Omahuta**	**6.36**	**259**	*e*Pn	**Pn**	**01 59 27.1**	**+1.4**
	22nm,0.8s						
SNZO	**South Karori**	**8.73**	**214**	*e*Pn	**Pn**	**01 59 54.5**	**-3.6**
SNZO				*e*S	**Sn**	**02 01 28.2**	**-7.0**
RPZ	**Rata Peaks**	**12.32**	**217**	Pn	**Pn**	**02 00 44.8**	**-2.3**
	1.6nm,0.3s,baz=60,slow=6.5,SNR=6.6						
RPZ				Sn	Sn	02 02 50.5	-12
	0.3nm,0.3s,baz=354,slow=19,SNR=2.8						
RPZ				LR	LR	02 05 56.5	
	comp=Z,207nm,18.0s,baz=68,slow=40						
DZM	**Mont Dzumac**	**17.79**	**309**	LR	LR	02 06 54.1	
	comp=Z,157nm,19.5s,baz=145,slow=31						
CTA	**Charters Tower**	**33.99**	**285**	P	**P**	**02 04 32.6**	**-1.0**
	2.4nm,0.4s,baz=60,slow=14,SNR=5.2						
ASAR	**Alice Springs**	**42.41**	**271**	P	**P**	**02 05 44.4**	**0.0**
	2.3nm,0.7s,baz=112,slow=7.4,SNR=15						
WRAB	**Tennant Creek**	**43.74**	**277**	*e*P	**P**	**02 05 54.6**	**-0.6**
	2.6nm,0.4s						
WRA	**Warramunga Arr**	**43.74**	**277**	P	**P**	**02 05 54.7**	**-0.5**
	4.2nm,0.6s,baz=117,slow=7.5,SNR=27						
FITZ	**Fitzroy Crossi**	**51.82**	**273**	P	**P**	**02 06 56.9**	**-0.8**
	3.6nm,0.7s,baz=126,slow=4.9,SNR=10						
MKAR	**Makanchi Array**	**119.71**	**309**	PKP	**PKPdf**	**02 16 38.7**	**+0.1**
	0.4nm,0.5s,baz=177,slow=1.6,SNR=4.4						
KURK	**Kurchatov**	**123.20**	**312**	PKP	**PKPdf**	**02 16 45.1**	**0.0**
KURBB	**Kurchatov Arra**	**123.23**	**312**	PKP	**PKPdf**	**02 16 45.1**	**-0.1**
	0.8nm,0.5s,baz=115,slow=2.1,SNR=12						
BVAR	**Borovoye Array**	**128.65**	**314**	PKP	**PKPdf**	**02 16 55.8**	**+0.3**
	0.7nm,0.4s,baz=144,slow=2.1,SNR=6.0						
ARCES	**ARCESS Array B**	**142.19**	**346**	PKP	**PKPdf**	**02 17 19.9**	**-0.3**
	1.4nm,0.8s,baz=74,slow=3.2,SNR=4.5						
FINES	**FINESS Array B**	**148.49**	**337**	PKPbc	**PKPbc**	**02 17 35.0**	**+0.2**
	3.9nm,0.5s,baz=44,slow=3.5,SNR=18						
NB2	**NORSAR Subarra**	**152.44**	**349**	PKP	**PKPbc**	**02 17 44.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**152.44**	**349**	PKPbc	**PKPbc**	**02 17 44.9**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=13,slow=4.5,SNR=6.4						
AKASG	**Malin Array Be**	**153.84**	**317**	PKPbc	**PKPbc**	**02 17 47.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=42,slow=2.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**158.98**	**181**	PKPab	**PKPab**	**02 18 25.6**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=169,slow=3.7,SNR=5.4						

*NEIC **27** 02:03:09.1, 27.51N×111.51W, h20km, MD4.0(MEX), After MEX.*
MEX 27 02:03:09.1±0.9, 27.51N×111.51W, h20km, MD4.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUYB	**Guaymas**	**0.68**	**56**	*e*P	Pb	02 03 19.7	-2.6
GUYB				*i* S	Sb	02 03 29.3	-1.9
SRIG	**Santa Rosalia**	**0.68**	**254**	*e*P	Pb	02 03 20.0	-2.3
SRIG				*i* S	Sb	02 03 29.4	-1.9
SRIG	**Santa Rosalia**	**0.68**	**254**	*e*P	Pb	02 03 20.0	-2.3
SRIG				*i* S	Sb	02 03 29.4	-1.9
HSIG		**1.58**	**18**	*e*P	Pn	02 03 32.3	-3.7
HSIG				*e*S	Sn	02 03 52.5	-3.3
HSIG		**1.58**	**18**	*e*P	Pn	02 03 32.3	-3.7
HSIG				*e*S	Sn	02 03 52.5	-3.3
214A	**Organ Pipe Nat**	**4.57**	**346**	*e*Pn	Pn	02 04 14.5	-2.6
214A				*e*S	Sb	02 05 20.6	-2.7
TUC	**Tucson**	**4.82**	**7**	*e*Pn	Pn	02 04 19.6	-1.0
TUC				*e*S	Sb	02 05 27.0	-3.5
121A	**Cookes Peak, D**	**5.95**	**32**	*e*Pn	Pn	02 04 42.9	+6.6
	11nm,0.7s						
121A				*e*S	Sb	02 06 10.0	+6.9
MNTX	**Cornudas Mount**	**6.77**	**50**	*e*Pn	Pn	02 04 47.0	-0.3
	4.8nm,1.0s						
MNTX				*e*S	Sn	02 06 12.2	+8.4

*CSEM **27** 02:03:41.8±1.1, 38.59N×39.35E, h10km, MD2.8, Error ellipse: s-maj=28.8km s-min=14.0km az=83.0*
*DDA **27** 02:03:42.4, 38.52N×39.60E, h7km, Md3.1*
*ISK **27** 02:03:42.8, 38.64N×39.48E, h15km, MD2.8*
*ISCJB **27** 02:03:43.3±0.6, 38.59N±0.03×39.55E±0.04, h13km±5km, Error ellipse: s-maj=5.5km s-min=4.6km az=135.6*
ISC 27 02:03:43.3±1.0, 38.57N±0.04×39.53E±0.03, h14km±8km, n19, σ1s49/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.26**	**221**	*e*PG	**Pg**	**02 03 48.5**	**-0.4**
SVRC				*e*SG	**Sg**	**02 03 54.7**	**+1.9**
SVRC	**Sivrice-ELAZID**	**0.26**	**221**	*e*Pg	**Pg**	**02 03 48.5**	**-0.4**
SVRC				*e*Sg	**Sg**	**02 03 54.7**	**+1.9**
ELZG	**Elazig**	**0.43**	**260**	P	**Pb**	**02 03 51.5**	**-1.3**
ELZG	**Elazig**	**0.43**	**260**	*i* P	**Pb**	**02 03 51.5**	**-1.3**
ELZG				*i* S	**Sb**	**02 04 00.2**	**+1.0**
TNCL	**Tunceli-Merkez**	**0.54**	**1**	P	**Pb**	**02 03 53.4**	**-1.2**
TNCL				S	**Sb**	**02 04 01.8**	**-0.5**
TNCL	**Tunceli-Merkez**	**0.54**	**1**	*i* P	**Pb**	**02 03 53.4**	**-1.2**
TNCL				*i* S	**Sb**	**02 04 01.8**	**-0.5**
DIYA	**Diyarbakir**	**0.80**	**144**	P	**Pg**	**02 03 57.9**	**-1.0**
DIYA				S	**Sg**	**02 04 09.2**	**-0.2**
DIYA	**Diyarbakir**	**0.80**	**144**	*i* P	**Pg**	**02 03 57.9**	**-1.0**
DIYA				*i* S	**Sg**	**02 04 09.2**	**-0.2**
BINT	**Bingol**	**0.81**	**68**	*e*Pg	**Pn**	**02 04 02.8**	**+2.4**
BINT				*e*Sg	**Sn**	**02 04 16.9**	**+4.5**
BNGB	**Bing¶ll**	**0.99**	**65**	*e*PG	**Pn**	**02 04 02.8**	**-0.1**
BNGB				*e*SG	**Sn**	**02 04 16.9**	**+0.1**
ERZN	**Erzincan**	**1.02**	**9**	*e*PG	**Pb**	**02 04 02.1**	**-0.8**
YEDI	**Yedisu-Bingol**	**1.17**	**42**	*e*PN	**Pb**	**02 04 05.1**	**-0.4**
YEDI	**Yedisu-Bingol**	**1.17**	**42**	*e*Pn	**Pb**	**02 04 05.1**	**-0.4**
EZC	**Erzincan**	**1.19**	**354**	*e*Pg	**Pb**	**02 04 02.1**	**-3.5**
URFA	**Urfa**	**1.26**	**206**	*e*PN	**Pg**	**02 04 06.9**	**-0.6**
URFA				*e*SN	**Sn**	**02 04 24.7**	**+1.4**
MAZI	**Mazidag**	**1.33**	**146**	*e

0.5nm,0.5s,baz=61,slow=12,SNR=4.1
WRA Warramunga Arr 60.10 189 P **P 02 16 43.7 -1.1**
0.4nm,0.6s,baz=6.8,slow=7.0,SNR=4.0
TXAR Lajitas Array 87.74 53 P **P 02 19 27.2 +0.6**
0.1nm,0.5s,baz=313,slow=7.9,SNR=3.8

DDA ***27*** *02:38:44.9, 36°.94N×27°.38E, h7km, Md2.5*
ATH ***27*** *02:38:45.2, 37°.25N×27°.80E, h43km±6km, ML2.1/1, Error ellipse: s-maj=8.8km s-min=1.5km az=236.0*
ISK ***27*** *02:38:45.7, 36°.96N×27°.42E, h2km, MD2.8*
ISCJB ***27*** *02:38:46.6±0.8, 36°.98N±0°.04×27°.41E±0°.05, h4km±6km, Error ellipse: s-maj=8.6km s-min=4.5km az=44.0*
CSEM ***27*** *02:38:46.9±0.2, 37°.00N×27°.43E, h2km, MD2.8, Error ellipse: s-maj=6.0km s-min=3.7km az=49.0*
ISC 27 02:38:46.3±0.9, 37°.02N±0°.03×27°.49E±0°.03, h9km±5km, n24, σ1°36/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.06**	**320**	P	**Pg**	**02 38 48.4**	**+0.1**
BDRM	**Kayabasi**	**0.06**	**320**	*i* P	**Pg**	**02 38 48.4**	**+0.1**
BDRM				*i* S	**Sg**	**02 38 50.1**	**+0.3**
BODT	**Bodrum**	**0.15**	**286**	*e*PG	**Pg**	**02 38 49.1**	**-0.5**
BODT				*e*SG	**Sg**	**02 38 51.3**	**-0.6**
BODT	**Bodrum**	**0.15**	**286**	*e*Pg	**Pg**	**02 38 49.1**	**-0.5**
BODT				*e*Sg	**Sg**	**02 38 51.3**	**-0.6**
NIS1	**Nisyros Isl.**	**0.49**	**211**	P	**Pn**	**02 39 01.4**	**+1.9**
YER	**Yerkesik**	**0.64**	**79**	*e*PG	**Pb**	**02 39 00.2**	**+0.5**
YER				*e*SG	**Sb**	**02 39 11.6**	**+2.8**
YER	**Yerkesik**	**0.64**	**79**	*e*Pg	**Pb**	**02 39 00.2**	**+0.5**
YER				*e*Sg	**Sb**	**02 39 11.6**	**+2.8**
GCAM	**G?zelcaml?**	**0.71**	**343**	P	**Pg**	**02 39 00.0**	**0.0**
GCAM				S	**Sn**	**02 39 12.5**	**-1.1**
GCAM	**G?zelcaml?**	**0.71**	**343**	*i* P	**Pg**	**02 38 60.0**	**0.0**
GCAM				*i* S	**Sn**	**02 39 12.5**	**-1.1**
SMG	**Samos**	**0.86**	**323**	P	**Pb**	**02 39 02.7**	**-0.8**
SMG				S	**Sb**	**02 39 15.7**	**+0.5**
SMG	**Samos**	**0.86**	**323**	P	**Pb**	**02 39 02.7**	**-0.8**
SMG				S	**Sb**	**02 39 15.7**	**+0.5**
SMG				AML	AML	02 39 18.9	
	comp=E,236μm,0.3s						
SMG				AML	AML	02 39 19.0	
	comp=N,251μm,0.3s						
TURN	**Turunc**	**0.90**	**99**	*i* P	Pg	02 38 58.8	-4.8
TURN				*i* S	**Sg**	**02 39 09.9**	**-5.5**
ARG	**Arkhangelos**	**0.95**	**147**	P	**Pb**	**02 39 04.7**	**-0.2**
ARG				S	**Sn**	**02 39 19.2**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.95**	**102**	*e*PG	**Pn**	**02 39 05.9**	**+0.1**
DALY	**Dalyan (Mu˘la**	**0.95**	**102**	*e*Pg	**Pn**	**02 39 05.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**19**	*e*PG	**Pn**	**02 39 06.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**19**	*e*Pg	**Pn**	**02 39 06.3**	**0.0**
DGB	**˘zmir**	**1.14**	**335**	*i* P	**Pg**	**02 39 07.3**	**-0.8**
DGB				*i* S	**Sn**	**02 39 24.2**	**+0.1**
IZM	**Izmir**	**1.39**	**353**	*e*PN	**Pg**	**02 39 13.8**	**+0.8**
IZM	**Izmir**	**1.39**	**353**	*e*Pn	**Pg**	**02 39 13.8**	**+0.8**
KARP	**Karpathos**	**1.49**	**190**	P	**Pg**	**02 39 14.7**	**-0.3**
KARP	**Karpathos**	**1.49**	**190**	P	**Pg**	**02 39 14.7**	**-0.3**
KULA	**Kula-Manisa**	**1.76**	**31**	*e*PN	**Pb**	**02 39 19.1**	**+0.4**
KULA	**Kula-Manisa**	**1.76**	**31**	*e*Pn	**Pb**	**02 39 19.1**	**+0.4**

GUC 27 02:40:07.9±0.4, 22°.11S×68°.71W, h115km±3km, ML3.7, 6C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.58**	**302**	⇓ *i* P	Pn	02 40 26.5	+0.5
PB09				*i* S	Sn	02 40 40.5	+0.9
PB09				IAML		02 40 41.3	
	comp=E,7μm,0.4s						
PB06	**IPOC Station P**	**0.99**	**233**	⇑ *i* P	Pn	02 40 30.1	+0.4
PB06				*i* S	Sn	02 40 46.9	+0.9
PB06				IAML		02 40 48.0	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.15**	**289**	⇑ *i* P	Pn	02 40 31.9	+0.6
PB07				*i* S	Sn	02 40 50.0	+1.0
PB07				IAML		02 40 51.0	
	comp=E,2μm,0.1s						
PB01	**IPOC Station P**	**1.28**	**326**	⇓ *i* P	Pn	02 40 33.0	+0.4
PB01				*i* S	Sn	02 40 52.0	+0.8
PB01				IAML		02 40 53.0	
	comp=E,871nm,0.5s						
PB04	**IPOC Station P**	**1.35**	**260**	⇑ *i* P	Pn	02 40 33.9	+0.4
PB04				*i* S	Sn	02 40 54.2	+1.4
PB04				IAML		02 41 00.1	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**2.00**	**348**	⇑ *i* P	Pn	02 40 42.8	+1.3
PB08				*i* S	Sn	02 41 09.0	+1.9
PB08				IAML		02 41 13.8	
	comp=N,190nm,0.1s						
HMBC	**Humberstone**	**2.12**	**329**	⇑ *i* P	Pn	02 40 42.8	0.0
HMBC				*i* S	Sn	02 41 10.0	+0.5
HMBC				IAML		02 41 11.7	
	comp=E,845nm,0.3s						
PB10	**IPOC Station P**	**2.20**	**230**	⇓ *i* P	Pn	02 40 44.5	+0.8
PB10				IAML		02 41 21.1	
	comp=E,646nm,0.3s						
MNMC	**Minye Minye**	**3.07**	**344**	⇑ *i* P	Pn	02 40 55.2	-0.1
MNMC				*i* S	Sn	02 41 31.8	0.0
MNMC				IAML		02 41 47.8	
	comp=N,266nm,0.5s						

NIED ***27*** *02:49:00, 38°.20N×142°.50E, h32km, Mw3.7 Best double couple: M₀4.04000×10¹⁴ NP1:φ₀214.00000°, δ27.00000°, λ39.00000°. NP2:φ₀88.00000°, δ73.00000°, λ112.00000°.*
JMA ***27*** *02:49:13.2±0.1, 38°.16N×142°.48E, h34km±2km, M4.0*
IDC ***27*** *02:49:14.8±2.5, 38°.02N×142°.68E, h50km±23km, mb3.5/8, mb1 3.7/12, mb1mx3.5/41, mbtmp3.8/12, ML3.2/3, MS3.4/5, Ms1 3.4/5, ms1mx2.8/39, Error ellipse: s-maj=35.6km s-min=23.6km az=132.0*
ISC 27 02:49:10.7±2.2, 38°.10N±0°.05×142°.55E±0°.08, h14km±12km, n32, σ1°56/31, mb3.8/8, MS3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.01**	**291**	P	**Pg**	**02 49 30.2**	**+0.1**
JIO				S	**Sb**	**02 49 42.1**	**-0.9**
OFUJ	**Ofunato**	**1.20**	**325**	P	**Pn**	**02 49 32.8**	**-0.2**
OFUJ				S	**Sb**	**02 49 47.0**	**-1.5**
JMK	**Ichinoseki**	**1.34**	**310**	P	**Pn**	**02 49 35.2**	**+0.2**
JMM	**Marumori**	**1.41**	**261**	P	**Pn**	**02 49 35.8**	**-0.1**
JMM				*e*S	**Sn**	**02 49 52.7**	**-1.5**
JOU	**Okura**	**1.51**	**281**	P	**Pb**	**02 49 38.1**	**-0.3**
JOU				S	**Sn**	**02 49 56.0**	**-0.7**
JFK	**Kawauchi**	**1.52**	**242**	P	**Pn**	**02 49 37.4**	**0.0**
JFK				*e*S	**Sn**	**02 49 55.7**	**-1.3**
JOM	**Ohasama**	**1.68**	**325**	P	**Pn**	**02 49 40.4**	**+0.7**
JOM				*e*S	**Sn**	**02 50 00.5**	**-0.6**
JFT	**Otama**	**1.84**	**252**	P	**Pb**	**02 49 43.2**	**-1.0**
JFT				S	**Sn**	**02 50 04.9**	**-0.2**
JYK	**Kaneyama**	**1.90**	**296**	P	**Pb**	**02 49 44.1**	**-1.0**
JRG	**Rokugo**	**1.98**	**311**	P	**Pn**	**02 49 44.6**	**+0.8**
MJAR	**Matsushiro Arr**	**3.79**	**247**	P	**Pn**	**02 50 12.4**	**+3.7**
	1.6nm,0.3s,baz=79,slow=17,SNR=6.5						
MJAR				LR	LR	02 51 53.6	
	comp=Z,103nm,19.2s,baz=55,slow=41						
MAT	**Matsushiro**	**3.79**	**247**	P	**Pn**	**02 50 11.3**	**+2.6**
MAT				*e*S	**Sn**	**02 50 56.2**	**+3.0**
JHJ	**Hachijo jima 2**	**5.46**	**205**	P	**Pn**	**02 50 32.1**	**+0.5**
	21nm,0.3s,baz=148,slow=23,SNR=8.2						
JHJ				S	**Sn**	**02 51 29.9**	**-4.3**
	32nm,0.3s,baz=110,slow=22,SNR=7.4						
ASAJ	**Asahikawa**	**6.01**	**0**	P	**Pn**	**02 50 40.9**	**+1.7**
	baz=185,slow=11						
USRK	**Ussuriysk Ar.**	**10.02**	**311**	P	Pn	02 51 39.4	+5.2
	0.2nm,0.3s,baz=109,slow=14,SNR=4.8						
GUMO	**Guam**	**24.50**	**175**	LR	LR	03 03 46.0	
	comp=Z,26nm,18.9s,baz=82,slow=36						
YAK	**Yakutsk**	**25.24**	**346**	LR	LR	03 04 43.5	
	comp=Z,60nm,18.1s,baz=277,slow=37						
SEY	**Seymchan**	**25.57**	**10**	P	**P**	**02 54 39.2**	**+0.3**
	2.0nm,0.6s,baz=166,slow=17,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**27.96**	**124**	T	T	03 25 09.2	
	baz=316,slow=75,SNR=71						
SONM	**Songino Array**	**27.96**	**302**	P	**P**	**02 55 01.1**	**+0.3**
	0.2nm,0.4s,baz=94,slow=8.7,SNR=3.0						
H11N1	**WAKE ISLAND Hy**	**27.97**	**124**	T	T	03 25 32.6	
	baz=316,slow=75,SNR=82						
H11N3	**WAKE ISLAND Hy**	**27.98**	**124**	T	T	03 25 30.1	
	baz=316,slow=75,SNR=97						
H11S1	**WAKE ISLAND Hy**	**28.72**	**126**	T	T	03 26 23.5	
	baz=318,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**28.72**	**126**	T	T	03 26 23.1	
	baz=318,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.74**	**126**	T	T	03 26 24.1	
	baz=318,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P	**P**	**02 57 00.9**	**+0.7**
	1.2nm,0.5s,baz=107,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**44.32**	**301**	P	**P**	**02 57 20.9**	**+0.7**
	0.4nm,0.6s,baz=87,slow=8.6,SNR=3.9						
ILAR	**Eielson Array**	**48.11**	**33**	P	**P**	**02 57 49.9**	**+0.2**
	0.5nm,0.7s,baz=264,slow=5.9,SNR=6.8						
ARCES	**ARCESS Array B**	**63.31**	**339**	P	**P**	**02 59 38.7**	**0.0**
	1.6nm,0.9s,baz=37,slow=7.9,SNR=4.3						
GEYT	**Alibeck**	**64.11**	**299**	LR	LR	03 31 32.4	
	comp=Z,173nm,19.5s,baz=0.0,slow=40						
FINES	**FINESS Array B**	**68.29**	**332**	P	**P**	**03 00 09.7**	**-1.1**
	1.0nm,0.7s,baz=44,slow=12,SNR=3.9						
FINES				LR	LR	03 33 23.0	
	comp=Z,57nm,18.6s,baz=188,slow=39						
NOA	**NORSAR Array B**	**73.55**	**338**	P	**P**	**03 00 43.9**	**+1.1**
	0.5nm,0.7s,baz=59,slow=6.0,SNR=3.2						

ISCJB ***27*** *02:52:45.6±0.6, 39°.01N±0°.03×29°.78E±0°.03, h8km±5km, Error ellipse: s-maj=4.9km s-min=3.9km az=162.5*
DDA ***27*** *02:52:45.0, 39°.04N×29°.77E, h7km, Md2.9*
CSEM ***27*** *02:52:45.5±0.1, 39°.02N×29°.79E, h5km, MD2.9, Error ellipse: s-maj=3.7km s-min=2.3km az=155.0*
ISK ***27*** *02:52:45.3, 39°.00N×29°.80E, h10km, MD2.9*
ISC 27 02:52:45.2±1.0, 39°.01N±0°.02×29°.79E±0°.02, h9km±10km, n41, σ0°37/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.25**	**289**	P	**Pg**	**02 52 50.4**	**0.0**
GDZ				S	**Sg**	**02 52 54.1**	**+0.3**
GDZ	**Gediz**	**0.25**	**289**	*i* P	**Pg**	**02 52 50.4**	**0.0**
GDZ				*i* S	**Sg**	**02 52 54.1**	**+0.3**
GEDZ	**Gediz**	**0.30**	**277**	*e*PG	**Pb**	**02 52 52.6**	**-0.1**
GEDZ				*e*SG	**Sb**	**02 52 57.6**	**-0.2**
GEDZ	**Gediz**	**0.30**	**277**	*e*Pg	**Pb**	**02 52 52.7**	**-0.1**
GEDZ				*e*Sg	**Sb**	**02 52 57.6**	**-0.2**
TVSB	**Tavsanli**	**0.51**	**330**	*e*PG	**Pg**	**02 52 55.2**	**+0.1**
TVSB	**Tavsanli**	**0.51**	**330**	*e*Pg	**Pg**	**02 52 55.2**	**+0.1**
KHL	**Karahalli**	**0.71**	**197**	*e*PG	**Pb**	**02 52 59.8**	**-0.1**
KHL				*e*SG	**Sb**	**02 53 09.7**	**-0.1**
KHL	**Karahalli**	**0.71**	**197**	*e*Pg	**Pb**	**02 52 59.8**	**-0.1**
KHL				*e*Sg	**Sb**	**02 53 09.7**	**-0.1**
DEMI	**Demirci**	**0.83**	**273**	P	**Pg**	**02 53 01.4**	**+0.1**
DEMI				S	**Sg**	**02 53 11.4**	**-0.8**
DEMI	**Demirci**	**0.83**	**273**	*i* P	**Pg**	**02 53 01.4**	**+0.1**
DEMI				*i* S	**Sg**	**02 53 11.4**	**-0.8**
BOLV	**Bolvadin**	**0.95**	**107**	P	**Pn**	**02 53 04.8**	**-0.1**
BOLV				S	**Sb**	**02 53 17.1**	**+0.4**
BOLV	**Bolvadin**	**0.95**	**107**	*i* P	**Pn**	**02 53 04.8**	**-0.1**
BOLV				*i* S	**Sb**	**02 53 17.1**	**+0.4**
ESKT	**Eskisehir**	**0.97**	**58**	*e*PG	**Pg**	**02 53 04.1**	**+0.2**
ESKT	**Eskisehir**	**0.97**	**58**	*e*Pg	**Pg**	**02 53 04.1**	**+0.2**
ESKT	**Eskisehir**	**0.97**	**58**	*i* P	**Pg**	**02 53 03.5**	**-0.4**
ESKT				*i* S	**Sb**	**02 53 17.0**	**-0.2**
SEYT	**Eskypehyr**	**0.97**	**58**	P	**Pg**	**02 53 03.5**	**-0.4**
SEYT				S	**Sb**	**02 53 17.0**	**-0.2**
KULA	**Kula-Manisa**	**1.01**	**241**	*e*PG	**Pg**	**02 53 04.8**	**+0.2**
KULA				*e*SG	**Sb**	**02 53 18.7**	**+0.4**
KULA	**Kula-Manisa**	**1.01**	**241**	*e*Pg	**Pg**	**02 53 04.8**	**+0.2**
KULA				*e*Sg	**Sb**	**02 53 18.7**	**+0.4**
BORA	**Eskisehir**	**1.01**	**30**	P	**Pg**	**02 53 04.2**	**-0.5**
BORA				S	**Sg**	**02 53 17.7**	**-0.2**
BORA	**Eskisehir**	**1.01**	**30**	*i* P	**Pg**	**02 53 04.2**	**-0.5**
BORA				*i* S	**Sg**	**02 53 17.7**	**-0.2**
MANT	**Manisa**	**1.09**	**242**	P	**Pg**	**02 53 05.7**	**-0.5**
MANT				S	**Sg**	**02 53 20.5**	**+0.1**
MANT	**Manisa**	**1.09**	**242**	*i* P	**Pg**	**02 53 05.7**	**-0.5**
MANT				*i* S	**Sg**	**02 53 20.5**	**+0.1**
CAVI	**Cavuskoy**	**1.19**	**2**	*e*PN	**Pn**	**02 53 09.1**	**+1.0**
CAVI	**Cavuskoy**	**1.19**	**2**	*e*Pn	**Pn**	**02 53 09.1**	**+1.0**
IGD	**Bursa**	**1.33**	**340**	*i* P	**Pn**	**02 53 09.0**	**-1.0**
IGD				*i* S	**Sb**	**02 53 27.7**	**+0.2**
IZI	**Iznik**	**1.35**	**350**	*e*PN	**Pn**	**02 53 10.5**	**+0.2**
IZI	**Iznik**	**1.35**	**350**	*e*Pn	**Pn**	**02 53 10.5**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.42**	**71**	*e*PN	**Pb**	**02 53 11.8**	**-0.1**
SVRH				*e*SN	**Sg**	**02 53 31.1**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.42**	**71**	*e*Pn	**Pb**	**02 53 11.8**	**-0.1**
SVRH				*e*Sn	**Sg**	**02 53 31.1**	**+0.3**
ADVT	**Abdulvahap**	**1.42**	**358**	*e*PN	**Pg**	**02 53 12.3**	**-0.2**
ADVT	**Abdulvahap**	**1.42**	**358**	*e*Pn	**Pg**	**02 53 12.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.53**	**333**	*e*PN	**Pb**	**02 53 13.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.53**	**333**	*e*Pn	**Pb**	**02 53 13.9**	**+0.2**
GULT	**Gulveren**	**1.53**	**21**	*e*PN	**Pb**	**02 53 13.9**	**+0.1**
GULT	**Gulveren**	**1.53**	**21**	*e*Pn	**Pb**	**02 53 13.9**	**+0.1**
AKS	**Akhisar**	**1.54**	**266**	*e*PN	**Pn**	**02 53 13.4**	**+0.5**
AKS	**Akhisar**	**1.54**	**266**	*e*Pn	**Pn**	**02 53 13.4**	**+0.5**
BALB	**Balikesir**	**1.61**	**294**	*e*PN	**Pb**	**02 53 14.9**	**-0.2**
BALB	**Balikesir**	**1.61**	**294**	*e*Pn	**Pb**	**02 53 14.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.67**	**319**	*e*PN	**Pb**	**02 53 15.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.67**	**319**	*e*Pn	**Pb**	**02 53 15.9**	**-0.3**

ISCJB ***27*** *02:55:20.4±0.6, 27°.6N±0°.1×139°.8E±0°.2, h479km, mb3.3/10, Error ellipse: s-maj=19.3km s-min=12.0km az=151.3*
IDC ***27*** *02:55:21.2±0.7, 27°.63N×139°.82E, h472km±9km, mb3.0/10, mb1 3.1/13, mb1mx2.9/43, mbtmp3.9/13, Error ellipse: s-maj=27.2km s-min=13.6km az=68.0*
ISC 27 02:55:21.6±0.7, 27°.6N±0°.1×139°.9E±0°.2, h479km, n17, σ0°84/19, mb3.4/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.10**	**105**	P	**P**	**02 56 25.8**	**+0.4**
	6.4nm,0.3s,baz=0.0,slow=20,SNR=3.6						
JCJ				S	**S**	**02 57 16.0**	**-1.0**
	9.0nm,0.3s,baz=178,slow=24,SNR=8.3						
JHJ	**Hachijo jima 2**	**5.46**	**359**	P	**P**	**02 56 52.8**	**+1.1**
	9.6nm,0.3s,baz=70,slow=19,SNR=2.7						
JHJ				S	S	02 57 51.6	-14
	12nm,0.3s,baz=71,slow=23,SNR=3.0						
MJAR	**Matsushiro Arr**	**8.99**	**351**	P	**P**	**02 57 28.2**	**+0.4**
	0.9nm,0.3s,baz=166,slow=11,SNR=5.1						
SONM	**Songino Array**	**32.92**	**317**	P	**P**	**03 01 15.9**	**+0.7**
	0.3nm,0.5s,baz=115,slow=6.5,SNR=2.9						
WRA	**Warramunga Arr**	**47.61**	**187**	P	**P**	**03 03 13.5**	**+0.1**
	0.4nm,0.4s,baz=5.7,slow=8.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**47.74**	**319**	P	**P**	**03 03 13.3**	**-0.6**
	1.0nm,0.4s,baz=105,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**48.56**	**309**	P	**P**	**03 03 20.0**	**-0.2**
	1.6nm,0.8s,baz=94,slow=9.6,SNR=8.7						
ASAR	**Alice Springs**	**51.34**	**187**	P	**P**	**03 03 40.4**	**-0.6**
	0.3nm,0.4s,baz=358,slow=5.9,SNR=5.9						
ARCES	**ARCESS Array B**	**72.35**	**340**	P	**P**	**03 05 56.1**	**-1.6**
	0.6nm,0.5s,baz=66,slow=7.3,SNR=7.7						
YKA	**Yellowknife Ar**	**72.62**	**28**	P	**P**	**03 05 59.0**	**-0.2**
	0.7nm,0.7s,baz=297,slow=5.6,SNR=3.0						
FINES	**FINESS Array B**	**76.55**	**333**	P	**P**	**03 06 21.9**	**+0.4**
	3.5nm,0.6s,baz=63,slow=5.1,SNR=18						
AKASG	**Malin Array Be**	**80.97**	**323**	P	**P**	**03 06 45.7**	**+0.4**
	0.2nm,0.4s,baz=46,slow=6.6,SNR=4.8						
NB2	**NORSAR Subarra**	**82.34**	**337**	P	**P**	**03 06 51.7**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=42,slow=4.6						
NOA	**NORSAR Array B**	**82.34**	**337**	P	**P**	**03 06 51.9**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=48,slow=4.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**122.68**	**310**	PKP	**PKPdf**	**03 13 22.5**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=48,slow=2.9,SNR=4.0						
LPAZ	**La Paz**	**151.72**	**72**	PKP	**PKPdf**	**03 14 16.0**	**0.0**
	comp=Z,0.4nm,0.4s,baz=315,slow=17,SNR=2.8						
LPAZ				PKPbc	**PKiKP**	**03 14 24.4**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=282,slow=3.5,SNR=6.5						
PLCA	**Paso Flores**	**151.78**	**125**	PKPbc	**PKPbc**	**03 14 23.0**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=246,slow=5.9,SNR=3.3						

IDC 27 03:15:01.8±2.9, 16°.16S×175°.10W, h272km±80km, mb3.1/3, mb1 3.3/4, mb1mx3.0/33, mbtmp3.7/4, Error ellipse: s-maj=442.0km s-min=26.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.91**	**56**	P	Pn	03 16 06.6	+0.9
	2.1nm,0.3s,baz=330,slow=20,SNR=1.7						
AFI				S	S	03 16 56.8	0.0
	9.0nm,0.3s,baz=348,slow=23,SNR=8.4						
WRA	**Warramunga Arr**	**48.08**	**258**	P	**P**	**03 23 14.8**	**0.0**
	0.3nm,0.2s,baz=89,slow=6.7,SNR=2.0						
ASAR	**Alice Springs**	**48.32**	**253**	P	P	03 23 16.4	-0.2
	1.1nm,0.5s,baz=88,slow=8.0,SNR=12						
ILAR	**Eielson Array**	**83.51**	**12**	P	P	03 26 59.0	+0.1
	0.2nm,0.4s,baz=218,slow=5.3,SNR=6.5						

IDC 27 03:19:17.0±2.3, 6°.49S×129°.59E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, MS3.3/3, Error ellipse: s-maj=91.6km s-min=28.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.17**	**198**	Pn	Pn	03 22 13.0	+1.3
	0.2nm,0.3s,baz=29,slow=10,SNR=9.8						
FITZ				Sn	Sn	03 24 15.7	-13
	0.2nm,0.3s,baz=233,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**14.15**	**161**	Pn	Pn	03 22 37.3	-1.6
	0.1nm,0.3s,baz=342,slow=13,SNR=2.0						
WRA				Sn	Sn	03 25 03.0	-14
	0.3nm,0.3s,baz=338,slow=24,SNR=7.0						
ASAR	**Alice Springs**	**17.58**	**167**	P	Pn	03 23 23.6	-0.1
	0.2nm,0.3s,baz=347,slow=11,SNR=1.1						
ASAR				S	Sn	03 26 26.7	-13
	0.1nm,0.3s,baz=351,slow=29,SNR=2.3						
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	03 30 15.5	0.0
	0.3nm,0.4s,baz=115,slow=5.7,SNR=4.8						

JMA 27 03:29:41.8±0.2, 38°.18N×143°.68E, h22km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.81**	**300**	P	Pn	03 30 12.7	+1.0
OFUJ				S	Sb	03 30 35.4	-1.2
JIO	**Ouri**	**1.85**	**279**	P	Pn	03 30 13.0	+0.8
JIO				S	Sn	03 30 35.5	+0.5
JMK	**Ichinoseki**	**2.08**	**293**	P	Pn	03 30 16.8	+1.5
JMK				S	Sb	03 30 42.6	-1.5
JOM	**Ohasama**	**2.27**	**305**	P	Pn	03 30 19.4	+1.5
JOM				S	Sn	03 30 47.3	+2.1
JMM	**Marumori**	**2.30**	**263**	P	Pn	03 30 19.0	+0.6
JMM				S	Sn	03 30 46.6	+0.6
JOU	**Okura**	**2.38**	**275**	P	Pn	03 30 21.1	+1.6
JOU				S	Sn	03 30 49.4	+1.4

JMA 27 03:30:22.7, 36°.51N×140°.95E, h12km±1km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.32**	**288**	P	Pg	03 30 29.3	0.0
JHO				S	Sg	03 30 33.9	+0.3
ONAJ	**Iwakimizuishiy**	**0.60**	**348**	S	Sg	03 30 42.8	+0.3
JYT	**Yasato**	**0.67**	**245**	P	Pg	03 30 35.6	-0.1
JYT				*e*S	Sg	03 30 44.8	+0.2
JSB	**Shiboa**	**0.94**	**299**	P	Pb	03 30 41.1	0.0
JSB				*e*S	Sn	03 30 54.5	-0.8
MAT	**Matsushiro**	**2.21**	**272**	P	Pb	03 31 03.3	+0.7
MAT				*e*S	Sb	03 31 29.4	-0.5

DJA 27 03:36:44.7±1.1, 10°.S±7°×117°.8E±°, h10km, M3.8/2, MLv3.8/2, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.17**	**2**	P	Pg	03 37 12.5	+5.4
PLAI				S	Sn	03 37 23.2	+0.1
TWSI	**Taliwang, Sumb**	**1.51**	**326**	P	Pg	03 37 14.1	+0.3
TWSI				S	Sn	03 37 29.5	-2.2
WSI	**Waingapu**	**2.54**	**83**	P	Pn	03 37 25.0	-1.0

MEX 27 03:44:45.4±0.4, 15°.04N×92°.83W, h112km±5km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.77**	**330**	*e*P	Pn	03 45 03.3	-1.2
PCIG				*e*S	Sn	03 45 16.6	-2.3
CCIG	**Comitan**	**1.40**	**28**	*e*P	Pn	03 45 10.1	-1.3
CCIG				*e*S	Sn	03 45 27.0	-4.0

**IDC 27 03:48:39.3±291.0, 54°.

WRA	**Warramunga Arr**	**102.75**	**162**	P		**Pdif**	**04 20 42.0**	**-1.1**
	0.2nm,0.6s,baz=196,slow=4.6,SNR=3.5								
FINES	**FINESS Array B**	**124.29**	**28**	PKP		**PKPdf**	**04 25 41.7**	**-0.9**
	2.3nm,1.0s,baz=139,slow=7.0,SNR=2.6								
ARCES	**ARCESS Array B**	**130.85**	**22**	PKP		**PKPdf**	**04 25 56.2**	**+1.2**
	0.9nm,0.6s,baz=72,slow=1.5,SNR=4.0								
YKA	**Yellowknife Ar**	**136.17**	**318**	PKP		**PKPdf**	**04 26 03.8**	**-1.3**
	0.4nm,0.6s,baz=134,slow=1.8,SNR=3.3								
ZALV	**Zalesovo Beam**	**142.27**	**64**	PKP		**PKPdf**	**04 26 15.3**	**-1.3**
	1.4nm,0.5s,baz=230,slow=1.4,SNR=4.6								
ILAR	**Eielson Array**	**150.13**	**312**	PKPbc		**PKPbc**	**04 26 33.1**	**-1.5**
	3.2nm,0.7s,baz=127,slow=1.7,SNR=32								
ILAR				pPKPbc		**pPKPbc**	**04 27 01.2**	**+8.3**
	1.9nm,1.0s,baz=132,slow=1.2,SNR=5.5								
SONM	**Songino Array**	**150.65**	**86**	PKPbc		**PKPbc**	**04 26 35.6**	**-1.0**
	1.1nm,0.4s,baz=210,slow=2.8,SNR=5.4								
MCK	**McKinley**	**150.79**	**309**	*e*PKPbc		**PKPbc**	**04 26 35.7**	**-0.6**
BPAW	**Bear Paw Mtn.**	**151.75**	**310**	*e*PKPbc		**PKPbc**	**04 26 36.8**	**-1.7**
BPAW				*e*PKPab		**PKPab**	**04 26 46.5**	**-1.2**

IDC 27 04:11:36.1±6.9,5.45S×147.70E,h128km±54km,mb3.9/3, mb1 4.0/4,mb1mx3.3/36,mbtmp4.2/4,Error ellipse: s-maj=56.7km s-min=29.5km az=1.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.97**	**188**	P		Pn	04 12 36.5	+1.1
	2.0nm,0.3s,baz=335,slow=23,SNR=1.5							
PMG				S		Sn	04 13 21.0	-0.4
	8.9nm,0.3s,baz=220,slow=19,SNR=6.2							
WRA	**Warramunga Arr**	**19.40**	**221**	P		P	04 15 53.4	+1.0
	1.5nm,0.3s,baz=50,slow=11,SNR=84							
ASAR	**Alice Springs**	**22.46**	**215**	P		P	04 16 25.0	+0.1
	1.7nm,0.6s,baz=51,slow=8.7,SNR=14							
DZM	**Mont Dzumac**	**24.54**	**134**	P		P	04 16 45.4	+1.3
	9.8nm,1.0s,baz=115,slow=16,SNR=2.2							
FITZ	**Fitzroy Crossi**	**24.95**	**238**	P		P	04 16 48.2	+0.4
	4.5nm,0.4s,baz=50,slow=11,SNR=34							
TORD	**Torodi Ar. Bea**	**145.62**	**285**	PKPbc		PKPdf	04 30 58.1	-2.3
	0.2nm,0.8s,baz=58,slow=3.4,SNR=3.7							

BJI 27 04:16:49.1,25.41S×176.89W,h172km,mb5.0/21, mB5.2/16
ISCJB 27 04:16:50.6±1.0,25.37S±0.06×177.39W±0.06, h169km,9km,mb4.5/26,Error ellipse: s-maj=9.4km s-min=8.9km az=136.1
NEIC 27 04:16:50.9±0.3,25.33S×177.38W,mb4.8/16,Error ellipse: s-maj=10.6km s-min=8.2km az=105.0
IDC 27 04:16:52.0±0.6,25.29S×177.52W,h165km±5km,mb4.0/16, mb1 4.3/18,mb1mx4.2/29,mbtmp4.6/18,MS3.0/1, Ms1 3.0/1,ms1mx2.6/28,Error ellipse: s-maj=14.3km s-min=9.7km az=99.0
ISC 27 04:16:51.7±0.5,25.35S±0.05×177.27W±0.06, h169km±3km,h169km:pP-P,n122,σ1§76/138,mb4.5/26, 11C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.93**	**188**	P		**Pn**	**04 17 51.3**	**-0.3**
	97nm,0.3s,baz=207,slow=22,SNR=5.3							
RAO				S		**Sn**	**04 18 39.0**	**+0.7**
	862nm,0.3s,baz=96,slow=22,SNR=17							
RAO	**Raoul Island**	**3.93**	**188**	*e*Pn		**Pn**	**04 17 51.1**	**-0.4**
RAO				*e*Sn		**Sn**	**04 18 38.1**	**-0.2**
MSVF	**Nonsavu**	**8.74**	**329**	*e*Pn		**Pn**	**04 18 54.2**	**-0.9**
AFI	**Afiamalu**	**12.50**	**25**	P		Pn	04 19 36.6	-7.4
	11nm,0.3s,baz=341,slow=3.1,SNR=10							
AFI				S		Sn	04 21 42.1	-21
	9.4nm,0.3s,baz=218,slow=23,SNR=9.1							
AFI	**Afiamalu**	**12.50**	**25**	*e*Pn		Pn	04 19 37.8	-6.3
AFI				*e*Sn		Sn	04 21 42.1	-21
URZ	**Urewera**	**13.72**	**199**	P		**Pn**	**04 19 57.8**	**-1.5**
	9.4nm,0.3s,baz=278,slow=4.8,SNR=19							
URZ				S		Sn	04 22 18.5	-13
	5.6nm,0.3s,baz=276,slow=23,SNR=8.6							
URZ	**Urewera**	**13.72**	**199**	*e*Pn		**Pn**	**04 19 58.5**	**-0.8**
URZ				*e*Sn		Sn	04 22 20.9	-11
BKZ	**Black Stump Fm**	**14.74**	**199**	*e*Pn		**Pn**	**04 20 10.0**	**-2.1**
BKZ				*e*Sn		Sn	04 22 45.1	-11
DZM	**Mont Dzumac**	**15.27**	**279**	*e*P		**P**	**04 20 20.4**	**+0.6**
	98nm,1.2s							
DZM	**Mont Dzumac**	**15.27**	**279**	P		**P**	**04 20 19.6**	**-0.2**
	0.4nm,0.3s,baz=98,slow=16,SNR=5.1							
DZM	**Mont Dzumac**	**15.27**	**279**	P		**P**	**04 20 19.6**	**-0.2**
	225nm,2.0s							
RAR	**Rarotonga**	**16.59**	**79**	P		**Pn**	**04 20 40.8**	**+6.1**
	2.4nm,0.3s,baz=288,slow=6.8,SNR=4.9							
RAR				S		**S**	**04 23 33.0**	**-5.2**
	1.9nm,0.3s,baz=68,slow=17,SNR=4.3							
KHZ	**Kahutara**	**18.63**	**202**	*e*P		**P**	**04 20 51.9**	**-4.4**
	49nm,1.1s							
OXZ	**Oxford**	**19.95**	**203**	*e*P		**P**	**04 21 07.8**	**-2.9**
	28nm,0.4s							
RPZ	**Rata Peaks**	**20.65**	**205**	P		**P**	**04 21 17.1**	**-1.0**
	12nm,0.5s,baz=21,slow=2.7,SNR=6.4							
LHI	**Lord Howe Isla**	**21.68**	**248**	*e*P		**P**	**04 21 31.4**	**+2.2**
	174nm,1.0s							
WHZ	**Wether Hill Ro**	**23.68**	**206**	*e*P		**P**	**04 21 47.0**	**-0.8**
	36nm,0.7s							
TBI	**Tubuai**	**25.39**	**91**	*e*T		T	04 47 49.3	
	16nm,0.3s							
PAE	**Paea**	**26.84**	**79**	*e*T		T	04 49 01.5	
	6.6nm,0.3s							
PPT2	**Papeete2**	**26.86**	**79**	*e*LQ		LQ	04 27 50.2	
	254nm,29.2s							
PPT2				*e*LR		LR	04 29 31.8	
	90nm,24.8s							
PPT2	**Papeete2**	**26.86**	**79**	*e*T		T	04 49 09.2	
	3.7nm,0.3s							
PPT	**Papeete**	**26.87**	**79**	LR		LR	04 30 39.2	
	comp=Z,34nm,19.8s,baz=240,slow=30							
TVO	**Taravao**	**27.08**	**79**	*e*T		T	04 49 51.6	
	2.3nm,0.3s							
MEH	**Mehetia**	**28.11**	**80**	*e*T		T	04 51 06.9	
	27nm,0.3s							
EIDS	**Eidsvold**	**28.57**	**263**	*e*P		**P**	**04 22 32.5**	**+0.6**
	17nm,0.8s							
VAH	**Vaihoa**	**29.50**	**76**	*e*T		T	04 52 33.0	
	9.4nm,0.2s							
CTA	**Charters Tower**	**33.98**	**271**	P		**P**	**04 23 18.7**	**-0.7**
	13nm,0.7s,baz=107,slow=8.9,SNR=14							
STKA	**Stephens Creek**	**36.53**	**250**	P		**P**	**04 23 40.4**	**-0.6**
	6.2nm,0.4s,baz=99,slow=12,SNR=26							
STKA				PcP		**PcP**	**04 26 02.1**	**+1.1**
	6.6nm,0.6s,baz=90,slow=5.5,SNR=9.8							
STKA	**Stephens Creek**	**36.53**	**250**	*e*P		**P**	**04 23 40.5**	**-0.6**
	4.9nm,1.4s							
STKA				PcP		**PcP**	**04 26 02.1**	**+1.1**
RKT	**Rikitea**	**38.52**	**96**	*e*T		T	05 04 18.1	
	2.0nm,0.3s							
TAOE	**Nuku Hiva Isla**	**38.91**	**72**	*e*LR		LR	04 34 25.9	
	77nm,34.1s							
BBOO	**Buckleboo**	**41.20**	**248**	*e*P		**P**	**04 24 18.0**	**-1.9**
	19nm,0.8s							
AS01	**Alice Springs**	**44.22**	**261**	*e*P		**P**	**04 24 42.3**	**-2.1**
AS01				*e*PcP		**PcP**	**04 26 26.8**	**+0.8**
AS31	**Alice Springs**	**44.27**	**261**	*e*P		**P**	**04 24 42.6**	**-2.1**
	4.1nm,1.1s							
ASAR	**Alice Springs**	**44.27**	**261**	P		**P**	**04 24 43.2**	**-1.6**
	4.1nm,0.5s,baz=93,slow=6.8,SNR=32							
ASAR				pP		**pP**	**04 25 25.8**	**+3.8**
	3.9nm,0.8s,baz=102,slow=8.1,SNR=3.4							
ASAR				PcP		**PcP**	**04 26 26.1**	**-0.1**
	2.4nm,0.8s,baz=106,slow=3.6,SNR=6.5							
ASAR				ScP		**ScP**	**04 30 03.9**	**+1.7**
	0.8nm,0.9s,baz=101,slow=4.9,SNR=4.1							
WB2	**Warramunga Arr**	**44.79**	**267**	*e*P		**P**	**04 24 46.7**	**-2.1**
	12nm,0.9s							
WRAB	**Tennant Creek**	**44.79**	**267**	*e*P		**P**	**04 24 47.8**	**-1.1**
	31nm,1.5s							
WRA	**Warramunga Arr**	**44.80**	**267**	P		**P**	**04 24 46.5**	**-2.5**
	5.9nm,0.6s,baz=98,slow=6.8,SNR=80							
WRA				pP		**pP**	**04 25 28.9**	**+2.6**
	5.0nm,0.8s,baz=104,slow=8.2,SNR=4.4							
WRA				PcP		**PcP**	**04 26 27.9**	**-0.2**
	5.0nm,0.8s,baz=99,slow=3.5,SNR=10							
SBA	**Scott Base**	**53.10**	**184**	*e*P		**P**	**04 25 53.7**	**+2.5**
	21nm,1.0s							
VNDA	**Vanda**	**53.16**	**186**	P		**P**	**04 25 54.2**	**+2.5**
	4.4nm,0.7s,baz=9.7,slow=7.1,SNR=32							
VNDA	**Vanda**	**53.16**	**186**	*e*P		**P**	**04 25 53.6**	**+1.9**
	5.2nm,0.8s							

FITZ	**Fitzroy Crossi**	**53.20**	**266**	P		**P**	**04 25 51.3**	**-1.5**
	6.6nm,0.7s,baz=108,slow=5.7,SNR=21							
CASY	**Casey**	**59.91**	**206**	*e*P		**P**	**04 26 39.2**	**-0.2**
	56nm,0.8s							
TGY	**Tagaytay City**	**71.83**	**296**	LR		LR	04 56 25.7	
	comp=Z,2μm,21.1s,baz=205,slow=33							
MAW	**Mawson**	**77.25**	**200**	P		**P**	**04 28 28.0**	**+1.3**
	17nm,0.6s,baz=134,slow=6.3,SNR=90							
MAW	**Mawson**	**77.25**	**200**	*e*P		**P**	**04 28 28.1**	**+1.3**
	4.2nm,0.6s							
KSRS	**Korea Array**	**80.96**	**319**	P		**P**	**04 28 48.2**	**+1.0**
	1.8nm,0.7s,baz=130,slow=6.8,SNR=3.7							
KSAR	**Wonju Array Be**	**80.98**	**319**	P		**P**	**04 28 48.2**	**+0.9**
PETK	**Petropavlovsk-**	**81.11**	**345**	P		**P**	**04 28 48.1**	**+0.3**
	4.1nm,0.6s,baz=125,slow=7.4,SNR=6.5							
SYO	**Syowa Base**	**82.16**	**193**	↑*i*P		**P**	**04 28 52.2**	**-1.0**
SNAA	**Sanae**	**83.16**	**178**	PKP		**P**	**04 28 59.0**	**+0.6**
SNAA	**Sanae**	**83.16**	**178**	*e*P		**P**	**04 28 58.8**	**+0.3**
	18nm,0.9s							
USRK	**Ussuriysk Ar.**	**83.34**	**326**	P		**P**	**04 29 00.5**	**+1.0**
	2.1nm,0.8s,baz=227,slow=4.2,SNR=4.2							
QIZ	**Qiongzhong**	**83.47**	**294**	P		**P**	**04 29 00.5**	**-0.2**
QIZ				S		**S**	**04 39 08.5**	**+0.2**
QIZ				sS		**sS**	**04 40 19.8**	**-1.3**
QIZ				PMZ				
	15nm,2.3s							
QIZ				PMZ				
	210nm,3.2s							
VNA1	**Neumayer--Stat**	**83.95**	**176**	PKP		**P**	**04 29 03.1**	**+0.8**
PLCA	**Paso Flores**	**85.47**	**133**	P		**P**	**04 29 12.7**	**+2.1**
	1.9nm,0.9s,baz=231,slow=15,SNR=3.2							
CN2	**Changchun**	**86.54**	**322**	*e*P		**P**	**04 29 17.8**	**+2.3**
MTPU	**Mount Pierson**	**87.73**	**46**	*e*P		**P**	**04 29 19.6**	**-2.3**
MTPU				*e*pP		**pP**	**04 30 01.5**	**-2.6**
RSO	**Redoubt South**	**87.82**	**12**	*e*P		**P**	**04 29 20.5**	**-1.0**
TX31	**Lajitas Ar. Si**	**89.11**	**57**	*e*P		**P**	**04 29 29.1**	**+0.9**
TX31				*e*pP		**pP**	**04 30 08.9**	**-1.7**
TXAR	**Lajitas Array**	**89.11**	**57**	P		**P**	**04 29 29.8**	**+1.6**
	0.3nm,0.7s,baz=217,slow=6.1,SNR=4.0							
TXAR				pP		**pP**	**04 30 10.7**	**+0.1**
	1.0nm,0.9s,baz=213,slow=4.3,SNR=4.5							
GYA	**Guiyang**	**89.62**	**300**	*e*P		**P**	**04 29 31.0**	**+0.3**
GYA				pP		pP	04 30 12.8	-0.3
GYA				sP		sP	04 30 30.3	-0.5
GYA				PP		**PP**	**04 33 07.5**	**+2.3**
GYA				SKS		**SKSac**	**04 39 43.0**	**-2.4**
GYA				S		**S**	**04 40 05.0**	**-2.7**
GYA				PMZ				
	10.0nm,1.0s							
PDAR	**Pinedale Array**	**92.03**	**43**	P		**P**	**04 29 42.1**	**+0.5**
	0.4nm,0.5s,baz=260,slow=9.1,SNR=3.2							
PDAR				pP		**pP**	**04 30 24.8**	**+0.7**
	0.5nm,0.6s,baz=206,slow=6.4,SNR=2.9							
KMI	**Kunming**	**92.14**	**297**	P		**P**	**04 29 42.8**	**+0.3**
KMI				PMZ				
	8.0nm,0.5s							
KMI				PMZ				
	56nm,4.2s							
CM01	**Chiang Mai Arr**	**92.33**	**289**	*e*P		**P**	**04 29 43.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**92.36**	**289**	P		**P**	**04 29 44.3**	**+0.9**
	4.6nm,1.0s,baz=137,slow=3.5,SNR=15							
ILAR	**Eielson Array**	**92.88**	**13**	P		**P**	**04 29 45.1**	**+0.4**
	0.3nm,0.7s,baz=211,slow=5.1,SNR=3.6							
ILAR				pP		**pP**	**04 30 26.8**	**-0.4**
	0.5nm,0.7s,baz=214,slow=6.0,SNR=4.5							
HHC	**Hu-ho-hao-te**	**93.20**	**314**	*e*P		**P**	**04 29 48.5**	**+1.6**
HHC				PMZ				
	22nm,1.1s							
HHC				PMZ				
	100nm,5.6s							
CD2	**Chengdu**	**93.95**	**302**	*e*P		**P**	**04 29 49.5**	**-1.0**
LAO	**LASA Array**	**96.12**	**41**	*e*P		**P**	**04 29 57.8**	**-2.3**
	15nm,0.8s							
LZH	**Lanzhou**	**96.23**	**307**	*e*P		**P**	**04 30 01.5**	**+0.6**
LZH				pP		pP	04 30 43.3	-0.2
LZH				sP		sP	04 31 01.0	-0.2
LZH				PP		**PP**	**04 33 59.5**	**+2.7**
LZH				PMZ				
	19nm,1.5s							
LZH				PMZ				
	93nm,9.3s							
TIXI	**Tiksi**	**103.59**	**345**	*e*Pdif		**Pdif**	**04 30 34.3**	**+1.6**
WMQ	**Urumqi**	**110.57**	**310**	PKP		**PKiKP**	**04 35 02.8**	**-1.3**
WMQ				LN				
	32nm,17.7s							
WMQ				LE				
	34nm,20.9s							
WMQ				LZ				
	18nm,16.1s							
ZALV	**Zalesovo Beam**	**114.65**	**320**	PKP		PKPdf	04 35 10.3	-1.1
	1.0nm,0.8s,baz=171,slow=1.4,SNR=4.2							
MKAR	**Makanchi Array**	**114.97**	**312**	PKP		PKPdf	04 35 11.4	-0.9
	1.1nm,0.5s,baz=101,slow=0.2,SNR=8.4							
MKAR				pPKP		pPKiKP	04 35 57.1	+0.3
	0.5nm,0.8s,baz=112,slow=3.4,SNR=1.7							
KURK	**Kurchatov**	**117.97**	**316**	*e*PKPdf		**PKPdf**	**04 35 16.5**	**-1.4**
KSH	**Kashi**	**118.14**	**303**	*e*PKP		**PKPdf**	**04 35 17.5**	**-1.3**
KSH				sPKP			04 36 18.0	
KSH				PP		**PP**	**04 36 41.8**	**+5.0**
KSH				PKS		**PKSdf**	**04 38 52.8**	**-2.8**
KSH				SKS		**SKSdf**	**04 42 13.3**	**-1.7**
KSH				SS		**SS**	**04 52 39.5**	**+0.5**
KSH				PPMZ				
	83nm,5.6s							
KSH				LN				
	120nm,5.3s							
KSH				LE				
	100nm,4.9s							
SUR	**Sutherland**	**120.05**	**198**	PKP		**PKPdf**	**04 35 23.0**	**+0.1**
	0.5nm,0.8s,baz=172,slow=3.2,SNR=4.1							
BOSA	**Boshof**	**122.14**	**203**	PKP		**PKPdf**	**04 35 27.0**	**+0.1**
	3.9nm,0.8s,baz=177,slow=0.9,SNR=5.5							
KKAR	**Karatay Array**	**122.72**	**306**	*e*PKPdf		**PKPdf**	**04 35 26.9**	**-0.4**
ZRNK	**Zerenda**	**124.01**	**318**	*e*PKPdf		**PKPdf**	**04 35 28.8**	**-0.7**
GEYT	**Alibeck**	**131.84**	**299**	PKP		**PKPdf**	**04 35 45.6**	**+0.6**
	1.1nm,0.4s,baz=232,slow=7.1,SNR=2.2							
ARCES	**ARCESS Array B**	**133.79**	**349**	PKhKP		PKPpre	04 35 38.1	
	0.7nm,0.7s,baz=85,slow=15,SNR=3.0							
ARCES				PKP		**PKPdf**	**04 35 47.5**	**-0.1**
	1.6nm,0.6s,baz=13,slow=1.6,SNR=13							
FINES	**FINESS Array B**	**140.59**	**343**	PKhKP		PKPpre	04 35 52.0	
	2.0nm,0.9s,baz=54,slow=5.6,SNR=5.7							
NB2	**NORSAR Subarra1**	**143.86**	**353**	PKP		PKPab	04 36 03.4	-0.4
	comp=Z,4.5nm,0.7s,baz=12,slow=3.4							
NOA	**NORSAR Array B**	**143.86**	**353**	PKP		PKPbc	04 36 04.2	-0.2
	comp=Z,2.7nm,0.6s,baz=10,slow=2.3,SNR=13							
HFS	**Hagfors**	**144.42**	**351**	PKP		**PKPab**	**04 36 05.4**	**-0.5**
	comp=Z,11nm,0.4s,baz=64,slow=3.4,SNR=122							
KONO	**Kongsberg**	**145.39**	**354**	*e*PKPdf		**PKPdf**	**04 36 08.9**	**0.0**
NACGM	**Naroch**	**145.57**	**335**	*e*		**PKPdf**	**04 36 09.0**	**-0.3**
AKASG	**Malin Array Be**	**147.52**	**328**	PKPbc		**PKPbc**	**04 36 14.8**	**-0.8**
	comp=Z,2.7nm,0.4s,baz=42,slow=3.9,SNR=26							
AKASG				pPKPbc		**pPKPbc**	**04 36 58.6**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=41,slow=4.3,SNR=2.4							
KIEV	**Kiev**	**147.53**	**328**	*e*PKPbc		**PKPbc**	**04 36 14.7**	**-0.9**
MUD	**Monsted U'grnd**	**148.58**	**353**	*i* P		**PKPdf**	**04 36 10.8**	**-3.4**
BSD	**Bornholm Skovb**	**148.94**	**346**	*i* P		**PKPbc**	**04 36 18.7**	**-0.4**
LLD	**Lille Linde**	**149.25**	**349**	*i* P		**PKPdf**	**04 36 09.2**	**-6.2**
SORM	**Soroca**	**149.62**	**325**	↑*i*P		**PKPbc**	**04 36 20.6**	**-0.4**
BRTR	**Keskin Array B**	**150.44**	**307**	PKPbc		**PKPbc**	**04 36 23.1**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=140,slow=5.2,SNR=15							
ANTO	**Ankara**	**151.00**	**307**	*e*PKPbc		**PKPbc**	**04 36 24.4**	**-0.3**
ANTO				*e*PKPab		**PKPab**	**04 36 32.6**	**-0.2**
BR231	**Keskin MP Arra**	**151.02**	**307**	*e*PKPbc		**PKPbc**	**04 36 23.2**	**-1.6**
BR231				*e*PKPab		**PKPab**	**04 36 31.1**	**-1.9**
KWP	**Kalwaria Pacla**	**151.22**	**333**	↑*i*P		**PKPbc**	**04 36 25.1**	**+0.3**
BUR08	**Bucovina Ar. S**	**151.54**	**327**	*e*PKPbc		**PKPbc**	**04 36 26.6**	**+0.8**
BUR08				*e*PKPab		**PKPab**	**04 36 32.1**	**-2.7**
CFR	**Carcaliu**	**151.54**	**320**	↑*i*P		**PKPbc**	**04 36 25.6**	**0.0**
BURAR	**Bucovina Array**	**151.55**	**327**	↑*i*P		**PKPbc**	**04 36 27.2**	**+1.5**
HARR	**Harsova**	**151.94**	**320**	↑*i*P		**PKPbc**	**04 36 27.3**	**+0.8**
KOLS	**Kolonicke sedl**	**151.94**	**332**	*e*PKP		**PKPbc**	**04 36 27.1**	**+0.7**
KOLS				*e*			04 36 34.7	
STHS	**Stebnicka Huta**	**151.98**	**334**	*e*PKP		**PKPbc**	**04 36 27.6**	**+1.1**
CRVS	**Cervenica-Dubn**	**152.30**	**333**	*e*PKP		**PKPdf**	**04 36 20.7**	**+0.3**
CRVS				*e*			04 36 27.8	
PSN	**Preselentsi**	**152.35**	**318**	↑*i*P		**PKPab**	**04 36 39.3**	**+1.1**
DOPR	**Dopca**	**152.57**	**324**	↑*i*P		**PKPbc**	**04 36 28.8**	**+0.8**
CLL	**Collm**	**152.92**	**346**	*i* PKPbc		**PKPbc**	**04 36 28.3**	**-0.2**
	comp=Z,9.0nm,0.8s							
CLL				*i* PKPab		**PKPab**	**04 36 35.7**	**-4.6**
	comp=Z,5.0nm,0.6s							
CLL				*e*			04 37 14.0	
CLL				*i*			04 37 24.3	
CLL				LmV			06 07 00.0	

	comp=Z,100nm,19.9s							
DPC	**Dobruska-Polom**	**152.92**	**341**	↑*e*PKP		**PKPbc**	**04 36 29.4**	**+0.8**
DPC				*ex*		x	04 36 35.8	
DPC				*e*PKPAB		**PKPab**	**04 36 41.4**	**+1.0**
MORC	**Moravsky Berou**	**153.04**	**339**	↑*i*P		**PKPbc**	**04 36 30.5**	**+1.6**
VOIR		**153.09**	**324**	↓*i*P		**PKPbc**	**04 36 29.5**	**+0.3**
BRG	**Berggiesshubel**	**153.10**	**344**	*e*PKP		**PKPbc**	**04 36 29.0**	**+0.1**
	comp=Z,5.2nm,0.7s							
BRG				*i*			04 36 35.5	
	comp=Z,3.7nm,0.9s							
BRG				*e*			04 37 25.6	
	comp=Z,5.0nm,1.1s							
DRGR		**153.34**	**328**	↑*i*P		**PKPbc**	**04 36 29.8**	**+0.1**
VYHS	**Vyhne**	**153.66**	**335**	*e*PKP		**PKPbc**	**04 36 29.7**	**-0.6**
VYHS				*e*			04 36 43.6	
KHC	**Kasperske Hory**	**154.80**	**343**	*e*PKPAB		**PKPab**	**04 36 49.1**	**+0.7**
KHC				*ex*		x	04 36 53.8	
GERES	**GERESS Array B**	**155.02**	**343**	PKPbc		PKPbc	04 36 33.4	
	comp=Z,0.6nm,0.8s,baz=90,slow=0.5,SNR=4.9							
GERES				PKPab		**PKPab**	**04 36 49.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=45,slow=5.8,SNR=5.4							
LIC	**Lamto**	**159.58**	**157**	*e*PKP1		**PKPab**	**04 37 12.6**	**+2.7**
KIC	**Kosan Boka**	**159.81**	**158**	*e*PKP1		**PKPab**	**04 37 11.9**	**+1.0**
	comp=Z,44nm,1.2s							
TIC	**Toumodi**	**159.97**	**157**	*e*PKP1		**PKPab**	**04 37 12.4**	**+0.8**
DBIC	**Dimbokro**	**160.05**	**157**	PKPab		**PKPab**	**04 37 13.2**	**+1.3**
	comp=Z,4.2nm,0.8s,baz=215,slow=4.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**167.82**	**175**	PKP		**PKPdf**	**04 36 37.8**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=350,slow=0.5,SNR=14							
TORD				PKPab		**PKPab**	**04 37 46.5**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=171,slow=1.8,SNR=4.0							
TORD				pPKPab		**pPKPab**	**04 38 28.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=196,slow=3.8,SNR=1.2							

BJI 27 04:39:10.8,2.86S×136.99E,h30km,mb4.6/20,mB5.0/13, Ms4.7/8,Ms7 4.3/7
IDC 27 04:39:11.3±0.6,2.33S×136.66E,h0km,mb4.3/14, mb1 4.3/17,mb1mx4.2/41,mbtmp4.2/17,ML3.8/3,MS3.9/3, Ms1 3.8/3,ms1mx3.0/32,Error ellipse: s-maj=23.4km s-min=13.2km az=67.0
NEIC 27 04:39:12.5±4.1,2.32S×136.68E,h10km±26km,mb4.5/8, Error ellipse: s-maj=10.3km s-min=8.3km az=55.0
ISCJB 27 04:39:15.2±0.3,2.50S±0.04×136.65E±0.04,h42km, mb4.3/23,MS3.8/3,Error ellipse: s-maj=6.4km s-min=5.6km az=139.3
ISC 27 04:39:17.5±0.4,2.60S±0.06×136.68E±0.05,h42km,n51, σ1§94/55,mb4.2/22,MS3.8/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.02**	**89**	Pn		**Pn**	**04 40 14.5**	**-2.2**
	1.7nm,0.3s,baz=280,slow=23,SNR=12							
JAY				Sn		**Sn**	**04 41 02.6**	**0.0**
	1.1nm,0.3s,baz=83,slow=23,SNR=5.0							
FAKI	**Fak Fak**	**4.44**	**266**	*e*Pn		**Pn**	**04 40 20.3**	**-2.0**
FAKI				*e*Sn		**Sn**	**04 41 11.0**	**-1.8**
MTN	**Manton Dam**	**11.56**	**208**	*e*Pn		**Pn**	**04 42 01.6**	**+1.5**
COEN	**Coen**	**12.98**	**151**	*e*Pn		**Pn**	**04 42 19.9**	**+0.4**
WRAB	**Tennant Creek**	**17.38**	**187**	*e*P		**P**	**04 43 19.5**	**+1.5**
	14nm,0.7s							
WRAB				*e*Sn		**

ZALV	**Zalesovo Beam**	**70.83**	**331**	P	**P**	**04 50 29.0**	**-0.8**
	2.8nm,0.7s,baz=102,slow=7.2,SNR=9.4						
KURK	**Kurchatov**	**72.47**	**326**	*e*P	**P**	**04 50 37.0**	**-2.7**
	20nm,1.0s						
KURBB	**Kurchatov Arra**	**72.48**	**325**	P	**P**	**04 50 37.7**	**-2.1**
	1.4nm,1.0s,baz=118,slow=5.4,SNR=7.2						
PPT2	**Papeete2**	**73.72**	**107**	*e*LR	LR	05 13 33.1	
	75nm,24.2s						
VNDA	**Vanda**	**76.08**	**175**	P	**P**	**04 51 01.9**	**+1.7**
	1.3nm,0.7s,baz=320,slow=6.0,SNR=12						
BVAR	**Borovoye Array**	**78.07**	**326**	P	**P**	**04 51 10.6**	**-1.3**
	0.6nm,0.5s,baz=96,slow=7.6,SNR=5.4						
BRVK	**Borovoye**	**78.14**	**326**	*e*P	**P**	**04 51 10.6**	**-1.7**
	11nm,0.7s						
ZRNK	**Zerenda**	**78.83**	**325**	*e*P	**P**	**04 51 16.8**	**+0.7**
	3.2nm,0.6s						
NRIK	**Noril'sk**	**79.05**	**344**	P	**P**	**04 51 16.2**	**-0.8**
	2.0nm,0.5s,baz=120,slow=5.4,SNR=2.8						
GEYT	**Alibeck**	**82.58**	**309**	P	**P**	**04 51 36.5**	**-0.1**
	2.4nm,0.4s,baz=108,slow=4.7,SNR=2.5						
TAOE	**Nuku Hiva Isla**	**82.86**	**99**	*e*LR	LR	05 17 44.3	
	74nm,25.0s						
AKTO	**Aktyubinsk**	**84.78**	**321**	P	**P**	**04 51 44.0**	**-3.5**
	0.8nm,0.5s,baz=119,slow=8.7,SNR=3.8						
ARU	**Arti**	**85.59**	**327**	P	P	04 51 45.0	-6.4
	4.3nm,0.2s,baz=105,slow=18,SNR=2.8						
ILAR	**Eielson Array**	**86.58**	**25**	P	**P**	**04 51 53.4**	**-2.7**
	1.1nm,1.1s,baz=264,slow=5.4,SNR=6.3						
ARCES	**ARCESS Array B**	**99.73**	**341**	P	**Pdif**	**04 52 54.3**	**-2.5**
	0.9nm,0.6s,baz=76,slow=6.4,SNR=3.9						
CPUP	**Villa Florida**	**148.21**	**156**	PKPbc	**PKPbc**	**04 58 58.9**	**-0.9**
	0.8nm,0.6s,baz=42,slow=1.1,SNR=4.0						
LPAZ	**La Paz**	**149.12**	**128**	PKPbc	**PKPab**	**04 59 05.6**	**-1.9**
	1.3nm,1.0s,baz=270,slow=6.1,SNR=3.5						

ISCJB ***27*** *04:52:21.8±1.0, 32°.25S±0°.06×179°.6E±0°.2, h300km, mb3.5/2, Error ellipse: s-maj=21.8km s-min=7.7km az=4.1*
IDC ***27*** *04:52:24.1±4.3, 32°.55S×179°.98W, h325km±45km, mb3.5/2, mb1 3.7/4, mb1mx3.3/31, mbtmp4.3/4, Error ellipse: s-maj=48.6km s-min=37.4km az=171.0*

ISC 27 04:52:24.8±1.8, 32°.4S±0°.1×179°.4E±0°.2, h300km, n53, σ1§19/66, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.23**	**190**	*e*PN		**Pn**		**04 53 44.5**	**-0.4**
MXZ				SN		**S**		**04 54 48.7**	**-0.6**
WMGZ	**Waiomatatini S**	**5.47**	**189**	PN		**Pn**		**04 53 48.6**	**+0.9**
HAZ	**Te Kaha**	**5.51**	**194**	PN		**Pn**		**04 53 49.5**	**+1.3**
HAZ				SN		**S**		**04 54 57.7**	**+2.4**
PUZ	**Puketiti**	**5.74**	**189**	PN		**Pn**		**04 53 51.5**	**+0.6**
PUZ				SN		**S**		**04 54 59.4**	**-0.9**
TWGZ	**Tauwhareparae**	**5.88**	**191**	PN		**Pn**		**04 53 53.4**	**+0.7**
TWGZ				SN		**S**		**04 55 05.7**	**+2.2**
TWGZ				SN				04 55 06.5	
MWZ	**Matawai**	**6.12**	**194**	PN		**Pn**		**04 53 56.8**	**+1.3**
MWZ				SN		**S**		**04 55 08.8**	**+0.1**
URZ	**Urewera**	**6.14**	**197**	P		**Pn**		**04 53 56.9**	**+1.1**
	8.9nm,0.3s,baz=259,slow=3.6,SNR=34								
URZ				S		**S**		**04 55 09.9**	**+0.8**
	3.8nm,0.3s,baz=226,slow=5.8,SNR=7.4								
URZ	**Urewera**	**6.14**	**197**	*e*PN		**Pn**		**04 53 55.8**	**0.0**
URZ				SN		**S**		**04 55 12.0**	**+2.9**
CNGZ	**Carnagh Statio**	**6.15**	**189**	*e*PN		**Pn**		**04 53 55.5**	**-0.4**
RAGZ	**Rawiri**	**6.30**	**195**	*e*PN		**Pn**		**04 53 58.3**	**+0.6**
RIGZ	**Rimuhau**	**6.44**	**192**	PN		**Pn**		**04 53 58.9**	**-0.4**
RIGZ				SN		**S**		**04 55 15.6**	**+0.1**
RTZ	**Ruatahuna**	**6.51**	**197**	PN		**Pn**		**04 54 00.8**	**+0.5**
SNGZ	**Shannon Statio**	**6.59**	**194**	PN		**Pn**		**04 54 01.7**	**+0.6**
SNGZ				SN		**S**		**04 55 19.0**	**+0.1**
MHGZ	**Mahia Peninsul**	**6.85**	**190**	*e*PN		**Pn**		**04 54 05.1**	**+0.9**
MRHZ	**Matea Rd**	**6.87**	**200**	PN		**Pn**		**04 54 05.8**	**+1.2**
NMHZ	**Naumai**	**7.01**	**197**	PN		**Pn**		**04 54 06.2**	**-0.2**
BKZ	**Black Stump Fm**	**7.16**	**199**	PN		**Pn**		**04 54 08.8**	**+0.7**
MCHZ	**McNeill Hill**	**7.37**	**197**	PN		**Pn**		**04 54 11.3**	**+0.7**
MCHZ				SN		**S**		**04 55 38.6**	**+2.4**
TUVZ	**Tukino**	**7.51**	**203**	PN		**Pn**		**04 54 13.7**	**+1.3**
FWVZ	**Far West T-bar**	**7.53**	**204**	PN		**Pn**		**04 54 13.8**	**+1.0**
WNVZ	**Wahianoa**	**7.58**	**203**	PN		**Pn**		**04 54 14.5**	**+1.2**
BHHZ	**Black Hill Sta**	**7.58**	**200**	*e*PN		**Pn**		**04 54 13.4**	**+0.2**
MOVZ	**Moawhango**	**7.60**	**202**	PN		**Pn**		**04 54 13.8**	**+0.3**
KRHZ	**Kereru**	**7.64**	**198**	PN		**Pn**		**04 54 13.8**	**-0.1**
KAHZ	**Kahuranaki**	**7.66**	**195**	PN		**Pn**		**04 54 14.6**	**+0.4**
PXZ	**Pawanui**	**7.89**	**195**	PN		**Pn**		**04 54 16.5**	**-0.4**
PNHZ	**Pukenui**	**7.94**	**198**	PN		**Pn**		**04 54 17.2**	**-0.4**
TSZ	**Takapari Road**	**8.14**	**199**	PN		**Pn**		**04 54 19.5**	**-0.5**
PRHZ	**Porangahau**	**8.17**	**195**	PN		**Pn**		**04 54 19.9**	**-0.5**
DVHZ	**Dannevirke**	**8.31**	**198**	PN		**Pn**		**04 54 21.3**	**-0.8**
ANWZ	**Angora Road**	**8.39**	**196**	PN		**Pn**		**04 54 22.7**	**-0.3**
ANWZ				SN		**S**		**04 55 58.7**	**-0.2**
PRWZ	**Pori Road**	**8.60**	**198**	PN		**Pn**		**04 54 25.1**	**-0.5**
BFZ	**Birch Farm**	**8.65**	**196**	PN		**Pn**		**04 54 25.6**	**-0.7**
MRZ	**Mangatainoka R**	**8.80**	**200**	PN		**Pn**		**04 54 26.3**	**-1.8**
MRZ				SN		**S**		**04 56 05.4**	**-3.0**
TIWZ	**Tintock**	**8.83**	**198**	SN		**S**		**04 56 08.6**	**-0.5**
HOWZ	**Holdsworth Sta**	**9.04**	**199**	PN		**Pn**		**04 54 29.6**	**-1.5**
OGWZ	**Otaki Gorge**	**9.07**	**201**	PN		**Pn**		**04 54 29.7**	**-1.7**
KIW	**Kapiti Island**	**9.19**	**202**	PN		**Pn**		**04 54 31.4**	**-1.5**
MTW	**Mount Morrison**	**9.29**	**199**	PN		**Pn**		**04 54 32.5**	**-1.6**
CAW	**Cannon Point**	**9.37**	**201**	PN		**Pn**		**04 54 33.5**	**-1.6**
TRWZ	**Traveller**	**9.46**	**197**	PN		**Pn**		**04 54 35.4**	**-0.9**
DUWZ	**D'Urville Isla**	**9.48**	**206**	PN		**Pn**		**04 54 35.8**	**-0.7**
TCW	**Tory Channel**	**9.71**	**204**	PN		**Pn**		**04 54 38.0**	**-1.3**
PLWZ	**Palliser**	**9.74**	**199**	PN		**Pn**		**04 54 38.1**	**-1.6**
TUWZ	**Tuamarina**	**10.02**	**204**	PN		**Pn**		**04 54 42.1**	**-1.0**
NNZ	**Nelson**	**10.04**	**207**	PN		**Pn**		**04 54 42.6**	**-0.8**
THZ	**Tophouse**	**10.70**	**207**	PN		**Pn**		**04 54 51.1**	**-0.3**
KHZ	**Kahutara**	**11.04**	**203**	PN		**Pn**		**04 54 54.8**	**-0.7**
INZ	**Inchbonnie**	**12.09**	**209**	PN		**Pn**		**04 55 07.8**	**-0.5**
RPZ	**Rata Peaks**	**13.07**	**208**	P		**Pn**		**04 55 19.3**	**-0.9**
	0.7nm,0.3s,baz=238,slow=8.6,SNR=4.1								
RPZ				S		**S**		**04 57 42.8**	**-2.0**
	1.0nm,0.3s,baz=337,slow=21,SNR=6.5								
ASAR	**Alice Springs**	**40.87**	**270**	P		**P**		**04 59 39.9**	**+1.4**
	2.0nm,0.7s,baz=106,slow=7.4,SNR=22								
WRA	**Warramunga Arr**	**42.05**	**276**	P		**P**		**04 59 48.6**	**+0.7**
	2.1nm,0.5s,baz=112,slow=8.0,SNR=41								
FINES	**FINESS Array B**	**146.20**	**337**	PKPbc		**PKPdf**		**05 11 25.7**	**-1.9**
	3.5nm,0.7s,baz=61,slow=3.3,SNR=12								

BJI ***27*** *04:57:07.0, 2°.41S×136°.90E, h11km, mb4.7/47, mB5.0/34, Ms4.7/27, Ms7 4.3/25*
IDC ***27*** *04:57:08.3±0.4, 2°.33S×136°.58E, h0km, mb4.6/17, mb1 4.7/20, mb1mx4.6/28, mbtmp4.6/20, ML3.5/3, MS3.9/26, Ms1 3.9/26, ms1mx3.8/45, Error ellipse: s-maj=19.5km s-min=11.6km az=74.0*
NEIC ***27*** *04:57:09.6±0.1, 2°.31S×136°.67E, h10km, mb5.0/51, Error ellipse: s-maj=4.7km s-min=3.5km az=91.0*
ISCJB ***27*** *04:57:09.4±1.2, 2°.41S±0°.03×136°.67E±0°.03, h20km±8km, mb4.8/84, MS4.0/26, Error ellipse: s-maj=5.5km s-min=4.3km az=35.2*
MOS ***27*** *04:57:11.4±1.1, 2°.33S×136°.63E, h33km, mb5.0/30, Error ellipse: s-maj=11.7km s-min=6.7km az=109.6*
DJA ***27*** *04:57:11.3±1.7, 2°.5S±6°×13°.7E±°, h16km±14km, M5.1/9, mb5.0/9, mB5.4/3, MLv5.2/6, Mw(mB)4.8/3*

ISC 27 04:57:12.8±1.5, 2°.42S±0°.04×136°.69E±0°.04, h30km±10km, n237, σ1§63/238, mb4.8/82, MS3.9/26, 14C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.67**	**290**	P		**Pn**		**04 57 52.1**	**-1.6**
GENI	**Genyem**	**3.48**	**93**	P		**Pn**		**04 58 04.9**	**0.0**
JAY	**Jayapura**	**4.01**	**91**	Pn		**Pn**		**04 58 11.2**	**-1.2**
	4.4nm,0.3s,baz=275,slow=24,SNR=38								
JAY				Sn		**Sn**		**04 58 57.9**	**-0.5**
	0.6nm,0.3s,baz=71,slow=23,SNR=2.0								
JAY	**Jayapura**	**4.01**	**91**	P		**Pn**		**04 58 10.9**	**-1.4**
FAKI	**Fak Fak**	**4.46**	**264**	P		**Pn**		**04 58 17.8**	**-0.6**
FAKI				S		**Sn**		**04 59 06.9**	**-2.5**
FAKI	**Fak Fak**	**4.46**	**264**	*e*Pn		**Pn**		**04 58 18.4**	**0.0**
FAKI				*e*Sn		**Sn**		**04 59 07.5**	**-1.9**
SIJI	**Sorong**	**5.63**	**286**	Pn		**Pn**		**04 58 35.5**	**+0.9**
	16nm,0.3s,baz=351,slow=1.2,SNR=2.5								
SIJI				Sn		**Sn**		**04 59 36.2**	**-2.2**
	16nm,0.3s,baz=262,slow=22,SNR=2.6								
SWI	**Sorong**	**5.64**	**286**	P		**Pn**		**04 58 33.4**	**-1.3**
MMPI	**Merauke**	**7.04**	**149**	P		**Pn**		**04 58 56.2**	**+2.3**
SAUI	**Saumlaki**	**7.70**	**224**	*e*Pn		**Pn**		**04 59 01.3**	**-1.6**
NLAI	**Namlea**	**9.61**	**265**	P		**Pn**		04 59 36.3	+7.1
MANU	**Manus Island**	**10.68**	**88**	*e*Pn		**Pn**		**04 59 39.2**	**-4.6**
MTN	**Manton Dam**	**11.72**	**208**	*e*Pn		**Pn**		**04 59 58.6**	**+0.4**
MTN				*e*Sn		**Sn**		**05 02 07.8**	**-0.2**
PMG	**Port Moresby**	**12.51**	**124**	Pn		**Pn**		**05 00 11.8**	**+2.9**
	1.7nm,0.3s,baz=303,slow=10.0,SNR=6.3								
PMG				Sn		**Sn**		**05 02 28.1**	**+0.8**
	1.0nm,0.3s,baz=165,slow=21,SNR=2.2								
PMG	**Port Moresby**	**12.51**	**124**	*e*P		**Pn**		**05 00 10.6**	**+1.7**
PMG				pmax		pmax			
	comp=Z,325nm,0.8s								
PMG	**Port Moresby**	**12.51**	**124**	*e*Pn		**Pn**		**05 00 10.7**	**+1.7**
PMG				Sn		**Sn**		**05 02 28.1**	**+0.8**
COEN	**Coen**	**13.13**	**151**	*e*Pn		**Pn**		**05 00 16.1**	**-1.3**
COEN				*e*Sn		**Sn**		**05 02 37.7**	**-4.9**
SOEI	**Soe**	**14.33**	**239**	P		**P**		**05 00 40.5**	**-0.2**
SOEI	**Soe**	**14.33**	**239**	*e*Pn		**Pn**		**05 00 32.2**	**-1.7**
DAV	**Davao City (W)**	**14.55**	**310**	LR		LR		05 06 40.0	
	comp=Z,187nm,19.3s,baz=97,slow=40								
MRSI	**Marisa**	**15.02**	**281**	P		P		05 00 53.8	+5.6
TTSI	**Tana Toraja**	**16.86**	**268**	P		P		05 01 17.7	+9.1
PCI	**Palu**	**16.91**	**275**	P		P		05 01 17.4	+8.2
KAPI	**Kappang**	**17.09**	**261**	Pn		**P**		**05 01 14.3**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=2.7								
WRAB	**Tennant Creek**	**17.55**	**187**	*e*P		**P**		**05 01 16.0**	**-0.3**
WRAB				pmax		pmax			
	comp=Z,58nm,1.0s								
WRAB	**Tennant Creek**	**17.55**	**187**	*e*Pn		**P**		**05 01 16.2**	**-0.1**
	comp=Z,34nm,0.8s								
WRAB				*e*Sn		**Sn**		**05 04 22.2**	**-7.9**
WB2	**Warramunga Arr**	**17.56**	**187**	*e*Pn		**Pn**		**05 01 16.0**	**+0.5**
	comp=Z,39nm,0.8s								
WB2				*e*Sn		Sn		05 04 17.6	-13
WRA	**Warramunga Arr**	**17.57**	**187**	P		**Pn**		**05 01 12.8**	**-2.8**
	comp=Z,2.5nm,0.3s,baz=7.1,slow=12,SNR=48								
WRA				LR		LR		05 08 48.5	
	comp=Z,1μm,18.4s,baz=0.0,slow=40								
FITZ	**Fitzroy Crossi**	**18.98**	**214**	P		**P**		**05 01 30.9**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=41,slow=10,SNR=12								
FITZ	**Fitzroy Crossi**	**18.98**	**214**	*e*P		**P**		**05 01 31.9**	**0.0**
	comp=Z,17nm,0.8s								
FITZ				*e*Sn		**Sn**		**05 05 04.1**	**-0.5**
MYLDM	**Lahad Datu**	**19.68**	**293**	*e*P		**Pn**		**05 01 41.7**	**+0.5**
	comp=Z,16nm,1.3s								
CTA	**Charters Tower**	**19.89**	**153**	P		**P**		**05 01 42.3**	**+0.3**
	comp=Z,14nm,0.7s,baz=340,slow=10,SNR=14								
CTAO	**Charters Tower**	**19.89**	**153**	*e*P		Pn		05 01 45.3	+1.6
CTAO				pmax		pmax			
	comp=Z,37nm,1.0s								
CTAO	**Charters Tower**	**19.89**	**153**	*e*P		Pn		05 01 45.3	+1.6
	comp=Z,37nm,1.0s								
AS01	**Alice Springs**	**21.28**	**187**	*e*P		**P**		**05 01 57.3**	**+0.2**
AS01				*e*S		**S**		**05 05 53.1**	**+1.0**
AS31	**Alice Springs**	**21.29**	**187**	*e*P		**P**		**05 01 57.2**	**+0.1**
	comp=Z,23nm,1.0s								
AS31				*e*S		**S**		**05 05 47.9**	**-4.3**
ASAR	**Alice Springs**	**21.29**	**187**	P		**P**		**05 01 57.1**	**0.0**
	comp=Z,19nm,0.6s,baz=12,slow=11,SNR=75								
ASAR				LR		LR		05 11 48.6	
	comp=Z,801nm,21.6s,baz=9.0,slow=41								
BBKI	**Banjar Baru**	**21.84**	**267**	P		P		05 02 13.6	+11
KKM	**Kota Kinabalu**	**22.11**	**292**	*e*P		**P**		**05 02 05.0**	**-1.0**
	comp=Z,37nm,1.1s								
TGY	**Tagaytay City**	**22.66**	**317**	P		**P**		**05 02 13.2**	**+1.3**
	comp=Z,191nm,0.3s,baz=148,slow=15,SNR=3.2								
MBWA	**Marble Bar**	**24.89**	**220**	*e*P		**P**		**05 02 34.5**	**+1.3**
	comp=Z,37nm,1.0s								
SBUM	**Sibu**	**24.93**	**281**	*e*P		**P**		**05 02 37.0**	**+3.3**
	comp=Z,39nm,1.6s								
STKI	**Sintang**	**25.32**	**275**	P		P		05 02 46.1	+8.9
EIDS	**Eidsvold**	**26.70**	**150**	*e*P		**P**		**05 02 50.3**	**+0.8**
	comp=Z,27nm,1.1s								
STKA	**Stephens Creek**	**29.66**	**172**	P		**P**		**05 03 16.0**	**+0.1**
	comp=Z,13nm,0.6s,baz=348,slow=9.1,SNR=32								
STKA				LR		LR		05 17 25.8	
	comp=Z,411nm,20.6s,baz=358,slow=41								
STKA	**Stephens Creek**	**29.66**	**172**	*e*P		**P**		**05 03 16.5**	**+0.6**
STKA	**Stephens Creek**	**29.66**	**172**	*e*P		**P**		**05 03 16.5**	**+0.6**
BBOO	**Buckleboo**	**30.24**	**181**	*e*P		**P**		**05 03 22.2**	**+1.2**
	comp=Z,1.4nm,0.5s								
ARMA	**Armidale**	**31.24**	**155**	*e*P		**P**		**05 03 31.5**	**+1.5**
	comp=Z,15nm,0.7s								
QIZ	**Qiongzhong**	**33.93**	**310**	P		**P**		**05 03 54.3**	**+0.7**
QIZ				S		**S**		**05 09 17.8**	**+1.1**
QIZ				LN					
	comp=Z,220nm,9.1s								
QIZ				LE					
	comp=Z,190nm,18.1s								
QIZ				LZ					
	comp=Z,310nm,33.3s								
DZM	**Mont Dzumac**	**34.89**	**126**	*e*LR		LR		05 13 32.0	
	comp=Z,574nm,23.2s								
DZM	**Mont Dzumac**	**34.89**	**126**	P		**P**		**05 04 03.7**	**+1.7**
	comp=Z,15nm,1.1s,baz=71,slow=11,SNR=2.2								
NWAO	**Narrogin (SRO)**	**35.41**	**209**	P		**P**		**05 04 06.7**	**+0.5**
NWAO				LR		LR		05 19 55.7	
	comp=Z,517nm,21.3s,baz=238,slow=39								
JNU	**Nakatsue**	**35.77**	**352**	LR		LR		05 18 52.9	
	comp=Z,190nm,18.4s,baz=120,slow=37								
SKNT	**Sakolnakorn**	**37.59**	**302**	P		**P**		**05 04 27.1**	**+2.1**
	comp=Z,38nm,1.2s								
PSI	**Prapat**	**38.10**	**278**	*e*P		**P**		**05 04 30.1**	**+0.5**
PSI				pmax		pmax			
	comp=Z,17nm,1.0s								
PSI	**Prapat**	**38.10**	**278**	*e*P		**P**		**05 04 30.1**	**+0.5**
	comp=Z,17nm,1.0s								
MJAR	**Matsushiro Arr**	**38.79**	**2**	P		**P**		**05 04 34.7**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=171,slow=7.5,SNR=3.6								
MJAR				PcP		**PcP**		**05 06 46.6**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=172,slow=3.0,SNR=3.2								
MJAR				LR		LR		05 18 05.0	
	comp=Z,171nm,20.1s,baz=175,slow=32								
NONG	**Nongkai**	**38.80**	**303**	P		P		05 04 39.6	+4.4
	comp=Z,60nm,1.5s								
TJN	**Tajon**	**39.57**	**348**	*i* P		**P**		**05 04 38.0**	**-3.3**
KSAR	**Wonju Array Be**	**40.50**	**349**	P		**P**		**05 04 51.1**	**+2.1**
KSAR								05 06 52.0	
KSAR	**Wonju Array Be**	**40.50**	**349**	P		**P**		**05 04 51.0**	**+2.1**
KSAR				PcP		**PcP**		**05 06 52.0**	**+0.7**
KSRS	**Korea Array**	**40.50**	**349**	P		**P**		**05 04 51.0**	**+2.0**
	comp=Z,2.0nm,0.9s,baz=183,slow=8.2,SNR=3.3								
KSRS				PcP		**PcP**		**05 06 52.0**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=172,slow=3.3,SNR=3.5								
KSRS				LR		LR		05 19 09.0	
	comp=Z,133nm,20.4s,baz=170,slow=33								
GYA	**Guiyang**	**40.81**	**317**	P		**P**		**05 04 52.8**	**+0.8**
GYA				PMZ					
	comp=Z,10.0nm,1.0s								
UTTA	**Uttaradit**	**40.86**	**301**	P		P		05 04 57.6	+5.3
	comp=Z,2.5nm,1.1s								
LAMP	**Lampang**	**41.99**	**301**	P		P		05 05 07.0	+5.4
	comp=Z,5.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**42.55**	**301**	P		**P**		**05 05 05.6**	**-0.6**
	comp=Z,5.6nm,0.3s,baz=116,slow=6.4,SNR=9.9								
CMAR				LR		LR		05 20 53.8	
	comp=Z,44nm,22.0s,baz=135,slow=34								
CMMT	**Chiang Mai**	**42.70**	**301**	P		P		05 05 12.4	+5.0
	comp=Z,11nm,0.9s								
CHTO	**Chiang Mai**	**42.70**	**301**	P		P		05 05 12.5	+5.1
	comp=Z,49nm,0.9s								
KMI	**Kunming**	**42.81**	**312**	P		**P**		**05 05 09.8**	**+1.3**
KMI				PMZ					
	comp=Z,20nm,1.0s								
KMI				PMZ					
	comp=Z,92nm,5.5s								
XAN	**Xi'an**	**44.70**	**327**	P		**P**		**05 05 22.5**	**-0.9**
XAN				sP		pP		05 05 30.5	-1.9
XAN				PMZ					
	comp=Z,9.0nm,1.3s								
XAN				PMZ					
	comp=Z,67nm,4.1s								
MSHR	**Mys Shultsa**	**45.07**	**354**	*ce*P		P		05 05 19.7	-6.3
CD2	**Chengdu**	**45.63**	**319**	*e*P		**P**		**05 05 29.5**	**-1.2**
CD2				pP		pP		05 05 35.3	-4.5
CD2				PcS		**PcS**		**05 11 01.5**	**-1.6**
CD2				S		**S**		**05 12 12.3**	**+0.6**
CD2				sS		sS		05 12 22.0	-4.6
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,160nm,5.2s								
BJI	**Beijing**	**46.25**	**338**	P		**P**		**05 05 37.0**	**+1.6**
BJI				S		**S**		**05 12 22.5**	**+2.3**
BJI				PMZ					
	comp=Z,5.0nm,1.0s								
BJI				PMZ					
	comp=Z,190nm,3.9s								
BJI				LN					
	comp=Z,260nm,18.5s								
BJI				LE					
	comp=Z,240nm,17.1s								
BJI				LZ					
	comp=Z,290nm,23.3s								
USRK	**Ussuriysk Ar.**	**46.60**	**355**	LR		LR		05 22 15.2	
	comp=Z,218nm,20.9s,baz=159,slow=32								
CN2	**Changchun**	**47.11**	**349**	*e*P		**P**		**05 05 44.3**	**+2.2**
HHC	**Hu-ho-hao-te**	**48.78**	**335**	*e*P		**P**		**05 05 54.8**	**-0.5**
HHC				sP		pP		05 06 03.0	-1.4
HHC				S		**S**		**05 12 56.0**	**-0.5**
HHC				SS		**SS**		**05 16 20.5**	**-7.0**
HHC				PMZ					
	comp=Z,28nm,1.0s								
HHC				PMZ					
	comp=Z,89nm,4.4s								
HHC				LN					
	comp=Z,190nm,14.3s								
HHC				LE					
	comp=Z,180nm,14.7s								
HHC				LZ					
	comp=Z,180nm,16.0s								
LZH	**Lanzhou**	**49.06**	**324**	*e*P		**P**		**05 05 57.5**	**0.0**
LZH				pP		pP		05 06 03.0	-3.6
LZH				sP		sP		05 06 06.3	-3.9
LZH				PP		**PP**		**05 07 51.5**	**+0.2**
LZH				PMZ					
	comp=Z,26nm,1.3s								
LZH				PMZ					
	comp=Z,97nm,7.4s								
LZH				LN					
	comp=Z,400nm,15.1s								
LZH				LE					
	comp=Z,390nm,15.3s								
LZH				LZ					
	comp=Z,460nm,18.2s								
RPZ	**Rata Peaks**	**51.18**	**148**	P		**P**		**05 06 14.3**	**+1.0**
	comp=Z,28nm,0.7s,baz=249,slow=3.6,SNR=3.6								
RPZ	**Rata Peaks**	**51.18**	**148**	*e*P		**P**		**05 06 13.8**	**+0.5**
	comp=Z,46nm,1.0s								
BKZ	**Black Stump Fm**	**51.46**	**140**	*e*P		**P**		**05 06 16.0**	**+0.4**
	comp=Z,19nm,0.7s								
SHL	**Shillong**	**51.52**	**306**	*ex*		**P**		**05 06 15.0**	**-1.4**
KLR	**Kul'dur**	**51.62**	**356**	LR		LR		05 26 00.4	
	comp=Z,205nm,19.8s,slow=34								
KLR	**Kul'dur**	**51.62**	**356**	*i* P		**P**		**05 06 16.6**	**+0.1**
GTA	**Gaotai**	**53.66**	**325**	↑P		**P**		**05 06 31.8**	**-0.1**
GTA				pP		pP		05 06 37.8	-3.3
GTA				sP		sP		05 06 40.8	-3.9
GTA				S		**S**		**05 14 04.8**	**+0.9**
GTA				sS		sS		05 14 15.5	-3.6
GTA				PMZ					
	comp=Z,10.0nm,1.4s								
GTA				PMZ					
	comp=Z,45nm,5.2s								
GTA				LN					
	comp=Z,100nm,17.8s								
GTA				LE					
	comp=Z,120nm,19.0s								
GTA				LZ					
	comp=Z,98nm,20.0s								
ULN	**Ulaanbaatar**	**56.38**	**336**	*ce*P		**P**		**05 06 51.5**	**+0.1**
ULN				pmax		pmax			
	comp=Z,5.0nm,1.2s								
RAMN

comp=E,11nm,1.2s
NVS pmax pmax
comp=Z,13nm,1.2s
EKS2 Erkin-Say 72.11 316 eP P 05 08 34.6 -0.1
EKS2 pmax pmax
comp=Z,17nm,1.6s
EKS2 Erkin-Say 72.11 316 eP P 05 08 34.6 -0.1
comp=Z,17nm,1.6s
KURK Kurchatov 72.33 326 eP P 05 08 34.7 -0.9
KURK pmax pmax
comp=Z,69nm,1.2s
KURK Kurchatov 72.33 326 eP P 05 08 34.7 -0.9
comp=Z,69nm,1.2s
UNV Unalaska Valle 73.13 31 eP P 05 08 39.8 -0.5
comp=Z,6.0nm,0.5s
BILL Bilibino 73.27 11⇑ eP P 05 08 40.6 -0.3
BILL e 05 08 59.6
BILL e 05 11 20.0
BILL ePPP PPP 05 13 11.1
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,339nm,21.0s
PPT Papeete 73.77 107 LR LR 05 39 29.2
comp=Z,40nm,20.9s,baz=311,slow=34
PPT2 Papeete2 73.77 108 eLR LR 05 31 27.7
comp=Z,138nm,23.5s
TIXI Tiksi 74.11 357 LR LR 05 39 49.2
comp=Z,143nm,19.6s,baz=206,slow=35
TIXI Tiksi 74.11 357 ceP P 05 08 46.0 +0.3
TIXI pmax pmax
comp=Z,2.0nm,0.6s
OTUK Ortayu 75.06 321 P P 05 08 50.6 -1.2
OTUK pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 76.25 175 P P 05 08 58.4 +0.4
comp=Z,3.3nm,0.6s,baz=324,slow=6.5,SNR=27
VNDA LR LR 05 43 24.5
comp=Z,366nm,18.1s,baz=354,slow=36
VNDA Vanda 76.25 175 P P 05 08 58.4 +0.4
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 76.25 175 P P 05 08 58.4 +0.4
comp=Z,5.4nm,1.0s
SBA Scott Base 77.05 174 eP P 05 09 03.5 +1.0
SBA pmax pmax
comp=Z,33nm,2.0s
SBA Scott Base 77.05 174 eP P 05 09 03.5 +1.0
comp=Z,33nm,2.0s
VOSK Vostochnaya 77.48 325 P P 05 09 03.7 -1.7
VOSK pmax pmax
comp=Z,7.0nm,1.1s
VOSK Vostochnaya 77.48 325 eP P 05 09 04.1 -1.3
comp=Z,7.5nm,1.1s
BVA0 Borovoye Array 77.93 326 i P P 05 09 07.2 -0.7
BVA0 pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 78.00 326 ceP P 05 09 07.8 -0.5
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 78.00 326 eP P 05 09 07.6 -0.7
comp=Z,16nm,0.6s
CHKZ Chkalovo 78.03 326 i P P 05 09 07.1 -1.3
CHKZ pmax pmax
comp=Z,12nm,1.2s
ZRNK Zerenda 78.69 325 i P P 05 09 10.2 -1.9
ZRNK pmax pmax
comp=Z,14nm,1.4s
ZRNK Zerenda 78.69 325 eP P 05 09 11.3 -0.8
comp=Z,12nm,1.1s
NRIK Noril'sk 78.89 344 P P 05 09 12.2 -0.6
comp=Z,3.0nm,0.5s,baz=128,slow=6.4,SNR=5.7
NRIK LR LR 05 46 10.7
comp=Z,69nm,20.6s,baz=130,slow=37
OHAK Old Harbor 81.35 31 eP P 05 09 25.4 -0.9
comp=Z,20nm,0.8s
MAW Mawson 81.64 202 P P 05 09 28.2 +0.6
comp=Z,2.6nm,0.9s,baz=21,slow=8.7,SNR=3.6
KDAK Kodiak Island 81.88 31 ceP P 05 09 29.0 -0.1
KDAK Kodiak Island 81.88 31 eP P 05 09 29.0 -0.1
comp=Z,22nm,0.8s
TT01 Tatalina 81.99 25 eP P 05 09 29.3 -0.4
GEYT Alibeck 82.48 309 P P 05 09 33.4 +0.6
comp=Z,2.8nm,0.3s,baz=157,slow=4.2,SNR=3.6
GEYT LR LR 05 48 50.9
comp=Z,48nm,21.4s,baz=105,slow=38
TAOE Nuku Hiva Isla 82.88 99 eLR LR 05 35 30.7
comp=Z,116nm,22.2s
ABKAR Akbulak array 83.20 320 eP P 05 09 35.3 -0.9
RC01 Rabbit Creek A 84.23 28 eP P 05 09 39.7 -1.5
comp=Z,17nm,0.9s
KTH Kantishna Hill 84.39 25 eP P 05 09 41.4 -0.7
comp=Z,6.1nm,0.9s
SVE Sverdlovsk 84.41 328 eP P 05 09 42.0 -0.3
SVE pmax pmax
comp=Z,17nm,1.1s
PMR Palmer 84.64 28 eP P 05 09 42.4 -0.9
PMR pmax pmax
comp=Z,8.0nm,1.0s
PMR Palmer 84.64 28 eP P 05 09 42.4 -0.9
comp=Z,7.9nm,1.0s
MLY Manley 84.89 24 eP P 05 09 44.2 -0.4
comp=Z,9.7nm,0.8s
SML Sawmill 85.06 27 eP P 05 09 45.2 -0.3
SML pmax pmax
comp=Z,12nm,0.8s
SML Sawmill 85.06 27 eP P 05 09 45.2 -0.3
comp=Z,12nm,0.8s
BWN Browne 85.18 25 eP P 05 09 45.1 -0.9
comp=Z,23nm,0.9s
MCK McKinley 85.29 25 eP P 05 09 44.9 -1.7
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 85.29 25 eP P 05 09 44.9 -1.7
comp=Z,7.4nm,0.8s
ARU Arti 85.45 327 di P P 05 09 46.6 -0.9
ARU 05 13 05.3
ARU S S 05 20 08.5 -8.2
ARU SS **SS 05 25 44.3 -8.0**
ARU pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 85.45 327 eP P 05 09 45.6 -1.9
comp=Z,4.7nm,0.7s
SCM Sheep Creek Mo 85.53 28 eP P 05 09 47.2 -0.7
SCM pmax pmax
comp=Z,13nm,0.8s
SCM Sheep Creek Mo 85.53 28 eP P 05 09 47.2 -0.7
comp=Z,13nm,0.8s
COLD Coldfoot 85.74 22 eP P 05 09 48.8 +0.1
comp=Z,14nm,0.9s
WRH Wood River Hil 85.84 25 eP P 05 09 46.9 -2.3
comp=Z,4.6nm,0.8s
CCB Clear Creek Bu 86.00 25 eP P 05 09 48.5 -1.5
comp=Z,28nm,1.7s
DIV Divide 86.11 28 eP P 05 09 50.9 +0.2
comp=Z,26nm,0.8s
KLU Klutina 86.11 28 eP P 05 09 49.6 -1.2
comp=Z,8.3nm,0.9s
IL1 Eielson Array 86.41 25 eP P 05 09 50.0 -2.1
ILAR Eielson Array 86.41 25 P P 05 09 50.6 -1.5
comp=Z,8.1nm,1.0s,baz=265,slow=4.6,SNR=54
ILAR LR LR 05 47 26.7
comp=Z,26nm,18.9s,baz=278,slow=35
ILB Eielson Array 86.41 25 eP P 05 09 50.5 -1.6
BMRM Bremner River 86.63 29 eP P 05 09 52.8 -0.5
comp=Z,12nm,0.9s
PAX Paxson 86.63 27 eP P 05 09 52.7 -0.6
PAX pmax pmax
comp=Z,5.0nm,0.7s
PAX Paxson 86.63 27 eP P 05 09 52.7 -0.6
comp=Z,4.7nm,0.7s
CRQM Cirque 87.30 29 eP P 05 09 56.2 -0.5
comp=Z,10nm,0.8s
DOT Dot Lake 87.39 26 eP P 05 09 56.5 -0.4
comp=Z,18nm,0.8s
MENT Mentasta 87.41 27 eP P 05 09 56.6 -0.4
comp=Z,4.9nm,0.8s
EGAK Eagle 88.82 25 eP P 05 10 03.2 -0.4
comp=Z,6.6nm,1.0s
DAWY Dawson 89.49 26 eP P 05 10 07.3 +0.4
comp=Z,10nm,0.9s
HYT Haines Junctio 90.05 29 eP P 05 10 09.1 -0.5
comp=Z,9.4nm,1.0s
SYO Syowa Base 90.31 201⇑ epP P 05 10 15.0 +4.5
SKAG Skagway 91.04 31 eP P 05 10 14.1 0.0
comp=Z,13nm,0.9s
KBZ Khabaz 94.40 313 LR LR 05 59 27.4
comp=Z,23nm,18.1s,baz=64,slow=40
KLMR Klimovskoe 95.60 331 eP P 05 10 31.7 -3.4
KLMR pmax pmax
comp=Z,5.0nm,1.0s
OBN Obninsk 97.77 325⇑ eP P 05 10 42.5 -2.5
OBN e 05 14 38.6
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,88nm,20.0s
HUMO Hull Mountain 99.26 47 eP Pdif 05 10 51.9 -0.1
comp=Z,3.8nm,1.0s
KMBO Kilima Mbogo 99.38 268 LR LR 05 52 18.5
comp=Z,38nm,21.9s,baz=74,slow=33
ARCES ARCESS Array B 99.57 341 P Pdif 05 10 51.7 -1.1
comp=Z,1.1nm,0.5s,baz=72,slow=7.8,SNR=11
ARCES LR LR 05 58 37.0
comp=Z,49nm,21.7s,baz=94,slow=37
YKA Yellowknife Ar 100.72 27 P Pdif 05 10 57.4 -0.6
comp=Z,1.0nm,0.9s,baz=284,slow=4.5,SNR=4.1
ANMO Albuquerque 113.25 53c i PKIKP PKiKP 05 15 47.5 -0.8
ANMO pmax pmax
comp=Z,3.0nm,2.5s
ULM Lac du Bonnet 114.97 34 PKP PKPdf 05 15 50.9 0.0
comp=Z,1.8nm,0.5s,baz=169,slow=5.2,SNR=2.4
TXAR Lajitas Array 116.87 58 PKP PKPdf 05 15 55.4 +0.1
comp=Z,0.4nm,0.6s,baz=242,slow=2.7,SNR=5.7
WMOK Wichita Mounta 119.36 51 ePKIKP PKPdf 05 16 00.3 +0.4
WMOK Wichita Mounta 119.36 51 ePKPdf PKPdf 05 16 00.2 +0.4
JCT Junction City 119.83 56 ePKIKP PKPdf 05 16 01.1 +0.2
JCT Junction City 119.83 56 ePKPdf PKPdf 05 16 01.1 +0.2
PLCA Paso Flores 130.37 153 PKP PKPdf 05 16 22.0 +1.2
comp=Z,1.4nm,0.8s,baz=96,slow=2.9,SNR=3.0
TORD Torodi Ar. Bea 134.24 286 PKP PKPdf 05 16 28.3 -0.4
comp=Z,0.7nm,0.8s,baz=101,slow=1.9,SNR=4.5
LVC Limon Verde 144.74 136 ePKPdf PKPdf 05 16 49.2 +1.1
OTAV Otavalo 144.81 93 eP PKPab 05 16 47.3 -0.2
OTAV Otavalo 144.81 93 ePKPdf PKPdf 05 16 48.4 -0.2
GRGC Isla de Gorgon 145.18 88 eP PKPbc 05 16 47.3 -0.9
PB01 IPOC Station P 145.35 134 ePKPbc PKPdf 05 16 50.1 +1.2
CMRC Cumbal 145.47 92 eP PKPdf 05 16 49.4 -0.3
SOLC Bahia Solano 145.80 83 eP PKPdf 05 16 46.3 -3.4
MALC Bahia Malaga 146.00 86 eP PKPbc 05 16 51.0 +0.2
CRUC La Cruz 146.37 91 eP PKPbc 05 16 52.6 +0.2
POPC Popayan, Colom 146.67 89 eP PKPbc 05 16 53.1 +0.1
DBBC Dabeiba 146.91 81 eP PKPbc 05 16 53.1 -0.4
MOTC Monteria, Cord 147.21 78 eP PKPdf 05 16 48.9 -3.1
SJCC San Jacinto, C 147.48 75 eP PKPdf 05 16 53.1 +0.6
HELC Santa Helena 147.66 82 eP PKPdf 05 16 54.2 +0.9
HELC Santa Helena 147.66 82 ePKPbc PKPbc 05 16 55.9 -0.2
TOLC Tolima 147.98 85 eP PKPdf 05 16 54.7 +1.0
CPUP Villa Florida 148.37 156 PKPbc PKPbc 05 16 58.0 +0.9
comp=Z,7.0nm,0.8s,baz=218,slow=4.8,SNR=13
NORC Norcasia 148.37 83 eP PKPdf 05 16 54.7 +0.7
PRAC Prado 148.45 87 eP PKPdf 05 16 52.6 -1.6
PRAC Prado 148.45 87 ePKPbc PKPbc 05 16 57.8 +0.1
ROSC El Rosal 148.97 85 PKPbc PKPbc 05 17 00.0 +0.6
comp=Z,15nm,0.6s,baz=42,slow=1.3,SNR=14
ROSC El Rosal 148.97 85 eP PKPbc 05 16 59.0 -0.5
LPAZ La Paz 149.23 128 PKP PKPdf 05 16 57.6 +1.5
comp=Z,1.4nm,0.9s,baz=54,slow=5.4,SNR=4.1
LPAZ PKPbc PKiKP 05 17 01.9 +0.4
comp=Z,2.9nm,0.9s,baz=250,slow=3.3,SNR=6.5
BRRC Barranca, Sant 149.36 80 eP PKPbc 05 16 59.0 -1.0
SJAC San Juan de Ar 149.39 88 eP PKPbc 05 16 59.5 -0.7
OCAC Ocana 149.58 78 eP PKPbc 05 16 59.0 -1.7
VILC Villavicencio, 149.62 86 eP PKPbc 05 16 59.5 -1.3
BTLC Betulia, Santa 149.82 80 eP PKPbc 05 17 01.7 +0.3
GIRC Giron, Santand 149.87 80 eP PKPbc 05 17 01.1 -0.3
BARC Barcelona 149.94 81 eP PKPdf 05 16 55.8 -1.0
RUSC La Rusia 150.11 82 eP PKPdf 05 17 00.1 +2.7
GRMC Gramalote, San 150.17 79 eP PKPbc 05 17 01.1 -1.0
CBRI Barrientos, No 150.18 79 eP PKPbc 05 17 01.1 -1.1
PAMC Pamplona, Colo 150.32 79 eP PKPdf 05 16 56.9 -0.8
GUVC San Jose del G 150.71 89 eP PKPbc 05 17 02.2 -1.1
SDV Santo Domingo 152.08 76 eP PKPbc 05 17 06.4 -0.2
SDV Santo Domingo 152.08 76 ePKPbc PKPbc 05 17 07.4 +0.7
PTGA Pitinga 163.06 100 ePKPab PKPab 05 18 03.8 +0.5

*IDC **27** 05:11:24.7±1.4,2°.39S×136°.74E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.5/46, mbtmp3.6/6, ML3.2/3, Error ellipse: s-maj=34.9km s-min=24.1km az=82.0*
*ISCJB **27** 05:11:27.4±1.3,2°.5S±0°.1×136°.8E±0°.1, h33km, mb3.6/3, Error ellipse: s-maj=23.9km s-min=17.1km az=141.3*
ISC 27 05:11:29.6±1.3,2°.5S±0°.2×136°.8E±0°.2, h35km, n6, σ1§30/6, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.89**	**91**	Pn	**Pn**	**05 12 26.8**	**-0.1**
	0.4nm,0.3s,baz=269,slow=23,SNR=7.7						
WRA	**Warramunga Arr**	**17.55**	**188**	P	**Pn**	**05 15 29.8**	**-1.8**
	0.2nm,0.3s,baz=9.1,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**19.02**	**214**	P	**P**	**05 15 48.8**	**+0.1**
	0.0nm,0.3s,baz=230,slow=19,SNR=1.7						
ASAR	**Alice Springs**	**21.27**	**187**	P	**P**	**05 16 14.3**	**+1.1**
	0.8nm,0.6s,baz=14,slow=1,SNR=10						
STKA	**Stephens Creek**	**29.61**	**172**	P	**P**	**05 17 32.3**	**+0.7**
	0.6nm,0.4s,baz=326,slow=14,SNR=3.7						
MKAR	**Makanchi Array**	**68.44**	**323**	P	**P**	**05 22 28.0**	**-0.1**
	0.4nm,0.3s,baz=108,slow=9.5,SNR=2.5						

WEL 27 05:15:28.1±0.9, 46°.77S×165°.41E, h12km, ML3.6/8, Error ellipse: s-maj=10.3km s-min=4.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**1.07**	**56**	P*	Pb	05 15 47.8	-0.7
PYZ				S*	Sb	05 16 01.2	-1.2
APZ	**The Paps**	**1.77**	**93**	PN	Pn	05 15 57.2	-1.4
APZ				AML	AML	05 16 19.6	
APZ				AML	AML	05 16 20.2	
DCZ	**Deep Cove**	**1.78**	**43**	PN	Pn	05 15 57.5	-1.1
DCZ				AML	AML	05 16 21.1	
DCZ				AML	AML	05 16 22.4	
DCZ				AML	AML	05 16 31.0	
DCZ				AML	AML	05 16 36.7	
WHZ	**Wether Hill Ro**	**1.97**	**64**	PN	Pn	05 16 00.8	-0.4
WHZ				SN	Sn	05 16 24.7	-1.1
WHZ				AML	AML	05 16 29.6	
MLZ	**Mavora Lakes**	**2.35**	**54**	PN	Pn	05 16 07.5	+0.9
MLZ				AML	AML	05 16 55.7	
SYZ	**Scrubby Hill**	**2.58**	**86**	PN	Pn	05 16 09.7	+0.1
SYZ				SN	Sn	05 16 38.8	-2.0
SYZ				AML	AML	05 16 41.7	
TUZ	**Tuapeka**	**3.04**	**76**	PN	Pn	05 16 15.4	-0.5
TUZ				AML	AML	05 16 51.1	
TUZ				AML	AML	05 16 51.9	
EAZ	**Earnscleugh**	**3.12**	**62**	PN	Pn	05 16 17.4	+0.3
EAZ				AML	AML	05 16 56.4	
EAZ				AML	AML	05 16 57.3	
WKZ	**Wanaka**	**3.19**	**54**	PN	Pn	05 16 19.5	+1.5
JCZ	**Jackson Bay**	**3.60**	**43**	PN	Pn	05 16 25.2	+1.5
JCZ				AML	AML	05 17 33.1	
HHSZ	**Highcliff Hill**	**3.70**	**78**	PN	Pn	05 16 24.7	-0.4
ODZ	**Otahua Downs**	**4.04**	**67**	PN	Pn	05 16 27.8	-1.9
LBZ	**Lake Benmore**	**4.12**	**56**	PN	Pn	05 16 29.8	-1.0

*ISCJB **27** 05:20:44.8±1.0, 37°.36N±0°.05×143°.88E±0°.08, h33km, mb3.7/3, Error ellipse: s-maj=9.0km s-min=7.7km az=162.0*
*IDC **27** 05:20:45.6±2.2, 36°.72N×143°.78E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/55, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=53.6km s-min=27.4km az=53.0*
*JMA **27** 05:20:46.7±0.2, 37°.38N×143°.72E, h47km, M3.5*
ISC 27 05:20:47.0±1.6, 37°.38N±0°.07×143°.8E±0°.1, h35km, n15, σ1§05/17, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.24**	**299**	P	**Pn**	**05 21 21.4**	**-0.2**
JIO				S	**Sn**	**05 21 47.3**	**-0.7**
JFK	**Kawauchi**	**2.36**	**271**	S	**Sn**	**05 21 49.4**	**-1.6**
OFUJ	**Ofunato**	**2.41**	**316**	P	**Pn**	**05 21 23.6**	**-0.3**
JMK	**Ichinoseki**	**2.59**	**308**	P	**Pn**	**05 21 26.5**	**0.0**
JFT	**Otama**	**2.79**	**274**	S	**Sn**	**05 22 01.3**	**-0.3**
JOM	**Ohasama**	**2.89**	**317**	P	**Pn**	**05 21 31.1**	**+0.5**
JOM				S	**Sn**	**05 22 04.0**	**-0.2**
JYK	**Kaneyama**	**3.14**	**300**	eS	**Sn**	**05 22 11.2**	**+0.9**
JANG	**Nango**	**3.50**	**330**	eS	**Sn**	**05 22 18.7**	**-0.4**
JAG	**Ashikaga**	**3.64**	**256**	P	**Pn**	**05 21 41.2**	**+0.4**
JRY	**Ryogami san**	**4.19**	**253**	P	**Pn**	**05 21 48.4**	**-0.1**
MJAR	**Matsushiro Arr**	**4.58**	**261**	Pn	**Pn**	**05 21 54.8**	**+1.0**
	1.5nm,0.3s,baz=87,slow=15,SNR=6.9						
MJAR				Sn	**Sn**	**05 22 48.5**	**+2.7**
	0.2nm,0.3s,baz=91,slow=24,SNR=4.6						
ASAJ	**Asahikawa**	**6.80**	**352**	Pn	**Pn**	**05 22 25.5**	**+1.2**
	1.4nm,0.3s,baz=179,slow=17,SNR=3.6						
KURBB	**Kurchatov Arra**	**47.31**	**308**	P	P	05 29 23.2	+6.2
	0.3nm,0.5s,baz=80,slow=8.3,SNR=2.6						
WRA	**Warramunga Arr**	**57.71**	**191**	P	**P**	**05 30 33.1**	**-1.1**
	1.1nm,0.6s,baz=12,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**61.43**	**190**	P	**P**	**05 30 59.7**	**-0.2**
	0.4nm,0.8s,baz=13,slow=8.6,SNR=4.0						

*IDC **27** 05:27:20.3±0.8, 2°.41S×136°.79E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.8/40, mbtmp3.9/10, ML3.7/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/31, Error ellipse: s-maj=29.9km s-min=16.7km az=77.0*
*ISCJB **27** 05:27:23.5±0.6, 2°.47S±0°.09×136°.8E±0°.1, h33km, mb3.7/8, Error ellipse: s-maj=15.9km s-min=12.7km az=177.7*
ISC 27 05:27:25.3±0.8, 2°.4S±0°.1×136°.8E±0°.1, h35km, n12, σ1§19/11, mb3.9/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.95**	**91**	Pn	**Pn**	**05 28 23.8**	**+0.3**
	0.7nm,0.3s,baz=289,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**17.56**	**188**	P	**Pn**	**05 31 26.7**	**-0.7**
	0.7nm,0.3s,baz=9.3,slow=12,SNR=18						
GUMO	**Guam**	**17.84**	**27**	LR	LR	05 37 17.1	
	comp=Z,35nm,19.9s,baz=114,slow=34						
FITZ	**Fitzroy Crossi**	**19.01**	**214**	P	**Pn**	**05 31 46.1**	**+1.0**
	0.1nm,0.3s,baz=45,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**21.29**	**187**	P	**P**	**05 32 08.8**	**-0.2**
	3.3nm,0.6s,baz=13,slow=11,SNR=29						
STKA	**Stephens Creek**	**29.64**	**172**	P	**P**	**05 33 27.2**	**-0.3**
	2.3nm,1.0s,baz=340,slow=15,SNR=2.3						
CMAR	**Chiang Mai Arr**	**42.61**	**301**	P	**P**	**05 35 17.1**	**-1.4**
	0.5nm,0.3s,baz=101,slow=8.4,SNR=2.9						
MKAR	**Makanchi Array**	**68.39**	**323**	P	**P**	**05 38 24.6**	**+1.2**
	0.8nm,0.5s,baz=116,slow=6.1,SNR=7.5						
ZALV	**Zalesovo Beam**	**70.72**	**330**	P	**P**	**05 38 39.4**	**+1.7**
	0.9nm,0.7s,baz=122,slow=7.3,SNR=3.5						
KURBB	**Kurchatov Arra**	**72.38**	**325**	P	**P**	**05 38 48.7**	**+1.0**
	1.0nm,0.7s,baz=120,slow=5.9,SNR=6.3						
VNDA	**Vanda**	**76.23**	**175**	P	**P**	**05 39 10.3**	**+0.6**
	0.4nm,0.5s,baz=306,slow=5.6,SNR=4.1						
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**05 40 02.4**	**-1.3**
	0.1nm,0.4s,baz=235,slow=3.2,SNR=3.0						

*IDC **27** 05:28:04.2±1.6, 2°.54S×136°.77E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.8/39, mbtmp4.0/8, ML4.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/35, Error ellipse: s-maj=61.3km s-min=19.1km az=83.0*
*ISCJB **27** 05:28:07.2±1.2, 2°.59S±0°.09×136°.7E±0°.3, h33km, mb3.8/6, Error ellipse: s-maj=41.2km s-min=12.9km az=174.3*
ISC 27 05:28:09.1±1.4, 2°.6S±0°.1×136°.8E±0°.3, h35km, n9, σ0§74/8, mb3.9/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**17.15**	**261**	LR	LR	05 40 51.4	
	comp=Z,66nm,18.9s,baz=88,slow=45						
WRA	**Warramunga Arr**	**17.44**	**188**	P	**Pn**	**05 32 09.8**	**0.0**
	1.0nm,0.3s,baz=9.4,slow=12,SNR=7.3						
FITZ	**Fitzroy Crossi**	**18.91**	**214**	P	**P**	**05 32 27.1**	**+0.1**
	0.2nm,0.3s,baz=22,slow=17,SNR=2.7						
ASAR	**Alice Springs**	**21.16**	**187**	P	**P**	**05 32 51.7**	**+0.2**
	2.8nm,0.4s,baz=14,slow=10,SNR=6.0						
STKA	**Stephens Creek**	**29.51**	**172**	P	**P**	**05 34 09.9**	**-0.3**
	0.8nm,0.3s,baz=296,slow=10,SNR=3.2						
KSRS	**Korea Array**	**40.65**	**349**	P	**P**	**05 35 45.5**	**-0.5**
	0.9nm,0.3s,baz=154,slow=14,SNR=4.4						
CMAR	**Chiang Mai Arr**	**42.69**	**301**	P	**P**	**05 36 02.2**	**-0.7**
	0.8nm,0.4s,baz=117,slow=6.7,SNR=5.4						
MKAR	**Makanchi Array**	**68.50**	**323**	P	**P**	**05 39 09.1**	**+1.1**
	1.1nm,0.9s,baz=113,slow=7.3,SNR=4.6						
KURBB	**Kurchatov Arra**	**72.50**	**325**	P	**P**	**05 39 33.1**	**+0.8**
	0.3nm,0.4s,baz=114,slow=5.5,SNR=3.2						

*ISCJB **27** 05:32:34.9±0.4, 37°.94N±0°.02×21°.14E±0°.02, h8km±3km, Error ellipse: s-maj=3.7km s-min=3.2km az=20.3*
*ATH **27** 05:32:34.4, 37°.95N×21°.16E, h16km±3km, ML2.3/2, Error ellipse: s-maj=3.1km s-min=1.0km az=196.0*
*CSEM **27** 05:32:34.5±0.2, 37°.93N×21°.15E, h10km, ML2.3, Error ellipse: s-maj=3.8km s-min=3.3km az=18.0*
*THE **27** 05:32:34.8, 37°.94N×21°.15E, h8km±1km, ML2.5/13, Error ellipse: s-maj=1.9km s-min=0.6km az=208.0*
ISC 27 05:32:34.8±0.8, 37°.94N±0°.02×21°.18E±0°.02, h16km±4km, n59, σ0§90/103, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.03**	**164**	P	**Pg**	**05 32 37.0**	**-0.6**
VTN				S	**Sg**	**05 32 39.7**	**+0.3**
VTN	**Vitineika**	**0.03**	**164**	P	**Pg**	**05 32 37.0**	**-0.6**
VTN				S	**Sg**	**05 32 39.7**	**+0.3**
RLS	**Riolos of Patr**	**0.26**	**63**	P	**Pg**	**05 32 40.0**	**-0.4**
RLS				S	**Sb**	**05 32 44.5**	**-0.8**
RLS	**Riolos of Patr**	**0.26**	**63**	P	**Pg**	**05 32 40.0**	**-0.4**
RLS				S	**Sb**	**05 32 44.5**	**-0.8**
RLS	**Riolos of Patr**	**0.26**	**63**	S	**Sb**	**05 32 45.1**	**-0.2**
RLS				AML	AML	05 32 46.1	
	comp=E,1397μm,0.3s						
RLS				AML	AML	05 32 46.7	
	comp=N,1811μm,0.3s						
AXS	**Araxos**	**0.30**	**32**	P	**Pg**	**05 32 40.6**	**-0.5**
AXS				S	**Sg**	**05 32 45.7**	**+0.3**
AXS	**Araxos**	**0.30**	**32**	P	**Pg**	**05 32 40.6**	**-0.5**
AXS				S	**Sg**	**05 32 45.7**	**+0.3**
AXS	**Araxos**	**0.30**	**32**	P	**Pg**	**05 32 40.4**	**-0.8**
AXS				S	**Sg**	**05 32 45.1**	**-0.4**
KFL	**Anninata**	**0.35**	**299**	P	**Pg**	**05 32 41.2**	**-0.8**
KFL				S	**Sg**	**05 32 46.9**	**-0.1**
KFL	**Anninata**	**0.35**	**299**	P	**Pg**	**05 32 41.6**	**-0.4**
KFL				S	**Sg**	**05 32 46.8**	**-0.1**
KFL	**Anninata**	**0.35**	**299**	P	**Pg**	**05 32 41.6**	**-0.4**
KFL				S	**Sg**	**05 32 46.9**	**-0.1**
ZKS	**Zakynthos**	**0.40**	**232**	P	**Pg**	**05 32 42.2**	**-0.6**
ZKS				S	**Sg**	**05 32 48.4**	**+0.1**
ZKS	**Zakynthos**	**0.40**	**232**	P	**Pg**	**05 32 42.0**	**-0.9**
ZKS				S	**Sg**	**05 32 48.4**	**+0.1**
ZKS	**Zakynthos**	**0.40**	**232**	P	**Pg**	**05 32 42.0**	**-0.9**
ZKS				S	**Sg**	**05 32 49.0**	**-0.4**
DRO	**Drossia**	**0.42**	**89**	P	**Pg**	**05 32 42.8**	**-0.5**
DRO				S	**Sb**	**05 32 50.2**	**+0.1**
DRO	**Drossia**	**0.42**	**89**	P	**Pg**	**05 32 42.8**	**-0.5**
DRO				S	**Sb**	**05 32 50.2**	**+0.1**
DRO	**Drossia**	**0.42**	**89**	P	**Pg**	**05 32 42.6**	**-0.7**
DRO				S	**Sb**	**05 32 50.5**	**+0.4**
DRO				AML	AML	05 32 52.4	
	comp=E,2144μm,0.3s						
DRO				AML	AML	05 32 56.5	
	comp=N,1381μm,0.3s						
VLS	**Valsamata**	**0.52**	**297**	P	**Pg**	**05 32 44.0**	**-1.1**
VLS				S	**Sg**	**05 32 51.0**	**-1.1**
VLS	**Valsamata**	**0.52**	**297**	P	**Pg**	**05 32 44.0**	**-1.1**
VLS				S	**Sg**	**05 32 51.0**	**-1.1**
PDO	**Prodromos**	**0.65**	**1**	P	**Pg**	**05 32 47.4**	**-0.3**
PDO				S	**Sb**	**05 32 57.6**	**+0.8**
PDO	**Prodromos**	**0.65**	**1**	P	**Pg**	**05 32 47.4**	**-0.3**
PDO				S	**Sb**	**05 32 57.6**	**+0.8**
PDO	**Prodromos**	**0.65**	**1**	P	**Pg**	**05 32 47.4**	**-0.3**
LAKA	**Lakka**	**0.70**	**65**	P	**Pb**	**05 32 48.2**	**-0.4**
LAKA				S	**Sn**	**05 32 59.8**	**-0.9**
LAKA	**Lakka**	**0.70**	**65**	P	**Pb**	**05 32 48.3**	**-0.4**
LAKA				S	**Sn**	**05 32 59.8**	**-0.9**
LAKA	**Lakka**	**0.70**	**65**	P	**Pg**	**05 32 48.3**	**-0.4**
PVO	**Paravola**	**0.73**	**22**	P	**Pg**	**05 32 48.9**	**-0.1**
PVO

EFP				S		**Sn**	**05 33 01.6**	**-0.3**
KLV	**Kalavryta, Ach**	**0.78**	**82**	P		**Pg**	**05 32 49.2**	**-0.8**
KLV				S		**Sn**	**05 33 01.8**	**-0.8**
KLV	**Kalavryta, Ach**	**0.78**	**82**	P		**Pg**	**05 32 49.2**	**-0.8**
KLV				S		**Sn**	**05 33 01.8**	**-0.8**
KLV	**Kalavryta, Ach**	**0.78**	**82**	P		**Pg**	**05 32 48.2**	**-1.8**
TRIZ	**Trizonia**	**0.82**	**59**	P		**Pg**	**05 32 50.3**	**-0.5**
ANX	**Ano Chora**	**0.88**	**42**	P		**Pg**	**05 32 51.1**	**-0.7**
ANX				S		**Sn**	**05 33 04.6**	**-0.5**
ANX	**Ano Chora**	**0.88**	**42**	P		**Pb**	**05 32 51.5**	**-0.2**
ANX				S		**Sn**	**05 33 04.6**	**-0.5**
KALE	**Kalithea**	**0.88**	**59**	P		**Pg**	**05 32 50.9**	**-1.0**
KALE				S		**Sn**	**05 33 05.5**	**+0.3**
KALE	**Kalithea**	**0.88**	**59**	P		**Pg**	**05 32 50.9**	**-1.0**
KALE				S		**Sn**	**05 33 05.5**	**+0.3**
KALE	**Kalithea**	**0.88**	**59**	P		**Pg**	**05 32 50.4**	**-1.5**
GUR	**Goura**	**0.92**	**90**	P		**Pg**	**05 32 51.5**	**-1.2**
GUR				S		**Sn**	**05 33 06.9**	**+0.6**
GUR	**Goura**	**0.92**	**90**	P		**Pg**	**05 32 51.5**	**-1.2**
GUR				S		**Sn**	**05 33 06.9**	**+0.6**
LKD2	**Lefkada island**	**0.94**	**334**	P		**Pg**	**05 32 51.5**	**-1.5**
LKD2				S		**Sb**	**05 33 05.9**	**+0.9**
LKD2	**Lefkada island**	**0.94**	**334**	P		**Pg**	**05 32 51.5**	**-1.5**
LKD2				S		**Sb**	**05 33 05.9**	**+0.9**
TRIP	**Tripoli**	**0.96**	**115**	P		**Pn**	**05 32 54.7**	**+0.9**
TRIP	**Tripoli**	**0.96**	**115**	P		**Pn**	**05 32 54.7**	**+0.9**
ITM	**Ithomi**	**0.97**	**142**	P		**Pb**	**05 32 53.1**	**-0.2**
ITM				S		**Sn**	**05 33 07.5**	**+0.2**
ITM	**Ithomi**	**0.97**	**142**	P		**Pb**	**05 32 53.1**	**-0.2**
ITM				S		**Sn**	**05 33 07.5**	**+0.2**
EVR	**Evrytania**	**1.09**	**27**	P		**Pn**	**05 32 56.8**	**+1.2**
EVR	**Evrytania**	**1.09**	**27**	P		**Pb**	**05 32 56.8**	**+1.2**
PYL	**PYLOS**	**1.14**	**157**	P		**Pb**	**05 32 55.4**	**-0.8**
PYL				S		**Sn**	**05 33 13.9**	**+2.4**
PYL	**PYLOS**	**1.14**	**157**	P		**Pb**	**05 32 55.4**	**-0.8**
PYL				S		**Sn**	**05 33 13.9**	**+2.4**
DSF	**Desfina**	**1.16**	**66**	P		**Pb**	**05 32 56.1**	**-0.5**
DSF				S		**Sn**	**05 33 13.6**	**+1.4**
DSF	**Desfina**	**1.16**	**66**	P		**Pb**	**05 32 56.1**	**-0.5**
DSF				S		**Sn**	**05 33 13.6**	**+1.4**
DSL	**Palaion Diasel**	**1.19**	**357**	P		**Pn**	**05 32 56.3**	**-0.6**
DSL				S		**Sn**	**05 33 15.2**	**+2.4**
DSL	**Palaion Diasel**	**1.19**	**357**	P		**Pn**	**05 32 56.3**	**-0.6**
DSL				S		**Sn**	**05 33 15.2**	**+2.4**
DID	**Didima**	**1.69**	**104**	P		**Pb**	**05 33 05.6**	**0.0**
DID	**Didima**	**1.69**	**104**	P		**Pb**	**05 33 05.6**	**0.0**
KPRO	**Kipourio**	**2.01**	**4**	P		**Pb**	**05 33 10.2**	**-0.9**
KPRO	**Kipourio**	**2.01**	**4**	P		**Pb**	**05 33 10.2**	**-0.9**

IDC 27 05:35:40.4±2.2, 33°36S×179°12W, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.7/27, mbtmp3.8/3, ML3.8/1, MS3.4/1, Ms1 3.3/1, ms1mx2.6/31, Error ellipse: s-maj=62.8km s-min=40.4km az=134.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.77**	**211**	Pn	Pn	05 37 06.7	-0.6
	2.7nm,0.3s,baz=279,slow=4.4,SNR=10						
URZ				Sn	Sn	05 38 08.7	-5.5
	3.4nm,0.3s,baz=253,slow=22,SNR=7.0						
STKA	**Stephens Creek**	**32.99**	**262**	LR	LR	05 54 13.7	
	comp=Z,62nm,19.7s,baz=32,slow=34						
ASAR	**Alice Springs**	**42.10**	**271**	P	P	05 43 34.3	-0.1
	0.5nm,0.7s,baz=109,slow=8.0,SNR=5.1						
WRA	**Warramunga Arr**	**43.35**	**276**	P	P	05 43 44.5	-0.1
	1.0nm,0.7s,baz=116,slow=7.8,SNR=11						
FINES	**FINESS Array B**	**147.55**	**338**	PKPbc	PKPbc	05 55 25.5	-0.2
	1.3nm,0.7s,baz=66,slow=4.7,SNR=3.4						
NB2	**NORSAR Array B**	**151.50**	**349**	PKP	PKPbc	05 55 35.8	+0.1
	comp=Z,0.6nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.50**	**349**	PKPbc	PKPbc	05 55 35.1	-0.6
	comp=Z,0.5nm,0.7s,baz=18,slow=4.2,SNR=3.7						

WEL 27 05:44:44.7±0.4, 37.76S×178.31E, h45km±3km, ML3.8/4, 5C-5D, Error ellipse: s-maj=3.8km s-min=2.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.10**	**124**	PN	Pn	05 44 51.8	-0.1
WMGZ				SN	Sn	05 44 57.7	+0.7
MXZ	**Matakaoa Point**	**0.20**	**0**	↑PN	Pn	05 44 52.3	-0.2
MXZ				SN	Sn	05 44 58.6	+0.8
MXZ				AML	AML	05 44 58.7	
MXZ				AML	AML	05 44 58.7	
MXZ				AML	AML	05 44 59.4	
PUZ	**Puketiti**	**0.31**	**187**	↑PN	Pn	05 44 53.1	-0.5
PUZ				SN	Sn	05 44 59.6	-0.2
PUZ				AML	AML	05 45 02.5	
HAZ	**Te Kaha**	**0.41**	**270**	↓PN	Pn	05 44 53.2	-1.3
HAZ				SN	Sn	05 44 59.5	-2.0
TWGZ	**Tauwhareparae**	**0.49**	**212**	↑PN	Pn	05 44 55.3	-0.3
CNGZ	**Carnagh Statio**	**0.73**	**186**	PN	Pn	05 44 58.9	+0.3
TKGZ	**Te Karaka**	**0.77**	**208**	PN	Pn	05 44 59.0	-0.1
MWZ	**Matawai**	**0.84**	**227**	↑PN	Pn	05 44 59.9	-0.2
MWZ				AML	AML	05 45 13.6	
MWZ				AML	AML	05 45 13.6	
MWZ				AML	AML	05 45 13.9	
RAGZ	**Rawiri**	**1.02**	**223**	PN	Pn	05 45 02.7	+0.1
RIGZ	**Rimuhau**	**1.04**	**204**	↓PN	Pn	05 45 02.6	-0.3
URZ	**Urewera**	**1.07**	**242**	↓PN	Pn	05 45 03.1	-0.1
URZ				SN	Sn	05 45 17.3	+0.5
URZ				AML	AML	05 45 17.8	
SNGZ	**Shannon Statio**	**1.27**	**216**	PN	Pn	05 45 06.0	0.0
RTZ	**Ruatahuna**	**1.35**	**230**	PN	Pn	05 45 07.9	+0.8
KNZ	**Kokohu**	**1.35**	**201**	PN	Pn	05 45 05.9	-1.2
OPRZ	**Ohinepanea**	**1.39**	**266**	PN	Pn	05 45 06.8	-0.8
MHGZ	**Mahia Peninsul**	**1.43**	**193**	PN	Pn	05 45 07.3	-0.8
NMHZ	**Naumai**	**1.78**	**221**	PN	Pn	05 45 13.5	+0.5
MRHZ	**Matea Rd**	**1.83**	**234**	PN	Pn	05 45 14.2	+0.5
BKZ	**Black Stump Fm**	**2.00**	**225**	PN	Pn	05 45 16.0	0.0
MCHZ	**McNeill Hill**	**2.10**	**216**	PN	Pn	05 45 17.2	-0.2
KUZ	**Kuaotunu**	**2.30**	**295**	↓PN	Pn	05 45 19.1	-0.9
KAHZ	**Kahuranaki**	**2.32**	**208**	PN	Pn	05 45 18.9	-1.5
KRHZ	**Kereru**	**2.41**	**218**	PN	Pn	05 45 20.9	-0.8
PXZ	**Pawanui**	**2.53**	**206**	PN	Pn	05 45 21.2	-2.0
NGZ	**Ngauruhoe**	**2.55**	**236**	PN	Pn	05 45 23.6	0.0
MKAZ	**Moumakai**	**2.59**	**284**	↑PN	Pn	05 45 23.5	-0.5
WNVZ	**Wahianoa**	**2.64**	**233**	↓PN	Pn	05 45 24.7	-0.2
GRZ	**Great Barrier**	**2.73**	**303**	PN	Pn	05 45 25.6	-0.4
TSZ	**Takapari Road**	**2.94**	**218**	PN	Pn	05 45 26.8	-2.0
WAZ	**Wanganui**	**3.27**	**231**	PN	Pn	05 45 33.5	0.0

MEX 27 05:52:20.5±1.0, 14°80N×93°83W, h16km±999km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.07**	**33**	*e*P	Pb	05 52 36.8	-3.9
PCIG				*e*S	Sb	05 52 49.8	-4.7
CCIG	**Comitan**	**2.20**	**48**	*e*P	Pn	05 52 55.6	-0.9
CCIG				*e*S	Sn	05 53 20.1	-3.3

RSNC 27 05:58:23.0±0.6, 8°.80N×77°.48W, h58km±54km, ML3.2
FUNV 27 05:59:13.9, 9°.58N×73°.72W, h35km, MW2.3
ISC 27 05:58:22.8±2.7, 8°.83N±0°.07×77°.4W±0°.1, h35km, n30, σ1§14/35, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOTC	**Monteria, Cord**	**1.75**	**92**	↓*i*P	**Pn**	**05 58 50.9**	**+0.1**
MOTC				*e*S	**Sn**	**05 59 13.1**	**+1.2**
MOTC				*i*		05 59 15.9	
	comp=Z,133nm,0.6s						
DBBC	**Dabeiba**	**2.17**	**146**	*e*P	**Pn**	**05 58 56.4**	**-0.3**
DBBC				*i*		05 59 01.3	
	comp=Z,46nm,0.3s						
SJCC	**San Jacinto, C**	**2.47**	**64**	*e*P	**Pn**	**05 59 01.0**	**+0.3**
SJCC				*e*S	**Sn**	**05 59 31.1**	**+1.5**
SJCC				*i*		05 59 40.7	
	comp=Z,24nm,0.5s						
SOLC	**Bahia Solano**	**2.59**	**179**	*e*P	**Pn**	**05 59 01.3**	**-1.0**
SOLC				*i*		05 59 06.4	
	comp=Z,26nm,0.4s						
HELC	**Santa Helena**	**3.23**	**144**	*e*P	**Pn**	**05 59 10.8**	**-0.6**
HELC				*e*S	**Sn**	**05 59 48.4**	**-0.6**
HELC				*i*		05 59 51.5	
	comp=Z,21nm,0.3s						

BRRC	**Barranca, Sant**	**4.07**	**115**	*e*P		**Pn**	**05 59 22.8**	**+0.1**
BRRC				*e*S		**Sn**	**06 00 08.3**	**-0.7**
BRRC				*i*			06 00 13.4	
	comp=Z,67nm,0.3s							
OCAC	**Ocana**	**4.11**	**98**	*e*P		**Pn**	**05 59 23.5**	**+0.1**
OCAC				*i*			06 00 16.5	
	comp=Z,106nm,0.4s							
NORC	**Norcasia**	**4.13**	**142**	*e*P		**Pn**	**05 59 23.9**	**+0.4**
BTLC	**Betulia, Santa**	**4.55**	**114**	*e*P		**Pn**	**05 59 29.7**	**+0.3**
TOLC	**Tolima**	**4.71**	**153**	*e*P		**Pn**	**05 59 35.1**	**+3.3**
GRMC	**Gramalote, San**	**4.72**	**103**	*e*P		**Pn**	**05 59 31.0**	**-0.7**
GRMC				*e*S		**Sn**	**06 00 24.5**	**-0.8**
GRMC				*i*			06 00 28.0	
	comp=Z,112nm,0.7s							
CBRI	**Barrientos, No**	**4.72**	**103**	*e*P		**Pn**	**05 59 31.9**	**+0.1**
BARC	**Barichara**	**4.77**	**118**	*e*P		**Pn**	**05 59 31.9**	**-0.6**
BARC				*i*			06 00 30.5	
	comp=Z,79nm,0.4s							
RUSC	**La Rusia**	**5.21**	**124**	*e*P		**Pn**	**05 59 40.5**	**+1.7**
VIRV	**Villa del Rosa**	**5.23**	**71**	*e*P		**Pn**	**05 59 38.7**	**+0.1**
PRAC	**Prado**	**5.68**	**153**	*e*P		**Pn**	**05 59 45.5**	**+0.6**
PRAC				*i*			05 59 50.6	
	comp=Z,20nm,0.3s							
VILC	**Villavicencio,**	**5.98**	**141**	*e*P		**Pn**	**05 59 49.6**	**+0.5**
VIGV	**El Vigia**	**6.00**	**89**	*e*P		**Pn**	**05 59 50.1**	**+0.8**
URIC	**Uribia, Colomb**	**6.07**	**62**	*e*P		**Pn**	**05 59 50.4**	**+0.2**
SJAC	**San Juan de Ar**	**6.52**	**148**	*e*P		**Pn**	**05 59 58.1**	**+1.6**
SJAC				*i*			06 00 06.6	
	comp=Z,28nm,0.3s							
SOCV	**Socops**	**6.53**	**94**	*e*P		**Pn**	**05 59 58.7**	**+2.1**
DABV	**Dabajuro**	**7.01**	**72**	*e*P		**Pn**	**06 00 02.5**	**-0.6**
CURV	**Curarigua**	**7.47**	**80**	*e*P		**Pn**	**06 00 08.2**	**-1.2**
SIQV	**Siquisique**	**7.73**	**76**	*e*P		**Pn**	**06 00 11.7**	**-1.4**
SANV	**Sanarito**	**7.83**	**85**	*e*P		**Pn**	**06 00 13.7**	**-0.7**
MONV	**Montecano**	**7.97**	**66**	*e*P		**Pn**	**06 00 16.2**	**-0.1**
TEPV	**Terepaima**	**8.21**	**81**	*e*P		**Pn**	**06 00 18.4**	**-1.2**
MAPV	**Macapo**	**8.92**	**83**	*e*P		**Pn**	**06 00 28.3**	**-1.0**
BAUV	**El Baul**	**9.28**	**89**	*e*P		**Pn**	**06 00 33.3**	**-1.0**
TURV	**Turiamo**	**9.60**	**80**	*e*P		**Pn**	**06 00 36.7**	**-1.9**

IDC 27 06:01:45.3±1.5, 36°.55N×143°.15E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/38, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=39.8km s-min=23.3km az=135.0
ISCJB 27 06:01:47.8±0.8, 36°.68N±0°.04×142°.96E±0°.06, h29km, mb3.4/2, Error ellipse: s-maj=7.0km s-min=5.8km az=6.6
JMA 27 06:01:48.7±0.1, 36°.72N×142°.94E, h46km, M3.4
ISC 27 06:01:49.1±1.2, 36°.70N±0°.05×142°.99E±0°.08, h29km, n20, σ1§10/27, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.80**	**284**	*e*S	**Sn**	**06 02 39.3**	**-0.9**
JFK	**Kawauchi**	**1.82**	**292**	P	**Pn**	**06 02 17.9**	**-0.6**
JFK				*e*S	**Sn**	**06 02 39.3**	**-1.3**
JHO	**Hitachi**	**1.95**	**268**	P	**Pn**	**06 02 20.1**	**-0.1**
JHO				*e*S	**Sn**	**06 02 43.1**	**-0.6**
JFT	**Otama**	**2.27**	**292**	S	**Sn**	**06 02 51.6**	**-0.2**
BSO1	**Boso 1**	**2.61**	**219**	P	**Pn**	**06 02 29.1**	**+0.2**
JMK	**Ichinoseki**	**2.65**	**329**	S	**Sn**	**06 02 59.8**	**-1.3**
JAG	**Ashikaga**	**2.86**	**266**	P	**Pn**	**06 02 32.9**	**+0.1**
JAG				*e*S	**Sn**	**06 03 05.7**	**-0.5**
JYK	**Kaneyama**	**3.04**	**318**	P	**Pn**	**06 02 35.5**	**+0.2**
JYK				*e*S	**Sn**	**06 03 10.1**	**-0.7**
JOM	**Ohasama**	**3.08**	**335**	P	**Pn**	**06 02 36.1**	**+0.3**
JRY	**Ryogami san**	**3.37**	**260**	P	**Pn**	**06 02 39.8**	**0.0**
JRY				*e*S	**Sn**	**06 03 18.0**	**-0.8**
JOD2	**Odawara 2**	**3.47**	**247**	P	**Pn**	**06 02 41.3**	**+0.1**
JOD2				*e*S	**Sn**	**06 03 20.3**	**-1.1**
JYN	**Shimob**	**3.79**	**253**	P	**Pn**	**06 02 46.5**	**+0.8**
JYN				*e*S	**Sn**	**06 03 29.4**	**0.0**
MJAR	**Matsushiro Arr**	**3.85**	**269**	Pn	**Pn**	**06 02 47.6**	**+1.2**
	2.0nm,0.3s,baz=89,slow=15,SNR=7.9						
MJAR				Sn	**Sn**	**06 03 34.5**	**+3.8**
	1.1nm,0.3s,baz=79,slow=29,SNR=4.7						
MAT	**Matsushiro**	**3.85**	**269**	P	**Pn**	**06 02 46.8**	**+0.4**
MAT				*e*S	**Sn**	**06 03 30.1**	**-0.6**
JHJ	**Hachijo jima 2**	**4.43**	**217**	Pn	**Pn**	**06 02 54.7**	**+0.2**
	6.7nm,0.3s,baz=217,slow=17,SNR=1.9						
JHJ				Sn	**Sn**	**06 03 43.3**	**-1.8**
	16nm,0.3s,baz=64,slow=21,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**26.89**	**122**	T	T	06 35 31.3	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**26.90**	**122**	T	T	06 35 29.9	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**26.91**	**122**	T	T	06 35 38.7	
	baz=314						
ILAR	**Eielson Array**	**49.10**	**32**	P	**P**	**06 10 34.3**	**+0.7**
	0.3nm,0.8s,baz=257,slow=6.2,SNR=3.4						
WRA	**Warramunga Arr**	**56.92**	**190**	P	**P**	**06 11 31.4**	**-0.3**
	0.3nm,0.7s,baz=8.1,slow=7.3,SNR=4.7						

NAO 27 06:07:42.6±1.6, 66°.04N×29°.23E, ML2.5
ISCJB 27 06:07:43.4±0.3, 66°.16N±0°.02×29°.06E±0°.05, h0km, Error ellipse: s-maj=3.0km s-min=2.6km az=172.8
IDC 27 06:07:43.4±2.2, 65°.98N×29°.46E, h0km, mb1 2.7/3, mb1mx2.7/42, mbtmp2.6/3, ML2.5/3, Error ellipse: s-maj=39.0km s-min=7.8km az=94.0
BER 27 06:07:44.8±2.0, 66°.10N×29°.37E, h0km, ML2.0, ML2.5(NAO), Suspected explosion
UPP 27 06:07:44.5±1.8, 66°.11N×29°.07E, h0km, ML1.9, Suspected explosion
CSEM 27 06:07:44.2±0.2, 66°.11N×29°.11E, h1km, ML2.5, Error ellipse: s-maj=4.6km s-min=4.2km az=77.0, Suspected Mining explosion.
KOLA 27 06:07:45.0, 66°.15N×29°.21E, h0km
HEL 27 06:07:45.3±0.0, 66°.05N×29°.35E, h24km, ML2.5, ML2.5(NAO), ML2.0(BER)
ISC 27 06:07:43.8±0.7, 66°.07N±0°.02×29°.28E±0°.02, h0km, n87, σ1§80/146, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSF	**Maaselka**	**0.19**	**212**	*i* P	**Pg**	**06 07 50.3**	**+2.9**
MSF				*i* S	**Sg**	**06 07 54.1**	**+4.3**
MSF	**Maaselka**	**0.19**	**212**	P	**Pg**	**06 07 50.2**	**+2.9**
MSF				S	**Sg**	**06 07 54.0**	**+4.3**
KU6	**Riekki**	**0.25**	**100**	*i* P	**Pg**	**06 07 50.7**	**+2.0**
KU6				*i* S	**Sg**	**06 07 54.8**	**+2.9**
KU6	**Riekki**	**0.25**	**100**	P	**Pg**	**06 07 50.6**	**+2.0**
KU6				S	**Sg**	**06 07 54.7**	**+2.9**
KU4	**Liikasenvaara**	**0.32**	**22**	*e*P	**Pb**	**06 07 52.1**	**-0.3**
KU4				*e*S	**Sb**	**06 07 57.0**	**-1.1**
KU7	**Kasma**	**0.35**	**207**	*e*P	**Pg**	**06 07 52.4**	**+2.0**
KU7				*e*S	**Sg**	**06 07 57.6**	**+2.7**
KU1	**Kurvinen**	**0.52**	**167**	*e*P	**Pg**	**06 07 54.6**	**+0.9**
KU1				*e*S	**Sg**	**06 08 01.2**	**+0.8**
KU8	**KU8**	**0.55**	**266**	*e*P	**Pg**	**06 07 55.9**	**+1.6**
KU8				*e*S	**Sg**	**06 08 03.4**	**+2.0**
KU2	**Taivalkoski**	**0.56**	**231**	*e*P	**Pg**	**06 07 55.8**	**+1.3**
KU2				*e*S	**Sg**	**06 08 03.5**	**+1.6**
RNF	**Rovaniemi**	**1.43**	**294**	*e*P	**Pn**	**06 08 10.7**	**-0.3**
RNF				*e*S	**Sg**	**06 08 29.1**	**-0.4**
RNF	**Rovaniemi**	**1.43**	**294**	P	**Pn**	**06 08 10.6**	**-0.3**
RNF				S	**Sg**	**06 08 29.1**	**-0.4**
VRF	**Varrio**	**1.69**	**4**	*e*PB	**Pn**	**06 08 15.0**	**+0.4**
VRF				*e*SB	**Sn**	**06 08 36.5**	**-0.5**
VRF	**Varrio**	**1.69**	**4**	Pb	**Pn**	**06 08 14.9**	**+0.4**
VRF				Sb	**Sn**	**06 08 36.4**	**-0.5**
OUL	**Oulu**	**1.72**	**237**	*e*PB	**Pn**	**06 08 15.2**	**+0.2**
OUL				*e*SB	**Sn**	**06 08 37.0**	**-0.6**
OUL	**Oulu**	**1.72**	**237**	Pb	**Pn**	**06 08 15.1**	**+0.2**
OUL				Sb	**Sn**	**06 08 36.9**	**-0.6**
SGF	**Sodankyl**	**1.76**	**323**	Pb	**Pb**	**06 08 17.7**	**+0.8**
SGF				Sb	**Sb**	**06 08 40.3**	**+0.8**
TOF	**Tornio**	**2.02**	**273**	*e*P	**Pn**	**06 08 18.5**	**-0.6**
TOF				*e*S	**Sn**	**06 08 43.0**	**-2.0**
TOF	**Tornio**	**2.02**	**273**	P	**Pn**	**06 08 18.5**	**-0.6**
TOF				S	**Sn**	**06 08 43.0**	**-2.0**
APA0	**Apatity Array**	**2.13**	**42**	P	**Pn**	**06 08 20.8**	**+0.2**
APA0				S	**Sn**	**06 08 47.4**	**-0.3**
APA	**Apatity**	**2.22**	**45**	P	**Pn**	**06 08 22.1**	**+0.3**
PAJU	**Pajala**	**2.65**	**294**	P	**Pn**	**06 08 27.0**	**-0.7**
PAJU				S	**Sn**	**06 08 58.3**	**-2.2**
PAJU	**Pajala**	**2.65**	**294**	*e*P	**Pn**	**06 08 27.0**	**-0.7**
PAJU				*e*S	**Sn**	**06 08 58.3**	**-2.2**
PAJU	**Pajala**	**2.65**	**294**	P	**Pn**	**06 08 27.0**	**-0.7**
PAJU				S	**Sn**	**06 08 58.3**	**-2.2**

ERTU	**Ertsjaerv**	**2.91**	**283**	P		**Pn**	**06 08 30.8**	**-0.4**
ERTU				S		**Sn**	**06 09 05.2**	**-1.6**
ERTU	**Ertsjaerv**	**2.91**	**283**	*e*P		**Pn**	**06 08 30.8**	**-0.4**
ERTU				*e*S		**Sn**	**06 09 05.2**	**-1.6**
ERTU	**Ertsjaerv**	**2.91**	**283**	P		**Pn**	**06 08 30.8**	**-0.4**
ERTU				S		**Sn**	**06 09 05.2**	**-1.6**
MASU	**Masugnsbyn**	**3.21**	**299**	P		**Pn**	**06 08 35.1**	**-0.3**
MASU				S		**Sn**	**06 09 12.0**	**-2.3**
MASU	**Masugnsbyn**	**3.21**	**299**	*e*P		**Pn**	**06 08 35.1**	**-0.3**
MASU				*e*S		**Sn**	**06 09 12.0**	**-2.3**
MASU	**Masugnsbyn**	**3.21**	**299**	P		**Pn**	**06 08 35.1**	**-0.3**
MASU				S		**Sn**	**06 09 12.0**	**-2.3**
HEF	**Hetta**	**3.21**	**320**	*e*P		**Pn**	**06 08 34.6**	**-0.8**
HEF				*e*S		**Sn**	**06 09 11.4**	**-3.0**
HEF				MSG			06 09 29.2	
	comp=Z,9.0nm,0.2s							
HEF	**Hetta**	**3.21**	**320**	P		**Pn**	**06 08 34.6**	**-0.8**
HEF				S		**Sn**	**06 09 11.3**	**-3.0**
SJUU	**Sjulsmark**	**3.21**	**263**	P		**Pn**	**06 08 35.2**	**-0.2**
SJUU				S		**Sn**	**06 09 13.9**	**-0.5**
SJUU	**Sjulsmark**	**3.21**	**263**	*e*P		**Pn**	**06 08 35.2**	**-0.2**
SJUU				*e*S		**Sn**	**06 09 13.9**	**-0.5**
SJUU	**Sjulsmark**	**3.21**	**263**	P		**Pn**	**06 08 35.2**	**-0.2**
SJUU				S		**Sn**	**06 09 13.9**	**-0.5**
JOF	**Joensuu**	**3.28**	**164**	*e*P		**Pn**	**06 08 33.2**	**-3.2**
JOF				*e*S		**Sn**	**06 09 09.5**	**-6.6**
JOF	**Joensuu**	**3.28**	**164**	P		**Pn**	**06 08 33.2**	**-3.2**
HARU	**Harads**	**3.38**	**275**	P		**Pn**	**06 08 37.2**	**-0.5**
HARU				S		**Sn**	**06 09 16.6**	**-1.9**
HARU	**Harads**	**3.38**	**275**	*e*P		**Pn**	**06 08 37.2**	**-0.5**
HARU				*e*S		**Sn**	**06 09 16.6**	**-1.9**
HARU	**Harads**	**3.38**	**275**	P		**Pn**	**06 08 37.2**	**-0.5**
HARU				S		**Sn**	**06 09 16.6**	**-1.9**
LANU	**Lannavaara**	**3.48**	**308**	P		**Pn**	**06 08 37.8**	**-1.3**
LANU	**Lannavaara**	**3.48**	**308**	*e*P		**Pn**	**06 08 37.9**	**-1.3**
LANU				*e*S		**Sn**	**06 09 17.6**	**-3.4**
LANU	**Lannavaara**	**3.48**	**308**	P		**Pn**	**06 08 37.9**	**-1.3**
LANU				S		**Sn**	**06 09 17.6**	**-3.4**
DUNU	**Dundret**	**3.63**	**291**	P		**Pn**	**06 08 41.3**	**0.0**
DUNU				S		**Sn**	**06 09 22.1**	**-2.7**
DUNU	**Dundret**	**3.63**	**291**	*e*P		**Pn**	**06 08 41.3**	**0.0**
DUNU				*e*S		**Sn**	**06 09 22.1**	**-2.7**
DUNU	**Dundret**	**3.63**	**291**	P		**Pn**	**06 08 41.3**	**0.0**
DUNU				S		**Sn**	**06 09 22.1**	**-2.7**
KTK1	**Kautokeino**	**3.76**	**325**	*e*P		**Pn**	**06 08 42.9**	**0.0**
KTK1				IAML			06 09 51.1	
	comp=Z,7.8nm,0.5s							
KTK1	**Kautokeino**	**3.76**	**325**	*e*P		**Pn**	**06 08 42.9**	**0.0**
KTK1				IAML			06 09 51.1	
	comp=Z,7.8nm,0.5s							
KTK1	**Kautokeino**	**3.76**	**325**	*e*P		**Pn**	**06 08 42.9**	**0.0**
	SNR=50							
ARA0	**ARCESS Array S**	**3.77**	**339**	Pn		**Pn**	**06 08 42.3**	**-0.7**
	baz=160,slow=14							
ARA0				Sn		**Sn**	**06 09 24.9**	**-3.1**
	baz=158,slow=28							
ARA0				Lg		Lg	06 09 39.9	
	baz=147,slow=37							
ARA0	**ARCESS Array S**	**3.77**	**339**	Pn		**Pn**	**06 08 42.3**	**-0.7**
	baz=160,slow=14							
ARA0				Sn		**Sn**	**06 09 24.9**	**-3.1**
	baz=158,slow=28							
ARA0				Lg		Lg	06 09 39.9	
	baz=147,slow=37							
ARA0	**ARCESS Array S**	**3.77**	**339**	Pn		**Pn**	**06 08 42.3**	**-0.7**
	SNR=50							
ARA0				Sn		**Sn**	**06 09 24.9**	**-3.1**
	SNR=50							
ARA0				Lg		Lg	06 09 39.9	
	SNR=30							
ARE0	**ARCES

MEX 27 06:07:43.4±0.5, 14°31N×92°42W, h14km±79km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.59**	**331**	*eP*	Pn	06 08 07.6	-3.5
CCIG	**Comitan**	**1.98**	**8**	*eP*	Pn	06 08 15.2	-1.5
CCIG				*eS*	Sn	06 08 15.3	-26

SCB 27 06:08:15.5±0.4, 21°.60S×66°.74W, h215km, Ml3.9/1, Error ellipse: s-maj=10.1km s-min=4.9km az=15.0
IDC 27 06:08:18.9±0.9, 21°.81S×66°.99W, h186km±13km, mb4.0/1, mb1 3.6/5, mb1mx3.4/28, mbtmp4.1/5, Error ellipse: s-maj=23.2km s-min=12.9km az=113.0
GUC 27 06:08:19.7±0.6, 21°.76S×67°.66W, h238km±7km, ML4.4
ISC 27 06:08:19.2±0.8, 21°.75S±0°.05×67°.11W±0°.07, h197km±9km, n26, σ2s09/44, 17C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.88**	**242**	P	**Pn**	**06 08 57.0**	**+0.3**
	1μm,0.3s,baz=53,slow=7.1,SNR=568						
LVC				S	**Sn**	**06 09 25.1**	**-0.7**
	2μm,0.3s,baz=250,slow=20,SNR=52						
PB09	**IPOC Station P**	**1.98**	**268**	⇑*iP*	**Pn**	**06 08 58.2**	**+0.6**
PB09				*i* S	**Sn**	**06 09 27.2**	**0.0**
PB09				IAML		06 09 33.1	
	comp=E,1μm,0.4s						
PB01	**IPOC Station P**	**2.32**	**287**	⇑*iP*	**Pn**	**06 09 01.3**	**+0.2**
PB01				*i* S	**Sn**	**06 09 33.0**	**-0.6**
PB01				IAML		06 09 34.0	
	comp=N,2μm,0.3s						
PB06	**IPOC Station P**	**2.47**	**247**	⇑*iP*	**Pn**	**06 09 02.5**	**-0.4**
PB06				IAML		06 09 36.8	
	comp=E,926nm,0.4s						
PB08	**IPOC Station P**	**2.49**	**310**	⇑*iP*	**Pn**	**06 09 04.7**	**+1.5**
PB08				*i* S	**Sn**	**06 09 39.0**	**+1.5**
PB08				IAML		06 09 40.5	
	comp=N,351nm,0.4s						
PB07	**IPOC Station P**	**2.58**	**270**	⇑*iP*	**Pn**	**06 09 04.1**	**+0.1**
PB07				*i* S	**Sn**	**06 09 37.3**	**-1.7**
PB07				IAML		06 09 37.7	
	comp=E,2μm,0.4s						
PB04	**IPOC Station P**	**2.88**	**258**	⇑*iP*	**Pn**	**06 09 06.9**	**-0.6**
PB04				*i* S	**Sn**	**06 09 42.5**	**-2.6**
PB04				IAML		06 09 43.4	
	comp=N,769nm,0.3s						
HMBC	**Humberstone**	**2.98**	**299**	⇑*iP*	**Pn**	**06 09 08.4**	**-0.2**
HMBC				*i* S	**Sn**	**06 09 45.7**	**-1.5**
HMBC				IAML		06 09 48.0	
	comp=E,868nm,0.4s						
MNMC	**Minye Minye**	**3.49**	**318**	⇑*iP*	**Pn**	**06 09 15.8**	**+0.8**
MNMC				*i* S	**Sn**	**06 09 58.7**	**+0.2**
MNMC				IAML		06 10 01.8	
	comp=N,640nm,0.1s						
PSGC	**Pisagua**	**3.54**	**307**	⇑*iP*	**Pn**	**06 09 14.4**	**-0.9**
PSGC				*i* S	**Sn**	**06 09 56.5**	**-2.8**
PSGC				IAML		06 10 00.3	
	comp=E,204nm,0.2s						
ANCH	**Antofagasta**	**3.61**	**237**	⇑*iP*	**Pn**	**06 09 15.8**	**-0.2**
ANCH				*i* S	**Sn**	**06 09 56.8**	**-3.7**
PB10	**IPOC Station P**	**3.64**	**240**	⇑*iP*	**Pn**	**06 09 15.5**	**-0.9**
PB10				IAML		06 10 01.3	
	comp=E,1μm,0.3s						
PB12	**IPOC Station P**	**4.34**	**315**	⇑*iP*	**Pn**	**06 09 24.1**	**-1.2**
PB12				*i* S	**Sn**	**06 10 14.5**	**-2.7**
BBOJ	**La Paz, Jacaqu**	**4.85**	**348**	⇑*ePn*	**Pn**	**06 09 34.1**	**+1.8**
BBOE	**La Paz, Chanca**	**4.97**	**350**	⇑*ePn*	**Pn**	**06 09 35.0**	**+1.1**
BBOD	**La Paz, Gloria**	**5.27**	**344**	⇑*ePn*	**Pn**	**06 09 39.9**	**+2.3**
BBOD				*eSn*	**Sn**	**06 10 40.6**	**+1.2**
LPAZ	**La Paz**	**5.51**	**350**	P	**Pn**	**06 09 42.6**	**+1.7**
	comp=E,2.8nm,0.3s,baz=154,slow=5.3,SNR=114						
LPAZ				S	**Sn**	**06 10 46.8**	**+1.7**
	comp=E,0.4nm,0.3s,baz=250,slow=16,SNR=3.6						
LPAZ	**La Paz**	**5.51**	**350**	⇑*iPn*	**Pn**	**06 09 42.5**	**+1.7**
LPAZ				*eSn*	**Sn**	**06 10 46.2**	**+1.1**
BBOB	**La Paz, Bander**	**5.66**	**350**	⇑*ePn*	**Pn**	**06 09 44.0**	**+1.4**
BBOB				*eSn*	**Sn**	**06 10 47.9**	**-0.4**
	comp=E,88nm,1.2s						
SIV	**San Ignacio**	**8.09**	**46**	P	**Pn**	**06 10 12.4**	**-1.4**
	comp=E,3.7nm,0.3s,baz=248,slow=12,SNR=75						
SIV				S	**Sn**	**06 11 38.5**	**-6.4**
	comp=E,1.0nm,0.3s,baz=228,slow=14,SNR=3.8						
SIV	**San Ignacio**	**8.09**	**46**	⇑*iPn*	**Pn**	**06 10 12.3**	**-1.4**
SIV				*eSn*	**Sn**	**06 11 38.0**	**-6.9**
CPUP	**Villa Florida**	**10.04**	**119**	P	**Pn**	**06 10 38.2**	**-0.7**
	comp=E,0.2nm,0.3s,baz=304,slow=11,SNR=7.6						
PLCA	**Paso Flores**	**19.15**	**188**	P	**P**	**06 12 27.8**	**+0.1**
	comp=E,0.1nm,0.3s,baz=52,slow=6.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**75.87**	**69**	P	**P**	**06 19 44.2**	**-0.1**
	comp=E,2.3nm,0.5s,baz=254,slow=5.3,SNR=43						
TORD				pP	**pP**	**06 20 33.6**	**+2.0**
	comp=E,0.9nm,0.7s,baz=250,slow=5.6,SNR=3.4						
ASAR	**Alice Springs**	**130.44**	**206**	PKP	**PKPdf**	**06 27 08.3**	**+1.3**
	comp=E,1.1nm,1.0s,baz=132,slow=1.9,SNR=4.2						
MKAR	**Makanchi Array**	**144.83**	**37**	PKP	**PKPdf**	**06 27 33.7**	**+1.1**
	comp=E,1.4nm,0.7s,baz=312,slow=4.1,SNR=13						

IDC 27 06:20:19.4±9.4, 11°.76N×91°.48E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/49, mbtmp3.5/4, Error ellipse: s-maj=503.4km s-min=23.7km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.98**	**225**	T	T	06 55 32.9	
	baz=44,slow=76,SNR=65						
H08S2	**Diego Garcia H**	**26.98**	**225**	T	T	06 55 34.6	
	baz=44,slow=76,SNR=52						
H08S1	**Diego Garcia H**	**27.00**	**225**	T	T	06 55 34.0	
	baz=44,slow=76,SNR=65						
MKAR	**Makanchi Array**	**35.77**	**349**	P	P	06 27 20.9	+0.7
	0.6nm,0.8s,baz=153,slow=8.2,SNR=3.9						
KURBB	**Kurchatov Arra**	**40.18**	**347**	P	P	06 27 56.5	-0.8
	0.4nm,0.6s,baz=169,slow=7.9,SNR=3.6						
WRA	**Warramunga Arr**	**52.65**	**126**	P	P	06 29 35.1	-0.7
	0.4nm,0.7s,baz=305,slow=8.2,SNR=4.2						
ASAR	**Alice Springs**	**54.41**	**130**	P	P	06 29 49.3	+0.6
	0.2nm,0.5s,baz=313,slow=8.3,SNR=4.2						

ISK 27 06:25:38.9, 37°.92N×27°.14E, h16km, MD3.0
THE 27 06:25:38.8, 37°.89N×27°.12E, h2km±3km, ML3.0/4, Error ellipse: s-maj=3.7km s-min=1.2km az=216.0
DDA 27 06:25:38.7, 37°.89N×27°.09E, h7km, Md2.8
ISCJB 27 06:25:38.7±0.4, 37°.89N±0°.02×27°.13E±0°.02, h10km±3km, Error ellipse: s-maj=3.7km s-min=2.9km az=43.1
ATH 27 06:25:38.7, 37°.88N×27°.11E, h14km±3km, ML2.9/3, Error ellipse: s-maj=5.4km s-min=1.4km az=264.0
CSEM 27 06:25:38.8±0.1, 37°.90N×27°.13E, h9km±1km, MD2.8, Error ellipse: s-maj=2.8km s-min=2.4km az=43.0
ISC 27 06:25:38.8±0.8, 37°.89N±0°.02×27°.13E±0°.02, h13km±6km, n64, σ0s50/97, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.21**	**156**	P	**Pg**	**06 25 43.5**	**0.0**
GCAM				S	**Sg**	**06 25 47.3**	**+0.7**
GCAM	**G?zelcaml?**	**0.21**	**156**	*i* P	**Pg**	**06 25 43.5**	**0.0**
GCAM				*i* S	**Sg**	**06 25 47.3**	**+0.7**
DGB	**˜zmir**	**0.25**	**310**	*i* P	**Pg**	**06 25 43.8**	**-0.4**
DGB				*i* S	**Sg**	**06 25 46.9**	**-1.0**
SMG	**Samos**	**0.29**	**232**	P	**Pg**	**06 25 44.8**	**-0.1**
SMG				S	**Sg**	**06 25 48.9**	**-0.1**
SMG	**Samos**	**0.29**	**232**	P	**Pg**	**06 25 44.8**	**-0.1**
SMG				S	**Sg**	**06 25 48.9**	**-0.1**
SMG	**Samos**	**0.29**	**232**	P	**Pg**	**06 25 44.9**	**-0.1**
SMG				S	**Sg**	**06 25 48.6**	**-0.5**
SMG				AML	AML	06 25 49.8	
	comp=N,6440μm,0.2s						
SMG				AML	AML	06 25 51.0	
	comp=E,7689μm,0.2s						
IZM	**Izmir**	**0.52**	**12**	*e*PG	**Pg**	**06 25 48.7**	**-0.3**
IZM				*e*SG	**Sg**	**06 25 56.2**	**+0.2**
IZM	**Izmir**	**0.52**	**12**	*e*Pg	**Pg**	**06 25 48.7**	**-0.3**
IZM				*e*Sg	**Sg**	**06 25 56.2**	**+0.2**
ZEY	**˜zmir**	**0.60**	**305**	*i* P	**Pg**	**06 25 50.2**	**-0.4**
ZEY				*i* S	**Sg**	**06 25 58.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.61**	**84**	*e*PG	**Pb**	**06 25 51.3**	**-0.1**
AYDB				*e*SG	**Sb**	**06 26 00.1**	**+0.3**
URLA	**Izmir**	**0.63**	**318**	P	**Pg**	**06 25 50.6**	**-0.5**
URLA				S	**Sg**	**06 25 59.5**	**0.0**
URLA	**Izmir**	**0.63**	**318**	*i* P	**Pg**	**06 25 50.6**	**-0.5**
URLA				*i* S	**Sg**	**06 25 59.5**	**0.0**
BODT	**Bodrum**	**0.84**	**170**	*e*PG	**Pn**	**06 25 56.1**	**-0.2**
BODT	**Bodrum**	**0.84**	**170**	*e*Pg	**Pn**	**06 25 56.1**	**-0.2**
BDRM	**Kayabasi**	**0.86**	**163**	P	**Pg**	**06 25 55.1**	**-0.4**
BDRM				S	**Sg**	**06 26 06.2**	**-0.6**
BDRM	**Kayabasi**	**0.86**	**163**	*i* P	**Pg**	**06 25 55.1**	**-0.4**
BDRM				*i* S	**Sg**	**06 26 06.2**	**-0.6**
CHOS	**Chios island**	**0.98**	**301**	P	**Pg**	**06 25 57.3**	**-0.5**
CHOS				S	**Sb**	**06 26 11.1**	**+0.6**
CHOS	**Chios island**	**0.98**	**301**	P	**Pg**	**06 25 57.5**	**-0.3**
CHOS				S	**Sb**	**06 26 10.8**	**+0.2**
CHOS	**Chios island**	**0.98**	**301**	P	**Pg**	**06 25 57.5**	**-0.3**
CHOS				S	**Sb**	**06 26 10.8**	**+0.2**
CHOS				AML	AML	06 26 13.0	
	comp=E,1466μm,0.4s						
CHOS				AML	AML	06 26 13.0	
	comp=N,971μm,0.3s						
AKS	**Akhisar**	**1.12**	**28**	*e*PN	**Pb**	**06 25 59.9**	**-0.2**
AKS	**Akhisar**	**1.12**	**28**	*e*Pn	**Pb**	**06 25 59.9**	**-0.2**
YER	**Yerkesik**	**1.19**	**129**	*e*PN	**Pb**	**06 26 01.5**	**+0.3**
YER				*e*SN	**Sn**	**06 26 17.8**	**+0.6**
YER	**Yerkesik**	**1.19**	**129**	*e*Pn	**Pb**	**06 26 01.5**	**+0.3**
YER				*e*Sn	**Sn**	**06 26 17.8**	**+0.6**
DKL	**Dikili**	**1.19**	**352**	*e*PN	**Pg**	**06 26 01.7**	**-0.1**
DKL	**Dikili**	**1.19**	**352**	*e*Pn	**Pg**	**06 26 01.7**	**-0.1**
MANT	**Manisa**	**1.28**	**62**	P	**Pb**	**06 26 02.9**	**+0.1**
MANT				S	**Sb**	**06 26 17.8**	**-1.4**
MANT	**Manisa**	**1.28**	**62**	*i* P	**Pb**	**06 26 02.9**	**+0.1**
MANT				*i* S	**Sb**	**06 26 17.8**	**-1.4**
KULA	**Kula-Manisa**	**1.36**	**62**	*e*PN	**Pn**	**06 26 03.3**	**-0.2**
KULA	**Kula-Manisa**	**1.36**	**62**	P	**Pb**	**06 26 04.1**	**-0.1**
KULA				S	**Sb**	**06 26 21.5**	**0.0**
KULA	**Kula-Manisa**	**1.36**	**62**	*e*Pn	**Pn**	**06 26 03.3**	**-0.2**
KULA	**Kula-Manisa**	**1.36**	**62**	P	**Pb**	**06 26 04.1**	**-0.1**
KULA				S	**Sb**	**06 26 21.5**	**0.0**
AYVA	**Ayvalik**	**1.46**	**347**	P	**Pb**	**06 26 05.8**	**0.0**
AYVA	**Ayvalik**	**1.46**	**347**	*i* P	**Pb**	**06 26 05.8**	**0.0**
PRK	**Paraskevi**	**1.51**	**334**	P	**Pb**	**06 26 06.4**	**-0.3**
PRK				S	**Sg**	**06 26 27.3**	**-0.2**
PRK	**Paraskevi**	**1.51**	**334**	P	**Pb**	**06 26 06.4**	**-0.3**
PRK				S	**Sg**	**06 26 27.3**	**-0.2**
PRK	**Paraskevi**	**1.51**	**334**	P	**Pb**	**06 26 07.0**	**+0.3**
PRK				S	**Sg**	**06 26 27.8**	**+0.3**
PRK				AML	AML	06 26 28.9	
	comp=N,421μm,0.6s						
PRK				AML	AML	06 26 29.2	
	comp=E,579μm,0.8s						
APE	**Apeiranthos**	**1.51**	**238**	*e*PN	**Pn**	**06 26 06.4**	**+0.8**
APE	**Apeiranthos**	**1.51**	**238**	P	**Pn**	**06 26 06.1**	**+0.5**
APE				S	**Sg**	**06 26 27.5**	**-0.1**
APE	**Apeiranthos**	**1.51**	**238**	P	**Pn**	**06 26 06.1**	**+0.5**
APE	**Apeiranthos**	**1.51**	**238**	*e*Pn	**Pn**	**06 26 06.4**	**+0.8**
APE				S	**Sg**	**06 26 27.5**	**-0.1**
APE	**Apeiranthos**	**1.51**	**238**	P	**Pn**	**06 26 06.1**	**+0.5**
DNZL	**Cakiroluk**	**1.53**	**97**	P	**Pg**	**06 26 08.7**	**+0.4**
DNZL	**Cakiroluk**	**1.53**	**97**	*i* P	**Pg**	**06 26 08.7**	**+0.4**
TURN	**Turunc**	**1.55**	**130**	*i* P	**Pn**	**06 26 04.6**	**-1.5**
TURN				*i* S	**Sn**	**06 26 24.3**	**-1.7**
DALY	**Dalyan (Mu˘la**	**1.62**	**131**	*e*PN	**Pn**	**06 26 07.7**	**+0.6**
DALY	**Dalyan (Mu˘la**	**1.62**	**131**	*e*Pn	**Pn**	**06 26 07.7**	**+0.6**
SIGR	**SIGRI**	**1.65**	**323**	P	**Pn**	**06 26 07.8**	**+0.3**
SIGR				S	**Sn**	**06 26 28.8**	**+0.2**
SIGR	**SIGRI**	**1.65**	**323**	P	**Pn**	**06 26 07.8**	**+0.3**
SIGR				S	**Sn**	**06 26 28.8**	**+0.2**
SIGR	**SIGRI**	**1.65**	**323**	P	**Pb**	**06 26 09.7**	**+0.6**
DEMI	**Demirci**	**1.70**	**47**	S	**Sb**	**06 26 31.0**	**-0.2**
DEMI	**Demirci**	**1.70**	**47**	*i* P	**Pg**	**06 26 11.8**	**+0.4**
DEMI				*i* S	**Sb**	**06 26 31.1**	**-0.2**
BALB	**Balikesir**	**1.84**	**18**	*e*PN	**Pn**	**06 26 10.9**	**+0.8**
BALB	**Balikesir**	**1.84**	**18**	*e*Pn	**Pn**	**06 26 10.9**	**+0.8**
KHL	**Karahalli**	**1.94**	**76**	*e*PN	**Pn**	**06 26 11.8**	**+0.3**
KHL	**Karahalli**	**1.94**	**76**	*e*Pn	**Pn**	**06 26 11.8**	**+0.3**
EZN	**Ezine**	**2.03**	**342**	*e*PN	**Pn**	**06 26 12.7**	**0.0**
EZN	**Ezine**	**2.03**	**342**	*e*Pn	**Pn**	**06 26 12.7**	**0.0**
GONE	**Gonen-Balikesi**	**2.20**	**11**	*e*PN	**Pn**	**06 26 15.6**	**+0.6**
GONE	**Gonen-Balikesi**	**2.20**	**11**	*e*Pn	**Pn**	**06 26 15.6**	**+0.6**
TVSB	**Tavsanli**	**2.40**	**49**	*e*PN	**Pn**	**06 26 18.1**	**+0.2**
TVSB	**Tavsanli**	**2.40**	**49**	*e*Pn	**Pn**	**06 26 18.1**	**+0.2**
SMTH	**Samothraki Isl**	**2.86**	**335**	P	**Pn**	**06 26 24.3**	**+0.2**
SMTH	**Samothraki Isl**	**2.86**	**335**	P	**Pn**	**06 26 24.3**	**+0.2**

IDC 27 06:27:28.8±1.1, 58°.58S×25°.27W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.7/22, mbtmp3.7/3, Error ellipse: s-maj=53.8km s-min=31.9km az=87.0
ISCJB 27 06:27:31.7±1.1, 58°.8S±0°.2×24°.9W±0°.5, h35km, mb3.6/3, Error ellipse: s-maj=43.6km s-min=16.0km az=155.8
ISC 27 06:27:33.5±1.0, 58°.8S±0°.2×24°.9W±0°.3, h35km, n10, σ1s36/7, mb3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.83**	**156**	P	**Pn**	**06 30 45.6**	**-1.0**
SNAA	**Sanae**	**15.77**	**154**	P	**Pn**	**06 31 11.5**	**-1.2**
VNDA	**Vanda**	**43.92**	**182**	P	**P**	**06 35 37.9**	**+1.8**
	0.6nm,0.9s,baz=254,slow=5.3,SNR=2.9						
H10S2	**ASCENSION HYDR**	**50.30**	**13**	T	T	07 30 47.6	
	baz=188,slow=75,SNR=9.4						
H10S3	**ASCENSION HYDR**	**50.30**	**13**	T	T	07 30 47.8	
	baz=188,slow=75,SNR=7.4						
H10S1	**ASCENSION HYDR**	**50.31**	**13**	T	T	07 30 46.6	
	baz=188,slow=75,SNR=6.4						
LPAZ	**La Paz**	**52.93**	**305**	P	**P**	**06 36 46.0**	**-0.8**
	0.7nm,0.6s,baz=206,slow=7.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**74.86**	**27**	P	**P**	**06 39 10.9**	**+0.7**
	0.7nm,0.7s,baz=201,slow=6.1,SNR=5.7						
INK	**Inuvik**	**148.65**	**317**	PKPbc	**PKPbc**	**06 47 14.6**	**-0.5**
	1.9nm,0.7s,baz=62,slow=3.9,SNR=4.0						
ILAR	**Eielson Array**	**152.78**	**307**	PKPbc	**PKPbc**	**06 47 24.6**	**-0.3**
	1.0nm,0.8s,baz=157,slow=2.9,SNR=12						

IDC 27 06:29:31.4±1.1, 8°.99N×138°.44E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/36, mbtmp3.7/6, MS2.9/3, Ms1 2.9/3, ms1mx2.4/34, Error ellipse: s-maj=42.6km s-min=19.2km az=84.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.79**	**53**	LR	LR	06 34 36.7	
	comp=Z,52nm,18.6s,baz=95,slow=39						
DAV	**Davao City (W)**	**12.87**	**262**	LR	LR	06 36 49.0	
	comp=Z,22nm,19.1s,baz=50,slow=34						
H11S3	**WAKE ISLAND Hy**	**28.98**	**68**	T	T	07 06 16.0	
	baz=254,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.00**	**68**	T	T	07 06 12.1	
	baz=254,slow=75,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**29.00**	**68**	T	T	07 06 17.1	
	baz=254,slow=75,SNR=11						
WRA	**Warramunga Arr**	**29.03**	**188**	P	P	06 35 33.5	+0.2
	0.6nm,0.8s,baz=8.6,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**32.75**	**188**	P	P	06 36 06.0	-0.2
	0.4nm,0.5s,baz=18,slow=13,SNR=6.2						
CMAR	**Chiang Mai Arr**	**39.43**	**288**	P	P	06 37 03.0	-0.6
	0.8nm,0.3s,baz=103,slow=7.1,SNR=4.2						
KLR	**Kul'dur**	**40.50**	**353**	P	P	06 37 12.3	+0.3
	0.7nm,0.5s,baz=129,slow=22,SNR=2.3						
STKA	**Stephens Creek**	**40.74**	**176**	P	P	06 37 14.1	-0.1
	2.0nm,0.8s,baz=340,slow=7.1,SNR=4.9						
MKAR	**Makanchi Array**	**60.60**	**319**	P	P	06 39 44.3	+0.2
	0.6nm,0.6s,baz=104,slow=8.4,SNR=8.8						
RAR	**Rarotonga**	**67.67**	**117**	LR	LR	07 07 11.2	
	comp=Z,23nm,18.5s,baz=294,slow=33						
ILAR	**Eielson Array**	**75.40**	**25**	P	P	06 41 16.4	-0.3
	0.3nm,0.6s,baz=248,slow=4.9,SNR=5.4						

MEX 27 06:31:03.5±0.4, 15°.75N×93°.75W, h85km±5km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.52**	**95**	*eP*	Pn	06 31 16.5	-1.3
PCIG				*eS*	Sn	06 31 26.8	-1.6
CCIG	**Comitan**	**1.64**	**71**	*i* S	Sn	06 31 50.2	-1.7

ISCJB 27 06:38:31.0±0.5, 23°.13N±0°.02×122°.09E±0°.02, h15km±4km, Error ellipse: s-maj=4.0km s-min=2.8km az=148.7
JMA 27 06:38:32.0±0.1, 23°.15N×122°.03E, h28km, M3.0
TAP 27 06:38:33.4, 23°.15N×122°.04E, h32km, ML3.4, C
ISC 27 06:38:31.2±1.2, 23°.12N±0°.03×122°.03E±0°.03, h19km±3km, n42, σ0s69/80, 8C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.61**	**268**	P	**Pg**	**06 38 44.0**	**+0.6**
	baz=258						
CHKT				*eS*	**Sg**	**06 38 51.8**	**+0.2**
	baz=258						
TWF1	**Yuli**	**0.71**	**289**	⇑*iP*	**Pn**	**06 38 46.0**	**-0.3**
	baz=286						
TWF1				*eS*	**Sn**	**06 38 55.9**	**-0.9**
	baz=286						
ESL	**Shilin**	**0.88**	**322**	*eP*	**Pb**	**06 38 47.7**	**-0.3**
	baz=330						
ESL				*eS*	**Sb**	**06 38 58.7**	**-0.7**
	baz=330						
TTN	**Taitung**	**0.89**	**246**	*eP*	**Pg**	**06 38 48.6**	**0.0**
	baz=237						
TTN				*eS*	**Sg**	**06 39 00.5**	**+0.1**
	baz=237						
TWG	**Pinlang**	**0.93**	**252**	P	**Pn**	**06 38 49.3**	**+0.1**
	baz=249						
TWG				*eS*	**Sb**	**06 39 01.1**	**+0.4**
	baz=249						
ELDTW	**Lidau**	**0.94**	**275**	⇑*iP*	**Pb**	**06 38 49.1**	**+0.3**
	baz=272						
TWD	**Chiawan**	**1.04**	**338**	*i* P	**Pb**	**06 38 50.5**	**0.0**
	baz=336						
TWD				*i* S	**Sb**	**06 39 02.7**	**-1.0**
	baz=336						
WDT	**Danda**	**1.04**	**308**	⇑*iP*	**Pn**	**06 38 51.1**	**+0.1**
	baz=306						
WDT				*i* S	**Sb**	**06 39 03.8**	**-0.4**
	baz=306						
YUS	**Yu-Shan**	**1.06**	**291**	⇑*iP*	**Pg**	**06 38 52.0**	**+0.1**
	baz=279						
YUS				*eS*	**Sb**	**06 39 05.3**	**+0.4**
	baz=279						
LAY	**Lan-yu**	**1.16**	**202**	*eP*	**Pn**	**06 38 52.0**	**-0.5**
	baz=202						
LAY				*eS*	**Sb**	**06 39 05.7**	**-1.7**
	baz=202						
STYT	**Tauyuan**	**1.17**	**272**	P	**Pb**	**06 38 53.2**	**+0.3**
	baz=270						
STYT				*eS*	**Sb**	**06 39 07.8**	**0.0**
	baz=270						
ALS	**Alishan**	**1.19**	**289**	*i* P	**Pg**	**06 38 54.3**	**0.0**
	baz=288						
ALS				*eS*	**Sn**	**06 39 08.9**	**-0.1**
	baz=288						
WHF	**Hehuan Shan**	**1.24**	**326**	P	**Pn**	**06 38 53.8**	**-0.1**
	baz=325						
WHF				*eS*	**Sb**	**06 39 09.0**	**-1.0**
	baz=325						
SMLT	**Sun Moon Lake**	**1.29**	**306**	⇑P	**Pb**	**06 38 55.2**	**+0.3**
	baz=305						
SMLT				S	**Sb**	**06 39 11.5**	**+0.4**
	baz=305						
WTP	**Ta-pu**	**1.31**	**276**	⇑*iP*	**Pg**	**06 38 56.2**	**-0.3**
	baz=274						
WTP				*eS*	**Sg**	**06 39 13.5**	**-0.2**
	baz=274						
EAST	**Anshuo**	**1.31**	**236**	*eP*	**Pn**	**06 38 54.7**	**+0.1**
	baz=244						
EAST				*eS*	**Sn**	**06 39 10.2**	**-1.4**
	baz=244						
ENA	**Nanau**	**1.33**	**349**	*eP*	**Pn**	**06 38 55.0**	**+0.2**
	baz=348						
ENA				*eS*	**Sn**	**06 39 10.9**	**-1.1**
	baz=348						
CHN5	**Tsauling**	**1.33**	**291**	⇑P	**Pg**	**06 38 56.8**	**-0.1**
	baz=290						
CHN5				*i* S	**Sg**	**06 39 13.8**	**-0.6**
	baz=290						
TYC	**Yuchr**	**1.33**	**306**	P	**Pb**	**06 38 55.9**	**+0.4**
	baz=305						
TYC				*eS*	**Sb**	**06 39 12.9**	**+0.7**
	baz=305						
SGST	**Jiashian**	**1.33**	**269**	P	**Pg**	**06 38 56.4**	**-0.6**
	baz=267						
SGST				S	**Sg**	**06 39 14.2**	**-0.2**
	baz=267						
SSD	**Sandimen**	**1.34**	**254**	*eP*	**Pb**	**06 38 55.8**	**0.0**
	baz=252						
CHN4	**Tsaushan**	**1.34**	**280**	⇑*iP*	**Pg**	**06 38 57.0**	**-0.1**
	baz=273						
CHN4				*eS*	**Sg**	**06 39 14.7**	**0.0**
	baz=273						
TWK	**Hsinying**	**1.43**	**276**	*eP*	**Pg**	**06 38 58.2**	**-0.6**
	baz=275						
TWK				*eS*	**Sg**	**06 39 17.1**	**-0.2**
	baz=275						
NNS	**Nan Shan**	**1.45**	**336**	*eP*	**Pb**	**06 38 57.6**	**-0.1**
	baz=335						
NNS				*eS*	**Sn**	**06 39 13.3**	**-1.7**
	baz=335						
CHN2	**Minshiung**	**1.49**	**286**	*eP*	**Pg**	**06 38 59.4**	**-0.5**
	baz=298						
CHN2				*eS*	**Sb**	**06 39 17.8**	**+1.1**
	baz=298						
TWC	**Suao**	**1.49**	**354**	P	**

PB06				*e*S	S	06 47 54.0	+2.3	
PB06				IAML		06 47 56.9		
	comp=N,155nm,0.2s							
PB07	**IPOC Station P**	**2.98**	**293**	⇑*i*P	Pn	06 47 21.9	+2.3	
PB07				*i* S	S	06 48 03.9	+2.3	
PB07				IAML		06 48 05.3		
	comp=E,167nm,0.3s							
PB01	**IPOC Station P**	**3.02**	**308**	⇑*i*P	Pn	06 47 21.8	+1.9	
PB01				*i* S	S	06 48 04.7	+2.5	
PB01				IAML		06 48 07.0		
	comp=N,261nm,0.2s							
PB04	**IPOC Station P**	**3.03**	**280**	⇑*i*P	Pn	06 47 22.4	+2.4	
PB04				*i* S	S	06 48 05.2	+2.7	
PB04				IAML		06 48 09.1		
	comp=N,104nm,0.3s							
ANCH	**Antofagasta**	**3.29**	**256**	⇓*i*P	Pn	06 47 25.4	+2.7	
ANCH				*i* S	S	06 48 09.6	+2.4	
PB10	**IPOC Station P**	**3.38**	**259**	⇑*i*P	Pn	06 47 26.1	+2.3	
PB10				*i* S	S	06 48 11.4	+2.3	
PB10				IAML		06 48 13.9		
	comp=E,559nm,0.3s							
PB08	**IPOC Station P**	**3.45**	**323**	IAML		06 48 17.8		
	comp=N,140nm,0.7s							
HMBC	**Humberstone**	**3.80**	**313**	*e*P	Pn	06 47 29.9	+1.3	
HMBC				*i* S	S	06 48 19.1	+1.1	

NIED ***27*** *06:53:00,38˚.20N×143˚.90E,h5km,Mw3.5 Best double couple: M₀2.09000×10¹⁴ NP1:φs20.00000°,δ37.00000°, λ-80.00000°. NP2:φs188.00000°,δ54.00000°, λ-97.00000°.*

IDC ***27*** *06:53:51.4±2.9,38˚.02N×144˚.15E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.5/38,mbtmp3.6/4,ML3.2/1,MS2.4/2, Ms1 2.4/2,ms1mx2.1/37,Error ellipse: s-maj=74.0km s-min=33.1km az=55.0*

JMA ***27*** *06:53:55.6±0.2,38˚.16N×143˚.86E,h37km,M3.6*

ISC 27 06:53:58.7±3.8,**38˚.1N**±0˚.1×**143˚.8E**±0˚.2,**h47**km±33km,**n12, σ0s97/12,mb3.6/3,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.91**	**301**	P		Pn	06 54 27.5	-1.3
OFUJ				S		**Sn**	**06 54 51.1**	**-0.5**
JIO	**Ouri**	**1.94**	**281**	P		Pn	06 54 28.2	-1.0
JIO				S		**Sn**	**06 54 51.9**	**-0.4**
JMK	**Ichinoseki**	**2.17**	**293**	P		Pn	06 54 31.4	-0.9
JMK				*e*S		**Sn**	**06 54 57.7**	**-0.3**
JOM	**Ohasama**	**2.37**	**306**	S		**Sn**	**06 55 02.4**	**-0.4**
JOU	**Okura**	**2.46**	**277**	S		**Sn**	**06 55 05.8**	**+0.5**
JRG	**Rokugo**	**2.77**	**298**	P		**Pn**	**06 54 40.6**	**+0.1**
JRG				*e*S		**Sn**	**06 55 13.3**	**+0.6**
JFT	**Otama**	**2.79**	**259**	P		Pn	06 54 40.9	0.0
JFT				S		**Sn**	**06 55 14.1**	**+0.8**
MJAR	**Matsushiro Arr**	**4.71**	**252**	Pn		**Pn**	**06 55 07.5**	**+0.3**
	0.9nm,0.3s,baz=74,slow=11,SNR=5.9							
MJAR				LR		LR	06 56 56.9	
	comp=Z,32nm,19.6s,baz=60,slow=38							
JHJ	**Hachijo jima 2**	**5.96**	**214**	LR		LR	06 58 33.6	
	comp=Z,48nm,18.6s,baz=106,slow=47							
MKAR	**Makanchi Array**	**45.14**	**302**	P		**P**	**07 02 11.8**	**+1.4**
	0.4nm,0.7s,baz=80,slow=7.8,SNR=4.5							
WRA	**Warramunga Arr**	**58.43**	**190**	P		**P**	**07 03 49.4**	**-0.3**
	1.6nm,0.7s,baz=11,slow=7.2,SNR=15							
ASAR	**Alice Springs**	**62.16**	**190**	P		**P**	**07 04 13.2**	**-1.9**
	0.4nm,0.8s,baz=0.0,slow=8.3,SNR=3.7							

YARS ***27*** *07:09:48.6±0.2,56˚.67N±0˚.01×121˚.44E±0˚.02,h10km*

BYKL ***27*** *07:09:49.8±0.5,56˚.62N×121˚.48E,h4km±7km*

ISC 27 07:09:48.7±0.9,**56˚.65N**±0˚.03×**121˚.45E**±0˚.02,**h8**km±7km, **n25,σ2s61/53,Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.13**	**116**	*e*Pg		**Pg**	**07 09 51.6**	**+0.1**
YKLR				*e*Sg		**Sg**	**07 09 52.9**	**-0.6**
YKLR	**Yuktali**	**0.13**	**116**	*e*P		**Pg**	**07 09 51.6**	**+0.1**
YKLR				*e*S		**Sg**	**07 09 52.7**	**-0.8**
CLNS	**Chul'man**	**1.91**	**83**	*e*P		**Pn**	**07 10 22.8**	**+1.3**
CLNS				*e*S		**Sb**	**07 10 47.6**	**-0.1**
IENR	**Iengra**	**1.94**	**101**	*e*Pn		**Pn**	**07 10 23.4**	**+1.4**
IENR				*e*Pg		**Pg**	**07 10 24.6**	**+0.3**
IENR				*e*Sg		**Sb**	**07 10 49.3**	**+0.7**
IENR	**Iengra**	**1.94**	**101**	*e*P		**Pn**	**07 10 23.3**	**+1.3**
IENR				*e*S		**Sb**	**07 10 48.3**	**-0.3**
TNDR	**Tynda**	**2.38**	**128**	*e*P		**Pn**	**07 10 28.9**	**+0.9**
TNDR				*e*P		**Pb**	**07 10 31.4**	**-0.3**
TNDR				*e*S		**Sn**	**07 10 58.3**	**+1.0**
TNDR				*e*S		**Sb**	**07 11 02.0**	**+0.8**
TUP	**Tupik**	**2.38**	**201**	*e*Pn		**Pn**	**07 10 28.9**	**+0.9**
TUP				*e*Pg		**Pb**	**07 10 31.7**	**-0.1**
TUP				*e*Sg		**Sb**	**07 11 02.7**	**+1.3**
TUP				Smax				
	1μm,0.9s							
TUP	**Tupik**	**2.38**	**201**	*e*P		**Pn**	**07 10 28.7**	**+0.7**
TUP				*e*P		**Pb**	**07 10 31.8**	**-0.1**
TUP				*e*S		**Sn**	**07 10 57.6**	**+0.2**
TUP				*e*S		**Sb**	**07 11 01.7**	**+0.3**
ALDR	**Aldan**	**2.90**	**46**	*e*P		**Pb**	**07 10 40.6**	**0.0**
ALDR				*e*S		**Sb**	**07 11 17.6**	**+1.4**
OLMR	**Olekminsk**	**3.77**	**353**	*e*P		**Pn**	**07 10 47.7**	**+0.6**
OLMR				*e*P		**Pb**	**07 10 56.5**	**+1.0**
OLMR				*e*S		**Sn**	**07 11 31.0**	**-0.6**
OLMR				*e*S		**Sb**	**07 11 44.7**	**+3.4**
KROS	**Kirovskiy**	**3.84**	**123**	*e*P		**Pn**	**07 10 49.6**	**+1.5**
KROS				*e*S		**Sb**	**07 11 46.3**	**+3.0**
BOD	**Bodaibo**	**4.21**	**289**	*e*Pg		**Pb**	**07 11 06.2**	**+3.2**
BOD				*e*Sg		**Sg**	**07 11 59.9**	**-3.9**
BOD				Pmax				
	19nm,0.6s							
BOD				Smax				
	132nm,0.7s							
YVAM	**Verhnyaya Amga**	**4.25**	**43**	*e*P		**Pb**	**07 11 05.6**	**+2.0**
YVAM				*e*S		**Sn**	**07 11 42.6**	**-0.7**
YVAM				*e*S		**Sb**	**07 11 59.2**	**+4.3**
SVKR	**Severomuysk**	**4.42**	**266**	*e*Pg		**Pb**	**07 11 08.6**	**+2.1**
SVKR				*e*Sg		**Sg**	**07 12 09.3**	**-1.1**
SVKR				Pmax				
	39nm,0.2s							
SVKR				Smax				
	421nm,0.7s							
UKT	**Uakit**	**4.53**	**258**	*e*Pg		**Pb**	**07 11 10.9**	**+2.4**
UKT				*e*Sg		**Sg**	**07 12 09.8**	**-4.4**
UKT				Pmax				
	23nm,0.7s							
UKT				Smax				
	139nm,0.7s							
BMKR	**Bomnak**	**4.61**	**112**	*e*P		**Pn**	**07 11 00.5**	**+1.9**
BMKR				*e*P		**Pb**	**07 11 12.0**	**+2.2**
BMKR				*e*S		**Sg**	**07 12 12.0**	**-4.7**
VTMR	**Vitim**	**5.49**	**304**	*e*S		**Sg**	**07 12 38.9**	**-6.0**
YLYR	**Ulyunkhan**	**6.07**	**257**	*e*Pn		**Pn**	**07 11 21.7**	**+3.0**
YLYR				*e*Pg		**Pb**	**07 11 39.3**	**+4.7**
YLYR				*e*Sg		**Sg**	**07 12 59.1**	**-4.4**
YLYR				Pmax				
	7.0nm,1.1s							
YLYR				Smax				
	102nm,0.8s							
NBS	**Nizhniy Bestya**	**6.84**	**36**	*e*P		**Pn**	**07 11 30.2**	**+1.1**
NBS				*e*S		**Sn**	**07 12 45.7**	**-1.2**
NBS				*e*S		Sg	07 13 19.3	-8.6
YAK	**Yakutsk**	**6.84**	**35**	*e*P		**Pn**	**07 11 31.0**	**+1.8**
YAK				*e*P		**Pb**	**07 11 51.8**	**+4.1**
YAK				*e*S		**Sn**	**07 12 45.2**	**-1.9**
YAK				*e*S		**Sg**	**07 13 19.7**	**-8.4**
USMR	**Ust'-Maya**	**7.82**	**56**	*e*P		**Pn**	**07 11 43.7**	**+1.1**
USMR				*e*S		Sg	07 13 50.5	-9.0
BTGS	**Batagay**	**12.60**	**24**	*e*S			07 16 17.6	
UNR	**Ust'-Nera**	**13.25**	**44**	*e*S		S	07 16 37.6	+49
ATKR	**Artyk**	**13.85**	**47**	*e*S		S	07 16 55.2	+54
MOMR	**Moma**	**14.20**	**37**	*e*S		S	07 17 07.7	+59

DDA ***27*** *07:09:57.5,37˚.80N×30˚.28E,h5km,Md2.6*

ISK ***27*** *07:09:59.9,37˚.80N×30˚.07E,h9km,MD2.8*

ISCJB ***27*** *07:10:00.5±0.7,37˚.88N±0˚.04×30˚.15E±0˚.04,h5km±8km, Error ellipse: s-maj=7.2km s-min=4.9km az=31.3*

CSEM ***27*** *07:10:00.4±0.2,37˚.87N×30˚.14E,h10km,MD2.8,Error ellipse: s-maj=7.0km s-min=4.2km az=34.0*

ISC 27 07:10:00.2±1.2,**37˚.84N**±0˚.04×**30˚.16E**±0˚.03,**h14**km±11km, **n18,σ0s62/32,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.51**	**138**	*e*PG		**Pb**	**07 10 10.5**	**-0.5**
BCK				*e*SG		**Sb**	**07 10 19.4**	**+1.0**
BCK	**Bucak**	**0.51**	**138**	*e*Pg		**Pb**	**07 10 10.5**	**-0.5**
BCK				*e*Sg		**Sb**	**07 10 19.4**	**+1.0**
KHL	**Karahalli**	**0.69**	**314**	*e*PG		**Pg**	**07 10 13.1**	**-0.6**
KHL				*e*SG		**Sg**	**07 10 23.6**	**+0.7**
KHL	**Karahalli**	**0.69**	**314**	*e*Pg		**Pg**	**07 10 13.1**	**-0.6**
KHL				*e*Sg		**Sg**	**07 10 23.6**	**+0.7**
SUTC	**Sutluce-Ispart**	**0.76**	**119**	*e*PG		**Pb**	**07 10 15.3**	**0.0**
SUTC				*e*SG		**Sn**	**07 10 27.7**	**-0.3**
SUTC	**Sutluce-Ispart**	**0.76**	**119**	*e*Pg		**Pb**	**07 10 15.3**	**0.0**
SUTC				*e*Sg		**Sn**	**07 10 27.7**	**-0.3**
GOLH	**Golhisar**	**0.77**	**218**	P		**Pb**	**07 10 15.6**	**+0.2**
GOLH				S		**Sn**	**07 10 28.0**	**-0.2**
GOLH	**Golhisar**	**0.77**	**218**	*i* P		**Pb**	**07 10 15.6**	**+0.2**
GOLH				*i* S		**Sn**	**07 10 28.0**	**-0.2**
DNZL	**Cakiroluk**	**0.90**	**260**	P		**Pg**	**07 10 16.6**	**-0.9**
DNZL				S		**Sn**	**07 10 30.7**	**-0.7**
DNZL	**Cakiroluk**	**0.90**	**260**	*i* P		**Pg**	**07 10 16.6**	**-0.9**
DNZL				*i* S		**Sn**	**07 10 30.7**	**-0.7**
GDZ	**Gediz**	**1.35**	**337**	P		**Pn**	**07 10 24.5**	**-0.3**
GDZ				S		**Sg**	**07 10 44.8**	**+1.0**
GDZ	**Gediz**	**1.35**	**337**	*i* P		**Pn**	**07 10 24.5**	**-0.3**
GDZ				*i* S		**Sg**	**07 10 44.8**	**+1.0**
KULA	**Kula-Manisa**	**1.36**	**300**	*e*PN		**Pn**	**07 10 25.3**	**+0.5**
KULA	**Kula-Manisa**	**1.36**	**300**	*e*Pn		**Pn**	**07 10 25.3**	**+0.5**
MANT	**Manisa**	**1.42**	**298**	P		**Pn**	**07 10 26.1**	**+0.4**
MANT				S		**Sb**	**07 10 44.8**	**+0.2**
MANT	**Manisa**	**1.42**	**298**	*i* P		**Pn**	**07 10 26.1**	**+0.4**
MANT				*i* S		**Sb**	**07 10 44.8**	**+0.2**
KONT	**Konya--Tatoy**	**1.75**	**86**	*e*PN		**Pb**	**07 10 31.7**	**-0.3**
KONT	**Konya--Tatoy**	**1.75**	**86**	*e*Pn		**Pb**	**07 10 31.7**	**-0.3**

GUC ***27*** *07:26:07.6±0.5,30˚.88S×71˚.89W,h32km±4km,ML3.6*

ISC 27 07:25:59.9±2.1,**30˚.91S**±0˚.04×**72˚.2W**±0˚.1,**h0**km±15km,**n24, σ1s81/29,4C-11D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.41**	**59**	⇑*i*P		**Pg**	**07 26 28.8**	**+1.9**
TLL				*i* S		**Sn**	**07 26 44.8**	**-1.5**
TLL				IAML			07 26 47.7	
	comp=N,2μm,0.4s							
LCO	**Las Campanas**	**2.29**	**35**	*e*P		**Pg**	**07 26 43.5**	**-0.3**
LCO	**Las Campanas**	**2.29**	**35**	⇑*i*P		**Pg**	**07 26 42.9**	**-0.9**
LCO				*i* S		**Sb**	**07 27 09.7**	**-1.5**
LCO				IAML			07 27 21.7	
	comp=E,263nm,0.2s							
AROD	**Rodeo**	**2.46**	**73**	⇓*e*P		**Pb**	**07 26 46.1**	**+1.0**
PEL	**Peldehue**	**2.57**	**151**	*e*P		**Pb**	**07 26 46.7**	**-0.3**
PEL				*i* S		**Sn**	**07 27 15.6**	**+0.7**
PEL				IAML			07 27 20.7	
	comp=E,361nm,0.2s							
RTLS	**Leoncito**	**2.63**	**111**	⇓*e*P		**Pb**	**07 26 48.7**	**+0.6**
RTLS				⇓*e*S		**Sn**	**07 27 19.2**	**+2.5**
VACH	**Vallenar**	**2.63**	**29**	⇑*i*P		**Pb**	**07 26 47.7**	**-0.3**
ACCO	**Cerro Coronel**	**2.71**	**84**	*e*P		**Pn**	**07 26 43.7**	**-1.3**
ACCO				IAML			07 26 59.5	
	comp=Z,126nm,0.3s							
AUSP	**Uspallata**	**2.73**	**119**	⇓*e*P		**Pb**	**07 26 49.8**	**0.0**
AUSP				⇓*e*S		**Sb**	**07 27 21.9**	**-2.1**
ACDV	**Cuesta del Vie**	**2.75**	**75**	*e*P		**Pn**	**07 26 45.1**	**-0.3**
CLCH	**Cerro Calan**	**2.85**	**151**	⇑*i*P		**Pb**	**07 26 51.0**	**-0.7**
CLCH				*i* S		**Sb**	**07 27 24.3**	**-3.0**
CLCH				IAML			07 27 34.8	
	comp=E,526nm,1.0s							
ANTU	**Antumapu**	**2.97**	**154**	IAML			07 27 37.2	
	comp=N,372nm,0.5s							
SJA	**San Juan**	**3.17**	**102**	⇓*e*P		**Pb**	**07 26 55.5**	**-1.7**
AMOG	**MOGNA**	**3.18**	**92**	*e*P		**Pb**	**07 26 55.5**	**-1.8**
RTLL	**Cerro Villicun**	**3.22**	**99**	⇓*e*P		**Pb**	**07 26 55.6**	**-2.4**
RTCV	**Cerro Valdivia**	**3.27**	**108**	*e*P		**Pb**	**07 26 57.5**	**-1.3**
ASAL	**Salagasta**	**3.32**	**121**	⇓*e*P		**Pb**	**07 26 58.7**	**-1.0**
ARCO	**CERRO ARCO**	**3.38**	**126**	*e*P		**Pn**	**07 26 54.4**	**+0.4**
ARCO				IAML			07 27 53.6	
	comp=Z,100nm,0.3s							
AGUA	**GUANDACOL**	**3.50**	**67**	*e*P		**Pn**	**07 26 56.1**	**+0.4**
AAGR	**Agrelo**	**3.59**	**128**	*e*P		**Pb**	**07 27 03.0**	**-1.3**
VCA	**Vinchina**	**4.08**	**59**	*e*P		**Pn**	**07 27 05.2**	**+1.4**
ACAN	**Cantantal**	**4.48**	**109**	⇓*e*P		**Pn**	**07 27 12.7**	**+3.6**
ACHE	**Chepes**	**4.75**	**94**	⇓*e*P		**Pn**	**07 27 15.9**	**+3.0**
CYA	**Choya**	**6.08**	**68**	⇓*e*P		**Pn**	**07 27 34.0**	**+3.0**
CYA				IAML			07 28 52.6	
	comp=Z,19nm,0.5s							

TAP 27 07:26:06.7,23˚.24N×120˚.44E,h9km,ML3.7,10C-8D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.05**	**62**	⇑*i*P		Pg	07 26 09.4	+0.7
	baz=72							
WTP	**Ta-pu**	**0.16**	**89**	⇑*i*P		Pg	07 26 11.2	+1.0
	baz=82							
CHN4	**Tsaushan**	**0.18**	**53**	⇑*i*P		Pg	07 26 11.5	+1.0
	baz=53							
CHN4				S		Sg	07 26 15.7	+2.5
	baz=53							
SGST	**Jiashian**	**0.21**	**140**	⇑*i*P		Pg	07 26 12.2	+1.2
	baz=138							
SGST				S		Sg	07 26 17.1	+3.2
	baz=138							
CHN8	**Yiju**	**0.23**	**297**	⇑P		Pg	07 26 12.4	+1.0
	baz=299							
CHN8				*e*S		Sg	07 26 17.5	+2.9
	baz=299							
SCLT	**Jiali**	**0.23**	**253**	P		Pg	07 26 12.9	+1.5
	baz=253							
SCLT				*e*S		Sg	07 26 16.9	+2.2
	baz=253							
CHY	**Chiayi**	**0.26**	**357**	*e*P		Pb	07 26 13.2	-0.3
	baz=359							
CHY				*e*S		Sb	07 26 18.2	+0.2
	baz=359							
TAI1	**Yung-k'ang**	**0.28**	**224**	*e*P		Pb	07 26 14.1	+0.3
	baz=223							
TAI1				*e*S		Sb	07 26 19.5	+0.9
	baz=223							
CHN2	**Minshiung**	**0.29**	**7**	*e*P		Pb	07 26 13.9	-0.1
	baz=7.0							
CHN2				*e*S		Sb	07 26 19.6	+0.6
	baz=7.0							
STYT	**Tauyuan**	**0.30**	**105**	⇑*i*P		Pb	07 26 14.1	-0.2
	baz=105							
STYT				S		Sb	07 26 19.5	+0.1
	baz=105							
CHN5	**Tsauling**	**0.42**	**32**	⇓P		Pb	07 26 16.0	-0.3
	baz=32							
CHN5				S		Sb	07 26 23.2	+0.4
	baz=32							
TWM1	**Shoushan**	**0.42**	**182**	⇓*e*P		Pn	07 26 17.8	-1.1
	baz=181							
ALS	**Alishan**	**0.43**	**52**	⇑P		Pb	07 26 16.5	-0.1
	baz=52							
ALS				*e*S		Sb	07 26 23.4	0.0
	baz=52							
WSF	**Szhu**	**0.44**	**333**	*e*P		Pb	07 26 16.8	+0.2
	baz=335							
WSF				*e*S		Sb	07 26 24.3	+1.0
	baz=335							
WGK	**Gukeng**	**0.46**	**15**	*e*P		Pb	07 26 17.0	+0.1
	baz=15							
WGK				*e*S		Sb	07 26 25.3	+1.5
	baz=15							
SGLT	**Jiouru**	**0.52**	**174**	*e*P		Pb	07 26 18.6	+0.7
	baz=173							
SSD	**Sandimen**	**0.53**	**160**	⇓P		Pb	07 26 18.5	+0.4
	baz=146							
SSD				S		Sn	07 26 27.6	-1.8
	baz=146							
YUS	**Yu-Shan**	**0.53**	**62**	*e*P		Pb	07 26 18.5	0.0
	baz=62							
YUS				*e*S		Sb	07 26 26.6	+0.1
	baz=62							
ELDTW	**Lidau**	**0.54**	**96**	⇑P		Pb	07 26 18.2	-0.1
	baz=94							
ELDTW				*e*S		Sb	07 26 26.5	+0.3
	baz=94							
WTCT	**Ta-ch'eng**	**0.64**	**347**	*e*P		Pb	07 26 20.0	0.0
	baz=348							
WTCT				*e*S		Sb	07 26 29.8	+0.8
	baz=348							
WNT	**Mingjian**	**0.67**	**20**	*e*P		Pb	07 26 20.9	+0.3
	baz=20							
WNT				*e*S		Sb	07 26 31.5	+1.5
	baz=20							
KAU	**Kaohsiung**	**0.68**	**190**	*e*P		Pn	07 26 22.4	-0.1
	baz=189							
WDGT	**Dungji**	**0.71**	**272**	⇑P		Pg	07 26 20.7	+0.2
	baz=273							
WDGT				S		Sb	07 26 31.3	+0.1
	baz=273							
TWG	**Pinlang**	**0.72**	**126**	⇓P		Pb	07 26 21.9	+0.5
	baz=124							
TWG				S		Sb	07 26 32.3	+0.9
	baz=124							
TYC	**Yuchr**	**0.76**	**30**	⇓*i*P		Pb	07 26 22.4	+0.3
	baz=30							
TYC				S		Sn	07 26 34.0	-1.2
	baz=30							
SMLT	**Sun Moon Lake**	**0.77**	**34**	⇓*i*P		Pb	07 26 22.5	+0.2
	baz=33							
SMLT				S		Sn	07 26 34.3	-1.2
	baz=33							
TWF1	**Yuli**	**0.80**	**82**	*e*P		Pb	07 26 22.8	+0.1
	baz=82							
ECL	**Taimali**	**0.80**	**143**	*e*P		Pn	07 26 23.6	-0.5
	baz=142							
ECL				*e*S		Sn	07 26 36.1	0.0
	baz=142							
TTN	**Taitung**	**0.81**	**126**	*e*P		Pb	07 26 23.3	+0.3
	baz=126							
WDT	**Danda**	**0.82**	**51**	*e*P		Pb	07 26 23.5	+0.2
	baz=51							
WDT				*e*S		Sb	07 26 35.0	+0.4
	baz=51							
EHY	**Hungye**	**0.85**	**72**	*e*P		Pb	07 26 23.9	+0.2
	baz=77							
EHY				S		Sb	07 26 35.9	+0.7
	baz=77							
CHKT	**Chengkung**	**0.87**	**99**	*e*P		Pn	07 26 24.9	-0.1
	baz=98							
CHKT				*e*S		Sn	07 26 38.7	+0.9
	baz=98							
PNG	**Penghu**	**0.87**	**292**	⇑P		Pg	07 26 23.2	-0.3
	baz=293							
PNG				*e*S		Sb	07 26 35.5	-0.2
	baz=293							
SCZT	**Fangliau**	**0.88**	**169**	*e*P		Pn	07 26 25.1	-0.2
	baz=168							
TWP	**Hsiaoliuchiu**	**0.89**	**184**	*e*P		Pn	07 26 26.1	+0.7
	baz=207							
TCU	**Taichung**	**0.93**	**14**	*e*P		Pb	07 26 24.8	-0.2
	baz=15							
EAST	**Anshuo**	**0.94**	**156**	⇓P		Pn	07 26 25.9	-0.1
	baz=147							
EAST				S		Sn	07 26 40.1	+0.6
	baz=147							
TAW	**Tawu**	**0.98**	**154**	*e*P		Pb	07 26 26.0	+0.2
	baz=145							
TAW				*e*S		Sn	07 26 41.1	+0.6
	baz=145							
ESL	**Shilin**	**1.08**	**58**	*e*P		Pn	07 26 28.3	+0.4
	baz=57							
ESL				*e*S		Sn	07 26 43.0	0.0
	baz=57							
TWQ1	**Liyutan**	**1.14**	**16**	⇓P		Pn	07 26 28.8	-0.1
	baz=15							
TWQ1				*e*S		Sn	07 26 45.2	+0.6
	baz=15							
WHF	**Hehuan Shan**	**1.18**	**40**	*e*P		Pn	07 26 29.8	+0.1
	baz=39							
WHF				*e*S		Sn	07 26 46.0	0.0
	baz=39							
NSY	**Sanyi**	**1.21**	**14**	*e*P		Pb	07 26 30.0	+0.1
	baz=14							
NSY				*e*S		Sn	07 26 47.2	+1.0
	baz=14							
HEN	**Hengchun**	**1.26**	**167**	*e*P		Pg	07 26 32.2	+1.3
	baz=166							
TWK1	**Hengchun**	**1.34**	**165**	*e*P		Pg	07 26 32.8	+0.4
	baz=164							
TWD	**Chiawan**	**1.35**	**52**	*e*P		Pg	07 26 32.7	+0.1
	baz=60							
TWD				S		Sg	07 26 51.2	+1.1
	baz=60							
NNS	**Nan Shan**	**1.47**	**36**	*e*P		Pn	07 26 33.3	-0.2
	baz=19							
NSTT	**Nanjuang**	**1.48**	**20**	*e*P		Pn	07 26 33.1	-0.3
	baz=20							
NSTT				*e*S		Sn	07 26 53.0	+0.1
	baz=20							
LAY	**Lan-yu**	**1.58**	**139**	*e*P		Pn	07 26 35.1	+0.3
	baz=138							
NSK	**Sanguang**	**1.66**	**30**	*e*P		Pn	07 26 35.9	-0.1
	baz=15							
NSK				*e*S		Sg	07 26 59.3	-0.7
	baz=15							
ENA	**Nanau**	**1.68**	**45**	*e*P		Pb	07 26 38.2	+0.5
	baz=64							
ENTT	**Nioudou**	**1.73**	**36**	*e*P		Pb	07 26 38.6	-0.1
	baz=20							
ENTT				*e*S		Sg	07 27 02.7	+0.2
	baz=20							
TWE	**Neicheng**	**1.85**	**37**	*e*P		Pb	07 26 41.2	+0.5
	baz=36							
TWE				*e*S		Sg	07 27 06.0	-0.2
	baz=36							
TWC	**Suao**	**1.88**	**43**	*e*P		Pn	07 26 38.4	-0.5
	baz=44							
EGS		**2.10**	**40**	*e*P		Pg	07 26 46.4	-0.6
	baz=41							
KNM	**Kinmen**	**2.18**	**303**	*e*P		Pb	07 26 46.5	+0.3
	baz=303							
NWF	**Wu-fen Shan**	**2.20**	**34**	*e*P		Pb	07 26 46.6	-0.1
	baz=18							

NEIC ***27*** *07:46:37.5±0.3,2˚.33S×136˚.68E,h10km,mb4.3/6,Error ellipse: s-maj=8.2km s-min=6.4km az=69.0*

ISCJB ***27*** *07:46:39.7±0.4,2˚.38S±0˚.06×136˚.70

	0.8nm,0.7s,baz=148,slow=8.5,SNR=3.0								
MKAR	**Makanchi Array**	**68.32**	**323**	P	**P**	**07 57 39.1**	**+0.5**
	2.7nm,0.6s,baz=112,slow=8.1,SNR=29								
ZALV	**Zalesovo Beam**	**70.66**	**330**	P	**P**	**07 57 52.0**	**-0.9**
	1.5nm,0.5s,baz=101,slow=3.8,SNR=4.2								
VNDA	**Vanda**	**76.28**	**175**	P	**P**	**07 58 26.2**	**+0.7**
	0.5nm,0.4s,baz=287,slow=12,SNR=9.5								
VNDA				LR	LR	08 30 16.6			
	comp=Z,45nm,18.9s,baz=346,slow=34								
BVAR	**Borovoye Array**	**77.91**	**326**	P	**P**	**07 58 35.4**	**+0.3**
	4.4nm,0.7s,baz=111,slow=8.1,SNR=21								
BRVK	**Borovoye**	**77.98**	**326**	*eP*	**P**	**07 58 35.1**	**-0.4**
	11nm,0.8s								
NRIK	**Noril'sk**	**78.86**	**344**	P	**P**	**07 58 40.0**	**0.0**
	2.4nm,0.6s,baz=112,slow=7.9,SNR=5.0								
GEYT	**Alibeck**	**82.46**	**309**	LR	LR	08 38 27.9			
	comp=Z,28nm,21.7s,baz=30,slow=38								
ABKAR	**Akbulak array**	**83.18**	**320**	*eP*	**P**	**07 59 02.4**	**-1.1**
	0.5nm,0.3s								
AKTO	**Aktyubinsk**	**84.63**	**321**	P	**P**	**07 59 10.9**	**+0.1**
	0.5nm,0.4s,baz=114,slow=7.5,SNR=5.2								
ARU	**Arti**	**85.43**	**327**	P	**P**	**07 59 14.5**	**-0.2**
	7.2nm,0.2s,baz=17,slow=1.6,SNR=2.7								
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**07 59 19.2**	**-0.1**
	0.7nm,0.9s,baz=263,slow=4.9,SNR=5.0								

WEL 27 08:01:21.9±0.7, 36°19S × 177°58E, h194km ± 6km, ML3.5/6, 1C-3D, Error ellipse: s-maj=8.8km s-min=6.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.49**	**157**	PN	Pn	08 01 54.9	0.0
HAZ	**Te Kaha**	**1.58**	**174**	PN	Pn	08 01 55.9	+0.2
HAZ				SN	Sn	08 02 21.6	-0.5
WMGZ	**Waiomatatini S**	**1.76**	**158**	PN	Pn	08 01 57.6	+0.1
WMGZ				SN	Sn	08 02 24.6	-0.7
PUZ	**Puketiti**	**1.96**	**164**	⇓PN	Pn	08 01 59.4	-0.2
TWGZ	**Tauwhareparae**	**2.01**	**171**	PN	Pn	08 02 00.8	+0.7
TWGZ				SN	Sn	08 02 29.4	-0.6
URZ	**Urewera**	**2.10**	**190**	PN	Pn	08 02 01.4	+0.4
MWZ	**Matawai**	**2.15**	**181**	⇑PN	Pn	08 02 01.7	+0.2
RAGZ	**Rawiri**	**2.31**	**183**	PN	Pn	08 02 03.9	+0.6
CNGZ	**Carnagh Statio**	**2.35**	**168**	PN	Pn	08 02 03.8	+0.2
RTZ	**Ruatahuna**	**2.47**	**191**	PN	Pn	08 02 05.1	0.0
RIGZ	**Rimuhau**	**2.52**	**177**	PN	Pn	08 02 05.4	-0.2
SNGZ	**Shannon Statio**	**2.60**	**184**	PN	Pn	08 02 06.4	-0.1
MRHZ	**Matea Rd**	**2.80**	**199**	⇓PN	Pn	08 02 09.1	+0.3
KNZ	**Kokohu**	**2.83**	**178**	PN	Pn	08 02 08.9	-0.2
BKZ	**Black Stump Fm**	**3.10**	**196**	PN	Pn	08 02 12.0	-0.4
MCHZ	**McNeill Hill**	**3.33**	**192**	PN	Pn	08 02 15.0	-0.1
KRHZ	**Kereru**	**3.58**	**195**	PN	Pn	08 02 17.2	-1.0
KAHZ	**Kahuranaki**	**3.65**	**189**	PN	Pn	08 02 18.2	-0.8
PNHZ	**Pukenui**	**3.88**	**196**	PN	Pn	08 02 20.9	-1.0
TSZ	**Takapari Road**	**4.07**	**198**	PN	Pn	08 02 22.8	-1.6
MRZ	**Mangatainoka R**	**4.74**	**199**	⇓PN	Pn	08 02 30.4	-2.3

ISCJB 27 08:05:49.3±1.7, 21°41N × 0°05W × 99°26W ± 0°06, h13km ± 13km, Error ellipse: s-maj=10.0km s-min=6.8km az=145.6
MEX 27 08:05:49.2±0.9, 21°48N × 99°22W, h8km, MD4.0
NEIC 27 08:05:49.2, 21°48N × 99°22W, h8km, mb3.9/2, MD4.0(MEX), After MEX.

ISC 27 08:05:47.7±1.3, 21°44N ± 0°03 × 99°28W ± 0°05, h9km ± 10km, n22, σ2 s32/41, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**1.16**	**169**	*eP*	**Pg**	**08 06 08.4**	**-1.4**
DEIG				*eS*	**Sg**	**08 06 23.5**	**-1.4**
DEIG	**Demacu**	**1.16**	**169**	*eP*	**Pg**	**08 06 08.4**	**-1.4**
DEIG				*eS*	**Sg**	**08 06 23.5**	**-1.4**
JRQG	**Juriquilla Cam**	**1.32**	**236**	*eP*	**Pn**	**08 06 11.0**	**-1.5**
JRQG				*eS*	**Sb**	**08 06 29.0**	**-0.8**
ZUVM	**ZUMPANGO**	**1.62**	**173**	*eP*	**Pn**	**08 06 15.5**	**-1.2**
ZUVM				*i* S	**Sn**	**08 06 35.1**	**-2.7**
VTVM	**Tizayuca**	**1.73**	**164**	*eP*	**Pn**	**08 06 20.1**	**+1.9**
VTVM				*eS*	**Sb**	**08 06 44.5**	**+2.7**
PTVM	**Pico Tres Padr**	**1.84**	**175**	*eP*	**Pn**	**08 06 22.1**	**+2.4**
PTVM				*eS*	**Sn**	**08 06 42.6**	**-0.8**
PTVM	**Pico Tres Padr**	**1.84**	**175**	*eP*	**Pn**	**08 06 22.1**	**+2.4**
PTVM				*eS*	**Sn**	**08 06 42.6**	**-0.8**
AZVM	**Cuida Lopez Ma**	**1.85**	**180**	*eP*	**Pn**	**08 06 21.0**	**+1.2**
AZVM				*eS*	**Sn**	**08 06 44.5**	**+1.0**
IGIG	**Irapuato, Guan**	**2.03**	**251**	*eP*	**Pn**	**08 06 23.2**	**+0.9**
IGIG				*eS*	**Sn**	**08 06 49.5**	**+1.5**
UNM	**Universidad Na**	**2.10**	**177**	*eP*	**Pn**	**08 06 23.9**	**+0.6**
UNM				*i* S	**Sg**	**08 06 58.8**	**+3.5**
UNM	**Universidad Na**	**2.10**	**177**	*eP*	**Pn**	**08 06 23.9**	**+0.6**
UNM				*i* S	**Sg**	**08 06 58.8**	**+3.5**
TOVM	**TOLUCA**	**2.18**	**190**	*eP*	**Pn**	**08 06 26.5**	**+2.0**
TOVM				*eS*	**Sn**	**08 06 51.8**	**0.0**
MZVM		**2.24**	**179**	*eP*	**Pn**	**08 06 27.6**	**+2.6**
MZVM				*eS*	**Sn**	**08 06 53.6**	**+0.9**
MAVM	**Malinalco, Edo**	**2.48**	**185**	*i* P	**Pb**	**08 06 33.2**	**+0.6**
MAVM				*eS*	**Sn**	**08 07 00.7**	**+1.7**
ZAIG	**Zacatecas**	**3.33**	**294**	*eP*	**Pn**	**08 06 45.0**	**+4.8**
ZAIG				*eS*	**Sb**	**08 07 26.9**	**-0.8**
ZAIG	**Zacatecas**	**3.33**	**294**	*eP*	**Pn**	**08 06 45.0**	**+4.8**
ZAIG				*eS*	**Sb**	**08 07 26.9**	**-0.8**
LNIG	**Linares**	**3.45**	**357**	*eP*	**Pn**	**08 06 46.3**	**+4.7**
LNIG				*eS*	**Sg**	**08 07 39.5**	**+1.1**
LNIG	**Linares**	**3.45**	**357**	*eP*	**Pn**	**08 06 46.3**	**+4.7**
LNIG				*eS*	**Sg**	**08 07 39.5**	**+1.1**
JCT	**Junction City**	**9.02**	**357**	*ePn*	**Pn**	**08 07 60.0**	**+1.8**
WMOK	**Wichita Mounta**	**13.26**	**2**	Pn	**Pn**	**08 08 53.3**	**-2.8**
WMOK				*eSn*	**Sn**	**08 11 22.0**	**-1.8**
TIGA	**Tifton**	**17.20**	**51**	*eP*	**Pn**	**08 09 46.9**	**-1.4**
	6.4nm,0.3s						
TZTN	**Tazewell**	**20.35**	**39**	*eP*	**P**	**08 10 24.9**	**+0.4**
	2.5nm,0.8s						

NEIC 27 08:25:43.6, 49°10N × 129°76W, h10km, mb4.3/6, After OTT.
PGC 27 08:25:43.6±1.6, 49°10N × 129°76W, h10km, ML3.0/32, Mw3.6/32, 244km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region
ISCJB 27 08:25:44.9±0.6, 49°22N ± 0°03 × 129°41W ± 0°06, h10km, mb4.3/5, MS4.1/2, Error ellipse: s-maj=6.3km s-min=4.0km az=143.0
IDC 27 08:25:47.5±2.7, 49°40N × 129°30W, h0km, mb4.3/1, mb1 3.8/8, mb1mx3.6/46, mbtmp3.6/8, ML3.5/6, MS3.0/5, Ms1 3.0/5, ms1mx2.6/57, Error ellipse: s-maj=36.9km s-min=13.4km az=58.0

ISC 27 08:25:45.5±1.1, 49°23N ± 0°06 × 129°56W ± 0°08, h10km, n79, σ1 s55/93, mb4.3/5, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.49**	**51**	Pn	**Pn**	**08 26 10.9**	**-1.4**
BPBC	**Brooks Peninsu**	**1.49**	**51**	*ePn*	**Pn**	**08 26 10.9**	**-1.4**
HOLB	**Holberg**	**1.69**	**33**	Pn	**Pn**	**08 26 13.5**	**-1.6**
HOLB				Sn	**Sn**	**08 26 34.6**	**-2.1**
HOLB	**Holberg**	**1.69**	**33**	*ePn*	**Pn**	**08 26 13.5**	**-1.6**
HOLB				*eSn*	**Sn**	**08 26 34.6**	**-2.1**
EDB	**Eliza Dome**	**1.72**	**67**	Pn	**Pn**	**08 26 13.7**	**-1.7**
EDB				Sn	**Sn**	**08 26 35.5**	**-1.9**
EDB	**Eliza Dome**	**1.72**	**67**	*ePn*	**Pn**	**08 26 13.7**	**-1.7**
EDB				*eSn*	**Sn**	**08 26 35.5**	**-1.9**
FHRB	**Fair Harbour**	**1.79**	**62**	Pn	**Pn**	**08 26 15.2**	**-1.2**
FHRB				Sn	**Sn**	**08 26 37.9**	**-1.2**
MAYB	**Maynard**	**1.94**	**52**	Pn	**Pn**	**08 26 17.3**	**-1.4**
MAYB	**Maynard**	**1.94**	**52**	*ePn*	**Pn**	**08 26 17.3**	**-1.4**
ETB	**Estevan Point**	**1.98**	**85**	Pn	**Pn**	**08 26 17.7**	**-1.3**
ETB	**Estevan Point**	**1.98**	**85**	*ePn*	**Pn**	**08 26 17.7**	**-1.3**
PHC	**Port Hardy**	**2.02**	**42**	Pn	**Pn**	**08 26 18.5**	**-1.0**
PHC				Sn	**Sn**	**08 26 43.5**	**-1.4**
PHC	**Port Hardy**	**2.02**	**42**	*ePn*	**Pn**	**08 26 18.5**	**-1.0**
WOSB	**Woss**	**2.15**	**63**	Pn	**Pn**	**08 26 20.9**	**-0.6**
TLCB	**Telegraph Cove**	**2.20**	**52**	Pn	**Pn**	**08 26 21.4**	**-0.6**
TLCB				Sn	**Sn**	**08 26 49.0**	**-0.4**
GDR	**Gold River**	**2.37**	**75**	Pn	**Pn**	**08 26 23.1**	**-1.2**
TOFB	**Tofino**	**2.40**	**90**	Pn	**Pn**	**08 26 22.9**	**-1.9**
NCRB	**Newcastle Ridg**	**2.56**	**61**	Pn	**Pn**	**08 26 27.1**	**0.0**
SPLB	**Strathcona Par**	**2.63**	**74**	Pn	**Pn**	**08 26 28.4**	**+0.4**
BTB	**Buttle Lake**	**2.65**	**83**	Pn	**Pn**	**08 26 27.2**	**-1.2**
B012	**Ucluelet**	**2.66**	**95**	Pn	**Pn**	**08 26 26.4**	**-1.9**
B012				Sn	**Sn**	**08 26 56.5**	**-4.1**

OZB	**Mount Ozzard**	**2.69**	**94**	Pn	**Pn**	**08 26 26.8**	**-2.0**
MWAB	**Mount Washingt**	**2.82**	**78**	Pn	**Pn**	**08 26 29.9**	**-0.9**
CBB	**Campbell River**	**2.84**	**72**	Pn	**Pn**	**08 26 30.9**	**0.0**
CBB				Sn	**Sn**	**08 27 04.9**	**-0.4**
BMSB	**Bamfield Mari**	**2.94**	**96**	Pn	**Pn**	**08 26 30.4**	**-1.8**
BMSB				Sn	**Sn**	**08 27 05.1**	**-2.4**
B928	**Bamfield**	**2.94**	**96**	Pn	**Pn**	**08 26 30.4**	**-1.8**
B928				Sn	**Sn**	**08 27 04.8**	**-2.6**
BBB	**Bella Bella**	**3.10**	**17**	Pn	**Pn**	**08 26 33.7**	**-0.7**
	baz=212,slow=14						
BBB				LR	LR	08 27 00.3	
	comp=Z,62nm,21.6s,baz=238,slow=25						
BBB				Sn	**Sn**	**08 27 08.0**	**-3.5**
	33nm,0.3s,baz=300,slow=22,SNR=16						
BBB	**Bella Bella**	**3.10**	**17**	Pn	**Pn**	**08 26 33.3**	**-1.1**
BBB				Sn	**Sn**	**08 27 08.5**	**-2.9**
B927	**Port Alberni**	**3.11**	**88**	Pn	**Pn**	**08 26 33.9**	**-0.7**
MGB	**Mount Grey**	**3.21**	**92**	Pn	**Pn**	**08 26 34.6**	**-1.4**
MGB				Sn	**Sn**	**08 27 12.3**	**-2.1**
TXB	**Texada**	**3.38**	**80**	Pn	**Pn**	**08 26 38.0**	**-0.2**
OCP	**Olym-Cheeka Pk**	**3.40**	**104**	Pn	**Pn**	**08 26 37.3**	**-1.2**
PFB	**Port Renfrew**	**3.44**	**99**	Pn	**Pn**	**08 26 37.7**	**-1.4**
PFB				Sn	**Sn**	**08 27 17.2**	**-2.8**
GHNB	**Nanoose**	**3.49**	**87**	Pn	**Pn**	**08 26 38.7**	**-1.0**
YOUB	**Youbou, Lake C**	**3.50**	**93**	Pn	**Pn**	**08 26 38.9**	**-1.0**
YOUB				Sn	**Sn**	**08 27 19.1**	**-2.4**
B926	**Mesachie Lake**	**3.60**	**94**	Pn	**Pn**	**08 26 39.7**	**-1.6**
BCBC	**Bella Coola**	**3.62**	**28**	Sn	**Sn**	**08 27 24.1**	**-0.1**
NLLB	**Nanaimo Lost L**	**3.65**	**88**	Pn	**Pn**	**08 26 42.4**	**+0.4**
SHB	**Sechelt**	**3.73**	**82**	Pn	**Pn**	**08 26 43.2**	**0.0**
LZB	**Mount Lazard**	**3.83**	**97**	Pn	**Pn**	**08 26 43.5**	**-1.0**
LZB				Sn	**Sn**	**08 27 27.1**	**-2.6**
GOBB	**Galiano Island**	**3.99**	**92**	Pn	**Pn**	**08 26 46.8**	**+0.2**
PGC	**Sidney**	**4.07**	**96**	Pn	**Pn**	**08 26 46.7**	**-1.0**
PGC	**Sidney**	**4.07**	**96**	*ePn*	**Pn**	**08 26 47.1**	**-0.6**
PGC				*eSn*	**Sn**	**08 27 34.4**	**-1.0**
BIB	**Bowen Island**	**4.10**	**85**	Pn	**Pn**	**08 26 47.9**	**-0.2**
WPB	**Watts Point**	**4.17**	**82**	Pn	**Pn**	**08 26 49.2**	**+0.1**
VGZ	**Gonzales**	**4.20**	**99**	Pn	**Pn**	**08 26 48.3**	**-1.2**
NLWA	**Neilton Lookou**	**4.22**	**114**	*ePn*	**Pn**	**08 26 49.5**	**-0.4**
NLWA				*eSn*	**Sn**	**08 27 38.4**	**-0.8**
BNAB	**Bonilla**	**4.32**	**351**	Pn	**Pn**	**08 26 50.2**	**-1.0**
H02S1	**DAWSON INLET T**	**4.38**	**336**	Pn	**Pn**	**08 26 49.6**	**-2.4**
H02N1	**VAN INLET T-PH**	**4.44**	**336**	Pn	**Pn**	**08 26 50.1**	**-2.8**
MCW	**Mount Constitu**	**4.47**	**95**	Pn	**Pn**	**08 26 51.8**	**-1.5**
BLN	**Blyn Mountain**	**4.54**	**103**	Pn	**Pn**	**08 26 53.0**	**-1.3**
CMW	**Cultus Mountai**	**4.98**	**96**	Pn	**Pn**	**08 27 00.7**	**+0.4**
UBRB	**Upper Baezaeko**	**5.04**	**41**	Pn	**Pn**	**08 27 03.4**	**+2.2**
LLLB	**Lillooet**	**5.15**	**72**	Pn	**Pn**	**08 27 03.5**	**+0.8**
HOPB	**Hope**	**5.33**	**85**	Pn	**Pn**	**08 27 04.7**	**-0.4**
RPW	**Rockport**	**5.37**	**95**	Pn	**Pn**	**08 27 05.5**	**-0.2**
LTY	**Liberty**	**6.26**	**105**	Pn	**Pn**	**08 27 19.0**	**+1.1**
NEW	**Newport**	**8.28**	**92**	Pn	**Pn**	**08 27 46.8**	**+1.2**
	0.5nm,0.3s,baz=282,slow=16,SNR=4.0						
NEW				LR	LR	08 31 00.9	
	comp=Z,120nm,19.9s,baz=268,slow=39						
DLBC	**Dease Lake**	**9.23**	**358**	Pn	**Pn**	**08 28 00.4**	**+1.8**
	0.2nm,0.3s,baz=192,slow=11,SNR=3.9						
DLBC				LR	LR	08 31 50.6	
	comp=Z,74nm,18.0s,baz=192,slow=40						
TPAW	**Teton Pass**	**14.06**	**107**	*ePn*	**Pn**	**08 29 04.0**	**-0.9**
	14nm,1.4s						
MOOW	**Moose Ponds**	**14.06**	**106**	*ePn*	**Pn**	**08 29 05.2**	**+0.3**
	7.4nm,1.0s						
SNOW	**Snow King Moun**	**14.20**	**107**	*ePn*	Pn	08 29 01.5	-5.3
	3.4nm,0.9s						
PDAR	**Pinedale Array**	**15.31**	**107**	Pn	**P**	**08 29 25.2**	**-1.4**
	0.1nm,0.3s,baz=323,slow=5.8,SNR=2.9						
PDAR				LR	LR	08 35 19.6	
	comp=Z,72nm,19.2s,baz=298,slow=38						
YKA	**Yellowknife Ar**	**15.66**	**26**	Pn	**Pn**	**08 29 24.7**	**-1.3**
	0.1nm,0.3s,baz=213,slow=13,SNR=3.7						
DGMT	**Dagmar**	**16.70**	**83**	*eP*	**P**	**08 29 42.0**	**+0.3**
	5.3nm,0.5s						
FFC	**Flin Flon**	**17.79**	**62**	*eP*	**P**	**08 29 55.0**	**+1.3**
	23nm,0.9s						
ILAR	**Eielson Array**	**18.11**	**336**	P	**P**	**08 29 57.6**	**+0.5**
	0.0nm,0.3s,baz=143,slow=9.8,SNR=7.1						
PV01	**Paradox Valley**	**18.73**	**118**	*eP*	**Pn**	**08 30 06.9**	**+2.0**
INK	**Inuvik**	**19.24**	**356**	P	**Pn**	**08 30 11.7**	**+1.2**
	0.1nm,0.3s,baz=170,slow=6.1,SNR=3.5						
ULM	**Lac du Bonnet**	**21.69**	**74**	P	**P**	**08 30 38.5**	**+2.2**
	12nm,0.8s,baz=274,slow=13,SNR=11						
ULM				LR	LR	08 39 14.9	
	comp=Z,96nm,21.9s,baz=307,slow=38						
AGMN	**Agassiz Nation**	**22.13**	**80**	*eP*	**P**	**08 30 42.1**	**+1.1**
	11nm,1.0s						
EYMN	**Ely**	**25.04**	**78**	*eP*	**P**	**08 31 10.5**	**+0.9**
	5.6nm,0.6s						
SPMN	**Marine on St.**	**25.12**	**85**	*eP*	**P**	**08 31 12.3**	**+2.1**
	7.4nm,1.1s						
MIAR	**Mount Ida**	**30.22**	**105**	*eP*	**P**	**08 31 57.9**	**+1.9**
	7.9nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**58.09**	**263**	T	T	09 38 16.0	
	baz=43,slow=74,SNR=138						
H11N3	**WAKE ISLAND Hy**	**58.09**	**263**	T	T	09 38 15.4	
	baz=43,slow=74,SNR=135						
H11N1	**WAKE ISLAND Hy**	**58.11**	**263**	T	T	09 38 17.2	
	baz=43,slow=74,SNR=122						
DAV	**Davao City (W)**	**94.27**	**286**	LR	LR	09 12 19.0	
	comp=Z,659nm,21.2s,baz=40,slow=30						

ATH 27 08:35:24.6, 41°24N × 20°11E, h20km ± 1km, ML2.7/6, Error ellipse: s-maj=2.0km s-min=1.1km az=30.0
BEO 27 08:35:24.1±0.8, 41°06N × 20°14E, h0km, M2.5/5
CSEM 27 08:35:25.7±0.1, 41°28N × 20°17E, h2km, ML2.7, Error ellipse: s-maj=4.3km s-min=2.2km az=55.0
PDG 27 08:35:25.8±0.1, 41°29N × 20°13E, h8km, ML3.0/10, Error ellipse: s-maj=0.4km s-min=0.3km az=90.0
SKO 27 08:35:25.5, 41°22N × 20°13E, h12km
THE 27 08:35:26.1, 41°32N × 20°21E, h0km ± 2km, ML2.8/11, Error ellipse: s-maj=2.9km s-min=1.3km az=297.0

ISC 27 08:35:26.0±1.0, 41°25N ± 0°02 × 20°14E ± 0°02, h6km ± 8km, n122, σ1 s107/199, 13C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.23**	**297**	*ePg*	**Pg**	**08 35 30.1**	**-0.5**
TIR				*eSg*	**Sg**	**08 35 35.3**	**+1.6**
TIR	**Tirane**	**0.23**	**297**	P	**Pg**	**08 35 29.8**	**-0.8**
TIR	**Tirane**	**0.23**	**297**	*ePg*	**Pg**	**08 35 30.1**	**-0.5**
TIR				S	**Sg**	**08 35 34.2**	**+0.5**
TIR				*eSg*	Sg	08 35 35.3	+1.6
TIR	**Tirane**	**0.23**	**297**	P	**Pg**	**08 35 29.8**	**-0.8**
TIR				S	**Sg**	**08 35 34.2**	**+0.5**
TIR				AML	AML	08 35 36.0	
	comp=N,9860μm,0.3s						
TIR				AML	AML	08 35 37.4	
	comp=E,10155μm,0.3s						
OHR	**Ohrid**	**0.52**	**105**	⇑*iPg*	**Pg**	**08 35 35.0**	**-1.0**
OHR				*i* Sg	**Sg**	**08 35 43.5**	**+0.8**
OHR	**Ohrid**	**0.52**	**105**	⇑*iPg*	**Pg**	**08 35 34.9**	**-1.0**
OHR				*i* Sg	**Sg**	**08 35 43.5**	**+0.8**
ULC	**Ulcinj**	**0.98**	**317**	⇑*iPg*	**Pg**	**08 35 43.2**	**-1.7**
ULC				*eSg*	**Sb**	**08 35 58.6**	**-0.1**
ULC	**Ulcinj**	**0.98**	**317**	⇑*iPg*	**Pg**	**08 35 43.2**	**-1.7**
ULC				*eSg*	**Sb**	**08 35 58.6**	**-0.1**
FNA	**Florina**	**1.04**	**116**	P	**Pg**	**08 35 44.6**	**-1.4**
FNA				S	**Sg**	**08 36 00.0**	**+0.5**
FNA	**Florina**	**1.04**	**116**	P	**Pg**	**08 35 44.6**	**-1.4**
FNA				S	**Sg**	**08 36 00.0**	**+0.5**
FNA	**Florina**	**1.04**	**116**	P	**Pg**	**08 35 44.1**	**-1.9**
FNA				S	**Sg**	**08 36 00.1**	**+0.5**
FNA				AML	AML	08 36 03.9	
	comp=E,1484μm,0.4s						
FNA				AML	AML	08 36 03.9	
	comp=N,1178μm,0.3s						
NEST	**Nestorio**	**1.08**	**140**	P	**Pg**	**08 35 46.0**	**-0.7**
NEST				S	**Sb**	**08 36 02.0**	**+0.5**
NEST	**Nestorio**	**1.08**	**140**	P	**Pg**	**08 35 46.0**	**-0.7**
NEST				S	**Sg**	**08 36 00.8**	**+0.1**
NEST	**Nestorio**	**1.08**	**140**	P	**Pg**	**08 35 45.8**	**-0.9**
NEST				S	**Sg**	**08 36 00.8**	**+0.1**
NEST				AML	AML	08 36 07.3	
	comp=N,443μm,0.4s						
NEST				AML	AML	08 36 08.0	
	comp=E,551μm,0.6s						
DRME	**Dracevica, Mon**	**1.18**	**323**	⇓*iPg*	**Pg**	**08 35 46.8**	**-1.9**
DRME				*eSg*	**Sn**	**08 36 05.4**	**-0.1**
DRME	**Dracevica, Mon**	**1.18**	**323**	⇓*iPg*	**Pg**	**08 35 46.8**	**-1.9**
DRME				*eSg*	**Sn**	**08 36 05.4**	**-0.1**

SKO	**Skopje**	**1.22**	**53**	P	**Pg**	**08 35 48.2**	**-1.2**
SKO				S	**Sg**	**08 36 04.7**	**-0.4**
SKO	**Skopje**	**1.22**	**53**	*i* Pg	**Pg**	**08 35 47.8**	**-1.5**
SKO				⇑*i* Sg	**Sg**	**08 36 04.9**	**-0.2**
SKO	**Skopje**	**1.22**	**53**	*ePg*	**Pg**	**08 35 47.8**	**-1.5**
SKO				*eSg*	**Sn**	**08 36 06.6**	**+0.3**
SKO	**Skopje**	**1.22**	**53**	*i* Pg	**Pg**	**08 35 47.8**	**-1.5**
SKO	**Skopje**	**1.22**	**53**	P	**Pg**	**08 35 48.2**	**-1.2**
SKO				S	**Sg**	**08 36 04.7**	**-0.4**
PENT	**Pentalofos**	**1.29**	**144**	P	**Pg**	**08 35 52.3**	**+1.5**
PENT				S	**Sn**	**08 36 09.6**	**+1.2**
PENT	**Pentalofos**	**1.29**	**144**	P	**Pn**	**08 35 48.7**	**-2.0**
PENT				S	**Sn**	**08 36 08.3**	**-0.1**
PENT	**Pentalofos**	**1.29**	**144**	P	**Pn**	**08 35 48.7**	**-2.0**
PENT				S	**Sn**	**08 36 08.3**	**-0.1**
PENT				AML	AML	08 36 17.1	
	comp=E,424μm,0.4s						
PENT				AML	AML	08 36 17.2	
	comp=N,446μm,0.5s						
PDG	**Podgorica**	**1.36**	**331**	P	**Pn**	**08 35 50.0**	**-1.4**
PDG				S	**Sn**	**08 36 11.2**	**+1.4**
PDG	**Podgorica**	**1.36**	**331**	*ePn*	**Pb**	**08 35 51.6**	**-0.2**
PDG				*eSn*	**Sn**	**08 36 13.1**	**+3.3**
PDG	**Podgorica**	**1.36**	**331**	P	**Pn**	**08 35 50.0**	**-1.4**
PDG	**Podgorica**	**1.36**	**331**	*ePn*	**Pb**	**08 35 51.6**	**-0.2**
PDG				*eSg*	**Sn**	**08 36 10.8**	**+1.0**
PDG				S	**Sn**	**08 36 11.2**	**+1.4**
PDG				*eSn*	**Sn**	**08 36 13.1**	**+3.3**
PVY	**Plav**	**1.36**	**354**	*ePn*	**Pn**	**08 35 50.4**	**-1.2**
PVY				*eSg*	**Sn**	**08 36 10.5**	**+0.5**
PVY	**Plav**	**1.36**	**354**	*ePn*	**Pn**	**08 35 50.4**	**-1.2**
PVY				*eSg*	**Sn**	**08 36 10.5**	**+0.5**
TTG	**Podgorica**	**1.36**	**331**	⇓*iPg*	**Pn**	**08 35 50.1**	**-1.4**
TTG				*eSg*	**Sn**	**08 36 10.8**	**+1.0**
BUM	**Brajici-Budva**	**1.41**	**319**	⇓*iPg*	**Pn**	**08 35 50.9**	**-1.4**
BUM				*eSg*	**Sg**	**08 36 12.6**	**+1.3**
BUM	**Brajici-Budva**	**1.41**	**319**	⇓*iPg*	**Pn**	**08 35 50.9**	**-1.4**
BUM				*eSg*	**Sg**	**08 36 12.6**	**+1.3**
KEK	**Kerkira**	**1.55**	**190**	P	**Pn**	**08 35 54.4**	**+0.2**
KEK				S	**Sg**	**08 36 16.9**	**+1.0**
KEK	**Kerkira**	**1.55**	**190**	P	**Pn**	**08 35 54.4**	**+0.2**
KEK				S	**Sg**	**08 36 16.9**	**+1.0**
KZN	**Kozani**	**1.55**	**127**	P	**Pb**	**08 35 55.3**	**+0.1**
KZN				S	**Sg**	**08 36 17.3**	**+1.4**
KZN	**Kozani**	**1.55**	**127**	P	**Pb**	**08 35 55.3**	**+0.1**
KZN				S	**Sg**	**08 36 17.3**	**+1.4**
CEME	**Cevo**	**1.59**	**325**	⇑*iPg*	**Pn**	**08 35 54.4**	**-0.3**
CEME				*eSg*	**Sg**	**08 36 17.8**	**+0.7**
CEME	**Cevo**	**1.59**	**325**	⇑*iPg*	**Pn**	**08 35 54.4**	**-0.3**
CEME				*eSg*	**Sg**	**08 36 17.8**	**+0.7**
KPRO	**Kipourio**	**1.59**	**144**	P	**Pb**	**08 35 55.8**	**0.0**
KPRO				S	**Sg**	**08 36 19.2**	**+2.1**
KPRO	**Kipourio**	**1.59**	**144**	P	**Pb**	**08 35 55.8**	**0.0**
KPRO				S	**Sn**	**08 36 14.9**	**-0.7**
KPRO	**Kipourio**	**1.59**

VLS	**Valsamata**	**3.08**	**173**	P	**Pn**	**08 36 14.8**	**-0.4**
VLS	**Valsamata**	**3.08**	**173**	P	**Pn**	**08 36 14.8**	**-0.4**
AXS	**Araxos**	**3.19**	**162**	P	**Pn**	**08 36 16.9**	**+0.2**
AXS	**Araxos**	**3.19**	**162**	P	**Pn**	**08 36 16.9**	**+0.2**
KALE	**Kalithea**	**3.24**	**151**	P	**Pn**	**08 36 19.4**	**+2.0**
KALE	**Kalithea**	**3.24**	**151**	P	**Pn**	**08 36 19.4**	**+2.0**
LAKA	**Lakka**	**3.32**	**154**	P	**Pn**	**08 36 19.4**	**+0.9**
LAKA	**Lakka**	**3.32**	**154**	P	**Pn**	**08 36 19.4**	**+0.9**
TEKS	**Tekeris**	**3.33**	**352**	*e*Pn	**Pn**	**08 36 20.0**	**+1.3**
TEKS	**Tekeris**	**3.33**	**352**	*e*Pn	**Pn**	**08 36 20.0**	**+1.3**
MPEP	**Malo Peshtene**	**3.40**	**50**	*e*P	**Pn**	**08 36 19.3**	**-0.3**
KLV	**Kalavryta, Ach**	**3.55**	**153**	P	**Pn**	**08 36 23.6**	**+1.9**
KLV	**Kalavryta, Ach**	**3.55**	**153**	P	**Pn**	**08 36 23.6**	**+1.9**
NVLJ	**Novalja**	**5.10**	**312**	*e*Pn	**Pn**	**08 36 42.5**	**-0.3**
NVLJ				Sn	**Sn**	**08 37 40.8**	**-1.2**
NVLJ	**Novalja**	**5.10**	**312**	*e*Pn	**Pn**	**08 36 42.5**	**-0.3**
NVLJ				Sn	**Sn**	**08 37 40.7**	**-1.2**
CRES	**Cresnjev**	**5.71**	**325**	*e*Pn	**Pn**	**08 36 51.6**	**+0.4**
CEY	**Cerknica**	**6.12**	**319**	*e*Pn	**Pn**	**08 36 55.5**	**-1.4**
KECS	**Kecovo**	**7.24**	**2**	*e*PG	**Pg**	**08 37 47.5**	**+2.8**

IDC 27 08:53:03.5±2.1,1°98S×128°34E, *h*0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/34, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=157.5km s-min=25.2km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.79**	**162**	P	P	08 57 23.4	-1.2
	0.1nm,0.3s,baz=341,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**22.22**	**166**	P	P	08 58 02.3	+0.4
	1.1nm,0.4s,baz=344,slow=11,SNR=35						
MKAR	**Makanchi Array**	**63.15**	**326**	P	P	09 03 33.5	+0.2
	0.2nm,0.4s,baz=112,slow=11,SNR=2.7						

*IDC **27** 09:01:09.3±1.6, 15°.41N×119°.61E, h111km±19km, mb3.3/5, mb1 3.6/6, mb1mx3.3/54, mbtmp3.8/6, MS2.9/2, Ms1 3.0/2, ms1mx2.4/27, Error ellipse: s-maj=46.2km s-min=14.9km az=59.0*

ISC 27 09:01:02.4±0.9, 15°.5N±0°.2×119°.4E±0°.2, *h*31km, n8, σ2s12/8, mb3.6/5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.01**	**133**	P	**Pb**	**09 01 39.5**	**+1.1**
	50nm,0.3s,baz=343,slow=11,SNR=3.5						
TGY				S	**Sb**	**09 02 04.4**	**+1.4**
	64nm,0.3s,baz=331,slow=17,SNR=4.1						
TGY				LR	LR	09 02 34.2	
	comp=Z,225nm,20.8s,baz=154,slow=46						
CMAR	**Chiang Mai Arr**	**19.81**	**281**	P	**P**	**09 05 33.0**	**+2.5**
	baz=94,slow=7.6,SNR=5.3						
CMAR				LR	LR	09 13 28.9	
	comp=Z,42nm,19.3s,baz=45,slow=37						
GUMO	**Guam**	**24.70**	**91**	LR	LR	09 16 06.8	
	comp=Z,20nm,19.4s,baz=216,slow=37						
SONM	**Songino Array**	**34.01**	**344**	P	**P**	**09 07 43.0**	**-0.6**
	0.4nm,0.5s,baz=164,slow=5.8,SNR=4.3						
WRA	**Warramunga Arr**	**38.14**	**157**	P	**P**	**09 08 16.1**	**-2.9**
	0.4nm,0.5s,baz=336,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**41.41**	**160**	P	**P**	**09 08 44.0**	**-2.1**
	0.9nm,0.6s,baz=338,slow=6.9,SNR=16						
MKAR	**Makanchi Array**	**43.87**	**323**	P	**P**	**09 09 06.1**	**+0.2**
	0.5nm,0.7s,baz=134,slow=8.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**48.03**	**326**	P	**P**	**09 09 39.0**	**+0.3**
	0.3nm,0.3s,baz=117,slow=9.3,SNR=4.2						

*ISCJB **27** 09:02:36.8±1.5, 36°.95N±0°.09×27°.45E±0°.07, h9km±5km, Error ellipse: s-maj=16.0km s-min=6.2km az=27.5*
*ISK **27** 09:02:36.8, 37°.00N×27°.48E, h5km, ML2.4*
*CSEM **27** 09:02:37.7±0.3, 36°.99N×27°.47E, h2km, ML2.4, Error ellipse: s-maj=7.5km s-min=3.5km az=21.0*
*DDA **27** 09:02:37.1, 36°.97N×27°.40E, h6km, Md2.6*

ISC 27 09:02:35.7±1.3, 36°.98N±0°.06×27°.62E±0°.04, *h*2km±13km, n16, σ0s81/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.16**	**301**	P	**Pg**	**09 02 39.7**	**+0.9**
BDRM				S	**Sg**	**09 02 41.1**	**+0.2**
BDRM	**Kayabasi**	**0.16**	**301**	*i* P	**Pg**	**09 02 39.6**	**+0.9**
BDRM				*i* S	**Sg**	**09 02 41.1**	**+0.2**
BODT	**Bodrum**	**0.26**	**288**	*e*PG	**Pg**	**09 02 40.5**	**-0.1**
BODT				*e*SG	**Sg**	**09 02 43.2**	**-0.8**
BODT	**Bodrum**	**0.26**	**288**	*e*Pg	**Pg**	**09 02 40.5**	**-0.1**
BODT				*e*Sg	**Sg**	**09 02 43.2**	**-0.8**
YER	**Yerkesik**	**0.55**	**74**	*e*PG	**Pn**	**09 02 50.5**	**-0.1**
YER				*e*SG	**Sn**	**09 03 00.8**	**+0.3**
YER	**Yerkesik**	**0.55**	**74**	*e*Pg	**Pn**	**09 02 50.5**	**-0.1**
YER				*e*Sg	**Sn**	**09 03 00.8**	**+0.3**
GCAM	**G?zelcaml?**	**0.78**	**337**	P	**Pb**	**09 02 51.7**	**-0.2**
GCAM				S	**Sb**	**09 03 02.0**	**-0.9**
GCAM	**G?zelcaml?**	**0.78**	**337**	*i* P	**Pb**	**09 02 51.7**	**-0.2**
GCAM				*i* S	**Sb**	**09 03 02.0**	**-0.9**
TURN	**Turunc**	**0.80**	**98**	*i* P	**Pg**	**09 02 50.5**	**-0.5**
TURN				*i* S	**Sg**	**09 03 00.5**	**-0.8**
DALY	**Dalyan (Mu˘la**	**0.85**	**101**	*e*PG	**Pn**	**09 02 56.0**	**+1.4**
DALY	**Dalyan (Mu˘la**	**0.85**	**101**	*e*Pg	**Pn**	**09 02 56.0**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**0.99**	**13**	*e*PG	**Pn**	**09 02 56.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.99**	**13**	*e*Pg	**Pn**	**09 02 56.5**	**-0.1**
DGB	**˙zmir**	**1.22**	**332**	*i* P	**Pg**	**09 02 58.5**	**-0.4**
DGB				*i* S	**Sg**	**09 03 14.2**	**-0.6**
IZM	**Izmir**	**1.44**	**349**	*e*PN	**Pg**	**09 03 04.7**	**+1.4**
IZM	**Izmir**	**1.44**	**349**	*e*Pn	**Pg**	**09 03 04.7**	**+1.4**

IDC 27 09:05:16.1±999.0, 51°.38N×115°.24E, *h*0km, Error ellipse: s-maj=371.1km s-min=139.1km az=71.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**6.76**	**242**	*i*		09 50 20.0	
	baz=55,slow=320,SNR=2.4						
I45RU	**USSURIYSK INFR**	**13.33**	**116**	*i*		10 45 11.5	
	baz=308,slow=317,SNR=23						
I46RU	**ZALESOVO INFRA**	**18.56**	**290**	*i*		10 54 50.0	
	baz=87,slow=313,SNR=2.9						

*ISCJB **27** 09:15:04.9±0.8, 6°.79N±0°.07×73°.05W±0°.08, h160km±6km, Error ellipse: s-maj=15.5km s-min=5.9km az=39.5*
*FUNV **27** 09:15:06.7, 6°.92N×73°.12W, h171km, MW2.2*
*RSNC **27** 09:15:07.4±0.9, 6°.76N×73°.10W, h148km±5km, ML2.5*

ISC 27 09:15:04.1±1.6, 6°.84N±0°.06×73°.10W±0°.08, h169km±9km, n16, σ1s66/27, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.18**	**295**	*i* P	**Pn**	**09 15 27.5**	**+0.5**
BTLC				*e*S	**Sn**	**09 15 43.0**	**-1.4**
GIRC	**Giron, Santand**	**0.25**	**339**	*i* P	**Pn**	**09 15 27.4**	**+0.4**
GIRC				*e*S	**Sn**	**09 15 42.9**	**-1.8**
BARC	**Barichara**	**0.26**	**198**	*i* P	**Pn**	**09 15 27.3**	**+0.1**
BARC				*e*S	**Sn**	**09 15 42.0**	**-2.9**
BARC				*i*		09 15 45.3	
	comp=Z,44nm,0.4s						
BRRC	**Barranca, Sant**	**0.66**	**294**	*i* P	**Pn**	**09 15 29.1**	**+0.6**
BRRC				*i*		09 15 29.4	
	comp=Z,72nm,0.2s						
BRRC				*e*S	**Sn**	**09 15 46.6**	**-0.5**
GRMC	**Gramalote, San**	**0.92**	**19**	*i* P	**Pn**	**09 15 33.1**	**+2.7**
GRMC				*i*		09 15 34.2	
	comp=Z,31nm,0.3s						
GRMC				*e*S	**Sn**	**09 15 53.2**	**+2.6**
CBRI	**Barrientos, No**	**0.92**	**19**	*e*P	**Pn**	**09 15 31.8**	**+1.4**
CBRI				*e*S	**Sn**	**09 15 51.3**	**+0.7**
RUSC	**La Rusia**	**0.94**	**179**	*e*S	**Sn**	**09 15 49.2**	**-2.3**
CAPV	**Capacho**	**1.28**	**37**	*e*P	**Pn**	**09 15 35.1**	**+1.7**
CAPV				*e*S	**Sn**	**09 15 55.6**	**-0.3**
OCAC	**Ocana**	**1.41**	**351**	*e*P	**Pn**	**09 15 35.7**	**+1.3**
OCAC				*i*		09 16 04.1	
	comp=Z,24nm,0.2s						
NORC	**Norcasia**	**2.17**	**234**	*e*P	**Pn**	**09 15 43.2**	**+0.8**
NORC				*e*S	**Sn**	**09 16 11.1**	**-1.0**
SOCV	**Socops**	**2.65**	**57**	*e*P	**Pn**	**09 15 49.4**	**+1.4**
SOCV				*e*S	**Sn**	**09 16 20.7**	**-1.4**
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**09 16 01.2**	**+1.6**
PRAC				*e*S	**Sn**	**09 16 44.0**	**+1.1**
PRAC				*i*		09 16 45.0	
	comp=Z,14nm,0.4s						
VIRV	**Villa del Rosa**	**3.70**	**11**	*e*P	**Pn**	**09 16 00.8**	**-0.3**
VIRV				*e*S	**Sn**	**09 16 42.2**	**-3.5**
CURV	**Curarigua**	**4.42**	**44**	*e*P	**Pn**	**09 16 11.2**	**+0.8**
BAUV	**El Baul**	**5.43**	**67**	*e*P	**Pn**	**09 16 23.7**	**+0.2**
MONV	**Montecano**	**5.95**	**31**	*e*P	**Pn**	**09 16 30.8**	**+0.5**

*IDC **27** 09:28:50.2±0.9, 51°.93N×172°.24W, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.7/69, mbtmp3.8/10, ML3.6/1, MS3.1/3, Ms1 3.2/3, ms1mx2.6/47, Error ellipse: s-maj=33.1km s-min=16.2km az=166.0*
*ISCJB **27** 09:28:52.7±0.6, 51°.9N±0°.1×172°.31W±0°.05, h32km, mb3.9/10, MS3.0/2, Error ellipse: s-maj=15.5km s-min=3.6km az=170.8*
*NEIC **27** 09:28:52.5, 51°.75N×172°.30W, h45km, ML3.9(AEIC), After AEIC.*
NEIC Felt on Adak.

ISC 27 09:28:54.3±0.7, 51°.9N±0°.1×172°.29W±0°.04, h32km, n43, σ1s47/41, mb3.9/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.19**	**294**	P	**Pn**	**09 29 13.8**	**-0.9**
KOFP	**Korovin Flat P**	**1.19**	**291**	P	**Pn**	**09 29 13.8**	**-1.0**
KONE	**Korovin Northe**	**1.25**	**296**	P	**Pn**	**09 29 14.8**	**-0.7**
KOKV	**Korovin Volcan**	**1.26**	**294**	P	**Pn**	**09 29 14.9**	**-0.8**
KOKV				S	**Sn**	**09 29 30.5**	**-1.0**
KOKL	**Mount Kliuchef**	**1.27**	**292**	P	**Pn**	**09 29 14.8**	**-1.0**
GSMY	**Great Sitkin M**	**2.34**	**276**	P	**Pn**	**09 29 28.7**	**-1.8**
NIKH	**Nikolski High**	**2.37**	**61**	P	**Pn**	**09 29 28.7**	**-2.3**
NIKH				S	**Sn**	**09 29 55.6**	**-3.4**
GSTD	**Great Sitkin T**	**2.40**	**276**	P	**Pn**	**09 29 29.8**	**-1.5**
GSTD				S	**Sn**	**09 29 57.1**	**-2.5**
GSCK	**Great Sitkin C**	**2.40**	**275**	P	**Pn**	**09 29 29.7**	**-1.7**
ETKA	**Kagalaska Isla**	**2.56**	**271**	P	**Pn**	**09 29 31.9**	**-1.6**
ADAG	**Mount Adagdak**	**2.67**	**274**	P	**Pn**	**09 29 34.5**	**-0.6**
OKAK	**Okmok**	**2.94**	**53**	P	**Pn**	**09 29 37.6**	**-1.1**
KIRH	**Kanaga Island**	**2.98**	**272**	P	**Pn**	**09 29 38.6**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**3.00**	**58**	P	**Pn**	**09 29 39.8**	**+0.2**
OKER	**Okmok East Rim**	**3.03**	**57**	P	**Pn**	**09 29 40.6**	**+0.5**
KIKV	**Kanaga Island**	**3.03**	**272**	P	**Pn**	**09 29 39.2**	**-0.8**
KICM	**Kanaga Island**	**3.04**	**273**	P	**Pn**	**09 29 39.5**	**-0.7**
TAPA	**Tanaga Point A**	**3.43**	**271**	P	**Pn**	**09 29 45.0**	**-0.5**
TAFP	**Tanaga Falls P**	**3.53**	**273**	P	**Pn**	**09 29 46.3**	**-0.6**
TAFP				S	**Sn**	**09 30 25.6**	**-2.0**
MSOM	**Makushin Julie**	**3.78**	**57**	P	**Pn**	**09 29 50.2**	**0.0**
UNV	**Unalaska Valle**	**4.03**	**58**	P	**Pn**	**09 29 53.4**	**-0.2**
AKGG	**Akutan Green G**	**4.46**	**56**	P	**Pn**	**09 30 00.5**	**+0.9**
PETK	**Petropavlovsk-**	**18.26**	**286**	P	**Pn**	**09 33 08.6**	**+3.6**
	0.8nm,0.3s,baz=96,slow=14,SNR=3.5						
ILAR	**Eielson Array**	**18.39**	**36**	P	**P**	**09 33 05.3**	**-1.0**
	0.1nm,0.3s,baz=223,slow=9.7,SNR=4.9						
ILAR				LR	LR	09 41 08.6	
	comp=Z,61nm,19.6s,baz=258,slow=40						
DLBC	**Dease Lake**	**24.68**	**58**	P	**P**	**09 34 13.5**	**+1.5**
	5.2nm,0.7s,baz=290,slow=11,SNR=13						
INK	**Inuvik**	**24.76**	**34**	P	**P**	**09 34 10.9**	**-1.6**
	1.3nm,0.3s,baz=252,slow=6.6,SNR=11						
YKA	**Yellowknife Ar**	**31.92**	**48**	P	**P**	**09 35 15.5**	**-1.0**
	0.2nm,0.3s,baz=274,slow=9.3,SNR=8.5						
YAK	**Yakutsk**	**32.15**	**311**	LR	LR	09 48 20.2	
	comp=Z,27nm,19.1s,baz=74,slow=36						
NEW	**Newport**	**34.88**	**74**	LR	LR	09 47 55.2	
	comp=Z,36nm,19.1s,baz=280,slow=33						
H11N2	**WAKE ISLAND Hy**	**35.98**	**215**	T	T	10 14 07.0	
	baz=20,slow=76,SNR=98						
H11N3	**WAKE ISLAND Hy**	**35.99**	**215**	T	T	10 14 08.0	
	baz=20,slow=76,SNR=92						
H11N1	**WAKE ISLAND Hy**	**36.00**	**215**	T	T	10 14 08.8	
	baz=20,slow=76,SNR=84						
H11S1	**WAKE ISLAND Hy**	**37.18**	**214**	T	T	10 15 37.9	
	baz=20,slow=76,SNR=614						
H11S2	**WAKE ISLAND Hy**	**37.19**	**214**	T	T	10 15 41.3	
	baz=20,slow=76,SNR=318						
H11S3	**WAKE ISLAND Hy**	**37.20**	**214**	T	T	10 15 40.6	
	baz=20,slow=76,SNR=200						
MJAR	**Matsushiro Arr**	**37.87**	**266**	P	**P**	**09 36 08.4**	**+0.3**
	1.4nm,0.6s,baz=46,slow=7.1,SNR=6.5						
PDAR	**Pinedale Array**	**42.27**	**77**	P	**P**	**09 36 45.4**	**+0.6**
	1.5nm,0.7s,baz=316,slow=6.2,SNR=9.0						
TXAR	**Lajitas Array**	**54.56**	**86**	P	**P**	**09 38 19.8**	**+0.3**
	0.5nm,0.7s,baz=284,slow=5.5,SNR=7.2						
TXAR				pP	**pP**	**09 38 27.3**	**-1.9**
	0.7nm,0.7s,baz=298,slow=4.1,SNR=6.6						
KURK	**Kurchatov**	**61.53**	**317**	P	**P**	**09 39 09.4**	**+1.6**
KURBB	**Kurchatov Arra**	**61.64**	**317**	P	**P**	**09 39 09.4**	**+0.9**
	0.3nm,0.3s,baz=43,slow=7.4,SNR=3.7						
BVAR	**Borovoye Array**	**63.04**	**323**	P	**P**	**09 39 18.7**	**+0.9**
	0.4nm,0.4s,baz=46,slow=6.2,SNR=2.7						
CMAR	**Chiang Mai Arr**	**74.96**	**281**	P	**P**	**09 40 34.0**	**+1.7**
	1.9nm,0.7s,baz=23,slow=6.7,SNR=6.1						
ASAR	**Alice Springs**	**88.71**	**228**	P	**P**	**09 41 44.9**	**+0.5**
	1.5nm,0.7s,baz=28,slow=4.8,SNR=19						
ASAR				pP	**pP**	**09 41 52.9**	**-1.7**
	1.3nm,0.6s,baz=31,slow=4.8,SNR=9.0						

*NIED **27** 09:30:00, 38°.30N×142°.20E, h11km, Mw3.5 Best double couple: M0 1.70000×10^14 NP1:φs315.00000°, δ36.00000°, λ-122.00000°. NP2:φs172.00000°, δ60.00000°, λ-69.00000°.*

JMA 27 09:30:25.9±0.2, 38°.30N×142°.24E, h26km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.72**	**283**	P	Pb	09 30 39.6	-0.2
JIO				S	Sb	09 30 48.7	-0.5
OFUJ	**Ofunato**	**0.90**	**330**	P	Pb	09 30 42.3	-0.6
OFUJ				*e*S	Sb	09 30 54.0	-0.4
JMK	**Ichinoseki**	**1.03**	**309**	P	Pn	09 30 44.7	0.0
JMK				*e*S	Sn	09 30 58.3	+0.1
JMM	**Marumori**	**1.22**	**250**	P	Pn	09 30 46.7	-0.6
JMM				*e*S	Sn	09 31 01.6	-1.3
JOU	**Okura**	**1.24**	**274**	P	Pb	09 30 48.3	-0.4
JOU				*e*S	Sb	09 31 04.5	+0.2
JOM	**Ohasama**	**1.39**	**328**	P	Pn	09 30 50.2	+0.6
JOM				*e*S	Sn	09 31 07.1	+0.1
JFK	**Kawauchi**	**1.43**	**230**	P	Pn	09 30 49.2	-1.0
JFK				*e*S	Sn	09 31 05.9	-2.2
JYK	**Kaneyama**	**1.60**	**293**	P	Pn	09 30 53.3	+0.8
JYK				*e*S	Sb	09 31 13.9	-0.6
JRG	**Rokugo**	**1.67**	**312**	P	Pb	09 30 54.9	-1.0
JRG				*e*S	Sb	09 31 16.5	+0.1
JFT	**Otama**	**1.70**	**243**	P	Pn	09 30 54.4	+0.6
JFT				*e*S	Sn	09 31 15.2	+0.5
MAT	**Matsushiro**	**3.66**	**243**	P	Pn	09 31 24.9	+4.1
MAT				*e*S	Sb	09 32 08.6	-5.2

*IDC **27** 09:32:24.1±1.6, 54°.27N×162°.89E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/63, mbtmp3.4/4, ML2.8/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/28, Error ellipse: s-maj=78.3km s-min=24.5km az=154.0*
*KRSC **27** 09:32:25.2±0.7, 54°.81N×162°.30E, h41km±10km, ML4.1, FELT [II] at GMS Kronoki.*
*ISCJB **27** 09:32:26.9±0.5, 54°.83N±0°.02×162°.30E±0°.05, h38km±8km, mb3.3/3, MS3.0/1, Error ellipse: s-maj=5.2km s-min=3.0km az=18.6*
*MOS **27** 09:32:26.8±0.6, 54°.83N×162°.33E, h36km, mb4.3/1, Error ellipse: s-maj=8.4km s-min=5.3km az=82.2*
MOS Felt (II) at Kronoki.

ISC 27 09:32:26.6±1.1, 54°.85N±0°.02×162°.29E±0°.03, h25km±9km, n77, σ0s84/130, mb3.4/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.44**	**228**	PN	**Pb**	**09 32 35.8**	**0.0**
MKZ				S	**Sb**	**09 32 42.3**	**+0.2**
MKZ	**Mys Kozlova**	**0.44**	**228**	*e*P	**Pb**	**09 32 35.8**	**0.0**
MKZ				*e*S	**Sb**	**09 32 42.3**	**+0.2**
TUMD	**Tumrok D**	**1.15**	**289**	*i* P	**Pn**	**09 32 46.0**	**-1.0**
TUMD				*e*S	**Sn**	**09 32 59.6**	**-2.3**
KZV	**Kizimen**	**1.18**	**284**	PN	**Pn**	**09 32 47.0**	**-0.6**
KZV				S	**Sn**	**09 33 01.7**	**-1.3**
KZV	**Kizimen**	**1.18**	**284**	*e*P	**Pn**	**09 32 47.0**	**-0.6**
KZV				*e*S	**Sn**	**09 33 01.7**	**-1.3**
TUMR	**Tumrok**	**1.31**	**290**	PN	**Pn**	**09 32 48.7**	**-0.7**
TUMR				S	**Sn**	**09 33 04.9**	**-1.2**
TUMR	**Tumrok**	**1.31**	**290**	*e*P	**Pn**	**09 32 48.7**	**-0.7**
TUMR				*e*S	**Sn**	**09 33 04.9**	**-1.2**
KBG	**Krutoberegovo**	**1.43**	**9**	PN	**Pn**	**09 32 51.7**	**+0.9**
KBG				S	**Sb**	**09 33 10.3**	**+0.1**
KBG	**Krutoberegovo**	**1.43**	**9**	*e*P	**Pn**	**09 32 51.7**	**+0.9**
KBG				*e*S	**Sb**	**09 33 10.3**	**+0.1**
ZLN	**Zelenaya**	**1.44**	**325**	PN	**Pn**	**09 32 51.5**	**+0.3**
ZLN				S	**Sb**	**09 33 10.4**	**-0.4**
ZLN	**Zelenaya**	**1.44**	**325**	*i* P	**Pn**	**09 32 51.5**	**+0.3**
ZLN				*e*S	**Sb**	**09 33 10.4**	**-0.4**
KMNR	**Kamenistaya**	**1.48**	**308**	PN	**Pn**	**09 32 51.6**	**-0.2**
KMNR				S	**Sn**	**09 33 10.7**	**+0.3**
KMNR	**Kamenistaya**	**1.48**	**308**	*e*P	**Pn**	**09 32 51.6**	**-0.2**
KMNR				*e*S	**Sn**	**09 33 10.7**	**+0.3**
BZMR	**Bezymyannaya**	**1.50**	**317**	PN	**Pn**	**09 32 52.0**	**0.0**
BZMR				S	**Sn**	**09 33 10.9**	**+0.2**
BZMR	**Bezymyannaya**	**1.50**	**317**	*e*P	**Pn**	**09 32 52.0**	**0.0**
BZMR				*e*S	**Sn**	**09 33 10.9**	**+0.2**
LGNR	**Loginova**	**1.54**	**324**	PN	**Pn**	**09 32 53.3**	**+0.7**
LGNR				S	**Sn**	**09 33 12.2**	**+0.3**
LGNR	**Loginova**	**1.54**	**324**	*e*P	**Pn**	**09 32 53.3**	**+0.7**
LGNR				*e*S	**Sn**	**09 33 12.2**	**+0.3**
CIRR	**Tsirk**	**1.54**	**326**	PN	**Pn**	**09 32 52.8**	**+0.2**
CIRR				S	**Sn**	**09 33 12.3**	**+0.4**
CIRR	**Tsirk**	**1.54**	**326**	*e*P	**Pn**	**09 32 52.8**	**+0.2**
CIRR				*e*S	**Sn**	**09 33 12.3**	**+0.4**
KPT	**Kopyto**	**1.62**	**314**	PN	**Pn**	**09 32 53.8**	**+0.1**
KPT	**Kopyto**	**1.62**	**314**	*e*P	**Pn**	**09 32 53.8**	**+0.1**
KRSR	**Krestovskiy**	**1.68**	**325**	PN	**Pn**	**09 32 54.3**	**-0.2**
KRSR				S	**Sn**	**09 33 14.7**	**-0.6**
KRSR	**Krestovskiy**	**1.68**	**325**	*i* P	**Pn**	**09 32 54.3**	**-0.2**
KRSR				*e*S	**Sn**	**09 33 14.7**	**-0.6**
KLY	**Klyuchi**	**1.74**	**328**	PN	**Pn**	**09 32 54.4**	**-0.7**
KLY				S	**Sn**	**09 33 14.3**	**-2.1**
KLY	**Klyuchi**	**1.74**	**328**	*e*P	**Pn**	**09 32 54.4**	**-0.7**
KLY				*e*S	**Sn**	**09 33 14.3**	**-2.1**
SMKR	**Semkarok**	**1.80**	**345**	PN	**Pn**	**09 32 56.2**	**+0.2**
SMKR				S	**Sn**	**09 33 18.3**	**+0.3**
SMKR	**Semkarok**	**1.80**	**345**	*e*P	**Pn**	**09 32 56.2**	**+0.2**
SMKR				*e*S	**Sn**	**09 33 18.3**	**+0.3**
BDR	**Baidarnaya**	**1.83**	**341**	PN	**Pn**	**09 32 56.9**	**+0.5**
BDR				S	**Sn**	**09 33 18.9**	**+0.1**
BDR	**Baidarnaya**	**1.83**	**341**	*e*P	**Pn**	**09 32 56.9**	**+0.5**
BDR				*e*S	**Sn**	**09 33 18.9**	**+0.1**
KOZ	**Kozyrevsk**	**1.83**	**312**	PN	**Pn**	**09 32 57.3**	**+0.8**
KOZ				S	**Sn**	**09 33 19.8**	**+0.9**
KOZ	**Kozyrevsk**	**1.83**	**312**	*e*P	**Pn**	**09 32 57.3**	**+0.8**
KOZ				*e*S	**Sn**	**09 33 19.8**	**+0.9**
KII	**Karymskiy**	**1.85**	**245**	PN	**Pn**	**09 32 56.7**	**-0.1**
KII				S	**Sn**	**09 33 18.5**	**-0.9**
KII	**Karymskiy**	**1.85**	**245**	*e*P	**Pn**	**09 32 56.7**	**-0.1**
KII				*e*S	**Sn**	**09 33 18.5**	**-0.9**
SRKR	**Sorokina**	**1.92**	**341**	PN	**Pn**	**09 32 58.0**	**+0.4**
SRKR	**Sorokina**	**1.92**	**341**	*e*P	**Pn**	**09 32 58.0**	**+0.4**
BKI	**Bering**	**2.15**	**79**	PN	**Pn**	**09 33 00.7**	**0.0**
BKI				S	**Sn**	**09 33 24.8**	**-1.7**
BKI	**Bering**	**2.15**	**79**	*e*P	**Pn**	**09 33 00.7**	**0.0**
BKI				*e*S	**Sn**	**09 33 24.8**	**-1.7**
ESO	**Esso**	**2.31**	**299**	PN	**Pn**	**09 33 04.1**	**+1.0**
ESO				S	**Sn**	**09 33 31.2**	**+0.5**
ESO	**Esso**	**2.31**	**299**	*e*P	**Pn**	**09 33 04.1**	**+1.0**
ESO				S	**Sn**	**09 33 31.2**	**+0.5**
NLC	**Nalytchevo**	**2.42**	**227**	PN	**Pn**	**09 33 04.8**	**+0.3**
NLC				S	**Sn**	**09 33 33.7**	**+0.4**
NLC	**Nalytchevo**	**2.42**	**227**	P	**Pn**	**09 33 04.8**	**+0.3**
NLC				*e*S	**Sn**	**09 33 33.7**	**+0.4**
SDLR	**Sedlovina**	**2.55**	**233**	PN	**Pn**	**09 33 07.2**	**+0.7**
SDLR				S	**Sn**	**09 33 36.6**	**-0.2**
SDLR	**Sedlovina**	**2.55**	**233**	*e*P	**Pn**	**09 33 07.2**	**+0.7**
SDLR				*e*S	**Sn**	**09 33 36.6**	**-0.2**
KRER	**Koryakskii**	**2.60**	**235**	PN	**Pn**	**09 33 08.2**	**+1.0**
KRER				S	**Sn**	**09 33 39.0**	**+0.9**
KRER	**Koryakskii**	**2.60**	**235**	P	**Pn**	**09 33 08.2**	**+1.0**
KRER		

JCR	**Jicaral**	**1.32**	**307**	*e*P	Pg	09 41 07.0	-4.6
TBS2		**1.40**	**101**	*e*P	Pn	09 41 12.4	-0.8
TBS2				*e*S	Sn	09 41 33.0	+0.7
CONN	**Concepcion**	**2.94**	**328**	*e*P	Pb	09 41 39.0	-0.6
ESPN	**Las Esperanzas**	**3.13**	**355**	*e*P	Pn	09 41 37.6	+0.7
ESPN				*e*S	Sb	09 42 18.4	-3.1
COPN	**Copaltepe**	**3.99**	**321**	*e*P	Pn	09 41 51.0	+2.3
ZANG	**Zanguenga, Cho**	**4.13**	**91**	*e*P	Pn	09 41 50.5	-0.1

IDC 27 09:43:11.2±999.0, 51°21N×114°44E, h0km, Error ellipse: s-maj=350.2km s-min=130.9km az=69.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**6.25**	**240**	*i*		10 25 30.0	
	baz=55,slow=316,SNR=2.8						
I45RU	**USSURIYSK INFR**	**13.72**	**114**	*i*		11 24 04.5	
	baz=304,slow=296,SNR=9.6						
I46RU	**ZALESOVO INFRA**	**18.15**	**290**	*i*		11 28 09.0	
	baz=86,slow=313,SNR=1.6						

NIED 27 09:43:00, 38°70N×142°50E, h44km, Mw3.9 Best double couple: M₀8.65000×10¹⁴ NP1:φs30.00000°, δ24.00000°, λ88.00000°. NP2:φs212.00000°, δ66.00000°, λ91.00000°.
JMA 27 09:43:44.9±0.1, 38°68N×142°45E, h42km±2km, M4.0
JMA Felt I J1.
ISCJB 27 09:43:45.1±1.2, 38°68N±0°05×142°4E±0°1, h53km±9km, mb3.8/10, MS3.8/1, Error ellipse: s-maj=15.5km s-min=7.2km az=10.5
IDC 27 09:43:46.2±0.9, 38°60N×142°26E, h47km±7km, mb3.6/10, mb1 3.8/10, mb1mx3.6/46, mbtmp3.9/10, MS3.0/4, Ms1 3.0/4, ms1mx2.6/47, Error ellipse: s-maj=20.9km s-min=18.6km az=75.0
ISC 27 09:43:46.2±0.9, 38°70N±0°06×142°42E±0°09, h46km±7km, n34, σ1°12/33, mb3.7/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.70**	**304**	P	**Pn**	**09 43 59.0**	**-0.8**
OFUJ				*e*S	**Sn**	**09 44 09.0**	**-0.6**
JIO	**Ouri**	**0.87**	**254**	P	**Pn**	**09 44 01.1**	**-1.0**
JIO				S	**Sn**	**09 44 12.6**	**-1.0**
JMK	**Ichinoseki**	**0.97**	**286**	P	**Pn**	**09 44 02.9**	**-0.5**
JMK				*e*S	**Sn**	**09 44 15.9**	**-0.1**
JOM	**Ohasama**	**1.17**	**312**	P	**Pn**	**09 44 05.9**	**-0.2**
JOM				*e*S	**Sn**	**09 44 21.1**	**+0.1**
JOU	**Okura**	**1.42**	**257**	P	**Pn**	**09 44 09.2**	**-0.3**
JMM	**Marumori**	**1.52**	**238**	P	**Pn**	**09 44 10.4**	**-0.5**
JRG	**Rokugo**	**1.56**	**207**	P	**Pn**	**09 44 11.4**	**0.0**
JYK	**Kaneyama**	**1.62**	**279**	P	**Pn**	**09 44 12.2**	**-0.1**
JFK	**Kawauchi**	**1.80**	**223**	P	**Pn**	**09 44 14.0**	**-0.8**
JANG	**Nango**	**1.82**	**338**	P	**Pn**	**09 44 14.0**	**-1.0**
JANG				*e*S	**Sn**	**09 44 36.9**	**+0.1**
MJAR	**Matsushiro Arr**	**3.97**	**239**	P	**Pn**	**09 44 46.1**	**+1.5**
	2.8nm,0.3s,baz=62,slow=9.7,SNR=20						
MJAR				LR	LR	09 46 41.8	
	comp=Z,79nm,18.6s,baz=60,slow=46						
MAT	**Matsushiro**	**3.97**	**239**	P	**Pn**	**09 44 46.2**	**+1.6**
MAT				*e*S	**Sn**	**09 45 32.1**	**+2.2**
USRK	**Ussuriysk Ar.**	**9.56**	**308**	P	**Pn**	**09 46 04.5**	**+3.3**
	0.2nm,0.3s,baz=124,slow=13,SNR=7.9						
KSRS	**Korea Array**	**11.49**	**268**	LR	LR	09 50 34.8	
	comp=Z,38nm,21.0s,baz=117,slow=36						
KLR	**Kul'dur**	**13.02**	**327**	LR	LR	09 51 49.7	
	comp=Z,58nm,18.7s,baz=138,slow=37						
SEY	**Seymchan**	**25.01**	**11**	P	**P**	**09 49 06.7**	**+1.2**
	0.7nm,0.3s,baz=69,slow=4.5,SNR=4.0						
SONM	**Songino Array**	**27.56**	**301**	P	**P**	**09 49 28.7**	**-0.1**
	0.6nm,0.5s,baz=96,slow=8.6,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**28.38**	**125**	T	T	10 20 08.3	
	baz=318,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.39**	**125**	T	T	10 20 09.0	
	baz=318,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.39**	**125**	T	T	10 20 10.9	
	baz=318,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.15**	**127**	T	T	10 21 07.3	
	baz=319,slow=76,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**29.16**	**127**	T	T	10 21 07.1	
	baz=319,slow=76,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**29.17**	**127**	T	T	10 21 08.7	
	baz=319,slow=76,SNR=5.9						
ZALV	**Zalesovo Beam**	**41.41**	**311**	P	**P**	**09 51 27.5**	**-0.2**
	1.6nm,0.4s,baz=92,slow=7.7,SNR=6.9						
ZALV				sP	**sP**	**09 51 45.3**	**-0.3**
	0.8nm,0.4s,baz=81,slow=9.2,SNR=2.1						
MKAR	**Makanchi Array**	**43.93**	**301**	P	**P**	**09 51 47.9**	**-0.5**
	0.8nm,0.6s,baz=86,slow=11,SNR=6.6						
MKAR				pP	**pP**	**09 52 00.3**	**-0.6**
	1.3nm,0.7s,baz=83,slow=11,SNR=6.9						
KURBB	**Kurchatov Arra**	**45.62**	**307**	P	**P**	**09 52 01.0**	**-0.8**
	3.0nm,0.5s,baz=81,slow=8.4,SNR=22						
KURBB				pP	**pP**	**09 52 13.5**	**-0.9**
	1.6nm,0.6s,baz=82,slow=8.2,SNR=4.0						
ILAR	**Eielson Array**	**47.67**	**33**	P	**P**	**09 52 17.6**	**0.0**
	0.7nm,0.9s,baz=268,slow=6.6,SNR=6.0						
ILAR				pP	**pP**	**09 52 32.4**	**+2.2**
	1.0nm,0.6s,baz=264,slow=6.4,SNR=8.8						
BVAR	**Borovoye Array**	**50.06**	**311**	P	**P**	**09 52 35.5**	**-0.6**
	0.8nm,0.6s,baz=55,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**58.82**	**189**	P	**P**	**09 53 38.6**	**-1.3**
	1.9nm,0.8s,baz=7.3,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**62.54**	**189**	P	**P**	**09 54 04.8**	**-0.5**
	0.6nm,0.8s,baz=2.8,slow=6.8,SNR=6.8						
FINES	**FINESS Array B**	**67.72**	**332**	pP	pP	09 54 52.1	+0.6
	1.5nm,0.6s,baz=54,slow=9.7,SNR=3.5						
NOA	**NORSAR Array B**	**72.96**	**337**	pP	pP	09 55 24.2	+0.4
	0.8nm,0.7s,baz=40,slow=6.1,SNR=3.0						
TXAR	**Lajitas Array**	**88.48**	**53**	P	**P**	**09 56 34.1**	**+0.1**
	0.2nm,0.6s,baz=289,slow=4.4,SNR=4.0						
VAE	**Valguarnera**	**90.35**	**321**	LR	LR	10 39 37.0	
	comp=Z,35nm,19.2s,baz=330,slow=37						

IDC 27 10:02:39.1±1.4, 25°73S×179°75W, h467km±14km, mb3.9/6, mb1 4.0/10, mb1mx3.5/39, mbtmp4.8/10, Error ellipse: s-maj=26.5km s-min=17.0km az=41.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.87**	**156**	P	P	10 03 55.2	+1.0
	85nm,0.3s,baz=89,slow=12,SNR=5.3						
RAO				S	S	10 04 55.6	+0.2
	112nm,0.3s,baz=115,slow=18,SNR=3.5						
URZ	**Urewera**	**12.78**	**191**	P	P	10 05 23.4	-2.5
	8.2nm,0.3s,baz=272,slow=2.5,SNR=19						
URZ				S	S	10 07 39.9	-3.8
	5.4nm,0.3s,baz=264,slow=21,SNR=11						
DZM	**Mont Dzumac**	**13.14**	**283**	P	P	10 05 31.6	+1.4
	2.7nm,0.3s,baz=145,slow=18,SNR=17						
AFI	**Afiamalu**	**13.94**	**34**	P	P	10 05 37.1	-1.7
	4.5nm,0.3s,baz=151,slow=0.6,SNR=4.5						
RPZ	**Rata Peaks**	**19.45**	**200**	P	P	10 06 33.4	-0.9
	1.9nm,0.3s,baz=32,slow=1.9,SNR=13						
CTA	**Charters Tower**	**31.75**	**273**	P	P	10 08 24.5	+0.8
	16nm,0.6s,baz=99,slow=1,SNR=17						
STKA	**Stephens Creek**	**34.29**	**251**	P	P	10 08 44.9	-0.3
	6.9nm,0.4s,baz=95,slow=11,SNR=63						
ASAR	**Alice Springs**	**41.99**	**263**	P	P	10 09 47.9	-0.5
	7.8nm,0.5s,baz=88,slow=7.7,SNR=136						
WRA	**Warramunga Arr**	**42.54**	**268**	P	P	10 09 51.9	-0.8
	12nm,0.6s,baz=104,slow=8.0,SNR=141						
FITZ	**Fitzroy Crossi**	**50.93**	**267**	P	P	10 10 56.4	-0.1
	4.9nm,0.6s,baz=93,slow=6.5,SNR=23						
MAW	**Mawson**	**76.13**	**201**	P	P	10 13 38.2	+0.7
	1.6nm,0.8s,baz=122,slow=6.5,SNR=10						
NB2	**NORSAR Subarra**	**143.91**	**351**	PKP	PKPab	10 21 19.3	+0.4
	comp=Z,0.8nm,0.5s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.91**	**351**	PKP	PKPab	10 21 18.9	0.0
	comp=Z,1.7nm,0.8s,baz=21,slow=3.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**167.41**	**186**	PKPab	PKPab	10 22 60.0	+0.2
	comp=Z,0.3nm,0.5s,baz=175,slow=4.1,SNR=5.4						

NIED 27 10:14:00, 39°10N×142°20E, h44km, Mw3.6 Best double couple: M₀2.79000×10¹⁴ NP1:φs278.00000°, δ43.00000°, λ-155.00000°. NP2:φs170.00000°, δ74.00000°, λ-50.00000°.
ISCJB 27 10:14:49.2±0.8, 39°07N±0°04×142°20E±0°09, h45km±8km, mb3.3/3, Error ellipse: s-maj=11.9km s-min=5.8km az=20.7
JMA 27 10:14:49.8, 39°09N×142°16E, h45km±1km, M3.6
JMA Felt I J1.
IDC 27 10:14:51.8±2.6, 38°99N×142°26E, h58km±26km, mb3.0/3, mb1 3.4/6, mb1mx3.2/48, mbtmp3.4/6, ML3.3/3, MS2.5/1, Ms1 2.5/1, ms1mx1.9/15, Error ellipse: s-maj=37.2km s-min=19.8km az=106.0
ISC 27 10:14:48.7±1.6, 39°06N±0°04×142°24E±0°08, h27km±11km, n25, σ1°44/28, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.45**	**273**	P	**Pn**	**10 14 59.4**	**+0.2**
OFUJ				*e*S	**Sn**	**10 15 06.1**	**-0.3**
MIYJ	**Miyakonagasawa**	**0.61**	**328**	P	**Pb**	**10 15 01.4**	**+0.5**
MIYJ				S	**Sb**	**10 15 09.4**	**+0.2**
JMK	**Ichinoseki**	**0.80**	**263**	P	**Pb**	**10 15 04.0**	**0.0**
JMK				*e*S	**Sb**	**10 15 13.9**	**-0.6**
JOM	**Ohasama**	**0.85**	**300**	P	**Pn**	**10 15 04.5**	**-0.3**
JOM				*e*S	**Sb**	**10 15 15.1**	**-0.7**
JIO	**Ouri**	**0.92**	**230**	P	**Pn**	**10 15 05.6**	**-0.2**
JIO				S	**Sb**	**10 15 16.6**	**-1.2**
JTH	**Tanohata**	**0.93**	**342**	P	**Pn**	**10 15 05.8**	**-0.1**
JTH				*e*S	**Sb**	**10 15 17.2**	**-0.9**
JRG	**Rokugo**	**1.29**	**286**	P	**Pn**	**10 15 10.9**	**0.0**
JRG				*e*S	**Sn**	**10 15 27.0**	**-0.3**
JOU	**Okura**	**1.41**	**241**	P	**Pn**	**10 15 12.7**	**+0.1**
JOU				*e*S	**Sn**	**10 15 29.5**	**-0.8**
JANG	**Nango**	**1.43**	**337**	P	**Pn**	**10 15 12.8**	**0.0**
JYK	**Kaneyama**	**1.47**	**265**	P	**Pn**	**10 15 13.3**	**-0.1**
JYK				*e*S	**Sn**	**10 15 30.6**	**-1.2**
MJAR	**Matsushiro Arr**	**4.06**	**233**	P	**Pn**	**10 15 51.2**	**+2.2**
	1.8nm,0.3s,baz=40,slow=11,SNR=21						
MAT	**Matsushiro**	**4.06**	**233**	P	**Pn**	**10 15 50.5**	**+1.5**
MAT				S	**Sn**	**10 16 40.0**	**+4.3**
ASAJ	**Asahikawa**	**5.06**	**3**	P	**Pn**	**10 16 05.1**	**+2.3**
	0.6nm,0.3s,baz=270,slow=23,SNR=5.1						
JHJ	**Hachijo jima 2**	**6.25**	**199**	P	**Pn**	**10 16 21.0**	**+1.9**
	7.6nm,0.3s,baz=135,slow=10,SNR=2.9						
JHJ				S	**Sn**	**10 17 27.0**	**-2.5**
	7.7nm,0.3s,baz=73,slow=21,SNR=2.7						
KSRS	**Korea Array**	**11.37**	**266**	LR	LR	10 22 05.8	
	comp=Z,21nm,18.6s,baz=127,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	10 51 07.3	
	baz=318,slow=75,SNR=418						
H11N1	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	10 51 07.7	
	baz=318,slow=75,SNR=500						
H11N3	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	10 51 08.4	
	baz=318,slow=75,SNR=366						
H11S1	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	10 52 05.0	
	baz=319,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	10 52 06.3	
	baz=319,slow=76,SNR=76						
H11S2	**WAKE ISLAND Hy**	**29.50**	**127**	T	T	10 52 07.4	
	baz=319,slow=76,SNR=47						
ZALV	**Zalesovo Beam**	**41.06**	**311**	pP	pP	10 22 39.0	+1.3
	1.0nm,0.3s,baz=88,slow=8.3,SNR=1.8						
MKAR	**Makanchi Array**	**43.63**	**300**	P	**P**	**10 22 50.8**	**+0.3**
	0.3nm,0.5s,baz=74,slow=7.7,SNR=2.9						
ILAR	**Eielson Array**	**47.44**	**33**	P	**P**	**10 23 20.9**	**+0.4**
	0.2nm,0.6s,baz=273,slow=6.1,SNR=4.2						
WRA	**Warramunga Arr**	**59.15**	**189**	P	**P**	**10 24 45.6**	**-1.4**
	0.2nm,0.4s,baz=4.5,slow=7.3,SNR=4.0						

MEX 27 10:23:40.0±0.4, 15°79N×92°77W, h174km±6km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.44**	**259**	*e*P	Pn	10 24 02.4	-1.4
PCIG				*e*S	Sn	10 24 19.9	-2.1
CCIG	**Comitan**	**0.78**	**51**	*e*P	Pn	10 24 04.5	-1.2
CCIG				*e*S	Sn	10 24 23.3	-2.3

JMA 27 10:29:11.8±0.1, 36°95N×141°18E, h25km±1km, M3.2
ISCJB 27 10:29:12.5±1.3, 36°90N±0°03×141°06E±0°08, h1km±6km, mb3.4/3, MS3.3/1, Error ellipse: s-maj=10.9km s-min=5.6km az=6.6
IDC 27 10:29:20.2±8.1, 36°68N×140°69E, h23km±44km, mb3.3/3, mb1 3.5/3, mb1mx3.1/58, mbtmp3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/24, Error ellipse: s-maj=54.0km s-min=27.0km az=66.0
ISC 27 10:29:15.6±1.6, 36°91N±0°04×140°82E±0°09, h1km±11km, n18, σ1°38/18, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.19**	**355**	P	**Pg**	**10 29 19.1**	**-0.1**
ONAJ				*e*S	**Sg**	**10 29 24.1**	**+2.4**
JHO	**Hitachi**	**0.36**	**214**	P	**Pg**	**10 29 23.1**	**+0.6**
JHO				S	**Sb**	**10 29 31.4**	**+0.5**
JFK	**Kawauchi**	**0.46**	**5**	P	Pg	10 29 21.3	-3.0
JFK				S	**Sg**	**10 29 28.2**	**-2.0**
JFT	**Otama**	**0.72**	**328**	P	**Pg**	**10 29 28.8**	**-0.5**
JFT				S	**Sg**	**10 29 40.2**	**+1.6**
JYT	**Yasato**	**0.85**	**217**	P	**Pg**	**10 29 30.2**	**-1.6**
JYT				*e*S	**Sb**	**10 29 44.2**	**-0.7**
JFY	**Yanaizu**	**1.02**	**299**	P	**Pb**	**10 29 34.7**	**-1.3**
JFY				*e*S	**Sn**	**10 29 51.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.13**	**261**	Pn	**Pn**	**10 29 51.3**	**-0.9**
	0.5nm,0.3s,baz=86,slow=15,SNR=6.7						
MJAR				Pg	**Pb**	**10 29 56.0**	**+1.1**
	2.4nm,0.3s,baz=87,slow=15,SNR=39						
MJAR				Lg	Lg	10 30 23.9	
	2.8nm,0.3s,baz=92,slow=16,SNR=6.2						
MAT	**Matsushiro**	**2.13**	**261**	P	**Pb**	**10 29 55.8**	**+0.8**
MAT				S	**Sb**	**10 30 21.1**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	11 04 46.3	
	baz=313,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	11 04 52.1	
	baz=313,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	11 04 52.9	
	baz=313,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**29.20**	**122**	T	T	11 05 41.8	
	baz=315,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**29.20**	**122**	T	T	11 05 27.5	
	baz=315,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**29.21**	**122**	T	T	11 05 43.4	
	baz=315,slow=76,SNR=16						
MKAR	**Makanchi Array**	**43.78**	**302**	P	**P**	**10 37 24.4**	**+1.7**
	0.1nm,0.4s,baz=86,slow=8.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**45.70**	**308**	P	**P**	**10 37 39.1**	**+1.3**
	0.3nm,0.3s,baz=86,slow=7.9,SNR=7.5						
FITZ	**Fitzroy Crossi**	**56.56**	**197**	LR	LR	11 03 59.8	
	comp=Z,24nm,19.1s,slow=37						
WRA	**Warramunga Arr**	**56.88**	**187**	P	**P**	**10 39 01.6**	**-0.3**
	0.7nm,1.1s,baz=5.9,slow=7.4,SNR=6.5						

IDC 27 10:34:50.4±3.2, 22°08S×178°43W, h340km±36km, mb3.0/5, mb1 3.4/7, mb1mx3.1/29, mbtmp3.9/7, Error ellipse: s-maj=45.6km s-min=17.0km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.30**	**39**	P	Pn	10 37 12.2	+0.1
	1.4nm,0.3s,baz=158,slow=1.2,SNR=4.9						
AFI				S	S	10 38 59.3	-9.1
	0.9nm,0.3s,baz=162,slow=8.9,SNR=3.7						
URZ	**Urewera**	**16.58**	**192**	P	P	10 38 21.7	-0.8
	0.5nm,0.3s,baz=265,slow=5.4,SNR=5.4						
STKA	**Stephens Creek**	**36.76**	**246**	P	P	10 41 26.9	+0.2
	0.4nm,0.3s,baz=98,slow=14,SNR=2.6						
ASAR	**Alice Springs**	**43.79**	**258**	P	P	10 42 23.7	-0.2
	1.0nm,0.7s,baz=94,slow=7.7,SNR=15						
WRA	**Warramunga Arr**	**44.01**	**264**	P	P	10 42 25.4	-0.3
	0.5nm,0.6s,baz=96,slow=8.4,SNR=25						
ILAR	**Eielson Array**	**89.94**	**13**	P	P	10 47 10.9	-0.1
	0.3nm,0.5s,baz=217,slow=5.3,SNR=6.0						
PDAR	**Pinedale Array**	**90.38**	**43**	P	P	10 47 13.9	-0.1
	0.3nm,0.5s,baz=226,slow=4.8,SNR=2.4						

ISK 27 10:46:59.9, 36°73N×28°20E, h5km, MD2.5
CSEM 27 10:47:02.0±0.4, 36°77N×28°21E, h10km, MD2.5, Error ellipse: s-maj=9.4km s-min=4.6km az=14.0
DDA 27 10:47:02.2, 36°75N×28°21E, h6km, Md2.6

ISC 27 10:47:01.3±1.3, 36°76N±0°05×28°21E±0°03, h2km±11km, n17, σ1°96/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.33**	**71**	*i* P	Pg	10 47 03.7	-3.9
TURN				*i* S	**Sg**	**10 47 05.0**	**-6.9**
DALY	**Dalyan (Mu˘la**	**0.36**	**81**	*e*PG	**Pg**	**10 47 08.4**	**+0.3**
DALY				*e*SG	**Sg**	**10 47 14.9**	**+2.1**
DALY	**Dalyan (Mu˘la**	**0.36**	**81**	*e*Pg	**Pg**	**10 47 08.4**	**+0.3**
DALY				*e*Sg	**Sg**	**10 47 14.9**	**+2.1**
YER	**Yerkesik**	**0.38**	**9**	*e*PG	**Pg**	**10 47 09.1**	**+0.6**
YER				*e*SG	**Sg**	**10 47 15.8**	**+2.5**
YER	**Yerkesik**	**0.38**	**9**	*e*Pg	**Pg**	**10 47 09.1**	**+0.6**
YER				*e*Sg	**Sg**	**10 47 15.8**	**+2.5**
BDRM	**Kayabasi**	**0.69**	**296**	P	**Pg**	**10 47 14.8**	**+0.4**
BDRM				S	**Sb**	**10 47 26.7**	**+0.8**
BDRM	**Kayabasi**	**0.69**	**296**	*i* P	**Pg**	**10 47 14.8**	**+0.4**
BDRM				*i* S	**Sb**	**10 47 26.7**	**+0.8**
BODT	**Bodrum**	**0.78**	**293**	*e*PG	**Pg**	**10 47 16.9**	**+0.7**
BODT				*e*SG	**Sb**	**10 47 28.2**	**-0.5**
BODT	**Bodrum**	**0.78**	**293**	*e*Pg	**Pg**	**10 47 16.9**	**+0.7**
BODT				*e*Sg	**Sb**	**10 47 28.2**	**-0.5**
DNZL	**Cakiroluk**	**1.14**	**35**	P	**Pb**	**10 47 20.6**	**-3.2**
DNZL				S	**Sb**	**10 47 39.9**	**+0.7**
DNZL	**Cakiroluk**	**1.14**	**35**	*i* P	**Pb**	**10 47 20.6**	**-3.2**
DNZL				*i* S	**Sb**	**10 47 39.9**	**+0.7**
GOLH	**Golhisar**	**1.18**	**66**	P	**Pb**	**10 47 24.0**	**-0.4**
GOLH				S	**Sn**	**10 47 43.3**	**+1.7**
GOLH	**Golhisar**	**1.18**	**66**	*i* P	**Pb**	**10 47 24.0**	**-0.4**
GOLH				*i* S	**Sn**	**10 47 43.3**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**1.21**	**348**	*e*PN	**Pn**	**10 47 24.8**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.21**	**348**	*e*Pn	**Pn**	**10 47 24.8**	**-0.6**
AKAS	**Kas**	**1.24**	**115**	P	**Pg**	**10 47 26.1**	**+1.1**
AKAS				S	**Sn**	**10 47 43.8**	**+0.6**
AKAS	**Kas**	**1.24**	**115**	*i* P	**Pg**	**10 47 26.1**	**+1.1**
AKAS				*i* S	**Sn**	**10 47 43.8**	**+0.6**

BUC 27 10:48:21.7±0.4, 45°73N×26°73E, h72km±3km, MD2.3/2, 2C-6D, Error ellipse: s-maj=4.4km s-min=1.2km az=349.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.14**	**336**	S	Sn	10 48 39.8	-0.5
PLOR	**Plostina**	**0.14**	**336**	*i* S	Sn	10 48 39.8	-0.5
VRI	**Vrincioaia**	**0.14**	**360**	*i*P	Pn	10 48 32.5	+0.1
VRI	**Vrincioaia**	**0.14**	**360**	*i*P	Pn	10 48 32.5	+0.1
VRI				*i* S	Sn	10 48 40.1	-0.2
MLR	**Muntele Rosu**	**0.60**	**247**	*i*P	Pn	10 48 36.0	+0.1
MLR	**Muntele Rosu**	**0.60**	**247**	*i*P	Pn	10 48 36.0	+0.1
MLR				*i* S	Sn	10 48 46.3	0.0
CFR	**Carcaliu**	**1.13**	**118**	*i*P	Pn	10 48 42.2	+0.3
CFR	**Carcaliu**	**1.13**	**118**	*i*P	Pn	10 48 42.2	+0.3
CFR				*i* S	Sn	10 48 56.4	-0.7
VOIR		**1.21**	**257**	*i*P	Pn	10 48 43.2	+0.1
VOIR		**1.21**	**257**	*i*P	Pn	10 48 43.2	+0.1
VOIR				*i* S	Sn	10 48 59.2	+0.1

ISK 27 10:49:11.4, 39°00N×29°17E, h21km, MD2.4
ISCJB 27 10:49:12.5±0.6, 39°09N±0°05×29°01E±0°05, h16km±12km, Error ellipse: s-maj=9.5km s-min=5.2km az=141.8
DDA 27 10:49:12.6, 39°08N×29°01E, h7km, Md2.6
CSEM 27 10:49:12.2±0.2, 39°08N×29°02E, h15km, MD2.6, Error ellipse: s-maj=7.5km s-min=3.6km az=127.0
ISC 27 10:49:11.9±1.1, 39°10N±0°03×29°01E±0°03, h18km±4km, n16, σ0°39/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**257**	P	**Pb**	**10 49 18.0**	**+0.5**
DEMI				S	**Sg**	**10 49 21.2**	**-0.1**
DEMI	**Demirci**	**0.23**	**257**	*i* P	**Pb**	**10 49 18.0**	**+0.5**
DEMI				*i* S	**Sg**	**10 49 21.2**	**-0.1**
GDZ	**Gediz**	**0.37**	**91**	P	**Pb**	**10 49 20.1**	**+0.1**
GDZ				S	**Sb**	**10 49 25.5**	**0.0**
GDZ	**Gediz**	**0.37**	**91**	*i* P	**Pb**	**10 49 20.1**	**+0.1**
GDZ				*i* S	**Sb**	**10 49 25.5**	**0.0**
TVSB	**Tavsanli**	**0.50**	**45**	*e*PG	**Pg**	**10 49 22.3**	**+0.3**
TVSB				*e*SG	**Sb**	**10 49 29.4**	**+0.2**
TVSB	**Tavsanli**	**0.50**	**45**	*e*Pg	**Pg**	**10 49 22.3**	**+0.3**
TVSB				*e*Sg	**Sb**	**10 49 29.4**	**+0.2**
KULA	**Kula-Manisa**	**0.64**	**205**	*e*PG	**Pg**	**10 49 25.3**	**+0.6**
KULA				*e*SG	**Sb**	**10 49 33.2**	**0.0**
KULA	**Kula-Manisa**	**0.64**	**205**	*e*Pg	**Pg**	**10 49 25.3**	**+0.6**
KULA				*e*Sg	**Sb**	**10 49 33.2**	**0.0**
MANT	**Manisa**	**0.70**	**210**	P	**Pg**	**10 49 25.7**	**-0.1**
MANT				S	**Sb**	**10 49 34.3**	**-0.8**
MANT	**Manisa**	**0.70**	**210**	*i* P	**Pg**	**10 49 25.7**	**-0.1**
MANT				*i* S	**Sb**	**10 49 34.4**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*PN	**Pg**	**10 49 36.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1

GRMC	**Gramalote, San**	**10.24**	**77**	*eP*		**Pn**		**11 07 31.1**	**+3.8**

NEIC ***27*** *11:15:46.4±0.7,2.°38S×136.°54E, h10km, mb4.3/1, Error ellipse: s-maj=13.0km s-min=11.2km az=59.0*
ISCJB ***27*** *11:15:48.3±0.5,2.°45S±0.°05×136.°62E±0.°03, h42km, mb4.1/6, MS3.5/4, Error ellipse: s-maj=7.2km s-min=4.2km az=4.8*
DJA ***27*** *11:15:49.5±0.5,2.°S±9.°×13.°7E±.°, h90km±28km, M4.9/6, mB5.1/2, mb4.9/3, MLv4.8/6, Mw(mB)4.4/2*
IDC ***27*** *11:15:49.5±4.8,2.°42S×136.°55E, h31km±37km, mb4.0/6, mb1 4.2/10, mb1mx3.8/35, mbtmp4.2/10, ML3.6/4, MS3.4/7, Ms1 3.4/7, ms1mx2.9/40, Error ellipse: s-maj=32.2km s-min=14.0km az=79.0*

ISC 27 11:15:50.3±0.7,2.°48S±0.°07×136.°63E±0.°04, h42km, n25, σ1ᵎ48/31, mb4.0/6, MS3.3/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.63**	**291**	P		**Pn**	**11 16 29.9**	**-0.4**
RKPI				S		**Sn**	**11 17 01.9**	**+0.9**
GENI	**Genyem**	**3.54**	**92**	P		**Pn**	**11 16 42.5**	**-0.2**
GENI				S		**Sn**	**11 17 24.4**	**+1.1**
JAY	**Jayapura**	**4.07**	**91**	Pn		**Pn**	**11 16 49.3**	**-0.8**
	1.2nm,0.3s,baz=270,slow=20,SNR=14							
JAY				Sn		**Sn**	**11 17 34.8**	**-1.8**
	2.4nm,0.3s,baz=100,slow=23,SNR=9.9							
JAY	**Jayapura**	**4.07**	**91**	P		**Pn**	**11 16 48.8**	**-1.3**
JAY				S		**Sn**	**11 17 35.0**	**-1.6**
FAKI	**Fak Fak**	**4.40**	**264**	P		**Pn**	**11 16 54.6**	**0.0**
FAKI				S		**Sn**	**11 17 44.0**	**-0.6**
SWI	**Sorong**	**5.60**	**287**	P		**Pn**	**11 17 10.5**	**-0.6**
BNDI	**Bandanaira**	**7.01**	**253**	P		**Pn**	**11 17 30.5**	**0.0**
BNDI				S		**Sn**	**11 18 49.7**	**+0.7**
LBMI	**Labuha**	**9.31**	**281**	P		**Pn**	**11 18 01.2**	**-0.8**
PMG	**Port Moresby**	**12.53**	**124**	LR		LR	11 24 31.6	
	comp=Z,203nm,18.9s,baz=292,slow=41							
COEN	**Coen**	**13.11**	**151**	*eP*n		**Pn**	**11 18 55.7**	**+1.6**
	16nm,0.8s							
KAPI	**Kappang**	**17.03**	**261**	LR		LR	11 27 28.0	
	comp=Z,44nm,18.6s,baz=100,slow=41							
WRAB	**Tennant Creek**	**17.49**	**187**	*eP*		**P**	**11 19 51.9**	**-0.1**
	14nm,0.6s							
WRA	**Warramunga Arr**	**17.50**	**187**	P		**Pn**	**11 19 50.2**	**-1.1**
	0.2nm,0.3s,baz=4.4,slow=12,SNR=35							
WRA				S		**Sn**	**11 23 02.0**	**-3.3**
	0.3nm,0.3s,baz=6.4,slow=21,SNR=5.7							
GUMO	**Guam**	**17.93**	**27**	LR		LR	11 25 00.6	
	comp=Z,59nm,21.7s,baz=226,slow=31							
FITZ	**Fitzroy Crossi**	**18.90**	**214**	P		**P**	**11 20 07.9**	**+0.4**
	0.1nm,0.3s,baz=29,slow=15,SNR=4.1							
FITZ				S		**Sn**	**11 23 35.9**	**-3.3**
	0.3nm,0.3s,baz=226,slow=19,SNR=3.8							
FITZ	**Fitzroy Crossi**	**18.90**	**214**	*eP*		**P**	**11 20 07.5**	**+0.1**
FITZ				P		**P**	**11 20 07.9**	**+0.4**
FITZ				S		**Sn**	**11 23 35.9**	**-3.3**
CTA	**Charters Tower**	**19.87**	**152**	P		**Pn**	**11 20 19.6**	**-0.3**
	0.4nm,0.3s,baz=315,slow=5.7,SNR=2.5							
ASAR	**Alice Springs**	**21.23**	**187**	P		**P**	**11 20 34.1**	**+1.3**
	10nm,0.7s,baz=13,slow=11,SNR=79							
ASAR				S		**S**	**11 24 28.5**	**+1.9**
	1.2nm,0.8s,baz=7.8,slow=22,SNR=3.6							
ASAR				LR		LR	11 30 23.6	
	comp=Z,113nm,19.9s,baz=10,slow=41							
STKA	**Stephens Creek**	**29.61**	**171**	P		**P**	**11 21 52.6**	**+0.9**
	1.0nm,0.3s,baz=336,slow=7.1,SNR=4.2							
STKA				LR		LR	11 35 09.9	
	comp=Z,81nm,18.0s,baz=17,slow=39							
CMAR	**Chiang Mai Arr**	**42.53**	**301**	P		**P**	**11 23 41.3**	**-0.8**
	0.7nm,0.3s,baz=112,slow=6.9,SNR=6.0							
SONM	**Songino Array**	**56.65**	**336**	LR		LR	11 50 16.4	
	comp=Z,19nm,19.5s,baz=133,slow=36							
MKAR	**Makanchi Array**	**68.35**	**323**	P		**P**	**11 26 47.6**	**+0.2**
	0.3nm,0.6s,baz=123,slow=8.0,SNR=3.9							
VNDA	**Vanda**	**76.20**	**175**	P		**P**	**11 27 35.9**	**+2.1**
	1.6nm,0.8s,baz=303,slow=6.2,SNR=7.6							
BVAR	**Borovoye Array**	**77.94**	**326**	LR		LR	12 05 19.2	
	comp=Z,82nm,19.2s,baz=74,slow=38							
NRIK	**Noril'sk**	**78.92**	**344**	P		**P**	**11 27 48.5**	**-0.5**
	5.7nm,0.5s,baz=150,slow=4.3,SNR=5.4							

ISCJB ***27*** *11:16:43.9±0.7,35.°01S±0.°05×71.°0W±0.°1, h107km±8km, Error ellipse: s-maj=15.0km s-min=5.9km az=24.2*
GUC ***27*** *11:16:45.3±0.5,34.°99S×71.°04W, h101km±3km, ML3.2*
SJA ***27*** *11:16:53.4±0.5,34.°25S×70.°42W, h176km±5km, ML2.3, MW2.8*

ISC 27 11:16:44.7±1.7,34.°98S±0.°05×71.°10W±0.°09, h104km±12km, n24, σ0ᵎ95/31, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.11**	**260**	*i* P		**Pn**	**11 16 59.0**	**-0.2**
NICH				*i* S		**Sn**	**11 17 09.1**	**-1.0**
TALC	**Talca**	**0.60**	**226**	⇑*i* P		**Pn**	**11 17 01.8**	**+0.1**
TALC				*i* S		**Sn**	**11 17 14.1**	**-0.4**
CHPI	**Pichilemu**	**0.95**	**308**	*i* P		**Pn**	**11 17 05.3**	**+0.4**
CHPI				*i* S		**Sn**	**11 17 20.7**	**+0.6**
CHPI				IAML			11 17 22.6	
	comp=N,427nm,0.5s							
ANTU	**Antumapu**	**1.46**	**15**	*e*S		**Sn**	**11 17 31.6**	**+1.0**
RCDM	**Rinconada Maip**	**1.51**	**9**	*i* P		**Pn**	**11 17 11.4**	**0.0**
RCDM				*e*S		**Sn**	**11 17 30.6**	**-1.0**
CLCH	**Cerro Calan**	**1.65**	**17**	*i* P		**Pn**	**11 17 13.8**	**+0.6**
CLCH				*i* S		**Sn**	**11 17 35.3**	**+0.5**
CLCH				IAML			11 17 36.4	
	comp=E,383nm,0.3s							
FCH	**Farellones**	**1.78**	**22**	*i* P		**Pn**	**11 17 15.7**	**+0.6**
FCH				*i* S		**Sn**	**11 17 38.8**	**+0.7**
FCH				IAML			11 17 40.8	
	comp=N,363nm,0.2s							
CCHI	**Chillan**	**1.80**	**206**	*i* P		**Pn**	**11 17 15.6**	**+0.6**
CCHI				*i* S		**Sn**	**11 17 38.1**	**+0.2**
CCHI				IAML			11 17 43.9	
	comp=E,194nm,0.3s							
PEL	**Peldehue**	**1.87**	**11**	*i* P		**Pn**	**11 17 16.0**	**+0.2**
PEL				*i* S		**Sn**	**11 17 39.5**	**0.0**
PEL				IAML			11 17 43.0	
	comp=N,274nm,0.4s							
AAGR	**Agrelo**	**2.67**	**46**	*i* P		**Pn**	**11 17 28.6**	**+2.2**
AAGR				*i* S		Sn	11 17 54.6	-3.7
ARCO	**CERRO ARCO**	**2.80**	**41**	*i* P		**Pn**	**11 17 29.4**	**+1.3**
ARCO				*i* S		Sn	11 17 56.2	-5.1
ARCO				IAML			11 18 00.7	
	comp=Z,14nm,0.7s							
AUSP	**Uspallata**	**3.10**	**28**	*i* P		**Pn**	**11 17 34.0**	**+1.8**
RTLS	**Leoncito**	**3.52**	**26**	*i* P		**Pn**	**11 17 38.5**	**+0.7**
RTCV	**Cerro Valdivia**	**3.78**	**35**	*i* P		**Pn**	**11 17 40.9**	**-0.2**
RTCV				*i* S		Sn	11 18 16.1	-8.6
ACAN	**Cantantal**	**4.24**	**51**	*i* P		**Pn**	**11 17 47.0**	**-0.3**
RTLL	**Cerro Villicun**	**4.26**	**32**	*i* P		**Pn**	**11 17 46.8**	**-0.8**
AMOG	**MOGNA**	**4.59**	**29**	*i* P		**Pn**	**11 17 51.4**	**-0.6**
ACCO	**Cerro Coronel**	**4.71**	**22**	*i* P		**Pn**	**11 17 53.8**	**0.0**
ACDV	**Cuesta del Vie**	**5.08**	**20**	*i* P		**Pn**	**11 17 58.4**	**-0.3**
MRA	**San Martin**	**5.17**	**62**	*i* P		**Pn**	**11 17 59.6**	**-0.2**
AVFE	**Valle Fertil**	**5.29**	**36**	*i* P		**Pn**	**11 17 59.8**	**-1.7**
ACHE	**Chepes**	**5.33**	**46**	*i* P		**Pn**	**11 18 00.8**	**-1.3**
AGUA	**GUANDACOL**	**5.91**	**23**	*i* P		**Pn**	**11 18 08.3**	**-1.6**
TCA	**Tanti**	**6.56**	**58**	IAML			11 18 51.6	
	comp=Z,1.4nm,0.3s							

ISCJB ***27*** *11:30:13.7±0.6,39.°09N±0.°05×29.°03E±0.°05, h12km±6km, Error ellipse: s-maj=9.3km s-min=4.6km az=140.3*
DDA ***27*** *11:30:13.8, 39.°08N×29.°02E, h7km, Md2.6*
ISK ***27*** *11:30:13.3, 39.°06N×29.°12E, h9km, MD2.2*
CSEM ***27*** *11:30:13.8±0.2, 39.°09N×29.°02E, h8km, MD2.6, Error ellipse: s-maj=6.1km s-min=2.8km az=130.0*

ISC 27 11:30:13.8±1.0,39.°10N±0.°04×29.°02E±0.°03, h14km±10km, n14, σ0ᵎ46/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**257**	P		**Pg**	**11 30 19.3**	**+0.2**
DEMI				S		**Sg**	**11 30 22.6**	**-0.1**
DEMI	**Demirci**	**0.24**	**257**	*i* P		**Pg**	**11 30 19.3**	**+0.2**
DEMI				*i* S		**Sg**	**11 30 22.6**	**-0.1**
GDZ	**Gediz**	**0.36**	**91**	P		**Pg**	**11 30 21.3**	**+0.1**
GDZ				S		**Sg**	**11 30 26.4**	**+0.1**
GDZ	**Gediz**	**0.36**	**91**	*i* P		**Pg**	**11 30 21.3**	**+0.1**
GDZ				*i* S		**Sg**	**11 30 26.4**	**+0.1**
TVSB	**Tavsanli**	**0.49**	**44**	*e*PG		**Pg**	**11 30 23.0**	**-0.6**
TVSB				*e*SG		**Sg**	**11 30 29.8**	**-0.4**
TVSB	**Tavsanli**	**0.49**	**44**	*e*Pg		**Pg**	**11 30 23.0**	**-0.6**
TVSB				*e*Sg		**Sg**	**11 30 29.8**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG		**Pg**	**11 30 26.4**	**-0.1**
KULA				*e*SG		**Sb**	**11 30 36.2**	**+0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg		**Pg**	**11 30 26.4**	**-0.1**
KULA				*e*Sg		**Sb**	**11 30 36.2**	**+0.4**
MANT	**Manisa**	**0.70**	**211**	P		**Pg**	**11 30 27.1**	**-0.5**
MANT				S		**Sg**	**11 30 36.0**	**-0.9**
MANT	**Manisa**	**0.70**	**211**	*i* P		**Pg**	**11 30 27.1**	**-0.5**
MANT				*i* S		**Sg**	**11 30 36.0**	**-0.9**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN		**Pb**	**11 30 37.8**	**+0.2**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn		**Pb**	**11 30 37.8**	**+0.2**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN		**Pb**	**11 30 41.3**	**+0.4**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn		**Pb**	**11 30 41.3**	**+0.4**

IDC ***27*** *11:42:05.4±0.6,54.°47S×128.°13W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.2/26, mbtmp4.1/9, MS4.5/12, Ms1 4.5/12, ms1mx4.2/19, Error ellipse: s-maj=29.1km s-min=18.1km az=155.0*
ISCJB ***27*** *11:42:06.2±0.5,54.°7S±0.°1×128.°2W±0.°2, h10km, mb4.5/16, MS4.5/12, Error ellipse: s-maj=21.8km s-min=14.5km az=39.2*
NEIC ***27*** *11:42:07.4±0.4,54.°60S×128.°15W, h10km, mb4.6/3, Error ellipse: s-maj=19.3km s-min=13.0km az=136.0*
GCMT ***27*** *11:42:07.4±0.2,55.°05S×127.°45W, h12km±1km, MW5.0/102, Moment Tensor Solution. s37,c47; s102,c156; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.17±.12; Mθθ3.36±.15; Mϕϕ-2.19±.11; Mrθ-0.85±.32; Mθϕ3.40±.10; Mrϕ0.74±.29; Best double couple: M₀4.58600×10¹⁶ NP1:ϕs108.00000°, δ80.00000°, λ-17.00000°. NP2:ϕs201.00000°, δ73.00000°, λ-169.00000°. Principal axes: T 5.0070, Plg4.0000°, Azm155.0000°; N -0.8430, Plg70.0000°, Azm257.0000°; P -4.1650, Plg19.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 11:42:07.1±0.6,54.°5S±0.°2×128.°1W±0.°1, h10km, n42, σ1ᵎ41/20, mb4.6/16, MS4.5/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.78**	**348**	*e*T		**P**	11 22 04.5	
	4.0nm,0.3s							
VNDA	**Vanda**	**33.26**	**202**	P		**P**	**11 48 44.2**	**+0.3**
	0.9nm,0.9s,baz=77,slow=6.7,SNR=5.3							
USHA	**Ushuaia**	**33.57**	**115**	P		**P**	**11 48 47.9**	**+1.1**
	69nm,1.0s,baz=177,slow=9.4,SNR=1.8							
TBI	**Tubuai**	**35.01**	**324**	*e*LR		LR	11 58 36.7	
	2µm,26.0s,baz=165							
TBI	**Tubuai**	**35.01**	**324**	*e*T		T	12 26 13.3	
	49nm,0.4s							
PLCA	**Paso Flores**	**39.99**	**94**	LR		LR	12 01 58.8	
	comp=Z,505nm,19.2s,baz=245,slow=30							
PPT2	**Papeete2**	**40.41**	**327**	*e*LR		LR	12 01 06.4	
	2µm,25.8s,baz=162							
PPT	**Papeete**	**40.43**	**327**	LR		LR	12 02 21.2	
	comp=Z,918nm,19.6s,baz=178,slow=30							
VAH	**Vaihoa**	**42.06**	**331**	*e*T		T	12 34 59.4	
	37nm,0.3s							
TAOE	**Nuku Hiva Isla**	**46.56**	**343**	*e*LR		LR	12 04 03.5	
	1µm,25.0s,baz=181							
CPUP	**Villa Florida**	**57.92**	**91**	LR		LR	12 13 14.2	
	comp=Z,1µm,18.3s,baz=228,slow=32							
MAW	**Mawson**	**57.92**	**185**	P		**P**	**11 51 59.4**	**+0.7**
	1.2nm,0.7s,baz=174,slow=9.2,SNR=4.7							
MAW				LR		LR	12 14 17.2	
	comp=Z,174nm,19.6s,baz=206,slow=33							
DZM	**Mont Dzumac**	**58.14**	**276**	*e*LR		LR	12 09 10.6	
	366nm,24.4s							
LPAZ	**La Paz**	**59.53**	**75**	P		**P**	**11 52 09.6**	**-1.8**
	7.9nm,1.1s,baz=205,slow=5.5,SNR=12							
LPAZ				LR		LR	12 11 32.2	
	comp=Z,244nm,18.5s,baz=205,slow=30							
STKA	**Stephens Creek**	**64.91**	**250**	P		**P**	**11 52 45.6**	**-0.9**
	1.8nm,1.0s,baz=158,slow=18,SNR=1.8							
STKA				LR		LR	12 15 15.0	
	comp=Z,282nm,21.3s,baz=185,slow=31							
SAML	**Samuel**	**68.28**	**74**	*e*P		**P**	**11 53 04.9**	**-3.3**
	3.9nm,0.8s							
ROSC	**El Rosal**	**74.01**	**57**	P		**P**	**11 53 43.8**	**+0.4**
	5.3nm,0.9s,baz=222,slow=18,SNR=4.5							
ROSC				LR		LR	12 20 16.9	
	comp=Z,248nm,19.5s,baz=234,slow=31							
ASAR	**Alice Springs**	**75.55**	**250**	P		**P**	**11 53 51.5**	**-0.3**
	0.8nm,0.9s,baz=145,slow=6.6,SNR=4.3							
ASAR				LR		LR	12 23 11.5	
	comp=Z,306nm,18.6s,baz=119,slow=33							
H01W1	**Cape Leeuwin H**	**76.16**	**229**	T		T	13 18 16.3	
	baz=148,slow=76,SNR=7.0							
H01W2	**Cape Leeuwin H**	**76.16**	**228**	T		T	13 18 22.1	
	baz=148,slow=76,SNR=6.8							
H01W3	**Cape Leeuwin H**	**76.17**	**228**	T		T	13 18 24.9	
	baz=148,slow=76,SNR=6.7							
WRA	**Warramunga Arr**	**78.29**	**252**	P		**P**	**11 54 06.9**	**-0.5**
	2.3nm,1.0s,baz=141,slow=5.1,SNR=7.8							
WRA				LR		LR	12 25 09.1	
	comp=Z,194nm,19.1s,baz=105,slow=33							
FITZ	**Fitzroy Crossi**	**84.53**	**246**	P		**P**	**11 54 40.0**	**-0.4**
	4.1nm,1.0s,baz=198,slow=5.9,SNR=3.9							
TXAR	**Lajitas Array**	**86.12**	**21**	P		**P**	**11 54 49.3**	**+1.3**
	1.2nm,1.0s,baz=188,slow=8.5,SNR=9.6							
214A	**Organ Pipe Nat**	**87.12**	**13**	*e*P		**P**	**11 54 54.5**	**+1.7**
	31nm,1.1s							
TUC	**Tucson**	**87.75**	**15**	*e*P		**P**	**11 54 57.1**	**+1.3**
	3.9nm,1.0s							
PFO	**Pinyon Flats O**	**88.34**	**10**	LR		LR	12 25 35.9	
	comp=Z,213nm,18.1s,baz=202,slow=30							
WUAZ	**Wupatki**	**90.82**	**14**	*e*P		**P**	**11 55 12.7**	**+2.5**
	6.1nm,1.1s							
ANMO	**Albuquerque**	**91.03**	**18**	*e*P		**P**	**11 55 12.1**	**+0.8**
	4.1nm,0.9s							
H11S2	**WAKE ISLAND Hy**	**91.39**	**300**	T		T	13 37 05.1	
	baz=148,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**91.41**	**300**	T		T	13 37 11.3	
	baz=148,slow=76,SNR=17							
H11S1	**WAKE ISLAND Hy**	**91.41**	**300**	T		T	13 37 06.5	
	baz=148,slow=76,SNR=11							
H11N3	**WAKE ISLAND Hy**	**92.33**	**301**	T		T	13 38 16.4	
	baz=148,slow=76,SNR=10							
H11N1	**WAKE ISLAND Hy**	**92.33**	**301**	T		T	13 38 14.6	
	baz=148,slow=76,SNR=14							
H11N2	**WAKE ISLAND Hy**	**92.35**	**301**	T		T	13 38 17.5	
	baz=148,slow=76,SNR=8.8							
R11A	**Troy Canyon, C**	**93.12**	**10**	*e*P		**P**	**11 55 22.6**	**+1.7**
	1.7nm,0.9s							
BOSA	**Boshof**	**94.07**	**157**	LR		LR	12 33 42.4	
	comp=Z,299nm,19.8s,baz=210,slow=33							
PDAR	**Pinedale Array**	**98.19**	**14**	LR		LR	12 31 31.8	
	comp=Z,226nm,20.5s,baz=206,slow=30							
ILAR	**Eielson Array**	**119.84**	**351**	PKP		**PKPdf**	**12 00 56.1**	**+0.1**
	0.8nm,0.8s,baz=194,slow=1.6,SNR=9.9							
TIXI	**Tiksi**	**144.33**	**328**	PKP		**PKPdf**	**12 01 41.0**	**-0.6**
	16nm,0.9s,baz=96,slow=3.2,SNR=13							
SONM	**Songino Array**	**145.97**	**282**	PKPbc		**PKPdf**	**12 01 45.3**	**0.0**
	1.3nm,0.8s,baz=126,slow=4.8,SNR=7.0							
MKAR	**Makanchi Array**	**159.39**	**261**	PKPab		**PKPab**	**12 02 42.7**	**0.0**
	0.7nm,0.7s,baz=121,slow=5.6,SNR=4.3							

IDC 27 11:44:53.6±3.0,0.°84N×136.°43E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/40, mbtmp3.1/3, Error ellipse: s-maj=133.2km s-min=27.5km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.76**	**186**	P		P	11 49 35.5	-0.7
	0.3nm,0.6s,baz=7.8,slow=12,SNR=4.9							
ASAR	**Alice Springs**	**24.48**	**186**	P		P	11 50 15.2	+0.5
	0.2nm,0.4s,baz=9.8,slow=10,SNR=3.8							
MKAR	**Makanchi Array**	**65.61**	**322**	P		P	11 55 39.4	-0.1
	0.2nm,0.5s,baz=110,slow=8.3,SNR=2.6							

IDC ***27*** *11:44:56.9±1.0,36.°70N×142.°19E, h0km, mb3.6/8, mb1 3.8/12, mb1mx3.6/45, mbtmp3.6/12, ML2.8/4, MS2.7/2, Ms1 2.7/2, ms1mx2.3/57, Error ellipse: s-maj=22.0km s-min=18.6km az=109.0*
ISCJB ***27*** *11:44:57.6±0.6,36.°72N±0.°06×142.°19E±0.°06, h19km, mb3.6/8, Error ellipse: s-maj=8.6km s-min=6.3km az=151.3*
JMA ***27*** *11:44:57.7±0.4,36.°89N×142.°15E, h21km, M3.3*

ISC 27 11:45:00.2±0.8,36.°76N±0.°07×142.°00E±0.°06, h19km, n24, σ1ᵎ13/22, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.02**	**290**	P		**Pb**	**11 45 18.0**	**-1.2**
JFK	**Kawauchi**	**1.08**	**305**	P		**Pb**	**11 45 18.4**	**-1.9**
JHO	**Hitachi**	**1.16**	**263**	P		**Pn**	**11 45 20.4**	**-0.9**
JHO				S		**Sg**	**11 45 38.3**	**+0.6**
JYT	**Yasato**	**1.54**	**251**	P		**Pn**	**11 45 27.3**	**+0.7**
JYT				S		**Sb**	**11 45 48.0**	**+0.7**
MJAR	**Matsushiro Arr**	**3.05**	**267**	Pn		**Pn**	**11 45 48.3**	**+0.9**
	5.5nm,0.3s,baz=90,slow=14,SNR=25							
MJAR				Sn		**Sb**	**11 46 28.7**	**-2.1**
	2.6nm,0.3s,baz=102,slow=21,SNR=7.6							
MJAR				LR		LR	11 47 18.6	
	comp=Z,91nm,18.1s,baz=125,slow=45							
MAT	**Matsushiro**	**3.05**	**267**	P		**Pn**	**11 45 48.3**	**+0.9**
MAT				S		**Sn**	**11 46 22.9**	**-0.6**
JHJ	**Hachijo jima 2**	**4.06**	**207**	Pn		**Pn**	**11 46 01.6**	**+0.4**
	4.4nm,0.3s,baz=108,slow=22,SNR=2.2							
JHJ				Sn		**Sn**	**11 46 47.8**	**-0.4**
	5.2nm,0.3s,baz=74,slow=24,SNR=3.1							
USRK	**Ussuriysk Ar.**	**10.64**	**317**	Pn		**Pn**	**11 47 33.6**	**+2.1**
	0.2nm,0.3s,baz=142,slow=12,SNR=2.7							
KLR	**Kul'dur**	**14.53**	**332**	LR		LR	11 53 56.5	
	comp=Z,30nm,18.8s,baz=84,slow=37							
PETK	**Petropavlovsk-**	**19.70**	**29**	P		**P**	**11 49 28.0**	**-0.2**
	0.1nm,0.3s,baz=226,slow=9.9,SNR=2.5							
H11N2	**WAKE ISLAND Hy**	**27.61**	**121**	T		T	12 17 57.7	
	baz=310,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**27.61**	**121**	T		T	12 17 55.7	
	baz=310,slow=75,SNR=8.2							
H11N3	**WAKE ISLAND Hy**	**27.62**	**121**	T		T	12 17 57.4	
	baz=310,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**28.32**	**123**	T		T	12 18 43.1	
	baz=312,slow=75,SNR=20							
H11S3	**WAKE ISLAND Hy**	**28.32**	**123**	T		T	12 18 43.8	
	baz=312,slow=75,SNR=19							
SONM	**Songino Array**	**28.33**	**304**	P		**P**	**11 50 54.0**	**+1.2**
	0.9nm,0.7s,baz=96,slow=10,SNR=5.0							
H11S2	**WAKE ISLAND Hy**	**28.33**	**123**	T		T	12 18 44.8	
	baz=312,slow=75,SNR=16							
ZALV	**Zalesovo Beam**	**42.45**	**313**	P		**P**	**11 52 52.8**	**-0.7**
	0.5nm,0.5s,baz=97,slow=12,SNR=2.4							
MKAR	**Makanchi Array**	**44.66**	**302**	P		**P**	**11 53 12.5**	**+0.9**
	0.4nm,0.7s,baz=90,slow=8.6,SNR=2.5							
KURBB	**Kurchatov Arra**	**46.54**	**308**	P		**P**	**11 53 27.6**	**+1.3**
	0.8nm,0.5s,baz=82,slow=8.0,SNR=2.5							
ILAR	**Eielson Array**	**49.48**	**32**	P		**P**	**11 53 48.0**	**-0.9**
	0.5nm,0.7s,baz=266,slow=7.0,SNR=5.7							
WRA	**Warramunga Arr**	**56.85**	**189**	P		**P**	**11 54 42.7**	**-0.9**
	0.4nm,0.5s,baz=6.8,slow=7.1,SNR=4.9							
ASAR	**Alice Springs**	**60.58**	**189**	P		**P**	**11 55 09.2**	**-0.3**
	0.3nm,0.7s,baz=2.3,slow=4.6,SNR=3.4							
TXAR	**Lajitas Array**	**89.92**	**53**	P		**P**	**11 57 58.2**	**-0.2**
	0.2nm,0.6s,baz=298,slow=1.9,SNR=2.9							

IDC ***27*** *11:48:38.6±2.1,36.°91N×140.°64E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.2/43, mbtmp3.5/4, ML2.4/2, Error ellipse: s-maj=35.7km s-min=21.9km az=62.0*
ISCJB ***27*** *11:48:39.1±0.5,37.°02N±0.°03×140.°65E±0.°05, h18km±6km, mb3.6/2, Error ellipse: s-maj=6.3km s-min=5.1km az=9.8*
JMA ***27*** *11:48:39.5,37.°04N×140.°57E, h9km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕs271.00000°, δ60.00000°, λ-120.00000°. NP2: ϕs140.00000°, δ42.00000°, λ-49.00000°. Principal axes: T Plg10.0000°, Azm22.0000°; N Plg26.0000°, Azm287.0000°; P Plg62.0000°, Azm132.0000°;*
JMA Felt II J1.

ISC 27 11:48:39.6±1.0,37.°03N±0.°03×140.°60E±0.°03, h11km±8km, n13, σ0ᵎ80/23, 6C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.17**	**65**	⇑P		**Pg**	**11 48 43.6**	**+0.1**
ONAJ				S		**Sg**	**11 48 46.6**	**+0.4**
JFK	**Kawauchi**	**0.40**	**33**	⇑P		**Pg**	**11 48 47.4**	**-0.2**
JFK				S		**Sg**	**11 48 53.1**	**+0.2**
JHO	**Hitachi**	**0.42**	**183**	⇑P		**Pg**	**11 48 47

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.44**	**281**	P	**Pn**	**12 12 29.2**	**-1.0**
JTH	**Tanohata**	**1.51**	**295**	P	**Pn**	**12 12 30.3**	**-0.9**
JTH				*e*S	**Sb**	**12 12 51.3**	**-0.3**
OFUJ	**Ofunato**	**1.55**	**262**	P	**Pn**	**12 12 30.7**	**-1.1**
JOM	**Ohasama**	**1.83**	**275**	P	**Pn**	**12 12 35.2**	**-0.4**
JMK	**Ichinoseki**	**1.92**	**260**	P	**Pn**	**12 12 36.1**	**-0.7**
JANG	**Nango**	**1.95**	**303**	P	**Pn**	**12 12 35.9**	**-1.3**
JRG	**Rokugo**	**2.33**	**273**	P	**Pn**	**12 12 42.4**	**-0.1**
JTM	**Tenmabayashi**	**2.46**	**307**	P	**Pn**	**12 12 43.7**	**-0.6**
JAH	**Hinai**	**2.48**	**291**	P	**Pn**	**12 12 44.5**	**0.0**
JOK	**Okura**	**2.51**	**249**	P	**Pn**	**12 12 44.1**	**-0.9**
JYK	**Kaneyama**	**2.59**	**262**	P	**Pn**	**12 12 45.8**	**-0.2**
ERM	**Erimo**	**2.72**	**352**	*de*P	**Pn**	**12 12 45.8**	**-2.0**
ERM				pmax	pmax		
	comp=Z,141nm,1.2s						
ERM	**Erimo**	**2.72**	**352**	*e*Pn	**Pn**	**12 12 46.7**	**-1.1**
JOT	**Ohata**	**2.86**	**317**	P	**Pn**	**12 12 49.5**	**-0.2**
JNBK	**Urakawa-nobuka**	**3.03**	**347**	P	**Pn**	**12 12 51.6**	**-0.5**
JNBK				*e*S	**Sn**	**12 13 28.9**	**+1.2**
JFT	**Otama**	**3.16**	**236**	P	**Pn**	**12 12 52.7**	**-1.2**
JKB	**Kayabe**	**3.24**	**323**	P	**Pn**	**12 12 55.7**	**+0.7**
JCH	**Churui**	**3.30**	**356**	P	**Pn**	**12 12 54.4**	**-1.4**
JCH				*e*S	**Sn**	**12 13 33.3**	**-0.9**
JAK	**Akkeshi**	**3.76**	**12**	P	**Pn**	**12 12 59.3**	**-2.8**
JAK				*e*S	**Sn**	**12 13 42.1**	**-3.4**
NEM2	**Nemuro 2**	**4.34**	**21**	P	**Pn**	**12 13 06.6**	**-3.5**
NEM2				*e*S	**Sn**	**12 13 54.5**	**-5.3**
JHR	**Hokuryu**	**4.65**	**343**	P	**Pn**	**12 13 15.1**	**+0.8**
JHR				*e*S	**Sn**	**12 14 09.2**	**+1.7**
JTKR	**Abashiri--Toko**	**4.65**	**2**	P	**Pn**	**12 13 12.4**	**-1.9**
JTKR				*e*S	**Sn**	**12 14 03.0**	**-4.5**
ASAJ	**Asahikawa**	**4.86**	**351**	*e*Pn	**Pn**	**12 13 16.4**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**4.99**	**19**	*i* P	**Pn**	**12 13 18.3**	**-0.8**
JRY	**Ryogami san**	**5.00**	**230**	P	**Pn**	**12 13 17.6**	**-1.7**
MAJO	**Matsushiro**	**5.11**	**239**	*c i*P	**Pn**	**12 13 20.8**	**0.0**
MAJO	**Matsushiro**	**5.11**	**239**	*e*Pn	**Pn**	**12 13 21.0**	**+0.2**
MAT	**Matsushiro**	**5.11**	**239**	P	**Pn**	**12 13 20.6**	**-0.2**
MAT				*e*S	**Sn**	**12 14 17.8**	**-1.3**
MJAR	**Matsushiro Arr**	**5.11**	**239**	Pn	**Pn**	**12 13 20.8**	**0.0**
	comp=Z,12nm,0.3s,baz=57,slow=12,SNR=454						
MJB9	**Matsu-Tunnel**	**5.12**	**239**	*e*Pn	**Pn**	**12 13 21.0**	**+0.2**
BSO1	**Boso 1**	**5.12**	**205**	P	**Pn**	**12 13 17.3**	**-3.1**
INU	**Inuyama**	**6.60**	**235**	*e*Pn	**Pn**	**12 13 40.6**	**-0.6**
KUR	**Kuril'sk**	**6.69**	**27**	*e*P	**Pn**	**12 13 40.8**	**-1.5**
KUR				*e*S	**Sn**	**12 14 50.8**	**-6.8**
KUR				pmax	pmax		
	comp=Z,22nm,0.8s						
KUR				pmax	pmax		
	comp=N,15nm,0.6s						
KUR				pmax	pmax		
	comp=E,19nm,0.6s						
KUR				smax	smax		
	comp=N,71nm,0.8s						
KUR				smax	smax		
	comp=E,38nm,0.8s						
JHJ	**Hachijo jima 2**	**6.93**	**208**	Pn	**Pn**	**12 13 44.0**	**-1.7**
	comp=E,22nm,0.3s,baz=69,slow=22,SNR=8.9						
JHJ				Sn	**Sn**	**12 14 56.3**	**-7.4**
	baz=68,slow=19						
YSS	**Yuzh-Sakhalins**	**7.66**	**355**	⇑*e*P	**Pn**	**12 13 55.8**	**+0.2**
YSS				*e*S	**Sn**	**12 15 20.4**	**-1.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS				MLR	MLR		
	comp=Z,4μm,14.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,900nm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.66**	**355**	*e*Pn	**Pn**	**12 13 55.5**	**-0.1**
VLA	**Vladivostok**	**9.64**	**297**	*α i*P	**Pn**	**12 14 24.6**	**+1.8**
VLA				*i* S	**Sn**	**12 16 10.9**	**+0.7**
VLA				pmax	pmax		
	comp=Z,64nm,1.3s						
VLA				MLR	MLR		
	comp=E,42μm,14.0s						
USRK	**Ussuriysk Ar.**	**9.98**	**303**	Pn	**Pn**	**12 14 29.6**	**+2.2**
	comp=E,0.9nm,0.3s,baz=108,slow=13,SNR=46						
USRK				LR	LR	12 18 05.9	
	comp=E,1μm,19.2s,baz=117,slow=36						
MSHR	**Mys Shultsa**	**9.99**	**293**	⇓*e*P	**Pn**	**12 14 25.5**	**-2.1**
HABR	**Khabarovsk**	**11.04**	**329**	*ce*P	**Pn**	**12 14 38.6**	**-3.4**
HABR				*e*S	**Sn**	**12 16 39.3**	**-5.3**
HABR				pmax	pmax		
	comp=E,29nm,1.6s						
HABR				pmax	pmax		
	comp=N,20nm,1.6s						
HABR				pmax	pmax		
	comp=Z,60nm,1.6s						
HABR				MLR	MLR		
	comp=Z,2μm,15.0s						
TYV	**Tymovskoe**	**11.56**	**357**	*e*P	Pn	12 14 43.0	-6.1
TYV				pmax	pmax		
	comp=Z,13nm,0.8s						
TYV				MLR	MLR		
	comp=E,5μm,20.0s						
TYV				MLR	MLR		
	comp=Z,3μm,17.0s						
MDJ	**Mudanjiang**	**11.72**	**301**	P	**Pn**	**12 14 52.8**	**+1.5**
MDJ				S	**Sn**	**12 17 03.3**	**+2.1**
MDJ				PcP	**PcP**	**12 20 42.3**	**+2.7**
MDJ				ScP	**ScP**	**12 24 12.8**	**+2.0**
MDJ				PcS	**PcS**	**12 24 16.0**	**+2.5**
MDJ				ScS	**ScS**	**12 27 48.8**	**+2.5**
MDJ				PMZ			
	comp=Z,54nm,1.1s						
MDJ				PMZ			
	comp=Z,350nm,6.4s						
MDJ				LN			
	comp=Z,1μm,12.1s						
MDJ				LE			
	comp=Z,2μm,13.3s						
MDJ				LZ			
	comp=Z,3μm,12.7s						
MDJ	**Mudanjiang**	**11.72**	**301**	*e*Pn	**Pn**	**12 14 51.0**	**-0.3**
	comp=Z,56nm,1.0s						
JNU	**Nakatsue**	**12.02**	**243**	Pn	**Pn**	**12 14 54.5**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=39,slow=5.1,SNR=10						
JNU				LR	LR	12 20 18.4	
	comp=Z,1μm,18.1s,baz=28,slow=41						
KSRS	**Korea Array**	**12.48**	**266**	Pn	**Pn**	**12 15 00.1**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=78,slow=14,SNR=10						
KSRS				LR	LR	12 19 13.9	
	comp=Z,498nm,19.3s,baz=72,slow=34						
KSAR	**Wonju Array Be**	**12.51**	**266**	P	**Pn**	**12 15 00.1**	**-2.0**
KSAR	**Wonju Array Be**	**12.51**	**266**	Pn	**Pn**	**12 15 00.1**	**-2.0**
KLR	**Kul'dur**	**13.05**	**323**	Pn	**Pn**	**12 15 09.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=15						
KLR				LR	LR	12 20 38.0	
	comp=Z,1μm,18.2s,baz=132,slow=39						
KLR	**Kul'dur**	**13.05**	**323**	*c i*P	**Pn**	**12 15 08.1**	**-1.3**
TJN	**Taejon**	**13.20**	**262**	⇓*e*P	**Pn**	**12 15 15.9**	**+4.4**
CN2	**Changchun**	**14.34**	**294**	*e*P	**Pn**	**12 15 27.5**	**+0.5**
CN2				*es*P	P	12 15 37.5	+3.6
CN2				*e*S	**Sn**	**12 18 04.3**	**-0.8**
CN2				PMZ			
	comp=Z,10.0nm,1.0s						
CN2				LN			
	comp=Z,1μm,14.0s						
CN2				LE			
	comp=Z,1μm,14.0s						
CN2				LZ			
	comp=Z,1μm,14.0s						
SNY	**Shenyang**	**15.45**	**286**	⇓P	**P**	**12 15 44.3**	**-2.0**
SNY				PMZ			
	comp=Z,120nm,1.2s						
SNY				PMZ			
	comp=Z,530nm,11.2s						
SNY				LN			
	comp=Z,1μm,13.3s						
SNY				LE			
	comp=Z,1μm,12.9s						
SNY				LZ			
	comp=Z,2μm,14.3s						
PEA0	**Petropavlovsk-**	**16.83**	**30**	*e*Pn	**P**	**12 16 02.0**	**+0.5**
PETK	**Petropavlovsk-**	**16.83**	**30**	Pn	**Pn**	**12 15 59.4**	**-0.2**
	baz=187,slow=8.1,SNR=2.2						
PETK				LR	LR	12 21 48.2	
	comp=Z,340nm,21.2s,baz=218,slow=35						
PET	**Petropavlovsk**	**17.15**	**32**	*e*P	P	12 16 13.9	+8.9
PET				*e*S	**S**	**12 19 21.6**	**-0.7**
PET				MLR	MLR		
	comp=Z,900nm,16.0s						
PET				MLR	MLR		
	comp=Z,1μm,14.0s						
HIA	**Hailar**	**19.71**	**308**	*e*P	**P**	**12 16 31.5**	**-1.7**
HIA				pmax	pmax		
	comp=Z,27nm,0.8s						
HIA	**Hailar**	**19.71**	**308**	*e*P	**P**	**12 16 31.5**	**-1.7**
	comp=Z,26nm,0.8s						
MA2	**Magadan**	**20.77**	**10**	P	**P**	**12 16 44.7**	**+0.1**
	comp=Z,14nm,0.7s,baz=202,slow=9.4,SNR=6.2						
MA2				LR	LR	12 26 36.1	
	comp=Z,629nm,18.2s,baz=217,slow=42						
MA2	**Magadan**	**20.77**	**10**	P	**P**	**12 16 44.7**	**+0.1**
MA2				pmax	pmax		
	comp=Z,12nm,0.7s						
MA2				MLR	MLR		
	comp=Z,629nm,18.2s						
BJI	**Beijing**	**21.13**	**281**	P	**P**	**12 16 46.0**	**-2.6**
BJI				S	**S**	**12 20 37.8**	**-4.6**
BJI				LN			
	comp=Z,420nm,9.9s						
BJI				LE			
	comp=Z,990nm,16.0s						
BJI				LZ			
	comp=Z,560nm,16.2s						
BJT	**Baijiatuau**	**21.13**	**281**	*e*P	**P**	**12 16 46.4**	**-2.3**
BJT				pmax	pmax		
	comp=Z,39nm,0.8s						
BJT	**Baijiatuau**	**21.13**	**281**	*e*P	**P**	**12 16 46.4**	**-2.3**
	comp=Z,39nm,0.8s						
TIA	**Tai'an**	**21.17**	**270**	*e*P	**P**	**12 16 46.8**	**-2.3**
TIA				PMZ			
	comp=Z,40nm,1.0s						
TIA				LN			
	comp=Z,910nm,14.3s						
TIA				LE			
	comp=Z,2μm,15.0s						
TIA				LZ			
	comp=Z,2μm,14.0s						
NJ2	**Nanjing**	**21.36**	**258**	*e*P	**P**	**12 16 49.8**	**-1.4**
NJ2				S	**S**	**12 20 48.5**	**+1.3**
NJ2				sS	Sn	12 20 57.8	+2.5
NJ2				PMZ			
	comp=Z,25nm,0.8s						
NJ2				LN			
	comp=Z,570nm,13.5s						
NJ2				LE			
	comp=Z,920nm,14.3s						
NJ2				LZ			
	comp=Z,2μm,14.6s						
CLNS	**Chul'man**	**21.42**	**331**	*e*P	**P**	**12 16 50.9**	**-0.8**
CLNS				*e**PP	**pP**	**12 16 58.4**	**0.0**
CLNS				*e*		12 17 08.5	
CLNS				*e*S	**S**	**12 20 47.4**	**-0.6**
CLNS				*e*		12 20 54.6	
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,27nm,1.0s						
CLNS				pmax	pmax		
	comp=N,34nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,20nm,0.9s						
CLNS				pmax	pmax		
	comp=N,14nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CLNS				smax	smax		
	comp=E,180nm,10.7s						
CLNS				smax	smax		
	comp=N,323nm,11.1s						
CLNS				MLR	MLR		
	comp=Z,1μm,14.0s						
CLNS				MLR	MLR		
	comp=N,1μm,14.0s						
CLNS				MLR	MLR		
	comp=E,793nm,16.0s						
SEY	**Seymchan**	**24.23**	**10**	P	**P**	**12 17 20.5**	**+0.3**
	comp=E,8.9nm,0.9s,baz=190,slow=8.5,SNR=19						
SEY	**Seymchan**	**24.23**	**10**	⇑*e*P	**P**	**12 17 21.7**	**+1.4**
YAK	**Yakutsk**	**24.29**	**344**	P	**P**	**12 17 22.0**	**+1.2**
	comp=E,42nm,0.9s,baz=162,slow=3.2,SNR=10						
YAK				LR	LR	12 27 01.6	
	comp=E,371nm,21.1s,baz=152,slow=37						
YAK	**Yakutsk**	**24.29**	**344**	*e*P	**P**	**12 17 19.2**	**-1.6**
YAK				*e**PP	**sP**	**12 17 30.7**	**-0.3**
YAK				*e*		12 17 51.4	
YAK				*e*S	**S**	**12 21 36.6**	**-1.5**
YAK				*e**SS	**sS**	**12 21 54.2**	**+4.3**
YAK				*e*SS	**SnSn**	**12 22 22.6**	**+1.0**
YAK				pmax	pmax		
	comp=Z,55nm,1.1s						
YAK				pmax	pmax		
	comp=N,19nm,1.3s						
YAK				pmax	pmax		
	comp=E,13nm,1.4s						
YAK				pmax	pmax		
	comp=Z,73nm,1.4s						
YAK				pmax	pmax		
	comp=N,115nm,1.8s						
YAK				pmax	pmax		
	comp=E,63nm,2.5s						
YAK				smax	smax		
	comp=N,187nm,2.8s						
YAK				smax	smax		
	comp=E,85nm,2.8s						
YAK				MLR	MLR		
	comp=Z,995nm,16.0s						
YAK				MLR	MLR		
	comp=E,720nm,18.0s						
YAK				MLR	MLR		
	comp=N,533nm,16.0s						
YAK	**Yakutsk**	**24.29**	**344**	*e*P	**P**	**12 17 19.8**	**-1.1**
	comp=N,46nm,0.9s						
CIT	**Chita**	**24.37**	**311**	*e*P	**P**	**12 17 21.7**	**0.0**
CIT				*e*		12 17 28.0	
TIY	**Taiyuan**	**24.41**	**276**	*e*P	**P**	**12 17 23.8**	**+1.5**
TIY				PP	**PnPn**	**12 18 01.5**	**+8.4**
TIY				PMZ			
	comp=N,240nm,7.4s						
TIY				LN			
	comp=N,860nm,12.7s						
TIY				LE			
	comp=N,680nm,12.2s						
TIY				LZ			
	comp=N,670nm,13.4s						
HHC	**Hu-ho-hao-te**	**24.52**	**284**	*e*P	**P**	**12 17 23.3**	**0.0**
HHC				pP	pP	12 17 31.0	+0.5
HHC				S	**S**	**12 21 40.8**	**-1.7**
HHC				sS	sS	12 21 55.0	+0.7
HHC				PMZ			
	comp=N,28nm,1.0s						
HHC				PMZ			
	comp=N,280nm,6.9s						
HHC				LN			
	comp=N,400nm,12.4s						
HHC				LE			
	comp=N,1μm,12.4s						
HHC				LZ			
	comp=N,1μm,12.8s						
SSLB	**Suanglung**	**24.67**	**238**	*e*P	**P**	**12 17 23.2**	**-1.5**
	comp=N,39nm,1.0s						
YULB	**Yu-li**	**24.73**	**237**	*e*P	**P**	**12 17 23.9**	**-1.3**
	comp=N,25nm,1.4s						
TPUB	**Ta-pu**	**25.23**	**238**	*e*P	**P**	**12 17 30.6**	**+0.8**
	comp=N,42nm,0.9s						
WHN	**Wuhan**	**25.48**	**259**	⇓*i*P	**P**	**12 17 32.3**	**+0.4**
WHN				pP	**sP**	**12 17 41.0**	**-1.0**
WHN				S	**S**	**12 22 02.0**	**+4.3**
WHN				PMZ			
	comp=N,310nm,1.0s						
WHN				LN			
	comp=N,2μm,10.0s						
WHN				LE			
	comp=N,2μm,12.4s						
WHN				LZ			
	comp=N,3μm,14.6s						
QZH	**Quanzhou**	**25.50**	**243**	P	P	12 17 24.0	-8.1
QZH				S	**S**	**12 21 54.0**	**-4.0**
QZH				LR	LR		
	comp=N,2μm,12.6s						
QZH				LR	LR		
	comp=E,2μm,14.6s						
QZH				LR	LR		
	comp=Z,3μm,12.0s						
BOD	**Bodaibo**	**26.63**	**324**	*e*P	**P**	**12 17 41.5**	**-0.6**
BOD				pmax	pmax		
	comp=Z,46nm,1.3s						
ULN	**Ulaanbaatar**	**27.63**	**300**	*c i*P	**P**	**12 17 52.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,28nm,1.2s						
ULN	**Ulaanbaatar**	**27.63**	**300**	*e*P	**P**	**12 17 52.0**	**+0.6**
	comp=Z,18nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.98**	**128**	T	T	12 46 59.7	
	baz=321						
H11N1	**WAKE ISLAND Hy**	**27.98**	**128**	T	T	12 47 05.2	
	baz=321						
H11N3	**WAKE ISLAND Hy**	**27.99**	**128**	T	T	12 47 09.1	
	baz=321						
SONA1	**Songino Array**	**28.06**	**300**	*e*P	**P**	**12 17 55.2**	**0.0**
SONM	**Songino Array**	**28.07**	**300**	P	**P**	**12 17 56.0**	**+0.7**
	comp=Z,6.5nm,0.9s,baz=92,slow=8.9,SNR=27						
SONM	**Songino Array**	**28.07**	**300**	P	**P**	**12 17 56.0**	**+0.7**
SONM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN	**Xi'an**	**28.23**	**270**	P	**P**	**12 17 56.0**	**-0.7**
XAN				pP	pP	12 18 02.5	-1.4
XAN				PP	**PnPn**	**12 18 51.5**	**+6.3**
XAN				PMZ			
	comp=Z,18nm,1.4s						
XAN				PMZ			
	comp=Z,150nm,10.5s						
XAN				LN			
	comp=Z,280nm,12.8s						
XAN				LE			
	comp=Z,1μm,12.8s						
XAN				LZ			
	comp=Z,1μm,13.2s						
H11S1	**WAKE ISLAND Hy**	**28.79**	**129**	T	T	12 48 04.1	
	baz=320						
H11S3	**WAKE ISLAND Hy**	**28.79**	**130**	T	T	12 48 09.7	
	baz=320						
H11S2	**WAKE ISLAND Hy**	**28.81**	**130**	T	T	12 48 06.4	
	baz=320						
ENH	**Enshi**	**29.32**	**263**	*e*P	**P**	**12 18 06.3**	**-0.2**
	comp=Z,69nm,1.1s						
IRK	**Irkutsk**	**29.95**	**309**	*e*P	**P**	**12 18 12.0**	**+0.2**
IRK				pmax	pmax		
	comp=Z,41nm,2.1s						
TLY	**Talaya**	**30.25**	**307**	P	**P**	**12 18 15.4**	**+0.9**
	comp=Z,6.7nm,0.8s,baz=105,slow=7.1,SNR=8.9						
TLY	**Talaya**	**30.25**	**307**	*e*P	**P**	**12 18 14.9**	**+0.4**
TLY				*e*		12 19 23.2	
TLY				pmax	pmax		
	comp=Z,16nm,1.0s						
TLY				MLR	MLR		
	comp=Z,618nm,13.0s						
TLY	**Talaya**	**30.25**	**307**	*e*P	**P**	**12 18 15.4**	**+0.9**
	comp=Z,12nm,1.0s						
ZAK	**Zakamensk**	**30.32**	**305**	*e*P	**P**	**12 18 14.5**	**-0.7**
ZAK				*e*		12 21 10.3	
ZAK				pmax	pmax		
	comp=Z,17nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
BILL	**Bilibino**	**31.34**	**16**	⇑*e*P	**P**	**12 18 23.3**	**-0.6**
BILL				*e*		12 19 24.4	
BILL				*e*S	**S**	**12 23 25.2**	**-4.1**
BILL				pmax	pmax		
	comp=Z,13nm,2.5s						
BILL				MLR	MLR		
	comp=Z,415nm,15.0s						
LZH	**Lanzhou**	**31.48**	**277**	*e*P	**P**	**12 18 25.3**	**-0.3**
LZH				pP	pP	12 18 32.5	-0.4
LZH				sP	sP	12 18 35.8	-0.1
LZH				PP	**PnPn**	**12 19 28.5**	**-0.3**
LZH				*e*S	**S**	**12 23 28.3**	**-4.1**
LZH				sS	sS	12 23 41.0	-3.3
LZH				SS	**SnSn**	**12 25 15.3**	**-2.3**
LZH				PMZ			
	comp=Z,78nm,1.4s						
LZH				PMZ			
	comp=Z,210nm,4.5s						
LZH				LN			
	comp=Z,1μm,13.2s						
LZH				LE			
	comp=Z,1μm,12.7s						
LZH				LZ			
	comp=Z,2μm,13.0s						
MOY	**Mondy**	**31.89**	**307**	*e*P	**P**	**12 18 29.1**	**+0.1**
MOY				pmax	pmax		
	comp=Z,30nm,2.3s						
TIXI	**Tiksi**	**33.26**	**352**	P	**P**	**12 18 40.3**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=148,slow=5.9,SNR=4.7						
TIXI	**Tiksi**	**33.26**	**352**	⇓*e*P	**P**	**12 18 40.1**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.5s						
TIXI	**Tiksi**	**33.26**	**352**	*e*P	**P**	**12 18 40.2**	**-0.4**
GYA	**Guiyang**	**33.37**	**259**	⇑*i*P	**P**	**12 18 40.5**	**-1.7**
GYA				pP	pP	12 18 50.3	+0.8
GYA				PP	**PnPn**	**12 19 55.0**	**+1.9**
GYA				S	**S**	**12 24 00.3**	**-1.6**
GYA				ScP	**ScP**	**12 25 08.0**	**+1.6**
GYA				SS	**SnSn**	**12 26 02.0**	**-1.6**
GYA				PMZ			
	comp=Z,30nm,1.0s						
GYA				PMZ			
	comp=Z,120nm,5.4s						
GYA				LN			
	comp=Z,560nm,17.6s						
GYA				LE			
	comp=Z,510nm,18.2s						
GYA				LZ			
	comp=Z,540nm,18.0s						
CD2	**Chengdu**	**33.47**	**268**	*e*P	**P**	**12 18 41.5**	**-1.5**
CD2				pP	pP	12 18 48.8	-1.4
CD2				sP	sP	12 18 52.0	-1.2
CD2				S	**S**	**12 24 00.8**	**-2.5**
CD2				sS	sS	12 24 13.5	-1.7
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
GTA	**Gaotai**	**33.63**	**284**	⇑P	**P**	**12 18 45.3**	**+0.9**
GTA				pP	pP	12 18 51.3	-0.4
GTA				sP	sP	12 18 54.5	-0.2
GTA				S	**S**	**12 24 04.5**	**-1.3**
GTA				sS	sS	12 24 14.3	-3.5
GTA				SS	**SnSn**	**12 26 07.5**	**-2.4**
GTA				PMZ			
	comp=Z,58nm,1.3s						
GTA				PMZ			
	comp=Z,210nm,5.5s						
GTA				LN			
	comp=Z,440nm,15.0s						
GTA				LE			
	comp=Z,850nm,15.2s						
GTA				LZ			
	comp=Z,950nm,15.4s						
QIZ	**Qiongzhong**	**35.48**	**245**	P	**P**	**12 19 01.0**	**+0.6**
QIZ				S	**S**	**12 24 36.5**	**+2.2**
QIZ				ScS	**ScS**	**12 29 19.5**	**+0.9**
QIZ				LN			
	comp=Z,520nm,13.9s						
QIZ				LE			
	comp=Z,680nm,15.5s						
QIZ				LZ			
	comp=Z,1μm,14.6s						
KMI	**Kunming**	**37.07**	**260**	P	**P**	**12 19 14.3**	**+0.1**
KMI				pP	pP	12 19 22.5	+1.0
KMI				sP	sP	12 19 25.3	+0.8
KMI				PP	**PnPn**	**12 20 41.0**	**+1.8**
KMI				S	**S**	**12 24 55.5**	**-3.5**
KMI				sS	sS	12 25 08.5	-2.5
KMI				SS	**SnSn**	**12 27 26.3**	**-7.2**
KMI				PMZ			
	comp=Z,25nm,1.1s						
KMI				PMZ			
	comp=Z,200nm,5.7s						
KMI				LN			
	comp=Z,760nm,15.3s						
KMI				LE			
	comp=Z,780nm,14.3s						
KMI				LZ			
	comp=Z,720nm,14.6s						
MYLDM	**Lahad Datu**	**40.89**	**220**	*e*P	**P**	**12 19 47.8**	**+1.8**
	comp=Z,33nm,1.1s						
WMQ	**Urumqi**	**41.42**	**295**	P	**P**	**12 19 50.3**	**+0.1**
WMQ				pP	pP	12 19 57.8	+0.2
WMQ				sP	sP	12 20 01.0	+0.5
WMQ				PP	**PnPn**	**12 21 29.0**	**-1.7**

WMQ S **S** **12 26 02.3 -1.5**
WMQ sS sS 12 26 14.5 -1.4
WMQ PMZ
comp=Z,13nm,0.9s
WMQ PMZ
comp=Z,100nm,3.7s
WMQ LN
comp=Z,390nm,14.5s
WMQ LE
comp=Z,270nm,14.5s
WMQ LZ
comp=Z,280nm,13.1s
ZAA0 Zalesovo Array 41.72 311 *e*P **P** **12 19 51.8 -0.6**
ZAA0 *e*P **P** **12 19 52.4 0.0**
ZALV Zalesovo Beam 41.72 311 P **P** **12 19 52.8 +0.3**
comp=Z,12nm,0.8s,baz=88,slow=7.4,SNR=46
ZALV PcP **PcP** **12 21 48.1 -0.4**
comp=Z,2.0nm,0.7s,baz=45,slow=2.2,SNR=3.3
ZALV LR LR 12 37 53.4
comp=Z,413nm,19.6s,baz=68,slow=37
NRIK Noril'sk 41.96 334 P **P** **12 19 54.7 +0.5**
comp=Z,1.2nm,0.3s,baz=105,slow=10,SNR=6.6
NRIK LR LR 12 39 12.9
comp=Z,482nm,19.5s,baz=102,slow=39
NVS Novosibirsk 42.58 312 *i*P **P** **12 19 59.3 -0.1**
CHTO Chiang Mai 43.57 255 *e*P **P** **12 20 07.7 -0.1**
CHTO pmax pmax
comp=Z,15nm,0.9s
CHTO Chiang Mai 43.57 255 *e*P **P** **12 20 07.7 -0.1**
comp=Z,15nm,0.9s
LSA Lhasa 43.78 274 *e*P **P** **12 20 10.8 +0.8**
LSA pmax pmax
comp=Z,15nm,0.9s
LSA Lhasa 43.78 274 *e*P **P** **12 20 10.8 +0.8**
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 43.78 255 P **P** **12 20 09.5 -0.1**
comp=Z,4.4nm,0.8s,baz=44,slow=7.1,SNR=28
CMAR LR LR 12 38 05.7
comp=Z,88nm,19.8s,baz=75,slow=36
CM01 Chiang Mai Arr 43.80 255 *e*P **P** **12 20 08.3 -1.4**
SPU Mount Spurr 44.35 39 *e*P **P** **12 20 15.6 +1.9**
MK01 Makanchi Array 44.43 301 *e*P **P** **12 20 13.9 -0.6**
MK31 Makanchi Array 44.43 301 *i*P **P** **12 20 14.8 +0.3**
MK31 pmax pmax
comp=Z,21nm,0.9s
MK31 Makanchi Array 44.43 301 *e*P **P** **12 20 14.8 +0.3**
MKAR Makanchi Array 44.43 301 P **P** **12 20 14.6 +0.1**
comp=Z,13nm,0.9s,baz=82,slow=9.9,SNR=50
MKAR LR LR 12 39 28.0
comp=Z,254nm,19.5s,baz=70,slow=37
MKAR Makanchi Array 44.43 301 *e*P **P** **12 20 14.8 +0.3**
MKAR Makanchi Array 44.43 301 *e*P **P** **12 20 14.8 +0.3**
MAKZ Makanchi 44.64 301 *e*P **P** **12 20 16.3 +0.1**
MAKZ pmax pmax
comp=Z,23nm,1.0s
MAKZ Makanchi 44.64 301 *e*P **P** **12 20 16.3 +0.1**
comp=Z,22nm,1.0s
KTH Kantishna Hill 44.87 35 *e*P **P** **12 20 20.3 +2.5**
comp=Z,18nm,1.2s
MLY Manley 44.98 33 *e*P **P** **12 20 19.8 +1.1**
comp=Z,21nm,1.5s
TRF Thorofare Moun 45.16 35 *e*P **P** **12 20 22.9 +2.7**
comp=Z,14nm,1.4s
SHL Shillong 45.21 268 *ex* **P** **12 20 25.0 +3.9**
BWN Browne 45.52 34 *e*P **P** **12 20 26.9 +4.1**
comp=Z,62nm,1.2s
PMR Palmer 45.74 38 *e*P **P** **12 20 25.4 +0.8**
PMR pmax pmax
comp=Z,11nm,1.1s
PMR Palmer 45.74 38 *e*P **P** **12 20 25.4 +0.8**
comp=Z,11nm,1.1s
MCK McKinley 45.76 35 *e*P **P** **12 20 26.5 +1.7**
MCK pmax pmax
comp=Z,26nm,1.6s
MCK McKinley 45.76 35 *e*P **P** **12 20 26.5 +1.7**
comp=Z,26nm,1.6s
RND Reindeer 45.80 35 *e*P **P** **12 20 26.5 +1.3**
RND pmax pmax
comp=Z,24nm,1.4s
RND Reindeer 45.80 35 *e*P **P** **12 20 26.5 +1.3**
comp=Z,24nm,1.4s
KURK Kurchatov 45.94 307 *c*P **P** **12 20 26.0 -0.3**
KURK pmax pmax
comp=Z,128nm,1.0s
KURK Kurchatov 45.94 307 *e*P **P** **12 20 26.1 -0.3**
comp=Z,143nm,1.0s
KURBB Kurchatov Arra 46.02 307 P **P** **12 20 26.8 -0.1**
comp=Z,23nm,0.9s,baz=82,slow=8.2,SNR=113
MDM Murphy Dome 46.05 33 *e*P **P** **12 20 28.0 +1.0**
comp=Z,25nm,1.3s
SML Sawmill 46.11 38 *e*P **P** **12 20 29.1 +1.5**
SML pmax pmax
comp=Z,14nm,1.0s
SML Sawmill 46.11 38 *e*P **P** **12 20 29.1 +1.5**
comp=Z,14nm,1.0s
WRH Wood River Hil 46.11 34 *e*P **P** **12 20 28.9 +1.4**
comp=Z,8.9nm,1.2s
COLA College 46.21 33 *e*P **P** **12 20 30.6 +2.4**
COLA pmax pmax
comp=Z,25nm,1.5s
COLA College 46.21 33 *e*P **P** **12 20 30.6 +2.4**
comp=Z,26nm,1.5s
CCB Clear Creek Bu 46.23 34 *e*P **P** **12 20 30.4 +2.0**
comp=Z,14nm,1.4s
SBUM Sibu 46.52 226 *e*P **P** **12 20 31.9 +0.6**
comp=Z,8.8nm,1.0s
SCM Sheep Creek Mo 46.59 38 *e*P **P** **12 20 32.8 +1.4**
SCM pmax pmax
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 46.59 38 *e*P **P** **12 20 32.8 +1.4**
comp=Z,9.5nm,0.8s
ILAR Eielson Array 46.62 34 P **P** **12 20 31.4 -0.1**
comp=Z,3.3nm,0.8s,baz=261,slow=6.2,SNR=34
ILB Eielson Array 46.62 34 *e*P **P** **12 20 31.4 -0.1**
IL1 Eielson Array 46.62 34 *e*P **P** **12 20 29.8 -1.7**
KLU Klutina 47.28 38 *e*P **P** **12 20 38.2 +1.4**
comp=Z,8.0nm,0.5s
PDGK Podgornoye 47.29 297 *i*P **P** **12 20 36.5 -0.5**
PDGK pmax pmax
comp=Z,13nm,1.1s
DIV Divide 47.40 38 *e*P **P** **12 20 39.5 +1.8**
comp=Z,27nm,1.4s
DOT Dot Lake 47.93 35 *e*P **P** **12 20 42.5 +0.8**
comp=Z,38nm,1.6s
MENT Mentasta 48.16 36 *e*P **P** **12 20 45.7 +2.2**
comp=Z,9.1nm,1.0s
KSM Kuching 48.40 227 *e*P **P** **12 20 45.6 -0.3**
comp=Z,19nm,1.2s
GUN Gumba 48.70 275 *e*P **P** **12 20 48.3 -0.3**
comp=Z,115nm,0.9s
CRQM Cirque 48.72 39 *e*P **P** **12 20 50.5 +2.4**
comp=Z,40nm,1.5s
EGAK Eagle 49.07 33 *e*P **P** **12 20 51.3 +0.8**
comp=Z,11nm,1.3s
KKN Kakani 49.22 275 *e*P **P** **12 20 52.7 +0.3**
comp=Z,88nm,0.9s
PKIN Phulchoki 49.23 275 *e*P **P** **12 20 52.4 -0.2**
comp=Z,70nm,1.4s
KAPI Kappang 49.33 212 P **P** **12 20 51.6 -1.4**
comp=Z,8.9nm,0.9s,baz=72,slow=14,SNR=2.3
DMN Daman 49.44 275 *e*P **P** **12 20 54.3 +0.1**
comp=Z,71nm,1.2s
GKN Gorkha 49.61 276 *e*P **P** **12 20 55.4 +0.1**
comp=Z,153nm,1.3s
VOSK Vostochnaya 50.09 311 *e*P **P** **12 20 58.5 0.0**
VOSK pmax pmax
comp=Z,27nm,1.1s
VOSK Vostochnaya 50.09 311 *e*P **P** **12 20 58.5 0.0**
comp=Z,27nm,1.1s
TKM2 Tokmak 2 50.12 297 *e*P **P** **12 20 59.7 +0.7**
TKM2 pmax pmax
comp=Z,25nm,0.9s
TKM2 Tokmak 2 50.12 297 *e*P **P** **12 20 59.7 +0.7**
comp=Z,25nm,0.9s
BVAR Borovoye Array 50.36 311 P **P** **12 21 00.7 +0.2**
comp=Z,6.6nm,0.8s,baz=76,slow=8.2,SNR=41
BRVK Borovoye 50.41 311 *ce*P **P** **12 21 00.9 0.0**
BRVK pmax pmax
comp=Z,35nm,1.0s
BRVK Borovoye 50.41 311 *e*P **P** **12 20 59.6 -1.2**
comp=Z,29nm,0.9s
KOLN Koldanda 50.53 276 *e*P **P** **12 21 02.5 +0.2**
comp=Z,69nm,1.1s
FRU Bishkek 50.82 298 *e*P **P** **12 21 05.0 +0.8**
FRU *e* 12 21 13.0
FRU *e* 12 23 05.0
FRU pmax pmax
comp=Z,40nm,1.4s
PYUN Piuthan 50.84 277 *e*P **P** **12 21 05.0 +0.3**
comp=Z,189nm,1.2s
AAK Ala-Archa 50.98 297 P **P** **12 21 06.1 +0.7**
comp=Z,2.3nm,0.3s,baz=76,slow=6.2,SNR=8.0
AAK Ala-Archa 50.98 297 *ce*P **P** **12 21 05.3 -0.2**
AAK pmax pmax
comp=Z,13nm,1.2s
KSH Kashi 51.10 293 P P 12 21 11.3 +4.9
KSH pP sP 12 21 18.5 +1.6
KSH PcP **PcP** **12 22 27.3 +5.4**
KSH PP **PP** **12 23 09.8 +6.8**
KSH S **S** **12 28 27.8 +5.0**
KSH ScS **ScS** **12 30 56.3 +0.7**
KSH SS **SS** **12 32 00.0 +2.2**
KSH PMZ
comp=Z,14nm,1.1s
KSH PMZ
comp=Z,180nm,3.0s
KSH LN
comp=Z,270nm,7.0s
KSH LE
comp=Z,320nm,10.7s
KSH LZ
comp=Z,650nm,13.5s
ZRNK Zerenda 51.19 312 *i*P **P** **12 21 06.6 -0.1**
ZRNK pmax pmax
comp=Z,24nm,1.1s
ZRNK Zerenda 51.19 312 *e*P **P** **12 21 07.1 +0.4**
comp=Z,30nm,0.9s
HYT Haines Junctio 51.42 38 *e*P **P** **12 21 10.8 +2.3**
comp=Z,38nm,1.3s
EKS2 Erkin-Say 51.46 298 *e*P **P** **12 21 09.6 +0.5**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s
EKS2 Erkin-Say 51.46 298 *e*P **P** **12 21 09.6 +0.5**
comp=Z,8.7nm,0.8s
INK Inuvik 51.55 28 P **P** **12 21 09.7 +0.5**
comp=Z,2.6nm,0.5s,baz=299,slow=8.2,SNR=12
INK Inuvik 51.55 28 *e*P **P** **12 21 09.7 +0.5**
comp=Z,6.3nm,0.9s
IPM Ipoh 51.83 239 *e*P **P** **12 21 11.8 -0.1**
comp=Z,17nm,0.9s
MNAS Manas 52.40 298 *i*P **P** **12 21 16.1 0.0**
MNAS pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 53.52 299 *e*P **P** **12 21 24.3 +0.1**
KKAR Karatay Array 53.52 299 *e*P **P** **12 21 24.2 +0.1**
PSI Prapat 54.47 240 *e*P **P** **12 21 31.4 -0.1**
PSI pmax pmax
comp=Z,12nm,0.8s
PSI Prapat 54.47 240 *e*P **P** **12 21 31.4 -0.1**
comp=Z,12nm,0.8s
SVE Sverdlovsk 54.61 318 *e*P **P** **12 21 32.4 +0.5**
SVE pmax pmax
comp=Z,39nm,0.9s
SVE MLR MLR
comp=Z,1μm,15.0s
AB31 Akbulak array 57.82 310 *i*P **P** **12 21 54.7 -0.2**
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 57.82 310 *e*P **P** **12 21 54.8 -0.1**
KBL Kabul 58.25 291 *e*P **P** **12 21 58.3 -0.1**
KBL pmax pmax
comp=Z,28nm,1.1s
KBL Kabul 58.25 291 *e*P **P** **12 21 58.3 -0.1**
comp=Z,28nm,1.1s
AKTO Aktyubinsk 58.47 312 P **P** **12 21 59.7 +0.3**
comp=Z,5.2nm,0.8s,baz=72,slow=12,SNR=13
AKTO LR LR 12 48 17.7
comp=Z,155nm,20.2s,slow=37
SPITS Spitsbergen Ar 58.62 349 LR LR 12 51 40.9
comp=Z,241nm,18.2s,baz=55,slow=40
WRAB Tennant Creek 59.58 190 *e*P **P** **12 22 07.3 -0.1**
WRAB pmax pmax
comp=Z,24nm,1.1s
WB2 Warramunga Arr 59.59 190 *e*P **P** **12 22 05.7 -1.8**
comp=Z,7.8nm,0.9s
WRA Warramunga Arr 59.59 190 P **P** **12 22 05.1 -2.3**
comp=Z,3.7nm,0.8s,baz=11,slow=7.3,SNR=23
WRA PcP **PcP** **12 22 54.7 +0.2**
comp=Z,1.2nm,0.7s,baz=5.7,slow=4.9,SNR=7.6
YKA Yellowknife Ar 60.95 31 P **P** **12 22 16.0 -0.2**
comp=Z,1.6nm,0.7s,baz=297,slow=6.8,SNR=9.0
ARCES ARCESS Array B 62.47 340 P **P** **12 22 27.0 +0.5**
comp=Z,3.2nm,0.9s,baz=41,slow=15,SNR=5.1
ARCES LR LR 12 52 21.9
comp=Z,255nm,20.2s,baz=37,slow=39
KLMR Klimovskoe 62.76 328 *e*P **P** **12 22 26.1 -2.4**
KLMR *e* 12 24 42.8
KLMR pmax pmax
comp=Z,27nm,1.6s
AS01 Alice Springs 63.31 190 *e*P **P** **12 22 30.8 -1.7**
ASAR Alice Springs 63.32 190 P **P** **12 22 30.9 -1.6**
comp=Z,2.2nm,0.9s,baz=12,slow=6.3,SNR=15
ASAR LR LR 12 48 41.6
comp=Z,67nm,21.9s,baz=5.0,slow=35
ASAR Alice Springs 63.32 190 P **P** **12 22 31.0 -1.6**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 63.64 356 *i*P **P** **12 22 33.8 -0.3**
DAG pmax pmax
comp=Z,21nm,1.2s
DAG Danmarks Havn 63.64 356 *i*P **P** **12 22 33.8 -0.3**
comp=Z,14nm,1.2s
NLWA Neilton Lookou 63.88 49 *e*P **P** **12 22 38.6 +2.3**
comp=Z,13nm,1.3s
GEYT Alibeck 64.27 299 P **P** **12 22 39.4 +0.4**
comp=Z,4.6nm,0.7s,baz=35,slow=5.4,SNR=8.6
DZM Mont Dzumac 64.69 157 *e*LR LR 12 42 05.3
comp=Z,171nm,22.2s
DZM Mont Dzumac 64.69 157 LR LR 12 46 55.2
comp=Z,104nm,20.5s,baz=46,slow=32
MOS Moscow 66.46 324 *e*P **P** **12 22 52.5 -0.2**
MOS *e* 12 23 01.5
VRH Novokhopyorsk 67.06 318 *e*P **P** **12 22 56.2 -0.4**
VRH pmax pmax
comp=Z,20nm,0.9s
AFI Afiamalu 67.31 132 LR LR 12 47 54.7
comp=Z,107nm,21.9s,baz=314,slow=32
OBN Obninsk 67.31 323 *e*P **P** **12 22 58.2 +0.1**
OBN *e* 12 25 25.2
OBN *e*PPP PPP 12 27 00.6
OBN pmax pmax
comp=Z,42nm,2.5s
OBN MLR MLR
comp=Z,517nm,15.0s
FIA1 FINESS Array S 67.60 333 *e*P **P** **12 22 59.7 -0.2**
FIA1 *e*P **P** **12 23 00.1 +0.3**
FINES FINESS Array B 67.60 333 P **P** **12 23 00.0 +0.1**
comp=Z,7.2nm,0.8s,baz=59,slow=7.4,SNR=24
FINES LR LR 12 55 41.6
comp=Z,580nm,18.2s,baz=22,slow=39
K05A Summer Lake 68.15 52 *e*P **P** **12 23 05.7 +1.7**
comp=Z,14nm,1.3s
JMIC Jan Mayen 68.19 351 LR LR 12 53 54.8
comp=Z,72nm,19.4s,baz=62,slow=37
VSR Storozhevoye 68.36 319 *e*P **P** **12 23 04.8 -0.1**
VSR pmax pmax
comp=Z,10.0nm,1.1s
SUMG Summit 68.39 1 *i*P **P** **12 23 05.8 +0.6**
SUMG pmax pmax
comp=Z,21nm,1.3s
SUMG Summit 68.39 1 *i*P **P** **12 23 05.8 +0.6**
comp=Z,21nm,1.3s
SUMG Summit 68.39 1 *e*P **P** **12 23 06.1 +0.9**
comp=Z,20nm,1.3s
BMO Blue Mountains 69.09 49 *e*P **P** **12 23 11.2 +1.5**
BMO pmax pmax
comp=Z,21nm,2.0s
BMO Blue Mountains 69.09 49 *e*P **P** **12 23 11.2 +1.5**
comp=Z,21nm,2.0s
VSU Vasula 69.37 330 *e*P **P** **12 23 11.0 0.0**
VSU pmax pmax
comp=Z,31nm,1.0s
SWMT Swartz Lake 69.43 45 *e*P **P** **12 23 13.6 +1.9**
MSO Missoula 69.86 46 *e*P **P** **12 23 15.9 +1.5**
comp=Z,12nm,1.4s
NCK Nalchik 70.47 311 *e*P **P** **12 23 18.8 +0.7**
NCK pmax pmax
comp=Z,19nm,1.3s
ZEI Tsey 70.70 310 *e*P **P** **12 23 17.3 -2.4**
ZEI pmax pmax
comp=Z,34nm,0.5s
KIV Kislovodsk 70.73 311 *e*P **P** **12 23 20.3 +0.6**
KIV pmax pmax
comp=Z,62nm,1.0s
KBZ Khabaz 70.74 311 P **P** **12 23 20.5 +0.9**
comp=Z,17nm,0.9s,baz=22,slow=1.6,SNR=19
MFID Camas Ranch 70.80 49 *e*P **P** **12 23 21.2 +1.0**
comp=Z,32nm,2.0s
STKA Stephens Creek 70.86 182 P **P** **12 23 19.2 -1.1**
comp=Z,1.0nm,0.5s,baz=327,slow=17,SNR=2.9
STKA LR LR 12 53 25.0
comp=Z,46nm,20.9s,baz=22,slow=35
NEY Neytrino 71.12 311 *e*P **P** **12 23 23.4 +1.1**
NEY pmax pmax
comp=Z,2.0nm,0.8s
LRM Limekiln Ridge 71.29 46 *e*P **P** **12 23 24.6 +1.2**
DLMT Dillon 71.49 46 *e*P **P** **12 23 26.2 +1.8**
comp=Z,8.7nm,1.2s
GNI Garni 71.74 307 *de*P **P** **12 23 27.6 +1.6**
GNI pmax pmax
comp=Z,56nm,1.2s
BOZ Bozeman (W) 71.85 46 *e*P **P** **12 23 28.1 +1.5**
BOZ pmax pmax
comp=Z,9.0nm,1.3s
BOZ Bozeman (W) 71.85 46 *e*P **P** **12 23 28.1 +1.5**
comp=Z,8.9nm,1.3s
WSAR Wadi Sarin 71.96 285 P **P** **12 23 28.2 +0.8**
comp=Z,6.9nm,1.0s,baz=66,slow=10.0,SNR=2.2
NC405 NORSAR Array S 72.54 338 *e*P **P** **12 23 30.7 +0.4**
NC204 NORSAR Array S 72.69 338 *e*P **P** **12 23 31.4 +0.3**
NB201 NORSAR Array S 72.71 338 *e*P **P** **12 23 31.6 +0.3**
HFS Hagfors 72.72 336 P **P** **12 23 31.2 0.0**
comp=Z,6.4nm,0.9s,baz=50,slow=4.6,SNR=13
NB2 NORSAR Subarra 72.75 338 P **P** **12 23 31.3 -0.2**
comp=Z,13nm,1.0s,baz=39,slow=6.2
NOA NORSAR Array B 72.75 338 P **P** **12 23 31.7 +0.2**
comp=Z,6.7nm,0.8s,baz=38,slow=6.0,SNR=19
NOA LR LR 13 01 21.3
comp=Z,286nm,18.1s,baz=45,slow=41
NBO02 NORSAR Array S 72.84 338 *e*P **P** **12 23 31.9 -0.1**
NBO00 NORSAR Array S 72.88 338 *e*P **P** **12 23 33.0 +0.8**
MOOW Moose Ponds 73.53 47 *e*P **P** **12 23 39.1 +2.4**
comp=Z,8.8nm,1.4s
AKASG Malin Array Be 73.55 323 P **P** **12 23 36.4 +0.1**
comp=Z,3.2nm,0.6s,baz=44,slow=6.0,SNR=19
AKASG LR LR 12 58 53.0
comp=Z,312nm,18.2s,baz=25,slow=38
KIEV Kiev 73.56 323 *ce*P **P** **12 23 35.8 -0.6**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 73.56 323 *e*P **P** **12 23 36.5 +0.1**
comp=Z,11nm,0.9s
TPAW Teton Pass 73.57 47 *e*P **P** **12 23 38.5 +1.5**
comp=Z,6.6nm,1.1s
R11A Troy Canyon, C 73.98 53 *e*P **P** **12 23 40.7 +1.3**
comp=Z,8.7nm,1.5s
HWUT Hardware Ranch 74.40 49 *e*P **P** **12 23 43.3 +1.6**
comp=Z,8.8nm,1.3s
PDAR Pinedale Array 74.82 47 P **P** **12 23 44.3 0.0**
comp=Z,1.0nm,0.7s,baz=241,slow=3.1,SNR=6.0
PDAR LR LR 12 58 31.2
comp=Z,45nm,18.0s,baz=344,slow=37
BORG Borgarnes 75.60 353 LR LR 12 56 44.4
comp=Z,51nm,21.5s,baz=235,slow=35
CCUT Cedar City 75.85 53 *e*P **P** **12 23 52.5 +2.2**
comp=Z,10nm,1.6s
P17A Butcher Ranch, 76.23 50 *e*P **P** **12 23 54.3 +2.0**
comp=Z,5.5nm,1.0s
LCMT Little Creek M 76.27 53 *e*P **P** **12 23 54.7 +2.2**
comp=Z,14nm,1.8s
MTPU Mount Pierson 76.27 52 *e*P **P** **12 23 54.8 +2.0**
comp=Z,8.3nm,1.5s
LVV L'vov 76.55 325 *e*P **P** **12 23 53.3 -0.4**
LVV MLR MLR
comp=N,300nm,14.0s
LVV MLR MLR
comp=E,500nm,14.0s
LVV MLR MLR
comp=Z,400nm,14.0s
SRU San Rafael Swe 76.59 50 *e*P **P** **12 23 55.7 +1.3**
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU San Rafael Swe 76.59 50 *e*P **P** **12 23 55.7 +1.3**
comp=Z,3.8nm,0.8s
U15A North Rim 77.23 53 *e*P **P** **12 23 59.9 +1.8**
comp=Z,11nm,1.4s
KWP Kalwaria Pacla 77.28 325 *e*P **P** **12 23 59.0 +1.2**
KWP Kalwaria Pacla 77.28 325 *e*P **P** **12 23 59.0 +1.2**
BUR08 Bucovina Ar. S 77.58 322 *e*P **P** **12 24 00.4 +0.7**
PV10 Paradox Valley 77.95 50 *e*P **P** **12 24 03.9 +1.7**
KOLS Kolonicke sedl 77.98 325 *e*P **P** **12 24 02.5 +0.7**
KOLS *e* 12 24 11.7
KOLS pmax pmax
comp=Z,10.0nm,1.2s
KOLS Kolonicke sedl 77.98 325 *e*P **P** **12 24 02.5 +0.7**
KOLS *e* 12 24 11.7
STHS Stebnicka Huta 78.08 326 *e*P **P** **12 24 03.9 +1.6**
STHS *e* 12 24 13.1
STHS pmax pmax
comp=Z,6.0nm,1.0s
STHS Stebnicka Huta 78.08 326 *e*P **P** **12 24 03.9 +1.6**
STHS *e* 12 24 13.1
OJC Ojcow 78.10 327 *e*P **P** **12 24 02.9 +0.5**
OJC Ojcow 78.10 327 *e*P **P** **12 24 02.7 +0.3**
OJC pmax pmax
comp=Z,29nm,1.1s
OJC Ojcow 78.10 327 *e*P **P** **12 24 02.7 +0.3**
comp=Z,29nm,1.1s
UZH Uzhgorod 78.20 325 *e*P **P** **12 24 03.0 +0.1**
UZH *e* 12 24 12.6
CRVS Cervenica-Dubn 78.37 325 *e*P **P** **12 24 02.9 -1.0**
CRVS Cervenica-Dubn 78.37 325 *e*P **P** **12 24 02.9 -1.0**
NIE Niedzica 78.49 326 *e*P **P** **12 24 05.9 +1.3**
NIE Niedzica 78.49 326 *e*P **P** **12 24 05.9 +1.3**
BRTR Keskin Array B 78.63 312 P **P** **12 24 06.4 +0.7**
comp=Z,2.2nm,0.9s,baz=90,slow=1.2,SNR=6.3
BR231 Keskin MP Arra 79.05 313 *e*P **P** **12 24 06.7 -1.2**
LANS Liptovska Anna 79.05 326 *e*P **P** **12 24 09.7 +2.0**
LANS Liptovska Anna 79.05 326 *e*P **P** **12 24 09.7 +2.0**
KSP Ksiaz 79.06 329 *e*P **P** **12 24 08.4 +0.7**
KSP Ksiaz 79.06 329 *e*P **P** **12 24 08.4 +0.7**
OKC Ostrava-Krasne 79.09 328 AMS AMS 13 05 30.0
comp=Z,500nm,15.8s
KECS Kecovo 79.11 325 *e*P **P** **12 24 08.6 +0.6**
KECS pmax pmax
comp=Z,15nm,2.3s
KECS Kecovo 79.11 325 *e*P **P** **12 24 08.5 +0.6**
MORC Moravsky Berou 79.38 328 *e*P **P** **12 24 10.5 +1.0**
MORC pmax pmax
comp=Z,69nm,1.2s
MORC Moravsky Berou 79.38 328 *e*P **P** **12 24 10.5 +1.0**
comp=Z,69nm,1.2s
DPC Dobruska-Polom 79.44 329 *e*P **P** **12 24 11.2 +1.4**
DPC *e*pP **sP** **12 24 20.0 -0.5**
DPC AMS AMS 13 06 10.0
comp=Z,400nm,13.9s
DPC Dobruska-Polom 79.44 329 *e*P **P** **12 24 11.2 +1.4**
DPC *e* 12 24 20.0
DPC MLR MLR
comp=Z,400nm,13.9s
UPC Upice 79.44 329 AMS AMS 13 02 30.0
comp=Z,400nm,15.9s
PSZ Piszkesteto 79.80 325 *e*P **P** **12 24 12.3 +0.5**
PSZ Piszkesteto 79.80 325 *e*P **P** **12 24 12.5 +0.7**
PSZ pmax pmax
comp=Z,21nm,1.1s
PSZ Piszkesteto 79.80 325 *e*P **P** **12 24 12.5 +0.7**
comp=Z,21nm,1.1s
VYHS Vyhne 79.82 326 *e*P **P** **12 24 12.5 +0.6**
VYHS *e* 12 24 21.3
VYHS pmax pmax
comp=Z,17nm,1.9s
VYHS Vyhne 79.82 326 *e*P **P** **12 24 12.5 +0.6**
VYHS *e* 12 24 21.3
BRG Berggiesshubel 79.96 330 *e*P **P** **12 24 12.6 +0.1**
comp=Z,6.2nm,1.1s
BRG Berggiesshubel 79.96 330 *e*P **P** **12 24 12.6 +0.1**
BRG pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 79.97 331 *i*P **P** **12 24 12.4 -0.2**
comp=Z,10.0nm,1.0s
CLL *i* 12 24 21.5
comp=Z,14nm,1.2s
CLL *e*PP **PP** **12 27 12.0 -1.7**
CLL LmH 12 58 00.0
comp=N,300nm,20.2s
CLL LmH 12 58 00.0
comp=E,500nm,20.0s

CLL				LmV			13 04 00.0	
	comp=Z,400nm,19.9s							
CLL	**Collm**	**79.97**	**331**	⇑*iP*		**P**	**12 24 12.4**	**-0.2**
CLL				*i*			12 24 21.5	
CLL				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CLL				MLR		MLR		
	comp=Z,400nm,19.9s							
CLL	**Collm**	**79.97**	**331**	*eP*		**P**	**12 24 12.6**	**0.0**
	comp=Z,14nm,1.2s							
PVCC	**Panska Ves**	**79.99**	**330**	AMS		AMS	13 04 00.0	
	comp=Z,400nm,16.1s							
VRAC	**Vranov**	**80.14**	**328**	P		**P**	**12 24 14.6**	**+1.0**
	comp=Z,9.5nm,0.8s,baz=41,slow=5.9,SNR=13							
GOPC	**GO Pecny, Ondr**	**80.39**	**329**	*eP*		**P**	**12 24 16.1**	**+1.2**
GOPC				*epP*		**sP**	**12 24 24.7**	**-0.9**
GOPC				AMS		AMS	13 03 20.0	
	comp=Z,400nm,18.4s							
GOPC	**GO Pecny, Ondr**	**80.39**	**329**	*eP*		**P**	**12 24 16.1**	**+1.2**
GOPC				*e*			12 24 24.7	
GOPC				MLR		MLR		
	comp=Z,400nm,18.4s							
PRU	**Pruhonice**	**80.43**	**329**	*eP*		**P**	**12 24 16.2**	**+1.1**
PRU				AMS		AMS	13 03 20.0	
	comp=Z,300nm,16.9s							
PRU	**Pruhonice**	**80.43**	**329**	*eP*		**P**	**12 24 16.2**	**+1.1**
PRU				MLR		MLR		
	comp=Z,300nm,16.9s							
TREC	**Trest**	**80.60**	**329**	AMS		AMS	13 03 50.0	
	comp=Z,400nm,15.5s							
ECSD	**EROS Data Cent**	**81.04**	**40**	*eP*		**P**	**12 24 19.1**	**+0.6**
	comp=Z,6.5nm,1.1s							
NKC	**Novy Kostel**	**81.04**	**331**	AMS		AMS	13 05 30.0	
	comp=Z,400nm,15.5s							
KHC	**Kasperske Hory**	**81.49**	**329**	*eP*		**P**	**12 24 21.2**	**+0.4**
KHC				*epP*		**sP**	**12 24 30.0**	**-1.5**
KHC				AMS		AMS	13 07 40.0	
	comp=Z,300nm,14.1s							
KHC	**Kasperske Hory**	**81.49**	**329**	*eP*		**P**	**12 24 21.2**	**+0.4**
KHC				*e*			12 24 30.0	
KHC				MLR		MLR		
	comp=Z,300nm,14.1s							
KHC	**Kasperske Hory**	**81.49**	**329**	*eP*		**P**	**12 24 20.9**	**0.0**
	comp=Z,3.8nm,1.0s							
CONA	**Conrad Observa**	**81.52**	**327**	*iP*		**P**	**12 24 21.9**	**+0.8**
	comp=Z,8.1nm,0.9s,SNR=6.3							
ASF	**Jabal al Asfar**	**81.67**	**305**	P		**P**	**12 24 23.1**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=82,slow=6.2,SNR=3.5							
GERES	**GERESS Array B**	**81.67**	**329**	P		**P**	**12 24 22.3**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=41,slow=4.3,SNR=10							
GERES				LR		LR	13 03 57.6	
	comp=Z,204nm,18.2s,baz=16,slow=38							
GEA0	**GERESS Array S**	**81.68**	**329**	*eP*		**P**	**12 24 21.9**	**0.0**
ANMO	**Albuquerque**	**81.78**	**51**	⇓*eP*		**P**	**12 24 24.5**	**+1.7**
ANMO				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ANMO	**Albuquerque**	**81.78**	**51**	*eP*		**P**	**12 24 24.8**	**+2.0**
	comp=Z,6.6nm,1.6s							
MMAI	**Mount Meron Ar**	**82.05**	**306**	P		**P**	**12 24 24.6**	**+0.5**
	comp=Z,7.5nm,0.9s,baz=64,slow=3.8,SNR=4.4							
ARSA	**Arzberg**	**82.19**	**327**	*iP*		**P**	**12 24 24.9**	**+0.4**
	comp=Z,4.4nm,0.8s							
MOA	**Molln**	**82.24**	**328**	*iP*		**P**	**12 24 25.0**	**+0.2**
	comp=Z,7.9nm,1.2s							
SCHQ	**Schefferville**	**82.65**	**17**	LR		LR	13 04 03.2	
	comp=Z,77nm,19.5s,baz=338,slow=38							
SOKA	**Soboth**	**82.85**	**327**	*iP*		**P**	**12 24 28.3**	**+0.2**
	comp=Z,17nm,0.9s,SNR=14							
OBKA	**Obir**	**83.19**	**327**	*iP*		**P**	**12 24 29.0**	**-0.8**
	comp=Z,7.1nm,0.8s							
PDKS	**Podkum**	**83.36**	**327**	*eP*		**P**	**12 24 28.9**	**-1.7**
MYKA	**Terra Mystica**	**83.47**	**328**	*iP*		**P**	**12 24 30.8**	**-0.5**
	comp=Z,7.0nm,1.0s							
WTTA	**Wattenberg**	**83.77**	**329**	*eP*		**P**	**12 24 33.0**	**+0.1**
	comp=Z,4.3nm,0.9s							
MOTA	**Moosalm**	**83.91**	**330**	*iP*		**P**	**12 24 33.6**	**0.0**
	comp=Z,16nm,1.1s							
RETA	**Reutte**	**83.93**	**330**	*iP*		**P**	**12 24 33.9**	**+0.3**
	comp=Z,20nm,1.2s,SNR=6.9							
PPT	**Papeete**	**84.12**	**118**	LR		LR	13 03 18.3	
	comp=Z,110nm,18.1s,baz=323,slow=37							
PPT2	**Papeete2**	**84.14**	**118**	*eLR*		LR	12 50 49.3	
	comp=Z,249nm,23.0s,baz=307							
BFO	**Black Forest**	**84.14**	**332**	*iP*		**P**	**12 24 34.9**	**+0.3**
BFO	**Black Forest**	**84.14**	**332**	*eP*		**P**	**12 24 35.0**	**+0.3**
	comp=Z,18nm,1.3s							
FETA	**Feichten**	**84.32**	**330**	*iP*		**P**	**12 24 35.5**	**-0.2**
	comp=Z,10nm,1.0s							
DAVA	**Damuels**	**84.43**	**330**	*iP*		**P**	**12 24 36.4**	**+0.1**
	comp=Z,17nm,1.0s							
EIL	**Elat**	**84.58**	**304**	P		**P**	**12 24 37.4**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=48,slow=7.2,SNR=5.1							
FUORN	**Ofenpass-Fuorn**	**84.83**	**330**	*eP*		**P**	**12 24 38.8**	**+0.3**
	comp=Z,21nm,1.0s							
DAVOX	**Davos/Dischmat**	**84.85**	**330**	P		**P**	**12 24 39.4**	**+1.0**
	comp=Z,5.1nm,0.7s,baz=94,slow=1.3,SNR=7.4							
TAOE	**Nuku Hiva Isla**	**85.05**	**106**	*eLR*		LR	12 51 24.1	
	comp=Z,217nm,29.3s							
SENIN	**Lac Senin/Sane**	**86.18**	**331**	*eP*		**P**	**12 24 45.3**	**+0.2**
	comp=Z,6.0nm,1.0s							
TX31	**Lajitas Ar. Si**	**87.34**	**54**	*eP*		**P**	**12 24 52.3**	**+1.4**
TXAR	**Lajitas Array**	**87.34**	**54**	P		**P**	**12 24 50.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=305,slow=4.0,SNR=5.7							
TBI	**Tubuai**	**88.22**	**122**	*eLR*		LR	12 52 44.5	
	comp=Z,132nm,24.2s							
ESDC	**Sonseca Array**	**95.98**	**335**	LR		LR	13 14 45.4	
	comp=Z,144nm,18.8s,baz=345,slow=39							
RKT	**Rikitea**	**98.01**	**113**	*eLR*		LR	12 57 24.3	
	comp=Z,189nm,23.5s							
TORD	**Torodi Ar. Bea**	**116.90**	**318**	PKP		**PKPdf**	**12 30 47.3**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=90,slow=2.9,SNR=2.7							
SNAA	**Sanae**	**143.45**	**197**	PKP		PKPab	12 31 33.1	-0.1
VNA1	**Neumayer--Stat**	**145.40**	**196**	PKP		**PKPbc**	**12 31 39.7**	**-0.5**

IDC 27 12:15:24.4±8.3, 18°55S×168°52E, h219km±54km, mb3.5/3, mb1 3.5/4, mb1mx3.1/39, mbtmp3.9/4, Error ellipse: s-maj=128.5km s-min=76.2km az=108.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.00**	**209**	P		Pn	12 16 27.1	+0.1
	0.5nm,0.3s,baz=62,slow=17,SNR=7.0							
DZM				S		S	12 17 16.7	+0.6
	0.3nm,0.3s,baz=117,slow=16,SNR=2.0							
STKA	**Stephens Creek**	**27.65**	**236**	P		P	12 20 51.7	-0.2
	0.7nm,0.6s,baz=49,slow=9.3,SNR=4.3							
WRA	**Warramunga Arr**	**32.27**	**262**	P		P	12 21 32.7	-0.1
	1.1nm,0.9s,baz=82,slow=6.7,SNR=31							
ASAR	**Alice Springs**	**32.64**	**255**	P		P	12 21 36.1	+0.1
	4.0nm,0.4s,baz=81,slow=8.8,SNR=193							

IDC 27 12:17:46.0±459.0, 46°77N×45°84E, h0km, Error ellipse: s-maj=188.8km s-min=143.5km az=1.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**8.86**	**61**	*i*		13 16 47.0	
	baz=249,slow=309,SNR=1.6						
I43RU	**DUBNA INFRASON**	**11.30**	**335**	*i*		13 33 50.0	
	baz=143,slow=309,SNR=0.4						
I26DE	**FREYUNG INFRAS**	**21.59**	**287**	*i*		14 26 40.0	
	baz=82,slow=303,SNR=1.1						
I48TN	**KESRA INFRASON**	**29.30**	**261**	*i*		15 23 21.5	
	baz=54,slow=311,SNR=0.6						

*IDC **27** 12:21:28.8±1.2, 35°97N×141°50E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.5/42, mbtmp3.5/9, ML3.0/3, Error ellipse: s-maj=27.7km s-min=19.5km az=69.0*
*ISCJB **27** 12:21:30.9±0.8, 35°88N±0°05×141°42E±0°07, h26km, mb3.6/5, Error ellipse: s-maj=8.3km s-min=6.9km az=155.4*
*JMA **27** 12:21:35.0±0.1, 35°83N×141°03E, h35km±1km, M2.7*

ISC 27 12:21:32.8±1.1, 35°88N±0°05×141°30E±0°08, h26km, n17, σ1ᵍ44/22, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.40**	**244**	P	**Pb**	**12 21 41.6**	**+0.2**
CHOJ				S	**Sb**	**12 21 46.4**	**-0.8**
JHO	**Hitachi**	**0.94**	**321**	P	**Pb**	**12 21 50.7**	**+0.3**
JYT	**Yasato**	**0.96**	**291**	P	**Pn**	**12 21 49.5**	**-1.1**
JYT				*eS*	**Sb**	**12 22 00.4**	**-2.7**
JCN	**Nagara**	**1.01**	**243**	P	**Pn**	**12 21 51.1**	**-0.1**
BSO4	**Boso 4**	**1.19**	**222**	P	**Pn**	**12 21 53.9**	**+0.3**
BSO1	**Boso 1**	**1.25**	**192**	P	**Pb**	**12 21 55.1**	**-0.3**
BSO3	**Boso 3**	**1.26**	**211**	P	**Pn**	**12 21 53.8**	**-0.6**
MJAR	**Matsushiro Arr**	**2.59**	**286**	Pn	**Pn**	**12 22 13.4**	**+0.4**
	2.7nm,0.3s,baz=97,slow=11,SNR=19						
MJAR				Sn	**Sb**	**12 22 47.1**	**-2.7**
	1.2nm,0.3s,baz=109,slow=31,SNR=4.9						
MAT	**Matsushiro**	**2.59**	**286**	P	**Pn**	**12 22 13.3**	**+0.3**
MAT				*eS*	**Sn**	**12 22 45.8**	**+2.2**
JHJ	**Hachijo jima 2**	**3.03**	**205**	Pn	**Pn**	**12 22 19.4**	**+0.4**
	4.5nm,0.3s,baz=48,slow=14,SNR=7.3						
JHJ				Sn	**Sn**	**12 22 52.9**	**-1.5**
	34nm,0.3s,baz=290,slow=22,SNR=10						
KSRS	**Korea Array**	**10.86**	**282**	Pn	**Pn**	**12 24 09.5**	**+3.0**
	0.1nm,0.3s,baz=74,slow=13,SNR=3.5						
PETK	**Petropavlovsk-**	**20.73**	**29**	P	**P**	**12 26 09.3**	**-1.9**
	1.2nm,0.7s,baz=215,slow=17,SNR=3.0						
ZALV	**Zalesovo Beam**	**42.63**	**313**	P	**P**	**12 29 26.7**	**0.0**
	0.5nm,0.4s,baz=108,slow=5.6,SNR=3.1						
MKAR	**Makanchi Array**	**44.66**	**303**	P	**P**	**12 29 43.7**	**+0.5**
	0.7nm,0.6s,baz=91,slow=10,SNR=6.8						
KURBB	**Kurchatov Arra**	**46.65**	**309**	P	**P**	**12 29 59.0**	**+0.3**
	0.5nm,0.4s,baz=81,slow=7.9,SNR=4.8						
WRA	**Warramunga Arr**	**55.91**	**188**	P	**P**	**12 31 08.8**	**+0.4**
	0.4nm,0.6s,baz=5.6,slow=7.7,SNR=6.1						
ASAR	**Alice Springs**	**59.64**	**188**	P	**P**	**12 31 36.0**	**+1.4**
	0.2nm,0.7s,baz=8.9,slow=6.6,SNR=3.0						

JMA 27 12:29:27.3±0.1, 38°47N×142°23E, h43km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.69**	**269**	P	Pn	12 29 40.7	0.0
JIO				S	Sn	12 29 49.9	-0.4
OFUJ	**Ofunato**	**0.75**	**324**	P	Pn	12 29 41.7	+0.2
OFUJ				*eS*	Sn	12 29 51.8	0.0
JMK	**Ichinoseki**	**0.93**	**302**	P	Pn	12 29 44.1	+0.3
JOU	**Okura**	**1.23**	**266**	P	Pn	12 29 48.6	+0.5
JOM	**Ohasama**	**1.24**	**324**	P	Pn	12 29 48.8	+0.6
JOM				*eS*	Sn	12 30 04.4	+0.7
JMM	**Marumori**	**1.28**	**242**	P	Pn	12 29 48.4	-0.3
JYK	**Kaneyama**	**1.53**	**288**	P	Pn	12 29 52.9	+0.8
JFK	**Kawauchi**	**1.54**	**225**	P	Pn	12 29 51.9	-0.4
JRG	**Rokugo**	**1.55**	**307**	P	Pn	12 29 53.3	+0.9
JYS	**Shirataka**	**1.72**	**262**	P	Pn	12 29 55.9	+1.1

*ATH **27** 12:33:44.8, 41°27N×20°17E, h9km±5km, ML2.5/5, Error ellipse: s-maj=5.0km s-min=1.1km az=302.0*
*BEO **27** 12:33:44.9±0.7, 41°10N×20°03E, h0km, M1.9/2*
*CSEM **27** 12:33:45.5±0.2, 41°21N×20°06E, h2km, ML2.5, Error ellipse: s-maj=7.1km s-min=3.6km az=51.0*
*SKO **27** 12:33:45.5, 41°25N×20°13E, h6km*
*PDG **27** 12:33:46.9±0.2, 41°35N×20°04E, h2km, ML2.9/10, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

ISC 27 12:33:45.6±0.9, 41°25N±0°02×20°09E±0°02, h18km±2km, n56, σ1ᵍ03/103, 12C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.20**	**300**	*ePg*	**Pb**	**12 33 49.5**	**-0.8**
TIR	**Tirane**	**0.20**	**300**	P	**Pb**	**12 33 49.5**	**-0.8**
TIR				S	**Sg**	**12 33 54.4**	**+0.4**
TIR	**Tirane**	**0.20**	**300**	P	**Pb**	**12 33 49.5**	**-0.8**
TIR				S	**Sg**	**12 33 54.4**	**+0.4**
TIR				AML	AML	12 33 54.9	
	comp=N,4497μm,0.2s						
TIR				AML	AML	12 33 56.8	
	comp=E,4427μm,0.4s						
OHR	**Ohrid**	**0.55**	**104**	*i* Pg	**Pb**	**12 33 54.4**	**-2.3**
OHR				*i* Sg	**Sb**	**12 34 02.9**	**-1.3**
OHR	**Ohrid**	**0.55**	**104**	*i* Pg	**Pb**	**12 33 54.4**	**-2.3**
OHR				*i* Sg	**Sb**	**12 34 02.9**	**-1.3**
ULC	**Ulcinj**	**0.96**	**319**	⇓*i*Pg	**Pb**	**12 34 02.8**	**-0.9**
ULC				*eSg*	**Sg**	**12 34 16.5**	**-0.4**
ULC	**Ulcinj**	**0.96**	**319**	⇓*i*Pg	**Pb**	**12 34 02.8**	**-0.9**
ULC				*eSg*	**Sg**	**12 34 16.5**	**-0.4**
FNA	**Florina**	**1.07**	**115**	S	**Sb**	**12 34 19.6**	**+0.2**
FNA	**Florina**	**1.07**	**115**	P	**Pb**	**12 34 03.6**	**-2.2**
FNA				S	**Sb**	**12 34 19.6**	**+0.2**
FNA				AML	AML	12 34 23.4	
	comp=N,544μm,0.2s						
FNA				AML	AML	12 34 24.8	
	comp=E,767μm,0.3s						
NEST	**Nestorio**	**1.10**	**139**	P	**Pn**	**12 34 05.5**	**-0.7**
NEST				S	**Sb**	**12 34 20.3**	**0.0**
NEST	**Nestorio**	**1.10**	**139**	P	**Pn**	**12 34 05.5**	**-0.7**
NEST				S	**Sb**	**12 34 20.3**	**0.0**
NEST				AML	AML	12 34 22.3	
	comp=N,300μm,0.4s						
NEST				AML	AML	12 34 26.4	
	comp=E,291μm,0.5s						
DRME	**Dracevica, Mon**	**1.16**	**324**	⇓*i*Pg	**Pn**	**12 34 06.2**	**-0.8**
DRME				*eSg*	**Sg**	**12 34 23.3**	**0.0**
DRME	**Dracevica, Mon**	**1.16**	**324**	⇓*i*Pg	**Pn**	**12 34 06.2**	**-0.8**
DRME				*eSg*	**Sg**	**12 34 23.3**	**0.0**
SKO	**Skopje**	**1.24**	**54**	*ePg*	**Pn**	**12 34 07.7**	**-0.4**
SKO				*eSg*	**Sb**	**12 34 24.0**	**-0.2**
SKO	**Skopje**	**1.24**	**54**	*ePg*	**Pb**	**12 34 09.2**	**+0.6**
SKO				*eSg*	**Sg**	**12 34 27.5**	**+1.6**
SKO	**Skopje**	**1.24**	**54**	*ePg*	**Pb**	**12 34 09.2**	**+0.6**
SKO				*eSg*	**Sg**	**12 34 27.5**	**+1.6**
PENT	**Pentalofos**	**1.32**	**143**	P	**Pn**	**12 34 09.1**	**-0.1**
PENT				S	**Sn**	**12 34 26.6**	**+0.3**
PENT	**Pentalofos**	**1.32**	**143**	P	**Pn**	**12 34 09.1**	**-0.1**
PENT				S	**Sn**	**12 34 26.6**	**+0.3**
PENT				AML	AML	12 34 36.6	
	comp=E,249μm,0.5s						
PENT				AML	AML	12 34 36.6	
	comp=N,214μm,0.6s						
PDG	**Podgorica**	**1.34**	**332**	*ePn*	**Pg**	**12 34 11.1**	**-0.4**
PDG				*eSn*	**Sg**	**12 34 31.4**	**+2.4**
PDG	**Podgorica**	**1.34**	**332**	⇑*i*Pg	**Pn**	**12 34 09.6**	**+0.2**
PDG	**Podgorica**	**1.34**	**332**	*ePn*	**Pg**	**12 34 11.1**	**-0.4**
PDG				*eSg*	**Sg**	**12 34 29.1**	**+0.1**
PDG				*eSn*	**Sg**	**12 34 31.4**	**+2.4**
TTG	**Podgorica**	**1.34**	**332**	⇑*i*Pg	**Pn**	**12 34 09.6**	**+0.2**
TTG				*eSg*	**Sg**	**12 34 29.1**	**+0.1**
BUM	**Brajici-Budva**	**1.38**	**320**	⇑*i*Pg	**Pb**	**12 34 10.5**	**-0.5**
BUM				*eSg*	**Sg**	**12 34 30.8**	**+0.4**
BUM	**Brajici-Budva**	**1.38**	**320**	⇑*i*Pg	**Pb**	**12 34 10.5**	**-0.5**
BUM				*eSg*	**Sg**	**12 34 30.8**	**+0.4**
KEK	**Kerkira**	**1.55**	**188**	P	**Pb**	**12 34 13.6**	**-0.2**
KEK				S	**Sg**	**12 34 36.0**	**+0.3**
CEME	**Cevo**	**1.57**	**326**	⇓*i*Pg	**Pb**	**12 34 13.8**	**-0.3**
CEME				*eSg*	**Sg**	**12 34 37.1**	**+0.8**
CEME	**Cevo**	**1.57**	**326**	⇓*i*Pg	**Pb**	**12 34 13.8**	**-0.3**
CEME				*eSg*	**Sg**	**12 34 37.1**	**+0.8**
KPRO	**Kipourio**	**1.61**	**143**	P	**Pb**	**12 34 15.4**	**+0.5**
KPRO				S	**Sb**	**12 34 36.3**	**+1.4**
KPRO	**Kipourio**	**1.61**	**143**	P	**Pb**	**12 34 15.4**	**+0.5**
KPRO				S	**Sb**	**12 34 36.3**	**+1.4**
KPRO				AML	AML	12 34 47.2	
	comp=N,204μm,0.5s						
KPRO				AML	AML	12 34 49.8	
	comp=E,238μm,0.6s						
BEY	**Berane**	**1.63**	**355**	⇓*i*Pg	**Pb**	**12 34 15.2**	**0.0**
BEY				*eSg*	**Sg**	**12 34 39.1**	**+0.8**
IVA	**Berane**	**1.63**	**355**	⇓*i*Pg	**Pb**	**12 34 15.2**	**0.0**
IVA				*eSg*	**Sg**	**12 34 39.1**	**+0.8**
SGD	**Sagiada**	**1.64**	**176**	P	**Pg**	**12 34 16.2**	**-0.9**
SGD	**Sagiada**	**1.64**	**176**	P	**Pg**	**12 34 16.2**	**-0.9**
HCY	**Herceg Novi**	**1.69**	**316**	⇑*i*Pn	**Pb**	**12 34 16.3**	**+0.1**
HCY				*eSn*	**Sg**	**12 34 41.4**	**+1.1**
HCY	**Herceg Novi**	**1.69**	**316**	⇑*i*Pn	**Pb**	**12 34 16.3**	**+0.1**
HCY				*eSn*	**Sg**	**12 34 41.4**	**+1.1**
NKME	**Niksic**	**1.74**	**331**	⇑*i*Pn	**Pb**	**12 34 16.9**	**-0.2**
NKME				*eSn*	**Sg**	**12 34 42.2**	**+0.4**
NKME	**Niksic**	**1.74**	**331**	⇑*i*Pn	**Pb**	**12 34 16.9**	**-0.2**
NKME				*eSn*	**Sg**	**12 34 42.2**	**+0.4**
NKY	**Niksic**	**1.77**	**333**	⇓*i*Pn	**Pb**	**12 34 17.4**	**-0.1**
NKY				*eSn*	**Sg**	**12 34 42.8**	**+0.2**
NKY	**Niksic**	**1.77**	**333**	⇓*i*Pn	**Pb**	**12 34 17.4**	**-0.1**
NKY				*eSn*	**Sg**	**12 34 42.8**	**+0.2**
VAY	**Valandovo**	**1.87**	**87**	*ePn*	**Pb**	**12 34 19.4**	**+0.2**
VAY				*eSn*	**Sb**	**12 34 43.0**	**+0.8**
VAY	**Valandovo**	**1.87**	**87**	*ePn*	**Pb**	**12 34 19.4**	**+0.2**
VAY				*eSn*	**Sb**	**12 34 43.0**	**+0.8**
TREB	**Trebinje**	**1.96**	**319**	*ePn*	**Pb**	**12 34 20.1**	**-0.7**
TREB				*eSn*	**Sg**	**12 34 47.4**	**-1.4**
TREB	**Trebinje**	**1.96**	**319**	*ePn*	**Pb**	**12 34 20.1**	**-0.7**
TREB				*eSn*	**Sg**	**12 34 47.4**	**-1.4**
BRY	**Bratogost**	**2.02**	**326**	⇑*i*Pn	**Pb**	**12 34 21.4**	**-0.5**
BRY				*eSn*	**Sg**	**12 34 48.9**	**-1.8**
BRY	**Bratogost**	**2.02**	**326**	⇑*i*Pn	**Pb**	**12 34 21.4**	**-0.5**
BRY				*eSn*	**Sg**	**12 34 48.9**	**-1.8**
BARS	**Barje**	**2.03**	**39**	*ePn*	**Pb**	**12 34 22.9**	**+1.0**
BARS				*eSn*	**Sg**	**12 34 50.1**	**-0.8**
SELS	**Selova**	**2.11**	**21**	*ePn*	**Pb**	**12 34 23.6**	**+0.2**
UPM	**Unac-Piva**	**2.15**	**336**	⇑*i*Pn	**Pb**	**12 34 23.4**	**-0.6**
UPM				*eSn*	**Sb**	**12 34 51.9**	**+1.5**
UPM	**Unac-Piva**	**2.15**	**336**	⇑*i*Pn	**Pb**	**12 34 23.4**	**-0.6**
UPM				*eSn*	**Sb**	**12 34 51.9**	**+1.5**
IVAS	**Ivanjica**	**2.33**	**1**	*ePn*	**Pb**	**12 34 25.7**	**-1.4**
IVAS				*eSn*	**Sg**	**12 34 58.6**	**-2.0**
IVAS	**Ivanjica**	**2.33**	**1**	*ePn*	**Pb**	**12 34 25.7**	**-1.4**
IVAS				*eSn*	**Sg**	**12 34 58.6**	**-2.0**
BBLS	**Lazići**	**2.67**	**349**	*ePn*	**Pb**	**12 34 32.0**	**-0.9**
ZAPS	**Zavoj**	**2.77**	**42**	*ePn*	**Pb**	**12 34 33.8**	**-0.8**
ZAPS				*eSn*	**Sb**	**12 35 07.6**	**-0.5**
AGG	**Agios Georgios**	**2.81**	**142**	P	**Pn**	**12 34 32.3**	**+2.7**
AGG	**Agios Georgios**	**2.81**	**142**	P	**Pn**	**12 34 32.3**	**+2.7**
DIVS	**Divibare**	**2.85**	**359**	*ePn*	**Pn**	**12 34 31.6**	**+1.3**

NNC 27 12:38:39.3±4.8, 37°21N×71°57E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=38.8km s-min=19.9km az=161.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.69**	**307**	⇓Pn	Pn	12 39 23.6	-0.3
	5.5nm,0.3s						
DZET				⇑Sn	Sn	12 39 58.6	+1.3
	60nm,0.5s						
MNAS	**Manas**	**5.32**	**7**	⇑Pn	Pn	12 40 00.8	+0.7
	1.1nm,0.4s						
MNAS				⇑Sn	Sn	12 41 04.3	+2.2
	6.3nm,0.7s						
KK31	**Karatay Array**	**5.94**	**352**	⇓Pn	Pn	12 40 08.1	-0.4
	0.6nm,0.3s,baz=174,slow=11,SNR=9.5						
KK31				⇑Sn	Sn	12 41 16.7	-0.6
	1.9nm,0.4s,baz=188,slow=24,SNR=3.6						

IDC 27 12:49:33.4±1.9, 1°84N×126°58E, h0km, mb3.2/4, mb1 3.3/4, mb1mx3.2/41, mbtmp3.2/4, MS3.5/1, Ms1 3.4/1, ms1mx2.4/17, Error ellipse: s-maj=180.3km s-min=23.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.95**	**161**	P	P	12 54 38.8	-0.7
	0.4nm,0.8s,baz=340,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**26.34**	**165**	P	P	12 55 11.9	+0.6
	0.2nm,1.0s,baz=350,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**36.44**	**158**	LR	LR	13 14 22.7	
	comp=Z,76nm,20.6s,baz=28,slow=41						
MKAR	**Makanchi Array**	**59.02**	**326**	P	P	12 59 35.2	+0.1
	0.2nm,0.4s,baz=134,slow=11,SNR=2.9						
KURBB	**Kurchatov Arra**	**63.24**	**328**	P	P	13 00 03.4	-0.3
	0.3nm,0.3s,baz=140,slow=6.1,SNR=2.7						

IDC 27 12:53:26.9±4.2, 2°44S×136°82E, h40km±46km, mb3.1/2, mb1 3.4/5, mb1mx3.2/38, mbtmp3.3/5, ML3.3/2, Error ellipse: s-maj=27.9km s-min=20.1km az=94.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.88**	**91**	P	Pn	12 54 23.0	-1.1
	baz=270,slow=20						
JAY				S	Sn	12 55 09.5	+1.0
	0.1nm,0.3s,baz=270,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**17.57**	**188**	P	Pn	12 57 28.1	-0.7
	0.1nm,0.3s,baz=10,slow=13,SNR=11						
WRA				S	Sn	13 00 34.3	-9.3
	0.1nm,0.3s,baz=5.5,slow=23,SNR=5.2						
FITZ	**Fitzroy Crossi**	**19.04**	**214**	P	Pn	12 57 47.6	+0.8
	0.1nm

IDC ***27*** *13:04:14.4±6.2, 36.64N×141.13E, h56km±41km, mb3.0/2, mb1 3.3/4, mb1mx3.1/35, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=66.1km s-min=27.0km az=32.0*
JMA ***27*** *13:04:15.0±0.1, 36.22N×140.88E, h46km±1km, M3.1*
JMA Felt I J1.
ISC 27 13:04:14.1±1.6, **36.35N**±0.05×**140.95E**±0.06, **h25**km±13km, **n10**, σ1=**58**/18, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.41**	**310**	P	**Pn**	**13 04 25.2**	**+0.8**
JHO				S	**Sn**	**13 04 32.3**	**+1.0**
JYT	**Yasato**	**0.62**	**259**	P	**Pb**	**13 04 26.8**	**+0.4**
JYT				S	**Sb**	**13 04 35.0**	**+0.2**
CHOJ	**Chosi**	**0.65**	**187**	P	**Pb**	**13 04 26.2**	**-0.6**
CHOJ				S	**Sb**	**13 04 33.8**	**-1.6**
JFK	**Kawauchi**	**1.02**	**356**	P	**Pn**	**13 04 33.8**	**+0.9**
JFK				S	**Sn**	**13 04 47.2**	**+0.7**
JAG	**Ashikaga**	**1.21**	**274**	P	**Pn**	**13 04 35.4**	**-0.1**
JAG				S	**Sn**	**13 04 50.0**	**-1.2**
MJAR	**Matsushiro Arr**	**2.22**	**276**	P	**Pn**	**13 04 49.9**	**+0.5**
	5.6nm,0.3s,baz=88,slow=16,SNR=43						
MJAR				S	**Sn**	**13 05 18.4**	**+2.3**
	5.7nm,0.3s,baz=88,slow=11,SNR=7.3						
MAT	**Matsushiro**	**2.22**	**276**	P	**Pn**	**13 04 50.2**	**+0.8**
MAT				S	**Sn**	**13 05 15.4**	**-0.7**
JHJ	**Hachijo jima 2**	**3.36**	**197**	P	**Pn**	**13 05 09.1**	**+4.0**
	4.1nm,0.3s,baz=344,slow=22,SNR=2.6						
JHJ				S	**Sn**	**13 05 43.8**	**-0.4**
	8.4nm,0.3s,baz=245,slow=22,SNR=3.3						
WRA	**Warramunga Arr**	**56.33**	**187**	P	**P**	**13 13 51.0**	**-2.0**
	0.3nm,0.8s,baz=6.6,slow=7.5,SNR=3.4						
ASAR	**Alice Springs**	**60.06**	**187**	P	**P**	**13 14 18.2**	**-0.9**
	0.4nm,1.0s,baz=7.8,slow=10,SNR=3.9						

IDC 27 13:27:37.6±2.5, **2.84S**×**130.85E**, **h0**km, **mb3.5**/2, **mb1 3.8**/4, **mb1mx3.5**/38, **mbtmp3.6**/4, **ML3.6**/2, **Error ellipse: s-maj=133.2km s-min=25.8km az=75.0, Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.00**	**198**	Pn	Pn	13 31 23.8	-0.4
	0.2nm,0.3s,baz=32,slow=9.9,SNR=7.2						
WRA	**Warramunga Arr**	**17.34**	**169**	P	Pn	13 31 41.2	0.0
	0.2nm,0.3s,baz=349,slow=11,SNR=11						
ASAR	**Alice Springs**	**20.91**	**172**	P	P	13 32 21.8	-0.2
	1.8nm,0.5s,baz=355,slow=12,SNR=32						
MKAR	**Makanchi Array**	**65.26**	**325**	P	P	13 38 21.4	+0.1
	0.2nm,0.5s,baz=129,slow=7.7,SNR=2.5						

BJI ***27*** *13:39:07.8, 33.64S×179.42W, h11km, mb5.3/16, mB5.6/17, Ms5.3/10, Ms7 4.9/8*
GCMT ***27*** *13:39:10.3±0.3, 33.12S×178.62W, h45km±1km, MW5.0/62, Moment Tensor Solution. s41,c48; s62,c81; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.05±.20; Mθθ0.28±.14; Mθφ2.77±.12; Mrθ-0.00±.11; Mφφ0.71±.09; Mθr-1.85±.10; Best double couple: M○3.52600×10^16 NP1:φs7.00000°, δ61.00000°, λ-97.00000°. NP2: φs202.00000°, δ30.00000°, λ-78.00000°. Principal axes: T 3.4540, Plg16.0000°, Azm103.0000°; N 0.1410, Plg6.0000°, Azm11.0000°; P -3.5980, Plg73.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *13:39:10.3±0.5, 33.09S×178.90W, h18km±2km, mb5.2/33 Error ellipse: s-maj=7.4km s-min=5.3km az=118.0*
ISCJB ***27*** *13:39:12.5±0.2, 33.15S±0.02×179.09W±0.04, h33km, mb5.1/49, MS4.1/16, Error ellipse: s-maj=5.6km s-min=2.7km az=25.6*
MOS ***27*** *13:39:12.4±1.0, 32.90S×179.04W, h33km, mb5.5/18, Error ellipse: s-maj=12.5km s-min=8.9km az=98.5*
IDC ***27*** *13:39:14.8±2.2, 32.95S×178.85W, h47km±19km, mb4.5/18, mb1 4.6/19, mb1mx4.5/30, mbtmp4.8/19, ML3.3/1, MS4.1/17, Ms1 4.1/17, ms1mx4.0/24, Error ellipse: s-maj=15.7km s-min=13.0km az=135.0*
ISC 27 13:39:14.3±0.3, **33.07S**±0.04×**178.85W**±0.05, **h45**km, **n366**, σ1=**82**/361, **mb5.2**/48, **MS4.2**/17, **18C-11D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.89**	**12**	P	**Pn**	**13 40 10.3**	**-1.3**
	368nm,0.3s,baz=267,slow=15,SNR=9.7						
RAO				S	**Sn**	**13 40 53.5**	**-2.5**
	550nm,0.3s,baz=294,slow=23,SNR=5.3						
RAO	**Raoul Island**	**3.89**	**12**	*e*P	**Pn**	**13 40 09.5**	**-2.1**
RAO				S	**Sn**	**13 40 53.5**	**-2.5**
RAO	**Raoul Island**	**3.89**	**12**	*e*Pn	**Pn**	**13 40 09.5**	**-2.1**
RAO				S	**Sn**	**13 40 53.5**	**-2.5**
MXZ	**Matakaoa Point**	**5.05**	**207**	*e*Pn	**Pn**	**13 40 25.4**	**-2.0**
MXZ	**Matakaoa Point**	**5.05**	**207**	PN	**Pn**	**13 40 25.5**	**-1.9**
MXZ				SN	**Sn**	**13 41 24.5**	**+0.1**
WMGZ	**Waiomatatini S**	**5.24**	**204**	PN	**Pn**	**13 40 28.6**	**-1.4**
WMGZ				SN	**Sn**	**13 41 30.5**	**+1.4**
HAZ	**Te Kaha**	**5.42**	**210**	PN	**Pn**	**13 40 31.2**	**-1.4**
HAZ				SN	**Sn**	**13 41 38.3**	**+4.6**
PUZ	**Puketiti**	**5.52**	**204**	PN	**Pn**	**13 40 31.4**	**-2.5**
PUZ				SN	**Sn**	**13 41 34.3**	**-1.8**
GRZ	**Great Barrier**	**5.66**	**234**	PN	**Pn**	**13 40 37.9**	**+2.0**
TWGZ	**Tauwhareparae**	**5.71**	**206**	PN	**Pn**	**13 40 34.4**	**-2.2**
TWGZ				SN	**Sn**	**13 41 41.9**	**+1.0**
KUZ	**Kuaotunu**	**5.78**	**229**	PN	**Pn**	**13 40 38.9**	**+1.5**
CNGZ	**Carnagh Statio**	**5.91**	**203**	PN	**Pn**	**13 40 36.9**	**-2.3**
TKGZ	**Te Karaka**	**5.99**	**206**	PN	**Pn**	**13 40 38.1**	**-2.3**
TKGZ				SN	**Sn**	**13 41 48.2**	**+0.7**
MWZ	**Matawai**	**6.02**	**208**	PN	**Pn**	**13 40 38.0**	**-2.9**
MWZ				SN	**Sn**	**13 41 48.6**	**+0.1**
OPRZ	**Ohinepanea**	**6.06**	**217**	PN	**Pn**	**13 40 40.4**	**-0.9**
TGRZ	**Tauranga**	**6.13**	**219**	PN	**Pn**	**13 40 42.9**	**+0.7**
URZ	**Urewera**	**6.13**	**211**	P	**Pn**	**13 40 40.0**	**-2.3**
	22nm,0.3s,baz=322,slow=2.4,SNR=103						
URZ				S	**Sn**	**13 41 48.3**	**-2.9**
	17nm,0.3s,baz=264,slow=6.1,SNR=3.2						
URZ				LR	LR	13 43 00.9	
	comp=Z,974nm,21.9s,baz=26,slow=36						
URZ	**Urewera**	**6.13**	**211**	PN	**Pn**	**13 40 39.8**	**-2.6**
WIAZ	**Waiheke Island**	**6.18**	**231**	*e*PN	**Pn**	**13 40 44.9**	**+1.9**
RAGZ	**Rawiri**	**6.21**	**208**	PN	**Pn**	**13 40 41.7**	**-1.7**
RIGZ	**Rimuhau**	**6.26**	**205**	PN	**Pn**	**13 40 42.4**	**-1.7**
RIGZ				SN	**Sn**	**13 41 55.5**	**+1.2**
WCZ	**Waipu Caves**	**6.31**	**241**	PN	**Pn**	**13 40 47.2**	**+2.5**
MKAZ	**Moumakai**	**6.35**	**229**	PN	**Pn**	**13 40 47.1**	**+1.8**
SNGZ	**Shannon Statio**	**6.48**	**207**	PN	**Pn**	**13 40 45.3**	**-1.9**
SNGZ				SN	**Sn**	**13 42 00.1**	**+0.2**
RTZ	**Ruatahuna**	**6.49**	**210**	PN	**Pn**	**13 40 44.7**	**-2.5**
TOZ	**Tahuroa Road**	**6.55**	**223**	PN	**Pn**	**13 40 49.3**	**+1.2**
KNZ	**Kokohu**	**6.57**	**204**	PN	**Pn**	**13 40 44.9**	**-3.5**
HSRZ	**Hossack Road**	**6.58**	**216**	PN	**Pn**	**13 40 49.9**	**+1.4**
OUZ	**Omahuta**	**6.62**	**249**	*e*Pn	**Pn**	**13 40 51.1**	**+2.1**
OUZ	**Omahuta**	**6.62**	**249**	PN	**Pn**	**13 40 51.2**	**+2.1**
PRRZ	**Plateau Road**	**6.66**	**214**	PN	**Pn**	**13 40 48.6**	**-0.9**
WHHZ	**Waihua**	**6.78**	**207**	PN	**Pn**	**13 40 51.1**	**-0.1**
MRHZ	**Matea Rd**	**6.91**	**212**	PN	**Pn**	**13 40 50.2**	**-2.9**
NMHZ	**Naumai**	**6.97**	**209**	PN	**Pn**	**13 40 52.1**	**-1.7**
BKZ	**Black Stump Fm**	**7.16**	**210**	*e*Pn	**Pn**	**13 40 52.7**	**-3.7**
BKZ	**Black Stump Fm**	**7.16**	**210**	PN	**Pn**	**13 40 53.3**	**-3.1**
RATZ	**Rangitukua**	**7.24**	**215**	PN	**Pn**	**13 40 56.9**	**-0.7**
MCHZ	**McNeill Hill**	**7.31**	**208**	PN	**Pn**	**13 40 56.2**	**-2.3**
HIZ	**Hauiti**	**7.46**	**222**	*e*Pn	**Pn**	**13 41 01.4**	**+0.8**
HIZ	**Hauiti**	**7.46**	**222**	PN	**Pn**	**13 41 01.3**	**+0.8**
KAHZ	**Kahuranaki**	**7.54**	**206**	PN	**Pn**	**13 40 57.1**	**-4.6**
BHHZ	**Black Hill Sta**	**7.61**	**211**	PN	**Pn**	**13 41 00.7**	**-2.0**
TUVZ	**Tukino**	**7.62**	**214**	PN	**Pn**	**13 41 01.4**	**-1.4**
FWVZ	**Far West T-bar**	**7.65**	**215**	PN	**Pn**	**13 41 01.1**	**-2.3**
MOVZ	**Moawhango**	**7.68**	**213**	PN	**Pn**	**13 41 00.2**	**-3.4**
WNVZ	**Wahianoa**	**7.69**	**214**	PN	**Pn**	**13 41 02.1**	**-1.7**
PXZ	**Pawanui**	**7.75**	**205**	PN	**Pn**	**13 40 59.8**	**-4.7**
PNHZ	**Pukenui**	**7.91**	**209**	PN	**Pn**	**13 41 02.7**	**-4.0**
VRZ	**Vera Road**	**7.95**	**219**	PN	**Pn**	**13 41 06.1**	**-1.1**
PRHZ	**Porangahau**	**8.04**	**206**	PN	**Pn**	**13 41 05.5**	**-3.0**
TSZ	**Takapari Road**	**8.13**	**209**	PN	**Pn**	**13 41 05.3**	**-4.4**
WAZ	**Wanganui**	**8.32**	**215**	PN	**Pn**	**13 41 09.6**	**-2.7**
BFZ	**Birch Farm**	**8.55**	**206**	*e*Pn	Pn	13 41 10.5	-5.0
BFZ	**Birch Farm**	**8.55**	**206**	PN	**Pn**	**13 41 10.9**	**-4.6**
MRZ	**Mangatainoka R**	**8.79**	**209**	PN	Pn	13 41 12.4	-6.4
OGWZ	**Otaki Gorge**	**9.09**	**210**	PN	Pn	13 41 17.8	-5.1
KIW	**Kapiti Island**	**9.24**	**211**	PN	Pn	13 41 19.3	-5.6
MTW	**Mount Morrison**	**9.24**	**208**	PN	Pn	13 41 19.0	-5.9
CAW	**Cannon Point**	**9.38**	**209**	PN	Pn	13 41 20.8	-6.0
TRWZ	**Traveller**	**9.38**	**206**	PN	**Pn**	**13 41 22.2**	**-4.6**
DUWZ	**D'Urville Isla**	**9.64**	**215**	PN	Pn	13 41 25.0	-5.4
PLWZ	**Palliser**	**9.69**	**207**	PN	Pn	13 41 24.9	-6.2
SNZO	**South Karori**	**9.70**	**210**	*e*Pn	Pn	13 41 24.6	-6.5
TCW	**Tory Channel**	**9.80**	**212**	PN	Pn	13 41 26.9	-5.6
TUWZ	**Tuamarina**	**10.13**	**212**	PN	Pn	13 41 30.8	-6.2
NNZ	**Nelson**	**10.22**	**215**	PN	Pn	13 41 32.8	-5.5
QRZ	**Quartz Range**	**10.36**	**219**	PN	Pn	13 41 34.7	-5.5
BSWZ	**Blackbirch Sta**	**10.38**	**212**	PN	Pn	13 41 35.3	-5.3
CTZ	**Chatham Island**	**10.79**	**171**	PN	**Pn**	**13 41 43.0**	**-3.1**
THZ	**Tophouse**	**10.87**	**215**	*e*Pn	Pn	13 41 40.8	-6.5
THZ	**Tophouse**	**10.87**	**215**	PN	Pn	13 41 40.8	-6.5
KHZ	**Kahutara**	**11.10**	**211**	*e*Pn	Pn	13 41 43.3	-7.0
KHZ	**Kahutara**	**11.10**	**211**	PN	Pn	13 41 43.5	-6.8
LTZ	**Lake Taylor**	**11.96**	**213**	PN	Pn	13 41 53.9	-8.1
NFK	**Norfolk Island**	**12.02**	**286**	P	**Pn**	**13 42 04.0**	**+1.1**
	baz=12,SNR=3.4						
OXZ	**Oxford**	**12.49**	**212**	*e*Pn	Pn	13 41 59.9	-9.4
OXZ	**Oxford**	**12.49**	**212**	PN	Pn	13 42 00.5	-8.8
RPZ	**Rata Peaks**	**13.24**	**214**	P	Pn	13 42 11.6	-8.0
	2.7nm,0.3s,baz=70,slow=2.3,SNR=14						
RPZ				S	Sn	13 44 29.9	-15
	2.3nm,0.3s,baz=102,slow=21,SNR=6.6						
ODZ	**Otahua Downs**	**14.46**	**211**	*e*Pn	**Pn**	**13 42 33.0**	**-3.1**
	29nm,0.7s						
MSVF	**Nonsavu**	**15.53**	**349**	*e*P	**Pn**	**13 42 48.8**	**-1.5**
MSVF				pmax	pmax		
	comp=Z,40nm,1.0s						
MSVF	**Nonsavu**	**15.53**	**349**	*e*Pn	**Pn**	**13 42 47.8**	**-2.5**
	comp=Z,55nm,1.1s						
DZM	**Mont Dzumac**	**17.01**	**306**	*e*P	**P**	**13 43 12.0**	**+1.5**
	comp=Z,69nm,1.0s						
DZM				*e*LR	LR	13 47 02.3	
	comp=Z,2μm,24.4s						
DZM	**Mont Dzumac**	**17.01**	**306**	P	**Pn**	**13 43 08.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=308,slow=21,SNR=2.1						
DZM				LR	LR	13 48 34.9	
	comp=Z,2μm,18.5s,baz=164,slow=33						
DZM	**Mont Dzumac**	**17.01**	**306**	*e*Pn	**Pn**	**13 43 06.0**	**-3.1**
	comp=Z,32nm,1.0s						
AFI	**Afiamalu**	**20.13**	**20**	P	**P**	**13 43 43.1**	**-1.6**
	comp=Z,23nm,0.8s,baz=127,slow=11,SNR=3.5						
AFI	**Afiamalu**	**20.13**	**20**	*e*P	**P**	**13 43 42.9**	**-1.8**
AFI	**Afiamalu**	**20.13**	**20**	*e*P	**P**	**13 43 42.9**	**-1.8**
RAR	**Rarotonga**	**20.64**	**60**	LR	LR	13 49 49.4	
	comp=Z,440nm,21.3s,baz=260,slow=31						
MGCD	**Mangrove Creek**	**25.12**	**261**	P	**P**	**13 44 36.6**	**+1.6**
	baz=25,SNR=5.8						
ARMA	**Armidale**	**25.21**	**268**	P	**P**	**13 44 36.0**	**0.0**
	baz=25,SNR=4.4						
CNB	**Canberra Magne**	**26.33**	**256**	P	**P**	**13 44 47.2**	**+1.1**
	baz=26,SNR=7.9						
YNG	**Young**	**27.22**	**258**	P	**P**	**13 44 56.0**	**+2.0**
	baz=27,SNR=8.0						
EIDS	**Eidsvold**	**27.28**	**278**	P	**P**	**13 44 55.3**	**+0.7**
	baz=27,SNR=13						
TBI	**Tubuai**	**27.57**	**77**	*e*LR	LR	13 52 01.3	
	comp=Z,1μm,27.5s						
TBI	**Tubuai**	**27.57**	**77**	*e*T	T	14 13 32.2	
	comp=Z,70nm,0.4s						
TAU	**Tasmania Unive**	**28.25**	**240**	*e*P	**P**	**13 45 03.1**	**0.0**
TAU	**Tasmania Unive**	**28.25**	**240**	*e*P	**P**	**13 45 03.1**	**0.0**
MOO	**Moorlands**	**28.28**	**241**	P	**P**	**13 45 04.6**	**+1.2**
	baz=28,SNR=10						
RMQ	**Roma**	**28.80**	**275**	P	**P**	**13 45 09.7**	**+1.5**
	baz=29,SNR=14						
TOO	**Toolangi**	**29.33**	**251**	P	**P**	**13 45 14.7**	**+1.9**
	baz=29,SNR=14						
CMSA	**Cobar Meteorol**	**29.93**	**263**	P	**P**	**13 45 19.2**	**+1.1**
	baz=30,SNR=32						
PAE	**Paea**	**30.44**	**67**	*e*T	T	14 17 12.0	
	comp=Z,18nm,0.2s						
PPT2	**Papeete2**	**30.48**	**67**	*e*LR	LR	13 53 17.5	
	comp=Z,1μm,26.5s						
PPT2	**Papeete2**	**30.48**	**67**	*e*T	T	14 17 15.2	
	comp=Z,40nm,0.4s						
PPT	**Papeete**	**30.50**	**67**	LR	LR	13 54 23.6	
	comp=Z,347nm,21.9s,baz=219,slow=30						
HNR	**Honiara**	**30.59**	**315**	P	**P**	**13 45 23.7**	**-0.3**
	comp=Z,121nm,0.8s,baz=131,slow=1.5,SNR=6.6						
HNR				LR	LR	13 56 41.6	
	comp=Z,161nm,18.6s,baz=162,slow=34						
HNR	**Honiara**	**30.59**	**315**	*e*P	**P**	**13 45 23.0**	**-1.1**
HNR	**Honiara**	**30.59**	**315**	*e*P	**P**	**13 45 21.7**	**-2.4**
HNR				pmax	pmax		
	comp=Z,140nm,0.8s						
HNR	**Honiara**	**30.59**	**315**	*e*P	**P**	**13 45 21.7**	**-2.4**
	comp=Z,140nm,0.8s						
TIAR	**Tiarei**	**30.68**	**67**	*e*T	T	14 17 21.0	
	comp=Z,5.0nm,0.3s						
MEH	**Mehetia**	**31.50**	**69**	*e*T	T	14 18 33.0	
	comp=Z,23nm,0.3s						
ARPS	**Mount Arapiles**	**32.29**	**252**	P	**P**	**13 45 39.7**	**+0.9**
	baz=32,SNR=18						
QLP	**Quilpie**	**32.55**	**272**	P	**P**	**13 45 42.5**	**+1.2**
	baz=33,SNR=21						
STKA	**Stephens Creek**	**33.26**	**261**	P	**P**	**13 45 48.0**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=97,slow=11,SNR=8.9						
STKA				PcP	**PcP**	**13 48 27.6**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=117,slow=14,SNR=3.6						
STKA				LR	LR	13 58 35.1	
	comp=Z,762nm,18.1s,baz=54,slow=35						
STKA	**Stephens Creek**	**33.26**	**261**	P	**P**	**13 45 48.1**	**+0.7**
	baz=33,SNR=7.6						
STKA	**Stephens Creek**	**33.26**	**261**	*e*P	**P**	**13 45 47.1**	**-0.3**
STKA						13 48 27.6	
STKA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
STKA	**Stephens Creek**	**33.26**	**261**	*e*P	**P**	**13 45 47.1**	**-0.3**
	comp=Z,1.9nm,1.1s						
STKA				PcP	**PcP**	**13 48 27.6**	**-1.4**
VAH	**Vaihoa**	**33.39**	**65**	*e*T	T	14 20 58.0	
	comp=Z,58nm,0.3s						
CTA	**Charters Tower**	**33.62**	**284**	P	**P**	**13 45 51.6**	**+1.0**
	comp=Z,42nm,0.5s,baz=115,slow=11,SNR=83						
CTAO	**Charters Tower**	**33.62**	**284**	*e*P	**P**	**13 45 51.9**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,47nm,0.6s						
CTAO	**Charters Tower**	**33.62**	**284**	*e*P	**P**	**13 45 51.9**	**+1.3**
	comp=Z,47nm,0.6s						
HTT	**Hallett**	**35.14**	**258**	P	**P**	**13 46 04.0**	**+0.2**
	baz=35,SNR=6.9						
MTSU	**Mount Surprise**	**36.19**	**285**	P	**P**	**13 46 14.0**	**+1.2**
	baz=36,SNR=46						
BBOO	**Buckleboo**	**37.62**	**258**	*e*P	**P**	**13 46 24.0**	**-0.8**
	comp=Z,65nm,1.8s						
QIS	**Mount Isa**	**38.88**	**278**	P	**P**	**13 46 36.1**	**+0.6**
	baz=39,SNR=22						
PMG	**Port Moresby**	**39.18**	**299**	P	**P**	**13 46 38.6**	**+0.5**
	comp=Z,61nm,0.8s,baz=111,slow=4.1,SNR=15						
PMG	**Port Moresby**	**39.18**	**299**	*e*P	**P**	**13 46 36.9**	**-1.2**
PMG				pmax	pmax		
	comp=Z,222nm,0.7s						
PMG	**Port Moresby**	**39.18**	**299**	*e*P	**P**	**13 46 38.8**	**+0.7**
	comp=Z,57nm,0.7s						
COEN	**Coen**	**39.40**	**290**	P	**P**	**13 46 40.7**	**+0.8**
	baz=39,SNR=61						
COEN	**Coen**	**39.40**	**290**	*e*P	**P**	**13 46 40.8**	**+0.9**
	comp=Z,36nm,0.8s						
RABL	**Rabaul**	**39.47**	**311**	*e*P	**P**	**13 46 40.8**	**+0.3**
	comp=Z,201nm,0.6s						
RKT	**Rikitea**	**39.71**	**87**	*e*LR	LR	13 57 39.4	
	comp=Z,1μm,27.5s						
RKT	**Rikitea**	**39.71**	**87**	*e*T	T	14 28 58.9	
	comp=Z,4.5nm,0.4s						
AS01	**Alice Springs**	**42.28**	**270**	*e*P	**P**	**13 47 03.1**	**-0.6**
AS31	**Alice Springs**	**42.32**	**270**	*e*P	**P**	**13 47 03.5**	**-0.5**
	comp=Z,68nm,0.6s						
ASAR	**Alice Springs**	**42.32**	**270**	P	**P**	**13 47 03.7**	**-0.3**
	comp=Z,68nm,0.9s,baz=109,slow=7.7,SNR=366						
ASAR				S	**S**	**13 53 17.4**	**-4.5**
	comp=Z,1.5nm,1.0s,baz=119,slow=16,SNR=5.1						
ASAR				LR	LR	14 05 09.0	
	comp=Z,279nm,18.1s,baz=116,slow=37						
TAOE	**Nuku Hiva Isla**	**43.06**	**65**	*e*S	**S**	**13 53 41.1**	**+8.1**
	comp=Z,171nm,25.7s						
TAOE				*e*LR	LR	13 59 05.8	
	comp=Z,661nm,26.4s						
WB2	**Warramunga Arr**	**43.54**	**275**	*e*P	**P**	**13 47 13.1**	**-0.8**
	comp=Z,67nm,0.6s						
WRAB	**Tennant Creek**	**43.55**	**275**	*d*P	**P**	**13 47 12.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,150nm,0.9s						
WRAB	**Tennant Creek**	**43.55**	**275**	*e*P	**P**	**13 47 13.2**	**-0.7**
	comp=Z,72nm,0.8s						
WRA	**Warramunga Arr**	**43.55**	**275**	P	**P**	**13 47 13.6**	**-0.4**
	comp=Z,63nm,0.6s,baz=114,slow=7.9,SNR=591						
WRA				LR	LR	14 05 11.8	
	comp=Z,310nm,18.9s,baz=145,slow=36						
MANU	**Manus Island**	**44.22**	**307**	*e*P	**P**	**13 47 19.3**	**0.0**
	comp=Z,59nm,0.9s						
SBA	**Scott Base**	**45.33**	**184**	*e*P	**P**	**13 47 31.0**	**+3.7**
SBA				pmax	pmax		
	comp=Z,13nm,0.9s						
SBA	**Scott Base**	**45.33**	**184**	*e*P	**P**	**13 47 31.0**	**+3.7**
	comp=Z,13nm,0.9s						
VNDA	**Vanda**	**45.37**	**186**	P	**P**	**13 47 29.6**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=20,slow=6.1,SNR=18						
VNDA	**Vanda**	**45.37**	**186**	*e*P	**P**	**13 47 29.9**	**+2.2**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	**Vanda**	**45.37**	**186**	*e*P	**P**	**13 47 29.9**	**+2.2**
	comp=Z,3.9nm,0.8s						
WRKA	**Warakurna**	**46.49**	**266**	P	**P**	**13 47 36.0**	**-1.3**
	baz=46,SNR=82						
JAY	**Jayapura**	**48.54**	**300**	P	**P**	**13 47 53.5**	**+0.2**
	comp=Z,9.2nm,0.9s,baz=92,slow=23,SNR=12						
KMBL	**Kambalda**	**49.58**	**255**	P	**P**	**13 47 59.4**	**-1.7**
	baz=50,SNR=8.6						
FITZ	**Fitzroy Crossi**	**51.69**	**272**	P	**P**	**13 48 16.4**	**-0.7**
	comp=Z,31nm,0.8s,baz=138,slow=6.4,SNR=79						
FITZ	**Fitzroy Crossi**	**51.69**	**272**	P	**P**	**13 48 16.2**	**-0.8**
	baz=52,SNR=38						
FITZ	**Fitzroy Crossi**	**51.69**	**272**	*e*P	**P**	**13 48 16.2**	**-0.8**
	comp=Z,37nm,0.8s						
CASY	**Casey**	**52.45**	**209**	*e*P	**P**	**13 48 21.3**	**-0.7**
	comp=Z,70nm,0.6s						
NWAO	**Narrogin (SRO)**	**52.82**	**251**	P	**P**	**13 48 22.9**	**-2.4**
	comp=Z,8.3nm,0.6s,baz=333,slow=3.2,SNR=7.0						
NWAO	**Narrogin (SRO)**	**52.82**	**251**	P	**P**	**13 48 23.4**	**-1.9**
	baz=53,SNR=5.0						
NWAO	**Narrogin (SRO)**	**52.82**	**251**	P	**P**	**13 48 23.0**	**-2.4**
KLBR	**Kellerberrin**	**52.84**	**253**	P	**P**	**13 48 23.5**	**-2.0**
	baz=53,SNR=23						
MORW	**Morawa**	**55.12**	**255**	P	**P**	**13 48 40.3**	**-1.9**
	baz=55,SNR=5.4						
MBWA	**Marble Bar**	**55.26**	**266**	*e*P	**P**	**13 48 41.2**	**-2.1**
	comp=Z,18nm,0.8s						
QSPA	**South Pole Qui**	**57.05**	**180**	*e*P	**P**	**13 48 57.3**	**+1.8**
	comp=Z,41nm,0.7s						
SOEI	**Soe**	**57.07**	**280**	*e*P	**P**	**13 48 56.1**	**-0.3**
	comp=Z,107nm,1.0s						
GIRL	**Giralia**	**59.20**	**262**	P	**P**	**13 49 10.5**	**-0.5**
	baz=59,SNR=4.1						
MMRI	**Maumere**	**59.36**	**280**	*e*P	**P**	**13 49 10.7**	**-1.5**
	comp=Z,94nm,1.0s						
MIR	**Mirnyy**	**59.43**	**208**	*i*P	**P**	**13 49 12.0**	**+0.1**
MIR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KAPI	**Kappang**	**63.41**	**282**	P	**P**	**13 49 38.7**	**-0.9**
	comp=Z,6.5nm,0.3s,baz=240,slow=8.4,SNR=4.3						
MAW	**Mawson**	**69.56**	**201**	P	**P**	**13 50 18.5**	**+0.4**
	comp=Z,17nm,0.7s,baz=135,slow=5.8,SNR=28						
MAW				LR	LR	14 20 09.5	
	comp=Z,177nm,19.4s,baz=64,slow=35						
MAW	**Mawson**	**69.56**	**201**	P	**P**	**13 50 18.5**	**+0.4**
	baz=70,SNR=16						
MAW	**Mawson**	**69.56**	**201**	*e*P	**P**	**13 50 18.3**	**+0.2**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAW	**Mawson**	**69.56**	**201**	*e*P	**P**	**13 50 18.3**	**+0.2**
	comp=Z,3.6nm,0.7s						
SYO	**Syowa Base**	**74.36**	**193**	*e*P	**P**	**13 50 45.2**	**-1.5**
SYO	**Syowa Base**	**74.36**	**

	baz=229								
CHGN	**Chignik**	**90.71**	**11**	*e*P		**P**		13 52 12.4	**+0.8**
TPNV	**Topopah Spring**	**90.89**	**45**	P		**P**		13 52 15.5	**+2.2**
	baz=228								
TPNV	**Topopah Spring**	**90.89**	**45**	*e*P		**P**		13 52 15.0	**+1.7**
TPNV					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TPNV	**Topopah Spring**	**90.89**	**45**	*e*P		**P**		13 52 15.0	**+1.7**
	comp=Z,3.3nm,0.8s								
Y14A	**Wickenburg**	**90.92**	**49**	*e*P		**P**		13 52 13.7	**+0.3**
	comp=Z,14nm,0.8s								
M04C	**Macdoel**	**91.06**	**39**	P		**P**		13 52 16.2	**+2.3**
	baz=225								
HUMO	**Hull Mountain**	**91.07**	**38**	*e*P		**P**		13 52 15.4	**+1.6**
	comp=Z,13nm,1.5s								
TUC	**Tucson**	**91.33**	**52**	P		**P**		13 52 17.6	**+2.2**
	baz=231								
I03D	**Drain, OR**	**91.66**	**37**	P		**P**		13 52 18.7	**+2.4**
	baz=224								
CN2	**Changchun**	**91.83**	**323**	*e*P		**P**		13 52 19.5	**+2.3**
CN2				*e*pP		pP		13 52 27.0	-3.7
CN2				PMZ					
	comp=Z,20nm,1.0s								
I04A	**Tendick Farm,**	**92.20**	**37**	P		**P**		13 52 20.3	**+1.3**
	baz=224								
R11A	**Troy Canyon, C**	**92.21**	**45**	P		**P**		13 52 20.9	**+1.6**
	baz=228								
K05A	**Summer Lake**	**92.23**	**39**	*e*P		**P**		13 52 19.6	**+0.3**
	comp=Z,12nm,1.1s								
X16A	**Lo Mia Camp, P**	**92.23**	**50**	*e*P		**P**		13 52 23.2	**+3.6**
	comp=Z,4.7nm,1.0s								
GYA	**Guiyang**	**92.26**	**300**	P		**P**		13 52 20.5	**+0.7**
GYA				PP		**PP**		13 56 04.8	**+3.8**
GYA				SKS		**SKSac**		14 02 51.3	**+1.7**
GYA				S		**ScS**		14 03 20.5	**-1.3**
GYA				PMZ					
	comp=Z,20nm,1.0s								
GYA				PMZ					
	comp=Z,100nm,6.8s								
J05D	**Fort Rock, OR**	**92.44**	**38**	P		**P**		13 52 22.2	**+1.9**
	baz=225								
ENH	**Enshi**	**92.52**	**305**	*e*P		**P**		13 52 18.7	**-2.1**
	comp=Z,8.1nm,0.9s								
U15A	**North Rim**	**92.96**	**48**	*e*P		**P**		13 52 25.2	**+2.2**
	comp=Z,3.3nm,0.8s								
WUAZ	**Wupatki**	**92.96**	**49**	P		**P**		13 52 25.3	**+2.4**
	baz=231								
KLR	**Kul'dur**	**92.98**	**330**⇑	*e*P		**P**		13 52 20.4	**-2.0**
CMAR	**Chiang Mai Arr**	**93.61**	**290**	P		**P**		13 52 26.6	**+0.6**
	comp=Z,0.3nm,0.4s,baz=144,slow=4.2,SNR=3.5								
CMAR				PP		**PP**		13 56 11.3	**-0.2**
	comp=Z,3.5nm,0.9s,baz=137,slow=6.7,SNR=13								
KMI	**Kunming**	**94.38**	**297**	P		**P**		13 52 30.8	**+1.1**
KMI				PMZ					
	comp=Z,5.0nm,0.7s								
KMI				PMZ					
	comp=Z,71nm,4.3s								
TXAR	**Lajitas Array**	**94.43**	**58**	P		**P**		13 52 30.2	**+0.6**
	comp=Z,0.4nm,0.8s,baz=206,slow=8.3,SNR=4.4								
TXAR				LR		LR		14 25 47.0	
	comp=Z,97nm,21.9s,baz=0.0,slow=30								
CD2	**Chengdu**	**96.90**	**302**	*e*P		**P**		13 52 40.5	**-0.4**
CD2				pP		PcP		13 52 47.0	+6.0
CD2				sP		pP		13 52 49.5	-4.9
CD2				SKS		**SKSac**		14 03 16.3	**+2.0**
CD2				S		**ScS**		14 04 02.3	**+2.1**
CD2				sS		sS		14 04 13.5	-9.1
CD2				SS		**SS**		14 10 40.5	**+3.4**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
HHC	**Hu-ho-hao-te**	**97.57**	**314**	*e*P		Pdif		13 52 44.0	+0.2
HHC				PMZ					
	comp=Z,14nm,0.9s								
HHC				PMZ					
	comp=Z,86nm,5.3s								
LPAZ	**La Paz**	**97.69**	**115**	LR		LR		14 28 39.7	
	comp=Z,48nm,21.7s,baz=262,slow=30								
SEY	**Seymchan**	**98.41**	**347**⇓	*e*P		**P**		13 52 46.4	**-0.4**
PDAR	**Pinedale Array**	**98.56**	**44**	LR		LR		14 32 14.8	
	comp=Z,100nm,18.7s,baz=243,slow=32								
TRF	**Thorofare Moun**	**98.84**	**13**	*e*P		Pdif		13 52 49.5	+0.6
	comp=Z,4.5nm,0.8s								
CPUP	**Villa Florida**	**98.88**	**129**	LR		LR		14 29 10.7	
	comp=Z,113nm,21.9s,baz=220,slow=30								
RND	**Reindeer**	**99.07**	**13**	*e*P		**Pdif**		13 52 51.6	**+1.7**
RND				pmax		pmax			
	comp=Z,4.0nm,0.8s								
RND	**Reindeer**	**99.07**	**13**	*e*P		**Pdif**		13 52 51.5	**+1.7**
	comp=Z,3.7nm,0.8s								
LZH	**Lanzhou**	**99.73**	**307**	*e*P		**Pdif**		13 52 56.3	**+2.7**
LZH				pP		pP		13 53 02.5	-4.6
LZH				sP		sP		13 53 05.3	-6.8
LZH				PP		**PP**		13 57 04.3	**+5.5**
LZH				SKS		**SKSac**		14 03 32.5	**+3.9**
LZH				PMZ					
	comp=Z,15nm,1.5s								
LZH				PMZ					
	comp=Z,100nm,8.3s								
LZH				LN					
	comp=Z,640nm,17.5s								
LZH				LE					
	comp=Z,440nm,17.6s								
LZH				LZ					
	comp=Z,770nm,19.5s								
COLA	**College**	**100.59**	**13**⇑	*e*P		**Pdif**		13 52 55.9	**-0.5**
ILAR	**Eielson Array**	**100.68**	**13**	P		**Pdif**		13 52 56.3	**-0.6**
	comp=Z,0.6nm,0.8s,baz=319,slow=34,SNR=4.7								
ILAR				PKKPbc		**PKKPbc**		14 09 11.3	**-1.5**
	comp=Z,0.4nm,0.6s,baz=27,slow=2.8,SNR=4.9								
YKA	**Yellowknife Ar**	**108.16**	**26**	PKiKP		**PKiKP**		13 57 36.7	**+0.3**
	comp=Z,0.7nm,0.7s,baz=263,slow=1.5,SNR=5.1								
YKA				PKKPbc		**PKKPbc**		14 08 48.1	**-1.7**
	comp=Z,1.7nm,0.7s,baz=42,slow=3.2,SNR=16								
TIXI	**Tiksi**	**110.64**	**344**⇓	*i*PKiKP		**PKiKP**		13 57 40.5	**-0.4**
WMQ	**Urumqi**	**114.29**	**308**	PKP		PKPdf		13 57 48.5	-0.3
BOSA	**Boshof**	**114.53**	**203**	PKP		PKPdf		13 57 50.7	+0.8
	comp=Z,3.8nm,0.8s,baz=152,slow=1.1,SNR=6.3								
MK01	**Makanchi Array**	**118.90**	**309**	*e*PKPdf		**PKPdf**		13 57 56.1	**-1.4**
MK31	**Makanchi Array**	**118.91**	**309**	*e*PKiKP		**PKPdf**		13 57 56.2	**-1.3**
MK31	**Makanchi Array**	**118.91**	**309**	*e*PKPdf		**PKPdf**		13 57 56.2	**-1.3**
MKAR	**Makanchi Array**	**118.91**	**309**	PKP		**PKPdf**		13 57 56.8	**-0.7**
	comp=Z,4.4nm,0.7s,baz=181,slow=0.6,SNR=29								
MKAR	**Makanchi Array**	**118.91**	**309**	*e*PKiKP		**PKPdf**		13 57 56.1	**-1.5**
MKAR	**Makanchi Array**	**118.91**	**309**	*e*PKPdf		**PKPdf**		13 57 56.0	**-1.5**
MAKZ	**Makanchi**	**119.12**	**309**	*e*PKiKP		**PKPdf**		13 57 56.5	**-1.4**
MAKZ	**Makanchi**	**119.12**	**309**	*e*PKPdf		**PKPdf**		13 57 56.5	**-1.4**
ZAA0	**Zalesovo Array**	**119.53**	**318**	*e*PKPdf		**PKPdf**		13 57 56.7	**-1.7**
ZAA0				*e*PKPdf		**PKiKP**		13 57 57.0	**-1.5**
ZALV	**Zalesovo Beam**	**119.53**	**318**	PKP		**PKPdf**		13 57 57.1	**-1.3**
	comp=Z,4.2nm,0.4s,baz=143,slow=2.0,SNR=24								
PDGK	**Podgornoye**	**119.69**	**305**	PKiKP		**PKPdf**		13 57 58.0	**-1.0**
PDGK				pmax		pmax			
	comp=Z,9.0nm,0.9s								
NVS	**Novosibirsk**	**120.66**	**318**	*i* PKiKP		**PKPdf**		13 57 59.5	**-1.0**
KSH	**Kashi**	**120.95**	**299**	PKP		**PKPdf**		13 58 00.5	**-1.3**
KSH				PP		**PP**		13 59 35.5	**+3.6**
KSH				PKS		**PKSdf**		14 01 36.3	**-2.2**
KSH				SKS		**SKSdf**		14 05 07.0	**-3.2**
KSH				SKKS		**SKKSac**		14 06 22.3	**-4.9**
KSH				PPMZ					
	comp=Z,45nm,5.3s								
KSH				LN					
	comp=Z,92nm,5.0s								
KSH				LE					
	comp=Z,97nm,5.0s								
NRIK	**Noril'sk**	**121.77**	**335**	PKP		**PKPdf**		13 58 02.1	**-0.1**
	comp=Z,6.5nm,0.6s,baz=88,slow=2.6,SNR=6.2								
TKM2	**Tokmak 2**	**122.27**	**303**	PKiKP		**PKPdf**		13 58 03.1	**-1.3**
TKM2				pmax		pmax			
	comp=Z,4.0nm,0.6s								
TKM2	**Tokmak 2**	**122.27**	**303**	*e*PKPdf		**PKPdf**		13 58 02.1	**-2.3**
KURK	**Kurchatov**	**122.35**	**313**	*d i*PKiKP		**PKPdf**		13 58 02.6	**-1.3**
KURK				pmax		pmax			
	comp=Z,63nm,0.8s								
KURK	**Kurchatov**	**122.35**	**313**	*e*PKPdf		**PKPdf**		13 58 02.7	**-1.2**
AAK	**Ala-Archa**	**122.97**	**303**⇑	*i*PKiKP		**PKPdf**		13 58 04.3	**-1.4**
AAK	**Ala-Archa**	**122.97**	**303**	*e*PKPdf		**PKPdf**		13 58 04.2	**-1.4**
EKS2	**Erkin-Say**	**123.48**	**302**	*e*PKiKP		**PKPdf**		13 58 05.5	**-1.1**
EKS2	**Erkin-Say**	**123.48**	**302**	*e*PKPdf		**PKPdf**		13 58 05.5	**-1.1**
KBL	**Kabul**	**124.57**	**292**	*e*PKiKP		**PKPdf**		13 58 08.9	**-0.2**
KBL	**Kabul**	**124.57**	**292**	*e*PKPdf		**PKPdf**		13 58 08.9	**-0.2**
LSZ	**Lusaka**	**125.42**	**213**	*e*PKiKP		**PKPdf**		13 58 11.9	**+0.7**
LSZ	**Lusaka**	**125.42**	**213**	*e*PKPdf		**PKPdf**		13 58 11.9	**+0.7**

PKME	**Peaks-Kenny Pk**	**125.66**	**55**	*e*PKPdf		**PKPdf**		13 58 10.9	**+0.4**
OTUK	**Ortayu**	**125.80**	**309**	PKiKP		**PKPdf**		13 58 09.8	**-0.9**
OTUK				pmax		pmax			
	comp=Z,12nm,0.7s								
KK31	**Karatay Array**	**125.91**	**302**	PKiKP		**PKPdf**		13 58 10.2	**-0.9**
KK31				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KKAR	**Karatay Array**	**125.91**	**302**	*e*PKiKP		**PKPdf**		13 58 10.3	**-0.8**
KKAR	**Karatay Array**	**125.91**	**302**	*e*PKPdf		**PKPdf**		13 58 10.3	**-0.8**
VOSK	**Vostochnaya**	**127.39**	**314**	PKiKP		**PKPdf**		13 58 12.6	**-1.0**
VOSK				pmax		pmax			
	comp=Z,12nm,0.6s								
VOSK	**Vostochnaya**	**127.39**	**314**	*e*PKPdf		**PKPdf**		13 58 12.4	**-1.1**
BVA0	**Borovoye Array**	**127.78**	**314**	PKiKP		**PKPdf**		13 58 13.5	**-0.8**
BVA0				pmax		pmax			
	comp=Z,11nm,0.7s								
BVAR	**Borovoye Array**	**127.78**	**314**	PKP		**PKPdf**		13 58 13.8	**-0.5**
	comp=Z,9.1nm,0.5s,baz=110,slow=1.7,SNR=46								
BRVK	**Borovoye**	**127.85**	**314** *c*	*i*PKiKP		**PKPdf**		13 58 13.7	**-0.7**
BRVK				pmax		pmax			
	comp=Z,36nm,1.0s								
BRVK	**Borovoye**	**127.85**	**314**	*e*PKPdf		**PKPdf**		13 58 13.6	**-0.8**
ZRNK	**Zerenda**	**128.60**	**314**	PKiKP		**PKPdf**		13 58 15.0	**-0.9**
ZRNK				pmax		pmax			
	comp=Z,8.0nm,0.5s								
ZRNK	**Zerenda**	**128.60**	**314**	*e*PKPdf		**PKPdf**		13 58 14.9	**-1.0**
KMBO	**Kilima Mbogo**	**131.89**	**232**	PKP		**PKPdf**		13 58 23.9	**+0.2**
	comp=Z,2.2nm,0.7s,baz=360,slow=5.2,SNR=5.1								
GEYT	**Alibeck**	**133.98**	**293**	PKP		**PKPdf**		13 58 26.6	**+0.1**
	comp=Z,5.6nm,0.9s,baz=329,slow=1.7,SNR=4.5								
ABKAR	**Akbulak array**	**134.06**	**309**	*e*PKPdf		**PKPdf**		13 58 24.5	**-1.8**
AKTO	**Aktyubinsk**	**135.32**	**310**	PKiKP		**PKPdf**		13 58 27.9	**-0.7**
AKTO				pmax		pmax			
	comp=Z,5.0nm,0.7s								
ARA0	**ARCESS Array S**	**141.03**	**347**	*e*PKPpre		PKPpre		13 58 32.2	
ARCES	**ARCESS Array B**	**141.03**	**347**	PKhKP		PKPpre		13 58 34.3	
	comp=Z,2.7nm,0.5s,baz=31,slow=2.8,SNR=17								
ARCES				SKPbc		**SKPbc**		14 02 12.6	**+1.0**
	comp=Z,1.8nm,0.6s,baz=17,slow=1.3,SNR=4.9								
KLMR	**Klimovskoe**	**142.74**	**330**	*e*PKHKP		PKPpre		13 58 36.5	
KLMR				pmax		pmax			
	comp=Z,9.0nm,0.8s								
GNI	**Garni**	**144.58**	**294**⇑	*i*PKiKP		**PKPdf**		13 58 48.6	**+2.6**
NCK	**Nalchik**	**145.43**	**300**⇓	*i*PKiKP		**PKPab**		13 58 47.7	**+0.3**
VRH	**Novokhopyorsk**	**145.43**	**314**	*e*PKP2		**PKPbc**		13 58 45.8	**-1.1**
VRH				pmax		pmax			
	comp=Z,40nm,0.6s								
KBZ	**Khabaz**	**145.92**	**301**	PKPbc		**PKPdf**		13 58 48.0	**+0.2**
	comp=Z,5.3nm,0.8s,baz=154,slow=8.9,SNR=6.2								
KIV	**Kislovodsk**	**146.06**	**301**	*i* PKP2		**PKPab**		13 58 51.2	**+1.3**
KIV				pmax		pmax			
	comp=Z,10.0nm,1.0s								
NEY	**Neytrino**	**146.08**	**300**⇑	*i* PKP2		**PKPab**		13 58 52.0	**+1.9**
OBN	**Obninsk**	**146.90**	**322**	*d i*PKP2		**PKPbc**		13 58 50.4	**-0.7**
OBN				*e*				14 02 13.3	
OBN				*e*PPP		PPP		14 05 33.5	
OBN				pmax		pmax			
	comp=Z,19nm,0.6s								
OBN				MLR		MLR			
	comp=Z,68nm,20.0s								
VSR	**Storozhevoye**	**146.96**	**315**	*e*PKP2		**PKPbc**		13 58 50.8	**-0.7**
VSR				pmax		pmax			
	comp=Z,40nm,0.9s								
FIA1	**FINESS Array S**	**147.37**	**338**	*e*PKPbc		**PKPbc**		13 58 51.5	**-0.7**
FINES	**FINESS Array B**	**147.37**	**338**	PKPbc		**PKPbc**		13 58 51.6	**-0.6**
	comp=Z,72nm,0.7s,baz=40,slow=3.7,SNR=258								
VSU	**Vasula**	**149.33**	**334**	*d i*PKP2		**PKPbc**		13 58 57.0	**-0.4**
VSU				pmax		pmax			
	comp=Z,192nm,0.6s								
ASF	**Jabal al Asfar**	**149.97**	**278**	PKPbc		**PKPbc**		13 58 59.7	**-0.3**
EIL	**Elat**	**151.01**	**272**	PKPbc		**PKPbc**		13 59 02.4	**-0.1**
NC303	**NORSAR Array S**	**151.06**	**350**	*e*PKPbc		**PKPbc**		13 59 01.3	**-0.3**
NC204	**NORSAR Array S**	**151.10**	**350**	*e*PKPbc		**PKPbc**		13 59 01.3	**-0.5**
NC405	**NORSAR Array S**	**151.12**	**349**	*e*PKPbc		**PKPbc**		13 59 01.2	**-0.5**
NB201	**NORSAR Array S**	**151.24**	**350**	*e*PKPbc		**PKPbc**		13 59 01.6	**-0.4**
NB2	**NORSAR Subarra**	**151.26**	**350**	PKP		**PKPbc**		13 59 01.8	**-0.3**
	comp=Z,32nm,0.8s,baz=17,slow=2.6								
NB2	**NORSAR Subarra**	**151.26**	**350**	PKP		**PKPbc**		13 59 01.8	**-0.3**
	baz=17,slow=2.6								
NOA	**NORSAR Array B**	**151.26**	**350**	PKPbc		**PKPbc**		13 59 01.9	**-0.3**
	comp=Z,22nm,0.8s,baz=14,slow=4.1,SNR=85								
NOA				PKPab		**PKPab**		13 59 09.6	**-0.6**
	comp=Z,16nm,0.8s,baz=23,slow=4.2,SNR=18								
NBO02	**NORSAR Array S**	**151.30**	**350**	*e*PKPdf		**PKPdf**		13 58 55.7	**-0.5**
NBO02				*e*PKPbc		**PKPbc**		13 59 02.1	**-0.1**
NBO00	**NORSAR Array S**	**151.33**	**350**	*e*PKPbc		**PKPbc**		13 59 02.4	**+0.1**
MMAI	**Mount Meron Ar**	**151.36**	**279**	PKPbc		**PKPbc**		13 59 03.5	**+0.2**
NAO01	**NORSAR Array S**	**151.50**	**350**	*e*PKPbc		**PKPbc**		13 59 02.5	**-0.1**
NC602	**NORSAR Array S**	**151.50**	**349**	*e*PKPbc		**PKPbc**		13 59 01.6	**-1.0**
NACGM	**Naroch**	**151.71**	**328**	*e*P		**PKPbc**		13 59 02.0	**-1.2**
NACGM				PM				13 59 03.0	
	comp=Z,0.2nm,0.8s								
LIC	**Lamto**	**152.68**	**167**	*e*P		**PKPbc**		13 59 06.7	**0.0**
	comp=Z,68nm,1.0s								
KONO	**Kongsberg**	**152.83**	**351** *c*	*i*PKiKP		**PKPbc**		13 59 06.2	**+0.6**
KONO				pmax		pmax			
	comp=Z,82nm,1.2s								
KONO	**Kongsberg**	**152.83**	**351**	*e*PKPbc		**PKPbc**		13 59 05.0	**-0.6**
KIC	**Kosan Boka**	**152.86**	**167**	*e*P		**PKPbc**		13 59 08.1	**+1.0**
	comp=Z,92nm,0.9s								
AKASG	**Malin Array Be**	**152.91**	**319**	PKPbc		**PKPbc**		13 59 05.7	**-0.4**
	comp=Z,17nm,0.7s,baz=62,slow=2.4,SNR=36								
AKBB	**Malin Array Si**	**152.91**	**319**	*e*PKiKP		**PKPbc**		13 59 05.2	**-0.9**
AKBB	**Malin Array Si**	**152.91**	**319**	*e*PKPbc		**PKPbc**		13 59 05.2	**-0.9**
KIEV	**Kiev**	**152.92**	**319**	*e*PKiKP		**PKPbc**		13 59 05.0	**-1.1**
KIEV	**Kiev**	**152.92**	**319**	*e*PKPbc		**PKPbc**		13 59 05.0	**-1.1**
AK11	**Malin Array Si**	**152.95**	**319**	*ep*PKPdf		**PKPbc**		13 59 05.0	**-1.1**
TIC	**Toumodi**	**153.09**	**166**	*e*P		**PKPbc**		13 59 07.1	**-0.5**
BR131	**Keskin Array S**	**153.12**	**294**	*ep*PKPdf		**PKPbc**		13 59 05.6	**-1.5**
BRTR	**Keskin Array B**	**153.12**	**294**	PKPbc		**PKPbc**		13 59 05.8	**-1.3**
	comp=Z,7.0nm,0.6s,baz=147,slow=3.7,SNR=27								
BRTR				PKPab		**PKPab**		13 59 18.8	**-0.1**
	comp=Z,2.5nm,0.5s,baz=150,slow=4.1,SNR=5.8								
DBIC	**Dimbokro**	**153.14**	**167**	PKPbc		**PKPbc**		13 59 07.3	**-0.4**
	comp=Z,10nm,0.4s,baz=113,slow=1.3,SNR=6.6								
BR231	**Keskin MP Arra**	**153.77**	**294**	*ep*PKPdf		**PKPbc**		13 59 06.4	**-2.1**
BURAR	**Bucovina Array**	**156.73**	**316**⇑	*i*P		**PKPab**		13 59 35.5	**+1.6**
BURAR	**Bucovina Array**	**156.73**	**316**⇑	PKP2		**PKPab**		13 59 35.5	**+1.6**
KWP	**Kalwaria Pacla**	**156.99**	**322**⇑	*i*P		**PKPab**		13 59 36.4	**+1.6**
KWP	**Kalwaria Pacla**	**156.99**	**322**⇑	PKP2		**PKPab**		13 59 36.4	**+1.6**
DRGR		**158.62**	**316**⇑	*i*P		**PKPab**		13 59 44.2	**+2.1**
DRGR		**158.62**	**316**⇑	PKP2		**PKPab**		13 59 44.2	**+2.1**
KECS	**Kecovo**	**158.84**	**322**	*e*PKiKP		**PKPdf**		13 59 07.3	**+0.5**
KECS				*e*				13 59 43.3	
KECS	**Kecovo**	**158.84**	**322**	*e*PKP		**PKPdf**		13 59 07.3	**+0.5**
KECS				*e*				13 59 43.2	
VYHS	**Vyhne**	**159.66**	**324**	*e*PKP2		**PKPab**		13 59 48.5	**+2.0**
VYHS	**Vyhne**	**159.66**	**324**	*e*PKP		**PKPab**		13 59 48.5	**+2.0**
CLL	**Collm**	**159.82**	**338**	*e*PKPab		**PKPab**		13 59 46.0	**-1.0**
	comp=Z,4.0nm,0.4s								
CLL				Lm		MLR		15 14 00.0	
	comp=Z,100nm,20.9s								
CLL	**Collm**	**159.82**	**338**	*e*PKP2		**PKPab**		13 59 46.0	**-1.0**
CLL				pmax		pmax			
	comp=Z,4.0nm,0.4s								
TOA0	**Torodi Ar. Sit**	**160.16**	**182**	*e*PKPdf		**PKPdf**		13 59 09.3	**0.0**
TOA0				*e*PKPab		**PKPab**		13 59 49.7	**+0.4**
TORD	**Torodi Ar. Bea**	**160.16**	**182**	PKP		**PKPdf**		13 59 09.3	**0.0**
	comp=Z,1.7nm,0.8s,baz=129,slow=0.3,SNR=8.6								
TORD				PKPab		**PKPab**		13 59 48.9	**-0.5**
	comp=Z,13nm,0.8s,baz=163,slow=3.0,SNR=3.7								
MDVR	**Moldovita**	**160.25**	**312**⇓	*i*P		**PKPab**		13 59 50.0	**+0.8**
KHC	**Kasperske Hory**	**161.46**	**334**	*e*PKPDF		**PKPdf**		13 59 09.7	**0.0**
KHC	**Kasperske Hory**	**161.46**	**334**	*e*PKiKP		**PKPdf**		13 59 09.7	**0.0**
GEC2	**GERESS Array S**	**161.65**	**333**	*e*PKP2		**PKPab**		13 59 54.8	**-0.4**
GEC2	**GERESS Array S**	**161.65**	**333**	*e*PKPab		**PKPab**		13 59 54.8	**-0.4**
GERES	**GERESS Array B**	**161.65**	**333**	PKP		**PKPdf**		13 59 09.3	**-0.7**
	comp=Z,0.3nm,0.2s,baz=116,slow=3.1,SNR=6.1								
ESDC	**Sonseca Array**	**172.23**	**31**	PKP		**PKPdf**		13 59 17.3	**-0.8**
	comp=Z,0.3nm,0.4s,baz=334,slow=2.2,SNR=4.9								
ESDC				PKPab		**PKPab**		14 00 42.0	**0.0**
	comp=Z,0.7nm,0.6s,baz=326,slow=4.1,SNR=4.4								
ES19	**SONSECA Array**	**172.23**	**30**	*e*PKPab		**PKPab**		14 00 43.1	**+1.0**

*IDC **27** 13:44:36.9±1.1, 2°.23S×136°.72E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/30, mbtmp3.9/6, ML2.6/1, MS3.3/2, Ms1 3.4/2, ms1mx2.6/30, Error ellipse: s-maj=35.4km s-min=24.2km az=75.0*
*ISCJB **27** 13:44:39.8±0.8, 2°.3S±0°.1×136°.79E±0°.07, h33km, mb3.9/5, MS3.3/2, Error ellipse: s-maj=15.8km s-min=10.5km az=4.1*
ISC 27 13:44:41.9±1.0, 2°.3S±0°.1×136°.8E±0°.1, h35km, n8, σ0s61/8, mb4.1/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.92**	**93**	Pn		**Pn**	**13 45 40.0**	**+0.4**
	0.4nm,0.3s,baz=249,slow=22,SNR=15							
JAY				Sn		**Sn**	**13 46 24.2**	**-0.3**
	0.9nm,0.3s,baz=85,slow=23,SNR=9.0							
WRA	**Warramunga Arr**	**17.68**	**188**	P		**Pn**	**13 48 45.1**	**-0.5**
	baz=8.0,slow=12,SNR=1.8							
ASAR	**Alice Springs**	**21.41**	**187**	P		**P**	**13 49 27.3**	**+0.4**
	1.1nm,0.5s,baz=12,slow=11,SNR=3.5							
TGY	**Tagaytay City**	**22.65**	**317**	LR		LR	13 59 29.4	
	comp=Z,28nm,20.7s,baz=3.5,slow=40							
MKAR	**Makanchi Array**	**68.31**	**323**	P		**P**	**13 55 40.4**	**+0.8**
	1.1nm,0.5s,baz=112,slow=5.9,SNR=13							
ZALV	**Zalesovo Beam**	**70.64**	**330**	P		**P**	**13 55 53.2**	**-0.5**
	1.1nm,0.5s,baz=117,slow=7.7,SNR=3.5							
BVAR	**Borovoye Array**	**77.90**	**326**	P		**P**	**13 56 35.5**	**-0.6**
	1.6nm,0.7s,baz=110,slow=8.5,SNR=5.1							
ILAR	**Eielson Array**	**86.27**	**25**	P		**P**	**13 57 19.6**	**-0.2**
	0.5nm,0.7s,baz=255,slow=4.9,SNR=6.0							
ILAR				LR		LR	14 31 06.8	
	comp=Z,48nm,20.1s,baz=180,slow=32							

*NIED **27** 13:54:00, 39°.60N×142°.10E, h47km, Mw3.6 Best double couple: M₀2.45000×10¹⁴ NP1:φs159.00000°, δ47.00000°, λ26.00000°. NP2:φs51.00000°, δ72.00000°, λ134.00000°.*
JMA 27 13:54:42.5, 39°.64N×142°.11E, h48km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.23**	**254**	P		Pn	13 54 50.9	0.0
MIYJ				*e*S		Sn	13 54 56.6	-0.2
JTH	**Tanohata**	**0.35**	**328**	P		Pn	13 54 52.0	0.0
JTH				S		Sn	13

WRA	**Warramunga Arr**	**39.61**	**197**	P	P	14 50 36.6	+0.4
	1.6nm,0.4s,baz=18,slow=8.5,SNR=30						
ASAR	**Alice Springs**	**43.27**	**196**	P	P	14 51 05.9	0.0
	0.3nm,0.4s,baz=12,slow=6.2,SNR=22						
SONM	**Songino Array**	**43.72**	**322**	P	P	14 51 09.4	0.0
	0.8nm,0.6s,baz=129,slow=7.3,SNR=3.7						
STKA	**Stephens Creek**	**49.98**	**185**	P	P	14 51 57.6	-0.3
	1.1nm,0.6s,baz=352,slow=7.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**58.59**	**323**	P	P	14 52 59.6	-0.3
	1.7nm,0.7s,baz=104,slow=6.8,SNR=6.5						
MKAR	**Makanchi Array**	**59.02**	**314**	P	P	14 53 03.9	+0.7
	0.4nm,0.5s,baz=92,slow=6.5,SNR=5.5						
ILAR	**Eielson Array**	**63.94**	**26**	P	P	14 53 35.5	-0.2
	0.5nm,0.7s,baz=267,slow=6.0,SNR=4.6						
YKA	**Yellowknife Ar**	**78.27**	**28**	P	P	14 55 02.4	+0.5
	0.3nm,0.5s,baz=284,slow=5.1,SNR=4.6						
ARCES	**ARCESS Array B**	**83.05**	**342**	P	P	14 55 27.6	+0.3
	1.6nm,0.7s,baz=64,slow=8.4,SNR=7.6						
FINES	**FINESS Array B**	**87.46**	**335**	P	P	14 55 47.8	-1.4
	1.4nm,0.6s,baz=58,slow=4.0,SNR=7.8						
LPAZ	**La Paz**	**147.35**	**92**	PKPbc	PKPbc	15 02 45.3	-1.2
	0.8nm,0.7s,baz=261,slow=7.5,SNR=3.5						

NIED ***27*** *15:04:00,35.90N×141.10E,h11km,Mw4.2 Best double couple: M₀2.12000×10¹⁵ NP1:φs175.00000°,δ40.00000°, λ-110.00000°. NP2:φs20.00000°,δ53.00000°, λ-74.00000°.*

IDC ***27*** *15:04:45.2±0.5,35.77N×141.00E,h0km,mb4.2/25, mb1 4.3/29,mb1mx4.3/38,mbtmp4.2/29,ML3.4/4,MS3.2/7, Ms1 3.3/7,ms1mx3.0/39,Error ellipse: s-maj=15.2km s-min=11.9km az=101.0*

ISCJB ***27*** *15:04:46.6±0.6,35.84N±0.02×141.07E±0.04,h19km±4km, mb4.4/58,MS3.4/5,Error ellipse: s-maj=5.2km s-min=4.2km az=11.2*

JMA ***27*** *15:04:47.5±0.1,35.82N×141.00E,h18km±1km,M4.5*

JMA Felt II J1.

BJI ***27*** *15:04:47.4,35.83N×141.06E,h27km,mb4.4/33,mB4.8/20, Ms4.6/10,Ms7 4.2/7*

NEIC ***27*** *15:04:48.5±2.0,35.86N×140.99E,h19km±12km,mb4.7/18, Error ellipse: s-maj=6.1km s-min=5.0km az=122.0*

NEIC Recorded [2 JMA] in Chiba, Ibaraki and Tochigi.

MOS ***27*** *15:04:49.7±0.9,36.15N×140.95E,h27km,mb4.7/42,Error ellipse: s-maj=9.0km s-min=5.3km az=111.8*

ISC 27 15:04:47.6±0.7,35.85N±0.03×141.05E±0.05,h12km±4km, n152,σ1§46/166,mb4.5/58,MS3.3/5,11C-11D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.22**	**226**	⇑P		**Pg**		**15 04 51.8**	**-0.4**
CHOJ				S		**Sg**		**15 04 55.0**	**-0.4**
JYT	**Yasato**	**0.79**	**299**	P		**Pg**		**15 05 01.7**	**-1.2**
JYT				*e*S		**Sg**		**15 05 12.9**	**-0.3**
JCN	**Nagara**	**0.82**	**238**	⇑P		**Pg**		**15 05 01.8**	**-1.6**
JCN				*e*S		**Sg**		**15 05 12.6**	**-1.4**
JHO	**Hitachi**	**0.85**	**333**	⇓P		**Pg**		**15 05 03.2**	**-0.9**
JHO				S		**Sg**		**15 05 15.2**	**0.0**
BSO4	**Boso 4**	**1.04**	**214**	P		**Pb**		**15 05 06.6**	**-0.8**
BSO3	**Boso 3**	**1.14**	**203**	⇑P		**Pb**		**15 05 07.6**	**-1.4**
MJAR	**Matsushiro Arr**	**2.40**	**288**	Pn		**Pn**		**15 05 25.5**	**-1.2**
	38nm,0.3s,baz=92,slow=8.6,SNR=168								
MJAR				Sn		**Sn**		**15 05 55.8**	**-0.3**
	37nm,0.3s,baz=75,slow=11,SNR=7.9								
MAJO	**Matsushiro**	**2.40**	**288**	*c* i P		**Pn**		**15 05 25.7**	**-1.0**
MAJO	**Matsushiro**	**2.40**	**288**	*e*Pn		**Pn**		**15 05 25.8**	**-1.0**
MAT	**Matsushiro**	**2.40**	**288**	P		**Pn**		**15 05 25.6**	**-1.1**
MAT				*e*S		**Sn**		**15 05 53.1**	**-3.0**
MJB9	**Matsu-Tunnel**	**2.41**	**288**	*e*Pn		**Pn**		**15 05 25.7**	**-1.1**
JHJ2	**Mitsune**	**2.92**	**201**	*e*Pn		**Pn**		**15 05 35.2**	**+1.4**
JHJ	**Hachijo jima 2**	**2.92**	**201**	Pn		**Pn**		**15 05 33.6**	**-0.2**
	32nm,0.3s,baz=111,slow=23,SNR=9.5								
JHJ				Sn		**Sn**		**15 06 08.0**	**-0.8**
	40nm,0.3s,baz=240,slow=20,SNR=3.8								
JHJ				LR		LR		15 06 26.8	
	comp=Z,147nm,20.3s,baz=36,slow=36								
INU	**Inuyama**	**3.33**	**262**	*e*Pn		**Pn**		**15 05 41.5**	**+2.1**
ERM	**Erimo**	**6.37**	**14**	⇓*e*P		**Pn**		**15 06 21.0**	**-0.2**
ERM	**Erimo**	**6.37**	**14**	*e*Pn		**Pn**		**15 06 20.9**	**-0.3**
ERM				*e*Sn		**Sn**		**15 07 35.5**	**+1.7**
ASAJ	**Asahikawa**	**8.34**	**8**	Pn		**Pn**		**15 06 46.7**	**-1.6**
	baz=229,slow=8.3								
ASAJ	**Asahikawa**	**8.34**	**8**	*e*Pn		**Pn**		**15 06 46.8**	**-1.5**
CBIJ	**Chichi jima**	**8.78**	**173**	*e*Pn		**Pn**		**15 06 54.7**	**+0.3**
JNU	**Nakatsue**	**8.83**	**255**	LR		LR		15 10 58.6	
	comp=Z,234nm,18.8s,baz=293,slow=43								
VLA	**Vladivostok**	**10.14**	**318**	*b* iP		**Pn**		**15 07 15.2**	**+2.3**
VLA				*e*S		**Sn**		**15 09 08.9**	**+2.5**
VLA				pmax		pmax			
	comp=Z,24nm,1.3s								
MSHR	**Mys Shultsa**	**10.20**	**314**	⇓*e*P		**Pn**		**15 07 12.0**	**-1.7**
KSRS	**Korea Array**	**10.67**	**282**	Pn		**Pn**		**15 07 23.6**	**+3.5**
	comp=Z,0.2nm,0.3s,baz=95,slow=14,SNR=3.2								
KSRS				LR		LR		15 10 40.9	
	comp=Z,106nm,20.9s,baz=50,slow=33								
KSAR	**Wonju Array Be**	**10.70**	**282**	P		**Pn**		**15 07 23.7**	**+3.1**
KSAR	**Wonju Array Be**	**10.70**	**282**	Pn		**Pn**		**15 07 23.6**	**+3.1**
KUR	**Kuril'sk**	**10.71**	**27**	P		**Pn**		**15 07 21.8**	**+1.2**
KUR				*e*S		**Sn**		**15 09 14.2**	**-6.1**
KUR				smax		smax			
	comp=E,16nm,0.5s								
USRK	**Ussuriysk Ar.**	**10.85**	**323**	Pn		**Pn**		**15 07 23.7**	**+1.1**
	comp=E,0.3nm,0.3s,baz=138,slow=12,SNR=6.2								
YSS	**Yuzh-Sakhalins**	**11.16**	**6**	*e*P		**Pn**		**15 07 27.1**	**+0.2**
YSS				pmax		pmax			
	comp=Z,20nm,0.7s								
YSS				MLR		MLR			
	comp=Z,200nm,12.0s								
YSS	**Yuzh-Sakhalins**	**11.16**	**6**	*e*Pn		**Pn**		**15 07 26.5**	**-0.4**
CN2	**Changchun**	**14.36**	**308**	*e*P		**Pn**		**15 08 12.0**	**+1.3**
KLR	**Kul'dur**	**15.01**	**336**	Pn		**Pn**		**15 08 17.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=156,slow=20,SNR=3.1								
KLR	**Kul'dur**	**15.01**	**336**	⇑*e*P		**Pn**		**15 08 17.5**	**-1.9**
TYV	**Tymovskoe**	**15.05**	**4**	*e*P		**Pn**		**15 08 16.5**	**-3.4**
TYV				pmax		pmax			
	comp=Z,22nm,0.8s								
PETK	**Petropavlovsk-**	**20.86**	**29**	P		**P**		**15 09 28.8**	**-0.4**
	comp=Z,5.5nm,0.8s,baz=217,slow=5.9,SNR=5.4								
HHC	**Hu-ho-hao-te**	**23.60**	**291**	*e*P		**P**		**15 09 58.8**	**+0.5**
HHC				PMZ					
	comp=Z,18nm,1.0s								
HHC				PMZ					
	comp=Z,65nm,6.8s								
MA2	**Magadan**	**24.57**	**12**	P		**P**		**15 10 07.3**	**+0.2**
	comp=Z,9.8nm,0.9s,baz=234,slow=8.6,SNR=6.3								
YAK	**Yakutsk**	**27.16**	**348**	*e*P		**P**		**15 10 29.5**	**-0.9**
YAK				pmax		pmax			
	comp=Z,10.0nm,1.1s								
YAK				pmax		pmax			
	comp=N,10.0nm,1.5s								
YAK				pmax		pmax			
	comp=E,5.0nm,2.0s								
ULN	**Ulaanbaatar**	**27.80**	**306**	⇓*e*P		**P**		**15 10 36.6**	**+0.1**
ULN				pmax		pmax			
	comp=Z,4.0nm,1.0s								
H11N2	**WAKE ISLAND Hy**	**27.82**	**118**	T		T		15 39 38.4	
	baz=311,slow=75,SNR=742								
H11N1	**WAKE ISLAND Hy**	**27.83**	**118**	T		T		15 39 38.8	
	baz=311,slow=75,SNR=711								
H11N3	**WAKE ISLAND Hy**	**27.84**	**118**	T		T		15 39 39.6	
	baz=311,slow=75,SNR=689								
SEY	**Seymchan**	**28.00**	**11**	P		**P**		**15 10 39.2**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=195,slow=7.0,SNR=16								
SEY	**Seymchan**	**28.00**	**11**	⇓*e*P		**P**		**15 10 38.0**	**0.0**
SONA1	**Songino Array**	**28.22**	**306**	*e*P		**P**		**15 10 39.8**	**-0.5**
SONM	**Songino Array**	**28.22**	**306**	P		**P**		**15 10 39.8**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=106,slow=11,SNR=5.6								
SONM				LR		LR		15 22 25.8	
	comp=Z,62nm,18.3s,baz=72,slow=38								
BOD	**Bodaibo**	**28.38**	**329**	*e*P		**P**		**15 10 40.8**	**-0.6**
BOD				pmax		pmax			
	comp=Z,4.0nm,1.0s								
H11S1	**WAKE ISLAND Hy**	**28.49**	**121**	T		T		15 40 42.3	
	baz=313,slow=76,SNR=440								
H11S3	**WAKE ISLAND Hy**	**28.49**	**121**	T		T		15 40 28.1	
	baz=313,slow=76,SNR=290								
H11S2	**WAKE ISLAND Hy**	**28.50**	**121**	T		T		15 40 27.1	
	baz=313,slow=76,SNR=276								
GYA	**Guiyang**	**30.75**	**262**	P		**P**		**15 11 02.5**	**-0.4**
GYA				PMZ					
	comp=Z,10.0nm,0.8s								
CD2	**Chengdu**	**31.40**	**272**	*e*P		**P**		**15 11 07.8**	**-0.7**
CD2				pP		sP		15 11 14.3	+0.5
CD2				sP		pP		15 11 17.0	+4.7
CD2				S		**S**		**15 16 14.3**	**-1.6**
CD2				sS		sS		15 16 25.3	+3.2
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.0s								
QIZ	**Qiongzhong**	**32.19**	**247**	P		**P**		**15 11 15.5**	**0.0**
QIZ				S		**S**		**15 16 28.0**	**-0.2**
QIZ				PMZ					
	comp=Z,16nm,1.6s								
QIZ				PMZ					
	comp=Z,71nm,3.1s								
GTA	**Gaotai**	**32.65**	**289**	*e*P		**P**		**15 11 23.5**	**+4.0**
GTA				pP		sP		15 11 27.5	+2.7
GTA				sP		pP		15 11 30.5	+7.2
GTA				PMZ					
	comp=Z,3.0nm,1.1s								
KMI	**Kunming**	**34.51**	**263**	P		**P**		**15 11 37.3**	**+1.4**
KMI				PMZ					
	comp=Z,6.0nm,0.6s								
KMI				PMZ					
	comp=Z,91nm,4.2s								
BILL	**Bilibino**	**35.24**	**16**	*c e*P		**P**		**15 11 42.1**	**+0.6**
BILL				*e*				15 12 57.5	
BILL				pmax		pmax			
	comp=Z,5.0nm,1.2s								
BILL				MLR		MLR			
	comp=Z,78nm,17.0s								
BILL	**Bilibino**	**35.24**	**16**	*e*P		**P**		**15 11 42.3**	**+0.8**
	comp=Z,3.3nm,0.8s								
TIXI	**Tiksi**	**36.43**	**354**	P		**P**		**15 11 51.3**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=118,slow=3.3,SNR=3.1								
CMAR	**Chiang Mai Arr**	**40.92**	**256**	P		**P**		**15 12 28.7**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=49,slow=9.7,SNR=3.0								
CMAR				LR		LR		15 30 59.1	
	comp=Z,41nm,18.4s,baz=45,slow=38								
WMQ	**Urumqi**	**41.12**	**298**	P		**P**		**15 12 33.3**	**+1.8**
WMQ				pP		sP		15 12 39.3	+2.5
WMQ				sP		pP		15 12 42.3	+7.0
WMQ				PMZ					
	comp=Z,4.0nm,0.7s								
WMQ				PMZ					
	comp=Z,41nm,4.3s								
ZAA0	**Zalesovo Array**	**42.50**	**313**	*e*P		**P**		**15 12 41.5**	**-1.0**
ZALV	**Zalesovo Beam**	**42.50**	**313**	P		**P**		**15 12 42.6**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=89,slow=6.1,SNR=12								
ZALV				PcP		**PcP**		**15 14 34.5**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=48,slow=3.0,SNR=4.1								
NRIK	**Noril'sk**	**44.22**	**336**	P		**P**		**15 12 56.9**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=108,slow=6.3,SNR=5.1								
NRIK				PcP		**PcP**		**15 14 40.8**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=100,slow=4.0,SNR=4.1								
MK01	**Makanchi Array**	**44.50**	**303**	*e*P		**P**		**15 12 58.4**	**-0.4**
MK31	**Makanchi Array**	**44.51**	**303**	*ce*P		**P**		**15 12 58.7**	**-0.1**
MK31				pmax		pmax			
	comp=Z,6.0nm,0.6s								
MK31	**Makanchi Array**	**44.51**	**303**	*e*P		**P**		**15 12 59.1**	**+0.2**
MKAR	**Makanchi Array**	**44.51**	**303**	P		**P**		**15 12 59.0**	**+0.2**
	comp=Z,5.8nm,0.7s,baz=90,slow=9.8,SNR=58								
MKAR				LR		LR		15 30 25.7	
	comp=Z,29nm,19.3s,baz=92,slow=35								
MKAR	**Makanchi Array**	**44.51**	**303**	*e*P		**P**		**15 12 59.0**	**+0.2**
MAKZ	**Makanchi**	**44.72**	**303**	*e*P		**P**		**13 00.6**	**+0.1**
MAKZ				pmax		pmax			
	comp=Z,7.0nm,0.8s								
MAKZ	**Makanchi**	**44.72**	**303**	*e*P		**P**		**15 13 00.6**	**+0.1**
	comp=Z,7.0nm,0.8s								
KURK	**Kurchatov**	**46.44**	**309**	*c* iP		**P**		**15 13 13.8**	**-0.2**
KURK				pmax		pmax			
	comp=Z,71nm,1.2s								
KURK	**Kurchatov**	**46.44**	**309**	*e*P		**P**		**15 13 13.7**	**-0.2**
	comp=Z,50nm,0.9s								
KDAK	**Kodiak Island**	**48.17**	**41**	*i* P		**P**		**15 13 28.6**	**+1.2**
MLY	**Manley**	**49.01**	**31**	*e*P		**P**		**15 13 34.7**	**+0.9**
	comp=Z,3.0nm,0.8s								
TKM2	**Tokmak 2**	**49.94**	**299**	*e*P		**P**		**15 13 41.7**	**+0.2**
TKM2				pmax		pmax			
	comp=Z,16nm,1.6s								
TKM2	**Tokmak 2**	**49.94**	**299**	*e*P		**P**		**15 13 41.7**	**+0.2**
	comp=Z,16nm,1.6s								
MDM	**Murphy Dome**	**50.07**	**32**	*e*P		**P**		**15 13 43.8**	**+1.9**
	comp=Z,5.3nm,0.8s								
KSH	**Kashi**	**50.63**	**295**	*e*P		P		15 13 51.8	+5.2
KSH				pP		sP		15 13 58.0	+6.0
KSH				PcP		**PcP**		**15 15 08.3**	**+4.2**
KSH				PP		**PP**		**15 15 48.3**	**+5.9**
KSH				S		**S**		**15 21 05.5**	**+4.3**
KSH				ScS		**ScS**		**15 23 38.5**	**+0.9**
KSH				SS		**SS**		**15 24 37.0**	**+1.8**
KSH				PMZ					
	comp=Z,2.0nm,0.4s								
KSH				PMZ					
	comp=Z,77nm,5.9s								
KSH				LN					
	comp=Z,95nm,4.9s								
KSH				LE					
	comp=Z,74nm,5.0s								
IL1	**Eielson Array**	**50.65**	**32**	*e*P		**P**		**15 13 46.8**	**+0.5**
ILAR	**Eielson Array**	**50.65**	**32**	P		**P**		**15 13 46.6**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=267,slow=6.2,SNR=21								
ILAR	**Eielson Array**	**50.65**	**32**	P		**P**		**15 13 46.6**	**+0.4**
ILAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ILB	**Eielson Array**	**50.65**	**32**	*e*P		**P**		**15 13 46.7**	**+0.5**
AAK	**Ala-Archa**	**50.80**	**299**	⇓*e*P		**P**		**15 13 47.7**	**-0.2**
AAK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
VOSK	**Vostochnaya**	**50.86**	**312**	*e*P		**P**		**15 13 47.4**	**-0.6**
VOSK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
VOSK	**Vostochnaya**	**50.86**	**312**	*e*P		**P**		**15 13 47.4**	**-0.6**
	comp=Z,7.1nm,0.8s								
OTUK	**Ortayu**	**50.89**	**307**	P		**P**		**15 13 48.5**	**+0.2**
OTUK				pmax		pmax			
	comp=Z,10.0nm,0.9s								
CHKZ	**Chkalovo**	**50.91**	**314**	*i* P		**P**		**15 13 47.6**	**-0.7**
CHKZ				pmax		pmax			
	comp=Z,8.0nm,0.9s								
BVA0	**Borovoye Array**	**51.16**	**313**	P		**P**		**15 13 49.8**	**-0.4**
BVA0				pmax		pmax			
	comp=Z,10.0nm,1.3s								
BRVK	**Borovoye**	**51.21**	**313**	*c* iP		**P**		**15 13 50.9**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,18nm,0.8s								
BRVK	**Borovoye**	**51.21**	**313**	*e*P		**P**		**15 13 49.7**	**-0.9**
	comp=Z,17nm,0.9s								
BMRM	**Bremner River**	**51.98**	**37**	*e*P		**P**		**15 13 55.1**	**-1.2**
	comp=Z,10nm,0.9s								
ZRNK	**Zerenda**	**51.99**	**313**	*i* P		**P**		**15 13 56.3**	**-0.2**
ZRNK				pmax		pmax			
	comp=Z,13nm,1.1s								
ZRNK	**Zerenda**	**51.99**	**313**	*e*P		**P**		**15 13 56.4**	**-0.2**
	comp=Z,9.3nm,0.8s								
KKAR	**Karatay Array**	**53.47**	**301**	*e*P		**P**		**15 14 07.3**	**-0.3**
KKAR	**Karatay Array**	**53.47**	**301**	*e*P		**P**		**15 14 07.3**	**-0.3**
HYT	**Haines Junctio**	**55.42**	**36**	*e*P		**P**		**15 14 22.8**	**+1.2**
	comp=Z,3.4nm,0.8s								
INK	**Inuvik**	**55.57**	**27**	P		**P**		**15 14 22.6**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=334,slow=7.2,SNR=3.1								
SVE	**Sverdlovsk**	**55.84**	**319**	⇓*e*P		**P**		**15 14 25.3**	**+0.7**
SVE				pmax		pmax			
	comp=Z,14nm,0.9s								
WRA	**Warramunga Arr**	**55.85**	**188**	P		**P**		**15 14 22.9**	**-2.1**
	comp=Z,3.6nm,0.8s,baz=6.7,slow=7.3,SNR=30								
ARU	**Arti**	**57.05**	**319**	*d* iP		**P**		**15 14 33.1**	**-0.1**
ARU								15 15 24.8	
ARU				S		**S**		**15 22 26.0**	**-1.4**
ARU				SS		**SS**		**15 26 09.8**	**-5.7**
ARU				pmax		pmax			
	comp=Z,22nm,1.0s								
ARU	**Arti**	**57.05**	**319**	*e*P		**P**		**15 14 33.0**	**-0.2**
	comp=Z,19nm,0.9s								
AB31	**Akbulak array**	**58.48**	**311**	*ce*P		**P**		**15 14 42.8**	**-0.5**
AB31				pmax		pmax			
	comp=Z,3.0nm,0.6s								
ABKAR	**Akbulak array**	**58.48**	**311**	*e*P		**P**		**15 14 42.8**	**-0.6**
AS31	**Alice Springs**	**59.58**	**188**	*e*P		**P**		**15 14 50.8**	**-0.4**
	comp=Z,0.9nm,0.7s								
ASAR	**Alice Springs**	**59.58**	**188**	P		**P**		**15 14 50.3**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=12,slow=6.7,SNR=24								
GEYT	**Alibeck**	**64.15**	**299**	P		**P**		**15 15 21.9**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=33,slow=8.9,SNR=4.0								
KLMR	**Klimovskoe**	**64.60**	**328**	*e*P		**P**		**15 15 23.3**	**-1.1**
KLMR				pmax		pmax			
	comp=Z,6.0nm,0.9s								
YKA	**Yellowknife Ar**	**64.98**	**30**	P		**P**		**15 15 27.5**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=298,slow=6.5,SNR=10								
ARCES	**ARCESS Array B**	**65.00**	**340**	P		**P**		**15 15 27.1**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=39,slow=7.8,SNR=5.2								
STKA	**Stephens Creek**	**67.38**	**179**	P		**P**		**15 15 40.8**	**-1.7**
	comp=Z,1.9nm,1.0s,baz=336,slow=8.3,SNR=3.4								
VSR	**Storozhevoye**	**69.63**	**319**	*e*P		**P**		**15 15 55.8**	**-0.7**
VSR				pmax		pmax			
	comp=Z,9.0nm,0.7s								
FIA1	**FINESS Array S**	**69.72**	**332**	*e*P		**P**		**15 15 56.4**	**-0.5**
FINES	**FINESS Array B**	**69.72**	**332**	P		**P**		**15 15 56.1**	**-0.8**
	comp=Z,7.9nm,0.8s,baz=60,slow=7.5,SNR=21								
VSU	**Vasula**	**71.32**	**330**	⇓*e*P		**P**		**15 16 06.9**	**+0.2**
VSU				pmax		pmax			
	comp=Z,11nm,0.7s								
KBZ	**Khabaz**	**71.45**	**311**	P		**P**		**15 16 07.4**	**-0.4**
	comp=Z,6.5nm,1.0s,baz=48,slow=4.1,SNR=5.9								
SUMG	**Summit**	**71.86**	**360**	*e*P		**P**		**15 16 10.0**	**-0.3**
SUMG				pmax		pmax			
	comp=Z,14nm,1.0s								
SUMG	**Summit**	**71.86**	**360**	*e*P		**P**		**15 16 10.0**	**-0.3**
	comp=Z,14nm,1.0s								
NC405	**NORSAR Array S**	**74.95**	**337**	*e*P		**P**		**15 16 28.3**	**+0.1**
AKASG	**Malin Array Be**	**75.05**	**322**	P		**P**		**15 16 28.4**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=47,slow=6.5,SNR=11								
KIEV	**Kiev**	**75.06**	**322**	*d* iP		**P**		**15 16 28.4**	**-0.6**
KIEV				pmax		pmax			
	comp=Z,6.0nm,0.9s								
NC204	**NORSAR Array S**	**75.12**	**338**	*e*P		**P**		**15 16 28.9**	**-0.4**
NB201	**NORSAR Array S**	**75.13**	**337**	*e*P		**P**		**15 16 28.9**	**-0.4**
NB2	**NORSAR Subarra**	**75.16**	**337**	P		**P**		**15 16 29.5**	**0.0**
	comp=Z,5.9nm,0.8s,baz=41,slow=5.9								
NOA	**NORSAR Array B**	**75.16**	**337**	P		**P**		**15 16 29.1**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=40,slow=5.7,SNR=14								
NOA				LR		LR		15 52 38.4	
	comp=Z,27nm,20.1s,baz=0.0,slow=38								
LRM	**Limekiln Ridge**	**75.20**	**44**	*e*P		**P**		**15 16 31.0**	**+0.8**
BW06	**Boulder Array**	**78.70**	**45**	*e*P		**P**		**15 16 48.8**	**-1.2**
PDAR	**Pinedale Array**	**78.70**	**45**	P		**P**		**15 16 49.3**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=263,slow=3.1,SNR=6.6								
BRTR	**Keskin Array B**	**79.42**	**312**	P		**P**		**15 16 53.5**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=80,slow=3.2,SNR=6.0								
STHS	**Stebnicka Huta**	**79.75**	**325**	*e*P		**P**		**15 16 56.2**	**+0.8**
STHS				pmax		pmax			
	comp=Z,3.0nm,1.0s								
STHS	**Stebnicka Huta**	**79.75**	**325**	*e*P		**P**		**15 16 56.2**	**+0.8**
OJC	**Ojcow**	**79.86**	**326**	*e*P		**P**		**15 16 56.4**	**+0.6**
OJC	**Ojcow**	**79.86**	**326**	*e*P		**P**		**15 16 56.4**	**+0.6**
BR231	**Keskin MP Arra**	**79.86**	**312**	*e*P		**P**		**15 16 54.5**	**-1.7**
CRVS	**Cervenica-Dubn**	**80.01**	**324**	*e*P		**P**		**15 16 57.5**	**+0.8**
CRVS	**Cervenica-Dubn**	**80.01**	**324**	*e*P		**P**		**15 16 57.5**	**+0.8**
SRU	**San Rafael Swe**	**80.41**	**48**	*e*P		**P**		**15 16 59.2**	**-0.1**
SRU				pmax		pmax			
	comp=Z,3.0nm,0.5s								
SRU	**San Rafael Swe**	**80.41**	**48**	*e*P		**P**		**15 16 59.1**	**-0.1**
	comp=Z,2.9nm,0.5s								
DPC	**Dobruska-Polom**	**81.30**	**328**	*e*P		**P**		**15 17 04.7**	**+1.0**
DPC	**Dobruska-Polom**	**81.30**	**328**	*e*P		**P**		**15 17 04.7**	**+1.0**
BRG	**Berggiesshubel**	**81.92**	**329**	*e*PKP		**P**		**15 17 07.0**	**+0.1**
	comp=Z,4.7nm,0.9s								
BRG	**Berggiesshubel**	**81.92**	**329**	*e*P		**P**		**15 17 06.9**	**+0.1**
BRG				pmax		pmax			
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**81.97**	**330**	*i* P		**P**		**15 17 07.1**	**0.0**
	comp=Z,8.0nm,0.9s								
CLL				*e*				15 17 12.0	
CLL	**Collm**	**81.

JHJ				S		**Sn**	**15 32 42.6**	**+0.3**
	163nm,0.3s,baz=74,slow=22,SNR=15							
JHJ2	**Mitsune**	**1.19**	**176**	P		**Pn**	**15 32 24.6**	**+0.4**
JHJ2				*eS*		**Sn**	**15 32 43.0**	**+0.6**
SHZ3	**Shizuoka 3**	**1.45**	**302**	P		**Pn**	**15 32 27.7**	**+0.6**
SHZ3				S		**Sn**	**15 32 49.1**	**+1.4**
TK04	**Tokai 4**	**1.52**	**274**	P		**Pn**	**15 32 28.8**	**+1.1**
TK04				S		**Sn**	**15 32 48.9**	**+0.1**
JYN	**Shimob**	**1.53**	**322**	P		**Pn**	**15 32 28.6**	**+0.5**
TK02	**Tokai 2**	**1.66**	**258**	P		**Pn**	**15 32 30.3**	**+1.1**
MJAR	**Matsushiro Arr**	**2.55**	**332**	P		**Pn**	**15 32 41.4**	**+0.8**
	2.3nm,0.3s,baz=167,slow=14,SNR=14							
MJAR				S		**Sn**	**15 33 12.4**	**+0.7**
	3.9nm,0.3s,baz=125,slow=25,SNR=12							
MAT	**Matsushiro**	**2.55**	**332**	P		**Pn**	**15 32 41.2**	**+0.6**
MAT				*eS*		**Sn**	**15 33 10.8**	**-1.0**
ZALV	**Zalesovo Beam**	**42.79**	**315**	P		**P**	**15 39 45.1**	**-0.3**
	0.4nm,0.3s,baz=101,slow=7.5,SNR=3.4							
MKAR	**Makanchi Array**	**44.45**	**304**	P		**P**	**15 39 58.8**	**-0.1**
	1.2nm,0.6s,baz=93,slow=6.2,SNR=14							
ILAR	**Eielson Array**	**52.55**	**31**	LR		LR	16 04 39.1	
	comp=Z,44nm,18.7s,baz=172,slow=37							
WRA	**Warramunga Arr**	**54.18**	**186**	P		**P**	**15 41 11.9**	**-1.1**
	0.3nm,0.4s,baz=1.0,slow=7.5,SNR=14							
ASAR	**Alice Springs**	**57.91**	**186**	P		**P**	**15 41 39.0**	**-0.4**
	0.2nm,0.7s,baz=0.3,slow=6.6,SNR=4.8							

CSEM ***27*** *15:39:50.8±0.3,39.˚18N×29.˚08E,h5km,MD2.7,Error ellipse: s-maj=7.0km s-min=3.0km az=65.0*
DDA ***27*** *15:39:50.6,39.˚16N×29.˚09E,h7km,Md2.4*
ISCJB ***27*** *15:39:51.8±1.3,39.˚19N±0.˚06×29.˚1E±0.˚1,h7km±11km, Error ellipse: s-maj=13.2km s-min=9.2km az=172.5*
ISK ***27*** *15:39:51.8,39.˚19N×29.˚19E,h12km,MD2.7*

ISC 27 15:39:51.6±1.5,39.˚19N±0.˚05×29.˚13E±0.˚08,h9km±11km, n14,σ0s43/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.26**	**124**	*e*PG	**Pg**	**15 39 56.7**	**-0.2**
GEDZ				*e*SG	**Sg**	**15 40 01.1**	**+0.6**
GEDZ	**Gediz**	**0.26**	**124**	*e*Pg	**Pg**	**15 39 56.7**	**-0.2**
GEDZ				*e*Sg	**Sg**	**15 40 01.1**	**+0.6**
GDZ	**Gediz**	**0.29**	**110**	P	**Pg**	**15 39 57.1**	**-0.4**
GDZ				S	**Sg**	**15 40 01.3**	**-0.1**
GDZ	**Gediz**	**0.29**	**110**	*i* P	**Pg**	**15 39 57.1**	**-0.4**
GDZ				*i* S	**Sg**	**15 40 01.3**	**-0.1**
TVSB	**Tavsanli**	**0.36**	**44**	*e*PG	**Pg**	**15 39 58.8**	**-0.1**
TVSB				*e*SG	**Sg**	**15 40 04.1**	**+0.4**
TVSB	**Tavsanli**	**0.36**	**44**	*e*Pg	**Pg**	**15 39 58.8**	**-0.1**
TVSB				*e*Sg	**Sg**	**15 40 04.1**	**+0.4**
IGD	**Bursa**	**1.07**	**3**	*i* P	**Pb**	**15 40 12.0**	**-0.4**
IGD				*i* S	**Sn**	**15 40 27.2**	**-0.7**
CAVI	**Cavuskoy**	**1.15**	**28**	*e*PN	**Pn**	**15 40 14.2**	**+0.3**
CAVI				*e*SN	**Sn**	**15 40 30.0**	**+0.2**
CAVI	**Cavuskoy**	**1.15**	**28**	*e*Pn	**Pn**	**15 40 14.2**	**+0.3**
CAVI				*e*Sn	**Sn**	**15 40 30.0**	**+0.2**
IZI	**Iznik**	**1.18**	**13**	*e*PN	**Pn**	**15 40 14.4**	**+0.1**
IZI	**Iznik**	**1.18**	**13**	*e*Pn	**Pn**	**15 40 14.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.19**	**351**	*e*PN	**Pn**	**15 40 14.9**	**+0.5**
KCTX	**Karacabey (Bur**	**1.23**	**331**	*e*PN	**Pn**	**15 40 15.7**	**+0.7**
ARMT	**Armutlu**	**1.39**	**351**	*e*PN	**Pg**	**15 40 17.9**	**-0.5**

ISK ***27*** *15:47:15.4,40.˚84N×37.˚16E,h10km,ML2.6*
ISCJB ***27*** *15:47:17.3±0.7,40.˚75N±0.˚05×37.˚07E±0.˚05,h8km±7km, Error ellipse: s-maj=8.5km s-min=4.6km az=28.5*
DDA ***27*** *15:47:17.9,40.˚73N×37.˚08E,h7km,Md2.7*
CSEM ***27*** *15:47:17.1±0.4,40.˚76N×37.˚10E,h10km,ML2.6,Error ellipse: s-maj=13.0km s-min=7.3km az=25.0*

ISC 27 15:47:16.0±1.4,40.˚86N±0.˚05×37.˚17E±0.˚03,h6km±12km, n18,σ0s38/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.48**	**165**	PG	**Pg**	**15 47 25.2**	**+0.1**
RSDY				*e*SG	**Sg**	**15 47 31.5**	**+0.1**
RSDY	**Resadiye-TOKAT**	**0.48**	**165**	*i* Pg	**Pg**	**15 47 25.3**	**+0.1**
RSDY				*e*Sg	**Sg**	**15 47 31.5**	**+0.1**
ORDU	**Ordu-Boztepe**	**0.54**	**76**	P	**Pn**	**15 47 30.5**	**+0.3**
ORDU				S	**Sn**	**15 47 40.0**	**+0.4**
ORDU	**Ordu-Boztepe**	**0.54**	**76**	*i* P	**Pn**	**15 47 30.5**	**+0.3**
ORDU				*i* S	**Sn**	**15 47 40.0**	**+0.4**
KVT	**Kavak**	**0.88**	**285**	*e*PG	**Pg**	**15 47 32.5**	**-0.3**
KVT				*e*SG	**Sb**	**15 47 45.4**	**-0.2**
KVT	**Kavak**	**0.88**	**285**	*e*Pg	**Pg**	**15 47 32.5**	**-0.3**
KVT				*e*Sg	**Sb**	**15 47 45.4**	**-0.2**
SAMS	**Samsun-Alacam**	**0.90**	**305**	P	**Pn**	**15 47 35.7**	**+0.6**
SAMS				S	**Sn**	**15 47 48.0**	**-0.3**
SAMS	**Samsun-Alacam**	**0.90**	**305**	*i* P	**Pn**	**15 47 35.7**	**+0.6**
SAMS				*i* S	**Sn**	**15 47 48.0**	**-0.3**
SUSE	**Susehri**	**1.02**	**129**	P	**Pn**	**15 47 37.0**	**0.0**
SUSE				S	**Sn**	**15 47 51.8**	**+0.1**
SUSE	**Susehri**	**1.02**	**129**	*i* P	**Pn**	**15 47 37.0**	**0.0**
SUSE				*i* S	**Sn**	**15 47 51.8**	**+0.1**
ESPY	**Espiye-Giresun**	**1.19**	**87**	*e*PN	**Pb**	**15 47 38.9**	**+0.1**
ESPY	**Espiye-Giresun**	**1.19**	**87**	*e*Pn	**Pb**	**15 47 38.9**	**+0.1**
GUMT	**Gumushane**	**1.80**	**102**	*e*PN	**Pn**	**15 47 46.8**	**-0.9**
GUMT	**Gumushane**	**1.80**	**102**	*e*Pn	**Pn**	**15 47 46.8**	**-0.9**
YOZ	**Yozgat**	**1.86**	**230**	*e*PN	**Pn**	**15 47 48.6**	**+0.1**
YOZ	**Yozgat**	**1.86**	**230**	*e*Pn	**Pn**	**15 47 48.6**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.95**	**118**	*e*PN	**Pn**	**15 48 03.4**	**-0.1**
YEDI	**Yedisu-Bingol**	**2.95**	**118**	*e*Pn	**Pn**	**15 48 03.4**	**-0.1**

ISCJB ***27*** *15:48:05.8±0.2,53.˚33N±0.˚01×6.˚68E±0.˚03,h0km,mb3.5/4, Error ellipse: s-maj=2.3km s-min=1.6km az=179.6*
CSEM ***27*** *15:48:07.9±0.1,53.˚36N×6.˚72E,h1km,ML3.3/7,Error ellipse: s-maj=3.1km s-min=2.3km az=98.0*
IDC ***27*** *15:48:09.2±1.0,53.˚25N×6.˚67E,h0km,mb3.4/4, mb1 3.8/12,mb1mx3.5/54,mbtmp3.6/12,ML3.7/8,Error ellipse: s-maj=15.8km s-min=11.1km az=76.0*
BGR ***27*** *15:48:09.5±0.4,53.˚34N×6.˚70E,h1km,ML3.4/14,Error ellipse: s-maj=5.6km s-min=3.3km az=119.0*
BNS ***27*** *15:48:10.5±0.4,53.˚26N×6.˚68E,h3km,ML2.9*
LDG ***27*** *15:48:10.1±0.1,53.˚37N×6.˚60E,h10km,Ml3.6/14,Error ellipse: s-maj=3.2km s-min=2.0km az=126.0*
PRU ***27*** *15:48:10.2,53.˚75N×6.˚99E,h19km*
UCC ***27*** *15:48:11.6,53.˚38N×6.˚45E,h10km,ML3.7*
NAO ***27*** *15:48:12.6±4.8,53.˚59N×6.˚15E,h19km±22km,ML3.2*
STR ***27*** *15:48:13.9±0.8,53.˚14N×7.˚04E,h12km,Ml3.8,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
UPP ***27*** *15:48:13.2±2.6,53.˚55N×7.˚21E,h0km,ML3.0,Suspected explosion*

ISC 27 15:48:07.6±0.5,53.˚30N±0.˚02×6.˚74E±0.˚02,h0km,n262, σ2s50/386,mb3.5/4,1C,The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDB4	**Woudbloem 4**	**0.09**	**182**	*e*Pg	**Pg**	**15 48 12.2**	**+3.0**
	baz=34						
WDB4				*e*Sg	**Sg**	**15 48 14.5**	**+4.2**
WDB4	**Woudbloem 4**	**0.09**	**182**	*e*Pg	**Pg**	**15 48 12.2**	**+3.0**
WDB4				*e*Sg	**Sg**	**15 48 14.5**	**+4.2**
SPY4	**Spijk (Roodesc**	**0.12**	**13**	*e*Pg	**Pg**	**15 48 12.6**	**+2.7**
SPY4				*e*Sg	**Sg**	**15 48 15.6**	**+4.2**
SPY4	**Spijk (Roodesc**	**0.12**	**13**	*e*Pg	**Pg**	**15 48 12.6**	**+2.7**
SPY4				*e*Sg	**Sg**	**15 48 15.6**	**+4.2**
ENM4	**Eenrum**	**0.19**	**306**	*e*Pg	**Pg**	**15 48 14.7**	**+3.5**
	baz=116						
ENM4				*e*Sg	**Sg**	**15 48 19.7**	**+6.0**
ENM4	**Eenrum**	**0.19**	**306**	*e*Pg	**Pg**	**15 48 14.7**	**+3.5**
ENM4				*e*Sg	**Sg**	**15 48 19.7**	**+6.0**
ZL24	**Zuidlaardervee**	**0.20**	**178**	*e*Pg	**Pb**	**15 48 14.8**	**+3.3**
	baz=14						
ZL24				*e*Sg	**Sb**	**15 48 19.3**	**+5.2**
ZL24	**Zuidlaardervee**	**0.20**	**178**	*e*Pg	**Pb**	**15 48 14.8**	**+3.3**
ZL24				*e*Sg	**Sb**	**15 48 19.3**	**+5.2**
ZLV4	**Zuidlaardervee**	**0.20**	**178**	*e*Pg	**Pb**	**15 48 14.7**	**+3.2**
	baz=14						
ZLV4				*e*Sg	**Sb**	**15 48 19.3**	**+5.2**
ZLV4	**Zuidlaardervee**	**0.20**	**178**	*e*Pg	**Pb**	**15 48 14.7**	**+3.2**
ZLV4				*e*Sg	**Sb**	**15 48 19.3**	**+5.2**
FSW4	**Finsterwolde 4**	**0.24**	**110**	*e*Pg	**Pb**	**15 48 15.0**	**+2.7**
	baz=297						
FSW4				*e*Sg	**Sb**	**15 48 19.6**	**+4.2**
FSW4	**Finsterwolde 4**	**0.24**	**110**	*e*Pg	**Pb**	**15 48 15.0**	**+2.7**
FSW4				*e*Sg	**Sb**	**15 48 19.6**	**+4.2**
HWF4	**Haulerwijk**	**0.32**	**226**	*e*Pg	**Pb**	**15 48 17.7**	**+1.5**
	baz=52						
HWF4				*e*Sg	**Sb**	**15 48 23.8**	**+1.8**
HWF4	**Haulerwijk**	**0.32**	**226**	*e*Pg	**Pb**	**15 48 17.7**	**+1.5**
HWF4				*e*Sg	**Sb**	**15 48 23.8**	**+1.8**
SUH4	**Surhuizum**	**0.33**	**255**	*e*Pg	**Pb**	**15 48 18.1**	**+1.7**
	baz=76						
SUH4				*e*Sg	**Sb**	**15 48 24.3**	**+2.2**
SUH4	**Surhuizum**	**0.33**	**255**	*e*Pg	**Pb**	**15 48 18.0**	**+1.7**
SUH4				*e*Sg	**Sb**	**15 48 24.3**	**+2.2**
ENV4	**Elp / Enerveen**	**0.41**	**189**	*e*Pg	**Pb**	**15 48 19.0**	**+1.3**
	baz=17						
ENV4	**Elp / Enerveen**	**0.41**	**189**	*e*Pg	**Pb**	**15 48 19.0**	**+1.3**
NIW4	**Wetzens (Niawi**	**0.42**	**278**	*e*Pg	**Pn**	**15 48 20.0**	**-0.9**
	baz=96						
NIW4	**Wetzens (Niawi**	**0.42**	**278**	*e*Pg	**Pn**	**15 48 20.0**	**-0.9**
ZWE4	**Zweins**	**0.69**	**262**	*e*Pg	**Pn**	**15 48 25.5**	**+0.9**
	baz=81						
ZWE4				*e*Sg	**Sn**	**15 48 36.7**	**+0.7**
ZWE4	**Zweins**	**0.69**	**262**	*e*Pg	**Pn**	**15 48 25.5**	**+0.9**
ZWE4				*e*Sg	**Sn**	**15 48 36.7**	**+0.7**
FDG4	**Firdgum**	**0.72**	**267**	*e*Pg	**Pn**	**15 48 25.3**	**+0.3**
	baz=86						
FDG4				*e*Sg	**Sn**	**15 48 37.7**	**+1.1**
FDG4	**Firdgum**	**0.72**	**267**	*e*Pg	**Pn**	**15 48 25.3**	**+0.3**
FDG4				*e*Sg	**Sn**	**15 48 37.7**	**+1.1**
VBG4	**Venebrugge (Br**	**0.75**	**183**	*e*Pg	**Pn**	**15 48 25.8**	**+0.3**
	baz=7.6						
VBG4				*e*Sg	**Sb**	**15 48 36.8**	**+2.4**
VBG4	**Venebrugge (Br**	**0.75**	**183**	*e*Pg	**Pn**	**15 48 25.8**	**+0.3**
VBG4				*e*Sg	**Sb**	**15 48 36.8**	**+2.4**
WYN4	**Wijnaldum**	**0.78**	**263**	*e*Pg	**Pn**	**15 48 27.1**	**+1.3**
	baz=83						
WYN4	**Wijnaldum**	**0.78**	**263**	*e*Pg	**Pn**	**15 48 27.1**	**+1.3**
HLG	**Helgoland**	**1.12**	**37**	*e*Pg	**Pn**	**15 48 31.1**	**+0.6**
HLG				*e*Sg	**Sn**	**15 48 46.1**	**-0.5**
HLG	**Helgoland**	**1.12**	**37**	*i* P	**Pn**	**15 48 30.6**	**+0.1**
	SNR=90						
HLG	**Helgoland**	**1.12**	**37**	Pg	**Pn**	**15 48 31.1**	**+0.6**
HLG				*e*S	**Sn**	**15 48 45.7**	**-0.9**
	SNR=90						
HLG				Sg	**Sn**	**15 48 46.1**	**-0.5**
IBBN	**Ibbenburen**	**1.17**	**148**	*e*Pg	**Pn**	**15 48 32.3**	**+1.1**
IBBN				*e*Sg	**Sn**	**15 48 49.6**	**+1.8**
IBBN	**Ibbenburen**	**1.17**	**148**	*e*P	**Pb**	**15 48 31.6**	**+1.0**
	SNR=90						
IBBN	**Ibbenburen**	**1.17**	**148**	Pg	**Pn**	**15 48 32.3**	**+1.1**
IBBN				Sg	**Sn**	**15 48 49.6**	**+1.8**
WTSB	**Winterswijk**	**1.33**	**178**	*i* Pg	**Pn**	**15 48 33.8**	**+0.4**
WTSB				*e*Sg	**Sg**	**15 48 51.6**	**+1.3**
WTSB	**Winterswijk**	**1.33**	**178**	*e*Pg	**Pn**	**15 48 34.2**	**+0.8**
WTSB				*e*Sg	**Sg**	**15 48 52.4**	**+2.1**
WTSB	**Winterswijk**	**1.33**	**178**	Pg	**Pn**	**15 48 34.2**	**+0.8**
WTSB				Sg	**Sg**	**15 48 52.4**	**+2.1**
WMH4	**Warmenhuizen**	**1.34**	**245**	*e*Pg	**Pb**	**15 48 36.1**	**+2.6**
	baz=64						
WMH4				*e*Sg	**Sn**	**15 48 55.2**	**+3.3**
WMH4	**Warmenhuizen**	**1.34**	**245**	*e*Pg	**Pb**	**15 48 36.1**	**+2.6**
WMH4				*e*Sg	**Sn**	**15 48 55.2**	**+3.3**
PPB4	**Philisteinsche**	**1.41**	**244**	*e*Pg	**Pb**	**15 48 37.7**	**+3.0**
	baz=63						
PPB4				*e*Sg	**Sn**	**15 48 59.0**	**+5.3**
PPB4	**Philisteinsche**	**1.41**	**244**	*e*Pg	**Pb**	**15 48 37.7**	**+3.0**
PPB4				*e*Sg	**Sn**	**15 48 59.0**	**+5.3**
OPLO	**Oploo**	**1.80**	**199**	*e*Sg	**Sg**	**15 49 07.9**	**+2.5**
OPLO	**Oploo**	**1.80**	**199**	Sg	**Sg**	**15 49 07.9**	**+2.5**
BUG	**Bochum--Univer**	**1.89**	**170**	*e*Pn	**Pn**	**15 48 42.2**	**+1.2**
BUG				*e*Pg	**Pg**	**15 48 46.8**	**+3.1**
BUG				*e*Sn	**Sn**	**15 49 05.7**	**+0.3**
BUG				*e*Sg	**Sg**	**15 49 12.7**	**+4.6**
LAUG	**Laupendahl**	**1.95**	**176**	*e*Pn	**Pn**	**15 48 42.3**	**+0.4**
LAUG	**Laupendahl**	**1.95**	**176**	Pn	**Pn**	**15 48 42.3**	**+0.4**
BSEG	**Bad Segeberg**	**2.23**	**72**	*e*Pn	**Pn**	**15 48 45.7**	**0.0**
BSEG				*e*Pg	**Pg**	**15 48 50.9**	**+0.7**
BSEG				*e*Sn	**Sn**	**15 49 12.5**	**-1.4**
BSEG	**Bad Segeberg**	**2.23**	**72**	*i* P	**Pn**	**15 48 45.2**	**-0.5**
	SNR=49						
BSEG	**Bad Segeberg**	**2.23**	**72**	Pn	**Pn**	**15 48 45.7**	**0.0**
BDSL	**Dessel**	**2.32**	**207**	PN	**Pn**	**15 48 43.6**	**-3.4**
BDSL				PG	**Pg**	**15 48 54.0**	**+1.9**
BDSL				SG	**Sg**	**15 49 27.2**	**+5.1**
BDSL	**Dessel**	**2.32**	**207**	Pn	**Pn**	**15 48 43.6**	**-3.4**
HOBG	**Hohbusch**	**2.34**	**171**	*e*Pn	**Pn**	**15 48 48.3**	**+1.0**
HOBG				*e*Sn	**Sn**	**15 49 16.8**	**0.0**
HOBG	**Hohbusch**	**2.34**	**171**	Pn	**Pn**	**15 48 48.3**	**+1.0**
HOBG				Sn	**Sn**	**15 49 16.8**	**0.0**
BNS	**Bensberg**	**2.35**	**173**	*e*Pn	**Pn**	**15 48 48.2**	**+0.8**
BNS	**Bensberg**	**2.35**	**173**	Pn	**Pn**	**15 48 48.2**	**+0.8**
HGN	**Heimansgroeve**	**2.58**	**191**	*e*Pg	**Pn**	**15 48 50.5**	**-0.1**
HGN				*e*Sg	**Sn**	**15 49 22.0**	**-0.7**
HGN	**Heimansgroeve**	**2.58**	**191**	*e*Pn	**Pn**	**15 48 51.5**	**+0.9**
HGN				*e*Pg	**Pg**	**15 48 58.9**	**+1.8**
HGN				*e*Sn	**Sn**	**15 49 22.9**	**+0.2**
HGN				*e*Sg	**Sg**	**15 49 33.2**	**+2.7**
HGN	**Heimansgroeve**	**2.58**	**191**	Pn	**Pn**	**15 48 51.5**	**+0.9**
BEBN	**Eben Emael**	**2.59**	**195**	PN	**Pn**	**15 48 50.9**	**+0.2**
BEBN				PG	**Pg**	**15 48 58.8**	**+1.6**
BEBN				SG	**Sg**	**15 49 31.4**	**+0.7**
	comp=E,32nm,0.4s						
BEBN	**Eben Emael**	**2.59**	**195**	Pn	**Pn**	**15 48 50.8**	**+0.2**
GTTG	**Gvttingen**	**2.64**	**130**	*e*Pn	**Pn**	**15 48 52.6**	**+1.2**
GTTG				*e*Sn	**Sn**	**15 49 24.4**	**+0.3**
GTTG				*e*Sg	**Sg**	**15 49 34.0**	**+1.6**
GTTG	**Gvttingen**	**2.64**	**130**	Pn	**Pn**	**15 48 52.6**	**+1.2**
GTTG				Sn	**Sn**	**15 49 24.4**	**+0.3**
GTTG				Sg	**Sg**	**15 49 34.0**	**+1.6**
CLZ	**Clausthal**	**2.65**	**122**	*e*Pn	**Pn**	**15 48 52.4**	**+0.8**
CLZ				*e*Sn	**Sn**	**15 49 22.5**	**-2.0**
CLZ	**Clausthal**	**2.65**	**122**	Pn	**Pn**	**15 48 52.4**	**+0.8**
CLZ				Sn	**Sn**	**15 49 22.5**	**-2.0**
DREG	**Dreilaegerbach**	**2.66**	**187**	*e*Pn	**Pn**	**15 48 51.8**	**+0.2**
DREG	**Dreilaegerbach**	**2.66**	**187**	Pn	**Pn**	**15 48 51.8**	**+0.2**
ASSE	**Asse, Remlinge**	**2.66**	**114**	*e*Pn	**Pn**	**15 48 52.6**	**+0.9**
ASSE	**Asse, Remlinge**	**2.66**	**114**	*i* P	**Pn**	**15 48 52.5**	**+0.9**
	SNR=49						
KLL	**Kalltalsperre**	**2.67**	**186**	*e*Pn	**Pn**	**15 48 52.1**	**+0.3**
KLL	**Kalltalsperre**	**2.67**	**186**	Pn	**Pn**	**15 48 52.1**	**+0.3**
STB	**Steinbach**	**2.71**	**179**	*e*Pn	**Pn**	**15 48 53.0**	**+0.7**
STB	**Steinbach**	**2.71**	**179**	Pn	**Pn**	**15 48 53.0**	**+0.7**
MEM	**Membach**	**2.73**	**190**	P	**Pb**	**15 48 56.4**	**-0.8**
MEM	**Membach**	**2.73**	**190**	P	**Pb**	**15 48 56.5**	**-0.8**
MEM	**Membach**	**2.73**	**190**	*e*Pn	**Pn**	**15 48 53.1**	**+0.5**
MEM				*e*Pg	**Pg**	**15 49 01.6**	**+1.8**
MEM				*e*Sg	**Sg**	**15 49 36.0**	**+0.8**
MEM	**Membach**	**2.73**	**190**	Pn	**Pn**	**15 48 53.1**	**+0.5**
MEM	**Membach**	**2.73**	**190**	P	**Pb**	**15 48 56.3**	**-0.8**
MEM	**Membach**	**2.73**	**190**	Pg	**Pg**	**15 49 01.6**	**+1.8**
MEM				Sg	**Sg**	**15 49 36.0**	**+0.8**
AHRW	**Bad Neuenahr-A**	**2.77**	**176**	*e*Pn	**Pn**	**15 48 54.1**	**+1.0**
KOE	**Koeppel**	**2.94**	**168**	*e*Pn	**Pn**	**15 48 56.6**	**+1.0**
KOE	**Koeppel**	**2.94**	**168**	Pn	**Pn**	**15 48 56.6**	**+1.0**
BCLA	**Clavier**	**3.02**	**198**	PN	**Pn**	**15 48 57.4**	**+0.9**
BCLA				PG	**Pg**	**15 49 08.4**	**+3.0**
BCLA				SG	**Sb**	**15 49 42.8**	**+3.4**
	comp=N,28nm,0.7s						
BCLA	**Clavier**	**3.02**	**198**	Pn	**Pn**	**15 48 57.4**	**+0.9**
BGES	**Gesves**	**3.09**	**200**	P	**Pn**	**15 48 59.5**	**+1.9**
BGES	**Gesves**	**3.09**	**200**	P	**Pn**	**15 48 59.5**	**+1.9**
BGG	**Burgeitz**	**3.12**	**173**	*e*Pn	**Pn**	**15 48 58.6**	**+0.7**
BGG	**Burgeitz**	**3.12**	**173**	Pn	**Pn**	**15 48 58.6**	**+0.7**
BMRD	**Maredsous**	**3.24**	**203**	P	**Pn**	**15 49 01.3**	**+1.6**
BMRD	**Maredsous**	**3.24**	**203**	P	**Pn**	**15 49 01.2**	**+1.6**
TNS	**Taunus Mts**	**3.25**	**160**	*e*Pn	**Pn**	**15 49 01.8**	**+1.9**
TNS				*e*Sn	**Sn**	**15 49 39.1**	**-0.3**
TNS	**Taunus Mts**	**3.25**	**160**	Pn	**Pn**	**15 49 01.8**	**+1.9**
TNS				Sn	**Sn**	**15 49 39.1**	**-0.3**
BBOU	**Bougnies**	**3.39**	**212**	P	**Pn**	**15 49 03.3**	**+1.6**
BBOU				PG	**Pg**	**15 49 16.9**	**+4.5**
BBOU	**Bougnies**	**3.39**	**212**	P	**Pn**	**15 49 03.2**	**+1.6**
GIVF	**Givet**	**3.41**	**201**	*e*Pn	**Pg**	**15 49 13.8**	**+0.8**
GIVF				*e*Sn	**Sn**	**15 49 40.3**	**-2.9**
GIVF				*e*Sg	**Sg**	**15 49 58.8**	**+1.6**
	comp=N,38nm,0.5s						
ABH	**Alteburg**	**3.46**	**171**	Pn	**Pn**	**15 49 03.7**	**+1.0**
ABH				Sg	**Sg**	**15 50 00.8**	**+2.3**
DOU	**Dourbes**	**3.47**	**203**	PN	**Pn**	**15 49 01.6**	**-1.2**
DOU				PG	**Pg**	**15 49 17.8**	**+3.7**
DOU				SN	**Sn**	**15 49 43.1**	**-1.5**
DOU				SG	**Sg**	**15 50 02.5**	**+3.5**
	comp=E,27nm,0.9s						
DOU	**Dourbes**	**3.47**	**203**	Pn	**Pn**	**15 49 01.6**	**-1.2**
DOU	**Dourbes**	**3.47**	**203**	*e*P	**Pn**	**15 49 03.6**	**+0.8**
BAIF	**Baives**	**3.60**	**207**	*e*Pn	**Pn**	**15 49 05.5**	**+0.9**
BAIF				*e*Sn	**Sn**	**15 49 44.4**	**-3.5**
BAIF				*e*Sg	**Sg**	**15 50 04.0**	**+0.7**
	comp=E,130nm,1.1s						
BAIF	**Baives**	**3.60**	**207**	*e*Pn	**Pn**	**15 49 05.5**	**+0.9**
BAIF				*e*Sn	**Sn**	**15 49 44.4**	**-3.5**
BAIF				*e*Sg	**Sg**	**15 50 04.0**	**+0.7**
	comp=E,65nm,1.1s						
RUP	**Ruppelstein**	**3.60**	**177**	Pn	**Pn**	**15 49 05.8**	**+1.1**
RUP				Sg	**Sg**	**15 50 06.5**	**+3.2**
LLD	**Lille Linde**	**3.80**	**55**	*i* P	**Pn**	**15 49 07.1**	**-0.2**
LLD	**Lille Linde**	**3.80**	**55**	*i* P	**Pn**	**15 49 07.1**	**-0.2**
	SNR=49						
TOD	**Tromm**	**3.91**	**160**	Pn	**Pn**	**15 49 10.0**	**+1.1**
TOD				Sg	**Sg**	**15 50 15.0**	**+1.7**
MENF	**Mencas**	**3.94**	**228**	Pn	**Pn**	**15 49 13.1**	**+3.8**
MENF	**Mencas**	**3.94**	**228**	Pg	Pg	15 49 28.6	+5.4
MENF				Sg	Sg	15 50 24.5	+10
MENF	**Mencas**	**3.94**	**228**	Pn	**Pn**	**15 49 13.1**	**+3.8**
MENF	**Mencas**	**3.94**	**228**	Pg	Pg	15 49 28.6	+5.4
MOX	**Moxa**	**4.02**	**129**	*e*Pn	**Pn**	**15 49 12.5**	**+2.1**
MOX	**Moxa**	**4.02**	**129**	Pn	**Pn**	**15 49 12.5**	**+2.1**
KTD	**Kalmit**	**4.07**	**168**	Pn	**Pn**	**15 49 11.6**	**+0.5**
KTD				Sg	**Sg**	**15 50 21.7**	**+3.5**
RGN	**Rugen**	**4.09**	**70**	*e*P	**Sn**	**15 49 12.5**	**+1.2**
	SNR=49						
CLL	**Collm**	**4.33**	**115**	⇑ *i*Pn	**Pn**	**15 49 15.8**	**+1.2**
	comp=Z,9.0nm,0.7s						
CLL				*e*		15 49 22.0	
CLL				*e*Pg	Pg	15 49 39.0	+8.5
CLL				*e*Sn	Sn	15 49 54.0	-12
CLL				*e*		15 50 17.0	
CLL				*e*Sg	**Sg**	**15 50 34.0**	**+7.4**
	comp=Z,25nm,1.0s						
CLL	**Collm**	**4.33**	**115**	*e*Pn	**Pn**	**15 49 15.9**	**+1.3**
CLL	**Collm**	**4.33**	**115**	Pn	**Pn**	**15 49 15.9**	**+1.3**
LANF	**Langenberg**	**4.37**	**171**	Pn	**Pn**	**15 49 16.2**	**+1.0**
LANF	**Langenberg**	**4.37**	**171**	Pn	**Pn**	**15 49 16.2**	**+1.0**
LUNU	**Lund**	**4.56**	**56**	P	**Pn**	**15 49 17.8**	**0.0**
LUNU				S	**Sn**	**15 50 07.3**	**-4.1**
LUNU	**Lund**	**4.56**	**56**	P	**Pn**	**15 49 17.8**	**0.0**
LUNU				S	**Sn**	**15 50 07.3**	**-4.1**
BJUU	**Bjuv**	**4.59**	**50**	P	**Pn**	**15 49 17.9**	**-0.2**
BJUU				S	**Sn**	**15 50 07.7**	**-4.4**
**BJU

UPC	**Upice**	**6.38**	**112**	Pn		**Pn**	**15 49 44.2**	**+1.4**
WPM1	**Penmaenmawr**	**6.39**	**274**	*e*P		**Pn**	**15 49 43.1**	**+0.2**
LDF	**La Druitiere**	**6.40**	**225**	*e*Pn		**Pn**	**15 49 42.4**	**-0.6**
LDF	comp=Z,20nm,0.7s			*e*Sn		**Sn**	**15 50 51.1**	**-5.6**
LDF	**La Druitiere**	**6.40**	**225**	*e*Pn		**Pn**	**15 49 42.4**	**-0.6**
DRUM	**Mains of Drumt**	**6.41**	**308**	*e*P		**Pn**	**15 49 43.7**	**+0.5**
FLN	**La Foliniere** baz=53	**6.43**	**228**	*e*Pn		**Pn**	**15 49 42.5**	**-0.9**
FLN	comp=Z,24nm,0.6s			*e*Sn		**Sn**	**15 50 51.4**	**-6.1**
FLN	**La Foliniere**	**6.43**	**228**	*e*Pn		**Pn**	**15 49 42.5**	**-0.9**
EDU	**Dundee**	**6.50**	**304**	*e*P		**Pn**	**15 49 44.3**	**-0.1**
KONO	**Kongsberg**	**6.56**	**13**	*e*P		**Pn**	**15 49 44.5**	**-0.8**
KONO				*e*S		**Sn**	**15 50 55.2**	**-5.5**
KONO	comp=Z,11nm,0.6s			IAML			15 50 56.8	
KONO	**Kongsberg** SNR=47	**6.56**	**13**	*e*P		**Pn**	**15 49 44.5**	**-0.8**
SSF	**Saint Saulge**	**6.58**	**200**	*e*Pn		**Pn**	**15 49 45.2**	**-0.3**
SSF	comp=Z,12nm,0.6s			*e*Sg		**Sg**	**15 51 36.5**	**-2.2**
SSF	**Saint Saulge**	**6.58**	**200**	*e*Pn		**Pn**	**15 49 45.2**	**-0.3**
HYF	**Humbligny**	**6.58**	**205**	*e*Pn		**Pn**	**15 49 45.0**	**-0.5**
HYF	**Humbligny**	**6.58**	**205**	*e*Pn		**Pn**	**15 49 45.0**	**-0.5**
DPC	**Dobruska-Polom**	**6.63**	**113**	*e*PN		**Pn**	**15 49 47.5**	**+1.2**
DPC				*e*SN		**Sn**	**15 51 00.9**	**-1.6**
DPC	**Dobruska-Polom**	**6.63**	**113**	Pn		**Pn**	**15 49 47.5**	**+1.2**
WLF1	**Llynfaes**	**6.68**	**274**	*e*P		**Pn**	**15 49 46.9**	**+0.1**
NASU	**Vaermlandsnaes**	**6.70**	**30**	P		**Pn**	**15 49 46.4**	**-0.7**
NASU	**Vaermlandsnaes**	**6.70**	**30**	P		**Pn**	**15 49 46.4**	**-0.7**
CABF	**La Chapelle**	**6.71**	**184**	*e*Pn		**Pn**	**15 49 47.4**	**+0.1**
CABF	**La Chapelle**	**6.71**	**184**	*e*Pn		**Pn**	**15 49 47.4**	**+0.1**
YRE	**Yr Eifl**	**6.73**	**272**	*e*P		**Pn**	**15 49 48.2**	**+0.7**
DAVOX	**Davos/Dischmat** comp=Z,0.4nm,0.3s,baz=331,slow=19,SNR=3.9	**6.83**	**162**	Pn		**Pn**	**15 49 50.7**	**+1.6**
DAVOX	comp=Z,0.2nm,0.3s,baz=347,slow=18,SNR=2.6			Lg		Lg	15 51 46.8	
MME1	**Meikle Cairn**	**6.85**	**310**	*e*P		**Pn**	**15 49 49.8**	**+0.6**
AVF	**Avril sur Loir**	**6.87**	**200**	*e*Pn		**Pn**	**15 49 48.7**	**-0.8**
AVF				*e*Sn		**Sn**	**15 51 01.7**	**-6.5**
GRR	**Gorron**	**6.87**	**227**	*e*Pn		**Pn**	**15 49 48.8**	**-0.7**
GRR	comp=Z,10nm,0.4s			*e*Sn		**Sn**	**15 51 01.7**	**-6.7**
GRR	**Gorron**	**6.87**	**227**	*e*Pn		**Pn**	**15 49 48.8**	**-0.7**
SMF	**Signal de Mont**	**6.91**	**197**	*e*Pn		**Pn**	**15 49 49.6**	**-0.5**
SMF	**Signal de Mont**	**6.91**	**197**	*e*Pn		**Pn**	**15 49 49.6**	**-0.5**
GAL1	**Galloway**	**6.92**	**288**	*e*P		**Pn**	**15 49 50.5**	**+0.4**
PGBU	**Glenifferbraes**	**7.00**	**296**	*e*P		**Pn**	**15 49 51.1**	**-0.1**
EAB	**Aberfoyle**	**7.04**	**299**	*e*P		**Pn**	**15 49 52.1**	**+0.3**
BGF	**Bois d'Agland**	**7.20**	**202**	*e*Pn		**Pn**	**15 49 53.5**	**-0.5**
BGF	comp=Z,16nm,0.5s			*e*Sn		**Sn**	**15 51 09.8**	**-6.6**
TCF	**Toulx Ste Croi**	**7.60**	**204**	*e*Pn		**Pn**	**15 49 59.1**	**-0.5**
SGMF	**Saint Gilles**	**7.76**	**233**	*e*Pn		**Pn**	**15 50 00.0**	**-1.6**
SGMF	comp=Z,6.2nm,0.4s			*e*Sn		**Sn**	**15 51 23.5**	**-6.6**
SGMF	**Saint Gilles**	**7.76**	**233**	*e*Pn		**Pn**	**15 50 00.0**	**-1.6**
LPL	**La Plagne**	**7.79**	**180**	*e*Pn		**Pn**	**15 50 03.2**	**+0.9**
LPL	**La Plagne**	**7.79**	**180**	*e*Pn		**Pn**	**15 50 03.2**	**+0.9**
LPG	**La Plagne**	**7.81**	**180**	*e*Pn		**Pn**	**15 50 02.5**	**-0.1**
LPG	**La Plagne**	**7.81**	**180**	*e*Pn		**Pn**	**15 50 02.5**	**-0.1**
HFS	**Hagfors** baz=213,slow=16	**7.85**	**26**	Pn		**Pn**	**15 50 01.5**	**-1.3**
HFS	baz=210,slow=28			Sn		**Sn**	**15 51 24.7**	**-7.5**
HFS	**Hagfors** comp=Z,1.1nm,0.3s,baz=209,slow=15,SNR=30	**7.85**	**26**	Pn		**Pn**	**15 50 01.7**	**-1.2**
HFS	comp=Z,4.2nm,0.3s,baz=212,slow=28,SNR=9.5			Sn		**Sn**	**15 51 25.9**	**-6.4**
HFS	**Hagfors** baz=213,slow=16	**7.85**	**26**	Pn		**Pn**	**15 50 01.5**	**-1.3**
HFS	baz=210,slow=28			Sn		**Sn**	**15 51 24.7**	**-7.5**
HFS	**Hagfors** SNR=5.7	**7.85**	**26**	Pn		**Pn**	**15 50 01.5**	**-1.3**
NC602	**NORSAR Array S**	**7.90**	**17**	*e*P		**Pn**	**15 50 01.8**	**-1.8**
NC602				*e*S		**Sn**	**15 51 25.7**	**-8.0**
NC602	comp=Z,20nm,0.5s			IAML			15 51 30.6	
NC602	**NORSAR Array S** SNR=47	**7.90**	**17**	*e*P		**Pn**	**15 50 01.8**	**-1.8**
BIGH	**Upper Bighouse**	**7.93**	**315**	*e*P		**Pn**	**15 50 04.0**	**0.0**
KAC	**Achnashellach**	**8.04**	**306**	*e*P		**Pn**	**15 50 05.5**	**0.0**
ROSF	**Rostrenen** comp=Z,36nm,0.7s	**8.05**	**236**	*e*Sn		**Sn**	**15 51 29.9**	**-7.4**
NB2	**NORSAR Subarra** baz=196,slow=16	**8.13**	**16**	Pn		**Pn**	**15 50 05.4**	**-1.4**
NB2	baz=200,slow=28			Sn		**Sn**	**15 51 35.3**	**-4.2**
NB2	**NORSAR Subarra** baz=196,slow=16	**8.13**	**16**	Pn		**Pn**	**15 50 05.4**	**-1.4**
NB2	baz=200,slow=28			Sn		**Sn**	**15 51 35.3**	**-4.2**
NB2	**NORSAR Subarra** SNR=5.8	**8.13**	**16**	Pn		**Pn**	**15 50 05.4**	**-1.4**
NB2	SNR=5.7			Sn		**Sn**	**15 51 35.3**	**-4.2**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.3s,baz=196,slow=12,SNR=31	**8.13**	**16**	Pn		**Pn**	**15 50 05.2**	**-1.6**
NOA	comp=Z,2.3nm,0.3s,baz=286,slow=9.3,SNR=14			Sn		**Sn**	**15 51 32.8**	**-6.6**
KPL	**Plockton**	**8.14**	**305**	*e*P		**Pn**	**15 50 06.9**	**0.0**
QUIF	**Quistinic**	**8.28**	**233**	*e*Pn		**Pn**	**15 50 07.4**	**-1.5**
QUIF	comp=Z,15nm,0.6s			*e*Sn		**Sn**	**15 51 36.3**	**-6.8**
QUIF	**Quistinic**	**8.28**	**233**	*e*Pn		**Pn**	**15 50 07.4**	**-1.5**
ORIF	**Oris-en-Rattie**	**8.40**	**184**	*e*Pn		**Pn**	**15 50 09.5**	**-1.1**
ORIF	**Oris-en-Rattie**	**8.40**	**184**	*e*Pn		**Pn**	**15 50 09.5**	**-1.1**
VIVF	**Saint-Julien-l**	**8.55**	**190**	*e*Pn		**Pn**	**15 50 12.0**	**-0.7**
VIVF	**Saint-Julien-l**	**8.55**	**190**	*e*Pn		**Pn**	**15 50 12.0**	**-0.7**
MBDF	**Montbardon**	**8.58**	**180**	*e*Pn		**Pn**	**15 50 12.6**	**-0.5**
MBDF	**Montbardon**	**8.58**	**180**	*e*Pn		**Pn**	**15 50 12.6**	**-0.5**
RJF	**Les Rejaudoux**	**8.69**	**205**	*e*Pn		**Pn**	**15 50 13.5**	**-1.0**
RJF	**Les Rejaudoux**	**8.69**	**205**	*e*Pn		**Pn**	**15 50 13.5**	**-1.0**
LFF	**La Frestale**	**9.24**	**208**	*e*Pn		**Pn**	**15 50 20.9**	**-1.1**
LFF	**La Frestale**	**9.24**	**208**	*e*Pn		**Pn**	**15 50 20.9**	**-1.1**
LASF	**Ste Croix**	**9.42**	**193**	*e*Pn		**Pn**	**15 50 23.9**	**-0.6**
LASF	**Ste Croix**	**9.42**	**193**	*e*Pn		**Pn**	**15 50 23.9**	**-0.6**
MTLF	**Montolieu**	**10.40**	**199**	*e*Pn		**Pn**	**15 50 37.3**	**-0.7**
MTLF	**Montolieu**	**10.40**	**199**	*e*Pn		**Pn**	**15 50 37.3**	**-0.7**
FIA0	**FINESS Array S** baz=232,slow=12	**13.20**	**44**	Pn		**Pn**	**15 51 14.2**	**-1.9**
FIA0	baz=248,slow=28			Sn		Sn	15 53 33.0	-10
FIA0	**FINESS Array S** baz=232,slow=12	**13.20**	**44**	Pn		**Pn**	**15 51 14.2**	**-1.9**
FIA0	baz=248,slow=28			Sn		Sn	15 53 33.0	-10
FIA0	**FINESS Array S** SNR=50	**13.20**	**44**	Pn		**Pn**	**15 51 14.1**	**-1.9**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=245,slow=12,SNR=8.0	**13.20**	**44**	Pn		**Pn**	**15 51 13.4**	**-2.7**
FINES	comp=Z,0.2nm,0.3s,baz=248,slow=21,SNR=2.8			Sn		**Sn**	**15 53 34.6**	**-8.8**
AKASG	**Malin Array Be**	**14.08**	**92**	Pn		**Pn**	**15 51 25.3**	**-2.8**
ARA0	**ARCESS Array S** baz=214,slow=14	**18.45**	**21**	P		**Pn**	**15 52 21.4**	**-3.0**
ARA0	**ARCESS Array S** baz=214,slow=14	**18.45**	**21**	P		**Pn**	**15 52 21.4**	**-3.0**
ARCES	**ARCESS Array B** comp=Z,0.2nm,0.3s,baz=210,slow=14,SNR=9.1	**18.45**	**21**	Pn		**Pn**	**15 52 20.9**	**-3.5**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,baz=302,slow=6.6,SNR=3.3	**46.84**	**66**	P		**P**	**15 56 40.2**	**+1.2**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.6s,baz=39,slow=7.3,SNR=4.5	**55.71**	**331**	P		**P**	**15 57 46.2**	**+1.0**
ILAR	**Eielson Array** comp=Z,0.2nm,0.6s,baz=13,slow=6.0,SNR=4.2	**60.52**	**347**	P		**P**	**15 58 20.8**	**+1.9**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.7s,baz=46,slow=3.6,SNR=3.7	**78.05**	**303**	P		**P**	**16 00 09.7**	**+1.6**

WEL 27 15:48:54.3±0.1, 39°31'S×177°35'E, h28km±1km, ML3.7/30, 9C-9D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WHHZ	**Waihua**	**0.25**	**339**	⇓P*	Pb	15 48 60.0	-0.9
WHHZ				S*	Sb	15 49 05.0	-0.3
ARHZ	**Aropaoanui**	**0.28**	**280**	⇓P*	Pb	15 49 00.7	-0.5
ARHZ				S*	Sb	15 49 06.2	+0.3
KNZ	**Kokohu**	**0.38**	**41**	P*	Pb	15 49 02.8	0.0
KNZ				S*	Sn	15 49 09.8	-0.7
KNZ				AML	AML	15 49 10.3	
CKHZ	**Cape Kidnapper**	**0.41**	**211**	⇓P*	Pn	15 49 04.2	-0.2
CKHZ				S*	Sn	15 49 12.6	+1.5
RAHZ	**Arahi**	**0.44**	**333**	P*	Pb	15 49 03.2	-0.6
RAHZ				S*	Sb	15 49 10.3	+0.2
MHGZ	**Mahia Peninsul**	**0.46**	**70**	⇓P*	Pn	15 49 04.6	-0.6
NMHZ	**Naumai**	**0.47**	**297**	⇑P*	Pb	15 49 03.8	-0.5
NMHZ				S*	Sb	15 49 11.0	0.0
MCHZ	**McNeill Hill**	**0.52**	**255**	⇑P*	Pb	15 49 05.4	+0.4
SNGZ	**Shannon Statio**	**0.53**	**359**	⇑P*	Pb	15 49 04.7	-0.4
SNGZ				S*	Sb	15 49 13.1	+0.7
PRGZ	**Paritu Road**	**0.57**	**47**	⇓P*	Pb	15 49 06.0	+0.2
KAHZ	**Kahuranaki**	**0.60**	**217**	P*	Pn	15 49 07.1	-0.1
BKZ	**Black Stump Fm**	**0.68**	**282**	P*	Pb	15 49 07.0	-0.7
BKZ				AML	AML	15 49 17.7	
BKZ				AML	AML	15 49 20.5	
RIGZ	**Rimuhau**	**0.69**	**28**	⇓P*	Pb	15 49 07.5	-0.3
KWHZ	**Kaweka Forest**	**0.72**	**261**	P*	Pb	15 49 08.2	-0.2
RTZ	**Ruatahuna**	**0.75**	**338**	⇑P*	Pb	15 49 07.9	-0.9
PXZ	**Pawanui**	**0.81**	**207**	PN	Pb	15 49 09.2	-0.6
PXZ				AML	AML	15 49 41.2	
PXZ				AML	AML	15 49 41.2	
PXZ				AML	AML	15 49 48.7	
PXZ				AML	AML	15 49 48.7	
RAGZ	**Rawiri**	**0.81**	**4**	PN	Pb	15 49 09.2	-0.8
KRHZ	**Kereru**	**0.83**	**246**	⇑PN	Pb	15 49 09.6	-0.6
MRHZ	**Matea Rd**	**0.87**	**303**	⇑PN	Pn	15 49 10.0	-0.8
MUGZ	**Murupara**	**0.95**	**331**	PN	Pn	15 49 11.0	-0.8
TKGZ	**Te Karaka**	**0.95**	**24**	PN	Pn	15 49 11.0	-0.9
MWZ	**Matawai**	**0.98**	**8**	⇓PN	Pn	15 49 11.2	-1.2
MWZ				AML	AML	15 49 26.8	
MWZ				AML	AML	15 49 28.8	
MWZ				AML	AML	15 49 31.6	
MWZ				AML	AML	15 49 31.6	
WPHZ	**Waipukurau**	**1.03**	**223**	PN	Pn	15 49 12.5	-0.5
CNGZ	**Carnagh Statio**	**1.06**	**39**	PN	Pn	15 49 12.6	-0.8
URZ	**Urewera**	**1.07**	**350**	PN	Pn	15 49 12.7	-0.7
URZ				AML	AML	15 49 27.8	
URZ				AML	AML	15 49 28.0	
PNHZ	**Pukenui**	**1.07**	**235**	PN	Pn	15 49 12.9	-0.7
ALRZ	**Allen Road**	**1.08**	**313**	PN	Pn	15 49 13.2	-0.5
PRRZ	**Plateau Road**	**1.10**	**317**	PN	Pn	15 49 13.3	-0.6
PRHZ	**Porangahau**	**1.10**	**210**	PN	Pn	15 49 12.9	-1.1
RRRZ	**Republican Roa**	**1.17**	**326**	PN	Pn	15 49 14.1	-0.8
RITZ	**Rihia Road**	**1.20**	**286**	PN	Pn	15 49 15.4	0.0
RITZ				AML	AML	15 49 36.6	
RITZ				AML	AML	15 49 48.1	
WPRZ	**Whakapapatarin**	**1.22**	**310**	PN	Pn	15 49 14.9	-0.7
TWGZ	**Tauwhareparae**	**1.24**	**24**	⇓PN	Pn	15 49 14.9	-0.9
HRRZ	**Handcock Road**	**1.24**	**318**	PN	Pn	15 49 15.1	-0.8
MOVZ	**Moawhango**	**1.24**	**265**	PN	Pn	15 49 15.9	-0.1
MOVZ				AML	AML	15 49 36.4	
MOVZ				AML	AML	15 49 41.7	
TARZ	**Mount Tarawera**	**1.26**	**328**	PN	Pn	15 49 15.6	-0.6
WHTZ	**Whakaora**	**1.26**	**300**	PN	Pn	15 49 15.9	-0.3
EDRZ	**Edgecumbe**	**1.29**	**338**	AML	AML	15 49 39.0	
EDRZ				AML	AML	15 49 40.3	
RATZ	**Rangitukua**	**1.30**	**289**	PN	Pn	15 49 16.5	-0.3
RATZ				AML	AML	15 49 42.0	
RATZ				AML	AML	15 49 45.0	
TSZ	**Takapari Road**	**1.30**	**235**	PN	Pn	15 49 15.8	-1.0
TSZ				AML	AML	15 49 49.1	
TSZ				AML	AML	15 49 49.5	
HLRZ	**Highlands Stat**	**1.31**	**323**	PN	Pn	15 49 16.9	+0.1
TUVZ	**Tukino**	**1.31**	**271**	PN	Pn	15 49 17.0	0.0
TUVZ				AML	AML	15 49 39.7	
TUVZ				AML	AML	15 49 48.5	
HSRZ	**Hossack Road**	**1.32**	**319**	PN	Pn	15 49 16.5	-0.5
ANWZ	**Angora Road**	**1.33**	**210**	PN	Pn	15 49 15.9	-1.1
DVHZ	**Dannevirke**	**1.34**	**222**	PN	Pn	15 49 16.4	-0.9
KRVZ	**Karewarewa**	**1.34**	**279**	AML	AML	15 49 40.2	
KRVZ				AML	AML	15 49 40.3	
WNVZ	**Wahianoa**	**1.36**	**269**	⇓PN	Pn	15 49 17.6	0.0
GRRZ	**Galatos Road**	**1.36**	**314**	PN	Pn	15 49 17.1	-0.4
NGZ	**Ngauruhoe**	**1.36**	**275**	⇑PN	Pn	15 49 17.4	-0.2
NGZ				AML	AML	15 49 40.2	
NGZ				AML	AML	15 49 40.4	
WHVZ	**Whangaehu Hut**	**1.36**	**271**	PN	Pn	15 49 17.6	-0.1
WTVZ	**West Tongariro**	**1.38**	**278**	PN	Pn	15 49 17.9	0.0
WTVZ				AML	AML	15 49 41.7	
WTVZ				AML	AML	15 49 43.6	
FWVZ	**Far West T-bar**	**1.39**	**272**	PN	Pn	15 49 17.7	-0.5
FWVZ				AML	AML	15 49 39.4	
FWVZ				AML	AML	15 49 41.1	
WATZ	**Wairara**	**1.39**	**295**	PN	Pn	15 49 17.4	-0.6
WATZ				AML	AML	15 49 48.8	
WATZ				AML	AML	15 49 58.7	
TRVZ	**Turoa**	**1.40**	**270**	PN	Pn	15 49 18.0	-0.2
TRVZ				AML	AML	15 49 40.7	
TRVZ				AML	AML	15 49 41.5	
PUZ	**Puketiti**	**1.43**	**30**	PN	Pn	15 49 16.8	-1.7
PUZ				AML	AML	15 49 37.6	
PUZ				AML	AML	15 49 55.5	
KUTZ	**Kaahu Road**	**1.44**	**304**	⇑PN	Pn	15 49 18.1	-0.6
MTVZ	**Mangateitei**	**1.46**	**266**	PN	Pn	15 49 19.2	+0.3
MTVZ				AML	AML	15 49 49.1	
MTVZ				AML	AML	15 49 59.7	
TWVZ	**Taurewa**	**1.50**	**279**	PN	Pn	15 49 18.9	-0.7
TWVZ				AML	AML	15 49 43.4	
TWVZ				AML	AML	15 49 50.9	
PKVZ	**Pokaka**	**1.55**	**270**	PN	Pn	15 49 20.2	0.0
PKVZ				AML	AML	15 49 46.8	
PKVZ				AML	AML	15 49 56.9	
HAZ	**Te Kaha**	**1.59**	**13**	PN	Pn	15 49 19.8	-0.8
OPRZ	**Ohinepanea**	**1.59**	**337**	PN	Pn	15 49 19.5	-1.2
BFZ	**Birch Farm**	**1.61**	**211**	PN	Pn	15 49 19.3	-1.6
BFZ				AML	AML	15 49 57.2	
BFZ				AML	AML	15 50 04.8	
BFZ				AML	AML	15 50 20.9	
BFZ				AML	AML	15 50 20.9	
POWZ	**Post Office Ro**	**1.63**	**228**	PN	Pn	15 49 21.8	+0.6
PRWZ	**Pori Road**	**1.63**	**220**	PN	Pn	15 49 20.7	-0.5
WMGZ	**Waiomatatini S**	**1.71**	**30**	PN	Pn	15 49 21.0	-1.3
TLZ	**Tolley Road**	**1.72**	**304**	⇑PN	Pn	15 49 21.6	-0.9
TIWZ	**Tintock**	**1.84**	**217**	PN	Pn	15 49 22.8	-1.4
TIWZ				AML	AML	15 50 12.2	
TIWZ				AML	AML	15 50 20.7	
WAZ	**Wanganui**	**1.88**	**256**	PN	Pn	15 49 25.3	+0.7
WAZ				AML	AML	15 50 09.2	
WAZ				AML	AML	15 50 12.7	
MXZ	**Matakaoa Point**	**1.90**	**24**	AML	AML	15 50 10.5	
MXZ				AML	AML	15 50 17.9	
MRZ	**Mangatainoka R**	**1.91**	**225**	PN	Pn	15 49 23.7	-1.4
VRZ	**Vera Road**	**2.02**	**274**	AML	AML	15 50 06.7	
VRZ				AML	AML	15 50 20.0	
HIZ	**Hauiti**	**2.10**	**292**	PN	Pn	15 49 27.3	-0.4
HIZ				AML	AML	15 50 06.9	
HOWZ	**Holdsworth Sta**	**2.12**	**221**	PN	Pn	15 49 26.2	-1.8
OGWZ	**Otaki Gorge**	**2.25**	**227**	PN	Pn	15 49 28.1	-1.6
MTW	**Mount Morrison**	**2.32**	**217**	PN	Pn	15 49 29.0	-1.7
MTW				AML	AML	15 50 42.6	
KIW	**Kapiti Island**	**2.43**	**230**	PN	Pn	15 49 30.6	-1.6
KIW				AML	AML	15 50 30.6	
CAW	**Cannon Point**	**2.50**	**223**	AML	AML	15 50 03.7	
CAW				AML	AML	15 50 34.3	
NEZ	**North Egmont**	**2.52**	**270**	PN	Pn	15 49 34.5	+0.9
PLWZ	**Palliser**	**2.76**	**215**	PN	Pn	15 49 34.0	-2.8
TUWZ	**Tuamarina**	**3.35**	**230**	PN	Pn	15 49 42.2	-2.6
CTZ	**Chatham Island**	**6.33**	**136**	PN	Pn	15 50 24.8	-1.0

MEX 27 15:55:47.0±0.4, 13°94N×92°13W, h14km±999km, MD3.7, Off coast of Chiapas

*IDC **27** 16:02:35.8±1.4, 36°.74N×142°.19E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.3/46, mbtmp3.5/6, ML3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.2/33, Error ellipse: s-maj=33.8km s-min=23.0km az=105.0*

*ISCJB **27** 16:02:37.1±0.8, 36°.76N±0°.04×142°.00E±0°.08, h19km, mb3.3/3, MS3.5/1, Error ellipse: s-maj=8.8km s-min=5.9km az=4.1*

*JMA **27** 16:02:42.0±0.3, 36°.92N×141°.71E, h57km±4km, M2.9*

ISC 27 16:02:38.4±0.9, 36°83N±0°.05×141°91E±0°.07, h19km, n20, σ1§32/17, mb3.3/3, Near east coast of eastern Honshu

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

ONAJ	**Iwakimizuishiy**	**0.93**	**288**	S		**Sb**	**16 03 07.4**	**-0.6**
JFK	**Kawauchi**	**0.99**	**303**	P		**Pg**	**16 02 57.2**	**-0.4**
MJAR	**Marumori**	**1.37**	**320**	P		**Pn**	**16 03 02.6**	**+0.1**
JIO	**Ouri**	**1.69**	**345**	P		**Pb**	**16 03 07.9**	**-0.9**
JIO				*e*S		**Sb**	**16 03 29.2**	**-0.4**
JOU	**Okura**	**1.83**	**328**	P		**Pb**	**16 03 10.3**	**-0.9**
JOU				*e*S		**Sb**	**16 03 32.9**	**-0.9**
JAG	**Ashikaga**	**2.02**	**259**	P		**Pb**	**16 03 13.2**	**-1.2**
MJAR	**Matsushiro Arr** 2.3nm,0.3s,baz=88,slow=15,SNR=36	**2.99**	**266**	Pn		**Pn**	**16 03 27.2**	**+2.5**
MAT	**Matsushiro**	**2.99**	**266**	P		**Pb**	**16 03 28.5**	**-2.5**
MAT				*e*S		**Sn**	**16 04 00.7**	**+0.6**
JHJ	**Hachijo jima 2** 3.4nm,0.3s,baz=72,slow=20,SNR=3.3	**4.09**	**206**	Pn		**Pn**	**16 03 40.7**	**+0.8**
JHJ	8.2nm,0.3s,baz=253,slow=19,SNR=3.1			Sn		**Sn**	**16 04 26.3**	**-0.9**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=189,slow=8.4,SNR=5.8	**7.30**	**4**	Pn		**Pn**	**16 04 24.1**	**+0.1**
H11N2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=6.8	**27.70**	**121**	T		T	16 37 29.0	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=7.3	**27.71**	**121**	T		T	16 37 37.0	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=6.1	**27.72**	**121**	T		T	16 37 51.7	
SONM	**Songino Array** 0.3nm,0.5s,baz=109,slow=7.8,SNR=3.9	**28.23**	**304**	P		**P**	**16 08 32.5**	**+2.3**
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=4.4	**28.41**	**123**	T		T	16 38 30.6	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=3.1	**28.41**	**123**	T		T	16 38 33.5	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=2.9	**28.43**	**123**	T		T	16 38 29.4	
ILAR	**Eielson Array** 0.3nm,0.7s,baz=260,slow=6.2,SNR=4.1	**49.46**	**32**	P		**P**	**16 11 27.1**	**+0.2**
WRA	**Warramunga Arr** 0.3nm,1.0s,baz=5.9,slow=7.5,SNR=2.9	**56.91**	**189**	P		**P**	**16 12 22.0**	**-0.2**
AKTO	**Aktyubinsk** comp=Z,36nm,20.0s,baz=0.2,slow=37	**59.11**	**312**	LR		LR	16 39 21.6	

*ISCJB **27** 16:05:02.1±0.7, 51°.55N±0°.03×16°.04E±0°.03, h0km, Error ellipse: s-maj=4.8km s-min=3.0km az=13.6*

*PRU **27** 16:05:05.4, 51°.51N×16°.01E, h0km*

ISC 27 16:05:03.4±0.9, 51°60N±0°.04×16°00E±0°.03, h0km, n18, σ1§21/36, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.78**	**166**	*e*Pg	**Pg**	**16 05 18.8**	**+0.5**
KSP				*e*		16 05 20.7	
KSP				*i* Sg	**Sg**	**16 05 28.7**	**+0.3**
UPC	**Upice** 85nm,0.3s	**1.09**	**180**	*e*PG	**Pg**	**16 05 24.7**	**+0.4**
UPC				*e*SG	**Sb**	**16 05 38.8**	**-1.2**
DPC	**Dobruska-Polom** 18nm,0.2s	**1.27**	**171**	*e*PG	**Pg**	**16 05 27.7**	**0.0**
DPC				*e*SG	**Sg**	**16 05 42.6**	**-1.5**
PVCC	**Panska Ves** 85nm,0.2s	**1.41**	**221**	*e*PG	**Pg**	**16 05 30.9**	**+0.6**
PVCC				*e*SG	**Sb**	**16 05 49.1**	**+0.2**
BRG	**Berggiesshubel** 42nm,0.4s	**1.49**	**241**	PG	**Pn**	**16 05 32.2**	**+0.8**
BRG				SG	**Sg**	**16 05 51.9**	**+0.8**
KRLC	**Kraliky**	**1.60**	**162**	*e*PG	**Pn**	**16 05 32.8**	**-0.2**
KRLC				*e*SG	**Sg**	**16 05 53.2**	**-1.7**
GOPC	**GO Pecny, Ondr** 9.7nm,0.2s	**1.86**	**205**	*e*PG	**Pb**	**16 05 38.4**	**+0.2**
GOPC				*e*SG	**Sg**	**16 06 02.1**	**-0.9**
PRU	**Pruhonice** 19nm,0.3s	**1.86**	**210**	*e*PG	**Pb**	**16 05 38.5**	**+0.2**
PRU				*e*SG	**Sb**	**16 06 02.1**	**0.0**
CLL	**Collm** comp=Z,7.0nm,0.4s	**1.90**	**262**	*i* Pn	**Pn**	**16 05 36.7**	**-0.3**
CLL				*e*Pg	**Pb**	**16 05 40.0**	**+1.1**
CLL				*i*		16 05 43.8	
CLL	comp=Z,13nm,0.4s			*e*Sg	**Sb**	**

1.0nm,0.5s,baz=230,slow=5.5,SNR=15
TXAR Lajitas Array 86.29 58 P **P** **16 28 23.3 +1.8**
3.3nm,0.8s,baz=224,slow=5.2,SNR=21
PDAR Pinedale Array 87.62 44 P **P** **16 28 27.9 +0.2**
1.6nm,0.6s,baz=198,slow=4.2,SNR=10
YKA Yellowknife Ar 94.55 25 P **P** **16 28 57.9 -0.8**
0.5nm,0.7s,baz=243,slow=4.1,SNR=5.1
MKAR Makanchi Array 109.02 314 PKiKP **PKiKP** **16 34 04.3 0.0**
0.2nm,0.7s,baz=51,slow=1.2,SNR=4.7
KURBB Kurchatov Arra 111.78 318 PKiKP **PKiKP** **16 34 09.2 -0.2**
0.5nm,0.8s,baz=87,slow=1.5,SNR=4.8
BVAR Borovoye Array 116.76 321 PKP **PKPdf** **16 34 18.7 -0.2**
0.6nm,0.4s,baz=54,slow=2.6,SNR=3.8
ARCES ARCESS Array B 126.38 350 PKP **PKPdf** **16 34 36.1 -0.8**
1.3nm,0.8s,baz=318,slow=6.5,SNR=3.7
FINES FINESS Array B 133.23 344 PKP **PKPdf** **16 34 50.3 +0.3**
1.1nm,0.8s,baz=28,slow=3.6,SNR=3.2
BRTR Keskin Array B 144.67 314 PKP PKPbc 16 35 12.2 +0.1
2.4nm,0.8s,baz=85,slow=3.0,SNR=8.0
CLL Collm 145.52 347 ⇑*i*P **PKPbc** **16 35 14.6 +0.6**
comp=Z,10.0nm,0.7s
UPC Upice 145.53 343 *e*PKP **PKPab** **16 35 15.1 -0.5**
UPC *ex* x 16 35 16.5
DPC Dobruska-Polom 145.58 343 *e*PKP **PKPab** **16 35 15.5 -0.4**
DPC *ex* x 16 35 17.0
BRG Berggiesshubel 145.71 346 *e*P **PKPbc** **16 35 15.5 +0.9**
comp=Z,6.8nm,1.2s
PRU Pruhonice 146.39 345 *e*PKP **PKPbc** **16 35 17.3 +0.8**
KHC Kasperske Hory 147.42 345 *e*PKP **PKPbc** **16 35 20.1 +0.8**
KHC *ex* x 16 35 24.0
GERES GERESS Array B 147.65 345 PKPbc **PKPbc** **16 35 20.7 +0.7**
comp=Z,3.2nm,0.6s,baz=30,slow=3.1,SNR=26

IDC ***27*** *16:27:46.5±1.9,36.98N×144.89E,h0km,mb3.4/3, mb1 3.7/5,mb1mx3.3/46,mbtmp3.6/5,ML3.6/2,Error ellipse: s-maj=47.3km s-min=25.0km az=77.0*
ISCJB ***27*** *16:27:49.2±0.8,37.00N±0.04×144.52E±0.06,h26km, mb3.6/3,Error ellipse: s-maj=7.0km s-min=5.6km az=37.9*
JMA ***27*** *16:27:53.2±0.3,37.13N×144.41E,h54km,M3.8*
ISC 27 16:27:51.0±1.4,37.10N±0.06×144.6E±0.1,h26km,n27, σ1§97/33,mb3.6/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.87**	**299**	P	**Pn**	**16 28 36.5**	**+1.4**
JIO				S	**Sn**	**16 29 08.8**	**0.0**
JFK	**Kawauchi**	**2.94**	**276**	P	**Pn**	**16 28 37.1**	**+1.0**
JFK				S	**Sn**	**16 29 09.7**	**-0.9**
ONAJ	**Iwakimizuishiy**	**3.00**	**271**	P	**Pn**	**16 28 37.7**	**+0.8**
ONAJ				S	**Sn**	**16 29 11.0**	**-1.0**
OFUJ	**Ofunato**	**3.01**	**312**	P	**Pn**	**16 28 38.1**	**+1.1**
OFUJ				S	**Sn**	**16 29 11.6**	**-0.7**
JMK	**Ichinoseki**	**3.21**	**306**	P	**Pn**	**16 28 41.3**	**+1.5**
JMK				*e*S	**Sn**	**16 29 17.3**	**+0.1**
JFT	**Otama**	**3.38**	**278**	P	**Pn**	**16 28 44.3**	**+2.1**
JFT				S	**Sn**	**16 29 22.3**	**+0.8**
JRY	**Ryogami san**	**4.67**	**258**	P	**Pn**	**16 29 00.8**	**+0.9**
JRY				S	**Sn**	**16 29 51.2**	**-2.1**
JOD2	**Odawara 2**	**4.78**	**249**	S	**Sn**	**16 29 53.5**	**-2.4**
JOT	**Ohata**	**5.07**	**329**	P	**Pn**	**16 29 06.6**	**+1.3**
MJAR	**Matsushiro Arr**	**5.12**	**266**	Pn	**Pn**	**16 29 08.4**	**+2.4**
	1.3nm,0.3s,baz=86,slow=14,SNR=11						
MJAR				Sn	**Sn**	**16 30 04.6**	**+0.4**
	0.9nm,0.3s,baz=98,slow=30,SNR=4.3						
MAT	**Matsushiro**	**5.12**	**266**	P	**Pn**	**16 29 08.3**	**+2.3**
MAT				*e*S	**Sn**	**16 30 03.5**	**-0.7**
JKB	**Kayabe**	**5.50**	**331**	P	**Pn**	**16 29 13.0**	**+1.8**
JHJ2	**Mitsune**	**5.55**	**226**	S	**Sn**	**16 30 11.7**	**-3.3**
JHJ	**Hachijo jima 2**	**5.57**	**226**	Pn	**Pn**	**16 29 11.3**	**-0.9**
	7.8nm,0.3s,baz=39,slow=18,SNR=5.6						
JHJ				Sn	**Sn**	**16 30 11.9**	**-3.4**
	25nm,0.3s,baz=124,slow=23,SNR=7.4						
JCH	**Churui**	**5.58**	**351**	P	**Pn**	**16 29 12.5**	**+0.1**
JCH				S	**Sn**	**16 30 13.0**	**-2.6**
NEM2	**Nemuro 2**	**6.33**	**8**	S	**Sn**	**16 30 28.9**	**-5.0**
JTKR	**Abashiri--Toko**	**6.88**	**356**	P	**Pn**	**16 29 30.8**	**+0.6**
JTKR				S	**Sn**	**16 30 43.9**	**-3.7**
ASAJ	**Asahikawa**	**7.17**	**349**	Pn	**Pn**	**16 29 34.3**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**26.08**	**125**	T	T	17 00 10.9	
	baz=317,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**26.09**	**125**	T	T	17 00 15.2	
	baz=317,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**26.10**	**125**	T	T	17 00 09.3	
	baz=317,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**26.85**	**128**	T	T	17 01 10.2	
	baz=319,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy**	**26.85**	**128**	T	T	17 01 15.0	
	baz=319,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**26.87**	**128**	T	T	17 01 11.5	
	baz=319,slow=76,SNR=23						
KURBB	**Kurchatov Arra**	**47.93**	**308**	P	**P**	**16 36 28.8**	**+1.7**
	0.3nm,0.4s,baz=78,slow=8.1,SNR=2.9						
WRA	**Warramunga Arr**	**57.55**	**191**	P	**P**	**16 37 37.4**	**-1.0**
	0.3nm,0.4s,baz=8.9,slow=7.2,SNR=5.9						
ASAR	**Alice Springs**	**61.27**	**191**	P	**P**	**16 38 03.2**	**-0.8**
	0.2nm,0.6s,baz=7.0,slow=7.3,SNR=6.5						

NIED ***27*** *16:37:00,36.90N×141.80E,h17km,Mw4.2 Best double couple: M₀2.07000×10¹⁵ NP1:ϕs341.00000°,δ25.00000°, λ-102.00000°. NP2:ϕs174.00000°,δ66.00000°, λ-84.00000°*
IDC ***27*** *16:37:39.1±0.6,36.78N×142.15E,h0km,mb4.2/20, mb1 4.2/26,mb1mx4.1/48,mbtmp4.1/26,ML4.0/5,MS3.2/6, Ms1 3.2/6,ms1mx2.9/53,Error ellipse: s-maj=16.4km s-min=11.7km az=104.0*
ISCJB ***27*** *16:37:40.1±0.4,36.79N±0.03×142.12E±0.04,h19km, mb4.2/26,MS3.0/1,Error ellipse: s-maj=5.3km s-min=4.1km az=24.0*
BJI ***27*** *16:37:40.0,36.77N×141.96E,h8km,mb4.4/28,mB4.9/15, Ms4.6/10,MS7 4.2/7*
NEIC ***27*** *16:37:41.6±2.4,36.82N×142.13E,h16km±15km,mb4.5/7, Error ellipse: s-maj=7.6km s-min=4.7km az=121.0*
NEIC Recorded [1 JMA] in Fukushima and Miyagi.
JMA ***27*** *16:37:44.3±0.4,36.87N×141.82E,h49km,M4.3*
JMA Felt I J1.
ISC 27 16:37:42.3±0.5,36.80N±0.05×142.19E±0.06,h19km,n74, σ2§01/80,mb4.2/26,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.15**	**285**	P	**Pn**	**16 38 00.1**	**-3.3**
JFK	**Kawauchi**	**1.19**	**299**	P	**Pn**	**16 38 00.6**	**-3.4**
JHO	**Hitachi**	**1.31**	**262**	P	**Pn**	**16 38 02.5**	**-3.1**
JMM	**Marumori**	**1.54**	**314**	P	**Pn**	**16 38 06.1**	**-2.6**
JFT	**Otama**	**1.64**	**296**	P	**Pn**	**16 38 08.2**	**-1.9**
JFT				S	**Sn**	**16 38 26.6**	**-4.1**
JIO	**Ouri**	**1.78**	**338**	P	**Pn**	**16 38 10.4**	**-1.6**
JOU	**Okura**	**1.97**	**323**	P	**Pn**	**16 38 13.2**	**-1.5**
JOU				*e*S	**Sn**	**16 38 36.8**	**-2.2**
JFY	**Yanaizu**	**2.07**	**288**	P	**Pn**	**16 38 14.6**	**-1.5**
JYS	**Shirataka**	**2.20**	**311**	P	**Pn**	**16 38 17.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.21**	**267**	Pn	**Pn**	**16 38 30.8**	**-0.9**
	42nm,0.3s,baz=88,slow=15,SNR=232						
MJAR				LR	LR	16 40 10.9	
	comp=Z,497nm,18.2s,baz=95,slow=48						
MAJO	**Matsushiro**	**3.21**	**267**	*e*Pn	**Pn**	**16 38 31.1**	**-0.6**
MAT	**Matsushiro**	**3.21**	**267**	P	**Pn**	**16 38 30.9**	**-0.8**
MAT				*e*S	**Sn**	**16 39 06.8**	**-2.6**
MJB9	**Matsu-Tunnel**	**3.21**	**267**	*e*Pn	**Pn**	**16 38 31.1**	**-0.7**
JHJ2	**Mitsune**	**4.16**	**209**	*e*Pn	**Pn**	**16 38 44.3**	**-0.5**
JHJ2				*e*Sn	**Sn**	**16 39 30.0**	**-3.0**
JHJ	**Hachijo jima 2**	**4.17**	**209**	Pn	**Pn**	**16 38 44.2**	**-0.6**
	37nm,0.3s,baz=323,slow=24,SNR=34						
JHJ				Sn	**Sn**	**16 39 30.3**	**-2.8**
	128nm,0.3s,baz=67,slow=22,SNR=12						
JHJ				LR	LR	16 40 31.9	
	comp=Z,272nm,21.6s,baz=82,slow=42						
INU	**Inuyama**	**4.43**	**252**	*e*Pn	**Pn**	**16 38 49.4**	**+0.9**
ERM	**Erimo**	**5.26**	**8**	*e*Pn	**Pn**	**16 38 58.6**	**-1.2**
ERM				*e*Sn	**Sn**	**16 39 59.0**	**-0.9**
ASAJ	**Asahikawa**	**7.31**	**2**	Pn	**Pn**	**16 39 26.4**	**-1.6**
	6.5nm,0.3s,baz=211,slow=11,SNR=52						
ASAJ				Sn	**Sn**	**16 40 46.5**	**-4.0**
ASAJ	**Asahikawa**	**7.31**	**2**	*e*Pn	**Pn**	**16 39 27.0**	**-1.0**
ASAJ				Sn	**Sn**	**16 40 46.5**	**-4.0**
JNU	**Nakatsue**	**9.98**	**252**	Pn	**Pn**	**16 40 04.2**	**-0.5**
	0.3nm,0.3s,baz=54,slow=17,SNR=3.2						
JNU				LR	LR	16 43 35.1	
	comp=Z,50nm,20.4s,baz=119,slow=36						
USRK	**Ussuriysk Ar.**	**10.71**	**317**	Pn	**Pn**	**16 40 14.0**	**-0.6**
	0.1nm,0.3s,baz=128,slow=13,SNR=2.9						
USRK				LR	LR	16 44 06.2	
	comp=Z,134nm,18.2s,baz=109,slow=36						
KSRS	**Korea Array**	**11.41**	**278**	Pn	**Pn**	**16 40 23.4**	**-0.7**
	0.3nm,0.3s,baz=90,slow=14,SNR=11						
KSRS				LR	LR	16 44 41.1	
	comp=Z,147nm,18.8s,baz=72,slow=37						
KS15	**Wonju Array Si**	**11.44**	**277**	*e*Pn	**Pn**	**16 40 22.6**	**-2.0**
KSAR	**Wonju Array Be**	**11.44**	**277**	Pn	**Pn**	**16 40 23.4**	**-1.2**
CN2	**Changchun**	**14.55**	**304**	*e*P	**Pn**	**16 41 06.3**	**-0.7**
MA2	**Magadan**	**23.46**	**11**	P	**P**	**16 42 49.5**	**-0.8**
	4.7nm,0.6s,baz=206,slow=10,SNR=4.2						
MA2				LR	LR	16 52 43.8	
	comp=Z,53nm,18.2s,baz=242,slow=38						
HHC	**Hu-ho-hao-te**	**24.13**	**289**	*e*P	**P**	**16 42 57.0**	**-0.1**
HHC				PMZ			
	13nm,1.0s						
HHC				PMZ			
	71nm,5.2s						
YAK	**Yakutsk**	**26.43**	**347**	P	**P**	**16 43 16.8**	**-0.8**
	8.6nm,0.5s,baz=139,slow=1.8,SNR=6.4						
YAK	**Yakutsk**	**26.43**	**347**	*e*P	**P**	**16 43 16.4**	**-1.1**
	12nm,0.6s						
SEY	**Seymchan**	**26.90**	**10**	P	**P**	**16 43 22.6**	**+0.8**
	3.4nm,0.6s,baz=197,slow=9.3,SNR=25						
H11N2	**WAKE ISLAND Hy**	**27.50**	**121**	T	T	17 12 25.6	
	baz=314,slow=75,SNR=58						
H11N1	**WAKE ISLAND Hy**	**27.51**	**122**	T	T	17 12 31.1	
	baz=314,slow=75,SNR=73						
H11N3	**WAKE ISLAND Hy**	**27.52**	**121**	T	T	17 12 31.2	
	baz=314,slow=75,SNR=67						
ENH	**Enshi**	**27.93**	**266**	*e*P	**P**	**16 43 30.7**	**-0.7**
	8.4nm,0.6s						
ULN	**Ulaanbaatar**	**28.00**	**304**	*e*P	**P**	**16 43 31.6**	**-0.4**
	1.8nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.21**	**124**	T	T	17 13 55.1	
	baz=315,slow=76,SNR=61						
H11S3	**WAKE ISLAND Hy**	**28.22**	**124**	T	T	17 14 04.1	
	baz=315,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**28.23**	**124**	T	T	17 13 49.9	
	baz=315,slow=76,SNR=47						
SONM	**Songino Array**	**28.43**	**304**	P	**P**	**16 43 35.8**	**0.0**
	3.5nm,0.7s,baz=102,slow=9.0,SNR=19						
LZH	**Lanzhou**	**30.72**	**280**	*e*P	**P**	**16 43 57.5**	**+1.3**
LZH				pP	pP	16 44 02.0	-0.1
LZH				sP	sP	16 44 04.8	+0.4
LZH				*e*PP	**PnPn**	**16 44 58.0**	**+1.9**
LZH				PMZ			
	20nm,1.2s						
LZH				PMZ			
	53nm,5.4s						
LZH				LN			
	220nm,12.8s						
LZH				LE			
	220nm,13.2s						
LZH				LZ			
	280nm,16.5s						
GYA	**Guiyang**	**31.80**	**261**	*e*P	**P**	**16 44 06.3**	**+0.5**
GYA				PMZ			
	10.0nm,0.8s						
GTA	**Gaotai**	**33.22**	**288**	*e*P	**P**	**16 44 18.0**	**-0.2**
GTA				pP	sP	16 44 28.5	+2.1
GTA				sP	pP	16 44 32.0	+8.0
GTA				PMZ			
	3.0nm,0.8s						
QIZ	**Qiongzhong**	**33.40**	**247**	P	**P**	**16 44 20.3**	**+0.5**
KMI	**Kunming**	**35.54**	**262**	P	**P**	**16 44 39.3**	**+0.8**
KMI				PMZ			
	6.0nm,0.7s						
KMI				PMZ			
	190nm,4.6s						
KMI				LN			
	280nm,8.8s						
KMI				LE			
	250nm,6.6s						
KMI				LZ			
	390nm,16.6s						
TIXI	**Tiksi**	**35.59**	**353**	P	**P**	**16 44 37.5**	**-0.6**
	1.5nm,0.3s,baz=142,slow=4.7,SNR=12						
WMQ	**Urumqi**	**41.50**	**297**	P	**P**	**16 45 28.5**	**+0.3**
WMQ				pP	pP	16 45 33.0	-1.1
WMQ				sP	sP	16 45 35.5	-0.9
WMQ				PMZ			
	5.0nm,0.6s						
WMQ				PMZ			
	54nm,4.1s						
CMAR	**Chiang Mai Arr**	**42.04**	**256**	P	**P**	**16 45 32.5**	**-0.3**
	0.8nm,0.7s,baz=45,slow=7.7,SNR=8.2						
ZAA0	**Zalesovo Array**	**42.53**	**313**	*e*P	**P**	**16 45 36.2**	**-0.2**
ZALV	**Zalesovo Beam**	**42.53**	**313**	P	**P**	**16 45 36.9**	**+0.5**
	3.6nm,0.9s,baz=83,slow=6.8,SNR=8.6						
MK01	**Makanchi Array**	**44.76**	**302**	*e*P	**P**	**16 45 53.9**	**-0.6**
MKAR	**Makanchi Array**	**44.77**	**302**	P	**P**	**16 45 53.0**	**-1.5**
	0.7nm,0.6s,baz=86,slow=10,SNR=7.3						
KURK	**Kurchatov**	**46.56**	**308**	*e*P	**P**	**16 46 07.8**	**-0.7**
	17nm,0.7s						
KURBB	**Kurchatov Arra**	**46.63**	**308**	P	**P**	**16 46 08.4**	**-0.7**
	2.6nm,0.5s,baz=83,slow=8.0,SNR=16						
MDM	**Murphy Dome**	**48.78**	**32**	*e*P	**P**	**16 46 27.3**	**+1.6**
	5.1nm,0.8s						
IL1	**Eielson Array**	**49.36**	**32**	*e*P	**P**	**16 46 30.1**	**0.0**
ILAR	**Eielson Array**	**49.36**	**32**	P	**P**	**16 46 30.1**	**0.0**
	2.3nm,0.7s,baz=266,slow=6.3,SNR=26						
ILB	**Eielson Array**	**49.36**	**32**	*e*P	**P**	**16 46 30.1**	**0.0**
KSH	**Kashi**	**51.06**	**294**	*e*P	P	16 46 49.8	+6.3
KSH				pP	sP	16 46 54.0	+2.1
KSH				PcP	**PcP**	**16 48 04.3**	**+5.1**
KSH				PP	**PP**	**16 48 47.3**	**+7.3**
KSH				S	**S**	**16 54 06.5**	**+6.3**
KSH				ScS	**ScS**	**16 56 38.0**	**+4.7**
KSH				PMZ			
	2.0nm,0.3s						
KSH				PMZ			
	100nm,4.2s						
KSH				LN			
	76nm,4.9s						
KSH				LE			
	57nm,4.9s						
KSH				LZ			
	150nm,9.0s						
ZRNK	**Zerenda**	**52.02**	**313**	*e*P	**P**	**16 46 49.6**	**-0.7**
	1.6nm,0.8s						
INK	**Inuvik**	**54.31**	**27**	P	**P**	**16 47 07.8**	**+0.9**
	2.3nm,0.5s,baz=302,slow=5.5,SNR=11						
FITZ	**Fitzroy Crossi**	**56.80**	**199**	P	**P**	**16 47 25.6**	**+0.3**
	1.4nm,0.6s,baz=354,slow=3.8,SNR=6.3						
WRA	**Warramunga Arr**	**56.92**	**189**	P	**P**	**16 47 25.3**	**-0.9**
	2.1nm,0.4s,baz=7.1,slow=7.5,SNR=40						
ABKAR	**Akbulak array**	**58.56**	**310**	*e*P	**P**	**16 47 35.8**	**-1.7**
	0.8nm,0.4s						
AS01	**Alice Springs**	**60.64**	**189**	*e*P	**P**	**16 47 51.2**	**-0.9**
ASAR	**Alice Springs**	**60.65**	**189**	P	**P**	**16 47 51.6**	**-0.5**
	1.5nm,0.7s,baz=16,slow=8.7,SNR=19						
YKA	**Yellowknife Ar**	**63.70**	**30**	P	**P**	**16 48 11.8**	**-0.3**
	0.8nm,0.6s,baz=302,slow=6.3,SNR=4.9						
STKA	**Stephens Creek**	**68.32**	**181**	P	**P**	**16 48 40.8**	**-1.3**
	1.8nm,0.8s,baz=328,slow=12,SNR=4.1						
FINES	**FINESS Array B**	**69.31**	**333**	P	**P**	**16 48 47.5**	**-0.4**
	1.4nm,0.8s,baz=111,slow=10,SNR=3.6						
NB2	**NORSAR Subarra**	**74.64**	**338**	P	**P**	**16 49 19.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**74.64**	**338**	P	**P**	**16 49 19.7**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=38,slow=5.8,SNR=4.2						
AKASG	**Malin Array Be**	**74.86**	**323**	P	**P**	**16 49 20.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=45,slow=6.1,SNR=4.2						
TX31	**Lajitas Ar. Si**	**89.77**	**53**	*e*P	**P**	**16 50 40.3**	**+0.5**
TXAR	**Lajitas Array**	**89.77**	**53**	P	**P**	**16 50 40.4**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=300,slow=3.1,SNR=15						
LPAZ	**La Paz**	**146.27**	**61**	PKPbc	**PKPbc**	**16 57 22.4**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=13,slow=3.8,SNR=7.0						

MOS ***27*** *16:47:08.7±1.0,8.88S×122.45E,h82km,mb6.0/71,Error ellipse: s-maj=7.7km s-min=4.6km az=114.1*
BJI ***27*** *16:47:13.4,8.90S×122.50E,h121km,mb5.9/85,mB5.8/40*
NEIC ***27*** *16:47:14.3±0.5,8.93S×122.47E,h120km±3km,mb5.8/123, MW5.5,MW5.5,Error ellipse: s-maj=4.3km s-min=3.0km az=46.0,Moment Tensor Solution. s20 Moment tensor: Scale 10¹⁷Nm; Mrr0.10; Mθθ-0.61; Mϕϕ0.51; Mrθ1.77; Mθϕ0.47; Mϕr1.13; Best double couple: M₀2.20000×10¹⁷ NP1:ϕs329.00000°,δ19.00000°,λ179.00000°. NP2: ϕs60.00000°,δ90.00000°,λ71.00000°. Principal axes: T 2.3200, Plg42.0000°, Azm312.0000°; N -0.2100, Plg19.0000°, Azm60.0000°; P -2.1200, Plg42.0000°, Azm168.0000°;*
NEIC Felt [III] at Ende.
GCMT ***27*** *16:47:14.3±0.1,9.21S×122.56E,h133km,MW5.6/126, Moment Tensor Solution. s109,c197; s126,c295; Duration: 1s5 Moment tensor: Scale 10¹⁷Nm; Mrr0.59±.03; Mθθ-1.98±.03; Mϕϕ1.39±.04; Mrθ1.77±.02; Mθϕ0.66±.03; Mϕr1.29±.03; Best double couple: M₀2.88600×10¹⁷ NP1:ϕs60.00000°,δ82.00000°, λ51.00000°. NP2:ϕs321.00000°,δ39.00000°,λ168.00000°. Principal axes: T 2.8900, Plg40.0000°, Azm295.0000°; N -0.0100, Plg38.0000°, Azm66.0000°; P -2.8830, Plg27.0000°, Azm180.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***27*** *16:47:14.9±0.3,9.07S±0.02×122.44E±0.02,h149km±2km, mb5.7/213 Error ellipse: s-maj=3.3km s-min=2.7km az=43.2*
NEIC ***27*** *16:47:14.0±0.0,8.92S×122.57E,h130km,Moment Tensor Solution. s12 Moment tensor: Scale 10¹⁷Nm; Mrr0.39; Mθθ-1.19; Mϕϕ0.81; Mrθ1.75; Mθϕ0.13; Mϕr0.94; Best double couple: M₀2.30000×10¹⁷ NP1:ϕs60.00000°, δ84.00000°,λ66.00000°. NP2:ϕs316.00000°,δ25.00000°, λ164.00000°. Principal axes: T 2.1000, Plg46.0000°, Azm305.0000°; N 0.2800, Plg23.0000°, Azm63.0000°; P -2.3800, Plg34.0000°, Azm170.0000°;*
IDC ***27*** *16:47:15.6±0.8,8.93S×122.53E,h129km±6km,mb5.4/44, mb1 5.4/46,mb1mx5.4/48,mbtmp5.8/46,MS4.4/13, Ms1 4.4/13,ms1mx3.9/37 Error ellipse: s-maj=9.1km s-min=6.5km az=60.0*
DJA ***27*** *16:47:15.7±0.2,9.7S±2.2×12.2E±°,h139km±2km,M5.7/54, mb5.8/54,mB6.0/49,MLv6.4/3,Mw(mB)5.7/49*
KLM ***27*** *16:47:17.0,9.39S×122.38E,h163km,mb5.8,ML6.0, MS6.3*
ISC 27 16:47:14.9±0.3,8.98S±0.03×122.49E±0.03,h128km±2km, h128km:pP-P,n1545,σ1§63/1710,mb5.7/233,56C-24D, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.42**	**324**	P	**Pn**	**16 47 35.8**	**+2.4**
MMRI	**Maumere**	**0.42**	**324**	*e*Pn	**Pn**	**16 47 35.5**	**+2.1**
EDFI	**Ende, Flores**	**0.82**	**286**	P	**Pn**	**16 47 38.1**	**+1.9**
SOEI	**Soe**	**1.92**	**114**	P	**Pn**	**16 47 48.2**	**+0.3**
SOEI	**Soe**	**1.92**	**114**	*e*Pn	**Pn**	**16 47 48.0**	**+0.1**
BASI	**Baing, Sumba**	**2.25**	**237**	P	**Pn**	**16 47 51.1**	**-0.8**
WSI	**Waingapu**	**2.27**	**252**	P	**Pn**	**16 47 52.6**	**+0.5**
PLAI	**Plampang**	**4.66**	**271**	P	**Pn**	**16 48 25.0**	**+1.6**
KAPI	**Kappang**	**4.78**	**325**	P	**Pn**	**16 48 29.8**	**+4.8**
	26nm,0.3s,baz=148,slow=9.7,SNR=273						
KAPI				S	**Sn**	**16 49 23.4**	**+3.7**
	40nm,0.3s,baz=221,slow=13,SNR=3.7						
KAPI	**Kappang**	**4.78**	**325**	*e*Pn	**Pn**	**16 48 27.7**	**+2.6**
KAPI				S	**Sn**	**16 49 23.4**	**+3.7**
KDI	**Kendari**	**4.99**	**1**	P	**Pn**	**16 48 32.1**	**+4.3**
TWSI	**Taliwang, Sumb**	**5.55**	**272**	P	**Pn**	**16 48 36.6**	**+1.3**
SPSI	**Sidrap Palu**	**5.66**	**331**	P	**Pn**	**16 48 41.4**	**+4.5**
TTSI	**Tana Toraja**	**6.46**	**336**	P	Pn	16 48 52.9	+5.2
DNP	**Denpasar**	**7.20**	**272**	P	**Pn**	**16 48 58.5**	**+0.9**
	2μm,1.0s,33μm41nm						
NLAI	**Namlea**	**7.31**	**39**	P	Pn	16 49 04.0	+4.9
SANI	**Sanana**	**7.71**	**27**	P	**Pn**	**16 49 08.7**	**+4.2**
ABJI	**Asem Bagus**	**8.25**	**278**	P	**Pn**	**16 49 13.0**	**+1.2**
JAGI	**Jajag, Banyuwa**	**8.26**	**273**	P	**Pn**	**16 49 10.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**8.26**	**273**	*e*Pn	**Pn**	**16 49 09.4**	**-2.5**
PCI	**Palu**	**8.44**	**342**	P	Pn	16 49 20.3	+5.9
MSAI	**Masohi**	**8.50**	**49**	P	Pn	16 49 21.5	+6.4
	116nm,1.0s,1μm						
BNDI	**Bandanaira**	**8.59**	**59**	P	Pn	16 49 22.1	+5.7
	1μm,1.1s,14μm4.3nm						
SAUI	**Saumlaki**	**8.77**	**84**	P	**Pn**	**16 49 18.4**	**-0.4**
	11μm,0.7s,86μm						
SAUI	**Saumlaki**	**8.77**	**84**	*e*Pn	**Pn**	**16 49 18.1**	**-0.7**
BLJI	**Banyuglugur**	**8.88**	**277**	P	**Pn**	**16 49 21.0**	**+0.7**
GMJI	**Gumukmas**	**8.97**	**274**	P	**Pn**	**16 49 19.9**	**-1.6**
MTN	**Manton Dam**	**9.32**	**115**	P	**Pn**	**16 49 23.2**	**-3.0**
	baz=9.3,SNR=1000						
MTN	**Manton Dam**	**9.32**	**115**	*e*Pn	**Pn**	**16 49 23.6**	**-2.6**
BBKI	**Banjar Baru**	**9.37**	**305**	P	**Pn**	**16 49 30.6**	**+3.7**
MRSI	**Marisa**	**9.41**	**357**	P	**Pn**	**16 49 31.0**	**+3.7**
BKB	**Balikpapan**	**9.47**	**324**	P	Pn	16 49 37.8	+10
	551nm,1.1s,10μm						
FITZ	**Fitzroy Crossi**	**9.57**	**162**	P	**Pn**	**16 49 25.9**	**-3.7**
	71nm,0.3s,baz=352,slow=8.4,SNR=1137						
FITZ				S	Sn	16 51 04.7	-11
	467nm,0.3s,baz=3.2,slow=12,SNR=17						
FITZ				LR	LR	16 53 55.7	
	comp=Z,2μm,19.7s,baz=350,slow=42						
FITZ	**Fitzroy Crossi**	**9.57**	**162**	P	**Pn**	**16 49 25.4**	**-4.1**
	baz=9.5,SNR=627						
FITZ	**Fitzroy Crossi**	**9.57**	**162**	*e*Pn	**Pn**	**16 49 25.7**	**-3.9**
FITZ				S	Sn	16 51 04.7	-11
KMSI	**Cibinong**	**9.60**	**9**	P	Pn	16 49 35.6	+5.6
	2μm,0.9s,15μm						
LBMI	**Labuha**	**9.67**	**31**	P	**Pn**	**16 49 35.4**	**+4.5**

TNG P P 16 50 56.4 +3.1
comp=Z,2µm,0.5s,comp=Z,27µm
KSM Kuching 15.97 310 ⇑P P 16 50 55.4 +1.9
KSM Kuching 15.97 310 *e*Pn P 16 50 54.2 +0.8
comp=Z,696nm,1.0s
KKM Kota Kinabalu 16.18 337 ⇑P P 16 50 59.7 +3.8
KKM Kota Kinabalu 16.18 337 *e*Pn P 16 50 58.9 +3.0
comp=Z,822nm,0.8s
DAV Davao City (W) 16.23 11 P P 16 50 57.1 +0.7
comp=Z,17nm,0.3s,baz=89,slow=1.7,SNR=28
DAV S S 16 53 59.9 +1.3
comp=Z,22nm,0.3s,baz=152,slow=19,SNR=2.2
DAV Davao City (W) 16.23 11⇓*e*P P 16 50 56.7 +0.3
DAV Davao City (W) 16.23 11 ⇑S Sn 16 53 56.8 +0.4
DAV Davao City (W) 16.23 11 P P 16 50 59.6 +3.2
SNR=22
DAV Davao City (W) 16.23 11 *e*Pn P 16 50 59.2 +2.8
comp=Z,712nm,1.1s
DAV S S 16 53 59.9 +1.3
MATI Mati 16.26 13 *e*P P 16 50 57.4 +0.7
MATI *e*S S 16 54 06.0 +6.9
SBJI Serang 16.46 279 P Pn 16 50 58.1 -0.4
IPIL Ipil 16.65 0 *e*P P 16 51 06.2 +5.2
XMIS Christmas Isla 16.66 263 *e*Pn Pn 16 50 57.7 -3.3
comp=Z,3µm,1.3s
PAGZ Pagadian 16.74 3 *e*P P 16 51 06.3 +4.3
PAGZ *e*S S 16 54 20.7 +11
KDM Kudat 16.76 340 ⇓P P 16 51 06.0 +3.8
CGJI Cibinong 16.81 277 P P 16 51 00.8 -1.9
WRKA Warakurna 16.91 162 P P 16 51 02.3 -1.5
baz=17,SNR=1000
CGP Cagayan de Oro 17.45 7⇓*e*P Pn 16 51 14.4 +3.9
BLSI Bandar Lampung 17.48 281 P Pn 16 51 11.1 +0.2
comp=Z,595nm,1.1s,comp=Z,7µm
PPBI Pangkal Pinang 17.62 292 P Pn 16 51 12.4 -0.2
KLI Kotabumi 17.97 282 P P 16 51 15.6 0.0
comp=Z,3µm,1.0s,comp=Z,23µm
KASI Kota Agung 18.17 280 P P 16 51 17.8 0.0
SNPH Sibulan 18.21 2 *e*P Pn 16 51 20.2 +0.6
AS31 Alice Springs 18.24 145 *e*P P 16 51 17.8 -0.6
comp=Z,188nm,0.7s
ASAR Alice Springs 18.24 145 P P 16 51 18.0 -0.5
comp=Z,64nm,0.3s,baz=325,slow=11,SNR=2550
ASAR S S 16 54 28.4 -12
comp=Z,42nm,0.3s,baz=324,slow=23,SNR=17
ASAR ScP ScP 16 59 09.2 -0.1
comp=Z,6.2nm,0.3s,baz=358,slow=2.0,SNR=8.5
ASAR LR LR 16 59 11.5
comp=Z,1µm,21.1s,baz=320,slow=39
ASAR Alice Springs 18.24 145 P P 16 51 18.0 -0.5
ASAR S S 16 54 28.4 -12
ASAR ScP ScP 16 59 09.2 -0.1
AS01 Alice Springs 18.27 144 *e*P P 16 51 17.8 -0.9
GENI Genyem 18.69 71 P P 16 51 24.3 +0.9
LWLI Liwa 18.71 281 P P 16 51 23.6 -0.1
PPR Puerto Princes 19.00 349⇓*e*P Pn 16 51 31.1 +2.3
JAY Jayapura 19.22 72 P P 16 51 29.2 0.0
comp=Z,0.6nm,0.3s,baz=262,slow=22,SNR=32
JAY S S 16 54 58.0 -2.2
comp=Z,0.1nm,0.3s,baz=87,slow=23,SNR=3.2
JAY Jayapura 19.22 72 P P 16 51 29.6 +0.4
JAY Jayapura 19.22 72 P P 16 51 29.2 0.0
JAY S S 16 54 58.0 -2.2
LLP Lapu-Lapu 19.22 4 *e*P Pn 16 51 32.2 +0.7
LLP *e*S Sn 16 55 05.1 -2.9
GUIM Jordan 19.47 0 *e*P Pn 16 51 34.9 +0.5
GUIM *e*S S 16 55 08.8 +3.7
LHSI Lahat 19.52 284 P P 16 51 32.4 -0.1
JAP San Jose, Anti 19.60 358⇓*e*P Pn 16 51 37.1 +1.3
DSRI Dabo 19.73 294 P Pn 16 51 36.2 -1.2
CUYO Cuyo Island 19.75 356 *e*P Pn 16 51 38.1 +0.5
MNAI Manna 19.93 282 P P 16 51 37.3 +0.4
comp=Z,2µm,1.1s,comp=Z,26µm
MNAI Manna 19.93 282 *e*P P 16 51 36.3 -0.6
comp=Z,1µm,0.7s
OCLP Ormoc 20.01 6 *e*P Pn 16 51 41.0 +0.4
JMBI JAMBI 20.12 290 P Pn 16 51 41.9 -0.1
comp=Z,2µm,1.2s,comp=Z,17µm
PALU Palau 20.14 37 P P 16 51 40.3 +1.2
baz=20,SNR=156
QIS Mount Isa 20.14 127 P P 16 51 38.4 -0.7
baz=20,SNR=1000
PLP Palo 20.16 7⇑*e*P Pn 16 51 42.3 -0.1
ENPP El Nido 20.28 351 *e*P Pn 16 51 44.0 +0.3
RCP Roxas 20.40 1⇑*e*P Pn 16 51 44.3 -0.9
TPRI Tanjung Pinang 20.42 298 P Pn 16 51 43.9 -1.6
comp=Z,571nm,1.0s,comp=Z,6µm
KSI Kapahiang 20.46 284 P P 16 51 43.2 +0.5
comp=Z,2µm,0.8s,comp=Z,13µm
COEN Coen 20.86 106 P P 16 51 46.7 -0.2
baz=21,SNR=213
COEN Coen 20.86 106 *e*P P 16 51 46.5 -0.4
comp=Z,583nm,0.7s
MORW Morawa 20.89 196 P P 16 51 45.8 -1.2
baz=21,SNR=234
OTRP Odiongan 21.20 359 *e*P P 16 51 55.0 +4.5
SJMP San Jose 21.34 356 *e*P P 16 51 54.7 +2.8
MYKOM Kota Tinggi 21.43 299 *e*P P 16 51 53.8 +0.8
comp=Z,580nm,1.0s
BLDU Ballidu 22.20 193 P P 16 51 59.2 -1.7
baz=22,SNR=499
KMBL Kambalda 22.29 181 P P 16 51 59.9 -1.8
baz=22,SNR=176
GQP Guinayangan 22.73 360⇑*e*P P 16 52 07.3 +1.1
KLBR Kellerberrin 22.93 190 P P 16 52 06.7 -1.3
baz=23,SNR=206
LQP Lukban 22.96 358⇑*e*P P 16 52 10.9 +2.3
TGY Tagaytay City 22.98 356 P P 16 52 09.8 +1.2
comp=Z,3µm,0.8s,baz=211,slow=3.2,SNR=78
TGY Tagaytay City 22.98 356⇑*e*P P 16 52 11.3 +2.7
TGY Tagaytay City 22.98 356 P P 16 52 09.8 +1.2
MTSU Mount Surprise 23.07 116 P P 16 52 09.7 +0.3
baz=23,SNR=426
PPSI Pulau Pagai 23.19 284 P P 16 52 15.2 +4.6
BKNI Bangkinang 23.28 292 P P 16 52 12.7 +1.3
comp=Z,1µm,1.1s,comp=Z,14µm
BKNI Bangkinang 23.28 292 *e*P P 16 52 11.8 +0.4
comp=Z,2µm,1.2s
PDSI Padang 23.34 289 P P 16 52 09.3 -2.7
comp=Z,63nm,0.7s,comp=Z,16µm
MUN Mundaring 23.62 193 P P 16 52 13.4 -0.9
baz=24
NWAO Narrogin (SRO) 24.33 191 P P 16 52 20.0 -0.7
comp=Z,426nm,0.7s,baz=253,slow=8.3,SNR=406
NWAO Narrogin (SRO) 24.33 191 P P 16 52 19.8 -0.9
baz=24,SNR=330
NWAO Narrogin (SRO) 24.33 191 *e*P P 16 52 19.6 -1.1
NWAO pmax pmax
comp=Z,530nm,0.8s
NWAO Narrogin (SRO) 24.33 191 P P 16 52 20.0 -0.7
SNR=15
NWAO Narrogin (SRO) 24.33 191 *e*P P 16 52 19.6 -1.1
comp=Z,532nm,0.8s
PMG Port Moresby 24.36 93 P P 16 52 20.8 -0.3
comp=Z,115nm,0.8s,baz=221,slow=3.0,SNR=31
PMG LR LR 17 03 43.8
comp=Z,2µm,19.1s,baz=266,slow=41
PMG Port Moresby 24.36 93*d* *i*P P 16 52 20.1 -1.1
PMG pmax pmax
comp=Z,471nm,0.8s
PMG Port Moresby 24.36 93 *e*P P 16 52 20.5 -0.7
comp=Z,490nm,0.9s
SCZP Santa Cruz 24.72 354 *e*P P 16 52 24.9 +0.5
SCZP *e*S S 16 56 43.5 +6.4
MNSI Mandailing Nat 24.80 292 P P 16 52 24.3 -0.9
comp=Z,269nm,0.8s,comp=Z,2µm
IPM Ipoh 25.23 301 *e*P P 16 52 28.4 -0.8
comp=Z,129nm,1.1s
COCO West Island 25.41 261 *e*P P 16 52 29.3 -1.5
COCO pmax pmax
comp=Z,821nm,1.0s
COCO West Island 25.41 261 *e*P P 16 52 29.3 -1.5
comp=Z,821nm,1.0s
CTA Charters Tower 25.48 118 P P 16 52 31.8 +0.4
comp=Z,159nm,0.8s,baz=295,slow=12,SNR=88
CTA LR LR 17 04 45.1
comp=Z,1µm,19.1s,baz=290,slow=41
CTA Charters Tower 25.48 118 P P 16 52 32.0 +0.6
baz=26
CTA Charters Tower 25.48 118 P P 16 52 31.8 +0.4
CTAO Charters Tower 25.48 118 *e*P P 16 52 31.5 +0.1
CTAO pmax pmax
comp=Z,190nm,0.9s
CTAO Charters Tower 25.48 118 *e*P P 16 52 31.4 +0.1
comp=Z,187nm,0.8s

MANU Manus Island 25.69 76 *e*P P 16 52 34.2 +0.9
comp=Z,196nm,0.9s
KULM Kulim 25.98 302 ⇓P P 16 52 36.1 +0.2
KULM Kulim 25.98 302 *e*P P 16 52 35.0 -0.8
comp=Z,112nm,1.0s
RKGY Rocky Gully 26.01 190 P P 16 52 36.4 +0.5
baz=26,SNR=91
PSI Prapat 26.24 295 *e*P P 16 52 37.2 -1.2
PSI pmax pmax
comp=Z,160nm,1.1s
PSI Prapat 26.24 295 *e*P P 16 52 36.7 -1.7
comp=Z,155nm,1.1s
BBOO Buckleboo 26.84 154 P P 16 52 42.2 -1.2
baz=27,SNR=252
BBOO Buckleboo 26.84 154 *e*P P 16 52 42.0 -1.4
GSI Gunungsitoli 26.84 291 P P 16 52 42.7 -1.0
comp=Z,204nm,0.9s
GSI Gunungsitoli 26.84 291 *e*P P 16 52 41.7 -1.9
comp=Z,195nm,1.0s
TSI Tuntungan 26.88 296 P P 16 52 44.1 +0.1
comp=Z,563nm,1.2s,comp=Z,5µm
QLP Quilpie 27.04 133 P P 16 52 45.6 +0.3
baz=27,SNR=38
SGCP Mt. Cagua 27.05 359 *e*P P 16 52 45.0 -0.3
SKLT Songkhla 27.06 306 P P 16 52 46.5 +0.9
comp=Z,183nm,0.9s,comp=Z,2µm
TPTI 28.00 295 P P 16 52 53.4 -0.6
comp=Z,130nm,1.0s,comp=Z,1µm
TRTT Trang 28.19 306 P P 16 52 56.1 +0.4
comp=Z,136nm,1.3s,comp=Z,2µm
HTT Hallett 28.67 150 P P 16 52 59.5 -0.3
baz=29,SNR=135
KRAB Krabi 28.82 306 P P 16 53 01.6 +0.4
comp=Z,170nm,0.7s,comp=Z,1µm
STKA Stephens Creek 28.88 145 P P 16 53 01.2 -0.4
comp=Z,41nm,0.6s,baz=318,slow=9.3,SNR=139
STKA LR LR 17 05 57.6
comp=Z,930nm,18.6s,baz=318,slow=39
STKA Stephens Creek 28.88 145 P P 16 53 01.2 -0.4
baz=29,SNR=121
STKA Stephens Creek 28.88 145 *e*P P 16 53 00.9 -0.7
STKA pmax pmax
comp=Z,22nm,0.9s
STKA Stephens Creek 28.88 145 *e*P P 16 53 00.9 -0.7
comp=Z,22nm,0.9s
SURA Surathani 29.04 308 P P 16 53 04.2 +1.1
comp=Z,123nm,1.2s,comp=Z,2µm
LHMI Lhok Sumawe 29.11 298 P P 16 53 04.4 +0.6
comp=Z,237nm,1.1s
LHMI Lhok Sumawe 29.11 298 *e*P P 16 53 02.3 -1.6
comp=Z,250nm,1.1s
MLSI Meulaboh, Aceh 29.14 296 P P 16 53 02.9 -1.2
comp=Z,547nm,1.2s,comp=Z,5µm
PKDT Phuket 29.32 304 P P 16 53 06.6 +0.9
comp=Z,181nm,0.9s,comp=Z,2µm
UBPT Khong Chiam 29.41 325 P P 16 53 07.3 +0.9
comp=Z,113nm,1.1s,comp=Z,1µm
CHBT CHBT 29.45 317 P P 16 53 07.7 +1.0
comp=Z,134nm,1.2s,comp=Z,7µm
SURT Suratani 29.57 306 P P 16 53 15.6 +7.8
comp=Z,16nm,1.0s
RMQ Roma 30.38 128 P P 16 53 15.5 +0.6
baz=30,SNR=25
QIZ Qiongzhong 30.49 336 P P 16 53 16.0 +0.1
QIZ S S 16 58 09.8 +1.8
QIZ sS sS 16 58 55.5 -1.2
QIZ ScP ScP 16 59 43.0 0.0
QIZ PMZ
comp=Z,180nm,1.0s
QIZ Qiongzhong 30.49 336 *e*P P 16 53 16.9 +1.0
comp=Z,240nm,1.1s
SRAK Srakaew 30.55 318 P P 16 53 13.7 -2.8
comp=Z,757nm,0.9s,comp=Z,5µm
PATY Pattaya 30.57 315 P P 16 53 18.1 +1.4
comp=Z,67nm,0.8s
CMSA Cobar Meteorol 31.13 139 P P 16 53 21.6 +0.1
baz=31,SNR=198
PHET Kaeng Krachan 31.44 313 P P 16 53 26.1 +1.8
comp=Z,41nm,0.8s,comp=Z,298nm
GUMO Guam 31.56 45 P P 16 53 24.6 -0.8
comp=Z,221nm,0.8s,baz=197,slow=9.5,SNR=12
GUMO PcP PcP 16 56 15.2 +0.1
comp=Z,67nm,0.7s,baz=198,slow=7.2,SNR=3.9
GUMO Guam 31.56 45 *e*P P 16 53 24.2 -1.2
comp=Z,249nm,0.8s
GUMO PcP PcP 16 56 15.2 +0.1
SKNT Sakolnakorn 31.62 325 P P 16 53 26.5 +0.6
comp=Z,236nm,0.9s
TWG Pinlang 31.63 358 *e*P P 16 53 24.0 -1.9
comp=Z,224nm,1.0s
EIDS Eidsvold 31.70 125 P P 16 53 25.9 -0.7
baz=32,SNR=6.6
KHON Khomkaen 31.80 322 P P 16 53 28.5 +1.0
comp=Z,66nm,0.9s,comp=Z,523nm
CHAI Chaiyaphum 31.99 320 P P 16 53 30.1 +1.0
comp=Z,47nm,1.1s,comp=Z,431nm
MCO Taipa Grande 32.12 344 P P 16 53 33.0 +2.8
TPUB Ta-pu 32.13 357 *e*P P 16 53 29.3 -1.0
comp=Z,69nm,0.8s
YULB Yu-li 32.19 358 *e*P P 16 53 29.1 -1.7
comp=Z,108nm,1.1s
SSLB Suanglung 32.60 357 *e*P P 16 53 33.6 -0.8
comp=Z,94nm,0.9s
SSLB *e*S S 16 58 45.4 +4.7
ARPS Mount Arapiles 32.77 151 P P 16 53 36.0 +0.2
baz=33,SNR=52
SRDT SRDT 32.78 315 P P 16 53 37.9 +1.9
comp=Z,414nm,1.1s,comp=Z,4µm
NACB Ninganchiao 32.96 358 *e*P P 16 53 36.6 -0.8
comp=Z,109nm,1.0s
GZH Guangzhou 33.10 344 P P 16 53 42.3 +3.6
GZH S S 16 58 53.5 +5.1
GZH PMZ
comp=Z,1µm,3.0s
PBKT Sadao Pong 33.13 320 P P 16 53 39.7 +0.7
comp=Z,12nm,1.1s,comp=Z,2µm
YOJ Yonaguni jima 33.24 1 *e*P P 16 53 40.9 +1.0
YOJ pmax pmax
comp=Z,830nm,1.1s
YOJ Yonaguni jima 33.24 1 *e*P P 16 53 40.4 +0.5
comp=Z,826nm,1.1s
KHLT Khaolaem Dam 33.46 315 P P 16 53 44.1 +2.2
comp=Z,101nm,1.4s,comp=Z,2µm
YHNB Yeheng 33.46 358 *e*P P 16 53 41.3 -0.6
comp=Z,187nm,1.1s
LOEI Loei 33.65 321 P P 16 53 41.8 -1.8
comp=Z,134nm,0.7s,comp=Z,12µm
TATO Taipei 33.76 358 *e*P P 16 53 43.2 -1.2
comp=Z,265nm,1.4s
QZH Quanzhou 33.93 354⇑ *i*P P 16 53 38.8 -7.0
QZH sP sP 16 54 21.5 -7.2
QZH S S 16 58 50.5 -11
UMPA Umpang Tak 34.25 317 P P 16 53 49.1 +0.3
comp=Z,32nm,1.0s,comp=Z,2µm
UTTA Uttaradit 34.27 321 P P 16 53 49.8 +0.9
comp=Z,32nm,0.8s,comp=Z,218nm
SARN Sarigan 34.38 42 *e*P P 16 53 49.3 -0.6
ARMA Armidale 34.57 132 P P 16 53 53.1 +1.5
baz=35,SNR=37
ARMA Armidale 34.57 132 *e*P P 16 53 52.5 +1.0
comp=Z,129nm,1.1s
YNG Young 34.65 140 P P 16 53 52.6 +0.5
baz=35,SNR=106
SUKH Sukhothai 34.66 319 P P 16 53 53.5 +1.2
comp=Z,43nm,0.9s,comp=Z,355nm
TOO Toolangi 35.25 147 P P 16 53 58.1 +0.9
baz=35,SNR=68
LAMP Lampang 35.43 321 P P 16 54 00.1 +1.2
comp=Z,45nm,0.9s,comp=Z,325nm
CAN Canberra 35.70 141 *e*P P 16 54 01.9 +0.8
CAN pmax pmax
comp=Z,450nm,2.0s
CAN Canberra 35.70 141 *e*P P 16 54 01.7 +0.6
comp=Z,451nm,2.0s
MGCD Mangrove Creek 35.76 137 P P 16 53 03.2 +1.6
baz=36,SNR=24
CM01 Chiang Mai Arr 35.78 320 *e*P P 16 54 02.5 +0.6
CM31 Chiang Mai Arr 35.82 320 *e*P P 16 54 02.9 +0.6
CMAR Chiang Mai Arr 35.82 320 P P 16 54 03.0 +0.8
comp=Z,36nm,0.8s,baz=144,slow=6.8,SNR=208
CMAR PcP PcP 16 56 28.9 +1.7
comp=Z,50nm,0.8s,baz=176,slow=2.8,SNR=28
CMAR ScP ScP 17 00 01.7 +0.1
comp=Z,20nm,0.9s,baz=173,slow=2.9,SNR=19
CMAR LR LR 17 09 54.6
comp=Z,485nm,20.8s,baz=148,slow=38
CMAR Chiang Mai Arr 35.82 320 P P 16 54 03.0 +0.8

CMAR PcP PcP 16 56 28.9 +1.7
CMAR ScP ScP 17 00 01.7 +0.1
CNB Canberra Magne 35.92 141 P P 16 54 03.7 +0.7
baz=36,SNR=13
PBA Port Blair 35.98 304 *e*P P 16 54 03.9 +0.2
JOW Kunigami 36.03 9 *e*P P 16 54 03.8 -0.2
comp=Z,47nm,0.8s
CHTO Chiang Mai 36.08 320 P P 16 54 05.2 +0.7
comp=Z,390nm,1.1s,comp=Z,6µm
CHTO Chiang Mai 36.08 320 *e*P P 16 54 04.8 +0.3
CHTO pmax pmax
comp=Z,68nm,1.0s
CHTO Chiang Mai 36.08 320 P P 16 54 05.1 +0.7
SNR=26
CHTO Chiang Mai 36.08 320 *e*P P 16 54 04.7 +0.3
comp=Z,68nm,1.0s
RIV Riverview 36.15 137 P P 16 54 06.6 +1.7
baz=36
DGPR DIGLIPUR 36.69 306 *e*P P 16 54 08.9 -0.8
DGPR IAmb IAmb 16 54 11.9
comp=Z,94nm,0.4s
HNR Honiara 36.97 94 P P 16 54 12.2 +0.1
comp=Z,201nm,0.6s,baz=235,slow=3.2,SNR=16
HNR S S 16 59 59.4 +11
comp=Z,99nm,0.6s,baz=103,slow=8.4,SNR=6.8
HNR Honiara 36.97 94 *e*P P 16 54 11.0 -1.1
HNR Honiara 36.97 94 *e*P P 16 54 11.8 -0.3
comp=Z,261nm,0.8s
HNR S S 16 59 59.4 +11
GYA Guiyang 38.43 337⇑ *i*P P 16 54 25.3 +1.0
GYA pP pP 16 54 54.3 +1.4
GYA sP sP 16 55 08.0 +0.5
GYA PP PnPn 16 56 00.5 +2.2
GYA PcP PcP 16 56 36.5 +1.3
GYA sS sS 17 01 01.0 +1.2
GYA PMZ
comp=Z,120nm,0.7s
GYA PMZ
comp=Z,410nm,8.4s
GYA LN
comp=Z,590nm,18.3s
GYA LE
comp=Z,510nm,16.7s
GYA LZ
comp=Z,980nm,16.1s
KMI Kunming 38.98 331 P P 16 54 30.8 +1.8
KMI pP pP 16 54 59.0 +1.4
KMI sP sP 16 55 13.0 +0.8
KMI PP PnPn 16 56 06.0 +1.2
KMI S S 17 00 20.0 +1.4
KMI sS sS 17 01 07.5 -0.8
KMI SS SS 17 03 11.5 -4.4
KMI PMZ
comp=Z,120nm,1.2s
KMI PMZ
comp=Z,600nm,4.8s
KMI LN
comp=Z,430nm,16.3s
KMI LE
comp=Z,530nm,16.6s
SSE Sheshan 39.86 358 P P 16 54 37.0 +1.0
SSE S S 17 00 36.5 +5.4
SSE PMZ
comp=Z,170nm,0.9s
SSE PMZ
comp=Z,330nm,7.6s
WHN Wuhan 40.06 349⇑ *i*P P 16 54 39.8 +2.1
WHN pP pP 16 55 10.0 +3.6
WHN ScP ScP 17 00 16.5 -0.9
WHN S S 17 00 38.0 +3.8
WHN PMZ
comp=Z,880nm,1.0s
WHN LZ
comp=Z,2µm,19.8s
TAU Tasmania Unive 40.19 151 *e*P P 16 54 39.0 +0.3
TAU pmax pmax
comp=Z,142nm,1.1s
TAU Tasmania Unive 40.19 151 *e*P P 16 54 39.0 +0.3
comp=Z,142nm,1.1s
CBIJ Chichi jima 40.63 27 *e*P P 16 54 41.5 -0.9
comp=Z,350nm,1.0s
CBIJ S S 17 00 38.1 -4.6
JCJ Chichijima 40.63 27 S S 17 00 38.1 -4.6
comp=Z,41nm,0.3s,baz=12,slow=23,SNR=3.4
LHI Lord Howe Isla 40.70 129 P P 16 54 43.4 +0.4
baz=41,SNR=3.3
NJ2 Nanjing 40.94 355 *e*P P 16 54 46.3 +1.4
NJ2 sP sP 16 55 22.0 -6.3
NJ2 PMZ
comp=Z,230nm,0.9s
ENH Enshi 40.97 343 *e*P P 16 54 45.5 +0.3
comp=Z,182nm,1.0s
JNU Nakatsue 42.62 10 P P 16 54 57.9 -0.6
comp=Z,62nm,0.9s,baz=124,slow=2.5,SNR=16
JNU Nakatsue 42.62 10 *e*P P 16 54 57.5 -1.1
CD2 Chengdu 43.54 336⇑ *i*P P 16 55 06.8 +0.8
CD2 pP pP 16 55 33.3 -1.9
CD2 sP sP 16 55 46.8 -2.8
CD2 PcS PcS 17 00 44.5 -0.2
CD2 S S 17 01 29.0 +3.5
CD2 sS sS 17 02 15.5 -0.5
CD2 PMZ
comp=Z,450nm,0.9s
CD2 PMZ
comp=Z,700nm,4.0s
CD2 LN
comp=Z,800nm,17.9s
CD2 LE
comp=Z,840nm,15.4s
CD2 LZ
comp=Z,680nm,15.9s
DZM Mont Dzumac 44.14 112 P P 16 55 11.4 +0.3
comp=Z,60nm,0.7s,baz=250,slow=9.8,SNR=30
DZM Mont Dzumac 44.14 112 *e*P P 16 55 09.9 -1.2
comp=Z,85nm,0.9s
PALK Pallekele 44.66 290 P P 16 55 14.0 -1.3
comp=Z,38nm,0.8s,baz=115,slow=9.0,SNR=11
PALK PcP PcP 16 56 57.3 +1.4
comp=Z,69nm,0.9s,baz=116,slow=3.5,SNR=11
PALK ScP ScP 17 00 37.1 +0.7
comp=Z,13nm,0.8s,baz=116,slow=7.5,SNR=4.7
PALK Pallekele 44.66 290 *i* P P 16 55 14.2 -1.0
SNR=6.6
PALK Pallekele 44.66 290 *e*P P 16 55 14.0 -1.3
comp=Z,75nm,0.9s
PALK PcP PcP 16 56 57.3 +1.4
PALK ScP ScP 17 00 37.1 +0.7
XAN Xi'an 44.67 344 P P 16 55 15.0 0.0
XAN pP pP 16 55 44.5 +0.2
XAN PP PP 16 57 00.5 -1.5
XAN S S 17 01 37.3 -4.6
XAN PMZ
comp=Z,320nm,0.9s
XAN LN
comp=Z,400nm,19.6s
XAN LE
comp=Z,990nm,22.3s
XAN LZ
comp=Z,870nm,38.0s
TIA Tai'an 45.23 354⇑P P 16 55 19.0 -0.3
TIA S S 17 01 45.3 -4.4
TIA PMZ
comp=Z,100nm,1.0s
TIA PMZ
comp=Z,690nm,5.0s
TIA LN
comp=Z,280nm,16.0s
TIA LE
comp=Z,390nm,18.0s
TIA LZ
comp=Z,640nm,22.0s
TJN Taejon 45.34 6⇑ *i*P P 16 55 20.4 +0.2
SHL Shillong 45.45 320⇑ *i*P P 16 55 22.0 +0.5
SHL IAmb IAmb 16 55 22.8
comp=Z,81nm,0.8s
INU Inuyama 46.17 17 *e*P P 16 55 26.4 -0.3
comp=Z,65nm,1.2s
INCN Inchon 46.38 5 *e*P P 16 55 27.8 -0.6
comp=Z,44nm,1.0s
KS15 Wonju Array Si 46.45 6 *e*P P 16 55 28.6 -0.2
KSAR Wonju Array Be 46.45 6 P P 16 55 29.4 +0.5
KSAR 16 57 02.4
KSAR Wonju Array Be 46.45 6 P P 16 55 29.4 +0.5
KSAR PcP PcP 16 57 02.4 +0.9
KSAR ScP ScP 17 00 42.2 -0.9

KSRS	**Korea Array**	**46.46**	**6**	P	**P**	**16 55 29.4**	**+0.4**
	comp=Z,32nm,0.8s,baz=180,slow=9.0,SNR=65						
KSRS				PcP	**PcP**	**16 57 02.4**	**+0.8**
	comp=Z,9.8nm,0.7s,baz=178,slow=3.5,SNR=7.4						
KSRS				ScP	**ScP**	**17 00 42.2**	**-0.9**
	comp=Z,11nm,0.8s,baz=191,slow=3.3,SNR=11						
KSRS				LR	LR	17 13 52.2	
	comp=Z,166nm,21.9s,baz=192,slow=34						
KSRS	**Korea Array**	**46.46**	**6**	P	**P**	**16 55 29.4**	**+0.4**
KSRS						16 57 02.4	
KSRS				pmax	pmax		
	comp=Z,49nm,1.0s						
KSRS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSRS				pmax	pmax		
	comp=N,11nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,166nm,21.9s						
KS01	**Wonju Array Si**	**46.48**	**6**	*e*P	**P**	**16 55 28.9**	**-0.2**
CHLP	**Challavanipeta**	**46.73**	**306**	*e*P	**P**	**16 55 31.0**	**-0.3**
CHLP				IAmb	IAmb	16 55 32.2	
	comp=Z,199nm,1.3s						
VIS	**Vishakhapatnam**	**46.90**	**304**	*e*P	**P**	**16 55 32.8**	**+0.1**
MDRS	**Chennai**	**47.33**	**297**	*e*P	**P**	**16 55 35.2**	**-0.8**
MDRS				IAmb	IAmb	16 55 36.8	
	comp=Z,349nm,1.3s						
TIY	**Taiyuan**	**47.39**	**349**	*e*P	**P**	**16 55 36.0**	**-0.3**
TIY				pP	**pP**	**16 56 07.5**	**+1.7**
TIY				sP	**sP**	**16 56 21.5**	**+1.3**
TIY				S	**S**	**17 02 17.3**	**-3.4**
TIY				PMZ			
	comp=Z,270nm,0.8s						
TIY				LN			
	comp=Z,350nm,14.7s						
TIY				LE			
	comp=Z,300nm,15.6s						
TIY				LZ			
	comp=Z,430nm,13.6s						
MJAR	**Matsushiro Arr**	**47.63**	**17**	P	**P**	**16 55 37.5**	**-0.6**
	comp=Z,33nm,0.6s,baz=191,slow=8.9,SNR=92						
MJAR				ScP	**ScP**	**17 00 46.4**	**-1.8**
	comp=Z,21nm,0.7s,baz=187,slow=5.0,SNR=24						
MJAR				S	**S**	**17 02 24.9**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=57,slow=9.6,SNR=4.2						
MJAR				PKP2ab		17 27 43.6	
	comp=Z,3.2nm,0.9s,baz=359,slow=4.7,SNR=7.7						
MJAR	**Matsushiro Arr**	**47.63**	**17**	P	**P**	**16 55 37.5**	**-0.6**
MJAR				ScP	**ScP**	**17 00 46.4**	**-1.8**
MJAR				S	**S**	**17 02 24.9**	**+0.9**
MJAR				P'P'ab	**P'P'ab**	**17 27 43.6**	**-1.3**
MAJO	**Matsushiro**	**47.63**	**17**	*c i*P	**P**	**16 55 37.6**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,600nm,1.3s						
MAJO	**Matsushiro**	**47.63**	**17**	*e*P	**P**	**16 55 37.0**	**-1.0**
	comp=Z,99nm,1.3s						
MAT	**Matsushiro**	**47.63**	**17**	P	**P**	**16 55 37.1**	**-1.0**
MAT				S	**S**	**17 02 17.4**	**-6.6**
MJB9	**Matsu-Tunnel**	**47.63**	**17**	*e*P	**P**	**16 55 37.1**	**-1.0**
	comp=Z,27nm,1.3s						
DL2	**Dalian**	**47.64**	**359**	P	**P**	**16 55 37.5**	**-0.6**
DL2				sP	**sP**	**16 56 23.8**	**+1.8**
DL2				S	**S**	**17 02 17.5**	**-6.5**
DL2				PMZ			
	comp=Z,240nm,1.0s						
DL2				PMZ			
	comp=Z,430nm,3.6s						
PVM	**Polavaram**	**48.07**	**303**	*e*P	**P**	**16 55 40.7**	**-1.0**
PVM				IAmb	IAmb	16 55 42.0	
	comp=Z,107nm,1.1s						
LZH	**Lanzhou**	**48.14**	**340**	⇑P	**P**	**16 55 43.8**	**+1.6**
LZH				pP	pP	16 56 12.0	+0.2
LZH				sP	sP	16 56 26.0	-0.2
LZH				PP	**PP**	**16 57 40.3**	**+4.5**
LZH				S	**S**	**17 02 30.5**	**-1.0**
LZH				sS	sS	17 03 22.0	-0.7
LZH				SS	**SS**	**17 05 59.8**	**-2.9**
LZH				PMZ			
	comp=Z,130nm,1.0s						
LZH				PMZ			
	comp=Z,1μm,5.2s						
LZH				LN			
	comp=Z,500nm,14.5s						
LZH				LE			
	comp=Z,470nm,13.2s						
LZH				LZ			
	comp=Z,1μm,17.0s						
BOK	**Bokaro**	**48.37**	**313**	*e*P	**P**	**16 55 44.0**	**0.0**
BOK				IAmb	IAmb	16 55 45.4	
	comp=Z,219nm,1.8s						
ADKI	**Addanki**	**48.80**	**300**	*e*P	**P**	**16 55 46.5**	**-0.9**
ADKI				IAmb	IAmb	16 55 47.5	
	comp=Z,116nm,1.0s						
LSA	**Lhasa**	**48.87**	**323**	P	**P**	**16 55 49.3**	**+1.0**
LSA	**Lhasa**	**48.87**	**323**	*e*P	**P**	**16 55 48.7**	**+0.4**
LSA				pmax	pmax		
	comp=Z,233nm,0.7s						
LSA	**Lhasa**	**48.87**	**323**	*e*P	**P**	**16 55 48.7**	**+0.4**
	comp=Z,233nm,0.7s						
BJT	**Baijiatuan**	**49.10**	**354**	*e*P	**P**	**16 55 49.0**	**-0.2**
BJT				pmax	pmax		
	comp=Z,284nm,0.8s						
BJT	**Baijiatuan**	**49.10**	**354**	*e*P	**P**	**16 55 49.0**	**-0.2**
	comp=Z,284nm,0.8s						
BJI	**Beijing**	**49.12**	**354**	P	**P**	**16 55 49.5**	**+0.1**
BJI				pP	**pP**	**16 56 18.3**	**-0.8**
BJI				S	**S**	**17 02 36.8**	**-7.9**
BJI				ScS	**ScS**	**17 05 24.0**	**-4.4**
BJI				LN			
	comp=Z,83nm,8.6s						
BJI				LE			
	comp=Z,450nm,17.1s						
RCLA	**Racherla**	**49.49**	**299**	*e*P	**P**	**16 55 50.9**	**-1.8**
RCLA				IAmb	IAmb	16 55 51.7	
	comp=Z,66nm,0.8s						
DGAR	**Diego Garcia**	**49.52**	**268**	*ce*P	**P**	**16 55 53.4**	**+0.4**
DGAR	**Diego Garcia**	**49.52**	**268**	*e*P	**P**	**16 55 53.0**	**0.0**
	comp=Z,700nm,0.8s						
NJS	**Nagarjunasagar**	**49.69**	**301**	*e*P	**P**	**16 55 52.7**	**-1.5**
NJS				IAmb	IAmb	16 55 53.7	
	comp=Z,80nm,0.9s						
SRLM	**Srisailam**	**49.83**	**300**	*e*P	**P**	**16 55 53.7**	**-1.6**
SRLM				IAmb	IAmb	16 55 54.8	
	comp=Z,95nm,1.1s						
RAMN	**Ramite**	**49.87**	**317**	*e*P	**P**	**16 55 55.6**	**-0.1**
	comp=Z,1μm,1.0s						
SNY	**Shenyang**	**50.56**	**1**	⇑P	**P**	**16 55 59.5**	**-0.8**
SNY				S	**S**	**17 02 59.3**	**-5.5**
SNY				PMZ			
	comp=Z,95nm,0.9s						
SNY				PMZ			
	comp=Z,580nm,3.5s						
SNY				LN			
	comp=Z,440nm,18.5s						
SNY				LE			
	comp=Z,370nm,12.2s						
SNY				LZ			
	comp=Z,550nm,19.6s						
HHC	**Hu-ho-hao-te**	**50.59**	**349**	*e*P	**P**	**16 56 01.5**	**+0.8**
HHC				pP	pP	16 56 32.5	+1.9
HHC				sP	sP	16 56 45.8	+1.0
HHC				S	**S**	**17 03 03.5**	**-2.0**
HHC				PMZ			
	comp=Z,170nm,0.9s						
HHC				PMZ			
	comp=Z,750nm,6.4s						
BTO	**Baotou**	**50.66**	**348**	*e*P	**P**	**16 56 01.5**	**+0.3**
HYB	**Hyderabad**	**50.72**	**301**	*i* P	**P**	**16 56 00.0**	**-2.0**
HYB				*es*P	**sP**	**16 56 41.0**	**-5.2**
HYB	**Hyderabad**	**50.72**	**301**	*e*P	**P**	**16 56 00.4**	**-1.5**
HYB				IAmb	IAmb	16 56 01.5	
	comp=Z,103nm,0.7s						
HYBB	**Hyderabad (bro**	**50.72**	**301**	*e*P	**P**	**16 55 60.0**	**-2.0**
HYBB				IAmb	IAmb	16 56 01.3	
	comp=Z,110nm,0.8s						
RPR	**Rampur**	**50.78**	**303**	*e*P	**P**	**16 56 00.7**	**-1.7**
RPR				IAmb	IAmb	16 56 02.1	
	comp=Z,130nm,1.0s						
GUN	**Gumba**	**50.98**	**317**	*e*P	**P**	**16 56 03.6**	**-0.5**
	comp=Z,760nm,0.8s						
PKIN	**Phulchoki**	**51.09**	**317**	*e*P	**P**	**16 56 03.8**	**-1.1**
	comp=Z,418nm,1.1s						
KKN	**Kakani**	**51.30**	**317**	*e*P	**P**	**16 56 05.5**	**-0.9**
	comp=Z,678nm,1.2s						
DMN	**Daman**	**51.31**	**316**	*e*P	**P**	**16 56 05.3**	**-1.2**
	comp=Z,668nm,1.0s						
SRSP	**Sriramsagar**	**51.61**	**303**	*e*P	**P**	**16 56 06.7**	**-1.9**
SRSP				IAmb	IAmb	16 56 07.9	
	comp=Z,102nm,1.0s						
GKN	**Gorkha**	**51.88**	**316**	*e*P	**P**	**16 56 09.7**	**-0.9**
	comp=Z,955nm,1.2s						
MSHR	**Mys Shultsa**	**51.91**	**8**	*ce*P	**P**	**16 56 10.9**	**+0.6**
KOLN	**Koldanda**	**52.44**	**315**	*e*P	**P**	**16 56 13.6**	**-1.2**
	comp=Z,182nm,0.7s						
GTA	**Gaotai**	**52.54**	**338**	⇑P	**P**	**16 56 16.3**	**+1.0**
GTA				pP	pP	16 56 46.0	+0.7
GTA				sP	sP	16 57 00.3	+0.7
GTA				PcP	**PcP**	**16 57 24.5**	**+0.6**
GTA				ScP	**ScP**	**17 01 09.5**	**+0.2**
GTA				S	**S**	**17 03 32.8**	**+0.5**
GTA				sS	sS	17 04 24.8	+0.5
GTA				ScS	**ScS**	**17 05 50.5**	**-1.9**
GTA				SS	**SS**	**17 07 12.5**	**0.0**
GTA				PMZ			
	comp=Z,150nm,1.3s						
GTA				PMZ			
	comp=Z,870nm,6.7s						
GTA				LN			
	comp=Z,250nm,17.6s						
GTA				LE			
	comp=Z,280nm,17.1s						
GTA				LZ			
	comp=Z,490nm,18.1s						
VLA	**Vladivostok**	**52.55**	**9**	⇓*i*P	**P**	**16 56 13.7**	**-1.3**
VLA				*i* *PP	**pP**	**16 56 41.9**	**-3.2**
VLA				*i*		16 57 22.0	
VLA				*e*		16 58 14.0	
VLA				pmax	pmax		
	comp=Z,355nm,0.8s						
CN2	**Changchun**	**52.59**	**3**	⇓P	**P**	**16 56 14.8**	**-0.6**
CN2				*ep*P	pP	16 56 46.0	+0.5
CN2				*eS*	**S**	**17 03 31.8**	**-0.8**
CN2				PMZ			
	comp=Z,50nm,0.8s						
KLRI	**Killari**	**52.67**	**301**	*e*P	**P**	**16 56 14.5**	**-2.0**
KLRI				IAmb	IAmb	16 56 16.6	
	comp=Z,773nm,2.2s						
PYUN	**Piuthan**	**53.07**	**315**	*e*P	**P**	**16 56 18.1**	**-1.4**
	comp=Z,825nm,1.1s						
MLZ	**Mavora Lakes**	**53.35**	**141**	*e*P	**P**	**16 56 21.1**	**0.0**
	comp=Z,108nm,0.8s						
OUZ	**Omahuta**	**53.35**	**127**	*e*P	**P**	**16 56 23.1**	**+1.9**
	comp=Z,85nm,1.0s						
WHZ	**Wether Hill Ro**	**53.49**	**142**	*e*P	**P**	**16 56 22.1**	**0.0**
	comp=Z,104nm,0.9s						
FOZ	**Fox Glacier**	**53.60**	**138**	*e*P	**P**	**16 56 22.4**	**-0.4**
	comp=Z,56nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.62**	**8**	P	**P**	**16 56 23.2**	**+0.3**
	comp=Z,299nm,0.6s,baz=189,slow=5.7,SNR=459						
USRK				ScP	**ScP**	**17 01 12.6**	**-1.1**
	comp=Z,8.7nm,0.7s,baz=222,slow=4.0,SNR=8.9						
USRK				S	**S**	**17 03 45.2**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=32,slow=47,SNR=3.2						
WKZ	**Wanaka**	**53.66**	**140**	*e*P	**P**	**16 56 23.4**	**+0.1**
	comp=Z,66nm,0.9s						
MDJ	**Mudanjiang**	**53.73**	**6**	P	**P**	**16 56 24.3**	**+0.7**
MDJ				pP	pP	16 56 52.0	-1.8
MDJ				sP	sP	16 57 06.0	-2.0
MDJ				PP	**PP**	**16 58 26.5**	**+0.4**
MDJ				ScP	**ScP**	**17 01 12.8**	**-1.4**
MDJ				PcS	**PcS**	**17 01 27.8**	**+0.5**
MDJ				S	**S**	**17 03 44.8**	**-3.1**
MDJ				sS	sS	17 04 38.8	-1.2
MDJ				ScS	**ScS**	**17 05 58.3**	**-1.9**
MDJ				PMZ			
	comp=Z,600nm,0.8s						
MDJ				PMZ			
	comp=Z,210nm,4.1s						
MDJ				LN			
	comp=Z,100nm,5.3s						
MDJ				LE			
	comp=Z,200nm,11.5s						
MDJ				LZ			
	comp=Z,370nm,12.8s						
MDJ	**Mudanjiang**	**53.73**	**6**	*e*P	**P**	**16 56 24.1**	**+0.5**
	comp=Z,469nm,0.8s						
MCQ	**Macquarie Isla**	**53.89**	**155**	P	**P**	**16 56 25.4**	**+0.7**
	baz=54,SNR=3.5						
MCQ	**Macquarie Isla**	**53.89**	**155**	*e*P	**P**	**16 56 26.3**	**+1.6**
MCQ				pmax	pmax		
	comp=Z,330nm,1.1s						
MCQ	**Macquarie Isla**	**53.89**	**155**	*e*P	**P**	**16 56 25.2**	**+0.5**
	comp=Z,332nm,1.1s						
GOA	**Goa**	**53.99**	**296**	*e*P	**P**	**16 56 25.6**	**-0.5**
GOA				IAmb	IAmb	16 56 26.4	
	comp=Z,122nm,0.8s						
ERM	**Erimo**	**54.16**	**19**	*de*P	**P**	**16 56 27.9**	**+1.0**
ERM				pmax	pmax		
	comp=Z,70nm,1.1s						
ERM	**Erimo**	**54.16**	**19**	*e*P	**P**	**16 56 28.1**	**+1.3**
	comp=Z,57nm,1.0s						
LBZ	**Lake Benmore**	**54.21**	**139**	*e*P	**P**	**16 56 26.8**	**-0.5**
	comp=Z,92nm,0.8s						
BHPL	**Bhopal**	**54.48**	**307**	*e*P	**P**	**16 56 27.9**	**-1.7**
BHPL				IAmb	IAmb	16 56 29.4	
	comp=Z,451nm,1.9s						
RPZ	**Rata Peaks**	**54.49**	**138**	P	**P**	**16 56 29.7**	**+0.3**
	comp=Z,234nm,0.8s,baz=265,slow=2.7,SNR=52						
RPZ	**Rata Peaks**	**54.49**	**138**	*e*P	**P**	**16 56 28.9**	**-0.5**
	comp=Z,270nm,0.8s						
MSVF	**Nonsavu**	**54.59**	**105**	*e*P	**P**	**16 56 32.9**	**+2.3**
MSVF				pmax	pmax		
	comp=Z,147nm,1.3s						
MSVF	**Nonsavu**	**54.59**	**105**	*e*P	**P**	**16 56 32.9**	**+2.3**
	comp=Z,147nm,1.3s						
ODZ	**Otahua Downs**	**54.79**	**140**	*e*P	**P**	**16 56 31.2**	**-0.3**
	comp=Z,99nm,1.4s						
LTZ	**Lake Taylor**	**54.93**	**137**	*e*P	**P**	**16 56 32.6**	**0.0**
	comp=Z,114nm,1.3s						
THZ	**Tophouse**	**54.98**	**135**	*e*P	**P**	**16 56 33.6**	**+0.6**
	comp=Z,178nm,0.7s						
OXZ	**Oxford**	**54.99**	**137**	*e*P	**P**	**16 56 32.4**	**-0.5**
	comp=Z,135nm,0.9s						
POO	**Poona**	**55.22**	**300**	*e*P	**P**	**16 56 33.5**	**-1.5**
POO				IAmb	IAmb	16 56 34.7	
	comp=Z,174nm,1.6s						
HIZ	**Hauiti**	**55.30**	**131**	*e*P	**P**	**16 56 36.7**	**+1.5**
	comp=Z,132nm,1.2s						
MQZ	**McQueen's Vall**	**55.55**	**138**	*e*P	**P**	**16 56 37.2**	**+0.3**
	comp=Z,139nm,1.1s						
KHZ	**Kahutara**	**55.66**	**136**	*e*P	**P**	**16 56 37.6**	**-0.1**
	comp=Z,210nm,1.0s						
ASAJ	**Asahikawa**	**55.90**	**17**	S	**S**	**17 04 13.7**	**-3.3**
	comp=Z,22nm,1.3s,baz=205,slow=12,SNR=5.9						
ASAJ	**Asahikawa**	**55.90**	**17**	*e*P	**P**	**16 56 39.7**	**+0.4**
	comp=Z,155nm,1.0s						
ASAJ				S	**S**	**17 04 13.7**	**-3.3**
SNZO	**South Karori**	**56.09**	**134**	*e*P	**P**	**16 56 40.0**	**-0.8**
	comp=Z,321nm,0.9s						
BKZ	**Black Stump Fm**	**56.71**	**131**	*e*P	**P**	**16 56 45.4**	**+0.1**
	comp=Z,160nm,0.6s						
URZ	**Urewera**	**56.92**	**130**	P	**P**	**16 56 46.5**	**-0.1**
	comp=Z,98nm,0.7s,baz=266,slow=4.0,SNR=58						
URZ	**Urewera**	**56.92**	**130**	*e*P	**P**	**16 56 46.6**	**-0.1**
	comp=Z,111nm,0.8s						
BFZ	**Birch Farm**	**56.99**	**133**	*e*P	**P**	**16 56 46.9**	**-0.3**
	comp=Z,112nm,0.8s						
NDI	**New Delhi**	**57.53**	**312**	*ex*	P	16 56 43.0	-8.2
NDI				*ex*	x	16 57 38.0	
MXZ	**Matakaoa Point**	**57.65**	**129**	*e*P	**P**	**16 56 52.4**	**+0.5**
	comp=Z,184nm,1.0s						
CASY	**Casey**	**57.81**	**186**	*e*P	**P**	**16 56 52.1**	**-0.3**
	comp=Z,138nm,1.4s						
DDI	**Dehra Dun**	**57.85**	**314**	*e*P	**P**	**16 56 52.6**	**-0.9**
DDI				IAmb	IAmb	16 56 53.5	
	comp=Z,63nm,0.7s						
HIA	**Hailar**	**58.04**	**358**	*e*P	**P**	**16 56 54.5**	**+0.1**
HIA				pmax	pmax		
	comp=Z,233nm,0.8s						
HIA	**Hailar**	**58.04**	**358**	*e*P	**P**	**16 56 54.5**	**+0.1**
	comp=Z,233nm,0.8s						
ULN	**Ulaanbaatar**	**58.22**	**348**	*c i*P	**P**	**16 56 56.4**	**+0.6**
ULN				pmax	pmax		
	comp=Z,473nm,1.0s						
ULN	**Ulaanbaatar**	**58.22**	**348**	P	**P**	**16 56 56.5**	**+0.7**
	SNR=190						
ULN	**Ulaanbaatar**	**58.22**	**348**	*e*P	**P**	**16 56 56.5**	**+0.6**
	comp=Z,415nm,1.0s						
HABR	**Khabarovsk**	**58.26**	**10**	*ce*P	**P**	**16 56 54.0**	**-1.8**
HABR				*e**PP	**pP**	**16 57 22.8**	**-3.7**
HABR				*e*		16 57 43.7	
HABR				*e*		16 59 04.4	
HABR				*e*PPP	PPP	17 00 24.9	
HABR				*e*S	**S**	**17 04 47.4**	**-0.4**
HABR				*e*		17 06 31.6	
HABR				*e*SS	**SS**	**17 08 42.7**	**+0.6**
HABR				pmax	pmax		
	comp=N,78nm,0.6s						
HABR				pmax	pmax		
	comp=E,34nm,0.6s						
HABR				pmax	pmax		
	comp=Z,278nm,0.6s						
HABR				pmax	pmax		
	comp=Z,1μm,2.2s						
HABR				MLR	MLR		
	comp=Z,148nm,20.0s						
SONM	**Songino Array**	**58.33**	**347**	P	**P**	**16 56 57.3**	**+0.7**
	comp=Z,549nm,1.1s,baz=165,slow=8.0,SNR=812						
SONM				ScP	**ScP**	**17 01 33.6**	**-1.0**
	comp=Z,8.4nm,0.9s,baz=173,slow=5.2,SNR=4.4						
SONM				S	**S**	**17 04 47.7**	**-1.4**
	comp=Z,7.3nm,1.3s,baz=207,slow=5.0,SNR=5.0						
SONM	**Songino Array**	**58.33**	**347**	P	**P**	**16 56 57.3**	**+0.7**
SONM				ScP	**ScP**	**17 01 33.6**	**-1.0**
SONM				S	**S**	**17 04 47.7**	**-1.4**
SONA1	**Songino Array**	**58.34**	**347**	*e*P	**P**	**16 56 57.0**	**+0.4**
KLR	**Kul'dur**	**58.52**	**7**	P	**P**	**16 56 57.9**	**+0.2**
	comp=Z,69nm,0.7s,baz=209,slow=4.2,SNR=178						
KLR				ScP	**ScP**	**17 01 33.8**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=196,slow=3.7,SNR=5.2						
KLR				S	**S**	**17 04 47.9**	**-3.3**
	comp=Z,3.2nm,1.0s,baz=6.5,slow=18,SNR=4.0						
KLR	**Kul'dur**	**58.52**	**7**	P	**P**	**16 56 57.9**	**+0.2**
KLR				S	**S**	**17 04 47.9**	**-3.3**
KLR				pmax	pmax		
	comp=Z,69nm,0.7s						
KLR				pmax	pmax		
	comp=N,3.0nm,0.6s						
KLR				smax	smax		
	comp=N,3.0nm,1.0s						
KLR	**Kul'dur**	**58.52**	**7**	P	**P**	**16 56 57.9**	**+0.2**
KLR				ScP	**ScP**	**17 01 33.8**	**-1.4**
KLR				S	**S**	**17 04 47.9**	**-3.3**
YSS	**Yuzh-Sakhalins**	**58.54**	**16**	*α i*P	**P**	**16 56 58.4**	**+0.6**
YSS				*e*		16 57 27.0	
YSS				*e*		16 57 45.2	
YSS				*e*		16 59 12.0	
YSS				*e*S	**S**	**17 04 47.6**	**-3.8**
YSS				*e*SS	**SS**	**17 08 49.0**	**+2.6**
YSS				pmax	pmax		
	comp=Z,500nm,2.0s						
YSS				pmax	pmax		
	comp=Z,170nm,1.0s						
YSS				smax	smax		
	comp=N,300nm,5.6s						
YSS				smax	smax		
	comp=E,300nm,4.4s						
YSS	**Yuzh-Sakhalins**	**58.54**	**16**	*e*P	**P**	**16 56 57.9**	**+0.1**
	comp=E,194nm,1.0s						
KUR	**Kuril'sk**	**58.60**	**21**	*e*P	**P**	**16 56 59.2**	**+1.0**
SMLA	**Simla**	**58.94**	**315**	*e*P	**P**	**16 57 00.1**	**-0.8**
SMLA				IAmb	IAmb	16 57 01.6	
	comp=Z,320nm,1.0s						
SDNR	**Sundarnagar**	**59.29**	**315**	*e*P	**P**	**16 57 03.6**	**+0.2**
BHJ	**Bhuj**	**60.79**	**303**	*e*P	**P**	**16 57 13.6**	**-0.1**
BHJ				IAmb	IAmb	16 57 58.6	
	comp=Z,92nm,1.0s						
CIT	**Chita**	**61.24**	**354**	*e*P	**P**	**16 57 16.9**	**+0.7**
CIT				*e*		16 57 40.8	
CIT				*e*		16 57 58.5	
CIT				pmax	pmax		
	comp=Z,431nm,1.2s						
WMQ	**Urumqi**	**61.30**	**332**	P	**P**	**16 57 18.8**	**+2.0**
WMQ				pP	pP	16 57 46.8	-0.9
WMQ				sP	PcP	16 57 58.8	+0.8
WMQ				PP	**PP**	**16 59 37.5**	**+4.0**
WMQ				S	**S**	**17 05 28.8**	**+1.7**
WMQ				sS	sS	17 06 16.0	-4.4
WMQ				ScS	**SKKSac**	**17 06 54.3**	**-1.5**
WMQ				PMZ			
	comp=Z,190nm,0.7s						
WMQ				PMZ			
	comp=Z,720nm,3.7s						
WMQ				LN			
	comp=Z,250nm,15.7s						
WMQ				LE			
	comp=Z,130nm,21.9s						
WMQ				LZ			
	comp=Z,200nm,21.1s						
ZAK	**Zakamensk**	**61.43**	**346**	*e*P	**P**	**16 57 17.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,225nm,1.1s						
TYV	**Tymovskoe**	**62.11**	**14**	*e*P	**P**	**16 57 22.5**	**+0.5**
TYV				pmax	pmax		
	comp=Z,59nm,0.8s						
TLY	**Talaya**	**62.56**	**347**	P	**P**	**16 57 26.1**	**+1.1**
	comp=Z,190nm,0.8s,baz=176,slow=5.5,SNR=102						
TLY	**Talaya**	**62.56**	**347**	*c i*P	**P**	**16 57 26.0**	**+1.0**
TLY				*e*S	**S**	**17 05 39.2**	**-3.4**
TLY				pmax	pmax		
	comp=Z,413nm,1.1s						
TLY	**Talaya**	**62.56**	**347**	*e*P	**P**	**16 57 25.7**	**+0.7**
	comp=Z,300nm,0.9s						
IRK	**Irkutsk**	**62.95**	**348**	*e*P	**P**	**16 57 26.4**	**-1.2**
IRK				*e*S	**S**	**17 05 49.5**	**+2.1**
IRK				pmax	pmax		
	comp=Z,508nm,1.9s						
MOY	**Mondy**	**63.18**	**345**	*e*P	**P**	**16 57 30.1**	**+0.8**
MOY				pmax	pmax		
	comp=Z,485nm,2.3s						
MRIV	**Mauritius Mete**	**63.55**	**252**	*e*P	**P**	**16 57 33.9**	**+1.6**
NKL	**Nikolayevsk**	**63.80**	**12**	*i* P	**P**	**16 57 35.0**	**+1.9**
NKL				*e*		17 05 58.0	
NKL				pmax	pmax		
	comp=Z,1μm,2.0s						
NKL				pmax	pmax		
	comp=N,130nm,1.0s						
NKL				pmax	pmax		
	comp=E,80nm,1.0s						
NKL				pmax	pmax		
	comp=Z,500nm,1.0s						
KSH	**Kashi**	**64.68**	**322**	P	**P**	**16 57 39.8**	**+0.4**
KSH				pP	pP	16 58 09.5	-1.1
KSH				PcP	**PcP**	**16 58 13.0**	**+0.9**
KSH				PP	**PP**	**17 00 05.3**	**+1.9**
KSH				S	**S**	**17 06 05.5**	**-4.1**
KSH				ScS	**SKSac**	**17 07 18.8**	**-3.1**
KSH				SS	**SS**	**17 10 24.0**	**+0.8**
KSH				PMZ			
	comp=Z,380nm,0.8s						
KSH				LN			
	comp=Z,150nm,10.0s						
KSH				LE			
	comp=Z,140nm,5.3s						
KSH				LZ			
	comp=Z,280nm,7.3s						
SHLS	**Shalkode**	**64.76**	**327**	*i* P	**P**	**16 57 36.2**	**-3.8**
	comp=Z,7μm,0.9s						
SHLS				*i* pP	pP	16 57 56.4	-15
SHLS				*e*S	**S**	**17 06 10.3**	**-0.3**
PDGK	**Podgornoye**	**65.09**	**327**	*i* P	**P**	**16 57 42.7**	**+1.0**
PDGK				pmax	pmax		
	comp=Z,581nm,0.8s						
RER	**Riviere de l'E**	**65.18**	**251**	*e*P	**P**	**16 57 45.5**	**+2.5**
	comp=Z,641nm,0.9s						
UZB	**Uzynbulak**	**65.22**	**326**	*i* P	**P**	**16 57 39.5**	**-3.4**
	comp=Z,4μm,1.1s						
UZB				*i* pP	pP	16 57 59.7	-14
UZB				*i

MK31	**Makanchi Array**	**66.06**	**331**	*i* P		**P**		**16 57 48.5**	**+0.5**
MK31					pmax	pmax			
	comp=Z,378nm,0.7s								
MK31	**Makanchi Array**	**66.06**	**331**	*e*P		**P**		**16 57 48.4**	**+0.4**
MKAR	**Makanchi Array**	**66.06**	**331**	P		**P**		**16 57 48.4**	**+0.4**
	comp=Z,382nm,0.7s,baz=137,slow=7.4,SNR=2323								
MKAR					S	**S**		**17 06 26.9**	**+1.1**
	comp=Z,3.1nm,0.9s,baz=141,slow=7.8,SNR=4.3								
MKAR					PKP2bc			17 26 23.6	
	comp=Z,0.9nm,0.9s,baz=239,slow=0.7,SNR=5.1								
MKAR	**Makanchi Array**	**66.06**	**331**	*e*P		**P**		**16 57 48.4**	**+0.4**
MKAR					S	**S**		**17 06 26.9**	**+1.1**
MKAR				⇑*e*				17 26 23.6	
MAKZ	**Makanchi**	**66.22**	**331**	*i* P		**P**		**16 57 49.5**	**+0.5**
MAKZ					pmax	pmax			
	comp=Z,288nm,0.9s								
MAKZ	**Makanchi**	**66.22**	**331**	*e*P		**P**		**16 57 49.1**	**+0.2**
	comp=Z,251nm,0.8s								
MDOK	**Medeo**	**66.33**	**325**	*i* P		P		16 57 45.1	-4.8
	comp=Z,2µm,1.6s								
MDOK					*e*S	**S**		**17 06 28.4**	**-1.2**
AAA	**Alma-Ata**	**66.45**	**325**	*i* P		**P**		**16 57 51.5**	**+0.9**
AAA					*e*S	**S**		**17 06 28.5**	**-2.3**
AAA					pmax	pmax			
	comp=Z,900nm,1.3s								
AAA					smax	smax			
	comp=N,700nm,7.8s								
AAA					MLR	MLR			
	comp=Z,300nm,21.0s								
AAA	**Alma-Ata**	**66.45**	**325**	*e*P		**P**		**16 57 49.0**	**-1.6**
	comp=Z,2µm,1.1s								
AAA					*e*S	**S**		**17 06 32.6**	**+1.7**
KBL	**Kabul**	**66.53**	**314**	*e*P		**P**		**16 57 50.8**	**-0.7**
KBL	**Kabul**	**66.53**	**314**	*e*P		**P**		**16 57 50.3**	**-1.2**
	comp=Z,128nm,1.0s								
BOD	**Bodaibo**	**66.92**	**355**⇓	*i* P		**P**		**16 57 53.7**	**+0.5**
BOD					pmax	pmax			
	comp=Z,517nm,1.1s								
TKM2	**Tokmak 2**	**67.00**	**324**	*e*P		**P**		**16 57 54.4**	**+0.1**
TKM2	**Tokmak 2**	**67.00**	**324**	*e*P		**P**		**16 57 54.1**	**-0.2**
	comp=Z,210nm,0.8s								
KUU	**Kurty**	**67.19**	**326**	*i* P		**P**		**16 57 51.5**	**-3.7**
	comp=Z,11µm,0.9s								
KUU				*i*	sP	**PcP**		**16 58 22.8**	**+0.6**
KUU					*e*S	**S**		**17 06 39.9**	**+0.3**
AAK	**Ala-Archa**	**67.47**	**324**	P		**P**		**16 57 57.8**	**+0.7**
	comp=Z,244nm,0.8s,baz=124,slow=4.9,SNR=270								
AAK					S	**S**		**17 06 43.8**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=292,slow=21,SNR=6.2								
AAK	**Ala-Archa**	**67.47**	**324**	*c i* P		**P**		**16 57 57.5**	**+0.3**
AAK					pmax	pmax			
	comp=Z,853nm,0.9s								
AAK	**Ala-Archa**	**67.47**	**324**	P		**P**		**16 57 57.6**	**+0.5**
	SNR=130								
AAK	**Ala-Archa**	**67.47**	**324**	*e*P		**P**		**16 57 57.3**	**+0.2**
	comp=Z,296nm,0.8s								
AAK				⇑	S	**S**		**17 06 43.8**	**+0.5**
FRU	**Bishkek**	**67.51**	**324**	⇑*i* P		**P**		**16 57 58.0**	**+0.7**
FRU				*i*				16 58 20.0	
FRU					pmax	pmax			
	comp=Z,450nm,2.0s								
EKS2	**Erkin-Say**	**67.90**	**323**	*e*P		**P**		**16 58 00.4**	**+0.5**
EKS2	**Erkin-Say**	**67.90**	**323**	*e*P		**P**		**16 58 00.2**	**+0.3**
	comp=Z,319nm,1.0s								
MNAS	**Manas**	**68.56**	**323**	*i* P		**P**		**16 58 04.3**	**+0.3**
MNAS					pmax	pmax			
	comp=Z,456nm,0.9s								
PEA0	**Petropavlovsk-**	**68.72**	**22**	*e*P		**P**		**16 58 05.3**	**+0.8**
PEA0B	**Petropavlovsk-**	**68.72**	**22**	*e*P		**P**		**16 58 05.5**	**+1.0**
	comp=Z,167nm,1.3s								
PETK	**Petropavlovsk-**	**68.72**	**22**	P		**P**		**16 58 05.3**	**+0.8**
	comp=Z,80nm,1.0s,baz=199,slow=3.1,SNR=30								
PETK	**Petropavlovsk**	**68.72**	**22**	P		**P**		**16 58 05.3**	**+0.8**
PET	**Petropavlovsk**	**69.01**	**22**	*e*P		P		16 57 58.3	-8.0
PET				*e*				17 07 47.7	
PET					pmax	pmax			
	comp=Z,300nm,22.4s								
PET					pmax	pmax			
	comp=Z,135nm,1.4s								
PET	**Petropavlovsk**	**69.01**	**22**	*e*P		**P**		**16 58 06.9**	**+0.6**
	comp=Z,202nm,1.3s								
SEM	**Semipalatinsk**	**69.58**	**333**	*i* P		**P**		**16 58 05.6**	**-4.3**
	comp=Z,3µm,0.9s								
SEM					*e*S	**S**		**17 07 07.5**	**-0.1**
KK31	**Karatay Array**	**70.11**	**322**	*i* P		**P**		**16 58 12.8**	**-0.6**
KK31					pmax	pmax			
	comp=Z,119nm,1.0s								
KKAR	**Karatay Array**	**70.11**	**322**	*e*P		**P**		**16 58 12.8**	**-0.6**
KKAR	**Karatay Array**	**70.11**	**322**	*e*P		**P**		**16 58 12.8**	**-0.6**
WSAR	**Wadi Sarin**	**70.15**	**299**	P		**P**		**16 58 13.8**	**-0.3**
	comp=Z,49nm,0.8s,baz=140,slow=5.2,SNR=22								
WSAR	**Wadi Sarin**	**70.15**	**299**	P		**P**		**16 58 13.8**	**-0.3**
ZAA0	**Zalesovo Array**	**70.29**	**337**	*e*P		**P**		**16 58 13.6**	**-0.6**
ZALV	**Zalesovo Beam**	**70.29**	**337**	P		**P**		**16 58 14.1**	**-0.1**
	comp=Z,290nm,0.7s,baz=142,slow=4.4,SNR=1273								
ZALV					S	**S**		**17 07 11.2**	**-4.6**
	comp=Z,8.9nm,1.0s,baz=139,slow=11,SNR=12								
ZALV					PKP2bc			17 26 14.0	
	comp=Z,1.0nm,0.7s,baz=300,slow=2.9,SNR=4.3								
ZALV					LR	LR		17 31 32.9	
	comp=Z,86nm,18.5s,baz=72,slow=38								
ZALV	**Zalesovo Beam**	**70.29**	**337**	P		**P**		**16 58 14.1**	**-0.1**
ZALV					S	**S**		**17 07 11.2**	**-4.6**
ZALV					pmax	pmax			
	comp=Z,292nm,0.7s								
ZALV					smax	smax			
	comp=N,9.0nm,1.0s								
ZALV	**Zalesovo Beam**	**70.29**	**337**	P		**P**		**16 58 14.1**	**-0.1**
ZALV					S	**S**		**17 07 11.2**	**-4.6**
ZALV				⇑*e*				17 26 14.0	
BRLS	**Boroldaу**	**70.44**	**322**	*i* P		**P**		**16 58 13.4**	**-2.0**
	comp=N,452nm,0.9s								
BRLS				*i*	pP	**PcP**		**16 58 35.6**	**-0.4**
MAW	**Mawson**	**70.45**	**201**	P		**P**		**16 58 15.9**	**+1.0**
	comp=N,40nm,0.6s,baz=75,slow=6.5,SNR=152								
MAW					S	**S**		**17 07 16.1**	**-1.1**
	comp=N,4.3nm,1.2s,baz=346,slow=21,SNR=3.0								
MAW	**Mawson**	**70.45**	**201**	*e*P		**P**		**16 58 15.4**	**+0.4**
MAW					S	**S**		**17 07 16.1**	**-1.1**
MAW					pmax	pmax			
	comp=Z,43nm,1.5s								
MAW	**Mawson**	**70.45**	**201**	*e*P		**P**		**16 58 15.3**	**+0.4**
	comp=Z,43nm,1.5s								
MAW					S	**S**		**17 07 16.1**	**-1.1**
KURBB	**Kurchatov Arra**	**70.52**	**332**	P		**P**		**16 58 15.6**	**0.0**
	comp=Z,233nm,0.9s,baz=146,slow=5.2,SNR=907								
KURBB					S	**S**		**17 07 15.9**	**-2.7**
	comp=Z,0.8nm,0.8s,baz=98,slow=19,SNR=5.4								
KURK	**Kurchatov**	**70.54**	**332**	*c i* P		**P**		**16 58 15.7**	**-0.1**
KURK					pmax	pmax			
	comp=Z,2µm,1.0s								
KURK	**Kurchatov**	**70.54**	**332**	*e*P		**P**		**16 58 15.6**	**-0.2**
	comp=Z,2µm,0.9s								
KURK					S	**S**		**17 07 15.9**	**-2.9**
SMDO	**Samad**	**70.60**	**298**	P		**P**		**16 58 16.5**	**-0.3**
	SNR=10								
BIDO	**Bidbid**	**70.68**	**299**	P		**P**		**16 58 16.9**	**-0.3**
BIDO					P	**P**		**16 58 19.0**	**+1.8**
	SNR=8.5								
YAK	**Yakutsk**	**71.01**	**4**	P		**P**		**16 58 19.1**	**+0.8**
	comp=Z,974nm,0.8s,baz=194,slow=2.0,SNR=580								
YAK					S	**S**		**17 07 21.5**	**-2.3**
	comp=Z,2.5nm,0.3s,baz=97,slow=23,SNR=9.1								
YAK	**Yakutsk**	**71.01**	**4**	*c i* P		**P**		**16 58 18.8**	**+0.5**
YAK					*e**PP	**pP**		**16 58 51.1**	**+1.0**
YAK					*e*			17 00 55.9	
YAK					*e*S	**S**		**17 07 23.0**	**-0.7**
YAK					*e*			17 08 05.1	
YAK					*e*SSS	SSS		17 15 14.0	
YAK					pmax	pmax			
	comp=Z,1µm,1.0s								
YAK					pmax	pmax			
	comp=N,531nm,1.3s								
YAK					pmax	pmax			
	comp=E,209nm,1.5s								
YAK					pmax	pmax			
	comp=Z,74nm,1.8s								
YAK					pmax	pmax			
	comp=E,48nm,1.9s								
YAK					pmax	pmax			
	comp=N,63nm,2.0s								
YAK					smax	smax			
	comp=N,164nm,2.4s								
YAK					smax	smax			
	comp=E,66nm,1.9s								
YAK	**Yakutsk**	**71.01**	**4**	*e*P		**P**		**16 58 19.0**	**+0.7**
	comp=E,1µm,0.9s								
YAK					S	**S**		**17 07 21.5**	**-2.3**
VNDA	**Vanda**	**71.49**	**172**	P		**P**		**16 58 21.6**	**+0.4**
	comp=E,24nm,0.6s,baz=317,slow=6.5,SNR=244								
VNDA					S	**S**		**17 07 29.9**	**+0.8**
	comp=E,1.1nm,1.0s,baz=80,slow=20,SNR=7.0								
VNDA					PKPPKP	**P'P'df**		**17 26 13.5**	**+0.9**
	comp=E,2.9nm,1.1s,baz=172,slow=1.5,SNR=5.4								
VNDA					LR	LR		17 29 37.3	
	comp=E,631nm,18.9s,baz=23,slow=36								
VNDA	**Vanda**	**71.49**	**172**	*e*P		**P**		**16 58 21.4**	**+0.2**
VNDA					S	**S**		**17 07 29.9**	**+0.8**
VNDA					pmax	pmax			
	comp=Z,142nm,1.6s								
VNDA	**Vanda**	**71.49**	**172**	*e*P		**P**		**16 58 21.4**	**+0.2**
	comp=Z,142nm,1.6s								
VNDA					S	**S**		**17 07 29.9**	**+0.8**
VNDA					P'P'			17 26 13.5	
NVS	**Novosibirsk**	**71.58**	**337**⇑	*i* P		**P**		**16 58 21.3**	**-0.6**
NVS				*i*	S	**S**		**17 07 25.3**	**-5.2**
NVS					pmax	pmax			
	comp=N,168nm,1.2s								
NVS					pmax	pmax			
	comp=Z,342nm,1.2s								
NVS					pmax	pmax			
	comp=E,66nm,0.5s								
NVS					smax	smax			
	comp=N,48nm,1.4s								
NVS					smax	smax			
	comp=E,118nm,1.6s								
MA2	**Magadan**	**71.98**	**15**	*e*P		**P**		**16 58 25.4**	**+1.2**
ARQ	**Araqi**	**72.02**	**298**	P		**P**		**16 58 24.8**	**-0.5**
OTUK	**Ortaуu**	**72.07**	**327**	P		**P**		**16 58 25.5**	**+0.4**
OTUK					pmax	pmax			
	comp=Z,392nm,0.9s								
SBA	**Scott Base**	**72.46**	**171**	*e*P		**P**		**16 58 28.4**	**+1.5**
SBA	**Scott Base**	**72.46**	**171**	*e*P		**P**		**16 58 28.1**	**+1.2**
	comp=Z,33nm,0.8s								
UOSS	**Minazif**	**72.80**	**300**	*e*P		**P**		**16 58 29.2**	**-0.7**
	comp=Z,3.9nm,1.0s								
HATD	**Hatta, Dubai**	**72.83**	**299**	*i* P		**P**		**16 58 29.7**	**-0.4**
	SNR=12								
HATD	**Hatta, Dubai**	**72.83**	**299**	P		**P**		**16 58 29.8**	**-0.2**
	SNR=11								
ASHO	**Ashiyiah**	**72.84**	**299**	*i* P		**P**		**16 58 29.6**	**-0.6**
	SNR=17								
ASHO	**Ashiyiah**	**72.84**	**299**	P		**P**		**16 58 29.9**	**-0.3**
	SNR=11								
BRZS	**Berezniki**	**72.95**	**329**	*i* P		**P**		**16 58 26.8**	**-3.5**
	comp=Z,504nm,1.0s								
BRZS					*e*S	**S**		**17 07 46.6**	**+0.1**
BANOM	**Banah**	**73.04**	**301**	*i* P		**P**		**16 58 30.9**	**-0.4**
	SNR=6.0								
ABPO	**Ambohimpanom**	**73.26**	**253**	*e*P		**P**		**16 58 34.6**	**+1.6**
ABPO	**Ambohimpanom**	**73.26**	**253**	*e*P		**P**		**16 58 34.2**	**+1.3**
	comp=Z,310nm,1.5s								
FAQ	**Al Faqa, Dubai**	**73.27**	**299**	*i* P		**P**		**16 58 31.9**	**-0.7**
	SNR=38								
FAQ	**Al Faqa, Dubai**	**73.27**	**299**	P		**P**		**16 58 32.1**	**-0.5**
	SNR=12								
NAZ	**Nazwa, Dubai**	**73.28**	**299**	*i* P		**P**		**16 58 32.1**	**-0.6**
	SNR=5.7								
NAZ	**Nazwa, Dubai**	**73.28**	**299**	P		**P**		**16 58 34.0**	**+1.3**
	SNR=6.9								
OPO	**Ambohidratompo**	**73.33**	**253**	P		**P**		**16 58 34.5**	**+1.1**
	comp=Z,111nm,0.8s,baz=84,slow=4.9,SNR=139								
OPO	**Ambohidratompo**	**73.33**	**253**	P		**P**		**16 58 34.5**	**+1.1**
SEY	**Seymchan**	**75.29**	**14**	*c i* P		**P**		**16 58 44.6**	**+1.1**
VOSK	**Vostochnaya**	**75.47**	**331**	P		**P**		**16 58 44.2**	**-0.6**
VOSK					pmax	pmax			
	comp=Z,133nm,0.8s								
VOSK	**Vostochnaya**	**75.47**	**331**	*e*P		**P**		**16 58 44.0**	**-0.8**
	comp=Z,134nm,0.8s								
BVA0	**Borovoye Array**	**75.93**	**331**	P		**P**		**16 58 46.8**	**-0.6**
BVA0					pmax	pmax			
	comp=Z,169nm,1.2s								
BVAR	**Borovoye Array**	**75.93**	**331**	P		**P**		**16 58 47.5**	**+0.1**
	comp=Z,64nm,0.8s,baz=139,slow=7.3,SNR=346								
BVAR					S	**S**		**17 08 17.5**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=257,slow=38,SNR=3.4								
BVAR	**Borovoye Array**	**75.93**	**331**	P		**P**		**16 58 47.5**	**+0.1**
BVAR					S	**S**		**17 08 17.5**	**-2.1**
GEYT	**Alibeck**	**75.94**	**313**	P		**P**		**16 58 48.1**	**+0.3**
	comp=Z,43nm,0.7s,baz=156,slow=4.4,SNR=118								
GEYT					PP	**PP**		**17 01 42.5**	**+2.4**
	comp=Z,6.2nm,0.8s,baz=126,slow=7.3,SNR=2.9								
BRVK	**Borovoye**	**76.00**	**331**	*e*P		**P**		**16 58 47.4**	**-0.4**
BRVK					pmax	pmax			
	comp=Z,278nm,0.9s								
BRVK	**Borovoye**	**76.00**	**331**	*e*P		**P**		**16 58 47.4**	**-0.4**
	comp=Z,278nm,0.9s								
CHKZ	**Chkalovo**	**76.21**	**331**	*i* P		**P**		**16 58 48.2**	**-0.7**
CHKZ					pmax	pmax			
	comp=Z,187nm,1.0s								
ZRNK	**Zerenda**	**76.57**	**330**	*i* P		**P**		**16 58 50.5**	**-0.5**
ZRNK					pmax	pmax			
	comp=Z,197nm,0.9s								
ZRNK	**Zerenda**	**76.57**	**330**	*e*P		**P**		**16 58 50.4**	**-0.6**
	comp=Z,178nm,0.9s								
SYO	**Syowa Base**	**79.13**	**201**⇑	*i* P		**P**		**16 59 04.2**	**-0.7**
AB31	**Akbulak array**	**79.55**	**324**	*i* P		**P**		**16 59 06.8**	**-0.7**
AB31					pmax	pmax			
	comp=Z,46nm,0.9s								
ABKAR	**Akbulak array**	**79.55**	**324**	*e*P		**P**		**16 59 06.7**	**-0.8**
TIXI	**Tiksi**	**80.56**	**2**	S		**S**		**17 09 03.3**	**-5.0**
	comp=Z,47nm,1.3s,baz=351,slow=20,SNR=50								
TIXI	**Tiksi**	**80.56**	**2**	*e*P		**P**		**16 59 11.9**	**-0.6**
TIXI					S	**S**		**17 09 03.3**	**-5.0**
TIXI					pmax	pmax			
	comp=Z,124nm,0.8s								
TIXI	**Tiksi**	**80.56**	**2**	*e*P		**P**		**16 59 11.9**	**-0.6**
	comp=Z,124nm,0.8s								
TIXI					S	**S**		**17 09 03.3**	**-5.0**
AKTO	**Aktyubinsk**	**81.19**	**324**	P		**P**		**16 59 15.9**	**-0.4**
	comp=Z,59nm,0.8s,baz=112,slow=6.0,SNR=124								
AKTO					S	**S**		**17 09 17.2**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=35,slow=19,SNR=7.7								
AKTO	**Aktyubinsk**	**81.19**	**324**	P		**P**		**16 59 15.9**	**-0.4**
AKTO					S	**S**		**17 09 17.2**	**+1.4**
NRIK	**Noril'sk**	**81.81**	**348**	P		**P**		**16 59 19.9**	**+0.9**
	comp=Z,114nm,0.9s,baz=135,slow=5.1,SNR=155								
NRIK					S	**S**		**17 09 16.6**	**-4.7**
	comp=Z,1.1nm,0.3s,baz=31,slow=23,SNR=7.4								
NRIK					LR	LR		17 39 10.7	
	comp=Z,140nm,20.1s,baz=141,slow=38								
SVE	**Sverdlovsk**	**82.72**	**331**	*d* iP		**P**		**16 59 23.6**	**-0.5**
SVE					*e*S	**S**		**17 09 28.2**	**-2.9**
SVE					pmax	pmax			
	comp=Z,217nm,1.5s								
BILL	**Bilibino**	**82.84**	**15**	*c i* P		**P**		**16 59 24.6**	**+0.1**
BILL					*e**PP	**pP**		**16 59 55.5**	**-1.6**
BILL					*e*			17 02 40.6	
BILL					*e*SSS	SSS		17 18 21.3	
BILL					pmax	pmax			
	comp=Z,27nm,1.3s								
BILL	**Bilibino**	**82.84**	**15**	*e*P		**P**		**16 59 24.0**	**-0.5**
	comp=Z,15nm,0.9s								
ARU	**Arti**	**83.55**	**330**	*c i* P		**P**		**16 59 27.4**	**-1.0**
ARU					**PP	**pP**		**17 00 00.1**	**-0.9**
ARU								17 02 41.9	
ARU					S	**S**		**17 09 37.6**	**-1.9**
ARU					*SS	**sS**		**17 10 30.2**	**-5.6**
ARU					SS	**SS**		**17 15 04.4**	**-4.4**
ARU					pmax	pmax			
	comp=Z,148nm,1.2s								
ARU	**Arti**	**83.55**	**330**	*e*P		**P**		**16 59 27.4**	**-1.0**
	comp=Z,123nm,1.1s								
KMBO	**Kilima Mbogo**	**85.12**	**270**	P		**P**		**16 59 39.0**	**+1.4**
	comp=Z,63nm,0.9s,baz=74,slow=6.4,SNR=126								
KMBO	**Kilima Mbogo**	**85.12**	**270**	*e*P		**P**		**16 59 38.4**	**+0.8**
	comp=Z,100nm,1.0s								
PPT	**Papeete**	**85.39**	**107**	P		**P**		**16 59 40.7**	**+2.2**
	comp=Z,69nm,0.9s,baz=268,slow=6.3,SNR=4.7								
PPT	**Papeete**	**85.39**	**107**	P		**P**		**16 59 40.7**	**+2.2**
GNI	**Garni**	**86.49**	**311**	P		**P**		**16 59 45.0**	**+1.3**
	comp=Z,34nm,0.8s,baz=129,slow=0.9,SNR=23								
GNI	**Garni**	**86.49**	**311**	*i* P		**P**		**16 59 44.4**	**+0.7**
	SNR=9.9								
GNI	**Garni**	**86.49**	**311**	*c i* P		**P**		**16 59 44.2**	**+0.5**
GNI					pmax	pmax			
	comp=Z,330nm,1.3s								
GNI	**Garni**	**86.49**	**311**	P		**P**		**16 59 44.5**	**+0.8**
	SNR=13								
GNI	**Garni**	**86.49**	**311**	*e*P		**P**		**16 59 44.0**	**+0.3**
	comp=Z,65nm,0.8s								
GROC	**Groznyy**	**86.53**	**315**	*e*P		**P**		**16 59 43.7**	**+0.1**
GROC					pmax	pmax			
	comp=Z,222nm,1.3s								
SEAG	**Tbilisi Sea**	**86.86**	**313**	P		**P**		**16 59 46.9**	**+1.6**
GUDG	**Gudauri**	**87.27**	**314**	P		**P**		**16 59 49.3**	**+1.8**
AKH	**Akhalkalaki**	**87.72**	**312**	P		**P**		**16 59 51.2**	**+1.6**
AKH	**Akhalkalaki**	**87.72**	**312**	P		**P**		**16 59 51.2**	**+1.6**
ZEI	**Tsey**	**87.77**	**314**	*e*P		**P**		**16 59 48.0**	**-1.8**
ZEI					pmax	pmax			
	comp=Z,244nm,1.3s								
ONI	**Oni**	**88.04**	**313**	P		**P**		**16 59 52.2**	**+1.3**
ONI	**Oni**	**88.04**	**313**	P		**P**		**16 59 52.2**	**+1.3**
NCK	**Nalchik**	**88.16**	**314**	*c i* P		**P**		**16 59 51.7**	**+0.3**
NCK					pmax	pmax			
	comp=Z,78nm,1.1s								
NVL	**N'lazarevskaya**	**88.24**	**198**	*e*P		**P**		**16 59 54.9**	**+3.6**
KBZ	**Khabaz**	**88.70**	**315**	P		**P**		**16 59 54.4**	**+0.5**
	comp=Z,38nm,0.8s,baz=120,slow=2.9,SNR=51								
KBZ	**Khabaz**	**88.70**	**315**	P		**P**		**16 59 54.4**	**+0.5**
NEY	**Neytrino**	**88.72**	**314**⇓	*e*P		**P**		**16 59 54.7**	**+0.4**
NEY					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KIV	**Kislovodsk**	**88.91**	**315**	*i* P		**P**		**16 59 55.0**	**0.0**
	SNR=5.3								
KIV	**Kislovodsk**	**88.91**	**315**	*e*P		**P**		**16 59 54.6**	**-0.4**
KIV				*e*				17 03 23.0	
KIV				*e*				17 10 12.5	
KIV					pmax	pmax			
	comp=Z,50nm,1.1s								
KIV					pmax	pmax			
	comp=Z,41nm,3.2s								
KIV					MLR	MLR			
	comp=Z,86nm,20.0s								
KIV	**Kislovodsk**	**88.91**	**315**	P		**P**		**16 59 55.8**	**+0.8**
	SNR=8.1								
KIV	**Kislovodsk**	**88.91**	**315**	*e*P		**P**		**16 59 53.1**	**-1.9**
	comp=Z,50nm,1.0s								
GOF	**Gofitskoye**	**88.92**	**316**⇑	*e*P		**P**		**16 59 54.1**	**-0.8**
GOF					pmax	pmax			
	comp=Z,115nm,1.0s								
SFNV	**Sufian**	**89.19**	**307**	*i* P		**P**		**16 59 57.8**	**+1.3**
MATP	**Matopo**	**90.61**	**249**	P		**P**		**17 00 05.0**	**+1.4**
	comp=Z,44nm,0.8s,baz=111,slow=4.8,SNR=85								
MATP	**Matopo**	**90.61**	**249**	P		**P**		**17 00 05.0**	**+1.4**
ZALF	**Zalf**	**90.78**	**303**	*i* P		**P**		**16 59 59.9**	**-4.1**
SOC	**Sochi**	**90.93**	**314**	*e*P		**P**		**17 00 02.8**	**-1.5**
SOC				*e*				17 03 44.3	
SOC				*e*	PPP	PPP		17 05 36.7	
SOC				*e*S		**SKSac**		**17 10 23.0**	**-1.4**
SOC					pmax	pmax			
	comp=Z,46nm,0.6s								
ASF	**Jabal al Asfar**	**91.02**	**302**	P		**P**		**17 00 06.1**	**+1.0**
	comp=Z,46nm,1.1s,baz=65,slow=1.5,SNR=29								
ASF	**Jabal al Asfar**	**91.02**	**302**	P		**P**		**17 00 06.1**	**+1.0**
ROOS	**tl_alroos**	**91.04**	**304**	*i* P		**P**		**17 00 02.0**	**-3.2**
VRH	**Novokhopyorsk**	**91.19**	**322**	*e*P		**P**		**17 00 04.8**	**-0.5**
VRH				*e*				17 10 26.7	
VRH					pmax	pmax			
	comp=Z,40nm,0.6s								
SALA	**Sala**	**91.25**	**303**	*i* P		P		17 00 00.7	-5.6
MARH	**Ras Al Marh**	**91.67**	**304**	*i* P		**P**		**17 00 06.2**	**-2.3**
LSZ	**Lusaka**	**91.77**	**254**	*e*P		**P**		**17 00 09.8**	**+0.7**
LSZ					pmax	pmax			
	comp=Z,97nm,1.0s								
LSZ	**Lusaka**	**91.77**	**254**	*e*P		**P**		**17 00 09.8**	**+0.7**
	comp=Z,97nm,1.0s								
HAWK	**Haweek**	**91.82**	**304**	*i* P		**P**		**17 00 06.7**	**-2.1**
SNAA	**Sanae**	**91.93**	**195**	P		**P**		**17 00 09.8**	**+1.3**
SNAA	**Sanae**	**91.93**	**195**	*d* iP		**P**		**17 00 09.4**	**+0.8**
SNAA					pmax	pmax			
	comp=Z,1µm,1.0s								
SNAA	**Sanae**	**91.93**	**195**	*e*P		**P**		**17 00 09.2**	**+0.7**
	comp=Z,20nm,0.8s								
DRWC	**Darouich**	**91.96**	**307**	*i* P		**P**		**17 00 09.9**	**+0.6**
BOSA	**Boshof**	**92.04**	**241**	P		**P**		**17 00 11.5**	**+1.4**
	comp=Z,32nm,0.8s,baz=106,slow=4.8,SNR=43								
BOSA					PKKPbc	**PKKPbc**		**17 17 27.6**	**+1.1**
	comp=Z,5.8nm,0.9s,baz=255,slow=3.5,SNR=4.8								
BOSA	**Boshof**	**92.04**	**241**	*e*P		**P**		**17 00 11.1**	**+1.0**
	comp=Z,40nm,0.8s								
BOSA					PKKPbc	**PKKPbc**		**17 17 27.6**	**+1.1**
**EI

comp=Z,17nm,1.0s
APA Apatity 97.88 337 *e*P Pdif 17 00 43.0 +7.4
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,400nm,16.0s
COLA College 97.91 26⇓ *e*P Pdif 17 00 36.1 +0.3
COLA pmax pmax
comp=Z,4.0nm,0.8s
CCB Clear Creek Bu 97.92 26 *e*P **P 17 00 33.3 -2.5**
comp=Z,15nm,0.9s
ILAR Eielson Array 98.32 26 P **P 17 00 35.9 -1.7**
comp=Z,2.6nm,0.9s,baz=268,slow=4.1,SNR=25
ILAR PP **PP 17 04 39.4 +0.3**
comp=Z,3.1nm,1.1s,baz=293,slow=9.0,SNR=4.4
ILAR PKKPbc **PKKPdf 17 17 13.2 -0.7**
comp=Z,1.2nm,0.8s,baz=85,slow=2.4,SNR=6.1
ILAR Eielson Array 98.32 26 P **P 17 00 35.9 -1.7**
ILAR PP **PP 17 04 39.4 +0.3**
ILAR PKKPbc **PKKPdf 17 17 13.2 -0.7**
AKASG Malin Array Be 98.94 320 P **P 17 00 39.8 -0.9**
comp=Z,14nm,0.7s,baz=79,slow=4.6,SNR=40
AKASG PP **PP 17 04 44.6 +0.4**
comp=Z,12nm,1.1s,baz=78,slow=6.5,SNR=11
AKASG PKiKP **PKiKP 17 05 10.7 -0.2**
comp=Z,1.6nm,0.5s,baz=73,slow=2.5,SNR=7.7
AKASG SKiKP **SKiKP 17 08 33.6 -0.4**
comp=Z,0.4nm,0.3s,baz=103,slow=2.4,SNR=4.4
AKASG LR LR 17 51 13.6
comp=Z,132nm,20.4s,baz=85,slow=39
AKASG Malin Array Be 98.94 320 P **P 17 00 39.8 -0.9**
AKASG PP **PP 17 04 44.6 +0.4**
AKASG PKiKP **PKiKP 17 05 10.7 -0.2**
AKASG *e* 17 08 33.6
KIEV Kiev 98.95 320*c* *i*P **P 17 00 39.0 -1.7**
KIEV pmax pmax
comp=Z,19nm,0.9s
KIEV Kiev 98.95 320 *e*P **P 17 00 38.5 -2.3**
comp=Z,19nm,0.8s
AK11 Malin Array Si 98.97 320 *e*P **P 17 00 38.8 -2.0**
SORM Soroca 99.37 317⇓ *i*P **PKiKP 17 05 11.9 +0.2**
DOT Dot Lake 99.51 27 *e*Pdif **Pdif 17 00 41.9 -1.2**
comp=Z,23nm,1.1s
PETR Petresti 100.02 315⇓ *i*P **PKiKP 17 05 19.2 +6.3**
VSU Vasula 100.60 328*c* *i*P **Pdif 17 00 47.4 -0.5**
VSU pmax pmax
comp=Z,169nm,1.2s
ARA0 ARCESS Array S 100.80 339 *e*Pdif **Pdif 17 00 46.9 -1.7**
ARCES ARCESS Array B 100.80 339 P **Pdif 17 00 47.9 -0.7**
comp=Z,7.6nm,0.8s,baz=101,slow=5.1,SNR=20
ARCES PP **PP 17 04 59.6 +1.9**
comp=Z,2.3nm,0.8s,baz=100,slow=6.6,SNR=4.5
ARCES PKiKP **PKiKP 17 05 14.7 +1.0**
comp=Z,6.6nm,0.9s,baz=161,slow=1.0,SNR=7.8
ARCES ARCESS Array B 100.80 339 P **Pdif 17 00 47.9 -0.7**
ARCES PP **PP 17 04 59.6 +1.9**
ARCES PKiKP **PKiKP 17 05 14.7 +1.0**
FIA1 FINESS Array S 100.89 331 *e*Pdif **Pdif 17 00 47.6 -1.5**
FINES FINESS Array B 100.89 331 P **Pdif 17 00 48.8 -0.3**
comp=Z,3.5nm,0.6s,baz=94,slow=7.6,SNR=14
FINES PKiKP **PKiKP 17 05 14.7 +0.7**
comp=Z,7.4nm,0.7s,baz=90,slow=4.1,SNR=12
FINES SKiKP **SKiKP 17 08 37.3 0.0**
comp=Z,0.7nm,0.5s,baz=101,slow=3.9,SNR=5.0
FINES FINESS Array B 100.89 331 P **Pdif 17 00 48.8 -0.3**
FINES PKiKP **PKiKP 17 05 14.7 +0.7**
FINES *e* 17 08 37.3
MLR Muntele Rosu 100.92 315 P **Pdif 17 00 48.8 -1.0**
comp=Z,1.4nm,0.8s,baz=163,slow=1.7,SNR=4.8
MLR Muntele Rosu 100.92 315 *e*Pdif **Pdif 17 00 48.0 -1.9**
IDI Anoyia 101.30 304 P **Pdif 17 00 51.7 -0.1**
comp=Z,14nm,0.8s,baz=71,slow=12,SNR=2.8
IDI Anoyia 101.30 304 P **Pdif 17 00 51.6 -0.1**
BURAR Bucovina Array 101.46 317⇓ *i*P **PP 17 05 04.1 +0.6**
BUR08 Bucovina Ar. S 101.47 317 *e*Pdif **Pdif 17 00 50.3 -1.9**
SPITS Spitsbergen Ar 102.02 348 P **Pdif 17 00 53.5 -0.3**
comp=Z,9.4nm,0.7s,baz=102,slow=7.8,SNR=17
SPITS Spitsbergen Ar 102.02 348 P **Pdif 17 00 53.5 -0.3**
SUW Suwalki 102.67 323 *e*P **Pdif 17 00 56.9 -0.3**
SUW Suwalki 102.67 323 *e*P **Pdif 17 00 56.9 -0.3**
KWP Kalwaria Pacla 103.11 319 *e*P **Pdif 17 01 01.1 +1.7**
KWP Kalwaria Pacla 103.11 319 *e*P **Pdif 17 01 01.1 +1.7**
DRGR 103.17 316⇓ *i*P **PP 17 05 15.1 -1.2**
KOLS Kolonicke sedl 103.42 318 *e*P **Pdif 17 01 01.7 +1.0**
KOLS *e* 17 05 19.0
KOLS Kolonicke sedl 103.42 318 *e*PDIFF **Pdif 17 01 01.7 +1.0**
KOLS *e*PP **PKiKP 17 05 19.0 0.0**
INK Inuvik 103.45 22 PKiKP **PKiKP 17 05 19.6 +1.1**
comp=Z,6.1nm,0.7s,baz=102,slow=1.6,SNR=12
INK Inuvik 103.45 22 PKiKP **PKiKP 17 05 19.6 +1.1**
MDVR Moldovita 103.91 314⇑ *i*P **PP 17 05 20.0 -1.8**
CRVS Cervenica-Dubn 103.95 318 *e*P **Pdif 17 01 03.1 0.0**
CRVS *e* 17 05 21.6
CRVS Cervenica-Dubn 103.95 318 *e*PDIFF **Pdif 17 01 03.1 0.0**
CRVS *e* 17 04 13.3
CRVS *e*PP **PP 17 05 21.6 -0.4**
BZS Buzias 103.96 315⇑ *i*P **PP 17 05 20.5 -1.6**
STHS Stebnicka Huta 104.08 319 *e*P **Pdif 17 01 04.4 +0.8**
STHS *e* 17 05 22.3
STHS Stebnicka Huta 104.08 319 *e*PDIFF **Pdif 17 01 04.4 +0.8**
STHS *e*PP **PP 17 05 22.2 -0.7**
NIE Niedzica 104.69 319 *e*P **Pdif 17 01 06.5 +0.1**
NIE Niedzica 104.69 319 *e*P **Pdif 17 01 06.5 +0.1**
VYHS Vyhne 105.71 318 *i*P **Pdif 17 01 09.9 -1.0**
VYHS Vyhne 105.71 318 *e*PDIFF **Pdif 17 01 09.9 -1.0**
OKC Ostrava-Krasne 106.06 319 *e*PP PP 17 05 35.0 -2.4
OKC AMS AMS 17 51 10.0
comp=Z,200nm,15.6s
MORC Moravsky Berou 106.45 319⇑ *i*P **PKiKP 17 05 26.2 +1.6**
MORC Moravsky Berou 106.45 319 *e*PKiKP **PKiKP 17 05 26.4 +1.7**
DLBC Dease Lake 106.73 32 *e*PKiKP **PKiKP 17 05 26.2 +1.2**
KRLC Kraliky 106.91 320 *e*PKP **PKiKP 17 05 26.7 +1.2**
HFS Hagfors 107.07 330 Pdiff **Pdif 17 01 16.2 -0.4**
comp=Z,4.0nm,0.8s,baz=77,slow=6.5,SNR=9.8
HFS PKiKP **PKiKP 17 05 25.5 +0.1**
comp=Z,3.4nm,0.8s,baz=91,slow=5.9,SNR=3.9
HFS PP **PP 17 05 47.1 +2.7**
comp=Z,11nm,1.1s,baz=23,slow=4.8,SNR=5.2
HFS Hagfors 107.07 330 Pdif **Pdif 17 01 16.2 -0.4**
HFS PKiKP **PKiKP 17 05 25.5 +0.1**
HFS PP **PP 17 05 47.1 +2.7**
DPC Dobruska-Polom 107.17 320 *e*PKP **PKiKP 17 05 27.1 +1.1**
DPC *e*PP **PP 17 05 43.4 -2.3**
DPC *ex* x 17 05 49.0
UPC Upice 107.35 320 *e*PKP **PKiKP 17 05 27.0 +0.8**
UPC *e*SKP 17 08 49.1
UPC *e*SP SP 17 14 50.5 -4.2
BSD Bornholm Skovb 107.35 325⇓ *i*P **PKiKP 17 05 26.9 +0.9**
comp=Z,12nm,0.8s
CONA Conrad Observa 107.75 317 *i* PKiKP **PKiKP 17 05 27.2 +0.1**
comp=Z,4.3nm,0.8s
TREC Trest 107.83 319 AMS AMS 17 58 10.0
ARSA Arzberg 108.05 317 *i* PKiKP **PKiKP 17 05 28.0 +0.3**
comp=Z,3.3nm,0.6s
NB2 NORSAR Subarra108.05 332 PKPdf **PKiKP 17 05 27.5 +0.2**
comp=Z,2.7nm,0.8s,baz=68,slow=1.9
NOA NORSAR Array B 108.05 332 Pdiff **Pdif 17 01 19.2 -1.9**
comp=Z,2.1nm,0.8s,baz=74,slow=4.6,SNR=6.2
NOA PKiKP **PKiKP 17 05 27.9 +0.7**
comp=Z,10nm,1.0s,baz=259,slow=3.2,SNR=13
NOA PP **PP 17 05 50.9 -0.8**
comp=Z,4.6nm,0.9s,baz=80,slow=7.7,SNR=6.6
NOA SKiKP **SKiKP 17 08 48.6 -2.3**
comp=Z,2.8nm,0.8s,baz=261,slow=3.1,SNR=6.7
NOA NORSAR Array B 108.05 332 Pdif **Pdif 17 01 19.2 -1.9**
NOA PKiKP **PKiKP 17 05 27.9 +0.7**
NOA PP **PP 17 05 50.9 -0.8**
NOA *e* 17 08 48.6
GROS Grobnik 108.15 316 *i* PKiKP **PKiKP 17 05 28.2 +0.3**
GOPC GO Pecny, Ondr 108.21 320 *e*PP PP 17 05 49.2 -4.0
GOPC *e*SP SP 17 14 59.2 -4.3
GOPC AMS AMS 17 51 40.0
comp=Z,200nm,16.3s
NBO02 NORSAR Array S 108.22 332 *e*PKiKP **PKiKP 17 05 28.2 +0.7**
NAO01 NORSAR Array S 108.25 331 *e*PKiKP **PKiKP 17 05 29.3 +1.7**
PVCC Panska Ves 108.26 320 *e*SP SP 17 15 02.5 -1.5
PVCC AMS AMS 17 49 50.0
comp=Z,200nm,17.5s
PRU Pruhonice 108.35 320 *e*PKP **PKiKP 17 05 29.2 +1.1**
PRU *e*PP **PP 17 05 50.7 -3.5**
PRU *e*SKP 17 08 51.7
PRU *e*SP SP 17 15 03.3 -1.7
PRU AMS AMS 17 51 50.0
comp=Z,200nm,20.9s
SOKA Soboth 108.45 316 *e*PKiKP **PKiKP 17 05 28.8 +0.3**
comp=Z,6.1nm,0.7s
BRG Berggiesshubel 108.60 321 *e*PKP **PKiKP 17 05 29.1 +0.5**
comp=Z,4.5nm,0.8s
BRG *e*PP **PP 17 05 52.3 -3.7**
comp=Z,18nm,1.4s
BRG Berggiesshubel 108.60 321 *e*P **Pdif 17 01 23.9 +0.2**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 108.60 321 *e*PDIFF **Pdif 17 01 23.9 +0.2**
comp=Z,3.6nm,0.9s
COP Copenhagen 108.64 326 *i* P PKiKP 17 05 19.3 -9.1
comp=Z,13nm,0.5s
LJU Ljubljana 108.87 316 *i* PKiKP **PKiKP 17 05 30.1 +0.8**
LJU *e*PP **PP 17 05 54.1 -4.0**
LJU *e* 17 08 52.8
CRNS Crni Vrh 109.05 316 *i* PKiKP **PKiKP 17 05 29.8 +0.2**
CRNS *e* 17 08 51.8
GEC2 GERESS Array S 109.06 319 *e*PKiKP **PKiKP 17 05 30.3 +0.7**
GERES GERESS Array B 109.06 319 Pdiff **Pdif 17 01 25.1 -0.8**
comp=Z,0.2nm,0.3s,baz=60,slow=5.3,SNR=6.9
GERES PKiKP **PKiKP 17 05 30.1 +0.5**
comp=Z,7.9nm,0.8s,baz=75,slow=1.5,SNR=39
GERES SKiKP **SKiKP 17 08 52.2 -1.0**
comp=Z,5.1nm,0.8s,baz=66,slow=1.6,SNR=14
GERES PKKPbc **PKKPbc 17 16 37.0 -1.7**
comp=Z,0.4nm,0.6s,baz=243,slow=4.4,SNR=4.0
GERES GERESS Array B 109.06 319 Pdif **Pdif 17 01 25.1 -0.8**
GERES PKiKP **PKiKP 17 05 30.1 +0.5**
GERES *e* 17 08 52.2
GERES PKKPbc **PKKPbc 17 16 37.0 -1.7**
GEA0 GERESS Array S 109.06 319 *e*PKiKP **PKiKP 17 05 27.7 -1.9**
KHC Kasperske Hory 109.10 319 *e*PKP **PKiKP 17 05 30.0 +0.4**
KHC *e*PP **PP 17 05 55.1 -4.6**
KHC *ex* x 17 06 02.2
KHC *e*SKP 17 08 52.6
KHC *e*SKS **SKSac 17 11 54.4 +0.7**
KHC *e*SP **SP 17 15 07.5 -5.1**
KHC Kasperske Hory 109.10 319 *e*PKiKP **PKiKP 17 05 30.4 +0.8**
CLL Collm 109.12 321 *e*Pdif **Pdif 17 01 25.0 -1.0**
CLL ⇓ *i*PKiKP **PKiKP 17 05 30.1 +0.6**
comp=Z,17nm,1.5s
CLL *e* 17 05 52.0
CLL *e*PP **PP 17 05 58.0 -1.7**
CLL *i* 17 06 04.1
CLL *e*SPP 17 06 40.0
CLL *e*PPP PPP 17 08 24.0
CLL *e*PPPP 17 10 12.0
CLL *e*SKSac **SKSac 17 11 48.0 -5.6**
CLL *e*SP **SP 17 15 08.0 -4.6**
CLL *e*PS **PS 17 15 20.0 -8.7**
CLL *e* 17 15 58.0
CLL *e*PPS PPS 17 16 18.0
CLL *e* 17 32 12.0
CLL Lm MLR 18 24 00.0
comp=Z,300nm,20.8s
CLL Lm MLR 18 43 00.0
comp=Z,200nm,21.4s
CLL LmV 18 50 00.0
comp=Z,200nm,19.6s
CLL Collm 109.12 321 *e*PKiKP **PKiKP 17 05 30.2 +0.8**
DAG Danmarks Havn 109.15 351 *i* P **Pdif 17 01 24.9 -0.7**
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 109.15 351 *i* P **Pdif 17 01 24.9 -0.7**
comp=Z,4.3nm,0.7s
DAG Danmarks Havn 109.15 351 *i* P **PP 17 06 00.0 +0.9**
comp=Z,30nm,1.3s
KBA Koelnbreinsper 109.55 317 *e*PKiKP **PKiKP 17 05 29.9 -0.8**
comp=Z,6.4nm,0.6s
ABTA Abfaltersbach 110.16 316 *i* PKiKP **PKiKP 17 05 31.6 -0.1**
comp=Z,16nm,0.7s,SNR=9.4
WTTA Wattenberg 110.67 317 *i* PKiKP **PKiKP 17 05 33.2 +0.4**
comp=Z,29nm,0.6s,SNR=12
WATA Walderalm 110.70 317 *i* PKiKP **PKiKP 17 05 32.9 +0.1**
comp=Z,11nm,0.5s,SNR=9.4
MOTA Moosalm 111.02 317 *i* PKiKP **PKiKP 17 05 33.5 +0.1**
comp=Z,12nm,0.7s,SNR=7.7
RETA Reutte 111.22 317 *i* PKiKP **PKiKP 17 05 33.9 +0.2**
comp=Z,5.8nm,0.7s
FETA Feichten 111.32 317 *i* PKiKP **PKiKP 17 05 34.4 +0.4**
comp=Z,18nm,1.2s,SNR=5.3
FUORN Ofenpass-Fuorn 111.71 317 *e*PKiKP **PKiKP 17 05 35.6 +0.8**
DAVA Damuels 111.84 317 *i* PKiKP **PKiKP 17 05 35.4 +0.4**
comp=Z,41nm,1.1s,SNR=12
NLWA Neilton Lookou 112.51 42 *e*PKiKP **PKiKP 17 05 36.5 +0.4**
PGC Sidney 112.53 41 *e*PKiKP **PKiKP 17 05 37.8 +1.8**
BFO Black Forest 112.66 319 *i* PKiKP **PKiKP 17 05 36.9 +0.6**
BFO Black Forest 112.66 319 *e*PKiKP **PKiKP 17 05 35.0 -1.3**
YKA Yellowknife Ar 112.73 25 PKiKP **PKiKP 17 05 36.0 +0.1**
comp=Z,21nm,0.6s,baz=304,slow=1.7,SNR=134
YKA SKP 17 08 57.9
comp=Z,6.0nm,0.7s,baz=306,slow=1.9,SNR=15
YKA PKKPbc **PKKPbc 17 16 25.0 -2.0**
comp=Z,0.9nm,0.7s,baz=104,slow=3.3,SNR=4.8
YKA Yellowknife Ar 112.73 25 PKiKP **PKiKP 17 05 36.0 +0.1**
YKA SKP 17 08 57.9
YKA PKKPbc **PKKPbc 17 16 25.0 -2.0**
LANF Langenberg 112.86 319 PKP **PKiKP 17 05 37.4 +0.7**
E03A Lebam 112.89 43 *e*PKiKP **PKiKP 17 05 38.6 +1.9**
A04D Lummi Island 112.99 41 P **PKiKP 17 05 37.9 +1.0**
baz=283
F03A Seaside 113.01 44 *e*PKiKP **PKiKP 17 05 39.0 +1.9**
G03D McMinnville, O 113.35 45 P **PKiKP 17 05 39.0 +1.2**
baz=281
F04D Rainier, OR 113.36 44 P **PKiKP 17 05 39.2 +1.5**
baz=282
CMW Cultus Mountai 113.44 41 P **PKiKP 17 05 39.4 +1.5**
ECH Echery 113.45 319 PKP **PKiKP 17 05 37.6 -0.3**
B05A Bryant 113.49 41 P **PKiKP 17 05 39.1 +1.3**
baz=283
B05A Bryant 113.49 41 P **PKiKP 17 05 39.2 +1.3**
MOF Molkenrain 113.55 318 PKP **PKiKP 17 05 37.8 -0.3**
I03D Drain, OR 113.58 46 P **PKiKP 17 05 39.2 +1.0**
baz=280,SNR=14
MEM Membach 113.59 322 PKP **PKiKP 17 05 38.9 +0.9**
L02D Cave Junction, 113.66 48 P **PKiKP 17 05 39.7 +1.2**
baz=280,SNR=8.2
ERK Elk Rock 113.76 43 P **PKiKP 17 05 40.3 +1.6**
SENIN Lac Senin/Sane 113.77 317 *e*PKiKP **PKiKP 17 05 39.0 +0.2**
FL2 Flat Top 2 113.78 43 P **PKiKP 17 05 40.1 +1.4**
RPW Rockport 113.83 41 P **PKiKP 17 05 39.5 +0.9**
LOMF Lomont 113.86 318 PKP **PKiKP 17 05 38.4 -0.4**
KMRM Mail Ridge 113.89 50 *e*PKiKP **PKiKP 17 05 41.6 +2.6**
KEST Kesra 113.95 305 PKiKP **PKiKP 17 05 40.5 +1.2**
comp=Z,20nm,0.9s,baz=273,slow=2.3,SNR=15
KEST SKP 17 09 03.0
comp=Z,5.4nm,0.8s,baz=23,slow=5.4,SNR=4.2
KEST Kesra 113.95 305 *e*PKiKP **PKiKP 17 05 40.9 +1.6**
KEST SKP 17 09 03.0
HUMO Hull Mountain 114.06 47 *e*PKiKP **PKiKP 17 05 40.9 +1.7**
BCLA Clavier 114.07 321 PKP PKPdf 17 05 39.8 +0.9
I04A Tendick Farm, 114.23 46 P PKPdf 17 05 40.2 +0.7
baz=281,SNR=12
M02C Callahan 114.34 49 P PKPdf 17 05 41.4 +1.6
baz=280,SNR=21
TDH Tom, Dick, Har 114.36 44 P PKPdf 17 05 41.0 +1.1
WRW Wenatchee Ridg 114.38 41 P PKPdf 17 05 40.7 +1.0
N02D Trinity Center 114.52 49 P PKPdf 17 05 41.5 +1.3
baz=280,SNR=14
TWW Teanaway 114.56 42 P PKPdf 17 05 41.8 +1.7
VFP Flag Point 114.58 44 P PKPdf 17 05 41.7 +1.4
SCO Scoresbysund 114.59 348 *i* PKiKP PKPdf 17 05 40.0 +0.7
SCO pmax pmax
comp=Z,10.0nm,0.9s
SCO Scoresbysund 114.59 348 *i* P PKPdf 17 05 40.0 +0.7
comp=Z,10nm,0.9s
DOU Dourbes 114.60 321 PKP PKPdf 17 05 41.1 +1.1
BUOR Burton Butte 114.63 48 P PKPdf 17 05 41.9 +1.3
NAC Naches 114.69 43 P PKPdf 17 05 41.8 +1.5
G05D Wamic, OR 114.69 44 P PKPdf 17 05 41.3 +0.9
baz=283,SNR=5.4
WDC Whiskeytown Da 114.71 49 *e*PKiKP PKPdf 17 05 41.7 +1.2
WDC Whiskeytown Da 114.71 49 *e*PKiKP **PKiKP 17 05 41.7 +1.3**
I05D Terrebonne, OR 114.87 45 P PKPdf 17 05 42.2 +1.5
baz=282
K04D Chiloquin, OR 114.92 47 P PKPdf 17 05 42.0 +1.0
baz=281
M04C Macdoel 115.02 48 P **PKPdf 17 05 42.3 +1.1**
baz=281,SNR=6.3
G06A Carlson Farm, 115.17 44 *e*PKPdf **PKPdf 17 05 41.6 +0.3**
J05D Fort Rock, OR 115.17 46 P **PKPdf 17 05 42.8 +1.3**
baz=282
B08A Colville Reser 115.25 41 *e*PKiKP **PKPdf 17 05 41.5 +0.2**
O03D Paynes Creek 115.32 50 P **PKPdf 17 05 42.4 +0.6**
baz=280,SNR=10
SUMG Summit 115.41 354⇑ *i*PKiKP **PKPdf 17 05 42.0 +0.6**
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 115.41 354⇑ *i*P **PKPdf 17 05 42.0 +0.6**
comp=Z,12nm,0.8s
SUMG Summit 115.41 354 *e*PKPdf **PKPdf 17 05 41.4 -0.1**
K05A Summer Lake 115.53 47 P **PKPdf 17 05 43.6 +1.4**
HAWA Hanford 115.64 43 *e*PKPdf **PKPdf 17 05 42.5 +0.4**
ORV Oroville 115.67 50 *e*PKiKP **PKPdf 17 05 43.2 +0.8**
ORV Oroville 115.67 50 *e*PKPdf **PKPdf 17 05 43.2 +0.8**
D08A Wollman Farm, 115.87 42 *e*PKPdf **PKPdf 17 05 43.6 +1.1**
SSB Saint Sauveur 115.89 316 *e*PKiKP **PKPdf 17 05 42.9 +0.3**
SSB Saint Sauveur 115.89 316 *e*PKPdf **PKPdf 17 05 42.9 +0.3**
MOD Modoc Plateau 116.12 48 *e*PKPdf **PKPdf 17 05 44.0 +0.6**
AFDM Forest Hills D 116.18 51 *e*PKPdf **PKPdf 17 05 43.9 +0.5**
G08A Pilot Rock 116.30 44 *e*PKPdf **PKPdf 17 05 44.3 +0.8**
PLDF La Plantade 116.34 317 PKP **PKPdf 17 05 45.2 +1.6**
E09A Wood Farm, Sta 116.53 42 *e*PKPdf **PKPdf 17 05 44.6 +0.9**
ESY Stoneypath 116.61 329 *e*P **PKPdf 17 05 43.9 +0.3**
AGO Saint Agoulin 116.65 317 PKP **PKPdf 17 05 45.5 +1.4**
NEW Newport 116.69 40 P **PKPdf 17 05 44.7 +0.6**
baz=288
NEW Newport 116.69 40 *e*PKiKP **PKPdf 17 05 44.4 +0.3**
NEW Newport 116.69 40 *e*PKPdf **PKPdf 17 05 44.4 +0.3**
RSC Scourie 116.74 332 *e*P **PKPdf 17 05 43.8 +0.1**
LBL Lubilhac 116.79 316 PKP **PKPdf 17 05 46.2 +1.8**
CMB Columbia Colle 116.79 52 *e*PKiKP **PKPdf 17 05 44.7 +0.1**
CMB Columbia Colle 116.79 52 *e*PKPdf **PKPdf 17 05 44.7 +0.1**
MDO Dochfour 116.79 331 *e*P **PKPdf 17 05 43.6 -0.4**
EKA Eskdalemuir Ar 117.14 329 PKP **PKPdf 17 05 44.7 0.0**
comp=Z,4.6nm,0.5s,baz=1.6,slow=1.8,SNR=20
EKA PKKPbc **PKKPab 17 16 14.0 +0.6**
comp=Z,0.6nm,0.5s,baz=230,slow=5.3,SNR=5.4
EKA Eskdalemuir Ar 117.14 329 PKiKP **PKPdf 17 05 44.7 0.0**
EKA pmax pmax
comp=Z,7.0nm,0.7s
EKA pmax pmax
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 117.14 329 PKP **PKPdf 17 05 44.7 0.0**
EKA PKKPbc **PKKPab 17 16 14.0 +0.6**
ESK Eskdalemuir 117.17 329 *e*P **PKPdf 17 05 45.0 +0.2**
ECK Cauldkaine Hil 117.19 328 *e*P **PKPdf 17 05 45.2 +0.4**
CWF Charnwood Fore 117.20 325 *e*P **PKPdf 17 05 45.2 +0.4**
CWF Charnwood Fore 117.20 325 *e*PKPdf **PKPdf 17 05 44.7 -0.2**
WVOR Wild Horse Val 117.22 47 *e*PKiKP **PKPdf 17 05 46.4 +1.0**
WVOR Wild Horse Val 117.22 47 *e*PKPdf **PKPdf 17 05 46.4 +1.0**
EDM Edmonton 117.22 34 *e*PKiKP **PKPdf 17 05 45.0 0.0**
EDM Edmonton 117.22 34 *e*PKPdf **PKPdf 17 05 45.0 0.0**
PAHR Pah Rah Range 117.25 50 *e*PKPdf **PKPdf 17 05 46.5 +0.9**
RRR Rubha Reidh 117.28 332 *e*P **PKPdf 17 05 45.1 +0.3**
KSB Sheil Bridge 117.41 331 *e*P **PKPdf 17 05 45.1 0.0**
WAKR Walker 117.44 51 *e*PKPdf **PKPdf 17 05 47.0 +1.0**
KPL Plockton 117.46 331 *e*P **PKPdf 17 05 45.5 +0.3**
SMMC Simmler 117.55 55 P **PKPdf 17 05 47.5 +1.3**
baz=279
BMO Blue Mountains 117.55 44 *e*PKiKP **PKPdf 17 05 45.7 -0.3**
BMO Blue Mountains 117.55 44 *e*PKPdf **PKPdf 17 05 45.7 -0.3**
WOL Wolverton 117.70 324 *e*P **PKPdf 17 05 45.7 -0.1**
WOL AMB AMB 17 05 47.5
comp=Z,65nm,1.2s
PKM Mcpherson Peak 117.76 55 P **PKPdf 17 05 48.5 +1.7**
baz=279
SSW Stow on the Wo 117.81 325 *e*P **PKPdf 17 05 46.4 +0.4**
SBC Santa Barbara 117.91 56 P **PKPdf 17 05 48.2 +1.4**
baz=279
FILF Fillols 117.94 314 PKP **PKPdf 17 05 47.4 +0.7**
SWN1 Swindon 117.96 324 *e*P **PKPdf 17 05 47.0 +0.7**
SWN1 AMB AMB 17 05 47.7
comp=Z,138nm,0.7s
SCZ2 Santa Cruz Isl 118.04 56 P **PKPdf 17 05 47.4 +0.3**
baz=278
GAL1 Galloway 118.15 329 *e*P **PKPdf 17 05 46.9 +0.3**
VES Vestal, Richgr 118.19 54 P **PKPdf 17 05 48.1 +0.8**
baz=280
FOEL Foel Wylfa 118.20 326 *e*P **PKPdf 17 05 47.1 +0.3**
SNCC San Nicolas Is 118.23 57 P **PKPdf 17 05 48.5 +1.1**
baz=278
TAM Tamanrasset 118.24 291 *e*PKiKP **PKPdf 17 05 47.9 -0.1**
TAM Tamanrasset 118.24 291 *e*PKPdf **PKPdf 17 05 47.9 -0.1**
BSMT Bassoo Peak 118.31 40 P **PKPdf 17 05 47.9 +0.4**
VALF Valcebollere 118.37 313 PKP **PKPdf 17 05 48.6 +0.9**
WPM1 Penmaenmawr 118.43 327 *e*P **PKPdf 17 05 47.8 +0.5**
WALA Waterton Lakes 118.45 39 *e*PKPdf **PKPdf 17 05 48.0 +0.4**
WIM Isle of Man 118.45 328 *e*P **PKPdf 17 05 47.7 +0.4**
BLG Laguna Peak, P 118.49 56 P **PKPdf 17 05 49.3 +1.3**
baz=279
ARVC Arvin 118.52 55 P **PKPdf 17 05 49.7 +1.7**
baz=280
BLMT Blacktail Moun 118.53 40 *e*PKPdf **PKPdf 17 05 47.8 -0.1**
YLL Llanberis 118.62 327 *e*P **PKPdf 17 05 48.3 +0.7**
TIN Tinemaha, Big 118.66 53 P **PKPdf 17 05 50.0 +1.6**
baz=281
JTMT Jette 118.67 40 *e*PKPdf **PKPdf 17 05 47.0 -1.0**
WLF1 Llynfaes 118.68 327 *e*P **PKPdf 17 05 48.1 +0.4**
WLF1 AMB AMB 17 05 48.9
comp=Z,109nm,0.8s
OSI Osito Audit: C 118.69 55 P **PKPdf 17 05 49.9 +1.5**
baz=279
ISA Isabella, Lake 118.71 54 P **PKPdf 17 05 49.6 +1.1**
baz=280
BMN Battle Mountai 118.72 49 *e*PKiKP **PKPdf 17 05 48.9 +0.5**
BMN Battle Mountai 118.72 49 *e*PKPdf **PKPdf 17 05 48.9 +0.5**
YBMT Yellow Bay 118.80 40 *e*PKPdf **PKPdf 17 05 48.5 +0.2**
SALF Salau 118.87 314 PKP **PKPdf 17 05 48.3 -0.2**
CWC Cottonwood Cre 118.89 53 P **PKPdf 17 05 50.3 +1.4**
baz=281
SWMT Swartz Lake 118.93 40 *e*PKPdf **PKPdf 17 05 48.6 +0.1**
MFID Camas Ranch 118.96 45 *e*PKPdf **PKPdf 17 05 49.6 +0.8**
DECC Green Verdugo 119.06 56 P **PKPdf 17 05 50.5 +1.4**
baz=279
MSO Missoula 119.19 41 P **PKPdf 17 05 49.5 +0.4**
baz=290
MSO Missoula 119.19 41 *e*PKPdf **PKPdf 17 05 49.2 +0.1**
PASC Pasadena Art C 119.20 56 *e*PKPdf **PKPdf 17 05 50.4 +1.1**
EDW2 Edwards Air Fo 119.23 55 P **PKPdf 17 05 51.1 +1.6**
baz=280
DAC Darwin (Calif) 119.30 53 *e*PKiKP **PKPdf 17 05 50.9 +1.2**
DAC Darwin (Calif) 119.30 53 *e*PKPdf **PKPdf 17 05 50.9 +1.2**
GRAC Grapevine Rang 119.34 53 P **PKPdf 17 05 51.5 +1.9**
baz=282
LRMC Laurel Mtn Rad 119.38 54 P **PKPdf 17 05 51.6 +1.8**
baz=280
MPMC Manual Prospec 119.43 54 P **PKPdf 17 05 51.7 +1.7**
baz=281
RESF Ens 119.46 314 PKP **PKPdf 17 05 51.0 +1.3**
LABF Labassere 119.58 315 PKP **PKPdf 17 05 50.6 +0.8**
CHMT Chamberlain Mo 119.61 41 *e*PKPdf **PKPdf 17 05 50.1 +0.1**
BFSC Mount Baldy Ra 119.62 56 P **PKPdf 17 05 51.4 +1.1**
baz=280
ILULI Ilulissat 119.69 357⇑ *i*PKiKP **PKPdf 17 05 49.0 -0.2**
ILULI pmax pmax
comp=Z,23nm,0.8s
ILULI Ilulissat 119.69 357⇑ *i*P **PKPdf 17 05 49.0 -0.2**
comp=Z,23nm,0.8s
DSB Dublin 119.76 327 *e*PKPdf **PKPdf 17 05 49.6 -0.2**
FURC Furnace Creek, 119.85 53 P **PKPdf 17 05 52.4 +1.9**
baz=282
HLID Hailey 119.91 45 P **PKPdf 17 05 52.6 +1.9**
baz=287
HLID Hailey 119.91 45 *e*PKPdf **PKPdf 17 05 52.1 +1.5**
RRX Edison Barstow 120.04 55 P **PKPdf 17 05 52.4 +1.4**
baz=281
ELK Elko 120.10 48 *e*PKiKP **PKPdf 17 05 52.1 +0.9**
ELK Elko 120.10 48 *e*PKPdf **PKPdf 17 05 52.1 +0.9**
MURC Murrieta 120.10 56 P **PKPdf 17 05 52.7 +1.6**
baz=280
ATE Arette 120.11 315 PKP **PKPdf 17 05 51.6 +0.8**
GSC Goldstone, Bar 120.12 54 P **PKPdf 17 05 52.9 +1.7**
baz=281
GSC Goldstone, Bar 120.12 54 *e*PKiKP **PKPdf 17 05 52.2 +1.0**
GSC Goldstone, Bar 120.12 54 *e*PKPdf **PKPdf 17 05 52.2 +1.0**
BBRC Big Bear Solar 120.21 56 P **PKPdf 17 05 52.8 +1.2**
baz=280
TPNV Topopah Spring 120.23 52 P **PKPdf 17 05 52.8 +1.4**
baz=282
TPNV Topopah Spring 120.23 52 *e*PKiKP **PKPdf 17 05 52.5 +1.0**
TPNV Topopah Spring 120.23 52 *e*PKPdf **PKPdf 17 05 52.5 +1.0**
109C Camp Elliot, M 120.30 57 P **PKPdf 17 05 53.2 +1.8**
baz=279
LARF Larrau 120.33 315 PKP **PKPdf 17 05 52.6 +1.3**
SHOC Shoshone, Teco 120.42 54 P **PKPdf 17 05 53.6 +1.9**
baz=282

R11A Troy Canyon, C 120.43 51 P PKPdf 17 05 53.5 +1.7
baz=284
R11A Troy Canyon, C 120.43 51 ePKPdf PKPdf 17 05 52.9 +1.1
CCA1 Carnmenellis 120.48 324 eP PKPdf 17 05 51.5 +0.3
LRM Limekiln Ridge 120.51 42 ePKPdf PKPdf 17 05 52.3 +0.4
DLMT Dillon 120.57 42 ePKPdf PKPdf 17 05 52.6 +0.8
MCMT McKenzie Canyo 120.58 43 ePKPdf PKPdf 17 05 53.1 +1.1
HEC Hector,Ludlow 120.59 55 P PKPdf 17 05 54.0 +1.9
baz=281
PFO Pinyon Flats O 120.71 56 P PKPdf 17 05 54.3 +1.9
baz=280
PFO Pinyon Flats O 120.71 56 ePKIKP PKPdf 17 05 53.9 +1.5
PFO Pinyon Flats O 120.71 56 ePKPdf PKPdf 17 05 53.9 +1.5
TPFO Pinon Flats 120.71 56 P PKPdf 17 05 54.1 +1.7
baz=280
TUQ Turquoise Moun 120.80 54 P PKPdf 17 05 54.2 +1.6
baz=282
MONP2 Monument Peak 120.86 57 P PKPdf 17 05 54.7 +1.8
baz=280
BELC Belle Mtn. Jos 121.01 56 P PKPdf 17 05 55.1 +2.1
baz=281
BOZ Bozeman (W) 121.11 42 P PKPdf 17 05 54.1 +1.3
baz=291
BOZ Bozeman (W) 121.11 42 ePKIKP PKPdf 17 05 53.9 +1.0
BOZ Bozeman (W) 121.11 42 ePKPdf PKPdf 17 05 53.9 +1.0
GMRC Granite Mounta 121.14 55 P PKPdf 17 05 55.3 +2.1
baz=282
IKP In-Ko-Pah, Jac 121.16 57 P PKPdf 17 05 55.2 +2.0
baz=280
SHPR Sheep Range 121.18 53 ePKPdf PKPdf 17 05 54.4 +1.1
SWSC Sam W. Stewart 121.37 57 P PKPdf 17 05 55.4 +1.9
baz=280
BC3 Big Chuckawall 121.52 56 P PKPdf 17 05 55.8 +1.9
baz=281
HVU Hansel Valley 121.59 46 ePKIKP PKPdf 17 05 54.6 +0.7
HVU Hansel Valley 121.59 46 ePKPdf PKPdf 17 05 54.6 +0.7
BGU Big Grassy Mou 121.66 47 ePKPdf PKPdf 17 05 54.8 +0.8
IRM Iron Mountain 121.68 55 P PKPdf 17 05 56.1 +2.0
baz=281
PSUT Pine Spring 121.71 50 ePKPdf PKPdf 17 05 55.6 +1.3
TOA0 Torodi Ar. Sit 121.85 280 ePKPdf PKPdf 17 05 54.7 -0.2
TORD Torodi Ar. Bea 121.85 280 PKP PKPdf 17 05 55.4 +0.4
comp=Z,41nm,0.7s,baz=81,slow=1.9,SNR=220
TORD SKP 17 09 18.3
comp=Z,6.8nm,0.9s,baz=74,slow=2.1,SNR=5.4
TORD PKKPbc PKKPab 17 15 55.0 +0.9
comp=Z,1.2nm,0.9s,baz=305,slow=6.5,SNR=4.5
TORD Torodi Ar. Bea 121.85 280 PKP PKPdf 17 05 55.4 +0.4
TORD SKP 17 09 18.3
TORD PKKPbc PKKPab 17 15 55.0 +0.9
SFJD Kangerlussuaq 121.87 357 i PKIKP PKPdf 17 05 53.6 +0.2
SFJD pmax pmax
comp=Z,28nm,0.8s
SFJD Kangerlussuaq 121.87 357 i P PKPdf 17 05 53.6 +0.2
comp=Z,28nm,0.8s
SFJD Kangerlussuaq 121.87 357 ePKPdf PKPdf 17 05 52.8 -0.7
YHH Holmes Hill 121.93 42 ePKPdf PKPdf 17 05 56.0 +1.3
SPUT South Promonto 121.97 47 ePKPdf PKPdf 17 05 55.4 +0.8
NEE2 Needles Airpor 121.98 55 P PKPdf 17 05 56.2 +1.5
baz=282
DUG Dugway, Tooele 122.03 48 P PKPdf 17 05 56.4 +1.6
baz=287
DUG Dugway, Tooele 122.03 48 ePKIKP PKPdf 17 05 55.9 +1.1
DUG Dugway, Tooele 122.03 48 ePKPdf PKPdf 17 05 55.9 +1.1
YPP Pitchstone Pla 122.14 43 ePKPdf PKPdf 17 05 56.7 +1.7
GLA Glamis 122.15 57 P PKPdf 17 05 57.1 +2.0
baz=281
IMW Indian Meadow 122.18 43 ePKPdf PKPdf 17 05 56.3 +1.1
H17A Grant Village 122.25 43 P PKPdf 17 05 57.5 +2.3
baz=291
H17A Grant Village 122.25 43 ePKPdf PKPdf 17 05 57.7 +2.5
Y12C Blythe 122.27 56 P PKPdf 17 05 57.1 +1.9
baz=282
Y12C Blythe 122.27 56 ePKPdf PKPdf 17 05 56.7 +1.5
FLWY Flagg Ranch 122.28 43 ePKPdf PKPdf 17 05 56.1 +0.9
TPAW Teton Pass 122.31 44 ePKPdf PKPdf 17 05 56.5 +1.1
FFC Flin Flon 122.36 29 ePKIKP PKPdf 17 05 54.9 +0.2
FFC Flin Flon 122.36 29 ePKPdf PKPdf 17 05 54.9 +0.2
MOOW Moose Ponds 122.37 43 ePKPdf PKPdf 17 05 55.8 +0.3
REDW Red Top Meadow 122.43 44 ePKPdf PKPdf 17 05 56.7 +1.1
AHID Auburn Hatcher 122.46 45 ePKPdf PKPdf 17 05 56.9 +1.3
SNOW Snow King Moun 122.46 44 ePKPdf PKPdf 17 05 56.5 +0.9
PDMCI Parker Dam,Lak 122.46 55 P PKPdf 17 05 57.1 +1.5
baz=282
W13A Hualapai Mount 122.50 54 ePKPdf PKPdf 17 05 57.3 +1.4
HWUT Hardware Ranch 122.51 46 ePKPdf PKPdf 17 05 56.3 +0.6
LOHW Long Hollow 122.51 44 ePKPdf PKPdf 17 05 56.6 +0.9
MCU Monte Cristo P 122.60 46 ePKPdf PKPdf 17 05 57.0 +0.9
RSUT Red Spur Mount 122.61 46 ePKPdf PKPdf 17 05 57.2 +1.1
CTU Camp Tracy 122.66 47 ePKPdf PKPdf 17 05 56.8 +0.8
RLMT Red Lodge 122.85 41 P PKPdf 17 05 57.3 +1.0
baz=293
RLMT Red Lodge 122.85 41 ePKPdf PKPdf 17 05 57.3 +1.0
KNB Kanab 122.88 52 ePKIKP PKPdf 17 05 58.2 +1.6
KNB Kanab 122.88 52 ePKPdf PKPdf 17 05 58.2 +1.6
JLU Jordanelle 122.91 47 ePKPdf PKPdf 17 05 57.1 +0.5
MSU Marysvale 122.98 50 ePKIKP PKPdf 17 05 58.6 +1.9
MSU Marysvale 122.98 50 ePKPdf PKPdf 17 05 58.6 +1.9
FCC Fort Churchill 123.08 22 ePKIKP PKPdf 17 05 55.5 -0.5
FCC Fort Churchill 123.08 22 ePKPdf PKPdf 17 05 55.5 -0.5
113A Mohawk Valley, 123.08 57 ePKPdf PKPdf 17 05 58.0 +1.2
MTPU Mount Pierson 123.10 50 ePKPdf PKPdf 17 05 58.8 +1.6
PKCU Pink Cliffs 123.17 51 ePKPdf PKPdf 17 05 59.0 +1.7
ES19 SONSECA Array 123.42 312 ePKPdf PKPdf 17 05 57.8 +0.4
U15A North Rim 123.44 52 ePKPdf PKPdf 17 05 59.4 +1.6
Y14A Wickenburg 123.46 55 ePKPdf PKPdf 17 05 58.8 +1.2
ESDC Sonseca Array 123.47 312 PKP PKPdf 17 05 58.4 +1.0
comp=Z,13nm,0.6s,baz=21,slow=3.0,SNR=92
ESDC Sonseca Array 123.47 312 PKP PKPdf 17 05 58.4 +1.0
ESLA Sonseca Array 123.47 312 ePKPdf PKPdf 17 05 58.1 +0.7
BW06 Boulder Array 123.52 44 P PKPdf 17 05 58.3 +0.6
baz=291
BW06 Boulder Array 123.52 44 ePKPdf PKPdf 17 05 57.9 +0.2
PDAR Pinedale Array 123.52 44 PKP PKPdf 17 05 58.6 +1.0
comp=Z,19nm,0.8s,baz=225,slow=1.9,SNR=87
PDAR PKKPbc PKKPbc 17 15 50.9 +3.0
comp=Z,0.9nm,0.5s,baz=100,slow=7.7,SNR=3.5
PDAR Pinedale Array 123.52 44 PKP PKPdf 17 05 58.6 +1.0
PDAR PKKPbc PKKPbc 17 15 50.9 +3.0
MMU Miners Mountai 123.73 50 ePKPdf PKPdf 17 05 59.8 +1.6
PAB San Pablo 123.80 312 ePKIKP PKPdf 17 05 58.8 +0.7
PAB San Pablo 123.80 312 ePKPdf PKPdf 17 05 58.8 +0.7
214A Organ Pipe Nat 124.03 57 P PKPdf 17 06 00.2 +1.5
baz=282
214A Organ Pipe Nat 124.03 57 ePKPdf PKPdf 17 06 00.1 +1.3
SRU San Rafael Swe 124.04 49 ePKIKP PKPdf 17 05 59.5 +0.8
SRU San Rafael Swe 124.04 49 ePKPdf PKPdf 17 05 59.5 +0.8
LAO LASA Array 124.14 39 P PKPdf 17 06 00.2 +1.7
baz=296
LAO LASA Array 124.14 39 ePKPdf PKPdf 17 05 59.8 +1.2
WUAZ Wupatki 124.40 53 P PKPdf 17 06 01.1 +1.7
baz=285
WUAZ Wupatki 124.40 53 ePKPdf PKPdf 17 06 00.4 +0.9
DGMT Dagmar 124.52 36 P PKPdf 17 06 00.1 +0.9
baz=299
DGMT Dagmar 124.52 36 ePKPdf PKPdf 17 06 00.1 +0.9
X16A Lo Mia Camp, P 124.61 54 ePKPdf PKPdf 17 06 01.2 +1.3
PBRG Braganca 124.75 315 ePKPdf PKPdf 17 06 00.5 +0.7
A25A Svangstu Ranch 124.91 35 P PKPdf 17 06 01.1 +1.2
baz=301
MVO Moncorvo 125.19 315 ePKPdf PKPdf 17 06 01.6 +0.9
MVO Moncorvo 125.19 315 eLR LR 18 12 28.9
comp=Z,280nm,20.0s
B25A Knox Farm, Ray 125.22 36 P PKPdf 17 06 01.9 +1.4
baz=300
O20A White River Ci 125.37 47 P PKPdf 17 06 02.9 +1.6
baz=290
O20A White River Ci 125.37 47 ePKPdf PKPdf 17 06 02.5 +1.2
C25A Freed Ranch, W 125.44 36 P PKPdf 17 06 02.2 +1.3
baz=300
PV04 Paradox Valley 125.47 49 ePKPdf PKPdf 17 06 02.7 +1.2
A26A Wade Farm, Ken 125.54 35 P PKPdf 17 06 01.9 +0.8
baz=302
K22A Casper 125.64 43 P PKPdf 17 06 02.2 +0.5
baz=294
K22A Casper 125.64 43 ePKPdf PKPdf 17 06 02.1 +0.5
POLO Lamas de Olo 125.65 315 ePKPdf PKPdf 17 06 02.6 +1.0
PCAB Cabril 125.68 316 ePKPdf PKPdf 17 06 03.0 +1.4
B26A Jensen Ranch, 125.70 35 P PKPdf 17 06 02.3 +0.9
baz=301
PGAV Gavieira, Arco 125.75 316 ePKPdf PKPdf 17 06 02.6 +0.8
PGAV Gavieira, Arco 125.75 316 eLR LR 18 05 05.9
comp=Z,177nm,18.0s
W18A Petrified Fore 125.79 53 P PKPdf 17 06 03.3 +1.1
baz=286
W18A Petrified Fore 125.79 53 ePKPdf PKPdf 17 06 03.9 +1.7
PV01 Paradox Valley 125.80 49 ePKPdf PKPdf 17 06 03.7 +1.5
MTE Manteigas 125.83 314 ePKPdf PKPdf 17 06 03.0 +1.1
MTE Manteigas 125.83 314 eLR LR 18 05 07.4
comp=Z,382nm,20.0s
MTE Manteigas 125.83 314 ePKPdf PKPdf 17 06 03.1 +1.2
MDT Midelt 125.83 304 PKP PKPdf 17 06 03.7 +1.4
comp=Z,34nm,1.0s,baz=74,slow=2.5,SNR=10.0
MDT Midelt 125.83 304 PKP PKPdf 17 06 03.7 +1.4
A27A Ledoux Ranch, 125.95 34 P PKPdf 17 06 02.8 +0.9
baz=303
PVIS Viseu 125.96 314 ePKPdf PKPdf 17 06 03.5 +1.3
PCBR Castelo Branco 125.98 313 ePKPdf PKPdf 17 06 03.4 +1.3
PMRV Marv??o 126.06 313 ePKPdf PKPdf 17 06 03.1 +0.7
PMRV Marv??o 126.06 313 eLR LR 18 06 56.7
comp=Z,252nm,22.0s
MVCO Mesa Verde 126.14 50 P PKPdf 17 06 04.5 +1.6
baz=288
MVCO Mesa Verde 126.14 50 ePKPdf PKPdf 17 06 03.9 +1.0
HSIG 126.17 61 ePKPdf PKPdf 17 06 04.1 +1.3
PBAR Barrancos 126.22 311 ePKPdf PKPdf 17 06 03.4 +0.7
D26A Manning 126.27 37 P PKPdf 17 06 03.4 +0.8
baz=300
PESTR Estremoz 126.40 312 ePKPdf PKPdf 17 06 03.8 +0.8
A28A Rude Farm, Bot 126.52 34 P PKPdf 17 06 03.7 +0.8
baz=304
PCAS Casmilo, Conde 126.63 314 ePKPdf PKPdf 17 06 04.3 +0.9
RSSD Black Hills 126.66 41 P PKPdf 17 06 03.9 +0.3
baz=297
RSSD Black Hills 126.66 41 ePKIKP PKPdf 17 06 03.5 -0.1
RSSD Black Hills 126.66 41 ePKPdf PKPdf 17 06 03.5 -0.1
H25A Fruitdale 126.71 40 P PKPdf 17 06 04.0 +0.5
baz=298
B28A Dugan Ranch, T 126.72 34 P PKPdf 17 06 03.9 +0.5
baz=303
N23A Red Feather La 126.72 45 P PKPdf 17 06 04.9 +1.0
baz=293
N23A Red Feather La 126.72 45 ePKPdf PKPdf 17 06 04.9 +1.0
PTOM Tomar 126.73 313 ePKPdf PKPdf 17 06 05.0 +1.4
EVO Evora 126.83 312 ePKPdf PKPdf 17 06 04.8 +1.0
PBEJ Beja 126.89 311 ePKPdf PKPdf 17 06 05.2 +1.2
PHWY Pilot Hill 126.90 44 ePKPdf PKPdf 17 06 04.7 +0.4
PVAQ Vaqueiros 126.98 310 ePKPdf PKPdf 17 06 05.2 +1.1
PVAQ Vaqueiros 126.98 310 eLR LR 18 07 01.1
comp=Z,293nm,22.0s
A29A Manning Farm, 127.07 33 P PKPdf 17 06 04.4 +0.4
baz=305,SNR=24
319A Douglas 127.10 57 ePKPdf PKPdf 17 06 06.8 +2.0
C28A Hausauer Farms 127.10 35 P PKPdf 17 06 04.8 +0.7
baz=303
PCVE Castro Verde 127.15 311 ePKPdf PKPdf 17 06 05.9 +1.4
NRS Narsarsuaq 127.15 353 ⇓ iPKIKP PKPdf 17 06 04.1 +0.4
NRS pmax pmax
comp=Z,120nm,0.8s
NRS Narsarsuaq 127.15 353 ⇓ iP PKPdf 17 06 04.1 +0.4
comp=Z,117nm,0.8s
PBDV Barranco-do-Ve 127.20 310 ePKPdf PKPdf 17 06 05.4 +0.8
MESJ Messejana 127.22 311 eP PKPdf 17 06 04.6 +0.1
MESJ Messejana 127.22 311 ePKPdf PKPdf 17 06 05.7 +1.1
S22A 4UR Ranch, Cre 127.23 49 P PKPdf 17 06 06.5 +1.5
baz=290
S22A 4UR Ranch, Cre 127.23 49 ePKPdf PKPdf 17 06 06.6 +1.5
B29A Wagenman Farm, 127.27 34 P PKPdf 17 06 04.9 +0.5
baz=304,SNR=17
D28A Regan 127.27 36 P PKPdf 17 06 05.3 +0.8
baz=302
PNCL Nicolau / Gran 127.35 312 ePKPdf PKPdf 17 06 06.0 +1.2
ISCO Idaho Springs 127.38 46 P PKPdf 17 06 06.3 +1.0
baz=292
ISCO Idaho Springs 127.38 46 ePKIKP PKPdf 17 06 06.8 +1.5
ISCO Idaho Springs 127.38 46 ePKPdf PKPdf 17 06 06.8 +1.5
MDND Maddock 127.47 35 P PKPdf 17 06 05.2 +0.4
baz=304
MDND Maddock 127.47 35 ePKPdf PKPdf 17 06 05.5 +0.7
A30A Hoffart Farm, 127.57 33 P PKPdf 17 06 05.3 +0.3
baz=306,SNR=11
KIC Kosan Boka 127.67 271 eP PKPdf 17 06 05.8 -0.3
comp=Z,90nm,0.9s
PTEO Sao Teotonio 127.69 311 ePKPdf PKPdf 17 06 07.1 +1.6
MORF Marmelete 127.72 311 eP PKPdf 17 06 05.7 0.0
MORF Marmelete 127.72 311 ePKPdf PKPdf 17 06 07.2 +1.6
DBIC Dimbokro 127.82 271 PKP PKPdf 17 06 07.5 +1.1
comp=Z,31nm,0.8s,baz=86,slow=2.8,SNR=25
DBIC Dimbokro 127.82 271 ePKPdf PKPdf 17 06 07.0 +0.6
B30A Myrvik Farm, E 127.84 33 P PKPdf 17 06 05.5 +0.1
baz=305,SNR=9.4
SLBS Sierra La Lagu 127.89 67 ePKPdf PKPdf 17 06 08.1 +1.7
D29A Pettibone, Tap 127.91 36 P PKPdf 17 06 05.9 +0.2
baz=303
PFVI Vila Bisbo 127.91 310 ePKPdf PKPdf 17 06 07.1 +1.2
PFVI Vila Bisbo 127.91 310 ePKPdf PKPdf 17 06 07.7 +1.7
LIC Lamto 127.94 271 eP PKPdf 17 06 07.5 +0.9
comp=Z,57nm,0.8s
TIC Toumodi 127.98 271 eP PKPdf 17 06 07.6 +0.9
ULM Lac du Bonnet 128.03 30 PKP PKPdf 17 06 06.2 +0.5
comp=Z,44nm,0.7s,baz=298,slow=2.0,SNR=49
ULM SKPbc SKPbc 17 09 10.4
comp=Z,11nm,0.7s,baz=312,slow=3.8,SNR=6.7
ULM Lac du Bonnet 128.03 30 ePKPdf PKPdf 17 06 05.8 +0.1
ULM SKPbc SKPbc 17 09 10.4
121A Cookes Peak, D 128.05 56 P PKPdf 17 06 07.9 +1.4
baz=285
121A Cookes Peak, D 128.05 56 ePKPdf PKPdf 17 06 08.8 +2.3
E29A Napoleon 128.15 36 P PKPdf 17 06 05.6 -0.6
baz=303
A31A Linda, St. Vin 128.16 32 P PKPdf 17 06 06.1 +0.1
baz=307
C30A Mose, Pekin 128.18 34 P PKPdf 17 06 06.4 +0.3
baz=305,SNR=13
SDCO Great Sand Dun 128.21 49 P PKPdf 17 06 08.2 +1.3
baz=291
SDCO Great Sand Dun 128.21 49 ePKPdf PKPdf 17 06 08.0 +1.1
B31A Greenbush Farm 128.22 33 P PKPdf 17 06 06.3 +0.2
baz=306,SNR=5.0
Y22D IRIS PASSCAL I 128.31 53 P PKPdf 17 06 08.8 +1.8
baz=287
ANMO Albuquerque 128.42 52 P PKPdf 17 06 08.8 +1.5
baz=288
ANMO Albuquerque 128.42 52 ePKIKP PKPdf 17 06 08.1 +0.9
ANMO Albuquerque 128.42 52 ePKPdf PKPdf 17 06 08.1 +0.9
F29A Eureka 128.43 37 P PKPdf 17 06 07.0 +0.3
baz=302
LPM Los Pinos Moun 128.47 53 ePKPdf PKPdf 17 06 08.6 +1.3
BNM Barren Site 128.52 53 ePKPdf PKPdf 17 06 09.2 +1.7
A32A Rocking H Ranc 128.54 32 P PKPdf 17 06 06.9 +0.1
baz=308,SNR=7.0
C31A Landman Farms, 128.54 34 P PKPdf 17 06 07.4 +0.5
baz=306,SNR=94
G29A Hoven 128.71 38 P PKPdf 17 06 07.5 +0.3
baz=302
H29A Onida 128.82 38 P PKPdf 17 06 07.5 0.0
baz=301
B32A Ashes, Strandq 128.83 33 P PKPdf 17 06 07.4 +0.1
baz=307,SNR=14
F30A Leola 128.90 37 P PKPdf 17 06 07.6 0.0
baz=303
D31A Mcclaflin, Tow 128.98 35 P PKPdf 17 06 08.0 +0.4
baz=305,SNR=18
I29A Vivian Onida 129.07 39 P PKPdf 17 06 08.0 0.0
baz=300
PLCA Paso Flores 129.10 167 PKP PKPdf 17 06 09.7 +1.4
comp=Z,7.3nm,1.1s,baz=200,slow=5.8,SNR=5.2
PLCA SKPbc SKPbc 17 09 18.0 0.0
comp=Z,21nm,1.0s,baz=207,slow=5.3,SNR=11
PLCA Paso Flores 129.10 167 PKP PKPdf 17 06 09.7 +1.4
PLCA SKPbc SKPbc 17 09 18.0 0.0
A33A Warroad 129.10 31 P PKPdf 17 06 08.0 +0.1
baz=309,SNR=18
E31A Nome 129.16 35 P PKPdf 17 06 08.1 +0.1
baz=304,SNR=24
C32A Crookston 129.18 33 P PKPdf 17 06 07.5 -0.5
baz=307
G30A Faulkton 129.21 37 P PKPdf 17 06 08.1 -0.1
baz=302
T25A Trinidad 129.24 49 P PKPdf 17 06 10.2 +1.4
baz=292
T25A Trinidad 129.24 49 ePKPdf PKPdf 17 06 09.9 +1.1
AGMN Agassiz Nation 129.25 32 P PKPdf 17 06 07.8 -0.4
baz=308
AGMN Agassiz Nation 129.25 32 ePKPdf PKPdf 17 06 07.9 -0.2
D32A Dogwood Acres, 129.32 34 P PKPdf 17 06 08.3 0.0
baz=306,SNR=6.2
F31A Hecla 129.34 36 P PKPdf 17 06 08.7 +0.3
baz=304,SNR=10.0
OGNE Ogallala 129.40 43 P PKPdf 17 06 09.3 +0.5
baz=296
B33A Robert and Kas 129.41 32 P PKPdf 17 06 08.6 +0.1
baz=308,SNR=8.0
E32A Braaten, Kindr 129.60 35 P PKPdf 17 06 09.2 +0.3
baz=305
C33A Trail 129.63 33 P PKPdf 17 06 08.9 0.0
baz=308,SNR=6.7
I30A Oacoma 129.67 39 P PKPdf 17 06 09.5 +0.3
baz=301
SUSD Miller 129.69 38 P PKPdf 17 06 09.2 +0.1
baz=302
G31A Conde 129.72 37 P PKPdf 17 06 08.9 -0.2
baz=303
B34A Aery, Baudette 129.77 32 P PKPdf 17 06 09.3 +0.2
baz=309,SNR=25
KSCO Kaye Shedlock' 129.81 46 P PKPdf 17 06 09.8 +0.1
baz=294
J30A Dallas 129.93 40 P PKPdf 17 06 09.8 +0.2
baz=301
H31A Wolsey 129.96 38 P PKPdf 17 06 09.5 -0.1
baz=302
D33A AnnSam, Wauburn 129.96 34 P PKPdf 17 06 09.5 0.0
baz=307,SNR=6.8
F32A Veblen 129.99 36 P PKPdf 17 06 09.9 +0.3
baz=305
G32A Webster 130.12 36 P PKPdf 17 06 09.9 0.0
baz=304
C34A RKJ Ranch, Bem 130.15 32 P PKPdf 17 06 10.0 +0.1
baz=308,SNR=6.8
I31A Royce, Wessing 130.16 38 P PKPdf 17 06 10.2 +0.2
baz=302
K30A Basset 130.18 40 P PKPdf 17 06 10.3 +0.1
baz=300
MNTX Cornudas Mount 130.24 56 P PKPdf 17 06 11.8 +1.3
baz=286
MNTX Cornudas Mount 130.24 56 ePKPdf PKPdf 17 06 11.4 +0.9
E33A Westby DABS, E 130.25 34 P PKPdf 17 06 10.5 +0.4
baz=306,SNR=12
B35A Bob, Littlefor 130.32 31 P PKPdf 17 06 10.5 +0.3
baz=310,SNR=15
D34A Park Rapids 130.35 33 P PKPdf 17 06 10.6 +0.3
baz=308,SNR=10
J31A Geddes 130.42 39 P PKPdf 17 06 10.5 -0.1
baz=301
F33A 5 Mile Ranch, 130.48 35 P PKPdf 17 06 11.0 +0.5
baz=306,SNR=11
H32A Carlson Farm, 130.57 37 P PKPdf 17 06 10.9 +0.1
baz=304
C35A Jirik Farms, M 130.61 32 P PKPdf 17 06 10.7 0.0
baz=310,SNR=14
E34A Wadena 130.71 34 P PKPdf 17 06 11.5 +0.5
baz=307,SNR=12
K31A O'Neill 130.76 40 P PKPdf 17 06 11.7 +0.5
baz=301
G33A Ortonville 130.77 36 P PKPdf 17 06 11.7 +0.6
baz=305,SNR=11
I32A Karley and Nic 130.81 38 P PKPdf 17 06 11.9 +0.6
baz=303,SNR=12
H33A Prehn Over Nor 130.88 37 P PKPdf 17 06 11.5 +0.1
baz=304,SNR=9.3
L31A Butterfield Fa 130.93 41 P PKPdf 17 06 11.3 -0.3
baz=300
J32A Parkston 130.93 39 P PKPdf 17 06 11.4 -0.1
baz=302
D35A Remer 130.96 33 P PKPdf 17 06 11.3 -0.1
baz=309,SNR=21
F34A Alexandria 131.09 35 P PKPdf 17 06 11.9 +0.2
baz=307,SNR=5.7
E35A Pequot Lakes 131.10 33 P PKPdf 17 06 11.8 +0.1
baz=308,SNR=8.8
HPIG 131.16 62 ePKPdf PKPdf 17 06 13.4 +0.7
C36A Pine Crest Far 131.16 31 P PKPdf 17 06 11.4 -0.5
baz=311
G34A Benson 131.20 35 P PKPdf 17 06 11.9 0.0
baz=306
I33A Coleman 131.20 37 P PKPdf 17 06 12.2 +0.2
baz=304
K32A Verdigre 131.23 40 P PKPdf 17 06 12.0 -0.1
baz=302
M31A Lambtecht Ranc 131.25 42 P PKPdf 17 06 12.6 +0.3
baz=300
D36A Goodland 131.37 32 P PKPdf 17 06 12.5 +0.3
baz=310,SNR=9.0
F35A Swanville 131.44 34 P PKPdf 17 06 12.6 +0.3
baz=308,SNR=8.0
H34A Spellman Lake, 131.46 36 P PKPdf 17 06 12.8 +0.3
baz=305,SNR=8.9
ECSD EROS Data Cent 131.49 38 P PKPdf 17 06 12.8 +0.2
baz=304,SNR=35
ECSD EROS Data Cent 131.49 38 ePKPdf PKPdf 17 06 12.7 +0.2
J33A Davis 131.50 38 P PKPdf 17 06 12.6 0.0
baz=303,SNR=5.6
C37A Embarrass 131.52 31 P PKPdf 17 06 12.5 0.0
baz=312
N31A Bailey Ranch, 131.52 42 P PKPdf 17 06 12.8 +0.1
baz=299
L32A Elgin 131.55 40 P PKPdf 17 06 12.7 0.0
baz=301
O31A Woolen Ranch, 131.60 43 P PKPdf 17 06 13.2 +0.3
baz=298
MSTX Muleshoe 131.61 52 P PKPdf 17 06 13.8 +0.5
baz=290
MSTX Muleshoe 131.61 52 ePKPdf PKPdf 17 06 14.2 +0.9
EYMN Ely 131.72 30 P PKPdf 17 06 13.1 +0.3
baz=312
EYMN Ely 131.72 30 ePKPdf PKPdf 17 06 13.3 +0.5
E36A McGregor 131.74 33 P PKPdf 17 06 13.3 +0.4
baz=310,SNR=18
BGNE Belgrade 131.76 41 P PKPdf 17 06 13.1 0.0
baz=301
BGNE Belgrade 131.76 41 ePKPdf PKPdf 17 06 13.3 +0.2
D37A Cotton 131.77 32 P PKPdf 17 06 12.9 -0.1
baz=311
I34A Hadley 131.77 37 P PKPdf 17 06 13.3 +0.2
baz=305
K33A Hardington 131.87 39 P PKPdf 17 06 13.4 +0.1
baz=303
G35A Watkins 131.87 35 P PKPdf 17 06 13.7 +0.5
baz=307,SNR=8.7
CBKS Cedar Bluff 131.93 45 P PKPdf 17 06 14.6 +1.0
baz=297
CBKS Cedar Bluff 131.93 45 ePKIKP PKPdf 17 06 14.4 +0.8
CBKS Cedar Bluff 131.93 45 ePKPdf PKPdf 17 06 14.4 +0.8
C38A Sawbill Land. 131.98 30 P PKPdf 17 06 13.8 +0.4
baz=312
H35A Sunnyside Ranc 131.99 36 P PKPdf 17 06 13.9 +0.4
baz=306,SNR=25
N32A Stulken Farm, 131.99 42 P PKPdf 17 06 13.6 -0.1
baz=300
F36A Milaca 132.01 34 P PKPdf 17 06 13.8 +0.3
baz=309,SNR=17
AMTX Amarillo 132.13 51 P PKPdf 17 06 15.1 +1.0
baz=292
AMTX Amarillo 132.13 51 ePKPdf PKPdf 17 06 14.6 +0.5
J34A George 132.14 38 P PKPdf 17 06 14.1 +0.3
baz=304,SNR=10.0
E37A Wrenshall 132.17 32 P PKPdf 17 06 14.2 +0.5
baz=310
O32A Brockman Farm, 132.25 42 P PKPdf 17 06 14.5 +0.4
baz=300
G36A St. Michael 132.27 34 P PKPdf 17 06 14.2 +0.2
baz=308
M33A Taylor Creek F 132.29 40 P PKPdf 17 06 14.3 +0.1
baz=302,SNR=8.5
TX31 Lajitas Ar. Si 132.30 58 ePKPpre PKPpre 17 06 00.6
TX31 ePKPdf PKiKP 17 06 15.6 -0.1
TXAR Lajitas Array 132.31 58 PKhKP PKPpre 17 06 01.0
comp=Z,1.1nm,0.7s,baz=246,slow=2.9,SNR=15
TXAR PKP PKiKP 17 06 16.8 +1.0
comp=Z,20nm,0.8s,baz=247,slow=1.4,SNR=62
TXAR SKPbc SKPbc 17 09 29.2 -0.4
comp=Z,29nm,0.7s,baz=256,slow=2.5,SNR=46
TXAR Lajitas Array 132.31 58 PKPpre PKPpre 17 06 01.0
TXAR PKP PKiKP 17 06 16.8 +1.0
TXAR SKPbc SKPbc 17 09 29.2 -0.4
P32A Huiting Farm, 132.34 43 P PKPdf 17 06 14.6 +0.3
baz=299
K34A Le Mars 132.38 39 P PKPdf 17 06 14.4 +0.1
baz=304,SNR=16
I35A Creekview Farm 132.39 37 P PKPdf 17 06 14.2 -0.1
baz=306
C39A Grand Marais 132.48 30 P PKPdf 17 06 14.3 0.0
baz=314
J35A Milford 132.54 37 P PKPdf 17 06 14.3 -0.2
baz=305
H36A Jessenland, He 132.57 35 P PKPdf 17 06 15.4 +0.9
baz=307,SNR=6.7

L34A	Svendsen Farm, baz=303,SNR=7.0	132.60	39	P	PKPdf	17 06 15.0	+0.3
Q32A	Meitler Ranch, baz=298	132.67	44	P	PKPdf	17 06 15.5	+0.5
M34A	Aspy Farms, Fr baz=302,SNR=5.8	132.72	40	P	PKPdf	17 06 15.2	+0.3
O33A	Hebron baz=300,SNR=29	132.80	42	P	PKPdf	17 06 15.3	+0.2
SPMN	Marine on St. baz=309	132.81	34	P	PKPdf	17 06 15.3	+0.3
SPMN	Marine on St.	132.81	34	ePKPpre	PKPpre	17 06 03.6	
SPMN				ePKPdf	PKiKP	17 06 15.8	-0.3
R32A	Long Quarter, baz=298	132.83	45	P	PKPdf	17 06 15.8	+0.5
I36A	Fitzsimmons Fa baz=307	132.86	36	P	PKPdf	17 06 15.7	+0.5
K35A	Storm Lake baz=305,SNR=6.3	132.89	38	P	PKPdf	17 06 15.6	+0.4
S32A	Newby Ranch, P baz=297	133.00	46	P	PKPdf	17 06 16.2	+0.6
L35A	Bielow Farm, R baz=304,SNR=6.9	133.04	39	P	PKPdf	17 06 16.0	+0.5
P33A	Williams Farm, baz=299,SNR=6.2	133.04	43	P	PKPdf	17 06 16.3	+0.6
J36A	Seneca 1, Swea baz=306,SNR=5.5	133.08	37	P	PKPdf	17 06 16.0	+0.5
N34A	Lincoln baz=302,SNR=6.4	133.12	41	P	PKPdf	17 06 15.7	0.0
H37A	Dierke Farm, C baz=308	133.14	35	P	PKPdf	17 06 15.8	+0.2
Q33A	Connelly Farm, baz=299,SNR=14	133.16	44	P	PKPdf	17 06 16.6	+0.8
I37A	Lemond, Waseca baz=308,SNR=10	133.22	35	P	PKPdf	17 06 16.5	+0.7
T32A	Huddler Ranch, baz=296	133.24	46	P	PKPdf	17 06 16.9	+0.8
M35A	Neola baz=303,SNR=5.4	133.30	40	P	PKPdf	17 06 16.7	+0.7
O34A	Beatrice baz=301,SNR=12	133.34	42	P	PKPdf	17 06 16.4	+0.2
R33A	Olander Ranch, baz=298,SNR=17	133.38	45	P	PKPdf	17 06 17.1	+0.8
K36A	Gilmore City baz=305,SNR=5.0	133.41	38	P	PKPdf	17 06 16.7	+0.5
U32A	Winter Ranch, baz=296	133.53	48	P	PKPdf	17 06 16.6	-0.1
J37A	Redenius Farm, baz=307,SNR=5.5	133.55	36	P	PKPdf	17 06 16.6	+0.1
P34A	Walnut Farm, R baz=300,SNR=14	133.57	43	P	PKPdf	17 06 17.0	+0.4
L36A	Harm Buss Farm baz=305,SNR=13	133.59	38	P	PKPdf	17 06 16.5	0.0
N35A	Tabor baz=303	133.66	40	P	PKPdf	17 06 16.4	-0.3
SCHQ	Schefferville comp=Z,36nm,0.8s,baz=343,slow=1.2,SNR=16	133.66	7	PKP	PKPdf	17 06 17.2	+0.9
SCHQ				PP	PP	17 08 45.5	-0.1
SCHQ	comp=Z,18nm,0.9s,baz=14,slow=5.1,SNR=6.4			SKPbc	SKPbc	17 09 32.0	-1.3
SCHQ	comp=Z,38nm,0.9s,baz=4.2,slow=4.3,SNR=13	133.66	7	ePKPdf	PKPdf	17 06 16.9	+0.6
SCHQ				PP	PP	17 08 45.5	-0.1
SCHQ				SKPbc	SKPbc	17 09 32.0	-1.3
S33A	Kaszmaul Farm, baz=298	133.71	46	P	PKPdf	17 06 17.3	+0.3
T33A	Patterson Ranc baz=297,SNR=27	133.77	46	P	PKPdf	17 06 17.5	+0.4
V32A	Arapaho baz=295	133.78	48	P	PKPdf	17 06 17.8	+0.7
O35A	Humboldt baz=302	133.81	41	P	PKPdf	17 06 16.7	-0.3
Q34A	Chapman baz=300,SNR=12	133.81	43	P	PKPdf	17 06 17.5	+0.4
I38A	Scanlan Farm, baz=309	133.81	35	P	PKPdf	17 06 16.9	0.0
K37A	Belmond baz=306,SNR=7.3	133.82	37	P	PKPdf	17 06 16.7	-0.3
M36A	Felix, Anita baz=304	133.87	39	P	PKPdf	17 06 16.9	-0.2
W32A	Sentinel baz=294,SNR=7.2	133.88	49	P	PKPdf	17 06 18.0	+0.7
R34A	Isabella, Hill baz=299,SNR=10	133.90	44	P	PKPdf	17 06 17.7	+0.4
KSU1	Kansas State U baz=300,SNR=11	133.94	43	P	PKPdf	17 06 17.8	+0.5
KSU1	Kansas State U	133.94	43	ePKPdf	PKPdf	17 06 18.3	+1.0
P35A	Duane Minner, baz=301,SNR=18	134.12	42	P	PKPdf	17 06 18.0	+0.4
N36A	Muff Farm, Cla baz=303	134.12	40	P	PKPdf	17 06 17.5	-0.1
X32A	Elmer baz=294	134.13	50	P	PKPdf	17 06 18.0	+0.1
L37A	Phoenix Point, baz=306	134.13	38	P	PKPdf	17 06 17.3	-0.3
U33A	Lingo Farm, Me baz=296	134.15	47	P	PKPdf	17 06 18.2	+0.4
COWI	Conover	134.16	31	ePKPdf	PKPdf	17 06 17.3	-0.2
J38A	Wedel Dairy, R baz=308	134.17	36	P	PKPdf	17 06 17.5	-0.1
S34A	Willow Spring baz=299,SNR=6.6	134.28	45	P	PKPdf	17 06 18.7	+0.7
V33A	Lossen Ranch, baz=296,SNR=6.7	134.29	48	P	PKPdf	17 06 18.6	+0.5
M37A	Trindle Farm, baz=305,SNR=11	134.36	39	P	PKPdf	17 06 18.5	+0.5
WMOK	Wichita Mounta baz=294,SNR=8.7	134.38	49	P	PKPdf	17 06 19.0	+0.8
WMOK	Wichita Mounta	134.38	49	ePKIKP	PKPdf	17 06 18.8	+0.5
WMOK	Wichita Mounta	134.38	49	ePKPdf	PKPdf	17 06 18.8	+0.5
K38A	Parkersburg baz=307	134.41	37	P	PKPdf	17 06 18.2	+0.1
W33A	Caddo, Fort Co baz=295	134.44	49	P	PKPdf	17 06 19.0	+0.6
Q35A	Mercer Eighty, baz=301,SNR=5.8	134.45	43	P	PKPdf	17 06 18.7	+0.4
O36A	Bolckow baz=303	134.49	41	P	PKPdf	17 06 18.5	+0.2
ABTX	Abilene, Hawle baz=292,SNR=7.9	134.54	53	P	PKPdf	17 06 19.5	+0.8
ABTX	Abilene, Hawle	134.54	53	ePKPdf	PKPdf	17 06 19.2	+0.6
T34A	McClaskey Farm baz=298,SNR=9.2	134.54	46	P	PKPdf	17 06 19.3	+0.8
U34A	Anderson Ranch baz=297,SNR=8.2	134.56	47	P	PKPdf	17 06 19.2	+0.6
U34A	Anderson Ranch	134.56	47	ePKPdf	PKPdf	17 06 19.3	+0.7
SCIA	State Center	134.58	38	ePKPdf	PKPdf	17 06 18.6	+0.2
L38A	Oak Wood Farm, baz=307,SNR=11	134.60	37	P	PKPdf	17 06 18.6	+0.2
J39A	Decorah baz=309	134.60	35	P	PKPdf	17 06 18.1	-0.3
P36A	Good Intent, A baz=302,SNR=5.8	134.61	42	P	PKPdf	17 06 18.5	0.0
R35A	Emporia Municl baz=300,SNR=8.1	134.61	44	P	PKPdf	17 06 18.9	+0.3
N37A	Lee Faris, Mou baz=304	134.63	40	P	PKPdf	17 06 18.5	-0.1
X33A	Lawton baz=294,SNR=8.9	134.67	50	P	PKPdf	17 06 19.5	+0.7
Q36A	Arnold C. Orve baz=301,SNR=6.8	134.78	42	P	PKPdf	17 06 19.3	+0.4
Y33A	Hilltop Ranch, baz=294,SNR=5.4	134.79	50	P	PKPdf	17 06 19.7	+0.6
S35A	Otter Creek Ra baz=299,SNR=11	134.84	45	P	PKPdf	17 06 19.7	+0.6
V34A	Guthrie baz=297,SNR=8.5	134.85	47	P	PKPdf	17 06 19.9	+0.8
V34A	Guthrie	134.85	47	ePKPdf	PKPdf	17 06 19.4	+0.3
M38A	Pleasantville baz=306,SNR=7.6	134.88	38	P	PKPdf	17 06 19.1	+0.1
K39A	Oelwein baz=308	134.89	36	P	PKPdf	17 06 18.3	-0.7
W34A	Bridge Creek, baz=296	134.92	48	P	PKPdf	17 06 18.8	-0.5
W34A	Bridge Creek,	134.92	48	ePKPdf	PKPdf	17 06 20.3	+1.0
Z33A	Whitaker Ranch baz=293	134.97	51	P	PKPdf	17 06 19.9	+0.5
O37A	Wolven Farm, M baz=304,SNR=8.9	135.00	40	P	PKPdf	17 06 19.6	+0.4
T35A	Sooner Cattle baz=298,SNR=12	135.07	46	P	PKPdf	17 06 20.0	+0.5
R36A	Gordon, Harris baz=301,SNR=17	135.08	43	P	PKPdf	17 06 19.9	+0.4
133A	Hamilton Ranch baz=292,SNR=7.5	135.12	52	P	PKPdf	17 06 19.9	+0.2
X34A	Smith Ranch, M baz=295,SNR=17	135.15	49	P	PKPdf	17 06 20.6	+0.9
JCT	Junction City baz=290,SNR=27	135.16	55	P	PKPdf	17 06 20.7	+0.8
JCT	Junction City	135.16	55	ePKHKP	PKPpre	17 06 08.1	
JCT				e		17 06 20.7	
JCT	Junction City	135.16	55	ePKPpre	PKPpre	17 06 08.1	
JCT				ePKPdf	PKPdf	17 06 20.6	+0.8
JCT				eSKPbc	SKPbc	17 09 38.3	-0.7
U35A	Pawnee baz=298	135.17	46	P	PKPdf	17 06 19.7	+0.1
L39A	Vinton baz=308	135.18	37	P	PKPdf	17 06 19.2	-0.3
P37A	Lathrop baz=303,SNR=14	135.18	41	P	PKPdf	17 06 19.8	+0.2
N38A	Joes South For baz=305	135.22	39	P	PKPdf	17 06 19.4	-0.2
S36A	Lake Cedric, C baz=300,SNR=5.4	135.32	44	P	PKPdf	17 06 20.6	+0.7
K40A	Colesburg baz=309	135.33	35	P	PKPdf	17 06 19.6	-0.2
233A	Rising Star baz=292	135.35	53	P	PKPdf	17 06 20.6	+0.4
V35A	Meyer Ranch, C baz=297,SNR=18	135.37	47	P	PKPdf	17 06 20.6	+0.5
T36A	Boggs Farm, Ca baz=299,SNR=11	135.45	45	P	PKPdf	17 06 20.6	+0.4
O38A	Galt baz=304	135.45	40	P	PKPdf	17 06 20.4	+0.3
Y34A	Reagan Ranch, baz=295	135.47	50	P	PKPdf	17 06 20.4	+0.1
Q37A	Longview Farm, baz=302	135.50	42	P	PKPdf	17 06 19.7	-0.5
333A	Richland Sprin baz=291,SNR=14	135.53	54	P	PKPdf	17 06 20.6	0.0
R37A	Teagarden Farm baz=301,SNR=10	135.54	43	P	PKPdf	17 06 20.8	+0.5
Z34A	Collier Ranch, baz=294	135.59	51	P	PKPdf	17 06 20.8	+0.2
W35A	Tecumseh baz=297,SNR=21	135.62	48	P	PKPdf	17 06 21.3	+0.8
N39A	Derby Farms, D baz=306,SNR=6.0	135.62	38	P	PKPdf	17 06 20.5	+0.2
433A	Art baz=290,SNR=18	135.65	55	P	PKPdf	17 06 21.5	+0.7
P38A	Dawn baz=304	135.69	41	P	PKPdf	17 06 20.5	0.0
JFWS	Jewell Farm	135.70	35	ePKIKP	PKPdf	17 06 20.4	-0.1
JFWS	Jewell Farm	135.70	35	ePKPdf	PKPdf	17 06 20.4	-0.1
832A	Faith Ranch, C baz=287	135.71	59	P	PKPdf	17 06 22.0	+1.1
134A	White-Moore Ra baz=293,SNR=8.2	135.78	52	P	PKPdf	17 06 21.8	+0.9
S37A	Fort Scott baz=301,SNR=8.1	135.82	44	P	PKPdf	17 06 21.6	+0.7
U36A	Oologah baz=299,SNR=8.3	135.87	46	P	PKPdf	17 06 21.8	+0.8
X35A	Drake baz=296	135.88	49	P	PKPdf	17 06 20.9	-0.1
PMOZ	Porto Moniz, M comp=Z,182nm,18.0s	135.88	309	eLR	LR	18 04 59.2	
533A	Kerrville baz=290	135.92	56	P	PKPdf	17 06 21.9	+0.6
234A	Clairette baz=292,SNR=6.9	135.95	53	P	PKPdf	17 06 21.9	+0.6
O39A	Kirksville baz=306,SNR=7.9	135.96	39	P	PKPdf	17 06 21.1	+0.1
Q38A	Cooks Store, C baz=303,SNR=16	136.00	41	P	PKPdf	17 06 21.3	+0.2
V36A	Jenks baz=298,SNR=13	136.01	47	P	PKPdf	17 06 21.9	+0.7
633A	Saathoff Ranch baz=289	136.01	57	P	PKPdf	17 06 22.3	+0.9
Y35A	Marietta baz=295,SNR=12	136.04	50	P	PKPdf	17 06 21.8	+0.5
TUL1	Leonard baz=298,SNR=6.6	136.06	46	P	PKPdf	17 06 22.0	+0.6
TUL1	Leonard	136.06	46	ePKPdf	PKPdf	17 06 21.6	+0.2
T37A	Cheneyville 18 baz=306,SNR=10	136.09	44	P	PKPdf	17 06 22.2	+0.8
L41A	Preston baz=309	136.09	36	P	PKPdf	17 06 20.8	-0.4
W36A	Wetumka baz=297,SNR=17	136.10	48	P	PKPdf	17 06 21.9	+0.4
Z35A	Perchaven, San baz=294	136.12	51	P	PKPdf	17 06 23.0	+1.5
334A	Lometa baz=292,SNR=8.4	136.12	54	P	PKPdf	17 06 22.2	+0.6
733A	Divot King Ran baz=288,SNR=6.8	136.15	58	P	PKPdf	17 06 22.8	+1.1
833A	Chaparral WMA, baz=288,SNR=9.7	136.19	58	P	PKPdf	17 06 23.3	+1.5
R38A	Fenwick Farm, baz=302,SNR=15	136.22	43	P	PKPdf	17 06 22.3	+0.7
X36A	Centrahoma baz=296,SNR=11	136.26	48	P	PKPdf	17 06 22.7	+0.9
P39B	Salisbury baz=305,SNR=8.8	136.26	40	P	PKPdf	17 06 22.0	+0.4
434A	Burnet baz=291,SNR=13	136.29	54	P	PKPdf	17 06 22.6	+0.6
U37A	Salina baz=299,SNR=5.6	136.30	45	P	PKPdf	17 06 22.5	+0.7
135A	Vickery Place, baz=294,SNR=6.6	136.31	52	P	PKPdf	17 06 22.2	+0.3
Q39A	Willow Grove F baz=304	136.37	41	P	PKPdf	17 06 22.3	+0.5
534A	Blanco baz=290,SNR=6.2	136.40	56	P	PKPdf	17 06 23.1	+0.9
O40A	La Belle baz=306	136.45	39	P	PKPdf	17 06 22.2	+0.3
WHTX	Lake Whitney, baz=293	136.49	52	P	PKPdf	17 06 23.4	+1.2
933A	Laredo baz=287,SNR=6.7	136.50	59	P	PKPdf	17 06 24.2	+1.8
S38A	Stockton baz=302	136.52	43	P	PKPdf	17 06 22.3	+0.2
V37A	Hulbert baz=299,SNR=15	136.54	46	P	PKPdf	17 06 22.8	+0.6
T38A	Diamond baz=301,SNR=11	136.56	44	P	PKPdf	17 06 22.7	+0.5
Y36A	Durant baz=296,SNR=19	136.61	49	P	PKPdf	17 06 23.1	+0.7
W37B	Quinton baz=298,SNR=31	136.68	47	P	PKPdf	17 06 23.9	+1.4
P40A	Paris baz=305,SNR=6.8	136.69	40	P	PKPdf	17 06 23.7	+1.3
634A	China Grove, S baz=290	136.72	56	P	PKPdf	17 06 24.1	+1.4
734A	La Parita Cree baz=289	136.72	57	P	PKPdf	17 06 24.3	+1.5
R39A	Chumby, Stover baz=303,SNR=12	136.73	42	P	PKPdf	17 06 24.0	+1.4
Z36A	Blue Ridge baz=295,SNR=8.4	136.76	50	P	PKPdf	17 06 24.7	+1.9
335A	Moody baz=292,SNR=8.8	136.79	53	P	PKPdf	17 06 23.9	+1.0
U38A	Gravette baz=300,SNR=5.3	136.80	45	P	PKPdf	17 06 24.3	+1.6
435B	Jarrell baz=292	136.85	54	P	PKPdf	17 06 24.7	+1.8
S39A	Bolivar baz=302	136.88	43	P	PKPdf	17 06 25.0	+2.1
X37A	Clayton baz=298,SNR=9.9	136.98	48	P	PKPdf	17 06 24.1	+1.1
Q40A	Laux Farm, Aux baz=305	136.98	40	P	PKPdf	17 06 24.8	+1.8
ARCO	CERRO ARCO	137.01	166	i P	SKPbc	17 09 43.0	-1.8
136A	Ennis baz=294	137.02	51	P	PKPdf	17 06 24.8	+1.6
V38A	Canehill baz=300	137.07	46	P	PKPdf	17 06 25.2	+2.0
Y37A	Hugo baz=297	137.07	49	P	PKPdf	17 06 25.1	+1.8
O41A	Passleys Farm, baz=307	137.07	38	P	PKPdf	17 06 24.7	+1.6
535A	Dale baz=291,SNR=8.0	137.13	55	P	PKPdf	17 06 25.4	+1.9
034A	Hebbronville baz=287,SNR=7.0	137.16	60	P	PKPdf	17 06 25.9	+2.3
HHAR	Hobbs	137.19	45	ePKPdf	PKPdf	17 06 23.3	-0.2
635A	Leesville baz=290,SNR=6.6	137.19	56	P	PKPdf	17 06 25.0	+1.4
T39A	Clever baz=302,SNR=9.7	137.19	44	P	PKPdf	17 06 25.2	+1.7
336A	Riesel baz=293	137.21	53	P	PKPdf	17 06 24.9	+1.3
236A	Katherine and baz=294,SNR=7.6	137.21	52	P	PKPdf	17 06 24.7	+1.2
P41A	Barry, Barry baz=307	137.22	39	P	PKPdf	17 06 25.1	+1.7
R40A	Maddies Statio baz=304	137.25	41	P	PKPdf	17 06 25.2	+1.7
ASAL	Salagasta	137.28	166	i P	SKPbc	17 09 45.6	+0.1
SUCO	SUCO	137.34	171	i P	SKPbc	17 09 43.7	-1.9
X38A	Whitesboro baz=298,SNR=20	137.34	48	P	PKPdf	17 06 26.2	+2.5
735A	Kenedy baz=290,SNR=5.7	137.34	57	P	PKPdf	17 06 26.0	+2.1
W38A	Poteau baz=299,SNR=15	137.37	47	P	PKPdf	17 06 25.9	+2.1
Z37A	Pogue Cattle C baz=296	137.41	50	P	PKPdf	17 06 25.5	+1.6
U39A	Green Forest baz=301	137.46	45	P	PKPdf	17 06 25.8	+1.8
S40A	Lebanon baz=303	137.48	42	P	PKPdf	17 06 25.2	+1.3
436A	Wall Ranch, Ga baz=292	137.48	54	P	PKPdf	17 06 26.0	+1.9
AUSP	Uspallata	137.49	165	i P	SKPbc	17 09 45.6	-0.8
VLDQ	Val d'Or	137.51	20	ePKPdf	PKPdf	17 06 22.9	-0.8
536A	Bastrop baz=292,SNR=7.6	137.52	55	P	PKPdf	17 06 26.6	+2.4
137A	Heron Place, G baz=295,SNR=7.9	137.56	51	P	PKPdf	17 06 25.7	+1.4
V39A	Pettigrew baz=300	137.62	45	P	PKPdf	17 06 26.1	+1.8
T40A	Mansfield baz=303	137.71	43	P	PKPdf	17 06 26.5	+2.1
636A	Smothers Creek baz=291,SNR=8.4	137.74	56	P	PKPdf	17 06 27.6	+3.0
Y38A	Idabel baz=298	137.75	48	P	PKPdf	17 06 26.6	+2.1
HDIL	Hopedale baz=310	137.75	37	P	PKPdf	17 06 25.7	+1.3
HDIL	Hopedale	137.75	37	ePKPdf	PKPdf	17 06 24.4	0.0
W39A	Magazine baz=300,SNR=21	137.84	46	P	PKPdf	17 06 26.9	+2.2
Z38A	Mt. Pleasant baz=297	137.87	49	P	PKPdf	17 06 27.3	+2.5
U40A	Yellville baz=302	137.90	44	P	PKPdf	17 06 27.0	+2.2
736A	Circle Diamond baz=290,SNR=6.2	137.92	56	P	PKPdf	17 06 27.5	+2.6
RTLS	Leoncito	137.92	165	i P	SKPbc	17 09 47.1	-0.6
X39A	Fountain Ranch baz=299	137.93	47	P	PKPdf	17 06 27.5	+2.7
437A	Phantom Ranch, baz=293	137.98	53	P	PKPdf	17 06 28.0	+3.0
337A	Centerville baz=294	137.99	53	P	PKPdf	17 06 28.3	+3.2
Q42A	Golden Eagle baz=307	138.00	39	P	PKPdf	17 06 27.5	+2.7
RTCV	Cerro Valdivia	138.04	166	i P	SKPbc	17 09 45.1	-2.6
138A	Matatall Enter baz=296,SNR=5.7	138.05	50	P	PKPdf	17 06 28.4	+3.3
MRA	San Martin	138.10	170	i P	SKPbc	17 09 47.3	-0.6
537A	Green Hill Far baz=292	138.12	54	P	PKPdf	17 06 28.4	+3.1
V40A	Witts Springs baz=301	138.21	45	P	PKPdf	17 06 27.7	+2.3
Y39A	Lockesburg baz=298	138.22	48	P	PKPdf	17 06 28.4	+3.1
T41A	Mountain View baz=304	138.27	43	P	PKPdf	17 06 27.6	+2.2
238A	Jacksonville baz=295	138.30	51	P	PKPdf	17 06 28.5	+2.9
MIAR	Mount Ida baz=299,SNR=14	138.30	47	P	PKPdf	17 06 28.6	+3.1
MIAR	Mount Ida	138.30	47	ePKHKP	PKPpre	17 06 15.7	
MIAR				e		17 06 27.0	
MIAR	Mount Ida	138.30	47	ePKPpre	PKPpre	17 06 15.7	
MIAR				ePKPdf	PKiKP	17 06 26.9	-0.7
637A	Eagle Lake baz=291	138.35	55	P	PKPdf	17 06 29.1	+3.3
338A	Crockett baz=294	138.42	52	P	PKPdf	17 06 28.5	+2.6
Z39A	Irene McRaven, baz=297	138.47	49	P	PKPdf	17 06 28.8	+2.9
Q43A	New Douglas baz=308	138.51	39	P	PKPdf	17 06 28.1	+2.3
V41A	Mountainview baz=302	138.68	44	P	PKPdf	17 06 28.4	+2.2
538A	Harpers Horsep baz=293	138.73	54	P	PKPdf	17 06 29.5	+3.1
NATX	Nacogdoches baz=295	138.76	51	P	PKPdf	17 06 28.1	+1.6
Y40A	Okolona baz=299	138.78	47	P	PKPdf	17 06 29.1	+2.7
X201	Greenbrier Sit	138.79	45	ePKPdf	PKPdf	17 06 28.3	+1.9
239A	Gary baz=296	138.79	51	P	PKPdf	17 06 29.1	+2.6
X301	Greenbrier Sit	138.79	45	ePKPdf	PKPdf	17 06 28.3	+1.9
WHAR	Wooly Hollow	138.85	45	ePKPpre	PKPpre	17 06 17.5	
AMOG	MOGNA	138.94	166	i P	SKPbc	17 09 49.2	-1.1
Q44A	Meyer Farm, Va baz=308	138.95	38	P	PKPdf	17 06 29.1	+2.5
339A	Huntington baz=295	139.02	52	P	PKPdf	17 06 29.9	+3.0
Z40A	Long Farm, Mag baz=298	139.04	49	P	PKPdf	17 06 29.4	+2.5
S43A	Fulton Ridge, baz=306	139.08	41	P	PKPdf	17 06 29.0	+2.1
X41A	Kaden, Bauxite baz=300	139.09	46	P	PKPdf	17 06 29.8	+2.8
ACCO	Cerro Coronel	139.13	165	i P	SKPbc	17 09 51.1	0.0
ACHE	Chepes	139.14	168	i P	SKPbc	17 09 49.5	-1.5
SFIN	Lafayette baz=312	139.14	35	P	PKPdf	17 06 29.7	+2.8
V42A	Cord baz=303	139.20	44	P	PKPdf	17 06 28.9	+1.8
140A	Cam and Jess, baz=297	139.20	49	P	PKPdf	17 06 30.7	+3.5
PBMO	Poplar Bluff	139.31	42	ePKPpre	PKPpre	17 06 18.8	
PBMO				ePKPdf	PKPdf	17 06 27.8	+0.5
R44A	Waltonville baz=308	139.31	39	P	PKPdf	17 06 29.9	+2.6
Y41A	Eaglette Beard baz=300	139.32	47	P	PKPdf	17 06 30.4	+3.0
240A	Hunter Patters baz=296	139.33	50	P	PKPdf	17 06 30.8	+3.4
TCA	Tanti	139.35	171	i P	SKPbc	17 09 46.3	-5.1
AROD	Rodeo	139.42	164	i P	SKPbc	17 09 49.7	-2.3
AVFE	Valle Fertil	139.45	167	i P	SKPbc	17 09 49.7	-2.0
Z41A	Richland Creek baz=299	139.49	48	P	PKPdf	17 06 30.6	+2.9
340A	Bronson baz=296	139.50	51	P	PKPdf	17 06 30.9	+3.1
ACDV	Cuesta del Vie	139.51	164	i P	SKPbc	17 09 52.1	+0.1
S44A	Carbondale baz=307	139.54	40	P	PKPdf	17 06 30.5	+2.9
SIUC	Southern Illin	139.55	40	ePKPpre	PKPpre	17 06 20.8	
OLIC	Olney	139.62	38	ePKPpre	PKPpre	17 06 18.4	
141A	Papa Simpson, baz=298	139.72	49	P	PKPdf	17 06 31.0	+2.9
SADO	Sadowa	139.72	24	ePKPpre	PKPpre	17 06 20.2	
PARMO	Parma	139.82	42	ePKPdf	PKPdf	17 06 28.2	0.0
DRLN	Deer Lake	139.85	360	ePKPdf	PKPdf	17 06 27.0	-0.9
Y42A	Garnett, Star baz=300	139.94	47	P	PKPdf	17 06 31.4	+2.9
S45A	Carrier Mills baz=308	139.97	40	P	PKPdf	17 06 31.9	+3.5
241A	Mo Tay, Goldon baz=297	139.97	50	P	PKPdf	17 06 32.4	+3.7
LMQ	La Malbaie	140.05	14	ePKPdf	PKPdf	17 06 27.0	-1.3
341A	Kurthwood baz=296	140.09	51	P	PKPdf	17 06 32.3	+3.5
Z42A	Norrel Spur, H baz=300	140.10	48	P	PKPdf	17 06 32.1	+3.3
TRQ	Mont Tremblant	140.11	19	ePKPdf	PKPdf	17 06 26.5	-2.1
LCO	Las Campanas	140.15	162	ePKPpre	PKPpre	17 06 23.3	
V44A	Blytheville baz=304	140.20	43	P	PKPdf	17 06 31.6	+2.7
X43A	Marvell baz=302	140.24	45	P	PKPdf	17 06 31.9	+2.9
BLO	Bloomington	140.27	36	ePKIKP	PKPdf	17 06 29.9	+0.9
BLO	Bloomington	140.27	36	ePKPdf	PKPdf	17 06 29.9	+0.9
AGUA	GUANDACOL	140.32	165	i P	SKPbc	17 09 54.2	+0.1
USIN	University of	140.36	38	ePKPdf	PKPdf	17 06 30.3	+1.1
142A	Monroe baz=299	140.46	49	P	PKPdf	17 06 33.2	+3.7
Y43A	Makayla and Ka baz=301	140.52	46	P	PKPdf	17 06 33.1	+3.5
Z43A	Armstrong Fami baz=300	140.65	47	P	PKPdf	17 06 33.1	+3.2
342A	Flagon Creek P baz=297	140.72	50	P	PKPdf	17 06 33.3	+3.3
X44A	Crenshaw baz=303	140.76	45	P	PKPdf	17 06 32.7	+2.8

143A	Socs Landing, baz=300	140.78	48	P		PKPdf	17 06 33.3	+3.2
V45A	Humboldt baz=305	140.88	42	P		PKPdf	17 06 32.8	+2.7
Y44A	Strider, Charl baz=302	141.00	46	P		PKPdf	17 06 33.1	+2.6
WCI	Wyandotte Cave	141.03	37	*e*PKHKP	PKPpre		17 06 23.9	
WCI	Wyandotte Cave	141.03	37	*e*PKPpre	PKPpre		17 06 23.9	
W45A	Hickory Valley baz=305	141.06	43	P		PKPdf	17 06 33.4	+2.9
VCA	Vinchina	141.11	165	*i* P		SKPbc	17 09 56.9	+0.6
Z44A	Pea Ridge, Bel baz=301	141.20	47	P		PKPdf	17 06 33.4	+2.6
X45A	UM Field Stati baz=304	141.32	44	P		PKPdf	17 06 33.0	+2.0
BUF	Buffalo	141.36	25	*e*PKPdf		PKPdf	17 06 31.1	+0.3
WVT	Waverly	141.39	41	*e*PKHKP	PKPpre		17 06 24.5	
WVT	Waverly	141.39	41	*e*PKPpre	PKPpre		17 06 24.5	
443A	Delano Plantat baz=297	141.41	51	P		PKPdf	17 06 33.3	+2.1
ACSO	Alum Creek Sta	141.49	32	*e*PKPpre	PKPpre		17 06 24.9	
ERPA	Erie	141.51	27	*e*PKPdf		PKPdf	17 06 31.1	0.0
Y45A	Yeager Farm, C baz=303	141.52	45	P		PKPdf	17 06 34.0	+2.6
LONY	Lake Ozonia	141.53	20	*e*PKPpre	PKPpre		17 06 24.9	
LONY				*e*PKPdf		PKPdf	17 06 31.0	-0.1
244A	Avery, Jackson baz=300	141.63	48	P		PKPdf	17 06 34.3	+2.7
543A	St. Martinvill baz=296	141.65	52	P		PKPdf	17 06 34.5	+2.8
FRNY	Flat Rock	141.66	19	*e*PKPdf		PKPdf	17 06 31.2	-0.1
Z45A	Winona baz=302	141.68	46	P		PKPdf	17 06 34.4	+2.7
344A	Westbrook Farm baz=299	141.89	49	P		PKPdf	17 06 34.0	+1.9
145A	Houston Renfro baz=301	141.91	47	P		PKPdf	17 06 35.2	+3.1
MMNY	Mt. Morris Dam	141.91	25	*e*PKPpre	PKPpre		17 06 26.3	
Y46A	Houston baz=304	141.99	45	P		PKPdf	17 06 35.0	+2.8
M54A	Oil Creek Stat baz=323	142.14	27	P		PKPdf	17 06 35.0	+2.7
245A	Little AP, Sta baz=300	142.22	48	P		PKPdf	17 06 35.8	+3.2
Z46A	Louisville baz=303	142.31	46	P		PKPdf	17 06 36.2	+3.4
N54A	Moraine State baz=322	142.42	28	P		PKPdf	17 06 35.9	+3.1
345A	Thompson Farm, baz=300	142.48	49	P		PKPdf	17 06 36.7	+3.5
146A	Union baz=302	142.52	47	P		PKPdf	17 06 36.6	+3.4
445A	Amite baz=298	142.53	50	P		PKPdf	17 06 36.6	+3.4
Y47A	UCPARC, Winfie baz=305	142.67	44	P		PKPdf	17 06 36.2	+2.8
LMN	Caledonia Moun	142.72	8	*e*PKPpre	PKPpre		17 06 29.6	
ACCN	Adirondack Com	142.93	20	*e*PKPpre	PKPpre		17 06 31.1	
HNH	Hanover	143.08	18	*e*PKPdf	PKPbc		17 06 31.8	+0.8
GGN	Saint George	143.10	11	*e*PKPpre	PKPpre		17 06 30.8	
BINY	Binghamton	143.13	23	*e*PKPpre	PKPpre		17 06 29.4	
SWET	Sewanee	143.17	41	*e*PKPpre	PKPpre		17 06 30.2	
Z48A	Northport baz=305	143.17	44	P		PKPdf	17 06 37.1	+2.8
EMMW	East Machias	143.37	12	*e*PKPpre	PKPpre		17 06 29.0	
TRY	Troy	143.51	20	*e*PKPpre	PKPpre		17 06 32.5	
O56A	Blue Knob Stat baz=323	143.63	28	P		PKPdf	17 06 38.2	+3.2
SSPA	Standing Stone	143.64	27	*e*PKPpre	PKPpre		17 06 32.3	
AHML	Horco Molle	143.65	168	*i* P		SKPbc	17 10 01.9	-0.6
KSPA	Keystone Colle	143.76	23	*e*PKPdf	PKPbc		17 06 33.4	+0.4
TZTN	Tazewell	143.78	37	*e*PKPdf	PKPbc		17 06 33.4	+0.1
CPCT	Cooper Cave	143.91	39	*e*PKPdf	PKPab		17 06 32.9	-0.2
QUA2	Belchertown	144.35	19	*e*PKPdf	PKPbc		17 06 35.2	+0.4
HRV	Adam Dziewonsk	144.39	18	*e*PKIKP	PKPdf		17 06 35.7	-0.5
HRV	Adam Dziewonsk	144.39	18	*e*PKPdf	PKPdf		17 06 35.7	-0.5
WES	Weston	144.57	18	*e*PKIKP	PKPbc		17 06 35.6	+0.2
WES	Weston	144.57	18	*e*PKPdf	PKPbc		17 06 35.6	+0.2
ODNJ	Ogdensburg	144.61	23	*e*PKPdf	PKPbc		17 06 35.8	+0.1
BCX	Boston College	144.66	18	*e*PKPdf	PKPab		17 06 35.6	0.0
LUPA	Lehigh Univers	144.73	24	*e*PKPbc	PKPab		17 06 35.5	-0.5
BRAL	Brewton	144.74	47	*e*PKPbc	PKPdf		17 06 37.9	+0.8
MVL	Millersville	144.83	26	*e*PKPbc	PKPbc		17 06 36.5	+0.2
CPUP	Villa Florida comp=Z,41nm,1.0s,baz=179,slow=3.6,SNR=47	144.91	180	PKP		PKPdf	17 06 37.8	+0.2
CPUP				SKPbc		SKiKP	17 10 06.8	+0.9
	comp=Z,33nm,0.8s,baz=131,slow=1.0,SNR=12							
CPUP	Villa Florida	144.91	180	*e*PKPbc		PKPdf	17 06 37.6	0.0
CPUP				SKPbc		SKiKP	17 10 06.8	+0.9
BRYW	Bryant College	144.93	18	*e*PKPbc		PKPbc	17 06 36.4	-0.2
BRYW				*e*SKPbc		SKPbc	17 10 04.0	-0.9
PAL	Palisades	144.94	22	*e*PKIKP		PKPab	17 06 36.8	+0.1
PAL	Palisades	144.94	22	*e*PKPbc		PKPab	17 06 36.8	+0.1
BRNJ	Basking Ridge	144.97	23	*e*PKPbc		PKPab	17 06 36.9	+0.1
BLA	Blacksburg	145.07	33	*e*PKIKP		PKPbc	17 06 37.2	-0.1
BLA	Blacksburg	145.07	33	*e*PKPbc		PKPbc	17 06 37.2	-0.1
SDMD	Soldier's Deli	145.10	27	*e*PKPbc		PKPbc	17 06 36.8	-0.5
CPNY	Central Park	145.11	22	*e*PKPbc		PKPab	17 06 37.3	0.0
PB10	IPOC Station P	145.28	159	*e*PKPbc		PKPab	17 06 39.2	+0.7
CBN	Corbin Frederi	145.84	28	*e*PKPdf		PKPab	17 06 40.0	-0.1
GOGA	Godfrey	145.89	41	*e*PKP2		PKPab	17 06 40.6	+0.1
GOGA	Godfrey	145.89	41	*e*PKPdf		PKPab	17 06 40.6	+0.1
KMSC	Kings Mountain	146.04	36	*e*PKPdf		PKPbc	17 06 40.4	+0.1
SPB	Sao Paulo	146.16	197	*e*PKPbc		PKPab	17 06 42.2	+0.5
URVA	University of	146.26	29	*e*PKPdf		PKPdf	17 06 40.1	+0.6
SACV	Santiago Islan	146.33	283	*e*PKPdf		PKPbc	17 06 41.6	-0.1
ASTB	Santa Barbara	146.58	168	*i* P		SKPdf	17 10 03.5	+0.4
LVC	Limon Verde comp=Z,94nm,0.7s,baz=82,slow=21,SNR=17	146.68	161	PKPbc		PKPab	17 06 44.5	+0.2
LVC				SKPbc		SKiKP	17 10 11.5	+1.3
	comp=Z,169nm,0.9s,baz=249,slow=2.0,SNR=12							
LVC	Limon Verde	146.68	161	*e*PKPbc		PKPab	17 06 44.4	+0.2
LVC				SKPbc		SKiKP	17 10 11.5	+1.3
JSC	Jenkinsville	146.68	37	*e*PKP2		PKPbc	17 06 41.8	-0.4
JSC	Jenkinsville	146.68	37	*e*PKPdf		PKPbc	17 06 41.8	-0.4
TIGA	Tifton baz=307	147.02	44	P		PKPbc	17 06 43.8	+0.6
TIGA	Tifton	147.02	44	*e*PKPdf		SKPdf	17 06 42.1	+1.1
HJA	Humahuaca	147.09	167	*i*		SKPdf	17 10 02.8	-1.4
CNNC	Cliffs of the	147.90	32	*e*PKPbc		PKPbc	17 06 46.0	+0.5
PB01	IPOC Station P	147.93	159	*e*PKPbc		PKPbc	17 06 46.5	+0.5
NHSC	New Hope	148.15	38	*e*PKPbc		PKPbc	17 06 47.1	+0.9
TEIG	Tepich	148.26	66	*e*PKPbc		PKPbc	17 06 48.0	+1.1
RGRS	Roger Stewart	148.27	38	*e*PKPbc		PKPbc	17 06 47.7	+1.2
CSU	Charleston Sou	148.29	38	*e*PKPbc		PKPbc	17 06 47.6	+1.0
TGUH	Tegucigalpa,Un	150.42	77	*e*PKPbc		PKPbc	17 06 53.8	+1.5
DWPF	Disney Wildern	150.50	47	*e*PKPdf		PKPdf	17 06 47.4	+0.7
DWPF				*e*PKPbc		PKiKP	17 06 53.0	+0.1
NNA	Nana comp=Z,53nm,1.1s,baz=21,slow=4.4,SNR=4.2	151.66	137	PKPbc		PKPbc	17 06 56.2	+0.9
NNA	Nana	151.66	137	*i* PKIKP		PKPbc	17 06 52.9	-2.4
NNA	Nana	151.66	137	*e*PKPbc		PKPbc	17 06 56.5	+1.2
LPAZ	La Paz comp=Z,4.7nm,0.8s,baz=46,slow=2.1,SNR=14	152.79	157	PKP		PKPdf	17 06 49.6	-1.7
LPAZ				PKPbc		PKiKP	17 07 00.7	+2.0
	comp=Z,21nm,1.0s,baz=113,slow=3.9,SNR=17							
LPAZ				PKPab		PKPab	17 07 10.3	+0.7
	comp=Z,36nm,0.6s,baz=207,slow=2.3,SNR=37							
LPAZ	La Paz	152.79	157	*e*PKPdf		PKPdf	17 06 52.8	+1.5
LPAZ				*e*PKPbc		PKiKP	17 07 00.6	+1.9
LPAZ				*e*PKPab		PKPab	17 07 10.6	+1.0
ATAH	Atahualpa comp=Z,7.8nm,0.8s,baz=314,slow=4.7,SNR=5.5	153.75	127	PKP		PKPdf	17 06 52.9	+0.4
ATAH				PKPbc		PKiKP	17 07 01.1	+0.6
	comp=Z,25nm,0.8s,baz=134,slow=2.6,SNR=12							
ATAH	Atahualpa	153.75	127	PKP		PKPdf	17 06 52.9	+0.4
ATAH				PKPbc		PKiKP	17 07 01.1	+0.6
RCBR	Riachuelo comp=Z,8.5nm,0.7s,baz=181,slow=4.1,SNR=5.5	153.92	236	PKP		PKPdf	17 06 52.4	+0.1
RCBR				PKPbc		PKiKP	17 07 02.1	+1.7
	comp=Z,23nm,1.1s,baz=152,slow=2.2,SNR=6.2							
RCBR				PKPab		PKPab	17 07 14.8	+0.8
	comp=Z,37nm,0.9s,baz=117,slow=4.8,SNR=9.3							
RCBR	Riachuelo	153.92	236	PKP		PKPdf	17 06 52.4	+0.1
RCBR				PKPbc		PKiKP	17 07 02.1	+1.7
RCBR				*e*PKPab		PKPab	17 07 16.5	+2.6
SIV	San Ignacio comp=Z,1.9nm,0.7s,baz=10,slow=5.5,SNR=3.1	154.94	172	PKP		PKPdf	17 06 53.3	-0.3
SIV				PKPab		PKPab	17 07 18.6	+0.6
	comp=Z,14nm,0.6s,baz=211,slow=5.2,SNR=26							
SIV	San Ignacio	154.94	172	PKP		PKPdf	17 06 53.3	-0.3
SIV				PKPab		PKPab	17 07 18.6	+0.6
SAML	Samuel	161.32	162	*e*PKPdf		PKPdf	17 07 02.4	+1.0
SAML				*e*PKPab		PKPab	17 07 45.8	+0.2
MOTC	Monteria, Cord	162.06	89	*e*P		PKPdf	17 07 03.3	+1.2
ROSC	El Rosal comp=Z,11nm,0.7s,baz=111,slow=4.6,SNR=8.9	162.82	103	PKP		PKPdf	17 07 04.3	+0.9
ROSC				PKPab		PKPab	17 07 53.1	0.0
	comp=Z,8.9nm,0.6s,baz=115,slow=18,SNR=6.6							
ROSC	El Rosal	162.82	103	*e*P		PKPdf	17 07 03.9	+0.5
ROSC	El Rosal	162.82	103	PKP		PKPdf	17 07 04.3	+0.9
ROSC				PKPab		PKPab	17 07 53.1	0.0
CHIC	Chingaza	163.33	104	*e*P		PKPdf	17 07 03.8	-0.2
RUSC	La Rusia	164.26	100	*e*P		PKPdf	17 07 05.0	+0.1
GRMC	Gramalote, San	164.82	94	*e*P		PKPdf	17 07 05.0	+0.1
SDV	Santo Domingo comp=Z,8.8nm,0.4s,baz=270,slow=3.2,SNR=6.4	167.03	89	PKP		PKPdf	17 07 06.5	-0.2
SDV				PKPab		PKPab	17 08 13.2	+1.8
	comp=Z,8.8nm,0.3s,baz=307,slow=5.1,SNR=4.2							
SDV	Santo Domingo	167.03	89	PKP		PKPdf	17 07 06.5	-0.2
SDV				PKPab		PKPab	17 08 13.2	+1.8
SJG	San Juan comp=Z,7.6nm,0.3s,baz=293,slow=8.1,SNR=4.0	167.63	42	PKP		PKPdf	17 07 06.0	-0.8
SJG	San Juan	167.63	42	PKIKP		PKPdf	17 07 06.0	-0.8
SJG				pmax	pmax			
	comp=Z,8.0nm,0.3s							
SJG	San Juan	167.63	42	PKP		PKPdf	17 07 06.0	-0.8
PTGA	Pitinga comp=Z,2.5nm,0.7s,baz=273,slow=0.8,SNR=5.6	170.05	166	PKP		PKPdf	17 07 09.4	+0.9
PTGA				PKPab		PKPab	17 08 24.9	+0.9
	comp=Z,11nm,0.8s,baz=204,slow=5.9,SNR=11							
PTGA	Pitinga	170.05	166	PKP		PKPdf	17 07 09.4	+0.9
PTGA				*e*PKPab		PKPab	17 08 25.0	+0.9

WEL 27 16:50:27.2±0.3, 38°.90S×175°.06E, h234^{km}±2^{km}, ML4.3/21, 44C-6D, Error ellipse: s-maj=1.8km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.33	226	⇑	PN		Pn	16 50 57.2	-0.5
VRZ					SN		S	16 51 20.7	-1.0
TWVZ	Taurewa	0.34	120	⇑	PN		Pn	16 50 57.7	-0.2
TWVZ					SN		S	16 51 20.8	-1.2
HIZ	Hauiti	0.42	337	⇑	PN		Pn	16 50 57.6	-0.5
PKVZ	Pokaka	0.45	150	⇑	PN		Pn	16 50 57.9	-0.2
WTVZ	West Tongariro	0.47	118		PN		Pn	16 50 58.0	-0.2
WTVZ					SN		S	16 51 21.3	-1.3
KRVZ	Karewarewa	0.49	113		PN		Pn	16 50 58.1	-0.2
NGZ	Ngauruhoe	0.50	123		PN		Pn	16 50 58.2	-0.2
FWVZ	Far West T-bar	0.52	133	⇑	PN		Pn	16 50 58.3	-0.2
TRVZ	Turoa	0.55	137		PN		Pn	16 50 58.5	-0.2
RATZ	Rangitukua	0.56	87	⇑	PN		Pn	16 50 58.2	-0.3
WHVZ	Whangaehu Hut	0.56	133	⇑	PN		Pn	16 50 58.6	-0.1
MTVZ	Mangateitei	0.58	147	⇑	PN		Pn	16 50 58.4	-0.2
TUVZ	Tukino	0.59	129	⇑	PN		Pn	16 50 58.7	0.0
TUVZ					SN		S	16 51 22.1	-1.3
WNVZ	Wahianoa	0.60	136		PN		Pn	16 50 58.5	-0.2
MHEZ	Mangahewa	0.60	253		PN		Pn	16 50 58.6	0.0
TLZ	Tolley Road	0.68	33		PN		Pn	16 50 58.4	-0.6
DREZ	Durham Road	0.73	246		PN		Pn	16 50 58.8	-0.2
MOVZ	Moawhango	0.74	133		PN		Pn	16 50 58.7	-0.5
MOVZ					SN		S	16 51 21.9	-2.4
LREZ	Lake Rotokare	0.76	222		PN		Pn	16 50 59.0	-0.1
LREZ					SN		S	16 51 24.4	+0.1
PREZ	Palmer Road	0.83	238		PN		Pn	16 50 59.5	0.0
NEZ	North Egmont	0.84	243	⇑	PN		Pn	16 50 59.5	-0.1
NEZ					SN		S	16 51 24.7	-0.4
WAZ	Wanganui	0.86	184	⇑	PN		Pn	16 50 59.6	0.0
KHEZ	Kahui Hut	0.90	244		PN		Pn	16 50 59.8	-0.2
NWEZ	Newall Road	1.00	248	⇑	PN		Pn	16 51 00.3	-0.2
NMEZ	Namu Road	1.05	240		PN		Pn	16 51 00.5	-0.2
MRHZ	Matea Rd	1.06	87		PN		Pn	16 51 00.2	-0.7
BKZ	Black Stump Fm	1.15	104	⇑	PN		Pn	16 51 01.1	-0.4
BKZ					AML		AML	16 51 28.4	
BKZ					AML		AML	16 51 28.6	
KWHZ	Kaweka Forest	1.18	117		PN		Pn	16 51 01.9	+0.2
TOZ	Tahuroa Road	1.22	17		PN		Pn	16 51 01.5	-0.4
KRHZ	Kereru	1.26	127	⇑	PN		Pn	16 51 02.1	-0.1
OHWZ	Ohakea	1.32	171		PN		Pn	16 51 02.6	+0.1
PNHZ	Pukenui	1.34	139	⇑	PN		Pn	16 51 02.6	-0.2
TSZ	Takapari Road	1.35	149	⇓	PN		Pn	16 51 02.6	-0.2
TSZ					AML		AML	16 51 29.7	
TSZ					AML		AML	16 51 30.8	
NMHZ	Naumai	1.38	99	⇑	PN		Pn	16 51 03.6	+0.5
MCHZ	McNeill Hill	1.38	114	⇑	PN		Pn	16 51 03.6	+0.6
RTZ	Ruatahuna	1.53	80	⇓	PN		Pn	16 51 03.6	-0.7
ARHZ	Aropaoanui	1.55	104		PN		Pn	16 51 04.7	+0.4
WPHZ	Waipukurau	1.58	138	⇑	PN		Pn	16 51 04.4	-0.1
POWZ	Post Office Ro	1.59	160	⇑	PN		Pn	16 51 04.0	-0.7
DVHZ	Dannevirke	1.64	149	⇑	PN		Pn	16 51 04.4	-0.7
KAHZ	Kahuranaki	1.67	123	⇑	PN		Pn	16 51 05.6	+0.2
WHHZ	Waihua	1.70	97		PN		Pn	16 51 05.7	+0.1
URZ	Urewera	1.73	69	⇓	PN		Pn	16 51 04.6	-1.2
URZ					AML		AML	16 51 34.8	
URZ					AML		AML	16 51 36.2	
CKHZ	Cape Kidnapper	1.74	116		PN		Pn	16 51 06.2	+0.3
SNGZ	Shannon Statio	1.78	87		PN		Pn	16 51 06.2	-0.2
PXZ	Pawanui	1.79	130	⇑	PN		Pn	16 51 06.1	-0.2
PXZ					AML		AML	16 51 37.5	
PXZ					AML		AML	16 51 37.6	
PXZ					AML		AML	16 51 38.5	
PXZ					AML		AML	16 51 38.5	
PRWZ	Pori Road	1.80	157	⇑	PN		Pn	16 51 05.8	-0.6
MRZ	Mangatainoka R	1.80	167		PN		Pn	16 51 05.4	-1.0
PRHZ	Porangahau	1.83	139	⇑	PN		Pn	16 51 06.4	-0.3
RAGZ	Rawiri	1.89	78	⇓	PN		Pn	16 51 06.7	-0.7
ANWZ	Angora Road	1.90	145	⇑	PN		Pn	16 51 07.0	-0.4
OGWZ	Otaki Gorge	1.92	178	⇑	PN		Pn	16 51 06.6	-0.9
KIW	Kapiti Island	1.96	183	⇑	PN		Pn	16 51 06.7	-1.2
KIW					AML		AML	16 51 38.7	
KIW					AML		AML	16 51 39.4	
TIWZ	Tintock	1.98	162	⇑	PN		Pn	16 51 07.1	-1.0
TIWZ					AML		AML	16 51 40.2	
TIWZ					AML		AML	16 51 40.2	
BFZ	Birch Farm	2.00	153		PN		Pn	16 51 07.1	-1.2
BFZ					AML		AML	16 51 41.5	
BFZ					AML		AML	16 51 41.5	
BFZ					AML		AML	16 51 42.0	
BFZ					AML		AML	16 51 42.2	
MWZ	Matawai	2.01	74	⇓	PN		Pn	16 51 07.5	-0.9
MWZ					AML		AML	16 51 40.1	
MWZ					AML		AML	16 51 43.2	
HOWZ	Holdsworth Sta	2.03	170	⇑	PN		Pn	16 51 07.2	-1.3
KNZ	Kokohu	2.04	94		PN		Pn	16 51 08.6	-0.1
KNZ					AML		AML	16 51 44.8	
DUWZ	D'Urville Isla	2.09	204		PN		Pn	16 51 07.8	-1.4
RIGZ	Rimuhau	2.12	86		PN		Pn	16 51 09.2	-0.3
CPWZ	Castlepoint	2.19	157	⇑	PN		Pn	16 51 09.5	-0.5
PRGZ	Paritu Road	2.20	91		PN		Pn	16 51 10.0	-0.3
CAW	Cannon Point	2.21	180	⇑	PN		Pn	16 51 08.9	-1.3
CAW					AML		AML	16 51 42.8	
CAW					AML		AML	16 51 44.9	
TKGZ	Te Karaka	2.23	79		PN		Pn	16 51 10.1	-0.4
MHGZ	Mahia Peninsul	2.23	97		PN		Pn	16 51 10.5	0.0
MTW	Mount Morrison	2.28	172	⇑	PN		Pn	16 51 09.4	-1.6
MTW					AML		AML	16 51 43.8	
MTW					AML		AML	16 51 48.9	
TMWZ	Te Maipa	2.29	164	⇑	PN		Pn	16 51 09.8	-1.3
TCW	Tory Channel	2.38	194	⇑	PN		Pn	16 51 10.6	-1.4
TCW					AML		AML	16 51 45.5	
TCW					AML		AML	16 51 46.2	
WEL	Wellington	2.39	185	⇑	PN		Pn	16 51 10.4	-1.6
WEL					AML		AML	16 51 45.8	
WEL					AML		AML	16 51 47.0	
TWGZ	Tauwhareparae	2.40	73		PN		Pn	16 51 12.3	-0.1
HAZ	Te Kaha	2.43	63		PN		Pn	16 51 10.8	-1.7
PAWZ	Paruwai Farm	2.50	174	⇑	PN		Pn	16 51 11.6	-1.6
PAWZ					AML		AML	16 51 46.3	
PAWZ					AML		AML	16 51 47.9	
CNGZ	Carnagh Statio	2.50	81		PN		Pn	16 51 13.2	0.0
BHW	Baring Head	2.51	183	⇑	PN		Pn	16 51 11.5	-1.8
BHW					AML		AML	16 51 47.8	
BHW					AML		AML	16 51 48.2	
MSWZ	Moikau Station	2.52	177	⇑	PN		Pn	16 51 11.7	-1.7
MSWZ					AML		AML	16 51 52.7	
MSWZ					AML		AML	16 51 54.6	
TRWZ	Traveller	2.54	169		PN		Pn	16 51 12.2	-1.5
TRWZ					AML		AML	16 51 49.0	
TRWZ					AML		AML	16 51 49.3	
PUZ	Puketiti	2.64	73		PN		Pn	16 51 13.6	-1.2
PUZ					AML		AML	16 51 51.7	
PUZ					AML		AML	16 51 52.2	
NNZ	Nelson	2.65	209	⇑	PN		Pn	16 51 12.9	-1.9
TUWZ	Tuamarina	2.67	198		PN		Pn	16 51 13.4	-1.6
TUWZ					AML		AML	16 51 50.4	
TUWZ					AML		AML	16 51 50.6	
PLWZ	Palliser	2.67	177	⇑	PN		Pn	16 51 13.2	-1.9
QRZ	Quartz Range	2.74	225		PN		Pn	16 51 13.0	-2.8
WMGZ	Waiomatatini S	2.85	69		PN		Pn	16 51 15.8	-1.2
MXZ	Matakaoa Point	2.88	63		PN		Pn	16 51 16.4	-1.0
MXZ					AML		AML	16 51 57.4	
BSWZ	Blackbirch Sta	2.95	197		PN		Pn	16 51 16.4	-1.7
BSWZ					AML		AML	16 51 57.7	
BSWZ					AML		AML	16 51 57.9	
THZ	Tophouse	3.30	209	⇑	PN		Pn	16 51 19.6	-2.5
KHZ	Kahutara	3.70	198		PN		Pn	16 51 24.3	-2.3
DSZ	Denniston Nort	3.78	220	⇑	PN		Pn	16 51 24.4	-3.2
LTZ	Lake Taylor	4.42	208		PN		Pn	16 51 32.1	-3.1
INZ	Inchbonnie	4.70	215		PN		Pn	16 51 34.8	-3.9
OXZ	Oxford	4.98	206	⇑	PN		Pn	16 51 38.1	-4.0
CRLZ	Canterbury Las	5.02	201		PN		Pn	16 51 38.8	-3.8
MQZ	McQueen's Vall	5.13	200		PN		Pn	16 51 39.8	-4.2
WVZ	Waitaha Valley	5.30	217	⇓	PN		Pn	16 51 42.4	-3.7
RPZ	Rata Peaks	5.68	211		PN		Pn	16 51 46.9	-3.9
FOZ	Fox Glacier	6.09	219		PN		Pn	16 51 51.4	-4.6
LBZ	Lake Benmore	6.58	212		PN		Pn	16 51 57.9	-4.4
ODZ	Otahua Downs	6.96	207	⇑	PN		Pn	16 52 04.0	-3.1
JCZ	Jackson Bay	6.99	220		PN		Pn	16 52 02.5	-5.0
WKZ	Wanaka	7.44	215		PN		Pn	16 52 07.7	-5.5
EAZ	Earnscleugh	7.64	212		PN		Pn	16 52 11.2	-4.4
MSZ	Milford Sound	7.85	220		PN		Pn	16 52 13.6	-4.8
TUZ	Tuapeka	8.11	208		PN		Pn	16 52 18.6	-3.1
MLZ	Mavora Lakes	8.27	216		PN		Pn	16 52 20.0	-3.7
WHZ	Wether Hill Ro	8.74	215		PN		Pn	16 52 25.1	-4.7

IDC ***27*** *17:02:31.0±0.6, 55°.95S×123°.03W, h0^{km}, mb4.4/9, mb1 4.6/9, mb1mx4.3/37, mbtmp4.4/9, MS5.0/21, Ms1 5.0/21, ms1mx5.0/23, Error ellipse: s-maj=32.5km s-min=18.5km az=149.0*

ISCJB ***27*** *17:02:31.1±0.5, 55°.89S±0°.07×123°.4W±0°.2, h12^{km}, mb4.8/16, MS5.1/71, Error ellipse: s-maj=13.5km s-min=10.4km az=174.9*

NEIC ***27*** *17:02:32.9±0.3, 56°.00S×123°.20W, h10^{km}, mb5.2/5, MS5.1/50, Error ellipse: s-maj=18.1km s-min=11.1km az=138.0*

GCMT ***27*** *17:02:32.9±0.1, 56°.00S×123°.02W, h14^{km}, MW5.4/118, Moment Tensor Solution. s97,c158; s118,c218; Duration: 1ᵗ3 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.12±.02; $M_{\theta\theta}$0.90±.03; $M_{\phi\phi}$-0.77±.02; $M_{r\theta}$-0.25±.05; $M_{\theta\phi}$1.50±.02; $M_{\phi r}$-0.08±.04; Best double couple: M_o1.73600×10^{17} NP1:ϕ_s285.00000°, δ86.00000°, $

comp=Z,1μm,20.0s
HNR Honiara 74.93 275 PFAKE 17 14 30.0 +15
HNR LR LR
comp=Z,995nm,21.0s
ASAR Alice Springs 77.71 246 P **P** **17 14 28.1 -2.2**
ASAR comp=Z,2.0nm,0.8s,baz=158,slow=5.2,SNR=24
LR LR 17 44 35.8
comp=Z,1μm,18.6s,baz=142,slow=32
NWAO Narrogin (SRO) 77.81 228 LR LR 17 39 58.3
comp=Z,1μm,21.6s,baz=13,slow=29
WRA Warramunga Arr 80.56 249 P **P** **17 14 44.3 -1.6**
WRA comp=Z,3.5nm,0.7s,baz=144,slow=4.9,SNR=30
LR LR 17 45 23.4
comp=Z,1μm,20.8s,baz=150,slow=32
WRAB Tennant Creek 80.56 249 *e*P **P** **17 14 43.9 -2.0**
comp=Z,7.7nm,0.9s
GRGR Grenville 84.73 60 PFAKE 17 15 20.0 +13
GRGR LR LR
comp=Z,672nm,20.0s
TXAR Lajitas Array 86.39 17 P **P** **17 15 16.7 +1.2**
TXAR comp=Z,1.8nm,0.9s,baz=188,slow=7.6,SNR=3.6
LR LR 17 47 45.2
comp=Z,265nm,18.4s,baz=0.0,slow=31
FITZ Fitzroy Crossi 86.56 243 P **P** **17 15 15.0 -1.7**
comp=Z,5.0nm,1.0s,baz=202,slow=5.8,SNR=5.5
FDF Fort de France 87.22 59 PFAKE 17 15 30.0 +10
FDF LR LR
comp=Z,648nm,20.0s
214A Organ Pipe Nat 87.83 9 *e*P **P** **17 15 23.6 +1.2**
comp=Z,55nm,1.3s
GRTK Grand Turk 88.66 47 PFAKE 17 15 40.0 +14
GRTK LR LR
comp=Z,430nm,19.0s
ANWB Willy Bob 89.45 57 PFAKE 17 15 40.0 +10
ANWB LR LR
comp=Z,672nm,22.0s
ANMO Albuquerque 91.49 14 PFAKE 17 15 50.0 +10
ANMO LR LR
comp=Z,433nm,19.0s
BOSA Boshof 91.69 153 LR LR 17 53 59.6
comp=Z,1μm,18.6s,baz=190,slow=34
BRAL Brewton 91.92 30 PFAKE 17 15 50.0 +8.6
BRAL LR LR
comp=Z,491nm,20.0s
ASCN Ascension 93.81 110 PFAKE 17 16 00.0 +9.2
ASCN LR LR
comp=Z,1μm,22.0s
H11S2 WAKE ISLAND Hy 94.51 296 T T 19 01 23.7
baz=148,slow=76,SNR=109
H11S3 WAKE ISLAND Hy 94.52 296 T T 19 01 12.3
baz=148,slow=76,SNR=16
H11S1 WAKE ISLAND Hy 94.53 296 T T 19 01 16.0
baz=148,slow=76,SNR=4.6
DUG Dugway, Tooele 96.01 8 PFAKE 17 16 10.0 +10
DUG LR LR
comp=Z,562nm,20.0s
CNNC Cliffs of the 98.52 36 PFAKE 17 16 20.0 +8.5
CNNC LR LR
comp=Z,369nm,20.0s
AHID Auburn Hatcher 98.71 9 PFAKE 17 16 20.0 +7.5
AHID LR LR
comp=Z,690nm,20.0s
BW06 Boulder Array 98.85 10 PFAKE 17 16 20.0 +6.9
BW06 LR LR
comp=Z,730nm,20.0s
PDAR Pinedale Array 98.85 10 LR LR 17 52 54.1
comp=Z,625nm,19.4s,baz=208,slow=30
BLA Blacksburg 99.52 33 PFAKE 17 16 30.0 +14
BLA LR LR
comp=Z,339nm,20.0s
BMO Blue Mountains 100.39 4 PFAKE 17 16 30.0 +10
BMO LR LR
comp=Z,623nm,20.0s
BBSR BB Station 100.91 47 PFAKE 17 16 30.0 +7.8
BBSR LR LR
comp=Z,235nm,19.0s
CBN Corbin Frederi 101.39 35 PFAKE 17 16 40.0 +16
CBN LR LR
comp=Z,494nm,19.0s
BOZ Bozeman (W) 101.53 8 PFAKE 17 16 40.0 +15
BOZ LR LR
comp=Z,612nm,20.0s
ACSO Alum Creek Sta 101.55 30 PFAKE 17 16 40.0 +15
ACSO LR LR
comp=Z,404nm,21.0s
ECSD EROS Data Cent 101.65 19 PFAKE 17 16 40.0 +15
ECSD LR LR
comp=Z,226nm,22.0s
AAM Ann Arbor 103.28 29 PFAKE 17 16 40.0 +7.5
AAM LR LR
comp=Z,202nm,19.0s
ABPO Ambohimpanom 105.04 171 PFAKE 17 16 50.0 +8.6
ABPO LR LR
comp=Z,928nm,20.0s
DGMT Dagmar 105.09 13 PFAKE 17 21 10.0
DGMT LR LR
comp=Z,375nm,19.0s
BINY Binghamton 105.46 34 PFAKE 17 21 10.0
BINY LR LR
comp=Z,436nm,21.0s
COWI Conover 105.47 24 PFAKE 17 21 10.0
COWI LR LR
comp=Z,264nm,19.0s
AGMN Agassiz Nation 106.19 19 PFAKE 17 21 10.0
AGMN LR LR
comp=Z,440nm,20.0s
DAV Davao City (W) 107.75 256 PFAKE 17 21 10.0
DAV LR LR
comp=Z,220nm,20.0s
FFC Flin Flon 111.50 13 PFAKE 17 21 20.0
FFC LR LR
comp=Z,436nm,20.0s
TORD Torodi Ar. Bea 120.02 112 PKP **PKPdf** **17 21 23.3 -0.9**
comp=Z,0.5nm,0.9s,baz=174,slow=5.3,SNR=2.3
EGAK Eagle 121.03 351 PFAKE 17 21 40.0 +16
EGAK LR LR
comp=Z,1μm,21.0s
ILAR Eielson Array 121.61 348 PKP **PKPdf** **17 21 26.2 +0.6**
comp=Z,1.0nm,0.7s,baz=185,slow=1.7,SNR=3.6
COLA College 121.82 348 PFAKE 17 21 40.0 +14
COLA LR LR
comp=Z,801nm,19.0s
CMLA Cha da Macela 124.20 72 PFAKE 17 21 40.0 +8.5
CMLA LR LR
comp=Z,728nm,19.0s
ERM Erimo 125.30 294 PFAKE 17 21 40.0 +6.6
ERM LR LR
comp=Z,362nm,22.0s
CMAR Chiang Mai Arr 131.14 238 PKP **PKPdf** **17 21 44.8 -0.5**
comp=Z,0.6nm,0.8s,baz=182,slow=2.7,SNR=3.3
CHTO Chiang Mai 131.45 238 PFAKE 17 22 00.0 +14
CHTO LR LR
comp=Z,387nm,20.0s
GYA Guiyang 133.86 252 *e*Pdif **Pdif** **17 18 51.5 +2.4**
GYA PKP **PKiKP** **17 21 53.0 +1.3**
GYA PP **PP** **17 24 26.5 +6.2**
GYA PPMZ
comp=Z,140nm,7.9s
BILL Bilibino 133.96 330 PFAKE 17 22 00.0 +11
BILL LR LR
comp=Z,619nm,21.0s
MDJ Mudanjiang 134.25 288 PKP **PKPdf** **17 21 53.8 +3.5**
BJT Baijiatuan 138.62 273 PFAKE 17 22 10.0 +11
BJT LR LR
comp=Z,351nm,20.0s
CD2 Chengdu 138.93 253 PKP **PKPdf** **17 22 02.5 +3.0**
CD2 sPKP 17 22 07.3
CD2 PP **PP** **17 24 54.8 +2.8**
CD2 SKS **SKSdf** **17 29 13.0 +3.3**
CD2 SKKS **SKKSac** **17 31 48.3 +2.8**
CD2 SS **SS** **17 43 12.8 +5.1**
CD2 PPMZ
comp=Z,160nm,5.2s
HHC Hu-ho-hao-te 141.77 271 *e*PKP **PKPdf** **17 22 04.0 -0.5**
HHC PPMZ
comp=Z,90nm,9.6s
HHC LN
comp=Z,160nm,17.3s
HHC LE
comp=Z,120nm,17.3s
HHC LZ
comp=Z,140nm,16.0s
PKIN Phulchoki 145.16 228 *e*P **PKPdf** **17 22 11.9 +0.9**
comp=Z,20nm,0.8s
GUN Gumba 145.24 229 *e*P **PKPdf** **17 22 11.9 +0.6**
comp=Z,62nm,1.0s

DMN Daman 145.30 227 *e*P **PKPdf** **17 22 12.3 +1.0**
comp=Z,55nm,0.9s
KKN Kakani 145.39 228 *e*P **PKPdf** **17 22 12.9 +1.5**
comp=Z,34nm,0.8s
CLTB Caltabellotta 145.65 103 PFAKE 17 22 20.0 +8.0
CLTB LR LR
comp=Z,300nm,19.0s
GKN Gorkha 145.85 227 *e*P **PKPab** **17 22 13.2 +0.1**
comp=Z,22nm,1.0s
PYUN Piuthan 146.60 225 *e*P **PKPbc** **17 22 14.4 -0.6**
comp=Z,31nm,0.8s
ESK Eskdalemuir 146.92 65 PFAKE 17 22 20.0 +3.8
ESK LR LR
comp=Z,381nm,21.0s
TIXI Tiksi 146.94 326 PKPbc **PKPbc** **17 22 14.3 0.0**
comp=Z,6.7nm,0.9s,baz=99,slow=4.3,SNR=13
TIXI Tiksi 146.94 326 *e*PKPbc **PKPbc** **17 22 14.5 +0.2**
BNI Bardonecchia 146.95 87 PFAKE 17 22 20.0 +3.2
BNI LR LR
comp=Z,454nm,20.0s
GTA Gaotai 147.39 258 ⇑PKPbc **PKPab** **17 22 18.0 -0.7**
GTA pPKP PKiKP 17 22 24.0 +5.0
CEL Celeste 147.60 105 PFAKE 17 22 30.0 +11
CEL LR LR
comp=Z,454nm,22.0s
ULN Ulaanbaatar 148.63 277 *e*PKPbc **PKPbc** **17 22 19.0 -0.8**
CUC Castrocucco 148.79 103 PFAKE 17 22 30.0 +5.8
CUC LR LR
comp=Z,222nm,22.0s
SONM Songino Array 148.99 276 PKPbc **PKPbc** **17 22 20.2 -0.5**
comp=Z,2.2nm,0.7s,baz=150,slow=3.3,SNR=9.4
AQU L'Aquila 149.04 97 PFAKE 17 22 30.0 +4.8
AQU LR LR
comp=Z,337nm,19.0s
BFO Black Forest 149.76 84 PFAKE 17 22 30.0 +2.1
BFO LR LR
comp=Z,233nm,20.0s
DAVA Damuels 150.06 86 *i* PKPbc **PKPbc** **17 22 24.1 +0.8**
comp=Z,10nm,1.1s
FETA Feichten 150.39 88 *i* sPKPdf **PKPbc** **17 22 23.6 -0.6**
comp=Z,8.4nm,1.1s
RETA Reutte 150.67 87 *i* PKPbc **PKPbc** **17 22 25.5 +0.8**
comp=Z,8.1nm,1.1s
ABTA Abfaltersbach 151.24 89 *es*PKPdf **PKPbc** **17 22 24.9 -1.2**
comp=Z,1.2nm,0.5s
KBS Kingsbay 152.49 17 PFAKE 17 22 30.0 +2.1
KBS LR LR
comp=Z,398nm,20.0s
SOKA Soboth 152.62 92 *e*PKiKP **PKiKP** **17 22 31.1 +1.7**
comp=Z,3.4nm,1.1s
NKC Novy Kostel 153.05 83 AMS AMS 18 29 50.0
comp=Z,300nm,18.0s
GERES GERESS Array B 153.06 87 PKPbc **PKPbc** **17 22 27.9 -2.2**
comp=Z,0.9nm,0.8s,baz=241,slow=1.4,SNR=4.2
GERES PKPab **PKPab** **17 22 38.0 -3.7**
comp=Z,1.0nm,0.6s,baz=232,slow=1.5,SNR=5.2
KHC Kasperske Hory 153.13 86 AMS AMS 18 31 00.0
comp=Z,300nm,19.3s
CSS Mathiatis 153.62 132 PFAKE 17 22 30.0 -1.7
CSS LR LR
comp=Z,120nm,21.0s
PRU Pruhonice 154.11 85 AMS AMS 18 30 40.0
comp=Z,200nm,16.8s
GOPC GO Pecny, Ondr 154.21 85 AMS AMS 18 30 40.0
comp=Z,300nm,21.7s
TREC Trest 154.29 87 AMS AMS 18 39 30.0
comp=Z,300nm,17.8s
PVCC Panska Ves 154.38 84 AMS AMS 18 24 40.0
comp=Z,300nm,20.8s
UPC Upice 155.19 85 AMS AMS 18 31 40.0
comp=Z,200nm,18.2s
DPC Dobruska-Polom 155.29 86 AMS AMS 18 26 40.0
comp=Z,300nm,22.5s
ANTO Ankara 157.46 125 PFAKE 17 22 40.0 +11
ANTO LR LR
comp=Z,429nm,19.0s
KSH Kashi 159.38 226 *e*PKP **PKPdf** **17 22 35.8 +4.4**
KEV Kevo 160.74 32 PFAKE 17 22 40.0 +8.2
KEV LR LR
comp=Z,333nm,20.0s
MKAR Makanchi Array 161.85 251 PKPab **PKPab** **17 23 18.6 -1.0**
comp=Z,1.1nm,0.7s,baz=117,slow=4.5,SNR=8.5
AAK Ala-Archa 162.60 228 PFAKE 17 22 40.0 +5.2
AAK LR LR
comp=Z,480nm,21.0s
EKS2 Erkin-Say 162.92 227 PFAKE 17 22 50.0 +15
EKS2 LR LR
comp=Z,379nm,19.0s
ZALV Zalesovo Beam 163.88 275 PKPab **PKPab** **17 23 27.9 -0.4**
comp=Z,0.6nm,0.6s,baz=112,slow=1.6,SNR=4.2
BRVK Borovoye 171.74 256 PFAKE 17 22 50.0 +9.1
BRVK LR LR
comp=Z,290nm,22.0s
ARU Arti 178.88 306 PFAKE 17 22 50.0 +7.3
ARU LR LR
comp=Z,356nm,21.0s

*ISCJB **27** 17:15:17.4±0.4, 40.54N±0.02×21.62E±0.03, h9km±3km,*
Error ellipse: s-maj=3.5km s-min=2.8km az=40.3
*ATH **27** 17:15:17.0, 40.55N×21.62E, h24km, ML2.5/27, Error*
ellipse: s-maj=1.2km s-min=0.7km az=336.0
*CSEM **27** 17:15:17.5±0.1, 40.53N×21.63E, h8km, ML2.7, Error*
ellipse: s-maj=2.8km s-min=2.4km az=113.0
*THE **27** 17:15:17.9, 40.52N×21.59E, h14km, ML2.7/7, Error*
ellipse: s-maj=0.9km s-min=0.3km az=273.0
*SKO **27** 17:15:18.8, 40.54N×21.58E, h6km, M2.2, ML2.5*
ISC 27 17:15:17.8±0.8, 40.53N±0.02×21.63E±0.02, h14km±6km,
n82, σ0.74/135, 4C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.25**	**153**	P	**Pg**	**17 15 23.4**	**+0.2**
KZN				S	**Sg**	**17 15 27.7**	**+0.9**
KZN	**Kozani**	**0.25**	**153**	P	**Pg**	**17 15 23.1**	**-0.1**
KZN				S	**Sg**	**17 15 27.7**	**+0.9**
FNA	**Florina**	**0.32**	**324**	P	**Pg**	**17 15 24.0**	**-0.4**
FNA				S	**Sg**	**17 15 29.0**	**+0.1**
FNA	**Florina**	**0.32**	**324**	P	**Pg**	**17 15 24.0**	**-0.4**
FNA				S	**Sg**	**17 15 29.0**	**+0.1**
FNA	**Florina**	**0.32**	**324**	P	**Pg**	**17 15 24.0**	**-0.4**
FNA				S	**Sg**	**17 15 29.1**	**+0.3**
FNA				AML	AML	17 15 29.3	
	comp=N,8052μm,0.2s						
FNA				AML	AML	17 15 29.8	
	comp=E,6024μm,0.3s						
NEST	**Nestorio**	**0.45**	**256**	P	**Pg**	**17 15 26.3**	**-0.6**
NEST				S	**Sg**	**17 15 32.6**	**-0.4**
NEST	**Nestorio**	**0.45**	**256**	P	**Pg**	**17 15 26.3**	**-0.6**
NEST				S	**Sg**	**17 15 32.6**	**-0.4**
NEST	**Nestorio**	**0.45**	**256**	P	**Pg**	**17 15 25.7**	**-1.1**
NEST				S	**Sg**	**17 15 33.4**	**+0.4**
NEST				AML	AML	17 15 34.8	
	comp=E,1872μm,0.5s						
NEST				AML	AML	17 15 37.6	
	comp=N,1996μm,0.6s						
PENT	**Pentalofos**	**0.50**	**228**	P	**Pg**	**17 15 27.0**	**-0.7**
PENT				S	**Sg**	**17 15 34.5**	**+0.2**
PENT	**Pentalofos**	**0.50**	**228**	P	**Pg**	**17 15 27.0**	**-0.7**
PENT				S	**Sg**	**17 15 34.2**	**-0.1**
PENT	**Pentalofos**	**0.50**	**228**	P	**Pg**	**17 15 26.8**	**-0.9**
PENT				S	**Sg**	**17 15 34.2**	**-0.1**
PENT				AML	AML	17 15 40.5	
	comp=E,1062μm,0.3s						
PENT				AML	AML	17 15 40.6	
	comp=N,1130μm,0.3s						
KPRO	**Kipourio**	**0.61**	**199**	P	**Pg**	**17 15 29.0**	**-0.7**
KPRO				S	**Sg**	**17 15 38.1**	**+0.4**
KPRO	**Kipourio**	**0.61**	**199**	P	**Pg**	**17 15 29.0**	**-0.7**
KPRO				S	**Sg**	**17 15 38.1**	**+0.4**
KPRO	**Kipourio**	**0.61**	**199**	P	**Pg**	**17 15 28.5**	**-1.2**
KPRO				S	**Sb**	**17 15 39.3**	**+0.6**
KPRO				AML	AML	17 15 41.1	
	comp=E,1096μm,0.7s						
KPRO				AML	AML	17 15 42.0	
	comp=N,1299μm,0.3s						
GRG	**Griva**	**0.73**	**54**	P	**Pg**	**17 15 31.5**	**-0.5**
GRG	**Griva**	**0.73**	**54**	P	**Pg**	**17 15 31.5**	**-0.5**
LIT	**Litokhoron**	**0.79**	**123**	P	**Pg**	**17 15 33.0**	**-0.1**
LIT				S	**Sn**	**17 15 45.3**	**-0.9**
LIT	**Litokhoron**	**0.79**	**123**	P	**Pg**	**17 15 33.0**	**-0.1**
LIT				S	**Sb**	**17 15 44.0**	**+0.1**
LIT	**Litokhoron**	**0.79**	**123**	P	**Pb**	**17 15 33.5**	**+0.2**
LIT				S	**Sb**	**17 15 44.0**	**+0.1**
LIT				AML	AML	17 15 47.0	
	comp=E,902μm,0.3s						
LIT				AML	AML	17 15 51.5	
	comp=N,664μm,0.3s						
OHR	**Ohrid**	**0.86**	**313**	⇑*i*Pg	**Pg**	**17 15 33.7**	**-0.7**
OHR				*i* Sg	**Sg**	**17 15 45.2**	**-0.5**
OHR				*e*Lg	Lg	17 15 46.7	
	comp=N,248nm,0.6s						
OHR				*e*Lg	Lg	17 15 46.7	
	comp=E,223nm,0.5s						
OHR	**Ohrid**	**0.86**	**313**	⇑*i*Pg	**Pg**	**17 15 33.7**	**-0.7**
OHR				*i* Sg	**Sg**	**17 15 45.1**	**-0.5**
OHR				*e*Lg	Lg	17 15 46.7	
	comp=E,223nm,0.5s						
THL	**Klokotos Trika**	**1.01**	**163**	P	**Pb**	**17 15 35.9**	**-1.1**
THL				S	**Sg**	**17 15 50.8**	**+0.4**
THL	**Klokotos Trika**	**1.01**	**163**	P	**Pb**	**17 15 35.9**	**-1.1**
THL				S	**Sg**	**17 15 50.8**	**+0.4**
THE	**Thessaloniki**	**1.03**	**84**	P	**Pn**	**17 15 38.2**	**+0.4**
THE	**Thessaloniki**	**1.03**	**84**	P	**Pn**	**17 15 38.2**	**+0.4**
THE				AML	AML	17 15 54.5	
	comp=E,84μm,0.5s						
THE				AML	AML	17 15 55.2	
	comp=N,163μm,0.5s						
JAN	**Janina**	**1.05**	**215**	P	**Pb**	**17 15 37.1**	**-0.8**
JAN				S	**Sn**	**17 15 54.3**	**+1.6**
JAN	**Janina**	**1.05**	**215**	S	**Sn**	**17 15 54.3**	**+1.6**
JAN				AML	AML	17 15 59.1	
	comp=E,281μm,0.4s						
VAY	**Valandovo**	**1.07**	**42**	⇑*i*Pg	**Pn**	**17 15 38.3**	**-0.2**
VAY				*i* Sg	**Sn**	**17 15 52.9**	**-0.1**
VAY				*e*Lg	Lg	17 15 55.3	
	comp=N,40nm,0.6s						
VAY				*e*Lg	Lg	17 15 56.0	
	comp=E,59nm,0.4s						
VAY	**Valandovo**	**1.07**	**42**	⇑*i*Pg	**Pn**	**17 15 38.2**	**-0.2**
VAY				*i* Sg	**Sn**	**17 15 52.9**	**-0.1**
VAY				*e*Lg	Lg	17 15 55.9	
	comp=E,59nm,0.4s						
HORT	**Hortiatis**	**1.12**	**86**	P	**Pb**	**17 15 38.9**	**-0.2**
HORT				S	**Sb**	**17 15 53.8**	**+0.1**
HORT	**Hortiatis**	**1.12**	**86**	P	**Pb**	**17 15 38.9**	**-0.2**
HORT				S	**Sb**	**17 15 53.8**	**+0.1**
HORT				AML	AML	17 15 56.7	
	comp=E,196μm,0.5s						
HORT				AML	AML	17 15 58.4	
	comp=N,218μm,0.4s						
KNT	**Kendrikon**	**1.16**	**56**	P	**Pb**	**17 15 39.3**	**-0.3**
KNT				S	**Sg**	**17 15 55.8**	**+0.7**
KNT	**Kendrikon**	**1.16**	**56**	P	**Pb**	**17 15 39.3**	**-0.3**
KNT				S	**Sg**	**17 15 55.8**	**+0.7**
KNT				AML	AML	17 15 57.5	
	comp=N,86μm,0.4s						
KNT				AML	AML	17 16 00.7	
	comp=E,87μm,0.3s						
SOH	**Sokhos**	**1.35**	**77**	P	**Pb**	**17 15 42.8**	**-0.1**
SOH	**Sokhos**	**1.35**	**77**	P	**Pb**	**17 15 42.8**	**-0.1**
SOH				AML	AML	17 16 06.4	
	comp=E,295μm,0.5s						
SOH				AML	AML	17 16 09.4	
	comp=N,205μm,0.4s						
PLG	**Polygyros**	**1.40**	**96**	P	**Pn**	**17 15 42.8**	**-0.2**
PLG				S	**Sb**	**17 16 02.0**	**+0.5**
PLG	**Polygyros**	**1.40**	**96**	P	**Pb**	**17 15 43.5**	**-0.2**
PLG				S	**Sb**	**17 16 02.0**	**+0.5**
PLG	**Polygyros**	**1.40**	**96**	P	**Pb**	**17 15 43.5**	**-0.2**
PLG				S	**Sb**	**17 16 01.8**	**+0.3**
PLG				AML	AML	17 16 03.1	
	comp=E,230μm,0.5s						
PLG				AML	AML	17 16 03.3	
	comp=N,230μm,0.4s						
SGD	**Sagiada**	**1.41**	**230**	P	**Pb**	**17 15 44.1**	**+0.3**
SGD				S	**Sb**	**17 16 02.2**	**+0.6**
SGD	**Sagiada**	**1.41**	**230**	P	**Pb**	**17 15 44.1**	**+0.3**
SGD				S	**Sb**	**17 16 02.2**	**+0.6**
FYTO	**Fytoko, Volos**	**1.51**	**137**	P	**Pn**	**17 15 43.1**	**-1.3**
FYTO				S	**Sn**	**17 16 04.3**	**+0.4**
FYTO	**Fytoko, Volos**	**1.51**	**137**	P	**Pn**	**17 15 43.1**	**-1.3**
FYTO				S	**Sn**	**17 16 04.3**	**+0.4**
AGG	**Agios Georgios**	**1.60**	**160**	P	**Pn**	**17 15 45.7**	**0.0**
AGG				S	**Sn**	**17 16 05.4**	**-0.8**
AGG	**Agios Georgios**	**1.60**	**160**	P	**Pn**	**17 15 45.7**	**0.0**
AGG				S	**Sb**	**17 16 08.4**	**+1.2**
AGG	**Agios Georgios**	**1.60**	**160**	P	**Pn**	**17 15 45.5**	**-0.3**
AGG				S	**Sb**	**17 16 08.4**	**+1.2**
AGG				AML	AML	17 16 16.7	
	comp=N,505μm,0.4s						
AGG				AML	AML	17 16 17.9	
	comp=E,542μm,0.6s						
EVR	**Evrytania**	**1.61**	**175**	P	**Pb**	**17 15 47.0**	**-0.5**
EVR				S	**Sg**	**17 16 09.7**	**-0.1**
EVR	**Evrytania**	**1.61**	**175**	P	**Pb**	**17 15 47.0**	**-0.5**
EVR				S	**Sg**	**17 16 09.7**	**-0.1**
EVR				AML	AML	17 16 15.5	
	comp=N,206μm,0.3s						
KEK	**Kerkira**	**1.62**	**240**	P	**Pn**	**17 15 45.6**	**-0.4**
KEK				S	**Sb**	**17 16 08.6**	**+0.8**
PAIG	**Paliouri**	**1.68**	**110**	P	**Pn**	**17 15 45.3**	**-1.5**
PAIG	**Paliouri**	**1.68**	**110**	P	**Pn**	**17 15 45.3**	**-1.5**
PAIG				AML	AML	17 16 15.9	
	comp=N,73μm,0.6s						
PAIG				AML	AML	17 16 20.5	
	comp=E,149μm,1.0s						
LKD2	**Lefkada island**	**1.89**	**204**	P	**Pn**	**17 15 49.8**	**+0.1**
LKD2				S	**Sn**	**17 16 13.8**	**+0.4**
LKD2	**Lefkada island**	**1.89**	**204**	P	**Pn**	**17 15 49.9**	**+0.1**
LKD2				S	**Sn**	**17 16 13.8**	**+0.4**
LKD2				AML	AML	17 16 21.7	
	comp=N,179μm,0.5s						
LKD2				AML	AML	17 16 27.5	
	comp=E,130μm,0.6s						
PVO	**Paravola**	**1.91**	**182**	P	**Pn**	**17 15 51.2**	**+1.2**
PVO				S	**Sb**	**17 16 16.8**	**+0.6**
PVO	**Paravola**	**1.91**	**182**	P	**Pn**	**17 15 51.2**	**+1.2**
PVO				S	**Sb**	**17 16 16.8**	**+0.6**
ANX	**Ano Chora**	**1.95**	**173**	P	**Pn**	**17 15 51.1**	**+0.5**
ANX				S	**Sn**	**17 16 15.9**	**+1.1**
ANX	**Ano Chora**	**1.95**	**173**	S	**Sn**	**17 16 15.9**	**+1.1**
ANX				AML	AML	17 16 22.3	
	comp=N,248μm,0.4s						
ANX				AML	AML	17 16 23.4	
	comp=E,219μm,0.4s						
PDO	**Prodromos**	**1.96**	**190**	P	**Pb**	**17 15 52.4**	**-0.8**
PDO	**Prodromos**	**1.96**	**190**	P	**Pb**	**17 15 52.4**	**-0.8**
PDO				AML	AML	17 16 25.5	
	comp=E,167μm,0.6s						
PDO				AML	AML	17 16 28.3	
	comp=N,232μm,0.4s						
SKIA	**Skiathos**	**1.96**	**133**	P	**Pn**	**17 15 49.8**	**-0.9**
SKIA				S	**Sb**	**17 16 16.8**	**-0.9**
SKIA	**Skiathos**	**1.96**	**133**	P	**Pn**	**17 15 49.8**	**-0.9**
SKIA				S	**Sb**	**17 16 16.8**	**-0.9**
SKIA				AML	AML	17 16 35.0	
	comp=E,88μm,0.8s						
SKIA				AML	AML	17 16 36.9	
	comp=N,143μm,1.0s						
SMIA	**Simia**	**2.05**	**143**	P	**Pn**	**17 15 52.6**	**+0.7**
SMIA	**Simia**	**2.05**	**143**	P	**Pn**	**17 15 52.6**	**+0.7**
SMIA				AML	AML	17 16 34.7	
	comp=N,340μm,0.9s						
SMIA				AML	AML	17 16 35.6	
	comp=E,423μm,0.7s						
EFP	**Efpalio**	**2.11**	**174**	P	**Pn**	**17 15 53.7**	**+1.0**
EFP	**Efpalio**	**2.11**	**174**	P	**Pn**	**17 15 53.6**	**+1.0**
EFP				AML	AML	17 16 29.6	
	comp=N,236μm,0.6s						
EFP				AML	AML	17 16 36.4	
	comp=E,262μm,0.7s						
KALE	**Kalithea**	**2.17**	**169**	P	**Pn**	**17 15 53.9**	**+0.3**
KALE				S	**Sn**	**17 16 21.9**	**+1.5**
KALE	**Kalithea**	**2.17**	**169**	P	**Pn**	**17 15 53.9**	**+0.3**
KALE				S	**Sn**	**17 16 21.9**	**+1.5**
KALE				AML	AML	17 16 32.8	
	comp=E,121μm,0.5s						
KALE				AML	AML	17 16 37.6	
	comp=N,147μm,0.8s						
TRIZ	**Trizonia**	**2.19**	**171**	P	**Pn**	**17 15 54.2**	**+0.4**
TRIZ				S	**Sn**	**17 16 22.1**	**+1.4**
DSF	**Desfina**	**2.23**	**161**	P	**Pn**	**17 15 54.4**	**0.0**
DSF	**Desfina**	**2.23**	**161**	P	**Pn**	**17 15 54.4**	**0.0**
DSF				AML	AML	17 16 29.1	
	comp=E,87μm,0.4s						
DSF				AML	AML	17 16 30.7	
	comp=N,74μm,0.4s						

BARS	**Barje**	**2.29**	**4**	*e*Pn	**Pn**	**17 15 55.4**	**+0.2**
LAKA	**Lakka**	**2.30**	**173**	P	**Pn**	**17 15 56.4**	**+1.0**
LAKA				S	**Sn**	**17 16 23.6**	**0.0**
LAKA	**Lakka**	**2.30**	**173**	P	**Pn**	**17 15 56.4**	**+1.0**
LAKA				S	**Sn**	**17 16 23.6**	**0.0**
LAKA				AML	AML	17 16 31.1	
	comp=E,65μm,1.6s						
LAKA				AML	AML	17 16 36.4	
	comp=N,49μm,1.2s						
KLV	**Kalavryta, Ach**	**2.51**	**171**	P	**Pn**	**17 15 58.4**	**+0.1**
KLV	**Kalavryta, Ach**	**2.51**	**171**	P	**Pn**	**17 15 58.4**	**+0.1**
KLV				AML	AML	17 16 43.9	
	comp=N,38μm,1.3s						
KLV				AML	AML	17 16 46.0	
	comp=E,42μm,1.1s						
DRO	**Drossia**	**2.57**	**178**	P	**Pb**	**17 16 01.7**	**-2.1**
DRO	**Drossia**	**2.57**	**178**	P	**Pb**	**17 16 01.7**	**-2.1**
DRO				AML	AML	17 16 45.1	
	comp=N,113μm,0.7s						
DRO				AML	AML	17 16 46.0	
	comp=E,108μm,0.6s						
GUR	**Goura**	**2.65**	**168**	P	**Pn**	**17 15 59.8**	**-0.4**
GUR	**Goura**	**2.65**	**168**	P	**Pn**	**17 15 59.8**	**-0.4**
GUR				AML	AML	17 16 40.7	
	comp=N,90μm,0.4s						
GUR				AML	AML	17 16 49.4	
	comp=E,92μm,0.6s						
LTK	**Loutraki**	**2.71**	**157**	P	**Pn**	**17 16 00.9**	**-0.1**
LTK	**Loutraki**	**2.71**	**157**	P	**Pn**	**17 16 00.9**	**-0.1**
LTK				AML	AML	17 16 53.6	
	comp=E,49μm,0.5s						
LTK				AML	AML	17 17 02.6	
	comp=N,63μm,0.9s						
GRUS	**Gruza**	**3.43**	**349**	*e*Pn	**Pn**	**17 16 11.0**	**+0.2**
DIVS	**Divibare**	**3.77**	**342**	*e*Pn	**Pn**	**17 16 17.3**	**+1.7**

MAN 27 17:24:53, 8.82N×122.71E, h32km, mb3.7, ML2.5, MS2.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.73**	**45**	*i*P	Pn	17 25 07.2	+0.1
SNPH				*i* S	Sn	17 25 19.2	+1.9
IPIL	**Ipil**	**1.04**	**188**	*e*P	Pn	17 25 11.2	-0.1
IPIL				*e*S	Sn	17 25 24.9	+0.2
CUYO	**Cuyo Island**	**2.62**	**320**	*e*P	Pn	17 25 35.2	+2.1
CUYO				*e*S	Sn	17 26 04.6	+0.7
ENPP	**El Nido**	**4.01**	**306**	*e*P	Pn	17 25 54.0	+1.7

*ISK **27** 17:28:55.8, 37.14N×42.49E, h5km, MD3.5*
*ISN **27** 17:28:55.4±0.3, 37.13N×42.59E, h0km, ML3.2*
*ISCJB **27** 17:28:56.6±0.9, 37.14N±0.04×42.52E±0.04, h5km±9km, Error ellipse: s-maj=7.7km s-min=5.3km az=24.2*
*NSSC **27** 17:28:56.5±0.7, 37.45N×42.25E, h141km±10km, ML2.5*
*CSEM **27** 17:28:56.9±0.3, 37.16N×42.52E, h8km, MD3.5*
*DDA **27** 17:28:57.0, 37.11N×42.42E, h7km, Md2.6*

ISC 27 17:28:56.2±1.3, 37.13N±0.03×42.48E±0.03, h3km±10km, n33, σ0s90/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRN	**S¯-rnak**	**0.37**	**352**	P	**Pg**	**17 29 03.7**	**+0.4**
SIRN				S	**Sb**	**17 29 09.9**	**-1.8**
SIRN	**S¯-rnak**	**0.37**	**352**	*i* P	**Pg**	**17 29 03.7**	**+0.4**
SIRN				*i* S	**Sb**	**17 29 09.9**	**-1.8**
SIRT	**Sirnak**	**0.37**	**355**	*e*PG	**Pg**	**17 29 02.8**	**-0.6**
SIRT				*e*SG	**Sg**	**17 29 09.3**	**+1.0**
SIRT	**Sirnak**	**0.37**	**355**	*e*Pg	**Pg**	**17 29 02.8**	**-0.6**
SIRT				*e*Sg	**Sg**	**17 29 09.3**	**+1.0**
CUKT	**Cukurca**	**0.91**	**82**	*e*PG	**Pg**	**17 29 13.7**	**+0.1**
CUKT				*e*SG	**Sb**	**17 29 26.4**	**-0.8**
CUKT	**Cukurca**	**0.91**	**82**	*e*Pg	**Pg**	**17 29 13.7**	**+0.1**
CUKT				*e*Sg	**Sb**	**17 29 26.4**	**-0.8**
HKR	**Hakkari**	**1.10**	**66**	*e*PG	**Pg**	**17 29 16.7**	**-0.6**
HKR				*e*SG	**Sb**	**17 29 32.9**	**+0.1**
HKR	**Hakkari**	**1.10**	**66**	*e*Pg	**Pg**	**17 29 16.7**	**-0.6**
HKR				*e*Sg	**Sb**	**17 29 32.9**	**+0.1**
BTMN	**Batman**	**1.23**	**309**	P	**Pn**	**17 29 20.1**	**-0.2**
BTMN				S	**Sn**	**17 29 37.2**	**-0.3**
BTMN	**Batman**	**1.23**	**309**	*i* P	**Pn**	**17 29 20.1**	**-0.2**
BTMN				*i* S	**Sn**	**17 29 37.1**	**-0.3**
GEVA	**Gevas**	**1.27**	**21**	P	**Pn**	**17 29 21.6**	**+0.6**
GEVA				S	**Sn**	**17 29 41.0**	**+2.4**
GEVA	**Gevas**	**1.27**	**21**	*i* P	**Pn**	**17 29 21.6**	**+0.6**
GEVA				*i* S	**Sn**	**17 29 41.0**	**+2.4**
MARD	**Mardin**	**1.37**	**278**	*i* P	**Pn**	**17 29 21.9**	**-0.5**
MARD				*i* S	**Sn**	**17 29 41.3**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.44**	**315**	*e*PN	**Pb**	**17 29 23.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.44**	**315**	*e*Pn	**Pb**	**17 29 23.4**	**-0.3**
KBSD	**Kabsdagh**	**1.55**	**266**	*i* P	**Pn**	**17 29 24.7**	**-0.1**
KBSD				*e*S	**Sb**	**17 29 45.9**	**+0.2**
KBSD				AML	AML	17 29 48.6	
	comp=N,158nm,0.4s						
KBSD				AML	AML	17 29 50.3	
	comp=E,69nm,0.2s						
VANB	**Van**	**1.63**	**26**	*e*PN	**Pn**	**17 29 24.9**	**-1.0**
VANB	**Van**	**1.63**	**26**	*e*Pn	**Pn**	**17 29 24.9**	**-1.0**
MAZI	**Mazidag**	**1.65**	**282**	*e*PN	**Pn**	**17 29 26.4**	**+0.2**
MAZI				*e*SN	**Sb**	**17 29 48.2**	**-0.4**
MAZI	**Mazidag**	**1.65**	**282**	*e*Pn	**Pn**	**17 29 26.4**	**+0.2**
MAZI				*e*Sn	**Sb**	**17 29 48.2**	**-0.4**
MZRK	**Al-Mazaregh**	**1.96**	**229**	*i* P	**Pb**	**17 29 32.1**	**-0.5**
MZRK				*e*S	**Sb**	**17 29 58.5**	**+0.9**
MZRK				AML	AML	17 30 01.6	
	comp=E,119nm,0.3s						
MZRK				AML	AML	17 30 03.7	
	comp=N,59nm,0.4s						
SFNV	**Sufian**	**2.03**	**250**	*i* P	**Pn**	**17 29 32.3**	**+0.9**
SFNV				*e*S	**Sn**	**17 29 56.7**	**-0.5**
SFNV				AML	AML	17 30 05.4	
	comp=E,78nm,0.2s						
SFNV				AML	AML	17 30 10.8	
	comp=N,42nm,0.5s						
BNGB	**Bing¯||**	**2.34**	**323**	*e*PN	**Pn**	**17 29 36.0**	**+0.3**
BINT	**Bingol**	**2.35**	**319**	*e*Pn	**Pn**	**17 29 36.0**	**+0.2**
AGRB	**Hanur-Agry**	**2.47**	**9**	*e*PN	**Pn**	**17 29 37.1**	**-0.5**
AGRB	**Hanur-Agry**	**2.47**	**9**	*e*Pn	**Pn**	**17 29 37.1**	**-0.5**
SVRC	**Sivrice-ELAZID**	**2.81**	**297**	*e*PN	**Pn**	**17 29 42.9**	**+0.8**
SVRC	**Sivrice-ELAZID**	**2.81**	**297**	*e*Pn	**Pn**	**17 29 42.9**	**+0.8**
URFA	**Urfa**	**2.93**	**277**	*e*PN	**Pn**	**17 29 45.0**	**+1.2**
URFA	**Urfa**	**2.93**	**277**	*e*Pn	**Pn**	**17 29 45.0**	**+1.2**
PTK	**Pertek**	**3.01**	**307**	*e*PN	**Pn**	**17 29 45.9**	**+1.0**
PTK	**Pertek**	**3.01**	**307**	*e*Pn	**Pn**	**17 29 45.9**	**+1.0**
KSRV	**Kasrt alli**	**3.07**	**247**	*i* P	**Pb**	**17 29 49.9**	**-1.6**
KSRV				*e*S	**Sb**	**17 30 28.5**	**-0.9**
KSRV				AML	AML	17 30 36.8	
	comp=N,12nm,0.3s						
KSRV				AML	AML	17 30 43.9	
	comp=E,13nm,0.7s						

*ISCJB **27** 17:30:12.8±1.2, 37.40N±0.07×142.7E±0.1, h21km, mb3.7/3, Error ellipse: s-maj=14.2km s-min=9.2km az=151.3*
*JMA **27** 17:30:12.1±0.9, 37.39N×142.72E, h18km, M3.4*
*IDC **27** 17:30:15.3±2.8, 36.94N×142.64E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/34, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=74.7km s-min=29.3km az=55.0*

ISC 27 17:30:16.6±1.6, 37.44N±0.08×142.6E±0.1, h21km, n16, σ2s27/12, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.40**	**317**	P	**Pn**	**17 30 38.1**	**-2.9**
ONAJ	**Iwakimizuishiy**	**1.45**	**257**	P	**Pn**	**17 30 39.8**	**-1.9**
ONAJ				*e*S	**Sn**	**17 30 59.5**	**-0.7**
JMM	**Marumori**	**1.48**	**287**	P	**Pn**	**17 30 39.2**	**-2.8**
JOU	**Okura**	**1.77**	**302**	P	**Pn**	**17 30 44.5**	**-1.6**
JOU				*e*S	**Sn**	**17 31 08.2**	**+0.2**
JMK	**Ichinoseki**	**1.85**	**325**	*e*S	**Sn**	**17 31 10.1**	**+0.2**
JYK	**Kaneyama**	**2.29**	**311**	P	**Pn**	**17 30 52.2**	**-0.9**
MJAR	**Matsushiro Arr**	**3.60**	**257**	Pn	**Pn**	**17 31 11.8**	**+0.5**
	0.3nm,0.3s,baz=80,slow=17,SNR=4.6						
H11N2	**WAKE ISLAND Hy 27.57**	**123**		T	T	18 04 47.6	
	baz=315,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hy 27.58**	**123**		T	T	18 04 52.4	
	baz=315,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy 27.59**	**123**		T	T	18 04 50.6	
	baz=315,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy 28.32**	**125**		T	T	18 05 46.7	
	baz=317,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy 28.32**	**125**		T	T	18 05 44.2	
	baz=317,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy 28.33**	**125**		T	T	18 05 47.9	
	baz=317,slow=76,SNR=20						
MKAR	**Makanchi Array**	**44.69**	**302**	P	**P**	**17 38 32.3**	**+4.3**
	0.5nm,0.9s,baz=83,slow=9.5,SNR=3.5						
WRA	**Warramunga Arr**	**57.60**	**189**	P	**P**	**17 40 03.1**	**-1.8**
	1.2nm,0.7s,baz=7.0,slow=7.5,SNR=8.6						
ASAR	**Alice Springs**	**61.32**	**189**	P	**P**	**17 40 29.8**	**-0.9**
	0.6nm,0.9s,baz=8.5,slow=7.9,SNR=10						

*ISCJB **27** 17:38:27.7±0.5, 38.56N±0.02×39.55E±0.04, h6km±6km, Error ellipse: s-maj=5.7km s-min=4.0km az=170.3*
*CSEM **27** 17:38:27.6±0.2, 38.56N×39.55E, h8km, MD2.8, Error ellipse: s-maj=5.1km s-min=4.1km az=66.0*
*ISK **27** 17:38:27.4, 38.56N×39.49E, h17km, MD2.8*
*DDA **27** 17:38:27.7, 38.59N×39.55E, h7km, Md2.7*

ISC 27 17:38:27.7±0.9, 38.57N±0.02×39.54E±0.03, h11km±9km, n27, σ0s48/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.27**	**224**	*e*PG	**Pg**	**17 38 32.9**	**-0.4**
SVRC				*e*SG	**Sg**	**17 38 37.5**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.27**	**224**	*e*Pg	**Pg**	**17 38 32.9**	**-0.4**
SVRC				*e*Sg	**Sg**	**17 38 37.5**	**+0.5**
PTK	**Pertek**	**0.34**	**340**	*e*PG	**Pg**	**17 38 34.3**	**-0.3**
PTK				*e*SG	**Sb**	**17 38 41.1**	**-0.4**
PTK	**Pertek**	**0.34**	**340**	*e*Pg	**Pg**	**17 38 34.3**	**-0.3**
PTK				*e*Sg	**Sb**	**17 38 41.1**	**-0.4**
ELZG	**Elazig**	**0.45**	**261**	P	**Pg**	**17 38 36.1**	**-0.4**
ELZG				S	**Sg**	**17 38 43.4**	**+1.0**
ELZG	**Elazig**	**0.45**	**261**	*i* P	**Pg**	**17 38 36.1**	**-0.4**
ELZG				*i* S	**Sg**	**17 38 43.4**	**+1.0**
TNCL	**Tunceli-Merkez**	**0.54**	**360**	P	**Pg**	**17 38 37.7**	**-0.6**
TNCL				S	**Sg**	**17 38 45.7**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.54**	**360**	*i* P	**Pg**	**17 38 37.7**	**-0.6**
TNCL				*i* S	**Sg**	**17 38 45.7**	**+0.2**
DIYA	**Diyarbakir**	**0.79**	**145**	P	**Pb**	**17 38 43.2**	**-0.3**
DIYA				S	**Sb**	**17 38 55.0**	**+0.7**
DIYA	**Diyarbakir**	**0.79**	**145**	*i* P	**Pb**	**17 38 43.2**	**-0.3**
DIYA				*i* S	**Sb**	**17 38 55.0**	**+0.7**
BNGB	**Bing¯||**	**0.98**	**64**	*e*PG	**Pn**	**17 38 48.5**	**+0.9**
ERZN	**Erzincan**	**1.02**	**8**	*e*PG	**Pg**	**17 38 47.1**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.16**	**42**	*e*PN	**Pg**	**17 38 49.8**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.16**	**42**	*e*Pn	**Pg**	**17 38 49.8**	**-0.3**
URFA	**Urfa**	**1.27**	**207**	*e*PN	**Pn**	**17 38 50.9**	**-0.5**
URFA	**Urfa**	**1.27**	**207**	*e*Pn	**Pn**	**17 38 50.9**	**-0.5**
MAZI	**Mazidag**	**1.32**	**147**	*e*PN	**Pn**	**17 38 51.7**	**-0.5**
MAZI				*e*SN	**Sn**	**17 39 10.1**	**+0.3**
MAZI	**Mazidag**	**1.32**	**147**	*e*Pn	**Pn**	**17 38 51.7**	**-0.5**
MAZI				*e*Sn	**Sn**	**17 39 10.1**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.37**	**107**	*e*PN	**Pn**	**17 38 52.4**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.37**	**107**	*e*Pn	**Pn**	**17 38 52.4**	**-0.4**
BTMN	**Batman**	**1.52**	**116**	P	**Pn**	**17 38 55.1**	**+0.2**
BTMN				S	**Sg**	**17 39 16.4**	**-0.2**
BTMN	**Batman**	**1.52**	**116**	*i* P	**Pn**	**17 38 55.1**	**+0.2**
BTMN				*i* S	**Sg**	**17 39 16.4**	**-0.2**
KELT	**Kelkit**	**1.59**	**352**	P	**Pg**	**17 38 58.1**	**-0.1**
KELT				S	**Sg**	**17 39 19.5**	**+0.6**
KELT	**Kelkit**	**1.59**	**352**	*i* P	**Pg**	**17 38 58.1**	**-0.1**
KELT				*i* S	**Sg**	**17 39 19.5**	**+0.6**
MARD	**Mardin**	**1.59**	**142**	*i* P	**Pn**	**17 38 56.3**	**+0.3**
MARD				*i* S	**Sb**	**17 39 17.5**	**+0.2**
SIRT	**Sirnak**	**2.52**	**114**	*e*PN	**Pn**	**17 39 08.9**	**+0.2**
SIRT	**Sirnak**	**2.52**	**114**	*e*Pn	**Pn**	**17 39 08.9**	**+0.2**

IDC 27 17:39:37.1±1.9, 38.74N×143.65E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/31, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=163.5km s-min=23.2km az=116.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**4.84**	**245**	P	Pn	17 40 49.7	-1.6
JHJ	**Hachijo jima 2**	**6.42**	**210**	Pn	Pn	17 41 13.1	+0.1
	5.8nm,0.3s,baz=73,slow=20,SNR=2.9						
JHJ				Sn	Sn	17 42 25.9	-1.0
	3.1nm,0.3s,baz=233,slow=20,SNR=1.6						
H11N2	**WAKE ISLAND Hy 27.62**	**127**		T	T	18 15 01.9	
	baz=319,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy 27.63**	**127**		T	T	18 15 04.3	
	baz=319,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy 27.64**	**127**		T	T	18 15 07.0	
	baz=319,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy 28.42**	**129**		T	T	18 16 07.3	
	baz=321,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy 28.42**	**129**		T	T	18 16 08.1	
	baz=321,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy 28.44**	**129**		T	T	18 16 09.5	
	baz=321,slow=76,SNR=9.7						
WRA	**Warramunga Arr**	**59.02**	**190**	P	P	17 49 38.2	-0.6
	0.2nm,0.4s,baz=6.8,slow=7.3,SNR=6.8						
YKA	**Yellowknife Ar**	**61.44**	**31**	P	P	17 49 54.7	-0.2
	0.2nm,0.4s,baz=295,slow=5.8,SNR=2.6						
ASAR	**Alice Springs**	**62.74**	**190**	P	P	17 50 04.6	+0.6
	0.5nm,1.1s,baz=21,slow=5.2,SNR=3.4						

MAN 27 17:50:47, 13.03N×120.89E, h21km, mb3.6, ML2.4, MS1.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.47**	**7**	*e*P	Pn	17 50 58.2	-0.5
PGP				*e*S	Sn	17 51 05.1	-1.2
SJMP	**San Jose**	**0.61**	**159**	*e*P	Pn	17 50 60.0	-0.4
SJMP				*e*S	Sn	17 51 09.1	-0.4
BUSP	**Coron**	**1.22**	**214**	*e*P	Pb	17 51 11.1	+1.6
BUSP				*e*S	Sn	17 51 26.2	+1.4
OTRP	**Odiongan**	**1.29**	**121**	*e*P	Pb	17 51 10.9	+0.5
OTRP				*e*S	Sb	17 51 27.8	+1.2
CUYO	**Cuyo Island**	**2.17**	**177**	*e*P	Pn	17 51 22.1	+0.2

MAN 27 17:53:07, 8.81N×122.71E, h32km, mb3.9, ML2.6, MS2.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.74**	**45**	*i*P	Pn	17 53 21.2	-0.1
SNPH				*i* S	Sn	17 53 32.4	+0.8
IPIL	**Ipil**	**1.02**	**188**	*e*P	Pn	17 53 25.1	-0.1
IPIL				*e*S	Sn	17 53 38.3	-0.1
CUYO	**Cuyo Island**	**2.62**	**321**	*e*P	Pn	17 53 48.6	+1.4
CUYO				*e*S	Sn	17 54 18.3	+0.3
ENPP	**El Nido**	**4.01**	**307**	*e*P	Pn	17 54 07.9	+1.6

*NIED **27** 18:10:00, 36.30N×141.90E, h23km, Mw3.9 Best double couple: M0=6.72000×10^14 NP1:ϕs=208.00000°, δ=26.00000°, λ=104.00000°. NP2:ϕs=13.00000°, δ=65.00000°, λ=83.00000°.*
*IDC **27** 18:10:02.0±1.0, 36.24N×142.13E, h0km, mb3.7/8, mb1 3.8/13, mb1mx3.6/44, mbtmp3.7/13, ML3.7/4, Error ellipse: s-maj=22.8km s-min=17.9km az=98.0*
*ISCJB **27** 18:10:04.4±1.8, 36.28N±0.04×142.03E±0.05, h30km±14km, mb3.7/8, Error ellipse: s-maj=7.5km s-min=5.8km az=17.1*
*JMA **27** 18:10:05.3±0.1, 36.29N×141.88E, h74km±3km, M3.9*

ISC 27 18:10:05.5±2.9, 36.26N±0.05×142.01E±0.07, h23km±21km, n30, σ1s37/34, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.09**	**240**	P	**Pn**	**18 10 24.5**	**-0.8**
CHOJ				S	**Sb**	**18 10 38.8**	**-0.7**
JHO	**Hitachi**	**1.22**	**287**	P	**Pn**	**18 10 25.1**	**-2.0**
JHO				*e*S	**Sn**	**18 10 41.0**	**-1.8**
ONAJ	**Iwakimizuishiy**	**1.29**	**311**	P	**Pn**	**18 10 26.5**	**-1.6**
JFK	**Kawauchi**	**1.43**	**321**	P	**Pn**	**18 10 28.9**	**-1.2**
JYT	**Yasato**	**1.47**	**269**	P	**Pn**	**18 10 28.9**	**-1.7**
JYT				*e*S	**Sn**	**18 10 47.1**	**-2.0**
BSO1	**Boso 1**	**1.81**	**208**	P	**Pn**	**18 10 34.9**	**+0.1**
BSO1				*e*S	**Sn**	**18 10 56.1**	**-0.7**
JFT	**Otama**	**1.84**	**313**	P	**Pn**	**18 10 34.3**	**-1.4**
JFT				*e*S	**Sn**	**18 10 56.1**	**-2.1**
JMM	**Marumori**	**1.88**	**329**	P	**Pn**	**18 10 35.2**	**-0.9**
BSO3	**Boso 3**	**1.91**	**221**	P	**Pn**	**18 10 36.0**	**-0.3**
BSO3				*e*S	**Sn**	**18 10 59.2**	**-0.2**
JAG	**Ashikaga**	**2.07**	**275**	P	**Pn**	**18 10 37.4**	**-1.5**
MJAR	**Matsushiro Arr**	**3.08**	**276**	Pn	**Pn**	**18 10 52.4**	**-0.4**
	18nm,0.3s,baz=107,slow=9.3,SNR=130						
MJAR				Sn	**Sn**	**18 11 29.0**	**+0.1**
	7.4nm,0.3s,baz=182,slow=28,SNR=6.3						
MAT	**Matsushiro**	**3.08**	**276**	P	**Pn**	**18 10 52.8**	**0.0**
MAT				S	**Sn**	**18 11 29.8**	**+0.9**
JHJ	**Hachijo jima 2**	**3.63**	**211**	Pn	**Pn**	**18 11 00.1**	**-0.2**
	36nm,0.3s,baz=94,slow=7.3,SNR=13						
JHJ				Sn	**Sn**	**18 11 39.1**	**-3.4**
	64nm,0.3s,baz=61,slow=21,SNR=8.8						
ASAJ	**Asahikawa**	**7.86**	**3**	Pn	**Pn**	**18 11 58.6**	**+0.3**
	0.9nm,0.3s,baz=209,slow=15,SNR=14						
ASAJ				Sn	**Sn**	**18 13 24.7**	**-1.8**
	0.3nm,0.3s,baz=90,slow=20,SNR=3.3						
USRK	**Ussuriysk Ar.**	**11.02**	**319**	Pn	**Pn**	**18 12 43.3**	**+1.6**
	0.1nm,0.3s,baz=126,slow=12,SNR=3.5						
KSRS	**Korea Array**	**11.35**	**280**	Pn	**Pn**	**18 12 48.9**	**+2.7**
	0.2nm,0.3s,baz=94,slow=14,SNR=3.7						
YAK	**Yakutsk**	**26.93**	**347**	P	**P**	**18 15 45.0**	**+0.4**
	1.9nm,0.3s,baz=197,slow=11,SNR=4.0						
H11N2	**WAKE ISLAND Hy 27.34**	**120**		T	T	18 45 19.5	
	baz=312,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy 27.35**	**120**		T	T	18 45 35.7	
	baz=312,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy 27.36**	**120**		T	T	18 45 32.5	
	baz=312,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy 28.04**	**123**		T	T	18 46 02.4	
	baz=314,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy 28.04**	**123**		T	T	18 46 06.7	
	baz=314,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy 28.05**	**123**		T	T	18 46 06.5	
	baz=314,slow=76,SNR=17						
SONM	**Songino Array**	**28.62**	**305**	P	**P**	**18 16 00.5**	**+0.4**
	1.9nm,0.7s,baz=106,slow=9.2,SNR=9.9						
ZALV	**Zalesovo Beam**	**42.79**	**313**	P	**P**	**18 18 01.6**	**+0.5**
	0.4nm,0.3s,baz=88,slow=9.2,SNR=4.5						
MKAR	**Makanchi Array**	**44.94**	**303**	P	**P**	**18 18 18.8**	**+0.3**
	1.1nm,0.6s,baz=85,slow=9.1,SNR=12						
ILAR	**Eielson Array**	**49.89**	**32**	P	**P**	**18 18 57.3**	**+0.6**
	0.4nm,0.8s,baz=266,slow=6.1,SNR=5.4						
WRA	**Warramunga Arr**	**56.37**	**189**	P	**P**	**18 19 44.9**	**0.0**
	0.4nm,0.6s,baz=3.5,slow=7.8,SNR=5.6						
ASAR	**Alice Springs**	**60.10**	**189**	P	**P**	**18 20 11.3**	**+0.4**
	0.1nm,0.5s,baz=8.2,slow=8.4,SNR=3.7						
YKA	**Yellowknife Ar**	**64.23**	**30**	P	**P**	**18 20 37.6**	**-0.6**
	0.3nm,0.5s,baz=302,slow=4.6,SNR=3.0						

*IDC **27** 18:13:30.0±2.9, 32.70S×69.52W, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.6/27, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=75.3km s-min=70.2km az=138.0*
*SJA **27** 18:13:38.7±0.9, 31.33S×68.83W, h35km±2km, ML3.7, MW4.0*
*ISCJB **27** 18:13:40.6±0.7, 31.33S±0.02×68.79W±0.04, h8km±5km, mb3.8/1, Error ellipse: s-maj=6.4km s-min=3.9km az=5.8*
*NEIC **27** 18:13:42.9±1.4, 31.84S×69.28W, h78km±13km, MD4.0(SJA), Error ellipse: s-maj=27.4km s-min=13.7km az=53.0*
NEIC Felt [III] at San Juan.

ISC 27 18:13:39.3±1.3, 31.34S±0.02×68.80W±0.04, h6km±11km, n27, σ1s34/30, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.28**	**88**	*i* P	**Pb**	**18 13 46.9**	**0.0**
SJA	**San Juan**	**0.28**	**132**	*e*P	**Pb**	**18 13 47.4**	**+0.5**
SJA				*i* S	**Sb**	**18 13 53.0**	**+1.2**
AMOG	**MOGNA**	**0.48**	**34**	*e*P	**Pb**	**18 13 50.2**	**0.0**
RTCV	**Cerro Valdivia**	**0.57**	**157**	*i* P	**Pb**	**18 13 51.4**	**-0.4**
RTLS	**Leoncito**	**0.62**	**222**	*i* P	**Pb**	**18 13 52.9**	**+0.1**
ACCO	**Cerro Coronel**	**0.78**	**343**	*e*P	**Pb**	**18 13 55.2**	**-0.3**
ACCO				*e*S	**Sb**	**18 14 06.9**	**+0.4**
ACCO				IAML		18 14 08.9	
	comp=Z,4μm,0.3s						
AUSP	**Uspallata**	**1.01**	**209**	*e*P	**Pb**	**18 13 59.4**	**-0.1**
AUSP				*i* S	**Sb**	**18 14 13.0**	**-0.2**
ACDV	**Cuesta del Vie**	**1.19**	**347**	*e*P	**Pg**	**18 14 02.1**	**-0.2**
ASAL	**Salagasta**	**1.25**	**181**	*e*P	**Pg**	**18 14 03.2**	**-0.1**
ASAL				*e*S	**Sb**	**18 14 19.8**	**0.0**
AVFE	**Valle Fertil**	**1.34**	**60**	*e*P	**Pn**	**18 14 03.5**	**-1.1**
AVFE				*e*S	**Sg**	**18 14 21.2**	**-1.3**
AVFE				IAML		18 14 23.2	
	comp=Z,825nm,0.3s						
ARCO	**CERRO ARCO**	**1.50**	**184**	*e*P	**P

JHO	**Hitachi**	**0.52**	**289**	P		**Pn**	**18 22 58.9**	**-0.1**
JHO				S		**Sn**	**18 23 06.1**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.72**	**335**	P		**Pn**	**18 23 01.9**	**+0.3**
ONAJ				S		**Sn**	**18 23 11.2**	**-0.6**
JYT	**Yasato**	**0.83**	**255**	P		**Pn**	**18 23 02.6**	**-0.3**
JYT				S		**Sn**	**18 23 12.5**	**-1.6**
JFK	**Kawauchi**	**0.95**	**345**	P		**Pn**	**18 23 05.0**	**+0.4**
JFT	**Otama**	**1.27**	**328**	P		**Pn**	**18 23 09.9**	**+1.1**
JFT				S		**Sn**	**18 23 25.1**	**+0.4**
JAG	**Ashikaga**	**1.39**	**270**	P		**Pn**	**18 23 10.3**	**-0.2**
JAG				S		**Sn**	**18 23 26.4**	**-1.4**
JMM	**Marumori**	**1.45**	**348**	P		**Pn**	**18 23 12.1**	**+0.8**
JMM				S		**Sn**	**18 23 29.6**	**+0.4**
JFY	**Yanaizu**	**1.52**	**309**	P		**Pn**	**18 23 12.7**	**+0.4**
JFY				*e*S		**Sn**	**18 23 31.4**	**+0.4**
JKT	**Katashina**	**1.59**	**282**	P		**Pn**	**18 23 13.5**	**+0.2**
JKT				S		**Sn**	**18 23 31.7**	**-1.0**
MJAR	**Matsushiro Arr**	**2.40**	**273**	P		**Pn**	**18 23 24.8**	**+0.5**
	34nm,0.3s,baz=100,slow=9.1,SNR=249							
MJAR				S		**Sn**	**18 23 53.7**	**+1.2**
	28nm,0.3s,baz=90,slow=29,SNR=11							
MAT	**Matsushiro**	**2.40**	**273**	P		**Pn**	**18 23 24.8**	**+0.5**
MAT				*e*S		**Sn**	**18 23 53.5**	**+1.0**
JHJ	**Hachijo jima 2**	**3.51**	**200**	P		**Pn**	**18 23 41.3**	**+1.7**
	16nm,0.3s,baz=43,slow=19,SNR=15							
JHJ				S		**Sn**	**18 24 19.6**	**-0.3**
	35nm,0.3s,baz=282,slow=21,SNR=11							
USRK	**Ussuriysk Ar.**	**10.45**	**321**	P		**Pn**	**18 25 15.9**	**+1.4**
	0.1nm,0.3s,baz=144,slow=12,SNR=3.0							
KSRS	**Korea Array**	**10.66**	**279**	P		**Pn**	**18 25 20.3**	**+2.9**
	0.2nm,0.3s,baz=92,slow=15,SNR=4.5							
SONM	**Songino Array**	**27.96**	**305**	P		**P**	**18 28 33.0**	**-0.3**
	1.0nm,0.6s,baz=105,slow=8.2,SNR=5.2							
H11N2	**WAKE ISLAND Hy**	**28.01**	**120**	T		T	18 58 42.3	
	baz=313,slow=75,SNR=39							
H11N1	**WAKE ISLAND Hy**	**28.02**	**120**	T		T	18 58 43.6	
	baz=313,slow=75,SNR=43							
H11N3	**WAKE ISLAND Hy**	**28.03**	**120**	T		T	18 58 43.8	
	baz=313,slow=75,SNR=42							
ZALV	**Zalesovo Beam**	**42.17**	**313**	P		**P**	**18 30 34.9**	**0.0**
	0.9nm,0.4s,baz=98,slow=6.7,SNR=5.6							
MKAR	**Makanchi Array**	**44.27**	**303**	P		**P**	**18 30 52.1**	**0.0**
	0.3nm,0.5s,baz=87,slow=10,SNR=5.9							
ILAR	**Eielson Array**	**50.09**	**32**	P		**P**	**18 31 34.0**	**-3.1**
	0.2nm,0.4s,baz=264,slow=6.0,SNR=3.1							
WRA	**Warramunga Arr**	**56.45**	**188**	P		**P**	**18 32 24.6**	**+0.4**
	1.2nm,0.5s,baz=4.5,slow=7.5,SNR=23							
ASAR	**Alice Springs**	**60.18**	**188**	P		**P**	**18 32 50.8**	**+0.6**
	0.6nm,0.8s,baz=6.0,slow=8.9,SNR=14							

*ISCJB **27** 18:32:23.8±0.5, 10°.29S±0°.06×161°.92E±0°.08, h54km, mb4.4/28, MS3.7/5, Error ellipse: s-maj=11.8km s-min=8.9km az=10.5*
*NEIC **27** 18:32:26.8±1.3, 10°.25S×161°.91E, h63km±11km, mb4.7/10, Error ellipse: s-maj=11.3km s-min=8.7km az=97.0*
*IDC **27** 18:32:26.3±2.9, 10°.30S×161°.88E, h60km±24km, mb4.0/19, mb1 4.1/21, mb1mx4.0/46, mbtmp4.3/21, ML4.7/2, MS3.5/8, Ms1 3.6/8, ms1mx3.3/30, Error ellipse: s-maj=23.0km s-min=14.6km az=96.0*

ISC 27 18:32:25.3±0.6, 10°32S±0°.07×162°02E±0°.08, h54km, n43, σ1♀14/43, mb4.5/27, MS3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**2.22**	**293**	P		**Pn**	**18 33 00.2**	**+0.5**
	551nm,0.3s,baz=141,slow=5.6,SNR=231							
HNR				S		**Sn**	**18 33 27.8**	**+1.7**
	544nm,0.3s,baz=153,slow=18,SNR=5.4							
HNR				LR		LR	18 34 04.2	
	comp=Z,544nm,21.4s,baz=60,slow=47							
HNR	**Honiara**	**2.22**	**293**	*i* P		**Pn**	**18 32 59.0**	**-0.7**
HNR				*i* S		**Sn**	**18 33 27.0**	**+1.0**
DZM	**Mont Dzumac**	**12.43**	**161**	P		**Pn**	**18 35 20.7**	**+1.0**
	2.2nm,0.3s,baz=14,slow=8.9,SNR=40							
DZM				S		**Sn**	**18 37 34.2**	**-2.5**
	0.4nm,0.3s,baz=324,slow=19,SNR=4.3							
DZM				LR		LR	18 39 38.2	
	comp=Z,345nm,20.0s,baz=46,slow=35							
PMG	**Port Moresby**	**14.67**	**272**	LR		LR	18 40 42.0	
	comp=Z,66nm,21.1s,baz=104,slow=34							
CTA	**Charters Tower**	**18.03**	**236**	P		**Pn**	**18 36 34.6**	**+2.4**
	1.2nm,0.3s,baz=63,slow=11,SNR=11							
CTAO	**Charters Tower**	**18.03**	**236**	*e*P		**Pn**	**18 36 34.9**	**+2.7**
EIDS	**Eidsvold**	**18.21**	**213**	*e*P		**Pn**	**18 36 36.5**	**+2.1**
JAY	**Jayapura**	**22.54**	**289**	P		**P**	**18 37 18.7**	**-2.3**
	0.9nm,0.4s,baz=102,slow=20,SNR=25							
WRAB	**Tennant Creek**	**28.33**	**247**	*e*P		**P**	**18 38 13.7**	**-0.5**
	4.0nm,0.6s							
WRA	**Warramunga Arr**	**28.34**	**247**	P		**P**	**18 38 14.0**	**-0.3**
	4.9nm,0.6s,baz=76,slow=9.3,SNR=81							
STKA	**Stephens Creek**	**28.59**	**218**	P		**P**	**18 38 16.7**	**+0.3**
	2.0nm,0.7s,baz=30,slow=9.8,SNR=7.5							
STKA				LR		LR	18 49 39.4	
	comp=Z,333nm,18.4s,baz=26,slow=36							
ASAR	**Alice Springs**	**29.91**	**240**	P		**P**	**18 38 27.5**	**-0.8**
	0.7nm,0.5s,baz=63,slow=9.9,SNR=22							
ASAR				LR		LR	18 50 01.3	
	comp=Z,206nm,18.7s,baz=68,slow=35							
FITZ	**Fitzroy Crossi**	**36.05**	**253**	P		**P**	**18 39 21.0**	**-0.9**
	6.1nm,0.6s,baz=68,slow=8.5,SNR=36							
FITZ	**Fitzroy Crossi**	**36.05**	**253**	*e*P		**P**	**18 39 20.6**	**-1.2**
	7.8nm,0.9s							
MBWA	**Marble Bar**	**41.98**	**250**	*e*P		**P**	**18 40 10.7**	**-0.8**
KKM	**Kota Kinabalu**	**48.42**	**288**	*e*P		**P**	**18 41 01.1**	**-1.7**
	139nm,2.5s							
MJAR	**Matsushiro Arr**	**51.72**	**336**	P		**P**	**18 41 26.1**	**-1.1**
	2.0nm,0.7s,baz=169,slow=8.9,SNR=8.7							
JNU	**Nakatsue**	**52.41**	**327**	P		**P**	**18 41 32.0**	**-0.4**
	5.7nm,0.8s,baz=123,slow=6.7,SNR=5.5							
SSLB	**Suanglung**	**52.54**	**311**	*e*P		**P**	**18 41 33.0**	**-0.5**
	14nm,0.4s							
ASAJ	**Asahikawa**	**56.98**	**343**	*e*P		**P**	**18 42 05.9**	**+0.7**
	4.0nm,0.8s							
KSRS	**Korea Array**	**57.27**	**328**	P		**P**	**18 42 07.2**	**-0.1**
	2.5nm,0.8s,baz=142,slow=7.3,SNR=8.1							
KSRS				LR		LR	19 05 51.1	
	comp=Z,29nm,19.1s,baz=315,slow=35							
KSAR	**Wonju Array Be**	**57.28**	**328**	P		**P**	**18 42 07.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**60.72**	**336**	P		**P**	**18 42 31.6**	**+0.5**
	11nm,0.9s,baz=150,slow=6.3,SNR=18							
PETK	**Petropavlovsk-**	**63.28**	**357**	P		**P**	**18 42 48.5**	**+0.3**
	5.7nm,0.9s,baz=174,slow=5.4,SNR=4.7							
ENH	**Enshi**	**64.62**	**311**	*e*P		**P**	**18 42 57.2**	**-0.3**
KLR	**Kul'dur**	**64.99**	**339**	P		**P**	**18 42 59.4**	**-0.2**
	1.5nm,0.6s,baz=165,slow=7.2,SNR=5.6							
VNDA	**Vanda**	**67.19**	**180**	P		**P**	**18 43 14.0**	**+0.8**
	0.9nm,0.8s,baz=337,slow=6.3,SNR=6.2							
VNDA				LR		LR	19 08 21.8	
	comp=Z,39nm,19.6s,baz=347,slow=32							
CMAR	**Chiang Mai Arr**	**68.47**	**295**	P		**P**	**18 43 21.6**	**-0.7**
	1.0nm,0.6s,baz=135,slow=6.5,SNR=10.0							
ULN	**Ulaanbaatar**	**75.59**	**325**	*e*P		**P**	**18 44 05.0**	**+0.4**
	7.5nm,1.3s							
SONM	**Songino Array**	**75.95**	**325**	P		**P**	**18 44 07.2**	**+0.6**
	4.0nm,0.7s,baz=142,slow=6.1,SNR=29							
YAK	**Yakutsk**	**76.41**	**345**	P		**P**	**18 44 08.5**	**-0.1**
	2.9nm,0.3s,baz=286,slow=1.4,SNR=7.4							
BILL	**Bilibino**	**78.22**	**2**	*e*P		**P**	**18 44 19.4**	**+0.8**
	11nm,1.2s							
ILAR	**Eielson Array**	**84.03**	**20**	P		**P**	**18 44 49.5**	**-0.1**
	2.2nm,0.6s,baz=251,slow=5.1,SNR=26							
DOT	**Dot Lake**	**84.30**	**21**	*e*P		**P**	**18 44 51.9**	**+0.8**
	9.3nm,0.8s							
TIXI	**Tiksi**	**84.71**	**350**	P		**P**	**18 44 52.7**	**-0.2**
	1.1nm,0.5s,baz=125,slow=4.7,SNR=4.1							
TIXI	**Tiksi**	**84.71**	**350**	*e*P		**P**	**18 44 53.1**	**+0.2**
EGAK	**Eagle**	**85.99**	**21**	*e*P		**P**	**18 45 00.8**	**+1.4**
	8.2nm,1.2s							
DAWY	**Dawson**	**86.23**	**22**	*e*P		**P**	**18 45 02.2**	**+1.5**
	8.2nm,1.2s							
MKAR	**Makanchi Array**	**90.50**	**317**	P		**P**	**18 45 21.1**	**-0.3**
	0.3nm,0.4s,baz=98,slow=6.4,SNR=9.2							
NRIK	**Noril'sk**	**94.18**	**340**	LR		LR	19 28 52.3	
	comp=Z,24nm,19.6s,baz=90,slow=36							
BVAR	**Borovoye Array**	**99.13**	**322**	P		**Pdif**	**18 45 59.9**	**-0.8**
	0.3nm,0.6s,baz=104,slow=6.3,SNR=4.1							
ARCES	**ARCESS Array B**	**114.69**	**345**	PKP		PKPdf	18 50 59.1	0.0
	0.7nm,0.5s,baz=75,slow=1.9,SNR=10							
ESDC	**Sonseca Array**	**148.21**	**339**	PKPbc		**PKPbc**	**18 52 05.8**	**+0.1**
	0.5nm,0.6s,baz=10,slow=2.4,SNR=5.1							

*ROM **27** 18:35:53.0±0.6, 40°.11N×18°.81E, h20km, Ml3.1/18, Error ellipse: s-maj=9.0km s-min=3.8km az=73.0*
*CSEM **27** 18:35:55.8±0.1, 40°.10N×18°.59E, h20km, ML3.1, Error ellipse: s-maj=4.3km s-min=2.1km az=17.0*
*ISCJB **27** 18:35:56.2±0.9, 40°.07N±0°.04×18°.59E±0°.03, h33km±10km, Error ellipse: s-maj=6.7km s-min=2.8km az=21.6*
*THE **27** 18:35:56.4, 39°.93N×18°.62E, h12km±2km, ML3.2/6, Error ellipse: s-maj=3.3km s-min=1.0km az=330.0*

ISC 27 18:35:56.8±1.2, 40°09N±0°.04×18°54E±0°.03, h55km±17km, n90, σ1♀00/90, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MESG	**Mesagne**	**0.73**	**313**	Pn		**Pn**	**18 36 10.5**	**-0.6**
MESG				Sn		**Sn**	**18 36 21.2**	**-0.3**
MESG	**Mesagne**	**0.73**	**313**	Pn		**Pn**	**18 36 10.5**	**-0.6**
MESG				Sn		**Sn**	**18 36 21.2**	**-0.3**
KEK	**Kerkira**	**1.04**	**111**	P		**Pn**	**18 36 13.8**	**-1.3**
KEK				S		**Sn**	**18 36 27.6**	**-1.1**
TAR1	**Taranto**	**1.06**	**295**	*e*Pg		**Pn**	**18 36 15.4**	**0.0**
TAR1				Sg		**Sn**	**18 36 32.2**	**+3.1**
NOCI	**Noci**	**1.33**	**302**	Pn		**Pn**	**18 36 19.1**	**+0.1**
	707nm,0.2s							
NOCI	**Noci**	**1.33**	**302**	Pn		**Pn**	**18 36 19.1**	**+0.1**
	707nm,0.2s							
SGD	**Sagiada**	**1.39**	**110**	P		**Pn**	**18 36 19.0**	**-0.8**
SGD				S		**Sn**	**18 36 37.8**	**+0.7**
SGD	**Sagiada**	**1.39**	**110**	P		**Pn**	**18 36 19.0**	**-0.8**
SGD				S		**Sn**	**18 36 37.8**	**+0.7**
LTRZ	**Laterza**	**1.41**	**292**	Pn		**Pn**	**18 36 20.1**	**-0.1**
	280nm,0.3s							
LTRZ	**Laterza**	**1.41**	**292**	Pn		**Pn**	**18 36 20.1**	**-0.1**
	280nm,0.3s							
LADO	**San Nicola del**	**1.45**	**237**	Pn		**Pn**	**18 36 21.4**	**+0.7**
	133nm,0.4s							
LADO	**San Nicola del**	**1.45**	**237**	Pn		**Pn**	**18 36 21.4**	**+0.7**
	133nm,0.4s							
PIPA	**Pietrapaola**	**1.46**	**246**	Pn		**Pn**	**18 36 21.5**	**+0.6**
PIPA	**Pietrapaola**	**1.46**	**246**	Pn		**Pn**	**18 36 21.5**	**+0.6**
MATE	**Matera**	**1.51**	**292**	Pn		**Pn**	**18 36 21.8**	**+0.3**
	462nm,0.8s							
MATE	**Matera**	**1.51**	**292**	Pn		**Pn**	**18 36 21.8**	**+0.3**
	462nm,0.8s							
SG1	**Sgolgore (BA)**	**1.61**	**298**	*e*Pn		**Pn**	**18 36 23.1**	**+0.3**
BAI	**Bari**	**1.62**	**309**	*e*Pn		Pn	18 36 27.1	+4.1
TIP	**Timpagrande**	**1.65**	**237**	P		**Pn**	**18 36 24.2**	**+0.7**
TIP	**Timpagrande**	**1.65**	**237**	Pn		**Pn**	**18 36 24.2**	**+0.7**
	37nm,0.9s							
TIP	**Timpagrande**	**1.65**	**237**	P		**Pn**	**18 36 24.2**	**+0.7**
MIGL	**Miglionico**	**1.69**	**288**	Pn		**Pn**	**18 36 24.6**	**+0.7**
	637nm,0.4s							
MIGL	**Miglionico**	**1.69**	**288**	Pn		**Pn**	**18 36 24.6**	**+0.7**
	637nm,0.4s							
AMUR	**Altamura**	**1.69**	**300**	Pn		**Pn**	**18 36 24.3**	**+0.4**
	304nm,0.5s							
AMUR	**Altamura**	**1.69**	**300**	Pn		**Pn**	**18 36 24.3**	**+0.4**
	304nm,0.5s							
SALB	**San Lorenzo Be**	**1.70**	**264**	Pn		**Pn**	**18 36 24.4**	**+0.2**
SALB	**San Lorenzo Be**	**1.70**	**264**	Pn		**Pn**	**18 36 24.4**	**+0.2**
SERS	**Sersale**	**1.78**	**234**	Pn		**Pn**	**18 36 25.6**	**+0.3**
	31nm,0.5s							
SERS	**Sersale**	**1.78**	**234**	Pn		**Pn**	**18 36 25.6**	**+0.3**
	31nm,0.5s							
JAN	**Janina**	**1.83**	**103**	P		**Pn**	**18 36 25.6**	**-0.3**
JAN				S		**Sn**	**18 36 48.8**	**+0.9**
JAN	**Janina**	**1.83**	**103**	P		**Pn**	**18 36 25.6**	**-0.3**
JAN				S		**Sn**	**18 36 48.8**	**+0.9**
SCHR	**S. Chirico Rap**	**1.89**	**274**	Pn		Pn	18 36 28.5	+1.7
	50nm,0.4s							
NEST	**Nestorio**	**1.94**	**80**	P		**Pn**	**18 36 27.8**	**+0.3**
NEST	**Nestorio**	**1.94**	**80**	P		**Pn**	**18 36 27.8**	**+0.3**
CDT	**Castel del Mon**	**1.99**	**301**	*e*Pn		**Pn**	**18 36 28.4**	**+0.3**
PENT	**Pentalofos**	**1.99**	**86**	P		**Pn**	**18 36 28.5**	**+0.3**
PENT	**Pentalofos**	**1.99**	**86**	P		**Pn**	**18 36 28.5**	**+0.3**
OHR	**Ohrid**	**2.00**	**59**	*e*Pn		Pn	18 36 31.4	+3.2
OHR				*e*Sn		**Sn**	**18 36 55.1**	**+3.0**
OHR	**Ohrid**	**2.00**	**59**	*e*Pn		Pn	18 36 31.4	+3.2
OHR				*e*Sn		**Sn**	**18 36 55.1**	**+3.0**
MRVN	**Minervino Murg**	**2.03**	**299**	Pn		**Pn**	**18 36 29.3**	**+0.6**
	113nm,0.2s							
MRVN	**Minervino Murg**	**2.03**	**299**	Pn		**Pn**	**18 36 29.3**	**+0.6**
	113nm,0.2s							
SIRI	**Monte Sirino -**	**2.05**	**273**	Pn		Pn	18 36 30.8	+1.8
	70nm,0.4s							
SIRI	**Monte Sirino -**	**2.05**	**273**	Pn		Pn	18 36 30.8	+1.8
	70nm,0.4s							
LKD2	**Lefkada island**	**2.09**	**128**	P		**Pn**	**18 36 29.0**	**-0.4**
LKD2				S		**Sn**	**18 36 54.0**	**-0.3**
CUC	**Castrocucco**	**2.10**	**268**	Pg		Pn	18 36 31.2	+1.7
CUC	**Castrocucco**	**2.10**	**268**	Pg		Pn	18 36 31.2	+1.7
ACER	**Acerenza**	**2.10**	**290**	Pn		Pn	18 36 31.2	+1.6
	443nm,0.4s							
ACER	**Acerenza**	**2.10**	**290**	Pn		Pn	18 36 31.2	+1.6
	443nm,0.4s							
MCEL	**Monticello**	**2.11**	**277**	Pn		**Pn**	**18 36 30.6**	**+0.8**
	96nm,0.6s							
MCEL	**Monticello**	**2.11**	**277**	Pn		**Pn**	**18 36 30.6**	**+0.8**
	96nm,0.6s							
PALZ	**Palazzo San Ge**	**2.15**	**294**	Pn		**Pn**	**18 36 31.0**	**+0.8**
PALZ	**Palazzo San Ge**	**2.15**	**294**	Pn		**Pn**	**18 36 31.0**	**+0.8**
KPRO	**Kipourio**	**2.17**	**93**	P		**Pn**	**18 36 31.0**	**+0.4**
KPRO	**Kipourio**	**2.17**	**93**	P		**Pn**	**18 36 31.0**	**+0.4**
SLCN	**Sala Consilina**	**2.25**	**279**	Pn		Pn	18 36 33.2	+1.6
	165nm,0.3s							
SLCN	**Sala Consilina**	**2.25**	**279**	Pn		Pn	18 36 33.2	+1.6
	165nm,0.3s							
MGR	**Morigerati**	**2.29**	**272**	Pn		Pn	18 36 33.9	+1.7
	62nm,0.5s							
MGR	**Morigerati**	**2.29**	**272**	Pn		Pn	18 36 33.9	+1.7
	62nm,0.5s							
BULG	**Bulgheria - Ca**	**2.43**	**271**	Pn		**Pn**	**18 36 35.2**	**+1.1**
BULG	**Bulgheria - Ca**	**2.43**	**271**	Pn		**Pn**	**18 36 35.2**	**+1.1**
VLS	**Valsamata**	**2.49**	**140**	P		**Pn**	**18 36 33.8**	**-1.0**
VLS				S		**Sn**	**18 37 02.5**	**-1.5**
CMPR	**Campora**	**2.49**	**276**	Pn		Pn	18 36 36.9	+2.0
CMPR	**Campora**	**2.49**	**276**	Pn		Pn	18 36 36.9	+2.0
CDRU	**Civita di Ruta**	**2.51**	**280**	Pn		Pn	18 36 36.6	+1.4
	36nm,0.4s							
CDRU	**Civita di Ruta**	**2.51**	**280**	Pn		Pn	18 36 36.6	+1.4
	36nm,0.4s							
PDO	**Prodromos**	**2.53**	**125**	P		**Pn**	**18 36 35.0**	**-0.4**
PDO				S		**Sn**	**18 37 05.0**	**-0.1**
PDO	**Prodromos**	**2.53**	**125**	P		**Pn**	**18 36 35.0**	**-0.4**
PDO				S		**Sn**	**18 37 05.0**	**-0.1**
MSAG	**Monte S. Angel**	**2.57**	**310**	Pn		**Pn**	**18 36 36.1**	**+0.1**
MSAG	**Monte S. Angel**	**2.57**	**310**	Pn		**Pn**	**18 36 36.1**	**+0.1**
SGTA	**Sant Agata di**	**2.63**	**294**	Pn		Pn	18 36 38.6	+1.7
SGTA	**Sant Agata di**	**2.63**	**294**	Pn		Pn	18 36 38.6	+1.7
KFL	**Anninata**	**2.64**	**138**	P		**Pn**	**18 36 36.0**	**-0.9**
MCRV	**Calabrutti - M**	**2.67**	**286**	Pn		**Pn**	**18 36 38.4**	**+1.0**
	51nm,0.2s							
MCRV	**Calabrutti - M**	**2.67**	**286**	Pn		**Pn**	**18 36 38.4**	**+1.0**
	51nm,0.2s							
SGRT	**San Giovanni R**	**2.69**	**309**	Pn		**Pn**	**18 36 37.7**	**0.0**
SGRT	**San Giovanni R**	**2.69**	**309**	Pn		**Pn**	**18 36 37.7**	**0.0**
SOI	**Samo**	**2.79**	**225**	Pn		**Pn**	**18 36 39.4**	**+0.3**
	16μm,20.0s							
SOI	**Samo**	**2.79**	**225**	Pn		**Pn**	**18 36 39.4**	**+0.3**
	16μm,20.0s							
AGG	**Agios Georgios**	**3.12**	**109**	P		**Pn**	**18 36 43.9**	**+0.4**
AGG				S		**Sn**	**18 37 19.7**	**+0.2**
AGG	**Agios Georgios**	**3.12**	**109**	P		**Pn**	**18 36 43.9**	**+0.4**
AGG				S		**Sn**	**18 37 19.7**	**+0.2**
DRO	**Drossia**	**3.26**	**130**	P		**Pn**	**18 36 45.0**	**-0.5**
DRO	**Drossia**	**3.26**	**130**	P		**Pn**	**18 36 45.0**	**-0.5**
KALE	**Kalithea**	**3.27**	**120**	P		**Pn**	**18 36 45.2**	**-0.4**
KALE	**Kalithea**	**3.27**	**120**	P		**Pn**	**18 36 45.2**	**-0.4**
BARS	**Sarile**	**3.67**	**41**	*e*Pn		**Pn**	**18 36 52.2**	**+1.2**
TEKS	**Tekeris**	**4.51**	**9**	*e*Pn		**Pn**	**18 37 02.1**	**-0.5**
UDBI	**Udbina**	**4.89**	**336**	*e*Pn		**Pn**	**18 37 08.6**	**+0.8**
UDBI				Sn		**Sn**	**18 38 01.0**	**-2.1**
UDBI	**Udbina**	**4.89**	**336**	*e*Pn		**Pn**	**18 37 08.5**	**+0.8**
UDBI				Sn		**Sn**	**18 38 01.0**	**-2.1**
NVLJ	**Novalja**	**5.23**	**330**	*e*Pn		**Pn**	**18 37 12.2**	**-0.2**
NVLJ				Sn		**Sn**	**18 38 08.4**	**-3.0**
NVLJ	**Novalja**	**5.23**	**330**	*e*Pn		**Pn**	**18 37 12.2**	**-0.2**
NVLJ				Sn		**Sn**	**18 38 08.3**	**-3.0**

*KRNET **27** 18:39:16.9±0.1, 42°.86N×77°.93E, h17km, mb2.1*
*NNC **27** 18:39:17.3±0.5, 43°.28N×77°.88E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=22.4km s-min=2.2km az=172.0*
*SOME **27** 18:39:17.8, 42°.85N×77°.95E, h10km*

ISC 27 18:39:16.6±1.0, 42°86N±0°.03×77°99E±0°.02, h11km±8km, n33, σ0♀62/60, 20C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANVS	**Anan'yevo**	**0.25**	**252**	⇑*e*P		**Pg**	**18 39 21.5**	**-0.3**
	baz=249							
ANVS				⇑*e*S		**Sg**	**18 39 25.2**	**-0.1**
	baz=249							
SATY	**Saty**	**0.36**	**57**	*e*P		**Pb**	**18 39 25.1**	**-0.1**
	28nm,0.1s							
SATY				*e*S		**Sb**	**18 39 30.4**	**-0.6**
	203nm,0.1s							
ZHN	**Zhinishke**	**0.45**	**47**	*e*P		**Pb**	**18 39 26.6**	**0.0**
	14nm,0.1s							
ZHN				*e*S		**Sb**	**18 39 32.8**	**-0.6**
	146nm,0.1s							
PRZ	**Przheval'sk**	**0.48**	**141**	⇑*e*P		**Pb**	**18 39 27.2**	**-0.1**
	baz=138							
PRZ				⇑*e*S		**Sb**	**18 39 34.7**	**+0.3**
	baz=138							
KURS	**Kuram**	**0.64**	**12**	*e*P		**Pb**	**18 39 30.0**	**+0.2**
	1.4nm,0.1s							
KURS				*e*S		**Sb**	**18 39 39.2**	**+0.4**
	16nm,0.4s							
KOTS	**Kotyrbulak**	**0.74**	**300**	*e*P		**Pg**	**18 39 31.4**	**+0.4**
	40nm,0.1s							
KOTS				*e*S		**Sg**	**18 39 40.6**	**-0.1**
	16nm,0.1s							
MDOK	**Medeo**	**0.75**	**294**	*e*P		**Pg**	**18 39 30.9**	**-0.3**
	18nm,0.1s							
MDOK				*e*S		**Sg**	**18 39 40.1**	**-0.9**
	12nm,0.2s							
UZB	**Uzynbulak**	**0.81**	**69**	*e*P		**Pb**	**18 39 33.2**	**+0.3**
	4.7nm,0.1s							
UZB				*e*S		**Sb**	**18 39 44.5**	**+0.6**
	48nm,0.1s							
IZV	**Izvestkoviy**	**1.02**	**280**	*e*P		**Pb**	**18 39 36.2**	**-0.2**
	17nm,0.1s							
IZV				*e*S		**Sb**	**18 39 49.7**	**-0.3**
	44nm,0.1s							
PDGK	**Podgornoye**	**1.19**	**66**	⇑*i*P		**Pg**	**18 39 40.0**	**+0.5**
	baz=67							
PDGK				⇑*i*S		**Sg**	**18 39 55.9**	**+0.9**
	baz=67							
PDGK	**Podgornoye**	**1.19**	**66**	⇓P		**Pg**	**18 39 39.6**	**+0.1**
	1.3nm,0.5s							
PDGK				⇓S		**Sg**	**18 39 55.8**	**+0.9**
	6.1nm,0.6s							
CHKK	**Chushkaly**	**1.24**	**325**	*e*P		**Pb**	**18 39 40.1**	**0.0**
	4.9nm,0.2s							
CHKK				*e*S		**Sn**	**18 39 56.4**	**-0.3**
	68nm,0.2s							
MNBS	**Baschi**	**1.25**	**14**	*e*P		**Pb**	**18 39 40.6**	**+0.2**
	7.2nm,0.1s							
MNBS				*e*S		**Sn**	**18 39 56.8**	**-0.3**
	14nm,0.2s							
KTBS	**Karatobe**	**1.28**	**312**	*e*P		**Pg**	**18 39 41.4**	**+0.2**
	5.3nm,0.1s							
KTBS				*e*S		**Sg**	**18 39 58.1**	**+0.4**
	2.1nm,0.2s							
ARXS	**Arharly**	**1.36**	**355**	*e*P		**Pg**	**18 39 43.1**	**+0.5**
	2.6nm,0.1s							
ARXS				*e*S		**Sg**	**18 40 01.2**	**+0

comp=Z,34nm,0.3s
NIZ smax smax
comp=N,774nm,0.4s
KMO Kumora 0.81 40⇑*i*Pg **Pg 18 44 49.3 -1.6**
KMO *e*Sg **Sg 18 45 00.2 -1.3**
KMO Pmax
comp=N,154nm,0.7s
KMO Smax
comp=N,625nm,1.1s
KMO Kumora 0.81 40⇑*i*PG **Pg 18 44 49.3 -1.6**
KMO *e* 18 44 59.9
KMO pmax pmax
comp=Z,151nm,0.4s
KMO smax smax
comp=N,624nm,1.0s
YOA Uoyan 1.20 43 *e*Pg **Pb 18 44 56.6 -1.3**
YOA *e*Sg **Sn 18 45 13.2 -1.1**
YOA Pmax
comp=N,188nm,0.3s
YOA Smax
comp=N,1µm,0.9s
YOA Uoyan 1.20 43 *e*PG **Pb 18 44 56.8 -1.1**
YOA *e*S **Sn 18 45 13.7 -0.6**
SYVR Suvo 1.62 186 *e*Pg **Pb 18 45 04.9 -0.3**
SYVR *e*Sg **Sg 18 45 27.9 +0.6**
SYVR *e* 18 45 30.3
SYVR Pmax
comp=N,98nm,0.6s
SYVR max
comp=N,779nm,1.3s
SYVR Suvo 1.62 186⇑*i*PN **Pb 18 45 04.7 -0.5**
SYVR *e* 18 45 26.9
SYVR pmax pmax
comp=Z,102nm,0.6s
SYVR smax smax
comp=N,794nm,0.8s
SVKR Severomuysk 2.05 64 *e*Pg **Pb 18 45 12.0 -0.5**
SVKR *e* 18 45 17.8
SVKR *e*Sg **Sg 18 45 39.5 -1.5**
SVKR Pmax
comp=N,131nm,0.4s
SVKR Smax
comp=N,1µm,0.6s
MXMB Maximikha 2.20 205 *e*Pg **Pb 18 45 15.2 +0.1**
MXMB Sg **Sg 18 45 45.9 +0.1**
OGRR Ongureny 2.26 225 *e*Pn **Pb 18 45 14.0 -2.0**
OGRR ⇓*i*Pg **Pg 18 45 15.7 -2.7**
OGRR *e* 18 45 43.5
OGRR *e*Sg **Sg 18 45 46.0 -1.6**
OGRR Pmax
comp=N,51nm,0.4s
OGRR Smax
comp=N,547nm,0.4s
KELR Kotokel 2.83 208 Pg **Pb 18 45 25.7 0.0**
KELR *e*Sg **Sg 18 46 04.2 -1.7**
ZRHB Zarechye 3.29 215 *e* **Pb 18 45 32.2 -1.4**
ZRHB *e*Pg **Pg 18 45 35.1 -3.0**
ZRHB *e* 18 46 09.8
ZRHB *e*Sg **Sg 18 46 18.9 -1.7**
BOD Bodaibo 3.29 37 *e* **Pn 18 45 27.2 +0.5**
BOD *e*Sg **Sb 18 46 15.9 +2.3**
BOD max
comp=N,18nm,0.6s
BOD Smax
comp=N,69nm,0.6s
TRG Tyrgan 3.42 224 *e*Pn **Pn 18 45 29.9 +1.4**
TRG *e*Pg **Pb 18 45 35.0 -0.8**
TRG *e*Sg **Sb 18 46 19.9 +2.6**
TRG Pmax
comp=N,27nm,0.4s
TRG Smax
comp=N,198nm,0.7s
UUDB Ulan-Yde 3.75 206 *e*Pg **Pb 18 45 42.8 +1.4**
UUDB *e* 18 46 12.4
UUDB *e*Sg **Sg 18 46 32.8 -2.6**
UUDB Pmax
comp=N,27nm,1.3s
UUDB Smax
comp=N,136nm,0.8s
CIT Chita 3.80 148 *e*Pg **Pb 18 45 42.9 +0.6**
CIT *e*Sg **Sg 18 46 33.5 -3.6**
CIT *e* 18 46 39.1
CIT Pmax
comp=N,48nm,0.5s
CIT max
comp=N,152nm,0.7s
KAB Kabansk 3.88 215 *e* **Sn 18 46 20.8 +0.4**
KAB *e*Sg **Sg 18 46 35.5 -4.1**
KAB Smax
comp=N,317nm,2.1s
STDB Stepnoy Dvoret 3.88 218 *e*Sg **Sg 18 46 35.4 -4.1**
STDB *e* 18 46 38.1
BGT Bolshoye Golou 4.33 224 *e*Pn **Pn 18 45 42.6 +1.5**
BGT *e*Pg **Pb 18 45 52.8 +1.4**
BGT *e*Sg **Sg 18 46 49.2 -5.1**
BGT Pmax
comp=N,35nm,0.6s
BGT Smax
comp=N,206nm,0.6s
IRK Irkutsk 4.67 232 *e*Sn **Sn 18 46 38.5 -1.5**
IRK *e*Sg **Sg 18 46 59.3 -5.8**
IRK Smax
comp=N,314nm,0.6s
LSTR Listvyanka 4.70 226 *e*Pn **Pn 18 45 47.2 +1.1**
LSTR *e* 18 46 02.5
LSTR *e*Sg **Sb 18 46 59.6 +5.3**
LSTR max
comp=N,5.0nm,0.4s
LSTR Smax
comp=N,78nm,1.0s
CRS Chara 4.77 67 *e*Pg **Pb 18 46 00.2 +1.4**
CRS *e* 18 46 12.2
CRS *e*Sg **Sg 18 47 01.8 -6.4**
CRS Pmax
comp=N,43nm,0.9s
CRS Smax
comp=N,177nm,2.0s
IVK Ivanovka 4.92 228 *e*Pn **Pn 18 45 48.6 -0.6**
IVK *e*Pg **Pb 18 46 01.7 +0.2**
IVK *e*Sg **Sb 18 47 05.9 +5.2**
IVK Pmax
comp=N,26nm,0.5s
IVK Smax
comp=N,270nm,0.8s
TLY Talaya 5.34 230 *e*Pg **Pb 18 46 10.5 +1.9**
TLY *e* 18 46 12.2
TLY *e*Sn **Sn 18 46 54.4 -2.2**
TLY Sg **Sg 18 47 20.1 -6.5**
TLY max
comp=N,11nm,0.5s
TLY Smax
comp=N,98nm,0.9s
TUP Tupik 5.66 95 *e*Pn **Pn 18 45 59.9 +0.6**
TUP *e* 18 46 08.3
TUP *e*Pg **Pb 18 46 16.5 +2.5**
TUP *e* 18 47 27.2
TUP *e*Sg **Sg 18 47 30.0 -6.8**
TUP Pmax
comp=N,9.0nm,0.6s
TUP Smax
comp=N,61nm,0.7s
KPC Khapcheranga 5.72 166 *e*Pg **Pb 18 46 19.4 +4.3**
KPC *e* 18 47 14.2
KPC *e*Sg **Sg 18 47 33.5 -5.3**
KPC Pmax
comp=N,4.0nm,0.6s
KPC Smax
comp=N,96nm,1.3s
ARS Arshan 5.75 238 *e*Pn **Pn 18 46 01.1 +0.5**
ARS *e* 18 46 07.3
ARS *e*Pg **Pb 18 46 18.4 +2.9**
ARS *e* 18 46 20.0
ARS *e*Sg **Sg 18 47 32.8 -6.8**
ARS max
comp=N,23nm,0.7s
ARS Smax
comp=N,314nm,0.7s
ARS Arshan 5.75 238 *e*PN **Pn 18 46 02.7 +2.1**
ZAK Zakamensk 6.47 224 *e*PN **Pn 18 46 12.6 +2.1**
ZAK *e*S **Sg 18 47 56.7 -6.0**
ZAK pmax pmax
comp=Z,10.0nm,0.8s
ZAK smax smax
comp=E,144nm,1.4s

MOY Mondy 6.61 241 *e*Pn **Pn 18 46 14.8 +2.4**
MOY *e* 18 46 24.6
MOY max
MOY Smax
comp=E,225nm,1.4s
ORL Orlik 6.76 250 *e*Pn **Pn 18 46 16.4 +1.9**
ORL *e*Pg **Pb 18 46 36.2 +3.5**
ORL *e*Sn **Sn 18 47 28.2 -3.3**
ORL max
comp=E,10.0nm,1.5s
ORL Smax
comp=E,116nm,1.1s
ORL Orlik 6.76 250 *e*PN **Pn 18 46 16.0 +1.5**
ORL *e* 18 46 35.8
ORL *e* 18 48 03.0
ORL pmax pmax
comp=Z,5.0nm,0.4s
ORL smax smax
comp=N,116nm,1.3s
ULN Ulaanbaatar 7.68 196 *e* Pn 18 46 35.6 +8.4
ULN Sg Sg 18 48 31.9 -10
ULN *e* 18 48 39.5
SONM Songino Array 7.83 200 Pn **Pn 18 46 31.2 +2.0**
comp=N,0.2nm,0.3s,baz=13,slow=13,SNR=6.3
ZALV Zalesovo Beam 14.78 275 Pn **Pn 18 48 04.9 +0.9**
comp=N,0.3nm,0.3s,baz=81,slow=12,SNR=6.5
MKAR Makanchi Array 19.42 256 P **Pn 18 49 02.9 +0.3**
comp=N,0.1nm,0.3s,baz=62,slow=11,SNR=4.3
KURK Kurchatov 19.48 270 P **Pn 18 49 03.7 +0.5**
KURBB Kurchatov Arra 19.58 269 P **Pn 18 49 03.7 -0.6**
comp=N,0.1nm,0.3s,baz=65,slow=12,SNR=6.9
BVAR Borovoye Array 23.25 281 P **P 18 49 44.3 +2.0**
comp=N,0.6nm,0.5s,baz=78,slow=9.6,SNR=7.6
ILAR Eielson Array 46.66 35 P **P 18 53 04.2 +0.9**
comp=N,0.4nm,0.8s,baz=300,slow=7.2,SNR=4.3

MOS ***27*** *18:45:07.5±0.5,55.36N×110.31E,h12km,mb4.1/2,Error ellipse: s-maj=14.4km s-min=8.2km az=80.8*
IDC ***27*** *18:45:08.4±1.5,55.44N×110.16E,h0km,mb3.8/3, mb1 4.0/9,mb1mx3.6/40,mbtmp3.9/9,ML3.3/6,Error ellipse: s-maj=27.8km s-min=15.7km az=121.0*
BYKL ***27*** *18:45:08.3±0.2,55.29N×110.19E*
ISC 27 18:45:07.3±1.1,55.37N±0.02×110.30E±0.02,h8km±8km, n56,σ3s11/91,mb3.8/3,1C-1D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.59**	**313**	*e*Pg	**Pg**	**18 45 19.5**	**+0.8**
NIZ				Pmax		18 45 22.9	
	429nm,0.8s						
NIZ				*e*Sg	**Sb**	**18 45 28.1**	**-0.3**
NIZ				Smax		18 45 29.2	
	2µm,0.5s						
NIZ	**Nizh Angarsk**	**0.59**	**313**	*e*PG	**Pb**	**18 45 20.1**	**+0.2**
NIZ				*e*		18 45 28.4	
NIZ				pmax	pmax		
	comp=Z,288nm,0.8s						
NIZ				smax	smax		
	comp=N,3µm,1.1s						
YLYR	**Ulyunkhan**	**0.70**	**135**	*e*Pg	**Pg**	**18 45 20.4**	**-0.4**
YLYR				Pmax		18 45 25.0	
	comp=N,727nm,0.8s						
YLYR				*e*Sg	**Sg**	**18 45 29.8**	**-0.1**
YLYR				Smax		18 45 30.7	
	comp=N,2µm,0.9s						
YLYR	**Ulyunkhan**	**0.70**	**135**	*e*PG	**Pg**	**18 45 20.6**	**-0.2**
YLYR				*e*		18 45 30.6	
YLYR				pmax	pmax		
	comp=Z,609nm,0.7s						
YLYR				smax	smax		
	comp=N,2µm,1.2s						
KMO	**Kumora**	**0.72**	**44**⇑	*i*Pg	**Pb**	**18 45 22.9**	**+0.7**
KMO				Pmax		18 45 23.6	
	comp=N,644nm,0.4s						
KMO				*e*Sg	**Sn**	**18 45 33.7**	**-1.4**
KMO				Smax		18 45 35.3	
	comp=N,3µm,1.1s						
KMO	**Kumora**	**0.72**	**44**	*e*PG	**Pb**	**18 45 22.8**	**+0.6**
KMO				*e*		18 45 32.9	
KMO				pmax	pmax		
	comp=Z,634nm,0.5s						
KMO				smax	smax		
	comp=N,3µm,1.0s						
YOA	**Uoyan**	**1.11**	**46**	*e*Pg	**Pg**	**18 45 30.5**	**+1.9**
YOA				Pmax		18 45 37.1	
	comp=N,721nm,0.3s						
YOA				*e*Sg	**Sn**	**18 45 46.3**	**+1.8**
YOA				Smax		18 45 56.5	
	comp=N,5µm,1.1s						
SYVR	**Suvo**	**1.73**	**186**	*e*Pg	**Pb**	**18 45 38.5**	**-0.7**
SYVR				*e*		18 45 42.0	
SYVR				max		18 45 42.1	
	comp=N,286nm,0.6s						
SYVR				*e*Sg	**Sb**	**18 46 00.9**	**-0.1**
SYVR				Smax		18 46 06.6	
	comp=N,2µm,1.2s						
SYVR	**Suvo**	**1.73**	**186**	*e*PN	**Pn**	**18 45 38.0**	**+0.4**
SYVR				*e*		18 46 00.4	
SYVR				pmax	pmax		
	comp=Z,286nm,0.6s						
SYVR				smax	smax		
	comp=N,2µm,1.2s						
SVKR	**Severomuysk**	**1.99**	**67**	*e*Pg	**Pg**	**18 45 45.8**	**+0.4**
SVKR				Pmax		18 45 46.1	
	comp=N,504nm,0.6s						
SVKR				*e*Sg	**Sg**	**18 46 13.3**	**+2.2**
SVKR				Smax		18 46 17.8	
	comp=N,4µm,1.1s						
MXMB	**Maximikha**	**2.30**	**204**	*e*Sg	**Sb**	**18 46 16.7**	**-0.9**
OGRR	**Ongureny**	**2.34**	**223**	*e*Pg	**Pb**	**18 45 49.2**	**-0.5**
OGRR				Pmax		18 45 50.1	
	comp=N,538nm,1.0s						
OGRR				*e*		18 46 17.1	
OGRR				*e*Sg	**Sb**	**18 46 19.2**	**+0.4**
OGRR				Smax		18 46 23.0	
	comp=N,1µm,1.0s						
OGRR	**Ongureny**	**2.34**	**223**	*e*PN	**Pb**	**18 45 47.8**	**-1.9**
OGRR				*e*		18 45 50.0	
OGRR				*e*		18 46 17.2	
OGRR				pmax	pmax		
	comp=Z,127nm,0.3s						
OGRR				smax	smax		
	comp=N,1µm,0.6s						
KELR	**Kotokel**	**2.93**	**207**	*e*Sg	**Sb**	**18 46 36.7**	**+1.2**
BOD	**Bodaibo**	**3.19**	**38**	*e*Sg	**Sg**	**18 46 49.5**	**-0.3**
BOD				Smax		18 46 53.9	
	comp=N,579nm,1.7s						
ZRHB	**Zarechye**	**3.38**	**215**	*e*Pg	**Pb**	**18 46 07.4**	**0.0**
ZRHB				*e*Sg	**Sb**	**18 46 51.6**	**+3.0**
TRG	**Tyrgan**	**3.50**	**223**	*e*Pg	**Pb**	**18 46 09.1**	**-0.4**
TRG				Pmax		18 46 14.5	
	comp=N,95nm,0.5s						
TRG				*e*Sg	**Sb**	**18 46 53.2**	**+1.0**
TRG				Smax		18 47 03.5	
	comp=N,576nm,1.2s						
TRG	**Tyrgan**	**3.50**	**223**	*e*PN	**Pn**	**18 46 03.4**	**+1.4**
TRG				*e*		18 46 10.2	
TRG				*e*S	**Sn**	**18 46 42.1**	**-1.5**
TRG				*e*		18 46 53.0	
TRG				pmax	pmax		
	comp=Z,93nm,0.4s						
TRG				smax	smax		
	comp=E,490nm,0.3s						
UUDB	**Ulan-Yde**	**3.85**	**205**	*e*Pg	**Pb**	**18 46 16.1**	**+0.7**
UUDB				Pmax		18 46 22.0	
	comp=E,125nm,1.0s						
UUDB				*e*Sg	**Sg**	**18 47 06.2**	**-4.6**
UUDB				Smax		18 47 17.9	
	comp=E,593nm,1.4s						
CIT	**Chita**	**3.87**	**149**	*e*Pg	**Pb**	**18 46 17.4**	**+1.6**
CIT				Pmax		18 46 18.3	
	comp=E,127nm,1.2s						
CIT				*e*Sg	**Sg**	**18 47 06.9**	**-4.7**
CIT				Smax		18 47 13.5	
	comp=E,359nm,0.2s						
CIT	**Chita**	**3.87**	**149**	*e*PN	**Pn**	**18 46 08.6**	**+1.5**
CIT				*e*		18 46 17.5	
CIT				*e*S	**Sn**	**18 46 52.1**	**-0.7**
CIT				*e*		18 47 05.4	
CIT				pmax	pmax		
	comp=Z,129nm,1.2s						
CIT				smax	smax		
	comp=E,736nm,1.4s						

STDB Stepnoy Dvoret 3.97 218 Sg **Sb 18 47 06.7 +1.2**
KAB Kabansk 3.97 215 *e*Sg **Sb 18 47 07.9 +2.3**
KAB Smax 18 47 17.2
comp=E,1µm,0.9s
BGT Bolshoye Golou 4.42 223 *e*Pg **Pb 18 46 26.1 +1.0**
BGT Pmax 18 46 33.8
comp=E,26nm,0.5s
BGT *e*Sg **Sb 18 47 21.7 +3.1**
BGT Smax 18 47 30.1
comp=E,367nm,1.0s
CRS Chara 4.71 68 *e*Pg **Pg 18 46 34.8 -2.7**
CRS *e*Sg **Sg 18 47 37.9 -0.6**
CRS Smax 18 47 48.1
comp=E,575nm,1.8s
CRS Chara 4.71 68 *e*PN **Pg 18 46 35.4 -2.1**
CRS *e* 18 47 38.0
CRS pmax pmax
comp=Z,250nm,1.0s
CRS smax smax
comp=E,577nm,1.7s
IRK Irkutsk 4.75 231 *e*Sn **Sn 18 47 10.8 -3.6**
IRK *e*Sg **Sb 18 47 31.6 +3.5**
IRK Smax 18 47 39.0
comp=E,701nm,0.6s
IRK Irkutsk 4.75 231 *e*PN **Pn 18 46 20.5 +1.4**
IRK *e* 18 46 33.9
IRK *e* 18 47 33.5
IRK pmax pmax
comp=Z,119nm,0.5s
IRK smax smax
comp=N,893nm,1.1s
LSTR Listvyanka 4.79 225 Pg **Pb 18 46 31.5 +0.1**
LSTR Pmax 18 46 41.5
comp=N,16nm,0.7s
LSTR *e*Sn **Sn 18 47 13.4 -1.8**
LSTR *e*Sg **Sb 18 47 33.2 +4.1**
LSTR Smax 18 47 42.2
comp=N,325nm,1.9s
IVK Ivanovka 5.01 227 *e*Pg **Pb 18 46 35.6 +0.5**
IVK Pmax 18 46 43.9
comp=N,29nm,0.6s
IVK *e*Sn **Sn 18 47 17.8 -2.9**
IVK *e*Sg **Sb 18 47 39.5 +4.1**
IVK Smax 18 47 45.5
comp=N,350nm,1.1s
TLY Talaya 5.42 230 Pn **Pn 18 46 30.5 +2.1**
comp=N,0.0nm,0.3s,baz=38,slow=9.9,SNR=2.9
TLY Lg Lg 18 47 51.7
comp=N,0.2nm,0.3s,baz=91,slow=23,SNR=13
TLY Talaya 5.42 230 *e* **Pb 18 46 41.7 -0.5**
TLY *e* 18 46 46.8
TLY max 18 46 51.4
comp=N,30nm,0.6s
TLY *e*Sn **Sn 18 47 27.4 -3.5**
TLY *e*Sg **Sb 18 47 51.5 +4.1**
TLY Smax 18 47 57.0
comp=N,340nm,1.0s
TUP Tupik 5.65 96⇓*i*Pn **Pn 18 46 33.8 +2.3**
TUP *e* 18 46 41.9
TUP Pg **Pb 18 46 49.8 +3.7**
TUP Pmax 18 46 50.9
comp=N,30nm,1.0s
TUP *e*Sg **Sg 18 48 05.1 -3.5**
TUP *e* 18 48 12.6
TUP max 18 48 30.2
comp=N,220nm,1.3s
KPC Khapcheranga 5.82 167 *e*Pg **Pb 18 46 51.2 +2.3**
KPC Pmax 18 47 00.2
comp=N,20nm,0.9s
KPC *e*Sg **Sg 18 48 06.5 -7.4**
KPC Smax 18 48 08.3
comp=N,317nm,1.5s
KPC Khapcheranga 5.82 167 *e*PN **Pb 18 46 52.4 +3.5**
KPC *e* 18 48 06.4
KPC pmax pmax
comp=Z,20nm,0.7s
KPC smax smax
comp=E,317nm,1.5s
ARS Arshan 5.82 237 *e*Pn **Pn 18 46 34.4 +0.5**
ARS *e*Pg **Pb 18 46 50.1 +1.1**
ARS Pmax 18 46 59.3
comp=E,61nm,0.7s
ARS *e*Sn **Sn 18 47 48.1 +7.3**
ARS *e*Sg **Sb 18 48 05.0 +6.1**
ARS *e* 18 48 13.8
ARS max 18 48 14.3
comp=E,795nm,0.8s
ZAK Zakamensk 6.56 223 *e*Pn **Pn 18 46 46.1 +2.1**
ZAK *e*Pg **Pb 18 47 04.4 +2.8**
ZAK Pmax 18 47 14.8
comp=E,10.0nm,1.2s
ZAK *e*Sg **Sb 18 48 28.3 +8.2**
ZAK Smax 18 48 36.9
comp=E,142nm,1.5s
MOY Mondy 6.68 240 *e*Pn **Pn 18 46 47.4 +1.8**
MOY max 18 46 50.0
comp=E,49nm,1.3s
MOY *e* 18 46 57.8
MOY Pg **Pb 18 47 07.5 +3.9**
MOY *e*Sg Sg 18 48 32.6 -8.8
MOY Smax 18 48 49.7
comp=E,278nm,1.5s
MOY Mondy 6.68 240 *e*PN **Pn 18 46 48.0 +2.4**
MOY *e* 18 47 08.7
MOY *e*S **Sn 18 48 00.4 -1.5**
MOY *e* 18 48 33.4
MOY Mondy 6.68 240 *e* **Pn 18 46 47.8 +2.2**
MOY *e*Sg **Sn 18 48 00.3 -1.6**
ORL Orlik 6.81 250 *e*Pn **Pn 18 46 49.7 +2.2**
ORL max 18 46 52.3
comp=E,52nm,1.5s
ORL *e* 18 47 11.2
ORL *e*Sg **Sg 18 48 37.3 -8.5**
ORL Smax 18 48 44.3
comp=E,240nm,1.1s
ORL Orlik 6.81 250 *e*PN **Pn 18 46 49.6 +2.1**
ORL *e* 18 47 11.3
ORL *e*S **Sn 18 48 04.5 -0.7**
ORL *e* 18 48 38.1
ORL pmax pmax
comp=Z,52nm,1.0s
ORL smax smax
comp=N,240nm,1.4s
ORL Orlik 6.81 250 *e*Sg **Sn 18 48 04.2 -1.0**
ULN Ulaanbaatar 7.78 196 *e* **Pb 18 47 22.3 -0.2**
ULN *e* 18 49 01.1
ULN *e*Sg Sg 18 49 06.0 -11
ULN *e* 18 49 12.0
SONM Songino Array 7.93 199 Pn **Pn 18 47 05.4 +2.5**
comp=N,0.5nm,0.3s,baz=9.1,slow=13,SNR=9.9
SONM Sn **Sn 18 48 38.8 +6.1**
comp=N,0.8nm,0.3s,baz=28,slow=22,SNR=3.7
SONM Lg Lg 18 49 17.7
comp=N,2.2nm,0.3s,baz=12,slow=28,SNR=6.4
YAK Yakutsk 12.05 49 Sn **Sn 18 50 05.7 -7.6**
comp=N,0.0nm,0.3s,baz=256,slow=4.2,SNR=3.3
YAK Lg Lg 18 51 22.5
baz=333,slow=23,SNR=8.0
KLR Kul'dur 14.46 106 Lg Lg 18 52 43.2
comp=N,0.1nm,0.3s,baz=299,slow=19,SNR=4.1
ZALV Zalesovo Beam 14.79 275 Pn **Pn 18 48 37.8 +1.3**
comp=N,0.2nm,0.3s,baz=76,slow=10,SNR=24
ZALV Lg Lg 18 52 48.0
comp=N,0.1nm,0.3s,baz=89,slow=28,SNR=3.3
NRIK Noril'sk 17.36 333 P **P 18 49 10.8 -0.1**
comp=N,0.4nm,0.3s,baz=120,slow=12,SNR=5.3
TIXI Tiksi 18.16 19 S **Sn 18 52 31.1 -11**
comp=N,0.0nm,0.3s,baz=129,slow=6.5,SNR=3.1
TIXI Lg Lg 18 54 39.2
baz=296,slow=8.1,SNR=4.6
MKAR Makanchi Array 19.47 256 P **Pn 18 49 35.5 0.0**
comp=N,0.1nm,0.3s,baz=58,slow=10,SNR=11
MKAR Lg Lg 18 55 23.7
comp=N,0.0nm,0.3s,baz=67,slow=30,SNR=2.8
KURK Kurchatov 19.50 269 P **Pn 18 49 37.4 +1.6**
KURBB Kurchatov Arra 19.60 269 P **Pn 18 49 37.4 +0.4**
comp=N,0.1nm,0.3s,baz=64,slow=11,SNR=12
KURBB Lg Lg 18 55 28.0
comp=N,0.0nm,0.3s,baz=59,slow=33,SNR=5.4
BVAR Borovoye Array 23.25 281 P **P 18 50 16.2 +1.5**
comp=N,3.9nm,0.8s,baz=64,slow=12,SNR=13
FINES FINESS Array B 41.61 314 P **P 18 52 55.7 +0.5**
comp=N,0.9nm,0.7s,baz=60,slow=6.6,SNR=4.0
ILAR Eielson Array 46.56 35 P **P 18 53 37.2 +2.3**
comp=N,0.8nm,0.8s,baz=303,slow=6.6,SNR=9.4

*ISCJB **27** 19:02:27.9±0.5,39°.06N±0°.04×29°.05E±0°.05,h7km±8km, Error ellipse: s-maj=8.2km s-min=4.4km az=143.6*
*ISK **27** 19:02:27.5,39°.08N×29°.07E,h6km, MD2.7*
*DDA **27** 19:02:28.1,39°.05N×29°.05E,h7km, Md2.6*
*CSEM **27** 19:02:28.0±1.0,39°.08N×29°.03E,h5km, MD2.6, Error ellipse: s-maj=5.0km s-min=3.0km az=125.0*

ISC 27 19:02:28.3±1.0,39°.08N±0°.03×29°.04E±0°.03,h9km±12km, n20,σ0§41/29,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**263**	P	**Pg**	**19 02 32.9**	**-0.6**
DEMI				S	**Sg**	**19 02 37.8**	**+0.8**
DEMI	**Demirci**	**0.26**	**263**	*i* P	**Pg**	**19 02 32.9**	**-0.6**
DEMI				*i* S	**Sg**	**19 02 37.8**	**+0.8**
GDZ	**Gediz**	**0.34**	**88**	P	**Pg**	**19 02 34.9**	**-0.2**
GDZ				S	**Sg**	**19 02 40.1**	**+0.5**
GDZ	**Gediz**	**0.34**	**88**	*i* P	**Pg**	**19 02 34.9**	**-0.2**
GDZ				*i* S	**Sg**	**19 02 40.1**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**41**	*e*PG	**Pg**	**19 02 37.5**	**-0.4**
TVSB				*e*SG	**Sg**	**19 02 44.2**	**-0.3**
KULA	**Kula-Manisa**	**0.64**	**208**	*e*PG	**Pg**	**19 02 40.7**	**+0.1**
KULA				*e*SG	**Sg**	**19 02 49.4**	**+0.5**
KULA	**Kula-Manisa**	**0.64**	**208**	*e*Pg	**Pg**	**19 02 40.7**	**+0.1**
KULA				*e*Sg	**Sg**	**19 02 49.4**	**+0.5**
MANT	**Manisa**	**0.70**	**213**	P	**Pg**	**19 02 41.3**	**-0.5**
MANT				S	**Sg**	**19 02 50.7**	**-0.2**
MANT	**Manisa**	**0.70**	**213**	*i* P	**Pg**	**19 02 41.3**	**-0.5**
MANT				*i* S	**Sg**	**19 02 50.6**	**-0.2**
KHL	**Karahalli**	**0.84**	**153**	*e*PG	**Pg**	**19 02 44.1**	**-0.3**
BALB	**Balikesir**	**1.06**	**302**	*e*PN	**Pg**	**19 02 48.5**	**-0.2**
BALB	**Balikesir**	**1.06**	**302**	*e*Pn	**Pg**	**19 02 48.5**	**-0.2**
CAVI	**Cavuskoy**	**1.28**	**28**	*e*PN	**Pn**	**19 02 52.5**	**+0.1**
CAVI	**Cavuskoy**	**1.28**	**28**	*e*Pn	**Pn**	**19 02 52.5**	**+0.1**
IZI	**Iznik**	**1.30**	**15**	*e*PN	**Pn**	**19 02 52.8**	**+0.1**
IZI	**Iznik**	**1.30**	**15**	*e*Pn	**Pn**	**19 02 52.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*PN	**Pg**	**19 02 53.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*Pn	**Pg**	**19 02 53.3**	**+0.1**
ARMT	**Armutlu**	**1.50**	**355**	*e*PN	**Pb**	**19 02 56.0**	**-0.2**
ARMT	**Armutlu**	**1.50**	**355**	*e*Pn	**Pb**	**19 02 56.0**	**-0.2**

*ATH **27** 19:14:03.6,36°.57N×26°.75E,h143km±5km,ML3.0/3,Error ellipse: s-maj=6.1km s-min=1.8km az=132.0*
*ISK **27** 19:14:04.2,36°.58N×26°.44E,h30km,ML3.0*
*ISCJB **27** 19:14:05.5±0.8,36°.66N±0°.05×26°.68E±0°.05, h107km±12km,Error ellipse: s-maj=9.0km s-min=4.8km az=145.6*
*CSEM **27** 19:14:06.5±0.2,36°.66N×26°.71E,h100km,ML3.0,Error ellipse: s-maj=8.5km s-min=4.9km az=157.0*

ISC 27 19:14:06.1±1.5,36°.65N±0°.04×26°.72E±0°.04,h108km±14km, n44,σ1§04/60,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.63**	**49**	*e*PG	**Pn**	**19 14 21.1**	**-2.6**
BODT	**Bodrum**	**0.63**	**49**	*e*Pg	**Pn**	**19 14 21.1**	**-2.6**
APE	**Apeiranthos**	**1.04**	**294**	P	**Pn**	**19 14 29.8**	**+2.3**
APE	**Apeiranthos**	**1.04**	**294**	P	**Pn**	**19 14 29.8**	**+2.3**
SANT	**Santorini**	**1.05**	**255**	P	**Pn**	**19 14 29.8**	**+2.2**
SANT	**Santorini**	**1.05**	**255**	P	**Pn**	**19 14 29.8**	**+2.2**
KARP	**Karpathos**	**1.16**	**162**	P	**Pn**	**19 14 29.0**	**+0.2**
KARP	**Karpathos**	**1.16**	**162**	P	**Pn**	**19 14 29.1**	**+0.2**
ARG	**Arkhangelos**	**1.22**	**110**	P	**Pn**	**19 14 29.4**	**0.0**
ARG				S	**Sn**	**19 14 47.1**	**0.0**
YER	**Yerkesik**	**1.35**	**68**	*e*PN	**Pn**	**19 14 30.9**	**-0.1**
YER				*e*SN	**Sn**	**19 14 49.9**	**0.0**
YER	**Yerkesik**	**1.35**	**68**	*e*Pn	**Pn**	**19 14 30.9**	**-0.1**
YER				*e*Sn	**Sn**	**19 14 49.9**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.57**	**83**	*e*PN	**Pn**	**19 14 33.9**	**+0.4**
DALY				*e*SN	**Sn**	**19 14 55.6**	**+1.2**
DALY	**Dalyan (Mu¨la**	**1.57**	**83**	*e*Pn	**Pn**	**19 14 33.9**	**+0.4**
DALY				*e*Sn	**Sn**	**19 14 55.6**	**+1.2**
ZKR	**Zakros**	**1.58**	**195**	P	**Pn**	**19 14 34.8**	**+1.0**
ZKR				S	**Sn**	**19 14 55.6**	**+0.8**
ZKR	**Zakros**	**1.58**	**195**	P	**Pn**	**19 14 34.8**	**+1.0**
ZKR				S	**Sn**	**19 14 55.6**	**+0.8**
ZKR				AML	AML	19 14 58.2	
	comp=N,329µm,0.2s						
ZKR				AML	AML	19 14 58.4	
	comp=E,396µm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**1.60**	**36**	*e*PN	**Pn**	**19 14 33.4**	**-0.7**
AYDB				*e*SN	**Sn**	**19 14 55.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.60**	**36**	*e*Pn	**Pn**	**19 14 33.4**	**-0.7**
AYDB				*e*Sn	**Sn**	**19 14 55.4**	**0.0**
NPS	**Neapolis**	**1.65**	**213**	P	**Pn**	**19 14 34.4**	**-0.2**
NPS				S	**Sn**	**19 14 55.3**	**-0.9**
NPS	**Neapolis**	**1.65**	**213**	P	**Pn**	**19 14 34.4**	**-0.2**
NPS				S	**Sn**	**19 14 55.3**	**-0.9**
LAST	**Lasithi**	**1.79**	**214**	P	**Pn**	**19 14 36.1**	**-0.3**
LAST	**Lasithi**	**1.79**	**214**	P	**Pn**	**19 14 36.1**	**-0.3**
IDI	**Anoyia**	**2.01**	**228**	P	**Pn**	**19 14 38.3**	**-0.9**
IDI				S	**Sn**	**19 15 03.0**	**-1.4**
IDI	**Anoyia**	**2.01**	**228**	P	**Pn**	**19 14 38.3**	**-0.9**
IDI				S	**Sn**	**19 15 03.0**	**-1.4**
IDI				AML	AML	19 15 04.4	
	comp=N,258µm,0.2s						
IDI				AML	AML	19 15 06.0	
	comp=E,233µm,0.2s						
SIVA	**Sivas**	**2.25**	**224**	P	**Pn**	**19 14 42.9**	**+0.8**
SIVA	**Sivas**	**2.25**	**224**	P	**Pn**	**19 14 42.9**	**+0.8**
GLHS	**Glhisar (BURDU**	**2.29**	**76**	*e*PN	**Pn**	**19 14 43.7**	**+1.0**
GLHS	**Glhisar (BURDU**	**2.29**	**76**	*e*Pn	**Pn**	**19 14 43.7**	**+1.0**
VAM	**Vamos**	**2.38**	**239**	P	**Pn**	**19 14 43.6**	**-0.3**
IMMV	**Iera Moni Meta**	**2.51**	**243**	P	**Pn**	**19 14 45.6**	**0.0**
IMMV				S	**Sn**	**19 15 14.9**	**-1.0**
IMMV	**Iera Moni Meta**	**2.51**	**243**	P	**Pn**	**19 14 45.6**	**0.0**
IMMV				S	**Sn**	**19 15 14.9**	**-1.0**
IMMV				AML	AML	19 15 18.0	
	comp=N,334µm,0.4s						
IMMV				AML	AML	19 15 21.1	
	comp=E,344µm,0.4s						
GVD	**Gavdhos**	**2.80**	**231**	P	**Pn**	**19 14 49.5**	**+0.2**
GVD	**Gavdhos**	**2.80**	**231**	P	**Pn**	**19 14 49.5**	**+0.2**
ANKY	**Antikythira Is**	**2.87**	**255**	P	**Pn**	**19 14 50.0**	**-0.2**
ANKY	**Antikythira Is**	**2.87**	**255**	P	**Pn**	**19 14 50.0**	**-0.2**
DID	**Didima**	**2.91**	**288**	P	**Pn**	**19 14 51.6**	**+0.8**
DID	**Didima**	**2.91**	**288**	P	**Pn**	**19 14 51.6**	**+0.8**
VLI	**Veliai**	**3.04**	**272**	P	**Pn**	**19 14 52.5**	**0.0**
VLI	**Veliai**	**3.04**	**272**	P	**Pn**	**19 14 52.5**	**0.0**
VLX	**Vlachokerasia**	**3.54**	**283**	P	**Pn**	**19 14 58.5**	**-0.8**
VLX	**Vlachokerasia**	**3.54**	**283**	P	**Pn**	**19 14 58.5**	**-0.8**
ITM	**Ithomi**	**3.87**	**279**	S	**Sn**	**19 15 48.3**	**0.0**
ITM	**Ithomi**	**3.87**	**279**	P	**Pn**	**19 15 03.7**	**0.0**
ITM				S	**Sn**	**19 15 48.3**	**0.0**
KLV	**Kalavryta, Ach**	**3.90**	**292**	P	**Pn**	**19 15 05.4**	**+1.4**
PYL	**PYLOS**	**4.00**	**275**	P	**Pn**	**19 15 03.7**	**-1.7**

*IDC **27** 19:15:50.2±1.4,4°.48N×124°.45E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/42,mbtmp3.7/6,ML4.0/1,MS3.0/2, Ms1 3.1/2,ms1mx2.6/44,Error ellipse: s-maj=58.1km s-min=21.5km az=80.0*
*ISCJB **27** 19:15:52.8±1.0,4°.60N±0°.07×124°.7E±0°.2,h33km,mb3.5/5, MS2.9/2,Error ellipse: s-maj=35.5km s-min=9.4km az=7.5*

ISC 27 19:15:55.2±1.1,4°.59N±0°.09×124°.7E±0°.3,h35km,n8, σ1§46/7,mb3.6/5,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.61**	**19**	Pn	**Pn**	**19 16 36.8**	**+1.9**
	24nm,0.3s,baz=210,slow=15,SNR=3.9						
DAV				Sn	**Sn**	**19 17 03.4**	**-2.0**
	30nm,0.3s,baz=230,slow=16,SNR=5.6						
GUMO	**Guam**	**21.79**	**64**	LR	LR	19 27 55.5	
	comp=Z,48nm,20.2s,baz=268,slow=33						
FITZ	**Fitzroy Crossi**	**22.56**	**178**	P	**P**	**19 20 52.5**	**+0.1**
	1.9nm,0.8s,baz=352,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**26.14**	**159**	P	**P**	**19 21 25.7**	**-0.6**
	1.5nm,0.7s,baz=336,slow=10,SNR=12						
CMAR	**Chiang Mai Arr**	**28.72**	**301**	LR	LR	19 32 36.5	
	comp=Z,30nm,21.4s,baz=100,slow=35						
ASAR	**Alice Springs**	**29.47**	**163**	P	**P**	**19 21 55.6**	**-0.5**
	0.4nm,0.8s,baz=342,slow=6.6,SNR=4.7						
STKA	**Stephens Creek**	**39.66**	**157**	P	**P**	**19 23 24.0**	**+0.1**
	0.8nm,0.7s,baz=314,slow=8.9,SNR=3.5						
MKAR	**Makanchi Array**	**55.73**	**326**	P	**P**	**19 25 27.9**	**-0.4**
	0.4nm,0.7s,baz=141,slow=6.5,SNR=3.6						

TRN 27 19:20:17.9,13°.78N×60°.48W,h29km,MD3.7,3C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCLT	**Moule a Chique**	**0.46**	**261**	*e*P	Pn	19 20 30.0	+1.4
MCLT				*e*S	Sn	19 20 38.5	+2.7
SVV	**Soufriere Volc**	**0.86**	**237**	*i* P	Pb	19 20 35.8	+1.5
SVV				*e*S	Sn	19 20 47.7	+2.1
MVM	**Montagne Vaucl**	**0.87**	**332**	↓*e*P	Pb	19 20 34.9	+0.4
SVB	**Belmont**	**0.91**	**236**	*i* P	Pb	19 20 35.4	+0.2
SVB				*e*S	Sb	19 20 48.3	+1.4
LPMF	**Morne Lapointe**	**0.92**	**329**	↓*e*P	Pb	19 20 35.7	+0.3
BIM	**Bigot**	**0.93**	**322**	*e*P	Pb	19 20 35.6	+0.1
BIM				*e*S	Sb	19 20 48.6	+1.0
TRMF	**Trois Ilets**	**0.93**	**323**	*e*P	Pb	19 20 35.9	+0.3
ZAM	**Aeronautique**	**0.95**	**326**	↑*e*P	Pb	19 20 36.2	+0.3
FCV	**Fort Charlotte**	**0.97**	**230**	*i* P	Pb	19 20 37.0	+0.8
FCV				*e*S	Sb	19 20 50.2	+1.4
FDF	**Fort de France**	**1.15**	**325**	*e*P	Pb	19 20 39.0	-0.2
FDF				*e*S	Sb	19 20 53.8	0.0
PML	**Morne Lenard**	**1.21**	**325**	*e*P	Pb	19 20 40.0	-0.2
GBMF	**Grand Be**	**1.21**	**327**	*e*P	Pb	19 20 39.8	-0.5
BAMF	**Morne Balai**	**1.22**	**328**	↑*e*P	Pb	19 20 39.8	-0.6
CXM	**Morne La Croix**	**1.22**	**327**	*e*P	Pb	19 20 40.5	-0.1
CXM				*e*S	Sb	19 20 56.8	+0.7
PCM	**Pelee Case Pet**	**1.25**	**325**	*e*P	Pn	19 20 39.6	+0.1
PCM	**Pelee Case Pet**	**1.25**	**325**	↑*e*P	Pb	19 20 40.4	-0.5
DLPL	**La Plaine**	**1.71**	**334**	*e*P	Pb	19 20 48.1	-0.7
DLPL				*e*S	Sn	19 21 07.9	+1.2
GRSS	**Sisters**	**1.84**	**217**	*e*P	Pn	19 20 48.5	+0.8
GRSS				*e*S	Sn	19 21 11.7	+1.8
DWS	**Wesley**	**1.95**	**336**	*e*P	Pn	19 20 50.0	+1.0
DWS				*e*S	Sn	19 21 13.3	+0.7
BBL	**Barber's Block**	**1.98**	**331**	*e*P	Pn	19 20 50.1	+0.6
BBL				*e*S	Sn	19 21 13.9	+0.5
GRW	**Mount Saint Ca**	**1.98**	**216**	*e*P	Pb	19 20 51.9	-1.6
GRW				*e*S	Sn	19 21 15.1	+1.6
GRGR	**Grenville**	**2.00**	**215**	*e*P	Pn	19 20 51.5	+1.8
GRGR				*e*S	Sn	19 21 15.6	+1.7
TBG	**Guadaloupe-3**	**2.35**	**331**	*e*P	Pn	19 20 56.1	+1.6
TBG				*e*S	Sn	19 21 23.1	+0.7
DEG	**La Desirade**	**2.58**	**347**	*e*P	Pn	19 21 00.1	+2.4
DEG				*e*S	Sn	19 21 29.0	+0.9

*BYKL **27** 19:21:01.4±0.3,55°.29N×110°.19E*
*MOS **27** 19:21:02.7±1.8,55°.34N×110°.08E,h10km,mb4.3/1,Error ellipse: s-maj=99.9km s-min=24.6km az=50.8*

ISC 27 19:21:01.5±0.7,55°.33N±0°.03×110°.11E±0°.02,h10km,n32, σ3§16/70,1C-2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.55**	**324**	*e*Pg	**Pg**	**19 21 11.9**	**-0.3**
NIZ				*e*Sg	**Sb**	**19 21 20.7**	**-0.5**
NIZ				Pmax			
	57nm,0.4s						
NIZ				Smax			
	295nm,0.4s						
YLYR	**Ulyunkhan**	**0.76**	**126**	↑*i*Pg	**Pg**	**19 21 12.6**	**-3.5**
YLYR				*e*Sg	**Sg**	**19 21 22.1**	**-3.8**
YLYR				*e*		19 21 29.5	
YLYR				Pmax			
	75nm,0.7s						
YLYR				Smax			
	244nm,0.2s						
KMO	**Kumora**	**0.83**	**47**	*e*Pg	**Pg**	**19 21 17.2**	**-0.4**
KMO				*e*Sg	**Sg**	**19 21 28.2**	**-0.2**
KMO				Pmax			
	126nm,0.4s						
KMO				Smax			
	228nm,1.4s						
YOA	**Uoyan**	**1.22**	**48**	*e*Pg	**Pn**	**19 21 23.4**	**-1.2**
YOA				*e*Pb	**Pg**	**19 21 25.0**	**+0.1**
YOA				*e*Sg	**Sb**	**19 21 40.1**	**-0.3**
YOA				max			
	93nm,0.2s						
YOA				Smax			
	568nm,0.9s						
YOA	**Uoyan**	**1.22**	**48**	↓*i*PG	**Pn**	**19 21 24.8**	**+0.2**
YOA				*e*		19 21 41.0	
YOA				pmax	pmax		
	comp=Z,75nm,0.3s						
YOA				smax	smax		
	comp=E,541nm,0.6s						
SYVR	**Suvo**	**1.68**	**182**	*e*Pg	**Pn**	**19 21 30.4**	**-0.5**
SYVR				*e*Sg	**Sn**	**19 21 51.4**	**-1.0**
SYVR				Pmax			
	comp=E,22nm,0.5s						
SYVR				Smax			
	comp=E,223nm,1.3s						
SVKR	**Severomuysk**	**2.10**	**67**	*e*Pg	**Pn**	**19 21 38.2**	**+1.4**
SVKR				*e*Sg	**Sb**	**19 22 05.0**	**-1.0**
SVKR				*e*		19 22 09.0	
SVKR				Pmax			
	comp=E,66nm,0.5s						
SVKR				max			
	comp=E,360nm,0.5s						
SVKR	**Severomuysk**	**2.10**	**67**	*e*PN	**Pb**	**19 21 40.0**	**+0.2**
SVKR				*e*		19 22 06.6	
SVKR				pmax	pmax		
	comp=Z,66nm,0.5s						
SVKR				smax	smax		
	comp=N,370nm,0.9s						
MXMB	**Maximikha**	**2.22**	**202**	*e*Pg	**Pb**	**19 21 41.1**	**-0.6**
MXMB				*e*Sg	**Sb**	**19 22 10.4**	**+1.2**
OGRR	**Ongureny**	**2.24**	**222**	*e*Pn	**Pn**	**19 21 39.4**	**+0.8**
OGRR				*e*Pg	**Pb**	**19 21 41.4**	**-0.6**
OGRR				*e*Sg	**Sb**	**19 22 11.0**	**+1.3**
OGRR				Pmax			
	comp=N,16nm,0.4s						
OGRR				Smax			
	comp=N,209nm,0.4s						
OGRR	**Ongureny**	**2.24**	**222**	*e*PN	**Pn**	**19 21 39.7**	**+1.1**
OGRR				*e*		19 21 42.7	
OGRR				*e*		19 22 11.4	
OGRR				pmax	pmax		
	comp=Z,16nm,0.4s						
OGRR				smax	smax		
	comp=N,219nm,0.6s						
KELR	**Kotokel**	**2.84**	**206**	*e*Pg	**Pb**	**19 21 53.2**	**+1.0**
KELR				*e*Sg	**Sg**	**19 22 30.8**	**-1.8**
ZRHB	**Zarechye**	**3.28**	**213**	*e*	**Sb**	**19 22 39.0**	**-0.8**
ZRHB				*e*Sg	**Sb**	**19 22 43.9**	**+4.1**
BOD	**Bodaibo**	**3.30**	**39**	*e*Pn	**Pn**	**19 21 55.2**	**+2.1**
BOD				*e*Pg	**Pb**	**19 22 00.8**	**+0.8**
BOD				*e*Sn	**Sn**	**19 22 32.5**	**+0.2**
BOD				*e*Sg	**Sb**	**19 22 43.7**	**+3.6**
BOD				Pmax			
	comp=N,10.0nm,0.5s						
BOD				Smax			
	comp=N,46nm,0.7s						
TRG	**Tyrgan**	**3.40**	**222**	*e*Pn	**Pn**	**19 21 55.3**	**+0.7**
TRG				*e*Pg	**Pb**	**19 22 02.7**	**+0.9**
TRG				*e*Sg	**Sb**	**19 22 46.5**	**+3.4**
TRG				Pmax			
	comp=N,6.0nm,0.3s						
TRG				Smax			
	comp=N,60nm,0.4s						
UUDB	**Ulan-Yde**	**3.76**	**204**	*e*Pg	**Pb**	**19 22 09.3**	**+1.3**
UUDB				*e*Sg	**Sg**	**19 22 58.4**	**-3.8**
UUDB				Pmax			
	comp=N,13nm,0.9s						
UUDB				Smax			
	comp=N,49nm,1.0s						
STDB	**Stepnoy Dvoret**	**3.87**	**217**	*e*Sg	**Sg**	**19 23 01.4**	**-4.2**
CIT	**Chita**	**3.90**	**147**	*e*Sg	**Sb**	**19 23 01.3**	**+3.9**
CIT				Smax			
	comp=N,66nm,1.0s						
BGT	**Bolshoye Golou**	**4.32**	**222**	*e*Pn	**Pn**	**19 22 08.1**	**+0.9**
BGT				*e*Pg	**Pb**	**19 22 19.1**	**+1.7**
BGT				*e*Sg	**Sb**	**19 23 14.7**	**+5.2**
BGT				Pmax			
	comp=N,4.0nm,0.6s						
BGT				Smax			
	comp=N,37nm,0.5s						
IRK	**Irkutsk**	**4.64**	**231**	*e*Sg	**Sg**	**19 23 25.0**	**-5.4**
LSTR	**Listvyanka**	**4.68**	**224**	*e*	**Pn**	**19 22 15.2**	**+3.1**
LSTR				*e*		19 23 08.0	
LSTR				*e*Sg	**Sb**	**19 23 24.9**	**+5.0**
LSTR				Smax			
	comp=N,30nm,1.0s						
CRS	**Chara**	**4.83**	**68**	*e*Sg	**Sb**	**19 23 28.1**	**+3.8**
CRS				Smax			
	comp=N,74nm,1.7s						
IVK	**Ivanovka**	**4.90**	**226**	*e*Pn	**Pn**	**19 22 16.6**	**+1.4**
IVK				*e*Pg	**Pb**	**19 22 28.5**	**+1.2**
IVK				*e*Sn	**Sn**	**19 23 11.3**	**-0.6**
IVK				*e*Sg	**Sb**	**19 23 31.3**	**+5.0**
IVK				Pmax			
	comp=N,3.0nm,0.3s						
IVK				Smax			
	comp=N,40nm,0.9s						
TLY	**Talaya**	**5.31**	**229**	*e*	**Pn**	**19 22 22.4**	**+1.5**
TLY				*e*		19 22 34.4	
TLY				*e*Sg	**Sg**	**19 23 45.5**	**-6.5**
TLY				max			
	comp=N,4.0nm,0.6s						
TLY				Smax			
	comp=N,34nm,1.0s						
ARS	**Arshan**	**5.71**	**236**	*e*Pn	**Pn**	**19 22 26.5**	**+0.2**
ARS				*e*Pg	**Pb**	**19 22 45.3**	**+4.2**
ARS				*e*Sg	**Sg**	**19 23 59.8**	**-4.8**
ARS				Smax			
	comp=N,83nm,0.6s						
ARS	**Arshan**	**5.71**	**236**	*e*PN	Pn	19 22 31.4	+5.1
ARS				*e*		19 22 48.4	
ARS				*e*S	**Sn**	**19 23 32.3**	**+0.5**
ARS				*e*		19 23 59.8	
ARS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ARS				smax	smax		
	comp=E,83nm,0.5s						
TUP	**Tupik**	**5.76**	**95**	↓*i*Pn	**Pn**	**19 22 26.0**	**-0.9**
TUP				*e*		19 22 28.3	
TUP				*e*Pg	**Pb**	**19 22 45.3**	**+3.4**
TUP				*e*		19 23 32.2	
TUP				*e*Sg	**Sg**	**19 23 59.8**	**-6.3**
TUP				max			
	comp=E,4.0nm,0.7s						
TUP				Smax			
	comp=E,23nm,1.2s						
KPC	**Khapcheranga**	**5.80**	**165**	*e*Pn	**Pn**	**19 22 28.6**	**+1.0**
KPC				*e*Pg	**Pb**	**19 22 44.8**	**+2.0**
KPC				*e*		19 23 30.8	
KPC				*e*Sg	**Sb**	**19 23 59.2**	**+6.9**
KPC				Pmax			
	comp=E,3.0nm,0.8s						
KPC				Smax			
	comp=E,24nm,1.3s						
ZAK	**Zakamensk**	**6.45**	**223**	*e*Pg	**Pb**	**19 22 57.9**	**+4.1**
ZAK				*e*Sg	**Sg**	**19 24 23.0**	**-5.5**
ZAK				Smax			
	comp=E,18nm,1.3s						
MOY	**Mondy**	**6.56**	**240**	*e*Pn	**Pn**	**19 22 39.6**	**+1.6**
MOY				*e*Pg	**Pb**	**19 22 59.3**	**+3.6**
MOY				*e*Sn	**Sn**	**19 23 51.8**	**-1.1**
MOY				*e*Sg	**Sg**	**19 24 24.5**	**-7.4**
MOY				Pmax			
	comp=E,4.0nm,0.4s						
MOY				Smax			
	comp=E,25nm,1.4s						
ORL	**Orlik**	**6.69**	**250**	*e*Pn	**Pn**	**19 22 41.5**	**+1.6**
ORL				*e*		19 22 43.1	
ORL				*e*Sn	**Sn**	**19 23 54.3**	**-1.9**
ORL				*e*Sg	**Sg**	**19 24 28.0**	**-8.2**
ORL				max			
	comp=E,5.0nm,0.8s						
ORL				Smax			
	comp=E,24nm,1.3s						
ORL	**Orlik**	**6.69**	**250**	*e*PN	**Pn**	**19 22 42.7**	**+2.8**
ORL				*e*		19 23 03.8	
ORL				*e*S	**Sn**	**19 23 57.9**	**+1.7**
ORL				*e*		19 24 30.5	
ORL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ORL				smax	smax		
	comp=N,25nm,0.9s						

*DDA **27** 19:24:59.2,37°.60N×26°.89E,h5km,Ml3.0*
*ATH **27** 19:24:59.4,37°.66N×26°.87E,h27km±1km,ML2.9/3,Error ellipse: s-maj=2.5km s-min=1.4km az=67.0*
*IASPEI **27** 19:25:00.5±0.8,37°.65N±0°.02×26°.89E±0°.02,h11km±5km, Error ellipse: s-maj=3.6km s-min=3.1km az=38.3,GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seismol. Res. Let., 80, 465-472, 2009*
*THE **27** 19:25:00.8,37°.71N×26°.95E,h8km,ML3.2/4,Error ellipse: s-maj=0.7km s-min=0.3km az=243.0*
*CSEM **27** 19:25:00.5±0.1,37°.66N×26°.85E,h10km,ML2.9,Error ellipse: s-maj=2.9km s-min=2.5km az=70.0*
*ISK **27** 19:25:00.1,37°.65N×26°.89E,h13km,ML3.0*
*ISCJB **27** 19:25:00.5±0.5,37°.67N±0°.02×26°.87E±0°.02,h13km±3km, Error ellipse: s-maj=3.5km s-min=2.7km az=147.9*

ISC 27 19:25:00.2±0.8,37°.64N±0°.02×26°.89E±0°.02,h12km±5km, n123,σ1§07/161,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.08**	**328**	P	**Pg**	**19 25 03.1**	**+0.3**
SMG				S	**Sg**	**19 25 05.0**	**+0.3**
SMG	**Samos**	**0.08**	**328**	P	**Pg**	**19 25 03.1**	**+0.3**
SMG				S	**Sg**	**19 25 05.0**	**+0.3**
SMG	**Samos**	**0.08**	**328**	P	**Pg**	**19 25 02.4**	**-0.5**
GCAM	**G?zelcaml?**	**0.28**	**78**	P	**Pg**	**19 25 06.5**	**+0.5**
GCAM				S	**Sb**	**19 25 11.0**	**-0.9**
GCAM	**G?zelcaml?**	**0.28**	**78**	*i* P	**Pg**	**19 25 06.5**	**+0.5**
GCAM				*i* S	**Sb**	**19 25 11.0**	**-0.9**
DGB	**¨zmir**	**0.41**	**359**	*i* P	**Pg**	**19 25 08.5**	**+0.2**
DGB				*i* S	**Sb**	**19 25 17.4**	**+1.8**
ZEY	**¨zmir**	**0.67**	**333**	*i* P	**Pg**	**19 25 13.0**	**-0.2**
ZEY				*i* S	**Sb**	**19 25 23.6**	**+0.6**
BODT	**Bodrum**	**0.67**	**150**	*e*PG	**Pg**	**19 25 13.3**	**0.0**
BODT				*e*SG	**Sb**	**19 25 23.6**	**+0.4**
BODT	**Bodrum**	**0.67**	**150**	*e*Pg	**Pg**	**19 25 13.3**	**0.0**
BODT				*e*Sg	**

APE					AML	AML	19 25 43.0	
	comp=E,621μm,0.2s							
APE					AML	AML	19 25 43.4	
	comp=N,845μm,0.2s							
DKL	**Dikili**	**1.43**	**1**	*e*PN	**Pn**		**19 25 26.2**	**+0.2**
DKL	**Dikili**	**1.43**	**1**	*e*Pn	**Pn**		**19 25 26.2**	**+0.2**
AKS	**Akhisar**	**1.43**	**30**	*e*PN	**Pb**		**19 25 26.6**	**-0.3**
AKS	**Akhisar**	**1.43**	**30**	*e*Pn	**Pb**		**19 25 26.6**	**-0.3**
MANT	**Manisa**	**1.56**	**57**	P	**Pg**		**19 25 30.8**	**+0.5**
MANT	**Manisa**	**1.56**	**57**	*i* P	**Pg**		**19 25 30.8**	**+0.5**
TURN	**Turunc**	**1.57**	**119**	*i* P	**Pn**		**19 25 24.9**	**-3.0**
TURN				*i* S	**Sn**		**19 25 41.9**	**-6.3**
DALY	**Dalyan (Mu¨la**	**1.63**	**120**	*e*PN	**Pn**		**19 25 28.7**	**-0.1**
DALY	**Dalyan (Mu¨la**	**1.63**	**120**	*e*Pn	**Pn**		**19 25 28.7**	**-0.1**
KULA	**Kula-Manisa**	**1.65**	**58**	*e*PN	**Pb**		**19 25 29.9**	**-0.7**
KULA	**Kula-Manisa**	**1.65**	**58**	P	**Pn**		**19 25 27.7**	**-1.4**
KULA				S	**Sn**		**19 25 48.3**	**-1.9**
KULA	**Kula-Manisa**	**1.65**	**58**	P	**Pn**		**19 25 27.7**	**-1.4**
KULA	**Kula-Manisa**	**1.65**	**58**	*e*Pn	**Pb**		**19 25 29.9**	**-0.7**
KULA				S	**Sn**		**19 25 48.3**	**-1.9**
THR2	**Thira island,**	**1.67**	**225**	P	**Pn**		**19 25 30.1**	**+0.8**
THR2	**Thira island,**	**1.67**	**225**	P	**Pn**		**19 25 30.1**	**+0.8**
AYVA	**Ayvalik**	**1.67**	**355**	P	**Pg**		**19 25 32.6**	**+0.3**
AYVA	**Ayvalik**	**1.67**	**355**	*i* P	**Pg**		**19 25 32.6**	**+0.3**
AYVA				*i* S	**Sg**		**19 25 57.2**	**+3.3**
PRK	**Paraskevi**	**1.67**	**343**	P	**Pn**		**19 25 28.8**	**-0.5**
PRK				S	**Sn**		**19 25 48.9**	**-1.8**
PRK	**Paraskevi**	**1.67**	**343**	P	**Pn**		**19 25 29.2**	**-0.1**
PRK				S	**Sn**		**19 25 48.9**	**-1.8**
PRK	**Paraskevi**	**1.67**	**343**	P	**Pn**		**19 25 29.2**	**-0.1**
PRK				AML	AML		19 25 57.5	
	comp=E,728μm,0.6s							
PRK				AML	AML		19 26 00.5	
	comp=N,520μm,0.4s							
DENT	**Denizli**	**1.71**	**86**	*e*PN	**Pb**		**19 25 30.7**	**-0.8**
DENT	**Denizli**	**1.71**	**86**	*e*Pn	**Pb**		**19 25 30.7**	**-0.8**
DNZL	**Cakiroluk**	**1.71**	**88**	P	**Pn**		**19 25 30.5**	**+0.4**
DNZL				S	**Sb**		**19 25 53.5**	**+0.2**
DNZL	**Cakiroluk**	**1.71**	**88**	*i* P	**Pn**		**19 25 30.6**	**+0.4**
DNZL				*i* S	**Sb**		**19 25 53.5**	**+0.2**
THR3	**Thira Island,**	**1.71**	**224**	P	**Pn**		**19 25 30.7**	**+0.8**
THR3	**Thira Island,**	**1.71**	**224**	P	**Pn**		**19 25 30.7**	**+0.8**
ARG	**Arkhangelos**	**1.74**	**145**	P	**Pn**		**19 25 30.0**	**-0.2**
ARG	**Arkhangelos**	**1.74**	**145**	P	**Pn**		**19 25 30.0**	**-0.2**
THR6	**Thira Island,**	**1.75**	**223**	P	**Pn**		**19 25 31.4**	**+0.9**
THR6	**Thira Island,**	**1.75**	**223**	P	**Pn**		**19 25 31.4**	**+0.9**
SIGR	**SIGRI**	**1.76**	**333**	P	**Pn**		**19 25 30.0**	**-0.6**
SIGR				S	**Sn**		**19 25 51.0**	**-1.9**
SIGR	**SIGRI**	**1.76**	**333**	P	**Pn**		**19 25 30.0**	**-0.6**
SIGR				S	**Sn**		**19 25 51.0**	**-1.9**
SIGR	**SIGRI**	**1.76**	**333**	P	**Pn**		**19 25 30.0**	**-0.6**
DEMI	**Demirci**	**2.00**	**45**	P	**Pg**		**19 25 38.9**	**+0.2**
DEMI	**Demirci**	**2.00**	**45**	*i* P	**Pg**		**19 25 38.9**	**+0.2**
BALB	**Balikesir**	**2.14**	**21**	*e*PN	**Pn**		**19 25 36.7**	**+0.9**
BALB	**Balikesir**	**2.14**	**21**	*e*Pn	**Pn**		**19 25 36.7**	**+0.9**
GOLH	**Golhisar**	**2.17**	**100**	P	**Pb**		**19 25 38.1**	**-1.4**
GOLH	**Golhisar**	**2.17**	**100**	*i* P	**Pb**		**19 25 38.1**	**-1.4**
EZN	**Ezine**	**2.22**	**349**	*e*PN	**Pn**		**19 25 37.5**	**+0.6**
EZN	**Ezine**	**2.22**	**349**	*e*Pn	**Pn**		**19 25 37.5**	**+0.6**
PTL	**Penteli**	**2.43**	**281**	P	**Pn**		**19 25 39.3**	**-0.6**
PTL	**Penteli**	**2.43**	**281**	P	**Pn**		**19 25 39.3**	**-0.6**
EREA	**Eretria**	**2.46**	**289**	P	**Pn**		**19 25 40.3**	**+0.1**
EREA	**Eretria**	**2.46**	**289**	P	**Pn**		**19 25 40.3**	**+0.1**
VLY	**Voula,Athens**	**2.46**	**276**	P	**Pn**		**19 25 38.0**	**-2.2**
GONE	**Gonen-Balikesi**	**2.48**	**14**	*e*PN	**Pn**		**19 25 41.3**	**+0.9**
GONE	**Gonen-Balikesi**	**2.48**	**14**	*e*Pn	**Pn**		**19 25 41.3**	**+0.9**
GDZ	**Gediz**	**2.50**	**54**	*i* P	**Pg**		**19 25 50.3**	**+2.2**
GDZ				*i* S	Sg		19 26 30.5	+10
ELL	**Elmali**	**2.57**	**109**	*e*PN	**Pn**		**19 25 42.6**	**+0.7**
ELL	**Elmali**	**2.57**	**109**	*e*Pn	**Pn**		**19 25 42.6**	**+0.7**
ZKR	**Zakros**	**2.58**	**192**	P	**Pn**		**19 25 42.5**	**+0.6**
ZKR	**Zakros**	**2.58**	**192**	P	**Pn**		**19 25 42.5**	**+0.6**
AKAS	**Kas**	**2.59**	**122**	P	**Pb**		**19 25 44.8**	**-2.0**
AKAS				S	**Sn**		**19 26 14.6**	**+0.9**
AKAS	**Kas**	**2.59**	**122**	*i* P	**Pb**		**19 25 44.8**	**-2.0**
AKAS				*i* S	**Sn**		**19 26 14.6**	**+0.9**
LIA	**Limnos Island**	**2.62**	**330**	P	**Pn**		**19 25 42.2**	**-0.1**
LIA	**Limnos Island**	**2.62**	**330**	P	**Pn**		**19 25 42.4**	**+0.1**
KSL	**Kastellorizon**	**2.62**	**124**	P	**Pn**		**19 25 42.9**	**+0.5**
GADA	**Gvkgeada**	**2.66**	**343**	*e*PN	**Pn**		**19 25 43.2**	**+0.4**
GADA	**Gvkgeada**	**2.66**	**343**	*e*Pn	**Pn**		**19 25 43.3**	**+0.4**
KNL	**Bal¨–kesir**	**2.67**	**11**	*i* P	**Pb**		**19 25 49.4**	**+1.4**
KNL				*i* S	**Sg**		**19 26 26.0**	**0.0**
LPK	**Lapseki**	**2.73**	**358**	*e*PN	**Pn**		**19 25 44.6**	**+0.7**
LPK	**Lapseki**	**2.73**	**358**	*e*Pn	**Pn**		**19 25 44.6**	**+0.7**
LAST	**Lasithi**	**2.73**	**205**	P	**Pn**		**19 25 44.1**	**+0.2**
LAST	**Lasithi**	**2.73**	**205**	P	**Pn**		**19 25 44.1**	**+0.2**
KRBG	**Karabiga-Canak**	**2.76**	**6**	*e*PN	**Pn**		**19 25 45.6**	**+1.2**
KRBG	**Karabiga-Canak**	**2.76**	**6**	*e*Pn	**Pn**		**19 25 45.6**	**+1.2**
GELI	**Tayfur-Gelibol**	**2.77**	**353**	*e*PN	**Pn**		**19 25 44.6**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.77**	**353**	*e*Pn	**Pn**		**19 25 44.7**	**+0.3**
EDC	**Edincik**	**2.80**	**15**	*e*PN	**Pn**		**19 25 46.1**	**+1.2**
EDC	**Edincik**	**2.80**	**15**	*e*Pn	**Pn**		**19 25 46.1**	**+1.2**
IDI	**Anoyia**	**2.85**	**215**	P	**Pn**		**19 25 43.9**	**-1.7**
IDI	**Anoyia**	**2.85**	**215**	P	**Pn**		**19 25 43.9**	**-1.7**
KCTX	**Karacabey (Bur**	**2.86**	**23**	*e*PN	**Pn**		**19 25 46.4**	**+0.7**
KCTX	**Karacabey (Bur**	**2.86**	**23**	*e*Pn	**Pn**		**19 25 46.4**	**+0.7**
MRMT	**Marmara Adasi**	**3.01**	**10**	*e*PN	**Pn**		**19 25 48.5**	**+0.8**
MRMT	**Marmara Adasi**	**3.01**	**10**	*e*Pn	**Pn**		**19 25 48.5**	**+0.8**
SMTH	**Samothraki Isl**	**3.01**	**340**	P	**Pn**		**19 25 47.2**	**-0.6**
SMTH	**Samothraki Isl**	**3.01**	**340**	P	**Pn**		**19 25 47.1**	**-0.6**
RKY	**Sarkoy-Tekirda**	**3.05**	**4**	*e*PN	**Pn**		**19 25 49.4**	**+1.1**
RKY	**Sarkoy-Tekirda**	**3.05**	**4**	*e*Pn	**Pn**		**19 25 49.4**	**+1.1**
ENEZ	**Enez**	**3.14**	**350**	*e*PN	**Pn**		**19 25 50.3**	**+0.8**
ENEZ	**Enez**	**3.14**	**350**	*e*Pn	**Pn**		**19 25 50.3**	**+0.8**
ARMT	**Armutlu**	**3.30**	**27**	*e*PN	**Pn**		**19 25 53.0**	**+1.3**
ARMT	**Armutlu**	**3.30**	**27**	*e*Pn	**Pn**		**19 25 53.0**	**+1.3**
ALN	**Alexandroupoli**	**3.31**	**349**	P	**Pn**		**19 25 51.5**	**-0.4**
ALN	**Alexandroupoli**	**3.31**	**349**	P	**Pn**		**19 25 51.5**	**-0.4**
IZI	**Iznik**	**3.36**	**36**	*e*PN	**Pn**		**19 25 54.0**	**+1.4**
IZI	**Iznik**	**3.36**	**36**	*e*Pn	**Pn**		**19 25 54.0**	**+1.4**
CAVI	**Cavuskoy**	**3.44**	**41**	*e*PN	**Pn**		**19 25 55.0**	**+1.3**
CAVI	**Cavuskoy**	**3.44**	**41**	*e*Pn	**Pn**		**19 25 55.0**	**+1.3**
KLV	**Kalavryta, Ach**	**3.77**	**278**	P	**Pn**		**19 25 58.5**	**+0.2**
KLV	**Kalavryta, Ach**	**3.77**	**278**	P	**Pn**		**19 25 58.5**	**+0.2**

NIED ***27*** *19:31:00,35.°70N×140.°80E,h50km,Mw3.9 Best double couple: M₀9.38000×10¹⁴ NP1:φs199.00000°,δ18.00000°, λ91.00000°. NP2:φs18.00000°,δ72.00000°,λ90.00000°.*

ISCJB ***27*** *19:31:37.5±0.6,35.°69N±0.°04×140.°80E±0.°07,h55km±4km, mb3.7/11,Error ellipse: s-maj=10.3km s-min=6.9km az=159.5*

JMA ***27*** *19:31:38.5±0.1,35.°73N×140.°69E,h47km±1km,M3.2 Broadband fault plane solution: P waves. NP1: φs26.00000°,δ63.00000°,λ102.00000°. NP2: φs181.00000°,δ30.00000°,λ68.00000°. Principal axes: T Plg70.0000°, Azm321.0000°; N Plg11.0000°, Azm200.0000°; P Plg17.0000°, Azm107.0000°;*

JMA Felt I J1.

IDC ***27*** *19:31:39.1±2.6,35.°62N×140.°81E,h55km±23km,mb3.5/11, mb1 3.6/13,mb1mx3.4/53,mbtmp3.7/13,ML3.5/2,MS2.9/3, Ms1 2.9/3,ms1mx2.5/38 Error ellipse: s-maj=25.5km s-min=8.5km az=67.0*

ISC 27 19:31:38.6±0.8,35.°71N±0.°05×140.°79E±0.°07,h47km±7km, n28,σ0°84/25,mb3.8/11,1C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.06**	**98**	⇑P		**Pn**	**19 31 46.1**	**+0.1**
CHOJ				*e*S		**Sn**	**19 31 51.8**	**+0.6**
JCN	**Nagara**	**0.56**	**239**	P		**Pn**	**19 31 50.4**	**-0.1**
JYT	**Yasato**	**0.70**	**317**	⇓P		**Pn**	**19 31 51.3**	**-1.0**
JYT				*e*S		**Sn**	**19 32 00.2**	**-2.1**
BSO4	**Boso 4**	**0.81**	**207**	P		**Pn**	**19 31 53.7**	**+0.1**
JHO	**Hitachi**	**0.92**	**349**	⇓P		**Pn**	**19 31 55.0**	**-0.2**
BSO3	**Boso 3**	**0.94**	**194**	P		**Pn**	**19 31 55.3**	**+0.1**
MJAR	**Matsushiro Arr**	**2.25**	**292**	P		**Pn**	**19 32 13.6**	**+0.3**
	10nm,0.3s,baz=95,slow=13,SNR=73							
MJAR				S		**Sn**	**19 32 42.1**	**+2.2**
	9.2nm,0.3s,baz=129,slow=12,SNR=6.8							
MJAR				LR		LR	19 33 13.0	
	comp=Z,189nm,19.1s,baz=70,slow=41							
MAT	**Matsushiro**	**2.25**	**292**	P		**Pn**	**19 32 13.5**	**+0.1**
MAT				*e*S		**Sn**	**19 32 39.7**	**-0.2**
JHJ	**Hachijo jima 2**	**2.72**	**198**	P		**Pn**	**19 32 19.3**	**-0.5**
	27nm,0.3s,baz=45,slow=10.0,SNR=10							
JHJ				S		**Sn**	**19 32 50.2**	**-1.2**
	63nm,0.3s,baz=299,slow=24,SNR=7.1							
JNU	**Nakatsue**	**8.59**	**255**	LR		LR	19 37 27.8	
	comp=Z,106nm,19.4s,baz=102,slow=41							
KSRS	**Korea Array**	**10.49**	**283**	LR		LR	19 38 11.1	
	comp=Z,44nm,20.3s,baz=80,slow=37							
H11N2	**WAKE ISLAND Hy**	**27.94**	**118**	T		T	20 06 35.2	
	baz=311,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**27.95**	**118**	T		T	20 06 28.3	
	baz=311,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**27.96**	**118**	T		T	20 06 35.1	
	baz=311,slow=75,SNR=17							
SONM	**Songino Array**	**28.13**	**306**	P		**P**	**19 37 27.2**	**+1.0**
	0.4nm,0.5s,baz=103,slow=8.8,SNR=3.1							
H11S1	**WAKE ISLAND Hy**	**28.60**	**120**	T		T	20 07 20.6	
	baz=312,slow=75,SNR=25							
H11S3	**WAKE ISLAND Hy**	**28.60**	**120**	T		T	20 07 24.4	
	baz=312,slow=75,SNR=28							
H11S2	**WAKE ISLAND Hy**	**28.62**	**120**	T		T	20 07 21.3	
	baz=312,slow=75,SNR=22							
ZALV	**Zalesovo Beam**	**42.44**	**313**	P		**P**	**19 39 28.2**	**-0.3**
	0.6nm,0.4s,baz=99,slow=8.9,SNR=4.3							
MKAR	**Makanchi Array**	**44.41**	**303**	P		**P**	**19 39 44.2**	**-0.3**
	1.0nm,0.7s,baz=87,slow=9.5,SNR=8.3							
KURBB	**Kurchatov Arra**	**46.43**	**309**	P		**P**	**19 40 00.0**	**-0.4**
	0.8nm,0.4s,baz=82,slow=7.4,SNR=4.9							
ILAR	**Eielson Array**	**50.88**	**32**	P		**P**	**19 40 34.3**	**-0.2**
	0.8nm,0.8s,baz=270,slow=5.7,SNR=7.0							
BVAR	**Borovoye Array**	**51.09**	**313**	P		**P**	**19 40 36.0**	**-0.2**
	0.5nm,0.5s,baz=72,slow=8.0,SNR=4.0							
WRA	**Warramunga Arr**	**55.69**	**187**	P		**P**	**19 41 09.4**	**-0.8**
	0.8nm,0.6s,baz=2.1,slow=7.6,SNR=8.9							
ASAR	**Alice Springs**	**59.41**	**187**	P		**P**	**19 41 36.1**	**-0.2**
	0.3nm,0.8s,baz=17,slow=11,SNR=5.6							
FINES	**FINESS Array B**	**69.75**	**332**	P		**P**	**19 42 43.4**	**+0.1**
	1.3nm,0.8s,baz=96,slow=7.4,SNR=4.2							
NOA	**NORSAR Array B**	**75.21**	**337**	P		**P**	**19 43 16.3**	**+0.4**
	0.4nm,0.5s,baz=40,slow=5.7,SNR=2.5							
PDAR	**Pinedale Array**	**78.95**	**45**	P		**P**	**19 43 38.1**	**+0.6**
	1.2nm,0.4s,baz=323,slow=1.4,SNR=5.6							

IDC ***27*** *19:32:42.6±0.9,4.°62N×124.°87E,h0km,mb3.6/7, mb1 3.8/8,mb1mx3.5/48,mbtmp3.7/8,ML4.2/1,MS3.3/9, Ms1 3.3/9,ms1mx3.0/45, Error ellipse: s-maj=44.9km s-min=15.0km az=76.0*

ISCJB ***27*** *19:32:47.2±0.7,4.°63N±0.°06×124.°9E±0.°2,h50km,mb3.6/7, MS3.3/6, Error ellipse: s-maj=25.5km s-min=8.3km az=3.5*

ISC 27 19:32:49.0±0.9,4.°65N±0.°08×125.°0E±0.°3,h50km,n15, σ0°64/9,mb3.5/7,MS3.4/6,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.48**	**14**	Pn		**Pn**	**19 33 26.1**	**-0.8**
	46nm,0.3s,baz=196,slow=5.3,SNR=5.7							
DAV				Sn		**Sn**	**19 33 56.8**	**+0.9**
	59nm,0.3s,baz=108,slow=20,SNR=5.1							
DAV				LR		LR	19 34 41.2	
	comp=Z,473nm,18.5s,baz=336,slow=47							
TGY	**Tagaytay City**	**10.20**	**337**	LR		LR	19 39 34.8	
	comp=Z,261nm,20.8s,baz=157,slow=40							
KAPI	**Kappang**	**10.93**	**209**	LR		LR	19 39 35.7	
	comp=Z,125nm,20.7s,baz=76,slow=38							
FITZ	**Fitzroy Crossi**	**22.62**	**178**	P		**P**	**19 37 45.8**	**0.0**
	1.3nm,0.6s,baz=5.5,slow=9.6,SNR=4.2							
WRA	**Warramunga Arr**	**26.12**	**160**	P		**P**	**19 38 18.0**	**-0.5**
	2.0nm,0.6s,baz=338,slow=10,SNR=11							
CMAR	**Chiang Mai Arr**	**28.89**	**300**	LR		LR	19 49 31.8	
	comp=Z,33nm,22.0s,baz=140,slow=35							
ASAR	**Alice Springs**	**29.46**	**163**	P		**P**	**19 38 48.5**	**+0.1**
	0.3nm,0.7s,baz=346,slow=7.3,SNR=4.0							
STKA	**Stephens Creek**	**39.63**	**158**	P		**P**	**19 40 16.1**	**+0.1**
	0.9nm,0.6s,baz=333,slow=11,SNR=3.1							
SONM	**Songino Array**	**45.88**	**343**	LR		LR	20 03 03.5	
	comp=Z,30nm,18.7s,baz=131,slow=40							
TLY	**Talaya**	**50.12**	**343**	LR		LR	20 04 22.4	
	comp=Z,31nm,18.7s,baz=128,slow=38							
MKAR	**Makanchi Array**	**55.81**	**326**	P		**P**	**19 42 20.8**	**-0.4**
	0.4nm,0.8s,baz=118,slow=8.7,SNR=3.1							
MKAR				LR		LR	20 07 23.5	
	comp=Z,46nm,19.0s,baz=28,slow=37							
AAK	**Ala-Archa**	**58.50**	**318**	LR		LR	20 11 36.4	
	comp=Z,31nm,18.9s,baz=64,slow=40							
KURBB	**Kurchatov Arra**	**60.02**	**328**	P		**P**	**19 42 51.2**	**+0.6**
	0.4nm,0.4s,baz=126,slow=6.0,SNR=5.5							
BVAR	**Borovoye Array**	**65.60**	**327**	P		**P**	**19 43 28.1**	**+0.5**
	0.2nm,0.5s,baz=129,slow=4.6,SNR=2.5							
AKTO	**Aktyubinsk**	**71.85**	**322**	LR		LR	20 17 37.5	
	comp=Z,27nm,19.3s,slow=38							

MAN 27 19:36:54,8.°08N×122.°05E,h1km,mb4.0,ML2.8,MS2.5, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.59**	**119**	*e*P		Pg	19 37 05.5	+0.1
IPIL				*e*S		Sg	19 37 11.7	-1.5
SNPH	**Sibulan**	**1.72**	**43**	*i* P		Pn	19 37 24.8	-0.4
GUIM	**Jordan**	**2.59**	**12**	*e*P		Pn	19 37 39.1	+2.1
GUIM				*e*S		Sn	19 38 10.5	+1.3
CGP	**Cagayan de Oro**	**2.65**	**82**	⇓*e*P		Pn	19 37 39.6	+1.7
CGP				*e*S		Sn	19 38 12.2	+1.5
CUYO	**Cuyo Island**	**2.94**	**340**	*e*P		Pn	19 37 43.6	+1.7
ENPP	**El Nido**	**4.04**	**320**	*e*P		Pn	19 37 58.1	+1.0
ENPP				*e*S		Sn	19 38 43.5	-1.6

IDC ***27*** *19:42:19.0±1.1,39.°75N×69.°83E,h0km,mb3.7/6, mb1 3.7/12,mb1mx3.5/53,mbtmp3.7/12,ML3.3/6,MS2.9/2, Ms1 2.9/2,ms1mx2.4/48, Error ellipse: s-maj=20.5km s-min=15.5km az=164.0*

KRNET ***27*** *19:42:21.1±0.1,40.°15N×69.°75E,mb4.0*

NNC ***27*** *19:42:25.6±3.6,40.°38N×69.°57E,h17km±14km,mb3.9, mpv3.6,Error ellipse: s-maj=24.8km s-min=11.7km az=28.0*

SOME ***27*** *19:42:29.2,40.°38N×70.°02E,h0km*

ISC 27 19:42:22.2±1.4,40.°18N±0.°04×69.°79E±0.°04,h11km±9km, n48,σ2°70/72,mb3.7/6,32C-22D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.80**	**98**	⇑*e*P		**Pg**	**19 42 37.1**	**-0.6**
BTK				⇑*e*S		**Sg**	**19 42 49.3**	**+1.1**
	baz=96							
DRK	**Karamyk**	**1.70**	**114**	⇓*e*P		**Pn**	**19 42 53.8**	**+1.6**
	baz=112							
DRK				⇓*e*S		**Sn**	**19 43 17.8**	**+3.7**
	baz=112							
CHM	**Chimkent**	**2.14**	**356**	*e*P		Pg	19 43 07.2	+3.9
	244nm,0.2s							
CHM				*e*S		**Sg**	**19 43 34.2**	**+3.1**
	685nm,0.2s							
ARK	**Arkit**	**2.31**	**45**	⇑*e*P		**Pb**	**19 43 04.4**	**+0.4**
	baz=45							
ARK				⇑*e*S		**Sg**	**19 43 34.8**	**-1.6**
	baz=45							
OHH	**Osh**	**2.32**	**80**	⇑*e*P		**Pn**	**19 43 03.6**	**+3.1**
	baz=80							
OHH				⇑*e*S		**Sb**	**19 43 34.4**	**+1.6**
	baz=80							
BRLS	**Borolday**	**2.61**	**358**	*e*P		**Pg**	**19 43 15.0**	**+2.8**
	44nm,0.5s							
BRLS				*e*S		**Sg**	**19 43 47.7**	**+1.7**
	157nm,0.3s							
ARSB	**Arslanbob**	**2.68**	**64**	⇑*e*P		**Pn**	**19 43 08.7**	**+3.1**
	baz=63							
ARSB				⇑*e*S		**Sb**	**19 43 43.0**	**-0.4**
	baz=63							
TOKL	**Toktogul**	**2.92**	**52**	⇑*e*P		**Pn**	**19 43 11.8**	**+3.0**
	baz=52							
TOKL				⇑*e*S		**Sb**	**19 43 48.6**	**-1.6**
	baz=52							
KK31	**Karatay Array**	**2.97**	**10**	⇑Pn		**Pn**	**19 43 11.2**	**+1.8**
	0.6nm,0.2s							
KK31				⇑Pg		**Pg**	**19 43 18.3**	**-0.8**
	17nm,0.3s							
KK31				⇓Lg		Lg	19 43 57.9	
	117nm,0.4s							
MNAS	**Manas**	**3.08**	**41**	⇓Pn		**Pn**	**19 43 13.5**	**+2.4**
	1.7nm,0.4s							
MNAS				⇓Pg		**Pg**	**19 43 19.2**	**-2.1**
	18nm,0.3s							
MNAS				⇓Lg		Lg	19 43 59.4	
	109nm,0.4s							
MRKS	**Merke**	**3.64**	**44**	*e*P		**Pg**	**19 43 30.6**	**-1.4**
MRKS				*e*S		**Sg**	**19 44 14.3**	**-4.8**
ARLS	**Aral**	**3.82**	**62**	⇑*e*P		**Pn**	**19 43 23.8**	**+2.6**
	baz=62							
ARLS				⇑*e*S		**Sn**	**19 44 10.4**	**+4.1**
	baz=62							
EKS2	**Erkin-Say**	**3.89**	**49**	⇑*i*P		**Pn**	**19 43 26.7**	**+4.5**
	baz=49							
EKS2				⇑*i*S		**Sb**	**19 44 15.8**	**-2.4**
	baz=49							
UCH	**Uchtor**	**4.11**	**59**	⇑*i*P		**Pn**	**19 43 28.3**	**+2.8**
	baz=58							
UCH				⇑*e*S		**Sn**	**19 44 18.8**	**+5.0**
	baz=58							
AAK	**Ala-Archa**	**4.31**	**54**	Pn		**Pn**	**19 43 31.9**	**+4.0**
	5.0nm,0.3s,baz=246,slow=3.0,SNR=10							
AAK				Sn		**Sb**	**19 44 24.3**	**-5.9**
	8.1nm,0.3s,baz=218,slow=0.9,SNR=4.1							
AAK				Lg		Lg	19 44 39.8	
	6.2nm,0.3s,baz=317,slow=19,SNR=5.0							
AAK				LR		LR	19 45 29.4	
	comp=Z,52nm,19.8s,baz=226,slow=42							
AAK	**Ala-Archa**	**4.31**	**54**	⇓Pn		**Pn**	**19 43 31.6**	**+3.7**
	13nm,0.7s							
AAK				⇓Pg		**Pg**	**19 43 44.2**	**-0.6**
	28nm,0.8s							
AAK				⇓Lg		Lg	19 44 44.8	
	34nm,0.9s							
FRU1	**Bishkek**	**4.49**	**53**	⇓*e*P		**Pn**	**19 43 32.6**	**+2.3**
	baz=52							
FRU1				⇓*e*S		**Sn**	**19 44 26.0**	**+3.4**
	baz=52							
KZA	**Kyzart**	**4.54**	**64**	⇑*i*P		**Pn**	**19 43 33.6**	**+2.3**
	baz=63							
KZA				⇑*i*S		**Sn**	**19 44 27.7**	**+3.3**
	baz=63							
KSH	**Kashi**	**4.81**	**96**	Pn		**Pn**	**19 43 33.8**	**-0.9**
KSH				Sn		**Sn**	**19 44 29.5**	**-1.0**
KSH				smax		smax		
	comp=N,35nm,0.8s							
KSH				smax		smax		
	comp=E,34nm,0.8s							
TKM2	**Tokmak 2**	**5.15**	**56**	⇑Pn		**Pn**	**19 43 42.0**	**+2.5**
	comp=E,3.8nm,0.4s							
TKM2				⇑Pg		**Pg**	**19 43 59.1**	**-1.8**
	comp=E,7.9nm,0.4s							
TKM2				⇓Lg		Lg	19 45 07.2	
	comp=E,22nm,0.5s							
BOOM	**Boomskoye usch**	**5.18**	**62**	⇑*e*P		**Pn**	**19 43 42.8**	**+3.0**
	baz=61							
BOOM				⇑*e*S		**Sn**	**19 44 41.7**	**+2.0**
	baz=61							
DGS	**Degeres**	**5.42**	**54**	*e*P		**Pg**	**19 44 06.3**	**+0.2**
	comp=E,13nm,0.4s							
DGS				*e*S		**Sg**	**19 45 15.9**	**-0.5**
	comp=E,64nm,0.4s							
KST	**Kastek**	**5.44**	**56**	*e*P		**Pg**	**19 44 05.7**	**-0.7**
	comp=E,3.7nm,0.4s							
KST				*e*S		**Sg**	**19 45 15.9**	**-1.0**
	comp=E,57nm,0.4s							
IZV	**Izvestkoviy**	**5.86**	**59**	*e*P		**Pg**	**19 44 15.4**	**+1.0**
	comp=E,22nm,0.4s							
IZV				*e*S		**Sg**	**19 45 31.6**	**+1.3**
	comp=E,27nm,0.3s							
KTBS	**Karatobe**	**6.24**	**53**	*e*P		**Pg**	**19 44 20.2**	**-1.4**
	comp=E,5.9nm,0.4s							
KTBS				*e

DVHZ	**Dannevirke**	**0.50**	**289**	⇓PG	Pg	19 49 40.8	+0.1	
DVHZ				SG	Sg	19 49 46.7	-0.4	
PRWZ	**Pori Road**	**0.62**	**261**	⇓PG	Pb	19 49 45.1	+0.6	
PRWZ				SG	Sb	19 49 54.3	+0.8	
CPWZ	**Castlepoint**	**0.63**	**224**	PG	Pn	19 49 47.2	+0.5	
KAHZ	**Kahuranaki**	**0.67**	**6**	⇑P*	Pb	19 49 45.6	+0.3	
PNHZ	**Pukenui**	**0.70**	**321**	⇓PG	Pg	19 49 44.0	-0.7	
PNHZ				SG	Sg	19 49 52.6	-1.2	
TSZ	**Takapari Road**	**0.74**	**302**	⇓PG	Pg	19 49 44.7	-0.7	
TSZ				SG	Sg	19 49 53.5	-1.6	
TSZ				AML	AML	19 49 56.6		
TIWZ	**Tintock**	**0.75**	**245**	PG	Pn	19 49 47.8	-0.6	
TIWZ				AML	AML	19 50 01.8		
TIWZ				AML	AML	19 50 02.9		
POWZ	**Post Office Ro**	**0.78**	**275**	⇓PG	Pb	19 49 46.6	-0.5	
CKHZ	**Cape Kidnapper**	**0.83**	**16**	P*	Pb	19 49 48.0	0.0	
KRHZ	**Kereru**	**0.88**	**339**	P*	Pg	19 49 47.5	-0.4	
TMWZ	**Te Maipa**	**0.94**	**226**	P*	Pn	19 49 50.6	-0.3	
MRZ	**Mangatainoka R**	**0.94**	**257**	⇓P*	Pb	19 49 49.8	-0.1	
MRZ				SG	Sb	19 50 03.0	+0.4	
MCHZ	**McNeill Hill**	**1.02**	**356**	⇓P*	Pg	19 49 50.8	+0.2	
HOWZ	**Holdsworth Sta**	**1.06**	**245**	P*	Pb	19 49 51.7	-0.2	
KWHZ	**Kaweka Forest**	**1.07**	**345**	P*	Pg	19 49 51.1	-0.5	
BHHZ	**Black Hill Sta**	**1.12**	**330**	⇑P*	Pg	19 49 51.3	-1.1	
OHWZ	**Ohakea**	**1.15**	**282**	⇓P*	Pb	19 49 53.5	+0.1	
MTW	**Mount Morrison**	**1.20**	**234**	P*	Pg	19 49 53.4	-0.6	
MTW				AML	AML	19 50 18.1		
MTW				AML	AML	19 50 18.4		
ARHZ	**Aropaoanui**	**1.21**	**8**	P*	Pg	19 49 53.4	-0.9	
TRWZ	**Traveller**	**1.25**	**221**	AML	AML	19 50 24.1		
TRWZ				AML	AML	19 50 28.2		
OGWZ	**Otaki Gorge**	**1.28**	**253**	P*	Pg	19 49 54.6	-1.0	
BKZ	**Black Stump Fm**	**1.31**	**350**	⇑P*	Pn	19 49 54.4	-1.8	
BKZ				AML	AML	19 50 15.9		
BKZ				AML	AML	19 50 16.7		
MOVZ	**Moawhango**	**1.32**	**323**	P*	Pn	19 49 54.8	-1.4	
MOVZ				AML	AML	19 50 12.2		
MOVZ				AML	AML	19 50 14.2		
NMHZ	**Naumai**	**1.36**	**1**	⇑PN	Pn	19 49 55.7	-1.2	
PAWZ	**Paruwai Farm**	**1.38**	**228**	P*	Pn	19 49 56.1	-1.0	
PAWZ				AML	AML	19 50 24.7		
PAWZ				AML	AML	19 50 29.6		
WHHZ	**Waihua**	**1.43**	**14**	PN	Pn	19 49 56.4	-1.3	
WNVZ	**Wahianoa**	**1.45**	**321**	PN	Pn	19 49 57.1	-1.1	
CAW	**Cannon Point**	**1.45**	**243**	P*	Pn	19 49 57.0	-1.0	
CAW				AML	AML	19 50 22.0		
CAW				AML	AML	19 50 33.4		
MTVZ	**Mangateitei**	**1.47**	**316**	PN	Pn	19 49 57.9	-0.5	
MTVZ				AML	AML	19 50 23.6		
MTVZ				AML	AML	19 50 24.3		
TUVZ	**Tukino**	**1.47**	**324**	PN	Pn	19 49 57.5	-0.9	
TUVZ				AML	AML	19 50 19.1		
TUVZ				AML	AML	19 50 22.3		
KIW	**Kapiti Island**	**1.48**	**254**	P*	Pn	19 49 57.4	-1.0	
KIW				AML	AML	19 50 21.4		
KIW				AML	AML	19 50 22.8		
WHVZ	**Whangaehu Hut**	**1.49**	**322**	PN	Pn	19 49 57.9	-0.8	
TRVZ	**Turoa**	**1.50**	**320**	PN	Pn	19 49 58.3	-0.6	
TRVZ				AML	AML	19 50 19.8		
TRVZ				AML	AML	19 50 23.4		
MSWZ	**Moikau Station**	**1.50**	**230**	P*	Pn	19 49 57.4	-1.3	
MSWZ				AML	AML	19 50 24.2		
MSWZ				AML	AML	19 50 28.8		
DRZ	**Dome Shelter**	**1.51**	**321**	⇓PN	Pn	19 49 58.9	-0.2	
DRZ				AML	AML	19 50 31.8		
DRZ				AML	AML	19 50 34.2		
FWVZ	**Far West T-bar**	**1.53**	**321**	PN	Pn	19 49 58.4	-0.9	
FWVZ				AML	AML	19 50 26.2		
FWVZ				AML	AML	19 50 25.7		
WAZ	**Wanganui**	**1.55**	**297**	⇑PN	Pn	19 49 59.0	-0.3	
WAZ				AML	AML	19 50 24.1		
WAZ				AML	AML	19 50 34.7		
OTVZ	**Oturere**	**1.55**	**326**	PN	Pn	19 49 59.0	-0.5	
OTVZ				AML	AML	19 50 20.1		
OTVZ				AML	AML	19 50 25.8		
MHGZ	**Mahia Peninsul**	**1.57**	**34**	PN	Pn	19 49 58.2	-1.4	
NGZ	**Ngauruhoe**	**1.57**	**324**	PN	Pn	19 49 59.1	-0.7	
NGZ				AML	AML	19 50 23.9		
NGZ				AML	AML	19 50 25.6		
PLWZ	**Palliser**	**1.60**	**226**	PN	Pn	19 49 58.8	-1.3	
PKVZ	**Pokaka**	**1.61**	**316**	PN	Pn	19 49 59.8	-0.4	
PKVZ				AML	AML	19 50 23.7		
PKVZ				AML	AML	19 50 25.4		
KRVZ	**Karewarewa**	**1.62**	**327**	PN	Pn	19 50 00.3	-0.2	
KRVZ				AML	AML	19 50 23.4		
KRVZ				AML	AML	19 50 29.3		
WTVZ	**West Tongariro**	**1.63**	**325**	PN	Pn	19 50 00.2	-0.3	
WTVZ				AML	AML	19 50 28.2		
WTVZ				AML	AML	19 50 34.8		
MRHZ	**Matea Rd**	**1.65**	**350**	PN	Pn	19 49 59.5	-1.2	
KATZ	**Kakaramea**	**1.70**	**330**	PN	Pb	19 50 02.4	-0.6	
KATZ				AML	AML	19 50 26.4		
BHW	**Baring Head**	**1.73**	**236**	PN	Pn	19 50 00.5	-1.3	
BHW				AML	AML	19 50 36.1		
BHW				AML	AML	19 50 45.2		
SNGZ	**Shannon Statio**	**1.73**	**15**	⇑PN	Pn	19 50 00.6	-1.3	
TWVZ	**Taurewa**	**1.73**	**323**	PN	Pn	19 50 01.9	0.0	
TWVZ				AML	AML	19 50 27.5		
TWVZ				AML	AML	19 50 28.6		
RATZ	**Rangitukua**	**1.77**	**334**	PN	Pb	19 50 03.3	-0.8	
RATZ				AML	AML	19 50 35.4		
RATZ				AML	AML	19 50 36.0		
RTZ	**Ruatahuna**	**1.85**	**5**	PN	Pg	19 50 01.3	-1.6	
RIGZ	**Rimuhau**	**1.91**	**24**	PN	Pg	19 50 11.5	+3.8	
RAGZ	**Rawiri**	**2.02**	**14**	PN	Pn	19 50 04.1	-1.9	
TCW	**Tory Channel**	**2.04**	**248**	PN	Pn	19 50 04.6	-1.5	
TCW				AML	AML	19 50 37.2		
TCW				AML	AML	19 50 39.0		
VRZ	**Vera Road**	**2.05**	**310**	PN	Pn	19 50 07.3	+1.1	
VRZ				AML	AML	19 50 39.0		
VRZ				AML	AML	19 50 44.6		
MWZ	**Matawai**	**2.20**	**15**	PN	Pn	19 50 06.0	-2.3	
MWZ				AML	AML	19 50 58.4		
MWZ				AML	AML	19 51 01.8		
DUWZ	**D'Urville Isla**	**2.20**	**260**	PN	Pn	19 50 07.5	-0.9	
URZ	**Urewera**	**2.21**	**7**	⇑PN	Pn	19 50 06.3	-2.2	
URZ				AML	AML	19 50 59.7		
URZ				AML	AML	19 51 02.4		
TARZ	**Mount Tarawera**	**2.23**	**354**	PN	Pn	19 50 07.4	-1.4	
CNGZ	**Carnagh Statio**	**2.26**	**30**	PN	Pn	19 50 07.4	-2.1	
PREZ	**Palmer Road**	**2.31**	**298**	PN	Pn	19 50 11.2	+1.4	
TLZ	**Tolley Road**	**2.34**	**335**	PN	Pb	19 50 13.1	-0.6	
MHEZ	**Mangahewa**	**2.34**	**305**	PN	Pn	19 50 10.8	+0.5	
TUWZ	**Tuamarina**	**2.36**	**245**	PN	Pn	19 50 08.6	-1.8	
TUWZ				AML	AML	19 50 52.2		
TUWZ				AML	AML	19 50 53.4		
NEZ	**North Egmont**	**2.38**	**299**	PN	Pn	19 50 11.3	+0.4	
KHEZ	**Kahui Hut**	**2.43**	**298**	PN	Pb	19 50 14.3	-1.0	
HIZ	**Hauiti**	**2.45**	**322**	PN	Pn	19 50 13.6	+1.9	
HIZ				AML	AML	19 50 52.1		
HIZ				AML	AML	19 50 53.1		
PKE	**Pukeiti**	**2.50**	**300**	PN	Pn	19 50 13.0	+0.6	
BSWZ	**Blackbirch Sta**	**2.53**	**239**	PN	Pn	19 50 11.2	-1.6	
BSWZ				AML	AML	19 51 11.3		
NNZ	**Nelson**	**2.69**	**253**	AML	AML	19 51 04.8		
HAZ	**Te Kaha**	**2.81**	**16**	PN	Pn	19 50 14.9	-1.7	
WMGZ	**Waiomatatini S**	**2.93**	**26**	PN	Pn	19 50 16.0	-2.3	
THZ	**Tophouse**	**3.20**	**245**	AML	AML	19 51 24.0		
THZ				AML	AML	19 51 26.5		
QRZ	**Quartz Range**	**3.25**	**262**	PN	Pn	19 50 26.0	+3.2	
QRZ				AML	AML	19 51 19.6		
QRZ				AML	AML	19 51 22.6		

*IDC **27** 20:04:15.7±0.8,63°.24S×170°.14E,h0ᵏᵐ,mb4.3/6, mb1 4.4/7,mb1mx4.2/22,mbtmp4.3/7,ML4.4/1,MS4.9/15, Ms1 4.9/15,ms1mx4.7/24,Error ellipse: s-maj=35.8km s-min=23.2km az=70.0*

*GCMT **27** 20:04:16.4±0.1,63°.30S×171°.23E,h12ᵏᵐ,MW5.4/106, Moment Tensor Solution. s101,c163; s106,c189; Duration: 1ˢ3 Moment tensor: Scale 10¹⁷Nm; Mᵣᵣ-0.26±.02; Mᵩᵩ1.70±.02; Mᵩᵩ-1.45±.02; Mᵣᵩ-0.99±.05; Mᵩᵩ-0.26±.02; Mᵣᵣ0.05±.05; Best double couple: M₀1.80100×10¹⁷ NP1:ϕₛ228.00000°,δ76.00000°, λ162.00000°. NP2:ϕₛ322.00000°,δ73.00000°,λ15.00000°. Principal axes: T 2.1300, Plg22.0000°, Azm185.0000°; N -0.6620, Plg67.0000°, Azm10.0000°; P -1.4730,*

Plg2.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **27** 20:04:16.4±0.6,63°.58S×170°.80E,h10ᵏᵐ,mb4.8/3, MS5.0/58 Error ellipse: s-maj=26.9km s-min=15.0km az=91.0*
*BJI **27** 20:04:17.0,63°.80S×171°.40E,h10ᵏᵐ,mB5.2/3,Ms5.3/4, Ms7 4.9/4*

ISC 27 20:04:17.9±0.7,63°.84S±0°.09×171°.4E±0°.2,h10ᵏᵐ,n121, σ2ˢ06/34,mb4.4/9,MS5.0/74,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
VNDA	**Vanda**	**14.07**	**189**	LR	LR	20 12 01.7	
	comp=Z,7μm,21.7s,baz=19,slow=32						
SBA	**Scott Base**	**14.16**	**184**	*e*Pn	**Pn**	**20 07 37.8**	**-0.2**
	20nm,0.6s						
RPZ	**Rata Peaks**	**20.16**	**359**	P	**P**	**20 08 46.6**	**-5.5**
	1.1nm,0.3s,baz=192,slow=3.6,SNR=5.2						
RPZ				LR	LR	20 14 57.3	
	comp=Z,6μm,20.6s,baz=206,slow=33						
CASY	**Casey**	**24.89**	**237**	*e*P	**P**	**20 09 39.3**	**-1.0**
	11nm,1.7s						
CASY				LR	LR		
	comp=Z,258nm,21.0s						
URZ	**Urewera**	**25.84**	**10**	LR	LR	20 17 53.6	
	comp=Z,4μm,22.0s,baz=188,slow=32						
QSPA	**South Pole Qui**	**26.25**	**180**	*e*P	**P**	**20 09 51.8**	**-1.1**
	comp=Z,230nm,2.1s						
CAN	**Canberra**	**31.67**	**324**	PFAKE		20 10 50.0	+8.9
CAN				LR	LR		
	comp=Z,2μm,21.0s						
STKA	**Stephens Creek**	**37.02**	**315**	LR	LR	20 24 05.6	
	comp=Z,2μm,18.3s,baz=149,slow=33						
MAW	**Mawson**	**39.28**	**215**	P	**P**	**20 11 46.7**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=135,slow=10.0,SNR=3.8						
MAW				LR	LR	20 27 58.4	
	comp=Z,3μm,19.4s,baz=133,slow=36						
DZM	**Mont Dzumac**	**41.88**	**353**	*e*S	S	20 18 05.3	-21
	comp=Z,715nm,23.9s						
DZM				*e*LR	LR	20 22 56.7	
	comp=Z,3μm,22.4s						
DZM	**Mont Dzumac**	**41.88**	**353**	LR	LR	20 26 31.3	
	comp=Z,2μm,21.1s,baz=197,slow=32						
SNAA	**Sanae**	**44.70**	**183**	P	**P**	**20 12 28.9**	**-1.5**
H01W1	**Cape Leeuwin H**	**44.95**	**282**	T	T	21 00 36.0	
	baz=147,slow=76,SNR=274						
H01W2	**Cape Leeuwin H**	**44.96**	**282**	T	T	21 00 36.3	
	baz=147,slow=76,SNR=273						
H01W3	**Cape Leeuwin H**	**44.97**	**282**	T	T	21 00 37.3	
	baz=147,slow=76,SNR=291						
NWAO	**Narrogin (SRO)**	**45.31**	**286**	LR	LR	20 26 45.5	
	comp=Z,3μm,20.4s,slow=30						
VNA1	**Neumayer--Stat**	**45.78**	**180**	P	P	20 12 31.6	-7.2
CTA	**Charters Tower**	**46.90**	**327**	LR	LR	20 28 41.2	
	comp=Z,1μm,20.8s,baz=161,slow=32						
CTAO	**Charters Tower**	**46.90**	**327**	PFAKE		20 13 00.0	+12
CTAO				LR	LR		
	comp=Z,2μm,20.0s						
ASAR	**Alice Springs**	**47.13**	**310**	P	P	20 12 42.5	-7.5
	comp=Z,2.1nm,0.8s,baz=155,slow=7.4,SNR=10						
ASAR				LR	LR	20 30 47.9	
	comp=Z,708nm,19.4s,baz=152,slow=34						
TBI	**Tubuai**	**48.00**	**51**	*e*S	S	20 19 33.2	-21
	comp=Z,723nm,29.0s						
TBI				*e*LQ	LQ	20 23 50.9	
	comp=Z,3μm,27.5s						
TBI				*e*LR	LR	20 25 48.2	
	comp=Z,2μm,27.8s,baz=202						
TBI	**Tubuai**	**48.00**	**51**	*e*T	T	21 03 54.7	
	comp=Z,15nm,0.3s						
WRA	**Warramunga Arr**	**50.45**	**313**	P	P	20 13 07.4	-8.2
	comp=Z,1.6nm,0.9s,baz=164,slow=6.9,SNR=5.2						
WRAB	**Tennant Creek**	**50.45**	**313**	*e*P	P	20 13 08.8	-6.7
TVO	**Taravao**	**53.23**	**49**	*e*T	T	21 10 26.1	
	comp=Z,3.8nm,0.3s						
PAE	**Paea**	**53.23**	**49**	*e*T	T	21 10 25.9	
	comp=Z,4.9nm,0.2s						
PPT2	**Papeete2**	**53.30**	**49**	*e*S	S	20 20 44.5	-24
	comp=Z,1μm,29.0s						
PPT2				*e*LQ	LQ	20 25 51.2	
	comp=Z,3μm,25.0s						
PPT2				*e*LR	LR	20 28 25.4	
	comp=Z,2μm,26.0s,baz=198						
PPT2	**Papeete2**	**53.30**	**49**	*e*T	T	21 10 31.4	
	comp=Z,17nm,0.3s						
PPT	**Papeete**	**53.32**	**49**	LR	LR	20 30 35.2	
	comp=Z,670nm,18.7s,baz=202,slow=30						
TIAR	**Tiarei**	**53.40**	**49**	*e*T	T	21 10 38.9	
	comp=Z,5.0nm,0.3s						
MEH	**Matia**	**53.54**	**50**	*e*T	T	21 10 49.0	
	comp=Z,58nm,0.3s						
RKT	**Rikitea**	**53.71**	**67**	*e*LR	LR	20 28 35.2	
	comp=Z,580nm,27.0s						
RKT	**Rikitea**	**53.71**	**67**	*e*T	T	21 11 08.8	
	comp=Z,18nm,0.2s						
HNR	**Honiara**	**54.93**	**346**	PFAKE		20 14 00.0	+11
HNR				LR	LR		
	comp=Z,2μm,19.0s						
FITZ	**Fitzroy Crossi**	**55.18**	**304**	LR	LR	20 34 03.3	
	comp=Z,532nm,20.6s,baz=156,slow=33						
FUNA	**Funafuti**	**55.50**	**9**	PFAKE		20 14 00.0	+7.3
FUNA				LR	LR		
	comp=Z,5μm,19.0s						
VAH	**Vaihoa**	**56.14**	**50**	*e*T	T	21 14 04.2	
	comp=Z,173nm,0.3s						
PMG	**Port Moresby**	**57.01**	**331**	LR	LR	20 33 32.3	
	comp=Z,796nm,21.0s,baz=172,slow=31						
TAOE	**Nuku Hiva Isla**	**64.69**	**55**	*e*LR	LR	20 33 33.6	
	comp=Z,1μm,25.3s						
KAPI	**Kappang**	**69.39**	**303**	PFAKE		20 15 30.0	+4.3
KAPI				LR	LR		
	comp=Z,334nm,19.0s						
DAV	**Davao City (W)**	**78.63**	**313**	PFAKE		20 16 30.0	+10
DAV				LR	LR		
	comp=Z,331nm,22.0s						
KSM	**Kuching**	**78.96**	**297**	PFAKE		20 16 30.0	+8.4
KSM				LR	LR		
	comp=Z,409nm,19.0s						
KKM	**Kota Kinabalu**	**80.91**	**304**	PFAKE		20 16 40.0	+7.8
KKM				LR	LR		
	comp=Z,339nm,20.0s						
LVC	**Limon Verde**	**81.97**	**126**	*e*P	**P**	**20 16 36.9**	**-1.2**
	comp=Z,6.1nm,0.8s						
CPUP	**Villa Florida**	**82.36**	**137**	P	**P**	**20 16 42.8**	**+3.1**
	comp=Z,3.0nm,0.8s,baz=211,slow=6.7,SNR=3.8						
CPUP				LR	LR	20 50 30.4	
	comp=Z,561nm,18.8s,baz=204,slow=33						
BOSA	**Boshof**	**84.06**	**210**	P	**P**	**20 16 50.2**	**+1.6**
	comp=Z,4.5nm,0.9s,baz=180,slow=7.1,SNR=5.3						
BOSA				LR	LR	20 51 30.0	
	comp=Z,722nm,21.1s,baz=165,slow=34						
KULM	**Kulim**	**86.36**	**290**	PFAKE		20 17 10.0	+10
KULM				LR	LR		
	comp=Z,534nm,22.0s						
H08S2	**Diego Garcia H**	**87.10**	**259**	T	T	21 53 36.4	
	baz=153,slow=76,SNR=1235						
H08S1	**Diego Garcia H**	**87.11**	**259**	T	T	21 53 37.1	
	baz=153,slow=76,SNR=871						
H08S3	**Diego Garcia H**	**87.12**	**259**	T	T	21 53 38.0	
	baz=153,slow=76,SNR=1496						
LPAZ	**La Paz**	**88.06**	**124**	P	**P**	**20 17 11.5**	**+2.4**
	comp=Z,2.0nm,0.9s,baz=134,slow=3.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	**98.92**	**294**	LR	LR	20 59 56.8	
	comp=Z,215nm,20.3s,baz=160,slow=34						
CHTO	**Chiang Mai**	**99.25**	**294**	PFAKE		20 18 10.0	+10
CHTO				LR	LR		
	comp=Z,235nm,20.0s						
ENH	**Enshi**	**105.60**	**308**	PFAKE		20 22 50.0	
ENH				LR	LR		
	comp=Z,234nm,21.0s						
ERM	**Erimo**	**107.86**	**338**	PFAKE		20 22 50.0	
ERM				LR	LR		
	comp=Z,580nm,20.0s						
CD2	**Chengdu**	**108.25**	**303**	Pdif	**Pdif**	**20 18 38.8**	**-0.5**
CD2				S	**Sdif**	**20 30 46.3**	**+0.7**
CD2				SS	**SS**	**20 38 27.0**	**+2.9**
CD2				LN			
	comp=Z,300nm,18.9s						
CD2				LE			
	comp=Z,360nm,21.9s						
CD2				LZ			
	comp=Z,280nm,17.9s						
BJT	**Baijiatuau**	**112.33**	**317**	PFAKE		20 23 00.0	
BJT				LR	LR		
	comp=Z,323nm,22.0s						
MDJ	**Mudanjiang**	**113.04**	**329**	Pdif	**Pdif**	**20 19 00.8**	**+0.6**
MDJ				PP	**PP**	**20 23 45.5**	**+1.4**
MDJ				PKS	**PKSdf**	**20 26 30.0**	**-0.5**
MDJ				SKS	**SKSdf**	**20 30 06.5**	**+0.9**
MDJ				PPMZ			
	comp=Z,72nm,3.6s						
MDJ				LN			
	comp=Z,170nm,12.7s						
MDJ				LE			
	comp=Z,120nm,9.9s						
MDJ				LZ			
	comp=Z,150nm,8.1s						
HHC	**Hu-ho-hao-te**	**114.52**	**314**	*e*PKP	**PKiKP**	**20 22 59.3**	**+2.1**
HHC				PP	**PP**	**20 23 59.0**	**+4.2**
HHC				SKS	**SKSdf**	**20 30 08.8**	**-0.1**
HHC				PPMZ			
	comp=Z,36nm,8.5s						
HHC				LN			
	comp=Z,140nm,20.6s						
HHC				LE			
	comp=Z,140nm,19.8s						
HHC				LZ			
	comp=Z,150nm,20.6s						
GRGR	**Grenville**	**116.61**	**119**	PFAKE		20 23 10.0	+8.1
GRGR				LR	LR		
	comp=Z,305nm,19.0s						
ANMO	**Albuquerque**	**117.48**	**67**	PFAKE		20 23 10.0	+6.8
ANMO				LR	LR		
	comp=Z,384nm,20.0s						
FDF	**Fort de France**	**119.17**	**118**	PFAKE		20 23 20.0	+13
FDF				LR	LR		
	comp=Z,302nm,20.0s						
DUG	**Dugway, Tooele**	**119.53**	**59**	PFAKE		20 23 20.0	+13
DUG				LR	LR		
	comp=Z,356nm,19.0s						
HIA	**Hailar**	**119.81**	**324**	PFAKE		20 23 20.0	+13
HIA				LR	LR		
	comp=Z,245nm,19.0s						
HWUT	**Hardware Ranch**	**121.23**	**59**	PFAKE		20 23 20.0	+10
HWUT				LR	LR		
	comp=Z,313nm,20.0s						
HLID	**Hailey**	**121.86**	**55**	PFAKE		20 23 20.0	+8.7
HLID				LR	LR		
	comp=Z,328nm,22.0s						
BMO	**Blue Mountains**	**121.94**	**53**	PFAKE		20 23 20.0	+8.7
BMO				LR	LR		
	comp=Z,354nm,19.0s						
AHID	**Auburn Hatcher**	**122.40**	**58**	PFAKE		20 23 20.0	+7.6
AHID				LR	LR		
	comp=Z,288nm,19.0s						
HAWA	**Hanford**	**122.51**	**50**	PFAKE		20 23 20.0	+7.8
HAWA				LR	LR		
	comp=Z,344nm,20.0s						
BRAL	**Brewton**	**122.54**	**85**	PFAKE		20 23 20.0	+7.3
BRAL				LR	LR		
	comp=Z,223nm,22.0s						
BW06	**Boulder Array**	**122.99**	**60**	PFAKE		20 23 20.0	+6.4
BW06				LR	LR		
	comp=Z,337nm,19.0s						
CBKS	**Cedar Bluff**	**123.56**	**70**	PFAKE		20 23 20.0	+5.5
CBKS				LR	LR		
	comp=Z,326nm,22.0s						
KDAK	**Kodiak Island**	**124.39**	**22**	PFAKE		20 23 30.0	+15
KDAK				LR	LR		
	comp=Z,2836μm,20.0s						
BOZ	**Bozeman (W)**	**124.67**	**56**	PFAKE		20 23 30.0	+13
BOZ				LR	LR		
	comp=Z,490nm,19.0s						
GOGA	**Godfrey**	**126.03**	**87**	PFAKE		20 23 30.0	+11
GOGA				LR	LR		
	comp=Z,197nm,20.0s						
KSH	**Kashi**	**126.90**	**286**	*e*PKP	**PKPdf**	**20 23 22.3**	**+1.3**
EGMT	**Eagleton**	**127.36**	**56**	PFAKE		20 23 30.0	+8.4
EGMT				LR	LR		
	comp=Z,2275μm,20.0s						
DIV	**Divide**	**128.75**	**25**	*e*PKPdf	**PKPdf**	**20 23 23.2**	**-0.6**
SML	**Sawmill**	**128.92**	**23**	*e*PKPdf	**PKPdf**	**20 23 22.4**	**-1.6**
ECSD	**EROS Data Cent**	**128.96**	**69**	PFAKE		20 23 40.0	+15
ECSD				LR	LR		
	comp=Z,208nm,19.0s						
HDIL	**Hopedale**	**129.44**	**77**	PFAKE		20 23 40.0	+14
HDIL				LR	LR		
	comp=Z,233nm,20.0s						
DGMT	**Dagmar**	**129.82**	**60**	PFAKE		20 23 40.0	+14
DGMT				LR	LR		
	comp=Z,329nm,21.0s						
CNNC	**Cliffs of the**	**130.04**	**90**	PFAKE		20 23 40.0	+13
CNNC				LR	LR		
	comp=Z,218nm,20.0s						
AAK	**Ala-Archa**	**130.10**	**287**	PFAKE		20 23 40.0	+13
AAK				LR	LR		
	comp=Z,300nm,20.0s						
MKAR	**Makanchi Array**	**130.28**	**296**	PKP	**PKPdf**	**20 23 25.5**	**-1.6**
	comp=Z,0.3nm,0.9s,baz=130,slow=3.6,SNR=2.4						
EKS2	**Erkin-Say**	**130.43**	**286**	PFAKE		20 23 40.0	+12
EKS2				LR	LR		
	comp=Z,297nm,22.0s						
BLA	**Blacksburg**	**130.56**	**87**	PFAKE		20 23 40.0	+12
BLA				LR	LR		
	comp=Z,165nm,21.0s						
BILL	**Bilibino**	**131.64**	**357**	PFAKE		20 23 40.0	+11
BILL				LR	LR		
	comp=Z,305nm,19.0s						
COLA	**College**	**131.85**	**22**	PFAKE		20 23 40.0	+11
COLA				LR	LR		
	comp=Z,447nm,20.0s						
ILAR	**Eielson Array**	**131.92**	**23**	PKP	**PKPdf**	**20 23 28.0**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=240,slow=3.0,SNR=5.2						
ACSO	**Alum Creek Sta**	**131.92**	**82**	PFAKE		20 23 40.0	+10
ACSO				LR	LR		
	comp=Z,218nm,20.0s						
CBN	**Corbin Frederi**	**132.74**	**89**	PFAKE		20 23 40.0	+8.0
CBN				LR	LR		
	comp=Z,250nm,20.0s						
AGMN	**Agassiz Nation**	**132.96**	**66**	PFAKE		20 23 40.0	+7.9
AGMN				LR	LR		
	comp=Z,319nm,20.0s						
EGAK	**Eagle**	**132.96**	**26**	PFAKE		20 23 40.0	+8.5
EGAK				LR	LR		
	comp=Z,531nm,20.0s						
AAM	**Ann Arbor**	**133.31**	**80**	PFAKE		20 23 40.0	+7.1
AAM				LR	LR		
	comp=Z,248nm,20.0s		

comp=Z,423nm,20.0s
CLTB Caltabellotta 150.61 217 PFAKE 20 24 10.0 +0.8
CLTB LR LR
comp=Z,340nm,20.0s
CUC Castrocucco 152.12 223 PFAKE 20 24 20.0 -2.2
CUC LR LR
comp=Z,879nm,21.0s
AQU L'Aquila 155.00 221 PFAKE 20 24 20.0 +1.3
AQU LR LR
comp=Z,929nm,19.0s
ESDC Sonseca Array 155.64 189 PKPab **PKPab 20 24 38.1 +1.0**
comp=Z,0.6nm,0.7s,baz=162,slow=3.6,SNR=3.8
AKASG Malin Array Be 156.12 255 PKPab **PKPab 20 24 35.6 -3.3**
comp=Z,0.6nm,0.5s,baz=131,slow=3.5,SNR=3.7
BNI Bardonecchia 159.29 212 PFAKE 20 24 20.0 +4.6
BNI LR LR
comp=Z,751nm,19.0s
DPC Dobruska-Polom 161.05 236 *e*PKPAB **PKPab 20 25 02.3 +2.0**
BFO Black Forest 161.91 219 PFAKE 20 24 30.0 +12
BFO LR LR
comp=Z,640nm,21.0s
ESK Eskdalemuir 171.03 200 PFAKE 20 24 30.0 +5.2
ESK LR LR
comp=Z,606nm,21.0s

*ISK **27** 20:04:24.6, 39˚.58N×39˚.86E, h4km, MD2.8*
*DDA **27** 20:04:25.0, 39˚.58N×39˚.86E, h7km, Md2.7*
*CSEM **27** 20:04:25.1±0.1, 39˚.58N×39˚.86E, h2km, MD2.7, Error ellipse: s-maj=2.9km s-min=2.5km az=58.0*
ISC 27 20:04:25.3±1.0, **39˚.58N**±0˚.02×**39˚.87E**±0˚.02, **h4**km±9km, **n34**, σ0**˚71**/57, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.11**	**275**	*e*PG	**Pg**	**20 04 27.6**	**0.0**
ERZN				*e*SG	**Sg**	**20 04 29.6**	**+0.4**
EUZM	**Uzumlu**	**0.18**	**315**	P	**Pg**	**20 04 29.0**	**0.0**
EUZM				S	**Sg**	**20 04 31.7**	**+0.3**
EUZM	**Uzumlu**	**0.18**	**315**	*i* P	**Pg**	**20 04 29.0**	**0.0**
EUZM				*i* S	**Sg**	**20 04 31.7**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.53**	**209**	P	**Pg**	**20 04 35.1**	**-0.3**
TNCL				S	**Sg**	**20 04 43.1**	**+0.9**
TNCL	**Tunceli-Merkez**	**0.53**	**209**	*i* P	**Pg**	**20 04 35.1**	**-0.3**
TNCL				*i* S	**Sg**	**20 04 43.1**	**+0.9**
YEDI	**Yedisu-Bingol**	**0.54**	**105**	*e*PG	**Pg**	**20 04 35.5**	**-0.2**
YEDI				*e*SG	**Sb**	**20 04 44.1**	**-1.5**
YEDI	**Yedisu-Bingol**	**0.54**	**105**	*e*Pg	**Pg**	**20 04 35.5**	**-0.2**
YEDI				*e*Sg	**Sb**	**20 04 44.1**	**-1.5**
KOPT	**Kop Dagi**	**0.66**	**48**	P	**Pg**	**20 04 38.0**	**+0.1**
KOPT				S	**Sg**	**20 04 47.3**	**+0.9**
KOPT	**Kop Dagi**	**0.66**	**48**	*i* P	**Pg**	**20 04 38.0**	**+0.1**
KOPT				*i* S	**Sg**	**20 04 47.3**	**+0.9**
KELT	**Kelkit**	**0.74**	**321**	P	**Pg**	**20 04 38.9**	**-0.6**
KELT				S	**Sb**	**20 04 50.1**	**-1.3**
KELT	**Kelkit**	**0.74**	**321**	*i* P	**Pg**	**20 04 38.9**	**-0.6**
KELT				*i* S	**Sb**	**20 04 50.1**	**-1.3**
PTK	**Pertek**	**0.78**	**208**	*e*PG	**Pg**	**20 04 40.0**	**-0.2**
PTK				*e*SG	**Sb**	**20 04 52.0**	**-0.5**
PTK	**Pertek**	**0.78**	**208**	*e*Pg	**Pg**	**20 04 40.0**	**-0.2**
PTK				*e*Sg	**Sb**	**20 04 52.0**	**-0.5**
BINT	**Bingol**	**0.85**	**145**	*e*Pg	**Pg**	**20 04 41.8**	**+0.2**
BINT				*e*Sg	**Sb**	**20 04 54.2**	**-0.3**
ECAT	**Cat-ERZURUM**	**0.86**	**88**	P	**Pg**	**20 04 40.9**	**-0.8**
ECAT				S	**Sb**	**20 04 54.3**	**-0.4**
ECAT	**Cat-ERZURUM**	**0.86**	**88**	*i* P	**Pg**	**20 04 40.9**	**-0.8**
ECAT				*i* S	**Sb**	**20 04 54.3**	**-0.4**
BGOL	**Bingol**	**0.86**	**133**	P	**Pb**	**20 04 42.3**	**-0.5**
BGOL				S	**Sb**	**20 04 53.6**	**-1.1**
BGOL	**Bingol**	**0.86**	**133**	*i* P	**Pb**	**20 04 42.3**	**-0.5**
BGOL				*i* S	**Sb**	**20 04 53.6**	**-1.1**
BNGB	**Bing˚¶l**	**0.86**	**133**	*e*PG	**Pg**	**20 04 41.8**	**0.0**
BNGB				*e*SG	**Sb**	**20 04 54.1**	**-0.6**
GUMT	**Gumushane**	**0.93**	**342**	*e*PG	**Pg**	**20 04 42.8**	**-0.3**
GUMT	**Gumushane**	**0.93**	**342**	*e*Pg	**Pg**	**20 04 42.8**	**-0.3**
EZM	**Erzurum**	**1.20**	**74**	*e*PN	**Pg**	**20 04 48.3**	**0.0**
ERZM	**Erzurum**	**1.20**	**74**	P	**Pg**	**20 04 48.2**	**-0.1**
ERZM	**Erzurum**	**1.20**	**74**	*i* P	**Pg**	**20 04 48.2**	**-0.1**
ERZM				*i* S	**Sn**	**20 05 07.9**	**+1.9**
SVRC	**Sivrice-ELAZID**	**1.27**	**200**	*e*PN	**Pg**	**20 04 49.1**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.27**	**200**	*e*Pn	**Pg**	**20 04 49.2**	**-0.5**
MACK	**Trabzon**	**1.37**	**357**	P	**Pg**	**20 04 51.6**	**+0.1**
MACK				S	**Sn**	**20 05 09.9**	**+0.1**
MACK	**Trabzon**	**1.37**	**357**	*i* P	**Pg**	**20 04 51.6**	**+0.1**
MACK				*i* S	**Sn**	**20 05 09.9**	**+0.1**
KTUT	**Trabzon**	**1.41**	**357**	*e*PN	**Pb**	**20 04 51.8**	**-0.4**
KTUT	**Trabzon**	**1.41**	**357**	*e*Pn	**Pb**	**20 04 51.8**	**-0.4**
SUSE	**Susehri**	**1.43**	**297**	P	**Pg**	**20 04 52.5**	**-0.2**
SUSE	**Susehri**	**1.43**	**297**	*i* P	**Pg**	**20 04 52.5**	**-0.2**
SUSE				*i* S	**Sn**	**20 05 13.3**	**+1.9**
ESPY	**Espiye-Giresun**	**1.60**	**327**	*e*PN	**Pn**	**20 04 54.5**	**+0.2**
ESPY	**Espiye-Giresun**	**1.60**	**327**	*e*Pn	**Pn**	**20 04 54.5**	**+0.2**

*IDC **27** 20:04:53.2±5.5, 36˚.11N×70˚.84E, h60km±38km, mb3.5/3, mb1 3.5/9, mb1mx3.2/46, mbtmp3.7/9, ML3.5/6, Error ellipse: s-maj=63.2km s-min=26.9km az=172.0*
*ISCJB **27** 20:04:58.6±1.2, 36˚.71N±0˚.08×70˚.43E±0˚.07, h100km, mb3.5/2, Error ellipse: s-maj=12.6km s-min=6.8km az=156.0*
*NNC **27** 20:05:01.5±4.0, 36˚.77N×70˚.51E, h115km±75km, mb3.2, mpv3.7, Error ellipse: s-maj=31.1km s-min=27.2km az=1.0*
ISC 27 20:04:60.0±1.5, **36.7N**±0.1×**70.46E**±0.08, **h100**km, **n16**, σ1**°59**/23, **4C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**6.00**	**15**	⇓P	**Pn**	**20 06 26.6**	**+0.3**
MNAS	0.7nm,0.3s			⇓S	**Sn**	**20 07 33.0**	**-0.6**
KK31	**Karatay Array**	**6.40**	**0**	⇓P	**Pn**	**20 06 32.7**	**+1.1**
KK31	10nm,0.3s 2.4nm,0.3s,baz=175,slow=11			⇓S	**Sn**	**20 07 45.9**	**+2.6**
AAK	**Ala-Archa**	**6.70**	**26**	P	**Pn**	**20 06 35.4**	**-0.4**
AAK	7.5nm,0.5s,baz=183,slow=22 1.7nm,0.3s,baz=248,slow=5.4,SNR=6.1			S	**Sn**	**20 07 50.1**	**-0.6**
AAK	**Ala-Archa**	**6.70**	**26**	⇑P	**Pn**	**20 06 35.3**	**-0.5**
AAK	1.8nm,0.3s,baz=137,slow=23,SNR=10.0 3.5nm,0.5s			⇓S	**Sn**	**20 07 49.9**	**-0.9**
TKM2	**Tokmak 2**	**7.37**	**31**	⇓P	**Pn**	**20 06 45.8**	**+0.8**
TKM2	7.9nm,0.5s 5.6nm,0.5s			⇑S	**Sn**	**20 08 07.1**	**+0.1**
GEYT	**Alibeck**	**9.91**	**281**	P	**Pn**	**20 07 18.6**	**-0.9**
GEYT	3.7nm,0.8s 0.7nm,0.3s,baz=102,slow=13,SNR=5.9			S	**Sn**	**20 09 07.7**	**-1.2**
MK31	**Makanchi Array**	**13.39**	**37**	⇑P	**Pn**	**20 08 06.3**	**+0.4**
MKAR	**Makanchi Array**	**13.39**	**37**	P	**Pn**	**20 08 04.8**	**-1.1**
AB31	**Akbulak array**	**14.71**	**332**	⇓P	**Pn**	**20 08 23.4**	**+0.6**
AB31	0.7nm,0.3s 0.4nm,0.5s			⇓S	**Sn**	**20 11 00.9**	**-4.0**
KURBB	**Kurchatov Arra**	**15.08**	**20**	P	**Pn**	**20 08 28.7**	**+1.1**
KURBB	0.1nm,0.3s,baz=208,slow=11,SNR=6.5 **Kurchatov Arra**	**15.08**	**20**	⇑P	**Pn**	**20 08 28.0**	**+0.5**
BVAR	2.9nm,1.1s **Borovoye Array**	**16.33**	**360**	P	**Pn**	**20 08 44.0**	**+0.9**
AKTO	0.1nm,0.3s,baz=170,slow=13,SNR=3.5 **Aktyubinsk**	**16.40**	**331**	P	**P**	**20 08 47.2**	**+2.2**
ZALV	0.5nm,0.3s,baz=138,slow=15,SNR=13 **Zalesovo Beam**	**19.92**	**25**	P	**P**	**20 09 23.6**	**+0.1**
SONM	3.2nm,0.4s,baz=223,slow=11,SNR=18 **Songino Array**	**28.58**	**56**	P	**P**	**20 10 44.3**	**-2.3**
ARCES	0.2nm,0.5s,baz=267,slow=9.7,SNR=2.7 **ARCESS Array B**	**40.80**	**338**	P	**P**	**20 12 33.9**	**+2.8**
	1.8nm,0.9s,baz=105,slow=8.9,SNR=6.9						

*ISCJB **27** 20:20:09.6±0.6, 1˚.43N±0˚.04×128˚.34E±0˚.04, h95km±6km, mb4.6/35, Error ellipse: s-maj=7.8km s-min=5.2km az=43.8*
*NEIC **27** 20:20:10.2±0.9, 1˚.46N×128˚.31E, h87km±9km, mb4.6/13, Error ellipse: s-maj=10.9km s-min=6.0km az=70.0*
*IDC **27** 20:20:11.9±2.3, 1˚.43N×128˚.29E, h101km±21km, mb4.1/16, mb1 4.2/19, mb1mx4.0/38, mbtmp4.4/19, Error ellipse: s-maj=21.1km s-min=10.4km az=75.0*
*KLM **27** 20:20:12.8, 1˚.14N×128˚.23E, h88km, mb4.8, MS5.9*
*DJA **27** 20:20:12.0±0.4, 1˚N±3˚×12˚8E±˚, h81km±4km, M4.7/25, mb5.0/25, mB5.2/7, ML v4.8/10, Mw(mB)4.5/7*
ISC 27 20:20:10.5±1.1, **1.42N**±0.05×**128.33E**±0.06, **h88**km±10km, **n97**, σ1**°44/96**, **mb4.6**/35, **5C-5D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.21**	**202**	P	**Pn**	**20 20 44.7**	**-0.7**
LBMI				S	**Sn**	**20 21 10.6**	**-1.5**
SGSI	**Sangihe**	**3.59**	**309**	P	**Pn**	**20 21 05.6**	**+1.6**
SGSI				S	**Sn**	**20 21 45.9**	**+0.6**
SIJI	**Sorong**	**3.72**	**128**	P	Pn	20 21 07.3	+1.5
SIJI	22nm,0.3s,baz=3.8,slow=1.2,SNR=4.4			S	**Sn**	**20 21 48.7**	**+0.2**
SANI	23nm,0.3s,baz=94,slow=22,SNR=6.1 **Sanana**	**4.17**	**214**	P	**Pn**	**20 21 10.7**	**-1.1**
KMSI	**Cibinong**	**4.43**	**259**	P	**Pn**	**20 21 15.4**	**+0.1**
MSAI	**Masohi**	**4.77**	**173**	P	Pn	20 21 23.3	+3.2
NLAI	**Namlea**	**4.79**	**195**	P	**Pn**	**20 21 20.8**	**+0.5**
GTOI	**Gorontalo**	**5.37**	**262**	P	**Pn**	**20 21 29.8**	**+1.6**
FAKI	1.5nm,0.7s,113nm873nm **Fak Fak**	**5.83**	**138**	P	**Pn**	**20 21 35.6**	**+1.1**
FAKI	64nm,0.8s,0.5nm **Fak Fak**	**5.83**	**138**	*e*P	**Pn**	**20 21 35.2**	**+0.7**
DAV	46nm,0.4s **Davao City (W)**	**6.24**	**334**	*e*P	**Pn**	**20 21 37.1**	**-3.0**
MRSI	399nm,0.3s **Marisa**	**6.45**	**262**	P	**Pn**	**20 21 42.7**	**-0.3**
KDI	101nm,0.6s,2µm0.4nm **Kendari**	**7.82**	**227**	P	**Pn**	**20 22 01.6**	**0.0**
PCI	**Palu**	**8.80**	**255**	P	**Pn**	**20 22 15.5**	**+0.5**
TTSI	**Tana Toraja**	**9.59**	**242**	P	**Pn**	**20 22 25.2**	**-0.6**
SPSI	187nm,0.6s,3µm **Sidrap Palu**	**10.09**	**238**	P	**Pn**	**20 22 32.8**	**+0.2**
MYLDM	104nm,0.5s,1µm **Lahad Datu**	**10.49**	**291**	⇓P	Pn	20 22 42.2	+4.1
KAPI	**Kappang**	**10.49**	**233**	P	**Pn**	**20 22 42.4**	**+1.6**
KAPI	9.8nm,0.3s,baz=66,slow=8.5,SNR=19 0.6nm,0.3s,baz=345,slow=24,SNR=11			S	**Sn**	**20 24 34.3**	**-4.3**
KAPI	**Kappang** 22nm,0.4s	**10.69**	**233**	*e*P	**Pn**	**20 22 42.2**	**+1.5**
KAPI				S	**Sn**	**20 24 34.3**	**-4.3**
TSM	**Tawau**	**10.82**	**285**	⇓P	**Pn**	**20 22 42.4**	**-0.1**
SDKM	**Sandakan**	**11.87**	**291**	⇑P	Pn	20 23 00.7	+3.9
EDFI	**Ende, Flores**	**12.08**	**213**	P	P	20 23 03.9	-4.9
BBKI	**Banjar Baru** 75nm,0.6s	**14.33**	**250**	P	**Pn**	**20 23 29.6**	**+0.3**
PLAI	**Plampang**	**14.64**	**226**	P	**P**	**20 23 38.9**	**+1.7**
TWSI	**Taliwang, Sumb**	**15.23**	**228**	P	**P**	**20 23 44.9**	**+1.1**
SBUM	**Sibu**	**16.13**	**274**	⇑P	**P**	**20 23 54.2**	**+0.4**
STKI	**Sintang** 29nm,0.9s,3µm	**16.90**	**266**	P	**P**	**20 24 02.2**	**-0.1**
BLJI	**Banyuglugur**	**17.29**	**238**	P	**P**	**20 24 12.3**	**+5.7**
KSM	**Kuching**	**18.01**	**270**	⇑P	**Pn**	**20 24 15.8**	**+0.5**
KSM	**Kuching** 58nm,0.7s	**18.01**	**270**	*e*P	**P**	**20 24 14.7**	**+0.1**
NGJI	**Ngawi**	**18.96**	**242**	P	**Pn**	**20 24 30.2**	**+3.7**
PWJI	**Pagerwojo** 60nm,1.1s	**18.96**	**240**	P	**Pn**	**20 24 26.8**	**+0.2**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=19,slow=8.9,SNR=22	**19.58**	**188**	P	**P**	**20 24 31.2**	**-0.5**
FITZ	**Fitzroy Crossi** 13nm,1.0s	**19.58**	**188**	*e*P	**P**	**20 24 30.7**	**-0.9**
WOJI	**Wonogiri, Jawa**	**19.64**	**242**	P	**Pn**	**20 24 36.7**	**+2.1**
KPJI	**Karang Pucung** 232nm,0.9s	**21.22**	**246**	P	**P**	**20 24 50.5**	**+1.1**
WRAB	**Tennant Creek** 16nm,0.7s	**22.03**	**165**	*e*P	**P**	**20 24 58.1**	**+0.1**
WRA	**Warramunga Arr** 15nm,0.7s,baz=343,slow=10,SNR=87	**22.04**	**165**	P	**P**	**20 24 58.6**	**+0.6**
WRA	0.5nm,0.5s,baz=343,slow=1.7,SNR=5.5			PcP	**PcP**	**20 28 52.7**	**-0.4**
PPBI	**Pangkal Pinang** 38nm,1.2s,635nm	**22.47**	**261**	P	**P**	**20 25 03.9**	**+1.1**
CBJI	**Citeko** 91nm,0.7s	**22.81**	**250**	P	**P**	**20 25 08.8**	**+2.5**
CGJI	**Cibinong** 92nm,1.0s	**23.96**	**250**	P	**P**	**20 25 16.4**	**-0.5**
MBWA	**Marble Bar**	**23.97**	**200**	*e*P	**P**	**20 25 15.6**	**-1.2**
MYKOM	**Kota Tinggi**	**24.47**	**271**	⇓P	**P**	**20 25 22.7**	**+1.2**
KASI	**Kota Agung** 72nm,1.2s	**24.78**	**254**	P	**P**	**20 25 26.9**	**+2.5**
JMBI	**JAMBI** 284nm,0.4s	**24.87**	**263**	P	**P**	**20 25 29.1**	**+3.9**
KGM	**Kluang**	**25.00**	**272**	⇑P	**P**	**20 25 28.1**	**+1.7**
KTGM	**Kuala Trenggan**	**25.44**	**279**	⇓P	**P**	**20 25 31.6**	**+1.2**
ASAR	**Alice Springs** 1.5nm,0.4s,baz=346,slow=7.2,SNR=37	**25.52**	**168**	P	**P**	**20 25 31.2**	**+0.2**
ASAR	1.0nm,0.6s,baz=341,slow=2.1,SNR=4.9			PcP	**PcP**	**20 28 59.9**	**-0.7**
FRIM	**Kepong**	**26.74**	**274**	⇑P	**P**	**20 25 42.3**	**+0.2**
IPM	**Ipoh**	**27.43**	**277**	⇓P	**P**	**20 25 49.2**	**+0.8**
PDSI	**Padang**	**27.96**	**265**	P	P	20 25 45.6	-7.5
CHAI	**Chaiyaphum** 3.7nm,0.7s	**29.68**	**300**	P	**P**	**20 26 08.5**	**+0.2**
GSI	**Gunungsitoli** 102nm,1.0s	**30.74**	**270**	P	**P**	**20 26 16.7**	**-1.0**
GSI	**Gunungsitoli** 61nm,0.7s	**30.74**	**270**	*e*P	**P**	**20 26 16.2**	**-1.5**
CMAR	**Chiang Mai Arr** 2.5nm,1.0s,baz=123,slow=7.8,SNR=11	**33.43**	**302**	P	**P**	**20 26 41.7**	**+0.5**
CMAR	1.0nm,0.8s,baz=156,slow=0.7,SNR=7.6			PcP	**PcP**	**20 29 21.2**	**+0.3**
ENH	**Enshi** 3.9nm,0.7s	**33.81**	**330**	*e*P	**P**	**20 26 45.3**	**+0.9**
STKA	**Stephens Creek** 5.6nm,0.5s,baz=335,slow=9.1,SNR=30	**35.43**	**160**	P	**P**	**20 26 58.9**	**+0.6**
NWAO	**Narrogin (SRO)** 8.5nm,0.7s,baz=256,slow=9.4,SNR=5.6	**35.73**	**196**	P	**P**	**20 27 00.4**	**-0.5**
MJAR	**Matsushiro Arr** 1.7nm,0.6s,baz=182,slow=9.9,SNR=8.8	**36.12**	**14**	P	**P**	**20 27 03.9**	**-0.3**
H11S3	**WAKE ISLAND Hy 41.27** baz=248,slow=74,SNR=7.7	**63**		T	T	21 12 00.6	
H11S2	**WAKE ISLAND Hy 41.28** baz=248,slow=74,SNR=5.7	**63**		T	T	21 12 01.2	
H11S1	**WAKE ISLAND Hy 41.28** baz=248,slow=74,SNR=2.7	**63**		T	T	21 11 59.4	
H11N1	**WAKE ISLAND Hy 41.87** baz=248,slow=75,SNR=8.5	**62**		T	T	21 12 52.6	
H11N2	**WAKE ISLAND Hy 41.88** baz=248,slow=75,SNR=7.2	**62**		T	T	21 12 53.9	
H11N3	**WAKE ISLAND Hy 41.89** baz=248,slow=75,SNR=30	**62**		T	T	21 12 54.3	
USRK	**Ussuriysk Ar.** 1.0nm,0.6s,baz=181,slow=5.8,SNR=4.1	**42.72**	**4**	P	**P**	**20 27 59.7**	**+0.8**
LSA	**Lhasa** 6.9nm,0.5s	**45.16**	**312**	*e*P	**P**	**20 28 20.3**	**+1.1**
RAMN	**Ramite** 85nm,0.6s	**47.38**	**306**	*e*P	**P**	**20 28 36.8**	**+0.4**
GUN	**Gumba** 78nm,0.7s	**48.37**	**307**	*e*P	**P**	**20 28 44.5**	**+0.3**
PKIN	**Phichoki** 14nm,0.7s	**48.62**	**306**	*e*P	**P**	**20 28 45.8**	**-0.2**
KKN	**Kakani** 20nm,0.6s	**48.80**	**307**	*e*P	**P**	**20 28 47.2**	**-0.1**
DMN	**Daman** 38nm,0.8s	**48.87**	**306**	*e*P	**P**	**20 28 47.9**	**0.0**
GKN	**Gorkha** 22nm,0.8s	**49.41**	**306**	*e*P	**P**	**20 28 51.8**	**-0.1**
ULN	**Ulaanbaatar** 7.0nm,1.0s	**49.80**	**341**	*e*P	**P**	**20 28 54.9**	**+0.4**
SONM	**Songino Array** 2.4nm,0.7s,baz=152,slow=8.4,SNR=17	**49.98**	**341**	P	**P**	**20 28 56.3**	**+0.4**
SONM	1.8nm,0.7s,baz=163,slow=3.7,SNR=6.9			PcP	**PcP**	**20 30 14.5**	**-0.3**
KOLN	**Koldanda** 90nm,0.6s	**50.15**	**306**	*e*P	**P**	**20 28 58.1**	**+0.5**
PYUN	**Piuthan** 85nm,0.6s	**50.77**	**306**	*e*P	**P**	**20 29 02.8**	**+0.5**
MKAR	**Makanchi Array** 13nm,0.6s,baz=116,slow=8.1,SNR=187	**60.35**	**325**	P	**P**	**20 30 10.3**	**-0.1**
MKAR	4.4nm,0.7s,baz=120,slow=5.6,SNR=8.9			PcP	**PcP**	**20 30 53.8**	**-0.8**
TKM2	**Tokmak 2** 8.8nm,0.7s	**62.52**	**319**	*e*P	**P**	**20 30 25.0**	**-0.3**
ZALV	**Zalesovo Beam** 1.8nm,0.4s,baz=130,slow=7.8,SNR=9.3	**63.35**	**333**	P	**P**	**20 30 29.1**	**-1.2**
EKS2	**Erkin-Say** 2.8nm,0.8s	**63.62**	**318**	*e*P	**P**	**20 30 32.6**	**+0.2**
KURK	**Kurchatov** 164nm,0.6s	**64.53**	**328**	*e*P	**P**	**20 30 37.7**	**-0.4**
KKAR	**Karatay Array**	**66.00**	**317**	*e*P	**P**	**20 30 47.0**	**-0.8**
TIXI	9.4nm,0.8s **Tiksi** 3.3nm,0.5s	**70.12**	**0**	*e*P	**P**	**20 31 12.4**	**-0.6**
BRVK	**Borovoye** 24nm,0.9s	**70.18**	**327**	*e*P	**P**	**20 31 12.8**	**-0.9**
BRVK				*e*PcP	**PcP**	**20 31 35.8**	**+0.7**
GEYT	**Alibeck** 4.7nm,0.6s,baz=155,slow=4.9,SNR=16	**73.58**	**309**	P	**P**	**20 31 34.2**	**-0.2**
ABKAR	**Akbulak array** 5.0nm,0.6s	**74.94**	**321**	*e*P	**P**	**20 31 40.8**	**-1.2**
VNDA	**Vanda** 2.2nm,0.6s,baz=317,slow=6.2,SNR=14	**80.95**	**173**	P	**P**	**20 32 14.6**	**-0.2**
MAW	**Mawson** 4.2nm,0.9s,baz=65,slow=5.8,SNR=9.0	**82.16**	**201**	P	**P**	**20 32 20.6**	**-0.7**
BPAW	**Bear Paw Mtn.**	**84.65**	**26**	*e*P	**P**	**20 32 34.9**	**+0.7**
ILAR	**Eielson Array** 0.5nm,0.7s,baz=248,slow=5.4,SNR=4.6	**86.49**	**25**	P	**P**	**20 32 42.0**	**-1.3**
ARCES	**ARCESS Array B** 2.1nm,0.7s,baz=72,slow=7.8,SNR=8.8	**93.15**	**340**	P	**P**	**20 33 13.2**	**-1.2**
FINES	**FINESS Array B** 1.5nm,0.8s,baz=66,slow=4.6,SNR=7.0	**94.61**	**332**	P	**P**	**20 33 19.9**	**-1.4**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.6s,baz=67,slow=4.4	**101.55**	**334**	P	**Pdif**	**20 33 50.6**	**-2.0**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.7s,baz=68,slow=4.5,SNR=4.7	**101.55**	**334**	P	**Pdif**	**20 33 50.7**	**-1.9**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.8s,baz=211,slow=1.5,SNR=4.3	**121.70**	**54**	PKP	**PKPdf**	**20 38 55.0**	**-0.1**
LPAZ	**La Paz** comp=Z,1.7nm,0.8s,baz=176,slow=2.7,SNR=7.1	**158.07**	**133**	PKPab	**PKPab**	**20 40 34.1**	**+1.4**

*ISCJB **27** 20:27:26.8±0.7, 38˚.56N±0˚.04×39˚.61E±0˚.07, h13km±10km, Error ellipse: s-maj=9.8km s-min=5.7km az=21.1*
*CSEM **27** 20:27:26.1±0.2, 38˚.53N×39˚.64E, h10km, MD2.8, Error ellipse: s-maj=5.2km s-min=4.5km az=83.0*
*ISK **27** 20:27:26.1, 38˚.55N×39˚.58E, h17km, MD2.8*
*DDA **27** 20:27:27.6, 38˚.60N×39˚.60E, h7km, Md2.4*
ISC 27 20:27:26.4±1.1, **38˚.56N**±0˚.03×**39˚.58E**±0˚.04, **h14**km±11km, **n16**, σ0**˚72**/25, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.28**	**229**	*e*PG	**Pg**	**20 27 32.5**	**+0.1**
SVRC				*e*SG	**Sb**	**20 27 37.4**	**-0.5**
SVRC	**Sivrice-ELAZID**	**0.28**	**229**	*e*Pg	**Pg**	**20 27 32.5**	**+0.1**
SVRC				*e*Sg	**Sb**	**20 27 37.4**	**-0.5**
PTK	**Pertek**	**0.36**	**336**	*e*PG	**Pg**	**20 27 34.1**	**+0.3**
PTK				*e*SG	**Sb**	**20 27 40.3**	**0.0**
PTK	**Pertek**	**0.36**	**336**	*e*Pg	**Pg**	**20 27 34.1**	**+0.3**
PTK				*e*Sg	**Sb**	**20 27 40.3**	**0.0**
ELZG	**Elazig**	**0.47**	**262**	P	**Pg**	**20 27 36.0**	**+0.2**
ELZG				S	**Sb**	**20 27 45.2**	**+1.9**
ELZG	**Elazig**	**0.47**	**262**	*i* P	**Pg**	**20 27 36.0**	**+0.2**
ELZG				*i* S	**Sb**	**20 27 45.2**	**+1.9**
TNCL	**Tunceli-Merkez**	**0.55**	**357**	P	**Pg**	**20 27 37.7**	**+0.3**
TNCL				S	**Sb**	**20 27 45.9**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.55**	**357**	*i* P	**Pg**	**20 27 37.6**	**+0.3**
TNCL				*i* S	**Sb**	**20 27 45.9**	**+0.2**
BNGB	**Bing˚¶l**	**0.96**	**63**	*e*PG	**Pn**	**20 27 45.4**	**-0.1**
URFA	**Urfa**	**1.27**	**208**	*e*PN	**Pn**	**20 27 49.3**	**-0.4**
URFA	**Urfa**	**1.27**	**208**	*e*Pn	**Pn**	**20 27 49.3**	**-0.4**
MAZI	**Mazidag**	**1.30**	**148**	*e*PN	**Pn**	**20 27 49.7**	**-0.5**
MAZI	**Mazidag**	**1.30**	**148**	*e*Pn	**Pn**	**20 27 49.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.34**	**107**	*e*PN	**Pb**	**20 27 50.8**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.34**	**107**	*e*Pn	**Pb**	**20 27 50.8**	**-0.5**
MARD	**Mardin**	**1.57**	**142**	*i* P	**Pg**	**20 27 57.8**	**+1.2**
MARD				*i* S	**Sg**	**20 28 17.0**	**+0.1**

MAN 27 20:28:31, 13˚.21N×120˚.92E, h22km, mb3.9, ML2.7, MS2.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.29**	**6**	⇑*e*P	**Pb**	**20 28 38.6**	**+0.9**
PGP				*i* S	Sn	20 28 44.0	-1.7
SJMP	**San Jose**	**0.77**	**165**	*e*P	**Pb**	**20 28 44.5**	**-1.3**
SJMP				*e*S	Sb	20 28 55.9	+0.2
LUBP	**Lubang**	**0.84**	**308**	*e*P	Pn	20 28 47.7	+0.2
LUBP				*e*S	Sn	20 28 59.3	+0.1
OTRP	**Odiongan**	**1.36**	**128**	*e*P	Pb	20 28 56.2	+0.3
OTRP				*e*S	Sb	20 29 12.8	-0.1
BUSP	**Coron**	**1.39**	**211**	*e*P	Pb	20 28 55.8	-0.6
BUSP				*e*S	Sn	20 29 13.1	+0.3

*ISCJB **27** 20:31:44.7±0.5, 65˚.29S±0˚.05×179˚.1E±0˚.2, h10km, mb4.8/20, MS4.8/53, Error ellipse: s-maj=12.5km s-min=6.6km az=174.5*
*IDC **27** 20:31:44.7±0.7, 65˚.17S×179˚.42E, h0km, mb4.6/9, mb1 4.7/10, mb1mx4.7/17, mbtmp4.6/10, ML4.4/1, MS4.6/15, Ms1 4.5/15, ms1mx4.3/27, Error ellipse: s-maj=27.8km s-min=17.4km az=68.0*
*BJI **27** 20:31:46.8, 65˚.30S×178˚.90E, h10km, mB5.6/8, Ms5.2/9, Ms7 4.9/9*
*NEIC **27** 20:31:46.2±0.3, 65˚.28S×179˚.15E, h10km, mb5.3/15, MS4.9/39, Error ellipse: s-ma

baz=40,SNR=9.7
MAW Mawson 40.04 212 P P 20 39 21.9 +1.2
comp=Z,1.5nm,0.8s,baz=153,slow=8.4,SNR=3.5
MAW LR LR 20 55 46.9
comp=Z,3μm,19.6s,baz=134,slow=36
STKA Stephens Creek 40.66 306 P P **20 39 25.8 -0.4**
comp=Z,8.4nm,0.9s,baz=162,slow=8.4,SNR=12
STKA LR LR 20 54 10.6
comp=Z,454nm,18.5s,baz=209,slow=33
STKA Stephens Creek 40.66 306 P P **20 39 26.7 +0.4**
baz=41,SNR=4.7
STKA Stephens Creek 40.66 306 *e*P P **20 39 23.9 -2.4**
comp=Z,2.9nm,1.0s
SYO Syowa Base 43.08 200‖ *e*P P **20 39 42.6 -3.0**
SNAA Sanae 43.29 179 *e*P P **20 39 48.6 +1.3**
comp=Z,25nm,1.3s
DZM Mont Dzumac 44.06 342 *e*LR LR 20 52 02.9
comp=Z,2μm,23.6s
QLP Quilpie 44.71 313 P P **20 39 58.9 -0.2**
baz=46,SNR=7.8
TBI Tubuai 46.45 41 *e*S S **20 47 00.2 -0.4**
comp=Z,364nm,29.5s
TBI *e*LQ LQ 20 50 52.6
comp=Z,2μm,29.2s
TBI *e*LR LR 20 53 00.1
comp=Z,1μm,29.0s,baz=199
TBI Tubuai 46.45 41 *e*T T 21 29 37.1
comp=Z,126nm,0.3s
H01W1 Cape Leeuwin H 48.69 275 T T 21 33 01.2
baz=149,slow=76,SNR=122
H01W2 Cape Leeuwin H 48.69 275 T T 21 32 57.7
baz=149,slow=76,SNR=123
H01W3 Cape Leeuwin H 48.70 275 T T 21 33 02.5
baz=149,slow=76,SNR=119
USHA Ushuaia 49.52 135 LR LR 20 57 07.3
comp=Z,2μm,19.7s,baz=138,slow=31
CTAO Charters Tower 50.23 318 PFAKE
CTAO LR LR 20 40 50.0 +7.9
comp=Z,707nm,22.0s
AS01 Alice Springs 50.84 302 *e*P P **20 40 44.9 -1.9**
ASAR Alice Springs 50.86 302 P P **20 40 45.7 -1.2**
comp=Z,20nm,0.8s,baz=155,slow=7.3,SNR=158
ASAR LR LR 20 58 54.4
comp=Z,248nm,19.3s,baz=146,slow=32
AS31 Alice Springs 50.86 302 *e*P P **20 40 45.0 -1.9**
comp=Z,6.0nm,0.6s
RKT Rikitea 51.25 57 *e*LQ LQ 20 52 48.7
comp=Z,784nm,26.2s
RKT *e*LR LR 20 55 28.6
comp=Z,304nm,29.2s,baz=206
RKT Rikitea 51.25 57 *e*T T 21 35 40.5
comp=Z,24nm,0.2s
WRKA Warakurna 51.67 295 P P **20 40 51.6 -1.4**
baz=52,SNR=7.3
QIS Mount Isa 51.80 310 P P **20 40 52.5 -1.5**
baz=53
TVO Taravao 51.81 39 *e*T T 21 36 18.8
comp=Z,11nm,0.3s
PAE Paea 51.84 38 *e*T T 21 36 20.9
comp=Z,4.1nm,0.2s
PPT2 Papeete2 51.91 38 *e*S S **20 48 17.5 0.0**
comp=Z,237nm,27.5s
PPT2 *e*LQ LQ 20 52 57.3
comp=Z,1μm,25.5s
PPT2 *e*LR LR 20 55 27.9
comp=Z,1μm,28.0s,baz=195
PPT2 Papeete2 51.91 38 *e*T T 21 36 26.4
comp=Z,11nm,0.3s
PPT Papeete 51.93 38 LR LR 20 56 36.1
comp=Z,334nm,20.0s,baz=196,slow=29
TIAR Tiarei 52.00 39 *e*T T 21 36 23.5
comp=Z,5.8nm,0.3s
MEH Mehetia 52.04 40 *e*T T 21 36 36.1
comp=Z,17nm,0.2s
WR0 Warramunga Arr 54.05 305 P P **20 41 08.6 -1.9**
baz=55
WB2 Warramunga Arr 54.13 304 *e*P P **20 41 09.1 -2.0**
comp=Z,27nm,0.8s
WRA Warramunga Arr 54.13 304 P P **20 41 09.2 -2.0**
comp=Z,24nm,0.7s,baz=157,slow=6.5,SNR=130
WRA LR LR 21 01 27.2
comp=Z,547nm,20.2s,baz=165,slow=33
WRAB Tennant Creek 54.14 304 *e*P P **20 41 09.0 -2.2**
comp=Z,25nm,0.8s
WRAB LR LR
comp=Z,841nm,21.0s
VAH Vaihoa 54.68 40 *e*T T 21 39 53.5
comp=Z,112nm,0.2s
FUNA Funafuti 56.68 360 PFAKE
FUNA LR LR 20 41 40.0 +11
comp=Z,4μm,19.0s
HNR Honiara 57.44 337 LR LR 21 02 02.2
comp=Z,380nm,20.9s,baz=185,slow=32
FITZ Fitzroy Crossi 58.98 296 LR LR 21 03 57.8
comp=Z,341nm,19.8s,baz=158,slow=33
FITZ Fitzroy Crossi 58.98 296 P P **20 41 44.7 -0.9**
baz=60,SNR=7.1
FITZ Fitzroy Crossi 58.98 296 *e*P P **20 41 44.4 -1.3**
comp=Z,23nm,1.3s
KNRA Kununurra 60.05 300 P P **20 41 52.0 -1.0**
baz=61
PMG Port Moresby 60.18 322 LR LR 21 02 48.0
comp=Z,405nm,20.9s,baz=159,slow=31
PLCA Paso Flores 61.22 125 LR LR 21 02 16.2
comp=Z,175nm,19.6s,baz=228,slow=30
TAOE Nuku Hiva Isla 62.88 46 *e*LR LR 21 00 39.4
comp=Z,679nm,28.3s
KAPI Kappang 73.20 296 LR LR 21 12 30.2
comp=Z,209nm,20.3s,baz=170,slow=34
LVC Limon Verde 78.19 119 PFAKE
LVC LR LR 20 44 00.0 +14
comp=Z,324nm,20.0s
CPUP Villa Florida 78.78 130 P P **20 43 49.7 +1.0**
comp=Z,4.2nm,1.0s,baz=225,slow=5.7,SNR=4.1
SUR Sutherland 81.26 198 PFAKE
SUR LR LR 20 44 10.0 +7.7
comp=Z,2μm,21.0s
DAV Davao City (W) 82.30 306 PFAKE
DAV LR LR 20 44 20.0 +12
comp=Z,142nm,20.0s
LPAZ La Paz 84.26 117 P P **20 44 19.5 +0.9**
comp=Z,2.3nm,1.0s,baz=163,slow=4.0,SNR=6.2
LPAZ La Paz 84.26 117 *e*P P **20 44 19.1 +0.5**
BOSA Boshof 84.31 202 P P **20 44 18.9 +0.7**
comp=Z,3.0nm,0.8s,baz=159,slow=4.9,SNR=5.1
BOSA LR LR 21 19 07.6
comp=Z,249nm,19.7s,baz=162,slow=34
NNA Nana 84.78 107 PFAKE
NNA LR LR 20 44 30.0 +9.4
comp=Z,625nm,20.0s
H08S2 Diego Garcia H 90.16 251 T T 22 25 04.9
baz=156,slow=76,SNR=252
H08S1 Diego Carcia H 90.17 251 T T 22 25 05.6
baz=156,slow=76,SNR=219
H08S3 Diego Garcia H 90.18 251 T T 22 25 06.5
baz=156,slow=76,SNR=302
QIZ Qiongzhong 99.01 296 P **Pdif 20 45 29.5 +2.8**
QIZ S **S 20 56 57.8 +0.6**
ASCN Ascension 106.24 166 PFAKE
ASCN LR LR 20 50 20.0
comp=Z,1μm,19.0s
GYA Guiyang 106.96 296 *e*Pdif **Pdif 20 46 03.8 +1.8**
GYA PP **PP 20 50 32.5 +3.9**
GYA PPMZ
comp=Z,120nm,7.6s
KMBO Kilima Mbogo 108.36 220 PFAKE 20 50 30.0
KMBO LR LR
comp=Z,446nm,20.0s
PFO Pinyon Flats O 110.23 53 PFAKE 20 50 30.0
PFO LR LR
comp=Z,327nm,19.0s
ERM Erimo 110.68 332 PFAKE 20 50 30.0
ERM LR LR
comp=Z,281nm,20.0s
CD2 Chengdu 112.06 296 Pdif **Pdif 20 46 24.3 -0.2**
CD2 SKS **SKSdf 20 57 33.5 +0.8**
CD2 SKKS **SKKSac 20 58 05.5 -1.7**
CD2 S **Sdif 20 58 45.5 -0.2**
ANMO Albuquerque 114.95 61 PFAKE 20 50 40.0 +13
ANMO LR LR
comp=Z,184nm,20.0s
CN2 Changchun 116.60 319 *e*PKP **PKPdf 20 50 28.0 -1.2**
LZH Lanzhou 116.64 299 *e*PKP **PKPdf 20 50 31.8 +2.0**
LZH sPKP 20 50 36.3
LZH PP **PP 20 51 43.3 +5.2**
LZH PPMZ
comp=Z,130nm,5.4s
LZH LN
comp=Z,230nm,18.0s
LZH LE
comp=Z,210nm,17.9s
LZH LZ
comp=Z,380nm,20.0s
HHC Hu-ho-hao-te 118.17 307 *e*PKP **PKPdf 20 50 29.5 -3.0**
HHC SS SS 21 08 01.8 -1.8
HHC PPMZ
comp=Z,21nm,8.9s
HHC LN
comp=Z,180nm,16.0s
HHC LE
comp=Z,170nm,17.3s
HHC LZ
comp=Z,220nm,17.3s
ISCO Idaho Springs 119.57 59 PFAKE 20 50 50.0 +15
ISCO LR LR
comp=Z,162nm,20.0s
AHID Auburn Hatcher 120.29 53 PFAKE 20 50 50.0 +13
AHID LR LR
comp=Z,269nm,21.0s
KSU1 Kansas State U 122.31 66 PFAKE 20 50 50.0 +10
KSU1 LR LR
comp=Z,204nm,20.0s
GOGA Godfrey 122.66 80 PFAKE 20 50 50.0 +8.8
GOGA LR LR
comp=Z,197nm,20.0s
ECSD EROS Data Cent 126.30 63 PFAKE 20 51 00.0 +12
ECSD LR LR
comp=Z,215nm,19.0s
CNNC Cliffs of the 126.56 84 PFAKE 20 51 00.0 +11
CNNC LR LR
comp=Z,218nm,20.0s
BLA Blacksburg 127.19 81 PFAKE 20 51 00.0 +10
BLA LR LR
comp=Z,149nm,19.0s
ACSO Alum Creek Sta 128.70 77 PFAKE 20 51 00.0 +7.5
ACSO LR LR
comp=Z,228nm,20.0s
WMQ Urumqi 129.52 290 PKP **PKPdf 20 50 54.8 +0.7**
WMQ LN
comp=Z,180nm,25.1s
WMQ LE
comp=Z,230nm,17.7s
WMQ LZ
comp=Z,180nm,18.3s
BBSR BB Station 129.62 98 PFAKE 20 51 10.0 +16
BBSR LR LR
comp=Z,150nm,21.0s
AAM Ann Arbor 130.16 75 PFAKE 20 51 10.0 +15
AAM LR LR
comp=Z,197nm,20.0s
AGMN Agassiz Nation 130.44 61 PFAKE 20 51 10.0 +14
AGMN LR LR
comp=Z,253nm,20.0s
KSH Kashi 130.67 278 SS SS 21 10 44.3 +3.0
KSH AMB AMB
comp=Z,98nm,4.8s
KSH LR LR
comp=N,110nm,6.3s
KSH LR LR
comp=E,120nm,5.8s
KSH LR LR
comp=Z,170nm,9.7s
COWI Conover 131.15 67 PFAKE 20 51 10.0 +13
COWI LR LR
comp=Z,192nm,20.0s
EYMN Ely 131.78 64 PFAKE 20 51 10.0 +12
EYMN LR LR
comp=Z,207nm,20.0s
COLA College 132.01 18 PFAKE 20 51 10.0 +12
COLA LR LR
comp=Z,251nm,19.0s
ILAR Eielson Array 132.04 19 PKP **PKPdf 20 50 57.9 -0.2**
comp=Z,2.1nm,0.9s,baz=238,slow=2.9,SNR=15
EGAK Eagle 132.87 22 PFAKE 20 51 10.0 +10
EGAK LR LR
comp=Z,298nm,19.0s
BINY Binghamton 133.23 81 PFAKE 20 51 10.0 +8.9
BINY LR LR
comp=Z,264nm,20.0s
BILL Bilibino 133.39 353 PFAKE 20 51 10.0 +9.5
BILL LR LR
comp=Z,256nm,20.0s
AAK Ala-Archa 133.89 279 PFAKE 20 51 10.0 +7.5
AAK LR LR
comp=Z,300nm,20.0s
MKAR Makanchi Array 134.12 288 PKP **PKPdf 20 51 02.2 -0.4**
comp=Z,1.0nm,0.9s,baz=93,slow=2.6,SNR=4.7
YKA Yellowknife Ar 136.35 38 PKP **PKPdf 20 51 06.1 -0.1**
comp=Z,0.6nm,0.6s,baz=193,slow=2.5,SNR=3.6
KURK Kurchatov 138.71 289 P **PKPdf 20 51 10.8 -0.1**
BRVK Borovoye 143.85 285 P PKPbc 20 51 18.0 +0.1
GNI Garni 144.10 248 PFAKE
GNI LR LR 20 51 30.0 +8.8
comp=Z,351nm,20.0s
ABKAR Akbulak array 145.27 272 *e*PKPdf **PKPbc 20 51 21.1 -1.4**
SANT Santorini 147.25 221 PFAKE
SANT LR LR 20 51 40.0 +9.3
comp=Z,281nm,22.0s
BRTR Keskin Array B 147.81 234 PKPbc **PKPbc 20 51 29.9 -0.6**
comp=Z,4.6nm,0.9s,baz=159,slow=3.7,SNR=14
KBZ Khabaz 147.87 249 PKPbc **PKPbc 20 51 29.6 -0.6**
comp=Z,4.4nm,0.8s,baz=164,slow=4.5,SNR=7.4
KIV Kislovodsk 148.14 249 *e*PKPbc **PKPbc 20 51 31.0 -0.1**
ANTO Ankara 148.22 233 PFAKE
ANTO LR LR 20 51 40.0 +5.5
comp=Z,421nm,20.0s
NRIK Noril'sk 148.61 317 PKPbc **PKPbc 20 51 30.3 -1.1**
comp=Z,7.6nm,0.8s,baz=160,slow=3.7,SNR=6.3
KEST Kesra 149.84 196 PKPbc **PKPbc 20 51 35.3 -0.4**
comp=Z,4.4nm,0.9s,baz=219,slow=8.0,SNR=3.5
ARU Arti 151.04 281 *e*PKPbc **PKPbc 20 51 37.1 -0.6**
CLTB Caltabellotta 151.12 203 PFAKE
CLTB LR LR 20 51 40.0 +1.4
comp=Z,361nm,22.0s
TIR Tirane 153.39 216 PFAKE
TIR LR LR 20 51 50.0 -5.7
comp=Z,312nm,19.0s
ESDC Sonseca Array 154.26 174 PKPbc **PKPbc 20 51 45.9 +0.3**
comp=Z,0.6nm,0.7s,baz=204,slow=0.7,SNR=5.5
AQU L'Aquila 155.73 205 PFAKE
AQU LR LR 20 51 50.0 +11
comp=Z,343nm,21.0s
AKASG Malin Array Be 158.85 241 PKPab **PKPab 20 52 19.4 +0.5**
comp=Z,0.2nm,0.2s,baz=158,slow=3.0,SNR=3.4
KIEV Kiev 158.85 241 PFAKE
KIEV LR LR 20 51 50.0 +7.3
comp=Z,402nm,20.0s
SSB Saint Sauveur 159.76 190 PFAKE 20 52 00.0 +16
SSB LR LR
comp=Z,413nm,22.0s
BFO Black Forest 162.37 199 PFAKE 20 52 00.0 +13
BFO LR LR
comp=Z,401nm,20.0s
KBS Kingsbay 165.85 350 PFAKE 20 52 00.0 +11
KBS LR LR
comp=Z,180nm,20.0s
LVZ Lovozero 165.96 296 PFAKE 20 52 00.0 +11
LVZ LR LR
comp=Z,224nm,20.0s
KEV Kevo 168.68 305 PFAKE 20 52 00.0 +8.8
KEV LR LR
comp=Z,231nm,21.0s
ARCES ARCESS Array B 169.23 305 PKPab **PKPab 20 53 02.7 -1.5**
comp=Z,3.5nm,0.9s,baz=54,slow=6.2,SNR=7.7
ESK Eskdalemuir 169.90 171 PFAKE 20 52 00.0 +7.6
ESK LR LR
comp=Z,400nm,19.0s
KONO Kongsberg 172.70 224 PFAKE 20 52 00.0 +6.3
KONO LR LR
comp=Z,266nm,22.0s

*ISCJB **27** 20:49:24.3±1.8, 36°.92N±0°.04×141°.33E±0°.09, h15km±15km, mb3.2/2, Error ellipse: s-maj=12.1km s-min=6.3km az=4.9*
*JMA **27** 20:49:25.7±0.1, 36°.95N×141°.19E, h26km±1km, M3.7*
JMA Felt I J1.
*IDC **27** 20:49:26.6±2.7, 36°.43N×141°.09E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/41, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=56.5km s-min=31.6km az=39.0*
ISC 27 20:49:24.6±2.9, 36°.94N±0°.04×141°.19E±0°.08, h11km±18km,

n12, σ0°.77/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.35**	**297**	P	**Pb**	**20 49 33.4**	**+0.6**
ONAJ				*e*S	**Sb**	**20 49 38.7**	**+0.3**
JFK	**Kawauchi**	**0.49**	**330**	P	**Pb**	**20 49 35.6**	**+0.3**
JFK				*e*S	**Sb**	**20 49 42.2**	**-0.3**
JHO	**Hitachi**	**0.59**	**236**	P	**Pb**	**20 49 37.2**	**+0.2**
JHO				*e*S	**Sb**	**20 49 45.6**	**+0.2**
JFT	**Otama**	**0.89**	**311**	P	**Pn**	**20 49 42.6**	**-0.4**
JFT				*e*S	**Sb**	**20 49 54.3**	**+0.4**
JMM	**Marumori**	**0.97**	**341**	P	**Pb**	**20 49 43.0**	**-0.5**
JMM				*e*S	**Sb**	**20 49 55.9**	**-0.4**
JSB	**Shiboa**	**1.01**	**272**	P	**Pn**	**20 49 45.0**	**+0.2**
JSB				*e*S	**Sn**	**20 49 58.6**	**-0.4**
JYT	**Yasato**	**1.07**	**228**	P	**Pb**	**20 49 44.7**	**-0.4**
JYT				S	**Sb**	**20 49 58.4**	**-0.7**
JFY	**Yanaizu**	**1.27**	**292**	P	**Pb**	**20 49 48.6**	**+0.1**
JFY				*e*S	**Sg**	**20 50 05.3**	**-0.2**
MJAR	**Matsushiro Arr**	**2.42**	**261**	Pn	**Pn**	**20 50 05.5**	**+1.3**
	4.2nm,0.3s,baz=89,slow=15,SNR=50						
MJAR				Sn	**Sb**	**20 50 36.4**	**-1.7**
	6.7nm,0.3s,baz=79,slow=29,SNR=6.8						
MAT	**Matsushiro**	**2.42**	**261**	P	**Pn**	**20 50 05.6**	**+1.4**
MAT				*e*S	**Sb**	**20 50 37.1**	**-1.0**
MKAR	**Makanchi Array**	**44.01**	**302**	P	P	20 57 37.5	+5.5
	0.2nm,0.5s,baz=85,slow=9.0,SNR=3.6						
WRA	**Warramunga Arr**	**56.95**	**188**	P	**P**	**20 59 10.0**	**0.0**
	0.2nm,0.7s,baz=4.3,slow=7.5,SNR=3.7						

IDC 27 21:02:27.8±52.0, 18°.74S×175°.10W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/38, mbtmp3.8/3, Error ellipse: s-maj=988.3km s-min=166.2km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.02**	**243**	P	P	21 10 12.6	-0.3
	1.8nm,1.0s,baz=95,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**47.58**	**260**	P	P	21 11 05.3	-0.4
	0.4nm,0.4s,baz=98,slow=7.2,SNR=9.3						
ASAR	**Alice Springs**	**47.60**	**255**	P	P	21 11 06.0	+0.2
	0.6nm,0.5s,baz=87,slow=8.3,SNR=16						

*IDC **27** 21:05:22.7±0.7, 6°.46S×80°.95W, h0km, mb4.3/13, mb1 4.5/18, mb1mx4.4/41, mbtmp4.4/18, ML3.7/5, MS4.0/9, Ms1 4.0/9, ms1mx3.8/29, Error ellipse: s-maj=20.9km s-min=15.0km az=54.0*
*ISCJB **27** 21:05:26.4±0.2, 6°.41S±0°.04×80°.65W±0°.04, h33km, mb4.8/66, MS4.0/8, Error ellipse: s-maj=6.8km s-min=4.2km az=145.5*
*NEIC **27** 21:05:29.8±0.7, 6°.49S×80°.71W, h50km±6km, mb4.7/57, Error ellipse: s-maj=7.0km s-min=3.9km az=60.0*
NEIC Felt [II] at Chiclayo. Also felt at Chimbote and Mancora.
*BJI **27** 21:05:29.5, 6°.60S×80°.80W, h43km, mB5.3/4, Ms5.3/5, Ms7 5.0/6*
ISC 27 21:05:28.3±0.4, 6°.48S±0°.06×80°.73W±0°.08, h35km, n357, σ1s14/342, mb4.8/66, MS3.9/8, 1D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.41**	**106**	Pn	**Pn**	**21 06 08.9**	**+3.3**
	89nm,0.3s,baz=293,slow=13,SNR=114						
ATAH				Sn	Sn	21 06 44.2	+10
	60nm,0.3s,baz=302,slow=10,SNR=4.6						
NNA	**Nana**	**6.68**	**145**	Pn	**Pn**	**21 07 05.5**	**+1.4**
	5.0nm,0.3s,baz=313,slow=15,SNR=6.9						
NNA				Sn	**Sn**	**21 08 16.0**	**-3.1**
	9.6nm,0.3s,baz=0.0,slow=19,SNR=2.1						
NNA				LR	LR	21 09 37.3	
	comp=Z,806nm,19.4s,baz=265,slow=37						
NNA	**Nana**	**6.68**	**145**	*e*Pn	**Pn**	**21 07 05.2**	**+1.1**
NNA				*e*Sn	**Sn**	**21 08 18.8**	**-0.3**
OTAV	**Otavalo**	**7.05**	**19**	*e*P	Pn	21 07 02.6	-7.0
OTAV	**Otavalo**	**7.05**	**19**	*e*Pn	**Pn**	**21 07 10.5**	**+0.9**
CMBC	**Cumbal**	**7.92**	**22**	*e*P	**Pn**	**21 07 18.6**	**-3.0**
CRUC	**La Cruz**	**8.84**	**25**	*e*P	**Pn**	**21 07 34.5**	**+0.4**
PAYG	**Puerto Ayora**	**11.14**	**301**	*e*Pn	**Pn**	**21 08 07.0**	**+1.7**
PRAC	**Prado**	**11.69**	**30**	*e*P	Pn	21 08 19.7	+6.9
ROSC	**El Rosal**	**12.94**	**30**	Pn	**Pn**	**21 08 31.8**	**+1.5**
	1.0nm,0.3s,baz=218,slow=10,SNR=2.4						
ROSC	**El Rosal**	**12.94**	**30**	*e*P	P	21 08 46.3	+5.8
CHIC	**Chingaza**	**13.06**	**32**	*e*P	**Pn**	**21 08 27.7**	**-4.3**
HELC	**Santa Helena**	**13.62**	**23**	*e*P	**Pn**	**21 08 35.6**	**-3.8**
HELC	**Santa Helena**	**13.62**	**23**	*e*Pn	**P**	**21 08 47.6**	**-0.3**
DBBC	**Dabeiba**	**14.15**	**19**	*e*P	**Pn**	**21 08 43.6**	**-2.9**
RUSC	**La Rusia**	**14.47**	**32**	*e*P	Pn	21 08 43.6	-7.6
RUSC	**La Rusia**	**14.47**	**32**	*e*Pn	**Pn**	**21 08 52.0**	**+0.8**
BARC	**Barichara**	**15.02**	**30**	*e*P	**Pn**	**21 08 56.9**	**-1.4**
BRRC	**Barranca, Sant**	**15.21**	**28**	*e*P	**Pn**	**21 08 56.9**	**-3.7**
LPAZ	**La Paz**	**15.72**	**129**	Pn	**Pn**	**21 09 08.6**	**+0.7**
	0.2nm,0.3s,baz=332,slow=11,SNR=11						
LPAZ	**La Paz**	**15.72**	**129**	*e*Pn	**Pn**	**21 09 08.2**	**+0.3**
	56nm,1.0s						
MOTC	**Monteria, Cord**	**15.98**	**18**	*e*P	**Pn**	**21 09 07.5**	**-3.1**
OCAC	**Ocana**	**16.39**	**27**	*e*P	**Pn**	**21 09 15.5**	**-0.5**
PB11	**IPOC Station P**	**17.03**	**142**	*e*Pn	**Pn**	**21 09 23.2**	**-0.9**
	35nm,0.9s						
SAML	**Samuel**	**17.56**	**99**	*e*Pn	**Pn**	**21 09 30.8**	**+0.2**
	21nm,0.8s						
PB01	**IPOC Station P**	**18.11**	**144**	*e*P	**P**	**21 09 38.0**	**+0.5**
	12nm,0.9s						
SDV	**Santo Domingo**	**18.29**	**34**	P	**P**	**21 09 38.0**	**-1.6**
	2.4nm,0.3s,baz=203,slow=15,SNR=3.0						
LVC	**Limon Verde**	**19.67**	**146**	*e*P	**P**	**21 09 53.5**	**-1.4**
	11nm,0.8s						
SIV	**San Ignacio**	**21.45**	**118**	P	**P**	**21 10 14.6**	**+0.7**
	23nm,0.9s,baz=305,slow=10,SNR=44						
PTGA	**Pitinga**	**21.49**	**75**	P	**P**	**21 10 14.4**	**+0.1**
	32nm,0.7s,baz=256,slow=12,SNR=59						
PTGA				LR	LR	21 19 35.9	
	comp=Z,1μm,18.2s,baz=224,slow=39						
PTGA	**Pitinga**	**21.49**	**75**	*e*P	**P**	**21 10 14.4**	**+0.1**
PTGA				*ep*P	pP	21 10 14.5	-9.0
PCRV	**Puerto La Cruz**	**23.04**	**44**	P	**P**	**21 10 31.4**	**+0.6**
	21nm,0.8s,baz=179,slow=10,SNR=6.3						
PCRV				LR	LR	21 20 13.9	
	comp=Z,443nm,21.8s,baz=192,slow=38						
MTDJ	**Mount Denham**	**24.75**	**7**	*e*P	**P**	**21 10 47.2**	**+0.3**
	51nm,0.9s						
CMIG	**Matias Romero**	**27.29**	**329**	LR	LR	21 19 57.9	
	comp=Z,124nm,20.4s,baz=196,slow=32						
TEIG	**Tepich**	**27.56**	**345**	LR	LR	21 20 36.0	
	comp=Z,76nm,21.2s,baz=124,slow=33						
MPR	**Mayaguez**	**27.96**	**28**	*e*P	**P**	**21 11 15.6**	**-0.2**
	167nm,2.0s						
SJG	**San Juan**	**28.36**	**30**	P	**P**	**21 11 20.1**	**+0.8**
	17nm,0.2s,baz=314,slow=19,SNR=6.4						
SJG				LR	LR	21 24 09.4	
	comp=Z,248nm,20.9s,baz=184,slow=40						
SJG	**San Juan**	**28.36**	**30**	*e*P	**P**	**21 11 18.9**	**-0.5**
	28nm,0.6s						
CBYP	**Canovanas**	**28.64**	**31**	*e*P	**P**	**21 11 22.0**	**+0.1**
	39nm,0.9s						
CPUP	**Villa Florida**	**29.79**	**134**	LR	LR	21 25 10.0	
	comp=Z,231nm,18.7s,baz=307,slow=40						
MOIG	**Morelia**	**32.88**	**323**	*e*P	**P**	**21 11 57.7**	**-1.9**
	29nm,0.5s						
DWPF	**Disney Wildern**	**34.40**	**359**	*e*P	**P**	**21 12 10.5**	**-1.8**
	85nm,1.6s						
PLCA	**Paso Flores**	**35.30**	**167**	P	**P**	**21 12 20.1**	**-0.1**
	2.3nm,1.0s,baz=359,slow=14,SNR=3.8						
PLCA	**Paso Flores**	**35.30**	**167**	*e*P	**P**	**21 12 20.1**	**-0.1**
	37nm,1.8s						
TRQA	**Tornquist**	**35.74**	**154**	*e*P	**P**	**21 12 23.7**	**-0.2**
	14nm,1.2s						
636A	**Smothers Creek**	**39.05**	**337**	P	**P**	**21 12 53.4**	**+1.4**
	baz=154						
534A	**Blanco**	**40.10**	**336**	P	**P**	**21 13 00.6**	**-0.1**
	baz=152						
337A	**Centerville**	**40.28**	**340**	P	**P**	**21 13 03.7**	**+1.5**
	baz=156						
435B	**Jarrell**	**40.42**	**337**	P	**P**	**21 13 05.7**	**+2.3**
	baz=154						
336A	**Riesel**	**40.69**	**339**	P	**P**	**21 13 08.4**	**+2.9**
	baz=155						
237A	**Washetta, Mont**	**40.88**	**340**	P	**P**	**21 13 08.7**	**+1.5**
	baz=157						
JCT	**Junction City**	**41.05**	**335**	P	**P**	**21 13 12.7**	**+4.1**
	baz=150						
138A	**Matatall Enter**	**41.26**	**342**	P	**P**	**21 13 11.3**	**+1.1**
	baz=158						

137A	Heron Place, G baz=157	41.41	341	P	P	21 13 13.5	+2.0
333A	Richland Sprin baz=152	41.45	336	P	P	21 13 15.1	+3.2
234A	Clairette baz=154	41.72	338	P	P	21 13 17.3	+3.3
CPCT	Cooper Cave 12nm,1.0s	41.86	355	eP	P	21 13 16.2	+1.1
LTX	Lajitas	41.89	329	eP	P	21 13 15.3	-0.3
LTX				ePcP	PcP	21 15 10.5	-0.5
TXAR	Lajitas Array 0.5nm,0.8s,baz=148,slow=9.9,SNR=4.5	41.89	329	P	P	21 13 15.3	-0.3
TXAR	0.5nm,0.7s,baz=161,slow=5.7,SNR=3.7			PcP	PcP	21 15 10.5	-0.5
TX31	Lajitas Ar. Si	41.89	329	eP	P	21 13 16.2	+0.6
135A	Vickery Place, baz=155	41.95	339	P	P	21 13 17.8	+1.9
233A	Rising Star baz=152	42.03	337	P	P	21 13 17.9	+1.3
Y39A	Lockesburg baz=160	42.15	343	P	P	21 13 19.6	+2.1
134A	White-Moore Ra baz=154	42.21	338	P	P	21 13 20.4	+2.4
X40A	Basin Creek Fa baz=162	42.33	345	P	P	21 13 19.2	+0.3
133A	Hamilton Ranch baz=153	42.55	337	P	P	21 13 21.9	+1.0
MIAR	Mount Ida baz=161	42.58	344	P	P	21 13 21.4	+0.4
MIAR	Mount Ida 8.5nm,1.0s	42.58	344	eP	P	21 13 21.8	+0.8
Z35A	Perchaven, San baz=155	42.59	339	P	P	21 13 23.1	+2.0
Y37A	Hugo baz=158	42.64	342	P	P	21 13 22.8	+1.3
X39A	Fountain Ranch baz=160	42.69	344	P	P	21 13 22.5	+0.6
W41B	Gary Mavity, V baz=163	42.83	346	P	P	21 13 22.4	-0.6
ABTX	Abilene, Hawle baz=152	42.85	336	P	P	21 13 24.3	+1.0
ABTX	Abilene, Hawle 19nm,1.2s	42.85	336	eP	P	21 13 22.6	-0.7
Z34A	Collier Ranch, baz=154	42.86	339	P	P	21 13 23.8	+0.5
Y35A	Marietta baz=156	43.04	340	P	P	21 13 25.9	+1.1
X38A	Whitesboro baz=159	43.04	343	P	P	21 13 25.6	+0.9
W40A	Ferguson Farm, baz=162	43.05	345	P	P	21 13 24.6	-0.2
Z33A	Whitaker Ranch baz=153	43.10	338	P	P	21 13 26.4	+1.1
X37A	Clayton baz=158	43.13	342	P	P	21 13 24.7	-0.8
V42A	Cord baz=164	43.24	347	P	P	21 13 26.3	0.0
W39A	Magazine baz=161	43.24	344	P	P	21 13 27.0	+0.6
W38A	Poteau baz=160	43.33	343	P	P	21 13 27.3	+0.3
Y34A	Reagan Ranch, baz=155	43.33	339	P	P	21 13 27.9	+0.8
V41A	Mountainview baz=163	43.40	346	P	P	21 13 27.6	-0.1
X36A	Centrahoma baz=157	43.42	341	P	P	21 13 28.9	+1.1
X35A	Drake baz=156	43.47	340	P	P	21 13 28.8	+0.6
PVMO	Portageville 646nm,0.3s	43.49	349	eP	P	21 13 26.4	-1.9
V40A	Witts Springs baz=162	43.57	346	P	P	21 13 28.8	-0.2
W37B	Quinton baz=159	43.66	342	P	P	21 13 30.2	+0.4
Y33A	Hilltop Ranch, baz=154	43.69	338	P	P	21 13 31.0	+1.0
U42A	Revenden baz=165	43.73	348	P	P	21 13 30.2	-0.1
V39A	Pettigrew baz=161	43.81	345	P	P	21 13 31.2	+0.2
U41A	Viola baz=164	43.88	347	P	P	21 13 32.3	+0.8
W36A	Wetumka baz=158	43.90	342	P	P	21 13 31.8	+0.2
X34A	Smith Ranch, M baz=155	43.94	340	P	P	21 13 32.7	+0.7
V38A	Canehill baz=160	44.04	344	P	P	21 13 32.9	+0.1
U40A	Yellville baz=163	44.11	346	P	P	21 13 33.6	+0.3
V37A	Hulbert baz=159	44.27	343	P	P	21 13 34.6	0.0
U39A	Green Forest baz=162	44.29	345	P	P	21 13 34.6	-0.2
X32A	Elmer baz=153	44.30	338	P	P	21 13 35.7	+0.8
WMOK	Wichita Mounta baz=154	44.40	339	P	P	21 13 36.4	+0.7
WMOK	Wichita Mounta 7.6nm,1.2s	44.40	339	eP	P	21 13 35.7	-0.1
V36A	Jenks baz=158	44.41	342	P	P	21 13 36.1	+0.4
TUL1	Leonard baz=158	44.48	342	P	P	21 13 36.4	+0.1
W34A	Bridge Creek, baz=156	44.50	340	P	P	21 13 37.0	+0.5
T41A	Mountain View baz=164	44.51	347	P	P	21 13 36.3	-0.2
S45A	Carrier Mills baz=169	44.54	351	P	P	21 13 35.8	-1.0
RCBR	Riachuelo 45nm,1.5s	44.56	92	eP	P	21 13 35.9	-1.6
U38A	Gravette baz=160	44.58	344	P	P	21 13 37.1	+0.1
W33A	Caddo, Fort Co baz=155	44.66	339	P	P	21 13 38.4	+0.6
S44A	Carbondale baz=168	44.66	350	P	P	21 13 37.1	-0.7
V35A	Meyer Ranch, C baz=157	44.67	341	P	P	21 13 38.2	+0.4
MNTX	Cornudas Mount baz=144,SNR=5.7	44.67	330	P	P	21 13 40.0	+2.0
MNTX	Cornudas Mount 8.6nm,1.1s	44.67	330	eP	P	21 13 38.6	+0.7
U37A	Salina baz=160	44.75	343	P	P	21 13 38.7	+0.2
T40A	Mansfield baz=163	44.78	347	P	P	21 13 38.8	0.0
T39A	Clever baz=162	44.87	346	P	P	21 13 39.7	+0.3
U36A	Oologah baz=159	44.91	343	P	P	21 13 40.9	+1.2
W32A	Sentinel baz=154,SNR=5.7	44.92	338	P	P	21 13 40.0	+0.2
V34A	Guthrie baz=156	44.96	341	P	P	21 13 40.1	0.0
S41A	Jillco Farms, baz=164	45.03	348	P	P	21 13 41.0	+0.3
T38A	Diamond baz=161	45.11	345	P	P	21 13 41.5	+0.1
R44A	Waltonville baz=168	45.17	351	P	P	21 13 41.2	-0.6
V33A	Lossen Ranch, baz=155	45.20	340	P	P	21 13 42.0	-0.1
S40A	Lebanon baz=163	45.21	347	P	P	21 13 41.7	-0.4
MSTX	Muleshoe baz=148	45.33	334	P	P	21 13 43.4	+0.2
MSTX	Muleshoe 14nm,1.0s	45.33	334	eP	P	21 13 44.0	+0.8
T37A	Cheneyville 18 baz=160	45.36	344	P	P	21 13 43.3	0.0
V32A	Arapaho baz=154	45.38	339	P	P	21 13 43.9	+0.4
S39A	Bolivar baz=162,SNR=5.4	45.49	346	P	P	21 13 43.7	-0.6
S38A	Stockton baz=162	45.58	345	P	P	21 13 44.7	-0.3
T35A	Sooner Cattle baz=158	45.63	342	P	P	21 13 45.7	+0.2
AMTX	Amarillo baz=150	45.65	336	P	P	21 13 46.0	+0.3
Q44A	Meyer Farm, Va baz=168	45.81	351	P	P	21 13 45.9	-0.9
R40A	Maddies Statio baz=164	45.82	347	P	P	21 13 46.6	-0.3
S37A	Fort Scott baz=160	45.94	344	P	P	21 13 47.9	+0.1
T34A	McClaskey Farm baz=157	45.94	342	P	P	21 13 47.9	0.0
R38A	Fenwick Farm, baz=162	46.10	346	P	P	21 13 48.7	-0.4
S36A	Lake Cedric, C baz=159	46.11	344	P	P	21 13 48.9	-0.3
S35A	Otter Creek Ra baz=158	46.28	343	P	P	21 13 50.3	-0.3
Q40A	Laux Farm, Aux baz=164,SNR=5.2	46.45	348	P	P	21 13 51.8	-0.1
R37A	Teagarden Farm baz=160	46.46	345	P	P	21 13 51.4	-0.5
319A	Douglas 8.7nm,0.8s	46.49	326	eP	P	21 13 52.8	+0.4
S34A	Willow Spring baz=157	46.54	342	P	P	21 13 52.6	0.0
121A	Cookes Peak, D baz=142	46.57	328	P	P	21 13 52.5	-0.7
T32A	Huddler Ranch, baz=155	46.65	340	P	P	21 13 54.0	+0.5
Q39A	Willow Grove F baz=163	46.70	347	P	P	21 13 53.4	-0.4
Q38A	Cooks Store, C baz=162,SNR=5.8	46.77	346	P	P	21 13 54.1	-0.2
R35A	Emporia Munici baz=159	46.84	343	P	P	21 13 54.9	-0.1
Q37A	Longview Farm, baz=161	46.89	345	P	P	21 13 55.5	+0.1
SSPA	Standing Stone 11nm,1.1s	46.96	3	eP	P	21 13 55.7	-0.1
P40A	Paris baz=165	46.97	348	P	P	21 13 55.5	-0.3
P39B	Salisbury baz=164	47.07	347	P	P	21 13 56.4	-0.3
R34A	Isabella, Hill baz=157	47.13	342	P	P	21 13 57.3	+0.1
N54A	Moraine State baz=181	47.22	1	P	P	21 13 57.0	-0.9
Q35A	Mercer Eighty, baz=159	47.30	344	P	P	21 13 58.4	-0.1
O41A	Passleys Farm, baz=166	47.30	349	P	P	21 13 57.7	-0.8
P38A	Dawn baz=163	47.38	347	P	P	21 13 58.5	-0.6
N59A	State Game Lan baz=187	47.39	5	P	P	21 13 59.2	0.0
O40A	La Belle baz=165	47.50	348	P	P	21 13 59.6	-0.4
P37A	Lathrop baz=162	47.54	346	P	P	21 13 59.9	-0.4
Q34A	Chapman baz=158	47.61	343	P	P	21 14 01.1	+0.1
KSU1	Kansas State U baz=158	47.68	343	P	P	21 14 00.7	-0.7
O39A	Kirksville baz=164	47.77	348	P	P	21 14 01.7	-0.4
M54A	Oil Creek Stat baz=181	47.77	1	P	P	21 14 01.4	-0.7
P36A	Good Intent, A baz=160	47.79	345	P	P	21 14 01.6	-0.7
ANMO	Albuquerque baz=144	47.82	331	P	P	21 14 04.3	+1.4
ANMO	Albuquerque 5.8nm,0.8s	47.82	331	eP	P	21 14 03.7	+0.8
P35A	Duane Minner, baz=159	47.92	344	P	P	21 14 02.8	-0.5
Q33A	Connelly Farm, baz=157	47.95	342	P	P	21 14 04.2	+0.6
O37A	Wolven Farm, M baz=162	48.04	346	P	P	21 14 03.5	-0.7
Q32A	Meitler Ranch, baz=156	48.17	341	P	P	21 14 04.7	-0.6
N39A	Derby Farms, D baz=164,SNR=6.1	48.35	348	P	P	21 14 06.0	-0.6
N38A	Joes South For baz=163	48.43	347	P	P	21 14 06.8	-0.5
N37A	Lee Faris, Mou baz=162	48.62	346	P	P	21 14 08.4	-0.2
BINY	Binghamton 18nm,1.2s	48.64	5	eP	P	21 14 08.5	-0.3
O34A	Beatrice baz=159	48.71	344	P	P	21 14 08.9	-0.6
T25A	Trinidad baz=148	48.72	335	P	P	21 14 11.3	+1.5
T25A	Trinidad 7.9nm,0.9s	48.72	335	eP	P	21 14 11.5	+1.7
N36A	Muff Farm, Cla baz=161	48.85	346	P	P	21 14 11.7	+1.2
M39A	Webster baz=165	48.87	349	P	P	21 14 09.5	-1.0
M38A	Pleasantville baz=164	49.02	348	P	P	21 14 11.1	-0.6
L41A	Preston baz=167	49.14	350	P	P	21 14 11.5	-1.2
M37A	Trindle Farm, baz=162	49.20	347	P	P	21 14 12.3	-0.8
L40A	Anamosa baz=166	49.25	350	P	P	21 14 13.0	-0.5
N34A	Lincoln baz=159	49.27	344	P	P	21 14 13.5	-0.2
M36A	Felix, Anita baz=162	49.42	346	P	P	21 14 14.0	-0.8
L39A	Vinton baz=165	49.46	349	P	P	21 14 14.0	-1.0
L38A	Oak Wood Farm, baz=164,SNR=5.4	49.66	348	P	P	21 14 16.1	-0.6
SDCO	Great Sand Dun baz=147	49.70	334	P	P	21 14 17.5	+0.1
SDCO	Great Sand Dun 4.9nm,0.9s	49.70	334	eP	P	21 14 18.1	+0.8
L37A	Phoenix Point, baz=163	49.82	347	P	P	21 14 17.7	-0.1
K40A	Colesburg baz=166,SNR=11	49.86	350	P	P	21 14 17.1	-1.0
M34A	Aspy Farms, Fr baz=159	49.91	344	P	P	21 14 17.5	-1.1
K39A	Oelwein baz=166	50.00	349	P	P	21 14 18.3	-0.8
K38A	Parkersburg baz=164	50.11	348	P	P	21 14 19.3	-0.7
BGNE	Belgrade baz=157	50.26	343	P	P	21 14 21.0	-0.2
J41A	Loganville baz=168	50.32	351	P	P	21 14 20.2	-1.5
K37A	Belmond baz=163,SNR=5.9	50.41	348	P	P	21 14 21.4	-0.9
K36A	Gilmore City baz=162	50.46	347	P	P	21 14 23.5	+0.8
J40A	Soldiers Grove baz=167	50.47	351	P	P	21 14 22.7	-0.1
Y14A	Wickenburg 22nm,0.9s	50.49	325	eP	P	21 14 23.6	+0.4
Q24A	Divide baz=148	50.57	335	P	P	21 14 24.2	+0.2
J39A	Decorah baz=166,SNR=5.6	50.58	350	P	P	21 14 22.2	-1.3
MVCO	Mesa Verde baz=143	50.62	331	P	P	21 14 21.8	-2.5
WUAZ	Wupatki baz=139	50.76	328	P	P	21 14 25.1	-0.2
WUAZ	Wupatki 4.6nm,0.8s	50.76	328	eP	P	21 14 28.7	+3.4
J37A	Redenius Farm, baz=164	50.91	348	P	P	21 14 25.9	-0.2
J36A	Seneca 1, Swea baz=163	51.09	347	P	P	21 14 26.8	-0.7
Y12C	Blythe baz=135	51.24	324	P	P	21 14 28.6	-0.2
I38A	Scanlan Farm, baz=165	51.37	349	P	P	21 14 28.5	-1.0
ISCO	Idaho Springs baz=148	51.47	336	P	P	21 14 31.2	+0.5
I37A	Lemond, Waseca baz=164	51.55	348	P	P	21 14 29.8	-1.1
J33A	Davis baz=159	51.71	345	P	P	21 14 31.6	-0.5
W13A	Hualapai Mount 6.2nm,1.0s	51.84	325	eP	P	21 14 34.5	+1.1
ECSD	EROS Data Cent baz=160,SNR=6.0	52.01	345	P	P	21 14 33.4	-0.9
ECSD	EROS Data Cent 4.6nm,0.6s	52.01	345	eP	P	21 14 33.5	-0.8
H36A	Jessenland, He baz=163	52.20	348	P	P	21 14 35.0	-0.7
I33A	Coleman baz=160	52.35	345	P	P	21 14 35.9	-1.0
H35A	Sunnyside Ranc baz=162	52.51	347	P	P	21 14 37.3	-0.7
PKME	Peaks-Kenny Pk 8.9nm,0.9s	52.53	10	eP	P	21 14 38.9	+0.8
SPMN	Marine on St. baz=165	52.60	349	P	P	21 14 38.1	-0.6
SPMN	Marine on St. 16nm,0.9s	52.60	349	eP	P	21 14 38.2	-0.4
H34A	Spellman Lake, baz=161	52.69	347	P	P	21 14 38.3	-1.0
H33A	Prehn Over Nor baz=160	52.93	346	P	P	21 14 40.2	-0.9
HEC	Hector,Ludlow baz=134	53.07	323	P	P	21 14 42.1	-0.3
F36A	Milaca baz=164,SNR=5.6	53.35	349	P	P	21 14 43.1	-1.1
MSU	Marysvale	53.45	329	eP	P	21 14 44.5	-0.9
SHPR	Sheep Range 4.4nm,1.1s	53.56	326	eP	P	21 14 45.9	-0.3
F34A	Alexandria baz=162	53.64	347	P	P	21 14 46.1	-0.2
G32A	Webster baz=159	53.66	345	P	P	21 14 45.7	-0.8
E37A	Wrenshall baz=166	53.83	350	P	P	21 14 47.6	-0.1
F33A	5 Mile Ranch, baz=161	53.91	347	P	P	21 14 47.6	-0.7
E36A	McGregor baz=165	53.93	349	P	P	21 14 47.0	-1.4
EDW2	Edwards Air Fo baz=132	54.10	322	P	P	21 14 52.3	+2.3
E35A	Pequot Lakes baz=163	54.19	348	P	P	21 14 49.5	-0.8
K22A	Casper baz=148	54.24	337	P	P	21 14 50.8	-0.2
K22A	Casper 7.3nm,0.8s	54.24	337	eP	P	21 14 51.6	+0.6
E34A	Wadena baz=162	54.31	348	P	P	21 14 50.4	-0.8
D37A	Cotton baz=166,SNR=6.5	54.41	350	P	P	21 14 51.4	-0.4
F31A	Hecla baz=158	54.41	345	P	P	21 14 51.7	-0.2
RSSD	Black Hills baz=151	54.59	340	P	P	21 14 53.6	0.0
RSSD	Black Hills 4.7nm,0.8s	54.59	340	eP	P	21 14 54.3	+0.7
D35A	Remer baz=164	54.62	349	P	P	21 14 52.9	-0.5
RKT	Rikitea 40nm,0.3s	54.66	246	eT	T	22 13 32.9	
C39A	Grand Marais baz=168	54.70	352	P	P	21 14 53.4	-0.6
C38A	Sawbill Land. baz=167	54.77	351	P	P	21 14 53.3	-1.2
D34A	Park Rapids baz=162	54.86	348	P	P	21 14 54.6	-0.6
H25A	Fruitdale baz=152	54.88	340	P	P	21 14 55.4	0.0
C37A	Embarrass baz=166,SNR=23	54.92	351	P	P	21 14 55.3	-0.3
E31A	Nome baz=159	54.97	346	P	P	21 14 55.2	-0.7
EYMN	Ely baz=167,SNR=5.4	55.02	351	P	P	21 14 55.7	-0.6
EYMN	Ely 9.5nm,0.8s	55.02	351	eP	P	21 14 55.7	-0.6
DUG	Dugway, Tooele baz=140	55.05	330	P	P	21 14 57.9	+1.0
C36A	Pine Crest Far baz=165,SNR=16	55.06	350	P	P	21 14 56.5	-0.1
R11A	Troy Canyon, C baz=136	55.12	327	P	P	21 14 58.1	+0.6
C35A	Jirik Farms, M baz=162	55.20	349	P	P	21 14 56.8	-0.8
E29A	Napoleon baz=157	55.43	344	P	P	21 14 59.1	-0.3
HWUT	Hardware Ranch 14nm,0.9s	55.55	332	eP	P	21 15 01.0	+0.5
BW06	Boulder Array baz=145	55.59	335	P	P	21 15 00.5	-0.3
BW06	Boulder Array	55.59	335	eP	P	21 15 00.4	-0.4
PD31	Pinedale Array	55.59	335	eP	P	21 14 59.9	-0.9
PDAR	Pinedale Array 1.9nm,0.8s,baz=122,slow=5.4,SNR=12	55.59	335	P	P	21 14 59.9	-0.9
C33A	Trail baz=162	55.62	348	P	P	21 15 01.4	+0.8
B35A	Bob, Littlefor baz=164,SNR=6.5	55.79	350	P	P	21 15 01.0	-0.9
D29A	Pettibone, Tap baz=157	55.88	345	P	P	21 15 02.1	-0.4
B33A	Robert and Kas baz=162	56.07	348	P	P	21 15 03.6	-0.2
B34A	Aery, Baudette baz=163,SNR=7.8	56.09	349	P	P	21 15 03.5	-0.4
C31A	Landman Farms, baz=160	56.09	346	P	P	21 15 03.2	-0.8
AGMN	Agassiz Nation baz=162,SNR=20	56.15	348	P	P	21 15 04.1	-0.3
AGMN	Agassiz Nation 20nm,0.8s	56.15	348	eP	P	21 15 04.3	-0.1
B32A	Ashes, Strandq baz=161,SNR=6.6	56.38	347	P	P	21 15 05.9	-0.2
D26A	Manning baz=154	56.65	342	P	P	21 15 07.8	-0.3
A33A	Warroad baz=162	56.66	348	P	P	21 15 07.0	-1.0
B30A	Myrvik Farm, E baz=159	56.85	346	P	P	21 15 08.8	-0.6
A32A	Rocking H Ranc baz=161	56.87	348	P	P	21 15 08.5	-1.0
A30A	Hoffart Farm, baz=159	57.30	346	P	P	21 15 11.9	-0.7
YPP	Pitchstone Pla 3.2nm,0.9s	57.34	335	eP	P	21 15 13.1	-0.2
A29A	Manning Farm, baz=158,SNR=7.2	57.51	346	P	P	21 15 13.5	-0.5
LAO	LASA Array baz=150	57.58	339	P	P	21 15 13.4	-1.3
ULM	Lac du Bonnet 11nm,0.7s,baz=157,slow=7.6,SNR=11	58.01	349	P	P	21 15 16.2	-1.3
HLID	Hailey baz=140,SNR=6.7	58.40	332	P	P	21 15 21.1	+0.5
HLID	Hailey 9.3nm,1.1s	58.40	332	eP	P	21 15 21.6	+1.0
A25A	Svangstu Ranch baz=154	58.57	343	P	P	21 15 20.5	-1.0
MCMT	McKenzie Canyo	58.66	334	eP	P	21 15 23.6	+1.0
BOZ	Bozeman (W) baz=143,SNR=5.7	58.79	335	P	P	21 15 23.1	-0.2
BOZ	Bozeman (W) 3.6nm,0.8s	58.79	335	eP	P	21 15 23.6	+0.3
TAOE	Nuku Hiva Isla 216nm,25.5s	58.88	264	eLR	LR	21 32 37.3	
MFID	Camas Ranch 12nm,0.9s	58.96	331	eP	P	21 15 25.1	+0.6
LRM	Limekiln Ridge	59.28	335	eP	P	21 15 27.2	+0.4
KCPM	Cahto Peak 13µm,0.6s	60.61	323	eP	P	21 15 36.3	+0.4
KCPM				ePcP	PcP	21 16 21.5	+1.5
MSO	Missoula baz=142	60.71	334	P	P	21 15 36.8	+0.4
MSO	Missoula 4.1nm,0.8s	60.71	334	eP	P	21 15 37.2	+0.8
K05A	Summer Lake 9.2nm,0.9s	61.07	327	eP	P	21 15 38.5	-0.6
F10A	Beach Ranch, E 8.3nm,0.9s	61.53	332	eP	P	21 15 43.4	+1.4
J05D	Fort Rock, OR baz=133	61.63	327	P	P	21 15 43.5	+0.7
G08A	Pilot Rock 7.8nm,0.9s	61.87	330	eP	P	21 15 45.1	+0.8
WALA	Waterton Lakes 5.3nm,0.7s	62.45	336	eP	P	21 15 48.8	+0.6
D08A	Wollman Farm, 6.6nm,0.7s	63.12	332	eP	P	21 15 56.2	+3.7
LON	Longmire 3.0nm,0.8s	64.30	330	eP	P	21 16 01.1	+0.7
A04D	Lummi Island baz=133	66.10	331	P	P	21 16 11.0	-0.8
PPT	Papeete comp=Z,198nm,18.1s,baz=13,slow=29	67.93	254	LR	LR	21 38 35.9	
PPT2	Papeete2 272nm,24.8s	67.93	254	eLR	LR	21 36 52.7	
TBI	Tubuai 171nm,28.0s	67.94	248	eLR	LR	21 36 51.8	
TBI	Tubuai 30nm,0.9s	67.94	248	eT	T	22 30 09.8	
YKA	Yellowknife Ar 1.7nm,0.7s,baz=139,slow=5.3,SNR=9.0	73.52	344	P	P	21 16 56.0	-1.2

YKA	Yellowknife Ar	73.52	344	P	P	21	16	56.0 -1.2
YKB5	Yellowknife Ar	73.52	344	*e*P	P	21	16	56.0 -1.2
DLBC	Dease Lake	75.79	336	*e*P	P	21	17	10.9 +0.3
	5.8nm,0.9s							
DBIC	Dimbokro	76.82	82	P	P	21	17	17.6 +0.3
	5.8nm,0.8s,baz=263,slow=7.9,SNR=5.0							
DBIC	Dimbokro	76.82	82	*e*P	P	21	17	17.6 +0.3
	40nm,1.6s							
SNAA	Sanae	80.08	162	P	P	21	17	33.8 -0.4
SNAA	Sanae	80.08	162	*e*P	P	21	17	34.1 -0.1
	7.9nm,0.8s							
SUMG	Summit	83.42	12	*e*P	P	21	17	52.3 +0.1
	7.5nm,1.0s							
QSPA	South Pole Qui	83.61	180	*e*P	P	21	17	53.3 +0.3
	9.8nm,1.0s							
ESDC	Sonseca Array	84.02	49	P	P	21	17	56.9 +1.4
	3.3nm,0.8s,baz=271,slow=4.8,SNR=21							
ESLA	Sonseca Array	84.02	49	*e*P	P	21	17	56.9 +1.4
	4.9nm,0.8s							
ES19	SONSECA Array	84.07	49	*e*P	P	21	17	56.8 +1.0
ILAR	Eielson Array	85.94	337	P	P	21	18	03.2 -1.3
	0.2nm,0.6s,baz=152,slow=3.1,SNR=2.8							
ILB	Eielson Array	85.94	337	*e*P	P	21	18	03.2 -1.3
BPAW	Bear Paw Mtn.	87.33	336	*e*P	P	21	18	11.1 -0.3
	4.1nm,1.0s							
COLD	Coldfoot	88.15	339	*e*P	P	21	18	16.0 +0.8
	6.7nm,1.4s							
EKA	Eskdalemuir Ar	88.27	34	P	P	21	18	15.9 -0.1
	4.9nm,0.8s,baz=266,slow=3.3,SNR=10							
VNDA	Vanda	89.43	191	P	P	21	18	21.0 -0.1
	1.3nm,0.8s,baz=272,slow=1.2,SNR=5.9							
DAG	Danmarks Havn	90.11	12	*i* P	P	21	18	24.0 -0.2
	5.0nm,0.9s							
KEST	Kesra	93.80	55	LR	LR	22	01	39.6
	comp=Z,347nm,18.6s,baz=135,slow=36							
H11N3	WAKE ISLAND Hyd	13.19	289	T	T	23	26	45.7
	baz=90,slow=75,SNR=57							
H11N2	WAKE ISLAND Hyd	13.20	289	T	T	23	26	49.0
	baz=90,slow=75,SNR=32							
H11N1	WAKE ISLAND Hyd	13.20	289	T	T	23	26	54.6
	baz=90,slow=75,SNR=87							
H11S2	WAKE ISLAND Hyd	13.40	287	T	T	23	27	12.0
	baz=90,slow=75,SNR=208							
H11S1	WAKE ISLAND Hyd	13.41	287	T	T	23	27	04.5
	baz=90,slow=75,SNR=104							
H11S3	WAKE ISLAND Hyd	13.42	287	T	T	23	27	06.7
	baz=90,slow=75,SNR=118							
BVAR	Borovoye Array	127.95	22	PKP	PKPdf	21	24	30.7 +0.2
	1.0nm,0.7s,baz=222,slow=1.9,SNR=5.1							
ZAA1	Zalesovo Array	131.24	11	*e*PKPdf	PKPdf	21	24	36.4 -0.4
ZALV	Zalesovo Beam	131.24	11	PKP	PKPdf	21	24	36.4 -0.4
	1.4nm,0.4s,baz=270,slow=2.9,SNR=4.7							
GEYT	Alibeck	131.32	44	PKP	PKPdf	21	24	37.7 +0.3
	1.2nm,0.6s,baz=298,slow=4.3,SNR=4.0							
KURK	Kurchatov	132.66	18	*e*PKPdf	PKPdf	21	24	39.1 -0.3
KURBB	Kurchatov Arra	132.72	18	PKP	PKPdf	21	24	39.2 -0.4
	2.4nm,0.2s,baz=327,slow=2.2,SNR=4.6							
AS31	Alice Springs	134.82	227	*e*PKPdf	PKPdf	21	24	43.6 -0.8
ASAR	Alice Springs	134.82	227	PKP	PKPdf	21	24	43.6 -0.8
	1.3nm,0.9s,baz=119,slow=2.3,SNR=10							
H01W1	Cape Leeuwin H	136.51	198	T	T	23	56	56.4
	baz=154,slow=76,SNR=11							
H01W2	Cape Leeuwin H	136.51	198	T	T	23	56	56.6
	baz=154,slow=76,SNR=15							
H01W3	Cape Leeuwin H	136.53	198	T	T	23	56	57.6
	baz=154,slow=76,SNR=14							
WR1	Warramunga Arr	136.64	232	*e*PKPdf	PKPdf	21	24	46.5 -1.4
WRA	Warramunga Arr	136.64	232	PKP	PKPdf	21	24	46.5 -1.4
	1.9nm,0.9s,baz=123,slow=1.7,SNR=8.7							
MK32	Makanchi Array	137.26	17	*e*PKPdf	PKPdf	21	24	47.6 -0.7
MKAR	Makanchi Array	137.26	17	PKP	PKPdf	21	24	47.6 -0.7
	1.1nm,0.8s,baz=277,slow=2.3,SNR=4.4							
SONA0	Songino Array	138.35	353	*e*PKPdf	PKPdf	21	24	49.5 -0.9
SONM	Songino Array	138.35	353	PKP	PKPdf	21	24	49.5 -0.9
	1.0nm,0.8s,baz=325,slow=1.8,SNR=2.8							
KSH	Kashi	140.99	29	*e*PKP	PKPdf	21	24	57.3 +1.8
KSH				sPKP		21	25	12.0
KSH				PP	PP	21	28	03.0 +7.3
KSH				PKS	PKSdf	21	28	31.5 0.0
KSH				SKKS		21	34	50.8
KSH				PPMZ				
	95nm,6.4s							
KSH				LN				
	94nm,5.2s							
KSH				LE				
	67nm,5.0s							
KSH				LZ				
	140nm,7.4s							
WMQ	Urumqi	141.45	13	PKP	PKPdf	21	24	55.5 -0.6
WMQ				LZ				
	21nm,17.5s							
HHC	Hu-ho-hao-te	144.06	344	*e*PKP	PKPdf	21	25	01.5 +0.7
GTA	Gaotai	147.22	359	‖PKPbc	PKPbc	21	25	08.3 -0.2
GTA				pPKP	pPKPdf	21	25	16.5 -1.3
GTA				sPKP		21	25	20.5
GTA				LN				
	170nm,18.1s							
GTA				LE				
	180nm,18.5s							
GTA				LZ				
	190nm,20.7s							
QIZ	Qiongzhong	163.83	321	PKP	PKPdf	21	25	27.0 -1.8
QIZ				PP	PP	21	30	05.8 0.0
QIZ				SS	SS	21	50	32.3 +0.3
CM31	Chiang Mai Arr	168.09	2	*e*PKPab	PKPab	21	26	39.3 -0.4
CMAR	Chiang Mai Arr	168.09	2	PKPab	PKPab	21	26	39.3 -0.4
	0.7nm,0.8s,baz=326,slow=4.4,SNR=3.9							

MAN 27 21:05:30.6˝61N×124°67E,h26km,mb4.6,ML3.5,MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	1.77	314	*e*P	Pn	21 06 00.1	+1.1
PAGZ				*e*S	Sn	21 06 21.9	+1.2
IPIL	Ipil	2.39	299	*e*P	Pn	21 06 08.2	+0.7
IPIL				*e*S	Sb	21 06 39.0	-2.4

*BJI **27** 21:13:53.7,38°47N×28°81E,h10km,mb4.7/44,mB5.0/34, Ms4.6/21,Ms7 4.4/11*

*NSSC **27** 21:13:55.1±1.7,38°72N×28°30E,h0km±147km,ML3.4*

*IDC **27** 21:13:58.3±0.6,39°08N×28°96E,h0km,mb4.4/30, mb1 4.5/43,mb1mx4.4/57,mbtmp4.4/43,ML3.9/12, MS4.1/23,Ms1 4.1/23,ms1mx3.9/55,Error ellipse: s-maj=11.5km s-min=8.4km az=17.0*

*NEIC **27** 21:13:58.8,39°11N×29°03E,h10km,mb4.7/39,MW4.7, ML4.9(ISK),Moment Tensor Solution. s30 Moment tensor: Scale 10¹⁶Nm; Mrr=1.18; Mθθ=1.27; Mφφ=-0.09; Mrθ=0.20; Mθφ=-0.59; Mφr=0.76; Best double couple: M=1.60000×10¹⁶ NP1:φ=86.00000°,δ41.00000°, λ=-131.00000°. NP2:φ=315.00000°,δ60.00000°, λ=-60.00000°. Principal axes: T 1.5700, Plg10.0000°, Azm24.0000°; N 0.0000, Plg26.0000°, Azm119.0000°; P -1.5700, Plg62.0000°, Azm274.0000°; After ISK.*

NEIC Felt [II] at Eskisehir and Izmir. Also felt at Akhisar, Bursa, Cesme, Gediz, Golcuk, Karamursel, Kutahya, Mudanya and Simav.

*MOS **27** 21:13:58.6±1.2,39°17N×29°06E,h11km,mb4.8/41, MS4.0/30 Error ellipse: s-maj=4.7km s-min=3.1km az=94.6*

*HLW **27** 21:13:58.0,39°22N×29°40E,h33km±12km,Md4.8*

*ISK **27** 21:13:58.6,39°12N×29°02E,h9km,ML4.9*

*ISCJB **27** 21:13:59.0±0.3,39°116N±0°009×29°03E±0°01, h14km±1km,mb4.6/76,MS4.1/20,Error ellipse: s-maj=1.6km s-min=1.3km az=33.5*

*DDA **27** 21:13:58.5,39°11N×29°03E,h18km,Ml5.0*

*GCMT **27** 21:13:58.8±0.4,39°07N×29°13E,h19km±1km,MW5.0/76, Moment Tensor Solution. s27,c33; s76,c111; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.58±.29; Mθθ=3.22±..19; Mφφ=0.36±.16; Mrθ=0.20±.32; Mθφ=-1.56±.12; Mφr=1.61±.40; Best double couple: M=4.08700×10¹⁶ NP1:φ=313.00000°,δ55.00000°,λ=-66.00000°; NP2: φ=95.00000°,δ42.00000°,λ=-120.00000°. Principal axes: T 4.0030, Plg7.0000°, Azm26.0000°; N 0.1710, Plg19.0000°, Azm118.0000°; P -4.1700, Plg69.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISN **27** 21:13:59.9±0.7,39°15N×29°21E,h0km±66km,ML4.8*

*THE **27** 21:14:00.2,39°15N×29°01E,h2km,ML4.7/11,Error ellipse: s-maj=1.1km s-min=0.5km az=81.0*

*CSEM **27** 21:14:00.0±0.1,39°11N×29°02E,h10km,mb4.8/31,Mw4.7, Error ellipse: s-maj=1.7km s-min=1.4km az=39.0*

*SOF **27** 21:14:04.2,39°56N×28°72E,h2km,MD3.8*

*GII **27** 21:14:04.3±0.0,38°61N×29°05E,h1km,mb4.4/4,MD4.2/4*

*NIC **27** 21:14:04.3±0.5,39°02N×29°04E,h81km±5,mb5.1,ML4.8*

ISC 27 21:14:00.2±0.7,**39°14N**±0°02×**29°04E**±0°01,**h13**km±4km, **n913,σ1ş43/1050,mb4.7/76,MS4.1/20,63C-46D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.27	249	P	Pg	21 14 04.4	-1.4
DEMI				S	Sg	21 14 08.0	-1.6
DEMI	Demirci	0.27	249	⇑*i* P	Pg	21 14 04.4	-1.4
DEMI				*i* S	Sg	21 14 08.0	-1.6
GEDZ	Gediz	0.30	108	PG	Pg	21 14 05.6	-0.9
GEDZ				SG	Sg	21 14 10.6	-0.1
GEDZ	Gediz	0.30	108	*i* Pg	Pg	21 14 05.6	-0.9
GEDZ				*i* Sg	Sg	21 14 10.6	-0.1
GDZ	Gediz	0.35	98	P	Pg	21 14 06.2	-1.1
GDZ				S	Sg	21 14 11.4	-0.7
GDZ	Gediz	0.35	98	⇑*i* P	Pg	21 14 06.2	-1.1
GDZ				*i* S	Sg	21 14 11.4	-0.7
TVSB	Tavsanli	0.45	46	PG	Pg	21 14 08.3	-0.9
TVSB				SG	Sg	21 14 15.0	-0.3
TVSB	Tavsanli	0.45	46	*i* Pg	Pg	21 14 08.3	-0.9
TVSB				*i* Sg	Sg	21 14 15.0	-0.3
KULA	Kula-Manisa	0.69	205	PG	Pg	21 14 11.8	-1.8
KULA				SG	Sg	21 14 21.1	-1.5
KULA	Kula-Manisa	0.69	205	P	Pg	21 14 11.8	-1.8
KULA				S	Sg	21 14 21.1	-2.3
KULA	Kula-Manisa	0.69	205	P	Pg	21 14 11.8	-1.8
KULA				S	Sg	21 14 20.3	-2.3
KULA				*i* Sg	Sg	21 14 21.1	-1.5
MANT	Manisa	0.75	210	P	Pg	21 14 12.1	-2.6
MANT				S	Sg	21 14 22.1	-2.4
MANT	Manisa	0.75	210	⇑*i* P	Pg	21 14 12.2	-2.6
MANT				*i* S	Sg	21 14 22.1	-2.4
KHL	Karahalli	0.90	155	PG	Pg	21 14 16.1	-1.4
KHL	Karahalli	0.90	155	*i* Pg	Pg	21 14 16.1	-1.4
AKS	Akhisar	0.99	255	PG	Pb	21 14 17.8	-1.4
AKS	Akhisar	0.99	255	*i* Pg	Pb	21 14 17.8	-1.4
BALB	Balikesir	1.03	300	PG	Pb	21 14 19.2	-0.7
BALB				SG	Sg	21 14 33.7	+0.3
BALB	Balikesir	1.03	300	*i* Pg	Pb	21 14 19.2	-0.7
BALB				*i* Sg	Sg	21 14 33.7	+0.3
IGD	Bursa	1.13	6	⇑*i* P	Pb	21 14 19.4	-2.3
IGD				*i* S	Sn	21 14 38.5	+1.3
CAVI	Cavuskoy	1.23	30	*e*PN	Pn	21 14 22.4	-0.8
CAVI	Cavuskoy	1.23	30	*e*Pn	Pn	21 14 22.4	-0.8
MDNY	Mudanya-Bursa	1.24	355	PN	Pn	21 14 22.6	-0.6
MDNY	Mudanya-Bursa	1.24	355	*i* Pn	Pn	21 14 22.6	-0.6
KCTX	Karacabey (Bur	1.24	335	*e*PN	Pn	21 14 23.0	-0.4
KCTX	Karacabey (Bur	1.24	335	*e*Pn	Pn	21 14 23.0	-0.4
IZI	Iznik	1.25	16	*e*PN	Pn	21 14 22.9	-0.5
IZI	Iznik	1.25	16	*e*Pn	Pn	21 14 22.9	-0.5
BALY	Balya	1.25	299	P	Pn	21 14 23.1	-0.4
BALY				S	Sb	21 14 39.7	-0.1
BALY	Balya	1.25	299	‖*i* P	Pn	21 14 23.1	-0.4
BALY				*i* S	Sb	21 14 39.7	-0.1
GEMT	Gemlik	1.30	5	*e*PN	Pn	21 14 24.0	-0.2
GEMT	Gemlik	1.30	5	*e*Pn	Pn	21 14 24.0	-0.2
BORA	Eskisehir	1.32	55	P	Pn	21 14 23.7	-0.8
BORA				S	Sg	21 14 42.8	-0.1
BORA	Eskisehir	1.32	55	⇑*i* P	Pn	21 14 23.7	-0.8
BORA				*i* S	Sg	21 14 42.8	-0.1
DENT	Denizli	1.38	180	*e*PN	Pn	21 14 24.1	-1.2
DENT	Denizli	1.38	180	*e*Pn	Pn	21 14 24.1	-1.2
GONE	Gonen-Balikesi	1.38	311	*e*PN	Pn	21 14 24.7	-0.6
GONE	Gonen-Balikesi	1.38	311	*e*Pn	Pn	21 14 24.7	-0.6
ADVT	Abdulvahap	1.40	22	*e*PN	Pn	21 14 25.5	0.0
ADVT	Abdulvahap	1.40	22	*e*Pn	Pn	21 14 25.5	0.0
ARMT	Armutlu	1.43	355	*e*PN	Pn	21 14 25.5	-0.4
ARMT	Armutlu	1.43	355	*e*Pn	Pn	21 14 25.5	-0.4
DNZL	Cakiroluk	1.45	180	P	Pn	21 14 25.1	-1.2
DNZL	Cakiroluk	1.45	180	‖*i* P	Pn	21 14 25.1	-1.2
DNZL				*i* S	Sg	21 14 48.4	+1.6
ESKT	Eskisehir	1.46	74	*e*PN	Pn	21 14 26.2	-0.2
ESKT	Eskisehir	1.46	74	*e*Pn	Pn	21 14 26.2	-0.2
ESKT	Eskisehir	1.46	74	⇑*i* P	Pn	21 14 25.6	-0.8
SEYT	Eskypehyr	1.46	74	P	Pn	21 14 25.6	-0.8
AYDB	Zeytinkoy-Aydi	1.49	217	*e*PN	Pn	21 14 25.7	-1.1
AYDB	Zeytinkoy-Aydi	1.49	217	*e*Pn	Pn	21 14 25.7	-1.1
EDC	Edincik	1.51	324	*e*PN	Pn	21 14 26.7	-0.3
EDC	Edincik	1.51	324	*e*Pn	Pn	21 14 26.7	-0.3
GPA	Golpazari	1.51	40	*e*PN	Pn	21 14 27.4	+0.3
GPA	Golpazari	1.51	40	*e*Pn	Pn	21 14 27.4	+0.3
BOLV	Bolvadin	1.55	105	P	Pn	21 14 27.7	0.0
BOLV				S	Sg	21 14 50.1	0.0
BOLV	Bolvadin	1.55	105	‖*i* P	Pn	21 14 27.7	0.0
BOLV				*i* S	Sg	21 14 50.1	0.0
IZM	Izmir	1.57	243	*e*PN	Pn	21 14 26.5	-1.4
IZM	Izmir	1.57	243	*e*Pn	Pn	21 14 26.5	-1.4
KNL	Bal¯–kesir	1.62	315	‖*i* P	Pn	21 14 27.1	-1.4
KNL				*i* S	Sb	21 14 51.1	+0.6
DKL	Dikili	1.66	268	*e*PN	Pn	21 14 28.5	-0.5
DKL	Dikili	1.66	268	*e*Pn	Pn	21 14 28.5	-0.5
GULT	Gulveren	1.72	41	*e*PN	Pn	21 14 30.2	+0.2
GULT	Gulveren	1.72	41	*e*Pn	Pn	21 14 30.2	+0.2
HRT	Hereke	1.75	16	*e*PN	Pn	21 14 29.9	-0.4
HRT	Hereke	1.75	16	*e*Pn	Pn	21 14 29.9	-0.4
AYVA	Ayvalik	1.83	276	P	Pn	21 14 30.9	-0.5
AYVA	Ayvalik	1.83	276	‖*i* P	Pn	21 14 30.9	-0.5
AYVA				*i* S	Sg	21 14 57.8	-1.3
SPNC	Sapanca-Adapaz	1.83	32	*e*PN	Pn	21 14 31.8	+0.4
SPNC	Sapanca-Adapaz	1.83	32	*e*Pn	Pn	21 14 31.8	+0.4
KRBG	Karabiga-Canak	1.84	314	*e*PN	Pn	21 14 32.0	+0.6
KRBG	Karabiga-Canak	1.84	314	*e*Pn	Pn	21 14 32.1	+0.6
MRMT	Marmara Adasi	1.84	323	*e*PN	Pn	21 14 31.4	-0.2
MRMT	Marmara Adasi	1.84	323	*e*Pn	Pn	21 14 31.4	-0.2
ISK	Istanbul-Kandi	1.93	1	*e*PN	Pn	21 14 32.2	-0.6
ISK	Istanbul-Kandi	1.93	1	P	Pn	21 14 32.3	-0.4
ISK				S	Sn	21 14 57.5	+0.7
ISK	Istanbul-Kandi	1.93	1	*e*P	Pn	21 14 32.1	-0.6
ISK	Istanbul-Kandi	1.93	1	*e*P	Pn	21 14 32.3	-0.4
ISK				S	Sn	21 14 57.5	+0.7
GOLH	Golhisar	1.94	168	P	Pn	21 14 32.8	-0.2
GOLH	Golhisar	1.94	168	‖*i* P	Pn	21 14 32.8	-0.2
GOLH				*i* S	Sg	21 15 10.5	+7.8
SVRH	Sivrihisar-ESK	1.95	80	*e*PN	Pn	21 14 32.7	-0.5
SVRH	Sivrihisar-ESK	1.95	80	*e*Pn	Pn	21 14 32.7	-0.5
DGB	¯zmir	2.01	238	‖*i* P	Pn	21 14 32.4	-1.4
DGB				*i* S	Sg	21 15 04.9	+0.3
GLHS	Glhisar (BURDU	2.01	169	*e*PN	Pn	21 14 33.4	-0.6
GLHS	Glhisar (BURDU	2.01	169	*e*Pn	Pn	21 14 33.4	-0.6
GCAM	G?zelcaml?	2.02	225	P	Pn	21 14 32.7	-1.2
GCAM	G?zelcaml?	2.02	225	‖*i* P	Pn	21 14 32.7	-1.2
GCAM				*i* S	Sb	21 15 03.2	+1.5
BGKT	Bogazkoy	2.05	354	*e*PN	Pn	21 14 34.1	-0.3
BGKT	Bogazkoy	2.05	354	*e*Pn	Pn	21 14 34.1	-0.3
URLA	Izmir	2.06	249	P	Pn	21 14 33.1	-1.5
URLA	Izmir	2.06	249	‖*i* P	Pn	21 14 33.1	-1.5
URLA				*i* S	Sg	21 15 05.9	-0.5
ELBA	Catalca	2.06	347	P	Pn	21 14 33.9	-0.7
ELBA				S	Sn	21 15 00.3	+0.1
ELBA	Catalca	2.06	347	*i* P	Pn	21 14 33.9	-0.7
ELBA				*i* S	Sn	21 15 00.3	+0.1
SILT	Sile	2.07	13	*e*PN	Pn	21 14 34.7	+0.1
SILT	Sile	2.07	13	*e*Pn	Pn	21 14 34.7	+0.1
BCK	Bucak	2.07	143	*e*PN	Pn	21 14 34.8	0.0
BCK	Bucak	2.07	143	*e*Pn	Pn	21 14 34.8	0.0
BTAS	Taskesti	2.08	46	P	Pn	21 14 34.9	0.0
BTAS	Taskesti	2.08	46	⇑*i* P	Pn	21 14 34.9	0.0
BTAS				*i* S	Sg	21 15 08.7	+1.5
YER	Yerkesik	2.09	197	*e*PN	Pn	21 14 34.4	-0.6
YER	Yerkesik	2.09	197	*e*Pn	Pn	21 14 34.3	-0.6
YER	Yerkesik	2.09	197	*e*Pn	Pn	21 14 34.4	-0.6
SART	Tekirdag	2.11	318	P	Pn	21 14 35.0	-0.3
SART	Tekirdag	2.11	318	*i* P	Pn	21 14 35.0	-0.3
SART				*i* S	Sg	21 15 07.0	-1.0
RKY	Sarkoy-Tekirda	2.11	318	*e*PN	Pn	21 14 35.4	+0.1
RKY	Sarkoy-Tekirda	2.11	318	*e*Pn	Pn	21 14 35.4	+0.1
KLYT	Kilyos	2.11	0	*e*PN	Pn	21 14 35.2	-0.1
KLYT	Kilyos	2.11	0	*e*Pn	Pn	21 14 35.2	-0.1
MDUB	Mudurnu	2.13	51	*e*PN	Pn	21 14 36.1	+0.4
MDUB	Mudurnu	2.13	51	*e*Pn	Pn	21 14 36.1	+0.4
CTKS	Kestanelik-??a	2.14	349	*e*PN	Pn	21 14 35.9	+0.3
CTKS	Kestanelik-??a	2.14	349	*e*Pn	Pn	21 14 35.9	+0.3
LPK	Lapseki	2.15	306	*e*PN	Pn	21 14 35.8	+0.1
LPK	Lapseki	2.15	306	*e*Pn	Pn	21 14 35.8	+0.1
KAND	Kocaeli-Kandir	2.15	24	P	Pn	21 14 35.8	+0.1
KAND				S	Sn	21 15 03.0	+0.8
KAND	Kocaeli-Kandir	2.15	24	*i* P	Pn	21 14 35.8	+0.1
KAND				*i* S	Sn	21 15 03.0	+0.8
PRK	Paraskevi	2.15	274	P	Pn	21 14 35.3	-0.5
PRK				S	Sn	21 15 02.5	+0.1
PRK	Paraskevi	2.15	274	P	Pn	21 14 35.3	-0.5
PRK				S	Sn	21 15 02.5	+0.1
ZEY	¯zmir	2.18	246	‖*i* P	Pn	21 14 34.9	-1.2
ZEY				*i* S	Sg	21 15 10.7	+0.5
TKR	Tekirdag	2.18	329	*e*PN	Pn	21 14 36.4	+0.2
TKR	Tekirdag	2.18	329	*e*Pn	Pn	21 14 36.4	+0.2
SLVT	Silivri	2.18	343	P	Pn	21 14 34.1	-2.2
EZN	Ezine	2.21	289	*e*PN	Pn	21 14 36.5	-0.1
EZN	Ezine	2.21	289	*e*P	Pn	21 14 37.4	+0.8
EZN	Ezine	2.21	289	*e*Pn	Pn	21 14 36.5	-0.1
SAHE	Sakarya_HENDEK	2.21	39	P	Pn	21 14 36.6	-0.1
SAHE	Sakarya_HENDEK	2.21	39	*i* P	Pn	21 14 36.6	-0.1
SAHE				*i* S	Sg	21 15 09.7	-1.5
CRLT	Corlu	2.23	334	*e*PN	Pn	21 14 37.5	+0.7
CRLT	Corlu	2.23	334	*e*Pn	Pn	21 14 37.5	+0.7
KIZT	Kizilcal	2.23	96	*e*PN	Pn	21 14 37.6	+0.6
KIZT	Kizilcal	2.23	96	*e*Pn	Pn	21 14 37.6	+0.6
SMG	Samos	2.24	231	P	Pn	21 14 36.0	-1.0
SMG				S	Sn	21 15 05.3	+0.7
SMG	Samos	2.24	231	P	Pn	21 14 36.0	-1.0
SMG				S	Sn	21 15 05.3	+0.7
SUTC	Sutluce-Ispart	2.27	136	*e*PN	Pn	21 14 37.1	-0.4
SUTC	Sutluce-Ispart	2.27	136	*e*Pn	Pn	21 14 37.1	-0.4
TURN	Turunc	2.29	189	*i* P	Pn	21 14 39.3	+1.5
TURN				*i* S	Sg	21 15 21.4	+7.7
GELI	Tayfur-Gelibol	2.34	303	*e*PN	Pn	21 14 38.6	+0.2
GELI	Tayfur-Gelibol	2.34	303	*e*Pn	Pn	21 14 38.6	+0.2
BOZC	Bozcaada	2.41	288	‖*i* P	Pn	21 14 39.3	-0.1
BOZC				*i* S	Sb	21 15 15.3	+2.1
BDRM	Kayabasi	2.42	212	P	Pn	21 14 38.5	-1.0
BDRM	Kayabasi	2.42	212	*i* P	Pn	21 14 38.5	-1.0
BDRM				*i* S	Sg	21 15 20.3	+2.3
CHOS	Chios island	2.45	253	P	Pn	21 14 39.3	-0.7
CHOS				S	Sn	21 15 10.6	+0.8
CHOS	Chios island	2.45	253	P	Pn	21 14 39.3	-0.7
CHOS				S	Sn	21 15 10.6	+0.8
ERIK	Erikli-Kesan	2.47	309	*e*PN	Pn	21 14 40.4	+0.2
ERIK	Erikli-Kesan	2.47	309	*e*Pn	Pn	21 14 40.4	+0.2
SIGR	SIGRI	2.47	273	P	Pn	21 14 39.7	-0.5
SIGR				S	Sn	21 15 10.3	0.0
SIGR	SIGRI	2.47	273	*e*P	Pn	21 14 39.7	-0.5
SIGR				*e*S	Sn	21 15 10.3	0.0
KESN	Edirne-Kesan	2.48	314	P	Pn	21 14 40.3	-0.3
KESN	Edirne-Kesan	2.48	314	‖*i* P	Pn	21 14 40.3	-0.3
KESN				*i* S	Sg	21 15 18.7	-1.1
KDHN	Kadinhani	2.48	103	P	Pn	21 14 40.5	0.0
KDHN	Kadinhani	2.48	103	*i* P	Pn	21 14 40.5	0.0
KDHN				*i* S	Sg	21 15 20.5	+0.5
PHSR	Pinarhisar	2.75	336	*e*PN	Pn	21 14 44.2	+0.2
PHSR	Pinarhisar	2.75	336	*e*Pn	Pn	21 14 44.2	+0.2
LADK	Ladik-KONYA	2.77	109	*e*PN	Pn	21 14 44.6	+0.2
LADK	Ladik-KONYA	2.77	109	*e*Pn	Pn	21 14 44.6	+0.2
KDZE	Karadeniz Ereo	2.85	40	*e*PN	Pn	21 14 45.7	+0.3
KDZE	Karadeniz Ereo	2.85	40	*e*Pn	Pn	21 14 45.7	+0.3
BCAM	Yenicaga	2.87	53	P	Pn	21 14 46.2	+0.4
BCAM	Yenicaga	2.87	53	*i* P	Pn	21 14 46

SANT	Santorini	3.96	227	*e*Pn	Pn	21 14 59.9	-0.9
SANT				*e*Sn	Sn	21 15 47.2	+0.2
EREA	Eretria	4.05	261	P	Pn	21 15 01.6	-0.4
EREA	Eretria	4.05	261	P	Pn	21 15 01.6	-0.4
OUR	Ouranopolis	4.08	289	P	Pn	21 15 02.0	-0.3
OUR	Ouranopolis	4.08	289	*e*P	Pn	21 15 02.0	-0.3
OUR	Ouranopolis	4.08	289	P	Pn	21 15 02.0	-0.3
OUR	Ouranopolis	4.08	289	*e*Pn	Pn	21 15 02.0	-0.3
ROIA	ROIAK	4.15	343	P	Pn	21 15 03.6	+0.4
CDAG	Cicekdag	4.16	82	P	Pn	21 15 04.6	+1.0
CDAG	Cicekdag	4.16	82	*i* P	Pn	21 15 04.6	+1.0
RZN	Rozhen	4.17	309	P	Pn	21 15 03.9	+0.2
PTL	Penteli	4.20	257	P	Pn	21 15 04.0	+0.1
PTL	Penteli	4.20	257	P	Pn	21 15 04.0	+0.1
PTL	Penteli	4.20	257	*e*Pn	Pn	21 15 04.0	+0.1
PRD	Provadia	4.24	344	P	Pn	21 15 03.9	-0.6
KERG	Konya-Eregli	4.36	112	P	Pn	21 15 06.8	+0.5
KERG	Konya-Eregli	4.36	112	*i* P	Pn	21 15 06.8	+0.5
PLD	Plovdiv	4.43	313	P	Pn	21 15 07.7	+0.5
PLG	Polygyros	4.48	288	P	Pn	21 15 08.1	+0.2
PLG	Polygyros	4.48	288	P	Pn	21 15 08.1	+0.2
NVR	Nevrokopi	4.54	301	P	Pn	21 15 08.7	+0.1
NVR	Nevrokopi	4.54	301	P	Pn	21 15 08.7	+0.1
AVNS	Nevsehir-Avano	4.54	92	P	Pn	21 15 11.4	+2.6
AVNS	Nevsehir-Avano	4.54	92	*i* P	Pn	21 15 11.4	+2.6
PSN	Preselentsi	4.59	352	⇑*i* P	Pn	21 15 09.1	-0.2
PSN	Preselentsi	4.59	352	P	Pn	21 15 09.7	+0.4
PSN	Preselentsi	4.59	352	⇑*i* P	Pn	21 15 09.1	-0.2
ZKR	Zakros	4.60	210	P	Pn	21 15 10.3	+0.8
ZKR				S	Sn	21 16 03.9	+1.0
ZKR	Zakros	4.60	210	P	Pn	21 15 10.3	+0.8
ZKR				S	Sn	21 16 03.9	+1.0
ZKR	Zakros	4.60	210	*e*Pn	Pn	21 15 10.3	+0.8
SRS	Serrai	4.62	297	P	Pn	21 15 09.6	-0.1
SRS	Serrai	4.62	297	*e*P	Pn	21 15 09.6	-0.1
SRS	Serrai	4.62	297	P	Pn	21 15 09.6	-0.1
SRS	Serrai	4.62	297	*e*Pn	Pn	21 15 09.6	-0.1
MANR	Mangalia	4.69	356	⇑*i* P	Pn	21 15 11.4	+0.8
MANR	Mangalia	4.69	356	⇑*i* P	Pn	21 15 11.4	+0.8
MANR				S	Sn	21 16 03.5	-1.4
COAL	Corum-Alaca	4.72	74	P	Pn	21 15 13.1	+1.8
COAL	Corum-Alaca	4.72	74	*i* P	Pn	21 15 13.1	+1.8
NPS	Neapolis	4.74	216	P	Pn	21 15 11.6	+0.2
NPS	Neapolis	4.74	216	P	Pn	21 15 11.6	+0.2
MMB	Musomiste	4.74	303	P	Pn	21 15 11.8	+0.4
SZH	Strazhica	4.74	331	P	Pn	21 15 11.6	+0.2
KIZK	Mersin	4.84	122	*i* P	Pn	21 15 15.3	+2.5
DID	Didima	4.84	252	P	Pn	21 15 12.8	0.0
DID	Didima	4.84	252	P	Pn	21 15 12.8	0.0
DID	Didima	4.84	252	*e*Pn	Pn	21 15 12.8	0.0
AKMC	Akamas	4.87	146	P	Pn	21 15 13.7	+0.4
	baz=327						
AKMC	Akamas	4.87	146	P	Pn	21 15 13.7	+0.4
LAST	Lasithi	4.88	217	P	Pn	21 15 13.7	+0.3
LAST	Lasithi	4.88	217	P	Pn	21 15 13.7	+0.3
LAST	Lasithi	4.88	217	*e*Pn	Pn	21 15 13.7	+0.3
LTK	Loutraki	4.88	259	P	Pn	21 15 13.4	0.0
LTK	Loutraki	4.88	259	P	Pn	21 15 13.4	0.0
LTK	Loutraki	4.88	259	*e*Pn	Pn	21 15 13.4	0.0
ALFC	Alefka	4.89	143	P	Pn	21 15 13.7	+0.2
	baz=324						
ALFC				S	Sn	21 16 09.1	-0.8
ALFC	Alefka	4.89	143	P	Pn	21 15 13.7	+0.2
ALFC				S	Sn	21 16 09.1	-0.8
PVL	Pavlikeni	4.94	327	P	Pn	21 15 15.0	+0.9
EFOR	EFORIE	4.95	357	⇓*i* P	Pn	21 15 15.3	+1.1
EFOR	EFORIE	4.95	357	⇓*i* P	Pn	21 15 15.3	+1.1
PPCY	Paphos	5.00	147	P	Pn	21 15 15.9	+0.9
	baz=328						
PPCY	Paphos	5.00	147	P	Pn	21 15 15.9	+0.9
PGB	Panagyurishte	5.03	314	*i* P	Pn	21 15 15.5	+0.1
BOYT	Boyabat	5.03	61	P	Pn	21 15 16.7	+1.2
BOYT	Boyabat	5.03	61	*i* P	Pn	21 15 16.7	+1.2
IDI	Anoyia	5.07	222	Pn	Pn	21 15 15.5	-0.5
	5.8nm,0.3s,baz=46,slow=16,SNR=29						
IDI				Sn	Sn	21 16 12.8	-1.7
	4.4nm,0.3s,baz=299,slow=19,SNR=1.8						
IDI	Anoyia	5.07	222	P	Pn	21 15 15.5	-0.5
IDI	Anoyia	5.07	222	P	Pn	21 15 15.5	-0.5
IDI				*e*Sn	Sn	21 16 11.0	-3.5
IDI	Anoyia	5.07	222	*e*Pn	Pn	21 15 15.5	-0.5
IDI				*e*Sn	Sn	21 16 11.0	-3.5
KNT	Kendrikon	5.12	295	P	Pn	21 15 17.2	+0.6
KNT	Kendrikon	5.12	295	P	Pn	21 15 17.2	+0.6
MAMC	Mammari	5.18	139	P	Pn	21 15 19.0	+1.6
	baz=320						
MAMC	Mammari	5.18	139	P	Pn	21 15 19.0	+1.6
AGG	Agios Georgios	5.22	271	*e*P	Pn	21 15 18.9	+0.9
AGG	Agios Georgios	5.22	271	*e*Pn	Pn	21 15 18.9	+0.9
AGG	Agios Georgios	5.22	271	*e*Pn	Pn	21 15 18.9	+0.9
CVDA	Cernavoda	5.25	352	⇑*i* P	Pn	21 15 19.1	+0.8
CVDA	Cernavoda	5.25	352	⇑*i* P	Pn	21 15 19.1	+0.8
ZIMR		5.29	330	⇑*i* P	Pn	21 15 19.2	+0.2
KKB	Krupnik	5.29	303	P	Pn	21 15 19.6	+0.6
SIVA	Sivas	5.32	221	P	Pn	21 15 19.7	+0.3
SIVA	Sivas	5.32	221	P	Pn	21 15 19.7	+0.3
TIRR	Tirgusor	5.34	355	⇑*i* P	Pn	21 15 20.2	+0.6
TIRR	Tirgusor	5.34	355	*e*P	Pn	21 15 19.8	+0.2
TIRR	Tirgusor	5.34	355	*e*Pn	Pn	21 15 19.8	+0.2
TIRR	Tirgusor	5.34	355	⇑*i* P	Pn	21 15 20.2	+0.6
TIRR	Tirgusor	5.34	355	*e*Pn	Pn	21 15 19.8	+0.2
SZAC	Souni	5.35	144	P	Pn	21 15 20.7	+0.9
	baz=325						
SZAC	Souni	5.35	144	P	Pn	21 15 20.7	+0.9
GUR	Goura	5.38	259	P	Pn	21 15 20.6	+0.3
GUR	Goura	5.38	259	P	Pn	21 15 20.6	+0.3
GUR	Goura	5.38	259	*e*Pn	Pn	21 15 20.6	+0.3
CSS	Mathiatis	5.40	139	P	Pn	21 15 20.4	-0.1
	baz=320						
CSS	Mathiatis	5.40	139	P	Pn	21 15 20.6	+0.1
CSS	Mathiatis	5.40	139	Pn	Pn	21 15 20.6	+0.1
CSS	Mathiatis	5.40	139	P	Pn	21 15 20.4	-0.1
CSS				*e*Sn	Sn	21 16 23.0	+0.5
CSS	Mathiatis	5.40	139	*e*Pn	Pn	21 15 19.9	-0.5
CSS				*e*Sn	Sn	21 16 23.0	+0.5
VAY	Valandovo	5.41	296	*e*Pn	Pn	21 15 22.0	+1.4
VAY	Valandovo	5.41	296	*e*Pn	Pn	21 15 22.0	+1.4
THL	Klokotos Trika	5.46	277	P	Pn	21 15 21.7	+0.4
THL	Klokotos Trika	5.46	277	P	Pn	21 15 21.7	+0.4
SERG	Sergoula	5.50	265	P	Pn	21 15 22.5	+0.6
SERG	Sergoula	5.50	265	P	Pn	21 15 22.5	+0.6
KLV	Kalavryta, Ach	5.50	261	P	Pn	21 15 22.1	+0.1
KLV	Kalavryta, Ach	5.50	261	P	Pn	21 15 22.1	+0.1
KLV	Kalavryta, Ach	5.50	261	*e*Pn	Pn	21 15 22.1	+0.1
VLX	Vlachokerasia	5.53	253	P	Pn	21 15 22.6	+0.3
VLX	Vlachokerasia	5.53	253	P	Pn	21 15 22.6	+0.3
VLX	Vlachokerasia	5.53	253	*e*Pn	Pn	21 15 22.6	+0.3
ANX	Ano Chora	5.58	267	P	Pn	21 15 23.6	+0.6
ANX	Ano Chora	5.58	267	P	Pn	21 15 23.6	+0.6
LAKA	Lakka	5.59	263	P	Pn	21 15 23.5	+0.3
LAKA	Lakka	5.59	263	P	Pn	21 15 23.5	+0.3
LAKA	Lakka	5.59	263	*e*Pn	Pn	21 15 23.5	+0.3
CUSAR	Sarkisla-SIVAS	5.60	85	P	Pn	21 15 25.7	+2.3
CUSAR	Sarkisla-SIVAS	5.60	85	*i* P	Pn	21 15 25.7	+2.3
YURE	YUREGIR	5.70	112	*i* P	Pn	21 15 28.2	+3.6
MPEP	Malo Peshtene	5.80	318	P	Pn	21 15 26.8	+0.8
SULR		5.91	340	⇑*i* P	Pn	21 15 27.0	-0.5
SULR		5.91	340	⇑*i* P	Pn	21 15 27.0	-0.5
PGOR	Pogoanele	5.96	346	⇑*i* P	Pn	21 15 30.4	+2.2
PGOR	Pogoanele	5.96	346	⇑*i* P	Pn	21 15 30.4	+2.2
CUALT	Altinyayla-SIV	6.00	86	*i* P	Pn	21 15 32.7	+3.8
TLCR		6.05	359	⇑*i* P	Pn	21 15 30.2	+0.9
TLCR		6.05	359	⇑*i* P	Pn	21 15 30.2	+0.9
CFR	Carcaliu	6.07	354	⇑*i* P	Pn	21 15 29.9	+0.2
CFR	Carcaliu	6.07	354	⇑*i* P	Pn	21 15 29.9	+0.2
CFR				S	Sn	21 16 40.0	+1.0
ERBA	Erbaa	6.13	73	P	Pn	21 15 31.5	+1.0
ERBA	Erbaa	6.13	73	*i* P	Pn	21 15 31.5	+1.0
HUMR	Humele	6.18	332	⇓*i* P	Pn	21 15 31.6	+0.5
HUMR	Humele	6.18	332	⇓*i* P	Pn	21 15 31.6	+0.5
ISR	Istrita	6.26	344	⇓*i* P	Pn	21 15 33.9	+1.6
ISR	Istrita	6.26	344	⇓*i* P	Pn	21 15 33.9	+1.6
SECR		6.29	340	⇑*i* P	Pn	21 15 34.8	+2.1
SECR		6.29	340	⇑*i* P	Pn	21 15 34.8	+2.1
KAMA	Osmaniye	6.32	106	*i* P	Pn	21 15 36.1	+2.9
ARNB	Al Arnab	6.41	119	*e*P	Pn	21 15 35.3	+0.9
ARNB				*e*S	Sn	21 16 48.8	+1.3
ARNB				AML	AML	21 17 00.1	
	comp=E,59nm,0.7s						
ARNB				AML	AML	21 17 10.1	
	comp=N,37nm,0.6s						
YAYL	Yayladag	6.41	117	P	Pn	21 15 35.0	+0.5
YAYL	Yayladag	6.41	117	*i* P	Pn	21 15 35.0	+0.5
SEV	Sevastopol'	6.41	31	⇓*e*P	Pn	21 15 33.2	-1.2
SEV				*e*S	Sn	21 16 43.3	-4.1
GRER		6.42	347	⇓*i* P	Pn	21 15 37.0	+2.5
GRER		6.42	347	⇓*i* P	Pn	21 15 37.0	+2.5
SKO	Skopje	6.44	298	*e*Pn	Pn	21 15 35.8	+1.1
SKO				*e*Sn	Sg	21 17 29.8	+2.9
SKO	Skopje	6.44	298	*e*Pn	Pn	21 15 35.8	+1.1
HCB	Kahramanmara~	6.45	104	*i* P	Pn	21 15 37.6	+2.7
DRWC	Darouich	6.54	110	*e*P	Pn	21 15 39.6	+3.4
DRWC				*e*S	Sn	21 16 55.3	+4.7
DRWC				AML	AML	21 17 10.9	
	comp=N,28nm,0.6s						
DRWC				AML	AML	21 17 39.5	
	comp=E,16nm,0.7s						
YAL	Yalta	6.57	34	*e*P	Pn	21 15 36.7	+0.2
YAL				*e*S	Sn	21 16 48.4	-2.9
YAL				MLR	MLR		
	comp=Z,8µm,13.0s						
OHR	Ohrid	6.61	290	*e*Pn	Pn	21 15 36.3	-0.9
OHR	Ohrid	6.61	290	*e*Pn	Pn	21 15 36.3	-0.9
BTCH	Batrach	6.66	115	*e*P	Pn	21 15 40.2	+2.4
BTCH				*e*S	Sn	21 16 57.1	+3.5
BTCH				AML	AML	21 17 22.4	
	comp=E,81nm,0.6s						
BTCH				AML	AML	21 17 27.3	
	comp=N,73nm,0.6s						
MLR	Muntele Rosu	6.75	341	Pn	Pn	21 15 40.4	+1.3
	comp=N,0.5nm,0.3s,baz=204,slow=2.4,SNR=33						
MLR				Sn	Sn	21 16 57.4	+1.5
	baz=234,slow=19,SNR=1.7						
MLR	Muntele Rosu	6.75	341	⇑*i* P	Pn	21 15 40.4	+1.3
MTUR	Matau	6.76	335	⇓*i* P	Pn	21 15 40.1	+0.9
MTUR	Matau	6.76	335	⇓*i* P	Pn	21 15 40.1	+0.9
KUZU	Kuzuini	6.78	108	P	Pn	21 15 42.0	+2.6
KUZU	Kuzuini	6.78	108	*i* P	Pn	21 15 42.0	+2.6
ODBI	Odobesti	6.78	348	⇑*i* P	Pn	21 15 40.9	+1.5
ODBI	Odobesti	6.78	348	⇑*i* P	Pn	21 15 40.9	+1.5
ALU	Alushta	6.83	34	*e*P	Pn	21 15 39.7	-0.4
ALU				*e*S	Sn	21 16 53.5	-4.2
SIM	Simferopol'	6.93	31	*e*P	Pn	21 15 41.9	+0.5
SIM				*e*S	Sn	21 16 56.3	-3.8
SIM				MLR	MLR		
	comp=Z,1µm,13.0s						
PLOR	Plostina	6.94	346	⇓*i* P	Pn	21 15 42.8	+1.2
PLOR	Plostina	6.94	346	⇓*i* P	Pn	21 15 42.8	+1.2
VRI	Vrincioaia	6.94	347	⇑*i* P	Pn	21 15 42.3	+0.7
VRI	Vrincioaia	6.94	347	⇑*i* P	Pn	21 15 42.3	+0.7
VOIR		6.95	336	⇑*i* P	Pn	21 15 42.4	+0.5
VOIR		6.95	336	⇑*i* P	Pn	21 15 42.4	+0.5
SRE	Strehaia	7.03	324	⇑*i* P	Pn	21 15 43.7	+0.9
SRE	Strehaia	7.03	324	⇑*i* P	Pn	21 15 43.7	+0.9
BOLS	Boljevac	7.09	314	*e*Pn	Pn	21 15 42.7	-0.9
BOVS	Bovan	7.11	312	*e*Pn	Pn	21 15 45.1	+1.2
BIDA	Albida	7.13	123	*e*P	Pn	21 15 45.2	+0.9
BIDA				*e*S	Sn	21 17 04.3	-0.9
BIDA				AML	AML	21 17 11.8	
	comp=N,86nm,0.6s						
BIDA				AML	AML	21 17 21.6	
	comp=E,105nm,0.6s						
SUSE	Susehri	7.15	78	*i* P	Pn	21 15 49.0	+4.4
SUDU	Sudak	7.26	36	⇓*e*P	Pn	21 15 44.5	-1.5
SUDU				*e*S	Sn	21 17 03.9	-4.4
DOPR	Dopca	7.34	340	⇑*i* P	Pn	21 15 47.6	+0.5
DOPR	Dopca	7.34	340	⇑*i* P	Pn	21 15 47.6	+0.5
LEOM	Leova	7.36	356	⇓*i* P	Pn	21 15 48.5	+1.2
LEOM	Leova	7.36	356	⇓*i* P	Pn	21 15 48.5	+1.2
TIR	Tirane	7.36	290	⇓*i* P	Pn	21 15 51.2	+3.9
TIR	Tirane	7.36	290	*e*P	Pn	21 15 50.5	+3.2
TIR	Tirane	7.36	290	*e*Pn	Pn	21 15 50.5	+3.2
HWQ	Hawqa	7.37	129	*e*P	Pn	21 15 48.7	+1.1
HWQ	Hawqa	7.37	129	*e*P	Pn	21 15 48.7	+1.1
LOT	Lotru	7.42	330	⇓*i* P	Pn	21 15 49.7	+1.5
LOT	Lotru	7.42	330	⇓*i* P	Pn	21 15 49.7	+1.5
HAWK	Haweek	7.49	126	*e*P	Pn	21 15 49.4	+0.1
HAWK				*e*S	Sn	21 17 13.1	-1.1
HAWK				AML	AML	21 17 18.9	
	comp=E,26nm,0.7s						
HAWK				AML	AML	21 17 21.9	
	comp=N,47nm,0.7s						
FEO	Feodosiya	7.54	37	*e*P	Pn	21 15 52.7	+2.9
FEO				*e*S	Sn	21 17 16.7	+1.6
DQRL	Deir Qamar	7.56	134	*e*P	Pn	21 15 50.6	+0.4
DQRL	Deir Qamar	7.56	134	*e*P	Pn	21 15 50.6	+0.4
HNTI	Hanita	7.82	139	Pn	Pn	21 15 53.8	+0.1
HNTI	Hanita	7.82	139	Pn	Pn	21 15 53.8	+0.1
GRUS	Gruza	7.84	310	*e*Pn	Pn	21 15 54.4	+0.4
MDVR	Moldovita	7.84	318	⇓*i* P	Pn	21 15 54.9	+0.8
MDVR	Moldovita	7.84	318	⇓*i* P	Pn	21 15 54.9	+0.8
MDVR				S	Sn	21 17 21.9	-0.9
KIS	Kishinev	7.86	359	*e*P	Pn	21 15 53.0	-1.2
KIS				LRM	MLR	21 19 20.0	
	comp=N,2µm,12.0s						
KIS	Kishinev	7.86	359	*e*P	Pn	21 15 53.0	-1.2
KIS				*e*		21 17 22.0	
KIS				MLR	MLR		
	comp=Z,2µm,10.0s						
KIS				MLR	MLR		
	comp=Z,2µm,12.0s						
KIS	Kishinev	7.86	359	*e*P	Pn	21 15 53.0	-1.2
RCY	Rachaya	7.86	134	*e*P	Pn	21 15 54.5	+0.1
RCY	Rachaya	7.86	134	*e*P	Pn	21 15 54.5	+0.1
MARH	Ras Al Marh	7.87	128	*e*P	Pn	21 15 56.0	+1.3
MARH				*e*S	Sn	21 17 21.4	-2.2
MARH				AML	AML	21 17 26.3	
	comp=E,42nm,0.5s						
MARH				AML	AML	21 17 50.2	
	comp=N,38nm,0.7s						
BRBR	Barbar	7.99	134	*e*P	Pn	21 15 55.4	-0.8
BRBR				*e*S	Sn	21 17 22.4	-4.2
BRBR				AML	AML	21 17 37.0	
	comp=E,62nm,0.6s						
BRBR				AML	AML	21 17 55.7	
	comp=N,20nm,0.8s						
KSDI	Kefar Szold	7.99	136	Pn	Pn	21 15 56.2	+0.2
KSDI	Kefar Szold	7.99	136	Pn	Pn	21 15 56.2	+0.2
MMA0B	Mount Meron ar	7.99	138	Pn	Pn	21 15 55.9	-0.2
MMA0B	Mount Meron ar	7.99	138	Pn	Pn	21 15 55.9	-0.2
MMAI	Mount Meron Ar	7.99	138	Pn	Pn	21 15 55.9	-0.2
	comp=N,13nm,0.3s,baz=324,slow=12,SNR=43						
MMAI				Sn	Sn	21 17 25.2	-1.2
	comp=N,5.6nm,0.3s,baz=316,slow=26,SNR=3.7						
IVAS	Ivanjica	8.02	306	*e*Pn	Pn	21 15 56.8	+0.3
OFRI	'Ofer	8.10	142	Pn	Pn	21 15 57.5	0.0
OFRI	'Ofer	8.10	142	Pn	Pn	21 15 57.5	0.0
BLGI	Bet Lehem HaGe	8.11	140	Pn	Pn	21 15 57.5	-0.1
BLGI	Bet Lehem HaGe	8.11	140	Pn	Pn	21 15 57.5	-0.1
PDG	Podgorica	8.12	297	⇓*i* P	Pn	21 15 58.3	+0.6
PDG	Podgorica	8.12	297	⇓*i* P	Pn	21 15 58.3	+0.6
DEV	Deva	8.12	328	⇓*i* P	Pn	21 16 00.7	+2.9
DEV	Deva	8.12	328	S	Sn	21 17 30.0	+0.6
DEV	Deva	8.12	328	S	Sn	21 17 30.0	+0.6
TRUS	Trudelj	8.22	311	*e*Pn	Pn	21 16 01.6	+2.5
KSHT	Keshet	8.23	136	Pn	Pn	21 16 00.2	+0.8
KSHT	Keshet	8.23	136	Pn	Pn	21 16 00.2	+0.8
SLUM	Salum	8.24	203	P	Pn	21 15 59.3	-0.2
	baz=206						
SLUM	Salum	8.24	203	P	Pn	21 15 59.3	-0.2
	baz=206						
SLUM	Salum	8.24	203	P	Pn	21 15 59.3	-0.2
ROOS	tl_alroos	8.28	124	*e*P	Pn	21 16 01.8	+1.7
ROOS				*e*S	Sn	21 17 33.1	-0.4
ROOS				AML	AML	21 17 45.1	
	comp=N,42nm,0.6s						
ROOS				AML	AML	21 17 52.8	
	comp=E,52nm,0.7s						
TOTH	TOTAH	8.30	132	*e*P	Pn	21 16 01.5	+1.2
TOTH				*e*S	Sn	21 17 31.2	-2.7
TOTH				AML	AML	21 17 45.7	
	comp=E,30nm,0.6s						
TOTH				AML	AML	21 17 47.6	
	comp=N,39nm,0.7s						
DIVS	Divibare	8.39	309	*e*Pn	Pn	21 16 03.0	+1.4
ANN	Anapa	8.43	45	*e*P	Pn	21 16 03.0	+1.0
ANN				*e*S	Sn	21 17 39.4	+2.4
ANN				pmax	pmax		
	comp=Z,164nm,1.2s						
SLTI	Sal'it	8.44	143	Pn	Pn	21 16 02.2	0.0
SLTI				Sn	Sn	21 17 34.9	-2.4
SLTI	Sal'it	8.44	143	Pn	Pn	21 16 02.2	0.0
SLTI				Sn	Sn	21 17 34.9	-2.4
MMLI	Mount Malkishu	8.46	140	Pn	Pn	21 16 02.2	-0.3
MMLI	Mount Malkishu	8.46	140	Pn	Pn	21 16 02.2	-0.3
BZS	Buzias	8.49	322	⇓*i* P	Pn	21 16 02.0	-0.8
BZS	Buzias	8.49	322	⇓*i* P	Pn	21 16 02.0	-0.8
CJR	Cluj-Napoca	8.56	334	⇑*i* P	Pn	21 16 01.8	-2.0
CJR	Cluj-Napoca	8.56	334	⇑*i* P	Pn	21 16 01.8	-2.0
TCHB	Talchebab	8.56	137	*e*P	Pn	21 16 04.2	+0.4
TCHB				*e*S	Sn	21 17 35.7	-4.6
TCHB				AML	AML	21 17 50.3	
	comp=N,83nm,0.6s						
TCHB				AML	AML	21 18 01.7	
	comp=E,75nm,0.6s						
BBLS	Lazići	8.63	306	*e*Pn	Pn	21 16 07.3	+2.4
ARCR	ARCALIA	8.65	338	⇑*i* P	Pn	21 16 05.2	+0.2
ARCR	ARCALIA	8.65	338	⇑*i* P	Pn	21 16 05.2	+0.2
HMDT	Nahal Hemdat	8.66	141	Pn	Pn	21 16 05.1	-0.1
HMDT				Sn	Sn	21 17 40.9	-1.9
HMDT	Nahal Hemdat	8.66	141	Pn	Pn	21 16 05.1	-0.1
HMDT				Sn	Sn	21 17 40.9	-1.9
BURAR	Bucovina Array	8.92	343	⇑*i* P	Pn	21 16 09.4	+0.6
BURAR	Bucovina Array	8.92	343	⇑*i* P	Pn	21 16 09.4	+0.6
TEKS	Tekeris	8.92	310	*e*Pn	Pn	21 16 10.6	+1.8
DRGR		8.94	331	⇑*i* P	Pn	21 16 10.1	+1.0
DRGR		8.94	331	⇑*i* P	Pn	21 16 10.1	+1.0
SALA	Sala	8.95	133	*e*P	Pn	21 16 09.2	-0.1
SALA				*e*S	Sn	21 17 47.2	-2.8
SALA				AML	AML	21 18 05.1	
	comp=N,42nm,0.7s						
SALA				AML	AML	21 18 06.5	
	comp=E,3.4nm,0.7s						
BUR08	Bucovina Ar. S	8.95	343	*e*Pn	Pn	21 16 09.6	+0.3
BUR08				*e*Sn	Sn	21 17 48.6	-1.3
BUR08	Bucovina Ar. S	8.95	343	*e*Pn	Pn	21 16 09.6	+0.3
BUR08				*e*Sn	Sn	21 17 48.6	-1.3
SIRR	Siria	8.96	325	⇑*i* P	Pn	21 16 10.2	+0.9
SIRR	Siria	8.96	325	⇑*i* P	Pn	21 16 10.2	+0.9
SORM	Soroca	9.01	357	⇓*i* P	Pn	21 16 09.2	-0.7
SORM	Soroca	9.01	357	⇓*i* P	Pn	21 16 09.2	-0.7
RSH		9.02	153	P	Pn	21 16 06.7	-3.4
	baz=155						
RSH		9.02	153	P	Pn	21 16 06.7	-3.4
	baz=154						
FGSL	Fruska Gora	9.11	314	*e*Pn	Pn	21 16 12.6	+1.2
ZALF	Zalf	9.14	130	*e*P	Pn	21 16 12.0	+0.1
ZALF				*e*S	Sn	21 17 52.2	-2.5
ZALF				AML	AML	21 18 16.7	
	comp=E,11nm,0.7s						
ZALF				AML	AML	21 18 16.8	
	comp=N,14nm,0.6s						
MZBI	Masada	9.36	145	Pn	Pn	21 16 14.3	-0.5
MZBI	Masada	9.36	145	Pn	Pn	21 16 14.3	-0.5
MZDA	Masada	9.37	145	Pn	Pn	21 16 14.4	-0.4
MZDA				Sn	Sn	21 17 56.7	-3.3
MZDA	Masada	9.37	145	Pn	Pn	21 16 14.4	-0.4
BMR	Baia Mare	9.43	337	⇑*i* P	Pn	21 16 16.0	+0.2
BMR	Baia Mare	9.43	337	⇑*i* P	Pn	21 16 16.0	+0.2
ASF	Jabal al Asfar	9.44	135	Pn	Pn	21 16 17.6	+1.5
	comp=N,0.9nm,0.3s,baz=316,slow=7.0,SNR=11						
ASF				Sn	Sn	21 18 03.5	+1.4

NCK Nalchik 11.78 64⇑ *i*P Pn 21 16 47.3 -0.6
ZEI Tsey 11.81 67 *e*P Pn 21 16 54.4 +5.8
ZEI pmax pmax
comp=Z,85nm,1.1s
VYHS Vyhne 11.89 325 *e*P Pn 21 16 50.5 +1.0
VYHS Vyhne 11.89 325 *e*Pn Pn 21 16 50.5 +1.0
VYHS Vyhne 11.89 325 *e*PN Pn 21 16 50.5 +1.0
VYHS *e* 21 20 50.2
GOF Gofitskoye 11.96 56⇑ *e*P Pn 21 16 53.4 +3.0
GOF pmax pmax
comp=Z,26nm,1.0s
NIE Niedzica 12.03 332 *e*P Pn 21 16 54.7 +3.4
NIE Niedzica 12.03 332 *e*P Pn 21 16 54.7 +3.4
GNI Garni 12.15 80 Pn Pn 21 16 54.9 +1.7
comp=Z,0.3nm,0.3s,baz=225,slow=20,SNR=2.4
GNI LR LR 21 21 37.3
comp=Z,988nm,20.5s,baz=275,slow=38
GNI Garni 12.15 80⇓ *i*P Pn 21 16 50.5 -2.7
GNI Garni 12.15 80 *e*Pn Pn 21 16 53.7 +0.5
GNI Garni 12.15 80 *e*Pn Pn 21 16 53.7 +0.5
GUDG Gudauri 12.16 69 P P 21 17 01.0 -5.0
GROS Grobnik 12.33 311 *e*Pn Pn 21 16 56.6 +1.0
GROS Grobnik 12.33 311 *e*Pn Pn 21 16 56.6 +1.0
VISS Visnje 12.41 307 *e*Pn Pn 21 16 58.2 +1.6
VISS Visnje 12.41 307 *e*Pn Pn 21 16 58.2 +1.6
DGRG David-gareji 12.69 74 P Pn 21 17 06.0 +5.6
DGRG David-gareji 12.69 74 P Pn 21 17 05.9 +5.5
ARSA Arzberg 12.75 314 *i* P Pn 21 17 02.3 +1.1
comp=Z,12nm,1.2s,SNR=6.8
ARSA Arzberg 12.75 314 P Pn 21 17 02.3 +1.1
comp=Z,12nm,1.2s,SNR=6.8
OJC Ojcow 12.87 332 *e*P Pn 21 17 07.6 +4.8
OJC Ojcow 12.87 332 *e*P Pn 21 17 07.6 +4.8
CONA Conrad Observa 12.97 317 *e*P Pn 21 17 05.7 +1.5
comp=Z,11nm,1.1s
CONA Conrad Observa 12.97 317 P Pn 21 17 05.7 +1.5
comp=Z,11nm,1.1s
OKC Ostrava-Krasne 13.21 328 *e*P Pn 21 17 08.2 +0.8
OKC AMS AMS 21 23 20.0
comp=Z,2μm,11.4s
OKC Ostrava-Krasne 13.21 328 *e*P Pn 21 17 08.2 +0.8
OKC MLR MLR
comp=Z,2μm,11.4s
OKC Ostrava-Krasne 13.21 328 P Pn 21 17 08.2 +0.8
GROC Groznyy 13.26 67 *e*P Pn 21 17 13.0 +4.9
GROC pmax pmax
comp=Z,90nm,2.2s
MORC Moravsky Berou 13.42 326 *e*P Pn 21 17 11.8 +1.5
MORC Moravsky Berou 13.42 326 *e*Pn Pn 21 17 11.8 +1.5
MORC Moravsky Berou 13.42 326 *e*Pn Pn 21 17 11.8 +1.5
VRAC Vranov 13.51 323 Pn Pn 21 17 11.8 +0.3
comp=Z,0.3nm,0.3s,baz=139,slow=14,SNR=7.9
VRAC LR LR 21 22 50.0
comp=Z,370nm,20.2s,baz=134,slow=39
MYKA Terra Mystica 13.53 309 *e*P Pn 21 17 13.6 +1.7
comp=Z,13nm,1.1s
MYKA Terra Mystica 13.53 309 P Pn 21 17 13.6 +1.7
comp=Z,13nm,1.1s
MOA Molln 13.79 314 *e*P Pn 21 17 17.0 +1.6
comp=Z,11nm,1.3s
MOA Molln 13.79 314 P Pn 21 17 17.0 +1.6
comp=Z,11nm,1.3s
KBA Koelnbreinsper 13.93 310 *e*P Pn 21 17 17.5 +0.1
comp=Z,16nm,1.5s
KBA Koelnbreinsper 13.93 310 P Pn 21 17 17.5 +0.1
comp=Z,16nm,1.5s
KRLC Kraliky 13.97 325 *ex* P 21 17 31.1 +5.2
VSR Storozhevoye 14.02 27 *e*P Pn 21 17 18.6 +0.2
VSR pmax pmax
comp=Z,40nm,1.8s
VSR MLR MLR
comp=Z,250nm,12.0s
TREC Trest 14.03 321 AMS AMS 21 24 30.0
comp=Z,900nm,10.4s
DPC Dobruska-Polom 14.37 325 *e*P Pn 21 17 25.4 +2.0
DPC *ep*P P 21 17 34.4 +4.0
DPC AMS AMS 21 24 00.0
comp=Z,1μm,12.9s
DPC Dobruska-Polom 14.37 325 *e*P Pn 21 17 25.4 +2.0
DPC MLR MLR
comp=Z,1μm,12.9s
UPC Upice 14.62 325 *e*P Pn 21 17 28.8 +2.0
UPC AMS AMS 21 24 20.0
comp=Z,1μm,11.9s
UPC Upice 14.62 325 *e*P Pn 21 17 28.8 +2.0
UPC MLR MLR
comp=Z,1μm,11.9s
GEA0 GERESS Array S 14.67 316 *e*Pn Pn 21 17 27.2 -0.2
GEA0 GERESS Array S 14.67 316 *e*Pn Pn 21 17 27.2 -0.2
GEC2 GERESS Array S 14.67 316 *e*P Pn 21 17 28.6 +1.1
GEC2 GERESS Array S 14.67 316 *e*Pn Pn 21 17 28.6 +1.1
GERES GERESS Array B 14.67 316 Pn Pn 21 17 27.9 +0.4
comp=Z,0.1nm,0.3s,baz=122,slow=13,SNR=15
KSP Ksiaz 14.75 327 *e*P Pn 21 17 28.7 +0.3
KSP Ksiaz 14.75 327 *e*P Pn 21 17 28.7 +0.3
GOPC GO Pecny, Ondr 14.78 321 *e*P Pn 21 17 31.5 +2.6
GOPC AMS AMS 21 24 10.0
comp=Z,1μm,12.9s
GOPC GO Pecny, Ondr 14.78 321 *e*P Pn 21 17 31.5 +2.6
GOPC MLR MLR
comp=Z,1μm,12.9s
KHC Kasperske Hory 14.90 317 *e*P Pn 21 17 30.8 +0.2
KHC *ep*P P 21 17 39.7 +3.4
KHC AMS AMS 21 25 10.0
comp=Z,1μm,9.1s
KHC Kasperske Hory 14.90 317 *e*P Pn 21 17 30.8 +0.2
KHC MLR MLR
comp=Z,1μm,9.1s
KHC Kasperske Hory 14.90 317 *e*Pn Pn 21 17 31.4 +0.8
KHC Kasperske Hory 14.90 317 *e*Pn Pn 21 17 31.4 +0.8
PRU Pruhonice 14.95 321 *e*P Pn 21 17 32.0 +0.8
PRU AMS AMS 21 24 20.0
comp=Z,1μm,15.3s
PRU Pruhonice 14.95 321 *e*P Pn 21 17 32.0 +0.8
PRU MLR MLR
comp=Z,1μm,15.3s
VRH Novokhopyorsk 14.99 32 *e*P Pn 21 17 31.5 -0.2
VRH pmax pmax
comp=Z,50nm,1.8s
VRH MLR MLR
comp=Z,530nm,17.0s
VSL Villasalto 15.22 278 *e*Pn Pn 21 17 35.9 +1.0
VSL Villasalto 15.22 278 *e*Pn Pn 21 17 35.9 +1.0
PVCC Panska Ves 15.30 323 AMS AMS 21 24 10.0
comp=Z,1μm,11.6s
MICGM Minsk 15.39 357 *e*P Pn 21 17 32.0 -4.9
MICGM *e*S Sn 21 20 26.0 -1.2
MICGM *e*SS SnSn 21 20 40.0 0.0
MICGM *e*LR LR 21 23 08.0
MNK Minsk 15.39 357 *e*P Pn 21 17 32.0 -4.9
MNK *e*S Sn 21 20 26.0 -1.2
MOTA Moosalm 15.40 308 *e*P P 21 17 41.2 -0.8
comp=Z,8.8nm,0.9s,SNR=5.4
MOTA Moosalm 15.40 308 P P 21 17 41.2 -0.8
comp=Z,8.8nm,0.9s,SNR=5.4
SUW Suwalki 15.41 347 *e*P Pn 21 17 38.5 +1.4
SUW Suwalki 15.41 347 *e*P Pn 21 17 38.5 +1.4
FETA Feichten 15.50 306 *e*P P 21 17 42.9 -0.1
comp=Z,28nm,1.2s,SNR=6.6
FETA Feichten 15.50 306 P P 21 17 42.9 -0.1
comp=Z,28nm,1.2s,SNR=6.6
FUORN Ofenpass-Fuorn 15.64 305 *e*Pn Pn 21 17 40.8 +0.3
comp=Z,17nm,1.1s
FUORN Ofenpass-Fuorn 15.64 305 *e*Pn Pn 21 17 40.9 +0.3
comp=Z,17nm,1.1s
RETA Reutte 15.68 308 *i* pP P 21 17 46.2 +1.3
comp=Z,15nm,1.1s
RETA Reutte 15.68 308 P P 21 17 46.2 +1.3
comp=Z,15nm,1.1s
BRG Berggiesshubel 15.83 323 *e*P Pn 21 17 42.4 -0.2
comp=Z,9.2nm,1.6s
BRG Berggiesshubel 15.83 323 *e*P Pn 21 17 42.4 -0.2
BRG pmax pmax
comp=Z,9.0nm,1.6s
NACGM Naroch 15.85 355 *e*P Pn 21 17 40.0 -2.9
NACGM *e*S Sn 21 20 34.0 -4.2
DAVOX Davos/Dischmat 15.95 305 Pn P 21 17 46.3 -1.7
comp=Z,0.1nm,0.3s,baz=98,slow=14,SNR=12
KEST Kesra 16.00 264 Pn Pn 21 17 43.5 -1.6
comp=Z,0.1nm,0.3s,baz=51,slow=9.6,SNR=3.9
KEST Kesra 16.00 264 *e*Pn Pn 21 17 46.2 +1.1
comp=Z,17nm,0.9s
KEST Kesra 16.00 264 *e*Pn Pn 21 17 46.2 +1.1
comp=Z,17nm,0.9s

DAVA Damuels 16.14 307 *e*P Pn 21 17 48.4 +1.5
comp=Z,18nm,1.1s,SNR=7.2
DAVA Damuels 16.14 307 P Pn 21 17 48.4 +1.5
comp=Z,18nm,1.1s,SNR=7.2
NKC Novy Kostel 16.15 319 AMS AMS 21 25 20.0
comp=Z,1μm,10.2s
GRFO Grafenberg 16.49 316 *e*P Pn 21 17 51.2 0.0
GRFO pmax pmax
comp=Z,15nm,1.2s
GRFO Grafenberg 16.49 316 *e*Pn Pn 21 17 51.2 0.0
comp=Z,15nm,1.2s
GRFO Grafenberg 16.49 316 *e*Pn Pn 21 17 51.2 0.0
comp=Z,15nm,1.2s
CLL Collm 16.56 323 *e*P Pn 21 17 53.0 +1.0
comp=Z,77nm,2.7s
CLL *e* 21 18 22.0
CLL LmV 21 25 00.0
comp=Z,500nm,21.7s
CLL Lmax 21 25 00.0
CLL Collm 16.56 323 *e*P Pn 21 17 53.0 +1.0
CLL pmax pmax
comp=Z,77nm,2.7s
CLL MLR MLR
comp=Z,500nm,21.7s
OBN Obninsk 16.77 15 Pn Pn 21 17 50.5 -4.1
baz=191,slow=6.8,SNR=6.2
OBN LR LR 21 24 56.0
comp=Z,619nm,19.4s,baz=226,slow=39
OBN Obninsk 16.77 15 *ce*P Pn 21 17 50.4 -4.1
OBN pmax pmax
comp=Z,41nm,1.4s
OBN MLR MLR
comp=Z,614nm,19.0s
OBN Obninsk 16.77 15 *e*Pn P 21 17 56.2 -0.6
comp=Z,77nm,1.4s
OBN Obninsk 16.77 15 *e*Pn P 21 17 56.2 -0.6
comp=Z,77nm,1.4s
SPAK Spaichingen-Ko 17.14 308 *e*P P 21 18 02.3 +1.2
CMAH Djebel Manchou 17.25 268 P P 21 18 04.6 +2.3
ABSA Djebel Ababsia 17.30 267 P P 21 18 05.8 +2.9
SENIN Lac Senin/Sane 17.49 301 *e*Pn P 21 18 05.5 +0.4
comp=Z,99nm,1.9s
SENIN Lac Senin/Sane 17.49 301 *e*Pn P 21 18 05.5 +0.4
comp=Z,99nm,1.9s
BFO Black Forest 17.52 308 *e*P Pn 21 18 02.9 -1.2
BFO pmax pmax
comp=Z,37nm,1.7s
BFO Black Forest 17.52 308 *e*Pn Pn 21 18 02.8 -1.2
comp=Z,37nm,1.7s
BFO Black Forest 17.52 308 *e*Pn Pn 21 18 02.9 -1.2
comp=Z,37nm,1.7s
FELD Feldberg im Sc 17.54 307 *e*P P 21 18 05.3 -0.3
MOS Moscow 17.57 16 *e*P Pn 21 18 03.4 -1.3
MOS *e*S S 21 21 25.7 -2.1
MOS pmax pmax
comp=Z,102nm,1.2s
BBS Basel-Blauen 17.70 305 *e*P P 21 18 06.8 -0.5
TOD Tromm 17.80 313 *e*P P 21 18 09.5 +1.2
OG01 Vacheresse 17.89 301 *e*P P 21 18 10.6 +1.2
OG01 Vacheresse 17.89 301 *e*P P 21 18 10.6 +1.2
MOF Molkenrain 18.07 306 *e*P P 21 18 11.3 -0.1
MOF Molkenrain 18.07 306 *e*P P 21 18 11.3 -0.1
KTD Kanit 18.08 311 *e*P P 21 18 11.5 0.0
LOMF Lomont 18.10 304 *e*P P 21 18 12.5 +0.8
LOMF Lomont 18.10 304 *e*P P 21 18 12.5 +0.8
ECH Echery 18.19 307 *e*P P 21 18 13.3 +0.7
ECH Echery 18.19 307 *e*P P 21 18 13.3 +0.7
OG26 St.-Nazaire-De 18.47 295 *e*P Pn 21 18 17.4 +1.5
OG26 St.-Nazaire-De 18.47 295 *e*P Pn 21 18 17.4 +1.5
BSD Bornholm Skovb 18.59 334 *i* P P 21 18 15.8 -1.1
BSD Bornholm Skovb 18.59 334 *i* P P 21 18 15.8 -1.1
BSD Bornholm Skovb 18.59 334 *i* P P 21 18 15.8 -1.1
RUP Ruppelstein 18.85 311 *e*P Pn 21 18 21.1 +0.6
SET Setif 18.93 268 P Pn 21 18 26.0 +4.4
SSB Saint Sauveur 19.12 297 *e*P P 21 18 22.1 -0.8
SSB pmax pmax
comp=Z,7.0nm,0.7s
SSB Saint Sauveur 19.12 297 *e*P P 21 18 22.1 -0.8
comp=Z,6.8nm,0.7s
SSB Saint Sauveur 19.12 297 *e*P P 21 18 22.1 -0.8
comp=Z,6.8nm,0.7s
WLF Walferdange 19.37 310 P Pn 21 18 28.9 +2.3
WLF Walferdange 19.37 310 *e*P Pn 21 18 26.2 -0.5
WLF pmax pmax
comp=Z,22nm,1.3s
WLF Walferdange 19.37 310 *e*P Pn 21 18 26.2 -0.5
comp=Z,22nm,1.3s
WLF Walferdange 19.37 310 *e*P Pn 21 18 26.2 -0.5
comp=Z,22nm,1.3s
VSU Vasula 19.40 356⇓ *i*P P 21 18 25.7 0.0
VSU pmax pmax
comp=Z,119nm,0.8s
MEM Membach 19.86 313 P Pn 21 18 32.7 +0.2
MEM Membach 19.86 313 P Pn 21 18 32.7 +0.2
PLDF La Plantade 19.88 298 *e*P P 21 18 31.7 +0.5
PLDF La Plantade 19.88 298 *e*P P 21 18 31.7 +0.5
COP Copenhagen 19.92 332 *i* P P 21 18 30.0 -1.4
COP Copenhagen 19.92 332 *i* P P 21 18 30.0 -1.4
COP Copenhagen 19.92 332 *i* P P 21 18 30.0 -1.4
LBL Lubilhac 20.01 296 *e*P Pn 21 18 34.1 -0.3
LBL Lubilhac 20.01 296 *e*P Pn 21 18 34.1 -0.3
BCLA Clavier 20.18 312 P Pn 21 18 35.8 -0.5
comp=Z,22nm,2.2s
BCLA Clavier 20.18 312 P Pn 21 18 35.7 -0.6
comp=Z,22nm,2.2s
AGO Saint Agoulin 20.23 298 *e*P Pn 21 18 36.6 -0.3
AGO Saint Agoulin 20.23 298 *e*P Pn 21 18 36.6 -0.3
DOU Dourbes 20.47 310 P P 21 18 38.3 +0.8
comp=Z,7.4nm,1.0s
DOU Dourbes 20.47 310 P P 21 18 38.2 +0.8
comp=Z,7.4nm,1.0s
FRNF Fournols 20.51 296 *e*P Pn 21 18 42.6 +2.3
MUD Monsted U'grnd 21.73 329 *e*P P 21 18 51.9 +0.9
MUD Monsted U'grnd 21.73 329 *i* P P 21 18 51.9 +0.9
MUD Monsted U'grnd 21.73 329 *e*P P 21 18 51.9 +0.9
FIA0 FINESS Array S 22.41 356 *e*P P 21 18 57.7 -0.5
FIA0 *e*S S 21 23 06.7 +2.8
FIA0 FINESS Array S 22.41 356 *e*P P 21 18 57.7 -0.5
FIA0 *e*S S 21 23 06.7 +2.8
FIA0 FINESS Array S 22.41 356 *e*P P 21 18 57.7 -0.5
FIA0 *e*S S 21 23 06.7 +2.8
FINES FINESS Array B 22.41 356 P P 21 18 57.7 -0.5
comp=Z,7.0nm,0.7s,baz=148,slow=15,SNR=19
FINES S S 21 23 06.7 +2.8
comp=Z,1.8nm,0.7s,baz=170,slow=18,SNR=3.3
FINES LR LR 21 28 17.5
comp=Z,484nm,18.4s,baz=150,slow=38
FIA1 FINESS Array S 22.41 356 *e*P P 21 18 56.8 -1.4
comp=Z,22nm,1.0s
FIA1 FINESS Array S 22.41 356 *e*P P 21 18 56.8 -1.4
comp=Z,22nm,1.0s
KLMR Klimovskoe 22.70 13 *e*P P 21 19 00.6 -0.8
KLMR pmax pmax
comp=Z,50nm,1.1s
GEYT Ailbeck 22.74 84 P P 21 19 04.3 +2.3
comp=Z,55nm,0.9s,baz=280,slow=8.9,SNR=55
HFS Hagfors 23.13 340 P P 21 19 06.4 +0.5
comp=Z,3.9nm,0.6s,baz=140,slow=12,SNR=12
HFS LR LR 21 28 26.2
comp=Z,561nm,20.5s,baz=146,slow=38
HFS Hagfors 23.13 340 P P 21 19 06.4 +0.5
HFS pmax pmax
comp=Z,6.0nm,0.7s
HFS MLR MLR
comp=Z,561nm,20.5s
AKTO Aktyubinsk 23.31 52 P P 21 19 08.6 +0.8
comp=Z,16nm,0.8s,baz=260,slow=10.0,SNR=24
AKTO LR LR 21 32 21.9
comp=Z,456nm,18.0s,baz=259,slow=47
AKTO Aktyubinsk 23.31 52 *i* P P 21 19 07.6 -0.2
AKTO pmax pmax
comp=Z,39nm,0.8s
AB31 Akbulak array 24.20 55 *ce*P P 21 19 17.0 +0.6
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 24.20 55 *e*P P 21 19 17.1 +0.7
ABKAR Akbulak array 24.20 55 *e*P P 21 19 17.1 +0.7
NC602 NORSAR Array S 24.22 339 *e*P P 21 19 17.0 +0.6
NC602 NORSAR Array S 24.22 339 *e*P P 21 19 17.0 +0.6
NC405 NORSAR Array S 24.49 340 *e*P P 21 19 17.8 -1.1
NC405 NORSAR Array S 24.49 340 *e*P P 21 19 17.8 -1.1
NAO01 NORSAR Array S 24.50 338 *e*P P 21 19 19.5 +0.5
NAO01 NORSAR Array S 24.50 338 *e*P P 21 19 19.5 +0.5
NB201 NORSAR Array S 24.55 339 *e*P P 21 19 19.1 -0.4

NB201 NORSAR Array S 24.55 339 *e*P P 21 19 19.1 -0.4
NB2 NORSAR Subarra 24.57 339 P P 21 19 19.0 -0.6
comp=Z,12nm,0.9s,baz=143,slow=10
NB2 NORSAR Subarra 24.57 339 P P 21 19 19.0 -0.6
comp=Z,12nm,0.9s,baz=143,slow=9.5,SNR=6.3
NB200 NORSAR Array S 24.57 339 *e*P P 21 19 19.4 -0.2
NB200 NORSAR Array S 24.57 339 *e*P P 21 19 19.4 -0.2
NOA NORSAR Array B 24.57 339 P P 21 19 19.4 -0.2
comp=Z,8.7nm,0.9s,baz=143,slow=9.3,SNR=27
NOA LR LR 21 29 19.9
comp=Z,252nm,20.2s,baz=150,slow=38
NOA NORSAR Array B 24.57 339 P P 21 19 19.4 -0.2
NOA pmax pmax
comp=Z,8.0nm,0.9s
NOA MLR MLR
comp=Z,252nm,20.2s
NBO02 NORSAR Array S 24.67 339 *e*P P 21 19 21.4 +0.8
NBO02 NORSAR Array S 24.67 339 *e*P P 21 19 21.4 +0.8
NC303 NORSAR Array S 24.68 339 *e*P P 21 19 22.0 +1.4
NC303 NORSAR Array S 24.68 339 *e*P P 21 19 22.0 +1.4
NBO00 NORSAR Array S 24.68 339 *e*P P 21 19 20.1 -0.5
NBO00 NORSAR Array S 24.68 339 *e*P P 21 19 20.1 -0.5
NC204 NORSAR Array S 24.89 339 *e*P P 21 19 23.1 +0.6
NC204 NORSAR Array S 24.89 339 *e*P P 21 19 23.1 +0.6
ESDC Sonseca Array 25.43 282 P P 21 19 27.6 -0.1
comp=Z,1.2nm,0.7s,baz=73,slow=9.7,SNR=8.4
ESLA Sonseca Array 25.43 282 *e*P P 21 19 26.1 -1.5
comp=Z,15nm,1.6s
ESLA Sonseca Array 25.43 282 *e*P P 21 19 26.1 -1.5
comp=Z,15nm,1.6s
PAB San Pablo 25.74 282 *e*P P 21 19 28.5 -2.1
PAB pmax pmax
comp=Z,22nm,1.6s
PAB San Pablo 25.74 282 *e*P P 21 19 28.5 -2.1
comp=Z,22nm,1.6s
PAB San Pablo 25.74 282 *e*P P 21 19 28.5 -2.1
comp=Z,22nm,1.6s
TAM Tamanrasset 25.81 238 *e*P P 21 19 33.0 +1.6
TAM pmax pmax
comp=Z,16nm,1.5s
TAM Tamanrasset 25.81 238 *e*P P 21 19 33.0 +1.6
comp=Z,16nm,1.5s
TAM Tamanrasset 25.81 238 *e*P P 21 19 33.0 +1.6
comp=Z,16nm,1.5s
ARU Arti 26.02 39 P P 21 19 35.6 +2.9
comp=Z,39nm,0.7s,baz=246,slow=7.6,SNR=50
ARU Arti 26.02 39 *e*P P 21 19 32.3 -0.5
ARU PPP PPP 21 20 18.1
ARU 21 23 00.9
ARU S S 21 24 03.7 +0.6
ARU SSS SSS 21 25 19.2
EKA Eskdalemuir Ar 26.88 318 P P 21 19 42.1 +1.5
comp=Z,2.8nm,0.5s,baz=114,slow=11,SNR=20
UOSS Minazif 26.90 114 *e*P P 21 19 40.1 -0.9
comp=Z,29nm,1.2s
UOSS Minazif 26.90 114 *e*P P 21 19 40.1 -0.9
comp=Z,29nm,1.2s
SVE Sverdlovsk 27.22 39 *e*P P 21 19 44.2 +0.6
SVE *e*S S 21 24 21.6 -0.4
SVE pmax pmax
comp=Z,30nm,1.3s
SVE MLR MLR
comp=Z,356nm,14.0s
WSAR Wadi Sarin 29.70 114 P P 21 20 06.8 +0.9
comp=Z,7.2nm,0.9s,baz=310,slow=7.6,SNR=2.8
ARA0 ARCESS Array S 30.52 358 *e*P P 21 20 14.6 +1.8
ARA0 ARCESS Array S 30.52 358 *e*P P 21 20 14.6 +1.8
ARCES ARCESS Array B 30.52 358 P P 21 20 14.6 +1.8
comp=Z,4.6nm,0.7s,baz=152,slow=5.5,SNR=17
ARCES LR LR 21 33 08.6
comp=Z,533nm,18.3s,baz=54,slow=38
ZRNK Zerenda 30.55 50 *e*P P 21 20 14.4 +1.1
ZRNK pmax pmax
comp=Z,12nm,0.8s
ZRNK Zerenda 30.55 50 *e*P P 21 20 14.4 +1.1
comp=Z,12nm,0.8s
ZRNK Zerenda 30.55 50 *e*P P 21 20 14.4 +1.1
comp=Z,12nm,0.8s
KK31 Karatay Array 31.27 69 *ce*P P 21 20 19.9 +0.2
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 31.27 69 *e*P P 21 20 20.4 +0.7
KKAR Karatay Array 31.27 69 *e*P P 21 20 20.4 +0.7
KKAR Karatay Array 31.27 69 *e*P P 21 20 20.4 +0.7
BVAR Borovoye Array 31.39 50 P P 21 20 23.3 +2.6
comp=Z,2.5nm,0.8s,baz=262,slow=7.1,SNR=10
VOSK Vostochnaya 31.70 51 *e*P P 21 20 24.5 +1.1
VOSK pmax pmax
comp=Z,17nm,0.8s
VOSK Vostochnaya 31.70 51 *e*P P 21 20 24.5 +1.1
comp=Z,17nm,0.8s
VOSK Vostochnaya 31.70 51 *e*P P 21 20 24.5 +1.1
comp=Z,17nm,0.8s
KBL Kabul 32.16 86 *e*P P 21 20 27.7 -0.2
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 32.16 86 *e*P P 21 20 27.7 -0.2
comp=Z,5.1nm,0.9s
KBL Kabul 32.16 86 *e*P P 21 20 27.7 -0.2
comp=Z,5.1nm,0.9s
OTUK Ortayu 32.23 59 *i* P P 21 20 26.5 -1.7
OTUK pmax pmax
comp=Z,18nm,0.9s
MNAS Manas 32.80 70 *i* P P 21 20 35.0 +1.6
MNAS pmax pmax
comp=Z,8.0nm,1.2s
EKS2 Erkin-Say 33.70 69 *e*P P 21 20 42.5 +1.3
EKS2 pmax pmax
comp=Z,12nm,0.9s
EKS2 Erkin-Say 33.70 69 *e*P P 21 20 42.5 +1.3
comp=Z,12nm,0.9s
EKS2 Erkin-Say 33.70 69 *e*P P 21 20 42.5 +1.3
comp=Z,12nm,0.9s
AAK Ala-Archa 34.23 69 P P 21 20 47.4 +1.6
comp=Z,18nm,0.8s,baz=228,slow=4.3,SNR=18
AAK Ala-Archa 34.23 69⇑ *i*P P 21 20 44.0 -1.8
AAK pmax pmax
comp=Z,21nm,0.9s
AAK Ala-Archa 34.23 69 *e*P P 21 20 47.4 +1.6
comp=Z,22nm,0.9s
AAK Ala-Archa 34.23 69 *e*P P 21 20 47.4 +1.6
comp=Z,22nm,0.9s
FRU Bishkek 34.28 69 *i* P P 21 20 47.0 +0.9
FRU *e* 21 20 54.0
FRU pmax pmax
comp=Z,60nm,1.0s
TKM2 Tokmak 2 34.98 68 *e*P P 21 20 54.2 +1.9
TKM2 Tokmak 2 34.98 68 *e*P P 21 20 54.3 +1.9
comp=Z,9.1nm,0.9s
TKM2 Tokmak 2 34.98 68 *e*P P 21 20 54.3 +1.9
comp=Z,9.1nm,0.9s
KSH Kashi 35.99 74 *e*P P 21 20 58.8 -2.1
KSH pP pP 21 21 01.8 -3.0
KSH PP PnPn 21 22 18.3 -3.3
KSH S S 21 26 33.5 -5.9
KSH ScS ScS 21 31 15.5 -3.4
KSH PMZ
comp=Z,4.0nm,0.6s
KSH PMZ
comp=Z,130nm,5.4s
KSH LN
comp=Z,270nm,9.0s
KSH LE
comp=Z,140nm,6.5s
KURBB Kurchatov Arra 36.26 55 P P 21 21 03.6 +0.7
comp=Z,7.0nm,0.7s,baz=279,slow=9.0,SNR=49
KURBB PcP PcP 21 23 27.8 0.0
comp=Z,1.8nm,0.7s,baz=269,slow=3.7,SNR=5.0
KURK Kurchatov 36.31 55⇑ *i*P P 21 21 03.2 -0.2
KURK pmax pmax
comp=Z,57nm,1.7s
KURK Kurchatov 36.31 55 *e*P P 21 21 03.9 +0.5
KURK Kurchatov 36.31 55 *e*PcP PcP 21 23 27.8 -0.2
KURK Kurchatov 36.31 55 *e*P P 21 21 03.9 +0.5
KURK *e*PcP PcP 21 23 27.8 -0.2
PDGK Podgornoye 37.70 67 *i* P P 21 21 15.4 +0.1
PDGK pmax pmax
comp=Z,16nm,0.9s
MAKZ Makanchi 38.85 61 *e*P P 21 21 25.7 +0.7
MAKZ pmax pmax
comp=Z,40nm,2.0s
MAKZ Makanchi 38.85 61 *e*P P 21 21 25.7 +0.7
comp=Z,40nm,2.0s
MAKZ Makanchi 38.85 61 *e*P P 21 21 25.7 +0.7
comp=Z,40nm,2.0s
MK31 Makanchi Array 39.06 61 *ce*P P 21 21 28.2 +1.4

MK31						pmax	pmax		
	comp=Z,6.0nm,0.5s								
MK31	**Makanchi Array**	**39.06**	**61**	*e*P		**P**		**21 21 27.3**	**+0.5**
MK31	**Makanchi Array**	**39.06**	**61**	*e*P		**P**		**21 21 27.3**	**+0.5**
MK32	**Makanchi Array**	**39.06**	**61**	*e*P		**P**		**21 21 27.2**	**+0.4**
MK32	**Makanchi Array**	**39.06**	**61**	*e*P		**P**		**21 21 27.2**	**+0.4**
MKAR	**Makanchi Array**	**39.06**	**61**	P		**P**		**21 21 27.2**	**+0.4**
	comp=Z,9.0nm,0.7s,baz=279,slow=7.3,SNR=78								
MK01	**Makanchi Array**	**39.08**	**61**	*e*P		**P**		**21 21 26.8**	**-0.1**
MK01	**Makanchi Array**	**39.08**	**61**	*e*P		**P**		**21 21 26.8**	**-0.1**
NVS	**Novosibirsk**	**39.11**	**48**	*e*P		**P**		**21 21 28.3**	**+1.3**
NVS				*e*				21 22 53.7	
NVS						pmax	pmax		
	comp=Z,23nm,0.8s								
NVS						pmax	pmax		
	comp=N,1.0nm,0.2s								
NVS						pmax	pmax		
	comp=E,11nm,0.8s								
SPITS	**Spitsbergen Ar**	**39.50**	**356**	P		**P**		**21 21 32.8**	**+2.7**
	comp=E,8.9nm,1.0s,baz=177,slow=8.3,SNR=3.9								
SPITS				LR		LR		21 39 19.8	
	comp=E,335nm,18.8s,baz=175,slow=38								
ZAA0	**Zalesovo Array**	**40.04**	**49**	*e*P		**P**		**21 21 34.5**	**-0.3**
ZAA0	**Zalesovo Array**	**40.04**	**49**	*e*P		**P**		**21 21 34.5**	**-0.3**
ZAA1	**Zalesovo Array**	**40.04**	**49**	*e*P		**P**		**21 21 35.0**	**+0.2**
ZAA1	**Zalesovo Array**	**40.04**	**49**	*e*P		**P**		**21 21 35.0**	**+0.2**
ZALV	**Zalesovo Beam**	**40.04**	**49**	P		**P**		**21 21 35.0**	**+0.2**
	comp=E,11nm,0.7s,baz=272,slow=8.9,SNR=39								
ZALV				LR		LR		21 41 34.9	
	comp=E,211nm,19.8s,baz=250,slow=41								
ZALV	**Zalesovo Beam**	**40.04**	**49**	P		**P**		**21 21 35.0**	**+0.2**
ZALV				pmax		pmax			
	comp=Z,11nm,0.7s								
ZALV				MLR		MLR			
	comp=Z,211nm,19.8s								
ZALV	**Zalesovo Beam**	**40.04**	**49**	P		**P**		**21 21 35.0**	**+0.2**
KBS	**Kingsbay**	**40.49**	**355**	*e*P		**P**		**21 21 37.9**	**-0.3**
KBS				pmax		pmax			
	comp=Z,15nm,1.1s								
KBS	**Kingsbay**	**40.49**	**355**	*e*P		**P**		**21 21 37.9**	**-0.3**
	comp=Z,15nm,1.1s								
KBS	**Kingsbay**	**40.49**	**355**	*e*P		**P**		**21 21 37.9**	**-0.3**
	comp=Z,15nm,1.1s								
KMBO	**Kilima Mbogo**	**40.77**	**167**	P		**P**		**21 21 43.6**	**+2.1**
	comp=Z,0.6nm,0.4s,baz=27,slow=9.5,SNR=3.0								
KMBO	**Kilima Mbogo**	**40.77**	**167**	*e*P		**P**		**21 21 43.6**	**+2.1**
	comp=Z,9.8nm,1.6s								
KMBO	**Kilima Mbogo**	**40.77**	**167**	*e*P		**P**		**21 21 43.6**	**+2.1**
	comp=Z,9.8nm,1.6s								
NRIK	**Noril'sk**	**42.96**	**26**	P		**P**		**21 22 00.1**	**+1.6**
	comp=Z,1.9nm,0.4s,baz=220,slow=4.5,SNR=4.2								
NRIK				LR		LR		21 43 15.6	
	comp=Z,235nm,18.6s,baz=292,slow=41								
WMQ	**Urumqi**	**43.40**	**64**	P		**P**		**21 22 00.0**	**-2.6**
WMQ				pP		pP		21 22 04.5	-2.0
WMQ				PMZ					
	comp=Z,15nm,0.7s								
WMQ				PMZ					
	comp=Z,68nm,3.7s								
WMQ				LN					
	comp=Z,170nm,21.3s								
WMQ				LE					
	comp=Z,53nm,12.7s								
DBIC	**Dimbokro**	**44.46**	**232**	P		**P**		**21 22 10.3**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=31,slow=9.6,SNR=4.2								
DBIC	**Dimbokro**	**44.46**	**232**	*e*P		**P**		**21 22 10.3**	**-0.9**
	comp=Z,38nm,1.5s								
DBIC	**Dimbokro**	**44.46**	**232**	*e*P		**P**		**21 22 10.3**	**-0.9**
	comp=Z,38nm,1.5s								
PYUN	**Piuthan**	**45.67**	**87**	*e*P		**P**		**21 22 21.4**	**+0.4**
	comp=Z,50nm,0.8s								
KOLN	**Koldanda**	**46.30**	**87**	*e*P		**P**		**21 22 26.2**	**+0.2**
	comp=Z,41nm,0.8s								
SUMG	**Summit**	**46.44**	**337**	*e*P		**P**		**21 22 26.2**	**-0.5**
SUMG	**Summit**	**46.44**	**337**	*e*P		**P**		**21 22 26.1**	**-0.6**
	comp=Z,8.3nm,1.0s								
SUMG	**Summit**	**46.44**	**337**	*e*P		**P**		**21 22 26.1**	**-0.6**
	comp=Z,8.3nm,1.0s								
GKN	**Gorkha**	**46.99**	**86**	*e*P		**P**		**21 22 31.3**	**-0.1**
	comp=Z,44nm,1.0s								
DMN	**Daman**	**47.54**	**86**	*e*P		**P**		**21 22 36.0**	**+0.2**
	comp=Z,46nm,1.0s								
PKIN	**Phulchoki**	**47.78**	**86**	*e*P		**P**		**21 22 37.6**	**-0.1**
	comp=Z,14nm,0.9s								
MOY	**Mondy**	**50.07**	**51**	*e*P		**P**		**21 22 56.9**	**+2.2**
LSA	**Lhasa**	**51.22**	**81**	*e*P		**P**		**21 23 04.8**	**+0.7**
LSA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
LSA	**Lhasa**	**51.22**	**81**	*e*P		**P**		**21 23 04.8**	**+0.7**
	comp=Z,7.1nm,0.8s								
LSA	**Lhasa**	**51.22**	**81**	*e*P		**P**		**21 23 04.8**	**+0.7**
	comp=Z,7.1nm,0.8s								
TLY	**Talaya**	**51.65**	**50**	P		**P**		**21 23 07.6**	**+1.1**
	comp=Z,5.3nm,0.7s,baz=310,slow=9.5,SNR=5.3								
TLY	**Talaya**	**51.65**	**50**	*e*P		**P**		**21 23 08.1**	**+1.6**
TLY				*e*S		S		21 30 47.8	+21
TLY				*e*SS		**SS**		**21 34 05.3**	**+2.2**
TLY				pmax		pmax			
	comp=Z,6.0nm,0.6s								
TLY				MLR		MLR			
	comp=Z,146nm,18.0s								
ZAK	**Zakamensk**	**51.82**	**52**	*e*P		**P**		**21 23 08.1**	**+0.2**
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
GTA	**Gaotai**	**53.43**	**66**	⇑P		**P**		**21 23 20.5**	**+0.5**
GTA				pP		sP		21 23 25.0	-0.5
GTA				sP		pP		21 23 27.5	+3.5
GTA				S		**S**		**21 30 53.5**	**+1.4**
GTA				sS		sS		21 31 01.5	+2.8
GTA				SS		**SKiKP**		**21 34 35.3**	**-0.6**
GTA				PMZ					
	comp=Z,7.0nm,1.4s								
GTA				PMZ					
	comp=Z,92nm,5.9s								
GTA				LN					
	comp=Z,160nm,16.2s								
GTA				LE					
	comp=Z,100nm,16.6s								
SONA0	**Songino Array**	**54.60**	**54**	*e*P		**P**		**21 23 29.2**	**+0.8**
	comp=Z,8.0nm,0.8s								
SONA0	**Songino Array**	**54.60**	**54**	*e*P		**P**		**21 23 29.2**	**+0.8**
	comp=Z,8.0nm,0.8s								
SONM	**Songino Array**	**54.60**	**54**	P		**P**		**21 23 29.2**	**+0.8**
	comp=Z,6.9nm,0.8s,baz=297,slow=7.6,SNR=40								
SONM				LR		LR		21 50 49.3	
	comp=Z,213nm,18.7s,baz=290,slow=40								
SONA1	**Songino Array**	**54.61**	**54**	*e*P		**P**		**21 23 28.5**	**0.0**
SONA1	**Songino Array**	**54.61**	**54**	*e*P		**P**		**21 23 28.5**	**0.0**
ULN	**Ulaanbaatar**	**55.01**	**54**	⇑*i*P		**P**		**21 23 31.1**	**-0.3**
ULN				pmax		pmax			
	comp=Z,13nm,0.8s								
ULN	**Ulaanbaatar**	**55.01**	**54**	*e*P		**P**		**21 23 31.4**	**0.0**
	comp=Z,11nm,0.8s								
ULN	**Ulaanbaatar**	**55.01**	**54**	*e*P		**P**		**21 23 31.4**	**0.0**
	comp=Z,11nm,0.8s								
TIXI	**Tiksi**	**56.34**	**22**	P		**P**		**21 23 40.4**	**0.0**
	comp=Z,1.1nm,0.5s,baz=295,slow=7.2,SNR=6.1								
TIXI				LR		LR		21 51 05.3	
	comp=Z,158nm,18.9s,baz=256,slow=40								
TIXI	**Tiksi**	**56.34**	**22**	⇑*e*P		**P**		**21 23 40.2**	**-0.2**
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.8s								
TIXI	**Tiksi**	**56.34**	**22**	*e*P		**P**		**21 23 40.7**	**+0.3**
TIXI	**Tiksi**	**56.34**	**22**	*e*P		**P**		**21 23 40.6**	**+0.3**
LZH	**Lanzhou**	**57.74**	**68**	*e*P		P		21 23 46.0	-5.1
LZH				PP		**PP**		**21 25 55.3**	**-3.6**
LZH				PMZ					
	comp=Z,21nm,1.3s								
LZH				PMZ					
	comp=Z,78nm,7.5s								
LZH				LN					
	comp=Z,390nm,14.5s								
LZH				LE					
	comp=Z,370nm,15.2s								
LZH				LZ					
	comp=Z,460nm,18.3s								
CD2	**Chengdu**	**60.17**	**73**	*e*P		**P**		**21 24 05.3**	**-2.6**
CD2				PcS		**PcS**		**21 28 53.3**	**-2.6**
CD2				S		**S**		**21 32 18.8**	**-2.4**
CD2				SS		**SS**		**21 36 16.8**	**-1.2**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
YAK	**Yakutsk**	**60.88**	**32**	LR		LR		21 54 29.7	
	comp=Z,209nm,18.4s,baz=302,slow=40								
HHC	**Hu-ho-hao-te**	**60.90**	**59**	*e*P		**P**		**21 24 10.0**	**-2.8**
HHC				S		**S**		**21 32 23.5**	**-7.0**
HHC				PMZ					
	comp=Z,30nm,1.0s								
HHC				PMZ					
	comp=Z,100nm,5.3s								
HHC				LN					
	comp=Z,180nm,16.2s								
HHC				LE					
	comp=Z,170nm,16.0s								
HHC				LZ					
	comp=Z,220nm,17.3s								
SCHQ	**Schefferville**	**62.18**	**319**	P		**P**		**21 24 20.1**	**-0.9**
	comp=Z,6.4nm,0.7s,baz=78,slow=4.1,SNR=6.7								
SCHQ	**Schefferville**	**62.18**	**319**	*e*P		**P**		**21 24 21.4**	**+0.4**
	comp=Z,7.9nm,0.8s								
SCHQ	**Schefferville**	**62.18**	**319**	*e*P		**P**		**21 24 21.4**	**+0.4**
	comp=Z,7.9nm,0.8s								
KMI	**Kunming**	**62.40**	**79**	P		**P**		**21 24 23.3**	**0.0**
KMI				PMZ					
	comp=Z,7.0nm,1.2s								
KMI				PMZ					
	comp=Z,71nm,5.1s								
CHTO	**Chiang Mai**	**62.96**	**87**	P		**P**		**21 24 28.1**	**+1.3**
	comp=Z,56nm,1.4s								
CHTO	**Chiang Mai**	**62.96**	**87**	*e*P		**P**		**21 24 25.2**	**-1.6**
CHTO				pmax		pmax			
	comp=Z,6.0nm,0.9s								
CHTO	**Chiang Mai**	**62.96**	**87**	*e*P		**P**		**21 24 25.2**	**-1.6**
	comp=Z,6.3nm,0.9s								
CHTO	**Chiang Mai**	**62.96**	**87**	*e*P		**P**		**21 24 25.2**	**-1.6**
	comp=Z,6.3nm,0.9s								
CMMT	**Chiang Mai**	**62.97**	**87**	P		**P**		**21 24 28.1**	**+1.3**
	comp=Z,6.9nm,0.9s								
CM31	**Chiang Mai Arr**	**63.16**	**87**	*e*P		**P**		**21 24 27.3**	**-0.9**
CM31	**Chiang Mai Arr**	**63.16**	**87**	*e*P		**P**		**21 24 27.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**63.16**	**87**	P		**P**		**21 24 27.4**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=300,slow=7.8,SNR=29								
CMAR				LR		LR		21 56 18.8	
	comp=Z,89nm,20.0s,baz=316,slow=40								
CM01	**Chiang Mai Arr**	**63.20**	**87**	*e*P		**P**		**21 24 26.8**	**-1.6**
CM01	**Chiang Mai Arr**	**63.20**	**87**	*e*P		**P**		**21 24 26.8**	**-1.6**
LAMP	**Lampang**	**63.66**	**87**	P		**P**		**21 24 33.7**	**+2.3**
	comp=Z,4.0nm,0.8s								
SUKH	**Sukhothai**	**64.26**	**88**	P		**P**		**21 24 37.2**	**+1.9**
	comp=Z,4.0nm,0.8s								
GYA	**Guiyang**	**64.66**	**76**	P		**P**		**21 24 38.3**	**+0.2**
GYA				PMZ					
	comp=Z,10.0nm,1.0s								
ENH	**Enshi**	**64.73**	**71**	*e*P		**P**		**21 24 38.1**	**-0.3**
	comp=Z,11nm,0.8s								
ENH	**Enshi**	**64.73**	**71**	*e*P		**P**		**21 24 38.1**	**-0.3**
	comp=Z,11nm,0.8s								
CN2	**Changchun**	**68.24**	**51**	*e*P		**P**		**21 24 59.8**	**-0.8**
BILL	**Bilibino**	**68.43**	**16**	*de*P		**P**		**21 25 01.1**	**-0.2**
BILL				*e*				21 25 25.9	
BILL				*e*				21 27 34.5	
BILL				*e*PPP		PPP		21 29 09.0	
BILL				*e*SSS		SSS		21 41 25.6	
BILL				pmax		pmax			
	comp=Z,8.0nm,1.7s								
BILL				MLR		MLR			
	comp=Z,197nm,19.0s								
SEY	**Seymchan**	**68.69**	**24**	P		**P**		**21 25 05.0**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=319,slow=6.9,SNR=7.9								
KLR	**Kul'dur**	**68.75**	**43**	P		**P**		**21 25 05.0**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=312,slow=7.9,SNR=8.3								
MA2	**Magadan**	**70.55**	**27**	P		**P**		**21 25 16.1**	**+1.6**
	comp=Z,4.4nm,0.3s,baz=18,slow=15,SNR=4.1								
HNH	**Hanover**	**71.21**	**311**	*e*P		**P**		**21 25 19.6**	**+0.7**
	comp=Z,102nm,2.0s								
HNH	**Hanover**	**71.21**	**311**	*e*P		**P**		**21 25 19.6**	**+0.7**
	comp=Z,102nm,2.0s								
QIZ	**Qiongzhong**	**71.26**	**80**	P		**P**		**21 25 18.0**	**-1.5**
QIZ				S		**S**		**21 34 35.5**	**-1.4**
VLDQ	**Val d'Or**	**71.42**	**317**	*e*P		**P**		**21 25 21.0**	**+1.0**
	comp=Z,6.1nm,0.8s								
VLDQ	**Val d'Or**	**71.42**	**317**	*e*P		**P**		**21 25 20.9**	**+1.0**
	comp=Z,6.1nm,0.8s								
USRK	**Ussuriysk Ar.**	**71.86**	**48**	P		**P**		**21 25 23.3**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=292,slow=5.0,SNR=8.9								
KS01	**Wonju Array Si**	**73.41**	**55**	*e*P		**P**		**21 25 31.2**	**-0.9**
KS01	**Wonju Array Si**	**73.41**	**55**	*e*P		**P**		**21 25 31.2**	**-0.9**
KS15	**Wonju Array Si**	**73.42**	**55**	*e*P		**P**		**21 25 32.3**	**+0.1**
KS15	**Wonju Array Si**	**73.42**	**55**	*e*P		**P**		**21 25 32.3**	**+0.1**
KSAR	**Wonju Array Be**	**73.42**	**55**	P		**P**		**21 25 31.9**	**-0.3**
KSAR	**Wonju Array Be**	**73.42**	**55**	P		**P**		**21 25 31.9**	**-0.3**
KSAR	**Wonju Array Be**	**73.42**	**55**	P		**P**		**21 25 31.9**	**-0.3**
KSRS	**Korea Array**	**73.44**	**55**	P		**P**		**21 25 31.9**	**-0.3**
	comp=Z,17nm,0.8s,baz=306,slow=4.9,SNR=42								
KSRS				LR		LR		22 01 33.8	
	comp=Z,235nm,19.1s,baz=312,slow=39								
YKA	**Yellowknife Ar.**	**74.58**	**343**	P		**P**		**21 25 38.8**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=18,slow=6.5,SNR=3.7								
YKB5	**Yellowknife Ar**	**74.58**	**343**	*e*P		**P**		**21 25 38.8**	**+0.4**
YKB5	**Yellowknife Ar**	**74.58**	**343**	*e*P		**P**		**21 25 38.9**	**+0.4**
MDM	**Murphy Dome**	**76.22**	**359**	*e*P		**P**		**21 25 48.8**	**+0.9**
	comp=Z,7.6nm,1.3s								
MDM	**Murphy Dome**	**76.22**	**359**	*e*P		**P**		**21 25 48.8**	**+0.9**
	comp=Z,7.6nm,1.3s								
ILAR	**Eielson Array**	**76.38**	**358**	P		**P**		**21 25 51.0**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=9.5,slow=6.9,SNR=4.4								
ILB	**Eielson Array**	**76.38**	**358**	*e*P		**P**		**21 25 51.0**	**+2.2**
ILB	**Eielson Array**	**76.38**	**358**	*e*P		**P**		**21 25 51.0**	**+2.2**
DOT	**Dot Lake**	**77.41**	**357**	*e*P		**P**		**21 25 55.7**	**+1.0**
	comp=Z,11nm,1.0s								
DOT	**Dot Lake**	**77.41**	**357**	*e*P		**P**		**21 25 55.7**	**+1.0**
	comp=Z,11nm,1.0s								
FFC	**Flin Flon**	**77.53**	**333**	⇑*e*P		**P**		**21 25 55.5**	**+0.1**
PETK	**Petropavlovsk-**	**77.96**	**29**	LR		LR		22 02 59.0	
	comp=Z,144nm,19.5s,baz=319,slow=38								
ULM	**Lac du Bonnet**	**78.68**	**328**	LR		LR		22 02 18.3	
	comp=Z,129nm,18.4s,baz=30,slow=37								
MAT	**Matsushiro**	**80.39**	**50**	P		**P**		**21 26 10.8**	**-0.7**
MJAR	**Matsushiro Arr**	**80.39**	**50**	P		**P**		**21 26 11.3**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=313,slow=4.9,SNR=8.9								
MJAR				LR		LR		22 05 34.8	
	comp=Z,83nm,18.3s,baz=355,slow=38								
JFWS	**Jewell Farm**	**81.55**	**320**	*e*P		**P**		**21 26 14.6**	**-3.0**
JFWS				pmax		pmax			
	comp=Z,17nm,0.6s								
JFWS	**Jewell Farm**	**81.55**	**320**	*e*P		**P**		**21 26 14.6**	**-3.0**
	comp=Z,18nm,0.6s								
LAO	**LA Array**	**85.66**	**331**	*e*P		**P**		**21 26 38.5**	**-0.2**
	comp=Z,32nm,1.6s								
LAO	**LASA Array**	**85.66**	**331**	*e*P		**P**		**21 26 38.5**	**-0.2**
	comp=Z,32nm,1.6s								
MYLDM	**Lahad Datu**	**86.35**	**86**	*e*P		**P**		**21 26 43.7**	**+1.2**
	comp=Z,11nm,1.1s								
MYLDM	**Lahad Datu**	**86.35**	**86**	*e*P		**P**		**21 26 43.7**	**+1.2**
	comp=Z,11nm,1.1s								
WHAR	**Wooly Hollow**	**88.24**	**316**	*e*P		**P**		**21 26 50.1**	**-1.2**
	comp=Z,8.3nm,1.0s								
WHAR	**Wooly Hollow**	**88.24**	**316**	*e*P		**P**		**21 26 50.1**	**-1.2**
	comp=Z,8.3nm,1.0s								
X201	**Greenbrier Sit**	**88.27**	**316**	*e*P		**P**		**21 26 51.4**	**-0.1**
	comp=Z,9.3nm,0.9s								
X201	**Greenbrier Sit**	**88.27**	**316**	*e*P		**P**		**21 26 51.4**	**-0.1**
	comp=Z,9.3nm,0.9s								
GDL2	**Guadalupe Moun**	**96.87**	**322**	*e*P		**P**		**21 27 30.5**	**-0.9**
GDL2	**Guadalupe Moun**	**96.87**	**322**	*e*P		**P**		**21 27 30.5**	**-0.9**
LTX	**Lajitas**	**98.87**	**320**	*e*P		**P**		**21 27 39.1**	**-1.4**
LTX	**Lajitas**	**98.87**	**320**	*e*P		**P**		**21 27 39.0**	**-1.4**
LTX	**Lajitas**	**98.87**	**320**	*e*P		**P**		**21 27 39.0**	**-1.4**
TXAR	**Lajitas Array**	**98.87**	**320**	P		**P**		**21 27 39.0**	**-1.4**
	comp=Z,1.2nm,1.2s,baz=84,slow=5.2,SNR=4.2								
TXAR				LR		LR		22 13 09.3	
	comp=Z,54nm,19.9s,baz=0.0,slow=36								
WSHM	**Spangler Hills**	**99.46**	**333**	*e*P		**Pdif**		**21 27 42.3**	**-0.6**
WSHM	**Spangler Hills**	**99.46**	**333**	*e*P		**Pdif**		**21 27 42.3**	**-0.6**
AS31	**Alice Springs**	**115.71**	**100**	*e*PKIKP		**PKPdf**		**21 32 41.7**	**-0.9**
AS31	**Alice Springs**	**115.71**	**100**	*e*PKPdf		**PKPdf**		**21 32 41.7**	**-0.9**
ASAR	**Alice Springs**	**115.71**	**100**	PKP		**PKPdf**		**21 32 41.7**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=32,slow=0.4,SNR=6.6								

*CSEM **27** 21:15:19.1,38°.02N×14°.74E,h9km,MD2.2/14*
ROM 27 21:15:19.1±0.1,38°.02N×14°.74E,h9km,Md2.2/14,
MI2.1/10,4C,Error ellipse: s-maj=1.1km s-min=0.8km az=180.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNO	**Monte Soro**	**0.10**	**200**	⇑*i*Pg	Pg	21 15 21.8	+0.1
MNO				Sg	Sg	21 15 23.9	+0.4
	1μm,0.2s						
MUCR	**Ucria**	**0.11**	**80**	⇑*i*Pg	Pg	21 15 22.1	+0.3
MUCR				Sg	Sg	21 15 24.5	+0.8
	1μm,0.5s						
MUCR	**Ucria**	**0.11**	**80**	⇑*i*Pg	Pg	21 15 22.1	+0.3
MUCR				Sg	Sg	21 15 24.5	+0.8
	1μm,0.5s						
MSFR	**San Fratello**	**0.11**	**275**	Pg	Pg	21 15 22.1	+0.3
MSFR				Sg	Sg	21 15 24.4	+0.7
	194nm,0.4s						
MSFR	**San Fratello**	**0.11**	**275**	Pg	Pg	21 15 22.1	+0.3
MSFR				Sg	Sg	21 15 24.4	+0.7
	194nm,0.4s						
NOV	**Novara**	**0.32**	**89**	Pg	Pg	21 15 26.1	+0.7
NOV				Sg	Sg	21 15 30.9	+1.2
	113nm,0.3s						
NOV	**Novara**	**0.32**	**89**	Pg	Pg	21 15 26.1	+0.7
NOV				Sg	Sg	21 15 30.9	+1.2
	113nm,0.3s						
GALF	**Gagliano Caste**	**0.34**	**203**	Pg	Pb	21 15 26.6	-0.8
	176nm,0.6s						
GALF	**Gagliano Caste**	**0.34**	**203**	Pg	Pb	21 15 26.6	-0.8
	176nm,0.6s						
VPL	**Vulcano Piano**	**0.41**	**29**	Pg	Pb	21 15 27.8	-0.7
	559nm,0.3s						
VPL	**Vulcano Piano**	**0.41**	**29**	Pg	Pb	21 15 27.8	-0.7
	559nm,0.3s						
MCSR	**Castroreale**	**0.41**	**84**	Pg	Pg	21 15 27.3	+0.2
MCSR				Sg	Sg	21 15 33.6	+1.1
	241nm,0.3s						
MCSR	**Castroreale**	**0.41**	**84**	Pg	Pg	21 15 27.3	+0.2
MCSR				Sg	Sg	21 15 33.6	+1.1
	241nm,0.3s						
MMME	**Mongiuffi-Meli**	**0.42**	**102**	Pg	Pb	21 15 28.2	-0.6
	54nm,0.3s						
MMME	**Mongiuffi-Meli**	**0.42**	**102**	Pg	Pb	21 15 28.2	-0.6
	54nm,0.3s						
ECNV	**Catenanuova**	**0.43**	**182**	Pg	Pb	21 15 28.5	-0.3
ECNV	**Catenanuova**	**0.43**	**182**	Pg	Pb	21 15 28.5	-0.3
LLI	**Lipari**	**0.45**	**22**	Pg	Pb	21 15 29.1	-0.2
LLI	**Lipari**	**0.45**	**22**	Pg	Pb	21 15 29.1	-0.2
PLLN	**Pollina**	**0.47**	**266**	Pg	Pg	21 15 28.6	+0.4
	33nm,0.2s						
PLLN	**Pollina**	**0.47**	**266**	Pg	Pg	21 15 28.6	+0.4
	33nm,0.2s						
MPNC	**Port Mandanici**	**0.50**	**76**	Pg	Pg	21 15 29.2	+0.3
MPNC				Sg	Sb	21 15 36.7	-0.9
	113nm,0.4s						
MPNC	**Port Mandanici**	**0.50**	**76**	Pg	Pg	21 15 29.2	+0.3
MPNC				Sg	Sb	21 15 36.7	-0.9
	113nm,0.4s						
IFIL	**Filicudi I Eol**	**0.56**	**346**	Pg	Pg	21 15 30.1	+0.2
	77μm,26.0s						
IFIL	**Filicudi I Eol**	**0.56**	**346**	Pg	Pg	21 15 30.1	+0.2
	77μm,26.0s						
IACL	**Alicudi**	**0.59**	**330**	Pg	Pb	21 15 31.1	-0.5
	152nm,0.3s						
IACL	**Alicudi**	**0.59**	**330**	Pg	Pb	21 15 31.1	-0.5
	152nm,0.3s						
HLNI	**Lentini**	**0.68**	**171**	Pg	Pb	21 15 32.9	-0.3
HLNI	**Lentini**	**0.68**	**171**	Pg	Pb	21 15 32.9	-0.3

*ISK **27** 21:17:16.8,39°.09N×29°.08E,h5km,MD2.8*
*ISCJB **27** 21:17:17.4±0.5,39°.07N±0°.04×29°.07E±0°.04,h10km±5km, Error ellipse: s-maj=6.7km s-min=3.9km az=143.8*
*DDA **27** 21:17:17.6,39°.11N×29°.04E,h7km,Md2.5*
*CSEM **27** 21:17:17.5±0.1,39°.06N×29°.07E,h10km,MD2.5, Error ellipse: s-maj=4.3km s-min=2.9km az=127.0*
ISC 27 21:17:17.6±0.9,39°.07N±0°.03×29°.08E±0°.02,h12km±9km, n32,σ0s61/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**264**	P	**Pg**	**21 17 23.6**	**+0.1**
DEMI				S	**Sg**	**21 17 27.3**	**-0.2**
DEMI	**Demirci**	**0.29**	**264**	*i* P	**Pg**	**21 17 23.6**	**+0.1**
DEMI				*i* S	**Sg**	**21 17 27.3**	**-0.2**
GDZ	**Gediz**	**0.31**

MANT				S	Sb	21 19 31.7	-0.7		
MANT	**Manisa**	**0.75**	**203**	*i* P	Pb	21 19 22.3	-0.3		
MANT				*i* S	Sb	21 19 31.7	-0.7		
BALB	**Balikesir**	**0.93**	**299**	*e*PG	Pb	21 19 25.5	0.0		
BALB	**Balikesir**	**0.93**	**299**	*e*Pg	Pb	21 19 25.5	0.0		
KHL	**Karahalli**	**0.98**	**151**	*e*PG	Pn	21 19 27.3	+0.7		
KHL	**Karahalli**	**0.98**	**151**	*e*Pg	Pn	21 19 27.3	+0.7		
IZI	**Iznik**	**1.22**	**20**	*e*PN	Pb	21 19 30.8	+0.3		
IZI	**Iznik**	**1.22**	**20**	*e*Pn	Pb	21 19 30.8	+0.3		
CAVI	**Cavuskoy**	**1.24**	**34**	*e*PN	Pb	21 19 30.5	-0.2		
CAVI	**Cavuskoy**	**1.24**	**34**	*e*Pn	Pb	21 19 30.5	-0.2		
GONE	**Gonen-Balikesi**	**1.29**	**312**	*e*PN	Pb	21 19 31.6	0.0		
GONE	**Gonen-Balikesi**	**1.29**	**312**	*e*Pn	Pb	21 19 31.6	0.0		
ARMT	**Armutlu**	**1.38**	**358**	*e*PN	Pb	21 19 32.6	-0.5		
ARMT	**Armutlu**	**1.38**	**358**	*e*Pn	Pb	21 19 32.6	-0.5		
ADVT	**Abdulvahap**	**1.39**	**26**	*e*PN	Pb	21 19 32.9	-0.4		
ADVT	**Abdulvahap**	**1.39**	**26**	*e*Pn	Pb	21 19 32.9	-0.4		
EDC	**Edincik**	**1.42**	**325**	*e*PN	Pb	21 19 33.4	-0.4		
EDC	**Edincik**	**1.42**	**325**	*e*Pn	Pb	21 19 33.4	-0.4		
ESKT	**Eskisehir**	**1.53**	**77**	*e*PN	Pb	21 19 35.0	-0.7		
ESKT	**Eskisehir**	**1.53**	**77**	*e*Pn	Pb	21 19 35.0	-0.7		
HRT	**Hereke**	**1.73**	**19**	*e*PN	Pb	21 19 37.9	-1.2		
HRT	**Hereke**	**1.73**	**19**	*e*Pn	Pb	21 19 37.9	-1.2		
GULT	**Gulveren**	**1.74**	**44**	*e*PN	Pb	21 19 38.2	-1.2		
GULT	**Gulveren**	**1.74**	**44**	*e*Pn	Pb	21 19 38.2	-1.2		
ISK	**Istanbul-Kandi**	**1.88**	**3**	*e*PN	Pn	21 19 39.8	+0.8		
ISK	**Istanbul-Kandi**	**1.88**	**3**	*e*Pn	Pn	21 19 39.8	+0.8		

DDA ***27*** *21:19:44.9,39.11N×29.01E,h7km,Md2.9*
ISCJB ***27*** *21:19:45.3±0.4,39.11N±0.03×29.00E±0.03,h8km±5km, Error ellipse: s-maj=4.8km s-min=3.7km az=161.0*
ISK ***27*** *21:19:45.0,39.12N×28.99E,h6km,ML3.2*
CSEM ***27*** *21:19:45.6±0.1,39.11N×28.99E,h8km,MD2.9, Error ellipse: s-maj=2.1km s-min=1.8km az=134.0*

ISC 27 21:19:45.5±0.9, 39.11N±0.02×29.01E±0.02, h10km±9km, n43,σ0§48/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**253**	P	**Pg**	21 19 50.5	+0.1
DEMI				S	**Sg**	21 19 54.0	+0.3
DEMI	**Demirci**	**0.24**	**253**	*i* P	**Pg**	21 19 50.5	+0.1
DEMI				*i* S	**Sg**	21 19 54.0	+0.3
GEDZ	**Gediz**	**0.32**	**102**	*e*PG	**Pb**	21 19 53.0	-0.4
GEDZ	**Gediz**	**0.32**	**102**	*e*Pg	**Pb**	21 19 53.0	-0.4
GDZ	**Gediz**	**0.37**	**94**	P	**Pg**	21 19 52.6	-0.3
GDZ				S	**Sg**	21 19 58.1	+0.3
GDZ	**Gediz**	**0.37**	**94**	*i* P	**Pg**	21 19 52.6	-0.3
GDZ				*i* S	**Sg**	21 19 58.1	+0.3
TVSB	**Tavsanli**	**0.49**	**46**	*e*PG	**Pg**	21 19 55.0	-0.1
TVSB				*e*SG	**Sg**	21 20 01.7	+0.2
TVSB	**Tavsanli**	**0.49**	**46**	*e*Pg	**Pg**	21 19 55.0	-0.1
TVSB				*e*Sg	**Sg**	21 20 01.7	+0.2
KULA	**Kula-Manisa**	**0.66**	**204**	*e*PG	**Pg**	21 19 58.2	-0.1
KULA				*e*SG	**Sg**	21 20 07.0	+0.1
KULA	**Kula-Manisa**	**0.66**	**204**	*e*Pg	**Pg**	21 19 58.2	-0.1
KULA				*e*Sg	**Sg**	21 20 07.0	+0.1
MANT	**Manisa**	**0.71**	**210**	P	**Pg**	21 19 58.6	-0.8
MANT				S	**Sg**	21 20 07.8	-1.0
MANT	**Manisa**	**0.71**	**210**	*i* P	**Pg**	21 19 58.6	-0.8
MANT				*i* S	**Sg**	21 20 07.8	-1.0
KHL	**Karahalli**	**0.89**	**153**	*e*PG	**Pb**	21 20 03.3	+0.2
KHL				*e*SG	**Sb**	21 20 14.9	-0.1
KHL	**Karahalli**	**0.89**	**153**	*e*Pg	**Pb**	21 20 03.3	+0.2
KHL				*e*Sg	**Sb**	21 20 14.9	-0.1
AKS	**Akhisar**	**0.96**	**256**	*e*PG	**Pg**	21 20 03.7	-0.3
AKS				*e*SG	**Sb**	21 20 17.3	+0.3
AKS	**Akhisar**	**0.96**	**256**	*e*Pg	**Pg**	21 20 03.7	-0.3
AKS				*e*Sg	**Sb**	21 20 17.3	+0.3
BALB	**Balikesir**	**1.02**	**301**	*e*PG	**Pg**	21 20 05.3	+0.2
BALB				*e*SG	**Sb**	21 20 19.4	+0.7
BALB	**Balikesir**	**1.02**	**301**	*e*Pg	**Pg**	21 20 05.3	+0.2
BALB				*e*Sg	**Sb**	21 20 19.4	+0.7
IGD	**Bursa**	**1.16**	**7**	*i* P	**Pb**	21 20 06.4	-1.3
IGD				*i* S	**Sg**	21 20 21.4	-1.5
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*PN	**Pn**	21 20 09.3	+0.1
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*Pn	**Pn**	21 20 09.3	+0.1
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pn**	21 20 09.3	+0.1
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pn**	21 20 09.3	+0.1
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pn**	21 20 09.6	+0.3
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pn**	21 20 09.6	+0.3
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pn**	21 20 09.8	+0.3
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pn**	21 20 09.8	+0.3
GEMT	**Gemlik**	**1.33**	**6**	*e*PN	**Pn**	21 20 10.5	+0.4
GEMT	**Gemlik**	**1.33**	**6**	*e*Pn	**Pn**	21 20 10.5	+0.4
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*PN	**Pn**	21 20 11.2	+0.3
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*Pn	**Pn**	21 20 11.2	+0.3
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN	**Pn**	21 20 12.2	+0.6
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn	**Pn**	21 20 12.2	+0.6
ARMT	**Armutlu**	**1.45**	**356**	*e*PN	**Pn**	21 20 12.1	+0.2
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn	**Pn**	21 20 12.1	+0.2
ESKT	**Eskisehir**	**1.49**	**74**	*e*PN	**Pb**	21 20 13.3	0.0
ESKT	**Eskisehir**	**1.49**	**74**	*e*Pn	**Pb**	21 20 13.3	0.0
EDC	**Edincik**	**1.51**	**325**	*e*PN	**Pn**	21 20 13.3	+0.6
EDC	**Edincik**	**1.51**	**325**	*e*Pn	**Pn**	21 20 13.3	+0.6
GULT	**Gulveren**	**1.76**	**41**	*e*PN	**Pn**	21 20 16.7	+0.6
GULT	**Gulveren**	**1.76**	**41**	*e*Pn	**Pn**	21 20 16.7	+0.6
HRT	**Hereke**	**1.78**	**16**	*e*PN	**Pn**	21 20 17.0	+0.6
HRT	**Hereke**	**1.78**	**16**	*e*Pn	**Pn**	21 20 17.0	+0.6

ISCJB ***27*** *21:22:19.7±0.4,39.09N±0.03×29.03E±0.03,h6km±6km, Error ellipse: s-maj=5.8km s-min=3.7km az=163.5*
DDA ***27*** *21:22:19.4,39.09N×29.02E,h7km,Md2.6*
CSEM ***27*** *21:22:19.9±0.1,39.10N×29.03E,h5km,MD2.6, Error ellipse: s-maj=3.1km s-min=2.6km az=143.0*
ISK ***27*** *21:22:19.4,39.11N×29.05E,h5km,MD2.8*

ISC 27 21:22:19.8±1.0, 39.11N±0.02×29.02E±0.02, h8km±9km, n40,σ0§43/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**255**	P	**Pg**	21 22 24.7	+0.1
DEMI				S	**Sg**	21 22 28.2	+0.3
DEMI	**Demirci**	**0.24**	**255**	*i* P	**Pg**	21 22 24.7	+0.1
DEMI				*i* S	**Sg**	21 22 28.2	+0.3
GEDZ	**Gediz**	**0.31**	**101**	*e*PG	**Pg**	21 22 26.1	+0.1
GEDZ				*e*SG	**Sg**	21 22 30.3	+0.1
GEDZ	**Gediz**	**0.31**	**101**	*e*Pg	**Pg**	21 22 26.1	+0.1
GEDZ				*e*Sg	**Sg**	21 22 30.3	+0.1
GDZ	**Gediz**	**0.36**	**93**	P	**Pg**	21 22 26.9	-0.1
GDZ				S	**Sg**	21 22 32.1	+0.3
GDZ	**Gediz**	**0.36**	**93**	*i* P	**Pg**	21 22 26.9	-0.1
GDZ				*i* S	**Sg**	21 22 32.1	+0.3
TVSB	**Tavsanli**	**0.49**	**45**	*e*PG	**Pg**	21 22 28.9	-0.4
TVSB				*e*SG	**Sg**	21 22 35.2	-0.5
TVSB	**Tavsanli**	**0.49**	**45**	*e*Pg	**Pg**	21 22 28.9	-0.4
TVSB				*e*Sg	**Sg**	21 22 35.2	-0.5
KULA	**Kula-Manisa**	**0.65**	**205**	*e*PG	**Pg**	21 22 32.4	0.0
KULA				*e*SG	**Sg**	21 22 41.5	+0.6
KULA	**Kula-Manisa**	**0.65**	**205**	*e*Pg	**Pg**	21 22 32.4	0.0
KULA				*e*Sg	**Sg**	21 22 41.5	+0.6
MANT	**Manisa**	**0.71**	**210**	P	**Pg**	21 22 32.7	-0.8
MANT				S	**Sg**	21 22 42.2	-0.7
MANT	**Manisa**	**0.71**	**210**	*i* P	**Pg**	21 22 32.7	-0.8
MANT				*i* S	**Sg**	21 22 42.1	-0.7
KHL	**Karahalli**	**0.88**	**153**	*e*PG	**Pb**	21 22 37.2	-0.2
KHL	**Karahalli**	**0.88**	**153**	*e*Pg	**Pb**	21 22 37.2	-0.2
AKS	**Akhisar**	**0.96**	**257**	*e*PG	**Pn**	21 22 39.4	-0.3
AKS	**Akhisar**	**0.96**	**257**	*e*Pg	**Pn**	21 22 39.4	-0.3
BALB	**Balikesir**	**1.03**	**302**	*e*PG	**Pn**	21 22 40.8	+0.3
BALB				*e*SG	**Sn**	21 22 55.4	+0.3
BALB	**Balikesir**	**1.03**	**302**	*e*Pg	**Pn**	21 22 40.8	+0.3
BALB				*e*Sg	**Sn**	21 22 55.4	+0.3
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*PN	**Pg**	21 22 43.6	-0.5
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*Pn	**Pg**	21 22 43.6	-0.5
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pg**	21 22 43.6	-0.5
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pg**	21 22 43.6	-0.5
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pn**	21 22 44.4	+0.5
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pn**	21 22 44.4	+0.5
IZI	**Iznik**	**1.28**	**16**	*e*PN	**Pg**	21 22 43.9	-0.5
IZI	**Iznik**	**1.28**	**16**	*e*Pn	**Pg**	21 22 43.9	-0.5
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*PN	**Pg**	21 22 46.5	0.0
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*Pn	**Pg**	21 22 46.5	0.0
ADVT	**Abdulvahap**	**1.44**	**23**	*e*PN	**Pb**	21 22 46.8	0.0
ADVT	**Abdulvahap**	**1.44**	**23**	*e*Pn	**Pb**	21 22 46.8	0.0
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pb**	21 22 47.0	-0.2
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pb**	21 22 47.1	-0.2
ESKT	**Eskisehir**	**1.48**	**73**	*e*PN	**Pg**	21 22 47.6	-0.7
ESKT	**Eskisehir**	**1.48**	**73**	*e*Pn	**Pg**	21 22 47.6	-0.7
EDC	**Edincik**	**1.52**	**325**	*e*PN	**Pn**	21 22 47.9	+0.5
EDC	**Edincik**	**1.52**	**325**	*e*Pn	**Pn**	21 22 47.9	+0.5
GULT	**Gulveren**	**1.76**	**41**	*e*PN	**Pn**	21 22 51.3	+0.6
GULT	**Gulveren**	**1.76**	**41**	*e*Pn	**Pn**	21 22 51.3	+0.6
HRT	**Hereke**	**1.78**	**16**	*e*PN	**Pn**	21 22 51.6	+0.6
HRT	**Hereke**	**1.78**	**16**	*e*Pn	**Pn**	21 22 51.6	+0.6

ISCJB ***27*** *21:24:12.6±1.0,33.12S±0.06×70.23W±0.06,h115km±7km, Error ellipse: s-maj=11.6km s-min=6.7km az=143.7*
GUC ***27*** *21:24:13.5±0.4,33.03S×70.21W,h97km±3km,ML3.0*
SJA ***27*** *21:24:13.8±0.7,33.01S×70.08W,h123km±3km,ML2.3, MW2.8*

ISC 27 21:24:11.6±2.4, 33.15S±0.08×70.28W±0.07, h122km±15km, n17,σ1§01/31, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.18**	**183**	*e*P	**Pn**	21 24 29.1	+0.2
FCH				*e*S	**Sn**	21 24 41.1	-0.9
CLCH	**Cerro Calan**	**0.33**	**221**	*e*P	**Pn**	21 24 29.5	+0.4
CLCH				*e*S	**Sn**	21 24 41.3	-1.0
CLCH				IAML		21 24 43.1	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**0.34**	**270**	*e*P	**Pn**	21 24 28.9	-0.2
PEL				*e*S	**Sn**	21 24 40.9	-1.3
PEL				IAML		21 24 42.5	
	comp=E,692nm,0.5s						
ANTU	**Antumapu**	**0.52**	**215**	*e*P	**Pn**	21 24 30.9	+0.9
ANTU				*e*S	**Sn**	21 24 44.0	+0.1
RCDM	**Rinconada Maip**	**0.56**	**232**	*e*P	**Pn**	21 24 30.9	+0.7
RCDM				*e*S	**Sn**	21 24 44.3	-0.1
ARCO	**CERRO ARCO**	**1.17**	**75**	*i* P	**Pn**	21 24 36.8	+1.0
ARCO				*i* S	**Sn**	21 24 53.9	-0.2
ARCO				IAML		21 24 57.4	
	comp=Z,53nm,0.3s						
AUSP	**Uspallata**	**1.19**	**39**	*i* P	**Pn**	21 24 37.3	+1.2
AUSP				*i* S	**Sn**	21 24 54.9	+0.3
AAGR	**Agrelo**	**1.22**	**88**	*i* P	**Pn**	21 24 37.5	+1.3
AAGR				*i* S	**Sn**	21 24 54.9	0.0
ASAL	**Salagasta**	**1.33**	**66**	*i* P	**Pn**	21 24 38.3	+0.9
ASAL				*i* S	**Sn**	21 24 56.5	-0.5
RTLS	**Leoncito**	**1.58**	**32**	*i* P	**Pn**	21 24 41.9	+1.4
RTLS				*i* S	**Sn**	21 25 01.5	-0.9
RTCV	**Cerro Valdivia**	**1.95**	**49**	*i* P	**Pn**	21 24 45.1	+0.4
RTCV				*i* S	**Sn**	21 25 08.4	-1.5
AMOG	**MOGNA**	**2.67**	**35**	*i* P	**Pn**	21 24 54.6	+0.8
ACAN	**Cantantal**	**2.75**	**72**	*i* P	**Pn**	21 24 55.4	+0.7
ACAN				*i* S	**Sn**	21 25 26.2	-1.7
ACCO	**Cerro Coronel**	**2.75**	**22**	*i* P	**Pn**	21 24 56.2	+1.1
ACCO				*i* S	**Sn**	21 25 28.4	-0.1
ACCO				IAML		21 25 33.0	
	comp=Z,6.1nm,0.3s						
AVFE	**Valle Fertil**	**3.45**	**45**	*i* P	**Pn**	21 25 04.6	+0.6
AVFE				*i* S	**Sn**	21 25 42.1	-2.4
AVFE				IAML		21 25 45.5	
	comp=Z,6.9nm,0.5s						
ACHE	**Chepes**	**3.65**	**58**	*i* P	**Pn**	21 25 07.4	+0.7
TCA	**Tanti**	**5.14**	**71**	*i* P	**Pn**	21 25 26.7	+0.1

MOS ***27*** *21:28:50.3±1.1,39.08N×29.07E,h12km,mb4.2/11, Error ellipse: s-maj=8.2km s-min=4.9km az=79.5*
IDC ***27*** *21:28:50.1±0.9,39.09N×29.05E,h0km,mb3.9/12, mb1 3.9/20,mb1mx3.8/46,mbtmp3.8/20,ML3.5/8,MS3.7/1, Ms1 3.7/1,ms1mx2.7/53,Error ellipse: s-maj=17.5km s-min=11.3km az=26.0*
DDA ***27*** *21:28:50.7,39.12N×29.04E,h12km,Ml4.4*
SOF ***27*** *21:28:51.2,39.21N×28.99E,h8km,MD3.4*
NEIC ***27*** *21:28:51.3,39.10N×29.04E,h8km,mb4.2/8,ML4.4(ISK), After ISK.*
THE ***27*** *21:28:51.4,39.03N×29.18E,h11km±2km,ML4.2/6, Error ellipse: s-maj=3.8km s-min=0.8km az=122.0*
ISK ***27*** *21:28:51.0,39.10N×29.03E,h5km,ML4.4*
ISCJB ***27*** *21:28:51.2±0.3,39.11N±0.01×29.03E±0.02,h12km±2km, mb4.1/20,MS3.6/1, Error ellipse: s-maj=2.3km s-min=2.0km az=171.2*
CSEM ***27*** *21:28:52.0±0.1,39.09N×29.04E,h10km,mb4.3/7, Error ellipse: s-maj=2.2km s-min=1.9km az=16.0*

ISC 27 21:28:52.0±0.8, 39.07N±0.02×29.05E±0.01, h14km±5km, n377,σ1§33/444, mb4.0/20, 33C-21D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**264**	P	**Pg**	21 28 57.0	-0.6
DEMI				S	**Sg**	21 29 00.7	-0.8
DEMI	**Demirci**	**0.26**	**264**	⇑*i* P	**Pg**	21 28 57.0	-0.6
DEMI				*i* S	**Sg**	21 29 00.7	-0.8
GEDZ	**Gediz**	**0.28**	**95**	PG	**Pg**	21 28 57.8	-0.1
GEDZ				SG	**Sg**	21 29 02.1	+0.1
GEDZ	**Gediz**	**0.28**	**95**	*i* Pg	**Pg**	21 28 57.8	-0.1
GEDZ				*i* Sg	**Sg**	21 29 02.1	+0.1
GDZ	**Gediz**	**0.33**	**87**	P	**Pg**	21 28 58.2	-0.7
GDZ				S	**Sg**	21 29 03.1	-0.5
GDZ	**Gediz**	**0.33**	**87**	⇑*i* P	**Pg**	21 28 58.2	-0.7
GDZ				*i* S	**Sg**	21 29 03.1	-0.5
TVSB	**Tavsanli**	**0.49**	**40**	PG	**Pg**	21 29 00.4	-1.4
TVSB				SG	**Sg**	21 29 07.4	-1.1
TVSB	**Tavsanli**	**0.49**	**40**	*i* Pg	**Pg**	21 29 00.4	-1.4
TVSB				*i* Sg	**Sg**	21 29 07.4	-1.1
KULA	**Kula-Manisa**	**0.63**	**209**	PG	**Pb**	21 29 04.2	-0.7
KULA				SG	**Sb**	21 29 12.7	-0.8
KULA	**Kula-Manisa**	**0.63**	**209**	P	**Pb**	21 29 04.2	-0.7
KULA				S	**Sb**	21 29 12.8	-0.8
KULA	**Kula-Manisa**	**0.63**	**209**	P	**Pb**	21 29 04.2	-0.7
KULA				S	**Sb**	21 29 12.8	-0.8
KULA	**Kula-Manisa**	**0.63**	**209**	P	**Pb**	21 29 04.2	-0.7
KULA				S	**Sb**	21 29 12.8	-0.8
MANT	**Manisa**	**0.69**	**214**	P	**Pb**	21 29 04.6	-1.4
MANT				S	**Sb**	21 29 14.1	-1.5
MANT	**Manisa**	**0.69**	**214**	⇑*i* P	**Pb**	21 29 04.6	-1.4
MANT				*i* S	**Sb**	21 29 14.1	-1.5
KHL	**Karahalli**	**0.83**	**154**	PG	**Pn**	21 29 08.5	-0.9
KHL	**Karahalli**	**0.83**	**154**	*i* Pg	**Pn**	21 29 08.5	-0.9
AKS	**Akhisar**	**0.98**	**259**	PG	**Pn**	21 29 10.5	-0.9
AKS	**Akhisar**	**0.98**	**259**	*i* Pg	**Pn**	21 29 10.5	-0.9
BALB	**Balikesir**	**1.07**	**302**	PG	**Pb**	21 29 12.3	0.0
BALB				SG	**Sb**	21 29 26.7	+0.5
BALB	**Balikesir**	**1.07**	**302**	*i* Pg	**Pb**	21 29 12.3	0.0
BALB				*i* Sg	**Sb**	21 29 26.7	+0.5
IGD	**Bursa**	**1.20**	**5**	⇑*i* P	**Pg**	21 29 11.8	-3.3
IGD				*i* S	**Sg**	21 29 28.9	-1.8
CAVI	**Cavuskoy**	**1.28**	**28**	*e*PN	**Pn**	21 29 15.2	-0.4
CAVI	**Cavuskoy**	**1.28**	**28**	*e*Pn	**Pn**	21 29 15.2	-0.4
BALY	**Balya**	**1.30**	**302**	P	**Pn**	21 29 15.4	-0.3
BALY				S	**Sn**	21 29 33.1	+0.2
BALY	**Balya**	**1.30**	**302**	⇓*i* P	**Pn**	21 29 15.4	-0.3
BALY				*i* S	**Sn**	21 29 33.1	+0.2
MDNY	**Mudanya-Bursa**	**1.30**	**354**	*e*PN	**Pn**	21 29 15.0	-0.8
MDNY	**Mudanya-Bursa**	**1.30**	**354**	*e*Pn	**Pn**	21 29 15.0	-0.8
IZI	**Iznik**	**1.31**	**14**	*e*PN	**Pn**	21 29 15.3	-0.6
IZI	**Iznik**	**1.31**	**14**	*e*Pn	**Pn**	21 29 15.3	-0.6
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*PN	**Pn**	21 29 15.4	-0.5
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*Pn	**Pn**	21 29 15.4	-0.5
DENT	**Denizli**	**1.31**	**181**	*e*PN	**Pg**	21 29 16.9	-0.4
DENT	**Denizli**	**1.31**	**181**	*e*Pn	**Pg**	21 29 16.9	-0.4
BORA	**Eskisehir**	**1.35**	**53**	P	**Pn**	21 29 15.6	-0.9
BORA				S	**Sb**	21 29 34.3	-0.1
BORA	**Eskisehir**	**1.35**	**53**	⇑*i* P	**Pn**	21 29 15.7	-0.9
BORA				*i* S	**Sb**	21 29 34.3	-0.1
GEMT	**Gemlik**	**1.37**	**4**	*e*PN	**Pn**	21 29 17.2	+0.5
GEMT	**Gemlik**	**1.37**	**4**	*e*Pn	**Pn**	21 29 17.2	+0.5
DNZL	**Cakiroluk**	**1.38**	**180**	P	**Pg**	21 29 17.3	-1.2
DNZL	**Cakiroluk**	**1.38**	**180**	⇓*i* P	**Pg**	21 29 17.3	-1.2
DNZL				*i* S	**Sn**	21 29 39.1	+4.0
GONE	**Gonen-Balikesi**	**1.44**	**313**	*e*PN	**Pb**	21 29 18.1	-0.4
GONE	**Gonen-Balikesi**	**1.44**	**313**	*e*Pn	**Pb**	21 29 18.2	-0.4
AYDB	**Zeytinkoy-Aydi**	**1.45**	**219**	*e*PN	**Pg**	21 29 18.0	-1.8
AYDB	**Zeytinkoy-Aydi**	**1.45**	**219**	*e*Pn	**Pg**	21 29 18.0	-1.8
ADVT	**Abdulvahap**	**1.46**	**21**	*e*PN	**Pn**	21 29 17.7	-0.3
ADVT	**Abdulvahap**	**1.46**	**21**	*e*Pn	**Pn**	21 29 17.7	-0.3
ESKT	**Eskisehir**	**1.47**	**72**	*e*PN	**Pn**	21 29 18.3	+0.2
ESKT	**Eskisehir**	**1.47**	**72**	*e*Pn	**Pn**	21 29 18.3	+0.2
ESKT	**Eskisehir**	**1.47**	**72**	⇑*i* P	**Pn**	21 29 18.1	-0.1
SEYT	**Eskypehyr**	**1.47**	**72**	P	**Pn**	21 29 18.1	0.0
ARMT	**Armutlu**	**1.50**	**354**	*e*PN	**Pn**	21 29 18.8	+0.2
ARMT	**Armutlu**	**1.50**	**354**	*e*Pn	**Pn**	21 29 18.8	+0.2
BOLV	**Bolvadin**	**1.52**	**103**	P	**Pb**	21 29 20.0	-0.1
BOLV				S	**Sg**	21 29 41.6	+0.5
BOLV	**Bolvadin**	**1.52**	**103**	*i* P	**Pb**	21 29 20.0	-0.1
BOLV				*i* S	**Sg**	21 29 41.6	+0.5
IZM	**Izmir**	**1.55**	**245**	*e*PN	**Pb**	21 29 19.8	-0.8
IZM	**Izmir**	**1.55**	**245**	P	**Pb**	21 29 19.7	-0.8
IZM	**Izmir**	**1.55**	**245**	*e*Pn	**Pb**	21 29 19.8	-0.8
GPA	**Golpazari**	**1.56**	**38**	*e*PN	**Pb**	21 29 20.6	0.0
GPA	**Golpazari**	**1.56**	**38**	P	**Pb**	21 29 20.6	0.0
GPA	**Golpazari**	**1.56**	**38**	*e*Pn	**Pb**	21 29 20.6	0.0
EDC	**Edincik**	**1.57**	**325**	*e*PN	**Pn**	21 29 19.1	-0.4
EDC	**Edincik**	**1.57**	**325**	P	**Pn**	21 29 18.1	-1.4
EDC	**Edincik**	**1.57**	**325**	*e*Pn	**Pn**	21 29 19.1	-0.4
DKL	**Dikili**	**1.67**	**271**	*e*PN	**Pb**	21 29 21.4	-1.1
DKL	**Dikili**	**1.67**	**271**	*e*Pn	**Pb**	21 29 21.4	-1.1
KNL	**Bal¯–kesir**	**1.68**	**316**	*i* P	**Pn**	21 29 19.6	-1.3
KNL				*i* S	**Sn**	21 29 42.0	-0.3
GULT	**Gulveren**	**1.77**	**39**	*e*PN	**Pn**	21 29 22.8	+0.6
GULT	**Gulveren**	**1.77**	**39**	*e*Pn	**Pn**	21 29 22.8	+0.6
HRT	**Hereke**	**1.81**	**15**	*e*PN	**Pn**	21 29 23.4	+0.6
HRT	**Hereke**	**1.81**	**15**	P	**Pn**	21 29 23.4	+0.6
HRT	**Hereke**	**1.81**	**15**	*e*Pn	**Pn**	21 29 23.5	+0.6
AYVA	**Ayvalik**	**1.85**	**278**	P	**Pn**	21 29 23.3	0.0
AYVA	**Ayvalik**	**1.85**	**278**	⇓*i* P	**Pn**	21 29 23.3	0.0
AYVA				*i* S	**Sg**	21 29 50.7	-0.9
GOLH	**Golhisar**	**1.87**	**167**	P	**Pb**	21 29 24.8	-1.2
GOLH	**Golhisar**	**1.87**	**167**	*i* P	**Pb**	21 29 24.8	-1.2
GOLH				*i* S	Sg	21 30 02.4	+10
SPNC	**Sapanca-Adapaz**	**1.88**	**31**	*e*PN	**Pn**	21 29 24.5	+0.8
SPNC	**Sapanca-Adapaz**	**1.88**	**31**	*e*Pn	**Pn**	21 29 24.5	+0.8
KRBG	**Karabiga-Canak**	**1.89**	**315**	*e*PN	**Pn**	21 29 24.9	+1.0
KRBG	**Karabiga-Can

BR101 eLg Lg 21 30 45.5
BR131 Keskin Array S 3.61 78 *e*Pn **Pn 21 29 48.6 +0.9**
BR131 eSn **Sn 21 30 32.8 +2.6**
BR131 Keskin Array S 3.61 78 *e*Pn **Pn 21 29 48.6 +0.9**
BR131 eSn **Sn 21 30 32.9 +2.6**
BRTR Keskin Array B 3.61 78 Pn **Pn 21 29 48.4 +0.7**
5.2nm,0.3s,baz=253,slow=14,SNR=73
BRTR Sn **Sn 21 30 29.3 -0.9**
4.3nm,0.3s,baz=255,slow=19,SNR=3.1
BRTR Lg Lg 21 30 45.5
baz=278,slow=20,SNR=2.2
ELDT Eldivan 3.66 66 *i* P **Pb 21 29 55.5 -1.0**
AKSY AKSARAY - Alti 3.70 95 *i* P **Pg 21 30 02.8 -0.1**
KDZ Kurdzhali 3.79 314 P **Pn 21 29 50.1 +0.1**
KARP Karpathos 3.83 204 *e*Pn **Pn 21 29 49.9 -0.6**
KARP eSn **Sn 21 30 35.7 +0.4**
KARP Karpathos 3.83 204 *e*Pn **Pn 21 29 49.9 -0.6**
KARP eSn **Sn 21 30 35.7 +0.4**
GAZI Gazipasa 3.84 137 P **Pn 21 29 51.6 +1.0**
GAZI Gazipasa 3.84 137 *i* P **Pn 21 29 51.6 +1.0**
JMB Yambol 3.88 332 P **Pn 21 29 51.8 +0.7**
ERMK Ermenek 3.90 127 *i* P **Pb 21 29 56.3 -4.4**
DIM Dimitrovgrad 4.01 319 *i* P **Pn 21 29 52.9 0.0**
ILGA Ilgaz 4.09 60 *i* P **Pg 21 30 08.4 -1.9**
CDAG Cicekdag 4.16 81 P **Pn 21 29 56.6 +1.4**
CDAG Cicekdag 4.16 81 *i* P **Pn 21 29 56.6 +1.4**
ROIA ROIAK 4.21 343 P **Pn 21 29 55.9 +0.1**
RZN Rozhen 4.22 310 P **Pn 21 29 56.2 +0.2**
PRD Provadia 4.31 344 P **Pn 21 29 56.1 -1.0**
KERG Konya-Eregli 4.32 111 P **Pn 21 29 59.0 +1.6**
KERG Konya-Eregli 4.32 111 *i* P **Pn 21 29 59.0 +1.6**
PLD Plovdiv 4.49 314 P **Pn 21 29 59.9 +0.3**
NVR Nevrokopi 4.58 301 P **Pn 21 30 01.2 +0.3**
NVR Nevrokopi 4.58 301 P **Pn 21 30 01.2 +0.3**
NVR Nevrokopi 4.58 301 P **Pn 21 30 01.2 +0.3**
PSN Preselentsi 4.65 352 ⇑ *i*P **Pn 21 30 04.0 +2.2**
PSN Preselentsi 4.65 352 P **Pn 21 30 01.7 -0.1**
PSN Preselentsi 4.65 352 ⇑ *i*P **Pn 21 30 04.0 +2.2**
COAL Corum-Alaca 4.73 74 P **Pn 21 30 05.0 +2.0**
COAL Corum-Alaca 4.73 74 *i* P **Pn 21 30 05.0 +2.0**
MANR Mangalia 4.76 356 ⇓ *i*P **Pg 21 30 23.9 +0.9**
MMB Musomiste 4.78 303 P **Pn 21 30 03.7 0.0**
SZH Strazhica 4.81 332 P **Pn 21 30 03.7 -0.3**
LAST Lasithi 4.83 217 *e*Pn **Pn 21 30 07.0 +2.6**
LAST Lasithi 4.83 217 *e*Pn **Pn 21 30 07.0 +2.6**
PVL Pavlikeni 5.00 327 P **Pn 21 30 07.2 +0.6**
IDI Anoyia 5.03 223 Pn **Pn 21 30 07.3 +0.2**
2.3nm,0.3s,baz=44,slow=14,SNR=13
BOYT Boyabat 5.05 60 *i* P **Pn 21 30 12.1 +4.7**
PGB Panagyurishte 5.08 315 P **Pn 21 30 07.7 -0.1**
AGG Agios Georgios 5.23 272 *e*P **Pn 21 30 10.9 +1.1**
AGG Agios Georgios 5.23 272 *e*Pn **Pn 21 30 10.9 +1.1**
AGG Agios Georgios 5.23 272 *e*Pn **Pn 21 30 10.9 +1.1**
CSS Mathiatis 5.34 139 *e*Pn **Pn 21 30 14.2 +2.9**
CSS Mathiatis 5.34 139 *e*Pn **Pn 21 30 14.2 +2.9**
KKB Krupnik 5.34 303 P **Pn 21 30 11.5 +0.2**
TIRR Tirgusor 5.41 355 ⇓ *i*P **Pn 21 30 12.0 -0.1**
TIRR Tirgusor 5.41 355 *e*P **Pn 21 30 12.4 +0.3**
TIRR Tirgusor 5.41 355 ⇓ *i*P **Pn 21 30 12.0 -0.1**
TIRR Tirgusor 5.41 355 *e*Pn **Pn 21 30 12.4 +0.3**
TIRR Tirgusor 5.41 355 *e*Pn **Pn 21 30 12.4 +0.3**
THL Klokotos Trika 5.48 277 P **Pn 21 30 14.3 +1.1**
THL Klokotos Trika 5.48 277 P **Pn 21 30 14.3 +1.1**
MPEP Malo Peshtene 5.86 319 P **Pn 21 30 18.8 +0.4**
TLCR 6.12 358 ⇑ *i*P **Pn 21 30 22.1 +0.2**
TLCR 6.12 358 ⇑ *i*P **Pn 21 30 22.1 +0.2**
CFR Carcaliu 6.14 354 ⇓ *i*P **Pn 21 30 23.2 +1.0**
CFR Carcaliu 6.14 354 S **Sn 21 31 27.0 -5.2**
CFR Carcaliu 6.14 354 ⇓ *i*P **Pn 21 30 23.2 +1.0**
HCB Kahramanmara˜ 6.42 103 *i* P **Pn 21 30 30.6 +4.5**
SEV Sevastopol' 6.47 31 ⇓ *e*P **Pn 21 30 25.3 -1.4**
SEV *e*S **Sn 21 31 34.6 -5.6**
GRER 6.49 347 ⇑ *i*P **Pn 21 30 27.3 +0.2**
GRER 6.49 347 ⇑ *i*P **Pn 21 30 27.3 +0.2**
YAL Yalta 6.62 34 *e*P **Pn 21 30 29.0 +0.2**
YAL *e*S **Sn 21 31 39.4 -4.6**
BARS Barje 6.63 307 *e*Pn **Pn 21 30 29.8 +0.8**
MLR Muntele Rosu 6.82 341 Pn **Pn 21 30 31.6 0.0**
0.2nm,0.3s,baz=206,slow=9.3,SNR=13
MLR Muntele Rosu 6.82 341 ⇑ *i*P **Pn 21 30 32.6 +0.9**
MLR Muntele Rosu 6.82 341 ⇑ *i*P **Pn 21 30 32.6 +0.9**
MTUR Matau 6.83 336 ⇑ *i*P Pn 21 30 26.4 -5.4
ALU Alushta 6.88 34 *e*P **Pn 21 30 33.6 +1.2**
ALU *e*S **Sn 21 31 48.0 -2.5**
SIM Simferopol' 6.98 31 *e*P **Pn 21 30 37.6 +3.8**
SIM *e*S **Sn 21 31 46.2 -6.7**
SIM pmax pmax
comp=Z,47nm,0.7s
PLOR Plostina 7.01 346 ⇓ *i*P **Pn 21 30 35.3 +1.1**
PLOR Plostina 7.01 346 ⇓ *i*P **Pn 21 30 35.3 +1.1**
VRI Vrincioaia 7.01 347 ⇑ *i*P **Pn 21 30 34.7 +0.6**
VRI Vrincioaia 7.01 347 ⇑ *i*P **Pn 21 30 34.7 +0.6**
VOIR 7.02 336 ⇑ *i*P **Pn 21 30 34.7 +0.3**
VOIR 7.02 336 ⇑ *i*P **Pn 21 30 34.7 +0.3**
BOLS Boljevac 7.14 314 *e*Pn **Pn 21 30 34.9 -1.1**
BOVS Bovan 7.16 312 *e*Pn **Pn 21 30 37.4 +1.1**
SUDU Sudak 7.31 35 *e*P **Pn 21 30 36.7 -1.6**
SUDU *e*S **Sn 21 31 55.8 -5.2**
DOPR Dopca 7.40 340 ⇑ *i*P **Pn 21 30 39.5 -0.1**
DOPR Dopca 7.40 340 ⇑ *i*P **Pn 21 30 39.5 -0.1**
LEOM Leova 7.42 356 ⇑ *i*P **Pn 21 30 41.3 +1.5**
LEOM Leova 7.42 356 ⇑ *i*P **Pn 21 30 41.3 +1.5**
LOT Lotru 7.48 330 ⇓ *i*P **Pn 21 30 41.9 +1.2**
LOT Lotru 7.48 330 ⇓ *i*P **Pn 21 30 41.9 +1.2**
GRUS Gruza 7.89 310 *e*Pn **Pn 21 30 46.5 +0.2**
MDVR Moldovita 7.90 319 ⇑ *i*P **Pn 21 30 46.3 -0.2**
MDVR Moldovita 7.90 319 ⇑ *i*P **Pn 21 30 46.3 -0.2**
KIS Kishinev 7.93 359 *e*P **Pn 21 30 50.0 +3.3**
KIS Kishinev 7.93 359 *e*P **Pn 21 30 50.0 +3.3**
MMAI Mount Meron Ar 7.93 138 Pn **Pn 21 30 47.9 +0.9**
comp=Z,4.7nm,0.3s,baz=319,slow=11,SNR=20
MMAI Sn **Sn 21 32 16.4 -0.2**
comp=Z,1.1nm,0.3s,baz=304,slow=27,SNR=2.9
IVAS Ivanjica 8.07 307 *e*Pn **Pn 21 30 49.2 +0.4**
TRUS Trudelj 8.27 311 *e*Pn **Pn 21 30 51.4 -0.1**
DIVS Divibare 8.44 309 *e*Pn **Pn 21 30 53.3 -0.6**
BZS Buzias 8.55 322 ⇑ *i*P **Pn 21 30 55.1 -0.2**
BZS Buzias 8.55 322 ⇑ *i*P **Pn 21 30 55.1 -0.2**
CJR Cluj-Napoca 8.62 334 ⇓ *i*P **Pn 21 30 57.6 +1.3**
CJR Cluj-Napoca 8.62 334 ⇓ *i*P **Pn 21 30 57.6 +1.3**
ARCR ARCALIA 8.72 338 ⇑ *i*P **Pn 21 30 58.5 +0.9**
ARCR ARCALIA 8.72 338 ⇑ *i*P **Pn 21 30 58.5 +0.9**
TEKS Tekeris 8.97 311 *e*Pn **Pn 21 31 01.2 +0.1**
BURAR Bucovina Array 8.98 343 ⇓ *i*P **Pn 21 31 02.9 +1.5**
BURAR Bucovina Array 8.98 343 ⇓ *i*P **Pn 21 31 02.9 +1.5**
DRGR 9.01 331 ⇑ *i*P **Pn 21 31 02.3 +0.7**
DRGR 9.01 331 ⇑ *i*P **Pn 21 31 02.3 +0.7**
BUR08 Bucovina Ar. S 9.02 343 *e*Pn Pn 21 30 56.8 -5.0
SORM Soroca 9.08 357 ⇑ *i*P **Pn 21 31 01.5 -1.0**
SORM Soroca 9.08 357 ⇑ *i*P **Pn 21 31 01.5 -1.0**
ASF Jabal al Asfar 9.38 135 Pn **Pn 21 31 07.3 +0.4**
comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=1.6
BMR Baia Mare 9.50 337 ⇓ *i*P **Pn 21 31 09.9 +1.6**
BMR Baia Mare 9.50 337 ⇓ *i*P **Pn 21 31 09.9 +1.6**
TIP Timpagrande 9.56 275 *e*Pn **Pn 21 31 10.7 +1.5**
TIP Timpagrande 9.56 275 *e*Pn **Pn 21 31 10.7 +1.5**
EIL Elat 10.56 151 Pn **Pn 21 31 24.0 +1.0**
comp=Z,0.6nm,0.3s,baz=21,slow=7.3,SNR=4.9
EIL Sn **Sn 21 33 17.9 -3.2**
comp=Z,0.4nm,0.3s,baz=80,slow=18,SNR=4.4
EIL Elat 10.56 151 *e*Pn **Pn 21 31 24.0 +1.0**
KWP Kalwaria Pacla 11.49 339 ⇓ *i*P **Pn 21 31 40.0 +4.5**
AK11 Malin Array Si 11.61 0 *e*Pn **Pn 21 31 36.8 -0.3**
AK11 Malin Array Si 11.61 0 *e*Pn **Pn 21 31 36.9 -0.3**
AKASG Malin Array Be 11.63 1 Pn **Pn 21 31 37.3 -0.1**
comp=Z,0.8nm,0.3s,baz=176,slow=12,SNR=4.0
VSR Storozhevoye 14.07 27 *e*P **Pn 21 32 09.5 -1.2**
VSR pmax pmax
comp=Z,8.0nm,0.7s
GEA0 GERESS Array S 14.72 317 *e*Pn **Pn 21 32 20.5 +0.7**
GEA0 GERESS Array S 14.72 317 *e*Pn **Pn 21 32 20.5 +0.7**
GERES GERESS Array B 14.73 317 Pn **Pn 21 32 20.3 +0.4**
comp=Z,0.1nm,0.3s,baz=132,slow=18,SNR=5.3
VRH Novokhopyorsk 15.04 32 *e*P **Pn 21 32 23.4 -0.6**
VRH pmax pmax
comp=Z,10.0nm,1.0s
DAVOX Davos/Dischmat 15.99 305 Pn **P 21 32 41.5 +1.4**
comp=Z,0.2nm,0.3s,baz=142,slow=23,SNR=6.4
KEST Kesra 16.01 264 Pn **P 21 32 41.1 +0.8**
comp=Z,0.1nm,0.3s,baz=345,slow=4.9,SNR=6.5
KEST Kesra 16.01 264 *e*Pn **P 21 32 41.1 +0.8**
comp=Z,4.1nm,0.8s
SENIN Lac Senin/Sane 17.54 302 *e*Pn **P 21 32 58.6 +1.4**
comp=Z,5.4nm,1.0s
SENIN Lac Senin/Sane 17.54 302 *e*Pn **P 21 32 58.6 +1.4**
comp=Z,5.4nm,1.0s
FIA0 FINESS Array S 22.48 356 *e*P **P 21 33 51.3 +0.7**
FIA0 FINESS Array S 22.48 356 *e*P **P 21 33 51.3 +0.7**
FIA0 FINESS Array S 22.48 356 *e*P **P 21 33 51.3 +0.7**
FINES FINESS Array B 22.48 356 P **P 21 33 51.3 +0.7**
comp=Z,1.5nm,0.7s,baz=150,slow=12,SNR=6.4
FINES **FINESS Array B 22.48 356** P pmax pmax
comp=Z,3.0nm,0.9s
FIA1 FINESS Array S 22.48 356 *e*P **P 21 33 51.5 +0.9**
FIA1 FINESS Array S 22.48 356 *e*P **P 21 33 51.5 +0.9**
GEYT Alibeck 22.74 84 P **P 21 33 55.4 +1.7**
comp=Z,6.3nm,0.9s,baz=281,slow=8.5,SNR=12
HFS Hagfors 23.20 340 P **P 21 33 57.2 -0.9**
comp=Z,1.8nm,0.6s,baz=126,slow=14,SNR=3.5
AKTO Aktyubinsk 23.35 51 P **P 21 34 00.2 +0.5**
comp=Z,4.9nm,0.8s,baz=257,slow=10,SNR=11
ABKAR Akbulak array 24.23 55 *e*P **P 21 34 09.8 +1.6**
ABKAR Akbulak array 24.23 55 *e*P **P 21 34 09.8 +1.6**
NC602 NORSAR Array S 24.29 339 *e*P **P 21 34 08.6 -0.1**
NC602 NORSAR Array S 24.29 339 *e*P **P 21 34 08.6 -0.1**
NB2 NORSAR Subarra 24.63 339 P **P 21 34 11.3 -0.5**
comp=Z,2.3nm,0.9s,baz=145,slow=9.3
NB2 NORSAR Subarra 24.63 339 P **P 21 34 11.3 -0.5**
comp=Z,2.3nm,0.9s,SNR=6.4
NB200 NORSAR Array S 24.63 339 *e*P **P 21 34 11.4 -0.4**
NB200 NORSAR Array S 24.63 339 *e*P **P 21 34 11.4 -0.4**
NOA NORSAR Array B 24.63 339 P **P 21 34 11.4 -0.4**
comp=Z,2.4nm,0.9s,baz=143,slow=8.8,SNR=6.2
ESDC Sonseca Array 25.45 282 P **P 21 34 19.7 +0.2**
comp=Z,0.6nm,0.6s,baz=74,slow=11,SNR=6.8
ARU Arti 26.07 39 P **P 21 34 28.1 +3.3**
EKA Eskdalemuir Ar 26.94 318 P **P 21 34 33.1 +0.5**
comp=Z,1.3nm,0.5s,baz=114,slow=12,SNR=18
ESK Eskdalemuir 26.96 318 *e*P **P 21 34 32.3 -0.5**
ESK pmax pmax
comp=Z,61nm,1.5s
ESK Eskdalemuir 26.96 318 *e*P **P 21 34 32.3 -0.5**
comp=Z,60nm,1.5s
ESK Eskdalemuir 26.96 318 *e*P **P 21 34 32.3 -0.5**
comp=Z,60nm,1.5s
ARA0 ARCESS Array S 30.59 358 *e*P **P 21 35 02.5 -2.5**
ARCES ARCESS Array B 30.59 358 P **P 21 35 07.2 +2.2**
comp=Z,1.5nm,0.7s,baz=151,slow=2.8,SNR=5.8
ZRNK Zerenda 30.59 50 *e*P **P 21 35 07.3 +2.1**
ZRNK pmax pmax
comp=Z,2.0nm,0.8s
ZRNK Zerenda 30.59 50 *e*P **P 21 35 07.3 +2.1**
comp=Z,1.9nm,0.8s
ZRNK Zerenda 30.59 50 *e*P **P 21 35 07.3 +2.1**
comp=Z,1.9nm,0.8s
KKAR Karatay Array 31.28 69 *e*P **P 21 35 12.6 +1.2**
KKAR Karatay Array 31.28 69 *e*P **P 21 35 12.6 +1.2**
KKAR Karatay Array 31.28 69 *e*P **P 21 35 12.6 +1.2**
VOSK Vostochnaya 31.73 51 *e*P **P 21 35 16.5 +1.2**
VOSK pmax pmax
comp=Z,3.0nm,0.7s
VOSK Vostochnaya 31.73 51 *e*P **P 21 35 16.5 +1.2**
comp=Z,3.1nm,0.7s
VOSK Vostochnaya 31.73 51 *e*P **P 21 35 16.5 +1.2**
comp=Z,3.1nm,0.7s
EKS2 Erkin-Say 33.72 69 *e*P **P 21 35 33.4 +0.5**
EKS2 pmax pmax
comp=Z,2.0nm,1.0s
EKS2 Erkin-Say 33.72 69 *e*P **P 21 35 33.4 +0.5**
comp=Z,2.1nm,1.0s
EKS2 Erkin-Say 33.72 69 *e*P **P 21 35 33.4 +0.5**
comp=Z,2.1nm,1.0s
AAK Ala Archa 34.24 69 LR LR 21 51 01.9
comp=Z,121nm,20.0s,baz=316,slow=39
MK31 Makanchi Array 39.09 61 *e*P **P 21 36 18.9 +0.3**
MK31 Makanchi Array 39.09 61 *e*P **P 21 36 18.9 +0.3**
MK31 Makanchi Array 39.09 61 *e*P **P 21 36 18.9 +0.3**
MK32 Makanchi Array 39.09 61 *e*P **P 21 36 19.1 +0.5**
MK32 Makanchi Array 39.09 61 *e*P **P 21 36 19.1 +0.5**
MKAR Makanchi Array 39.09 61 P **P 21 36 19.1 +0.6**
comp=Z,1.9nm,0.6s,baz=281,slow=7.3,SNR=15
MKAR Makanchi Array 39.09 61 *e*P **P 21 36 18.7 +0.1**
MKAR Makanchi Array 39.09 61 *e*P **P 21 36 18.7 +0.1**
MKAR Makanchi Array 39.09 61 *e*P **P 21 36 18.7 +0.1**
MK01 Makanchi Array 39.10 61 *e*P **P 21 36 19.2 +0.5**
MK01 Makanchi Array 39.10 61 *e*P **P 21 36 19.2 +0.5**
ZAA0 Zalesovo Array 40.08 49 *e*P **P 21 36 26.6 -0.1**
ZAA0 Zalesovo Array 40.08 49 *e*P **P 21 36 26.6 -0.1**
ZAA1 Zalesovo Array 40.08 49 *e*P **P 21 36 26.0 -0.7**
ZAA1 Zalesovo Array 40.08 49 *e*P **P 21 36 25.9 -0.7**
ZALV Zalesovo Beam 40.08 49 P **P 21 36 25.9 -0.7**
comp=Z,2.1nm,0.6s,baz=268,slow=8.9,SNR=9.5
ZALV Zalesovo Beam 40.08 49 P **P 21 36 26.0 -0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 40.08 49 P **P 21 36 26.0 -0.7**
SFJD Kangerlussuaq 50.80 330 *e*P **P 21 37 51.7 +0.3**
SFJD pmax pmax
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 50.80 330 *e*P **P 21 37 51.7 +0.3**
comp=Z,10nm,0.8s
SFJD Kangerlussuaq 50.80 330 *e*P **P 21 37 51.7 +0.3**
comp=Z,10nm,0.8s
SONA0 Songino Array 54.63 54 *e*P **P 21 38 20.7 +0.5**
comp=Z,3.7nm,1.4s
SONA0 Songino Array 54.63 54 *e*P **P 21 38 20.7 +0.5**
comp=Z,3.7nm,1.4s
SONM Songino Array 54.63 54 P **P 21 38 20.7 +0.5**
comp=Z,1.2nm,0.5s,baz=288,slow=7.9,SNR=9.9
SONA1 Songino Array 54.64 54 *e*P **P 21 38 20.5 +0.2**
SONA1 Songino Array 54.64 54 *e*P **P 21 38 20.4 +0.2**
SCHQ Schefferville 62.24 319 P **P 21 39 10.6 -2.5**
comp=Z,4.1nm,0.6s,baz=346,slow=10,SNR=2.7
SCHQ Schefferville 62.24 319 *e*P **P 21 39 10.6 -2.5**
comp=Z,37nm,1.8s
CM31 Chiang Mai Arr 63.16 87 *e*P **P 21 39 18.0 -1.6**
CM31 Chiang Mai Arr 63.16 87 *e*P **P 21 39 18.1 -1.6**
CMAR Chiang Mai Arr 63.16 87 P **P 21 39 18.1 -1.6**
comp=Z,0.4nm,0.5s,baz=302,slow=7.7,SNR=4.1
KS15 Wonju Array Si 73.45 55 *e*P **P 21 40 23.9 0.0**
KS15 Wonju Array Si 73.45 55 *e*P **P 21 40 23.9 0.0**
KSAR Wonju Array Be 73.45 55 P **P 21 40 23.9 0.0**
KSAR Wonju Array Be 73.45 55 P **P 21 40 23.9 0.0**
KSAR Wonju Array Be 73.45 55 P **P 21 40 23.9 0.0**
KSRS Korea Array 73.47 55 P **P 21 40 23.9 -0.1**
comp=Z,3.7nm,0.8s,baz=301,slow=5.2,SNR=8.0

*IDC **27** 21:43:02.1±1.6,37.08N×144.56E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.3/58,mbtmp3.4/4,ML3.1/1,Error ellipse: s-maj=40.1km s-min=33.1km az=115.0*
*ISCJB **27** 21:43:06.3±1.1,37.37N±0.06×144.23E±0.08,h26km, mb3.5/3,Error ellipse: s-maj=9.0km s-min=8.7km az=161.8*
*JMA **27** 21:43:07.9±0.2,37.39N×144.16E,h34km,MJ3.4*
ISC 27 21:43:05.9±1.3,**37.25N**±0.06×**144.35E**±0.08,**h26**km,**n14,**
σ1§**88**/22,**mb3.6**/3,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.66**	**298**	P	**Pn**	**21 43 47.3**	**+0.2**
JIO				*e*S	**Sn**	**21 44 16.4**	**-2.1**
JFK	**Kawauchi**	**2.77**	**273**	*e*S	**Sn**	**21 44 19.9**	**-1.4**
OFUJ	**Ofunato**	**2.79**	**312**	P	**Pn**	**21 43 48.8**	**-0.1**
OFUJ				*e*S	**Sn**	**21 44 19.5**	**-2.3**
JMK	**Ichinoseki**	**3.00**	**306**	P	**Pn**	**21 43 52.2**	**+0.5**
JMK				*e*S	**Sn**	**21 44 24.9**	**-1.9**
JFT	**Otama**	**3.21**	**276**	P	**Pn**	**21 43 56.2**	**+1.6**
JFT				*e*S	**Sn**	**21 44 31.8**	**-0.2**
JOM	**Ohasama**	**3.27**	**314**	P	**Pn**	**21 43 55.9**	**+0.4**
JOM				*e*S	**Sn**	**21 44 31.6**	**-2.0**
JYK	**Kaneyama**	**3.56**	**299**	P	**Pn**	**21 44 00.6**	**+1.1**
JYK				*e*S	**Sn**	**21 44 40.3**	**-0.4**
JANG	**Nango**	**3.83**	**326**	*e*S	**Sn**	**21 44 44.1**	**-3.1**
JRY	**Ryogami san**	**4.55**	**256**	P	**Pn**	**21 44 13.9**	**+0.8**
JRY				*e*S	**Sn**	**21 45 02.9**	**-2.2**
MJAR	**Matsushiro Arr**	**4.97**	**264**	Pn	**Pn**	**21 44 20.3**	**+1.4**
MJAR	0.8nm,0.3s,baz=88,slow=15,SNR=6.1			Sn	**Sn**	**21 45 16.7**	**+1.2**
JHJ	**Hachijo jima 2**	**5.56**	**224**	Sn	**Sn**	**21 45 25.3**	**-4.7**
	0.4nm,0.3s,baz=92,slow=28,SNR=3.7 4.7nm,0.3s,baz=76,slow=18,SNR=2.5						
KURBB	**Kurchatov Arra**	**47.71**	**308**	P	**P**	**21 51 41.7**	**+1.5**
	0.3nm,0.5s,baz=76,slow=7.3,SNR=3.7						
ILAR	**Eielson Array**	**48.06**	**32**	P	**P**	**21 51 43.3**	**+0.7**
	0.3nm,0.9s,baz=280,slow=5.0,SNR=2.6						
WRA	**Warramunga Arr**	**57.66**	**191**	P	**P**	**21 52 53.4**	**-0.6**
	0.4nm,0.5s,baz=9.6,slow=7.2,SNR=5.3						

*CSEM **27** 21:45:00.6±0.1,39.11N×29.02E,h2km,ML3.5,Error ellipse: s-maj=2.1km s-min=1.9km az=143.0*
*ISK **27** 21:45:00.2,39.11N×29.01E,h5km,ML3.3*
*DDA **27** 21:45:00.1,39.12N×29.01E,h8km,Ml3.5*
ISC 27 21:45:00.6±1.0,**39.13N**±0.02×**29.01E**±0.02,**h6**km±9km,
n94,σ0§**76**/122,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**250**	P	**Pg**	**21 45 05.6**	**+0.2**
DEMI				S	**Sg**	**21 45 09.1**	**+0.4**
DEMI	**Demirci**	**0.24**	**250**	*i* P	**Pg**	**21 45 05.6**	**+0.2**
DEMI				*i* S	**Sg**	**21 45 09.1**	**+0.4**
GEDZ	**Gediz**	**0.32**	**105**	*e*PG	**Pg**	**21 45 07.3**	**+0.4**
GEDZ				*e*SG	**Sg**	**21 45 11.7**	**+0.5**
GEDZ	**Gediz**	**0.32**	**105**	*e*Pg	**Pg**	**21 45 07.3**	**+0.4**
GEDZ				*e*Sg	**Sg**	**21 45 11.7**	**+0.5**
GDZ	**Gediz**	**0.37**	**96**	P	**Pg**	**21 45 07.8**	**-0.1**
GDZ				S	**Sg**	**21 45 13.1**	**+0.4**
GDZ	**Gediz**	**0.37**	**96**	*i* P	**Pg**	**21 45 07.8**	**-0.1**
GDZ				*i* S	**Sg**	**21 45 13.1**	**+0.4**
TVSB	**Tavsanli**	**0.48**	**47**	*e*PG	**Pg**	**21 45 09.5**	**-0.4**
TVSB				*e*SG	**Sg**	**21 45 15.9**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**47**	*e*Pg	**Pg**	**21 45 09.5**	**-0.4**
TVSB				*e*Sg	**Sg**	**21 45 15.9**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*PG	**Pg**	**21 45 12.9**	**-0.6**
KULA				*e*SG	**Sg**	**21 45 22.2**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*Pg	**Pg**	**21 45 12.9**	**-0.6**
KULA				*e*Sg	**Sg**	**21 45 22.2**	**0.0**
MANT	**Manisa**	**0.73**	**209**	P	**Pg**	**21 45 13.6**	**-1.0**
MANT				S	**Sg**	**21 45 23.0**	**-1.0**
MANT	**Manisa**	**0.73**	**209**	*i* P	**Pg**	**21 45 13.6**	**-1.0**
MANT				*i* S	**Sg**	**21 45 23.0**	**-1.0**
KHL	**Karahalli**	**0.90**	**153**	*e*PG	**Pb**	**21 45 17.8**	**-0.8**
KHL				*e*SG	**Sb**	**21 45 30.5**	**-0.3**
KHL	**Karahalli**	**0.90**	**153**	*e*Pg	**Pb**	**21 45 17.8**	**-0.8**
KHL				*e*Sg	**Sb**	**21 45 30.5**	**-0.3**
AKS	**Akhisar**	**0.96**	**256**	*e*PG	**Pb**	**21 45 19.4**	**-0.3**
AKS				*e*SG	**Sb**	**21 45 32.8**	**+0.1**
AKS	**Akhisar**	**0.96**	**256**	*e*Pg	**Pb**	**21 45 19.4**	**-0.3**
AKS				*e*Sg	**Sb**	**21 45 32.8**	**+0.1**
BALB	**Balikesir**	**1.01**	**301**	*e*PG	**Pn**	**21 45 21.0**	**-0.4**
BALB				*e*SG	**Sn**	**21 45 35.5**	**-0.4**
BALB	**Balikesir**	**1.01**	**301**	*e*Pg	**Pn**	**21 45 21.0**	**-0.4**
BALB				*e*Sg	**Sn**	**21 45 35.5**	**-0.4**
IGD	**Bursa**	**1.15**	**7**	*i* P	**Pg**	**21 45 21.1**	**-1.6**
IGD				*i* S	**Sb**	**21 45 38.7**	**+0.8**
BALY	**Balya**	**1.24**	**300**	P	**Pg**	**21 45 24.1**	**-0.3**
BALY	**Balya**	**1.24**	**300**	*i* P	**Pg**	**21 45 24.1**	**-0.3**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	**Pn**	**21 45 25.0**	**+0.5**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*Pn	**Pn**	**21 45 25.0**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*PN	**Pg**	**21 45 23.9**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*Pn	**Pg**	**21 45 23.9**	**-0.6**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*PN	**Pn**	**21 45 24.7**	**+0.1**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pn**	**21 45 24.7**	**+0.1**
IZI	**Iznik**	**1.26**	**16**	*e*PN	**Pb**	**21 45 24.7**	**-0.1**
IZI	**Iznik**	**1.26**	**16**	*e*Pn	**Pb**	**21 45 24.7**	**-0.1**
GEMT	**Gemlik**	**1.31**	**6**	*e*PN	**Pn**	**21 45 25.5**	**0.0**
GEMT	**Gemlik**	**1.31**	**6**	*e*Pn	**Pn**	**21 45 25.5**	**0.0**
BORA	**Eskisehir**	**1.35**	**56**	P	**Pn**	**21 45 25.4**	**-0.6**
BORA				S	**Sn**	**21 45 44.1**	**-0.1**
BORA	**Eskisehir**	**1.35**	**56**	*i* P	**Pn**	**21 45 25.4**	**-0.6**
BORA				*i* S	**Sn**	**21 45 44.1**	**-0.1**
DENT	**Denizli**	**1.37**	**179**	*e*PN	**Pg**	**21 45 26.3**	**-0.6**
DENT	**Denizli**	**1.37**	**179**	*e*Pn	**Pg**	**21 45 26.3**	**-0.6**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*PN	**Pg**	**21 45 26.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pg**	**21 45 26.8**	**-0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pb**	**21 45 27.1**	**-0.3**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pb**	**21 45 27.2**	**-0.3**
DNZL	**Cakiroluk**	**1.44**	**179**	P	**Pg**	**21 45 27.7**	**-0.4**
DNZL	**Cakiroluk**	**1.44**	**179**	*i* P	**Pg**	**21 45 27.7**	**-0.4**
DNZL				*i* S	**Sn**	**21 45 49.9**	**+3.3**
ARMT	**Armutlu**	**1.44**	**356**	*e*PN	**Pb**	**21 45 27.9**	**0.0**
ARMT	**Armutlu**	**1.44**	**356**	*e*Pn	**Pb**	**21 45 27.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*PN	**Pb**	**21 45 27.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*Pn	**Pb**	**21 45 28.0**	**-0.4**
ESKT	**Eskisehir**	**1.48**	**74**	*e*PN	**Pb**	**21 45 28.2**	**-0.4**
ESKT	**Eskisehir**	**1.48**	**74**	*e*Pn	**Pb**	**21 45 28.2**	**-0.4**
ESKT	**Eskisehir**	**1.48**	**74**	*i* P	**Pb**	**21 45 27.9**	**-0.6**
SEYT	**Eskypehyr**	**1.48**	**74**	P	**Pb**	**21 45 28.0**	**-0.6**
EDC	**Edincik**	**1.51**	**324**	*e*PN	**Pb**	**21 45 28.8**	**-0.2**
EDC	**Edincik**	**1.51**	**324**	*e*Pn	**Pb**	**21 45 28.8**	**-0.2**
GPA	**Golpazari**	**1.

GDZ					S	Sg	21 46 26.3	+0.7
GDZ	**Gediz**	0.35	92	*i*	P	Pg	21 46 21.2	+0.3
GDZ				*i*	S	Sg	21 46 26.3	+0.7
TVSB	**Tavsanli**	0.48	44	*e*	PG	Pg	21 46 23.7	+0.3
TVSB	**Tavsanli**	0.48	44	*e*	Pg	Pg	21 46 23.7	+0.3
KULA	**Kula-Manisa**	0.65	206	*e*	PG	Pb	21 46 27.0	-0.6
KULA	**Kula-Manisa**	0.65	206	*e*	Pg	Pb	21 46 27.0	-0.6
MANT	**Manisa**	0.71	211		P	Pg	21 46 27.2	-0.5
MANT					S	Sg	21 46 36.4	-0.5
MANT	**Manisa**	0.71	211	*i*	P	Pg	21 46 27.2	-0.5
MANT				*i*	S	Sg	21 46 36.4	-0.5
KHL	**Karahalli**	0.87	153	*e*	PG	Pg	21 46 30.3	-0.3
KHL				*e*	SG	Sb	21 46 42.9	-0.1
KHL	**Karahalli**	0.87	153	*e*	Pg	Pg	21 46 30.3	-0.3
KHL				*e*	Sg	Sb	21 46 42.9	-0.1
AKS	**Akhisar**	0.97	257	*e*	PG	Pn	21 46 33.2	-0.7
AKS				*e*	SG	Sb	21 46 46.6	+0.6
AKS	**Akhisar**	0.97	257	*e*	Pg	Pn	21 46 33.2	-0.7
AKS				*e*	Sg	Sb	21 46 46.6	+0.6
BALB	**Balikesir**	1.04	302	*e*	PG	Pn	21 46 34.3	-0.5
BALB				*e*	SG	Sn	21 46 49.7	+0.1
BALB	**Balikesir**	1.04	302	*e*	Pg	Pn	21 46 34.3	-0.5
BALB				*e*	Sg	Sn	21 46 49.7	+0.1
IGD	**Bursa**	1.17	6	*i*	P	Pg	21 46 34.5	-1.9
IGD				*i*	S	Sg	21 46 50.0	-1.7
BALY	**Balya**	1.27	301		P	Pn	21 46 38.5	+0.5
BALY					S	Sb	21 46 54.4	-0.1
BALY	**Balya**	1.27	301	*i*	P	Pn	21 46 38.5	+0.5
BALY				*i*	S	Sb	21 46 54.4	-0.1
CAVI	**Cavuskoy**	1.27	29	*e*	PN	Pb	21 46 38.6	+0.5
CAVI	**Cavuskoy**	1.27	29	*e*	Pn	Pb	21 46 38.6	+0.5
MDNY	**Mudanya-Bursa**	1.27	355	*e*	PN	Pb	21 46 38.8	+0.6
MDNY	**Mudanya-Bursa**	1.27	355	*e*	Pn	Pb	21 46 38.8	+0.6
KCTX	**Karacabey (Bur**	1.27	336	*e*	PN	Pb	21 46 39.0	+0.8
KCTX	**Karacabey (Bur**	1.27	336	*e*	Pn	Pb	21 46 39.0	+0.8
IZI	**Iznik**	1.28	15	*e*	PN	Pb	21 46 38.6	+0.2
IZI	**Iznik**	1.28	15	*e*	Pn	Pb	21 46 38.6	+0.2
GEMT	**Gemlik**	1.34	5	*e*	PN	Pg	21 46 39.9	+0.2
GEMT	**Gemlik**	1.34	5	*e*	Pn	Pg	21 46 39.9	+0.2
BORA	**Eskisehir**	1.35	54		P	Pb	21 46 39.5	-0.1
BORA					S	Sn	21 46 57.9	+0.6
BORA	**Eskisehir**	1.35	54	*i*	P	Pb	21 46 39.5	-0.1
BORA				*i*	S	Sn	21 46 57.9	+0.6
GONE	**Gonen-Balikesi**	1.40	313	*e*	PN	Pg	21 46 40.8	-0.1
GONE	**Gonen-Balikesi**	1.40	313	*e*	Pn	Pg	21 46 40.8	-0.1
DNZL	**Cakiroluk**	1.41	179		P	Pn	21 46 39.8	-0.3
DNZL					S	Sn	21 47 00.9	+2.0
DNZL	**Cakiroluk**	1.41	179	*i*	P	Pn	21 46 39.8	-0.3
DNZL				*i*	S	Sn	21 47 00.9	+2.0
ADVT	**Abdulvahap**	1.44	22	*e*	PN	Pg	21 46 41.7	+0.1
ADVT	**Abdulvahap**	1.44	22	*e*	Pn	Pg	21 46 41.7	+0.1
ARMT	**Armutlu**	1.47	355	*e*	PN	Pg	21 46 42.3	+0.1
ARMT	**Armutlu**	1.47	355	*e*	Pn	Pg	21 46 42.3	+0.1
ESKT	**Eskisehir**	1.47	73	*e*	PN	Pg	21 46 42.3	+0.1
ESKT	**Eskisehir**	1.47	73	*e*	Pn	Pg	21 46 42.3	+0.1
EDC	**Edincik**	1.54	325	*e*	PN	Pg	21 46 43.5	+0.1
EDC	**Edincik**	1.54	325	*e*	Pn	Pg	21 46 43.5	+0.1
GULT	**Gulveren**	1.76	40	*e*	PN	Pb	21 46 46.1	-0.3
GULT	**Gulveren**	1.76	40	*e*	Pn	Pb	21 46 46.1	-0.3
HRT	**Hereke**	1.79	16	*e*	PN	Pb	21 46 46.5	-0.5
HRT	**Hereke**	1.79	16	*e*	Pn	Pb	21 46 46.5	-0.5
SPNC	**Sapanca-Adapaz**	1.87	31	*e*	PN	Pb	21 46 47.6	-0.7
SPNC	**Sapanca-Adapaz**	1.87	31	*e*	Pn	Pb	21 46 47.6	-0.7
ISK	**Istanbul-Kandi**	1.96	1	*e*	PN	Pb	21 46 49.2	-0.8
ISK	**Istanbul-Kandi**	1.96	1	*e*	Pn	Pb	21 46 49.2	-0.8
SVRH	**Sivrihisar-ESK**	1.97	79	*e*	PN	Pb	21 46 48.9	-1.1
SVRH	**Sivrihisar-ESK**	1.97	79	*e*	Pn	Pb	21 46 48.9	-1.1
SILT	**Sile**	2.10	13	*e*	PN	Pb	21 46 51.0	-1.3
SILT	**Sile**	2.10	13	*e*	Pn	Pb	21 46 51.0	-1.3

*ISCJB **27** 21:51:18.4±1.0,36°.67N×0°.08×70°.41E±0°.09,h200km, mb3.3/3,Error ellipse: s-maj=11.5km s-min=8.8km az=149.2*
*IDC **27** 21:51:21.8±3.8,36°.85N×70°.35E,h212km±26km,mb3.1/3, mb1 3.0/10,mb1mx2.9/49,mbtmp3.7/10,Error ellipse: s-maj=42.5km s-min=17.8km az=168.0*
*NNC **27** 21:51:22.6±2.2,36°.95N×70°.32E,h210km±27km,mb2.7, mpv3.9,Error ellipse: s-maj=20.4km s-min=14.5km az=21.0*

ISC 27 21:51:21.5±1.5,**36°.9N**±0°.1×**70°.31E**±0°.09,**h200km**,**n19**, σ**0s85**/24,**mb3.5**/3,**5C-7D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.85**	**16**	⇓	P	**Pn**	**21 52 47.4**	**+0.5**
	5.4nm,0.7s							
MNAS				⇑	S	**Sn**	**21 53 54.9**	**+0.4**
	42nm,0.8s							
KK31	**Karatay Array**	**6.22**	**1**		P	**Pn**	**21 52 52.0**	**+0.4**
	4.7nm,0.4s,baz=187,slow=14,SNR=58							
KK31				⇑	S	**Sn**	**21 54 03.3**	**+0.4**
	2.1nm,0.3s,baz=190,slow=26,SNR=4.9							
THN	**Thein Dam**	**6.28**	**133**	*e*	P	Pn	21 52 42.4	-10
THN				*e*	S	Sn	21 53 48.0	-16
AAK	**Ala-Archa**	**6.59**	**28**		P	**Pn**	**21 52 56.2**	**-0.3**
	2.2nm,0.3s,baz=185,slow=8.2,SNR=6.7							
AAK					S	**Sn**	**21 54 13.3**	**+1.6**
	2.7nm,0.3s,baz=348,slow=21,SNR=27							
AAK	**Ala-Archa**	**6.59**	**28**	⇑	P	**Pn**	**21 52 56.3**	**-0.1**
	4.0nm,0.5s							
AAK				⇓	S	**Sn**	**21 54 13.0**	**+1.3**
	34nm,0.7s							
TKM2	**Tokmak 2**	**7.28**	**32**	⇓	P	**Pn**	**21 53 05.3**	**-0.1**
	8.5nm,0.5s							
TKM2				⇓	S	**Sn**	**21 54 27.8**	**-0.2**
	9.1nm,0.8s							
GEYT	**Allbeck**	**9.76**	**280**		P	**Pn**	**21 53 38.8**	**+1.2**
	0.1nm,0.3s,baz=127,slow=9.2,SNR=1.9							
MK31	**Makanchi Array**	**13.32**	**38**	⇓	P	**Pn**	**21 54 23.9**	**+1.0**
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**13.32**	**38**		P	**Pn**	**21 54 22.9**	**+0.1**
	0.5nm,0.3s,baz=196,slow=8.6,SNR=23							
AB31	**Akbulak array**	**14.49**	**332**	⇑	P	**P**	**21 54 38.9**	**+0.4**
	0.7nm,0.5s,baz=151,slow=12,SNR=32							
AB31				⇓	S	**S**	**21 57 16.5**	**-1.6**
	1.5nm,1.1s,baz=199,slow=4.6,SNR=3.9							
KURBB	**Kurchatov Arra**	**14.96**	**21**		P	**Pn**	**21 54 42.0**	**-0.9**
	0.1nm,0.3s,baz=208,slow=12,SNR=6.7							
KURBB	**Kurchatov Arra**	**14.96**	**21**	⇓	P	**Pn**	**21 54 41.7**	**-1.2**
	0.2nm,0.3s							
BVAR	**Borovoye Array**	**16.15**	**0**		P	**Pn**	**21 54 58.1**	**+0.7**
	0.3nm,0.3s,baz=166,slow=7.7,SNR=4.6							
AKTO	**Aktyubinsk**	**16.18**	**331**		P	**P**	**21 54 57.1**	**-0.1**
	0.2nm,0.3s,baz=112,slow=6.2,SNR=7.0							
AKTO	**Aktyubinsk**	**16.18**	**331**	⇑	P	**P**	**21 54 57.2**	**0.0**
	3.2nm,0.9s							
ZALV	**Zalesovo Beam**	**19.81**	**26**		P	**P**	**21 55 36.6**	**+0.1**
	1.1nm,0.3s,baz=210,slow=11,SNR=14							
SONM	**Songino Array**	**28.58**	**56**		P	**P**	**21 56 58.0**	**-0.9**
	0.2nm,0.4s,baz=266,slow=7.6,SNR=2.4							
FINES	**FINESS Array B**	**36.86**	**326**		P	**P**	**21 58 09.3**	**-1.0**
	1.1nm,0.9s,baz=124,slow=12,SNR=2.5							
ARCES	**ARCESS Array B**	**40.59**	**338**		P	**P**	**21 58 40.4**	**-0.8**
	1.5nm,0.9s,baz=116,slow=8.2,SNR=8.6							

*ISK **27** 21:51:56.7,39°.08N×29°.10E,h8km,MD2.7*
*ISCJB **27** 21:51:57.2±0.5,39°.09N±0°.05×29°.05E±0°.05,h5km±8km, Error ellipse: s-maj=9.0km s-min=4.3km az=145.4*
*DDA **27** 21:51:57.1,39°.10N×29°.05E,h7km,Md2.3*
*CSEM **27** 21:51:57.3±0.1,39°.10N×29°.06E,h5km,MD2.3,Error ellipse: s-maj=3.7km s-min=2.1km az=126.0*

ISC 27 21:51:57.6±1.0,**39°.09N**±0°.04×**29°.06E**±0°.03,**h6**km±11km, **n22**,σ**0s51**/34,**Turkey**

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**260**		P	**Pg**	**21 52 03.0**	**+0.1**
DEMI					S	**Sg**	**21 52 06.8**	**+0.3**
DEMI	**Demirci**	**0.27**	**260**	*i*	P	**Pg**	**21 52 03.0**	**+0.1**
DEMI				*i*	S	**Sg**	**21 52 06.8**	**+0.3**
GDZ	**Gediz**	**0.33**	**90**		P	**Pg**	**21 52 04.0**	**0.0**
GDZ					S	**Sg**	**21 52 09.2**	**+0.8**
GDZ	**Gediz**	**0.33**	**90**	*i*	P	**Pg**	**21 52 04.0**	**0.0**
GDZ				*i*	S	**Sg**	**21 52 09.2**	**+0.8**
TVSB	**Tavsanli**	**0.48**	**41**	*e*	PG	**Pg**	**21 52 06.5**	**-0.3**
TVSB				*e*	SG	**Sg**	**21 52 12.9**	**-0.1**
TVSB	**Tavsanli**	**0.48**	**41**	*e*	Pg	**Pg**	**21 52 06.5**	**-0.3**
TVSB				*e*	Sg	**Sg**	**21 52 12.9**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*	PG	**Pg**	**21 52 10.4**	**+0.2**
KULA				*e*	SG	**Sg**	**21 52 19.3**	**+0.6**
KULA	**Kula-Manisa**	**0.65**	**208**	*e*	Pg	**Pg**	**21 52 10.4**	**+0.2**
KULA				*e*	Sg	**Sg**	**21 52 19.3**	**+0.6**
MANT	**Manisa**	**0.71**	**213**		P	**Pg**	**21 52 10.8**	**-0.5**
MANT					S	**Sg**	**21 52 20.3**	**-0.3**
MANT	**Manisa**	**0.71**	**213**	*i*	P	**Pg**	**21 52 10.8**	**-0.5**
MANT				*i*	S	**Sg**	**21 52 20.3**	**-0.3**
AKS	**Akhisar**	**0.99**	**258**	*e*	PG	**Pb**	**21 52 16.7**	**-0.4**
AKS	**Akhisar**	**0.99**	**258**	*e*	Pg	**Pb**	**21 52 16.7**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*	PN	**Pn**	**21 52 21.2**	**-0.8**
MDNY				*e*	SN	**Sn**	**21 52 40.4**	**+1.0**
MDNY	**Mudanya-Bursa**	**1.28**	**354**	*e*	Pn	**Pn**	**21 52 21.2**	**-0.8**
MDNY				*e*	Sn	**Sn**	**21 52 40.4**	**+1.0**
IZI	**Iznik**	**1.28**	**14**	*e*	PN	**Pn**	**21 52 21.4**	**-0.7**
IZI	**Iznik**	**1.28**	**14**	*e*	Pn	**Pn**	**21 52 21.4**	**-0.7**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*	PN	**Pb**	**21 52 22.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*	Pn	**Pb**	**21 52 22.2**	**-0.1**
ARMT	**Armutlu**	**1.48**	**354**	*e*	PN	**Pn**	**21 52 24.5**	**-0.2**
ARMT	**Armutlu**	**1.48**	**354**	*e*	Pn	**Pn**	**21 52 24.5**	**-0.2**
EDC	**Edincik**	**1.56**	**324**	*e*	PN	**Pn**	**21 52 25.9**	**+0.1**
EDC	**Edincik**	**1.56**	**324**	*e*	Pn	**Pn**	**21 52 25.9**	**+0.1**

*ISK **27** 21:55:17.4,39°.24N×28°.86E,h15km,MD2.8*
*CSEM **27** 21:55:17.4,39°.24N×28°.86E,h15km,MD2.8*
*ISCJB **27** 21:55:18.8±0.4,39°.22N±0°.05×28°.94E±0°.06,h31km±8km, Error ellipse: s-maj=10.9km s-min=5.4km az=141.3*
*DDA **27** 21:55:20.9,39°.09N×29°.02E,h7km,Md2.9*

ISC 27 21:55:18.2±1.0,**39°.24N**±0°.03×**28°.93E**±0°.03,**h24**km±11km, **n27**,σ**0s47**/34,**Turkey**

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**221**	*i*	P	**Pn**	**21 55 26.4**	**-0.3**
DEMI				*i*	S	**Sb**	**21 55 29.9**	**+0.8**
GDZ	**Gediz**	**0.45**	**109**	*i*	P	**Pn**	**21 55 30.1**	**+0.8**
GDZ				*i*	S	**Sb**	**21 55 33.6**	**-0.5**
TVSB	**Tavsanli**	**0.46**	**63**	*e*	PG	**Pb**	**21 55 27.2**	**-0.6**
TVSB				*e*	SG	**Sn**	**21 55 36.4**	**-0.5**
TVSB	**Tavsanli**	**0.46**	**63**	*e*	Pg	**Pb**	**21 55 27.2**	**-0.6**
TVSB				*e*	Sg	**Sn**	**21 55 36.4**	**-0.5**
KULA	**Kula-Manisa**	**0.76**	**196**	*e*	PG	**Pb**	**21 55 32.7**	**0.0**
KULA				*e*	SG	**Sb**	**21 55 42.8**	**+0.1**
KULA	**Kula-Manisa**	**0.76**	**196**	*e*	Pg	**Pb**	**21 55 32.7**	**0.0**
KULA				*e*	Sg	**Sb**	**21 55 42.8**	**+0.1**
MANT	**Manisa**	**0.81**	**201**	*i*	P	**Pn**	**21 55 34.4**	**+0.1**
MANT				*i*	S	**Sb**	**21 55 44.0**	**-0.2**
BALB	**Balikesir**	**0.91**	**296**	*e*	PG	**Pb**	**21 55 34.9**	**-0.4**
BALB	**Balikesir**	**0.91**	**296**	*e*	Pg	**Pb**	**21 55 34.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.11**	**337**	*e*	PN	**Pb**	**21 55 38.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.11**	**337**	*e*	Pn	**Pb**	**21 55 38.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.13**	**358**	*e*	PN	**Pn**	**21 55 38.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.13**	**358**	*e*	Pn	**Pn**	**21 55 38.6**	**+0.1**
IZI	**Iznik**	**1.17**	**21**	*e*	PN	**Pn**	**21 55 39.4**	**+0.2**
IZI	**Iznik**	**1.17**	**21**	*e*	Pn	**Pn**	**21 55 39.4**	**+0.2**
CAVI	**Cavuskoy**	**1.19**	**36**	*e*	PN	**Pb**	**21 55 39.9**	**-0.2**
CAVI	**Cavuskoy**	**1.19**	**36**	*e*	Pn	**Pb**	**21 55 39.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.25**	**310**	*e*	PN	**Pb**	**21 55 41.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.25**	**310**	*e*	Pn	**Pb**	**21 55 41.1**	**-0.1**
ARMT	**Armutlu**	**1.32**	**358**	*e*	PN	**Pb**	**21 55 42.3**	**-0.1**
ARMT	**Armutlu**	**1.32**	**358**	*e*	Pn	**Pb**	**21 55 42.3**	**-0.1**
ADVT	**Abdulvahap**	**1.34**	**27**	*e*	PN	**Pb**	**21 55 42.3**	**-0.4**
ADVT	**Abdulvahap**	**1.34**	**27**	*e*	Pn	**Pb**	**21 55 42.3**	**-0.4**
EDC	**Edincik**	**1.38**	**324**	*e*	PN	**Pb**	**21 55 43.0**	**-0.2**
EDC	**Edincik**	**1.38**	**324**	*e*	Pn	**Pb**	**21 55 43.1**	**-0.2**
GULT	**Gulveren**	**1.70**	**45**	*e*	PN	**Pn**	**21 55 47.6**	**+1.2**
GULT	**Gulveren**	**1.70**	**45**	*e*	Pn	**Pn**	**21 55 47.6**	**+1.2**

*DDA **27** 21:57:30.9,39°.07N×29°.02E,h7km,Md2.7*
*ISK **27** 21:57:30.8,39°.07N×29°.09E,h7km,ML2.4*
*ISCJB **27** 21:57:31.0±0.5,39°.07N±0°.04×29°.04E±0°.04,h4km±8km, Error ellipse: s-maj=8.1km s-min=4.3km az=146.1*
*CSEM **27** 21:57:31.1±0.1,39°.06N×29°.04E,h5km,MD2.7,Error ellipse: s-maj=4.5km s-min=3.0km az=118.0*

ISC 27 21:57:31.2±0.9,**39°.06N**±0°.02×**29°.03E**±0°.03,**h11**km±9km, **n32**,σ**0s58**/42,**Turkey**

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**267**		P	**Pg**	**21 57 36.3**	**0.0**
DEMI					S	**Sg**	**21 57 39.8**	**0.0**
DEMI	**Demirci**	**0.25**	**267**	*i*	P	**Pg**	**21 57 36.3**	**0.0**
DEMI				*i*	S	**Sg**	**21 57 39.8**	**0.0**
GDZ	**Gediz**	**0.35**	**85**		P	**Pg**	**21 57 38.4**	**+0.2**
GDZ					S	**Sg**	**21 57 43.6**	**+0.7**
GDZ	**Gediz**	**0.35**	**85**	*i*	P	**Pg**	**21 57 38.4**	**+0.2**
GDZ				*i*	S	**Sg**	**21 57 43.6**	**+0.7**
TVSB	**Tavsanli**	**0.51**	**40**	*e*	PG	**Pg**	**21 57 40.5**	**-0.8**
TVSB				*e*	SG	**Sg**	**21 57 47.4**	**-0.7**
TVSB	**Tavsanli**	**0.51**	**40**	*e*	Pg	**Pg**	**21 57 40.5**	**-0.8**
TVSB				*e*	Sg	**Sg**	**21 57 47.4**	**-0.7**
KULA	**Kula-Manisa**	**0.61**	**208**	*e*	PG	**Pb**	**21 57 44.1**	**+0.1**
KULA				*e*	SG	**Sb**	**21 57 52.6**	**-0.1**
KULA	**Kula-Manisa**	**0.61**	**208**	*e*	Pg	**Pb**	**21 57 44.1**	**+0.1**
KULA				*e*	Sg	**Sb**	**21 57 52.6**	**-0.1**
MANT	**Manisa**	**0.68**	**214**		P	**Pg**	**21 57 43.0**	**-1.3**
MANT					S	**Sg**	**21 57 53.5**	**+0.3**
MANT	**Manisa**	**0.68**	**214**	*i*	P	**Pg**	**21 57 43.0**	**-1.3**
MANT				*i*	S	**Sg**	**21 57 53.5**	**+0.3**
KHL	**Karahalli**	**0.83**	**152**	*e*	PG	**Pb**	**21 57 47.4**	**-0.2**
KHL	**Karahalli**	**0.83**	**152**	*e*	Pg	**Pb**	**21 57 47.4**	**-0.2**
BALB	**Balikesir**	**1.07**	**303**	*e*	PN	**Pn**	**21 57 52.9**	**+0.8**
BALB	**Balikesir**	**1.07**	**303**	*e*	Pn	**Pn**	**21 57 52.9**	**+0.8**
CAVI	**Cavuskoy**	**1.30**	**28**	*e*	PN	**Pg**	**21 57 55.9**	**-0.3**
CAVI	**Cavuskoy**	**1.30**	**28**	*e*	Pn	**Pg**	**21 57 55.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.32**	**337**	*e*	PN	**Pg**	**21 57 56.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.32**	**337**	*e*	Pn	**Pg**	**21 57 56.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.32**	**355**	*e*	PN	**Pg**	**21 57 56.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.32**	**355**	*e*	Pn	**Pg**	**21 57 56.0**	**-0.4**
IZI	**Iznik**	**1.32**	**15**	*e*	PN	**Pb**	**21 57 55.9**	**-0.2**
IZI	**Iznik**	**1.32**	**15**	*e*	Pn	**Pb**	**21 57 55.9**	**-0.2**
ADVT	**Abdulvahap**	**1.48**	**21**	*e*	PN	**Pb**	**21 57 58.4**	**-0.3**
ADVT	**Abdulvahap**	**1.48**	**21**	*e*	Pn	**Pb**	**21 57 58.4**	**-0.3**
ARMT	**Armutlu**	**1.51**	**355**	*e*	PN	**Pb**	**21 57 59.2**	**-0.1**
ARMT	**Armutlu**	**1.51**	**355**	*e*	Pn	**Pb**	**21 57 59.2**	**-0.1**
EDC	**Edincik**	**1.57**	**325**	*e*	PN	**Pb**	**21 57 59.8**	**-0.5**
EDC	**Edincik**	**1.57**	**325**	*e*	Pn	**Pb**	**21 57 59.8**	**-0.5**
GULT	**Gulveren**	**1.79**	**39**	*e*	PN	**Pn**	**21 58 01.9**	**-0.1**
GULT	**Gulveren**	**1.79**	**39**	*e*	Pn	**Pn**	**21 58 01.9**	**-0.1**
ISK	**Istanbul-Kandi**	**2.01**	**1**	*e*	PN	**Pn**	**21 58 06.2**	**+1.2**
ISK	**Istanbul-Kandi**	**2.01**	**1**	*e*	Pn	**Pn**	**21 58 06.2**	**+1.2**

*ISCJB **27** 21:59:27.6±0.5,39°.09N±0°.04×29°.04E±0°.04,h4km±8km, Error ellipse: s-maj=8.0km s-min=4.1km az=149.7*
*DDA **27** 21:59:27.6,39°.09N×29°.05E,h7km,Md2.6*
*CSEM **27** 21:59:27.8±0.1,39°.10N×29°.04E,h5km,MD2.6,Error ellipse: s-maj=2.5km s-min=1.8km az=125.0*
*ISK **27** 21:59:27.3,39°.10N×29°.05E,h6km,MD2.7*

ISC 27 21:59:28.0±1.0,**39°.10N**±0°.03×**29°.04E**±0°.02,**h8**km±10km, **n32**,σ**0s43**/44,**Turkey**

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**258**		P	**Pg**	**21 59 33.4**	**+0.2**
DEMI					S	**Sg**	**21 59 37.1**	**+0.4**
DEMI	**Demirci**	**0.26**	**258**	*i*	P	**Pg**	**21 59 33.4**	**+0.2**
DEMI				*i*	S	**Sg**	**21 59 37.1**	**+0.4**
GEDZ	**Gediz**	**0.29**	**100**	*e*	PG	**Pg**	**21 59 34.0**	**+0.1**
GEDZ	**Gediz**	**0.29**	**100**	*e*	Pg	**Pg**	**21 59 34.0**	**+0.1**
GDZ	**Gediz**	**0.34**	**91**		P	**Pg**	**21 59 34.7**	**-0.1**
GDZ					S	**Sg**	**21 59 39.6**	**+0.2**
GDZ	**Gediz**	**0.34**	**91**	*i*	P	**Pg**	**21 59 34.7**	**-0.1**
GDZ				*i*	S	**Sg**	**21 59 39.6**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**43**	*e*	PG	**Pg**	**21 59 36.5**	**-0.8**
TVSB				*e*	SG	**Sg**	**21 59 43.3**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**43**	*e*	Pg	**Pg**	**21 59 36.5**	**-0.8**
TVSB				*e*	Sg	**Sg**	**21 59 43.3**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*	PG	**Pg**	**21 59 40.7**	**+0.1**
KULA				*e*	SG	**Sg**	**21 59 49.4**	**+0.3**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*	Pg	**Pg**	**21 59 40.7**	**+0.1**
KULA				*e*	Sg	**Sg**	**21 59 49.4**	**+0.3**
MANT	**Manisa**	**0.71**	**212**		P	**Pg**	**21 59 41.1**	**-0.6**
MANT					S	**Sg**	**21 59 50.7**	**-0.4**
MANT	**Manisa**	**0.71**	**212**	*i*	P	**Pg**	**21 59 41.1**	**-0.6**
MANT				*i*	S	**Sg**	**21 59 50.7**	**-0.4**
KHL	**Karahalli**	**0.86**	**154**	*e*	PG	**Pb**	**21 59 44.8**	**-0.4**
KHL	**Karahalli**	**0.86**	**154**	*e*	Pg	**Pb**	**21 59 44.8**	**-0.4**
AKS	**Akhisar**	**0.98**	**257**	*e*	PG	**Pb**	**21 59 46.8**	**-0.4**
AKS	**Akhisar**	**0.98**	**257**	*e*	Pg	**Pb**	**21 59 46.8**	**-0.4**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*	PN	**Pb**	**21 59 52.5**	**+0.5**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*	Pn	**Pb**	**21 59 52.6**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*	PN	**Pg**	**21 59 52.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*	Pn	**Pg**	**21 59 52.0**	**-0.4**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*	PN	**Pn**	**21 59 52.0**	**-0.2**
KCTX				*e*	SN	**Sn**	**22 00 10.3**	**+0.8**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*	Pn	**Pn**	**21 59 52.0**	**-0.2**
KCTX				*e*	Sn	**Sn**	**22 00 10.3**	**+0.8**
IZI	**Iznik**	**1.28**	**15**	*e*	PN	**Pb**	**21 59 52.8**	**+0.4**
IZI	**Iznik**	**1.28**	**15**	*e*	Pn	**Pb**	**21 59 52.8**	**+0.4**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*	PN	**Pn**	**21 59 54.3**	**0.0**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*	Pn	**Pn**	**21 59 54.3**	**0.0**
ARMT	**Armutlu**	**1.47**	**355**	*e*	PN	**Pb**	**21 59 55.2**	**-0.4**
ARMT	**Armutlu**	**1.47**	**355**	*e*	Pn	**Pb**	**21 59 55.2**	**-0.4**
EDC	**Edincik**	**1.54**	**324**	*e*	PN	**Pb**	**21 59 56.5**	**-0.2**
EDC	**Edincik**	**1.54**	**324**	*e*	Pn	**Pb**	**21 59 56.6**	**-0.2**
GULT	**Gulveren**	**1.75**	**40**	*e*	PN	**Pn**	**21 59 58.9**	**+0.2**
GULT	**Gulveren**	**1.75**	**40**	*e*	Pn	**Pn**	**21 59 58.9**	**+0.2**

*ISK **27** 22:05:34.7,39°.12N×28°.98E,h5km,ML2.5*
*ISCJB **27** 22:05:35.3±0.5,39°.09N±0°.04×29°.01E±0°.05,h11km±5km, Error ellipse: s-maj=8.3km s-min=4.3km az=136.9*
*DDA **27** 22:05:35.5,39°.05N×29°.02E,h7km,Md2.7*
*CSEM **27** 22:05:35.4±0.1,39°.10N×28°.99E,h10km,MD2.7,Error ellipse: s-maj=3.4km s-min=1.9km az=124.0*

ISC 27 22:05:35.4±0.9,**39°.09N**±0°.04×**29°.01E**±0°.03,**h15**km±9km, **n22**,σ**0s35**/32,**Turkey**

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

MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN		**Pg**	**22 09 26.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn		**Pg**	**22 09 26.8**	**+0.2**
IZI	**Iznik**	**1.27**	**15**	*e*PN		**Pb**	**22 09 26.7**	**+0.1**
IZI	**Iznik**	**1.27**	**15**	*e*Pn		**Pb**	**22 09 26.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN		**Pg**	**22 09 26.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn		**Pg**	**22 09 26.7**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN		**Pb**	**22 09 28.5**	**-0.4**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn		**Pb**	**22 09 28.5**	**-0.4**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN		**Pg**	**22 09 29.8**	**+0.1**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn		**Pg**	**22 09 29.8**	**+0.1**
ESKT	**Eskisehir**	**1.46**	**73**	*e*PN		**Pg**	**22 09 30.2**	**0.0**
ESKT	**Eskisehir**	**1.46**	**73**	*e*Pn		**Pg**	**22 09 30.2**	**0.0**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN		**Pb**	**22 09 29.6**	**-0.3**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn		**Pb**	**22 09 29.6**	**-0.3**
EDC	**Edincik**	**1.54**	**324**	*e*PN		**Pb**	**22 09 30.6**	**-0.5**
EDC	**Edincik**	**1.54**	**324**	*e*Pn		**Pb**	**22 09 30.6**	**-0.5**
GULT	**Gulveren**	**1.74**	**40**	*e*PN		**Pb**	**22 09 34.1**	**-0.5**
GULT	**Gulveren**	**1.74**	**40**	*e*Pn		**Pb**	**22 09 34.1**	**-0.5**
HRT	**Hereke**	**1.78**	**15**	*e*PN		**Pn**	**22 09 33.9**	**+0.4**
HRT	**Hereke**	**1.78**	**15**	*e*Pn		**Pn**	**22 09 33.9**	**+0.4**
ISK	**Istanbul-Kandi**	**1.96**	**0**	*e*PN		**Pb**	**22 09 37.1**	**-1.1**
ISK	**Istanbul-Kandi**	**1.96**	**0**	*e*Pn		**Pb**	**22 09 37.1**	**-1.1**

ISCJB ***27*** *22:12:00.7±0.5,39.°10N±0.°04×29.°03E±0.°04,h10km±5km, Error ellipse: s-maj=7.6km s-min=4.0km az=138.9*
CSEM ***27*** *22:12:00.6±0.1,39.°12N×29.°02E,h8km,MD2.6,Error ellipse: s-maj=2.7km s-min=1.6km az=122.0*
ISK ***27*** *22:12:00.1,39.°12N×29.°04E,h8km,MD2.7*
DDA ***27*** *22:12:00.8,39.°05N×29.°04E,h7km,Md2.6*

ISC 27 22:12:00.9±0.9,**39.°12N**±0.°04×**29.°03E**±0.°03,**h12**km±8km, **n24**,σ0**°43**/36,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**253**	P	**Pg**	**22 12 06.3**	**+0.1**
DEMI				S	**Sg**	**22 12 10.1**	**+0.3**
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**22 12 06.3**	**+0.1**
DEMI				*i* S	**Sg**	**22 12 10.1**	**+0.3**
GDZ	**Gediz**	**0.36**	**94**	P	**Pg**	**22 12 08.2**	**+0.1**
GDZ				S	**Sg**	**22 12 13.2**	**+0.2**
GDZ	**Gediz**	**0.36**	**94**	*i* P	**Pg**	**22 12 08.2**	**+0.1**
GDZ				*i* S	**Sg**	**22 12 13.2**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**45**	*e*PG	**Pg**	**22 12 09.7**	**-0.6**
TVSB				*e*SG	**Sg**	**22 12 16.2**	**-0.5**
TVSB	**Tavsanli**	**0.47**	**45**	*e*Pg	**Pg**	**22 12 09.7**	**-0.6**
TVSB				*e*Sg	**Sg**	**22 12 16.2**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**22 12 13.7**	**-0.1**
KULA				*e*SG	**Sg**	**22 12 23.0**	**+0.4**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**22 12 13.7**	**-0.1**
KULA				*e*Sg	**Sg**	**22 12 23.0**	**+0.4**
MANT	**Manisa**	**0.72**	**210**	P	**Pg**	**22 12 14.0**	**-1.0**
MANT				S	**Sg**	**22 12 23.8**	**-0.8**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**22 12 14.0**	**-1.0**
MANT				*i* S	**Sg**	**22 12 23.8**	**-0.8**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pg**	**22 12 17.8**	**-0.2**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pg**	**22 12 17.8**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*PN	**Pb**	**22 12 24.5**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*Pn	**Pb**	**22 12 24.5**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pn**	**22 12 24.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pn**	**22 12 24.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pn**	**22 12 24.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pn**	**22 12 24.5**	**+0.2**
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pn**	**22 12 24.5**	**0.0**
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pn**	**22 12 24.5**	**0.0**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pb**	**22 12 25.9**	**-0.2**
BORA				S	**Sn**	**22 12 43.8**	**+0.5**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pb**	**22 12 25.9**	**-0.2**
BORA				*i* S	**Sn**	**22 12 43.8**	**+0.5**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pn**	**22 12 27.4**	**+0.4**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pn**	**22 12 27.4**	**+0.4**

ISCJB ***27*** *22:13:15.8±0.5,39.°08N±0.°04×29.°10E±0.°05,h8km±7km, Error ellipse: s-maj=8.6km s-min=4.2km az=142.8*
DDA ***27*** *22:13:16.0,39.°11N×29.°06E,h7km,Md2.5*
CSEM ***27*** *22:13:15.7±0.2,39.°07N×29.°14E,h8km,MD2.7,Error ellipse: s-maj=6.1km s-min=3.6km az=134.0*
ISK ***27*** *22:13:15.0,39.°05N×29.°19E,h8km,MD2.7*

ISC 27 22:13:15.5±1.1,**39.°07N**±0.°03×**29.°16E**±0.°03,**h5**km±12km, **n24**,σ0**°57**/34,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.20**	**96**	*e*PG	**Pg**	**22 13 18.9**	**-0.5**
GEDZ	**Gediz**	**0.20**	**96**	*e*Pg	**Pg**	**22 13 18.9**	**-0.5**
GDZ	**Gediz**	**0.26**	**85**	P	**Pb**	**22 13 22.2**	**-0.5**
GDZ				S	**Sb**	**22 13 28.0**	**+0.5**
GDZ	**Gediz**	**0.26**	**85**	*i* P	**Pb**	**22 13 22.2**	**-0.5**
GDZ				*i* S	**Sb**	**22 13 28.0**	**+0.5**
DEMI	**Demirci**	**0.34**	**266**	P	**Pg**	**22 13 22.2**	**+0.1**
DEMI				S	**Sg**	**22 13 26.0**	**-0.7**
DEMI	**Demirci**	**0.34**	**266**	*i* P	**Pg**	**22 13 22.2**	**+0.1**
DEMI				*i* S	**Sg**	**22 13 26.0**	**-0.7**
TVSB	**Tavsanli**	**0.45**	**32**	*e*PG	**Pg**	**22 13 24.0**	**-0.2**
TVSB				*e*SG	**Sg**	**22 13 31.4**	**+1.3**
TVSB	**Tavsanli**	**0.45**	**32**	*e*Pg	**Pg**	**22 13 24.0**	**-0.2**
TVSB				*e*Sg	**Sg**	**22 13 31.4**	**+1.3**
KULA	**Kula-Manisa**	**0.67**	**215**	*e*PG	**Pb**	**22 13 29.3**	**-0.4**
KULA				*e*SG	**Sg**	**22 13 38.2**	**+1.1**
KULA	**Kula-Manisa**	**0.67**	**215**	*e*Pg	**Pb**	**22 13 29.3**	**-0.4**
KULA				*e*Sg	**Sg**	**22 13 38.2**	**+1.1**
MANT	**Manisa**	**0.74**	**219**	P	**Pg**	**22 13 30.0**	**+0.3**
MANT				S	**Sg**	**22 13 39.6**	**+0.3**
MANT	**Manisa**	**0.74**	**219**	*i* P	**Pg**	**22 13 30.0**	**+0.3**
MANT				*i* S	**Sg**	**22 13 39.6**	**+0.3**
BALB	**Balikesir**	**1.14**	**301**	*e*PN	**Pn**	**22 13 37.8**	**-0.3**
BALB	**Balikesir**	**1.14**	**301**	*e*Pn	**Pn**	**22 13 37.8**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**25**	*e*PN	**Pn**	**22 13 39.4**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**25**	*e*Pn	**Pn**	**22 13 39.4**	**-0.3**
IZI	**Iznik**	**1.29**	**11**	*e*PN	**Pn**	**22 13 39.9**	**-0.4**
IZI	**Iznik**	**1.29**	**11**	*e*Pn	**Pn**	**22 13 39.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.35**	**333**	*e*PN	**Pg**	**22 13 41.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.35**	**333**	*e*Pn	**Pg**	**22 13 41.4**	**+0.1**
ARMT	**Armutlu**	**1.52**	**352**	*e*PN	**Pn**	**22 13 43.3**	**0.0**
ARMT	**Armutlu**	**1.52**	**352**	*e*Pn	**Pn**	**22 13 43.3**	**0.0**
GULT	**Gulveren**	**1.72**	**37**	*e*PN	**Pn**	**22 13 46.0**	**-0.2**
GULT	**Gulveren**	**1.72**	**37**	*e*Pn	**Pn**	**22 13 46.0**	**-0.2**

ISCJB ***27*** *22:13:45.3±0.3,38.°06N±0.°03×14.°73E±0.°03,h15km±4km, Error ellipse: s-maj=4.5km s-min=3.5km az=150.4*
ROM ***27*** *22:13:45.2±0.1,38.°04N×14.°74E,h8km±1km,Ml3.5/37, Error ellipse: s-maj=1.4km s-min=1.1km az=140.0*
CSEM ***27*** *22:13:45.3±0.1,38.°03N×14.°74E,h10km,ML4.3/5, Error ellipse: s-maj=2.8km s-min=2.1km az=136.0*

ISC 27 22:13:45.1±0.8,**38.°04N**±0.°02×**14.°73E**±0.°02,**h11**km±5km, **n88**,σ0**°65**/99,**22C,Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSFR	**San Fratello**	**0.11**	**266**	⇑*i*Pg	**Pg**	**22 13 48.2**	**+0.1**
MSFR				Sg	**Sg**	**22 13 50.3**	**+0.1**
	14µm,0.7s						
MSFR	**San Fratello**	**0.11**	**266**	⇑*i*Pg	**Pg**	**22 13 48.2**	**+0.1**
MNO	**Monte Soro**	**0.11**	**194**	⇑*i*Pg	**Pg**	**22 13 47.9**	**-0.3**
MNO				Sg	**Sg**	**22 13 50.1**	**-0.4**
	54µm,0.2s						
MNO	**Monte Soro**	**0.11**	**194**	⇑*i*Pg	**Pg**	**22 13 47.9**	**-0.3**
MNO				Sg	**Sg**	**22 13 50.1**	**-0.4**
	54µm,0.2s						
MUCR	**Ucria**	**0.11**	**89**	⇑*i*Pg	**Pg**	**22 13 48.3**	**+0.1**
MUCR				Sg	**Sg**	**22 13 50.7**	**+0.3**
	33µm,0.4s						
MUCR	**Ucria**	**0.11**	**89**	⇑*i*Pg	**Pg**	**22 13 48.3**	**+0.1**
MUCR				Sg	**Sg**	**22 13 50.7**	**+0.3**
	33µm,0.4s						
NOV	**Novara**	**0.32**	**92**	Pg	**Pg**	**22 13 52.0**	**+0.4**
NOV				Sg	**Sb**	**22 13 57.4**	**-0.7**
	5µm,0.4s						
NOV	**Novara**	**0.32**	**92**	Pg	**Pg**	**22 13 52.0**	**+0.4**
NOV				Sg	**Sb**	**22 13 57.4**	**-0.7**
	5µm,0.4s						
GALF	**Gagliano Caste**	**0.35**	**201**	Pg	**Pg**	**22 13 52.7**	**+0.5**
	9µm,0.6s						
GALF	**Gagliano Caste**	**0.35**	**201**	Pg	**Pg**	**22 13 52.7**	**+0.5**
	9µm,0.6s						
VPL	**Vulcano Piano**	**0.39**	**31**	⇑*i*Pg	**Pb**	**22 13 53.9**	**-0.2**
VPL				Sg	**Sb**	**22 14 00.5**	**+0.4**
	19µm,0.3s						
ESLN	**Serra La Nave**	**0.40**	**151**	Pg	**Pb**	**22 13 54.1**	**-0.2**
	7µm,0.6s						
ESLN	**Serra La Nave**	**0.40**	**151**	Pg	**Pb**	**22 13 54.1**	**-0.2**
	7µm,0.6s						
MCSR	**Castroreale**	**0.41**	**87**	Pg	**Pg**	**22 13 53.4**	**+0.1**
MCSR				Sg	**Sg**	**22 13 59.8**	**+1.0**
	8µm,0.3s						
MCSR	**Castroreale**	**0.41**	**87**	Pg	**Pg**	**22 13 53.4**	**+0.1**
MCSR				Sg	**Sg**	**22 13 59.8**	**+1.0**
	8µm,0.3s						
MMME	**Mongiuffi-Meli**	**0.43**	**104**	⇑*i*Pg	**Pg**	**22 13 53.9**	**+0.3**
	4µm,0.9s						
MMME	**Mongiuffi-Meli**	**0.43**	**104**	⇑*i*Pg	**Pg**	**22 13 53.9**	**+0.3**
	4µm,0.9s						
LLI	**Lipari**	**0.44**	**23**	Pg	**Pb**	**22 13 55.1**	**+0.2**
	30µm,0.5s						
LLI	**Lipari**	**0.44**	**23**	Pg	**Pb**	**22 13 55.1**	**+0.2**
	30µm,0.5s						
ECNV	**Catenanuova**	**0.45**	**182**	Pg	**Pb**	**22 13 55.1**	**+0.1**
	7µm,0.9s						
ECNV	**Catenanuova**	**0.45**	**182**	Pg	**Pb**	**22 13 55.1**	**+0.1**
	7µm,0.9s						
CAGR	**Agira**	**0.46**	**204**	Pg	**Pb**	**22 13 54.9**	**-0.3**
	8µm,0.8s						
CAGR	**Agira**	**0.46**	**204**	Pg	**Pb**	**22 13 54.9**	**-0.3**
	8µm,0.8s						
PLLN	**Pollina**	**0.47**	**264**	Pg	**Pg**	**22 13 54.6**	**+0.3**
	2µm,0.3s						
PLLN	**Pollina**	**0.47**	**264**	Pg	**Pg**	**22 13 54.6**	**+0.3**
	2µm,0.3s						
MPNC	**Port Mandanici**	**0.50**	**78**	Pg	**Pg**	**22 13 55.4**	**+0.5**
	4µm,0.4s						
MPNC	**Port Mandanici**	**0.50**	**78**	Pg	**Pg**	**22 13 55.4**	**+0.5**
	4µm,0.4s						
IFIL	**Filicudi I Eol**	**0.54**	**346**	Pg	**Pb**	**22 13 56.5**	**-0.1**
	191nm,0.4s						
IFIL	**Filicudi I Eol**	**0.54**	**346**	Pg	**Pb**	**22 13 56.5**	**-0.1**
	191nm,0.4s						
IACL	**Alicudi**	**0.57**	**329**	Pg	**Pg**	**22 13 57.0**	**+0.7**
	6µm,0.4s						
IACL	**Alicudi**	**0.57**	**329**	Pg	**Pg**	**22 13 57.0**	**+0.7**
	6µm,0.4s						
ATN	**Antennamare**	**0.59**	**78**	Pg	**Pg**	**22 13 57.2**	**+0.5**
	2µm,0.5s						
ATN	**Antennamare**	**0.59**	**78**	Pg	**Pg**	**22 13 57.2**	**+0.5**
	2µm,0.5s						
MSRU	**Castanea**	**0.65**	**70**	Pg	**Pg**	**22 13 58.2**	**+0.4**
	2µm,0.5s						
MSRU	**Castanea**	**0.65**	**70**	Pg	**Pg**	**22 13 58.2**	**+0.4**
	2µm,0.5s						
RESU	**Resuttano**	**0.66**	**234**	Pg	**Pb**	**22 13 59.0**	**+0.3**
	2µm,0.6s						
RESU	**Resuttano**	**0.66**	**234**	Pg	**Pb**	**22 13 59.0**	**+0.3**
	2µm,0.6s						
HLNI	**Lentini**	**0.70**	**171**	⇑*i*Pg	**Pg**	**22 13 59.0**	**+0.3**
	2µm,0.6s						
HLNI	**Lentini**	**0.70**	**171**	⇑*i*Pg	**Pg**	**22 13 59.0**	**+0.3**
	2µm,0.6s						
HCRL	**Carlentini**	**0.79**	**162**	⇑*i*Pg	**Pg**	**22 14 00.6**	**+0.1**
	2µm,0.6s						
HCRL	**Carlentini**	**0.79**	**162**	⇑*i*Pg	**Pg**	**22 14 00.6**	**+0.1**
	2µm,0.6s						
ALJA	**Alia**	**0.82**	**250**	Pg	**Pb**	**22 14 01.7**	**+0.2**
	2µm,0.9s						
ALJA	**Alia**	**0.82**	**250**	Pg	**Pb**	**22 14 01.7**	**+0.2**
	2µm,0.9s						
HAGA	**Augusta**	**0.83**	**156**	⇑*i*Pg	**Pg**	**22 14 01.0**	**-0.1**
	2µm,1.0s						
HAGA	**Augusta**	**0.83**	**156**	⇑*i*Pg	**Pg**	**22 14 01.0**	**-0.1**
	2µm,1.0s						
MSCL	**Scilla**	**0.86**	**77**	Pg	**Pg**	**22 14 01.4**	**-0.3**
	2µm,0.6s						
MSCL	**Scilla**	**0.86**	**77**	Pg	**Pg**	**22 14 01.4**	**-0.3**
	2µm,0.6s						
HVZN	**Vizzini**	**0.86**	**181**	Pg	**Pg**	**22 14 01.8**	**0.0**
	3µm,0.5s						
HVZN	**Vizzini**	**0.86**	**181**	Pg	**Pg**	**22 14 01.8**	**0.0**
	3µm,0.5s						
RAFF	**Raffo Rosso**	**0.87**	**200**	⇑*i*Pg	**Pb**	**22 14 02.5**	**+0.3**
	1µm,0.7s						
RAFF	**Raffo Rosso**	**0.87**	**200**	⇑*i*Pg	**Pb**	**22 14 02.5**	**+0.3**
	1µm,0.7s						
AGST	**Augusta-Monte**	**0.88**	**153**	⇑*i*Pg	**Pg**	**22 14 01.8**	**-0.2**
	1µm,0.7s						
AGST	**Augusta-Monte**	**0.88**	**153**	⇑*i*Pg	**Pg**	**22 14 01.8**	**-0.2**
	1µm,0.7s						
SSY	**Sortino**	**0.93**	**163**	⇑*i*Pg	**Pg**	**22 14 02.7**	**-0.3**
	2µm,0.6s						
SSY	**Sortino**	**0.93**	**163**	⇑*i*Pg	**Pg**	**22 14 02.7**	**-0.3**
	2µm,0.6s						
CEL	**Celeste**	**0.94**	**76**	Pg	**Pg**	**22 14 03.1**	**-0.2**
	781nm,0.8s						
CEL	**Celeste**	**0.94**	**76**	Pg	**Pg**	**22 14 03.1**	**-0.2**
	781nm,0.8s						
SOLUN	**Solunto**	**0.95**	**273**	Pg	**Pg**	**22 14 02.4**	**-1.0**
	469nm,1.0s						
SOLUN	**Solunto**	**0.95**	**273**	Pg	**Pg**	**22 14 02.4**	**-1.0**
	469nm,1.0s						
MPAZ	**Palizzi**	**1.01**	**95**	Pg	**Pg**	**22 14 04.3**	**-0.3**
	1µm,0.8s						
MPAZ	**Palizzi**	**1.01**	**95**	Pg	**Pg**	**22 14 04.3**	**-0.3**
	1µm,0.8s						
SOI	**Samo**	**1.05**	**88**	Pg	**Pg**	**22 14 04.6**	**-0.7**
	921nm,0.7s						
SOI	**Samo**	**1.05**	**88**	Pg	**Pg**	**22 14 04.6**	**-0.7**
	921nm,0.7s						
JOPP	**Joppolo**	**1.07**	**58**	Pg	**Pg**	**22 14 04.7**	**-1.0**
	327nm,0.5s						
JOPP	**Joppolo**	**1.07**	**58**	Pg	**Pg**	**22 14 04.7**	**-1.0**
	327nm,0.5s						
HMDC	**Modica**	**1.08**	**178**	Pg	**Pg**	**22 14 05.2**	**-0.7**
	1µm,0.6s						
HMDC	**Modica**	**1.08**	**178**	Pg	**Pg**	**22 14 05.2**	**-0.7**
	1µm,0.6s						
MPG	**Monte Pellegri**	**1.09**	**277**	Pg	**Pg**	**22 14 04.9**	**-1.1**
	228nm,0.8s						
MPG	**Monte Pellegri**	**1.09**	**277**	Pg	**Pg**	**22 14 04.9**	**-1.1**
	228nm,0.8s						
HAVL	**Avola**	**1.12**	**164**	Pg	**Pg**	**22 14 05.5**	**-1.2**
	873nm,0.5s						
HAVL	**Avola**	**1.12**	**164**	Pg	**Pg**	**22 14 05.5**	**-1.2**
	873nm,0.5s						
FAVR	**Favara**	**1.14**	**228**	Pg	**Pn**	**22 14 09.2**	**+2.2**
CLTB	**Caltabellotta**	**1.28**	**249**	Pg	**Pn**	**22 14 11.2**	**+1.4**
PLAC	**Placanica**	**1.41**	**73**	Pg	**Pn**	**22 14 11.0**	**+0.3**
	551nm,0.7s						
PLAC	**Placanica**	**1.41**	**73**	Pg	**Pn**	**22 14 11.0**	**+0.3**
	551nm,0.7s						
BULG	**Bulgheria - Ca**	**2.10**	**14**	Pg	**Pn**	**22 14 19.7**	**-0.5**
	189nm,0.3s						
BULG	**Bulgheria - Ca**	**2.10**	**14**	Pg	**Pn**	**22 14 19.7**	**-0.5**
	189nm,0.3s						
CUC	**Castrocucco**	**2.12**	**23**	Pg	**Pn**	**22 14 20.2**	**-0.4**
	89nm,0.7s						
CUC	**Castrocucco**	**2.12**	**23**	Pg	**Pn**	**22 14 20.2**	**-0.4**
	89nm,0.7s						
MGR	**Morigerati**	**2.19**	**17**	Pg	**Pn**	**22 14 20.8**	**-0.6**
	83nm,0.4s						
MGR	**Morigerati**	**2.19**	**17**	Pg	**Pn**	**22 14 20.8**	**-0.6**
	83nm,0.4s						
TAR1	**Taranto**	**3.18**	**38**	*e*Pn	**Pn**	**22 14 35.5**	**+0.6**
SELS	**Selova**	**7.10**	**41**	*e*Pn	**Pn**	**22 15 29.2**	**+0.4**
DIVS	**Divibare**	**7.24**	**32**	*e*Pn	**Pn**	**22 15 31.6**	**+0.8**
TEKS	**Tekeris**	**7.44**	**28**	*e*Pn	**Pn**	**22 15 30.6**	**-2.9**
BOVS	**Bovan**	**7.69**	**41**	*e*Pn	**Pn**	**22 15 37.8**	**+0.8**
BOLS	**Boljevac**	**7.96**	**41**	*e*Pn	**Pn**	**22 15 40.2**	**-0.4**

DDA ***27*** *22:15:32.9,39.°13N×29.°02E,h7km,Md2.6*
ISCJB ***27*** *22:15:33.2±0.4,39.°10N±0.°03×29.°01E±0.°03,h4km±6km, Error ellipse: s-maj=4.9km s-min=3.8km az=168.7*
CSEM ***27*** *22:15:33.5±0.1,39.°09N×29.°01E,h5km,MD2.6,Error ellipse: s-maj=3.2km s-min=2.5km az=134.0*
ISK ***27*** *22:15:33.0,39.°10N×29.°03E,h5km,ML2.9*

ISC 27 22:15:33.3±0.9,**39.°11N**±0.°02×**29.°01E**±0.°02,**h11**km±8km, **n47**,σ0**°69**/64,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**255**	P	**Pg**	**22 15 38.4**	**+0.2**
DEMI				S	**Sg**	**22 15 41.7**	**+0.2**
DEMI	**Demirci**	**0.23**	**255**	*i* P	**Pg**	**22 15 38.4**	**+0.2**
DEMI				*i* S	**Sg**	**22 15 41.7**	**+0.2**
GDZ	**Gediz**	**0.37**	**92**	P	**Pg**	**22 15 40.8**	**+0.1**
GDZ				*i* S	**Sg**	**22 15 45.9**	**+0.2**
TVSB	**Tavsanli**	**0.49**	**46**	*e*PG	**Pg**	**22 15 42.3**	**-0.7**
TVSB				*e*SG	**Sg**	**22 15 49.7**	**+0.2**
TVSB	**Tavsanli**	**0.49**	**46**	*e*Pg	**Pg**	**22 15 42.3**	**-0.7**
TVSB				*e*Sg	**Sg**	**22 15 49.7**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*PG	**Pg**	**22 15 45.6**	**-0.3**
KULA				*e*SG	**Sb**	**22 15 55.4**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*Pg	**Pg**	**22 15 45.6**	**-0.3**
KULA				*e*Sg	**Sb**	**22 15 55.4**	**-0.4**
MANT	**Manisa**	**0.71**	**210**	P	**Pg**	**22 15 46.3**	**-0.7**
MANT				S	**Sg**	**22 15 54.9**	**-1.3**
MANT	**Manisa**	**0.71**	**210**	*i* P	**Pg**	**22 15 46.3**	**-0.7**
MANT				*i* S	**Sg**	**22 15 54.9**	**-1.3**
KHL	**Karahalli**	**0.88**	**152**	*e*PG	**Pb**	**22 15 50.4**	**-0.3**
KHL				*e*SG	**Sb**	**22 16 02.2**	**-0.2**
KHL	**Karahalli**	**0.88**	**152**	*e*Pg	**Pb**	**22 15 50.4**	**-0.3**
KHL				*e*Sg	**Sb**	**22 16 02.3**	**-0.2**
AKS	**Akhisar**	**0.96**	**257**	*e*PG	**Pb**	**22 15 52.1**	**+0.2**
AKS				*e*SG	**Sn**	**22 16 06.7**	**+0.3**
AKS	**Akhisar**	**0.96**	**257**	*e*Pg	**Pb**	**22 15 52.1**	**+0.2**
AKS				*e*Sg	**Sn**	**22 16 06.7**	**+0.3**
BALB	**Balikesir**	**1.02**	**302**	*e*PG	**Pn**	**22 15 53.9**	**+0.3**
BALB				*e*SG	**Sn**	**22 16 08.3**	**+0.3**
BALB	**Balikesir**	**1.02**	**302**	*e*Pg	**Pn**	**22 15 53.9**	**+0.3**
BALB				*e*Sg	**Sn**	**22 16 08.3**	**+0.3**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pg**	**22 15 53.9**	**-1.9**
IGD				*i* S	**Sg**	**22 16 09.9**	**-1.0**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*PN	**Pn**	**22 15 57.8**	**+0.8**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*Pn	**Pn**	**22 15 57.8**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*PN	**Pg**	**22 15 57.3**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*Pn	**Pg**	**22 15 57.3**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pn**	**22 15 57.9**	**+0.8**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pn**	**22 15 57.9**	**+0.8**
IZI	**Iznik**	**1.28**	**16**	*e*PN	**Pb**	**22 15 57.8**	**+0.3**
IZI	**Iznik**	**1.28**	**16**	*e*Pn	**Pb**	**22 15 57.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*PN	**Pn**	**22 15 59.1**	**+0.5**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*Pn	**Pn**	**22 15 59.1**	**+0.5**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*PN	**Pg**	**22 16 00.7**	**-0.3**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*Pn	**Pg**	**22 16 00.7**	**-0.3**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pb**	**22 16 00.7**	**+0.1**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pb**	**22 16 00.7**	**+0.1**
ESKT	**Eskisehir**	**1.49**	**73**	*e*PN	**Pg**	**22 16 01.7**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**73**	*e*Pn	**Pg**	**22 16 01.7**	**-0.2**
EDC	**Edincik**	**1.52**	**325**	*e*PN	**Pn**	**22 16 01.2**	**+0.7**
EDC	**Edincik**	**1.52**	**325**	*e*Pn	**Pn**	**22 16 01.2**	**+0.7**
GULT	**Gulveren**	**1.76**	**41**	*e*PN	**Pb**	**22 16 05.2**	**-0.6**
GULT	**Gulveren**	**1.76**	**41**	*e*Pn	**Pb**	**22 16 05.2**	**-0.6**
HRT	**Hereke**	**1.79**	**16**	*e*PN	**Pb**	**22 16 05.6**	**-0.5**
HRT	**Hereke**	**1.79**	**16**	*e*Pn	**Pb**	**22 16 05.6**	**-0.5**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*PN	**Pb**	**22 16 07.0**	**-0.5**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*Pn	**Pb**	**22 16 07.0**	**-0.5**
ISK	**Istanbul-Kand

GALF	**Gagliano Caste**	**0.33**	**201**	Pg	Pb	22 19 30.1	-0.6		
GALF	**Gagliano Caste**	**0.33**	**201**	Pg	Pb	22 19 30.1	-0.6		
NOV	**Novara**	**0.33**	**88**	Pg	Pg	22 19 29.8	+0.6		
NOV	**Novara**	**0.33**	**88**	Pg	Pg	22 19 29.8	+0.6		
VPL	**Vulcano Piano**	**0.42**	**30**	Pg	Pg	22 19 31.4	+0.6		
VPL				Sg	Sb	22 19 38.1	-0.5		
VPL	**Vulcano Piano**	**0.42**	**30**	Pg	Pg	22 19 31.4	+0.6		
VPL				Sg	Sb	22 19 38.1	-0.5		
MCSR	**Castroreale**	**0.42**	**84**	Pg	Pg	22 19 31.1	+0.2		
MCSR	**Castroreale**	**0.42**	**84**	Pg	Pg	22 19 31.1	+0.2		
MMME	**Mongiuffi-Meli**	**0.43**	**101**	Pg	Pg	22 19 31.5	+0.4		
MMME	**Mongiuffi-Meli**	**0.43**	**101**	Pg	Pg	22 19 31.5	+0.4		
PLLN	**Pollina**	**0.45**	**267**	Pg	Pg	22 19 32.1	+0.6		
PLLN	**Pollina**	**0.45**	**267**	Pg	Pg	22 19 32.1	+0.6		
MPNC	**Port Mandanici**	**0.52**	**76**	Pg	Pb	22 19 33.9	0.0		
MPNC	**Port Mandanici**	**0.52**	**76**	Pg	Pb	22 19 33.9	0.0		
IACL	**Alicudi**	**0.59**	**331**	Pg	Pg	22 19 34.3	+0.3		
	334nm,0.3s								
IACL	**Alicudi**	**0.59**	**331**	Pg	Pg	22 19 34.3	+0.3		
	334nm,0.3s								

CSEM ***27*** *22:19:38.1, 38˙04N×14˙75E, h7km, ML2.5/9*

ROM 27 22:19:38.1±0.1, 38˙04N×14˙75E, h7km±1km, Ml2.5/9, 4C, Error ellipse: s-maj=1.8km s-min=1.2km az=167.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUCR	**Ucria**	**0.10**	**88**	Pg	Pg	22 19 41.1	+0.7
MUCR				Sg	Sg	22 19 43.5	+1.4
MUCR	**Ucria**	**0.10**	**88**	Pg	Pg	22 19 41.1	+0.7
MUCR				Sg	Sg	22 19 43.5	+1.4
MNO	**Monte Soro**	**0.11**	**200** ⇑	*i* Pg	Pg	22 19 40.8	+0.1
MNO				Sg	Sg	22 19 42.9	+0.4
MNO	**Monte Soro**	**0.11**	**200** ⇑	*i* Pg	Pg	22 19 40.8	+0.1
MNO				Sg	Sg	22 19 42.9	+0.4
MSFR	**San Fratello**	**0.12**	**267** ⇑	*i* Pg	Pg	22 19 41.1	+0.4
MSFR				Sg	Sg	22 19 43.3	+0.8
MSFR	**San Fratello**	**0.12**	**267** ⇑	*i* Pg	Pg	22 19 41.1	+0.4
MSFR				Sg	Sg	22 19 43.3	+0.8
NOV	**Novara**	**0.31**	**92**	Pg	Pg	22 19 45.0	+0.8
NOV				Sg	Sb	22 19 50.3	-1.1
NOV	**Novara**	**0.31**	**92**	Pg	Pg	22 19 45.0	+0.8
NOV				Sg	Sb	22 19 50.3	-1.1
GALF	**Gagliano Caste**	**0.36**	**203**	Pg	Pg	22 19 45.8	+0.7
GALF	**Gagliano Caste**	**0.36**	**203**	Pg	Pg	22 19 45.8	+0.7
VPL	**Vulcano Piano**	**0.39**	**29**	Pg	Pb	22 19 46.8	-0.6
VPL				Sg	Sb	22 19 53.4	-0.2
	371nm,1.0s						
VPL	**Vulcano Piano**	**0.39**	**29**	Pg	Pb	22 19 46.8	-0.6
VPL				Sg	Sb	22 19 53.4	-0.2
	371nm,1.0s						
ESLN	**Serra La Nave**	**0.39**	**152**	Pg	Pb	22 19 48.1	+0.6
ESLN	**Serra La Nave**	**0.39**	**152**	Pg	Pb	22 19 48.1	+0.6
MCSR	**Castroreale**	**0.40**	**86**	Pg	Pg	22 19 46.1	+0.2
MCSR	**Castroreale**	**0.40**	**86**	Pg	Pg	22 19 46.1	+0.2
MMME	**Mongiuffi-Meli**	**0.42**	**104**	Pg	Pg	22 19 46.7	+0.5
MMME	**Mongiuffi-Meli**	**0.42**	**104**	Pg	Pg	22 19 46.7	+0.5
ECNV	**Catenanuova**	**0.44**	**183**	Pg	Pb	22 19 49.4	+1.1
	578nm,0.8s						
ECNV	**Catenanuova**	**0.44**	**183**	Pg	Pb	22 19 49.4	+1.1
	578nm,0.8s						
CAGR	**Agira**	**0.46**	**205**	Pg	Pn	22 19 50.0	-1.2
CAGR	**Agira**	**0.46**	**205**	Pg	Pn	22 19 50.0	-1.2
PLLN	**Pollina**	**0.48**	**264**	Pg	Pg	22 19 47.7	+0.4
PLLN	**Pollina**	**0.48**	**264**	Pg	Pg	22 19 47.7	+0.4
MPNC	**Port Mandanici**	**0.49**	**77**	Pg	Pg	22 19 48.2	+0.6
MPNC	**Port Mandanici**	**0.49**	**77**	Pg	Pg	22 19 48.2	+0.6
IFIL	**Filicudi I Eol**	**0.54**	**345**	Pg	Pb	22 19 49.9	-0.1
IFIL	**Filicudi I Eol**	**0.54**	**345**	Pg	Pb	22 19 49.9	-0.1
IACL	**Alicudi**	**0.58**	**328**	Pg	Pg	22 19 49.9	+0.6
	331nm,0.2s						
IACL	**Alicudi**	**0.58**	**328**	Pg	Pg	22 19 49.9	+0.6
	331nm,0.2s						
MSRU	**Castanea**	**0.64**	**69**	Pg	Pg	22 19 50.8	+0.3
MSRU	**Castanea**	**0.64**	**69**	Pg	Pg	22 19 50.8	+0.3
RESU	**Resuttano**	**0.67**	**234**	Pg	Pb	22 19 52.6	+0.4
	137nm,0.7s						
RESU	**Resuttano**	**0.67**	**234**	Pg	Pb	22 19 52.6	+0.4
	137nm,0.7s						
HLNI	**Lentini**	**0.70**	**172**	Pg	Pb	22 19 52.2	-0.4
HLNI	**Lentini**	**0.70**	**172**	Pg	Pb	22 19 52.2	-0.4
HCRL	**Carlentini**	**0.79**	**163**	Pg	Pg	22 19 53.3	0.0
	245nm,0.5s						
HCRL	**Carlentini**	**0.79**	**163**	Pg	Pg	22 19 53.3	0.0
	245nm,0.5s						
HAGA	**Augusta**	**0.82**	**157**	Pg	Pg	22 19 53.8	-0.1
HAGA	**Augusta**	**0.82**	**157**	Pg	Pg	22 19 53.8	-0.1
ALJA	**Alia**	**0.84**	**250**	Pg	Pb	22 19 54.7	-0.3
	118nm,0.9s						
ALJA	**Alia**	**0.84**	**250**	Pg	Pb	22 19 54.7	-0.3
	118nm,0.9s						
MSCL	**Scilla**	**0.85**	**77**	Pg	Pg	22 19 54.2	-0.2
MSCL	**Scilla**	**0.85**	**77**	Pg	Pg	22 19 54.2	-0.2
HVZN	**Vizzini**	**0.86**	**182**	Pg	Pb	22 19 55.1	-0.3
	285nm,0.7s						
HVZN	**Vizzini**	**0.86**	**182**	Pg	Pb	22 19 55.1	-0.3
	285nm,0.7s						
RAFF	**Raffo Rosso**	**0.87**	**201**	Pg	Pb	22 19 55.8	+0.2
RAFF	**Raffo Rosso**	**0.87**	**201**	Pg	Pb	22 19 55.8	+0.2
SSY	**Sortino**	**0.92**	**164**	Pg	Pg	22 19 55.6	-0.2
	206nm,0.5s						
SSY	**Sortino**	**0.92**	**164**	Pg	Pg	22 19 55.6	-0.2
	206nm,0.5s						
CEL	**Celeste**	**0.93**	**76**	Pg	Pg	22 19 56.3	+0.3
CEL	**Celeste**	**0.93**	**76**	Pg	Pg	22 19 56.3	+0.3
MPAZ	**Palizzi**	**1.00**	**95**	Pg	Pg	22 19 57.2	-0.1
MPAZ	**Palizzi**	**1.00**	**95**	Pg	Pg	22 19 57.2	-0.1
SOI	**Samo**	**1.03**	**88**	Pg	Pg	22 19 57.3	-0.7
SOI	**Samo**	**1.03**	**88**	Pg	Pg	22 19 57.3	-0.7
JOPP	**Joppolo**	**1.06**	**57**	Pg	Pg	22 19 58.2	-0.3
JOPP	**Joppolo**	**1.06**	**57**	Pg	Pg	22 19 58.2	-0.3
HMDC	**Modica**	**1.08**	**178**	Pg	Pg	22 19 58.6	-0.2
HMDC	**Modica**	**1.08**	**178**	Pg	Pg	22 19 58.6	-0.2
MPG	**Monte Pellegri**	**1.10**	**277**	Pg	Pg	22 19 58.5	-0.7
	38nm,1.1s						
MPG	**Monte Pellegri**	**1.10**	**277**	Pg	Pg	22 19 58.5	-0.7
	38nm,1.1s						
HAVL	**Avola**	**1.12**	**164**	Pg	Pg	22 19 59.1	-0.5
	112nm,0.3s						
HAVL	**Avola**	**1.12**	**164**	Pg	Pg	22 19 59.1	-0.5
	112nm,0.3s						

NIED ***27*** *22:22:00, 38˙00N×141˙80E, h44km, Mw3.9 Best double couple: M07.01000×10^14 NP1:φ≈33.00000°, δ45.00000°, λ103.00000°. NP2:φ≈196.00000°, δ46.00000°, λ78.00000°.*

ISCJB ***27*** *22:22:34.6±0.9, 38˙02N±0˙04×141˙86E±0˙09, h64km±6km, mb3.7/11, Error ellipse: s-maj=12.3km s-min=5.8km az=19.3*

IDC ***27*** *22:22:35.4±2.5, 38˙00N×141˙72E, h50km±22km, mb3.5/11, mb1 3.5/14, mb1mx3.4/56, mbtmp3.7/14, ML3.0/3, Error ellipse: s-maj=26.4km s-min=12.8km az=89.0*

JMA ***27*** *22:22:36.2±0.1, 38˙03N×141˙77E, h54km±1km, M3.8*

JMA Felt I J1.

ISC 27 22:22:35.1±1.5, 38˙00N±0˙05×141˙90E±0˙09, h50km±12km, n34, σ0982/38, mb3.8/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.62**	**316**	P	**Pn**	**22 22 48.3**	**+0.4**
JIO				*eS*	**Sn**	**22 22 56.7**	**-0.5**
JMM	**Marumori**	**0.89**	**261**	P	**Pn**	**22 22 51.2**	**-0.1**
JMM				*eS*	**Sn**	**22 23 02.5**	**-0.6**
JFK	**Kawauchi**	**1.03**	**232**	P	**Pn**	**22 22 53.6**	**+0.3**
JFK				*eS*	**Sn**	**22 23 06.6**	**-0.1**
JOU	**Okura**	**1.04**	**291**	P	**Pn**	**22 22 53.5**	**+0.1**
JOU				*eS*	**Sn**	**22 23 06.2**	**-0.7**
JMK	**Ichinoseki**	**1.09**	**331**	P	**Pn**	**22 22 54.6**	**+0.6**
JMK				*eS*	**Sn**	**22 23 08.0**	**0.0**
JFT	**Otama**	**1.33**	**249**	P	**Pn**	**22 22 58.0**	**+0.7**
JYS	**Shirataka**	**1.46**	**279**	P	**Pn**	**22 22 59.4**	**+0.3**
JYS				*eS*	**Sn**	**22 23 17.1**	**0.0**
JYK	**Kaneyama**	**1.52**	**308**	P	**Pn**	**22 23 00.2**	**+0.4**
JYK				*eS*	**Sn**	**22 23 18.4**	**0.0**
JOM	**Ohasama**	**1.54**	**342**	P	**Pn**	**22 23 01.3**	**+1.1**
JOM				*eS*	**Sn**	**22 23 19.6**	**+0.5**
JRG	**Rokugo**	**1.71**	**325**	P	**Pn**	**22 23 03.5**	**+1.1**
JYA	**Atsumi**	**1.82**	**290**	P	**Pn**	**22 23 04.2**	**+0.3**
JFY	**Yanaizu**	**1.84**	**252**	P	**Pn**	**22 23 05.0**	**+0.7**
JFY				*eS*	**Sn**	**22 23 26.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.29**	**245**	P	**Pn**	**22 23 23.6**	**-0.5**
	1.4nm,0.3s,baz=66,slow=11,SNR=25						
MAT	**Matsushiro**	**3.29**	**245**	P	**Pn**	**22 23 25.8**	**+1.7**
MAT				*eS*	**Sn**	**22 24 04.1**	**+2.2**
JHJ	**Hachijo jima 2**	**5.17**	**200**	S	**Sn**	**22 24 47.0**	**-1.2**
	6.4nm,0.3s,baz=90,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**6.13**	**5**	P	**Pn**	**22 24 02.6**	**-0.4**
	0.9nm,0.3s,baz=200,slow=12,SNR=5.9						
USRK	**Ussuriysk Ar.**	**9.71**	**313**	P	**Pn**	**22 24 52.1**	**+0.1**
	0.3nm,0.3s,baz=102,slow=16,SNR=5.3						
SONM	**Songino Array**	**27.58**	**302**	P	**P**	**22 28 16.1**	**-1.4**
	0.3nm,0.3s,baz=109,slow=6.6,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.33**	**123**	T	T	22 58 41.3	
	baz=316,slow=75,SNR=305						
H11N1	**WAKE ISLAND Hy**	**28.34**	**123**	T	T	22 58 42.0	
	baz=316,slow=75,SNR=454						
H11N3	**WAKE ISLAND Hy**	**28.35**	**123**	T	T	22 58 42.6	
	baz=316,slow=75,SNR=329						
H11S1	**WAKE ISLAND Hy**	**29.08**	**125**	T	T	22 59 37.1	
	baz=318,slow=76,SNR=184						
H11S3	**WAKE ISLAND Hy**	**29.08**	**125**	T	T	22 59 36.5	
	baz=318,slow=76,SNR=162						
H11S2	**WAKE ISLAND Hy**	**29.10**	**125**	T	T	22 59 38.4	
	baz=318,slow=76,SNR=88						
ZALV	**Zalesovo Beam**	**41.55**	**312**	P	**P**	**22 30 17.0**	**-0.5**
	0.9nm,0.4s,baz=89,slow=6.4,SNR=4.3						
MKAR	**Makanchi Array**	**43.94**	**301**	P	**P**	**22 30 36.7**	**-0.2**
	0.4nm,0.6s,baz=88,slow=8.7,SNR=5.4						
KURBB	**Kurchatov Arra**	**45.72**	**307**	P	**P**	**22 30 50.5**	**-0.4**
	1.1nm,0.4s,baz=82,slow=8.3,SNR=9.9						
ILAR	**Eielson Array**	**48.47**	**33**	P	**P**	**22 31 13.1**	**+0.8**
	0.2nm,0.6s,baz=270,slow=8.1,SNR=2.8						
BVAR	**Borovoye Array**	**50.21**	**312**	P	**P**	**22 31 23.6**	**-2.0**
	0.2nm,0.3s,baz=71,slow=9.3,SNR=3.4						
WRA	**Warramunga Arr**	**58.07**	**188**	P	**P**	**22 32 23.4**	**+0.2**
	0.5nm,0.6s,baz=6.2,slow=7.4,SNR=7.7						
ASAR	**Alice Springs**	**61.80**	**188**	P	**P**	**22 32 49.1**	**+0.3**
	0.2nm,0.6s,baz=14,slow=12,SNR=3.3						
ARCES	**ARCESS Array B**	**63.23**	**339**	P	**P**	**22 32 57.9**	**+0.1**
	2.2nm,1.0s,baz=46,slow=7.6,SNR=3.6						
FINES	**FINESS Array B**	**68.14**	**332**	P	**P**	**22 33 29.1**	**-0.3**
	1.0nm,0.6s,baz=93,slow=9.5,SNR=5.6						
HFS	**Hagfors**	**73.36**	**336**	P	**P**	**22 34 01.6**	**+0.4**
	0.9nm,0.7s,baz=34,slow=10,SNR=2.7						

THE ***27*** *22:24:50.7, 39˙01N×29˙20E, h6km±4km, ML3.7/4, Error ellipse: s-maj=6.5km s-min=0.9km az=128.0*

DDA ***27*** *22:24:50.1, 39˙12N×29˙02E, h5km, Ml3.9*

ISK ***27*** *22:24:50.9, 39˙10N×28˙99E, h5km, ML4.0*

CSEM ***27*** *22:24:51.6±0.1, 39˙10N×29˙02E, h2km, ML3.9, Error ellipse: s-maj=2.7km s-min=2.5km az=33.0*

ISCJB ***27*** *22:24:51.1±0.4, 39˙12N±0˙02×29˙00E±0˙02, h2km±4km, mb3.6/8, MS2.9/3, Error ellipse: s-maj=2.8km s-min=2.5km az=171.2*

IDC ***27*** *22:24:51.8±1.3, 39˙17N×29˙26E, h0km, mb3.6/8, mb1 3.7/12, mb1mx3.5/54, mbtmp3.6/12, ML3.4/3, MS2.9/6, Ms1 2.9/6, ms1mx2.5/43, Error ellipse: s-maj=23.9km s-min=15.8km az=27.0*

ISC 27 22:24:51.4±1.0, 39˙10N±0˙02×29˙02E±0˙01, h4km±8km, n201, σ0999/232, mb3.6/8, MS3.0/3, 11C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**256**	P	**Pg**	**22 24 56.2**	**0.0**
DEMI				S	**Sg**	**22 24 59.4**	**-0.1**
DEMI	**Demirci**	**0.25**	**256**	*i* P	**Pg**	**22 24 56.2**	**0.0**
DEMI				*i* S	**Sg**	**22 24 59.4**	**-0.1**
GEDZ	**Gediz**	**0.31**	**101**	PG	**Pb**	**22 24 58.8**	**-0.7**
GEDZ				SG	**Sb**	**22 25 03.7**	**-1.2**
GEDZ	**Gediz**	**0.31**	**101**	*i* Pg	**Pb**	**22 24 58.8**	**-0.7**
GEDZ				*i* Sg	**Sb**	**22 25 03.7**	**-1.2**
GDZ	**Gediz**	**0.36**	**92**	P	**Pg**	**22 24 58.5**	**+0.2**
GDZ				S	**Sg**	**22 25 04.2**	**+1.2**
GDZ	**Gediz**	**0.36**	**92**	*i* P	**Pg**	**22 24 58.5**	**+0.2**
GDZ				*i* S	**Sg**	**22 25 04.2**	**+1.2**
TVSB	**Tavsanli**	**0.49**	**44**	PG	**Pg**	**22 25 00.3**	**-0.4**
TVSB	**Tavsanli**	**0.49**	**44**	*i* Pg	**Pg**	**22 25 00.4**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	PG	**Pg**	**22 25 03.8**	**-0.2**
KULA				SG	**Sg**	**22 25 12.5**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**206**	P	**Pg**	**22 25 03.7**	**-0.2**
KULA				S	**Sg**	**22 25 12.6**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**206**	*i* Pg	**Pg**	**22 25 03.8**	**-0.2**
KULA				S	**Sg**	**22 25 12.6**	**+0.2**
MANT	**Manisa**	**0.71**	**211**	P	**Pg**	**22 25 04.1**	**-1.0**
MANT				S	**Sg**	**22 25 13.6**	**-0.7**
MANT	**Manisa**	**0.71**	**211**	*i* P	**Pg**	**22 25 04.1**	**-1.0**
MANT				*i* S	**Sg**	**22 25 13.6**	**-0.7**
KHL	**Karahalli**	**0.87**	**153**	PG	**Pb**	**22 25 08.8**	**-0.4**
KHL				SG	**Sb**	**22 25 20.6**	**-0.5**
KHL	**Karahalli**	**0.87**	**153**	*i* Pg	**Pb**	**22 25 08.8**	**-0.4**
KHL				*i* Sg	**Sb**	**22 25 20.6**	**-0.5**
AKS	**Akhisar**	**0.97**	**257**	*e*PG	**Pg**	**22 25 10.1**	**0.0**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg	**Pg**	**22 25 10.1**	**0.0**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pg**	**22 25 11.1**	**-0.2**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pg**	**22 25 11.1**	**-0.2**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pg**	**22 25 11.7**	**-2.1**
IGD				*i* S	**Sb**	**22 25 30.1**	**+0.4**
BALY	**Balya**	**1.26**	**301**	P	**Pg**	**22 25 14.8**	**-0.8**
BALY	**Balya**	**1.26**	**301**	*i* P	**Pg**	**22 25 14.8**	**-0.8**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pg**	**22 25 15.2**	**-0.6**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pg**	**22 25 15.2**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pg**	**22 25 14.6**	**-1.2**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn	**Pg**	**22 25 14.6**	**-1.2**
KCTX	**Karacabey (Bur**	**1.27**	**336**	PN	**Pg**	**22 25 14.8**	**-1.0**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*i* Pn	**Pg**	**22 25 14.8**	**-1.0**
IZI	**Iznik**	**1.28**	**16**	*e*PN	**Pg**	**22 25 15.6**	**-0.4**
IZI	**Iznik**	**1.28**	**16**	*e*Pn	**Pg**	**22 25 15.6**	**-0.4**
GEMT	**Gemlik**	**1.34**	**5**	*e*PN	**Pn**	**22 25 16.4**	**-0.5**
GEMT	**Gemlik**	**1.34**	**5**	*e*Pn	**Pn**	**22 25 16.4**	**-0.5**
DENT	**Denizli**	**1.34**	**180**	*e*PN	**Pn**	**22 25 16.5**	**-0.5**
DENT	**Denizli**	**1.34**	**180**	*e*Pn	**Pn**	**22 25 16.5**	**-0.5**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pn**	**22 25 16.4**	**-0.8**
BORA				S	**Sn**	**22 25 36.0**	**+0.4**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pn**	**22 25 16.4**	**-0.8**
BORA				*i* S	**Sn**	**22 25 36.0**	**+0.4**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*PN	**Pn**	**22 25 17.4**	**-0.3**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*Pn	**Pn**	**22 25 17.4**	**-0.3**
DNZL	**Cakiroluk**	**1.41**	**179**	P	**Pn**	**22 25 17.5**	**-0.5**
DNZL				S	**Sn**	**22 25 39.2**	**+2.0**
DNZL	**Cakiroluk**	**1.41**	**179**	*i* P	**Pn**	**22 25 17.6**	**-0.5**
DNZL				*i* S	**Sn**	**22 25 39.1**	**+2.0**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*PN	**Pn**	**22 25 17.7**	**-0.6**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*Pn	**Pn**	**22 25 17.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pn**	**22 25 18.4**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*Pn	**Pn**	**22 25 18.4**	**-0.2**
ARMT	**Armutlu**	**1.47**	**355**	*e*PN	**Pn**	**22 25 18.9**	**+0.2**
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn	**Pn**	**22 25 18.9**	**+0.2**
ESKT	**Eskisehir**	**1.48**	**73**	*e*PN	**Pn**	**22 25 18.9**	**0.0**
ESKT	**Eskisehir**	**1.48**	**73**	*e*Pn	**Pn**	**22 25 18.9**	**0.0**
ESKT	**Eskisehir**	**1.48**	**73**	*i* P	**Pn**	**22 25 18.5**	**-0.4**
SEYT	**Eskypehyr**	**1.48**	**73**	P	**Pn**	**22 25 18.5**	**-0.4**
EDC	**Edincik**	**1.53**	**325**	*e*PN	**Pn**	**22 25 19.5**	**0.0**
EDC	**Edincik**	**1.53**	**325**	*e*Pn	**Pn**	**22 25 19.5**	**0.0**
GPA	**Golpazari**	**1.55**	**39**	*e*PN	**Pb**	**22 25 20.9**	**+0.2**
GPA	**Golpazari**	**1.55**	**39**	*e*Pn	**Pb**	**22 25 20.9**	**+0.2**
IZM	**Izmir**	**1.55**	**244**	*e*PN	**Pn**	**22 25 19.9**	**+0.1**
IZM	**Izmir**	**1.55**	**244**	*e*Pn	**Pn**	**22 25 19.9**	**+0.1**
BOLV	**Bolvadin**	**1.55**	**104**	P	**Pb**	**22 25 20.4**	**-0.4**
BOLV				S	**Sg**	**22 25 43.1**	**+1.9**
BOLV	**Bolvadin**	**1.55**	**104**	*i* P	**Pb**	**22 25 20.4**	**-0.4**
BOLV				*i* S	**Sg**	**22 25 43.1**	**+1.9**
KNL	**Bal¯kesir**	**1.64**	**316**	*i* P	**Pn**	**22 25 20.9**	**-0.2**
KNL				*i* S	**Sb**	**22 25 43.1**	**-0.2**
DKL	**Dikili**	**1.65**	**270**	*e*PN	**Pb**	**22 25 21.7**	**-0.7**
DKL	**Dikili**	**1.65**	**270**	*e*Pn	**Pb**	**22 25 21.7**	**-0.7**
GULT	**Gulveren**	**1.76**	**40**	*e*PN	**Pb**	**22 25 23.6**	**-0.7**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn	**Pb**	**22 25 23.6**	**-0.7**
HRT	**Hereke**	**1.79**	**16**	*e*PN	**Pb**	**22 25 24.1**	**-0.7**
HRT	**Hereke**	**1.79**	**16**	*e*Pn	**Pb**	**22 25 24.1**	**-0.7**
AYVA	**Ayvalik**	**1.82**	**277**	P	**Pb**	**22 25 25.7**	**+0.3**
AYVA	**Ayvalik**	**1.82**	**277**	*i* P	**Pb**	**22 25 25.7**	**+0.3**
AYVA				*i* S	**Sg**	**22 25 51.1**	**+1.1**
KRBG	**Karabiga-Canak**	**1.85**	**315**	*e*PN	**Pn**	**22 25 24.7**	**+0.8**
KRBG	**Karabiga-Canak**	**1.85**	**315**	*e*Pn	**Pn**	**22 25 24.7**	**+0.8**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*PN	**Pn**	**22 25 24.7**	**+0.6**
MRMT	**Marmara Adasi**	**1.86**	**324**	*e*Pn	**Pn**	**22 25 24.7**	**+0.6**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*PN	**Pn**	**22 25 25.1**	**+1.0**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*Pn	**Pn**	**22 25 25.1**	**+1.0**
GOLH	**Golhisar**	**1.91**	**167**	P	**Pn**	**22 25 24.9**	**+0.1**
GOLH	**Golhisar**	**1.91**	**167**	*i* P	**Pn**	**22 25 24.9**	**+0.1**
ISK	**Istanbul-Kandi**	**1.96**	**1**	*e*PN	**Pn**	**22 25 26.6**	**+1.1**
ISK	**Istanbul-Kandi**	**1.96**	**1**	P	**Pn**	**22 25 24.2**	**-1.2**
ISK				S	**Sn**	**22 25 50.5**	**0.0**
ISK	**Istanbul-Kandi**	**1.96**	**1**	P	**Pn**	**22 25 24.2**	**-1.2**
ISK	**Istanbul-Kandi**	**1.96**	**1**	*i* P	**Pn**	**22 25 26.6**	**+1.1**
ISK				S	**Sn**	**22 25 50.5**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*PN	**Pn**	**22 25 26.6**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*Pn	**Pn**	**22 25 26.6**	**+0.9**
GLHS	**Glhisar (BURDU**	**1.98**	**169**	*e*PN	**Pn**	**22 25 25.6**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.98**	**169**	*e*Pn	**Pn**	**22 25 25.6**	**-0.2**
DGB	**¯zmir**	**1.98**	**239**	*i* P	**Pb**	**22 25 28.4**	**+0.4**
DGB				*i* S	**Sg**	**22 25 55.9**	**+0.9**
GCAM	**G?zelcaml?**	**1.98**	**226**	S	**Sn**	**22 25 51.5**	**+0.5**
GCAM	**G?zelcaml?**	**1.98**	**226**	*i* P	**Pg**	**22 25 30.4**	**+1.0**
GCAM				*i* S	**Sn**	**22 25 51.5**	**+0.5**
URLA	**Izmir**	**2.04**	**249**	*i* P	**Pg**	**22 25 31.5**	**+1.0**
BCK	**Bucak**	**2.05**	**143**	*e*PN	**Pn**	**22 25 26.4**	**-0.3**
BCK	**Bucak**	**2.05**	**143**	*e*Pn	**Pn**	**22 25 26.4**	**-0.3**
YER	**Yerkesik**	**2.05**	**197**	*e*PN	**Pn**	**22 25 26.9**	**+0.2**
YER	**Yerkesik**	**2.05**	**197**	*e*Pn	**Pn**	**22 25 26.9**	**+0.2**
BGKT	**Bogazkoy**	**2.09**	**355**	*e*PN	**Pn**	**22 25 26.9**	**-0.2**
BGKT	**Bogazkoy**	**2.09**	**355**	*e*Pn	**Pn**	**22 25 26.9**	**-0.2**
ELBA	**Catalca**	**2.09**	**348**	P	**Pb**	**22 25 30.2**	**+0.2**
ELBA	**Catalca**	**2.09**	**348**	*i* P	**Pb**	**22 25 30.2**	**+0.2**
SILT	**Sile**	**2.10**	**13**	*e*PN	**Pn**	**22 25 28.4**	**+1.0**
SILT	**Sile**	**2.10**	**13**	*e*Pn	**Pn**	**22 25 28.4**	**+1.0**
BTAS	**Taskesti**	**2.11**	**45**	*i* P	**Pg**	**22 25 33.0**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*PN	**Pn**	**22 25 28.2**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.13**	**319**	*e*Pn	**Pn**	**22 25 28.3**	**+0.5**
SART	**Tekirdag**	**2.13**	**319**	P	**Pb**	**22 25 29.8**	**-0.8**
SART	**Tekirdag**	**2.13**	**319**	*i* P	**Pb**	**22 25 29.8**	**-0.8

ZALV	**Zalesovo Beam**	**40.07**	**49**	P		**P**	**22 32 26.2**	**-1.4**
	0.6nm,0.6s,baz=283,slow=7.4,SNR=4.8							
SONM	**Songino Array**	**54.63**	**54**	P		**P**	**22 34 20.8**	**-0.5**
	0.6nm,0.7s,baz=269,slow=10,SNR=3.2							

CSEM ***27*** *22:25:56.8±0.1,39.08N×29.01E, h5km, ML3.7, Error ellipse: s-maj=2.5km s-min=2.2km az=140.0*
ISK ***27*** *22:25:56.0, 39.09N×28.99E, h3km, ML3.8*
DDA ***27*** *22:25:56.1, 39.12N×29.00E, h11km, Ml3.7*

ISC 27 22:25:56.2±1.1, 39.11N±0.02×28.99E±0.02, h3km±10km, n79, σ0.979/97, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**252**	P	**Pg**	**22 26 01.2**	**+0.6**
DEMI				S	**Sg**	**22 26 04.4**	**+0.9**
DEMI	**Demirci**	**0.23**	**252**	*i* P	**Pg**	**22 26 01.2**	**+0.6**
DEMI				*i* S	**Sg**	**22 26 04.4**	**+0.9**
GEDZ	**Gediz**	**0.33**	**102**	*e*Pg	**Pb**	**22 26 03.9**	**-1.0**
GEDZ				*e*Sg	**Sb**	**22 26 09.1**	**-1.5**
GEDZ	**Gediz**	**0.33**	**102**	*e*Pg	**Pb**	**22 26 03.9**	**-1.0**
GEDZ				*e*Sg	**Sb**	**22 26 09.1**	**-1.5**
GDZ	**Gediz**	**0.38**	**93**	P	**Pg**	**22 26 03.7**	**+0.1**
GDZ				S	**Sg**	**22 26 09.2**	**+0.6**
GDZ	**Gediz**	**0.38**	**93**	*i* P	**Pg**	**22 26 03.7**	**+0.1**
GDZ				*i* S	**Sg**	**22 26 09.2**	**+0.6**
TVSB	**Tavsanli**	**0.50**	**47**	*e*PG	**Pg**	**22 26 06.2**	**+0.4**
TVSB	**Tavsanli**	**0.50**	**47**	*e*Pg	**Pg**	**22 26 06.2**	**+0.4**
KULA	**Kula-Manisa**	**0.65**	**204**	*e*PG	**Pg**	**22 26 08.6**	**-0.1**
KULA				*e*SG	**Sg**	**22 26 17.4**	**+0.3**
KULA	**Kula-Manisa**	**0.65**	**204**	*e*Pg	**Pg**	**22 26 08.6**	**-0.1**
KULA				*e*Sg	**Sg**	**22 26 17.4**	**+0.3**
MANT	**Manisa**	**0.71**	**209**	P	**Pg**	**22 26 09.3**	**-0.5**
MANT				S	**Sg**	**22 26 18.4**	**-0.6**
MANT	**Manisa**	**0.71**	**209**	*i* P	**Pg**	**22 26 09.3**	**-0.5**
MANT				*i* S	**Sg**	**22 26 18.4**	**-0.6**
KHL	**Karahalli**	**0.89**	**152**	*e*PG	**Pg**	**22 26 13.2**	**-0.1**
KHL	**Karahalli**	**0.89**	**152**	*e*Pg	**Pg**	**22 26 13.2**	**-0.1**
AKS	**Akhisar**	**0.95**	**256**	*e*PG	**Pb**	**22 26 15.3**	**-0.1**
AKS	**Akhisar**	**0.95**	**256**	*e*Pg	**Pb**	**22 26 15.3**	**-0.1**
BALB	**Balikesir**	**1.01**	**302**	*e*PG	**Pn**	**22 26 17.5**	**+0.2**
BALB				*e*SG	**Sn**	**22 26 31.6**	**-0.5**
BALB	**Balikesir**	**1.01**	**302**	*e*Pg	**Pn**	**22 26 17.5**	**+0.2**
BALB				*e*Sg	**Sn**	**22 26 31.6**	**-0.5**
IGD	**Bursa**	**1.16**	**8**	*i* P	**Pg**	**22 26 16.9**	**-1.6**
IGD				*i* S	**Sg**	**22 26 31.2**	**-2.3**
BALY	**Balya**	**1.23**	**301**	P	**Pn**	**22 26 20.5**	**0.0**
BALY	**Balya**	**1.23**	**301**	*i* P	**Pn**	**22 26 20.5**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*PN	**Pb**	**22 26 20.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*Pn	**Pb**	**22 26 20.7**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pb**	**22 26 20.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pb**	**22 26 20.7**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*PN	**Pg**	**22 26 20.7**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*Pn	**Pg**	**22 26 20.7**	**+0.1**
IZI	**Iznik**	**1.28**	**17**	*e*PN	**Pb**	**22 26 21.8**	**+0.8**
IZI	**Iznik**	**1.28**	**17**	*e*Pn	**Pb**	**22 26 21.8**	**+0.8**
GEMT	**Gemlik**	**1.33**	**6**	*e*PN	**Pg**	**22 26 22.3**	**+0.6**
GEMT	**Gemlik**	**1.33**	**6**	*e*Pn	**Pg**	**22 26 22.3**	**+0.6**
BORA	**Eskisehir**	**1.37**	**55**	P	**Pg**	**22 26 22.6**	**+0.2**
BORA				S	**Sg**	**22 26 40.3**	**+0.2**
BORA	**Eskisehir**	**1.37**	**55**	*i* P	**Pg**	**22 26 22.6**	**+0.2**
BORA				*i* S	**Sg**	**22 26 40.3**	**+0.2**
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*PN	**Pn**	**22 26 22.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*Pn	**Pn**	**22 26 22.3**	**0.0**
DNZL	**Cakiroluk**	**1.42**	**178**	P	**Pg**	**22 26 23.5**	**0.0**
DNZL	**Cakiroluk**	**1.42**	**178**	*i* P	**Pg**	**22 26 23.4**	**0.0**
DNZL				*i* S	**Sn**	**22 26 46.2**	**+3.7**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*PN	**Pn**	**22 26 23.1**	**-0.1**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*Pn	**Pn**	**22 26 23.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**217**	*e*PN	**Pg**	**22 26 24.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**217**	*e*Pn	**Pg**	**22 26 24.4**	**+0.4**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pg**	**22 26 24.7**	**+0.5**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pg**	**22 26 24.7**	**+0.5**
ESKT	**Eskisehir**	**1.50**	**74**	*e*PN	**Pg**	**22 26 25.3**	**+0.3**
ESKT	**Eskisehir**	**1.50**	**74**	*e*Pn	**Pg**	**22 26 25.3**	**+0.3**
EDC	**Edincik**	**1.51**	**325**	*e*PN	**Pb**	**22 26 24.9**	**0.0**
EDC	**Edincik**	**1.51**	**325**	*e*Pn	**Pb**	**22 26 24.9**	**0.0**
IZM	**Izmir**	**1.53**	**243**	*e*PN	**Pg**	**22 26 25.3**	**-0.3**
IZM	**Izmir**	**1.53**	**243**	*e*Pn	**Pg**	**22 26 25.3**	**-0.3**
GPA	**Golpazari**	**1.55**	**40**	*e*PN	**Pb**	**22 26 25.5**	**-0.2**
GPA	**Golpazari**	**1.55**	**40**	*e*Pn	**Pb**	**22 26 25.5**	**-0.2**
KNL	**Bal¯–kesir**	**1.62**	**316**	*i* P	**Pn**	**22 26 25.6**	**-0.1**
KNL				*i* S	**Sg**	**22 26 48.5**	**+0.3**
DKL	**Dikili**	**1.62**	**269**	*e*PN	**Pb**	**22 26 26.5**	**-0.3**
DKL	**Dikili**	**1.62**	**269**	*e*Pn	**Pb**	**22 26 26.5**	**-0.3**
HRT	**Hereke**	**1.79**	**17**	*e*PN	**Pn**	**22 26 28.8**	**+0.7**
HRT	**Hereke**	**1.79**	**17**	*e*Pn	**Pn**	**22 26 28.8**	**+0.7**
KRBG	**Karabiga-Canak**	**1.83**	**315**	*e*PN	**Pn**	**22 26 29.2**	**+0.6**
KRBG	**Karabiga-Canak**	**1.83**	**315**	*e*Pn	**Pn**	**22 26 29.2**	**+0.6**
MRMT	**Marmara Adasi**	**1.84**	**325**	*e*PN	**Pb**	**22 26 30.2**	**-0.3**
MRMT	**Marmara Adasi**	**1.84**	**325**	*e*Pn	**Pb**	**22 26 30.2**	**-0.3**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*PN	**Pb**	**22 26 30.2**	**-0.8**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*Pn	**Pb**	**22 26 30.2**	**-0.8**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*PN	**Pb**	**22 26 31.6**	**-0.9**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*Pn	**Pb**	**22 26 31.6**	**-0.9**
DGB	**¯zmir**	**1.96**	**238**	*i* P	**Pg**	**22 26 33.1**	**-0.7**
DGB				*i* S	**Sg**	**22 26 58.3**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*PN	**Pn**	**22 26 31.4**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*Pn	**Pn**	**22 26 31.4**	**+0.5**
BGKT	**Bogazkoy**	**2.07**	**355**	*e*PN	**Pn**	**22 26 32.9**	**+0.9**
BGKT	**Bogazkoy**	**2.07**	**355**	*e*Pn	**Pn**	**22 26 32.9**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*PN	**Pb**	**22 26 33.9**	**-1.2**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*Pn	**Pb**	**22 26 33.9**	**-1.2**
KLYT	**Kilyos**	**2.14**	**1**	*e*PN	**Pn**	**22 26 33.9**	**+1.1**
KLYT	**Kilyos**	**2.14**	**1**	*e*Pn	**Pn**	**22 26 33.9**	**+1.1**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*PN	**Pn**	**22 26 33.9**	**+0.9**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*Pn	**Pn**	**22 26 33.9**	**+0.9**
TKR	**Tekirdag**	**2.18**	**330**	*e*PN	**Pn**	**22 26 34.5**	**+1.0**
TKR	**Tekirdag**	**2.18**	**330**	*e*Pn	**Pn**	**22 26 34.5**	**+1.0**
CRLT	**Corlu**	**2.23**	**335**	*e*PN	**Pn**	**22 26 35.5**	**+1.3**
CRLT	**Corlu**	**2.23**	**335**	*e*Pn	**Pn**	**22 26 35.5**	**+1.3**

NIED ***27*** *22:31:00, 36.50N×142.70E, h8km, Mw4.2 Best double couple: M0 2.16000×10^15 NP1:φs=205.00000°, δ38.00000°, λ93.00000°. NP2:φs=21.00000°, δ52.00000°, λ88.00000°.*
IDC ***27*** *22:31:24.9±0.8, 36.41N×142.69E, h0km, mb4.1/18, mb1 4.2/24, mb1mx4.1/53, mbtmp4.1/24, ML3.5/6, MS3.2/7, Ms1 3.2/7, ms1mx2.9/35, Error ellipse: s-maj=17.9km s-min=16.7km az=110.0*
ISCJB ***27*** *22:31:25.9±1.1, 36.45N±0.03×142.62E±0.04, h16km±7km, mb4.4/31, MS3.3/4, Error ellipse: s-maj=6.0km s-min=4.5km az=17.7*
NEIC ***27*** *22:31:26.7±1.9, 36.43N×142.71E, h12km±11km, mb4.8/13, Error ellipse: s-maj=6.2km s-min=4.6km az=110.0*
JMA ***27*** *22:31:27.2±0.2, 36.45N×142.66E, h56km, M3.9*
BJI ***27*** *22:31:31.2, 36.61N×142.31E, h40km, mb4.6/43, mB4.9/25, Ms4.2/22, Ms7 4.1/17*

ISC 27 22:31:29.6±1.0, 36.45N±0.04×142.59E±0.06, h25km±6km, n97, σ1.593/119, mb4.4/31, MS3.4/4, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.58**	**295**	P	**Pn**	**22 31 54.1**	**-1.9**
CHOJ	**Chosi**	**1.59**	**242**	P	**Pn**	**22 31 54.4**	**-1.7**
CHOJ				S	**Sn**	**22 32 14.3**	**-1.5**
JHO	**Hitachi**	**1.64**	**276**	P	**Pn**	**22 31 54.9**	**-1.8**
JFK	**Kawauchi**	**1.65**	**304**	P	**Pn**	**22 31 54.8**	**-2.2**
JFK				*e*S	**Sn**	**22 32 16.3**	**-1.1**
JMM	**Marumori**	**2.01**	**315**	P	**Pn**	**22 31 59.9**	**-2.0**
JMM				*e*S	**Sn**	**22 32 25.1**	**-1.2**
JFT	**Otama**	**2.09**	**301**	P	**Pn**	**22 32 02.2**	**-0.9**
BSO1	**Boso 1**	**2.23**	**217**	P	**Pn**	**22 32 02.7**	**-1.7**
BSO1				*e*S	**Sn**	**22 32 28.4**	**-2.4**
JIO	**Ouri**	**2.23**	**334**	P	**Pn**	**22 32 02.5**	**-2.4**
BSO3	**Boso 3**	**2.36**	**226**	P	**Pn**	**22 32 05.6**	**-0.9**
JAG	**Ashikaga**	**2.53**	**270**	P	**Pn**	**22 32 07.5**	**-1.5**
JAG				*e*S	**Sn**	**22 32 36.4**	**-2.7**
JMK	**Ichinoseki**	**2.72**	**337**	P	**Pn**	**22 32 10.0**	**-1.7**
JMK				*e*S	**Sn**	**22 32 41.8**	**-2.5**
JRY	**Ryogami san**	**3.01**	**263**	P	**Pn**	**22 32 14.2**	**-1.5**
JRY				*e*S	**Sn**	**22 32 49.9**	**-1.1**
JYK	**Kaneyama**	**3.03**	**325**	P	**Pn**	**22 32 14.7**	**-1.2**
JOD2	**Odawara 2**	**3.08**	**248**	P	**Pn**	**22 32 15.2**	**-1.5**
JOM	**Ohasama**	**3.18**	**342**	*e*S	**Sn**	**22 32 53.3**	**-1.9**
JYN	**Shimob**	**3.42**	**255**	P	**Pn**	**22 32 20.8**	**-0.5**
MJAR	**Matsushiro Arr**	**3.53**	**273**	Pn	**Pn**	**22 32 22.0**	**-0.8**
	7.2nm,0.3s,baz=100,slow=9.1,SNR=170						
MJAR				Sn	**Sn**	**22 33 04.6**	**+0.8**
	3.7nm,0.3s,baz=85,slow=19,SNR=5.2						
MJAR				LR	LR	22 34 02.3	
	comp=Z,265nm,19.2s,baz=110,slow=44						
MAJO	**Matsushiro**	**3.53**	**273**	*e*Pn	**Pn**	**22 32 22.9**	**0.0**
MAT	**Matsushiro**	**3.53**	**273**	P	**Pn**	**22 32 22.2**	**-0.7**
MAT				*e*S	**Sn**	**22 33 07.8**	**+4.0**
MAT	**Matsushiro**	**3.53**	**273**	P	**Pn**	**22 32 22.8**	**-0.1**
MJB9	**Matsu-Tunnel**	**3.53**	**273**	*e*Pn	**Pn**	**22 32 22.7**	**-0.2**
JHJ2	**Mitsune**	**4.04**	**215**	*e*Pn	**Pn**	**22 32 28.4**	**-1.4**
JHJ2				*e*Sn	**Sn**	**22 33 13.1**	**-3.2**
JHJ	**Hachijo jima 2**	**4.05**	**216**	Pn	**Pn**	**22 32 29.0**	**-0.9**
	28nm,0.3s,baz=301,slow=23,SNR=9.2						
JHJ				Sn	**Sn**	**22 33 11.9**	**-4.6**
	21nm,0.3s,baz=50,slow=21,SNR=4.2						
INU	**Inuyama**	**4.66**	**258**	*e*Pn	**Pn**	**22 32 38.3**	**0.0**
ERM	**Erimo**	**5.57**	**4**	*e*Pn	**Pn**	**22 32 47.8**	**-3.0**
ERM				*e*Sn	**Sn**	**22 33 47.3**	**-6.7**
ASAJ	**Asahikawa**	**7.66**	**0**	*e*Pn	**Pn**	**22 33 17.7**	**-1.7**
CBIJ	**Chichi jima**	**9.34**	**182**	*e*Pn	**Pn**	**22 33 41.7**	**-0.9**
JNU	**Nakatsue**	**10.19**	**254**	Pn	**Pn**	**22 33 54.5**	**+0.3**
	0.5nm,0.3s,baz=32,slow=2.1,SNR=5.7						
JNU				LR	LR	22 37 30.5	
	comp=Z,147nm,20.3s,baz=116,slow=36						
YSS	**Yuzh-Sakhalins**	**10.49**	**1**	*e*Pn	**Pn**	**22 33 56.4**	**-1.9**
USRK	**Ussuriysk Ar.**	**11.19**	**317**	Pn	**Pn**	**22 34 07.6**	**-0.2**
	0.4nm,0.3s,baz=118,slow=15,SNR=7.5						
KSRS	**Korea Array**	**11.78**	**279**	Pn	**Pn**	**22 34 17.1**	**+1.2**
	0.2nm,0.3s,baz=98,slow=13,SNR=17						
KSRS				LR	LR	22 37 55.4	
	comp=Z,49nm,21.4s,baz=78,slow=33						
KS01	**Wonju Array Si**	**11.80**	**279**	*e*Pn	**Pn**	**22 34 17.6**	**+1.3**
KS01				*e*Sn	Sn	22 36 10.3	-17
KS15	**Wonju Array Si**	**11.81**	**279**	*e*Pn	**Pn**	**22 34 17.1**	**+0.7**
KSAR	**Wonju Array Be**	**11.81**	**279**	Pn	**Pn**	**22 34 17.1**	**+0.7**
KLR	**Kul'dur**	**15.02**	**332**	Pn	**Pn**	**22 35 00.2**	**+0.1**
	0.2nm,0.3s,baz=129,slow=13,SNR=3.7						
WHN	**Wuhan**	**24.23**	**264**	⇑P	**P**	**22 36 44.5**	**+0.1**
WHN				*e*P	**sP**	**22 36 54.5**	**-0.3**
HHC	**Hu-ho-hao-te**	**24.55**	**290**	*e*P	**P**	**22 36 47.0**	**-0.4**
HHC				*e*P	pP	22 36 56.0	+1.2
HHC				*e*P	**PnPn**	**22 37 22.5**	**+3.6**
HHC				S	**S**	**22 41 02.0**	**-4.8**
HHC				*e*S	sS	22 41 21.3	+2.4
HHC				*e*PMZ			
	11nm,0.9s						
HHC				*e*PMZ			
	79nm,4.5s						
YAK	**Yakutsk**	**26.85**	**347**	LR	LR	22 47 59.5	
	comp=Z,89nm,19.5s,baz=156,slow=37						
SEY	**Seymchan**	**27.19**	**10**	P	**P**	**22 37 11.3**	**+0.4**
	1.9nm,0.6s,baz=213,slow=7.4,SNR=4.9						
ENH	**Enshi**	**28.23**	**267**	*e*P	**P**	**22 37 19.9**	**-0.7**
	27nm,1.0s						
ULN	**Ulaanbaatar**	**28.46**	**305**	*e*P	**P**	**22 37 23.3**	**+0.7**
	14nm,1.3s						
SONA1	**Songino Array**	**28.89**	**305**	*e*P	**P**	**22 37 25.6**	**-0.8**
SONA0	**Songino Array**	**28.89**	**305**	*e*P	**P**	**22 37 27.1**	**+0.7**
	59nm,2.0s						
SONM	**Songino Array**	**28.89**	**305**	P	**P**	**22 37 27.1**	**+0.7**
	4.8nm,0.9s,baz=105,slow=9.4,SNR=26						
LZH	**Lanzhou**	**31.10**	**281**	*e*P	**P**	**22 37 45.3**	**-0.8**
LZH				pP	sP	22 37 56.3	-0.2
LZH				sP	pP	22 38 00.5	+7.0
LZH				*e*PP	**PnPn**	**22 38 46.0**	**-1.8**
LZH				*e*S	**S**	**22 42 44.0**	**-6.3**
LZH				PMZ			
	29nm,1.2s						
LZH				PMZ			
	130nm,4.3s						
LZH				LN			
	340nm,10.2s						
LZH				LE			
	310nm,12.5s						
LZH				LZ			
	530nm,14.2s						
GYA	**Guiyang**	**32.07**	**262**	P	**P**	**22 37 55.5**	**+0.9**
GYA				PMZ			
	10.0nm,0.8s						
CD2	**Chengdu**	**32.63**	**272**	*e*P	**P**	**22 37 58.5**	**-0.9**
CD2				pP	sP	22 38 08.5	-1.4
CD2				sP	pP	22 38 13.3	+6.5
CD2				S	**S**	**22 43 10.5**	**-3.5**
CD2				sS	sS	22 43 28.0	+1.8
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
QIZ	**Qiongzhong**	**33.57**	**248**	P	**P**	**22 38 09.0**	**+1.3**
QIZ				S	**S**	**22 43 29.3**	**+0.7**
QIZ				LE			
	110nm,15.4s						
QIZ				LZ			
	160nm,13.6s						
KMI	**Kunming**	**35.82**	**263**	P	**P**	**22 38 28.5**	**+1.1**
KMI				PMZ			
	6.0nm,1.2s						
KMI				PMZ			
	80nm,4.3s						
GAMB	**Gambell**	**38.73**	**31**	*e*P	**P**	**22 38 52.1**	**+0.8**
	145nm,1.6s						
WMQ	**Urumqi**	**41.95**	**298**	P	**P**	**22 39 19.5**	**+1.2**
WMQ				pP	sP	22 39 29.5	+0.7
WMQ				sP	pP	22 39 32.5	+6.7
WMQ				PMZ			
	9.0nm,0.7s						
WMQ				PMZ			
	83nm,3.7s						
CM31	**Chiang Mai Arr**	**42.27**	**257**	*e*P	**P**	**22 39 21.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**42.27**	**257**	P	**P**	**22 39 21.6**	**+0.4**
	0.5nm,0.7s,baz=54,slow=6.6,SNR=4.3						
ZAA0	**Zalesovo Array**	**43.00**	**313**	*e*P	**P**	**22 39 26.7**	**+0.1**
ZAA1	**Zalesovo Array**	**43.00**	**313**	*e*P	**P**	**22 39 26.6**	**-0.1**
ZAA1				*e*PcP	**PcP**	**22 41 16.2**	**-0.4**
ZALV	**Zalesovo Beam**	**43.00**	**313**	P	**P**	**22 39 26.6**	**-0.1**
	3.4nm,0.6s,baz=95,slow=7.0,SNR=18						
ZALV				PcP	**PcP**	**22 41 16.2**	**-0.4**
	1.2nm,0.7s,baz=85,slow=3.7,SNR=4.6						
ZALV				LR	LR	22 56 58.1	
	comp=Z,43nm,18.8s,baz=250,slow=6						
MK01	**Makanchi Array**	**45.22**	**303**	*e*P	**P**	**22 39 44.1**	**-0.5**
MK31	**Makanchi Array**	**45.23**	**303**	*e*P	**P**	**22 39 44.6**	**0.0**
MK32	**Makanchi Array**	**45.23**	**303**	*e*P	**P**	**22 39 44.2**	**-0.5**
MKAR	**Makanchi Array**	**45.23**	**303**	P	**P**	**22 39 44.2**	**-0.5**
	3.4nm,0.7s,baz=86,slow=9.6,SNR=30						
MKAR				LR	LR	23 01 23.9	
	comp=Z,25nm,18.1s,baz=172,slow=40						
MKAR	**Makanchi Array**	**45.23**	**303**	*e*P	**P**	**22 39 44.6**	**0.0**
MAKZ	**Makanchi**	**45.44**	**303**	*e*P	**P**	**22 39 46.4**	**+0.1**
	7.6nm,1.0s						
KURK	**Kurchatov**	**47.03**	**309**	*e*P	**P**	**22 39 58.2**	**-0.5**
	34nm,0.8s						
KURBB	**Kurchatov Arra**	**47.10**	**309**	P	**P**	**22 39 58.7**	**-0.6**
	6.0nm,0.7s,baz=83,slow=7.9,SNR=77						
ILAR	**Eielson Array**	**49.48**	**32**	P	**P**	**22 40 16.9**	**-0.6**
	0.9nm,0.8s,baz=267,slow=6.7,SNR=8.5						
ILB	**Eielson Array**	**49.48**	**32**	*e*P	**P**	**22 40 16.9**	**-0.6**
TKM2	**Tokmak 2**	**50.74**	**299**	*e*P	**P**	**22 40 27.0**	**-0.6**
	10nm,1.3s						
VOSK	**Vostochnaya**	**51.37**	**312**	*e*P	**P**	**22 40 31.8**	**-0.1**
	19nm,2.0s						
KSH	**Kashi**	**51.51**	**295**	*e*P	P	22 40 39.3	+6.0
KSH				pP	sP	22 40 49.5	+5.6
KSH				PcP	**PcP**	**22 41 53.5**	**+6.2**
KSH				PP	**PP**	**22 42 37.8**	**+7.3**
KSH				S	**S**	**22 47 56.0**	**+3.8**
KSH				ScS	**ScS**	**22 50 23.5**	**+1.3**
KSH				SS	**SS**	**22 51 28.0**	**0.0**
KSH				PMZ			
	3.0nm,0.5s						
KSH				PMZ			
	140nm,4.9s						
KSH				LN			
	110nm,7.8s						
KSH				LE			
	87nm,5.5s						
KSH				LZ			
	130nm,9.3s						
ZRNK	**Zerenda**	**52.49**	**313**	*e*P	**P**	**22 40 40.0**	**-0.2**
	4.9nm,1.1s						
KKAR	**Karatay Array**	**54.23**	**301**	*e*P	**P**	**22 40 53.8**	**+0.5**
WR1	**Warramunga Arr**	**56.63**	**189**	*e*P	**P**	**22 41 09.8**	**-0.8**
WRA	**Warramunga Arr**	**56.63**	**189**	P	**P**	**22 41 09.8**	**-0.8**
	1.0nm,0.8s,baz=9.2,slow=6.9,SNR=7.0						
ARU	**Arti**	**57.42**	**319**	P	**P**	**22 41 15.6**	**-0.2**
	3.9nm,0.7s,baz=92,slow=3.4,SNR=10.0						
ABKAR	**Akbulak array**	**59.03**	**311**	*e*P	**P**	**22 41 26.6**	**-0.6**
AKTO	**Aktyubinsk**	**59.76**	**313**	P	**P**	**22 41 30.7**	**-1.5**
	1.9nm,0.8s,baz=75,slow=14,SNR=7.0						
AS31	**Alice Springs**	**60.35**	**189**	*e*P	**P**	**22 41 34.3**	**-2.2**
	1.2nm,1.0s						
ASAR	**Alice Springs**	**60.35**	**189**	P	**P**	**22 41 34.3**	**-2.2**
	0.7nm,0.9s,baz=354,slow=7.5,SNR=4.4						
ARCES	**ARCESS Array B**	**64.87**	**340**	LR	LR	23 13 16.3	
	comp=Z,25nm,19.4s,baz=46,slow=39						
GEYT	**Alibeck**	**64.94**	**300**	P	**P**	**22 42 06.0**	**-1.1**
	1.6nm,0.7s,baz=77,slow=3.2,SNR=4.8						
FIA1	**FINESS Array S**	**69.76**	**333**	*e*P	**P**	**22 42 37.1**	**-0.1**
FIA0	**FINESS Array S**	**69.76**	**333**	*e*P	**P**	**22 42 36.3**	**-0.9**
FINES	**FINESS Array B**	**69.76**	**333**	P	**P**	**22 42 36.3**	**-0.9**
	3.5nm,0.7s,baz=55,slow=7.2,SNR=18						
KBZ	**Khabaz**	**72.00**	**311**	P	**P**	**22 42 51.5**	**+0.4**
	5.0nm,0.8s,baz=14,slow=3.1,SNR=7.4						
NB2	**NORSAR Subarra**	**75.08**	**338**	P	**P**	**22 43 08.2**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=39,slow=6.2						
NB200	**NORSAR Array S**	**75.08**	**338**	*e*P	**P**	**22 43 08.2**	**-0.8**
NOA	**NORSAR Array B**	**75.08**	**338**	P	**P**	**22 43 08.2**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=39,slow=6.0,SNR=5.4						
AKASG	**Malin Array Be**	**75.33**	**323**	P	**P**	**22 43 09.7**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=46,slow=6.5,SNR=9.3						
AKBB	**Malin Array Si**	**75.33**	**323**	*e*P	**P**	**22 43 09.7**	**-0.8**
	comp=Z,8.3nm,1.0s						
BUR08	**Bucovina Ar. S**	**79.34**	**322**	*e*P	**P**	**22 43 33.5**	**+0.3**
SMCO	**Snowmass**	**81.18**	**47**	*e*P	**P**	**22 43 46.7**	**+3.1**
	comp=Z,31nm,0.7s						
KHC	**Kasperske Hory**	**83.53**	**329**	*e*P	**P**	**22 43 55.2**	**-0.1**
GERES	**GERESS Array B**	**83.70**	**329**	P	**P**	**22 43 55.9**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=35,slow=5.1,SNR=8.5						
LTX	**Lajitas**	**89.72**	**53**	*e*P	**P**	**22 44 25.9**	**-0.1**
TXAR	**Lajitas Array**	**89.72**	**53**	P	**P**	**22 44 25.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=306,slow=4.2,SNR=3.9						
SADO	**Sadowa**	**90.77**	**28**	*e*P	P	22 44 35.2	+4.8
	comp=Z,24nm,1.4s						
LPAZ	**La Paz**	**146.15**	**62**	PKPbc	**PKPdf**	**22 51 07.5**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=18,slow=2.8,SNR=4.4						

DDA ***27*** *22:32:37.5, 39.11N×29.01E, h7km, Ml3.2*
ISK ***27*** *22:32:37.3, 39.08N×29.01E, h4km, ML2.8*
CSEM ***27*** *22:32:37.9±0.1, 39.09N×29.01E, h2km, ML3.2, Error ellipse: s-maj=3.8km s-min=3.1km az=153.0*

ISC 27 22:32:37.7±1.1, 39.11N±0.02×29.01E±0.02, h4km±10km, n64, σ0.983/78, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**255**	P	**Pg**	**22 32 42.6**	**+0.3**
DEMI				S	**Sg**	**22 32 46.0**	**+0.5**
DEMI	**Demirci**	**0.24**	**255**	*i* P	**Pg**	**22 32 42.6**	**+0.3**
DEMI				*i* S	**Sg**	**22 32 46.0**

JIH				S	Sn	22 34 51.4	-3.1
JAGN	**Aguni-jima**	**1.75**	**306**	P	Pn	22 34 34.6	-0.2
JAGN				*e*S	Sn	22 34 54.4	-2.3
JOKE	**Okinoerabujima**	**1.81**	**353**	P	Pn	22 34 35.2	-0.5
JKE	**Kume jima 2**	**1.98**	**293**	P	Pn	22 34 37.4	-0.6
JKE				S	Sn	22 34 59.0	-3.5
JMZ	**Minamidaito 2**	**2.19**	**83**	P	Pn	22 34 40.9	+0.1
JMZ				S	Sn	22 35 04.8	-2.6
JTK	**Tokunoshima**	**2.23**	**3**	P	Pn	22 34 40.8	-0.6
JTK				S	Sn	22 35 04.6	-3.9
JAMN	**Amaminishikomi**	**2.70**	**7**	P	Pn	22 34 47.6	-0.2
JAM	**Amami Oshima**	**2.93**	**14**	P	Pn	22 34 50.6	-0.4
JAM				S	Sn	22 35 22.2	-3.7
JZK	**Kikaishima**	**2.94**	**20**	P	Pn	22 34 52.7	+1.6
JZK				*e*S	Sn	22 35 24.3	-1.7
JOGS	**Gusukube**	**3.19**	**256**	P	Pn	22 34 55.5	+0.9
JOGS				S	Sn	22 35 30.6	-1.6
JMJ	**Miyako jima 2**	**3.28**	**258**	P	Pn	22 34 56.5	+0.7
JMJ				*e*S	Sn	22 35 32.5	-1.9
JIKM	**Ikemajima**	**3.29**	**260**	P	Pn	22 34 56.5	+0.5
JIKM				*e*S	Sn	22 35 32.1	-2.7
JIRB	**Irabujima**	**3.38**	**258**	P	Pn	22 34 57.6	+0.4
JIRB				*e*S	Sn	22 35 34.2	-2.7
JTJ	**Tarama**	**3.84**	**257**	P	Pn	22 35 03.8	+0.3
JTJ				*e*S	Sn	22 35 44.7	-3.6
JISG	**Ishigakijimahi**	**4.20**	**258**	P	Pn	22 35 08.2	-0.3
JISG				*e*S	Sn	22 35 52.7	-4.4
JIJ	**Ishigaki jima**	**4.41**	**255**	*e*S	Sn	22 35 56.9	-5.3
NACB	**Ninganchiao**	**6.70**	**260**	*e*Pn	Pn	22 35 41.7	-1.2
YHNB	**Yeheng**	**6.80**	**264**	*e*Pn	Pn	22 35 45.6	+1.3
YULB	**Yu-li**	**7.18**	**254**	*e*Pn	Pn	22 35 47.4	-2.1
SSLB	**Suanglung**	**7.37**	**258**	*e*Pn	Pn	22 35 50.9	-1.1
SSLB				*e*Sn	Sn	22 37 09.1	-6.2
JNU	**Nakatsue**	**7.75**	**13**	P	Pn	22 35 58.0	+0.6
	2.1nm,0.3s,baz=344,slow=4.5,SNR=11						
JNU				S	Sn	22 37 20.8	-4.0
	0.1nm,0.3s,baz=264,slow=19,SNR=2.1						
TPUB	**Ta-pu**	**7.79**	**255**	*e*Pn	Pn	22 35 57.2	-0.7
ANA2	**Anatahan**	**18.23**	**117**	*e*Pn	Pn	22 38 13.1	-4.5
ASAJ	**Asahikawa**	**21.64**	**28**	*e*P	P	22 38 53.1	-1.6
	30nm,1.6s						
SONA0	**Songino Array**	**28.41**	**327**	*e*P	P	22 40 01.1	+2.2
	4.7nm,1.5s						
SONM	**Songino Array**	**28.41**	**327**	P	P	22 40 01.1	+2.2
	0.2nm,0.3s,baz=142,slow=12,SNR=2.8						
PATS	**Pohnpei**	**33.75**	**118**	*e*P	P	22 40 43.3	-2.9
	194nm,1.3s						
MK32	**Makanchi Array**	**42.38**	**312**	*e*P	P	22 42 01.4	+2.8
MKAR	**Makanchi Array**	**42.38**	**312**	P	P	22 42 01.4	+2.8
	0.4nm,0.5s,baz=80,slow=10,SNR=3.5						
ZALV	**Zalesovo Beam**	**43.10**	**323**	P	P	22 42 06.0	+1.6
	1.0nm,0.7s,baz=101,slow=7.5,SNR=2.9						
ZAA1	**Zalesovo Array**	**43.10**	**323**	*e*P	P	22 42 06.0	+1.6
WR1	**Warramunga Arr**	**45.54**	**173**	*e*P	P	22 42 26.1	+1.9
WRA	**Warramunga Arr**	**45.54**	**173**	P	P	22 42 26.1	+1.9
	2.1nm,0.7s,baz=353,slow=8.3,SNR=7.3						
KURK	**Kurchatov**	**45.67**	**317**	*e*P	P	22 42 26.5	+1.6
KURBB	**Kurchatov Arra**	**45.71**	**317**	P	P	22 42 26.5	+1.3
	0.2nm,0.4s,baz=100,slow=9.2,SNR=3.8						
AS31	**Alice Springs**	**49.17**	**174**	*e*P	P	22 42 55.1	+2.6
	1.2nm,1.0s						
ASAR	**Alice Springs**	**49.18**	**174**	P	P	22 42 55.1	+2.6
	0.6nm,0.4s,baz=3.0,slow=15,SNR=5.8						
GEYT	**Ailbeck**	**60.09**	**301**	P	P	22 44 14.1	+2.4
	0.9nm,0.6s,baz=48,slow=2.1,SNR=2.8						
ILAR	**Eielson Array**	**64.78**	**28**	P	P	22 44 42.6	0.0
	0.4nm,0.8s,baz=246,slow=6.8,SNR=3.4						
ILB	**Eielson Array**	**64.78**	**28**	*e*P	P	22 44 42.6	0.0
KBZ	**Khabaz**	**70.00**	**310**	P	P	22 45 17.3	+1.4
	2.6nm,0.8s,baz=44,slow=4.5,SNR=3.7						
FIA0	**FINESS Array S**	**73.71**	**331**	*e*P	P	22 45 39.0	+1.1
FINES	**FINESS Array B**	**73.71**	**331**	P	P	22 45 39.0	+1.1
	0.8nm,0.8s,baz=72,slow=6.2,SNR=5.4						
BR101	**Keskin Array S**	**77.86**	**308**	*e*P	P	22 46 03.7	+1.4
BRTR	**Keskin Array B**	**77.87**	**308**	P	P	22 46 03.7	+1.4
	1.2nm,0.9s,baz=64,slow=3.4,SNR=3.4						
NB2	**NORSAR Subarra**	**80.15**	**334**	P	P	22 46 15.0	+0.7
	comp=Z,0.6nm,0.6s,baz=53,slow=5.6						
NB200	**NORSAR Array S**	**80.15**	**334**	*e*P	P	22 46 14.5	+0.2
NOA	**NORSAR Array B**	**80.15**	**334**	P	P	22 46 14.5	+0.2
	comp=Z,1.0nm,0.7s,baz=53,slow=5.4,SNR=4.5						
GERES	**GERESS Array B**	**86.06**	**323**	P	P	22 46 46.8	+1.7
	comp=Z,0.3nm,0.6s,baz=31,slow=5.9,SNR=3.4						

ISCJB ***27*** *22:36:25.8±0.6,39.09N±0.04×28.98E±0.04,h2km±8km,*
Error ellipse: s-maj=7.1km s-min=4.2km az=160.0
DDA ***27*** *22:36:25.6,39.08N×29.01E,h7km,Md2.6*
ISK ***27*** *22:36:25.7,39.09N×28.99E,h7km,ML2.6*
CSEM ***27*** *22:36:26.0±0.1,39.09N×28.99E,h5km,MD2.6,Error*
ellipse: s-maj=2.9km s-min=2.6km az=143.0

ISC 27 22:36:26.0±0.9,39.07N±0.03×29.00E±0.02,h9km±9km,
n30,σ0s49/41,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**263**	P		P	**Pg**	**22 36 30.7**	**+0.2**
DEMI				S		S	**Sg**	22 36 33.8	+0.2
DEMI	**Demirci**	**0.22**	**263**	*i* P		P	**Pg**	22 36 30.7	+0.2
DEMI				*i* S		S	**Sg**	22 36 33.8	+0.2
GEDZ	**Gediz**	**0.32**	**94**	*e*PG		P	**Pb**	22 36 33.5	-0.4
GEDZ				*e*SG		S	**Sg**	22 36 38.0	+1.3
GEDZ	**Gediz**	**0.32**	**94**	*e*Pg		P	**Pb**	22 36 33.5	-0.4
GEDZ				*e*Sg		S	**Sg**	22 36 38.0	+1.3
GDZ	**Gediz**	**0.38**	**87**	P		P	**Pg**	22 36 33.2	-0.3
GDZ				S		S	**Sg**	22 36 38.2	-0.2
GDZ	**Gediz**	**0.38**	**87**	*i* P		P	**Pg**	22 36 33.1	-0.3
GDZ				*i* S		S	**Sg**	22 36 38.2	-0.2
TVSB	**Tavsanli**	**0.52**	**43**	*e*PG		P	**Pg**	22 36 35.9	-0.3
TVSB	**Tavsanli**	**0.52**	**43**	*e*Pg		P	**Pg**	22 36 35.9	-0.3
KULA	**Kula-Manisa**	**0.61**	**206**	*e*PG		P	**Pb**	22 36 38.5	-0.4
KULA				*e*SG		S	**Sb**	22 36 47.3	-0.3
KULA	**Kula-Manisa**	**0.61**	**206**	*e*Pg		P	**Pb**	22 36 38.5	-0.4
MANT	**Manisa**	**0.67**	**211**	P		P	**Pg**	22 36 38.8	-0.2
MANT				S		S	**Sg**	22 36 47.1	-0.7
MANT	**Manisa**	**0.67**	**211**	*i* P		P	**Pg**	22 36 38.8	-0.2
MANT				*i* S		S	**Sg**	22 36 47.1	-0.7
KHL	**Karahalli**	**0.85**	**151**	*e*PG		P	**Pb**	22 36 42.9	0.0
KHL	**Karahalli**	**0.85**	**151**	*e*Pg		P	**Pb**	22 36 42.9	0.0
AKS	**Akhisar**	**0.94**	**259**	*e*PG		P	**Pb**	22 36 44.4	-0.1
AKS	**Akhisar**	**0.94**	**259**	*e*Pg		P	**Pb**	22 36 44.4	-0.1
BALB	**Balikesir**	**1.04**	**304**	*e*PG		P	**Pg**	22 36 45.6	-0.3
BALB	**Balikesir**	**1.04**	**304**	*e*Pg		P	**Pg**	22 36 45.6	-0.3
KCTX	**Karacabey (Bur**	**1.29**	**338**	*e*PN		P	**Pb**	22 36 50.4	-0.1
KCTX	**Karacabey (Bur**	**1.29**	**338**	*e*Pn		P	**Pb**	22 36 50.4	-0.1
MDNY	**Mudanya-Bursa**	**1.30**	**356**	*e*Pn		P	**Pn**	22 36 50.1	-0.2
MDNY				*e*SN		S	**Sn**	22 37 08.7	+0.9
MDNY	**Mudanya-Bursa**	**1.30**	**356**	*e*Pn		P	**Pn**	22 36 50.1	-0.2
MDNY				*e*Sn		S	**Sn**	22 37 08.7	+0.9
CAVI	**Cavuskoy**	**1.31**	**30**	*e*PN		P	**Pb**	22 36 50.5	-0.2
CAVI	**Cavuskoy**	**1.31**	**30**	*e*Pn		P	**Pb**	22 36 50.5	-0.2
AYDB	**Zeytinkoy-Aydi**	**1.42**	**218**	*e*PN		P	**Pg**	22 36 53.6	+0.4
AYDB	**Zeytinkoy-Aydi**	**1.42**	**218**	*e*Pn		P	**Pg**	22 36 53.6	+0.4
ARMT	**Armutlu**	**1.50**	**356**	*e*PN		P	**Pb**	22 36 53.6	-0.3
ARMT	**Armutlu**	**1.50**	**356**	*e*Pn		P	**Pb**	22 36 53.6	-0.3
EDC	**Edincik**	**1.55**	**326**	*e*PN		P	**Pb**	22 36 54.3	-0.5
EDC	**Edincik**	**1.55**	**326**	*e*Pn		P	**Pb**	22 36 54.3	-0.5

DDA ***27*** *22:41:04.0,39.11N×29.02E,h3km,Ml3.5*
ISK ***27*** *22:41:04.0,39.08N×29.02E,h4km,ML3.1*
CSEM ***27*** *22:41:04.8±0.1,39.07N×29.02E,h5km,ML3.5,Error*
ellipse: s-maj=2.9km s-min=2.5km az=150.0

ISC 27 22:41:04.5±1.0,39.10N±0.02×29.01E±0.02,h6km±9km,
n74,σ0s69/92,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**255**	P		P	**Pg**	**22 41 09.4**	**+0.2**
DEMI				S		S	**Sg**	22 41 12.7	+0.4
DEMI	**Demirci**	**0.24**	**255**	*i* P		P	**Pg**	22 41 09.4	+0.2
DEMI				*i* S		S	**Sg**	22 41 12.7	+0.4
GEDZ	**Gediz**	**0.32**	**100**	*e*PG		P	**Pg**	22 41 10.8	+0.1
GEDZ				*e*SG		S	**Sg**	22 41 15.3	+0.5
GEDZ	**Gediz**	**0.32**	**100**	*e*Pg		P	**Pg**	22 41 10.8	+0.1
GEDZ				*e*Sg		S	**Sg**	22 41 15.4	+0.5
GDZ	**Gediz**	**0.37**	**92**	P		P	**Pg**	22 41 11.4	-0.3
GDZ				S		S	**Sg**	22 41 16.4	-0.1
GDZ	**Gediz**	**0.37**	**92**	*i* P		P	**Pg**	22 41 11.4	-0.3
GDZ				*i* S		S	**Sg**	22 41 16.4	-0.1
TVSB	**Tavsanli**	**0.49**	**45**	*e*PG		P	**Pg**	22 41 14.0	0.0
TVSB	**Tavsanli**	**0.49**	**45**	*e*Pg		P	**Pg**	22 41 14.0	0.0
KULA	**Kula-Manisa**	**0.65**	**205**	*e*PG		P	**Pg**	22 41 16.8	-0.2
KULA				*e*SG		S	**Sg**	22 41 25.6	+0.2
KULA	**Kula-Manisa**	**0.65**	**205**	*e*Pg		P	**Pg**	22 41 16.8	-0.2
KULA				*e*Sg		S	**Sg**	22 41 25.6	+0.2
MANT	**Manisa**	**0.71**	**210**	P		P	**Pg**	22 41 17.2	-0.9
MANT				S		S	**Sg**	22 41 26.4	-0.9
MANT	**Manisa**	**0.71**	**210**	*i* P		P	**Pg**	22 41 17.2	-0.9
MANT				*i* S		S	**Sg**	22 41 26.4	-0.9
KHL	**Karahalli**	**0.88**	**153**	*e*PG		P	**Pg**	22 41 21.0	-0.3
KHL	**Karahalli**	**0.88**	**153**	*e*Pg		P	**Pg**	22 41 21.0	-0.3
AKS	**Akhisar**	**0.96**	**257**	*e*PG		P	**Pb**	22 41 23.3	-0.2
AKS	**Akhisar**	**0.96**	**257**	*e*Pg		P	**Pb**	22 41 23.3	-0.2
BALB	**Balikesir**	**1.03**	**302**	*e*PG		P	**Pb**	22 41 24.9	+0.3
BALB	**Balikesir**	**1.03**	**302**	*e*Pg		P	**Pb**	22 41 24.9	+0.3
IGD	**Bursa**	**1.17**	**7**	*i* P		P	**Pg**	22 41 25.2	-1.7
IGD				*i* S		S	**Sg**	22 41 41.9	-0.2
BALY	**Balya**	**1.25**	**301**	P		P	**Pg**	22 41 28.7	+0.2
BALY	**Balya**	**1.25**	**301**	*i* P		P	**Pg**	22 41 28.7	+0.2
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*PN		P	**Pn**	22 41 28.5	-0.2
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*Pn		P	**Pn**	22 41 28.5	-0.2
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*PN		P	**Pn**	22 41 28.3	-0.4
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*Pn		P	**Pn**	22 41 28.3	-0.4
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN		P	**Pg**	22 41 29.4	+0.5
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn		P	**Pg**	22 41 29.4	+0.5
IZI	**Iznik**	**1.28**	**16**	*e*PN		P	**Pb**	22 41 29.1	0.0
IZI	**Iznik**	**1.28**	**16**	*e*Pn		P	**Pb**	22 41 29.1	0.0
GEMT	**Gemlik**	**1.34**	**6**	*e*PN		P	**Pg**	22 41 30.3	+0.2
GEMT	**Gemlik**	**1.34**	**6**	*e*Pn		P	**Pg**	22 41 30.3	+0.2
BORA	**Eskisehir**	**1.36**	**55**	P		P	**Pn**	22 41 29.8	-0.3
BORA				S		S	**Sn**	22 41 48.5	+0.1
BORA	**Eskisehir**	**1.36**	**55**	*i* P		P	**Pn**	22 41 29.8	-0.3
BORA				*i* S		S	**Sn**	22 41 48.5	+0.1
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*PN		P	**Pg**	22 41 31.5	+0.3
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*Pn		P	**Pg**	22 41 31.5	+0.3
DNZL	**Cakiroluk**	**1.41**	**179**	P		P	**Pn**	22 41 30.5	-0.4
DNZL	**Cakiroluk**	**1.41**	**179**	*i* P		P	**Pn**	22 41 30.4	-0.4
DNZL				*i* S		S	**Sg**	22 41 52.5	+2.7
ADVT	**Abdulvahap**	**1.44**	**23**	*e*PN		P	**Pg**	22 41 32.5	+0.4
ADVT	**Abdulvahap**	**1.44**	**23**	*e*Pn		P	**Pg**	22 41 32.5	+0.4
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*PN		P	**Pb**	22 41 31.5	-0.4
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*Pn		P	**Pb**	22 41 31.5	-0.4
ARMT	**Armutlu**	**1.47**	**356**	*e*PN		P	**Pn**	22 41 31.4	0.0
ARMT	**Armutlu**	**1.47**	**356**	*e*Pn		P	**Pn**	22 41 31.4	0.0
ESKT	**Eskisehir**	**1.49**	**73**	*e*PN		P	**Pb**	22 41 32.5	-0.1
ESKT	**Eskisehir**	**1.49**	**73**	*e*Pn		P	**Pb**	22 41 32.5	-0.1
IZMI	**Izmir**	**1.54**	**243**	*e*PN		P	**Pb**	22 41 33.1	-0.3
IZMI	**Izmir**	**1.54**	**243**	*e*Pn		P	**Pb**	22 41 33.1	-0.3
BOLV	**Bolvadin**	**1.56**	**104**	P		P	**Pb**	22 41 33.8	0.0
BOLV				S		S	**Sg**	22 41 55.8	+1.1
BOLV	**Bolvadin**	**1.56**	**104**	*i* P		P	**Pb**	22 41 33.8	0.0
BOLV				*i* S		S	**Sg**	22 41 55.8	+1.1
KNL	**Bal¯kesir**	**1.64**	**316**	*i* P		P	**Pn**	22 41 33.8	+0.1
KNL				*i* S		S	**Sn**	22 41 55.3	+0.3
GULT	**Gulveren**	**1.76**	**41**	*e*PN		P	**Pb**	22 41 36.8	-0.5
GULT	**Gulveren**	**1.76**	**41**	*e*Pn		P	**Pb**	22 41 36.8	-0.5
HRT	**Hereke**	**1.79**	**16**	*e*PN		P	**Pb**	22 41 37.3	-0.4
HRT	**Hereke**	**1.79**	**16**	*e*Pn		P	**Pb**	22 41 37.3	-0.4
AYVA	**Ayvalik**	**1.81**	**277**	S		S	**Sg**	22 42 02.0	-0.8
AYVA	**Ayvalik**	**1.81**	**277**	*i* S		S	**Sg**	22 42 02.0	-0.8
KRBG	**Karabiga-Canak**	**1.84**	**315**	*e*PN		P	**Pb**	22 41 38.1	-0.5
KRBG	**Karabiga-Canak**	**1.84**	**315**	*e*Pn		P	**Pb**	22 41 38.1	-0.5
MRMT	**Marmara Adasi**	**1.85**	**324**	*e*PN		P	**Pb**	22 41 38.3	-0.5
MRMT	**Marmara Adasi**	**1.85**	**324**	*e*Pn		P	**Pb**	22 41 38.3	-0.5
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*PN		P	**Pb**	22 41 38.5	-0.5
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*Pn		P	**Pb**	22 41 38.5	-0.5
ISK	**Istanbul-Kandi**	**1.96**	**1**	*e*PN		P	**Pn**	22 41 38.2	+1.0
ISK	**Istanbul-Kandi**	**1.96**	**1**	*e*Pn		P	**Pn**	22 41 39.3	+1.0
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*PN		P	**Pb**	22 41 39.6	-1.3
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*Pn		P	**Pb**	22 41 39.7	-1.3
SART	**Tekirdag**	**2.12**	**319**	*i* P		P	**Pg**	22 41 44.4	-0.7
SART				*i* S		S	**Sg**	22 42 13.1	+0.5
RKY	**Sarkoy-Tekirda**	**2.12**	**319**	*e*PN		P	**Pb**	22 41 42.2	-1.1
RKY	**Sarkoy-Tekirda**	**2.12**	**319**	*e*Pn		P	**Pb**	22 41 42.2	-1.1
ZEY	**¯zmir**	**2.14**	**247**	*i* P		P	**Pg**	22 41 46.2	+0.6
CTKS	**Kestanelik-??a**	**2.17**	**350**	*e*PN		P	**Pb**	22 41 42.6	-1.5
CTKS	**Kestanelik-??a**	**2.17**	**350**	*e*Pn		P	**Pb**	22 41 42.6	-1.5
GELI	**Tayfur-Gelibol**	**2.34**	**304**	*e*PN		P	**Pn**	22 41 45.2	+1.7
GELI	**Tayfur-Gelibol**	**2.34**	**304**	*e*Pn		P	**Pn**	22 41 45.2	+1.7

ISCJB ***27*** *22:46:36.5±0.4,39.10N±0.03×29.04E±0.04,h11km±5km,*
Error ellipse: s-maj=6.4km s-min=3.9km az=148.0
CSEM ***27*** *22:46:36.6±0.1,39.10N×29.04E,h10km,MD2.6,Error*
ellipse: s-maj=2.5km s-min=1.9km az=139.0
DDA ***27*** *22:46:36.7,39.04N×29.05E,h7km,Md2.6*
ISK ***27*** *22:46:36.1,39.12N×29.03E,h8km,MD2.8*

ISC 27 22:46:36.8±0.9,39.11N±0.03×29.04E±0.02,h13km±9km,
n30,σ0s44/42,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**256**	P		P	**Pg**	**22 46 42.5**	**+0.2**
DEMI				S		S	**Sg**	22 46 45.9	-0.1
DEMI	**Demirci**	**0.26**	**256**	*i* P		P	**Pg**	22 46 42.5	+0.2
DEMI				*i* S		S	**Sg**	22 46 45.9	-0.1
GEDZ	**Gediz**	**0.29**	**102**	*e*PG		P	**Pg**	22 46 43.1	+0.2
GEDZ	**Gediz**	**0.29**	**102**	*e*Pg		P	**Pg**	22 46 43.1	+0.2
GDZ	**Gediz**	**0.34**	**93**	P		P	**Pg**	22 46 43.6	-0.2
GDZ				S		S	**Sg**	22 46 48.7	+0.1
GDZ	**Gediz**	**0.34**	**93**	*i* P		P	**Pg**	22 46 43.6	-0.2
GDZ				*i* S		S	**Sg**	22 46 48.7	+0.1
TVSB	**Tavsanli**	**0.47**	**43**	*e*PG		P	**Pg**	22 46 45.7	-0.5
TVSB				*e*SG		S	**Sg**	22 46 52.1	-0.5
TVSB	**Tavsanli**	**0.47**	**43**	*e*Pg		P	**Pg**	22 46 45.7	-0.5
TVSB				*e*Sg		S	**Sg**	22 46 52.1	-0.5
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG		P	**Pg**	22 46 49.7	0.0
KULA				*e*SG		S	**Sg**	22 46 58.6	+0.2
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg		P	**Pg**	22 46 49.7	0.0
KULA				*e*Sg		S	**Sg**	22 46 58.6	+0.2
MANT	**Manisa**	**0.72**	**212**	P		P	**Pg**	22 46 49.8	-1.0
MANT				S		S	**Sg**	22 46 59.2	-1.1
MANT	**Manisa**	**0.72**	**212**	*i* P		P	**Pg**	22 46 49.8	-1.0
MANT				*i* S		S	**Sg**	22 46 59.2	-1.1
KHL	**Karahalli**	**0.87**	**154**	*e*PG		P	**Pb**	22 46 53.8	0.0
KHL	**Karahalli**	**0.87**	**154**	*e*Pg		P	**Pb**	22 46 53.8	0.0
AKS	**Akhisar**	**0.98**	**257**	*e*PG		P	**Pb**	22 46 55.9	+0.2
AKS				*e*SG		S	**Sb**	22 47 09.1	+0.5
AKS	**Akhisar**	**0.98**	**257**	*e*Pg		P	**Pb**	22 46 55.9	+0.2
AKS				*e*Sg		S	**Sb**	22 47 09.1	+0.5
BALB	**Balikesir**	**1.04**	**301**	*e*PG		P	**Pb**	22 46 56.9	+0.1
BALB	**Balikesir**	**1.04**	**301**	*e*Pg		P	**Pb**	22 46 56.9	+0.1
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN		P	**Pn**	22 47 00.1	-0.1
CAVI	**Cavuskoy**	**1.26**	**29**	*e*Pn		P	**Pn**	22 47 00.1	-0.1
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN		P	**Pn**	22 47 00.3	+0.1
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn		P	**Pn**	22 47 00.3	+0.1
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN		P	**Pb**	22 47 00.9	+0.2
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn		P	**Pb**	22 47 00.9	+0.2
IZI	**Iznik**	**1.27**	**15**	*e*PN		P	**Pn**	22 47 00.6	+0.2
IZI	**Iznik**	**1.27**	**15**	*e*Pn		P	**Pn**	22 47 00.6	+0.2
ARMT	**Armutlu**	**1.47**	**355**	*e*PN		P	**Pn**	22 47 03.0	0.0
ARMT	**Armutlu**	**1.47**	**355**	*e*Pn		P	**Pn**	22 47 03.0	0.0
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN		P	**Pn**	22 47 03.5	+0.4
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn		P	**Pn**	22 47 03.5	+0.4

DDA ***27*** *22:51:34.8,39.10N×29.06E,h7km,Ml3.1*
ISK ***27*** *22:51:34.1,39.08N×29.03E,h2km,MD2.8*
CSEM ***27*** *22:51:35.1±0.1,39.09N×29.05E,h2km,ML3.1,Error*
ellipse: s-maj=3.1km s-min=2.4km az=147.0

ISC 27 22:51:35.3±1.0,39.10N±0.02×29.05E±0.02,h4km±12km,
n50,σ0s61/66,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**259**	P		P	**Pg**	**22 51 40.5**	**+0.1**
DEMI				S		S	**Sg**	22 51 44.3	+0.4
DEMI	**Demirci**	**0.27**	**259**	*i* P		P	**Pg**	22 51 40.5	+0.1
DEMI				*i* S		S	**Sg**	22 51 44.4	+0.4
GEDZ	**Gediz**	**0.28**	**100**	*e*PG		P	**Pg**	22 51 41.1	+0.3
GEDZ	**Gediz**	**0.28**	**100**	*e*Pg		P	**Pg**	22 51 41.1	+0.3
GDZ	**Gediz**	**0.34**	**91**	P		P	**Pg**	22 51 41.7	-0.1
GDZ				S		S	**Sg**	22 51 46.7	+0.5
GDZ	**Gediz**	**0.34**	**91**	*i* P		P	**Pg**	22 51 41.7	-0.1
GDZ				*i* S		S	**Sg**	22 51 46.7	+0.5
TVSB	**Tavsanli**	**0.48**	**42**	*e*PG		P	**Pg**	22 51 43.9	-0.6
TVSB	**Tavsanli**	**0.48**	**42**	*e*Pg		P	**Pg**	22 51 43.9	-0.6
KULA	**Kula-Manisa**	**0.66**	**208**	*e*PG		P	**Pg**	22 51 47.0	-0.9
KULA				*e*SG		S	**Sg**	22 51 56.4	0.0
KULA	**Kula-Manisa**	**0.66**	**208**	*e*Pg		P	**Pg**	22 51 47.0	-0.9
KULA				*e*Sg		S	**Sg**	22 51 56.4	0.0
MANT	**Manisa**	**0.72**	**213**	P		P	**Pg**	22 51 48.1	-0.9
MANT				S		S	**Sg**	22 51 57.8	-0.6
MANT	**Manisa**	**0.72**	**213**	*i* P		P	**Pg**	22 51 48.1	-0.9
MANT				*i* S		S	**Sg**	22 51 57.8	-0.6
KHL	**Karahalli**	**0.86**	**154**	*e*PG		P	**Pg**	22 51 51.9	+0.2
KHL	**Karahalli**	**0.86**	**154**	*e*Pg		P	**Pg**	22 51 51.9	+0.2
AKS	**Akhisar**	**0.99**	**258**	*e*PG		P	**Pg**	22 51 54.3	+0.1
AKS				*e*SG		S	**Sb**	22 52 08.2	-0.1
AKS	**Akhisar**	**0.99**	**258**	*e*Pg		P	**Pg**	22 51 54.3	+0.1
AKS				*e*Sg		S	**Sb**	22 52 08.2	-0.1
BALB	**Balikesir**	**1.06**	**301**	*e*PG		P	**Pg**	22 51 55.0	-0.5
BALB				*e*SG		S	**Sb**

GULT	**Gulveren**	**1.75**	**39**	*e*PN	**Pb**	**22 54 03.9**	**-0.1**
GULT	**Gulveren**	**1.75**	**39**	*e*Pn	**Pb**	**22 54 03.9**	**-0.1**

JMA 27 22:53:35.2±0.4, 37.18N×144.33E, h42km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.68**	**299**	P	Pn	22 54 17.3	+1.5
JIO				*e*S	Sn	22 54 48.6	+1.5
ONAJ	**Iwakimizuishiy**	**2.82**	**269**	P	Pn	22 54 19.4	+1.6
ONAJ				S	Sn	22 54 52.1	+1.4
JMM	**Marumori**	**2.89**	**285**	P	Pn	22 54 20.4	+1.6
JMK	**Ichinoseki**	**3.03**	**307**	P	Pn	22 54 22.3	+1.7
JMK				S	Sn	22 54 57.9	+2.4
JFT	**Otama**	**3.20**	**277**	P	Pn	22 54 25.7	+2.7
JFT				*e*S	Sn	22 55 01.7	+1.8
JOM	**Ohasama**	**3.31**	**315**	P	Pn	22 54 26.2	+1.7
JOM				*e*S	Sn	22 55 03.6	+1.1
JYK	**Kaneyama**	**3.58**	**300**	P	Pn	22 54 30.6	+2.4
JAG	**Ashikaga**	**3.99**	**261**	P	Pn	22 54 35.6	+1.8
JAG				S	Sn	22 55 20.8	+1.6
JRY	**Ryogami san**	**4.52**	**257**	P	Pn	22 54 42.5	+1.4
JRY				*e*S	Sn	22 55 32.0	-0.4
JOT	**Ohata**	**4.91**	**330**	P	Pn	22 54 47.7	+1.3
JOT				*e*S	Sn	22 55 42.0	+0.1

DDA 27 22:55:26.0, 39.08N×29.02E, h7km, Md2.4
ISCJB 27 22:55:26.1±0.6, 39.08N±0.04×29.02E±0.04, h1km±9km, Error ellipse: s-maj=8.4km s-min=4.0km az=148.8
CSEM 27 22:55:26.3±0.1, 39.08N×29.02E, h2km, MD2.4, Error ellipse: s-maj=3.0km s-min=2.3km az=123.0
ISK 27 22:55:26.1, 39.08N×29.07E, h5km, MD2.7
ISC 27 22:55:26.3±1.0, 39.07N±0.02×29.02E±0.02, h7km±9km, n32, σ0945/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**264**	P	**Pg**	**22 55 31.2**	**+0.2**
DEMI				S	**Sg**	**22 55 34.8**	**+0.6**
DEMI	**Demirci**	**0.24**	**264**	*i* P	**Pg**	**22 55 31.2**	**+0.2**
DEMI				*i* S	**Sg**	**22 55 34.8**	**+0.6**
GEDZ	**Gediz**	**0.31**	**95**	*e*PG	**Pg**	**22 55 32.1**	**-0.3**
GEDZ	**Gediz**	**0.31**	**95**	*e*Pg	**Pg**	**22 55 32.1**	**-0.3**
GDZ	**Gediz**	**0.36**	**87**	P	**Pg**	**22 55 33.5**	**+0.1**
GDZ				S	**Sg**	**22 55 38.7**	**+0.5**
GDZ	**Gediz**	**0.36**	**87**	*i* P	**Pg**	**22 55 33.5**	**+0.1**
GDZ				*i* S	**Sg**	**22 55 38.6**	**+0.5**
TVSB	**Tavsanli**	**0.51**	**42**	*e*PG	**Pg**	**22 55 35.8**	**-0.4**
TVSB				*e*SG	**Sg**	**22 55 42.2**	**-0.8**
TVSB	**Tavsanli**	**0.51**	**42**	*e*Pg	**Pg**	**22 55 35.8**	**-0.4**
TVSB				*e*Sg	**Sg**	**22 55 42.2**	**-0.8**
KULA	**Kula-Manisa**	**0.62**	**207**	*e*PG	**Pb**	**22 55 39.3**	**-0.2**
KULA				*e*SG	**Sb**	**22 55 48.0**	**-0.5**
KULA	**Kula-Manisa**	**0.62**	**207**	*e*Pg	**Pb**	**22 55 39.3**	**-0.2**
KULA				*e*Sg	**Sb**	**22 55 48.0**	**-0.5**
MANT	**Manisa**	**0.68**	**212**	P	**Pg**	**22 55 39.2**	**-0.2**
MANT				S	**Sg**	**22 55 47.6**	**-0.7**
MANT	**Manisa**	**0.68**	**212**	*i* P	**Pg**	**22 55 39.2**	**-0.2**
MANT				*i* S	**Sg**	**22 55 47.6**	**-0.7**
KHL	**Karahalli**	**0.84**	**152**	*e*PG	**Pg**	**22 55 42.7**	**+0.2**
KHL	**Karahalli**	**0.84**	**152**	*e*Pg	**Pg**	**22 55 42.7**	**+0.2**
BALB	**Balikesir**	**1.05**	**303**	*e*PN	**Pn**	**22 55 47.5**	**0.0**
BALB				*e*SN	**Sn**	**22 56 02.8**	**+0.5**
BALB	**Balikesir**	**1.05**	**303**	*e*Pn	**Pn**	**22 55 47.5**	**0.0**
BALB				*e*Sn	**Sn**	**22 56 02.8**	**+0.5**
CAVI	**Cavuskoy**	**1.30**	**29**	*e*PN	**Pb**	**22 55 51.2**	**+0.1**
CAVI	**Cavuskoy**	**1.30**	**29**	*e*Pn	**Pb**	**22 55 51.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**337**	*e*PN	**Pb**	**22 55 51.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**337**	*e*Pn	**Pb**	**22 55 51.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**356**	*e*PN	**Pb**	**22 55 51.4**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.30**	**356**	*e*Pn	**Pb**	**22 55 51.4**	**+0.3**
IZI	**Iznik**	**1.31**	**15**	*e*PN	**Pb**	**22 55 52.2**	**+0.8**
IZI	**Iznik**	**1.31**	**15**	*e*Pn	**Pb**	**22 55 52.2**	**+0.8**
ADVT	**Abdulvahap**	**1.47**	**22**	*e*PN	**Pb**	**22 55 53.8**	**-0.2**
ADVT	**Abdulvahap**	**1.47**	**22**	*e*Pn	**Pb**	**22 55 53.8**	**-0.2**
ARMT	**Armutlu**	**1.50**	**355**	*e*PN	**Pg**	**22 55 54.6**	**-0.5**
ARMT	**Armutlu**	**1.50**	**355**	*e*Pn	**Pg**	**22 55 54.6**	**-0.5**
EDC	**Edincik**	**1.56**	**325**	*e*PN	**Pg**	**22 55 55.7**	**-0.5**
EDC	**Edincik**	**1.56**	**325**	*e*Pn	**Pg**	**22 55 55.7**	**-0.5**
GULT	**Gulveren**	**1.79**	**40**	*e*PN	**Pn**	**22 55 58.1**	**+0.4**
GULT	**Gulveren**	**1.79**	**40**	*e*Pn	**Pn**	**22 55 58.1**	**+0.4**

ISCJB 27 22:57:28.6±0.4, 39.09N±0.03×29.03E±0.04, h9km, Error ellipse: s-maj=5.1km s-min=3.6km az=145.9
DDA 27 22:57:28.6, 39.07N×29.03E, h7km, Md2.8
CSEM 27 22:57:28.6±0.1, 39.10N×29.03E, h5km, MD2.8, Error ellipse: s-maj=2.4km s-min=2.0km az=134.0
ISK 27 22:57:28.2, 39.11N×29.04E, h5km, MD2.8
ISC 27 22:57:28.8±0.9, 39.11N±0.03×29.01E±0.02, h9km, n40, σ0887/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**254**	P	**Pg**	**22 57 30.1**	**-3.5**
DEMI				S	**Sg**	**22 57 37.3**	**+0.5**
DEMI	**Demirci**	**0.23**	**254**	*i* P	**Pg**	**22 57 30.1**	**-3.5**
DEMI				*i* S	**Sg**	**22 57 37.3**	**+0.5**
GEDZ	**Gediz**	**0.32**	**101**	*e*PG	**Pg**	**22 57 35.0**	**-0.2**
GEDZ	**Gediz**	**0.32**	**101**	*e*Pg	**Pg**	**22 57 35.0**	**-0.2**
GDZ	**Gediz**	**0.37**	**93**	P	**Pg**	**22 57 35.5**	**-0.6**
GDZ				S	**Sg**	**22 57 40.9**	**-0.2**
GDZ	**Gediz**	**0.37**	**93**	*i* P	**Pg**	**22 57 35.5**	**-0.6**
GDZ				*i* S	**Sg**	**22 57 40.9**	**-0.2**
TVSB	**Tavsanli**	**0.49**	**46**	*e*PG	**Pg**	**22 57 37.7**	**-0.7**
TVSB				*e*SG	**Sg**	**22 57 44.8**	**-0.1**
TVSB	**Tavsanli**	**0.49**	**46**	*e*Pg	**Pg**	**22 57 37.7**	**-0.7**
TVSB				*e*Sg	**Sg**	**22 57 44.8**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**204**	*e*PG	**Pg**	**22 57 41.0**	**-0.4**
KULA				*e*SG	**Sg**	**22 57 50.9**	**+1.0**
KULA	**Kula-Manisa**	**0.65**	**204**	*e*Pg	**Pg**	**22 57 41.0**	**-0.4**
KULA				*e*Sg	**Sg**	**22 57 50.9**	**+1.0**
MANT	**Manisa**	**0.71**	**210**	P	**Pg**	**22 57 41.9**	**-0.6**
MANT	**Manisa**	**0.71**	**210**	*i* P	**Pg**	**22 57 41.9**	**-0.6**
KHL	**Karahalli**	**0.88**	**152**	*e*PG	**Pg**	**22 57 45.4**	**-0.4**
KHL	**Karahalli**	**0.88**	**152**	*e*Pg	**Pg**	**22 57 45.4**	**-0.4**
AKS	**Akhisar**	**0.96**	**257**	*e*PG	**Pg**	**22 57 47.7**	**+0.5**
AKS	**Akhisar**	**0.96**	**257**	*e*Pg	**Pg**	**22 57 47.7**	**+0.5**
BALB	**Balikesir**	**1.02**	**302**	*e*PG	**Pg**	**22 57 49.0**	**+0.7**
BALB	**Balikesir**	**1.02**	**302**	*e*Pg	**Pg**	**22 57 49.1**	**+0.7**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*PN	**Pn**	**22 57 52.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*Pn	**Pn**	**22 57 52.9**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pn**	**22 57 52.5**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pn**	**22 57 52.5**	**-0.1**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pn**	**22 57 52.6**	**-0.2**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pn**	**22 57 52.6**	**-0.2**
IZI	**Iznik**	**1.28**	**16**	*e*PN	**Pn**	**22 57 52.8**	**-0.2**
IZI	**Iznik**	**1.28**	**16**	*e*Pn	**Pn**	**22 57 52.8**	**-0.2**
GEMT	**Gemlik**	**1.33**	**6**	*e*PN	**Pn**	**22 57 53.8**	**+0.2**
GEMT	**Gemlik**	**1.33**	**6**	*e*Pn	**Pn**	**22 57 53.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*PN	**Pn**	**22 57 55.0**	**+0.7**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*Pn	**Pn**	**22 57 55.0**	**+0.7**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*PN	**Pb**	**22 57 55.7**	**-0.1**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*Pn	**Pb**	**22 57 55.7**	**-0.1**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pb**	**22 57 56.2**	**0.0**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pb**	**22 57 56.2**	**0.0**
ESKT	**Eskisehir**	**1.49**	**73**	*e*PN	**Pn**	**22 57 55.9**	**0.0**
ESKT	**Eskisehir**	**1.49**	**73**	*e*Pn	**Pn**	**22 57 55.9**	**0.0**
EDC	**Edincik**	**1.52**	**325**	*e*PN	**Pn**	**22 57 56.7**	**+0.6**
EDC	**Edincik**	**1.52**	**325**	*e*Pn	**Pn**	**22 57 56.7**	**+0.6**
GULT	**Gulveren**	**1.76**	**41**	*e*PN	**Pn**	**22 58 00.2**	**+0.6**
GULT	**Gulveren**	**1.76**	**41**	*e*Pn	**Pn**	**22 58 00.2**	**+0.6**

DDA 27 23:03:34.5, 39.04N×29.01E, h7km, Md2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**271**	*i* P	Pg	23 03 39.7	+0.7
DEMI				*i* S	Sg	23 03 42.7	+0.6
GDZ	**Gediz**	**0.37**	**82**	*i* P	Pg	23 03 42.1	+0.3
GDZ				*i* S	Sg	23 03 47.6	+0.9
MANT	**Manisa**	**0.65**	**213**	*i* P	Pg	23 03 47.6	+0.6
MANT				*i* S	Sg	23 03 56.5	+0.9

CSEM 27 23:03:57.9, 39.13N×28.99E, h9km, MD2.9
ISK 27 23:03:57.9, 39.13N×28.99E, h9km, MD2.9
ISCJB 27 23:03:58.3±0.5, 39.12N±0.04×28.98E±0.03, h6km±6km, Error ellipse: s-maj=6.4km s-min=4.0km az=158.0
DDA 27 23:03:58.7, 39.10N×29.01E, h7km, Ml2.7
ISC 27 23:03:58.7±0.9, 39.14N±0.02×28.99E±0.02, h8km±10km, n41, σ0878/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**245**	P	**Pg**	**23 04 03.7**	**+0.3**
DEMI				S	**Sg**	**23 04 06.9**	**+0.3**
DEMI	**Demirci**	**0.23**	**245**	*i* P	**Pg**	**23 04 03.7**	**+0.3**
DEMI				*i* S	**Sg**	**23 04 06.9**	**+0.3**
GEDZ	**Gediz**	**0.34**	**107**	*e*PG	**Pg**	**23 04 04.4**	**-1.1**
GEDZ				*e*SG	**Sg**	**23 04 10.6**	**+0.6**
GEDZ	**Gediz**	**0.34**	**107**	*e*Pg	**Pg**	**23 04 04.4**	**-1.1**
GEDZ				*e*Sg	**Sg**	**23 04 10.6**	**+0.6**
GDZ	**Gediz**	**0.39**	**98**	P	**Pg**	**23 04 06.2**	**-0.1**
GDZ				S	**Sg**	**23 04 11.6**	**+0.2**
GDZ	**Gediz**	**0.39**	**98**	*i* P	**Pg**	**23 04 06.2**	**-0.1**
GDZ				*i* S	**Sg**	**23 04 11.6**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**50**	*e*PG	**Pg**	**23 04 08.0**	**0.0**
TVSB				*e*SG	**Sg**	**23 04 14.8**	**+0.5**
TVSB	**Tavsanli**	**0.48**	**50**	*e*Pg	**Pg**	**23 04 08.0**	**0.0**
TVSB				*e*Sg	**Sg**	**23 04 14.8**	**+0.5**
KULA	**Kula-Manisa**	**0.68**	**202**	*e*PG	**Pg**	**23 04 11.2**	**-0.6**
KULA				*e*SG	**Sg**	**23 04 20.8**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**202**	*e*Pg	**Pg**	**23 04 11.2**	**-0.6**
KULA				*e*Sg	**Sg**	**23 04 20.8**	**+0.2**
MANT	**Manisa**	**0.73**	**207**	P	**Pn**	**23 04 18.1**	**+2.6**
MANT				S	**Sg**	**23 04 20.7**	**-1.7**
MANT	**Manisa**	**0.73**	**207**	*i* P	**Pn**	**23 04 18.1**	**+2.6**
MANT				*i* S	**Sg**	**23 04 20.7**	**-1.7**
KHL	**Karahalli**	**0.92**	**153**	*e*PG	**Pg**	**23 04 15.5**	**-0.9**
KHL	**Karahalli**	**0.92**	**153**	*e*Pg	**Pg**	**23 04 15.5**	**-0.9**
BALB	**Balikesir**	**0.99**	**300**	*e*PG	**Pb**	**23 04 17.7**	**-0.4**
BALB	**Balikesir**	**0.99**	**300**	*e*Pg	**Pb**	**23 04 17.7**	**-0.4**
IGD	**Bursa**	**1.13**	**8**	*i* P	**Pg**	**23 04 20.4**	**-0.1**
IGD				*i* S	**Sn**	**23 04 36.0**	**-0.5**
KCTX	**Karacabey (Bur**	**1.22**	**337**	*e*PN	**Pg**	**23 04 22.0**	**-0.1**
KCTX	**Karacabey (Bur**	**1.22**	**337**	*e*Pn	**Pg**	**23 04 22.0**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.23**	**356**	*e*PN	**Pb**	**23 04 21.8**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.23**	**356**	*e*Pn	**Pb**	**23 04 21.8**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**32**	*e*PN	**Pn**	**23 04 22.0**	**-0.4**
CAVI	**Cavuskoy**	**1.25**	**32**	*e*Pn	**Pn**	**23 04 22.0**	**-0.4**
IZI	**Iznik**	**1.25**	**17**	*e*PN	**Pb**	**23 04 22.3**	**-0.2**
IZI	**Iznik**	**1.25**	**17**	*e*Pn	**Pb**	**23 04 22.3**	**-0.2**
BORA	**Eskisehir**	**1.35**	**57**	P	**Pg**	**23 04 25.1**	**+0.5**
BORA				S	**Sg**	**23 04 43.2**	**+1.0**
BORA	**Eskisehir**	**1.35**	**57**	*i* P	**Pg**	**23 04 25.1**	**+0.5**
BORA				*i* S	**Sg**	**23 04 43.2**	**+1.0**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*PN	**Pb**	**23 04 24.7**	**-0.5**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*Pn	**Pb**	**23 04 24.7**	**-0.5**
ARMT	**Armutlu**	**1.42**	**356**	*e*PN	**Pb**	**23 04 25.0**	**-0.5**
ARMT	**Armutlu**	**1.42**	**356**	*e*Pn	**Pb**	**23 04 25.0**	**-0.5**
EDC	**Edincik**	**1.48**	**325**	*e*PN	**Pb**	**23 04 25.5**	**-0.9**
EDC	**Edincik**	**1.48**	**325**	*e*Pn	**Pb**	**23 04 25.5**	**-0.9**
ESKT	**Eskisehir**	**1.49**	**75**	*i* P	**Pb**	**23 04 26.9**	**+0.2**
SEYT	**Eskypehyr**	**1.49**	**75**	P	**Pb**	**23 04 26.9**	**+0.2**
GULT	**Gulveren**	**1.74**	**42**	*e*PN	**Pn**	**23 04 29.3**	**0.0**
GULT	**Gulveren**	**1.74**	**42**	*e*Pn	**Pn**	**23 04 29.3**	**0.0**
HRT	**Hereke**	**1.76**	**17**	*e*PN	**Pn**	**23 04 29.3**	**-0.1**
HRT	**Hereke**	**1.76**	**17**	*e*Pn	**Pn**	**23 04 29.3**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*PN	**Pn**	**23 04 32.8**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*Pn	**Pn**	**23 04 32.8**	**+0.1**

ISK 27 23:11:46.6, 39.18N×28.97E, h7km, MD2.8
ISCJB 27 23:11:47.2±0.4, 39.15N±0.03×28.99E±0.04, h13km±5km, Error ellipse: s-maj=6.2km s-min=4.1km az=143.9
DDA 27 23:11:47.7, 39.11N×29.03E, h7km, Md2.5
CSEM 27 23:11:47.2±0.1, 39.17N×28.97E, h10km, MD2.5, Error ellipse: s-maj=2.6km s-min=2.4km az=113.0
ISC 27 23:11:47.4±0.9, 39.18N±0.02×28.98E±0.02, h17km±8km, n34, σ0982/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**237**	P	**Pg**	**23 11 53.2**	**+0.2**
DEMI				S	**Sg**	**23 11 56.8**	**0.0**
DEMI	**Demirci**	**0.24**	**237**	*i* P	**Pg**	**23 11 53.2**	**+0.2**
DEMI				*i* S	**Sg**	**23 11 56.8**	**0.0**
GEDZ	**Gediz**	**0.36**	**111**	*e*PG	**Pg**	**23 11 54.9**	**0.0**
GEDZ				*e*SG	**Sg**	**23 11 59.9**	**-0.2**
GEDZ	**Gediz**	**0.36**	**111**	*e*Pg	**Pg**	**23 11 54.9**	**0.0**
GEDZ				*e*Sg	**Sg**	**23 11 59.9**	**-0.2**
GDZ	**Gediz**	**0.40**	**102**	P	**Pg**	**23 11 55.2**	**-0.5**
GDZ				S	**Sg**	**23 12 00.3**	**-1.0**
GDZ	**Gediz**	**0.40**	**102**	*i* P	**Pg**	**23 11 55.1**	**-0.5**
GDZ				*i* S	**Sg**	**23 12 00.3**	**-1.0**
TVSB	**Tavsanli**	**0.46**	**54**	*e*PG	**Pg**	**23 11 56.0**	**-0.8**
TVSB				*e*SG	**Sg**	**23 12 02.7**	**-0.4**
TVSB	**Tavsanli**	**0.46**	**54**	*e*Pg	**Pg**	**23 11 56.0**	**-0.8**
TVSB				*e*Sg	**Sg**	**23 12 02.7**	**-0.4**
KULA	**Kula-Manisa**	**0.71**	**201**	*e*PG	**Pg**	**23 12 00.6**	**-0.8**
KULA				*e*SG	**Sg**	**23 12 10.1**	**-0.6**
KULA	**Kula-Manisa**	**0.71**	**201**	*e*Pg	**Pg**	**23 12 00.5**	**-0.8**
KULA				*e*Sg	**Sg**	**23 12 10.1**	**-0.6**
MANT	**Manisa**	**0.76**	**206**	P	**Pg**	**23 12 01.3**	**-1.1**
MANT				S	**Sg**	**23 12 10.5**	**-1.9**
MANT	**Manisa**	**0.76**	**206**	*i* P	**Pg**	**23 12 01.3**	**-1.1**
MANT				*i* S	**Sg**	**23 12 10.5**	**-1.9**
KHL	**Karahalli**	**0.95**	**153**	*e*PG	**Pb**	**23 12 06.0**	**+0.4**
KHL	**Karahalli**	**0.95**	**153**	*e*Pg	**Pb**	**23 12 06.0**	**+0.4**
BALB	**Balikesir**	**0.97**	**299**	*e*PG	**Pg**	**23 12 06.0**	**-0.3**
BALB	**Balikesir**	**0.97**	**299**	*e*Pg	**Pg**	**23 12 06.0**	**-0.3**
KCTX	**Karacabey (Bur**	**1.19**	**336**	*e*PN	**Pg**	**23 12 09.6**	**-0.8**
KCTX	**Karacabey (Bur**	**1.19**	**336**	*e*Pn	**Pg**	**23 12 09.6**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.19**	**356**	*e*PN	**Pg**	**23 12 09.7**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.19**	**356**	*e*Pn	**Pg**	**23 12 09.7**	**-0.8**
IZI	**Iznik**	**1.22**	**18**	*e*PN	**Pg**	**23 12 10.1**	**-0.9**
IZI	**Iznik**	**1.22**	**18**	*e*Pn	**Pg**	**23 12 10.1**	**-0.9**
GONE	**Gonen-Balikesi**	**1.32**	**311**	*e*PN	**Pn**	**23 12 12.1**	**+0.9**
GONE	**Gonen-Balikesi**	**1.32**	**311**	*e*Pn	**Pn**	**23 12 12.1**	**+0.9**
ADVT	**Abdulvahap**	**1.38**	**25**	*e*PN	**Pn**	**23 12 12.9**	**+0.9**
ADVT	**Abdulvahap**	**1.38**	**25**	*e*Pn	**Pn**	**23 12 12.9**	**+0.9**
ARMT	**Armutlu**	**1.39**	**356**	*e*PN	**Pn**	**23 12 12.6**	**+0.5**
ARMT	**Armutlu**	**1.39**	**356**	*e*Pn	**Pn**	**23 12 12.6**	**+0.5**
EDC	**Edincik**	**1.45**	**324**	*e*PN	**Pb**	**23 12 14.4**	**+0.4**
EDC	**Edincik**	**1.45**	**324**	*e*Pn	**Pb**	**23 12 14.5**	**+0.4**
ESKT	**Eskisehir**	**1.49**	**76**	*e*PN	**Pn**	**23 12 14.7**	**+1.1**
ESKT	**Eskisehir**	**1.49**	**76**	*e*Pn	**Pn**	**23 12 14.7**	**+1.1**
GULT	**Gulveren**	**1.72**	**43**	*e*PN	**Pn**	**23 12 17.6**	**+0.8**
GULT	**Gulveren**	**1.72**	**43**	*e*Pn	**Pn**	**23 12 17.6**	**+0.8**

ISCJB 27 23:23:58.5±0.4, 39.08N±0.03×29.02E±0.03, h6km±7km, Error ellipse: s-maj=5.9km s-min=4.1km az=154.3
ISK 27 23:23:58.2, 39.09N×29.03E, h5km, MD2.8
CSEM 27 23:23:58.7±0.1, 39.08N×29.02E, h5km, MD2.4, Error ellipse: s-maj=2.2km s-min=1.9km az=124.0
DDA 27 23:23:58.0, 39.12N×29.01E, h7km, Md2.4
ISC 27 23:23:58.5±0.9, 39.08N±0.02×29.01E±0.02, h12km±7km, n33, σ0942/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**261**	P	**Pg**	**23 24 03.6**	**+0.2**
DEMI				S	**Sg**	**23 24 06.9**	**+0.1**
DEMI	**Demirci**	**0.23**	**261**	*i* P	**Pg**	**23 24 03.6**	**+0.2**
DEMI				*i* S	**Sg**	**23 24 06.9**	**+0.1**
GEDZ	**Gediz**	**0.32**	**96**	*e*PG	**Pg**	**23 24 04.4**	**-0.6**
GEDZ	**Gediz**	**0.32**	**96**	*e*Pg	**Pg**	**23 24 04.4**	**-0.6**
GDZ	**Gediz**	**0.37**	**88**	P	**Pg**	**23 24 06.0**	**0.0**
GDZ				S	**Sg**	**23 24 11.1**	**+0.2**
GDZ	**Gediz**	**0.37**	**88**	*i* P	**Pg**	**23 24 06.0**	**0.0**
GDZ				*i* S	**Sg**	**23 24 11.1**	**+0.2**
TVSB	**Tavsanli**	**0.51**	**43**	*e*PG	**Pg**	**23 24 08.5**	**-0.1**
TVSB				*e*SG	**Sg**	**23 24 15.2**	**-0.2**
TVSB	**Tavsanli**	**0.51**	**43**	*e*Pg	**Pg**	**23 24 08.5**	**-0.1**
TVSB				*e*Sg	**Sg**	**23 24 15.2**	**-0.2**
KULA	**Kula-Manisa**	**0.62**	**206**	*e*PG	**Pb**	**23 24 11.4**	**0.0**
KULA				*e*SG	**Sb**	**23 24 20.1**	**0.0**
KULA	**Kula-Manisa**	**0.62**	**206**	*e*Pg	**Pb**	**23 24 11.4**	**0.0**
KULA				*e*Sg	**Sb**	**23 24 20.1**	**0.0**
MANT	**Manisa**	**0.68**	**211**	P	**Pg**	**23 24 11.5**	**-0.4**
MANT				S	**Sg**	**23 24 20.5**	**-0.3**
MANT	**Manisa**	**0.68**	**211**	*i* P	**Pg**	**23 24 11.5**	**-0.4**
MANT				*i* S	**Sg**	**23 24 20.5**	**-0.3**

KHL	**Karahalli**	**0.85**	**152**	*e*PG	**Pb**	**23 24 15.7**	**+0.4**
KHL	**Karahalli**	**0.85**	**152**	*e*Pg	**Pb**	**23 24 15.7**	**+0.4**
BALB	**Balikesir**	**1.04**	**303**	*e*PG	**Pn**	**23 24 18.9**	**+0.1**
BALB				*e*SG	**Sn**	**23 24 33.6**	**+0.3**
BALB	**Balikesir**	**1.04**	**303**	*e*Pg	**Pn**	**23 24 18.9**	**+0.1**
BALB				*e*Sg	**Sn**	**23 24 33.6**	**+0.3**
IGD	**Bursa**	**1.19**	**7**	*i* P	**Pn**	**23 24 19.7**	**-1.3**
IGD				*i* S	**Sb**	**23 24 35.2**	**-1.3**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*PN	**Pg**	**23 24 23.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*Pn	**Pg**	**23 24 23.5**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**356**	*e*PN	**Pg**	**23 24 23.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**356**	*e*Pn	**Pg**	**23 24 23.2**	**-0.2**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*PN	**Pg**	**23 24 23.7**	**+0.3**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*Pn	**Pg**	**23 24 23.7**	**+0.3**
IZI	**Iznik**	**1.31**	**16**	*e*PN	**Pg**	**23 24 23.5**	**-0.2**
IZI	**Iznik**	**1.31**	**16**	*e*Pn	**Pg**	**23 24 23.5**	**-0.2**
ADVT	**Abdulvahap**	**1.47**	**22**	*e*PN	**Pb**	**23 24 25.9**	**+0.2**
ADVT	**Abdulvahap**	**1.47**	**22**	*e*Pn	**Pb**	**23 24 25.9**	**+0.2**
ARMT	**Armutlu**	**1.49**	**356**	*e*PN	**Pb**	**23 24 26.1**	**0.0**
ARMT	**Armutlu**	**1.49**	**356**	*e*Pn	**Pb**	**23 24 26.1**	**0.0**
EDC	**Edincik**	**1.54**	**325**	*e*PN	**Pb**	**23 24 27.2**	**+0.2**
EDC	**Edincik**	**1.54**	**325**	*e*Pn	**Pb**	**23 24 27.2**	**+0.2**
GULT	**Gulveren**	**1.78**	**40**	*e*PN	**Pn**	**23 24 30.1**	**+0.9**
GULT	**Gulveren**	**1.78**	**40**	*e*Pn	**Pn**	**23 24 30.1**	**+0.9**

MOS 27 23:27:32.4±0.9, 52.04N×171.77W, h34km, mb5.9/129, MS5.5/93, Error ellipse: s-maj=5.9km s-min=3.8km az=91.0
BJI 27 23:27:32.8, 52.16N×172.18W, h31km, mb5.8/83, mB5.6/63, Ms5.7/88, Ms7 5.5/81
*NEIC 27 23:27:33.5±0.1, 52.00N×171.76W, h29km, mb5.9/297, ME6.1, MS5.3/298, MW5.8, MW5.6, ML5.6(AEIC), Error ellipse: s-maj=3.3km s-min=1.8km az=172.0, Moment Tensor Solution. s88 Moment tensor: Scale 10^17 Nm; Mrr 1.08; Mθθ -0.86; Mφφ -0.22; Mrθ 3.17; Mrφ -0.44; Mθφ 1.24; Best double couple: M0 3.60000×10^17 NP1:φs237.00000°, δ9.00000°, λ79.00000° NP2:φs68.00000°, δ81.00000°, λ92.00000°. Principal axes: T 3.5700, Plg54.0000°, Azm340.0000°; N 0.0000, Plg2.0000°, Azm248.0000°; P -3.5700,

SML pmax pmax
comp=Z,210nm,0.8s
SML Sawmill 16.05 43 *e*Pn **Pn 23 31 15.4 -0.9**
comp=Z,209nm,0.8s
SML *e*ScP **ScP 23 39 42.5 -0.2**
MID Middleton Isla 16.06 52 *e*P **P 23 31 19.5 0.0**
MID pmax pmax
comp=Z,1μm,0.9s
MID Middleton Isla 16.06 52 *e*Pn **P 23 31 19.5 0.0**
comp=Z,1μm,0.9s
TRF Thorofare Moun 16.14 36 *e*Pn **P 23 31 19.1 -1.5**
comp=Z,267nm,1.0s
TRF *e*ScS ScS 23 43 22.0 +0.3
BPAW Bear Paw Mtn. 16.28 34 *e*Pn **P 23 31 20.8 -1.2**
comp=Z,374nm,0.9s
BPAW *e*ScP **ScP 23 39 42.4 -0.7**
SCM Sheep Creek Mo 16.48 44 *e*P **Pn 23 31 20.5 -1.4**
SCM pmax pmax
comp=Z,310nm,0.6s
SCM Sheep Creek Mo 16.48 44 *e*Pn **Pn 23 31 20.5 -1.4**
comp=Z,314nm,0.6s
SCM *e*ScS ScS 23 43 25.9 +3.4
RND Reindeer 16.64 38 *e*P **Pn 23 31 23.5 -0.4**
RND pmax pmax
comp=Z,300nm,1.0s
RND Reindeer 16.64 38 *e*Pn **Pn 23 31 23.5 -0.4**
comp=Z,296nm,1.1s
RND *e*ScP **ScP 23 39 43.4 -0.4**
RND *e*ScS **ScS 23 43 24.4 +1.6**
EYAK Cordova Ski Ar 16.69 49 *e*Pn **Pn 23 31 23.8 -0.7**
comp=Z,866nm,1.9s
EYAK *e*ScP **ScP 23 39 44.5 +0.6**
MCK McKinley 16.79 37 *e*P **Pn 23 31 25.4 -0.4**
MCK pmax pmax
comp=Z,1μm,1.7s
MCK McKinley 16.79 37 *e*Pn **Pn 23 31 25.4 -0.4**
comp=Z,1μm,1.8s
MCK *e*ScS ScS 23 43 24.0 +0.8
BWN Browne 16.86 35 *e*Pn **P 23 31 29.6 +1.3**
comp=Z,2μm,1.5s
BWN *e*ScS ScS 23 43 23.3 0.0
DIV Divide 16.89 47 *e*Pn **Pn 23 31 24.2 -2.7**
comp=Z,183nm,0.7s
KLU Klutina 16.95 46 *e*Pn **Pn 23 31 25.0 -2.8**
comp=Z,174nm,0.9s
MLY Manley 16.96 31 *e*Pn **P 23 31 31.5 +2.0**
comp=Z,191nm,0.9s
DHY Denali Highway 17.04 40 *e*Pn **P 23 31 30.9 +0.4**
comp=Z,95nm,1.0s
BMRM Bremner River 17.36 48 *e*Pn **Pn 23 31 31.8 -1.1**
comp=Z,232nm,0.8s
BMRM *e*ScP **ScP 23 39 45.3 -0.1**
BMRM *e*ScS **ScS 23 43 28.3 +3.3**
WRH Wood River Hil 17.52 35 *e*Pn **Pn 23 31 33.8 -0.9**
comp=Z,266nm,1.2s
CCB Clear Creek Bu 17.72 35 *e*Pn **Pn 23 31 35.6 -1.5**
comp=Z,124nm,1.0s
MDM Murphy Dome 17.75 34 *e*Pn **P 23 31 38.1 -0.1**
PAX Paxson 17.76 41 *e*P **Pn 23 31 37.7 -0.1**
PAX pmax pmax
comp=Z,140nm,1.0s
PAX Paxson 17.76 41 *e*Pn **Pn 23 31 37.7 -0.1**
comp=Z,142nm,1.0s
COLA College 17.83 34⇑*i*P **Pn 23 31 38.6 0.0**
HDA Harding Lake 17.90 36 *e*Pn **Pn 23 31 39.0 -0.4**
comp=Z,304nm,1.2s
HDA *e*ScP **ScP 23 39 46.0 -0.4**
HDA *e*ScS **ScS 23 43 29.9 +3.5**
CRQM Cirque 17.98 50 *e*Pn **Pn 23 31 39.8 -0.8**
comp=Z,805nm,1.0s
CRQM *e*ScP **ScP 23 39 46.9 +0.1**
PET Petropavlovsk 18.03 285*ce*P **Pn 23 31 40.2 -0.9**
PET *e*S **Sn 23 34 56.2 -4.8**
PET pmax pmax
comp=Z,3μm,11.4s
PET pmax pmax
comp=Z,219nm,1.3s
PET pmax pmax
comp=Z,4μm,12.4s
PET MLR MLR
comp=Z,5μm,19.0s
PET MLR MLR
comp=Z,5μm,19.0s
ILAR Eielson Array 18.12 35 P **Pn 23 31 40.5 -1.6**
comp=Z,2.3nm,0.3s,baz=240,slow=10,SNR=122
ILAR S **Sn 23 35 02.9 -0.1**
baz=241,slow=18,SNR=2.4
ILAR LR LR 23 39 24.2
comp=Z,16μm,18.2s,baz=242,slow=39
ILAR ScP **ScP 23 39 45.4 -1.4**
comp=Z,0.1nm,0.3s,baz=261,slow=3.5,SNR=13
ILB Eielson Array 18.12 35 *e*Pn **Pn 23 31 40.5 -1.6**
ILB *e*ScS ScS 23 43 30.9 +3.8
BALM Baldy 18.43 49 *e*P **P 23 31 44.3 -1.5**
BALM pmax pmax
comp=Z,379nm,0.9s
BALM Baldy 18.43 49 *e*P **P 23 31 44.3 -1.5**
comp=Z,378nm,0.9s
MENT Mentasta 18.47 43 *e*P **P 23 31 45.9 -0.2**
comp=Z,135nm,0.8s
PEA0 Petropavlovsk- 18.59 286 *e*P **Pn 23 31 49.2 +1.3**
PEA0 *e*ScP **ScP 23 39 47.0 -1.1**
PEA0B Petropavlovsk- 18.59 286 *e*P **Pn 23 31 49.8 +1.9**
comp=Z,619nm,1.3s
PETK Petropavlovsk- 18.59 286 P **Pn 23 31 49.2 +1.3**
comp=Z,6.7nm,0.3s,baz=84,slow=14,SNR=47
PETK S **Sn 23 35 14.4 -0.1**
comp=Z,0.2nm,0.3s,baz=70,slow=13,SNR=2.5
PETK LR LR 23 38 10.2
comp=Z,6μm,22.0s,baz=86,slow=34
PETK ScP **ScP 23 39 47.8 -0.3**
baz=76,slow=9.6,SNR=6.6
COLD Coldfoot 18.62 27 *e*P **Pn 23 31 50.3 +2.1**
comp=Z,726nm,1.6s
COLD *e*ScS ScS 23 43 34.9 +6.3
DOT Dot Lake 18.63 40 *e*P **P 23 31 47.4 -0.5**
comp=Z,862nm,1.6s
PCA Pinnacle 19.21 53 *e*P **Pn 23 31 55.5 +0.1**
comp=Z,1μm,0.8s
PCA *e*ScP **ScP 23 39 49.6 +0.2**
BILL Bilibino 19.34 335*c i*P **Pn 23 31 57.1 +0.3**
BILL pmax pmax
comp=Z,127μm,1.4s
BILL MLR MLR
comp=Z,9μm,17.0s
BILL Bilibino 19.34 335 *e*P **Pn 23 31 57.4 +0.6**
comp=Z,1μm,1.3s
FYU Fort Yukon 19.70 32 *e*P **Pn 23 32 00.3 -0.8**
comp=Z,547nm,1.3s
SKR Severo-Kuril's 20.07 279 *e*P **P 23 32 01.0 -2.6**
SKR *e* 23 32 15.5
SKR *e*S **S 23 35 48.3 +1.1**
SKR *e*SS SS 23 36 24.8
SKR pmax pmax
comp=Z,800nm,1.6s
SKR pmax pmax
comp=Z,314nm,1.3s
SKR MLR MLR
comp=Z,6μm,19.0s
DHAK Deception Hill 20.09 56 *e*P Pn 23 32 06.7 +0.9
comp=Z,6μm,1.8s
DHAK LR LR
comp=Z,7μm,20.0s
EGAK Eagle 20.27 39 *e*P **P 23 32 05.3 -0.4**
comp=Z,334nm,0.9s
EGAK LR LR
comp=Z,24μm,18.0s
HYT Haines Junctio 20.68 51 *e*P Pn 23 32 11.9 -0.9
comp=Z,831nm,0.8s
HYT *e*ScP **ScP 23 39 53.3 +0.4**
HYT LR LR
comp=Z,18μm,19.0s
DAWY Dawson 20.70 42 *e*P **P 23 32 09.8 -0.6**
comp=Z,170nm,1.0s
DAWY *e*ScP **ScP 23 39 53.3 +0.5**
DAWY *e*ScS **ScS 23 43 39.7 +4.0**
SKAG Skagway 21.59 55 *e*P **P 23 32 22.0 +2.0**
comp=Z,882nm,1.0s
SKAG *e*ScP **ScP 23 39 55.5 +0.6**
SKAG LR LR
comp=Z,5μm,20.0s
SEY Seymchan 21.91 314 P **P 23 32 25.1 +1.7**
comp=Z,55nm,0.7s,baz=105,slow=7.4,SNR=116
SEY S **S 23 36 23.1 -0.2**
comp=Z,12nm,0.6s,baz=90,slow=19,SNR=3.9
SEY Seymchan 21.91 314⇑*i*P **P 23 32 24.3 +0.9**

SEY *i* *PP **sP 23 32 35.5 -1.0**
MA2 Magadan 22.19 305 P **P 23 32 28.2 +1.7**
comp=Z,55nm,1.0s,baz=114,slow=10,SNR=24
MA2 LR LR 23 40 43.9
comp=Z,12μm,19.2s,baz=124,slow=36
CRAG Craig 22.90 66 *e*P **P 23 32 34.2 +0.3**
comp=Z,1μm,1.6s
CRAG LR LR
comp=Z,5μm,21.0s
WRAK Wrangell Islan 23.23 63 *e*P **P 23 32 39.0 +1.8**
comp=Z,332nm,1.0s
WRAK *e*ScP **ScP 23 39 59.5 +0.3**
WRAK LR LR
comp=Z,4μm,20.0s
DIB Dawson Inlet, 23.67 71 PFAKE 23 32 50.0 +8.4
DIB *e*ScP **ScP 23 40 00.7 +0.3**
DIB LR LR
comp=Z,5μm,20.0s
MIDW Midway 24.09 192 *e*P **P 23 32 44.9 -0.7**
comp=Z,192nm,0.8s
MIDW LR LR
comp=Z,10μm,22.0s
DLBC Dease Lake 24.33 58 P **P 23 32 50.5 +2.7**
comp=Z,453nm,0.8s,baz=271,slow=9.9,SNR=417
DLBC Dease Lake 24.33 58 *e*P **P 23 32 49.9 +2.1**
comp=Z,983nm,1.1s
DLBC LR LR
comp=Z,8μm,20.0s
INK Inuvik 24.49 34 P **P 23 32 49.2 +0.1**
comp=Z,100nm,0.5s,baz=239,slow=11,SNR=172
INK S **S 23 37 04.4 -2.4**
comp=Z,8.1nm,0.8s,baz=308,slow=20,SNR=3.2
INK Inuvik 24.49 34 *e*P **P 23 32 48.7 -0.4**
comp=Z,338nm,1.1s
INK S **S 23 37 04.4 -2.4**
INK *e*ScP **ScP 23 40 02.4 -0.1**
INK *e*ScS **ScS 23 43 50.2 +0.6**
INK LR LR
comp=Z,16μm,19.0s
BBB Bella Bella 26.50 72 P **P 23 33 09.5 +2.2**
comp=Z,67nm,0.8s,baz=281,slow=9.7,SNR=26
BBB Bella Bella 26.50 72 *e*P **P 23 33 09.6 +2.2**
comp=Z,517nm,1.5s
BBB *e*ScP **ScP 23 40 09.1 +0.7**
KUR Kuril'sk 27.29 272 *e*P **P 23 33 15.2 +0.6**
KUR *e*S **S 23 37 52.2 +0.6**
KUR pmax pmax
comp=Z,913nm,3.1s
KUR pmax pmax
comp=Z,570nm,1.3s
KUR MLR MLR
comp=N,1μm,17.0s
KUR MLR MLR
comp=E,2μm,17.0s
KUR MLR MLR
comp=Z,2μm,17.0s
TYV Tymovskoe 28.14 286 *e*P **P 23 33 20.5 -1.6**
TYV pmax pmax
comp=Z,26nm,1.0s
TYV pmax pmax
comp=Z,1μm,4.0s
TYV MLR MLR
comp=E,8μm,19.0s
TYV MLR MLR
comp=Z,7μm,19.0s
NKL Nikolayevsk 28.57 291 *e*P P 23 33 20.0 -5.8
NKL *e* 23 33 38.5
NKL pmax pmax
comp=Z,140nm,1.5s
NKL pmax pmax
comp=Z,500nm,7.0s
NKL MLR MLR
comp=N,2μm,19.0s
NKL MLR MLR
comp=E,2μm,19.0s
NKL MLR MLR
comp=Z,6μm,19.0s
YSS Yuzh-Sakhalins 29.64 279*cei*P **P 23 33 35.2 -0.2**
YSS *e* 23 33 52.0
YSS *e* 23 34 43.0
YSS *e*S **S 23 38 28.2 -0.3**
YSS *e* 23 40 06.0
YSS pmax pmax
comp=Z,900nm,3.5s
YSS pmax pmax
comp=Z,100nm,1.3s
YSS smax smax
comp=E,800nm,7.6s
YSS MLR MLR
comp=Z,4μm,20.0s
YSS MLR MLR
comp=N,3μm,17.0s
YSS MLR MLR
comp=E,3μm,20.0s
YSS Yuzh-Sakhalins 29.64 279 *e*P **P 23 33 36.5 +1.0**
comp=E,119nm,1.0s
YSS LR LR
comp=Z,5μm,22.0s
PGC Sidney 30.55 77 *e*P **P 23 33 45.3 +1.9**
comp=Z,112nm,1.3s
PGC *e*ScP **ScP 23 40 21.4 +0.2**
PGC LR LR
comp=Z,4μm,20.0s
LLLB Lillooet 30.70 72 *e*P **P 23 33 47.2 +2.3**
comp=Z,107nm,0.9s
LLLB *e*ScP **ScP 23 40 21.9 +0.2**
LLLB LR LR
comp=Z,4μm,20.0s
NLWA Neilton Lookou 30.84 79 *e*ScP **ScP 23 40 22.8 +0.5**
NLWA LR LR
comp=Z,4μm,20.0s
A04D Lummi Island 30.97 76 P **P 23 33 49.4 +2.3**
baz=295,SNR=16
A04D S **S 23 38 52.3 +3.1**
baz=295
ASAJ Asahikawa 31.11 274 *e*P **P 23 33 49.1 +0.7**
comp=Z,455nm,1.1s
ASAJ *e*ScP **ScP 23 40 22.9 -0.3**
KEKH Kekaha 31.32 158 *e*P **P 23 33 52.1 +1.6**
comp=Z,465nm,1.3s
KEKH LR LR
comp=Z,10μm,22.0s
E03A Lebam 31.41 80 P **P 23 33 53.2 +2.1**
MBW Mount Baker 31.42 76 P **P 23 33 53.3 +1.9**
B05A Bryant 31.53 77 P **P 23 33 54.2 +2.1**
baz=296,SNR=77
YKA Yellowknife Ar 31.60 48 P **P 23 33 53.1 +0.6**
comp=Z,42nm,0.8s,baz=274,slow=9.1,SNR=142
YKA PcP **PcP 23 36 44.5 +0.5**
comp=Z,12nm,0.9s,baz=284,slow=2.2,SNR=4.9
YKA ScP **ScP 23 40 24.4 -0.1**
comp=Z,7.9nm,0.9s,baz=283,slow=3.2,SNR=8.9
YKA LR LR 23 48 30.1
comp=Z,1μm,18.0s,baz=0.0,slow=40
F03A Seaside 31.71 82 *e*P **P 23 33 56.5 +2.8**
comp=Z,352nm,1.3s
F03A LR LR
comp=Z,4μm,20.0s
B06A Marblemount 31.79 76 PFAKE 23 34 10.0 +16
B06A LR LR
comp=Z,5μm,20.0s
RPW Rockport 31.80 76 P **P 23 33 56.1 +1.5**
ERM Erimo 31.89 270*c i*P **P 23 33 57.3 +2.0**
ERM *i* *PP **sP 23 34 08.7 -0.2**
ERM pmax pmax
comp=Z,298nm,1.3s
ERM MLR MLR
comp=Z,4μm,19.0s
ERM Erimo 31.89 270 *e*P **P 23 33 56.7 +1.4**
comp=Z,335nm,1.3s
ERM LR LR
comp=Z,4μm,20.0s
HTW Haystack Looko 31.93 77 P **P 23 33 57.6 +1.9**
F04D Rainier, OR 31.97 81 P **P 23 33 58.2 +2.2**
baz=299,SNR=7.3
OPA Opana 32.02 155 *e*P **P 23 33 58.8 +2.2**
OPA pmax pmax
comp=Z,690nm,1.3s
OPA Opana 32.02 155 *e*P **P 23 33 58.8 +2.2**
comp=Z,694nm,1.4s
OPA LR LR
comp=Z,9μm,20.0s
D05A Enumclaw 32.07 78 PFAKE 23 34 10.0 +13
D05A LR LR
comp=Z,3μm,20.0s
G03D McMinnville, O 32.24 83 P **P 23 34 00.4 +2.0**
baz=300,SNR=14

KIP Kipapa 32.27 156⇓*i*P **P 23 34 00.5 +1.7**
KIP pmax pmax
comp=Z,6μm,1.7s
KIP Kipapa 32.27 156 PFAKE 23 34 10.0 +11
KIP LR LR
comp=Z,10μm,20.0s
TDL Tradedollar La 32.33 80 P **P 23 34 01.4 +2.1**
TIXI Tiksi 32.36 329 P **P 23 33 58.8 -0.4**
comp=Z,17nm,1.0s,baz=98,slow=9.4,SNR=18
TIXI PcP **PcP 23 36 46.2 +0.2**
comp=Z,81nm,1.1s,baz=74,slow=2.0,SNR=9.4
TIXI Tiksi 32.36 329*c i*P **P 23 33 58.9 -0.2**
TIXI pmax pmax
comp=Z,33nm,1.2s
TIXI MLR MLR
comp=Z,10μm,16.0s
TIXI Tiksi 32.36 329 *e*P **P 23 33 58.1 -1.0**
comp=Z,50nm,1.2s
TIXI PcP **PcP 23 36 46.2 +0.2**
TIXI *e*ScP **ScP 23 40 26.6 -0.3**
TIXI *e*ScS **ScS 23 44 24.6 -1.0**
TIXI LR LR
comp=Z,7μm,19.0s
YAK Yakutsk 32.37 311 P **P 23 33 59.6 +0.3**
comp=Z,16nm,0.5s,baz=250,slow=8.6,SNR=5.6
YAK PcP **PcP 23 36 46.6 +0.5**
comp=Z,29nm,0.5s,baz=214,slow=3.2,SNR=4.2
YAK Yakutsk 32.37 311 *e*P **P 23 33 57.2 -2.1**
YAK *e**PP **pP 23 34 09.0 +0.1**
YAK *e* 23 35 06.2
YAK *e* 23 36 46.1
YAK *e*S **S 23 39 10.3 -0.6**
YAK *e**SS **sS 23 39 30.2 +3.5**
YAK *e*SS **SnSn 23 41 12.7 +8.3**
YAK *e* 23 44 23.4
YAK pmax pmax
comp=Z,73nm,1.2s
YAK pmax pmax
comp=E,50nm,1.2s
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=Z,588nm,3.8s
YAK pmax pmax
comp=N,81nm,1.7s
YAK pmax pmax
comp=E,230nm,1.6s
YAK smax smax
comp=N,94nm,2.0s
YAK smax smax
comp=E,90nm,1.9s
YAK MLR MLR
comp=N,6μm,20.0s
YAK MLR MLR
comp=Z,12μm,20.0s
YAK MLR MLR
comp=E,7μm,17.0s
YAK Yakutsk 32.37 311 *e*P **P 23 34 02.3 +3.0**
comp=E,137nm,1.1s
YAK *e*PcP **PcP 23 36 46.9 +0.8**
YAK *e*ScP **ScP 23 40 26.4 -0.7**
YAK LR LR
comp=Z,12μm,19.0s
LON Longmire 32.38 79 *e*P **P 23 34 01.9 +2.2**
LON pmax pmax
comp=Z,93nm,1.0s
LON Longmire 32.38 79 *e*P **P 23 34 01.9 +2.2**
comp=Z,93nm,1.0s
LON LR LR
comp=Z,2μm,19.0s
C06D Leavenworth 32.40 77 P **P 23 34 01.3 +1.5**
baz=297
F04A Amboy 32.40 81 PFAKE 23 34 10.0 +10
F04A LR LR
comp=Z,3μm,21.0s
WRW Wenatchee Ridg 32.44 77 P **P 23 34 02.1 +1.9**
COR Corvallis 32.53 84 *e*P **P 23 34 03.6 +2.7**
COR pmax pmax
comp=Z,210nm,1.1s
COR Corvallis 32.53 84 *e*P **P 23 34 03.6 +2.7**
comp=Z,213nm,1.1s
COR LR LR
comp=Z,6μm,22.0s
PNT Penticton 32.56 74 *e*P **P 23 34 03.0 +1.8**
PNT Penticton 32.56 74 *e*P **P 23 34 03.0 +1.8**
LTY Liberty 32.84 78 P **P 23 34 05.2 +1.5**
ETW Entiat 32.88 77 P **P 23 34 06.0 +1.8**
TBM Table Mountain 32.92 78 P **P 23 34 06.2 +1.7**
I03D Drain, OR 32.96 85 P **P 23 34 07.0 +2.3**
baz=302,SNR=17
B08A Colville Reser 33.15 75 *e*P **P 23 34 08.1 +1.8**
comp=Z,121nm,0.8s
B08A *e*ScP **ScP 23 40 29.6 -0.5**
B08A LR LR
comp=Z,4μm,20.0s
VFP Flag Point 33.29 81 P **P 23 34 09.7 +1.9**
HLK Haleakala 33.38 153 PFAKE 23 34 20.0 +11
HLK LR LR
comp=Z,10μm,22.0s
G05D Wamic, OR 33.42 81 P **P 23 34 10.9 +2.2**
baz=300,SNR=24
I04A Tendick Farm, 33.49 84 P **P 23 34 11.4 +2.1**
baz=302,SNR=69
HABR Khabarovsk 33.62 286*ce*P **P 23 34 09.0 -1.4**
HABR *e**PP **pP 23 34 18.6 -1.4**
HABR *e**SP **sP 23 34 22.9 -1.1**
HABR *e* 23 35 21.2
HABR *e* 23 36 48.6
HABR *e*S **S 23 39 30.0 -0.6**
HABR *e**SS **sS 23 39 46.6 +0.1**
HABR *e*SSS SSS 23 41 53.5
HABR *e* 23 44 31.9
HABR pmax pmax
comp=N,22nm,1.3s
HABR pmax pmax
comp=E,72nm,1.3s
HABR pmax pmax
comp=Z,134nm,1.3s
HABR pmax pmax
comp=Z,510nm,2.7s
HABR MLR MLR
comp=Z,4μm,18.0s
L02D Cave Junction, 33.64 88 P **P 23 34 13.1 +2.4**
baz=304,SNR=40
E07A Sunnyside 33.66 78 PFAKE 23 34 20.0 +9.2
E07A LR LR
comp=Z,3μm,19.0s
HUMO Hull Mountain 33.79 86 *e*P **P 23 34 14.2 +2.2**
comp=Z,77nm,1.1s
HUMO *e*ScP **ScP 23 40 32.6 +0.2**
HUMO LR LR
comp=Z,6μm,22.0s
I05D Terrebonne, OR 33.86 83 P **P 23 34 14.7 +2.0**
baz=301,SNR=78
HAWA Hanford 33.94 78 *e*P **P 23 34 15.1 +1.9**
comp=Z,250nm,1.0s
HAWA *e*ScP **ScP 23 40 33.8 +1.0**
HAWA LR LR
comp=Z,3μm,20.0s
D08A Wollman Farm, 33.99 77 *e*ScP **ScP 23 40 33.4 +0.3**
D08A LR LR
comp=Z,4μm,19.0s
JCC Jacoby Creek, 34.13 90 *e*P **P 23 34 17.8 +2.9**
comp=Z,164nm,1.2s
JCC LR LR
comp=Z,2μm,18.0s
HPAH Hawaii Prepara 34.23 153 PFAKE 23 34 30.0 +14
HPAH LR LR
comp=Z,9μm,22.0s
KHMM Horse Mountain 34.28 90 *e*P **P 23 34 19.2 +2.7**
comp=Z,306nm,1.4s
KHMM *e*ScP **ScP 23 40 35.1 +0.8**
KHMM LR LR
comp=Z,4μm,20.0s
J05D Fort Rock, OR 34.48 84 P **P 23 34 20.6 +2.4**
baz=303,SNR=97
KKH Kailua Kona 34.49 153 *e*P **P 23 34 19.8 +1.6**
KKH Kailua Kona 34.49 153 *e*P **P 23 34 19.8 +1.6**
NEW Newport 34.51 74 P **P 23 34 19.5 +1.4**
comp=Z,196nm,0.9s,baz=297,slow=7.0,SNR=169
NEW Newport 34.51 74 P **P 23 34 19.5 +1.4**
baz=297,SNR=148
NEW Newport 34.51 74 *e*P **P 23 34 19.6 +1.4**
NEW pmax pmax
comp=Z,220nm,1.0s
NEW Newport 34.51 74 *e*P **P 23 34 19.6 +1.4**

comp=Z,217nm,0.9s
NEW *eScP* **ScP** **23 40 35.0 +0.1**
NEW LR LR
comp=Z,4μm,20.0s
K04D Chiloquin, OR **34.52 85** P **P** **23 34 20.7 +2.2**
baz=304
M02C Callahan **34.53 88** P **P** **23 34 21.2 +2.7**
baz=305,SNR=62
POHA Pohakuloa **34.53 152** *eP* **P** **23 34 19.8 +0.9**
comp=Z,653nm,1.0s
POHA LR LR
comp=Z,8μm,22.0s
EDM Edmonton **34.63 64** *eP* **P** **23 34 20.7 +1.6**
EDM pmax pmax
comp=Z,1μm,1.2s
EDM Edmonton **34.63 64** *eP* **P** **23 34 20.7 +1.6**
comp=Z,1μm,1.3s
EDM LR LR
comp=Z,4μm,22.0s
KMRM Mail Ridge **34.68 90** *eP* **P** **23 34 22.4 +2.6**
comp=Z,102nm,0.9s
KMRM LR LR
comp=Z,3μm,21.0s
E09A Wood Farm, Sta **34.72 77** *eP* **P** **23 34 21.2 +1.3**
comp=Z,288nm,1.3s
E09A *eScP* **ScP** **23 40 36.0 +0.4**
E09A LR LR
comp=Z,4μm,20.0s
MLOA Mauna Loa Obse **34.73 153** *eP* **P** **23 34 22.2 +1.5**
G08A Pilot Rock **34.83 80** *eP* **P** **23 34 22.4 +1.3**
comp=Z,135nm,1.1s
G08A *eScP* **ScP** **23 40 36.5 +0.2**
G08A LR LR
comp=Z,3μm,21.0s
N02D Trinity Center **34.86 89** P **P** **23 34 24.0 +2.6**
baz=305,SNR=29
UWE Uwekahuna **34.92 152** *eP* **P** **23 34 23.4 +1.4**
comp=Z,536nm,1.1s
UWE LR LR
comp=Z,9μm,21.0s
M04C Macdoel **34.94 87** P **P** **23 34 24.4 +2.3**
baz=304,SNR=52
K05A Summer Lake **35.00 85** *eP* **P** **23 34 24.9 +2.2**
comp=Z,338nm,1.0s
K05A *eScP* **ScP** **23 40 37.2 +0.3**
K05A LR LR
comp=Z,5μm,20.0s
JOHN Johnston Islan **35.18 176** PFAKE 23 34 40.0 +16
JOHN LR LR
comp=Z,8μm,21.0s
WDC Whiskeytown Da **35.19 89** *eP* **P** **23 34 26.1 +2.0**
WDC pmax pmax
comp=Z,110nm,1.0s
WDC Whiskeytown Da **35.19 89** *eP* **P** **23 34 26.1 +2.0**
comp=Z,108nm,1.0s
WDC *eScP* **ScP** **23 40 36.8 -0.6**
WDC LR LR
comp=Z,3μm,22.0s
KLR Kul'dur **35.24 289** P **P** **23 34 23.1 -1.3**
comp=Z,24nm,0.8s,baz=60,slow=8.0,SNR=79
KLR LR 23 50 16.2
comp=Z,4μm,18.1s,baz=71,slow=39
F10A Beach Ranch, E **35.54 78** *eP* **P** **23 34 28.4 +1.2**
comp=Z,95nm,1.0s
F10A *eScP* **ScP** **23 40 38.9 +0.2**
F10A LR LR
comp=Z,4μm,20.0s
HOPS Hopland Field **35.81 92** *eP* **P** **23 34 31.2 +1.8**
comp=Z,237nm,1.3s
HOPS LR LR
comp=Z,6μm,22.0s
O03D Paynes Creek **35.81 89** P **P** **23 34 31.3 +1.7**
baz=306,SNR=113
MOD Modoc Plateau **35.82 85** *eP* **P** **23 34 31.6 +2.0**
comp=Z,192nm,1.0s
MOD *eScP* **ScP** **23 40 39.9 0.0**
MOD LR LR
comp=Z,6μm,21.0s
WALA Waterton Lakes **36.04 71** *eP* **P** **23 34 32.6 +1.2**
comp=Z,454nm,1.5s
WALA *eScP* **ScP** **23 40 41.0 +0.5**
WALA LR LR
comp=Z,3μm,20.0s
CLNS Chul'man **36.05 303** *eP* **P** **23 34 31.2 -0.2**
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=Z,21nm,1.5s
CLNS pmax pmax
comp=E,17nm,1.2s
CLNS MLR MLR
comp=Z,7μm,23.0s
CLNS MLR MLR
comp=E,5μm,20.0s
CLNS MLR MLR
comp=N,5μm,21.0s
BMO Blue Mountains **36.06 79** *eP* **P** **23 34 33.0 +1.4**
comp=N,159nm,1.3s
BMO *eScP* **ScP** **23 40 40.3 -0.3**
BMO LR LR
comp=Z,3μm,21.0s
BSMT Bassoo Peak **36.09 73** *eP* **P** **23 34 33.1 +1.2**
H11N2 WAKE ISLAND Hy **36.25 216** T T 00 11 37.8
baz=18,slow=76,SNR=8.7
H11N3 WAKE ISLAND Hy **36.26 216** T T 00 11 44.7
baz=18,slow=76,SNR=7.8
BLMT Blacktail Moun **36.26 73** *eP* **P** **23 34 34.7 +1.3**
BLMT *eS* **S** **23 40 13.7 +2.0**
BLMT *eScP* **ScP** **23 40 41.4 -0.2**
H11N1 WAKE ISLAND Hy **36.27 216** T T 00 11 38.5
baz=18,slow=76,SNR=6.1
NMTM Middletown **36.31 91** *eP* **P** **23 34 35.7 +2.0**
JTMT Jette **36.43 73** *eP* **P** **23 34 36.1 +1.2**
JTMT *eScP* **ScP** **23 40 42.0 0.0**
ORV Oroville **36.44 90** *eP* **P** **23 34 36.1 +1.3**
ORV pmax pmax
comp=Z,67nm,1.0s
ORV Oroville **36.44 90** *eP* **P** **23 34 36.1 +1.3**
comp=Z,67nm,1.0s
ORV *eScP* **ScP** **23 40 41.2 -0.9**
ORV LR LR
comp=Z,2μm,20.0s
MCCM Marconi Confer **36.45 93** *eP* **P** **23 34 36.6 +1.8**
comp=Z,113nm,1.2s
MCCM LR LR
comp=Z,6μm,21.0s
YBMT Yellow Bay **36.54 73** *eP* **P** **23 34 36.8 +1.1**
YBMT *eScP* **ScP** **23 40 42.5 0.0**
WVOR Wild Horse Val **36.55 84** *eP* **P** **23 34 37.6 +1.8**
WVOR pmax pmax
comp=Z,220nm,1.0s
WVOR Wild Horse Val **36.55 84** *eP* **P** **23 34 37.6 +1.8**
comp=Z,223nm,1.0s
WVOR *eScP* **ScP** **23 40 42.5 -0.1**
WVOR LR LR
comp=Z,4μm,21.0s
SWMT Swartz Lake **36.72 73** *eP* **P** **23 34 38.0 +0.7**
SWMT *eScP* **ScP** **23 40 42.9 -0.2**
MSO Missoula **37.09 74** P **P** **23 34 41.2 +0.8**
baz=300,SNR=88
MSO Missoula **37.09 74** *eP* **P** **23 34 41.2 +0.8**
comp=Z,237nm,1.2s
MSO *eScP* **ScP** **23 40 44.0 -0.5**
MSO *eScS* **ScS** **23 44 54.4 +2.4**
AFDM Forest Hills D **37.13 90** *eP* **P** **23 34 42.2 +1.5**
comp=Z,72nm,1.1s
AFDM *eScP* **ScP** **23 40 44.1 -0.5**
AFDM LR LR
comp=Z,4μm,22.0s
RES Resolute Bay **37.37 25** P **P** **23 34 42.0 -0.2**
comp=Z,34nm,0.8s,baz=255,slow=14,SNR=5.5
RES Resolute Bay **37.37 25** *eP* **P** **23 34 43.5 +1.2**
RES pmax pmax
comp=Z,89nm,1.2s
RES Resolute Bay **37.37 25** *eP* **P** **23 34 43.5 +1.2**
comp=Z,89nm,1.3s
RES LR LR
comp=Z,5μm,19.0s
H11S1 WAKE ISLAND Hy **37.45 215** T T 00 14 31.1
baz=21,slow=76,SNR=1975
CHMT Chamberlain Mo **37.45 74** *eP* **P** **23 34 44.1 +0.5**
H11S2 WAKE ISLAND Hy **37.46 215** T T 00 14 37.2
baz=21,slow=76,SNR=127
H11S3 WAKE ISLAND Hy **37.47 215** T T 00 14 40.5
baz=21,slow=76,SNR=147
USRK Ussuriysk Ar. **37.57 281** P **P** **23 34 43.4 -0.9**
comp=Z,31nm,0.9s,baz=60,slow=6.4,SNR=26
USRK PcP **PcP** **23 37 01.9 +0.3**
comp=Z,14nm,0.9s,baz=79,slow=3.1,SNR=3.4
USRK ScP **ScP** **23 40 45.6 -0.5**
comp=Z,12nm,1.1s,baz=64,slow=4.4,SNR=4.6
USRK LR LR 23 49 10.3
comp=Z,7μm,21.8s,baz=49,slow=34
PAHR Pah Rah Range **37.66 88** *eP* **P** **23 34 47.1 +1.7**
comp=Z,344nm,1.1s
PAHR *eScP* **ScP** **23 40 46.5 -0.3**
PAHR LR LR
comp=Z,3μm,20.0s
MFID Camas Ranch **37.73 80** *eP* **P** **23 34 46.9 +1.1**
comp=Z,149nm,1.1s
MFID *eScP* **ScP** **23 40 46.9 0.0**
MFID LR LR
comp=Z,3μm,22.0s
CMB Columbia Colle **38.06 91** *eP* **P** **23 34 50.2 +1.6**
CMB pmax pmax
comp=Z,95nm,1.1s
CMB Columbia Colle **38.06 91** *eP* **P** **23 34 50.2 +1.6**
comp=Z,95nm,1.1s
CMB *eScP* **ScP** **23 40 47.6 -0.6**
CMB LR LR
comp=Z,7μm,22.0s
YERR Yerington **38.18 89** *eP* **P** **23 34 52.3 +2.5**
SAO San Andreas Ge **38.20 93** *eP* **P** **23 34 51.2 +1.5**
SAO pmax pmax
comp=Z,320nm,1.7s
SAO San Andreas Ge **38.20 93** *eP* **P** **23 34 51.2 +1.5**
comp=Z,317nm,1.8s
SAO LR LR
comp=Z,5μm,21.0s
VLA Vladivostok **38.22 280** *c iP* **P** **23 34 49.4 -0.4**
VLA *i* *PP **pP** **23 34 59.1 -0.4**
VLA *i* *SP **sP** **23 35 03.5 0.0**
VLA *e* 23 36 17.2
VLA *e* 23 37 03.3
VLA *eS* **S** **23 40 42.5 +1.4**
VLA *i* 23 44 58.0
VLA pmax pmax
comp=Z,130nm,1.2s
MJAR Matsushiro Arr **38.24 266** P **P** **23 34 50.8 +0.6**
comp=Z,59nm,0.9s,baz=47,slow=7.2,SNR=79
MJAR ScP **ScP** **23 40 48.3 -0.6**
comp=Z,7.4nm,1.0s,baz=23,slow=3.9,SNR=8.2
MJAR LR LR 23 49 43.8
comp=Z,4μm,20.8s,baz=65,slow=35
MAJO Matsushiro **38.24 266** *|| iP* **P** **23 34 51.6 +1.5**
MAJO pmax pmax
comp=Z,1μm,1.1s
MAJO MLR MLR
comp=Z,27μm,20.0s
MAJO Matsushiro **38.24 266** *eP* **P** **23 34 50.8 +0.7**
comp=Z,238nm,1.0s
MAJO *eS* **S** **23 40 47.4 +5.8**
MAJO LR LR
comp=Z,5μm,20.0s
MAT Matsushiro **38.24 266** P **P** **23 34 50.4 +0.3**
MAT S **S** **23 40 44.0 +2.4**
MJB9 Matsu-Tunnel **38.24 266** *eP* **P** **23 34 50.9 +0.8**
comp=Z,64nm,1.1s
MJB9 *eS* **S** **23 40 47.4 +5.8**
MJB9 LR LR
comp=Z,1μm,20.0s
WAKR Walker **38.35 89** *eP* **P** **23 34 53.4 +2.2**
comp=Z,211nm,1.1s
WAKR *eS* **S** **23 40 49.6 +6.0**
WAKR LR LR
comp=Z,4μm,20.0s
HRY Holter Researc **38.40 73** *eP* **P** **23 34 52.5 +1.1**
LRM Limekiln Ridge **38.49 75** *eP* **P** **23 34 52.9 +0.5**
LRM *eS* **S** **23 40 49.7 +4.1**
HLID Hailey **38.51 79** P **P** **23 34 53.8 +1.3**
baz=303,SNR=59
HLID Hailey **38.51 79** *eP* **P** **23 34 53.2 +0.7**
comp=Z,190nm,1.3s
HLID *eS* **S** **23 40 50.3 +4.4**
HLID LR LR
comp=Z,3μm,21.0s
BMN Battle Mountai **38.56 85** *eP* **P** **23 34 54.5 +1.5**
BMN pmax pmax
comp=Z,140nm,1.1s
BMN Battle Mountai **38.56 85** *eP* **P** **23 34 54.5 +1.5**
comp=Z,135nm,1.1s
BMN *eS* **S** **23 40 50.5 +3.8**
BMN LR LR
comp=Z,5μm,22.0s
DLMT Dillon **38.64 76** *eP* **P** **23 34 54.2 +0.7**
comp=Z,106nm,1.2s
MCMT McKenzie Canyo **38.77 77** *eP* **P** **23 34 55.7 +1.0**
MCMT *eS* **S** **23 40 51.2 +1.3**
MDJ Mudanjiang **38.80 283** P **P** **23 34 53.3 -1.4**
MDJ pP pP 23 34 59.0 -5.4
MDJ sP sP 23 35 02.3 -6.1
MDJ PcP **PcP** **23 37 06.5 +1.1**
MDJ S **S** **23 40 45.5 -4.3**
MDJ PMZ
comp=Z,23nm,1.1s
MDJ PMZ
comp=Z,250nm,8.4s
MDJ LN
comp=Z,2μm,19.1s
MDJ LE
comp=Z,7μm,20.6s
MDJ LZ
comp=Z,9μm,20.6s
MDJ Mudanjiang **38.80 283** *eP* **P** **23 34 53.5 -1.1**
comp=Z,46nm,1.3s
MDJ LR LR
comp=Z,10μm,21.0s
EGMT Eagleton **38.96 70** P **P** **23 34 57.2 +1.1**
baz=300,SNR=101
EGMT Eagleton **38.96 70** PFAKE 23 35 10.0 +14
EGMT LR LR
comp=Z,2μm,20.0s
MSHR Mys Shultsa **38.97 279** *c iP* **P** **23 34 56.6 +0.5**
BOZ Bozeman (W) **39.07 75** P **P** **23 34 58.2 +1.1**
baz=302,SNR=162
BOZ Bozeman (W) **39.07 75** *eP* **P** **23 34 57.3 +0.2**
BOZ pmax pmax
comp=Z,270nm,1.3s
BOZ Bozeman (W) **39.07 75** *eP* **P** **23 34 57.3 +0.2**
comp=Z,274nm,1.3s
BOZ *eS* **S** **23 40 51.8 -2.3**
MLAC Mammoth, Mammo **39.27 90** P **P** **23 35 01.4 +2.4**
baz=309,SNR=7.2
JHJ Hachijo jima 2 **39.54 261** LR LR 23 49 52.9
comp=Z,871nm,20.4s,baz=308,slow=34
ELK Elko **39.60 83** *eP* **P** **23 35 03.1 +1.4**
ELK pmax pmax
comp=Z,67nm,0.9s
ELK Elko **39.60 83** *eP* **P** **23 35 03.1 +1.4**
comp=Z,67nm,0.8s
ELK *eScP* **ScP** **23 40 54.2 -0.1**
QLMT Earthquake Lak **39.62 76** *eP* **P** **23 35 02.6 +0.8**
QLMT *eScP* **ScP** **23 40 54.9 +0.6**
INU Inuyama **39.75 266** *eP* **P** **23 35 03.2 +0.5**
comp=Z,94nm,1.0s
INU LR LR
comp=Z,2μm,20.0s
YHB Horse Butte **39.80 76** *eP* **P** **23 35 04.3 +0.9**
comp=Z,232nm,1.1s
YHB *eScP* **ScP** **23 40 56.1 +1.1**
RCTC Rector, Farmer **39.85 92** P **P** **23 35 05.0 +1.4**
baz=310,SNR=18
YMR Madison River **39.99 76** *eP* **P** **23 35 06.1 +1.2**
comp=Z,380nm,1.3s
YMR *eScP* **ScP** **23 40 56.8 +1.0**
YMR *eScS* **ScS** **23 45 05.9 -3.2**
YHH Holmes Hill **39.99 75** *eP* **P** **23 35 06.0 +1.0**
YHH *eScP* **ScP** **23 40 56.8 +1.0**
TIN Tinemaha, Big **40.01 90** P **P** **23 35 07.4 +2.5**
baz=310,SNR=29
SMMC Simmler **40.03 94** P **P** **23 35 07.3 +2.2**
baz=311,SNR=10
YNR Norris Junctio **40.13 75** *eP* **P** **23 35 08.3 +2.2**
comp=Z,390nm,1.2s
GCMT Greycliff **40.16 73** *eP* **P** **23 35 07.4 +1.2**
FFC Flin Flon **40.16 58** *eP* **P** **23 35 06.8 +0.9**
FFC pmax pmax
comp=Z,130nm,1.0s
FFC Flin Flon **40.16 58** *eP* **P** **23 35 06.8 +0.9**
comp=Z,132nm,0.9s
FFC LR LR
comp=Z,8μm,18.0s
YFT Old Faithful **40.18 76** *eP* **P** **23 35 09.1 +2.5**
comp=Z,245nm,1.5s
YFT LR LR
comp=Z,2μm,18.0s
VES Vestal, Richgr **40.25 92** P **P** **23 35 08.3 +1.4**
baz=311,SNR=16
YPP Pitchstone Pla **40.30 76** *eP* **P** **23 35 09.3 +1.8**
comp=Z,88nm,1.3s
YPP *eScP* **ScP** **23 40 58.7 +1.6**
YPP LR LR
comp=Z,2μm,20.0s
H17A Grant Village **40.37 76** P **P** **23 35 10.6 +2.5**
baz=303,SNR=34
H17A Grant Village **40.37 76** *eP* **P** **23 35 10.7 +2.5**
comp=Z,307nm,1.2s
LKWY Lake **40.38 75** *eP* **P** **23 35 10.5 +2.3**
LKWY pmax pmax
comp=Z,170nm,1.0s
LKWY Lake **40.38 75** *eP* **P** **23 35 10.5 +2.3**
comp=Z,166nm,1.0s
PKM Mcpherson Peak **40.42 94** P **P** **23 35 10.5 +2.0**
baz=312,SNR=31
IMW Indian Meadow **40.43 77** *eP* **P** **23 35 09.9 +1.3**
comp=Z,146nm,1.1s
IMW *eScP* **ScP** **23 40 58.3 +0.7**
IMW LR LR
comp=Z,1μm,20.0s
FLWY Flagg Ranch **40.47 76** *eP* **P** **23 35 10.3 +1.5**
comp=Z,242nm,1.3s
FLWY LR LR
comp=Z,1μm,20.0s
CWC Cottonwood Cre **40.49 91** P **P** **23 35 10.7 +1.6**
baz=310
HVU Hansel Valley **40.51 80** *eP* **P** **23 35 10.5 +1.3**
HVU pmax pmax
comp=Z,97nm,1.0s
HVU Hansel Valley **40.51 80** *eP* **P** **23 35 10.5 +1.3**
comp=Z,97nm,1.0s
HVU LR LR
comp=Z,3μm,22.0s
GRAC Grapevine Rang **40.58 90** P **P** **23 35 11.8 +2.2**
baz=310,SNR=11
MOOW Moose Ponds **40.62 77** *eP* **P** **23 35 11.3 +1.1**
comp=Z,84nm,1.3s
MOOW LR LR
comp=Z,2μm,19.0s
TPAW Teton Pass **40.65 77** *eP* **P** **23 35 11.8 +1.4**
comp=Z,198nm,1.3s
TPAW *eScP* **ScP** **23 40 58.9 +0.5**
TPAW LR LR
comp=Z,2μm,20.0s
ISA Isabella, Lake **40.74 92** P **P** **23 35 12.2 +1.1**
baz=311,SNR=25
ISA Isabella, Lake **40.74 92** *eP* **P** **23 35 12.2 +1.1**
ISA pmax pmax
comp=Z,140nm,1.0s
ISA Isabella, Lake **40.74 92** *eP* **P** **23 35 12.2 +1.1**
comp=Z,137nm,1.0s
ISA LR LR
comp=Z,4μm,20.0s
RLMT Red Lodge **40.76 74** P **P** **23 35 12.6 +1.3**
baz=303,SNR=153
RLMT Red Lodge **40.76 74** *eP* **P** **23 35 12.6 +1.3**
comp=Z,369nm,1.0s
RLMT LR LR
comp=Z,3μm,20.0s
REDW Red Top Meadow **40.78 77** *eP* **P** **23 35 12.8 +1.4**
comp=Z,237nm,1.3s
REDW LR LR
comp=Z,3μm,20.0s
SNOW Snow King Moun **40.78 77** *eP* **P** **23 35 13.5 +2.0**
comp=Z,143nm,1.3s
SNOW LR LR
comp=Z,2μm,19.0s
SBC Santa Barbara **40.78 95** P **P** **23 35 12.8 +1.6**
baz=312
LOHW Long Hollow **40.79 77** *eP* **P** **23 35 12.8 +1.3**
comp=Z,93nm,1.3s
LOHW *eScP* **ScP** **23 40 59.3 +0.4**
LOHW LR LR
comp=Z,2μm,20.0s
R11A Troy Canyon, C **40.83 87** P **P** **23 35 13.2 +1.3**
baz=308
BGU Big Grassy Mou **40.85 82** *eP* **P** **23 35 13.2 +1.2**
comp=Z,213nm,1.5s
ARVC Arvin **40.88 93** P **P** **23 35 13.1 +1.1**
baz=311,SNR=6.0
DAC Darwin (Calif) **40.89 91** *eP* **P** **23 35 13.8 +1.4**
DAC pmax pmax
comp=Z,120nm,1.0s
DAC Darwin (Calif) **40.89 91** *eP* **P** **23 35 13.8 +1.4**
comp=Z,122nm,1.0s
DAC *eScP* **ScP** **23 40 58.9 -0.5**
DAC LR LR
comp=Z,5μm,21.0s
AHID Auburn Hatcher **40.96 78** *eP* **P** **23 35 14.2 +1.2**
comp=Z,235nm,1.3s
AHID LR LR
comp=Z,3μm,19.0s
SPUT South Promonto **40.98 81** *eP* **P** **23 35 14.5 +1.4**
comp=Z,415nm,2.0s
SPUT *eScP* **ScP** **23 40 59.9 +0.3**
SPUT LR LR
comp=Z,2μm,20.0s
MPMC Manual Prospec **41.10 91** P **P** **23 35 15.7 +1.6**
baz=310,SNR=92
SCZ2 Santa Cruz Isl **41.13 95** P **P** **23 35 15.6 +1.4**
baz=312,SNR=6.4
BOD Bodaibo **41.13 308** *eP* **P** **23 35 12.6 -1.3**
BOD pmax pmax
comp=Z,104nm,1.5s
FURC Furnace Creek, **41.22 90** P **P** **23 35 16.8 +1.9**
baz=310,SNR=76
OSI Osito Audit: C **41.28 93** P **P** **23 35 17.1 +1.6**
baz=312,SNR=5.7
OSI Osito Audit: C **41.28 93** *eP* **P** **23 35 17.6 +2.2**
comp=Z,503nm,1.7s
OSI LR LR
comp=Z,3μm,22.0s
TPNV Topopah Spring **41.30 89** P **P** **23 35 17.4 +1.7**
baz=310,SNR=172
TPNV Topopah Spring **41.30 89** *eP* **P** **23 35 17.2 +1.5**
TPNV pmax pmax
comp=Z,270nm,1.0s
TPNV Topopah Spring **41.30 89** *eP* **P** **23 35 17.2 +1.5**
comp=Z,268nm,1.0s
TPNV LR LR
comp=Z,6μm,22.0s
HWUT Hardware Ranch **41.35 80** *eP* **P** **23 35 17.1 +1.0**
comp=Z,109nm,1.3s
HWUT *eScP* **ScP** **23 41 01.0 -0.1**
HWUT LR LR
comp=Z,2μm,22.0s
LRMC Laurel Mtn Rad **41.35 92** P **P** **23 35 17.2 +1.0**
baz=311,SNR=5.8
BLG Laguna Peak, P **41.40 94** P **P** **23 35 17.7 +1.3**
baz=312,SNR=14
DUG Dugway, Tooele **41.42 82** P **P** **23 35 18.1 +1.5**
baz=307,SNR=194
DUG Dugway, Tooele **41.42 82** *eP* **P** **23 35 17.8 +1.2**
DUG pmax pmax
comp=Z,270nm,1.2s
DUG Dugway, Tooele **41.42 82** *eP* **P** **23 35 17.8 +1.2**
comp=Z,265nm,1.3s
DUG *eScP* **ScP** **23 41 01.6 +0.3**
DUG LR LR
comp=Z,3μm,20.0s
EDW2 Edwards Air Fo **41.55 93** P **P** **23 35 19.0 +1.3**
baz=311,SNR=53
SNCC San Nicolas Is **41.70 96** P **P** **23 35 20.1 +1.3**
baz=313
SNCC San Nicolas Is **41.70 96** PFAKE 23 35 30.0 +11
SNCC LR LR
comp=Z,3μm,21.0s
LAO LASA Array **41.71 70** P **P** **23 35 20.3 +1.4**
baz=302,SNR=47
LAO LASA Array **41.71 70** *eP* **P** **23 35 20.2 +1.4**
comp=Z,162nm,0.8s
LAO *eScP* **ScP** **23 41 02.8 +0.5**
LAO LR LR
comp=Z,3μm,20.0s
TCUT Toone Canyon **41.73 80** *eP* **P** **23 35 20.6 +1.3**
comp=Z,275nm,1.2s
TCUT LR LR
comp=Z,3μm,22.0s
DECC Green Verdugo **41.76 94** P **P** **23 35 20.8 +1.4**
baz=312,SNR=5.8
CTU Camp Tracy **41.77 81** *eP* **P** **23 35 20.6 +1.0**
comp=Z,356nm,1.2s

CTU					*e*ScP	**ScP**	**23 41 02.9 +0.1**		
CTU					LR	LR			
	comp=Z,4µm,22.0s								
PSUT	**Pine Spring**	**41.79**	**85**	*e*P	**P**	**23 35 21.2 +1.4**			
	comp=Z,61nm,0.9s								
PSUT				LR	LR				
	comp=Z,3µm,20.0s								
BW06	**Boulder Array**	**41.90**	**77**	P	**P**	**23 35 21.6 +0.9**			
	baz=305,SNR=184								
BW06	**Boulder Array**	**41.90**	**77**	*e*P	**P**	**23 35 21.5 +0.9**			
	comp=Z,257nm,1.1s								
BW06				LR	LR				
	comp=Z,2µm,20.0s								
PD31	**Pinedale Array**	**41.90**	**77**	*e*P	**P**	**23 35 21.2 +0.5**			
PDAR	**Pinedale Array**	**41.90**	**77**	P	**P**	**23 35 21.5 +0.9**			
	comp=Z,140nm,1.0s,baz=305,slow=5.2,SNR=431								
PDAR				ScP	**ScP**	**23 41 02.8 -0.5**			
	comp=Z,22nm,1.0s,baz=288,slow=1.4,SNR=16								
PDAR				LR	LR	23 52 10.3			
	comp=Z,2µm,19.4s,baz=314,slow=35								
PASC	**Pasadena Art C**	**41.90**	**94**	*e*P	**P**	**23 35 21.6 +1.1**			
	comp=Z,311nm,1.5s								
PASC				LR	LR				
	comp=Z,3µm,22.0s								
DGMT	**Dagmar**	**41.94**	**67**	P	**P**	**23 35 21.5 +0.8**			
	baz=301,SNR=17								
DGMT	**Dagmar**	**41.94**	**67**	*e*P	**P**	**23 35 21.7 +1.0**			
	comp=Z,752nm,1.6s								
DGMT				LR	LR				
	comp=Z,5µm,21.0s								
MWC	**Mount Wilson**	**41.95**	**93**	*e*P	**P**	**23 35 22.3 +1.2**			
MWC				pmax	pmax				
	comp=Z,460nm,1.3s								
MWC	**Mount Wilson**	**41.95**	**93**	*e*P	**P**	**23 35 22.3 +1.2**			
	comp=Z,460nm,1.4s								
MWC				*e*ScP	**ScP**	**23 41 03.4 -0.2**			
MWC				LR	LR				
	comp=Z,4µm,22.0s								
SHOC	**Shoshone, Teco**	**41.95**	**90**	P	**P**	**23 35 22.4 +1.5**			
	baz=310,SNR=55								
JLU	**Jordanelle**	**42.01**	**81**	*e*P	**P**	**23 35 18.5 -3.1**			
	comp=Z,246nm,1.4s								
JLU				LR	LR				
	comp=Z,1µm,21.0s								
GSC	**Goldstone, Bar**	**42.01**	**91**	P	**P**	**23 35 23.1 +1.6**			
	baz=311,SNR=205								
GSC	**Goldstone, Bar**	**42.01**	**91**	*e*P	**P**	**23 35 22.9 +1.4**			
GSC				pmax	pmax				
	comp=Z,320nm,1.0s								
GSC	**Goldstone, Bar**	**42.01**	**91**	*e*P	**P**	**23 35 22.9 +1.4**			
	comp=Z,325nm,1.0s								
GSC				*e*ScP	**ScP**	**23 41 03.4 -0.3**			
GSC				LR	LR				
	comp=Z,4µm,22.0s								
HIA	**Hailar**	**42.12**	**295**	*e*P	**P**	**23 35 22.2 0.0**			
HIA				pmax	pmax				
	comp=Z,580nm,1.6s								
HIA				MLR	MLR				
	comp=Z,6µm,20.0s								
HIA	**Hailar**	**42.12**	**295**	*e*P	**P**	**23 35 22.2 0.0**			
	comp=Z,580nm,1.6s								
HIA				LR	LR				
	comp=Z,6µm,20.0s								
FMP	**Fort Macarthur**	**42.14**	**94**	P	**P**	**23 35 23.5 +1.1**			
	baz=312								
RRX	**Edison Barstow**	**42.17**	**92**	P	**P**	**23 35 24.4 +1.7**			
	baz=311,SNR=6.1								
BFSC	**Mount Baldy Ra**	**42.19**	**93**	P	**P**	**23 35 24.4 +1.5**			
	baz=312,SNR=81								
SHPR	**Sheep Range**	**42.25**	**88**	*e*P	**P**	**23 35 24.8 +1.3**			
	comp=Z,99nm,1.1s								
SHPR				*e*ScP	**ScP**	**23 41 04.9 +0.2**			
FCC	**Fort Churchill**	**42.31**	**49**	*e*P	**P**	**23 35 24.4 +0.9**			
FCC				pmax	pmax				
	comp=Z,280nm,1.0s								
FCC	**Fort Churchill**	**42.31**	**49**	*e*P	**P**	**23 35 24.4 +0.9**			
	comp=Z,284nm,0.9s								
FCC				LR	LR				
	comp=Z,16µm,20.0s								
A25A	**Svangstu Ranch**	**42.31**	**66**	P	**P**	**23 35 24.7 +1.1**			
	baz=301,SNR=78								
CBIJ	**Chichi jima**	**42.41**	**252**	*e*P	**P**	**23 35 25.9 +1.2**			
	comp=Z,156nm,0.8s								
CBIJ				LR	LR				
	comp=Z,2µm,22.0s								
TUQ	**Turquoise Moun**	**42.47**	**90**	P	**P**	**23 35 26.7 +1.5**			
	baz=311,SNR=21								
SCI2	**San Clemente I**	**42.48**	**95**	P	**P**	**23 35 26.6 +1.4**			
	baz=313,SNR=8.4								
HEC	**Hector,Ludlow**	**42.61**	**91**	P	**P**	**23 35 27.7 +1.4**			
	baz=311,SNR=26								
BBRC	**Big Bear Solar**	**42.62**	**92**	P	**P**	**23 35 28.1 +1.5**			
	baz=312								
B25A	**Knox Farm, Ray**	**42.63**	**67**	P	**P**	**23 35 27.4 +1.1**			
	baz=302,SNR=18								
CCUT	**Cedar City**	**42.70**	**86**	*e*P	**P**	**23 35 28.8 +1.5**			
	comp=Z,460nm,1.9s								
CCUT				*e*ScP	**ScP**	**23 41 06.8 +0.1**			
CCUT				LR	LR				
	comp=Z,3µm,21.0s								
C25A	**Freed Ranch, W**	**42.87**	**67**	P	**P**	**23 35 29.2 +1.0**			
	baz=302								
MURC	**Murrieta**	**42.90**	**93**	P	**P**	**23 35 29.8 +1.2**			
	baz=312,SNR=30								
A26A	**Wade Farm, Ken**	**42.94**	**65**	P	**P**	**23 35 29.5 +0.7**			
	baz=302,SNR=38								
TMUT	**Trail Mountain**	**42.95**	**82**	*e*P	**P**	**23 35 30.7 +1.4**			
	comp=Z,146nm,0.9s								
TMUT				LR	LR				
	comp=Z,3µm,20.0s								
GMRC	**Granite Mounta**	**43.06**	**91**	P	**P**	**23 35 31.4 +1.4**			
	baz=311,SNR=142								
B26A	**Jensen Ranch,**	**43.10**	**66**	P	**P**	**23 35 30.9 +0.8**			
	baz=302								
LCMT	**Little Creek M**	**43.12**	**86**	*e*P	**P**	**23 35 32.1 +1.7**			
	comp=Z,147nm,1.0s								
LCMT				LR	LR				
	comp=Z,3µm,20.0s								
MTPU	**Mount Pierson**	**43.12**	**85**	*e*P	**P**	**23 35 31.6 +0.9**			
	comp=Z,164nm,1.3s								
MTPU				*e*ScP	**ScP**	**23 41 09.2 +0.7**			
MTPU				LR	LR				
	comp=Z,4µm,21.0s								
P17A	**Butcher Ranch,**	**43.12**	**82**	PFAKE		23 35 40.0 +9.4			
P17A				LR	LR				
	comp=Z,3µm,20.0s								
LDFC	**Landfair**	**43.21**	**90**	*e*P	**P**	**23 35 32.4 +1.2**			
	comp=Z,875nm,1.4s								
LDFC				LR	LR				
	comp=Z,3µm,22.0s								
P18A	**Preston Nutter**	**43.33**	**81**	*e*P	**P**	**23 35 33.6 +1.2**			
	comp=Z,222nm,1.1s								
P18A				LR	LR				
	comp=Z,3µm,20.0s								
PFO	**Pinyon Flats O**	**43.34**	**93**	LR	LR	23 49 37.1			
	comp=Z,4µm,22.0s,baz=295,slow=30								
PFO	**Pinyon Flats O**	**43.34**	**93**	P	**P**	**23 35 33.3 +0.9**			
	baz=312								
PFO	**Pinyon Flats O**	**43.34**	**93**	*e*P	**P**	**23 35 33.5 +1.1**			
PFO				pmax	pmax				
	comp=Z,490nm,1.8s								
PFO	**Pinyon Flats O**	**43.34**	**93**	*e*P	**P**	**23 35 33.5 +1.1**			
	comp=Z,488nm,1.8s								
PFO				*e*ScP	**ScP**	**23 41 08.6 -0.6**			
TPFO	**Pinon Flats**	**43.35**	**93**	P	**P**	**23 35 33.6 +1.2**			
	baz=312,SNR=40								
A27A	**Ledoux Ranch,**	**43.36**	**65**	P	**P**	**23 35 33.0 +0.8**			
	baz=302								
BELC	**Belle Mtn. Jos**	**43.37**	**92**	P	**P**	**23 35 33.6 +1.0**			
	baz=312,SNR=40								
KNB	**Kanab**	**43.37**	**86**	*e*P	**P**	**23 35 34.3 +1.7**			
KNB				pmax	pmax				
	comp=Z,300nm,1.3s								
KNB	**Kanab**	**43.37**	**86**	*e*P	**P**	**23 35 34.3 +1.7**			
	comp=Z,297nm,1.4s								
KNB				*e*ScP	**ScP**	**23 41 09.8 +0.6**			
KNB				LR	LR				
	comp=Z,3µm,20.0s								
PKCU	**Pink Cliffs**	**43.42**	**85**	*e*P	**P**	**23 35 35.0 +1.8**			
	comp=Z,85nm,1.0s								
109C	**Camp Elliot, M**	**43.43**	**94**	P	**P**	**23 35 34.6 +1.7**			
	baz=313,SNR=16								
SRU	**San Rafael Swe**	**43.48**	**82**	*e*P	**P**	**23 35 34.6 +1.2**			
SRU				pmax	pmax				
	comp=Z,200nm,1.0s								
SRU	**San Rafael Swe**	**43.48**	**82**	*e*P	**P**	**23 35 34.6 +1.2**			
	comp=Z,203nm,1.0s								
SRU				LR	LR				
	comp=Z,2µm,20.0s								
D26A	**Manning**	**43.71**	**68**	P	**P**	**23 35 35.7 +0.7**			
	baz=303,SNR=22								
NEE2	**Needles Airpor**	**43.72**	**90**	P	**P**	**23 35 36.3 +1.2**			
	baz=312,SNR=5.8								
K22A	**Casper**	**43.79**	**75**	P	**P**	**23 35 36.0 +0.2**			
	baz=306								
IRM	**Iron Mountain**	**43.79**	**91**	P	**P**	**23 35 37.2 +1.3**			
	baz=312,SNR=70								
BAR	**Barrett**	**43.84**	**94**	*e*P	**P**	**23 35 37.7 +1.5**			
	comp=Z,474nm,1.6s								
BAR				LR	LR				
	comp=Z,2µm,19.0s								
MONP2	**Monument Peak**	**43.85**	**93**	P	**P**	**23 35 38.0 +1.4**			
	baz=313,SNR=50								
A28A	**Rude Farm, Bot**	**43.92**	**64**	P	**P**	**23 35 37.7 +1.0**			
	baz=302,SNR=49								
BC3	**Big Chuckawall**	**43.94**	**92**	P	**P**	**23 35 37.9 +0.8**			
	baz=312,SNR=17								
W13A	**Hualapai Mount**	**43.95**	**89**	*e*P	**P**	**23 35 38.5 +1.2**			
	comp=Z,116nm,1.0s								
W13A				*e*ScP	**ScP**	**23 41 10.9 -0.8**			
W13A				LR	LR				
	comp=Z,3µm,22.0s								
SNY	**Shenyang**	**44.00**	**283**	⇑P	**P**	**23 35 37.3 0.0**			
SNY				S	**S**	**23 42 06.0 -0.8**			
SNY				PMZ					
	comp=Z,120nm,1.2s								
SNY				PMZ					
	comp=Z,1µm,3.6s								
SNY				LN					
	comp=Z,5µm,18.2s								
SNY				LE					
	comp=Z,6µm,19.9s								
SNY				LZ					
	comp=Z,10µm,23.8s								
KSRS	**Korea Array**	**44.02**	**275**	P	**P**	**23 35 38.5 +1.0**			
	comp=Z,99nm,0.9s,baz=55,slow=7.5,SNR=208								
KSRS				PcP	**PcP**	**23 37 22.8 +0.2**			
	comp=Z,16nm,1.0s,baz=67,slow=3.6,SNR=2.6								
KSRS				ScP	**ScP**	**23 41 11.4 -0.2**			
	comp=Z,3.2nm,0.8s,baz=58,slow=3.8,SNR=5.7								
KSRS				LR	LR	23 53 03.7			
	comp=Z,3µm,20.8s,baz=50,slow=35								
KSRS	**Korea Array**	**44.02**	**275**	P	**P**	**23 35 38.6 +1.0**			
KSRS						23 37 22.8			
KSRS				pmax	pmax				
	comp=Z,99nm,0.9s								
KSRS				pmax	pmax				
	comp=Z,17nm,1.0s								
KSRS				pmax	pmax				
	comp=N,3.0nm,0.8s								
KSRS				MLR	MLR				
	comp=Z,3µm,20.8s								
KS01	**Wonju Array Si**	**44.02**	**275**	*e*P	**P**	**23 35 36.8 -0.8**			
KS01				*e*ScP	**ScP**	**23 41 11.2 -0.5**			
KS15	**Wonju Array Si**	**44.05**	**275**	*e*P	**P**	**23 35 38.8 +1.0**			
KSAR	**Wonju Array Be**	**44.05**	**275**	P	**P**	**23 35 38.6 +0.8**			
KSAR						23 37 22.8			
KSAR	**Wonju Array Be**	**44.05**	**275**	P	**P**	**23 35 38.5 +0.8**			
KSAR				PcP	**PcP**	**23 37 22.8 +0.1**			
KSAR				ScP	**ScP**	**23 41 11.4 -0.4**			
U15A	**North Rim**	**44.08**	**86**	*e*P	**P**	**23 35 40.0 +1.6**			
	comp=Z,229nm,1.1s								
U15A				*e*ScP	**ScP**	**23 41 12.5 +0.2**			
U15A				LR	LR				
	comp=Z,4µm,21.0s								
CIT	**Chita**	**44.10**	**301**	*e*P	**P**	**23 35 38.6 +0.5**			
CIT				*e*		23 35 47.5			
CIT				*e*		23 37 54.7			
CIT				*e*S	**ScS**	**23 45 31.7 -1.9**			
CIT				pmax	pmax				
	comp=Z,175nm,1.4s								
B28A	**Dugan Ranch, T**	**44.12**	**65**	P	**P**	**23 35 39.1 +0.9**			
	baz=303,SNR=62								
SWSC	**Sam W. Stewart**	**44.20**	**93**	P	**P**	**23 35 40.2 +1.2**			
	baz=313,SNR=23								
IKP	**In-Ko-Pah, Jac**	**44.21**	**93**	P	**P**	**23 35 40.6 +1.4**			
	baz=313,SNR=42								
O20A	**White River Ci**	**44.25**	**79**	P	**P**	**23 35 40.4 +0.8**			
	baz=306								
PDMCI	**Parker Dam,Lak**	**44.32**	**90**	P	**P**	**23 35 41.2 +1.2**			
	baz=312,SNR=62								
H25A	**Fruitdale**	**44.38**	**71**	P	**P**	**23 35 41.1 +0.6**			
	baz=305								
RSSD	**Black Hills**	**44.41**	**72**	P	**P**	**23 35 41.3 +0.4**			
	baz=305								
RSSD	**Black Hills**	**44.41**	**72**	*e*P	**P**	**23 35 41.2 +0.3**			
RSSD				pmax	pmax				
	comp=Z,370nm,1.5s								
RSSD	**Black Hills**	**44.41**	**72**	*e*P	**P**	**23 35 41.2 +0.3**			
	comp=Z,371nm,1.5s								
RSSD				LR	LR				
	comp=Z,2µm,20.0s								
Y12C	**Blythe**	**44.45**	**91**	P	**P**	**23 35 42.2 +1.2**			
	baz=312,SNR=39								
Y12C	**Blythe**	**44.45**	**91**	*e*P	**P**	**23 35 42.3 +1.2**			
	comp=Z,224nm,1.1s								
Y12C				*e*ScP	**ScP**	**23 41 13.4 0.0**			
A29A	**Manning Farm,**	**44.49**	**64**	P	**P**	**23 35 41.6 +0.4**			
	baz=303,SNR=94								
C28A	**Hausauer Farms**	**44.50**	**66**	P	**P**	**23 35 42.4 +1.1**			
	baz=303,SNR=20								
B29A	**Wagenman Farm,**	**44.67**	**64**	P	**P**	**23 35 43.1 +0.4**			
	baz=303,SNR=35								
D28A	**Regan**	**44.69**	**67**	P	**P**	**23 35 44.0 +1.1**			
	baz=304,SNR=37								
PV09	**Paradox Valley**	**44.71**	**82**	*e*P	**P**	**23 35 44.2 +0.7**			
GLA	**Glamis**	**44.73**	**92**	P	**P**	**23 35 44.6 +1.2**			
	baz=313,SNR=22								
GLA	**Glamis**	**44.73**	**92**	*e*P	**P**	**23 35 44.6 +1.2**			
GLA				pmax	pmax				
	comp=Z,190nm,1.2s								
GLA	**Glamis**	**44.73**	**92**	*e*P	**P**	**23 35 44.6 +1.2**			
	comp=Z,195nm,1.2s								
GLA				LR	LR				
	comp=Z,3µm,21.0s								
INCN	**Inchon**	**44.80**	**276**	P	**P**	**23 35 44.6 +0.8**			
	SNR=15								
INCN	**Inchon**	**44.80**	**276**	*e*P	**P**	**23 35 44.7 +0.8**			
	comp=Z,359nm,1.0s								
INCN				LR	LR				
	comp=Z,3µm,22.0s								
PV10	**Paradox Valley**	**44.84**	**82**	*e*P	**P**	**23 35 45.5 +1.0**			
MDND	**Maddock**	**44.87**	**65**	P	**P**	**23 35 45.2 +0.9**			
	baz=304								
PV05	**Paradox Valley**	**44.99**	**82**	*e*P	**P**	**23 35 46.4 +0.8**			
A30A	**Hoffart Farm,**	**45.00**	**63**	P	**P**	**23 35 45.6 +0.3**			
	baz=303,SNR=20								
JNU	**Nakatsue**	**45.02**	**269**	LR	LR	23 54 30.8			
	comp=Z,313nm,21.4s,baz=64,slow=36								
JNU	**Nakatsue**	**45.02**	**269**	*e*P	**P**	**23 35 46.7 +1.1**			
	comp=Z,318nm,1.3s								
TJN	**Taejon**	**45.05**	**275**	*c i*P	**P**	**23 35 46.5 +0.7**			
N23A	**Red Feather La**	**45.18**	**77**	P	**P**	**23 35 48.0 +0.9**			
	baz=308								
PHWY	**Pilot Hill**	**45.23**	**76**	*e*P	**P**	**23 35 47.3 -0.2**			
	comp=Z,82nm,1.3s								
PHWY				*e*ScP	**ScP**	**23 41 16.9 -0.1**			
WUAZ	**Wupatki**	**45.23**	**87**	P	**P**	**23 35 49.0 +1.5**			
	baz=311,SNR=99								
WUAZ	**Wupatki**	**45.23**	**87**	*e*P	**P**	**23 35 49.0 +1.5**			
	comp=Z,207nm,0.9s								
WUAZ				*e*ScP	**ScP**	**23 41 17.0 +0.1**			
WUAZ				LR	LR				
	comp=Z,6µm,22.0s								
B30A	**Myrvik Farm, E**	**45.25**	**64**	P	**P**	**23 35 47.7 +0.4**			
	baz=304,SNR=106								
Y14A	**Wickenburg**	**45.26**	**90**	*e*P	**P**	**23 35 48.1 +0.5**			
	comp=Z,506nm,1.1s								
Y14A				LR	LR				
	comp=Z,9µm,22.0s								
PV01	**Paradox Valley**	**45.28**	**82**	*e*P	**P**	**23 35 48.5 +0.6**			
PV01				*e*ScP	**ScP**	**23 41 17.2 0.0**			
D29A	**Pettibone, Tap**	**45.31**	**66**	P	**P**	**23 35 48.3 +0.5**			
	baz=304,SNR=6.7								
E29A	**Napoleon**	**45.56**	**67**	P	**P**	**23 35 50.1 +0.3**			
	baz=305								
113A	**Mohawk Valley,**	**45.58**	**91**	*e*P	**P**	**23 35 50.8 +0.8**			
	comp=Z,74nm,1.1s								
113A				LR	LR				
	comp=Z,2µm,20.0s								
C30A	**Mose, Pekin**	**45.58**	**65**	P	**P**	**23 35 50.3 +0.3**			
	baz=304,SNR=32								
SMCO	**Snowmass**	**45.61**	**80**	*e*P	**P**	**23 35 51.0 +0.4**			
	comp=Z,74nm,1.1s								
SMCO				*e*ScP	**ScP**	**23 41 19.1 +0.3**			
ULM	**Lac du Bonnet**	**45.61**	**61**	P	**P**	**23 35 50.4 +0.3**			
	comp=Z,150nm,1.1s,baz=303,slow=8.8,SNR=80								
ULM				LR	LR	23 55 24.0			
	comp=Z,2µm,20.8s,baz=303,slow=37								
ULM	**Lac du Bonnet**	**45.61**	**61**	*e*P	**P**	**23 35 50.4 +0.3**			
	comp=Z,296nm,1.2s								
A31A	**Linda, St. Vin**	**45.62**	**63**	P	**P**	**23 35 50.6 +0.5**			
	baz=304,SNR=5.8								
B31A	**Greenbush Farm**	**45.64**	**64**	P	**P**	**23 35 51.0 +0.6**			
	baz=304,SNR=54								
F29A	**Eureka**	**45.88**	**68**	P	**P**	**23 35 52.7 +0.4**			
	baz=305,SNR=16								
MVCO	**Mesa Verde**	**45.91**	**83**	P	**P**	**23 35 53.5 +0.6**			
	baz=310,SNR=45								
MVCO	**Mesa Verde**	**45.91**	**83**	*e*P	**P**	**23 35 53.5 +0.6**			
	comp=Z,152nm,1.3s								
MVCO				*e*ScP	**ScP**	**23 41 19.6 -0.2**			
MVCO				LR	LR				
	comp=Z,3µm,22.0s								
X16A	**Lo Mia Camp, P**	**45.91**	**88**	*e*P	**P**	**23 35 54.5 +1.6**			
	comp=Z,106nm,1.0s								
X16A				*e*ScP	**ScP**	**23 41 19.9 +0.1**			
X16A				LR	LR				
	comp=Z,3µm,19.0s								
C31A	**Landman Farms,**	**45.95**	**64**	P	**P**	**23 35 52.9 +0.1**			
	baz=304,SNR=56								
A32A	**Rocking H Ranc**	**46.01**	**62**	P	**P**	**23 35 53.6 +0.3**			
	baz=304								
ISCO	**Idaho Springs**	**46.05**	**78**	P	**P**	**23 35 54.9 +0.9**			
	baz=308,SNR=62								
ISCO	**Idaho Springs**	**46.05**	**78**	*e*P	**P**	**23 35 54.8 +0.7**			
ISCO				pmax	pmax				
	comp=Z,100nm,1.2s								
ISCO	**Idaho Springs**	**46.05**	**78**	*e*P	**P**	**23 35 54.8 +0.7**			
	comp=Z,101nm,1.3s								
ISCO				LR	LR				
	comp=Z,3µm,19.0s								
NRIK	**Noril'sk**	**46.10**	**331**	P	**P**	**23 35 53.3 -0.4**			
	comp=Z,69nm,1.1s,baz=67,slow=6.2,SNR=46								
NRIK				PcP	**PcP**	**23 37 29.8 +0.5**			
	comp=Z,44nm,1.1s,baz=79,slow=3.0,SNR=4.5								
NRIK				ScP	**ScP**	**23 41 20.6 +0.8**			
	comp=Z,21nm,0.9s,baz=61,slow=4.2,SNR=18								
NRIK				LR	LR	23 57 02.0			
	comp=Z,4µm,19.6s,baz=64,slow=38								
G29A	**Hoven**	**46.19**	**69**	P	**P**	**23 35 55.1 +0.3**			
	baz=306,SNR=20								
KWAJ	**Kwajalein Atol**	**46.24**	**209**	PFAKE		23 36 10.0 +15			
KWAJ				LR	LR				
	comp=Z,6µm,20.0s								
B32A	**Ashes, Strandq**	**46.27**	**63**	P	**P**	**23 35 55.6 +0.3**			
	baz=304,SNR=105								
F30A	**Leola**	**46.33**	**67**	P	**P**	**23 35 56.0 +0.1**			
	baz=305								
H29A	**Onida**	**46.35**	**69**	P	**P**	**23 35 56.6 +0.5**			
	baz=306								
D31A	**Mcclaflin, Tow**	**46.38**	**65**	P	**P**	**23 35 56.2 0.0**			
	baz=305								
W18A	**Petrified Fore**	**46.51**	**86**	P	**P**	**23 35 59.0 +1.4**			
	baz=311								
KULLO	**Kullorsuaq**	**46.51**	**20**	⇑*i*P	**P**	**23 35 57.4 +0.6**			
KULLO				pmax	pmax				
	comp=Z,79nm,1.0s								
KULLO				MLR	MLR				
	comp=Z,6µm,24.0s								
KULLO	**Kullorsuaq**	**46.51**	**20**	⇑*i*P	**P**	**23 35 57.4 +0.6**			
	comp=Z,79nm,1.0s								
	comp=Z,6µm,24.0s								
E31A	**Nome**	**46.56**	**66**	P	**P**	**23 35 57.6 0.0**			
	baz=305								
S22A	**4UR Ranch, Cre**	**46.59**	**81**	P	**P**	**23 35 59.6 +1.2**			
	baz=310								
A33A	**Warroad**	**46.60**	**62**	P	**P**	**23 35 58.3 +0.4**			
	baz=304,SNR=94								
C32A	**Crookston**	**46.60**	**64**	P	**P**	**23 35 58.0 +0.1**			
	baz=305,SNR=8.3								
I29A	**Vivian Onida**	**46.66**	**70**	P	**P**	**23 35 59.0 +0.5**			
	baz=306								
G30A	**Faulkton**	**46.68**	**68**	P	**P**	**23 35 59.0 +0.4**			
	baz=306,SNR=34								
AGMN	**Agassiz Nation**	**46.70**	**63**	P	**P**	**23 35 58.9 +0.1**			
	baz=305,SNR=131								
AGMN	**Agassiz Nation**	**46.70**	**63**	*e*P	**P**	**23 35 58.8 +0.1**			
	comp=Z,306nm,1.0s								
AGMN				LR	LR				
	comp=Z,4µm,20.0s								
214A	**Organ Pipe Nat**	**46.72**	**91**	P	**P**	**23 36 00.1 +1.0**			
	baz=314,SNR=84								
D32A	**Dogwood Acres,**	**46.72**	**65**	P	**P**	**23 35 58.7 -0.2**			
	baz=305,SNR=9.3								
F31A	**Hecla**	**46.76**	**67**	P	**P**	**23 35 59.0 -0.2**			
	baz=306								
X18A	**Snowflake**	**46.76**	**87**	*e*P	**P**	**23 36 01.0 +1.4**			
	comp=Z,115nm,1.1s								
X18A				LR	LR				
	comp=Z,6µm,22.0s								
Q24A	**Divide**	**46.85**	**79**	P	**P**	**23 36 01.2 +0.8**			
	baz=309								
B33A	**Robert and Kas**	**46.87**	**63**	P	**P**	**23 36 00.2 +0.2**			
	baz=305								
DL2	**Dalian**	**46.96**	**281**	⇑*i*P	**P**	**23 36 01.0 +0.2**			
DL2				PP	**PP**	**23 37 44.5 -6.8**			
DL2				S	**S**	**23 42 47.3 -2.3**			
DL2				ScS	**ScS**	**23 45 49.0 -3.3**			
DL2				PMZ					
	comp=Z,130nm,1.0s								
DL2				PMZ					
	comp=Z,440nm,5.2s								
DL2				LN					
	comp=Z,3µm,22.2s								
DL2				LE					
	comp=Z,2µm,23.1s								
DL2				LZ					
	comp=Z,4µm,24.7s								
E32A	**Braaten, Kindr**	**47.01**	**65**	P	**P**	**23 36 01.0 -0.1**			
	baz=306,SNR=8.6								
C33A	**Trail**	**47.06**	**63**	P	**P**	**23 36 01.4 0.0**			
	baz=305								
G31A	**Conde**	**47.16**	**68**	P	**P**	**23 36 02.1 -0.1**			
	baz=306,SN

baz=306,SNR=65
E34A Wadena 48.12 64 P **P 23 36 09.4 -0.3**
baz=306,SNR=9.9
G33A Ortonville 48.18 67 P **P 23 36 10.0 -0.3**
baz=307,SNR=49
I32A Karley and Nic 48.30 68 P **P 23 36 10.8 -0.4**
baz=307
H33A Prehn Over Nor 48.32 67 P **P 23 36 11.2 -0.1**
baz=307
KSCO Kaye Shedlock' 48.34 77 P **P 23 36 12.8 +1.0**
baz=310
K31A O'Neill 48.40 71 P **P 23 36 12.3 +0.3**
baz=308
D35A Remer 48.40 63 P **P 23 36 12.1 +0.1**
baz=306,SNR=62
T25A Trinidad 48.46 80 P **P 23 36 13.8 +1.1**
baz=310
J32A Parkston 48.47 69 P **P 23 36 12.2 -0.3**
baz=308
F34A Alexandria 48.49 65 P **P 23 36 12.5 -0.1**
baz=307
E35A Pequot Lakes 48.52 64 P **P 23 36 13.0 +0.2**
baz=306
LAZ Ladron 48.58 85 *e*P **P 23 36 15.0 +1.3**
G34A Benson 48.61 66 P **P 23 36 13.2 -0.3**
baz=307
L31A Butterfield Fa 48.62 71 P **P 23 36 14.2 +0.4**
baz=308
ANMO Albuquerque 48.64 84 P **P 23 36 15.0 +0.8**
baz=312
ANMO Albuquerque 48.64 84 *d i*P **P 23 36 14.7 +0.6**
ANMO pmax pmax
comp=Z,73nm,1.2s
ANMO MLR MLR
comp=Z,2μm,15.0s
ANMO Albuquerque 48.64 84 *e*P **P 23 36 14.9 +0.8**
comp=Z,122nm,1.4s
ANMO *e*ScP **ScP 23 41 31.3 +0.1**
ANMO LR LR
comp=Z,2μm,21.0s
I33A Coleman 48.67 68 P **P 23 36 13.6 -0.4**
baz=307
C36A Pine Crest Far 48.67 62 P **P 23 36 14.2 +0.3**
baz=306,SNR=39
IRK Irkutsk 48.77 306 *e*P **P 23 36 13.2 -1.5**
IRK *e* 23 46 03.2
IRK pmax pmax
comp=Z,269nm,1.6s
K32A Verdigre 48.83 70 P **P 23 36 15.3 0.0**
baz=308
D36A Goodland 48.84 63 P **P 23 36 15.1 -0.2**
baz=306
F35A Swanville 48.84 65 P **P 23 36 15.2 0.0**
baz=307
H34A Spellman Lake, 48.88 67 P **P 23 36 15.2 -0.4**
baz=307
Y22D IRIS PASSCAL I 48.93 85 P **P 23 36 18.1 +1.8**
baz=312,SNR=7.0
LPM Los Pinos Moun 48.95 84 *e*P **P 23 36 17.7 +1.2**
ECSD EROS Data Cent 48.96 68 P **P 23 36 16.0 -0.4**
baz=308,SNR=117
ECSD EROS Data Cent 48.96 68 *e*P **P 23 36 15.9 -0.4**
comp=Z,223nm,1.2s
ECSD LR LR
comp=Z,4μm,21.0s
J33A Davis 49.01 69 P **P 23 36 16.3 -0.4**
baz=308
C37A Embarrass 49.04 62 P **P 23 36 17.1 +0.3**
baz=306
M31A Lambtecht Ranc 49.06 72 P **P 23 36 17.1 0.0**
baz=309
BNM Barren Site 49.06 85 *e*P **P 23 36 18.6 +1.2**
BNM *e*ScP **ScP 23 41 33.2 +0.1**
E36A McGregor 49.18 63 P **P 23 36 18.1 +0.2**
baz=307
I34A Hadley 49.21 67 P **P 23 36 17.5 -0.7**
baz=308
L32A Elgin 49.22 71 P **P 23 36 18.7 +0.4**
baz=308
D37A Cotton 49.25 62 P **P 23 36 18.1 -0.3**
baz=307,SNR=19
G35A Watkins 49.27 65 P **P 23 36 18.5 -0.1**
baz=307
EYMN Ely 49.29 61 P **P 23 36 18.7 0.0**
baz=307,SNR=51
EYMN Ely 49.29 61 *e*P **P 23 36 18.8 +0.1**
comp=Z,231nm,1.0s
EYMN LR LR
comp=Z,2μm,19.0s
319A Douglas 49.30 89 *e*P **P 23 36 20.1 +0.9**
comp=Z,138nm,1.1s
319A LR LR
comp=Z,2μm,20.0s
KBS Kingsbay 49.37 359 *e*P **P 23 36 20.1 +1.3**
KBS IAmb IAmb 23 36 21.6
comp=Z,41nm,0.8s
KBS *e*S **S 23 43 25.5 +2.8**
KBS Kingsbay 49.37 359 *e*P **P 23 36 19.9 +1.0**
KBS Kingsbay 49.37 359 *e*P **P 23 36 19.9 +1.0**
comp=Z,55nm,0.9s
KBS LR LR
comp=Z,4μm,18.0s
H35A Sunnyside Ranc 49.39 66 P **P 23 36 19.5 0.0**
baz=308
N31A Bailey Ranch, 49.40 73 P **P 23 36 20.2 +0.5**
baz=309
TLY Talaya 49.42 305 P **P 23 36 20.6 +1.0**
comp=Z,23nm,0.7s,baz=34,slow=6.0,SNR=77
TLY Talaya 49.42 305 *c i*P **P 23 36 19.2 -0.5**
TLY *e* 23 38 15.7
TLY *e*S **S 23 43 24.4 +0.2**
TLY *e* 23 46 07.3
TLY pmax pmax
comp=Z,136nm,1.4s
TLY MLR MLR
comp=Z,3μm,18.0s
TLY Talaya 49.42 305 *e*P **P 23 36 20.7 +1.0**
comp=Z,98nm,1.1s
TLY LR LR
comp=Z,6μm,21.0s
F36A Milaca 49.42 64 P **P 23 36 19.5 -0.2**
baz=307,SNR=54
K33A Hardington 49.43 70 P **P 23 36 19.9 0.0**
baz=306
121A Cookes Peak, D 49.44 87 P **P 23 36 21.5 +1.2**
baz=313,SNR=94
BGNE Belgrade 49.51 72 P **P 23 36 20.8 +0.4**
baz=309,SNR=28
BGNE Belgrade 49.51 72 *e*P **P 23 36 20.9 +0.4**
comp=Z,497nm,0.9s
BJI Beijing 49.52 286 P **P 23 36 20.5 0.0**
BJI PP **PP 23 38 15.3 +0.6**
BJI S **S 23 43 26.3 +0.5**
BJI PMZ
comp=Z,79nm,1.4s
BJI PMZ
comp=Z,880nm,4.2s
BJI LN
comp=Z,3μm,19.0s
BJI LE
comp=Z,3μm,21.6s
BJI LZ
comp=Z,4μm,22.9s
BJT Baijiatuau 49.54 286 *e*P **P 23 36 21.1 +0.4**
BJT pmax pmax
comp=Z,57nm,0.7s
BJT MLR MLR
comp=Z,5μm,22.0s
BJT Baijiatuau 49.54 286 *e*P **P 23 36 21.1 +0.4**
comp=Z,57nm,0.7s
BJT LR LR
comp=Z,5μm,22.0s
C38A Sawbill Land. 49.55 61 P **P 23 36 20.5 -0.2**
baz=307
L33A Hoskins 49.55 70 P **P 23 36 20.4 -0.4**
baz=309
O31A Woolen Ranch, 49.60 74 P **P 23 36 21.7 +0.5**
baz=309
J34A George 49.62 68 P **P 23 36 21.0 -0.3**
baz=308
E37A Wrenshall 49.62 63 P **P 23 36 21.3 +0.1**
baz=307,SNR=5.3
G36A St. Michael 49.68 65 P **P 23 36 21.8 +0.1**
baz=308
I35A Creekview Farm 49.82 67 P **P 23 36 22.4 -0.4**
baz=308
N32A Stulken Farm, 49.82 72 P **P 23 36 23.0 +0.1**
baz=309
ULN Ulaanbaatar 49.90 300 *c i*P **P 23 36 23.2 -0.3**
ULN pmax pmax
comp=Z,89nm,1.2s
ULN MLR MLR
comp=Z,9μm,17.0s
ULN Ulaanbaatar 49.90 300 P **P 23 36 23.2 -0.3**
SNR=35
ULN Ulaanbaatar 49.90 300 *e*P **P 23 36 23.7 +0.2**
comp=Z,74nm,1.1s
ULN *e*ScP **ScP 23 41 36.2 -0.2**
K34A Le Mars 49.91 69 P **P 23 36 23.6 +0.1**
baz=309
HSIG 49.91 93 *e*P **P 23 36 23.9 +0.2**
comp=Z,563nm,2.0s
HSIG LR LR
comp=Z,2μm,21.0s
M33A Taylor Creek F 49.96 71 P **P 23 36 24.0 +0.1**
baz=309
H36A Jessenland, He 49.98 66 P **P 23 36 24.4 +0.5**
baz=308
J35A Milford 50.00 68 P **P 23 36 23.8 -0.4**
baz=308
SPA0 Spitsbergen Ar 50.04 358 *e*P **P 23 36 24.2 +0.2**
SPA0 *e*S **S 23 43 32.5 +0.3**
SPA0 Spitsbergen Ar 50.04 358 *e*P **P 23 36 24.4 +0.3**
C39A Grand Marais 50.10 60 P **P 23 36 24.6 -0.3**
baz=307,SNR=24
O32A Brockman Farm, 50.15 73 P **P 23 36 25.2 -0.2**
baz=310
L34A Svendsen Farm, 50.19 70 P **P 23 36 25.5 -0.2**
baz=309
CBKS Cedar Bluff 50.21 75 P **P 23 36 26.7 +0.8**
baz=310,SNR=26
CBKS Cedar Bluff 50.21 75 *e*P **P 23 36 26.5 +0.7**
CBKS Cedar Bluff 50.21 75 *e*P **P 23 36 26.5 +0.7**
comp=Z,376nm,1.0s
SPMN Marine on St. 50.21 64 P **P 23 36 25.8 +0.1**
baz=308
SONA1 Songino Array 50.26 300 *e*P **P 23 36 25.6 -0.7**
SONM Songino Array 50.27 300 P **P 23 36 26.8 +0.4**
comp=Z,44nm,1.0s,baz=57,slow=6.5,SNR=193
SONM PcP **PcP 23 37 46.3 +1.5**
comp=Z,22nm,1.1s,baz=36,slow=3.8,SNR=3.6
SONM ScP **ScP 23 41 37.4 -0.5**
comp=Z,20nm,0.9s,baz=46,slow=3.9,SNR=17
SONM LR LR 23 58 09.2
comp=Z,10μm,20.3s,baz=50,slow=36
I36A Fitzsimmons Fa 50.27 66 P **P 23 36 25.8 -0.4**
baz=308
SRIG Santa Rosalia 50.33 95 *e*P **P 23 36 27.4 +0.6**
comp=Z,582nm,1.8s
SRIG LR LR
comp=Z,4μm,22.0s
N33A J Bar K, Exete 50.34 72 P **P 23 36 26.6 -0.2**
baz=310
M34A Aspy Farms, Fr 50.36 71 P **P 23 36 26.8 -0.1**
baz=309
P32A Huiting Farm, 50.37 74 P **P 23 36 27.1 +0.1**
baz=310
ZAK Zakamensk 50.37 304 *e*P **P 23 36 27.0 0.0**
ZAK pmax pmax
comp=Z,99nm,1.5s
ZAK pmax pmax
comp=Z,24nm,1.4s
K35A Storm Lake 50.38 68 P **P 23 36 26.8 -0.3**
baz=309
DAG Danmarks Havn 50.41 8⇑ *i*P **P 23 36 26.1 -0.7**
DAG pmax pmax
comp=Z,78nm,1.0s
DAG Danmarks Havn 50.41 8⇑ *i*P **P 23 36 26.1 -0.7**
comp=Z,78nm,1.0s
J36A Seneca 1, Swea 50.52 67 P **P 23 36 27.8 -0.3**
baz=309
H37A Dierke Farm, C 50.54 65 P **P 23 36 28.7 +0.4**
baz=308
L35A Bielow Farm, R 50.58 69 P **P 23 36 27.9 -0.7**
baz=309
I37A Lemond, Waseca 50.62 66 P **P 23 36 29.2 +0.3**
baz=309
O33A Hebron 50.68 73 P **P 23 36 29.3 -0.1**
baz=310
MOY Mondy 50.76 307 *e*P **P 23 36 29.5 -0.4**
MOY pmax pmax
comp=Z,184nm,1.9s
Q32A Meitler Ranch, 50.80 74 P **P 23 36 30.6 +0.3**
baz=310
N34A Lincoln 50.83 71 P **P 23 36 30.0 -0.5**
baz=310
K36A Gilmore City 50.88 68 P **P 23 36 30.6 -0.2**
baz=309
M35A Neola 50.90 70 P **P 23 36 31.3 +0.3**
baz=310
J37A Redenius Farm, 50.98 67 P **P 23 36 31.4 -0.1**
baz=309
P33A Williams Farm, 51.02 73 P **P 23 36 32.0 0.0**
baz=310
JOW Kunigami 51.03 265 *e*P **P 23 36 32.8 +0.7**
comp=Z,236nm,1.4s
R32A Long Quarter, 51.07 75 P **P 23 36 32.5 +0.1**
baz=311
L36A Harm Buss Farm 51.10 69 P **P 23 36 32.0 -0.5**
baz=309
O34A Beatrice 51.14 72 P **P 23 36 32.4 -0.4**
baz=310
XMAS Kiritimati 51.15 162 *e*P **P 23 36 33.8 +0.8**
comp=Z,366nm,1.1s
I38A Scanlan Farm, 51.21 65 P **P 23 36 33.3 0.0**
baz=309
Q33A Connelly Farm, 51.22 74 P **P 23 36 33.6 +0.1**
baz=310
HSPB Hornsund (broa 51.24 358 *e*P **P 23 36 33.7 +0.7**
HSPB Hornsund (broa 51.24 358 *e*P **P 23 36 32.7 -0.3**
HSPB *e*S **S 23 43 46.4 -2.4**
HSPB MLR MLR
comp=Z,6μm,23.1s
K37A Belmond 51.27 67 P **P 23 36 33.5 -0.2**
baz=309
N35A Tabor 51.32 71 P **P 23 36 34.5 +0.3**
baz=310
HOPEN Hopen 51.37 355 *e*P **P 23 36 34.5 +0.5**
HOPEN *e*S **S 23 43 51.1 +0.5**
S32A Newby Ranch, P 51.41 76 P **P 23 36 34.8 -0.1**
baz=311
TIA Tai'an 51.43 282 ⇑P **P 23 36 35.0 0.0**
TIA pP **pP 23 36 45.0 0.0**
TIA S **S 23 43 52.8 +0.4**
TIA PMZ
comp=Z,170nm,1.3s
TIA PMZ
comp=Z,1μm,4.0s
TIA LN
comp=Z,4μm,22.0s
TIA LE
comp=Z,3μm,25.0s
TIA LZ
comp=Z,4μm,23.0s
M36A Felix, Anita 51.43 69 P **P 23 36 35.0 0.0**
baz=310
P34A Walnut Farm, R 51.47 73 P **P 23 36 34.9 -0.4**
baz=310
MNTX Cornudas Mount 51.49 86 P **P 23 36 36.7 +1.1**
baz=314,SNR=155
MNTX Cornudas Mount 51.49 86 *e*P **P 23 36 36.6 +1.1**
comp=Z,136nm,1.2s
MNTX LR LR
comp=Z,2μm,22.0s
O35A Humboldt 51.54 71 P **P 23 36 35.2 -0.6**
baz=310
MSTX Muleshoe 51.55 82 P **P 23 36 36.5 +0.4**
baz=313
R33A Olander Ranch, 51.58 75 P **P 23 36 36.0 -0.1**
baz=311
J38A Wedel Dairy, R 51.58 66 P **P 23 36 36.2 +0.1**
baz=309
ILULI Ilulissat 51.59 23⇑ *i*P **P 23 36 35.9 +0.1**
ILULI pmax pmax
comp=Z,81nm,1.1s
ILULI Ilulissat 51.59 23⇑ *i*P **P 23 36 35.9 +0.1**
comp=Z,81nm,1.1s
SUMG Summit 51.60 16⇑ *i*P **P 23 36 36.8 +0.6**
SUMG pmax pmax
comp=Z,200nm,1.1s
SUMG Summit 51.60 16⇑ *i*P **P 23 36 36.8 +0.6**
comp=Z,200nm,1.1s
SUMG Summit 51.60 16 *e*P **P 23 36 36.2 -0.1**
comp=Z,204nm,1.1s
SUMG *e*ScP **ScP 23 41 44.3 +0.8**
SUMG LR LR
comp=Z,4μm,20.0s
AMTX Amarillo 51.61 80 P **P 23 36 37.1 +0.6**
baz=312
AMTX Amarillo 51.61 80 *e*P **P 23 36 37.1 +0.6**
comp=Z,232nm,1.5s
AMTX *e*ScP **ScP 23 41 43.8 0.0**
AMTX LR LR
comp=Z,2μm,19.0s
L37A Phoenix Point, 51.61 68 P **P 23 36 36.1 -0.1**
baz=310
GUMO Guam 51.65 238 P **P 23 36 35.6 -1.3**
comp=Z,108nm,0.7s,baz=316,slow=17,SNR=5.0
COWI Conover 51.69 62 *e*P **P 23 36 36.8 -0.2**
comp=Z,131nm,1.1s
COWI LR LR
comp=Z,2μm,19.0s
HHC Hu-ho-hao-te 51.72 290 *e*P **P 23 36 38.0 +0.7**
HHC pP **sP** 23 36 50.5 -0.7
HHC S **S 23 43 57.0 +0.4**
HHC sS sS 23 44 15.3 +2.3
HHC ScS **ScS 23 46 22.3 -2.4**
HHC PMZ
comp=Z,140nm,1.1s
HHC PMZ
comp=Z,630nm,5.1s
HHC LN
comp=Z,3μm,17.3s
HHC LE
comp=Z,3μm,17.3s
HHC LZ
comp=Z,4μm,18.5s
N36A Muff Farm, Cla 51.74 70 P **P 23 36 37.4 +0.1**
baz=310
T32A Huddler Ranch, 51.76 76 P **P 23 36 37.4 -0.1**
baz=311
Q34A Chapman 51.80 73 P **P 23 36 38.0 +0.2**
baz=311
K38A Parkersburg 51.84 67 P **P 23 36 37.8 -0.2**
baz=310
KSU1 Kansas State U 51.88 73 P **P 23 36 38.2 -0.2**
baz=311,SNR=33
KSU1 Kansas State U 51.88 73 *e*P **P 23 36 38.2 -0.2**
comp=Z,195nm,0.9s
KSU1 LR LR
comp=Z,2μm,21.0s
M37A Trindle Farm, 51.89 69 P **P 23 36 38.8 +0.4**
baz=310
P35A Duane Minner, 51.95 72 P **P 23 36 38.5 -0.4**
baz=311
J39A Decorah 52.01 66 P **P 23 36 38.8 -0.5**
baz=310
R34A Isabella, Hill 52.02 74 P **P 23 36 39.4 -0.1**
baz=311
S33A Kaszmaul Farm, 52.04 75 P **P 23 36 39.6 0.0**
baz=311
TARA Tarawa 52.04 200 *e*P **P 23 36 41.2 +1.4**
comp=Z,234nm,1.0s
TARA LR LR
comp=Z,4μm,21.0s
L38A Oak Wood Farm, 52.05 68 P **P 23 36 39.5 -0.2**
baz=310
SCIA State Center 52.06 68 *e*P **P 23 36 39.9 +0.2**
comp=Z,608nm,1.4s
SCIA LR LR
comp=Z,3μm,20.0s
O36A Bolckow 52.18 71 P **P 23 36 40.4 -0.2**
baz=310
N37A Lee Faris, Mou 52.22 70 P **P 23 36 41.0 +0.2**
baz=310
T33A Patterson Ranc 52.23 76 P **P 23 36 40.6 -0.4**
baz=312
U32A Winter Ranch, 52.24 77 P **P 23 36 41.4 +0.3**
baz=312
K39A Oelwein 52.30 66 P **P 23 36 40.8 -0.7**
baz=310
P36A Good Intent, A 52.37 71 P **P 23 36 41.7 -0.3**
baz=311
Q35A Mercer Eighty, 52.38 73 P **P 23 36 41.4 -0.6**
baz=311
M38A Pleasantville 52.38 69 P **P 23 36 42.0 -0.1**
baz=310
SSE Sheshan 52.40 274 P **P 23 36 43.0 +0.7**
SSE S **S 23 44 04.0 -1.8**
SSE PMZ
comp=Z,250nm,1.0s
SSE PMZ
comp=Z,630nm,5.6s
SSE LN
comp=Z,930nm,19.5s
SSE LE
comp=Z,1μm,19.5s
SSE LZ
comp=Z,2μm,20.8s
S34A Willow Spring 52.50 75 P **P 23 36 42.6 -0.4**
baz=311
J40A Soldiers Grove 52.51 65 P **P 23 36 42.4 -0.6**
baz=310
L39A Vinton 52.61 67 P **P 23 36 43.5 -0.2**
baz=310
R35A Emporia Munici 52.63 73 P **P 23 36 43.8 -0.2**
baz=311
O37A Wolven Farm, M 52.64 70 P **P 23 36 43.9 0.0**
baz=311
V32A Arapaho 52.65 78 P **P 23 36 44.6 +0.4**
baz=312
Q36A Arnold C. Orve 52.65 72 P **P 23 36 43.5 -0.6**
baz=311
K40A Colesburg 52.73 66 P **P 23 36 44.1 -0.5**
baz=310
U33A Lingo Farm, Me 52.74 76 P **P 23 36 44.7 -0.1**
baz=312
N38A Joes South For 52.76 69 P **P 23 36 44.8 -0.1**
baz=311
BTO Baotou 52.77 291 *e*P **P 23 36 46.5 +1.4**
P37A Lathrop 52.90 71 P **P 23 36 45.4 -0.4**
baz=311
T34A McClaskey Farm 52.90 75 P **P 23 36 45.9 -0.1**
baz=312
W32A Sentinel 52.93 78 P **P 23 36 46.9 +0.6**
baz=312
M39A Webster 52.93 68 P **P 23 36 46.1 0.0**
baz=310
J41A Loganville 52.94 65 P **P 23 36 45.7 -0.5**
baz=310
S35A Otter Creek Ra 52.98 74 P **P 23 36 46.3 -0.3**
baz=312
V33A Lossen Ranch, 53.04 77 P **P 23 36 47.0 0.0**
baz=312
R36A Gordon, Harris 53.04 73 P **P 23 36 46.8 -0.2**
baz=311
O38A Galt 53.06 70 P **P 23 36 46.8 -0.3**
baz=311
U34A Anderson Ranch 53.08 76 P **P 23 36 47.4 +0.1**
baz=312
L40A Anamosa 53.09 67 P **P 23 36 46.8 -0.5**
baz=310
JFWS Jewell Farm 53.10 65 *e*P **P 23 36 46.5 -0.8**
JFWS Jewell Farm 53.10 65 *e*P **P 23 36 46.5 -0.8**
comp=Z,163nm,0.9s
JFWS LR LR
comp=Z,5μm,18.0s
N39A Derby Farms, D 53.13 69 P **P 23 36 47.4 -0.1**
baz=311
NJ2 Nanjing 53.18 277 *e*P **P 23 36 48.0 0.0**
NJ2 pP **sP 23 37 03.0 +1.0**
NJ2 S **S 23 44 17.0 +0.6**
NJ2 PMZ
comp=Z,130nm,0.9s
NJ2 LN
comp=Z,2μm,18.4s
NJ2 LE
comp=Z,1μm,23.9s
NJ2 LZ
comp=Z,3μm,23.9s
TIY Taiyuan 53.25 286 *e*P **P 23 36 49.5 +0.9**
TIY S **S 23 44 21.8 +4.3**
TIY PMZ
comp=Z,250nm,1.2s
TIY PMZ
comp=Z,860nm,4.0s
TIY LN
comp=Z,4μm,18.1s
TIY LE
comp=Z,2μm,18.4s
TIY LZ
comp=Z,3μm,20.8s

K41A Shullsburg 53.26 66 P P 23 36 48.0 -0.6
baz=310
Q37A Longview Farm, 53.30 72 P P 23 36 47.7 -1.1
baz=311
P38A Dawn 53.35 70 P P 23 36 48.6 -0.6
baz=311
SFJD Kangerlussuaq 53.37 25⇑ *i*P P 23 36 49.1 +0.2
SFJD pmax pmax
comp=Z,110nm,1.1s
SFJD Kangerlussuaq 53.37 25⇑ *i*P P 23 36 49.1 +0.2
comp=Z,113nm,1.1s
SFJD Kangerlussuaq 53.37 25 *e*P P 23 36 49.7 +0.8
comp=Z,123nm,1.0s
SFJD LR LR
comp=Z,5µm,19.0s
T35A Sooner Cattle 53.38 75 P P 23 36 49.1 -0.4
baz=312
X32A Elmer 53.38 79 P P 23 36 49.8 +0.3
baz=313
W33A Caddo, Fort Co 53.38 78 P P 23 36 50.4 +0.9
baz=313
S36A Lake Cedric, C 53.39 74 P P 23 36 49.0 -0.5
baz=312
R37A Teagarden Farm 53.45 72 P P 23 36 49.0 -1.0
baz=312
WMOK Wichita Mounta 53.47 78 P P 23 36 50.5 +0.3
baz=313,SNR=137
WMOK Wichita Mounta 53.47 78 *e*P P 23 36 50.5 +0.3
WMOK Wichita Mounta 53.47 78 *e*P P 23 36 50.5 +0.3
comp=Z,126nm,1.1s
WMOK LR LR
comp=Z,2µm,19.0s
V34A Guthrie 53.49 77 P P 23 36 50.4 0.0
baz=312
L41A Preston 53.50 66 P P 23 36 49.6 -0.7
baz=311
O39A Kirksville 53.51 69 P P 23 36 50.1 -0.3
baz=311
U35A Pawnee 53.61 76 P P 23 36 50.9 -0.2
baz=312
BJO Bjornoya 53.62 356 *e*P P 23 36 51.0 +0.4
BJO IAmb IAmb 23 36 56.5
comp=Z,53nm,0.9s
T36A Boggs Farm, Ca 53.66 74 P P 23 36 51.1 -0.4
baz=312
Q38A Cooks Store, C 53.73 71 P P 23 36 51.1 -1.0
baz=312
W34A Bridge Creek, 53.74 77 P P 23 36 52.7 +0.5
baz=313
X33A Lawton 53.77 78 P P 23 36 52.6 +0.2
baz=313,SNR=13
S37A Fort Scott 53.82 73 P P 23 36 52.2 -0.5
baz=312
P39B Salisbury 53.89 70 P P 23 36 52.6 -0.6
baz=311
V35A Meyer Ranch, C 53.95 76 P P 23 36 53.7 0.0
baz=313
O40A La Belle 53.99 69 P P 23 36 53.5 -0.3
baz=311
Q39A Willow Grove F 54.05 71 P P 23 36 53.6 -0.8
baz=312
Y33A Hilltop Ranch, 54.06 79 P P 23 36 54.7 +0.2
baz=313,SNR=16
R38A Fenwick Farm, 54.08 72 P P 23 36 53.1 -1.5
baz=312
X34A Smith Ranch, M 54.14 78 P P 23 36 56.0 +0.9
baz=313,SNR=24
T37A Cheneyville 18 54.19 74 P P 23 36 54.8 -0.6
baz=312
U36A Oologah 54.19 75 P P 23 36 55.2 -0.2
baz=312
TX31 Lajitas Ar. Si 54.20 87 *e*P P 23 36 55.1 -0.6
TXAR Lajitas Array 54.20 87 P P 23 36 56.2 +0.5
comp=Z,93nm,0.8s,baz=298,slow=5.2,SNR=741
TXAR ScP ScP 23 41 54.4 -0.9
comp=Z,18nm,1.0s,baz=292,slow=3.4,SNR=15
TXAR LR LR 23 57 42.9
comp=Z,2µm,20.6s,baz=0.0,slow=33
TXAR PKPPKP P'P'df 00 07 07.3 -5.5
comp=Z,0.5nm,0.9s,baz=70,slow=3.0,SNR=3.1
TXAR Lajitas Array 54.20 87 P P 23 36 56.2 +0.5
TXAR pmax pmax
comp=Z,95nm,0.9s
TXAR pmax pmax
comp=N,18nm,1.0s
TXAR MLR MLR
comp=Z,2µm,20.6s
P40A Paris 54.27 70 P P 23 36 55.5 -0.5
baz=312
W35A Tecumseh 54.34 77 P P 23 36 56.9 +0.4
baz=313
ABTX Abilene, Hawle 54.38 81 P P 23 36 57.2 +0.3
baz=314
ABTX Abilene, Hawle 54.38 81 *e*P P 23 36 56.8 -0.2
comp=Z,220nm,1.3s
ABTX *e*ScP ScP 23 41 55.5 -0.4
SLBS Sierra La Lagu 54.39 97 *e*P P 23 36 57.9 +0.8
comp=Z,445nm,1.5s
SLBS LR LR
comp=Z,2µm,22.0s
S38A Stockton 54.45 73 P P 23 36 55.9 -1.3
baz=312
Z33A Whitaker Ranch 54.47 80 P P 23 36 57.6 +0.1
baz=314
V36A Jenks 54.47 76 P P 23 36 57.5 0.0
baz=313
TUL1 Leonard 54.48 75 P P 23 36 57.4 -0.1
baz=313
R39A Chumby, Stover 54.50 71 P P 23 36 55.8 -1.9
baz=312
U37A Salina 54.55 74 P P 23 36 57.8 -0.2
baz=313
O41A Passleys Farm, 54.56 68 P P 23 36 57.7 -0.3
baz=312
Q40A Laux Farm, Aux 54.61 70 P P 23 36 57.7 -0.7
baz=312
T38A Diamond 54.62 73 P P 23 36 57.8 -0.8
baz=312
Y34A Reagan Ranch, 54.62 78 P P 23 36 59.1 +0.5
baz=313,SNR=62
HPIG 54.67 90 *e*P P 23 36 59.6 +0.3
comp=Z,140nm,1.2s
HPIG *e*ScP ScP 23 41 56.7 -0.7
HPIG LR LR
comp=Z,2µm,22.0s
W36A Wetumka 54.74 76 P P 23 36 59.7 +0.3
baz=313
P41A Barry, Barry 54.75 69 P P 23 36 59.1 -0.3
baz=312
S39A Bolivar 54.75 72 P P 23 36 57.7 -1.8
baz=312
X35A Drake 54.79 77 P P 23 37 00.1 +0.3
baz=313,SNR=60
133A Hamilton Ranch 54.84 80 P P 23 37 00.6 +0.4
baz=314,SNR=49
V37A Hulbert 54.89 75 P P 23 37 00.1 -0.4
baz=313
Z34A Collier Ranch, 54.92 79 P P 23 37 01.1 +0.3
baz=314,SNR=23
U38A Gravette 54.96 74 P P 23 37 00.4 -0.6
baz=313
O42A Bath 54.97 68 P P 23 37 00.6 -0.4
baz=312
R40A Maddies Statio 54.97 71 P P 23 36 59.5 -1.5
baz=312
X36A Centrahoma 55.05 77 P P 23 37 02.0 +0.4
baz=313,SNR=27
Y35A Marietta 55.09 78 P P 23 37 02.8 +0.8
baz=314,SNR=51
T39A Clever 55.17 73 P P 23 37 01.3 -1.2
baz=313
HDIL Hopedale 55.18 67 P P 23 37 02.3 -0.2
baz=312,SNR=42
HDIL Hopedale 55.18 67 *e*P P 23 37 02.2 -0.2
comp=Z,324nm,0.8s
HDIL LR LR
comp=Z,3µm,20.0s
W37B Quinton 55.22 76 P P 23 37 03.3 +0.4
baz=313
P42A Winchester 55.22 68 P P 23 37 02.2 -0.6
baz=312
233A Rising Star 55.26 81 P P 23 37 03.5 +0.3
baz=314
S40A Lebanon 55.30 72 P P 23 37 01.7 -1.7
baz=312
HHAR Hobbs 55.33 74 *e*P P 23 37 02.8 -0.9
comp=Z,92nm,1.1s
HHAR LR LR
comp=Z,2µm,20.0s
V38A Canehill 55.34 74 P P 23 37 03.4 -0.4
baz=313
Z35A Perchaven, San 55.35 79 P P 23 37 04.0 +0.2
baz=314,SNR=10.0
134A White-Moore Ra 55.37 80 P P 23 37 04.6 +0.5
baz=314,SNR=57
U39A Green Forest 55.54 73 P P 23 37 04.2 -1.0
baz=313
Y36A Durant 55.55 77 P P 23 37 05.8 +0.5
baz=314
Q42A Golden Eagle 55.56 69 P P 23 37 05.2 -0.1
baz=312
T40A Mansfield 55.59 72 P P 23 37 04.1 -1.5
baz=313
X37A Clayton 55.63 76 P P 23 37 06.3 +0.5
baz=313,SNR=76
333A Richland Sprin 55.69 82 P P 23 37 06.3 0.0
baz=314
234A Clairette 55.73 80 P P 23 37 07.1 +0.5
baz=314,SNR=49
S41A Jillco Farms, 55.75 71 P P 23 37 05.2 -1.4
baz=313
JCT Junction City 55.78 83 P P 23 37 06.6 -0.3
baz=315,SNR=29
JCT Junction City 55.78 83 *e*P P 23 37 06.7 -0.3
JCT Junction City 55.78 83 *e*P P 23 37 06.7 -0.3
comp=Z,151nm,1.1s
JCT LR LR
comp=Z,4µm,20.0s
135A Vickery Place, 55.79 79 P P 23 37 07.7 +0.6
baz=314,SNR=20
V39A Pettigrew 55.81 74 P P 23 37 06.4 -0.8
baz=313
W38A Poteau 55.81 75 P P 23 37 07.2 +0.1
baz=313
Z36A Blue Ridge 55.89 78 P P 23 37 07.8 +0.1
baz=314,SNR=14
Y37A Hugo 55.90 77 P P 23 37 08.0 +0.2
baz=314,SNR=15
X38A Whitesboro 55.90 76 P P 23 37 08.1 +0.3
baz=314,SNR=57
SLM Saint Louis 55.92 69 *e*P P 23 37 07.1 -0.8
SLM Saint Louis 55.92 69 *e*P P 23 37 07.1 -0.8
comp=Z,285nm,1.1s
SLM LR LR
comp=Z,4µm,21.0s
U40A Yellville 55.93 73 P P 23 37 06.9 -1.0
baz=313
SCO Scoresbysund 55.94 12 *i* P P 23 37 07.4 -0.1
SCO pmax pmax
comp=Z,52nm,1.0s
SCO Scoresbysund 55.94 12 *i* P P 23 37 07.4 -0.1
comp=Z,52nm,1.0s
YOJ Yonaguni jima 56.00 267 PFAKE 23 37 20.0 +11
YOJ LR LR
comp=Z,1µm,20.0s
433A Art 56.02 82 P P 23 37 08.5 -0.2
baz=315
Q43A New Douglas 56.02 69 P P 23 37 08.5 -0.1
baz=312
T41A Mountain View 56.10 72 P P 23 37 07.5 -1.7
baz=313
334A Lometa 56.14 81 P P 23 37 09.9 +0.4
baz=315,SNR=97
WHTX Lake Whitney, 56.16 80 P P 23 37 10.1 +0.5
baz=314
W39A Magazine 56.16 75 P P 23 37 09.5 -0.1
baz=313
V40A Witts Springs 56.32 73 P P 23 37 09.9 -0.9
baz=313
136A Ennis 56.38 79 P P 23 37 11.5 +0.3
baz=314,SNR=7.4
Z37A Pogue Cattle C 56.43 78 P P 23 37 11.4 -0.1
baz=314,SNR=5.9
X39A Fountain Ranch 56.44 75 P P 23 37 11.8 +0.1
baz=314,SNR=109
Q44A Meyer Farm, Va 56.44 68 P P 23 37 11.0 -0.6
baz=313
Y38A Idabel 56.47 76 P P 23 37 11.7 -0.2
baz=314,SNR=8.0
VLDQ Val d'Or 56.48 53 *e*P P 23 37 10.4 -1.3
comp=Z,203nm,1.0s
VLDQ LR LR
comp=Z,3µm,20.0s
434A Burnet 56.48 82 P P 23 37 12.1 +0.1
baz=315,SNR=90
U41A Viola 56.49 72 P P 23 37 10.7 -1.3
baz=313
533A Kerrville 56.53 83 P P 23 37 12.1 -0.3
baz=315,SNR=40
SFIN Lafayette 56.54 66 P P 23 37 12.3 0.0
baz=313
TATO Taipei 56.56 269 PFAKE 23 37 30.0 +17
TATO LR LR
comp=Z,4µm,20.0s
W40A Ferguson Farm, 56.59 74 P P 23 37 12.6 -0.1
baz=314
335A Moody 56.67 81 P P 23 37 13.7 +0.4
baz=315,SNR=16
236A Katherine and 56.71 79 P P 23 37 14.2 +0.6
baz=314,SNR=29
SCHQ Schefferville 56.72 42 P P 23 37 13.9 +0.6
comp=Z,112nm,0.9s,baz=324,slow=7.3,SNR=98
SCHQ LR LR 00 02 45.6
comp=Z,5µm,19.7s,baz=316,slow=37
SCHQ Schefferville 56.72 42 *e*P P 23 37 14.0 +0.6
comp=Z,156nm,1.0s
V41A Mountainview 56.73 73 P P 23 37 12.7 -1.0
baz=314
S43A Fulton Ridge, 56.73 70 P P 23 37 13.1 -0.6
baz=313
MIAR Mount Ida 56.73 75 P P 23 37 13.8 0.0
baz=314,SNR=178
MIAR Mount Ida 56.73 75 *e*P P 23 37 13.8 0.0
MIAR Mount Ida 56.73 75 *e*P P 23 37 13.8 0.0
comp=Z,305nm,1.1s
MIAR LR LR
comp=Z,2µm,21.0s
ZAA0 Zalesovo Array 56.75 317 *e*P P 23 37 12.8 -0.8
ZAA0 *e*ScP ScP 23 42 06.8 +0.9
ZALV Zalesovo Beam 56.75 317 P P 23 37 13.4 -0.2
comp=Z,11nm,0.5s,baz=34,slow=5.7,SNR=42
ZALV PcP PcP 23 38 10.1 +1.0
comp=Z,18nm,0.7s,baz=33,slow=3.5,SNR=6.8
ZALV ScP ScP 23 42 06.0 +0.2
comp=Z,6.8nm,0.8s,baz=31,slow=3.5,SNR=6.5
ZALV ScS ScS 23 46 58.7 -1.1
comp=Z,2.5nm,0.8s,baz=359,slow=5.9,SNR=5.5
ZALV LR LR 00 02 32.9
comp=Z,5µm,21.2s,baz=54,slow=37
ZALV PKPPKP P'P'df 00 07 03.9 -8.4
comp=Z,0.8nm,0.8s,baz=270,slow=3.0,SNR=3.9
137A Heron Place, G 56.77 78 P P 23 37 14.4 +0.4
baz=314
JMIC Jan Mayen 56.78 7 *e*P P 23 37 13.6 +0.1
JMIC *e*S S 23 45 07.9 +4.2
Z38A Mt. Pleasant 56.78 77 P P 23 37 14.2 +0.1
baz=314,SNR=7.5
NVS Novosibirsk 56.79 318⇓ *i*P P 23 37 13.9 +0.1
NVS *e*S S 23 45 05.8 +1.5
NVS *e* 23 46 58.4
NVS pmax pmax
comp=N,22nm,0.6s
NVS pmax pmax
comp=Z,49nm,0.6s
NVS pmax pmax
comp=E,27nm,0.7s
NVS smax smax
comp=N,14nm,0.9s
NVS smax smax
comp=E,1.0nm,0.2s
Y39A Lockesburg 56.84 76 P P 23 37 14.3 -0.2
baz=314,SNR=9.3
R44A Waltonville 56.85 69 P P 23 37 13.9 -0.6
baz=313
YHNB Yeheng 56.86 268 PFAKE 23 37 30.0 +15
YHNB LR LR
comp=Z,3µm,21.0s
633A Saathoff Ranch 56.88 83 P P 23 37 14.3 -0.5
baz=315,SNR=14
U42A Revenden 56.88 72 P P 23 37 13.2 -1.5
baz=313
534A Blanco 56.91 82 P P 23 37 14.8 -0.3
baz=315,SNR=37
435B Jarrell 56.92 81 P P 23 37 15.5 +0.4
baz=315
X201 Greenbrier Sit 56.95 74 *e*P P 23 37 14.3 -0.9
comp=Z,194nm,1.2s
336A Riesel 56.95 80 P P 23 37 15.8 +0.5
baz=315
X301 Greenbrier Sit 56.96 74 *e*P P 23 37 14.4 -0.9
comp=Z,181nm,1.1s
X301 LR LR
comp=Z,2µm,20.0s
WHN Wuhan 56.99 279⇑ *i*P P 23 37 16.0 +0.5
WHN sP sP 23 37 29.0 -0.6
WHN S S 23 45 07.3 -0.2
WHN PMZ
comp=Z,920nm,1.3s
WHN LN
comp=Z,3µm,12.3s
WHN LE
comp=Z,3µm,18.0s
WHN LZ
comp=Z,5µm,20.0s
WHAR Wooly Hollow 56.99 74 *e*P P 23 37 14.5 -1.0
comp=Z,149nm,1.1s
WHAR LR LR
comp=Z,2µm,19.0s
PBMO Poplar Bluff 57.07 71 *e*P P 23 37 14.8 -1.3
comp=Z,240nm,1.2s
PBMO LR LR
comp=Z,2µm,20.0s
NACB Ninganchiao 57.08 268 *e*P P 23 37 18.1 +1.7
comp=Z,114nm,1.3s
NACB LR LR
comp=Z,2µm,20.0s
OLIL Olney 57.09 68 *e*P P 23 37 16.0 -0.1
comp=Z,438nm,1.0s
OLIL LR LR
comp=Z,3µm,20.0s
W41B Gary Mavity, V 57.09 74 P P 23 37 15.6 -0.6
baz=314
S44A Carbondale 57.13 69 P P 23 37 15.9 -0.6
baz=313
138A Matatall Enter 57.13 78 P P 23 37 17.1 +0.6
baz=314,SNR=15
SIUC Southern Illin 57.13 69 *e*P P 23 37 15.9 -0.6
comp=Z,189nm,0.8s
SIUC LR LR
comp=Z,4µm,21.0s
237A Washetta, Mont 57.15 79 P P 23 37 17.2 +0.5
baz=315,SNR=16
AAM Ann Arbor 57.16 62 PFAKE 23 37 30.0 +13
AAM LR LR
comp=Z,2µm,19.0s
V42A Cord 57.17 72 P P 23 37 15.4 -1.4
baz=314
HAMF Hammerfest 57.21 354 *e*P P 23 37 16.6 0.0
X40A Basin Creek Fa 57.22 75 P P 23 37 16.7 -0.4
baz=314,SNR=71
832A Faith Ranch, C 57.22 85 P P 23 37 17.5 +0.3
baz=316
Z39A Irene McRaven, 57.27 77 P P 23 37 17.8 +0.2
baz=314
Y40A Okolona 57.28 75 P P 23 37 17.3 -0.2
baz=314
UALR University of 57.31 74 *e*P P 23 37 17.4 -0.4
comp=Z,201nm,1.3s
UALR LR LR
comp=Z,2µm,20.0s
733A Pivot King Ran 57.33 84 P P 23 37 18.4 +0.4
baz=316
H06N1 SOCORRO T-PHAS 57.38 101 T T 00 39 48.1
SNR=46
X41A Kaden, Bauxite 57.41 74 P P 23 37 18.3 -0.2
baz=314,SNR=25
436A Wall Ranch, Ga 57.41 81 P P 23 37 19.3 +0.8
baz=315,SNR=9.3
634A China Grove, S 57.44 83 P P 23 37 18.7 -0.1
baz=316
535A Dale 57.46 82 P P 23 37 19.4 +0.5
baz=315
H06E1 SOCORRO T-PHAS 57.48 101 T T 00 39 59.6
SNR=26
S45A Carrier Mills 57.53 69 P P 23 37 18.8 -0.5
baz=313
139A Bunkhouse Ranc 57.54 77 P P 23 37 19.8 +0.4
baz=314
PARMO Parma 57.54 71 *e*P P 23 37 19.0 -0.3
833A Chaparral WMA, 57.55 84 P P 23 37 20.3 +0.7
baz=316,SNR=66
238A Jacksonville 57.57 78 P P 23 37 20.4 +0.8
baz=315,SNR=15
337A Centerville 57.59 79 P P 23 37 20.7 +1.0
baz=315,SNR=5.6
WLAR White Oak Lake 57.61 75 *e*P P 23 37 20.3 +0.4
comp=Z,461nm,1.0s
WLAR LR LR
comp=Z,2µm,20.0s
BLO Bloomington 57.69 66 PFAKE 23 37 30.0 +10
BLO LR LR
comp=Z,4µm,20.0s
734A La Parita Cree 57.69 83 P P 23 37 21.3 +0.7
baz=316,SNR=13
Z40A Long Farm, Mag 57.73 76 P P 23 37 21.2 +0.4
baz=314,SNR=10
536A Bastrop 57.74 81 P P 23 37 21.6 +0.7
baz=315,SNR=5.4
PVMO Portageville 57.74 71 PFAKE 23 37 30.0 +9.2
PVMO LR LR
comp=Z,2µm,20.0s
SSLB Suanglung 57.76 268 *e*P P 23 37 20.4 -0.7
comp=Z,148nm,1.2s
SSLB LR LR
comp=Z,2µm,20.0s
437A Phantom Ranch, 57.77 80 P P 23 37 22.4 +1.3
baz=315,SNR=9.9
Y41A Eaglette Beard 57.77 75 P P 23 37 21.2 +0.2
baz=314,SNR=51
635A Leesville 57.79 82 P P 23 37 22.0 +0.8
baz=316,SNR=27
XAN Xi'an 57.83 285 P P 23 37 21.5 -0.1
XAN pP sP 23 37 34.8 -0.8
XAN PcP PcP 23 38 15.5 +1.7
XAN PP PP 23 39 30.0 +0.4
XAN S S 23 45 12.0 -6.7
XAN ScS ScS 23 47 03.0 -5.4
XAN SS SS 23 49 02.3 -6.8
XAN PMZ
comp=Z,210nm,1.3s
XAN PMZ
comp=Z,410nm,7.1s
XAN LN
comp=Z,2µm,21.8s
XAN LE
comp=Z,5µm,21.4s
XAN LZ
comp=Z,7µm,21.7s
KEV Kevo 57.84 352 *e*P P 23 37 21.1 +0.1
KEV pmax pmax
comp=Z,28nm,0.8s
KEV MLR MLR
comp=Z,4µm,19.0s
KEV Kevo 57.84 352 *e*P P 23 37 21.1 +0.1
comp=Z,28nm,0.8s
KEV LR LR
comp=Z,4µm,19.0s
YULB Yu-li 57.84 267 *e*P P 23 37 24.2 +2.6
comp=Z,172nm,1.6s
YULB LR LR
comp=Z,2µm,21.0s
USIN University of 57.86 68 *e*P P 23 37 21.3 -0.3
comp=Z,517nm,0.8s
USIN LR LR
comp=Z,3µm,20.0s
GNAR Gosnell 57.87 71 *e*P P 23 37 21.7 0.0
SADO Sadowa 57.89 57 *e*P P 23 37 21.8 +0.1
comp=Z,142nm,1.0s
SADO LR LR
comp=Z,6µm,19.0s
338A Crockett 57.91 79 P P 23 37 22.8 +0.8
baz=315,SNR=6.7
239A Gary 57.95 78 P P 23 37 22.6 +0.2
baz=315
NATX Nacogdoches 58.02 78 P P 23 37 23.4 +0.6
baz=315,SNR=11
NATX Nacogdoches 58.02 78 *e*P P 23 37 23.4 +0.6
comp=Z,305nm,1.4s
NATX LR LR
comp=Z,2µm,18.0s
V44A Blytheville 58.03 71 P P 23 37 22.5 -0.3
baz=314
140A Cam and Jess, 58.06 77 P P 23 37 23.8 +0.7
baz=315

GLAT Glass 58.08 71 *e*P P 23 37 23.6 +0.4
Z41A Richland Creek 58.09 76 P P 23 37 23.4 +0.1
baz=314,SNR=9.1
933A Laredo 58.13 85 P P 23 37 24.4 +0.8
baz=316,SNR=28
735A Kenedy 58.15 83 P P 23 37 24.8 +1.1
baz=316,SNR=7.3
636A Smothers Creek 58.16 82 P P 23 37 24.9 +1.1
baz=316,SNR=15
ARA0 ARCESS Array S 58.17 353 *e*P P 23 37 22.3 -1.0
ARCES ARCESS Array B 58.17 353 P P 23 37 22.3 -1.0
comp=Z,11nm,0.4s,baz=14,slow=8.4,SNR=97
ARCES PcP **PcP** 23 38 16.0 +1.5
comp=Z,7.5nm,0.5s,baz=353,slow=3.9,SNR=8.0
ARCES ScP **ScP** 23 42 11.9 -0.1
comp=Z,3.9nm,0.9s,baz=101,slow=3.8,SNR=4.0
ARCES LR LR 00 05 16.0
comp=Z,3μm,18.0s,baz=5.5,slow=39
ARCES PKP2bc 00 07 10.0
comp=Z,5.0nm,0.9s,baz=150,slow=2.7,SNR=6.4
ARE0 ARCESS Array S 58.17 353 *e*P P 23 37 23.1 -0.3
ARE0 *e*S **S** 23 45 23.3 +1.2
ARE0 ARCESS Array S 58.17 353 *e*P P 23 37 23.4 +0.1
comp=Z,52nm,1.2s
ARE0 LR LR
comp=Z,3μm,19.0s
537A Green Hill Far 58.19 81 P P 23 37 25.1 +1.1
baz=315,SNR=9.5
834A Tilden 58.21 84 P P 23 37 25.2 +1.0
baz=316
438A Sam Houston St 58.23 80 P P 23 37 25.8 +1.5
baz=315,SNR=7.3
CCAR Cane Creek 58.25 74 *e*P P 23 37 25.3 +0.9
comp=Z,1μm,1.8s
UTMT University of 58.28 70 *e*P P 23 37 24.8 +0.2
comp=Z,512nm,0.9s
Y42A Garnett, Star 58.29 74 P P 23 37 25.0 +0.3
baz=314,SNR=12
HALT Halls 58.30 71 *e*P P 23 37 25.0 +0.3
HALT LR LR
comp=Z,1672μm,20.0s
TPUB Ta-pu 58.32 268 *e*P P 23 37 27.6 +2.5
comp=Z,62nm,0.9s
TPUB LR LR
comp=Z,3μm,21.0s
X43A Marvell 58.36 73 P P 23 37 25.1 -0.1
baz=314,SNR=6.1
240A Hunter Patters 58.37 77 P P 23 37 25.4 +0.2
baz=315
339A Huntington 58.38 78 P P 23 37 25.9 +0.6
baz=315
QZH Quanzhou 58.38 271⇑ *i*P P 23 37 16.5 -8.9
QZH S **S** 23 45 19.0 -6.8
QZH pmax pmax
comp=Z,300nm,1.2s
QZH pmax pmax
comp=Z,2μm,2.8s
QZH LR LR
comp=N,3μm,19.7s
QZH LR LR
comp=E,4μm,18.8s
QZH LR LR
comp=Z,3μm,19.3s
TWG Pinlang 58.40 267 PFAKE 23 37 40.0 +14
TWG LR LR
comp=Z,3μm,20.0s
WCI Wyandotte Cave 58.46 67 *e*P P 23 37 25.4 -0.4
WCI Wyandotte Cave 58.46 67 *e*P P 23 37 25.4 -0.4
comp=Z,219nm,0.9s
WCI LR LR
comp=Z,3μm,20.0s
TRO Tromso 58.48 356 *e*P P 23 37 25.0 -0.5
TRO *e*S **S** 23 45 24.9 -1.0
141A Papa Simpson, 58.48 76 P P 23 37 26.5 +0.5
baz=315
MET Memphis--Engin 58.50 72 *e*P P 23 37 26.6 +0.5
comp=Z,358nm,0.8s
MET LR LR
comp=Z,2μm,21.0s
736A Circle Diamond 58.53 82 P P 23 37 27.8 +1.4
baz=316
835A Beeville 58.54 83 P P 23 37 28.2 +1.7
baz=316,SNR=16
W44A Shelby Farms P 58.56 72 P P 23 37 26.3 -0.2
baz=314
Z42A Norrel Spur, H 58.59 75 P P 23 37 27.0 +0.3
baz=315,SNR=14
538A Harpers Horsep 58.60 80 P P 23 37 28.4 +1.6
baz=315
934A Benavides 58.60 84 P P 23 37 28.5 +1.5
baz=316,SNR=13
439A Center Grove, 58.63 79 P P 23 37 28.1 +1.0
baz=315,SNR=5.1
637A Eagle Lake 58.64 81 P P 23 37 28.2 +1.1
baz=316
V45A Humboldt 58.64 71 P P 23 37 26.8 -0.3
baz=314
340A Bronson 58.73 78 P P 23 37 28.2 +0.5
baz=315,SNR=19
Y43A Makayla and Ka 58.75 74 P P 23 37 28.1 +0.2
baz=315
X44A Crenshaw 58.81 73 P P 23 37 28.1 -0.1
baz=314,SNR=13
KTK1 Kautokeino 58.85 354 *e*P P 23 37 28.2 +0.1
KTK1 IAmb IAmb 23 37 29.9
comp=Z,19nm,1.0s
LVZ Lovozero 58.86 349 *d*iP P 23 37 27.8 -0.4
LVZ pmax pmax
comp=Z,75nm,0.9s
LVZ MLR MLR
comp=Z,6μm,19.0s
LVZ Lovozero 58.86 349 *e*P P 23 37 27.3 -0.9
comp=Z,86nm,0.9s
LVZ LR LR
comp=Z,6μm,19.0s
241A Mo Tay, Goldon 58.88 77 P P 23 37 29.6 +0.8
baz=315
034A Hebbronville 58.89 85 P P 23 37 30.3 +1.3
baz=316,SNR=34
W45A Hickory Valley 58.91 72 P P 23 37 29.1 +0.1
baz=314
ACSO Alum Creek Sta 58.94 63 *e*P P 23 37 28.9 -0.2
comp=Z,90nm,0.9s
ACSO LR LR
comp=Z,2μm,20.0s
WVT Waverly 59.03 70 *e*P P 23 37 29.3 -0.5
WVT Waverly 59.03 70 *e*P P 23 37 29.3 -0.5
comp=Z,248nm,1.3s
WVT LR LR
comp=Z,2μm,20.0s
KVTX Kingsville 59.03 84 *e*P P 23 37 31.9 +2.0
comp=Z,220nm,0.9s
KVTX LR LR
comp=Z,3μm,20.0s
737A Port Lavaca 59.05 82 P P 23 37 31.6 +1.6
baz=316
Z43A Armstrong Fami 59.06 75 P P 23 37 30.1 +0.1
baz=315
142A Monroe 59.10 76 P P 23 37 30.8 +0.5
baz=315
539A Cross D Ranch, 59.14 80 P P 23 37 31.6 +1.0
baz=316
Y44A Strider, Charl 59.14 73 P P 23 37 30.7 +0.1
baz=315,SNR=8.2
440A Kirbyville 59.16 78 P P 23 37 31.7 +1.0
baz=315,SNR=6.7
638A Rosharon 59.19 81 P P 23 37 32.6 +1.6
baz=316
TRQ Mont Tremblant 59.21 53 *e*P P 23 37 30.6 -0.5
341A Kurthwood 59.22 77 P P 23 37 32.0 +0.8
baz=315,SNR=20
OXF Oxford 59.23 72 *e*P P 23 37 30.9 -0.3
OXF Oxford 59.23 72 *e*P P 23 37 30.9 -0.3
comp=Z,841nm,1.1s
OXF LR LR
comp=Z,2μm,22.0s
ERPA Erie 59.27 60 *e*P P 23 37 31.7 +0.4
comp=Z,325nm,1.1s
ERPA LR LR
comp=Z,6μm,18.0s
X45A UM Field Stati 59.30 72 P P 23 37 31.4 -0.3
baz=315
BUF Buffalo 59.31 59 *e*P P 23 37 32.8 +1.1
143A Socs Landing, 59.32 75 P P 23 37 32.2 +0.4
baz=315,SNR=8.6
242A Grayson 59.32 76 P P 23 37 32.3 +0.5
baz=315,SNR=10

APA Apatity 59.32 349⇑ *i*P P 23 37 30.0 -1.3
APA *i* 23 39 44.0
APA *i*S **S** 23 45 34.0 -2.9
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,6μm,19.0s
035A Encino 59.34 85 P P 23 37 33.4 +1.3
baz=317,SNR=17
NRS Narsarsuaq 59.38 27 *i*P P 23 37 31.1 -0.7
NRS pmax pmax
comp=Z,67nm,1.3s
NRS Narsarsuaq 59.38 27 *i*P P 23 37 31.1 -0.7
comp=Z,67nm,1.3s
GTA Gaotai 59.38 296⇑ P P 23 37 31.8 -0.6
GTA pP pP 23 37 39.5 -3.0
GTA sP sP 23 37 42.5 -3.9
GTA ScP **ScP** 23 42 19.3 +1.3
GTA S **S** 23 45 37.0 -1.8
GTA sS sS 23 45 50.0 -5.5
GTA ScS **ScS** 23 47 16.0 -3.9
GTA SS **SS** 23 49 33.0 -0.3
GTA PMZ
comp=Z,99nm,1.6s
GTA PMZ
comp=Z,690nm,7.1s
GTA LN
comp=Z,7μm,18.1s
GTA LE
comp=Z,5μm,17.6s
GTA LZ
comp=Z,8μm,17.1s
LZH Lanzhou 59.40 291⇑ P P 23 37 33.5 +0.9
LZH pP pP 23 37 42.5 -0.2
LZH sP sP 23 37 46.0 -0.6
LZH PP **PP** 23 39 46.0 +2.4
LZH ScP **ScP** 23 42 18.0 -0.1
LZH S **S** 23 45 37.3 -1.9
LZH sS sS 23 45 54.0 -1.9
LZH ScS **ScS** 23 47 17.3 -2.9
LZH SS **SS** 23 49 34.3 +0.5
LZH PMZ
comp=Z,200nm,1.3s
LZH PMZ
comp=Z,1μm,4.2s
LZH LN
comp=Z,2μm,17.0s
LZH LE
comp=Z,2μm,16.2s
LZH LZ
comp=Z,2μm,18.0s
738A Farr-Stevens R 59.48 81 P P 23 37 32.8 -0.1
baz=316
Z44A Pea Ridge, Bel 59.49 74 P P 23 37 33.0 0.0
baz=315,SNR=11
ALLY Allegheny Colle 59.51 60 *e*P P 23 37 33.4 +0.4
comp=Z,493nm,0.9s
ALLY LR LR
comp=Z,6μm,20.0s
540A Vidor 59.52 79 P P 23 37 31.8 -1.4
baz=316
Y45A Yeager Farm, C 59.61 73 P P 23 37 33.7 -0.1
baz=315,SNR=12
441A DeRidder 59.62 78 P P 23 37 34.9 +1.0
baz=316
ZAIG Zacatecas 59.62 91 *e*P P 23 37 34.2 -0.2
comp=Z,183nm,1.6s
ZAIG LR LR
comp=Z,4μm,22.0s
342A Flagon Creek P 59.70 77 P P 23 37 35.0 +0.6
baz=315,SNR=12
035Z Hargill 59.70 85 P P 23 37 35.5 +1.0
baz=317,SNR=6.1
243A Waterproof 59.85 76 P P 23 37 36.1 +0.6
baz=315,SNR=10
M54A Oil Creek Stat 59.86 60 P P 23 37 35.8 +0.3
baz=314
Z45A Winona 59.87 73 P P 23 37 35.5 -0.1
baz=315,SNR=7.2
MMNY Mt. Morris Dam 59.94 58 *e*P P 23 37 36.5 +0.5
144A Alexander Plac 59.95 74 P P 23 37 36.6 +0.4
baz=315
Y46A Houston 60.00 72 P P 23 37 36.2 -0.3
baz=315,SNR=50
N54A Moraine State 60.07 61 P P 23 37 36.9 0.0
baz=315
541A Lake Charles 60.11 78 P P 23 37 38.0 +0.7
baz=316
ENH Enshi 60.14 282 *e*P P 23 37 37.6 0.0
comp=Z,595nm,1.8s
ENH LR LR
comp=Z,3μm,21.0s
LOF Lofoten 60.18 358 *e*P P 23 37 36.5 -0.7
LOF IAmb IAmb 23 37 39.3
comp=Z,56nm,0.3s
LOF *e*S **S** 23 45 48.9 +1.0
343A Vidalia 60.19 76 P P 23 37 38.4 +0.5
baz=316
244A Avery, Jackson 60.21 75 P P 23 37 38.4 +0.4
baz=315,SNR=32
145A Houston Renfro 60.27 74 P P 23 37 38.4 +0.1
baz=315,SNR=10
LMQ La Malbaie 60.33 50 *e*P P 23 37 38.5 -0.1
LMQ LR LR
comp=Z,12μm,20.0s
LONY Lake Ozonia 60.33 55 *e*P P 23 37 38.3 -0.3
comp=Z,126nm,1.1s
LONY LR LR
comp=Z,3μm,19.0s
STEI Steigen 60.33 357 *e*P P 23 37 37.9 -0.3
STEI IAmb IAmb 23 37 39.9
comp=Z,36nm,0.5s
Z46A Louisville 60.44 73 P P 23 37 39.4 -0.1
baz=315
542A Morse 60.45 78 P P 23 37 41.1 +1.4
baz=316
443A Delano Plantat 60.46 77 P P 23 37 40.6 +1.0
baz=316
Y47A UCPARC, Winfie 60.58 72 P P 23 37 40.1 -0.3
baz=315,SNR=132
344A Westbrook Farm 60.60 76 P P 23 37 41.4 +0.7
baz=316,SNR=22
FRNY Flat Rock 60.67 54 *e*P P 23 37 40.4 -0.6
comp=Z,102nm,1.1s
245A Little AP, Sta 60.69 75 P P 23 37 41.3 +0.1
baz=316,SNR=23
146A Union 60.76 74 P P 23 37 41.9 +0.1
baz=316,SNR=20
SWET Sewanee 60.77 69 *e*P P 23 37 40.9 -0.9
comp=Z,75nm,1.4s
SWET LR LR
comp=Z,1μm,22.0s
543A St. Martinvill 60.90 78 P P 23 37 43.9 +1.2
baz=316
Z47A Carrollton 60.95 72 P P 23 37 42.6 -0.4
baz=316,SNR=56
NCB Newcomb 60.97 55 *e*P P 23 37 43.3 +0.3
comp=Z,3.7nm,1.6s
NCB LR LR
comp=Z,100nm,18.0s
MCWV Mont Chateau 61.06 62 PFAKE 23 38 00.0 +16
MCWV LR LR
comp=Z,1μm,20.0s
444A Pine Grove 61.12 76 P P 23 37 45.0 +0.8
baz=316
Z48A Northport 61.12 72 P P 23 37 43.6 -0.6
baz=316,SNR=114
345A Thompson Farm, 61.12 75 P P 23 37 44.6 +0.4
baz=316,SNR=8.0
246A Jackson Lee, B 61.16 74 P P 23 37 44.7 +0.2
baz=316,SNR=5.1
147A Livingston 61.20 73 P P 23 37 44.5 -0.2
baz=316
TZTN Tazewell 61.20 67 *e*P P 23 37 44.7 0.0
comp=Z,190nm,1.0s
SEM Semipalatinsk 61.26 316 *i*P P 23 37 40.2 -4.6
comp=Z,389nm,1.5s
SEM *e*S **S** 23 45 58.3 -3.9
SEM LR LR 00 03 03.0
comp=Z,2μm,19.2s
544A White Castle 61.30 77 P P 23 37 46.3 +0.9
baz=316
BINY Binghamton 61.32 57 *e*P P 23 37 46.2 +0.7
comp=Z,318nm,1.2s
O56A Blue Knob Stat 61.33 61 P P 23 37 45.4 -0.1
baz=315
445A Amite 61.35 76 P P 23 37 46.3 +0.6
baz=316
BORG Borgarnes 61.40 14 PFAKE 23 38 00.0 +14
BORG LR LR
comp=Z,4μm,20.0s
346A Big Creek Wild 61.41 75 P P 23 37 46.3 +0.2
baz=316,SNR=7.3
CPCT Cooper Cave 61.42 68 *e*P P 23 37 45.6 -0.6
comp=Z,115nm,1.4s
CPCT LR LR
comp=Z,2μm,20.0s
SSPA Standing Stone 61.43 60 *e*P P 23 37 45.8 -0.4
comp=Z,287nm,1.1s
SSPA LR LR
comp=Z,4μm,19.0s
247A Quitman 61.44 74 P P 23 37 46.9 +0.5
baz=316,SNR=24
MDV Middlebury 61.48 54 *e*P P 23 37 46.4 0.0
ZSN Zaisan 61.58 311 *i*P P 23 37 44.0 -3.1
comp=Z,1μm,1.1s
ZSN *e*S **S** 23 46 05.0 -1.5
ZSN LR LR 00 04 09.0
comp=Z,1μm,15.3s
ACCN Adirondack Com 61.67 55 *e*P P 23 37 48.1 +0.4
comp=Z,224nm,1.1s
ACCN LR LR
comp=Z,5μm,18.0s
TKL Tuckaleechee C 61.70 68 *e*P P 23 37 47.7 -0.4
TKL pmax pmax
comp=Z,138nm,1.0s
TKL MLR MLR
comp=Z,4μm,18.0s
TKL Tuckaleechee C 61.70 68 *e*P P 23 37 47.7 -0.4
comp=Z,138nm,1.0s
TKL LR LR
comp=Z,4μm,18.0s
KURK Kurchatov 61.72 317 *c*iP P 23 37 48.1 +0.2
KURK pmax pmax
comp=Z,433nm,1.2s
KURK MLR MLR
comp=Z,19μm,21.0s
KURK Kurchatov 61.72 317 *e*P P 23 37 47.4 -0.6
comp=Z,358nm,0.9s
KURK LR LR
comp=Z,19μm,22.0s
545A Edgard 61.75 77 P P 23 37 49.4 +1.0
baz=316
KONS Konsvik 61.82 358 *e*P P 23 37 48.4 0.0
KSPA Keystone Colle 61.90 58 PFAKE 23 38 00.0 +11
KSPA LR LR
comp=Z,6μm,18.0s
248A Dixon Mills 61.93 73 P P 23 37 49.9 +0.3
baz=316,SNR=11
347A Saraland 61.95 74 P P 23 37 50.0 +0.3
baz=316,SNR=35
STOK Stokkvaagen 61.99 358 *e*P P 23 37 50.1 +0.6
PQI Presque Isle 62.05 49 *e*P P 23 37 51.6 +1.4
comp=Z,0.5nm,0.7s
546A Slidell 62.08 76 P P 23 37 51.4 +0.7
baz=316
645A Chauvin 62.11 77 P P 23 37 51.9 +1.1
baz=316
HNH Hanover 62.14 54 *e*P P 23 37 51.4 +0.5
comp=Z,200nm,1.1s
HNH LR LR
comp=Z,7μm,18.0s
TRY Troy 62.14 56 *e*P P 23 37 51.5 +0.6
comp=Z,210nm,1.0s
TRY LR LR
comp=Z,10μm,18.0s
447A Lucedale 62.31 75 P P 23 37 52.5 +0.3
baz=316,SNR=7.6
348A Jackson 62.32 74 P P 23 37 52.6 +0.4
baz=316,SNR=13
N59A State Game Lan 62.35 58 P P 23 37 52.9 +0.5
baz=316
PKME Peaks-Kenny Pk 62.47 51 *e*P P 23 37 53.3 +0.3
comp=Z,232nm,1.0s
PKME LR LR
comp=Z,9μm,18.0s
646A Port Sulphur 62.48 76 P P 23 37 55.2 +1.8
baz=316
BLA Blacksburg 62.49 64 *e*P P 23 37 53.8 +0.4
BLA pmax pmax
comp=Z,370nm,0.9s
BLA MLR MLR
comp=Z,2μm,20.0s
BLA Blacksburg 62.49 64 *e*P P 23 37 53.8 +0.4
comp=Z,370nm,0.9s
BLA LR LR
comp=Z,2μm,20.0s
CHKZ Chkalovo 62.60 324 *i*P P 23 37 53.7 0.0
CHKZ pmax pmax
comp=Z,80nm,1.3s
FFD Franklin Falls 62.62 54 *e*P P 23 37 54.7 +0.6
comp=Z,264nm,1.1s
WMQ Urumqi 62.65 307 P P 23 37 55.5 +1.1
WMQ pP pP 23 38 06.5 +1.9
WMQ sP sP 23 38 10.3 +1.8
WMQ PP **PP** 23 40 09.0 -2.9
WMQ S **S** 23 46 20.3 +0.2
WMQ sS sS 23 46 37.0 +0.1
WMQ ScS **SKKSac** 23 47 42.3 -1.8
WMQ SS **SS** 23 50 26.5 +2.4
WMQ PMZ
comp=Z,59nm,0.7s
WMQ PMZ
comp=Z,460nm,4.7s
WMQ LN
comp=Z,3μm,19.3s
WMQ LE
comp=Z,2μm,22.5s
WMQ LZ
comp=Z,3μm,25.5s
448A Bay Minette 62.69 74 P P 23 37 55.1 +0.4
baz=316
MVL Millersville 62.71 59 *e*P P 23 37 55.1 +0.4
comp=Z,134nm,1.1s
MVL LR LR
comp=Z,3μm,19.0s
MOIG Morelia 62.77 93 *e*P P 23 37 56.4 +0.6
comp=Z,249nm,1.1s
MOIG LR LR
comp=Z,3μm,22.0s
LUPA Lehigh Univers 62.79 58 *e*P P 23 37 56.0 +0.7
comp=Z,232nm,1.0s
LUPA LR LR
comp=Z,6μm,19.0s
WVL Waterville 62.81 52 *e*P P 23 37 55.4 +0.1
comp=Z,296nm,1.0s
WVL LR LR
comp=Z,8μm,19.0s
ODNJ Ogdensburg 62.84 57 *e*P P 23 37 56.2 +0.5
comp=Z,145nm,1.0s
ODNJ LR LR
comp=Z,4μm,19.0s
SDMD Soldier's Deli 62.87 60 *e*P P 23 37 56.0 +0.2
comp=Z,113nm,1.0s
GZH Guangzhou 62.99 273⇑ *i*P P 23 37 53.5 -3.3
GZH pP **pP** 23 38 03.5 -3.5
GZH S **S** 23 46 19.0 -5.7
GZH PMZ
comp=Z,2μm,2.7s
BRAL Brewton 63.00 73 *e*P P 23 37 57.2 +0.4
comp=Z,472nm,1.1s
BRAL LR LR
comp=Z,2μm,20.0s
MK31 Makanchi Array 63.04 312 *i*P P 23 37 56.8 -0.1
MK31 pmax pmax
comp=Z,44nm,0.9s
MK31 Makanchi Array 63.04 312 *e*P P 23 37 56.1 -0.8
MKAR Makanchi Array 63.04 312 P P 23 37 56.6 -0.3
comp=Z,12nm,0.4s,baz=53,slow=6.4,SNR=170
MKAR PKPPKP **P'P'df** 00 06 55.4 -6.7
comp=Z,4.6nm,1.1s,baz=242,slow=2.1,SNR=12
MKAR LR LR 00 07 46.0
comp=Z,4μm,19.1s,baz=34,slow=38
MKAR Makanchi Array 63.04 312 *e*P P 23 37 56.1 -0.8
MKAR P'P' 00 06 55.4
MK01 Makanchi Array 63.05 312 *e*P P 23 37 55.0 -2.0
CD2 Chengdu 63.12 286⇑ *i*P P 23 37 57.5 -0.2
CD2 pP pP 23 38 07.5 -0.4
CD2 sP sP 23 38 11.0 -0.8
CD2 PcS 23 42 35.5
CD2 S **S** 23 46 27.0 +0.6
CD2 sS sS 23 46 42.5 -0.7
CD2 SS **SS** 23 50 33.8 +1.7
CD2 PMZ

CD2 PMZ
comp=Z,340nm,0.7s
CD2 LN
comp=Z,810nm,5.0s
CD2 LE
comp=Z,4μm,17.7s
CD2 LZ
comp=Z,5μm,18.1s
QUA2 **Belchertown** 63.14 55 *e*P **P** 23 37 58.0 +0.4
comp=Z,5μm,19.7s
QUA2 LR LR
comp=Z,163nm,1.1s
BRNJ **Basking Ridge** 63.16 58 *e*P **P** 23 37 58.4 +0.7
comp=Z,5μm,18.0s
BRNJ LR LR
comp=Z,218nm,0.9s
MAKZ **Makanchi** 63.17 312 *i* P **P** 23 37 56.9 -0.8
comp=Z,6μm,19.0s
MAKZ pmax pmax
comp=Z,82nm,1.3s
MAKZ **Makanchi** 63.17 312 *e*P **P** 23 37 56.7 -1.0
comp=Z,156nm,1.4s
BRVK **Borovoye** 63.21 323 *e*P **P** 23 37 57.7 -0.2
comp=Z,5μm,18.0s
BRVK pmax pmax
comp=Z,922nm,1.5s
BRVK MLR MLR
comp=Z,18μm,18.0s
BRVK **Borovoye** 63.21 323 *e*P **P** 23 37 57.6 -0.2
comp=Z,922nm,1.5s
BRVK LR LR
comp=Z,18μm,18.0s
VOSK **Vostochnaya** 63.21 323 *e*P **P** 23 37 58.0 +0.1
comp=Z,6μm,20.0s
VOSK pmax pmax
comp=Z,252nm,1.4s
VOSK MLR MLR
comp=Z,6μm,20.0s
VOSK **Vostochnaya** 63.21 323 *e*P **P** 23 37 58.0 +0.1
comp=Z,252nm,1.4s
VOSK LR LR
comp=Z,6μm,20.0s
PAL **Palisades** 63.26 57 *e*P **P** 23 37 59.1 +0.7
comp=Z,5μm,18.0s
PAL pmax pmax
comp=Z,287nm,1.0s
PAL MLR MLR
comp=Z,5μm,18.0s
PAL **Palisades** 63.26 57 *e*P **P** 23 37 59.1 +0.7
comp=Z,5μm,18.0s
PAL LR LR
comp=Z,287nm,1.0s
SVE **Sverdlovsk** 63.37 331 *de*P **P** 23 37 58.9 0.0
SVE *e*S **S** 23 46 30.0 +1.4
comp=Z,5μm,20.0s
SVE pmax pmax
comp=Z,174nm,1.4s
SVE MLR MLR
comp=Z,5μm,20.0s
HRV **Adam Dziewonsk** 63.37 55 *e*P **P** 23 37 59.5 +0.4
comp=Z,4μm,19.0s
HRV pmax pmax
comp=Z,216nm,1.2s
HRV MLR MLR
comp=Z,4μm,19.0s
HRV **Adam Dziewonsk** 63.37 55 *e*P **P** 23 37 59.5 +0.4
comp=Z,4μm,19.0s
HRV LR LR
comp=Z,216nm,1.2s
CPNY **Central Park** 63.39 57 *e*P **P** 23 37 59.9 +0.7
comp=Z,4μm,19.0s
CPNY pmax pmax
comp=Z,234nm,1.0s
CBN **Corbin Frederi** 63.45 61 *e*P **P** 23 38 00.4 +0.8
comp=Z,8μm,18.0s
CBN LR LR
comp=Z,354nm,1.3s
KMSC **Kings Mountain** 63.46 66 P **P** 23 37 59.9 +0.1
baz=316
GOGA **Godfrey** 63.48 69 *e*P **P** 23 37 59.2 -0.8
GOGA **Godfrey** 63.48 69 *e*P **P** 23 37 59.2 -0.8
comp=Z,8μm,18.0s
GOGA pmax pmax
comp=Z,191nm,0.9s
GOGA LR LR
comp=Z,4μm,18.0s
YLE **Yale** 63.54 56 *e*P **P** 23 38 00.7 +0.5
comp=Z,8μm,18.0s
YLE LR LR
comp=Z,156nm,1.0s
WES **Weston** 63.58 54 *e*P **P** 23 38 01.0 +0.6
comp=Z,8μm,18.0s
WES pmax pmax
comp=Z,379nm,1.0s
WES MLR MLR
comp=Z,8μm,18.0s
WES **Weston** 63.58 54 *e*P **P** 23 38 01.0 +0.6
comp=Z,379nm,1.0s
WES LR LR
comp=Z,8μm,18.0s
BCX **Boston College** 63.69 54 *e*P **P** 23 38 01.6 +0.4
comp=Z,899nm,1.8s
GGN **Saint George** 63.75 50 *e*P **P** 23 38 01.9 +0.3
comp=Z,394nm,1.3s
GGN LR LR
comp=Z,10μm,20.0s
EMMW **East Machias** 63.76 50 *e*P **P** 23 38 01.8 +0.2
comp=Z,321nm,1.0s
ZRNK **Zerenda** 63.76 324 *i* P **P** 23 38 01.9 +0.4
ZRNK pmax pmax
comp=Z,151nm,0.6s
ZRNK **Zerenda** 63.76 324 *e*P **P** 23 38 01.1 -0.4
comp=Z,156nm,0.6s
ZRNK LR LR
comp=Z,14μm,19.0s
RABL **Rabaul** 63.80 221 PFAKE 23 38 20.0 +18
RABL LR LR
comp=Z,2μm,19.0s
BRYW **Bryant College** 63.81 55 *e*P **P** 23 38 01.8 -0.3
comp=Z,302nm,1.0s
BRYW LR LR
comp=Z,7μm,18.0s
URVA **University of** 63.82 62 *e*P **P** 23 38 02.6 +0.5
NSS **Namsos** 63.82 358 *e*P **P** 23 38 00.9 -0.8
MANU **Manus Island** 63.93 227 *e*P **P** 23 38 03.7 +0.6
comp=Z,58nm,0.8s
MANU LR LR
comp=Z,1μm,21.0s
JSC **Jenkinsville** 64.12 67 *e*P **P** 23 38 04.3 +0.1
JSC **Jenkinsville** 64.12 67 *e*P **P** 23 38 04.3 +0.1
LMN **Caledonia Moun** 64.15 48 *e*P **P** 23 38 04.7 +0.5
comp=Z,436nm,1.0s
LMN LR LR
comp=Z,10μm,19.0s
UNM **Universidad Na** 64.28 91 PFAKE 23 38 20.0 +14
UNM LR LR
comp=Z,2μm,22.0s
ARU **Arti** 64.32 332 *c i*P **P** 23 38 04.5 -0.6
ARU 23 38 39.2
ARU 23 40 29.6
ARU PPP PPP 23 42 00.6
ARU S **S** 23 46 40.1 -0.4
ARU 23 47 51.9
ARU SS **SS** 23 50 53.3 +3.9
comp=Z,231nm,1.7s
ARU pmax pmax
comp=Z,4μm,21.0s
ARU MLR MLR
comp=Z,4μm,21.0s
ARU **Arti** 64.32 332 PFAKE 23 38 20.0 +15
ARU LR LR
comp=Z,4μm,21.0s
GYA **Guiyang** 64.61 281⇑ *i*P **P** 23 38 08.0 +0.4
GYA pP pP 23 38 17.5 -0.4
GYA PcP **PcP** 23 38 42.0 +0.7
GYA PP **PP** 23 40 32.3 +2.7
GYA ScP 23 42 41.8
GYA S **S** 23 46 44.5 -0.6
GYA ScS **SKSac** 23 47 56.5 -3.1
GYA SS **SS** 23 50 56.0 +0.4
GYA PMZ
comp=Z,240nm,1.2s
GYA PMZ
comp=Z,480nm,6.8s
GYA LN
comp=Z,2μm,22.2s
GYA LE
comp=Z,1μm,22.9s
GYA LZ
comp=Z,980nm,24.8s
DRLN **Deer Lake** 64.71 41 *e*P **P** 23 38 08.3 +0.5
comp=Z,288nm,0.9s
DRLN LR LR
comp=Z,9μm,20.0s
BRZS **Berezniki** 64.72 320 *i* P **P** 23 38 04.8 -3.0
comp=Z,192nm,1.3s
BRZS *e*S **S** 23 46 43.0 -2.6
BRZS LR LR 00 07 10.8
comp=Z,137nm,16.4s
KLMR **Klimovskoe** 64.80 344 *e*P **P** 23 38 06.8 -1.3
KLMR *e* 23 40 29.0
KLMR *e*S **S** 23 46 45.8 -0.4
KLMR pmax pmax
comp=Z,56nm,1.3s
TIGA **Tifton** 64.84 71 P **P** 23 38 08.1 -0.8
baz=317
TGY **Tagaytay City** 65.08 261 P **P** 23 38 12.0 +1.3
comp=Z,236nm,0.3s,baz=7.6,slow=9.7,SNR=4.7
TGY **Tagaytay City** 65.08 261 P **P** 23 38 12.0 +1.3
TGY pmax pmax
comp=Z,278nm,0.4s
TBLU **Trondheim** 65.13 359 *e*P **P** 23 38 09.7 -0.6
CNNC **Cliffs of the** 65.32 64 *e*P **P** 23 38 12.8 +0.9
comp=Z,222nm,1.3s
CNNC LR LR
comp=Z,2μm,19.0s
AFI **Afiamalu** 65.58 180 P **P** 23 38 12.7 -1.1
comp=Z,42nm,0.9s,baz=103,slow=7.8,SNR=5.1
AFI LR LR 00 00 55.1
comp=Z,2μm,21.0s,baz=357,slow=30
NHSC **New Hope** 65.59 67 *e*P **P** 23 38 14.5 +0.8
comp=Z,907nm,1.1s
NHSC LR LR
comp=Z,4μm,20.0s
RGRS **Roger Stewart** 65.73 67 *e*P **P** 23 38 15.3 +0.7
HNR **Honiara** 65.82 211 PFAKE 23 38 30.0 +15
HNR LR LR
comp=Z,3μm,22.0s
MOL **Molde** 65.82 0 *e*P **P** 23 38 13.8 -1.0
TLIG **Tiapa** 65.99 92 *e*P **P** 23 38 17.0 +0.3
comp=Z,148nm,1.3s
TLIG LR LR
comp=Z,3μm,20.0s
FIA1 **FINESS Array S** 66.07 351 *e*P **P** 23 38 15.6 -0.7
FIA1 *e*P'P'df **P'P'df** 00 06 50.5 -7.6
FINES **FINESS Array B** 66.07 351 P **P** 23 38 15.6 -0.7
comp=Z,30nm,0.7s,baz=19,slow=6.5,SNR=82
FINES PKP2bc 00 06 56.6
comp=Z,2.1nm,0.9s,baz=335,slow=3.2,SNR=4.9
FINES LR LR 00 10 40.6
comp=Z,3μm,18.7s,baz=16,slow=39
AKN **Aaknes** 66.21 1 *e*P **P** 23 38 17.9 +0.6
AKN IAmb IAmb 23 38 18.5
comp=Z,78nm,1.2s
AKN *e*S **S** 23 47 04.6 +1.1
OTUK **Ortayu** 66.23 319 *i* P **P** 23 38 17.5 -0.2
OTUK pmax pmax
comp=Z,118nm,1.2s
TAOE **Nuku Hiva Isla** 66.35 146 *e*S **S** 23 47 02.2 -4.1
comp=Z,4μm,27.2s
TAOE **Nuku Hiva Isla** 66.35 146 *e*LR LR 23 58 14.1
comp=Z,10μm,23.0s,baz=349
TAOE **Nuku Hiva Isla** 66.35 146 *e*T T 00 50 31.1
comp=Z,76nm,0.2s
TAOE **Nuku Hiva Isla** 66.35 146 PFAKE 23 38 30.0 +11
TAOE LR LR
comp=Z,7μm,20.0s
FOO **Floro** 66.77 2 *e*P **P** 23 38 21.4 +0.5
FOO *e*S **S** 23 47 12.6 +2.4
SHLS **Shalkode** 66.91 311 *i* P **P** 23 38 19.5 -2.8
comp=Z,2μm,1.5s
SHLS *e*S **S** 23 47 10.5 -2.5
SHLS LR LR 00 07 53.0
comp=Z,484nm,15.0s
PDGK **Podgornoye** 66.96 311 *i* P **P** 23 38 22.5 +0.2
PDGK pmax pmax
comp=Z,136nm,1.2s
NC204 **NORSAR Array S** 67.11 359 *e*P **P** 23 38 23.3 +0.2
NC303 **NORSAR Array S** 67.15 358 *e*P **P** 23 38 23.1 -0.2
NC405 **NORSAR Array S** 67.25 358 *e*P **P** 23 38 23.7 -0.2
SUE **Sulen** 67.31 2 *e*P **P** 23 38 23.7 -0.5
UZB **Uzynbulak** 67.31 312 *i* P **P** 23 38 21.6 -3.2
comp=Z,633nm,1.5s
UZB *e*S **S** 23 47 14.9 -2.8
UZB LR LR 00 07 47.0
comp=Z,1μm,17.1s
NB201 **NORSAR Array S** 67.33 358 *e*P **P** 23 38 25.0 +0.6
NBO02 **NORSAR Array S** 67.33 359 *e*P **P** 23 38 23.8 -0.7
NBO02 *e*P'P'df P'P'df 00 06 47.2 -8.9
NB2 **NORSAR Subarra** 67.34 358 P **P** 23 38 24.0 -0.5
comp=Z,13nm,0.7s,baz=5.6,slow=6.9
NB2 **NORSAR Subarra** 67.34 358 P **P** 23 38 24.0 -0.5
baz=5.6,slow=6.9
NOA **NORSAR Array B** 67.34 358 P **P** 23 38 24.0 -0.5
comp=Z,15nm,0.8s,baz=2.9,slow=6.4,SNR=50
NOA PKP2bc 00 06 48.5
comp=Z,7.4nm,1.1s,baz=172,slow=3.0,SNR=6.0
NOA LR LR 00 07 08.0
comp=Z,1μm,21.9s,baz=0.0,slow=35
NOA **NORSAR Array B** 67.34 358 P **P** 23 38 24.0 -0.5
NOA pmax pmax
comp=Z,15nm,0.8s
NBO00 **NORSAR Array S** 67.35 359 *e*P **P** 23 38 25.4 +0.8
JAY **Jayapura** 67.50 233 P **P** 23 38 26.4 +0.3
comp=Z,1.9nm,1.0s,baz=272,slow=21,SNR=8.8
JAY **Jayapura** 67.50 233 P **P** 23 38 27.3 +1.2
comp=Z,28nm,1.1s,comp=Z,459nm
NAO01 **NORSAR Array S** 67.54 359 *e*P **P** 23 38 26.4 +0.7
NAO01 *e*P'P'df P'P'df 00 06 47.2 -8.5
ZHN **Zhinishke** 67.57 312 *e*P **P** 23 38 23.4 -3.0
comp=Z,373nm,1.5s
ZHN *e*S **S** 23 47 18.1 -2.6
ZHN LR LR 00 08 06.9
comp=Z,2μm,17.3s
NC602 **NORSAR Array S** 67.64 358 *e*P **P** 23 38 26.5 +0.1
NC602 **NORSAR Array S** 67.64 358 *e*P **P** 23 38 26.8 +0.5
SATY **Saty** 67.67 312 *i* P **P** 23 38 24.0 -3.0
comp=Z,1μm,1.6s
SATY *e*S **S** 23 47 18.8 -3.1
SATY LR LR 00 08 02.7
comp=Z,2μm,17.5s
DAV **Davao City (W)** 67.82 252 PFAKE 23 38 40.0 +12
DAV LR LR
comp=Z,2μm,22.0s
GENI **Genyem** 67.83 233 P **P** 23 38 30.4 +2.3
comp=Z,102nm,0.8s,comp=Z,4μm
ASK **Askoy** 67.89 2 *e*P **P** 23 38 29.3 +1.4
KUU **Kurty** 67.95 314 *i* P **P** 23 38 24.7 -4.0
comp=Z,959nm,1.3s
KUU *e*S **S** 23 47 22.1 -2.9
KUU LR LR 00 08 45.9
comp=Z,1μm,17.2s
KMI **Kunming** 67.97 283 P **P** 23 38 30.0 +0.7
KMI pP sP 23 38 45.0 +1.5
KMI PP **PP** 23 41 02.0 +2.9
KMI S **S** 23 47 26.3 +0.1
KMI PMZ
comp=Z,170nm,1.4s
KMI PMZ
comp=Z,1μm,4.1s
KMI LN
comp=Z,370nm,20.1s
KMI LE
comp=Z,640nm,21.3s
BER **Bergen** 67.99 2 *e*P **P** 23 38 28.6 +0.1
BER *e*S **S** 23 47 26.5 +1.7
AAA **Alma-Ata** 68.17 313 *i* P **P** 23 38 31.0 +0.9
AAA *e*S **S** 23 47 27.3 -0.4
AAA pmax pmax
comp=Z,500nm,1.8s
AAA smax smax
comp=E,400nm,11.0s
AAA MLR MLR
comp=Z,4μm,19.0s
AAA **Alma-Ata** 68.17 313 *e*P **P** 23 38 27.9 -2.2
comp=Z,1μm,1.2s
AAA LR LR 00 08 48.9
comp=Z,821nm,17.1s
QIZ **Qiongzhong** 68.18 273 P **P** 23 38 30.3 -0.1
QIZ pP **sP** 23 38 45.0 +0.5
QIZ S **S** 23 47 33.0 +4.7
QIZ SS **SS** 23 51 51.3 +0.3
QIZ PMZ
comp=Z,460nm,7.5s
QIZ LN
comp=Z,860nm,22.0s
QIZ LE
comp=Z,1μm,22.0s
QIZ LZ
comp=Z,2μm,23.2s
QIZ **Qiongzhong** 68.18 273 *e*P **P** 23 38 31.6 +1.2
comp=Z,108nm,1.4s
QIZ LR LR
comp=Z,2μm,22.0s
MDOK **Medeo** 68.21 313 *i* P **P** 23 38 27.3 -3.2
comp=Z,826nm,1.1s
MDOK *i* PP **PP** 23 40 57.6 -2.9
MDOK *e*S **S** 23 47 25.4 -2.9
MDOK LR LR 00 08 38.4
comp=Z,1μm,17.4s
OSL **Oslo** 68.45 359 *e*P **P** 23 38 32.7 +1.2
DWPF **Disney Wildern** 68.56 72 *e*P **P** 23 38 33.1 +0.4
comp=Z,201nm,1.0s
DWPF LR LR
comp=Z,2μm,18.0s
KONO **Kongsberg** 68.75 359 *e*P **P** 23 38 33.5 +0.2
KONO *e*S **S** 23 47 34.5 +0.6
KONO **Kongsberg** 68.75 359⇑ *i*P **P** 23 38 34.2 +0.8
KONO pmax pmax
comp=Z,233nm,1.1s
KONO MLR MLR
comp=Z,9μm,20.0s
KONO **Kongsberg** 68.75 359 *e*P **P** 23 38 34.1 +0.8
comp=Z,35nm,0.9s
KONO LR LR
comp=Z,2μm,19.0s
VSU **Vasula** 68.93 350 *d* iP **P** 23 38 34.8 +0.4
VSU pmax pmax
comp=Z,211nm,0.9s
VSU MLR MLR
comp=Z,14μm,22.0s
BLS5 **Blasjo** 68.97 1 *e*P **P** 23 38 35.5 +0.8
TKM2 **Tokmak 2** 69.05 313 *e*P **P** 23 38 35.6 -0.2
TKM2 pmax pmax
comp=Z,278nm,1.5s
TKM2 MLR MLR
comp=Z,4μm,20.0s
TKM2 **Tokmak 2** 69.05 313 *e*P **P** 23 38 35.6 -0.2
comp=Z,278nm,1.5s
TKM2 *e*P'P'df **P'P'df** 00 06 45.3 -6.9
TKM2 LR LR
comp=Z,4μm,20.0s
BIGH **Upper Bighouse** 69.47 7 *e*P **P** 23 38 37.2 -0.5
BIGH AMB AMB 23 38 40.8
comp=Z,196nm,3.2s
BIGH AMS AMS 00 02 44.5
comp=Z,3μm,28.0s
FRU **Bishkek** 69.56 314⇑ *i*P **P** 23 38 39.0 +0.3
FRU *i* 23 39 01.0
FRU *e* 23 48 36.0
FRU pmax pmax
comp=Z,570nm,2.0s
FRU MLR MLR
comp=E,4μm,16.0s
AAK **Ala-Archa** 69.77 314 *c i*P **P** 23 38 40.8 +0.6
AAK pmax pmax
comp=Z,216nm,0.9s
AAK MLR MLR
comp=Z,10μm,19.0s
AAK **Ala-Archa** 69.77 314 P **P** 23 38 40.5 +0.3
SNR=73
AAK **Ala-Archa** 69.77 314 *e*P **P** 23 38 40.7 +0.5
comp=Z,105nm,0.8s
AAK LR LR
comp=Z,5μm,21.0s
MSVF **Nonsavu** 69.96 190 *d* iP **P** 23 38 41.8 +0.5
MSVF pmax pmax
comp=Z,186nm,1.1s
MSVF **Nonsavu** 69.96 190 *e*P **P** 23 38 42.6 +1.3
comp=Z,159nm,1.1s
MSVF LR LR
comp=Z,3μm,20.0s
MOS **Moscow** 69.97 343 *e*P **P** 23 38 40.0 -0.9
MOS *e* 23 39 03.0
MOS *e*PPP PPP 23 42 54.8
MOS *e*S **S** 23 47 45.3 -3.0
MOS *e* 23 48 37.2
MOS pmax pmax
comp=Z,56nm,1.0s
MOS pmax pmax
comp=Z,200nm,2.1s
AB31 **Akbulak array** 70.02 327 *i* P **P** 23 38 41.8 +0.5
AB31 pmax pmax
comp=Z,69nm,0.7s
ABKAR **Akbulak array** 70.02 327 *e*P **P** 23 38 41.1 -0.3
ABKAR *e*P'P'df P'P'df 00 06 36.4 -14
SNART **Snartemo** 70.07 1 *e*P **P** 23 38 42.2 +0.7
EKS2 **Erkin-Say** 70.07 314 PFAKE 23 38 50.0 +8.0
EKS2 LR LR
comp=Z,4μm,20.0s
VAH **Vaihoa** 70.10 155 *e*P **P** 23 38 42.1 0.0
comp=Z,242nm,1.1s
HOMB **Homborsund** 70.14 360 *e*P **P** 23 38 42.6 +0.7
HOMB *e*S **S** 23 47 50.9 +0.6
TEIG **Tepich** 70.33 82 PFAKE 23 39 00.0 +16
TEIG LR LR
comp=Z,1μm,20.0s
MCD **Coleburn Disti** 70.42 7 *e*P **P** 23 38 43.7 0.0
KPL **Plockton** 70.47 8 *e*P **P** 23 38 44.2 +0.3
KPL AMS AMS 00 09 37.9
comp=Z,2μm,24.6s
MDO **Dochfour** 70.48 7 *e*P **P** 23 38 44.3 +0.2
PMG **Port Moresby** 70.59 223 P **P** 23 38 45.3 +0.2
comp=Z,40nm,0.9s,baz=31,slow=5.2,SNR=5.0
PMG **Port Moresby** 70.59 223 *d* iP **P** 23 38 46.3 +1.1
PMG pmax pmax
comp=Z,194nm,1.0s
PMG **Port Moresby** 70.59 223 *e*P **P** 23 38 45.8 +0.7
comp=Z,90nm,1.3s
PMG LR LR
comp=Z,2μm,20.0s
MME1 **Meikle Cairn** 70.71 6 *e*P **P** 23 38 45.2 -0.3
OBN **Obninsk** 70.75 343 *d* iP **P** 23 38 45.1 -0.6
OBN *e* 23 39 07.7
OBN *e* 23 41 20.4
OBN *e*PPP PPP 23 43 08.4
OBN pmax pmax
comp=Z,36nm,1.0s
OBN MLR MLR
comp=Z,4μm,21.0s
OBN **Obninsk** 70.75 343 *e*P **P** 23 38 46.0 +0.3
comp=Z,148nm,1.6s
OBN LR LR
comp=Z,4μm,21.0s
MNAS **Manas** 70.77 315 *i* P **P** 23 38 46.6 +0.3
MNAS pmax pmax
comp=Z,82nm,0.7s
CCIG **Comitan** 70.94 88 *e*P **P** 23 38 47.9 +0.3
comp=Z,77nm,1.2s
CCIG LR LR
comp=Z,2μm,19.0s
SWI **Sorong** 71.04 243 P **P** 23 38 49.2 +1.2
comp=Z,102nm,0.9s,comp=Z,1μm
KK31 **Karatay Array** 71.13 317 *i* P **P** 23 38 48.2 -0.1
KK31 pmax pmax
comp=Z,53nm,0.8s
KKAR **Karatay Array** 71.13 317 *e*P **P** 23 38 48.0 -0.3
KKAR **Karatay Array** 71.13 317 *e*P **P** 23 38 48.0 -0.3
KKAR *e*P'P'df **P'P'df** 00 06 41.8 -6.7
DRUM **Mains of Drumt** 71.14 6 *e*P **P** 23 38 48.1 0.0
DRUM AMB AMB 23 38 49.1
comp=Z,74nm,1.3s
DRUM AMS AMS 00 10 22.4
comp=Z,1μm,17.4s
LSA **Lhasa** 71.33 294 P **P** 23 38 51.8 +1.6
LSA PMZ
comp=Z,220nm,1.2s
LSA **Lhasa** 71.33 294 *e*P **P** 23 38 51.9 +1.7
LSA pmax pmax
comp=Z,193nm,0.8s
LSA MLR MLR
comp=Z,3μm,19.0s
LSA **Lhasa** 71.33 294 *e*P **P** 23 38 51.9 +1.7
comp=Z,193nm,0.8s
LSA LR LR
comp=Z,3μm,19.0s
KSH **Kashi** 71.58 311 P **P** 23 38 54.8 +3.6
KSH pP sP 23 39 03.8 -1.6
KSH PcP **PcP** 23 39 13.3 +2.9
KSH PP **PP** 23 41 35.3 +5.6
KSH S **S** 23 48 10.5 +2.5
KSH ScS **ScS** 23 48 53.8 0.0
KSH SS **SS** 23 52 48.8 +6.2
KSH PMZ
comp=Z,150nm,0.9s
KSH LN
comp=Z,2μm,17.2s
KSH LE
comp=Z,2μm,16.7s
KSH LZ
comp=Z,5μm,16.9s

IZAR	**Zarasai**	**71.64**	**349**	*e*P	**P**	**23 38 51.0**	**-0.1**
IZAR				IAmb	IAmb	23 38 53.4	
	comp=Z,22nm,0.8s						
EAB	**Aberfoyle**	**71.72**	**7**	*e*P	**P**	**23 38 51.7**	**+0.2**
BRLS	**Borolday**	**71.74**	**317**	*i* P	**P**	**23 38 49.2**	**-2.7**
	comp=Z,80nm,1.4s						
BRLS				*e*S	**S**	**23 48 07.4**	**-2.1**
BRLS				LR	LR	00 10 10.9	
	comp=Z,728nm,18.2s						
ISAL	**Salakas**	**71.83**	**349**	*e*P	**P**	**23 38 52.1**	**-0.1**
ISAL				IAmb	IAmb	23 38 53.9	
	comp=Z,17nm,0.9s						
PPT	**Papeete**	**71.86**	**158**	LR	LR	00 03 23.5	
	comp=Z,2µm,21.9s,baz=342,slow=30						
PPT2	**Papeete2**	**71.88**	**158**	*e*S	**S**	**23 48 08.0**	**-3.4**
	comp=Z,3µm,27.5s						
PPT2	**Papeete2**	**71.88**	**158**	*e*LR	LR	00 00 44.2	
	comp=Z,5µm,22.8s,baz=345						
PPT2	**Papeete2**	**71.88**	**158**	*e*T	T	00 57 37.0	
	comp=Z,15nm,0.3s						
TIAR	**Tiarei**	**71.91**	**158**	*e*P	**P**	**23 38 53.0**	**0.0**
	comp=Z,52nm,1.2s						
TIAR	**Tiarei**	**71.91**	**158**	*e*T	T	00 57 31.4	
	comp=Z,12nm,0.3s						
MUD	**Monsted U'grnd**	**71.96**	**359**	*i* P	**P**	**23 38 53.3**	**+0.4**
MUD				pmax	pmax		
	comp=Z,61nm,1.2s						
MUD	**Monsted U'grnd**	**71.96**	**359**	*i* P	**P**	**23 38 53.3**	**+0.4**
	comp=Z,61nm,1.2s						
IDID	**Didziasalis**	**72.01**	**349**	*e*P	**P**	**23 38 53.2**	**-0.1**
IDID				IAmb	IAmb	23 38 54.8	
	comp=Z,22nm,0.9s						
PGBU	**Glenifferbraes**	**72.08**	**8**	*e*P	**P**	**23 38 53.9**	**+0.1**
PGBU				AMB	AMB	23 38 54.5	
	comp=Z,100nm,1.3s						
PGBU				AMS	AMS	00 13 48.6	
	comp=Z,2µm,16.3s						
FAKI	**Fak Fak**	**72.21**	**240**	PFAKE		23 39 10.0	+15
FAKI				LR	LR		
	comp=Z,1µm,21.0s						
NACGM	**Naroch**	**72.41**	**349**	*e*P	**P**	**23 38 55.0**	**-0.7**
NACGM				*e*P	pP	23 38 56.0	-10
NACGM				*e*PP	PP	23 41 52.0	+16
NACGM				*e*PPP	PPP	23 43 26.0	
NACGM				*e*S	**S**	**23 48 12.0**	**-4.7**
NACGM				*e*PS	PnS	23 49 05.0	+15
NACGM				*e*SS	SS	23 53 44.0	+50
NACGM				*e*SSS	SSS	23 56 38.0	
NACGM				*e*LQ	LQ	00 05 20.0	
NACGM				*e*LR	LR	00 08 24.0	
NACGM				LRM	MLR	00 12 02.0	
	comp=Z,7.7nm,21.0s						
MICGM	**Minsk**	**72.67**	**348**⇓	*e*P	**P**	**23 38 57.0**	**-0.2**
MICGM				PM		23 38 58.0	
	comp=Z,0.3nm,1.6s						
MICGM				*e*PP	PP	23 41 28.0	-10
MICGM				*e*PPP	PPP	23 43 18.0	
MICGM				*e*S	**S**	**23 48 17.0**	**-2.6**
MICGM				*e*PS	**PnS**	**23 48 50.0**	**-2.9**
MICGM				LRM	MLR	00 12 30.0	
	comp=Z,5.1nm,20.0s						
MICGM				LRM	MLR	00 12 34.0	
	comp=N,6.3nm,20.0s						
MICGM				LRM	MLR	00 12 36.0	
	comp=Z,9.2nm,20.0s						
MNK	**Minsk**	**72.67**	**348**⇓	*e*P	**P**	**23 38 57.0**	**-0.2**
MNK				*e*PPP	PPP	23 43 18.0	
MNK				*e*S	**S**	**23 48 17.0**	**-2.6**
MNK				*e*PS	**PnS**	**23 48 50.0**	**-2.9**
MNK				pmax	pmax		
	comp=Z,280nm,1.6s						
MNK				MLR	MLR		
	comp=Z,5µm,20.0s						
MNK				MLR	MLR		
	comp=N,6µm,20.0s						
MNK				MLR	MLR		
	comp=E,9µm,20.0s						
ESK	**Eskdalemuir**	**72.67**	**7**	*e*P	**P**	**23 38 57.4**	**+0.1**
ESK				AMB	AMB	23 38 58.1	
	comp=Z,50nm,1.2s						
ESK				AMS	AMS	00 13 12.4	
	comp=Z,2µm,22.3s						
ESK	**Eskdalemuir**	**72.67**	**7**	*e*P	**P**	**23 38 57.8**	**+0.5**
ESK				pmax	pmax		
	comp=Z,44nm,1.0s						
ESK				MLR	MLR		
	comp=Z,2µm,20.0s						
ESK	**Eskdalemuir**	**72.67**	**7**	*e*P	**P**	**23 38 57.8**	**+0.5**
	comp=Z,44nm,1.0s						
ESK				LR	LR		
	comp=Z,2µm,20.0s						
COP	**Copenhagen**	**72.68**	**358**⇑	*i* P	**P**	**23 38 57.2**	**0.0**
COP				pmax	pmax		
	comp=Z,33nm,1.1s						
COP	**Copenhagen**	**72.68**	**358**⇑	*i* P	**P**	**23 38 57.2**	**0.0**
	comp=Z,33nm,1.1s						
ECK	**Cauldkaine Hil**	**72.81**	**7**	*e*P	**P**	**23 38 58.3**	**+0.2**
GAL1	**Galloway**	**73.00**	**8**	*e*P	**P**	**23 38 59.0**	**-0.2**
GAL1				AMB	AMB	23 38 59.8	
	comp=Z,35nm,1.3s						
GAL1				AMS	AMS	00 11 05.1	
	comp=Z,810nm,22.0s						
NONG	**Nongkai**	**73.03**	**278**	P	**P**	**23 39 00.5**	**+0.5**
	comp=Z,154nm,1.0s						
LLD	**Lille Linde**	**73.03**	**358**	*i* P	**P**	**23 38 58.9**	**-0.5**
LLD	**Lille Linde**	**73.03**	**358**	*i* P	**P**	**23 38 58.9**	**-0.5**
SKNT	**Sakolnakorn**	**73.35**	**276**	P	**P**	**23 39 02.2**	**+0.4**
	comp=Z,196nm,0.9s,comp=Z,4µm						
KLNR	**Kaliningrad**	**73.35**	**353**⇑	*i*P	**P**	**23 39 01.8**	**+0.5**
KLNR				pmax	pmax		
	comp=Z,128nm,1.0s						
KESW	**Keswick, Cumbr**	**73.41**	**7**	*e*P	**P**	**23 39 02.1**	**+0.5**
KESW				AMB	AMB	23 39 02.6	
	comp=Z,64nm,1.2s						
KESW				AMS	AMS	00 12 03.2	
	comp=Z,2µm,20.8s						
VRH	**Novokhopyorsk**	**73.41**	**339**	*e*P	**P**	**23 39 01.6**	**-0.1**
VRH				*e*S	**S**	**23 48 25.5**	**-2.6**
VRH				pmax	pmax		
	comp=Z,80nm,1.1s						
VRH				pmax	pmax		
	comp=Z,50nm,0.6s						
VRH				smax	smax		
	comp=N,100nm,1.4s						
VRH				MLR	MLR		
	comp=Z,4µm,22.0s						
GMM	**Mts of Mourne**	**73.51**	**9**	*e*P	**P**	**23 39 02.1**	**-0.2**
MYLDM	**Lahad Datu**	**73.54**	**257**	*e*P	**P**	**23 39 03.9**	**+0.9**
	comp=Z,154nm,1.2s						
RAR	**Rarotonga**	**73.59**	**168**	LR	LR	00 03 56.3	
	comp=Z,3µm,21.7s,baz=6.5,slow=30						
SUW	**Suwalki**	**73.68**	**351**	*e*P	**P**	**23 39 01.9**	**-1.3**
SUW				LMZ	LR	00 11 10.4	
	comp=Z,4µm,25.2s						
SUW	**Suwalki**	**73.68**	**351**⇑	*e*P	**P**	**23 39 01.9**	**-1.3**
SUW				MLR	MLR		
	comp=Z,4µm,25.2s						
UBPT	**Khong Chiam**	**73.72**	**274**	P	**P**	**23 39 04.5**	**+0.5**
	comp=Z,148nm,0.9s,comp=Z,2µm						
RGN	**Rugen**	**73.79**	**357**	*e*P	**P**	**23 39 05.5**	**+1.7**
	comp=Z,102nm,1.0s						
RGN				LR	LR		
	comp=Z,2µm,20.0s						
VSR	**Storozhevoye**	**73.95**	**340**	*e*P	**P**	**23 39 04.6**	**-0.2**
VSR				pmax	pmax		
	comp=Z,100nm,1.4s						
VSR				pmax	pmax		
	comp=Z,220nm,1.8s						
VSR				MLR	MLR		
	comp=Z,7µm,28.0s						
SDKM	**Sandakan**	**73.97**	**258**	⇓P	**P**	**23 39 05.9**	**+0.4**
SHL	**Shillong**	**74.06**	**291**	*e*P	**P**	**23 39 06.0**	**-0.2**
SHL				IAmb	IAmb	23 39 06.4	
	comp=Z,118nm,0.9s						
SHL				*i* S	**S**	**23 48 37.0**	**+0.3**
KKM	**Kota Kinabalu**	**74.25**	**259**	⇓P	**P**	**23 39 08.0**	**+0.8**
KKM	**Kota Kinabalu**	**74.25**	**259**	*e*P	**P**	**23 39 08.4**	**+1.2**
	comp=Z,55nm,1.2s						
KKM				LR	LR		
	comp=Z,1µm,22.0s						
DSB	**Dublin**	**74.46**	**9**	*e*P	**P**	**23 39 06.9**	**-0.8**
	comp=Z,45nm,1.1s						
DSB				LR	LR		
	comp=Z,3µm,22.0s						

KHON	**Khomkaen**	**74.55**	**277**	P	**P**	**23 39 09.7**	**+0.9**
	comp=Z,62nm,0.9s,comp=Z,625nm						
WLF1	**Llynfaes**	**74.59**	**8**	*e*P	**P**	**23 39 08.4**	**-0.1**
WLF1				AMS	AMS	00 15 32.2	
	comp=Z,4µm,19.4s						
LOEI	**Loei**	**74.61**	**279**	P	**P**	**23 39 07.8**	**-1.4**
	comp=Z,46nm,1.1s,comp=Z,5µm						
BBSR	**BB Station**	**74.61**	**57**	*e*P	**P**	**23 39 09.6**	**+0.6**
	comp=Z,124nm,1.1s						
BBSR				LR	LR		
	comp=Z,2µm,20.0s						
TSM	**Tawau**	**74.62**	**257**	⇓P	**P**	**23 39 10.2**	**+0.9**
LAMP	**Lampang**	**74.83**	**281**	P	**P**	**23 39 11.3**	**+0.8**
	comp=Z,17nm,1.2s,comp=Z,239nm						
UTTA	**Uttaradit**	**74.86**	**279**	P	**P**	**23 39 11.1**	**+0.5**
	comp=Z,36nm,0.9s,comp=Z,239nm						
GKP	**Gorka Klasztor**	**74.89**	**354**	*e*P	**P**	**23 39 09.8**	**-0.4**
GKP				*e*S	**S**	**23 48 44.2**	**-0.4**
GKP				LMZ	LR	00 11 53.4	
	comp=Z,4µm,23.1s						
GKP	**Gorka Klasztor**	**74.89**	**354**⇑	*e*P	**P**	**23 39 09.9**	**-0.4**
GKP				*e*S	**S**	**23 48 44.2**	**-0.4**
GKP				MLR	MLR		
	comp=Z,4µm,23.1s						
YRE	**Yr Eifl**	**74.90**	**8**	*e*P	**P**	**23 39 10.4**	**+0.1**
SANI	**Sanana**	**74.96**	**246**	P	P	23 39 20.1	+8.9
CMMT	**Chiang Mai**	**75.03**	**281**	P	**P**	**23 39 11.7**	**+0.1**
	comp=Z,79nm,1.4s,comp=Z,1µm						
CHTO	**Chiang Mai**	**75.03**	**281**	P	**P**	**23 39 11.8**	**+0.2**
	comp=Z,477nm,1.2s,comp=Z,7µm						
CHTO	**Chiang Mai**	**75.03**	**281**	*e*P	**P**	**23 39 12.1**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,190nm,1.5s						
CHTO				MLR	MLR		
	comp=Z,1µm,21.0s						
CHTO	**Chiang Mai**	**75.03**	**281**	P	**P**	**23 39 11.8**	**+0.2**
	SNR=33						
CHTO	**Chiang Mai**	**75.03**	**281**	*e*P	**P**	**23 39 12.1**	**+0.5**
	comp=Z,190nm,1.5s						
CHTO				LR	LR		
	comp=Z,1µm,21.0s						
FOEL	**Foel Wylfa**	**75.09**	**7**	*e*P	**P**	**23 39 11.8**	**+0.4**
FOEL				AMB	AMB	23 39 13.1	
	comp=Z,69nm,1.1s						
FOEL				AMS	AMS	00 15 26.7	
	comp=Z,2µm,22.6s						
MRSI	**Marisa**	**75.25**	**251**	P	**P**	**23 39 12.0**	**-0.9**
	comp=Z,111nm,1.1s						
CM31	**Chiang Mai Arr**	**75.30**	**281**	*e*P	**P**	**23 39 14.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**75.30**	**281**	P	**P**	**23 39 13.9**	**+0.8**
	comp=Z,49nm,0.9s,baz=26,slow=6.1,SNR=134						
CMAR				LR	LR	00 16 10.7	
	comp=Z,1µm,18.6s,baz=44,slow=39						
CMAR	**Chiang Mai Arr**	**75.30**	**281**	P	**P**	**23 39 14.0**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,49nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,1µm,18.6s						
VAL	**Valentia**	**75.31**	**12**	*e*P	**P**	**23 39 11.0**	**-1.7**
VAL				*e*S	**S**	**23 48 49.4**	**0.0**
CM01	**Chiang Mai Arr**	**75.32**	**281**	*e*P	**P**	**23 39 13.1**	**-0.2**
CWF	**Charnwood Fore**	**75.37**	**6**	*e*P	**P**	**23 39 13.0**	**0.0**
CWF				AMB	AMB	23 39 13.8	
	comp=Z,37nm,1.4s						
CWF				AMS	AMS	00 19 59.8	
	comp=Z,1µm,17.4s						
CWF	**Charnwood Fore**	**75.37**	**6**	*e*P	**P**	**23 39 13.6**	**+0.5**
	comp=Z,35nm,1.1s						
CWF				LR	LR		
	comp=Z,2µm,22.0s						
CHAI	**Chaiyaphum**	**75.39**	**277**	P	**P**	**23 39 14.3**	**+0.6**
	comp=Z,10nm,1.2s,comp=Z,142nm						
HLM1	**Long Mynd**	**75.48**	**7**	*e*P	**P**	**23 39 14.0**	**+0.2**
PBKT	**Sadao Pong**	**75.51**	**278**	P	**P**	**23 39 14.6**	**+0.2**
	comp=Z,58nm,0.8s,comp=Z,1µm						
TGUH	**Tegucigalpa,Un**	**75.65**	**86**	*e*P	**P**	**23 39 16.4**	**+1.2**
	comp=Z,212nm,1.1s						
TGUH				LR	LR		
	comp=Z,2µm,21.0s						
LPW	**Lampeter**	**75.79**	**8**	AMS	AMS	00 11 28.3	
	comp=Z,2µm,23.5s						
MCH1	**Michaelchurch**	**75.99**	**7**	*e*P	**P**	**23 39 16.8**	**+0.2**
MCH1				AMB	AMB	23 39 17.5	
	comp=Z,49nm,1.3s						
MCH1				AMS	AMS	00 16 08.0	
	comp=Z,1µm,16.3s						
BEL	**Belsk**	**76.05**	**352**	*e*P	**P**	**23 39 17.3**	**+0.3**
BEL				LMZ	LR	00 14 55.8	
	comp=Z,3µm,20.6s						
BEL	**Belsk**	**76.05**	**352**⇑	*e*P	**P**	**23 39 17.3**	**+0.3**
BEL				MLR	MLR		
	comp=Z,3µm,20.6s						
DZM	**Mont Dzumac**	**76.15**	**201**	*e*P	**P**	**23 39 17.5**	**-0.3**
	comp=Z,312nm,1.1s						
DZM				*e*S	**S**	**23 49 00.5**	**+1.2**
	comp=Z,921nm,24.9s						
DZM	**Mont Dzumac**	**76.15**	**201**	*e*LR	LR	00 02 57.1	
	comp=Z,6µm,21.2s						
DZM	**Mont Dzumac**	**76.15**	**201**	*e*P	**P**	**23 39 17.9**	**0.0**
	comp=Z,126nm,1.0s						
DZM				LR	LR		
	comp=Z,4µm,20.0s						
AKASG	**Malin Array Be**	**76.20**	**346**	P	**P**	**23 39 16.2**	**-1.5**
	comp=Z,3.8nm,0.3s,baz=16,slow=5.9,SNR=44						
AKASG				LR	LR	00 14 28.4	
	comp=Z,5µm,21.8s,baz=15,slow=37						
AKASG	**Malin Array Be**	**76.20**	**346**	P	**P**	**23 39 16.3**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,5µm,21.8s						
AKBB	**Malin Array Si**	**76.20**	**346**	*e*P	**P**	**23 39 17.9**	**+0.1**
AKBB				pmax	pmax		
	comp=Z,59nm,1.4s						
AKBB				MLR	MLR		
	comp=Z,5µm,22.0s						
AKBB	**Malin Array Si**	**76.20**	**346**	*e*P	**P**	**23 39 17.9**	**+0.1**
	comp=Z,58nm,1.4s						
AKBB				LR	LR		
	comp=Z,5µm,22.0s						
KIEV	**Kiev**	**76.21**	**346***d*	*i*P	**P**	**23 39 17.3**	**-0.6**
KIEV				pmax	pmax		
	comp=Z,27nm,1.0s						
KIEV				MLR	MLR		
	comp=Z,5µm,22.0s						
KIEV	**Kiev**	**76.21**	**346**	*e*P	**P**	**23 39 16.7**	**-1.1**
	comp=Z,54nm,1.3s						
KIEV				LR	LR		
	comp=Z,5µm,21.0s						
AK11	**Malin Array Si**	**76.23**	**347**	*e*P	**P**	**23 39 17.8**	**-0.2**
STRD	**Stroud**	**76.27**	**7**	*e*P	**P**	**23 39 18.6**	**+0.4**
STRD				AMB	AMB	23 39 19.1	
	comp=Z,121nm,1.5s						
OLDB	**Oldbury-Upon-S**	**76.36**	**7**	AMS	AMS	00 14 11.3	
	comp=Z,1µm,18.9s						
COEN	**Coen**	**76.37**	**225**	PFAKE		23 39 30.0	+11
COEN				LR	LR		
	comp=Z,2µm,21.0s						
WTSB	**Winterswijk**	**76.45**	**1**	*e*P	**P**	**23 39 19.4**	**+0.2**
	comp=Z,96nm,1.5s						
WOL	**Wolverton**	**76.80**	**6**	*e*P	**P**	**23 39 21.4**	**+0.2**
WOL				AMB	AMB	23 39 22.0	
	comp=Z,72nm,1.4s						
WOL				AMS	AMS	00 15 50.5	
	comp=Z,1µm,21.1s						
CLL	**Collm**	**77.04**	**357**⇑	*i*P	**P**	**23 39 22.2**	**-0.4**
	comp=Z,53nm,1.2s						
CLL				*e*		23 39 34.0	
CLL				*e*PPP	PPP	23 44 04.0	
CLL				*e*S	**S**	**23 49 10.0**	**+1.5**
CLL				*e*SS	**sS**	**23 49 27.0**	**+1.3**
CLL				*e*PS	**PnS**	**23 49 44.0**	**-5.6**
CLL				*e*SS	SS	23 54 18.0	+14
CLL				*e*SSSS		23 59 36.0	
CLL				Lm	MLR	00 17 00.0	
	comp=N,2µm,20.7s						
CLL				Lm	MLR	00 17 00.0	
	comp=E,700nm,18.7s						
CLL				Lm	MLR	00 17 00.0	
	comp=Z,2µm,21.2s						
CLL	**Collm**	**77.04**	**357**⇑	*i*P	**P**	**23 39 22.2**	**-0.4**
CLL				*e*S	**S**	**23 49 10.0**	**+1.5**
CLL				pmax	pmax		
	comp=Z,53nm,1.2s						
CLL				MLR	MLR		
	comp=Z,2µm,21.2s						

CLL	**Collm**	**77.04**	**357**	*e*P	**P**	**23 39 22.2**	**-0.4**
	comp=Z,65nm,1.3s						
UMPA	**Umpang Tak**	**77.08**	**280**	P	**P**	**23 39 25.4**	**+2.1**
	comp=Z,33nm,1.1s,comp=Z,298nm						
KSP	**Ksiaz**	**77.36**	**355**	*e*P	**P**	**23 39 24.4**	**0.0**
KSP				*e*S	**S**	**23 49 12.3**	**+0.3**
KSP				LMZ	LR	00 13 15.1	
	comp=Z,3µm,23.4s						
KSP	**Ksiaz**	**77.36**	**355**⇑	*e*P	**P**	**23 39 24.4**	**0.0**
KSP				*e*S	**S**	**23 49 12.3**	**+0.3**
KSP				MLR	MLR		
	comp=Z,3µm,23.4s						
THN	**Thein Dam**	**77.39**	**307**	*e*P	**P**	**23 39 25.4**	**+0.5**
BRG	**Berggiesshubel**	**77.44**	**356**	*i* P	**P**	**23 39 24.8**	**0.0**
	comp=Z,79nm,1.3s						
BRG				*i*		23 39 59.3	
	comp=Z,51nm,1.1s						
BRG				S	**S**	**23 49 08.0**	**-4.8**
BRG				SS	**SS**	**23 54 01.0**	**-9.4**
BRG	**Berggiesshubel**	**77.44**	**356**	*i* P	**P**	**23 39 24.8**	**0.0**
BRG				S	**S**	**23 49 08.0**	**-4.8**
BRG				pmax	pmax		
	comp=Z,79nm,1.3s						
BRG				pmax	pmax		
	comp=Z,51nm,1.2s						
DYA	**Yadsworthy**	**77.47**	**8**	AMS	AMS	00 14 21.9	
	comp=Z,2µm,19.2s						
TBI	**Tubuai**	**77.47**	**159**	*e*S	**S**	**23 49 11.8**	**-1.6**
	comp=Z,1µm,27.8s						
TBI	**Tubuai**	**77.47**	**159**	*e*LR	LR	00 03 20.5	
	comp=Z,6µm,25.0s,baz=342						
TBI	**Tubuai**	**77.47**	**159**	*e*T	T	01 04 33.6	
	comp=Z,42nm,0.2s						
LGTI	**Lohaghat**	**77.47**	**302**	*e*P	**P**	**23 39 25.9**	**+0.6**
SDNR	**Sundarnagar**	**77.52**	**305**	*e*P	**P**	**23 39 26.0**	**+0.3**
PCI	**Palu**	**77.59**	**252**	P	P	23 39 38.1	+12
CHBT	**CHBT**	**77.60**	**275**	P	**P**	**23 39 28.8**	**+2.6**
	comp=Z,200nm,1.1s,comp=Z,2µm						
BEBN	**Eben Emael**	**77.61**	**2**	P	**P**	**23 39 25.8**	**+0.1**
	comp=Z,13nm,1.2s						
HGN	**Heimansgroeve**	**77.64**	**2**	*e*P	**P**	**23 39 26.0**	**0.0**
	comp=Z,88nm,1.4s						
HGN				*e*S	**S**	**23 49 14.5**	**-0.5**
HGN				*e*SS	**SS**	**23 54 09.6**	**-3.8**
UPC	**Upice**	**77.71**	**355**	*e*P	**P**	**23 39 26.3**	**-0.1**
UPC				*e*S	**S**	**23 49 13.5**	**-2.3**
UPC				AMS	AMS	00 17 30.0	
	comp=Z,3µm,20.3s						
UPC	**Upice**	**77.71**	**355**	*e*P	**P**	**23 39 26.3**	**-0.1**
UPC				*e*S	**S**	**23 49 13.5**	**-2.3**
UPC				MLR	MLR		
	comp=Z,3µm,20.3s						
SMLA	**Simla**	**77.72**	**305**	*e*P	**P**	**23 39 26.6**	**-0.1**
LVV	**L'vov**	**77.73**	**350**	*e*P	**P**	**23 39 26.1**	**-0.4**
LVV				*e*		23 39 38.3	
LVV				*e*		23 42 29.5	
LVV				*e*S	**S**	**23 49 16.7**	**+0.7**
LVV				pmax	pmax		
	comp=Z,100µm,1.4s						
LVV				MLR	MLR		
	comp=E,3µm,23.0s						
LVV				MLR	MLR		
	comp=N,3µm,24.0s						
LVV				MLR	MLR		
	comp=Z,4µm,24.0s						
OJC	**Ojcow**	**77.74**	**352**	*e*P	**P**	**23 39 26.5**	**-0.1**
OJC				*e*S	**S**	**23 49 11.1**	**-5.0**
OJC				LMZ	LR	00 12 46.4	
	comp=Z,2µm,24.7s						
OJC	**Ojcow**	**77.74**	**352**⇑	*e*P	**P**	**23 39 26.5**	**-0.1**
OJC				*e*S	**S**	**23 49 11.1**	**-5.0**
OJC	**Ojcow**	**77.74**	**352**	*e*P	**P**	**23 39 26.0**	**-0.6**
	comp=Z,48nm,1.2s						
PVCC	**Panska Ves**	**77.76**	**356**	*e*P	**P**	**23 39 26.9**	**+0.3**
PVCC				*e*S	**S**	**23 49 15.2**	**-1.1**
PVCC				AMS	AMS	00 18 00.0	
	comp=Z,3µm,20.2s						
PVCC	**Panska Ves**	**77.76**	**356**	*e*P	**P**	**23 39 26.9**	**+0.3**
PVCC				*e*S	**S**	**23 49 15.2**	**-1.1**
PVCC				MLR	MLR		
	comp=Z,3µm,20.2s						
MEM	**Membach**	**77.80**	**1**	P	**P**	**23 39 26.8**	**0.0**
	comp=Z,32nm,1.4s						
DPC	**Dobruska-Polom**	**77.85**	**355**	*e*P	**P**	**23 39 27.5**	**+0.3**
DPC				*e*S	**S**	**23 49 15.4**	**-2.0**
DPC				AMS	AMS	00 20 00.0	
	comp=Z,3µm,18.9s						
DPC	**Dobruska-Polom**	**77.85**	**355**	*e*P	**P**	**23 39 27.5**	**+0.3**
DPC				*e*S	**S**	**23 49 15.4**	**-2.0**
DPC				MLR	MLR		
	comp=Z,3µm,18.9s						
DDI	**Dehra Dun**	**77.91**	**304**	*e*P	**P**	**23 39 28.1**	**+0.2**
DDI				IAmb	IAmb	23 39 28.6	
	comp=Z,137nm,0.7s						
BCLA	**Clavier**	**77.97**	**2**	P	**P**	**23 39 27.7**	**-0.1**
	comp=Z,30nm,1.5s						
RAC	**Raciborz**	**78.00**	**354**	*e*P	**P**	**23 39 28.2**	**+0.3**
RAC				*e*S	**S**	**23 49 19.0**	**+0.2**
KWP	**Kalwaria Pacla**	**78.06**	**350**	*e*P	**P**	**23 39 28.2**	**-0.1**
KWP				*e*S	**S**	**23 49 16.4**	**-3.1**
KWP				LMZ	LR	00 14 59.7	
	comp=Z,5µm,23.5s						
KWP	**Kalwaria Pacla**	**78.06**	**350**⇑	*i*P	**P**	**23 39 29.3**	**+1.0**
KWP	**Kalwaria Pacla**	**78.06**	**350**⇑	*e*P	**P**	**23 39 28.2**	**-0.1**
KWP				*e*S	**S**	**23 49 16.4**	**-3.1**
KWP				MLR	MLR		
	comp=Z,5µm,23.5s						
KRLC	**Kraliky**	**78.10**	**354**	*e*P	**P**	**23 39 28.6**	**0.0**
KRLC				*e*pP	**PcP**	**23 39 37.1**	**-1.0**
KRLC	**Kraliky**	**78.10**	**354**	*e*P	**P**	**23 39 28.6**	**0.0**
KRLC				*e*		23 39 37.1	
NKC	**Novy Kostel**	**78.13**	**357**	*e*P	**P**	**23 39 29.2**	**+0.5**
NKC				*e*pP	**PcP**	**23 39 38.2**	**0.0**
NKC				*e*S	**S**	**23 49 19.4**	**-1.0**
NKC				*e*SS	SS	23 54 33.6	+13
NKC				AMS	AMS	00 17 30.0	
	comp=Z,2µm,19.6s						
NKC	**Novy Kostel**	**78.13**	**357**	*e*P	**P**	**23 39 29.2**	**+0.5**
NKC				*e*		23 39 38.2	
NKC				*e*S	**S**	**23 49 19.4**	**-1.0**
NKC				MLR	MLR		
	comp=Z,2µm,19.6s						
OKC	**Ostrava-Krasne**	**78.24**	**354**	*e*P	**P**	**23 39 29.6**	**+0.3**
OKC				*e*pP	**PcP**	**23 39 36.8**	**-1.9**
OKC				*e*S	**S**	**23 49 22.3**	**+0.8**
OKC				AMS	AMS	00 22 10.0	
	comp=Z,2µm,17.2s						
OKC	**Ostrava-Krasne**	**78.24**	**354**	*e*P	**P**	**23 39 29.6**	**+0.3**
OKC				*e*		23 39 36.8	
OKC				*e*S	**S**	**23 49 22.3**	**+0.8**
OKC				MLR	MLR		
	comp=Z,2µm,17.2s						
DOU	**Dourbes**	**78.28**	**2**	P	**P**	**23 39 29.7**	**+0.2**
	comp=Z,26nm,1.3s						
PRU	**Pruhonice**	**78.30**	**356**	*e*P	**P**	**23 39 29.

PATY **Pattaya** 78.37 276 P **P** 23 39 33.0 +2.5
comp=Z,24nm,0.8s,comp=Z,804nm
MTDJ **Mount Denham** 78.38 75 *e*P **P** 23 39 31.2 +0.5
comp=Z,138nm,1.0s
MTDJ LR LR
comp=Z,1μm,19.0s
BTM **Bintulu** 78.39 260 ⇓P **P** 23 39 30.3 -0.3
STHS **Stebnicka Huta** 78.41 351 *e*P **P** 23 39 31.8 +1.5
STHS pmax pmax
comp=Z,30nm,1.4s
STHS **Stebnicka Huta** 78.41 351 *e*P **P** 23 39 31.8 +1.5
STHS *e*S **S** 23 49 21.6 -1.8
KDI **Kendari** 78.44 248 P **P** 23 39 30.7 -0.1
NIE **Niedzica** 78.49 352 *e*P **P** 23 39 30.8 0.0
NIE LMZ LR 00 13 36.9
comp=Z,2μm,24.6s
NIE **Niedzica** 78.49 352⇑ *e*P **P** 23 39 30.8 0.0
NIE MLR MLR
comp=Z,2μm,24.6s
GTBY **Guantanamo Bay** 78.50 73 *e*P **P** 23 39 32.3 +1.1
comp=Z,110nm,1.1s
GTBY LR LR
comp=Z,2μm,19.0s
GRFO **Grafenberg** 78.71 358 *e*P **P** 23 39 33.0 +1.1
GRFO pmax pmax
comp=Z,113nm,1.2s
GRFO MLR MLR
comp=Z,2μm,20.0s
GRFO **Grafenberg** 78.71 358 *e*P **P** 23 39 33.0 +1.1
comp=Z,113nm,1.2s
GRFO LR LR
comp=Z,2μm,20.0s
WLF **Walferdange** 78.75 1 P **P** 23 39 33.1 +1.0
comp=Z,14nm,1.2s
WLF **Walferdange** 78.75 1 *e*P **P** 23 39 32.9 +0.8
WLF pmax pmax
comp=Z,37nm,1.2s
WLF MLR MLR
comp=Z,3μm,20.0s
WLF **Walferdange** 78.75 1 *e*P **P** 23 39 32.9 +0.8
comp=Z,37nm,1.2s
WLF LR LR
comp=Z,3μm,20.0s
KOLS **Kolonicke sedl** 78.79 351 *e*P **P** 23 39 31.8 -0.6
KOLS pmax pmax
comp=Z,24nm,1.3s
LANS **Liptovska Anna** 78.83 353 *e*P **P** 23 39 34.3 +1.7
LANS *e*S **S** 23 49 25.9 -2.0
LANS **Liptovska Anna** 78.83 353 *e*P **P** 23 39 34.3 +1.7
LANS *e*S **S** 23 49 25.9 -2.0
SORM **Soroca** 78.83 346 ⇑*i*P **P** 23 39 32.2 -0.3
SORM **Soroca** 78.83 346 ⇑P **P** 23 39 32.2 -0.3
GOF **Gofitskoye** 78.83 336 ⇑*i*P **P** 23 39 33.0 +0.3
GOF *i*S **S** 23 49 28.0 0.0
GOF pmax pmax
comp=Z,275nm,1.1s
GOF smax smax
comp=E,73nm,1.0s
KBL **Kabul** 78.84 313 *e*P **P** 23 39 32.2 -0.9
KBL pmax pmax
comp=Z,302nm,1.4s
KBL MLR MLR
comp=Z,3μm,22.0s
KBL **Kabul** 78.84 313 *e*P **P** 23 39 32.2 -0.9
comp=Z,302nm,1.4s
KBL LR LR
comp=Z,3μm,22.0s
JSA **Saint Aubin** 78.84 7 AMS AMS 00 17 54.3
comp=Z,2μm,20.6s
BOK **Bokaro** 78.86 294 *e*P **P** 23 39 34.0 +0.9
BOK IAmb IAmb 23 39 35.4
comp=Z,102nm,0.9s
VRAC **Vranov** 78.87 354 ⇑*i*P **P** 23 39 32.9 +0.1
VRAC **Vranov** 78.87 354 ⇑P **P** 23 39 32.9 +0.1
CRVS **Cervenica-Dubn** 78.90 351 *e*P **P** 23 39 33.1 +0.1
CRVS **Cervenica-Dubn** 78.90 351 *e*P **P** 23 39 33.1 +0.1
TREC **Trest** 78.95 355 *e*P **P** 23 39 33.3 +0.1
TREC *e*S **S** 23 49 27.4 -1.7
TREC AMS AMS 00 18 00.0
comp=Z,4μm,20.2s
TREC **Trest** 78.95 355 *e*P **P** 23 39 33.3 +0.1
TREC *e*S **S** 23 49 27.4 -1.7
TREC MLR MLR
comp=Z,4μm,20.2s
UZH **Uzhgorod** 79.09 351⇑ *e*P **P** 23 39 32.4 -1.6
UZH *e* 23 39 37.4
UZH *e* 23 42 31.4
UZH *e*S **S** 23 49 25.2 -5.4
UZH *e* 23 49 42.8
UZH *e*PS **PnS** 23 50 11.8 -3.8
UZH *e*SS **SS** 23 54 31.0 -4.2
UZH MLR MLR
comp=N,6μm,20.0s
UZH MLR MLR
comp=E,2μm,20.0s
UZH MLR MLR
comp=Z,1μm,20.0s
KHC **Kasperske Hory** 79.20 356 *e*P **P** 23 39 35.0 +0.4
KHC *e*pP **PcP** 23 39 43.6 +0.7
KHC *e*S **S** 23 49 31.3 -0.5
KHC AMS AMS 00 18 50.0
comp=Z,3μm,20.5s
KHC **Kasperske Hory** 79.20 356 *e*P **P** 23 39 35.0 +0.4
KHC *e* 23 39 43.6
KHC *e*S **S** 23 49 31.3 -0.5
KHC MLR MLR
comp=Z,3μm,20.5s
KHC **Kasperske Hory** 79.20 356 *e*P **P** 23 39 35.0 +0.4
comp=Z,32nm,1.2s
KHC LR LR
comp=Z,1μm,21.0s
TTSI **Tana Toraja** 79.32 251 P **P** 23 39 37.8 +2.1
comp=Z,84nm,1.2s
KECS **Kecovo** 79.41 352 *e*P **P** 23 39 36.1 +0.4
KECS pmax pmax
comp=Z,14nm,1.3s
KECS **Kecovo** 79.41 352 *e*P **P** 23 39 36.1 +0.4
LANF **Langenberg** 79.45 0 *e*P **P** 23 39 36.8 +0.8
GEC2 **GERESS Array S** 79.48 356 *e*P **P** 23 39 36.8 +0.5
GEC2 pmax pmax
comp=Z,54nm,1.3s
GEC2 MLR MLR
comp=Z,4μm,21.0s
GEC2 **GERESS Array S** 79.48 356 *e*P **P** 23 39 36.8 +0.5
comp=Z,54nm,1.3s
GEC2 LR LR
comp=Z,4μm,21.0s
GERES **GERESS Array B** 79.48 356 P **P** 23 39 36.8 +0.5
comp=Z,19nm,1.0s,baz=20,slow=4.3,SNR=83
GERES PKKPbc **PKKPbc** 23 58 22.9 +0.2
comp=Z,1.0nm,0.9s,baz=174,slow=1.3,SNR=5.6
GEA0 **GERESS Array S** 79.49 356 *e*P **P** 23 39 35.7 -0.6
SBUM **Sibu** 79.51 260 ⇑P **P** 23 39 36.2 -0.5
SBUM **Sibu** 79.51 260 *e*P **P** 23 39 39.2 +2.4
comp=Z,24nm,1.0s
SBUM LR LR
comp=Z,2μm,22.0s
VYHS **Vyhne** 79.53 353 *e*P **P** 23 39 36.4 0.0
VYHS pmax pmax
comp=Z,25nm,1.3s
TRPA **Tarpa** 79.56 350⇑ *e*P **P** 23 39 36.3 -0.2
GRTK **Grand Turk** 79.59 69 PFAKE 23 39 50.0 +13
GRTK LR LR
comp=Z,2μm,20.0s
STU **Stuttgart** 79.65 359 *e*P **P** 23 39 37.8 +0.7
STU pmax pmax
comp=Z,52nm,1.1s
STU MLR MLR
comp=Z,1μm,21.0s
STU **Stuttgart** 79.65 359 *e*P **P** 23 39 37.8 +0.7
comp=Z,52nm,1.1s
STU LR LR
comp=Z,1μm,21.0s
NDI **New Delhi** 79.66 304 *ex* P 23 39 32.0 -5.5
NDI *ex* x 23 39 54.0
BUR08 **Bucovina Ar. S** 79.73 348 *e*P **P** 23 39 38.2 +0.5
BURAR **Bucovina Array** 79.76 348 ⇓*i*P **P** 23 39 38.0 +0.2
BURAR **Bucovina Array** 79.76 348 ⇓P **P** 23 39 38.0 +0.2
GROC **Groznyy** 79.82 333 *e*P **P** 23 39 36.6 -1.5
GROC *e*S **S** 23 49 36.6 -1.9
GROC pmax pmax
comp=Z,54nm,1.2s
KIS **Kishinev** 79.87 346⇑ *i*P **P** 23 39 39.0 +0.7
comp=Z,200nm,1.4s
KIS *e*S S 23 49 50.0 +11
KIS *e*LR LR 00 08 32.0
comp=Z,6μm,23.0s
KIS **Kishinev** 79.87 346⇑ *i*P **P** 23 39 39.0 +0.7
KIS *e*S S 23 49 50.0 +11
KIS *e* 23 50 30.0
KIS pmax pmax
comp=Z,200nm,1.4s
KIS MLR MLR
comp=N,4μm,23.0s
KIS MLR MLR
comp=Z,6μm,23.0s
KIS MLR MLR
comp=E,1μm,19.0s
KIS MLR MLR
comp=Z,6μm,24.0s
PRAR **RASCA** 79.88 348⇓ *i*P **P** 23 39 38.6 +0.2
KIV **Kislovodsk** 79.96 336 *i*P **P** 23 39 39.2 +0.2
SNR=5.5
KIV **Kislovodsk** 79.96 336 *e*P **P** 23 39 39.5 +0.6
KIV *e* 23 42 41.3
KIV *e*PPP PPP 23 44 31.5
KIV *e*S **S** 23 49 41.3 +1.1
KIV *e*SS **SS** 23 54 52.1 +3.4
KIV pmax pmax
comp=Z,62nm,1.0s
KIV pmax pmax
comp=Z,154nm,5.6s
KIV MLR MLR
comp=Z,2μm,19.0s
KIV **Kislovodsk** 79.96 336 P **P** 23 39 38.8 -0.1
SNR=8.6
KIV **Kislovodsk** 79.96 336 *e*P **P** 23 39 39.0 0.0
comp=Z,63nm,0.9s
KIV LR LR
comp=Z,3μm,21.0s
PSZ **Piszkesteto** 80.02 352⇓ *i*P **P** 23 39 40.4 +1.2
PSZ **Piszkesteto** 80.02 352⇑ *e*P **P** 23 39 38.7 -0.5
PSZ **Piszkesteto** 80.02 352 ⇓P **P** 23 39 40.4 +1.2
PSZ **Piszkesteto** 80.02 352 *e*P **P** 23 39 40.1 +1.0
comp=Z,70nm,1.4s
PSZ LR LR
comp=Z,3μm,21.0s
SPSI **Sidrap Palu** 80.09 250 P **P** 23 39 44.0 +4.1
BFO **Black Forest** 80.10 360 *e*P **P** 23 39 40.2 +0.7
BFO pmax pmax
comp=Z,46nm,1.2s
BFO MLR MLR
comp=Z,2μm,22.0s
BFO **Black Forest** 80.10 360 *e*P **P** 23 39 40.2 +0.7
comp=Z,46nm,1.2s
BFO LR LR
comp=Z,2μm,22.0s
KBZ **Khabaz** 80.11 335 P **P** 23 39 40.0 +0.4
comp=Z,25nm,0.8s,baz=330,slow=0.6,SNR=25
KBZ LR LR 00 18 50.8
comp=Z,4μm,21.6s,baz=20,slow=38
KBZ **Khabaz** 80.11 335 P **P** 23 39 40.0 +0.4
KBZ pmax pmax
comp=Z,25nm,0.9s
KBZ MLR MLR
comp=Z,4μm,21.6s
NCK **Nalchik** 80.15 335*c* *i*P **P** 23 39 40.6 +0.7
NCK pmax pmax
comp=Z,147nm,1.1s
NCK MLR MLR
comp=Z,3μm,19.0s
ECH **Echery** 80.21 1⇑ *e*P **P** 23 39 40.3 +0.2
CONA **Conrad Observa** 80.29 355 *i*P **P** 23 39 41.1 +0.4
comp=Z,70nm,1.4s,SNR=51
ANN **Anapa** 80.40 339 *e*P P 23 39 46.4 +5.2
ANN *e* 23 42 38.5
ANN *e*S **SKSac** 23 49 56.8 +0.5
ANN pmax pmax
comp=Z,130nm,1.3s
ANN MLR MLR
comp=E,525nm,20.0s
ANN MLR MLR
comp=N,6μm,20.0s
ANN MLR MLR
comp=Z,3μm,20.0s
MOA **Molln** 80.45 356 *i*P **P** 23 39 41.6 +0.1
comp=Z,20nm,1.2s,SNR=16
LEOM **Leova** 80.47 346 ⇓*i*P **P** 23 39 41.0 -0.5
LEOM **Leova** 80.47 346 ⇓P **P** 23 39 41.0 -0.5
SOP **Sopron** 80.49 354⇑ *e*P **P** 23 39 42.1 +0.5
GEYT **Alibeck** 80.50 322 P **P** 23 39 42.1 +0.2
comp=Z,54nm,1.1s,baz=343,slow=4.6,SNR=104
GEYT LR LR 00 19 28.0
comp=Z,4μm,18.7s,baz=35,slow=39
BUD **Budapest** 80.52 353⇑ *e*P **P** 23 39 42.2 +0.5
CTA **Charters Tower** 80.57 220 P **P** 23 39 41.6 -0.6
comp=Z,51nm,1.0s,baz=31,slow=7.2,SNR=18
CTAO **Charters Tower** 80.57 220 *e*P **P** 23 39 42.6 +0.4
CTAO pmax pmax
comp=Z,72nm,1.0s
CTAO MLR MLR
comp=Z,2μm,22.0s
CTAO **Charters Tower** 80.57 220 *e*P **P** 23 39 42.6 +0.4
comp=Z,72nm,1.0s
CTAO LR LR
comp=Z,2μm,22.0s
MOF **Molkenrain** 80.57 1⇑ *e*P **P** 23 39 42.3 +0.1
NEY **Neytrino** 80.61 335⇓ *e*P **P** 23 39 43.8 +1.2
NEY pmax pmax
comp=Z,4.0nm,1.2s
ZEI **Tsey** 80.72 334 *e*P **P** 23 39 41.2 -2.0
ZEI *e*S **S** 23 49 47.5 -1.0
ZEI pmax pmax
comp=Z,140nm,1.1s
ZEI pmax pmax
comp=N,157nm,1.2s
ZEI pmax pmax
comp=E,209nm,1.1s
ZEI MLR MLR
comp=Z,8μm,17.0s
ZEI MLR MLR
comp=N,4μm,16.0s
DRGR 80.86 350⇑ *i*P **P** 23 39 44.1 +0.4
DRGR 80.86 350 ⇑P **P** 23 39 44.1 +0.4
GUDG **Gudauri** 80.87 334 P **P** 23 39 43.2 -0.8
RETA **Reutte** 80.92 358 *i*P **P** 23 39 44.4 +0.4
comp=N,40nm,1.1s,SNR=22
SIM **Simferopol'** 80.94 342 *e*P **P** 23 39 42.4 -1.7
SIM *e* 23 42 55.0
SIM *e*S **S** 23 49 51.0 +0.7
SIM pmax pmax
comp=Z,52nm,1.2s
KAPI **Kappang** 80.95 250 P **P** 23 39 42.8 -1.7
comp=Z,10.0nm,0.3s,baz=242,slow=13,SNR=5.4
ARSA **Arzberg** 80.98 355 *i*P **P** 23 39 44.9 +0.6
comp=Z,40nm,1.2s,SNR=27
ONI **Oni** 81.03 335 P **P** 23 39 44.6 -0.1
ONI **Oni** 81.03 335 P **P** 23 39 44.5 -0.1
SOC **Sochi** 81.04 337 *e*P **P** 23 39 44.0 -0.6
SOC *e* 23 42 51.9
SOC *e*PPP PPP 23 44 37.9
SOC *e*S **S** 23 49 49.9 -1.4
SOC *e*SS **SS** 23 55 10.9 +6.2
SOC pmax pmax
comp=Z,31nm,0.7s
SOC MLR MLR
comp=Z,3μm,21.0s
WATA **Walderalm** 81.05 358 *i*P **P** 23 39 45.2 +0.4
comp=Z,65nm,1.1s,SNR=17
MOTA **Moosalm** 81.06 358 *i*P **P** 23 39 44.9 +0.1
comp=Z,57nm,1.0s,SNR=44
LOMF **Lomont** 81.07 1⇑ *e*P **P** 23 39 45.1 +0.3
WTTA **Wattenberg** 81.12 358 *i*P **P** 23 39 45.7 +0.5
comp=Z,69nm,1.4s,SNR=22
DAVA **Damuels** 81.13 359 *i*P **P** 23 39 45.5 +0.2
comp=Z,38nm,1.3s,SNR=16
MTN **Manton Dam** 81.15 236 *e*P **P** 23 39 45.7 +0.3
comp=Z,82nm,0.8s
MTN LR LR
comp=Z,1μm,20.0s
KBA **Koelnbreinsper** 81.26 357 *i*P **P** 23 39 46.6 +0.7
comp=Z,136nm,1.2s,SNR=45
CHVG **Ch'k'valeri** 81.27 336 P **P** 23 39 46.2 +0.4
VRI **Vrincioaia** 81.28 347⇑ *i*P **P** 23 39 46.8 +0.9
VRI **Vrincioaia** 81.28 347 ⇑P **P** 23 39 46.8 +0.9
PLOR **Plostina** 81.31 347⇑ *i*P **P** 23 39 47.9 +1.9
PLOR **Plostina** 81.31 347 ⇑P **P** 23 39 47.9 +1.9
DOPR **Dopca** 81.36 348⇓ *i*P **P** 23 39 45.3 -1.0
RKT **Rikitea** 81.37 146 *e*S **S** 23 49 51.2 -3.7
comp=Z,573nm,28.9s
RKT **Rikitea** 81.37 146 *e*LR LR 00 05 10.8
comp=Z,8μm,22.8s,baz=339
RKT **Rikitea** 81.37 146 *e*T T 01 09 29.7
comp=Z,6.3nm,0.3s
FETA **Feichten** 81.39 358 *i*P **P** 23 39 47.1 +0.5
comp=Z,77nm,1.1s,SNR=40
SEAG **Tbilisi Sea** 81.43 333 P **P** 23 39 44.5 -2.3
KSM **Kuching** 81.44 261 *e*P **P** 23 39 48.1 +1.0
comp=Z,59nm,1.2s
KSM LR LR
comp=Z,800nm,20.0s
TBLG **Delisi** 81.48 333 P **P** 23 39 46.6 -0.4
TBLG **Delisi** 81.48 333 P **P** 23 39 46.6 -0.4
SDDR **Presa de Saban** 81.48 70 PFAKE 23 40 00.0 +13
SDDR LR LR
comp=Z,2μm,20.0s
SOKA **Soboth** 81.58 355 *i*P **P** 23 39 47.8 +0.3
comp=Z,81nm,1.2s,SNR=68
BISS **Bistriski jare** 81.61 355⇑ *i*P **P** 23 39 47.6 0.0
ABTA **Abfaltersbach** 81.62 357 *i*P **P** 23 39 47.8 +0.1
comp=Z,58nm,1.2s,SNR=26
TLCR 81.64 345⇓ *i*P **P** 23 39 48.4 +0.7
TLCR 81.64 345 ⇓P **P** 23 39 48.4 +0.7
BWNR **Bhubaneshwar** 81.65 292 *e*P **P** 23 39 49.0 +0.8
BEHE **Becsehely** 81.69 354⇑ *e*P **P** 23 39 48.4 +0.4
MYKA **Terra Mystica** 81.69 356 *i*P **P** 23 39 47.5 -0.6
comp=Z,31nm,1.3s,SNR=15
CFR **Carcaliu** 81.75 346⇑ *i*P **P** 23 39 49.2 +0.9
CFR **Carcaliu** 81.75 346 ⇑P **P** 23 39 49.2 +0.9
MLR **Muntele Rosu** 81.75 348⇓ *i*P **P** 23 39 50.4 +1.9
MLR **Muntele Rosu** 81.75 348 ⇓P **P** 23 39 50.4 +1.9
MLR **Muntele Rosu** 81.75 348 *e*P **P** 23 39 49.8 +1.3
comp=Z,20nm,0.9s
MLR LR LR
comp=Z,4μm,22.0s
GROS **Grobnik** 81.77 355 *i*P **P** 23 39 48.3 -0.2
GROS *e*S **S** 23 49 59.2 +0.2
GROS *e* 23 50 47.0
OBKA **Obir** 81.77 356 *i*P **P** 23 39 48.5 -0.1
comp=Z,23nm,1.1s,SNR=22
FUORN **Ofenpass-Fuorn** 81.80 359 *e*P **P** 23 39 50.2 +1.4
comp=Z,94nm,1.2s
FUORN LR LR
comp=Z,2μm,20.0s
STKI **Sintang** 81.84 260 P **P** 23 39 48.8 -0.4
VOIR 81.92 348⇑ *i*P **P** 23 39 49.1 -0.3
VOIR 81.92 348 ⇑P **P** 23 39 49.1 -0.3
GORS **Gorjuse** 81.99 356 *e*P **P** 23 39 48.8 -0.9
SENIN **Lac Senin/Sane** 82.06 1 *e*P **P** 23 39 51.3 +1.1
comp=Z,36nm,1.4s
SENIN LR LR
comp=Z,2μm,19.0s
CADS **Cadrg** 82.09 356 *i*P **P** 23 39 49.4 -0.8
CADS *e*PP **PP** 23 42 56.5 -0.9
CADS *e*S **S** 23 50 00.9 -1.2
AKH **Akhalkalaki** 82.12 334 P **P** 23 39 50.9 +0.3
AKH **Akhalkalaki** 82.12 334 P **P** 23 39 50.9 +0.3
BZS **Buzias** 82.14 351⇑ *i*P **P** 23 39 49.5 -0.9
BZS **Buzias** 82.14 351 ⇑P **P** 23 39 49.5 -0.9
BGD **Bogdanovka** 82.23 334 P **P** 23 39 51.7 +0.5
GZR **Gura Zlata** 82.24 350⇑ *i*P **P** 23 39 51.5 +0.5
GZR **Gura Zlata** 82.24 350 ⇑P **P** 23 39 51.5 +0.5
LJU **Ljubljana** 82.24 356 *e*P **P** 23 39 50.3 -0.6
LJU *i*PP **PP** 23 42 58.9 +0.3
LJU *e*S **S** 23 50 02.4 -1.3
LJU *e*SS SS 23 55 58.5 +36
SOEI **Soe** 82.25 243 P **P** 23 39 52.4 +1.0
comp=Z,95nm,1.1s,comp=Z,2μm
SOEI **Soe** 82.25 243 *e*P **P** 23 39 52.1 +0.7
comp=Z,163nm,1.3s
HARR **Harsova** 82.26 346⇓ *i*P **P** 23 39 52.2 +1.2
HARR **Harsova** 82.26 346 ⇓P **P** 23 39 52.2 +1.2
AGO **Saint Agoulin** 82.28 4⇑ *e*P **P** 23 39 52.0 +0.9
PLDF **La Plantade** 82.38 3⇑ *e*P **P** 23 39 52.5 +0.8
TIRR **Tirgusor** 82.41 346 *e*P **P** 23 39 52.5 +0.7
TIRR pmax pmax
comp=Z,45nm,1.1s
TIRR MLR MLR
comp=Z,5μm,22.0s
TIRR **Tirgusor** 82.41 346 *e*P **P** 23 39 52.5 +0.7
comp=Z,45nm,1.1s
TIRR LR LR
comp=Z,5μm,22.0s
SULR 82.51 347⇑ *i*P **P** 23 39 53.4 +1.1
TRI **Trieste** 82.61 356 PFAKE 23 40 00.0 +7.2
TRI LR LR
comp=Z,2μm,21.0s
SDD **Santo Domingo** 82.69 70 PFAKE 23 40 10.0 +16
SDD LR LR
comp=Z,3μm,19.0s
SURT **Suratani** 82.72 275 P **P** 23 39 55.4 +1.6
comp=Z,42nm,1.3s,comp=Z,814nm
BOJS **Bojanci** 82.74 355 *i*P **P** 23 39 53.0 -0.6
KTGM **Kuala Trenggan** 82.85 269 ⇑P **P** 23 39 55.3 +0.8
GNI **Garni** 82.94 333 *i*P **P** 23 39 56.0 +1.1
SNR=9.7
GNI **Garni** 82.94 333 *e*P **P** 23 39 56.3 +1.4
GNI pmax pmax
comp=Z,137nm,1.4s
GNI MLR MLR
comp=Z,2μm,21.0s
GNI **Garni** 82.94 333 P **P** 23 39 55.8 +0.9
SNR=11
GNI **Garni** 82.94 333 *e*P **P** 23 39 56.3 +1.4
comp=Z,137nm,1.4s
GNI LR LR
comp=Z,2μm,21.0s
MDVR **Moldovita** 82.95 350⇑ *i*P **P** 23 39 55.0 +0.3
SKLT **Songkhla** 82.98 273 P **P** 23 39 58.9 +3.7
comp=Z,82nm,0.8s,comp=Z,1μm
DGPR **DIGLIPUR** 83.02 282 *e*P **P** 23 39 55.9 +0.5
TRTT **Trang** 83.03 274 P **P** 23 39 57.2 +1.7
comp=Z,92nm,0.9s,comp=Z,1μm
SSB **Saint Sauveur** 83.10 3 *e*P **P** 23 39 55.8 +0.4
SSB pmax pmax
comp=Z,49nm,1.2s
SSB MLR MLR
comp=Z,1μm,21.0s
SSB **Saint Sauveur** 83.10 3 *e*P **P** 23 39 55.8 +0.4
comp=Z,49nm,1.2s
SSB LR LR
comp=Z,1μm,21.0s
LBL **Lubilhac** 83.10 4⇑ *e*P **P** 23 39 56.3 +0.8
PSN **Preselentsi** 83.20 346 P **P** 23 39 57.6 +1.7
BNI **Bardonecchia** 83.37 1 PFAKE 23 40 10.0 +13
BNI LR LR
comp=Z,2μm,19.0s
EIDS **Eidsvold** 83.61 213 *e*P **P** 23 39 58.6 +0.5
comp=Z,50nm,1.1s
EIDS LR LR
comp=Z,2μm,21.0s
UDBI **Udbina** 83.69 355 P **P** 23 39 57.9 -0.6
NVLJ **Novalja** 83.70 355 P **P** 23 39 57.7 -0.8
PRD **Provadia** 83.80 346 P **P** 23 39 59.9 +0.9
PKDT **Phuket** 83.83 275 P P 23 40 05.1 +5.5
comp=Z,80nm,1.6s
SZH **Strazhica** 83.94 347 P **P** 23 39 59.7 0.0
BHPL **Bhopal** 83.95 300 *e*P **P** 23 39 59.8 -0.4
CHLP **Challavanipeta** 84.07 292 *e*P **P** 23 40 01.0 +0.2
CHLP IAmb IAmb 23 40 02.1
comp=Z,158nm,1.3s
CHLP *e*SKSac **SKSac** 23 50 17.9 -3.7
CHLP IVMs_BB IVMs_BB 00 20 11.4
comp=Z,648nm,21.6s
MPEP **Malo Peshtene** 84.14 349 P **P** 23 40 01.6 +0.9
VLC **Villacollemand** 84.25 358 *e*P **P** 23 40 05.2 +3.8
comp=Z,28nm,1.0s
VLC LR LR
comp=Z,800nm,20.0s
PBA **Port Blair** 84.32 282 *e*P P 23 40 02.4 +0.4
PBA IAmb IAmb 23 40 04.4
comp=Z,45nm,0.5s
AGP **Aguadilla** 84.33 67 *e*P **P** 23 40 02.3 +0.2
comp=Z,482nm,1.4s
WSI **Waingapu** 84.40 247 P P 23 40 13.2 +11
KULM **Kulim** 84.42 271 ⇓P **P** 23 40 02.8 +0.2
KULM **Kulim** 84.42 271 *e*P **P** 23 40 02.8 +0.2
comp=Z,50nm,1.0s
KULM LR LR
comp=Z,1μm,22.0s
MPR **Mayaguez** 84.49 68 *e*P **P** 23 40 03.0 +0.1
comp=Z,288nm,2.0s
MPR LR LR
comp=Z,1μm,21.0s
LRS **Lares** 84.59 67 *e*P **P** 23 40 03.7 +0.2
JMB **Yambol** 84.63 347 P **P** 23 40 03.8 +0.5

IPM **Ipoh** 84.82 271 ⇑P **P** 23 40 04.9 +0.2
IPM **Ipoh** 84.82 271 *e*P **P** 23 40 04.8 +0.2
comp=Z,33nm,0.8s
IPM LR LR
comp=Z,1μm,22.0s
PGB **Panagyurishte** 84.88 348 P **P** 23 40 03.8 -0.8
CELP **Cerrillos** 84.92 67 *e*P **P** 23 40 05.5 +0.4
LARF **Larrau** 85.05 7 *e*P **P** 23 40 06.9 +1.5
VIS **Vishakhapatnam** 85.11 292 *e*P **P** 23 40 06.0 0.0
SJG **San Juan** 85.13 67 *e*P **P** 23 40 06.6 +0.5
SJG pmax pmax
comp=Z,100nm,1.2s
SJG MLR MLR
comp=Z,2μm,19.0s
SJG **San Juan** 85.13 67 *e*P **P** 23 40 06.6 +0.5
comp=Z,100nm,1.2s
SJG LR LR
comp=Z,2μm,19.0s
CBYP **Canovanas** 85.17 67 *e*P **P** 23 40 06.6 +0.2
comp=Z,79nm,1.2s
CBYP LR LR
comp=Z,2μm,20.0s
MYKOM **Kota Tinggi** 85.17 267 ⇑P **P** 23 40 06.7 +0.4
MYKOM **Kota Tinggi** 85.17 267 *e*P **P** 23 40 09.2 +2.9
comp=Z,21nm,1.0s
MYKOM LR LR
comp=Z,1μm,21.0s
PLAI **Plampang** 85.17 249 P **P** 23 40 03.9 -2.4
DIM **Dimitrovgrad** 85.19 347 P **P** 23 40 06.7 +0.6
PLD **Plovdiv** 85.25 348 P **P** 23 40 06.1 -0.2
VIEF **Viey** 85.27 6⇑ *e*P **P** 23 40 07.4 +0.8
HUMP **Col San Antoni** 85.28 67 *e*P **P** 23 40 07.5 +0.6
comp=Z,83nm,1.3s
HUMP LR LR
comp=Z,2μm,22.0s
KGM **Kluang** 85.32 267 ⇑P **P** 23 40 07.9 +0.8
LRDF **Laroque-de-Fa** 85.36 4⇑ *e*P **P** 23 40 07.9 +1.0
PGAV **Gavieira, Arco** 85.36 12 *e*P **P** 23 40 07.5 +0.4
comp=Z,64nm,2.3s
PGAV **Gavieira, Arco** 85.36 12 *e*SKS **S** 23 50 32.9 -2.5
PGAV **Gavieira, Arco** 85.36 12 *e*LR LR 00 09 14.5
comp=Z,2μm,18.0s
RESF **Ems** 85.37 6⇑ *e*P **P** 23 40 08.2 +1.1
WB9 **Warramunga Arr** 85.47 230 PFAKE 23 40 20.0 +12
WB9 LR LR
comp=Z,3μm,21.0s
WB8 **Warramunga Arr** 85.50 230 PFAKE 23 40 20.0 +12
WB8 LR LR
comp=Z,1μm,21.0s
PDG **Podgorica** 85.52 352 P **P** 23 40 06.3 -1.4
PDG **Podgorica** 85.52 352 ⇑ *i*P **P** 23 40 08.1 +0.4
TTG **Podgorica** 85.52 352 P **P** 23 40 06.3 -1.4
TTG **Podgorica** 85.52 352 P **P** 23 40 06.3 -1.4
WR0 **Warramunga Arr** 85.55 230 PFAKE 23 40 20.0 +12
WR0 LR LR
comp=Z,2μm,20.0s
CARF **Carcanieres** 85.56 5 *e*P **P** 23 40 08.4 +0.3
WR7 **Warramunga Arr** 85.57 230 PFAKE 23 40 20.0 +12
WR7 LR LR
comp=Z,1μm,20.0s
WR6 **Warramunga Arr** 85.58 230 PFAKE 23 40 20.0 +12
WR6 LR LR
comp=Z,2μm,21.0s
WB4 **Warramunga Arr** 85.58 230 PFAKE 23 40 20.0 +12
WB4 LR LR
comp=Z,1μm,21.0s
WR5 **Warramunga Arr** 85.59 230 PFAKE 23 40 20.0 +12
WR5 LR LR
comp=Z,1μm,22.0s
KDZ **Kurdzhali** 85.60 347 P **P** 23 40 08.2 +0.1
WB3 **Warramunga Arr** 85.60 230 PFAKE 23 40 20.0 +12
WB3 LR LR
comp=Z,1μm,21.0s
WR3 **Warramunga Arr** 85.61 230 PFAKE 23 40 20.0 +12
WR3 LR LR
comp=Z,1μm,20.0s
WRAB **Tennant Creek** 85.61 230 *c i*P **P** 23 40 08.2 -0.2
WRAB pmax pmax
comp=Z,218nm,1.7s
WRAB MLR MLR
comp=Z,1μm,7.0s
WRAB **Tennant Creek** 85.61 230 *e*P **P** 23 40 08.1 -0.2
comp=Z,71nm,1.3s
WRAB LR LR
comp=Z,2μm,19.0s
TWSI **Taliwang, Sumb** 85.62 250 P **P** 23 40 11.8 +3.3
WR2 **Warramunga Arr** 85.62 230 PFAKE 23 40 20.0 +12
WR2 LR LR
comp=Z,1μm,21.0s
WB2 **Warramunga Arr** 85.62 230 *e*P **P** 23 40 07.7 -0.7
comp=Z,53nm,1.1s
WB2 LR LR
comp=Z,1μm,20.0s
WR1 **Warramunga Arr** 85.63 230 PFAKE 23 40 20.0 +12
WR1 LR LR
comp=Z,1μm,21.0s
WRA **Warramunga Arr** 85.63 230 P **P** 23 40 07.8 -0.6
comp=Z,30nm,1.1s,baz=36,slow=5.5,SNR=74
WRA LR LR 00 14 07.4
comp=Z,1μm,21.8s,baz=35,slow=33
PCAB **Cabril** 85.64 12 *e*P **P** 23 40 08.2 -0.2
RZN **Rozhen** 85.66 348 P **P** 23 40 08.9 +0.3
ABVI **Anegada Island** 85.66 65 PFAKE 23 40 20.0 +11
ABVI LR LR
comp=Z,1μm,20.0s
KKB **Krupnik** 85.68 349 P **P** 23 40 08.9 +0.3
PBRG **Braganca** 85.71 11 *e*P **P** 23 40 08.7 -0.1
comp=Z,58nm,1.9s
FILF **Fillols** 85.74 4⇑ *e*P **P** 23 40 09.0 +0.1
SKO **Skopje** 85.76 350 P **P** 23 40 09.2 +0.3
SKO **Skopje** 85.76 350 *i*P **P** 23 40 09.4 +0.5
SKO **Skopje** 85.76 350 P **P** 23 40 09.2 +0.3
SKO **Skopje** 85.76 350 P **P** 23 40 09.2 +0.3
VALF **Valcebollere** 85.87 5 *e*P **P** 23 40 10.2 +0.5
MMB **Musomiste** 85.88 348 P **P** 23 40 10.0 +0.4
AQU **L'Aquila** 85.97 356 *e*P **P** 23 40 10.8 +0.7
AQU pmax pmax
comp=Z,106nm,1.3s
AQU MLR MLR
comp=Z,2μm,20.0s
AQU **L'Aquila** 85.97 356 *e*P **P** 23 40 10.8 +0.7
comp=Z,106nm,1.3s
AQU LR LR
comp=Z,2μm,20.0s
POLO **Lamas de Olo** 86.01 12 *e*P **P** 23 40 10.4 +0.1
comp=Z,25nm,2.0s
BR131 **Keskin Array S** 86.07 341 *e*P **P** 23 40 10.8 +0.1
BRTR **Keskin Array B** 86.07 341 P **P** 23 40 10.7 0.0
comp=Z,18nm,1.0s,baz=48,slow=2.0,SNR=34
BRTR PKKPbc **PKKPbc** 23 58 07.8 +0.1
comp=Z,2.3nm,0.8s,baz=180,slow=5.9,SNR=7.9
BRTR PKPPKP P'P'df 00 06 09.8 -12
comp=Z,3.6nm,1.1s,baz=180,slow=1.2,SNR=6.1
BRTR LR LR 00 22 28.0
comp=Z,2μm,21.8s,baz=34,slow=38
NVR **Nevrokopi** 86.10 348 P **P** 23 40 10.6 -0.1
NVR **Nevrokopi** 86.10 348 P **P** 23 40 10.6 -0.1
BR231 **Keskin MP Arra** 86.13 341 *e*P **P** 23 40 11.2 +0.3
BR231 *e*PKKPbc **PKKPbc** 23 58 06.5 -1.0
ALN **Alexandroupoli** 86.25 347 P **P** 23 40 11.3 0.0
ALN **Alexandroupoli** 86.25 347 P **P** 23 40 11.3 0.0
ALN **Alexandroupoli** 86.25 347 P **P** 23 40 11.3 0.0
VAY **Valandovo** 86.28 349 P **P** 23 40 11.8 +0.3
VAY **Valandovo** 86.28 349 *i*P **P** 23 40 12.0 +0.5
VAY **Valandovo** 86.28 349 P **P** 23 40 11.8 +0.3
VAY **Valandovo** 86.28 349 P **P** 23 40 11.8 +0.3
MVO **Moncorvo** 86.31 12 *e*P **P** 23 40 11.8 +0.1
comp=Z,49nm,1.2s
MVO **Moncorvo** 86.31 12 *e*SKS **S** 23 50 39.9 -4.7
MVO **Moncorvo** 86.31 12 *e*LR LR 00 09 57.2
comp=Z,2μm,22.0s
SRS **Serrai** 86.36 348 P **P** 23 40 11.7 -0.2
SRS **Serrai** 86.36 348 P **P** 23 40 11.7 -0.2
SRS **Serrai** 86.36 348 P **P** 23 40 11.7 -0.2
KAVA **Kavala** 86.36 348 P **P** 23 40 12.0 +0.1
KAVA **Kavala** 86.36 348 P **P** 23 40 12.0 +0.1
KNT **Kendrikon** 86.40 349 P **P** 23 40 12.5 +0.4
KNT **Kendrikon** 86.40 349 P **P** 23 40 12.5 +0.4
KNT **Kendrikon** 86.40 349 P **P** 23 40 12.5 +0.4
PVM **Polavaram** 86.46 293 *e*P **P** 23 40 12.7 0.0
PVM IAmb IAmb 23 40 13.7
comp=Z,251nm,1.4s
PVM IVMs_BB IVMs_BB 00 20 58.7
comp=Z,695nm,19.7s

RPR **Rampur** 86.47 296 *e*P **P** 23 40 12.0 -0.8
RPR IAmb IAmb 23 40 13.6
comp=Z,237nm,1.3s
RPR *e*SKSac **SKSac** 23 50 31.2 -5.6
RPR IVMs_BB IVMs_BB 00 20 59.1
comp=Z,1μm,26.8s
TIR **Tirane** 86.54 351 PFAKE 23 40 20.0 +7.2
TIR LR LR
comp=Z,4μm,20.0s
PVIS **Viseu** 86.64 12 *e*P **P** 23 40 13.4 0.0
comp=Z,47nm,1.0s
OHR **Ohrid** 86.68 351 *i*P **P** 23 40 13.2 -0.3
SOH **Sokhos** 86.68 349 P **P** 23 40 13.4 -0.1
SOH **Sokhos** 86.68 349 P **P** 23 40 13.4 -0.1
SOH **Sokhos** 86.68 349 P **P** 23 40 13.4 -0.1
SMTH **Samothraki Isl** 86.74 347 P **P** 23 40 13.2 -0.6
SMTH **Samothraki Isl** 86.74 347 P **P** 23 40 13.2 -0.6
LHMI **Lhok Sumawe** 86.76 274 P **P** 23 40 12.3 -1.9
MOTC **Monteria, Cord** 86.86 80 *e*P **P** 23 40 14.3 -0.4
THE **Thessaloniki** 86.92 349 P **P** 23 40 14.0 -0.6
THE **Thessaloniki** 86.92 349 P **P** 23 40 14.0 -0.6
THE **Thessaloniki** 86.92 349 P **P** 23 40 14.0 -0.6
HORT **Hortiatis** 86.93 349 P **P** 23 40 14.3 -0.5
HORT **Hortiatis** 86.93 349 P **P** 23 40 14.3 -0.5
FNA **Florina** 86.94 350 P **P** 23 40 13.8 -1.0
FNA **Florina** 86.94 350 P **SKSac** 23 50 37.9 -1.4
FNA **Florina** 86.94 350 P **P** 23 40 13.8 -1.0
FNA **Florina** 86.94 350 P **P** 23 40 13.8 -1.0
LHI **Lord Howe Isla** 86.98 205 PFAKE 23 40 30.0 +15
LHI LR LR
comp=Z,2μm,21.0s
MTE **Manteigas** 87.00 12 *e*P **P** 23 40 15.5 +0.4
comp=Z,40nm,1.1s
MTE **Manteigas** 87.00 12 *e*SKS S 23 50 42.1 -9.2
MTE **Manteigas** 87.00 12 *e*LR LR 00 10 08.2
comp=Z,1μm,20.0s
MTE **Manteigas** 87.00 12 *e*P **P** 23 40 15.6 +0.4
comp=Z,23nm,0.9s
MTE LR LR
comp=Z,2μm,19.0s
OUR **Ouranopolis** 87.08 348 P **P** 23 40 14.7 -0.7
OUR **Ouranopolis** 87.08 348 P **P** 23 40 14.7 -0.7
OUR **Ouranopolis** 87.08 348 P **P** 23 40 14.7 -0.7
TSI **Tuntungan** 87.11 272 P **P** 23 40 14.3 -1.6
PLG **Polygyros** 87.11 348 P **P** 23 40 15.0 -0.6
PLG **Polygyros** 87.11 348 P **P** 23 40 15.0 -0.6
PLG **Polygyros** 87.11 348 P **P** 23 40 15.0 -0.6
SABA **Saba** 87.17 65 PFAKE 23 40 30.0 +14
SABA LR LR
comp=Z,2μm,22.0s
PCAS **Casmilo, Conde** 87.21 13 *e*P **P** 23 40 16.1 0.0
comp=Z,39nm,1.0s
NEST **Nestorio** 87.34 350 P **P** 23 40 16.4 -0.4
LIA **Limnos Island** 87.35 347 P **P** 23 40 16.3 -0.4
LIA **Limnos Island** 87.35 347 P **P** 23 40 16.3 -0.4
KZN **Kozani** 87.37 350 P **P** 23 40 16.4 -0.6
KZN **Kozani** 87.37 350 P **P** 23 40 16.4 -0.6
KZN **Kozani** 87.37 350 P **P** 23 40 16.4 -0.6
PSI **Prapat** 87.43 271 *e*P **P** 23 40 18.1 +0.5
PSI pmax pmax
comp=Z,161nm,1.0s
PSI MLR MLR
comp=Z,800nm,20.0s
PSI **Prapat** 87.43 271 *e*P **P** 23 40 18.1 +0.5
comp=Z,161nm,1.0s
PSI LR LR
comp=Z,800nm,20.0s
LIT **Litokhoron** 87.50 349 P **P** 23 40 16.7 -0.8
LIT **Litokhoron** 87.50 349 P **P** 23 40 16.7 -0.8
LIT **Litokhoron** 87.50 349 P **P** 23 40 16.7 -0.8
PAIG **Paliouri** 87.52 348 P **P** 23 40 16.5 -1.1
PAIG **Paliouri** 87.52 348 P **P** 23 40 16.5 -1.1
PAIG **Paliouri** 87.52 348 P **P** 23 40 16.5 -1.1
PENT **Pentalofos** 87.55 350 P **P** 23 40 17.3 -0.5
PCBR **Castelo Branco** 87.56 12 *e*P **P** 23 40 17.7 0.0
comp=Z,30nm,1.1s
PTOM **Tomar** 87.65 13 *e*P **P** 23 40 18.3 +0.1
comp=Z,55nm,1.2s
OUZ **Omahuta** 87.75 192 *e*P **P** 23 40 20.1 +1.7
comp=Z,50nm,1.1s
KPRO **Kipourio** 87.77 350 P **P** 23 40 18.3 -0.5
SIGR **SIGRI** 87.93 346 P **P** 23 40 18.9 -0.6
SIGR **SIGRI** 87.93 346 P **P** 23 40 18.9 -0.6
ANWB **Willy Bob** 87.94 64 PFAKE 23 40 30.0 +10
ANWB LR LR
comp=Z,2μm,20.0s
BHJ **Bhuj** 87.97 306 *e*P **P** 23 40 19.8 -0.1
PMRV **Marv??o** 87.97 12 *e*P **P** 23 40 19.2 -0.6
comp=Z,24nm,1.4s
PMRV **Marv??o** 87.97 12 *e*SKS **SKSac** 23 50 48.9 +3.4
PMRV **Marv??o** 87.97 12 *e*LR LR 00 10 43.4
comp=Z,2μm,18.0s
HYBB **Hyderabad (bro** 88.05 296 *e*P **P** 23 40 20.0 -0.4
HYBB IAmb IAmb 23 40 21.1
comp=Z,442nm,1.4s
HYBB *e*SKSac **SKSac** 23 50 38.7 -7.9
HYBB IVMs_BB IVMs_BB 00 24 20.9
comp=Z,744nm,4.2s
BKNI **Bangkinang** 88.05 268 P **P** 23 40 23.1 +2.7
BKNI **Bangkinang** 88.05 268 PFAKE 23 40 30.0 +10
BKNI LR LR
comp=Z,700nm,20.0s
HYB **Hyderabad** 88.05 296 *i*P **P** 23 40 20.0 -0.5
comp=Z,140nm,1.0s
HYB *e*SKS **SKSac** 23 50 40.0 -6.6
HYB *e*S **S** 23 51 00.0 -2.0
HYB **Hyderabad** 88.05 296 *e*P **P** 23 40 20.4 0.0
THL **Klokotos Trika** 88.08 349 P **P** 23 40 18.9 -1.3
THL **Klokotos Trika** 88.08 349 P **SKSac** 23 50 42.5 -3.6
ARMA **Armidale** 88.10 211 *e*P **P** 23 40 21.6 +1.3
comp=Z,50nm,1.1s
ARMA LR LR
comp=Z,2μm,20.0s
ES19 **SONSECA Array** 88.11 9 *e*P **P** 23 40 20.2 -0.2
ES19 *e*PKKPdf **PKKPbc** 23 58 03.2 +0.5
JAN **Janina** 88.11 350 P **P** 23 40 20.5 0.0
JAN **Janina** 88.11 350 P **SKSac** 23 50 38.1 -8.3
JAN **Janina** 88.11 350 P **P** 23 40 20.5 0.0
JAN **Janina** 88.11 350 P **P** 23 40 20.5 0.0
ESDC **Sonseca Array** 88.13 9 *e*P **P** 23 40 20.4 -0.1
comp=Z,9.9nm,0.7s,baz=351,slow=4.6,SNR=62
ESDC PKKPbc **PKKPbc** 23 58 02.9 +0.2
comp=Z,1.5nm,0.8s,baz=210,slow=1.1,SNR=7.3
ESDC PKPPKP P'P'df 00 06 08.6 -10
comp=Z,0.6nm,0.8s,baz=286,slow=3.9,SNR=5.1
ESDC LR LR 00 20 35.2
comp=Z,778nm,20.4s,baz=350,slow=36
ESLA **Sonseca Array** 88.13 9 *e*P **P** 23 40 20.4 -0.1
comp=Z,22nm,1.0s
ESLA LR LR
comp=Z,2μm,18.0s
PMAFR **Mafra** 88.18 14 *e*P **P** 23 40 21.8 +1.1
comp=Z,99nm,2.6s
CUC **Castrococco** 88.20 354 PFAKE 23 40 30.0 +9.1
CUC LR LR
comp=Z,1μm,19.0s
PAB **San Pablo** 88.22 10 *e*P **P** 23 40 21.2 +0.2
PAB pmax pmax
comp=Z,17nm,1.1s
PAB MLR MLR
comp=Z,2μm,20.0s
PAB **San Pablo** 88.22 10 *e*P **P** 23 40 21.2 +0.2
comp=Z,17nm,1.1s
PAB LR LR
comp=Z,2μm,20.0s
SGD **Sagiada** 88.22 351 P **P** 23 40 20.6 -0.3
NJS **Nagarjunasagar** 88.33 295 *e*P **P** 23 40 21.2 -0.6
NJS IAmb IAmb 23 40 22.4
comp=Z,135nm,1.2s
NJS *e*SKSac **SKSac** 23 50 43.6 -4.6
NJS IVMs_BB IVMs_BB 00 22 08.4
comp=Z,558nm,4.5s
FITZ **Fitzroy Crossi** 88.41 238 P **P** 23 40 22.4 +0.6
comp=Z,24nm,0.7s,baz=15,slow=6.2,SNR=35
LIS **Lisbon** 88.43 14 *e*P **P** 23 40 22.4 +0.5
LIS AMS AMS 00 19 41.0
comp=Z,2μm,16.9s
LIS **Lisbon** 88.43 14 *e*P **P** 23 40 22.4 +0.5
PESTR **Estremoz** 88.50 12 *e*P **P** 23 40 21.7 -0.6
comp=Z,42nm,1.2s
ADKI **Addanki** 88.52 294 *e*P **P** 23 40 22.5 -0.1
ADKI IAmb IAmb 23 40 23.8
comp=Z,191nm,1.4s
ADKI *e*SKSac **SKSac** 23 50 49.3 0.0

ADKI IVMs_BB IVMs_BB 00 21 55.5
comp=Z,755nm,7.3s
AGG **Agios Georgios** 88.58 349 P **SKSac** 23 50 46.9 -2.3
AGG **Agios Georgios** 88.58 349 *e*P **P** 23 40 22.1 -0.6
AGG pmax pmax
comp=Z,378nm,1.8s
AGG **Agios Georgios** 88.58 349 *e*P **P** 23 40 22.1 -0.6
comp=Z,378nm,1.8s
MNSI **Mandailing Nat** 88.59 269 P **P** 23 40 23.7 +0.8
comp=Z,45nm,0.6s
KLRI **Killari** 88.60 298 *e*P **P** 23 40 22.6 -0.5
KLRI IAmb IAmb 23 40 23.5
comp=Z,501nm,1.3s
KLRI IVMs_BB IVMs_BB 00 22 53.2
comp=Z,2μm,14.9s
DSL **Palaion Diasel** 88.61 350 P **P** 23 40 22.1 -0.7
DSL **Palaion Diasel** 88.61 350 P **P** 23 40 22.1 -0.7
OCAC **Ocana** 88.71 78 *e*P **P** 23 40 22.3 -1.5
EVR **Evrytania** 88.74 349 P **P** 23 40 22.1 -1.4
EVR **Evrytania** 88.74 349 P **SKSac** 23 50 47.3 -3.0
EVR **Evrytania** 88.74 349 P **P** 23 40 22.1 -1.4
EVO **Evora** 88.77 13 *e*P **P** 23 40 23.0 -0.5
comp=Z,33nm,1.5s
ATAL **Atalanti** 88.82 349 P **P** 23 40 22.4 -1.4
ATAL **Atalanti** 88.82 349 P **P** 23 40 22.4 -1.4
LKR **Lokris** 88.87 349 P **SKSac** 23 50 46.5 -4.3
SRLM **Srisailam** 88.92 295 *e*P **P** 23 40 23.9 -0.7
SRLM IAmb IAmb 23 40 25.2
comp=Z,131nm,1.2s
SRLM IVMs_BB IVMs_BB 00 21 20.2
comp=Z,755nm,4.0s
VSL **Villasalto** 88.92 359 *e*P **P** 23 40 24.5 +0.2
comp=Z,26nm,1.3s
VSL LR LR
comp=Z,2μm,20.0s
TIP **Timpagrande** 88.95 353 P **P** 23 40 23.4 -1.0
TIP **Timpagrande** 88.95 353 *e*P **P** 23 40 24.6 +0.2
comp=Z,96nm,1.9s
TIP LR LR
comp=Z,2μm,22.0s
HELC **Santa Helena** 88.97 81 *e*P **P** 23 40 23.4 -1.8
HELC **Santa Helena** 88.97 81 *e*P **P** 23 40 25.6 +0.4
comp=Z,111nm,1.2s
HELC LR LR
comp=Z,2μm,20.0s
EREA **Eretria** 88.97 348 P **P** 23 40 23.7 -0.8
EREA **Eretria** 88.97 348 P **SKSac** 23 50 49.2 -2.4
BTCH **Batrach** 88.98 338 *e*P **P** 23 40 24.2 -0.4
AS01 **Alice Springs** 89.01 228 *e*P **P** 23 40 23.6 -1.0
AS31 **Alice Springs** 89.03 228 *e*P **P** 23 40 24.9 +0.2
comp=Z,20nm,0.8s
ASAR **Alice Springs** 89.03 228 P **P** 23 40 25.0 +0.2
comp=Z,74nm,1.0s,baz=35,slow=4.4,SNR=212
ASAR LR LR 00 15 46.2
comp=Z,1μm,21.9s,baz=40,slow=32
ANX **Ano Chora** 89.05 349 P **P** 23 40 24.0 -1.0
ANX **Ano Chora** 89.05 349 P **SKSac** 23 50 51.5 -0.7
GDHS **Morne Mazeau,** 89.08 65 *e*P **P** 23 40 26.8 +1.5
GDHS LR LR
comp=Z,2μm,20.0s
PNCL **Nicolau / Gran** 89.11 13 *e*P **P** 23 40 26.1 +1.0
comp=Z,40nm,1.7s
DSF **Desfina** 89.16 349 P **P** 23 40 24.0 -1.4
DSF **Desfina** 89.16 349 P **SKSac** 23 50 48.5 -4.2
DSF **Desfina** 89.16 349 P **P** 23 40 24.0 -1.4
SERG **Sergoula** 89.22 349 P **P** 23 40 24.7 -0.9
KALE **Kalithea** 89.22 349 P **P** 23 40 24.9 -0.8
KALE **Kalithea** 89.22 349 P **P** 23 40 24.9 -0.8
PBAR **Barrancos** 89.25 12 *e*P **P** 23 40 25.8 0.0
comp=Z,111nm,1.6s
SMG **Samos** 89.26 345 P SKSac 23 50 40.6 -13
PBEJ **Beja** 89.29 13 *e*P **P** 23 40 26.4 +0.4
comp=Z,29nm,1.4s
VILL **Villia** 89.31 348 P **P** 23 40 24.4 -1.7
PTL **Penteli** 89.35 348 P **P** 23 40 24.9 -1.4
PTL **Penteli** 89.35 348 P **P** 23 40 24.9 -1.4
BRRC **Barranca, Sant** 89.36 79 *e*P **P** 23 40 25.1 -1.5
LAKA **Lakka** 89.39 349 P **P** 23 40 25.8 -0.7
LAKA **Lakka** 89.39 349 P **SKSac** 23 50 51.9 -2.1
LAKA **Lakka** 89.39 349 P **P** 23 40 25.8 -0.7
RCLA **Racherla** 89.41 295 *e*P **P** 23 40 26.6 -0.2
RCLA IAmb IAmb 23 40 27.6
comp=Z,149nm,1.3s
RCLA *e*SKSac **SKSac** 23 50 54.6 0.0
RCLA IVMs_BB IVMs_BB 00 25 05.7
comp=Z,910nm,5.0s
MESJ **Messejana** 89.42 13 *e*P **P** 23 40 27.0 +0.4
MESJ *e*S **SKSac** 23 50 54.5 +0.3
MESJ AMS AMS 00 23 27.8
comp=Z,1μm,18.9s
MESJ **Messejana** 89.42 13 *e*P **P** 23 40 27.0 +0.4
MESJ *e*S **SKSac** 23 50 54.4 +0.3
GRMC **Gramalote, San** 89.43 78 *e*P **P** 23 40 25.1 -2.1
GSI **Gunungsitoli** 89.43 271 P **P** 23 40 26.6 -0.3
comp=Z,121nm,1.7s
GSI **Gunungsitoli** 89.43 271 *e*P **P** 23 40 27.6 +0.7
comp=Z,346nm,1.7s
CBRI **Barrientos, No** 89.44 78 *e*P **P** 23 40 27.4 +0.2
LTK **Loutraki** 89.49 348 P **P** 23 40 24.6 -2.3
LTK **Loutraki** 89.49 348 P **SKSac** 23 50 51.9 -2.7
LTK **Loutraki** 89.49 348 P **P** 23 40 24.6 -2.3
THAL **Thalero** 89.51 349 P **P** 23 40 25.9 -1.1
VLY **Voula,Athens** 89.55 348 P **P** 23 40 25.3 -1.9
VLY **Voula,Athens** 89.55 348 P **SKSac** 23 50 58.4 +3.5
VLY **Voula,Athens** 89.55 348 P **P** 23 40 25.3 -1.9
KLV **Kalavryta, Ach** 89.57 349 P **P** 23 40 26.8 -0.7
KLV **Kalavryta, Ach** 89.57 349 P **SKSac** 23 50 52.5 -2.6
KLV **Kalavryta, Ach** 89.57 349 P **P** 23 40 26.6 -0.7
MXZ **Matakaoa Point** 89.57 188 PFAKE 23 40 40.0 +13
MXZ LR LR
comp=Z,3μm,21.0s
VLS **Valsamata** 89.61 350 P **SKSac** 23 50 54.8 -0.5
RLS **Riolos of Patr** 89.63 350 P **P** 23 40 27.4 -0.1
RLS **Riolos of Patr** 89.63 350 P **SKSac** 23 50 54.3 -1.0
RLS **Riolos of Patr** 89.63 350 P **P** 23 40 27.4 -0.1
GUR **Goura** 89.65 349 P **P** 23 40 27.0 -0.8
GUR **Goura** 89.65 349 P **SKSac** 23 50 52.2 -3.5
GUR **Goura** 89.65 349 P **P** 23 40 27.0 -0.8
PCVE **Castro Verde** 89.65 13 *e*P **P** 23 40 28.3 +0.6
DRO **Drossia** 89.71 349 P **P** 23 40 27.4 -0.6
DRO **Drossia** 89.71 349 P **SKSac** 23 50 45.6 -10
POO **Poona** 89.71 300 *e*P **P** 23 40 28.5 +0.2
SDV **Santo Domingo** 89.82 76 *e*P **P** 23 40 27.9 -1.1
SDV **Santo Domingo** 89.82 76 *e*P **P** 23 40 29.8 +0.7
comp=Z,96nm,0.9s
SDV LR LR
comp=Z,1μm,19.0s
GRGC **Isla de Gorgon** 89.84 85 *e*P **P** 23 40 26.8 -2.1
NORC **Norcasia** 89.86 81 *e*P **P** 23 40 29.1 0.0
MORF **Marmelete** 89.89 13 *e*P **P** 23 40 29.1 +0.2
MORF AMS AMS 00 23 06.3
comp=Z,2μm,21.8s
MORF **Marmelete** 89.89 13 *e*P **P** 23 40 29.0 +0.2
comp=Z,106nm,1.8s
MORF **Marmelete** 89.89 13 *e*P **P** 23 40 29.0 +0.2
CEL **Celeste** 89.92 354 PFAKE 23 40 40.0 +11
CEL LR LR
comp=Z,2μm,22.0s
PVAQ **Vaqueiros** 89.92 13 *e*P **P** 23 40 30.4 +1.5
comp=Z,79nm,1.7s
PVAQ **Vaqueiros** 89.92 13 *e*SKS **SKSac** 23 51 01.0 +3.9
PVAQ **Vaqueiros** 89.92 13 *e*LR LR 00 11 33.1
comp=Z,2μm,18.0s
DID **Didima** 89.96 348 P **P** 23 40 27.1 -2.1
DID **Didima** 89.96 348 P **P** 23 40 27.1 -2.1
BIDA **Albida** 89.99 337 *e*P **P** 23 40 27.6 -1.8
PFVI **Vila Bisbo** 90.03 14 PFAKE 23 40 40.0 +11
PFVI LR LR
comp=Z,2μm,19.0s
PBDV **Barranco-do-Ve** 90.05 13 *e*P **P** 23 40 28.9 -0.7
comp=Z,68nm,1.8s
ZKS **Zakynthos** 90.06 350 P **SKSac** 23 50 53.9 -4.0
BARC **Barichara** 90.09 79 *e*P **P** 23 40 30.2 -0.1
VLX **Vlachokerasia** 90.20 349 P **P** 23 40 28.3 -2.1
VLX **Vlachokerasia** 90.20 349 P **P** 23 40 28.3 -2.1
KSL **Kastellorizon** 90.31 343 P SKSac 23 50 39.6 -20
URZ **Urewera** 90.36 189 PFAKE 23 40 40.0 +9.5
URZ LR LR
comp=Z,4μm,22.0s
HAWK **Haweek** 90.44 337 *e*P **P** 23 40 31.1 -0.4
ROOS **tl_alroos** 90.56 336 *e*P **P** 23 40 31.3 -0.8
FDF **Fort de France** 90.67 65 PFAKE 23 40 40.0 +7.2
FDF LR LR

	comp=Z,1μm,21.0s								
ALFC	**Alefka**	**90.69**	**340**		P		**P**	**23 40 31.9**	**-0.7**
RUSC	**La Rusia**	**90.70**	**80**		*e*P		**P**	**23 40 32.4**	**-1.0**
RUSC	**La Rusia**	**90.70**	**80**		*e*P		**P**	**23 40 33.8**	**+0.3**
CSS	**Mathiatis**	**90.72**	**340**		P		**P**	**23 40 32.4**	**-0.3**
CSS	**Mathiatis**	**90.72**	**340**		P		**P**	**23 40 31.7**	**-1.0**
CSS	**Mathiatis**	**90.72**	**340**		*e*P		**P**	**23 40 32.7**	**0.0**
	comp=Z,9.9nm,1.0s								
CSS					LR		LR		
	comp=Z,300nm,18.0s								
CLTB	**Caltabellotta**	**90.74**	**356**		*e*P		**P**	**23 40 33.1**	**+0.3**
	comp=Z,18nm,0.8s								
CLTB					LR		LR		
	comp=Z,2μm,21.0s								
ROSC	**El Rosal**	**90.77**	**81**		P		**P**	**23 40 34.6**	**+0.9**
	comp=Z,14nm,0.6s,baz=110,slow=5.8,SNR=15								
ROSC					LR		LR	00 23 13.3	
	comp=Z,315nm,20.8s,baz=28,slow=37								
ROSC	**El Rosal**	**90.77**	**81**		*e*P		**P**	**23 40 31.3**	**-2.4**
ROSC	**El Rosal**	**90.77**	**81**		*e*P		**P**	**23 40 35.0**	**+1.3**
	comp=Z,25nm,0.9s								
SANT	**Santorini**	**90.78**	**346**		PFAKE			23 40 40.0	+7.0
SANT					LR		LR		
	comp=Z,2μm,21.0s								
VLI	**Veliai**	**90.78**	**348**		P		**P**	**23 40 30.8**	**-2.1**
VLI	**Veliai**	**90.78**	**348**		P		**SKSac**	**23 50 58.6**	**-3.5**
VLI	**Veliai**	**90.78**	**348**		P		**P**	**23 40 30.8**	**-2.1**
HIZ	**Hauiti**	**90.85**	**191**		PFAKE			23 40 50.0	+17
HIZ					LR		LR		
	comp=Z,3μm,20.0s								
AKMC	**Akamas**	**90.87**	**340**		P		**P**	**23 40 31.5**	**-1.9**
MARH	**Ras Al Marh**	**90.89**	**337**		*e*P		**P**	**23 40 34.4**	**+0.4**
SZAC	**Souni**	**91.01**	**340**		P		**P**	**23 40 33.1**	**-1.0**
POPC	**Popayan, Colom**	**91.12**	**84**		*e*P		**P**	**23 40 34.1**	**-1.0**
CHIC	**Chingaza**	**91.29**	**81**		*e*P		**P**	**23 40 35.3**	**-0.9**
PRAC	**Prado**	**91.30**	**82**		*e*P		**P**	**23 40 34.7**	**-1.0**
PRAC	**Prado**	**91.30**	**82**		*e*P		**P**	**23 40 35.3**	**-0.4**
	comp=Z,124nm,0.9s								
PRAC					LR		LR		
	comp=Z,300nm,20.0s								
KARP	**Karpathos**	**91.32**	**345**		PFAKE			23 40 50.0	+14
KARP					LR		LR		
	comp=Z,700nm,20.0s								
BKZ	**Black Stump Fm**	**91.32**	**189**		PFAKE			23 40 50.0	+15
BKZ					LR		LR		
	comp=Z,4μm,21.0s								
CMBC	**Cumbal**	**91.66**	**86**		*e*P		**P**	**23 40 37.5**	**-0.3**
ZALF	**Zalf**	**91.73**	**336**		*e*P		**P**	**23 40 37.4**	**-0.1**
SVB	**Belmont**	**91.80**	**66**		PFAKE			23 40 50.0	+12
SVB					LR		LR		
	comp=Z,2μm,22.0s								
OTAV	**Otavalo**	**91.83**	**87**		*e*P		**P**	**23 40 38.1**	**-0.5**
OTAV	**Otavalo**	**91.83**	**87**		*e*P		**P**	**23 40 39.5**	**+0.9**
	comp=Z,46nm,0.9s								
IDI	**Anoyia**	**91.92**	**346**		PFAKE			23 40 50.0	+12
IDI					LR		LR		
	comp=Z,2μm,22.0s								
LAST	**Lasithi**	**91.96**	**346**		PFAKE			23 40 50.0	+11
LAST					LR		LR		
	comp=Z,2μm,20.0s								
SALA	**Sala**	**92.09**	**336**		*e*P		**P**	**23 40 39.2**	**-0.1**
SJAC	**San Juan de Ar**	**92.22**	**82**		*e*P		**P**	**23 40 39.2**	**-0.8**
TCHB	**Talchebab**	**92.31**	**337**		*e*P		**P**	**23 40 40.5**	**+0.3**
WDD	**Wied Dalam**	**92.41**	**355**		PFAKE			23 40 50.0	+10
WDD					LR		LR		
	comp=Z,800nm,21.0s								
GRGR	**Grenville**	**92.49**	**67**		PFAKE			23 40 50.0	+8.8
GRGR					LR		LR		
	comp=Z,2μm,22.0s								
PMOZ	**Porto Moniz, M**	**92.67**	**21**		*e*P		**P**	**23 40 42.6**	**+0.7**
	comp=Z,125nm,1.2s								
PMOZ	**Porto Moniz, M**	**92.67**	**21**		*e*SKS		**SKSac**	**23 51 21.7**	**+8.6**
PMOZ	**Porto Moniz, M**	**92.67**	**21**		*e*LR		LR	00 12 24.6	
	comp=Z,1μm,18.0s								
KEST	**Kesra**	**92.68**	**359**		P		**P**	**23 40 41.8**	**-0.1**
	comp=Z,8.7nm,1.0s,baz=182,slow=1.2,SNR=9.1								
KEST	**Kesra**	**92.68**	**359**		*e*P		**P**	**23 40 42.3**	**+0.4**
	comp=Z,25nm,1.2s								
KEST					LR		LR		
	comp=Z,2μm,20.0s								
UOSS	**Minazif**	**92.71**	**318**		*e*P		**P**	**23 40 40.9**	**-1.1**
UOSS					LR		LR		
	comp=Z,2.6nm,0.9s								
	comp=Z,2μm,22.0s								
PMAR	**Madeira**	**92.83**	**21**		*e*P		**P**	**23 40 44.1**	**+1.4**
	comp=Z,200nm,1.4s								
HATD	**Hatta, Dubai**	**92.84**	**318**		*i* P		**P**	**23 40 41.6**	**-1.1**
	SNR=6.4								
BFZ	**Birch Farm**	**92.85**	**189**		PFAKE			23 40 50.0	+8.0
BFZ					LR		LR		
	comp=Z,4μm,21.0s								
NAZ	**Nazwa, Dubai**	**92.89**	**318**		*i* P		**P**	**23 40 43.0**	**+0.1**
	SNR=10								
STKA	**Stephens Creek**	**92.96**	**218**		P		**P**	**23 40 43.3**	**+0.5**
	comp=Z,14nm,0.8s,baz=3.4,slow=6.4,SNR=17								
STKA					LR		LR	00 17 23.6	
	comp=Z,3μm,21.7s,baz=22,slow=32								
STKA	**Stephens Creek**	**92.96**	**218**		*e*P		**P**	**23 40 43.3**	**+0.5**
	comp=Z,7.8nm,1.2s								
ASHO	**Ashiyiah**	**93.00**	**318**		*i* P		**P**	**23 40 42.3**	**-1.1**
	SNR=9.1								
FAQ	**Al Faqa, Dubai**	**93.14**	**318**		*i* P		**P**	**23 40 42.7**	**-1.3**
	SNR=9.4								
RTC	**Rabat Centre**	**93.40**	**13**		PFAKE			23 41 00.0	+15
RTC					LR		LR		
	comp=Z,4μm,20.0s								
CAN	**Canberra**	**93.46**	**211**		PFAKE			23 41 00.0	+15
CAN					LR		LR		
	comp=Z,2μm,22.0s								
SMDO	**Samad**	**93.58**	**315**		P		**P**	**23 40 45.8**	**-0.4**
SNZO	**South Karori**	**93.63**	**190**		PFAKE			23 41 00.0	+14
SNZO					LR		LR		
	comp=Z,4μm,22.0s								
ARQ	**Araqi**	**93.99**	**317**		P		**P**	**23 40 47.7**	**-0.3**
	SNR=13								
MBWA	**Marble Bar**	**94.06**	**241**		*e*P		**P**	**23 40 48.4**	**+0.3**
	comp=Z,93nm,1.7s								
PALK	**Pallekele**	**94.98**	**288**		P		**P**	**23 40 53.3**	**+0.6**
PALK	**Pallekele**	**94.98**	**288**		PFAKE			23 41 00.0	+7.3
PALK					LR		LR		
	comp=Z,2μm,22.0s								
OXZ	**Oxford**	**95.94**	**192**		PFAKE			23 41 10.0	+14
OXZ					LR		LR		
	comp=Z,3μm,21.0s								
MQZ	**McQueen's Vall**	**96.23**	**191**		PFAKE			23 41 10.0	+13
MQZ					LR		LR		
	comp=Z,3μm,18.0s								
FOZ	**Fox Glacier**	**96.44**	**193**		PFAKE			23 41 10.0	+12
FOZ					LR		LR		
	comp=Z,4μm,21.0s								
NNA	**Nana**	**102.32**	**94**		PFAKE			23 41 40.0	+14
NNA					LR		LR		
	comp=Z,3μm,20.0s								
PTGA	**Pitinga**	**103.83**	**73**		*e*Pdif		**Pdif**	**23 41 32.8**	**+0.5**
PTGA					LR		LR		
	comp=Z,900nm,20.0s								
TAM	**Tamanrasset**	**105.54**	**3**		PFAKE			23 46 10.0	
TAM					LR		LR		
	comp=Z,2μm,21.0s								
SACV	**Santiago Islan**	**107.83**	**32**		PFAKE			23 46 10.0	
SACV					LR		LR		
	comp=Z,1μm,19.0s								
SAML	**Samuel**	**108.40**	**81**		PFAKE			23 46 10.0	
SAML					LR		LR		
	comp=Z,500nm,19.0s								
LPAZ	**La Paz**	**111.00**	**90**		PKiKP		**PKiKP**	**23 46 04.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=26,slow=8.6,SNR=3.9								
DBIC	**Dimbokro**	**120.53**	**15**		PKP		**PKPdf**	**23 46 21.0**	**-0.7**
	comp=Z,3.3nm,0.5s,baz=5.6,slow=2.9,SNR=7.2								
DBIC	**Dimbokro**	**120.53**	**15**		*e*PKIKP		**PKPdf**	**23 46 22.5**	**+0.8**
DBIC	**Dimbokro**	**120.53**	**15**		*e*PKPdf		**PKPdf**	**23 46 22.5**	**+0.8**
RCBR	**Riachuelo**	**121.38**	**54**		*e*PKPdf		**PKPdf**	**23 46 24.2**	**+0.9**
RCBR					LR		LR		
	comp=Z,2μm,21.0s								
KMBO	**Kilima Mbogo**	**123.83**	**324**		PKP		**PKPdf**	**23 46 28.4**	**+0.1**
	comp=Z,6.1nm,1.0s,baz=21,slow=4.4,SNR=8.2								
KMBO					PKKPab		**PKKPab**	**23 56 17.7**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=342,slow=1.9,SNR=3.5								
KMBO	**Kilima Mbogo**	**123.83**	**324**		*e*PKIKP		**PKPdf**	**23 46 29.9**	**+1.6**
KMBO					MLR		MLR		
	comp=Z,2μm,20.0s								
KMBO	**Kilima Mbogo**	**123.83**	**324**		*e*PKPdf		**PKPdf**	**23 46 29.9**	**+1.6**
KMBO					*e*PKKPbc		**PKKPab**	**23 56 16.8**	**+0.3**
KMBO					LR		LR		
	comp=Z,2μm,20.0s								

CPUP	**Villa Florida**	**125.15**	**89**		PKP		**PKPdf**	**23 46 29.4**	**-0.6**
	comp=Z,12nm,0.8s,baz=341,slow=2.2,SNR=18								
CPUP	**Villa Florida**	**125.15**	**89**		*e*PKIKP		**PKPdf**	**23 46 30.2**	**+0.1**
CPUP	**Villa Florida**	**125.15**	**89**		*e*PKPdf		**PKPdf**	**23 46 30.1**	**+0.1**
PLCA	**Paso Flores**	**126.98**	**111**		PKP		**PKPdf**	**23 46 33.4**	**+0.2**
	comp=Z,34nm,0.9s,baz=295,slow=2.2,SNR=35								
PLCA	**Paso Flores**	**126.98**	**111**		*e*PKIKP		**PKPdf**	**23 46 33.9**	**+0.6**
PLCA	**Paso Flores**	**126.98**	**111**		*e*PKPdf		**PKPdf**	**23 46 33.9**	**+0.6**
SBA	**Scott Base**	**130.22**	**186**		*e*PKIKP		**PKPdf**	**23 46 38.7**	**+0.5**
SBA					MLR		MLR		
	comp=Z,1μm,20.0s								
SBA	**Scott Base**	**130.22**	**186**		*e*PKPdf		**PKPdf**	**23 46 38.6**	**+0.5**
SBA					LR		LR		
	comp=Z,1μm,20.0s								
VNDA	**Vanda**	**130.25**	**187**		PKP		**PKPdf**	**23 46 38.2**	**-0.1**
	comp=Z,3.4nm,1.1s,baz=326,slow=5.0,SNR=8.2								
VNDA					SKPbc		**SKPab**	**23 49 57.5**	**-0.9**
	comp=Z,22nm,1.1s,baz=354,slow=4.5,SNR=17								
VNDA	**Vanda**	**130.25**	**187**		*e*PKPpre		PKPpre	23 46 33.0	
VNDA					PKP		**PKPdf**	**23 46 38.2**	**-0.1**
VNDA					SKPbc		**SKPab**	**23 49 57.9**	**-0.5**
TRQA	**Tornquist**	**130.32**	**103**		*e*PKPdf		**PKPdf**	**23 46 39.7**	**+0.1**
TRQA					*e*SKPbc		**SKPab**	**23 49 58.6**	**-1.4**
CASY	**Casey**	**131.70**	**212**		*e*PKPdf		**PKPdf**	**23 46 42.8**	**+1.6**
CASY					*e*SKPbc		**SKPbc**	**23 50 03.7**	**-0.4**
CASY					LR		LR		
	comp=Z,2μm,20.0s								
ASCN	**Ascension**	**132.33**	**31**		PFAKE			23 47 00.0	+16
ASCN					LR		LR		
	comp=Z,2μm,20.0s								
ABPO	**Ambohimpanom**	**135.23**	**302**		*e*SKPbc		**SKPbc**	**23 50 17.2**	**-0.6**
LSZ	**Lusaka**	**140.12**	**329**		*e*PKPpre		PKPpre	23 46 54.5	
LSZ					*e*SKPbc		**SKPbc**	**23 50 32.7**	**+0.8**
LSZ					LR		LR		
	comp=Z,2μm,21.0s								
TSUM	**Tsumeb**	**146.52**	**344**		*e*PKPdf		**PKPbc**	**23 47 11.1**	**-0.2**
TSUM					LR		LR		
	comp=Z,2μm,22.0s								
MAW	**Mawson**	**149.65**	**218**		PKP		**PKPdf**	**23 47 12.3**	**-0.9**
	comp=Z,6.0nm,1.1s,baz=130,slow=2.2,SNR=5.2								
MAW					PKPbc		**PKPbc**	**23 47 18.4**	**+0.5**
	comp=Z,132nm,1.0s,baz=90,slow=2.4,SNR=93								
MAW	**Mawson**	**149.65**	**218**		*e*PKHKP		PKPpre	23 47 13.3	
MAW					MLR		MLR		
	comp=Z,200nm,22.0s								
MAW	**Mawson**	**149.65**	**218**		*e*PKPdf		**PKPdf**	**23 47 13.3**	**0.0**
MAW					*e*PKPbc		**PKPbc**	**23 47 18.4**	**+0.5**
MAW					LR		LR		
	comp=Z,200nm,22.0s								
LBTB	**Lobatse**	**150.05**	**327**		*e*PKPdf		**PKPdf**	**23 47 16.6**	**+1.2**
BOSA	**Boshof**	**153.47**	**325**		PKP		**PKPdf**	**23 47 18.5**	**-2.0**
	comp=Z,15nm,1.3s,baz=7.1,slow=8.1,SNR=3.1								
BOSA					PKPbc		**PKPbc**	**23 47 27.2**	**-0.9**
	comp=Z,18nm,1.2s,baz=28,slow=2.6,SNR=3.6								
BOSA	**Boshof**	**153.47**	**325**		*e*PKPdf		**PKPdf**	**23 47 21.6**	**+1.1**
BOSA					*e*PKPbc		**PKPbc**	**23 47 27.2**	**-0.9**
SYO	**Syowa Base**	**157.41**	**209**	⇑	*e*P		PKPpre	23 47 12.4	
SYO	**Syowa Base**	**157.41**	**209**	⇑	*e*PKPdf		PKPpre	23 47 19.8	
SNAA	**Sanae**	**159.59**	**170**		PKP		**PKPdf**	**23 47 26.0**	**-1.0**
SNAA	**Sanae**	**159.59**	**170**		*e*PKIKP		**PKPdf**	**23 47 25.3**	**-1.7**
SNAA					MLR		MLR		
	comp=Z,3μm,18.0s								
SNAA	**Sanae**	**159.59**	**170**		*e*PKPdf		**PKPdf**	**23 47 25.3**	**-1.7**
SNAA					LR		LR		
	comp=Z,3μm,18.0s								
VNA1	**Neumayer--Stat**	**159.76**	**164**		PKP		**PKPdf**	**23 47 26.6**	**-0.5**
NVL	**N'lazarevskaya**	**161.05**	**184**		*e*PKIKP		**PKPdf**	**23 47 28.9**	**+0.4**

NEIC 27 23:29:57.5, 51.83N×171.63W, h50km, ML4.2(AEIC),
After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.58**	**290**	P	Pn	23 30 24.0	+0.9
KOSE				S	Sn	23 30 44.3	+1.9
KONE	**Korovin Northe**	**1.64**	**291**	P	Pn	23 30 23.8	0.0
KOKV	**Korovin Volcan**	**1.65**	**290**	P	Pn	23 30 24.8	+0.7
KOKV				S	Sn	23 30 45.1	+0.9
NIKH	**Nikolski High**	**2.05**	**55**	P	Pn	23 30 29.0	-0.4
NIKH				S	Sn	23 30 53.4	-0.4
OKWE	**Okmok W'ng Wal**	**2.64**	**50**	P	Pn	23 30 39.3	+1.8
OKAK	**Okmok**	**2.65**	**47**	P	Pn	23 30 38.0	+0.3
OKTU	**Okmok Mt. Tuli**	**2.68**	**53**	P	Pn	23 30 40.5	+2.4
GSTR	**Great Sitkin T**	**2.75**	**277**	P	Pn	23 30 40.0	+0.9
GSTD	**Great Sitkin T**	**2.80**	**276**	P	Pn	23 30 42.1	+2.2
ETKA	**Kagalaska Isla**	**2.96**	**272**	P	Pn	23 30 44.6	+2.7
UNV	**Unalaska Valle**	**3.71**	**55**	P	Pn	23 30 55.1	+2.9

NEIC 27 23:33:50.5, 51.90N×171.81W, h50km, ML3.3(AEIC),
After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.46**	**286**	P	Pn	23 34 14.3	-0.2
KOFP				S	Sn	23 34 33.4	+0.9
KONE	**Korovin Northe**	**1.51**	**290**	P	Pn	23 34 16.3	+1.3
KOKL	**Mount Kliuchef**	**1.54**	**287**	P	Pn	23 34 16.2	+0.7
KOKL				S	Sn	23 34 35.8	+1.5
KOWE	**Korovin West**	**1.58**	**288**	P	Pn	23 34 16.5	+0.5
GSTD	**Great Sitkin T**	**2.69**	**275**	P	Pn	23 34 32.9	+1.6
OKTU	**Okmok Mt. Tuli**	**2.73**	**56**	P	Pn	23 34 32.4	+0.5
UNV	**Unalaska Valle**	**3.76**	**57**	P	Pn	23 34 45.6	-0.2
VTHM	**Trough**	**33.98**	**81**	P	P	23 40 33.0	+4.0

NEIC 27 23:36:00.7, 51.70N×171.55W, h41km, ML3.0(AEIC),
After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.68**	**291**	P	Pn	23 36 27.3	-0.4
KOFP				S	Sn	23 36 47.1	-0.8
KONE	**Korovin Northe**	**1.74**	**295**	P	Pn	23 36 28.7	+0.3
KOKL	**Mount Kliuchef**	**1.76**	**292**	P	Pn	23 36 29.7	+1.0
KOKL				S	Sn	23 36 51.6	+1.8
NIKH	**Nikolski High**	**2.09**	**51**	P	Pn	23 36 34.1	+0.9
NIKH				S	Sn	23 36 58.7	+0.7
OKAK	**Okmok**	**2.71**	**45**	P	Pn	23 36 41.1	-0.6
GSTD	**Great Sitkin T**	**2.87**	**279**	P	Pn	23 36 43.3	-0.7
GSTD				S	Sn	23 37 17.4	+0.1
ETKA	**Kagalaska Isla**	**3.02**	**275**	P	Pn	23 36 48.1	+2.1
UNV	**Unalaska Valle**	**3.75**	**53**	P	Pn	23 36 59.4	+3.5
UNV				S	Sn	23 37 41.1	+2.4

ISCJB ***27*** *23:38:47.7±1.2, 22.2N±0.2×144.0E±0.2, h105km, mb3.7/9, Error ellipse: s-maj=32.7km s-min=21.2km az=5.8*
IDC ***27*** *23:38:57.3±10.0, 22.2N×143.9E, h178km±100km, mb3.3/9, mb1 3.4/9, mb1mx3.2/45, mbtmp3.8/9, Error ellipse: s-maj=29.5km s-min=18.8km az=92.0*

ISC 27 23:38:49.5±1.3, 22.2N±0.2×144.0E±0.3, h105km, n9, σ1§06/9, mb3.7/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**28.67**	**343**	P	**P**	**23 44 36.9**	**+0.6**
	1.2nm,0.5s,baz=169,slow=9.6,SNR=7.2						
SONM	**Songino Array**	**39.44**	**320**	P	**P**	**23 46 10.6**	**+1.1**
	1.7nm,1.1s,baz=106,slow=4.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**42.30**	**273**	P	**P**	**23 46 33.5**	**+0.3**
	0.7nm,0.6s,baz=46,slow=6.6,SNR=3.5						
WRA	**Warramunga Arr**	**42.94**	**193**	P	**P**	**23 46 38.4**	**+0.1**
	0.3nm,0.3s,baz=14,slow=9.1,SNR=8.8						
ZALV	**Zalesovo Beam**	**54.29**	**321**	P	**P**	**23 48 03.0**	**-1.7**
	0.4nm,0.3s,baz=108,slow=9.3,SNR=1.9						
MKAR	**Makanchi Array**	**54.92**	**312**	P	**P**	**23 48 08.8**	**-0.6**
	0.2nm,0.4s,baz=95,slow=6.6,SNR=4.2						
ILAR	**Eielson Array**	**61.24**	**27**	P	**P**	**23 48 53.6**	**+0.4**
	0.3nm,0.6s,baz=257,slow=5.2,SNR=3.5						
ARCES	**ARCESS Array B**	**78.68**	**342**	P	**P**	**23 50 39.6**	**-0.2**
	0.7nm,0.7s,baz=67,slow=6.9,SNR=4.4						
FINES	**FINESS Array B**	**83.05**	**335**	P	**P**	**23 51 01.9**	**-1.2**
	0.4nm,0.3s,baz=73,slow=4.9,SNR=7.0						

DDA ***27*** *23:41:39.9, 39.11N×29.02E, h1km, Ml3.9*
ISK ***27*** *23:41:40.7, 39.07N×29.00E, h8km, ML4.0*
CSEM ***27*** *23:41:41.0±0.1, 39.09N×29.00E, h2km, ML3.9, Error ellipse: s-maj=2.3km s-min=2.2km az=74.0*

ISC 27 23:41:41.0±0.9, 39.08N±0.02×29.02E±0.02, h10km±8km, n143, σ0§95/167, 12C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**261**	P	**Pg**	**23 41 46.0**	**+0.1**
DEMI				S	Sg	23 41 49.5	+0.3
DEMI	**Demirci**	**0.24**	**261**	⇓ *i* P	**Pg**	**23 41 46.0**	**+0.1**
DEMI				*i* S	Sg	23 41 49.5	+0.3
GEDZ	**Gediz**	**0.31**	**97**	*e*PG	**Pg**	**23 41 47.4**	**+0.1**
GEDZ				*e*SG	**Sb**	**23 41 53.1**	**-0.7**
GEDZ	**Gediz**	**0.31**	**97**	*e*Pg	**Pg**	**23 41 47.4**	**+0.1**
GEDZ				*e*Sg	**Sb**	**23 41 53.1**	**-0.7**
GDZ	**Gediz**	**0.36**	**89**	P	**Pg**	**23 41 48.0**	**-0.3**
GDZ				S	**Sg**	**23 41 53.1**	**0.0**
GDZ	**Gediz**	**0.36**	**89**	⇑ *i* P	**Pg**	**23 41 48.0**	**-0.3**
GDZ				*i* S	**Sg**	**23 41 53.1**	**0.0**
TVSB	**Tavsanli**	**0.51**	**43**	*e*PG	**Pg**	**23 41 50.5**	**-0.4**
TVSB	**Tavsanli**	**0.51**	**43**	*e*Pg	**Pg**	**23 41 50.5**	**-0.4**
KULA	**Kula-Manisa**	**0.63**	**206**	*e*PG	**Pg**	**23 41 53.3**	**+0.1**
KULA				*e*SG	**Sg**	**23 42 01.7**	**+0.2**
KULA	**Kula-Manisa**	**0.63**	**206**	*e*Pg	**Pg**	**23 41 53.3**	**+0.1**
KULA				*e*Sg	**Sg**	**23 42 01.7**	**+0.2**
MANT	**Manisa**	**0.69**	**212**	P	**Pg**	**23 41 53.6**	**-0.8**
MANT				S	**Sg**	**23 42 02.8**	**-0.7**
MANT	**Manisa**	**0.69**	**212**	⇑ *i* P	**Pg**	**23 41 53.6**	**-0.8**
MANT				*i* S	**Sg**	**23 42 02.8**	**-0.7**
KHL	**Karahalli**	**0.85**	**152**	*e*PG	**Pb**	**23 41 57.9**	**-0.1**
KHL	**Karahalli**	**0.85**	**152**	*e*Pg	**Pb**	**23 41 57.9**	**-0.1**
AKS	**Akhisar**	**0.96**	**258**	*e*PG	**Pb**	**23 41 59.8**	**+0.1**
AKS	**Akhisar**	**0.96**	**258**	*e*Pg	**Pb**	**23 41 59.8**	**+0.1**
BALB	**Balikesir**	**1.04**	**303**	*e*PG	**Pg**	**23 42 00.7**	**-0.4**
BALB	**Balikesir**	**1.04**	**303**	*e*Pg	**Pg**	**23 42 00.7**	**-0.4**
IGD	**Bursa**	**1.19**	**7**	*i* P	**Pb**	**23 42 01.8**	**-1.9**
IGD				*i* S	**Sn**	**23 42 20.1**	**+0.1**
BALY	**Balya**	**1.27**	**302**	P	**Pg**	**23 42 05.1**	**-0.2**
BALY	**Balya**	**1.27**	**302**	*i* P	**Pg**	**23 42 05.1**	**-0.2**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*PN	**Pg**	**23 42 05.6**	**-0.2**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*Pn	**Pg**	**23 42 05.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*PN	**Pb**	**23 42 05.2**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*Pn	**Pb**	**23 42 05.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*PN	**Pg**	**23 42 05.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*Pn	**Pg**	**23 42 05.6**	**-0.2**
IZI	**Iznik**	**1.30**	**16**	*e*PN	**Pb**	**23 42 05.5**	**-0.1**
IZI	**Iznik**	**1.30**	**16**	*e*Pn	**Pb**	**23 42 05.6**	**-0.1**
DENT	**Denizli**	**1.32**	**179**	*e*PN	**Pn**	**23 42 05.3**	**-0.3**
DENT	**Denizli**	**1.32**	**179**	*e*Pn	**Pn**	**23 42 05.3**	**-0.3**
GEMT	**Gemlik**	**1.36**	**6**	*e*PN	**Pg**	**23 42 07.0**	**-0.1**
GEMT	**Gemlik**	**1.36**	**6**	*e*Pn	**Pg**	**23 42 07.0**	**-0.1**
BORA	**Eskisehir**	**1.37**	**54**	P	**Pn**	**23 42 06.1**	**-0.2**
BORA				S	**Sg**	**23 42 25.3**	**+0.2**
BORA	**Eskisehir**	**1.37**	**54**	*i* P	**Pn**	**23 42 06.1**	**-0.2**
BORA				*i* S	**Sg**	**23 42 25.3**	**+0.2**
DNZL	**Cakiroluk**	**1.39**	**179**	P	**Pb**	**23 42 06.8**	**-0.3**
DNZL	**Cakiroluk**	**1.39**	**179**	*i* P	**Pb**	**23 42 06.8**	**-0.3**
DNZL				*i* S	**Sg**	**23 42 30.0**	**+4.3**
GONE	**Gonen-Balikesi**	**1.41**	**314**	*e*PN	**Pg**	**23 42 07.8**	**-0.3**
GONE	**Gonen-Balikesi**	**1.41**	**314**	*e*Pn	**Pg**	**23 42 07.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**218**	*e*PN	**Pn**	**23 42 07.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**218**	*e*Pn	**Pn**	**23 42 07.3**	**+0.1**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*PN	**Pb**	**23 42 07.9**	**-0.4**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*Pn	**Pb**	**23 42 07.9**	**-0.4**
ARMT

ODBI	**Odobesti**	**6.83**	**348**	⇓	*i*	P	**Pn**	**23 43 23.4**	**+2.2**
ODBI	**Odobesti**	**6.83**	**348**	⇓	*i*	P	**Pn**	**23 43 23.4**	**+2.2**
VRI	**Vrincioaia**	**6.99**	**347**	⇑	*i*	P	**Pn**	**23 43 24.5**	**+1.1**
VRI	**Vrincioaia**	**6.99**	**347**	⇑	*i*	P	**Pn**	**23 43 24.5**	**+1.1**
VOIR		**7.00**	**336**	⇑	*i*	P	**Pn**	**23 43 24.5**	**+0.9**
VOIR		**7.00**	**336**	⇑	*i*	P	**Pn**	**23 43 24.5**	**+0.9**
DOPR	**Dopca**	**7.38**	**340**	⇑	*i*	P	**Pn**	**23 43 30.1**	**+1.3**
DOPR	**Dopca**	**7.38**	**340**	⇑	*i*	P	**Pn**	**23 43 30.1**	**+1.3**
MDVR	**Moldovita**	**7.88**	**319**	⇓	*i*	P	**Pn**	**23 43 35.8**	**+0.2**
MDVR	**Moldovita**	**7.88**	**319**	⇓	*i*	P	**Pn**	**23 43 35.8**	**+0.2**

*DDA **27** 23:48:00.8, 39°.10N×29°.01E, h10km, MI3.0*
*ISK **27** 23:48:00.8, 39°.10N×29°.07E, h5km, MD2.7, ML2.8*
*CSEM **27** 23:48:01.2±0.1, 39°.08N×29°.04E, h2km, ML3.0, Error ellipse: s-maj=2.8km s-min=2.4km az=138.0*
ISC 27 23:48:01.2±1.1, 39°.10N±0°.02×29°.03E±0°.02, h3km±10km, n64, σ0s58/80, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**258**		P	**Pg**	**23 48 06.0**	**0.0**
DEMI					S	**Sg**	**23 48 09.5**	**+0.1**
DEMI	**Demirci**	**0.25**	**258**	*i*	P	**Pg**	**23 48 06.0**	**0.0**
DEMI				*i*	S	**Sg**	**23 48 09.5**	**+0.1**
GEDZ	**Gediz**	**0.30**	**100**	*e*	PG	**Pg**	**23 48 07.2**	**+0.2**
GEDZ	**Gediz**	**0.30**	**100**	*e*	Pg	**Pg**	**23 48 07.2**	**+0.2**
GDZ	**Gediz**	**0.35**	**91**		P	**Pg**	**23 48 08.1**	**+0.1**
GDZ					S	**Sg**	**23 48 13.3**	**+0.8**
GDZ	**Gediz**	**0.35**	**91**	*i*	P	**Pg**	**23 48 08.1**	**+0.1**
GDZ				*i*	S	**Sg**	**23 48 13.3**	**+0.8**
TVSB	**Tavsanli**	**0.49**	**43**	*e*	PG	**Pg**	**23 48 10.0**	**-0.5**
TVSB				*e*	SG	**Sg**	**23 48 16.8**	**-0.1**
TVSB	**Tavsanli**	**0.49**	**43**	*e*	Pg	**Pg**	**23 48 10.0**	**-0.5**
TVSB				*e*	Sg	**Sg**	**23 48 16.8**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*	PG	**Pg**	**23 48 13.4**	**-0.2**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*	Pg	**Pg**	**23 48 13.4**	**-0.2**
MANT	**Manisa**	**0.71**	**212**		P	**Pg**	**23 48 13.8**	**-1.0**
MANT					S	**Sg**	**23 48 22.8**	**-1.2**
MANT	**Manisa**	**0.71**	**212**	*i*	P	**Pg**	**23 48 13.8**	**-1.0**
MANT				*i*	S	**Sg**	**23 48 22.8**	**-1.2**
KHL	**Karahalli**	**0.86**	**153**	*e*	PG	**Pg**	**23 48 17.8**	**+0.1**
KHL	**Karahalli**	**0.86**	**153**	*e*	Pg	**Pg**	**23 48 17.8**	**+0.1**
AKS	**Akhisar**	**0.97**	**258**	*e*	PG	**Pb**	**23 48 20.6**	**-0.1**
AKS	**Akhisar**	**0.97**	**258**	*e*	Pg	**Pb**	**23 48 20.6**	**-0.1**
BALB	**Balikesir**	**1.05**	**302**	*e*	PG	**Pb**	**23 48 21.8**	**-0.1**
BALB				*e*	SG	**Sb**	**23 48 35.9**	**-0.1**
BALB	**Balikesir**	**1.05**	**302**	*e*	Pg	**Pb**	**23 48 21.8**	**-0.1**
BALB				*e*	Sg	**Sb**	**23 48 35.9**	**-0.1**
IGD	**Bursa**	**1.18**	**6**	*i*	P	**Pg**	**23 48 22.7**	**-1.1**
IGD				*i*	S	**Sb**	**23 48 39.5**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*	PN	**Pg**	**23 48 25.3**	**-0.2**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*	Pn	**Pg**	**23 48 25.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*	PN	**Pg**	**23 48 25.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*	Pn	**Pg**	**23 48 25.5**	**-0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*	PN	**Pn**	**23 48 26.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*	Pn	**Pn**	**23 48 26.3**	**+0.3**
IZI	**Iznik**	**1.29**	**15**	*e*	PN	**Pg**	**23 48 25.7**	**-0.2**
IZI	**Iznik**	**1.29**	**15**	*e*	Pn	**Pg**	**23 48 25.7**	**-0.2**
GEMT	**Gemlik**	**1.34**	**5**	*e*	PN	**Pb**	**23 48 27.1**	**+0.1**
GEMT	**Gemlik**	**1.34**	**5**	*e*	Pn	**Pb**	**23 48 27.1**	**+0.1**
BORA	**Eskisehir**	**1.35**	**54**		P	**Pn**	**23 48 26.5**	**-0.5**
BORA					S	**Sn**	**23 48 45.0**	**-0.5**
BORA	**Eskisehir**	**1.35**	**54**	*i*	P	**Pn**	**23 48 26.5**	**-0.5**
BORA				*i*	S	**Sn**	**23 48 45.0**	**-0.5**
DNZL	**Cakiroluk**	**1.40**	**180**		P	**Pb**	**23 48 27.9**	**-0.2**
DNZL					S	**Sn**	**23 48 47.8**	**+0.9**
DNZL	**Cakiroluk**	**1.40**	**180**	*i*	P	**Pb**	**23 48 27.9**	**-0.2**
DNZL				*i*	S	**Sn**	**23 48 47.8**	**+0.9**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*	PN	**Pg**	**23 48 28.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*	PN	**Pg**	**23 48 28.2**	**0.0**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*	PN	**Pn**	**23 48 28.3**	**+0.1**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*	Pn	**Pn**	**23 48 28.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*	PN	**Pb**	**23 48 28.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*	Pn	**Pb**	**23 48 28.6**	**-0.4**
ESKT	**Eskisehir**	**1.47**	**73**	*e*	PN	**Pn**	**23 48 28.3**	**-0.4**
ESKT	**Eskisehir**	**1.47**	**73**	*e*	Pn	**Pn**	**23 48 28.3**	**-0.4**
ESKT	**Eskisehir**	**1.47**	**73**	*i*	P	**Pg**	**23 48 30.4**	**+1.0**
SEYT	**Eskypehyr**	**1.47**	**73**		P	**Pg**	**23 48 30.4**	**+1.0**
ARMT	**Armutlu**	**1.48**	**355**	*e*	PN	**Pb**	**23 48 29.0**	**-0.3**
ARMT	**Armutlu**	**1.48**	**355**	*e*	Pn	**Pb**	**23 48 29.0**	**-0.3**
EDC	**Edincik**	**1.54**	**325**	*e*	PN	**Pb**	**23 48 30.1**	**-0.3**
EDC	**Edincik**	**1.54**	**325**	*e*	Pn	**Pb**	**23 48 30.1**	**-0.3**
DKL	**Dikili**	**1.66**	**270**	*e*	PN	**Pb**	**23 48 31.8**	**-0.5**
DKL	**Dikili**	**1.66**	**270**	*e*	Pn	**Pb**	**23 48 31.8**	**-0.5**
HRT	**Hereke**	**1.79**	**16**	*e*	PN	**Pn**	**23 48 33.2**	**+0.2**
HRT	**Hereke**	**1.79**	**16**	*e*	Pn	**Pn**	**23 48 33.2**	**+0.2**
AYVA	**Ayvalik**	**1.83**	**277**	*i*	P	**Pg**	**23 48 37.8**	**+1.5**
AYVA				*i*	S	**Sg**	**23 49 00.9**	**+0.8**
KRBG	**Karabiga-Canak**	**1.86**	**315**	*e*	PN	**Pb**	**23 48 34.8**	**-1.0**
KRBG	**Karabiga-Canak**	**1.86**	**315**	*e*	Pn	**Pb**	**23 48 34.8**	**-1.0**
MRMT	**Marmara Adasi**	**1.87**	**324**	*e*	PN	**Pb**	**23 48 35.0**	**-1.0**
MRMT	**Marmara Adasi**	**1.87**	**324**	*e*	Pn	**Pb**	**23 48 35.0**	**-1.0**
ISK	**Istanbul-Kandi**	**1.97**	**1**	*e*	PN	**Pn**	**23 48 36.0**	**+0.6**
ISK	**Istanbul-Kandi**	**1.97**	**1**	*e*	Pn	**Pn**	**23 48 36.0**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.14**	**319**	*e*	PN	**Pn**	**23 48 38.8**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.14**	**319**	*e*	Pn	**Pn**	**23 48 38.8**	**+1.0**
CTKS	**Kestanelik-??a**	**2.18**	**349**	*e*	PN	**Pn**	**23 48 39.0**	**+0.7**
CTKS	**Kestanelik-??a**	**2.18**	**349**	*e*	Pn	**Pn**	**23 48 39.0**	**+0.7**
KIZT	**Kizilcal**	**2.23**	**95**	*e*	PN	**Pn**	**23 48 39.0**	**-0.1**
KIZT	**Kizilcal**	**2.23**	**95**	*e*	Pn	**Pn**	**23 48 39.0**	**-0.1**

*DDA **27** 23:52:23.4, 39°.08N×29°.02E, h7km, MI3.0*
*ISK **27** 23:52:23.2, 39°.07N×29°.01E, h7km, MD2.9*
*CSEM **27** 23:52:23.6±0.1, 39°.08N×29°.01E, h2km, ML3.0, Error ellipse: s-maj=2.9km s-min=2.4km az=132.0*
ISC 27 23:52:23.6±1.0, 39°.08N±0°.02×29°.02E±0°.02, h8km±9km, n55, σ0s50/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**261**		P	**Pg**	**23 52 28.5**	**+0.1**
DEMI					S	**Sg**	**23 52 32.0**	**+0.3**
DEMI	**Demirci**	**0.24**	**261**	*i*	P	**Pg**	**23 52 28.5**	**+0.1**
DEMI				*i*	S	**Sg**	**23 52 32.0**	**+0.3**
GEDZ	**Gediz**	**0.31**	**97**	*e*	PG	**Pg**	**23 52 29.5**	**-0.1**
GEDZ	**Gediz**	**0.31**	**97**	*e*	Pg	**Pg**	**23 52 29.5**	**-0.1**
GDZ	**Gediz**	**0.36**	**88**		P	**Pg**	**23 52 30.6**	**0.0**
GDZ					S	**Sg**	**23 52 35.8**	**+0.4**
GDZ	**Gediz**	**0.36**	**88**	*i*	P	**Pg**	**23 52 30.6**	**0.0**
GDZ				*i*	S	**Sg**	**23 52 35.8**	**+0.4**
TVSB	**Tavsanli**	**0.50**	**43**	*e*	PG	**Pg**	**23 52 33.6**	**+0.2**
TVSB	**Tavsanli**	**0.50**	**43**	*e*	Pg	**Pg**	**23 52 33.6**	**+0.2**
KULA	**Kula-Manisa**	**0.63**	**207**	*e*	PG	**Pg**	**23 52 35.5**	**-0.3**
KULA				*e*	SG	**Sg**	**23 52 44.3**	**+0.3**
KULA	**Kula-Manisa**	**0.63**	**207**	*e*	Pg	**Pg**	**23 52 35.5**	**-0.3**
KULA				*e*	Sg	**Sg**	**23 52 44.3**	**+0.3**
MANT	**Manisa**	**0.69**	**212**		P	**Pg**	**23 52 36.1**	**-0.8**
MANT					S	**Sg**	**23 52 45.3**	**-0.6**
MANT	**Manisa**	**0.69**	**212**	*i*	P	**Pg**	**23 52 36.1**	**-0.8**
MANT				*i*	S	**Sg**	**23 52 45.3**	**-0.6**
KHL	**Karahalli**	**0.85**	**152**	*e*	PG	**Pg**	**23 52 40.2**	**+0.3**
KHL	**Karahalli**	**0.85**	**152**	*e*	Pg	**Pg**	**23 52 40.2**	**+0.3**
AKS	**Akhisar**	**0.96**	**258**	*e*	PG	**Pb**	**23 52 42.4**	**-0.1**
AKS	**Akhisar**	**0.96**	**258**	*e*	Pg	**Pb**	**23 52 42.4**	**-0.1**
BALB	**Balikesir**	**1.05**	**303**	*e*	PG	**Pb**	**23 52 44.1**	**+0.1**
BALB				*e*	SG	**Sn**	**23 52 58.9**	**-0.5**
BALB	**Balikesir**	**1.05**	**303**	*e*	Pg	**Pb**	**23 52 44.1**	**+0.1**
BALB				*e*	Sg	**Sn**	**23 52 58.9**	**-0.5**
IGD	**Bursa**	**1.19**	**7**	*i*	P	**Pg**	**23 52 45.3**	**-1.1**
IGD				*i*	S	**Sg**	**23 53 01.8**	**-0.1**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*	PN	**Pg**	**23 52 48.7**	**+0.4**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*	Pn	**Pg**	**23 52 48.7**	**+0.4**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*	PN	**Pn**	**23 52 47.8**	**-0.2**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*	Pn	**Pn**	**23 52 47.8**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*	PN	**Pn**	**23 52 47.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*	Pn	**Pn**	**23 52 47.8**	**-0.1**
IZI	**Iznik**	**1.30**	**15**	*e*	PN	**Pb**	**23 52 48.4**	**0.0**
IZI	**Iznik**	**1.30**	**15**	*e*	Pn	**Pb**	**23 52 48.4**	**0.0**
GEMT	**Gemlik**	**1.36**	**5**	*e*	PN	**Pb**	**23 52 49.4**	**+0.1**
GEMT	**Gemlik**	**1.36**	**5**	*e*	Pn	**Pb**	**23 52 49.4**	**+0.1**
BORA	**Eskisehir**	**1.37**	**54**		P	**Pn**	**23 52 49.1**	**0.0**
BORA					S	**Sn**	**23 53 07.8**	**+0.4**
BORA	**Eskisehir**	**1.37**	**54**	*i*	P	**Pn**	**23 52 49.1**	**0.0**
BORA				*i*	S	**Sn**	**23 53 07.8**	**+0.4**
DNZL	**Cakiroluk**	**1.39**	**179**		P	**Pg**	**23 52 50.8**	**+0.6**
DNZL					S	**Sg**	**23 53 08.8**	**+0.6**
DNZL	**Cakiroluk**	**1.39**	**179**	*i*	P	**Pg**	**23 52 50.9**	**+0.6**
DNZL				*i*	S	**Sg**	**23 53 08.8**	**+0.6**
GONE	**Gonen-Balikesi**	**1.41**	**314**	*e*	PN	**Pn**	**23 52 49.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.41**	**314**	*e*	Pn	**Pn**	**23 52 49.7**	**+0.1**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*	PN	**Pb**	**23 52 51.0**	**0.0**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*	Pn	**Pb**	**23 52 51.0**	**0.0**
ESKT	**Eskisehir**	**1.49**	**72**	*e*	PN	**Pg**	**23 52 52.0**	**0.0**
ESKT	**Eskisehir**	**1.49**	**72**	*e*	Pn	**Pg**	**23 52 52.1**	**0.0**
ESKT	**Eskisehir**	**1.49**	**72**	*i*	P	**Pg**	**23 52 52.4**	**+0.3**
SEYT	**Eskypehyr**	**1.49**	**72**		P	**Pg**	**23 52 52.4**	**+0.3**
ARMT	**Armutlu**	**1.49**	**355**	*e*	PN	**Pb**	**23 52 51.2**	**-0.3**
ARMT	**Armutlu**	**1.49**	**355**	*e*	Pn	**Pb**	**23 52 51.2**	**-0.3**
EDC	**Edincik**	**1.55**	**325**	*e*	PN	**Pb**	**23 52 52.0**	**-0.4**
EDC	**Edincik**	**1.55**	**325**	*e*	Pn	**Pb**	**23 52 52.1**	**-0.4**
HRT	**Hereke**	**1.81**	**16**	*e*	PN	**Pn**	**23 52 55.5**	**+0.4**
HRT	**Hereke**	**1.81**	**16**	*e*	Pn	**Pn**	**23 52 55.5**	**+0.4**
AYVA	**Ayvalik**	**1.82**	**278**		S	**Sg**	**23 53 22.2**	**0.0**
AYVA	**Ayvalik**	**1.82**	**278**	*i*	P	**Pg**	**23 52 59.8**	**+1.2**
AYVA				*i*	S	**Sg**	**23 53 22.2**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.89**	**31**	*e*	PN	**Pn**	**23 52 56.9**	**+0.8**
SPNC	**Sapanca-Adapaz**	**1.89**	**31**	*e*	Pn	**Pn**	**23 52 56.9**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*	PN	**Pb**	**23 52 58.7**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*	Pn	**Pb**	**23 52 58.7**	**-1.2**
ISK	**Istanbul-Kandi**	**1.98**	**1**	*e*	PN	**Pb**	**23 52 58.7**	**-1.2**
ISK	**Istanbul-Kandi**	**1.98**	**1**	*e*	Pn	**Pb**	**23 52 58.7**	**-1.2**

*ISCJB **28** 00:00:25.2±0.6, 51°.74N±0°.09×171°.54W±0°.05, h44km, mb3.9/20, Error ellipse: s-maj=12.9km s-min=3.6km az=166.6*
*NEIC **28** 00:00:25.9, 51°.77N×171°.57W, h42km, ML3.9(AEIC), After AEIC.*
*IDC **28** 00:00:33.3±5.1, 52°.12N×171°.74W, h95km±45km, mb3.7/20, mb1 3.8/22, mb1mx3.7/50, mbtmp4.0/22, Error ellipse: s-maj=21.6km s-min=12.8km az=174.0*
ISC 28 00:00:27.0±0.7, 51°.9N±0°.1×171°.63W±0°.04, h44km, n50, σ1s21/48, mb3.9/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.57**	**289**		P	**Pn**	**00 00 53.1**	**+0.6**
KOFP	**Korovin Flat P**	**1.58**	**286**		P	**Pn**	**00 00 52.7**	**+0.1**
KONE	**Korovin Northe**	**1.63**	**290**		P	**Pn**	**00 00 53.9**	**+0.6**
KOKV	**Korovin Volcan**	**1.65**	**289**		P	**Pn**	**00 00 54.3**	**+0.8**
KOKV					S	**Sn**	**00 01 15.5**	**+2.0**
KOKL	**Mount Kliuchef**	**1.66**	**287**		P	**Pn**	**00 00 54.3**	**+0.7**
NIKH	**Nikolski High**	**2.04**	**55**		P	**Pn**	**00 00 58.2**	**-0.5**
NIKH					S	**Sn**	**00 01 23.4**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**2.67**	**54**		P	**Pn**	**00 01 07.5**	**0.0**
GSMY	**Great Sitkin M**	**2.75**	**276**		P	**Pn**	**00 01 08.9**	**+0.4**
GSTD	**Great Sitkin T**	**2.80**	**276**		P	**Pn**	**00 01 09.4**	**0.0**
GSTD					S	**Sn**	**00 01 43.4**	**+1.5**
GSCK	**Great Sitkin C**	**2.81**	**275**		P	**Pn**	**00 01 09.9**	**+0.5**
ETKA	**Kagalaska Isla**	**2.96**	**272**		P	**Pn**	**00 01 11.7**	**+0.2**
ADAG	**Mount Adagdak**	**3.08**	**274**		P	**Pn**	**00 01 14.3**	**+1.2**
KIKV	**Kanaga Island**	**3.44**	**273**		P	**Pn**	**00 01 18.2**	**+0.1**
MSOM	**Makushin Julie**	**3.45**	**53**		P	**Pn**	**00 01 19.1**	**+0.9**
UNV	**Unalaska Valle**	**3.69**	**55**		P	**Pn**	**00 01 22.4**	**+0.9**
UNV					S	**Sn**	**00 02 06.3**	**+2.6**
TAFP	**Tanaga Falls P**	**3.94**	**273**		P	**Pn**	**00 01 25.6**	**+0.6**
AKRB	**Akutan Reef Bi**	**4.06**	**54**		P	**Pn**	**00 01 27.3**	**+0.8**
AKUT	**Akutan**	**4.21**	**55**		P	**Pn**	**00 01 29.8**	**+1.2**
SPIA	**Saint Paul Isl**	**5.39**	**8**		P	**Pn**	**00 01 46.7**	**+1.9**
DT1	**Dutton Round H**	**6.46**	**56**		P	**Pn**	**00 01 59.2**	**-0.2**
ILAR	**Eielson Array**	**18.17**	**35**		P	**P**	**00 04 34.2**	**-1.3**
	0.4nm,0.3s,baz=230,slow=11,SNR=7.8							
PETK	**Petropavlovsk-**	**18.66**	**286**		P	**Pn**	**00 04 42.6**	**+0.9**
	0.3nm,0.3s,baz=81,slow=9.1,SNR=3.1							
SEY	**Seymchan**	**22.01**	**314**		P	**P**	**00 05 17.2**	**0.0**
	2.3nm,0.7s,baz=94,slow=12,SNR=7.8							
DLBC	**Dease Lake**	**24.34**	**58**		P	**P**	**00 05 42.8**	**+2.3**
	6.1nm,0.5s,baz=273,slow=9.9,SNR=16							
INK	**Inuvik**	**24.55**	**34**		P	**P**	**00 05 41.4**	**-0.7**
	4.9nm,0.6s,baz=232,slow=5.5,SNR=11							
YKA	**Yellowknife Ar**	**31.62**	**48**		P	**P**	**00 06 45.6**	**+0.2**
	1.0nm,0.5s,baz=271,slow=7.5,SNR=10							
H11N2	**WAKE ISLAND Hy**	**36.20**	**216**		T	T	00 46 00.7	
	baz=21,slow=76,SNR=32							
H11N3	**WAKE ISLAND Hy**	**36.21**	**216**		T	T	00 46 00.0	
	baz=21,slow=76,SNR=40							
H11N1	**WAKE ISLAND Hy**	**36.22**	**216**		T	T	00 46 00.9	
	baz=21,slow=76,SNR=30							
H11S1	**WAKE ISLAND Hy**	**37.40**	**215**		T	T	00 47 23.8	
	baz=21,slow=76,SNR=19							
H11S2	**WAKE ISLAND Hy**	**37.41**	**215**		T	T	00 47 28.9	
	baz=21,slow=76,SNR=19							
H11S3	**WAKE ISLAND Hy**	**37.41**	**215**		T	T	00 47 28.4	
	baz=21,slow=76,SNR=22							
PDAR	**Pinedale Array**	**41.87**	**77**		P	**P**	**00 08 15.8**	**+2.9**
	1.3nm,0.6s,baz=302,slow=5.2,SNR=8.7							
KSRS	**Korea Array**	**44.08**	**276**		P	**P**	**00 08 31.9**	**+1.4**
	1.8nm,0.7s,baz=55,slow=8.1,SNR=5.9							
SPITS	**Spitsbergen Ar**	**50.14**	**358**		P	**P**	**00 09 16.0**	**-1.3**
	3.2nm,0.8s,baz=50,slow=4.5,SNR=4.5							
SONM	**Songino Array**	**50.36**	**300**		P	**P**	**00 09 19.0**	**-0.4**
	0.5nm,0.4s,baz=52,slow=8.2,SNR=2.1							
TXAR	**Lajitas Array**	**54.16**	**87**		P	**P**	**00 09 47.7**	**-0.1**
	1.0nm,0.6s,baz=294,slow=3.5,SNR=8.0							
ARCES	**ARCESS Array B**	**58.27**	**353**		P	**P**	**00 10 14.2**	**-2.3**
	0.7nm,0.4s,baz=15,slow=7.8,SNR=7.7							
MKAR	**Makanchi Array**	**63.13**	**312**		P	**P**	**00 10 48.5**	**-1.4**
	0.5nm,0.4s,baz=40,slow=6.7,SNR=16							
FINES	**FINESS Array B**	**66.17**	**351**		P	**P**	**00 11 07.4**	**-2.0**
	1.4nm,0.6s,baz=10,slow=8.5,SNR=6.8							
NB2	**NORSAR Subarra**	**67.43**	**359**		P	**P**	**00 11 16.2**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=6.1,slow=6.9							
NOA	**NORSAR Array B**	**67.43**	**359**		P	**P**	**00 11 16.1**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=4.5,slow=6.6,SNR=4.2							
CMAR	**Chiang Mai Arr**	**75.36**	**281**		P	**P**	**00 12 07.3**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=29,slow=7.7,SNR=6.7							
GERES	**GERESS Array B**	**79.58**	**356**		P	**P**	**00 12 28.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=23,slow=7.2,SNR=4.3							
GEYT	**Alibeck**	**80.61**	**322**		P	**P**	**00 12 34.1**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=20,slow=4.6,SNR=2.9							
WRA	**Warramunga Arr**	**85.60**	**230**		P	**P**	**00 12 59.8**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=34,slow=5.7,SNR=3.9							
BRTR	**Keskin Array B**	**86.17**	**341**		P	**P**	**00 13 03.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=10,slow=9.1,SNR=2.9							
ESDC	**Sonseca Array**	**88.21**	**9**		P	**P**	**00 13 12.2**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=354,slow=3.7,SNR=4.2							
ASAR	**Alice Springs**	**89.00**	**228**		P	**P**	**00 13 17.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=27,slow=4.9,SNR=11							
MAW	**Mawson**	**149.61**	**218**		PKPbc	**PKPbc**	**00 20 10.3**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=108,slow=3.8,SNR=6.2							

*MOS **28** 00:03:38.0±1.3, 51°.85N×171°.63W, h33km, mb4.3/14, Error ellipse: s-maj=14.8km s-min=9.9km az=105.2*
*ISCJB **28** 00:03:39.1±0.6, 51°.75N±0°.08×171°.52W±0°.05, h44km, mb4.2/28, MS3.9/1, Error ellipse: s-maj=12.1km s-min=3.6km az=165.2*
*NEIC **28** 00:03:39.8, 51°.78N×171°.53W, h50km, ML4.1(AEIC), After AEIC.*
*IDC **28** 00:03:45.8±4.9, 52°.09N×171°.82W, h79km±44km, mb3.7/20, mb1 3.9/22, mb1mx3.7/51, mbtmp4.0/22, ML3.6/2, MS3.9/2, Ms1 3.9/2, ms1mx3.3/50, Error ellipse: s-maj=22.0km s-min=12.6km az=168.0*
ISC 28 00:03:41.5±0.6, 51°.88N±0°.10×171°.62W±0°.04, h44km, n77, σ1s25/79, mb4.1/28, 7C-6D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.57**	**288**		P	**Pn**	**00 04 07.6**	**+0.7**
KOSE					S	**Sn**	**00 04 26.8**	**+0.7**
KOFP	**Korovin Flat P**	**1.58**	**286**		P	**Pn**	**00 04 07.3**	**+0.2**
KONE	**Korovin Northe**	**1.63**	**290**		P	**Pn**	**00 04 08.3**	**+0.7**
KOKL	**Mount Kliuchef**	**1.65**	**287**		P	**Pn**	**00 04 08.3**	**+0.2**
KOWE	**Korovin West**	**1.69**	**288**		P	**Pn**	**00 04 09.3**	**+0.7**
NIKH	**Nikolski High**	**2.02**	**56**		P	**Pn**	**00 04 11.8**	**-1.2**
NIKH					S	**Sn**	**00 04 37.1**	**+0.1**
OKER	**Okmok East Rim**	**2.69**	**53**		P	**Pn**	**00 04 22.1**	**-0.1**
GSMY	**Great Sitkin M**	**2.75**	**275**		P	**Pn**	**00 04 23.2**	**+0.1**
GSTD	**Great Sitkin T**	**2.81**	**275**		P	**Pn**	**00 04 23.8**	**0.0**
GSTD					S	**Sn**	**00 04 58.0**	**+1.6**
GSCK	**Great Sitkin C**	**2.81**	**275**		P	**Pn**	**00 04 24.6**	**+0.7**
ETKA	**Kagalaska Isla**	**2.97**	**272**		P	**Pn**	**00 04 26.4**	**+0.4**
ADAG	**Mount Adagdak**	**3.09**	**274**		P	**Pn**	**00 04 28.2**	**+0.5**
KINC	**Kanaga Island**	**3.41**	**273**		P	**Pn**	**00 04 33.2**	**+1.1**
MSOM	**Makushin Julie**	**3.44**	**54**		P	**Pn**	**00 04 32.3**	**-0.1**
MSOM	**Makushin Julie**	**3.44**	**54**		P	**Pn**	**00 04 32.3**	**-0.1**
UNV	**Unalaska Valle**	**3.68**	**56**		P	**Pn**	**00 04 35.5**	**-0.2**
UNV					S	**Sn**	**00 05 19.2**	**+1.4**

TAFP	**Tanaga Falls P**	**3.94**	**273**		P	**Pn**	**00 04 40.2**	**+0.8**
AKUT	**Akutan**	**4.20**	**55**		P	**Pn**	**00 04 43.2**	**+0.3**
SPIA	**Saint Paul Isl**	**5.37**	**8**		P	**Pn**	**00 05 01.2**	**+2.2**
DT1	**Dutton Round H**	**6.45**	**56**		P	**Pn**	**00 05 14.6**	**+0.9**
ILAR	**Eielson Array**	**18.15**	**35**		P	**P**	**00 07 48.6**	**-1.1**
	0.2nm,0.3s,baz=228,slow=10,SNR=6.0							
PETK	**Petropavlovsk-**	**18.66**	**286**		P	**P**	**00 07 55.5**	**0.0**
	0.4nm,0.3s,baz=78,slow=13,SNR=3.8							
PETK					LR	LR	00 15 34.3	
	comp=Z,439nm,19.2s,baz=135,slow=38							
BILL	**Bilibino**	**19.43**	**335**	⇓	*i* P	**Pn**	**00 08 04.8**	**-0.4**
BILL					pmax	pmax		
	comp=Z,29nm,1.2s							
SEY	**Seymchan**	**22.00**	**314**		P	**P**	**00 08 31.6**	**0.0

TVSB	**Tavsanli**	**0.49**	**45**	*e*Pg	**Pg**	**00 05 14.4**	**-0.6**
TVSB				*e*Sg	**Sg**	**00 05 21.1**	**-0.5**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*PG	**Pb**	**00 05 18.5**	**0.0**
KULA				*e*SG	**Sb**	**00 05 27.8**	**+0.4**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*Pg	**Pb**	**00 05 18.5**	**0.0**
KULA				*e*Sg	**Sb**	**00 05 27.8**	**+0.4**
MANT	**Manisa**	**0.71**	**210**	P	**Pg**	**00 05 18.7**	**-0.4**
MANT				S	**Sg**	**00 05 28.1**	**-0.4**
MANT	**Manisa**	**0.71**	**210**	*i* P	**Pg**	**00 05 18.7**	**-0.4**
MANT				*i* S	**Sg**	**00 05 28.1**	**-0.4**
BALB	**Balikesir**	**1.03**	**302**	*e*PG	**Pb**	**00 05 25.2**	**+0.3**
BALB	**Balikesir**	**1.03**	**302**	*e*Pg	**Pb**	**00 05 25.2**	**+0.3**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*PN	**Pg**	**00 05 29.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*Pn	**Pg**	**00 05 29.4**	**-0.3**
IZI	**Iznik**	**1.28**	**16**	*e*PN	**Pb**	**00 05 29.6**	**+0.4**
IZI	**Iznik**	**1.28**	**16**	*e*Pn	**Pb**	**00 05 29.6**	**+0.4**

ISK ***28*** *00:13:19.8, 39.˚10N×29.˚10E, h5km, ML3.2*
DDA ***28*** *00:13:20.9, 39.˚05N×29.˚07E, h7km, Ml3.5*
CSEM ***28*** *00:13:21.3±0.1, 39.˚08N×29.˚08E, h5km, ML3.2, Error ellipse: s-maj=3.7km s-min=3.0km az=143.0*
ISC 28 00:13:20.2±1.1**, 39.˚10N**±0.˚02×**29.˚09E**±0.˚02**, h3**km±11km**, n84**, σ1⁰**24/97, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GEDZ	**Gediz**	**0.26**	**102**	*e*PG		**Pg**	**00 13 26.2**	**+1.0**
GEDZ	**Gediz**	**0.26**	**102**	*e*Pg		**Pg**	**00 13 26.2**	**+1.0**
DEMI	**Demirci**	**0.30**	**259**	P		**Pg**	**00 13 26.0**	**0.0**
DEMI				S		**Sg**	**00 13 29.8**	**-0.1**
DEMI	**Demirci**	**0.30**	**259**	*i* P		**Pg**	**00 13 26.0**	**0.0**
DEMI				*i* S		**Sg**	**00 13 29.8**	**-0.1**
GDZ	**Gediz**	**0.30**	**92**	P		**Pg**	**00 13 24.0**	**-2.1**
GDZ				S		**Sb**	**00 13 32.2**	**-1.6**
GDZ	**Gediz**	**0.30**	**92**	*i* P		**Pg**	**00 13 24.0**	**-2.1**
GDZ				*i* S		**Sb**	**00 13 32.2**	**-1.6**
TVSB	**Tavsanli**	**0.45**	**39**	*e*PG		**Pg**	**00 13 29.3**	**+0.3**
TVSB				*e*SG		**Sb**	**00 13 36.0**	**-2.1**
TVSB	**Tavsanli**	**0.45**	**39**	*e*Pg		**Pg**	**00 13 29.3**	**+0.3**
TVSB				*e*Sg		**Sb**	**00 13 36.1**	**-2.1**
KULA	**Kula-Manisa**	**0.67**	**210**	*e*PG		**Pg**	**00 13 33.2**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**210**	*e*Pg		**Pg**	**00 13 33.2**	**+0.1**
MANT	**Manisa**	**0.74**	**215**	P		**Pg**	**00 13 33.8**	**-0.5**
MANT				S		**Sg**	**00 13 43.1**	**-0.8**
MANT	**Manisa**	**0.74**	**215**	*i* P		**Pg**	**00 13 33.8**	**-0.5**
MANT				*i* S		**Sg**	**00 13 43.1**	**-0.8**
KHL	**Karahalli**	**0.84**	**156**	*e*PG		**Pb**	**00 13 37.6**	**0.0**
KHL				*e*SG		**Sb**	**00 13 49.5**	**+0.1**
KHL	**Karahalli**	**0.84**	**156**	*e*Pg		**Pb**	**00 13 37.6**	**0.0**
KHL				*e*Sg		**Sb**	**00 13 49.5**	**+0.1**
AKS	**Akhisar**	**1.02**	**258**	*e*PG		**Pb**	**00 13 40.4**	**-0.1**
AKS	**Akhisar**	**1.02**	**258**	*e*Pg		**Pb**	**00 13 40.4**	**-0.1**
BALB	**Balikesir**	**1.08**	**300**	*e*PN		**Pn**	**00 13 41.8**	**-0.4**
BALB	**Balikesir**	**1.08**	**300**	*e*Pn		**Pn**	**00 13 41.8**	**-0.4**
IGD	**Bursa**	**1.17**	**4**	*i* P		**Pn**	**00 13 43.9**	**+0.5**
IGD				*i* S		**Sb**	**00 13 58.5**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**28**	*e*PN		**Pn**	**00 13 44.6**	**+0.1**
CAVI	**Cavuskoy**	**1.25**	**28**	*e*Pn		**Pn**	**00 13 44.6**	**+0.1**
IZI	**Iznik**	**1.27**	**13**	*e*PN		**Pn**	**00 13 45.9**	**+0.9**
IZI	**Iznik**	**1.27**	**13**	*e*Pn		**Pn**	**00 13 45.9**	**+0.9**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*PN		**Pb**	**00 13 44.9**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**353**	*e*Pn		**Pb**	**00 13 44.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*PN		**Pb**	**00 13 45.6**	**+0.4**
KCTX	**Karacabey (Bur**	**1.29**	**334**	*e*Pn		**Pb**	**00 13 45.6**	**+0.4**
BALY	**Balya**	**1.31**	**300**	P		**Pg**	**00 13 49.7**	**+4.4**
BALY	**Balya**	**1.31**	**300**	*i* P		**Pg**	**00 13 49.7**	**+4.4**
BORA	**Eskisehir**	**1.31**	**53**	P		**Pb**	**00 13 46.2**	**+0.6**
BORA				S		**Sn**	**00 14 04.2**	**+0.6**
BORA	**Eskisehir**	**1.31**	**53**	*i* P		**Pb**	**00 13 46.2**	**+0.6**
BORA				*i* S		**Sn**	**00 14 04.2**	**+0.6**
GEMT	**Gemlik**	**1.34**	**3**	*e*PN		**Pg**	**00 13 46.5**	**+0.6**
GEMT	**Gemlik**	**1.34**	**3**	*e*Pn		**Pg**	**00 13 46.5**	**+0.6**
ADVT	**Abdulvahap**	**1.42**	**20**	*e*PN		**Pg**	**00 13 48.1**	**+0.6**
ADVT	**Abdulvahap**	**1.42**	**20**	*e*Pn		**Pg**	**00 13 48.1**	**+0.6**
ESKT	**Eskisehir**	**1.43**	**72**	*e*PN		**Pg**	**00 13 48.1**	**+0.5**
ESKT	**Eskisehir**	**1.43**	**72**	*e*Pn		**Pg**	**00 13 48.2**	**+0.5**
ESKT	**Eskisehir**	**1.43**	**72**	*i* P		Pg	00 13 54.8	+7.2
GONE	**Gonen-Balikesi**	**1.44**	**312**	*e*PN		**Pg**	**00 13 48.4**	**+0.5**
GONE	**Gonen-Balikesi**	**1.44**	**312**	*e*Pn		**Pg**	**00 13 48.4**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**220**	*e*PN		**Pg**	**00 13 49.2**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**220**	*e*Pn		**Pg**	**00 13 49.2**	**+0.5**
BOLV	**Bolvadin**	**1.50**	**104**	P		**Pg**	**00 13 50.3**	**+1.3**
BOLV	**Bolvadin**	**1.50**	**104**	*i* P		**Pg**	**00 13 50.3**	**+1.3**
BOLV				*i* S		**Sg**	**00 14 14.5**	**+6.1**
GPA	**Golpazari**	**1.52**	**38**	*e*PN		**Pg**	**00 13 49.4**	**+0.1**
GPA	**Golpazari**	**1.52**	**38**	*e*Pn		**Pg**	**00 13 49.4**	**+0.1**
EDC	**Edincik**	**1.56**	**323**	*e*PN		**Pg**	**00 13 50.0**	**-0.3**
EDC	**Edincik**	**1.56**	**323**	*e*Pn		**Pg**	**00 13 50.0**	**-0.3**
IZM	**Izmir**	**1.59**	**244**	*e*PN		**Pg**	**00 13 50.5**	**-0.2**
IZM	**Izmir**	**1.59**	**244**	*e*Pn		**Pg**	**00 13 50.5**	**-0.2**
DKL	**Dikili**	**1.70**	**270**	*e*PN		**Pb**	**00 13 52.1**	**0.0**
DKL	**Dikili**	**1.70**	**270**	*e*Pn		**Pb**	**00 13 52.1**	**0.0**
GULT	**Gulveren**	**1.73**	**39**	*e*PN		**Pg**	**00 13 52.5**	**-0.8**
GULT	**Gulveren**	**1.73**	**39**	*e*Pn		**Pg**	**00 13 52.5**	**-0.8**
HRT	**Hereke**	**1.78**	**14**	*e*PN		**Pb**	**00 13 53.0**	**-0.5**
HRT	**Hereke**	**1.78**	**14**	*e*Pn		**Pb**	**00 13 53.0**	**-0.5**
SPNC	**Sapanca-Adapaz**	**1.84**	**30**	*e*PN		**Pg**	**00 13 54.5**	**-1.0**
SPNC	**Sapanca-Adapaz**	**1.84**	**30**	*e*Pn		**Pg**	**00 13 54.5**	**-1.0**
AYVA	**Ayvalik**	**1.88**	**277**	P		**Pg**	**00 13 55.9**	**-0.3**
AYVA	**Ayvalik**	**1.88**	**277**	*i* P		**Pg**	**00 13 55.9**	**-0.3**
KRBG	**Karabiga-Canak**	**1.89**	**314**	*e*PN		**Pb**	**00 13 55.0**	**-0.4**
KRBG	**Karabiga-Canak**	**1.89**	**314**	*e*Pn		**Pb**	**00 13 55.0**	**-0.4**
MRMT	**Marmara Adasi**	**1.89**	**323**	*e*PN		**Pb**	**00 13 55.2**	**-0.2**
MRMT	**Marmara Adasi**	**1.89**	**323**	*e*Pn		**Pb**	**00 13 55.2**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.92**	**79**	*e*PN		**Pb**	**00 13 55.2**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.92**	**79**	*e*Pn		**Pb**	**00 13 55.2**	**-0.7**
ISK	**Istanbul-Kandi**	**1.96**	**359**	*e*PN		**Pb**	**00 13 55.7**	**-0.9**
ISK	**Istanbul-Kandi**	**1.96**	**359**	*e*Pn		**Pb**	**00 13 55.7**	**-0.9**
BGKT	**Bogazkoy**	**2.09**	**353**	*e*PN		**Pb**	**00 13 57.9**	**-0.9**
BGKT	**Bogazkoy**	**2.09**	**353**	*e*Pn		**Pb**	**00 13 57.9**	**-0.9**
SILT	**Sile**	**2.10**	**11**	*e*PN		**Pb**	**00 13 57.7**	**-1.1**
SILT	**Sile**	**2.10**	**11**	*e*Pn		**Pb**	**00 13 57.7**	**-1.1**
MDUB	**Mudurnu**	**2.12**	**49**	*e*PN		**Pb**	**00 13 58.4**	**-1.0**
MDUB	**Mudurnu**	**2.12**	**49**	*e*Pn		**Pb**	**00 13 58.4**	**-1.0**
KLYT	**Kilyos**	**2.15**	**359**	*e*PN		**Pb**	**00 13 58.6**	**-1.2**
KLYT	**Kilyos**	**2.15**	**359**	*e*Pn		**Pb**	**00 13 58.6**	**-1.2**
RKY	**Sarkoy-Tekirda**	**2.16**	**318**	*e*PN		**Pb**	**00 13 58.8**	**-1.2**
RKY	**Sarkoy-Tekirda**	**2.16**	**318**	*e*Pn		**Pb**	**00 13 58.8**	**-1.2**
CTKS	**Kestanelik-??a**	**2.18**	**348**	*e*PN		**Pb**	**00 13 59.0**	**-1.2**
CTKS	**Kestanelik-??a**	**2.18**	**348**	*e*Pn		**Pb**	**00 13 59.1**	**-1.2**
KIZT	**Kizilcal**	**2.19**	**95**	*e*PN		**Pb**	**00 13 58.8**	**-1.6**
KIZT	**Kizilcal**	**2.19**	**95**	*e*Pn		**Pb**	**00 13 58.8**	**-1.6**
TKR	**Tekirdag**	**2.23**	**328**	*e*PN		**Pb**	**00 14 00.2**	**-1.0**
TKR	**Tekirdag**	**2.23**	**328**	*e*Pn		**Pb**	**00 14 00.2**	**-1.0**

ISCJB ***28*** *00:20:11.7±0.5, 39.˚08N×0.˚04×29.˚04E±0.˚04, h7km±7km, Error ellipse: s-maj=8.1km s-min=4.1km az=149.4*
CSEM ***28*** *00:20:11.8±0.1, 39.˚08N×29.˚05E, h8km, MD2.6, Error ellipse: s-maj=3.7km s-min=2.6km az=142.0*
ISK ***28*** *00:20:11.0, 39.˚08N×29.˚08E, h5km, MD2.7*
DDA ***28*** *00:20:12.0, 39.˚06N×29.˚02E, h7km, Md2.6*
ISC 28 00:20:11.6±1.0**, 39.˚09N**±0.˚03×**29.˚07E**±0.˚02**, h8**km±11km**, n30**, σ0⁰**28/40, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GEDZ	**Gediz**	**0.27**	**99**	*e*PG		**Pg**	**00 20 16.8**	**-0.2**
GEDZ	**Gediz**	**0.27**	**99**	*e*Pg		**Pg**	**00 20 16.8**	**-0.2**
DEMI	**Demirci**	**0.28**	**261**	P		**Pg**	**00 20 17.5**	**+0.3**
DEMI				S		**Sg**	**00 20 21.1**	**+0.1**
DEMI	**Demirci**	**0.28**	**261**	*i* P		**Pg**	**00 20 17.5**	**+0.3**
DEMI				*i* S		**Sg**	**00 20 21.1**	**+0.1**
GDZ	**Gediz**	**0.32**	**89**	P		**Pb**	**00 20 19.5**	**-0.2**
GDZ				S		**Sb**	**00 20 24.9**	**-0.2**
GDZ	**Gediz**	**0.32**	**89**	*i* P		**Pb**	**00 20 19.4**	**-0.2**
GDZ				*i* S		**Sb**	**00 20 24.9**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**40**	*e*PG		**Pg**	**00 20 21.0**	**+0.1**
TVSB				*e*SG		**Sg**	**00 20 27.1**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**40**	*e*Pg		**Pg**	**00 20 21.0**	**+0.1**
TVSB				*e*Sg		**Sg**	**00 20 27.2**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*PG		**Pg**	**00 20 24.4**	**+0.1**
KULA				*e*SG		**Sg**	**00 20 32.8**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*Pg		**Pg**	**00 20 24.4**	**+0.1**
KULA				*e*Sg		**Sg**	**00 20 32.8**	**0.0**
MANT	**Manisa**	**0.72**	**214**	P		**Pg**	**00 20 25.4**	**-0.1**
MANT				S		**Sg**	**00 20 34.2**	**-0.6**
MANT	**Manisa**	**0.72**	**214**	*i* P		**Pg**	**00 20 25.4**	**-0.1**
MANT				*i* S		**Sg**	**00 20 34.2**	**-0.6**
AKS	**Akhisar**	**1.00**	**259**	*e*PG		**Pb**	**00 20 31.3**	**+0.1**
AKS	**Akhisar**	**1.00**	**259**	*e*Pg		**Pb**	**00 20 31.3**	**+0.1**
BALB	**Balikesir**	**1.08**	**301**	*e*PN		**Pg**	**00 20 32.2**	**-0.1**
BALB	**Balikesir**	**1.08**	**301**	*e*Pn		**Pg**	**00 20 32.2**	**-0.1**
CAVI	**Cavuskoy**	**1.26**	**28**	*e*PN		**Pn**	**00 20 35.8**	**+0.2**
CAVI	**Cavuskoy**	**1.26**	**28**	*e*Pn		**Pn**	**00 20 35.8**	**+0.2**
IZI	**Iznik**	**1.29**	**14**	*e*PN		**Pn**	**00 20 36.3**	**+0.3**
IZI	**Iznik**	**1.29**	**14**	*e*Pn		**Pn**	**00 20 36.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**354**	*e*PN		**Pn**	**00 20 36.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**354**	*e*Pn		**Pn**	**00 20 36.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**335**	*e*PN		**Pn**	**00 20 36.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.30**	**335**	*e*Pn		**Pn**	**00 20 36.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.44**	**312**	*e*PN		**Pb**	**00 20 38.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.44**	**312**	*e*Pn		**Pb**	**00 20 38.5**	**-0.2**
ESKT	**Eskisehir**	**1.45**	**72**	*e*PN		**Pn**	**00 20 39.0**	**+0.8**
ESKT	**Eskisehir**	**1.45**	**72**	*e*Pn		**Pn**	**00 20 39.0**	**+0.8**
EDC	**Edincik**	**1.57**	**324**	*e*PN		**Pb**	**00 20 40.6**	**-0.3**
EDC	**Edincik**	**1.57**	**324**	*e*Pn		**Pb**	**00 20 40.6**	**-0.3**

ISCJB ***28*** *00:20:55.0±0.5, 39.˚10N×0.˚04×29.˚00E±0.˚03, h4km±7km, Error ellipse: s-maj=6.0km s-min=3.8km az=175.6*
DDA ***28*** *00:20:54.5, 39.˚11N×29.˚02E, h7km, Ml3.1*
ISK ***28*** *00:20:54.8, 39.˚11N×29.˚00E, h5km, MD2.9*
CSEM ***28*** *00:20:55.2±0.1, 39.˚10N×29.˚01E, h5km, ML3.1, Error ellipse: s-maj=3.2km s-min=2.6km az=157.0*
ISC 28 00:20:55.1±0.9**, 39.˚11N**±0.˚03×**29.˚01E**±0.˚02**, h9**km±9km**, n43**, σ0⁰**56/58, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DEMI	**Demirci**	**0.24**	**255**	P		**Pg**	**00 21 00.1**	**+0.1**
DEMI				S		**Sg**	**00 21 03.6**	**+0.3**
DEMI	**Demirci**	**0.24**	**255**	*i* P		**Pg**	**00 21 00.1**	**+0.1**
DEMI				*i* S		**Sg**	**00 21 03.6**	**+0.3**
GEDZ	**Gediz**	**0.32**	**101**	*e*PG		**Pb**	**00 21 02.2**	**-0.8**
GEDZ				*e*SG		**Sg**	**00 21 06.5**	**+0.8**
GEDZ	**Gediz**	**0.32**	**101**	*e*Pg		**Pb**	**00 21 02.2**	**-0.8**
GEDZ				*e*Sg		**Sg**	**00 21 06.5**	**+0.8**
GDZ	**Gediz**	**0.37**	**92**	P		**Pg**	**00 21 02.1**	**-0.3**
GDZ				S		**Sg**	**00 21 07.3**	**0.0**
GDZ	**Gediz**	**0.37**	**92**	*i* P		**Pg**	**00 21 02.1**	**-0.3**
GDZ				*i* S		**Sg**	**00 21 07.3**	**0.0**
TVSB	**Tavsanli**	**0.49**	**45**	*e*PG		**Pg**	**00 21 04.0**	**-0.7**
TVSB	**Tavsanli**	**0.49**	**45**	*e*Pg		**Pg**	**00 21 04.0**	**-0.7**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*PG		**Pg**	**00 21 07.6**	**-0.1**
KULA				*e*SG		**Sg**	**00 21 16.6**	**+0.3**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*Pg		**Pg**	**00 21 07.6**	**-0.1**
KULA				*e*Sg		**Sg**	**00 21 16.6**	**+0.3**
MANT	**Manisa**	**0.71**	**210**	P		**Pg**	**00 21 08.2**	**-0.7**
MANT				S		**Sg**	**00 21 17.6**	**-0.5**
MANT	**Manisa**	**0.71**	**210**	*i* P		**Pg**	**00 21 08.2**	**-0.7**
MANT				*i* S		**Sg**	**00 21 17.6**	**-0.5**
KHL	**Karahalli**	**0.88**	**153**	*e*PG		**Pb**	**00 21 12.2**	**-0.4**
KHL	**Karahalli**	**0.88**	**153**	*e*Pg		**Pb**	**00 21 12.2**	**-0.4**
AKS	**Akhisar**	**0.96**	**257**	*e*PG		**Pn**	**00 21 14.5**	**-0.3**
AKS	**Akhisar**	**0.96**	**257**	*e*Pg		**Pn**	**00 21 14.5**	**-0.3**
BALB	**Balikesir**	**1.03**	**302**	*e*PG		**Pn**	**00 21 15.7**	**0.0**
BALB				*e*SG		**Sb**	**00 21 29.0**	**+0.4**
BALB	**Balikesir**	**1.03**	**302**	*e*Pg		**Pn**	**00 21 15.7**	**0.0**
BALB				*e*Sg		**Sb**	**00 21 29.0**	**+0.4**
IGD	**Bursa**	**1.17**	**7**	*i* P		**Pg**	**00 21 15.7**	**-1.9**
IGD				*i* S		**Sn**	**00 21 33.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*PN		**Pn**	**00 21 19.6**	**+0.6**
KCTX	**Karacabey (Bur**	**1.26**	**337**	*e*Pn		**Pn**	**00 21 19.6**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*PN		**Pg**	**00 21 18.9**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*Pn		**Pg**	**00 21 18.9**	**-0.6**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN		**Pn**	**00 21 19.4**	**+0.3**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn		**Pn**	**00 21 19.4**	**+0.3**
IZI	**Iznik**	**1.28**	**16**	*e*PN		**Pb**	**00 21 19.4**	**-0.1**
IZI	**Iznik**	**1.28**	**16**	*e*Pn		**Pb**	**00 21 19.4**	**-0.1**
BORA	**Eskisehir**	**1.36**	**55**	P		**Pn**	**00 21 20.0**	**-0.4**
BORA				S		**Sn**	**00 21 39.0**	**+0.5**
BORA	**Eskisehir**	**1.36**	**55**	*i* P		**Pn**	**00 21 20.0**	**-0.4**
BORA				*i* S		**Sn**	**00 21 39.0**	**+0.5**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*PN		**Pb**	**00 21 21.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.39**	**313**	*e*Pn		**Pb**	**00 21 21.1**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**73**	*e*PN		**Pg**	**00 21 23.3**	**-0.3**
ESKT	**Eskisehir**	**1.49**	**73**	*e*Pn		**Pg**	**00 21 23.3**	**-0.3**
ESKT	**Eskisehir**	**1.49**	**73**	*i* P		**Pg**	**00 21 24.1**	**+0.4**
SEYT	**Eskypehyr**	**1.49**	**73**	P		**Pg**	**00 21 24.1**	**+0.4**
EDC	**Edincik**	**1.52**	**325**	*e*PN		**Pb**	**00 21 23.4**	**-0.2**
EDC	**Edincik**	**1.52**	**325**	*e*Pn		**Pb**	**00 21 23.4**	**-0.2**
GULT	**Gulveren**	**1.76**	**41**	*e*PN		**Pb**	**00 21 27.0**	**-0.6**
GULT	**Gulveren**	**1.76**	**41**	*e*Pn		**Pb**	**00 21 27.0**	**-0.6**
ISK	**Istanbul-Kandi**	**1.96**	**1**	*e*PN		**Pn**	**00 21 29.5**	**+1.0**
ISK	**Istanbul-Kandi**	**1.96**	**1**	*e*Pn		**Pn**	**00 21 29.5**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*PN		**Pn**	**00 21 29.7**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*Pn		**Pn**	**00 21 29.7**	**+0.8**

DDA 28 00:25:38.9, 39.˚06N×29.˚03E, h7km, Md2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DEMI	**Demirci**	**0.24**	**265**	*i* P		Pg	00 25 44.2	+0.5
DEMI				*i* S		Sg	00 25 47.9	+0.9
GDZ	**Gediz**	**0.35**	**86**	*i* P		Pg	00 25 46.1	+0.2
GDZ				*i* S		Sg	00 25 51.6	+1.0
MANT	**Manisa**	**0.68**	**213**	*i* P		Pg	00 25 52.3	+0.2
MANT				*i* S		Sg	00 26 00.6	-0.3

IDC ***28*** *00:25:49.1±2.5, 36.˚68N×142.˚27E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/40, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=52.3km s-min=29.6km az=50.0*
ISCJB ***28*** *00:25:50.9±1.2, 36.˚82N±0.˚06×142.˚09E±0.˚09, h19km, mb3.4/2, Error ellipse: s-maj=10.5km s-min=8.3km az=0.0*
JMA ***28*** *00:25:51.2±0.5, 36.˚86N×142.˚01E, h12km±4km, M3.1*
ISC 28 00:25:52.1±1.5**, 36.˚91N**±0.˚07×**142.˚05E**±0.˚09**, h19**km**, n13**, σ1⁰**25/19, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.02**	**281**	P		**Pb**	**00 26 10.2**	**-0.9**
JFK	**Kawauchi**	**1.04**	**296**	P		**Pn**	**00 26 11.0**	**-0.7**
JFK				*e*S		**Sb**	**00 26 24.4**	**-0.4**
JMM	**Marumori**	**1.38**	**314**	P		**Pn**	**00 26 15.8**	**-0.5**
JFT	**Otama**	**1.49**	**294**	P		**Pb**	**00 26 18.4**	**-0.8**
JIO	**Ouri**	**1.64**	**340**	P		**Pb**	**00 26 20.9**	**-0.7**
JIO				*e*S		**Sb**	**00 26 42.3**	**+0.4**
JOU	**Okura**	**1.82**	**323**	P		**Pb**	**00 26 23.6**	**-1.2**
JOU				*e*S		**Sb**	**00 26 46.3**	**-0.9**
JFY	**Yanaizu**	**1.93**	**286**	P		**Pn**	**00 26 25.1**	**+1.1**
JFY				*e*S		**Sn**	**00 26 49.2**	**+1.4**
JYS	**Shirataka**	**2.05**	**310**	*e*S		**Sb**	**00 26 53.2**	**-0.5**
JAG	**Ashikaga**	**2.14**	**258**	P		**Pn**	**00 26 26.6**	**-0.1**
MJAR	**Matsushiro Arr**	**3.10**	**264**	Pn		**Pn**	**00 26 41.7**	**+1.6**
	3.1nm,0.3s,baz=89,slow=15,SNR=21							
MJAR				Sn		**Sb**	**00 27 21.9**	**-2.2**
	1.3nm,0.3s,baz=89,slow=25,SNR=5.1							
MAT	**Matsushiro**	**3.10**	**264**	P		**Pn**	**00 26 41.7**	**+1.6**
MAT				S		**Sn**	**00 27 17.1**	**+0.5**
SONM	**Songino Array**	**28.27**	**304**	P		**P**	**00 31 46.2**	**+2.0**
	0.4nm,0.5s,baz=98,slow=9.0,SNR=2.7							
WRA	**Warramunga Arr**	**57.01**	**189**	P		**P**	**00 35 35.3**	**-1.3**
	0.3nm,0.6s,baz=6.1,slow=7.5,SNR=3.3							

ISCJB ***28*** *00:27:29.4±0.5, 38.˚58N±0.˚02×41.˚40E±0.˚03, h0km±5km, Error ellipse: s-maj=4.3km s-min=3.2km az=154.5*
CSEM ***28*** *00:27:29.6±0.2, 38.˚61N×41.˚39E, h10km, MD3.1, Error ellipse: s-maj=4.7km s-min=3.7km az=56.0*
ISK ***28*** *00:27:29.2, 38.˚59N×41.˚41E, h10km, MD3.1*
DDA ***28*** *00:27:29.7, 38.˚60N×41.˚41E, h7km, Md3.0*
ISC 28 00:27:29.8±1.1**, 38.˚60N**±0.˚02×**41.˚41E**±0.˚02**, h8**km±10km**, n43**, σ0⁰**86/66, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BNGL	**BINGOL**	**0.40**	**330**	*i* P		**Pg**	**00 27 38.1**	**+0.3**
BNGL				*i* S		**Sb**	**00 27 44.6**	**-1.1**
SVAN	**Silvan-Diyarba**	**0.48**	**200**	*e*PG		**Pg**	**00 27 39.1**	**0.0**
SVAN	**Silvan-Diyarba**	**0.48**	**200**	*e*Pg		**Pg**	**00 27 39.1**	**0.0**
VRTB	**Varto-Mus**	**0.56**	**4**	*e*PG		**Pg**	**00 27 40.7**	**+0.1**
VRTB				*e*SG		**Sb**	**00 27 49.3**	**-0.8**
VRTB	**Varto-Mus**	**0.56**	**4**	*e*Pg		**Pg**	**00 27 40.7**	**+0.1**
VRTB				*e*Sg		**Sb**	**00 27 49.3**	**-0.8**
TATV	**Tatvan**	**0.68**	**98**	P		**Pg**	**00 27 42.0**	**-1.0**
TATV				S		**Sb**	**00 27 52.7**	**-1.1**
TATV	**Tatvan**	**0.68**	**98**	*i* P		**Pg**	**00 27 42.0**	**-1.0**
TATV				*i* S		**Sb**	**00 27 52.7**	**-1.1**
BNGB	**Bing¨¶l**	**0.69**	**304**	*e*PG		**Pg**	**00 27 43.0**	**-0.1**
BNGB				*e*SG		**Sb**	**00 27 53.8**	**-0.1**
BGOL	**Bingol**	**0.69**	**304**	P		**Pg**	**00 27 43.0**	**-0.1**
BGOL				S		**Sb**	**00 27 53.4**	**-0.5**
BGOL	**Bingol**	**0.69**	**304**	*i* P		**Pg**	**00 27 43.0**	**-0.1**
BGOL				*i* S		**Sb**	**00 27 53.4**	**-0.5**
BTMN	**Batman**	**0.72**	**189**	P		**Pg**	**00 27 43.8**	**+0.1**
BTMN				S		**Sb**	**00 27 54.7**	**0.0**
BTMN	**Batman**	**0.72**	**189**	*i* P		**Pg**	**00 27 43.8**	**+0.1**
BTMN				*i* S		**Sb**	**00 27 54.7**	**0.0**
BINT	**Bingol**	**0.77**	**291**	*e*Pg	

GSTD	**Great Sitkin T**	**2.82**	**273**	P		**Pn**	**00 37 00.7**	**-0.2**
GSTD				S		**Sn**	**00 37 34.0**	**+0.2**
ETKA	**Kagalaska Isla**	**2.99**	**270**	P		**Pn**	**00 37 03.5**	**+0.3**
ADAG	**Mount Adagdak**	**3.10**	**272**	P		**Pn**	**00 37 05.1**	**+0.3**
UNV	**Unalaska Valle**	**3.60**	**57**	P		**Pn**	**00 37 11.6**	**+0.1**
UNV				S		**Sn**	**00 37 55.3**	**+2.6**
ILAR	**Eielson Array**	**18.05**	**35**	P		**Pn**	**00 40 24.6**	**-0.5**
	0.1nm,0.3s,baz=235,slow=11,SNR=6.6							
DLBC	**Dease Lake**	**24.25**	**58**	P		**P**	**00 41 33.5**	**+3.1**
	4.2nm,0.8s,baz=261,slow=8.1,SNR=8.7							
YKA	**Yellowknife Ar**	**31.52**	**48**	P		**P**	**00 42 36.1**	**+1.0**
	0.3nm,0.4s,baz=275,slow=7.8,SNR=4.0							
H11N2	**WAKE ISLAND Hy**	**36.32**	**216**	T		T	01 21 43.8	
	baz=22,slow=76,SNR=15							
H11N3	**WAKE ISLAND Hy**	**36.33**	**216**	T		T	01 21 45.0	
	baz=22,slow=76,SNR=9.1							
H11N1	**WAKE ISLAND Hy**	**36.34**	**216**	T		T	01 21 49.0	
	baz=22,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**37.52**	**215**	T		T	01 23 16.6	
	baz=21,slow=76,SNR=6.9							
H11S2	**WAKE ISLAND Hy**	**37.53**	**215**	T		T	01 23 18.5	
	baz=21,slow=76,SNR=5.6							
H11S3	**WAKE ISLAND Hy**	**37.53**	**215**	T		T	01 23 21.3	
	baz=21,slow=76,SNR=3.5							
MJAR	**Matsushiro Arr**	**38.31**	**266**	P		P	00 43 26.7	-7.3
	5.1nm,0.5s,baz=61,slow=14,SNR=12							
PDAR	**Pinedale Array**	**41.82**	**77**	P		**P**	**00 44 01.5**	**-1.7**
	0.2nm,0.5s,baz=320,slow=4.0,SNR=2.8							
TXAR	**Lajitas Array**	**54.12**	**87**	P		**P**	**00 45 39.0**	**+0.8**
	0.4nm,0.8s,baz=306,slow=5.0,SNR=4.6							
ARCES	**ARCESS Array B**	**58.15**	**353**	P		**P**	**00 46 04.9**	**-1.4**
	1.5nm,0.8s,baz=356,slow=6.2,SNR=3.9							
MKAR	**Makanchi Array**	**63.07**	**312**	P		**P**	**00 46 39.5**	**-0.7**
	0.3nm,0.4s,baz=46,slow=6.0,SNR=8.0							
FINES	**FINESS Array B**	**66.05**	**351**	P		**P**	**00 46 58.3**	**-0.9**
	1.2nm,0.9s,baz=0.0,slow=7.6,SNR=5.1							

*DJA **28** 00:36:46.3±0.3,0°S±3°×12°5E±°, h10km,M4.8/8,mB5.2/2, mb5.0/2,MLv4.7/8,Mw(mB)4.5/2*
*ISCJB **28** 00:36:48.2±0.5,0°.25S±0°.03×125°.03E±0°.03, h60km±5km, mb4.8/40, Error ellipse: s-maj=6.3km s-min=4.4km az=142.0*
*IDC **28** 00:36:49.0±4.7,0°.24S×124°.77E, h45km±45km,mb4.2/17, mb1 4.2/18,mb1mx4.1/33,mbtmp4.4/18,ML4.2/1,MS3.5/1, Ms1 3.5/1,ms1mx3.0/39,Error ellipse: s-maj=31.9km s-min=12.4km az=81.0*
*NEIC **28** 00:36:52.0±1.4,0°.29S×124°.97E,h78km±13km,mb4.8/26, Error ellipse: s-maj=10.7km s-min=5.5km az=62.0*

ISC 28 00:36:49.6±1.0,0°.25S±0°.04×125°.08E±0°.04,h52km±10km, n85,σ1°53/94,mb4.7/40,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**1.37**	**306**	P		**Pn**	**00 37 11.0**	**-1.4**
KMSI				S		**Sn**	**00 37 28.2**	**-1.2**
SANI	**Sanana**	**2.01**	**153**	P		**Pn**	**00 37 19.7**	**-1.4**
SANI				S		**Sn**	**00 37 43.1**	**-2.0**
GTOI	**Gorontalo**	**2.25**	**293**	P		Pn	00 37 28.0	+3.6
GTOI				S		**Sn**	**00 37 56.7**	**+5.7**
LUWI	**Luwuk**	**2.44**	**251**	*e*Pn		**Pn**	**00 37 29.4**	**+2.3**
LUWI				*e*Sn		**Sn**	**00 37 58.1**	**+2.3**
LBMI	**Labuha**	**2.45**	**99**	P		**Pn**	**00 37 28.4**	**+1.3**
LBMI				S		**Sn**	**00 37 57.0**	**+1.1**
MRSI	**Marisa**	**3.22**	**283**	P		**Pn**	**00 37 36.3**	**-1.4**
NLAI	**Namlea**	**3.59**	**146**	P		**Pn**	**00 37 42.7**	**-0.1**
NLAI				S		**Sn**	**00 38 23.0**	**-1.0**
SGSI	**Sangihe**	**3.93**	**7**	P		**Pn**	**00 37 46.7**	**-0.8**
KDI	**Kendari**	**4.43**	**214**	P		**Pn**	**00 37 54.6**	**+0.2**
MSAI	**Masohi**	**4.93**	**129**	P		**Pn**	**00 38 03.8**	**+2.7**
PCI	**Palu**	**5.29**	**263**	P		**Pn**	**00 38 05.0**	**-1.1**
TTSI	**Tana Toraja**	**5.95**	**242**	P		**Pn**	**00 38 16.4**	**+1.2**
KAPI	**Kappang**	**7.13**	**228**	P		**Pn**	**00 38 32.6**	**+1.3**
	11nm,0.3s,baz=24,slow=5.4,SNR=16							
KAPI				S		**Sn**	**00 39 50.0**	**-1.0**
	7.8nm,0.3s,baz=118,slow=22,SNR=7.7							
DAV	**Davao City (W)**	**7.28**	**4**	LR		LR	00 41 42.0	
	comp=Z,403nm,20.3s,baz=168,slow=40							
FAKI	**Fak Fak**	**7.64**	**110**	*e*Pn		**Pn**	**00 38 36.3**	**-2.1**
FAKI				*e*Sn		**Sn**	**00 39 59.1**	**-4.5**
MYLDM	**Lahad Datu**	**8.50**	**309**	*e*Pn		Pn	00 38 55.4	+5.2
SOEI	**Soe**	**9.48**	**185**	*e*Pn		Pn	00 39 07.0	+3.3
FITZ	**Fitzroy Crossi**	**17.75**	**178**	P		**P**	**00 40 53.7**	**+0.2**
	0.6nm,0.3s,baz=15,slow=8.1,SNR=18							
FITZ	**Fitzroy Crossi**	**17.75**	**178**	*e*P		**P**	**00 40 53.7**	**+0.2**
	8.8nm,1.0s							
CISI	**Cisompet, Garu**	**18.68**	**247**	*e*P		**Pn**	**00 41 03.6**	**-1.0**
	43nm,0.8s							
MBWA	**Marble Bar**	**21.43**	**194**	*e*P		**P**	**00 41 32.6**	**-0.9**
	61nm,1.8s							
WRAB	**Tennant Creek**	**21.57**	**156**	*e*P		**P**	**00 41 33.1**	**-1.9**
	59nm,1.8s							
WR1	**Warramunga Arr**	**21.57**	**156**	*e*P		**P**	**00 41 33.6**	**-1.4**
	10nm,0.6s							
WRA	**Warramunga Arr**	**21.57**	**156**	P		**P**	**00 41 33.6**	**-1.4**
	4.3nm,0.4s,baz=332,slow=11,SNR=69							
WB2	**Warramunga Arr**	**21.58**	**156**	*e*P		**P**	**00 41 34.5**	**-0.6**
XMIS	**Christmas Isla**	**21.83**	**242**	*e*P		**P**	**00 41 37.4**	**-0.5**
	94nm,1.0s							
MANU	**Manus Island**	**22.35**	**95**	*e*P		**P**	**00 41 47.2**	**+3.7**
	251nm,0.1s							
COEN	**Coen**	**22.50**	**128**	*e*P		**P**	**00 41 46.6**	**+1.5**
	17nm,1.0s							
TPUB	**Ta-pu**	**23.80**	**350**	*e*P		**P**	**00 41 57.5**	**-0.4**
	174nm,1.9s							
AS31	**Alice Springs**	**24.81**	**160**	*e*P		**P**	**00 42 07.2**	**+0.1**
	9.2nm,1.5s							
AS31				*e*PcP		**PcP**	**00 45 42.7**	**+0.1**
ASAR	**Alice Springs**	**24.81**	**160**	P		**P**	**00 42 07.2**	**+0.1**
	3.6nm,0.5s,baz=340,slow=7.0,SNR=50							
ASAR				PcP		**PcP**	**00 45 42.7**	**+0.1**
	1.7nm,0.5s,baz=351,slow=2.3,SNR=14							
AS01	**Alice Springs**	**24.82**	**160**	*e*P		**P**	**00 42 07.0**	**-0.1**
YHNB	**Yeheng**	**25.03**	**352**	*e*P		**P**	**00 42 10.2**	**+1.2**
	150nm,1.9s							
CMAR	**Chiang Mai Arr**	**31.70**	**307**	PcP		**PcP**	**00 46 00.2**	**+0.6**
	0.9nm,0.7s,baz=153,slow=1.8,SNR=6.3							
NWAO	**Narrogin (SRO)**	**33.34**	**192**	P		**P**	**00 43 22.5**	**-0.3**
	21nm,1.0s,baz=256,slow=6.5,SNR=6.0							
BBOO	**Buckleboo**	**34.00**	**163**	*e*P		**P**	**00 43 28.4**	**-0.2**
	58nm,1.8s							
STKA	**Stephens Creek**	**35.12**	**155**	P		**P**	**00 43 39.2**	**+0.9**
	17nm,0.6s,baz=334,slow=9.7,SNR=74							
STKA	**Stephens Creek**	**35.12**	**155**	*e*P		**P**	**00 43 39.2**	**+0.9**
	3.7nm,0.6s							
KS15	**Wonju Array Si**	**37.59**	**4**	*e*P		**P**	**00 43 59.6**	**+0.4**
KSAR	**Wonju Array Be**	**37.59**	**4**	P		**P**	**00 43 59.6**	**+0.4**
KSRS	**Korea Array**	**37.60**	**4**	P		**P**	**00 43 59.6**	**+0.3**
	1.9nm,0.6s,baz=182,slow=11,SNR=7.2							
ARMA	**Armidale**	**39.20**	**142**	*e*P		**P**	**00 44 12.4**	**-0.6**
	90nm,2.0s							
USRK	**Ussuriysk Ar.**	**44.68**	**7**	P		**P**	**00 44 58.7**	**+1.4**
	1.0nm,0.4s,baz=191,slow=7.7,SNR=6.6							
SONA0	**Songino Array**	**50.57**	**344**	*e*P		**P**	**00 45 43.1**	**-0.1**
	2.2nm,0.8s							
SONM	**Songino Array**	**50.57**	**344**	P		**P**	**00 45 43.1**	**-0.1**
	1.5nm,0.5s,baz=160,slow=9.2,SNR=7.4							
SONA1	**Songino Array**	**50.58**	**344**	*e*P		**P**	**00 45 42.0**	**-1.3**
MLZ	**Mavora Lakes**	**58.78**	**146**	*e*P		**P**	**00 46 43.7**	**+1.1**
	119nm,1.8s							
LBZ	**Lake Benmore**	**59.40**	**144**	*e*P		**P**	**00 46 48.2**	**+1.4**
	114nm,1.7s							
RPZ	**Rata Peaks**	**59.54**	**143**	*e*P		**P**	**00 46 46.9**	**-1.0**
	96nm,1.7s							
PETK	**Petropavlovsk-**	**59.71**	**22**	P		**P**	**00 46 50.1**	**+1.3**
	5.9nm,0.8s,baz=224,slow=4.1,SNR=4.6							
PEA1	**Petropavlovsk-**	**59.71**	**22**	*e*P		**P**	**00 46 50.1**	**+1.3**
MK01	**Makanchi Array**	**59.91**	**327**	*e*P		**P**	**00 46 48.6**	**-1.8**
MK31	**Makanchi Array**	**59.93**	**327**	*e*P		**P**	**00 46 48.9**	**-1.6**
MK32	**Makanchi Array**	**59.93**	**327**	*e*P		**P**	**00 46 48.5**	**-2.0**
MK32				*e*PcP		**PcP**	**00 47 35.1**	**-1.3**
MKAR	**Makanchi Array**	**59.93**	**327**	P		**P**	**00 46 48.5**	**-2.0**
	4.8nm,0.4s,baz=128,slow=8.1,SNR=62							
MKAR				PcP		**PcP**	**00 47 35.1**	**-1.3**
	1.8nm,0.6s,baz=109,slow=4.9,SNR=6.4							
MKAR	**Makanchi Array**	**59.93**	**327**	*e*P		**P**	**00 46 49.8**	**-0.7**
MKAR				PcP		**PcP**	**00 47 35.1**	**-1.3**
MAKZ	**Makanchi**	**60.10**	**327**	*e*P		**P**	**00 46 51.3**	**-0.4**
	5.2nm,0.4s							
BKZ	**Black Stump Fm**	**60.82**	**136**	*e*P		**P**	**00 46 56.0**	**-0.8**
	47nm,1.5s							
TKM2	**Tokmak 2**	**61.69**	**321**	*e*P		**P**	**00 47 03.0**	**+0.2**
	3.3nm,0.6s							
ZAA0	**Zalesovo Array**	**63.41**	**335**	*e*P		**P**	**00 47 12.1**	**-1.6**
ZALV	**Zalesovo Beam**	**63.41**	**335**	P		**P**	**00 47 12.3**	**-1.4**
	0.8nm,0.3s,baz=124,slow=5.8,SNR=7.9							
ZAA1	**Zalesovo Array**	**63.41**	**335**	*e*P		**P**	**00 47 12.3**	**-1.4**
KURK	**Kurchatov**	**64.24**	**329**	*e*P		**P**	**00 47 19.4**	**+0.2**
	38nm,0.5s							
KKAR	**Karatay Array**	**65.06**	**319**	*e*P		**P**	**00 47 25.6**	**+0.8**
SEY	**Seymchan**	**66.25**	**13**	P		**P**	**00 47 33.1**	**+1.1**
	1.0nm,0.5s,baz=223,slow=4.5,SNR=4.2							
VOSK	**Vostochnaya**	**69.31**	**328**	*e*P		**P**	**00 47 50.9**	**-0.7**
	3.6nm,0.6s							
ZRNK	**Zerenda**	**70.47**	**328**	*e*P		**P**	**00 47 56.6**	**-2.0**
	6.0nm,0.5s							
BILL	**Bilibino**	**73.79**	**15**	*e*P		**P**	**00 48 21.9**	**+3.7**
NRIK	**Noril'sk**	**73.89**	**347**	P		**P**	**00 48 17.9**	**-0.9**
	7.4nm,0.5s,baz=121,slow=6.4,SNR=14							
ABKAR	**Akbulak array**	**74.20**	**322**	*e*P		**P**	**00 48 19.8**	**-1.2**
VNDA	**Vanda**	**79.72**	**172**	P		**P**	**00 48 51.8**	**+0.3**
	1.6nm,0.7s,baz=311,slow=6.9,SNR=12							
VNDA	**Vanda**	**79.72**	**172**	*e*P		**P**	**00 48 51.8**	**+0.3**
	9.7nm,1.8s							
KBZ	**Khabaz**	**84.51**	**314**	P		**P**	**00 49 16.5**	**-0.7**
	2.5nm,0.9s,baz=210,slow=4.2,SNR=3.6							
KMBO	**Kilima Mbogo**	**87.83**	**269**	P		**P**	**00 49 35.0**	**+0.5**
	2.3nm,0.7s,baz=225,slow=1.4,SNR=6.4							
KMBO	**Kilima Mbogo**	**87.83**	**269**	*e*P		**P**	**00 49 35.0**	**+0.5**
	4.4nm,1.0s							
ILAR	**Eielson Array**	**89.38**	**25**	P		**P**	**00 49 39.8**	**-0.6**
	0.4nm,0.6s,baz=246,slow=5.7,SNR=4.2							
ILB	**Eielson Array**	**89.38**	**25**	*e*P		**P**	**00 49 39.9**	**-0.6**
QSPA	**South Pole Qui**	**89.69**	**180**	*e*P		**P**	**00 49 42.2**	**+0.2**
	23nm,1.8s							
ARA0	**ARCESS Array S**	**93.58**	**340**	*e*P		**P**	**00 49 57.6**	**-2.2**
ARCES	**ARCESS Array B**	**93.58**	**340**	P		**P**	**00 49 57.6**	**-2.2**
	1.9nm,0.9s,baz=90,slow=5.5,SNR=3.7							
FIA0	**FINESS Array S**	**94.53**	**332**	*e*P		**P**	**00 50 02.0**	**-2.2**
FINES	**FINESS Array B**	**94.53**	**332**	P		**P**	**00 50 02.0**	**-2.2**
	0.5nm,0.6s,baz=46,slow=6.0,SNR=4.5							
LTX	**Lajitas**	**125.30**	**54**	*e*PKPdf		**PKPdf**	**00 55 46.4**	**+0.8**
TXAR	**Lajitas Array**	**125.30**	**54**	PKP		**PKPdf**	**00 55 46.4**	**+0.8**
	0.2nm,0.5s,baz=191,slow=2.6,SNR=3.8							
CPUP	**Villa Florida**	**153.48**	**175**	PKPbc		**PKPbc**	**00 56 43.9**	**+0.7**
	2.0nm,0.7s,baz=45,slow=1.4,SNR=5.2							

WEL 28 00:37:04.7±0.5,43°.66S×172°.78E,h5km,ML3.5/11,2C, Error ellipse: s-maj=4.4km s-min=1.9km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.10**	**244**	⇑P	G	Pg	00 37 07.1	+0.3
MQZ				SG		Sg	00 37 08.9	+0.7
MQZ				AML		AML	00 37 11.1	
CRLZ	**Canterbury Las**	**0.14**	**308**	PG		Pg	00 37 07.6	+0.1
CRLZ				AML		AML	00 37 15.6	
CRLZ				AML		AML	00 37 18.2	
OXZ	**Oxford**	**0.63**	**302**	P*		Pg	00 37 16.9	+0.1
OXZ				SG		Sb	00 37 27.0	-0.5
LTZ	**Lake Taylor**	**0.95**	**337**	P*		Pg	00 37 22.9	-0.1
LTZ				S*		Sb	00 37 36.0	-0.7
LTZ				AML		AML	00 37 36.8	
RPZ	**Rata Peaks**	**1.25**	**267**	P*		Pg	00 37 27.0	-1.7
RPZ				AML		AML	00 37 47.5	
RPZ				AML		AML	00 37 49.2	
INZ	**Inchbonnie**	**1.35**	**313**	PN		Pn	00 37 26.8	-1.4
KHZ	**Kahutara**	**1.36**	**24**	PN		Pn	00 37 27.9	-2.4
WVZ	**Waitaha Valley**	**1.60**	**291**	PN		Pn	00 37 32.7	-0.9
THZ	**Tophouse**	**1.90**	**3**	PN		Pn	00 37 35.6	-2.2
THZ				AML		AML	00 38 09.5	
THZ				AML		AML	00 38 16.4	
LBZ	**Lake Benmore**	**2.00**	**248**	PN		Pn	00 37 38.4	-0.8
LBZ				AML		AML	00 38 16.6	
LBZ				AML		AML	00 38 17.3	
DSZ	**Denniston Nort**	**2.05**	**339**	AML		AML	00 38 17.4	
ODZ	**Otahua Downs**	**2.06**	**227**	⇑PN		Pn	00 37 38.5	-1.4
ODZ				AML		AML	00 38 19.0	
ODZ				AML		AML	00 38 19.0	
ODZ				AML		AML	00 38 19.0	
ODZ				AML		AML	00 38 23.6	
JCZ	**Jackson Bay**	**2.92**	**261**	AML		AML	00 40 24.9	
EAZ	**Earnscleugh**	**2.94**	**237**	AML		AML	00 38 43.0	
EAZ				AML		AML	00 38 46.3	
TUZ	**Tuapeka**	**3.20**	**223**	PN		Pn	00 37 54.6	-1.0
TUZ				AML		AML	00 38 53.2	
TUZ				AML		AML	00 38 58.6	

*ISCJB **28** 00:38:14.8±0.5,39°.11N±0°.05×29°.02E±0°.05,h15km±11km, Error ellipse: s-maj=9.3km s-min=4.9km az=147.0*
*DDA **28** 00:38:14.7,39°.07N×29°.02E,h7km,Md2.6*
*CSEM **28** 00:38:14.5±0.1,39°.08N×29°.03E,h15km,MD2.6, Error ellipse: s-maj=4.4km s-min=2.5km az=128.0*
*ISK **28** 00:38:14.4,39°.06N×29°.11E,h20km,MD2.7*

ISC 28 00:38:14.4±0.9,39°.08N±0°.04×29°.04E±0°.03,h14km±9km, n24,σ0°39/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**262**	P		**Pb**	**00 38 20.3**	**-0.5**
DEMI				S		**Sg**	**00 38 23.7**	**+0.1**
DEMI	**Demirci**	**0.25**	**262**	*i* P		**Pb**	**00 38 20.3**	**-0.5**
DEMI				*i* S		**Sg**	**00 38 23.7**	**+0.1**
GEDZ	**Gediz**	**0.29**	**97**	*e*PG		**Pg**	**00 38 20.4**	**-0.1**
GEDZ	**Gediz**	**0.29**	**97**	*e*Pg		**Pg**	**00 38 20.4**	**-0.1**
GDZ	**Gediz**	**0.34**	**88**	P		**Pb**	**00 38 22.4**	**-0.1**
GDZ				S		**Sb**	**00 38 27.6**	**-0.2**
GDZ	**Gediz**	**0.34**	**88**	*i* P		**Pb**	**00 38 22.4**	**-0.1**
GDZ				*i* S		**Sb**	**00 38 27.6**	**-0.2**
TVSB	**Tavsanli**	**0.49**	**41**	*e*PG		**Pb**	**00 38 25.0**	**0.0**
TVSB				*e*SG		**Sg**	**00 38 31.4**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**41**	*e*Pg		**Pb**	**00 38 25.0**	**0.0**
TVSB				*e*Sg		**Sg**	**00 38 31.4**	**+0.5**
KULA	**Kula-Manisa**	**0.64**	**208**	*e*PG		**Pb**	**00 38 27.7**	**+0.3**
KULA				*e*SG		**Sb**	**00 38 37.2**	**+1.0**
KULA	**Kula-Manisa**	**0.64**	**208**	*e*Pg		**Pb**	**00 38 27.7**	**+0.3**
KULA				*e*Sg		**Sb**	**00 38 37.2**	**+1.0**
MANT	**Manisa**	**0.70**	**213**	P		**Pb**	**00 38 28.2**	**-0.3**
MANT				S		**Sg**	**00 38 37.0**	**-0.3**
MANT	**Manisa**	**0.70**	**213**	*i* P		**Pb**	**00 38 28.2**	**-0.3**
MANT				*i* S		**Sg**	**00 38 37.0**	**-0.3**
CAVI	**Cavuskoy**	**1.28**	**29**	*e*PN		**Pn**	**00 38 37.7**	**-0.3**
CAVI	**Cavuskoy**	**1.28**	**29**	*e*Pn		**Pn**	**00 38 37.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*PN		**Pb**	**00 38 38.6**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*Pn		**Pb**	**00 38 38.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*PN		**Pn**	**00 38 38.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*Pn		**Pn**	**00 38 38.3**	**+0.1**
IZI	**Iznik**	**1.30**	**15**	*e*PN		**Pn**	**00 38 38.0**	**-0.2**
IZI	**Iznik**	**1.30**	**15**	*e*Pn		**Pn**	**00 38 38.1**	**-0.2**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*PN		**Pn**	**00 38 40.2**	**-0.2**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*Pn		**Pn**	**00 38 40.2**	**-0.2**
GULT	**Gulveren**	**1.77**	**40**	*e*PN		**Pn**	**00 38 44.4**	**-0.3**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn		**Pn**	**00 38 44.4**	**-0.3**

*DDA **28** 00:39:50.7,39°.07N×29°.06E,h7km,Md2.7*
*ISK **28** 00:39:54.6,39°.10N×29°.04E,h8km,MD2.8*
*ISCJB **28** 00:39:55.0±0.5,39°.09N±0°.03×29°.03E±0°.04,h10km±5km, Error ellipse: s-maj=6.4km s-min=4.4km az=146.5*
*CSEM **28** 00:39:55.2±0.1,39°.08N×29°.04E,h10km,MD2.7, Error ellipse: s-maj=2.9km s-min=2.3km az=139.0*

ISC 28 00:39:53.2±1.2,39°.03N±0°.03×29°.08E±0°.03,h2km±11km, n26,σ1°06/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GEDZ	**Gediz**	**0.26**	**86**	*e*PG		**Pb**	**00 40 01.0**	**+0.4**
GEDZ	**Gediz**	**0.26**	**86**	*e*Pg		**Pb**	**00 40 01.0**	**+0.4**
DEMI	**Demirci**	**0.28**	**273**	S		**Sg**	**00 40 04.1**	**+1.6**
DEMI	**Demirci**	**0.28**	**273**	*i* P		**Pg**	**00 39 56.4**	**-2.4**
DEMI				*i* S		**Sg**	**00 40 04.1**	**+1.6**
GDZ	**Gediz**	**0.32**	**78**	S		**Sb**	**00 40 07.5**	**+0.1**
GDZ	**Gediz**	**0.32**	**78**	*i* P		**Pg**	**00 39 57.5**	**-1.8**
GDZ				*i* S		**Sb**	**00 40 07.5**	**+0.1**
TVSB	**Tavsanli**	**0.52**	**35**	*e*PG		**Pb**	**00 40 05.4**	**+0.3**
TVSB				*e*SG		**Sg**	**00 40 10.9**	**+1.0**
TVSB	**Tavsanli**	**0.52**	**35**	*e*Pg		**Pb**	**00 40 05.4**	**+0.3**
TVSB				*e*Sg		**Sg**	**00 40 10.9**	**+1.0**
KULA	**Kula-Manisa**	**0.61**	**213**	*e*PG		**Pb**	**00 40 07.8**	**+1.2**
KULA				*e*SG		**Sb**	**00 40 17.0**	**+1.4**
KULA	**Kula-Manisa**	**0.61**	**213**	*e*Pg		**Pb**	**00 40 07.8**	**+1.2**
KULA				*e*Sg		**Sb**	**00 40 17.0**	**+1.4**
MANT	**Manisa**	**0.67**	**218**	S		**Sb**	**00 40 17.7**	**0.0**
MANT	**Manisa**	**0.67**	**218**	*i* P		**Pg**	**00 40 03.9**	**-2.3**
MANT				*i* S		**Sb**	**00 40 17.7**	**0.0**
BALB	**Balikesir**	**1.11**	**304**	*e*PG		**Pb**	**00 40 15.2**	**0.0**
BALB				*e*SG		**Sn**	**00 40 30.4**	**-1.4**
BALB	**Balikesir**	**1.11**	**304**	*e*Pg		**Pb**	**00 40 15.2**	**0.0**
BALB				*e*Sg		**Sn**	**00 40 30.4**	**-1.4**
IZI	**Iznik**	**1.34**	**13**	*e*PN		**Pn**	**00 40 19.2**	**+0.1**
IZI	**Iznik**	**1.34**	**13**	*e*Pn		**Pn**	**00 40 19.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.35**	**354**	*e*PN		**Pb**	**00 40 19.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.35**	**354**	*e*Pn		**Pb**	**00 40 19.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.36**	**336**	*e*PN		**Pg**	**00 40 19.7**	**+0.4**
KCTX	**Karacabey (Bur**	**1.36**	**336**	*e*Pn		**Pg**	**00 40 19.7**	**+0.4**
ADVT	**Abdulvahap**	**1.49**	**20**	*e*PN		**Pn**	**00 40 21.3**	**+0.2**
ADVT	**Abdulvahap**	**1.49**	**20**	*e*Pn		**Pn**	**00 40 21.3**	**+0.2**
EDC	**Edincik**	**1.62**	**325**	*e*PN		**Pb**	**00 40 23.4**	**-0.5**
EDC	**Edincik**	**1.62**	**325**	*e*Pn		**Pb**	**00 40 23.4**	**-0.5**
GULT	**Gulveren**	**1.79**	**38**	*e*PN		**Pn**	**00 40 25.9**	**+0.7**
GULT	**Gulveren**	**1.79**	**38**	*e*Pn		**Pn**	**00 40 25.9**	**+0.7**

*CSEM **28** 00:44:44.2,39°.10N×29°.05E,h11km,MD2.6*

ISK 28 00:44:44.2,39°.10N×29°.05E,h11km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TVSB	**Tavsanli**	**0.47**	**43**	*e*PG		Pb	00 44 54.7	+0.1
TVSB				*e*SG		Sg	00 45 00.3	+0.5
TVSB	**Tavsanli**	**0.47**	**43**	*e*Pg		Pb	00 44 54.7	+0.1
TVSB				*e*Sg		Sg	00 45 00.3	+0.5
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG		Pb	00 44 57.6	-0.1
KULA				*e*SG		Sb	00 45 06.6	-0.4
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg		Pb	00 44 57.7	-0.1
KULA				*e*Sg		Sb	00 45 06.6	-0.4
IZI	**Iznik**	**1.27**	**15**	*e*PN		Pg	00 45 08.6	-0.2
IZI	**Iznik**	**1.27**	**15**	*e*Pn		Pg	00 45 08.6	-0.1
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN		Pg	00 45 08.8	+0.1
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn		Pg	00 45 08.8	+0.1

DDA 28 00:45:15.9,39°.07N×29°.05E,h7km,Md2.3,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**264**	*i* P		Pg	00 45 21.9	+0.7
DEMI				*i* S		Sg	00 45 25.4	+0.8
GDZ	**Gediz**	**0.34**	**87**	*i* P		Pg	00 45 22.5	0.0
GDZ				*i* S		Sg	00 45 28.2	+1.2
MANT	**Manisa**	**0.70**

s-min=5.0km az=44.3
*JMA **28** 00:57:34.0±0.4, 34°.63N×141°.96E, h40km±4km, M3.9*
*NEIC **28** 00:57:36.6±2.0, 34°.65N×141°.83E, h23km±14km, mb4.6/11, Error ellipse: s-maj=7.5km s-min=5.8km az=64.0*

ISC 28 00:57:36.2±0.6, 34.70N±0°.06×141.84E±0°.06, h21km, n76, σ1s36/76, mb4.1/30, 3C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.71**	**266**	⇑P	**Pb**	**00 57 49.1**	**-0.6**
BSO3	**Boso 3**	**1.10**	**275**	⇑P	**Pn**	**00 57 55.5**	**-0.7**
BSO4	**Boso 4**	**1.27**	**283**	⇑P	**Pn**	**00 57 57.8**	**-0.9**
CHOJ	**Chosi**	**1.28**	**321**	P	**Pn**	**00 57 57.8**	**-1.1**
JCN	**Nagara**	**1.52**	**298**	P	**Pn**	**00 58 02.2**	**0.0**
JHJ2	**Mitsune**	**2.32**	**227**	P	**Pn**	**00 58 12.3**	**-0.8**
JHJ2	**Mitsune**	**2.32**	**227**	*e*Pn	**Pn**	**00 58 12.4**	**-0.7**
JHJ2				*e*Sn	**Sn**	**00 58 41.0**	**0.0**
JOD2	**Odawara 2**	**2.33**	**285**	P	**Pn**	**00 58 12.0**	**-1.3**
JHJ	**Hachijo jima 2**	**2.33**	**228**	Pn	**Pn**	**00 58 12.2**	**-1.1**
	47nm,0.3s,baz=321,slow=21,SNR=28						
JHJ				Sn	**Sn**	**00 58 40.4**	**-0.9**
	144nm,0.3s,baz=66,slow=19,SNR=10						
MJAR	**Matsushiro Arr**	**3.48**	**303**	Pn	**Pn**	**00 58 28.7**	**-0.5**
	15nm,0.3s,baz=103,slow=15,SNR=58						
MJAR				Sn	**Sn**	**00 59 09.3**	**-0.5**
	3.8nm,0.3s,baz=10.0,slow=22,SNR=8.4						
MAJO	**Matsushiro**	**3.48**	**303**	*e*Pn	**Pn**	**00 58 29.5**	**+0.2**
MAT	**Matsushiro**	**3.48**	**303**	P	**Pn**	**00 58 28.8**	**-0.4**
MAT				S	**Sn**	**00 59 08.3**	**-1.5**
MJB9	**Matsu-Tunnel**	**3.49**	**303**	*e*Pn	**Pn**	**00 58 29.5**	**+0.2**
INU	**Inuyama**	**4.01**	**281**	*e*Pn	**Pn**	**00 58 37.7**	**+1.3**
ERM	**Erimo**	**7.37**	**8**	*e*Pn	**Pn**	**00 59 20.1**	**-2.5**
ERM				*e*Sn	**Sn**	**01 00 39.4**	**-6.1**
CBIJ	**Chichi jima**	**7.59**	**178**	*e*Pn	**Pn**	**00 59 24.4**	**-1.3**
JNU	**Nakatsue**	**9.25**	**263**	Pn	**Pn**	**00 59 49.4**	**+1.0**
	0.6nm,0.3s,baz=106,slow=13,SNR=3.6						
JNU				LR	LR	01 03 07.2	
	comp=Z,168nm,19.1s,baz=300,slow=36						
ASAJ	**Asahikawa**	**9.42**	**3**	*e*Pn	**Pn**	**00 59 48.6**	**-2.0**
ASAJ				*e*Sn	**Sn**	**01 01 42.0**	**+6.2**
KSRS	**Korea Array**	**11.59**	**288**	Pn	**Pn**	**01 00 22.5**	**+2.1**
	0.3nm,0.3s,baz=99,slow=15,SNR=8.2						
KSRS				LR	LR	01 05 11.0	
	comp=Z,129nm,18.8s,baz=330,slow=40						
KSAR	**Wonju Array Be**	**11.62**	**288**	Pn	**Pn**	**01 00 22.5**	**+1.7**
USRK	**Ussuriysk Ar.**	**12.15**	**324**	Pn	**Pn**	**01 00 27.7**	**-0.4**
	0.1nm,0.3s,baz=130,slow=5.2,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**26.71**	**117**	T	T	01 31 20.6	
	baz=309,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**26.72**	**117**	T	T	01 31 23.5	
	baz=309,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**26.73**	**117**	T	T	01 31 30.0	
	baz=309,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**27.35**	**120**	T	T	01 32 17.4	
	baz=312,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.35**	**120**	T	T	01 32 17.5	
	baz=312,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**27.37**	**120**	T	T	01 32 18.9	
	baz=312,slow=76,SNR=13						
SONA1	**Songino Array**	**29.42**	**307**	*e*P	**P**	**01 03 39.0**	**+0.7**
SONA0	**Songino Array**	**29.42**	**307**	*e*P	**P**	**01 03 38.9**	**+0.5**
	3.0nm,0.8s						
SONM	**Songino Array**	**29.42**	**307**	P	**P**	**01 03 38.9**	**+0.5**
	2.0nm,0.9s,baz=107,slow=9.8,SNR=10.0						
GAMB	**Gambell**	**40.54**	**30**	*e*P	**P**	**01 05 12.4**	**-1.2**
	152nm,1.8s						
CM31	**Chiang Mai Arr**	**41.30**	**258**	*e*P	**P**	**01 05 19.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**41.30**	**258**	P	**P**	**01 05 19.0**	**-1.4**
	0.9nm,0.4s,baz=42,slow=8.6,SNR=5.5						
ZAA0	**Zalesovo Array**	**43.76**	**314**	*e*P	**P**	**01 05 40.4**	**+0.4**
ZAA1	**Zalesovo Array**	**43.76**	**314**	*e*P	**P**	**01 05 39.8**	**-0.2**
ZALV	**Zalesovo Beam**	**43.76**	**314**	P	**P**	**01 05 39.8**	**-0.2**
	1.0nm,0.4s,baz=100,slow=6.8,SNR=6.4						
MK01	**Makanchi Array**	**45.68**	**304**	*e*P	**P**	**01 05 55.1**	**-0.3**
MK31	**Makanchi Array**	**45.68**	**304**	*e*P	**P**	**01 05 55.6**	**+0.2**
MK32	**Makanchi Array**	**45.68**	**304**	*e*P	**P**	**01 05 55.2**	**-0.2**
MKAR	**Makanchi Array**	**45.68**	**304**	P	**P**	**01 05 55.2**	**-0.2**
	2.0nm,0.6s,baz=91,slow=9.0,SNR=7.3						
MKAR				LR	LR	01 26 18.2	
	comp=Z,173nm,18.8s,baz=307,slow=38						
MKAR	**Makanchi Array**	**45.68**	**304**	*e*P	**P**	**01 05 55.7**	**+0.2**
MAKZ	**Makanchi**	**45.89**	**304**	*e*P	**P**	**01 05 57.3**	**+0.1**
	2.5nm,0.6s						
KURK	**Kurchatov**	**47.67**	**310**	*e*P	**P**	**01 06 10.1**	**-0.8**
	42nm,0.7s						
KURBB	**Kurchatov Arra**	**47.73**	**310**	P	**P**	**01 06 11.0**	**-0.4**
	9.5nm,0.8s,baz=86,slow=8.2,SNR=19						
SEW	**Seward**	**50.18**	**37**	*e*P	**P**	**01 06 28.9**	**-1.1**
	19nm,1.0s						
TKM2	**Tokmak 2**	**51.07**	**300**	*e*P	**P**	**01 06 39.1**	**+1.8**
	3.1nm,0.6s						
IL1	**Eielson Array**	**51.28**	**31**	*e*P	**P**	**01 06 39.5**	**+1.2**
ILAR	**Eielson Array**	**51.28**	**31**	P	**P**	**01 06 39.2**	**+0.9**
	2.8nm,0.9s,baz=272,slow=6.5,SNR=21						
ILB	**Eielson Array**	**51.28**	**31**	*e*P	**P**	**01 06 39.2**	**+0.9**
VOSK	**Vostochnaya**	**52.11**	**313**	*e*P	**P**	**01 06 44.7**	**0.0**
	2.8nm,0.8s						
BVAR	**Borovoye Array**	**52.41**	**314**	P	**P**	**01 06 46.3**	**-0.6**
	2.0nm,0.9s,baz=179,slow=16,SNR=6.5						
ZRNK	**Zerenda**	**53.25**	**314**	*e*P	**P**	**01 06 53.4**	**+0.3**
	3.0nm,0.8s						
KKAR	**Karatay Array**	**54.62**	**302**	*e*P	**P**	**01 07 04.0**	**+0.8**
WR1	**Warramunga Arr**	**54.81**	**189**	*e*P	**P**	**01 07 04.1**	**-0.7**
	36nm,1.8s						
WRA	**Warramunga Arr**	**54.81**	**189**	P	**P**	**01 07 04.1**	**-0.7**
	3.7nm,0.9s,baz=5.1,slow=7.6,SNR=23						
AS31	**Alice Springs**	**58.54**	**189**	*e*P	**P**	**01 07 31.2**	**0.0**
	1.9nm,1.0s						
ASAR	**Alice Springs**	**58.54**	**189**	P	**P**	**01 07 31.2**	**0.0**
	1.1nm,0.8s,baz=9.8,slow=7.8,SNR=8.1						
ABKAR	**Akbulak array**	**59.72**	**311**	*e*P	**P**	**01 07 39.1**	**-0.1**
AKTO	**Aktyubinsk**	**60.50**	**313**	P	**P**	**01 07 46.1**	**+1.6**
	1.0nm,0.6s,baz=90,slow=10,SNR=3.5						
GEYT	**Alibeck**	**65.28**	**300**	P	**P**	**01 08 16.5**	**-0.2**
	1.0nm,0.6s,baz=160,slow=4.6,SNR=3.5						
YKA	**Yellowknife Ar**	**65.65**	**30**	P	**P**	**01 08 18.5**	**0.0**
	0.6nm,0.7s,baz=304,slow=5.3,SNR=3.0						
YKB5	**Yellowknife Ar**	**65.65**	**30**	*e*P	**P**	**01 08 18.5**	**0.0**
FIA0	**FINESS Array S**	**71.04**	**333**	*e*P	**P**	**01 08 51.7**	**-0.5**
FINES	**FINESS Array B**	**71.04**	**333**	P	**P**	**01 08 51.7**	**-0.5**
	0.5nm,0.7s,baz=46,slow=8.0,SNR=2.5						
HFS	**Hagfors**	**76.35**	**336**	P	**P**	**01 09 23.5**	**0.0**
	0.8nm,0.8s,baz=203,slow=30,SNR=3.2						
AKASG	**Malin Array Be**	**76.36**	**323**	P	**P**	**01 09 24.1**	**+0.5**
	0.3nm,0.3s,baz=49,slow=6.4,SNR=2.9						
AKBB	**Malin Array Si**	**76.36**	**323**	*e*P	**P**	**01 09 24.1**	**+0.5**
	7.2nm,0.7s						
NB2	**NORSAR Subarra**	**76.47**	**338**	P	**P**	**01 09 24.3**	**+0.1**
	comp=Z,3.3nm,1.2s,baz=41,slow=5.9						
NB200	**NORSAR Array S**	**76.47**	**338**	*e*P	**P**	**01 09 24.6**	**+0.4**
NOA	**NORSAR Array B**	**76.47**	**338**	P	**P**	**01 09 24.6**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=43,slow=5.5,SNR=4.0						
NOA				LR	LR	01 47 00.4	
	comp=Z,52nm,21.0s,baz=195,slow=39						
PD31	**Pinedale Array**	**79.05**	**45**	*e*P	**P**	**01 09 40.4**	**+1.2**
PDAR	**Pinedale Array**	**79.05**	**45**	P	**P**	**01 09 40.4**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=325,slow=4.6,SNR=3.0						
GERES	**GERESS Array B**	**84.87**	**329**	P	**P**	**01 10 09.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=36,slow=5.2,SNR=4.4						
LTX	**Lajitas**	**91.26**	**53**	*e*P	**P**	**01 10 41.4**	**+1.0**
TXAR	**Lajitas Array**	**91.26**	**53**	P	**P**	**01 10 41.4**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=305,slow=3.2,SNR=6.4						
LPAZ	**La Paz**	**147.50**	**63**	PKPbc	**PKPab**	**01 17 21.1**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=342,slow=3.2,SNR=4.4						

*IDC **28** 01:00:44.5±6.1, 34°.51N×25°.02E, h34km±26km, mb3.5/5, mb1 3.4/9, mb1mx3.2/45, mbtmp3.4/9, ML3.5/4, Error ellipse: s-maj=65.3km s-min=26.8km az=38.0*
*ATH **28** 01:00:46.3, 34°.65N×25°.28E, h29km±1km, ML3.0/8, Error ellipse: s-maj=2.8km s-min=1.0km az=3.0*
*CSEM **28** 01:00:46.3, 34°.65N×25°.28E, h29km, ML3.0/10*
*ISCJB **28** 01:00:47.3±0.9, 34°.67N±0°.08×25°.31E±0°.04, h50km±7km, mb3.5/5, Error ellipse: s-maj=12.7km s-min=5.6km az=178.7*

ISC 28 01:00:46.3±1.5, 34°61N±0°.07×25°29E±0°.03, h30km±10km, n47, σ1s37/64, mb3.5/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.57**	**316**	P	**Pb**	**01 00 56.9**	**-0.9**
SIVA				S	**Sb**	**01 01 05.8**	**+0.1**
SIVA	**Sivas**	**0.57**	**316**	P	**Pb**	**01 00 56.9**	**-0.9**
SIVA				S	**Sb**	**01 01 05.8**	**+0.1**
SIVA				AML	AML	01 01 09.7	
	comp=E,10062μm,0.3s						
SIVA				AML	AML	01 01 10.9	
	comp=N,6191μm,0.3s						
LAST	**Lasithi**	**0.57**	**16**	P	**Pb**	**01 00 57.6**	**-0.4**
LAST				S	**Sn**	**01 01 06.8**	**-0.1**
LAST	**Lasithi**	**0.57**	**16**	P	**Pb**	**01 00 57.6**	**-0.4**
NPS	**Neapolis**	**0.70**	**22**	P	**Pb**	**01 01 00.0**	**-0.1**
NPS				S	**Sb**	**01 01 09.6**	**+0.1**
NPS	**Neapolis**	**0.70**	**22**	P	**Pb**	**01 00 60.0**	**-0.1**
NPS				S	**Sb**	**01 01 09.6**	**+0.1**
NPS				AML	AML	01 01 14.4	
	comp=N,887μm,0.3s						
NPS				AML	AML	01 01 15.2	
	comp=E,1430μm,0.6s						
IACM	**Heraklion**	**0.72**	**346**	P	**Pb**	**01 01 00.8**	**+0.5**
IACM				S	**Sb**	**01 01 09.7**	**-0.2**
IACM	**Heraklion**	**0.72**	**346**	P	**Pb**	**01 01 00.8**	**+0.5**
IACM				S	**Sb**	**01 01 09.7**	**-0.2**
IACM				AML	AML	01 01 23.9	
	comp=E,8859μm,0.9s						
IACM				AML	AML	01 01 24.9	
	comp=N,7547μm,0.4s						
IDI	**Anoyia**	**0.75**	**334**	Pg	**Pb**	**01 01 00.3**	**-0.7**
IDI				Lg	Lg	01 01 10.9	
	comp=N,70nm,0.3s,baz=247,slow=22,SNR=8.3						
IDI	**Anoyia**	**0.75**	**334**	P	**Pb**	**01 00 59.9**	**-1.1**
IDI				S	**Sb**	**01 01 10.5**	**-0.5**
IDI	**Anoyia**	**0.75**	**334**	P	**Pb**	**01 00 59.9**	**-1.1**
IDI				S	**Sb**	**01 01 10.5**	**-0.5**
IDI				AML	AML	01 01 14.0	
	comp=N,1217μm,0.4s						
IDI				AML	AML	01 01 17.0	
	comp=E,1448μm,0.3s						
ZKR	**Zakros**	**0.91**	**56**	P	**Pn**	**01 01 04.0**	**+0.9**
ZKR				S	**Sn**	**01 01 17.9**	**+2.7**
ZKR	**Zakros**	**0.91**	**56**	P	**Pn**	**01 01 04.0**	**+0.9**
ZKR				S	**Sn**	**01 01 17.9**	**+2.7**
ZKR				AML	AML	01 01 23.7	
	comp=N,899μm,0.5s						
ZKR				AML	AML	01 01 25.1	
	comp=E,1182μm,0.4s						
GVD	**Gavdhos**	**1.02**	**283**	P	**Pn**	**01 01 05.7**	**+1.2**
GVD				S	**Sn**	**01 01 20.1**	**+2.3**
GVD	**Gavdhos**	**1.02**	**283**	P	**Pn**	**01 01 05.7**	**+1.2**
GVD				S	**Sn**	**01 01 20.1**	**+2.3**
GVD				AML	AML	01 01 26.3	
	comp=E,2826μm,0.7s						
GVD				AML	AML	01 01 28.3	
	comp=N,1998μm,0.4s						
VAM	**Vamos**	**1.20**	**312**	P	**Pb**	**01 01 08.8**	**+0.4**
VAM				S	**Sb**	**01 01 24.8**	**+1.3**
IMMV	**Iera Moni Meta**	**1.37**	**309**	P	**Pb**	**01 01 11.9**	**+0.6**
IMMV	**Iera Moni Meta**	**1.37**	**309**	P	**Pb**	**01 01 11.9**	**+0.6**
IMMV				AML	AML	01 01 40.8	
	comp=N,874μm,0.7s						
IMMV				AML	AML	01 01 42.2	
	comp=E,948μm,0.4s						
SAP1	**Santorini-Akro**	**1.75**	**3**	P	**Pn**	**01 01 16.2**	**+1.7**
SAP1	**Santorini-Akro**	**1.75**	**3**	P	**Pn**	**01 01 16.2**	**+1.7**
KARP	**Karpathos**	**1.80**	**58**	P	**Pn**	**01 01 17.5**	**+2.2**
KARP	**Karpathos**	**1.80**	**58**	P	**Pn**	**01 01 17.5**	**+2.2**
ANKY	**Antikythira Is**	**2.06**	**308**	P	**Pb**	**01 01 22.0**	**-0.9**
ANKY	**Antikythira Is**	**2.06**	**308**	P	**Pb**	**01 01 22.0**	**-0.9**
MHLO	**Agia Marina, M**	**2.20**	**341**	P	**Pn**	**01 01 21.8**	**+1.1**
MHLO				S	**Sb**	**01 01 50.0**	**-2.2**
MHLO	**Agia Marina, M**	**2.20**	**341**	P	**Pn**	**01 01 21.8**	**+1.1**
MHLO				AML	AML	01 01 28.6	
	comp=E,828μm,1.2s						
MHLO				S	**Sb**	**01 01 50.0**	**-2.2**
MHLO				AML	AML	01 02 04.7	
	comp=N,728μm,0.9s						
APE	**Apeiranthos**	**2.46**	**4**	P	**Pn**	**01 01 25.0**	**+0.6**
APE	**Apeiranthos**	**2.46**	**4**	P	**Pn**	**01 01 24.9**	**+0.6**
ARG	**Arkhangelos**	**2.82**	**55**	P	**Pn**	**01 01 31.5**	**+2.3**
VLI	**Veliai**	**2.85**	**318**	P	**Pn**	**01 01 30.4**	**+0.8**
VLI	**Veliai**	**2.85**	**318**	P	**Pn**	**01 01 30.4**	**+0.8**
VLX	**Vlachokerasia**	**3.63**	**320**	P	**Pn**	**01 01 42.3**	**+1.8**
VLX	**Vlachokerasia**	**3.63**	**320**	P	**Pn**	**01 01 42.3**	**+1.8**
ITM	**Ithomi**	**3.75**	**314**	P	**Pn**	**01 01 43.3**	**+1.3**
ITM	**Ithomi**	**3.75**	**314**	P	**Pn**	**01 01 43.3**	**+1.3**
KSL	**Kastellorizon**	**3.83**	**65**	P	**Pn**	**01 01 44.6**	**+1.5**
KLV	**Kalavryta, Ach**	**4.26**	**324**	P	**Pn**	**01 01 50.5**	**+1.3**
KLV	**Kalavryta, Ach**	**4.26**	**324**	P	**Pn**	**01 01 50.5**	**+1.3**
BRTR	**Keskin Array B**	**8.39**	**50**	Pn	**Pn**	**01 02 47.5**	**+1.6**
	comp=N,0.1nm,0.3s,baz=215,slow=14,SNR=3.3						
MMAI	**Mount Meron Ar**	**8.56**	**98**	Pn	**Pn**	**01 02 47.7**	**-0.6**
	comp=N,0.5nm,0.3s,baz=299,slow=15,SNR=3.7						
MMAI				Sn	**Sn**	**01 04 21.2**	**-2.7**
	comp=N,1.3nm,0.3s,baz=257,slow=22,SNR=6.0						
AKASG	**Malin Array Be**	**16.34**	**9**	Pn	**Pn**	**01 04 34.0**	**+0.7**
	comp=N,1.0nm,0.3s,baz=199,slow=10,SNR=4.2						
GERES	**GERESS Array B**	**16.62**	**332**	Pn	**Pn**	**01 04 36.5**	**-0.5**
	comp=N,0.1nm,0.3s,baz=138,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**26.86**	**1**	P	**P**	**01 06 21.2**	**-2.7**
	comp=N,1.3nm,1.0s,baz=169,slow=11,SNR=5.1						
ARCES	**ARCESS Array B**	**34.98**	**0**	P	**P**	**01 07 33.1**	**-2.3**
	comp=N,1.2nm,0.8s,baz=152,slow=7.9,SNR=3.4						
KURBB	**Kurchatov Arra**	**41.38**	**51**	P	**P**	**01 08 29.5**	**0.0**
	comp=N,0.5nm,0.6s,baz=270,slow=8.6,SNR=4.5						
MKAR	**Makanchi Array**	**43.99**	**56**	P	**P**	**01 08 51.1**	**+0.3**
	comp=N,0.3nm,0.5s,baz=270,slow=4.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**45.31**	**46**	P	**P**	**01 09 01.4**	**+0.3**
	comp=N,0.4nm,0.4s,baz=283,slow=9.7,SNR=2.3						

*ISCJB **28** 01:02:25.9±0.4, 39°.09N±0°.03×29°.01E±0°.03, h6km±6km, Error ellipse: s-maj=5.6km s-min=3.7km az=165.1*
*DDA **28** 01:02:25.7, 39°.08N×29°.02E, h9km, Md2.7*
*ISK **28** 01:02:25.7, 39°.11N×29°.01E, h7km, MD2.8*
*CSEM **28** 01:02:26.0±0.1, 39°.09N×29°.02E, h5km, MD2.7, Error ellipse: s-maj=2.7km s-min=2.2km az=146.0*

ISC 28 01:02:26.0±0.9, 39.09N±0°.02×29.02E±0°.02, h10km±9km, n35, σ0s43/48, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**259**	P	**Pg**	**01 02 30.8**	**-0.2**
DEMI				S	**Sg**	**01 02 34.3**	**0.0**
DEMI	**Demirci**	**0.24**	**259**	*i* P	**Pg**	**01 02 30.8**	**-0.2**
DEMI				*i* S	**Sg**	**01 02 34.4**	**0.0**
GEDZ	**Gediz**	**0.31**	**98**	*e*PG	**Pg**	**01 02 32.7**	**+0.4**
GEDZ				*e*SG	**Sb**	**01 02 37.7**	**-1.1**
GDZ	**Gediz**	**0.36**	**90**	P	**Pg**	**01 02 33.1**	**-0.2**
GDZ				S	**Sg**	**01 02 38.2**	**+0.1**
GDZ	**Gediz**	**0.36**	**90**	*i* P	**Pg**	**01 02 33.1**	**-0.2**
GDZ				*i* S	**Sg**	**01 02 38.2**	**+0.1**
TVSB	**Tavsanli**	**0.50**	**44**	*e*PG	**Pg**	**01 02 35.1**	**-0.7**
TVSB				*e*SG	**Sg**	**01 02 42.9**	**+0.5**
TVSB	**Tavsanli**	**0.50**	**44**	*e*Pg	**Pg**	**01 02 35.1**	**-0.7**
TVSB				*e*Sg	**Sg**	**01 02 42.9**	**+0.5**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*PG	**Pg**	**01 02 38.5**	**+0.1**
KULA				*e*SG	**Sb**	**01 02 48.0**	**-0.2**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*Pg	**Pg**	**01 02 38.5**	**+0.1**
KULA				*e*Sg	**Sb**	**01 02 48.0**	**-0.2**
MANT	**Manisa**	**0.70**	**211**	P	**Pg**	**01 02 38.7**	**-0.8**
MANT				S	**Sg**	**01 02 48.4**	**-0.3**
MANT	**Manisa**	**0.70**	**211**	*i* P	**Pg**	**01 02 38.7**	**-0.8**
MANT				*i* S	**Sg**	**01 02 48.4**	**-0.3**
KHL	**Karahalli**	**0.86**	**152**	*e*PG	**Pb**	**01 02 43.1**	**0.0**
KHL	**Karahalli**	**0.86**	**152**	*e*Pg	**Pb**	**01 02 43.1**	**0.0**
AKS	**Akhisar**	**0.96**	**258**	*e*PG	**Pb**	**01 02 45.1**	**+0.3**
AKS	**Akhisar**	**0.96**	**258**	*e*Pg	**Pb**	**01 02 45.1**	**+0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pn**	**01 02 46.5**	**-0.1**
BALB				*e*SG	**Sb**	**01 03 00.4**	**+0.7**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pn**	**01 02 46.5**	**-0.1**
BALB				*e*Sg	**Sb**	**01 03 00.4**	**+0.7**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*PG	**Pg**	**01 02 50.3**	**-0.4**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*Pn	**Pg**	**01 02 50.3**	**-0.4**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*PN	**Pg**	**01 02 50.5**	**-0.2**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*Pn	**Pg**	**01 02 50.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pg**	**01 02 50.2**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pg**	**01 02 50.3**	**-0.4**
IZI	**Iznik**	**1.30**	**16**	*e*PN	**Pg**	**01 02 50.5**	**-0.4**
IZI	**Iznik**	**1.30**	**16**	*e*Pn	**Pg**	**01 02 50.5**	**-0.4**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*PN	**Pb**	**01 02 52.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*Pn	**Pb**	**01 02 52.3**	**0.0**
ESKT	**Eskisehir**	**1.49**	**73**	*e*PN	**Pb**	**01 02 53.5**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**73**	*e*Pn	**Pb**	**01 02 53.6**	**-0.2**
EDC	**Edincik**	**1.54**	**325**	*e*PN	**Pb**	**01 02 54.3**	**-0.3**
EDC	**Edincik**	**1.54**	**325**	*e*Pn	**Pb**	**01 02 54.3**	**-0.3**
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pn**	**01 02 57.3**	**+0.5**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pn**	**01 02 57.3**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*PN	**Pn**	**01 03 00.2**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*Pn	**Pn**	**01 03 00.2**	**+0.6**

*CSEM **28** 01:05:02.7±0.1, 39°.09N×29°.02E, h2km, ML3.0, Error ellipse: s-maj=2.8km s-min=2.3km az=157.0*
*DDA **28** 01:05:02.1, 39°.10N×29°.02E, h7km, Ml3.0*
*ISK **28** 01:05:02.1, 39°.10N×29°.00E, h3km, MD2.9*

ISC 28 01:05:02.6±1.0, 39.10N±0°.02×29.03E±0°.02, h9km±8km, n63, σ0s71/75, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**257**	P	**Pg**	**01 05 07.7**	**+0.1**
DEMI				S	**Sg**	**01 05 11.2**	**+0.2**
DEMI	**Demirci**	**0.25**	**257**	*i* P	**Pg**	**01 05 07.7**	**+0.1**
DEMI				*i* S	**Sg**	**01 05 11.2**	**+0.2**
GEDZ	**Gediz**	**0.30**	**101**	*e*PG	**Pb**	**01 05 09.3**	**-1.0**
GEDZ	**Gediz**	**0.30**	**101**	*e*Pg	**Pb**	**01 05 09.3**	**-1.0**
GDZ	**Gediz**	**0.35**	**92**	P	**Pg**	**01 05 09.5**	**-0.1**
GDZ				S	**Sg**	**01 05 14.8**	**+0.5**
GDZ	**Gediz**	**0.35**	**92**	*i* P	**Pg**	**01 05 09.5**	**-0.1**
GDZ				*i* S	**Sg**	**01 05 14.8**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**44**	*e*PG	**Pg**	**01 05 11.7**	**-0.4**
TVSB	**Tavsanli**	**0.49**	**44**	*e*Pg	**Pg**	**01 05 11.7**	**-0.4**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*PG	**Pg**	**01 05 15.2**	**0.0**
KULA				*e*SG	**Sb**	**01 05 24.7**	**-0.8**
KULA	**Kula-Manisa**	**0.65**	**206**	*e*Pg	**Pg**	**01 05 15.2**	**0.0**
KULA				*e*Sg	**Sb**	**01 05 24.7**	**-0.8**
MANT	**Manisa**	**0.71**	**211**	P	**Pg**	**01 05 15.6**	**-0.7**
MANT	**Manisa**	**0.71**	**211**	*i* P	**Pg**	**01 05 15.6**	**-0.7**
KHL	**Karahalli**	**0.87**	**153**	*e*PG	**Pb**	**01 05 19.8**	**-0.1**
KHL	**Karahalli**	**0.87**	**153**	*e*Pg	**Pb**	**01 05 19.8**	**-0.1**
AKS	**Akhisar**	**0.97**	**257**	*e*PG	**Pb**	**01 05 21.2**	**-0.4**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg	**Pb**	**01 05 21.2**	**-0.4**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pb**	**01 05 22.7**	**-0.1**
BALB				*e*SG	**Sn**	**01 05 37.7**	**-0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pb**	**01 05 22.7**	**-0.1**
BALB				*e*Sg	**Sn**	**01 05 37.7**	**-0.3**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pg**	**01 05 23.4**	**-1.7**
IGD				*i* S	**Sn**	**01 05 41.4**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN	**Pn**	**01 05 27.0**	**+0.4**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn	**Pn**	**01 05 27.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pn**	**01 05 27.4**	**+0.8**
MDNY

DEMI	**Demirci**	**0.23**	**271**	*i* P		**Pb**	**01 15 42.8**	**+0.3**
DEMI				*i* S		**Sg**	**01 15 46.2**	**+1.1**
GEDZ	**Gediz**	**0.32**	**89**	*e*PG		**Pg**	**01 15 42.8**	**-0.4**
GEDZ	**Gediz**	**0.32**	**89**	*e*Pg		**Pg**	**01 15 42.8**	**-0.4**
GDZ	**Gediz**	**0.37**	**82**	P		**Pg**	**01 15 44.0**	**-0.2**
GDZ				S		**Sg**	**01 15 48.6**	**-0.9**
GDZ	**Gediz**	**0.37**	**82**	*i* P		**Pg**	**01 15 44.0**	**-0.2**
GDZ				*i* S		**Sg**	**01 15 48.6**	**-0.9**
TVSB	**Tavsanli**	**0.54**	**41**	*e*PG		**Pg**	**01 15 47.1**	**-0.3**
TVSB				*e*SG		**Sg**	**01 15 54.3**	**-0.3**
TVSB	**Tavsanli**	**0.54**	**41**	*e*Pg		**Pg**	**01 15 47.1**	**-0.3**
TVSB				*e*Sg		**Sg**	**01 15 54.3**	**-0.3**
KULA	**Kula-Manisa**	**0.59**	**207**	*e*PG		**Pb**	**01 15 49.9**	**+1.2**
KULA				*e*SG		**Sb**	**01 15 59.0**	**+2.2**
KULA	**Kula-Manisa**	**0.59**	**207**	*e*Pg		**Pb**	**01 15 49.9**	**+1.2**
KULA				*e*Sg		**Sb**	**01 15 59.0**	**+2.2**
MANT	**Manisa**	**0.65**	**213**	P		**Pg**	**01 15 47.4**	**-2.0**
MANT				S		**Sb**	**01 15 58.7**	**0.0**
MANT	**Manisa**	**0.65**	**213**	*i* P		**Pg**	**01 15 47.4**	**-2.0**
MANT				*i* S		**Sb**	**01 15 58.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**338**	*e*PN		**Pn**	**01 15 59.8**	**-0.8**
KCTX	**Karacabey (Bur**	**1.32**	**338**	*e*Pn		**Pn**	**01 15 59.8**	**-0.8**

*ISCJB **28** 01:18:00.9±0.5,51°.83N±0°.07×171°.61W±0°.04, h44km, mb4.2/22, MS3.4/3, Error ellipse: s-maj=9.7km s-min=3.1km az=166.9*
*NEIC **28** 01:18:01.4,51°.93N×171°.57W,h56km, mb4.1/22, ML4.0(AEIC), After AEIC.*
*IDC **28** 01:18:09.4±6.7,52°.09N×171°.73W,h105km±59km, mb3.6/15, mb1 3.8/16, mb1mx3.6/46, mbtmp3.9/16, MS3.2/3, Ms1 3.1/3, ms1mx2.8/54, Error ellipse: s-maj=24.0km s-min=15.9km az=6.0*

ISC 28 01:18:02.2±0.7, 51°.84N±0°.10×171°.60W±0°.04, h44km, n80, σ1s60/79, mb4.0/22, MS3.7/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.60**	**287**	P	**Pn**	**01 18 27.8**	**-0.2**
KONE	**Korovin Northe**	**1.65**	**290**	P	**Pn**	**01 18 28.8**	**+0.2**
KONE				S	**Sn**	**01 18 49.3**	**+0.6**
KOKV	**Korovin Volcan**	**1.67**	**289**	P	**Pn**	**01 18 29.4**	**+0.5**
KOKV				S	**Sn**	**01 18 49.8**	**+0.7**
KOKL	**Mount Kliuchef**	**1.68**	**288**	P	**Pn**	**01 18 28.8**	**-0.3**
NIKH	**Nikolski High**	**2.03**	**55**	P	**Pn**	**01 18 32.9**	**-0.9**
NIKH				S	**Sn**	**01 18 56.6**	**-1.3**
OKWE	**Okmok W'ng Wal**	**2.62**	**50**	P	**Pn**	**01 18 41.7**	**-0.2**
OKAK	**Okmok**	**2.63**	**47**	P	**Pn**	**01 18 40.0**	**-2.1**
GSMY	**Great Sitkin M**	**2.77**	**276**	P	**Pn**	**01 18 44.1**	**+0.1**
GSTR	**Great Sitkin T**	**2.77**	**277**	*e*Pn	**Pn**	**01 18 43.3**	**-0.8**
GSTR				*e*Sn	**Sn**	**01 19 14.9**	**-1.3**
GSTD	**Great Sitkin T**	**2.82**	**276**	P	**Pn**	**01 18 45.2**	**+0.4**
GSCK	**Great Sitkin C**	**2.83**	**275**	P	**Pn**	**01 18 45.3**	**+0.4**
ETKA	**Kagalaska Isla**	**2.98**	**272**	P	**Pn**	**01 18 47.6**	**+0.7**
ADAG	**Mount Adagdak**	**3.10**	**274**	P	**Pn**	**01 18 49.6**	**+1.0**
UNV	**Unalaska Valle**	**3.68**	**55**	P	**Pn**	**01 18 57.3**	**+0.8**
UNV				S	**Sn**	**01 19 39.0**	**+0.4**
AKUT	**Akutan**	**4.20**	**55**	P	**Pn**	**01 19 04.9**	**+1.3**
SPIA	**Saint Paul Isl**	**5.40**	**8**	P	**Pn**	**01 19 20.3**	**+0.2**
SDPT	**Sand Point**	**7.49**	**58**	*e*Pn	**Pn**	**01 19 51.4**	**+2.7**
CHGN	**Chignik**	**8.94**	**55**	*e*Pn	**Pn**	**01 20 04.5**	**-4.0**
SVW2	**Sparrevohn**	**12.78**	**37**	*e*Pn	**Pn**	**01 21 05.7**	**+4.6**
SVW2				*e*Sn	**Sn**	**01 23 25.0**	**+3.3**
RSO	**Redoubt South**	**13.55**	**43**	*e*Pn	**P**	**01 21 17.6**	**-2.2**
SEW	**Seward**	**14.84**	**48**	*e*Pn	**Pn**	**01 21 26.1**	**-2.7**
KTH	**Kantishna Hill** 8.4nm,0.9s	**16.02**	**35**	*e*Pn	**P**	**01 21 47.2**	**+0.2**
TRF	**Thorofare Moun** 35nm,1.8s	**16.18**	**36**	*e*Pn	**P**	**01 21 47.8**	**-1.2**
BPAW	**Bear Paw Mtn.** 7.2nm,1.0s	**16.34**	**33**	*e*Pn	**P**	**01 21 50.1**	**-0.4**
SCM	**Sheep Creek Mo** 14nm,0.7s	**16.52**	**43**	*e*Pn	**P**	**01 21 52.5**	**0.0**
RND	**Reindeer** 8.9nm,1.0s	**16.69**	**37**	*e*Pn	**P**	**01 21 55.4**	**+1.0**
KLU	**Klutina** 5.8nm,0.8s	**16.98**	**45**	*e*Pn	**Pn**	**01 21 55.5**	**-0.9**
WRH	**Wood River Hil** 5.8nm,1.2s	**17.57**	**35**	*e*Pn	**P**	**01 22 05.0**	**+1.0**
CCB	**Clear Creek Bu** 4.4nm,1.1s	**17.77**	**35**	*e*P	**P**	**01 22 07.3**	**+1.0**
MDM	**Murphy Dome** 10nm,1.2s	**17.80**	**34**	*e*P	**Pn**	**01 22 00.6**	**-5.8**
CRQM	**Cirque** 11nm,0.8s	**18.00**	**49**	*e*P	**P**	**01 22 11.6**	**+2.5**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=228,slow=8.2,SNR=19	**18.17**	**35**	P	**P**	**01 22 09.7**	**-1.0**
ILAR	comp=Z,81nm,18.8s,baz=338,slow=34			LR	LR	01 28 25.0	
BALM	**Baldy** 6.3nm,0.9s	**18.45**	**49**	*e*P	**Pn**	**01 22 14.8**	**+0.4**
DOT	**Dot Lake** 8.4nm,0.7s	**18.67**	**40**	*e*Pn	**P**	**01 22 14.6**	**-1.7**
COLD	**Coldfoot** 3.7nm,0.8s	**18.68**	**26**	*e*P	**Pn**	**01 22 20.1**	**+3.1**
PCA	**Pinnacle** 19nm,0.6s	**19.22**	**52**	*e*P	**Pn**	**01 22 24.4**	**+0.8**
BILL	**Bilibino** 9.6nm,0.7s	**19.46**	**335**	*e*P	**Pn**	**01 22 25.5**	**-0.8**
EGAK	**Eagle**	**20.31**	**39**	*e*P	**P**	**01 22 33.2**	**-0.8**
HYT	**Haines Junctio** 14nm,0.7s	**20.70**	**51**	*e*P	Pn	01 22 40.4	-0.7
SKAG	**Skagway** 15nm,0.8s	**21.60**	**55**	*e*P	**P**	**01 22 49.4**	**+1.5**
SEY	**Seymchan** 1.0nm,0.3s,baz=108,slow=7.9,SNR=7.5	**22.03**	**314**	P	**P**	**01 22 54.0**	**+1.4**
DLBC	**Dease Lake** 6.7nm,0.6s,baz=272,slow=9.4,SNR=18	**24.33**	**58**	P	**P**	**01 23 18.0**	**+2.5**
DLBC	**Dease Lake** 6.7nm,0.7s	**24.33**	**58**	*e*P	**P**	**01 23 17.7**	**+2.2**
INK	**Inuvik** 4.2nm,0.7s,baz=227,slow=5.8,SNR=6.7	**24.54**	**34**	P	**P**	**01 23 16.4**	**-0.8**
INK	**Inuvik** 2.5nm,0.3s	**24.54**	**34**	*e*P	**P**	**01 23 16.6**	**-0.6**
YKA	**Yellowknife Ar** 0.6nm,0.4s,baz=276,slow=7.3,SNR=8.8	**31.62**	**48**	P	**P**	**01 24 20.7**	**+0.3**
YKA	comp=Z,8.6nm,19.2s,baz=0.0,slow=40			LR	LR	01 39 12.4	
H11N2	**WAKE ISLAND Hy** baz=21,slow=76,SNR=69	**36.20**	**216**	T	T	02 03 30.2	
H11N3	**WAKE ISLAND Hy** baz=21,slow=76,SNR=54	**36.21**	**216**	T	T	02 03 34.7	
H11N1	**WAKE ISLAND Hy** baz=21,slow=76,SNR=57	**36.22**	**216**	T	T	02 03 35.1	
H11S1	**WAKE ISLAND Hy** baz=21,slow=76,SNR=35	**37.40**	**215**	T	T	02 05 05.1	
H11S2	**WAKE ISLAND Hy** baz=21,slow=76,SNR=28	**37.41**	**215**	T	T	02 05 01.9	
H11S3	**WAKE ISLAND Hy** baz=21,slow=76,SNR=20	**37.42**	**215**	T	T	02 04 58.1	
BW06	**Boulder Array**	**41.86**	**77**	*e*P	**P**	**01 25 49.7**	**+1.7**
PD31	**Pinedale Array**	**41.86**	**77**	*e*P	**P**	**01 25 48.9**	**+0.9**
PDAR	**Pinedale Array** 0.7nm,0.6s,baz=318,slow=5.2,SNR=5.1	**41.86**	**77**	P	**P**	**01 25 49.3**	**+1.3**
O20A	**White River Ci** 4.7nm,0.9s	**44.20**	**79**	*e*P	**P**	**01 26 09.4**	**+2.5**
HHC	**Hu-ho-hao-te**	**51.82**	**290**	*e*P	**P**	**01 27 05.0**	**-0.6**
HHC	comp=Z,26nm,1.0s			pmax	pmax		
HHC	comp=Z,71nm,5.0s			pmax	pmax		
TX31	**Lajitas Ar. Si**	**54.14**	**87**	*e*P	**P**	**01 27 23.3**	**+0.5**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.5s,baz=306,slow=5.7,SNR=14	**54.14**	**87**	P	**P**	**01 27 24.1**	**+1.2**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.6s,baz=20,slow=4.6,SNR=3.3	**56.87**	**317**	PcP	**PcP**	**01 28 37.1**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,0.7nm,0.7s,baz=8.5,slow=7.3,SNR=3.7	**58.29**	**353**	P	**P**	**01 27 49.6**	**-2.1**
LZH	**Lanzhou**	**59.50**	**291**	*e*P	**P**	**01 28 00.5**	**-0.3**
LZH				pP	sP	01 28 17.0	-1.4
LZH				sP	pP	01 28 24.3	+11
LZH				*e*PP	**PP**	**01 30 13.5**	**+1.4**
LZH	comp=Z,14nm,1.2s			pmax	pmax		
LZH	comp=Z,43nm,6.7s			pmax	pmax		
LZH	comp=N,97nm,16.0s			LR	LR		
LZH	comp=E,83nm,16.2s			LR	LR		
LZH	comp=Z,120nm,18.3s			LR	LR		
KURK	**Kurchatov** comp=Z,8.7nm,0.6s	**61.84**	**317**	*e*P	**P**	**01 28 15.6**	**-0.7**
WMQ	**Urumqi**	**62.76**	**307**	P	**P**	**01 28 23.8**	**+1.1**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.5s,baz=44,slow=5.8,SNR=8.3	**63.16**	**312**	P	**P**	**01 28 24.0**	**-1.2**
MK01	**Makanchi Array**	**63.17**	**312**	*e*P	**P**	**01 28 24.3**	**-1.0**
ZRNK	**Zerenda** comp=Z,6.0nm,0.5s	**63.88**	**324**	*e*P	**P**	**01 28 29.6**	**-0.2**
AFI	**Afiamalu** comp=Z,57nm,21.3s,baz=292,slow=31	**65.48**	**180**	LR	LR	01 51 58.3	
FINES	**FINESS Array B** comp=Z,0.4nm,0.4s,baz=13,slow=7.1,SNR=3.4	**66.18**	**351**	P	**P**	**01 28 43.1**	**-1.5**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.6s,baz=360,slow=6.2	**67.44**	**359**	P	**P**	**01 28 52.0**	**-0.7**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.7s,baz=1.4,slow=6.0,SNR=4.8	**67.44**	**359**	P	**P**	**01 28 50.9**	**-1.9**
ABKAR	**Akbulak array**	**70.14**	**327**	*e*P	**P**	**01 29 08.6**	**-1.0**
EKS2	**Erkin-Say** comp=Z,4.2nm,0.8s	**70.19**	**315**	*e*P	**P**	**01 29 09.4**	**-0.8**
KKAR	**Karatay Array**	**71.25**	**317**	*e*P	**P**	**01 29 15.9**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.6s,baz=38,slow=6.0,SNR=3.9	**75.38**	**281**	P	**P**	**01 29 41.6**	**+0.4**
GERES	**GERESS Array B** comp=Z,0.3nm,0.6s,baz=42,slow=6.2,SNR=3.9	**79.59**	**356**	P	**P**	**01 30 04.7**	**+0.4**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.3s,baz=30,slow=5.6,SNR=7.7	**85.61**	**230**	P	**P**	**01 30 35.0**	**-0.8**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.6s,baz=347,slow=6.1,SNR=4.8	**88.22**	**10**	P	**P**	**01 30 47.7**	**-0.8**
ASAR	**Alice Springs** comp=Z,2.0nm,0.7s,baz=26,slow=5.1,SNR=18	**89.01**	**228**	P	**P**	**01 30 52.4**	**+0.2**
MAW	**Mawson** comp=Z,1.5nm,0.7s,baz=90,slow=1.0,SNR=6.2	**149.61**	**218**	PKPbc	**PKPbc**	**01 37 45.4**	**+0.1**

*ISCJB **28** 01:18:43.4±0.5,39°.08N±0°.03×29°.05E±0°.04, h10km±5km, Error ellipse: s-maj=6.8km s-min=4.2km az=140.4*
*DDA **28** 01:18:43.2,39°.13N×29°.03E,h7km, Md2.7*
*ISK **28** 01:18:43.0,39°.09N×29°.06E,h8km, MD2.7*
*CSEM **28** 01:18:43.6,0.1,39°.08N×29°.05E,h8km, MD2.7, Error ellipse: s-maj=3.3km s-min=2.6km az=126.0*

ISC 28 01:18:43.5±0.9, 39°.08N±0°.03×29°.06E±0°.03, h11km±10km, n28, σ0s38/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**262**	P	**Pg**	**01 18 48.9**	**-0.2**
DEMI				S	**Sg**	**01 18 52.6**	**-0.3**
DEMI	**Demirci**	**0.27**	**262**	*i* P	**Pg**	**01 18 48.9**	**-0.2**
DEMI				*i* S	**Sg**	**01 18 52.6**	**-0.3**
GEDZ	**Gediz**	**0.28**	**98**	*e*PG	**Pb**	**01 18 50.0**	**-0.5**
GEDZ	**Gediz**	**0.28**	**98**	*e*Pg	**Pb**	**01 18 50.0**	**-0.5**
GDZ	**Gediz**	**0.33**	**89**	P	**Pb**	**01 18 50.8**	**-0.6**
GDZ				S	**Sg**	**01 18 55.6**	**+1.0**
GDZ	**Gediz**	**0.33**	**89**	*i* P	**Pb**	**01 18 50.8**	**-0.6**
GDZ				*i* S	**Sg**	**01 18 55.6**	**+1.0**
TVSB	**Tavsanli**	**0.48**	**40**	*e*PG	**Pg**	**01 18 52.6**	**-0.3**
TVSB				*e*SG	**Sg**	**01 18 59.4**	**0.0**
TVSB	**Tavsanli**	**0.48**	**40**	*e*Pg	**Pg**	**01 18 52.6**	**-0.3**
TVSB				*e*Sg	**Sg**	**01 18 59.4**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*PG	**Pg**	**01 18 56.2**	**+0.1**
KULA				*e*SG	**Sg**	**01 19 05.0**	**+0.4**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*Pg	**Pg**	**01 18 56.2**	**+0.1**
KULA				*e*Sg	**Sg**	**01 19 05.0**	**+0.4**
MANT	**Manisa**	**0.71**	**214**	P	**Pg**	**01 18 56.8**	**-0.5**
MANT				S	**Sg**	**01 19 06.4**	**-0.2**
MANT	**Manisa**	**0.71**	**214**	*i* P	**Pg**	**01 18 56.8**	**-0.5**
MANT				*i* S	**Sg**	**01 19 06.4**	**-0.2**
KHL	**Karahalli**	**0.84**	**154**	*e*PG	**Pb**	**01 19 00.2**	**+0.1**
KHL	**Karahalli**	**0.84**	**154**	*e*Pg	**Pb**	**01 19 00.2**	**+0.1**
BALB	**Balikesir**	**1.07**	**302**	*e*PG	**Pn**	**01 19 04.6**	**+0.2**
BALB	**Balikesir**	**1.07**	**302**	*e*Pg	**Pn**	**01 19 04.6**	**+0.2**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*PN	**Pn**	**01 19 07.2**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*Pn	**Pn**	**01 19 07.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**354**	*e*PN	**Pb**	**01 19 07.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**354**	*e*Pn	**Pb**	**01 19 07.9**	**+0.1**
IZI	**Iznik**	**1.29**	**14**	*e*PN	**Pb**	**01 19 07.7**	**-0.1**
IZI	**Iznik**	**1.29**	**14**	*e*Pn	**Pb**	**01 19 07.7**	**-0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*PN	**Pg**	**01 19 08.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*Pn	**Pg**	**01 19 08.4**	**-0.1**
EDC	**Edincik**	**1.56**	**324**	*e*PN	**Pb**	**01 19 12.4**	**0.0**
EDC	**Edincik**	**1.56**	**324**	*e*Pn	**Pb**	**01 19 12.4**	**0.0**
GULT	**Gulveren**	**1.75**	**39**	*e*PN	**Pn**	**01 19 13.9**	**+0.1**
GULT	**Gulveren**	**1.75**	**39**	*e*Pn	**Pn**	**01 19 14.0**	**+0.1**

*ISCJB **28** 01:19:56.6±0.5,39°.08N±0°.03×29°.02E±0°.04, h10km±5km, Error ellipse: s-maj=6.5km s-min=4.1km az=145.4*
*CSEM **28** 01:19:56.7±0.1,39°.08N×29°.02E, h9km, MD2.6, Error ellipse: s-maj=1.8km s-min=1.3km az=149.0*
*ISK **28** 01:19:56.1,39°.10N×29°.02E,h7km, MD2.7*
*DDA **28** 01:19:56.1,39°.15N×29°.00E,h7km, Md2.6*

ISC 28 01:19:56.2±0.9, 39°.06N±0°.04×29°.06E±0°.03, h14km±10km, n26, σ0s33/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**267**	P	**Pg**	**01 20 02.3**	**+0.3**
DEMI				S	**Sg**	**01 20 05.6**	**-0.3**
DEMI	**Demirci**	**0.27**	**267**	*i* P	**Pg**	**01 20 02.3**	**+0.3**
DEMI				*i* S	**Sg**	**01 20 05.6**	**-0.3**
GEDZ	**Gediz**	**0.27**	**93**	*e*PG	**Pb**	**01 20 03.3**	**+0.4**
GEDZ				*e*SG	**Sb**	**01 20 07.4**	**0.0**
GEDZ	**Gediz**	**0.27**	**93**	*e*Pg	**Pb**	**01 20 03.3**	**+0.4**
GEDZ				*e*Sg	**Sb**	**01 20 07.4**	**0.0**
GDZ	**Gediz**	**0.33**	**84**	P	**Pb**	**01 20 04.3**	**+0.3**
GDZ				S	**Sb**	**01 20 09.5**	**+0.4**
GDZ	**Gediz**	**0.33**	**84**	*i* P	**Pb**	**01 20 04.3**	**+0.3**
GDZ				*i* S	**Sb**	**01 20 09.5**	**+0.4**
TVSB	**Tavsanli**	**0.50**	**38**	*e*PG	**Pg**	**01 20 06.3**	**+0.2**
TVSB				*e*SG	**Sg**	**01 20 12.8**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**38**	*e*Pg	**Pg**	**01 20 06.4**	**+0.2**
TVSB				*e*Sg	**Sg**	**01 20 12.8**	**-0.1**
KULA	**Kula-Manisa**	**0.63**	**210**	*e*PG	**Pb**	**01 20 09.1**	**+0.1**
KULA				*e*SG	**Sb**	**01 20 18.0**	**+0.4**
KULA	**Kula-Manisa**	**0.63**	**210**	*e*Pg	**Pb**	**01 20 09.1**	**+0.1**
KULA				*e*Sg	**Sb**	**01 20 18.0**	**+0.4**
MANT	**Manisa**	**0.69**	**215**	P	**Pb**	**01 20 10.1**	**0.0**
MANT				S	**Sb**	**01 20 19.4**	**-0.2**
MANT	**Manisa**	**0.69**	**215**	*i* P	**Pb**	**01 20 10.1**	**0.0**
MANT				*i* S	**Sb**	**01 20 19.4**	**-0.2**
KHL	**Karahalli**	**0.82**	**154**	*e*PG	**Pn**	**01 20 13.1**	**-0.3**
KHL	**Karahalli**	**0.82**	**154**	*e*Pg	**Pn**	**01 20 13.1**	**-0.3**
BALB	**Balikesir**	**1.08**	**303**	*e*PG	**Pb**	**01 20 16.8**	**+0.1**
BALB	**Balikesir**	**1.08**	**303**	*e*Pg	**Pb**	**01 20 16.8**	**+0.1**
IZI	**Iznik**	**1.32**	**14**	*e*PN	**Pb**	**01 20 21.1**	**+0.3**
IZI	**Iznik**	**1.32**	**14**	*e*Pn	**Pb**	**01 20 21.1**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.32**	**354**	*e*PN	**Pb**	**01 20 21.1**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.32**	**354**	*e*Pn	**Pb**	**01 20 21.1**	**+0.4**
KCTX	**Karacabey (Bur**	**1.32**	**336**	*e*PN	**Pb**	**01 20 21.1**	**+0.2**
KCTX	**Karacabey (Bur**	**1.32**	**336**	*e*Pn	**Pb**	**01 20 21.1**	**+0.2**
ADVT	**Abdulvahap**	**1.47**	**21**	*e*PN	**Pb**	**01 20 23.2**	**-0.1**
ADVT	**Abdulvahap**	**1.47**	**21**	*e*Pn	**Pb**	**01 20 23.2**	**-0.1**
GULT	**Gulveren**	**1.77**	**39**	*e*PN	**Pb**	**01 20 27.7**	**-0.8**
GULT	**Gulveren**	**1.77**	**39**	*e*Pn	**Pb**	**01 20 27.7**	**-0.8**

*ISCJB **28** 01:28:09.5±0.5,39°.08N±0°.04×29°.00E±0°.04, h11km±5km, Error ellipse: s-maj=6.4km s-min=4.3km az=151.6*
*CSEM **28** 01:28:09.5±0.1,39°.09N×28°.99E, h8km, MD2.7, Error ellipse: s-maj=2.0km s-min=1.8km az=126.0*
*DDA **28** 01:28:09.1,39°.04N×29°.02E,h7km, Md2.7*
*ISK **28** 01:28:09.1,39°.10N×28°.98E,h8km, MD2.8*

ISC 28 01:28:09.5±0.9, 39°.09N±0°.03×28°.99E±0°.02, h16km±7km, n32, σ0s50/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.22**	**258**	P	**Pg**	**01 28 14.6**	**0.0**
DEMI				S	**Sg**	**01 28 18.0**	**0.0**
DEMI	**Demirci**	**0.22**	**258**	*i* P	**Pg**	**01 28 14.6**	**0.0**
DEMI				*i* S	**Sg**	**01 28 18.0**	**0.0**
GEDZ	**Gediz**	**0.33**	**98**	*e*PG	**Pg**	**01 28 16.5**	**0.0**
GEDZ				*e*SG	**Sg**	**01 28 21.4**	**+0.2**
GEDZ	**Gediz**	**0.33**	**98**	*e*Pg	**Pg**	**01 28 16.5**	**0.0**
GEDZ				*e*Sg	**Sg**	**01 28 21.4**	**+0.2**
GDZ	**Gediz**	**0.38**	**90**	P	**Pg**	**01 28 16.9**	**-0.5**
GDZ				S	**Sg**	**01 28 21.9**	**-0.9**
GDZ	**Gediz**	**0.38**	**90**	*i* P	**Pg**	**01 28 16.9**	**-0.5**
GDZ				*i* S	**Sg**	**01 28 21.9**	**-0.9**
TVSB	**Tavsanli**	**0.51**	**45**	*e*PG	**Pg**	**01 28 19.5**	**-0.3**
TVSB	**Tavsanli**	**0.51**	**45**	*e*Pg	**Pg**	**01 28 19.5**	**-0.3**
KULA	**Kula-Manisa**	**0.63**	**204**	*e*PG	**Pb**	**01 28 22.1**	**-0.1**
KULA				*e*SG	**Sb**	**01 28 30.8**	**0.0**
KULA	**Kula-Manisa**	**0.63**	**204**	*e*Pg	**Pb**	**01 28 22.1**	**-0.1**
KULA				*e*Sg	**Sb**	**01 28 30.8**	**0.0**
MANT	**Manisa**	**0.69**	**209**	P	**Pg**	**01 28 22.5**	**-0.5**
MANT				S	**Sg**	**01 28 31.6**	**-0.5**
MANT	**Manisa**	**0.69**	**209**	*i* P	**Pg**	**01 28 22.6**	**-0.5**
MANT				*i* S	**Sg**	**01 28 31.6**	**-0.5**
KHL	**Karahalli**	**0.87**	**151**	*e*PG	**Pb**	**01 28 26.5**	**+0.2**
KHL	**Karahalli**	**0.87**	**151**	*e*Pg	**Pb**	**01 28 26.5**	**+0.2**
BALB	**Balikesir**	**1.02**	**303**	*e*PG	**Pg**	**01 28 28.6**	**-0.6**
BALB	**Balikesir**	**1.02**	**303**	*e*Pg	**Pg**	**01 28 28.6**	**-0.6**
KCTX	**Karacabey (Bur**	**1.27**	**338**	*e*PN	**Pg**	**01 28 33.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**338**	*e*Pn	**Pg**	**01 28 33.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**356**	*e*PN	**Pg**	**01 28 33.9**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**356**	*e*Pn	**Pg**	**01 28 33.9**	**-0.3**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*PN	**Pg**	**01 28 33.9**	**-0.5**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*Pn	**Pg**	**01 28 33.9**	**-0.5**
IZI	**Iznik**	**1.30**	**17**	*e*PN	**Pg**	**01 28 34.1**	**-0.5**
IZI	**Iznik**	**1.30**	**17**	*e*Pn	**Pg**	**01 28 34.1**	**-0.5**
GONE	**Gonen-Balikesi**	**1.39**	**314**	*e*PN	**Pg**	**01 28 35.5**	**-0.7**
GONE	**Gonen-Balikesi**	**1.39**	**314**	*e*Pn	**Pg**	**01 28 35.5**	**-0.7**
ADVT	**Abdulvahap**	**1.46**	**23**	*e*PN	**Pn**	**01 28 36.1**	**+0.8**
ADVT	**Abdulvahap**	**1.46**	**23**	*e*Pn	**Pn**	**01 28 36.1**	**+0.8**
EDC	**Edincik**	**1.53**	**326**	*e*PN	**Pn**	**01 28 36.8**	**+0.6**
EDC	**Edincik**	**1.53**	**326**	*e*Pn	**Pn**	**01 28 36.8**	**+0.6**
GULT	**Gulveren**	**1.78**	**41**	*e*PN	**Pn**	**01 28 40.3**	**+0.5**
GULT	**Gulveren**	**1.78**	**41**	*e*Pn	**Pn**	**01 28 40.3**	**+0.5**

*NEIC **28** 01:33:45.9,51°.73N×171°.56W,h44km, mb4.3/8, ML3.9(AEIC), After AEIC.*
*ISCJB **28** 01:33:47.1±0.8,51°.94N±0°.10×171°.61W±0°.05, h64km±4km, mb4.1/26, Error ellipse: s-maj=16.8km s-min=3.7km az=165.6*
*IDC **28** 01:33:52.1±5.5,52°.09N×171°.72W, h87km±48km, mb3.6/18, mb1 3.7/20, mb1mx3.6/59, mbtmp3.9/20, ML3.5/2, Error ellipse: s-maj=22.9km s-min=14.1km az=175.0*

ISC 28 01:33:47.8±1.4, 51°.59N±0°.1×171°.59W±0°.04, h56km±11km, n67, σ1s34/69, mb4.0/26, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.61**	**286**	P	**Pn**	**01 34 13.1**	**-0.7**
KONE	**Korovin Northe**	**1.65**	**290**	P	**Pn**	**01 34 14.0**	**-0.5**
KOKV	**Korovin Volcan**	**1.67**	**289**	P	**Pn**	**01 34 14.6**	**-0.1**
KOKV				S	**Sn**	**01 34 35.9**	**+0.9**
KOKL	**Mount Kliuchef**	**1.68**	**287**	P	**Pn**	**01 34 14.6**	**-0.3**
NIKH	**Nikolski High**	**2.01**	**55**	P	**Pn**	**01 34 18.4**	**-0.9**
NIKH				S	**Sn**	**01 34 42.2**	**-1.1**
OKAK	**Okmok**	**2.61**	**47**	P	**Pn**	**01 34 25.4**	**-2.2**
GSMY	**Great Sitkin M**	**2.77**	**276**	P	**Pn**	**01 34 30.3**	**+0.6**
GSMY				S	**Sn**	**01 35 02.9**	**+0.9**
GSTR	**Great Sitkin T**	**2.78**	**277**	*e*Pn	**Pn**	**01 34 27.9**	**-1.9**
GSTR				*e*Sn	**Sn**	**01 35 03.8**	**+1.7**
GSTD	**Great Sitkin T**	**2.83**	**276**	P	**Pn**	**01 34 31.2**	**+0.7**
GSTD				S	**Sn**	**01 35 03.5**	**+0.1**
GSCK	**Great Sitkin C**	**2.84**	**275**	P	**Pn**	**01 34 30.3**	**-0.3**
ETKA	**Kagalaska Isla**	**2.99**	**272**	P	**Pn**	**01 34 32.0**	**-0.7**
KIKV	**Kanaga Island**	**3.46**	**273**	P	**Pn**	**01 34 38.9**	**-0.3**
UNV	**Unalaska Valle**	**3.67**	**55**	*e*Pn	**Pn**	**01 34 42.9**	**+0.9**
UNV				*e*

*CSEM **28** 01:34:59.8±0.2,38.76N×23.32E,h10km,ML1.3,Error ellipse: s-maj=4.9km s-min=3.8km az=134.0*

ATH 28 01:35:00.2,38.76N×23.30E,h11km±3km,ML1.3/7,Error ellipse: s-maj=3.8km s-min=0.7km az=327.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMIA	**Simia**	**0.14**	**329**	P	Pg	01 35 03.8	+0.2
SMIA				S	Sg	01 35 06.2	+0.3
SMIA	**Simia**	**0.14**	**329**	P	Pg	01 35 03.8	+0.2
SMIA				S	Sg	01 35 06.2	+0.3
ATAL	**Atalanti**	**0.23**	**254**	P	Pg	01 35 05.1	+0.1
ATAL				S	Sg	01 35 08.3	+0.1
ATAL	**Atalanti**	**0.23**	**254**	P	Pg	01 35 05.1	+0.1
ATAL				S	Sg	01 35 08.3	+0.1
ATAL				AML	AML	01 35 09.8	
	comp=N,135μm,0.2s						
ATAL				AML	AML	01 35 09.9	
	comp=E,162μm,0.2s						
LKR	**Lokris**	**0.26**	**246**	P	Pg	01 35 05.2	-0.3
LKR				S	Sg	01 35 08.9	-0.2
LKR	**Lokris**	**0.26**	**246**	P	Pg	01 35 05.2	-0.3
LKR				S	Sg	01 35 08.9	-0.1
LKR				AML	AML	01 35 11.1	
	comp=N,207μm,0.1s						
LKR				AML	AML	01 35 11.5	
	comp=E,128μm,0.2s						
SKIA	**Skiathos**	**0.43**	**17**	P	Pg	01 35 08.5	-0.2
SKIA				S	Sg	01 35 14.3	-0.1
SKIA	**Skiathos**	**0.43**	**17**	P	Pg	01 35 08.5	-0.2
SKIA				S	Sg	01 35 14.3	0.0
VIL2	**Platees**	**0.54**	**183**	P	Pg	01 35 10.8	+0.1
VIL2				S	Sb	01 35 20.0	+0.4
VIL2				AML	AML	01 35 22.9	
	comp=N,104μm,0.4s						
VIL2				AML	AML	01 35 25.2	
	comp=E,56μm,0.3s						
PROD	**Prodromos**	**0.59**	**213**	P	Pg	01 35 11.2	-0.4
PROD				S	Sb	01 35 20.3	-0.5
PROD	**Prodromos**	**0.59**	**213**	P	Pg	01 35 11.2	-0.4
PROD				S	Sb	01 35 20.3	-0.6
PROD				AML	AML	01 35 24.9	
	comp=E,91μm,0.2s						
PROD				AML	AML	01 35 25.9	
	comp=N,63μm,0.2s						
VILL	**Villia**	**0.59**	**179**	P	Pg	01 35 10.8	-0.8
VILL				S	Sg	01 35 20.0	+0.6
EREA	**Eretria**	**0.59**	**124**	P	Pg	01 35 11.1	-0.6
EREA				S	Sb	01 35 20.4	-0.7
EREA	**Eretria**	**0.59**	**124**	P	Pg	01 35 11.1	-0.6
EREA				S	Sb	01 35 20.4	-0.6
EREA				AML	AML	01 35 22.3	
	comp=E,185μm,0.3s						
EREA				AML	AML	01 35 24.0	
	comp=N,74μm,0.2s						
DSF	**Desfina**	**0.70**	**241**	P	Pg	01 35 13.3	-0.4
DSF				S	Sb	01 35 24.0	-0.1
DSF	**Desfina**	**0.70**	**241**	P	Pg	01 35 13.3	-0.4
DSF				S	Sb	01 35 24.0	0.0
DSF				AML	AML	01 35 27.1	
	comp=E,51μm,0.2s						
DSF				AML	AML	01 35 27.7	
	comp=N,52μm,0.3s						
FYTO	**Fytoko, Volos**	**0.71**	**337**	P	Pg	01 35 14.1	+0.1
FYTO				S	Sg	01 35 23.0	-0.3
FYTO	**Fytoko, Volos**	**0.71**	**337**	P	Pg	01 35 14.1	+0.1
FYTO				S	Sg	01 35 23.0	-0.3
LTK	**Loutraki**	**0.78**	**200**	P	Pb	01 35 15.6	-0.1
LTK				S	Sb	01 35 27.0	+0.7
LTK	**Loutraki**	**0.78**	**200**	P	Pb	01 35 15.6	-0.2
LTK				S	Sb	01 35 26.9	+0.7
LTK				AML	AML	01 35 30.2	
	comp=N,57μm,0.4s						
LTK				AML	AML	01 35 30.2	
	comp=E,76μm,0.4s						
PTL	**Penteli**	**0.83**	**148**	P	Pg	01 35 16.3	+0.1
PTL				S	Sb	01 35 27.9	0.0
PTL	**Penteli**	**0.83**	**148**	P	Pg	01 35 16.3	+0.1
PTL				S	Sb	01 35 27.9	0.0
VLY	**Voula,Athens**	**0.98**	**157**	P	Pg	01 35 19.1	+0.1
VLY				S	Sb	01 35 32.2	+0.1
VLY	**Voula,Athens**	**0.98**	**157**	P	Pg	01 35 19.1	+0.1
VLY				S	Sb	01 35 32.2	+0.1
KALE	**Kalithea**	**0.98**	**249**	P	Pb	01 35 19.5	+0.3
KALE				S	Sg	01 35 31.7	-0.2
KALE	**Kalithea**	**0.98**	**249**	P	Pb	01 35 19.5	+0.3
KALE				S	Sg	01 35 31.7	-0.2
GUR	**Goura**	**1.11**	**223**	P	Pb	01 35 21.4	-0.1
GUR				S	Sg	01 35 36.1	0.0
GUR	**Goura**	**1.11**	**223**	P	Pb	01 35 21.4	-0.1
GUR				S	Sg	01 35 36.1	+0.1
KLV	**Kalavryta, Ach**	**1.15**	**232**	P	Pb	01 35 21.9	-0.2
KLV	**Kalavryta, Ach**	**1.15**	**232**	P	Pb	01 35 21.9	-0.3
DID	**Didima**	**1.25**	**182**	P	Pn	01 35 21.7	-1.9
DID				S	Sn	01 35 40.4	0.0
DID	**Didima**	**1.25**	**182**	P	Pn	01 35 21.7	-1.9
DID				S	Sn	01 35 40.4	0.0

JMA 28 01:35:25.9±0.1,38.25N×142.02E,h44km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.57**	**291**	P	Pn	01 35 37.8	+0.2
JIO				*e*S	Sn	01 35 45.8	-0.2
OFUJ	**Ofunato**	**0.87**	**342**	P	Pn	01 35 41.9	+0.1
JMK	**Ichinoseki**	**0.94**	**318**	P	Pn	01 35 43.2	+0.5
JMK				*e*S	Sn	01 35 55.2	+0.2
JMM	**Marumori**	**1.04**	**249**	P	Pn	01 35 43.8	-0.2
JOU	**Okura**	**1.07**	**277**	P	Pn	01 35 45.1	+0.6
JFK	**Kawauchi**	**1.27**	**226**	P	Pn	01 35 48.8	-0.4
JOM	**Ohasama**	**1.35**	**335**	P	Pn	01 35 49.0	+0.8
JYK	**Kaneyama**	**1.46**	**298**	P	Pn	01 35 50.9	+1.1
JFT	**Otama**	**1.52**	**242**	P	Pn	01 35 51.6	+1.0
JFT				*e*S	Sn	01 36 10.1	+0.9
JRG	**Rokugo**	**1.58**	**317**	P	Pn	01 35 53.0	+1.6
JRG				*e*S	Sn	01 36 12.4	+1.8

*DDA **28** 01:35:47.8,39.12N×29.00E,h7km,Md2.9*
*CSEM **28** 01:35:48.3±0.1,39.10N×29.00E,h2km,MD2.9,Error ellipse: s-maj=3.0km s-min=2.5km az=150.0*
*ISK **28** 01:35:48.0,39.11N×29.00E,h5km,MD3.0*

ISC 28 01:35:48.0±1.0,39.12N±0.02×29.00E±0.02,h6km±10km, n69,σ0§78/86,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**250**	P	**Pg**	**01 35 53.1**	**+0.4**
DEMI				S	**Sg**	**01 35 56.3**	**+0.5**
DEMI	**Demirci**	**0.24**	**250**	*i* P	**Pg**	**01 35 53.1**	**+0.4**
DEMI				*i* S	**Sg**	**01 35 56.3**	**+0.5**
GEDZ	**Gediz**	**0.33**	**104**	*e*PG	**Pb**	**01 35 55.8**	**-0.5**
GEDZ				*e*SG	**Sb**	**01 36 00.5**	**-1.3**
GEDZ	**Gediz**	**0.33**	**104**	*e*Pg	**Pb**	**01 35 55.8**	**-0.5**
GEDZ				*e*Sg	**Sb**	**01 36 00.5**	**-1.3**
GDZ	**Gediz**	**0.37**	**95**	P	**Pg**	**01 35 55.2**	**-0.1**
GDZ				S	**Sg**	**01 36 00.5**	**+0.3**
GDZ	**Gediz**	**0.37**	**95**	*i* P	**Pg**	**01 35 55.2**	**-0.1**
GDZ				*i* S	**Sg**	**01 36 00.5**	**+0.3**
TVSB	**Tavsanli**	**0.48**	**47**	*e*PG	**Pg**	**01 35 57.2**	**-0.1**
TVSB				*e*SG	**Sg**	**01 36 04.0**	**+0.3**
TVSB	**Tavsanli**	**0.48**	**47**	*e*Pg	**Pg**	**01 35 57.2**	**-0.1**
TVSB				*e*Sg	**Sg**	**01 36 04.0**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*PG	**Pg**	**01 36 00.7**	**-0.1**
KULA				*e*SG	**Sg**	**01 36 09.8**	**+0.4**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*Pg	**Pg**	**01 36 00.7**	**-0.1**
KULA				*e*Sg	**Sg**	**01 36 09.8**	**+0.4**
MANT	**Manisa**	**0.72**	**209**	P	**Pg**	**01 36 01.0**	**-0.8**
MANT				S	**Sg**	**01 36 09.3**	**-2.0**
MANT	**Manisa**	**0.72**	**209**	*i* P	**Pg**	**01 36 01.0**	**-0.8**
MANT				*i* S	**Sg**	**01 36 09.3**	**-2.0**
KHL	**Karahalli**	**0.90**	**153**	*e*PG	**Pg**	**01 36 05.5**	**+0.3**
KHL	**Karahalli**	**0.90**	**153**	*e*Pg	**Pg**	**01 36 05.5**	**+0.3**
AKS	**Akhisar**	**0.96**	**256**	*e*PG	**Pb**	**01 36 07.1**	**+0.1**
AKS	**Akhisar**	**0.96**	**256**	*e*Pg	**Pb**	**01 36 07.1**	**+0.1**
BALB	**Balikesir**	**1.01**	**301**	*e*PG	**Pn**	**01 36 08.6**	**-0.1**
BALB	**Balikesir**	**1.01**	**301**	*e*Pg	**Pn**	**01 36 08.6**	**-0.1**
IGD	**Bursa**	**1.15**	**8**	*i* P	**Pg**	**01 36 08.1**	**-1.9**
IGD				*i* S	**Sg**	**01 36 22.8**	**-2.1**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*PN	**Pg**	**01 36 11.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*Pn	**Pg**	**01 36 11.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*PN	**Pb**	**01 36 11.6**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*Pn	**Pb**	**01 36 11.6**	**-0.3**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*PN	**Pg**	**01 36 12.8**	**+0.7**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*Pn	**Pg**	**01 36 12.8**	**+0.7**
IZI	**Iznik**	**1.27**	**17**	*e*PN	**Pb**	**01 36 12.8**	**+0.5**
IZI	**Iznik**	**1.27**	**17**	*e*Pn	**Pb**	**01 36 12.8**	**+0.5**
GEMT	**Gemlik**	**1.32**	**6**	*e*PN	**Pg**	**01 36 14.6**	**+1.3**
GEMT	**Gemlik**	**1.32**	**6**	*e*Pn	**Pg**	**01 36 14.6**	**+1.3**
BORA	**Eskisehir**	**1.35**	**56**	P	**Pn**	**01 36 13.5**	**0.0**
BORA				S	**Sn**	**01 36 32.2**	**+0.4**
BORA	**Eskisehir**	**1.35**	**56**	*i* P	**Pn**	**01 36 13.5**	**0.0**
BORA				*i* S	**Sn**	**01 36 32.2**	**+0.4**
GONE	**Gonen-Balikesi**	**1.37**	**313**	*e*PN	**Pg**	**01 36 14.9**	**+0.6**
GONE	**Gonen-Balikesi**	**1.37**	**313**	*e*Pn	**Pg**	**01 36 14.9**	**+0.6**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN	**Pg**	**01 36 15.7**	**+0.3**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn	**Pg**	**01 36 15.7**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**217**	*e*PN	**Pb**	**01 36 15.8**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**217**	*e*Pn	**Pb**	**01 36 15.8**	**+0.1**
ESKT	**Eskisehir**	**1.49**	**74**	*e*PN	**Pg**	**01 36 16.4**	**-0.1**
ESKT	**Eskisehir**	**1.49**	**74**	*e*Pn	**Pg**	**01 36 16.4**	**-0.1**
ESKT	**Eskisehir**	**1.49**	**74**	*i* P	**Pg**	**01 36 16.8**	**+0.3**
ESKT				*i* S	**Sb**	**01 36 35.2**	**-0.1**
SEYT	**Eskypehyr**	**1.49**	**74**	P	**Pg**	**01 36 16.8**	**+0.3**
SEYT				S	**Sb**	**01 36 35.2**	**0.0**
EDC	**Edincik**	**1.50**	**325**	*e*PN	**Pg**	**01 36 16.7**	**-0.1**
EDC	**Edincik**	**1.50**	**325**	*e*Pn	**Pg**	**01 36 16.7**	**-0.1**
DKL	**Dikili**	**1.63**	**269**	*e*PN	**Pb**	**01 36 18.8**	**+0.3**
DKL	**Dikili**	**1.63**	**269**	*e*Pn	**Pb**	**01 36 18.8**	**+0.3**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pb**	**01 36 19.9**	**-0.7**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pb**	**01 36 19.9**	**-0.7**
HRT	**Hereke**	**1.77**	**17**	*e*PN	**Pb**	**01 36 21.0**	**+0.1**
HRT	**Hereke**	**1.77**	**17**	*e*Pn	**Pb**	**01 36 21.0**	**+0.1**
KRBG	**Karabiga-Canak**	**1.83**	**315**	*e*PN	**Pb**	**01 36 21.2**	**-0.6**
KRBG	**Karabiga-Canak**	**1.83**	**315**	*e*Pn	**Pb**	**01 36 21.2**	**-0.6**
MRMT	**Marmara Adasi**	**1.83**	**324**	*e*PN	**Pb**	**01 36 21.5**	**-0.4**
MRMT	**Marmara Adasi**	**1.83**	**324**	*e*Pn	**Pb**	**01 36 21.5**	**-0.4**
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*PN	**Pn**	**01 36 21.3**	**+1.0**
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*Pn	**Pn**	**01 36 21.3**	**+1.0**
ISK	**Istanbul-Kandi**	**1.94**	**1**	*e*PN	**Pb**	**01 36 23.1**	**-0.6**
ISK	**Istanbul-Kandi**	**1.94**	**1**	*e*Pn	**Pb**	**01 36 23.1**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*PN	**Pn**	**01 36 23.3**	**+1.2**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*Pn	**Pn**	**01 36 23.3**	**+1.2**
BGKT	**Bogazkoy**	**2.06**	**355**	*e*PN	**Pb**	**01 36 24.9**	**-0.9**
BGKT	**Bogazkoy**	**2.06**	**355**	*e*Pn	**Pb**	**01 36 24.9**	**-0.9**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*PN	**Pn**	**01 36 24.9**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*Pn	**Pn**	**01 36 24.9**	**+1.2**
KLYT	**Kilyos**	**2.13**	**1**	*e*PN	**Pb**	**01 36 25.7**	**-1.2**
KLYT	**Kilyos**	**2.13**	**1**	*e*Pn	**Pb**	**01 36 25.7**	**-1.2**
CTKS	**Kestanelik-??a**	**2.14**	**350**	*e*PN	**Pb**	**01 36 26.0**	**-1.2**
CTKS	**Kestanelik-??a**	**2.14**	**350**	*e*Pn	**Pb**	**01 36 26.0**	**-1.2**
KIZT	**Kizilcal**	**2.25**	**95**	*e*PN	**Pn**	**01 36 27.1**	**+1.1**
KIZT	**Kizilcal**	**2.25**	**95**	*e*Pn	**Pn**	**01 36 27.1**	**+1.1**

*ISCJB **28** 01:41:13.6±0.5,49.84N±0.04×18.46E±0.03,h0km,Error ellipse: s-maj=5.2km s-min=2.4km az=11.4*
*CSEM **28** 01:41:14.3±0.2,49.82N×18.51E,h1km,ML2.7/8,Error ellipse: s-maj=6.6km s-min=2.9km az=6.0*
*IPEC **28** 01:41:14.7±0.2,49.83N×18.56E,h0km,ML1.6/4,Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*PRU **28** 01:41:15.6,49.83N×18.46E,h0km*

ISC 28 01:41:14.6±0.8,49.81N±0.04×18.53E±0.02,h0km,n31, σ0§81/47,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.25**	**278**	*i* PG	**Pg**	**01 41 20.4**	**+1.1**
OKC				*e*SG	**Sg**	**01 41 23.7**	**+1.2**
	25nm,0.4s						
OKC	**Ostrava-Krasne**	**0.25**	**278**	Pg	**Pg**	**01 41 20.4**	**+1.1**
OKC				Sg	**Sg**	**01 41 23.7**	**+1.2**
	25nm,0.4s						
MORC	**Moravsky Berou**	**0.64**	**268**	*e*Pg	**Pg**	**01 41 27.6**	**+0.8**
MORC				*e*Sg	**Sg**	**01 41 35.2**	**+0.2**
	20nm,0.4s,baz=85						
LANS	**Liptovska Anna**	**0.90**	**136**	*e*PG	**Pg**	**01 41 32.1**	**+0.3**
LANS				*e*SG	**Sb**	**01 41 45.7**	**+0.1**
OJC	**Ojcow**	**0.92**	**63**	*e*Pg	**Pg**	**01 41 31.6**	**-0.6**
OJC				*e*Sg	**Sg**	**01 41 43.8**	**-0.3**
OJC	**Ojcow**	**0.92**	**63**	*e*Pg	**Pg**	**01 41 31.6**	**-0.6**
OJC				*e*Sg	**Sg**	**01 41 43.8**	**-0.3**
JAVC	**Velka Javorina**	**1.10**	**211**	*e*Sg	**Sn**	**01 41 54.4**	**+1.2**
	4.8nm,0.3s						
KRLC	**Kraliky**	**1.16**	**284**	*e*PG	**Pg**	**01 41 36.4**	**-0.4**
KRLC				*e*SG	**Sg**	**01 41 51.3**	**-0.5**
KRLC	**Kraliky**	**1.16**	**284**	Pg	**Pg**	**01 41 36.4**	**-0.4**
KRLC				Sg	**Sg**	**01 41 51.3**	**-0.5**
NIE	**Niedzica**	**1.22**	**108**	*e*Pg	**Pg**	**01 41 38.0**	**+0.1**
NIE				*e*Sg	**Sn**	**01 41 56.9**	**+0.8**
NIE	**Niedzica**	**1.22**	**108**	*e*Pg	**Pg**	**01 41 38.0**	**+0.1**
NIE				*e*Sg	**Sn**	**01 41 56.9**	**+0.8**
VYHS	**Vyhne**	**1.33**	**171**	*e*Pn	**Pg**	**01 41 39.6**	**-0.4**
VYHS	**Vyhne**	**1.33**	**171**	*e*PN	**Pg**	**01 41 39.6**	**-0.4**
VYHS				*e*SN	**Sn**	**01 41 58.6**	**-0.2**
VYHS				*e*LG	Lg	01 42 10.2	
VRAC	**Vranov**	**1.35**	**249**	*e*Pg	**Pg**	**01 41 40.2**	**-0.3**
VRAC				*e*Sg	**Sb**	**01 41 58.3**	**-0.3**
	7.8nm,0.2s,baz=67						
DPC	**Dobruska-Polom**	**1.52**	**292**	*e*PG	**Pn**	**01 41 42.9**	**-0.2**
DPC				*e*SG	**Sg**	**01 42 02.6**	**-0.8**
	5.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.52**	**292**	Pg	**Pn**	**01 41 42.9**	**-0.2**
DPC				Sg	**Sg**	**01 42 02.6**	**-0.8**
	5.6nm,0.3s						
KRUC	**Moravsky**	**1.58**	**243**	*e*Pg	**Pn**	**01 41 43.5**	**-0.3**
	baz=61						
KRUC				*e*Sg	**Sn**	**01 42 04.7**	**-0.2**
	5.0nm,0.2s,baz=61						
UPC	**Upice**	**1.76**	**294**	*e*SG	**Sg**	**01 42 11.1**	**-0.1**
	5.2nm,0.2s						
UPC	**Upice**	**1.76**	**294**	Sg	**Sg**	**01 42 11.1**	**-0.1**
	5.2nm,0.2s						
STHS	**Stebnicka Huta**	**1.81**	**101**	*e*PN	**Pg**	**01 41 49.6**	**+0.3**
STHS				*e*SN	**Sg**	**01 42 14.5**	**+1.8**
STHS				*e*LG	Lg	01 42 19.6	
KECS	**Kecovo**	**1.85**	**135**	*e*Sn	**Sn**	**01 42 11.2**	**-0.3**
KECS	**Kecovo**	**1.85**	**135**	*e*SN	**Sn**	**01 42 11.2**	**-0.3**
KECS				*e*LG	Lg	01 42 13.7	
TREC	**Trest**	**2.04**	**257**	*e*SG	**Sb**	**01 42 18.8**	**+0.3**
	4.7nm,0.2s						
TREC	**Trest**	**2.04**	**257**	Sg	**Sb**	**01 42 18.8**	**+0.3**
	4.7nm,0.2s						
GOPC	**GO Pecny, Ondr**	**2.42**	**274**	*e*SG	**Sb**	**01 42 29.9**	**+0.5**
	2.3nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.42**	**274**	Sg	**Sb**	**01 42 29.9**	**+0.5**
	2.3nm,0.3s						
PRU	**Pruhonice**	**2.58**	**276**	*e*SG	**Sb**	**01 42 34.6**	**+0.6**
PRU	**Pruhonice**	**2.58**	**276**	Sg	**Sb**	**01 42 34.6**	**+0.6**
PVCC	**Panska Ves**	**2.65**	**287**	*e*SG	**Sg**	**01 42 38.4**	**-1.1**
	4.1nm,0.2s						
PVCC	**Panska Ves**	**2.65**	**287**	Sg	**Sg**	**01 42 38.4**	**-1.1**
	4.1nm,0.2s						
KHC	**Kasperske Hory**	**3.30**	**260**	*e*SG	**Sg**	**01 42 57.5**	**-2.9**
	2.3nm,0.4s						

*ISK **28** 01:42:14.3,39.09N×29.04E,h11km,MD2.6*
*ISCJB **28** 01:42:15.1±0.5,39.08N±0.04×29.03E±0.05,h11km±5km,Error ellipse: s-maj=8.1km s-min=4.4km az=44.9*
*CSEM **28** 01:42:15.0±0.1,39.08N×29.02E,h10km,MD2.4,Error ellipse: s-maj=4.4km s-min=2.4km az=125.0*
*DDA **28** 01:42:15.3,39.04N×29.03E,h7km,Md2.4*

ISC 28 01:42:15.3±0.9,39.08N±0.04×29.03E±0.03,h14km±7km, n16,σ0§46/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**262**	P	**Pg**	**01 42 20.7**	**0.0**
DEMI				S	**Sg**	**01 42 24.4**	**0.0**
DEMI	**Demirci**	**0.25**	**262**	*i* P	**Pg**	**01 42 20.7**	**0.0**
DEMI				*i* S	**Sg**	**01 42 24.4**	**0.0**
GDZ	**Gediz**	**0.35**	**88**	P	**Pg**	**01 42 22.6**	**+0.1**
GDZ				S	**Sg**	**01 42 27.8**	**+0.4**
GDZ	**Gediz**	**0.35**	**88**	*i* P	**Pg**	**01 42 22.6**	**+0.1**
GDZ				*i* S	**Sg**	**01 42 27.8**	**+0.4**
TVSB	**Tavsanli**	**0.50**	**42**	*e*PG	**Pg**	**01 42 24.5**	**-0.7**
TVSB				*e*SG	**Sg**	**01 42 31.5**	**-0.4**
TVSB	**Tavsanli**	**0.50**	**42**	*e*Pg	**Pg**	**01 42 24.5**	**-0.7**
TVSB				*e*Sg	**Sg**	**01 42 31.5**	**-0.4**
KULA	**Kula-Manisa**	**0.63**	**207**	*e*PG	**Pg**	**01 42 26.5**	**-1.2**
KULA				*e*SG	**Sb**	**01 42 37.0**	**+0.1**
KULA	**Kula-Manisa**	**0.63**	**207**	*e*Pg	**Pg**	**01 42 26.5**	**-1.2**
KULA				*e*Sg	**Sb**	**01 42 37.0**	**+0.1**
MANT	**Manisa**	**0.69**	**212**	P	**Pg**	**01 42 28.9**	**0.0**
MANT				S	**Sg**	**01 42 37.9**	**-0.1**
MANT	**Manisa**	**0.69**	**212**	*i* P	**Pg**	**01 42 28.9**	**0.0**
MANT				*i* S	**Sg**	**01 42 37.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*PN	**Pn**	**01 42 39.2**	**+0.2**
MDNY				*e*SN	**Sn**	**01 42 56.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*Pn	**Pn**	**01 42 39.2**	**+0.2**
MDNY				*e*Sn	**Sn**	**01 42 56.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.30**	**337**	*e*PN	**Pn**	**01 42 39.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.30**	**337**	*e*Pn	**Pn**	**01 42 39.3**	**+0.3**
IZI	**Iznik**	**1.30**	**15**	*e*PN	**Pb**	**01 42 39.6**	**0.0**
IZI	**Iznik**	**1.30**	**15**	*e*Pn	**Pb**	**01 42 39.6**	**0.0**

*ISCJB **28** 01:43:17.8±0.7,51.78N±0.1×171.55W±0.06,h44km, mb3.9/15,MS3.8/1,Error ellipse: s-maj=14.8km s-min=4.4km az=168.8*
*NEIC **28** 01:43:18.4,51.78N×171.58W,h35km,ML3.8(AEIC),After AEIC.*
*IDC **28** 01:43:19.9±9.7,51.99N×171.87W,h47km±89km,mb3.6/13, mb1 3.8/14,mb1mx3.6/56,mbtmp3.9/14,MS3.4/2, Ms1 3.5/2,ms1mx2.8/66,Error ellipse: s-maj=38.7km s-min=22.5km az=24.0*

ISC 28 01:43:19.5±0.8,51.8N±0.1×171.65W±0.04,h44km,n34, σ1§39/31,mb3.9/15,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.57**	**287**	P	**Pn**	**01 43 45.3**	**+0.4**
KONE	**Korovin Northe**	**1.62**	**291**	P	**Pn**	**01 43 46.4**	**+0.9**
KOKV	**Korovin Volcan**	**1.63**	**290**	P	**Pn**	**01 43 47.0**	**+1.2**
KOKV				S	**Sn**	**01 44 07.3**	**+1.7**
KOKL	**Mount Kliuchef**	**1.64**	**288**	P	**Pn**	**01 43 46.7**	**+0.8**
NIKH	**Nikolski High**	**2.06**	**55**	P	**Pn**	**01 43 50.9**	**-0.6**
NIKH				S	**Sn**	**01 44 16.7**	**+0.8**
GSTD	**Great Sitkin T**	**2.79**	**276**	P	**Pn**	**01 44 02.1**	**+0.5**
GSTD				S	**Sn**	**01 44 36.2**	**+2.2**
ETKA	**Kagalaska Isla**	**2.95**	**272**	P	**Pn**	**01 44 04.8**	**+1.0**
ADAG	**Mount Adagdak**	**3.07**	**275**	P	**Pn**	**01 44 05.8**	**+0.4**
UNV	**Unalaska Valle**	**3.71**	**55**	*e*Pn	**Pn**	**01 44 15.5**	**+1.2**
UNV				*e*S	**Sn**	**01 44 56.1**	**-0.6**
AKUT	**Akutan**	**4.23**	**55**	*e*Pn	**Pn**	**01 44 24.5**	**+3.2**
SPIA	**Saint Paul Isl**	**5.41**	**8**	P	**Pn**	**01 44 38.9**	**+1.4**
ILAR	**Eielson Array**	**18.19**	**35**	P	**P**	**01 47 27.8**	**-0.4**
	baz=235,slow=11,SNR=1.4						
ILAR				LR	LR	01 53 32.6	
	comp=Z,72nm,19.3s,baz=173,slow=34						
SEY	**Seymchan**	**22.01**	**314**	P	**P**	**01 48 10.2**	**+0.6**
	1.9nm,0.2s,baz=94,slow=9.8,SNR=3.6						
DLBC	**Dease Lake**	**24.36**	**58**	P	**P**	**01 48 36.1**	**+3.1**
	5.2nm,0.6s,baz=272,slow=11,SNR=12						
INK	**Inuvik**	**24.57**	**34**	P	**P**	**01 48 34.0**	**-0.7**
	2.3nm,0.6s,baz=219,slow=8.4,SNR=3.9						
YKA	**Yellowknife Ar**	**31.65**	**48**	P	**P**	**01 49 37.8**	**-0.1**
	0.4nm,0.3s,baz=274,slow=9.2,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**36.18**	**216**	T	T	02 28 52.4	
	baz=21,slow=75,SNR=69						
H11N3	**WAKE ISLAND Hy**	**36.19**	**216**	T	T	02 28 49.0	
	baz=21,slow=75,SNR=62						
H11N1	**WAKE ISLAND Hy**	**36.20**	**216**	T	T	02 28 46.3	
	baz=21,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hy**	**37.38**	**215**	T	T	02 30 22.8	
	baz=20,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**37.39**	**215**

AROD Rodeo 5.61 31 eP Pn 01 56 02.2 +0.6
ACDV Cuesta del Vie 5.76 34 eP Pn 01 56 03.4 -0.1
PLCA Paso Flores 5.96 163 Pn Pn 01 56 04.5 -1.6
comp=Z,0.6nm,0.3s,baz=347,slow=10.0,SNR=6.7
PLCA Lg Lg 01 57 34.3
comp=Z,0.6nm,0.3s,baz=300,slow=20,SNR=1.5
PLCA LR LR 01 57 58.0
comp=Z,208nm,20.2s,baz=1.5,slow=35
PLCA Paso Flores 5.96 163 ePn Pn 01 56 04.8 -1.3
PLCA Lg Lg 01 57 34.3
LCO Las Campanas 6.27 17 ePn Pn 01 56 07.7 -2.8
LCO eSn Sn 01 57 22.2 +1.2
AVFE Valle Fertil 6.27 47 eP Pn 01 56 09.0 -1.3
AVFE eS Sn 01 57 36.9 +16
ACHE Chepes 6.44 55 eP Pn 01 56 11.7 -1.2
ACHE ⇓eS Sn 01 57 42.2 +17
AGUA GUANDACOL 6.63 35 eP Pn 01 56 14.6 -0.8
SUCO SUCO 6.78 78 eP Pn 01 56 18.2 +0.9
SUCO IAML 01 56 24.2
comp=Z,102nm,0.5s
VCA Vinchina 7.40 33 eP Pn 01 56 24.4 -1.5
VCA IAML 01 58 24.1
comp=Z,133nm,0.5s
TCA Tanti 7.81 64 eP Pn 01 56 29.9 -1.6
TCA IAML 01 58 50.7
comp=Z,59nm,0.6s
TRQA Tornquist 9.22 112 ePn Pn 01 56 49.0 -1.8
CHRN Cochrane 12.20 179 ePn Pn 01 57 30.0 -1.4
LVC Limon Verde 12.84 16 Pn Pn 01 57 40.3 -0.3
comp=Z,24nm,0.3s,baz=200,slow=8.5,SNR=9.3
LVC LR LR 02 02 30.6
comp=Z,2μm,21.5s,baz=216,slow=37
LVC Limon Verde 12.84 16 ePn Pn 01 57 34.7 -5.9
LVC eSn Sn 01 59 55.5 -6.9
PB04 IPOC Station P 12.87 11 ePn Pn 01 57 39.0 -1.8
PB01 IPOC Station P 14.24 13 ePn Pn 01 57 58.1 -1.4
CPUP Villa Florida 15.88 61 Pn Pn 01 58 19.1 -1.7
comp=Z,0.2nm,0.3s,baz=237,slow=15,SNR=4.5
CPUP LR LR 02 04 59.9
comp=Z,584nm,18.2s,baz=240,slow=39
LPAZ La Paz 19.14 14 P P 01 59 02.4 +1.9
comp=Z,1.4nm,0.3s,baz=192,slow=7.8,SNR=90
LPAZ La Paz 19.14 14 eP P 01 59 02.5 +1.9
comp=Z,20nm,0.7s
SIV San Ignacio 21.69 32 P P 01 59 26.9 -0.7
comp=Z,27nm,0.8s,baz=224,slow=9.7,SNR=59
SIV LR LR 02 09 41.1
comp=Z,476nm,19.0s,baz=194,slow=42
NNA Nana 23.24 350 LR LR 02 06 39.6
comp=Z,140nm,20.6s,baz=204,slow=31
SAML Samuel 27.42 21 eP P 02 00 19.9 -2.0
comp=Z,6.9nm,1.1s
OTAV Otavalo 35.49 350 eP P 02 01 33.2 -0.2
comp=Z,14nm,1.4s
PTGA Pitinga 36.17 22 eP P 02 01 38.4 -0.4
comp=Z,22nm,1.0s
PRAC Prado 38.59 357 eP P 02 01 58.2 -1.1
comp=Z,72nm,1.8s
ROSC El Rosal 39.69 358 P P 02 02 12.4 +3.6
comp=Z,5.9nm,0.6s,baz=131,slow=4.7,SNR=6.4
HELC Santa Helena 41.09 356 eP P 02 02 19.4 -1.0
comp=Z,28nm,0.9s
RCBR Riachuelo 44.73 58 P P 02 02 50.1 +0.5
comp=Z,6.1nm,0.8s,baz=214,slow=8.5,SNR=4.7
SNAA Sanae 50.87 157 eP P 02 03 35.9 -0.6
comp=Z,8.4nm,0.9s
QSPA South Pole Qui 55.20 180 eP P 02 04 11.0 +2.5
comp=Z,25nm,1.0s
034A Hebbronville 66.44 335 P P 02 05 26.2 +1.1
baz=157
834A Tilden 67.37 335 P P 02 05 32.2 +1.3
baz=157
735A Kenedy 67.79 336 P P 02 05 34.8 +1.2
baz=158
833A Chaparral WMA, 67.84 335 P P 02 05 35.3 +1.4
baz=157
636A Smothers Creek 68.13 337 P P 02 05 36.9 +1.2
baz=159
247A Quitman 68.37 346 P P 02 05 37.9 +0.7
baz=166
342A Flagon Creek P 68.56 342 P P 02 05 39.7 +1.3
baz=163
633A Saathoff Ranch 68.81 335 P P 02 05 40.7 +0.8
baz=157
244A Avery, Jackson 68.81 344 P P 02 05 40.7 +0.8
baz=164
533A Kerrville 69.32 336 P P 02 05 43.5 +0.4
baz=157
Z47A Carrollton 69.37 346 P P 02 05 43.6 +0.3
baz=167
Z48A Northport 69.45 347 P P 02 05 44.3 +0.5
baz=167
337A Centerville 69.48 339 P P 02 05 45.1 +1.0
baz=160
Z46A Louisville 69.54 346 P P 02 05 45.3 +0.9
baz=166
NATX Nacogdoches 69.55 340 P P 02 05 45.3 +0.8
baz=161
143A Socs Landing, 69.61 343 P P 02 05 45.6 +0.7
baz=164
239A Gary 69.74 340 P P 02 05 46.3 +0.7
baz=161
434A Burnet 69.75 337 P P 02 05 46.2 +0.3
baz=158
Z44A Pea Ridge, Bel 69.94 344 P P 02 05 47.4 +0.5
baz=165
JCT Junction City 69.95 335 P P 02 05 47.2 +0.1
baz=157
JCT Junction City 69.95 335 eP P 02 05 48.0 +0.9
comp=Z,9.1nm,0.9s
433A Art 69.97 336 P P 02 05 47.3 +0.2
baz=157,SNR=7.8
Y47A UCPARC, Winfie 70.01 347 P P 02 05 47.4 +0.1
baz=167
334A Lometa 70.22 337 P P 02 05 48.9 +0.3
baz=158,SNR=6.5
TXAR Lajitas Array 70.33 332 P P 02 05 50.0 +0.5
comp=Z,1.8nm,0.7s,baz=151,slow=8.3,SNR=29
TX31 Lajitas Ar. Si 70.34 332 eP P 02 05 49.2 -0.3
333A Richland Sprin 70.46 336 P P 02 05 50.0 -0.1
baz=157
WHTX Lake Whitney, 70.58 338 P P 02 05 50.8 0.0
baz=159
X45A UM Field Stati 70.82 346 P P 02 05 52.6 +0.4
baz=166
SWET Sewanee 70.96 349 eP P 02 05 51.8 -1.3
comp=Z,3.6nm,0.9s
CPCT Cooper Cave 70.97 350 eP P 02 05 52.2 -0.9
comp=Z,4.1nm,0.8s
Y41A Eaglette Beard 71.03 343 P P 02 05 54.1 +0.6
baz=163
233A Rising Star 71.07 337 P P 02 05 53.7 -0.1
baz=158
Z36A Blue Ridge 71.47 339 P P 02 05 56.6 +0.4
baz=160
133A Hamilton Ranch 71.62 337 P P 02 05 57.3 +0.2
baz=158
Z35A Perchaven, San 71.77 339 P P 02 05 58.2 +0.2
baz=159
ABTX Abilene, Hawle 71.87 336 P P 02 05 58.8 +0.2
baz=157
Z34A Collier Ranch, 72.01 338 P P 02 05 59.6 +0.2
baz=158
W41B Gary Mavity, V 72.17 343 P P 02 06 00.2 -0.2
baz=163
WVT Waverly 72.17 347 eP P 02 06 00.1 -0.3
comp=Z,15nm,0.9s
Z33A Whitaker Ranch 72.19 337 P P 02 06 00.7 +0.1
baz=158
X301 Greenbrier Sit 72.27 343 eP P 02 06 00.4 -0.5
comp=Z,12nm,0.9s
WHAR Wooly Hollow 72.29 343 eP P 02 06 01.4 +0.3
comp=Z,7.9nm,0.9s
X201 Greenbrier Sit 72.31 343 eP P 02 06 00.9 -0.2
comp=Z,12nm,0.9s
X38A Whitesboro 72.34 341 P P 02 06 01.6 +0.2
baz=161
MAW Mawson 72.37 164 LR LR 02 39 50.4
comp=Z,116nm,18.6s,baz=241,slow=38
Y34A Reagan Ranch, 72.50 338 P P 02 06 02.1 -0.3
baz=159
W39A Magazine 72.57 342 P P 02 06 03.0 +0.3
baz=162,SNR=8.1
V42A Cord 72.58 344 P P 02 06 02.0 -0.8
baz=164
W38A Poteau 72.64 341 P P 02 06 03.3 +0.1
baz=161
X36A Centrahoma 72.67 340 P P 02 06 02.6 -0.7
baz=160
X35A Drake 72.68 339 P P 02 06 02.9 -0.5
baz=159
V41A Mountainview 72.73 344 P P 02 06 03.4 -0.3
baz=163,SNR=7.9
V40A Witts Springs 72.91 343 P P 02 06 04.2 -0.6
baz=163
W37B Quinton 72.94 341 P P 02 06 04.5 -0.5
baz=161
U42A Revenden 73.07 345 P P 02 06 05.2 -0.5
baz=164
MNTX Cornudas Mount 73.11 331 P P 02 06 05.2 -0.9
baz=152
MNTX Cornudas Mount 73.11 331 eP P 02 06 05.7 -0.3
comp=Z,2.9nm,0.8s
X34A Smith Ranch, M 73.12 339 P P 02 06 05.6 -0.4
baz=159
V39A Pettigrew 73.14 342 P P 02 06 05.8 -0.4
baz=162,SNR=5.3
U41A Viola 73.22 344 P P 02 06 05.9 -0.6
baz=164
V38A Canehill 73.36 342 P P 02 06 06.7 -0.7
baz=162
W35A Tecumseh 73.36 340 P P 02 06 06.6 -0.8
baz=160
U40A Yellville 73.44 343 P P 02 06 07.5 -0.4
baz=163,SNR=7.4
WMOK Wichita Mounta 73.54 338 P P 02 06 08.0 -0.5
baz=158
V37A Hulbert 73.57 341 P P 02 06 08.1 -0.5
baz=161
U39A Green Forest 73.62 343 P P 02 06 08.5 -0.4
baz=162
HHAR Hobbs 73.64 342 eP P 02 06 08.0 -1.1
comp=Z,4.0nm,0.8s
TUL1 Leonard 73.77 341 P P 02 06 09.4 -0.4
baz=160
W33A Caddo, Fort Co 73.83 338 P P 02 06 09.5 -0.7
baz=158
T41A Mountain View 73.85 344 P P 02 06 09.5 -0.7
baz=164
V35A Meyer Ranch, C 73.92 340 P P 02 06 09.9 -0.8
baz=160
S44A Carbondale 73.96 346 P P 02 06 10.1 -0.8
baz=166
S43A Fulton Ridge, 74.00 346 P P 02 06 10.4 -0.8
baz=165,SNR=7.2
W32A Sentinel 74.04 338 P P 02 06 11.1 -0.3
baz=158,SNR=8.0
U37A Salina 74.06 341 P P 02 06 10.8 -0.6
baz=161
T40A Mansfield 74.12 344 P P 02 06 11.3 -0.6
baz=163
MSTX Muleshoe 74.16 334 P P 02 06 11.6 -0.7
baz=155
MSTX Muleshoe 74.16 334 eP P 02 06 10.5 -1.8
comp=Z,6.5nm,0.8s
V34A Guthrie 74.18 339 P P 02 06 11.7 -0.6
baz=159
T39A Clever 74.20 343 P P 02 06 11.8 -0.5
baz=162
S41A Jilco Farms, 74.37 344 P P 02 06 12.9 -0.3
baz=166
V33A Lossen Ranch, 74.39 339 P P 02 06 12.9 -0.6
baz=158
T38A Diamond 74.44 342 P P 02 06 13.2 -0.5
baz=162
U35A Pawnee 74.46 340 P P 02 06 13.8 0.0
baz=160
R44A Waltonville 74.46 347 P P 02 06 12.8 -1.0
baz=166
S40A Lebanon 74.55 344 P P 02 06 14.0 -0.3
baz=163,SNR=6.6
T37A Cheneyville 18 74.68 342 P P 02 06 14.5 -0.6
baz=161
121A Cookes Peak, D 74.81 330 P P 02 06 16.0 -0.2
baz=151
S39A Bolivar 74.83 343 P P 02 06 15.5 -0.4
baz=163
T36A Boggs Farm, Ca 74.87 341 P P 02 06 15.9 -0.3
baz=160
T35A Sooner Cattle 74.91 341 P P 02 06 16.4 0.0
baz=160
S38A Stockton 74.91 343 P P 02 06 16.0 -0.4
baz=162,SNR=7.7
U33A Lingo Farm, Me 74.91 339 P P 02 06 16.2 -0.3
baz=159
Q44A Meyer Farm, Va 75.09 347 P P 02 06 16.8 -0.6
baz=166
O56A Blue Knob Stat 75.12 355 P P 02 06 17.7 0.0
baz=175
U32A Winter Ranch, 75.13 338 P P 02 06 17.6 -0.1
baz=158
R40A Maddies Statio 75.16 344 P P 02 06 17.5 -0.3
baz=164,SNR=7.1
T34A McClaskey Farm 75.19 340 P P 02 06 18.0 0.0
baz=159
Q43A New Douglas 75.25 346 P P 02 06 17.8 -0.5
baz=166
S37A Fort Scott 75.26 342 P P 02 06 18.0 -0.4
baz=161
R39A Chumby, Stover 75.36 344 P P 02 06 18.5 -0.5
baz=163
Q42A Golden Eagle 75.39 346 P P 02 06 18.5 -0.5
baz=165
S36A Lake Cedric, C 75.42 341 P P 02 06 19.1 -0.2
baz=161
R38A Fenwick Farm, 75.44 343 P P 02 06 18.9 -0.5
baz=162
SSPA Standing Stone 75.45 356 eP P 02 06 18.8 -0.6
comp=Z,12nm,1.3s
ACSO Alum Creek Sta 75.48 352 eP P 02 06 18.2 -1.5
comp=Z,16nm,0.6s
S35A Otter Creek Ra 75.58 341 P P 02 06 19.8 -0.4
baz=160
N59A State Game Lan 75.63 358 P P 02 06 21.1 +0.6
baz=177
Q40A Laux Farm, Aux 75.79 345 P P 02 06 21.2 -0.2
baz=164,SNR=6.6
N54A Moraine State 75.92 354 P P 02 06 21.9 -0.2
baz=174
P42A Winchester 76.00 346 P P 02 06 21.9 -0.7
baz=165
Q39A Willow Grove F 76.04 344 P P 02 06 22.1 -0.7
baz=163
Q38A Cooks Store, C 76.11 343 P P 02 06 22.7 -0.5
baz=162
DBIC Dimbokro 76.11 72 P P 02 06 24.4 +0.6
comp=Z,6.2nm,1.0s,baz=169,slow=5.2,SNR=2.9
R35A Emporia Munici 76.15 341 P P 02 06 23.4 -0.1
baz=160
P40A Paris 76.30 345 P P 02 06 24.0 -0.2
baz=164,SNR=11
ANMO Albuquerque 76.39 332 P P 02 06 26.2 +1.0
baz=152
ANMO Albuquerque 76.39 332 eP P 02 06 21.0 -4.2
comp=Z,3.6nm,1.0s
R34A Isabella, Hill 76.41 340 P P 02 06 25.0 0.0
baz=160
P39B Salisbury 76.41 344 P P 02 06 24.8 -0.2
baz=163
M54A Oil Creek Stat 76.43 355 P P 02 06 24.8 -0.3
baz=174
O41A Passleys Farm, 76.62 346 P P 02 06 25.6 -0.5
baz=165
R33A Olander Ranch, 76.62 340 P P 02 06 25.9 -0.3
baz=159
P38A Dawn 76.72 344 P P 02 06 26.0 -0.6
baz=163
O40A La Belle 76.83 345 P P 02 06 26.7 -0.5
baz=164
Q34A Chapman 76.91 341 P P 02 06 27.4 -0.3
baz=160
O39A Kirksville 77.10 345 P P 02 06 28.4 -0.4
baz=163
P36A Good Intent, A 77.12 342 P P 02 06 28.0 -0.9
baz=161
P35A Duane Minner, 77.23 342 P P 02 06 29.1 -0.5
baz=161
TRY Troy 77.40 359 eP P 02 06 30.8 +0.4
comp=Z,32nm,1.4s
P34A Walnut Farm, R 77.46 341 P P 02 06 30.7 -0.2
baz=160
T25A Trinidad 77.59 335 P P 02 06 31.7 -0.2
baz=154
N39A Derby Farms, D 77.69 345 P P 02 06 31.6 -0.4
baz=164
N38A Joes South For 77.77 344 P P 02 06 32.3 -0.2
baz=163
X16A Lo Mia Camp, P 77.97 328 eP P 02 06 35.8 +1.7
comp=Z,3.3nm,1.0s
O34A Beatrice 78.02 342 P P 02 06 33.7 -0.3
baz=160
M39A Webster 78.19 345 P P 02 06 34.3 -0.6
baz=164
M38A Pleasantville 78.36 344 P P 02 06 35.1 -0.7
baz=163
L41A Preston 78.44 347 P P 02 06 35.7 -0.5
baz=165
SDCO Great Sand Dun 78.52 334 P P 02 06 37.7 +0.5
baz=153
SDCO Great Sand Dun 78.52 334 eP P 02 06 36.4 -0.8
comp=Z,9.3nm,1.5s
M37A Trindle Farm, 78.53 344 P P 02 06 36.6 -0.2
baz=162
L40A Anamosa 78.56 346 P P 02 06 36.4 -0.5
baz=165
WUAZ Wupatki 78.88 329 P P 02 06 39.4 +0.3
baz=149
K41A Shullsburg 78.91 347 P P 02 06 38.4 -0.4
baz=165
L38A Oak Wood Farm, 79.00 345 P P 02 06 39.0 -0.3
baz=163
S22A 4UR Ranch, Cre 79.00 333 P P 02 06 40.3 +0.5
baz=152
BC3 Big Chuckawall 79.15 325 P P 02 06 41.8 +1.3
baz=146
MVCO Mesa Verde 79.17 332 P P 02 06 41.7 +1.0
baz=151
Q24A Divide 79.48 335 P P 02 06 43.1 +0.6
baz=153
FRNY Flat Rock 79.50 359 eP P 02 06 42.8 +0.8
comp=Z,5.7nm,0.8s
TPFO Pinon Flats 79.59 324 P P 02 06 44.0 +1.1
baz=145
J41A Loganville 79.59 347 P P 02 06 42.6 +0.1
baz=166
J40A Soldiers Grove 79.76 347 P P 02 06 42.7 -0.7
baz=165
K36A Gilmore City 79.80 344 P P 02 06 43.5 -0.2
baz=162
J39A Decorah 79.88 346 P P 02 06 43.7 -0.4
baz=164
U15A North Rim 80.05 329 eP P 02 06 46.3 +0.8
comp=Z,3.3nm,0.8s
BOSA Boshof 80.15 118 P P 02 06 46.3 0.0
comp=Z,8.1nm,0.9s,baz=219,slow=4.2,SNR=9.2
BOSA Boshof 80.15 118 eP P 02 06 46.5 +0.2
GMRC Granite Mounta 80.18 325 P P 02 06 46.6 +0.5
baz=146
SMCO Snowmass 80.32 334 eP P 02 06 46.8 -0.3
comp=Z,1.6nm,0.9s
ISCO Idaho Springs 80.39 335 P P 02 06 47.8 +0.5
baz=153
ISCO Idaho Springs 80.39 335 eP P 02 06 47.1 -0.1
comp=Z,2.2nm,0.8s
J36A Seneca 1, Swea 80.43 344 P P 02 06 46.9 -0.2
baz=162
I38A Scanlan Farm, 80.69 346 P P 02 06 47.7 -0.7
baz=164
KNB Kanab 80.77 329 eP P 02 06 49.3 0.0
comp=Z,5.5nm,0.8s
I37A Lemond, Waseca 80.88 345 P P 02 06 49.1 -0.3
baz=163
TRQ Mont Tremblant 80.90 359 eP P 02 06 48.4 -1.2
I35A Creekview Farm 81.08 344 P P 02 06 50.0 -0.5
baz=162
ECSD EROS Data Cent 81.34 343 P P 02 06 51.7 -0.2
baz=160
ECSD EROS Data Cent 81.34 343 eP P 02 06 52.0 0.0
comp=Z,9.8nm,0.8s
MTPU Mount Pierson 81.37 330 eP P 02 06 54.0 +1.4
comp=Z,3.2nm,0.8s
CCUT Cedar City 81.45 328 eP P 02 06 54.1 +1.2
comp=Z,3.7nm,0.9s
N23A Red Feather La 81.48 335 P P 02 06 53.4 +0.3
baz=153
SRU San Rafael Swe 81.61 331 eP P 02 06 53.7 0.0
comp=Z,3.8nm,0.8s
O20A White River Ci 81.63 333 P P 02 06 54.1 +0.4
baz=151
H35A Sunnyside Ranc 81.84 344 P P 02 06 53.9 -0.6
baz=162
P18A Preston Nutter 81.94 332 eP P 02 06 55.8 +0.2
comp=Z,6.7nm,1.1s
F36A Milaca 82.67 346 P P 02 06 58.0 -0.8
baz=163
R11A Troy Canyon, C 83.08 327 P P 02 07 02.7 +1.4
baz=146
E36A McGregor 83.25 346 P P 02 07 01.2 -0.6
baz=163
DUG Dugway, Tooele 83.45 330 P P 02 07 04.0 +0.9
baz=148
DUG Dugway, Tooele 83.45 330 eP P 02 07 03.3 +0.1
comp=Z,7.0nm,1.3s
RSSD Black Hills 83.75 338 P P 02 07 04.9 +0.2
baz=155
RSSD Black Hills 83.75 338 eP P 02 07 04.1 -0.6
comp=Z,3.2nm,0.9s
D35A Remer 83.95 346 P P 02 07 05.0 -0.4
baz=162
HWUT Hardware Ranch 84.16 332 eP P 02 07 06.0 -0.8
comp=Z,6.1nm,0.9s
E31A Nome 84.31 343 P P 02 07 06.8 -0.4
baz=160
PDAR Pinedale Array 84.41 334 P P 02 07 07.5 -0.6
comp=Z,0.4nm,0.4s,baz=152,slow=4.1,SNR=4.3
HVU Hansel Valley 84.78 331 eP P 02 07 09.7 -0.2
comp=Z,3.3nm,0.9s
B35A Bob, Littlefor 85.10 346 P P 02 07 10.7 -0.5
baz=163
C31A Landman Farms, 85.43 343 P P 02 07 12.4 -0.4
baz=160
AGMN Agassiz Nation 85.48 345 P P 02 07 12.7 -0.3
baz=161
AGMN Agassiz Nation 85.48 345 eP P 02 07 13.0 -0.1
comp=Z,2.8nm,0.6s
D26A Manning 85.93 340 P P 02 07 15.6 +0.3
baz=156
MDND Maddock 85.93 342 P P 02 07 15.3 0.0
baz=158
A33A Warroad 85.99 345 P P 02 07 15.3 -0.2
baz=162
B31A Greenbush Farm 86.00 344 P P 02 07 15.2 -0.4
baz=160
YPP Pitchstone Pla 86.16 334 eP P 02 07 17.2 +0.3
comp=Z,7.1nm,0.8s
B30A Myrvik Farm, E 86.18 343 P P 02 07 16.6 0.0
baz=159
RLMT Red Lodge 86.35 335 P P 02 07 17.4 -0.3
baz=151
B29A Wagenman Farm, 86.44 343 P P 02 07 17.8 0.0
baz=158
A29A Manning Farm, 86.84 343 P P 02 07 20.1 +0.3
baz=158
HLID Hailey 86.93 331 P P 02 07 20.8 +0.3
baz=147
ULM Lac du Bonnet 87.34 345 P P 02 07 21.6 -0.5
comp=Z,4.5nm,0.8s,baz=185,slow=4.8,SNR=3.3
A27A Ledoux Ranch, 87.37 342 P P 02 07 22.6 +0.3
baz=157
MCMT McKenzie Canyo 87.39 333 eP P 02 07 22.6 -0.2
O03D Paynes Creek 87.50 325 P P 02 07 23.1 -0.2
baz=142
A26A Wade Farm, Ken 87.53 341 P P 02 07 23.0 -0.1
baz=156
STHS Stebnicka Huta 118.08 48 ePDIFF Pdif 02 09 42.4 +1.6
BRTR Keskin Array B 122.89 62 PKP PKPdf 02 13 31.5 -0.1
comp=Z,1.2nm,0.8s,baz=199,slow=0.7,SNR=5.4
AKASG Malin Array Be 123.36 48 PKP PKPdf 02 13 31.1 -0.9
comp=Z,0.3nm,0.3s,baz=264,slow=1.9,SNR=3.5
FINES FINESS Array B 124.20 35 PKP PKPdf 02 13 32.4 -0.8
comp=Z,0.9nm,0.7s,baz=140,slow=15,SNR=3.0
FAKI Fak Fak 135.52 217 ePKPdf PKPdf 02 13 57.3 +1.0
SEY Seymchan 140.60 329 PKP PKPdf 02 14 04.9 +0.8
comp=Z,1.6nm,0.2s,baz=31,slow=16,SNR=4.9
ZRNK Zerenda 147.70 44 ePKPdf PKPdf 02 14 17.9 +1.2
BVAR Borovoye Array 148.47 44 PKP PKPdf 02 14 18.8 +0.8
comp=Z,2.3nm,0.8s,baz=316,slow=4.0,SNR=3.8
BVAR PKPbc PKPbc 02 14 22.1 +0.5
comp=Z,1.2nm,0.3s,baz=336,slow=3.2,SNR=9.6
KURBB Kurchatov Arra 154.05 44 PKP PKPdf 02 14 26.8 +0.2
comp=Z,0.6nm,0.7s,baz=299,slow=2.2,SNR=4.9
KURBB PKPbc PKPbc 02 14 35.0 +0.3
comp=Z,2.0nm,0.7s,baz=296,slow=2.8,SNR=16

KURK	Kurchatov	154.06	44	PKP	PKPdf	02 14 26.8	+0.2
KURK				PKPbc	PKPbc	02 14 35.0	+0.3
KSH	Kashi	154.83	70	ePKPbc	PKPdf	02 14 25.5	-2.7
KSH				pPKP	PKPbc	02 14 36.0	-0.9
KSH				PP	PP	02 18 28.0	-0.7
KSH				SKS	SKSdf	02 21 27.0	-4.3
KSH				SKKS	SKKSac	02 25 10.8	-3.7
KSH				PPMZ			
	comp=Z,93nm,6.0s						
KSH				LN			
	comp=Z,36nm,3.9s						
KSH				LE			
	comp=Z,38nm,3.5s						
ZALV	Zalesovo Beam	155.44	33	PKP	PKPdf	02 14 28.7	+0.3
	comp=Z,1.3nm,0.7s,baz=325,slow=2.3,SNR=3.7						
ZALV				PKPbc	PKPbc	02 14 37.4	
	comp=Z,2.5nm,0.8s,baz=297,slow=4.5,SNR=6.0						
ZALV				PKPab	PKPab	02 14 54.9	+0.7
	comp=Z,4.0nm,0.8s,baz=312,slow=5.6,SNR=7.2						
MKAR	Makanchi Array	157.92	50	PKP	PKPdf	02 14 31.9	0.0
	comp=Z,0.2nm,0.4s,baz=306,slow=3.4,SNR=3.0						
MKAR				PKPab	PKPab	02 15 05.3	+0.1
	comp=Z,0.6nm,0.6s,baz=279,slow=3.3,SNR=3.8						
WMQ	Urumqi	162.60	54	PKP	PKPdf	02 14 35.0	-2.2
SONM	Songino Array	167.20	2	PKPab	PKPab	02 15 46.5	+0.8
	comp=Z,1.8nm,0.9s,baz=342,slow=3.3,SNR=6.1						
HHC	Hu-ho-hao-te	173.25	331	ePKP	PKPdf	02 14 46.8	+2.1
HHC				PPMZ			
	comp=Z,90nm,6.1s						
LZH	Lanzhou	177.07	68	ePKP	PKPdf	02 14 45.3	-0.7
LZH				pPKP	pPKPdf	02 14 53.5	-6.3
LZH				sPKP		02 14 56.3	
LZH				LN			
	comp=Z,170nm,18.0s						
LZH				LE			
	comp=Z,170nm,18.1s						
LZH				LZ			
	comp=Z,220nm,20.2s						

*ISCJB **28** 01:55:20.8±0.5, 39.°09N±0.°04×29.°01E±0.°03, h6km±7km, Error ellipse: s-maj=6.4km s-min=4.5km az=170.1*
*DDA **28** 01:55:20.6, 39.°11N×29.°01E, h7km, Md2.8*
*ISK **28** 01:55:20.6, 39.°11N×29.°00E, h6km, MD2.8*
*CSEM **28** 01:55:21.0±0.1, 39.°10N×29.°01E, h5km, MD2.8, Error ellipse: s-maj=2.0km s-min=1.8km az=136.0*

ISC 28 01:55:21.1±0.9, 39.°10N±0.°03×29.°01E±0.°02, h13km±8km, n34, σ0941/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.23	256	P	Pg	01 55 26.1	0.0
DEMI				S	Sg	01 55 29.6	0.0
DEMI	Demirci	0.23	256	*i* P	Pg	01 55 26.1	0.0
DEMI				*i* S	Sg	01 55 29.6	0.0
GEDZ	Gediz	0.32	100	*e*PG	Pg	01 55 27.8	+0.2
GEDZ	Gediz	0.32	100	*e*Pg	Pg	01 55 27.8	+0.2
GDZ	Gediz	0.37	91	P	Pg	01 55 28.3	-0.2
GDZ				S	Sg	01 55 33.4	-0.1
GDZ	Gediz	0.37	91	*i* P	Pg	01 55 28.3	-0.2
GDZ				*i* S	Sg	01 55 33.4	-0.1
TVSB	Tavsanli	0.50	45	*e*PG	Pg	01 55 30.3	-0.6
TVSB	Tavsanli	0.50	45	*e*Pg	Pg	01 55 30.3	-0.6
KULA	Kula-Manisa	0.64	205	*e*PG	Pb	01 55 34.0	-0.2
KULA				*e*SG	Sg	01 55 42.5	+0.3
KULA	Kula-Manisa	0.64	205	*e*Pg	Pb	01 55 34.0	-0.2
KULA				*e*Sg	Sg	01 55 42.5	+0.3
MANT	Manisa	0.70	210	P	Pg	01 55 34.2	-0.5
MANT				S	Sg	01 55 43.4	-0.6
MANT	Manisa	0.70	210	*i* P	Pg	01 55 34.2	-0.5
MANT				*i* S	Sg	01 55 43.4	-0.6
KHL	Karahalli	0.87	152	*e*PG	Pg	01 55 37.9	-0.1
KHL	Karahalli	0.87	152	*e*Pg	Pg	01 55 37.9	-0.1
AKS	Akhisar	0.96	257	*e*PG	Pb	01 55 39.5	0.0
AKS	Akhisar	0.96	257	*e*Pg	Pb	01 55 39.5	0.0
BALB	Balikesir	1.03	302	*e*PG	Pb	01 55 40.6	-0.1
BALB				*e*SG	Sn	01 55 55.4	-0.1
BALB	Balikesir	1.03	302	*e*Pg	Pb	01 55 40.6	-0.1
BALB				*e*Sg	Sn	01 55 55.4	-0.1
KCTX	Karacabey (Bur	1.27	337	*e*PN	Pg	01 55 45.4	+0.5
KCTX	Karacabey (Bur	1.27	337	*e*Pn	Pb	01 55 45.4	+0.5
MDNY	Mudanya-Bursa	1.27	356	*e*PN	Pg	01 55 45.1	-0.4
MDNY	Mudanya-Bursa	1.27	356	*e*Pn	Pb	01 55 45.1	-0.4
CAVI	Cavuskoy	1.28	30	*e*PN	Pg	01 55 45.6	0.0
CAVI	Cavuskoy	1.28	30	*e*Pn	Pg	01 55 45.6	0.0
IZI	Iznik	1.29	16	*e*PN	Pb	01 55 45.3	+0.1
IZI	Iznik	1.29	16	*e*Pn	Pb	01 55 45.3	+0.1
GONE	Gonen-Balikesi	1.39	313	*e*PN	Pg	01 55 47.2	-0.6
GONE	Gonen-Balikesi	1.39	313	*e*Pn	Pg	01 55 47.2	-0.6
ADVT	Abdulvahap	1.45	23	*e*PN	Pb	01 55 47.7	-0.1
ADVT	Abdulvahap	1.45	23	*e*Pn	Pb	01 55 47.7	-0.1
EDC	Edincik	1.53	325	*e*PN	Pn	01 55 48.8	+0.7
EDC	Edincik	1.53	325	*e*Pn	Pn	01 55 48.8	+0.7
GULT	Gulveren	1.77	41	*e*PN	Pb	01 55 52.6	-0.8
GULT	Gulveren	1.77	41	*e*Pn	Pb	01 55 52.6	-0.8

*ISCJB **28** 01:58:22.5±1.6, 51.°9N±0.°3×171.°6W±0.°2, h44km, mb3.8/8, Error ellipse: s-maj=39.3km s-min=19.4km az=177.4*
*IDC **28** 01:58:29.2±17.0, 52.°18N×171.°45W, h75km±148km, mb3.5/8, mb1 3.5/9, mb1mx3.2/74, mbtmp3.7/9, ML3.3/1, Error ellipse: s-maj=69.8km s-min=26.3km az=22.0*

ISC 28 01:58:25.0±2.1, 52.°0N±0.°4×171.°6W±0.°2, h44km, n15, σ090/9, mb3.8/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	18.01	35	P	P	02 02 33.1	+1.3
	0.0nm,0.3s,baz=232,slow=10,SNR=3.4						
YKA	Yellowknife Ar	31.49	48	P	P	02 04 41.1	-1.1
	0.5nm,0.6s,baz=277,slow=8.4,SNR=3.8						
H11N2	WAKE ISLAND Hy 36.36	216		T	T	02 43 53.1	
	baz=21,slow=76,SNR=8.3						
H11N3	WAKE ISLAND Hy 36.37	216		T	T	02 43 54.2	
	baz=21,slow=76,SNR=8.4						
H11N1	WAKE ISLAND Hy 36.38	216		T	T	02 43 54.3	
	baz=21,slow=76,SNR=7.3						
H11S1	WAKE ISLAND Hy 37.55	215		T	T	02 45 25.2	
	baz=21,slow=76,SNR=5.1						
H11S2	WAKE ISLAND Hy 37.57	215		T	T	02 45 25.0	
	baz=21,slow=76,SNR=4.4						
H11S3	WAKE ISLAND Hy 37.57	215		T	T	02 45 23.2	
	baz=21,slow=76,SNR=5.3						
TXAR	Lajitas Array	54.12	87	P	P	02 07 45.9	+0.4
	0.3nm,1.0s,baz=324,slow=5.6,SNR=2.3						
ARCES	ARCESS Array B	58.11	353	P	P	02 08 12.9	-0.5
	1.0nm,0.7s,baz=20,slow=8.1,SNR=3.1						
KURBB	Kurchatov Arra	61.83	317	P	P	02 08 39.5	+0.4
	0.5nm,0.6s,baz=44,slow=7.1,SNR=4.2						
MKAR	Makanchi Array	63.05	312	P	P	02 08 46.9	-0.4
	0.2nm,0.3s,baz=49,slow=6.6,SNR=2.7						
BVAR	Borovoye Array	63.18	323	P	P	02 08 49.0	+0.9
	1.3nm,0.5s,baz=36,slow=6.8,SNR=7.0						
HFS	Hagfors	68.12	357	P	P	02 09 19.4	-0.4
	0.5nm,0.5s,baz=14,slow=6.7,SNR=5.2						
AKTO	Aktyubinsk	69.62	329	P	P	02 09 29.9	+0.6
	1.4nm,0.6s,baz=69,slow=12,SNR=8.1						

GUC 28 02:06:38.1±1.4, 20.°87S×69.°17W, h106km±9km, ML3.6, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.34	240	*i* P	Pn	02 06 54.0	+0.2
PB01				*i* S	Sn	02 07 05.7	+0.3
PB01				IAML		02 07 07.2	
	comp=N,4μm,0.3s						
PB08	IPOC Station P	0.72	1	*i* P	Pn	02 06 57.6	+0.8
PB08				*i* S	Sn	02 07 12.3	+1.6
PB08				IAML		02 07 13.2	
	comp=N,1μm,0.4s						
HMBC	Humberstone	0.89	311	*i* P	Pn	02 06 58.6	+0.6
HMBC				*i* S	Sn	02 07 14.1	+1.0
HMBC				IAML		02 07 15.0	
	comp=E,3μm,0.5s						
PB09	IPOC Station P	0.93	184	*i* P	Pn	02 06 58.7	+0.3
PB09				*i* S	Sn	02 07 14.6	+0.9
PB09				IAML		02 07 15.6	
	comp=N,4μm,0.2s						
PB07	IPOC Station P	1.08	218	⇑*e*P	Pn	02 07 00.2	+0.1
PB07				*e*S	Sn	02 07 16.2	-0.4
PB07				IAML		02 07 17.8	
	comp=E,3μm,0.4s						
PSGC	Pisagua	1.55	325	*e*P	Pn	02 07 05.6	+0.2
PSGC				*i* S	Sn	02 07 26.8	+0.7
PSGC				IAML		02 07 27.9	
	comp=E,554nm,0.3s						
PB04	IPOC Station P	1.72	212	*e*P	Pn	02 07 07.5	-0.1
PB04				*e*S	Sn	02 07 28.7	-1.2
PB04				IAML		02 07 33.5	
	comp=N,418nm,0.1s						
MNMC	Minye Minye	1.77	347	⇑*i* P	Pn	02 07 09.3	+0.9
MNMC				*i* S	Sn	02 07 32.7	+1.3
MNMC				IAML		02 07 36.7	
	comp=E,688nm,0.1s						
PB06	IPOC Station P	1.87	191	*e*P	Pn	02 07 09.3	-0.1
PB06				*e*S	Sn	02 07 32.4	-0.8
PB06				IAML		02 07 34.1	
	comp=N,349nm,0.5s						

*ISCJB **28** 02:07:29.5±0.3, 9.°07S±0.°04×121.°81E±0.°03, h100km, mb4.1/13, Error ellipse: s-maj=5.9km s-min=3.7km az=30.2*
*NEIC **28** 02:07:31.9±0.8, 9.°20S×121.°58E, h114km±8km, mb4.5/5, Error ellipse: s-maj=14.6km s-min=9.1km az=49.0*
*IDC **28** 02:07:31.1±3.6, 8.°89S×121.°52E, h89km±30km, mb3.9/11, mb1 4.1/12, mb1mx3.8/53, mbtmp4.3/12, MS2.9/1, Ms1 2.9/1, ms1mx2.3/33, Error ellipse: s-maj=37.7km s-min=16.6km az=67.0*
*DJA **28** 02:07:32.7±0.3, 9.°S±4.°×12.°2E±.°, h99km±5km, M5.0/7, mB5.7/2, mb5.0/6, MLv5.0/7, Mw(mB)5.2/2*

ISC 28 02:07:31.3±0.5, 9.°19S±0.°04×121.°69E±0.°04, h100km, n53, σ2891/69, mb4.3/13, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.78	44	P	Pn	02 07 50.7	+1.3
MMRI				S	Sn	02 08 03.6	+0.6
MMRI	Maumere	0.78	44	*e*Pn	Pn	02 07 51.0	+1.6
MMRI				*e*Sn	Sn	02 08 03.2	+0.2
WSI	Waingapu	1.45	251	P	Pn	02 07 59.7	+2.8
WSI				S	Sn	02 08 19.3	+2.9
BASI	Baing, Sumba	1.50	227	P	Pn	02 08 00.7	+3.2
BASI				S	Sn	02 08 21.5	+4.1
SOEI	Soe	2.60	103	P	Pn	02 08 15.3	+3.4
SOEI	Soe	2.60	103	*e*Pn	Pn	02 08 15.2	+3.3
PLAI	Plampang	3.88	275	P	Pn	02 08 32.2	+3.3
PLAI				S	Sn	02 09 14.5	+0.9
KAPI	Kappang	4.58	335	P	Pn	02 08 40.7	+2.4
	43nm,0.3s,baz=168,slow=9.9,SNR=119						
KAPI				S	Sn	02 09 32.4	+2.0
	baz=252,slow=20,SNR=5.6						
KAPI	Kappang	4.58	335	*e*Pn	Pn	02 08 41.1	+2.9
KAPI				*e*Sn	Sn	02 09 28.6	-1.7
TWSI	Taliwang, Sumb	4.77	275	P	Pn	02 08 43.8	+2.9
TWSI				S	Sn	02 09 36.1	+1.0
KDI	Kendari	5.28	10	P	Pn	02 08 50.1	+2.2
SPSI	Sidrap Palu	5.53	340	P	Pn	02 08 54.6	+3.3
TTSI	Tana Toraja	6.38	343	P	Pn	02 09 01.1	-1.7
DNP	Denpasar	6.42	274	P	Pn	02 09 04.2	+0.9
DNP				S	Sn	02 10 17.9	+2.7
JAGI	Jajag, Banyuwa	7.48	275	P	Pn	02 09 16.7	-1.1
JAGI	Jajag, Banyuwa	7.48	275	*e*Pn	Pn	02 09 15.5	-2.3
JAGI				*e*Sn	Sn	02 10 32.2	-9.0
ABJI	Asem Bagus	7.50	280	P	Pn	02 09 21.3	+3.2
GMJI	Gumukmas	8.20	276	P	Pn	02 09 26.3	-1.3
	39nm,1.1s						
BBKI	Banjar Baru	8.87	309	P	Pn	02 09 40.9	+4.2
FITZ	Fitzroy Crossi	9.65	157	P	Pn	02 09 48.6	+1.4
	5.0nm,0.3s,baz=347,slow=7.6,SNR=67						
FITZ				S	Sn	02 11 29.6	-4.3
	17nm,0.3s,baz=87,slow=19,SNR=15						
FITZ				LR	LR	02 14 12.8	
	comp=Z,71nm,20.3s,baz=178,slow=40						
FITZ	Fitzroy Crossi	9.65	157	*e*Pn	Pn	02 09 49.0	+1.7
FITZ				*e*Sn	Sn	02 11 28.2	-5.6
PWJI	Pagerwojo	9.85	276	P	Pn	02 09 51.2	+1.3
	52nm,0.7s,2μm						
MTN	Manton Dam	9.95	112	*e*Pn	Pn	02 09 51.4	0.0
MTN				*e*Sn	Sn	02 11 35.3	-5.9
PCJI	Pacitan	10.44	275	P	Pn	02 09 58.5	+0.5
MBWA	Marble Bar	12.04	189	*e*Pn	Pn	02 10 20.9	+1.3
MBWA				*e*Sn	Sn	02 12 22.1	-10
WRA	Warramunga Arr	16.24	133	P	Pn	02 11 12.4	-1.2
	4.9nm,0.3s,baz=307,slow=14,SNR=145						
WRA				S	Sn	02 14 02.3	-11
	1.5nm,0.3s,baz=305,slow=23,SNR=7.4						
WRAB	Tennant Creek	16.24	132	*e*Pn	Pn	02 11 14.0	+0.4
	12nm,0.7s						
WRAB				*e*Sn	Sn	02 14 04.4	-9.2
WB2	Warramunga Arr	16.25	133	*e*Pn	Pn	02 11 13.3	-0.4
	30nm,0.6s						
WB2				*e*Sn	Sn	02 13 59.2	-15
KASI	Kota Agung	17.43	281	P	Pn	02 11 29.1	+0.8
AS31	Alice Springs	18.54	142	*e*P	Pn	02 11 43.6	+2.1
	23nm,0.4s						
AS31				*e*S	S	02 14 58.4	-8.1
ASAR	Alice Springs	18.54	142	P	Pn	02 11 43.9	+2.4
	4.3nm,0.3s,baz=331,slow=14,SNR=88						
ASAR				S	S	02 14 59.3	-7.2
	0.6nm,0.3s,baz=312,slow=22,SNR=9.8						
ASAR				ScP	ScP	02 19 33.5	+1.0
	0.3nm,0.3s,baz=317,slow=2.0,SNR=5.0						
AS01	Alice Springs	18.56	142	*e*P	Pn	02 11 43.0	+1.2
AS01				*e*S	S	02 15 00.7	-6.3
COEN	Coen	21.57	105	*e*P	P	02 12 16.6	+3.6
	16nm,0.7s						
STKA	Stephens Creek	29.16	144	P	P	02 13 26.5	+3.4
	2.4nm,0.6s,baz=334,slow=11,SNR=5.4						
MJAR	Mausuhiro Arr	48.07	18	P	P	02 15 59.1	-1.7
	3.6nm,0.6s,baz=189,slow=9.0,SNR=12						
USRK	Ussuriysk Ar.	53.96	9	P	P	02 16 43.6	-1.1
	2.0nm,0.5s,baz=180,slow=6.4,SNR=8.0						
SONM	Songino Array	58.38	348	P	P	02 17 15.0	-1.2
	1.5nm,0.6s,baz=165,slow=8.5,SNR=9.6						
SONA1	Songino Array	58.38	348	*e*P	P	02 17 14.2	-2.1
MK01	Makanchi Array	65.84	331	*e*P	P	02 18 05.8	-0.3
MKAR	Makanchi Array	65.87	331	P	P	02 18 04.6	-1.6
	1.1nm,0.6s,baz=139,slow=6.5,SNR=10.0						
PETK	Petropavlovsk-	69.22	22	P	P	02 18 27.4	+0.3
	4.1nm,0.8s,baz=186,slow=10.0,SNR=4.7						
ZAA0	Zalesovo Array	70.19	338	*e*P	P	02 18 31.4	-1.7
ZALV	Zalesovo Beam	70.19	338	P	P	02 18 31.1	-2.0
	1.2nm,0.5s,baz=153,slow=5.2,SNR=6.3						
KURBB	Kurchatov Arra	70.34	332	P	P	02 18 33.2	-0.8
	0.5nm,0.5s,baz=143,slow=5.4,SNR=8.5						
KURK	Kurchatov	70.37	333	P	P	02 18 33.2	-1.0
SEY	Seymchan	75.69	14	P	P	02 19 05.8	+0.4
	5.2nm,0.6s,baz=217,slow=4.7,SNR=20						
TIXI	Tiksi	80.81	2	*e*P	P	02 19 31.1	-2.3
	7.2nm,1.2s						
AKTO	Aktyubinsk	80.91	325	P	P	02 19 34.0	-0.5
	0.6nm,0.4s,baz=153,slow=4.5,SNR=3.7						
ILAR	Eielson Array	98.86	26	P	P	02 20 59.5	-0.2
	0.2nm,0.7s,baz=241,slow=6.4,SNR=4.9						
WRAK	Wrangell Islan	106.43	34	*e*Pdif	Pdif	02 21 35.6	+2.1
	8.5nm,0.8s						
TXAR	Lajitas Array	133.09	58	PKP	PKPdf	02 26 37.5	+1.5
	0.3nm,0.7s,baz=304,slow=2.3,SNR=3.7						
CPUP	Villa Florida	144.68	182	PKP	PKPdf	02 26 59.3	+2.3
	2.2nm,0.8s,baz=190,slow=7.3,SNR=5.8						
LPAZ	La Paz	152.88	159	PKPbc	PKPbc	02 27 21.6	+3.1
	0.6nm,0.6s,baz=281,slow=2.0,SNR=4.6						

*IDC **28** 02:07:51.9±2.2, 36.°99N×57.°32E, h0km, mb3.5/6, mb1 3.8/10, mb1mx3.5/69, mbtmp3.8/10, ML3.9/3, Error ellipse: s-maj=34.1km s-min=12.4km az=155.0*
*THR **28** 02:07:51.4±0.3, 36.°96N×57.°27E, h14km±7km, ML3.5*
*ISCJB **28** 02:07:51.4±0.3, 37.°01N±0.°03×57.°37E±0.°03, h10km, mb3.5/4, Error ellipse: s-maj=4.6km s-min=3.2km az=6.8*
*CSEM **28** 02:07:52.1±0.2, 37.°05N×57.°38E, h10km, ML3.8, Error ellipse: s-maj=7.2km s-min=4.4km az=3.0*
*TEH **28** 02:07:53.1, 37.°02N×57.°36E, h8km, ML3.8*
*NNC **28** 02:08:03.3±3.2, 37.°54N×57.°60E, h49km±27km, mb3.5, Error ellipse: s-maj=27.4km s-min=16.9km az=39.0*

ISC 28 02:07:52.3±0.6, 37.°06N±0.°04×57.°34E±0.°03, h10km, n58, σ2905/66, mb3.7/4, 6C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISFR	Sfrayin	0.53	90	*e*AMB	AMB	02 08 15.7	
ISFR				*e*Pg	Pg	02 08 02.5	-0.1
ISFR				*e*Sg	Sg	02 08 08.6	-1.0
BJRD	Bojnurd	0.64	5	*e*Pg	Pb	02 08 05.6	-0.1
BJRD				AML	AML	02 08 19.8	
	comp=E,2μm,0.5s						
BJRD	Bojnurd	0.64	5	*e*Pg	Pb	02 08 05.6	-0.1
IKRD	Kardeh	0.98	106	*e*Pn	Sg	02 08 23.6	-0.4
IKRD				*e*AMB	AMB	02 08 54.7	
	comp=Z,12μm,0.2s						
GEYT	Alibeck	1.07	35	Pg	Pn	02 08 13.4	+0.1
	comp=Z,202nm,0.3s,baz=215,slow=16,SNR=210						
GEYT				Lg	Lg	02 08 29.8	
	comp=Z,193nm,0.3s,baz=243,slow=26,SNR=16						
GEYT				LR	LR	02 08 52.6	
	comp=Z,334nm,21.5s,baz=240,slow=53						
IEMG	Emamgholi	1.10	71	*e*Pg	Pg	02 08 13.5	-0.1
IEMG				*e*AMB	AMB	02 08 36.1	
	comp=Z,25μm,0.2s						
IEMG	Emamgholi	1.10	71	*e*Pg	Pg	02 08 13.5	-0.1
MRVT	Maraveh tapeh	1.17	301	*e*Pg	Pb	02 08 13.2	-1.4
MRVT				AML	AML	02 08 37.7	
	comp=N,764nm,0.3s						
MRVT	Maraveh tapeh	1.17	301	*e*Pg	Pb	02 08 13.2	-1.4
IAKL	Akhelmad	1.22	111	*e*Pg	Pb	02 08 13.8	-1.9
IAKL				*e*Sg	Sg	02 08 31.6	-0.1
IAKL				*e*AMB	AMB	02 08 34.2	
	comp=Z,26μm,0.1s						
IPAY	Payeh	1.46	114	*e*Pg	Pn	02 08 17.7	-1.2
IPAY				*e*Sg	Sn	02 08 37.9	-0.4
IPAY				*e*AMB	AMB	02 08 45.8	
	comp=Z,17μm,0.1s						
IPAY	Payeh	1.46	114	*e*Pg	Pn	02 08 17.7	-1.2
IPAY				*e*Sg	Sn	02 08 37.9	-0.4
SHRO	Shahrood	1.51	226	*e*Pg	Pn	02 08 17.1	-2.5
SHRO				AML	AML	02 08 42.7	
	comp=N,960nm,0.6s						
SHRO				AML	AML	02 08 43.4	
	comp=E,584nm,0.4s						
SHRO	Shahrood	1.51	226	*e*Pg	Pn	02 08 17.1	-2.5
IMOG	Moghan	1.87	120	*e*Pn	Pn	02 08 24.7	+0.1
IMOG				*e*AMB	AMB	02 08 27.6	
	comp=Z,10μm,0.1s						
IMOG	Moghan	1.87	120	*e*Pn	Pn	02 08 24.7	+0.1
IMYA	Miami	2.33	107	*e*Pn	Pn	02 08 31.6	+0.7
IMYA				*e*AMB	AMB	02 08 35.5	
	comp=Z,7μm,0.2s						
IMYA	Miami	2.33	107	*e*Pn	Pn	02 08 31.6	+0.7
IANJ	Anjilo	3.19	241	*e*Pn	Pn	02 08 43.7	+0.9
TABS	Tabas	3.41	183	*e*Pn	Pn	02 08 44.8	-0.8
TABS				AML	AML	02 09 50.0	
	comp=N,214nm,0.7s						
TABS				AML	AML	02 09 50.2	
	comp=E,101nm,0.8s						
TABS	Tabas	3.41	183	*e*Pn	Pn	02 08 44.8	-0.8
ISHM	Shahmirzad	3.50	250	*e*Pn	Pn	02 08 48.6	+1.6
ISHM				*e*AMB	AMB	02 09 53.7	
	comp=Z,3μm,0.2s						
ILAS	Lasjerd	3.92	246	*e*Pn	Pn	02 08 53.5	+0.7
ILAS				*e*AMB	AMB	02 10 14.3	
	comp=E,2μm,0.3s						
ILAS	Lasjerd	3.92	246	*e*Pn	Pn	02 08 53.5	+0.7
IFIR	Firoozkooh	3.96	250	*e*Pn	Pn	02 08 53.8	+0.4
IFIR				*e*AMB	AMB	02 09 08.3	
	comp=Z,2μm,0.2s						
IFIR	Firoozkooh	3.96	250	*e*Pn	Pn	02 08 53.8	+0.4
SHRT	Shahrakht	4.17	144	*e*Pn	Pn	02 08 56.2	+0.1
SHRT				AML	AML	02 09 51.0	
	comp=N,34nm,0.4s						
SHRT				AML	AML	02 10 09.1	
	comp=E,44nm,0.5s						
SHRT	Shahrakht	4.17	144	*e*Pn	Pn	02 08 56.2	+0.1
ITEG	Tejag	4.31	164	*e*Pn	Pn	02 08 58.3	+0.2
ITEG				*e*AMB	AMB	02 09 04.7	
	comp=Z,922nm,0.1s						
ITEG	Tejag	4.31	164	*e*Pn	Pn	02 08 58.3	+0.2
IDMV	Damavand	4.54	253	*e*Pn	Pn	02 09 02.4	+1.1
IDMV				*e*AMB	AMB	02 10 23.8	
	comp=Z,694nm,0.3s						
IDMV	Damavand	4.54	253	*e*Pn	Pn	02 09 02.4	+1.1
IAFJ	Afjeh	4.69	257	*e*Pn	Pn	02 09 04.5	+1.0
IAFJ				*e*AMB	AMB	02 10 27.6	
	comp=Z,947nm,0.3s						
IAFJ	Afjeh	4.69	257	*e*Pn	Pn	02 09 04.5	+1.0
IDAH	Dahanechah	4.78	154	*e*AMB	AMB	02 09 05.6	
	comp=Z,338nm,0.1s						
IDAH				*e*Pn	Pn	02 09 04.6	-0.1
IKOO	Kooshah	4.82	163	*e*AMB	AMB	02 09 15.5	
	comp=Z,335nm,0.2s						
IKOO				*e*Pn	Pn	02 09 04.9	-0.3
ICHK	Chekchek	5.38	208	*e*Pn	Pn	02 09 12.2	-0.6
ICHK				*e*AMB	AMB	02 10 16.2	
	comp=Z,904nm,0.2s						
ICHK	Chekchek	5.38	208	*e*Pn	Pn	02 09 12.2	-0.6
IZEF	Zefreh	5.84	226	*e*Pn	Pn	02 09 19.1	-0.2
IZEF				*e*AMB	AMB	02 09 21.3	
	comp=Z,230nm,0.1s						
IZEF	Zefreh	5.84	226	*e*Pn	Pn	02 09 19.1	-0.2
IKLH	Kolahrood	6.01	233	*e*Pn	Pn	02 09 21.1	-0.5
IKLH				*e*AMB	AMB	02 11 18.0	
	comp=Z,295nm,0.3s						
IKLH	Kolahrood	6.01	233	*e*Pn	Pn	02 09 21.1	-0.5
IGNI	Garni	10.33	291	Pn	Pn	02

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.22**	**102**	P	**Pn**	**02 11 23.7**	**-0.6**
GENI				S	**Sn**	**02 11 42.3**	**+2.7**
JAY	**Jayapura**	**1.74**	**96**	Pg	**Pn**	**02 11 30.4**	**-1.1**
	4.8nm,0.3s,baz=264,slow=22,SNR=139						
JAY				Lg	Lg	02 11 50.2	
	2.5nm,0.3s,baz=92,slow=23,SNR=6.7						
JAY				LR	LR	02 12 29.1	
	comp=Z,71nm,20.0s,baz=180,slow=53						
JAY	**Jayapura**	**1.74**	**96**	P	**Pn**	**02 11 30.6**	**-0.9**
JAY				S	**Sn**	**02 11 53.9**	**+1.4**
FAKI	**Fak Fak**	**6.74**	**265**	P	**Pn**	**02 12 40.2**	**-0.2**
PMG	**Port Moresby**	**10.74**	**131**	LR	LR	02 19 22.5	
	comp=Z,511nm,19.1s,baz=346,slow=47						
NLAI	**Namlea**	**11.89**	**265**	P	**Pn**	**02 13 53.0**	**+2.0**
WRA	**Warramunga Arr**	**18.07**	**194**	P	**Pn**	**02 15 10.8**	**-1.3**
	0.7nm,0.3s,baz=17,slow=12,SNR=2.5						
WRA				LR	LR	02 22 36.1	
	comp=Z,379nm,20.2s,baz=30,slow=39						
PCI	**Palu**	**19.18**	**274**	P	**Pn**	**02 15 29.8**	**+4.1**
FITZ	**Fitzroy Crossi**	**20.40**	**219**	LR	LR	02 24 35.5	
	comp=Z,244nm,18.4s,baz=34,slow=40						
ASAR	**Alice Springs**	**21.76**	**193**	P	**P**	**02 15 52.3**	**-0.1**
	4.7nm,0.9s,baz=22,slow=11,SNR=5.9						
ASAR				LR	LR	02 25 57.9	
	comp=Z,133nm,20.1s,baz=12,slow=41						
JNU	**Nakatsue**	**36.10**	**348**	P	**P**	**02 18 02.0**	**-0.3**
	7.3nm,0.9s,baz=190,slow=6.1,SNR=3.5						
NWAO	**Narrogin (SRO)**	**36.63**	**211**	LR	LR	02 34 21.3	
	comp=Z,655nm,18.3s,baz=236,slow=38						
KULM	**Kulim**	**39.03**	**281**	*e*P	**P**	**02 18 26.4**	**-1.0**
	8.4nm,0.9s						
KSRS	**Korea Array**	**40.91**	**347**	LR	LR	02 33 32.0	
	comp=Z,29nm,21.3s,baz=185,slow=33						
CMAR	**Chiang Mai Arr**	**44.49**	**299**	P	**P**	**02 19 12.1**	**+0.1**
	5.0nm,0.8s,baz=122,slow=6.7,SNR=24						
RPZ	**Rata Peaks**	**50.07**	**150**	LR	LR	02 42 40.3	
	comp=Z,94nm,19.3s,baz=346,slow=38						
SONM	**Songino Array**	**57.51**	**335**	P	**P**	**02 20 49.4**	**-0.2**
	0.2nm,0.3s,baz=143,slow=5.2,SNR=4.1						
CASY	**Casey**	**66.88**	**192**	P	**P**	**02 21 51.7**	**-0.2**
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**69.66**	**322**	P	**P**	**02 22 09.9**	**+0.1**
	8.4nm,0.9s,baz=119,slow=8.0,SNR=37						
ZALV	**Zalesovo Beam**	**71.76**	**330**	P	**P**	**02 22 21.0**	**-1.3**
	1.8nm,0.8s,baz=102,slow=6.2,SNR=6.6						
TKM2	**Tokmak 2**	**72.46**	**316**	*e*P	**P**	**02 22 27.4**	**+0.3**
	3.2nm,0.9s						
KURK	**Kurchatov**	**73.57**	**325**	P	**P**	**02 22 33.1**	**0.0**
KURBB	**Kurchatov Arra**	**73.58**	**325**	P	**P**	**02 22 33.1**	**-0.1**
	6.4nm,0.9s,baz=114,slow=5.6,SNR=34						
EKS2	**Erkin-Say**	**73.64**	**316**	*e*P	**P**	**02 22 34.5**	**+0.7**
	4.5nm,1.0s						
KKAR	**Karatay Array**	**76.06**	**315**	*e*P	**P**	**02 22 47.6**	**-0.1**
	2.0nm,0.9s						
VNDA	**Vanda**	**76.12**	**175**	P	**P**	**02 22 47.1**	**-0.3**
	2.7nm,0.8s,baz=323,slow=6.3,SNR=14						
VNDA				LR	LR	02 56 48.3	
	comp=Z,76nm,18.3s,baz=326,slow=36						
BVAR	**Borovoye Array**	**79.17**	**325**	P	**P**	**02 23 05.0**	**+0.1**
	7.1nm,0.8s,baz=111,slow=7.0,SNR=34						
NRIK	**Noril'sk**	**79.45**	**344**	P	**P**	**02 23 06.0**	**-0.1**
	4.8nm,0.8s,baz=119,slow=5.0,SNR=6.5						
MAW	**Mawson**	**82.56**	**202**	P	**P**	**02 23 22.8**	**+0.2**
	2.8nm,0.9s,baz=45,slow=4.1,SNR=4.8						
GEYT	**Alibeck**	**84.22**	**308**	P	**P**	**02 23 31.9**	**0.0**
	4.8nm,0.9s,baz=94,slow=2.1,SNR=10.0						
ABKAR	**Akbulak array**	**84.61**	**320**	*e*P	**P**	**02 23 33.0**	**-0.6**
	4.1nm,0.9s						
ILAR	**Eielson Array**	**85.39**	**24**	P	**P**	**02 23 36.1**	**-1.0**
	3.4nm,0.9s,baz=259,slow=5.0,SNR=28						
QSPA	**South Pole Qui**	**87.60**	**180**	*e*P	**P**	**02 23 47.4**	**-0.7**
	16nm,0.7s						
DAWY	**Dawson**	**88.43**	**26**	*e*P	**P**	**02 23 52.6**	**+0.6**
	8.7nm,1.0s						
LCO	**Las Campanas**	**137.80**	**140**	*e*PKPdf	**PKPdf**	**02 30 26.6**	**+1.1**

*ISCJB **28** 02:15:44.8±0.4,41°.18N±0°.01×8°.83W±0°.04,h10km,Error ellipse: s-maj=4.1km s-min=1.9km az=14.3*
*CSEM **28** 02:15:46.1±0.2,41°.22N×8°.88W,h15km,ML3.5/18,Error ellipse: s-maj=3.9km s-min=1.9km az=103.0*
*MDD **28** 02:15:47.8±0.5,41°.23N×8°.92W,h22km±1km,mbLg2.7/22, Error ellipse: s-maj=5.0km s-min=2.7km az=98.0,PRXIMO*
*IGIL **28** 02:15:48.4,41°.22N×8°.84W,h24km*
*INMG **28** 02:15:48.8±1.5,41°.23N×8°.83W,h23km±3km,MD2.8, ML2.7, Error ellipse: s-maj=4.1km s-min=1.5km az=101.0*
ISC 28 02:15:45.8±0.8,41°.22N±0°.02×8°.88W±0°.03,h10km,n136, σ2s19/237,**7C-5D,Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTO	**Porto**	**0.22**	**110**	*e*Pg	**Pg**	**02 15 54.4**	**+4.0**
PTO				*e*Sg	**Sg**	**02 15 59.0**	**+5.5**
PTO				A	A	02 15 59.7	
	3µm,0.1s						
PTO	**Porto**	**0.22**	**110**	Pg	**Pg**	**02 15 54.4**	**+4.0**
PTO				Lg	Lg	02 15 59.0	
	1µm,0.1s						
PTO	**Porto**	**0.22**	**110**	*e*Pg	**Pg**	**02 15 54.4**	**+4.0**
PTO				Lg	Lg	02 15 59.0	
	1µm,0.1s						
PCAB	**Cabril**	**0.81**	**52**	⇑*i*P	**Pb**	**02 16 03.0**	**+1.0**
PCAB				*e*S	**Sb**	**02 16 13.8**	**+0.8**
PCAB				A	A	02 16 15.0	
	289nm,0.3s						
PCAB	**Cabril**	**0.81**	**52**	P	**Pb**	**02 16 03.0**	**+1.0**
PCAB				S	**Sb**	**02 16 13.8**	**+0.8**
	145nm,0.3s						
PCAB	**Cabril**	**0.81**	**52**	⇑*i*P	**Pb**	**02 16 03.0**	**+1.0**
PCAB				S	**Sb**	**02 16 13.8**	**+0.8**
	145nm,0.3s						
POLO	**Lamas de Olo**	**0.83**	**79**	⇑*i*P	**Pb**	**02 16 03.1**	**+0.7**
POLO				*e*S	**Sb**	**02 16 14.5**	**+0.8**
POLO				A	A	02 16 15.9	
	140nm,0.2s						
POLO	**Lamas de Olo**	**0.83**	**79**	⇑*i*P	**Pb**	**02 16 03.1**	**+0.7**
POLO				*e*S	**Sb**	**02 16 14.5**	**+0.8**
	140nm,0.2s						
PGAV	**Gavieira, Arco**	**0.88**	**31**	*e*P	**Pb**	**02 16 04.0**	**+0.8**
PGAV				*e*S	**Sb**	**02 16 15.5**	**+0.5**
PGAV				A	A	02 16 16.3	
	281nm,0.2s						
PGAV	**Gavieira, Arco**	**0.88**	**31**	*e*P	**Pb**	**02 16 04.0**	**+0.8**
PGAV				*e*S	**Sb**	**02 16 15.5**	**+0.5**
	281nm,0.2s						
ELOB	**Lobios**	**0.90**	**43**	⇑Pg	**Pb**	**02 16 04.1**	**+0.6**
	42nm,0.3s,SNR=18						
ELOB				Lg	Lg	02 16 16.1	
	152nm,0.2s,SNR=36						
ELOB	**Lobios**	**0.90**	**43**	Pg	**Pb**	**02 16 04.1**	**+0.6**
	42nm,0.3s,SNR=18						
ELOB				Lg	Lg	02 16 16.1	
	152nm,0.2s,SNR=36						
PVIS	**Viseu**	**0.90**	**124**	⇓*e*P	**Pg**	**02 16 04.1**	**+1.0**
PVIS				*e*S	**Sb**	**02 16 16.9**	**+1.3**
PVIS				A	A	02 16 19.2	
	196nm,0.1s						
PVIS	**Viseu**	**0.90**	**124**	P	**Pg**	**02 16 04.1**	**+1.0**
PVIS				S	**Sb**	**02 16 16.9**	**+1.3**
	98nm,0.1s						
PVIS	**Viseu**	**0.90**	**124**	⇓*e*P	**Pg**	**02 16 04.1**	**+1.0**
PVIS				S	**Sb**	**02 16 16.9**	**+1.3**
	98nm,0.1s						
COI	**Coimbra**	**1.07**	**160**	P	**Pg**	**02 16 07.0**	**+0.7**
COI				S	**Sb**	**02 16 21.7**	**+1.3**
	106nm,0.4s						
COI	**Coimbra**	**1.07**	**160**	*e*P	**Pg**	**02 16 07.0**	**+0.7**
COI				S	**Sb**	**02 16 21.7**	**+1.3**
	106nm,0.4s						
PCAS	**Casmilo, Conde**	**1.20**	**166**	*e*P	**Pb**	**02 16 08.7**	**+0.1**
PCAS				*e*S	**Sb**	**02 16 24.2**	**0.0**
PCAS				A	A	02 16 27.2	
	106nm,0.2s						
PCAS	**Casmilo, Conde**	**1.20**	**166**	*e*P	**Pb**	**02 16 08.7**	**+0.1**
PCAS				*e*S	**Sb**	**02 16 24.2**	**0.0**
	106nm,0.2s						
MTE	**Manteigas**	**1.30**	**128**	⇓*e*Pn	**Pn**	**02 16 09.5**	**-0.6**
MTE				*e*Sg	**Sn**	**02 16 30.0**	**+2.4**
MTE				A	A	02 16 34.0	
	83nm,0.3s						
MTE	**Manteigas**	**1.30**	**128**	Pn	**Pn**	**02 16 09.5**	**-0.6**
MTE				Lg	Lg	02 16 30.0	
	42nm,0.3s						
MVO	**Moncorvo**	**1.40**	**92**	*e*Pn	**Pn**	**02 16 10.6**	**-0.9**
MVO	**Moncorvo**	**1.40**	**92**	*e*Pg	**Pg**	**02 16 13.5**	**+0.9**
MVO				*e*Sg	**Sg**	**02 16 31.4**	**+0.6**
MVO				A	A	02 16 34.4	
	127nm,0.2s						
MVO	**Moncorvo**	**1.40**	**92**	Pn	**Pn**	**02 16 10.6**	**-0.9**
	0.4nm,0.0s,SNR=7.9						
MVO				Pg	**Pb**	**02 16 13.0**	**+1.0**
	5.5nm,0.1s,SNR=48						
MVO				Sn	**Sb**	**02 16 27.0**	**-3.0**
	19nm,0.0s,SNR=7.9						
MVO				Lg	Lg	02 16 31.2	
	63nm,0.3s,SNR=24						
MVO	**Moncorvo**	**1.40**	**92**	*e*Pn	**Pn**	**02 16 10.6**	**-0.9**
MVO	**Moncorvo**	**1.40**	**92**	*e*Pg	**Pg**	**02 16 13.5**	**+0.9**
MVO				Sn	**Sb**	**02 16 27.0**	**-3.0**
	19nm,0.0s,SNR=7.9						
MVO				Lg	Lg	02 16 31.2	
	63nm,0.3s,SNR=24						
MVO				*e*Sg	**Sg**	**02 16 31.4**	**+0.6**
	127nm,0.2s						
PTOM	**Tomar**	**1.64**	**167**	*e*Pn	**Pn**	**02 16 14.8**	**+0.2**
PTOM	**Tomar**	**1.64**	**167**	*e*Pg	**Pb**	**02 16 17.3**	**+1.2**
PTOM				*e*Sn	**Sn**	**02 16 34.0**	**-1.8**
PTOM				*e*Sg	**Sb**	**02 16 38.8**	**+2.0**
PTOM				A	A	02 16 46.2	
	122nm,0.4s						
PTOM	**Tomar**	**1.64**	**167**	Pn	**Pn**	**02 16 14.8**	**+0.2**
PTOM				Pg	**Pb**	**02 16 17.3**	**+1.2**
PTOM				Sn	**Sn**	**02 16 34.0**	**-1.8**
PTOM				Lg	Lg	02 16 38.8	
	61nm,0.4s						
PTOM	**Tomar**	**1.64**	**167**	*e*Pn	**Pn**	**02 16 14.8**	**+0.2**
PTOM	**Tomar**	**1.64**	**167**	*e*Pg	**Pb**	**02 16 17.3**	**+1.2**
PTOM				*e*Sn	**Sn**	**02 16 34.0**	**-1.8**
PTOM				*e*Sg	**Sb**	**02 16 38.8**	**+2.0**
	122nm,0.4s						
EAGO	**Agolada(Pontev**	**1.69**	**20**	Pn	**Pn**	**02 16 14.9**	**-0.6**
	6.1nm,0.0s,SNR=7.9						
EAGO				Pg	**Pb**	**02 16 17.9**	**+0.9**
	3.6nm,0.1s,SNR=7.9						
EAGO				Sn	**Sn**	**02 16 34.0**	**-3.1**
	29nm,0.1s,SNR=7.9						
EAGO				Lg	Lg	02 16 39.1	
	41nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**1.69**	**20**	Pn	**Pn**	**02 16 14.9**	**-0.6**
	6.1nm,0.0s,SNR=7.9						
EAGO				Sn	**Sn**	**02 16 34.0**	**-3.1**
	29nm,0.1s,SNR=7.9						
EAGO				Lg	Lg	02 16 39.1	
	41nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**1.71**	**69**	*e*Pn	**Pn**	**02 16 14.9**	**-0.8**
PBRG				*e*Sn	**Sn**	**02 16 35.1**	**-2.6**
PBRG				*e*Sg	**Sg**	**02 16 41.3**	**+0.5**
PBRG				A	A	02 16 42.6	
	52nm,0.1s						
PBRG	**Braganca**	**1.71**	**69**	Pn	**Pn**	**02 16 14.9**	**-0.8**
PBRG				Sn	**Sn**	**02 16 35.1**	**-2.6**
PBRG				Lg	Lg	02 16 41.3	
	26nm,0.1s						
PBRG	**Braganca**	**1.71**	**69**	*e*Pn	**Pn**	**02 16 14.9**	**-0.8**
PBRG				*e*Sn	**Sn**	**02 16 35.1**	**-2.6**
PBRG				*e*Sg	**Sg**	**02 16 41.3**	**+0.5**
	52nm,0.1s						
EMAZ	**Mazaricos**	**1.73**	**358**	Pn	**Pn**	**02 16 15.8**	**-0.2**
	2.5nm,0.1s,SNR=7.9						
EMAZ				Pg	**Pb**	**02 16 18.8**	**+1.1**
	5.9nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**02 16 36.1**	**-2.1**
	16nm,0.1s,SNR=7.9						
EMAZ				Lg	Lg	02 16 40.9	
	37nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**1.73**	**358**	Pn	**Pn**	**02 16 15.8**	**-0.2**
	2.5nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**1.74**	**142**	*e*Pn	**Pn**	**02 16 15.8**	**-0.3**
PCBR	**Castelo Branco**	**1.74**	**142**	*e*Pg	**Pb**	**02 16 18.8**	**+0.9**
PCBR				*e*Sg	**Sg**	**02 16 42.8**	**+1.0**
PCBR				A	A	02 16 48.4	
	29nm,0.4s						
PCBR	**Castelo Branco**	**1.74**	**142**	Pn	**Pn**	**02 16 15.8**	**-0.3**
PCBR				Pg	**Pb**	**02 16 18.8**	**+0.9**
PCBR				Lg	Lg	02 16 42.8	
	14nm,0.4s						
PCBR	**Castelo Branco**	**1.74**	**142**	*e*Pn	**Pn**	**02 16 15.8**	**-0.3**
PCBR	**Castelo Branco**	**1.74**	**142**	*e*Pg	**Pb**	**02 16 18.8**	**+0.9**
PCBR				*e*Sg	**Sg**	**02 16 42.8**	**+1.0**
	29nm,0.4s						
ECAL	**Calabor**	**1.76**	**65**	⇑Pn	**Pn**	**02 16 15.6**	**-0.9**
	2.9nm,0.3s,SNR=18						
ECAL				Pg	**Pg**	**02 16 21.3**	**+1.6**
	3.6nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**02 16 36.1**	**-2.9**
	35nm,0.3s,SNR=7.9						
ECAL				Lg	Lg	02 16 43.2	
	45nm,0.3s,SNR=10						
ECAL	**Calabor**	**1.76**	**65**	Pn	**Pn**	**02 16 15.6**	**-0.9**
	2.9nm,0.3s,SNR=18						
PMRV	**Marv??o**	**2.12**	**147**	*e*Pn	**Pn**	**02 16 21.0**	**-0.3**
PMRV	**Marv??o**	**2.12**	**147**	*e*Pg	**Pb**	**02 16 25.4**	**+1.1**
PMRV				*e*Sg	**Sg**	**02 16 53.6**	**-0.3**
PMRV				A	A	02 16 54.5	
	25nm,0.3s						
PMRV	**Marv??o**	**2.12**	**147**	Pn	**Pn**	**02 16 21.0**	**-0.3**
PMRV				Pg	**Pb**	**02 16 25.4**	**+1.1**
PMRV				Lg	Lg	02 16 53.6	
	25nm,0.3s						
PMRV	**Marv??o**	**2.12**	**147**	*e*Pn	**Pn**	**02 16 21.0**	**-0.3**
PMRV	**Marv??o**	**2.12**	**147**	*e*Pg	**Pb**	**02 16 25.4**	**+1.1**
PMRV				*e*Sg	**Sg**	**02 16 53.6**	**-0.3**
	25nm,0.3s						
PMAFR	**Mafra**	**2.28**	**188**	*e*Pn	**Pn**	**02 16 23.5**	**0.0**
PMAFR				*e*Sg	**Sg**	**02 17 00.1**	**+1.0**
PMAFR				A	A	02 17 09.6	
	52nm,0.5s						
PMAFR	**Mafra**	**2.28**	**188**	Pn	**Pn**	**02 16 23.0**	**-0.5**
	0.6nm,0.1s,SNR=7.9						
PMAFR				Sn	**Sn**	**02 16 48.3**	**-3.3**
	19nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	02 16 56.8	
	28nm,0.2s,SNR=6.6						
PMAFR	**Mafra**	**2.28**	**188**	*e*Pn	**Pn**	**02 16 23.5**	**0.0**
PMAFR				Sn	**Sn**	**02 16 48.3**	**-3.3**
	19nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	02 16 56.8	
	28nm,0.2s,SNR=6.6						
EPLA	**Plasencia**	**2.42**	**117**	⇓Pn	**Pn**	**02 16 25.2**	**-0.3**
	2.1nm,0.3s,SNR=18						
EPLA				Sn	**Sn**	**02 16 53.1**	**-2.1**
	5.4nm,0.3s,SNR=5.8						
EPLA				Lg	Lg	02 17 03.1	
	5.8nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**2.42**	**117**	Pn	**Pn**	**02 16 25.2**	**-0.3**
	2.1nm,0.3s,SNR=18						
EPLA				Sn	**Sn**	**02 16 53.1**	**-2.1**
	5.4nm,0.3s,SNR=5.8						
EPLA				Lg	Lg	02 17 03.1	
	5.8nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**2.47**	**31**	Pn	**Pn**	**02 16 25.4**	**-0.7**
	3.2nm,0.3s,SNR=37						
EPON				Pg	**Pb**	**02 16 31.4**	**+1.2**
	4.1nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**02 16 53.8**	**-2.5**
	2.6nm,0.1s,SNR=7.9						
EPON				Lg	Lg	02 17 05.3	
	13nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**2.47**	**31**	Pn	**Pn**	**02 16 25.4**	**-0.7**
	3.2nm,0.3s,SNR=37						
PMST	**Lisbon--Monsan**	**2.49**	**185**	*e*Pn	**Pn**	**02 16 26.6**	**+0.2**
PMST				*e*Sn	**Sn**	**02 16 54.5**	**-2.3**
PMST				*e*Sg	**Sg**	**02 17 06.2**	**+0.5**
PMST				A	A	02 17 14.1	
	21nm,0.4s						
PMST	**Lisbon--Monsan**	**2.49**	**185**	*e*Pn	**Pn**	**02 16 26.6**	**+0.2**
PMST				*e*Sn	**Sn**	**02 16 54.5**	**-2.3**
PMST				*e*Sg	**Sg**	**02 17 06.2**	**+0.5**
	21nm,0.4s						
LIS	**Lisbon**	**2.51**	**185**	*e*Sg	**Sg**	**02 17 07.6**	**+1.3**
LIS	**Lisbon**	**2.51**	**185**	Lg	Lg	02 17 07.6	
PESTR	**Estremoz**	**2.55**	**157**	*e*Pn	**Pn**	**02 16 26.8**	**-0.4**
PESTR				*e*Sn	**Sn**	**02 16 55.4**	**-2.9**
PESTR				*e*Sg	**Sg**	**02 17 06.5**	**-1.1**
PESTR				A	A	02 17 09.9	
	18nm,0.5s						
EVO	**Evora**	**2.76**	**166**	*e*Pn	**Pn**	**02 16 30.3**	**+0.2**
EVO				*e*Sn	**Sn**	**02 17 00.8**	**-2.8**
EVO				A	A	02 17 16.3	
	24nm,0.2s						
EVO	**Evora**	**2.76**	**166**	Pn	**Pn**	**02 16 30.3**	**+0.2**
EVO				Sn	**Sn**	**02 17 00.8**	**-2.8**
	24nm,0.2s						
EVO	**Evora**	**2.76**	**166**	*e*Pn	**Pn**	**02 16 30.3**	**+0.2**
EVO				Sn	**Sn**	**02 17 00.8**	**-2.8**
	24nm,0.2s						
EBAD	**Badajoz**	**2.85**	**149**	Pn	**Pn**	**02 16 30.7**	**-0.6**
	0.3nm,0.1s,SNR=7.9						
EBAD				Pg	**Pb**	**02 16 39.0**	**+2.3**
	1.6nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**02 17 02.0**	**-3.6**
	4.8nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	02 17 15.0	
	17nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.85**	**149**	Pn	**Pn**	**02 16 30.7**	**-0.6**
	0.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.85**	**149**	Pg	**Pb**	**02 16 39.0**	**+2.3**
	1.6nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**02 17 02.0**	**-3.6**
	4.8nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	02 17 15.0	
	17nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.11**	**175**	*e*Pn	**Pn**	**02 16 34.9**	**0.0**
PNCL				*e*Sn	**Sn**	**02 17 08.2**	**-4.0**
PNCL				A	A	02 17 29.5	
	10nm,0.6s						
PNCL	**Nicolau / Gran**	**3.11**	**175**	*e*Pn	**Pn**	**02 16 34.9**	**0.0**
PBEJ	**Beja**	**3.28**	**166**	*e*Pn	**Pn**	**02 16 37.6**	**+0.3**
PBEJ				*e*Sn	**Sn**	**02 17 12.8**	**-3.6**
PBEJ				A	A	02 17 39.8	
	6.7nm,0.6s						
PBEJ	**Beja**	**3.28**	**166**	Pn	**Pn**	**02 16 37.6**	**+0.3**
PBEJ				Sn	**Sn**	**02 17 12.8**	**-3.6**
	3.3nm,0.6s						
PBEJ	**Beja**	**3.28**	**166**	*e*Pn	**Pn**	**02 16 37.6**	**+0.3**
PBEJ				Sn	**Sn**	**02 17 12.8**	**-3.6**
	3.3nm,0.6s						
PBAR	**Barrancos**	**3.35**	**154**	*e*Pn	**Pn**	**02 16 38.0**	**-0.3**
PBAR				*e*Sn	**Sn**	**02 17 14.5**	**-3.6**
PBAR				A	A	02 17 40.5	
	22nm,0.3s						
PBAR	**Barrancos**	**3.35**	**154**	Pn	**Pn**	**02 16 38.0**	**-0.3**
PBAR				Sn	**Sn**	**02 17 14.5**	**-3.6**
	22nm,0.3s						
PBAR	**Barrancos**	**3.35**	**154**	*e*Pn	**Pn**	**02 16 38.0**	**-0.3**
PBAR				Sn	**Sn**	**02 17 14.5**	**-3.6**
	22nm,0.3s						
MESJ	**Messejana**	**3.41**	**171**	*e*P	**Pn**	**02 16 38.9**	**-0.1**
MESJ	**Messejana**	**3.41**	**171**	*e*Pn	**Pn**	**02 16 39.1**	**+0.1**
MESJ				*e*Sn	**Sn**	**02 17 14.6**	**-4.9**
MESJ				*e*Sg	**Sg**	**02 17 37.0**	**+1.7**
MESJ				A	A	02 17 42.5	
	8.2nm,0.5s						
MESJ	**Messejana**	**3.41**	**171**	Pn	**Pn**	**02 16 39.1**	**+0.1**
MESJ				Sn	**Sn**	**02 17 14.6**	**-4.9**
MESJ				Lg	Lg	02 17 37.0	
	8.2nm,0.5s						
MESJ	**Messejana**	**3.41**	**171**	*e*Pn	**Pn**	**02 16 39.1**	**+0.1**
MESJ				Sn	**Sn**	**02 17 14.6**	**-4.9**
MESJ				Lg	Lg	02 17 37.0	
	8.2nm,0.5s						
EARI	**Arriondas**	**3.43**	**51**	Pn	**Pn**	**02 16 39.9**	**+0.6**
	3.2nm,0.2s,SNR=55						
EARI				Pg	**Pb**	**02 16 46.8**	**+0.1**
	1.3nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**02 17 17.5**	**-2.6**
	2.2nm,0.2s,SNR=7.9						
EARI				Lg	Lg	02 17 34.0	
	2.6nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**3.43**	**51**	Pn	**Pn**	**02 16 39.9**	**+0.6**
	3.2nm,0.2s,SNR=55						
GUD	**Guadarrama**	**3.63**	**98**	Pn	**Pn**	**02 16 42.2**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
GUD				Pg	**Pb**	**02 16 51.0**	**+1.0**
	1.0nm,0.3s,SNR=7.9						
GUD				Sn	**Sn**	**02 17 22.4**	**-2.7**
	2.1nm,0.2s,SNR=7.9						
GUD				Lg	Lg	02 17 41.3	
	12nm,0.3s,SNR=11						
GUD	**Guadarrama**	**3.63**	**98**	Pn	**Pn**	**02 16 42.2**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**3.64**	**169**	*e*Pn	**Pn**	**02 16 42.1**	**-0.1**
PCVE				*e*Sn	**Sn**	**02 17 20.5**	**-4.7**
PCVE				A	A	02 17 50.4	
	7.0nm,0.4s						
PCVE	**Castro Verde**	**3.64**	**169**	Pn	**Pn**	**02 16 42.1**	**-0.1**
PCVE				Sn	**Sn**	**02 17 20.5**	**-4.7**
	7.0nm,0.4s						
PCVE	**Castro Verde**	**3.64**	**169**	*e*Pn	**Pn**	**02 16 42.1**	**-0.1**
PCVE				Sn	**Sn**	**02 17 20.5**	**-4.7**
	7.0nm,0.4s						
PTEO	**Sao Teotonio**	**3.67**	**178**	*e*Pn	**Pn**	**02 16 42.7**	**+0.1**
PTEO	**Sao Teotonio**	**3.67**	**178**	Pn	**Pn**	**02 16 42.7**	**+0.1**
PTEO	**Sao Teotonio**	**3.67**	**178**	*e*Pn	**Pn**	**02 16 42.7**	**+0.1**
EGRO	**El Granado**	**3.83**	**163**	Pn	**Pn**	**02 16 44.7**	**-0.2**
	0.6nm,0.1s,SNR=7.9						
EGRO				Sn	**

PFVI				Sn	**Sn**	**02 17 31.3**	**-4.7**
	8.1nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.08**	**179**	Pn	**Pn**	**02 16 48.3**	**+0.1**
	1.5nm,0.1s,SNR=7.9							
PFVI				Sn	**Sn**	**02 17 31.3**	**-4.7**
	8.1nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**4.12**	**138**	Pn	**Pn**	**02 16 48.5**	**-0.3**
	0.9nm,0.3s,SNR=24							
ECAB				Sn	**Sn**	**02 17 33.3**	**-3.8**
	2.6nm,0.3s,SNR=7.8							
ECAB				Lg	Lg	02 17 55.2		
	3.5nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**4.12**	**138**	Pn	**Pn**	**02 16 48.5**	**-0.3**
	0.9nm,0.3s,SNR=24							
ECAB				Sn	**Sn**	**02 17 33.3**	**-3.8**
	2.6nm,0.3s,SNR=7.8							
ECAB				Lg	Lg	02 17 55.2		
	3.5nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**4.50**	**131**	⇑Pn	**Pn**	**02 16 53.8**	**-0.3**
	0.6nm,0.3s,SNR=18							
EADA				Sn	**Sn**	**02 17 42.5**	**-4.1**
	2.4nm,0.2s,SNR=7.9							
EADA				Lg	Lg	02 18 05.3		
	1.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**4.50**	**131**	Pn	**Pn**	**02 16 53.8**	**-0.3**
	0.6nm,0.3s,SNR=18							
EADA				Sn	**Sn**	**02 17 42.5**	**-4.1**
	2.4nm,0.2s,SNR=7.9							
EADA				Lg	Lg	02 18 05.3		
	1.1nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**4.52**	**62**	Pn	**Pn**	**02 16 54.6**	**+0.3**
	8.1nm,1.1s,SNR=11							
ELAN				Sn	**Sn**	**02 17 43.2**	**-3.7**
	0.7nm,0.2s,SNR=7.9							
ELAN				Lg	Lg	02 18 09.0		
	0.8nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**4.52**	**62**	Pn	**Pn**	**02 16 54.6**	**+0.3**
	8.1nm,1.1s,SNR=11							
ELAN				Sn	**Sn**	**02 17 43.2**	**-3.7**
	0.7nm,0.2s,SNR=7.9							
ELAN				Lg	Lg	02 18 09.0		
	0.8nm,0.2s,SNR=7.9							
SELV	**Sierra Elvira**	**5.64**	**133**	Lg	Lg	02 18 46.2		
	3.4nm,1.1s,SNR=4.0							
SELV	**Sierra Elvira**	**5.64**	**133**	Lg	Lg	02 18 46.2		
	3.4nm,1.1s,SNR=4.0							
EQES	**Quesada**	**5.64**	**125**	Pn	**Pn**	**02 17 09.2**	**-0.6**
	0.4nm,0.1s,SNR=7.9							
EQES				Sn	**Sn**	**02 18 09.8**	**-4.8**
	0.3nm,0.2s,SNR=7.9							
EQES				Lg	Lg	02 18 46.0		
	0.4nm,0.7s,SNR=7.9							
EQES	**Quesada**	**5.64**	**125**	Pn	**Pn**	**02 17 09.2**	**-0.6**
	0.4nm,0.1s,SNR=7.9							
EQES				Lg	Lg	02 18 46.0		
	0.4nm,0.7s,SNR=7.9							
YNAR	**Nardues-Alduna**	**5.78**	**73**	Lg	Lg	02 18 50.0		
	1.1nm,0.1s,SNR=4.0							
YNAR	**Nardues-Alduna**	**5.78**	**73**	Lg	Lg	02 18 50.0		
	1.1nm,0.1s,SNR=4.0							
SESP	**Santiago Espad**	**5.78**	**120**	Pn	**Pn**	**02 17 11.1**	**-0.7**
	0.2nm,0.1s,SNR=7.9							
SESP				Lg	Lg	02 18 50.1		
	7.4nm,0.5s,SNR=7.9							
SESP	**Santiago Espad**	**5.78**	**120**	Pn	**Pn**	**02 17 11.1**	**-0.7**
	0.2nm,0.1s,SNR=7.9							
SESP				Lg	Lg	02 18 50.1		
	7.4nm,0.5s,SNR=7.9							
EALK	**Alkurruntz**	**5.83**	**67**	Lg	Lg	02 18 52.5		
	13nm,0.8s,SNR=7.9							
EALK	**Alkurruntz**	**5.83**	**67**	Lg	Lg	02 18 52.5		
	13nm,0.8s,SNR=7.9							
EORO	**Oroz-Betelu**	**5.88**	**71**	Lg	Lg	02 18 53.1		
	3.3nm,0.5s,SNR=7.9							
EORO	**Oroz-Betelu**	**5.88**	**71**	Lg	Lg	02 18 53.1		
	3.3nm,0.5s,SNR=7.9							
IELO	**Elcoad**	**5.92**	**72**	Pn	**Pn**	**02 17 13.9**	**+0.3**
	0.3nm,0.2s,SNR=7.9							
IELO				Sn	**Sn**	**02 18 15.9**	**-5.6**
	1.0nm,0.2s,SNR=7.9							
IELO				Lg	Lg	02 18 52.1		
	3.5nm,0.4s,SNR=7.9							
IELO	**Elcoad**	**5.92**	**72**	Pn	**Pn**	**02 17 13.9**	**+0.3**
	0.3nm,0.2s,SNR=7.9							
IELO				Lg	Lg	02 18 52.2		
	3.5nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**6.19**	**112**	Pn	**Pn**	**02 17 16.6**	**-0.8**
	0.5nm,0.2s,SNR=7.9							
ETOB				Sn	**Sn**	**02 18 23.0**	**-5.2**
	0.6nm,0.2s,SNR=7.9							
ETOB				Lg	Lg	02 19 01.2		
	1.8nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**6.19**	**112**	Pn	**Pn**	**02 17 16.6**	**-0.8**
	0.5nm,0.2s,SNR=7.9							
ETOB				Lg	Lg	02 19 01.2		
	1.8nm,0.4s,SNR=7.9							
EBER	**Berja**	**6.35**	**131**	Pn	**Pn**	**02 17 20.5**	**+0.9**
	0.6nm,0.3s,SNR=7.9							
EBER	**Berja**	**6.35**	**131**	Pn	**Pn**	**02 17 20.5**	**+0.9**
	0.6nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**6.44**	**95**	Sn	**Sn**	**02 18 29.7**	**-4.7**
	0.7nm,0.2s,SNR=7.9							

*DDA **28** 02:28:14.9,39˚09N×29˚03E,h7km,Ml2.6*
*ISK **28** 02:28:14.8,39˚09N×29˚00E,h7km,MD2.8*
*ISCJB **28** 02:28:15.2±0.5,39˚09N±0˚03×29˚01E±0˚03,h4km±6km,*
Error ellipse: s-maj=5.5km s-min=4.0km az=162.7
*CSEM **28** 02:28:15.5±0.1,39˚08N×29˚01E,h8km,ML2.6,Error*
ellipse: s-maj=3.4km s-min=2.8km az=138.0

ISC 28 02:28:15.4±0.9,39˚09N±0˚03×29˚02E±0˚02,h12km±8km,
n35,σ0s58/52,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**259**	P	**Pg**	**02 28 20.8**	**+0.4**
DEMI				S	**Sg**	**02 28 24.4**	**+0.6**
DEMI	**Demirci**	**0.24**	**259**	*i* P	**Pg**	**02 28 20.8**	**+0.4**
DEMI				*i* S	**Sg**	**02 28 24.4**	**+0.6**
GEDZ	**Gediz**	**0.31**	**98**	*e*PG	**Pb**	**02 28 22.2**	**-0.8**
GEDZ	**Gediz**	**0.31**	**98**	*e*Pg	**Pb**	**02 28 22.2**	**-0.8**
GDZ	**Gediz**	**0.36**	**90**	P	**Pg**	**02 28 22.2**	**-0.5**
GDZ				S	**Sg**	**02 28 27.2**	**-0.4**
GDZ	**Gediz**	**0.36**	**90**	*i* P	**Pg**	**02 28 22.2**	**-0.5**
GDZ				*i* S	**Sg**	**02 28 27.2**	**-0.4**
TVSB	**Tavsanli**	**0.50**	**44**	*e*PG	**Pg**	**02 28 24.5**	**-0.8**
TVSB				*e*SG	**Sg**	**02 28 32.4**	**+0.5**
TVSB	**Tavsanli**	**0.50**	**44**	*e*Pg	**Pg**	**02 28 24.5**	**-0.8**
TVSB				*e*Sg	**Sg**	**02 28 32.4**	**+0.5**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*PG	**Pb**	**02 28 27.8**	**-0.7**
KULA				*e*SG	**Sg**	**02 28 36.3**	**+0.2**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*Pg	**Pb**	**02 28 27.8**	**-0.7**
KULA				*e*Sg	**Sg**	**02 28 36.3**	**+0.2**
MANT	**Manisa**	**0.69**	**211**	P	**Pg**	**02 28 28.3**	**-0.6**
MANT				S	**Sg**	**02 28 37.6**	**-0.4**
MANT	**Manisa**	**0.69**	**211**	*i* P	**Pg**	**02 28 28.3**	**-0.6**
MANT				*i* S	**Sg**	**02 28 37.6**	**-0.4**
KHL	**Karahalli**	**0.86**	**152**	*e*PG	**Pb**	**02 28 32.8**	**+0.5**
KHL	**Karahalli**	**0.86**	**152**	*e*Pg	**Pb**	**02 28 32.8**	**+0.5**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pn**	**02 28 35.4**	**-0.4**
BALB				*e*SG	**Sn**	**02 28 50.2**	**-0.1**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pn**	**02 28 35.4**	**-0.4**
BALB				*e*Sg	**Sn**	**02 28 50.2**	**-0.1**
IGD	**Bursa**	**1.19**	**7**	*i* P	**Pg**	**02 28 36.5**	**-1.7**
IGD				*i* S	**Sn**	**02 28 53.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*PN	**Pg**	**02 28 39.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*Pn	**Pg**	**02 28 39.9**	**-0.1**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*PN	**Pg**	**02 28 39.9**	**-0.2**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*Pn	**Pg**	**02 28 39.9**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**356**	*e*Pn	**Pg**	**02 28 40.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**356**	*e*Pn	**Pg**	**02 28 40.2**	**+0.1**
IZI	**Iznik**	**1.30**	**16**	*e*PN	**Pn**	**02 28 39.4**	**-0.1**
IZI	**Iznik**	**1.30**	**16**	*e*Pn	**Pn**	**02 28 39.4**	**-0.1**
BORA	**Eskisehir**	**1.37**	**54**	P	**Pb**	**02 28 40.8**	**-0.1**
BORA				S	**Sn**	**02 29 00.0**	**+1.5**
BORA	**Eskisehir**	**1.37**	**54**	*i* P	**Pb**	**02 28 40.8**	**-0.1**
BORA				*i* S	**Sn**	**02 29 00.0**	**+1.5**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*PN	**Pb**	**02 28 42.0**	**-0.4**
ADVT	**Abdulvahap**	**1.46**	**22**	*e*Pn	**Pb**	**02 28 42.0**	**-0.4**
ESKT	**Eskisehir**	**1.49**	**73**	*i* P	**Pg**	**02 28 44.2**	**+0.2**
ESKT				*i* S	**Sg**	**02 29 03.1**	**-0.2**
SEYT	**Eskypehyr**	**1.49**	**73**	P	**Pg**	**02 28 44.2**	**+0.2**
SEYT				S	**Sg**	**02 29 03.1**	**-0.2**
EDC	**Edincik**	**1.54**	**325**	*e*PN	**Pn**	**02 28 43.1**	**+0.4**
EDC	**Edincik**	**1.54**	**325**	*e*Pn	**Pn**	**02 28 43.1**	**+0.4**
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pn**	**02 28 46.5**	**+0.5**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pn**	**02 28 46.5**	**+0.5**

*ATH **28** 02:43:28.5,39˚95N×27˚68E,h22km±2km,ML3.0/6,Error*
ellipse: s-maj=3.8km s-min=1.9km az=100.0
*ISCJB **28** 02:43:29.5±0.3,39˚98N±0˚02×27˚68E±0˚02,h9km±2km,*
Error ellipse: s-maj=2.6km s-min=2.4km az=28.9
*CSEM **28** 02:43:29.7±0.1,39˚97N×27˚68E,h10km,ML3.1,Error*
ellipse: s-maj=1.7km s-min=1.7km az=67.0
*IASPEI **28** 02:43:29.4±0.8,39˚97N±0˚02×27˚71E±0˚02,h13km±5km,*
Error ellipse: s-maj=2.7km s-min=2.6km az=117.5,GT5
selection from ISC bulletin GT5 identified by Bond˝jr and
McLaughlin (2009) selection criteria Bond˝jr and
McLaughlin, A new ground truth data set for seismic
studies, Seism. Res. Let., 80, 465-472,
2009
*DDA **28** 02:43:29.4,39˚98N×27˚71E,h7km,Ml3.6*
*ISK **28** 02:43:29.1,39˚97N×27˚70E,h7km,ML3.1*
*THE **28** 02:43:31.4,39˚99N×27˚72E,h20km±4km,ML3.3/5,Error*
ellipse: s-maj=4.4km s-min=1.2km az=94.0

ISC 28 02:43:29.5±0.8,39˚97N±0˚01×27˚70E±0˚01,h13km±5km,
n124,σ0s58/185,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GONE	**Gonen-Balikesi**	**0.07**	**351**	PG	**Pg**	**02 43 32.2**	**0.0**
GONE				SG	**Sg**	**02 43 34.0**	**-0.1**
GONE	**Gonen-Balikesi**	**0.07**	**351**	*i* Pg	**Pg**	**02 43 32.2**	**0.0**
GONE				*i* Sg	**Sg**	**02 43 34.0**	**-0.1**
BALY	**Balya**	**0.24**	**195**	P	**Pg**	**02 43 34.9**	**+0.2**
BALY	**Balya**	**0.24**	**195**	*i* P	**Pg**	**02 43 34.9**	**+0.2**
KNL	**Bal˝–kesir**	**0.33**	**336**	*i* P	**Pg**	**02 43 35.4**	**-0.8**
KNL				*i* S	**Sg**	**02 43 40.4**	**-0.2**
BALB	**Balikesir**	**0.36**	**158**	PG	**Pg**	**02 43 36.7**	**-0.1**
BALB				SG	**Sg**	**02 43 41.4**	**-0.2**
BALB	**Balikesir**	**0.36**	**158**	*i* Pg	**Pg**	**02 43 36.7**	**-0.1**
BALB				*i* Sg	**Sg**	**02 43 41.4**	**-0.2**
EDC	**Edincik**	**0.39**	**18**	PG	**Pg**	**02 43 37.3**	**-0.1**
EDC				SG	**Sg**	**02 43 43.3**	**+0.6**
EDC	**Edincik**	**0.39**	**18**	*i* Pg	**Pg**	**02 43 37.3**	**-0.1**
EDC				*i* Sg	**Sg**	**02 43 43.3**	**+0.6**
KRBG	**Karabiga-Canak**	**0.52**	**324**	PG	**Pb**	**02 43 41.2**	**+0.6**
KRBG				*e*SG	**Sb**	**02 43 47.6**	**-0.4**
KRBG	**Karabiga-Canak**	**0.52**	**324**	*i* Pg	**Pb**	**02 43 41.2**	**+0.6**
KRBG				*e*Sg	**Sb**	**02 43 47.7**	**-0.4**
KCTX	**Karacabey (Bur**	**0.58**	**60**	PG	**Pg**	**02 43 40.5**	**-0.4**
KCTX				*e*SG	**Sg**	**02 43 48.3**	**-0.3**
KCTX	**Karacabey (Bur**	**0.58**	**60**	*i* Pg	**Pg**	**02 43 40.5**	**-0.4**
KCTX				*e*Sg	**Sg**	**02 43 48.3**	**-0.3**
MRMT	**Marmara Adasi**	**0.64**	**353**	PG	**Pg**	**02 43 41.8**	**-0.2**
MRMT				*e*SG	**Sg**	**02 43 51.0**	**+0.6**
MRMT	**Marmara Adasi**	**0.64**	**353**	*i* Pg	**Pg**	**02 43 41.8**	**-0.2**
MRMT				*e*Sg	**Sg**	**02 43 51.0**	**+0.6**
RKY	**Sarkoy-Tekirda**	**0.82**	**331**	PG	**Pg**	**02 43 45.2**	**-0.2**
RKY				*e*SG	**Sb**	**02 43 56.6**	**0.0**
RKY	**Sarkoy-Tekirda**	**0.82**	**331**	*i* Pg	**Pg**	**02 43 45.2**	**-0.2**
RKY				*e*Sg	**Sb**	**02 43 56.7**	**0.0**
SART	**Tekirdag**	**0.82**	**331**	P	**Pg**	**02 43 45.2**	**-0.2**
SART				S	**Sg**	**02 43 56.5**	**+0.4**
SART	**Tekirdag**	**0.82**	**331**	*i* P	**Pg**	**02 43 45.2**	**-0.2**
SART				*i* S	**Sg**	**02 43 56.5**	**+0.4**
LPK	**Lapseki**	**0.82**	**299**	PG	**Pg**	**02 43 45.4**	**-0.1**
LPK	**Lapseki**	**0.82**	**299**	*i* Pg	**Pg**	**02 43 45.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.99**	**66**	PG	**Pg**	**02 43 47.9**	**-0.7**
MDNY				*e*SG	**Sn**	**02 44 03.4**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.99**	**66**	*i* Pg	**Pg**	**02 43 47.9**	**-0.7**
MDNY				*e*Sg	**Sn**	**02 44 03.4**	**+0.4**
AYVA	**Ayvalik**	**1.02**	**230**	P	**Pg**	**02 43 48.8**	**-0.5**
AYVA				S	**Sn**	**02 44 04.1**	**+0.2**
AYVA	**Ayvalik**	**1.02**	**230**	*i* P	**Pg**	**02 43 48.8**	**-0.5**
AYVA				*i* S	**Sn**	**02 44 04.0**	**+0.2**
TKR	**Tekirdag**	**1.02**	**353**	PG	**Pb**	**02 43 49.4**	**+0.3**
TKR	**Tekirdag**	**1.02**	**353**	*i* Pg	**Pb**	**02 43 49.4**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.03**	**295**	PG	**Pg**	**02 43 48.9**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.03**	**295**	*i* Pg	**Pg**	**02 43 48.9**	**-0.5**
EZN	**Ezine**	**1.07**	**263**	PG	**Pn**	**02 43 50.2**	**0.0**
EZN	**Ezine**	**1.07**	**263**	*i* Pg	**Pn**	**02 43 50.2**	**0.0**
DKL	**Dikili**	**1.09**	**215**	PG	**Pg**	**02 43 50.3**	**-0.2**
DKL	**Dikili**	**1.09**	**215**	*i* Pg	**Pg**	**02 43 50.3**	**-0.2**
AKS	**Akhisar**	**1.09**	**175**	PN	**Pn**	**02 43 50.6**	**+0.1**
AKS	**Akhisar**	**1.09**	**175**	*i* Pn	**Pn**	**02 43 50.7**	**+0.1**
ERIK	**Erikli-Kesan**	**1.15**	**308**	PN	**Pb**	**02 43 50.9**	**-0.3**
ERIK	**Erikli-Kesan**	**1.15**	**308**	*i* Pn	**Pb**	**02 43 50.9**	**-0.3**
CRLT	**Corlu**	**1.16**	**1**	*e*PN	**Pg**	**02 43 52.1**	**+0.3**
CRLT	**Corlu**	**1.16**	**1**	*e*Pn	**Pg**	**02 43 52.1**	**+0.3**
KESN	**Edirne-Kesan**	**1.16**	**318**	P	**Pn**	**02 43 52.2**	**+0.4**
KESN	**Edirne-Kesan**	**1.16**	**318**	*i* P	**Pn**	**02 43 52.2**	**+0.4**
KESN				*i* S	**Sg**	**02 44 06.5**	**-0.4**
IGD	**Bursa**	**1.19**	**75**	*i* P	**Pb**	**02 43 50.8**	**-1.1**
IGD				*i* S	**Sb**	**02 44 06.8**	**-0.4**
DEMI	**Demirci**	**1.22**	**139**	P	**Pg**	**02 43 52.7**	**-0.2**
DEMI				S	**Sg**	**02 44 08.5**	**-0.3**
DEMI	**Demirci**	**1.22**	**139**	*i* P	**Pg**	**02 43 52.7**	**-0.2**
DEMI				*i* S	**Sg**	**02 44 08.5**	**-0.3**
GEMT	**Gemlik**	**1.23**	**67**	*e*PN	**Pg**	**02 43 53.6**	**+0.4**
GEMT	**Gemlik**	**1.23**	**67**	*e*Pn	**Pg**	**02 43 53.6**	**+0.4**
BOZC	**Bozcaada**	**1.27**	**265**	*i* P	**Pg**	**02 43 54.1**	**0.0**
BOZC				*i* S	**Sb**	**02 44 09.9**	**+0.2**
ELBA	**Catalca**	**1.30**	**25**	P	**Pb**	**02 43 54.0**	**+0.2**
ELBA				S	**Sg**	**02 44 11.4**	**0.0**
ELBA	**Catalca**	**1.30**	**25**	*i* P	**Pb**	**02 43 54.0**	**+0.2**
ELBA				*i* S	**Sg**	**02 44 11.4**	**0.0**
PRK	**Paraskevi**	**1.32**	**237**	P	**Pn**	**02 43 53.7**	**0.0**
PRK				S	**Sn**	**02 44 11.5**	**+0.3**
PRK	**Paraskevi**	**1.32**	**237**	P	**Pn**	**02 43 53.7**	**0.0**
PRK				S	**Sg**	**02 44 12.1**	**0.0**
PRK	**Paraskevi**	**1.32**	**237**	P	**Pn**	**02 43 52.4**	**-1.3**
PRK				S	**Sg**	**02 44 12.1**	**0.0**
PRK				AML	AML	02 44 15.1	
	comp=E,814μm,0.4s						
PRK				AML	AML	02 44 18.5	
	comp=N,1164μm,0.8s						
GADA	**Gvkgeada**	**1.40**	**280**	*e*PN	**Pb**	**02 43 55.5**	**-0.1**
GADA	**Gvkgeada**	**1.40**	**280**	*e*Pn	**Pb**	**02 43 55.5**	**-0.1**
CTKS	**Kestanelik-??a**	**1.40**	**26**	*e*PN	**Pb**	**02 43 55.9**	**+0.3**
CTKS	**Kestanelik-??a**	**1.40**	**26**	*e*Pn	**Pb**	**02 43 55.9**	**+0.3**
IZI	**Iznik**	**1.41**	**74**	*e*PN	**Pb**	**02 43 56.1**	**+0.5**
IZI	**Iznik**	**1.41**	**74**	*e*Pn	**Pb**	**02 43 56.2**	**+0.5**
ENEZ	**Enez**	**1.41**	**303**	*e*PN	**Pb**	**02 43 55.7**	**0.0**
ENEZ	**Enez**	**1.41**	**303**	*e*Pn	**Pb**	**02 43 55.7**	**0.0**
TVSB	**Tavsanli**	**1.45**	**110**	*e*PN	**Pb**	**02 43 56.3**	**-0.3**
TVSB	**Tavsanli**	**1.45**	**110**	*e*Pn	**Pb**	**02 43 56.3**	**-0.3**
BGKT	**Bogazkoy**	**1.46**	**34**	*e*PN	**Pb**	**02 43 56.4**	**-0.1**
BGKT	**Bogazkoy**	**1.46**	**34**	*e*Pn	**Pb**	**02 43 56.4**	**-0.1**
ISK	**Istanbul-Kandi**	**1.50**	**43**	*e*PN	**Pb**	**02 43 57.5**	**+0.2**
ISK	**Istanbul-Kandi**	**1.50**	**43**	P	**Pn**	**02 43 56.4**	**+0.2**
ISK				S	**Sn**	**02 44 15.4**	**-0.3**
ISK	**Istanbul-Kandi**	**1.50**	**43**	P	**Pn**	**02 43 56.4**	**+0.2**
ISK	**Istanbul-Kandi**	**1.50**	**43**	*e*Pn	**Pb**	**02 43 57.5**	**+0.2**
ISK				S	**Sn**	**02 44 15.4**	**-0.3**
ALN	**Alexandroupoli**	**1.57**	**307**	P	**Pn**	**02 43 57.0**	**-0.1**
ALN				S	**Sn**	**02 44 17.1**	**-0.1**
ALN	**Alexandroupoli**	**1.57**	**307**	P	**Pn**	**02 43 57.0**	**-0.1**
ALN				S	**Sn**	**02 44 17.1**	**-0.1**
ALN	**Alexandroupoli**	**1.57**	**307**	P	**Pn**	**02 43 57.0**	**-0.1**
ALN				S	**Sn**	**02 44 16.2**	**-1.0**
ALN				AML	AML	02 44 19.8	
	comp=E,264μm,0.4s						
ALN				AML	AML	02 44 20.6	
	comp=N,505μm,0.5s						
IZM	**Izmir**	**1.61**	**192**	*e*PN	**Pn**	**02 43 57.4**	**-0.3**
IZM	**Izmir**	**1.61**	**192**	*e*Pn	**Pn**	**02 43 57.4**	**-0.3**
GEDZ	**Gediz**	**1.61**	**124**	*e*PN	**Pn**	**02 43 58.4**	**+0.6**
GEDZ	**Gediz**	**1.61**	**124**	*e*Pn	**Pn**	**02 43 58.4**	**+0.6**
SIGR	**SIGRI**	**1.62**	**243**	P	**Pn**	**02 43 57.8**	**0.0**
SIGR				S	**Sn**	**02 44 18.6**	**+0.1**
SIGR	**SIGRI**	**1.62**	**243**	P	**Pn**	**02 43 57.8**	**0.0**
SIGR				S	**Sn**	**02 44 18.6**	**+0.1**
SIGR	**SIGRI**	**1.62**	**243**	P	**Pn**	**02 43 58.2**	**+0.4**
SIGR				S	**Sn**	**02 44 17.6**	**-0.8**
SIGR				AML	AML	02 44 23.5	
	comp=E,775μm,0.5s						
SIGR				AML	AML	02 44 23.9	
	comp=N,764μm,0.8s						
MANT	**Manisa**	**1.62**	**156**	P	**Pg**	**02 44 00.0**	**-0.7**
MANT				S	**Sb**	**02 44 20.4**	**+0.5**
MANT	**Manisa**	**1.62**	**156**	*i* P	**Pg**	**02 44 00.0**	**-0.7**
MANT				*i* S	**Sb**	**02 44 20.4**	**+0.5**
ADVT	**Abdulvahap**	**1.63**	**73**	*e*PN	**Pn**	**02 43 58.3**	**+0.4**
ADVT	**Abdulvahap**	**1.63**	**73**	*e*Pn	**Pn**	**02 43 58.3**	**+0.4**
GDZ	**Gediz**	**1.64**	**122**	P	**Pb**	**02 44 00.0**	**+0.4**
GDZ				S	**Sg**	**02 44 23.3**	**+1.2**
GDZ	**Gediz**	**1.64**	**122**	*i* P	**Pb**	**02 44 00.0**	**+0.4**
GDZ				*i* S	**Sg**	**02 44 23.3**	**+1.2**
KULA	**Kula-Manisa**	**1.64**	**153**	*e*PN	**Pb**	**02 43 59.1**	**-0.5**
KULA	**Kula-Manisa**	**1.64**	**153**	P	**Pn**	**02 43 58.4**	**+0.3**
KULA				S	**Sn**	**02 44 18.2**	**-0.9**
KULA	**Kula-Manisa**	**1.64**	**153**	P	**Pn**	**02 43 58.4**	**+0.3**
KULA	**Kula-Manisa**	**1.64**	**153**	*e*Pn	**Pb**	**02 43 59.1**	**-0.5**
KULA				S	**Sn**	**02 44 18.2**	**-0.9**
KLYT	**Kilyos**	**1.64**	**38**	*e*PN	**Pn**	**02 43 58.7**	**+0.7**
KLYT	**Kilyos**	**1.64**	**38**	*e*Pn	**Pn**	**02 43 58.7**	**+0.7**
CAVI	**Cavuskoy**	**1.66**	**81**	*e*PN	**Pn**	**02 43 59.1**	**+0.7**
CAVI	**Cavuskoy**	**1.66**	**81**	*e*Pn	**Pn**	**02 43 59.1**	**+0.7**
PHSR	**Pinarhisar**	**1.66**	**355**	*e*PN	**Pb**	**02 43 59.5**	**-0.5**
PHSR	**Pinarhisar**	**1.66**	**355**	*e*Pn	**Pb**	**02 43 59.5**	**-0.5**
HRT	**Hereke**	**1.72**	**60**	*e*PN	**Pb**	**02 44 00.7**	**-0.5**
HRT	**Hereke**	**1.72**	**60**	*e*Pn	**Pb**	**02 44 00.6**	**-0.5**
SMTH	**Samothraki Isl**	**1.74**	**287**	P	**Pn**	**02 44 00.3**	**+0.9**
SMTH				S	**Sn**	**02 44 21.7**	**+0.2**
SMTH	**Samothraki Isl**	**1.74**	**287**	P	**Pn**	**02 43 59.9**	**+0.5**
SMTH				S	**Sn**	**02 44 21.3**	**-0.2**
SMTH	**Samothraki Isl**	**1.74**	**287**	P	**Pn**	**02 43 59.9**	**+0.5**
SMTH				S	**Sn**	**02 44 21.3**	**-0.2**
SMTH				AML	AML	02 44 25.7	
	comp=E,1939μm,0.3s						
SMTH				AML	AML	02 44 25.9	
	comp=N,2067μm,0.5s						
URLA	**Izmir**	**1.82**	**208**	P	**Pg**	**02 44 04.2**	**-0.3**
URLA	**Izmir**	**1.82**	**208**	*i* P	**Pg**	**02 44 04.2**	**-0.3**
URLA				*i* S	**Sg**	**02 44 32.1**	**+3.9**
SILT	**Sile**	**1.89**	**51**	*e*PN	**Pb**	**02 44 03.4**	**-0.5**
SILT	**Sile**	**1.89**	**51**	*e*Pn	**Pb**	**02 44 03.4**	**-0.5**
LIA	**Limnos Island**	**1.94**	**269**	P	**Pn**	**02 44 02.9**	**+0.7**
LIA				S	**Sn**	**02 44 26.6**	**+0.2**
LIA	**Limnos Island**	**1.94**	**269**	P	**Pn**	**02 44 02.9**	**+0.7**
LIA				S	**Sn**	**02 44 26.6**	**+0.2**
ZEY	**˝zmir**	**1.97**	**209**	*i* P	**Pg**	**02 44 07.6**	**+0.4**
ZEY				*i* S	**Sg**	**02 44 34.2**	**+1.5**
EDRB	**Edirne**	**2.01**	**339**	P	**Pn**	**02 44 03.0**	**-0.2**
EDRB				S	**Sn**	**02 44 27.7**	**-0.5**
EDRB	**Edirne**	**2.01**	**339**	P	**Pn**	**02 44 03.0**	**-0.2**
EDRB				S	**Sn**	**02 44 27.7**	**-0.5**
DGB	**˝zmir**	**2.02**	**199**	*i* P	**Pb**	**02 44 06.7**	**-0.6**
DGB				*i* S	**Sg**	**02 44 34.5**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**2.03**	**176**	*e*PN	**Pn**	**02 44 03.4**	**-0.1

ESKT	**Eskisehir**	**1.49**	**74**	⇓*i*P		**Pg**	**02 57 05.0**	**+0.2**
ESKT				*i* S		**Sg**	**02 57 23.9**	**-0.2**
SEYT	**Eskypehyr**	**1.49**	**74**	P		**Pg**	**02 57 05.0**	**+0.2**
SEYT				S		**Sg**	**02 57 23.9**	**-0.2**
EDC	**Edincik**	**1.51**	**325**	*e*PN		**Pb**	**02 57 04.5**	**+0.2**
EDC	**Edincik**	**1.51**	**325**	*e*Pn		**Pb**	**02 57 04.5**	**+0.2**
GULT	**Gulveren**	**1.76**	**41**	*e*PN		**Pb**	**02 57 07.7**	**-0.8**
GULT	**Gulveren**	**1.76**	**41**	*e*Pn		**Pb**	**02 57 07.7**	**-0.8**
HRT	**Hereke**	**1.78**	**16**	*e*PN		**Pn**	**02 57 07.7**	**+0.8**
HRT	**Hereke**	**1.78**	**16**	*e*Pn		**Pn**	**02 57 07.7**	**+0.8**

*ISCJB **28** 03:01:26.6±0.7,39.°14N±0.°05×28.°96E±0.°05,h2km±11km,*
Error ellipse: s-maj=9.7km s-min=4.3km az=147.7
*CSEM **28** 03:01:26.6±0.2,39.°14N×28.°94E,h5km,ML2.2,Error*
ellipse: s-maj=5.9km s-min=3.0km az=133.0
*ISK **28** 03:01:26.2,39.°14N×28.°97E,h5km,MD2.7*
*DDA **28** 03:01:27.1,39.°07N×29.°01E,h7km,Ml2.2*
ISC 28 03:01:26.9±1.0,39.°14N±0.°03×28.°96E±0.°03,h6km±11km,
n20,σ0°62/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.21**	**242**	P	**Pg**	**03 01 30.0**	**-1.1**
DEMI				S	**Sg**	**03 01 35.8**	**+1.8**
DEMI	**Demirci**	**0.21**	**242**	*i* P	**Pg**	**03 01 30.0**	**-1.1**
DEMI				*i* S	**Sg**	**03 01 35.8**	**+1.8**
GEDZ	**Gediz**	**0.36**	**105**	*e*PG	**Pg**	**03 01 33.8**	**-0.3**
GEDZ	**Gediz**	**0.36**	**105**	*e*Pg	**Pg**	**03 01 33.8**	**-0.3**
GDZ	**Gediz**	**0.41**	**97**	P	**Pg**	**03 01 34.8**	**-0.1**
GDZ				S	**Sg**	**03 01 40.0**	**-0.3**
GDZ	**Gediz**	**0.41**	**97**	*i* P	**Pg**	**03 01 34.8**	**-0.1**
GDZ				*i* S	**Sg**	**03 01 40.0**	**-0.3**
TVSB	**Tavsanli**	**0.50**	**52**	*e*PG	**Pg**	**03 01 36.5**	**0.0**
TVSB				*e*SG	**Sg**	**03 01 43.2**	**+0.2**
TVSB	**Tavsanli**	**0.50**	**52**	*e*Pg	**Pg**	**03 01 36.5**	**0.0**
TVSB				*e*Sg	**Sg**	**03 01 43.2**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**200**	*e*PG	**Pg**	**03 01 40.0**	**+0.2**
KULA				*e*SG	**Sg**	**03 01 48.9**	**+0.4**
KULA	**Kula-Manisa**	**0.67**	**200**	*e*Pg	**Pg**	**03 01 40.0**	**+0.2**
KULA				*e*Sg	**Sg**	**03 01 48.9**	**+0.4**
MANT	**Manisa**	**0.72**	**206**	P	**Pg**	**03 01 40.7**	**-0.1**
MANT				S	**Sg**	**03 01 49.7**	**-0.5**
MANT	**Manisa**	**0.72**	**206**	*i* P	**Pg**	**03 01 40.7**	**-0.1**
MANT				*i* S	**Sg**	**03 01 49.7**	**-0.5**
KCTX	**Karacabey (Bur**	**1.21**	**338**	*e*PN	**Pg**	**03 01 49.9**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.23**	**357**	*e*PN	**Pg**	**03 01 50.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.23**	**357**	*e*Pn	**Pg**	**03 01 50.2**	**-0.2**
BORA	**Eskisehir**	**1.37**	**57**	P	**Pg**	**03 01 53.2**	**0.0**
BORA				S	**Sn**	**03 02 11.5**	**+0.3**
BORA	**Eskisehir**	**1.37**	**57**	*i* P	**Pg**	**03 01 53.2**	**0.0**
BORA				*i* S	**Sn**	**03 02 11.5**	**+0.3**
ARMT	**Armutlu**	**1.42**	**357**	*e*PN	**Pb**	**03 01 53.7**	**-0.2**
GULT	**Gulveren**	**1.76**	**42**	*e*PN	**Pn**	**03 01 58.0**	**-0.1**
GULT	**Gulveren**	**1.76**	**42**	*e*Pn	**Pn**	**03 01 58.0**	**-0.1**

*SOME **28** 03:09:43.9,44.°18N×81.°90E,h30km*
*NNC **28** 03:09:48.2±2.0,44.°39N×81.°41E,h0km,mb3.2,mpv2.8,*
Error ellipse: s-maj=27.1km s-min=16.5km az=93.0
ISC 28 03:09:41.6±2.6,44.°14N±0.°06×81.°99E±0.°08,h3km±18km,
n17,σ1°64/32,5C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.37**	**240**	*e*P	**Pn**	**03 10 07.4**	**-0.4**
KTMS	15nm,0.2s			*e*S	**Sb**	**03 10 24.3**	**-1.7**
	22nm,0.4s						
DJR	**Jarkent**	**1.59**	**278**	⇓*i*P	**Pn**	**03 10 10.4**	**-0.4**
DJR	31nm,0.2s			*e*S	**Sn**	**03 10 29.6**	**-2.3**
	41nm,0.6s						
SHLS	**Shalkode**	**1.82**	**238**	*e*P	**Pn**	**03 10 14.9**	**+0.9**
SHLS	21nm,0.2s			⇑*i*S	**Sn**	**03 10 36.5**	**-1.2**
	52nm,0.5s						
KAPS	**Kapalarasan**	**2.20**	**302**	*e*P	**Pb**	**03 10 22.0**	**0.0**
KAPS	19nm,0.5s			*e*S	**Sb**	**03 10 49.6**	**-0.2**
	33nm,0.6s						
UZB	**Uzynbulak**	**2.37**	**246**	*e*P	**Pb**	**03 10 24.9**	**-0.1**
UZB	7.9nm,0.2s			⇑*i*S	**Sb**	**03 10 54.0**	**-0.8**
	23nm,0.5s						
MNBS	**Baschi**	**2.59**	**270**	*e*P	**Pn**	**03 10 26.2**	**+1.8**
MNBS	8.1nm,0.7s			*e*S	**Sn**	**03 10 56.7**	**+0.3**
	87nm,0.5s						
MK31	**Makanchi Array**	**2.66**	**4**	Pn	**Pb**	**03 10 29.9**	**-0.1**
MK31	1.0nm,0.4s,baz=187,slow=13,SNR=35			⇑Lg	Lg	03 11 06.2	
	4.3nm,0.6s,baz=202,slow=22,SNR=13						
MAKZ	**Makanchi**	**2.67**	**360**	⇑Pn	**Pb**	**03 10 29.7**	**-0.3**
MAKZ	2.8nm,0.5s			⇓Lg	Lg	03 11 06.9	
	4.0nm,0.5s						
SATY	**Saty**	**2.82**	**249**	*e*P	**Pb**	**03 10 31.6**	**-1.0**
SATY	14nm,0.2s			*e*S	**Sb**	**03 11 06.3**	**-1.3**
	24nm,0.4s						
ARXS	**Arharly**	**3.00**	**273**	*e*P	**Pb**	**03 10 33.6**	**-2.1**
ARXS	5.0nm,0.4s			*e*S	**Sn**	**03 11 09.1**	**+2.6**
	27nm,0.6s						
CHKK	**Chushkaly**	**3.61**	**267**	*e*P	**Pb**	**03 10 45.2**	**-0.9**
CHKK	5.4nm,0.5s			*e*S	**Sb**	**03 11 28.9**	**-1.4**
	14nm,0.3s						
KOTS	**Kotyrbulak**	**3.65**	**257**	*e*P	**Pb**	**03 10 46.7**	**-0.2**
KOTS				*e*S	**Sb**	**03 11 31.8**	**+0.1**
TNSS	**Tian-Shan**	**3.83**	**255**	*e*P	**Pb**	**03 10 53.5**	**+3.5**
TNSS	7.2nm,0.3s			*e*S	**Sg**	**03 11 43.9**	**-0.6**
	4.7nm,0.4s						
KTBS	**Karatobe**	**3.86**	**266**	*e*P	**Pb**	**03 10 52.4**	**+2.1**
KTBS				*e*S	**Sb**	**03 11 41.5**	**+4.1**
KUU	**Kurty**	**4.08**	**269**	*e*P	**Pb**	**03 10 53.1**	**-1.1**
KUU	6.8nm,0.4s			*e*S	**Sb**	**03 11 42.4**	**-1.5**
	7.6nm,0.8s						
DGS	**Degeres**	**4.60**	**261**	*e*P	**Pb**	**03 11 03.4**	**+0.4**
DGS	2.4nm,0.3s			*e*S	**Sb**	**03 12 00.4**	**+1.6**
	9.7nm,0.4s						
KURBB	**Kurchatov Arra**	**6.90**	**341**	⇑Pn	**Pn**	**03 11 24.8**	**+1.3**
KURBB	0.9nm,0.5s			⇓Sn	**Sn**	**03 12 40.9**	**-1.6**
	3.0nm,0.6s						
KURBB	8.1nm,0.7s			⇓Lg	Lg	03 13 18.5	

IDC 28 03:24:59.7±1.6,30.°76N×41.°68W,h0km,mb3.5/7,
mb1 3.8/7,mb1mx3.6/37,mbtmp3.5/7,MS3.2/5,Ms1 3.2/5,
ms1mx2.9/28,Error ellipse: s-maj=52.6km
s-min=22.5km az=7.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**25.52**	**246**	LR	LR	03 40 40.0	
	comp=Z,20nm,18.0s,baz=80,slow=37						
DBIC	**Dimbokro**	**42.00**	**117**	LR	LR	03 49 53.6	
	comp=Z,50nm,18.7s,baz=290,slow=36						
TORD	**Torodi Ar. Bea**	**43.57**	**104**	P	P	03 33 05.7	+0.1
	0.5nm,0.9s,baz=299,slow=6.5,SNR=2.6						
GERES	**GERESS Array B**	**45.16**	**50**	P	P	03 33 17.6	-0.6
	0.3nm,0.5s,baz=264,slow=8.8,SNR=3.8						
H10N2	**ASCENSION HYDR**	**46.39**	**141**	T	T	04 23 04.4	
	baz=327,slow=75,SNR=17						
H10N3	**ASCENSION HYDR**	**46.39**	**141**	T	T	04 23 03.1	
	baz=327,slow=75,SNR=9.2						
H10N1	**ASCENSION HYDR**	**46.41**	**141**	T	T	04 23 10.6	
	baz=327,slow=75,SNR=27						
H10S1	**ASCENSION HYDR**	**47.23**	**142**	T	T	04 24 08.9	
	baz=328,slow=75,SNR=10						
H10S3	**ASCENSION HYDR**	**47.24**	**142**	T	T	04 24 09.1	
	baz=328,slow=75,SNR=12						
H10S2	**ASCENSION HYDR**	**47.25**	**142**	T	T	04 24 10.9	
	baz=328,slow=75,SNR=12						
TXAR	**Lajitas Array**	**53.05**	**285**	P	P	03 34 18.4	-0.5
	0.3nm,0.8s,baz=82,slow=6.5,SNR=2.9						
TXAR				LR	LR	03 55 46.1	
	comp=Z,16nm,19.6s,baz=0.0,slow=35						

NNA	**Nana**	**54.30**	**224**	LR	LR	03 56 00.5			
	comp=Z,16nm,20.7s,baz=197,slow=34								
PDAR	**Pinedale Array**	**54.34**	**303**	P	P	03 34 28.4	0.0		
	0.5nm,0.5s,baz=91,slow=5.5,SNR=3.9								
PDAR				LR	LR	03 56 13.0			
	comp=Z,59nm,18.9s,baz=92,slow=34								
AKASG	**Malin Array Be**	**55.12**	**47**	P	P	03 34 33.3	-0.3		
	0.2nm,0.3s,baz=276,slow=6.0,SNR=2.2								
ILAR	**Eielson Array**	**68.71**	**334**	P	P	03 36 05.2	+0.3		
	1.1nm,0.9s,baz=65,slow=4.1,SNR=9.6								
ZALV	**Zalesovo Beam**	**83.81**	**29**	P	P	03 37 31.1	+0.3		
	0.4nm,0.4s,baz=295,slow=5.3,SNR=3.2								

*ISK **28** 03:25:10.6,39.°12N×29.°03E,h8km,MD2.8*
*ISCJB **28** 03:25:11.1±0.5,39.°12N±0.°01E±0.°04,h5km±8km,*
Error ellipse: s-maj=8.1km s-min=4.1km az=150.1
*CSEM **28** 03:25:11.1±0.1,39.°11N×29.°00E,h8km,ML2.3,Error*
ellipse: s-maj=4.1km s-min=3.1km az=135.0
*DDA **28** 03:25:11.1,39.°12N×29.°02E,h7km,Ml2.3*
ISC 28 03:25:11.3±1.0,39.°12N±0.°03×29.°02E±0.°03,h8km±9km,
n30,σ0°65/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**252**	P	**Pg**	**03 25 16.7**	**+0.4**
DEMI				S	**Sg**	**03 25 20.3**	**+0.6**
DEMI	**Demirci**	**0.25**	**252**	*i* P	**Pg**	**03 25 16.7**	**+0.4**
DEMI				*i* S	**Sg**	**03 25 20.3**	**+0.6**
GEDZ	**Gediz**	**0.31**	**104**	*e*PG	**Pg**	**03 25 17.1**	**-0.4**
GEDZ	**Gediz**	**0.31**	**104**	*e*Pg	**Pg**	**03 25 17.1**	**-0.4**
GDZ	**Gediz**	**0.36**	**95**	P	**Pg**	**03 25 18.7**	**+0.3**
GDZ				S	**Sg**	**03 25 23.9**	**+0.7**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**03 25 18.7**	**+0.3**
GDZ				*i* S	**Sg**	**03 25 23.9**	**+0.7**
TVSB	**Tavsanli**	**0.48**	**46**	*e*PG	**Pg**	**03 25 20.4**	**-0.2**
TVSB				*e*SG	**Sg**	**03 25 27.1**	**+0.3**
TVSB	**Tavsanli**	**0.48**	**46**	*e*Pg	**Pg**	**03 25 20.4**	**-0.2**
TVSB				*e*Sg	**Sg**	**03 25 27.1**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**03 25 24.4**	**+0.3**
KULA				*e*SG	**Sg**	**03 25 33.5**	**+0.6**
MANT	**Manisa**	**0.72**	**210**	P	**Pg**	**03 25 24.8**	**-0.5**
MANT				S	**Sg**	**03 25 33.9**	**-0.8**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**03 25 24.8**	**-0.5**
MANT				*i* S	**Sg**	**03 25 33.9**	**-0.8**
IGD	**Bursa**	**1.15**	**7**	*i* P	**Pg**	**03 25 32.2**	**-1.3**
IGD				*i* S	**Sb**	**03 25 48.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN	**Pn**	**03 25 34.6**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pn**	**03 25 34.6**	**-0.5**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*PN	**Pn**	**03 25 34.9**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*Pn	**Pn**	**03 25 34.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pn**	**03 25 34.6**	**-0.6**
KCTX				*e*SN	**Sn**	**03 25 53.6**	**+1.3**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pn**	**03 25 34.6**	**-0.6**
KCTX				*e*Sn	**Sn**	**03 25 53.6**	**+1.3**
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pn**	**03 25 34.8**	**-0.6**
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pn**	**03 25 34.8**	**-0.6**
BORA	**Eskisehir**	**1.34**	**55**	P	**Pg**	**03 25 37.6**	**+0.5**
BORA				S	**Sn**	**03 25 55.5**	**+0.9**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pg**	**03 25 37.6**	**+0.5**
BORA				*i* S	**Sn**	**03 25 55.5**	**+0.9**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN	**Pb**	**03 25 37.7**	**-0.4**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn	**Pb**	**03 25 37.7**	**-0.4**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pn**	**03 25 37.5**	**-0.4**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pn**	**03 25 37.5**	**-0.4**
EDC	**Edincik**	**1.52**	**324**	*e*PN	**Pn**	**03 25 38.8**	**0.0**
EDC	**Edincik**	**1.52**	**324**	*e*Pn	**Pn**	**03 25 38.8**	**0.0**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pb**	**03 25 42.8**	**-0.9**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pb**	**03 25 42.8**	**-0.9**

*ISCJB **28** 03:27:25.8±0.5,24.°70N±0.°03×121.°90E±0.°02,h76km±4km,*
Error ellipse: s-maj=5.2km s-min=3.1km az=158.5
*JMA **28** 03:27:25.2±0.2,24.°65N×121.°85E,h78km±2km,M2.6*
*TAP **28** 03:27:26.0,24.°69N×121.°82E,h74km,ML3.4,B*
ISC 28 03:27:26.1±1.4,24.°71N±0.°04×121.°89E±0.°03,h76km±7km,
n46,σ0°58/82,3C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.11**	**201**	⇑*i*P	**Pn**	**03 27 37.5**	**+0.4**
TWC	baz=147			*i* S	**Sn**	**03 27 46.0**	**+0.8**
	baz=147						
EGS		**0.14**	**15**	P	**Pn**	**03 27 37.9**	**+0.7**
EGS	baz=37			*e*S	**Sn**	**03 27 45.5**	**+0.2**
	baz=37						
ILA	**Ilan**	**0.14**	**294**	*e*P	**Pn**	**03 27 37.8**	**+0.6**
	baz=329						
TWE	**Neicheng**	**0.20**	**274**	P	**Pn**	**03 27 37.7**	**+0.3**
TWE	baz=290			S	**Sn**	**03 27 46.1**	**+0.4**
	baz=290						
ENTT	**Nioudou**	**0.30**	**257**	⇑*i*P	**Pn**	**03 27 38.2**	**+0.2**
ENTT	baz=256			S	**Sn**	**03 27 46.5**	**-0.3**
	baz=256						
ENA	**Nanau**	**0.31**	**206**	P	**Pn**	**03 27 38.1**	**+0.1**
ENA	baz=194			S	**Sn**	**03 27 47.2**	**+0.4**
	baz=194						
TWB1	**Santiao Chiao**	**0.31**	**16**	P	**Pn**	**03 27 38.1**	**0.0**
TWB1	baz=34			S	**Sn**	**03 27 46.7**	**-0.1**
	baz=34						
NWF	**Wu-fen Shan**	**0.38**	**345**	⇓*i*P	**Pn**	**03 27 38.7**	**+0.1**
NWF	baz=359			*i* S	**Sn**	**03 27 47.4**	**-0.3**
	baz=359						
TWA	**Mucha**	**0.39**	**314**	P	**Pn**	**03 27 38.4**	**-0.2**
TWA	baz=324			S	**Sn**	**03 27 47.8**	**0.0**
	baz=324						
TAP1	**Taipei**	**0.47**	**315**	*e*P	**Pn**	**03 27 38.7**	**-0.5**
TAP1	baz=315			*e*S	**Sn**	**03 27 48.8**	**-0.1**
	baz=315						
TAP	**Taipei**	**0.48**	**313**	P	**Pn**	**03 27 39.2**	**-0.1**
TAP	baz=315			S	**Sn**	**03 27 49.1**	**+0.1**
	baz=315						
NSK	**Sanguang**	**0.49**	**266**	*e*P	**Pn**	**03 27 38.8**	**-0.6**
NSK	baz=267			*e*S	**Sn**	**03 27 48.0**	**-1.3**
	baz=267						
NNS	**Nan Shan**	**0.54**	**241**	*e*P	**Pn**	**03 27 39.9**	**-0.1**
NNS	baz=243			*e*S	**Sn**	**03 27 49.8**	**-0.5**
	baz=243						
TWS1	**Kuangyinshan**	**0.58**	**312**	*i* P	**Pn**	**03 27 40.3**	**0.0**
TWS1	baz=310			S	**Sn**	**03 27 51.2**	**+0.5**
	baz=310						
TWY	**Chenhua**	**0.62**	**335**	P	**Pn**	**03 27 40.6**	**-0.1**
TWY	baz=342			S	**Sn**	**03 27 52.0**	**+0.5**
	baz=342						
TWD	**Chiawan**	**0.68**	**203**	P	**Pn**	**03 27 40.4**	**-0.9**
TWD	baz=206			S	**Sn**	**03 27 50.9**	**-1.5**
	baz=206						
NCU	**National Centr**	**0.69**	**292**	*e*P	**Pn**	**03 27 41.0**	**-0.3**
NCU	baz=288			*e*S	**Sn**	**03 27 52.8**	**+0.1**
	baz=288						
TWT	**Tachien**	**0.79**	**235**	*e*P	**Pn**	**03 27 43.9**	**+1.2**
	baz=228						
NSTT	**Nanjuang**	**0.81**	**265**	*i* P	**Pn**	**03 27 42.2**	**-0.5**
NSTT	baz=264			*e*S	**Sn**	**03 27 54.2**	**-0.9**
	baz=264						
HSN	**Hsinchu**	**0.84**	**277**	*e*P	**Pn**	**03 27 42.1**	**-1.0**
	baz=280						
PCYT	**Pengchaiyu**	**0.93**	**10**	*e*P	**Pn**	**03 27 44.2**	**+0.1**
	baz=8.0						
JYNG	**Yonagunijimaku**	**0.99**	**105**	P	**Pn**	**03 27 44.6**	**-0.2**
JYNG				*e*S	**Sn**	**03 27 58.1**	**-0.7**
YOJ	**Yonaguni jima**	**1.05**	**103**	P	**Pn**	**03 27 45.2**	**-0.3**
YOJ				*e*S	**Sn**	**03 27 59.7**	**-0.3**
NSY	**Sanyi**	**1.07**	**254**	*e*P	**Pn**	**03 27 45.6**	**-0.2**
NSY	baz=253			*e*S	**Sn**	**03 28 00.3**	**-0.2**
	baz=253						

TWQ1	**Liyutan**	**1.08**	**251**	*e*P	**Pn**	**03 27 45.6**	**-0.3**		
	baz=249								
TWQ1				*e*S	**Sn**	**03 28 00.2**	**-0.5**		
	baz=249								
WDT	**Danda**	**1.17**	**216**	⇓*i*P	**Pn**	**03 27 47.1**	**-0.3**		
	baz=207								
WDT				*e*S	**Sn**	**03 28 02.7**	**-0.6**		
	baz=207								
SMLT	**Sun Moon Lake**	**1.22**	**228**	*e*P	**Pn**	**03 27 48.1**	**+0.3**		
	baz=233								
SMLT				S	**Sn**	**03 28 05.1**	**+1.0**		
	baz=233								
TYC	**Yuchr**	**1.24**	**230**	P	**Pn**	**03 27 48.0**	**+0.1**		
	baz=234								
TYC				S	**Sn**	**03 28 04.2**	**0.0**		
	baz=234								
WNT	**Mingjian**	**1.38**	**233**	*e*P	**Pn**	**03 27 49.7**	**0.0**		
	baz=241								
WNT				*e*S	**Sn**	**03 28 07.8**	**+0.3**		
	baz=241								
TWF1	**Yuli**	**1.46**	**202**	*e*P	**Pn**	**03 27 50.0**	**-0.7**		
	baz=199								
TWF1				*e*S	**Sn**	**03 28 07.8**	**-1.5**		
	baz=199								
YUS	**Yu-Shan**	**1.49**	**215**	⇑P	**Pn**	**03 27 51.8**	**+0.2**		
	baz=205								
YUS				*e*S	**Sn**	**03 28 11.1**	**+0.4**		
	baz=205								
ALS	**Alishan**	**1.55**	**220**	*e*P	**Pn**	**03 27 52.6**	**+0.4**		
	baz=226								
ALS				*e*S	**Sn**	**03 28 12.9**	**+1.0**		
	baz=226								
CHN5	**Tsauling**	**1.57**	**225**	P	**Pn**	**03 27 52.2**	**-0.1**		
	baz=231								
CHN5				S	**Sn**	**03 28 11.6**	**-0.3**		
	baz=231								
WGK	**Gukeng**	**1.58**	**230**	*e*P	**Pn**	**03 27 52.3**	**-0.1**		
	baz=237								
ELDTW	**Lidau**	**1.71**	**208**	*e*P	**Pn**	**03 27 54.7**	**+0.5**		
	baz=197								
ELDTW				*e*S	**Sn**	**03 28 14.9**	**-0.5**		
	baz=197								
IRIF	**Iriomote-Funau**	**1.72**	**102**	P	**Pn**	**03 27 53.8**	**-0.3**		
IRIF				S	**Sn**	**03 28 15.0**	**-0.3**		
CHN4	**Tsaushan**	**1.80**	**222**	*e*P	**Pn**	**03 27 55.1**	**-0.1**		
	baz=218								
CHN4				*e*S	**Sn**	**03 28 18.5**	**+1.2**		
	baz=218								
STYT	**Tauyuan**	**1.86**	**214**	*e*P	**Pn**	**03 27 56.5**	**+0.4**		
	baz=222								
STYT				*e*S	**Sn**	**03 28 20.1**	**+1.4**		
	baz=222								
HATJ	**Hateruma jima**	**1.86**	**110**	P	**Pn**	**03 27 56.5**	**+0.5**		
WTP	**Ta-pu**	**1.87**	**219**	*e*P	**Pn**	**03 27 56.6**	**+0.5**		
	baz=228								
TWK	**Hsinying**	**1.93**	**222**	*e*P	**Pn**	**03 27 57.3**	**+0.3**		
	baz=220								
JKRS	**Kuro-shima**	**1.99**	**103**	P	**Pn**	**03 27 57.8**	**+0.1**		
JKRS				*e*S	**Sn**	**03 28 21.7**	**-0.1**		
JIJ	**Ishigaki jima**	**2.08**	**99**	P	**Pn**	**03 27 58.8**	**-0.1**		
JIJ				S	**Sn**	**03 28 23.2**	**-0.8**		
JISG	**Ishigakijimahi**	**2.21**	**93**	P	**Pn**	**03 28 00.6**	**0.0**		
JISG				*e*S	**Sn**	**03 28 26.9**	**-0.1**		
EAST	**Anshuo**	**2.50**	**203**	*e*P	**Pn**	**03 28 05.1**	**+0.3**		
	baz=193								
JTJ	**Tarama**	**2.56**	**91**	P	**Pn**	**03 28 06.5**	**+1.1**		

*ISCJB **28** 03:36:28.8±0.5,39.°10N±0.°04×29.°00E±0.°03,h5km±7km,*
Error ellipse: s-maj=6.7km s-min=3.9km az=155.7
*CSEM **28** 03:36:28.9±0.1,39.°09N×29.°02E,h5km,ML2.6,Error*
ellipse: s-maj=2.9km s-min=2.3km az=135.0
*ISK **28** 03:36:28.4,39.°10N×29.°03E,h6km,MD2.8*
*DDA **28** 03:36:29.0,39.°09N×29.°00E,h7km,Ml2.6*
ISC 28 03:36:29.1±1.0,39.°11N±0.°03×29.°01E±0.°02,h7km±10km,
n31,σ0°57/46,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**254**	P	**Pg**	**03 36 34.0**	**+0.1**
DEMI				S	**Sg**	**03 36 37.3**	**+0.2**
DEMI	**Demirci**	**0.24**	**254**	*i* P	**Pg**	**03 36 34.0**	**+0.1**
DEMI				*i* S	**Sg**	**03 36 37.3**	**+0.2**
GEDZ	**Gediz**	**0.32**	**102**	*e*PG	**Pg**	**03 36 34.5**	**-0.9**
GEDZ				*e*SG	**Sg**	**03 36 40.5**	**+0.9**
GEDZ	**Gediz**	**0.32**	**102**	*e*Pg	**Pg**	**03 36 34.5**	**-0.9**
GEDZ				*e*Sg	**Sg**	**03 36 40.5**	**+0.9**
GDZ	**Gediz**	**0.37**	**93**	P	**Pg**	**03 36 36.7**	**+0.4**
GDZ				S	**Sg**	**03 36 41.9**	**+0.7**
GDZ	**Gediz**	**0.37**	**93**	*i* P	**Pg**	**03 36 36.7**	**+0.4**
GDZ				*i* S	**Sg**	**03 36 41.9**	**+0.7**
TVSB	**Tavsanli**	**0.49**	**46**	*e*PG	**Pg**	**03 36 38.3**	**-0.3**
TVSB				*e*SG	**Sg**	**03 36 45.0**	**0.0**
TVSB	**Tavsanli**	**0.49**	**46**	*e*Pg	**Pg**	**03 36 38.3**	**-0.3**
TVSB				*e*Sg	**Sg**	**03 36 45.0**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*PG	**Pg**	**03 36 41.9**	**+0.2**
KULA				*e*SG	**Sg**	**03 36 50.4**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**205**	*e*Pg	**Pg**	**03 36 41.9**	**+0.2**
KULA				*e*Sg	**Sg**	**03 36 50.4**	**+0.2**
MANT	**Manisa**	**0.71**	**210**	P	**Pg**	**03 36 42.2**	**-0.6**
MANT				S	**Sg**	**03 36 51.2**	**-0.9**
MANT	**Manisa**	**0.71**	**210**	*i* P	**Pg**	**03 36 42.2**	**-0.6**
MANT				*i* S	**Sg**	**03 36 51.2**	**-0.9**
KHL	**Karahalli**	**0.88**	**153**	*e*PG	**Pg**	**03 36 45.7**	**-0.3**
KHL	**Karahalli**	**0.88**	**153**	*e*Pg	**Pg**	**03 36 45.7**	**-0.3**
BALB	**Balikesir**	**1.02**	**302**	*e*PG	**Pb**	**03 36 49.2**	**+0.1**
BALB	**Balikesir**	**1.02**	**302**	*e*Pg	**P

DEMI	**Demirci**	**0.22**	**256**	P	**Pb**	**03 38 39.0**	**-0.7**
DEMI				S	**Sg**	**03 38 42.2**	**+0.5**
DEMI	**Demirci**	**0.22**	**256**	*i* P	**Pb**	**03 38 39.0**	**-0.7**
DEMI				*i* S	**Sg**	**03 38 42.2**	**+0.5**
GEDZ	**Gediz**	**0.33**	**98**	*e*PG	**Pg**	**03 38 40.2**	**-0.3**
GEDZ				*e*SG	**Sb**	**03 38 46.5**	**-0.4**
GEDZ	**Gediz**	**0.33**	**98**	*e*Pg	**Pg**	**03 38 40.2**	**-0.3**
GEDZ				*e*Sg	**Sb**	**03 38 46.5**	**-0.4**
GDZ	**Gediz**	**0.38**	**91**	P	**Pg**	**03 38 41.4**	**0.0**
GDZ				S	**Sg**	**03 38 46.7**	**+0.1**
GDZ	**Gediz**	**0.38**	**91**	*i* P	**Pg**	**03 38 41.4**	**0.0**
GDZ				*i* S	**Sg**	**03 38 46.6**	**+0.1**
TVSB	**Tavsanli**	**0.51**	**46**	*e*PG	**Pg**	**03 38 43.5**	**-0.3**
TVSB				*e*SG	**Sg**	**03 38 49.7**	**-0.9**
TVSB	**Tavsanli**	**0.51**	**46**	*e*Pg	**Pg**	**03 38 43.5**	**-0.3**
TVSB				*e*Sg	**Sg**	**03 38 49.7**	**-0.9**
KULA	**Kula-Manisa**	**0.63**	**204**	*e*PG	**Pb**	**03 38 46.5**	**-0.2**
KULA				*e*SG	**Sb**	**03 38 55.8**	**+0.3**
KULA	**Kula-Manisa**	**0.63**	**204**	*e*Pg	**Pb**	**03 38 46.5**	**-0.2**
KULA				*e*Sg	**Sb**	**03 38 55.8**	**+0.3**
MANT	**Manisa**	**0.69**	**209**	P	**Pg**	**03 38 47.1**	**-0.1**
MANT				S	**Sg**	**03 38 56.0**	**-0.3**
MANT	**Manisa**	**0.69**	**209**	*i* P	**Pg**	**03 38 47.1**	**-0.1**
MANT				*i* S	**Sg**	**03 38 56.0**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**338**	*e*PN	**Pg**	**03 38 58.0**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**338**	*e*Pn	**Pg**	**03 38 58.0**	**-0.1**
CAVI	**Cavuskoy**	**1.29**	**31**	*e*PN	**Pn**	**03 38 57.5**	**0.0**
CAVI	**Cavuskoy**	**1.29**	**31**	*e*Pn	**Pn**	**03 38 57.5**	**0.0**
IZI	**Iznik**	**1.30**	**17**	*e*PN	**Pb**	**03 38 58.2**	**+0.2**
IZI	**Iznik**	**1.30**	**17**	*e*Pn	**Pb**	**03 38 58.2**	**+0.2**
BORA	**Eskisehir**	**1.38**	**55**	P	**Pb**	**03 38 59.6**	**+0.2**
BORA				S	**Sg**	**03 39 18.3**	**+0.2**
BORA	**Eskisehir**	**1.38**	**55**	*i* P	**Pb**	**03 38 59.6**	**+0.2**
BORA				*i* S	**Sg**	**03 39 18.3**	**+0.2**
ARMT	**Armutlu**	**1.47**	**356**	*e*PN	**Pb**	**03 39 00.8**	**-0.2**
ARMT	**Armutlu**	**1.47**	**356**	*e*Pn	**Pb**	**03 39 00.8**	**-0.2**
GULT	**Gulveren**	**1.78**	**41**	*e*PN	**Pn**	**03 39 05.2**	**+0.9**
GULT	**Gulveren**	**1.78**	**41**	*e*Pn	**Pn**	**03 39 05.3**	**+0.9**

*NIED **28** 03:45:00,37.˚10N×140.˚90E,h5km,Mw4.0 Best double couple: M₀1.27000×10¹⁵ NP1:φs39.00000°,δ26.00000°, λ-107.00000°. NP2:φs238.00000°,δ65.00000°, λ-82.00000°.*

*ISCJB **28** 03:45:03.5±0.7,37.˚12N±0.˚03×140.˚94E±0.˚05,h15km±4km, mb4.3/34,MS3.3/5, Error ellipse: s-maj=6.8km s-min=3.8km az=25.1*

*JMA **28** 03:45:04.1,37.˚12N×140.˚87E,h9km±1km,M4.3*

JMA Felt III J1.

*BJI **28** 03:45:07.0,37.˚09N×140.˚78E,h40km,mb4.4/21,mB4.8/15, Ms4.5/6,Ms7 4.3/5*

*NEIC **28** 03:45:08.5±0.7,37.˚12N×140.˚82E,h39km±6km,mb4.7/14, Error ellipse: s-maj=8.4km s-min=5.5km az=133.0*

NEIC Recorded [3 JMA] in Fukushima.

*IDC **28** 03:45:09.7±2.5,37.˚03N×140.˚74E,h50km±22km,mb3.9/20, mb1 4.1/23,mb1mx4.0/41,mbtmp4.2/23,ML3.6/3,MS3.1/8, Ms1 3.2/8,ms1mx2.9/34,Error ellipse: s-maj=17.2km s-min=14.0km az=90.0*

ISC 28 03:45:04.8±0.8,37.˚12N±0.˚03×140.˚82E±0.˚04,h13km±4km, n83,σ1⁰67/98,mb4.3/34,MS3.3/5,5C-1D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.02**	**218**	⇑P	**Pg**	**03 45 05.9**	**-1.2**
ONAJ				S	**Sg**	**03 45 07.0**	**-1.8**
JFK	**Kawauchi**	**0.25**	**11**	⇑P	**Pg**	**03 45 09.1**	**-1.0**
JFK				S	**Sg**	**03 45 13.1**	**-0.7**
JHO	**Hitachi**	**0.54**	**201**	⇓P	**Pg**	**03 45 14.8**	**-0.6**
JHO				S	**Sg**	**03 45 22.6**	**-0.1**
JFT	**Otama**	**0.55**	**316**	⇑P	**Pg**	**03 45 15.7**	**+0.1**
JSB	**Shiboa**	**0.73**	**258**	P	**Pb**	**03 45 19.6**	**+0.2**
JSB				S	**Sb**	**03 45 30.6**	**+1.3**
JMM	**Marumori**	**0.75**	**359**	⇑P	**Pg**	**03 45 18.1**	**-1.2**
JMM				S	**Sg**	**03 45 28.4**	**-0.7**
JFY	**Yanaizu**	**0.93**	**288**	⇑P	**Pg**	**03 45 22.7**	**-0.1**
JFY				S	**Sg**	**03 45 35.5**	**+0.6**
MJAR	**Matsushiro Arr**	**2.17**	**255**	P	**Pn**	**03 45 42.1**	**+1.5**
	40nm,0.3s,baz=81,slow=16,SNR=164						
MJAR				S	**Sn**	**03 46 08.4**	**+1.1**
	17nm,0.3s,baz=81,slow=30,SNR=5.5						
MAJO	**Matsushiro**	**2.17**	**255**	*e*Pn	**Pb**	**03 45 43.0**	**-0.9**
MAT	**Matsushiro**	**2.17**	**255**	P	**Pn**	**03 45 42.4**	**+1.8**
MAT				S	**Sb**	**03 46 11.0**	**+0.3**
MJB9	**Matsu-Tunnel**	**2.17**	**256**	*e*Pn	**Pb**	**03 45 42.7**	**-1.2**
MJB9				*e*Sn	**Sn**	**03 45 59.4**	**-8.0**
INU	**Inuyama**	**3.54**	**241**	*e*Pn	**Pn**	**03 46 01.4**	**+2.0**
JHJ	**Hachijo jima 2**	**4.08**	**192**	P	**Pn**	**03 46 07.1**	**+0.2**
	11nm,0.3s,baz=18,slow=20,SNR=3.0						
JHJ				S	**Sn**	**03 46 52.0**	**-2.5**
	4.9nm,0.3s,baz=66,slow=20,SNR=2.6						
JHJ2	**Mitsune**	**4.08**	**192**	*e*Pn	**Pn**	**03 46 07.6**	**+0.8**
JHJ2				*e*Sn	**Sn**	**03 46 56.7**	**+2.3**
ERM	**Erimo**	**5.21**	**20**	*e*Pn	**Pn**	**03 46 22.1**	**-0.3**
ERM				*e*Sn	**Sn**	**03 47 22.0**	**-0.4**
ASAJ	**Asahikawa**	**7.12**	**10**	P	**Pn**	**03 46 49.4**	**+0.7**
	baz=213,slow=12						
ASAJ				S	**Sn**	**03 48 07.3**	**-2.1**
	baz=174,slow=19,SNR=1.9						
ASAJ	**Asahikawa**	**7.12**	**10**	*e*Pn	**Pn**	**03 46 49.7**	**+1.1**
ASAJ				S	**Sn**	**03 48 07.3**	**-2.1**
JNU	**Nakatsue**	**9.06**	**247**	P	**Pn**	**03 47 17.5**	**+2.1**
	0.3nm,0.3s,baz=38,slow=17,SNR=4.5						
USRK	**Ussuriysk Ar.**	**9.74**	**319**	P	Pn	03 47 30.1	+5.5
	0.3nm,0.3s,baz=130,slow=13,SNR=10						
USRK				LR	LR	03 50 54.7	
	comp=Z,105nm,20.8s,baz=147,slow=35						
KSRS	**Korea Array**	**10.28**	**276**	P	Pn	03 47 39.3	+7.4
	0.5nm,0.3s,baz=94,slow=14,SNR=9.6						
KSRS				LR	LR	03 51 12.1	
	comp=Z,77nm,19.4s,baz=76,slow=35						
KSAR	**Wonju Array Be**	**10.31**	**276**	P	Pn	03 47 39.3	+6.9
KLR	**Kul'dur**	**13.78**	**334**	P	**P**	**03 48 26.6**	**-1.7**
	0.1nm,0.3s,baz=140,slow=12,SNR=6.7						
KLR				LR	LR	03 53 31.6	
	comp=Z,62nm,19.3s,baz=102,slow=36						
BJI	**Beijing**	**19.47**	**286**	P	**P**	**03 49 32.0**	**+0.8**
BJI				PMZ			
	8.0nm,0.6s						
BJI				PMZ			
	93nm,3.7s						
HHC	**Hu-ho-hao-te**	**22.99**	**288**	*e*P	**P**	**03 50 08.8**	**-0.5**
HHC				PMZ			
	12nm,1.1s						
HHC				PMZ			
	55nm,6.4s						
SEY	**Seymchan**	**26.80**	**12**	P	**P**	**03 50 47.0**	**+2.7**
	1.6nm,0.2s,baz=174,slow=8.8,SNR=5.0						
SONA1	**Songino Array**	**27.34**	**304**	*e*P	**P**	**03 50 50.2**	**+0.7**
SONM	**Songino Array**	**27.34**	**304**	P	**P**	**03 50 49.4**	**-0.1**
	2.5nm,0.6s,baz=106,slow=9.3,SNR=14						
H11N2	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	04 20 43.6	
	baz=313,slow=75,SNR=904						
H11N1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	04 20 44.2	
	baz=313,slow=75,SNR=1453						
H11N3	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	04 20 44.9	
	baz=313,slow=75,SNR=754						
H11S1	**WAKE ISLAND Hy**	**29.31**	**122**	T	T	04 21 38.5	
	baz=315,slow=75,SNR=176						
H11S3	**WAKE ISLAND Hy**	**29.31**	**122**	T	T	04 21 38.6	
	baz=315,slow=75,SNR=183						
H11S2	**WAKE ISLAND Hy**	**29.32**	**122**	T	T	04 21 39.7	
	baz=315,slow=75,SNR=126						
LZH	**Lanzhou**	**29.58**	**279**	*e*P	**P**	**03 51 12.5**	**+2.9**
LZH				pP	sP	03 51 23.3	+8.1
LZH				sP	pP	03 51 28.0	+14
LZH				PP	**PnPn**	**03 52 08.5**	**+4.4**
LZH				PMZ			
	23nm,1.1s						
LZH				PMZ			
	74nm,5.2s						
LZH				LN			
	360nm,12.7s						
LZH				LE			
	380nm,13.2s						
LZH				LZ			
	410nm,16.7s						
GYA	**Guiyang**	**30.76**	**260**	*e*P	**P**	**03 51 21.3**	**+1.2**
GYA				PMZ			
	10.0nm,0.8s						
CD2	**Chengdu**	**31.20**	**270**	*e*P	**P**	**03 51 22.5**	**-1.3**
CD2				pP	sP	03 51 33.3	+4.0
CD2				sP	pP	03 51 38.3	+11
CD2				S	**S**	**03 56 25.8**	**-3.8**
CD2				sS	sS	03 56 44.5	+8.3
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
KMI	**Kunming**	**34.50**	**261**	P	**P**	**03 51 54.3**	**+1.4**
KMI				PMZ			
	9.0nm,0.6s						
KMI				PMZ			
	77nm,4.3s						
TIXI	**Tiksi**	**35.15**	**353**	P	**P**	**03 51 58.3**	**+0.5**
	2.4nm,0.5s,baz=149,slow=2.6,SNR=8.9						
WMQ	**Urumqi**	**40.37**	**297**	P	**P**	**03 52 43.3**	**+1.0**
WMQ				pP	sP	03 52 54.3	+6.3
WMQ				sP	pP	03 52 57.0	+11
WMQ				PMZ			
	5.0nm,0.9s						
WMQ				PMZ			
	42nm,3.7s						
CMAR	**Chiang Mai Arr**	**41.06**	**255**	P	**P**	**03 52 48.5**	**+0.4**
	0.9nm,0.3s,baz=58,slow=8.6,SNR=2.8						
ZAA0	**Zalesovo Array**	**41.50**	**312**	*e*P	**P**	**03 52 51.1**	**-0.3**
ZAA0				*e*PcP	**PcP**	**03 54 46.4**	**-2.4**
ZALV	**Zalesovo Beam**	**41.50**	**312**	P	**P**	**03 52 51.9**	**+0.5**
	2.3nm,0.3s,baz=99,slow=7.7,SNR=10						
ZALV				PcP	**PcP**	**03 54 46.9**	**-1.9**
	1.7nm,0.6s,baz=90,slow=2.2,SNR=4.2						
MK01	**Makanchi Array**	**43.66**	**302**	*e*P	**P**	**03 53 08.7**	**-0.4**
MKAR	**Makanchi Array**	**43.67**	**302**	P	**P**	**03 53 09.7**	**+0.5**
	2.0nm,0.5s,baz=88,slow=10.0,SNR=26						
MKAR				PcP	**PcP**	**03 54 54.9**	**-1.3**
	0.4nm,0.6s,baz=76,slow=4.0,SNR=3.7						
MAKZ	**Makanchi**	**43.88**	**302**	*e*P	**P**	**03 53 11.8**	**+1.0**
	3.4nm,0.6s						
KURK	**Kurchatov**	**45.50**	**308**	*e*P	**P**	**03 53 23.6**	**-0.1**
	22nm,0.6s						
MDM	**Murphy Dome**	**49.10**	**32**	*e*P	**P**	**03 53 52.2**	**+0.7**
	3.6nm,0.8s						
TKM2	**Tokmak 2**	**49.17**	**298**	*e*P	**P**	**03 53 53.9**	**+1.3**
	4.0nm,0.9s						
IL1	**Eielson Array**	**49.68**	**32**	*e*P	**P**	**03 53 56.0**	**+0.1**
ILAR	**Eielson Array**	**49.68**	**32**	P	**P**	**03 53 56.0**	**+0.1**
	2.0nm,0.8s,baz=272,slow=6.4,SNR=23						
ILB	**Eielson Array**	**49.68**	**32**	*e*P	**P**	**03 53 56.1**	**+0.2**
KSH	**Kashi**	**49.93**	**294**	*e*P	**P**	**03 53 59.5**	**+1.1**
KSH				pP	sP	03 54 11.0	+6.9
KSH				PcP	**PcP**	**03 55 18.0**	**-0.6**
KSH				PP	**PP**	**03 55 55.5**	**+2.4**
KSH				S	**S**	**04 01 06.5**	**-2.0**
KSH				ScS	**ScS**	**04 03 43.5**	**-6.3**
KSH				PMZ			
	2.0nm,0.3s						
KSH				PMZ			
	110nm,5.2s						
KSH				LN			
	320nm,8.9s						
KSH				LE			
	280nm,14.5s						
GSI	**Gununguitoli**	**53.43**	**239**	*e*P	**P**	**03 54 24.9**	**+0.3**
	32nm,0.8s						
WRA	**Warramunga Arr**	**57.08**	**187**	P	**P**	**03 54 49.6**	**-1.1**
	2.1nm,0.6s,baz=4.3,slow=7.4,SNR=50						
WRA				PcP	**PcP**	**03 55 45.9**	**+0.3**
	0.6nm,0.5s,baz=3.8,slow=4.4,SNR=5.6						
ABKAR	**Akbulak array**	**57.52**	**310**	*e*P	**P**	**03 54 53.1**	**-0.5**
	1.6nm,0.6s						
ASAR	**Alice Springs**	**60.81**	**187**	P	**P**	**03 55 15.8**	**-0.8**
	0.4nm,0.4s,baz=359,slow=7.1,SNR=5.8						
GEYT	**Ailbeck**	**63.37**	**299**	P	**P**	**03 55 34.6**	**+0.7**
	2.5nm,0.4s,baz=29,slow=3.3,SNR=3.7						
ARCES	**ARCESS Array B**	**63.75**	**339**	P	**P**	**03 55 36.1**	**+0.3**
	1.6nm,0.7s,baz=61,slow=8.5,SNR=9.4						
ARCES				LR	LR	04 26 14.4	
	comp=Z,23nm,18.6s,baz=128,slow=39						
YKA	**Yellowknife Ar**	**63.97**	**30**	P	**P**	**03 55 38.9**	**+1.5**
	0.5nm,0.7s,baz=308,slow=6.2,SNR=3.0						
FIA1	**FINESS Array S**	**68.51**	**332**	*e*P	**P**	**03 56 06.1**	**-0.4**
	7.0nm,0.8s						
FINES	**FINESS Array B**	**68.52**	**332**	P	**P**	**03 56 06.3**	**-0.2**
	5.3nm,0.7s,baz=60,slow=7.5,SNR=18						
FINES				LR	LR	04 30 53.0	
	comp=Z,13nm,18.8s,baz=46,slow=40						
KBZ	**Khabaz**	**70.48**	**310**	P	**P**	**03 56 19.6**	**+0.6**
	3.6nm,1.0s,baz=88,slow=8.4,SNR=4.2						
NB2	**NORSAR Subarra**	**73.92**	**337**	P	**P**	**03 56 39.0**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=37,slow=5.9						
NOA	**NORSAR Array B**	**73.92**	**337**	P	**P**	**03 56 39.0**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=39,slow=5.8,SNR=6.8						
NOA				LR	LR	04 31 56.3	
	comp=Z,13nm,18.1s,baz=40,slow=38						
AKASG	**Malin Array Be**	**73.94**	**322**	P	**P**	**03 56 39.2**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=47,slow=5.9,SNR=10						
LRM	**Limekiln Ridge**	**74.42**	**44**	*e*P	**P**	**03 56 44.2**	**+1.4**
SFJD	**Kangerlussuaq**	**75.84**	**5**	*e*P	**P**	**03 56 49.5**	**-0.7**
	comp=Z,11nm,0.4s						
TPNV	**Topopah Spring**	**77.51**	**53**	*e*P	**P**	**03 57 01.3**	**+0.8**
	comp=Z,3.9nm,0.6s						
PDAR	**Pinedale Array**	**77.95**	**45**	P	**P**	**03 57 03.4**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=298,slow=2.6,SNR=2.7						
BRTR	**Keskin Array B**	**78.44**	**311**	P	**P**	**03 57 05.5**	**0.0**
	comp=Z,1.4nm,0.9s,baz=92,slow=3.7,SNR=3.9						
BRTR				LR	LR	04 34 15.6	
	comp=Z,13nm,19.6s,baz=236,slow=38						
MORC	**Moravsky Berou**	**80.03**	**327**	*e*P	**P**	**03 57 12.4**	**-1.5**
	comp=Z,13nm,0.9s						
DPC	**Dobruska-Polom**	**80.13**	**328**	*e*P	**P**	**03 57 15.4**	**+1.0**
PVCC	**Panska Ves**	**80.74**	**329**	*e*P	**P**	**03 57 18.6**	**+1.0**
CLL	**Collm**	**80.78**	**330**	*e*P	**P**	**03 57 16.5**	**-1.4**
	comp=Z,6.0nm,1.0s						
TREC	**Trest**	**81.28**	**327**	*e*P	**P**	**03 57 21.2**	**+0.6**
KHC	**Kasperske Hory**	**82.22**	**328**	*e*P	**P**	**03 57 26.0**	**+0.4**
KHC	**Kasperske Hory**	**82.22**	**328**	*e*P	**P**	**03 57 25.9**	**+0.3**
	comp=Z,1.2nm,0.7s						
GERES	**GERESS Array B**	**82.39**	**328**	P	**P**	**03 57 26.1**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=29,slow=6.1,SNR=11						
GERES				LR	LR	04 39 33.3	
	comp=Z,16nm,19.2s,baz=58,slow=40						
GEA0	**GERESS Array S**	**82.39**	**328**	*e*P	**P**	**03 57 26.3**	**-0.3**
BFO	**Black Forest**	**84.99**	**330**	*e*P	**P**	**03 57 37.9**	**-1.9**
	comp=Z,4.1nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**85.58**	**328**	*e*P	**P**	**03 57 42.9**	**-0.1**
	comp=Z,5.8nm,0.6s						
TXAR	**Lajitas Array**	**90.45**	**52**	P	**P**	**03 58 07.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=307,slow=2.6,SNR=5.7						
LPAZ	**La Paz**	**147.06**	**59**	PKPbc	**PKPbc**	**04 04 48.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=320,slow=1.7,SNR=9.0						

*ISK **28** 04:06:22.9,39.˚14N×28.˚98E,h8km,MD2.6*

*ISCJB **28** 04:06:23.5±0.5,39.˚11N±0.˚04×29.˚02E±0.˚05,h12km±6km, Error ellipse: s-maj=8.4km s-min=4.5km az=139.0*

*DDA **28** 04:06:23.6,39.˚10N×29.˚02E,h7km,Md2.7*

*CSEM **28** 04:06:23.5±0.1,39.˚12N×29.˚00E,h10km,MD2.7,Error ellipse: s-maj=2.7km s-min=1.7km az=130.0*

ISC 28 04:06:23.7±1.0,39.˚12N±0.˚04×29.˚01E±0.˚03,h14km±10km, n18,σ0⁰40/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**251**	P	**Pg**	**04 06 29.1**	**+0.1**
DEMI				S	**Sg**	**04 06 32.4**	**-0.1**
DEMI	**Demirci**	**0.24**	**251**	*i* P	**Pg**	**04 06 29.1**	**+0.1**
DEMI				*i* S	**Sg**	**04 06 32.4**	**-0.1**
GEDZ	**Gediz**	**0.32**	**104**	*e*PG	**Pg**	**04 06 30.7**	**+0.3**
GEDZ	**Gediz**	**0.32**	**104**	*e*Pg	**Pg**	**04 06 30.7**	**+0.3**
GDZ	**Gediz**	**0.37**	**95**	P	**Pg**	**04 06 31.0**	**-0.3**
GDZ				S	**Sg**	**04 06 36.4**	**0.0**
GDZ	**Gediz**	**0.37**	**95**	*i* P	**Pg**	**04 06 31.0**	**-0.3**
GDZ				*i* S	**Sg**	**04 06 36.4**	**0.0**
TVSB	**Tavsanli**	**0.48**	**47**	*e*PG	**Pg**	**04 06 33.2**	**-0.1**
TVSB				*e*SG	**Sg**	**04 06 39.1**	**-0.7**
TVSB	**Tavsanli**	**0.48**	**47**	*e*Pg	**Pg**	**04 06 33.2**	**-0.1**
TVSB				*e*Sg	**Sg**	**04 06 39.1**	**-0.7**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*PG	**Pg**	**04 06 36.8**	**+0.1**
KULA				*e*SG	**Sg**	**04 06 45.6**	**+0.1**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*Pg	**Pg**	**04 06 36.8**	**+0.1**
KULA				*e*Sg	**Sg**	**04 06 45.6**	**+0.1**
MANT	**Manisa**	**0.72**	**209**	P	**Pg**	**04 06 37.3**	**-0.5**
MANT				S	**Sg**	**04 06 46.5**	**-0.8**
MANT	**Manisa**	**0.72**	**209**	*i* P	**Pg**	**04 06 37.3**	**-0.5**
MANT				*i* S	**Sg**	**04 06 46.5**	**-0.8**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pn**	**04 06 47.1**	**+0.3**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pn**	**04 06 47.1**	**+0.3**
IZI	**Iznik**	**1.27**	**16**	*e*PN	**Pn**	**04 06 47.5**	**+0.4**
IZI	**Iznik**	**1.27**	**16**	*e*Pn	**Pn**	**04 06 47.5**	**+0.4**
ARMT	**Armutlu**	**1.45**	**356**	*e*PN	**Pn**	**04 06 49.8**	**+0.3**
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn	**Pn**	**04 06 49.8**	**+0.3**

*DDA **28** 04:10:10.7,39.˚14N×28.˚99E,h7km,Md2.9*

*ISCJB **28** 04:10:11.5±0.4,39.˚08N±0.˚03×29.˚00E±0.˚03,h12km±4km, Error ellipse: s-maj=5.1km s-min=4.0km az=165.7*

*CSEM **28** 04:10:11.6±0.1,39.˚08N×29.˚00E,h10km,MD2.9, Error ellipse: s-maj=2.3km s-min=2.1km az=145.0*

*ISK **28** 04:10:11.2,39.˚10N×29.˚00E,h10km,MD2.9*

ISC 28 04:10:11.5±0.9,39.˚10N±0.˚02×28.˚99E±0.˚02,h12km±7km, n45,σ0⁰52/58,2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.22**	**256**	P	**Pg**	**04 10 16.3**	**0.0**
DEMI				S	**Sg**	**04 10 19.7**	**+0.1**
DEMI	**Demirci**	**0.22**	**256**	*i* P	**Pg**	**04 10 16.3**	**0.0**
DEMI				*i* S	**Sg**	**04 10 19.7**	**+0.1**
GEDZ	**Gediz**	**0.33**	**99**	*e*PG	**Pg**	**04 10 18.3**	**+0.1**
GEDZ				*e*SG	**Sg**	**04 10 23.2**	**+0.5**
GEDZ	**Gediz**	**0.33**	**99**	*e*Pg	**Pg**	**04 10 18.3**	**+0.1**
GEDZ				*e*Sg	**Sg**	**04 10 23.2**	**+0.5**
GDZ	**Gediz**	**0.38**	**91**	P	**Pg**	**04 10 18.7**	**-0.5**
GDZ				S	**Sg**	**04 10 24.2**	**-0.1**
GDZ	**Gediz**	**0.38**	**91**	*i* P	**Pg**	**04 10 18.7**	**-0.5**
GDZ				*i* S	**Sg**	**04 10 24.2**	**-0.1**
KULA	**Kula-Manisa**	**0.64**	**204**	*e*PG	**Pb**	**04 10 24.2**	**-0.4**
KULA				*e*SG	**Sb**	**04 10 33.5**	**0.0**
KULA	**Kula-Manisa**	**0.64**	**204**	*e*Pg	**Pb**	**04 10 24.2**	**-0.4**
KULA				*e*Sg	**Sb**	**04 10 33.5**	**0.0**
MANT	**Manisa**	**0.69**	**209**	P	**Pg**	**04 10 24.4**	**-0.6**
MANT				S	**Sg**	**04 10 33.4**	**-0.8**
MANT	**Manisa**	**0.69**	**209**	*i* P	**Pg**	**04 10 24.4**	**-0.6**
MANT				*i* S	**Sg**	**04 10 33.4**	**-0.8**
KHL	**Karahalli**	**0.88**	**152**	*e*PG	**Pg**	**04 10 28.1**	**-0.4**
KHL	**Karahalli**	**0.88**	**152**	*e*Pg	**Pg**	**04 10 28.1**	**-0.4**
AKS	**Akhisar**	**0.94**	**257**	*e*PG	**Pb**	**04 10 30.1**	**+0.3**
AKS	**Akhisar**	**0.94**	**257**	*e*Pg	**Pb**	**04 10 30.1**	**+0.3**
BALB	**Balikesir**	**1.02**	**302**	*e*PG	**Pn**	**04 10 32.4**	**+0.8**
BALB				*e*SG	**Sn**	**04 10 46.2**	**+0.4**
BALB	**Balikesir**	**1.02**	**302**	*e*Pg	**Pn**	**04 10 32.4**	**+0.8**
BALB				*e*Sg	**Sn**	**04 10 46.2**	**+0.4**
IGD	**Bursa**	**1.18**	**8**	*i* P	**Pb**	**04 10 32.2**	**-1.6**
IGD				*i* S	**Sb**	**04 10 48.2**	**-0.8**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*PN	**Pg**	**04 10 35.4**	**-0.4**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*Pn	**Pg**	**04 10 35.4**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*PN	**Pg**	**04 10 35.5**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*Pn	**Pg**	**04 10 35.5**	**-0.5**
CAVI	**Cavuskoy**	**1.28**	**31**	*e*PN	**Pg**	**04 10 36.2**	**0.0**
CAVI	**Cavuskoy**	**1.28**	**31**	*e*Pn	**Pg**	**04 10 36.2**	**0.0**
IZI	**Iznik**	**1.29**	**17**	*e*PN	**Pg**	**04 10 36.0**	**-0.3**
IZI	**Iznik**	**1.29**	**17**	*e*Pn	**Pg**	**04 10 36.1**	**-0.3**
GEMT	**Gemlik**	**1.34**	**6**	*e*PN	**Pb**	**04 10 36.7**	**+0.1**
GEMT	**Gemlik**	**1.34**	**6**	*e*Pn	**Pb**	**04 10 36.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.38**	**314**	*e*PN	**Pb**	**04 10 37.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.38**	**314**	*e*Pn	**Pb**	**04 10 37.2**	**-0.1**
ADVT	**Abdulvahap**	**1.45**	**23**	*e*PN	**Pn**	**04 10 37.8**	**+0.2**
ADVT	**Abdulvahap**	**1.45**	**23**	*e*Pn	**Pn**	**04 10 37.8**	**+0.2**
ARMT	**Armutlu**	**1.47**	**356**	*e*PN	**Pb**	**04 10 38.3**	**-0.5**
ARMT	**Armutlu**	**1.47**	**356**	*e*Pn	**Pb**	**04 10 38.3**	**-0.5**
ESKT	**Eskisehir**	**1.50**	**73**	*e*PN	**Pb**	**04 10 39.2**	**-0.2**
ESKT	**Eskisehir**	**1.50**	**73**	*e*Pn	**Pb**	**04 10 39.2**	**-0.2**
EDC	**Edincik**	**1.52**	**325**	*e*

MEX 28 04:19:21.7±0.4, 14°29N×92°39W, h20km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.00**	**7**	*eP*	Pn	04 19 52.1	-2.4
CCIG				*eS*	Sn	04 20 15.2	-3.8

*ISCJB **28** 04:22:15.9±0.6, 39°.07N±0°.04×29°.02E±0°.05, h10km±5km, Error ellipse: s-maj=8.2km s-min=4.3km az=136.9*
*ISK **28** 04:22:15.4, 39°.04N×29°.14E, h10km, MD2.6*
*CSEM **28** 04:22:15.8±0.2, 39°.08N×29°.01E, h8km, MD2.4, Error ellipse: s-maj=6.7km s-min=3.2km az=128.0*
*DDA **28** 04:22:15.9, 39°.08N×29°.01E, h7km, Md2.4*
ISC 28 04:22:15.9±0.9, 39°.08N±0°.03×29°.00E±0°.03, h14km±8km, n16, σ0°40/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**261**	**P**	**Pg**	**04 22 21.0**	**+0.1**
DEMI				S	Sg	04 22 24.3	0.0
DEMI	**Demirci**	**0.23**	**261**	*i* P	**Pg**	**04 22 21.0**	**+0.1**
DEMI				*i* S	**Sg**	**04 22 24.3**	**0.0**
GDZ	**Gediz**	**0.37**	**88**	P	**Pg**	**04 22 23.7**	**+0.2**
GDZ				S	**Sg**	**04 22 28.8**	**+0.2**
GDZ	**Gediz**	**0.37**	**88**	*i* P	**Pg**	**04 22 23.7**	**+0.2**
GDZ				*i* S	**Sg**	**04 22 28.8**	**+0.2**
TVSB	**Tavsanli**	**0.51**	**44**	*e*PG	**Pg**	**04 22 25.4**	**-0.7**
TVSB				*e*SG	**Sg**	**04 22 32.3**	**-0.6**
TVSB	**Tavsanli**	**0.51**	**44**	*e*Pg	**Pg**	**04 22 25.4**	**-0.7**
TVSB				*e*Sg	**Sg**	**04 22 32.3**	**-0.6**
KULA	**Kula-Manisa**	**0.62**	**206**	*e*PG	**Pb**	**04 22 28.6**	**0.0**
KULA				*e*SG	**Sb**	**04 22 37.7**	**+0.5**
KULA	**Kula-Manisa**	**0.62**	**206**	*e*Pg	**Pb**	**04 22 28.6**	**0.0**
KULA				*e*Sg	**Sb**	**04 22 37.7**	**+0.5**
MANT	**Manisa**	**0.68**	**211**	P	**Pg**	**04 22 28.6**	**-0.6**
MANT				S	**Sg**	**04 22 37.9**	**-0.4**
MANT	**Manisa**	**0.68**	**211**	*i* P	**Pg**	**04 22 28.6**	**-0.6**
MANT				*i* S	**Sg**	**04 22 37.9**	**-0.4**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*PN	**Pn**	**04 22 39.8**	**+0.3**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*Pn	**Pn**	**04 22 39.8**	**+0.3**
ARMT	**Armutlu**	**1.49**	**356**	*e*PN	**Pb**	**04 22 43.2**	**-0.1**
ARMT				*e*SN	**Sg**	**04 23 04.2**	**+0.3**
ARMT	**Armutlu**	**1.49**	**356**	*e*Pn	**Pb**	**04 22 43.2**	**-0.1**
ARMT				*e*Sn	**Sg**	**04 23 04.2**	**+0.3**
GULT	**Gulveren**	**1.78**	**40**	*e*PN	**Pn**	**04 22 46.5**	**+0.1**
GULT	**Gulveren**	**1.78**	**40**	*e*Pn	**Pn**	**04 22 46.5**	**+0.1**

IDC 28 04:23:21.5±3.9, 11°.29S×116°.86E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/51, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=249.0km s-min=20.7km az=47.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.86**	**130**	Pn	Pn	04 25 56.5	-1.8
	0.4nm,0.3s,baz=301,slow=8.6,SNR=27						
FITZ				Sn	Sn	04 27 48.9	-12
	1.0nm,0.3s,baz=196,slow=20,SNR=11						
WRA	**Warramunga Arr**	**18.89**	**119**	P	Pn	04 27 44.0	-0.2
	0.2nm,0.3s,baz=291,slow=13,SNR=14						
WRA				S	Sn	04 30 59.6	-17
	0.1nm,0.3s,baz=290,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**20.36**	**129**	P	Pn	04 28 00.9	-0.9
	0.2nm,0.3s,baz=305,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**65.56**	**335**	P	P	04 34 07.3	+0.3
	1.7nm,0.5s,baz=151,slow=7.3,SNR=12						
KURBB	**Kurchatov Arra**	**70.11**	**335**	P	P	04 34 35.5	0.0
	0.6nm,0.6s,baz=150,slow=5.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**70.45**	**341**	P	P	04 34 37.1	-0.4
	0.9nm,0.4s,baz=141,slow=6.6,SNR=2.4						

*ISCJB **28** 04:23:35.6±0.5, 39°.08N±0°.04×29°.01E±0°.05, h12km±6km, Error ellipse: s-maj=8.6km s-min=4.4km az=139.9*
*CSEM **28** 04:23:35.6±0.1, 39°.09N×29°.00E, h10km, MD2.4, Error ellipse: s-maj=2.2km s-min=1.2km az=131.0*
*ISK **28** 04:23:35.0, 39°.07N×29°.03E, h12km, MD2.6*
*DDA **28** 04:23:36.0, 39°.06N×29°.01E, h7km, Md2.4*
ISC 28 04:23:35.7±0.9, 39°.08N±0°.04×29°.01E±0°.03, h15km±8km, n18, σ0°35/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**262**	P	**Pg**	**04 23 41.0**	**+0.1**
DEMI				S	**Sg**	**04 23 44.4**	**-0.1**
DEMI	**Demirci**	**0.23**	**262**	*i* P	**Pg**	**04 23 41.0**	**+0.1**
DEMI				*i* S	**Sg**	**04 23 44.4**	**-0.1**
GEDZ	**Gediz**	**0.31**	**96**	*e*PG	**Pg**	**04 23 41.8**	**-0.5**
GEDZ	**Gediz**	**0.31**	**96**	*e*Pg	**Pg**	**04 23 41.8**	**-0.5**
GDZ	**Gediz**	**0.37**	**88**	P	**Pg**	**04 23 43.5**	**+0.3**
GDZ				S	**Sg**	**04 23 49.0**	**+0.6**
GDZ	**Gediz**	**0.37**	**88**	*i* P	**Pg**	**04 23 43.5**	**+0.3**
GDZ				*i* S	**Sg**	**04 23 49.0**	**+0.6**
TVSB	**Tavsanli**	**0.51**	**43**	*e*PG	**Pg**	**04 23 45.6**	**-0.3**
TVSB				*e*SG	**Sg**	**04 23 52.3**	**-0.5**
TVSB	**Tavsanli**	**0.51**	**43**	*e*Pg	**Pg**	**04 23 45.6**	**-0.3**
TVSB				*e*Sg	**Sg**	**04 23 52.3**	**-0.5**
KULA	**Kula-Manisa**	**0.62**	**206**	*e*PG	**Pg**	**04 23 47.8**	**-0.2**
KULA				*e*SG	**Sb**	**04 23 56.7**	**-0.2**
KULA	**Kula-Manisa**	**0.62**	**206**	*e*Pg	**Pg**	**04 23 47.8**	**-0.2**
KULA				*e*Sg	**Sb**	**04 23 56.7**	**-0.2**
MANT	**Manisa**	**0.68**	**211**	P	**Pb**	**04 23 49.2**	**-0.2**
MANT				S	**Sg**	**04 23 58.2**	**0.0**
MANT	**Manisa**	**0.68**	**211**	*i* P	**Pb**	**04 23 49.2**	**-0.2**
MANT				*i* S	**Sg**	**04 23 58.2**	**0.0**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*PN	**Pn**	**04 23 59.5**	**+0.3**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*Pn	**Pn**	**04 23 59.5**	**+0.3**
IZI	**Iznik**	**1.31**	**16**	*e*PN	**Pn**	**04 23 60.0**	**+0.5**
IZI	**Iznik**	**1.31**	**16**	*e*Pn	**Pn**	**04 24 00.0**	**+0.5**
ARMT	**Armutlu**	**1.49**	**356**	*e*PN	**Pn**	**04 24 02.3**	**+0.4**
ARMT	**Armutlu**	**1.49**	**356**	*e*Pn	**Pn**	**04 24 02.3**	**+0.4**

IDC 28 04:33:30.3±2.0, 16°.78S×167°.28E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/41, mbtmp3.7/4, ML3.9/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/33, Error ellipse: s-maj=53.3km s-min=34.4km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.33**	**188**	Pn	Pn	04 34 51.1	-0.2
	3.7nm,0.3s,baz=320,slow=6.5,SNR=55						
DZM				Sn	Sn	04 35 48.3	-5.2
	10nm,0.3s,baz=307,slow=20,SNR=20						
DZM				LR	LR	04 36 48.3	
	comp=Z,172nm,19.1s,baz=35,slow=37						
HNR	**Honiara**	**10.21**	**315**	LR	LR	04 39 12.1	
	comp=Z,69nm,20.7s,baz=126,slow=34						
URZ	**Urewera**	**23.08**	**160**	LR	LR	04 46 01.1	
	comp=Z,86nm,20.0s,baz=335,slow=32						
WRA	**Warramunga Arr**	**31.40**	**259**	P	P	04 39 53.4	0.0
	0.3nm,0.9s,baz=89,slow=7.8,SNR=3.1						
ASAR	**Alice Springs**	**32.01**	**252**	P	P	04 39 58.7	0.0
	2.1nm,0.8s,baz=77,slow=9.3,SNR=14						
ILAR	**Eielson Array**	**88.46**	**18**	P	P	04 46 24.1	0.0
	0.3nm,0.6s,baz=238,slow=5.2,SNR=4.6						
ILAR				LR	LR	05 24 09.7	
	comp=Z,15nm,18.8s,baz=132,slow=34						
ZALV	**Zalesovo Beam**	**99.04**	**324**	LR	LR	05 32 52.5	
	comp=Z,8.3nm,19.0s,baz=250,slow=36						

MEX 28 04:38:22.4±0.8, 27°.34N×111°.36W, h16km±999km, MD3.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUYB	**Guaymas**	**0.70**	**38**	*e*P	Pg	04 38 33.4	-2.8
GUYB				*i* S	Sg	04 38 42.1	-3.4
SRIG	**Santa Rosalia**	**0.79**	**269**	*e*P	Pb	04 38 34.8	-2.9
SRIG				*e*S	Sb	04 38 44.5	-3.6
HSIG		**1.71**	**12**	*e*P	Pn	04 38 49.1	-2.4
HSIG				*i* S	Sn	04 39 08.1	-5.0

MEX 28 04:38:34.6±0.4, 27°.35N×111°.33W, h12km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUYB	**Guaymas**	**0.68**	**37**	*e*P	Pg	04 38 45.8	-2.0
GUYB				*e*S	Sg	04 38 54.6	-2.2
SRIG	**Santa Rosalia**	**0.81**	**268**	*e*P	Pg	04 38 47.9	-2.3
SRIG				*e*S	Sg	04 38 56.5	-4.3
SRIG				*i* S	Sb	04 38 57.3	-4.2
HSIG		**1.69**	**11**	*e*P	Pn	04 39 01.1	-2.9
HSIG				*e*S	Sn	04 39 20.9	-4.8

JMA 28 04:45:15.6±0.5, 37°.11N×143°.67E, h21km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.25**	**277**	S	Sn	04 46 20.7	+2.0
JIO	**Ouri**	**2.28**	**307**	P	Pn	04 45 53.0	+1.1
JIO				*e*S	Sn	04 46 20.8	+1.5
ONAJ	**Iwakimizuishiy**	**2.30**	**271**	P	Pn	04 45 53.5	+1.2
ONAJ				S	Sn	04 46 20.9	+1.0
JMM	**Marumori**	**2.41**	**289**	P	Pn	04 45 55.2	+1.4
JMM				*e*S	Sb	04 46 25.3	-2.2
JMK	**Ichinoseki**	**2.67**	**314**	P	Pn	04 45 59.0	+1.7
JMK				S	Sn	04 46 29.9	+0.9
JFT	**Otama**	**2.69**	**280**	S	Sb	04 46 32.6	-2.9
JOM	**Ohasama**	**3.01**	**322**	P	Pn	04 46 03.9	+1.9
JOM				S	Sn	04 46 38.2	+0.7
JAG	**Ashikaga**	**3.45**	**260**	P	Pn	04 46 09.3	+1.2
JAG				S	Sn	04 46 50.1	+1.7
JRY	**Ryogami san**	**3.99**	**256**	S	Sn	04 47 02.2	+0.5

*ISCJB **28** 04:45:22.4±1.2, 28°.85S±0°.1×178°.3W±0°.2, h231km, mb3.1/2, Error ellipse: s-maj=24.9km s-min=15.1km az=14.4*
*IDC **28** 04:45:23.9±0.8, 28°.81S×178°.54W, h216km±8km, mb3.0/2, mb1 3.2/3, mb1mx3.0/28, mbtmp3.6/3, Error ellipse: s-maj=31.1km s-min=25.9km az=115.0*
ISC 28 04:45:24.0±1.2, 29°.05S±0°.1×178°.3W±0°.2, h231km, n6, σ1°48/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.45**	**129**	P	**Pn**	**04 45 54.0**	**-0.5**
	54nm,0.3s,baz=274,slow=19,SNR=2.7						
RAO				S	**S**	**04 46 17.6**	**-0.9**
	274nm,0.3s,baz=73,slow=19,SNR=7.4						
URZ	**Urewera**	**10.02**	**201**	P	**Pn**	**04 47 42.3**	**-0.7**
	0.1nm,0.3s,baz=56,slow=8.9,SNR=2.4						
URZ				S	**S**	**04 49 35.6**	**+0.1**
	1.6nm,0.3s,baz=175,slow=23,SNR=11						
ASAR	**Alice Springs**	**42.92**	**266**	P	**P**	**04 53 00.4**	**0.0**
	0.2nm,0.3s,baz=97,slow=6.6,SNR=3.3						
WRA	**Warramunga Arr**	**43.78**	**271**	P	**P**	**04 53 07.2**	**-0.1**
	0.8nm,0.6s,baz=107,slow=7.9,SNR=12						
AKASG	**Malin Array Be**	**149.99**	**324**	PKPbc	**PKPbc**	**05 04 46.2**	**-0.5**
	0.3nm,0.4s,baz=47,slow=3.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**164.26**	**180**	PKPab	**PKPab**	**05 05 58.5**	**+3.0**
	0.5nm,0.7s,baz=177,slow=3.7,SNR=3.7						

*ISCJB **28** 04:49:51.8±0.8, 35°.07S±0°.05×73°.06W±0°.08, h33km, mb3.6/2, Error ellipse: s-maj=10.0km s-min=6.5km az=6.2*
*GUC **28** 04:49:51.4±0.5, 35°.05S×73°.03W, h30km±7km, ML3.6*
*IDC **28** 04:49:53.6±4.6, 35°.17S×71°.57W, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.5/18, mbtmp3.5/4, ML3.2/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/17, Error ellipse: s-maj=157.1km s-min=20.9km az=91.0*
ISC 28 04:49:54.1±1.3, 35°.08S±0°.05×73°.0W±0°.1, h35km, n25, σ1°35/25, 11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**1.04**	**49**	*e*P	**Pn**	**04 50 10.2**	**-2.0**
CHPI				*i* S	**Sn**	**04 50 24.4**	**-1.1**
COCH	**Cobquecura**	**1.06**	**172**	⇓*i*P	**Pn**	**04 50 10.7**	**-1.8**
TALC	**Talca**	**1.13**	**107**	⇓*i*P	**Pn**	**04 50 12.4**	**-1.1**
TALC				*i* S	**Sn**	**04 50 27.7**	**-0.1**
NICH	**Los Niches**	**1.42**	**88**	*e*P	**Pn**	**04 50 16.7**	**-0.7**
NICH				*i* S	**Sn**	**04 50 36.4**	**+1.5**
CCHI	**Chillan**	**1.69**	**155**	⇓*i*P	**Pn**	**04 50 20.5**	**-0.5**
CCHI				IAML		04 50 53.0	
	comp=E,539nm,0.6s						
ANTU	**Antumapu**	**2.44**	**53**	IAML		04 51 12.6	
	comp=N,508nm,0.5s						
PEL	**Peldehue**	**2.70**	**45**	⇓*i*P	**Pn**	**04 50 34.5**	**-0.5**
PEL				IAML		04 51 20.6	
	comp=N,464nm,0.8s						
FCH	**Farellones**	**2.82**	**53**	IAML		04 51 27.0	
	comp=N,202nm,0.7s						
CANA	**Caviahue**	**3.20**	**152**	*e*P	**Pn**	**04 50 44.9**	**+2.9**
CANA				⇓*e*S	Sn	04 51 34.5	+16
ARCO	**CERRO ARCO**	**4.02**	**58**	⇓*e*P	**Pn**	**04 50 54.9**	**+1.5**
ARCO				IAML		04 51 12.0	
	comp=Z,37nm,0.6s						
ARCO				*e*S	Sn	04 51 57.5	+18
AUSP	**Uspallata**	**4.12**	**47**	*e*P	**Pn**	**04 50 56.0**	**+1.2**
AUSP				*e*S	Sn	04 51 59.9	+18
ASAL	**Salagasta**	**4.24**	**55**	*e*P	**Pn**	**04 50 58.7**	**+2.5**
ASAL				⇓*e*S	Sn	04 52 01.9	+17
RTLS	**Leoncito**	**4.48**	**44**	*e*P	**Pn**	**04 51 00.5**	**+0.7**
RTLS				*e*S	Sn	04 52 13.8	+23
RTLL	**Cerro Villicun**	**5.30**	**46**	*e*P	**Pn**	**04 51 10.3**	**-0.6**
RTLL				*e*S	Sn	04 52 27.0	+16
ACCO	**Cerro Coronel**	**5.55**	**37**	*e*P	**Pn**	**04 51 14.4**	**0.0**
ACCO				IAML		04 52 46.6	
	comp=Z,16nm,0.6s						
AMOG	**MOGNA**	**5.58**	**44**	*e*P	**Pn**	**04 51 14.4**	**-0.2**
AROD	**Rodeo**	**5.71**	**32**	⇓*e*P	**Pn**	**04 51 17.4**	**+0.6**
AROD				⇓*e*S	Sn	04 52 43.7	+23
ACDV	**Cuesta del Vie**	**5.87**	**35**	⇓*e*P	**Pn**	**04 51 18.9**	**+0.2**
PLCA	**Paso Flores**	**5.96**	**162**	Pn	**Pn**	**04 51 18.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=2.4						
PLCA				Lg	Lg	04 52 51.6	
	comp=Z,0.1nm,0.3s,baz=310,slow=18,SNR=2.0						
AVFE	**Valle Fertil**	**6.39**	**48**	⇓*e*P	**Pn**	**04 51 24.3**	**-1.5**
ACHE	**Chepes**	**6.57**	**55**	*e*P	**Pn**	**04 51 26.8**	**-1.5**
CPUP	**Villa Florida**	**16.01**	**61**	LR	LR	05 00 24.4	
	comp=Z,78nm,19.0s,baz=204,slow=42						
LPAZ	**La Paz**	**19.20**	**14**	P	**Pn**	**04 54 18.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=194,slow=9.1,SNR=7.9						
LPAZ				LR	LR	05 03 29.0	
	comp=Z,41nm,19.2s,baz=143,slow=43						
SIV	**San Ignacio**	**21.79**	**32**	P	**P**	**04 54 42.4**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=215,slow=8.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**85.29**	**70**	P	**P**	**05 02 27.1**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=228,slow=5.5,SNR=2.5						

WEL 28 05:02:08.1±0.1, 39°.30S×177°.30E, h27km±1km, ML3.8/39, 12C-9D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WHHZ	**Waihua**	**0.23**	**347**	P*	Pb	05 02 13.9	-0.5
WHHZ				S*	Sb	05 02 18.8	+0.2
ARHZ	**Aropaoanui**	**0.24**	**279**	P*	Pb	05 02 14.2	-0.3
ARHZ				S*	Sb	05 02 19.3	+0.5
CKHZ	**Cape Kidnapper**	**0.40**	**206**	P*	Pn	05 02 18.2	+0.2
CKHZ				S*	Sn	05 02 26.7	+2.1
KNZ	**Kokohu**	**0.40**	**46**	P*	Pb	05 02 17.3	+0.5
KNZ				AML	AML	05 02 26.6	
KNZ				AML	AML	05 02 27.7	
RAHZ	**Arahi**	**0.42**	**337**	⇑P*	Pb	05 02 16.4	-0.7
RAHZ				S*	Sb	05 02 23.3	+0.1
NMHZ	**Naumai**	**0.43**	**298**	⇑P*	Pb	05 02 16.8	-0.7
NMHZ				S*	Sb	05 02 24.0	+0.3
MCHZ	**McNeill Hill**	**0.49**	**253**	⇑P*	Pb	05 02 18.7	+0.4
MHGZ	**Mahia Peninsul**	**0.49**	**73**	⇑P*	Pn	05 02 19.7	+0.2
SNGZ	**Shannon Statio**	**0.52**	**3**	⇑P*	Pb	05 02 18.2	-0.5
SNGZ				S*	Sb	05 02 26.8	+0.8
KAHZ	**Kahuranaki**	**0.59**	**214**	P*	Pn	05 02 21.1	+0.2
PRGZ	**Paritu Road**	**0.59**	**50**	P*	Pn	05 02 20.6	-0.2
BKZ	**Black Stump Fm**	**0.64**	**282**	P*	Pb	05 02 19.6	-1.2
BKZ				AML	AML	05 02 29.4	
BKZ				AML	AML	05 02 30.0	
KWHZ	**Kaweka Forest**	**0.69**	**260**	P*	Pb	05 02 21.2	-0.4
RIGZ	**Rimuhau**	**0.70**	**31**	⇓P*	Pb	05 02 21.7	0.0
RTZ	**Ruatahuna**	**0.73**	**340**	⇑P*	Pb	05 02 21.0	-1.3
KRHZ	**Kereru**	**0.80**	**244**	PN	Pb	05 02 23.0	-0.4
PXZ	**Pawanui**	**0.80**	**205**	⇑PN	Pb	05 02 23.2	-0.3
PXZ				AML	AML	05 02 36.3	
PXZ				AML	AML	05 02 36.3	
PXZ				AML	AML	05 02 40.8	
PXZ				AML	AML	05 02 40.8	
RAGZ	**Rawiri**	**0.81**	**6**	⇑PN	Pb	05 02 22.8	-0.8
MRHZ	**Matea Rd**	**0.83**	**304**	⇑PN	Pb	05 02 22.7	-1.3
TKGZ	**Te Karaka**	**0.96**	**27**	PN	Pn	05 02 25.2	-0.6
BHHZ	**Black Hill Sta**	**0.98**	**259**	PN	Pn	05 02 25.4	-0.7
MWZ	**Matawai**	**0.98**	**10**	PN	Pn	05 02 25.0	-1.2
MWZ				AML	AML	05 02 40.5	
MWZ				AML	AML	05 02 40.8	
MWZ				AML	AML	05 02 43.5	
MWZ				AML	AML	05 02 43.5	
PNHZ	**Pukenui**	**1.05**	**234**	⇓PN	Pn	05 02 26.4	-0.7
ALRZ	**Allen Road**	**1.05**	**314**	PN	Pn	05 02 26.4	-0.7
URZ	**Urewera**	**1.05**	**352**	PN	Pn	05 02 26.2	-0.9
URZ				AML	AML	05 02 41.2	
URZ				AML	AML	05 02 41.2	
CNGZ	**Carnagh Statio**	**1.08**	**41**	PN	Pn	05 02 27.2	-0.3
PRHZ	**Porangahau**	**1.09**	**208**	⇓PN	Pn	05 02 27.1	-0.6
RITZ	**Rihia Road**	**1.17**	**286**	AML	AML	05 02 48.0	
RITZ				AML	AML	05 02 51.9	
WPRZ	**Whakapapatarin**	**1.18**	**311**	⇓PN	Pn	05 02 28.2	-0.7
MOVZ	**Moawhango**	**1.21**	**265**	PN	Pn	05 02 29.2	-0.1
MOVZ				AML	AML	05 02 45.7	
MOVZ				AML	AML	05 02 48.3	
HRRZ	**Handcock Road**	**1.21**	**319**	PN	Pn	05 02 28.9	-0.4
TARZ	**Mount Tarawera**	**1.23**	**329**	PN	Pn	05 02 28.9	-0.7
RATZ	**Rangitukua**	**1.27**	**290**	PN	Pn	05 02 29.5	-0.6
RATZ				AML	AML	05 02 54.8	
RATZ				AML	AML	05 02 54.8	
EDRZ	**Edgecumbe**	**1.27**	**340**	PN	Pn	05 02 30.5	+0.4
EDRZ				AML	AML	05 02 51.9	
EDRZ				AML	AML	05 02 57.0	
OTVZ	**Oturere**	**1.28**	**276**	⇑PN	Pn	05 02 30.1	-0.3
OTVZ				AML	AML	05 02 48.2	
OTVZ				AML	AML	05 02 53.5	
TUVZ	**Tukino**	**1.28**	**271**	⇓PN	Pn	05 02 30.2	-0.2
TUVZ				AML	AML	05 02 48.8	
TUVZ				AML	AML	05 02 53.4	
TSZ	**Takapari Road**	**1.28**	**233**	PN	Pn	05 02 29.3	-1.0
TSZ				AML	AML	05 02 46.5	
TSZ				AML	AML	05 03 00.6	
HLRZ	**Highlands Stat**	**1.28**	**324**	⇓PN	Pb	05 02 31.1	-0.5
HSRZ	**Hossack Road**	**1.29**	**320**	PN	Pn	05 02 30.7	+0.3
KATZ	**Kakaramea**	**1.29**	**284**	PN	Pn	05 02 30.0	-0.5
KATZ				AML	AML	05 02 48.4	
KRVZ	**Karewarewa**	**1.31**	**279**	PN	Pn	05 02 30.3	-0.4
KRVZ				AML	AML	05 02 50.4	
KRVZ				AML	AML	05 02 50.9	
ANWZ	**Angora Road**	**1.32**	**209**	PN	Pn	05 02 30.1	-0.6
WNVZ	**Wahianoa**	**1.32**	**268**	PN	Pn	05 02 30.6	-0.3
NGZ	**Ngauruhoe**	**1.33**	**275**	PN	Pn	05 02 30.6	-0.4
NGZ				AML	AML	05 02 51.1	
NGZ				AML	AML	05 02 52.5	
WHVZ	**Whangaehu Hut**	**1.33**	**270**	PN	Pn	05 02 30.7	-0.4
WTVZ	**West Tongariro**	**1.34**	**277**	PN	Pn	05 02 31.0	-0.2
WTVZ				AML	AML	05 02 52.8	
WTVZ				AML	AML	05 02 57.3	
FWVZ	**Far West T-bar**	**1.36**	**271**	PN	Pn	05 02 30.9	-0.6
FWVZ				AML	AML	05 02 50.0	
FWVZ				AML	AML	05 02 50.5	
TRVZ	**Turoa**	**1.36**	**270**	⇓PN	Pn	05 02 31.1	-0.4
TRVZ				AML	AML	05 02 50.5	
TRVZ				AML	AML	05 02 55.7	
KUTZ	**Kaahu Road**	**1.41**	**305**	⇑PN	Pb	05 02 31.3	-0.7
MTVZ	**Mangateitei**	**1.42**	**266**	PN	Pn	05 02 32.0	-0.3
MTVZ				AML	AML	05 03 01.1	
MTVZ				AML	AML	05 03 02.7	
PUZ	**Puketiti**	**1.44**	**32**	PN	Pn	05 02 30.8	-1.6
PUZ				AML	AML	05 03 10.7	
PUZ				AML	AML	05 03 13.5	
TWVZ	**Taurewa**	**1.47**	**278**	PN	Pn	05 02 32.0	-0.8
TWVZ				AML	AML	05 02 56.5	
TWVZ				AML	AML	05 02 59.3	
PKVZ	**Pokaka**	**1.52**	**270**	PN	Pn	05 02 33.1	-0.4
PKVZ				AML	AML	05 02 56.5	
PKVZ				AML	AML	05 03 13.8	
HAZ	**Te Kaha**	**1.59**	**14**	PN	Pn	05 02 34.1	-0.3
BFZ	**Birch Farm**	**1.60**	**210**	⇑PN	Pn	05 02 33.3	-1.3
BFZ				AML	AML	05 02 54.6	
BFZ				AML	AML	05 02 55.2	
BFZ				AML	AML	05 02 55.2	
BFZ				AML	AML	05 03 07.5	
POWZ	**Post Office Ro**	**1.60**	**227**	PN	Pn	05 02 34.2	-0.5
PRWZ	**Pori Road**	**1.62**	**219**	PN	Pn	05 02 34.1	-0.7
TLZ	**Tolley Road**	**1.69**	**305**	PN	Pn	05 02 34.7	-1.1
WMGZ	**Waiomatatini S**	**1.72**	**31**	⇓PN	Pn	05 02 35.3	-1.0
TIWZ	**Tintock**	**1.83**	**216**	AML	AML	05 03 01.5	
TIWZ				AML	AML	05 03 02.8	
WAZ	**Wanganui**	**1.85**	**255**	PN	Pn	05 02 38.5	+0.5
WAZ				AML	AML	05 03 23.9	
WAZ		

BFSD				*e*S	**Sg**	**05 16 17.8**	**-0.6**
BFSD				AML	AML	05 16 24.1	
	comp=Z,360nm,0.2s						
KSR	**Koster**	**0.87**	**313**	*e*P	**Pg**	**05 16 07.5**	**-0.3**
KSR				*e*S	**Sg**	**05 16 18.1**	**-1.1**
KSR				AML	AML	05 16 26.9	
	comp=Z,206nm,0.8s						
MOAB	**Moab Khotsong**	**0.90**	**233**	*e*P	**Pb**	**05 16 09.0**	**+0.2**
MOAB				*e*S	**Sg**	**05 16 19.1**	**-1.1**
MOAB				AML	AML	05 16 25.6	
	comp=Z,342nm,0.2s						
TLEK	**Tau Lekoa**	**0.98**	**238**	*e*P	**Pb**	**05 16 10.3**	**+0.2**
TLEK				*e*S	**Sb**	**05 16 23.9**	**+0.7**
TLEK				AML	AML	05 16 27.5	
	comp=Z,678nm,0.2s						
SEK	**Senekal**	**1.87**	**179**	*e*P	**Pb**	**05 16 25.6**	**+0.3**
SEK				*e*S	**Sn**	**05 16 49.0**	**+2.2**
SEK				AML	AML	05 16 51.8	
	comp=Z,606nm,0.5s						
SWZ	**Schweizer**	**2.16**	**250**	*e*P	**Pb**	**05 16 29.3**	**-0.9**
SWZ				*e*S	**Sn**	**05 16 56.1**	**+2.2**
SWZ				AML	AML	05 16 58.4	
	comp=Z,621nm,0.3s						
LBTB	**Lobatse**	**2.31**	**308**	Pn	**Pn**	**05 16 31.1**	**+2.0**
	comp=Z,56nm,0.3s,baz=140,slow=15,SNR=507						
LBTB				Pg	**Pb**	**05 16 32.8**	**0.0**
	comp=Z,55nm,0.3s,baz=140,slow=16,SNR=490						
LBTB				Lg	Lg	05 17 02.0	
	comp=Z,172nm,0.3s,baz=45,slow=20,SNR=39						
BOSA	**Boshof**	**3.00**	**223**	*i* P	**Pn**	**05 16 39.9**	**+1.2**
BOSA				*i*		05 16 40.0	
	baz=47,slow=14						
BOSA				*i* S	**Sb**	**05 17 20.3**	**-1.1**
BOSA	**Boshof**	**3.00**	**223**	*i* P	**Pn**	**05 16 39.9**	**+1.2**
BOSA				*i*		05 16 40.0	
	baz=47,slow=14						
BOSA				*i* S	**Sb**	**05 17 20.3**	**-1.1**
BOSA	**Boshof**	**3.00**	**223**	Pn	**Pn**	**05 16 39.7**	**+1.0**
	comp=Z,11nm,0.3s,baz=39,slow=12,SNR=253						
BOSA				Pg	**Pb**	**05 16 46.1**	**+1.5**
	comp=Z,12nm,0.3s,baz=42,slow=16,SNR=31						
BOSA				Sn	**Sn**	**05 17 14.2**	**-0.5**
	comp=Z,10.0nm,0.3s,baz=23,slow=17,SNR=6.6						
BOSA				Lg	Lg	05 17 22.4	
	comp=Z,20nm,0.3s,baz=314,slow=22,SNR=14						
CNG	**Changalane**	**4.11**	**89**	*e*P	**Pn**	**05 16 54.0**	**+0.1**
CNG				*e*S	**Sn**	**05 17 39.7**	**-2.2**
CNG				AML	AML	05 18 02.8	
	comp=Z,105nm,0.5s						
HVD	**Gariep Dam**	**4.54**	**204**	*e*P	**Pn**	**05 17 00.2**	**+0.4**
HVD				*e*S	**Sn**	**05 17 50.2**	**-2.5**
HVD				AML	AML	05 18 19.4	
	comp=Z,33nm,0.4s						
UPI	**Upington**	**5.96**	**250**	*e*P	**Pn**	**05 17 19.6**	**+0.2**
UPI				*e*S	**Sn**	**05 18 24.5**	**-3.1**
UPI				AML	AML	05 18 59.8	
	comp=Z,32nm,0.4s						
MATP	**Matopo**	**6.05**	**8**	*i* P	**Pn**	**05 17 21.7**	**+1.1**
MATP				*i*		05 17 22.4	
	baz=187,slow=16						
MATP				*i* S	**Sn**	**05 18 30.1**	**+0.1**
MATP	**Matopo**	**6.05**	**8**	*i* P	**Pn**	**05 17 21.7**	**+1.1**
MATP				*i*		05 17 22.4	
	baz=187,slow=16						
MATP				*i* S	**Sn**	**05 18 30.1**	**+0.1**
MATP	**Matopo**	**6.05**	**8**	Pn	**Pn**	**05 17 21.8**	**+1.2**
	comp=Z,2.6nm,0.3s,baz=186,slow=13,SNR=45						
MATP				Sn	**Sn**	**05 18 28.1**	**-1.8**
	comp=Z,3.2nm,0.3s,baz=164,slow=17,SNR=14						
MATP				Lg	Lg	05 18 54.0	
	comp=Z,3.7nm,0.3s,baz=253,slow=20,SNR=3.5						
KEIM	**Keimoes**	**6.31**	**248**	*e*P	**Pn**	**05 17 24.3**	**+0.2**
KEIM				*e*S	**Sn**	**05 18 32.6**	**-3.5**
KEIM				AML	AML	05 19 11.4	
	comp=Z,31nm,0.5s						
GRM	**Grahamstown**	**6.91**	**188**	*e*P	**Pn**	**05 17 33.1**	**+0.8**
GRM				*e*S	**Sn**	**05 18 48.1**	**-2.8**
GRM				AML	AML	05 19 36.5	
	comp=Z,19nm,0.6s						
BUFB	**Buffelsbos**	**8.07**	**197**	*e*P	**Pn**	**05 17 48.7**	**+0.6**
BUFB				*e*S	**Sn**	**05 19 14.9**	**-4.4**
BUFB				AML	AML	05 19 18.2	
	comp=Z,7.2nm,0.4s						
SUR	**Sutherland**	**8.37**	**223**	Pn	**Pn**	**05 17 53.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=40,slow=8.6,SNR=62						
SUR				Sn	**Sn**	**05 19 22.9**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=345,slow=20,SNR=3.7						
SUR				Lg	Lg	05 20 08.6	
	comp=Z,0.2nm,0.3s,baz=325,slow=19,SNR=4.1						
CVNA	**Calvinia**	**8.51**	**232**	*e*P	**Pn**	**05 17 54.8**	**+0.5**
CVNA				*e*S	**Sn**	**05 19 25.9**	**-4.5**
CVNA				AML	AML	05 20 18.9	
	comp=Z,30nm,0.4s						
KOMG	**Komaggas**	**9.54**	**247**	*e*P	**Pn**	**05 18 08.9**	**+0.5**
KOMG				*e*S	**Sn**	**05 19 50.0**	**-5.6**
KOMG				AML	AML	05 20 50.1	
	comp=Z,13nm,0.6s						
LSZ	**Lusaka**	**11.13**	**3**	Pn	**Pn**	**05 18 30.3**	**0.0**
	comp=Z,1.0nm,0.3s,baz=183,slow=13,SNR=6.1						
LSZ				Sn	**Sn**	**05 20 29.7**	**-5.1**
	comp=Z,0.4nm,0.3s,baz=49,slow=18,SNR=3.3						
LSZ				Lg	Lg	05 21 35.2	
	comp=Z,0.5nm,0.3s,baz=261,slow=21,SNR=3.6						
TSUM	**Tsumeb**	**11.72**	**306**	Pn	**Pn**	**05 18 38.3**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=127,slow=10,SNR=13						
TSUM				Sn	Sn	05 20 41.2	-8.1
	comp=Z,0.3nm,0.3s,baz=36,slow=18,SNR=2.0						
TSUM				Lg	Lg	05 21 52.9	
	comp=Z,0.5nm,0.3s,baz=36,slow=17,SNR=3.5						
DBIC	**Dimbokro**	**45.55**	**312**	P	**P**	**05 24 12.5**	**+1.4**
	comp=Z,7.2nm,1.1s,baz=141,slow=6.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**46.73**	**324**	P	**P**	**05 24 21.3**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=137,slow=6.4,SNR=17						
ESDC	**Sonseca Array**	**72.07**	**335**	P	**P**	**05 27 17.1**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=143,slow=5.0,SNR=3.5						
FINES	**FINESS Array B**	**87.58**	**359**	P	**P**	**05 28 40.5**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=162,slow=4.5,SNR=3.5						
MKAR	**Makanchi Array**	**88.04**	**34**	P	**P**	**05 28 43.5**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=212,slow=4.6,SNR=2.3						

GUC 28 05:17:25.6±0.7, **19°04'S**×**69°48'W**, **h103**km±4km, **ML3.7, 5C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minye Minye**	**0.14**	**229**	⇑*i*P	Pn	05 17 40.8	+0.4
MNMC				*i* S	Sn	05 17 52.0	+0.6
MNMC				IAML		05 17 55.3	
	comp=E,6μm,0.1s						
PB13	**IPOC Station P**	**0.70**	**358**	⇑*i*P	Pn	05 17 45.1	+1.1
PB13				*i* S	Sn	05 17 59.0	+1.3
PSGC	**Pisagua**	**0.82**	**227**	⇑*i*P	Pn	05 17 45.1	+0.5
PSGC				*i* S	Sn	05 17 59.4	+0.7
PSGC				IAML		05 18 03.2	
	comp=E,1μm,0.3s						
PB12	**IPOC Station P**	**0.91**	**298**	⇑*i*P	Pn	05 17 45.8	+0.4
PB12				*i* S	Sn	05 18 00.8	+0.6
PB12				IAML		05 18 01.1	
	comp=N,8μm,0.4s						
PB08	**IPOC Station P**	**1.14**	**164**	⇑*i*P	Pn	05 17 49.3	+1.1
PB08				*i* S	Sn	05 18 06.5	+1.4
PB08				IAML		05 18 08.0	
	comp=E,991nm,0.3s						
HMBC	**Humberstone**	**1.29**	**197**	⇓*i*P	Pn	05 17 50.2	+0.6
HMBC				*i* S	Sn	05 18 08.9	+1.0
HMBC				IAML		05 18 13.1	
	comp=N,1μm,0.2s						
PB01	**IPOC Station P**	**2.00**	**180**	⇓*i*P	Pn	05 17 59.0	+0.7
PB01				*i* S	Sn	05 18 24.3	+1.0
PB01				IAML		05 18 27.4	
	comp=N,726nm,0.3s						
PB07	**IPOC Station P**	**2.70**	**188**	⇓*i*P	Pn	05 18 08.7	+1.0
PB07				IAML		05 18 49.7	
	comp=E,547nm,0.3s						

*ISCJB **28** 05:18:54.2±0.7,35°56N±0°04'×140°03E±0°06, h79km±6km, mb3.6/2, Error ellipse: s-maj=9.1km s-min=5.1km az=153.8*
*JMA **28** 05:18:55.4±0.2,35°62N×140°02E, h65km±2km, M2.7*
*IDC **28** 05:18:59.9±1.2,35°17N×138°99E, h86km±12km, mb3.2/2, mb1 3.3/3, mb1mx3.0/32, mbtmp3.6/3, Error ellipse: s-maj=64.9km s-min=6.2km az=68.0*

ISC 28 05:18:55.0±1.1, **35°58N**±0°04'×**140°04E**±0°06, **h72**km±9km, **n18**, σ0°80/25, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.21**	**141**	P	**Pn**	**05 19 06.4**	**+0.5**
JOD2	**Odawara 2**	**0.84**	**248**	P	**Pn**	**05 19 11.5**	**-0.1**
JOD2				S	**Sn**	**05 19 23.3**	**-0.7**
BSO3	**Boso 3**	**0.87**	**153**	P	**Pn**	**05 19 11.7**	**0.0**
BSO3				S	**Sn**	**05 19 25.0**	**+0.8**
JAG	**Ashikaga**	**0.96**	**331**	P	**Pn**	**05 19 13.0**	**-0.1**
JAG				S	**Sn**	**05 19 25.8**	**-0.9**
JIM2	**Oshima 2**	**1.00**	**210**	S	**Sn**	**05 19 26.5**	**-0.9**
JRY	**Ryogami san**	**1.02**	**295**	P	**Pn**	**05 19 14.3**	**+0.5**
JRY				*e*S	**Sn**	**05 19 29.2**	**+1.3**
BSO1	**Boso 1**	**1.21**	**140**	P	**Pn**	**05 19 15.4**	**-0.2**
JYN	**Shimob**	**1.22**	**266**	P	**Pn**	**05 19 16.6**	**+0.2**
JYN				S	**Sn**	**05 19 32.9**	**+0.4**
JIZS	**Izushimoda**	**1.28**	**228**	P	**Pn**	**05 19 17.2**	**0.0**
JIZS				S	**Sn**	**05 19 33.4**	**-0.4**
JKT	**Katashina**	**1.34**	**332**	P	**Pn**	**05 19 18.2**	**+0.2**
JKT				S	**Sn**	**05 19 35.6**	**+0.3**
MJAR	**Matsushiro Arr**	**1.76**	**303**	P	**Pn**	**05 19 23.9**	**+0.4**
	5.3nm,0.3s,baz=156,slow=14,SNR=41						
MJAR				S	**Sn**	**05 19 44.4**	**-0.8**
	5.2nm,0.3s,baz=126,slow=23,SNR=9.4						
MAT	**Matsushiro**	**1.77**	**303**	P	**Pn**	**05 19 24.2**	**+0.7**
MAT				S	**Sn**	**05 19 45.4**	**+0.2**
JHJ	**Hachijo jima 2**	**2.47**	**185**	P	**Pn**	**05 19 35.2**	**+2.2**
	17nm,0.3s,baz=14,slow=15,SNR=3.5						
JHJ				S	**Sn**	**05 20 00.8**	**-1.2**
	18nm,0.3s,baz=42,slow=18,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**28.43**	**117**	T	T	05 54 36.3	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**28.43**	**117**	T	T	05 54 32.4	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**28.45**	**117**	T	T	05 54 33.3	
	baz=308						
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**05 26 55.0**	**+0.2**
	0.3nm,0.3s,baz=95,slow=8.8,SNR=5.2						
WRA	**Warramunga Arr**	**55.48**	**187**	P	**P**	**05 28 21.8**	**-0.6**
	0.3nm,0.4s,baz=1.1,slow=7.5,SNR=11						

GUC 28 05:23:09.2±0.5, **23°90S**×**67°53W**, **h226**km±14km, **ML3.7, 7C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.81**	**315**	⇑*i*P	Pn	05 23 49.4	+1.0
PB06	**IPOC Station P**	**2.23**	**302**	⇑*i*P	Pn	05 23 54.0	+1.8
PB06				*i* S	S	05 24 27.8	+2.2
PB06				IAML		05 24 30.0	
	comp=E,169nm,0.1s						
PB09	**IPOC Station P**	**2.62**	**323**	⇑*i*P	Pn	05 23 58.6	+2.3
PB09				IAML		05 24 44.2	
	comp=N,102nm,0.5s						
ANCH	**Antofagasta**	**2.65**	**274**	⇑*i*P	Pn	05 23 58.2	+1.8
ANCH				*i* S	S	05 24 35.0	+1.7
PB10	**IPOC Station P**	**2.80**	**277**	⇑*i*P	Pn	05 23 60.0	+1.9
PB10				*i* S	S	05 24 38.3	+2.0
PB10				IAML		05 24 42.5	
	comp=N,295nm,0.4s						
PB04	**IPOC Station P**	**2.88**	**302**	*e*P	Pn	05 24 01.2	+2.1
PB04				*i* S	S	05 24 40.4	+2.3
PB04				IAML		05 24 44.5	
	comp=N,102nm,0.2s						
PB07	**IPOC Station P**	**3.07**	**314**	⇑*i*P	Pn	05 24 03.4	+2.1
PB07				*i* S	S	05 24 44.5	+2.5
PB07				IAML		05 24 48.0	
	comp=N,71nm,0.3s						
PB01	**IPOC Station P**	**3.37**	**327**	⇑*i*P	Pn	05 24 06.3	+1.6
PB01				*i* S	S	05 24 51.0	+2.8
PB01				IAML		05 24 56.1	
	comp=E,39nm,0.3s						

*DDA **28** 05:24:24.9,39°11N×29°00E, h7km, Md2.9*
*ISCJB **28** 05:24:25.4±0.4,39°10N±0°03×29°00E±0°03, h7km±6km, Error ellipse: s-maj=5.5km s-min=4.0km az=4.1*
*CSEM **28** 05:24:25.6±0.1,39°11N×29°00E, h5km, MD2.9, Error ellipse: s-maj=2.7km s-min=2.4km az=144.0*
*ISK **28** 05:24:25.2,39°10N×28°99E, h8km, ML2.8*
ISC 28 05:24:25.4±0.9, **39°11N**±0°02×**28°99E**±0°02, **h9**km±8km, **n45**, σ0°57/60, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.22**	**252**	P	**Pg**	**05 24 30.1**	**+0.1**
DEMI				S	**Sg**	**05 24 33.7**	**+0.8**
DEMI	**Demirci**	**0.22**	**252**	*i* P	**Pg**	**05 24 30.1**	**+0.1**
DEMI				*i* S	**Sg**	**05 24 33.7**	**+0.6**
GEDZ	**Gediz**	**0.34**	**102**	*e*PG	**Pb**	**05 24 33.0**	**-0.5**
GEDZ	**Gediz**	**0.34**	**102**	*e*Pg	**Pb**	**05 24 33.0**	**-0.5**
GDZ	**Gediz**	**0.38**	**94**	P	**Pg**	**05 24 32.8**	**-0.2**
GDZ				S	**Sg**	**05 24 38.0**	**-0.1**
GDZ	**Gediz**	**0.38**	**94**	*i* P	**Pg**	**05 24 32.8**	**-0.2**
GDZ				*i* S	**Sg**	**05 24 38.0**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**47**	*e*PG	**Pg**	**05 24 34.8**	**-0.3**
TVSB	**Tavsanli**	**0.50**	**47**	*e*Pg	**Pg**	**05 24 34.8**	**-0.3**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*PG	**Pb**	**05 24 38.4**	**-0.6**
KULA				*e*SG	**Sg**	**05 24 46.6**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*Pg	**Pb**	**05 24 38.4**	**-0.6**
KULA				*e*Sg	**Sg**	**05 24 46.6**	**+0.1**
MANT	**Manisa**	**0.71**	**209**	P	**Pg**	**05 24 38.5**	**-0.6**
MANT				S	**Sg**	**05 24 47.5**	**-0.8**
MANT	**Manisa**	**0.71**	**209**	*i* P	**Pg**	**05 24 38.5**	**-0.6**
MANT				*i* S	**Sg**	**05 24 47.5**	**-0.8**
KHL	**Karahalli**	**0.89**	**152**	*e*PG	**Pb**	**05 24 43.1**	**+0.1**
KHL				*e*SG	**Sb**	**05 24 54.8**	**-0.3**
KHL	**Karahalli**	**0.89**	**152**	*e*Pg	**Pb**	**05 24 43.2**	**+0.1**
KHL				*e*Sg	**Sb**	**05 24 54.8**	**-0.3**
AKS	**Akhisar**	**0.95**	**256**	*e*PG	**Pb**	**05 24 44.1**	**+0.2**
AKS	**Akhisar**	**0.95**	**256**	*e*Pg	**Pb**	**05 24 44.2**	**+0.2**
BALB	**Balikesir**	**1.01**	**302**	*e*PG	**Pn**	**05 24 46.1**	**+0.5**
BALB				*e*SG	**Sn**	**05 25 00.0**	**+0.1**
BALB	**Balikesir**	**1.01**	**302**	*e*Pg	**Pn**	**05 24 46.1**	**+0.5**
BALB				*e*Sg	**Sn**	**05 25 00.0**	**+0.1**
IGD	**Bursa**	**1.16**	**8**	*i* P	**Pg**	**05 24 46.3**	**-1.4**
IGD				*i* S	**Sg**	**05 25 01.1**	**-1.7**
BALY	**Balya**	**1.23**	**301**	P	**Pn**	**05 24 49.0**	**+0.2**
BALY				S	**Sn**	**05 25 05.8**	**+0.2**
BALY	**Balya**	**1.23**	**301**	*i* P	**Pn**	**05 24 49.0**	**+0.2**
BALY				*i* S	**Sn**	**05 25 05.8**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*PN	**Pn**	**05 24 49.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*Pn	**Pg**	**05 24 49.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pg**	**05 24 49.7**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pg**	**05 24 49.7**	**+0.2**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*PN	**Pg**	**05 24 49.9**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*Pn	**Pg**	**05 24 49.9**	**+0.1**
IZI	**Iznik**	**1.28**	**17**	*e*PN	**Pg**	**05 24 50.2**	**+0.3**
IZI	**Iznik**	**1.28**	**17**	*e*Pn	**Pg**	**05 24 50.2**	**+0.3**
GEMT	**Gemlik**	**1.33**	**7**	*e*PN	**Pb**	**05 24 50.7**	**+0.2**
GEMT	**Gemlik**	**1.33**	**7**	*e*Pn	**Pb**	**05 24 50.7**	**+0.2**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*PN	**Pb**	**05 24 52.3**	**0.0**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*Pn	**Pb**	**05 24 52.3**	**0.0**
ESKT	**Eskisehir**	**1.50**	**74**	*e*PN	**Pb**	**05 24 53.3**	**-0.1**
ESKT	**Eskisehir**	**1.50**	**74**	*e*Pn	**Pb**	**05 24 53.3**	**-0.1**
HRT	**Hereke**	**1.78**	**17**	*e*PN	**Pn**	**05 24 56.6**	**+0.3**
HRT	**Hereke**	**1.78**	**17**	*e*Pn	**Pn**	**05 24 56.7**	**+0.3**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*PN	**Pn**	**05 24 58.4**	**+0.9**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*Pn	**Pn**	**05 24 58.4**	**+0.9**
ISK	**Istanbul-Kandi**	**1.95**	**2**	*e*PN	**Pb**	**05 25 00.3**	**-0.8**
ISK	**Istanbul-Kandi**	**1.95**	**2**	*e*Pn	**Pb**	**05 25 00.3**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*PN	**Pn**	**05 25 00.3**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*Pn	**Pn**	**05 25 00.3**	**+1.0**
MDUB	**Mudurnu**	**2.17**	**51**	*e*PN	**Pn**	**05 25 03.0**	**+1.2**
MDUB	**Mudurnu**	**2.17**	**51**	*e*Pn	**Pn**	**05 25 03.0**	**+1.2**

*DDA **28** 05:29:25.6,39°11N×29°01E, h7km, Md3.0*
*ISK **28** 05:29:25.9,39°08N×29°01E, h9km, ML2.8*
*ISCJB **28** 05:29:26.1±0.4,39°09N±0°03×29°00E±0°03, h7km±6km, Error ellipse: s-maj=5.9km s-min=3.6km az=172.2*
*CSEM **28** 05:29:26.2±0.1,39°09N×29°01E, h5km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.4km az=151.0*
ISC 28 05:29:26.1±0.9, **39°11N**±0°02×**28°99E**±0°02, **h11**km±8km, **n47**, σ0°59/64, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.22**	**253**	P	**Pg**	**05 29 31.0**	**+0.1**
DEMI				S	**Sg**	**05 29 34.2**	**+0.1**
DEMI	**Demirci**	**0.22**	**253**	*i* P	**Pg**	**05 29 31.0**	**+0.1**
DEMI				*i* S	**Sg**	**05 29 34.2**	**+0.1**
GEDZ	**Gediz**	**0.34**	**101**	*e*PG	**Pg**	**05 29 32.7**	**-0.2**
GEDZ				*e*SG	**Sg**	**05 29 37.7**	**+0.3**
GEDZ	**Gediz**	**0.34**	**101**	*e*Pg	**Pg**	**05 29 32.7**	**-0.2**
GEDZ				*e*Sg	**Sg**	**05 29 37.7**	**+0.3**
GDZ	**Gediz**	**0.38**	**93**	P	**Pg**	**05 29 33.6**	**-0.2**
GDZ				S	**Sg**	**05 29 38.7**	**-0.3**
GDZ	**Gediz**	**0.38**	**93**	*i* P	**Pg**	**05 29 33.6**	**-0.2**
GDZ				*i* S	**Sg**	**05 29 38.7**	**-0.3**
TVSB	**Tavsanli**	**0.50**	**47**	*e*PG	**Pg**	**05 29 35.5**	**-0.5**
TVSB	**Tavsanli**	**0.50**	**47**	*e*Pg	**Pg**	**05 29 35.5**	**-0.5**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*PG	**Pg**	**05 29 38.7**	**0.0**
KULA				*e*SG	**Sg**	**05 29 47.5**	**+0.3**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*Pg	**Pg**	**05 29 38.7**	**0.0**
KULA				*e*Sg	**Sg**	**05 29 47.5**	**+0.3**
MANT	**Manisa**	**0.70**	**209**	P	**Pg**	**05 29 39.1**	**-0.7**
MANT				S	**Sg**	**05 29 48.2**	**-0.8**
MANT	**Manisa**	**0.70**	**209**	*i* P	**Pg**	**05 29 39.1**	**-0.7**
MANT				*i* S	**Sg**	**05 29 48.2**	**-0.8**
KHL	**Karahalli**	**0.89**	**152**	*e*PG	**Pg**	**05 29 42.9**	**-0.4**
KHL				*e*SG	**Sb**	**05 29 55.4**	**-0.1**
KHL	**Karahalli**	**0.89**	**152**	*e*Pg	**Pg**	**05 29 42.9**	**-0.4**
KHL				*e*Sg	**Sb**	**05 29 55.4**	**-0.1**
AKS	**Akhisar**	**0.94**	**256**	*e*PG	**Pn**	**05 29 45.5**	**+0.1**
AKS				*e*SG	**Sb**	**05 29 57.8**	**+0.7**
AKS	**Akhisar**	**0.94**	**256**	*e*Pg	**Pn**	**05 29 45.5**	**+0.1**
AKS				*e*Sg	**Sb**	**05 29 57.8**	**+0.7**
BALB	**Balikesir**	**1.01**	**302**	*e*PG	**Pn**	**05 29 46.8**	**+0.6**
BALB	**Balikesir**	**1.01**	**302**	*e*Pg	**Pn**	**05 29 46.8**	**+0.6**
IGD	**Bursa**	**1.17**	**8**	*i* P	**Pg**	**05 29 46.4**	**-2.1**
IGD				*i* S	**Sg**	**05 30 02.5**	**-1.2**
BALY	**Balya**	**1.23**	**301**	P	**Pn**	**05 29 49.5**	**+0.2**
BALY				S	**Sg**	**05 30 04.8**	**-1.1**
BALY	**Balya**	**1.23**	**301**	*i* P	**Pn**	**05 29 49.5**	**+0.2**
BALY				*i* S	**Sg**	**05 30 04.8**	**-1.1**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*PN	**Pn**	**05 29 49.8**	**+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*Pn	**Pn**	**05 29 49.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pg**	**05 29 50.8**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pg**	**05 29 50.8**	**+0.4**
CAVI	**Cavuskoy**	**1.28**	**31**	*e*PN	**Pg**	**05 29 50.7**	**+0.1**
CAVI	**Cavuskoy**	**1.28**	**31**	*e*Pn	**Pg**	**05 29 50.7**	**+0.1**
IZI	**Iznik**	**1.28**	**17**	*e*PN	**Pg**	**05 29 51.0**	**+0.2**
IZI	**Iznik**	**1.28**	**17**	*e*Pn	**Pg**	**05 29 51.0**	**+0.2**
GEMT	**Gemlik**	**1.33**	**7**	*e*PN	**Pg**	**05 29 51.7**	**-0.1**
GEMT	**Gemlik**	**1.33**	**7**	*e*Pn	**Pg**	**05 29 51.7**	**-0.1**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*PN	**Pb**	**05 29 53.5**	**+0.5**
ADVT	**Abdulvahap**	**1.44**	**23**	*e*Pn	**Pb**	**05 29 53.5**	**+0.5**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pb**	**05 29 53.7**	**+0.4**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pb**	**05 29 53.7**	**+0.4**
ESKT	**Eskisehir**	**1.50**	**74**	*e*PN	**Pn**	**05 29 53.3**	**+0.2**
ESKT	**Eskisehir**	**1.50**	**74**	*e*Pn	**Pn**	**05 29 53.3**	**+0.2**
EDC	**Edincik**	**1.51**	**325**	*e*PN	**Pg**	**05 29 55.1**	**-0.1**
EDC	**Edincik**	**1.51**	**325**	*e*Pn	**Pg**	**05 29 55.1**	**-0.1**
HRT	**Hereke**	**1.79**	**17**	*e*PN	**Pb**	**05 29 58.4**	**-0.5**
HRT	**Hereke**	**1.79**	**17**	*e*Pn	**Pb**	**05 29 58.4**	**-0.5**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*PN	**Pn**	**05 29 59.4**	**+1.3**
SPNC	**Sapanca-Adapaz**	**1.87**	**32**	*e*Pn	**Pn**	**05 29 59.4**	**+1.3**
ISK	**Istanbul-Kandi**	**1.96**	**2**	*e*PN	**Pb**	**05 30 01.0**	**-0.8**
ISK	**Istanbul-Kandi**	**1.96**	**2**	*e*Pn	**Pb**	**05 30 01.0**	**-0.8**
SVRH	**Sivrihisar-ESK**	**2.00**	**79**	*e*PN	**Pn**	**05 30 00.2**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.00**	**79**	*e*Pn	**Pn**	**05 30 00.2**	**+0.3**

*I

AKS	**Akhisar**		**0.94**	**257**	*e*Pg	**Pb**	**05 46 09.3**	**+0.4**
BALB	**Balikesir**		**1.02**	**302**	*e*PG	**Pn**	**05 46 11.3**	**+0.5**
BALB					*e*SG	**Sn**	**05 46 25.3**	**+0.2**
BALB	**Balikesir**		**1.02**	**302**	*e*Pg	**Pn**	**05 46 11.3**	**+0.5**
BALB					*e*Sg	**Sn**	**05 46 25.3**	**+0.2**
IGD	**Bursa**	**1.17**	**8**	*i* P		**Pg**	**05 46 11.6**	**-1.4**
IGD				*i* S		**Sg**	**05 46 27.2**	**-1.0**
BALY	**Balya**		**1.24**	**301**	P	**Pg**	**05 46 14.1**	**-0.1**
BALY	**Balya**		**1.24**	**301**	*i* P	**Pg**	**05 46 14.1**	**-0.1**
BALY					*i* S	**Sg**	**05 46 28.4**	**-2.0**
KCTX	**Karacabey (Bur**		**1.26**	**337**	*e*PN	**Pg**	**05 46 14.7**	**0.0**
KCTX	**Karacabey (Bur**		**1.26**	**337**	*e*Pn	**Pg**	**05 46 14.7**	**0.0**
MDNY	**Mudanya-Bursa**		**1.27**	**356**	*e*PN	**Pn**	**05 46 14.6**	**+0.4**
MDNY	**Mudanya-Bursa**		**1.27**	**356**	*e*Pn	**Pn**	**05 46 14.6**	**+0.4**
CAVI	**Cavuskoy**		**1.28**	**31**	*e*PN	**Pg**	**05 46 15.1**	**+0.1**
CAVI	**Cavuskoy**		**1.28**	**31**	*e*Pn	**Pg**	**05 46 15.1**	**+0.1**
IZI	**Iznik**		**1.29**	**17**	*e*PN	**Pg**	**05 46 16.1**	**+0.9**
IZI	**Iznik**		**1.29**	**17**	*e*Pn	**Pg**	**05 46 16.1**	**+0.9**
GEMT	**Gemlik**		**1.34**	**6**	*e*PN	**Pg**	**05 46 16.9**	**+0.7**
GEMT	**Gemlik**		**1.34**	**6**	*e*Pn	**Pg**	**05 46 16.9**	**+0.7**
BORA	**Eskisehir**		**1.37**	**55**	P	**Pn**	**05 46 15.9**	**+0.1**
BORA					S	**Sg**	**05 46 34.4**	**-0.2**
BORA	**Eskisehir**		**1.37**	**55**	*i* P	**Pn**	**05 46 15.9**	**+0.1**
BORA					*i* S	**Sg**	**05 46 34.4**	**-0.2**
GONE	**Gonen-Balikesi**		**1.38**	**314**	*e*PN	**Pg**	**05 46 17.1**	**+0.1**
GONE	**Gonen-Balikesi**		**1.38**	**314**	*e*Pn	**Pg**	**05 46 17.1**	**+0.1**
DNZL	**Cakiroluk**		**1.41**	**178**	P	**Pg**	**05 46 17.3**	**-0.1**
DNZL	**Cakiroluk**		**1.41**	**178**	*i* P	**Pg**	**05 46 17.3**	**-0.1**
DNZL					*i* S	**Sn**	**05 46 38.7**	**+3.6**
ADVT	**Abdulvahap**		**1.45**	**23**	*e*PN	**Pg**	**05 46 18.2**	**0.0**
ADVT	**Abdulvahap**		**1.45**	**23**	*e*Pn	**Pg**	**05 46 18.3**	**0.0**
ARMT	**Armutlu**		**1.47**	**356**	*e*PN	**Pn**	**05 46 17.5**	**+0.5**
ARMT	**Armutlu**		**1.47**	**356**	*e*Pn	**Pn**	**05 46 17.5**	**+0.5**
ESKT	**Eskisehir**		**1.50**	**73**	*e*PN	**Pb**	**05 46 18.1**	**-0.3**
ESKT	**Eskisehir**		**1.50**	**73**	*e*Pn	**Pb**	**05 46 18.2**	**-0.3**
ESKT	**Eskisehir**		**1.50**	**73**	*i* P	**Pn**	**05 46 18.0**	**+0.4**
ESKT					*i* S	**Sg**	**05 46 38.3**	**-0.4**
SEYT	**Eskypehyr**		**1.50**	**73**	P	**Pn**	**05 46 18.0**	**+0.4**
SEYT					S	**Sg**	**05 46 38.3**	**-0.4**
EDC	**Edincik**		**1.52**	**325**	*e*PN	**Pb**	**05 46 19.1**	**+0.4**
EDC	**Edincik**		**1.52**	**325**	*e*Pn	**Pb**	**05 46 19.1**	**+0.4**
GPA	**Golpazari**		**1.56**	**40**	*e*PN	**Pn**	**05 46 18.8**	**+0.5**
GPA	**Golpazari**		**1.56**	**40**	*e*Pn	**Pn**	**05 46 18.8**	**+0.5**
HRT	**Hereke**		**1.80**	**17**	*e*PN	**Pb**	**05 46 23.6**	**+0.1**
HRT	**Hereke**		**1.80**	**17**	*e*Pn	**Pb**	**05 46 23.6**	**+0.1**
SPNC	**Sapanca-Adapaz**		**1.88**	**32**	*e*PN	**Pb**	**05 46 23.9**	**-0.9**
SPNC	**Sapanca-Adapaz**		**1.88**	**32**	*e*Pn	**Pb**	**05 46 24.0**	**-0.9**
DGB	**˙zmir**		**1.96**	**238**	*i* P	**Pg**	**05 46 27.5**	**-0.4**
DGB					*i* S	**Sg**	**05 46 51.9**	**-1.4**
ISK	**Istanbul-Kandi**		**1.96**	**1**	*e*PN	**Pb**	**05 46 25.7**	**-0.6**
ISK	**Istanbul-Kandi**		**1.96**	**1**	*e*Pn	**Pb**	**05 46 25.7**	**-0.6**
SVRH	**Sivrihisar-ESK**		**2.00**	**79**	*e*PN	**Pn**	**05 46 25.3**	**+1.0**
SVRH	**Sivrihisar-ESK**		**2.00**	**79**	*e*Pn	**Pn**	**05 46 25.3**	**+1.0**
SILT	**Sile**		**2.11**	**13**	*e*PN	**Pb**	**05 46 27.9**	**-0.9**
SILT	**Sile**		**2.11**	**13**	*e*Pn	**Pb**	**05 46 27.9**	**-0.9**
MDUB	**Mudurnu**		**2.18**	**50**	*e*PN	**Pb**	**05 46 28.6**	**-1.4**
MDUB	**Mudurnu**		**2.18**	**50**	*e*Pn	**Pb**	**05 46 28.7**	**-1.4**

*IDC **28** 05:47:46.2±1.4,52.°92N×171.°34W,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.5/58,mbtmp3.5/6,ML3.1/1,Error ellipse: s-maj=79.6km s-min=23.0km az=151.0*
*NEIC **28** 05:47:49.8,52.°07N×170.°59W,h26km,ML3.5(AEIC),After AEIC.*

ISC 28 05:47:53.8±0.9,52.°6N±0.°2×170.°80W±0.°07,h48km,n24, σ1s73/24,mb3.7/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.26**	**70**	P	**Pn**	**05 48 12.8**	**-2.1**
NIKH				S	**Sn**	**05 48 30.9**	**+0.3**
OKAK	**Okmok**	**1.80**	**54**	P	**Pn**	**05 48 21.2**	**-1.1**
OKAK				S	**Sn**	**05 48 45.2**	**+1.3**
OKWE	**Okmok W'ng Wal**	**1.80**	**58**	P	**Pn**	**05 48 22.5**	**+0.1**
OKWE				S	**Sn**	**05 48 47.8**	**+3.8**
OKTU	**Okmok Mt. Tuli**	**1.86**	**62**	P	**Pn**	**05 48 23.4**	**+0.2**
KONE	**Korovin Northe**	**2.04**	**267**	P	**Pn**	**05 48 24.7**	**-0.8**
KOFP	**Korovin Flat P**	**2.04**	**263**	P	**Pn**	**05 48 24.7**	**-1.0**
KOKV	**Korovin Volcan**	**2.07**	**266**	P	**Pn**	**05 48 25.3**	**-0.8**
KOKV				S	**Sn**	**05 48 53.1**	**+2.5**
KOKL	**Mount Kliuchef**	**2.09**	**265**	P	**Pn**	**05 48 25.8**	**-0.6**
UNV	**Unalaska Valle**	**2.89**	**62**	P	**Pn**	**05 48 37.5**	**+0.3**
UNV				S	**Sn**	**05 49 13.0**	**+2.3**
AKV	**Akutan Volcano**	**3.30**	**60**	P	**Pn**	**05 48 42.4**	**-0.5**
GSTD	**Great Sitkin T**	**3.32**	**263**	P	**Pn**	**05 48 42.1**	**-1.1**
GSTD				S	**Sn**	**05 49 24.2**	**+2.8**
AKUT	**Akutan**	**3.41**	**60**	P	**Pn**	**05 48 43.9**	**-0.4**
ILAR	**Eielson Array**	**17.30**	**36**	P	**Pn**	**05 51 48.0**	**-3.5**
	0.0nm,0.3s,baz=230,slow=9.3,SNR=4.4						
DLBC	**Dease Lake**	**23.54**	**59**	P	**P**	**05 52 58.4**	**-1.1**
	0.8nm,0.4s,baz=297,slow=11,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**37.07**	**216**	T	T	06 34 02.1	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**37.07**	**216**	T	T	06 34 04.8	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**37.09**	**216**	T	T	06 34 02.7	
	baz=21						
H11S1	**WAKE ISLAND Hy**	**38.26**	**216**	T	T	06 35 34.9	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.28**	**216**	T	T	06 35 36.1	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.28**	**216**	T	T	06 35 36.4	
	baz=22						
PDAR	**Pinedale Array**	**41.23**	**78**	P	**P**	**05 55 35.3**	**+1.3**
	0.8nm,0.5s,baz=308,slow=4.4,SNR=7.6						
TXAR	**Lajitas Array**	**53.62**	**88**	P	**P**	**05 57 11.1**	**+0.9**
	1.0nm,0.8s,baz=304,slow=5.3,SNR=13						
WRA	**Warramunga Arr**	**86.44**	**230**	P	**P**	**06 00 30.2**	**-0.8**
	0.1nm,0.4s,baz=27,slow=5.5,SNR=3.0						
ASAR	**Alice Springs**	**89.85**	**229**	P	**P**	**06 00 47.0**	**-0.2**
	0.3nm,0.6s,baz=35,slow=5.1,SNR=3.6						

*DDA **28** 05:50:56.9,39.°10N×29.°00E,h7km,Md2.6*
*ISK **28** 05:50:56.7,39.°09N×28.°99E,h5km,ML2.3*
*ISCJB **28** 05:50:57.1±0.5,39.°08N±0.°03×29.°00E±0.°04,h4km±8km, Error ellipse: s-maj=6.0km s-min=4.4km az=150.9*
*CSEM **28** 05:50:57.3±0.1,39.°08N×28.°99E,h5km,MD2.6,Error ellipse: s-maj=3.8km s-min=3.0km az=121.0*

ISC 28 05:50:57.3±0.9,39.°08N±0.°02×28.°99E±0.°03,h14km±7km, n23,σ0s65/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.21**	**259**	P	**Pg**	**05 51 02.2**	**0.0**
DEMI				S	**Sg**	**05 51 05.5**	**+0.1**
DEMI	**Demirci**	**0.21**	**259**	*i* P	**Pg**	**05 51 02.1**	**0.0**
DEMI				*i* S	**Sg**	**05 51 05.5**	**+0.1**
GDZ	**Gediz**	**0.38**	**89**	P	**Pg**	**05 51 05.0**	**-0.1**
GDZ				S	**Sg**	**05 51 10.3**	**-0.1**
GDZ	**Gediz**	**0.38**	**89**	*i* P	**Pg**	**05 51 05.0**	**-0.1**
GDZ				*i* S	**Sg**	**05 51 10.3**	**-0.1**
TVSB	**Tavsanli**	**0.52**	**45**	*e*PG	**Pg**	**05 51 06.8**	**-0.7**
TVSB				*e*SG	**Sg**	**05 51 13.7**	**-0.8**
TVSB	**Tavsanli**	**0.52**	**45**	*e*Pg	**Pg**	**05 51 06.8**	**-0.7**
TVSB				*e*Sg	**Sg**	**05 51 13.7**	**-0.8**
KULA	**Kula-Manisa**	**0.62**	**204**	*e*PG	**Pg**	**05 51 08.9**	**-0.6**
KULA				*e*SG	**Sb**	**05 51 18.6**	**0.0**
KULA	**Kula-Manisa**	**0.62**	**204**	*e*Pg	**Pg**	**05 51 08.9**	**-0.6**
KULA				*e*Sg	**Sb**	**05 51 18.6**	**0.0**
MANT	**Manisa**	**0.68**	**210**	P	**Pg**	**05 51 10.1**	**-0.5**
MANT				S	**Sg**	**05 51 19.1**	**-0.5**
MANT	**Manisa**	**0.68**	**210**	*i* P	**Pg**	**05 51 10.1**	**-0.5**
MANT				*i* S	**Sg**	**05 51 19.1**	**-0.5**
KHL	**Karahalli**	**0.87**	**151**	*e*PG	**Pb**	**05 51 14.5**	**+0.3**
KHL	**Karahalli**	**0.87**	**151**	*e*Pg	**Pb**	**05 51 14.5**	**+0.3**
BALB	**Balikesir**	**1.02**	**303**	*e*PG	**Pb**	**05 51 16.8**	**0.0**
BALB				*e*SG	**Sn**	**05 51 31.8**	**+0.4**
BALB	**Balikesir**	**1.02**	**303**	*e*Pg	**Pb**	**05 51 16.8**	**0.0**
BALB				*e*Sg	**Sn**	**05 51 31.8**	**+0.4**
IGD	**Bursa**	**1.19**	**8**	*i* P	**Pg**	**05 51 18.4**	**-1.8**
IGD				*i* S	**Sb**	**05 51 35.7**	**+0.8**
KCTX	**Karacabey (Bur**	**1.28**	**338**	*e*PN	**Pg**	**05 51 21.1**	**-0.8**
KCTX	**Karacabey (Bur**	**1.28**	**338**	*e*Pn	**Pg**	**05 51 21.1**	**-0.8**
CAVI	**Cavuskoy**	**1.30**	**30**	*e*PN	**Pb**	**05 51 22.4**	**+0.9**
CAVI	**Cavuskoy**	**1.30**	**30**	*e*Pn	**Pb**	**05 51 22.4**	**+0.9**
IZI	**Iznik**	**1.31**	**17**	*e*PN	**Pb**	**05 51 22.6**	**+0.9**
IZI	**Iznik**	**1.31**	**17**	*e*Pn	**Pb**	**05 51 22.6**	**+0.9**
ARMT	**Armutlu**	**1.48**	**356**	*e*PN	**Pg**	**05 51 25.5**	**-0.3**
ARMT	**Armutlu**	**1.48**	**356**	*e*Pn	**Pg**	**05 51 25.5**	**-0.3**

TRN 28 05:53:36.6,14.°53N×57.°77W,h120km,MD4.5,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**2.22**	**232**	*e*P	Pn	05 54 13.9	+1.1
MVM	**Montagne Vaucl**	**3.03**	**271**	*e*P	Pn	05 54 24.4	+1.1
ZAM	**Aeronautique**	**3.16**	**271**	*e*P	Pn	05 54 25.8	+0.8
TRMF	**Trois Ilets**	**3.18**	**271**	*e*P	Pn	05 54 26.4	+1.1
MCLT	**Moule a Chique**	**3.18**	**256**	*e*P	Pn	05 54 25.2	-0.1
MCLT				*e*S	Sn	05 55 02.6	-0.4
FDF	**Fort de France**	**3.28**	**274**	*e*P	Pn	05 54 27.4	+0.8
FDF				*e*S	Sn	05 55 04.3	-1.0
BAMF	**Morne Balai**	**3.28**	**275**	*e*P	Pn	05 54 27.9	+1.2
GBMF	**Grand Be**	**3.30**	**275**	*e*P	Pn	05 54 28.4	+1.5
CXM	**Morne La Croix**	**3.30**	**275**	*e*P	Pn	05 54 28.4	+1.4
CXM				*e*S	Sn	05 55 07.4	+1.4
PML	**Morne Lenard**	**3.32**	**275**	*e*P	Pn	05 54 28.4	+1.3
PCM	**Pelee Case Pet**	**3.34**	**275**	*e*P	Pn	05 54 28.2	+0.8
PCM	**Pelee Case Pet**	**3.34**	**275**	*e*P	Pn	05 54 28.5	+1.0
SVV	**Soufriere Volc**	**3.56**	**251**	*e*P	Pn	05 54 31.8	+1.5
SVV				*e*S	Sn	05 55 12.0	+0.2
SVB	**Belmont**	**3.61**	**250**	*e*P	Pn	05 54 31.4	+0.5
SVB				*e*S	Sn	05 55 13.4	+0.5
FCV	**Fort Charlotte**	**3.64**	**248**	*e*P	Pn	05 54 31.9	+0.5
FCV				*e*S	Sn	05 55 13.8	0.0
MGG	**Marie-Galante**	**3.69**	**292**	*e*P	Pn	05 54 33.8	+1.8
BBL	**Barber's Block**	**3.71**	**286**	*e*P	Pn	05 54 33.7	+1.3
TBG	**Guadaloupe-3**	**3.97**	**290**	*e*P	Pn	05 54 37.4	+1.7
TBG				*e*S	Sn	05 55 21.6	+0.1
TOSP	**Speyside**	**4.19**	**220**	*e*P	Pn	05 54 40.0	+1.2
TOSP	**Speyside**	**4.19**	**220**	*e*S	Sn	05 55 25.7	-1.3
GRSS	**Sisters**	**4.35**	**240**	*e*P	Pn	05 54 42.4	+1.6
GRW	**Mount Saint Ca**	**4.46**	**239**	*e*P	Pn	05 54 43.9	+1.4
GRGR	**Grenville**	**4.47**	**238**	*e*P	Pn	05 54 43.6	+1.2
ANWB	**Willy Bob**	**4.96**	**309**	*e*P	Pn	05 54 49.0	-0.1
TRN	**Trinidad (W)**	**5.24**	**223**	*e*P	Pn	05 54 54.7	+1.9
TRN	**Trinidad (W)**	**5.24**	**223**	*e*S	Sn	05 55 49.4	-2.8

*ISCJB **28** 05:56:29.6±0.6,39.°08N±0.°05×29.°01E±0.°05,h2km±10km, Error ellipse: s-maj=8.9km s-min=4.3km az=147.9*
*DDA **28** 05:56:29.3,39.°09N×29.°00E,h7km,Md2.8*
*CSEM **28** 05:56:29.7±0.1,39.°09N×29.°01E,h2km,MD2.8,Error ellipse: s-maj=3.9km s-min=2.0km az=133.0*
*ISK **28** 05:56:29.4,39.°07N×29.°06E,h6km,ML2.3*

ISC 28 05:56:29.6±0.9,39.°08N±0.°03×29.°00E±0.°03,h11km±8km, n20,σ0s29/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**261**	P	**Pg**	**05 56 34.4**	**0.0**
DEMI				S	**Sg**	**05 56 37.9**	**+0.2**
DEMI	**Demirci**	**0.23**	**261**	*i* P	**Pg**	**05 56 34.4**	**0.0**
DEMI				*i* S	**Sg**	**05 56 37.9**	**+0.2**
GEDZ	**Gediz**	**0.32**	**96**	*e*PG	**Pg**	**05 56 36.0**	**-0.1**
GEDZ	**Gediz**	**0.32**	**96**	*e*Pg	**Pg**	**05 56 36.0**	**-0.1**
GDZ	**Gediz**	**0.37**	**88**	P	**Pg**	**05 56 37.1**	**0.0**
GDZ				S	**Sg**	**05 56 42.5**	**+0.4**
GDZ	**Gediz**	**0.37**	**88**	*i* P	**Pg**	**05 56 37.1**	**0.0**
GDZ				*i* S	**Sg**	**05 56 42.5**	**+0.4**
TVSB	**Tavsanli**	**0.52**	**44**	*e*PG	**Pg**	**05 56 39.5**	**-0.2**
TVSB				*e*SG	**Sg**	**05 56 46.0**	**-0.6**
TVSB	**Tavsanli**	**0.52**	**44**	*e*Pg	**Pg**	**05 56 39.5**	**-0.2**
TVSB				*e*Sg	**Sg**	**05 56 46.0**	**-0.6**
KULA	**Kula-Manisa**	**0.62**	**205**	*e*PG	**Pb**	**05 56 42.4**	**-0.1**
KULA				*e*SG	**Sb**	**05 56 51.0**	**-0.2**
KULA	**Kula-Manisa**	**0.62**	**205**	*e*Pg	**Pb**	**05 56 42.4**	**-0.1**
KULA				*e*Sg	**Sb**	**05 56 51.0**	**-0.2**
MANT	**Manisa**	**0.68**	**211**	P	**Pg**	**05 56 42.8**	**-0.1**
MANT				S	**Sg**	**05 56 51.8**	**0.0**
MANT	**Manisa**	**0.68**	**211**	*i* P	**Pg**	**05 56 42.8**	**-0.1**
MANT				*i* S	**Sg**	**05 56 51.8**	**0.0**
CAVI	**Cavuskoy**	**1.30**	**30**	*e*PN	**Pg**	**05 56 54.7**	**+0.2**
CAVI	**Cavuskoy**	**1.30**	**30**	*e*Pn	**Pg**	**05 56 54.7**	**+0.2**
IZI	**Iznik**	**1.31**	**16**	*e*PN	**Pg**	**05 56 55.1**	**+0.4**
IZI	**Iznik**	**1.31**	**16**	*e*Pn	**Pg**	**05 56 55.2**	**+0.4**
BORA	**Eskisehir**	**1.38**	**54**	P	**Pn**	**05 56 54.8**	**0.0**
BORA				S	**Sn**	**05 57 13.6**	**+0.5**
BORA	**Eskisehir**	**1.38**	**54**	*i* P	**Pn**	**05 56 54.8**	**0.0**
BORA				*i* S	**Sn**	**05 57 13.7**	**+0.5**
ARMT	**Armutlu**	**1.49**	**356**	*e*PN	**Pg**	**05 56 58.0**	**-0.2**
ARMT	**Armutlu**	**1.49**	**356**	*e*Pn	**Pg**	**05 56 58.0**	**-0.2**

*IDC **28** 06:00:45.5±1.1,19.°55S×66.°39W,h226km±10km,mb3.6/6, mb1 3.6/10,mb1mx3.4/25,mbtmp4.1/10,Error ellipse: s-maj=17.7km s-min=12.9km az=84.0*
*ISCJB **28** 06:00:46.0±0.5,19.°59S±0.°04×66.°77W±0.°05,h266km, mb3.8/6,Error ellipse: s-maj=6.2km s-min=5.8km az=25.7*
*GUC **28** 06:00:48.0±0.6,19.°65S×66.°93W,h250km,ML4.3*

ISC 28 06:00:47.3±0.6,19.°56S±0.°06×66.°86W±0.°07,h266km,n26, σ1s91/32,mb4.1/6,6C-1D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**2.24**	**255**	*i* P	**Pn**	**06 01 34.7**	**+1.0**
PB08				IAML		06 02 11.8	
	comp=N,210nm,0.8s						
MNMC	**Minye Minye**	**2.62**	**279**	*i* P	**Pn**	**06 01 38.2**	**+1.0**
MNMC				IAML		06 02 26.2	
	comp=N,383nm,0.2s						
PB13	**IPOC Station P**	**2.78**	**296**	*e*P	**Pn**	**06 01 41.0**	**+1.8**
PB01	**IPOC Station P**	**2.88**	**239**	*i* P	**Pn**	**06 01 39.6**	**0.0**
PB01				*i* S	**S**	**06 02 20.1**	**-0.9**
PB01				IAML		06 02 21.7	
	comp=N,304nm,0.2s						
HMBC	**Humberstone**	**2.94**	**255**	IAML		06 02 21.4	
	comp=N,598nm,0.7s						
PSGC	**Pisagua**	**3.08**	**269**	*i* P	**Pn**	**06 01 41.6**	**-0.1**
PSGC				*i* S	**S**	**06 02 23.4**	**-1.5**
PSGC				IAML		06 02 23.7	
	comp=N,224nm,0.5s						
PB09	**IPOC Station P**	**3.15**	**225**	*i* P	**Pn**	**06 01 43.5**	**+0.9**
PB09				IAML		06 02 27.9	
	comp=N,635nm,0.4s						
PB12	**IPOC Station P**	**3.42**	**285**	*i* P	**Pn**	**06 01 45.5**	**+0.1**
PB12				*i* S	**S**	**06 02 30.0**	**-1.5**
LPAZ	**La Paz**	**3.47**	**339**	P	**Pn**	**06 01 46.4**	**-0.2**
	comp=N,1.6nm,0.3s,baz=147,slow=8.3,SNR=62						
LPAZ				S	**S**	**06 02 32.2**	**-1.4**
	comp=N,2.2nm,0.3s,baz=278,slow=19,SNR=11						
PB07	**IPOC Station P**	**3.56**	**232**	*i* P	**Pn**	**06 01 47.8**	**+0.8**
PB07				*e*S	**S**	**06 02 32.3**	**-2.2**
PB07				IAML		06 02 35.3	
	comp=N,378nm,0.3s						
LVC	**Limon Verde**	**3.59**	**212**	P	**Pn**	**06 01 48.1**	**+0.6**
	comp=N,218nm,0.3s,baz=42,slow=9.5,SNR=100						
LVC				S	**S**	**06 02 33.2**	**-2.2**
	comp=N,428nm,0.3s,baz=239,slow=20,SNR=24						
SIV	**San Ignacio**	**6.55**	**58**	P	**Pn**	**06 02 19.9**	**-2.8**
	comp=N,4.8nm,0.3s,baz=260,slow=12,SNR=54						
VCA	**Vinchina**	**9.22**	**187**	*e*P	**Pn**	**06 02 54.2**	**-1.8**
TCA	**Tanti**	**11.90**	**171**	*e*P	**Pn**	**06 03 27.0**	**-2.3**
NNA	**Nana**	**12.20**	**307**	P	**P**	**06 03 37.4**	**+2.0**
	comp=N,1.5nm,0.3s,baz=189,slow=13,SNR=3.3						
NNA				S	**S**	**06 05 45.1**	**-4.1**
	comp=N,0.9nm,0.3s,baz=232,slow=20,SNR=2.5						
MRA	**San Martin**	**12.85**	**176**	*e*P	**Pn**	**06 03 38.8**	**-2.1**
PTGA	**Pitinga**	**19.89**	**21**	P	**P**	**06 04 58.0**	**-1.3**
	comp=N,0.4nm,0.3s,baz=187,slow=16,SNR=3.1						
PLCA	**Paso Flores**	**21.34**	**188**	P	**P**	**06 05 15.4**	**+1.5**
	comp=N,1.7nm,0.7s,baz=37,slow=8.8,SNR=7.3						
RCBR	**Riachuelo**	**33.06**	**70**	P	**P**	**06 06 58.4**	**0.0**
	comp=N,6.5nm,0.6s,baz=234,slow=8.0,SNR=10						
TXAR	**Lajitas Array**	**60.20**	**323**	P	**P**	**06 10 29.9**	**+2.2**
	comp=N,0.1nm,0.5s,baz=152,slow=7.8,SNR=2.9						
DBIC	**Dimbokro**	**66.34**	**73**	P	**P**	**06 11 07.3**	**-0.8**
	comp=N,3.5nm,0.9s,baz=224,slow=6.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**74.89**	**70**	P	**P**	**06 11 58.2**	**-1.3**
	comp=N,2.7nm,0.5s,baz=250,slow=5.2,SNR=34						
BOSA	**Boshof**	**82.65**	**118**	P	**P**	**06 12 42.4**	**+0.7**
	comp=N,1.5nm,0.4s,baz=262,slow=2.6,SNR=5.6						
ZALV	**Zalesovo Beam**	**139.39**	**26**	PKP	**PKPdf**	**06 19 44.5**	**+1.9**
	comp=N,0.7nm,0.5s,baz=328,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**142.94**	**36**	PKP	**PKPdf**	**06 19 53.6**	**+4.3**
	comp=N,0.3nm,0.3s,baz=282,slow=2.9,SNR=4.7						
MKAR				SKP		06 23 06.6	
	comp=N,0.2nm,0.4s,baz=267,slow=2.0,SNR=2.7						
SONM	**Songino Array**	**151.27**	**9**	PKPbc	**PKPbc**	**06 20 11.6**	**+2.3**
	comp=N,1.6nm,0.5s,baz=326,slow=1.3,SNR=9.5						

*ISCJB **28** 06:02:49.0±0.8,31.°62S±0.°02×69.°51W±0.°04,h121km±7km, Error ellipse: s-maj=6.3km s-min=3.9km az=13.4*
*SJA **28** 06:02:48.5±1.0,31.°61S×69.°48W,h120km±6km,ML2.6, MW2.9*
*GUC **28** 06:02:48.6±0.5,31.°61S×69.°82W,h141km±10km,ML3.0*

ISC 28 06:02:49.7±1.5,31.°62S±0.°03×69.°53W±0.°05, h115km±11km,n22,σ0s67/39,2C-10D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.27**	**133**	*e*P	**Pn**	**06 03 05.9**	**-0.4**
RTLS				*e*S	**Sn**	**06 03 18.2**	**-0.5**
AUSP	**Uspallata**	**0.62**	**169**	*e*P	**Pn**	**06 03 08.0**	**-0.2**
AUSP				*e*S	**Sn**	**06 03 21.9**	**-0.3**
SJA	**San Juan**	**0.83**	**84**	*e*P	**Pn**	**06 03 09.7**	**0.0**
SJA				*e*S	**Sn**	**06 03 25.2**	**+0.4**
RTCV	**Cerro Valdivia**	**0.88**	**106**	*e*P	**Pn**	**06 03 10.0**	**-0.1**
RTCV				*e*S	**Sn**	**06 03 25.5**	**0.0**
RTLL	**Cerro Villicun**	**0.94**	**73**	*e*P	**Pn**	**06 03 10.4**	**-0.3**
RTLL				*e*S	**Sn**	**06 03 26.3**	**-0.4**
ACCO	**Cerro Coronel**	**1.10**	**21**	*e*P	**Pn**	**06 03 12.6**	**-0.1**
ACCO				*e*S	**Sn**	**06 03 30.7**	**+0.8**
ACCO				IAML		06 03 33.3	
	comp=Z,68nm,0.5s						
ASAL	**Salagasta**	**1.14**	**149**	*e*P	**Pn**	**06 03 12.9**	**+0.1**
ASAL				*e*S	**Sn**	**06 03 30.6**	**+0.4**
ARCO	**CERRO ARCO**	**1.32**	**158**	*e*P	**Pn**	**06 03 15.1**	**+0.2**
ARCO				*e*S	**Sn**	**06 03 34.2**	**+0.2**
ARCO				IAML		06 03 37.4	
	comp=Z,186nm,0.3s						
AROD	**Rodeo**	**1.45**	**2**	*e*P	**Pn**	**06 03 17.1**	**+0.6**
AROD				*e*S	**Sn**	**06 03 38.1**	**+1.3**
ACDV	**Cuesta del Vie**	**1.48**	**14**	*e*P	**Pn**	**06 03 17.2**	**+0.5**
ACDV				*e*S	**Sn**	**06 03 37.4**	**+0.1**
AAGR	**Agrelo**	**1.58**	**158**	*e*P	**Pn**	**06 03 17.8**	**0.0**
AAGR				*e*S	**Sn**	**06 03 39.4**	**+0.2**
PEL	**Peldehue**	**1.81**	**212**	*i* P	**Pn**	**06 03 20.1**	**-0.5**
PEL				*i* S	**Sn**	**06 03 43.9**	**-0.3**
PEL				IAML		06 03 44.4	
	comp=E,122nm,0.8s						
TLL	**Tololo Astrono**	**1.81**	**322**	*i* P	**Pn**	**06 03 20.3**	**-0.5**
TLL				*i* S	**Sn**	**06 03 44.4**	**-0.1**
TLL				IAML		06 03 46.8	
	comp=N,75nm,0.3s						
FCH	**Farellones**	**1.82**	**201**	*

SRKR	Sorokina	3.18	308	eP	Pn	06 09 54.7	+3.1
SRKR				eS	Sb	06 10 33.5	-3.4
KMNR	Kamenistaya	3.28	290	eP	Pb	06 09 57.4	-2.8
NLC	Nalytchevo	4.09	249	eP	Pn	06 10 07.8	+3.8
NLC				eS	Sn	06 10 54.6	+3.5
SDLR	Sedlovina	4.29	252	eP	Pn	06 10 11.6	+4.6
SDLR				eS	Sn	06 11 00.8	+4.3
SMAR	Somma	4.35	252	eP	Pn	06 10 12.8	+5.0
UGLR	Uglovaya	4.36	252	eP	Pn	06 10 12.6	+4.8
UGLR				eS	Sn	06 11 01.7	+3.7
KRER	Koryakskii	4.36	253	eP	Pn	06 10 12.6	+4.7
KRER				eS	Sn	06 11 02.2	+4.0
AVH	Avacha	4.38	253	eP	Pn	06 10 13.3	+5.2
AVH				eS	Sn	06 11 02.9	+4.4
KRX	Arik	4.39	254	eP	Pn	06 10 13.6	+5.2
KRX				eS	Sn	06 11 03.1	+4.1
DALK	Dalny	4.47	250	eS	Sn	06 11 04.7	+4.1
GNL	Ganaly	4.68	260	eP	Pn	06 10 18.0	+5.7
GNL				eS	Sn	06 11 11.6	+5.6
RUS	Russkaya	4.88	244	eP	Pn	06 10 18.7	+3.7
KRMR	Karymshinskiy	4.90	250	eS	Sn	06 11 16.0	+4.9

CSEM ***28*** *06:19:35.6, 37.°28N×38.°63E, h5km, ML2.4*
ISK ***28*** *06:19:35.6, 37.°28N×38.°63E, h5km, ML2.4*
ISCJB ***28*** *06:19:36.6±0.9, 37.°31N±0.°04×38.°62E±0.°05, h9km±6km, Error ellipse: s-maj=7.8km s-min=5.4km az=145.5*
NSSC ***28*** *06:19:38.5±1.4, 36.°74N×38.°92E, h23km±17km, ML2.0*

ISC 28 06:19:36.2±0.9,**37.°27N**±0.°03×**38.°67E**±0.°03,**h13**km±7km, **n17**,σ1°**07**/**28**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.21**	**35**	*e*PG	**Pg**	**06 19 40.3**	**-0.5**
URFA				*e*SG	**Sg**	**06 19 44.3**	**+0.3**
URFA	**Urfa**	**0.21**	**35**	*e*Pg	**Pg**	**06 19 40.3**	**-0.5**
URFA				*e*Sg	**Sg**	**06 19 44.3**	**+0.3**
GAZ	**Gaziantep**	**1.17**	**266**	*e*PN	**Pb**	**06 19 57.7**	**-0.6**
GAZ				*e*SN	**Sn**	**06 20 14.1**	**0.0**
GAZ	**Gaziantep**	**1.17**	**266**	*e*Pn	**Pb**	**06 19 57.7**	**-0.6**
GAZ				*e*Sn	**Sn**	**06 20 14.1**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.22**	**24**	*e*PN	**Pn**	**06 19 59.6**	**+0.6**
SVRC				*e*SN	**Sn**	**06 20 16.0**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.22**	**24**	*e*Pn	**Pn**	**06 19 59.6**	**+0.6**
SVRC				*e*Sn	**Sn**	**06 20 16.0**	**+0.5**
MAZI	**Mazidag**	**1.43**	**82**	*e*PN	**Pb**	**06 20 03.2**	**+0.5**
MAZI				*e*SN	**Sg**	**06 20 23.3**	**+1.1**
MAZI	**Mazidag**	**1.43**	**82**	*e*Pn	**Pb**	**06 20 03.3**	**+0.5**
MAZI				*e*Sn	**Sg**	**06 20 23.3**	**+1.1**
KSRV	**Kasrt alli**	**1.43**	**169**	*e*P	**Pg**	**06 20 04.7**	**+1.1**
KSRV				*e*S	**Sg**	**06 20 22.4**	**+0.2**
KSRV				AML	AML	06 20 28.8	
	comp=Z,31nm,0.3s						
KBSD	**Kabsdagh**	**1.52**	**100**	*e*P	**Pn**	**06 20 01.5**	**-1.6**
KBSD				*e*S	**Sn**	**06 20 19.2**	**-3.6**
KBSD				AML	AML	06 20 27.9	
	comp=Z,58nm,0.4s						
DARE	**Darende-Malaty**	**1.60**	**324**	*e*PN	**Pb**	**06 20 05.2**	**-0.5**
DARE	**Darende-Malaty**	**1.60**	**324**	*e*Pn	**Pb**	**06 20 05.2**	**-0.5**
PTK	**Pertek**	**1.72**	**19**	*e*PN	**Pn**	**06 20 06.7**	**+0.7**
PTK	**Pertek**	**1.72**	**19**	*e*Pn	**Pn**	**06 20 06.7**	**+0.7**
DRWC	**Darouich**	**1.73**	**249**	*e*P	**Pg**	**06 20 08.5**	**-0.9**
DRWC				*e*S	**Sb**	**06 20 29.6**	**0.0**
DRWC				AML	AML	06 20 37.1	
	comp=N,16nm,0.3s						
DRWC				AML	AML	06 20 41.8	
	comp=E,11nm,0.4s						
MZRK	**Al-Mazaregh**	**2.15**	**131**	*e*P	Pn	06 20 05.9	-5.9
MZRK				*e*S	Sn	06 20 26.5	-12
MZRK				AML	AML	06 20 42.9	
	comp=Z,18nm,0.4s						
BTCH	**Batrach**	**2.16**	**236**	*e*P	**Pn**	**06 20 13.4**	**+1.5**
BTCH				*e*S	**Sn**	**06 20 38.1**	**-0.6**
BTCH				AML	AML	06 20 52.7	
	comp=N,47nm,0.6s						
BTCH				AML	AML	06 20 53.9	
	comp=E,38nm,0.4s						

ISCJB ***28*** *06:20:53.9±0.6, 39.°09N±0.°05×29.°05E±0.°05, h4km±8km, Error ellipse: s-maj=9.7km s-min=4.8km az=152.7*
DDA ***28*** *06:20:53.8, 39.°09N×29.°06E, h7km, Md2.6*
ISK ***28*** *06:20:54.4, 39.°18N×29.°08E, h2km, MD2.7*
CSEM ***28*** *06:20:54.0±0.2, 39.°08N×29.°04E, h5km, MD2.6, Error ellipse: s-maj=6.9km s-min=4.0km az=136.0*

ISC 28 06:20:54.0±0.9,**39.°08N**±0.°03×**29.°05E**±0.°03,**h12**km±10km, **n22**,σ0°**31**/**32**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**261**	P	**Pg**	**06 20 59.5**	**0.0**
DEMI				S	**Sg**	**06 21 03.4**	**+0.2**
DEMI	**Demirci**	**0.26**	**261**	*i* P	**Pg**	**06 20 59.5**	**0.0**
DEMI				*i* S	**Sg**	**06 21 03.4**	**+0.2**
GDZ	**Gediz**	**0.34**	**89**	P	**Pg**	**06 21 00.8**	**0.0**
GDZ				S	**Sg**	**06 21 05.7**	**+0.3**
GDZ	**Gediz**	**0.34**	**89**	*i* P	**Pg**	**06 21 00.8**	**0.0**
GDZ				*i* S	**Sg**	**06 21 05.7**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**41**	*e*PG	**Pg**	**06 21 03.0**	**-0.6**
TVSB				*e*SG	**Sg**	**06 21 09.5**	**-0.6**
TVSB	**Tavsanli**	**0.49**	**41**	*e*Pg	**Pg**	**06 21 03.0**	**-0.6**
TVSB				*e*Sg	**Sg**	**06 21 09.5**	**-0.6**
MANT	**Manisa**	**0.71**	**213**	P	**Pg**	**06 21 07.4**	**-0.4**
MANT				S	**Sg**	**06 21 16.8**	**-0.3**
MANT	**Manisa**	**0.71**	**213**	*i* P	**Pg**	**06 21 07.4**	**-0.4**
MANT				*i* S	**Sg**	**06 21 16.8**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*PN	**Pn**	**06 21 17.6**	**-0.1**
CAVI				*e*SN	**Sg**	**06 21 35.1**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*Pn	**Pn**	**06 21 17.6**	**-0.1**
CAVI				*e*Sn	**Sg**	**06 21 35.1**	**0.0**
IZI	**Iznik**	**1.29**	**14**	*e*PN	**Pg**	**06 21 19.0**	**+0.1**
IZI	**Iznik**	**1.29**	**14**	*e*Pn	**Pg**	**06 21 19.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*PN	**Pn**	**06 21 18.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*Pn	**Pn**	**06 21 18.1**	**+0.1**
ADVT	**Abdulvahap**	**1.45**	**21**	*e*PN	**Pg**	**06 21 22.1**	**+0.2**
ADVT	**Abdulvahap**	**1.45**	**21**	*e*Pn	**Pg**	**06 21 22.1**	**+0.2**
ESKT	**Eskisehir**	**1.46**	**72**	*e*PN	**Pb**	**06 21 21.8**	**+0.5**
ESKT	**Eskisehir**	**1.46**	**72**	*e*Pn	**Pb**	**06 21 21.8**	**+0.5**
ARMT	**Armutlu**	**1.49**	**354**	*e*PN	**Pb**	**06 21 21.7**	**+0.1**
ARMT	**Armutlu**	**1.49**	**354**	*e*Pn	**Pb**	**06 21 21.7**	**+0.1**
GULT	**Gulveren**	**1.76**	**40**	*e*PN	**Pb**	**06 21 26.2**	**-0.1**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn	**Pb**	**06 21 26.2**	**-0.1**

ISCJB ***28*** *06:25:37.8±0.4, 39.°09N±0.°03×29.°00E±0.°03, h9km±6km, Error ellipse: s-maj=5.6km s-min=3.8km az=159.8*
DDA ***28*** *06:25:37.6, 39.°09N×29.°02E, h7km, Md2.7*
ISK ***28*** *06:25:37.4, 39.°11N×29.°00E, h5km, ML2.6*
CSEM ***28*** *06:25:37.9±0.1, 39.°09N×29.°01E, h8km, MD2.7, Error ellipse: s-maj=3.0km s-min=2.4km az=144.0*

ISC 28 06:25:37.8±0.9,**39.°09N**±0.°03×**29.°02E**±0.°02,**h14**km±8km, **n32**,σ0°**36**/**46**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**259**	P	**Pg**	**06 25 42.9**	**-0.1**
DEMI				S	**Sg**	**06 25 46.6**	**0.0**
DEMI	**Demirci**	**0.24**	**259**	*i* P	**Pg**	**06 25 42.9**	**-0.1**
DEMI				*i* S	**Sg**	**06 25 46.6**	**0.0**
GEDZ	**Gediz**	**0.31**	**98**	*e*PG	**Pg**	**06 25 44.5**	**+0.2**
GEDZ				*e*SG	**Sb**	**06 25 49.8**	**-0.4**
GEDZ	**Gediz**	**0.31**	**98**	*e*Pg	**Pg**	**06 25 44.5**	**+0.2**
GEDZ				*e*Sg	**Sb**	**06 25 49.8**	**-0.4**
GDZ	**Gediz**	**0.36**	**90**	P	**Pg**	**06 25 45.0**	**-0.2**
GDZ				S	**Sg**	**06 25 50.3**	**+0.1**
GDZ	**Gediz**	**0.36**	**90**	*i* P	**Pg**	**06 25 45.0**	**-0.2**
GDZ				*i* S	**Sg**	**06 25 50.3**	**+0.1**
TVSB	**Tavsanli**	**0.50**	**43**	*e*PG	**Pg**	**06 25 47.4**	**-0.3**
TVSB				*e*SG	**Sg**	**06 25 54.0**	**-0.5**
TVSB	**Tavsanli**	**0.50**	**43**	*e*Pg	**Pg**	**06 25 47.4**	**-0.3**
TVSB				*e*Sg	**Sg**	**06 25 54.0**	**-0.5**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*PG	**Pb**	**06 25 50.9**	**+0.1**
KULA				*e*SG	**Sg**	**06 25 59.0**	**+0.4**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*Pg	**Pb**	**06 25 50.9**	**+0.1**
KULA				*e*Sg	**Sg**	**06 25 59.1**	**+0.4**
MANT	**Manisa**	**0.69**	**211**	P	**Pg**	**06 25 51.0**	**-0.4**
MANT				S	**Sg**	**06 25 59.8**	**-0.8**
MANT	**Manisa**	**0.69**	**211**	*i* P	**Pg**	**06 25 51.0**	**-0.4**
MANT				*i* S	**Sg**	**06 25 59.8**	**-0.8**
KHL	**Karahalli**	**0.86**	**152**	*e*PG	**Pb**	**06 25 55.0**	**+0.4**
KHL	**Karahalli**	**0.86**	**152**	*e*Pg	**Pb**	**06 25 55.0**	**+0.4**
AKS	**Akhisar**	**0.96**	**258**	*e*PG	**Pb**	**06 25 56.2**	**-0.1**
AKS	**Akhisar**	**0.96**	**258**	*e*Pg	**Pb**	**06 25 56.2**	**-0.1**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pn**	**06 25 58.5**	**+0.4**
BALB				*e*SG	**Sg**	**06 26 12.1**	**+0.6**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pn**	**06 25 58.5**	**+0.4**
BALB				*e*Sg	**Sg**	**06 26 12.1**	**+0.6**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*PN	**Pn**	**06 26 01.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*Pn	**Pn**	**06 26 01.6**	**+0.2**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*PN	**Pb**	**06 26 01.8**	**0.0**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*Pn	**Pb**	**06 26 01.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*PN	**Pn**	**06 26 01.6**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pn**	**06 26 01.6**	**+0.2**
IZI	**Iznik**	**1.30**	**16**	*e*PN	**Pg**	**06 26 02.7**	**-0.1**
IZI	**Iznik**	**1.30**	**16**	*e*Pn	**Pg**	**06 26 02.7**	**-0.1**
ARMT	**Armutlu**	**1.48**	**355**	*e*PN	**Pn**	**06 26 04.7**	**+0.5**
ARMT	**Armutlu**	**1.48**	**355**	*e*Pn	**Pn**	**06 26 04.7**	**+0.5**
ESKT	**Eskisehir**	**1.49**	**73**	*e*PN	**Pb**	**06 26 05.5**	**+0.2**
ESKT	**Eskisehir**	**1.49**	**73**	*e*Pn	**Pb**	**06 26 05.5**	**+0.2**
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pb**	**06 26 10.1**	**-0.1**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pb**	**06 26 10.1**	**-0.1**

IDC 28 06:27:11.1±11.0,**17.°27S×176.°86W**,**h0**km,**mb3.8**/3, **mb1 4.1**/3,**mb1mx3.7**/29,**mbtmp3.8**/3,**MS3.8**/3,**Ms1 3.8**/3, **ms1mx3.3**/49,**Error ellipse: s-maj=509.9km s-min=35.9km az=142.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.93**	**56**	LR	LR	06 30 28.6	
	comp=Z,437nm,21.6s,baz=240,slow=33						
DZM	**Mont Dzumac**	**16.43**	**250**	LR	LR	06 36 23.7	
	comp=Z,336nm,19.4s,baz=50,slow=34						
WRA	**Warramunga Arr**	**46.20**	**259**	P	P	06 35 38.1	-0.1
	0.4nm,0.8s,baz=87,slow=6.5,SNR=3.4						
ASAR	**Alice Springs**	**46.39**	**254**	P	P	06 35 39.1	-0.5
	2.0nm,0.8s,baz=87,slow=8.2,SNR=14						
ASAR				LR	LR	06 55 52.6	
	comp=Z,230nm,18.1s,baz=109,slow=37						
ILAR	**Eielson Array**	**84.95**	**12**	P	P	06 39 47.1	-0.6
	1.3nm,1.0s,baz=224,slow=7.1,SNR=5.3						
BRTR	**Keskin Array B**	**145.36**	**316**	PKPbc	PKPdf	06 46 51.7	+0.3
	1.1nm,0.8s,baz=135,slow=0.6,SNR=4.1						

IDC 28 06:28:55.8±2.1,**16.°79S×177.°35W**,**h0**km,**mb3.9**/4, **mb1 4.3**/4,**mb1mx3.9**/31,**mbtmp3.9**/4,**MS3.7**/6,**Ms1 3.7**/6, **ms1mx3.4**/50,**Error ellipse: s-maj=127.8km s-min=28.3km az=152.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**12.42**	**182**	LR	LR	06 35 50.0	
	comp=Z,405nm,20.1s,baz=322,slow=33						
RAR	**Rarotonga**	**17.20**	**108**	LR	LR	06 37 36.7	
	comp=Z,242nm,20.9s,baz=282,slow=30						
URZ	**Urewera**	**21.94**	**192**	LR	LR	06 40 57.9	
	comp=Z,312nm,19.0s,baz=31,slow=33						
HNR	**Honiara**	**23.27**	**285**	LR	LR	06 40 43.0	
	comp=Z,88nm,21.3s,baz=120,slow=30						
PPT	**Papeete**	**26.54**	**96**	LR	LR	06 42 04.2	
	comp=Z,56nm,21.4s,baz=307,slow=30						
RPZ	**Rata Peaks**	**28.59**	**198**	LR	LR	06 45 11.6	
	comp=Z,459nm,20.9s,baz=32,slow=34						
WRA	**Warramunga Arr**	**45.84**	**258**	P	P	06 37 20.8	+0.7
	1.1nm,1.2s,baz=96,slow=6.6,SNR=2.7						
ASAR	**Alice Springs**	**46.07**	**253**	P	P	06 37 21.1	-0.9
	2.2nm,0.8s,baz=88,slow=7.8,SNR=7.2						
TXAR	**Lajitas Array**	**84.55**	**57**	P	P	06 41 31.9	+0.5
	1.8nm,1.0s,baz=224,slow=6.3,SNR=5.3						
ILAR	**Eielson Array**	**84.58**	**13**	P	P	06 41 30.2	-0.3
	1.8nm,1.0s,baz=220,slow=5.5,SNR=7.7						
BRTR	**Keskin Array B**	**144.69**	**317**	PKP	PKPbc	06 48 33.9	+0.1
	2.0nm,1.0s,baz=347,slow=4.6,SNR=3.3						

ISCJB ***28*** *06:30:53.7±0.3, 31.°15S±0.°03×68.°47W±0.°04, h112km±3km, mb3.9/6, Error ellipse: s-maj=5.8km s-min=4.1km az=7.3*
NEIC ***28*** *06:30:53.3±0.7, 31.°19S×68.°33W, h96km±6km, mb4.1/2, MD4.4(SJA), Error ellipse: s-maj=11.6km s-min=7.2km az=81.0*
NEIC Felt [III] at San Juan.
IDC ***28*** *06:30:53.3±2.6, 31.°21S×68.°49W, h96km±23km, mb3.8/4, mb1 3.9/8, mb1mx3.7/27, mbtmp4.1/8, Error ellipse: s-maj=33.2km s-min=19.3km az=87.0*
SJA ***28*** *06:30:53.8±0.7, 31.°17S×68.°48W, h103km±3km, ML4.4, MW4.2*
GUC ***28*** *06:30:54.4±0.4, 31.°11S×68.°72W, h146km±30km, ML4.3*

ISC 28 06:30:53.7±0.7,**31.°07S**±0.°04×**68.°45W**±0.°04,**h102**km±6km, **n43**,σ1°**41**/**63**,**mb3.8**/6,**1C**,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.26**	**186**	*e*P	**Pn**	**06 31 09.0**	**+0.5**
RTLL				*e*S	**Sn**	**06 31 20.1**	**+0.6**
SJA	**San Juan**	**0.47**	**192**	*e*P	**Pn**	**06 31 10.2**	**+0.5**
SJA				IAML		06 31 10.2	
	comp=Z,27μm,0.1s						
ACCO	**Cerro Coronel**	**0.72**	**312**	*e*P	**Pn**	**06 31 13.8**	**+1.8**
ACCO				*e*S	**Sn**	**06 31 28.2**	**+2.7**
ACCO				IAML		06 31 30.2	
	comp=Z,4μm,0.3s						
RTCV	**Cerro Valdivia**	**0.80**	**186**	*e*P	**Pn**	**06 31 12.2**	**-0.2**
AVFE	**Valle Fertil**	**0.94**	**65**	*e*P	**Pn**	**06 31 15.9**	**+2.1**
AVFE				*e*S	**Sn**	**06 31 31.7**	**+2.7**
AVFE				IAML		06 31 33.9	
	comp=Z,4μm,0.5s						
RTLS	**Leoncito**	**1.03**	**225**	*e*P	**Pn**	**06 31 15.3**	**+0.3**
ACDV	**Cuesta del Vie**	**1.07**	**327**	*e*P	**Pn**	**06 31 17.8**	**+2.5**
AUSP	**Uspallata**	**1.40**	**215**	*e*P	**Pn**	**06 31 19.5**	**+0.2**
AUSP				*e*S	**Sn**	**06 31 38.5**	**-0.1**
ACHE	**Chepes**	**1.53**	**94**	*e*P	**Pn**	**06 31 22.1**	**+1.5**
ASAL	**Salagasta**	**1.55**	**192**	*e*P	**Pn**	**06 31 20.9**	**0.0**
ASAL				*e*S	**Sn**	**06 31 40.5**	**-0.9**
ACAN	**Cantantal**	**1.61**	**139**	*e*P	**Pn**	**06 31 22.3**	**+0.8**
ARCO	**CERRO ARCO**	**1.81**	**193**	*i* P	**Pn**	**06 31 24.1**	**-0.1**
ARCO				*i* S	**Sn**	**06 31 46.7**	**-0.7**
ARCO				IAML		06 31 48.4	
	comp=Z,2μm,0.3s						
AAGR	**Agrelo**	**2.04**	**189**	*e*P	**Pn**	**06 31 26.9**	**-0.1**
TLL	**Tololo Astrono**	**2.22**	**293**	*i* P	**Pn**	**06 31 30.9**	**+1.3**
TLL				*i* S	**Sn**	**06 31 58.2**	**+1.3**
TLL				IAML		06 32 04.2	
	comp=N,2μm,0.5s						
MRA	**San Martin**	**2.69**	**121**	*e*P	**Pn**	**06 31 36.0**	**+0.6**
FCH	**Farellones**	**2.74**	**214**	*i* P	**Pn**	**06 31 37.6**	**+1.2**
FCH				*i* S	**Sn**	**06 32 10.6**	**+1.5**
FCH				IAML		06 32 11.6	
	comp=E,637nm,0.2s						
PEL	**Peldehue**	**2.81**	**222**	*e*P	**Pn**	**06 31 36.8**	**-0.3**
PEL				*e*S	**Sn**	**06 32 09.1**	**-1.3**
PEL				IAML		06 32 11.1	
	comp=E,833nm,0.3s						
LCO	**Las Campanas**	**2.83**	**316**	*i* P	**Pn**	**06 31 39.2**	**+1.6**
LCO				*i* S	**Sn**	**06 32 12.8**	**+1.5**
LCO				IAML		06 32 18.4	
	comp=E,481nm,0.3s						
LCO	**Las Campanas**	**2.83**	**316**	*e*Pn	**Pn**	**06 31 39.2**	**+1.6**
CLCH	**Cerro Calan**	**2.92**	**217**	*i* P	**Pn**	**06 31 39.0**	**+0.4**
CLCH				*e*S	**Sn**	**06 32 11.8**	**-1.2**
CLCH				IAML		06 32 15.0	
	comp=E,2μm,0.4s						
FSR	**Penalolen**	**2.98**	**216**	*i* P	**Pn**	**06 31 39.7**	**+0.4**
FSR				*i* P	**Pn**	**06 31 39.9**	**+0.6**
FSR				*i* S	**Sn**	**06 32 14.1**	**-0.3**
FSR				*i* S	**Sn**	**06 32 14.3**	**-0.2**
STL	**Santa Lucia**	**3.00**	**218**	*e*P	**Pn**	**06 31 39.8**	**+0.2**
STL				*e*S	**Sn**	**06 32 14.2**	**-0.8**
VACH	**Vallenar**	**3.20**	**320**	*i* P	**Pn**	**06 31 43.0**	**+0.8**
VACH				*i* S	**Sn**	**06 32 20.2**	**+0.6**
CPCH	**Copiapo**	**4.06**	**335**	*i* P	**Pn**	**06 31 54.5**	**+0.7**
CPCH				*e*S	**Sn**	**06 32 38.9**	**-1.4**
LVC	**Limon Verde**	**8.44**	**357**	P	**Pn**	**06 32 53.9**	**+0.3**
	comp=E,52nm,0.3s,baz=193,slow=11,SNR=12						
LVC				S	**Sn**	**06 34 22.8**	**-4.4**
	comp=E,43nm,0.3s,baz=190,slow=4.4,SNR=3.1						
LVC	**Limon Verde**	**8.44**	**357**	P	**Pn**	**06 32 53.9**	**+0.3**
LVC				*e*Pn	Pn	06 32 53.9	+0.4
LVC				S	**Sn**	**06 34 22.8**	**-4.4**
TRQA	**Tornquist**	**8.77**	**144**	*e*Pn	**Pn**	**06 32 55.7**	**-2.0**
	comp=E,27nm,0.6s						
PLCA	**Paso Flores**	**9.79**	**189**	P	**Pn**	**06 33 09.9**	**-1.7**
	comp=E,0.2nm,0.3s,baz=23,slow=12,SNR=6.2						
CPUP	**Villa Florida**	**10.84**	**67**	P	**Pn**	**06 33 23.4**	**-2.4**
	comp=E,0.4nm,0.3s,baz=235,slow=12,SNR=9.6						
LPAZ	**La Paz**	**14.72**	**1**	P	**P**	**06 34 20.1**	**-0.7**
	comp=E,0.3nm,0.3s,baz=181,slow=7.9,SNR=19						
SIV	**San Ignacio**	**16.45**	**26**	P	**P**	**06 34 40.0**	**+0.5**
	comp=E,0.2nm,0.3s,baz=227,slow=12,SNR=10						
SAML	**Samuel**	**22.55**	**14**	*e*P	**P**	**06 35 46.8**	**+1.4**
	comp=E,3.9nm,0.9s						
TXAR	**Lajitas Array**	**68.79**	**327**	P	**P**	**06 41 48.3**	**+1.3**
	comp=E,0.7nm,0.6s,baz=155,slow=8.9,SNR=11						
MAW	**Mawson**	**75.09**	**163**	P	**P**	**06 42 23.8**	**-0.2**
	comp=E,1.1nm,0.6s,baz=230,slow=7.9,SNR=6.6						
SMCO	**Snowmass**	**78.54**	**330**	*e*P	**P**	**06 42 45.0**	**+0.7**
	comp=E,3.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.33**	**68**	P	**P**	**06 42 54.5**	**+0.5**
	comp=E,3.9nm,0.6s,baz=278,slow=6.7,SNR=49						
PDAR	**Pinedale Array**	**82.61**	**331**	P	**P**	**06 43 05.9**	**+0.2**
	comp=E,0.2nm,0.3s,baz=128,slow=5.8,SNR=3.7						
WRA	**Warramunga Arr**	**124.76**	**206**	PKP	**PKPdf**	**06 49 41.0**	**-1.2**
	comp=E,1.0nm,0.6s,baz=162,slow=1.8,SNR=26						
AAK	**Ala-Archa**	**148.41**	**58**	PKPbc	**PKPbc**	**06 50 29.7**	**+1.2**
	comp=E,3.7nm,0.5s,baz=233,slow=4.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**148.66**	**42**	PKPbc	**PKPbc**	**06 50 29.0**	**+0.5**
	comp=E,1.6nm,0.7s,baz=299,slow=3.4,SNR=13						
KURK	**Kurchatov**	**148.68**	**42**	PKPbc	**PKPbc**	**06 50 29.0**	**+0.4**
ZALV	**Zalesovo Beam**	**150.13**	**32**	PKPbc	**PKPbc**	**06 50 32.1**	**+0.1**
	comp=E,3.8nm,0.4s,baz=297,slow=2.8,SNR=16						
MKAR	**Makanchi Array**	**152.55**	**47**	PKPbc	**PKPbc**	**06 50 38.0**	**+0.1**
	comp=E,1.7nm,0.7s,baz=289,slow=2.3,SNR=15						
MKAR				PKPab	**PKPab**	**06 50 49.5**	**+0.7**
	comp=E,1.5nm,0.6s,baz=283,slow=4.2,SNR=11						

ISCJB ***28*** *06:31:33.5±0.4, 39.°10N±0.°03×28.°99E±0.°03, h3km±6km, Error ellipse: s-maj=4.9km s-min=3.4km az=168.4*
CSEM ***28*** *06:31:33.9±0.1, 39.°10N×28.°99E, h5km, ML3.2, Error ellipse: s-maj=2.8km s-min=2.2km az=156.0*
ISK ***28*** *06:31:33.4, 39.°12N×28.°98E, h5km, ML3.0*
DDA ***28*** *06:31:33.5, 39.°10N×29.°01E, h7km, Ml3.2*

ISC 28 06:31:33.9±0.9,**39.°11N**±0.°02×**28.°99E**±0.°02,**h9**km±8km, **n52**,σ0°**58**/**71**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.22**	**252**	P	**Pg**	**06 31 38.5**	**0.0**
DEMI				S	**Sg**	**06 31 41.8**	**+0.2**
DEMI	**Demirci**	**0.22**	**252**	*i* P	**Pg**	**06 31 38.5**	**0.0**
DEMI				*i* S	**Sg**	**06 31 41.8**	**+0.2**
GEDZ	**Gediz**	**0.34**	**101**	*e*PG	**Pg**	**06 31 40.4**	**-0.2**
GEDZ				*e*SG	**Sg**	**06 31 45.8**	**+0.8**
GEDZ	**Gediz**	**0.34**	**101**	*e*Pg	**Pg**	**06 31 40.4**	**-0.2**
GEDZ				*e*Sg	**Sg**	**06 31 45.8**	**+0.8**
GDZ	**Gediz**	**0.38**	**93**	P	**Pg**	**06 31 40.8**	**-0.7**
GDZ				S	**Sg**	**06 31 46.4**	**-0.2**
GDZ	**Gediz**	**0.38**	**93**	*i* P	**Pg**	**06 31 40.8**	**-0.7**
GDZ				*i* S	**Sg**	**06 31 46.4**	**-0.2**
TVSB	**Tavsanli**	**0.50**	**47**	*e*PG	**Pg**	**06 31 43.3**	**-0.3**
TVSB				*e*SG	**Sg**	**06 31 50.3**	**+0.1**
TVSB	**Tavsanli**	**0.50**	**47**	*e*Pg	**Pg**	**06 31 43.3**	**-0.3**
TVSB				*e*Sg	**Sg**	**06 31 50.3**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*PG	**Pg**	**06

TXAR	**Lajitas Array**	**68.84**	**327**	P		**P**	**06 46 18.0**	**+1.3**
	comp=E,0.2nm,0.6s,baz=153,slow=8.1,SNR=3.2							
DBIC	**Dimbokro**	**71.40**	**70**	P		**P**	**06 46 31.1**	**-1.4**
	comp=E,4.7nm,0.9s,baz=214,slow=7.3,SNR=3.0							
TORD	**Torodi Ar. Bea**	**80.39**	**68**	P		**P**	**06 47 24.0**	**+0.4**
	comp=E,0.5nm,0.6s,baz=262,slow=5.9,SNR=5.8							
WRA	**Warramunga Arr**	**124.68**	**206**	PKP		**PKPdf**	**06 54 10.3**	**-1.0**
	comp=E,0.3nm,0.5s,baz=166,slow=1.7,SNR=6.5							
ZALV	**Zalesovo Beam**	**150.21**	**32**	PKPbc		**PKPbc**	**06 55 02.0**	**+0.4**
	comp=E,1.1nm,0.6s,baz=320,slow=5.4,SNR=4.2							
MKAR	**Makanchi Array**	**152.62**	**47**	PKPbc		**PKPbc**	**06 55 07.2**	**-0.2**
	comp=E,0.2nm,0.6s,baz=308,slow=3.5,SNR=2.4							
MKAR				PKPab		**PKPab**	**06 55 18.8**	**+0.4**
	comp=E,0.3nm,0.5s,baz=318,slow=3.9,SNR=3.5							

CSEM ***28*** *06:48:24.5±0.1, 39.˚13N×29.˚10E, h2km, ML3.4, Error ellipse: s-maj=2.8km s-min=2.3km az=134.0*
ISK ***28*** *06:48:24.0, 39.˚11N×29.˚10E, h5km, ML3.4*
DDA ***28*** *06:48:24.3, 39.˚15N×29.˚12E, h7km, Ml3.5*
ISC 28 06:48:24.6±1.0, 39.˚13N±0.˚02×29.˚10E±0.˚02, h4km±10km, n61, σ059/84, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.26**	**110**	*e*PG	**Pg**	**06 48 29.6**	**+0.1**
GEDZ				*e*SG	**Sg**	**06 48 33.8**	**+0.9**
GEDZ	**Gediz**	**0.26**	**110**	*e*Pg	**Pg**	**06 48 29.6**	**+0.1**
GEDZ				*e*Sg	**Sg**	**06 48 33.8**	**+0.9**
GDZ	**Gediz**	**0.30**	**98**	P	**Pg**	**06 48 30.4**	**0.0**
GDZ				S	**Sg**	**06 48 34.6**	**+0.3**
GDZ	**Gediz**	**0.30**	**98**	*i* P	**Pg**	**06 48 30.4**	**0.0**
GDZ				*i* S	**Sg**	**06 48 34.6**	**+0.3**
DEMI	**Demirci**	**0.32**	**254**	P	**Pg**	**06 48 31.2**	**+0.5**
DEMI				S	**Sg**	**06 48 35.5**	**+0.7**
DEMI	**Demirci**	**0.32**	**254**	*i* P	**Pg**	**06 48 31.2**	**+0.5**
DEMI				*i* S	**Sg**	**06 48 35.5**	**+0.7**
TVSB	**Tavsanli**	**0.42**	**41**	*e*PG	**Pg**	**06 48 32.8**	**0.0**
TVSB				*e*SG	**Sg**	**06 48 38.9**	**+0.6**
TVSB	**Tavsanli**	**0.42**	**41**	*e*Pg	**Pg**	**06 48 32.8**	**0.0**
TVSB				*e*Sg	**Sg**	**06 48 38.9**	**+0.6**
KULA	**Kula-Manisa**	**0.71**	**209**	*e*PG	**Pg**	**06 48 37.4**	**-0.8**
KULA				*e*SG	**Sg**	**06 48 47.1**	**-0.3**
KULA	**Kula-Manisa**	**0.71**	**209**	*e*Pg	**Pg**	**06 48 37.4**	**-0.8**
KULA				*e*Sg	**Sg**	**06 48 47.1**	**-0.3**
MANT	**Manisa**	**0.77**	**214**	P	**Pg**	**06 48 38.4**	**-1.0**
MANT				S	**Sg**	**06 48 48.2**	**-1.2**
MANT	**Manisa**	**0.77**	**214**	*i* P	**Pg**	**06 48 38.4**	**-1.0**
MANT				*i* S	**Sg**	**06 48 48.2**	**-1.2**
KHL	**Karahalli**	**0.87**	**158**	*e*PG	**Pg**	**06 48 40.8**	**-0.5**
KHL	**Karahalli**	**0.87**	**158**	*e*Pg	**Pg**	**06 48 40.8**	**-0.5**
AKS	**Akhisar**	**1.04**	**256**	*e*PG	**Pb**	**06 48 44.8**	**-0.3**
AKS	**Akhisar**	**1.04**	**256**	*e*Pg	**Pb**	**06 48 44.8**	**-0.3**
BALB	**Balikesir**	**1.07**	**298**	*e*PN	**Pg**	**06 48 45.1**	**-0.1**
BALB	**Balikesir**	**1.07**	**298**	*e*Pn	**Pg**	**06 48 45.1**	**-0.1**
IGD	**Bursa**	**1.13**	**4**	*i* P	**Pg**	**06 48 44.9**	**-1.4**
IGD				*i* S	**Sg**	**06 49 00.6**	**-0.4**
CAVI	**Cavuskoy**	**1.21**	**28**	*e*PN	**Pn**	**06 48 48.2**	**-0.2**
CAVI	**Cavuskoy**	**1.21**	**28**	*e*Pn	**Pn**	**06 48 48.2**	**-0.2**
IZI	**Iznik**	**1.24**	**13**	*e*PN	**Pn**	**06 48 48.8**	**+0.1**
IZI	**Iznik**	**1.24**	**13**	*e*Pn	**Pn**	**06 48 48.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*PN	**Pb**	**06 48 48.4**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**352**	*e*Pn	**Pb**	**06 48 48.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**333**	*e*PN	**Pg**	**06 48 48.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**333**	*e*Pn	**Pg**	**06 48 48.8**	**-0.1**
BORA	**Eskisehir**	**1.28**	**54**	P	**Pg**	**06 48 48.1**	**-1.1**
BORA				S	**Sg**	**06 49 05.6**	**-0.3**
BORA	**Eskisehir**	**1.28**	**54**	*i* P	**Pg**	**06 48 48.1**	**-1.1**
BORA				*i* S	**Sg**	**06 49 05.6**	**-0.3**
BALY	**Balya**	**1.30**	**298**	P	**Pb**	**06 48 49.8**	**+0.2**
BALY				S	**Sb**	**06 49 06.5**	**-0.2**
BALY	**Balya**	**1.30**	**298**	*i* P	**Pb**	**06 48 49.8**	**+0.2**
BALY				*i* S	**Sb**	**06 49 06.5**	**-0.2**
GEMT	**Gemlik**	**1.30**	**3**	*e*PN	**Pg**	**06 48 49.5**	**-0.1**
GEMT	**Gemlik**	**1.30**	**3**	*e*Pn	**Pg**	**06 48 49.5**	**-0.1**
DENT	**Denizli**	**1.38**	**182**	*e*PN	**Pg**	**06 48 51.0**	**0.0**
DENT	**Denizli**	**1.38**	**182**	*e*Pn	**Pg**	**06 48 51.0**	**0.0**
ADVT	**Abdulvahap**	**1.39**	**20**	*e*PN	**Pg**	**06 48 51.7**	**+0.5**
ADVT	**Abdulvahap**	**1.39**	**20**	*e*Pn	**Pg**	**06 48 51.7**	**+0.5**
ESKT	**Eskisehir**	**1.41**	**74**	*e*PN	**Pb**	**06 48 51.2**	**-0.4**
ESKT	**Eskisehir**	**1.41**	**74**	*e*Pn	**Pb**	**06 48 51.2**	**-0.4**
ESKT	**Eskisehir**	**1.41**	**74**	*i* P	**Pn**	**06 48 50.7**	**-0.5**
ESKT				*i* S	**Sg**	**06 49 09.7**	**-0.2**
SEYT	**Eskypehyr**	**1.41**	**74**	P	**Pn**	**06 48 50.7**	**-0.4**
SEYT				S	**Sg**	**06 49 09.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.43**	**310**	*e*PN	**Pg**	**06 48 51.7**	**-0.3**
GONE	**Gonen-Balikesi**	**1.43**	**310**	*e*Pn	**Pg**	**06 48 51.7**	**-0.3**
DNZL	**Cakiroluk**	**1.44**	**182**	P	**Pg**	**06 48 52.7**	**+0.5**
DNZL				S	**Sn**	**06 49 12.6**	**+1.5**
DNZL	**Cakiroluk**	**1.44**	**182**	*i* P	**Pg**	**06 48 52.7**	**+0.5**
DNZL				*i* S	**Sn**	**06 49 12.6**	**+1.5**
ARMT	**Armutlu**	**1.44**	**353**	*e*PN	**Pg**	**06 48 52.1**	**-0.2**
ARMT	**Armutlu**	**1.44**	**353**	*e*Pn	**Pg**	**06 48 52.1**	**-0.2**
EDC	**Edincik**	**1.54**	**322**	*e*PN	**Pg**	**06 48 53.8**	**-0.4**
EDC	**Edincik**	**1.54**	**322**	*e*Pn	**Pg**	**06 48 53.8**	**-0.4**
KNL	**Bal¨–kesir**	**1.67**	**314**	*i* P	**Pn**	**06 48 54.7**	**+0.1**
KNL				*i* S	**Sb**	**06 49 17.1**	**0.0**
GULT	**Gulveren**	**1.69**	**40**	*e*PN	**Pn**	**06 48 55.4**	**+0.4**
GULT	**Gulveren**	**1.69**	**40**	*e*Pn	**Pn**	**06 48 55.4**	**+0.4**
HRT	**Hereke**	**1.74**	**14**	*e*PN	**Pb**	**06 48 56.4**	**-0.8**
HRT	**Hereke**	**1.74**	**14**	*e*Pn	**Pb**	**06 48 56.4**	**-0.8**
SPNC	**Sapanca-Adapaz**	**1.81**	**30**	*e*PN	**Pb**	**06 48 57.2**	**-1.0**
SPNC	**Sapanca-Adapaz**	**1.81**	**30**	*e*Pn	**Pb**	**06 48 57.2**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.90**	**80**	*e*PN	**Pn**	**06 48 58.3**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.90**	**80**	*e*Pn	**Pn**	**06 48 58.3**	**+0.3**
ISK	**Istanbul-Kandi**	**1.93**	**359**	*e*PN	**Pn**	**06 48 58.8**	**+0.6**
ISK	**Istanbul-Kandi**	**1.93**	**359**	*e*Pn	**Pn**	**06 48 58.8**	**+0.6**
DGB	**¨zmir**	**2.05**	**239**	*i* P	**Pg**	**06 49 03.2**	**-0.6**
DGB				*i* S	**Sg**	**06 49 29.7**	**-0.7**

MOS ***28*** *06:48:31.3±1.0, 52.˚15N×171.˚78W, h33km, mb5.6/107, MS5.5/42, Error ellipse: s-maj=6.1km s-min=4.4km az=89.5*
NEIC ***28*** *06:48:32.5±0.2, 52.˚09N×171.˚70W, h30km, mb5.6/56, ME5.8, MS5.4/160, MW5.8, MW5.6, Error ellipse: s-maj=7.1km s-min=3.0km az=175.0, Moment Tensor Solution. s57 Moment tensor: Scale 10¹⁷Nm; Mrr2.36; Mθθ-1.98; Mϕϕ-0.38; Mrθ2.88; Mrϕ-0.68; Mθϕ0.25; Best double couple: M₀3.70000×10¹⁷ NP1:ϕ₁241.00000°, δ20.00000°, λ70.00000°. NP2:ϕ₂81.00000°, δ71.00000°, λ97.00000°. Principal axes: T 3.8000, Plg63.0000°, Azm3.0000°; N -0.2200, Plg7.0000°, Azm259.0000°; P -3.5800, Plg26.0000°, Azm166.0000°; Broadband fault plane solution: P waves. NP1:ϕ₁260.00000°, δ10.00000°, λ90.00000°. NP2:ϕ₂80.00000°, δ80.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm350.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm170.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
GCMT ***28*** *06:48:32.7±0.1, 51.˚84N×171.˚82W, h36km, MW5.8/129, Moment Tensor Solution. s124, c244; s129, c321; Duration: 2₂0 Moment tensor: Scale 10¹⁷Nm; Mrr3.84±.06; Mθθ-3.86±.05; Mϕϕ0.02±.05; Mrθ5.64±.11; Mθϕ-0.37±.04; Mϕr-0.11±.07; Best double couple: M₀6.84000×10¹⁷ NP1:ϕ₁90.00000°, δ73.00000°, λ93.00000°. NP2:ϕ₂259.00000°, δ17.00000°, λ80.00000°. Principal axes: T 6.8290, Plg62.0000°, Azm5.0000°; N 0.0210, Plg3.0000°, Azm269.0000°; P -6.8500, Plg28.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***28*** *06:48:32.9±1.4, 52.˚11N×171.˚74W, h33km±9km, mb4.9/49, mb1 5.0/51, mb1mx5.0/62, mbtmp5.1/51, ML4.7/2, MS5.3/43, Ms1 5.3/43, ms1mx5.1/62 Error ellipse: s-maj=12.5km s-min=7.8km az=178.0*
ISCJB ***28*** *06:48:33.1±0.3, 52.˚07N±0.˚03×171.˚66W±0.˚02, h53km±2km, mb5.4/260, MS5.4/235, Error ellipse: s-maj=4.6km s-min=1.7km az=4.1*
BJI ***28*** *06:48:34.5, 52.˚51N×172.˚24W, h47km, mb5.3/79, mB5.6/68, Ms5.7/88, Ms7 5.5/82*
NEIC ***28*** *06:48:35.5±0.0, 51.˚94N×171.˚93W, h23km, Moment Tensor Solution. s45 Moment tensor: Scale 10¹⁷Nm; Mrr2.88; Mθθ-2.83; Mϕϕ-0.05; Mrθ5.48; Mθϕ-0.29; Mrϕ0.45; Best double couple: M₀6.20000×10¹⁷ NP1:ϕ₁85.00000°, δ76.00000°, λ90.00000°. NP2:ϕ₂263.00000°, δ14.00000°, λ88.00000°. Principal axes: T 6.2100, Plg58.0000°, Azm355.0000°; N -0.0100, Plg0.0000°, Azm265.0000°; P -6.2000, Plg31.0000°, Azm174.0000°;*
ISC 28 06:48:34.3±0.3, 51.˚90N±0.˚04×171.˚75W±0.˚03, h52km±2km, h51km:pP-P, n1363, σ1.52/1354, mb5.4/270, MS5.5/239, 73C-8D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.50**	**286**	P	**Pn**	**06 48 58.9**	**+0.1**
KONE	**Korovin Northe**	**1.54**	**290**	P	**Pn**	**06 48 59.5**	**+0.2**
KOKL	**Mount Kliuchef**	**1.57**	**287**	P	**Pn**	**06 48 59.7**	**-0.1**
GSMY	**Great Sitkin M**	**2.67**	**275**	P	**Pn**	**06 49 15.0**	**+0.3**
GSTD	**Great Sitkin T**	**2.72**	**275**	P	**Pn**	**06 49 15.9**	**+0.4**
GSCK	**Great Sitkin C**	**2.73**	**274**	P	**Pn**	**06 49 15.9**	**+0.3**
ETKA	**Kagalaska Isla**	**2.88**	**271**	P	**Pn**	**06 49 18.3**	**+0.6**
ADAG	**Mount Adagdak**	**3.00**	**273**	P	**Pn**	**06 49 19.9**	**+0.6**
KIRH	**Kanaga Island**	**3.31**	**272**	P	**Pn**	**06 49 24.2**	**+0.6**
KIKV	**Kanaga Island**	**3.36**	**272**	P	**Pn**	**06 49 24.8**	**+0.6**
KICM	**Kanaga Island**	**3.37**	**272**	P	**Pn**	**06 49 25.5**	**+1.1**
MCIR	**Makushin Cirqu**	**3.59**	**53**	P	**Pn**	**06 49 27.3**	**-0.2**
MTBL	**Makushin Table**	**3.71**	**54**	P	**Pn**	**06 49 28.6**	**-0.4**
TAPA	**Tanaga Point A**	**3.76**	**271**	P	**Pn**	**06 49 30.9**	**+1.2**
TAFL	**Tanaga Flats**	**3.81**	**270**	P	**Pn**	**06 49 31.5**	**+1.0**
TAFP	**Tanaga Falls P**	**3.86**	**272**	P	**Pn**	**06 49 32.3**	**+1.2**
AKRB	**Akutan Reef Bi**	**4.10**	**55**	P	**Pn**	**06 49 34.2**	**-0.1**
AKRB				S	**Sn**	**06 50 20.9**	**0.0**
AKGG	**Akutan Green G**	**4.17**	**54**	P	**Pn**	**06 49 35.1**	**-0.2**
AKGG				S	**Sn**	**06 50 22.7**	**-0.1**
GAEA	**Gareloi East**	**4.34**	**271**	P	**Pn**	**06 49 39.0**	**+1.4**
GALAA	**Gareloi Lava P**	**4.36**	**271**	P	**Pn**	**06 49 39.1**	**+1.2**
WESP	**Westdahl Peak**	**4.96**	**56**	P	**Pn**	**06 49 46.0**	**-0.2**
DT1	**Dutton Round H**	**6.50**	**57**	P	**Pn**	**06 50 06.5**	**-0.7**
DTNA	**Dutton South F**	**6.53**	**56**	P	**Pn**	**06 50 06.8**	**-0.9**
DOL	**Dolgoi Island**	**6.73**	**57**	P	**Pn**	**06 50 08.8**	**-1.6**
SMY	**Shemya**	**8.71**	**281**	*e*P	**Pn**	**06 50 39.4**	**+1.9**
KDAK	**Kodiak Island**	**12.50**	**54**	*i* P	**Pn**	**06 51 26.2**	**-3.0**
TTA	**Tatalina**	**13.88**	**31**	*e*P	**Pn**	**06 51 46.2**	**-1.9**
PMR	**Palmer**	**15.67**	**43**	*e*P	**Pn**	**06 52 10.6**	**-0.7**
PMR				pmax	pmax		
	comp=Z,100nm,0.9s						
SML	**Sawmill**	**16.10**	**43**	*e*P	**Pn**	**06 52 14.9**	**-2.1**
SML				pmax	pmax		
	comp=Z,170nm,0.9s						
MID	**Middleton Isla**	**16.12**	**52**	*e*P	**Pn**	**06 52 18.1**	**+1.0**
MID				pmax	pmax		
	comp=Z,680nm,0.8s						
SCM	**Sheep Creek Mo**	**16.54**	**44**	*e*P	**Pn**	**06 52 21.3**	**-1.2**
SCM				pmax	pmax		
	comp=Z,350nm,0.7s						
RND	**Reindeer**	**16.70**	**38**	*e*P	**Pn**	**06 52 22.4**	**-2.1**
RND				pmax	pmax		
	comp=Z,230nm,1.0s						
MCK	**McKinley**	**16.85**	**37**	*e*P	**Pn**	**06 52 24.0**	**-2.3**
MCK				pmax	pmax		
	comp=Z,330nm,1.4s						
PAX	**Paxson**	**17.82**	**41**	*e*P	**P**	**06 52 39.3**	**+0.8**
PAX				pmax	pmax		
	comp=Z,130nm,1.1s						
COLA	**College**	**17.89**	**34**	*e*P	**Pn**	**06 52 36.4**	**-2.7**
COLA				pmax	pmax		
	comp=Z,360nm,1.5s						
PET	**Petropavlovsk**	**18.01**	**285**	*ce*P	**Pn**	**06 52 40.8**	**+0.2**
PET				*i* S	**Sn**	**06 55 56.5**	**-4.0**
PET				pmax	pmax		
	comp=Z,86nm,1.2s						
PET				pmax	pmax		
	comp=Z,2μm,13.9s						
PET				pmax	pmax		
	comp=Z,2μm,12.6s						
PET				MLR	MLR		
	comp=Z,6μm,20.0s						
PET				MLR	MLR		
	comp=Z,5μm,18.0s						
ILAR	**Eielson Array**	**18.18**	**35**	P	**P**	**06 52 38.5**	**-3.8**
	comp=Z,2.9nm,0.3s,baz=238,slow=10.0,SNR=122						
ILAR				LR	LR	07 00 19.8	
	comp=Z,20μm,18.7s,baz=242,slow=39						
ILAR	**Eielson Array**	**18.18**	**35**	P	**P**	**06 52 38.5**	**-3.8**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ILAR				MLR	MLR		
	comp=Z,20μm,18.7s						
PETK	**Petropavlovsk-**	**18.57**	**286**	P	**Pn**	**06 52 47.7**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=85,slow=14,SNR=28						
BILL	**Bilibino**	**19.37**	**335**	*c* *i*P	**P**	**06 52 55.7**	**+0.4**
BILL				pmax	pmax		
	comp=Z,355nm,1.7s						
BILL				MLR	MLR		
	comp=Z,10μm,16.0s						
SKR	**Severo-Kuril's**	**20.05**	**279**	*e*P	P	06 52 54.9	-7.9
SKR				MLR	MLR		
	comp=Z,3μm,18.0s						
SKR				MLR	MLR		
	comp=Z,4μm,17.0s						
EGAK	**Eagle**	**20.32**	**39**	PFAKE		06 53 20.0	+12
EGAK				LR	LR		
	comp=Z,37μm,19.0s						
SEY	**Seymchan**	**21.93**	**314**	P	**P**	**06 53 23.3**	**+0.4**
	comp=Z,23nm,0.6s,baz=123,slow=9.1,SNR=35						
SEY				PcP	**PcP**	**06 57 21.5**	**+1.6**
	comp=Z,10.0nm,0.6s,baz=101,slow=3.6,SNR=5.2						
SEY	**Seymchan**	**21.93**	**314**	*ce*P	**P**	**06 53 24.3**	**+1.4**
MA2	**Magadan**	**22.20**	**305**	P	**P**	**06 53 25.4**	**-0.5**
	comp=Z,11nm,0.7s,baz=75,slow=12,SNR=3.9						
MA2				LR	LR	07 01 51.2	
	comp=Z,10μm,19.6s,baz=124,slow=36						
MA2	**Magadan**	**22.20**	**305**	*e*P	**P**	**06 53 27.1**	**+1.2**
MA2				pmax	pmax		
	comp=Z,456nm,1.1s						
MA2	**Magadan**	**22.20**	**305**	*e*P	**P**	**06 53 27.1**	**+1.2**
	comp=Z,456nm,1.1s						
WRAK	**Wrangell Islan**	**23.28**	**63**	PFAKE		06 53 50.0	+13
WRAK				LR	LR		
	comp=Z,6μm,20.0s						
H02N1	**VAN INLET T-PH**	**23.67**	**71**	P	**P**	**06 53 40.4**	**-0.5**
H02N1				T	T	07 18 26.3	
	SNR=22						
H02S1	**DAWSON INLET T**	**23.72**	**71**	P	**P**	**06 53 40.8**	**-0.4**
H02S1				T	T	07 18 28.8	
	SNR=11						
MIDW	**Midway**	**24.03**	**192**	PFAKE		06 54 00.0	+16
MIDW				LR	LR		
	comp=Z,10μm,21.0s						
DLBC	**Dease Lake**	**24.38**	**58**	P	**P**	**06 53 48.2**	**+0.8**
	comp=Z,307nm,0.8s,baz=276,slow=8.9,SNR=459						
DLBC				LR	LR	07 04 02.2	
	comp=Z,9μm,20.5s,baz=294,slow=38						
INK	**Inuvik**	**24.55**	**34**	P	**P**	**06 53 47.5**	**-1.2**
	comp=Z,120nm,0.7s,baz=236,slow=10.0,SNR=105						
INK				PcP	**PcP**	**06 57 26.5**	**+1.2**
	comp=Z,16nm,0.8s,baz=262,slow=1.6,SNR=4.3						
INK				LR	LR	07 04 37.7	
	comp=Z,20μm,18.1s,baz=233,slow=40						
BBB	**Bella Bella**	**26.55**	**72**	P	**P**	**06 54 08.1**	**+1.2**
	comp=Z,45nm,0.8s,baz=288,slow=8.5,SNR=30						
BBB				LR	LR	07 03 00.8	
	comp=Z,3μm,20.2s,baz=290,slow=33						
KUR	**Kuril'sk**	**27.26**	**272**	*e*P	**P**	**06 54 15.0**	**+1.6**
KUR				*e*S	**S**	**06 58 53.8**	**+5.0**
KUR				pmax	pmax		
	comp=Z,178nm,1.5s						
KUR				pmax	pmax		
	comp=Z,610nm,3.1s						
TYV	**Tymovskoe**	**28.12**	**286**	*e*P	P	06 54 26.0	+5.0
TYV				*e*S	**S**	**06 59 05.0**	**+2.7**
TYV				pmax	pmax		
	comp=Z,500nm,10.0s						
TYV				pmax	pmax		
	comp=Z,40nm,1.2s						
TYV				smax	smax		
	comp=E,5μm,18.0s						
TYV				MLR	MLR		
	comp=E,5μm,18.0s						
TYV				MLR	MLR		
	comp=Z,6μm,19.0s						
NKL	**Nikolayevsk**	**28.55**	**292**	*e*P	**P**	**06 54 22.0**	**-2.8**
NKL				pmax	pmax		
	comp=Z,600nm,16.0s						
NKL				MLR	MLR		
	comp=E,3μm,18.0s						
NKL				MLR	MLR		
	comp=E,5μm,18.0s						
YSS	**Yuzh-Sakhalins**	**29.62**	**279**	*ke*P	**P**	**06 54 34.7**	**+0.4**
YSS				*e**SP	**sP**	**06 54 53.2**	**-0.5**
YSS				*e*		06 55 37.6	
YSS				*e*S	**S**	**06 59 21.7**	**-4.1**
YSS				pmax	pmax		
	comp=Z,200nm,3.3s						
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,6μm,20.0s						
YSS				MLR	MLR		
	comp=E,5μm,18.0s						
YSS	**Yuzh-Sakhalins**	**29.62**	**279**	PFAKE		06 54 50.0	+16
YSS				LR	LR		
	comp=Z,4μm,21.0s						
NLWA	**Neilton Lookou**	**30.88**	**79**	PFAKE		06 55 00.0	+14
NLWA				LR	LR		
	comp=Z,3μm,19.0s						
MCW	**Mount Constitu**	**30.95**	**76**	P	P	06 54 54.5	+8.3
A04D	**Lummi Island**	**31.01**	**76**	S	**S**	**06 59 51.5**	**+3.9**
	baz=295						
CMW	**Cultus Mountai**	**31.49**	**76**	P	**P**	**06 54 52.5**	**+1.5**
B05A	**Bryant**	**31.57**	**77**	P	**P**	**06 54 52.8**	**+1.3**
	baz=296,SNR=28						
YKA	**Yellowknife Ar**	**31.65**	**48**	P	**P**	**06 54 51.4**	**-0.7**
	comp=Z,38nm,0.7s,baz=275,slow=9.0,SNR=118						
YKA				PcP	**PcP**	**06 57 43.6**	**+0.8**
	comp=Z,6.6nm,0.8s,baz=288,slow=2.7,SNR=3.8						
YKA				ScP	**ScP**	**07 01 23.3**	**+1.9**
	comp=Z,5.0nm,0.9s,baz=284,slow=3.4,SNR=3.7						
YKA				LR	LR	07 09 34.5	
	comp=Z,2μm,18.5s,baz=0.0,slow=40						
ERM	**Erimo**	**31.86**	**270**	*ce*P	**P**	**06 54 58.4**	**+4.3**
ERM				pmax	pmax		
	comp=Z,127nm,1.7s						
ERM	**Erimo**	**31.86**	**270**	*e*P	**P**	**06 54 55.6**	**+1.5**
	comp=Z,36nm,0.6s						
ERM				LR	LR		
	comp=Z,4μm,20.0s						
F04D	**Rainier, OR**	**32.01**	**81**	P	**P**	**06 54 56.6**	**+1.2**
	baz=299						
KIP	**Kipapa**	**32.24**	**155**	*ce*P	**P**	**06 55 00.2**	**+2.6**
KIP				pmax	pmax		
	comp=Z,763nm,1.7s						
KIP	**Kipapa**	**32.24**	**155**	PFAKE		06 55 10.0	+12
KIP				LR	LR		
	comp=Z,16μm,21.0s						
G03D	**McMinnville, O**	**32.28**	**82**	P	**P**	**06 54 59.1**	**+1.4**
	baz=300						
TDL	**Tradedollar La**	**32.37**	**80**	P	**P**	**06 55 00.2**	**+1.5**
YAK	**Yakutsk**	**32.38**	**311**	P	**P**	**06 54 57.5**	**-0.9**
	comp=Z,35nm,0.5s,baz=75,slow=9.0,SNR=2.7						
YAK				PcP	**PcP**	**06 57 45.2**	**+0.5**
	comp=Z,42nm,0.4s,baz=147,slow=0.8,SNR=7.0						
YAK				ScP	**ScP**	**07 01 26.5**	**+2.6**
	comp=Z,51nm,0.6s,baz=104,slow=2.7,SNR=7.3						
YAK	**Yakutsk**	**32.38**	**311**	*e*P	**P**	**06 54 56.3**	**-2.2**
YAK				*e**PP	**pP**	**06 55 10.7**	**-1.0**
YAK				*e*		06 56 03.9	
YAK				*e*		06 57 45.6	
YAK				*e*S	**S**	**07 00 03.4**	**-5.2**
YAK				*e*S	S	07 00 05.6	-3.0
YAK				*e*		07 05 22.3	
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,29nm,1.0s						
YAK				pmax	pmax		
	comp=Z,341nm,2.5s						
YAK				pmax	pmax		
	comp=N,108nm,3.4s						
YAK				pmax	pmax		
	comp=E,453nm,2.8s						
YAK				smax	smax		
	comp=N,153nm,2.3s						
YAK				smax	smax		
	comp=E,275nm,4.4s						
YAK				MLR	MLR		
	comp=N,4μm,17.0s						
YAK				MLR	MLR		
	comp=Z,9μm,21.0s						
YAK				MLR	MLR		
	comp=E,5μm,18.0s						
YAK	**Yakutsk**	**32.38**	**311**	*e*P	**P**	**06 54 58.3**	**-0.2**
YAK				*e*PcP	**PcP**	**06 57 46.0**	**+1.3**
YAK				*e*ScP	**ScP**	**07 01 26.7**	**+2.9**
YAK				LR	LR		
	comp=Z,9μm,20.0s						
TIXI	**Tiksi**	**32.39**	**329**	P	**P**	**06 54 57.1**	**-1.3**
	comp=Z,3.1nm,0.7s,baz=110,slow=10,SNR=10						
TIXI				PcP	**PcP**	**06 57 45.2**	**+0.6**
	comp=Z,23nm,0.6s,baz=80,slow=2.2,SNR=16						
TIXI				ScP	**ScP**	**07 01 26.0**	**+2.2**
	comp=Z,22nm,0.9s,baz=108,slow=5.7,SNR=9.1						
TIXI				LR	LR	07 09 07.6	
	comp=Z,6μm,19.6s,baz=152,slow=38						
TIXI	**Tiksi**	**32.39**	**329**	*c* *i*P	**P**	**06 54 57.7**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,18nm,1.7s						
TIXI	**Tiksi**	**32.39**	**329**	*e*P	**P**	**06 54 56.8**	**-1.6**
TIXI				*e*ScP	**ScP**	**07

comp=N,22nm,0.9s
NEW Newport 34.55 74 *e*P **P 06 55 18.2 +0.6**
comp=N,79nm,0.9s
NEW ScP **ScP 07 01 33.6 +1.7**
K04D Chiloquin, OR 34.56 85 P **P 06 55 19.0 +1.2**
baz=304
M02C Callahan 34.56 88 P **P 06 55 19.6 +1.8**
baz=305,SNR=12
N02D Trinity Center 34.90 88 P **P 06 55 22.5 +1.8**
baz=306,SNR=9.7
M04C Macdoel 34.97 87 P **P 06 55 23.1 +1.6**
baz=305,SNR=12
JOHN Johnston Islan 35.13 176 PFAKE 06 55 40.0 +17
JOHN LR LR
comp=Z,719nm,21.0s
KLR Kul'dur 35.22 289 P **P 06 55 21.9 -1.4**
comp=Z,2.3nm,0.4s,baz=60,slow=9.0,SNR=11
KLR LR LR 07 09 41.0
comp=Z,3µm,21.9s,baz=69,slow=36
WDC Whiskeytown Da 35.22 89 *e*P **P 06 55 25.1 +1.7**
WDC *e*S **S 07 00 52.1 -1.0**
WDC pmax pmax
comp=Z,31nm,0.9s
O03D Paynes Creek 35.85 89 P **P 06 55 29.7 +0.8**
baz=306,SNR=30
CLNS Chul'man 36.05 303 *e*P **P 06 55 31.9 +1.5**
CLNS pmax pmax
comp=Z,7.0nm,0.9s
CLNS pmax pmax
comp=Z,15nm,1.4s
CLNS MLR MLR
comp=E,3µm,22.0s
CLNS MLR MLR
comp=Z,5µm,21.0s
CLNS MLR MLR
comp=N,3µm,20.0s
BMO Blue Mountains 36.10 79 *e*P **P 06 55 31.8 +0.8**
BMO pmax pmax
comp=Z,26nm,1.0s
BMO Blue Mountains 36.10 79 PFAKE 06 55 40.0 +9.0
BMO LR LR
comp=Z,2µm,19.0s
H11N2 WAKE ISLAND Hy 36.19 216 T T 07 34 01.2
baz=21,slow=75,SNR=1917
H11N3 WAKE ISLAND Hy 36.20 215 T T 07 34 00.2
baz=21,slow=75,SNR=1859
H11N1 WAKE ISLAND Hy 36.21 216 T T 07 34 01.8
baz=21,slow=75,SNR=1815
ORV Oroville 36.47 90 *e*P **P 06 55 35.3 +1.2**
ORV pmax pmax
comp=Z,20nm,1.0s
WVOR Wild Horse Val 36.58 83 *e*P **P 06 55 36.6 +1.4**
WVOR pmax pmax
comp=Z,240nm,1.8s
WVOR Wild Horse Val 36.58 83 PFAKE 06 55 50.0 +15
WVOR LR LR
comp=Z,3µm,20.0s
MSO Missoula 37.13 74 P **P 06 55 40.0 +0.2**
baz=300,SNR=69
H11S1 WAKE ISLAND Hy 37.39 215 T T 07 35 31.1
baz=21,slow=76,SNR=186
H11S2 WAKE ISLAND Hy 37.40 215 T T 07 35 32.4
baz=21,slow=76,SNR=326
H11S3 WAKE ISLAND Hy 37.41 215 T T 07 35 31.9
baz=21,slow=76,SNR=260
RES Resolute Bay 37.43 25 LR LR 07 14 14.9
comp=Z,8µm,18.9s,baz=280,slow=41
USRK Ussuriysk Ar. 37.55 281 P **P 06 55 43.1 -0.1**
comp=Z,3.3nm,0.5s,baz=58,slow=8.8,SNR=9.9
USRK PcP **PcP 06 58 01.6 +1.5**
comp=Z,11nm,0.8s,baz=73,slow=1.9,SNR=5.0
USRK ScP **ScP 07 01 43.9 +1.1**
comp=Z,2.6nm,0.6s,baz=60,slow=3.1,SNR=5.7
USRK LR LR 07 10 19.1
comp=Z,5µm,21.8s,baz=53,slow=35
CMB Columbia Colle 38.09 91 *e*P **P 06 55 49.7 +1.8**
CMB pmax pmax
comp=Z,33nm,1.1s
VLA Vladivostok 38.20 280⇑ *i*P **P 06 55 48.7 +0.1**
VLA *i* *PP **pP 06 56 03.3 +1.2**
VLA *i* 06 57 17.7
VLA *i* 06 58 00.5
VLA *i* S **S 07 01 38.6 +0.3**
VLA *i* 07 05 54.7
VLA pmax pmax
comp=Z,36nm,1.2s
VLA MLR MLR
comp=E,91µm,19.0s
MAJO Matsushiro 38.20 266*c i*P **P 06 55 50.5 +1.6**
MAJO Matsushiro 38.20 266 PFAKE 06 56 00.0 +11
MAJO LR LR
comp=Z,3µm,22.0s
MAT Matsushiro 38.20 266 P **P 06 55 51.0 +2.1**
MAT S **S 07 01 40.6 +2.0**
MJAR Matsushiro Arr 38.20 266 P **P 06 55 50.0 +1.2**
comp=Z,9.4nm,0.6s,baz=45,slow=7.2,SNR=9.3
MJAR LR LR 07 09 58.7
comp=Z,2µm,21.8s,baz=65,slow=34
SAO San Andreas Ge 38.23 93 *e*P **P 06 55 50.5 +1.5**
SAO pmax pmax
comp=Z,51nm,1.2s
HLID Hailey 38.55 79 P **P 06 55 52.6 +0.7**
baz=304,SNR=62
HLID Hailey 38.55 79 PFAKE 06 56 00.0 +8.1
HLID LR LR
comp=Z,2µm,20.0s
BMN Battle Mountai 38.60 85 *e*P **P 06 55 53.4 +1.1**
BMN pmax pmax
comp=Z,150nm,1.9s
MDJ Mudanjiang 38.78 283 P **P 06 55 51.3 -2.2**
MDJ PP **PP 06 57 23.0 +0.1**
MDJ S **S 07 01 47.5 +0.5**
MDJ sS sS 07 02 09.0 -0.8
MDJ PMZ
comp=Z,6.0nm,0.6s
MDJ LN
comp=Z,2µm,19.6s
MDJ LE
comp=Z,5µm,23.0s
MDJ LZ
comp=Z,7µm,20.9s
MDJ Mudanjiang 38.78 283 PFAKE 06 56 10.0 +16
MDJ LR LR
comp=Z,7µm,22.0s
EGMT Eagleton 39.01 70 P **P 06 55 55.8 +0.2**
baz=300
EGMT Eagleton 39.01 70 PFAKE 06 56 10.0 +14
EGMT LR LR
comp=Z,3µm,22.0s
BOZ Bozeman (W) 39.11 75 P **P 06 55 56.8 +0.3**
baz=302,SNR=53
BOZ Bozeman (W) 39.11 75 *e*P **P 06 55 56.9 +0.4**
BOZ pmax pmax
comp=Z,87nm,1.2s
BOZ Bozeman (W) 39.11 75 PFAKE 06 56 10.0 +13
BOZ LR LR
comp=Z,2µm,22.0s
MLAC Mammoth, Mammo39.30 90 P **P 06 55 59.9 +1.7**
baz=309
JHJ Hachijo jima 2 39.50 261 LR LR 07 12 40.2
comp=Z,576nm,18.9s,baz=97,slow=37
ELK Elko 39.64 83 *e*P **P 06 56 02.1 +1.0**
ELK pmax pmax
comp=Z,23nm,0.9s
RCTC Rector, Farmer 39.88 92 P **P 06 56 03.7 +0.8**
baz=310,SNR=14
TIN Tinemaha, Big 40.04 90 P **P 06 56 05.6 +1.4**
baz=310
SMMC Simmler 40.06 94 P **P 06 56 05.7 +1.3**
baz=311
FFC Flin Flon 40.22 57 *e*P **P 06 56 05.3 -0.1**
FFC pmax pmax
comp=Z,76nm,0.9s
FFC Flin Flon 40.22 57 PFAKE 06 56 20.0 +15
FFC LR LR
comp=Z,5µm,20.0s
VES Vestal, Richgr 40.28 92 P **P 06 56 06.9 +0.8**
baz=311,SNR=29
H17A Grant Village 40.41 76 P **P 06 56 09.3 +1.8**
baz=304,SNR=25
H17A Grant Village 40.41 76 *e*P **P 06 56 09.1 +1.6**
comp=Z,74nm,1.1s
LKWY Lake 40.43 75 *e*P **P 06 56 09.4 +1.8**
LKWY pmax pmax
comp=Z,69nm,1.0s
LKWY Lake 40.43 75 PFAKE 06 56 20.0 +12
LKWY LR LR
comp=Z,4µm,21.0s
PKM Mcpherson Peak 40.45 94 P **P 06 56 09.2 +1.4**
baz=312,SNR=11
CWC Cottonwood Cre 40.52 91 P **P 06 56 09.5 +1.1**
baz=310
HVU Hansel Valley 40.55 80 *e*P **P 06 56 09.3 +0.8**
HVU pmax pmax
comp=Z,47nm,0.9s
GRAC Grapevine Rang 40.61 90 P **P 06 56 10.2 +1.3**
baz=310
MOOW Moose Ponds 40.67 77 *e*P **P 06 56 10.1 +0.6**
comp=Z,51nm,1.6s
ISA Isabella, Lake 40.78 92 P **P 06 56 10.9 +0.6**
baz=311,SNR=11
ISA Isabella, Lake 40.78 92 *e*P **P 06 56 11.5 +1.2**
ISA pmax pmax
comp=Z,44nm,0.9s
RLMT Red Lodge 40.80 74 P **P 06 56 11.2 +0.6**
baz=303,SNR=78
RLMT Red Lodge 40.80 74 PFAKE 06 56 20.0 +9.4
RLMT LR LR
comp=Z,3µm,19.0s
SBC Santa Barbara 40.81 94 P **P 06 56 11.8 +1.3**
baz=312
R11A Troy Canyon, C 40.87 87 P **P 06 56 11.9 +0.7**
baz=309,SNR=46
R11A Troy Canyon, C 40.87 87 *e*P **P 06 56 11.7 +0.5**
comp=Z,47nm,1.0s
ARVC Arvin 40.90 93 P **P 06 56 11.9 +0.6**
baz=312
DAC Darwin (Calif) 40.93 91 *e*P **P 06 56 12.9 +1.2**
DAC pmax pmax
comp=Z,39nm,0.9s
AHID Auburn Hatcher 41.01 78 PFAKE 06 56 20.0 +7.7
AHID LR LR
comp=Z,3µm,20.0s
MPMC Manual Prospec 41.13 91 P **P 06 56 14.5 +1.1**
baz=311,SNR=45
BOD Bodaibo 41.14 308 *e*P **P 06 56 12.5 -0.4**
BOD pmax pmax
comp=Z,44nm,1.7s
SCZ2 Santa Cruz Isl 41.16 95 P **P 06 56 15.6 +2.2**
baz=313
FURC Furnace Creek, 41.26 90 P **P 06 56 15.4 +1.3**
baz=310,SNR=60
OSI Osito Audit: C 41.31 93 P **P 06 56 15.7 +1.0**
baz=312
TPNV Topopah Spring 41.33 89 P **P 06 56 16.1 +1.1**
baz=310,SNR=92
TPNV Topopah Spring 41.33 89 *e*P **P 06 56 16.1 +1.1**
TPNV pmax pmax
comp=Z,86nm,1.0s
LRMC Laurel Mtn Rad 41.38 92 P **P 06 56 16.0 +0.6**
baz=311,SNR=7.7
HWUT Hardware Ranch 41.39 80 PFAKE 06 56 30.0 +15
HWUT LR LR
comp=Z,2µm,22.0s
BLG Laguna Peak, P 41.43 94 P **P 06 56 16.4 +0.8**
baz=312
DUG Dugway, Tooele 41.46 82 P **P 06 56 16.8 +0.8**
baz=307,SNR=88
DUG Dugway, Tooele 41.46 82 *e*P **P 06 56 16.3 +0.3**
DUG pmax pmax
comp=Z,53nm,0.9s
DUG Dugway, Tooele 41.46 82 PFAKE 06 56 30.0 +14
DUG LR LR
comp=Z,2µm,19.0s
EDW2 Edwards Air Fo 41.58 92 P **P 06 56 17.4 +0.5**
baz=312,SNR=16
CN2 Changchun 41.72 285 *e*P **P 06 56 19.0 +1.2**
CN2 *e*S **S 07 02 34.0 +3.1**
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,300nm,4.0s
CN2 LN
comp=Z,3µm,20.0s
CN2 LE
comp=Z,6µm,20.0s
CN2 LZ
comp=Z,5µm,20.0s
SNCC San Nicolas Is 41.73 96 P **P 06 56 20.3 +2.3**
baz=313
LAO LASA Array 41.76 70 P **P 06 56 18.9 +0.7**
baz=303,SNR=48
LAO LASA Array 41.76 70 PFAKE 06 56 30.0 +12
LAO LR LR
comp=Z,4µm,19.0s
DECC Green Verdugo 41.79 93 P **P 06 56 19.2 +0.6**
baz=312
PSUT Pine Spring 41.82 85 *e*pP pP 06 56 32.1 -0.6
comp=Z,25nm,0.8s
BW06 Boulder Array 41.94 77 P **P 06 56 20.2 +0.2**
baz=305,SNR=113
BW06 Boulder Array 41.94 77 PFAKE 06 56 30.0 +10
BW06 LR LR
comp=Z,2µm,22.0s
PDAR Pinedale Array 41.94 77 P **P 06 56 20.1 +0.1**
comp=Z,25nm,0.8s,baz=305,slow=5.2,SNR=131
PDAR LR LR 07 13 20.9
comp=Z,1µm,19.7s,baz=312,slow=36
MWC Mount Wilson 41.98 93 *e*P **P 06 56 21.8 +1.5**
MWC pmax pmax
comp=Z,110nm,1.4s
SHOC Shoshone, Teco 41.98 90 P **P 06 56 21.1 +1.0**
baz=311,SNR=12
DGMT Dagmar 41.99 67 P **P 06 56 20.3 +0.2**
baz=302,SNR=19
DGMT Dagmar 41.99 67 PFAKE 06 56 30.0 +10
DGMT LR LR
comp=Z,3µm,20.0s
GSC Goldstone, Bar 42.04 91 P **P 06 56 21.8 +1.1**
baz=311,SNR=54
GSC Goldstone, Bar 42.04 91 *e*P **P 06 56 21.8 +1.1**
GSC pmax pmax
comp=Z,100nm,0.9s
HIA Hailar 42.12 295 *e*P **P 06 56 20.1 -1.0**
HIA pmax pmax
comp=Z,46nm,0.8s
HIA MLR MLR
comp=Z,5µm,20.0s
HIA Hailar 42.12 295 *e*P **P 06 56 20.1 -1.0**
comp=Z,46nm,0.8s
HIA LR LR
comp=Z,5µm,20.0s
WMUT West Mountain 42.13 82 *e*P **P 06 56 21.2 -0.3**
RRX Edison Barstow 42.20 92 P **P 06 56 23.0 +1.1**
baz=312
BFSC Mount Baldy Ra 42.22 93 P **P 06 56 23.3 +1.1**
baz=312,SNR=24
DAU Daniels Canyon 42.28 81 *e*P **P 06 56 24.0 +1.1**
A25A Svangstu Ranch 42.36 66 P **P 06 56 23.3 +0.2**
baz=302,SNR=47
FCC Fort Churchill 42.37 49 *e*P **P**
FCC pmax pmax
comp=Z,210nm,0.8s
TUQ Turquoise Moun 42.50 90 P **P 06 56 25.4 +0.8**
baz=311,SNR=12
SCI2 San Clemente I 42.51 95 P **P 06 56 24.9 +0.5**
baz=313
HEC Hector,Ludlow 42.64 91 P **P 06 56 26.4 +0.8**
baz=312,SNR=14
BBRC Big Bear Solar 42.66 92 P **P 06 56 26.7 +0.8**
baz=312
B25A Knox Farm, Ray 42.68 67 P **P 06 56 25.9 +0.2**
baz=302,SNR=14
MSU Marysvale 42.87 84 *e*P **P 06 56 28.6 +1.0**
C25A Freed Ranch, W 42.92 67 P **P 06 56 27.9 +0.2**
baz=303,SNR=20
MURC Murrieta 42.93 93 P **P 06 56 28.7 +0.8**
baz=313,SNR=12
A26A Wade Farm, Ken 42.99 65 P **P 06 56 27.9 -0.2**
baz=302,SNR=51
GMRC Granite Mounta 43.09 91 P **P 06 56 30.1 +0.8**
baz=312,SNR=59
B26A Jensen Ranch, 43.15 66 P **P 06 56 29.8 +0.3**
baz=302,SNR=14
PFO Pinyon Flats O 43.37 93 P **P 06 56 32.3 +0.7**
comp=Z,19nm,0.9s,baz=306,slow=5.8,SNR=25
PFO LR LR 07 10 25.9
comp=Z,2µm,22.0s,baz=297,slow=30
PFO Pinyon Flats O 43.37 93 P **P 06 56 32.3 +0.7**
baz=313,SNR=17
PFO Pinyon Flats O 43.37 93 *e*P **P 06 56 32.2 +0.7**
PFO pmax pmax
comp=Z,49nm,1.1s
TPFO Pinon Flats 43.38 93 P **P 06 56 32.2 +0.6**
baz=313,SNR=12
BELC Belle Mtn. Jos 43.40 92 P **P 06 56 32.2 +0.4**
baz=312,SNR=20
A27A Ledoux Ranch, 43.41 65 P **P 06 56 31.4 -0.1**
baz=302
KNB Kanab 43.41 86 *e*P **P 06 56 33.1 +1.2**
KNB pmax pmax
comp=Z,100nm,1.2s
109C Camp Elliot, M 43.46 94 P **P 06 56 33.1 +1.0**
baz=313
SRU San Rafael Swe 43.52 82 *e*P P 06 56 26.3 -6.5
SRU *e* 06 56 33.5
SRU San Rafael Swe 43.52 82 *e*P P 06 56 26.3 -6.4
NEE2 Needles Airpor 43.75 90 P **P 06 56 34.7 +0.3**
baz=312
D26A Manning 43.76 68 P **P 06 56 34.4 -0.1**
baz=304,SNR=14
IRM Iron Mountain 43.83 91 P **P 06 56 35.8 +0.7**
baz=312,SNR=35
K22A Casper 43.83 75 P **P 06 56 34.8 -0.4**
baz=306,SNR=19
K22A Casper 43.83 75 *e*P **P 06 56 34.2 -1.0**
comp=Z,110nm,1.2s
MONP2 Monument Peak 43.88 93 P **P 06 56 36.5 +0.8**
baz=313,SNR=16
BC3 Big Chuckawall 43.97 92 P **P 06 56 36.6 +0.3**
baz=313,SNR=15
A28A Rude Farm, Bot 43.97 64 P **P 06 56 36.1 0.0**
baz=303,SNR=60
SNY Shenyang 43.98 283⇑ P **P 06 56 36.0 -0.1**
SNY S **S 07 03 05.0 +0.9**
SNY PMZ
comp=Z,46nm,1.9s
SNY PMZ
comp=Z,240nm,3.6s
SNY LN
comp=Z,3µm,19.6s
SNY LE
comp=Z,5µm,20.6s
SNY LZ
comp=Z,8µm,20.1s
W13A Hualapai Mount 43.99 89 *e*P **P 06 56 37.3 +0.7**
comp=Z,86nm,1.3s
KSRS Korea Array 43.99 275 P **P 06 56 37.1 +0.8**
comp=Z,11nm,0.8s,baz=55,slow=7.9,SNR=31
KSRS LR LR 07 14 22.1
comp=Z,2µm,20.6s,baz=54,slow=35
KSAR Wonju Array Be 44.02 275 P **P 06 56 37.1 +0.5**
KSAR Wonju Array Be 44.02 275 P **P 06 56 37.1 +0.5**
B28A Dugan Ranch, T 44.17 65 P **P 06 56 37.7 0.0**
baz=303,SNR=85
SWSC Sam W. Stewart 44.23 93 P **P 06 56 38.8 +0.5**
baz=313,SNR=7.3
IKP In-Ko-Pah, Jac 44.24 93 P **P 06 56 39.2 +0.8**
baz=313,SNR=18
O20A White River Ci 44.29 79 P **P 06 56 39.1 +0.2**
baz=308,SNR=134
O20A White River Ci 44.29 79 *e*P **P 06 56 39.0 +0.1**
comp=Z,176nm,0.9s
PDMCI Parker Dam,Lak 44.35 90 P **P 06 56 39.8 +0.6**
baz=312,SNR=37
H25A Fruitdale 44.43 71 P **P 06 56 39.6 -0.2**
baz=305,SNR=26
RSSD Black Hills 44.46 72 P **P 06 56 39.9 -0.3**
baz=306
RSSD Black Hills 44.46 72 *e*P **P 06 56 40.0 -0.3**
RSSD pmax pmax
comp=Z,150nm,1.6s
Y12C Blythe 44.48 91 P **P 06 56 40.8 +0.6**
baz=312,SNR=26
A29A Manning Farm, 44.54 64 P **P 06 56 40.4 -0.2**
baz=303,SNR=85
C28A Hausauer Farms 44.55 66 P **P 06 56 41.0 +0.2**
baz=304,SNR=18
B29A Wagenman Farm, 44.72 64 P **P 06 56 41.6 -0.4**
baz=303,SNR=47
D28A Regan 44.74 67 P **P 06 56 42.5 +0.3**
baz=304,SNR=25
GLA Glamis 44.76 92 P **P 06 56 43.2 +0.6**
baz=313,SNR=22
GLA Glamis 44.76 92 *e*P **P 06 56 43.5 +0.9**
GLA pmax pmax
comp=Z,50nm,1.0s
INCN Inchon 44.77 276 P **P 06 56 43.4 +0.8**
SNR=5.5
INCN P **P 06 56 43.4 +0.8**
SNR=5.5
INCN Inchon 44.77 276 PFAKE 06 56 50.0 +7.4
INCN LR LR
comp=Z,2µm,20.0s
MDND Maddock 44.92 65 P **P 06 56 43.8 +0.2**
baz=304,SNR=86
MDND Maddock 44.92 65 *e*P **P 06 56 43.9 +0.2**
comp=Z,456nm,1.1s
PV04 Paradox Valley 44.96 82 *e*P **P 06 56 44.2 0.0**
JNU Nakatsue 44.99 269 P **P 06 56 45.6 +1.2**
comp=Z,22nm,0.8s,baz=66,slow=6.3,SNR=12
JNU LR LR 07 17 46.0
comp=Z,1µm,20.0s,baz=62,slow=39
TJN Taejon 45.02 275*ce*P **P 06 56 44.9 +0.4**
A30A Hoffart Farm, 45.05 63 P **P 06 56 44.3 -0.3**
baz=303,SNR=46
N23A Red Feather La 45.22 77 P **P 06 56 46.5 +0.1**
baz=308,SNR=25
WUAZ Wupatki 45.27 87 P **P 06 56 47.7 +1.0**
baz=311,SNR=39
WUAZ Wupatki 45.27 87 *e*P **P 06 56 47.5 +0.8**
comp=Z,59nm,0.9s
WUAZ LR LR
comp=Z,2µm,19.0s
Y14A Wickenburg 45.30 90 *e*P **P 06 56 47.5 +0.6**
B30A Myrvik Farm, E 45.30 64 P **P 06 56 46.4 -0.3**
baz=304,SNR=74
D29A Pettibone, Tap 45.36 66 P **P 06 56 46.9 -0.3**
baz=304,SNR=9.6
E29A Napoleon 45.61 67 P **P 06 56 48.8 -0.4**
baz=305,SNR=19
C30A Mose, Pekin 45.63 65 P **P 06 56 48.8 -0.5**
baz=304,SNR=39
SMCO Snowmass 45.65 80 *e*P **P 06 56 50.0 0.0**
comp=Z,28nm,1.0s
ULM Lac du Bonnet 45.66 61 P **P 06 56 48.9 -0.6**
comp=Z,62nm,0.9s,baz=301,slow=9.0,SNR=50
ULM LR LR 07 18 24.0
comp=Z,5µm,18.1s,baz=314,slow=39
ULM Lac du Bonnet 45.66 61 *e*P **P 06 56 49.0 -0.5**
ULM pmax pmax
comp=Z,120nm,1.1s
A31A Linda, St. Vin 45.67 63 P **P 06 56 49.2 -0.3**
baz=304,SNR=18
B31A Greenbush Farm 45.70 64 P **P 06 56 49.4 -0.3**
baz=304,SNR=104
F29A Eureka 45.93 68 P **P 06 56 51.2 -0.5**
baz=305,SNR=22
MVCO Mesa Verde 45.95 83 P **P 06 56 52.3 +0.1**
baz=310,SNR=23
MVCO Mesa Verde 45.95 83 PFAKE 06 57 00.0 +7.8
MVCO LR LR
comp=Z,2µm,21.0s
C31A Landman Farms, 46.00 64 P **P 06 56 51.6 -0.6**
baz=304,SNR=57
A32A Rocking H Ranc 46.06 62 P **P 06 56 52.1 -0.5**
baz=304,SNR=49
ISCO Idaho Springs 46.09 78 P **P 06 56 53.7 +0.3**
baz=309,SNR=16
ISCO Idaho Springs 46.09 78 *e*P **P 06 56 53.8 +0.4**
ISCO pmax pmax
comp=Z,32nm,1.2s
ISCO Idaho Springs 46.09 78 *e*P **P 06 56 53.3 -0.1**
comp=Z,17nm,0.8s
NRIK Noril'sk 46.13 331 P **P 06 56 52.0 -0.8**
comp=Z,17nm,0.8s,baz=70,slow=8.6,SNR=24
NRIK PcP **PcP 06 58 28.8 +0.8**
comp=Z,28nm,0.9s,baz=95,slow=4.3,SNR=7.7
G29A Hoven 46.24 68 P **P 06 56 53.5 -0.6**
baz=306,SNR=25
B32A Ashes, Strandq 46.33 63 P **P 06 56 54.1 -0.6**
baz=304,SNR=77
F30A Leola 46.38 67 P **P 06 56 54.6 -0.6**
baz=306,SNR=19
H29A Onida 46.40 69 P **P 06 56 55.0 -0.3**
baz=306
D31A Mcclaflin, Tow 46.43 65 P **P 06 56 54.7 -0.8**
baz=305,SNR=56
W18A Petrified Fore 46.54 86 P **P 06 56 57.6 +0.8**
baz=312,SNR=18

W18A Petrified Fore 46.54 86 *e*P P 06 56 57.4 +0.6
comp=Z,109nm,1.3s
KULLO Kullorsuaq 46.57 20⇑*i*P P 06 56 55.6 -0.7
comp=Z,51nm,0.8s
KULLO *e* 06 58 41.3
KULLO *e* 06 58 41.3
E31A Nome 46.61 66 P P 06 56 56.1 -0.9
baz=305,SNR=28
S22A 4UR Ranch, Cre 46.63 81 P P 06 56 58.4 +0.8
baz=310,SNR=56
A33A Warroad 46.65 62 P P 06 56 56.7 -0.5
baz=304,SNR=51
C32A Crookston 46.65 64 P P 06 56 56.6 -0.7
baz=305,SNR=10
I29A Vivian Onida 46.70 70 P P 06 56 57.5 -0.2
baz=307,SNR=7.4
G30A Faulkton 46.73 68 P P 06 56 57.4 -0.5
baz=306,SNR=64
214A Organ Pipe Nat 46.75 91 P P 06 56 58.8 +0.6
baz=314,SNR=36
214A Organ Pipe Nat 46.75 91 *e*P P 06 56 58.9 +0.6
comp=Z,161nm,1.0s
AGMN Agassiz Nation 46.75 63 P P 06 57 37.3 -0.8
baz=305,SNR=66
AGMN Agassiz Nation 46.75 63 PFAKE 06 57 10.0 +12
AGMN LR LR
comp=Z,5μm,19.0s
D32A Dogwood Acres, 46.77 65 P P 06 56 57.3 -0.9
baz=305,SNR=15
X18A Snowflake 46.80 87 *e*P P 06 56 59.9 +1.1
comp=Z,47nm,1.0s
F31A Hecla 46.81 67 P P 06 56 57.5 -1.0
baz=306,SNR=11
Q24A Divide 46.89 79 P P 06 56 59.9 +0.3
baz=309,SNR=8.5
B33A Robert and Kas 46.92 63 P P 06 56 58.8 -0.5
baz=305,SNR=40
DL2 Dalian 46.94 281 ⇑P P 06 56 59.0 -0.6
DL2 S S 07 03 43.0 -3.8
DL2 ScS ScS 07 06 48.3 -0.7
DL2 PMZ
comp=Z,60nm,0.9s
DL2 PMZ
comp=Z,380nm,6.0s
DL2 LN
comp=Z,3μm,20.4s
DL2 LE
comp=Z,2μm,22.2s
DL2 LZ
comp=Z,3μm,18.0s
E32A Braaten, Kindr 47.06 65 P P 06 56 59.6 -0.8
baz=306,SNR=12
C33A Trail 47.11 63 P P 06 57 00.1 -0.7
baz=305,SNR=35
G31A Conde 47.20 67 P P 06 57 00.8 -0.8
baz=306,SNR=10
SUSD Miller 47.24 69 P P 06 57 01.6 -0.3
baz=307,SNR=31
I30A Oacoma 47.28 70 P P 06 57 01.8 -0.5
baz=307,SNR=10
B34A Aery, Baudette 47.31 62 P P 06 57 01.7 -0.7
baz=305,SNR=46
D33A AnnSam, Waubun 47.42 64 P P 06 57 02.6 -0.8
baz=306,SNR=48
F32A Veblen 47.44 66 P P 06 57 02.4 -1.1
baz=306,SNR=15
SDCO Great Sand Dun 47.45 80 P P 06 57 04.5 +0.6
baz=310,SNR=99
SDCO Great Sand Dun 47.45 80 PFAKE 06 57 20.0 +16
SDCO LR LR
comp=Z,2μm,19.0s
H31A Wolsey 47.49 68 P P 06 57 03.5 -0.4
baz=307,SNR=47
OGNE Ogallala 47.54 74 P P 06 57 04.7 +0.3
baz=308,SNR=12
OGNE Ogallala 47.54 74 *e*P P 06 57 04.9 +0.5
comp=Z,430nm,1.9s
OGNE LR LR
comp=Z,2μm,19.0s
J30A Dallas 47.59 70 P P 06 57 04.4 -0.3
baz=307,SNR=37
G32A Webster 47.59 67 P P 06 57 03.8 -0.8
baz=306,SNR=26
C34A RKJ Ranch, Bem 47.65 63 P P 06 57 04.2 -0.9
baz=306,SNR=12
E33A Westby DABS, E 47.71 65 P P 06 57 04.4 -1.1
baz=306,SNR=11
I31A Royce, Wessing 47.73 69 P P 06 57 05.2 -0.5
baz=307,SNR=17
D34A Park Rapids 47.82 64 P P 06 57 05.6 -0.8
baz=306,SNR=116
B35A Bob, Littlefor 47.89 62 P P 06 57 06.0 -0.8
baz=306,SNR=27
K30A Basset 47.91 71 P P 06 57 07.3 +0.1
baz=308,SNR=28
F33A 5 Mile Ranch, 47.93 66 P P 06 57 06.2 -1.0
baz=306,SNR=34
J31A Geddes 48.05 70 P P 06 57 07.9 -0.3
baz=308,SNR=25
H32A Carlson Farm, 48.08 68 P P 06 57 07.5 -0.9
baz=307,SNR=55
C35A Jirik Farms, M 48.13 62 P P 06 57 07.9 -0.9
baz=306,SNR=26
E34A Wadena 48.17 64 P P 06 57 08.1 -0.9
baz=306,SNR=18
G33A Ortonville 48.23 66 P P 06 57 08.6 -0.9
baz=307,SNR=35
I32A Karley and Nic 48.34 68 P P 06 57 09.4 -1.0
baz=307,SNR=11
H33A Prehn Over Nor 48.37 67 P P 06 57 09.7 -1.0
baz=307,SNR=79
KSCO Kaye Shedlock' 48.39 77 P P 06 57 11.6 +0.5
baz=310,SNR=22
KSCO Kaye Shedlock' 48.39 77 *e*P P 06 57 11.3 +0.2
comp=Z,124nm,1.0s
K31A O'Neill 48.45 71 P P 06 57 11.1 -0.2
baz=308,SNR=6.4
D35A Remer 48.45 63 P P 06 57 10.7 -0.6
baz=306,SNR=45
T25A Trinidad 48.50 80 P P 06 57 12.7 +0.7
baz=311,SNR=105
J32A Parkston 48.52 69 P P 06 57 11.0 -0.8
baz=308,SNR=32
F34A Alexandria 48.54 65 P P 06 57 11.1 -0.9
baz=307,SNR=19
E35A Pequot Lakes 48.57 64 P P 06 57 11.5 -0.6
baz=307,SNR=36
G34A Benson 48.66 66 P P 06 57 11.9 -0.9
baz=307,SNR=18
L31A Butterfield Fa 48.67 71 P P 06 57 12.8 -0.2
baz=308,SNR=18
ANMO Albuquerque 48.68 84 P P 06 57 13.7 +0.3
baz=312
ANMO Albuquerque 48.68 84 *ce*P P 06 57 14.0 +0.6
ANMO pmax pmax
comp=Z,22nm,1.2s
ANMO Albuquerque 48.68 84 PFAKE 06 57 30.0 +17
ANMO LR LR
comp=Z,2μm,19.0s
I33A Coleman 48.72 68 P P 06 57 12.2 -1.1
baz=308,SNR=14
C36A Pine Crest Far 48.72 62 P P 06 57 12.7 -0.6
baz=306,SNR=25
IRK Irkutsk 48.78 306 *e*P P 06 57 10.8 -2.9
IRK *e* 07 06 59.9
IRK pmax pmax
comp=Z,160nm,2.7s
K32A Verdigre 48.88 70 P P 06 57 13.7 -0.9
baz=308,SNR=13
D36A Goodland 48.89 63 P P 06 57 13.8 -0.8
baz=307,SNR=18
F35A Swanville 48.89 65 P P 06 57 13.8 -0.8
baz=307,SNR=54
H34A Spellman Lake, 48.92 67 P P 06 57 13.9 -1.0
baz=308,SNR=31
Y22D IRIS PASSCAL I 48.97 85 P P 06 57 16.7 +1.2
baz=312
ECSD EROS Data Cent 49.01 68 P P 06 57 14.5 -1.1
baz=308,SNR=73
ECSD EROS Data Cent 49.01 68 PFAKE 06 57 30.0 +14
ECSD LR LR
comp=Z,3μm,21.0s
J33A Davis 49.06 69 P P 06 57 15.0 -1.0
baz=308
C37A Embarrass 49.10 61 P P 06 57 15.5 -0.7
baz=307,SNR=17
M31A Lambtecht Ranc 49.10 72 P P 06 57 15.8 -0.5
baz=309,SNR=7.2

E36A McGregor 49.23 63 P P 06 57 16.6 -0.6
baz=307,SNR=32
I34A Hadley 49.26 67 P P 06 57 16.3 -1.2
baz=308
L32A Elgin 49.26 71 P P 06 57 17.2 -0.4
baz=309,SNR=12
D37A Cotton 49.30 62 P P 06 57 16.8 -0.9
baz=307,SNR=15
G35A Watkins 49.32 65 P P 06 57 17.3 -0.6
baz=308,SNR=31
EYMN Ely 49.34 61 P P 06 57 17.4 -0.7
baz=307,SNR=14
EYMN Ely 49.34 61 PFAKE 06 57 30.0 +12
EYMN LR LR
comp=Z,5μm,19.0s
KBS Kingsbay 49.42 359 *e*P P 06 57 18.6 +0.4
KBS pmax pmax
comp=Z,53nm,0.8s
KBS Kingsbay 49.42 359 PFAKE 06 57 30.0 +12
KBS LR LR
comp=Z,3μm,20.0s
TLY Talaya 49.42 305 *c*P P 06 57 18.2 -0.4
TLY *e* 06 58 41.3
TLY *e* 06 59 14.8
TLY *e*S S 07 04 22.7 +1.0
TLY *e* 07 07 08.3
TLY pmax pmax
comp=Z,92nm,2.2s
TLY MLR MLR
comp=Z,2μm,14.0s
H35A Sunnyside Ranc 49.44 66 P P 06 57 18.2 -0.7
baz=308,SNR=37
N31A Bailey Ranch, 49.44 73 P P 06 57 18.6 -0.3
baz=309
121A Cookes Peak, D 49.47 87 P P 06 57 20.3 +0.8
baz=313,SNR=19
121A Cookes Peak, D 49.47 87 *e*P P 06 57 19.9 +0.4
comp=Z,48nm,1.0s
F36A Milaca 49.47 64 P P 06 57 18.1 -0.9
baz=307,SNR=29
K33A Hardington 49.48 70 P P 06 57 18.5 -0.7
baz=309,SNR=13
BJI Beijing 49.51 286 P P 06 57 19.0 -0.3
BJI S S 07 04 23.0 0.0
BJI sS sS 07 04 40.0 -6.3
BJI ScS ScS 07 07 05.8 -0.3
BJI PMZ
comp=Z,22nm,2.5s
BJI PMZ
comp=Z,850nm,4.2s
BJI LN
comp=Z,4μm,18.5s
BJI LE
comp=Z,4μm,20.8s
BJI LZ
comp=Z,4μm,23.1s
BJT Baijiatuau 49.52 286 PFAKE 06 57 30.0 +10
BJT LR LR
comp=Z,5μm,22.0s
BGNE Belgrade 49.55 71 P P 06 57 19.5 -0.3
baz=309,SNR=18
BGNE Belgrade 49.55 71 *e*P P 06 57 19.4 -0.3
comp=Z,192nm,0.9s
L33A Hoskins 49.59 70 P P 06 57 19.3 -0.7
baz=309,SNR=7.4
C38A Sawbill Land. 49.60 61 P P 06 57 19.2 -0.8
baz=307,SNR=11
O31A Woolen Ranch, 49.65 74 P P 06 57 20.3 -0.2
baz=310,SNR=19
J34A George 49.66 68 P P 06 57 19.7 -0.9
baz=308
E37A Wrenshall 49.67 63 P P 06 57 19.9 -0.7
baz=307
G36A St. Michael 49.73 65 P P 06 57 20.3 -0.7
baz=308,SNR=20
N32A Stulken Farm, 49.87 72 P P 06 57 21.7 -0.5
baz=310,SNR=11
I35A Creekview Farm 49.87 67 P P 06 57 21.2 -0.9
baz=308,SNR=16
ULN Ulaanbaatar 49.90 300 *c*P P 06 57 22.6 +0.1
ULN pmax pmax
comp=Z,62nm,2.5s
ULN Ulaanbaatar 49.90 300 P P 06 57 22.6 +0.1
SNR=15
ULN P P 06 57 22.6 +0.1
SNR=15
ULN Ulaanbaatar 49.90 300 PFAKE 06 57 30.0 +7.5
ULN LR LR
comp=Z,8μm,19.0s
HSIG 49.94 93 *e*pP pP 06 57 31.3 -5.5
comp=Z,48nm,1.3s
K34A Le Mars 49.95 69 P P 06 57 22.3 -0.5
baz=309,SNR=36
M33A Taylor Creek F 50.01 71 P P 06 57 22.6 -0.6
baz=309,SNR=19
H36A Jessenland, He 50.03 66 P P 06 57 23.2 -0.1
baz=308,SNR=39
J35A Milford 50.05 68 P P 06 57 22.5 -0.9
baz=309,SNR=7.6
SPITS Spitsbergen Ar 50.09 358 P P 06 57 21.6 -1.8
comp=Z,29nm,0.8s,baz=41,slow=7.7,SNR=23
SPITS PcP PcP 06 58 42.4 +0.2
comp=Z,26nm,0.8s,baz=85,slow=3.0,SNR=5.9
SPITS Spitsbergen Ar 50.09 358 P P 06 57 21.6 -1.8
SPITS 06 58 42.4
SPITS pmax pmax
comp=Z,30nm,0.8s
SPITS pmax pmax
comp=Z,26nm,0.8s
C39A Grand Marais 50.16 60 P P 06 57 23.2 -1.0
baz=307,SNR=6.5
O32A Brockman Farm, 50.20 73 P P 06 57 24.0 -0.7
baz=310
L34A Svendsen Farm, 50.24 70 P P 06 57 24.2 -0.8
baz=309,SNR=12
CBKS Cedar Bluff 50.25 75 P P 06 57 25.3 +0.2
baz=310,SNR=26
CBKS Cedar Bluff 50.25 75 *e*P P 06 57 25.3 +0.2
CBKS pmax pmax
comp=Z,120nm,0.9s
CBKS Cedar Bluff 50.25 75 *e*P P 06 57 24.8 -0.3
comp=Z,103nm,0.8s
CBKS LR LR
comp=Z,2μm,19.0s
SPMN Marine on St. 50.26 64 P P 06 57 24.4 -0.6
baz=308,SNR=24
SPMN Marine on St. 50.26 64 *e*P P 06 57 24.1 -0.9
comp=Z,54nm,0.8s
SONM Songino Array 50.27 300 P P 06 57 25.1 -0.1
comp=Z,5.7nm,0.7s,baz=50,slow=7.3,SNR=27
SONM ScP ScP 07 02 36.8 +2.1
comp=Z,13nm,0.8s,baz=50,slow=3.5,SNR=17
SONM LR LR 07 20 12.9
comp=Z,9μm,19.5s,baz=54,slow=38
SONM Songino Array 50.27 300 P P 06 57 25.1 -0.1
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM pmax pmax
comp=N,13nm,0.8s
SONM MLR MLR
comp=Z,9μm,19.5s
I36A Fitzsimmons Fa 50.32 66 P P 06 57 24.5 -1.0
baz=308,SNR=14
ZAK Zakamensk 50.37 304 *e*P P 06 57 24.8 -1.2
ZAK pmax pmax
comp=Z,34nm,2.0s
M34A Aspy Farms, Fr 50.41 70 P P 06 57 25.3 -1.0
baz=309
P32A Huiting Farm, 50.41 74 P P 06 57 25.8 -0.5
baz=310,SNR=15
K35A Storm Lake 50.43 68 P P 06 57 25.6 -0.8
baz=309,SNR=27
DAG Danmarks Havn 50.47 8⇑*i*P P 06 57 24.5 -1.6
comp=Z,4μm,16.0s
J36A Seneca 1, Swea 50.56 67 P P 06 57 26.5 -0.9
baz=309,SNR=19
H37A Dierke Farm, C 50.59 65 P P 06 57 27.3 -0.3
baz=308,SNR=11
L35A Bielow Farm, R 50.63 69 P P 06 57 26.7 -1.2
baz=309,SNR=9.1
I37A Lemond, Waseca 50.67 66 P P 06 57 27.7 -0.5
baz=309,SNR=39
O33A Hebron 50.73 72 P P 06 57 27.9 -0.7
baz=310,SNR=33
MOY Mondy 50.76 307 *e*P P 06 57 28.4 -0.5
MOY pmax pmax
comp=Z,143nm,2.9s
Q32A Meitler Ranch, 50.84 74 P P 06 57 29.3 -0.2
baz=310,SNR=23
N34A Lincoln 50.88 71 P P 06 57 28.7 -1.0
baz=310,SNR=7.3
K36A Gilmore City 50.93 68 P P 06 57 29.3 -0.9
baz=309,SNR=38
M35A Neola 50.95 70 P P 06 57 29.9 -0.4
baz=310,SNR=13
J37A Redenius Farm, 51.02 67 P P 06 57 30.1 -0.7
baz=309,SNR=40
P33A Williams Farm, 51.07 73 P P 06 57 30.8 -0.4
baz=310
R32A Long Quarter, 51.12 75 P P 06 57 31.2 -0.4
baz=311,SNR=21
L36A Harm Buss Farm 51.15 69 P P 06 57 30.8 -1.0
baz=310,SNR=9.2
O34A Beatrice 51.18 72 P P 06 57 31.2 -0.9
baz=310,SNR=40
I38A Scanlan Farm, 51.26 65 P P 06 57 31.9 -0.7
baz=309,SNR=28
Q33A Connelly Farm, 51.27 74 P P 06 57 32.4 -0.4
baz=311,SNR=56
HSPB Hornsund (broa 51.29 358 *e*P P 06 57 31.7 -0.6
HSPB *e**SP pP 06 57 46.2 -0.1
K37A Belmond 51.32 67 P P 06 57 32.2 -0.9
baz=309,SNR=30
N35A Tabor 51.37 70 P P 06 57 33.0 -0.4
baz=310,SNR=29
TIA Tai'an 51.41 282 ⇑P P 06 57 34.0 +0.2
TIA S S 07 04 51.3 +1.7
TIA ScS ScS 07 07 17.8 -1.6
TIA PMZ
comp=Z,40nm,1.9s
TIA PMZ
comp=Z,610nm,5.0s
TIA LN
comp=Z,2μm,20.0s
TIA LE
comp=Z,2μm,20.0s
TIA LZ
comp=Z,2μm,21.0s
S32A Newby Ranch, P 51.45 76 P P 06 57 33.5 -0.6
baz=311
M36A Felix, Anita 51.48 69 P P 06 57 33.6 -0.6
baz=310,SNR=16
P34A Walnut Farm, R 51.51 73 P P 06 57 33.6 -0.9
baz=311,SNR=15
MNTX Cornudas Mount 51.53 86 P P 06 57 35.5 +0.7
baz=314,SNR=28
MNTX Cornudas Mount 51.53 86 PFAKE 06 57 50.0 +15
MNTX LR LR
comp=Z,1μm,20.0s
O35A Humboldt 51.59 71 P P 06 57 33.9 -1.2
baz=310,SNR=9.4
MSTX Muleshoe 51.59 82 P P 06 57 35.2 -0.2
baz=313,SNR=24
MSTX Muleshoe 51.59 82 *e*P P 06 57 34.9 -0.4
comp=Z,77nm,1.1s
GUMO Guam 51.60 238 LR LR 07 17 24.2
comp=Z,1μm,20.6s,baz=56,slow=34
R33A Olander Ranch, 51.63 74 P P 06 57 35.0 -0.5
baz=311,SNR=11
J38A Wedel Dairy, R 51.63 66 P P 06 57 34.8 -0.6
baz=310,SNR=17
AMTX Amarillo 51.65 80 P P 06 57 35.5 -0.2
baz=312
ILULI Ilulissat 51.65 23⇑*i*P P 06 57 33.8 -1.3
comp=Z,7μm,19.0s
SUMG Summit 51.65 16 *e*P P 06 57 34.8 -0.8
SUMG pmax pmax
comp=Z,110nm,0.9s
SUMG Summit 51.65 16⇑*i*P P 06 57 34.9 -0.7
comp=Z,15μm,1.1s
SUMG *i* 06 59 37.8
SUMG *i* 06 59 37.8
L37A Phoenix Point, 51.66 68 P P 06 57 35.0 -0.6
baz=310,SNR=33
HHC Hu-ho-hao-te 51.71 290 *e*P P 06 57 36.5 +0.4
HHC S S 07 04 50.3 -3.5
HHC PMZ
comp=Z,35nm,1.1s
HHC PMZ
comp=Z,720nm,5.8s
HHC LN
comp=Z,5μm,18.6s
HHC LE
comp=Z,3μm,17.3s
HHC LZ
comp=Z,3μm,16.0s
COWI Conover 51.75 61 PFAKE 06 57 50.0 +14
COWI LR LR
comp=Z,3μm,19.0s
N36A Muff Farm, Cla 51.79 70 P P 06 57 36.0 -0.6
baz=310,SNR=47
T32A Huddler Ranch, 51.80 76 P P 06 57 36.0 -0.7
baz=312,SNR=16
Q34A Chapman 51.85 73 P P 06 57 36.5 -0.5
baz=311,SNR=30
K38A Parkersburg 51.89 67 P P 06 57 36.3 -1.0
baz=310,SNR=19
KSU1 Kansas State U 51.93 73 P P 06 57 36.7 -0.9
baz=311,SNR=8.0
KSU1 Kansas State U 51.93 73 PFAKE 06 57 50.0 +12
KSU1 LR LR
comp=Z,3μm,20.0s
M37A Trindle Farm, 51.94 69 P P 06 57 37.3 -0.4
baz=310,SNR=37
TARA Tarawa 51.99 200 PFAKE 06 57 50.0 +12
TARA LR LR
comp=Z,439nm,21.0s
P35A Duane Minner, 52.00 72 P P 06 57 37.2 -1.0
baz=311
J39A Decorah 52.06 66 P P 06 57 37.4 -1.2
baz=310,SNR=76
R34A Isabella, Hill 52.07 74 P P 06 57 38.3 -0.4
baz=311,SNR=31
S33A Kaszmaul Farm, 52.08 75 P P 06 57 38.2 -0.6
baz=312,SNR=10
L38A Oak Wood Farm, 52.10 68 P P 06 57 38.0 -0.9
baz=310,SNR=28
SCIA State Center 52.10 68 PFAKE 06 57 50.0 +11
SCIA LR LR
comp=Z,4μm,19.0s
N37A Lee Faris, Mou 52.27 70 P P 06 57 39.8 -0.3
baz=310,SNR=20
T33A Patterson Ranc 52.27 76 P P 06 57 39.6 -0.7
baz=312
U32A Winter Ranch, 52.28 77 P P 06 57 40.2 -0.2
baz=312
K39A Oelwein 52.35 66 P P 06 57 39.3 -1.5
baz=310,SNR=32
SSE Sheshan 52.37 274 P P 06 57 42.0 +1.0
SSE S S 07 05 04.0 +1.2
SSE PMZ
comp=Z,76nm,1.2s
SSE PMZ
comp=Z,460nm,3.8s
SSE LN
comp=Z,2μm,30.4s
SSE LE
comp=Z,1μm,30.4s
SSE LZ
comp=Z,2μm,21.3s
P36A Good Intent, A 52.42 71 P P 06 57 40.3 -1.0
baz=311,SNR=32
Q35A Mercer Eighty, 52.42 73 P P 06 57 40.0 -1.3
baz=311
M38A Pleasantville 52.43 68 P P 06 57 40.6 -0.7
baz=310,SNR=27
S34A Willow Spring 52.54 74 P P 06 57 41.3 -1.0
baz=312,SNR=16
J40A Soldiers Grove 52.56 65 P P 06 57 41.0 -1.3
baz=310,SNR=21
L39A Vinton 52.66 67 P P 06 57 42.0 -1.0
baz=310,SNR=36
R35A Emporia Munici 52.68 73 P P 06 57 42.4 -0.8
baz=311,SNR=27
O37A Wolven Farm, M 52.69 70 P P 06 57 42.5 -0.8
baz=311,SNR=30
V32A Arapaho 52.69 78 P P 06 57 43.3 -0.1
baz=312

Q36A	Arnold C. Orve	52.70	72	P		P	06 57 42.1	-1.2
	baz=311							
BTO	Baotou	52.76	291	eP		P	06 57 45.0	+1.1
U33A	Lingo Farm, Me	52.78	76	P		P	06 57 43.2	-0.8
	baz=312,SNR=12							
K40A	Colesburg	52.78	66	P		P	06 57 42.6	-1.3
	baz=310,SNR=23							
N38A	Joes South For	52.81	69	P		P	06 57 43.2	-0.9
	baz=311,SNR=12							
P37A	Lathrop	52.94	71	P		P	06 57 43.9	-1.2
	baz=311,SNR=41							
T34A	McClaskey Farm	52.95	75	P		P	06 57 44.5	-0.8
	baz=312,SNR=39							
W32A	Sentinel	52.97	78	P		P	06 57 45.6	+0.1
	baz=313,SNR=26							
M39A	Webster	52.98	68	P		P	06 57 44.6	-0.8
	baz=311,SNR=121							
J41A	Loganville	52.99	65	P		P	06 57 44.3	-1.1
	baz=310,SNR=30							
S35A	Otter Creek Ra	53.03	74	P		P	06 57 45.0	-0.8
	baz=312,SNR=23							
V33A	Lossen Ranch,	53.08	77	P		P	06 57 45.7	-0.6
	baz=312,SNR=13							
R36A	Gordon, Harris	53.09	73	P		P	06 57 45.4	-0.9
	baz=312,SNR=46							
O38A	Galt	53.11	70	P		P	06 57 45.5	-0.9
	baz=311							
U34A	Anderson Ranch	53.13	76	P		P	06 57 46.0	-0.5
	baz=312,SNR=23							
U34A	Anderson Ranch	53.13	76	eP		P	06 57 45.7	-0.8
	comp=Z,91nm,0.8s							
L40A	Anamosa	53.14	67	P		P	06 57 45.4	-1.2
	baz=311,SNR=24							
JFWS	Jewell Farm	53.15	65	eP		P	06 57 44.0	-2.6
JFWS				pmax		pmax		
	comp=Z,69nm,0.9s							
JFWS	Jewell Farm	53.15	65	PFAKE			06 58 00.0	+13
JFWS				LR		LR		
	comp=Z,5μm,20.0s							
NJ2	Nanjing	53.15	277	eP		P	06 57 48.3	+1.6
NJ2				sP		sP	06 58 07.5	+0.8
NJ2				PP		PP	06 59 50.3	+3.5
NJ2				S		S	07 05 15.0	+1.6
NJ2				ScS		ScS	07 07 31.0	-0.6
NJ2				PMZ				
	comp=Z,44nm,0.7s							
NJ2				PMZ				
	comp=Z,360nm,4.9s							
NJ2				LN				
	comp=Z,2μm,22.8s							
NJ2				LE				
	comp=Z,2μm,26.0s							
NJ2				LZ				
	comp=Z,3μm,25.5s							
N39A	Derby Farms, D	53.18	69	P		P	06 57 45.9	-0.9
	baz=311,SNR=82							
TIY	Taiyuan	53.23	286	eP		P	06 57 48.3	+0.9
TIY				PP		PP	06 59 50.0	+2.4
TIY				PMZ				
	comp=Z,590nm,3.7s							
TIY				LN				
	comp=Z,3μm,16.5s							
TIY				LE				
	comp=Z,670nm,15.1s							
TIY				LZ				
	comp=Z,3μm,19.4s							
K41A	Shullsburg	53.31	66	P		P	06 57 46.6	-1.3
	baz=311,SNR=47							
Q37A	Longview Farm,	53.35	72	P		P	06 57 46.4	-1.8
	baz=312,SNR=5.9							
P38A	Dawn	53.40	70	P		P	06 57 47.2	-1.2
	baz=311,SNR=42							
X32A	Elmer	53.42	79	P		P	06 57 48.7	-0.1
	baz=313,SNR=31							
T35A	Sooner Cattle	53.42	75	P		P	06 57 47.7	-1.0
	baz=312,SNR=17							
W33A	Caddo, Fort Co	53.42	78	P		P	06 57 49.0	+0.2
	baz=313,SNR=16							
SFJD	Kangerlussuaq	53.43	25	eP		P	06 57 47.9	-0.4
SFJD				pmax		pmax		
	comp=Z,67nm,1.0s							
SFJD	Kangerlussuaq	53.43	25⇑	iP		P	06 57 47.5	-0.8
	comp=Z,72nm,1.0s							
SFJD				i			06 58 55.1	
SFJD				i			06 58 55.1	
	comp=Z,5μm,19.0s							
SFJD	Kangerlussuaq	53.43	25	PFAKE			06 58 00.0	+12
SFJD				LR		LR		
	comp=Z,6μm,20.0s							
S36A	Lake Cedric, C	53.43	73	P		P	06 57 47.7	-1.1
	baz=312,SNR=23							
R37A	Teagarden Farm	53.50	72	P		P	06 57 47.6	-1.6
	baz=312,SNR=19							
WMOK	Wichita Mounta	53.51	78	P		P	06 57 49.3	-0.1
	baz=313,SNR=8.9							
WMOK	Wichita Mounta	53.51	78	eP		P	06 57 49.8	+0.4
WMOK				pmax		pmax		
	comp=Z,53nm,0.8s							
WMOK	Wichita Mounta	53.51	78	PFAKE			06 58 00.0	+11
WMOK				LR		LR		
	comp=Z,2μm,21.0s							
V34A	Guthrie	53.54	76	P		P	06 57 49.1	-0.5
	baz=313							
V34A	Guthrie	53.54	76	eP		P	06 57 48.8	-0.8
	comp=Z,57nm,0.8s							
L41A	Preston	53.55	66	P		P	06 57 48.3	-1.3
	baz=311,SNR=5.7							
O39A	Kirksville	53.56	69	P		P	06 57 48.7	-0.9
	baz=311,SNR=22							
U35A	Pawnee	53.65	75	P		P	06 57 49.6	-0.8
	baz=312,SNR=19							
T36A	Boggs Farm, Ca	53.70	74	P		P	06 57 49.7	-1.0
	baz=312,SNR=15							
Q38A	Cooks Store, C	53.78	71	P		P	06 57 49.7	-1.6
	baz=312,SNR=16							
W34A	Bridge Creek,	53.79	77	P		P	06 57 51.2	-0.2
	baz=313,SNR=13							
W34A	Bridge Creek,	53.79	77	eP		P	06 57 51.1	-0.3
	comp=Z,39nm,0.8s							
X33A	Lawton	53.81	78	P		P	06 57 51.5	-0.2
	baz=313,SNR=12							
S37A	Fort Scott	53.86	73	P		P	06 57 50.7	-1.2
	baz=312,SNR=48							
LPIG	La Paz	53.89	96	P		P	06 57 52.5	+0.3
	comp=Z,19nm,0.7s,baz=348,slow=9.3,SNR=3.3							
LPIG				LR		LR	07 18 35.7	
	comp=Z,744nm,18.4s,baz=312,slow=33							
P39B	Salisbury	53.94	70	P		P	06 57 51.3	-1.1
	baz=312,SNR=18							
V35A	Meyer Ranch, C	54.00	76	P		P	06 57 52.3	-0.6
	baz=313,SNR=15							
O40A	La Belle	54.03	69	P		P	06 57 52.2	-0.9
	baz=312,SNR=88							
Y33A	Hilltop Ranch,	54.10	79	P		P	06 57 53.4	-0.3
	baz=313							
Q39A	Willow Grove F	54.10	71	P		P	06 57 52.2	-1.4
	baz=312							
R38A	Fenwick Farm,	54.12	72	P		P	06 57 51.7	-2.1
	baz=312,SNR=28							
X34A	Smith Ranch, M	54.18	78	P		P	06 57 54.7	+0.4
	baz=313,SNR=15							
T37A	Cheneyville 18	54.23	74	P		P	06 57 53.6	-1.0
	baz=312,SNR=44							
TXAR	Lajitas Array	54.23	87	P		P	06 57 54.9	+0.1
	comp=Z,19nm,0.8s,baz=296,slow=5.2,SNR=199							
TXAR				ScP		ScP	07 02 53.5	+1.4
	comp=Z,9.8nm,0.8s,baz=293,slow=3.1,SNR=14							
U36A	Oologah	54.24	75	P		P	06 57 53.9	-0.8
	baz=313,SNR=6.0							
P40A	Paris	54.32	70	P		P	06 57 54.2	-1.1
	baz=312,SNR=88							
W35A	Tecumseh	54.38	77	P		P	06 57 55.6	-0.1
	baz=313,SNR=25							
ABTX	Abilene, Hawle	54.42	81	P		P	06 57 56.1	0.0
	baz=314							
ABTX	Abilene, Hawle	54.42	81	eP		P	06 57 55.6	-0.5
	comp=Z,65nm,0.9s							
S38A	Stockton	54.49	72	P		P	06 57 54.7	-1.8
	baz=312,SNR=52							
Z33A	Whitaker Ranch	54.51	80	P		P	06 57 56.3	-0.4
	baz=314,SNR=21							
V36A	Jenks	54.52	75	P		P	06 57 56.1	-0.6
	baz=313,SNR=12							
TUL1	Leonard	54.52	75	P		P	06 57 56.1	-0.6
	baz=313,SNR=12							
TUL1	Leonard	54.52	75	eP		P	06 57 55.9	-0.9
	comp=Z,33nm,0.8s							
R39A	Chumby, Stover	54.55	71	P		P	06 57 54.6	-2.3
	baz=312,SNR=17							
U37A	Salina	54.59	74	P		P	06 57 56.5	-0.8
	baz=313,SNR=34							
O41A	Passleys Farm,	54.61	68	P		P	06 57 56.4	-0.9
	baz=312,SNR=44							
Q40A	Laux Farm, Aux	54.66	70	P		P	06 57 56.5	-1.2
	baz=312,SNR=45							
Y34A	Reagan Ranch,	54.66	78	P		P	06 57 57.9	+0.1
	baz=314,SNR=32							
T38A	Diamond	54.66	73	P		P	06 57 56.4	-1.3
	baz=313,SNR=35							
W36A	Wetumka	54.78	76	P		P	06 57 58.4	-0.2
	baz=313,SNR=18							
P41A	Barry, Barry	54.80	69	P		P	06 57 57.6	-1.0
	baz=312							
S39A	Bolivar	54.80	72	P		P	06 57 56.4	-2.3
	baz=312,SNR=27							
X35A	Drake	54.84	77	P		P	06 57 58.7	-0.3
	baz=313,SNR=21							
133A	Hamilton Ranch	54.88	80	P		P	06 57 59.3	-0.1
	baz=314,SNR=30							
V37A	Hulbert	54.93	75	P		P	06 57 58.8	-0.9
	baz=313,SNR=26							
Z34A	Collier Ranch,	54.97	79	P		P	06 57 59.6	-0.4
	baz=314,SNR=24							
U38A	Gravette	55.01	74	P		P	06 57 59.0	-1.2
	baz=313,SNR=5.4							
R40A	Maddies Statio	55.02	71	P		P	06 57 58.3	-2.0
	baz=312,SNR=30							
O42A	Bath	55.02	68	P		P	06 57 59.3	-1.0
	baz=312,SNR=11							
X36A	Centrahoma	55.09	77	P		P	06 58 00.7	-0.2
	baz=314							
Y35A	Marietta	55.13	78	P		P	06 58 01.3	+0.2
	baz=314,SNR=32							
T39A	Clever	55.21	73	P		P	06 58 00.1	-1.6
	baz=313,SNR=42							
HDIL	Hopedale	55.23	67	P		P	06 58 00.8	-1.0
	baz=312,SNR=37							
HDIL	Hopedale	55.23	67	PFAKE			06 58 10.0	+8.2
HDIL				LR		LR		
	comp=Z,3μm,19.0s							
W37B	Quinton	55.26	76	P		P	06 58 02.0	-0.1
	baz=313,SNR=29							
P42A	Winchester	55.27	68	P		P	06 58 01.0	-1.1
	baz=312,SNR=23							
233A	Rising Star	55.30	81	P		P	06 58 02.3	-0.1
	baz=314,SNR=25							
S40A	Lebanon	55.34	72	P		P	06 58 00.7	-2.0
	baz=313,SNR=8.9							
V38A	Canehill	55.38	74	P		P	06 58 02.0	-0.9
	baz=313,SNR=37							
Z35A	Perchaven, San	55.40	79	P		P	06 58 02.6	-0.5
	baz=314							
134A	White-Moore Ra	55.41	80	P		P	06 58 03.4	+0.2
	baz=314,SNR=28							
U39A	Green Forest	55.59	73	P		P	06 58 03.1	-1.4
	baz=313,SNR=35							
Y36A	Durant	55.59	77	P		P	06 58 04.4	0.0
	baz=314,SNR=24							
Q42A	Golden Eagle	55.61	69	P		P	06 58 03.7	-0.8
	baz=312,SNR=26							
T40A	Mansfield	55.63	72	P		P	06 58 02.8	-1.9
	baz=313,SNR=32							
X37A	Clayton	55.67	76	P		P	06 58 04.9	-0.1
	baz=314,SNR=34							
333A	Richland Sprin	55.73	82	P		P	06 58 05.1	-0.4
	baz=315,SNR=22							
234A	Clairette	55.77	80	P		P	06 58 05.8	0.0
	baz=314,SNR=28							
S41A	Jillco Farms,	55.79	71	P		P	06 58 04.0	-1.9
	baz=313,SNR=56							
JCT	Junction City	55.81	83	P		P	06 58 05.5	-0.7
	baz=315,SNR=10							
JCT	Junction City	55.81	83	eP		P	06 58 05.5	-0.7
JCT				pmax		pmax		
	comp=Z,63nm,1.1s							
JCT	Junction City	55.81	83	PFAKE			06 58 20.0	+14
JCT				LR		LR		
	comp=Z,2μm,20.0s							
135A	Vickery Place,	55.83	79	P		P	06 58 06.4	+0.2
	baz=314,SNR=19							
V39A	Pettigrew	55.85	74	P		P	06 58 05.1	-1.3
	baz=313,SNR=21							
W38A	Poteau	55.86	75	P		P	06 58 06.1	-0.3
	baz=314,SNR=47							
Z36A	Blue Ridge	55.94	78	P		P	06 58 06.7	-0.3
	baz=314,SNR=26							
Y37A	Hugo	55.94	77	P		P	06 58 07.0	0.0
	baz=314,SNR=9.1							
X38A	Whitesboro	55.94	76	P		P	06 58 06.8	-0.2
	baz=315,SNR=20							
SLM	Saint Louis	55.97	69	eP		P	06 58 05.9	-1.2
SLM				pmax		pmax		
	comp=Z,480nm,2.0s							
U40A	Yellville	55.97	73	P		P	06 58 05.5	-1.6
	baz=313,SNR=44							
SCO	Scoresbysund	55.99	12⇑	iP		P	06 58 06.0	-0.8
	comp=Z,30nm,0.7s							
	comp=Z,6μm,16.0s							
433A	Art	56.06	82	P		P	06 58 07.2	-0.7
	baz=315,SNR=16							
Q43A	New Douglas	56.07	69	P		P	06 58 07.0	-0.8
	baz=313,SNR=35							
T41A	Mountain View	56.15	72	P		P	06 58 06.3	-2.1
	baz=313,SNR=16							
334A	Lometa	56.18	81	P		P	06 58 08.6	-0.1
	baz=315,SNR=33							
WHTX	Lake Whitney,	56.20	80	P		P	06 58 08.9	+0.1
	baz=315,SNR=13							
WHTX	Lake Whitney,	56.20	80	eP		P	06 58 08.7	-0.2
	comp=Z,73nm,1.0s							
W39A	Magazine	56.21	75	P		P	06 58 08.3	-0.6
	baz=314,SNR=23							
V40A	Witts Springs	56.37	73	P		P	06 58 08.5	-1.5
	baz=314,SNR=38							
136A	Ennis	56.43	79	P		P	06 58 10.2	-0.2
	baz=314,SNR=7.1							
Z37A	Pogue Cattle C	56.48	78	P		P	06 58 10.4	-0.3
	baz=314							
X39A	Fountain Ranch	56.48	75	P		P	06 58 10.5	-0.3
	baz=314,SNR=36							
Q44A	Meyer Farm, Va	56.49	68	P		P	06 58 09.7	-1.1
	baz=313,SNR=19							
Y38A	Idabel	56.51	76	P		P	06 58 10.3	-0.7
	baz=314							
434A	Burnet	56.52	81	P		P	06 58 10.9	-0.3
	baz=315,SNR=26							
TATO	Taipei	56.53	269	PFAKE			06 58 20.0	+8.8
TATO				LR		LR		
	comp=Z,3μm,21.0s							
U41A	Viola	56.53	72	P		P	06 58 09.3	-1.8
	baz=313,SNR=25							
533A	Kerrville	56.57	83	P		P	06 58 10.7	-0.9
	baz=315,SNR=9.6							
SFIN	Lafayette	56.59	66	P		P	06 58 10.7	-0.8
	baz=313,SNR=25							
SFIN	Lafayette	56.59	66	eP		P	06 58 10.7	-0.8
	comp=Z,98nm,0.9s							
W40A	Ferguson Farm,	56.64	74	P		P	06 58 11.3	-0.6
	baz=314,SNR=25							
335A	Moody	56.71	80	P		P	06 58 12.3	-0.2
	baz=315							
236A	Katherine and	56.76	79	P		P	06 58 13.0	+0.2
	baz=315,SNR=17							
ZALV	Zalesovo Beam	56.77	317	P		P	06 58 11.1	-1.4
	comp=Z,11nm,0.7s,baz=44,slow=6.5,SNR=14							
ZALV				PcP		PcP	06 59 08.2	+0.4
	comp=Z,27nm,0.8s,baz=33,slow=3.4,SNR=12							
ZALV				ScP		ScP	07 03 04.9	+2.1
	comp=Z,3.5nm,0.7s,baz=42,slow=4.8,SNR=6.2							
ZALV				LR		LR	07 26 23.9	
	comp=Z,4μm,18.2s,baz=58,slow=40							
V41A	Mountainview	56.78	73	P		P	06 58 11.2	-1.7
	baz=314,SNR=49							
SCHQ	Schefferville	56.78	42	P		P	06 58 12.0	-0.7
	comp=Z,89nm,0.8s,baz=324,slow=7.6,SNR=99							
SCHQ				LR		LR	07 23 41.7	
	comp=Z,9μm,18.9s,baz=315,slow=37							
MIAR	Mount Ida	56.78	75	P		P	06 58 12.5	-0.4
	baz=314,SNR=51							
MIAR	Mount Ida	56.78	75	eP		P	06 58 12.5	-0.4
MIAR				pmax		pmax		
	comp=Z,75nm,1.0s							
MIAR	Mount Ida	56.78	75	PFAKE			06 58 30.0	+17
MIAR				LR		LR		
	comp=Z,2μm,21.0s							
S43A	Fulton Ridge,	56.78	70	P		P	06 58 11.7	-1.2
	baz=313,SNR=67							
NVS	Novosibirsk	56.81	318⇓	iP		P	06 58 12.6	-0.2
NVS				i			06 59 08.3	
NVS				eS		S	07 06 02.6	+0.8
NVS				pmax		pmax		
	comp=Z,43nm,0.8s							
NVS				pmax		pmax		
	comp=N,7.0nm,0.4s							
NVS				pmax		pmax		
	comp=E,17nm,0.5s							
NVS				smax		smax		
	comp=N,14nm,1.0s							
NVS				smax		smax		
	comp=E,38nm,1.9s							
137A	Heron Place, G	56.81	78	P		P	06 58 13.0	-0.2
	baz=314							
YHNB	Yeheng	56.82	268	PFAKE			06 58 30.0	+17
YHNB				LR		LR		
	comp=Z,3μm,22.0s							
Z38A	Mt. Pleasant	56.83	77	P		P	06 58 12.7	-0.5
	baz=314							
Y39A	Lockesburg	56.89	76	P		P	06 58 13.1	-0.6
	baz=314							
R44A	Waltonville	56.90	69	P		P	06 58 12.4	-1.3
	baz=313,SNR=24							
633A	Saathoff Ranch	56.92	83	P		P	06 58 13.2	-0.8
	baz=316							
U42A	Revenden	56.93	72	P		P	06 58 12.0	-1.9
	baz=314,SNR=17							
534A	Blanco	56.95	82	P		P	06 58 13.5	-0.7
	baz=315,SNR=11							
435B	Jarrell	56.96	81	P		P	06 58 14.2	-0.1
	baz=315,SNR=5.7							
WHN	Wuhan	56.96	279⇑	iP		P	06 58 14.8	+0.5
WHN				pP		pP	06 58 31.0	+2.6
WHN				LN				
	comp=Z,3μm,20.5s							
WHN				LE				
	comp=Z,8μm,24.9s							
WHN				LZ				
	comp=Z,4μm,18.1s							
336A	Riesel	56.99	80	P		P	06 58 14.3	-0.1
	baz=315,SNR=17							
W41B	Gary Mavity, V	57.14	74	P		P	06 58 14.2	-1.2
	baz=314,SNR=20							
138A	Matatall Enter	57.17	78	P		P	06 58 15.9	+0.2
	baz=315							
S44A	Carbondale	57.17	69	P		P	06 58 14.3	-1.3
	baz=313,SNR=29							
237A	Washetta, Mont	57.19	79	P		P	06 58 15.9	0.0
	baz=315							
AAM	Ann Arbor	57.21	62	eP		P	06 58 15.4	-0.4
AAM				pmax		pmax		
	comp=Z,48nm,1.0s							
AAM	Ann Arbor	57.21	62	PFAKE			06 58 30.0	+14
AAM				LR		LR		
	comp=Z,3μm,22.0s							
V42A	Cord	57.22	72	P		P	06 58 14.1	-1.9
	baz=314,SNR=10							
832A	Faith Ranch, C	57.26	85	P		P	06 58 16.2	-0.2
	baz=316,SNR=11							
X40A	Basin Creek Fa	57.26	75	P		P	06 58 15.6	-0.8
	baz=314,SNR=23							
Z39A	Irene McRaven,	57.32	76	P		P	06 58 16.4	-0.4
	baz=314							
Y40A	Okoloma	57.33	75	P		P	06 58 15.9	-0.9
	baz=314,SNR=9.9							
733A	Divot King Ran	57.37	84	P		P	06 58 17.1	0.0
	baz=316,SNR=9.2							
H06N1	SOCORRO T-PHAS	57.40	101	T		T	08 00 36.0	
	SNR=62							
X41A	Kaden, Bauxite	57.45	74	P		P	06 58 17.0	-0.7
	baz=314,SNR=25							
436A	Wall Ranch, Ga	57.45	80	P		P	06 58 18.1	+0.4
	baz=315							
634A	China Grove, S	57.48	83	P		P	06 58 17.6	-0.3
	baz=316							
H06E1	SOCORRO T-PHAS	57.50	101	T		T	08 00 46.7	
	SNR=19							
535A	Dale	57.50	82	P		P	06 58 18.0	-0.1
	baz=316,SNR=5.3							
S45A	Carrier Mills	57.58	69	P		P	06 58 17.4	-1.1
	baz=314,SNR=32							
139A	Bunkhouse Ranc	57.58	77	P		P	06 58 18.4	-0.2
	baz=315							
833A	Chaparral WMA,	57.59	84	P		P	06 58 18.7	0.0
	baz=316,SNR=13							
238A	Jacksonville	57.61	78	P		P	06 58 19.1	+0.3
	baz=315							
337A	Centerville	57.63	79	P		P	06 58 19.5	+0.6
	baz=315							
734A	La Parita Cree	57.73	83	P		P	06 58 20.0	+0.3
	baz=316,SNR=7.3							
BLO	Bloomington	57.73	66	eP		P	06 58 18.7	-0.9
BLO				pmax		pmax		
	comp=Z,61nm,0.8s							
Z40A	Long Farm, Mag	57.77	76	P		P	06 58 19.9	0.0
	baz=315,SNR=7.4							
536A	Bastrop	57.78	81	P		P	06 58 20.3	+0.3
	baz=316							
YULB	Yu-li	57.81	267	P		P	06 58 18.8	-1.6
	comp=Z,31nm,1.0s							
437A	Phantom Ranch,	57.81	80	P		P	06 58 20.9	+0.7
	baz=315							
XAN	Xi'an	57.82	285	P		P	06 58 20.5	+0.2
XAN				sP		sP	06 58 38.3	-2.1
XAN				PP		PP	07 00 29.8	+1.2
XAN				S		S	07 06 12.3	-3.5
XAN				ScS		ScS	07 08 02.5	-2.7
XAN				SS		SS	07 10 01.5	-5.0
XAN				PMZ				
	comp=Z,36nm,1.5s							
XAN				PMZ				
	comp=Z,410nm,6.9s							
XAN				LN				
	comp=Z,900nm,22.3s							
XAN				LE				
	comp=Z,4μm,21.5s							
XAN				LZ				
	comp=Z,5μm,21.8s							
Y41A	Eaglette Beard	57.82	75	P		P	06 58 20.1	-0.1
	baz=314,SNR=28							
635A	Leesville	57.83	82	P		P	06 58 20.5	+0.1
	baz=316,SNR=11							
KEV	Kevo	57.89	352	eP		P	06 58 18.9	-1.3
KEV				pmax		pmax		
	comp=Z,30nm,0.8s							
KEV	Kevo	57.89	352	PFAKE			06 58 30.0	+10
KEV				LR		LR		
	comp=Z,4μm,20.0s							
338A	Crockett	57.95	79	P		P	06 58 21.3	+0.2
	baz=315							
239A	Gary	57.99	78	P		P	06 58 21.3	-0.2
	baz=315							
NATX	Nacogdoches	58.06	78	P		P	06 58 21.9	-0.1
	baz=315							
NATX	Nacogdoches	58.06	78	eP		P	06 58 22.6	+0.7
	comp=Z,41nm,0.8s							
NATX				LR		LR		
	comp=Z,2μm,19.0s							
V44A	Blytheville	58.08	71	P		P	06 58 21.1	-1.0
	baz=314							
140A	Cam and Jess,	58.10	77	P		P	06 58 22.3	+0.1
	baz=315							
Z41A	Richland Creek	58.13	76	P		P	06 58 22.2	-0.3
	baz=315							
933A	Laredo	58.17	85	P		P	06 58 23.1	+0.3
	baz=316,SNR=8.1							
735A	Kenedy	58.19	83	P		P	06 58 23.6	+0.7
	baz=316							
636A	Smothers Creek	58.20	82	P		P	06 58 23.6	+0.7
	baz=316							
ARCES	ARCESS Array B	58.22	353	P		P	06 58 21.3	-1.3
	comp=Z,20nm,0.7s,baz=19,slow=7.7,SNR=52							
ARCES				PcP		PcP	06 59 13.1	-0.3
	comp=Z,18nm,0.8s,baz=4.6,slow=6.1,SNR=8.2							
ARCES				LR		LR	07 23 03.3	
	comp=Z,3μm,21.7s,baz=360,slow=36							
ARCES				PKP2bc			07 28 11.2	
	comp=Z,2.9nm,0.8s,baz=201,slow=2.3,SNR=6.3							
537A	Green Hill Far	58.23	81	P		P	06 58 23.8	+0.6
	baz=316							
834A	Tilden	58.25	84	P		P	06

QZH	**Quanzhou**	**58.35**	**271**	⇑*i*	P		P	06 58 17.5	-6.5
QZH					S		**S**	**07 06 16.3**	**-6.5**
QZH					pmax		pmax		
	comp=Z,100nm,0.8s								
QZH					pmax		pmax		
	comp=Z,2µm,4.5s								
QZH					LR		LR		
	comp=Z,2µm,24.8s								
X43A	**Marvell**	**58.40**	**73**		P		**P**	**06 58 23.8**	**-0.6**
	baz=314,SNR=8.2								
240A	**Hunter Patters**	**58.41**	**77**		P		**P**	**06 58 24.3**	**-0.1**
	baz=315								
339A	**Huntington**	**58.42**	**78**		P		**P**	**06 58 24.4**	**-0.1**
	baz=315								
WCI	**Wyandotte Cave**	**58.51**	**67**	*e*P			**P**	**06 58 24.1**	**-1.0**
WCI					pmax		pmax		
	comp=Z,73nm,0.9s								
141A	**Papa Simpson,**	**58.53**	**76**		P		**P**	**06 58 25.2**	**0.0**
	baz=315								
736A	**Circle Diamond**	**58.57**	**82**		P		**P**	**06 58 26.5**	**+1.0**
	baz=316								
835A	**Beeville**	**58.58**	**83**		P		**P**	**06 58 26.9**	**+1.3**
	baz=316,SNR=6.0								
W44A	**Shelby Farms P**	**58.60**	**72**		P		**P**	**06 58 25.1**	**-0.6**
	baz=314								
Z42A	**Norrel Spur, H**	**58.63**	**75**		P		**P**	**06 58 25.6**	**-0.3**
	baz=315,SNR=9.7								
538A	**Harpers Horsep**	**58.64**	**80**		P		**P**	**06 58 26.7**	**+0.7**
	baz=316								
934A	**Benavides**	**58.64**	**84**		P		**P**	**06 58 27.3**	**+1.2**
	baz=316,SNR=7.9								
439A	**Center Grove,**	**58.67**	**79**		P		**P**	**06 58 26.6**	**+0.4**
	baz=316								
637A	**Eagle Lake**	**58.68**	**81**		P		**P**	**06 58 27.0**	**+0.8**
	baz=316								
V45A	**Humboldt**	**58.69**	**71**		P		**P**	**06 58 25.5**	**-0.8**
	baz=314								
340A	**Bronson**	**58.77**	**78**		P		**P**	**06 58 26.9**	**0.0**
	baz=315								
Y43A	**Makayla and Ka**	**58.80**	**74**		P		**P**	**06 58 26.8**	**-0.2**
	baz=315								
X44A	**Crenshaw**	**58.85**	**73**		P		**P**	**06 58 27.0**	**-0.5**
	baz=315								
LVZ	**Lovozero**	**58.90**	**349***c*	*i*P			**P**	**06 58 25.7**	**-1.7**
LVZ					pmax		pmax		
	comp=Z,92nm,1.0s								
LVZ	**Lovozero**	**58.90**	**349**		PFAKE			06 58 40.0	+13
LVZ					LR		LR		
	comp=Z,5µm,20.0s								
034A	**Hebbronville**	**58.93**	**85**		P		**P**	**06 58 28.8**	**+0.7**
	baz=317,SNR=7.2								
241A	**Mo Tay, Goldon**	**58.93**	**77**		P		**P**	**06 58 28.2**	**+0.2**
	baz=315,SNR=16								
W45A	**Hickory Valley**	**58.96**	**71**		P		**P**	**06 58 27.8**	**-0.4**
	baz=315,SNR=15								
ACSO	**Alum Creek Sta**	**58.99**	**63**	*e*P			**P**	**06 58 27.6**	**-0.8**
ACSO	comp=Z,35nm,0.8s				LR		LR		
	comp=Z,2µm,21.0s								
KVTX	**Kingsville**	**59.07**	**84**		PFAKE			06 58 40.0	+11
KVTX					LR		LR		
	comp=Z,2µm,20.0s								
WVT	**Waverly**	**59.08**	**70**	*e*P			**P**	**06 58 28.3**	**-0.7**
WVT					pmax		pmax		
	comp=Z,240nm,1.8s								
737A	**Port Lavaca**	**59.09**	**82**		P		**P**	**06 58 30.0**	**+0.9**
	baz=316								
Z43A	**Armstrong Fami**	**59.10**	**75**		P		**P**	**06 58 28.8**	**-0.4**
	baz=315								
142A	**Monroe**	**59.14**	**76**		P		**P**	**06 58 29.6**	**+0.1**
	baz=315								
539A	**Cross D Ranch,**	**59.19**	**79**		P		**P**	**06 58 30.4**	**+0.6**
	baz=316								
Y44A	**Strider, Charl**	**59.19**	**73**		P		**P**	**06 58 29.2**	**-0.6**
	baz=315,SNR=8.6								
440A	**Kirbyville**	**59.20**	**78**		P		**P**	**06 58 30.3**	**+0.4**
	baz=316								
638A	**Rosharon**	**59.23**	**81**		P		**P**	**06 58 30.8**	**+0.7**
	baz=316								
341A	**Kurthwood**	**59.26**	**77**		P		**P**	**06 58 30.5**	**+0.2**
	baz=316,SNR=17								
OXF	**Oxford**	**59.28**	**72**	*e*P			**P**	**06 58 30.3**	**-0.1**
OXF					pmax		pmax		
	comp=Z,200nm,1.0s								
OXF	**Oxford**	**59.28**	**72**	*e*P			**P**	**06 58 30.2**	**-0.1**
	comp=Z,200nm,1.0s								
X45A	**UM Field Stati**	**59.35**	**72**		P		**P**	**06 58 30.1**	**-0.8**
	baz=315,SNR=7.6								
143A	**Socs Landing,**	**59.36**	**75**		P		**P**	**06 58 30.9**	**0.0**
	baz=315,SNR=7.1								
242A	**Grayson**	**59.36**	**76**		P		**P**	**06 58 30.9**	**-0.1**
	baz=315,SNR=11								
APA	**Apatity**	**59.36**	**349**	⇓*i*P			P	06 58 24.3	-6.2
APA				*i*				07 00 43.0	
APA				*i*	PPP		PPP	07 02 16.0	
APA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
APA					MLR		MLR		
	comp=Z,6µm,19.0s								
GTA	**Gaotai**	**59.37**	**296**	⇑	P		**P**	**06 58 31.0**	**-0.2**
GTA					pP		pP	06 58 43.3	-2.1
GTA					sP		sP	06 58 49.0	-2.3
GTA					ScP		**ScP**	**07 03 15.8**	**+1.1**
GTA					S		**S**	**07 06 34.8**	**-1.2**
GTA					sS		sS	07 06 56.3	-3.6
GTA					ScS		**ScS**	**07 08 14.0**	**-2.7**
GTA					PMZ				
	comp=Z,27nm,2.0s								
GTA					PMZ				
	comp=Z,580nm,7.6s								
GTA					LN				
	comp=Z,5µm,18.1s								
GTA					LE				
	comp=Z,4µm,18.5s								
GTA					LZ				
	comp=Z,8µm,18.5s								
035A	**Encino**	**59.38**	**85**		P		**P**	**06 58 31.5**	**+0.3**
	baz=317								
LZH	**Lanzhou**	**59.39**	**290**	⇑	P		**P**	**06 58 32.3**	**+0.9**
LZH					pP		pP	06 58 44.0	-1.6
LZH					PP		**PP**	**07 00 45.0**	**+2.4**
LZH					S		**S**	**07 06 35.3**	**-1.1**
LZH					sS		sS	07 06 55.3	-4.9
LZH					ScS		**ScS**	**07 08 14.8**	**-2.2**
LZH					PMZ				
	comp=Z,79nm,1.0s								
LZH					PMZ				
	comp=Z,710nm,7.2s								
LZH					LN				
	comp=Z,4µm,17.0s								
LZH					LE				
	comp=Z,3µm,16.5s								
LZH					LZ				
	comp=Z,6µm,18.6s								
NRS	**Narsarsuaq**	**59.44**	**27**	*i*	P		**P**	**06 58 29.8**	**-1.3**
	comp=Z,29nm,1.0s								
936A	**North Padre Is**	**59.52**	**84**		P		**P**	**06 58 32.8**	**+0.7**
	baz=317								
738A	**Farr-Stevens R**	**59.52**	**81**		P		**P**	**06 58 31.9**	**-0.2**
	baz=316								
Z44A	**Pea Ridge, Bel**	**59.54**	**74**		P		**P**	**06 58 31.6**	**-0.6**
	baz=315,SNR=7.1								
Y45A	**Yeager Farm, C**	**59.65**	**73**		P		**P**	**06 58 32.4**	**-0.6**
	baz=315,SNR=9.6								
441A	**DeRidder**	**59.66**	**78**		P		**P**	**06 58 33.6**	**+0.5**
	baz=316								
035Z	**Hargill**	**59.74**	**85**		P		**P**	**06 58 34.4**	**+0.8**
	baz=317								
342A	**Flagon Creek P**	**59.74**	**77**		P		**P**	**06 58 33.9**	**+0.3**
	baz=316								
243A	**Waterproof**	**59.89**	**76**		P		**P**	**06 58 34.6**	**0.0**
	baz=316								
Z45A	**Winona**	**59.91**	**73**		P		**P**	**06 58 34.3**	**-0.4**
	baz=315								
M54A	**Oil Creek Stat**	**59.92**	**60**		P		**P**	**06 58 34.1**	**-0.7**
	baz=315,SNR=16								
144A	**Alexander Plac**	**60.00**	**74**		P		**P**	**06 58 35.0**	**-0.4**
	baz=315								
Y46A	**Houston**	**60.05**	**72**		P		**P**	**06 58 35.1**	**-0.6**
	baz=315,SNR=38								
ENH	**Enshi**	**60.12**	**282**	*e*P			**P**	**06 58 36.0**	**-0.3**
ENH	comp=Z,74nm,1.2s				LR		LR		
	comp=Z,3µm,19.0s								
N54A	**Moraine State**	**60.12**	**61**		P		**P**	**06 58 35.5**	**-0.6**
	baz=315,SNR=26								
541A	**Lake Charles**	**60.15**	**78**		P		**P**	**06 58 35.4**	**-1.1**
	baz=316								
343A	**Vidalia**	**60.23**	**76**		P		**P**	**06 58 36.8**	**-0.2**
	baz=316								
244A	**Avery, Jackson**	**60.26**	**75**		P		**P**	**06 58 37.0**	**-0.1**
	baz=316,SNR=20								
145A	**Houston Renfro**	**60.31**	**74**		P		**P**	**06 58 37.0**	**-0.5**
	baz=316,SNR=8.1								
LMQ	**La Malbaie**	**60.38**	**50**	*e*P			**P**	**06 58 37.1**	**-0.7**
LONY	**Lake Ozonia**	**60.38**	**55**		PFAKE			06 58 50.0	+12
LONY					LR		LR		
	comp=Z,4µm,19.0s								
Z46A	**Louisville**	**60.48**	**73**		P		**P**	**06 58 38.1**	**-0.5**
	baz=316,SNR=6.9								
542A	**Morse**	**60.49**	**78**		P		**P**	**06 58 39.1**	**+0.3**
	baz=316								
443A	**Delano Plantat**	**60.50**	**77**		P		**P**	**06 58 39.3**	**+0.4**
	baz=316								
Y47A	**UCPARC, Winfie**	**60.63**	**72**		P		**P**	**06 58 38.8**	**-0.9**
	baz=315,SNR=38								
344A	**Westbrook Farm**	**60.65**	**76**		P		**P**	**06 58 39.9**	**+0.1**
	baz=316,SNR=13								
FUNA	**Funafuti**	**60.68**	**190**		PFAKE			06 58 50.0	+10
FUNA					LR		LR		
	comp=Z,9µm,19.0s								
245A	**Little AP, Sta**	**60.73**	**75**		P		**P**	**06 58 40.0**	**-0.4**
	baz=316,SNR=8.7								
146A	**Union**	**60.81**	**73**		P		**P**	**06 58 40.3**	**-0.6**
	baz=316,SNR=7.6								
543A	**St. Martinvill**	**60.94**	**77**		P		**P**	**06 58 42.1**	**+0.3**
	baz=316								
Z47A	**Carrollton**	**60.99**	**72**		P		**P**	**06 58 41.3**	**-0.9**
	baz=316,SNR=27								
444A	**Pine Grove**	**61.16**	**76**		P		**P**	**06 58 43.3**	**0.0**
	baz=316								
345A	**Thompson Farm,**	**61.17**	**75**		P		**P**	**06 58 43.1**	**-0.3**
	baz=316								
Z48A	**Northport**	**61.17**	**72**		P		**P**	**06 58 42.3**	**-1.0**
	baz=316,SNR=37								
246A	**Jackson Lee, B**	**61.21**	**74**		P		**P**	**06 58 43.2**	**-0.4**
	baz=316								
147A	**Livingston**	**61.25**	**73**		P		**P**	**06 58 43.3**	**-0.5**
	baz=316,SNR=17								
SEM	**Semipalatinsk**	**61.27**	**316**	*e*P			**P**	**06 58 41.1**	**-2.7**
	comp=Z,227nm,0.8s								
SEM					*e*S		**S**	**07 06 58.2**	**-1.5**
SEM					LR		LR	07 24 33.7	
	comp=Z,2µm,18.5s								
544A	**White Castle**	**61.34**	**77**		P		**P**	**06 58 45.2**	**+0.7**
	baz=316								
BINY	**Binghamton**	**61.38**	**57**		PFAKE			06 59 00.0	+15
BINY					LR		LR		
	comp=Z,7µm,20.0s								
O56A	**Blue Knob Stat**	**61.38**	**60**		P		**P**	**06 58 44.1**	**-0.6**
	baz=316,SNR=28								
445A	**Amite**	**61.40**	**76**		P		**P**	**06 58 44.7**	**-0.2**
	baz=316								
346A	**Big Creek Wild**	**61.45**	**75**		P		**P**	**06 58 45.0**	**-0.3**
	baz=316								
BORG	**Borgarnes**	**61.45**	**14**		P		**P**	**06 58 45.0**	**+0.2**
	comp=Z,38nm,0.9s,baz=337,slow=4.3,SNR=5.4								
BORG	**Borgarnes**	**61.45**	**14**		P		**P**	**06 58 45.0**	**+0.2**
BORG					pmax		pmax		
	comp=Z,38nm,0.9s								
BORG	**Borgarnes**	**61.45**	**14**		P		**P**	**06 58 45.0**	**+0.2**
BORG					LR		LR		
	comp=Z,3µm,21.0s								
247A	**Quitman**	**61.49**	**74**		P		**P**	**06 58 45.4**	**-0.1**
	baz=316,SNR=8.3								
ZSN	**Zaisan**	**61.59**	**311**	*i*	P		P	06 58 40.9	-5.1
	comp=Z,443nm,1.1s								
ZSN					*e*S		**S**	**07 07 00.4**	**-3.5**
ZSN					LR		LR	07 25 09.8	
	comp=Z,1µm,16.9s								
KURK	**Kurchatov**	**61.73**	**317***c*	*i*P			**P**	**06 58 46.2**	**-0.7**
KURK					pmax		pmax		
	comp=Z,710nm,2.1s								
KURK	**Kurchatov**	**61.73**	**317**		PFAKE			06 59 00.0	+13
KURK					LR		LR		
	comp=Z,7µm,20.0s								
TKL	**Tuckaleechee C**	**61.75**	**68**		P		**P**	**06 58 46.2**	**-1.0**
	comp=Z,14nm,0.6s,baz=320,slow=10,SNR=24								
TKL	**Tuckaleechee C**	**61.75**	**68**	*e*P			**P**	**06 58 46.3**	**-1.0**
TKL					pmax		pmax		
	comp=Z,170nm,1.8s								
KURBB	**Kurchatov Arra**	**61.84**	**317**		P		**P**	**06 58 47.0**	**-0.6**
	comp=Z,49nm,0.7s,baz=44,slow=6.9,SNR=170								
KURBB					ScP		**ScP**	**07 03 27.2**	**+2.0**
	comp=Z,7.2nm,1.1s,baz=34,slow=4.1,SNR=6.2								
KURBB					PKPPKP		**P'P'df**	**07 27 59.8**	**-2.2**
	comp=Z,0.8nm,0.9s,baz=228,slow=2.9,SNR=5.6								
248A	**Dixon Mills**	**61.97**	**73**		P		**P**	**06 58 48.5**	**-0.3**
	baz=316,SNR=15								
347A	**Saraland**	**61.99**	**74**		P		**P**	**06 58 48.8**	**-0.1**
	baz=316,SNR=15								
645A	**Chauvin**	**62.15**	**77**		P		**P**	**06 58 50.7**	**+0.7**
	baz=317								
447A	**Lucedale**	**62.36**	**75**		P		**P**	**06 58 51.5**	**+0.2**
	baz=316								
348A	**Jackson**	**62.37**	**74**		P		**P**	**06 58 51.2**	**-0.2**
	baz=316,SNR=5.2								
N59A	**State Game Lan**	**62.41**	**58**		P		**P**	**06 58 51.5**	**-0.1**
	baz=316,SNR=33								
646A	**Port Sulphur**	**62.53**	**76**		P		**P**	**06 58 52.1**	**-0.4**
	baz=317								
PKME	**Peaks-Kenny Pk**	**62.53**	**51**		PFAKE			06 59 00.0	+7.7
PKME					LR		LR		
	comp=Z,12µm,19.0s								
BLA	**Blacksburg**	**62.54**	**64**	*e*P			**P**	**06 58 52.5**	**-0.1**
BLA					pmax		pmax		
	comp=Z,140nm,0.9s								
BLA	**Blacksburg**	**62.54**	**64**	*e*P			**P**	**06 58 52.5**	**-0.1**
	comp=Z,141nm,0.9s								
BLA					LR		LR		
	comp=Z,3µm,19.0s								
CHKZ	**Chkalovo**	**62.62**	**324**	*i*	P		**P**	**06 58 51.0**	**-1.7**
CHKZ					pmax		pmax		
	comp=Z,50nm,1.1s								
WMQ	**Urumqi**	**62.65**	**307**		P		**P**	**06 58 54.3**	**+1.1**
WMQ					PcP		**PcP**	**06 59 32.5**	**+0.8**
WMQ					PP		**PP**	**07 01 15.0**	**+4.0**
WMQ					S		**S**	**07 07 14.5**	**-3.0**
WMQ					ScS		**SKKSac**	**07 08 36.3**	**-4.7**
WMQ					PMZ				
	comp=Z,34nm,0.7s								
WMQ					PMZ				
	comp=Z,450nm,3.7s								
WMQ					LN				
	comp=Z,2µm,18.1s								
WMQ					LE				
	comp=Z,2µm,19.5s								
WMQ					LZ				
	comp=Z,2µm,20.7s								
448A	**Bay Minette**	**62.73**	**74**		P		**P**	**06 58 53.2**	**-0.7**
	baz=317								
GZH	**Guangzhou**	**62.96**	**273**		P		**P**	**06 58 51.0**	**-4.4**
GZH					S		**S**	**07 07 16.8**	**-4.8**
GZH					pmax		pmax		
	comp=Z,2µm,3.4s								
BRAL	**Brewton**	**63.05**	**73**		PFAKE			06 59 10.0	+14
BRAL					LR		LR		
	comp=Z,2µm,19.0s								
MK31	**Makanchi Array**	**63.05**	**312**	*e*P			**P**	**06 58 55.3**	**-0.5**
MKAR	**Makanchi Array**	**63.05**	**312**	P			**P**	**06 58 54.6**	**-1.2**
	comp=Z,20nm,0.7s,baz=49,slow=6.0,SNR=106								
MKAR					PKPPKP		**P'P'df**	**07 27 54.3**	**-5.6**
	comp=Z,0.9nm,0.9s,baz=188,slow=1.0,SNR=3.9								
MKAR					PKP2bc			07 28 00.7	
	comp=Z,0.8nm,0.9s,baz=224,slow=3.3,SNR=4.4								
MKAR					LR		LR	07 28 43.9	
	comp=Z,3µm,19.4s,baz=34,slow=38								
CD2	**Chengdu**	**63.10**	**286**	⇑	P		**P**	**06 58 57.0**	**+0.6**
CD2					pP		sP	06 59 15.5	-1.1
CD2					PcS			07 03 34.0	
CD2					S		**S**	**07 07 22.0**	**-1.5**
CD2					SS		**SS**	**07 11 29.5**	**0.0**
CD2					PMZ				
	comp=Z,60nm,0.9s								
CD2					PMZ				
	comp=Z,870nm,4.8s								
CD2					LN				
	comp=Z,3µm,29.8s								
CD2					LE				
	comp=Z,4µm,21.4s								
CD2					LZ				
	comp=Z,4µm,20.4s								
MAKZ	**Makanchi**	**63.18**	**312**	*e*P			**P**	**06 58 56.2**	**-0.4**
MAKZ					pmax		pmax		
	comp=Z,41nm,1.2s								
BVA0	**Borovoye Array**	**63.22**	**323**		P		**P**	**06 58 55.5**	**-1.3**
BVA0					pmax		pmax		
	comp=Z,74nm,0.7s								
BVAR	**Borovoye Array**	**63.22**	**323**		PKPPKP			07 27 58.7	
	comp=Z,1.3nm,0.7s,baz=225,slow=1.5,SNR=5.5								
BVAR					LR		LR	07 28 49.7	
	comp=Z,5µm,19.1s,baz=47,slow=38								
BRVK	**Borovoye**	**63.23**	**323***c*	*i*P			**P**	**06 58 55.2**	**-1.6**
BRVK					pmax		pmax		
	comp=Z,60nm,0.8s								
BRVK	**Borovoye**	**63.23**	**323**		PFAKE			06 59 10.0	+13
BRVK					LR		LR		
	comp=Z,4µm,20.0s								
VOSK	**Vostochnaya**	**63.23**	**323**		P		**P**	**06 58 54.0**	**-2.9**
VOSK					pmax		pmax		
	comp=Z,67nm,1.4s								
PAL	**Palisades**	**63.32**	**57**	*e*P			**P**	**06 58 57.7**	**+0.1**
PAL					pmax		pmax		
	comp=Z,110nm,1.0s								
SVE	**Sverdlovsk**	**63.40**	**331***d*	*i*P			**P**	**06 58 57.5**	**-0.4**
SVE				*e*				07 01 16.1	
SVE				*e*	PPP		PPP	07 02 55.9	
SVE				*e*	S		**S**	**07 07 24.0**	**-2.3**
SVE				*e*	SS		**SS**	**07 11 32.2**	**-0.5**
SVE					pmax		pmax		
	comp=Z,74nm,0.9s								
SVE					MLR		MLR		
	comp=Z,5µm,21.0s								
HRV	**Adam Dziewonsk**	**63.43**	**54**	*e*P			**P**	**06 58 58.2**	**-0.1**
HRV					pmax		pmax		
	comp=Z,60nm,1.0s								
CBN	**Corbin Frederi**	**63.50**	**61**		PFAKE			06 59 10.0	+11
CBN					LR		LR		
	comp=Z,8µm,19.0s								
KMSC	**Kings Mountain**	**63.51**	**66**		P		**P**	**06 58 58.6**	**-0.4**
	baz=317,SNR=48								
KMSC	**Kings Mountain**	**63.51**	**66**	*e*P			**P**	**06 58 58.4**	**-0.5**
	comp=Z,121nm,0.9s								
GOGA	**Godfrey**	**63.53**	**69**	*e*P			**P**	**06 58 57.9**	**-1.2**
GOGA					pmax		pmax		
	comp=Z,53nm,0.9s								
GOGA	**Godfrey**	**63.53**	**69**		PFAKE			06 59 10.0	+11
GOGA					LR		LR		
	comp=Z,4µm,19.0s								
WES	**Weston**	**63.64**	**54**	*e*P			**P**	**06 58 59.6**	**-0.1**
WES					pmax		pmax		
	comp=Z,140nm,0.9s								
ZRNK	**Zerenda**	**63.78**	**324**	*i*P			**P**	**06 58 59.8**	**-0.7**
ZRNK					pmax		pmax		
	comp=Z,82nm,0.6s								
JSC	**Jenkinsville**	**64.17**	**67**	*e*P			**P**	**06 59 03.0**	**-0.3**
JSC					pmax		pmax		
	comp=Z,63nm,0.8s								
ARU	**Arti**	**64.35**	**332***c*	*i*P			**P**	**06 59 03.1**	**-1.0**
ARU					*PP		**pP**	**06 59 15.6**	**-2.9**
ARU				*e*				06 59 36.3	
ARU								07 01 22.5	
ARU					PPP		PPP	07 02 57.1	
ARU					S		**S**	**07 07 37.6**	**-0.5**
ARU								07 08 51.0	
ARU					SS		**SS**	**07 11 43.5**	**-4.0**
ARU					pmax		pmax		
	comp=Z,69nm,0.7s								
ARU	**Arti**	**64.35**	**332**	*e*P			**P**	**06 59 03.1**	**-1.0**
	comp=Z,74nm,0.7s								
ARU					LR		LR		
	comp=Z,3µm,21.0s								
GYA	**Guiyang**	**64.59**	**281**	⇑*i*P			**P**	**06 59 06.5**	**+0.2**
GYA					pP		pP	06 59 20.0	-0.7
GYA					PP		**PP**	**07 01 32.3**	**+3.8**
GYA					ScP			07 03 40.0	
GYA					S		**S**	**07 07 43.5**	**+1.4**
GYA					sS		sS	07 08 03.3	-2.9
GYA					ScS		**SKSac**	**07 08 54.3**	**-2.0**
GYA					PMZ				
	comp=Z,70nm,0.8s								
GYA					PMZ				
	comp=Z,410nm,5.4s								
GYA					LN				
	comp=Z,1µm,20.1s								
GYA					LE				
	comp=Z,1µm,22.9s								
GYA					LZ				
	comp=Z,960nm,20.1s								
BRZS	**Berezniki**	**64.73**	**320**	*e*P			**P**	**06 59 04.8**	**-2.0**
	comp=Z,98nm,1.2s								
BRZS					LR		LR	07 27 50.1	
	comp=Z,110nm,16.7s								
KLMR	**Klimovskoe**	**64.84**	**344**	*e*P			**P**	**06 59 04.8**	**-2.4**
KLMR					pmax		pmax		
	comp=Z,22nm,0.9s								
TIGA	**Tifton**	**64.89**	**71**		P		**P**	**06 59 07.0**	**-1.0**
	baz=317								
CNNC	**Cliffs of the**	**65.37**	**64**		PFAKE			06 59 20.0	+8.9
CNNC					LR		LR		
	comp=Z,3µm,20.0s								
AFI	**Afiamalu**	**65.53**	**180**		LR		LR	07 22 16.5	
	comp=Z,2µm,21.0s,baz=326,slow=31								
NHSC	**New Hope**	**65.64**	**67**		PFAKE			06 59 30.0	+17
NHSC					LR		LR		
	comp=Z,4µm,20.0s								
HNR	**Honiara**	**65.76**	**211**		LR		LR	07 22 10.3	
	comp=Z,4µm,21.8s,baz=13,slow=31								
FINES	**FINESS Array B**	**66.11**	**351**		P		**P**	**06 59 13.9**	**-1.5**
	comp=Z,26nm,0.8s,baz=28,slow=8.6,SNR=89								
FINES					PKPPKP		**P'P'df**	**07 27 49.4**	**-6.1**
	comp=Z,2.6nm,0.8s,baz=90,slow=3.8,SNR=6.9								
FINES					LR		LR	07 31 27.6	
	comp=Z,3µm,18.6s,baz=19,slow=39								
OTUK	**Ortayu**	**66.25**	**319**		P		**P**	**06 59 15.0**	**-1.6**
OTUK					pmax		pmax		
	comp=Z,73nm,1.3s								
TAOE	**Nuku Hiva Isla**	**66.33**	**146**	*e*S			**S**	**07 08 00.6**	**-2.7**
	comp=Z,1µm,24.3s								
TAOE					*e*SS		**SS**	**07 12 17.3**	**-3.5**
	comp=Z,1µm,25.6s								
TAOE					*e*LR		LR	07 19 14.7	
	comp=Z,9µm,22.9s								
TAOE	**Nuku Hiva Isla**	**66.33**	**146**	*e*T			T	08 11 39.7	
	comp=Z,97nm,0.2s								
SHLS	**Shalkode**	**66.92**	**311**	*i*P			**P**	**06 59 19.4**	**-1.8**
	comp=Z,627nm,1.3s								
SHLS					*e*S		**S**	**07 08 09.9**	**-0.3**
SHLS					LR		LR	07 29 08.5	
	comp=Z,569nm,17.3s								
PDGK	**Podgornoye**	**66.97**	**311**	*i*P			**P**	**06 59 22.1**	**+0.9**
UZB	**Uzynbulak**	**67.32**	**311**	*i*P			**P**	**06 59 22.4**	**-1.3**
	comp=Z,293nm,1.4s								
UZB					*e*S		**S**	**07 08 15.1**	**0.0**
UZB					LR		LR	07 28 39.0	
	comp=Z,1µm,17.8s								
NBO02	**NORSAR Array S**	**67.38**	**359**	*e*P			**P**	**06 59 23

KMI PMZ
comp=Z,890nm,4.8s
KMI LN
comp=Z,2µm,18.1s
KMI LE
comp=Z,2µm,19.1s
KMI LZ
comp=Z,2µm,21.6s
KUU Kurty 67.97 314 *i* P **P 06 59 25.2 -2.4**
comp=Z,339nm,1.1s
KUU *i* PP **PP 07 01 54.3 -3.1**
KUU *e*S **S 07 08 21.9 -0.5**
KUU LR LR 07 29 41.4
comp=Z,1µm,18.5s
QIZ Qiongzhong 68.15 273 P **P 06 59 30.5 +1.5**
QIZ S **S 07 08 27.5 +2.4**
QIZ PMZ
comp=Z,380nm,6.0s
QIZ LN
comp=Z,650nm,20.3s
QIZ LE
comp=Z,910nm,19.4s
QIZ LZ
comp=Z,1µm,22.8s
QIZ Qiongzhong 68.15 273 PFAKE 06 59 40.0 +11
QIZ LR LR
comp=Z,1µm,19.0s
AAA Alma-Ata 68.18 313 *i* P **P 06 59 29.2 +0.2**
AAA pmax pmax
comp=Z,800nm,2.5s
AAA MLR MLR
comp=Z,3µm,12.0s
MDOK Medeo 68.22 313 *i* P **P 06 59 27.0 -2.3**
comp=Z,489nm,0.9s
MDOK *i* PP **PP 07 01 57.2 -2.5**
MDOK *e*S **S 07 08 24.9 -0.9**
MDOK LR LR 07 29 37.5
comp=Z,566nm,17.6s
HFS Hagfors 68.23 357 LR LR 07 31 49.2
comp=Z,1µm,18.4s,baz=18,slow=38
KONO Kongsberg 68.80 359 *ce*P **P 06 59 31.9 -0.5**
KONO pmax pmax
comp=Z,232nm,1.7s
KONO Kongsberg 68.80 359 *e*P **P 06 59 32.0 -0.5**
comp=Z,17nm,0.8s
KONO LR LR
comp=Z,2µm,19.0s
VSU Vasula 68.97 350 *c i*P **P 06 59 32.8 -0.7**
VSU pmax pmax
comp=Z,230nm,0.7s
TKM2 Tokmak 2 69.07 313 *e*P **P 06 59 34.7 0.0**
TKM2 Tokmak 2 69.07 313 PFAKE 06 59 50.0 +15
TKM2 LR LR
comp=Z,3µm,20.0s
FRU Bishkek 69.57 314 ⇑ *i*P **P 06 59 36.0 -1.6**
FRU *e* 06 59 55.0
FRU *e* 07 02 06.0
FRU *e*S **S 07 08 36.0 -5.5**
FRU *e* 07 09 33.0
FRU pmax pmax
comp=Z,420nm,2.2s
FRU smax smax
comp=N,90nm,2.5s
AAK Ala-Archa 69.78 314 P **P 06 59 39.4 +0.3**
comp=N,85nm,0.8s,baz=72,slow=5.3,SNR=76
AAK Ala-Archa 69.78 314 P **P 06 59 39.1 0.0**
SNR=40
AAK P **P 06 59 39.1 0.0**
SNR=40
AAK Ala-Archa 69.78 314 *e*P **P 06 59 39.3 +0.3**
comp=N,75nm,0.8s
AAK LR LR
comp=Z,3µm,21.0s
MSVF Nonsavu 69.90 190 PFAKE 06 59 50.0 +10
MSVF LR LR
comp=Z,8µm,21.0s
MOS Moscow 70.00 343 *e*P **P 06 59 35.8 -4.1**
MOS *e* 06 59 49.5
MOS *e* 07 02 09.2
MOS pmax pmax
comp=Z,56nm,0.8s
AB31 Akbulak array 70.04 327 *i* P **P 06 59 39.1 -1.2**
AB31 pmax pmax
comp=Z,24nm,0.6s
ABKAR Akbulak array 70.04 327 *e*P **P 06 59 39.7 -0.6**
comp=Z,23nm,0.6s
VAH Vaihoa 70.07 155 *e*P **P 06 59 41.1 +0.4**
comp=Z,64nm,0.9s
EKS2 Erkin-Say 70.08 314 *e*P **P 06 59 41.2 +0.3**
EKS2 Erkin-Say 70.08 314 *e*P **P 06 59 41.2 +0.3**
EKS2 LR LR
comp=Z,3µm,19.0s
TEIG Tepich 70.37 82 PFAKE 07 00 00.0 +17
TEIG LR LR
comp=Z,375nm,20.0s
PMG Port Moresby 70.53 223 P **P 06 59 45.3 +1.7**
comp=Z,16nm,0.8s,baz=27,slow=5.8,SNR=3.7
PMG Port Moresby 70.53 223 P **P 06 59 45.3 +1.7**
PMG LR LR
comp=Z,4µm,20.0s
MNAS Manas 70.78 315 *i* P **P 06 59 44.6 -0.5**
MNAS pmax pmax
comp=Z,45nm,0.7s
OBN Obninsk 70.79 343 ⇓ *e*P **P 06 59 43.4 -1.3**
OBN *e* 07 02 19.1
OBN *i* S **S 07 08 59.2 +4.1**
OBN pmax pmax
comp=Z,24nm,0.6s
OBN Obninsk 70.79 343 PFAKE 07 00 00.0 +15
OBN LR LR
comp=Z,4µm,19.0s
KK31 Karatay Array 71.14 317 *i* P **P 06 59 46.1 -1.0**
KK31 pmax pmax
comp=Z,30nm,0.7s
KKAR Karatay Array 71.14 317 *e*P **P 06 59 46.4 -0.8**
KKAR pmax pmax
comp=Z,33nm,0.7s
KKAR Karatay Array 71.14 317 *e*P **P 06 59 46.4 -0.8**
comp=Z,33nm,0.7s
LSA Lhasa 71.32 294 P **P 06 59 50.3 +1.3**
LSA PMZ
comp=Z,59nm,1.3s
LSA Lhasa 71.32 294 *e*P **P 06 59 50.2 +1.3**
LSA pmax pmax
comp=Z,62nm,0.8s
LSA MLR MLR
comp=Z,3µm,19.0s
LSA Lhasa 71.32 294 *e*P **P 06 59 50.2 +1.2**
comp=Z,62nm,0.8s
LSA LR LR
comp=Z,3µm,19.0s
KSH Kashi 71.59 311 *e*P **P 06 59 53.5 +3.4**
KSH pP pP 07 00 05.5 +0.9
KSH PcP **sP 07 00 12.8 +2.4**
KSH PP **PP 07 02 34.5 +5.7**
KSH S **S 07 09 09.3 +4.0**
KSH ScS **ScS 07 09 51.3 +0.5**
KSH SS **SS 07 13 46.0 +5.7**
KSH PMZ
comp=Z,64nm,0.8s
KSH PMZ
comp=Z,690nm,3.2s
KSH LN
comp=Z,1µm,14.0s
KSH LE
comp=Z,3µm,15.8s
KSH LZ
comp=Z,5µm,17.3s
BRLS Boroldaу 71.75 317 *i* P **P 06 59 49.1 -1.7**
comp=Z,29nm,1.4s
BRLS *e*S **S 07 09 06.6 -0.2**
BRLS LR LR 07 31 26.3
comp=Z,782nm,13.3s
PPT Papeete 71.83 158 LR LR 07 24 34.5
comp=Z,2µm,21.3s,baz=300,slow=30
PPT2 Papeete2 71.85 158 *e*S **S 07 09 03.8 -4.4**
comp=Z,5µm,29.0s
PPT2 Papeete2 71.85 158 *e*LR LR 07 21 38.8
comp=Z,5µm,22.5s
PPT2 Papeete2 71.85 158 *e*T T 08 18 33.4
comp=Z,11nm,0.3s
TIAR Tiarei 71.87 158 *e*T T 08 18 35.1
comp=Z,8.5nm,0.2s
PAE Paea 71.92 158 *e*T T 06 59 38.5
comp=Z,1.3nm,0.3s
PAE Paea 71.92 158 *e*T T 08 18 38.3
comp=Z,1.9nm,0.3s
MUD Monsted U'grnd 72.01 359 *i* P **P 06 59 51.9 -0.1**
comp=Z,2µm,18.0s
TVO Taravao 72.11 157 *e*T T 06 59 50.6
comp=Z,0.9nm,0.3s
IUG Iuzhnay 72.13 316 *i* P **P 06 59 51.4 -1.8**
comp=Z,653nm,1.1s
IUG LR LR 07 31 07.6
comp=Z,1µm,19.1s
MICGM Minsk 72.71 348 *e*P **P 06 59 57.0 +0.7**
MICGM *e*pP **pP 07 00 12.0 +1.1**
MICGM *es*P **sP 07 00 21.0 +4.3**
MICGM *e*PP PP 07 02 48.0 +10
MICGM *e*PPP PPP 07 04 28.0
MICGM *e*S **S 07 09 12.0 -5.3**
MICGM *es*S **ScS 07 10 00.0 +1.1**
MICGM *e*PS **PnS 07 10 06.0 +12**
MICGM *e*SS SS 07 13 18.0 -38
MICGM *e*LR LR 07 25 20.0
MICGM LRM MLR 07 33 36.0
comp=Z,6.2nm,21.0s
MNK Minsk 72.71 348 *e*P **P 06 59 57.0 +0.7**
MNK *e**PP **pP 07 00 12.0 +1.1**
MNK *e*PPP PPP 07 04 28.0
MNK *e*S **S 07 09 12.0 -5.3**
MNK *e**SS **ScS 07 10 00.0 +1.1**
MNK *e*PS **PnS 07 10 06.0 +12**
MNK MLR MLR
comp=Z,6µm,21.0s
EKA Eskdalemuir Ar 72.72 7 P **P 06 59 55.9 -0.4**
baz=1.1,slow=4.7
COP Copenhagen 72.73 358 *i* P **P 06 59 54.8 -1.5**
comp=Z,22nm,0.6s
ESK Eskdalemuir 72.73 7 *e*P **P 06 59 56.1 -0.3**
ESK Eskdalemuir 72.73 7 PFAKE 07 00 10.0 +14
ESK LR LR
comp=Z,3µm,22.0s
BSD Bornholm Skovb 73.21 356 *i* P **P 06 59 58.4 -0.8**
comp=Z,22nm,0.9s
comp=Z,3µm,20.0s
SKNT Sakolnakorn 73.32 276 P **P 07 00 02.2 +1.7**
comp=Z,101nm,2.1s,comp=Z,4µm
VRH Novokhopyorsk 73.44 339 *e*P **P 07 00 00.2 -0.4**
VRH *e*S **S 07 09 20.9 -4.8**
VRH pmax pmax
comp=Z,80nm,1.0s
VRH pmax pmax
comp=Z,110nm,1.1s
MYLDM Lahad Datu 73.50 257 *e*P **P 07 00 05.1 +3.6**
RAR Rarotonga 73.55 168 LR LR 07 25 38.8
comp=Z,3µm,20.4s,baz=328,slow=30
SUW Suwalki 73.72 351 *e*P **P 07 00 00.7 -1.5**
SUW LMZ LR 07 32 04.6
comp=Z,4µm,25.0s
SUW Suwalki 73.72 351 *e*P **P 07 00 00.7 -1.5**
SUW MLR MLR
comp=Z,4µm,25.0s
VSR Storozhevoye 73.98 340 *e*P **P 07 00 03.3 -0.5**
VSR *e*S **SKiKP 07 09 28.6 +1.6**
VSR pmax pmax
comp=Z,70nm,1.1s
VSR pmax pmax
comp=Z,50nm,0.6s
SHL Shillong 74.05 291 *e*P **P 07 00 02.0 -2.9**
SHL *e*S **S 07 09 34.0 +0.3**
KKM Kota Kinabalu 74.20 259 P **P 07 00 05.4 -0.4**
KHON Khomkaen 74.52 277 P **P 07 00 10.0 +2.5**
comp=Z,30nm,0.9s,comp=Z,945nm
LOEI Loei 74.58 279 P **P 07 00 07.0 -0.8**
comp=Z,24nm,2.5s,comp=Z,930nm
BBSR BB Station 74.67 57 *e*P **P 07 00 08.2 +0.1**
comp=Z,36nm,0.7s
BBSR LR LR
comp=Z,2µm,19.0s
LAMP Lampang 74.81 281 P **P 07 00 12.6 +3.5**
comp=Z,11nm,1.1s,comp=Z,1µm
UTTA Uttaradit 74.84 279 P **P 07 00 10.5 +1.2**
comp=Z,17nm,0.7s,comp=Z,132nm
GKP Gorka Klasztor 74.93 354 *e*P **P 07 00 08.5 -0.8**
GKP LMZ LR 07 32 43.0
comp=Z,5µm,23.4s
GKP Gorka Klasztor 74.93 354 *e*P **P 07 00 08.5 -0.8**
GKP MLR MLR
comp=Z,5µm,23.4s
CMMT Chiang Mai 75.00 281 P **P 07 00 11.1 +0.8**
comp=Z,75nm,1.1s,comp=Z,1µm
CHTO Chiang Mai 75.00 281 P **P 07 00 11.1 +0.8**
comp=Z,196nm,1.8s,comp=Z,6µm
CHTO Chiang Mai 75.00 281 *e*P **P 07 00 11.4 +1.1**
CHTO Chiang Mai 75.00 281 P **P 07 00 11.1 +0.8**
SNR=16
CHTO P **P 07 00 11.1 +0.8**
SNR=16
CHTO Chiang Mai 75.00 281 PFAKE 07 00 20.0 +10
CHTO LR LR
comp=Z,1µm,19.0s
CMAR Chiang Mai Arr 75.28 281 P **P 07 00 12.7 +0.9**
comp=Z,13nm,0.5s,baz=52,slow=9.3,SNR=40
CMAR LR LR 07 37 26.8
comp=Z,1µm,18.3s,baz=42,slow=39
VAL Valentia 75.37 12 *e*P **P 07 00 12.8 +1.0**
VAL Valentia 75.37 12 ⇑ *i*S S 07 10 00.5 +13
CHAI Chaiyaphum 75.37 277 P **P 07 00 15.8 +3.4**
comp=Z,8.8nm,1.2s
PBKT Sadao Pong 75.48 278 P **P 07 00 14.9 +1.9**
comp=Z,35nm,2.2s,comp=Z,1µm
GUN Gumba 75.64 297 *e*P **P 07 00 14.8 +0.6**
comp=Z,167nm,0.8s
KKN Kakani 76.06 297 *e*P **P 07 00 16.8 +0.3**
comp=Z,101nm,0.9s
DZM Mont Dzumac 76.09 201 *e*P **P 07 00 15.3 -1.0**
comp=Z,86nm,1.6s
DZM *e*S **S 07 09 52.0 -3.8**
comp=Z,1µm,28.4s
DZM Mont Dzumac 76.09 201 *e*LR LR 07 23 35.6
comp=Z,8µm,21.1s
DZM Mont Dzumac 76.09 201 LR LR 07 28 26.3
comp=Z,6µm,20.6s,baz=41,slow=31
DZM Mont Dzumac 76.09 201 *e*P **P 07 00 16.4 +0.1**
BEL Belsk 76.10 352 *e*P **P 07 00 15.6 -0.4**
BEL LMZ LR 07 32 52.9
comp=Z,3µm,25.5s
BEL Belsk 76.10 352 *e*P **P 07 00 15.6 -0.4**
PKIN Phulchoki 76.17 297 *e*P **P 07 00 17.5 +0.4**
comp=Z,42nm,0.7s
AKASG Malin Array Be 76.24 346 P **P 07 00 14.8 -2.0**
comp=Z,15nm,0.7s,baz=16,slow=5.8,SNR=33
KIEV Kiev 76.25 346 *c i*P **P 07 00 14.7 -2.2**
KIEV pmax pmax
comp=Z,18nm,0.7s
KIEV Kiev 76.25 346 PFAKE 07 00 30.0 +13
KIEV LR LR
comp=Z,6µm,22.0s
GKN Gorkha 76.25 298 *e*P **P 07 00 17.7 +0.2**
comp=Z,146nm,0.8s
DMN Daman 76.30 297 *e*P **P 07 00 18.1 +0.2**
comp=Z,205nm,1.3s
COEN Coen 76.31 225 *ep*P pP 07 00 32.0 -0.3
KOLN Koldanda 77.00 298 *e*P **P 07 00 21.8 0.0**
UMPA Umpang Tak 77.05 280 P **P 07 00 26.4 +4.5**
comp=Z,12nm,0.9s,comp=Z,979nm
PYUN Piuthan 77.07 299 *e*P **P 07 00 22.3 +0.1**
comp=Z,339nm,1.1s
CLL Collm 77.09 357 *e*P **P 07 00 21.0 -0.6**
comp=Z,11nm,0.6s
CLL *e* 07 00 33.0
CLL *e*PP **PP 07 03 18.0 +3.2**
CLL *e*PPP PPP 07 05 06.0
CLL *e*S **S 07 10 06.0 -0.1**
CLL *e*PS **PnS 07 10 46.0 -4.2**
CLL *e*SS SS 07 15 14.0 +11
CLL *e*SSSS 07 20 36.0
CLL LmV 07 37 00.0
comp=Z,2µm,20.5s
CLL LmH 07 37 00.0
comp=N,2µm,21.3s
CLL LmH 07 37 00.0
comp=E,1µm,19.2s
CLL Collm 77.09 357 *e*P **P 07 00 21.4 -0.2**
CLL *e**PP **pP 07 00 34.7 -1.6**
CLL Collm 77.09 357 *e*P **P 07 00 21.4 -0.2**
CLL *e*pP **pP 07 00 34.7 -1.6**
THN Thein Dam 77.40 307 *ex* **P 07 00 21.0 -2.6**
KSP Ksiaz 77.41 355 *e*P **P 07 00 22.7 -0.7**
KSP LMZ LR 07 33 55.5
comp=E,3µm,23.3s
KSP Ksiaz 77.41 355 *e*P **P 07 00 22.7 -0.7**
KSP MLR MLR
comp=Z,3µm,23.3s
TBI Tubuai 77.43 159 *e*S **S 07 10 09.9 -0.3**
comp=Z,1µm,32.0s
TBI Tubuai 77.43 159 *e*LR LR 07 24 05.0
comp=Z,6µm,25.0s
TBI Tubuai 77.43 159 *e*T T 08 25 31.4
comp=Z,38nm,0.2s
BRG Berggiesshubel 77.49 356 *i* P **P 07 00 23.1 -0.8**
comp=Z,66nm,1.6s
BRG S **S 07 10 15.0 +4.5**
BRG SS SS 07 15 20.0 +11
comp=N,2µm,21.9s
comp=E,2µm,19.0s
comp=Z,2µm,20.5s
BRG Berggiesshubel 77.49 356 *i* P **P 07 00 23.1 -0.8**
BRG S **S 07 10 15.0 +4.5**
BRG pmax pmax
comp=Z,66nm,1.6s
BRG MLR MLR
comp=N,2µm,21.9s
BRG MLR MLR
comp=E,2µm,19.0s
BRG MLR MLR
comp=Z,2µm,20.5s
UPC Upice 77.76 355 *e*P **P 07 00 24.7 -0.7**
UPC *ex* x 07 03 09.1
UPC *e*S **S 07 10 13.1 -0.3**
UPC *ex* x 07 15 31.7
UPC AMS AMS 07 38 30.0
comp=Z,4µm,19.5s
UPC Upice 77.76 355 *e*P **P 07 00 24.7 -0.7**
UPC *e*S **S 07 10 13.1 -0.3**
UPC MLR MLR
comp=Z,4µm,19.5s
LVV L'vov 77.77 350 *e*P **P 07 00 24.1 -1.4**
LVV *e* 07 03 24.0
LVV *e*S **S 07 10 08.9 -4.7**
LVV MLR MLR
comp=E,3µm,21.0s
LVV MLR MLR
comp=N,2µm,22.0s
LVV MLR MLR
comp=Z,4µm,22.0s
OJC Ojcow 77.79 352 *e*P **P 07 00 24.6 -0.9**
OJC LMZ LR 07 33 50.1
comp=Z,3µm,24.7s
OJC Ojcow 77.79 352 *e*P **P 07 00 26.1 +0.6**
PVCC Panska Ves 77.81 356 *e*P **P 07 00 25.6 0.0**
PVCC AMS AMS 07 39 10.0
comp=Z,3µm,20.0s
PVCC Panska Ves 77.81 356 *e*P **P 07 00 25.6 0.0**
PVCC MLR MLR
comp=Z,3µm,20.0s
MEM Membach 77.85 1 P **P 07 00 25.4 -0.5**
comp=Z,17nm,1.4s
DPC Dobruska-Polom 77.90 355 *e*P **P 07 00 26.0 -0.2**
DPC *e*S **S 07 10 14.0 -1.0**
DPC *ex* x 07 15 29.0
DPC AMS AMS 07 38 40.0
comp=Z,3µm,20.6s
DPC Dobruska-Polom 77.90 355 *e*P **P 07 00 26.0 -0.2**
DPC *e*S **S 07 10 14.0 -1.0**
DPC MLR MLR
comp=Z,3µm,20.6s
BCLA Clavier 78.03 2 P **P 07 00 26.1 -0.7**
comp=Z,20nm,1.7s
KWP Kalwaria Pacla 78.10 350 *e*P **P 07 00 26.7 -0.6**
KWP LMZ LR 07 35 29.4
comp=Z,5µm,24.1s
KWP Kalwaria Pacla 78.10 350 *e*P **P 07 00 26.7 -0.6**
KWP MLR MLR
comp=Z,5µm,24.1s
NKC Novy Kostel 78.18 357 *e*P **P 07 00 27.8 0.0**
NKC AMS AMS 07 38 20.0
comp=Z,2µm,19.7s
NKC Novy Kostel 78.18 357 *e*P **P 07 00 27.8 0.0**
NKC MLR MLR
comp=Z,2µm,19.7s
OKC Ostrava-Krasne 78.29 353 *e*P **P 07 00 27.9 -0.4**
OKC *e*S **S 07 10 18.8 -0.4**
OKC AMS AMS 07 38 20.0
comp=Z,3µm,19.4s
OKC Ostrava-Krasne 78.29 353 *e*P **P 07 00 27.9 -0.4**
OKC *e*S **S 07 10 18.8 -0.4**
OKC MLR MLR
comp=Z,3µm,19.4s
SRDT SRDT 78.32 278 P **P 07 00 32.0 +3.0**
comp=Z,163nm,0.8s,comp=Z,5µm
DOU Dourbes 78.33 2 P **P 07 00 27.9 -0.6**
PATY Pattaya 78.34 276 P P 07 00 35.8 +6.7
comp=Z,15nm,0.8s
PRU Pruhonice 78.35 356 *e*P **P 07 00 28.0 -0.6**
PRU *e*S **S 07 10 20.1 +0.3**
PRU *e*SS SS 07 15 35.0 +13
PRU AMS AMS 07 39 30.0
comp=Z,3µm,20.2s
PRU Pruhonice 78.35 356 *e*P **P 07 00 28.0 -0.6**
PRU *e*S **S 07 10 20.1 +0.3**
PRU MLR MLR
comp=Z,3µm,20.2s
MORC Moravsky Berou 78.39 354 ⇑ *i*P **P 07 00 29.3 +0.3**
MORC Moravsky Berou 78.39 354 *e*P **P 07 00 28.9 -0.1**
GOPC GO Pecny, Ondr 78.41 356 *e*P **P 07 00 28.7 -0.3**
GOPC *e*S **S 07 10 20.1 -0.4**
GOPC AMS AMS 07 39 50.0
comp=Z,3µm,20.7s
GOPC GO Pecny, Ondr 78.41 356 *e*P **P 07 00 28.7 -0.3**
GOPC *e*S **S 07 10 20.1 -0.4**
GOPC MLR MLR
comp=Z,3µm,20.7s
MTDJ Mount Denham 78.42 75 PFAKE 07 00 40.0 +10
MTDJ LR LR
comp=Z,1µm,19.0s
STHS Stebnicka Huta 78.46 351 *e*P **P 07 00 30.1 +0.8**
STHS pmax pmax
comp=Z,11nm,0.9s
STHS Stebnicka Huta 78.46 351 *e*P **P 07 00 30.1 +0.8**
NIE Niedzica 78.54 352 *e*P **P 07 00 29.5 -0.3**
NIE LMZ LR 07 34 29.4
comp=Z,2µm,24.7s
NIE Niedzica 78.54 352 *e*P **P 07 00 29.5 -0.3**
NIE MLR MLR
comp=Z,2µm,24.7s
GTBY Guantanamo Bay 78.55 72 PFAKE 07 00 40.0 +10
GTBY LR LR
comp=Z,3µm,20.0s
GRFO Grafenberg 78.75 358 *e*P **P 07 00 31.1 +0.2**
GRFO Grafenberg 78.75 358 *e*P **P 07 00 31.1 +0.2**
WLF Walferdange 78.80 1 PFAKE 07 00 40.0 +8.9
WLF LR LR
comp=Z,3µm,20.0s
KOLS Kolonicke sedl 78.83 351 *e*P **P 07 00 31.9 +0.5**
KOLS pmax pmax
comp=Z,14nm,1.0s
KOLS Kolonicke sedl 78.83 351 *e*P **P 07 00 31.9 +0.5**
KOLS *e*L L 07 35 39.0
KBL Kabul 78.85 313 *e*P **P 07 00 31.1 -0.8**
GOF Gofitskoye 78.87 336 ⇑ *i*P **P 07 00 31.5 -0.1**
GOF pmax pmax
comp=Z,154nm,1.0s
SORM Soroca 78.87 346 ⇑ *i*P **P 07 00 30.8 -0.7**
LANS Liptovska Anna 78.87 353 *e*P **P 07 00 32.7 +1.1**
LANS Liptovska Anna 78.87 353 *e*P **P 07 00 32.7 +1.1**
VRAC Vranov 78.92 354 LR LR 07 32 35.3
comp=Z,94nm,21.8s,baz=357,slow=34
VRAC Vranov 78.92 354 ⇑ *i*P **P 07 00 32.6 +0.8**
CRVS Cervenica-Dubn 78.94 351 *e*P **P 07 00 32.1 +0.1**
CRVS Cervenica-Dubn 78.94 351 *e*P **P 07 00 32.1 +0.1**
TREC Trest 79.00 355 *e*P **P 07 00 31.6 -0.7**
TREC AMS AMS 07 39 00.0
comp=Z,4µm,20.4s
TREC Trest 79.00 355 *e*P **P 07 00 31.6 -0.7**
TREC MLR MLR
comp=Z,4µm,20.4s
PHET Kaeng Krachan 79.12 277 P P 07 00 38.7 +5.3
comp=Z,10nm,0.8s
UZH Uzhgorod 79.13 351 *e*P **P 07 00 32.3 -0.6**
UZH *e* 07 00 37.1
UZH *e*S **S 07 10 23.5 -4.6**
UZH *e*PS **PnS 07 11 27.9 +12**
KHC Kasperske Hory 79.25 356 *e*P **P 07 00 33.6 0.0**
KHC *ex* x 07 00 54.2

KHC eS **S** 07 10 29.9 +0.4
KHC ex x 07 15 48.7
KHC AMS AMS 07 40 30.0
comp=Z,3µm,19.9s
KHC Kasperske Hory 79.25 356 eP **P** **07 00 33.6 0.0**
KHC Kasperske Hory 79.25 356 eP **P** **07 00 33.6 0.0**
KECS Kecovo 79.45 352 eP **P** **07 00 34.9 +0.2**
KECS pmax pmax
comp=Z,36nm,2.3s
KECS Kecovo 79.45 352 eP **P** **07 00 34.9 +0.2**
LANF Langenberg 79.50 0⇑eP **P** **07 00 34.9 -0.1**
GERES GERESS Array B 79.53 356 P **P** **07 00 34.3 -0.9**
comp=Z,8.3nm,0.7s,baz=19,slow=4.5,SNR=56
VYHS Vyhne 79.58 353 eP **P** **07 00 35.1 -0.3**
VYHS pmax pmax
comp=Z,18nm,1.6s
VYHS Vyhne 79.58 353 eP **P** **07 00 35.1 -0.3**
VYHS eL L 07 35 31.9
GRTK Grand Turk 79.64 68 PFAKE 07 00 50.0 +14
GRTK LR LR
comp=Z,3µm,20.0s
NDI New Delhi 79.66 304 ex P 07 00 30.0 -6.2
BUR08 Bucovina Ar. S 79.78 348 eP **P** **07 00 36.0 -0.7**
BURAR Bucovina Array 79.80 348⇑iP **P** **07 00 36.3 -0.5**
KIS Kishinev 79.91 346 eP **P** **07 00 34.0 -3.2**
KIS Kishinev 79.91 346 ePcP **PcP** **07 00 50.0 +5.4**
KIS Kishinev 79.91 346 ePP PP 07 03 40.0 +1.6
KIS eS **S** **07 10 40.0 +3.5**
KIS Kishinev 79.91 346 ePS **PnS** **07 11 28.0 +2.2**
KIS eSS SS 07 16 04.0 +19
KIS LRM MLR 07 36 54.0
comp=Z,7µm,20.0s
KIS Kishinev 79.91 346 eP **P** **07 00 34.0 -3.2**
KIS e 07 00 50.0
KIS e 07 03 40.0
KIS eS **S** **07 10 40.0 +3.5**
KIS e 07 10 50.0
KIS ePS **PnS** **07 11 28.0 +2.2**
KIS e 07 11 40.0
KIS MLR MLR
comp=Z,7µm,21.0s
KIS MLR MLR
comp=N,4µm,20.0s
KIS MLR MLR
comp=Z,7µm,20.0s
KIV Kislovodsk 79.99 335 P **P** **07 00 37.6 -0.2**
KIV Kislovodsk 79.99 335 eP **P** **07 00 37.9 +0.1**
KIV eS **S** **07 10 37.0 -0.6**
KIV eSS **SS** **07 15 48.0 +1.2**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV pmax pmax
comp=Z,209nm,4.7s
KIV MLR MLR
comp=Z,2µm,19.0s
KIV Kislovodsk 79.99 335 P **P** **07 00 37.4 -0.4**
SNR=6.1
KIV P **P** **07 00 37.4 -0.4**
SNR=6.1
KIV Kislovodsk 79.99 335 eP **P** **07 00 37.4 -0.4**
KIV LR LR
comp=Z,3µm,22.0s
PSZ Piszkesteto 80.06 352⇑iP **P** **07 00 39.3 +1.2**
PSZ Piszkesteto 80.06 352⇑ePKKPbc **P** **07 00 37.8 -0.3**
PSZ Piszkesteto 80.06 352 eP **P** **07 00 37.9 -0.3**
PSZ Piszkesteto 80.06 352 eP **P** **07 00 37.9 -0.3**
comp=Z,10nm,0.8s
PSZ LR LR
comp=Z,3µm,22.0s
KBZ Khabaz 80.15 335 P **P** **07 00 39.0 +0.5**
comp=Z,19nm,0.8s,baz=19,slow=2.0,SNR=30
KBZ LR LR 07 39 36.6
comp=Z,3µm,21.7s,baz=6.5,slow=38
BFO Black Forest 80.15 360 *i* P **P** **07 00 38.5 0.0**
BFO Black Forest 80.15 360 eP **P** **07 00 38.0 -0.5**
comp=Z,24nm,1.1s
BFO LR LR
comp=Z,1µm,20.0s
NCK Nalchik 80.18 335⇓eP **P** **07 00 39.7 +0.9**
NCK pmax pmax
comp=Z,65nm,0.5s
ECH Echery 80.26 1⇑eP **P** **07 00 38.6 -0.5**
CONA Conrad Observa 80.34 355 iP **P** **07 00 39.5 -0.1**
comp=Z,32nm,1.3s,SNR=17
ARCR ARCALIA 80.43 349⇑iP **P** **07 00 41.5 +1.5**
ANN Anapa 80.44 339 eP **P** **07 00 37.8 -2.3**
ANN e*PP **pP** **07 00 53.3 -1.6**
ANN eS **S** **07 10 41.0 -1.0**
ANN pmax pmax
comp=Z,96nm,0.9s
ANN MLR MLR
comp=E,1µm,25.0s
ANN MLR MLR
comp=N,7µm,25.0s
ANN MLR MLR
comp=Z,4µm,25.0s
MOA Molln 80.50 356 *i* P **P** **07 00 40.0 -0.5**
comp=Z,11nm,1.1s,SNR=6.0
CTAO Charters Tower 80.51 220 PFAKE 07 00 50.0 +9.3
CTAO LR LR
comp=Z,4µm,20.0s
GEYT Alibeck 80.52 322 P **P** **07 00 40.5 -0.2**
comp=Z,26nm,0.8s,baz=347,slow=4.6,SNR=26
GEYT LR LR 07 40 24.8
comp=Z,4µm,18.6s,baz=45,slow=39
SOP Sopron 80.54 354⇑ePKKPbc **P** **07 00 40.6 0.0**
MOF Molkenrain 80.62 1⇑eP **P** **07 00 40.7 -0.5**
NEY Neytrino 80.64 335⇓iP **P** **07 00 42.0 +0.5**
NEY pmax pmax
comp=Z,4.0nm,0.8s
ZEI Tsey 80.76 334 eP **P** **07 00 39.8 -2.3**
ZEI pmax pmax
comp=Z,50nm,0.6s
GUDG Gudauri 80.90 334 P **P** **07 00 43.2 +0.3**
KAPI Kappang 80.90 250 PFAKE 07 01 00.0 +17
KAPI LR LR
comp=Z,481nm,22.0s
DRGR 80.91 350⇑iP **P** **07 00 42.5 -0.2**
RETA Reutte 80.97 358 iP **P** **07 00 42.6 -0.5**
comp=Z,23nm,1.2s,SNR=11
RAO Raoul Island 80.98 185 PFAKE 07 01 00.0 +17
RAO LR LR
comp=Z,6µm,22.0s
SIM Simferopol' 80.98 342ceP **P** **07 00 43.4 +0.4**
SIM e*PP **pP** **07 00 55.0 -2.8**
SIM eS **S** **07 10 49.0 +1.2**
SIM pmax pmax
comp=Z,32nm,0.8s
SIM MLR MLR
comp=Z,3µm,20.0s
ARSA Arzberg 81.03 355 *i* P **P** **07 00 43.2 -0.1**
comp=Z,17nm,1.1s,SNR=9.2
ONI Oni 81.06 334 P **P** **07 00 43.3 -0.3**
ONI Oni 81.06 334 P **P** **07 00 43.3 -0.3**
SOC Sochi 81.07 337 eP **P** **07 00 42.0 -1.5**
SOC e 07 03 46.6
SOC ePPP PPP 07 05 37.5
SOC eS **S** **07 10 46.3 -2.4**
SOC eSS **SS** **07 16 01.3 -1.4**
SOC MLR MLR
comp=Z,3µm,21.0s
MTN Manton Dam 81.10 236 eP **P** **07 00 44.8 +0.9**
WATA Walderalm 81.10 358 iP **P** **07 00 43.4 -0.4**
comp=Z,29nm,1.0s,SNR=6.0
MOTA Moosalm 81.11 358 iP **P** **07 00 43.4 -0.4**
comp=Z,28nm,0.9s,SNR=12
LOMF Lomont 81.12 1⇑eP **P** **07 00 43.8 0.0**
WTTA Wattenberg 81.17 358 eP **P** **07 00 44.1 -0.1**
comp=Z,28nm,1.1s,SNR=9.6
DAVA Damuels 81.18 359 *i* P **P** **07 00 43.5 -0.8**
comp=Z,16nm,1.1s
KBA Koelnbreinsper 81.30 356 *i* P **P** **07 00 45.2 +0.2**
comp=Z,52nm,0.8s,SNR=39
VRI Vrincioaia 81.32 347⇑iP **P** **07 00 45.3 +0.5**
RKT Rikitea 81.35 146 eS **S** **07 10 49.1 -2.6**
comp=Z,1µm,26.0s
RKT Rikitea 81.35 146 eLR LR 07 26 09.9
comp=Z,7µm,22.5s
RKT Rikitea 81.35 146 eT T 08 30 29.2
comp=Z,4.8nm,0.2s
PETR Petresti 81.39 347⇑iP P 07 00 50.8 +5.7
DOPR Dopca 81.40 348⇑iP **P** **07 00 46.7 +1.4**
KSM Kuching 81.40 261 epP **pP** **07 00 58.7 -1.8**
KSM LR LR
comp=Z,724nm,22.0s

FETA Feichten 81.44 358 *i* P **P** **07 00 45.7 +0.1**
comp=Z,38nm,0.9s,SNR=19
TBLG Delisi 81.51 333 P **P** **07 00 45.6 -0.3**
TBLG Delisi 81.51 333 P **P** **07 00 45.6 -0.3**
SDDR Presa de Saban 81.53 70 PFAKE 07 01 00.0 +14
SDDR LR LR
comp=Z,2µm,20.0s
SOKA Soboth 81.63 355 *i* P **P** **07 00 46.3 -0.2**
comp=Z,33nm,1.2s,SNR=24
ABTA Abtaltersbach 81.66 357 *i* P **P** **07 00 46.5 -0.2**
comp=Z,24nm,1.2s,SNR=12
MYKA Terra Mystica 81.74 356 *i* P **P** **07 00 46.5 -0.6**
comp=Z,9.6nm,1.1s,SNR=6.0
CFR Carcaliu 81.79 346⇑*i*P **P** **07 00 48.0 +0.7**
MLR Muntele Rosu 81.80 348⇑iP **P** **07 00 49.1 +1.6**
MLR Muntele Rosu 81.80 348 eP **P** **07 00 48.5 +1.0**
MLR Muntele Rosu 81.80 348 eP **P** **07 00 48.5 +1.0**
OBKA Obir 81.82 356 *i* P **P** **07 00 47.2 -0.4**
comp=Z,16nm,0.8s,SNR=9.9
FUORN Ofenpass-Fuorn 81.84 359 eP **P** **07 00 48.7 +0.8**
VOIR 81.97 348⇑iP **P** **07 00 49.2 +0.9**
SENIN Lac Senin/Sane 82.11 1 eP **P** **07 00 49.8 +0.6**
AKH Akhalkalaki 82.15 334⇑iP **P** **07 00 49.9 +0.4**
AKH Akhalkalaki 82.15 334 P **P** **07 00 49.7 +0.2**
AKH Akhalkalaki 82.15 334 P **P** **07 00 49.7 +0.2**
BZS Buzias 82.18 351⇑iP **P** **07 00 49.2 -0.1**
PDKS Podkum 82.25 355 *i* P **P** **07 00 54.1 +4.4**
PDKS Podkum 82.25 355 *i* P **P** **07 00 54.1 +4.4**
BGD Bogdanovka 82.26 334 P **P** **07 00 50.2 +0.1**
HARR Harsova 82.30 346⇑iP **P** **07 00 50.8 +0.9**
AGO Saint Agoulin 82.33 4⇑eP **P** **07 00 50.4 +0.3**
PLDF La Plantade 82.43 3⇑eP **P** **07 00 51.1 +0.4**
TIRR Tirgusor 82.45 346⇑iP **P** **07 00 51.3 +0.6**
JAVS Javornik 82.46 356 *i* P **P** **07 00 49.2 -1.7**
JAVS Javornik 82.46 356 *i* P **P** **07 00 49.2 -1.7**
VISS Visnje 82.51 355 *i* P **P** **07 00 50.0 -1.1**
VISS Visnje 82.51 355 *i* P **P** **07 00 50.0 -1.1**
PYM Petit Puy Mans 82.62 4⇑eP **P** **07 00 51.8 0.0**
SURT Suratani 82.69 275 P P 07 00 59.0 +6.6
comp=Z,25nm,0.7s,comp=Z,714nm
BOJS Bojanci 82.79 355 *i* P **P** **07 00 51.7 -0.8**
BOJS Bojanci 82.79 355 *i* P **P** **07 00 51.7 -0.8**
SKLT Songkhla 82.95 273 P P 07 00 58.9 +5.2
comp=Z,82nm,0.9s,comp=Z,1µm
GNI Garni 82.97 333 P **P** **07 00 54.1 +0.3**
comp=Z,17nm,0.5s,baz=360,slow=1.8,SNR=6.8
GNI Garni 82.97 333 *i* P **P** **07 00 53.9 +0.1**
SNR=8.4
GNI Garni 82.97 333ceP **P** **07 00 55.6 +1.8**
GNI pmax pmax
comp=Z,144nm,1.7s
GNI Garni 82.97 333 P **P** **07 00 54.4 +0.6**
SNR=6.3
GNI P **P** **07 00 54.4 +0.6**
SNR=6.3
GNI Garni 82.97 333 P **P** **07 00 54.1 +0.3**
GNI LR LR
comp=Z,4µm,20.0s
MDVR Moldovita 83.00 350⇑iP **P** **07 00 52.5 -1.2**
TRTT Trang 83.00 274 P P 07 00 59.1 +5.0
comp=Z,82nm,1.4s,comp=Z,1µm
SSB Saint Sauveur 83.15 3 eP **P** **07 00 54.1 -0.3**
SSB Saint Sauveur 83.15 3 eP **P** **07 00 54.1 -0.3**
comp=Z,16nm,0.9s
SSB LR LR
comp=Z,1µm,21.0s
LBL Lubilhac 83.15 4⇑eP **P** **07 00 54.6 +0.1**
BNI Bardonecchia 83.42 1 PFAKE 07 01 10.0 +14
BNI LR LR
comp=Z,2µm,19.0s
CHLP Challavanipeta 84.06 292 eP **P** **07 00 59.8 +0.4**
CHLP IAmb IAmb 07 01 02.2
comp=Z,70nm,1.4s
VLC Villacollemand 84.30 358 PFAKE 07 01 10.0 +10
VLC LR LR
comp=Z,982nm,20.0s
KULM Kulim 84.39 271 eP **P** **07 01 02.8 +1.6**
comp=Z,46nm,1.0s
KULM LR LR
comp=Z,786nm,21.0s
IPM Ipoh 84.79 271 eP **P** **07 01 04.3 +1.1**
PTCN Pitcairn Islan 84.89 143 PFAKE 07 01 20.0 +17
PTCN LR LR
comp=Z,6µm,20.0s
LARF Larrau 85.10 7⇑eP **P** **07 01 04.9 +0.5**
REYF Montagne du Re 85.11 6 eP **P** **07 01 06.6 +2.1**
SJG San Juan 85.18 67 eP **P** **07 01 06.0 +0.9**
SJG San Juan 85.18 67 eP **P** **07 01 06.0 +0.9**
SJG LR LR
comp=Z,3µm,20.0s
PAYG Puerto Ayora 85.25 97 PFAKE 07 01 20.0 +15
PAYG LR LR
comp=Z,980nm,21.0s
VIEF Viey 85.33 6⇑eP **P** **07 01 05.9 +0.3**
LRDF Laroque-de-Fa 85.41 4⇑eP **P** **07 01 06.2 +0.3**
PGAV Gavieira, Arco 85.42 12 eS **S** **07 11 34.3 +1.3**
PGAV eSS **SS** **07 17 14.7 +7.6**
PGAV Gavieira, Arco 85.42 12 eLR LR 07 29 58.8
comp=Z,2µm,20.0s
RESF Ens 85.42 6⇑eP **P** **07 01 06.6 +0.5**
WRAB Tennant Creek 85.56 230 eP **P** **07 01 07.1 +0.4**
WRAB Tennant Creek 85.56 230 eP **P** **07 01 06.3 -0.4**
comp=Z,58nm,1.5s
WRAB LR LR
comp=Z,3µm,21.0s
PDG Podgorica 85.56 352⇑iP **P** **07 01 06.6 0.0**
WB2 Warramunga Arr 85.56 230 eP **P** **07 01 06.8 0.0**
WRA Warramunga Arr 85.57 230 P **P** **07 01 06.5 -0.3**
comp=Z,7.2nm,0.9s,baz=33,slow=5.6,SNR=9.3
CARF Carcanieres 85.61 5⇑eP **P** **07 01 06.7 -0.3**
PCAB Cabril 85.70 12 eP **P** **07 01 08.1 +0.7**
comp=Z,36nm,1.4s
PBRG Braganca 85.77 11 eP **P** **07 01 07.4 -0.3**
comp=Z,53nm,1.8s
SKO Skopje 85.81 350 *i* P **P** **07 01 07.7 -0.2**
VALF Valcebollere 85.92 5 eP **P** **07 01 08.7 +0.1**
CMLA Cha da Macela 85.96 26 PFAKE 07 01 20.0 +11
CMLA LR LR
comp=Z,3µm,19.0s
AQU L'Aquila 86.02 356 eP **P** **07 01 09.5 +0.5**
AQU L'Aquila 86.02 356 eP **P** **07 01 09.5 +0.5**
AQU LR LR
comp=Z,2µm,21.0s
POLO Lamas de Olo 86.06 12 eP **P** **07 01 08.3 -1.0**
comp=Z,15nm,1.9s
BR131 Keskin Array S 86.10 341 eP **P** **07 01 09.5 -0.1**
BRTR Keskin Array B 86.10 341 P **P** **07 01 09.2 -0.3**
comp=Z,8.6nm,0.8s,baz=71,slow=1.7,SNR=26
BRTR PKKPbc **PKKPbc** **07 19 07.3 +1.1**
comp=Z,1.4nm,0.7s,baz=172,slow=5.2,SNR=5.7
ANTO Ankara 86.14 341 PFAKE 07 01 20.0 +10
ANTO LR LR
comp=Z,1µm,19.0s
NVR Nevrokopi 86.14 348 P **P** **07 01 07.9 -1.7**
NVR Nevrokopi 86.14 348 P **P** **07 01 07.9 -1.7**
BR231 Keskin MP Arra 86.17 341 eP **P** **07 01 10.0 +0.2**
ALN Alexandroupoli 86.29 347 P **P** **07 01 09.1 -1.1**
ALN Alexandroupoli 86.29 347 P **P** **07 01 09.1 -1.1**
ALN Alexandroupoli 86.29 347 P **P** **07 01 09.1 -1.1**
VAY Valandovo 86.33 349 *i* P **P** **07 01 10.4 0.0**
MVO Moncorvo 86.37 11 eP **P** **07 01 10.2 -0.5**
comp=Z,45nm,2.2s
MVO Moncorvo 86.37 11 eS **S** **07 11 40.1 -2.1**
MVO eSS SS 07 17 32.0 +11
MVO Moncorvo 86.37 11 eLR LR 07 30 15.4
comp=Z,2µm,20.0s
KAVA Kavala 86.40 348 P **P** **07 01 10.4 -0.4**
KAVA Kavala 86.40 348 P **P** **07 01 10.4 -0.4**
SRS Serrai 86.40 348 P **P** **07 01 10.1 -0.7**
SRS Serrai 86.40 348 P **P** **07 01 10.1 -0.7**
SRS Serrai 86.40 348 P **P** **07 01 10.1 -0.7**
KNT Kendrikon 86.44 349 P **P** **07 01 09.9 -1.1**
KNT Kendrikon 86.44 349 P **P** **07 01 09.9 -1.1**
KNT Kendrikon 86.44 349 P **P** **07 01 09.9 -1.1**
PVM Polavaram 86.45 293 eP **P** **07 01 11.3 -0.1**
PVM IAmb IAmb 07 01 11.8
comp=Z,66nm,1.3s
RPR Rampur 86.47 296 eP **P** **07 01 12.3 +0.9**
RPR IAmb IAmb 07 01 13.6
comp=Z,182nm,1.7s
TIR Tirane 86.58 351 PFAKE 07 01 20.0 +8.3
TIR LR LR
comp=Z,5µm,21.0s
PVIS Viseu 86.70 12 eP **P** **07 01 11.8 -0.5**
comp=Z,50nm,0.9s
GRG Griva 86.70 349 P **P** **07 01 11.1 -1.2**
GRG Griva 86.70 349 P **P** **07 01 11.1 -1.2**
GRG Griva 86.70 349 P **P** **07 01 11.1 -1.2**
OHR Ohrid 86.72 351 *i* P **P** **07 01 11.8 -0.7**
SMTH Samothraki Isl 86.78 347 P **P** **07 01 11.5 -1.2**
SMTH Samothraki Isl 86.78 347 P **P** **07 01 11.5 -1.2**
MOTC Monteria, Cord 86.90 80 eP **P** **07 01 13.7 +0.1**
SRSP Sriramsagar 86.94 297 eP **P** **07 01 12.1 -1.6**
SRSP IAmb IAmb 07 01 15.5
comp=Z,49nm,1.1s
FNA Florina 86.99 350 P **P** **07 01 12.6 -1.2**
FNA Florina 86.99 350 P **P** **07 01 12.6 -1.2**
FNA Florina 86.99 350 P **P** **07 01 12.6 -1.2**
MTE Manteigas 87.05 12 eP **P** **07 01 14.2 +0.1**
comp=Z,35nm,1.4s
MTE Manteigas 87.05 12 eS **S** **07 11 46.1 -2.8**
MTE eSS **SS** **07 17 37.6 +6.5**
MTE Manteigas 87.05 12 eLR LR 07 30 27.9
comp=Z,2µm,20.0s
MTE Manteigas 87.05 12 eP **P** **07 01 13.4 -0.7**
MTE LR LR
comp=Z,2µm,20.0s
PCAS Casmilo, Conde 87.27 13 eP **P** **07 01 14.4 -0.7**
comp=Z,44nm,1.0s
NEST Nestorio 87.39 350 P **P** **07 01 14.8 -1.0**
LIA Limnos Island 87.39 347 P **P** **07 01 14.8 -0.8**
LIA Limnos Island 87.39 347 P **P** **07 01 14.8 -0.8**
PSI Prapat 87.40 271 eP **P** **07 01 16.9 +0.7**
PSI Prapat 87.40 271 eP **P** **07 01 16.9 +0.7**
KZN Kozani 87.42 350 P **P** **07 01 14.8 -1.1**
KZN Kozani 87.42 350 P **P** **07 01 14.8 -1.1**
KZN Kozani 87.42 350 P **P** **07 01 14.8 -1.1**
LIT Litokhoron 87.54 349 P **P** **07 01 15.2 -1.2**
LIT Litokhoron 87.54 349 P **P** **07 01 15.2 -1.2**
LIT Litokhoron 87.54 349 P **P** **07 01 15.2 -1.2**
PAIG Paliouri 87.56 348 P **P** **07 01 15.2 -1.3**
PAIG Paliouri 87.56 348 P **P** **07 01 15.2 -1.3**
PAIG Paliouri 87.56 348 P **P** **07 01 15.2 -1.3**
PCBR Castelo Branco 87.61 12 eP **P** **07 01 15.6 -1.1**
comp=Z,25nm,2.5s
PTOM Tomar 87.71 13 eP **P** **07 01 16.7 -0.5**
comp=Z,58nm,0.8s
KPRO Kipourio 87.81 350 P **P** **07 01 16.9 -0.8**
PRK Paraskevi 87.88 346 P **P** **07 01 16.8 -1.2**
PRK Paraskevi 87.88 346 P **P** **07 01 16.8 -1.2**
PRK Paraskevi 87.88 346 P **P** **07 01 16.8 -1.2**
SIGR SIGRI 87.97 346 P **P** **07 01 17.2 -1.2**
SIGR SIGRI 87.97 346 P **P** **07 01 17.2 -1.2**
ANWB Willy Bob 87.99 64 PFAKE 07 01 30.0 +11
ANWB LR LR
comp=Z,2µm,21.0s
PMRV Marv??o 88.03 12 eP **P** **07 01 18.1 -0.6**
comp=Z,16nm,1.4s
PMRV Marv??o 88.03 12 eS **S** **07 12 03.4 +5.2**
PMRV Marv??o 88.03 12 eLR LR 07 31 03.1
comp=Z,2µm,18.0s
ARMA Armidale 88.04 211 eP **P** **07 01 20.3 +1.6**
HYBB Hyderabad (bro 88.04 296 eP **P** **07 01 18.4 -0.7**
HYBB IAmb IAmb 07 01 21.8
comp=Z,161nm,1.4s
HYB Hyderabad 88.04 296 *i* P **P** **07 01 18.5 -0.6**
comp=Z,60nm,1.0s
THL Klokotos Trika 88.12 349 P **P** **07 01 17.6 -1.5**
ES19 SONSECA Array 88.16 9 eP **P** **07 01 18.8 -0.6**
ESDC Sonseca Array 88.18 9 P **P** **07 01 18.7 -0.8**
comp=Z,16nm,0.7s,baz=351,slow=4.6,SNR=64
ESDC LR LR 07 41 00.5
comp=Z,923nm,20.9s,baz=350,slow=36
ESLA Sonseca Array 88.18 9 eP **P** **07 01 19.2 -0.3**
KULA Kula-Manisa 88.21 344 P **P** **07 01 18.3 -1.4**
KULA Kula-Manisa 88.21 344 P **P** **07 01 18.3 -1.4**
NEO Neokhori 88.23 348 P **P** **07 01 18.3 -1.4**
NEO Neokhori 88.23 348 P **P** **07 01 18.3 -1.4**
PMAFR Mafra 88.23 14 eP **P** **07 01 18.9 -0.8**
comp=Z,129nm,1.4s
CUC Castrocucco 88.25 354 PFAKE 07 01 30.0 +10
CUC LR LR
comp=Z,977nm,21.0s
SGD Sagiada 88.27 351 P **P** **07 01 19.2 -0.6**
PAB San Pablo 88.27 10 PFAKE 07 01 30.0 +10
PAB LR LR
comp=Z,2µm,22.0s
NJS Nagarjunasagar 88.32 295 eP **P** **07 01 18.2 -2.2**
NJS IAmb IAmb 07 01 21.1
comp=Z,378nm,2.9s
FITZ Fitzroy Crossi 88.35 238 P **P** **07 01 21.1 +0.8**
comp=Z,17nm,0.8s,baz=27,slow=3.9,SNR=26
FITZ Fitzroy Crossi 88.35 238 eP **P** **07 01 21.6 +1.2**
comp=Z,23nm,0.9s
ADKI Addanki 88.51 294 eP **P** **07 01 21.8 +0.5**
ADKI IAmb IAmb 07 01 24.0
comp=Z,76nm,1.5s
ISP Isparta 88.55 343 PFAKE 07 01 30.0 +8.7
ISP LR LR
comp=Z,2µm,19.0s
PESTR Estremoz 88.56 12 eP **P** **07 01 20.1 -1.1**
comp=Z,28nm,0.9s
KLRI Killari 88.59 298 eP **P** **07 01 21.0 -0.8**
KLRI IAmb IAmb 07 01 22.3
comp=Z,79nm,0.9s
AGG Agios Georgios 88.62 349 eP **P** **07 01 20.7 -0.8**
AGG Agios Georgios 88.62 349 eP **P** **07 01 20.7 -0.8**
DSL Palaion Diasel 88.65 350 P **P** **07 01 20.8 -0.9**
DSL Palaion Diasel 88.65 350 P **P** **07 01 20.8 -0.9**
OCAC Ocana 88.75 78 eP **P** **07 01 23.1 +0.4**
CHOS Chios island 88.75 346 P **P** **07 01 20.9 -1.3**
CHOS Chios island 88.75 346 P **P** **07 01 20.9 -1.3**
EVR Evrytania 88.79 349 P **P** **07 01 21.7 -0.7**
EVR Evrytania 88.79 349 P **P** **07 01 21.7 -0.7**
EVO Evora 88.83 13 eP **P** **07 01 20.9 -1.6**
comp=Z,23nm,1.0s
ATAL Atalanti 88.86 348 P **P** **07 01 20.6 -2.1**
ATAL Atalanti 88.86 348 P **P** **07 01 20.6 -2.1**
SRLM Srisailam 88.92 295 eP **P** **07 01 23.4 +0.1**
SRLM IAmb IAmb 07 01 23.8
comp=Z,625nm,2.9s
AS01 Alice Springs 88.95 228 eP **P** **07 01 22.9 -0.2**
AS31 Alice Springs 88.97 228 eP **P** **07 01 24.0 +0.8**
VSL Villasalto 88.97 359 eP **P** **07 01 22.6 -0.6**
VSL LR LR
comp=Z,2µm,20.0s
ASAR Alice Springs 88.98 228 P **P** **07 01 23.9 +0.6**
comp=Z,31nm,0.9s,baz=32,slow=4.7,SNR=122
TIP Timpagrande 88.99 353 PFAKE 07 01 30.0 +6.7
TIP LR LR
comp=Z,3µm,22.0s
HELC Santa Helena 89.01 81 eP **P** **07 01 24.5 +0.3**
HELC Santa Helena 89.01 81 eP **P** **07 01 23.8 -0.3**
ANX Ano Chora 89.09 349 P **P** **07 01 23.3 -0.6**
PNCL Nicolau / Gran 89.17 13 eP **P** **07 01 24.6 +0.5**
comp=Z,40nm,2.2s
DSF Desfina 89.20 349 P **P** **07 01 22.6 -1.7**
DSF Desfina 89.20 349 P **P** **07 01 22.6 -1.7**
EFP Efpalio 89.26 349 P **P** **07 01 24.4 -0.1**
PBAR Barrancos 89.31 12 eP **P** **07 01 23.9 -0.8**
comp=Z,89nm,2.0s
PBEJ Beja 89.35 13 eP **P** **07 01 24.0 -0.9**
comp=Z,29nm,1.5s
VILL Villia 89.35 348 P **P** **07 01 23.1 -1.9**
RCLA Racherla 89.40 294 eP **P** **07 01 25.2 -0.3**
RCLA IAmb IAmb 07 01 26.3
comp=Z,787nm,2.9s
GSI Gunungsitoli 89.40 271 eP **P** **07 01 26.7 +1.2**
BRRC Barranca, Sant 89.40 79 eP **P** **07 01 25.9 +0.4**
GRMC Gramalote, San 89.47 78 eP **P** **07 01 25.9 -0.2**
CBRI Barrientos, No 89.48 78 eP **P** **07 01 26.3 +0.2**
MESJ Messejana 89.48 13 eP **P** **07 01 25.7 +0.2**
MESJ eS **SKSac** **07 11 52.5 +1.2**
KLV Kalavryta, Ach 89.61 349 P **P** **07 01 25.7 -0.5**
KLV Kalavryta, Ach 89.61 349 P **P** **07 01 25.7 -0.5**
GUR Goura 89.69 349 P **P** **07 01 25.9 -0.8**
GUR Goura 89.69 349 P **P** **07 01 25.9 -0.8**
PTEO Sao Teotonio 89.70 13 eP **P** **07 01 25.5 -1.1**
comp=Z,53nm,2.3s
PCVE Castro Verde 89.71 13 eP **P** **07 01 25.8 -0.8**
SDV Santo Domingo 89.86 76 eP **P** **07 01 25.9 -2.0**
comp=Z,26nm,0.6s
SDV LR LR
comp=Z,981nm,21.0s
NORC Norcasia 89.90 81 eP **P** **07 01 28.7 +0.7**
MORF Marmelete 89.94 13 eP **P** **07 01 28.3 +0.5**
MORF eS **SKSac** **07 11 55.1 +0.9**

MORF	**Marmelete**	**89.94**	**13**	*e*P		**P**	**07 01 27.7**	**-0.1**
CEL	**Celeste**	**89.97**	**354**	PFAKE			07 01 40.0	+12
CEL				LR	LR			
comp=Z,2μm,22.0s								
PVAQ	**Vaqueiros**	**89.98**	**13**	*e*P		**P**	**07 01 27.8**	**-0.1**
comp=Z,48nm,2.3s								
PVAQ	**Vaqueiros**	**89.98**	**13**	*e*S		**S**	**07 12 17.8**	**+1.3**
PVAQ	**Vaqueiros**	**89.98**	**13**	*e*LR		LR	07 32 12.8	
comp=Z,2μm,20.0s								
BARC	**Barichara**	**90.13**	**79**	*e*P		**P**	**07 01 30.1**	**+0.9**
URZ	**Urewera**	**90.31**	**189**	LR	LR	LR	07 34 57.2	
comp=Z,4μm,21.0s,baz=40,slow=31								
TOLC	**Tolima**	**90.39**	**82**	*e*P		**P**	**07 01 31.0**	**+0.5**
FDF	**Fort de France**	**90.72**	**65**	PFAKE			07 01 40.0	+8.3
FDF				LR	LR			
comp=Z,2μm,21.0s								
RUSC	**La Rusia**	**90.74**	**80**	*e*P		**P**	**07 01 32.4**	**+0.1**
CSS	**Mathiatis**	**90.75**	**340**	*e*P		**P**	**07 01 31.4**	**-0.2**
CSS				LR	LR			
comp=Z,330nm,20.0s								
CLTB	**Caltabellotta**	**90.79**	**356**	PFAKE			07 01 40.0	+8.2
CLTB				LR	LR			
comp=Z,1μm,21.0s								
ROSC	**El Rosal**	**90.81**	**81**	P		**P**	**07 01 33.1**	**+0.5**
comp=Z,6.9nm,0.8s,baz=274,slow=14,SNR=4.6								
ROSC				LR	LR		07 44 43.8	
comp=Z,349nm,20.3s,baz=26,slow=37								
ROSC	**El Rosal**	**90.81**	**81**	*e*P		**P**	**07 01 34.0**	**+1.4**
SANT	**Santorini**	**90.82**	**346**	PFAKE			07 01 40.0	+8.1
SANT				LR	LR			
comp=Z,2μm,22.0s								
POPC	**Popayan, Colom**	**91.16**	**84**	*e*P		**P**	**07 01 34.3**	**+0.3**
CHIC	**Chingaza**	**91.33**	**81**	*e*P		**P**	**07 01 35.2**	**+0.2**
PRAC	**Prado**	**91.34**	**82**	*e*P		**P**	**07 01 35.2**	**+0.6**
PRAC	**Prado**	**91.34**	**82**	*e*P		**P**	**07 01 35.0**	**+0.4**
BANOM	**Banah**	**91.82**	**318**	P		**P**	**07 01 35.5**	**-1.2**
OTAV	**Otavalo**	**91.86**	**87**	*e*P		**P**	**07 01 39.4**	**+1.9**
OTAV	**Otavalo**	**91.86**	**87**	*e*P		**P**	**07 01 38.4**	**+0.9**
comp=Z,11nm,0.8s								
OTAV				LR	LR			
comp=Z,494nm,20.0s								
LAST	**Lasithi**	**92.00**	**346**	*e*P		**P**	**07 01 36.8**	**-0.6**
WDD	**Wied Dalam**	**92.46**	**355**	PFAKE			07 01 50.0	+11
WDD				LR	LR			
comp=Z,1μm,20.0s								
GRGR	**Grenville**	**92.54**	**67**	PFAKE			07 01 50.0	+10
GRGR				LR	LR			
comp=Z,2μm,20.0s								
UOSS	**Minazif**	**92.72**	**318**	*e*P		**P**	**07 01 39.9**	**-0.9**
KEST	**Kesra**	**92.73**	**359**	P		**P**	**07 01 40.0**	**-0.8**
comp=Z,4.4nm,0.8s,baz=349,slow=2.3,SNR=5.9								
KEST	**Kesra**	**92.73**	**359**	*e*P		**P**	**07 01 40.8**	**0.0**
HATD	**Hatta, Dubai**	**92.86**	**318**	*i* P		**P**	**07 01 40.2**	**-1.3**
SNR=6.3								
STKA	**Stephens Creek**	**92.90**	**218**	P		**P**	**07 01 42.0**	**+0.8**
comp=Z,3.4nm,0.7s,baz=352,slow=7.3,SNR=8.3								
STKA				LR	LR		07 38 13.5	
comp=Z,5μm,21.9s,baz=22,slow=32								
STKA	**Stephens Creek**	**92.90**	**218**	*e*P		**P**	**07 01 42.4**	**+1.2**
STKA	**Stephens Creek**	**92.90**	**218**	*e*P		**P**	**07 01 42.4**	**+1.2**
BBGH	**Gun Hill**	**92.90**	**65**	PFAKE			07 01 50.0	+8.2
BBGH				LR	LR			
comp=Z,3μm,19.0s								
CAN	**Canberra**	**93.40**	**211**	PFAKE			07 02 00.0	+17
CAN				LR	LR			
comp=Z,2μm,20.0s								
RTC	**Rabat Centre**	**93.46**	**13**	PFAKE			07 02 00.0	+16
RTC				LR	LR			
comp=Z,5μm,20.0s								
SNZO	**South Karori**	**93.58**	**190**	PFAKE			07 02 00.0	+16
SNZO				LR	LR			
comp=Z,4μm,22.0s								
MBWA	**Marble Bar**	**94.01**	**241**	PFAKE			07 02 00.0	+13
MBWA				LR	LR			
comp=Z,2μm,20.0s								
ARQ	**Araqi**	**94.01**	**317**	P		**P**	**07 01 45.5**	**-1.2**
SNR=6.3								
JMDO	**Jabal Madar**	**94.17**	**315**	P		**P**	**07 01 46.5**	**-1.1**
PALK	**Pallekele**	**94.97**	**288**	P		**P**	**07 01 52.6**	**+1.3**
comp=Z,13nm,0.7s,baz=321,slow=3.1,SNR=7.5								
PALK	**Pallekele**	**94.97**	**288**	*e*P		**P**	**07 01 53.5**	**+2.2**
PALK	**Pallekele**	**94.97**	**288**	*e*P		**P**	**07 01 53.5**	**+2.2**
EIL	**Elat**	**95.46**	**337**	P		**P**	**07 01 52.6**	**-0.7**
comp=Z,7.0nm,0.8s,baz=352,slow=9.3,SNR=4.6								
RPZ	**Rata Peaks**	**96.39**	**192**	LR		LR	07 38 57.8	
comp=Z,4μm,21.3s,baz=18,slow=31								
TAU	**Tasmania Unive**	**100.87**	**209**	PFAKE			07 02 30.0	+13
TAU				LR	LR			
comp=Z,2μm,19.0s								
NNA	**Nana**	**102.35**	**94**	PFAKE			07 02 40.0	+16
NNA				LR	LR			
comp=Z,345nm,21.0s								
PTGA	**Pitinga**	**103.88**	**73**	PKiKP		**PKiKP**	**07 06 45.1**	**-3.6**
comp=Z,6.2nm,1.0s,baz=326,slow=9.7,SNR=6.0								
PTGA	**Pitinga**	**103.88**	**73**	PKiKP		**PKiKP**	**07 06 45.1**	**-3.6**
PTGA				LR	LR			
comp=Z,34μm,21.0s								
NWAO	**Narrogin (SRO)**	**104.78**	**235**	PFAKE			07 02 50.0	+15
NWAO				LR	LR			
comp=Z,3μm,21.0s								
TAM	**Tamanrasset**	**105.59**	**3**	PFAKE			07 07 00.0	
TAM				LR	LR			
comp=Z,1μm,21.0s								
SACV	**Santiago Islan**	**107.89**	**32**	PFAKE			07 07 10.0	
SACV				LR	LR			
comp=Z,1μm,20.0s								
SAML	**Samuel**	**108.44**	**81**	PFAKE			07 07 10.0	
SAML				LR	LR			
comp=Z,1μm,19.0s								
DGAR	**Diego Garcia**	**111.59**	**286**	PFAKE			07 07 20.0	
DGAR				LR	LR			
comp=Z,1μm,19.0s								
TORD	**Torodi Ar. Bea**	**114.98**	**7**	PKP	PKPdf		07 07 09.4	-0.1
comp=Z,3.0nm,0.8s,baz=347,slow=2.7,SNR=15								
TORD				PP		**PP**	**07 08 06.9**	**-1.1**
comp=Z,0.8nm,0.7s,baz=6.4,slow=1.0,SNR=3.0								
TORD				PKKPbc		**PKKPbc**	**07 17 44.4**	**+0.8**
comp=Z,1.3nm,0.7s,baz=161,slow=2.4,SNR=6.7								
TORD				PKKPab		**PKKPab**	**07 17 51.0**	**-3.2**
comp=Z,2.9nm,0.7s,baz=175,slow=4.1,SNR=11								
TORD				PKKP		**PKKPdf**	**07 18 04.7**	**-1.3**
comp=Z,2.3nm,0.7s,baz=171,slow=3.6,SNR=5.2								
SIV	**San Ignacio**	**115.17**	**84**	PP		**PP**	**07 08 09.1**	**-1.5**
comp=Z,2.1nm,0.7s,baz=304,slow=8.2,SNR=3.1								
LVC	**Limon Verde**	**115.30**	**95**	PFAKE			07 07 20.0	+10
LVC				LR	LR			
comp=Z,758nm,20.0s								
LCO	**Las Campanas**	**118.86**	**101**	PFAKE			07 07 30.0	+13
LCO				LR	LR			
comp=Z,988nm,20.0s								
DBIC	**Dimbokro**	**120.59**	**15**	PKP		**PKPdf**	**07 07 20.7**	**+0.3**
comp=Z,7.1nm,1.0s,baz=307,slow=2.9,SNR=5.2								
RCBR	**Riachuelo**	**121.43**	**54**	PFAKE			07 07 30.0	+8.0
RCBR				LR	LR			
comp=Z,2μm,20.0s								
KMBO	**Kilima Mbogo**	**123.86**	**324**	PKP		**PKPdf**	**07 07 28.2**	**+1.2**
comp=Z,3.4nm,0.7s,baz=341,slow=4.1,SNR=7.3								
KMBO	**Kilima Mbogo**	**123.86**	**324**	*e*PKIKP		**PKPdf**	**07 07 27.7**	**+0.8**
KMBO				MLR	MLR			
comp=Z,1μm,21.0s								
KMBO	**Kilima Mbogo**	**123.86**	**324**	*e*PKPdf		**PKPdf**	**07 07 27.7**	**+0.8**
KMBO				PKP		**PKPdf**	**07 07 28.2**	**+1.2**
KMBO				LR	LR			
comp=Z,1μm,21.0s								
CPUP	**Villa Florida**	**125.18**	**89**	PKP		**PKPdf**	**07 07 29.1**	**+0.4**
comp=Z,2.2nm,0.5s,baz=314,slow=3.9,SNR=8.9								
PLCA	**Paso Flores**	**126.99**	**111**	PKP		**PKPdf**	**07 07 32.8**	**+1.0**
comp=Z,6.7nm,0.8s,baz=290,slow=3.3,SNR=13								
SPB	**Sao Paulo**	**129.26**	**78**	PFAKE			07 07 50.0	+13
SPB				LR	LR			
comp=Z,2μm,22.0s								
SBA	**Scott Base**	**130.16**	**186**	PFAKE			07 07 50.0	+13
SBA				LR	LR			
comp=Z,1μm,20.0s								
VNDA	**Vanda**	**130.19**	**187**	PKP		**PKPdf**	**07 07 37.2**	**+0.5**
comp=Z,1.3nm,0.8s,baz=327,slow=1.6,SNR=5.4								
VNDA				SKPbc		**SKPbc**	**07 10 56.5**	**+1.4**
comp=Z,4.7nm,0.9s,baz=356,slow=5.4,SNR=17								
TRQA	**Tornquist**	**130.34**	**103**	PFAKE			07 07 50.0	+12
TRQA				LR	LR			
comp=Z,922nm,19.0s								
CASY	**Casey**	**131.64**	**212**	PFAKE			07 07 50.0	+10
CASY				LR	LR			
comp=Z,435nm,21.0s								
ASCN	**Ascension**	**132.39**	**31**	PFAKE			07 08 00.0	+17
ASCN				LR	LR			
comp=Z,3μm,20.0s								
ABPO	**Ambohimpanom**	**135.23**	**302**	PFAKE			07 08 00.0	+12
ABPO				LR	LR			
comp=Z,1μm,19.0s								
LSZ	**Lusaka**	**140.14**	**329**	*e*PKHKP		PKPpre	07 07 50.2	
LSZ				MLR		MLR		
comp=Z,2μm,20.0s								
LSZ	**Lusaka**	**140.14**	**329**	*e*PKPpre		PKPpre	07 07 50.2	
LSZ				LR		LR		
comp=Z,2μm,20.0s								
QSPA	**South Pole Qui**	**141.66**	**180**	*e*PKPpre		PKPpre	07 07 52.1	
QSPA				LR		LR		
comp=Z,2μm,22.0s								
PMSA	**Palmer Station**	**142.18**	**138**	PFAKE			07 08 10.0	+11
PMSA				LR	LR			
comp=Z,4μm,20.0s								
SHEL	**Horse Pasture**	**142.45**	**22**	PFAKE			07 08 10.0	+8.7
SHEL				LR	LR			
comp=Z,811nm,21.0s								
TSUM	**Tsumeb**	**146.56**	**344**	*e*PKPdf		**PKPdf**	**07 08 08.8**	**+0.3**
TSUM				*e*PKPbc		**PKPbc**	**07 08 10.4**	**+0.4**
TSUM				LR	LR			
comp=Z,2μm,21.0s								
MAW	**Mawson**	**149.59**	**218**	PKPbc		**PKPbc**	**07 08 17.4**	**+1.0**
comp=Z,25nm,0.8s,baz=61,slow=1.9,SNR=50								
HOPE	**Hope Point**	**153.37**	**113**	PFAKE			07 08 30.0	+4.5
HOPE				LR	LR			
comp=Z,2μm,20.0s								
BOSA	**Boshof**	**153.50**	**325**	PKPbc		**PKPbc**	**07 08 27.7**	**+0.9**
comp=Z,13nm,0.9s,baz=21,slow=2.9,SNR=12								
BOSA				PKPab		**PKPab**	**07 08 39.7**	**+0.4**
comp=Z,25nm,0.9s,baz=38,slow=3.8,SNR=10								
SUR	**Sutherland**	**158.44**	**330**	PFAKE			07 08 40.0	+14
SUR				LR	LR			
comp=Z,5μm,22.0s								
TRIS	**Tristan da Cun**	**159.25**	**52**	PFAKE			07 08 40.0	+14
TRIS				LR	LR			
comp=Z,2μm,19.0s								

PRU 28 06:50:07.4, 49°.84N×18°.49E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OKC	**Ostrava-Krasne**	**0.22**	**269**	*e*PG		Pg	06 50 11.3	-0.3
OKC				*e*SG		Sg	06 50 15.2	+0.7
21nm,0.6s								
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*SG		Sg	06 50 55.0	-0.1

*NIED **28** 06:50:00,38°.40N×141°.80E,h53km,Mw4.1 Best double couple: M0 1.50000×10^15 NP1:φs225.00000°, δ33.00000°, λ89.00000°. NP2:φs46.00000°, δ58.00000°, λ91.00000°.*
*IDC **28** 06:50:49.9±1.1,38°.33N×142°.43E,h0km,mb4.1/4, mb1 4.2/8,mb1mx4.0/55,mbtmp4.1/8,ML3.5/4, Error ellipse: s-maj=26.7km s-min=23.3km az=57.0*
*ISCJB **28** 06:50:55.9±0.9,38°.37N±0°.04×141°.91E±0°.09,h49km±8km, mb4.0/4,Error ellipse: s-maj=12.1km s-min=6.2km az=16.6*
*JMA **28** 06:50:57.1±0.1,38°.43N×141°.79E,h56km±1km,M4.0*
JMA Felt II J1.

ISC 28 06:50:54.6±1.6, 38°.39N±0°.04×142°.04E±0°.08, h30km±11km, n29,σ1§81/34, mb4.1/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JIO	**Ouri**	**0.55**	**277**	P		**Pn**	**06 51 07.2**	**+0.8**
JIO				S		**Sb**	**06 51 14.2**	**+0.7**
OFUJ	**Ofunato**	**0.75**	**337**	P		**Pn**	**06 51 10.6**	**+1.5**
OFUJ				*e*S		**Sn**	**06 51 20.4**	**+0.9**
JMK	**Ichinoseki**	**0.85**	**311**	P		**Pb**	**06 51 11.2**	**+0.3**
JMK				*e*S		**Sb**	**06 51 21.2**	**-0.8**
JOU	**Okura**	**1.08**	**269**	P		**Pn**	**06 51 13.5**	**-0.3**
JOU				*e*S		**Sn**	**06 51 25.7**	**-2.1**
JMM	**Marumori**	**1.12**	**242**	P		**Pn**	**06 51 14.2**	**0.0**
JMM				*e*S		**Sn**	**06 51 26.6**	**-2.0**
JOM	**Ohasama**	**1.23**	**332**	P		**Pb**	**06 51 16.8**	**-0.4**
JFK	**Kawauchi**	**1.38**	**222**	P		**Pb**	**06 51 18.6**	**-1.2**
JYK	**Kaneyama**	**1.42**	**292**	P		**Pn**	**06 51 18.3**	**-0.1**
JYK				*e*S		**Sn**	**06 51 34.0**	**-2.0**
JRG	**Rokugo**	**1.49**	**313**	P		**Pn**	**06 51 19.6**	**+0.3**
JYS	**Shirataka**	**1.57**	**264**	P		**Pn**	**06 51 20.4**	**0.0**
JYS				*e*S		**Sn**	**06 51 37.8**	**-1.9**
JFT	**Otama**	**1.61**	**238**	P		**Pn**	**06 51 21.7**	**+0.7**
JFT				*e*S		**Sn**	**06 51 39.3**	**-1.4**
MJAR	**Matsushiro Arr**	**3.57**	**240**	Pn		**Pn**	**06 51 49.8**	**+1.9**
7.1nm,0.3s,baz=38,slow=11,SNR=49								
MJAR				Sn		**Sn**	**06 52 33.4**	**+4.3**
4.5nm,0.3s,baz=28,slow=27,SNR=5.0								
MAT	**Matsushiro**	**3.57**	**240**	P		**Pn**	**06 51 49.8**	**+1.9**
MAT				S		**Sn**	**06 52 31.5**	**+2.4**
JHJ	**Hachijo jima 2**	**5.57**	**200**	Pn		**Pn**	**06 52 16.4**	**+0.9**
11nm,0.3s,baz=72,slow=20,SNR=5.4								
JHJ				Sn		**Sn**	**06 53 17.4**	**-1.1**
60nm,0.3s,baz=61,slow=23,SNR=6.9								
USRK	**Ussuriysk Ar.**	**9.53**	**311**	Pn		**Pn**	**06 53 10.8**	**+1.1**
0.6nm,0.3s,baz=126,slow=14,SNR=15								
KSRS	**Korea Array**	**11.20**	**270**	Pn		**Pn**	**06 53 34.8**	**+2.2**
0.4nm,0.3s,baz=68,slow=15,SNR=3.3								
KLR	**Kul'dur**	**13.12**	**329**	Pn		**P**	**06 54 04.5**	**-4.2**
0.1nm,0.3s,baz=142,slow=12,SNR=4.5								
SONM	**Songino Array**	**27.47**	**302**	P		**P**	**06 56 40.1**	**+2.0**
0.5nm,0.5s,baz=81,slow=8.9,SNR=2.6								
H11N2	**WAKE ISLAND Hy**	**28.45**	**124**	T		T	07 27 14.2	
baz=317,slow=75,SNR=717								
H11N1	**WAKE ISLAND Hy**	**28.46**	**124**	T		T	07 27 14.6	
baz=317,slow=75,SNR=723								
H11N3	**WAKE ISLAND Hy**	**28.47**	**124**	T		T	07 27 15.4	
baz=317,slow=75,SNR=642								
H11S1	**WAKE ISLAND Hy**	**29.21**	**126**	T		T	07 28 07.0	
baz=318,slow=76,SNR=251								
H11S3	**WAKE ISLAND Hy**	**29.21**	**126**	T		T	07 28 10.2	
baz=318,slow=76,SNR=262								
H11S2	**WAKE ISLAND Hy**	**29.23**	**126**	T		T	07 28 09.3	
baz=318,slow=76,SNR=268								
CMAR	**Chiang Mai Arr**	**42.33**	**254**	P		**P**	**06 58 49.1**	**+3.1**
1.4nm,0.3s,baz=38,slow=9.3,SNR=5.7								
WRA	**Warramunga Arr**	**58.47**	**189**	P		**P**	**07 00 46.9**	**-0.9**
2.2nm,0.6s,baz=6.1,slow=7.1,SNR=34								
ASAR	**Alice Springs**	**62.20**	**188**	P		**P**	**07 01 12.5**	**-0.8**
1.1nm,0.7s,baz=10,slow=6.3,SNR=10.0								
LPAZ	**La Paz**	**145.57**	**59**	PKPbc		**PKPab**	**07 10 30.7**	**-0.8**
1.8nm,0.7s,baz=13,slow=5.9,SNR=6.0								
SIV	**San Ignacio**	**149.82**	**49**	PKPbc		**PKPbc**	**07 10 41.5**	**-0.6**
2.1nm,0.8s,baz=303,slow=0.7,SNR=3.2								

*ISCJB **28** 06:52:50.6±0.6,51°.81N±0°.09×171°.57W±0°.06,h44km, mb4.2/18, Error ellipse: s-maj=13.3km s-min=4.2km az=167.4*
*NEIC **28** 06:52:52.2,51°.89N×171°.61W,h42km,mb4.5/2, ML4.9(AEIC),After AEIC.*
*IDC **28** 06:52:53.2±8.6,52°.05N×171°.75W,h50km±82km,mb4.0/15, mb1 4.2/16,mb1mx3.8/62,mbtmp4.2/16,ML4.4/1, Error ellipse: s-maj=28.5km s-min=20.1km az=10.0*

ISC 28 06:52:52.4±0.8, 51°.9N±0°.1×171°.63W±0°.05, h44km, n33, σ1§16/37, mb4.3/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KOFP	**Korovin Flat P**	**1.57**	**285**	P		**Pn**	**06 53 18.4**	**+0.6**
KONE	**Korovin Northe**	**1.61**	**289**	P		**Pn**	**06 53 19.4**	**+1.1**
KOKV	**Korovin Volcan**	**1.63**	**287**	P		**Pn**	**06 53 19.8**	**+1.3**
KOKV				S		**Sn**	**06 53 40.5**	**+2.2**
NIKH	**Nikolski High**	**2.01**	**57**	P		**Pn**	**06 53 23.4**	**-0.3**
NIKH				S		**Sn**	**06 53 49.3**	**+1.8**
OKWE	**Okmok W'ng Wal**	**2.59**	**51**	P		**Pn**	**06 53 31.8**	**0.0**
GSTD	**Great Sitkin T**	**2.80**	**275**	P		**Pn**	**06 53 35.2**	**+0.5**
GSTD				S		**Sn**	**06 54 09.0**	**+1.9**
ETKA	**Kagalaska Isla**	**2.96**	**271**	P		**Pn**	**06 53 37.2**	**+0.4**
ADAG	**Mount Adagdak**	**3.08**	**273**	P		**Pn**	**06 53 38.9**	**+0.5**
MSOM	**Makushin Julie**	**3.42**	**54**	P		**Pn**	**06 53 44.3**	**+1.2**
UNV	**Unalaska Valle**	**3.66**	**56**	P		**Pn**	**06 53 47.4**	**+0.9**
UNV				S		**Sn**	**06 54 31.0**	**+2.7**
SPIA	**Saint Paul Isl**	**5.34**	**8**	P		**Pn**	**06 54 10.4**	**+1.0**
SDPT	**Sand Point**	**7.47**	**58**	P		**Pn**	**06 54 38.8**	**+0.1**
ILAR	**Eielson Array**	**18.13**	**35**	P		**Pn**	**06 56 59.8**	**-0.7**
0.6nm,0.3s,baz=232,slow=9.7,SNR=6.4								
DLBC	**Dease Lake**	**24.32**	**58**	P		**P**	**06 58 08.2**	**+2.6**
7.7nm,0.5s,baz=291,slow=7.7,SNR=7.0								
INK	**Inuvik**	**24.50**	**34**	P		**P**	**06 58 06.4**	**-0.6**
13nm,0.9s,baz=270,slow=5.3,SNR=3.8								
YKA	**Yellowknife Ar**	**31.59**	**48**	P		**P**	**06 59 10.6**	**+0.2**
1.3nm,0.4s,baz=276,slow=7.1,SNR=4.7								
NEW	**Newport**	**34.48**	**74**	P		**P**	**06 59 36.8**	**+1.1**
1.9nm,0.4s,baz=283,slow=18,SNR=3.8								
PDAR	**Pinedale Array**	**41.86**	**77**	P		**P**	**07 00 39.0**	**+0.8**
1.6nm,0.6s,baz=300,slow=3.0,SNR=4.6								
KSRS	**Korea Array**	**44.07**	**276**	P		**P**	**07 00 55.5**	**-0.3**
2.2nm,0.6s,baz=62,slow=7.4,SNR=4.3								
KSAR	**Wonju Array Be**	**44.10**	**276**	P		**P**	**07 00 55.5**	**-0.6**
TXAR	**Lajitas Array**	**54.16**	**87**	P		**P**	**07 02 13.4**	**+0.3**
2.7nm,0.8s,baz=306,slow=5.7,SNR=5.1								
ARCES	**ARCESS Array B**	**58.22**	**353**	P		**P**	**07 02 39.8**	**-1.7**
1.3nm,0.7s,baz=20,slow=8.1,SNR=3.7								
KURK	**Kurchatov**	**61.78**	**317**	P		**P**	**07 03 06.5**	**+0.4**
KURBB	**Kurchatov Arra**	**61.89**	**317**	P		**P**	**07 03 06.5**	**-0.3**
2.4nm,0.6s,baz=41,slow=6.9,SNR=6.2								
MKAR	**Makanchi Array**	**63.10**	**312**	P		**P**	**07 03 13.9**	**-1.1**
1.0nm,0.4s,baz=42,slow=6.7,SNR=5.2								
ARU	**Arti**	**64.38**	**332**	*e*P		**P**	**07 03 21.9**	**-1.4**
5.2nm,0.5s								
FINES	**FINESS Array B**	**66.12**	**351**	P		**P**	**07 03 33.5**	**-0.9**
1.9nm,0.7s,baz=42,slow=4.5,SNR=4.0								
AAK	**Ala-Archa**	**69.84**	**314**	P		**P**	**07 03 58.4**	**+0.1**
3.6nm,0.4s,baz=72,slow=3.2								
ABKAR	**Akbulak array**	**70.08**	**327**	*e*P		**P**	**07 03 58.9**	**-0.6**
1.4nm,0.5s								
AKASG	**Malin Array Be**	**76.25**	**347**	P		**P**	**07 04 34.3**	**-1.5**
0.4nm,0.3s,baz=18,slow=6.0,SNR=2.5								
GERES	**GERESS Array B**	**79.52**	**356**	P		**P**	**07 04 53.9**	**-0.3**
0.4nm,0.4s,baz=8.9,slow=7.0,SNR=2.3								
WRA	**Warramunga Arr**	**85.63**	**230**	P		**P**	**07 05 25.7**	**-0.3**
0.9nm,0.8s,baz=31,slow=5.6,SNR=2.6								
ASAR	**Alice Springs**	**89.04**	**228**	P		**P**	**07 05 42.8**	**+0.3**
2.5nm,0.7s,baz=25,slow=4.8,SNR=10								

*MOS **28** 06:53:58.7±1.3,51°.88N×171°.70W,h33km,mb5.5/75, Error ellipse: s-maj=13.5km s-min=8.3km az=66.6*
*IDC **28** 06:54:01.1±1.4,52°.06N×171°.64W,h41km±11km,mb4.7/45, mb1 4.8/47,mb1mx4.8/67,mbtmp5.0/47,ML4.6/2,MS5.1/1, Ms1 5.1/1,ms1mx3.5/65,Error ellipse: s-maj=12.8km s-min=8.1km az=176.0*
*BJI **28** 06:54:01.1,52°.33N×172°.07W,h46km,mb5.3/69, mB5.2/45,Ms5.5/44,Ms7 5.3/42*
*ISCJB **28** 06:54:02.0±0.4,52°.04N±0°.03×171°.57W±0°.02,h69km±3km, mb5.2/274,Error ellipse: s-maj=5.0km s-min=1.9km az=179.0*
*GCMT **28** 06:54:03.2±0.3,51°.81N×171°.70W,h35km,MW5.4/108, Moment Tensor Solution. s40,c48; s108,c180; Duration: 1§2 Moment tensor: Scale 10^17Nm; Mrr-1.16±.08; Mθθ 1.51±.05; Mφφ-0.34±.05; Mrθ 0.40±.04; Mθφ-0.36±.03; Mrφ 0.55±.03; Best double couple: M0 1.56800×10^17 NP1:φs255.00000°, δ57.00000°, λ-124.00000°. NP2:φs127.00000°, δ46.00000°, λ-49.00000°. Principal axes: T 1.6110, Plg6.0000°, Azm9.0000°; N -0.0840, Plg28.0000°, Azm275.0000°; P -1.5250, Plg61.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 06:54:03.2±0.3,52°.01N×171°.67W,h62km±2km,mb5.4/220, ML5.3(AEIC) Error ellipse: s-maj=4.2km s-min=1.8km az=173.0*

ISC 28 06:54:02.0±0.5, 51°.95N±0°.06×171°.57W±0°.03, h52km±3km, h51km:pP-P,n1122,σ1§13/1176, mb5.3/286, 23C-8D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KOSE	**Korovin Southe**	**1.58**	**286**	P		**Pn**	**06 54 27.5**	**-0.1**
KONE	**Korovin Northe**	**1.63**	**287**	P		**Pn**	**06 54 28.1**	**-0.1**
KOWE	**Korovin West**	**1.71**	**285**	P		**Pn**	**06 54 29.0**	**-0.3**
NIKH	**Nikolski High**	**1.95**	**57**	*e*Pn		**Pn**	**06 54 32.1**	**-0.5**
NIKH				*e*Sn		**Sn**	**06 54 58.2**	**+2.2**
OKER	**Okmok East Rim**	**2.62**	**53**	P		**Pn**	**06 54 41.1**	**-0.8**
GSMY	**Great Sitkin M**	**2.78**	**274**	P		**Pn**	**06 54 44.0**	**+0.1**
GSTR	**Great Sitkin T**	**2.78**	**275**	*e*Pn		**Pn**	**06 54 44.6**	**+0.7**
GSTD	**Great Sitkin T**	**2.83**	**274**	P		**Pn**	**06 54 44.2**	**-0.5**
ETKA	**Kagalaska Isla**	**3.00**	**270**	P		**Pn**	**06 54 47.2**	**+0.3**
KIRH	**Kanaga Island**	**3.42**	**271**	P		**Pn**	**06 54 52.6**	**-0.2**
KIRH				S		**Sn**

CCB **Clear Creek Bu** 17.68 35 *e*Pn Pn 06 58 02.4 -1.7
comp=Z,119nm,1.4s
MDM **Murphy Dome** 17.71 34 *e*Pn Pn 06 58 04.6 0.0
comp=Z,69nm,1.2s
COLA **College** 17.79 34 *e*P P 06 58 06.9 +1.2
HDA **Harding Lake** 17.85 36 *e*Pn Pn 06 58 05.9 -0.4
comp=Z,92nm,1.1s
ILAR **Eielson Array** 18.07 35 P P 06 58 07.4 -1.4
comp=Z,1.6nm,0.3s,baz=233,slow=9.8,SNR=13
ILAR ScP ScP 07 06 11.8 +0.6
comp=Z,0.0nm,0.3s,baz=256,slow=3.2,SNR=5.0
ILB **Eielson Array** 18.07 35 *e*P P 06 58 07.8 -1.1
DOT **Dot Lake** 18.58 40 *e*P P 06 58 14.3 -0.2
comp=Z,716nm,1.9s
COLD **Coldfoot** 18.58 26 *e*P Pn 06 58 16.3 +1.2
comp=Z,138nm,1.5s
PEA0 **Petropavlovsk-** 18.67 286 *e*P Pn 06 58 16.7 +0.4
PEA0B **Petropavlovsk-** 18.67 286 *e*P Pn 06 58 16.6 +0.3
comp=Z,78nm,1.0s
PETK **Petropavlovsk-** 18.67 286 P Pn 06 58 16.2 -0.1
comp=Z,3.0nm,0.3s,baz=85,slow=14,SNR=16
PETK PcP PcP 07 02 42.8 +1.1
comp=Z,0.2nm,0.3s,baz=107,slow=4.8,SNR=3.8
PCA **Pinnacle** 19.15 53 *e*P Pn 06 58 23.0 +1.0
comp=Z,335nm,0.8s
BILL **Bilibino** 19.38 335 *e*P Pn 06 58 24.1 -0.5
BILL pmax pmax
comp=Z,240nm,1.1s
BILL **Bilibino** 19.38 335 *e*P Pn 06 58 24.1 -0.5
comp=Z,244nm,1.1s
DHAK **Deception Hill** 20.02 56 *e*P Pn 06 58 32.2 -0.1
EGAK **Eagle** 20.22 39 *e*P P 06 58 32.3 0.0
comp=Z,76nm,0.8s
HYT **Haines Junctio** 20.62 51 *e*P Pn 06 58 38.5 -1.1
comp=Z,240nm,1.0s
DAWY **Dawson** 20.64 42 *e*P P 06 58 37.7 +0.7
comp=Z,48nm,1.0s
SKAG **Skagway** 21.53 55 *e*P P 06 58 47.5 +1.1
comp=Z,152nm,0.8s
SEY **Seymchan** 21.97 314 P P 06 58 51.8 +0.7
comp=Z,25nm,0.8s,baz=88,slow=7.0,SNR=10
SEY PcP PcP 07 02 47.9 +0.3
comp=Z,7.3nm,0.8s,baz=97,slow=5.3,SNR=3.4
SEY ScP ScP 07 06 22.4 +2.1
comp=Z,4.2nm,0.8s,baz=142,slow=5.1,SNR=3.6
SEY **Seymchan** 21.97 314 *e*P P 06 58 51.2 +0.1
MA2 **Magadan** 22.26 305 P P 06 58 55.5 +1.3
comp=Z,28nm,0.9s,baz=112,slow=9.6,SNR=6.1
MA2 **Magadan** 22.26 305 *e*P P 06 58 54.8 +0.6
MA2 **Magadan** 22.26 305 *e*P P 06 58 54.8 +0.6
CRAG **Craig** 22.83 66 *e*P P 06 59 01.9 +1.7
comp=Z,112nm,1.0s
WRAK **Wrangell Islan** 23.15 63 *e*P P 06 59 04.7 +1.1
comp=Z,115nm,1.3s
DIB **Dawson Inlet,** 23.59 71 *e*P P 06 59 09.1 +1.3
comp=Z,55nm,1.0s
H02S1 **DAWSON INLET T** 23.59 71 T T 07 23 58.2
SNR=5.3
DLBC **Dease Lake** 24.26 58 P P 06 59 16.4 +2.4
comp=Z,97nm,0.6s,baz=284,slow=6.8,SNR=52
INK **Inuvik** 24.45 34 P P 06 59 14.6 -0.8
comp=Z,44nm,0.9s,baz=218,slow=8.5,SNR=24
INK PcP PcP 07 02 53.7 +1.0
comp=Z,11nm,1.0s,baz=323,slow=3.1,SNR=3.4
INK **Inuvik** 24.45 34 *e*P P 06 59 14.8 -0.6
comp=Z,56nm,1.0s
INK PcP PcP 07 02 53.7 +1.0
BBB **Bella Bella** 26.42 72 P P 06 59 35.2 +1.7
comp=Z,13nm,0.6s,baz=292,slow=8.4,SNR=15
BBB **Bella Bella** 26.42 72 *e*P P 06 59 36.0 +2.5
comp=Z,199nm,1.6s
KUR **Kuril'sk** 27.37 272 *e*P P 06 59 41.5 -0.6
TYV **Tymovskoe** 28.22 286 *e*P sP 07 00 08.0 -0.9
TYV pmax pmax
comp=Z,6.0nm,0.6s
YSS **Yuzh-Sakhalins** 29.72 279 *e*P P 07 00 04.0 +1.1
LLLB **Lilooet** 30.63 72 *e*P P 07 00 12.9 +1.9
comp=Z,32nm,0.9s
NLWA **Neilton Lookou** 30.76 79 *e*P P 07 00 14.4 +2.2
comp=Z,50nm,1.1s
ASAJ **Asahikawa** 31.19 274 *e*P P 07 00 15.4 -0.5
comp=Z,78nm,1.1s
E03A **Lebam** 31.33 81 *e*P P 07 00 19.4 +2.3
comp=Z,65nm,1.1s
E03A *e*PcP PcP 07 03 12.0 +2.1
B05A **Bryant** 31.45 77 P P 07 00 19.7 +1.6
baz=296,SNR=14
YKA **Yellowknife Ar** 31.54 48 P P 07 00 18.9 +0.2
comp=Z,17nm,0.7s,baz=275,slow=9.1,SNR=26
YKA PcP PcP 07 03 11.4 +1.2
comp=Z,3.9nm,0.7s,baz=282,slow=2.5,SNR=5.7
YKA ScP ScP 07 06 48.2 -0.5
comp=Z,2.0nm,1.0s,baz=292,slow=3.9,SNR=3.1
F04D **Rainier, OR** 31.89 81 P P 07 00 23.2 +1.2
baz=299
ERM **Erimo** 31.97 270 *i* P P 07 00 23.1 +0.3
ERM pmax pmax
comp=Z,39nm,1.0s
ERM **Erimo** 31.97 270 *e*P P 07 00 23.6 +0.8
comp=Z,70nm,1.2s
D05A **Enumclaw** 31.99 79 *e*P P 07 00 25.6 +2.6
comp=Z,119nm,1.1s
G03D **McMinnville, O** 32.16 83 P P 07 00 26.4 +1.9
baz=300
LON **Longmire** 32.30 79 *e*P P 07 00 27.8 +2.0
LON pmax pmax
comp=Z,14nm,0.9s
LON **Longmire** 32.30 79 *e*P P 07 00 27.8 +2.0
comp=Z,14nm,0.9s
C06D **Leavenworth** 32.32 77 P P 07 00 26.9 +1.0
baz=297
TIXI **Tiksi** 32.40 329 P P 07 00 26.0 -0.3
comp=Z,2.7nm,0.8s,baz=81,slow=14,SNR=2.4
TIXI PcP PcP 07 03 12.4 0.0
comp=Z,7.9nm,0.4s,baz=111,slow=2.5,SNR=10
TIXI ScP ScP 07 06 53.1 +1.6
comp=Z,8.9nm,1.0s,baz=121,slow=4.7,SNR=5.4
TIXI **Tiksi** 32.40 329 *e*P P 07 00 24.4 -1.9
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI **Tiksi** 32.40 329 P P 07 00 26.0 -0.3
TIXI P P 07 00 26.9 +0.6
TIXI PcP PcP 07 03 12.4 0.0
YAK **Yakutsk** 32.43 311 *i* P P 07 00 25.6 -1.0
YAK pmax pmax
comp=Z,28nm,1.0s
I03D **Drain, OR** 32.88 85 P P 07 00 31.8 +1.0
baz=302
B08A **Colville Reser** 33.07 75 *e*P P 07 00 33.9 +1.5
comp=Z,70nm,1.2s
G05D **Wamic, OR** 33.34 81 P P 07 00 36.3 +1.5
baz=300
I04A **Tendick Farm,** 33.41 84 P P 07 00 36.5 +1.1
baz=302,SNR=9.9
L02D **Cave Junction,** 33.55 88 P P 07 00 38.5 +1.8
baz=304
HUMO **Hull Mountain** 33.71 86 *e*P P 07 00 40.2 +2.2
comp=Z,29nm,1.3s
I05D **Terrebonne, OR** 33.78 83 P P 07 00 40.2 +1.5
baz=301,SNR=14
HAWA **Hanford** 33.86 78 *e*P P 07 00 41.0 +1.7
comp=Z,44nm,0.9s
D08A **Wollman Farm,** 33.91 77 *e*P P 07 00 40.8 +1.1
comp=Z,42nm,1.1s
C09A **Chrisman Ranch** 33.95 75 *e*P P 07 00 41.4 +1.3
comp=Z,71nm,1.2s
J05D **Fort Rock, OR** 34.40 84 P P 07 00 45.9 +1.7
baz=303,SNR=13
NEW **Newport** 34.43 74 P P 07 00 45.6 +1.3
comp=Z,66nm,0.9s,baz=309,slow=4.6,SNR=27
NEW **Newport** 34.43 74 P P 07 00 44.7 +0.4
baz=297,SNR=32
NEW **Newport** 34.43 74 *e*P P 07 00 45.4 +1.1
NEW pmax pmax
comp=Z,87nm,1.0s
NEW **Newport** 34.43 74 *e*P P 07 00 45.4 +1.1
comp=Z,87nm,1.0s
K04D **Chiloquin, OR** 34.44 86 P P 07 00 45.6 +1.1
baz=304
M02C **Callahan** 34.45 88 P P 07 00 46.4 +1.8
baz=305,SNR=8.5
EDM **Edmonton** 34.55 64 *e*P P 07 00 46.3 +1.1
comp=Z,273nm,1.1s
G08A **Pilot Rock** 34.75 80 *e*P P 07 00 48.4 +1.3
comp=Z,29nm,1.1s
N02D **Trinity Center** 34.78 89 P P 07 00 49.2 +1.8
baz=305,SNR=9.0
M04C **Macdoel** 34.85 87 P P 07 00 49.4 +1.3
baz=304,SNR=8.2
KLR **Kul'dur** 35.31 289 P P 07 00 50.0 -1.7
comp=Z,3.8nm,0.6s,baz=64,slow=8.0,SNR=7.2
KLR ScP ScP 07 07 02.6 +0.4
comp=Z,1.8nm,0.9s,baz=79,slow=5.2,SNR=2.9
F10A **Beach Ranch, E** 35.46 78 *e*P P 07 00 54.5 +1.3
comp=Z,57nm,1.3s
HOPS **Hopland Field** 35.72 92 *e*P P 07 00 57.2 +1.8
comp=Z,48nm,1.4s
O03D **Paynes Creek** 35.73 89 P P 07 00 56.2 +0.6
baz=306,SNR=23
MOD **Modoc Plateau** 35.74 86 *e*P P 07 00 57.1 +1.4
comp=Z,32nm,0.8s
WALA **Waterton Lakes** 35.96 71 *e*P P 07 00 58.6 +1.1
comp=Z,209nm,1.8s
BMO **Blue Mountains** 35.98 79 *e*P P 07 00 58.6 +0.9
comp=Z,24nm,1.1s
BSMT **Bassoo Peak** 36.01 73 *e*P P 07 00 58.7 +0.7
BLMT **Blacktail Moun** 36.18 73 *e*P P 07 01 00.3 +0.8
H11N2 **WAKE ISLAND Hy** 36.30 216 T T 07 39 30.5
baz=21,slow=75,SNR=16
H11N3 **WAKE ISLAND Hy** 36.30 216 T T 07 39 30.1
baz=21,slow=75,SNR=14
H11N1 **WAKE ISLAND Hy** 36.32 216 T T 07 39 29.0
baz=21,slow=75,SNR=17
JTMT **Jette** 36.36 73 *e*P P 07 01 02.1 +1.1
YBMT **Yellow Bay** 36.46 73 *e*P P 07 01 02.8 +1.0
WVOR **Wild Horse Val** 36.47 84 *e*P P 07 01 03.5 +1.6
WVOR pmax pmax
comp=Z,48nm,1.0s
WVOR **Wild Horse Val** 36.47 84 *e*P P 07 01 03.5 +1.6
comp=Z,48nm,0.9s
SWMT **Swartz Lake** 36.64 74 *e*P P 07 01 04.3 +1.0
MSO **Missoula** 37.01 74 P P 07 01 06.5 +0.1
baz=300,SNR=15
MSO **Missoula** 37.01 74 *e*P P 07 01 07.2 +0.8
comp=Z,58nm,1.2s
AFDM **Forest Hills D** 37.05 90 *e*P P 07 01 08.3 +1.6
comp=Z,16nm,1.0s
CHMT **Chamberlain Mo** 37.38 74 *e*P P 07 01 09.7 0.0
H11S1 **WAKE ISLAND Hy** 37.49 215 T T 07 40 59.5
baz=20,slow=76,SNR=21
H11S2 **WAKE ISLAND Hy** 37.51 215 T T 07 40 59.8
baz=20,slow=76,SNR=18
H11S3 **WAKE ISLAND Hy** 37.51 215 T T 07 41 01.8
baz=20,slow=76,SNR=16
PAHR **Pah Rah Range** 37.58 88 *e*P P 07 01 12.7 +1.3
comp=Z,55nm,0.9s
MFID **Camas Ranch** 37.65 80 *e*P P 07 01 12.8 +0.9
comp=Z,24nm,0.9s
USRK **Ussuriysk Ar.** 37.65 281 P P 07 01 10.8 -0.9
comp=Z,14nm,1.1s,baz=54,slow=7.6,SNR=6.3
USRK PcP PcP 07 03 28.6 +0.4
comp=Z,1.8nm,0.6s,baz=90,slow=4.3,SNR=3.7
CMB **Columbia Colle** 37.97 91 *e*P P 07 01 16.4 +1.8
CMB pmax pmax
comp=Z,22nm,1.0s
CMB **Columbia Colle** 37.97 91 *e*P P 07 01 16.4 +1.8
comp=Z,22nm,1.0s
WAKR **Walker** 38.27 89 *e*P P 07 01 19.4 +2.1
comp=Z,37nm,0.9s
HRY **Holter Researc** 38.32 73 *e*P P 07 01 18.4 +0.9
MAJO **Matsushiro** 38.32 267 *d* P P 07 01 17.1 -0.4
MAJO pmax pmax
comp=Z,68nm,1.0s
MAJO **Matsushiro** 38.32 267 *e*P P 07 01 17.7 +0.2
comp=Z,66nm,1.0s
MAT **Matsushiro** 38.32 267 P P 07 01 16.9 -0.6
MJAR **Matsushiro Arr** 38.32 267 P P 07 01 17.5 0.0
comp=Z,16nm,0.8s,baz=47,slow=7.4,SNR=24
MJAR PcP PcP 07 03 30.3 -0.1
comp=Z,4.0nm,0.8s,baz=37,slow=1.4,SNR=4.9
MJAR **Matsushiro Arr** 38.32 267 P P 07 01 17.5 0.0
MJAR 07 03 30.3
MJAR pmax pmax
comp=Z,17nm,0.8s
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJB9 **Matsu-Tunnel** 38.32 267 *e*P P 07 01 17.8 +0.3
comp=Z,18nm,1.0s
LRM **Limekiln Ridge** 38.41 75 *e*P P 07 01 19.1 +0.6
HLID **Hailey** 38.43 79 P P 07 01 19.1 +0.5
baz=303,SNR=15
HLID **Hailey** 38.43 79 *e*P P 07 01 19.3 +0.8
comp=Z,36nm,1.0s
HLID *e*S S 07 07 16.4 +6.5
BMN **Battle Mountai** 38.48 85 *e*P P 07 01 20.4 +1.4
BMN pmax pmax
comp=Z,19nm,0.8s
BMN **Battle Mountai** 38.48 85 *e*P P 07 01 20.4 +1.4
comp=Z,19nm,0.8s
DLMT **Dillon** 38.56 76 *e*P P 07 01 20.3 +0.7
comp=Z,90nm,1.1s
DLMT *e*S S 07 07 16.4 +4.6
MCMT **McKenzie Canyo** 38.69 77 *e*P P 07 01 21.2 +0.4
MDJ **Mudanjiang** 38.88 283 P P 07 01 21.8 -0.2
MDJ PMZ
comp=Z,10.0nm,0.8s
MDJ PMZ
comp=Z,220nm,8.1s
EGMT **Eagleton** 38.88 70 P P 07 01 22.4 +0.2
baz=300,SNR=12
EGMT **Eagleton** 38.88 70 *e*P P 07 01 22.9 +0.7
comp=Z,151nm,1.0s
BOZ **Bozeman (W)** 38.99 75 P P 07 01 23.7 +0.4
baz=302,SNR=15
BOZ **Bozeman (W)** 38.99 75 *e*P P 07 01 23.6 +0.4
BOZ pmax pmax
comp=Z,33nm,1.0s
BOZ **Bozeman (W)** 38.99 75 *e*P P 07 01 23.6 +0.4
comp=Z,33nm,1.0s
MLAC **Mammoth, Mammo** 39.19 90 P P 07 01 26.8 +1.8
baz=309
ELK **Elko** 39.52 84 *e*P P 07 01 28.9 +1.1
ELK pmax pmax
comp=Z,18nm,0.8s
ELK **Elko** 39.52 84 *e*P P 07 01 28.9 +1.1
comp=Z,18nm,0.8s
QLMT **Earthquake Lak** 39.54 76 *e*P P 07 01 28.8 +0.9
YHB **Horse Butte** 39.73 76 *e*P P 07 01 30.4 +1.0
comp=Z,58nm,1.1s
RCTC **Rector, Farmer** 39.77 92 P P 07 01 30.3 +0.7
baz=310,SNR=11
INU **Inuyama** 39.83 266 *e*P P 07 01 30.1 0.0
comp=Z,22nm,0.8s
YMR **Madison River** 39.91 76 *e*P P 07 01 32.1 +1.2
comp=Z,67nm,1.1s
YHH **Holmes Hill** 39.91 75 *e*P P 07 01 32.1 +1.0
comp=Z,66nm,1.1s
TIN **Tinemaha, Big** 39.92 90 P P 07 01 32.1 +1.2
baz=310,SNR=7.1
SMMC **Simmler** 39.95 94 P P 07 01 32.6 +1.5
baz=311
GCMT **Greycliff** 40.08 73 *e*P P 07 01 33.3 +1.0
FFC **Flin Flon** 40.09 58 *e*P P 07 01 32.6 +0.5
FFC pmax pmax
comp=Z,52nm,1.0s
FFC **Flin Flon** 40.09 58 *e*P P 07 01 32.6 +0.5
comp=Z,52nm,1.0s
YFT **Old Faithful** 40.10 76 *e*P P 07 01 35.2 +2.6
comp=Z,64nm,1.1s
VES **Vestal, Richgr** 40.17 92 P P 07 01 33.3 +0.4
baz=311,SNR=13
YPP **Pitchstone Pla** 40.22 76 *e*P P 07 01 35.9 +2.3
comp=Z,33nm,1.2s
H17A **Grant Village** 40.29 76 P P 07 01 35.6 +1.4
baz=303,SNR=15
H17A **Grant Village** 40.29 76 *e*P P 07 01 36.3 +2.2
LKWY **Lake** 40.30 75 *e*P P 07 01 36.5 +2.2
LKWY pmax pmax
comp=Z,59nm,1.2s
LKWY **Lake** 40.30 75 *e*P P 07 01 36.5 +2.2
comp=Z,59nm,1.2s
PKM **Mcpherson Peak** 40.34 94 P P 07 01 36.2 +1.6
baz=312
IMW **Indian Meadow** 40.35 77 *e*P P 07 01 35.5 +0.9
comp=Z,34nm,1.0s
FLWY **Flagg Ranch** 40.39 76 *e*P P 07 01 36.4 +1.5
comp=Z,51nm,1.1s
CWC **Cottonwood Cre** 40.41 91 P P 07 01 36.3 +1.3
baz=310
HVU **Hansel Valley** 40.43 81 *e*P P 07 01 36.4 +1.2
HVU pmax pmax
comp=Z,30nm,0.9s
HVU **Hansel Valley** 40.43 81 *e*P P 07 01 36.4 +1.2
comp=Z,30nm,0.9s
GRAC **Grapevine Rang** 40.49 90 P P 07 01 37.2 +1.5
baz=310
MOOW **Moose Ponds** 40.55 77 *e*P P 07 01 37.4 +1.1
comp=Z,17nm,1.1s
TPAW **Teton Pass** 40.57 77 *e*P P 07 01 37.8 +1.4
comp=Z,60nm,1.5s
ISA **Isabella, Lake** 40.66 92 P P 07 01 37.6 +0.5
baz=311,SNR=9.3
ISA **Isabella, Lake** 40.66 92 *e*P P 07 01 38.0 +0.9
ISA **Isabella, Lake** 40.66 92 *e*P P 07 01 38.0 +0.9
RLMT **Red Lodge** 40.68 74 P P 07 01 38.1 +0.8
baz=303,SNR=22
RLMT **Red Lodge** 40.68 74 *e*P P 07 01 38.0 +0.8
comp=Z,84nm,1.1s
REDW **Red Top Meadow** 40.70 77 *e*P P 07 01 38.9 +1.4
comp=Z,115nm,1.6s
SNOW **Snow King Moun** 40.70 77 *e*P P 07 01 39.2 +1.7
comp=Z,40nm,1.3s
LOHW **Long Hollow** 40.71 77 *e*P P 07 01 38.3 +0.8
comp=Z,12nm,0.9s
R11A **Troy Canyon, C** 40.75 87 P P 07 01 38.7 +0.8
baz=308,SNR=30
R11A **Troy Canyon, C** 40.75 87 *e*P P 07 01 38.6 +0.7
BGU **Big Grassy Mou** 40.77 82 *e*P P 07 01 39.2 +1.2
comp=Z,44nm,1.3s
ARVC **Arvin** 40.79 93 P P 07 01 38.5 +0.4
baz=311
DAC **Darwin (Calif)** 40.81 91 *e*P P 07 01 39.9 +1.4
DAC pmax pmax
comp=Z,28nm,1.0s
DAC **Darwin (Calif)** 40.81 91 *e*P P 07 01 39.9 +1.4
comp=Z,28nm,0.9s
AHID **Auburn Hatcher** 40.88 78 *e*P P 07 01 40.2 +1.3
comp=Z,39nm,1.1s
SPUT **South Promonto** 40.90 81 *e*P P 07 01 40.6 +1.5
comp=Z,29nm,1.0s
MPMC **Manual Prospec** 41.02 91 P P 07 01 41.2 +1.1
baz=310,SNR=17
SCZ2 **Santa Cruz Isl** 41.05 95 P P 07 01 40.8 +0.6
baz=312
FURC **Furnace Creek,** 41.14 90 P P 07 01 42.4 +1.5
baz=310,SNR=34
OSI **Osito Audit: C** 41.20 94 P P 07 01 42.0 +0.5
baz=312
OSI **Osito Audit: C** 41.20 94 *e*P P 07 01 43.1 +1.7
comp=Z,34nm,1.0s
BOD **Bodaibo** 41.20 308 *e*P P 07 01 38.8 -2.3
BOD pmax pmax
comp=Z,41nm,2.0s
TPNV **Topopah Spring** 41.22 89 P P 07 01 42.8 +1.1
baz=310,SNR=58
TPNV **Topopah Spring** 41.22 89 *e*P P 07 01 42.8 +1.1
TPNV pmax pmax
comp=Z,72nm,0.9s
TPNV **Topopah Spring** 41.22 89 *e*P P 07 01 42.8 +1.1
comp=Z,72nm,0.9s
HWUT **Hardware Ranch** 41.27 80 *e*P P 07 01 43.2 +1.1
comp=Z,54nm,1.1s
LRMC **Laurel Mtn Rad** 41.27 92 P P 07 01 42.7 +0.5
baz=311
BLG **Laguna Peak, P** 41.32 94 P P 07 01 43.0 +0.6
baz=312
DUG **Dugway, Tooele** 41.34 83 P P 07 01 43.3 +0.6
baz=307,SNR=19
DUG **Dugway, Tooele** 41.34 83 *e*P P 07 01 43.6 +0.9
DUG pmax pmax
comp=Z,66nm,1.3s
DUG **Dugway, Tooele** 41.34 83 *e*P P 07 01 43.6 +0.9
comp=Z,66nm,1.3s
EDW2 **Edwards Air Fo** 41.47 93 P P 07 01 44.5 +0.8
baz=311,SNR=6.9
SNCC **San Nicolas Is** 41.62 96 P P 07 01 46.1 +1.3
baz=313
LAO **LASA Array** 41.63 70 P P 07 01 45.5 +0.6
baz=302,SNR=13
LAO **LASA Array** 41.63 70 *e*P P 07 01 45.7 +0.8
comp=Z,49nm,0.6s
LAO *e*PcP PcP 07 03 42.8 +1.9
TCUT **Toone Canyon** 41.65 80 *e*P P 07 01 46.7 +1.3
comp=Z,46nm,0.9s
DECC **Green Verdugo** 41.68 94 P P 07 01 46.1 +0.7
baz=312
CTU **Camp Tracy** 41.69 81 *e*P P 07 01 46.5 +0.9
comp=Z,66nm,0.9s
CN2 **Changchun** 41.81 285 *e*P P 07 01 43.0 -3.3
CN2 *e*S S 07 08 00.0 -0.1
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,100nm,4.0s
CN2 LN
comp=Z,2μm,18.0s
CN2 LE
comp=Z,2μm,18.0s
CN2 LZ
comp=Z,3μm,19.0s
BW06 **Boulder Array** 41.82 77 P P 07 01 47.0 +0.4
baz=305,SNR=27
BW06 **Boulder Array** 41.82 77 *e*P P 07 01 46.4 -0.3
BW06 *e*P P 07 01 47.1 +0.4
PD31 **Pinedale Array** 41.82 77 *e*P P 07 01 47.3 +0.6
PDAR **Pinedale Array** 41.82 77 P P 07 01 46.7 0.0
comp=Z,38nm,0.9s,baz=305,slow=5.2,SNR=35
DGMT **Dagmar** 41.87 67 P P 07 01 46.9 +0.1
baz=301,SNR=7.7
DGMT **Dagmar** 41.87 67 *e*P P 07 01 47.6 +0.9
comp=Z,168nm,1.4s
MWC **Mount Wilson** 41.87 93 *e*P P 07 01 48.4 +1.3
MWC pmax pmax
comp=Z,46nm,1.0s
MWC **Mount Wilson** 41.87 93 *e*P P 07 01 48.4 +1.3
comp=Z,46nm,1.0s
SHOC **Shoshone, Teco** 41.87 90 P P 07 01 47.9 +0.9
baz=311,SNR=12
JLU **Jordanelle** 41.93 81 *e*P P 07 01 48.8 +1.1
comp=Z,50nm,1.3s
GSC **Goldstone, Bar** 41.93 91 P P 07 01 48.4 +0.9
baz=311,SNR=53
GSC **Goldstone, Bar** 41.93 91 *e*P P 07 01 48.4 +0.9
GSC pmax pmax
comp=Z,71nm,0.9s
GSC **Goldstone, Bar** 41.93 91 *e*P P 07 01 48.4 +0.9
comp=Z,70nm,0.9s
FMP **Fort Macarthur** 42.06 94 P P 07 01 48.9 +0.5
baz=312
RRX **Edison Barstow** 42.09 92 P P 07 01 49.4 +0.7
baz=311
BFSC **Mount Baldy Ra** 42.10 93 P P 07 01 49.7 +0.7
baz=312,SNR=18
SHPR **Sheep Range** 42.17 89 *e*P P 07 01 50.7 +1.2
comp=Z,39nm,1.1s
HIA **Hailar** 42.20 295 *e*P P 07 01 48.3 -1.1
HIA pmax pmax
comp=Z,15nm,0.5s
HIA **Hailar** 42.20 295 *e*P P 07 01 48.3 -1.1
comp=Z,15nm,0.5s
A25A **Svangstu Ranch** 42.24 66 P P 07 01 49.9 +0.1
baz=301,SNR=24
FCC **Fort Churchill** 42.25 49 *e*P P 07 01 50.0 +0.4
FCC pmax pmax
comp=Z,67nm,0.8s
FCC **Fort Churchill** 42.25 49 *e*P P 07 01 50.0 +0.4
comp=Z,67nm,0.8s
TUQ **Turquoise Moun** 42.39 90 P P 07 01 52.1 +0.8
baz=311,SNR=5.7
SCI2 **San Clemente I** 42.40 95 P P 07 01 51.9 +0.7
baz=313
HEC **Hector,Ludlow** 42.53 91 P P 07 01 53.1 +0.7
baz=311,SNR=12
BBRC **Big Bear Solar** 42.54 93 P P 07 01 53.6 +0.9
baz=312
B25A **Knox Farm, Ray** 42.56 67 P P 07 01 52.7 +0.3
baz=302,SNR=7.3
CCUT **Cedar City** 42.62 86 *e*P P 07 01 54.6 +1.3
comp=Z,38nm,1.4s
MSU **Marysvale** 42.75 84 *e*P P 07 01 55.3 +1.0
MSU **Marysvale** 42.75 84 *e*P P 07 01 55.3 +1.0
C25A **Freed Ranch, W** 42.80 67 P P 07 01 54.9 +0.6
baz=302,SNR=7.3
MURC **Murrieta** 42.82 93 P P 07 01 55.2 +0.6
baz=312,SNR=7.8
A26A **Wade Farm, Ken** 42.87 65 P P 07 01 54.7 -0.2
baz=302,SNR=14
TMUT **Trail Mountain** 42.87 82 *e*P P 07 01 56.7 +1.4
comp=Z,34nm,0.9s
GMRC **Granite Mounta** 42.98 91 P P 07 01 56.7 +0.7

baz=312,SNR=31
B26A **Jensen Ranch,** 43.03 66 P P 07 01 56.8 +0.6
baz=302,SNR=6.1
LCMT **Little Creek M** 43.03 87 eP P 07 01 58.0 +1.5
comp=Z,45nm,1.3s
MTPU **Mount Pierson** 43.04 85 eP P 07 01 58.5 +1.7
comp=Z,108nm,1.7s
P17A **Butcher Ranch,** 43.05 82 eP P 07 01 57.8 +1.2
comp=Z,68nm,1.1s
LDFC **Landfair** 43.13 90 eP P 07 01 57.8 +0.6
comp=Z,144nm,1.2s
P18A **Preston Nutter** 43.25 81 eP P 07 01 59.8 +1.3
comp=Z,49nm,0.9s
PFO **Pinyon Flats O** 43.26 93 P P 07 01 59.0 +0.7
comp=Z,15nm,0.9s,baz=315,slow=5.8,SNR=15
PFO **Pinyon Flats O** 43.26 93 P P 07 01 58.8 +0.4
baz=312,SNR=11
PFO **Pinyon Flats O** 43.26 93 eP P 07 01 59.4 +1.0
PFO pmax pmax
comp=Z,35nm,1.1s
PFO **Pinyon Flats O** 43.26 93 eP P 07 01 59.4 +1.0
comp=Z,35nm,1.1s
TPFO **Pinon Flats** 43.27 93 P P 07 01 59.1 +0.7
baz=312,SNR=12
A27A **Ledoux Ranch,** 43.28 65 P P 07 01 58.2 0.0
baz=302
BELC **Belle Mtn. Jos** 43.29 92 P P 07 01 58.8 +0.2
baz=312,SNR=16
KNB **Kanab** 43.29 86 eP P 07 02 00.2 +1.6
KNB pmax pmax
comp=Z,84nm,1.1s
KNB **Kanab** 43.29 86 eP P 07 02 00.2 +1.6
comp=Z,84nm,1.1s
109C **Camp Elliot, M** 43.35 94 P P 07 01 59.7 +0.8
baz=313
SRU **San Rafael Swe** 43.40 82 eP P 07 02 00.8 +1.3
SRU pmax pmax
comp=Z,44nm,1.0s
SRU **San Rafael Swe** 43.40 82 eP P 07 02 00.8 +1.3
comp=Z,44nm,1.0s
MMU **Miners Mountai** 43.49 84 eP P 07 02 01.4 +1.0
NEE2 **Needles Airpor** 43.63 90 P P 07 02 01.5 +0.4
baz=312
D26A **Manning** 43.64 68 P P 07 02 01.2 +0.1
baz=303,SNR=5.7
K22A **Casper** 43.71 75 P P 07 02 01.7 -0.2
baz=306,SNR=8.7
K22A **Casper** 43.71 75 eP P 07 02 01.7 -0.2
IRM **Iron Mountain** 43.71 91 P P 07 02 02.5 +0.6
baz=312,SNR=17
BAR **Barrett** 43.76 94 eP P 07 02 03.6 +1.3
comp=Z,29nm,1.0s
MONP2 **Monument Peak** 43.77 94 P P 07 02 03.5 +1.0
baz=313,SNR=12
A28A **Rude Farm, Bot** 43.85 64 P P 07 02 02.9 +0.1
baz=302,SNR=19
BC3 **Big Chuckawall** 43.86 92 P P 07 02 03.5 +0.4
baz=312,SNR=10.0
W13A **Hualapai Mount** 43.87 89 eP P 07 02 04.0 +0.7
U15A **North Rim** 43.99 87 eP P 07 02 05.5 +1.1
comp=Z,44nm,0.9s
B28A **Dugan Ranch, T** 44.05 65 P P 07 02 04.6 +0.3
baz=303,SNR=23
KSRS **Korea Array** 44.10 276 P P 07 02 04.8 -0.1
comp=Z,32nm,0.9s,baz=58,slow=7.7,SNR=40
KSRS PcP PcP 07 03 49.6 +0.4
comp=Z,5.9nm,0.9s,baz=74,slow=3.4,SNR=4.3
KS01 **Wonju Array Si** 44.10 276 eP P 07 02 04.1 -0.8
SWSC **Sam W. Stewart** 44.12 93 P P 07 02 05.4 +0.3
baz=313
IKP **In-Ko-Pah, Jac** 44.13 94 P P 07 02 05.6 +0.3
baz=313,SNR=10
KS15 **Wonju Array Si** 44.13 276 eP P 07 02 05.3 +0.1
KSAR **Wonju Array Be** 44.13 276 P P 07 02 04.8 -0.3
KSAR 07 03 49.6
KSAR **Wonju Array Be** 44.13 276 P P 07 02 04.8 -0.3
KSAR PcP PcP 07 03 49.6 +0.2
O20A **White River Ci** 44.17 79 P P 07 02 05.8 +0.2
baz=308,SNR=25
O20A **White River Ci** 44.17 79 eP P 07 02 05.7 0.0
PDMCI **Parker Dam,Lak** 44.24 90 P P 07 02 06.7 +0.7
baz=312,SNR=29
H25A **Fruitdale** 44.31 71 P P 07 02 06.4 -0.2
baz=305,SNR=19
RSSD **Black Hills** 44.34 72 P P 07 02 06.8 -0.2
baz=305
RSSD **Black Hills** 44.34 72 eP P 07 02 07.1 +0.1
RSSD pmax pmax
comp=Z,110nm,1.5s
RSSD **Black Hills** 44.34 72 eP P 07 02 07.1 +0.1
comp=Z,109nm,1.5s
Y12C **Blythe** 44.37 91 P P 07 02 07.8 +0.7
baz=312,SNR=15
A29A **Manning Farm,** 44.42 64 P P 07 02 07.1 -0.2
baz=303,SNR=18
C28A **Hausauer Farms** 44.43 66 P P 07 02 07.7 +0.3
baz=303,SNR=7.0
B29A **Wagenman Farm,** 44.60 65 P P 07 02 08.6 -0.2
baz=303,SNR=10
D28A **Regan** 44.61 67 P P 07 02 09.3 +0.4
baz=304,SNR=10
PV09 **Paradox Valley** 44.63 82 eP P 07 02 10.1 +0.6
GLA **Glamis** 44.65 92 P P 07 02 10.2 +0.8
baz=313,SNR=11
GLA **Glamis** 44.65 92 eP P 07 02 10.5 +1.1
GLA pmax pmax
comp=Z,70nm,1.4s
GLA **Glamis** 44.65 92 eP P 07 02 10.5 +1.1
comp=Z,70nm,1.4s
PV10 **Paradox Valley** 44.77 82 eP P 07 02 11.5 +1.0
MDND **Maddock** 44.80 65 P P 07 02 10.5 +0.1
baz=304,SNR=19
MDND **Maddock** 44.80 65 eP P 07 02 10.8 +0.4
PV04 **Paradox Valley** 44.84 82 eP P 07 02 11.3 +0.3
INCN **Inchon** 44.88 276 eP P 07 02 11.3 +0.2
comp=Z,87nm,1.0s
PV05 **Paradox Valley** 44.91 82 eP P 07 02 12.5 +0.8
A30A **Hoffart Farm,** 44.93 63 P P 07 02 11.1 -0.2
baz=303,SNR=6.1
N23A **Red Feather La** 45.10 77 P P 07 02 13.5 +0.3
baz=308,SNR=10
JNU **Nakatsue** 45.10 269 P P 07 02 12.8 -0.1
comp=Z,14nm,0.8s,baz=39,slow=7.7,SNR=6.0
JNU **Nakatsue** 45.10 269 eP P 07 02 13.2 +0.3
comp=Z,78nm,1.0s
TJN **Taejon** 45.13 275 d iP P 07 02 12.7 -0.4
PHWY **Pilot Hill** 45.15 76 eP P 07 02 13.6 +0.1
comp=Z,41nm,1.2s
WUAZ **Wupatki** 45.15 87 P P 07 02 14.0 +0.5
baz=311,SNR=19
WUAZ **Wupatki** 45.15 87 eP P 07 02 14.4 +0.9
comp=Z,43nm,0.9s
B30A **Myrvik Farm, E** 45.18 64 P P 07 02 13.1 -0.2
baz=304,SNR=17
Y14A **Wickenburg** 45.18 90 eP P 07 02 14.2 +0.6
comp=Z,124nm,0.9s
PV01 **Paradox Valley** 45.20 82 eP P 07 02 14.1 +0.1
D29A **Pettibone, Tap** 45.24 66 P P 07 02 13.8 0.0
baz=304
E29A **Napoleon** 45.49 67 P P 07 02 15.5 -0.4
baz=305,SNR=6.3
113A **Mohawk Valley,** 45.50 92 eP P 07 02 16.3 +0.3
comp=Z,28nm,1.1s
C30A **Mose, Pekin** 45.51 65 P P 07 02 15.5 -0.5
baz=304,SNR=9.7
SMCO **Snowmass** 45.53 80 eP P 07 02 17.9 +1.2
comp=Z,63nm,1.4s
ULM **Lac du Bonnet** 45.54 61 P P 07 02 15.9 -0.2
comp=Z,33nm,0.9s,baz=301,slow=8.7,SNR=15
ULM **Lac du Bonnet** 45.54 61 eP P 07 02 16.3 +0.1
ULM pmax pmax
comp=Z,79nm,1.1s
ULM **Lac du Bonnet** 45.54 61 eP P 07 02 16.3 +0.1
comp=Z,79nm,1.1s
A31A **Linda, St. Vin** 45.55 63 P P 07 02 15.9 -0.4
baz=304,SNR=5.2
B31A **Greenbush Farm** 45.57 64 P P 07 02 16.5 +0.1
baz=304,SNR=19
F29A **Eureka** 45.80 68 P P 07 02 18.2 -0.2
baz=305,SNR=9.7
X16A **Lo Mia Camp, P** 45.83 88 eP P 07 02 18.6 -0.4
comp=Z,26nm,1.0s
MVCO **Mesa Verde** 45.83 83 P P 07 02 17.9 -1.0
baz=310,SNR=12
MVCO **Mesa Verde** 45.83 83 eP P 07 02 18.3 -0.7
comp=Z,21nm,0.9s
C31A **Landman Farms,** 45.88 64 P P 07 02 18.5 -0.4
baz=304,SNR=8.6
A32A **Rocking H Ranc** 45.94 63 P P 07 02 19.1 -0.2
baz=304,SNR=16
ISCO **Idaho Springs** 45.97 78 P P 07 02 18.7 -1.4
baz=308
G29A **Hoven** 46.12 69 P P 07 02 20.2 -0.6
baz=306,SNR=9.3
NRIK **Noril'sk** 46.14 331 P P 07 02 19.9 -0.8
comp=Z,10nm,0.6s,baz=58,slow=4.1,SNR=13
NRIK PcP PcP 07 03 56.1 +0.3
comp=Z,9.0nm,0.8s,baz=72,slow=4.6,SNR=3.7
B32A **Ashes, Strandq** 46.20 63 P P 07 02 21.0 -0.4
baz=304,SNR=22
F30A **Leola** 46.26 67 P P 07 02 21.1 -0.8
baz=305,SNR=7.1
H29A **Onida** 46.28 69 P P 07 02 21.8 -0.3
baz=306
D31A **Mcclaflin, Tow** 46.30 65 P P 07 02 21.4 -0.8
baz=305,SNR=12
W18A **Petrified Fore** 46.42 86 P P 07 02 23.9 +0.3
baz=311,SNR=12
W18A **Petrified Fore** 46.42 86 eP P 07 02 23.9 +0.3
KULLO **Kullorsuaq** 46.49 20 i P P 07 02 19.5 -3.8
comp=Z,12nm,0.8s
E31A **Nome** 46.49 66 P P 07 02 22.6 -1.1
baz=305,SNR=9.9
S22A **4UR Ranch, Cre** 46.52 81 P P 07 02 23.4 -1.0
baz=310,SNR=11
A33A **Warroad** 46.53 62 P P 07 02 23.3 -0.7
baz=304,SNR=18
C32A **Crookston** 46.53 64 P P 07 02 23.0 -1.0
baz=305
I29A **Vivian Onida** 46.58 70 P P 07 02 23.7 -0.8
baz=306,SNR=8.4
G30A **Faulkton** 46.60 68 P P 07 02 23.8 -0.8
baz=306,SNR=20
AGMN **Agassiz Nation** 46.63 63 P P 07 02 24.2 -0.5
baz=305,SNR=24
AGMN **Agassiz Nation** 46.63 63 eP P 07 02 24.4 -0.4
comp=Z,92nm,1.0s
214A **Organ Pipe Nat** 46.64 92 P P 07 02 25.5 +0.4
baz=314,SNR=12
214A **Organ Pipe Nat** 46.64 92 eP P 07 02 25.6 +0.5
D32A **Dogwood Acres,** 46.65 65 P P 07 02 24.0 -1.0
baz=305
X18A **Snowflake** 46.68 87 eP P 07 02 26.2 +0.7
F31A **Hecla** 46.69 67 P P 07 02 24.3 -0.9
baz=306
Q24A **Divide** 46.77 79 P P 07 02 26.4 0.0
baz=309
B33A **Robert and Kas** 46.80 63 P P 07 02 25.1 -1.0
baz=305,SNR=15
E32A **Braaten, Kindr** 46.93 65 P P 07 02 26.3 -0.8
baz=306,SNR=6.6
C33A **Trail** 46.99 63 P P 07 02 27.0 -0.5
baz=305,SNR=12
DL2 **Dalian** 47.04 281 P P 07 02 28.3 +0.2
DL2 PMZ
comp=Z,52nm,0.9s
G31A **Conde** 47.08 68 P P 07 02 27.3 -1.1
baz=306,SNR=6.4
SUSD **Miller** 47.11 69 P P 07 02 28.0 -0.6
baz=306,SNR=18
I30A **Oacoma** 47.15 70 P P 07 02 28.4 -0.6
baz=307
B34A **Aery, Baudette** 47.19 62 P P 07 02 28.4 -0.7
baz=305,SNR=18
D33A **AnnSam, Waubun** 47.30 64 P P 07 02 29.0 -1.0
baz=306,SNR=11
F32A **Veblen** 47.32 66 P P 07 02 29.1 -1.1
baz=306,SNR=6.3
SDCO **Great Sand Dun** 47.33 80 P P 07 02 30.9 +0.2
baz=310,SNR=9.4
H31A **Wolsey** 47.37 69 P P 07 02 30.1 -0.5
baz=307,SNR=26
OGNE **Ogallala** 47.42 75 P P 07 02 31.3 +0.2
baz=308,SNR=7.7
OGNE **Ogallala** 47.42 75 eP P 07 02 32.0 +0.9
comp=Z,96nm,1.1s
J30A **Dallas** 47.47 70 P P 07 02 31.1 -0.3
baz=307,SNR=10
G32A **Webster** 47.47 67 P P 07 02 30.4 -1.0
baz=306,SNR=10
C34A **RKJ Ranch, Bem** 47.52 63 P P 07 02 31.1 -0.7
baz=306,SNR=6.3
E33A **Westby DABS, E** 47.58 65 P P 07 02 31.2 -1.0
baz=306,SNR=5.6
I31A **Royce, Wessing** 47.60 69 P P 07 02 32.0 -0.5
baz=307,SNR=9.0
D34A **Park Rapids** 47.70 64 P P 07 02 32.2 -0.9
baz=306,SNR=20
B35A **Bob, Littlefor** 47.77 62 P P 07 02 32.7 -0.9
baz=305,SNR=6.4
K30A **Basset** 47.79 71 P P 07 02 33.8 -0.2
baz=308,SNR=18
F33A **5 Mile Ranch,** 47.81 66 P P 07 02 33.2 -0.8
baz=306,SNR=7.5
J31A **Geddes** 47.93 70 P P 07 02 34.7 -0.3
baz=307,SNR=18
H32A **Carlson Farm,** 47.95 68 P P 07 02 34.5 -0.7
baz=307,SNR=13
C35A **Jirk Farms, M** 48.01 63 P P 07 02 34.3 -1.2
baz=306,SNR=14
E34A **Wadena** 48.04 65 P P 07 02 35.0 -0.8
baz=306
G33A **Ortonville** 48.11 67 P P 07 02 35.4 -0.9
baz=307,SNR=14
I32A **Karley and Nic** 48.22 68 P P 07 02 35.8 -1.4
baz=307,SNR=6.8
H33A **Prehn Over Nor** 48.24 67 P P 07 02 36.7 -0.7
baz=307,SNR=15
KSCO **Kaye Shedlock'** 48.27 77 P P 07 02 38.7 +0.9
baz=310,SNR=12
KSCO **Kaye Shedlock'** 48.27 77 eP P 07 02 38.6 +0.9
K31A **O'Neill** 48.32 71 P P 07 02 37.7 -0.3
baz=308,SNR=6.4
D35A **Remer** 48.33 63 P P 07 02 37.4 -0.6
baz=306,SNR=14
T25A **Trinidad** 48.38 80 P P 07 02 39.4 +0.6
baz=310,SNR=9.9
J32A **Parkston** 48.40 69 P P 07 02 38.0 -0.6
baz=308,SNR=23
F34A **Alexandria** 48.42 65 P P 07 02 37.9 -0.8
baz=307,SNR=9.8
E35A **Pequot Lakes** 48.45 64 P P 07 02 38.5 -0.4
baz=306,SNR=12
LAZ **Ladron** 48.50 85 eP P 07 02 40.7 +1.0
G34A **Benson** 48.53 66 P P 07 02 38.8 -0.8
baz=307,SNR=7.1
L31A **Butterfield Fa** 48.55 71 P P 07 02 39.3 -0.4
baz=308,SNR=8.3
ANMO **Albuquerque** 48.56 84 P P 07 02 40.0 -0.2
baz=312
ANMO **Albuquerque** 48.56 84 eP P 07 02 40.7 +0.6
ANMO **Albuquerque** 48.56 84 eP P 07 02 40.7 +0.6
I33A **Coleman** 48.59 68 P P 07 02 39.0 -1.1
baz=307,SNR=8.3
C36A **Pine Crest Far** 48.60 62 P P 07 02 39.6 -0.4
baz=306,SNR=9.7
K32A **Verdigre** 48.76 70 P P 07 02 40.6 -0.8
baz=306,SNR=6.4
D36A **Goodland** 48.77 63 P P 07 02 40.3 -1.0
baz=306,SNR=5.5
F35A **Swanville** 48.77 65 P P 07 02 40.7 -0.7
baz=307,SNR=15
H34A **Spellman Lake,** 48.80 67 P P 07 02 40.7 -0.9
baz=307,SNR=11
IRK **Irkutsk** 48.84 306 eP P 07 02 28.4 -13
IRK pmax pmax
comp=Z,72nm,2.2s
Y22D **IRIS PASSCAL I** 48.85 85 P P 07 02 41.0 -1.3
baz=312
LPM **Los Pinos Moun** 48.87 85 eP P 07 02 43.9 +1.4
ECSD **EROS Data Cent** 48.89 68 P P 07 02 41.4 -0.9
baz=308,SNR=21
ECSD **EROS Data Cent** 48.89 68 eP P 07 02 41.4 -0.9
comp=Z,31nm,0.6s
J33A **Davis** 48.94 69 P P 07 02 41.8 -0.9
baz=308,SNR=13
C37A **Embarrass** 48.97 62 P P 07 02 42.6 -0.3
baz=306,SNR=13
M31A **Lambtecht Ranc** 48.98 72 P P 07 02 42.4 -0.7
baz=309
E36A **McGregor** 49.11 63 P P 07 02 43.4 -0.6
baz=307,SNR=14
I34A **Hadley** 49.13 68 P P 07 02 42.8 -1.4
baz=308
L32A **Elgin** 49.14 71 P P 07 02 43.7 -0.6
baz=308,SNR=8.3
D37A **Cotton** 49.18 62 P P 07 02 43.8 -0.7
baz=307
G35A **Watkins** 49.20 66 P P 07 02 43.9 -0.8
baz=307,SNR=6.6
EYMN **Ely** 49.22 61 P P 07 02 44.3 -0.5
baz=307,SNR=9.0
EYMN **Ely** 49.22 61 eP P 07 02 44.8 -0.1
comp=Z,69nm,1.1s
319A **Douglas** 49.22 89 eP P 07 02 46.2 +1.0
comp=Z,23nm,1.0s
H35A **Sunnyside Ranc** 49.32 66 P P 07 02 44.9 -0.7
baz=308,SNR=13
N31A **Bailey Ranch,** 49.32 73 P P 07 02 45.6 -0.1
baz=309,SNR=7.1
F36A **Milaca** 49.35 64 P P 07 02 45.0 -0.8
baz=307,SNR=8.6
K33A **Hardington** 49.36 70 P P 07 02 45.2 -0.8
baz=308,SNR=6.2
121A **Cookes Peak, D** 49.36 87 P P 07 02 46.8 +0.5
baz=313,SNR=9.1
121A **Cookes Peak, D** 49.36 87 eP P 07 02 47.3 +1.0
comp=Z,30nm,0.8s
BGNE **Belgrade** 49.43 72 P P 07 02 45.8 -0.7
baz=309,SNR=13
BGNE **Belgrade** 49.43 72 eP P 07 02 46.6 +0.1
L33A **Hoskins** 49.47 70 P P 07 02 45.8 -1.1
baz=309
C38A **Sawbill Land.** 49.48 61 P P 07 02 46.0 -0.8
baz=307,SNR=6.0
TLY **Talaya** 49.49 305 P P 07 02 46.2 -0.6
comp=Z,9.9nm,0.7s,baz=12,slow=1.3,SNR=8.3
TLY **Talaya** 49.49 305 eP P 07 02 33.0 -14
TLY pmax pmax
comp=Z,11nm,1.0s
TLY **Talaya** 49.49 305 eP P 07 02 46.1 -0.6
comp=Z,14nm,0.8s
O31A **Woolen Ranch,** 49.52 74 P P 07 02 47.0 -0.2
baz=309,SNR=10
J34A **George** 49.54 68 P P 07 02 45.0 -2.3
baz=308,SNR=6.1
E37A **Wrenshall** 49.55 63 P P 07 02 45.4 -1.9
baz=307
BJI **Beijing** 49.60 286 P P 07 02 47.3 -0.5
BJI PMZ
comp=Z,17nm,1.2s
BJI PMZ
comp=Z,90nm,4.0s
G36A **St. Michael** 49.60 65 P P 07 02 47.1 -0.7
baz=308,SNR=6.1
BJT **Baijiatuau** 49.62 286 eP P 07 02 47.8 -0.1
BJT pmax pmax
comp=Z,14nm,0.5s
BJT **Baijiatuau** 49.62 286 eP P 07 02 47.8 -0.1
comp=Z,14nm,0.5s
N32A **Stulken Farm,** 49.75 72 P P 07 02 48.4 -0.6
baz=309,SNR=7.6
I35A **Creekview Farm** 49.75 67 P P 07 02 48.1 -0.8
baz=308,SNR=7.7
K34A **Le Mars** 49.83 69 P P 07 02 49.1 -0.5
baz=309,SNR=22
HSIG 49.83 93 eP P 07 02 50.5 +0.8
comp=Z,24nm,1.2s
M33A **Taylor Creek F** 49.88 71 P P 07 02 49.2 -0.7
baz=309,SNR=17
H36A **Jessenland, He** 49.90 66 P P 07 02 49.8 -0.2
baz=308,SNR=13
J35A **Milford** 49.92 68 P P 07 02 49.4 -0.8
baz=308,SNR=5.7
ULN **Ulaanbaatar** 49.97 300 eP P 07 02 50.1 -0.6
ULN **Ulaanbaatar** 49.97 300 eP P 07 02 50.1 -0.6
C39A **Grand Marais** 50.03 60 P P 07 02 49.6 -1.4
baz=307
SPITS **Spitsbergen Ar** 50.05 358 P P 07 02 49.6 -1.1
comp=Z,6.5nm,0.7s,baz=56,slow=5.1,SNR=9.5
O32A **Brockman Farm,** 50.08 73 P P 07 02 50.4 -1.0
baz=310
L34A **Svendsen Farm,** 50.12 70 P P 07 02 50.8 -0.9
baz=309,SNR=13
CBKS **Cedar Bluff** 50.13 75 P P 07 02 52.0 +0.1
baz=310,SNR=12
CBKS **Cedar Bluff** 50.13 75 eP P 07 02 52.5 +0.6
CBKS pmax pmax
comp=Z,130nm,1.1s
CBKS **Cedar Bluff** 50.13 75 eP P 07 02 52.5 +0.6
comp=Z,128nm,1.1s
SPMN **Marine on St.** 50.14 65 P P 07 02 51.4 -0.4
baz=308,SNR=6.8
SPMN **Marine on St.** 50.14 65 eP P 07 02 51.4 -0.4
I36A **Fitzsimmons Fa** 50.20 66 P P 07 02 51.2 -1.1
baz=308,SNR=6.1
M34A **Aspy Farms, Fr** 50.29 71 P P 07 02 52.0 -1.0
baz=309
P32A **Huiting Farm,** 50.29 74 P P 07 02 52.5 -0.5
baz=310,SNR=12
K35A **Storm Lake** 50.31 69 P P 07 02 52.2 -0.9
baz=309,SNR=9.9
SONM **Songino Array** 50.34 300 P P 07 02 53.9 +0.4
comp=Z,9.5nm,0.9s,baz=56,slow=6.8,SNR=6.5
SONM PcP PcP 07 04 12.4 +0.9
comp=Z,3.0nm,0.6s,baz=74,slow=1.8,SNR=4.3
SONM ScP ScP 07 08 03.7 +1.0
comp=Z,4.1nm,0.9s,baz=53,slow=3.0,SNR=6.9
DAG **Danmarks Havn** 50.40 8 i P P 07 02 51.4 -1.9
comp=Z,11nm,0.6s
J36A **Seneca 1, Swea** 50.44 67 P P 07 02 52.9 -1.2
baz=309,SNR=7.5
H37A **Dierke Farm, C** 50.47 65 P P 07 02 53.4 -1.0
baz=308
L35A **Bielow Farm, R** 50.51 69 P P 07 02 53.0 -1.7
baz=309
I37A **Lemond, Waseca** 50.55 66 P P 07 02 54.6 -0.4
baz=308,SNR=16
O33A **Hebron** 50.60 73 P P 07 02 54.9 -0.5
baz=310,SNR=21
Q32A **Meitler Ranch,** 50.72 74 P P 07 02 55.9 -0.4
baz=310,SNR=21
N34A **Lincoln** 50.76 71 P P 07 02 55.5 -1.0
baz=310,SNR=5.4
K36A **Gilmore City** 50.81 68 P P 07 02 56.1 -0.8
baz=309,SNR=10
MOY **Mondy** 50.82 307 eP P 07 02 57.4 +0.4
MOY pmax pmax
comp=Z,20nm,1.8s
M35A **Neola** 50.83 70 P P 07 02 56.6 -0.4
baz=310,SNR=11
J37A **Redenius Farm,** 50.90 67 P P 07 02 56.5 -1.1
baz=309,SNR=15
P33A **Williams Farm,** 50.95 73 P P 07 02 57.3 -0.7
baz=310
R32A **Long Quarter,** 50.99 75 P P 07 02 57.7 -0.7
baz=311,SNR=17
L36A **Harm Buss Farm** 51.02 69 P P 07 02 57.3 -1.2
baz=309
O34A **Beatrice** 51.06 72 P P 07 02 57.5 -1.3
baz=310,SNR=19
I38A **Scanlan Farm,** 51.14 65 P P 07 02 58.5 -0.8
baz=309,SNR=7.9
Q33A **Connelly Farm,** 51.15 74 P P 07 02 59.2 -0.3
baz=310,SNR=24
K37A **Belmond** 51.19 68 P P 07 02 58.6 -1.2
baz=309,SNR=8.6
N35A **Tabor** 51.24 71 P P 07 02 59.5 -0.7
baz=310,SNR=16
S32A **Newby Ranch, P** 51.33 76 P P 07 02 60.0 -0.9
baz=311
M36A **Felix, Anita** 51.35 70 P P 07 03 00.4 -0.6
baz=310,SNR=7.5
P34A **Walnut Farm, R** 51.39 73 P P 07 03 00.3 -1.0
baz=310
MNTX **Cornudas Mount** 51.41 86 P P 07 03 01.9 +0.3
baz=314,SNR=8.6
MNTX **Cornudas Mount** 51.41 86 eP P 07 03 02.6 +1.0
comp=Z,16nm,0.8s
O35A **Humboldt** 51.47 71 P P 07 03 00.4 -1.5
baz=310,SNR=5.5
MSTX **Muleshoe** 51.47 82 P P 07 03 01.7 -0.4
baz=313,SNR=8.3
MSTX **Muleshoe** 51.47 82 eP P 07 03 02.4 +0.2
R33A **Olander Ranch,** 51.50 75 P P 07 03 01.2 -1.0
baz=311,SNR=5.9
J38A **Wedel Dairy, R** 51.51 66 P P 07 03 01.3 -0.8
baz=309,SNR=11
TIA **Tai'an** 51.51 282 ⇑P P 07 03 01.8 -0.4
TIA PMZ
comp=Z,40nm,0.7s
AMTX **Amarillo** 51.53 80 P P 07 03 02.1 -0.4
baz=312

L37A	**Phoenix Point,** baz=310,SNR=14	51.53	68	P		P	07 03 01.3	-1.1	
SUMG	**Summit**	51.58	16	eP		P	07 03 02.4	-0.3	
SUMG	comp=Z,44nm,1.0s			pmax		pmax			
SUMG	**Summit** comp=Z,44nm,1.0s	51.58	16	*i* P		P	07 03 02.3	-0.4	
SUMG	**Summit** comp=Z,44nm,1.0s	51.58	16	eP		P	07 03 02.4	-0.3	
COWI	**Conover** comp=Z,64nm,1.3s	51.62	62	eP		P	07 03 02.5	-0.5	
N36A	**Muff Farm, Cla** baz=310	51.67	70	P		P	07 03 03.1	-0.3	
T32A	**Huddler Ranch,** baz=311	51.68	76	P		P	07 03 02.1	-1.4	
Q34A	**Chapman** baz=311,SNR=16	51.73	73	P		P	07 03 02.9	-1.0	
K38A	**Parkersburg** baz=310,SNR=7.7	51.77	67	P		P	07 03 03.1	-0.9	
HHC	**Hu-ho-hao-te**	51.80	290	eP		P	07 03 03.5	-1.0	
HHC				sP		sP	07 03 21.5	-2.8	
HHC				S		S	07 10 19.5	-3.3	
HHC	comp=Z,40nm,1.2s			PMZ					
HHC	comp=Z,150nm,7.6s			PMZ					
HHC	comp=Z,2µm,17.3s			LN					
HHC	comp=Z,3µm,16.0s			LE					
HHC	comp=Z,3µm,17.3s			LZ					
KSU1	**Kansas State U** baz=311,SNR=7.6	51.80	73	P		P	07 03 03.1	-1.3	
KSU1	**Kansas State U** comp=Z,55nm,0.9s	51.80	73	eP		P	07 03 04.3	-0.1	
M37A	**Trindle Farm,** baz=310,SNR=17	51.82	69	P		P	07 03 03.9	-0.6	
P35A	**Duane Minner,** baz=311,SNR=10	51.88	72	P		P	07 03 03.7	-1.3	
J39A	**Decorah** baz=310,SNR=21	51.93	66	P		P	07 03 03.9	-1.4	
R34A	**Isabella, Hill** baz=311,SNR=9.8	51.95	74	P		P	07 03 04.7	-0.8	
S33A	**Kaszmaul Farm,** baz=311,SNR=6.4	51.96	75	P		P	07 03 05.0	-0.6	
L38A	**Oak Wood Farm,** baz=310,SNR=16	51.98	68	P		P	07 03 04.9	-0.8	
SCIA	**State Center** comp=Z,72nm,0.8s	51.98	68	eP		P	07 03 05.8	+0.1	
N37A	**Lee Faris, Mou** baz=310,SNR=24	52.14	70	P		P	07 03 06.3	-0.6	
T33A	**Patterson Ranc** baz=312	52.15	76	P		P	07 03 05.8	-1.2	
U32A	**Winter Ranch,** baz=312,SNR=5.3	52.16	77	P		P	07 03 06.5	-0.6	
K39A	**Oelwein** baz=310,SNR=14	52.23	67	P		P	07 03 06.0	-1.6	
P36A	**Good Intent, A** baz=311,SNR=21	52.30	72	P		P	07 03 07.1	-1.0	
Q35A	**Mercer Eighty,** baz=311	52.30	73	P		P	07 03 06.5	-1.6	
M38A	**Pleasantville** baz=310,SNR=11	52.30	69	P		P	07 03 07.0	-1.1	
S34A	**Willow Spring** baz=311,SNR=9.0	52.42	75	P		P	07 03 07.8	-1.2	
J40A	**Soldiers Grove** baz=310,SNR=8.0	52.44	65	P		P	07 03 07.8	-1.3	
L39A	**Vinton** baz=310,SNR=16	52.54	67	P		P	07 03 08.6	-1.2	
R35A	**Emporia Munici** baz=311,SNR=18	52.56	73	P		P	07 03 08.9	-1.1	
O37A	**Wolven Farm, M** baz=311,SNR=22	52.56	70	P		P	07 03 09.0	-1.0	
V32A	**Arapaho** baz=312	52.57	78	P		P	07 03 09.9	-0.3	
Q36A	**Arnold C. Orve** baz=311	52.58	72	P		P	07 03 08.7	-1.4	
K40A	**Colesburg** baz=310,SNR=7.4	52.66	66	P		P	07 03 09.1	-1.6	
U33A	**Lingo Farm, Me** baz=312	52.66	76	P		P	07 03 09.1	-1.6	
N38A	**Joes South For** baz=311,SNR=16	52.69	69	P		P	07 03 09.6	-1.4	
P37A	**Lathrop** baz=311,SNR=22	52.82	71	P		P	07 03 10.6	-1.3	
T34A	**McClaskey Farm** baz=312,SNR=18	52.82	75	P		P	07 03 11.1	-0.9	
W32A	**Sentinel** baz=312,SNR=6.5	52.85	78	P		P	07 03 12.3	+0.1	
M39A	**Webster** baz=310,SNR=42	52.85	68	P		P	07 03 11.1	-1.1	
J41A	**Loganville** baz=310,SNR=14	52.87	65	P		P	07 03 10.9	-1.3	
S35A	**Otter Creek Ra** baz=312,SNR=14	52.91	74	P		P	07 03 11.7	-0.9	
V33A	**Lossen Ranch,** baz=312	52.96	77	P		P	07 03 12.0	-1.0	
R36A	**Gordon, Harris** baz=311,SNR=29	52.97	73	P		P	07 03 12.2	-0.8	
O38A	**Galt** baz=311	52.98	70	P		P	07 03 12.1	-1.0	
U34A	**Anderson Ranch** baz=312,SNR=12	53.00	76	P		P	07 03 12.4	-0.9	
U34A	**Anderson Ranch**	53.00	76	eP		P	07 03 12.7	-0.6	
L40A	**Anamosa** baz=310,SNR=11	53.02	67	P		P	07 03 12.0	-1.4	
JFWS	**Jewell Farm**	53.02	65	eP		P	07 03 12.3	-1.1	
JFWS	comp=Z,40nm,0.9s			pmax		pmax			
JFWS	**Jewell Farm** comp=Z,40nm,0.8s	53.02	65	eP		P	07 03 12.3	-1.1	
N39A	**Derby Farms, D** baz=311,SNR=34	53.05	69	P		P	07 03 12.6	-1.0	
K41A	**Shullsburg** baz=310,SNR=14	53.19	66	P		P	07 03 13.3	-1.3	
Q37A	**Longview Farm,** baz=311	53.23	72	P		P	07 03 13.3	-1.6	
NJ2	**Nanjing**	53.26	277	eP		P	07 03 15.5	+0.3	
NJ2	comp=Z,58nm,0.8s			PMZ					
NJ2	comp=Z,2µm,21.7s			LN					
NJ2	comp=Z,2µm,25.5s			LE					
NJ2	comp=Z,3µm,24.4s			LZ					
P38A	**Dawn** baz=311,SNR=28	53.27	71	P		P	07 03 13.6	-1.6	
T35A	**Sooner Cattle** baz=312,SNR=6.6	53.30	75	P		P	07 03 14.7	-0.8	
X32A	**Elmer** baz=313	53.30	79	P		P	07 03 14.6	-1.0	
W33A	**Caddo, Fort Co** baz=313	53.30	78	P		P	07 03 15.1	-0.4	
S36A	**Lake Cedric, C** baz=312	53.31	74	P		P	07 03 14.5	-1.1	
SFJD	**Kangerlussuaq** comp=Z,11nm,0.6s,baz=349,slow=8.0,SNR=3.9	53.34	25	P		P	07 03 14.9	-0.4	
R37A	**Teagarden Farm** baz=312,SNR=5.7	53.37	73	P		P	07 03 14.1	-1.9	
WMOK	**Wichita Mounta** baz=313	53.39	79	P		P	07 03 15.4	-0.8	
WMOK	**Wichita Mounta**	53.39	79	eP		P	07 03 17.2	+1.0	
WMOK	comp=Z,28nm,1.0s			pmax		pmax			
WMOK	**Wichita Mounta** comp=Z,28nm,1.0s	53.39	79	eP		P	07 03 17.2	+1.0	
V34A	**Guthrie** baz=312,SNR=8.7	53.42	77	P		P	07 03 15.6	-0.7	
V34A	**Guthrie** comp=Z,49nm,1.1s	53.42	77	eP		P	07 03 15.9	-0.4	
L41A	**Preston** baz=311,SNR=10	53.42	66	P		P	07 03 15.1	-1.2	
O39A	**Kirksville** baz=311,SNR=12	53.44	69	P		P	07 03 15.2	-1.2	
U35A	**Pawnee** baz=312,SNR=6.7	53.53	76	P		P	07 03 16.3	-0.9	
T36A	**Boggs Farm, Ca** baz=312	53.58	74	P		P	07 03 16.3	-1.2	
Q38A	**Cooks Store, C** baz=312,SNR=15	53.66	71	P		P	07 03 16.5	-1.6	
W34A	**Bridge Creek,** baz=313	53.66	77	P		P	07 03 17.8	-0.4	
X33A	**Lawton** baz=313	53.69	79	P		P	07 03 17.6	-0.8	
S37A	**Fort Scott** baz=312,SNR=25	53.74	73	P		P	07 03 17.3	-1.4	
P39B	**Salisbury** baz=311,SNR=20	53.82	70	P		P	07 03 17.9	-1.3	
V35A	**Meyer Ranch, C** baz=313,SNR=5.8	53.87	76	P		P	07 03 18.8	-0.9	
O40A	**La Belle** baz=311,SNR=38	53.91	69	P		P	07 03 18.4	-1.5	
Q39A	**Willow Grove F** baz=312	53.98	71	P		P	07 03 18.8	-1.6	
Y33A	**Hilltop Ranch,** baz=313	53.98	79	P		P	07 03 20.0	-0.5	
R38A	**Fenwick Farm,** baz=312,SNR=11	54.00	72	P		P	07 03 18.4	-2.2	
X34A	**Smith Ranch, M** baz=313	54.06	78	P		P	07 03 20.4	-0.7	
T37A	**Cheneyville 18** baz=312,SNR=19	54.11	74	P		P	07 03 20.0	-1.4	
U36A	**Oologah** baz=312	54.11	75	P		P	07 03 20.2	-1.2	
TX31	**Lajitas Ar. Si**	54.12	87	eP		P	07 03 21.6	-0.1	
TXAR	**Lajitas Array** comp=Z,42nm,0.9s,baz=304,slow=5.0,SNR=30	54.12	87	P		P	07 03 21.9	+0.2	
TXAR	comp=Z,5.7nm,0.7s,baz=293,slow=1.2,SNR=4.5			PcP		PcP	07 04 26.5	+0.7	
P40A	**Paris** baz=312,SNR=41	54.20	70	P		P	07 03 20.7	-1.3	
W35A	**Tecumseh** baz=313,SNR=12	54.26	77	P		P	07 03 21.8	-0.7	
ABTX	**Abilene, Hawle** baz=314,SNR=6.0	54.30	81	P		P	07 03 22.3	-0.6	
ABTX	**Abilene, Hawle**	54.30	81	eP		P	07 03 23.0	+0.1	
SLBS	**Sierra La Lagu** comp=Z,141nm,1.9s	54.31	97	eP		P	07 03 24.0	+0.9	
S38A	**Stockton** baz=312,SNR=21	54.37	73	P		P	07 03 21.4	-1.9	
Z33A	**Whitaker Ranch** baz=314,SNR=5.9	54.39	80	P		P	07 03 22.5	-0.9	
V36A	**Jenks** baz=313,SNR=6.0	54.40	76	P		P	07 03 22.5	-1.0	
TUL1	**Leonard** baz=313	54.40	75	P		P	07 03 22.7	-0.9	
TUL1	**Leonard**	54.40	75	eP		P	07 03 23.0	-0.5	
R39A	**Chumby, Stover** baz=312	54.43	71	P		P	07 03 21.5	-2.2	
U37A	**Salina** baz=312,SNR=22	54.47	75	P		P	07 03 23.0	-1.1	
O41A	**Passleys Farm,** baz=312,SNR=20	54.49	68	P		P	07 03 22.9	-1.2	
Q40A	**Laux Farm, Aux** baz=312,SNR=25	54.54	70	P		P	07 03 23.0	-1.5	
T38A	**Diamond** baz=312,SNR=13	54.54	73	P		P	07 03 23.3	-1.2	
Y34A	**Reagan Ranch,** baz=313,SNR=14	54.54	79	P		P	07 03 24.2	-0.3	
HPIG	comp=Z,19nm,1.1s	54.59	91	eP		P	07 03 25.6	+0.4	
W36A	**Wetumka** baz=313,SNR=5.5	54.66	76	P		P	07 03 25.0	-0.4	
P41A	**Barry, Barry** baz=312,SNR=13	54.67	69	P		P	07 03 24.1	-1.3	
S39A	**Bolivar** baz=312,SNR=9.1	54.67	72	P		P	07 03 23.0	-2.5	
X35A	**Drake** baz=313,SNR=5.8	54.71	78	P		P	07 03 25.5	-0.4	
133A	**Hamilton Ranch** baz=314,SNR=12	54.76	81	P		P	07 03 25.7	-0.5	
V37A	**Hulbert** baz=313,SNR=10	54.81	75	P		P	07 03 25.3	-1.2	
Z34A	**Collier Ranch,** baz=314	54.84	79	P		P	07 03 26.2	-0.6	
U38A	**Gravette** baz=313,SNR=5.6	54.88	74	P		P	07 03 26.0	-1.1	
O42A	**Bath** baz=312,SNR=6.7	54.89	68	P		P	07 03 25.8	-1.2	
R40A	**Maddies Statio** baz=312,SNR=18	54.89	71	P		P	07 03 24.9	-2.2	
X36A	**Centrahoma** baz=313	54.97	77	P		P	07 03 27.2	-0.5	
Y35A	**Marietta** baz=314,SNR=12	55.01	78	P		P	07 03 27.9	0.0	
T39A	**Clever** baz=313,SNR=16	55.09	73	P		P	07 03 26.5	-2.0	
HDIL	**Hopedale** baz=312,SNR=18	55.10	67	P		P	07 03 27.5	-1.1	
HDIL	**Hopedale** comp=Z,100nm,0.9s	55.10	67	eP		P	07 03 27.7	-0.9	
W37B	**Quinton** baz=313,SNR=9.3	55.14	76	P		P	07 03 28.6	-0.3	
P42A	**Winchester** baz=312,SNR=11	55.15	69	P		P	07 03 27.4	-1.5	
233A	**Rising Star** baz=314,SNR=9.1	55.18	81	P		P	07 03 28.9	-0.3	
S40A	**Lebanon** baz=312	55.22	72	P		P	07 03 27.7	-1.7	
HHAR	**Hobbs** comp=Z,17nm,0.7s	55.26	74	eP		P	07 03 28.6	-1.1	
V38A	**Canehill** baz=313,SNR=14	55.26	75	P		P	07 03 28.6	-1.2	
Z35A	**Perchaven, San** baz=314	55.27	79	P		P	07 03 29.0	-0.9	
134A	**White-Moore Ra** baz=314,SNR=13	55.29	80	P		P	07 03 29.4	-0.6	
U39A	**Green Forest** baz=313,SNR=7.7	55.46	73	P		P	07 03 29.2	-2.0	
Y36A	**Durant** baz=314,SNR=6.7	55.47	78	P		P	07 03 30.9	-0.3	
Q42A	**Golden Eagle** baz=312,SNR=22	55.49	69	P		P	07 03 30.6	-0.7	
T40A	**Mansfield** baz=313,SNR=8.7	55.51	72	P		P	07 03 29.7	-1.9	
X37A	**Clayton** baz=313,SNR=7.7	55.55	76	P		P	07 03 31.3	-0.5	
333A	**Richland Sprin** baz=314,SNR=12	55.61	82	P		P	07 03 31.9	-0.4	
234A	**Clairette** baz=314,SNR=9.9	55.65	81	P		P	07 03 31.9	-0.7	
S41A	**Jillco Farms,** baz=313,SNR=23	55.67	71	P		P	07 03 30.5	-2.2	
JCT	**Junction City** baz=315,SNR=5.5	55.70	83	P		P	07 03 32.0	-1.0	
JCT	**Junction City**	55.70	83	eP		P	07 03 32.6	-0.4	
JCT	comp=Z,31nm,0.9s			pmax		pmax			
JCT	**Junction City** comp=Z,31nm,0.9s	55.70	83	eP		P	07 03 32.6	-0.4	
135A	**Vickery Place,** baz=314,SNR=7.4	55.71	80	P		P	07 03 32.7	-0.3	
V39A	**Pettigrew** baz=313,SNR=7.3	55.73	74	P		P	07 03 31.3	-1.9	
W38A	**Poteau** baz=313,SNR=12	55.73	75	P		P	07 03 32.6	-0.6	
Z36A	**Blue Ridge** baz=314,SNR=6.0	55.81	78	P		P	07 03 32.8	-0.9	
Y37A	**Hugo** baz=314	55.82	77	P		P	07 03 33.4	-0.4	
X38A	**Whitesboro** baz=314	55.82	76	P		P	07 03 33.4	-0.4	
SLM	**Saint Louis**	55.84	69	eP		P	07 03 32.6	-1.3	
SLM	comp=Z,46nm,0.7s			pmax		pmax			
SLM	**Saint Louis** comp=Z,46nm,0.7s	55.84	69	eP		P	07 03 32.6	-1.3	
U40A	**Yellville** baz=313,SNR=15	55.85	73	P		P	07 03 32.3	-1.7	
SCO	**Scoresbysund** comp=Z,26nm,1.2s	55.92	12	*i* P		P	07 03 32.4	-1.6	
433A	**Art** baz=315,SNR=9.2	55.94	82	P		P	07 03 33.7	-1.0	
Q43A	**New Douglas** baz=312,SNR=15	55.95	69	P		P	07 03 33.5	-1.2	
T41A	**Mountain View** baz=313	56.03	72	P		P	07 03 33.2	-2.0	
334A	**Lometa** baz=315,SNR=16	56.06	81	P		P	07 03 35.1	-0.4	
WHTX	**Lake Whitney,** baz=314,SNR=7.1	56.08	80	P		P	07 03 35.4	-0.3	
WHTX	**Lake Whitney,** comp=Z,84nm,1.2s	56.08	80	eP		P	07 03 36.1	+0.5	
W39A	**Magazine** baz=313,SNR=7.5	56.09	75	P		P	07 03 34.8	-0.9	
V40A	**Witts Springs** baz=313,SNR=13	56.24	74	P		P	07 03 35.0	-1.9	
136A	**Ennis** baz=314	56.30	79	P		P	07 03 36.7	-0.6	
Z37A	**Pogue Cattle C** baz=314	56.35	78	P		P	07 03 37.0	-0.6	
X39A	**Fountain Ranch** baz=314,SNR=14	56.36	76	P		P	07 03 36.9	-0.7	
Q44A	**Meyer Farm, Va**	56.37	68	P		P	07 03 36.1	-1.5	
Y38A	**Idabel** baz=314	56.39	76	P		P	07 03 36.7	-1.1	
434A	**Burnet** baz=315,SNR=16	56.40	82	P		P	07 03 37.6	-0.4	
U41A	**Viola** baz=313,SNR=9.2	56.41	72	P		P	07 03 35.7	-2.3	
VLDQ	**Val d'Or** comp=Z,63nm,0.9s	56.41	53	eP		P	07 03 36.2	-1.5	
533A	**Kerrville** baz=315	56.45	83	P		P	07 03 37.1	-1.3	
SFIN	**Lafayette** baz=313,SNR=10	56.47	66	P		P	07 03 37.1	-1.2	
SFIN	**Lafayette**	56.47	66	eP		P	07 03 37.8	-0.5	
W40A	**Ferguson Farm,** baz=314,SNR=10	56.52	74	P		P	07 03 37.7	-1.0	
335A	**Moody** baz=315	56.59	81	P		P	07 03 38.9	-0.4	
236A	**Katherine and** baz=314,SNR=8.2	56.63	79	P		P	07 03 39.3	-0.3	
V41A	**Mountainview** baz=314,SNR=10.0	56.65	73	P		P	07 03 37.6	-2.2	
MIAR	**Mount Ida** baz=314,SNR=13	56.66	75	P		P	07 03 38.9	-0.9	
MIAR	**Mount Ida**	56.66	75	eP		P	07 03 39.8	+0.1	
MIAR	comp=Z,59nm,1.0s			pmax		pmax			
MIAR	**Mount Ida** comp=Z,59nm,1.0s	56.66	75	eP		P	07 03 39.8	+0.1	
S43A	**Fulton Ridge,** baz=313,SNR=36	56.66	70	P		P	07 03 38.1	-1.6	
SCHQ	**Schefferville** comp=Z,29nm,0.8s,baz=319,slow=8.0,SNR=12	56.66	42	P		P	07 03 39.2	-0.3	
SCHQ	**Schefferville** comp=Z,38nm,0.9s	56.66	42	eP		P	07 03 39.5	-0.1	
137A	**Heron Place, G** baz=314	56.69	78	P		P	07 03 39.7	-0.3	
Z38A	**Mt. Pleasant** baz=314	56.70	77	P		P	07 03 39.4	-0.7	
Y39A	**Lockesburg** baz=314	56.77	76	P		P	07 03 39.5	-1.0	
JMIC	**Jan Mayen** comp=Z,2µm,19.4s,baz=354,slow=36	56.77	7	LR		LR	07 28 08.5		
R44A	**Waltonville** baz=313,SNR=12	56.77	69	P		P	07 03 38.9	-1.6	
633A	**Saathoff Ranch** baz=315	56.80	83	P		P	07 03 39.9	-0.9	
U42A	**Revenden** baz=313,SNR=6.2	56.81	72	P		P	07 03 38.5	-2.3	
ZAA0	**Zalesovo Array**	56.81	317	eP		P	07 03 40.1	-0.5	
ZAA0				eP		P	07 03 40.4	-0.1	
ZALV	**Zalesovo Beam** comp=Z,7.5nm,0.6s,baz=71,slow=2.3,SNR=11	56.81	317	P		P	07 03 40.0	-0.5	
ZALV	comp=Z,9.9nm,0.8s,baz=35,slow=4.3,SNR=6.2			PcP		PcP	07 04 36.0	+0.3	
ZALV	comp=Z,2.0nm,0.7s,baz=56,slow=3.7,SNR=3.7			ScP		ScP	07 08 31.2	+0.6	
ZALV	**Zalesovo Beam**	56.81	317	P		P	07 03 40.0	-0.5	
ZALV							07 04 36.0		
ZALV	comp=Z,8.0nm,0.6s			pmax		pmax			
ZALV	comp=Z,10.0nm,0.8s			pmax		pmax			
ZALV	comp=N,2.0nm,0.7s			pmax		pmax			
534A	**Blanco** baz=315,SNR=8.7	56.83	82	P		P	07 03 40.2	-0.8	
435B	**Jarrell** baz=315	56.84	81	P		P	07 03 40.7	-0.4	
NVS	**Novosibirsk**	56.85	318	eP		P	07 03 39.5	-1.3	
NVS				*e*			07 13 24.9		
NVS	comp=Z,12nm,0.5s			pmax		pmax			
NVS	comp=N,3.0nm,0.3s			pmax		pmax			
NVS	comp=E,3.0nm,0.3s			pmax		pmax			
X201	**Greenbrier Sit** comp=E,34nm,1.0s	56.87	74	eP		P	07 03 40.4	-0.8	
336A	**Riesel** baz=315,SNR=6.0	56.87	80	P		P	07 03 40.7	-0.6	
X301	**Greenbrier Sit** comp=E,40nm,0.9s	56.88	74	eP		P	07 03 40.5	-0.8	
WHAR	**Wooly Hollow** comp=E,26nm,0.9s	56.91	74	eP		P	07 03 40.7	-0.9	
PBMO	**Poplar Bluff** comp=E,63nm,1.3s	56.99	71	eP		P	07 03 40.9	-1.2	
OLIL	**Olney** comp=E,94nm,0.8s	57.01	68	eP		P	07 03 41.4	-0.8	
W41B	**Gary Mavity, V** baz=314,SNR=12	57.02	74	P		P	07 03 40.9	-1.3	
138A	**Matatall Enter** baz=314,SNR=5.4	57.05	78	P		P	07 03 42.5	0.0	
S44A	**Carbondale** baz=313,SNR=14	57.05	70	P		P	07 03 41.3	-1.1	
SIUC	**Southern Illin** comp=E,48nm,0.8s	57.06	69	eP		P	07 03 41.7	-0.9	
WHN	**Wuhan**	57.07	279	‖ *i* P		P	07 03 42.5	-0.2	
WHN				PMZ					
WHN	comp=E,98nm,0.9s								
237A	**Washetta, Mont** baz=315	57.07	79	P		P	07 03 42.1	-0.6	
AAM	**Ann Arbor**	57.09	62	eP		P	07 03 42.9	+0.3	
AAM	comp=Z,16nm,0.3s			pmax		pmax			
AAM	**Ann Arbor** comp=Z,16nm,0.3s	57.09	62	eP		P	07 03 42.9	+0.3	
V42A	**Cord** baz=314,SNR=5.6	57.09	73	P		P	07 03 40.5	-2.3	
832A	**Faith Ranch, C** baz=316,SNR=16	57.14	85	P		P	07 03 42.5	-0.7	
X40A	**Basin Creek Fa** baz=314,SNR=10	57.14	75	P		P	07 03 42.1	-1.0	
Z39A	**Irene McRaven,** baz=314	57.19	77	P		P	07 03 42.4	-1.1	
Y40A	**Okolona** baz=314,SNR=6.8	57.20	75	P		P	07 03 42.6	-1.0	
UALR	**University of** comp=Z,23nm,0.8s	57.23	74	eP		P	07 03 43.4	-0.4	
733A	**Divot King Ran** baz=316,SNR=11	57.25	84	P		P	07 03 43.7	-0.3	
H06N1	**SOCORRO T-PHAS** SNR=12	57.30	101	T		T	08 06 06.4		
X41A	**Kaden, Bauxite** baz=314,SNR=9.0	57.33	74	P		P	07 03 43.6	-0.9	
436A	**Wall Ranch, Ga** baz=315	57.33	81	P		P	07 03 44.3	-0.2	
634A	**China Grove, S** baz=316	57.36	83	P		P	07 03 43.8	-0.9	
535A	**Dale** baz=315,SNR=5.2	57.38	82	P		P	07 03 44.6	-0.4	
H06E1	**SOCORRO T-PHAS** SNR=9.2	57.40	101	T		T	08 06 06.6		
S45A	**Carrier Mills** baz=313,SNR=15	57.45	69	P		P	07 03 43.9	-1.4	
139A	**Bunkhouse Ranc** baz=314	57.46	77	P		P	07 03 44.5	-0.9	
PARMO	**Parma**	57.47	71	eP		P	07 03 44.8	-0.6	
833A	**Chaparral WMA,** baz=316,SNR=14	57.47	85	P		P	07 03 45.3	-0.3	
238A	**Jacksonville** baz=315	57.49	78	P		P	07 03 45.3	-0.3	
337A	**Centerville** baz=315	57.51	79	P		P	07 03 45.7	-0.1	
WLAR	**White Oak Lake** comp=Z,104nm,0.9s	57.53	76	eP		P	07 03 46.1	+0.2	
734A	**La Parita Cree** baz=316,SNR=9.7	57.61	83	P		P	07 03 46.2	-0.3	
Z40A	**Long Farm, Mag** baz=314	57.65	76	P		P	07 03 46.7	0.0	
536A	**Bastrop** baz=315	57.66	81	P		P	07 03 46.8	0.0	
437A	**Phantom Ranch,** baz=315	57.69	80	P		P	07 03 46.7	-0.4	
Y41A	**Eaglette Beard** baz=314,SNR=12	57.69	75	P		P	07 03 46.5	-0.5	
635A	**Leesville** baz=316,SNR=10	57.71	82	P		P	07 03 46.9	-0.3	
USIN	**University of** comp=Z,120nm,0.7s	57.78	68	eP		P	07 03 47.1	-0.5	
SADO	**Sadowa** comp=Z,33nm,0.8s	57.82	57	eP		P	07 03 47.7	-0.1	
338A	**Crockett** baz=315	57.83	79	P		P	07 03 48.2	+0.2	
SSLB	**Suanglung** comp=Z,39nm,0.8s	57.85	268	eP		P	07 03 47.5	-0.7	
239A	**Gary** baz=315	57.87	78	P		P	07 03 47.7	-0.6	

XAN	Xi'an	57.91	285		P		P	07 03 48.0	-0.7
XAN					pP		pP	07 04 00.8	-2.0
XAN					PMZ				
	comp=Z,49nm,1.1s								
XAN					PMZ				
	comp=Z,330nm,12.3s								
YULB	Yu-li	57.92	268	*e*	P		P	07 03 49.5	+0.7
	comp=Z,16nm,0.8s								
NATX	Nacogdoches	57.94	78		P		P	07 03 48.5	-0.3
	baz=315								
NATX	Nacogdoches	57.94	78	*e*	P		P	07 03 49.4	+0.6
NATX				*e*	pP		pP	07 04 02.0	-0.9
V44A	Blytheville	57.96	72		P		P	07 03 47.9	-0.9
	baz=314								
140A	Cam and Jess,	57.98	77		P		P	07 03 48.4	-0.6
	baz=315								
Z41A	Richland Creek	58.01	76		P		P	07 03 48.6	-0.7
	baz=314								
933A	Laredo	58.05	85		P		P	07 03 49.7	+0.1
	baz=316,SNR=8.0								
735A	Kenedy	58.07	83		P		P	07 03 49.9	+0.2
	baz=316								
636A	Smothers Creek	58.08	82		P		P	07 03 50.3	+0.4
	baz=316								
537A	Green Hill Far	58.11	81		P		P	07 03 50.6	+0.6
	baz=315								
834A	Tilden	58.13	84		P		P	07 03 50.7	+0.5
	baz=316								
438A	Sam Houston St	58.15	80		P		P	07 03 50.4	+0.1
	baz=315								
CCAR	Cane Creek	58.17	74	*e*	P		P	07 03 51.0	+0.7
	comp=Z,201nm,1.4s								
ARA0	ARCESS Array S	58.19	353	*e*	P		P	07 03 48.3	-1.7
ARCES	ARCESS Array B	58.19	353		P		P	07 03 48.3	-1.7
	comp=Z,4.5nm,0.6s,baz=17,slow=8.1,SNR=11								
ARCES					PcP		PcP	07 04 39.8	-1.1
	comp=Z,2.7nm,0.6s,baz=19,slow=5.1,SNR=5.1								
Y42A	Garnett, Star	58.22	75		P		P	07 03 50.2	-0.5
	baz=314								
X43A	Marvell	58.28	73		P		P	07 03 50.3	-0.9
	baz=314								
240A	Hunter Patters	58.29	77		P		P	07 03 51.2	0.0
	baz=315								
339A	Huntington	58.30	79		P		P	07 03 51.2	-0.1
	baz=315								
WCI	Wyandotte Cave	58.39	67	*e*	P		P	07 03 51.4	-0.5
WCI					pmax		pmax		
	comp=Z,54nm,0.9s								
WCI	Wyandotte Cave	58.39	67	*e*	P		P	07 03 51.4	-0.5
	comp=Z,54nm,0.9s								
141A	Papa Simpson,	58.41	76		P		P	07 03 51.7	-0.3
	baz=315								
736A	Circle Diamond	58.45	82		P		P	07 03 52.1	-0.3
	baz=316								
835A	Beeville	58.46	83		P		P	07 03 52.5	0.0
	baz=316,SNR=5.8								
W44A	Shelby Farms P	58.48	72		P		P	07 03 51.6	-0.9
	baz=314								
Z42A	Norrel Spur, H	58.51	75		P		P	07 03 52.1	-0.7
	baz=315								
538A	Harpers Horsep	58.52	80		P		P	07 03 52.6	-0.2
	baz=315								
934A	Benavides	58.52	84		P		P	07 03 52.4	-0.6
	baz=316,SNR=8.2								
439A	Center Grove,	58.55	79		P		P	07 03 53.3	+0.2
	baz=315								
V45A	Humboldt	58.57	71		P		P	07 03 51.9	-1.2
	baz=314								
340A	Bronson	58.65	78		P		P	07 03 53.3	-0.4
	baz=315								
Y43A	Makayla and Ka	58.67	74		P		P	07 03 52.3	-1.6
	baz=315								
X44A	Crenshaw	58.73	73		P		P	07 03 53.1	-1.2
	baz=314								
241A	Mo Tay, Goldon	58.81	77		P		P	07 03 54.8	0.0
	baz=315								
034A	Hebbronville	58.81	85		P		P	07 03 55.2	+0.2
	baz=316								
W45A	Hickory Valley	58.84	72		P		P	07 03 54.3	-0.8
	baz=314,SNR=15								
ACSO	Alum Creek Sta	58.87	63	*e*	P		P	07 03 55.1	-0.1
	comp=Z,21nm,0.8s								
LVZ	Lovozero	58.88	349	*e*	P		P	07 03 55.6	+0.7
LVZ					pmax		pmax		
	comp=Z,18nm,0.9s								
LVZ	Lovozero	58.88	349	*e*	P		P	07 03 54.7	-0.2
	comp=Z,20nm,0.8s								
WVT	Waverly	58.95	70	*e*	P		P	07 03 55.6	-0.2
WVT					pmax		pmax		
	comp=Z,26nm,0.8s								
WVT	Waverly	58.95	70	*e*	P		P	07 03 55.6	-0.2
	comp=Z,26nm,0.8s								
737A	Port Lavaca	58.97	82		P		P	07 03 56.2	+0.2
	baz=316								
Z43A	Armstrong Fami	58.98	75		P		P	07 03 55.5	-0.5
	baz=315								
142A	Monroe	59.02	76		P		P	07 03 56.3	0.0
	baz=315								
Y44A	Strider, Charl	59.07	73		P		P	07 03 55.9	-0.7
	baz=315								
440A	Kirbyville	59.08	79		P		P	07 03 56.9	+0.2
	baz=315								
341A	Kurthwood	59.14	78		P		P	07 03 57.0	-0.1
	baz=315,SNR=6.3								
TRQ	Mont Tremblant	59.15	53	*e*	P		P	07 03 56.5	-0.6
OXF	Oxford	59.16	72	*e*	P		P	07 03 56.8	-0.4
OXF					pmax		pmax		
	comp=Z,120nm,1.0s								
OXF	Oxford	59.16	72	*e*	P		P	07 03 56.8	-0.4
	comp=Z,125nm,0.9s								
ERPA	Erie	59.20	60	*e*	P		P	07 03 57.9	+0.5
	comp=Z,77nm,1.0s								
X45A	UM Field Stati	59.23	72		P		P	07 03 56.2	-1.5
	baz=315								
143A	Socs Landing,	59.24	75		P		P	07 03 57.0	-0.8
	baz=315								
242A	Grayson	59.24	76		P		P	07 03 58.0	+0.1
	baz=315,SNR=5.9								
BUF	Buffalo	59.24	59	*e*	P		P	07 03 58.5	+0.9
035A	Encino	59.26	85		P		P	07 03 58.7	+0.7
	baz=317								
APA	Apatity	59.34	349	⇓ *i*	P		P	07 04 01.3	+3.3
APA				*i*				07 06 18.0	
APA					pmax		pmax		
	comp=Z,5.0nm,1.1s								
APA					MLR		MLR		
	comp=Z,2μm,16.0s								
Z44A	Pea Ridge, Bel	59.41	74		P		P	07 03 57.9	-1.1
	baz=315								
ALLY	Alegheny Colle	59.44	60	*e*	P		P	07 03 59.4	+0.3
	comp=Z,121nm,0.8s								
GTA	Gaotai	59.45	296	⇓	P		P	07 03 58.3	-1.1
GTA					pP		pP	07 04 10.0	-3.6
GTA					sP		sP	07 04 15.0	-4.5
GTA					ScP		ScP	07 08 40.5	-2.3
GTA					S		S	07 12 01.8	-3.0
GTA					ScS		ScS	07 13 43.5	-1.5
GTA					PMZ				
	comp=Z,20nm,1.2s								
GTA					PMZ				
	comp=Z,100nm,5.7s								
GTA					LN				
	comp=Z,1μm,16.6s								
GTA					LE				
	comp=Z,2μm,17.6s								
GTA					LZ				
	comp=Z,3μm,16.6s								
LZH	Lanzhou	59.48	291	⇑	P		P	07 04 00.0	+0.3
LZH					pP		pP	07 04 12.0	-1.9
LZH					sP		sP	07 04 16.8	-2.9
LZH					PP		PP	07 06 13.0	+2.0
LZH					S		S	07 12 03.3	-1.9
LZH					sS		sS	07 12 23.5	-5.5
LZH					ScS		ScS	07 13 43.0	-2.4
LZH					SS		SS	07 15 59.3	-1.1
LZH					PMZ				
	comp=Z,55nm,1.0s								
LZH					PMZ				
	comp=Z,350nm,6.5s								
LZH					LN				
	comp=Z,2μm,16.0s								
LZH					LE				
	comp=Z,2μm,15.2s								
LZH					LZ				
	comp=Z,3μm,17.2s								
Y45A	Yeager Farm, C	59.53	73		P		P	07 03 58.8	-1.0
	baz=315,SNR=6.5								

ZAIG	Zacatecas	59.54	91	*e*	P		P	07 04 00.7	+0.3
	comp=Z,43nm,1.8s								
ZAIG				*e*	pP		pP	07 04 15.6	+1.0
342A	Flagon Creek P	59.62	77		P		P	07 04 00.0	-0.4
	baz=315								
035Z	Hargill	59.62	85		P		P	07 04 00.0	-0.5
	baz=317								
243A	Waterproof	59.77	76		P		P	07 04 00.9	-0.6
	baz=315								
Z45A	Winona	59.79	73		P		P	07 04 01.2	-0.4
	baz=315								
M54A	Oil Creek Stat	59.79	60		P		P	07 04 00.8	-0.8
	baz=314,SNR=7.1								
MMNY	Mt. Morris Dam	59.87	58	*e*	P		P	07 04 02.5	+0.4
144A	Alexander Plac	59.88	75		P		P	07 04 02.0	-0.2
	baz=315								
Y46A	Houston	59.92	72		P		P	07 04 01.5	-1.0
	baz=315,SNR=14								
N54A	Moraine State	60.00	61		P		P	07 04 01.5	-1.5
	baz=315,SNR=8.1								
244A	Avery, Jackson	60.13	75		P		P	07 04 03.8	-0.2
	baz=315,SNR=11								
145A	Houston Renfro	60.19	74		P		P	07 04 03.7	-0.7
	baz=315								
LONY	Lake Ozonia	60.26	55	*e*	P		P	07 04 03.8	-0.9
	comp=Z,28nm,1.0s								
LMQ	La Malbaie	60.26	50	*e*	P		P	07 04 04.4	-0.3
Z46A	Louisville	60.36	73		P		P	07 04 05.1	-0.4
	baz=315,SNR=5.5								
443A	Delano Plantat	60.38	77		P		P	07 04 05.4	-0.3
	baz=316								
Y47A	UCPARC, Winfie	60.50	72		P		P	07 04 05.3	-1.2
	baz=315,SNR=34								
344A	Westbrook Farm	60.52	76		P		P	07 04 06.3	-0.3
	baz=316,SNR=7.2								
FRNY	Flat Rock	60.61	54	*e*	P		P	07 04 06.2	-0.8
	comp=Z,24nm,1.0s								
245A	Little AP, Sta	60.61	75		P		P	07 04 06.5	-0.8
	baz=316,SNR=5.8								
146A	Union	60.68	74		P		P	07 04 07.2	-0.5
	baz=316,SNR=10								
SWET	Sewanee	60.70	69	*e*	P		P	07 04 07.1	-0.8
	comp=Z,6.8nm,0.9s								
Z47A	Carrollton	60.87	72		P		P	07 04 07.8	-1.2
	baz=316,SNR=19								
444A	Pine Grove	61.04	76		P		P	07 04 10.2	0.0
	baz=316								
345A	Thompson Farm,	61.05	75		P		P	07 04 09.9	-0.3
	baz=316								
Z48A	Northport	61.05	72		P		P	07 04 09.0	-1.2
	baz=316,SNR=18								
246A	Jackson Lee, B	61.08	74		P		P	07 04 09.9	-0.5
	baz=316								
147A	Livingston	61.12	73		P		P	07 04 09.9	-0.8
	baz=316,SNR=11								
TZTN	Tazewell	61.13	67	*e*	P		P	07 04 10.6	-0.1
	comp=Z,42nm,0.9s								
BINY	Binghamton	61.26	58	*e*	P		P	07 04 12.0	+0.4
	comp=Z,45nm,0.8s								
O56A	Blue Knob Stat	61.26	61		P		P	07 04 10.7	-0.9
	baz=315,SNR=10								
346A	Big Creek Wild	61.33	75		P		P	07 04 11.6	-0.5
	baz=316								
CPCT	Cooper Cave	61.34	68	*e*	P		P	07 04 11.7	-0.5
	comp=Z,30nm,1.4s								
SSPA	Standing Stone	61.36	60	*e*	P		P	07 04 12.3	+0.1
	comp=Z,44nm,0.8s								
247A	Quitman	61.36	74		P		P	07 04 12.1	-0.2
	baz=316,SNR=7.0								
ACCN	Adirondack Com	61.60	55	*e*	P		P	07 04 14.0	+0.2
	comp=Z,65nm,1.1s								
TKL	Tuckaleechee C	61.63	68		P		P	07 04 13.4	-0.6
	comp=Z,16nm,0.8s,baz=349,slow=2.1,SNR=13								
TKL	Tuckaleechee C	61.63	68	*e*	P		P	07 04 13.5	-0.6
TKL					pmax		pmax		
	comp=Z,51nm,1.2s								
TKL	Tuckaleechee C	61.63	68	*e*	P		P	07 04 13.5	-0.6
	comp=Z,51nm,1.3s								
KURK	Kurchatov	61.78	317	*d i*	P		P	07 04 13.8	-1.0
KURK					pmax		pmax		
	comp=Z,102nm,0.9s								
KURK	Kurchatov	61.78	317	*e*	P		P	07 04 14.1	-0.7
	comp=Z,129nm,0.6s								
KURK					PcP		PcP	07 04 56.5	+1.0
248A	Dixon Mills	61.85	73		P		P	07 04 15.0	-0.7
	baz=316,SNR=18								
347A	Saraland	61.87	74		P		P	07 04 14.7	-1.1
	baz=316,SNR=7.3								
KURBB	Kurchatov Arra	61.88	317		P		P	07 04 14.9	-0.7
	comp=Z,20nm,0.6s,baz=45,slow=6.6,SNR=47								
KURBB					PcP		PcP	07 04 56.5	+0.5
	comp=Z,7.8nm,0.6s,baz=40,slow=4.0,SNR=5.8								
645A	Chauvin	62.03	77		P		P	07 04 16.6	-0.2
	baz=316								
HNH	Hanover	62.07	54	*e*	P		P	07 04 17.2	+0.2
	comp=Z,67nm,1.2s								
TRY	Troy	62.07	56	*e*	P		P	07 04 17.9	+1.0
	comp=Z,49nm,0.9s								
447A	Lucedale	62.24	75		P		P	07 04 18.2	0.0
	baz=316								
348A	Jackson	62.24	74		P		P	07 04 18.1	-0.2
	baz=316,SNR=5.4								
N59A	State Game Lan	62.29	58		P		P	07 04 18.2	-0.3
	baz=316,SNR=16								
PKME	Peaks-Kenny Pk	62.41	51	*e*	P		P	07 04 18.8	-0.4
	comp=Z,62nm,1.0s								
BLA	Blacksburg	62.41	64	*e*	P		P	07 04 19.4	0.0
BLA					pmax		pmax		
	comp=Z,110nm,0.8s								
BLA	Blacksburg	62.41	64	*e*	P		P	07 04 19.4	0.0
	comp=Z,108nm,0.8s								
FFD	Franklin Falls	62.56	54	*e*	P		P	07 04 20.6	+0.4
	comp=Z,56nm,0.9s								
448A	Bay Minette	62.61	74		P		P	07 04 20.6	-0.2
	baz=316								
MVL	Millersville	62.64	59	*e*	P		P	07 04 20.9	+0.2
	comp=Z,28nm,0.9s								
WMQ	Urumqi	62.71	307		P		P	07 04 21.8	+0.5
WMQ					pP		pP	07 04 36.3	+0.7
WMQ					sP		sP	07 04 41.5	0.0
WMQ					PMZ				
	comp=Z,22nm,0.7s								
WMQ					PMZ				
	comp=Z,77nm,3.7s								
WMQ					LN				
	comp=Z,910nm,18.1s								
WMQ					LE				
	comp=Z,1μm,19.7s								
WMQ					LZ				
	comp=Z,2μm,20.9s								
LUPA	Lehigh Univers	62.73	58	*e*	P		P	07 04 21.8	+0.5
	comp=Z,52nm,0.8s								
WVL	Waterville	62.74	52	*e*	P		P	07 04 21.1	-0.3
	comp=Z,97nm,1.1s								
ODNJ	Ogdensburg	62.78	58	*e*	P		P	07 04 22.0	+0.3
	comp=Z,32nm,0.9s								
SDMD	Soldier's Deli	62.80	60	*e*	P		P	07 04 22.0	+0.1
	comp=Z,30nm,1.0s								
QUA2	Belchertown	63.07	55	*e*	P		P	07 04 23.9	+0.3
	comp=Z,48nm,1.1s								
BRNJ	Basking Ridge	63.09	58	*e*	P		P	07 04 24.3	+0.5
	comp=Z,53nm,0.8s								
MK31	Makanchi Array	63.10	312	*e*	P		P	07 04 22.7	-1.1
MK31	Makanchi Array	63.10	312	*e*	P		P	07 04 22.7	-1.1
MKAR	Makanchi Array	63.10	312		P		P	07 04 22.4	-1.4
	comp=Z,10nm,0.7s,baz=47,slow=7.1,SNR=34								
MKAR					PKPPKP		P'P'df	07 33 20.8	-6.7
	comp=Z,0.7nm,0.9s,baz=257,slow=5.8,SNR=7.3								
PAL	Palisades	63.20	57	*e*	P		P	07 04 24.3	-0.2
PAL					pmax		pmax		
	comp=Z,67nm,1.0s								
PAL	Palisades	63.20	57	*e*	P		P	07 04 24.3	-0.2
	comp=Z,67nm,0.9s								
CD2	Chengdu	63.20	287	*e*	P		P	07 04 24.0	-0.7
CD2					pP		pP	07 04 36.5	-2.6
CD2					sP		sP	07 04 41.8	-3.1
CD2					PcS			07 09 00.8	
CD2					S		S	07 12 51.5	-0.9
CD2					sS		sS	07 13 13.0	-3.4
CD2					SS		SS	07 16 58.8	+0.1
CD2					PMZ				
	comp=Z,10.0nm,0.5s								
CD2					PMZ				
	comp=Z,160nm,5.2s								
MAKZ	Makanchi	63.23	312	*e*	P		P	07 04 23.2	-1.5
MAKZ					pmax		pmax		
	comp=Z,29nm,1.2s								

MAKZ	Makanchi	63.23	312	*e*	P		P	07 04 23.2	-1.5
	comp=Z,29nm,1.2s								
BVAR	Borovoye Array	63.24	323		P		P	07 04 24.3	-0.3
	comp=Z,46nm,0.5s,baz=53,slow=6.4,SNR=12								
BVAR					PKPPKP		P'P'df	07 33 25.6	-2.0
	comp=Z,2.0nm,0.8s,baz=242,slow=3.2,SNR=8.2								
BRVK	Borovoye	63.26	323	*d i*	P		P	07 04 24.1	-0.6
BRVK					pmax		pmax		
	comp=Z,84nm,1.0s								
BRVK	Borovoye	63.26	323	*e*	P		P	07 04 24.2	-0.5
	comp=Z,126nm,1.1s								
HRV	Adam Dziewonsk	63.31	55	*e*	P		P	07 04 25.5	+0.3
HRV					pmax		pmax		
	comp=Z,50nm,1.1s								
HRV	Adam Dziewonsk	63.31	55	*e*	P		P	07 04 25.5	+0.3
	comp=Z,50nm,1.1s								
CPNY	Central Park	63.33	57	*e*	P		P	07 04 26.0	+0.7
CPNY				*e*	pP		pP	07 04 37.2	-2.4
CBN	Corbin Frederi	63.38	62	*e*	P		P	07 04 26.1	+0.4
	comp=Z,42nm,0.8s								
KMSC	Kings Mountain	63.39	66		P		P	07 04 25.1	-0.7
	baz=316,SNR=34								
KMSC	Kings Mountain	63.39	66	*e*	P		P	07 04 25.4	-0.5
GOGA	Godfrey	63.41	69	*e*	P		P	07 04 25.1	-0.9
GOGA					pmax		pmax		
	comp=Z,44nm,0.9s								
GOGA	Godfrey	63.41	69	*e*	P		P	07 04 25.1	-0.9
	comp=Z,44nm,0.9s								
SVE	Sverdlovsk	63.41	331	*e*	P		P	07 04 25.2	-0.5
SVE					pmax		pmax		
	comp=Z,21nm,0.6s								
YLE	Yale	63.48	56	*e*	P		P	07 04 27.2	+0.9
	comp=Z,52nm,0.9s								
WES	Weston	63.52	55	*e*	P		P	07 04 26.5	-0.1
WES					pmax		pmax		
	comp=Z,78nm,0.9s								
WES	Weston	63.52	55	*e*	P		P	07 04 26.5	-0.1
	comp=Z,78nm,0.8s								
BCX	Boston College	63.63	54	*e*	P		P	07 04 27.7	+0.4
	comp=Z,136nm,1.4s								
GGN	Saint George	63.69	50	*e*	P		P	07 04 27.2	-0.4
	comp=Z,74nm,1.0s								
EMMW	East Machias	63.70	50	*e*	P		P	07 04 27.7	0.0
	comp=Z,84nm,1.0s								
BRYW	Bryant College	63.75	55	*e*	P		P	07 04 28.3	+0.1
	comp=Z,61nm,0.9s								
JSC	Jenkinsville	64.05	67	*e*	P		P	07 04 30.2	0.0
JSC					pmax		pmax		
	comp=Z,51nm,0.8s								
JSC	Jenkinsville	64.05	67	*e*	P		P	07 04 30.2	0.0
	comp=Z,50nm,0.8s								
LMN	Caledonia Moun	64.09	48	*e*	P		P	07 04 30.1	-0.2
	comp=Z,93nm,0.8s								
ARU	Arti	64.36	332	*e*	P		P	07 04 31.3	-0.6
ARU	Arti	64.36	332	*e*	P		P	07 04 31.2	-0.6
DRLN	Deer Lake	64.66	41	*e*	P		P	07 04 33.6	-0.4
	comp=Z,74nm,0.8s								
GYA	Guiyang	64.69	281		P		P	07 04 35.8	+1.1
GYA					pP		pP	07 04 49.3	+0.3
GYA					PP		PP	07 07 00.8	+3.7
GYA					ScP			07 09 07.5	
GYA					S		S	07 13 10.0	-1.1
GYA					sS		sS	07 13 31.5	-3.7
GYA					ScS		SKSac	07 14 23.0	-1.8
GYA					SS		SS	07 17 21.8	-0.4
GYA					PMZ				
	comp=Z,20nm,0.8s								
GYA					PMZ				
	comp=Z,120nm,5.8s								
GYA					LN				
	comp=Z,490nm,20.4s								
GYA					LE				
	comp=Z,470nm,22.0s								
GYA					LZ				
	comp=Z,460nm,20.6s								
KLMR	Klimovskoe	64.83	344	*e*	P		P	07 04 32.7	-2.1
KLMR				*e*				07 05 06.3	
KLMR					pmax		pmax		
	comp=Z,19nm,1.3s								
TGY	Tagaytay City	65.16	261		P		P	07 04 39.3	+1.6
	comp=Z,123nm,0.3s,baz=337,slow=7.7,SNR=3.7								
CNNC	Cliffs of the	65.25	64	*e*	P		P	07 04 38.9	+0.9
	comp=Z,30nm,0.9s								
NHSC	New Hope	65.52	67	*e*	P		P	07 04 40.5	+0.7
	comp=Z,193nm,1.1s								
RGRS	Roger Stewart	65.66	67	*e*	P		P	07 04 41.5	+0.8
	comp=Z,476nm,0.6s								
CSU	Charleston Sou	65.67	67	*e*	P		P	07 04 41.7	+1.0
TLIG	Tlapa	65.91	92	*e*	P		P	07 04 43.1	+0.5
	comp=Z,33nm,1.3s								
FIA1	FINESS Array S	66.08	351	*e*	P		P	07 04 41.4	-1.6
FIA1				*e*	P		P	07 04 42.6	-0.3
FINES	FINESS Array B	66.08	351		P		P	07 04 41.2	-1.7
	comp=Z,4.9nm,0.7s,baz=11,slow=7.2,SNR=11								
FINES					PcP		PcP	07 05 12.8	-0.3
	comp=Z,4.8nm,0.6s,baz=35,slow=5.2,SNR=5.7								
FINES					PKPPKP		P'P'df	07 33 17.7	-5.5
	comp=Z,3.4nm,0.9s,baz=299,slow=2.0,SNR=9.1								
NB2	NORSAR Subarra	67.34	359		P		P	07 04 49.7	-1.3
	comp=Z,4.6nm,0.6s,baz=4.3,slow=6.9								
NOA	NORSAR Array B	67.34	359		P		P	07 04 49.7	-1.3
	comp=Z,3.4nm,0.6s,baz=3.2,slow=6.4,SNR=14								
KMI	Kunming	68.05	283		P		P	07 04 56.5	+0.2
KMI					PMZ				
	comp=Z,49nm,1.1s								
KMI					PMZ				
	comp=Z,220nm,6.5s								
KMI					LN				
	comp=Z,1μm,18.8s								
KMI					LE				
	comp=Z,2μm,17.5s								
KMI					LZ				
	comp=Z,2μm,19.3s								
VSU	Vasula	68.94	350	*e*	P		P	07 04 59.3	-1.7
VSU					pmax		pmax		
	comp=Z,27nm,0.8s								
TKM2	Tokmak 2	69.11	314	*e*	P		P	07 05 02.6	-0.1
TKM2					pmax		pmax		
	comp=Z,63nm,1.3s								
TKM2	Tokmak 2	69.11	314	*e*	P		P	07 05 02.6	-0.1
	comp=Z,63nm,1.3s								
AAK	Ala-Archa	69.84	314		P		P	07 05 07.0	0.0
	comp=Z,38nm,0.5s,baz=52,slow=4.8,SNR=31								
AAK	Ala-Archa	69.84	314	*d i*	P		P	07 05 06.4	-0.7
AAK					pmax		pmax		
	comp=Z,172nm,1.2s								
AAK	Ala-Archa	69.84	314	*e*	P		P	07 05 07.1	0.0
	comp=Z,46nm,0.8s								
EKS2	Erkin-Say	70.13	315	*e*	P		P	07 05 08.7	-0.1
EKS2	Erkin-Say	70.13	315	*e*	P		P	07 05 08.7	-0.1
OBN	Obninsk	70.78	343	*e*	P		P	07 05 12.0	-0.3
OBN					pmax		pmax		
	comp=Z,8.0nm,0.9s								
LSA	Lhasa

LOEI	Loei	74.69	279	P		P	07 05 34.6	-1.5
	comp=Z,17nm,1.2s							
LAMP	Lampang	74.91	281	P		P	07 05 38.9	+1.5
	comp=Z,9.6nm,0.9s							
UTTA	Uttaradit	74.94	280	P		P	07 05 37.7	+0.1
	comp=Z,14nm,0.8s							
CMMT	Chiang Mai	75.11	281	P		P	07 05 38.8	+0.2
	comp=Z,23nm,1.2s							
CHTO	Chiang Mai	75.11	281	P		P	07 05 38.8	+0.3
	comp=Z,99nm,1.2s							
CHTO	Chiang Mai	75.11	281	*e*P		P	07 05 38.2	-0.3
CHTO				pmax	pmax			
	comp=Z,42nm,1.3s							
CHTO	Chiang Mai	75.11	281	*e*P		P	07 05 38.2	-0.3
	comp=Z,42nm,1.4s							
CMAR	Chiang Mai Arr	75.38	281	P		P	07 05 40.0	-0.1
	comp=Z,22nm,1.0s,baz=26,slow=6.2,SNR=29							
CHAI	Chaiyaphum	75.48	277	P		P	07 05 48.8	+8.1
	comp=Z,6.9nm,1.1s							
TGUH	Tegucigalpa,Un	75.57	86	*e*P		P	07 05 42.9	+1.8
PBKT	Sadao Pong	75.59	278	P		P	07 05 42.3	+1.0
	comp=Z,18nm,1.1s							
GUN	Gumba	75.72	297	*e*P		P	07 05 42.2	-0.2
	comp=Z,134nm,0.6s							
KKN	Kakani	76.14	297	*e*P		P	07 05 44.9	+0.3
	comp=Z,52nm,0.6s							
AKASG	Malin Array Be	76.22	347	P		P	07 05 42.4	-1.9
	comp=Z,2.5nm,0.5s,baz=16,slow=5.8,SNR=8.0							
KIEV	Kiev	76.23	347	*e*P		P	07 05 42.4	-2.0
KIEV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
PKIN	Phulchoki	76.25	297	*e*P		P	07 05 45.5	+0.2
	comp=Z,33nm,0.7s							
GKN	Gorkha	76.33	298	*e*P		P	07 05 45.3	-0.3
	comp=Z,152nm,0.8s							
DMN	Daman	76.38	297	*e*P		P	07 05 46.0	0.0
	comp=Z,161nm,1.2s							
CLL	Collm	77.05	357	*i* P		P	07 05 48.5	-0.6
	comp=Z,21nm,1.5s							
CLL				*i*			07 06 19.6	
CLL	Collm	77.05	357	*i* P		P	07 05 48.5	-0.6
CLL				pmax	pmax			
	comp=Z,21nm,1.5s							
PYUN	Piuthan	77.15	299	*e*P		P	07 05 49.7	-0.6
	comp=Z,239nm,1.0s							
UMPA	Umpang Tak	77.16	280	P		P	07 05 52.7	+2.5
	comp=Z,13nm,0.9s							
BRG	Berggiesshubel	77.45	356	*e*P		P	07 05 50.6	-0.7
	comp=Z,25nm,1.5s							
BRG	Berggiesshubel	77.45	356	*e*P		P	07 05 50.6	-0.7
BRG				pmax	pmax			
	comp=Z,25nm,1.5s							
THN	Thein Dam	77.46	307	*e*P		P	07 05 48.4	-3.3
UPC	Upice	77.72	355	*e*P		P	07 05 52.7	-0.2
UPC	Upice	77.72	355	*e*P		P	07 05 52.7	-0.2
MEM	Membach	77.80	2	P		P	07 05 53.5	+0.2
	comp=Z,7.8nm,1.4s							
BCLA	Clavier	77.97	2	P		P	07 05 54.6	+0.4
NKC	Novy Kostel	78.14	357	*e*P		P	07 05 55.2	0.0
NKC	Novy Kostel	78.14	357	*e*P		P	07 05 55.2	0.0
DOU	Dourbes	78.28	3	P		P	07 05 56.3	+0.3
PRU	Pruhonice	78.31	356	*e*P		P	07 05 56.0	-0.1
PRU	Pruhonice	78.31	356	*e*P		P	07 05 56.0	-0.1
MORC	Moravsky Berou	78.36	354	⇑*i*P		P	07 05 56.0	-0.5
MORC	Moravsky Berou	78.36	354	⇑P		P	07 05 56.0	-0.5
MORC	Moravsky Berou	78.36	354	*e*P		P	07 05 56.5	0.0
GOPC	GO Pecny, Ondr	78.37	356	*e*P		P	07 05 57.4	+0.9
GOPC	GO Pecny, Ondr	78.37	356	*e*P		P	07 05 57.4	+0.9
SRDT	SRDT	78.42	278	P		P	07 05 57.9	+0.7
	comp=Z,101nm,1.3s							
GOF	Gofitskoye	78.87	336	⇓*e*P		P	07 06 00.0	+0.7
GOF				pmax	pmax			
	comp=Z,154nm,1.3s							
VRAC	Vranov	78.88	355	⇑*i*P		P	07 05 59.2	-0.1
VRAC	Vranov	78.88	355	⇑P		P	07 05 59.2	-0.1
KBL	Kabul	78.90	313	*e*P		P	07 05 58.4	-1.5
KBL	Kabul	78.90	313	*e*P		P	07 05 58.4	-1.5
KHC	Kasperske Hory	79.20	357	*e*P		P	07 06 01.4	+0.3
KHC	Kasperske Hory	79.20	357	*e*P		P	07 06 01.4	+0.3
KHC	Kasperske Hory	79.20	357	*e*P		P	07 06 00.6	-0.5
PHET	Kaeng Krachan	79.22	277	P		P	07 06 03.1	+1.5
	comp=Z,15nm,1.0s							
GERES	GERESS Array B	79.48	356	P		P	07 06 02.4	-0.3
	comp=Z,2.4nm,0.6s,baz=20,slow=4.4,SNR=10							
VYHS	Vyhne	79.54	353	*e*P		P	07 06 02.6	-0.3
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.2s							
VYHS	Vyhne	79.54	353	*e*P		P	07 06 02.6	-0.3
BUR08	Bucovina Ar. S	79.75	349	*e*P		P	07 06 03.4	-0.8
BURAR	Bucovina Array	79.78	349	⇑*i*P		P	07 06 03.1	-1.2
BURAR	Bucovina Array	79.78	349	⇑P		P	07 06 03.1	-1.2
KIV	Kislovodsk	79.99	336	*e*P		P	07 06 05.3	-0.2
KIV				pmax	pmax			
	comp=Z,22nm,1.0s							
BFO	Black Forest	80.10	0	*i* P		P	07 06 06.4	+0.4
BFO	Black Forest	80.10	0	*e*P		P	07 06 05.8	-0.2
KBZ	Khabaz	80.15	335	P		P	07 06 06.4	+0.2
	comp=Z,5.2nm,0.8s,baz=72,slow=3.2,SNR=4.3							
NCK	Nalchik	80.19	335	*e*P		P	07 06 06.5	0.0
NCK				pmax	pmax			
	comp=Z,34nm,0.9s							
CONA	Conrad Observa	80.30	355	*i* PKiKP		P	07 06 07.4	+0.2
	comp=Z,18nm,1.5s							
ANN	Anapa	80.44	340	*e*P		P	07 06 04.2	-3.5
ANN				*e**PP		pP	07 06 20.2	-2.3
ANN				pmax	pmax			
	comp=Z,113nm,1.2s							
GEYT	Alibeck	80.56	322	P		P	07 06 08.2	-0.4
	comp=Z,2.6nm,0.3s,baz=345,slow=4.5,SNR=5.5							
CTA	Charters Tower	80.62	220	P		P	07 06 08.7	-0.2
	comp=Z,13nm,0.8s,baz=38,slow=7.6,SNR=5.5							
NEY	Neytrino	80.64	335	*e*P		P	07 06 07.9	-1.3
NEY				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ZEI	Tsey	80.76	334	*e*P		P	07 06 08.4	-1.5
ZEI				pmax	pmax			
	comp=Z,35nm,0.6s							
DRGR		80.88	350	⇑*i*P		P	07 06 08.9	-1.3
DRGR		80.88	350	⇑P		P	07 06 08.9	-1.3
RETA	Reutte	80.92	358	*i* PKiKP		P	07 06 10.4	-0.1
	comp=Z,5.7nm,0.8s							
ARSA	Arzberg	80.99	355	*i* PKiKP		P	07 06 09.6	-1.1
	comp=Z,3.4nm,0.7s							
WATA	Walderalm	81.06	358	*i* PKiKP		P	07 06 11.3	0.0
MOTA	Moosalm	81.06	358	*i* PKiKP		P	07 06 11.2	-0.1
	comp=Z,22nm,1.3s							
SOC	Sochi	81.07	338	*e*P		P	07 06 12.2	+1.0
SOC				*e*			07 09 22.3	
SOC				*e*PPP		PPP	07 11 07.1	
SOC				*e*S		S	07 16 19.0	+2.6
WTTA	Wattenberg	81.13	358	*e*PKiKP		P	07 06 11.7	0.0
	comp=Z,12nm,1.0s							
DAVA	Damuels	81.14	359	*i* PKiKP		P	07 06 12.8	+1.1
	comp=Z,9.0nm,1.0s							
MTN	Manton Dam	81.22	236	*e*P		P	07 06 12.0	-0.2
KBA	Koelnbreinsper	81.26	357	*i* PKiKP		P	07 06 13.0	+0.6
	comp=Z,22nm,0.8s							
DOPR	Dopca	81.38	348	⇑*i*P		P	07 06 13.4	+0.6
FETA	Feichten	81.39	358	*i* PKiKP		P	07 06 13.3	+0.3
	comp=Z,16nm,1.0s							
SOKA	Soboth	81.59	355	*i* PKiKP		P	07 06 14.0	0.0
	comp=Z,21nm,1.4s							
ABTA	Abfaltersbach	81.62	357	*i* PKiKP		P	07 06 14.1	-0.1
	comp=Z,13nm,1.1s							
MYKA	Terra Mystica	81.70	356	*i* PKiKP		P	07 06 15.3	+0.7
	comp=Z,11nm,1.8s							
CFR	Carcaliu	81.77	346	⇑*i*P		P	07 06 15.5	+0.7
CFR	Carcaliu	81.77	346	⇑P		P	07 06 15.5	+0.7
OBKA	Obir	81.78	356	*i* PKiKP		P	07 06 15.0	-0.1
	comp=Z,5.4nm,0.8s							
FUORN	Ofenpass-Fuorn	81.80	359	*e*P		P	07 06 16.5	+1.1
VOIR		81.94	348	⇑*i*P		P	07 06 17.3	+1.4
VOIR		81.94	348	⇑P		P	07 06 17.3	+1.4
BZS	Buzias	82.15	351	⇑*i*P		P	07 06 15.5	-1.4
BZS	Buzias	82.15	351	⇑P		P	07 06 15.5	-1.4
JAVS	Javornik	82.42	356	*i* P		P	07 06 18.2	-0.2
JAVS	Javornik	82.42	356	*i* P		P	07 06 18.2	-0.2
TIRR	Tirgusor	82.44	346	⇑*i*P		P	07 06 18.2	-0.1
TIRR	Tirgusor	82.44	346	⇑P		P	07 06 18.2	-0.1
VISS	Visnje	82.47	355	*i* P		P	07 06 18.9	+0.4
VISS	Visnje	82.47	355	*i* P		P	07 06 19.0	+0.4
BOJS	Bojanci	82.75	355	*i* P		P	07 06 19.5	-0.5
BOJS	Bojanci	82.75	355	*i* P		P	07 06 19.5	-0.5
MDVR	Moldovita	82.97	351	⇑*i*P		P	07 06 21.4	+0.2
SKLT	Songkhla	83.06	273	P		P	07 06 29.2	+7.2
TRTT	Trang	83.12	274	P		P	07 06 28.8	+6.5
	comp=Z,70nm,1.2s							
LRS	Lares	84.52	67	*e*P		P	07 06 29.7	+0.2
PDG	Podgorica	85.53	352	⇑*i*P		P	07 06 33.8	-0.4
WRAB	Tennant Creek	85.67	230	*e*P		P	07 06 34.5	-0.5
WRAB	Tennant Creek	85.67	230	*e*P		P	07 06 34.5	-0.5
WB2	Warramunga Arr	85.68	230	*e*P		P	07 06 34.5	-0.6
WRA	Warramunga Arr	85.69	230	P		P	07 06 34.0	-1.1
	comp=Z,14nm,1.1s,baz=35,slow=5.9,SNR=14							
WRA	Warramunga Arr	85.69	230	P		P	07 06 34.0	-1.1
WRA				pmax	pmax			
	comp=Z,13nm,1.1s							
BR131	Keskin Array S	86.10	341	*e*P		P	07 06 37.4	+0.2
BRTR	Keskin Array B	86.10	341	P		P	07 06 37.0	-0.2
	comp=Z,3.1nm,0.7s,baz=29,slow=2.6,SNR=7.6							
BRTR				PKKPbc		PKKPbc	07 24 34.4	+0.5
	comp=Z,0.4nm,0.6s,baz=167,slow=6.2,SNR=4.2							
BR231	Keskin MP Arra	86.16	341	*e*P		P	07 06 37.3	-0.1
MOTC	Monteria, Cord	86.78	80	*e*P		P	07 06 40.0	-0.7
PSI	Prapat	87.51	271	*e*P		P	07 06 44.0	-0.4
PSI	Prapat	87.51	271	*e*P		P	07 06 44.0	-0.4
ES19	SONSECA Array	88.10	9	*e*P		P	07 06 46.2	-0.6
ESDC	Sonseca Array	88.12	10	P		P	07 06 46.0	-0.9
	comp=Z,2.9nm,0.7s,baz=345,slow=4.6,SNR=9.7							
HYB	Hyderabad	88.12	296	*i* P		P	07 06 46.5	-0.7
	comp=Z,50nm,1.0s							
FITZ	Fitzroy Crossi	88.48	238	P		P	07 06 48.0	-0.6
	comp=Z,19nm,0.9s,baz=16,slow=5.5,SNR=16							
FITZ	Fitzroy Crossi	88.48	238	*e*P		P	07 06 48.5	-0.1
OCAC	Ocana	88.63	78	*e*P		P	07 06 50.6	+0.8
HELC	Santa Helena	88.89	81	*e*P		P	07 06 51.1	-0.1
HELC	Santa Helena	88.89	81	*e*P		P	07 06 51.8	+0.6
AS01	Alice Springs	89.07	228	*e*P		P	07 06 50.4	-0.9
AS31	Alice Springs	89.09	228	*e*P		P	07 06 51.3	-0.1
ASAR	Alice Springs	89.09	228	P		P	07 06 51.0	-0.4
	comp=Z,24nm,0.9s,baz=24,slow=4.8,SNR=37							
BRRC	Barranca, Sant	89.28	79	*e*P		P	07 06 52.8	+0.1
GRMC	Gramalote, San	89.35	78	*e*P		P	07 06 52.8	-0.4
CBRI	Barrientos, No	89.36	78	*e*P		P	07 06 53.3	+0.1
GSI	Gunungsitoli	89.51	271	*e*P		P	07 06 56.9	+3.2
SDV	Santo Domingo	89.74	76	P		P	07 06 55.7	+0.7
	comp=Z,38nm,0.7s,baz=18,slow=2.4,SNR=7.4							
SDV	Santo Domingo	89.74	76	*e*P		P	07 06 55.9	+0.9
NORC	Norcasia	89.78	81	*e*P		P	07 06 55.0	-0.1
BARC	Barichara	90.01	79	*e*P		P	07 06 55.5	-0.8
RUSC	La Rusia	90.62	80	*e*P		P	07 06 58.9	-0.6
ROSC	El Rosal	90.69	81	P		P	07 07 00.7	+1.0
	comp=Z,7.2nm,0.9s,baz=288,slow=12,SNR=6.9							
ROSC	El Rosal	90.69	81	*e*P		P	07 07 00.9	+1.2
POPC	Popayan, Colom	91.04	85	*e*P		P	07 07 00.5	-0.6
PRAC	Prado	91.22	82	*e*P		P	07 07 01.6	-0.1
PRAC	Prado	91.22	82	*e*P		P	07 07 01.5	-0.3
CMBC	Cumbal	91.58	86	*e*P		P	07 07 04.4	+0.5
OTAV	Otavalo	91.74	87	*e*P		P	07 07 05.5	+0.9
OTAV	Otavalo	91.74	87	*e*P		P	07 07 05.5	+0.9
SJAC	San Juan de Ar	92.14	82	*e*P		P	07 07 06.0	0.0
STKA	Stephens Creek	93.01	218	P		P	07 07 09.3	-0.1
	comp=Z,7.4nm,1.1s,baz=17,slow=5.6,SNR=4.0							
STKA	Stephens Creek	93.01	218	*e*P		P	07 07 09.6	+0.2
STKA	Stephens Creek	93.01	218	*e*P		P	07 07 09.6	+0.2
PALK	Pallekele	95.06	288	P		P	07 07 19.3	-0.1
	comp=Z,9.8nm,0.7s,baz=90,slow=1.0,SNR=5.5							
PALK	Pallekele	95.06	288	*ce*P		P	07 07 21.1	+1.7
PTGA	Pitinga	103.76	73	PKiKP		PKiKP	07 12 10.0	-4.1
	comp=Z,2.7nm,0.9s,baz=79,slow=2.4,SNR=4.4							
TORD	Torodi Ar. Bea	114.91	7	PKP	PKPdf		07 12 36.3	-0.8
	comp=Z,1.1nm,0.6s,baz=344,slow=2.2,SNR=11							
TORD				PKKPbc		PKKPbc	07 23 12.0	+0.5
	comp=Z,1.6nm,0.8s,baz=199,slow=2.3,SNR=3.8							
TORD				PKKPab		PKKPab	07 23 17.9	-4.3
	comp=Z,1.9nm,0.9s,baz=176,slow=4.9,SNR=5.9							
TORD				PKKP		PKKPdf	07 23 32.5	-1.2
	comp=Z,1.6nm,0.8s,baz=180,slow=4.3,SNR=4.5							
SIV	San Ignacio	115.06	84	PKP		PKPdf	07 12 36.7	-0.5
	comp=Z,2.9nm,0.9s,baz=20,slow=1.3,SNR=4.0							
KMBO	Kilima Mbogo	123.89	325	PKP		PKPdf	07 12 55.6	+1.0
	comp=Z,0.7nm,0.3s,baz=13,slow=5.9,SNR=4.5							
CPUP	Villa Florida	125.07	89	PKP		PKPdf	07 12 55.5	-0.6
	comp=Z,4.0nm,0.8s,baz=292,slow=2.1,SNR=11							
PLCA	Paso Flores	126.90	111	PKP		PKPdf	07 12 59.5	+0.1
	comp=Z,8.5nm,0.9s,baz=293,slow=2.1,SNR=14							
VNDA	Vanda	130.26	187	PKP		PKPdf	07 13 04.9	+0.3
	comp=Z,1.0nm,0.9s,baz=14,slow=4.0,SNR=2.6							
VNDA				SKPbc		SKPbc	07 16 24.0	+0.9
	comp=Z,6.0nm,1.1s,baz=356,slow=4.2,SNR=7.1							
MAW	Mawson	149.70	218	PKPbc		PKPbc	07 13 44.2	-0.1
	comp=Z,41nm,0.9s,baz=86,slow=1.9,SNR=28							
BOSA	Boshof	153.52	325	PKPbc		PKPbc	07 13 56.0	+1.5
	comp=Z,5.2nm,0.6s,baz=17,slow=3.4,SNR=8.7							

IDC ***28*** *06:57:33.4±2.4,2°.23N×124°.40E,h306km±23km,* **mb3.6**/9, **mb1 3.7**/10,**mb1mx3.4**/52,**mbtmp4.3**/10,**Error ellipse: s-maj=31.4km s-min=9.8km az=72.0,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.56	213	P		Pn	06 59 33.6	-0.4
	4.9nm,0.3s,baz=29,slow=8.3,SNR=17							
FITZ	Fitzroy Crossi	20.24	177	P		P	07 01 45.8	-0.7
	7.6nm,0.4s,baz=5.8,slow=7.6,SNR=33							
WRA	Warramunga Arr	24.10	157	P		P	07 02 22.1	0.0
	1.9nm,0.4s,baz=335,slow=10,SNR=23							
WRA				PcP		PcP	07 05 55.6	+1.1
	0.6nm,0.4s,baz=326,slow=2.2,SNR=4.6							
WRA				S		S	07 06 16.2	-0.8
	4.0nm,0.9s,baz=337,slow=16,SNR=7.0							
ASAR	Alice Springs	27.35	161	P		P	07 02 52.5	+1.3
	3.0nm,1.0s,baz=333,slow=7.4,SNR=2.0							
ASAR				PcP		PcP	07 06 03.1	+1.2
	1.1nm,0.6s,baz=6.5,slow=2.6,SNR=4.4							
STKA	Stephens Creek	37.65	156	P		P	07 04 19.5	-0.4
	1.4nm,0.4s,baz=342,slow=11,SNR=4.6							
MKAR	Makanchi Array	57.49	327	P		P	07 06 51.0	-0.2
	1.9nm,0.4s,baz=121,slow=7.9,SNR=12							
MKAR				PcP		PcP	07 07 41.1	+0.1
	1.7nm,0.6s,baz=137,slow=2.4,SNR=3.3							
PETK	Petropavlovsk-	57.70	23	P		P	07 06 52.6	0.0
	1.8nm,0.5s,baz=210,slow=4.8,SNR=3.4							
KURBB	Kurchatov Arra	61.77	329	P		P	07 07 19.6	-0.5
	1.7nm,0.7s,baz=117,slow=6.2,SNR=7.3							
ILAR	Eielson Array	87.45	25	P		P	07 09 45.0	-1.3
	0.5nm,0.5s,baz=246,slow=4.5,SNR=7.5							
ARCES	ARCESS Array B	91.04	340	P		P	07 10 01.9	-1.1
	0.7nm,0.7s,baz=81,slow=5.6,SNR=3.8							
TORD	Torodi Ar. Bea	121.14	287	PKP	PKPdf		07 15 51.3	+0.3
	0.5nm,0.7s,baz=91,slow=1.1,SNR=3.4							

IDC ***28*** *06:58:17.4±1.2,52°.00N×171°.87W,h0km,mb3.9/9, mb1 4.1/10,mb1mx3.8/69,mbtmp3.9/10,ML3.8/1,Error ellipse: s-maj=34.0km s-min=20.7km az=173.0*
ISCJB ***28*** *06:58:22.7±1.1,52°.1N±0°.2×171°.8W±0°.2,h50km,mb4.0/9, Error ellipse: s-maj=28.5km s-min=16.9km az=160.3*
ISC 28 06:58:24.4±1.2,52°.1N±0°.2×171°.8W±0°.2,h50km,n10, σ0s88/10,mb4.0/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	18.04	36	P		Pn	07 02 30.8	-0.3
	0.1nm,0.3s,baz=231,slow=9.9,SNR=3.4							
DLBC	Dease Lake	24.31	58	P		P	07 03 39.0	+2.0
	2.7nm,0.5s,baz=254,slow=8.7,SNR=4.7							
INK	Inuvik	24.41	34	P		P	07 03 37.2	-0.5
	3.3nm,0.7s,baz=231,slow=6.5,SNR=2.2							
YKA	Yellowknife Ar	31.55	48	P		P	07 04 41.4	-0.1
	0.4nm,0.4s,baz=273,slow=8.6,SNR=3.8							
TXAR	Lajitas Array	54.24	87	P		P	07 07 44.9	-0.3
	0.9nm,1.0s,baz=311,slow=5.5,SNR=2.7							
KURBB	Kurchatov Arra	61.70	317	P		P	07 08 37.4	+0.5
	0.8nm,0.6s,baz=48,slow=6.6,SNR=3.8							
MKAR	Makanchi Array	62.91	312	P		P	07 08 45.1	-0.1
	0.4nm,0.3s,baz=39,slow=5.5,SNR=4.7							
BVAR	Borovoye Array	63.06	323	P		P	07 08 46.7	+0.7
	3.0nm,0.5s,baz=55,slow=6.2,SNR=7.2							
FINES	FINESS Array B	65.93	351	P		P	07 09 04.2	-0.4
	0.7nm,0.7s,baz=12,slow=7.1,SNR=2.6							
ASAR	Alice Springs	89.08	228	P		P	07 11 13.8	-0.2
	0.4nm,0.5s,baz=26,slow=4.8,SNR=3.6							

IDC ***28*** *07:07:15.3±0.6,17°.05S×177°.02W,h0km,mb4.6/17, mb1 4.7/18,mb1mx4.5/44,mbtmp4.5/18,ML3.8/1,MS4.9/7, Ms1 4.9/7,ms1mx4.3/37,Error ellipse: s-maj=25.1km s-min=15.1km az=141.0*

ISCJB ***28*** *07:07:19.8±0.2,16°.87S±0°.05×177°.22W±0°.04,h33km, mb4.9/146,MS5.0/6,Error ellipse: s-maj=8.2km s-min=3.4km az=151.0*
BJI ***28*** *07:07:20.2,16°.70S×177°.29W,h22km,mb4.8/27,mB5.5/9, Ms5.5/7,Ms7 5.2/7*
MOS ***28*** *07:07:21.2±1.5,16°.66S×177°.35W,h33km,mb5.1/34, Error ellipse: s-maj=12.6km s-min=8.4km az=135.4*
GCMT ***28*** *07:07:22.1±0.2,16°.88S×176°.98W,h12km,MW5.3/110, Moment Tensor Solution. s55,c67; s110,c180; Duration: 1§1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.07±.02; Mθθ-0.84±.02; Mϕϕ0.90±.02; Mrθ-0.27±.06; Mθϕ-0.08±.02; Mϕr0.81±.05; Best double couple: M₀1.16400×10¹⁷ NP1:ϕs315.00000°,δ86.00000°, λ140.00000°. NP2:ϕs48.00000°,δ50.00000°,λ5.00000°. Principal axes: T 1.3800, Plg30.0000°, Azm264.0000°; N -0.4320, Plg50.0000°, Azm130.0000°; P -0.9480, Plg24.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *07:07:22.1±1.3,16°.75S×177°.29W,h36km±12km, mb5.0/127 Error ellipse: s-maj=7.8km s-min=4.5km az=147.0*
ISC 28 07:07:21.4±0.3,16°.99S±0°.07×177°.10W±0°.06,h35km, n435,σ1§24/423,mb5.0/146,**MS4.7**/7,**3C-25D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.69	260	*e*P		Pn	07 08 27.8	-2.0
MSVF				*e*			07 09 23.1	
MSVF	Nonsavu	4.69	260	*e*Pn		Pn	07 08 27.8	-2.0
MSVF				*e*Sn		Sn	07 09 23.1	0.0
AFI	Afiamalu	5.97	60	Pn		Pn	07 08 42.6	-4.8
	2.3nm,0.3s,baz=183,slow=19,SNR=1.7							
AFI				LR		LR	07 10 32.3	
	comp=Z,6μm,21.7s,baz=237,slow=33							
NIUE	Niue	7.13	108	P		Pn	07 08 59.8	-3.5
	baz=7.0,SNR=3.7							
RAO	Raoul Island	12.23	183	LR		LR	07 14 12.4	
	comp=Z,6μm,19.9s,baz=7.5,slow=34							
DZM	Mont Dzumac	16.31	249	*e*LR		LR	07 14 52.6	
	9μm,25.4s							
DZM	Mont Dzumac	16.31	249	Pn		P	07 11 09.0	-1.6
	0.5nm,0.3s,baz=73,slow=18,SNR=6.0							
DZM	Mont Dzumac	16.31	249	*e*Pn		Pn	07 11 07.4	-0.6
	60nm,0.9s							
OUZ	Omahuta	19.97	203	*e*P		Pn	07 11 53.2	+0.7
	112nm,1.3s							
URZ	Urewera	21.80	192	P		P	07 12 07.4	-2.9
	14nm,0.8s,baz=19,slow=4.9,SNR=8.1							
URZ				LR		LR	07 19 11.3	
	comp=Z,3μm,18.5s,baz=24,slow=33							
URZ	Urewera	21.80	192	*e*P		P	07 12 14.6	+4.2
	32nm,1.0s							
BKZ	Black Stump Fm	22.80	193	*e*P		P	07 12 22.4	+1.2
	32nm,1.2s							
PAE	Paea	26.27	96	*e*T		T	07 39 38.9	
	4.6nm,0.3s							
PPT2	Papeete2	26.28	95	*e*LR		LR	07 19 20.8	
	5μm,26.2s							
PPT2	Papeete2	26.28	95	*e*T		T	07 39 40.5	
	5.3nm,0.3s							
TVO	Taravao	26.58	96	*e*T		T	07 40 01.8	
	3.5nm,0.3s							
TBI	Tubuai	26.68	108	*e*LQ		LQ	07 18 24.0	
	3μm,29.5s							
TBI				*e*LR		LR	07 19 38.3	
	4μm,28.0s							
TBI	Tubuai	26.68	108	*e*T		T	07 40 05.4	
	7.0nm,0.4s							
MEH	Mehetia	27.70	96	*e*T		T	07 41 26.2	
	11nm,0.2s							
OXZ	Oxford	27.83	197	*e*P		P	07 13 09.3	+1.9

PETK **Petropavlovsk-** 73.12 344 P P 07 18 49.0 +1.0
comp=Z,11nm,0.9s,baz=123,slow=7.2,SNR=8.6
PETK **Petropavlovsk-** 73.12 344 P P 07 18 49.0 +1.0
YSS **Yuzh-Sakhalins** 73.17 333 *e*P P 07 18 51.2 +2.8
YSS **Yuzh-Sakhalins** 73.17 333 *e*P P 07 18 48.9 +0.5
comp=Z,18nm,1.0s
CISI **Cisompet, Garu** 73.61 267 *e*P P 07 18 49.5 -2.4
comp=Z,45nm,0.9s
KSM **Kuching** 73.81 277 *e*P P 07 18 51.0 -2.0
comp=Z,37nm,1.2s
KSRS **Korea Array** 74.86 318 P P 07 18 59.2 +0.7
comp=Z,1.8nm,0.8s,baz=128,slow=6.7,SNR=8.2
KSAR **Wonju Array Be** 74.88 318 P P 07 18 59.2 +0.6
KSAR **Wonju Array Be** 74.88 318 P P 07 18 59.2 +0.6
KS01 **Wonju Array Si** 74.89 318 *e*P P 07 18 59.1 +0.4
HOPS **Hopland Field** 75.16 41 *e*P P 07 19 02.2 +2.0
comp=Z,51nm,1.4s
KMRM **Mail Ridge** 75.51 39 *e*P P 07 19 02.8 +0.4
comp=Z,84nm,1.6s
VES **Vestal, Richgr** 75.96 45 P P 07 19 04.2 -0.7
baz=237
MURC **Murrieta** 76.08 48 P P 07 19 06.8 +1.1
baz=239
EDW2 **Edwards Air Fo** 76.19 47 P P 07 19 06.0 -0.3
baz=238
TYV **Tymovskoe** 76.21 335 *e*P P
TYV pmax pmax 07 19 04.5 -1.5
comp=Z,11nm,0.8s
MONP2 **Monument Peak** 76.27 49 P P 07 19 05.9 -1.2
baz=239
CMB **Columbia Colle** 76.32 43 *e*P P 07 19 07.1 +0.1
CMB pmax pmax
comp=Z,11nm,1.3s
CMB **Columbia Colle** 76.32 43 *e*P P 07 19 07.1 +0.1
comp=Z,11nm,1.3s
IKP **In-Ko-Pah, Jac** 76.37 49 P P 07 19 07.1 -0.4
baz=240
WDC **Whiskeytown Da** 76.44 40 *e*P P 07 19 08.9 +1.4
WDC pmax pmax
comp=Z,14nm,1.3s
WDC **Whiskeytown Da** 76.44 40 *e*P P 07 19 08.9 +1.4
comp=Z,14nm,1.3s
AFDM **Forest Hills D** 76.46 42 *e*P P 07 19 08.8 +1.0
comp=Z,11nm,1.3s
ORV **Oroville** 76.48 41 *e*P P 07 19 08.9 +1.1
ORV pmax pmax
comp=Z,6.0nm,0.8s
ORV **Oroville** 76.48 41 *e*P P 07 19 08.9 +1.1
comp=Z,6.3nm,0.8s
USRK **Ussuriysk Ar.** 76.57 325 P P 07 19 08.1 0.0
comp=Z,3.2nm,1.0s,baz=134,slow=5.5,SNR=6.3
N02D **Trinity Center** 76.57 39 P P 07 19 08.3 -0.1
baz=233
PFO **Pinyon Flats O** 76.61 48 *e*P P 07 19 09.7 +0.9
PFO pmax pmax
comp=Z,17nm,1.6s
PFO **Pinyon Flats O** 76.61 48 *e*P P 07 19 09.7 +0.9
comp=Z,17nm,1.6s
O03D **Paynes Creek** 76.72 40 P P 07 19 10.3 +1.0
baz=234
M02C **Callahan** 76.74 39 P P 07 19 09.7 +0.4
baz=233
SWSC **Sam W. Stewart** 76.75 49 P P 07 19 10.1 +0.7
baz=240
L02D **Cave Junction,** 76.76 38 P P 07 19 10.2 +0.9
baz=232
BELC **Belle Mtn. Jos** 77.14 48 P P 07 19 10.8 -1.1
baz=239
MPMC **Manual Prospec** 77.17 46 P P 07 19 11.9 -0.1
baz=238
WAKR **Walker** 77.20 43 *e*P P 07 19 12.3 +0.2
comp=Z,26nm,1.7s
DAC **Darwin (Calif)** 77.21 46 *e*P P 07 19 12.4 +0.1
DAC pmax pmax
comp=Z,13nm,1.6s
DAC **Darwin (Calif)** 77.21 46 *e*P P 07 19 12.4 +0.1
comp=Z,13nm,1.6s
GSC **Goldstone, Bar** 77.24 47 P P 07 19 11.5 -0.8
baz=239
GSC **Goldstone, Bar** 77.24 47 *e*P P 07 19 12.9 +0.6
GSC pmax pmax
comp=Z,9.0nm,1.0s
GSC **Goldstone, Bar** 77.24 47 *e*P P 07 19 12.9 +0.6
comp=Z,8.5nm,1.0s
HEC **Hector,Ludlow** 77.33 47 P P 07 19 11.6 -1.1
baz=239
BC3 **Big Chuckawall** 77.36 49 P P 07 19 13.1 +0.1
baz=240
HUMO **Hull Mountain** 77.41 38 *e*P P 07 19 14.9 +1.9
comp=Z,16nm,1.3s
GLA **Glamis** 77.51 50 P P 07 19 13.9 +0.1
baz=240
GLA **Glamis** 77.51 50 *e*P P 07 19 14.9 +1.1
GLA pmax pmax
comp=Z,32nm,1.6s
GLA **Glamis** 77.51 50 *e*P P 07 19 14.9 +1.1
comp=Z,32nm,1.6s
M04C **Macdoel** 77.58 39 P P 07 19 13.8 -0.3
baz=234
GMRC **Granite Mounta** 77.78 48 P P 07 19 14.6 -0.7
baz=240
FURC **Furnace Creek,** 77.81 46 P P 07 19 15.1 -0.2
baz=238
IRM **Iron Mountain** 77.83 48 P P 07 19 15.7 +0.2
baz=240
PAHR **Pah Rah Range** 77.91 42 *e*P P 07 19 16.6 +0.6
comp=Z,15nm,1.5s
Y12C **Blythe** 78.07 49 P P 07 19 17.5 +0.7
baz=240
Y12C **Blythe** 78.07 49 *e*P P 07 19 16.9 +0.1
comp=Z,20nm,1.5s
113A **Mohawk Valley,** 78.14 50 *e*P P 07 19 16.9 -0.4
comp=Z,13nm,1.3s
MDJ **Mudanjiang** 78.16 324 P P 07 19 17.0 -0.1
MDJ PMZ
comp=Z,8.0nm,1.2s
MDJ PMZ
comp=Z,540nm,12.8s
LDFC **Landfair** 78.32 48 *e*P P 07 19 18.9 +0.5
comp=Z,28nm,1.3s
COR **Corvallis** 78.42 36 *e*P P 07 19 19.0 +0.5
COR pmax pmax
comp=Z,92nm,1.4s
COR **Corvallis** 78.42 36 *e*P P 07 19 19.0 +0.5
comp=Z,92nm,1.4s
214A **Organ Pipe Nat** 78.47 51 P P 07 19 19.2 +0.1
baz=242
TPNV **Topopah Spring** 78.48 46 P P 07 19 18.4 -0.9
baz=239
TPNV **Topopah Spring** 78.48 46 *e*P P 07 19 19.1 -0.2
TPNV pmax pmax
comp=Z,10.0nm,1.4s
TPNV **Topopah Spring** 78.48 46 *e*P P 07 19 19.1 -0.2
comp=Z,10.0nm,1.4s
MOD **Modoc Plateau** 78.58 40 *e*P P 07 19 20.3 +0.7
comp=Z,11nm,1.4s
PDMCI **Parker Dam,Lak** 78.62 49 P P 07 19 19.1 -0.7
baz=241
K05A **Summer Lake** 78.70 39 *e*P P 07 19 21.3 +0.9
comp=Z,19nm,1.3s
J05D **Fort Rock, OR** 78.83 38 P P 07 19 20.5 -0.5
baz=234
SHPR **Sheep Range** 79.01 46 *e*P P 07 19 21.8 -0.3
comp=Z,6.8nm,1.2s
W13A **Hualapai Mount** 79.20 48 *e*P P 07 19 23.4 +0.1
comp=Z,5.7nm,1.1s
Y14A **Wickenburg** 79.27 50 *e*P P 07 19 23.1 -0.4
comp=Z,69nm,1.5s
R11A **Troy Canyon, C** 79.66 45 P P 07 19 24.8 -1.0
baz=239
R11A **Troy Canyon, C** 79.66 45 *e*P P 07 19 26.0 +0.3
comp=Z,10nm,1.6s
BMN **Battle Mountai** 79.69 42 *e*P P 07 19 27.0 +1.2
BMN pmax pmax
comp=Z,15nm,1.2s
BMN **Battle Mountai** 79.69 42 *e*P P 07 19 27.0 +1.2
comp=Z,15nm,1.2s
WVOR **Wild Horse Val** 79.90 40 *e*P P 07 19 26.6 -0.3
WVOR pmax pmax
comp=Z,10.0nm,1.1s
WVOR **Wild Horse Val** 79.90 40 *e*P P 07 19 26.6 -0.3
comp=Z,9.8nm,1.1s
CN2 **Changchun** 80.07 322 *e*P P 07 19 28.3 +0.8
CN2 *e*S S 07 29 28.0 -1.4
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,100nm,3.0s
CN2 LN
comp=Z,500nm,18.0s
CN2 LE
comp=Z,800nm,18.0s
CN2 LZ
comp=Z,800nm,18.0s
QIZ **Qiongzhong** 80.23 293 P P 07 19 29.5 +0.5
QIZ S S 07 29 33.3 +1.2
LCMT **Little Creek M** 80.59 47 *e*P P 07 19 31.0 +0.3
comp=Z,7.4nm,1.5s
X16A **Lo Mia Camp, P** 80.64 50 *e*P P 07 19 30.4 -0.7
comp=Z,10nm,1.2s
D05A **Enumclaw** 80.74 35 *e*P P 07 19 31.5 +0.4
comp=Z,67nm,1.4s
CCUT **Cedar City** 80.77 46 *e*P P 07 19 32.4 +0.6
comp=Z,10.0nm,1.5s
319A **Douglas** 80.88 53 *e*P P 07 19 33.8 +1.5
comp=Z,7.5nm,0.9s
KNB **Kanab** 80.89 47 *e*P P 07 19 32.8 +0.4
KNB pmax pmax
comp=Z,25nm,1.8s
KNB **Kanab** 80.89 47 *e*P P 07 19 32.8 +0.4
comp=Z,25nm,1.8s
U15A **North Rim** 80.98 48 *e*P P 07 19 32.8 -0.2
comp=Z,9.5nm,1.3s
ELK **Elko** 81.13 43 *e*P P 07 19 34.7 +1.0
ELK pmax pmax
comp=Z,8.0nm,1.4s
ELK **Elko** 81.13 43 *e*P P 07 19 34.7 +1.0
comp=Z,8.0nm,1.4s
WUAZ **Wupatki** 81.20 49 P P 07 19 33.8 -0.2
baz=242
WUAZ **Wupatki** 81.20 49 *e*P P 07 19 34.5 +0.4
comp=Z,13nm,1.5s
A04D **Lummi Island** 81.29 33 P P 07 19 33.0 -0.9
baz=232
G08A **Pilot Rock** 81.32 37 *e*P P 07 19 34.1 -0.2
comp=Z,13nm,1.2s
TT01 **Tatalina** 81.33 10 *e*P P 07 19 32.8 -1.0
B05A **Bryant** 81.33 34 P P 07 19 32.8 -1.4
baz=233
TTA **Tatalina** 81.36 10 *e*P P 07 19 33.6 -0.5
TTA pmax pmax
comp=Z,20nm,1.0s
TTA **Tatalina** 81.36 10 *e*P P 07 19 33.6 -0.5
comp=Z,20nm,1.0s
PMR **Palmer** 81.42 13 *e*P P 07 19 34.7 +0.4
PMR pmax pmax
comp=Z,19nm,1.4s
PMR **Palmer** 81.42 13 *e*P P 07 19 34.7 +0.4
comp=Z,20nm,1.4s
X18A **Snowflake** 81.78 50 *e*P P 07 19 37.6 +0.5
comp=Z,14nm,1.4s
DIV **Divide** 81.79 15 *e*P P 07 19 36.0 -0.4
comp=Z,13nm,0.8s
MTPU **Mnt Pierson** 81.83 46 *e*P P 07 19 38.2 +0.7
comp=Z,29nm,1.9s
BMRM **Bremner River** 81.94 15 *e*P P 07 19 36.2 -1.0
comp=Z,20nm,1.1s
BMO **Blue Mountains** 82.05 38 *e*P P 07 19 37.1 -1.1
BMO pmax pmax
comp=Z,8.0nm,1.1s
BMO **Blue Mountains** 82.05 38 *e*P P 07 19 37.0 -1.1
comp=Z,7.7nm,1.1s
MSU **Marysvale** 82.06 46 *e*P P 07 19 38.6 0.0
MSU **Marysvale** 82.06 46 *e*P P 07 19 38.6 0.0
CRQM **Cirque** 82.14 16 *e*P P 07 19 39.9 +1.5
comp=Z,14nm,0.9s
MFID **Camas Ranch** 82.17 40 *e*P P 07 19 38.5 -0.4
comp=Z,15nm,1.3s
W18A **Petrified Fore** 82.20 50 P P 07 19 39.6 +0.2
baz=243
W18A **Petrified Fore** 82.20 50 *e*P P 07 19 40.2 +0.8
comp=Z,25nm,1.6s
DUG **Dugway, Tooele** 82.45 44 P P 07 19 39.4 -1.1
baz=241
DUG **Dugway, Tooele** 82.45 44 *e*P P 07 19 41.5 +1.0
DUG pmax pmax
comp=Z,4.0nm,1.1s
DUG **Dugway, Tooele** 82.45 44 *e*P P 07 19 41.5 +1.0
comp=Z,4.1nm,1.1s
121A **Cookes Peak, D** 82.52 53 P P 07 19 41.1 0.0
baz=245
BALM **Baldy** 82.58 16 *e*P P 07 19 41.5 +0.8
BALM pmax pmax
comp=Z,13nm,1.1s
BALM **Baldy** 82.58 16 *e*P P 07 19 41.5 +0.8
comp=Z,13nm,1.1s
F10A **Beach Ranch, E** 82.71 37 *e*P P 07 19 41.4 -0.2
comp=Z,11nm,1.0s
KTH **Kantishna Hill** 82.82 11 *e*P P 07 19 42.5 +0.7
comp=Z,15nm,1.1s
TRF **Thorofare Moun** 82.85 12 *e*P P 07 19 41.0 -1.1
comp=Z,16nm,0.8s
ZAIG **Zacatecas** 82.89 64 *e*P P 07 19 43.4 +0.1
comp=Z,3.1nm,0.9s
TMUT **Trail Mountain** 83.10 46 *e*P P 07 19 45.1 +1.0
comp=Z,10nm,1.1s
RND **Reindeer** 83.10 12 *e*P P 07 19 42.7 -0.5
RND pmax pmax
comp=Z,17nm,1.1s
RND **Reindeer** 83.10 12 *e*P P 07 19 42.7 -0.5
comp=Z,17nm,1.1s
HLID **Hailey** 83.12 41 P P 07 19 43.6 -0.3
baz=239
HLID **Hailey** 83.12 41 *e*P P 07 19 43.4 -0.5
comp=Z,15nm,1.4s
SEY **Seymchan** 83.17 346 P P 07 19 42.0 -1.4
comp=Z,11nm,0.9s,baz=143,slow=6.2,SNR=21
SEY **Seymchan** 83.17 346 *i* P P 07 19 41.5 -2.0
SPUT **South Promonto** 83.24 43 *e*P P 07 19 44.4 -0.2
comp=Z,12nm,1.1s
HVU **Hansel Valley** 83.26 43 *e*P P 07 19 44.4 -0.3
HVU pmax pmax
comp=Z,12nm,1.3s
HVU **Hansel Valley** 83.26 43 *e*P P 07 19 44.4 -0.3
comp=Z,12nm,1.3s
BPAW **Bear Paw Mtn.** 83.31 11 *e*P P 07 19 44.1 -0.1
comp=Z,18nm,1.8s
MCK **McKinley** 83.38 12 *e*P P 07 19 44.4 -0.2
MCK pmax pmax
comp=Z,19nm,1.1s
MCK **McKinley** 83.38 12 *e*P P 07 19 44.4 -0.2
comp=Z,19nm,1.1s
SRU **San Rafael Swe** 83.48 46 *e*P P 07 19 45.7 -0.2
SRU pmax pmax
comp=Z,28nm,1.7s
SRU **San Rafael Swe** 83.48 46 *e*P P 07 19 45.7 -0.2
comp=Z,28nm,1.7s
P17A **Butcher Ranch,** 83.50 46 *e*P P 07 19 46.6 +0.7
comp=Z,9.9nm,1.2s
IPM **Ipoh** 83.55 277 *e*P P 07 19 46.7 +0.1
comp=Z,30nm,1.1s
JLU **Jordanelle** 83.56 44 *e*P P 07 19 46.5 +0.1
comp=Z,21nm,1.6s
BWN **Browne** 83.66 12 *e*P P 07 19 47.1 +1.1
comp=Z,53nm,1.3s
HYT **Haines Junctio** 83.79 18 *e*P P 07 19 47.6 +0.8
comp=Z,42nm,2.0s
LAZ **Ladron** 83.81 51 *e*P P 07 19 49.2 +1.5
TCUT **Toone Canyon** 83.83 44 *e*P P 07 19 47.3 -0.4
comp=Z,113nm,1.7s
HWUT **Hardware Ranch** 83.97 43 *e*P P 07 19 48.6 +0.3
comp=Z,5.3nm,1.1s
PV05 **Paradox Valley** 84.00 47 *e*P P 07 19 49.0 +0.4
BJI **Beijing** 84.02 315 P P 07 19 50.5 +2.2
BJI PMZ
comp=Z,10.0nm,1.2s
MNTX **Cornudas Mount** 84.03 54 P P 07 19 48.3 -0.3
baz=246
MNTX **Cornudas Mount** 84.03 54 *e*P P 07 19 48.5 -0.2
comp=Z,29nm,1.7s
MVCO **Mesa Verde** 84.04 48 P P 07 19 48.3 -0.5
baz=244
MVCO **Mesa Verde** 84.04 48 *e*P P 07 19 49.3 +0.4
comp=Z,11nm,1.3s
BNM **Barren Site** 84.09 52 *e*P P 07 19 49.2 0.0
LPM **Los Pinos Moun** 84.15 52 *e*P P 07 19 51.1 +1.7
PV09 **Paradox Valley** 84.16 47 *e*P P 07 19 49.3 -0.3
PV10 **Paradox Valley** 84.17 47 *e*P P 07 19 49.4 -0.2
MLY **Manley** 84.20 11 *e*P P 07 19 47.0 -1.8
comp=Z,15nm,1.1s
WRH **Wood River Hil** 84.20 12 *e*P P 07 19 47.4 -1.4
comp=Z,40nm,1.2s
DOT **Dot Lake** 84.37 14 *e*P P 07 19 48.5 -1.2
comp=Z,34nm,1.1s
PV01 **Paradox Valley** 84.40 48 *e*P P 07 19 50.2 -0.4
CCB **Clear Creek Bu** 84.42 12 *e*P P 07 19 47.9 -1.9
comp=Z,16nm,0.9s
TX31 **Lajitas Ar. Si** 84.45 57 *e*P P 07 19 51.0 +0.1
TXAR **Lajitas Array** 84.45 57 P P 07 19 50.8 -0.1
comp=Z,4.1nm,1.1s,baz=216,slow=4.0,SNR=15
TXAR LR LR 07 51 17.6
comp=Z,260nm,19.6s,baz=0.0,slow=31
DLBC **Dease Lake** 84.50 23 P P 07 19 49.6 -0.9
comp=Z,3.2nm,1.0s,baz=207,slow=6.4,SNR=2.1
DLBC **Dease Lake** 84.50 23 *e*P P 07 19 49.6 -0.9
comp=Z,9.5nm,1.3s
ANMO **Albuquerque** 84.55 51 P P 07 19 50.6 -0.8
baz=245
ANMO **Albuquerque** 84.55 51 *i*P P 07 19 50.4 -1.1
ANMO pmax pmax
comp=Z,13nm,1.4s
ANMO **Albuquerque** 84.55 51 *e*P P 07 19 51.1 -0.4
comp=Z,15nm,1.4s
PV15 **Paradox Valley** 84.55 47 *e*P P 07 19 50.8 -0.7
COLA **College** 84.61 12 *e*P P 07 19 49.3 -1.5
COLA pmax pmax
comp=Z,26nm,0.8s
COLA **College** 84.61 12 *e*P P 07 19 49.3 -1.5
comp=Z,26nm,0.8s
MDM **Murphy Dome** 84.61 12 *e*P P 07 19 49.1 -1.7
comp=Z,37nm,1.3s
IL1 **Eielson Array** 84.72 13 *e*P P 07 19 50.1 -1.3
ILAR **Eielson Array** 84.72 13 P P 07 19 49.6 -1.7
comp=Z,10nm,1.1s,baz=224,slow=6.2,SNR=33
ILB **Eielson Array** 84.72 13 *e*P P 07 19 49.7 -1.6
MCMT **McKenzie Canyo** 84.73 40 *e*P P 07 19 51.7 -0.5
SKNT **Sakolnakorn** 84.73 289 P P 07 19 55.2 +2.7
comp=Z,24nm,1.0s
SKLT **Songkhla** 84.75 279 P P 07 19 56.6 +4.0
comp=Z,17nm,1.4s
ENH **Enshi** 84.80 304 *e*P P 07 19 51.6 -1.0
comp=Z,92nm,1.7s
PSI **Prapat** 85.05 274 *e*P P 07 19 53.5 -0.9
PSI pmax pmax
comp=Z,33nm,1.2s
PSI **Prapat** 85.05 274 *e*P P 07 19 53.5 -0.9
comp=Z,32nm,1.2s
MSO **Missoula** 85.09 38 P P 07 19 53.7 -0.1
baz=239
MSO **Missoula** 85.09 38 *e*P P 07 19 54.5 +0.7
comp=Z,11nm,1.3s
BSMT **Bassoo Peak** 85.13 37 *e*P P 07 19 55.0 +0.9
DLMT **Dillon** 85.15 40 *e*P P 07 19 53.6 -0.6
comp=Z,13nm,1.1s
TPAW **Teton Pass** 85.27 42 *e*P P 07 19 55.0 +0.1
comp=Z,14nm,1.3s
REDW **Red Top Meadow** 85.27 42 *e*P P 07 19 54.3 -0.7
comp=Z,26nm,1.5s
SNOW **Snow King Moun** 85.38 42 *e*P P 07 19 55.0 -0.5
comp=Z,20nm,1.4s
S22A **4UR Ranch, Cre** 85.46 48 P P 07 19 55.6 -0.5
baz=245
S22A **4UR Ranch, Cre** 85.46 48 *e*P P 07 19 55.8 -0.4
comp=Z,23nm,1.4s
IMW **Indian Meadow** 85.47 42 *e*P P 07 19 56.5 +0.6
comp=Z,29nm,1.8s
LRM **Limekiln Ridge** 85.47 39 *e*P P 07 19 54.3 -1.6
O20A **White River Ci** 85.52 46 P P 07 19 56.0 -0.2
baz=244
O20A **White River Ci** 85.52 46 *e*P P 07 19 56.6 +0.4
comp=Z,22nm,1.6s
MOOW **Moose Ponds** 85.52 42 *e*P P 07 19 57.4 +1.3
comp=Z,10.0nm,1.5s
CHMT **Chamberlain Mo** 85.54 38 *e*P P 07 19 54.8 -1.4
BILL **Bilibino** 85.65 354 *i*P P 07 19 54.3 -1.6
BILL *e* 07 20 02.7
BILL pmax pmax
comp=Z,25nm,1.0s
BILL **Bilibino** 85.65 354 *e*P P 07 19 55.2 -0.7
comp=Z,23nm,1.0s
GYA **Guiyang** 85.67 299 P P 07 19 56.8 -0.4
GYA PMZ
comp=Z,10.0nm,1.0s
FLWY **Flagg Ranch** 85.71 41 *e*P P 07 19 57.9 +0.8
comp=Z,29nm,1.5s
YHB **Horse Butte** 85.72 41 *e*P P 07 19 57.7 +0.6
comp=Z,29nm,1.6s
TRTT **Trang** 85.83 279 P P 07 20 03.1 +5.1
comp=Z,24nm,0.9s
BW06 **Boulder Array** 85.83 43 P P 07 19 56.4 -1.3
baz=243
BW06 **Boulder Array** 85.83 43 *e*P P 07 19 56.1 -1.6
PDAR **Pinedale Array** 85.83 43 P P 07 19 56.1 -1.6
comp=Z,1.3nm,0.8s,baz=248,slow=4.8,SNR=5.6
DAWY **Dawson** 85.86 16 *e*P P 07 19 55.9 -1.2
comp=Z,16nm,1.0s
BOZ **Bozeman (W)** 85.89 40 P P 07 19 56.2 -1.6
baz=241
BOZ **Bozeman (W)** 85.89 40 *e*P P 07 19 57.3 -0.5
BOZ pmax pmax
comp=Z,11nm,1.3s
BOZ **Bozeman (W)** 85.89 40 *e*P P 07 19 57.3 -0.5
comp=Z,11nm,1.3s
H17A **Grant Village** 85.94 41 P P 07 19 58.7 +0.4
baz=242
H17A **Grant Village** 85.94 41 *e*P P 07 19 58.6 +0.4
comp=Z,21nm,1.6s
SMCO **Snowmass** 85.98 47 *e*P P 07 19 59.3 +0.6
comp=Z,7.0nm,1.3s
EGAK **Eagle** 86.01 15 *e*P P 07 19 57.2 -0.6
comp=Z,16nm,1.1s
WALA **Waterton Lakes** 86.26 36 *e*P P 07 19 59.9 +0.4
comp=Z,17nm,1.4s
COLD **Coldfoot** 86.29 10 *e*P P 07 19 59.6 +0.5
comp=Z,16nm,1.2s
SDCO **Great Sand Dun** 86.42 49 P P 07 19 59.2 -1.6
baz=246
SDCO **Great Sand Dun** 86.42 49 *e*P P 07 20 01.1 +0.3
comp=Z,8.2nm,1.6s
832A **Faith Ranch, C** 87.07 59 P P 07 20 03.3 -0.6
baz=249
GCMT **Greycliff** 87.16 40 *e*P P 07 20 05.6 +1.5
PBKT **Sadao Pong** 87.33 288 P P 07 20 11.0 +5.7
comp=Z,6.9nm,1.2s
LOEI **Loei** 87.36 289 P P 07 20 08.9 +3.4
comp=Z,8.2nm,1.1s
933A **Laredo** 87.41 60 P P 07 20 05.1 -0.4
baz=250
PHET **Kaeng Krachan** 87.43 284 P P 07 20 12.2 +6.4
comp=Z,8.9nm,1.0s,comp=Z,199nm
HHC **Hu-ho-hao-te** 87.53 314 *e*P P 07 20 06.8 +0.9
HHC PMZ
comp=Z,26nm,1.1s
034A **Hebbronville** 87.71 61 P P 07 20 06.8 -0.1
baz=250
733A **Divot King Ran** 87.78 59 P P 07 20 07.0 -0.3
baz=250
633A **Saathoff Ranch** 88.14 59 P P 07 20 09.1 +0.2
baz=250
834A **Tilden** 88.19 60 P P 07 20 09.7 +0.5
baz=250
KMI **Kunming** 88.53 297 P P 07 20 11.8 +0.6
KMI PMZ
comp=Z,10.0nm,0.8s
KMI PMZ
comp=Z,120nm,4.4s
433A **Art** 88.66 57 P P 07 20 10.5 -0.9
baz=250
EDM **Edmonton** 88.71 33 *e*P P 07 20 10.1 -1.0
EDM pmax pmax
comp=Z,31nm,1.6s
EDM **Edmonton** 88.71 33 *e*P P 07 20 10.1 -1.0
comp=Z,31nm,1.6s
534A **Blanco** 88.91 58 P P 07 20 12.4 -0.2
baz=250
434A **Burnet** 89.34 58 P P 07 20 16.0 +1.4
baz=250
334A **Lometa** 89.55 57 P P 07 20 17.4 +1.9
baz=250
LAO **LASA Array** 89.70 41 P P 07 20 15.9 0.0
baz=245
LAO **LASA Array** 89.70 41 *e*P P 07 20 16.8 +0.8
comp=Z,13nm,1.2s
CM01 **Chiang Mai Arr** 89.73 289 *e*P P 07 20 17.1 +0.5
CMAR **Chiang Mai Arr** 89.76 289 P P 07 20 17.6 +0.8
comp=Z,1.3nm,0.7s,baz=117,slow=2.4,SNR=8.1
234A **Clairette** 89.86 57 P P 07 20 17.8 +0.8
baz=250
CMMT **Chiang Mai** 89.86 290 P P 07 20 21.9 +4.6
SYO **Syowa Base** 90.32 192 *e*P P 07 20 17.9 -0.6
PLCA **Paso Flores** 91.06 133 LR LR 07 50 40.0

comp=Z,1μm,20.9s,baz=338,slow=29
LZH Lanzhou 91.32 307 eP P 07 20 25.3 +1.4
LZH pP pP 07 20 35.0 -0.1
LZH sP sP 07 20 38.5 -0.6
LZH PP PP 07 24 04.5 +2.6
LZH PMZ
comp=Z,20nm,1.5s
LZH PMZ
comp=Z,93nm,9.2s
LZH LN
comp=Z,290nm,17.5s
LZH LE
comp=Z,310nm,16.8s
LZH LZ
comp=Z,400nm,19.6s
SNAA Sanae 91.48 178 i P P 07 20 27.7 +3.8
YKA Yellowknife Ar 92.98 24 P P 07 20 31.0 +0.3
comp=Z,0.5nm,0.6s,baz=231,slow=3.9,SNR=3.3
W37B Quinton 93.02 54 P P 07 20 30.3 -1.3
baz=252
A26A Wade Farm, Ken 93.17 40 P P 07 20 31.6 -0.4
baz=248
ULN Ulaanbaatar 93.27 319 ||| eP P 07 20 31.3 -1.4
ULN pmax pmax
comp=Z,3.0nm,1.1s
X38A Whitesboro 93.34 55 P P 07 20 33.1 0.0
baz=252
P34A Walnut Farm, R 93.39 50 P P 07 20 33.5 +0.3
baz=251
S36A Lake Cedric, C 93.72 52 P P 07 20 35.5 +0.8
baz=252
T37A Cheneyville 18 94.04 53 P P 07 20 35.3 -0.9
baz=252
V38A Canehill 94.04 54 P P 07 20 35.9 -0.4
baz=252
A28A Rude Farm, Bot 94.27 40 P P 07 20 36.8 -0.3
baz=249
MDND Maddock 94.30 41 P P 07 20 36.2 -1.0
baz=250
R37A Teagarden Farm 94.47 51 P P 07 20 38.7 +0.5
baz=252
T38A Diamond 94.49 53 P P 07 20 39.1 +0.7
baz=252
V39A Pettigrew 94.62 54 P P 07 20 38.1 -0.9
baz=253
ECSD EROS Data Cent 94.90 46 P P 07 20 38.9 -1.1
baz=252
A29A Manning Farm, 94.91 40 P P 07 20 38.6 -1.3
baz=250
U39A Green Forest 94.91 54 P P 07 20 39.0 -1.3
baz=253
R38A Fenwick Farm, 95.13 52 P P 07 20 40.1 -1.1
baz=253
V40A Witts Springs 95.25 54 P P 07 20 42.2 +0.4
baz=253
GTA Gaotai 95.41 309 eP P 07 20 44.8 +2.1
GTA pP pP 07 20 52.0 -1.8
GTA sP sP 07 20 56.0 -1.8
GTA PMZ
comp=Z,4.0nm,1.3s
W41B Gary Mavity, V 95.52 55 P P 07 20 43.0 -0.1
baz=254
R39A Chumby, Stover 95.82 52 P P 07 20 42.7 -1.6
baz=253
P38A Dawn 95.83 50 P P 07 20 44.3 0.0
baz=253
T40A Mansfield 95.88 53 P P 07 20 43.5 -1.2
baz=254
M37A Trindle Farm, 95.97 49 P P 07 20 44.6 -0.4
baz=253
S40A Lebanon 96.02 53 P P 07 20 45.0 -0.2
baz=254
MKAR Makanchi Array 109.39 314 PKiKP PKiKP 07 25 46.6 -1.5
comp=Z,0.4nm,0.8s,baz=167,slow=1.4,SNR=3.7
KURK Kurchatov 111.97 318 PKiKP PKiKP 07 25 51.5 -1.3
KURBB Kurchatov Arra 112.03 318 PKiKP PKiKP 07 25 51.5 -1.4
comp=Z,0.6nm,0.8s,baz=85,slow=2.0,SNR=6.6
KSH Kashi 113.55 306 ePKP PKiKP 07 25 57.0 +0.6
KSH sPKP 07 26 11.5
KSH PP PP 07 26 54.8 +6.2
KSH SKS SKSdf 07 33 04.8 -1.3
KSH SKKS SKKSac 07 33 43.5 -4.4
KSH SS SS 07 42 36.8 +3.0
KSH PPMZ
comp=Z,190nm,5.9s
KSH LN
comp=Z,210nm,8.1s
KSH LE
comp=Z,280nm,11.4s
KSH LZ
comp=Z,1μm,13.3s
BVAR Borovoye Array 116.92 321 PKiKP PKPdf 07 26 01.1 -1.1
comp=Z,0.6nm,0.5s,baz=144,slow=5.4,SNR=3.9
ARCES ARCESS Array B 125.63 350 PKP PKPdf 07 26 17.6 -0.9
comp=Z,2.4nm,0.8s,baz=32,slow=4.8,SNR=4.7
GEYT Alibeck 127.55 305 PKP PKPdf 07 26 23.1 -0.1
comp=Z,1.4nm,0.3s,baz=162,slow=1.4,SNR=3.3
KLMR Klimovskoe 128.99 338 ePKiKP PKPdf 07 26 27.6 +2.5
KLMR pmax pmax
comp=Z,10.0nm,1.4s
FINES FINESS Array B 132.63 345 PKP PKPdf 07 26 30.6 -1.4
comp=Z,0.8nm,0.7s,baz=309,slow=4.4,SNR=2.6
OBN Obninsk 134.04 334 ↑↑ iPKiKP PKPdf 07 26 44.5 +10
OBN pmax pmax
comp=Z,7.0nm,1.2s
NACGM Naroch 137.93 340 eLR LR 07 23 12.0
NACGM LRM MLR 07 32 57.0
comp=Z,9.2nm,23.0s
AKASG Malin Array Be 140.31 334 PKP PKPdf 07 26 46.9 +0.3
comp=Z,0.2nm,0.2s,baz=38,slow=2.4,SNR=2.8
BUR08 Bucovina Ar. S 144.35 334 ePKPdf PKPdf 07 26 55.1 +1.1
BURAR Bucovina Array 144.36 334 ||| iP PKPdf 07 26 55.3 +1.2
BURAR Bucovina Array 144.36 334 ||| PKiKP PKPdf 07 26 55.3 +1.2
KOLS Kolonicke sedl 144.45 338 ePKiKP PKPbc 07 26 53.1 +0.5
KOLS Kolonicke sedl 144.45 338 ePKP PKPbc 07 26 53.0 +0.4
UZH Uzhgorod 144.69 338 ||| iPKiKP PKPdf 07 26 55.1 +0.7
UZH i 07 27 03.1
CRVS Cervenica-Dubn 144.76 339 ePKiKP PKPab 07 26 53.6 +0.1
CRVS e 07 27 03.7
CRVS Cervenica-Dubn 144.76 339 ePKP PKPab 07 26 53.6 +0.1
CRVS e 07 27 03.7
CLL Collm 144.82 349 ePKPdf PKPdf 07 26 56.0 +1.4
CLL i 07 27 10.2
comp=Z,8.0nm,1.3s
CLL LmH 08 28 00.0
comp=N,400nm,20.0s
CLL LmH 08 28 00.0
comp=E,500nm,19.9s
CLL LmV 08 30 00.0
comp=Z,500nm,19.7s
CLL Collm 144.82 349 ePKiKP PKPdf 07 26 56.0 +1.4
CLL i 07 27 10.2
CLL MLR MLR
comp=Z,500nm,19.7s
CFR Carcaliu 144.83 328 ||| iP PKPdf 07 26 57.1 +2.3
CFR Carcaliu 144.83 328 ||| PKiKP PKPdf 07 26 57.1 +2.3
BR131 Keskin Array S 145.00 317 ePKPdf PKPbc 07 26 54.5 -0.3
BRTR Keskin Array B 145.00 317 PKPbc PKPbc 07 26 54.4 -0.3
comp=Z,18nm,0.9s,baz=93,slow=2.7,SNR=25
DPC Dobruska-Polom 145.01 345 ePKP PKPbc 07 26 54.2 -0.1
DPC epPKP pPKPdf 07 27 03.2 -3.3
DPC Dobruska-Polom 145.01 345 ePKiKP PKPbc 07 26 54.2 -0.1
DPC e 07 27 03.2
BRG Berggiesshubel 145.05 348 ePKP PKPdf 07 26 57.5 +2.5
comp=Z,6.5nm,1.1s
BRG Berggiesshubel 145.05 348 ePKiKP PKPdf 07 26 57.5 +2.5
BRG pmax pmax
comp=Z,7.0nm,1.2s
LANS Liptovska Anna 145.21 341 ePKiKP PKPdf 07 27 05.3 +10
LANS Liptovska Anna 145.21 341 e PKPab 07 27 05.3 +10
MORC Moravsky Berou 145.21 343 ||| iP PKPab 07 26 55.6 +0.5
MORC Moravsky Berou 145.21 343 ||| PKiKP PKPab 07 26 55.6 +0.5
MORC Moravsky Berou 145.21 343 ePKPdf PKPbc 07 26 54.8 -0.2
PVCC Panska Ves 145.25 347 ePKP PKPab 07 26 58.8 +3.6
PVCC epPKP pPKPdf 07 27 06.1 -0.7
PVCC esPKP 07 27 09.5
PVCC Panska Ves 145.25 347 ePKiKP PKPab 07 26 58.8 +3.6
PVCC e 07 27 06.1
PVCC e 07 27 09.5
HARR Harsova 145.28 328 ||| iP PKPbc 07 26 54.7 -0.6
HARR Harsova 145.28 328 ||| PKiKP PKPbc 07 26 54.7 -0.6
KECS Kecovo 145.45 339 ePKiKP PKPdf 07 26 55.2 -0.6
KECS e 07 27 02.1
KECS Kecovo 145.45 339 ePKP PKPdf 07 26 55.2 -0.6
KECS e 07 27 02.1
BR231 Keskin MP Arra 145.50 317 ePKPbc PKPdf 07 26 55.1 -1.2
DOPR Dopca 145.56 332 ||| iP PKPbc 07 26 56.2 0.0
ISR Istrita 145.66 330 ||| iP PKPab 07 26 59.0 +2.1
ISR Istrita 145.66 330 ||| PKiKP PKPab 07 26 59.0 +2.1
MLR Muntele Rosu 145.67 331 PKPbc PKPbc 07 26 56.8 0.0
comp=Z,3.7nm,0.8s,baz=52,slow=1.0,SNR=7.6
MLR Muntele Rosu 145.67 331 ||| iP PKPbc 07 26 56.7 0.0
MLR Muntele Rosu 145.67 331 ePKPbc PKPbc 07 26 56.9 +0.2
ASF Jabal al Asfar 145.76 303 PKPbc PKPbc 07 26 57.4 0.0
comp=Z,1.7nm,0.5s,baz=84,slow=9.2,SNR=2.9
PRU Pruhonice 145.76 347 ePKP PKPab 07 26 58.9 +1.8
PRU epPKP pPKPdf 07 27 04.3 -3.4
PRU Pruhonice 145.76 347 ePKIKP PKPab 07 26 58.9 +1.8
PRU e 07 27 04.3
GOPC GO Pecny, Ondr 145.78 346 ePKP PKPbc 07 26 56.7 -0.1
GOPC epPKP pPKPdf 07 27 05.0 -2.8
GOPC GO Pecny, Ondr 145.78 346 ePKIKP PKPbc 07 26 56.7 -0.1
GOPC e 07 27 05.0
VRAC Vranov 145.90 344 PKPbc PKPbc 07 26 57.4 +0.3
comp=Z,7.6nm,0.8s,baz=44,slow=1.7,SNR=11
VRAC Vranov 145.90 344 ||| iP PKPab 07 27 00.5 +2.9
VYHS Vyhne 145.98 341 ePKP2 PKPdf 07 26 56.5 -0.2
VYHS Vyhne 145.98 341 ePKP PKPdf 07 26 56.5 -0.2
VYHS e 07 27 07.2
DRGR 146.05 335 ↑↑ iP PKPdf 07 26 56.7 -0.2
DRGR 146.05 335 ↑↑ PKP2 PKPdf 07 26 56.7 -0.2
VOIR 146.12 332 ||| iP PKPbc 07 26 57.8 -0.3
VOIR 146.12 332 ||| PKP2 PKPbc 07 26 57.8 -0.3
PSZ Piszkesteto 146.14 339 ePKP2 PKPbc 07 26 57.8 -0.3
PSZ Piszkesteto 146.14 339 ePKPdf PKPbc 07 26 57.8 -0.3
MMAI Mount Meron Ar 146.67 305 PKPbc PKPbc 07 26 60.0 -0.1
comp=Z,11nm,0.8s,baz=69,slow=4.6,SNR=7.1
GRFO Grafenberg 146.69 350 ePKP2 PKPbc 07 26 59.6 +0.1
GRFO Grafenberg 146.69 350 ePKPdf PKPbc 07 26 59.6 +0.1
KHC Kasperske Hory 146.78 347 ePKP PKPbc 07 26 59.4 -0.4
KHC ex x 07 27 05.1
KHC Kasperske Hory 146.78 347 ePKP2 PKPdf 07 26 58.6 +0.5
KHC Kasperske Hory 146.78 347 ePKPdf PKPdf 07 26 58.5 +0.5
SIRR Siria 146.90 336 ||| iP PKPbc 07 27 00.8 +0.6
GEC2 GERESS Array S 147.03 347 ePKP2 PKPbc 07 26 59.6 -1.0
GEC2 GERESS Array S 147.03 347 ePKPdf PKPbc 07 26 59.5 -1.0
GERES GERESS Array B 147.03 347 PKPbc PKPbc 07 26 59.7 -0.9
comp=Z,0.7nm,0.6s,baz=71,slow=3.5,SNR=7.2
GEA0 GERESS Array S 147.03 347 ePKPdf PKPdf 07 26 59.4 +0.8
CONA Conrad Observa 147.36 344 ePKPab PKPbc 07 27 01.1 -0.5
comp=Z,17nm,1.5s
BZS Buzias 147.45 335 ||| iP PKPbc 07 27 01.6 -0.1
BZS Buzias 147.45 335 ||| PKP2 PKPbc 07 27 01.6 -0.1
CSS Mathiatis 147.49 309 ePKPdf PKPbc 07 27 01.1 -1.2
STU Stuttgart 147.88 352 ePKP2 PKPbc 07 27 02.6 -0.2
STU Stuttgart 147.88 352 ePKPbc PKPbc 07 27 02.6 -0.2
EIL Elat 148.09 299 PKPbc PKPbc 07 27 03.2 -0.8
comp=Z,14nm,1.0s,baz=12,slow=6.9,SNR=6.3
BFO Black Forest 148.42 353 ePKP2 PKPbc 07 27 04.2 -0.1
BFO Black Forest 148.42 353 ePKPbc PKPbc 07 27 04.2 -0.1
SOKA Soboth 148.73 344 ePKiKP PKPbc 07 27 05.6 +0.4
comp=Z,13nm,1.2s
RETA Reutte 148.90 350 iPKPab PKPbc 07 27 07.6 +2.0
comp=Z,14nm,1.5s
MYKA Terra Mystica 149.12 346 ePKiKP PKiKP 07 27 07.2 -0.2
comp=Z,21nm,1.5s
ABTA Abfaltersbach 149.27 347 ePKiKP PKiKP 07 27 07.8 0.0
comp=Z,16nm,1.1s
PDKS Podkum 149.31 343 iPKPdf PKPab 07 27 10.0 -1.2
FETA Feichten 149.36 349 ePKPab PKPbc 07 27 08.9 +2.0
comp=Z,26nm,1.3s
VISS Visnje 149.59 343 iPKPdf PKPbc 07 27 09.3 +2.0
JAVS Javornik 149.71 344 iPKPdf PKPbc 07 27 09.2 +1.5
DAVOX Davos/Dischmat 149.73 350 PKPbc PKPdf 07 27 05.2 +2.0
comp=Z,5.8nm,0.8s,baz=34,slow=3.6,SNR=4.7
BOJS Bojanci 149.75 343 iPKPdf PKPbc 07 27 10.1 +2.4
FUORN Ofenpass-Fuorn 149.82 350 ePKPbc PKPbc 07 27 08.0 -0.2
TRI Trieste 149.96 345 ePKP2 PKPbc 07 27 10.5 +2.3
TRI Trieste 149.96 345 ePKPbc PKPbc 07 27 10.5 +2.3
PDG Podgorica 151.04 334 ||| iP PKPbc 07 27 10.8 -0.1
SSB Saint Sauveur 151.76 358 ePKIKP PKPbc 07 27 11.4 -1.1
SSB Saint Sauveur 151.76 358 ePKPbc PKPbc 07 27 11.4 -1.1
KEST Kesra 160.47 344 PKPab PKPab 07 28 00.1 +1.2
comp=Z,1.6nm,0.4s,baz=64,slow=5.2,SNR=3.2
TOA0 Torodi Ar. Sit 176.01 163 ePKPdf PKPdf 07 27 29.6 +0.8
TOA0 ePKPab PKPab 07 29 09.9 +2.1
TORD Torodi Ar. Bea 176.01 163 PKP PKPdf 07 27 29.6 +0.7
comp=Z,3.3nm,1.0s,baz=125,slow=0.8,SNR=8.0
TORD PKPab PKPab 07 29 07.6 -0.3
comp=Z,0.9nm,1.1s,baz=184,slow=3.2,SNR=2.9

*CSEM **28** 07:08:31.6, 46°.39N×15°.07E, h0km, Suspected Mining induced.*
LJU 28 07:08:31.6, 46°.39N×15°.07E, h0km, ML0.0 Rockburst, Northwestern Balkan Peninsula

*IDC **28** 07:22:47.2±3.1, 39°.08N×142°.75E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/58, mbtmp3.3/3, ML3.2/1, MS4.3/2, Ms1 4.3/2, ms1mx3.4/45, Error ellipse: s-maj=71.3km s-min=40.6km az=66.0*
*JMA **28** 07:22:56.5±0.1, 38°.86N×142°.03E, h46km±1km, M3.5*
JMA Felt I J1.
ISC 28 07:22:53.9±2.1, 38°.88N±0°.05×142°.2E±0°.1, h30km±12km, n20, σ1§18/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	0.47	296	P	Pn	07 23 06.0	+1.5
JMK	Ichinoseki	0.78	276	P	Pb	07 23 09.4	+0.5
JMK				S	Sb	07 23 18.3	-0.8
JIO	Ouri	0.80	238	P	Pb	07 23 09.6	+0.4
JIO				S	Sb	07 23 18.4	-1.2
JOM	Ohasama	0.93	310	P	Pb	07 23 12.0	+0.5
JOM				S	Sn	07 23 23.2	0.0
JOU	Okura	1.31	248	P	Pn	07 23 16.2	0.0
JOU				S	Sn	07 23 31.6	-1.1
JRG	Rokugo	1.33	293	P	Pn	07 23 17.2	+0.8
JYK	Kaneyama	1.45	272	P	Pn	07 23 18.5	+0.6
JMM	Marumori	1.50	228	P	Pn	07 23 19.1	+0.4
JMM				S	Sn	07 23 35.6	-1.7
JANG	Nango	1.59	340	P	Pb	07 23 21.7	-0.9
JANG				S	Sb	07 23 41.9	-0.4
MJAR	Matsushiro Arr	3.94	235	Pn	Pn	07 23 55.1	+2.9
	1.2nm,0.3s,baz=39,slow=13,SNR=10						
H11N2	WAKE ISLAND Hy	28.61	125	T	T	07 59 14.0	
	baz=317,slow=76,SNR=33						
H11N1	WAKE ISLAND Hy	28.62	125	T	T	07 59 14.3	
	baz=317,slow=76,SNR=35						
H11N3	WAKE ISLAND Hy	28.63	125	T	T	07 59 14.9	
	baz=317,slow=76,SNR=36						
H11S1	WAKE ISLAND Hy	29.39	127	T	T	08 00 12.6	
	baz=319,slow=76,SNR=34						
H11S3	WAKE ISLAND Hy	29.39	127	T	T	08 00 13.8	
	baz=319,slow=76,SNR=35						
H11S2	WAKE ISLAND Hy	29.41	127	T	T	08 00 13.9	
	baz=319,slow=76,SNR=29						
MKAR	Makanchi Array	43.70	301	P	P	07 30 55.7	-0.2
	0.3nm,0.6s,baz=81,slow=9.1,SNR=4.0						
DLBC	Dease Lake	56.79	39	LR	LR	07 56 55.2	
	comp=Z,305nm,20.1s,baz=324,slow=36						
WRA	Warramunga Arr	58.97	189	P	P	07 32 50.4	-0.1
	0.3nm,0.5s,baz=7.8,slow=7.7,SNR=5.2						
BBB	Bella Bella	60.31	45	LR	LR	08 01 34.6	
	comp=Z,159nm,18.0s,baz=252,slow=39						

IDC 28 07:23:23.2±1.6, 16°.33S×177°.61W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.0/31, mbtmp4.1/6, MS4.3/1, Ms1 4.3/1, ms1mx3.3/39, Error ellipse: s-maj=80.0km s-min=23.3km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPT	Papeete	26.83	97	LR	LR	07 36 53.0	
	comp=Z,552nm,19.1s,baz=298,slow=30						
STKA	Stephens Creek	40.07	240	P	P	07 31 00.1	-0.4
	3.6nm,0.8s,baz=72,slow=12,SNR=5.1						
WRA	Warramunga Arr	45.69	258	P	P	07 31 46.3	0.0
	0.9nm,0.8s,baz=93,slow=6.2,SNR=5.9						
ASAR	Alice Springs	45.97	253	P	P	07 31 48.4	0.0
	4.3nm,0.8s,baz=85,slow=8.3,SNR=32						
SEY	Seymchan	82.43	347	P	P	07 35 47.4	+0.5
	1.6nm,0.8s,baz=182,slow=6.8,SNR=4.1						
ILAR	Eielson Array	84.19	13	P	P	07 35 55.4	-0.6
	1.8nm,1.1s,baz=225,slow=4.3,SNR=14						
TXAR Lajitas Array 84.51 57 P P 07 35 58.9 +0.3
1.6nm,1.1s,baz=212,slow=4.4,SNR=8.9
BRTR Keskin Array B 144.19 317 PKP PKPdf 07 43 00.7 -0.8
2.5nm,0.8s,baz=70,slow=4.7,SNR=7.0

LJU 28 07:25:58.8, 46°.39N×15°.07E, h0km, ML0.0 Rockburst, Northwestern Balkan Peninsula

*IDC **28** 07:27:10.4±1.3, 52°.03N×171°.82W, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/49, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=41.8km s-min=25.9km az=156.0*
*ISCJB **28** 07:27:15.8±0.9, 51°.9N±0°.2×171°.53W±0°.08, h44km, mb3.6/5, Error ellipse: s-maj=22.5km s-min=4.5km az=164.3*
*NEIC **28** 07:27:16.4, 51°.99N×171°.52W, h42km, ML3.5(AEIC), After AEIC.*
ISC 28 07:27:17.1±1.1, 52°.0N±0°.2×171°.59W±0°.06, h44km, n19, σ1§33/22, mb3.7/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOSE	Korovin Southe	1.56	284	P	Pn	07 27 43.3	+1.0
KOKL	Mount Kliuchef	1.64	282	P	Pn	07 27 44.4	+0.9
NIKH	Nikolski High	1.94	59	P	Pn	07 27 47.4	-0.1
NIKH				S	Sn	07 28 10.2	-0.3
OKWR	Okmok West Rim	2.51	54	P	Pn	07 27 55.1	-0.3
OKTU	Okmok Mt. Tuli	2.57	56	P	Pn	07 27 55.9	-0.2
GSTD	Great Sitkin T	2.82	273	P	Pn	07 28 00.5	+0.9
GSTD				S	Sn	07 28 33.2	+0.9
GSCK	Great Sitkin C	2.83	272	P	Pn	07 28 00.5	+0.8
ETKA	Kagalaska Isla	2.99	269	P	Pn	07 28 02.6	+0.7
ADAG	Mount Adagdak	3.10	272	P	Pn	07 28 04.3	+0.9
MTBL	Makushin Table	3.56	54	P	Pn	07 28 10.2	+0.4
UNV	Unalaska Valle	3.59	57	ePn	Pn	07 28 10.7	+0.6
UNV				eSn	Sn	07 28 54.0	+2.7
AKUT	Akutan	4.11	56	ePn	Pn	07 28 20.7	+3.5
ILAR	Eielson Array	18.04	35	P	Pn	07 31 22.8	-1.3
	0.1nm,0.3s,baz=229,slow=11,SNR=4.9						
DLBC	Dease Lake	24.25	58	P	P	07 32 31.3	+1.7
	2.1nm,0.6s,baz=282,slow=9.3,SNR=5.8						
INK	Inuvik	24.41	34	P	P	07 32 29.5	-1.4
	1.0nm,0.4s,baz=257,slow=7.1,SNR=3.0						
TXAR	Lajitas Array	54.12	87	P	P	07 36 37.6	0.0
	0.3nm,0.8s,baz=298,slow=7.8,SNR=2.3						
MKAR	Makanchi Array	63.06	312	P	P	07 37 38.4	-1.1
	0.2nm,0.3s,baz=52,slow=6.7,SNR=5.0						
BVAR	Borovoye Array	65.20	323	ScP	ScS	07 47 28.5	-0.7
	0.9nm,0.6s,baz=75,slow=1.7,SNR=3.9						
ASAR	Alice Springs	89.12	228	P	P	07 40 07.0	-0.5
	0.2nm,0.4s,baz=30,slow=6.1,SNR=3.2						

*IDC **28** 07:28:57.6±2.8, 36°.37N×141°.29E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/43, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=55.6km s-min=28.4km az=67.0*
*ISCJB **28** 07:29:01.9±0.8, 36°.35N±0°.03×141°.03E±0°.06, h30km±5km, mb3.4/2, Error ellipse: s-maj=8.6km s-min=5.0km az=0.9*
*JMA **28** 07:29:02.4±0.1, 36°.32N×141°.00E, h43km±1km, M3.5*
JMA Felt I J1.
ISC 28 07:29:01.8±1.4, 36°.37N±0°.04×141°.05E±0°.06, h23km±12km, n15, σ1§00/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	Hitachi	0.45	302	P	Pn	07 29 12.3	-0.6
JHO				S	Sb	07 29 18.9	+1.4
CHOJ	Chosi	0.68	193	P	Pn	07 29 14.7	-1.3
CHOJ				S	Sb	07 29 23.1	-0.9
JYT	Yasato	0.70	259	P	Pb	07 29 15.3	-0.1
JYT				S	Sb	07 29 24.0	-0.6
ONAJ	Iwakimizuishiy	0.76	345	P	Pn	07 29 16.8	-0.3
ONAJ				S	Sb	07 29 26.7	+0.4
JFK	Kawauchi	1.00	352	P	Pb	07 29 20.1	-0.4
JFK				S	Sb	07 29 32.6	-0.7
JFT	Otama	1.28	334	P	Pb	07 29 25.4	+0.2
JFT				S	Sb	07 29 41.4	+0.2
JAG	Ashikaga	1.29	273	P	Pn	07 29 23.8	-0.5
JAG				S	Sn	07 29 39.1	-1.7
MJAR	Matsushiro Arr	2.29	275	Pn	Pn	07 29 38.1	-0.1
	5.5nm,0.3s,baz=106,slow=8.7,SNR=20						
MJAR				Sn	Sn	07 30 05.5	-0.2
	5.0nm,0.3s,baz=86,slow=12,SNR=4.1						
MAT	Matsushiro	2.30	275	P	Pn	07 29 38.7	+0.5
MAT				S	Sn	07 30 05.7	-0.1
JHJ	Hachijo jima 2	3.41	198	Pn	Pn	07 29 54.5	+1.1
	5.7nm,0.3s,baz=55,slow=19,SNR=2.6						
JHJ				Sn	Sn	07 30 35.3	+2.2
	8.8nm,0.3s,baz=82,slow=17,SNR=2.0						
H11S1	WAKE ISLAND Hy	28.76	121	T	T	08 05 08.8	
	baz=314,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	28.76	121	T	T	08 05 07.8	
	baz=314,slow=76,SNR=9.5						
H11S2	WAKE ISLAND Hy	28.77	121	T	T	08 05 09.6	
	baz=314,slow=76,SNR=13						
MKAR	Makanchi Array	44.23	303	P	P	07 37 10.4	+1.3
	0.4nm,0.7s,baz=98,slow=8.0,SNR=3.5						
WRA	Warramunga Arr	56.36	188	P	P	07 38 40.2	-0.9
	0.6nm,1.1s,baz=5.8,slow=7.2,SNR=4.5						

*GCMT **28** 07:32:24.8±0.2, 51°.98N×171°.96W, h17km, MW5.4/101, Moment Tensor Solution. s48,c65; s101,c150; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.21±.02; $M_{\theta\theta}$-0.16±.01; $M_{\phi\phi}$-0.05±.02; $M_{r\theta}$1.64±.12; $M_{\theta\phi}$-0.15±.01; $M_{r\phi}$0.28±.05; Best double couple: $M_0$1.68200×10^{17} NP1:ϕ_s80.00000°, δ86.00000°, λ94.00000°. NP2:ϕ_s209.00000°, δ6.00000°, λ40.00000°. Principal axes: T 1.6850, Plg48.0000°, Azm355.0000°; N -0.0080, Plg4.0000°, Azm260.0000°; P -1.6780, Plg41.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 07:32:24.8, 51°.72N×171°.64W, h26km, mb5.2/299, ML5.1(AEIC), After AEIC.*
*BJI **28** 07:32:24.5, 52°.40N×171°.92W, h33km, mb5.1/63, mB5.3/35, Ms5.4/38, Ms7 5.1/35*
*MOS **28** 07:32:24.4±1.0, 52°.09N×171°.86W, h33km, mb5.4/71, Error ellipse: s-maj=6.3km s-min=4.7km az=86.1*
*IDC **28** 07:32:26.6±1.4, 52°.12N×171°.74W, h37km±10km, mb4.7/35, mb1 4.8/37, mb1mx4.8/45, mbtmp4.9/37, ML4.5/2, MS4.5/6, Ms1 4.5/6, ms1mx3.9/34, Error ellipse: s-maj=14.5km s-min=8.9km az=175.0*
*ISCJB **28** 07:32:27.8±0.3, 52°.10N±0°.03×171°.75W±0°.02, h67km±2km, mb5.1/346, Error ellipse: s-maj=4.2km s-min=1.8km az=178.4*
ISC 28 07:32:27.5±0.6, 51°.97N±0°.05×171°.71W±0°.03, h47km±4km, n1207, σ1§10/1253, mb5.2/346, MS4.6/7, 24C-28D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	Korovin Flat P	1.50	283	P	Pn	07 32 51.6	-0.3
KONE	Korovin Northe	1.54	287	P	Pn	07 32 52.7	+0.3
KOKL	Mount Kliuchef	1.57	284	P	Pn	07 32 52.7	-0.3
NIKH	Nikolski High	2.01	59	P	Pn	07 32 57.9	-1.0
NIKH				S	Sn	07 33 24.3	+1.4
OKTU	Okmok Mt. Tuli	2.64	56	P	Pn	07 33 08.0	+0.4
OKER	Okmok East Rim	2.67	55	P	Pn	07 33 09.0	+0.9
GSTR	Great Sitkin T	2.69	274	ePn	Pn	07 33 08.9	+0.7
GSTD	Great Sitkin T	2.74	273	P	Pn	07 33 08.9	-0.1
GSTD				S	Sn	07 33 43.3	+2.4
GSCK	Great Sitkin C	2.75	273	P	Pn	07 33 08.9	-0.1
ETKA	Kagalaska Isla	2.91	270	P	Pn	07 33 11.3	+0.1
ADAG	Mount Adagdak	3.03	272	P	Pn	07 33 13.8	+1.0
KIRH	Kanaga Island	3.33	271	P	Pn	07 33 17.9	+0.9
KIKV	Kanaga Island	3.38	271	P	Pn	07 33 18.9	+1.2
MCIR	Makushin Cirqu	3.52	54	P	Pn	07 33 20.6	+0.9
MSW	Makushin Switc	3.56	55	P	Pn	07 33 20.4	+0.3
MSW				S	Sn	07 34 03.7	+2.9
MTBL	Makushin Table	3.64	55	P	Pn	07 33 21.9	+0.6
UNV	Unalaska Valle	3.67	57	P	Pn	07 33 22.2	+0.7
UNV				S	Sn	07 34 06.7	+3.2
TAPA	Tanaga Point A	3.79	270	P	Pn	07 33 23.9	+0.7
TAFL	Tanaga Flats	3.84	269	P	Pn	07 33 24.4	+0.4
TAFP	Tanaga Falls P	3.88	271	P	Pn	07 33 24.9	+0.3
AKRB	Akutan Reef Bi	4.03	55	P	Pn	07 33 27.8	+1.3
AKGG	Akutan Green G	4.10	55	P	Pn	07 33 29.0	+1.5

AKUT Akutan 4.18 57 P Pn 07 33 30.3 +1.6
AKUT S Sn 07 34 18.3 +2.1
AKSA Akutan Strait 4.22 57 P Pn 07 33 30.5 +1.3
GAEA Gareloi East 4.37 270 P Pn 07 33 31.5 +0.4
GANE Gareloi Northe 4.38 271 P Pn 07 33 32.5 +1.1
WESP Westdahl Peak 4.90 56 P Pn 07 33 39.7 +1.2
SPIA Saint Paul Isl 5.28 9 P Pn 07 33 45.7 +2.0
SSLW Shishaldin Wes 5.34 55 P Pn 07 33 46.0 +1.4
DT1 Dutton Round H 6.44 57 P Pn 07 34 00.4 +0.9
DOL Dolgoi Island 6.67 58 P Pn 07 34 05.2 +2.5
SDPT Sand Point 7.48 59 P Pn 07 34 15.1 +1.3
VNWF Veniaminof 8 8.28 55 P Pn 07 34 26.5 +1.7
VNNF Veniaminof 3 8.46 54 P Pn 07 34 29.3 +2.0
SMY Shemya 8.72 281 *e*P Pn 07 34 31.0 +0.1
SMY Shemya 8.72 281 *e*Pn Pn 07 34 31.0 +0.1
CHGN Chignik 8.92 56 *e*Pn Pn 07 34 33.0 -0.6
ANNW Aniakchak Nort 9.31 52 P Pn 07 34 41.5 +2.6
GAMB Gambell 11.84 0 *e*Pn Pn 07 35 15.7 +2.4
OHAK Old Harbor 11.89 57 *e*Pn Pn 07 35 12.7 -1.4
KDAK Kodiak Island 12.43 55 *i* P Pn 07 35 13.8 -7.7
SVW2 Sparrevohn 12.72 38 *e*Pn Pn 07 35 27.7 +2.3
RSO Redoubt South 13.50 44 *e*Pn Pn 07 35 39.4 +3.2
HOM Homer 13.61 48 *e*Pn Pn 07 35 39.6 +2.0
CNPM China Poot 13.74 49 *e*Pn Pn 07 35 38.8 -0.6
TT01 Tatalina 13.79 31 *e*Pn Pn 07 35 41.3 +1.4
TTA Tatalina 13.80 31 *e*P Pn 07 35 42.0 +1.8
TTA Tatalina 13.80 31 *e*Pn Pn 07 35 42.0 +1.8
BRLK Bradley Lake 14.00 48 *e*Pn Pn 07 35 43.8 +0.9
SPU Mount Spurr 14.17 42 *e*Pn Pn 07 35 47.5 +2.3
SEW Seward 14.80 48 *e*Pn Pn 07 35 51.8 -1.7
SUA Susitna One 14.86 42 *e*Pn Pn 07 35 55.7 +1.4
PPLA Pureypile 15.10 36 *e*Pn P 07 36 02.8 +0.9
70nm,0.7s
RC01 Rabbit Creek A 15.10 44 *e*Pn Pn 07 35 57.5 +0.1
105nm,1.0s
PMR Palmer 15.59 43 *e*P Pn 07 36 05.1 +1.3
PMR pmax pmax
comp=Z,60nm,1.0s
PMR Palmer 15.59 43 *e*Pn Pn 07 36 05.1 +1.3
comp=Z,60nm,1.0s
KTH Kantishna Hill 15.95 35 *e*Pn Pn 07 36 08.9 +0.5
comp=Z,120nm,1.1s
SML Sawmill 16.03 43 *e*P Pn 07 36 09.6 +0.2
SML pmax pmax
comp=Z,70nm,0.9s
SML Sawmill 16.03 43 *e*Pn Pn 07 36 09.6 +0.2
comp=Z,70nm,0.9s
MID Middleton Isla 16.05 52 *e*P Pn 07 36 10.7 +1.1
MID pmax pmax
comp=Z,350nm,0.8s
MID Middleton Isla 16.05 52 *e*Pn Pn 07 36 10.7 +1.1
comp=Z,347nm,0.8s
TRF Thorofare Moun 16.12 36 *e*Pn P 07 36 12.2 -1.1
comp=Z,73nm,0.9s
BPAW Bear Paw Mtn. 16.26 34 *e*Pn P 07 36 13.6 -1.1
comp=Z,82nm,0.9s
SCM Sheep Creek Mo 16.47 44 *e*P Pn 07 36 14.8 -0.2
SCM pmax pmax
comp=Z,150nm,0.7s
SCM Sheep Creek Mo 16.47 44 *e*Pn Pn 07 36 14.8 -0.2
comp=Z,154nm,0.7s
RND Reindeer 16.63 38 *e*P Pn 07 36 16.8 -0.2
RND pmax pmax
comp=Z,100nm,0.9s
RND Reindeer 16.63 38 *e*Pn Pn 07 36 16.8 -0.2
comp=Z,100nm,0.9s
EYAK Cordova Ski Ar 16.68 49 *e*Pn Pn 07 36 17.5 -0.1
comp=Z,39nm,0.9s
MCK McKinley 16.78 37 *e*P Pn 07 36 18.4 -0.4
MCK McKinley 16.78 37 *e*Pn Pn 07 36 18.4 -0.4
comp=Z,79nm,1.1s
BWN Browne 16.84 35 *e*Pn P 07 36 21.7 +0.6
comp=Z,113nm,0.9s
DIV Divide 16.87 47 *e*Pn Pn 07 36 20.1 +0.1
comp=Z,35nm,0.6s
KLU Klutina 16.94 46 *e*Pn Pn 07 36 19.1 -1.8
comp=Z,71nm,0.9s
MLY Manley 16.94 31 *e*Pn P 07 36 21.6 -0.6
comp=Z,72nm,0.9s
DHY Denali Highway 17.03 40 *e*Pn Pn 07 36 22.4 +0.4
comp=Z,19nm,0.8s
BMRM Bremner River 17.35 48 *e*Pn Pn 07 36 26.0 0.0
comp=Z,79nm,0.8s
WRH Wood River Hil 17.50 35 *e*Pn Pn 07 36 26.9 -0.8
comp=Z,87nm,1.0s
CCB Clear Creek Bu 17.70 35 *e*Pn Pn 07 36 28.8 -1.4
comp=Z,46nm,0.8s
MDM Murphy Dome 17.73 34 *e*Pn Pn 07 36 29.4 -1.2
comp=Z,79nm,0.9s
PAX Paxson 17.75 42 *e*P P 07 36 32.1 +0.9
PAX pmax pmax
comp=Z,66nm,1.0s
PAX Paxson 17.75 42 *e*Pn P 07 36 32.1 +0.9
comp=Z,66nm,1.0s
COLA College 17.82 34 *e*P Pn 07 36 30.4 -1.1
COLA pmax pmax
comp=Z,58nm,0.9s
COLA College 17.82 34 *e*Pn Pn 07 36 30.4 -1.1
comp=Z,58nm,0.9s
HDA Harding Lake 17.88 36 *e*Pn Pn 07 36 32.1 -0.2
comp=Z,65nm,1.1s
CRQM Cirque 17.97 50 *e*Pn Pn 07 36 32.5 -1.1
comp=Z,120nm,0.7s
ILAR Eielson Array 18.10 35 P P 07 36 32.6 -2.4
comp=Z,1.5nm,0.3s,baz=241,slow=11,SNR=48
ILAR PcP PcP 07 41 05.7 -0.9
comp=Z,0.1nm,0.3s,baz=260,slow=3.7,SNR=4.4
ILAR ScP ScP 07 44 38.4 +0.7
comp=Z,0.1nm,0.3s,baz=247,slow=1.9,SNR=4.2
ILB Eielson Array 18.10 35 *e*Pn P 07 36 32.4 -2.6
IL1 Eielson Array 18.10 35 *e*Pn P 07 36 33.2 -1.8
BALM Baldy 18.42 49 *e*P Pn 07 36 39.0 -0.1
BALM pmax pmax
comp=Z,98nm,1.0s
BALM Baldy 18.42 49 *e*Pn Pn 07 36 39.0 -0.1
comp=Z,98nm,1.0s
MENT Mentasta 18.46 43 *e*P P 07 36 38.6 -0.3
PEA0 Petropavlovsk- 18.58 286 *e*P Pn 07 36 41.1 +0.1
PEA0B Petropavlovsk- 18.58 286 *e*P P 07 36 39.9 -0.4
comp=Z,90nm,1.4s
PETK Petropavlovsk- 18.58 286 P Pn 07 36 41.1 +0.1
comp=Z,2.0nm,0.3s,baz=88,slow=14,SNR=18
PETK ScP ScP 07 44 39.6 +0.7
comp=Z,0.1nm,0.3s,baz=93,slow=7.2,SNR=5.2
COLD Coldfoot 18.60 27 *e*P Pn 07 36 42.1 +1.0
comp=Z,43nm,0.9s
DOT Dot Lake 18.62 40 *e*P P 07 36 40.1 -0.6
comp=Z,81nm,0.8s
PCA Pinnacle 19.20 53 *e*P Pn 07 36 49.0 +0.6
comp=Z,247nm,0.7s
BILL Bilibino 19.31 335 *c i*P P 07 36 48.3 +0.1
BILL pmax pmax
comp=Z,130nm,1.0s
BILL MLR MLR
comp=Z,1μm,17.0s
BILL Bilibino 19.31 335 *e*P Pn 07 36 49.3 -0.3
comp=Z,99nm,0.8s
DHAK Deception Hill 20.08 56 *e*P Pn 07 36 58.6 -0.2
comp=Z,193nm,0.9s
EGAK Eagle 20.25 39 *e*P P 07 36 57.7 -0.7
EGAK *e*Pn Pn 07 36 58.3 -2.4
HYT Haines Junctio 20.67 51 *e*P P 07 37 03.9 +0.7
HYT *e*Pn Pn 07 37 04.3 -1.6
DAWY Dawson 20.68 42 *e*P P 07 37 02.5 -0.7
comp=Z,32nm,0.9s
SKAG Skagway 21.59 55 *e*P P 07 37 13.6 +0.8
comp=Z,175nm,0.8s
SEY Seymchan 21.89 314 P P 07 37 15.6 -0.5
comp=Z,14nm,0.6s,baz=102,slow=8.3,SNR=52
SEY PcP PcP 07 41 14.1 +0.6
comp=Z,4.3nm,0.6s,baz=126,slow=5.0,SNR=5.0
SEY ScP ScP 07 44 47.3 +0.7
comp=Z,4.9nm,0.8s,baz=166,slow=8.3,SNR=10
MA2 Magadan 22.18 305 P P 07 37 19.0 -0.2
comp=Z,17nm,1.0s,baz=118,slow=12,SNR=4.4
MA2 LR LR 07 45 44.3
comp=Z,2μm,20.3s,baz=128,slow=36
MA2 Magadan 22.18 305 P P 07 37 19.0 -0.2
CRAG Craig 22.89 66 *e*P P 07 37 27.9 +1.1
comp=Z,56nm,1.0s
WRAK Wrangell Islan 23.22 63 *e*P P 07 37 30.9 +0.9
comp=Z,42nm,0.8s
DIB Dawson Inlet, 23.67 71 *e*P P 07 37 35.9 +1.6
comp=Z,50nm,1.0s
H02S1 DAWSON INLET T 23.67 71 T T 08 02 23.1
SNR=8.3

DLBC Dease Lake 24.32 58 P P 07 37 42.4 +2.0
comp=Z,118nm,0.8s,baz=273,slow=9.1,SNR=174
DLBC Dease Lake 24.32 58 *e*P P 07 37 42.2 +1.8
comp=Z,113nm,0.8s
INK Inuvik 24.47 34 P P 07 37 40.6 -0.9
comp=Z,28nm,0.5s,baz=234,slow=8.3,SNR=89
INK PcP PcP 07 41 19.3 +0.5
comp=Z,9.0nm,0.8s,baz=218,slow=2.7,SNR=4.0
INK Inuvik 24.47 34 *e*P P 07 37 40.8 -0.9
comp=Z,42nm,0.6s
INK PcP PcP 07 41 19.3 +0.5
BBB Bella Bella 26.50 72 P P 07 38 01.4 +1.4
comp=Z,8.4nm,0.7s,baz=278,slow=8.2,SNR=12
BBB Bella Bella 26.50 72 *e*P P 07 38 01.8 +1.8
comp=Z,36nm,1.0s
KUR Kuril'sk 27.29 272 *e*P P 07 38 10.3 +3.1
YSS Yuzh-Sakhalins 29.63 279 *e*P P 07 38 28.7 +0.7
PGC Sidney 30.55 77 *e*P P 07 38 36.5 +0.4
comp=Z,14nm,1.1s
LLLB Lilloet 30.70 72 *e*P P 07 38 39.5 +2.0
comp=Z,19nm,0.8s
NLWA Neilton Lookou 30.84 79 *e*P P 07 38 41.5 +2.7
comp=Z,21nm,0.9s
A04D Lummi Island 30.97 76 P P 07 38 41.0 +1.2
baz=294
ASAJ Asahikawa 31.10 274 *e*P P 07 38 40.7 -0.4
comp=Z,46nm,0.9s
E03A Lebam 31.41 81 *e*P P 07 38 46.2 +2.5
comp=Z,43nm,1.0s
B05A Bryant 31.53 77 P P 07 38 46.1 +1.3
baz=295,SNR=13
YKW3 Yellowknife Ar 31.57 48 *e*P P 07 38 45.1 +0.1
comp=Z,24nm,1.1s
YKA Yellowknife Ar 31.58 48 P P 07 38 44.7 -0.4
comp=Z,5.1nm,0.3s,baz=275,slow=9.2,SNR=59
YKA PcP PcP 07 41 36.9 +0.6
comp=Z,5.2nm,0.8s,baz=286,slow=2.8,SNR=7.7
YKA ScP ScP 07 45 16.2 +0.9
comp=Z,1.3nm,0.8s,baz=294,slow=3.3,SNR=3.8
YKB5 Yellowknife Ar 31.58 48 *e*P P 07 38 44.0 -1.1
B06A Marblemount 31.79 76 *e*P P 07 38 48.8 +1.8
comp=Z,23nm,0.8s
ERM Erimo 31.88 270 *e*P P 07 38 48.6 +0.7
ERM pmax pmax
comp=Z,25nm,0.8s
ERM Erimo 31.88 270 *e*P P 07 38 48.6 +0.7
comp=Z,26nm,0.8s
F04D Rainier, OR 31.97 81 P P 07 38 50.2 +1.5
baz=298
D05A Enumclaw 32.07 78 *e*P P 07 38 51.0 +1.5
comp=Z,62nm,1.0s
G03D McMinnville, O 32.24 83 P P 07 38 52.2 +1.2
baz=299
FL2 Flat Top 2 32.32 80 P P 07 38 53.3 +1.4
TIXI Tiksi 32.34 329 P P 07 38 51.7 +0.1
comp=Z,2.7nm,0.6s,baz=99,slow=9.6,SNR=2.9
TIXI PcP PcP 07 41 38.1 -0.1
comp=Z,8.3nm,0.5s,baz=77,slow=3.8,SNR=11
TIXI ScP ScP 07 45 18.5 +0.8
comp=Z,9.5nm,0.8s,baz=111,slow=4.4,SNR=15
TIXI Tiksi 32.34 329 *ce*P P 07 38 50.7 -0.9
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 32.34 329 *e*P P 07 38 52.3 +0.7
comp=Z,5.3nm,0.9s
TIXI PcP PcP 07 41 38.1 -0.1
TIXI ScP ScP 07 45 18.5 +0.8
YAK Yakutsk 32.35 311 ScP ScP 07 45 18.8 +0.9
comp=Z,62nm,0.8s,baz=99,slow=0.6,SNR=8.4
YAK LR LR 07 51 44.8
comp=Z,1μm,21.3s,baz=126,slow=36
YAK Yakutsk 32.35 311 *e*P P 07 38 53.5 +1.7
YAK pmax pmax
comp=Z,45nm,0.6s
YAK Yakutsk 32.35 311 *e*P P 07 38 53.5 +1.7
comp=Z,46nm,0.6s
YAK ScP ScP 07 45 18.8 +0.9
LON Longmire 32.38 79 *e*P P 07 38 54.6 +2.2
LON pmax pmax
comp=Z,13nm,0.8s
LON Longmire 32.38 79 *e*P P 07 38 54.6 +2.2
comp=Z,13nm,0.8s
F04A Amboy 32.40 81 *e*P P 07 38 53.4 +0.9
comp=Z,27nm,0.8s
COR Corvallis 32.53 84 *e*P P 07 38 56.6 +3.0
COR pmax pmax
comp=Z,127nm,1.6s
COR Corvallis 32.53 84 *e*P P 07 38 56.6 +3.0
comp=Z,127nm,1.6s
LTY Liberty 32.84 78 *e*P P 07 38 57.9 +1.5
comp=Z,11nm,0.8s
I03D Drain, OR 32.96 85 P P 07 38 59.0 +1.6
baz=301
NAC Naches 32.99 79 P P 07 38 59.2 +1.5
WTV Waterville 33.07 76 P P 07 38 59.4 +1.1
B08A Colville Reser 33.14 75 *e*P P 07 39 00.2 +1.2
comp=Z,41nm,0.9s
G05D Wamic, OR 33.42 81 P P 07 39 02.5 +1.2
baz=300
I04A Tendick Farm, 33.49 84 P P 07 39 03.3 +1.3
baz=301,SNR=7.9
L02D Cave Junction, 33.64 88 P P 07 39 04.5 +1.2
baz=303
MDW Midway 33.69 78 P P 07 39 04.8 +1.1
MDW Midway 33.69 78 P P 07 39 04.8 +1.1
HUMO Hull Mountain 33.79 86 *e*P P 07 39 07.2 +2.5
comp=Z,9.4nm,0.9s
I05D Terrebonne, OR 33.86 83 P P 07 39 06.7 +1.4
baz=301,SNR=13
VTHM Trough 33.91 81 P P 07 39 07.2 +1.5
KTRM Thompson Ridge 33.92 88 P P 07 39 07.6 +1.7
HAWA Hanford 33.94 78 *e*P P 07 39 07.8 +2.0
comp=Z,39nm,1.0s
D08A Wollman Farm, 33.99 77 *e*P P 07 39 07.4 +1.1
comp=Z,22nm,0.7s
C09A Chrisman Ranch 34.03 75 *e*P P 07 39 07.8 +1.1
comp=Z,37nm,1.0s
HPAH Hawaii Prepara 34.25 153 *e*P P 07 39 08.9 0.0
comp=Z,137nm,0.8s
KHMM Horse Mountain 34.29 90 *e*P P 07 39 11.6 +2.4
comp=Z,16nm,0.8s
J05D Fort Rock, OR 34.48 84 P P 07 39 12.7 +1.9
baz=302,SNR=16
NEW Newport 34.50 74 P P 07 39 11.6 +0.8
comp=Z,53nm,0.8s,baz=294,slow=7.2,SNR=45
NEW Newport 34.50 74 P P 07 39 11.6 +0.8
baz=297,SNR=46
NEW Newport 34.50 74 *e*P P 07 39 11.7 +0.9
NEW pmax pmax
comp=Z,54nm,0.9s
NEW Newport 34.50 74 *e*P P 07 39 11.7 +0.9
comp=Z,54nm,0.8s
K04D Chiloquin, OR 34.52 86 P P 07 39 12.0 +0.9
baz=303
M02C Callahan 34.53 88 P P 07 39 13.2 +2.1
baz=304,SNR=6.2
EDM Edmonton 34.62 64 *e*P P 07 39 12.5 +0.8
EDM pmax pmax
comp=Z,120nm,1.1s
EDM Edmonton 34.62 64 *e*P P 07 39 12.5 +0.8
comp=Z,123nm,1.1s
KMRM Mail Ridge 34.68 90 *e*P P 07 39 14.8 +2.4
comp=Z,22nm,0.8s
E09A Wood Farm, Sta 34.72 77 *e*P P 07 39 13.7 +1.1
comp=Z,20nm,0.8s
G08A Pilot Rock 34.83 80 *e*P P 07 39 14.8 +1.1
comp=Z,11nm,0.8s
N02D Trinity Center 34.87 89 P P 07 39 15.9 +1.9
baz=305,SNR=6.5
M04C Macdoel 34.94 87 P P 07 39 16.1 +1.4
baz=304,SNR=13
K05A Summer Lake 35.00 85 *e*P P 07 39 17.6 +2.3
comp=Z,39nm,0.8s
WDC Whiskeytown Da 35.20 89 *e*P P 07 39 18.6 +1.8
WDC pmax pmax
comp=Z,13nm,0.8s
WDC Whiskeytown Da 35.20 89 *e*P P 07 39 18.6 +1.8
comp=Z,13nm,0.8s
LASM Arnica Sink 35.20 87 P P 07 39 19.5 +2.4
F10A Beach Ranch, E 35.54 78 *e*P P 07 39 20.8 +1.0
comp=Z,22nm,0.9s
HOPS Hopland Field 35.81 92 *e*P P 07 39 23.6 +1.5
comp=Z,26nm,1.2s
O03D Paynes Creek 35.82 89 P P 07 39 23.1 +0.8
baz=306,SNR=25
MOD Modoc Plateau 35.82 86 *e*P P 07 39 24.0 +1.6
comp=Z,19nm,0.8s

WALA Waterton Lakes 36.04 71 *e*P P 07 39 24.6 +0.5
comp=Z,24nm,0.9s
BMO Blue Mountains 36.06 79 *e*P P 07 39 25.4 +1.1
comp=Z,12nm,1.1s
BSMT Bassoo Peak 36.08 73 P P 07 39 25.0 +0.5
BLMT Blacktail Moun 36.26 73 *e*P P 07 39 26.8 +0.7
H11N2 WAKE ISLAND Hy 36.27 216 T T 08 17 54.6
baz=21,slow=76,SNR=650
H11N3 WAKE ISLAND Hy 36.28 215 T T 08 17 57.3
baz=21,slow=76,SNR=502
H11N1 WAKE ISLAND Hy 36.29 216 T T 08 17 56.1
baz=21,slow=76,SNR=479
JTMT Jette 36.43 73 *e*P P 07 39 28.4 +0.9
YBMT Yellow Bay 36.54 73 *e*P P 07 39 29.2 +0.9
WVOR Wild Horse Val 36.55 84 *e*P P 07 39 29.8 +1.3
WVOR pmax pmax
comp=Z,26nm,0.8s
WVOR Wild Horse Val 36.55 84 *e*P P 07 39 29.8 +1.3
comp=Z,26nm,0.8s
SWMT Swartz Lake 36.71 73 *e*P P 07 39 30.5 +0.6
MSO Missoula 37.08 74 P P 07 39 33.3 +0.3
baz=299,SNR=18
MSO Missoula 37.08 74 *e*P P 07 39 33.3 +0.3
comp=Z,39nm,1.0s
AFDM Forest Hills D 37.14 90 *e*P P 07 39 34.0 +0.6
comp=Z,8.2nm,0.9s
CHMT Chamberlain Mo 37.45 74 *e*P P 07 39 36.4 +0.1
H11S1 WAKE ISLAND Hy 37.47 215 T T 08 19 23.3
baz=21,slow=76,SNR=147
H11S2 WAKE ISLAND Hy 37.48 215 T T 08 19 30.2
baz=21,slow=76,SNR=138
H11S3 WAKE ISLAND Hy 37.48 215 T T 08 19 27.7
baz=21,slow=76,SNR=63
USRK Ussuriysk Ar. 37.56 281 P P 07 39 36.1 -0.8
comp=Z,5.9nm,0.7s,baz=57,slow=8.5,SNR=14
USRK PcP PcP 07 41 53.9 0.0
comp=Z,4.0nm,0.8s,baz=48,slow=4.0,SNR=5.1
PAHR Pah Rah Range 37.66 88 *e*P P 07 39 39.3 +1.2
comp=Z,42nm,0.9s
MFID Camas Ranch 37.73 80 *e*P P 07 39 39.8 +1.4
comp=Z,16nm,0.8s
CMB Columbia Colle 38.06 91 *e*P P 07 39 42.8 +1.5
CMB pmax pmax
comp=Z,20nm,1.2s
CMB Columbia Colle 38.06 91 *e*P P 07 39 42.8 +1.5
comp=Z,20nm,1.3s
SAO San Andreas Ge 38.20 93 *e*P P 07 39 44.9 +2.5
SAO pmax pmax
comp=Z,19nm,1.0s
SAO San Andreas Ge 38.20 93 *e*P P 07 39 44.9 +2.5
comp=Z,19nm,1.0s
VLA Vladivostok 38.21 280 *i*P P 07 39 40.0 -2.4
VLA *e**PP pP 07 39 49.4 -5.5
VLA *e* 07 41 08.0
VLA pmax pmax
comp=Z,38nm,0.9s
MJAR Matsushiro Arr 38.24 266 P P 07 39 43.3 +0.6
comp=Z,8.7nm,0.7s,baz=47,slow=6.7,SNR=22
MJAR PcP PcP 07 41 56.7 +0.6
comp=Z,3.9nm,0.7s,baz=37,slow=1.4,SNR=7.3
MJB9 Matsu-Tunnel 38.24 266 *e*P P 07 39 43.8 +1.0
comp=Z,5.7nm,0.8s
MAJO Matsushiro 38.24 266 *d i*P P 07 39 43.3 +0.6
MAJO pmax pmax
comp=Z,144nm,0.8s
MAJO Matsushiro 38.24 266 *e*P P 07 39 43.7 +1.0
comp=Z,22nm,0.8s
MAT Matsushiro 38.24 266 P P 07 39 43.4 +0.7
MAT S S 07 45 35.0 +1.9
WAKR Walker 38.36 89 *e*P P 07 39 46.0 +2.0
comp=Z,28nm,0.8s
HRY Holter Researc 38.40 73 *e*P P 07 39 45.4 +1.3
LRM Limekiln Ridge 38.48 75 *e*P P 07 39 45.4 +0.4
HLID Hailey 38.51 79 P P 07 39 45.8 +0.6
baz=303,SNR=23
HLID Hailey 38.51 79 *e*P P 07 39 46.2 +1.0
comp=Z,11nm,0.8s
BMN Battle Mountai 38.57 85 *e*P P 07 39 46.9 +1.3
BMN pmax pmax
comp=Z,14nm,0.8s
BMN Battle Mountai 38.57 85 *e*P P 07 39 46.9 +1.3
comp=Z,14nm,0.8s
DLMT Dillon 38.64 76 *e*P P 07 39 46.6 +0.5
comp=Z,11nm,0.9s
DLMT *e*PcP PcP 07 41 58.7 +1.2
MCMT McKenzie Canyo 38.77 77 P P 07 39 47.7 +0.3
BOZ Bozeman (W) 39.07 75 P P 07 39 50.1 +0.3
baz=301,SNR=31
BOZ Bozeman (W) 39.07 75 *e*P P 07 39 50.3 +0.5
BOZ pmax pmax
comp=Z,25nm,1.0s
BOZ Bozeman (W) 39.07 75 *e*P P 07 39 50.2 +0.5
comp=Z,24nm,0.9s
BOZ *e*S S 07 45 44.0 -1.7
MLAC Mammoth, Mammo 39.27 90 P P 07 39 52.7 +1.0
baz=308
ELK Elko 39.60 83 *e*P P 07 39 55.6 +1.2
ELK pmax pmax
comp=Z,11nm,0.8s
ELK Elko 39.60 83 *e*P P 07 39 55.6 +1.2
comp=Z,12nm,0.8s
QLMT Earthquake Lak 39.62 76 *e*P P 07 39 55.3 +0.9
YHB Horse Butte 39.80 76 *e*P P 07 39 56.8 +0.8
comp=Z,53nm,1.3s
YHB *e*PcP PcP 07 42 04.0 +2.8
RCTC Rector, Farmer 39.86 92 P P 07 39 57.3 +1.1
baz=310,SNR=6.4
YMC Maple Creek 39.91 76 *e*P P 07 39 57.6 +0.7
YMR Madison River 39.99 76 *e*P P 07 39 58.4 +0.9
comp=Z,40nm,1.0s
YMR *e*PcP PcP 07 42 04.8 +3.0
YHH Holmes Hill 39.99 75 *e*P P 07 39 58.5 +0.9
comp=Z,44nm,1.0s
TIN Tinemaha, Big 40.01 90 P P 07 39 59.2 +1.5
baz=309,SNR=7.6
SMMC Simmler 40.04 94 P P 07 39 58.6 +0.8
baz=311
FFC Flin Flon 40.15 58 *e*P P 07 39 58.7 +0.2
FFC pmax pmax
comp=Z,21nm,0.7s
FFC Flin Flon 40.15 58 *e*P P 07 39 58.7 +0.2
comp=Z,21nm,0.6s
GCMT Greycliff 40.16 73 *e*P P 07 39 59.4 +0.6
YFT Old Faithful 40.18 76 *e*P P 07 40 01.6 +2.4
comp=Z,22nm,1.1s
VES Vestal, Richgr 40.26 92 P P 07 40 00.3 +0.8
baz=310,SNR=18
YPP Pitchstone Pla 40.30 76 *e*P P 07 40 02.2 +2.0
comp=Z,12nm,1.0s
H17A Grant Village 40.37 76 P P 07 40 02.4 +1.7
baz=303,SNR=14
H17A Grant Village 40.37 76 *e*P P 07 40 02.5 +1.8
comp=Z,42nm,1.1s
LKWY Lake 40.38 75 *e*P P 07 40 03.3 +2.5
LKWY pmax pmax
comp=Z,26nm,0.9s
LKWY Lake 40.38 75 *e*P P 07 40 03.3 +2.5
comp=Z,26nm,0.9s
IMW Indian Meadow 40.42 77 *e*P P 07 40 02.2 +0.9
comp=Z,20nm,0.9s
PKM Mcpherson Peak 40.43 94 P P 07 40 02.6 +1.3
baz=311
FLWY Flagg Ranch 40.47 76 *e*P P 07 40 03.0 +1.5
comp=Z,32nm,1.0s
CWC Cottonwood Cre 40.49 91 P P 07 40 02.5 +0.8
baz=310
HVU Hansel Valley 40.51 80 *e*P P 07 40 02.9 +1.1
HVU pmax pmax
comp=Z,28nm,0.7s
HVU Hansel Valley 40.51 80 *e*P P 07 40 02.9 +1.1
comp=Z,28nm,0.7s
GRAC Grapevine Rang 40.58 90 P P 07 40 03.6 +1.4
baz=309
MOOW Moose Ponds 40.62 77 *e*P P 07 40 03.3 +0.5
comp=Z,12nm,1.2s
TPAW Teton Pass 40.64 77 *e*P P 07 40 04.2 +1.2
comp=Z,24nm,1.2s
ISA Isabella, Lake 40.75 92 P P 07 40 04.5 +0.8
baz=310,SNR=10
ISA Isabella, Lake 40.75 92 *e*P P 07 40 05.1 +1.4
ISA pmax pmax
comp=Z,25nm,0.9s
ISA Isabella, Lake 40.75 92 *e*P P 07 40 05.1 +1.4
comp=Z,25nm,0.8s
RLMT Red Lodge 40.75 74 P P 07 40 04.5 +0.7
baz=302,SNR=34
RLMT Red Lodge 40.75 74 *e*P P 07 40 05.0 +1.1

comp=Z,54nm,1.0s
REDW **Red Top Meadow** 40.78 77 *e*P P 07 40 05.3 +1.2
comp=Z,24nm,1.1s
SNOW **Snow King Moun** 40.78 77 *e*P P 07 40 05.7 +1.6
comp=Z,18nm,1.0s
LOHW **Long Hollow** 40.78 77 *e*P P 07 40 05.2 +1.1
comp=Z,8.9nm,0.9s
SBC **Santa Barbara** 40.79 95 P P 07 40 05.3 +1.4
baz=312
R11A **Troy Canyon, C** 40.84 87 P P 07 40 05.1 +0.5
baz=308,SNR=12
BGU **Big Grassy Mou** 40.85 82 *e*P P 07 40 05.6 +1.0
comp=Z,13nm,0.9s
ARVC **Arvin** 40.88 93 P P 07 40 05.6 +0.9
baz=311
DAC **Darwin (Calif)** 40.90 91 *e*P P 07 40 06.3 +1.2
DAC pmax pmax
comp=Z,21nm,0.9s
DAC **Darwin (Calif)** 40.90 91 *e*P P 07 40 06.3 +1.2
comp=Z,21nm,0.9s
AHID **Auburn Hatcher** 40.96 78 *e*P P 07 40 06.7 +1.2
comp=Z,28nm,1.0s
MPMC **Manual Prospec** 41.10 91 P P 07 40 07.5 +0.8
baz=310,SNR=24
BOD **Bodaibo** 41.12 308 *e*P P 07 40 05.1 -1.2
BOD pmax pmax
comp=Z,12nm,1.5s
SCZ2 **Santa Cruz Isl** 41.13 95 P P 07 40 07.2 +0.3
baz=312
FURC **Furnace Creek,** 41.23 90 P P 07 40 08.5 +1.0
baz=310,SNR=33
OSI **Osito Audit: C** 41.28 94 P P 07 40 09.0 +0.9
baz=311
TPNV **Topopah Spring** 41.30 89 P P 07 40 08.9 +0.6
baz=309,SNR=84
TPNV **Topopah Spring** 41.30 89 *e*P P 07 40 09.3 +0.9
TPNV pmax pmax
comp=Z,47nm,0.8s
TPNV **Topopah Spring** 41.30 89 *e*P P 07 40 09.3 +0.9
comp=Z,46nm,0.8s
HWUT **Hardware Ranch** 41.35 80 *e*P P 07 40 10.5 +1.8
comp=Z,9.9nm,0.8s
LRMC **Laurel Mtn Rad** 41.36 92 P P 07 40 09.9 +1.1
baz=310
BLG **Laguna Peak, P** 41.41 94 P P 07 40 09.9 +0.8
baz=312
DUG **Dugway, Tooele** 41.42 82 P P 07 40 09.8 +0.6
baz=306,SNR=27
DUG **Dugway, Tooele** 41.42 82 *e*P P 07 40 10.1 +0.8
DUG pmax pmax
comp=Z,19nm,0.8s
DUG **Dugway, Tooele** 41.42 82 *e*P P 07 40 10.1 +0.8
comp=Z,19nm,0.8s
EDW2 **Edwards Air Fo** 41.56 93 P P 07 40 11.0 +0.6
baz=311,SNR=6.6
LAO **LASA Array** 41.70 70 P P 07 40 12.2 +0.8
baz=302,SNR=19
LAO **LASA Array** 41.70 70 *e*P P 07 40 12.2 +0.8
comp=Z,24nm,0.6s
SNCC **San Nicolas Is** 41.70 96 P P 07 40 12.5 +1.0
baz=312
CN2 **Changchun** 41.72 285 *e*P P 07 40 12.0 +0.5
CN2 *e*S S 07 46 22.5 -2.5
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,100nm,5.0s
CN2 LN
comp=Z,2μm,14.0s
CN2 LE
comp=Z,2μm,14.0s
CN2 LZ
comp=Z,2μm,14.0s
TCUT **Toone Canyon** 41.73 80 *e*P P 07 40 13.0 +1.0
comp=Z,31nm,1.0s
DECC **Green Verdugo** 41.76 94 P P 07 40 12.6 +0.6
baz=312
CTU **Camp Tracy** 41.77 81 *e*P P 07 40 13.5 +1.3
comp=Z,59nm,1.0s
BW06 **Boulder Array** 41.89 77 P P 07 40 13.4 +0.2
baz=305,SNR=35
BW06 **Boulder Array** 41.89 77 *e*P P 07 40 13.5 +0.3
comp=Z,46nm,1.0s
PD31 **Pinedale Array** 41.89 77 *e*P P 07 40 13.6 +0.3
PDAR **Pinedale Array** 41.89 77 P P 07 40 13.2 0.0
comp=Z,25nm,0.9s,baz=305,slow=5.2,SNR=83
PDAR ScP ScP 07 45 54.0 -0.3
comp=Z,1.2nm,0.8s,baz=333,slow=1.7,SNR=4.6
PASC **Pasadena Art C** 41.91 94 *e*P P 07 40 14.7 +1.6
comp=Z,97nm,1.8s
DGMT **Dagmar** 41.93 67 P P 07 40 12.7 -0.5
baz=301
DGMT **Dagmar** 41.93 67 *e*P P 07 40 13.8 +0.6
comp=Z,33nm,0.8s
MWC **Mount Wilson** 41.95 93 *e*P P 07 40 14.0 +0.3
MWC pmax pmax
comp=Z,79nm,1.4s
MWC **Mount Wilson** 41.95 93 *e*P P 07 40 14.0 +0.3
comp=Z,79nm,1.4s
SHOC **Shoshone, Teco** 41.96 90 P P 07 40 14.3 +0.8
baz=310,SNR=9.3
JLU **Jordanelle** 42.01 81 *e*P P 07 40 15.2 +1.0
comp=Z,16nm,1.0s
NLU **North Lily Min** 42.02 82 *e*P P 07 40 13.7 -0.6
comp=Z,39nm,1.0s
GSC **Goldstone, Bar** 42.02 91 P P 07 40 14.8 +0.7
baz=311,SNR=57
GSC **Goldstone, Bar** 42.02 91 *e*P P 07 40 15.2 +1.1
GSC pmax pmax
comp=Z,62nm,1.0s
GSC **Goldstone, Bar** 42.02 91 *e*P P 07 40 15.2 +1.1
comp=Z,62nm,0.9s
FMP **Fort Macarthur** 42.15 94 P P 07 40 16.1 +1.0
baz=312
RRX **Edison Barstow** 42.18 92 P P 07 40 15.8 +0.5
baz=311
BFSC **Mount Baldy Ra** 42.19 93 P P 07 40 16.3 +0.7
baz=312,SNR=19
SHPR **Sheep Range** 42.26 89 *e*P P 07 40 17.1 +0.9
comp=Z,11nm,1.0s
FCC **Fort Churchill** 42.30 49 *e*P P 07 40 16.0 +0.1
FCC pmax pmax
comp=Z,45nm,0.9s
FCC **Fort Churchill** 42.30 49 *e*P P 07 40 16.0 +0.1
comp=Z,45nm,0.8s
A25A **Svangstu Ranch** 42.30 66 P P 07 40 16.5 +0.3
baz=301,SNR=24
TUQ **Turquoise Moun** 42.48 90 P P 07 40 18.5 +0.6
baz=310,SNR=5.5
SCI2 **San Clemente I** 42.49 95 P P 07 40 18.5 +0.6
baz=313
HEC **Hector,Ludlow** 42.62 91 P P 07 40 19.7 +0.7
baz=311,SNR=21
B25A **Knox Farm, Ray** 42.63 67 P P 07 40 18.6 -0.3
baz=302
BBRC **Big Bear Solar** 42.63 92 P P 07 40 19.8 +0.5
baz=312
CCUT **Cedar City** 42.70 86 *e*P P 07 40 21.1 +1.2
comp=Z,17nm,1.1s
SGU **Sterling** 42.75 83 *e*P P 07 40 21.9 +1.6
MSU **Marysvale** 42.84 84 *e*P P 07 40 22.2 +1.3
MSU **Marysvale** 42.84 84 *e*P P 07 40 22.2 +1.3
C25A **Freed Ranch, W** 42.87 67 P P 07 40 21.7 +0.9
baz=302,SNR=6.1
MURC **Murrieta** 42.90 93 P P 07 40 21.7 +0.5
baz=312,SNR=7.0
A26A **Wade Farm, Ken** 42.93 65 P P 07 40 21.2 -0.1
baz=301,SNR=19
TMUT **Trail Mountain** 42.95 82 *e*P P 07 40 23.2 +1.3
comp=Z,27nm,0.9s
GMRC **Granite Mounta** 43.07 91 P P 07 40 23.2 +0.5
baz=311,SNR=36
B26A **Jensen Ranch,** 43.10 66 P P 07 40 23.0 +0.3
baz=302,SNR=7.7
LCMT **Little Creek M** 43.12 86 *e*P P 07 40 24.4 +1.3
comp=Z,16nm,0.9s
MTPU **Mount Pierson** 43.12 85 *e*P P 07 40 24.8 +1.4
comp=Z,13nm,1.0s
P17A **Butcher Ranch,** 43.13 82 *e*P P 07 40 24.2 +1.1
comp=Z,15nm,0.6s
LDFC **Landfair** 43.21 90 *e*P P 07 40 24.2 +0.4
comp=Z,62nm,1.0s
A27A **Ledoux Ranch,** 43.35 65 P P 07 40 24.7 0.0
baz=302
PFO **Pinyon Flats O** 43.35 93 P P 07 40 25.4 +0.4
baz=312,SNR=8.5
PFO **Pinyon Flats O** 43.35 93 *e*P P 07 40 25.8 +0.8
PFO pmax pmax
comp=Z,19nm,1.0s
PFO **Pinyon Flats O** 43.35 93 *e*P P 07 40 25.8 +0.8
comp=Z,19nm,0.9s
TPFO **Pinon Flats** 43.36 93 P P 07 40 25.5 +0.5
baz=312,SNR=13
BELC **Belle Mtn. Jos** 43.38 92 P P 07 40 25.4 +0.2
baz=312,SNR=21
KNB **Kanab** 43.38 86 *e*P P 07 40 26.3 +1.1
KNB pmax pmax
comp=Z,19nm,1.1s
KNB **Kanab** 43.38 86 *e*P P 07 40 26.3 +1.1
comp=Z,19nm,1.1s
109C **Camp Elliot, M** 43.44 94 P P 07 40 26.3 +0.8
baz=313,SNR=5.3
SRU **San Rafael Swe** 43.48 82 *e*P P 07 40 27.0 +0.9
SRU pmax pmax
comp=Z,29nm,0.7s
SRU **San Rafael Swe** 43.48 82 *e*P P 07 40 27.0 +0.9
comp=Z,29nm,0.7s
EKU **East Kanab** 43.54 86 *e*P P 07 40 27.9 +1.3
MMU **Miners Mountai** 43.57 84 *e*P P 07 40 28.0 +1.1
D26A **Manning** 43.71 68 P P 07 40 27.1 -0.6
baz=303
NEE2 **Needles Airpor** 43.72 90 P P 07 40 27.9 +0.1
baz=311
K22A **Casper** 43.78 75 P P 07 40 28.1 -0.4
baz=306,SNR=14
K22A **Casper** 43.78 75 *e*P P 07 40 28.4 -0.1
comp=Z,42nm,1.1s
IRM **Iron Mountain** 43.80 91 P P 07 40 29.1 +0.6
baz=312,SNR=19
BAR **Barrett** 43.85 94 *e*P P 07 40 30.0 +1.1
comp=Z,21nm,0.8s
MONP2 **Monument Peak** 43.86 93 P P 07 40 29.6 +0.4
baz=313,SNR=15
A28A **Rude Farm, Bot** 43.92 64 P P 07 40 29.1 -0.1
baz=302,SNR=32
BC3 **Big Chuckawall** 43.94 92 P P 07 40 29.8 +0.1
baz=312,SNR=9.9
W13A **Hualapai Mount** 43.96 89 *e*P P 07 40 30.6 +0.6
comp=Z,14nm,0.8s
KSRS **Korea Array** 44.01 275 P P 07 40 29.9 -0.2
comp=Z,18nm,0.8s,baz=54,slow=7.8,SNR=50
KSRS PcP PcP 07 42 15.2 +0.3
comp=Z,4.4nm,0.9s,baz=60,slow=3.9,SNR=4.8
KS01 **Wonju Array Si** 44.02 275 *e*P P 07 40 29.3 -0.8
KS15 **Wonju Array Si** 44.04 275 *e*P P 07 40 30.2 -0.1
KSAR **Wonju Array Be** 44.04 275 P P 07 40 29.9 -0.5
KSAR 07 42 15.2
KSAR **Wonju Array Be** 44.04 275 P P 07 40 29.9 -0.5
KSAR PcP PcP 07 42 15.2 +0.2
U15A **North Rim** 44.08 86 *e*P P 07 40 31.9 +0.9
comp=Z,39nm,1.0s
B28A **Dugan Ranch, T** 44.11 65 P P 07 40 30.9 +0.1
baz=302,SNR=27
SWSC **Sam W. Stewart** 44.21 93 P P 07 40 32.1 +0.4
baz=312
IKP **In-Ko-Pah, Jac** 44.22 93 P P 07 40 32.4 +0.5
baz=313,SNR=17
O20A **White River Ci** 44.25 79 P P 07 40 32.1 -0.1
baz=307,SNR=43
O20A **White River Ci** 44.25 79 *e*P P 07 40 32.3 +0.1
comp=Z,58nm,0.8s
PDMCI **Parker Dam,Lak** 44.32 90 P P 07 40 32.9 +0.3
baz=311,SNR=23
H25A **Fruitdale** 44.38 71 P P 07 40 32.5 -0.6
baz=305,SNR=16
RSSD **Black Hills** 44.41 72 P P 07 40 32.9 -0.6
baz=305
RSSD **Black Hills** 44.41 72 *e*P P 07 40 33.4 -0.1
RSSD pmax pmax
comp=Z,17nm,0.6s
RSSD **Black Hills** 44.41 72 *e*P P 07 40 33.4 -0.1
comp=Z,17nm,0.6s
Y12C **Blythe** 44.45 91 P P 07 40 34.2 +0.6
baz=312,SNR=17
Y12C **Blythe** 44.45 91 *e*P P 07 40 33.7 0.0
comp=Z,34nm,0.9s
A29A **Manning Farm,** 44.49 64 P P 07 40 33.5 -0.3
baz=302,SNR=37
C28A **Hausauer Farms** 44.50 66 P P 07 40 34.2 +0.3
baz=303,SNR=6.9
B29A **Wagenman Farm,** 44.67 64 P P 07 40 34.9 -0.3
baz=303,SNR=9.1
D28A **Regan** 44.68 67 P P 07 40 35.6 +0.2
baz=303,SNR=8.7
PV09 **Paradox Valley** 44.71 82 *e*P P 07 40 36.5 +0.5
GLA **Glamis** 44.74 92 P P 07 40 36.7 +0.7
baz=312,SNR=16
GLA **Glamis** 44.74 92 *e*P P 07 40 37.6 +1.6
GLA pmax pmax
comp=Z,32nm,1.0s
GLA **Glamis** 44.74 92 *e*P P 07 40 37.6 +1.6
comp=Z,32nm,1.0s
INCN **Inchon** 44.79 276 *e*P P 07 40 36.4 +0.1
comp=Z,44nm,0.8s
PV10 **Paradox Valley** 44.85 82 *e*P P 07 40 38.0 +0.9
MDND **Maddock** 44.87 65 P P 07 40 36.9 +0.1
baz=303,SNR=20
MDND **Maddock** 44.87 65 *e*P P 07 40 37.3 +0.4
comp=Z,94nm,0.9s
PV04 **Paradox Valley** 44.92 82 *e*P P 07 40 37.6 0.0
A30A **Hoffart Farm,** 44.99 63 P P 07 40 37.4 -0.4
baz=303,SNR=12
PV05 **Paradox Valley** 45.00 82 *e*P P 07 40 39.5 +1.3
JNU **Nakatsue** 45.02 268 P P 07 40 39.1 +0.9
comp=Z,11nm,0.7s,baz=48,slow=8.8,SNR=5.8
JNU **Nakatsue** 45.02 268 *e*P P 07 40 38.6 +0.3
comp=Z,27nm,1.0s
TJN **Taejon** 45.05 275 *i*P P 07 40 37.9 -0.4
N23A **Red Feather La** 45.18 77 P P 07 40 39.8 +0.1
baz=307,SNR=13
N23A **Red Feather La** 45.18 77 *e*P P 07 40 40.3 +0.6
comp=Z,36nm,1.1s
PV15 **Paradox Valley** 45.21 82 *e*P P 07 40 40.6 +0.6
PHWY **Pilot Hill** 45.23 76 *e*P P 07 40 40.0 -0.1
comp=Z,10nm,0.9s
WUAZ **Wupatki** 45.24 87 P P 07 40 40.5 +0.4
baz=311,SNR=25
WUAZ **Wupatki** 45.24 87 *e*P P 07 40 41.1 +1.0
comp=Z,27nm,0.7s
B30A **Myrvik Farm, E** 45.25 64 P P 07 40 39.6 -0.2
baz=303,SNR=32
Y14A **Wickenburg** 45.27 90 *e*P P 07 40 41.0 +0.8
comp=Z,64nm,0.9s
PV01 **Paradox Valley** 45.28 82 *e*P P 07 40 40.9 +0.3
D29A **Pettibone, Tap** 45.31 66 P P 07 40 39.5 -0.8
baz=304
E29A **Napoleon** 45.56 67 P P 07 40 41.5 -0.8
baz=304
C30A **Mose, Pekin** 45.58 65 P P 07 40 42.0 -0.5
baz=304,SNR=12
113A **Mohawk Valley,** 45.58 91 *e*P P 07 40 43.2 +0.5
comp=Z,15nm,1.1s
ULM **Lac du Bonnet** 45.60 61 P P 07 40 42.3 -0.3
comp=Z,21nm,0.7s,baz=302,slow=7.8,SNR=22
ULM **Lac du Bonnet** 45.60 61 *e*P P 07 40 42.3 -0.3
ULM pmax pmax
comp=Z,33nm,1.0s
ULM **Lac du Bonnet** 45.60 61 *e*P P 07 40 42.2 -0.3
comp=Z,33nm,0.9s
SMCO **Snowmass** 45.61 80 *e*P P 07 40 44.1 +0.8
comp=Z,9.8nm,0.8s
A31A **Linda, St. Vin** 45.61 63 P P 07 40 42.3 -0.4
baz=303,SNR=6.2
B31A **Greenbush Farm** 45.64 64 P P 07 40 42.5 -0.4
baz=303,SNR=36
F29A **Eureka** 45.87 68 P P 07 40 44.4 -0.4
baz=305,SNR=10
MVCO **Mesa Verde** 45.91 83 P P 07 40 45.4 -0.1
baz=310,SNR=17
MVCO **Mesa Verde** 45.91 83 *e*P P 07 40 45.9 +0.3
comp=Z,15nm,0.9s
X16A **Lo Mia Camp, P** 45.92 88 *e*P P 07 40 46.5 +1.0
comp=Z,13nm,0.9s
C31A **Landman Farms,** 45.94 64 P P 07 40 44.9 -0.5
baz=304,SNR=17
A32A **Rocking H Ranc** 46.00 62 P P 07 40 45.4 -0.4
baz=304,SNR=20
ISCO **Idaho Springs** 46.05 78 P P 07 40 46.7 +0.1
baz=308,SNR=7.6
ISCO **Idaho Springs** 46.05 78 *e*P P 07 40 47.5 +0.8
ISCO pmax pmax
comp=Z,14nm,1.0s
ISCO **Idaho Springs** 46.05 78 *e*P P 07 40 47.5 +0.8
comp=Z,14nm,1.0s
NRIK **Noril'sk** 46.08 331 P P 07 40 45.3 -0.8
comp=Z,8.8nm,0.6s,baz=77,slow=8.1,SNR=21
NRIK PcP PcP 07 42 21.4 -0.1
comp=Z,9.3nm,0.6s,baz=79,slow=3.0,SNR=7.4
NRIK ScP ScP 07 46 12.6 +2.1
comp=Z,3.9nm,0.7s,baz=72,slow=3.6,SNR=8.0
G29A **Hoven** 46.19 69 P P 07 40 46.8 -0.5
baz=305,SNR=6.5
B32A **Ashes, Strandq** 46.27 63 P P 07 40 47.4 -0.4
baz=304,SNR=22
F30A **Leola** 46.33 67 P P 07 40 47.7 -0.7
baz=305,SNR=6.3
H29A **Onida** 46.35 69 P P 07 40 48.5 -0.1
baz=306,SNR=5.9
D31A **Mcclaflin, Tow** 46.37 65 P P 07 40 48.1 -0.6
baz=304,SNR=21
KULLO **Kullorsuaq** 46.49 20⇑ *i*P P 07 40 48.6 -0.6
comp=Z,18nm,0.8s
W18A **Petrified Fore** 46.51 86 P P 07 40 50.7 +0.6
baz=311,SNR=22
W18A **Petrified Fore** 46.51 86 *e*P P 07 40 50.8 +0.6
comp=Z,23nm,0.8s
E31A **Nome** 46.56 66 P P 07 40 49.4 -0.8
baz=305,SNR=18
A33A **Warroad** 46.59 62 P P 07 40 49.8 -0.6
baz=304,SNR=24
C32A **Crookston** 46.59 64 P P 07 40 50.0 -0.5
baz=304,SNR=6.8
S22A **4UR Ranch, Cre** 46.60 81 P P 07 40 51.5 +0.5
baz=309,SNR=16
S22A **4UR Ranch, Cre** 46.60 81 *e*P P 07 40 51.6 +0.6
comp=Z,35nm,1.4s
I29A **Vivian Onida** 46.65 70 P P 07 40 50.8 -0.2
baz=306,SNR=7.2
G30A **Faulkton** 46.67 68 P P 07 40 50.6 -0.5
baz=306,SNR=17
AGMN **Agassiz Nation** 46.70 63 P P 07 40 50.5 -0.7
baz=304,SNR=28
AGMN **Agassiz Nation** 46.70 63 *e*P P 07 40 50.8 -0.4
comp=Z,49nm,0.9s
D32A **Dogwood Acres,** 46.72 65 P P 07 40 50.8 -0.6
baz=305
214A **Organ Pipe Nat** 46.73 92 P P 07 40 52.0 +0.3
baz=313,SNR=24
214A **Organ Pipe Nat** 46.73 92 *e*P P 07 40 52.7 +1.0
comp=Z,88nm,0.9s
F31A **Hecla** 46.76 67 P P 07 40 50.9 -0.8
baz=305
X18A **Snowflake** 46.76 87 *e*P P 07 40 52.6 +0.4
comp=Z,11nm,0.8s
Q24A **Divide** 46.85 79 P P 07 40 52.5 -0.4
baz=309
Q24A **Divide** 46.85 79 *e*P P 07 40 54.3 +1.4
comp=Z,11nm,0.9s
B33A **Robert and Kas** 46.86 63 P P 07 40 51.9 -0.6
baz=304,SNR=18
E32A **Braaten, Kindr** 47.00 65 P P 07 40 52.7 -0.9
baz=305,SNR=9.7
C33A **Trail** 47.05 63 P P 07 40 53.2 -0.8
baz=305,SNR=14
G31A **Conde** 47.15 68 P P 07 40 53.9 -0.9
baz=306
SUSD **Miller** 47.18 69 P P 07 40 54.6 -0.5
baz=306,SNR=14
I30A **Oacoma** 47.23 70 P P 07 40 54.9 -0.5
baz=306
B34A **Aery, Baudette** 47.25 62 P P 07 40 54.9 -0.7
baz=305,SNR=22
D33A **AnnSam, Waubun** 47.37 64 P P 07 40 55.8 -0.7
baz=305
F32A **Veblen** 47.39 66 P P 07 40 55.6 -1.0
baz=306,SNR=6.7
SDCO **Great Sand Dun** 47.41 80 P P 07 40 57.5 +0.3
baz=310,SNR=31
SDCO **Great Sand Dun** 47.41 80 *e*P P 07 40 57.7 +0.5
comp=Z,22nm,1.2s
H31A **Wolsey** 47.44 69 P P 07 40 56.6 -0.5
baz=306,SNR=24
OGNE **Ogallala** 47.49 74 P P 07 40 57.0 -0.6
baz=308
OGNE **Ogallala** 47.49 74 *e*P P 07 40 58.0 +0.4
comp=Z,108nm,1.4s
G32A **Webster** 47.54 67 P P 07 40 57.1 -0.8
baz=306,SNR=14
J30A **Dallas** 47.54 70 P P 07 40 57.5 -0.4
baz=307,SNR=17
C34A **RKJ Ranch, Bem** 47.59 63 P P 07 40 57.7 -0.5
baz=305
E33A **Westby DABS, E** 47.65 65 P P 07 40 57.8 -0.8
baz=306,SNR=10.0
I31A **Royce, Wessing** 47.67 69 P P 07 40 58.4 -0.5
baz=306,SNR=42
D34A **Park Rapids** 47.76 64 P P 07 40 58.8 -0.8
baz=305,SNR=41
B35A **Bob, Littlefor** 47.83 62 P P 07 40 59.3 -0.7
baz=305,SNR=19
K30A **Basset** 47.86 71 P P 07 41 00.4 -0.1
baz=307,SNR=18
F33A **5 Mile Ranch,** 47.88 66 P P 07 40 59.5 -0.9
baz=306,SNR=9.3
J31A **Gedds** 48.00 70 P P 07 41 01.1 -0.4
baz=307,SNR=13
H32A **Carlson Farm,** 48.02 68 P P 07 41 00.7 -0.9
baz=306,SNR=19
C35A **Jirik Farms, M** 48.08 63 P P 07 41 01.1 -0.9
baz=305,SNR=11
E34A **Wadena** 48.11 64 P P 07 41 01.7 -0.6
baz=306
G33A **Ortonville** 48.18 67 P P 07 41 01.8 -1.0
baz=306,SNR=15
I32A **Karley and Nic** 48.29 68 P P 07 41 02.7 -1.0
baz=307,SNR=7.6
H33A **Prehn Over Nor** 48.31 67 P P 07 41 03.0 -0.8
baz=307,SNR=38
KSCO **Kaye Shedlock'** 48.34 77 P P 07 41 04.8 +0.4
baz=309,SNR=8.9
KSCO **Kaye Shedlock'** 48.34 77 *e*P P 07 41 05.4 +1.1
comp=Z,72nm,0.9s
D35A **Remer** 48.40 63 P P 07 41 03.7 -0.7
baz=306,SNR=24
K31A **O'Neill** 48.40 71 P P 07 41 04.4 -0.2
baz=308,SNR=5.6
T25A **Trinidad** 48.46 80 P P 07 41 05.6 +0.2
baz=310,SNR=17
T25A **Trinidad** 48.46 80 *e*P P 07 41 06.3 +1.0
comp=Z,77nm,1.1s
J32A **Parkston** 48.47 69 P P 07 41 04.5 -0.6
baz=307,SNR=18
F34A **Alexandria** 48.49 65 P P 07 41 04.2 -1.0
baz=306,SNR=13
E35A **Pequot Lakes** 48.51 64 P P 07 41 04.6 -0.7
baz=306,SNR=19
LAZ **Ladron** 48.58 85 *e*P P 07 41 07.5 +1.2
G34A **Benson** 48.60 66 P P 07 41 05.1 -0.9
baz=307,SNR=9.3
L31A **Butterfield Fa** 48.62 71 P P 07 41 06.0 -0.3
baz=308,SNR=10
ANMO **Albuquerque** 48.64 84 P P 07 41 06.4 -0.3
baz=311
ANMO **Albuquerque** 48.64 84⇑ *e*P P 07 41 06.1 -0.6
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO **Albuquerque** 48.64 84 *e*P P 07 41 07.2 +0.5
comp=Z,12nm,1.0s
I33A **Coleman** 48.66 68 P P 07 41 05.4 -1.2
baz=307,SNR=5.1
C36A **Pine Crest Far** 48.66 62 P P 07 41 05.8 -0.6
baz=306,SNR=16
D36A **Goodland** 48.83 63 P P 07 41 07.1 -0.7
baz=306,SNR=6.6
K32A **Verdigre** 48.83 70 P P 07 41 07.0 -0.9
baz=308,SNR=6.7
F35A **Swanville** 48.83 65 P P 07 41 07.1 -0.7
baz=306,SNR=21
H34A **Spellman Lake,** 48.87 67 P P 07 41 06.9 -1.2
baz=307,SNR=12
LPM **Los Pinos Moun** 48.95 84 *e*P P 07 41 09.1 0.0
ECSD **EROS Data Cent** 48.96 68 P P 07 41 07.8 -1.0
baz=307,SNR=33
ECSD **EROS Data Cent** 48.96 68 *e*P P 07 41 07.9 -1.0
comp=Z,20nm,0.6s
J33A **Davis** 49.01 69 P P 07 41 08.4 -0.8
baz=308,SNR=15
C37A **Embarrass** 49.04 62 P P 07 41 08.5 -0.9
baz=306,SNR=9.9
M31A **Lambtecht Ranc** 49.06 72 P P 07 41 09.2 -0.5
baz=308
BNM **Barren Site** 49.06 85 *e*P P 07 41 10.8 +0.8
E36A **McGregor** 49.17 63 P P 07 41 09.9 -0.5

	baz=306,SNR=18								
I34A	**Hadley**	49.20	67	P		P	07 41 09.7	-1.0	
	baz=307								
L32A	**Elgin**	49.21	71	P		P	07 41 10.3	-0.5	
	baz=308,SNR=8.2								
D37A	**Cotton**	49.24	62	P		P	07 41 10.2	-0.8	
	baz=306								
G35A	**Watkins**	49.27	65	P		P	07 41 10.2	-0.9	
	baz=307								
EYMN	**Ely**	49.28	61	P		P	07 41 10.7	-0.6	
	baz=306,SNR=10.0								
EYMN	**Ely**	49.28	61	*e*P		P	07 41 11.0	-0.2	
	comp=Z,29nm,0.8s								
319A	**Douglas**	49.31	89	*e*P		P	07 41 13.2	+1.4	
	comp=Z,21nm,1.0s								
KBS	**Kingsbay**	49.34	359	*e*P		P	07 41 11.2	0.0	
KBS				pmax		pmax			
	comp=Z,14nm,0.8s								
KBS	**Kingsbay**	49.34	359	*e*P		P	07 41 11.2	0.0	
	comp=Z,14nm,0.8s								
H35A	**Sunnyside Ranc**	49.39	66	P		P	07 41 11.3	-0.8	
	baz=307,SNR=16								
N31A	**Bailey Ranch,**	49.39	73	P		P	07 41 12.0	-0.2	
	baz=309								
TLY	**Talaya**	49.40	305	P		P	07 41 11.3	-0.8	
	comp=Z,5.7nm,0.6s,baz=44,slow=5.0,SNR=9.7								
TLY	**Talaya**	49.40	305	*e*P		P	07 41 11.9	-0.2	
TLY				pmax		pmax			
	comp=Z,8.0nm,0.7s								
TLY	**Talaya**	49.40	305	*e*P		P	07 41 12.4	+0.4	
	comp=Z,11nm,0.7s								
F36A	**Milaca**	49.42	64	P		P	07 41 11.4	-0.9	
	baz=307,SNR=18								
K33A	**Hardington**	49.43	70	P		P	07 41 11.7	-0.8	
	baz=308,SNR=5.2								
121A	**Cookes Peak, D**	49.44	87	P		P	07 41 13.0	+0.2	
	baz=313,SNR=21								
121A	**Cookes Peak, D**	49.44	87	*e*P		P	07 41 13.0	+0.2	
	comp=Z,17nm,0.8s								
BGNE	**Belgrade**	49.50	72	P		P	07 41 12.5	-0.5	
	baz=308,SNR=11								
BJI	**Beijing**	49.51	286	P		P	07 41 12.8	-0.2	
BJI				PMZ					
	comp=Z,15nm,0.8s								
BJI				PMZ					
	comp=Z,120nm,6.4s								
BJT	**Baijiatuan**	49.53	286	*e*P		P	07 41 12.9	-0.3	
BJT				pmax		pmax			
	comp=Z,12nm,0.6s								
BJT	**Baijiatuan**	49.53	286	*e*P		P	07 41 12.9	-0.3	
	comp=Z,12nm,0.6s								
C38A	**Sawbill Land.**	49.54	61	P		P	07 41 12.2	-1.0	
	baz=306,SNR=6.0								
L33A	**Hoskins**	49.54	70	P		P	07 41 12.3	-1.0	
	baz=308,SNR=5.9								
O31A	**Woolen Ranch,**	49.60	74	P		P	07 41 13.6	-0.1	
	baz=309,SNR=12								
J34A	**George**	49.61	68	P		P	07 41 12.9	-0.9	
	baz=308,SNR=6.3								
E37A	**Wrenshall**	49.62	63	P		P	07 41 12.9	-0.9	
	baz=307								
G36A	**St. Michael**	49.67	65	P		P	07 41 13.5	-0.7	
	baz=307,SNR=5.8								
I35A	**Creekview Farm**	49.82	67	P		P	07 41 14.4	-0.9	
	baz=308,SNR=5.8								
N32A	**Stulken Farm,**	49.82	72	P		P	07 41 14.9	-0.6	
	baz=309,SNR=5.8								
ULN	**Ulaanbaatar**	49.88	300	⇑*i*P		P	07 41 14.0	-2.0	
ULN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
ULN	**Ulaanbaatar**	49.88	300	*e*P		P	07 41 15.6	-0.4	
	comp=Z,11nm,1.2s								
K34A	**Le Mars**	49.90	69	P		P	07 41 15.4	-0.6	
	baz=308								
HSIG		49.92	93	*e*P		P	07 41 16.6	+0.3	
	comp=Z,14nm,0.7s								
M33A	**Taylor Creek F**	49.96	71	P		P	07 41 15.8	-0.7	
	baz=309,SNR=14								
H36A	**Jessenland, He**	49.97	66	P		P	07 41 16.2	-0.3	
	baz=308,SNR=28								
J35A	**Milford**	49.99	68	P		P	07 41 15.8	-0.9	
	baz=308,SNR=6.1								
SPA0	**Spitsbergen Ar**	50.02	358	*e*P		P	07 41 15.4	-1.0	
L34A	**Svendsen Farm,**	50.19	70	P		P	07 41 17.4	-0.8	
	baz=309,SNR=18								
CBKS	**Cedar Bluff**	50.20	75	P		P	07 41 18.1	-0.3	
	baz=310								
SPMN	**Marine on St.**	50.21	64	P		P	07 41 17.6	-0.7	
	baz=308,SNR=13								
SPMN	**Marine on St.**	50.21	64	*e*P		P	07 41 17.8	-0.5	
	comp=Z,20nm,0.6s								
SONA1	**Songino Array**	50.24	300	*e*P		P	07 41 18.1	-0.6	
SONM	**Songino Array**	50.26	300	P		P	07 41 18.5	-0.3	
	comp=Z,4.1nm,0.7s,baz=48,slow=7.8,SNR=20								
SONM				PcP		PcP	07 42 37.0	-0.2	
	comp=Z,3.3nm,0.6s,baz=49,slow=1.9,SNR=4.8								
SONM				ScP		ScP	07 46 30.7	+1.9	
	comp=Z,5.2nm,0.8s,baz=41,slow=3.5,SNR=17								
I36A	**Fitzsimmons Fa**	50.27	66	P		P	07 41 17.6	-1.1	
	baz=308,SNR=6.8								
ZAK	**Zakamensk**	50.35	304	*e*P		P	07 41 18.5	-0.9	
ZAK				*e*			07 42 35.2		
ZAK				pmax		pmax			
	comp=Z,9.0nm,1.7s								
ZAK				pmax		pmax			
	comp=Z,11nm,1.3s								
M34A	**Aspy Farms, Fr**	50.36	71	P		P	07 41 18.5	-1.0	
	baz=309								
P32A	**Huiting Farm,**	50.36	74	P		P	07 41 19.0	-0.6	
	baz=310,SNR=12								
K35A	**Storm Lake**	50.38	68	P		P	07 41 18.7	-0.9	
	baz=308,SNR=12								
DAG	**Danmarks Havn**	50.39	8	⇑*i*P		P	07 41 17.6	-1.6	
	comp=Z,15nm,0.8s								
J36A	**Seneca 1, Swea**	50.51	67	P		P	07 41 19.7	-0.9	
	baz=308,SNR=7.9								
H37A	**Dierke Farm, C**	50.54	65	P		P	07 41 20.5	-0.3	
	baz=308,SNR=7.6								
L35A	**Bielow Farm, R**	50.58	69	P		P	07 41 20.0	-1.1	
	baz=309								
I37A	**Lemond, Waseca**	50.62	66	P		P	07 41 21.1	-0.3	
	baz=308,SNR=23								
O33A	**Hebron**	50.68	73	P		P	07 41 21.1	-0.8	
	baz=310,SNR=12								
MOY	**Mondy**	50.74	307	*e*P		P	07 41 22.0	-0.3	
MOY				pmax		pmax			
	comp=Z,27nm,1.6s								
Q32A	**Meitler Ranch,**	50.79	74	P		P	07 41 22.6	-0.2	
	baz=310,SNR=28								
N34A	**Lincoln**	50.83	71	P		P	07 41 21.8	-1.3	
	baz=309,SNR=7.6								
K36A	**Gilmore City**	50.88	68	P		P	07 41 22.4	-1.0	
	baz=309,SNR=17								
M35A	**Neola**	50.90	70	P		P	07 41 22.9	-0.7	
	baz=309,SNR=11								
J37A	**Redenius Farm,**	50.97	67	P		P	07 41 23.4	-0.6	
	baz=309,SNR=19								
P33A	**Williams Farm,**	51.02	73	P		P	07 41 23.6	-0.9	
	baz=310								
R32A	**Long Quarter,**	51.07	75	P		P	07 41 24.5	-0.4	
	baz=310,SNR=14								
L36A	**Harm Buss Farm**	51.09	69	P		P	07 41 23.6	-1.4	
	baz=309								
O34A	**Beatrice**	51.13	72	P		P	07 41 24.3	-1.0	
	baz=310,SNR=28								
I38A	**Scanlan Farm,**	51.20	65	P		P	07 41 25.1	-0.7	
	baz=308,SNR=11								
Q33A	**Connelly Farm,**	51.22	74	P		P	07 41 25.6	-0.4	
	baz=310,SNR=35								
K37A	**Belmond**	51.26	67	P		P	07 41 25.4	-0.8	
	baz=309,SNR=9.3								
N35A	**Tabor**	51.31	71	P		P	07 41 26.3	-0.3	
	baz=310,SNR=15								
S32A	**Newby Ranch, P**	51.41	76	P		P	07 41 26.7	-0.7	
	baz=311								
TIA	**Tai'an**	51.42	282	⇑P		P	07 41 26.5	-1.0	
TIA				PMZ					
	comp=Z,20nm,0.7s								
M36A	**Felix, Anita**	51.43	69	P		P	07 41 26.8	-0.7	
	baz=309,SNR=8.0								
P34A	**Walnut Farm, R**	51.46	73	P		P	07 41 26.9	-0.9	
	baz=310,SNR=7.5								
MNTX	**Cornudas Mount**	51.50	86	P		P	07 41 28.3	+0.2	
	baz=313,SNR=19								
MNTX	**Cornudas Mount**	51.50	86	*e*P		P	07 41 28.9	+0.8	
	comp=Z,14nm,0.8s								
O35A	**Humboldt**	51.54	71	P		P	07 41 26.9	-1.4	
	baz=310								
MSTX	**Muleshoe**	51.55	82	P		P	07 41 28.5	-0.2	
	baz=312,SNR=13								
MSTX	**Muleshoe**	51.55	82	*e*P		P	07 41 28.8	+0.1	
	comp=Z,53nm,1.4s								
SUMG	**Summit**	51.57	16	*e*P		P	07 41 28.3	-0.3	
SUMG				pmax		pmax			
	comp=Z,43nm,1.2s								
SUMG	**Summit**	51.57	16	⇑*i*P		P	07 41 28.1	-0.5	
	comp=Z,21nm,0.7s								
SUMG	**Summit**	51.57	16	*e*P		P	07 41 28.3	-0.3	
	comp=Z,43nm,1.2s								
J38A	**Wedel Dairy, R**	51.58	66	P		P	07 41 28.0	-0.6	
	baz=309,SNR=11								
R33A	**Olander Ranch,**	51.58	75	P		P	07 41 28.1	-0.6	
	baz=310,SNR=6.3								
L37A	**Phoenix Point,**	51.60	68	P		P	07 41 28.2	-0.6	
	baz=309,SNR=13								
AMTX	**Amarillo**	51.61	80	P		P	07 41 28.5	-0.5	
	baz=312								
AMTX	**Amarillo**	51.61	80	*e*P		P	07 41 29.9	+0.9	
	comp=Z,40nm,1.3s								
COWI	**Conover**	51.69	62	*e*P		P	07 41 28.2	-1.2	
	comp=Z,15nm,0.6s								
HHC	**Hu-ho-hao-te**	51.71	290	*e*P		P	07 41 28.5	-1.2	
HHC				sP		pP	07 41 42.0	-0.7	
HHC				S		S	07 48 43.8	-4.0	
HHC				PMZ					
	comp=Z,22nm,0.9s								
HHC				PMZ					
	comp=Z,250nm,7.0s								
HHC				LN					
	comp=Z,1μm,12.4s								
HHC				LE					
	comp=Z,860nm,12.2s								
HHC				LZ					
	comp=Z,2μm,12.8s								
N36A	**Muff Farm, Cla**	51.74	70	P		P	07 41 29.3	-0.6	
	baz=310								
T32A	**Huddler Ranch,**	51.76	76	P		P	07 41 29.5	-0.5	
	baz=311,SNR=5.9								
Q34A	**Chapman**	51.80	73	P		P	07 41 29.8	-0.6	
	baz=310,SNR=14								
K38A	**Parkersburg**	51.83	67	P		P	07 41 29.6	-0.9	
	baz=309,SNR=7.2								
KSU1	**Kansas State U**	51.88	73	P		P	07 41 30.0	-0.9	
	baz=310,SNR=10								
KSU1	**Kansas State U**	51.88	73	*e*P		P	07 41 30.2	-0.7	
	comp=Z,32nm,0.8s								
M37A	**Trindle Farm,**	51.89	69	P		P	07 41 30.5	-0.5	
	baz=310,SNR=17								
P35A	**Duane Minner,**	51.95	72	P		P	07 41 30.5	-0.9	
	baz=310								
J39A	**Decorah**	52.00	66	P		P	07 41 30.6	-1.2	
	baz=309,SNR=37								
R34A	**Isabella, Hill**	52.02	74	P		P	07 41 31.3	-0.7	
	baz=311,SNR=14								
S33A	**Kaszmaul Farm,**	52.04	75	P		P	07 41 31.3	-0.8	
	baz=311,SNR=5.3								
L38A	**Oak Wood Farm,**	52.05	68	P		P	07 41 31.3	-0.9	
	baz=310,SNR=22								
SCIA	**State Center**	52.05	68	*e*P		P	07 41 32.1	0.0	
	comp=Z,48nm,0.6s								
N37A	**Lee Faris, Mou**	52.22	70	P		P	07 41 32.9	-0.4	
	baz=310,SNR=17								
T33A	**Patterson Ranc**	52.23	76	P		P	07 41 32.7	-0.8	
	baz=311								
U32A	**Winter Ranch,**	52.24	77	P		P	07 41 33.2	-0.4	
	baz=311								
K39A	**Oelwein**	52.30	66	P		P	07 41 32.6	-1.4	
	baz=310,SNR=22								
P36A	**Good Intent, A**	52.37	72	P		P	07 41 33.5	-1.1	
	baz=310,SNR=34								
M38A	**Pleasantville**	52.38	69	P		P	07 41 33.7	-0.8	
	baz=309,SNR=12								
Q35A	**Mercer Eighty,**	52.38	73	P		P	07 41 33.5	-1.1	
	baz=311								
S34A	**Willow Spring**	52.50	75	P		P	07 41 34.5	-1.0	
	baz=311,SNR=6.5								
J40A	**Soldiers Grove**	52.51	65	P		P	07 41 34.1	-1.3	
	baz=309,SNR=7.6								
L39A	**Vinton**	52.61	67	P		P	07 41 35.2	-1.1	
	baz=310,SNR=24								
R35A	**Emporia Munici**	52.63	73	P		P	07 41 35.6	-0.9	
	baz=311,SNR=5.5								
O37A	**Wolven Farm, M**	52.63	70	P		P	07 41 35.6	-0.8	
	baz=310,SNR=19								
Q36A	**Arnold C. Orve**	52.65	72	P		P	07 41 35.3	-1.3	
	baz=311,SNR=6.9								
V32A	**Arapaho**	52.65	78	P		P	07 41 36.7	0.0	
	baz=312								
K40A	**Colesburg**	52.73	66	P		P	07 41 36.1	-1.0	
	baz=310								
U33A	**Lingo Farm, Me**	52.74	76	P		P	07 41 36.8	-0.5	
	baz=312								
N38A	**Joes South For**	52.76	69	P		P	07 41 36.5	-0.9	
	baz=310,SNR=24								
P37A	**Lathrop**	52.89	71	P		P	07 41 37.2	-1.2	
	baz=311,SNR=26								
T34A	**McClaskey Farm**	52.90	75	P		P	07 41 37.7	-0.8	
	baz=311,SNR=16								
M39A	**Webster**	52.92	68	P		P	07 41 37.8	-0.8	
	baz=310,SNR=50								
W32A	**Sentinel**	52.93	78	P		P	07 41 38.7	0.0	
	baz=312,SNR=10								
J41A	**Loganville**	52.93	65	P		P	07 41 37.5	-1.1	
	baz=310,SNR=14								
S35A	**Otter Creek Ra**	52.98	74	P		P	07 41 38.2	-0.9	
	baz=311,SNR=20								
V33A	**Lossen Ranch,**	53.04	77	P		P	07 41 39.1	-0.5	
	baz=312								
R36A	**Gordon, Harris**	53.04	73	P		P	07 41 38.6	-0.9	
	baz=311,SNR=29								
O38A	**Galt**	53.05	70	P		P	07 41 38.8	-0.8	
	baz=310								
U34A	**Anderson Ranch**	53.08	76	P		P	07 41 39.2	-0.6	
	baz=312,SNR=7.3								
U34A	**Anderson Ranch**	53.08	76	*e*P		P	07 41 39.6	-0.3	
	comp=Z,61nm,1.0s								
L40A	**Anamosa**	53.09	67	P		P	07 41 38.6	-1.2	
	baz=310,SNR=12								
JFWS	**Jewell Farm**	53.09	65	*e*P		P	07 41 38.8	-1.0	
JFWS				pmax		pmax			
	comp=Z,26nm,0.7s								
JFWS	**Jewell Farm**	53.09	65	*e*P		P	07 41 38.8	-1.0	
	comp=Z,26nm,0.7s								
N39A	**Derby Farms, D**	53.12	69	P		P	07 41 39.2	-0.9	
	baz=310,SNR=42								
NJ2	**Nanjing**	53.17	277	*e*P		P	07 41 41.0	+0.5	
NJ2				S		S	07 49 12.3	+4.6	
NJ2				PMZ					
	comp=Z,38nm,0.6s								
NJ2				LN					
	comp=Z,2μm,14.6s								
NJ2				LE					
	comp=Z,2μm,15.2s								
NJ2				LZ					
	comp=Z,2μm,16.3s								
K41A	**Shullsburg**	53.26	66	P		P	07 41 39.9	-1.1	
	baz=310,SNR=16								
Q37A	**Longview Farm,**	53.30	72	P		P	07 41 40.3	-1.1	
	baz=311								
P38A	**Dawn**	53.34	70	P		P	07 41 40.5	-1.2	
	baz=311,SNR=24								
SFJD	**Kangerlussuaq**	53.35	25	*e*P		P	07 41 41.5	+0.2	
SFJD				pmax		pmax			
	comp=Z,17nm,0.8s								
SFJD	**Kangerlussuaq**	53.35	25	*i* P		P	07 41 40.5	-0.8	
	comp=Z,18nm,0.8s								
SFJD	**Kangerlussuaq**	53.35	25	*e*P		P	07 41 41.5	+0.2	
	comp=Z,17nm,0.8s								
T35A	**Sooner Cattle**	53.38	75	P		P	07 41 41.0	-1.0	
	baz=312,SNR=8.4								
X32A	**Elmer**	53.38	79	P		P	07 41 41.6	-0.5	
	baz=312,SNR=7.4								
W33A	**Caddo, Fort Co**	53.38	78	P		P	07 41 42.2	+0.1	
	baz=312,SNR=6.7								
S36A	**Lake Cedric, C**	53.39	74	P		P	07 41 41.0	-1.1	
	baz=311,SNR=13								
R37A	**Teagarden Farm**	53.45	72	P		P	07 41 41.0	-1.5	
	baz=311,SNR=9.4								
WMOK	**Wichita Mounta**	53.47	78	P		P	07 41 42.3	-0.4	
	baz=312,SNR=9.6								
WMOK	**Wichita Mounta**	53.47	78	*e*P		P	07 41 43.0	+0.2	
WMOK				pmax		pmax			
	comp=Z,24nm,1.0s								
WMOK	**Wichita Mounta**	53.47	78	*e*P		P	07 41 43.0	+0.2	
	comp=Z,24nm,0.9s								
L41A	**Preston**	53.49	66	P		P	07 41 42.0	-0.8	
	baz=310								
V34A	**Guthrie**	53.49	77	P		P	07 41 42.0	-0.8	
	baz=312,SNR=8.7								
V34A	**Guthrie**	53.49	77	*e*P		P	07 41 42.7	-0.2	
	comp=Z,46nm,0.9s								
O39A	**Kirksville**	53.51	69	P		P	07 41 41.9	-1.0	
	baz=311,SNR=12								
U35A	**Pawnee**	53.61	76	P		P	07 41 42.8	-0.9	
	baz=312,SNR=5.0								
T36A	**Boggs Farm, Ca**	53.66	74	P		P	07 41 42.9	-1.1	
	baz=312,SNR=7.9								
Q38A	**Cooks Store, C**	53.73	71	P		P	07 41 43.0	-1.6	
	baz=311,SNR=23								
W34A	**Bridge Creek,**	53.74	77	P		P	07 41 44.5	-0.2	
	baz=312								
W34A	**Bridge Creek,**	53.74	77	*e*P		P	07 41 45.5	+0.8	
	comp=Z,38nm,1.0s								
X33A	**Lawton**	53.77	78	P		P	07 41 44.5	-0.4	
	baz=313								
S37A	**Fort Scott**	53.81	73	P		P	07 41 44.0	-1.2	
	baz=312,SNR=38								
P39B	**Salisbury**	53.89	70	P		P	07 41 44.5	-1.1	
	baz=311,SNR=35								
V35A	**Meyer Ranch, C**	53.95	76	P		P	07 41 45.5	-0.7	
	baz=312								
O40A	**La Belle**	53.98	69	P		P	07 41 45.3	-1.1	
	baz=311,SNR=59								
Q39A	**Willow Grove F**	54.05	71	P		P	07 41 45.2	-1.6	
	baz=311								
Y33A	**Hilltop Ranch,**	54.06	79	P		P	07 41 46.6	-0.4	
	baz=313,SNR=7.5								
R38A	**Fenwick Farm,**	54.08	72	P		P	07 41 44.8	-2.3	
	baz=312,SNR=23								
X34A	**Smith Ranch, M**	54.14	78	P		P	07 41 48.2	+0.7	
	baz=313								
T37A	**Cheneyville 18**	54.19	74	P		P	07 41 46.6	-1.3	
	baz=312,SNR=19								
U36A	**Oologah**	54.19	75	P		P	07 41 47.0	-0.9	
	baz=312								
TX31	**Lajitas Ar. Si**	54.20	87	*e*P		P	07 41 48.2	0.0	
TXAR	**Lajitas Array**	54.20	87	P		P	07 41 48.0	-0.2	
	comp=Z,22nm,0.8s,baz=299,slow=5.3,SNR=158								
TXAR				PcP		PcP	07 42 52.7	+0.5	
	comp=Z,5.2nm,0.6s,baz=281,slow=1.5,SNR=4.9								
TXAR				ScP		ScP	07 46 46.4	+0.2	
	comp=Z,2.3nm,0.7s,baz=290,slow=2.9,SNR=11								
P40A	**Paris**	54.27	70	P		P	07 41 47.4	-1.1	
	baz=311,SNR=65								
W35A	**Tecumseh**	54.34	77	P		P	07 41 48.7	-0.4	
	baz=312,SNR=12								
ABTX	**Abilene, Hawle**	54.39	81	P		P	07 41 49.2	-0.3	
	baz=313								
SLBS	**Sierra La Lagu**	54.40	97	*e*P		P	07 41 51.3	+1.6	
	comp=Z,150nm,1.9s								
S38A	**Stockton**	54.45	73	P		P	07 41 48.1	-1.7	
	baz=312,SNR=36								
Z33A	**Whitaker Ranch**	54.47	80	P		P	07 41 49.4	-0.6	
	baz=313,SNR=7.6								
V36A	**Jenks**	54.47	76	P		P	07 41 49.3	-0.7	
	baz=312,SNR=7.2								
TUL1	**Leonard**	54.48	75	P		P	07 41 49.3	-0.8	
	baz=312,SNR=9.9								
TUL1	**Leonard**	54.48	75	*e*P		P	07 41 49.5	-0.6	
	comp=Z,30nm,1.1s								
R39A	**Chumby, Stover**	54.50	71	P		P	07 41 49.2	-1.0	
	baz=312,SNR=6.2								
U37A	**Salina**	54.55	74	P		P	07 41 49.7	-0.8	
	baz=312,SNR=28								
O41A	**Passleys Farm,**	54.56	68	P		P	07 41 49.5	-1.0	
	baz=311,SNR=18								
Q40A	**Laux Farm, Aux**	54.61	70	P		P	07 41 49.8	-1.2	
	baz=312,SNR=28								
T38A	**Diamond**	54.62	73	P		P	07 41 49.8	-1.3	
	baz=312,SNR=15								
Y34A	**Reagan Ranch,**	54.62	78	P		P	07 41 50.9	-0.2	
	baz=313,SNR=13								
HPIG		54.67	90	*e*P		P	07 41 52.1	+0.3	
	comp=Z,14nm,1.0s								
W36A	**Wetumka**	54.74	76	P		P	07 41 51.5	-0.5	
	baz=313,SNR=8.7								
P41A	**Barry, Barry**	54.74	69	P		P	07 41 50.6	-1.3	
	baz=311,SNR=8.7								
S39A	**Bolivar**	54.75	72	P		P	07 41 49.8	-2.2	
	baz=312,SNR=15								
X35A	**Drake**	54.79	78	P		P	07 41 51.8	-0.6	
	baz=313,SNR=9.1								
133A	**Hamilton Ranch**	54.84	80	P		P	07 41 52.5	-0.3	
	baz=314,SNR=13								
V37A	**Hulbert**	54.89	75	P		P	07 41 51.9	-1.1	
	baz=312,SNR=14								
Z34A	**Collier Ranch,**	54.92	79	P		P	07 41 53.0	-0.4	
	baz=313,SNR=8.1								
U38A	**Gravette**	54.96	74	P		P	07 41 52.4	-1.2	
	baz=312								
R40A	**Maddies Statio**	54.97	71	P		P	07 41 51.5	-2.1	
	baz=312,SNR=18								
X36A	**Centrahoma**	55.05	77	P		P	07 41 54.1	-0.1	
	baz=313,SNR=8.0								
Y35A	**Marietta**	55.09	78	P		P	07 41 54.9	+0.4	
	baz=313								
T39A	**Clever**	55.16	73	P		P	07 41 53.2	-1.8	
	baz=312,SNR=28								
HDIL	**Hopedale**	55.17	67	P		P	07 41 54.0	-1.0	
	baz=312,SNR=17								
HDIL	**Hopedale**	55.17	67	*e*P		P	07 41 54.1	-1.0	
	comp=Z,48nm,0.8s								
W37B	**Quinton**	55.22	76	P		P	07 41 55.1	-0.3	
	baz=313,SNR=15								
P42A	**Winchester**	55.22	68	P		P	07 41 54.1	-1.3	
	baz=312,SNR=16								
233A	**Rising Star**	55.26	81	P		P	07 41 55.5	-0.3	
	baz=314,SNR=18								
S40A	**Lebanon**	55.29	72	P		P	07 41 54.3	-1.6	
	baz=312								
HHAR	**Hobbs**	55.33	74	*e*P		P	07 41 55.0	-1.2	
	comp=Z,13nm,0.8s								
V38A	**Canehill**	55.34	74	P		P	07 41 55.2	-1.0	
	baz=313,SNR=21								

baz=314,SNR=19
WHTX Lake Whitney, 56.16 80 P P 07 42 02.0 -0.1
baz=314,SNR=6.2
W39A Magazine 56.16 75 P P 07 42 01.5 -0.7
baz=313,SNR=22
V40A Witts Springs 56.32 73 P P 07 42 01.8 -1.6
baz=313,SNR=24
136A Ennis 56.38 79 P P 07 42 03.8 0.0
baz=314
X39A Fountain Ranch 56.44 75 P P 07 42 03.8 -0.3
baz=313,SNR=18
Q44A Meyer Farm, Va 56.44 68 P P 07 42 02.8 -1.3
baz=312,SNR=10
VLDQ Val d'Or 56.47 53 *e*P P 07 42 02.1 -2.0
comp=Z,31nm,0.9s
434A Burnet 56.48 82 P P 07 42 04.2 -0.4
baz=314,SNR=19
U41A Viola 56.48 72 P P 07 42 02.5 -1.9
baz=313,SNR=13
533A Kerrville 56.53 83 P P 07 42 03.9 -1.0
baz=315,SNR=9.2
SFIN Lafayette 56.54 66 P P 07 42 04.0 -0.7
baz=312,SNR=15
W40A Ferguson Farm, 56.59 74 P P 07 42 04.4 -0.8
baz=313,SNR=18
335A Moody 56.67 81 P P 07 42 05.9 +0.1
baz=314
SCHQ Schefferville 56.70 42 P P 07 42 05.2 -0.5
comp=Z,28nm,0.8s,baz=324,slow=7.7,SNR=38
SCHQ Schefferville 56.70 42 *e*P P 07 42 05.3 -0.5
comp=Z,36nm,0.9s
236A Katherine and 56.72 79 P P 07 42 05.7 -0.5
baz=314,SNR=7.7
V41A Mountainview 56.73 73 P P 07 42 04.5 -1.8
baz=313,SNR=16
S43A Fulton Ridge, 56.73 70 P P 07 42 04.8 -1.3
baz=313,SNR=37
ZAA0 Zalesovo Array 56.73 317 *e*P P 07 42 04.6 -1.4
ZALV Zalesovo Beam 56.73 317 P P 07 42 04.6 -1.3
comp=Z,4.3nm,0.5s,baz=42,slow=5.1,SNR=11
ZALV PcP **PcP** 07 43 01.4 0.0
comp=Z,8.4nm,0.9s,baz=35,slow=4.4,SNR=6.4
MIAR Mount Ida 56.73 75 P P 07 42 05.8 -0.4
baz=313,SNR=31
MIAR Mount Ida 56.73 75 *e*P P 07 42 05.7 -0.5
MIAR pmax pmax
comp=Z,61nm,1.0s
MIAR Mount Ida 56.73 75 *e*P P 07 42 05.7 -0.5
comp=Z,61nm,1.0s
137A Heron Place, G 56.77 78 P P 07 42 06.6 +0.1
baz=314
NVS Novosibirsk 56.77 318 *i*P P 07 42 05.1 -1.1
Z38A Mt. Pleasant 56.78 77 P P 07 42 06.5 -0.1
baz=314
Y39A Lockesburg 56.84 76 P P 07 42 06.6 -0.4
baz=314
R44A Waltonville 56.85 69 P P 07 42 05.6 -1.3
baz=313,SNR=9.0
633A Saathoff Ranch 56.88 83 P P 07 42 06.6 -0.7
baz=315
U42A Revenden 56.88 72 P P 07 42 05.2 -2.0
baz=313,SNR=9.6
534A Blanco 56.91 82 P P 07 42 06.5 -1.1
baz=315,SNR=8.1
435B Jarrell 56.92 81 P P 07 42 07.3 -0.3
baz=315
X201 Greenbrier Sit 56.94 74 *e*P P 07 42 06.8 -1.0
comp=Z,18nm,0.9s
336A Riesel 56.95 80 P P 07 42 07.1 -0.7
baz=314
X301 Greenbrier Sit 56.96 74 *e*P P 07 42 06.8 -1.0
comp=Z,24nm,0.9s
WHN Wuhan 56.98 279 ⇓P P 07 42 07.5 -0.5
WHAR Wooly Hollow 56.99 74 *e*P P 07 42 07.3 -0.7
comp=Z,12nm,0.7s
PBMO Poplar Bluff 57.06 71 *e*P P 07 42 07.1 -1.4
comp=Z,25nm,1.0s
OLIL Olney 57.08 68 *e*P P 07 42 07.8 -0.8
comp=Z,60nm,0.7s
W41B Gary Mavity, V 57.09 74 P P 07 42 07.4 -1.3
baz=313,SNR=18
S44A Carbondale 57.12 69 P P 07 42 07.7 -1.3
baz=313,SNR=11
138A Matatall Enter 57.13 78 P P 07 42 08.8 -0.3
baz=314
SIUC Southern Illin 57.13 69 *e*P P 07 42 08.6 -0.4
comp=Z,26nm,0.7s
237A Washetta, Mont 57.15 79 P P 07 42 08.6 -0.6
baz=314
V42A Cord 57.17 72 P P 07 42 07.7 -1.6
baz=313,SNR=5.3
X40A Basin Creek Fa 57.22 75 P P 07 42 08.4 -1.3
baz=314,SNR=10
832A Faith Ranch, C 57.22 85 P P 07 42 09.2 -0.5
baz=316,SNR=19
Y40A Okolona 57.28 75 P P 07 42 09.3 -0.8
baz=314,SNR=5.6
UALR University of 57.31 74 *e*P P 07 42 09.7 -0.6
comp=Z,24nm,1.0s
733A Divot King Ran 57.33 84 P P 07 42 10.4 -0.2
baz=315,SNR=8.8
X41A Kaden, Bauxite 57.40 74 P P 07 42 10.0 -0.9
baz=314,SNR=10
436A Wall Ranch, Ga 57.41 81 P P 07 42 11.4 +0.3
baz=315
535A Dale 57.46 82 P P 07 42 10.9 -0.6
baz=315,SNR=5.9
S45A Carrier Mills 57.52 69 P P 07 42 10.6 -1.2
baz=313,SNR=12
PARMO Parma 57.54 71 *e*P P 07 42 10.9 -1.0
833A Chaparral WMA, 57.55 84 P P 07 42 12.0 -0.1
baz=316,SNR=18
238A Jacksonville 57.57 78 P P 07 42 12.5 +0.4
baz=314
BLO Bloomington 57.68 66 *e*P P 07 42 12.0 -0.8
BLO pmax pmax
comp=Z,28nm,0.8s
BLO Bloomington 57.68 66 *e*P P 07 42 12.0 -0.8
comp=Z,28nm,0.8s
734A La Parita Cree 57.70 83 P P 07 42 13.0 -0.1
baz=315,SNR=7.3
Z40A Long Farm, Mag 57.73 76 P P 07 42 12.7 -0.6
baz=314,SNR=5.1
SSLB Suanglung 57.76 268 *e*P P 07 42 13.8 +0.2
comp=Z,20nm,0.7s
Y41A Eaglette Beard 57.77 75 P P 07 42 13.1 -0.4
baz=314,SNR=11
635A Leesville 57.79 82 P P 07 42 13.3 -0.5
baz=315,SNR=7.3
KEV Kevo 57.82 352 *e*P P 07 42 12.2 -1.1
KEV pmax pmax
comp=Z,14nm,1.0s
KEV Kevo 57.82 352 *e*P P 07 42 12.2 -1.1
comp=Z,14nm,1.0s
XAN Xi'an 57.82 285 P P 07 42 13.0 -1.0
XAN pP pP 07 42 25.8 -1.4
XAN PMZ
comp=Z,30nm,0.9s
USIN University of 57.85 68 *e*P P 07 42 13.2 -0.8
comp=Z,91nm,0.7s
SADO Sadowa 57.88 57 *e*P P 07 42 13.4 -0.8
comp=Z,25nm,0.8s
Z41A Richland Creek 58.09 76 P P 07 42 15.8 +0.1
baz=314
933A Laredo 58.13 85 P P 07 42 16.4 +0.2
baz=316,SNR=9.9
735A Kenedy 58.15 83 P P 07 42 16.3 +0.1
baz=315
ARA0 ARCESS Array S 58.15 353 *e*P P 07 42 13.8 -2.0
ARCES ARCESS Array B 58.15 353 P P 07 42 14.1 -1.6
comp=Z,6.3nm,0.6s,baz=21,slow=7.0,SNR=27
ARCES PcP **PcP** 07 43 06.0 -0.8
comp=Z,4.9nm,0.6s,baz=23,slow=4.1,SNR=8.9
ARCES PKPPKP **P'P'df** 08 12 01.4 -1.2
comp=Z,2.2nm,0.8s,baz=318,slow=1.2,SNR=4.5
ARE0 ARCESS Array S 58.15 353 *e*P P 07 42 14.1 -1.6
comp=Z,43nm,1.8s
636A Smothers Creek 58.16 82 P P 07 42 16.9 +0.5
baz=315
834A Tilden 58.21 84 P P 07 42 17.1 +0.3
baz=316
438A Sam Houston St 58.23 80 P P 07 42 17.1 +0.3
baz=315
CCAR Cane Creek 58.24 74 *e*P P 07 42 16.7 -0.2
comp=Z,134nm,1.5s
UTMT University of 58.28 70 *e*P P 07 42 16.8 -0.3
comp=Z,82nm,0.7s
Y42A Garnett, Star 58.29 74 P P 07 42 17.1 -0.1
baz=314
HALT Halls 58.30 71 *e*P P 07 42 17.6 +0.4
TPUB Ta-pu 58.32 268 *e*P P 07 42 18.1 +0.5
comp=Z,89nm,1.5s
X43A Marvell 58.36 73 P P 07 42 17.1 -0.5
baz=314
WCI Wyandotte Cave 58.46 67 *e*P P 07 42 17.4 -1.0
WCI pmax pmax
comp=Z,35nm,0.8s
WCI Wyandotte Cave 58.46 67 *e*P P 07 42 17.4 -1.0
comp=Z,35nm,0.8s
141A Papa Simpson, 58.48 76 P P 07 42 18.3 -0.3
baz=314
MET Memphis--Engin 58.50 72 *e*P P 07 42 19.8 +1.2
comp=Z,94nm,0.6s
736A Circle Diamond 58.53 82 P P 07 42 19.1 +0.2
baz=316
835A Beeville 58.54 83 P P 07 42 19.5 +0.5
baz=316,SNR=5.2
W44A Shelby Farms P 58.55 72 P P 07 42 19.0 0.0
baz=314
Z42A Norrel Spur, H 58.59 75 P P 07 42 18.7 -0.5
baz=314,SNR=5.7
934A Benavides 58.61 84 P P 07 42 20.0 +0.5
baz=316,SNR=6.8
V45A Humboldt 58.64 71 P P 07 42 19.3 -0.3
baz=314
340A Bronson 58.73 78 P P 07 42 20.0 -0.2
baz=315
X44A Crenshaw 58.80 73 P P 07 42 20.4 -0.4
baz=314
LVZ Lovozero 58.83 349 ⇑*i*P P 07 42 18.7 -1.8
LVZ pmax pmax
comp=Z,18nm,0.6s
LVZ Lovozero 58.83 349 *e*P P 07 42 18.9 -1.6
comp=Z,22nm,0.7s
241A Tay, Goldon 58.88 77 P P 07 42 21.5 +0.1
baz=315
034A Hebbronville 58.89 85 P P 07 42 21.8 +0.4
baz=316,SNR=6.2
W45A Hickory Valley 58.91 72 P P 07 42 20.9 -0.6
baz=314,SNR=12
ACSO Alum Creek Sta 58.93 63 *e*P P 07 42 20.8 -0.8
comp=Z,13nm,0.6s
WVT Waverly 59.03 70 *e*P P 07 42 21.8 -0.5
WVT pmax pmax
comp=Z,38nm,1.3s
WVT Waverly 59.03 70 *e*P P 07 42 21.8 -0.5
comp=Z,38nm,1.3s
Y44A Strider, Charl 59.14 73 P P 07 42 22.4 -0.7
baz=314
440A Kirbyville 59.16 79 P P 07 42 23.4 +0.2
baz=315
TRQ Mont Tremblant 59.20 53 *e*P P 07 42 22.5 -1.0
341A Kurthwood 59.22 77 P P 07 42 23.7 0.0
baz=315,SNR=5.4
OXF Oxford 59.23 72 *e*P P 07 42 23.3 -0.4
OXF pmax pmax
comp=Z,140nm,1.1s
OXF Oxford 59.23 72 *e*P P 07 42 23.3 -0.4
comp=Z,136nm,1.1s
ERPA Erie 59.26 60 *e*P P 07 42 23.6 -0.2
comp=Z,45nm,0.9s
BUF Buffalo 59.30 59 *e*P P 07 42 24.7 +0.7
X45A UM Field Stati 59.30 72 P P 07 42 23.4 -0.8
baz=314
143A Socs Landing, 59.31 75 P P 07 42 23.5 -0.8
baz=315
242A Grayson 59.32 76 P P 07 42 23.4 -0.9
baz=315
035A Encino 59.34 85 P P 07 42 24.7 +0.2
baz=316
GTA Gaotai 59.37 296 ⇑P P 07 42 23.3 -1.5
GTA pP pP 07 42 32.5 -5.5
GTA sP sP 07 42 36.0 -7.4
GTA S S 07 50 27.8 -2.2
GTA PMZ
comp=Z,13nm,1.6s
GTA PMZ
comp=Z,150nm,5.7s
GTA LN
comp=Z,1μm,16.2s
GTA LE
comp=Z,910nm,17.1s
GTA LZ
comp=Z,2μm,15.2s
LZH Lanzhou 59.39 290 ⇓P P 07 42 25.3 +0.3
LZH pP pP 07 42 36.3 -1.9
LZH sP sP 07 42 41.0 -2.6
LZH PP **PP** 07 44 38.5 +2.4
LZH *e*S **S** 07 50 29.0 -1.4
LZH sS sS 07 50 47.0 -5.5
LZH PMZ
comp=Z,56nm,1.0s
LZH PMZ
comp=Z,250nm,6.5s
LZH LN
comp=Z,500nm,14.2s
LZH LE
comp=Z,680nm,15.0s
LZH LZ
comp=Z,940nm,17.4s
Z44A Pea Ridge, Bel 59.49 74 P P 07 42 25.7 +0.2
baz=315
ALLY Alegheny Colle 59.50 60 *e*P P 07 42 25.7 +0.2
comp=Z,79nm,0.9s
Y45A Yeager Farm, C 59.60 73 P P 07 42 25.7 -0.5
baz=315,SNR=5.3
ZAIG Zacatecas 59.63 91 *e*P P 07 42 27.0 +0.1
comp=Z,9.9nm,1.0s
035Z Hargill 59.71 85 P P 07 42 27.5 +0.4
baz=316
243A Waterproof 59.85 76 P P 07 42 27.6 -0.4
baz=315
M54A Oil Creek Stat 59.86 60 P P 07 42 27.2 -0.8
baz=314,SNR=8.0
Z45A Winona 59.86 73 P P 07 42 28.0 -0.1
baz=315
MMNY Mt. Morris Dam 59.93 58 *e*P P 07 42 28.6 +0.1
Y46A Houston 60.00 72 P P 07 42 28.2 -0.8
baz=315,SNR=18
N54A Moraine State 60.06 61 P P 07 42 28.8 -0.5
baz=314,SNR=8.7
ENH Enshi 60.13 282 *e*P P 07 42 29.4 -0.6
comp=Z,19nm,0.7s
244A Avery, Jackson 60.21 75 P P 07 42 30.2 -0.2
baz=315,SNR=12
145A Houston Renfro 60.26 74 P P 07 42 30.7 -0.2
baz=315
LMQ La Malbaie 60.31 50 *e*P P 07 42 30.3 -0.7
LONY Lake Ozonia 60.32 55 *e*P P 07 42 30.3 -0.8
comp=Z,14nm,0.8s
Z46A Louisville 60.43 73 P P 07 42 31.6 -0.3
baz=315
Y47A UCPARC, Winfie 60.58 72 P P 07 42 32.1 -0.8
baz=315,SNR=6.5
344A Westbrook Farm 60.60 76 P P 07 42 32.8 -0.4
baz=315
FRNY Flat Rock 60.66 54 *e*P P 07 42 32.2 -1.2
comp=Z,18nm,1.0s
245A Little AP, Sta 60.69 75 P P 07 42 33.3 -0.4
baz=315,SNR=5.0
146A Union 60.76 74 P P 07 42 33.3 -0.9
baz=315,SNR=7.6
SWET Sewanee 60.77 69 *e*P P 07 42 33.2 -1.1
comp=Z,74nm,1.2s
Z47A Carrollton 60.94 72 P P 07 42 34.4 -1.1
baz=315,SNR=18
NCB Newcomb 60.96 55 *e*P P 07 42 35.0 -0.4
comp=Z,0.7nm,1.6s
Z48A Northport 61.12 72 P P 07 42 35.6 -1.1
baz=315,SNR=16
345A Thompson Farm, 61.12 75 P P 07 42 36.3 -0.4
baz=316
TZTN Tazewell 61.20 67 *e*P P 07 42 36.7 -0.4
comp=Z,25nm,0.9s
147A Livingston 61.20 73 P P 07 42 36.4 -0.8
baz=315,SNR=11
BINY Binghamton 61.31 57 *e*P P 07 42 38.1 +0.2
comp=Z,69nm,1.3s
O56A Blue Knob Stat 61.32 61 P P 07 42 37.2 -0.8
baz=315,SNR=11
445A Amite 61.35 76 P P 07 42 38.1 -0.1
baz=316
346A Big Creek Wild 61.41 75 P P 07 42 38.6 0.0
baz=316
CPCT Cooper Cave 61.41 68 *e*P P 07 42 37.9 -0.8
comp=Z,6.6nm,0.7s
SSPA Standing Stone 61.42 60 *e*P P 07 42 38.4 -0.2
comp=Z,30nm,0.8s
247A Quitman 61.44 74 P P 07 42 38.5 -0.3
baz=316,SNR=5.4
MDV Middlebury 61.47 54 *e*P P 07 42 38.9 +0.1
ACCN Adirondack Com 61.66 55 *e*P P 07 42 40.0 -0.1
comp=Z,62nm,1.4s
TKL Tuckaleechee C 61.70 68 *e*P P 07 42 39.5 -1.1
TKL Tuckaleechee C 61.70 68 *e*P P 07 42 39.5 -1.1
comp=Z,17nm,0.9s
KURK Kurchatov 61.70 317 *c i*P P 07 42 39.1 -1.2
KURK pmax pmax
comp=Z,95nm,0.7s
KURK Kurchatov 61.70 317 *e*P P 07 42 39.8 -0.5
comp=Z,99nm,0.8s
KURK ScP **ScP** 07 47 19.9 +1.1
KURBB Kurchatov Arra 61.80 317 ScP **ScP** 07 47 19.9 +0.6
comp=Z,1.2nm,0.7s,baz=43,slow=4.2,SNR=5.9
248A Dixon Mills 61.93 73 P P 07 42 41.6 -0.5
baz=316,SNR=7.0
347A Saraland 61.95 74 P P 07 42 42.1 -0.1
baz=316,SNR=8.2
546A Slidell 62.08 76 P P 07 42 43.3 +0.2
baz=316
HNH Hanover 62.13 54 *e*P P 07 42 43.1 -0.1
comp=Z,43nm,1.3s
TRY Troy 62.13 56 *e*P P 07 42 43.6 +0.3
comp=Z,74nm,1.4s
447A Lucedale 62.31 75 P P 07 42 44.2 -0.5
baz=316
348A Jackson 62.32 74 P P 07 42 44.5 -0.3
baz=316
N59A State Game Lan 62.34 58 P P 07 42 44.6 -0.2
baz=316,SNR=14
PKME Peaks-Kenny Pk 62.46 51 *e*P P 07 42 45.2 -0.3
comp=Z,1nm,1.1s
BLA Blacksburg 62.48 64 *e*P P 07 42 45.8 0.0
BLA Blacksburg 62.48 64 *e*P P 07 42 45.8 0.0
comp=Z,53nm,0.7s
CHKZ Chkalovo 62.57 324 *i*P P 07 42 44.9 -1.2
CHKZ pmax pmax
comp=Z,4.0nm,0.4s
FFD Franklin Falls 62.61 54 *e*P P 07 42 46.8 +0.3
comp=Z,31nm,0.8s
WMQ Urumqi 62.63 307 P P 07 42 46.5 -0.2
WMQ pP pP 07 43 00.5 +0.5
WMQ sP sP 07 43 04.8 -0.6
WMQ PMZ
comp=Z,13nm,0.7s
WMQ PMZ
comp=Z,210nm,6.1s
WMQ LN
comp=Z,770nm,14.7s
WMQ LE
comp=Z,490nm,20.9s
WMQ LZ
comp=Z,320nm,20.1s
448A Bay Minette 62.69 74 P P 07 42 47.0 -0.2
baz=316
MVL Millersville 62.70 59 *e*P P 07 42 46.7 -0.4
comp=Z,14nm,0.7s
MOIG Morelia 62.78 93 *e*P P 07 42 49.1 +0.8
comp=Z,32nm,0.9s
LUPA Lehigh Univers 62.78 58 *e*P P 07 42 48.0 +0.2
comp=Z,35nm,0.6s
WVL Waterville 62.80 52 *e*P P 07 42 47.1 -0.6
comp=Z,80nm,1.1s
ODNJ Ogdensburg 62.84 57 *e*P P 07 42 48.0 -0.1
comp=Z,16nm,0.8s
SDMD Soldier's Deli 62.86 60 *e*P P 07 42 48.2 -0.1
comp=Z,18nm,1.0s
MK31 Makanchi Array 63.02 312 *e*P P 07 42 48.1 -1.1
MK31 Makanchi Array 63.02 312 *e*P P 07 42 48.1 -1.1
MKAR Makanchi Array 63.02 312 P P 07 42 47.9 -1.3
comp=Z,4.7nm,0.4s,baz=48,slow=6.1,SNR=76
MKAR PcP **PcP** 07 43 28.9 +2.1
comp=Z,4.3nm,0.8s,baz=52,slow=6.3,SNR=4.4
MKAR PKPPKP **P'P'df** 08 11 47.8 -6.0
comp=Z,0.2nm,0.3s,baz=221,slow=2.6,SNR=4.5
MK01 Makanchi Array 63.03 312 *e*P P 07 42 48.2 -1.1
CD2 Chengdu 63.11 286 P P 07 42 50.0 -0.1
CD2 sP pP 07 43 05.8 +2.4
CD2 S S 07 51 17.8 +0.2
CD2 sS sS 07 51 36.8 -3.1
CD2 SS SS 07 55 24.5 +1.0
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
QUA2 Belchertown 63.13 55 *e*P P 07 42 49.8 -0.2
comp=Z,18nm,0.9s
BRNJ Basking Ridge 63.15 58 *e*P P 07 42 50.3 +0.2
comp=Z,32nm,0.6s
MAKZ Makanchi 63.15 312 *e*P P 07 42 49.1 -1.0
MAKZ Makanchi 63.15 312 *e*P P 07 42 49.1 -1.0
comp=Z,7.8nm,0.7s
BVA0 Borovoye Array 63.17 323 *i*P P 07 42 48.9 -1.2
BVA0 pmax pmax
comp=Z,42nm,0.6s
BVAR Borovoye Array 63.17 323 PKPPKP **P'P'df** 08 11 51.8 -2.1
comp=Z,1.1nm,0.6s,baz=241,slow=3.1,SNR=5.7
BVAR LR LR 08 12 52.3
comp=Z,777nm,19.1s,baz=232,slow=38
BRVK Borovoye 63.19 323 *c i*P P 07 42 48.7 -1.5
BRVK pmax pmax
comp=Z,21nm,0.6s
BRVK Borovoye 63.19 323 *e*P P 07 42 50.1 -0.1
comp=Z,74nm,0.7s
VOSK Vostochnaya 63.19 323 P P 07 42 48.5 -1.7
VOSK pmax pmax
comp=Z,16nm,0.8s
PAL Palisades 63.26 57 *e*P P 07 42 51.3 +0.5
PAL Palisades 63.26 57 *e*P P 07 42 51.3 +0.5
comp=Z,52nm,1.0s
SVE Sverdlovsk 63.35 331 ⇓*e*P P 07 42 51.1 -0.1
SVE pmax pmax
comp=Z,36nm,0.6s
HRV Adam Dziewonsk 63.36 55 *e*P P 07 42 51.5 0.0
HRV Adam Dziewonsk 63.36 55 *e*P P 07 42 51.5 0.0
comp=Z,67nm,1.4s
CPNY Central Park 63.38 57 *e*P P 07 42 52.2 +0.6
comp=Z,49nm,1.1s
CBN Corbin Frederi 63.44 61 *e*P P 07 42 52.2 +0.1
comp=Z,101nm,1.4s
KMSC Kings Mountain 63.45 66 P P 07 42 51.6 -0.7
baz=316,SNR=26
KMSC Kings Mountain 63.45 66 *e*P P 07 42 51.8 -0.4
comp=Z,49nm,0.8s
GOGA Godfrey 63.48 69 *e*P P 07 42 51.5 -1.0
GOGA Godfrey 63.48 69 *e*P P 07 42 51.5 -1.0
comp=Z,38nm,1.0s
YLE Yale 63.53 56 *e*P P 07 42 53.0 +0.4
comp=Z,32nm,0.9s
WES Weston 63.57 54 *e*P P 07 42 52.9 0.0
WES Weston 63.57 54 *e*P P 07 42 52.9 0.0
comp=Z,63nm,0.8s
BCX Boston College 63.68 54 *e*P P 07 42 53.6 0.0
comp=Z,237nm,1.8s
GGN Saint George 63.74 50 *e*P P 07 42 53.5 -0.4
comp=Z,75nm,1.2s
ZRNK Zerenda 63.74 324 *i*P P 07 42 52.9 -1.0
ZRNK pmax pmax
comp=Z,60nm,0.5s
EMMW East Machias 63.75 50 *e*P P 07 42 53.8 -0.2
comp=Z,112nm,1.3s
BRYW Bryant College 63.80 55 *e*P P 07 42 54.3 -0.1
comp=Z,36nm,0.8s
JSC Jenkinsville 64.12 67 *e*P P 07 42 56.6 0.0
JSC Jenkinsville 64.12 67 *e*P P 07 42 56.6 0.0
comp=Z,34nm,0.8s
LMN Caledonia Moun 64.14 48 *e*P P 07 42 56.5 -0.1
comp=Z,88nm,0.8s
ARU Arti 64.30 332 *d i*P P 07 42 56.5 -1.0
ARU 07 43 30.4
ARU 07 45 15.4
ARU S S 07 51 33.2 +1.7
ARU SS SS 07 55 39.9 -0.7
ARU pmax pmax
comp=Z,42nm,0.7s
ARU Arti 64.30 332 *e*P P 07 42 56.3 -1.1
comp=Z,44nm,0.6s
GYA Guiyang 64.60 281 P P 07 43 01.3 +1.3
GYA pP pP 07 43 12.3 -1.1
GYA ScP 07 47 33.5
GYA S S 07 51 36.3 0.0

GYA sS sS 07 51 54.8 -3.8
GYA ScS **SKSac** **07 52 48.0 -2.6**
GYA SS **SS** **07 55 47.5 +0.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.8s
GYA LN
comp=Z,440nm,20.2s
GYA LE
comp=Z,410nm,22.0s
GYA LZ
comp=Z,420nm,20.3s
DRLN Deer Lake 64.70 41 *e*P **P 07 42 59.9 -0.2**
comp=Z,71nm,0.9s
KLMR Klimovskoe 64.77 344 *e*P **P 07 42 58.1 -2.4**
KLMR pmax pmax
comp=Z,5.0nm,0.8s
TIGA Tifton 64.84 71 P **P 07 43 00.5 -0.8**
baz=317
NHSC New Hope 65.59 67 *e*P **P 07 43 06.4 +0.2**
comp=Z,82nm,0.8s
FIA1 FINESS Array S 66.04 351 *e*P **P 07 43 07.1 -1.5**
comp=Z,9.4nm,0.8s
FINES FINESS Array B 66.04 351 P **P 07 43 06.8 -1.8**
comp=Z,6.6nm,0.6s,baz=28,slow=8.6,SNR=25
FINES PcP **PcP 07 43 37.5 -1.4**
comp=Z,5.0nm,0.5s,baz=53,slow=4.5,SNR=7.2
FINES PKPPKP **P'P'df 08 11 43.0 -6.6**
comp=Z,3.1nm,0.8s,baz=112,slow=2.1,SNR=8.4
OTUK Ortayu 66.21 319 P **P 07 43 08.4 -1.6**
OTUK pmax pmax
comp=Z,15nm,0.7s
TAOE Nuku Hiva Isla 66.38 146 *e*LR LR 08 03 06.2
comp=Z,1μm,23.2s,baz=353
TAOE Nuku Hiva Isla 66.38 146 *e*T T 08 55 33.4
comp=Z,42nm,0.2s
PDGK Podgornoye 66.94 311 *i*P **P 07 43 12.9 -1.8**
PDGK pmax pmax
comp=Z,18nm,0.8s
NC204 NORSAR Array S 67.08 359 *e*P **P 07 43 14.1 -1.3**
NC303 NORSAR Array S 67.12 358 *e*P **P 07 43 14.5 -1.1**
NC405 NORSAR Array S 67.23 358 *e*P **P 07 43 15.3 -1.0**
NB201 NORSAR Array S 67.30 358 *e*P **P 07 43 15.8 -1.0**
NBO02 NORSAR Array S 67.31 359 *e*P **P 07 43 16.1 -0.6**
NB2 NORSAR Subarra 67.31 358 P **P 07 43 15.4 -1.4**
comp=Z,8.3nm,0.7s,baz=3.1,slow=6.5
NOA NORSAR Array B 67.31 358 P **P 07 43 15.6 -1.2**
comp=Z,6.5nm,0.6s,baz=2.6,slow=6.3,SNR=38
NOA PcP **PcP 07 43 44.3 +0.1**
comp=Z,2.0nm,0.7s,baz=2.7,slow=4.6,SNR=4.3
NOA LR LR 08 11 47.3
comp=Z,217nm,21.3s,baz=0.0,slow=35
NBO00 NORSAR Array S 67.33 359 *e*P **P 07 43 16.8 -0.1**
NAO01 NORSAR Array S 67.51 359 *e*P **P 07 43 17.7 -0.4**
NC602 NORSAR Array S 67.61 358 *e*P **P 07 43 18.0 -0.7**
KMI Kunming 67.96 283 P **P 07 43 23.0 +1.3**
KMI PMZ
comp=Z,34nm,0.8s
KMI PMZ
comp=Z,490nm,8.2s
KMI LN
comp=Z,2μm,14.1s
KMI LE
comp=Z,960nm,13.6s
KMI LZ
comp=Z,1μm,14.7s
DWPF Disney Wildern 68.55 72 *e*P **P 07 43 25.1 +0.1**
comp=Z,46nm,1.0s
KONO Kongsberg 68.73 359*c*e**P P 07 43 23.9 -1.7**
KONO pmax pmax
comp=Z,115nm,1.7s
KONO Kongsberg 68.73 359 *e*P **P 07 43 25.2 -0.4**
comp=Z,64nm,1.7s
VSU Vasula 68.90 350⇑ *i*P **P 07 43 25.3 -1.4**
VSU pmax pmax
comp=Z,102nm,0.7s
TKM2 Tokmak 2 69.03 313 *e*P **P 07 43 27.8 -0.3**
TKM2 Tokmak 2 69.03 313 *e*P **P 07 43 27.8 -0.3**
comp=Z,58nm,1.6s
FRU Bishkek 69.54 314⇑ *e*P **P 07 43 29.0 -2.1**
FRU *e* 07 43 48.0
FRU pmax pmax
comp=Z,55nm,1.5s
AKTO Aktyubinsk 69.61 329 *i*P **P 07 43 29.7 -1.6**
AKTO pmax pmax
comp=Z,69nm,0.6s
AAK Ala-Archa 69.75 314*c i*P **P 07 43 32.4 -0.1**
AAK pmax pmax
comp=Z,74nm,0.7s
AAK Ala-Archa 69.75 314 *e*P **P 07 43 32.5 0.0**
comp=Z,32nm,0.7s
MSVF Nonsavu 69.98 190 *e*P **P 07 43 34.4 +0.5**
MSVF pmax pmax
comp=Z,43nm,1.2s
MSVF Nonsavu 69.98 190 *e*P **P 07 43 34.4 +0.5**
comp=Z,43nm,1.2s
AB31 Akbulak array 70.00 327 *i*P **P 07 43 32.7 -1.0**
AB31 pmax pmax
comp=Z,13nm,0.4s
EKS2 Erkin-Say 70.05 314 *e*P **P 07 43 34.3 0.0**
EKS2 Erkin-Say 70.05 314 *e*P **P 07 43 34.3 0.0**
comp=Z,30nm,0.6s
OBN Obninsk 70.72 343⇓ *e*P **P 07 43 36.3 -1.7**
OBN *e*S **S 07 52 41.7 -6.8**
OBN pmax pmax
comp=Z,13nm,0.9s
OBN MLR MLR
comp=Z,487nm,20.0s
MNAS Manas 70.75 315 *i*P **P 07 43 38.0 -0.6**
MNAS pmax pmax
comp=Z,14nm,0.5s
KK31 Karatay Array 71.11 317 *i*P **P 07 43 39.1 -1.5**
KK31 pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 71.11 317 *e*P **P 07 43 39.8 -0.8**
KKAR Karatay Array 71.11 317 *e*P **P 07 43 39.8 -0.8**
LSA Lhasa 71.31 294 P **P 07 43 43.3 +0.8**
LSA PMZ
comp=Z,46nm,0.8s
LSA Lhasa 71.31 294 *e*P **P 07 43 43.4 +0.8**
LSA pmax pmax
comp=Z,50nm,0.7s
LSA Lhasa 71.31 294 *e*P **P 07 43 43.4 +0.8**
comp=Z,50nm,0.7s
KSH Kashi 71.56 311 P **P 07 43 46.5 +3.0**
KSH pP pP 07 43 57.8 +0.7
KSH PcP **PcP 07 44 05.8 +3.1**
KSH PP **PP 07 46 27.0 +4.8**
KSH S **S 07 53 00.5 +1.5**
KSH ScS **SKKSac** **07 53 43.5 +0.4**
KSH SS **SS 07 57 38.0 +4.2**
KSH PMZ
comp=Z,34nm,0.7s
KSH LN
comp=Z,620nm,12.6s
KSH LE
comp=Z,490nm,12.8s
KSH LZ
comp=Z,1μm,13.3s
PPT2 Papeete2 71.91 158 *e*LR LR 08 05 41.7
comp=Z,937nm,23.0s,baz=349
PPT2 Papeete2 71.91 158 *e*T T 09 02 29.3
comp=Z,5.5nm,0.3s
TIAR Tiarei 71.93 158 *e*T T 09 02 30.5
comp=Z,6.7nm,0.2s
PAE Paea 71.98 158 *e*T T 09 02 34.2
comp=Z,1.1nm,0.2s
BSD Bornholm Skovb 73.14 356 *i*P **P 07 43 50.8 -1.6**
comp=Z,8.3nm,0.5s
SKNT Sakolnakorn 73.34 276 P **P 07 43 55.5 +1.3**
comp=Z,19nm,1.3s
MYLDM Lahad Datu 73.54 257 *e*P **P 07 43 56.7 +1.2**
comp=Z,16nm,0.8s
SUW Suwalki 73.65 351 *e*P **P 07 43 54.4 -1.1**
SUW Suwalki 73.65 351 *e*P **P 07 43 54.4 -1.1**
UBPT Khong Chiam 73.72 274 P **P 07 43 57.2 +0.8**
comp=Z,18nm,0.9s
RGN Rugen 73.77 357 *e*P **P 07 43 57.0 +0.9**
comp=Z,61nm,0.9s
SHL Shillong 74.05 291 *e*P **P 07 43 58.0 -0.5**
BBSR BB Station 74.60 57 *e*P **P 07 44 01.6 +0.2**
comp=Z,20nm,0.7s
LAMP Lampang 74.82 281 P **P 07 44 07.3 +4.4**
comp=Z,5.4nm,1.1s
UTTA Uttaradit 74.85 279 P **P 07 44 03.3 +0.3**
comp=Z,17nm,0.8s,comp=Z,122nm
CMMT Chiang Mai 75.02 281 P **P 07 44 04.3 +0.3**
comp=Z,23nm,1.4s
CHTO Chiang Mai 75.02 281 P **P 07 44 04.3 +0.3**
comp=Z,89nm,1.5s
CHTO Chiang Mai 75.02 281 *e*P **P 07 44 04.7 +0.7**
CHTO Chiang Mai 75.02 281 *e*P **P 07 44 04.7 +0.7**
comp=Z,20nm,1.1s
CMAR Chiang Mai Arr 75.29 281 P **P 07 44 05.8 +0.2**
comp=Z,14nm,0.7s,baz=28,slow=6.8,SNR=56
PBKT Sadao Pong 75.50 278 P **P 07 44 07.7 +1.0**
comp=Z,11nm,0.9s
GUN Gumba 75.63 297 *e*P **P 07 44 07.6 -0.3**
comp=Z,62nm,0.5s
TGUH Tegucigalpa,Un 75.65 86 *e*P **P 07 44 07.9 +0.3**
comp=Z,34nm,1.0s
RAMN Ramite 75.98 296 *e*P **P 07 44 09.2 -0.5**
comp=Z,125nm,0.6s
KKN Kakani 76.05 297 *e*P **P 07 44 09.7 -0.4**
comp=Z,56nm,0.7s
DZM Mont Dzumac 76.17 201 *e*P **P 07 44 10.0 -0.4**
comp=Z,98nm,1.1s
DZM Mont Dzumac 76.17 201 *e*LR LR 08 07 34.0
comp=Z,1μm,21.2s
DZM Mont Dzumac 76.17 201 *e*P **P 07 44 10.1 -0.4**
AKASG Malin Array Be 76.17 346 P **P 07 44 08.1 -2.0**
comp=Z,6.7nm,0.5s,baz=16,slow=5.9,SNR=18
KIEV Kiev 76.18 346 *e*P **P 07 44 08.5 -1.6**
KIEV pmax pmax
comp=Z,14nm,1.2s
KIEV Kiev 76.18 346 *e*P **P 07 44 08.5 -1.6**
comp=Z,14nm,1.2s
GKN Gorkha 76.24 298 *e*P **P 07 44 10.5 -0.6**
comp=Z,60nm,0.5s
DMN Daman 76.29 297 *e*P **P 07 44 11.1 -0.4**
comp=Z,67nm,0.9s
COEN Coen 76.38 225 *e*P **P 07 44 11.2 -0.5**
comp=Z,16nm,1.1s
KOLN Koldanda 76.99 298 *e*P **P 07 44 14.8 -0.6**
comp=Z,37nm,0.7s
CLL Collm 77.02 357 *e*P **P 07 44 14.0 -0.9**
comp=Z,10.0nm,0.5s
CLL Collm 77.02 357 *e*P **P 07 44 14.0 -0.9**
CLL pmax pmax
comp=Z,10.0nm,0.5s
CLL Collm 77.02 357 *e*P **P 07 44 13.8 -1.1**
comp=Z,20nm,1.2s
PYUN Piuthan 77.06 299 *e*P **P 07 44 15.2 -0.6**
comp=Z,85nm,0.9s
UMPA Umpang Tak 77.07 280 P **P 07 44 18.2 +2.5**
comp=Z,8.4nm,1.0s,comp=Z,924nm
KSP Ksiaz 77.33 355 *e*P **P 07 44 16.7 0.0**
KSP Ksiaz 77.33 355 *e*P **P 07 44 16.7 0.0**
TBI Tubuai 77.49 159 *e*LR LR 08 08 18.1
comp=Z,1μm,25.0s,baz=343
TBI Tubuai 77.49 159 *e*T T 09 09 26.9
comp=Z,14nm,0.2s
OJC Ojcow 77.72 352 *e*P **P 07 44 18.6 -0.2**
OJC Ojcow 77.72 352 *e*P **P 07 44 18.6 -0.2**
PVCC Panska Ves 77.73 356 *e*P **P 07 44 18.3 -0.6**
PVCC Panska Ves 77.73 356 *e*P **P 07 44 18.3 -0.6**
DPC Dobruska-Polom 77.82 355 *e*P **P 07 44 18.9 -0.6**
DPC Dobruska-Polom 77.82 355 *e*P **P 07 44 18.9 -0.6**
KWP Kalwaria Pacla 78.03 350 *e*P **P 07 44 20.6 0.0**
KWP Kalwaria Pacla 78.03 350⇓ *i*P **P 07 44 19.9 -0.7**
KWP Kalwaria Pacla 78.03 350⇓ P **P 07 44 19.9 -0.7**
KRLC Kraliky 78.07 354 *e*P **P 07 44 20.2 -0.7**
KRLC Kraliky 78.07 354 *e*P **P 07 44 20.2 -0.7**
MORC Moravsky Berou 78.32 354⇓ *i*P **P 07 44 21.7 -0.5**
MORC Moravsky Berou 78.32 354⇓ P **P 07 44 21.7 -0.5**
MORC Moravsky Berou 78.32 354 *e*P **P 07 44 21.5 -0.8**
comp=Z,22nm,0.8s
NIE Niedzica 78.47 352 *e*P **P 07 44 22.7 -0.3**
NIE Niedzica 78.47 352 *e*P **P 07 44 22.7 -0.3**
KOLS Kolonicke sedl 78.77 351 *e*P **P 07 44 23.3 -1.4**
KOLS Kolonicke sedl 78.77 351 *e*P **P 07 44 23.3 -1.4**
LANS Liptovska Anna 78.80 353 *e*P **P 07 44 25.0 +0.1**
LANS Liptovska Anna 78.80 353 *e*P **P 07 44 25.0 +0.1**
SORM Soroca 78.81 346⇑ *i*P **P 07 44 23.2 -1.6**
SORM Soroca 78.81 346 ⇑P **P 07 44 23.2 -1.6**
SORM Soroca 78.81 346⇑ *i*P **P 07 44 23.2 -1.6**
GOF Gofitskoye 78.81 336⇑ *e*P **P 07 44 24.3 -0.7**
KBL Kabul 78.82 313 *e*P **P 07 44 23.9 -1.6**
KBL Kabul 78.82 313 *e*P **P 07 44 23.9 -1.6**
comp=Z,26nm,0.6s
VRAC Vranov 78.85 354⇑ *i*P **P 07 44 25.1 0.0**
VRAC Vranov 78.85 354 ⇑P **P 07 44 25.1 0.0**
PHET Kaeng Krachan 79.13 277 P P 07 44 37.1 +10
KHC Kasperske Hory 79.17 356 *e*P **P 07 44 26.5 -0.4**
KHC Kasperske Hory 79.17 356 *e*P **P 07 44 26.6 -0.4**
KHC Kasperske Hory 79.17 356 *e*P **P 07 44 26.6 -0.4**
comp=Z,12nm,1.5s
KECS Kecovo 79.38 352 *e*P **P 07 44 26.1 -1.9**
KECS pmax pmax
comp=Z,5.0nm,1.3s
KECS Kecovo 79.38 352 *e*P **P 07 44 26.1 -1.9**
GEC2 GERESS Array S 79.45 356 *e*P **P 07 44 28.0 -0.5**
GEC2 pmax pmax
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 79.45 356 *e*P **P 07 44 28.0 -0.5**
comp=Z,5.4nm,0.7s
GERES GERESS Array B 79.45 356 P **P 07 44 27.8 -0.7**
comp=Z,3.8nm,0.6s,baz=19,slow=5.4,SNR=20
GEA0 GERESS Array S 79.46 356 *e*P **P 07 44 27.9 -0.7**
VYHS Vyhne 79.51 353 *e*P **P 07 44 27.9 -0.8**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 79.51 353 *e*P **P 07 44 27.9 -0.8**
BUR08 Bucovina Ar. S 79.71 348 *e*P **P 07 44 28.9 -1.0**
BURAR Bucovina Array 79.74 348⇓ *i*P **P 07 44 29.0 -1.1**
BURAR Bucovina Array 79.74 348⇓ P **P 07 44 29.0 -1.1**
KIV Kislovodsk 79.93 336 *e*P **P 07 44 30.5 -0.7**
KIV pmax pmax
comp=Z,15nm,0.9s
BFO Black Forest 80.07 360 *i*P **P 07 44 32.0 +0.2**
KBZ Khabaz 80.09 335 P **P 07 44 32.0 +0.1**
comp=Z,6.9nm,0.7s,baz=37,slow=5.1,SNR=11
NCK Nalchik 80.12 335⇓ *e*P **P 07 44 32.2 0.0**
NCK pmax pmax
comp=Z,25nm,0.4s
CONA Conrad Observa 80.27 355 *i*P **P 07 44 30.7 -2.2**
comp=Z,6.1nm,0.6s,SNR=5.5
GEYT Alibek 80.48 322 P **P 07 44 33.7 -0.5**
comp=Z,5.7nm,0.4s,baz=351,slow=4.7,SNR=8.5
CTA Charters Tower 80.59 220 LR LR 08 14 58.5
comp=Z,255nm,20.6s,slow=32
DRGR 80.84 350⇓ *i*P **P 07 44 34.6 -1.4**
DRGR 80.84 350⇓ P **P 07 44 34.6 -1.4**
KAPI Kappang 80.95 250 LR LR 08 17 33.8
comp=Z,74nm,20.4s,baz=103,slow=33
ARSA Arzberg 80.96 355 *e*P **P 07 44 35.3 -1.3**
comp=Z,4.8nm,0.7s
MOTA Moosalm 81.03 358 *i*P **P 07 44 36.8 -0.3**
comp=Z,6.3nm,0.7s
MTN Manton Dam 81.16 236 *e*P **P 07 44 37.7 -0.2**
comp=Z,41nm,0.8s
KBA Koelnbreinsper 81.23 357 *i*P **P 07 44 38.0 -0.2**
comp=Z,16nm,0.6s,SNR=11
DOPR Dopca 81.33 348⇓ *i*P **P 07 44 36.0 -2.6**
FETA Feichten 81.36 358 *e*P **P 07 44 38.5 -0.3**
comp=Z,12nm,1.0s,SNR=6.1
RKT Rikitea 81.39 146 *e*LR LR 08 10 06.2
comp=Z,1μm,22.5s,baz=342
RKT Rikitea 81.39 146 *e*T T 09 14 22.8
comp=Z,2.4nm,0.2s
SOKA Soboth 81.56 355 *i*P **P 07 44 39.2 -0.7**
comp=Z,8.0nm,0.8s,SNR=7.8
TLCR 81.61 345⇓ *i*P **P 07 44 39.5 -0.5**
TLCR 81.61 345⇓ P **P 07 44 39.6 -0.5**
CFR Carcaliu 81.73 346⇓ *i*P **P 07 44 40.2 -0.4**
CFR Carcaliu 81.73 346⇓ P **P 07 44 40.2 -0.4**
MLR Muntele Rosu 81.73 348⇓ *i*P **P 07 44 40.7 -0.1**
MLR Muntele Rosu 81.73 348⇓ P **P 07 44 40.7 -0.1**
OBKA Obir 81.75 356 *i*P **P 07 44 39.2 -1.6**
comp=Z,5.3nm,0.5s
FUORN Ofenpass-Fuorn 81.77 359 *e*P **P 07 44 41.3 +0.2**
comp=Z,30nm,1.4s
VOIR 81.90 348⇓ *i*P **P 07 44 42.2 +0.6**
VOIR 81.90 348⇓ P **P 07 44 42.2 +0.6**
PDKS Podkum 82.17 355 *i*P **P 07 44 46.5 +3.5**
JAVS Javornik 82.39 356 *i*P **P 07 44 42.9 -1.4**
TIRR Tirgusor 82.39 346⇓ *i*P **P 07 44 43.7 -0.4**
TIRR Tirgusor 82.39 346⇓ P **P 07 44 43.7 -0.4**
TIRR Tirgusor 82.39 346 *e*P **P 07 44 43.9 -0.2**
comp=Z,46nm,1.6s
BOJS Bojanci 82.72 355 *i*P **P 07 44 45.2 -0.6**
SKLT Songkhla 82.97 273 P **P 07 44 51.6 +4.0**
comp=Z,25nm,1.3s
TRTT Trang 83.03 274 P **P 07 44 51.3 +3.5**
comp=Z,26nm,1.0s
LRS Lares 84.59 67 *e*P **P 07 44 56.2 +0.4**
PDG Podgorica 85.49 352⇓ *i*P **P 07 44 59.1 -0.9**
STVI Saint Thomas 85.61 66 *e*P **P 07 45 01.1 +0.2**
comp=Z,39nm,1.1s
WRAB Tennant Creek 85.63 230 *e*P **P 07 45 00.6 -0.2**
WRAB pmax pmax
comp=Z,25nm,1.2s
WRAB Tennant Creek 85.63 230 *e*P **P 07 45 00.6 -0.2**
comp=Z,25nm,1.2s
WB2 Warramunga Arr 85.63 230 *e*P **P 07 45 00.5 -0.4**
comp=Z,30nm,1.3s
WRA Warramunga Arr 85.64 230 P **P 07 44 59.5 -1.3**
comp=Z,11nm,1.0s,baz=36,slow=5.3,SNR=34
PBRG Braganca 85.69 11 *e*P **P 07 45 00.8 -0.2**
POLO Lamas de Olo 85.98 12 *e*P **P 07 45 01.9 -0.7**
comp=Z,16nm,1.9s
BR131 Keskin Array S 86.04 341 *e*P **P 07 45 02.6 -0.3**
BRTR Keskin Array B 86.04 341 P **P 07 45 02.5 -0.4**
comp=Z,4.3nm,0.6s,baz=28,slow=2.5,SNR=15
BRTR PKKPbc **PKKPbc 08 03 00.6 +0.6**
comp=Z,1.2nm,0.6s,baz=178,slow=5.8,SNR=4.5
BR231 Keskin MP Arra 86.10 341 *e*P **P 07 45 03.2 0.0**
MVO Moncorvo 86.29 12 *e*P **P 07 45 03.4 -0.6**
PVIS Viseu 86.62 12 *e*P **P 07 45 05.1 -0.5**
comp=Z,16nm,1.0s
MOTC Monteria, Cord 86.86 80 *e*P **P 07 45 06.9 -0.2**
PCAS Casmilo, Conde 87.19 13 *e*P **P 07 45 07.9 -0.5**
comp=Z,34nm,1.9s
PSI Prapat 87.42 271 *e*P **P 07 45 10.4 +0.4**
PSI pmax pmax
comp=Z,32nm,0.9s
PSI Prapat 87.42 271 *e*P **P 07 45 10.4 +0.4**
comp=Z,32nm,0.9s
PCBR Castelo Branco 87.53 12 *e*P **P 07 45 09.0 -1.0**
comp=Z,16nm,1.8s
PTOM Tomar 87.63 13 *e*P **P 07 45 09.7 -0.8**
comp=Z,31nm,1.4s
HYB Hyderabad 88.03 296 *i*P **P 07 45 11.5 -1.3**
ES19 SONSECA Array 88.08 9 *e*P **P 07 45 11.9 -0.9**
ESDC Sonseca Array 88.10 9 P **P 07 45 11.8 -1.0**
comp=Z,4.5nm,0.6s,baz=347,slow=4.6,SNR=22
ESLA Sonseca Array 88.10 9 *e*P **P 07 45 12.1 -0.7**
comp=Z,5.8nm,0.8s
ARMA Armidale 88.12 211 *e*P **P 07 45 14.3 +1.5**
comp=Z,24nm,1.3s
FITZ Fitzroy Crossi 88.42 238 *e*P **P 07 45 15.0 +0.7**
comp=Z,37nm,1.1s
PESTR Estremoz 88.48 12 *e*P **P 07 45 14.2 -0.3**
comp=Z,19nm,2.6s
OCAC Ocana 88.71 78 *e*P **P 07 45 17.3 +1.2**
EVO Evora 88.75 13 *e*P **P 07 45 14.4 -1.4**
HELC Santa Helena 88.97 81 *e*P **P 07 45 18.4 +0.8**
HELC Santa Helena 88.97 81 *e*P **P 07 45 17.9 +0.3**
comp=Z,17nm,1.0s
AS01 Alice Springs 89.02 228 *e*P **P 07 45 16.9 -0.2**
AS31 Alice Springs 89.05 228 *e*P **P 07 45 16.9 -0.3**
comp=Z,7.8nm,0.6s
ASAR Alice Springs 89.05 228 P **P 07 45 16.8 -0.5**
comp=Z,28nm,0.8s,baz=26,slow=4.8,SNR=146
BRRC Barranca, Sant 89.36 79 *e*P **P 07 45 18.9 -0.1**
GRMC Gramalote, San 89.43 78 *e*P **P 07 45 18.4 -1.1**
CBRI Barrientos, No 89.44 78 *e*P **P 07 45 19.5 -0.1**
NORC Norcasia 89.86 81 *e*P **P 07 45 21.1 -0.3**
PVAQ Vaqueiros 89.90 13 *e*P **P 07 45 20.7 -0.5**
comp=Z,46nm,1.8s
BARC Barichara 90.09 79 *e*P **P 07 45 22.2 -0.5**
RUSC La Rusia 90.70 80 *e*P **P 07 45 25.5 -0.3**
ROSC El Rosal 90.77 81 P **P 07 45 27.3 +1.3**
comp=Z,5.7nm,0.7s,baz=122,slow=7.8,SNR=6.4
POPC Popayan, Colom 91.12 84 *e*P **P 07 45 27.7 +0.2**
CHIC Chingaza 91.29 81 *e*P **P 07 45 28.8 +0.3**
PRAC Prado 91.31 82 *e*P **P 07 45 28.8 +0.7**
PRAC Prado 91.31 82 *e*P **P 07 45 28.3 +0.2**
comp=Z,23nm,0.8s
CMBC Cumbal 91.67 86 *e*P **P 07 45 29.9 -0.4**
LAST Lasithi 91.94 346 *e*P **P 07 45 29.9 -0.9**
comp=Z,191nm,1.9s
STKA Stephens Creek 92.98 218 P **P 07 45 35.6 +0.4**
comp=Z,2.5nm,0.4s,baz=15,slow=6.9,SNR=7.2
STKA Stephens Creek 92.98 218 *e*P **P 07 45 35.3 +0.1**
comp=Z,3.5nm,1.3s
MBWA Marble Bar 94.07 241 *e*P **P 07 45 40.4 -0.1**
comp=Z,42nm,1.4s
PALK Pallekele 94.97 288 P **P 07 45 45.1 +0.1**
comp=Z,12nm,0.8s,baz=84,slow=4.5,SNR=4.8
TORD Torodi Ar. Bea 114.90 7 PKP PKPdf 07 51 02.0 -1.1
comp=Z,0.8nm,0.5s,baz=342,slow=2.7,SNR=10
TORD PKKPbc **PKKPbc 08 01 37.7 +0.1**
comp=Z,1.4nm,0.8s,baz=181,slow=3.6,SNR=7.1
TORD PKKPab **PKKPab 08 01 43.5 -4.7**
comp=Z,3.0nm,0.8s,baz=177,slow=4.1,SNR=13
TORD PKKP **PKKPdf 08 01 57.4 -2.4**
comp=Z,1.3nm,0.7s,baz=182,slow=4.4,SNR=4.6
DBIC Dimbokro 120.51 15 PKP **PKPdf 07 51 13.1 -0.8**
comp=Z,1.2nm,0.4s,baz=319,slow=2.3,SNR=5.2
KMBO Kilima Mbogo 123.81 324 PKP **PKPdf 07 51 21.2 +0.7**
comp=Z,1.1nm,0.3s,baz=3.4,slow=4.1,SNR=3.0
CPUP Villa Florida 125.15 89 PKP **PKPdf 07 51 21.8 -0.6**
comp=Z,3.2nm,0.7s,baz=301,slow=3.3,SNR=11
PLCA Paso Flores 126.99 111 PKP **PKPdf 07 51 26.2 +0.7**
comp=Z,9.9nm,0.8s,baz=329,slow=3.2,SNR=18
PLCA Paso Flores 126.99 111 *e*PKIKP **PKPdf 07 51 26.0 +0.5**
PLCA Paso Flores 126.99 111 *e*PKPdf **PKPdf 07 51 26.0 +0.5**
SBA Scott Base 130.24 186 *e*PKIKP **PKPdf 07 51 31.1 +0.6**
SBA Scott Base 130.24 186 *e*PKPdf **PKPdf 07 51 31.1 +0.6**
VNDA Vanda 130.27 187 PKP **PKPdf 07 51 30.6 -0.1**
comp=Z,0.8nm,0.7s,baz=13,slow=2.1,SNR=4.6
VNDA SKPbc **SKPbc 07 54 49.8 +0.2**
comp=Z,2.5nm,1.0s,baz=7.6,slow=3.2,SNR=9.0
VNDA Vanda 130.27 187 *e*PKIKP **PKPdf 07 51 31.0 +0.4**
VNDA Vanda 130.27 187 *e*PKPdf **PKPdf 07 51 30.9 +0.4**
VNDA SKPbc **SKPbc 07 54 49.8 +0.2**
TRQA Tornquist 130.33 103 *e*PKPdf **PKPdf 07 51 32.5 +0.6**
QSPA South Pole Qui 141.73 180 *e*PKPpre PKPpre 07 51 45.7
TSUM Tsumeb 146.49 344 *e*PKPdf **PKPbc 07 52 03.4 -0.2**
MAW Mawson 149.67 218 PKPbc **PKPbc 07 52 10.6 +0.4**
comp=Z,45nm,0.9s,baz=83,slow=2.2,SNR=59
MAW Mawson 149.67 218 *e*PKPbc **PKPbc 07 52 11.2 +1.0**
LBTB Lobatse 150.02 327 *e*PKP2 **PKPbc 07 52 13.0 +0.3**
LBTB Lobatse 150.02 327 *e*PKPbc **PKPbc 07 52 13.0 +0.3**
BOSA Boshof 153.45 325 PKPbc **PKPbc 07 52 21.1 +0.7**
comp=Z,9.7nm,0.6s,baz=28,slow=1.8,SNR=13
BOSA PKPab **PKPab 07 52 32.2 -0.5**
comp=Z,9.9nm,0.7s,baz=52,slow=3.5,SNR=9.8
SYO Syowa Base 157.43 209⇓ *e*PKPdf pPKPdf 07 52 24.2 -6.9
SNAA Sanae 159.62 170 *e*PKIKP **PKPdf 07 52 19.9 +0.6**
SNAA *e* 07 52 56.7
SNAA Sanae 159.62 170 *e*PKPdf **PKPdf 07 52 19.9 +0.6**
SNAA *e*PKPab **PKPab 07 52 56.7 -1.4**

IDC 28 07:33:43.4±3.1, 52.39N×171.20W, h0km, mb4.3/3, mb1 4.7/4, mb1mx3.9/49, mbtmp4.4/4, ML3.9/1, Error ellipse: s-maj=83.8km s-min=34.2km az=177.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**18.77**	**285**	P	P	07 38 03.7	-0.2
	1.8nm,0.3s,baz=84,slow=14,SNR=3.5						
INK	**Inuvik**	**23.96**	**34**	P	P	07 38 58.3	-0.6
	9.4nm,0.9s,baz=216,slow=8.7,SNR=1.5						
YKA	**Yellowknife Ar**	**31.08**	**49**	P	P	07 40 03.2	+0.4
	1.8nm,0.3s,baz=278,slow=8.3,SNR=5.3						
PDAR	**Pinedale Array**	**41.50**	**78**	P	P	07 41 32.2	-0.1
	1.8nm,0.4s,baz=316,slow=5.0,SNR=3.7						

*DDA **28** 07:36:12.8,39.14N×29.00E,h9km,Ml3.2*
*ISK **28** 07:36:12.4,39.16N×29.02E,h6km,ML3.1*
*CSEM **28** 07:36:13.0±0.1,39.16N×29.01E,h5km,ML3.2,Error ellipse: s-maj=2.7km s-min=2.5km az=147.0*
ISC 28 07:36:13.1±1.0, 39.16N±0.02×29.00E±0.02, h6km±9km, n56, σ0.951/78, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**243**	P	**Pg**	**07 36 18.3**	**+0.3**
DEMI				S	**Sg**	**07 36 21.9**	**+0.5**
DEMI	**Demirci**	**0.25**	**243**	*i*P	**Pg**	**07 36 18.3**	**+0.3**

DEMI					*i* S	**Sg**	**07 36 21.9**	**+0.5**
GEDZ	**Gediz**	**0.34**	**110**	*e*PG	**Pg**	**07 36 19.6**	**-0.1**
GEDZ				*e*SG	**Sg**	**07 36 24.2**	**0.0**
GEDZ	**Gediz**	**0.34**	**110**	*e*Pg	**Pg**	**07 36 19.6**	**-0.1**
GEDZ				*e*Sg	**Sg**	**07 36 24.2**	**0.0**
GDZ	**Gediz**	**0.38**	**100**	P	**Pg**	**07 36 20.2**	**-0.3**
GDZ				S	**Sg**	**07 36 25.3**	**-0.2**
GDZ	**Gediz**	**0.38**	**100**	*i* P	**Pg**	**07 36 20.2**	**-0.3**
GDZ				*i* S	**Sg**	**07 36 25.3**	**-0.2**
TVSB	**Tavsanli**	**0.46**	**51**	PG	**Pg**	**07 36 21.9**	**-0.1**
TVSB				*e*SG	**Sg**	**07 36 27.9**	**-0.2**
TVSB	**Tavsanli**	**0.46**	**51**	*i* Pg	**Pg**	**07 36 21.9**	**-0.1**
TVSB				*e*Sg	**Sg**	**07 36 27.9**	**-0.2**
KULA	**Kula-Manisa**	**0.70**	**203**	PG	**Pg**	**07 36 26.2**	**-0.2**
KULA				*e*SG	**Sb**	**07 36 36.3**	**-1.2**
KULA	**Kula-Manisa**	**0.70**	**203**	*i* Pg	**Pg**	**07 36 26.2**	**-0.2**
KULA				*e*Sg	**Sb**	**07 36 36.3**	**-1.2**
MANT	**Manisa**	**0.75**	**208**	P	**Pg**	**07 36 26.6**	**-0.9**
MANT	**Manisa**	**0.75**	**208**	*i* P	**Pg**	**07 36 26.6**	**-0.9**
KHL	**Karahalli**	**0.93**	**154**	*e*PG	**Pg**	**07 36 30.7**	**-0.2**
KHL	**Karahalli**	**0.93**	**154**	*e*Pg	**Pg**	**07 36 30.7**	**-0.2**
AKS	**Akhisar**	**0.97**	**254**	*e*PG	**Pb**	**07 36 32.2**	**+0.1**
AKS	**Akhisar**	**0.97**	**254**	*e*Pg	**Pb**	**07 36 32.3**	**+0.1**
BALB	**Balikesir**	**0.99**	**299**	*e*PG	**Pn**	**07 36 33.1**	**-0.4**
BALB				*e*SG	**Sb**	**07 36 46.8**	**+0.8**
BALB	**Balikesir**	**0.99**	**299**	*e*Pg	**Pn**	**07 36 33.1**	**-0.4**
BALB				*e*Sg	**Sb**	**07 36 46.8**	**+0.8**
IGD	**Bursa**	**1.11**	**8**	*i* P	**Pg**	**07 36 34.3**	**-0.2**
IGD				*i* S	**Sb**	**07 36 49.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.21**	**336**	*e*PN	**Pn**	**07 36 36.3**	**-0.3**
KCTX	**Karacabey (Bur**	**1.21**	**336**	*e*Pn	**Pn**	**07 36 36.3**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.21**	**356**	*e*PN	**Pg**	**07 36 35.4**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.21**	**356**	*e*Pn	**Pg**	**07 36 35.4**	**-0.9**
BALY	**Balya**	**1.22**	**299**	P	**Pg**	**07 36 37.1**	**+0.4**
BALY				S	**Sg**	**07 36 51.5**	**-0.7**
BALY	**Balya**	**1.22**	**299**	*i* P	**Pn**	**07 36 37.1**	**+0.4**
BALY				*i* S	**Sg**	**07 36 51.5**	**-0.7**
CAVI	**Cavuskoy**	**1.23**	**32**	*e*PN	**Pg**	**07 36 36.3**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**32**	*e*Pn	**Pg**	**07 36 36.3**	**-0.3**
IZI	**Iznik**	**1.23**	**17**	*e*PN	**Pn**	**07 36 36.9**	**0.0**
IZI	**Iznik**	**1.23**	**17**	*e*Pn	**Pn**	**07 36 36.9**	**0.0**
GEMT	**Gemlik**	**1.28**	**6**	*e*PN	**Pg**	**07 36 37.9**	**+0.2**
GEMT	**Gemlik**	**1.28**	**6**	*e*Pn	**Pg**	**07 36 37.9**	**+0.2**
BORA	**Eskisehir**	**1.33**	**57**	P	**Pn**	**07 36 37.9**	**-0.4**
BORA				S	**Sn**	**07 36 57.0**	**+0.6**
BORA	**Eskisehir**	**1.33**	**57**	*i* P	**Pn**	**07 36 37.9**	**-0.4**
BORA				*i* S	**Sn**	**07 36 57.0**	**+0.6**
ADVT	**Abdulvahap**	**1.39**	**24**	*e*PN	**Pb**	**07 36 39.3**	**-0.2**
ADVT	**Abdulvahap**	**1.39**	**24**	*e*Pn	**Pb**	**07 36 39.3**	**-0.2**
ARMT	**Armutlu**	**1.41**	**356**	*e*PN	**Pn**	**07 36 39.2**	**-0.1**
ARMT	**Armutlu**	**1.41**	**356**	*e*Pn	**Pn**	**07 36 39.2**	**-0.1**
DNZL	**Cakiroluk**	**1.47**	**179**	P	**Pg**	**07 36 40.7**	**-0.5**
DNZL				S	**Sg**	**07 37 01.8**	**+1.6**
DNZL	**Cakiroluk**	**1.47**	**179**	*i* P	**Pg**	**07 36 40.7**	**-0.5**
DNZL				*i* S	**Sg**	**07 37 01.8**	**+1.6**
EDC	**Edincik**	**1.48**	**324**	*e*PN	**Pn**	**07 36 40.3**	**+0.2**
EDC	**Edincik**	**1.48**	**324**	*e*Pn	**Pn**	**07 36 40.3**	**+0.2**
ESKT	**Eskisehir**	**1.48**	**75**	*e*PN	**Pn**	**07 36 40.2**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**75**	*e*Pn	**Pn**	**07 36 40.2**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**75**	*i* P	**Pg**	**07 36 41.8**	**+0.4**
ESKT				*i* S	**Sg**	**07 37 00.5**	**-0.1**
SEYT	**Eskypehyr**	**1.48**	**75**	P	**Pg**	**07 36 41.8**	**+0.4**
SEYT				S	**Sg**	**07 37 00.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**216**	*e*PN	**Pn**	**07 36 40.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**216**	*e*Pn	**Pn**	**07 36 40.4**	**-0.1**
GULT	**Gulveren**	**1.73**	**42**	*e*PN	**Pn**	**07 36 43.7**	**0.0**
GULT	**Gulveren**	**1.73**	**42**	*e*Pn	**Pn**	**07 36 43.7**	**0.0**
HRT	**Hereke**	**1.74**	**17**	*e*PN	**Pn**	**07 36 43.9**	**+0.1**
HRT	**Hereke**	**1.74**	**17**	*e*Pn	**Pn**	**07 36 43.9**	**+0.1**
MRMT	**Marmara Adasi**	**1.80**	**324**	*e*PN	**Pn**	**07 36 44.8**	**+0.1**
MRMT	**Marmara Adasi**	**1.80**	**324**	*e*Pn	**Pn**	**07 36 44.8**	**+0.1**
DGB	**˙zmir**	**1.99**	**237**	*i* P	**Pg**	**07 36 50.5**	**-0.8**
DGB				*i* S	**Sb**	**07 37 14.7**	**-0.1**
KLYT	**Kilyos**	**2.09**	**1**	*e*PN	**Pn**	**07 36 49.2**	**+0.6**
KLYT	**Kilyos**	**2.09**	**1**	*e*Pn	**Pn**	**07 36 49.2**	**+0.6**

ISCJB ***28*** *07:42:08.7±0.5, 39˚.05N±0˚.04×29˚.03E±0˚.04, h7km±8km, Error ellipse: s-maj=7.2km s-min=4.3km az=143.9*
DDA ***28*** *07:42:08.5, 39˚.09N×29˚.03E, h7km, Md2.9*
ISK ***28*** *07:42:08.2, 39˚.07N×29˚.04E, h6km, ML2.3*
CSEM ***28*** *07:42:09.1±0.2, 39˚.05N×29˚.03E, h2km, MD2.9, Error ellipse: s-maj=5.5km s-min=4.1km az=127.0*

ISC 28 07:42:09.0±1.0, 39˚.06N±0˚.03×29˚.03E±0˚.03, h11km±10km, n21, σ0§40/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**265**	P	**Pg**	**07 42 14.3**	**+0.2**
DEMI				S	**Sg**	**07 42 17.6**	**0.0**
DEMI	**Demirci**	**0.25**	**265**	*i* P	**Pg**	**07 42 14.3**	**+0.2**
DEMI				*i* S	**Sg**	**07 42 17.6**	**0.0**
GDZ	**Gediz**	**0.35**	**86**	P	**Pg**	**07 42 16.1**	**0.0**
GDZ				S	**Sg**	**07 42 21.1**	**+0.3**
GDZ	**Gediz**	**0.35**	**86**	*i* P	**Pg**	**07 42 16.1**	**0.0**
GDZ				*i* S	**Sg**	**07 42 21.1**	**+0.3**
TVSB	**Tavsanli**	**0.51**	**41**	*e*PG	**Pg**	**07 42 18.6**	**-0.4**
TVSB				*e*SG	**Sg**	**07 42 25.7**	**-0.1**
TVSB	**Tavsanli**	**0.51**	**41**	*e*Pg	**Pg**	**07 42 18.6**	**-0.4**
TVSB				*e*Sg	**Sg**	**07 42 25.7**	**-0.1**
KULA	**Kula-Manisa**	**0.62**	**208**	*e*PG	**Pg**	**07 42 21.2**	**+0.2**
KULA				*e*SG	**Sg**	**07 42 29.1**	**-0.1**
KULA	**Kula-Manisa**	**0.62**	**208**	*e*Pg	**Pg**	**07 42 21.3**	**+0.2**
KULA				*e*Sg	**Sg**	**07 42 29.1**	**-0.1**
MANT	**Manisa**	**0.68**	**213**	P	**Pg**	**07 42 21.6**	**-0.6**
MANT				S	**Sg**	**07 42 30.8**	**-0.4**
MANT	**Manisa**	**0.68**	**213**	*i* P	**Pg**	**07 42 21.6**	**-0.6**
MANT				*i* S	**Sg**	**07 42 30.8**	**-0.4**
KHL	**Karahalli**	**0.83**	**152**	*e*PG	**Pg**	**07 42 25.1**	**0.0**
KHL	**Karahalli**	**0.83**	**152**	*e*Pg	**Pg**	**07 42 25.1**	**0.0**
AKS	**Akhisar**	**0.97**	**259**	*e*PG	**Pg**	**07 42 27.9**	**+0.3**
AKS	**Akhisar**	**0.97**	**259**	*e*Pg	**Pg**	**07 42 27.9**	**+0.3**
BALB	**Balikesir**	**1.06**	**303**	*e*PG	**Pg**	**07 42 29.3**	**-0.1**
BALB	**Balikesir**	**1.06**	**303**	*e*Pg	**Pg**	**07 42 29.3**	**-0.1**
IGD	**Bursa**	**1.21**	**6**	*i* P	**Pb**	**07 42 31.2**	**-0.7**
IGD				*i* S	**Sb**	**07 42 47.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.31**	**337**	*e*PN	**Pn**	**07 42 33.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**337**	*e*Pn	**Pn**	**07 42 33.3**	**+0.1**
ARMT	**Armutlu**	**1.51**	**355**	*e*PN	**Pn**	**07 42 37.0**	**+1.0**
ARMT	**Armutlu**	**1.51**	**355**	*e*Pn	**Pn**	**07 42 37.0**	**+1.0**

NIED ***28*** *07:42:00, 40˚.40N×144˚.10E, h5km, Mw4.8 Best double couple: Mo1.77000×10¹⁶ NP1:ϕs161.00000°, δ56.00000°, λ34.00000°. NP2:ϕs50.00000°, δ62.00000°, λ141.00000°.*
IDC ***28*** *07:42:49.1±0.6, 40˚.40N×144˚.12E, h0km, mb4.4/37, mb1 4.5/44, mb1mx4.5/58, mbtmp4.5/44, ML3.9/6, MS4.3/6, Ms1 4.4/6, ms1mx3.8/45, Error ellipse: s-maj=14.4km s-min=11.9km az=118.0*
ISCJB ***28*** *07:42:50.9±0.8, 40˚.52N±0˚.02×143˚.84E±0˚.03, h11km±5km, mb4.7/149, MS4.8/11, Error ellipse: s-maj=4.1km s-min=2.8km az=137.6*
JMA ***28*** *07:42:50.9±0.2, 40˚.39N×144˚.09E, h42km, M4.8*
BJI ***28*** *07:42:53.7, 40˚.49N×143˚.68E, h28km, mb4.9/69, mB5.2/46, Ms4.9/58, Ms7 4.7/56*
MOS ***28*** *07:42:53.7±1.1, 40˚.53N×143˚.81E, h34km, mb5.1/59, MS4.6/10, Error ellipse: s-maj=6.8km s-min=4.3km az=111.2*
GCMT ***28*** *07:42:55.0±0.6, 40˚.28N×144˚.26E, h15km, MW5.2/57, Moment Tensor Solution. s33,c40; s57,c89; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.63±.18; Mθθ0.14±.16; Mϕϕ-1.77±.12; Mrθ6.46±.61; Mϕθ-0.65±.10; Mrϕ4.78±.45; Best double couple: Mo8.23200×10¹⁶ NP1:ϕs52.00000°, δ85.00000°, λ98.00000°. NP2: ϕs175.00000°, δ9.00000°, λ33.00000°. Principal axes: T 8.4490, Plg49.0000°, Azm331.0000°; N -0.4340, Plg8.0000°, Azm232.0000°; P -8.0150, Plg40.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *07:42:55.0±1.4, 40˚.53N×143˚.81E, h27km±10km, mb4.9/81 Error ellipse: s-maj=5.3km s-min=3.7km az=140.0*

ISC 28 07:42:54.1±0.6, 40˚.55N±0˚.04×143˚.94E±0˚.04, h25km±3km, h25km:pP-P, n359, σ1§46/395, mb4.8/149, MS5.0/12, 24C-10D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.58**	**338**	*d* iP	**Pn**	**07 43 20.2**	**-0.4**
ERM				pmax	pmax		
	comp=Z,348nm,1.7s						
ERM	**Erimo**	**1.58**	**338**	*e*Pn	**Pn**	**07 43 20.1**	**-0.4**
ERM				*e*Sn	**Sn**	**07 43 40.2**	**0.0**
JEM	**Erimo**	**1.58**	**338**	P	**Pn**	**07 43 20.0**	**-0.6**
JEM				S	**Sb**	**07 43 42.0**	**-0.3**
JTH	**Tanohata**	**1.70**	**250**	P	**Pn**	**07 43 19.9**	**-2.3**
JTH				S	**Sn**	**07 43 41.2**	**-2.0**
JANG	**Nango**	**1.86**	**265**	P	**Pn**	**07 43 22.8**	**-1.6**
MIYJ	**Miyakonagasawa**	**1.89**	**240**	P	**Pn**	**07 43 22.4**	**-2.5**
JNBK	**Urakawa-nobuka**	**1.95**	**333**	P	**Pn**	**07 43 25.7**	**+0.1**
JCH	**Churui**	**2.11**	**348**	P	**Pn**	**07 43 26.8**	**-1.0**
JCH				*e*S	**Sn**	**07 43 54.3**	**+1.0**
JOM	**Ohasama**	**2.30**	**243**	P	**Pn**	**07 43 28.8**	**-1.6**
JOM				*e*S	**Sn**	**07 43 57.0**	**-0.9**
JOT	**Ohata**	**2.34**	**292**	P	**Pn**	**07 43 31.0**	**0.0**
JOT				*e*S	**Sn**	**07 44 00.1**	**+1.1**
JAK	**Akkeshi**	**2.51**	**13**	P	**Pn**	**07 43 31.8**	**-1.5**
JAK				*e*S	**Sn**	**07 44 02.3**	**-0.9**
JKB	**Kayabe**	**2.57**	**302**	P	**Pn**	**07 43 34.3**	**+0.2**
JMK	**Ichinoseki**	**2.63**	**234**	P	**Pn**	**07 43 32.7**	**-2.3**
JMK				*e*S	**Sn**	**07 44 04.5**	**-1.6**
JAR	**Ashorobuto**	**2.75**	**357**	P	**Pn**	**07 43 35.2**	**-1.5**
JAR				*e*S	**Sn**	**07 44 08.7**	**-0.4**
JFR	**Furan**	**2.80**	**339**	P	**Pn**	**07 43 37.4**	**0.0**
JEW	**Eniwo**	**2.96**	**322**	P	**Pn**	**07 43 40.6**	**+1.2**
NEM2	**Nemuro 2**	**3.12**	**25**	P	**Pn**	**07 43 39.3**	**-2.4**
NEM2				S	**Sn**	**07 44 15.6**	**-2.6**
JYK	**Kaneyama**	**3.21**	**241**	P	**Pn**	**07 43 41.5**	**-1.4**
JTKR	**Abashiri--Toko**	**3.42**	**360**	*e*S	**Sn**	**07 44 25.9**	**+0.3**
JKK2	**Kamakawa 2**	**3.44**	**345**	P	**Pn**	**07 43 46.4**	**+0.3**
JRA	**Rausu**	**3.50**	**14**	P	**Pn**	**07 43 45.1**	**-1.8**
JRA				S	**Sn**	**07 44 25.4**	**-2.1**
JHR	**Hokuryu**	**3.59**	**333**	P	**Pn**	**07 43 49.5**	**+1.3**
JOSM	**Okushiri--Mats**	**3.70**	**296**	P	**Pn**	**07 43 50.0**	**+0.4**
ASAJ	**Asahikawa**	**3.71**	**345**	Pn	**Pn**	**07 43 49.4**	**-0.4**
	comp=Z,7.5nm,0.3s,baz=191,slow=9.3,SNR=37						
ASAJ				Sn	**Sn**	**07 44 33.7**	**+1.1**
	comp=Z,11nm,0.3s,baz=160,slow=15,SNR=4.6						
YUK	**Yuzh-Kuril'sk**	**3.77**	**22**	*d* iP	**Pn**	**07 43 49.2**	**-1.4**
YUK				*i* S	**Sn**	**07 44 31.4**	**-2.7**
YUK				pmax	pmax		
	comp=Z,337nm,0.7s						
YUK				pmax	pmax		
	comp=E,107nm,0.2s						
YUK				pmax	pmax		
	comp=N,208nm,0.4s						
SHO	**Shikotan**	**3.95**	**32**	*c* iP	**Pn**	**07 43 49.5**	**-3.7**
SHO				*i* S	**Sn**	**07 44 32.5**	**-6.2**
SHO				pmax	pmax		
	comp=E,223nm,0.6s						
SHO				pmax	pmax		
	comp=Z,246nm,0.6s						
SHO				pmax	pmax		
	comp=N,216nm,0.5s						
KUR	**Kuril'sk**	**5.50**	**30**	*e*P	**Pn**	**07 44 13.6**	**-0.8**
KUR				*e*S	**Sn**	**07 45 13.4**	**-3.4**
KUR				pmax	pmax		
	comp=N,65nm,0.9s						
KUR				pmax	pmax		
	comp=Z,87nm,0.9s						
KUR				pmax	pmax		
	comp=E,60nm,0.8s						
KUR				pmax	pmax		
	comp=Z,332nm,3.1s						
KUR				smax	smax		
	comp=N,105nm,0.5s						
KUR				smax	smax		
	comp=E,244nm,0.5s						
KUR				smax	smax		
	comp=N,1µm,2.3s						
MJAR	**Matsushiro Arr**	**6.01**	**230**	Pn	**Pn**	**07 44 20.0**	**-1.5**
	comp=N,4.2nm,0.3s,baz=36,slow=12,SNR=91						
MJAR				LR	LR	07 47 03.7	
	comp=N,1µm,20.8s,baz=345,slow=42						
MJAR	**Matsushiro Arr**	**6.01**	**230**	P	**Pn**	**07 44 20.0**	**-1.5**
MJB9	**Matsu-Tunnel**	**6.01**	**230**	*e*Pn	**Pn**	**07 44 20.2**	**-1.3**
MAJO	**Matsushiro**	**6.01**	**230**	*c* iP	**Pn**	**07 44 20.0**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,303nm,1.7s						
MAJO	**Matsushiro**	**6.01**	**230**	*e*Pn	**Pn**	**07 44 20.2**	**-1.3**
MAT	**Matsushiro**	**6.01**	**230**	P	**Pn**	**07 44 20.0**	**-1.5**
MAT				S	**Sn**	**07 45 25.9**	**-3.7**
YSS	**Yuzh-Sakhalins**	**6.46**	**353**	⇓*e*P	**Pn**	**07 44 28.2**	**+0.6**
YSS				*e*S	**Sn**	**07 45 36.6**	**-3.9**
YSS				pmax	pmax		
	comp=Z,20nm,1.4s						
YSS				MLR	MLR		
	comp=Z,5µm,13.0s						
YSS				MLR	MLR		
	comp=N,7µm,14.0s						
YSS				MLR	MLR		
	comp=E,5µm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.46**	**353**	*e*Pn	**Pn**	**07 44 28.3**	**+0.7**
INU	**Inuyama**	**7.54**	**229**	*e*Pn	**Pn**	**07 44 40.8**	**-1.6**
JHJ	**Hachijo jima 2**	**8.13**	**205**	Pn	**Pn**	**07 44 46.5**	**-3.9**
	comp=E,10nm,0.3s,baz=87,slow=18,SNR=2.6						
JHJ				Sn	Sn	07 46 10.3	-11
	comp=E,20nm,0.3s,baz=237,slow=21,SNR=1.9						
VLA	**Vladivostok**	**9.36**	**290**	*c* iP	**Pn**	**07 45 09.5**	**+2.1**
VLA				*i* S	**Sn**	**07 46 57.2**	**+5.5**
VLA				pmax	pmax		
	comp=Z,41nm,0.6s						
VLA				MLR	MLR		
	comp=E,73µm,13.0s						
USRK	**Ussuriysk Ar.**	**9.57**	**296**	Pn	**Pn**	**07 45 11.9**	**+1.7**
	comp=E,0.8nm,0.3s,baz=97,slow=18,SNR=18						
USRK				LR	LR	07 48 58.0	
	comp=E,2µm,18.3s,baz=51,slow=38						
HABR	**Khabarovsk**	**10.15**	**324**	*e*P	**Pn**	**07 45 15.1**	**-3.0**
HABR				*e*S	**Sn**	**07 47 08.0**	**-3.0**
HABR				pmax	pmax		
	comp=Z,18nm,1.2s						
HABR				MLR	MLR		
	comp=Z,2µm,17.0s						
TYV	**Tymovskoe**	**10.36**	**355**	*e*P	**Pn**	**07 45 20.2**	**-0.8**
TYV				pmax	pmax		
	comp=Z,40nm,1.0s						
MDJ	**Mudanjiang**	**11.33**	**296**	P	**Pn**	**07 45 35.0**	**+0.6**
MDJ				S	**Sn**	**07 47 41.0**	**+0.9**
MDJ				PMZ			
	comp=Z,28nm,1.5s						
MDJ				PMZ			
	comp=Z,350nm,8.8s						
MDJ				LN			
	comp=Z,2µm,12.6s						
MDJ				LE			
	comp=Z,2µm,12.6s						
MDJ				LZ			
	comp=Z,3µm,13.3s						
MDJ	**Mudanjiang**	**11.33**	**296**	*e*Pn	**Pn**	**07 45 35.2**	**+0.9**
KLR	**Kul'dur**	**12.24**	**319**	Pn	**Pn**	**07 45 47.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=130,slow=13,SNR=43						
NKL	**Nikolayevsk**	**12.80**	**351**	*e*P	**Pn**	**07 45 54.0**	**-0.4**
JNU	**Nakatsue**	**12.81**	**239**	Pn	**Pn**	**07 45 52.5**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=34,slow=5.4,SNR=7.2						
JNU				LR	LR	07 51 14.9	
	comp=Z,3µm,18.1s,baz=75,slow=39						
JNU	**Nakatsue**	**12.81**	**239**	*e*Pn	**Pn**	**07 45 55.3**	**+0.6**
KSRS	**Korea Array**	**12.84**	**261**	Pn	**Pn**	**07 45 54.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=76,slow=12,SNR=17						
KSRS				LR	LR	07 50 33.1	
	comp=Z,1µm,18.2s,baz=68,slow=36						
KS01	**Wonju Array Si**	**12.85**	**261**	*e*Pn	**Pn**	**07 45 55.3**	**+0.2**
KS15	**Wonju Array Si**	**12.87**	**261**	*e*Pn	**Pn**	**07 45 55.2**	**-0.2**
KSAR	**Wonju Array Be**	**12.87**	**261**	P	**Pn**	**07 45 54.7**	**-0.7**
KSAR	**Wonju Array Be**	**12.87**	**261**	Pn	**Pn**	**07 45 54.7**	**-0.7**
TJN	**Taejon**	**13.64**	**258**	*e*P	**Pn**	**07 46 03.6**	**-2.3**
CN2	**Changchun**	**14.09**	**289**	*e*P	**Pn**	**07 46 10.8**	**-1.3**
CN2				*e*S	**Sn**	**07 48 50.8**	**+3.2**
CN2				PMZ			
	comp=Z,10.0nm,0.5s						
CN2				PMZ			
	comp=Z,400nm,10.0s						
CN2				LN			
	comp=Z,2µm,14.0s						
CN2				LE			
	comp=Z,2µm,14.0s						
CN2				LZ			
	comp=Z,3µm,14.0s						
SNY	**Shenyang**	**15.39**	**281**	⇑P	**Pn**	**07 46 28.8**	**-0.7**
SNY				PMZ			
	comp=Z,48nm,1.2s						
SNY				PMZ			
	comp=Z,320nm,3.5s						
SNY				LN			
	comp=Z,3µm,15.1s						
SNY				LE			
	comp=Z,2µm,12.9s						
SNY				LZ			
	comp=Z,3µm,14.5s						
DL2	**Dalian**	**17.24**	**272**	P	**Pn**	**07 46 51.5**	**-1.6**
DL2				*e*S	**Sn**	**07 49 58.0**	**-6.1**
DL2				PMZ			
	comp=Z,110nm,1.3s						
DL2				PMZ			
	comp=Z,550nm,4.3s						
DL2				LN			
	comp=Z,1µm,17.7s						
DL2				LE			
	comp=Z,690nm,13.9s						
DL2				LZ			
	comp=Z,2µm,13.5s						
HIA	**Hailar**	**19.16**	**305**	*e*P	**P**	**07 47 14.8**	**-0.8**
HIA				pmax	pmax		
	comp=Z,66nm,1.2s						
HIA	**Hailar**	**19.16**	**305**	*e*P	**P**	**07 47 14.8**	**-0.8**
	comp=Z,66nm,1.2s						
CLNS	**Chul'man**	**20.47**	**329**	*e*P	**P**	**07 47 29.3**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,16nm,0.8s						
CLNS				pmax	pmax		
	comp=N,16nm,1.0s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,886nm,12.0s						
CLNS				MLR	MLR		
	comp=E,1µm,14.0s						
CLNS				MLR	MLR		
	comp=N,540nm,13.0s						
BJI	**Beijing**	**21.16**	**278**	P	**P**	**07 47 34.8**	**-2.5**
BJI				sP	**sP**	**07 47 50.0**	**+2.6**
BJI				S	**S**	**07 51 31.5**	**+0.2**
BJI				sS	**sS**	**07 51 41.5**	**-0.8**
BJI				PMZ			
	comp=N,44nm,1.4s						
BJI				PMZ			
	comp=N,480nm,3.9s						
BJI				LN			
	comp=N,1µm,15.8s						
BJI				LE			
	comp=N,2µm,12.3s						
BJI				LZ			
	comp=N,880nm,15.0s						
BJT	**Baijiatuau**	**21.16**	**278**	*e*P	**P**	**07 47 35.3**	**-2.1**
BJT				pmax	pmax		
	comp=Z,158nm,1.6s						
BJT	**Baijiatuau**	**21.16**	**278**	*e*P	**P**	**07 47 35.3**	**-2.1**
	comp=Z,158nm,1.6s						
TIA	**Tai'an**	**21.43**	**267**	⇑P	**P**	**07 47 37.5**	**-2.8**
TIA				PMZ			
	comp=Z,30nm,0.9s						
NJ2	**Nanjing**	**21.87**	**255**	*e*P	**P**	**07 47 41.8**	**-3.2**
NJ2				pP	**sP**	**07 47 57.3**	**+2.2**
NJ2				sP	pP	07 48 00.5	+8.6
NJ2				S	**S**	**07 51 44.5**	**-0.9**
NJ2				PMZ			
	comp=Z,25nm,0.9s						
NJ2				LN			
	comp=Z,2µm,15.2s						
NJ2				LE			
	comp=Z,2µm,14.1s						
NJ2				LZ			
	comp=Z,2µm,15.7s						
SEY	**Seymchan**	**22.98**	**10**	P	**P**	**07 47 55.2**	**-1.4**
	comp=Z,11nm,1.0s,baz=190,slow=7.7,SNR=10						
SEY	**Seymchan**	**22.98**	**10**	*e*P	**P**	**07 47 55.6**	**-0.9**
YAK	**Yakutsk**	**23.18**	**343**	P	**P**	**07 47 57.6**	**-1.0**
	comp=Z,20nm,0.5s,baz=159,slow=14,SNR=3.4						
YAK	**Yakutsk**	**23.18**	**343**	*i* P	**P**	**07 47 59.3**	**+0.7**
YAK				pmax	pmax		
	comp=Z,32nm,0.8s						
YAK	**Yakutsk**	**23.18**	**343**	*e*P	**P**	**07 47 59.3**	**+0.7**
	comp=Z,51nm,1.1s						
CIT	**Chita**	**23.75**	**309**	*e*P	**P**	**07 48 01.9**	**-2.4**
CIT				*e*		07 48 29.9	
HHC	**Hu-ho-hao-te**	**24.48**	**281**	*e*P	**P**	**07 48 11.0**	**-0.3**
HHC				sP	sP	07 48 23.8	+2.0
HHC				S	**S**	**07 52 25.5**	**-4.6**
HHC				PMZ			
	comp=Z,33nm,1.1s						
HHC				PMZ			
	comp=Z,230nm,6.3s						
HHC				LN			
	comp=Z,1µm,13.6s						
HHC				LE			
	comp=Z,860nm,13.6s						
HHC				LZ			
	comp=Z,1µm,14.8s						
BOD	**Bodaibo**	**25.79**	**322**	*e*P	**P**	**07 48 23.2**	**+0.4**
BOD				pmax	pmax		
	comp=Z,57nm,1.4s						
WHN	**Wuhan**	**25.96**	**257**	⇓P	**P**	**07 48 24.5**	**-0.1**
WHN				pP	**sP**	**07 48 33.8**	**-1.2**
WHN				PMZ			
	comp=Z,110nm,1.0s						
TPUB	**Ta-pu**	**26.09**	**236**	*e*P	**P**	**07 48 26.4**	**+0.5**
	comp=Z,62nm,1.3s		

comp=Z,9.1nm,1.2s
GTA Gaotai 33.57 283 ⇑P **P** **07 49 32.5 +0.3**
GTA pP sP 07 49 43.0 +0.3
GTA sP pP 07 49 46.5 +6.8
GTA S **S** **07 54 52.0 -1.1**
GTA sS sS 07 55 07.5 +2.1
GTA PMZ
comp=Z,30nm,1.4s
GTA PMZ
comp=Z,240nm,5.7s
GTA LN
comp=Z,1μm,18.1s
GTA LE
comp=Z,1μm,18.1s
GTA LZ
comp=Z,1μm,15.9s
CD2 Chengdu 33.76 266 *e*P **P** **07 49 32.5 -1.3**
CD2 pP sP 07 49 43.5 -0.9
CD2 sP pP 07 49 48.5 +7.2
CD2 S **S** **07 54 52.8 -3.2**
CD2 sS sS 07 55 11.8 +3.5
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
GYA Guiyang 33.85 257 *e*P **P** **07 49 36.0 +1.3**
GYA PMZ
comp=Z,10.0nm,0.9s
KMI Kunming 37.52 259 P **P** **07 50 06.3 -0.1**
KMI PMZ
comp=Z,30nm,1.2s
KMI PMZ
comp=Z,250nm,4.4s
KMI LN
comp=Z,2μm,14.1s
KMI LE
comp=Z,960nm,13.6s
KMI LZ
comp=Z,1μm,14.7s
NRIK Noril'sk 40.97 333 P **P** **07 50 34.2 -0.1**
comp=Z,6.6nm,1.0s,baz=113,slow=10.0,SNR=7.7
ZAA0 Zalesovo Array 41.11 310 *e*P **P** **07 50 35.8 +0.1**
ZALV Zalesovo Beam 41.11 310 P **P** **07 50 36.0 +0.3**
comp=Z,6.1nm,1.0s,baz=101,slow=7.7,SNR=6.2
WMQ Urumqi 41.13 294 P **P** **07 50 36.3 +0.2**
WMQ pP sP 07 50 47.5 +0.8
WMQ sP pP 07 50 54.0 +10
WMQ PMZ
comp=Z,15nm,0.7s
WMQ PMZ
comp=Z,120nm,4.3s
WMQ LN
comp=Z,620nm,12.5s
WMQ LE
comp=Z,620nm,15.3s
WMQ LZ
comp=Z,320nm,18.9s
TT01 Tatalina 41.42 37 *e*P **P** **07 50 41.4 +3.3**
SKNT Sakolnakorn 41.68 248 P **P** **07 50 41.2 +0.4**
comp=Z,22nm,2.1s
UBPT Khong Chiam 41.81 244 P **P** **07 50 44.1 +2.3**
comp=Z,20nm,1.0s
NVS Novosibirsk 41.94 311 *e*P **P** **07 50 42.8 +0.3**
NVS pmax pmax
comp=Z,20nm,0.7s
NVS pmax pmax
comp=N,2.0nm,0.3s
NVS pmax pmax
comp=E,4.0nm,0.3s
MYLDM Lahad Datu 41.98 220 *e*P **P** **07 50 44.7 +1.5**
comp=E,51nm,1.3s
KDAK Kodiak Island 43.19 44 *i*P **P** **07 50 53.2 +0.6**
UTTA Uttaradit 43.62 252 P **P** **07 50 57.1 +0.6**
comp=E,4.2nm,1.1s,comp=E,41nm
KTH Kantishna Hill 43.74 36 *e*P **P** **07 50 59.5 +2.4**
comp=E,30nm,1.2s
CHAI Chaiyaphum 43.81 248 P **P** **07 50 58.3 +0.2**
comp=E,6.0nm,1.2s,comp=E,269nm
MLY Manley 43.83 34 *e*P **P** **07 51 00.4 +2.6**
comp=E,8.8nm,1.1s
LSA Lhasa 43.93 273 *e*P **P** **07 51 00.0 +0.4**
LSA pmax pmax
comp=Z,20nm,1.2s
LSA Lhasa 43.93 273 *e*P **P** **07 50 60.0 +0.4**
comp=Z,20nm,1.2s
MK01 Makanchi Array 44.02 299 *e*P **P** **07 50 59.2 -0.3**
MK31 Makanchi Array 44.02 300 *i*P **P** **07 50 59.1 -0.4**
MK31 pmax pmax
comp=Z,23nm,0.7s
MK31 Makanchi Array 44.02 300 *e*P **P** **07 50 59.3 -0.2**
MKAR Makanchi Array 44.02 300 P **P** **07 50 59.3 -0.2**
comp=Z,14nm,1.1s,baz=81,slow=8.7,SNR=31
PBKT Sadao Pong 44.09 250 P **P** **07 51 00.8 +0.5**
comp=Z,16nm,1.3s
CMMT Chiang Mai 44.11 254 P **P** **07 51 00.7 +0.2**
comp=Z,16nm,1.2s
CHTO Chiang Mai 44.11 254 P **P** **07 51 00.8 +0.3**
comp=Z,59nm,1.3s
CHTO Chiang Mai 44.11 254 *e*P **P** **07 50 59.9 -0.6**
CHTO pmax pmax
comp=Z,17nm,1.1s
CHTO Chiang Mai 44.11 254 *e*P **P** **07 50 59.9 -0.6**
comp=Z,16nm,1.1s
COLD Coldfoot 44.13 31 *e*P **P** **07 51 02.0 +2.0**
comp=Z,16nm,1.3s
MAKZ Makanchi 44.22 300 *i*P **P** **07 51 00.1 -1.0**
MAKZ pmax pmax
comp=Z,28nm,0.8s
MAKZ Makanchi 44.22 300 *e*P **P** **07 51 01.2 0.0**
CMAR Chiang Mai Arr 44.34 254 P **P** **07 51 02.0 -0.3**
comp=Z,2.1nm,0.7s,baz=46,slow=6.8,SNR=9.8
CMAR LR LR 08 10 25.9
comp=Z,271nm,18.4s,baz=55,slow=37
CM01 Chiang Mai Arr 44.35 254 *e*P **P** **07 51 02.3 -0.1**
BWN Browne 44.38 35 *e*P **P** **07 51 04.5 +2.4**
comp=Z,48nm,1.0s
RND Reindeer 44.67 36 *e*P **P** **07 51 05.6 +1.0**
RND pmax pmax
comp=Z,19nm,1.2s
RND Reindeer 44.67 36 *e*P **P** **07 51 05.6 +1.0**
comp=Z,19nm,1.2s
MDM Murphy Dome 44.90 34 *e*P **P** **07 51 08.1 +1.9**
comp=Z,17nm,1.2s
WRH Wood River Hil 44.97 35 *e*P **P** **07 51 09.1 +2.3**
comp=Z,19nm,1.4s
COLA College 45.06 34 *e*P **P** **07 51 09.2 +1.7**
COLA pmax pmax
comp=Z,12nm,0.9s
COLA College 45.06 34 *e*P **P** **07 51 09.2 +1.7**
comp=Z,12nm,0.9s
CCB Clear Creek Bu 45.09 34 *e*P **P** **07 51 09.3 +1.5**
comp=Z,7.5nm,1.1s
KURK Kurchatov 45.40 306*c i*P **P** **07 51 09.7 -0.7**
KURK pmax pmax
comp=Z,46nm,1.3s
KURK Kurchatov 45.40 306 *e*P **P** **07 51 10.4 0.0**
comp=Z,178nm,1.1s
IL1 Eielson Array 45.48 34 *e*P **P** **07 51 10.5 -0.3**
ILAR Eielson Array 45.48 34 P **P** **07 51 09.9 -1.0**
comp=Z,2.1nm,0.7s,baz=260,slow=6.7,SNR=16
ILB Eielson Array 45.48 34 *e*P **P** **07 51 10.9 +0.1**
KURBB Kurchatov Arra 45.48 306 P **P** **07 51 11.0 -0.1**
comp=Z,19nm,1.1s,baz=80,slow=8.7,SNR=65
SCM Sheep Creek Mo 45.48 38 *e*P **P** **07 51 13.1 +2.1**
SCM pmax pmax
comp=Z,13nm,1.0s
SCM Sheep Creek Mo 45.48 38 *e*P **P** **07 51 13.1 +2.1**
comp=Z,13nm,1.0s
PDGK Podgornoye 46.96 296 *i*P **P** **07 51 21.6 -1.1**
PDGK pmax pmax
comp=Z,47nm,1.6s
EGAK Eagle 47.92 34 *e*P **P** **07 51 31.9 +1.9**
comp=Z,20nm,1.4s
GUN Gumba 48.83 274 *e*P **P** **07 51 37.3 -0.6**
comp=Z,64nm,0.6s
KKN Kakani 49.35 274 *e*P **P** **07 51 41.3 -0.4**
comp=Z,54nm,0.8s
PKIN Phulchoki 49.37 274 *e*P **P** **07 51 41.9 0.0**
comp=Z,15nm,0.5s
CHKZ Chkalovo 49.42 311 *i*P **P** **07 51 40.7 -0.9**
CHKZ pmax pmax
comp=Z,34nm,0.8s
VOSK Vostochnaya 49.47 310 P **P** **07 51 40.5 -1.6**
VOSK pmax pmax
comp=Z,22nm,1.1s
DMN Daman 49.57 274 *e*P **P** **07 51 43.5 0.0**
comp=Z,78nm,1.0s
GKN Gorkha 49.73 275 *e*P **P** **07 51 43.8 -0.7**
comp=Z,18nm,0.4s
BVA0 Borovoye Array 49.73 311 *i*P **P** **07 51 44.3 +0.3**
BVA0 pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 49.73 311 P **P** **07 51 44.2 +0.2**
comp=Z,4.1nm,0.9s,baz=78,slow=9.2,SNR=12
TKM2 Tokmak 2 49.76 297 *i*P **P** **07 51 43.7 -1.0**
TKM2 pmax pmax
comp=Z,33nm,1.2s
TKM2 Tokmak 2 49.76 297 *e*P **P** **07 51 45.2 +0.6**
comp=Z,29nm,0.7s
BRVK Borovoye 49.78 311*c i*P **P** **07 51 44.5 +0.1**
BRVK pmax pmax
comp=Z,65nm,2.5s
BRVK Borovoye 49.78 311 *e*P **P** **07 51 44.9 +0.4**
comp=Z,41nm,0.7s
OTUK Ortayu 50.03 304 P **P** **07 51 45.5 -0.9**
OTUK pmax pmax
comp=Z,28nm,1.2s
HYT Haines Junctio 50.31 39 *e*P **P** **07 51 50.2 +1.7**
comp=Z,20nm,0.9s
INK Inuvik 50.36 29 P **P** **07 51 49.2 +0.7**
comp=Z,5.8nm,1.0s,baz=247,slow=8.5,SNR=4.2
INK Inuvik 50.36 29 *e*P **P** **07 51 50.8 +2.2**
comp=Z,7.3nm,0.9s
FRU Bishkek 50.46 297⇓*e*P **P** **07 51 49.0 -0.8**
FRU *e* 07 54 40.0
FRU pmax pmax
comp=Z,60nm,2.1s
FRU MLR MLR
comp=E,900nm,15.0s
KAPI Kappang 50.48 212 P **P** **07 51 49.4 -0.7**
comp=E,5.6nm,0.7s,baz=70,slow=18,SNR=2.1
ZRNK Zerenda 50.55 311 *i*P **P** **07 51 50.1 -0.1**
ZRNK pmax pmax
comp=Z,25nm,0.7s
AAK Ala-Archa 50.62 297 P **P** **07 51 51.0 -0.1**
comp=Z,2.1nm,0.5s,baz=76,slow=7.1,SNR=8.1
AAK Ala-Archa 50.62 297 *i*P **P** **07 51 50.8 -0.4**
AAK pmax pmax
comp=Z,32nm,1.7s
AAK Ala-Archa 50.62 297 *e*P **P** **07 51 51.6 +0.4**
comp=Z,8.8nm,0.8s
KSH Kashi 50.84 292 P **P** **07 51 56.3 +3.5**
KSH pP sP 07 52 07.5 +4.0
KSH PcP **PcP** **07 53 11.0 +1.7**
KSH PP **PP** **07 53 54.5 +5.6**
KSH S **S** **07 59 07.0 -0.4**
KSH ScS **ScS** **08 01 38.3 -3.7**
KSH SS **SS** **08 02 40.5 -1.3**
KSH PMZ
comp=Z,18nm,1.4s
KSH PMZ
comp=Z,62nm,2.9s
KSH LN
comp=Z,830nm,13.0s
KSH LE
comp=Z,540nm,13.7s
KSH LZ
comp=Z,1μm,13.9s
PYUN Piuthan 50.93 276 *e*P **P** **07 51 52.6 -1.1**
comp=Z,84nm,1.0s
EKS2 Erkin-Say 51.10 297 *e*P **P** **07 51 54.4 -0.3**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 51.10 297 *e*P **P** **07 51 54.4 -0.3**
comp=Z,10nm,0.8s
MNAS Manas 52.03 297 *i*P **P** **07 52 01.1 -0.6**
MNAS pmax pmax
comp=Z,21nm,0.8s
KK31 Karatay Array 53.13 299 *i*P **P** **07 52 09.0 -0.6**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
SVE Sverdlovsk 53.86 317 *e*P **P** **07 52 15.2 +0.5**
SVE pmax pmax
comp=Z,17nm,0.8s
ARU Arti 55.07 318*c i*P **P** **07 52 23.8 +0.3**
ARU 07 54 25.7
ARU S **S** **08 00 07.7 +3.4**
ARU SS **SS** **08 03 49.8 +2.1**
ARU pmax pmax
ARU comp=Z,25nm,1.2s MLR MLR
comp=Z,1μm,17.0s
ARU Arti 55.07 318 *e*P **P** **07 52 23.9 +0.3**
comp=Z,14nm,0.8s
PSI Prapat 55.29 239 *e*P **P** **07 52 25.8 0.0**
PSI pmax pmax
comp=Z,26nm,1.6s
PSI Prapat 55.29 239 *e*P **P** **07 52 25.8 0.0**
comp=Z,26nm,1.6s
AB31 Akbulak array 57.22 309 *i*P **P** **07 52 38.3 -0.7**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 57.22 309 *e*P **P** **07 52 39.2 +0.2**
AKTO Aktyubinsk 57.83 311 *i*P **P** **07 52 41.8 -1.5**
AKTO pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 58.04 290 *e*P **P** **07 52 44.4 -0.9**
KBL pmax pmax
comp=Z,18nm,0.9s
KBL Kabul 58.04 290 *e*P **P** **07 52 44.4 -0.9**
comp=Z,18nm,0.9s
YKA Yellowknife Ar 59.78 32 P **P** **07 52 56.5 -0.1**
comp=Z,2.1nm,0.9s,baz=297,slow=5.5,SNR=5.2
FITZ Fitzroy Crossi 60.78 200 *e*P **P** **07 53 03.5 -0.4**
comp=Z,20nm,1.4s
WRAB Tennant Creek 60.83 190 *i*P **P** **07 53 04.5 +0.3**
WRAB pmax pmax
comp=Z,20nm,1.2s
WRAB Tennant Creek 60.83 190 *e*P **P** **07 53 04.5 +0.3**
comp=Z,15nm,1.0s
WB2 Warramunga Arr 60.84 190 *e*P **P** **07 53 05.0 +0.7**
comp=Z,27nm,1.4s
WRA Warramunga Arr 60.84 190 P **P** **07 53 01.1 -3.2**
comp=Z,14nm,1.1s,baz=8.6,slow=7.1,SNR=26
ARCES ARCESS Array B 61.41 339 P **P** **07 53 08.0 +0.3**
comp=Z,1.4nm,0.8s,baz=78,slow=8.7,SNR=4.2
KLMR Klimovskoe 61.85 327 *e*P **P** **07 53 08.2 -2.5**
KLMR *e* 07 53 48.0
KLMR pmax pmax
comp=Z,25nm,1.3s
DAG Danmarks Havn 62.44 356 *i*P **P** **07 53 14.0 -0.5**
comp=Z,7.8nm,1.0s
GEYT Alibeck 63.88 299 P **P** **07 53 24.7 0.0**
comp=Z,2.7nm,0.5s,baz=56,slow=3.7,SNR=9.8
AS01 Alice Springs 64.55 190 *e*P **P** **07 53 31.0 +1.9**
ASAR Alice Springs 64.56 190 P **P** **07 53 27.4 -1.7**
comp=Z,5.2nm,1.0s,baz=9.5,slow=5.5,SNR=15
OBN Obninsk 66.47 323 P **P** **07 53 40.9 -0.1**
comp=Z,39nm,0.4s,baz=21,slow=9.0,SNR=5.5
OBN Obninsk 66.47 323 *i*P **P** **07 53 39.3 -1.8**
OBN *i* 07 53 50.0
OBN pmax pmax
comp=Z,13nm,0.4s
OBN MLR MLR
comp=Z,844nm,18.0s
FIA1 FINESS Array S 66.62 332 *e*P **P** **07 53 42.2 +0.3**
comp=Z,11nm,0.8s
FINES FINESS Array B 66.62 332 P **P** **07 53 41.8 -0.2**
comp=Z,7.8nm,0.9s,baz=49,slow=8.6,SNR=18
SUMG Summit 67.17 1 *e*P **P** **07 53 46.0 +0.2**
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 67.17 1 *i*P **P** **07 53 46.2 +0.4**
comp=Z,8.7nm,0.8s
SUMG *e* 07 54 08.1
SUMG Summit 67.17 1 *e*P **P** **07 53 46.0 +0.2**
comp=Z,12nm,0.9s
K05A Summer Lake 67.22 53 *e*P **P** **07 53 48.0 +1.6**
comp=Z,22nm,1.1s
VSR Storozhevoye 67.59 319 *e*P **P** **07 53 47.7 -0.6**
VSR pmax pmax
comp=Z,12nm,1.0s
SWMT Swartz Lake 68.40 45 *e*P **P** **07 53 57.0 +3.3**
VSU Vasula 68.42 330 *i*P **P** **07 53 53.6 +0.2**
VSU pmax pmax
comp=Z,37nm,1.1s
GOF Gofitskoye 69.23 312⇑*e*P **P** **07 53 59.7 +1.0**
GOF pmax pmax
comp=Z,42nm,0.8s
FFC Flin Flon 69.69 34 *e*P **P** **07 54 03.4 +2.0**
FFC pmax pmax
comp=Z,7.0nm,1.0s
FFC Flin Flon 69.69 34 *e*P **P** **07 54 03.4 +2.0**
comp=Z,6.9nm,1.0s
KVAR Kislovodsk Arr 70.09 311 P **P** **07 54 04.1 -0.1**
comp=Z,64nm,1.3s,baz=34,slow=7.3,SNR=12
KIV Kislovodsk 70.09 311 *e*P **P** **07 54 04.9 +0.7**
KIV pmax pmax
comp=Z,40nm,1.0s
KIV Kislovodsk 70.09 311 *e*P **P** **07 54 05.6 +1.4**
comp=Z,96nm,1.5s
KBZ Khabaz 70.11 311 P **P** **07 54 04.7 +0.6**
comp=Z,8.3nm,1.0s,baz=60,slow=5.7,SNR=9.8
LRM Limekiln Ridge 70.28 46 *e*P **P** **07 54 05.3 -0.1**
DLMT Dillon 70.48 47 *e*P **P** **07 54 06.8 +0.2**
comp=Z,9.3nm,1.1s
NEY Neytrino 70.50 311 *e*P **P** **07 54 06.4 -0.4**
NEY pmax pmax
comp=Z,1.0nm,1.2s
HLID Hailey 70.56 49 *e*P **P** **07 54 09.3 +2.2**
comp=Z,4.2nm,1.1s
BMN Battle Mountai 70.80 53 *e*P **P** **07 54 09.1 +0.5**
BMN pmax pmax
comp=Z,5.0nm,1.1s
BMN Battle Mountai 70.80 53 *e*P **P** **07 54 09.1 +0.5**
comp=Z,5.4nm,1.1s
BOZ Bozeman (W) 70.83 46 *e*P **P** **07 54 08.7 0.0**
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 70.83 46 *e*P **P** **07 54 08.7 0.0**
comp=Z,6.6nm,1.0s
GNI Garni 71.19 307 P **P** **07 54 12.1 +1.1**
comp=Z,14nm,0.4s,baz=58,slow=2.7,SNR=4.2
GNI Garni 71.19 307 *e*P **P** **07 54 11.5 +0.5**
GNI pmax pmax
comp=Z,35nm,1.0s
NC405 NORSAR Array S 71.50 338 *e*P **P** **07 54 12.3 +0.1**
NB201 NORSAR Array S 71.67 338 *e*P **P** **07 54 13.7 +0.4**
HFS Hagfors 71.69 336 P **P** **07 54 13.0 -0.4**
comp=Z,4.0nm,0.7s,baz=35,slow=5.4,SNR=8.9
NB2 NORSAR Subarra 71.70 338 P **P** **07 54 13.1 -0.4**
comp=Z,1.1nm,1.1s,baz=36,slow=6.5
NOA NORSAR Array B 71.70 338 *e*P **P** **07 54 13.1 -0.4**
comp=Z,4.3nm,0.9s,baz=37,slow=6.0,SNR=9.0
NBO02 NORSAR Array S 71.79 338 *e*P **P** **07 54 14.0 -0.1**
H17A Grant Village 72.20 47 *e*P **P** **07 54 19.7 +2.5**
comp=Z,16nm,1.3s
IMW Indian Meadow 72.32 47 *e*P **P** **07 54 18.1 +0.2**
comp=Z,7.7nm,1.1s
MOOW Moose Ponds 72.52 47 *e*P **P** **07 54 19.9 +0.9**
comp=Z,15nm,1.6s
TPAW Teton Pass 72.57 47 *e*P **P** **07 54 20.5 +1.1**
comp=Z,15nm,1.3s
HVU Hansel Valley 72.61 50 *e*P **P** **07 54 20.0 +0.5**
HVU pmax pmax
comp=Z,5.0nm,1.0s
HVU Hansel Valley 72.61 50 *e*P **P** **07 54 20.0 +0.5**
comp=Z,5.0nm,1.0s
REDW Red Top Meadow 72.71 47 *e*P **P** **07 54 21.9 +1.7**
comp=Z,12nm,1.4s
AKASG Malin Array Be 72.72 323 P **P** **07 54 19.3 -0.4**
comp=Z,2.4nm,0.6s,baz=43,slow=6.9,SNR=23
AKBB Malin Array Si 72.72 323 *e*P **P** **07 54 19.7 0.0**
AKBB pmax pmax
comp=Z,17nm,1.1s
AKBB Malin Array Si 72.72 323 *e*P **P** **07 54 19.7 0.0**
comp=Z,17nm,1.1s
KIEV Kiev 72.73 323 *e*P **P** **07 54 19.4 -0.4**
KIEV pmax pmax
comp=Z,20nm,1.2s
KIEV Kiev 72.73 323 *e*P **P** **07 54 19.4 -0.4**
comp=Z,20nm,1.2s
AK11 Malin Array Si 72.76 323 *e*P **P** **07 54 20.0 0.0**
R11A Troy Canyon, C 73.07 54 *e*P **P** **07 54 24.4 +2.1**
comp=Z,6.9nm,1.3s
HWUT Hardware Ranch 73.42 49 *e*P **P** **07 54 26.2 +1.9**
comp=Z,28nm,1.9s
DUG Dugway, Tooele 73.59 51 *e*P **P** **07 54 25.1 -0.2**
DUG pmax pmax
comp=Z,10.0nm,1.1s
DUG Dugway, Tooele 73.59 51 *e*P **P** **07 54 25.1 -0.2**
comp=Z,9.9nm,1.1s
BW06 Boulder Array 73.82 47 *e*P **P** **07 54 27.4 +0.7**
PDAR Pinedale Array 73.82 47 P **P** **07 54 25.9 -0.8**
comp=Z,1.7nm,0.9s,baz=320,slow=4.9,SNR=8.2
TCUT Toone Canyon 73.82 50 *e*P **P** **07 54 28.9 +2.1**
comp=Z,14nm,1.1s
SHPR Sheep Range 74.49 55 *e*P **P** **07 54 32.6 +1.9**
comp=Z,7.1nm,1.3s
CCUT Cedar City 74.94 53 *e*P **P** **07 54 34.2 +0.9**
comp=Z,6.1nm,1.3s
BSD Bornholm Skovb 75.27 333 *i*P **P** **07 54 34.3 -0.2**
comp=Z,20nm,1.2s
P17A Butcher Ranch, 75.28 51 *e*P **P** **07 54 36.7 +1.5**
comp=Z,8.6nm,0.9s
LCMT Little Creek M 75.35 54 *e*P **P** **07 54 37.0 +1.3**
comp=Z,4.7nm,1.1s
ULM Lac du Bonnet 75.49 35 P **P** **07 54 35.1 -0.9**
comp=Z,2.5nm,0.6s,baz=328,slow=5.8,SNR=4.2
MDND Maddock 75.53 39 *e*P **P** **07 54 38.0 +1.8**
comp=Z,20nm,1.1s
KNB Kanab 75.61 54 *e*P **P** **07 54 39.3 +2.2**
KNB pmax pmax
comp=Z,13nm,1.4s
KNB Kanab 75.61 54 *e*P **P** **07 54 39.3 +2.2**
comp=Z,13nm,1.4s
SRU San Rafael Swe 75.64 51 *e*P **P** **07 54 39.2 +1.9**
SRU pmax pmax
comp=Z,7.0nm,1.0s
SRU San Rafael Swe 75.64 51 *e*P **P** **07 54 39.2 +1.9**
comp=Z,7.3nm,1.0s
LVV L'vov 75.69 325 *e*P **P** **07 54 37.5 +0.4**
LVV MLR MLR
comp=N,500nm,16.0s
LVV MLR MLR
comp=E,400nm,16.0s
LVV MLR MLR
comp=Z,600nm,16.0s
O20A White River Ci 76.29 49 *e*P **P** **07 54 42.2 +1.2**
comp=Z,6.5nm,1.1s
U15A North Rim 76.31 54 *e*P **P** **07 54 42.1 +0.8**
comp=Z,15nm,1.5s
KWP Kalwaria Pacla 76.41 325 *e*P **P** **07 54 42.5 +1.3**
KWP Kalwaria Pacla 76.41 325 *e*P **P** **07 54 42.5 +1.3**
BUR08 Bucovina Ar. S 76.75 322 *e*P **P** **07 54 44.0 +0.8**
BURAR Bucovina Array 76.76 322⇓*i*P **P** **07 54 43.4 0.0**
BURAR Bucovina Array 76.76 322⇓P **P** **07 54 43.4 0.0**
N23A Red Feather La 77.08 47 *e*P **P** **07 54 46.5 +1.0**
comp=Z,9.4nm,1.1s
KOLS Kolonicke sedl 77.12 325 *e*P **P** **07 54 44.8 -0.4**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 77.12 325 *e*P **P** **07 54 44.8 -0.4**
OJC Ojcow 77.20 327 *e*P **P** **07 54 46.3 +0.6**
OJC Ojcow 77.20 327 *e*P **P** **07 54 46.3 +0.6**
OJC Ojcow 77.20 327 *e*P **P** **07 54 46.6 +1.0**
comp=Z,20nm,1.1s
UZH Uzhgorod 77.33 325 *e*P **P** **07 54 46.1 -0.3**
PV15 Paradox Valley 77.34 50 *e*P **P** **07 54 48.7 +1.7**
WUAZ Wupatki 77.47 54 *e*P **P** **07 54 48.8 +1.1**
comp=Z,7.0nm,1.1s
Y14A Wickenburg 77.48 56 *e*P **P** **07 54 49.0 +1.4**
comp=Z,30nm,1.4s
CRVS Cervenica-Dubn 77.49 325 *e*P **P** **07 54 47.0 -0.4**
CRVS Cervenica-Dubn 77.49 325 *e*P **P** **07 54 47.0 -0.4**
NIE Niedzica 77.60 326 *e*P **P** **07 54 49.4 +1.4**
NIE Niedzica 77.60 326 *e*P **P** **07 54 49.4 +1.4**
DOPR Dopca 77.88 321⇑*i*P **P** **07 54 51.8 +2.2**
MLR Muntele Rosu 77.96 321 P **P** **07 54 50.7 +0.5**
comp=Z,0.3nm,0.4s,baz=53,slow=9.4,SNR=3.4
MLR Muntele Rosu 77.96 321⇑*i*P **P** **07 54 51.7 +1.6**
MLR Muntele Rosu 77.96 321⇑P **P** **07 54 51.7 +1.6**
BRTR Keskin Array B 77.98 312 P **P** **07 54 51.3 +0.9**
comp=Z,4.7nm,1.2s,baz=59,slow=4.2,SNR=8.5
KSP Ksiaz 78.13 329 *e*P **P** **07 54 52.0 +1.1**
KSP Ksiaz 78.13 329 *e*P **P** **07 54 52.0 +1.1**
LANS Liptovska Anna 78.16 326 *e*P **P** **07 54 52.9 +1.8**
LANS Liptovska Anna 78.16 326 *e*P **P** **07 54 52.9 +1.8**
OKC Ostrava-Krasne 78.18 328 AMS AMS 08 35 00.0
comp=Z,600nm,16.6s
BR231 Keskin MP Arra 78.38 313 *e*P **P** **07 54 52.2 -0.4**
VOIR 78.43 321⇑*i*P **P** **07 54 54.0 +1.3**
VOIR 78.43 321 ⇑P **P** **07 54 54.0 +1.3**
MORC Moravsky Berou 78.47 328⇑*i*P **P** **07 54 53.7 +0.9**
MORC Moravsky Berou 78.47 328 ⇑P **P** **07 54 53.7 +0.9**
MORC Moravsky Berou 78.47 328 *e*P **P** **07 54 53.8 +1.0**
comp=Z,75nm,1.4s
UPC Upice 78.51 329 AMS AMS 08 34 50.0

	comp=Z,600nm,16.7s							
DPC	**Dobruska-Polom**	**78.51**	**329**	*e*P		**P**	**07 54 53.8**	**+0.8**
DPC				*e*pP		**pP**	**07 54 59.4**	**-1.7**
DPC				AMS		AMS	08 39 30.0	
	comp=Z,500nm,14.7s							
DPC	**Dobruska-Polom**	**78.51**	**329**	*e*P		**P**	**07 54 53.8**	**+0.8**
DPC				*e*			07 54 59.4	
DPC				MLR		MLR		
	comp=Z,500nm,14.7s							
DRGR		**78.52**	**323**	⇓*i*P		**P**	**07 54 53.5**	**+0.3**
DRGR		**78.52**	**323**	⇓P		**P**	**07 54 53.5**	**+0.3**
S22A	**4UR Ranch, Cre**	**78.71**	**50**	*e*P		**P**	**07 54 56.7**	**+2.1**
PSZ	**Piszkesteto**	**78.92**	**325**	*e*P		**P**	**07 54 56.6**	**+1.2**
PSZ				pmax		pmax		
	comp=Z,41nm,1.7s							
PSZ	**Piszkesteto**	**78.92**	**325**	*e*P		**P**	**07 54 56.5**	**+1.2**
	comp=Z,41nm,1.7s							
VYHS	**Vyhne**	**78.93**	**326**	*e*P		**P**	**07 54 53.4**	**-1.9**
VYHS				pmax		pmax		
	comp=Z,17nm,2.1s							
VYHS	**Vyhne**	**78.93**	**326**	*e*P		**P**	**07 54 53.4**	**-1.9**
CLL	**Collm**	**79.01**	**331**	*e*P		**P**	**07 54 55.0**	**-0.7**
	comp=Z,14nm,1.1s							
CLL				*e*			07 55 00.0	
CLL				*e*			07 55 09.0	
CLL	**Collm**	**79.01**	**331**	*e*P		**P**	**07 54 55.0**	**-0.7**
CLL				*e*			07 55 00.0	
CLL				pmax		pmax		
	comp=Z,14nm,1.1s							
CLL	**Collm**	**79.01**	**331**	*e*P		**P**	**07 54 55.0**	**-0.7**
	comp=Z,12nm,0.5s							
BRG	**Berggiesshubel**	**79.01**	**330**	*e*P		**P**	**07 54 55.7**	**0.0**
	comp=Z,11nm,1.4s							
	comp=N,281nm,16.0s							
	comp=E,488nm,15.4s							
	comp=Z,797nm,17.1s							
BRG	**Berggiesshubel**	**79.01**	**330**	*e*P		**P**	**07 54 55.7**	**0.0**
BRG				pmax		pmax		
	comp=Z,11nm,1.4s							
BRG				MLR		MLR		
	comp=N,281nm,16.0s							
BRG				MLR		MLR		
	comp=E,488nm,15.4s							
BRG				MLR		MLR		
	comp=Z,797nm,17.1s							
PVCC	**Panska Ves**	**79.05**	**330**	AMS		AMS	08 36 10.0	
	comp=Z,600nm,14.8s							
VRAC	**Vranov**	**79.22**	**328**	P		**P**	**07 54 57.8**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=39,slow=6.0,SNR=9.0							
VRAC	**Vranov**	**79.22**	**328**	⇑*i*P		**P**	**07 54 58.7**	**+1.8**
VRAC	**Vranov**	**79.22**	**328**	⇑P		**P**	**07 54 58.7**	**+1.8**
GOPC	**GO Pecny, Ondr**	**79.46**	**329**	*e*P		**P**	**07 54 58.7**	**+0.5**
GOPC				AMS		AMS	08 35 30.0	
	comp=Z,700nm,15.5s							
GOPC	**GO Pecny, Ondr**	**79.46**	**329**	*e*P		**P**	**07 54 58.7**	**+0.5**
GOPC				MLR		MLR		
	comp=Z,700nm,15.5s							
PRU	**Pruhonice**	**79.49**	**330**	AMS		AMS	08 35 30.0	
	comp=Z,900nm,14.7s							
TREC	**Trest**	**79.68**	**329**	AMS		AMS	08 36 30.0	
	comp=Z,500nm,14.4s							
BZS	**Buzias**	**79.91**	**323**	⇑*i*P		**P**	**07 55 00.7**	**+0.1**
BZS	**Buzias**	**79.91**	**323**	⇑P		**P**	**07 55 00.7**	**+0.1**
ECSD	**EROS Data Cent**	**79.95**	**40**	*e*P		**P**	**07 55 02.2**	**+1.3**
	comp=Z,21nm,1.6s							
NKC	**Novy Kostel**	**80.09**	**331**	AMS		AMS	08 40 30.0	
	comp=Z,600nm,14.5s							
EKA	**Eskdalemuir Ar**	**80.45**	**342**	P		**P**	**07 55 04.5**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=33,slow=4.3,SNR=4.1							
MDVR	**Moldovita**	**80.49**	**322**	⇑*i*P		**P**	**07 55 03.8**	**-0.1**
KHC	**Kasperske Hory**	**80.56**	**330**	*e*P		**P**	**07 55 04.6**	**+0.5**
KHC				AMS		AMS	08 36 10.0	
	comp=Z,900nm,14.8s							
KHC	**Kasperske Hory**	**80.56**	**330**	*e*P		**P**	**07 55 04.1**	**0.0**
KHC				pmax		pmax		
	comp=Z,9.0nm,1.5s							
KHC	**Kasperske Hory**	**80.56**	**330**	*e*P		**P**	**07 55 04.1**	**0.0**
	comp=Z,9.1nm,1.5s							
GERES	**GERESS Array B**	**80.74**	**329**	P		**P**	**07 55 04.9**	**-0.3**
	comp=Z,0.4nm,0.2s,baz=44,slow=4.1,SNR=6.1							
GEA0	**GERESS Array S**	**80.75**	**329**	*e*P		**P**	**07 55 05.2**	**-0.1**
ANMO	**Albuquerque**	**80.84**	**52**	*i*P		**P**	**07 55 06.0**	**-0.1**
ANMO				pmax		pmax		
	comp=Z,4.0nm,1.2s							
ANMO	**Albuquerque**	**80.84**	**52**	*e*P		**P**	**07 55 08.0**	**+1.8**
	comp=Z,8.2nm,1.3s							
SCHQ	**Schefferville**	**81.41**	**17**	P		**P**	**07 55 07.4**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=358,slow=2.6,SNR=2.7							
PDKS	**Podkum**	**82.46**	**327**	*i*P		**P**	**07 55 13.9**	**-0.4**
VISS	**Visnje**	**82.73**	**327**	*i*P		**P**	**07 55 15.1**	**-0.6**
BOJS	**Bojanci**	**82.80**	**326**	*i*P		**P**	**07 55 15.6**	**-0.4**
JAVS	**Javornik**	**82.98**	**327**	*i*P		**P**	**07 55 16.5**	**-0.5**
BFO	**Black Forest**	**83.17**	**332**	*i*P		**P**	**07 55 17.0**	**-0.9**
BFO	**Black Forest**	**83.17**	**332**	*e*P		**P**	**07 55 16.0**	**-1.9**
	comp=Z,12nm,0.6s							
PDG	**Podgorica**	**83.44**	**322**	⇑*i*P		**P**	**07 55 20.0**	**+0.7**
FUORN	**Ofenpass-Fuorn**	**83.89**	**330**	*e*P		**P**	**07 55 22.6**	**+0.6**
	comp=Z,36nm,1.4s							
DAVOX	**Davos/Dischmat**	**83.90**	**330**	P		**P**	**07 55 21.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=56,slow=2.9,SNR=5.9							
EIL	**Elat**	**84.08**	**304**	P		**P**	**07 55 23.0**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=93,slow=5.7,SNR=3.7							
VLDQ	**Val d'Or**	**84.40**	**26**	*e*P		**P**	**07 55 25.5**	**+1.3**
	comp=Z,8.6nm,1.0s							
PPT	**Papeete**	**84.50**	**119**	LR		LR	08 33 45.0	
	comp=Z,379nm,18.0s,baz=332,slow=36							
SENIN	**Lac Senin/Sane**	**85.21**	**332**	*e*P		**P**	**07 55 28.8**	**+0.2**
	comp=Z,29nm,1.6s							
TX31	**Lajitas Ar. Si**	**86.44**	**54**	*e*P		**P**	**07 55 34.5**	**-0.3**
TXAR	**Lajitas Array**	**86.44**	**54**	P		**P**	**07 55 33.9**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=299,slow=3.4,SNR=9.5							
SIUC	**Southern Illin**	**88.16**	**39**	*e*P		**P**	**07 55 42.4**	**-0.4**
	comp=Z,19nm,0.6s							
PBMO	**Poplar Bluff**	**88.30**	**41**	*e*P		**P**	**07 55 44.3**	**+0.7**
	comp=Z,8.9nm,1.0s							
TOA0	**Torodi Ar. Sit**	**116.14**	**318**	*e*PKPdf		**PKPdf**	**08 01 37.8**	**+2.2**
SNAA	**Sanae**	**144.68**	**197**	PKP		**PKPab**	**08 02 25.3**	**-0.9**
SNAA	**Sanae**	**144.68**	**197**	*e*PKIKP		**PKPdf**	**08 02 28.7**	**+1.3**
SNAA	**Sanae**	**144.68**	**197**	*e*PKPdf		**PKPdf**	**08 02 28.7**	**+1.3**
PB01	**IPOC Station P**	**145.61**	**66**	*e*PKPdf		**PKPdf**	**08 02 30.6**	**+0.1**
VNA1	**Neumayer--Stat**	**146.64**	**196**	PKP		**PKPab**	**08 02 34.4**	**+1.0**
LVC	**Limon Verde**	**147.04**	**67**	*e*PKPbc		**PKPbc**	**08 02 35.7**	**+0.4**
LCO	**Las Campanas**	**149.49**	**79**	*e*PKPbc		**PKPbc**	**08 02 40.9**	**-0.7**

IDC 28 07:46:07.7±3.3, 54°55N×86°26E, h0km, mb1 2.8/2, mb1mx2.8/60, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.8km s-min=14.5km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**235**	*i*		07 53 20.0	
	baz=52,slon=308,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.04**	**235**	Pg	Pg	07 46 26.4	-1.1
	0.8nm,0.3s,baz=52,slow=16,SNR=5.8						
ZALV				Lg	Lg	07 46 42.5	
	4.2nm,0.3s,baz=52,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**6.13**	**233**	Pn	Pn	07 47 40.6	+1.2
	0.1nm,0.3s,baz=49,slow=14,SNR=4.3						
KURBB				Lg	Lg	07 49 24.9	
	0.0nm,0.3s,baz=56,slow=35,SNR=4.1						
MKAR	**Makanchi Array**	**8.16**	**200**	Pn	Pn	07 48 08.6	+1.3
	0.1nm,0.3s,baz=17,slow=12,SNR=3.8						
MKAR				Sn	Sn	07 49 37.0	-3.2
	0.2nm,0.3s,baz=26,slow=25,SNR=8.2						
MKAR				Lg	Lg	07 50 29.0	
	0.1nm,0.3s,baz=21,slow=29,SNR=7.8						

*CSEM **28** 07:52:44.8, 38°95N×21°72E, h17km±2km, ML1.6/7*
ATH 28 07:52:44.8, 38°95N×21°72E, h17km±2km, ML1.6/7, Error ellipse: s-maj=2.9km s-min=1.0km az=105.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.07**	**114**	P	Pg	07 52 47.7	-0.5
EVR				S	Sg	07 52 50.8	+0.3
EVR	**Evrytania**	**0.07**	**114**	P	Pg	07 52 47.7	-0.5
EVR				S	Sg	07 52 50.8	+0.3
EVR				AML	AML	07 52 51.2	
	comp=N,879μm,0.2s						
PVO	**Paravola**	**0.36**	**205**	P	Pg	07 52 51.6	-0.7
PVO				S	Sb	07 52 57.9	-0.3
PVO	**Paravola**	**0.36**	**205**	P	Pg	07 52 51.6	-0.7
PVO				S	Sb	07 52 57.9	-0.3
PVO				AML	AML	07 52 58.6	
	comp=E,111μm,0.4s						
PVO				AML	AML	07 52 59.6	
	comp=N,96μm,0.3s						
ANX	**Ano Chora**	**0.39**	**156**	P	Pg	07 52 52.4	-0.4
ANX				S	Sg	07 52 58.0	-0.2
ANX	**Ano Chora**	**0.39**	**156**	S	Sg	07 52 58.0	-0.2
ANX				AML	AML	07 53 00.2	
	comp=N,345μm,0.3s						
ANX				AML	AML	07 53 01.6	
	comp=E,334μm,0.4s						
AGG	**Agios Georgios**	**0.48**	**81**	P	Pg	07 52 54.3	-0.2
AGG				S	Sb	07 53 01.7	+0.1
AGG	**Agios Georgios**	**0.48**	**81**	P	Pg	07 52 54.3	-0.2
AGG				S	Sb	07 53 01.7	+0.1
AGG				AML	AML	07 53 01.9	
	comp=N,228μm,0.4s						
AGG				AML	AML	07 53 03.5	
	comp=E,117μm,0.2s						
EFP	**Efpalio**	**0.54**	**164**	P	Pb	07 52 56.3	+0.5
EFP				S	Sb	07 53 04.1	+0.8
EFP	**Efpalio**	**0.54**	**164**	P	Pb	07 52 56.3	+0.5
EFP				S	Sb	07 53 04.1	+0.9
EFP				AML	AML	07 53 06.1	
	comp=N,286μm,0.3s						
EFP				AML	AML	07 53 06.2	
	comp=E,186μm,0.1s						
PDO	**Prodromos**	**0.55**	**231**	P	Pb	07 52 55.9	-0.1
PDO				S	Sb	07 53 03.3	-0.2
PDO	**Prodromos**	**0.55**	**231**	P	Pb	07 52 55.9	-0.1
PDO				S	Sb	07 53 03.3	-0.2
PDO				AML	AML	07 53 05.7	
	comp=E,98μm,0.2s						
PDO				AML	AML	07 53 07.2	
	comp=N,153μm,0.2s						
KALE	**Kalithea**	**0.64**	**149**	P	Pg	07 52 56.5	-1.0
KALE				S	Sb	07 53 07.0	+0.6
KALE	**Kalithea**	**0.64**	**149**	P	Pg	07 52 56.5	-1.1
KALE				S	Sb	07 53 07.0	+0.6
KALE				AML	AML	07 53 08.5	
	comp=E,97μm,0.3s						
KALE				AML	AML	07 53 09.2	
	comp=N,72μm,0.2s						
THL	**Klokotos Trika**	**0.66**	**20**	P	Pg	07 52 57.7	-0.1
THL				S	Sb	07 53 07.7	+1.0
LAKA	**Lakka**	**0.73**	**164**	P	Pb	07 52 58.8	-0.4
LAKA				S	Sg	07 53 08.9	0.0
LAKA	**Lakka**	**0.73**	**164**	P	Pb	07 52 58.8	-0.4
LAKA				S	Sb	07 53 08.9	0.0

DDA 28 07:53:00.7, 39°16N×28°98E, h7km, Md2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**242**	*i* P	Pg	07 53 06.5	+1.1
DEMI				*i* S	Sg	07 53 08.8	+0.2
GDZ	**Gediz**	**0.39**	**100**	*i* P	Pg	07 53 08.3	-0.1
GDZ				*i* S	Sg	07 53 10.9	-2.7
MANT	**Manisa**	**0.74**	**207**	*i* P	Pb	07 53 16.8	+0.7
MANT				*i* S	Sg	07 53 23.2	-1.4

*IDC **28** 07:53:20.3±1.1, 51°87N×172°05W, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.7/59, mbtmp3.9/10, ML3.5/1, Error ellipse: s-maj=38.3km s-min=17.4km az=180.0*
*ISCJB **28** 07:53:26.4±0.5, 51°80N±0°08×171°64W±0°06, h50km, mb4.3/17, Error ellipse: s-maj=12.2km s-min=4.2km az=164.1*
*NEIC **28** 07:53:26.9, 52°13N×171°68W, h20km, mb4.1/17, ML3.6(AEIC), After AEIC.*
ISC 28 07:53:27.8±0.7, 51°9N±0°1×171°67W±0°05, h50km, n51, σ1s55/53, mb4.2/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.55**	**290**	P	**Pn**	**07 53 52.0**	**-1.0**
KOKL	**Mount Kliuchef**	**1.63**	**288**	P	**Pn**	**07 53 53.5**	**-0.6**
KOWE	**Korovin West**	**1.67**	**289**	P	**Pn**	**07 53 53.4**	**-1.2**
NIKH	**Nikolski High**	**2.06**	**56**	P	**Pn**	**07 53 58.5**	**-1.5**
NIKH				S	**Sn**	**07 54 22.4**	**-2.1**
OKWE	**Okmok W'ng Wal**	**2.65**	**51**	P	**Pn**	**07 54 06.7**	**-1.3**
GSMY	**Great Sitkin M**	**2.72**	**276**	P	**Pn**	**07 54 09.8**	**+0.9**
GSTR	**Great Sitkin T**	**2.72**	**277**	*e*Pn	**Pn**	**07 54 09.8**	**+0.7**
OKER	**Okmok East Rim**	**2.73**	**52**	P	**Pn**	**07 54 07.8**	**-1.3**
ETKA	**Kagalaska Isla**	**2.94**	**272**	P	**Pn**	**07 54 13.1**	**+1.2**
ADAG	**Mount Adagdak**	**3.06**	**274**	P	**Pn**	**07 54 14.3**	**+0.8**
UNV	**Unalaska Valle**	**3.72**	**55**	*e*Pn	**Pn**	**07 54 22.2**	**-0.4**
UNV				*e*Sn	**Sn**	**07 55 07.0**	**+1.9**
AKUT	**Akutan**	**4.24**	**55**	*e*Pn	**Pn**	**07 54 31.9**	**+2.2**
SVW2	**Sparrevohn**	**12.81**	**37**	*e*Pn	**Pn**	**07 56 29.6**	**+2.7**
TT01	**Tatalina**	**13.88**	**37**	*e*Pn	**Pn**	**07 56 43.8**	**+2.2**
BPAW	**Bear Paw Mtn.**	**16.36**	**33**	*e*Pn	**P**	**07 57 15.8**	**-0.1**
	5.5nm,1.0s						
SCM	**Sheep Creek Mo**	**16.55**	**43**	*e*Pn	**Pn**	**07 57 17.2**	**+1.1**
	6.8nm,0.9s						
RND	**Reindeer**	**16.71**	**37**	*e*P	**P**	**07 57 21.4**	**+1.5**
	5.5nm,1.1s						
CCB	**Clear Creek Bu**	**17.80**	**35**	*e*Pn	**Pn**	**07 57 29.2**	**-2.2**
	8.2nm,1.7s						
CRQM	**Cirque**	**18.04**	**49**	*e*P	**Pn**	**07 57 36.0**	**+1.4**
	9.0nm,0.8s						
ILAR	**Eielson Array**	**18.19**	**35**	P	**P**	**07 57 33.8**	**-2.3**
	0.1nm,0.3s,baz=236,slow=10,SNR=8.9						
ILB	**Eielson Array**	**18.19**	**35**	*e*P	**P**	**07 57 35.2**	**-0.8**
BALM	**Baldy**	**18.49**	**49**	*e*P	**P**	**07 57 40.0**	**+0.5**
	5.0nm,0.8s						
DOT	**Dot Lake**	**18.70**	**40**	*e*P	**Pn**	**07 57 42.8**	**+0.2**
	13nm,1.1s						
PCA	**Pinnacle**	**19.26**	**52**	*e*P	**P**	**07 57 48.3**	**+0.4**
	15nm,0.6s						
EGAK	**Eagle**	**20.34**	**39**	*e*P	**P**	**07 57 59.2**	**-0.2**
	4.3nm,0.9s						
HYT	**Haines Junctio**	**20.74**	**51**	*e*P	**P**	**07 58 05.4**	**+1.5**
	13nm,0.7s						
DAWY	**Dawson**	**20.76**	**41**	*e*P	**P**	**07 58 05.9**	**+1.8**
	12nm,1.9s						
SKAG	**Skagway**	**21.64**	**55**	*e*P	**P**	**07 58 14.2**	**+0.7**
	12nm,0.8s						
DLBC	**Dease Lake**	**24.37**	**58**	P	**P**	**07 58 42.8**	**+1.9**
	7.4nm,0.8s,baz=281,slow=9.3,SNR=18						
DLBC	**Dease Lake**	**24.37**	**58**	*e*P	**P**	**07 58 42.9**	**+1.9**
	7.7nm,0.8s						
NEW	**Newport**	**34.52**	**74**	P	**P**	**08 00 11.9**	**+0.9**
	2.2nm,0.6s,baz=306,slow=8.7,SNR=3.9						
EDM	**Edmonton**	**34.66**	**64**	*e*P	**P**	**08 00 12.9**	**+0.8**
	6.6nm,0.8s						
TPNV	**Topopah Spring**	**41.28**	**89**	*e*P	**P**	**08 01 09.6**	**+1.3**
	3.6nm,0.9s						
BW06	**Boulder Array**	**41.90**	**77**	*e*P	**P**	**08 01 12.6**	**-0.7**
PD31	**Pinedale Array**	**41.90**	**77**	*e*P	**P**	**08 01 13.6**	**+0.2**
PDAR	**Pinedale Array**	**41.90**	**77**	P	**P**	**08 01 13.9**	**+0.6**
	1.2nm,0.8s,baz=316,slow=4.1,SNR=7.5						
KSRS	**Korea Array**	**44.05**	**276**	P	**P**	**08 01 26.8**	**-3.6**
	0.4nm,0.3s,baz=77,slow=10,SNR=3.6						
KSAR	**Wonju Array Be**	**44.08**	**276**	P	**P**	**08 01 26.8**	**-3.8**
PV01	**Paradox Valley**	**45.28**	**82**	*e*P	**P**	**08 01 40.8**	**+0.3**
ECSD	**EROS Data Cent**	**48.99**	**68**	*e*P	**P**	**08 02 08.7**	**-0.4**
	12nm,1.9s						
HHC	**Hu-ho-hao-te**	**51.77**	**290**	*e*P	**P**	**08 02 31.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
TX31	**Lajitas Ar. Si**	**54.19**	**87**	*e*P	**P**	**08 02 48.7**	**+0.6**
TXAR	**Lajitas Array**	**54.19**	**87**	P	**P**	**08 02 48.3**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=297,slow=5.4,SNR=12						
GTA	**Gaotai**	**59.44**	**296**	*e*P	**P**	**08 03 27.0**	**+1.7**
GTA				pP	pP	08 03 37.8	-1.3
GTA				sP	sP	08 03 41.8	-3.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WMQ	**Urumqi**	**62.72**	**307**	P	**P**	**08 03 50.3**	**+2.9**
MKAR	**Makanchi Array**	**63.12**	**312**	P	**P**	**08 03 48.3**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=48,slow=6.4,SNR=3.4						
BVAR	**Borovoye Array**	**63.29**	**323**	P	**P**	**08 03 50.0**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=68,slow=13,SNR=4.7						
LMN	**Caledonia Moun**	**64.20**	**48**	*e*P	**P**	**08 03 56.8**	**-0.2**
	comp=Z,18nm,1.4s						
HNR	**Honiara**	**65.74**	**211**	*e*P	**P**	**08 04 05.6**	**-1.7**
	comp=Z,189nm,1.0s						
AKTO	**Aktyubinsk**	**69.74**	**329**	P	**P**	**08 04 30.4**	**-1.7**
	comp=Z,1.7nm,0.6s,baz=49,slow=5.9,SNR=5.5						
ASAR	**Alice Springs**	**88.98**	**228**	P	**P**	**08 06 16.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=33,slow=4.8,SNR=4.4						

*ISCJB **28** 08:11:06.9±0.8, 38°40N±0°04×141°94E±0°09, h61km±7km, mb3.5/5, Error ellipse: s-maj=12.9km s-min=5.8km az=19.4*
*IDC **28** 08:11:06.6±2.6, 38°38N×142°04E, h42km±26km, mb3.3/5, mb1 3.6/8, mb1mx3.4/41, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=29.9km s-min=19.9km az=102.0*
*JMA **28** 08:11:08.7±0.1, 38°44N×141°83E, h57km±1km, M3.6*
JMA Felt II J1.
ISC 28 08:11:07.6±1.0, 38°40N±0°04×142°00E±0°08, h51km±9km, n23, σ1s52/33, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.51**	**276**	P	**Pn**	**08 11 19.2**	**+0.2**
JIO				S	**Sn**	**08 11 26.6**	**-0.7**
OFUJ	**Ofunato**	**0.72**	**339**	P	**Pn**	**08 11 22.2**	**+0.5**
OFUJ				S	**Sn**	**08 11 32.0**	**0.0**
JMK	**Ichinoseki**	**0.82**	**312**	P	**Pn**	**08 11 23.1**	**+0.2**
JMK				S	**Sn**	**08 11 33.3**	**-0.8**
JOU	**Okura**	**1.05**	**268**	P	**Pn**	**08 11 25.7**	**-0.3**
JOU				S	**Sn**	**08 11 38.3**	**-1.3**
JMM	**Marumori**	**1.09**	**241**	P	**Pn**	**08 11 26.3**	**-0.2**
JMM				S	**Sn**	**08 11 39.2**	**-1.4**
JOM	**Ohasama**	**1.20**	**333**	P	**Pn**	**08 11 28.5**	**+0.4**
JOM				S	**Sn**	**08 11 43.2**	**-0.1**
JFK	**Kawauchi**	**1.36**	**221**	P	**Pn**	**08 11 30.7**	**+0.4**
JFK				S	**Sn**	**08 11 46.9**	**-0.4**
JYK	**Kaneyama**	**1.38**	**292**	P	**Pn**	**08 11 30.3**	**-0.2**
JYK				S	**Sn**	**08 11 46.2**	**-1.5**
JRG	**Rokugo**	**1.46**	**313**	P	**Pn**	**08 11 31.4**	**-0.1**
JYS	**Shirataka**	**1.53**	**264**	P	**Pn**	**08 11 32.6**	**+0.1**
JYS				S	**Sn**	**08 11 50.5**	**-0.8**
JFT	**Otama**	**1.58**	**237**	P	**Pn**	**08 11 33.7**	**+0.5**
JFT				S	**Sn**	**08 11 52.0**	**-0.6**
MJAR	**Matsushiro Arr**	**3.54**	**240**	P	**Pn**	**08 11 59.4**	**-0.7**
	1.4nm,0.3s,baz=52,slow=11,SNR=10						
MAT	**Matsushiro**	**3.54**	**240**	P	**Pn**	**08 12 01.9**	**+1.8**
MAT				S	**Sn**	**08 12 46.9**	**+6.2**
JHJ	**Hachijo jima 2**	**5.57**	**200**	P	**Pn**	**08 12 26.4**	**-1.4**
	8.7nm,0.3s,baz=240,slow=20,SNR=4.2						
JHJ				S	**Sn**	**08 13 27.4**	**-3.2**
	13nm,0.3s,baz=53,slow=20,SNR=3.8						
ASAJ	**Asahikawa**	**5.73**	**4**	P	**Pn**	**08 12 29.1**	**-0.9**
	baz=190,slow=18						
H11S1	**WAKE ISLAND Hy**	**29.25**	**126**	T	T	08 48 22.9	
	baz=318,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.25**	**126**	T	T	08 48 33.2	
	baz=318,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**29.26**	**126**	T	T	08 48 30.4	
	baz=318,slow=76,SNR=34						
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**08 18 47.7**	**-0.5**
	0.7nm,0.4s,baz=95,slow=8.8,SNR=3.0						
MKAR	**Makanchi Array**	**43.80**	**301**	P	**P**	**08 19 08.8**	**+0.6**
	0.2nm,0.3s,baz=88,slow=10,SNR=3.1						
ILAR	**Eielson Array**	**48.09**	**33**	P	**P**	**08 19 41.9**	**+0.2**
	0.5nm,0.8s,baz=260,slow=5.1,SNR=6.0						
WRA	**Warramunga Arr**	**58.48**	**188**	P	**P**	**08 20 58.2**	**-0.2**
	0.2nm,0.4s,baz=6.7,slow=7.2,SNR=9.1						
WRA				pP	**pP**	**08 21 13.7**	**+1.1**
	0.9nm,0.7s,baz=5.6,slow=7.2,SNR=9.5						
TXAR	**Lajitas Array**	**88.92**	**53**	P	**P**	**08 23 56.5**	**-0.4**
	0.2nm,0.7s,baz=292,slow=6.6,SNR=3.9						

*DDA **28** 08:21:23.4, 39°15N×29°01E, h7km, Ml3.6*
*ISK **28** 08:21:23.7, 39°14N×29°00E, h5km, ML3.7*
*CSEM **28** 08:21:24.0±0.1, 39°14N×29°01E, h2km, ML3.6, Error ellipse: s-maj=2.4km s-min=2.3km az=149.0*
ISC 28 08:21:23.9±1.0, 39°14N±0°02×29°00E±0°02, h8km±8km, n89, σ0s80/126, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**247**	P	**Pg**	**08 21 29.1**	**+0.4**
DEMI				S	**Sg**	**08 21 32.6**	**+0.6**
DEMI	**Demirci**	**0.24**	**247**	*i* P	**Pg**	**08 21 29.1**	**+0.4**
DEMI				*i* S	**Sg**	**08 21 32.6**	**+0.6**
GEDZ	**Gediz**	**0.33**	**106**	*e*PG	**Pg**	**08 21 30.8**	**+0.4**
GEDZ				*e*SG	**Sb**	**08 21 36.3**	**-1.4**
GEDZ	**Gediz**	**0.33**	**106**	*e*Pg	**Pg**	**08 21 30.8**	**+0.4**
GEDZ				*e*Sg	**Sb**	**08 21 36.3**	**-1.4**
GDZ	**Gediz**	**0.38**	**97**	P	**Pg**	**08 21 31.0**	**-0.3**
GDZ				S	**Sg**	**08 21 36.1**	**-0.1**
GDZ	**Gediz**	**0.38**	**97**	*i* P	**Pg**	**08 21 31.0**	**-0.3**
GDZ				*i* S	**Sg**	**08 21 36.1**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**49**	*e*PG	**Pg**	**

AYVA					*i* S		**Sg**	**08 22 23.2**	**+1.4**
SPNC	**Sapanca-Adapaz**	**1.84**	**33**	*e*PN	**Pb**	**08 21 57.0**	**-0.9**
SPNC	**Sapanca-Adapaz**	**1.84**	**33**	*e*Pn	**Pb**	**08 21 57.0**	**-0.9**
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*PN	**Pb**	**08 21 58.9**	**-0.4**
ISK	**Istanbul-Kandi**	**1.93**	**1**	P	**Pg**	**08 22 00.7**	**-0.1**
ISK				S	**Sb**	**08 22 23.4**	**-0.1**
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*Pn	**Pb**	**08 21 58.9**	**-0.4**
ISK	**Istanbul-Kandi**	**1.93**	**1**	P	**Pg**	**08 22 00.7**	**-0.1**
ISK				S	**Sb**	**08 22 23.4**	**-0.1**
GOLH	**Golhisar**	**1.95**	**167**	P	**Pn**	**08 21 58.1**	**+0.7**
GOLH	**Golhisar**	**1.95**	**167**	*i* P	**Pn**	**08 21 58.1**	**+0.7**
GOLH				*i* S	**Sg**	**08 22 26.9**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*PN	**Pn**	**08 21 58.8**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*Pn	**Pn**	**08 21 58.8**	**+0.9**
DGB	**˙zmir**	**1.98**	**238**	*i* P	**Pg**	**08 22 01.5**	**-0.4**
DGB				*i* S	**Sg**	**08 22 27.5**	**-0.1**
URLA	**Izmir**	**2.04**	**248**	*i* P	**Sg**	**08 22 04.4**	**+1.6**
URLA				*i* S	**Sg**	**08 22 29.6**	**+0.4**
SILT	**Sile**	**2.07**	**14**	*e*PN	**Pn**	**08 22 00.1**	**+1.1**
SILT	**Sile**	**2.07**	**14**	*e*Pn	**Pn**	**08 22 00.1**	**+1.1**
SART	**Tekirdag**	**2.09**	**318**	P	**Pn**	**08 21 59.5**	**+0.2**
SART				S	**Sn**	**08 22 26.6**	**+1.0**
SART	**Tekirdag**	**2.09**	**318**	*i* P	**Pn**	**08 21 59.5**	**+0.2**
SART				*i* S	**Sn**	**08 22 26.6**	**+1.0**
ZEY	**˙zmir**	**2.15**	**246**	*e*P	**Pg**	**08 22 04.6**	**-0.5**
ZEY				*i* S	**Sn**	**08 22 27.3**	**+0.4**
MDUB	**Mudurnu**	**2.15**	**51**	*e*PN	**Pn**	**08 22 01.5**	**+1.3**
MDUB	**Mudurnu**	**2.15**	**51**	*e*Pn	**Pn**	**08 22 01.5**	**+1.3**
KAND	**Kocaeli-Kandir**	**2.16**	**25**	P	**Pn**	**08 22 00.3**	**+0.1**
KAND				S	**Sn**	**08 22 27.1**	**-0.1**
KAND	**Kocaeli-Kandir**	**2.16**	**25**	*i* P	**Pn**	**08 22 00.3**	**+0.1**
KAND				*i* S	**Sn**	**08 22 27.1**	**-0.1**
BOZC	**Bozcaada**	**2.39**	**288**	*i* P	**Pn**	**08 22 03.8**	**+0.5**
CHOS	**Chios island**	**2.42**	**253**	P	**Pn**	**08 22 01.5**	**-2.4**
CHOS	**Chios island**	**2.42**	**253**	P	**Pn**	**08 22 01.5**	**-2.4**
SIGR	**SIGRI**	**2.45**	**273**	P	**Pn**	**08 22 01.8**	**-2.3**
SIGR	**SIGRI**	**2.45**	**273**	P	**Pn**	**08 22 01.8**	**-2.3**
ALN	**Alexandroupoli**	**2.87**	**309**	P	**Pn**	**08 22 10.5**	**+0.5**
ALN	**Alexandroupoli**	**2.87**	**309**	P	**Pn**	**08 22 10.5**	**+0.5**
SMTH	**Samothraki Isl**	**2.99**	**298**	P	**Pn**	**08 22 12.1**	**+0.5**
SMTH	**Samothraki Isl**	**2.99**	**298**	P	**Pn**	**08 22 12.1**	**+0.5**

*GUC **28** 08:22:17.5±0.5, 35˚05S×73˚04W, h31km±8km, ML3.5*
ISC 28 08:22:18.8±1.9, 35˚09S±0˚05×73˚0W±0˚1, h35km, n20, σ1§15/22, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.05**	**171**	⇓*i* P	**Pn**	**08 22 36.4**	**-0.7**
COCH				*i* S	**Sn**	**08 22 50.0**	**-0.4**
COCH				IAML		08 22 53.4	
	comp=N,694nm,0.5s						
CHPI	**Pichilemu**	**1.07**	**50**	*e*P	**Pn**	**08 22 35.7**	**-1.6**
CHPI				*i* S	**Sn**	**08 22 49.7**	**-1.3**
CHPI				IAML		08 22 55.0	
	comp=E,1μm,0.5s						
TALC	**Talca**	**1.15**	**106**	⇓*i* P	**Pn**	**08 22 38.1**	**-0.4**
TALC				*i* S	**Sn**	**08 22 53.4**	**+0.4**
CCHI	**Chillan**	**1.68**	**154**	*i* P	**Pn**	**08 22 46.1**	**+0.4**
CCHI				*i* S	**Sn**	**08 23 06.2**	**+0.2**
CCHI				IAML		08 23 21.0	
	comp=N,915nm,0.8s						
RCDM	**Rinconada Maip**	**2.42**	**49**	⇑*i* P	**Pn**	**08 22 54.9**	**-0.9**
ANTU	**Antumapu**	**2.47**	**53**	IAML		08 23 41.1	
	comp=E,411nm,0.8s						
CLCH	**Cerro Calan**	**2.65**	**51**	IAML		08 23 46.0	
	comp=N,558nm,0.4s						
PEL	**Peldehue**	**2.73**	**45**	*e*P	**Pn**	**08 22 60.0**	**-0.2**
PEL				IAML		08 23 46.4	
	comp=N,350nm,0.6s						
AUSP	**Uspallata**	**4.15**	**47**	*e*P	**Pn**	**08 23 21.8**	**+1.8**
AUSP				*e*S	Sn	08 24 26.9	+19
ASAL	**Salagasta**	**4.26**	**55**	*e*P	**Pn**	**08 23 24.3**	**+3.0**
ASAL				*e*S	Sn	08 24 29.4	+19
RTLS	**Leoncito**	**4.51**	**44**	*e*P	**Pn**	**08 23 26.4**	**+1.5**
RTLS				*e*S	Sn	08 24 40.1	+24
RTCV	**Cerro Valdivia**	**4.92**	**50**	*e*P	**Pn**	**08 23 31.2**	**+0.9**
RTCV				*e*S	Sn	08 24 52.3	+26
RTLL	**Cerro Villicun**	**5.33**	**46**	*e*P	**Pn**	**08 23 36.4**	**+0.4**
RTLL				*e*S	Sn	08 24 53.4	+17
ACCO	**Cerro Coronel**	**5.58**	**37**	*e*P	**Pn**	**08 23 40.3**	**+0.7**
ACCO				*e*S	Sn	08 25 06.6	+24
ACCO				IAML		08 25 17.8	
	comp=Z,11nm,0.5s						
AMOG	**MOGNA**	**5.61**	**44**	*e*P	**Pn**	**08 23 39.8**	**0.0**
AROD	**Rodeo**	**5.74**	**32**	*e*P	**Pn**	**08 23 43.0**	**+1.2**
AROD				*e*S	Sn	08 25 10.9	+24
ACDV	**Cuesta del Vie**	**5.89**	**35**	*e*P	**Pn**	**08 23 44.4**	**+0.6**
ACDV				*e*S	Sn	08 25 12.8	+23
AVFE	**Valle Fertil**	**6.42**	**48**	*e*P	**Pn**	**08 23 50.3**	**-0.6**
AVFE				⇓*e*S	Sn	08 25 18.6	+16
AVFE				IAML		08 25 29.6	
	comp=Z,6.8nm,0.5s						
ACHE	**Chepes**	**6.60**	**55**	*e*P	**Pn**	**08 23 52.8**	**-0.7**
AGUA	**GUANDACOL**	**6.76**	**36**	*e*P	**Pn**	**08 23 56.3**	**+0.6**

*ISCJB **28** 08:25:13.1±0.6, 40˚43N±0˚03×144˚07E±0˚05, h16km, mb3.5/4, Error ellipse: s-maj=6.7km s-min=3.2km az=31.6*
*IDC **28** 08:25:13.5±1.3, 40˚22N×144˚11E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/62, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=35.7km s-min=26.8km az=111.0*
*JMA **28** 08:25:14.7±0.2, 40˚41N×144˚02E, h30km, M3.3*
ISC 28 08:25:14.8±1.0, 40˚41N±0˚04×144˚11E±0˚06, h16km, n27, σ1§64/43, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**1.76**	**336**	P	**Pn**	**08 25 43.7**	**-0.9**
JEM				*e*S	**Sn**	**08 26 05.1**	**-1.6**
JTH	**Tanohata**	**1.78**	**256**	P	**Pn**	**08 25 43.5**	**-1.4**
JTH				*e*S	**Sn**	**08 26 04.6**	**-2.6**
MIYJ	**Miyakonagasawa**	**1.94**	**246**	P	**Pn**	**08 25 46.1**	**-1.0**
MIYJ				*e*S	**Sn**	**08 26 08.8**	**-2.4**
JANG	**Nango**	**1.98**	**270**	P	**Pn**	**08 25 46.2**	**-1.4**
JNBK	**Urakawa-nobuka**	**2.13**	**332**	P	**Pn**	**08 25 49.2**	**-0.5**
JNBK				*e*S	**Sn**	**08 26 15.9**	**0.0**
JCH	**Churui**	**2.28**	**346**	P	**Pn**	**08 25 50.6**	**-1.1**
JCH				*e*S	**Sn**	**08 26 17.6**	**-1.9**
JTM	**Tenmabayashi**	**2.34**	**280**	P	**Pn**	**08 25 52.2**	**-0.5**
JTM				*e*S	**Sn**	**08 26 18.6**	**-2.5**
JOM	**Ohasama**	**2.35**	**248**	P	**Pn**	**08 25 52.3**	**-0.5**
JOM				*e*S	**Sn**	**08 26 20.0**	**-1.4**
JOT	**Ohata**	**2.52**	**294**	P	**Pn**	**08 25 54.6**	**-0.4**
JOT				*e*S	**Sn**	**08 26 23.6**	**-1.7**
JAK	**Akkeshi**	**2.63**	**9**	P	**Pn**	**08 25 55.6**	**-0.9**
JAK				*e*S	**Sn**	**08 26 26.4**	**-1.7**
JMK	**Ichinoseki**	**2.66**	**238**	P	**Pn**	**08 25 56.6**	**-0.4**
JAH	**Hinai**	**2.66**	**266**	P	**Pn**	**08 25 57.0**	**0.0**
JAH				S	**Sn**	**08 26 27.6**	**-1.4**
JKB	**Kayabe**	**2.75**	**304**	P	**Pn**	**08 25 57.7**	**-0.6**
JKB				*e*S	**Sn**	**08 26 29.2**	**-2.0**
JRG	**Rokugo**	**2.85**	**250**	P	**Pn**	**08 26 00.0**	**+0.3**
JRG				*e*S	**Sn**	**08 26 33.5**	**-0.2**
JAR	**Ashorobuto**	**2.90**	**355**	P	**Pn**	**08 25 58.7**	**-1.6**
JAR				S	**Sn**	**08 26 32.0**	**-2.8**
NEM2	**Nemuro 2**	**3.20**	**22**	P	**Pn**	**08 26 03.1**	**-1.3**
NEM2				S	**Sn**	**08 26 39.2**	**-3.0**
JYK	**Kaneyama**	**3.25**	**244**	P	**Pn**	**08 26 05.0**	**-0.1**
JOU	**Okura**	**3.36**	**234**	P	**Pn**	**08 26 06.1**	**-0.5**
JOU				S	**Sn**	**08 26 43.9**	**-2.2**
JTKR	**Abashiri--Toko**	**3.57**	**358**	P	**Pn**	**08 26 08.5**	**-0.9**
JTKR				S	**Sn**	**08 26 49.3**	**-1.9**
JKK2	**Kamakawa 2**	**3.61**	**344**	P	**Pn**	**08 26 10.2**	**+0.1**
JFT	**Otama**	**4.12**	**227**	P	**Pn**	**08 26 15.4**	**-1.6**
JFT				S	**Sn**	**08 27 01.7**	**-3.1**
MJAR	**Matsushiro Arr**	**6.02**	**232**	Pn	**Pn**	**08 26 43.1**	**-0.2**
	0.4nm,0.3s,baz=41,slow=11,SNR=5.4						
USRK	**Ussuriysk Ar.**	**9.74**	**297**	Pn	Pn	08 27 40.1	+5.9
	0.1nm,0.3s,baz=131,slow=12,SNR=2.5						
ZALV	**Zalesovo Beam**	**41.30**	**310**	P	**P**	**08 33 02.4**	**+3.2**
	1.0nm,0.5s,baz=90,slow=6.7,SNR=5.6						
MKAR	**Makanchi Array**	**44.20**	**300**	P	**P**	**08 33 23.3**	**+0.4**
	0.2nm,0.3s,baz=93,slow=7.3,SNR=3.8						
ILAR	**Eielson Array**	**45.52**	**34**	P	**P**	**08 33 35.5**	**+2.3**
	0.1nm,0.3s,baz=278,slow=6.9,SNR=3.4						
WRA	**Warramunga Arr**	**60.72**	**191**	P	**P**	**08 35 25.4**	**-0.1**
	0.7nm,1.0s,baz=6.2,slow=6.9,SNR=3.4						

*DDA **28** 08:25:48.8, 38˚77N×38˚38E, h7km, Ml2.9*
*CSEM **28** 08:25:49.5±0.2, 38˚75N×38˚40E, h2km, ML2.9, Error ellipse: s-maj=4.3km s-min=3.6km az=148.0*
*ISK **28** 08:25:49.1, 38˚77N×38˚39E, h16km, ML2.9*
ISC 28 08:25:49.4±1.1, 38.76N±0˚03×38.40E±0˚03, h10km±10km, n20, σ0§45/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.53**	**119**	P	**Pg**	**08 25 59.8**	**+0.2**
ELZG				S	**Sb**	**08 26 07.8**	**-0.7**
ELZG	**Elazig**	**0.53**	**119**	*i* P	**Pg**	**08 25 59.8**	**+0.2**
ELZG				*i* S	**Sb**	**08 26 07.8**	**-0.7**
AKCD	**Akcadag**	**0.59**	**219**	P	**Pg**	**08 26 00.6**	**-0.3**
AKCD				S	**Sg**	**08 26 09.3**	**+0.6**
AKCD	**Akcadag**	**0.59**	**219**	*i* P	**Pg**	**08 26 00.6**	**-0.3**
AKCD				*i* S	**Sg**	**08 26 09.3**	**+0.6**
ILIC	**ilic-Erzincan**	**0.71**	**11**	*e*PG	**Pb**	**08 26 03.3**	**-0.6**
ILIC				*e*SG	**Sb**	**08 26 13.2**	**-0.5**
ILIC	**ilic-Erzincan**	**0.71**	**11**	*e*Pg	**Pb**	**08 26 03.3**	**-0.6**
ILIC				*e*Sg	**Sb**	**08 26 13.2**	**-0.5**
DARE	**Darende-Malaty**	**0.74**	**256**	*e*PG	**Pb**	**08 26 03.9**	**-0.5**
DARE	**Darende-Malaty**	**0.74**	**256**	*e*Pg	**Pb**	**08 26 03.9**	**-0.5**
PTK	**Pertek**	**0.79**	**80**	*e*PG	**Pg**	**08 26 04.5**	**-0.1**
PTK				*e*SG	**Sb**	**08 26 16.6**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.80**	**118**	*e*PG	**Pb**	**08 26 05.3**	**-0.2**
EZC	**Erzincan**	**1.24**	**36**	*e*Pn	**Pn**	**08 26 13.6**	**+0.7**
ERZN	**Erzincan**	**1.32**	**51**	*e*PN	**Pn**	**08 26 13.6**	**-0.4**
CUALT	**Altinyayla-SIV**	**1.38**	**293**	P	**Pn**	**08 26 14.9**	**+0.1**
CUALT				S	**Sn**	**08 26 33.9**	**+0.7**
CUALT	**Altinyayla-SIV**	**1.38**	**293**	*i* P	**Pn**	**08 26 14.9**	**+0.1**
CUALT				*i* S	**Sn**	**08 26 33.9**	**+0.7**
SUSE	**Susehri**	**1.46**	**354**	P	**Pg**	**08 26 17.3**	**-0.1**
SUSE				S	**Sg**	**08 26 36.8**	**+0.4**
SUSE	**Susehri**	**1.46**	**354**	*i* P	**Pg**	**08 26 17.3**	**-0.1**
SUSE				*i* S	**Sg**	**08 26 36.8**	**+0.4**
KELT	**Kelkit**	**1.54**	**25**	P	**Pn**	**08 26 17.4**	**+0.3**
KELT				S	**Sg**	**08 26 39.1**	**+0.1**
KELT	**Kelkit**	**1.54**	**25**	*i* P	**Pn**	**08 26 17.4**	**+0.3**
KELT				*i* S	**Sg**	**08 26 39.1**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**1.80**	**292**	P	**Pb**	**08 26 22.7**	**+0.1**
CUSAR				S	**Sg**	**08 26 47.3**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**1.80**	**292**	*i* P	**Pb**	**08 26 22.7**	**+0.1**
CUSAR				*i* S	**Sg**	**08 26 47.3**	**0.0**

*IDC **28** 08:26:59.3±1.3, 37˚54N×141˚66E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.4/62, mbtmp3.5/5, ML3.4/2, Error ellipse: s-maj=32.2km s-min=23.2km az=125.0*
*ISCJB **28** 08:27:01.1±1.2, 37˚30N±0˚04×141˚47E±0˚07, h17km±9km, mb3.4/3, Error ellipse: s-maj=9.8km s-min=5.4km az=19.9*
*JMA **28** 08:27:03.5±0.1, 37˚34N×141˚31E, h27km±1km, M3.9*
JMA Felt I J1.
ISC 28 08:27:02.0±1.5, 37˚35N±0˚03×141˚27E±0˚06, h13km±9km, n15, σ1§54/27, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.31**	**273**	P	**Pn**	**08 27 11.3**	**-1.1**
JFK				S	**Sb**	**08 27 16.5**	**+1.9**
ONAJ	**Iwakimizuishiy**	**0.45**	**237**	P	**Pn**	**08 27 13.1**	**-1.1**
ONAJ				S	**Sb**	**08 27 19.8**	**+1.3**
JMM	**Marumori**	**0.64**	**324**	P	**Pb**	**08 27 16.0**	**+0.9**
JMM				S	**Sb**	**08 27 25.0**	**+1.1**
JFT	**Otama**	**0.76**	**283**	P	**Pn**	**08 27 18.9**	**+0.4**
JFT				S	**Sn**	**08 27 29.6**	**-0.3**
JHO	**Hitachi**	**0.93**	**217**	P	**Pb**	**08 27 19.5**	**-0.4**
JHO				S	**Sg**	**08 27 31.0**	**-1.0**
JIO	**Ouri**	**1.11**	**3**	P	**Pb**	**08 27 22.7**	**-0.3**
JIO				S	**Sg**	**08 27 36.2**	**-1.6**
JOU	**Okura**	**1.12**	**335**	P	**Pn**	**08 27 24.2**	**+0.7**
JOU				S	**Sn**	**08 27 39.2**	**+0.4**
JFY	**Yanaizu**	**1.25**	**273**	P	**Pg**	**08 27 26.6**	**+0.6**
JFY				S	**Sn**	**08 27 43.3**	**+1.4**
JYS	**Shirataka**	**1.29**	**313**	P	**Pg**	**08 27 27.3**	**+0.5**
JYS				S	**Sg**	**08 27 44.8**	**+1.2**
MJAR	**Matsushiro Arr**	**2.58**	**253**	Pn	**Pb**	**08 27 46.8**	**-1.4**
	4.1nm,0.3s,baz=70,slow=14,SNR=20						
MJAR				Sn	**Sg**	**08 28 23.1**	**-1.7**
	5.6nm,0.3s,baz=316,slow=29,SNR=8.4						
MAT	**Matsushiro**	**2.58**	**253**	P	**Pn**	**08 27 44.6**	**+1.1**
MAT				S	**Sb**	**08 28 18.8**	**-1.0**
JHJ	**Hachijo jima 2**	**4.39**	**196**	Pn	**Pn**	**08 28 12.8**	**+4.3**
	6.5nm,0.3s,baz=335,slow=23,SNR=7.4						
JHJ				Sn	**Sn**	**08 28 59.4**	**0.0**
	18nm,0.3s,baz=60,slow=20,SNR=4.4						
MKAR	**Makanchi Array**	**43.85**	**302**	P	**P**	**08 35 08.4**	**+0.5**
	0.2nm,0.3s,baz=86,slow=11,SNR=2.7						
ILAR	**Eielson Array**	**49.29**	**32**	P	**P**	**08 35 47.1**	**-3.1**
	0.3nm,0.8s,baz=262,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**08 36 50.2**	**+0.3**
	0.2nm,0.4s,baz=6.1,slow=7.1,SNR=7.1						

IDC 28 08:40:43.8±5.4, 9˚50S×156˚88E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/28, mbtmp3.6/3, Error ellipse: s-maj=98.0km s-min=75.1km az=178.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.12**	**242**	P	P	08 46 00.4	-1.2
	1.1nm,1.0s,baz=68,slow=9.7,SNR=6.5						
ASAR	**Alice Springs**	**26.09**	**234**	P	P	08 46 20.2	+0.7
	0.6nm,0.8s,baz=73,slow=9.5,SNR=6.5						
STKA	**Stephens Creek**	**26.40**	**210**	P	P	08 46 22.6	+0.4
	1.2nm,0.7s,baz=42,slow=14,SNR=4.4						

*ISCJB **28** 08:54:21.1±0.8, 32˚2N±0˚1×96˚03E±0˚09, h10km, mb3.7/5, Error ellipse: s-maj=17.2km s-min=8.9km az=26.6*
*IDC **28** 08:54:21.6±1.1, 32˚27N×96˚08E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.5/52, mbtmp3.6/7, ML3.3/2, Error ellipse: s-maj=54.6km s-min=21.1km az=57.0*
*BJI **28** 08:54:23.5, 32˚41N×95˚90E, h10km, ML3.3/2, Ms3.3/1, Ms7 3.2/1*
ISC 28 08:54:23.2±1.1, 32˚2N±0˚1×96˚02E±0˚08, h10km, n11, σ1§14/12, mb3.7/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**6.74**	**99**	Pn	Pn	08 56 06.3	+4.1
CD2				Sn	**Sn**	**08 57 18.8**	**-0.3**
CD2				Sg	**Sg**	**08 57 58.3**	**-1.2**
LZH	**Lanzhou**	**7.54**	**57**	*e*Pn	**Pn**	**08 56 15.5**	**+2.2**
LZH				LN			
	150nm,10.3s						
LZH				LE			
	160nm,10.5s						
LZH				LZ			
	180nm,12.3s						
WMQ	**Urumqi**	**13.29**	**333**	P	**Pn**	**08 57 31.3**	**-0.6**
SONM	**Songino Array**	**17.46**	**24**	P	**P**	**08 58 26.9**	**-1.2**
	0.1nm,0.3s,baz=214,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**17.95**	**328**	P	**P**	**08 58 32.8**	**-0.5**
	0.1nm,0.3s,baz=151,slow=13,SNR=2.0						
KURBB	**Kurchatov Arra**	**22.47**	**330**	P	**P**	**08 59 21.0**	**-1.4**
	0.8nm,0.5s,baz=135,slow=12,SNR=5.9						
NB2	**NORSAR Subarra**	**59.93**	**326**	P	**P**	**09 04 29.9**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=77,slow=7.4						
NOA	**NORSAR Array B**	**59.93**	**326**	P	**P**	**09 04 29.4**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=78,slow=7.1,SNR=4.2						
WRA	**Warramunga Arr**	**63.54**	**139**	P	**P**	**09 04 54.2**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=323,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	**66.34**	**142**	P	**P**	**09 05 11.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=329,slow=7.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.69**	**283**	P	**P**	**09 07 08.6**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=47,slow=4.0,SNR=5.0						

*IDC **28** 08:58:48.3±1.3, 51˚91N×171˚86W, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.5/55, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=39.4km s-min=24.7km az=177.0*
*NEIC **28** 08:58:51.7, 51˚64N×171˚33W, h57km, ML3.5(AEIC), After AEIC.*
*ISCJB **28** 08:58:52.5±1.0, 51˚8N±0˚1×171˚40W±0˚08, h44km, mb3.9/6, Error ellipse: s-maj=21.1km s-min=4.8km az=164.6*
ISC 28 08:58:54.8±1.1, 52˚0N±0˚2×171˚45W±0˚06, h44km, n24, σ1§33/20, mb3.9/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.65**	**285**	P	**Pn**	**08 59 21.8**	**+0.5**
KOFP	**Korovin Flat P**	**1.66**	**282**	P	**Pn**	**08 59 21.4**	**-0.1**
KOKL	**Mount Kliuchef**	**1.73**	**283**	P	**Pn**	**08 59 22.7**	**+0.2**
KOWE	**Korovin West**	**1.77**	**284**	P	**Pn**	**08 59 22.6**	**-0.4**
NIKH	**Nikolski High**	**1.88**	**56**	P	**Pn**	**08 59 23.4**	**-1.1**
NIKH				S	**Sn**	**08 59 47.3**	**+0.3**
OKAK	**Okmok**	**2.48**	**48**	P	**Pn**	**08 59 30.5**	**-2.1**
GSTD	**Great Sitkin T**	**2.91**	**274**	P	**Pn**	**08 59 37.7**	**-0.8**
GSTD				S	**Sn**	**09 00 12.6**	**+0.3**
ETKA	**Kagalaska Isla**	**3.07**	**270**	P	**Pn**	**08 59 40.6**	**-0.2**
UNV	**Unalaska Valle**	**3.54**	**56**	P	**Pn**	**08 59 47.1**	**-0.1**
UNV				S	**Sn**	**09 00 30.4**	**+2.6**
AKUT	**Akutan**	**4.06**	**55**	*e*Pn	Pn	08 59 57.8	+3.5
ILAR	**Eielson Array**	**18.02**	**35**	P	**Pn**	**09 03 01.8**	**+0.1**
	0.1nm,0.3s,baz=225,slow=9.0,SNR=7.1						
DLBC	**Dease Lake**	**24.19**	**58**	P	**P**	**09 04 10.0**	**+3.1**
	1.9nm,0.5s,baz=278,slow=5.8,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**36.35**	**216**	T	T	09 44 26.7	
	baz=22,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**36.36**	**216**	T	T	09 44 28.0	
	baz=22,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**36.37**	**216**	T	T	09 44 32.7	
	baz=22,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**37.55**	**215**	T	T	09 45 59.3	
	baz=22,slow=76,SNR=9.0						
H11S2	**WAKE ISLAND Hy**	**37.56**	**215**	T	T	09 45 58.4	
	baz=22,slow=76,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**37.56**	**215**	T	T	09 45 56.8	
	baz=22,slow=76,SNR=9.2						
TXAR	**Lajitas Array**	**54.04**	**87**	P	**P**	**09 08 14.7**	**-0.1**
	0.2nm,0.6s,baz=301,slow=6.5,SNR=4.1						
KURK	**Kurchatov**	**61.82**	**317**	P	**P**	**09 09 08.1**	**-0.7**
KURBB	**Kurchatov Arra**	**61.92**	**317**	P	**P**	**09 09 08.1**	**-1.4**
	1.1nm,0.6s,baz=46,slow=6.5,SNR=6.5						
MKAR	**Makanchi Array**	**63.15**	**312**	P	**P**	**09 09 16.2**	**-1.6**
	0.2nm,0.3s,baz=47,slow=7.3,SNR=4.1						
BVAR	**Borovoye Array**	**63.28**	**323**	P	**P**	**09 09 17.4**	**-1.1**
	1.7nm,0.6s,baz=49,slow=6.7,SNR=5.3						
ASAR	**Alice Springs**	**89.16**	**228**	P	**P**	**09 11 45.2**	**-0.3**
	0.5nm,1.0s,baz=27,slow=4.6,SNR=3.6						

*ATH **28** 08:59:56.6, 37˚22N×22˚01E, h9km±3km, ML1.6/9, Error ellipse: s-maj=4.0km s-min=0.9km az=241.0*
*CSEM **28** 08:59:56.4±0.1, 37˚22N×22˚01E, h8km, ML1.6, Error ellipse: s-maj=3.4km s-min=2.5km az=97.0*
THE 28 08:59:56.7, 37˚26N×21˚98E, h7km±1km, ML1.8/4, Error ellipse: s-maj=1.9km s-min=0.4km az=173.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.09**	**207**	P	Pg	08 59 58.6	-0.2
ITM				S	Sg	09 00 00.4	+0.1
ITM	**Ithomi**	**0.09**	**207**	P	Pg	08 59 58.6	-0.2
ITM				S	Sg	09 00 01.5	+1.2
ITM	**Ithomi**	**0.09**	**207**	P	Pg	08 59 58.5	-0.3
ITM				AML	AML	09 00 01.1	
	comp=N,1244μm,0.2s						
ITM				AML	AML	09 00 01.3	
	comp=E,1886μm,0.3s						
ITM				S	Sg	09 00 01.5	+1.2
VLX	**Vlachokerasia**	**0.34**	**70**	P	Pg	09 00 03.2	-0.2
VLX				S	Sg	09 00 08.4	+0.4
VLX	**Vlachokerasia**	**0.34**	**70**	P	Pg	09 00 03.4	0.0
VLX				S	Sg	09 00 08.4	+0.4
VLX	**Vlachokerasia**	**0.34**	**70**	P	Pg	09 00 03.4	-0.1
VLX				S	Sg	09 00 08.4	+0.4
VLX				AML	AML	09 00 08.9	
	comp=E,513μm,0.2s						
VLX				AML	AML	09 00 09.2	
	comp=N,372μm,0.4s						
TRIP	**Tripoli**	**0.36**	**41**	P

*IDC **28** 09:02:06.6±0.8, 6°.75N×73°.01W, h164km±10km, mb3.8/4, mb1 4.0/7, mb1mx3.5/32, mbtmp4.3/7, MS3.9/1, Ms1 3.9/1, ms1mx2.9/33, Error ellipse: s-maj=29.5km s-min=8.8km az=132.0*

*FUNV **28** 09:02:06.0, 6°.73N×73°.18W, h170km, MW3.7*

*RSNC **28** 09:02:07.8±0.7, 6°.78N×73°.12W, h150km±3km, ML4.0*

ISC 28 09:02:06.2±0.8, **6°.82N**±0°.04×**73°.06W**±0°.04, **h161**km±5km, **n52**, σ1**§17/76**, **mb4.1/4**, **2C-1D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.23**	**296**	*i* P	**Pn**	**09 02 28.2**	**0.0**
BTLC				*e*S	**Sn**	**09 02 44.1**	**-0.9**
BARC	**Barichara**	**0.25**	**209**	*i* P	**Pn**	**09 02 28.0**	**-0.3**
BARC				*e*S	**Sn**	**09 02 48.0**	**-0.3**
BRRC	**Barranca, Sant**	**0.71**	**294**	*i* P	**Pn**	**09 02 29.9**	**-0.1**
BRRC				*e*S	**Sn**	**09 02 46.9**	**-1.2**
BRRC				*i*		09 02 51.3	
	comp=Z,1μm,0.3s						
RUSC	**La Rusia**	**0.92**	**182**	*i* P	**Pn**	**09 02 31.8**	**-0.2**
RUSC				*e*S	**Sn**	**09 02 50.2**	**-1.5**
RUSC				*i*		09 02 52.0	
	comp=Z,1μm,0.4s						
GRMC	**Gramalote, San**	**0.93**	**16**	*i* P	**Pn**	**09 02 33.8**	**+2.1**
GRMC				*e*S	**Sn**	**09 02 53.5**	**+2.1**
CBRI	**Barrientos, No**	**0.93**	**16**	*i* P	**Pn**	**09 02 32.5**	**+0.8**
CBRI				*e*S	**Sn**	**09 02 51.4**	**0.0**
CAPV	**Capacho**	**1.28**	**35**	*i* P	**Pn**	**09 02 35.9**	**+1.2**
CAPV				*e*S	**Sn**	**09 02 57.7**	**+1.1**
OCAC	**Ocana**	**1.44**	**350**	*i* P	**Pn**	**09 02 36.4**	**+0.1**
OCAC				*e*S	**Sn**	**09 02 59.2**	**-0.1**
OCAC				*i*		09 03 05.3	
	comp=Z,1μm,0.4s						
YOPC	**Yopal, Colombi**	**1.58**	**156**	*e*P	**Pn**	**09 02 38.5**	**+0.8**
YOPC				*i*		09 02 39.8	
	comp=Z,457nm,0.5s						
YOPC				*e*S	**Sn**	**09 03 01.1**	**-0.8**
NORC	**Norcasia**	**2.19**	**235**	*e*P	**Pn**	**09 02 43.9**	**-0.4**
NORC				*e*S	**Sn**	**09 03 11.7**	**-1.9**
CHIC	**Chingaza**	**2.27**	**197**	*e*P	**Pn**	**09 02 45.5**	**-0.1**
CHIC				*e*S	**Sn**	**09 03 15.5**	**-0.6**
CHIC				*i*		09 03 24.1	
	comp=Z,699nm,0.5s						
ROSC	**El Rosal**	**2.33**	**213**	P	**Pn**	**09 02 47.6**	**+1.4**
	comp=Z,104nm,0.3s,baz=299,slow=19,SNR=307						
ROSC				S	**Sn**	**09 03 17.3**	**+0.1**
	comp=Z,92nm,0.3s,baz=130,slow=22,SNR=9.1						
HELC	**Santa Helena**	**2.53**	**256**	*e*P	**Pn**	**09 02 48.1**	**-0.6**
HELC				*e*S	**Sn**	**09 03 20.2**	**-1.2**
HELC				*i*		09 03 26.5	
	comp=Z,338nm,0.7s						
VIGV	**El Vigia**	**2.62**	**40**	*e*P	**Pn**	**09 02 50.4**	**+1.0**
VIGV				*e*S	**Sn**	**09 03 23.0**	**+0.2**
SOCV	**Socops**	**2.62**	**56**	*e*P	**Pn**	**09 02 50.3**	**+0.9**
SOCV				*e*S	**Sn**	**09 03 22.8**	**-0.1**
VILC	**Villavicencio,**	**2.76**	**193**	*e*P	**Pn**	**09 02 50.9**	**-0.3**
VILC				*e*S	**Sn**	**09 03 25.4**	**-0.7**
GUYC	**Guyana, Colomb**	**2.81**	**236**	*e*P	**Pn**	**09 02 52.8**	**+0.7**
GUYC				*e*S	**Sn**	**09 03 26.0**	**-1.6**
GUYC				*i*		09 03 33.1	
	comp=Z,1μm,0.5s						
TOLC	**Tolima**	**3.16**	**226**	*e*P	**Pn**	**09 02 56.5**	**+0.1**
SDV	**Santo Domingo**	**3.16**	**49**	P	**Pn**	**09 02 57.3**	**+1.0**
	comp=Z,116nm,0.3s,baz=216,slow=4.7,SNR=51						
SDV				S	**Sn**	**09 03 36.2**	**+1.1**
	comp=Z,27nm,0.3s,baz=274,slow=22,SNR=3.1						
SDV	**Santo Domingo**	**3.16**	**49**	*e*P	**Pn**	**09 02 57.2**	**+0.9**
ELOV	**Elorza**	**3.55**	**87**	*e*P	**Pn**	**09 03 02.0**	**+1.0**
ELOV				*e*S	**Sn**	**09 03 43.3**	**-0.4**
PRAC	**Prado**	**3.58**	**211**	*e*P	**Pn**	**09 03 00.9**	**-0.5**
PRAC				*e*S	**Sn**	**09 03 43.4**	**-1.0**
SJAC	**San Juan de Ar**	**3.63**	**194**	*e*P	**Pn**	**09 03 01.4**	**-0.7**
SJAC				*i*		09 03 51.2	
	comp=Z,1μm,0.3s						
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P	**Pn**	**09 03 04.1**	**+0.9**
VIRV				*e*S	**Sn**	**09 03 45.4**	**-2.2**
QARV	**Quebrada Arrib**	**4.20**	**36**	*e*S	**Sn**	**09 03 56.8**	**-2.0**
SANV	**Sanarito**	**4.39**	**52**	*e*P	**Pn**	**09 03 12.2**	**+0.2**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**09 03 12.6**	**+0.3**
DABV	**Dabajuro**	**4.73**	**30**	*e*P	**Pn**	**09 03 16.9**	**+0.5**
DABV				*e*S	**Sn**	**09 04 09.1**	**-2.0**
TEPV	**Terepaima**	**4.94**	**50**	*e*P	**Pn**	**09 03 19.4**	**+0.3**
SIQV	**Siquisique**	**4.98**	**40**	*e*P	**Pn**	**09 03 18.9**	**-0.8**
SIQV				*e*S	**Sn**	**09 04 15.0**	**-2.1**
MALC	**Bahia Malaga**	**5.09**	**237**	*e*P	**Pn**	**09 03 21.2**	**+0.1**
BAUV	**El Baul**	**5.40**	**67**	*e*S	**Sn**	**09 04 23.5**	**-3.4**
MAPV	**Macapo**	**5.45**	**56**	*e*P	**Pn**	**09 03 25.8**	**0.0**
POPC	**Popayan, Colom**	**5.57**	**221**	*e*P	**Pn**	**09 03 27.1**	**-0.5**
POPC				*i*		09 04 34.7	
	comp=Z,28nm,0.4s						
MONV	**Montecano**	**5.95**	**31**	*e*P	**Pn**	**09 03 31.9**	**-0.5**
MONV				*e*S	**Sn**	**09 04 35.8**	**-4.1**
TURV	**Turiamo**	**6.30**	**55**	*e*P	**Pn**	**09 03 36.4**	**-0.6**
FUNV	**FUNVISIS**	**7.16**	**59**	*e*P	**Pn**	**09 03 48.1**	**-0.5**
BIRV	**Birongo**	**7.63**	**61**	*e*P	**Pn**	**09 03 53.5**	**-1.3**
CUPV	**Cœpira**	**7.88**	**65**	*e*P	**Pn**	**09 03 56.7**	**-1.4**
PRGV	**PARIAGUAN**	**8.55**	**76**	*e*P	**Pn**	**09 04 06.0**	**-1.1**
PCRV	**Puerto La Cruz**	**8.97**	**68**	P	**Pn**	**09 04 12.6**	**0.0**
	comp=Z,1.9nm,0.3s,baz=210,slow=0.5,SNR=12						
GUNV	**Guanoco**	**10.54**	**71**	*e*P	**Pn**	**09 04 32.6**	**-0.7**
LPAZ	**La Paz**	**23.47**	**168**	pP	pP	09 07 33.4	+0.5
	comp=Z,2.4nm,0.7s,baz=359,slow=12,SNR=12						
CPUP	**Villa Florida**	**36.31**	**156**	LR	LR	09 23 34.1	
	comp=Z,189nm,19.4s,baz=105,slow=36						
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**09 08 57.5**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=128,slow=8.6,SNR=12						
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**09 10 23.6**	**0.0**
	comp=Z,3.5nm,0.5s,baz=138,slow=6.8,SNR=5.5						
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**09 12 17.9**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=134,slow=6.5,SNR=10						
INK	**Inuvik**	**73.06**	**340**	P	**P**	**09 13 18.7**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=125,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**09 21 36.1**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=121,slow=3.5,SNR=9.0						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**09 21 39.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=104,slow=3.7,SNR=6.6						

*ISCJB **28** 09:03:08.4±0.5, 39°.11N±0°.04×28°.99E±0°.03, h4km±7km, Error ellipse: s-maj=6.9km s-min=3.6km az=158.9*

*DDA **28** 09:03:08.1, 39°.13N×28°.99E, h7km, Ml2.7*

*ISK **28** 09:03:08.4, 39°.13N×29°.03E, h8km, ML2.7*

*CSEM **28** 09:03:08.7±0.1, 39°.10N×29°.00E, h5km, ML2.7, Error ellipse: s-maj=2.4km s-min=1.9km az=145.0*

ISC 28 09:03:08.7±1.0, **39°.12N**±0°.02×**29°.00E**±0°.02, **h7**km±9km, **n49**, σ0**§42/64**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**252**	P	**Pg**	**09 03 13.4**	**+0.1**
DEMI				S	**Sg**	**09 03 16.7**	**+0.3**
DEMI	**Demirci**	**0.23**	**252**	*i* P	**Pg**	**09 03 13.4**	**+0.1**
DEMI				*i* S	**Sg**	**09 03 16.7**	**+0.3**
GEDZ	**Gediz**	**0.33**	**102**	*e*PG	**Pg**	**09 03 15.1**	**-0.1**
GEDZ				*e*SG	**Sg**	**09 03 19.9**	**+0.3**
GEDZ	**Gediz**	**0.33**	**102**	*e*Pg	**Pg**	**09 03 15.1**	**-0.1**
GEDZ				*e*Sg	**Sg**	**09 03 19.9**	**+0.3**
GDZ	**Gediz**	**0.38**	**94**	P	**Pg**	**09 03 16.2**	**+0.1**
GDZ				S	**Sg**	**09 03 21.5**	**+0.4**
GDZ	**Gediz**	**0.38**	**94**	*i* P	**Pg**	**09 03 16.2**	**+0.1**
GDZ				*i* S	**Sg**	**09 03 21.6**	**+0.4**
TVSB	**Tavsanli**	**0.49**	**47**	*e*PG	**Pg**	**09 03 18.0**	**-0.3**
TVSB				*e*SG	**Sg**	**09 03 24.7**	**0.0**
TVSB	**Tavsanli**	**0.49**	**47**	*e*Pg	**Pg**	**09 03 18.0**	**-0.3**
TVSB				*e*Sg	**Sg**	**09 03 24.7**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*PG	**Pg**	**09 03 21.3**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*Pg	**Pg**	**09 03 21.3**	**0.0**
MANT	**Manisa**	**0.71**	**209**	P	**Pg**	**09 03 21.7**	**-0.8**
MANT				S	**Sg**	**09 03 30.7**	**-1.0**
MANT	**Manisa**	**0.71**	**209**	*i* P	**Pg**	**09 03 21.7**	**-0.8**
MANT				*i* S	**Sg**	**09 03 30.7**	**-1.0**
KHL	**Karahalli**	**0.89**	**152**	*e*PG	**Pg**	**09 03 26.0**	**+0.1**
KHL	**Karahalli**	**0.89**	**152**	*e*Pg	**Pg**	**09 03 26.0**	**+0.1**
AKS	**Akhisar**	**0.95**	**256**	*e*PG	**Pb**	**09 03 27.5**	**-0.1**
AKS	**Akhisar**	**0.95**	**256**	*e*Pg	**Pb**	**09 03 27.5**	**-0.1**
IGD	**Bursa**	**1.16**	**8**	*i* P	**Pg**	**09 03 30.1**	**-0.9**
IGD				*i* S	**Sg**	**09 03 45.1**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pg**	**09 03 32.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pg**	**09 03 32.8**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*PN	**Pn**	**09 03 32.8**	**-0.1**
CAVI				*e*SN	**Sn**	**09 03 50.3**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*Pn	**Pn**	**09 03 32.8**	**-0.1**
CAVI				*e*Sn	**Sn**	**09 03 50.3**	**0.0**
IZI	**Iznik**	**1.27**	**17**	*e*PN	**Pn**	**09 03 33.0**	**-0.1**
IZI	**Iznik**	**1.27**	**17**	*e*Pn	**Pn**	**09 03 33.0**	**-0.1**
BORA	**Eskisehir**	**1.36**	**55**	P	**Pn**	**09 03 34.2**	**-0.1**
BORA				S	**Sn**	**09 03 52.8**	**+0.1**
BORA	**Eskisehir**	**1.36**	**55**	*i* P	**Pn**	**09 03 34.1**	**-0.1**
BORA				*i* S	**Sn**	**09 03 52.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*PN	**Pb**	**09 03 34.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*Pn	**Pb**	**09 03 34.7**	**-0.1**
ARMT	**Armutlu**	**1.45**	**356**	*e*PN	**Pn**	**09 03 35.6**	**+0.2**
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn	**Pn**	**09 03 35.7**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**217**	*e*PN	**Pn**	**09 03 35.9**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**217**	*e*Pn	**Pn**	**09 03 35.9**	**+0.3**
ESKT	**Eskisehir**	**1.49**	**74**	*e*PN	**Pn**	**09 03 36.0**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**74**	*e*Pn	**Pn**	**09 03 36.0**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**74**	*i* P	**Pg**	**09 03 37.6**	**+0.2**
SEYT	**Eskypehyr**	**1.49**	**74**	P	**Pg**	**09 03 37.6**	**+0.2**
EDC	**Edincik**	**1.51**	**325**	*e*PN	**Pn**	**09 03 36.6**	**+0.3**
EDC	**Edincik**	**1.51**	**325**	*e*Pn	**Pn**	**09 03 36.6**	**+0.3**
GULT	**Gulveren**	**1.76**	**41**	*e*PN	**Pn**	**09 03 39.6**	**-0.2**
GULT	**Gulveren**	**1.76**	**41**	*e*Pn	**Pn**	**09 03 39.6**	**-0.2**
MRMT	**Marmara Adasi**	**1.84**	**324**	*e*PN	**Pn**	**09 03 41.2**	**+0.4**
MRMT	**Marmara Adasi**	**1.84**	**324**	*e*Pn	**Pn**	**09 03 41.2**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*PN	**Pn**	**09 03 45.2**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*Pn	**Pn**	**09 03 45.2**	**+0.7**
KLYT	**Kilyos**	**2.14**	**1**	*e*PN	**Pn**	**09 03 45.3**	**+0.5**
KLYT	**Kilyos**	**2.14**	**1**	*e*Pn	**Pn**	**09 03 45.3**	**+0.5**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*PN	**Pn**	**09 03 45.7**	**+0.6**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*Pn	**Pn**	**09 03 45.7**	**+0.6**
ERIK	**Erikli-Kesan**	**2.46**	**310**	*e*PN	**Pn**	**09 03 50.2**	**+0.9**
ERIK	**Erikli-Kesan**	**2.46**	**310**	*e*Pn	**Pn**	**09 03 50.2**	**+0.9**

JMA 28 09:13:10.8±0.1, **38°.90N**×**142°.50E**, **h39**km±2km, **M3.6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.67**	**286**	P	Pn	09 13 24.0	+0.1
OFUJ				S	Sn	09 13 33.2	0.0
MIYJ	**Miyakonagasawa**	**0.86**	**322**	P	Pn	09 13 26.4	0.0
MIYJ				S	Sn	09 13 37.6	-0.1
JMK	**Ichinoseki**	**1.00**	**273**	P	Pn	09 13 28.8	+0.5
JMK				S	Sn	09 13 41.6	+0.4
JIO	**Ouri**	**1.00**	**244**	P	Pn	09 13 28.3	-0.1
JIO				S	Sn	09 13 40.8	-0.5
JOM	**Ohasama**	**1.10**	**302**	P	Pn	09 13 30.2	+0.5
JOM				S	Sn	09 13 44.5	+0.9
JTH	**Tanohata**	**1.15**	**335**	P	Pn	09 13 30.8	+0.4
JTH				eS	Sn	09 13 45.8	+0.9
JRG	**Rokugo**	**1.53**	**289**	P	Pn	09 13 36.9	+1.3
JOU	**Okura**	**1.53**	**250**	P	Pn	09 13 36.7	+1.0
JOU				S	Sn	09 13 55.5	+1.1
JANG	**Nango**	**1.66**	**333**	P	Pn	09 13 37.9	+0.6
JYK	**Kaneyama**	**1.67**	**271**	P	Pn	09 13 38.0	+0.5
JMM	**Marumori**	**1.69**	**233**	P	Pn	09 13 38.5	+0.7

JMA 28 09:16:49.2±0.1, **25°.80N**×**130°.09E**, **h41**km, **M3.8, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.02**	**89**	P	Pn	09 17 07.5	+0.5
JMZ				eS	Sn	09 17 19.6	-0.5
JOW	**Kunigami**	**1.93**	**303**	P	Pn	09 17 20.7	+1.2
JOW				eS	Sn	09 17 42.3	-0.2
JNTH	**Nagotoyohara**	**1.99**	**292**	P	Pn	09 17 20.6	+0.2
JNTH				S	Sn	09 17 43.7	-0.4
JOKE	**Okinoerabujima**	**2.07**	**319**	P	Pn	09 17 22.9	+1.5
JOKE				S	Sn	09 17 46.8	+0.8
JJT2	**Tamagusuku 2**	**2.14**	**280**	P	Pn	09 17 24.0	+1.6
JJT2				S	Sn	09 17 48.8	+1.1
JTK	**Tokunoshima**	**2.23**	**333**	P	Pn	09 17 25.1	+1.5
JTK				eS	Sn	09 17 49.9	0.0
JIH	**Iheya**	**2.27**	**303**	P	Pn	09 17 25.4	+1.3
JIH				eS	Sn	09 17 50.6	-0.3
JZK	**Kikaishima**	**2.51**	**358**	P	Pn	09 17 29.6	+2.1
JAMN	**Amaminishikomi**	**2.57**	**342**	P	Pn	09 17 29.7	+1.4
JAMN				eS	Sn	09 17 57.8	-0.5
JAM	**Amami Oshima**	**2.64**	**351**	P	Pn	09 17 30.6	+1.4
JAGN	**Aguni-jima**	**2.68**	**288**	P	Pn	09 17 31.0	+1.2
JAGN				eS	Sn	09 18 01.2	+0.2
JKE	**Kume jima 2**	**3.02**	**281**	P	Pn	09 17 35.0	+0.5
JKE				S	Sn	09 18 08.2	-1.2
JTAJ	**Takarajima**	**3.43**	**347**	P	Pn	09 17 41.6	+1.4
JTAJ				S	Sn	09 18 17.8	-1.8

*ISK **28** 09:23:02.7, 39°.75N×30°.19E, h10km, ML2.1*

*CSEM **28** 09:23:03.6±0.1, 39°.78N×30°.21E, h8km, ML2.5, Error ellipse: s-maj=3.7km s-min=2.9km az=26.0*

*DDA **28** 09:23:04.8, 39°.81N×30°.28E, h7km, Ml2.5*

ISC 28 09:23:03.5±1.1, **39°.78N**±0°.02×**30°.20E**±0°.02, **h3**km±10km, **n29**, σ0**§84/43**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORA	**Eskisehir**	**0.22**	**63**	P	**Pg**	**09 23 07.8**	**0.0**
BORA				S	**Sg**	**09 23 11.9**	**+1.1**
BORA	**Eskisehir**	**0.22**	**63**	*i* P	**Pg**	**09 23 07.8**	**0.0**
BORA				*i* S	**Sg**	**09 23 11.9**	**+1.1**
CAVI	**Cavuskoy**	**0.50**	**327**	*e*PG	**Pg**	**09 23 13.4**	**+0.2**
CAVI				*e*SG	**Sb**	**09 23 21.3**	**-1.5**
CAVI	**Cavuskoy**	**0.50**	**327**	*e*Pg	**Pg**	**09 23 13.4**	**+0.2**
CAVI				*e*Sg	**Sb**	**09 23 21.3**	**-1.5**
ESKT	**Eskisehir**	**0.57**	**117**	*e*PG	**Pg**	**09 23 13.9**	**-0.5**
ESKT				*e*SG	**Sg**	**09 23 22.2**	**+0.4**
ESKT	**Eskisehir**	**0.57**	**117**	*e*Pg	**Pg**	**09 23 13.9**	**-0.5**
ESKT				*e*Sg	**Sg**	**09 23 22.2**	**+0.4**
ESKT	**Eskisehir**	**0.57**	**117**	*i* P	**Pg**	**09 23 14.0**	**-0.1**
ESKT				*i* S	**Sb**	**09 23 23.4**	**-1.3**
SEYT	**Eskypehyr**	**0.57**	**117**	P	**Pg**	**09 23 14.3**	**-0.1**
SEYT				S	**Sb**	**09 23 23.4**	**-1.3**
TVSB	**Tavsanli**	**0.66**	**240**	*e*PG	**Pg**	**09 23 16.5**	**+0.4**
TVSB				*e*SG	**Sg**	**09 23 24.8**	**+0.1**
TVSB	**Tavsanli**	**0.66**	**240**	*e*Pg	**Pg**	**09 23 16.5**	**+0.4**
TVSB				*e*Sg	**Sg**	**09 23 24.8**	**+0.1**
GULT	**Gulveren**	**0.69**	**20**	*e*PG	**Pg**	**09 23 17.1**	**+0.2**
GULT	**Gulveren**	**0.69**	**20**	*e*Pg	**Pg**	**09 23 17.1**	**+0.2**
IZI	**Iznik**	**0.79**	**315**	*e*PG	**Pg**	**09 23 18.6**	**0.0**
IZI	**Iznik**	**0.79**	**315**	*e*Pg	**Pg**	**09 23 18.6**	**0.0**
GDZ	**Gediz**	**0.89**	**219**	P	**Pb**	**09 23 21.9**	**+0.3**
GDZ	**Gediz**	**0.89**	**219**	*i* P	**Pb**	**09 23 21.9**	**+0.3**
GDZ				*i* S	**Sn**	**09 23 38.5**	**+2.1**
IGD	**Bursa**	**0.91**	**303**	*i* P	**Pb**	**09 23 21.5**	**-0.4**
IGD				*i* S	**Sn**	**09 23 37.1**	**+0.4**
MDUB	**Mudurnu**	**1.03**	**48**	*e*PG	**Pb**	**09 23 23.6**	**-0.5**
MDUB	**Mudurnu**	**1.03**	**48**	*e*Pg	**Pb**	**09 23 23.6**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.08**	**108**	*e*PG	**Pg**	**09 23 23.8**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.08**	**108**	*e*Pg	**Pg**	**09 23 23.8**	**-0.4**
SAHE	**Sakarya_HENDEK**	**1.18**	**25**	P	**Pn**	**09 23 27.4**	**+0.4**
SAHE	**Sakarya_HENDEK**	**1.18**	**25**	*i* P	**Pn**	**09 23 27.4**	**+0.4**
SAHE				*i* S	**Sn**	**09 23 45.7**	**+2.0**
BOLV	**Bolvadin**	**1.21**	**151**	P	**Pn**	**09 23 27.1**	**-0.4**
BOLV	**Bolvadin**	**1.21**	**151**	*i* P	**Pn**	**09 23 27.1**	**-0.4**
BOLV				*i* S	**Sn**	**09 23 46.1**	**+1.6**
ARMT	**Armutlu**	**1.29**	**308**	*e*PN	**Pn**	**09 23 27.5**	**-1.0**
ARMT	**Armutlu**	**1.29**	**308**	*e*Pn	**Pn**	**09 23 27.5**	**-1.0**
KCTX	**Karacabey (Bur**	**1.49**	**290**	*e*PN	**Pn**	**09 23 30.7**	**-0.6**
KCTX	**Karacabey (Bur**	**1.49**	**290**	*e*Pn	**Pn**	**09 23 30.7**	**-0.6**

*DDA **28** 09:29:15.5, 35°.90N×35°.80E, h16km, Ml3.6*

*ISK **28** 09:29:16.0, 35°.90N×35°.83E, h11km, ML3.6*

*IDC **28** 09:29:17.7±0.9, 35°.94N×35°.54E, h0km, mb3.5/5, mb1 3.6/11, mb1mx3.5/38, mbtmp3.5/11, ML3.3/5, Error ellipse: s-maj=22.0km s-min=12.9km az=85.0*

*CSEM **28** 09:29:17.8±0.1, 36°.03N×35°.83E, h2km, ML3.6, Error ellipse: s-maj=3.7km s-min=2.2km az=94.0*

*ISCJB **28** 09:29:18.1±0.4, 36°.01N±0°.01×35°.81E±0°.02, h11km±3km, mb3.4/4, Error ellipse: s-maj=3.1km s-min=2.0km az=172.0*

*NIC **28** 09:29:19.7±0.2, 35°.08N×36°.05E, h5km, mb4.4, ML4.2*

*NSSC **28** 09:29:19.3±1.3, 36°.03N×35°.86E, h13km±2km, ML3.6*

*GII **28** 09:29:19.3±0.0, 35°.84N×35°.43E, h1km, MD3.2/5*

ISC 28 09:29:17.9±1.0, **36°.01N**±0°.02×**35°.80E**±0°.02, **h6**km±8km, **n168**, σ1**§25/221**, **mb3.4/4**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARNB	**Al Arnab**	**0.20**	**138**	*e*P	**Pg**	**09 29 23.4**	**+1.6**
ARNB				*e*S	**Sg**	**09 29 26.8**	**+2.2**
ARNB				AML	AML	09 29 29.6	
	comp=E,10μm,0.5s						
ARNB				AML	AML	09 29 32.4	
	comp=N,7μm,0.5s						
YAYL	**Yayladag**	**0.25**	**85**	P	**Pg**	**09 29 21.6**	**-1.2**
YAYL	**Yayladag**	**0.25**	**85**	*i* P	**Pg**	**09 29 21.6**	**-1.2**
TAHT	**Tahtakopru-Hat**	**0.48**	**40**	*e*PG	**Pg**	**09 29 27.4**	**+0.3**
TAHT	**Tahtakopru-Hat**	**0.48**	**40**	*e*Pg	**Pg**	**09 29 27.4**	**+0.3**
BTCH	**Batrach**	**0.53**	**87**	*e*P	**Pb**	**09 29 29.1**	**-0.5**
BTCH				*e*S	**Sb**	**09 29 36.1**	**-1.5**
BTCH				AML	AML	09 29 39.9	
	comp=N,4μm,0.7s						
BTCH				AML	AML	09 29 40.2	
	comp=E,3μm,0.2s						
KRTS	**Karatas**	**0.66**	**328**	*e*PG	**Pg**	**09 29 30.6**	**+0.1**
KRTS	**Karatas**	**0.66**	**328**	*e*Pg	**Pg**	**09 29 30.7**	**+0.1**
YURE	**YUREGIR**	**0.82**	**350**	P	**Pb**	**09 29 34.7**	**0.0**
YURE	**YUREGIR**	**0.82**	**350**	*i* P	**Pb**	**09 29 34.7**	**0.0**
DRWC	**Darouich**	**0.93**	**49**	*e*P	**Pg**	**09 29 35.7**	**+0.1**
DRWC				*e*S	**Sb**	**09 29 48.3**	**-0.7**
DRWC				AML	AML	09 29 52.4	
	comp=E,1μm,0.7s						
DRWC				AML	AML	09 29 56.4	
	comp=N,1μm,0.4s						
CEYT	**Ceyhan**	**1.00**	**357**	*e*PN	**Pb**	**09 29 37.3**	**-0.3**
CEYT				*e*SN	**Sn**	**09 29 54.1**	**+1.2**
CEYT	**Ceyhan**	**1.00**	**357**	*e*Pn	**Pb**	**09 29 37.3**	**-0.3**
CEYT				*e*Sn	**Sn**	**09 29 54.1**	**+1.2**
BIDA	**Albida**	**1.08**	**157**	*e*P	**Pg**	**09 29 38.8**	**+0.1**
BIDA				*e*S	**Sg**	**09 29 53.4**	**+0.8**
BIDA				AML	AML	09 29 55.4	
	comp=N,13μm,0.4s						
BIDA				AML	AML	09 29 56.6	
	comp=E,13μm,0.4s						
KFRA	**Kufra**	**1.14**	**134**	*e*P	**Pg**	**09 29 40.0**	**+0.3**
KFRA				*e*S	**Sg**	**09 29 54.0**	**-0.4**
KFRA				AML	AML	09 29 57.6	
	comp=N,9μm,0.6s						
KFRA				AML	AML	09 30 02.8	
	comp=E,3μm,0.6s						
DED	**Mersin**	**1.25**	**320**	*i* P	**Pb**	**09 29 40.1**	**-1.7**
KUZU	**Kuzuini**	**1.28**	**53**	P	**Pn**	**09 29 41.5**	**-0.9**
KUZU	**Kuzuini**	**1.28**	**53**	*i* P	**Pn**	**09 29 41.5**	**-0.9**
MERS	**Mersin**	**1.34**	**310**	*e*PN	**Pn**	**09 29 42.7**	**-0.6**
MERS				*e*SN	**Sg**	**09 30 01.3**	**+0.3**
MERS	**Mersin**	**1.34**	**310**	*e*Pn	**Pn**	**09 29 42.7**	**-0.6**
MERS				*e*Sn	**Sg**	**09 30 01.3**	**+0.3**
KAMA	**Osmaniye**	**1.36

AKMC	**Akamas**	3.00 252	P	Pn	09 30 08.6	+2.6
	baz=87					
AKMC	**Akamas**	3.00 252	P	Pn	09 30 08.6	+2.6
MMA0B	**Mount Meron ar**	3.01 186	Pn	Pn	09 30 06.2	+0.1
MMA0B			Sn	Sn	09 30 43.2	+0.6
MMA0B	**Mount Meron ar**	3.01 186	Pn	Pn	09 30 06.2	+0.1
MMA0B			Sn	Sn	09 30 43.2	+0.6
MMAI	**Mount Meron Ar**	3.01 186	Pn	Pn	09 30 06.3	+0.2
	comp=N,73nm,0.3s,baz=17,slow=15,SNR=162					
MMAI			Sn	Sn	09 30 41.2	-1.4
	comp=N,37nm,0.3s,baz=30,slow=14,SNR=6.0					
KSHT	**Keshet**	3.02 180	Pn	Pn	09 30 07.4	+1.1
KSHT	**Keshet**	3.02 180	Pn	Pn	09 30 07.4	+1.1
PPCY	**Paphos**	3.04 249	P	Pn	09 30 08.1	+1.6
	baz=85					
PPCY	**Paphos**	3.04 249	P	Pn	09 30 08.1	+1.6
SHMJ	**Saham**	3.28 181	*e*P	Pn	09 30 08.4	-1.4
BLGI	**Bet Lehem HaGe**	3.31 189	Pn	Pn	09 30 11.0	+0.8
BLGI	**Bet Lehem HaGe**	3.31 189	Pn	Pn	09 30 11.0	+0.8
ZALF	**Zalf**	3.33 157	*e*P	Pn	09 30 12.5	+2.0
ZALF			*e*S	Sn	09 30 48.8	-1.7
ZALF			AML	AML	09 31 10.2	
	comp=E,175nm,0.6s					
ZALF			AML	AML	09 31 12.6	
	comp=N,231nm,0.4s					
TCHB	**Talchebab**	3.34 178	*e*P	Pn	09 30 11.9	+1.3
TCHB			*e*S	Sn	09 30 49.3	-1.3
TCHB			AML	AML	09 31 08.6	
	comp=N,628nm,0.5s					
TCHB			AML	AML	09 31 19.9	
	comp=E,362nm,0.6s					
KONT	**Konya--Tatoy**	3.37 306	*e*PN	Pn	09 30 11.4	+0.4
KONT	**Konya--Tatoy**	3.37 306	*e*Pn	Pn	09 30 11.4	+0.4
SALA	**Sala**	3.38 167	*e*P	Pn	09 30 12.9	+1.5
SALA			*e*S	Sn	09 30 51.3	-0.6
SALA			AML	AML	09 31 10.6	
	comp=N,352nm,0.4s					
SALA			AML	AML	09 31 18.5	
	comp=E,26nm,0.5s					
OFRI	**'Ofer**	3.45 192	Pn	Pn	09 30 12.1	-0.1
OFRI	**'Ofer**	3.45 192	Pn	Pn	09 30 12.1	-0.1
CHBY	**Cihanbeyli**	3.46 319	*e*PN	Pn	09 30 13.3	+0.9
CHBY	**Cihanbeyli**	3.46 319	*e*Pn	Pn	09 30 13.3	+0.9
SFNV	**Sufian**	3.51 82	*e*P	Pn	09 30 12.8	-0.2
SFNV			*e*S	Sn	09 30 51.7	-3.1
SFNV			AML	AML	09 31 23.6	
	comp=Z,389nm,0.6s					
LADK	**Ladik-KONYA**	3.51 309	*e*PN	Pn	09 30 13.8	+0.7
LADK	**Ladik-KONYA**	3.51 309	*e*Pn	Pn	09 30 13.8	+0.7
MMLI	**Mount Malkishu**	3.58 185	Pn	Pn	09 30 14.8	+0.8
MMLI			Sn	Sn	09 30 57.6	+1.0
MMLI	**Mount Malkishu**	3.58 185	Pn	Pn	09 30 14.8	+0.8
MMLI			Sn	Sn	09 30 57.6	+1.0
YOZ	**Yozgat**	3.64 354	*e*PN	Pn	09 30 15.8	+0.9
YOZ	**Yozgat**	3.64 354	*e*Pn	Pn	09 30 15.8	+0.9
SVRC	**Sivrice-ELAZID**	3.66 49	*e*PN	Pn	09 30 14.9	-0.3
SVRC	**Sivrice-ELAZID**	3.66 49	*e*Pn	Pn	09 30 15.0	-0.3
QRNJ	**Al-Qirein**	3.67 183	*e*P	Pn	09 30 16.2	+1.0
AJLJ	**Ajlon**	3.67 181	*e*P	Pn	09 30 16.5	+1.1
KAMT	**Kaman**	3.74 334	*e*PN	Pn	09 30 16.4	+0.1
KAMT	**Kaman**	3.74 334	*e*Pn	Pn	09 30 16.4	+0.1
HMDT	**Nahal Hemdat**	3.76 184	Pn	Pn	09 30 17.4	+1.0
HMDT			Sn	Sn	09 31 02.5	+1.6
HMDT	**Nahal Hemdat**	3.76 184	Pn	Pn	09 30 17.4	+1.0
HMDT			Sn	Sn	09 31 02.5	+1.6
SLTI	**Sal'it**	3.81 190	Pn	Pn	09 30 18.0	+0.8
SLTI			Sn	Sn	09 31 03.2	+0.8
SLTI	**Sal'it**	3.81 190	Pn	Pn	09 30 18.0	+0.8
SLTI			Sn	Sn	09 31 03.2	+0.8
ASF	**Jabal al Asfar**	3.94 166	Pn	Pn	09 30 21.2	+2.3
	comp=Z,1.0nm,0.3s,baz=116,slow=22,SNR=7.9					
ASF			Lg	Lg	09 31 21.4	
	comp=Z,11nm,0.3s,baz=44,slow=24,SNR=8.3					
MAZI	**Mazidag**	4.00 67	*e*PN	Pn	09 30 18.8	-1.0
MAZI	**Mazidag**	4.00 67	*e*Pn	Pn	09 30 18.8	-1.0
PTK	**Pertek**	4.05 44	*e*PN	Pn	09 30 21.4	+0.8
PTK	**Pertek**	4.05 44	*e*Pn	Pn	09 30 21.4	+0.8
BRTR	**Keskin Array B**	4.08 336	Pn	Pn	09 30 22.6	+1.6
	comp=Z,0.4nm,0.3s,baz=157,slow=16,SNR=8.0					
KIZT	**Kizilcal**	4.24 314	*e*PN	Pn	09 30 24.6	+1.5
KIZT	**Kizilcal**	4.24 314	*e*Pn	Pn	09 30 24.6	+1.5
CORM	**Corum**	4.26 348	*e*PN	Pn	09 30 24.7	+1.2
CORM	**Corum**	4.26 348	*e*Pn	Pn	09 30 24.7	+1.2
WALJ	**Wala**	4.44 180	*e*P	Pn	09 30 30.0	+4.3
DSI	**Dead Sea**	4.44 185	Pn	Pn	09 30 26.5	+0.7
DSI			Sn	Sn	09 31 18.8	+0.9
DSI	**Dead Sea**	4.44 185	Pn	Pn	09 30 26.5	+0.7
DSI			Sn	Sn	09 31 18.8	+0.9
YTIR	**Yattir**	4.67 187	Pn	Pn	09 30 30.4	+1.4
YTIR	**Yattir**	4.67 187	Pn	Pn	09 30 30.4	+1.4
BINT	**Bingol**	4.70 51	*e*Pn	Pn	09 30 31.7	+2.3
MZBI	**Masada**	4.70 185	Pn	Pn	09 30 30.3	+1.0
MZBI			Sn	Sn	09 31 25.3	+1.1
MZBI	**Masada**	4.70 185	Pn	Pn	09 30 30.3	+1.0
MZBI			Sn	Sn	09 31 25.3	+1.1
MZDA	**Masada**	4.70 185	Pn	Pn	09 30 29.9	+0.5
MZDA			Sn	Sn	09 31 25.6	+1.4
MZDA	**Masada**	4.70 185	Pn	Pn	09 30 29.9	+0.5
MZDA			Sn	Sn	09 31 25.6	+1.4
KARJ		4.88 182	*e*P	Pn	09 30 26.0	-5.8
BNGB	**Bing˚¶‖**	4.88 51	*e*PN	Pn	09 30 31.7	-0.3
KZIT	**Kziot**	5.22 193	Pn	Pn	09 30 37.4	+0.8
KZIT			Sn	Sn	09 31 36.9	-0.3
KZIT	**Kziot**	5.22 193	Pn	Pn	09 30 37.4	+0.8
KZIT			Sn	Sn	09 31 36.9	-0.3
JDRJ	**Daraweish**	5.27 181	*e*P	Pb	09 30 49.0	-1.5
BYRJ	**Bayer**	5.39 174	*e*P	Pb	09 30 48.6	-3.9
ZFRI	**Zfri**	5.47 186	Pn	Pn	09 30 40.6	+0.7
ZFRI	**Zfri**	5.47 186	Pn	Pn	09 30 40.6	+0.7
RMNI	**Mount Ramon**	5.47 189	Pn	Pn	09 30 41.4	+1.4
RMNI	**Mount Ramon**	5.47 189	Pn	Pn	09 30 41.4	+1.4
SIRT	**Sirnak**	5.53 72	*e*PN	Pn	09 30 41.2	+0.3
SIRT	**Sirnak**	5.53 72	*e*Pn	Pn	09 30 41.2	+0.3
PRNI	**Paran**	5.68 187	Pn	Pn	09 30 43.4	+0.5
PRNI			Sn	Sn	09 31 50.3	+1.8
PRNI	**Paran**	5.68 187	Pn	Pn	09 30 43.4	+0.5
PRNI			Sn	Sn	09 31 50.3	+1.8
HRFI	**Mount Harif**	5.99 186	Pn	Pn	09 30 48.8	+1.6
HRFI	**Mount Harif**	5.99 186	Pn	Pn	09 30 48.8	+1.6
MBRI	**Mt Berech**	6.25 187	Pn	Pn	09 30 52.8	+2.1
MBRI			Sn	Sn	09 32 04.6	+2.2
MBRI	**Mt Berech**	6.25 187	Pn	Pn	09 30 52.8	+2.1
MBRI			Sn	Sn	09 32 04.6	+2.2
HITJ	**Hittiya**	6.25 180	*e*P	Pg	09 31 14.9	-2.7
EIL	**Elat**	6.36 187	Pn	Pn	09 30 53.3	+1.1
	comp=Z,0.4nm,0.3s,baz=349,slow=19,SNR=3.3					
EIL			Sn	Sn	09 32 08.9	+3.6
	comp=Z,4.8nm,0.3s,baz=93,slow=11,SNR=6.4					
EIL	**Elat**	6.36 187	Pn	Pn	09 30 54.3	+2.1
EIL	**Elat**	6.36 187	Pn	Pn	09 30 54.3	+2.1
IDI	**Anoyia**	8.91 269	Pn	Pn	09 31 27.0	-0.3
	comp=Z,0.7nm,0.3s,baz=84,slow=10,SNR=4.4					
IDI			Sn	Sn	09 33 03.5	-4.6
	comp=Z,3.4nm,0.3s,baz=148,slow=23,SNR=9.7					
AKASG	**Malin Array Be**	15.43 344	Pn	Pn	09 32 56.4	+0.3
	comp=Z,0.8nm,0.3s,baz=150,slow=9.6,SNR=3.0					
GERES	**GERESS Array B**	20.66 315	P	P	09 33 57.7	-0.7
	comp=Z,1.0nm,0.5s,baz=125,slow=12,SNR=7.2					
AKTO	**Aktyubinsk**	21.56 41	P	P	09 34 11.7	+3.7
	comp=Z,1.1nm,0.6s,baz=223,slow=11,SNR=4.4					
FINES	**FINESS Array B**	26.19 349	P	P	09 34 54.6	+1.7
	comp=Z,1.4nm,0.7s,baz=150,slow=11,SNR=3.7					
MKAR	**Makanchi Array**	36.01 58	P	P	09 36 21.0	+1.3
	comp=Z,0.1nm,0.3s,baz=256,slow=6.3,SNR=3.5					
TORD	**Torodi Ar. Bea**	38.17 242	P	P	09 36 35.3	-2.9
	comp=Z,0.5nm,0.9s,baz=40,slow=6.1,SNR=2.8					

*ISCJB **28** 09:41:39.6±0.4, 23°.59N±0°.02×121°.93E±0°.02, h27km±3km, Error ellipse: s-maj=4.1km s-min=2.6km az=139.2*
*JMA **28** 09:41:39.7±0.1, 23°.60N×121°.87E, h37km±4km, M2.8*
*TAP **28** 09:41:40.7, 23°.64N×121°.83E, h38km±1km, ML3.2, D*

ISC 28 09:41:38.1±1.1, 23°.59N±0°.02×121°.92E±0°.02, h16km±9km, n44, σ0°56/74, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	0.36	289	P	Pn	09 41 49.2	+0.5
	baz=284						
TEGC				S	Sn	09 41 55.1	-0.5
	baz=284						
ESF	**Shoufeng Towns**	0.47	307	P	Pn	09 41 50.2	+0.1
	baz=307						
ESF				S	Sn	09 41 56.8	-1.4
	baz=307						
HWA	**Hwalien**	0.48	324	*e*P	Pn	09 41 50.0	-0.3
	baz=329						
HWA				S	Sn	09 41 57.9	-0.6
	baz=329						
ESL	**Shilin**	0.50	297	P	Pn	09 41 49.9	-0.7
	baz=295						
EHY	**Hungye**	0.55	262	P	Pn	09 41 51.1	-0.2
	baz=253						
EHY				S	Sn	09 41 59.0	-1.2
	baz=253						
TWD	**Chiawan**	0.57	329	P	Pn	09 41 51.0	-0.5
	baz=334						
TWD				*e*S	Sb	09 41 58.7	+1.1
	baz=334						
TWF1	**Yuli**	0.61	248	P	Pn	09 41 52.2	+0.1
	baz=238						
TWF1				S	Sn	09 42 00.9	-0.9
	baz=238						
CHKT	**Chengkung**	0.70	226	*e*S	Sb	09 42 01.4	0.0
	baz=217						
WDT	**Danda**	0.74	283	P	Pn	09 41 53.8	-0.4
	baz=279						
WDT				*e*S	Sb	09 42 02.9	+0.2
	baz=279						
WHF	**Hehuan Shan**	0.81	313	P	Pn	09 41 54.9	-0.4
	baz=314						
ENA	**Nanau**	0.85	349	P	Pn	09 41 55.6	+0.1
	baz=354						
ENA				S	Sb	09 42 06.3	+0.6
	baz=354						
YUS	**Yu-Shan**	0.89	264	P	Pn	09 41 56.7	+0.2
	baz=259						
YUS				S	Sb	09 42 07.5	+0.2
	baz=259						
ELDTW	**Lidau**	0.92	244	*e*P	Pb	09 41 56.0	+0.3
	baz=238						
TWT	**Tachien**	0.95	315	P	Pn	09 41 57.5	+0.5
	baz=314						
TWT				S	Sb	09 42 08.8	+0.2
	baz=314						
SMLT	**Sun Moon Lake**	0.98	288	P	Pn	09 41 57.5	+0.3
	baz=285						
NNS	**Nan Shan**	0.98	330	*e*S	Sg	09 42 09.2	-0.9
	baz=332						
TWC	**Suao**	1.02	357	P	Pn	09 41 58.5	+0.8
	baz=1.0						
TWC				S	Sg	09 42 10.9	-0.3
	baz=1.0						
TYC	**Yuchr**	1.02	288	*e*P	Pn	09 41 58.2	+0.4
	baz=286						
ALS	**Alishan**	1.02	266	*e*P	Pn	09 41 58.7	+0.7
	baz=261						
ALS				*e*S	Sb	09 42 11.3	+0.4
	baz=261						
TWG	**Pinlang**	1.09	226	*e*P	Pb	09 41 58.4	-0.2
	baz=219						
TWG				*e*S	Sb	09 42 11.2	-1.4
	baz=219						
ENTT	**Nioudou**	1.09	343	*e*P	Pg	09 41 59.7	+0.5
	baz=346						
CHN5	**Tsauling**	1.14	271	*e*P	Pg	09 42 01.0	+0.9
	baz=267						
CHN5				*e*S	Sg	09 42 14.9	0.0
	baz=267						
STYT	**Tauyuan**	1.15	249	*e*P	Pg	09 42 00.7	+0.5
	baz=243						
STYT				S	Sb	09 42 14.3	+0.1
	baz=243						
TWE	**Neicheng**	1.15	349	*e*P	Pg	09 42 00.6	+0.3
	baz=352						
TWE				*e*S	Sb	09 42 14.7	+0.3
	baz=352						
NSK	**Sanguang**	1.20	335	*e*P	Pg	09 42 01.0	-0.2
	baz=337						
NSK				*e*S	Sb	09 42 15.0	-0.8
	baz=337						
CHN4	**Tsaushan**	1.24	259	*e*P	Pg	09 42 02.3	+0.3
	baz=255						
CHN4				*e*S	Sn	09 42 17.4	+0.3
	baz=255						
WTP	**Ta-pu**	1.24	254	*e*P	Pg	09 42 02.3	+0.3
	baz=250						
WTP				*e*S	Sb	09 42 17.3	+0.2
	baz=250						
JYNG	**Yonagunijimaku**	1.27	47	P	Pg	09 42 02.6	-0.1
JYNG				*e*S	Sn	09 42 18.3	+0.2
TWQ1	**Liyutan**	1.29	306	*e*P	Pg	09 42 02.9	-0.1
	baz=306						
TWQ1				*e*S	Sb	09 42 17.8	-0.6
	baz=306						
SGST	**Jiashian**	1.32	248	*e*P	Pg	09 42 04.1	+0.5
	baz=243						
SGST				*e*S	Sn	09 42 19.8	+0.5
	baz=243						
YOJ	**Yonaguni jima**	1.33	49	P	Pg	09 42 03.2	-0.4
YOJ				S	Sn	09 42 19.6	+0.3
NSTT	**Nanjuang**	1.33	321	*e*P	Pg	09 42 03.7	0.0
	baz=322						
NSTT				*e*S	Sn	09 42 20.1	+0.6
	baz=322						
TWK	**Hsinying**	1.35	257	*e*P	Pg	09 42 03.8	-0.3
	baz=252						
TWK				*e*S	Sb	09 42 20.2	+0.1
	baz=252						
TWA	**Mucha**	1.42	348	*e*S	Sb	09 42 22.2	+0.1
	baz=350						
SSD	**Sandimen**	1.45	235	*e*P	Pb	09 42 04.9	+0.2
	baz=230						
NWF	**Wu-fen Shan**	1.48	355	*e*P	Pb	09 42 05.6	+0.3
	baz=358						
NWF				*e*S	Sn	09 42 23.7	+0.4
	baz=358						
EAST	**Anshuo**	1.55	220	*e*P	Pb	09 42 06.9	+0.5
	baz=215						
LAY	**Lan-yu**	1.58	192	*e*P	Pn	09 42 05.4	-0.1
	baz=188						
SCZT	**Fangliau**	1.70	225	*e*P	Pb	09 42 08.9	-0.1
	baz=221						
SCZT				*e*S	Sb	09 42 30.1	0.0
	baz=221						
HATJ	**Hateruma jima**	1.79	75	*e*S	Sn	09 42 30.5	-0.3
IRIF	**Iriomote-Funau**	1.82	66	P	Pb	09 42 10.2	-0.8
IRIF				S	Sn	09 42 32.0	+0.5
JKRS	**Kuro-shima**	2.02	71	*e*S	Sn	09 42 37.0	+0.5
JIJ	**Ishigaki jima**	2.18	69	P	Pn	09 42 14.6	+0.9
JIJ				S	Sn	09 42 39.7	-0.7
JISG	**Ishigakijimahi**	2.40	65	P	Pn	09 42 17.6	+0.8
JISG				*e*S	Sn	09 42 44.7	-1.2

*GUC **28** 09:45:49.5±0.4, 35°.03S×73°.06W, h34km±6km, ML3.9*

ISC 28 09:45:46.7±1.9, 35°.08S±0°.04×73°.16W±0°.09, h9km±10km, n26, σ2°54/27, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	1.09	164	‖*i*P	Pb	09 46 09.1	+1.4
COCH				*i* S	Sg	09 46 24.6	+2.8
COCH				IAML		09 46 29.5	
	comp=N,2μm,0.4s						
CHPI	**Pichilemu**	1.18	54	‖*i*P	Pg	09 46 08.8	-0.5
CHPI				*i* S	Sg	09 46 23.0	-1.6
CHPI				IAML		09 46 31.4	
	comp=N,2μm,0.8s						
TALC	**Talca**	1.29	105	‖*i*P	Pb	09 46 10.8	-0.3
TALC				*i* S	Sb	09 46 27.2	-0.5
NICH	**Los Niches**	1.58	88	‖*i*P	Pn	09 46 15.4	+0.4
NICH				*e*S	Sn	09 46 35.1	-0.5
CCHI	**Chillan**	1.75	150	*i* P	Pn	09 46 19.1	+1.8
CCHI				*i* S	Sn	09 46 39.2	-0.5
CCHI				IAML		09 46 54.9	
	comp=E,3μm,0.4s						
ANTU	**Antumapu**	2.58	55	IAML		09 47 17.4	
	comp=E,1μm,1.5s						
CLCH	**Cerro Calan**	2.75	53	IAML		09 47 21.7	
	comp=E,2μm,1.1s						
PEL	**Peldehue**	2.82	47	IAML		09 47 28.0	
	comp=N,773nm,0.4s						
FCH	**Farellones**	2.95	54	IAML		09 47 30.5	
	comp=E,360nm,1.0s						
CANA	**Caviahue**	3.27	150	*i* P	Pn	09 46 40.3	+1.9
AAGR	**Agrelo**	4.11	62	*i* P	Pn	09 46 56.5	+6.6
AAGR				*i* S	Sg	09 48 01.4	+2.7
ARCO	**CERRO ARCO**	4.16	59	*i* P	Pn	09 46 57.4	+6.7
ARCO				IAML		09 47 47.5	
	comp=Z,48nm,0.4s						
ARCO				*i* S	Sg	09 48 02.5	+2.1
AUSP	**Uspallata**	4.25	49	*i* P	Pn	09 46 58.8	+6.9
ASAL	**Salagasta**	4.37	57	*i* P	Pn	09 46 59.3	+5.8
RTLS	**Leoncito**	4.60	46	*i* P	Pn	09 47 02.4	+5.7
RTLS				*i* S	Sg	09 48 11.8	-2.7
RTLL	**Cerro Villicun**	5.42	48	*i* P	Pn	09 47 10.1	+2.2
RTLL				*i* S	Sb	09 48 25.5	-1.4
ACCO	**Cerro Coronel**	5.65	39	*i* P	Pn	09 47 13.4	+2.2
ACCO				*i* S	Sb	09 48 31.3	-2.5
AMOG	**MOGNA**	5.70	45	*i* P	Pn	09 47 13.5	+1.9
ACAN	**Cantantal**	5.71	62	*i* P	Pn	09 47 12.8	+1.0
AROD	**Rodeo**	5.80	33	*i* P	Pn	09 47 15.8	+2.4
AROD				*i* S	Sb	09 48 34.1	-4.1
ACDV	**Cuesta del Vie**	5.97	36	*i* P	Pn	09 47 16.7	+1.2
AVFE	**Valle Fertil**	6.52	49	IAML		09 49 10.7	
	comp=Z,11nm,0.6s						
ACHE	**Chepes**	6.71	56	*i* P	Pn	09 47 24.8	-0.8
ACHE				*i* S	Sn	09 48 50.4	+8.1
MRA	**San Martin**	6.74	69	*i* P	Pn	09 47 24.2	-1.8
MRA				IAML		09 49 22.0	
	comp=Z,15nm,0.7s						
AGUA	**GUANDACOL**	6.84	37	*i* P	Pn	09 47 26.3	-1.1
AGUA				*i* S	Sn	09 48 53.0	+7.6
VCA	**Vinchina**	7.60	35	*i* P	Pn	09 47 34.9	-3.0
VCA				IAML		09 49 51.7	
	comp=Z,16nm,0.7s						

*BJI **28** 09:49:59.2, 4°.52N×125°.46E, h26km, mb4.9/66, mB5.2/65, Ms5.1/73, Ms7 4.9/69*
*ISCJB **28** 09:50:02.5±0.4, 4°.71N±0°.02×125°.31E±0°.02, h40km±3km, mb5.0/141, MS4.7/33, Error ellipse: s-maj=4.1km s-min=2.7km az=163.1*
*MOS **28** 09:50:02.3±1.4, 4°.82N×125°.17E, h36km, mb5.3/40, MS4.7/9, Error ellipse: s-maj=11.0km s-min=5.8km az=110.9*
*IDC **28** 09:50:04.6±1.9, 4°.70N×125°.17E, h46km±19km, mb4.5/38, mb1 4.6/40, mb1mx4.5/51, mbtmp4.7/40, ML4.0/3, MS4.6/25, Ms1 4.6/25, ms1mx4.5/37, Error ellipse: s-maj=15.4km s-min=7.9km az=79.0*
*GCMT **28** 09:50:05.4±0.1, 4°.76N×125°.14E, h12km, MW5.3/101, Moment Tensor Solution. s72, c114; s101, c190; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.62±.02; $M_{\theta\theta}$0.34±.01; $M_{\phi\phi}$-0.95±.02; $M_{r\theta}$-0.29±.04; $M_{\theta\phi}$-0.56±.01; $M_{\phi r}$-0.89±.04; Best double couple: $M_0$1.29700×10^{17} NP1:ϕ_s197.00000°, δ68.00000°, λ86.00000°. NP2:ϕ_s28.00000°, δ22.00000°, λ100.00000°. Principal axes: T 1.0240, Plg66.0000°, Azm100.0000°; N 0.5480, Plg4.0000°, Azm198.0000°; P -1.5710, Plg23.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 09:50:05.4±0.7, 4°.68N×125°.23E, h52km±6km, mb5.2/79 Error ellipse: s-maj=5.4km s-min=3.9km az=75.0*
*DJA **28** 09:50:06.2±0.4, 5°N±3°×12°5E±°, h45km±4km, M5.2/48, mb5.2/48, mB5.7/36, MLv5.6/6, Mw(mB)5.2/36, Mwp5.6/2*

ISC 28 09:50:03.9±0.4, 4°.69N±0°.03×125°.31E±0°.04, h40km±3km, h40km:pP-P, n412, σ1§85/447, mb5.1/140, MS4.7/34, 15C-12D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	1.02	167	P	Pn	09 50 19.9	-1.9
KCP	**Kidapawan**	2.31	355	‖*e*P	Pn	09 50 39.8	+0.2
KCP				*i* S	Sn	09 51 09.9	+3.1
DAV	**Davao City (W)**	2.38	7	P	Pn	09 50 41.7	+1.2
	90nm,0.3s,baz=228,slow=1.5,SNR=9.3						
DAV				S	Sn	09 51 13.4	+5.0
	196nm,0.3s,baz=9.5,slow=24,SNR=9.9						
DAV	**Davao City (W)**	2.38	7	*e*Pn	Pn	09 50 43.0	+2.6
DAV				*e*Sn	Sn	09 51 11.8	+3.4
CTBH	**Cotabato--PC H**	2.73	337	*e*P	Pn	09 50 44.0	-1.2
CTBH				*i* S	Sn	09 51 17.0	+0.1
BIPH	**Bislig**	3.62	17	‖*e*P	Pn	09 51 01.3	+3.7
BIPH				*e*S	Sn	09 51 52.6	+13
CGP	**Cagayan de Oro**	3.79	351	‖*e*P	Pn	09 51 04.0	+4.1
KMSI	**Cibinong**	4.30	198	P	Pn	09 51 08.9	+2.1
DCPH	**Dipolog City**	4.33	333	‖*e*P	Pn	09 51 08.6	+1.4
MRSI	**Marisa**	5.37	219	P	Pn	09 51 20.3	-1.3
LBMI	**Labuha**	5.73	157	P	Pn	09 51 27.6	+1.1
LBMI				S	Sn	09 52 33.2	+2.1
LLP	**Lapu-Lapu**	5.75	347	*e*P	Pn	09 51 30.4	+3.7
LUWI	**Luwuk**	6.23	204	P	Pn	09 51 34.6	+1.2
LUWI	**Luwuk**	6.23	204	*e*Pn	Pn	09 51 34.7	+1.3
LUWI				*e*Sn	Sn	09 52 44.9	+1.5
PLP	**Palo**	6.44	357	‖*e*P	Pn	09 51 35.2	-1.0
SANI	**Sanana**	6.73	174	P	Pn	09 51 39.0	-1.3
SANI				S	Sn	09 52 56.7	+1.0
MYLDM	**Lahad Datu**	6.80	274	*e*Pn	Pn	09 51 40.9	-0.3
RCP	**Roxas**	7.28	340	‖*e*P	Pn	09 51 49.1	+1.3
PCI	**Palu**	7.79	225	P	Pn	09 51 56.5	+1.6
NLAI	**Namlea**	8.08	167	P	Pn	09 51 57.7	-1.1
NLAI				S	Sn	09 53 27.4	-1.5
SWI	**Sorong**	8.11	133	P	Pn	09 52 00.8	+1.5
MSAI	**Masohi**	8.77	156	P	Pn	09 52 10.3	+2.1
KDI	**Kendari**	9.00	197	P	Pn	09 52 11.0	-0.4
	120nm,1.0s,3μm						
KKM	**Kota Kinabalu**	9.15	279	*e*Pn	Pn	09 52 13.2	-0.4
KKM				*e*Sn	Sn	09 53 46.0	-9.4
TTSI	**Tana Toraja**	9.44	216	P	Pn	09 52 19.1	+1.6
PALU	**Palau**	9.49	73	P	Pn	09 52 19.5	+1.3
	baz=9.6,SNR=9.5						
LQP	**Lukban**	10.07	339	‖*e*P	Pn	09 52 34.2	+7.9
BNDI	**Bandanaira**	10.24	153	P	Pn	09 52 30.2	+1.8
FAKI	**Fak Fak**	10.26	137	P	Pn	09 52 31.6	+2.9
	205nm,1.1s,3μm			

QIZ LZ
5µm,15.3s
QIZ Qiongzhong 20.76 315 *e*P Pn 09 54 43.2 -0.9
170nm,1.7s
QZH Quanzhou 21.14 343 P P 09 54 37.0 -8.6
QZH S S 09 58 13.0 -26
QZH pmax pmax
comp=Z,410nm,1.4s
QZH pmax pmax
comp=Z,3µm,5.3s
QZH LR LR
comp=N,4µm,11.6s
QZH LR LR
comp=E,2µm,10.8s
QZH LR LR
comp=Z,8µm,16.5s
CISI Cisompet, Garu 21.27 235 P **P** **09 54 49.7 +2.5**
DSRI Dabo 21.33 257 P **P** **09 54 50.7 +2.9**
CBJI Citeko 21.48 239 P **P** **09 54 47.1 -2.2**
MYKOM Kota Tinggi 21.61 263 *e*P **P** **09 54 51.2 +0.5**
comp=Z,79nm,1.1s
GZH Guangzhou 21.63 329 P **P** **09 54 52.8 +2.0**
GZH pP **pP** **09 55 03.5 +2.5**
GZH S Sn 09 58 53.5 -5.1
GZH PMZ
comp=Z,1µm,4.8s
CNJI Cibinong 21.70 237 P **P** **09 54 54.6 +2.9**
UBPT Khong Chiam 22.16 300 P **P** **09 54 56.8 +0.2**
comp=Z,100nm,1.5s,comp=Z,2µm
CGJI Cibinong 22.57 240 P **P** **09 55 01.1 +0.1**
FITZ Fitzroy Crossi 22.65 179 P **P** **09 55 01.6 -0.1**
comp=Z,29nm,0.8s,baz=7.0,slow=7.6,SNR=44
FITZ Fitzroy Crossi 22.65 179 P **P** **09 55 02.2 +0.4**
baz=23,SNR=41
FITZ Fitzroy Crossi 22.65 179 *e*P **P** **09 55 01.7 -0.1**
comp=Z,94nm,0.9s
MANU Manus Island 23.04 106 *e*P **P** **09 55 06.7 +0.8**
comp=Z,76nm,1.0s
KASI Kota Agung 23.13 244 P **P** **09 55 08.4 +1.6**
LWLI Liwa 23.31 246 P **P** **09 55 12.2 +3.5**
CHBT CHBT 24.06 291 P **P** **09 55 17.2 +1.5**
comp=Z,82nm,0.9s,comp=Z,5µm
IPM Ipoh 24.20 270 *e*P **P** **09 55 17.4 +0.4**
comp=Z,117nm,1.4s
SKNT Sakolnakorn 24.20 302 P **P** **09 55 17.1 +0.1**
comp=Z,116nm,1.6s,comp=Z,3µm
KULM Kulim 24.57 272 *e*P **P** **09 55 20.2 -0.1**
comp=Z,139nm,1.5s
PDSI Padang 25.44 258 P **P** **09 55 29.8 +1.5**
CHAI Chaiyaphum 25.47 298 P **P** **09 55 31.2 +2.7**
comp=Z,13nm,1.0s,comp=Z,137nm
COEN Coen 25.65 137 P **P** **09 55 31.2 +1.1**
baz=26,SNR=12
COEN Coen 25.65 137 *e*P **P** **09 55 31.3 +1.2**
comp=Z,302nm,1.9s
PMG Port Moresby 25.89 123 P **P** **09 55 33.1 +0.7**
comp=Z,21nm,0.7s,baz=287,slow=17,SNR=2.6
PMG LR LR 10 06 14.7
comp=Z,2µm,21.5s,baz=328,slow=37
PMG Port Moresby 25.89 123*c**e*P **P** **09 55 35.7 +3.4**
PMG pmax pmax
comp=Z,160nm,0.8s
MNSI Mandailing Nat 25.98 262 P **P** **09 55 35.1 +1.9**
WRAB Tennant Creek 26.04 160 *i* P **P** **09 55 33.4 -0.2**
WRAB Tennant Creek 26.04 160 *e*P **P** **09 55 33.0 -0.6**
comp=Z,251nm,1.0s
WR1 Warramunga Arr 26.04 160 *e*P **P** **09 55 32.9 -0.8**
comp=Z,240nm,0.9s
WR1 *e*S **S** **10 00 02.8 +0.7**
WRA Warramunga Arr 26.04 160 P **P** **09 55 32.9 -0.8**
comp=Z,96nm,0.8s,baz=339,slow=10.0,SNR=53
WRA S **S** **10 00 02.8 +0.7**
comp=Z,3.0nm,0.9s,baz=346,slow=15,SNR=2.5
MBWA Marble Bar 26.27 192 *e*P **P** **09 55 35.0 -0.6**
comp=Z,66nm,1.1s
PSI Prapat 26.39 267 *e*P **P** **09 55 37.0 0.0**
PSI Prapat 26.39 267 *e*P **P** **09 55 37.0 0.0**
SSE Sheshan 26.55 352 P **P** **09 55 37.3 -0.8**
SSE S **S** **10 00 11.0 +1.2**
SSE sS **sS** **10 00 25.0 -3.3**
SSE PMZ
comp=Z,27nm,0.9s
SSE PMZ
comp=Z,450nm,7.7s
SSE LN
comp=Z,2µm,18.6s
SSE LE
comp=Z,1µm,18.6s
SSE LZ
comp=Z,2µm,17.4s
PBKT Sadao Pong 26.63 298 P **P** **09 55 40.3 +1.3**
comp=Z,46nm,1.1s,comp=Z,1µm
PHET Kaeng Krachan 26.63 290 P **P** **09 55 41.9 +2.9**
comp=Z,22nm,0.9s
SURT Suratani 26.66 281 P P 09 55 47.5 +8.3
LOEI Loei 26.76 300 P **P** **09 55 37.8 -2.4**
comp=Z,57nm,1.2s,comp=Z,963nm
UTTA Uttaradit 27.47 300 P **P** **09 55 50.4 +3.8**
comp=Z,7.0nm,1.1s,comp=Z,91nm
KCSI Kotacane, Aceh 27.49 269 P **P** **09 55 50.5 +3.7**
CBIJ Chichi jima 27.49 34 *e*P **P** **09 55 45.8 -0.8**
comp=Z,137nm,0.7s
WHN Wuhan 27.71 339 ⇑P **P** **09 55 53.5 +5.0**
WHN S **S** **10 00 28.0 -0.2**
WHN LN
comp=Z,2µm,9.0s
WHN LE
comp=Z,3µm,12.2s
WHN LZ
comp=Z,6µm,20.8s
NJ2 Nanjing 27.88 348 *e*P **P** **09 55 55.5 +5.5**
NJ2 S **S** **10 00 38.3 +7.4**
NJ2 PMZ
comp=Z,19nm,0.7s
NJ2 LN
comp=Z,2µm,16.3s
NJ2 LE
comp=Z,2µm,16.3s
NJ2 LZ
comp=Z,3µm,20.1s
GSI Gunungsitoli 27.89 264 P **P** **09 55 54.1 +3.7**
GSI Gunungsitoli 27.89 264 *e*P **P** **09 55 48.3 -2.0**
comp=Z,103nm,1.0s
GYA Guiyang 28.04 322 P **P** **09 55 53.3 +1.6**
GYA pP pP 09 56 01.5 -1.2
GYA PP **PnPn** **09 56 45.0 +4.7**
GYA PcP **PcP** **09 59 09.0 +3.1**
GYA S **S** **10 00 36.5 +2.7**
GYA sS sS 10 00 48.3 -3.9
GYA SS **SnSn** **10 02 00.0 +8.8**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.3s
GYA LN
comp=Z,600nm,17.2s
GYA LE
comp=Z,550nm,16.8s
GYA LZ
comp=Z,580nm,17.0s
UMPA Umpang Tak 28.37 296 P P 09 56 03.5 +8.9
LAMP Lampang 28.60 301 P **P** **09 56 00.3 +3.7**
comp=Z,76nm,0.9s
QIS Mount Isa 28.75 151 P **P** **09 55 59.1 +1.2**
baz=29,SNR=28
JNU Nakatsue 28.76 10 P **P** **09 55 58.8 +0.9**
comp=Z,44nm,0.8s,baz=170,slow=3.6,SNR=19
JNU LR LR 10 08 18.1
comp=Z,1µm,19.9s,baz=185,slow=38
JNU Nakatsue 28.76 10 *e*P **P** **09 55 58.9 +0.9**
comp=Z,46nm,0.8s
CM01 Chiang Mai Arr 29.13 300 *e*P **P** **09 56 01.4 +0.1**
CM31 Chiang Mai Arr 29.16 300 *e*P **P** **09 56 01.7 0.0**
CMAR Chiang Mai Arr 29.16 300 P **P** **09 56 01.4 -0.2**
comp=Z,6.4nm,0.8s,baz=110,slow=7.1,SNR=25
CMAR LR LR 10 10 10.8
comp=Z,1µm,18.0s,baz=118,slow=42
CMMT Chiang Mai 29.31 301 P **P** **09 56 04.0 +1.1**
comp=Z,29nm,1.3s,comp=Z,652nm
CHTO Chiang Mai 29.31 301 P **P** **09 56 04.1 +1.1**
comp=Z,131nm,1.3s,comp=Z,3µm
CHTO Chiang Mai 29.31 301 *e*P **P** **09 56 03.3 +0.3**
CHTO pmax pmax
comp=Z,25nm,1.0s
CHTO Chiang Mai 29.31 301 *e*P **P** **09 56 03.2 +0.3**
comp=Z,25nm,1.0s

AS31 Alice Springs 29.41 164 *e*P **P** **09 56 03.2 -0.5**
comp=Z,11nm,0.7s
ASAR Alice Springs 29.41 164 P **P** **09 56 03.2 -0.5**
comp=Z,5.5nm,0.5s,baz=343,slow=6.7,SNR=59
AS01 Alice Springs 29.42 164 *e*P **P** **09 56 03.2 -0.7**
MTSU Mount Surprise 29.43 141 P **P** **09 56 04.0 +0.1**
baz=30,SNR=8.6
ENH Enshi 29.50 331 *e*P **P** **09 56 04.8 +0.3**
comp=Z,67nm,1.1s
WRKA Warakurna 29.69 175 P **P** **09 56 06.0 -0.3**
baz=30,SNR=16
KMI Kunming 29.70 315 P **P** **09 56 09.5 +2.9**
KMI pP pP 09 56 16.3 -1.4
KMI sP sP 09 56 19.5 -3.0
KMI PP **PnPn** **09 57 05.0 +2.0**
KMI S **S** **10 01 01.8 +1.7**
KMI sS sS 10 01 16.8 -1.8
KMI SS **SnSn** **10 02 35.5 +3.7**
KMI PMZ
comp=Z,20nm,1.2s
KMI PMZ
comp=Z,290nm,6.5s
KMI LN
comp=Z,2µm,16.2s
KMI LE
comp=Z,2µm,20.4s
KMI LZ
comp=Z,3µm,22.3s
JHJ Hachijo jima 2 31.34 24 LR LR 10 08 55.2
comp=Z,967nm,19.5s,baz=97,slow=36
MEEK Meekatharra 31.81 191 P **P** **09 56 23.8 -1.1**
baz=32,SNR=6.4
CTA Charters Tower 32.10 141 P **P** **09 56 28.8 +1.3**
comp=Z,14nm,1.0s,baz=320,slow=13,SNR=5.3
INU Inuyama 32.37 18 *e*P **P** **09 56 29.3 -0.4**
comp=Z,64nm,0.8s
KS15 Wonju Array Si 32.68 4 *e*P **P** **09 56 32.7 +0.3**
KSRS Korea Array 32.70 4 P **P** **09 56 32.8 +0.3**
comp=Z,5.5nm,0.8s,baz=182,slow=10,SNR=22
KSRS PcP **PcP** **09 59 15.9 -1.7**
comp=Z,2.2nm,0.7s,baz=184,slow=2.3,SNR=5.0
KS01 Wonju Array Si 32.72 4 *e*P **P** **09 56 33.5 +0.8**
XAN Xi'an 32.93 334 P **P** **09 56 34.3 -0.4**
XAN sP pP 09 56 45.3 -0.6
XAN PP **PnPn** **09 57 43.8 -0.9**
XAN PcP **PcP** **09 59 20.3 +1.8**
XAN S **S** **10 01 47.0 -3.1**
XAN ScS **ScS** **10 07 02.5 +2.7**
XAN PMZ
comp=Z,26nm,0.9s
XAN PMZ
comp=Z,250nm,12.7s
XAN LN
comp=Z,1µm,17.7s
XAN LE
comp=Z,750nm,20.9s
XAN LZ
comp=Z,2µm,17.0s
CD2 Chengdu 33.04 325 *e*P **P** **09 56 36.5 +0.8**
CD2 pP pP 09 56 44.0 -2.8
CD2 sP sP 09 56 47.0 -4.7
CD2 S **S** **10 01 55.0 +3.2**
CD2 sS sS 10 02 07.8 -2.6
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,160nm,5.0s
MJAR Matsushiro Arr 33.84 19 P **P** **09 56 42.3 -0.3**
comp=Z,27nm,0.8s,baz=195,slow=9.2,SNR=52
MJAR LR LR 10 10 20.4
comp=Z,779nm,19.5s,baz=200,slow=36
MAJO Matsushiro 33.84 19 ⇓*i*P **P** **09 56 42.1 -0.5**
MAJO pmax pmax
comp=Z,196nm,0.8s
MAJO Matsushiro 33.84 19 *e*P **P** **09 56 42.4 -0.2**
comp=Z,32nm,0.8s
MJB9 Matsu-Tunnel 33.84 19 *e*P **P** **09 56 42.5 -0.1**
comp=Z,8.3nm,0.8s
TIY Taiyuan 34.91 342 *e*P **P** **09 56 49.0 -2.9**
TIY S **S** **10 02 22.8 +2.2**
TIY PMZ
comp=Z,230nm,5.0s
TIY LN
comp=Z,1µm,12.7s
TIY LE
comp=Z,640nm,10.7s
TIY LZ
comp=Z,1µm,16.7s
KMBL Kambalda 36.01 185 P **P** **09 57 01.9 +0.7**
baz=36,SNR=7.9
QLP Quilpie 36.09 150 P **P** **09 57 02.2 +0.2**
baz=36,SNR=6.8
BJI Beijing 36.14 348 P **P** **09 57 01.3 -1.0**
BJI S **S** **10 02 42.0 +2.7**
BJI SS **SnSn** **10 05 06.8 -0.7**
BJI PMZ
comp=Z,16nm,0.9s
BJI PMZ
comp=Z,220nm,5.2s
BJI LN
comp=Z,390nm,24.1s
BJI LE
comp=Z,2µm,18.7s
BJI LZ
comp=Z,1µm,26.8s
LZH Lanzhou 36.97 330 *e*P **P** **09 57 11.0 +1.4**
LZH sP pP 09 57 21.8 +0.9
LZH PP **PnPn** **09 58 38.0 +3.2**
LZH S **S** **10 02 55.3 +2.9**
LZH sS sS 10 03 07.8 -3.3
LZH SS **SnSn** **10 05 28.0 +0.2**
LZH PMZ
comp=Z,57nm,1.0s
LZH PMZ
comp=Z,430nm,6.2s
LZH LN
comp=Z,2µm,12.0s
LZH LE
comp=Z,1µm,11.8s
LZH LZ
comp=Z,3µm,15.4s
SNY Shenyang 37.01 358 ⇑P **P** **09 57 07.8 -1.9**
SNY PMZ
comp=Z,19nm,0.8s
SNY PMZ
comp=Z,1µm,3.6s
SNY LN
comp=Z,1µm,18.4s
SNY LE
comp=Z,2µm,16.9s
SNY LZ
comp=Z,2µm,22.6s
HHC Hu-ho-hao-te 38.06 343 *e*P **P** **09 57 21.5 +2.8**
HHC PMZ
comp=Z,16nm,1.1s
HHC PMZ
comp=Z,120nm,7.1s
SHL Shillong 38.17 306 *e*P **P** **09 57 21.5 +1.5**
SHL *e*S **S** **10 03 12.5 +1.6**
NWAO Narrogin (SRO) 38.19 191 P **P** **09 57 21.2 +1.5**
comp=Z,5.8nm,0.6s,baz=264,slow=8.1,SNR=7.5
BBOO Buckleboo 38.67 165 P **P** **09 57 23.8 0.0**
baz=39,SNR=56
BBOO Buckleboo 38.67 165 *e*P **P** **09 57 24.1 +0.3**
comp=Z,108nm,1.2s
VLA Vladivostok 38.71 8<*i*P **P** **09 57 22.2 -1.8**
VLA *i* *PP **pP** **09 57 31.0 -4.3**
VLA *i* *SP **sP** **09 57 35.2 -4.9**
VLA *e*S **S** **10 03 16.9 -1.3**
VLA pmax pmax
comp=Z,39nm,0.9s
CN2 Changchun 38.95 0 *e*P P 09 57 30.8 +4.8
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,200nm,7.0s
CN2 LN
comp=Z,800nm,20.0s
CN2 LE
comp=Z,1µm,20.0s
CN2 LZ
comp=Z,900nm,22.0s
EIDS Eidsvold 38.98 141 P **P** **09 57 26.7 +0.2**
baz=39,SNR=7.2
EIDS Eidsvold 38.98 141 *e*P **P** **09 57 26.4 -0.1**
comp=Z,50nm,0.8s

STKA Stephens Creek 39.54 158 P **P** **09 57 31.4 +0.4**
comp=Z,22nm,0.7s,baz=333,slow=8.7,SNR=25
STKA LR LR 10 14 33.7
comp=Z,568nm,21.3s,baz=332,slow=37
STKA Stephens Creek 39.54 158 P **P** **09 57 31.5 +0.4**
baz=40,SNR=20
STKA Stephens Creek 39.54 158 *e*P **P** **09 57 30.9 -0.2**
comp=Z,14nm,0.8s
USRK Ussuriysk Ar. 39.78 8 P **P** **09 57 32.4 -0.6**
comp=Z,16nm,0.8s,baz=193,slow=6.7,SNR=44
MDJ Mudanjiang 39.94 5 P **P** **09 57 35.5 +1.2**
MDJ pP pP 09 57 41.8 -3.8
MDJ sP sP 09 57 44.5 -5.9
MDJ S **S** **10 03 43.3 +6.6**
MDJ PMZ
comp=Z,28nm,0.9s
MDJ PMZ
comp=Z,200nm,8.5s
MDJ LN
comp=Z,590nm,23.2s
MDJ LE
comp=Z,1µm,20.0s
MDJ LZ
comp=Z,1µm,16.1s
MDJ Mudanjiang 39.94 5 *e*P **P** **09 57 35.8 +1.5**
comp=Z,33nm,0.9s
HTT Hallett 40.05 162 P **P** **09 57 36.3 +0.9**
baz=40,SNR=21
LSA Lhasa 40.74 312 P **P** **09 57 43.0 +1.3**
LSA Lhasa 40.74 312 *e*P **P** **09 57 43.1 +1.3**
LSA pmax pmax
comp=Z,52nm,1.5s
LSA Lhasa 40.74 312 *e*P **P** **09 57 43.1 +1.4**
comp=Z,52nm,1.5s
CMSA Cobar Meteorol 40.94 153 P **P** **09 57 43.7 +1.0**
baz=41,SNR=7.1
GTA Gaotai 41.55 330 ⇑P **P** **09 57 48.0 +0.2**
GTA pP pP 09 57 55.5 -3.7
GTA sP sP 09 57 58.8 -5.2
GTA S **S** **10 04 00.8 -0.4**
GTA PMZ
comp=Z,9.0nm,1.5s
GTA PMZ
comp=Z,330nm,5.7s
GTA LN
comp=Z,2µm,19.5s
GTA LE
comp=Z,2µm,18.5s
GTA LZ
comp=Z,3µm,20.4s
ASAJ Asahikawa 42.12 19 P **P** **09 57 53.9 +1.7**
comp=Z,18nm,0.7s,baz=214,slow=8.3,SNR=9.0
ASAJ Asahikawa 42.12 19 *e*P **P** **09 57 53.2 +1.1**
comp=Z,67nm,1.2s
RAMN Ramite 43.04 305 *e*P **P** **09 58 01.5 +1.2**
comp=Z,169nm,1.2s
ARMA Armidale 43.05 146 *e*P **P** **09 57 59.9 -0.2**
comp=Z,77nm,1.4s
H11N1 WAKE ISLAND Hy 43.15 66 T T 10 43 46.5
baz=255,slow=75,SNR=18
H11N2 WAKE ISLAND Hy 43.16 66 T T 10 43 49.6
baz=255,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 43.17 66 T T 10 43 53.5
baz=255,slow=75,SNR=15
GUN Gumba 44.01 306 *e*P **P** **09 58 08.6 +0.3**
comp=Z,71nm,0.7s
ARPS Mount Arapiles 44.04 161 P **P** **09 58 09.6 +1.7**
baz=44,SNR=25
HABR Khabarovsk 44.41 9*c**e*P **P** **09 58 08.5 -2.1**
HABR *e**SP **pP** **09 58 22.4 +0.4**
HABR *e* 09 59 52.3
HABR *e*PPP PPP 10 00 29.4
HABR *e*S **S** **10 04 41.5 -1.0**
HABR *e**SS **sS** **10 04 57.9 -3.6**
HABR *e* 10 08 03.7
HABR *e*SSS SSS 10 08 45.3
HABR pmax pmax
comp=N,24nm,2.0s
HABR pmax pmax
comp=E,29nm,2.0s
HABR pmax pmax
comp=Z,61nm,2.0s
HABR MLR MLR
comp=Z,973nm,20.0s
KKN Kakani 44.45 306 *e*P **P** **09 58 11.9 +0.3**
YNG Young 44.48 152 P **P** **09 58 12.4 +1.0**
baz=45,SNR=6.4
DMN Daman 44.52 305 *e*P **P** **09 58 12.9 +0.7**
comp=Z,56nm,0.9s
KLR Kul'dur 44.72 6 P **P** **09 58 13.0 -0.1**
comp=Z,3.4nm,0.5s,baz=197,slow=4.3,SNR=9.8
KLR Kul'dur 44.72 6 *e*P **P** **09 58 13.0 -0.1**
YSS Yuzh-Sakhalins 44.72 17 *e*P **P** **09 58 13.6 +0.5**
YSS *e**SP **pP** **09 58 24.9 +0.3**
YSS *e*S **S** **10 04 44.3 -2.8**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,700nm,19.0s
YSS Yuzh-Sakhalins 44.72 17 *e*P **P** **09 58 13.3 +0.2**
comp=Z,26nm,0.6s
KUR Kuril'sk 44.94 23 P **P** **09 58 13.0 -1.9**
KUR S **S** **10 04 54.0 +3.7**
KUR MLR MLR
comp=Z,713nm,21.0s
GKN Gorkha 45.06 306 *e*P **P** **09 58 16.6 +0.2**
comp=Z,32nm,0.8s
CAN Canberra 45.61 153 *e*P **P** **09 58 21.8 +1.4**
CAN pmax pmax
comp=Z,71nm,1.3s
CAN Canberra 45.61 153 *e*P **P** **09 58 21.8 +1.4**
comp=Z,70nm,1.3s
CNB Canberra Magne 45.77 152 P **P** **09 58 22.6 +0.9**
baz=46,SNR=8.0
ULN Ulaanbaatar 45.78 343*c**e*P **P** **09 58 21.4 -0.3**
ULN pmax pmax
comp=Z,18nm,2.5s
ULN Ulaanbaatar 45.78 343 *e*P **P** **09 58 21.6 -0.1**
comp=Z,15nm,1.1s
KOLN Koldanda 45.81 305 *e*P **P** **09 58 23.1 +0.7**
comp=Z,106nm,0.7s
SONA0 Songino Array 45.95 342 *e*P **P** **09 58 22.3 -0.7**
comp=Z,8.8nm,0.9s
SONM Songino Array 45.95 342 P **P** **09 58 22.3 -0.7**
comp=Z,4.3nm,0.9s,baz=157,slow=8.8,SNR=13
SONM LR LR 10 20 41.0
comp=Z,1µm,18.6s,baz=154,slow=40
SONA1 Songino Array 45.96 342 *e*P **P** **09 58 23.2 +0.1**
TOO Toolangi 46.05 158 P **P** **09 58 26.1 +2.3**
baz=46,SNR=9.5
PYUN Piuthan 46.44 305 *e*P **P** **09 58 28.1 +0.8**
comp=Z,152nm,0.8s
HYB Hyderabad 47.46 289 *i* P **P** **09 58 36.5 +1.3**
DZM Mont Dzumac 48.25 125 *e*P **P** **09 58 42.3 +1.0**
comp=Z,86nm,1.0s
DZM *e*S **S** **10 05 34.2 -4.3**
comp=Z,1µm,26.1s
DZM *e*LR LR 10 14 29.4
comp=Z,1µm,27.9s
DZM Mont Dzumac 48.25 125 P **P** **09 58 42.3 +1.0**
comp=Z,22nm,0.9s,baz=306,slow=17,SNR=7.0
DZM Mont Dzumac 48.25 125 *e*P **P** **09 58 42.3 +1.0**
comp=Z,38nm,0.9s
TYV Tymovskoe 48.26 15 *e*P **P** **09 58 41.2 +0.4**
TYV pmax pmax
comp=Z,11nm,0.8s
ZAK Zakamensk 49.16 341 *e*P **P** **09 58 47.9 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.7s
NKL Nikolayevsk 49.93 12 *e*P **P** **09 58 53.5 -0.1**
NKL *e* 10 00 49.0
NKL *e* 10 06 02.0
NKL pmax pmax
comp=Z,86nm,12.0s
NKL MLR MLR
comp=N,700nm,17.0s
NKL MLR MLR
comp=E,400nm,17.0s
NKL MLR MLR
comp=Z,1µm,17.0s
TLY Talaya 50.19 343 *e*P **P** **09 58 51.3 -4.3**
TLY *e*S **S** **10 06 01.6 -3.1**
TLY pmax pmax
comp=Z,6.0nm,0.7s
TLY MLR MLR
comp=Z,794nm,20.0s

MOY	**Mondy**	**51.01**	**341**	*e*P		**P**	**09 59 04.5**	**+2.6**
WMQ	**Urumqi**	**51.13**	**325**	P		**P**	**09 59 04.5**	**+1.6**
WMQ				pP		pP	09 59 12.3	-2.2
WMQ				sP		sP	09 59 15.5	-3.7
WMQ				PP		**PP**	**10 01 02.0**	**+2.1**
WMQ				S		**S**	**10 06 19.5**	**+1.3**
WMQ				SS		**SS**	**10 09 52.5**	**-1.4**
WMQ				PMZ				
	comp=Z,7.0nm,1.1s							
WMQ				PMZ				
	comp=Z,97nm,4.9s							
WMQ				LN				
	comp=Z,1µm,17.5s							
WMQ				LE				
	comp=Z,750nm,22.5s							
WMQ				LZ				
	comp=Z,800nm,21.1s							
CLNS	**Chul'man**	**52.00**	**360**	*e*P		**P**	**09 59 08.7**	**-0.4**
CLNS				pmax		pmax		
	comp=Z,5.0nm,0.7s							
CLNS				pmax		pmax		
	comp=N,10.0nm,0.7s							
CLNS				pmax		pmax		
	comp=E,19nm,0.8s							
BOD	**Bodaibo**	**53.72**	**353**	*e*P		**P**	**09 59 21.3**	**-0.5**
BOD				pmax		pmax		
	comp=Z,15nm,1.4s							
PEA0	**Petropavlovsk-**	**55.10**	**23**	*e*P		**P**	**09 59 33.2**	**+1.4**
PEA0B	**Petropavlovsk-**	**55.10**	**23**	*e*P		**P**	**09 59 35.1**	**+3.2**
	comp=Z,71nm,1.1s							
PETK	**Petropavlovsk-**	**55.10**	**23**	P		**P**	**09 59 33.4**	**+1.5**
	comp=Z,14nm,0.8s,baz=190,slow=2.2,SNR=12							
PETK				LR		LR	10 21 11.0	
	comp=Z,309nm,21.9s,baz=223,slow=34							
PEA1	**Petropavlovsk-**	**55.10**	**23**	*e*P		**P**	**09 59 33.4**	**+1.5**
PDGK	**Podgornoye**	**55.78**	**321**	P		**P**	**09 59 36.2**	**-0.7**
PDGK				pmax		pmax		
	comp=Z,19nm,1.2s							
MK01	**Makanchi Array**	**55.94**	**326**	*e*P		**P**	**09 59 37.8**	**-0.3**
MK31	**Makanchi Array**	**55.96**	**326**	*e*P		**P**	**09 59 38.2**	**0.0**
MK31	**Makanchi Array**	**55.96**	**326**	*e*P		**P**	**09 59 38.2**	**0.0**
MK32	**Makanchi Array**	**55.96**	**326**	*e*P		**P**	**09 59 37.6**	**-0.6**
MKAR	**Makanchi Array**	**55.96**	**326**	P		**P**	**09 59 37.6**	**-0.7**
	comp=Z,16nm,0.8s,baz=121,slow=7.7,SNR=66							
MKAR				LR		LR	10 24 41.1	
	comp=Z,2µm,19.1s,baz=112,slow=37							
MKAR	**Makanchi Array**	**55.96**	**326**	*e*P		**P**	**09 59 38.2**	**-0.1**
MKAR	**Makanchi Array**	**55.96**	**326**	*e*P		**P**	**09 59 38.2**	**-0.1**
KSH	**Kashi**	**56.36**	**315**	P		**P**	**09 59 43.5**	**+2.1**
KSH				pP		pP	09 59 51.0	-2.1
KSH				PcP		**PcP**	**10 00 39.0**	**+0.7**
KSH				S		**S**	**10 07 29.5**	**+0.2**
KSH				ScS		**ScS**	**10 09 28.5**	**+0.8**
KSH				SS		**SS**	**10 11 20.5**	**+3.7**
KSH				PMZ				
	comp=Z,7.0nm,0.6s							
KSH				PMZ				
	comp=Z,380nm,5.3s							
KSH				LN				
	comp=Z,330nm,10.6s							
KSH				LE				
	comp=Z,750nm,13.4s							
KSH				LZ				
	comp=Z,1µm,18.1s							
MSVF	**Nonsavu**	**56.60**	**115**⇓	*e*P		P	09 59 48.8	+5.5
MSVF				pmax		pmax		
	comp=Z,19nm,0.9s							
YAK	**Yakutsk**	**57.30**	**2**	P		**P**	**09 59 47.0**	**-0.4**
	comp=Z,66nm,0.7s,baz=351,slow=0.5,SNR=15							
YAK	**Yakutsk**	**57.30**	**2**	*e*P		**P**	**09 59 46.3**	**-1.1**
YAK				*e**PP		**pP**	**09 59 56.9**	**-2.3**
YAK				*e*			10 00 40.6	
YAK				*e*			10 01 52.1	
YAK				*e*PPP		PPP	10 03 16.9	
YAK				*e*S		**S**	**10 07 40.0**	**-0.6**
YAK				*e**SS		sS	10 07 48.3	-12
YAK				*e*			10 09 31.5	
YAK				*e*SS		**SS**	**10 11 26.9**	**-3.5**
YAK				pmax		pmax		
	comp=Z,80nm,0.8s							
YAK				pmax		pmax		
	comp=E,8.0nm,1.2s							
YAK				pmax		pmax		
	comp=N,35nm,1.1s							
YAK				pmax		pmax		
	comp=Z,106nm,2.7s							
YAK				pmax		pmax		
	comp=E,59nm,2.4s							
YAK				pmax		pmax		
	comp=N,39nm,2.0s							
YAK				smax		smax		
	comp=E,68nm,2.0s							
YAK				smax		smax		
	comp=N,122nm,2.5s							
YAK				MLR		MLR		
	comp=E,595nm,16.0s							
YAK				MLR		MLR		
	comp=N,623nm,20.0s							
YAK				MLR		MLR		
	comp=Z,651nm,20.0s							
TKM2	**Tokmak 2**	**58.09**	**319**	*e*P		**P**	**09 59 55.4**	**+1.8**
TKM2	**Tokmak 2**	**58.09**	**319**	*e*P		**P**	**09 59 55.1**	**+1.5**
	comp=Z,12nm,1.0s							
MA2	**Magadan**	**58.13**	**15**	P		**P**	**09 59 52.7**	**-0.6**
	comp=Z,23nm,0.8s,baz=230,slow=5.8,SNR=11							
AAK	**Ala-Archa**	**58.70**	**318**	LR		LR	10 28 52.2	
	comp=Z,1µm,19.9s,baz=94,slow=40							
AAK	**Ala-Archa**	**58.70**	**318**⇑	*e*P		**P**	**09 59 58.7**	**+0.9**
AAK	**Ala-Archa**	**58.70**	**318**	*e*P		**P**	**09 59 58.6**	**+0.8**
	comp=Z,25nm,1.4s							
FRU	**Bishkek**	**58.70**	**318**	*e*P		**P**	**09 59 57.5**	**-0.2**
FRU				MLR		MLR		
	comp=E,900nm,20.0s							
ZAA0	**Zalesovo Array**	**59.09**	**333**	*e*P		**P**	**09 59 59.3**	**-0.8**
ZALV	**Zalesovo Beam**	**59.09**	**333**	P		**P**	**09 59 58.2**	**-1.9**
	comp=E,1.9nm,0.6s,baz=104,slow=6.0,SNR=6.5							
ZAA1	**Zalesovo Array**	**59.10**	**333**	*e*P		**P**	**09 59 58.2**	**-1.9**
EKS2	**Erkin-Say**	**59.19**	**318**	*e*P		**P**	**10 00 01.8**	**+0.6**
EKS2				pmax		pmax		
	comp=Z,17nm,1.1s							
EKS2	**Erkin-Say**	**59.19**	**318**	*e*P		**P**	**10 00 01.8**	**+0.6**
	comp=Z,17nm,1.1s							
KBL	**Kabul**	**59.81**	**307**	*e*P		**P**	**10 00 06.4**	**+0.7**
KBL				pmax		pmax		
	comp=Z,24nm,0.9s							
KBL	**Kabul**	**59.81**	**307**	*e*P		**P**	**10 00 06.4**	**+0.7**
	comp=Z,24nm,0.9s							
MNAS	**Manas**	**59.97**	**317**	P		**P**	**10 00 06.4**	**-0.2**
MNAS				pmax		pmax		
	comp=Z,31nm,1.3s							
KURK	**Kurchatov**	**60.17**	**328**	*e*P		**P**	**10 00 06.8**	**-0.8**
KURK				pmax		pmax		
	comp=Z,140nm,1.1s							
KURK	**Kurchatov**	**60.17**	**328**	*e*P		**P**	**10 00 06.8**	**-0.8**
	comp=Z,140nm,1.1s							
NVS	**Novosibirsk**	**60.38**	**334**	*e*P		**P**	**10 00 08.1**	**-0.8**
DZET	**Dzherino**	**61.26**	**312**	P		**P**	**10 00 15.9**	**+0.5**
DZET				pmax		pmax		
	comp=Z,19nm,0.9s							
SEY	**Seymchan**	**61.43**	**14**	P		**P**	**10 00 17.0**	**+1.1**
	comp=Z,18nm,1.1s,baz=209,slow=4.9,SNR=13							
SEY	**Seymchan**	**61.43**	**14**	*ce*P		**P**	**10 00 16.8**	**+0.9**
KK31	**Karatay Array**	**61.56**	**317**	*i* P		**P**	**10 00 16.9**	**-0.4**
KK31				pmax		pmax		
	comp=Z,18nm,1.2s							
KKAR	**Karatay Array**	**61.56**	**317**	*e*P		**P**	**10 00 17.4**	**+0.1**
KKAR	**Karatay Array**	**61.56**	**317**	*e*P		**P**	**10 00 17.4**	**+0.1**
OTUK	**Ortayu**	**62.51**	**323**	P		**P**	**10 00 22.5**	**-1.0**
OTUK				pmax		pmax		
	comp=Z,33nm,1.5s							
LBZ	**Lake Benmore**	**63.27**	**145**	*e*P		**P**	**10 00 30.2**	**+1.6**
	comp=Z,339nm,2.0s							
RPZ	**Rata Peaks**	**63.36**	**144**	P		**P**	**10 00 30.7**	**+1.5**
	comp=Z,15nm,0.8s,baz=258,slow=9.3,SNR=3.4							
OTVZ	**Oturere**	**63.69**	**138**	*e*P		**P**	**10 00 28.2**	**-3.5**
VOSK	**Vostochnaya**	**65.29**	**327**	*e*P		**P**	**10 00 41.2**	**-0.5**
VOSK				pmax		pmax		
	comp=Z,21nm,1.2s							
VOSK	**Vostochnaya**	**65.29**	**327**	*e*P		**P**	**10 00 41.2**	**-0.5**
	comp=Z,21nm,1.2s							
BVA0	**Borovoye Array**	**65.75**	**327**	*i* P		**P**	**10 00 44.0**	**-0.6**
BVA0				pmax		pmax		
	comp=Z,37nm,1.4s							
BRVK	**Borovoye**	**65.82**	**327**	*ce*P		**P**	**10 00 44.3**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,41nm,1.2s							
BRVK	**Borovoye**	**65.82**	**327**	*e*P		**P**	**10 00 44.1**	**-0.9**
	comp=Z,82nm,1.1s							
CHKZ	**Chkalovo**	**65.92**	**328**	P		**P**	**10 00 43.6**	**-2.1**
CHKZ				pmax		pmax		
	comp=Z,30nm,1.5s							
ZRNK	**Zerenda**	**66.47**	**327**	*e*P		**P**	**10 00 48.2**	**-1.0**
ZRNK				pmax		pmax		
	comp=Z,51nm,1.4s							
ZRNK	**Zerenda**	**66.47**	**327**	*e*P		**P**	**10 00 48.2**	**-1.0**
	comp=Z,51nm,1.4s							
WSAR	**Wadi Sarin**	**66.74**	**293**	LR		LR	10 33 04.4	
	comp=Z,216nm,18.8s,baz=112,slow=39							
TIXI	**Tiksi**	**66.91**	**1**	P		**P**	**10 00 50.5**	**-1.2**
	comp=Z,12nm,0.8s,baz=160,slow=2.8,SNR=14							
TIXI	**Tiksi**	**66.91**	**1**⇓	*e*P		**P**	**10 00 49.7**	**-2.0**
TIXI				pmax		pmax		
	comp=Z,34nm,1.2s							
TIXI	**Tiksi**	**66.91**	**1**	*e*P		**P**	**10 00 50.2**	**-1.5**
	comp=Z,31nm,1.0s							
BILL	**Bilibino**	**69.00**	**15**⇓	*e*P		**P**	**10 01 05.0**	**+0.1**
BILL				pmax		pmax		
	comp=Z,39nm,2.5s							
BILL				MLR		MLR		
	comp=Z,349nm,20.0s							
NRIK	**Noril'sk**	**69.17**	**347**	P		**P**	**10 01 06.1**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=134,slow=7.7,SNR=5.6							
NRIK				LR		LR	10 35 23.0	
	comp=Z,774nm,19.1s,baz=152,slow=39							
GEYT	**Alibeck**	**69.19**	**309**	P		**P**	**10 01 06.5**	**-0.2**
	comp=Z,8.8nm,0.8s,baz=128,slow=4.3,SNR=10							
GEYT				LR		LR	10 33 53.8	
	comp=Z,616nm,21.5s,baz=80,slow=38							
AB31	**Akbulak array**	**70.51**	**321**	P		**P**	**10 01 13.8**	**-0.8**
AB31				pmax		pmax		
	comp=Z,13nm,1.2s							
ABKAR	**Akbulak array**	**70.51**	**321**	*e*P		**P**	**10 01 14.2**	**-0.4**
CASY	**Casey**	**71.60**	**186**	*e*P		**P**	**10 01 20.6**	**-0.2**
	comp=Z,12nm,0.9s							
AKTO	**Aktyubinsk**	**72.03**	**322**	P		**P**	**10 01 21.4**	**-2.3**
AKTO				pmax		pmax		
	comp=Z,14nm,0.9s							
ARU	**Arti**	**73.37**	**328**	*d* iP		**P**	**10 01 30.5**	**-1.1**
ARU							10 04 11.3	
ARU				PPP		PPP	10 05 59.2	
ARU				S		**S**	**10 10 57.5**	**-0.1**
ARU				SS		**SS**	**10 15 34.7**	**-5.5**
ARU				pmax		pmax		
	comp=Z,9.0nm,0.8s							
ARU				MLR		MLR		
	comp=Z,603nm,20.0s							
MIR	**Mirnyy**	**74.77**	**193**	*e*P		**P**	**10 01 40.0**	**+0.6**
MIR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ZEI	**Tsey**	**80.52**	**312**	*e*P		**P**	**10 02 11.5**	**-0.9**
SVW2	**Sparrevohn**	**80.65**	**29**	*e*P		**P**	**10 02 14.6**	**+2.1**
	comp=Z,18nm,1.0s							
TT01	**Tatalina**	**80.69**	**27**	*e*P		**P**	**10 02 13.6**	**+1.0**
GOF	**Gofitskoye**	**81.23**	**315**⇑	*e*P		P	10 02 20.2	+4.3
KBZ	**Khabaz**	**81.29**	**313**	P		**P**	**10 02 17.0**	**+0.9**
	comp=Z,5.9nm,0.9s,baz=135,slow=2.2,SNR=6.3							
KBZ				LR		LR	10 42 41.3	
	comp=Z,457nm,20.8s,baz=81,slow=39							
OHAK	**Old Harbor**	**81.42**	**33**	*e*P		**P**	**10 02 18.2**	**+1.6**
	comp=Z,43nm,1.2s							
KVAR	**Kislovodsk Arr**	**81.44**	**314**	LR		LR	10 42 22.9	
	comp=Z,432nm,21.4s,baz=57,slow=39							
KIV	**Kislovodsk**	**81.45**	**314**	*e*P		**P**	**10 02 16.2**	**-1.0**
KIV				*e*S		**S**	**10 12 24.7**	**-1.2**
KIV				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,461nm,19.0s							
KDAK	**Kodiak Island**	**81.84**	**32**	*i* P		**P**	**10 02 20.1**	**+1.3**
RSO	**Redoubt South**	**81.96**	**30**	*e*P		**P**	**10 02 20.1**	**+0.4**
VRH	**Novokhopyorsk**	**82.34**	**321**	*e*P		**P**	**10 02 19.1**	**-2.4**
VRH				pmax		pmax		
	comp=Z,10.0nm,0.7s							
SPU	**Mount Spurr**	**82.36**	**29**	*e*P		**P**	**10 02 22.9**	**+1.4**
PPLA	**Purkeypile**	**82.43**	**27**	*e*P		**P**	**10 02 22.9**	**+0.9**
	comp=Z,28nm,1.1s							
CNPM	**China Poot**	**82.66**	**31**	*e*P		**P**	**10 02 23.6**	**+0.5**
	comp=Z,28nm,0.8s							
SUA	**Susitna One**	**83.01**	**29**	*e*P		**P**	**10 02 26.1**	**+1.1**
	comp=Z,39nm,0.9s							
KTH	**Kantishna Hill**	**83.05**	**27**	*e*P		**P**	**10 02 25.4**	**+0.3**
	comp=Z,26nm,1.2s							
BPAW	**Bear Paw Mtn.**	**83.05**	**26**	*e*P		**P**	**10 02 25.4**	**+0.4**
	comp=Z,28nm,1.0s							
MLY	**Manley**	**83.22**	**25**	*e*P		**P**	**10 02 27.0**	**+1.1**
	comp=Z,24nm,0.9s							
TRF	**Thorofare Moun**	**83.33**	**27**	*e*P		**P**	**10 02 26.7**	**+0.1**
	comp=Z,27nm,1.0s							
RC01	**Rabbit Creek A**	**83.48**	**29**	*e*P		**P**	**10 02 28.0**	**+0.8**
	comp=Z,32nm,0.9s							
COLD	**Coldfoot**	**83.56**	**23**	*e*P		**P**	**10 02 28.7**	**+1.1**
	comp=Z,30nm,1.0s							
SEW	**Seward**	**83.59**	**30**	*e*P		**P**	**10 02 27.6**	**-0.2**
	comp=Z,43nm,1.1s							
PMR	**Palmer**	**83.79**	**29**	*e*P		**P**	**10 02 28.8**	**0.0**
PMR				pmax		pmax		
	comp=Z,24nm,1.0s							
PMR	**Palmer**	**83.79**	**29**	*e*P		**P**	**10 02 28.8**	**0.0**
	comp=Z,24nm,1.0s							
KLMR	**Klimovskoe**	**83.88**	**331**	*e*P		**P**	**10 02 27.3**	**-2.0**
KLMR				pmax		pmax		
	comp=Z,14nm,0.6s							
MCK	**McKinley**	**83.94**	**27**	*e*P		**P**	**10 02 30.3**	**+0.7**
MCK				pmax		pmax		
	comp=Z,29nm,0.8s							
MCK	**McKinley**	**83.94**	**27**	*e*P		**P**	**10 02 30.2**	**+0.7**
	comp=Z,30nm,0.8s							
VSR	**Storozhevoye**	**83.95**	**321**	*e*P		**P**	**10 02 27.3**	**-2.6**
VSR				pmax		pmax		
	comp=Z,10.0nm,1.1s							
MAW	**Mawson**	**84.16**	**200**	P		**P**	**10 02 29.8**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=50,slow=12,SNR=5.1							
MAW				LR		LR	10 38 25.8	
	comp=Z,116nm,18.8s,baz=61,slow=34							
MAW	**Mawson**	**84.16**	**200**	*e*P		**P**	**10 02 30.3**	**-0.2**
MAW				pmax		pmax		
	comp=Z,3.0nm,1.2s							
MAW	**Mawson**	**84.16**	**200**	*e*P		**P**	**10 02 30.3**	**-0.2**
	comp=Z,2.8nm,1.2s							
SML	**Sawmill**	**84.17**	**28**	*e*P		**P**	**10 02 31.8**	**+0.9**
SML				pmax		pmax		
	comp=Z,30nm,0.9s							
SML	**Sawmill**	**84.17**	**28**	*e*P		**P**	**10 02 31.8**	**+0.9**
	comp=Z,30nm,0.9s							
MDM	**Murphy Dome**	**84.28**	**25**	*e*P		**P**	**10 02 32.3**	**+1.0**
	comp=Z,20nm,1.2s							
WRH	**Wood River Hil**	**84.33**	**26**	*e*P		**P**	**10 02 31.5**	**0.0**
	comp=Z,28nm,1.1s							
COLA	**College**	**84.44**	**25**	*e*P		**P**	**10 02 34.5**	**+2.5**
COLA				pmax		pmax		
	comp=Z,13nm,0.9s							
COLA	**College**	**84.44**	**25**	*e*P		**P**	**10 02 34.5**	**+2.5**
	comp=Z,13nm,0.9s							
CCB	**Clear Creek Bu**	**84.46**	**26**	*e*P		**P**	**10 02 32.4**	**+0.3**
	comp=Z,18nm,1.1s							
VNDA	**Vanda**	**84.56**	**173**	P		**P**	**10 02 31.7**	**-0.7**
	comp=Z,4.0nm,0.8s,baz=316,slow=6.1,SNR=19							
VNDA				LR		LR	10 39 52.6	
	comp=Z,234nm,19.8s,baz=338,slow=35							
SCM	**Sheep Creek Mo**	**84.65**	**28**	*e*P		**P**	**10 02 33.0**	**-0.3**
SCM				pmax		pmax		
	comp=Z,26nm,1.0s							
SCM	**Sheep Creek Mo**	**84.65**	**28**	*e*P		**P**	**10 02 33.0**	**-0.3**
	comp=Z,26nm,1.0s							
MOS	**Moscow**	**84.85**	**325**	*e*P		**P**	**10 02 35.7**	**+1.4**
MOS				*e*			10 02 54.1	
MOS				pmax		pmax		
	comp=Z,45nm,0.8s							
IL1	**Eielson Array**	**84.85**	**25**	*e*P		**P**	**10 02 33.5**	**-0.6**
ILAR	**Eielson Array**	**84.85**	**25**	P		**P**	**10 02 33.8**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=252,slow=5.0,SNR=35							
ILAR				LR		LR	10 39 27.9	
	comp=Z,105nm,22.0s,baz=296,slow=35							
ILB	**Eielson Array**	**84.85**	**25**	*e*P		**P**	**10 02 33.8**	**-0.3**
KLU	**Klutina**	**85.32**	**29**	*e*P		**P**	**10 02 37.8**	**+1.1**
	comp=Z,14nm,1.1s							
DIV	**Divide**	**85.40**	**29**	*e*P		**P**	**10 02 37.8**	**+0.7**
	comp=Z,27nm,1.1s							
EYAK	**Cordova Ski Ar**	**85.43**	**30**	*e*P		**P**	**10 02 35.4**	**-1.7**
	comp=Z,24nm,1.2s							
OBN	**Obninsk**	**85.46**	**325**⇓	*e*P		**P**	**10 02 35.3**	**-2.1**
OBN				pmax		pmax		
	comp=Z,9.0nm,1.1s							
SBA	**Scott Base**	**85.48**	**172**	*e*P		**P**	**10 02 38.6**	**+1.6**
SBA				pmax		pmax		
	comp=Z,13nm,0.9s							
SBA	**Scott Base**	**85.48**	**172**	*e*P		**P**	**10 02 38.6**	**+1.6**
	comp=Z,13nm,0.9s							
BMRM	**Bremner River**	**85.98**	**29**	*e*P		**P**	**10 02 39.8**	**-0.1**
	comp=Z,27nm,1.2s							
DOT	**Dot Lake**	**86.11**	**27**	*e*P		**P**	**10 02 41.4**	**+0.9**
	comp=Z,29nm,1.1s							
PPT	**Papeete**	**86.76**	**108**	LR		LR	10 33 18.2	
	comp=Z,130nm,21.4s,baz=282,slow=30							
PPT2	**Papeete2**	**86.76**	**108**	*e*SS		SS	10 19 04.2	+1.7
	comp=Z,223nm,27.2s							
PPT2				*e*LQ		LQ	10 26 40.2	
	comp=Z,368nm,25.5s							
PPT2				*e*LR		LR	10 30 26.0	
	comp=Z,1µm,28.2s							
BALM	**Baldy**	**87.07**	**29**	*e*P		**P**	**10 02 47.5**	**+2.1**
BALM	**Baldy**	**87.07**	**29**	*e*P		**P**	**10 02 47.5**	**+2.1**
TBI	**Tubuai**	**87.47**	**114**	*e*S		**S**	**10 13 24.5**	**-2.0**
	comp=Z,312nm,27.5s							
TBI				*e*SS		**SS**	**10 19 12.6**	**0.0**
	comp=Z,306nm,28.5s							
TBI				*e*LQ		LQ	10 27 01.6	
	comp=Z,365nm,28.8s							
TBI				*e*LR		LR	10 30 47.3	
	comp=Z,1µm,30.2s							
DAWY	**Dawson**	**88.14**	**26**	*e*P		**P**	**10 02 50.3**	**-0.1**
	comp=Z,8.1nm,1.1s							
KMBO	**Kilima Mbogo**	**88.15**	**269**	P		**P**	**10 02 51.7**	**0.0**
	comp=Z,7.5nm,1.2s,baz=358,slow=4.1,SNR=4.7							
KMBO				LR		LR	10 42 00.2	
	comp=Z,260nm,19.4s,baz=93,slow=35							
KMBO	**Kilima Mbogo**	**88.15**	**269**	*e*P		**P**	**10 02 51.7**	**0.0**
KMBO				pmax		pmax		
	comp=Z,30nm,1.8s							
KMBO	**Kilima Mbogo**	**88.15**	**269**	*e*P		**P**	**10 02 51.7**	**0.0**
	comp=Z,30nm,1.8s							
BR101	**Keskin Array S**	**88.32**	**310**	*e*P		**P**	**10 02 51.2**	**-0.6**
BR131	**Keskin Array S**	**88.32**	**310**	*e*P		**P**	**10 02 52.1**	**+0.3**
BRTR	**Keskin Array B**	**88.32**	**310**	P		**P**	**10 02 51.2**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=118,slow=5.8,SNR=11							
BR231	**Keskin MP Arra**	**88.97**	**310**	*e*P		**P**	**10 02 52.7**	**-2.1**
ARA0	**ARCESS Array S**	**89.06**	**340**	*e*P		**P**	**10 02 52.9**	**-1.6**
ARCES	**ARCESS Array B**	**89.06**	**340**	P		**P**	**10 02 52.9**	**-1.6**
	comp=Z,3.1nm,0.9s,baz=77,slow=5.4,SNR=4.7							
ARCES				LR		LR	10 47 23.5	
	comp=Z,406nm,20.0s,baz=95,slow=39							
HYT	**Haines Junctio**	**89.44**	**29**	*e*P		**P**	**10 02 57.8**	**+1.1**
	comp=Z,6.6nm,0.9s							
INK	**Inuvik**	**89.79**	**21**	P		**P**	**10 02 58.5**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=169,slow=4.8,SNR=5.3							
INK	**Inuvik**	**89.79**	**21**	*e*P		**P**	**10 02 58.5**	**+0.6**
INK				pmax		pmax		
	comp=Z,13nm,1.2s							
INK	**Inuvik**	**89.79**	**21**	*e*P		**P**	**10 02 58.5**	**+0.6**
	comp=Z,13nm,1.2s							
AKASG	**Malin Array Be**	**90.25**	**321**	P		**P**	**10 03 00.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=71,slow=4.4,SNR=5.5							
AKASG				LR		LR	10 48 20.5	
	comp=Z,440nm,18.7s,baz=85,slow=39							
KIEV	**Kiev**	**90.27**	**321**⇑	*i*P		**P**	**10 03 00.9**	**+0.4**
FIA0	**FINESS Array S**	**90.32**	**332**	*e*P		**P**	**10 02 58.3**	**-2.2**
FIA0	**FINESS Array S**	**90.32**	**332**	*e*P		**P**	**10 02 58.3**	**-2.2**
FINES	**FINESS Array B**	**90.32**	**332**	P		**P**	**10 02 58.3**	**-2.2**
	comp=Z,1.1nm,0.6s,baz=44,slow=5.8,SNR=4.1							
FINES				LR		LR	10 47 14.4	
	comp=Z,378nm,18.0s,baz=82,slow=38							
SYO	**Syowa Base**	**92.81**	**201**⇑	*e*P		**P**	**10 03 12.6**	**+0.8**
DLBC	**Dease Lake**	**93.65**	**31**	P		**P**	**10 03 15.8**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=299,slow=5.2,SNR=6.2							
QSPA	**South Pole Qui**	**94.59**	**180**	*e*P		**P**	**10 03 21.4**	**+1.1**
TAOE	**Nuku Hiva Isla**	**95.19**	**98**	*e*LR		LR	10 34 15.1	
	comp=Z,867nm,24.5s							
DAG	**Danmarks Havn**	**96.12**	**352**	*i* P		**P**	**10 03 25.2**	**-1.7**
	comp=Z,8.7nm,1.1s							
NB2	**NORSAR Subarra**	**97.30**	**333**	P		**P**	**10 03 29.3**	**-3.4**
	comp=Z,4.8nm,1.1s,baz=68,slow=4.6							
NB200	**NORSAR Array S**	**97.30**	**333**	*e*P		**P**	**10 03 30.2**	**-2.4**
NOA	**NORSAR Array B**	**97.30**	**333**	P		**P**	**10 03 30.2**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=77,slow=4.3,SNR=3.7							
OKC	**Ostrava-Krasne**	**97.38**	**321**	AMS		AMS	10 56 50.0	
	comp=Z,400nm,21.5s							
DPC	**Dobruska-Polom**	**98.36**	**322**	AMS		AMS	10 51 10.0	
	comp=Z,400nm,18.1s							
UPC	**Upice**	**98.50**	**322**	AMS		AMS	10 51 10.0	
	comp=Z,500nm,20.5s							
YKA	**Yellowknife Ar**	**99.21**	**24**	P		**Pdif**	**10 03 41.0**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=292,slow=5.1,SNR=3.2							
PVCC	**Panska Ves**	**99.36**	**323**	AMS		AMS	10 50 10.0	
	comp=Z,500nm,19.8s							
GOPC	**GO Pecny, Ondr**	**99.43**	**322**	AMS		AMS	10 50 40.0	
	comp=Z,400nm,18.4s							
PRU	**Pruhonice**	**99.56**	**322**	AMS		AMS

LPAZ PKPab **PKPab** **10 10 52.9 +1.9**
comp=Z,3.0nm,1.0s,baz=197,slow=3.5,SNR=3.6

*NEIC **28** 09:50:30.0, 51.57N× 171.31W, h11km, mb4.8/178, ML4.5(AEIC), After AEIC.*
*BJI **28** 09:50:31.5, 52.37N× 171.85W, h34km, mb4.9/17, mB5.1/15, Ms5.2/11, Ms7 4.7/12*
*MOS **28** 09:50:32.6±1.0, 52.22N× 171.61W, h33km, mb5.1/42, Error ellipse: s-maj=11.5km s-min=6.8km az=135.7*
*ISCJB **28** 09:50:33.2±0.1, 52.10N±0.03× 171.53W±0.03, h44km, mb4.8/170, MS3.7/9, Error ellipse: s-maj=4.1km s-min=2.4km az=171.0*
*IDC **28** 09:50:36.2±4.5, 52.18N× 171.63W, h54km±40km, mb4.2/22, mb1 4.4/24, mb1mx4.1/67, mbtmp4.5/24, ML4.4/2, MS3.9/9, Ms1 3.9/9, ms1mx3.6/38, Error ellipse: s-maj=21.6km s-min=11.1km az=178.0*

ISC 28 09:50:34.6±0.4, 52.03N±0.07× 171.53W±0.03, h44km, n756, σ1§22/773, mb4.8/170, MS3.7/9, 1C, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.58**	**283**	P	**Pn**	**09 51 02.1**	**+1.9**
KOFP	**Korovin Flat P**	**1.60**	**280**	P	**Pn**	**09 51 01.9**	**+1.4**
KONE	**Korovin Northe**	**1.64**	**284**	P	**Pn**	**09 51 02.8**	**+1.9**
KOKL	**Mount Kliuchef**	**1.67**	**281**	*e*Pn	**Pn**	**09 51 02.9**	**+1.4**
NIKH	**Nikolski High**	**1.89**	**59**	*e*Pn	**Pn**	**09 51 03.9**	**-0.5**
NIKH				*e*Sn	**Sn**	**09 51 27.2**	**+0.3**
OKAK	**Okmok**	**2.47**	**50**	*e*Pn	**Pn**	**09 51 11.5**	**-0.9**
GSMY	**Great Sitkin M**	**2.80**	**272**	*e*Pn	**Pn**	**09 51 17.8**	**+1.0**
GSTR	**Great Sitkin T**	**2.80**	**273**	*e*Pn	**Pn**	**09 51 18.2**	**+1.4**
GSTR				*e*Sn	**Sn**	**09 51 53.5**	**+4.2**
GSTD	**Great Sitkin T**	**2.85**	**272**	*e*Pn	**Pn**	**09 51 18.3**	**+0.7**
GSCK	**Great Sitkin C**	**2.86**	**272**	*e*Pn	**Pn**	**09 51 18.8**	**+1.1**
ETKA	**Kagalaska Isla**	**3.02**	**269**	*e*Pn	**Pn**	**09 51 21.1**	**+1.2**
ADAG	**Mount Adagdak**	**3.14**	**271**	*e*Pn	**Pn**	**09 51 23.0**	**+1.6**
KIRH	**Kanaga Island**	**3.44**	**270**	*e*Pn	**Pn**	**09 51 27.3**	**+1.6**
KIKV	**Kanaga Island**	**3.49**	**270**	*e*Pn	**Pn**	**09 51 27.1**	**+0.7**
MTBL	**Makushin Table**	**3.52**	**55**	*e*Pn	**Pn**	**09 51 27.7**	**+1.0**
UNV	**Unalaska Valle**	**3.54**	**57**	*e*Pn	**Pn**	**09 51 28.5**	**+1.4**
UNV				*e*Sn	**Sn**	**09 52 11.7**	**+4.1**
TAPA	**Tanaga Point A**	**3.90**	**269**	*e*Pn	**Pn**	**09 51 33.1**	**+1.2**
TAFP	**Tanaga Falls P**	**4.00**	**271**	*e*Pn	**Pn**	**09 51 34.0**	**+0.7**
TAFP				*e*Sn	**Sn**	**09 52 24.4**	**+5.6**
AKUT	**Akutan**	**4.06**	**56**	*e*Pn	**Pn**	**09 51 36.7**	**+2.5**
AKUT				*e*Sn	**Sn**	**09 52 17.8**	**-2.6**
GANE	**Gareloi Northe**	**4.49**	**270**	P	**Pn**	**09 51 40.9**	**+0.8**
WESE	**West Dahl East**	**4.83**	**57**	*e*Pn	**Pn**	**09 51 46.4**	**+1.6**
SPIA	**Saint Paul Isl**	**5.21**	**8**	*e*Pn	**Pn**	**09 51 53.5**	**+3.5**
SPIA				*e*Sn	**Sn**	**09 52 50.4**	**+1.6**
DT1	**Dutton Round H**	**6.31**	**57**	*e*Pn	**Pn**	**09 52 06.1**	**+1.1**
DTNA	**Dutton South F**	**6.35**	**57**	*e*Pn	**Pn**	**09 52 06.8**	**+1.3**
SDPT	**Sand Point**	**7.36**	**59**	*e*Pn	**Pn**	**09 52 20.1**	**+0.8**
CHGN	**Chignik**	**8.80**	**56**	*e*Pn	**Pn**	**09 52 39.4**	**+0.3**
KDAK	**Kodiak Island**	**12.31**	**55**	*i* P	**Pn**	**09 53 25.1**	**-1.9**
SVW2	**Sparrevohn**	**12.61**	**38**	*e*Pn	**Pn**	**09 53 33.3**	**+2.2**
HOM	**Homer**	**13.49**	**48**	*e*Pn	**Pn**	**09 53 43.0**	**-0.2**
HOM				*e*Sn	**Sn**	**09 56 06.8**	**-4.7**
CNPM	**China Poot**	**13.62**	**49**	*e*Pn	**Pn**	**09 53 43.0**	**-2.0**
TT01	**Tatalina**	**13.68**	**31**	*e*Pn	**Pn**	**09 53 48.6**	**+2.9**
TT01				*e*Sn	**Sn**	**09 56 19.2**	**+3.2**
BRLK	**Bradley Lake**	**13.88**	**48**	*e*Pn	**Pn**	**09 53 48.9**	**+0.3**
BRLK				*e*Sn	**Sn**	**09 56 21.6**	**+0.5**
SPU	**Mount Spurr**	**14.05**	**42**	*e*Pn	**Pn**	**09 53 54.2**	**+3.4**
SEW	**Seward**	**14.69**	**48**	*e*Pn	**Pn**	**09 53 56.5**	**-2.7**
SUA	**Susitna One**	**14.74**	**42**	*e*Pn	**P**	**09 54 03.2**	**-2.2**
RC01	**Rabbit Creek A**	**14.98**	**44**	*e*Pn	**Pn**	**09 54 02.2**	**-1.0**
PPLA	**Purkeypile**	**14.99**	**36**	*e*Pn	**P**	**09 54 08.7**	**+0.6**
PPLA				*e*Sn	**Sn**	**09 56 49.1**	**+1.1**
PMR	**Palmer**	**15.48**	**43**	*e*P	**Pn**	**09 54 08.9**	**-0.7**
PMR				pmax	pmax		
	comp=Z,12nm,0.7s						
PMR	**Palmer**	**15.48**	**43**	*e*Pn	**Pn**	**09 54 08.9**	**-0.7**
	comp=Z,12nm,0.7s						
KTH	**Kantishna Hill**	**15.84**	**35**	*e*Pn	**P**	**09 54 17.3**	**-0.2**
	comp=Z,20nm,0.9s						
KTH				*e*Sn	**Sn**	**09 57 07.4**	**-1.2**
SML	**Sawmill**	**15.91**	**43**	*e*P	**Pn**	**09 54 16.0**	**+0.7**
SML				pmax	pmax		
	comp=Z,15nm,0.8s						
SML	**Sawmill**	**15.91**	**43**	*e*Pn	**Pn**	**09 54 16.0**	**+0.7**
	comp=Z,15nm,0.8s						
TRF	**Thorofare Moun**	**16.01**	**36**	*e*Pn	**P**	**09 54 19.7**	**+0.2**
	comp=Z,41nm,1.5s						
BPAW	**Bear Paw Mtn.**	**16.16**	**34**	*e*Pn	**P**	**09 54 20.1**	**-0.9**
	comp=Z,20nm,1.0s						
SCM	**Sheep Creek Mo**	**16.35**	**44**	*e*P	**Pn**	**09 54 19.2**	**-1.7**
SCM				pmax	pmax		
	comp=Z,41nm,0.8s						
SCM	**Sheep Creek Mo**	**16.35**	**44**	*e*Pn	**Pn**	**09 54 19.2**	**-1.7**
	comp=Z,41nm,0.8s						
EYAK	**Cordova Ski Ar**	**16.56**	**49**	*e*Pn	**Pn**	**09 54 21.5**	**-1.9**
	comp=Z,30nm,1.3s						
MCK	**McKinley**	**16.67**	**37**	*e*P	**P**	**09 54 26.3**	**-0.3**
MCK				pmax	pmax		
	comp=Z,15nm,0.9s						
MCK	**McKinley**	**16.67**	**37**	*e*Pn	**P**	**09 54 26.3**	**-0.3**
	comp=Z,15nm,0.9s						
DIV	**Divide**	**16.75**	**47**	*e*Pn	**P**	**09 54 27.3**	**-0.3**
	comp=Z,10nm,0.7s						
KLU	**Klutina**	**16.82**	**46**	*e*Pn	**Pn**	**09 54 24.3**	**-2.4**
	comp=Z,12nm,0.6s						
MLY	**Manley**	**16.84**	**31**	*e*P	**P**	**09 54 30.7**	**+2.2**
	comp=Z,13nm,0.8s						
WRH	**Wood River Hil**	**17.39**	**35**	*e*Pn	**P**	**09 54 34.5**	**-0.1**
	comp=Z,11nm,0.8s						
CCB	**Clear Creek Bu**	**17.59**	**35**	*e*Pn	**Pn**	**09 54 35.1**	**-1.1**
	comp=Z,8.4nm,0.7s						
PAX	**Paxson**	**17.63**	**41**	*e*P	**Pn**	**09 54 33.9**	**-2.9**
PAX				pmax	pmax		
	comp=Z,40nm,1.5s						
PAX	**Paxson**	**17.63**	**41**	*e*Pn	**Pn**	**09 54 33.9**	**-2.9**
	comp=Z,40nm,1.5s						
COLA	**College**	**17.71**	**34**	*e*P	**P**	**09 54 38.6**	**+0.6**
COLA				pmax	pmax		
	comp=Z,14nm,0.9s						
COLA	**College**	**17.71**	**34**	*e*Pn	**P**	**09 54 38.6**	**+0.6**
	comp=Z,14nm,0.9s						
CRQM	**Cirque**	**17.85**	**50**	*e*Pn	**Pn**	**09 54 39.7**	**+0.1**
	comp=Z,29nm,0.6s						
ILAR	**Eielson Array**	**17.99**	**35**	P	**Pn**	**09 54 39.2**	**-1.9**
	comp=Z,1.1nm,0.3s,baz=234,slow=11,SNR=66						
ILAR				PcP	**PcP**	**09 59 14.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=279,slow=3.4,SNR=6.0						
ILAR				LR	LR	10 02 08.0	
	comp=Z,332nm,18.3s,baz=238,slow=39						
ILB	**Eielson Array**	**17.99**	**35**	*e*Pn	**Pn**	**09 54 39.4**	**-1.7**
IL1	**Eielson Array**	**17.99**	**35**	*e*Pn	**Pn**	**09 54 40.5**	**-0.6**
BALM	**Baldy**	**18.30**	**49**	*e*P	**Pn**	**09 54 47.1**	**+2.1**
BALM				pmax	pmax		
	comp=Z,38nm,0.6s						
BALM	**Baldy**	**18.30**	**49**	*e*P	**Pn**	**09 54 47.1**	**+2.1**
	comp=Z,38nm,0.6s						
COLD	**Coldfoot**	**18.50**	**26**	*e*P	**Pn**	**09 54 48.8**	**+1.6**
	comp=Z,7.4nm,0.8s						
DOT	**Dot Lake**	**18.50**	**40**	*e*P	**P**	**09 54 47.1**	**+0.2**
	comp=Z,28nm,1.0s						
PEA1	**Petropavlovsk-**	**18.67**	**286**	*e*P	**P**	**09 54 47.3**	**-1.4**
PEA0	**Petropavlovsk-**	**18.67**	**286**	*e*P	**Pn**	**09 54 50.2**	**+0.8**
PETK	**Petropavlovsk-**	**18.67**	**286**	P	**P**	**09 54 47.3**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=83,slow=14,SNR=40						
PCA	**Pinnacle**	**19.08**	**53**	*e*P	**Pn**	**09 54 55.0**	**+0.7**
	comp=Z,128nm,0.8s						
BILL	**Bilibino**	**19.31**	**335**	*i* P	**Pn**	**09 54 59.1**	**+2.1**
BILL				pmax	pmax		
	comp=Z,42nm,1.2s						
BILL				MLR	MLR		
	comp=Z,389nm,20.0s						
BILL	**Bilibino**	**19.31**	**335**	*e*P	**Pn**	**09 54 58.0**	**+1.0**
	comp=Z,22nm,0.8s						
DHAK	**Deception Hill**	**19.95**	**56**	*e*P	**Pn**	**09 55 05.6**	**+0.9**
	comp=Z,90nm,0.8s						
EGAK	**Eagle**	**20.14**	**39**	*e*P	**P**	**09 55 05.2**	**+0.6**
	comp=Z,19nm,0.6s						
HYT	**Haines Junctio**	**20.55**	**51**	*e*P	Pn	09 55 11.1	-0.7
	comp=Z,92nm,0.7s						
DAWY	**Dawson**	**20.57**	**42**	*e*P	**P**	**09 55 09.8**	**+0.5**
	comp=Z,9.9nm,0.8s						
SEY	**Seymchan**	**21.94**	**314**	P	**P**	**09 55 23.6**	**-0.4**
	comp=Z,5.9nm,0.8s,baz=115,slow=9.9,SNR=18						
SEY	**Seymchan**	**21.94**	**314**	*i* P	**P**	**09 55 26.6**	**+2.6**
MA2	**Magadan**	**22.24**	**305**	LR	LR	10 03 28.8	
	comp=Z,255nm,21.3s,baz=116,slow=35						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRAG	**Craig**	**22.77**	**66**	*e*P	**P**	**09 55 34.6**	**+1.7**
	comp=Z,168nm,1.8s						
WRAK	**Wrangell Islan**	**23.09**	**64**	*e*P	**P**	**09 55 38.0**	**+1.8**
	comp=Z,74nm,1.7s						
DIB	**Dawson Inlet,**	**23.55**	**72**	*e*P	**P**	**09 55 43.2**	**+2.6**
	comp=Z,38nm,1.2s						
DLBC	**Dease Lake**	**24.20**	**58**	P	**P**	**09 55 48.0**	**+1.3**
	comp=Z,42nm,0.6s,baz=261,slow=7.1,SNR=156						
DLBC				LR	LR	10 05 42.5	
	comp=Z,241nm,19.3s,baz=284,slow=38						
DLBC	**Dease Lake**	**24.20**	**58**	*e*P	**P**	**09 55 50.1**	**+3.3**
	comp=Z,208nm,1.6s						
INK	**Inuvik**	**24.37**	**34**	P	**P**	**09 55 48.4**	**+0.3**
	comp=Z,13nm,0.5s,baz=242,slow=6.7,SNR=42						
INK	**Inuvik**	**24.37**	**34**	*e*P	**P**	**09 55 48.2**	**+0.2**
	comp=Z,16nm,0.6s						
BBB	**Bella Bella**	**26.37**	**72**	P	**P**	**09 56 07.5**	**+1.1**
	comp=Z,7.7nm,0.7s,baz=300,slow=8.8,SNR=12						
BBB				LR	LR	10 04 06.9	
	comp=Z,260nm,21.7s,baz=282,slow=31						
YSS	**Yuzh-Sakhalins**	**29.73**	**279**	P	**P**	**09 56 38.3**	**+1.9**
PGC	**Sidney**	**30.43**	**77**	*e*P	**P**	**09 56 40.4**	**-2.1**
	comp=Z,12nm,1.1s						
LLLB	**Lillooet**	**30.58**	**73**	*e*P	**P**	**09 56 46.3**	**+2.4**
	comp=Z,11nm,0.6s						
ASAJ	**Asahikawa**	**31.21**	**274**	P	**P**	**09 56 50.6**	**+1.1**
	comp=Z,6.3nm,0.8s,baz=61,slow=16,SNR=5.1						
ASAJ	**Asahikawa**	**31.21**	**274**	P	**P**	**09 56 50.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAJ	**Asahikawa**	**31.21**	**274**	*e*P	**P**	**09 56 50.6**	**+1.1**
	comp=Z,18nm,0.8s						
B05A	**Bryant**	**31.41**	**77**	P	**P**	**09 56 53.1**	**+2.0**
	baz=296,SNR=11						
YKA	**Yellowknife Ar**	**31.46**	**48**	P	**P**	**09 56 52.3**	**+0.8**
	comp=Z,3.0nm,0.4s,baz=274,slow=9.2,SNR=25						
YKA				LR	LR	10 11 32.3	
	comp=Z,31nm,18.0s,baz=0.0,slow=40						
YKB5	**Yellowknife Ar**	**31.46**	**48**	*e*P	**P**	**09 56 52.4**	**+0.9**
D05A	**Enumclaw**	**31.95**	**79**	*e*P	**P**	**09 56 58.7**	**+2.7**
	comp=Z,42nm,1.0s						
G03D	**McMinnville, O**	**32.12**	**83**	P	**P**	**09 56 58.9**	**+1.4**
	baz=300						
LON	**Longmire**	**32.27**	**79**	*e*P	**P**	**09 57 01.5**	**+2.7**
LON				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LON	**Longmire**	**32.27**	**79**	*e*P	**P**	**09 57 01.5**	**+2.7**
	comp=Z,6.8nm,0.7s						
F04A	**Amboy**	**32.28**	**81**	*e*P	**P**	**09 57 01.1**	**+2.2**
	comp=Z,11nm,0.6s						
B08A	**Colville Reser**	**33.02**	**75**	*e*P	**P**	**09 57 07.2**	**+1.7**
	comp=Z,14nm,0.7s						
G05D	**Wamic, OR**	**33.30**	**81**	P	**P**	**09 57 09.8**	**+2.0**
	baz=300						
I04A	**Tendick Farm,**	**33.37**	**84**	P	**P**	**09 57 10.3**	**+1.7**
	baz=302						
L02D	**Cave Junction,**	**33.53**	**88**	P	**P**	**09 57 11.8**	**+1.9**
	baz=304						
G06A	**Carlson Farm,**	**33.72**	**81**	*e*P	**P**	**09 57 13.3**	**+1.8**
	comp=Z,36nm,2.0s						
I05D	**Terrebonne, OR**	**33.75**	**83**	P	**P**	**09 57 13.6**	**+1.8**
	baz=302,SNR=6.6						
HAWA	**Hanford**	**33.82**	**79**	*e*P	**P**	**09 57 14.4**	**+2.1**
	comp=Z,16nm,0.8s						
D08A	**Wollman Farm,**	**33.87**	**77**	*e*P	**P**	**09 57 14.2**	**+1.5**
	comp=Z,7.7nm,0.6s						
C09A	**Chrisman Ranch**	**33.91**	**76**	*e*P	**P**	**09 57 14.8**	**+1.7**
	comp=Z,12nm,0.8s						
J05D	**Fort Rock, OR**	**34.37**	**84**	P	**P**	**09 57 19.2**	**+2.0**
	baz=303,SNR=12						
NEW	**Newport**	**34.38**	**74**	P	**P**	**09 57 18.6**	**+1.3**
	comp=Z,18nm,0.7s,baz=292,slow=7.0,SNR=23						
NEW				LR	LR	10 09 07.0	
	comp=Z,119nm,21.7s,baz=284,slow=32						
NEW	**Newport**	**34.38**	**74**	P	**P**	**09 57 18.5**	**+1.3**
	baz=297,SNR=12						
M02C	**Callahan**	**34.42**	**88**	P	**P**	**09 57 19.9**	**+2.2**
	baz=305						
EDM	**Edmonton**	**34.50**	**64**	*e*P	**P**	**09 57 19.6**	**+1.4**
EDM				pmax	pmax		
	comp=Z,50nm,0.7s						
EDM	**Edmonton**	**34.50**	**64**	*e*P	**P**	**09 57 19.6**	**+1.4**
	comp=Z,50nm,0.7s						
G08A	**Pilot Rock**	**34.71**	**80**	*e*P	**P**	**09 57 21.6**	**+1.4**
	comp=Z,6.5nm,0.8s						
N02D	**Trinity Center**	**34.75**	**89**	P	**P**	**09 57 22.4**	**+1.9**
	baz=306						
M04C	**Macdoel**	**34.83**	**87**	P	**P**	**09 57 23.3**	**+2.1**
	baz=305,SNR=5.6						
K05A	**Summer Lake**	**34.88**	**85**	*e*P	**P**	**09 57 23.8**	**+2.0**
	comp=Z,20nm,0.8s						
WDC	**Whiskeytown Da**	**35.08**	**89**	*e*P	**P**	**09 57 25.5**	**+2.2**
WDC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WDC	**Whiskeytown Da**	**35.08**	**89**	*e*P	**P**	**09 57 25.5**	**+2.2**
	comp=Z,6.2nm,0.8s						
F10A	**Beach Ranch, E**	**35.42**	**78**	*e*P	**P**	**09 57 27.7**	**+1.4**
	comp=Z,4.9nm,0.8s						
MOD	**Modoc Plateau**	**35.70**	**86**	*e*P	**P**	**09 57 31.0**	**+2.1**
	comp=Z,10nm,0.8s						
O03D	**Paynes Creek**	**35.71**	**89**	P	**P**	**09 57 30.0**	**+1.2**
	baz=306						
WALA	**Wharton Lakes**	**35.91**	**71**	*e*P	**P**	**09 57 31.8**	**+1.3**
	comp=Z,93nm,2.0s						
BMO	**Blue Mountains**	**35.94**	**79**	*e*P	**P**	**09 57 32.2**	**+1.5**
	comp=Z,8.1nm,1.1s						
BSMT	**Bassoo Peak**	**35.96**	**74**	*e*P	**P**	**09 57 32.6**	**+1.6**
BLMT	**Blacktail Moun**	**36.14**	**73**	*e*P	**P**	**09 57 34.0**	**+1.5**
JTMT	**Jette**	**36.31**	**73**	*e*P	**P**	**09 57 35.0**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**36.38**	**216**	T	T	10 36 02.6	
	baz=21,slow=75,SNR=41						
H11N3	**WAKE ISLAND Hy**	**36.38**	**216**	T	T	10 36 05.5	
	baz=21,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy**	**36.40**	**216**	T	T	10 36 04.0	
	baz=21,slow=75,SNR=34						
YBMT	**Yellow Bay**	**36.41**	**73**	*e*P	**P**	**09 57 36.2**	**+1.4**
WVOR	**Wild Horse Val**	**36.43**	**84**	*e*P	**P**	**09 57 36.7**	**+1.7**
WVOR				pmax	pmax		
	comp=Z,15nm,0.8s						
WVOR	**Wild Horse Val**	**36.43**	**84**	*e*P	**P**	**09 57 36.7**	**+1.7**
	comp=Z,15nm,0.8s						
SWMT	**Swartz Lake**	**36.59**	**74**	*e*P	**P**	**09 57 37.0**	**+0.8**
MSO	**Missoula**	**36.96**	**75**	P	**P**	**09 57 40.5**	**+1.1**
	baz=300,SNR=11						
MSO	**Missoula**	**36.96**	**75**	*e*P	**P**	**09 57 40.6**	**+1.1**
	comp=Z,18nm,1.3s						
CHMT	**Chamberlain Mo**	**37.33**	**74**	*e*P	**P**	**09 57 43.2**	**+0.6**
PAHR	**Pah Rah Range**	**37.55**	**88**	*e*P	**P**	**09 57 46.4**	**+1.9**
H11S1	**WAKE ISLAND Hy**	**37.57**	**215**	T	T	10 37 37.8	
	baz=21,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy**	**37.59**	**215**	T	T	10 37 36.6	
	baz=21,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**37.59**	**215**	T	T	10 37 38.9	
	baz=21,slow=76,SNR=44						
MFID	**Camas Ranch**	**37.61**	**81**	*e*P	**P**	**09 57 46.3**	**+1.4**
	comp=Z,9.3nm,1.0s						
PNTR	**Pine Nut**	**37.79**	**89**	*e*P	**P**	**09 57 49.0**	**+2.3**
CMB	**Columbia Colle**	**37.95**	**91**	*e*P	**P**	**09 57 49.8**	**+2.0**
CMB				pmax	pmax		
	comp=Z,14nm,1.4s						
CMB	**Columbia Colle**	**37.95**	**91**	*e*P	**P**	**09 57 49.8**	**+2.0**
	comp=Z,14nm,1.4s						
WAKR	**Walker**	**38.25**	**90**	*e*P	**P**	**09 57 52.9**	**+2.4**
	comp=Z,14nm,0.8s						
MAJO	**Matsushiro**	**38.35**	**266**	*e*P	**P**	**09 57 52.8**	**+1.6**
MAJO				pmax	pmax		
	comp=Z,79nm,0.9s						
LRM	**Limekiln Ridge**	**38.36**	**75**	*e*P	**P**	**09 57 52.5**	**+1.0**
HLID	**Hailey**	**38.39**	**79**	P	**P**	**09 57 52.5**	**+0.9**
	baz=304,SNR=14						
HLID	**Hailey**	**38.39**	**79**	*e*P	**P**	**09 57 53.1**	**+1.5**
	comp=Z,13nm,1.2s						
BMN	**Battle Mountai**	**38.45**	**85**	*e*P	**P**	**09 57 53.8**	**+1.6**
BMN				pmax	pmax		
	comp=Z,43nm,1.8s						
BMN	**Battle Mountai**	**38.45**	**85**	*e*P	**P**	**09 57 53.8**	**+1.6**
	comp=Z,43nm,1.8s						
DLMT	**Dillon**	**38.52**	**76**	*e*P	**P**	**09 57 53.5**	**+0.9**
	comp=Z,5.2nm,1.1s						
MCMT	**McKenzie Canyo**	**38.65**	**77**	*e*P	**P**	**09 57 54.9**	**+1.0**
TVH3	**East Aurora ar**	**38.72**	**89**	*e*P	**P**	**09 57 56.4**	**+1.9**
	comp=Z,12nm,1.1s						
TVH2	**Borealis Mine**	**38.74**	**89**	*e*P	**P**	**09 57 56.6**	**+1.9**
	comp=Z,13nm,1.3s						
EGMT	**Eagleton**	**38.84**	**71**	P	**P**	**09 57 56.0**	**+0.9**
	baz=300,SNR=9.2						
MDJ	**Mudanjiang**	**38.88**	**283**	P	**P**	**09 57 52.3**	**-3.2**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDJ				PMZ			
	comp=Z,23nm,1.1s						
MDJ				PMZ			
	comp=Z,88nm,4.2s						
BOZ	**Bozeman (W)**	**38.94**	**75**	P	**P**	**09 57 57.2**	**+1.0**
	baz=302,SNR=16						
BOZ	**Bozeman (W)**	**38.94**	**75**	*e*P	**P**	**09 57 57.3**	**+1.1**
BOZ				pmax	pmax		
	comp=Z,29nm,1.6s						
BOZ	**Bozeman (W)**	**38.94**	**75**	*e*P	**P**	**09 57 57.3**	**+1.1**
	comp=Z,29nm,1.6s						
MLAC	**Mammoth, Mammo**	**39.16**	**90**	P	**P**	**09 57 58.5**	**+0.3**
	baz=309						
ELK	**Elko**	**39.49**	**84**	*e*P	**P**	**09 58 02.5**	**+1.6**
ELK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ELK	**Elko**	**39.49**	**84**	*e*P	**P**	**09 58 02.5**	**+1.6**
	comp=Z,7.2nm,0.8s						
YHB	**Horse Butte**	**39.68**	**76**	*e*P	**P**	**09 58 03.5**	**+1.1**
	comp=Z,12nm,1.0s						
RCTC	**Rector, Farmer**	**39.75**	**92**	P	**P**	**09 58 04.0**	**+1.2**
	baz=310						
YMR	**Madison River**	**39.87**	**76**	*e*P	**P**	**09 58 05.3**	**+1.3**
	comp=Z,15nm,1.1s						
YHH	**Holmes Hill**	**39.87**	**76**	*e*P	**P**	**09 58 05.4**	**+1.3**
	comp=Z,18nm,1.0s						
TIN	**Tinemaha, Big**	**39.90**	**90**	P	**P**	**09 58 05.7**	**+1.5**
	baz=310						
SMMC	**Simmler**	**39.93**	**94**	P	**P**	**09 58 05.9**	**+1.6**
	baz=311						
FFC	**Flin Flon**	**40.03**	**58**	*e*P	**P**	**09 58 06.0**	**+1.1**
FFC				pmax	pmax		
	comp=Z,16nm,0.6s						
FFC	**Flin Flon**	**40.03**	**58**	*e*P	**P**	**09 58 06.0**	**+1.1**
	comp=Z,16nm,0.6s						
GCMT	**Greyclift**	**40.03**	**74**	*e*P	**P**	**09 58 06.5**	**+1.2**
VES	**Vestal, Richgr**	**40.15**	**93**	P	**P**	**09 58 07.0**	**+0.9**
	baz=311,SNR=5.7						
YPP	**Pitchstone Pla**	**40.18**	**76**	*e*P	**P**	**09 58 09.0**	**+2.4**
	comp=Z,11nm,1.5s						
H17A	**Grant Village**	**40.25**	**76**	P	**P**	**09 58 09.3**	**+2.2**
	baz=304,SNR=6.9						
H17A	**Grant Village**	**40.25**	**76**	*e*P	**P**	**09 58 09.8**	**+2.6**
	comp=Z,27nm,1.4s						
IMW	**Indian Meadow**	**40.30**	**77**	*e*P	**P**	**09 58 09.4**	**+1.7**
	comp=Z,9.4nm,1.0s						
PKM	**Mcpherson Peak**	**40.32**	**94**	P	**P**	**09 58 09.3**	**+1.5**
	baz=312						
FLWY	**Flagg Ranch**	**40.34**	**76**	*e*P	**P**	**09 58 09.9**	**+2.0**
	comp=Z,16nm,1.3s						
CWC	**Cottonwood Cre**	**40.38**	**91**	P	**P**	**09 58 10.1**	**+1.8**
	baz=310						
HVU	**Hansel Valley**	**40.39**	**81**	*e*P	**P**	**09 58 09.9**	**+1.6**
HVU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HVU	**Hansel Valley**	**40.39**	**81**	*e*P	**P**	**09 58 09.9**	**+1.6**
	comp=Z,6.8nm,0.8s						
GRAC	**Grapevine Rang**	**40.47**	**90**	P	**P**	**09 58 10.3**	**+1.5**
	baz=310						
MOOW	**Moose Ponds**	**40.50**	**77**	*e*P	**P**	**09 58 10.7**	**+1.4**
	comp=Z,7.0nm,1.4s						
TPAW	**Teton Pass**	**40.52**	**77**	*e*P	**P**	**09 58 11.2**	**+1.7**
	comp=Z,13nm,1.4s						
RLMT	**Red Lodge**	**40.63**	**74**	P	**P**	**09 58 11.5**	**+1.2**
	baz=303,SNR=12						
RLMT	**Red Lodge**	**40.63**	**74**	*e*P	**P**	**09 58 11.7**	**+1.4**
	comp=Z,26nm,1.0s						
ISA	**Isabella, Lake**	**40.64**	**92**	P	**P**	**09 58 11.1**	**+0.8**
	baz=311						
REDW	**Red Top Meadow**	**40.66**	**77**	*e*P	**P**	**09 58 12.3**	**+1.8**
	comp=Z,14nm,1.2s						
**SBC

MSU Marysvale 42.72 84 eP P 09 58 29.0 +1.6
comp=Z,39nm,1.9s
MSU Marysvale 42.72 84 eP P 09 58 29.0 +1.6
C25A Freed Ranch, W 42.75 68 P P 09 58 28.2 +0.8
baz=302
MURC Murrieta 42.80 94 P P 09 58 28.9 +1.0
baz=313
A26A Wade Farm, Ken 42.81 65 P P 09 58 28.4 +0.6
baz=302,SNR=6.4
TMUT Trail Mountain 42.83 83 eP P 09 58 30.1 +1.7
comp=Z,10nm,0.8s
GMRC Granite Mounta 42.95 91 P P 09 58 30.3 +1.0
baz=312,SNR=9.7
B26A Jensen Ranch, 42.97 66 P P 09 58 30.1 +1.0
baz=302
LCMT Little Creek M 43.00 87 eP P 09 58 31.1 +1.5
comp=Z,7.7nm,0.9s
MTPU Mount Pierson 43.01 85 eP P 09 58 31.7 +1.8
comp=Z,12nm,1.2s
P17A Butcher Ranch, 43.01 82 eP P 09 58 31.1 +1.4
comp=Z,9.8nm,0.9s
LDFC Landfair 43.10 90 eP P 09 58 31.4 +1.0
comp=Z,35nm,1.0s
A27A Ledoux Ranch, 43.23 65 P P 09 58 31.8 +0.6
baz=302
PFO Pinyon Flats O 43.24 93 P P 09 58 32.6 +1.0
comp=Z,5.0nm,0.8s,baz=317,slow=9.0,SNR=7.9
PFO Pinyon Flats O 43.24 93 P P 09 58 32.3 +0.7
baz=312
PFO Pinyon Flats O 43.24 93 eP P 09 58 32.6 +1.0
comp=Z,9.3nm,1.0s
TPFO Pinon Flats 43.25 93 P P 09 58 32.3 +0.7
baz=312
KNB Kanab 43.26 86 eP P 09 58 33.5 +1.7
KNB pmax pmax
comp=Z,60nm,2.0s
KNB Kanab 43.26 86 eP P 09 58 33.5 +1.7
comp=Z,60nm,2.0s
BELC Belle Mtn. Jos 43.27 92 P P 09 58 32.5 +0.7
baz=312,SNR=6.5
109C Camp Elliot, M 43.33 94 P P 09 58 33.3 +1.1
baz=313
SRU San Rafael Swe 43.36 82 eP P 09 58 34.0 +1.4
SRU pmax pmax
comp=Z,15nm,0.7s
SRU San Rafael Swe 43.36 82 eP P 09 58 34.0 +1.4
comp=Z,15nm,0.7s
D26A Manning 43.58 68 P P 09 58 34.7 +0.6
baz=303
NEE2 Needles Airpor 43.61 90 P P 09 58 35.2 +0.8
baz=312
K22A Casper 43.66 76 P P 09 58 35.2 +0.3
baz=306,SNR=5.7
K22A Casper 43.66 76 eP P 09 58 35.5 +0.6
comp=Z,14nm,1.0s
IRM Iron Mountain 43.69 91 P P 09 58 36.1 +1.0
baz=312,SNR=8.7
BAR Barrett 43.74 94 eP P 09 58 37.1 +1.6
comp=Z,11nm,1.0s
MONP2 Monument Peak 43.75 94 P P 09 58 36.8 +1.0
baz=313,SNR=5.2
A28A Rude Farm, Bot 43.79 65 P P 09 58 36.6 +0.9
baz=302,SNR=15
BC3 Big Chuckawall 43.83 92 P P 09 58 36.9 +0.6
baz=312
W13A Hualapai Mount 43.84 89 eP P 09 58 37.5 +1.0
comp=Z,23nm,1.4s
B28A Dugan Ranch, T 43.99 65 P P 09 58 38.1 +0.8
baz=303,SNR=7.3
SWSC Sam W. Stewart 44.10 93 P P 09 58 39.2 +0.9
baz=313
IKP In-Ko-Pah, Jac 44.11 94 P P 09 58 39.6 +1.1
baz=313
KSRS Korea Array 44.12 275 P P 09 58 38.9 +0.5
comp=Z,2.3nm,1.0s,baz=46,slow=7.8,SNR=4.6
O20A White River Ci 44.13 80 P P 09 58 39.3 +0.5
baz=308,SNR=21
O20A White River Ci 44.13 80 eP P 09 58 39.4 +0.6
comp=Z,46nm,1.3s
KS15 Wonju Array Si 44.15 275 eP P 09 58 39.4 +0.7
PDMCI Parker Dam,Lak 44.21 90 P P 09 58 40.1 +0.9
baz=312,SNR=6.0
H25A Fruitdale 44.26 71 P P 09 58 39.9 +0.4
baz=305,SNR=7.8
RSSD Black Hills 44.29 72 P P 09 58 40.1 +0.1
baz=305
RSSD Black Hills 44.29 72 eP P 09 58 40.7 +0.7
RSSD pmax pmax
comp=Z,10.0nm,0.6s
RSSD Black Hills 44.29 72 eP P 09 58 40.7 +0.7
comp=Z,10nm,0.6s
Y12C Blythe 44.34 91 P P 09 58 41.2 +0.9
baz=312
Y12C Blythe 44.34 91 eP P 09 58 41.5 +1.2
comp=Z,19nm,1.1s
A29A Manning Farm, 44.36 64 P P 09 58 40.6 +0.3
baz=303,SNR=14
C28A Hausauer Farms 44.37 66 P P 09 58 41.4 +1.1
baz=304
B29A Wagenman Farm, 44.54 65 P P 09 58 42.1 +0.4
baz=303,SNR=6.1
D28A Regan 44.56 67 P P 09 58 42.8 +0.9
baz=304
PV09 Paradox Valley 44.59 82 eP P 09 58 43.6 +1.0
GLA Glamis 44.63 92 P P 09 58 43.4 +0.7
baz=313
GLA Glamis 44.63 92 eP P 09 58 44.1 +1.5
GLA pmax pmax
comp=Z,12nm,0.9s
GLA Glamis 44.63 92 eP P 09 58 44.1 +1.5
comp=Z,12nm,0.9s
PV10 Paradox Valley 44.73 82 eP P 09 58 45.3 +1.6
MDND Maddock 44.74 65 P P 09 58 44.1 +0.8
baz=304,SNR=7.3
MDND Maddock 44.74 65 eP P 09 58 44.7 +1.4
comp=Z,86nm,1.2s
A30A Hoffart Farm, 44.87 63 P P 09 58 44.7 +0.4
baz=303,SNR=6.6
N23A Red Feather La 45.06 77 P P 09 58 46.9 +0.6
baz=308,SNR=8.2
N23A Red Feather La 45.06 77 eP P 09 58 47.4 +1.2
comp=Z,21nm,1.2s
PHWY Pilot Hill 45.10 76 eP P 09 58 47.8 +1.1
comp=Z,12nm,1.5s
B30A Myrvik Farm, E 45.12 64 P P 09 58 46.9 +0.5
baz=304,SNR=11
WUAZ Wupatki 45.12 87 P P 09 58 47.9 +1.2
baz=311,SNR=14
WUAZ Wupatki 45.12 87 eP P 09 58 48.2 +1.5
comp=Z,10nm,0.6s
Y14A Wickenburg 45.16 90 eP P 09 58 47.9 +1.0
comp=Z,72nm,1.4s
PV01 Paradox Valley 45.17 82 eP P 09 58 48.0 +0.9
D29A Pettibone, Tap 45.18 66 P P 09 58 47.2 +0.3
baz=304
E29A Napoleon 45.44 67 P P 09 58 49.1 +0.2
baz=305
C30A Mose, Pekin 45.45 65 P P 09 58 49.3 +0.3
baz=304,SNR=6.4
ULM Lac du Bonnet 45.48 61 P P 09 58 49.0 -0.2
comp=Z,12nm,1.0s,baz=294,slow=8.2,SNR=11
ULM LR LR 10 20 06.1
comp=Z,150nm,18.2s,baz=310,slow=39
ULM Lac du Bonnet 45.48 61 eP P 09 58 49.7 +0.6
ULM pmax pmax
comp=Z,35nm,1.3s
ULM Lac du Bonnet 45.48 61 eP P 09 58 49.6 +0.6
comp=Z,35nm,1.3s
A31A Linda, St. Vin 45.49 63 P P 09 58 49.5 +0.3
baz=304
B31A Greenbush Farm 45.51 64 P P 09 58 49.9 +0.5
baz=304,SNR=12
F29A Eureka 45.75 68 P P 09 58 51.6 +0.3
baz=305
MVCO Mesa Verde 45.80 83 P P 09 58 52.6 +0.5
baz=310,SNR=8.0
MVCO Mesa Verde 45.80 83 eP P 09 58 53.0 +0.9
comp=Z,5.2nm,0.6s
X16A Lo Mia Camp, P 45.80 88 eP P 09 58 53.6 +1.5
comp=Z,6.6nm,0.9s
C31A Landman Farms, 45.82 65 P P 09 58 51.9 0.0
baz=304,SNR=7.3
A32A Rocking H Ranc 45.88 63 P P 09 58 52.5 +0.2
baz=304,SNR=6.2
ISCO Idaho Springs 45.93 78 P P 09 58 53.8 +0.7
baz=308
ISCO Idaho Springs 45.93 78 eP P 09 58 54.4 +1.2
ISCO pmax pmax
comp=Z,8.0nm,1.3s
ISCO Idaho Springs 45.93 78 eP P 09 58 54.4 +1.2
comp=Z,8.1nm,1.3s
G29A Hoven 46.06 69 P P 09 58 54.0 +0.2
baz=306
B32A Ashes, Strandq 46.15 63 P P 09 58 54.5 +0.1
baz=304,SNR=13
F30A Leola 46.21 67 P P 09 58 55.1 +0.2
baz=306
H29A Onida 46.23 70 P P 09 58 55.3 +0.2
baz=306
D31A Mcclaflin, Tow 46.25 65 P P 09 58 55.2 0.0
baz=305,SNR=5.9
W18A Petrified Fore 46.39 86 P P 09 58 57.7 +1.0
baz=312
E31A Nome 46.44 66 P P 09 58 56.5 -0.2
baz=305,SNR=7.6
A33A Warroad 46.47 62 P P 09 58 57.1 +0.2
baz=304,SNR=10.0
C32A Crookston 46.47 64 P P 09 58 57.1 +0.1
baz=305
S22A 4UR Ranch, Cre 46.48 81 P P 09 58 58.6 +1.1
baz=310,SNR=11
S22A 4UR Ranch, Cre 46.48 81 eP P 09 58 59.1 +1.6
comp=Z,6.6nm,0.9s
I29A Vivian Onida 46.53 70 P P 09 58 57.7 +0.2
baz=306
G30A Faulkton 46.55 68 P P 09 58 57.8 +0.2
baz=306,SNR=11
AGMN Agassiz Nation 46.57 63 P P 09 58 57.7 0.0
baz=305,SNR=12
AGMN Agassiz Nation 46.57 63 eP P 09 58 58.3 +0.5
comp=Z,29nm,1.0s
D32A Dogwood Acres, 46.59 65 P P 09 58 57.7 -0.2
baz=305
214A Organ Pipe Nat 46.62 92 P P 09 58 59.0 +0.7
baz=314,SNR=6.3
F31A Hecla 46.63 67 P P 09 58 58.3 +0.1
baz=306
X18A Snowflake 46.65 87 eP P 09 59 00.1 +1.3
comp=Z,4.9nm,0.8s
Q24A Divide 46.73 79 P P 09 59 00.1 +0.6
baz=309
B33A Robert and Kas 46.74 63 P P 09 58 59.0 0.0
baz=305,SNR=6.6
E32A Braaten, Kindr 46.88 66 P P 09 58 60.0 -0.2
baz=306
C33A Trail 46.93 64 P P 09 59 00.3 -0.2
baz=305
G31A Conde 47.03 68 P P 09 59 01.2 -0.2
baz=306
SUSD Miller 47.06 69 P P 09 59 01.9 +0.2
baz=307,SNR=6.1
I30A Oacoma 47.10 70 P P 09 59 01.9 -0.1
baz=307
B34A Aery, Baudette 47.13 62 P P 09 59 02.1 0.0
baz=305,SNR=9.1
D33A AnnSam, Waubun 47.24 64 P P 09 59 03.0 0.0
baz=306,SNR=16
F32A Veblen 47.27 66 P P 09 59 03.4 +0.2
baz=306
SDCO Great Sand Dun 47.29 80 P P 09 59 04.7 +0.8
baz=310,SNR=15
SDCO Great Sand Dun 47.29 80 eP P 09 59 05.1 +1.3
comp=Z,17nm,1.5s
H31A Wolsey 47.31 69 P P 09 59 03.7 +0.1
baz=307,SNR=17
OGNE Ogallala 47.37 75 P P 09 59 04.7 +0.5
baz=308
G32A Webster 47.41 67 P P 09 59 04.2 -0.1
baz=306,SNR=5.3
J30A Dallas 47.42 71 P P 09 59 04.8 +0.3
baz=307,SNR=13
C34A RKJ Ranch, Bem 47.47 63 P P 09 59 04.6 -0.1
baz=306
E33A Westby DABS, E 47.52 65 P P 09 59 05.1 -0.1
baz=306
I31A Royce, Wessing 47.55 69 P P 09 59 05.6 +0.2
baz=307,SNR=25
D34A Park Rapids 47.64 64 P P 09 59 06.0 -0.1
baz=306,SNR=20
B35A Bob, Littlefor 47.70 62 P P 09 59 06.6 0.0
baz=306,SNR=7.4
K30A Basset 47.74 71 P P 09 59 07.7 +0.7
baz=308,SNR=11
F33A 5 Mile Ranch, 47.75 66 P P 09 59 06.7 -0.3
baz=306
J31A Geddes 47.88 70 P P 09 59 08.3 +0.3
baz=308,SNR=8.8
H32A Carlson Farm, 47.90 68 P P 09 59 08.0 -0.1
baz=307,SNR=8.8
C35A Jirik Farms, M 47.95 63 P P 09 59 08.4 -0.1
baz=306,SNR=6.1
E34A Wadena 47.99 65 P P 09 59 08.5 -0.3
baz=306
G33A Ortonville 48.05 67 P P 09 59 09.1 -0.2
baz=307,SNR=5.6
I32A Karley and Nic 48.17 69 P P 09 59 10.0 -0.2
baz=307
H33A Prehn Over Nor 48.19 67 P P 09 59 10.1 -0.3
baz=307,SNR=8.7
KSCO Kaye Shedlock' 48.22 77 P P 09 59 11.8 +0.9
baz=310,SNR=6.3
KSCO Kaye Shedlock' 48.22 77 eP P 09 59 12.3 +1.4
comp=Z,23nm,1.0s
D35A Remer 48.27 63 P P 09 59 11.1 +0.2
baz=306,SNR=9.5
K31A O'Neill 48.27 71 P P 09 59 11.2 +0.2
baz=308
T25A Trinidad 48.34 80 P P 09 59 12.8 +0.9
baz=311,SNR=14
T25A Trinidad 48.34 80 eP P 09 59 13.0 +1.1
comp=Z,36nm,1.3s
J32A Parkston 48.34 69 P P 09 59 11.4 -0.1
baz=308,SNR=12
F34A Alexandria 48.36 65 P P 09 59 11.4 -0.3
baz=307,SNR=5.8
E35A Peuot Lakes 48.39 64 P P 09 59 11.9 0.0
baz=306,SNR=7.7
LAZ Ladron 48.47 85 eP P 09 59 14.6 +1.7
G34A Benson 48.48 66 P P 09 59 12.3 -0.3
baz=307
L31A Butterfield Fa 48.50 71 P P 09 59 13.2 +0.3
baz=308,SNR=6.6
ANMO Albuquerque 48.52 84 P P 09 59 13.7 +0.4
baz=312
ANMO Albuquerque 48.52 84 ceP P 09 59 13.4 +0.1
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO Albuquerque 48.52 84 eP P 09 59 14.3 +1.0
comp=Z,7.5nm,1.3s
I33A Coleman 48.54 68 P P 09 59 12.7 -0.4
baz=308
C36A Pine Crest Far 48.54 62 P P 09 59 12.9 -0.2
baz=306
D36A Goodland 48.70 63 P P 09 59 14.0 -0.3
baz=306
K32A Verdigre 48.71 70 P P 09 59 14.2 -0.2
baz=308,SNR=5.8
F35A Swanville 48.71 65 P P 09 59 14.4 0.0
baz=307,SNR=10
H34A Spellman Lake, 48.75 67 P P 09 59 14.4 -0.2
baz=307,SNR=5.4
ECSD EROS Data Cent 48.84 68 P P 09 59 15.0 -0.3
baz=308,SNR=25
ECSD EROS Data Cent 48.84 68 eP P 09 59 15.2 -0.2
comp=Z,14nm,0.6s
LPM Los Pinos Moun 48.84 85 eP P 09 59 17.2 +1.5
J33A Davis 48.89 69 P P 09 59 15.4 -0.4
baz=308
C37A Embarrass 48.91 62 P P 09 59 15.9 0.0
baz=306,SNR=6.6
M31A Lambtecht Ranc 48.93 72 P P 09 59 16.3 +0.1
baz=309
BNM Barren Site 48.95 85 eP P 09 59 18.2 +1.6
E36A McGregor 49.05 64 P P 09 59 16.9 0.0
baz=307,SNR=8.5
L32A Elgin 49.09 71 P P 09 59 17.6 +0.2
baz=309
D37A Cotton 49.12 62 P P 09 59 17.1 -0.4
baz=307
G35A Watkins 49.14 66 P P 09 59 17.6 -0.1
baz=307,SNR=5.2
EYMN Ely 49.16 61 P P 09 59 17.6 -0.2
baz=307
H35A Sunnyside Ranc 49.26 66 P P 09 59 18.3 -0.3
baz=308,SNR=8.2
N31A Bailey Ranch, 49.27 73 P P 09 59 19.2 +0.4
baz=309
F36A Milaca 49.29 64 P P 09 59 18.5 -0.3
baz=307,SNR=8.0
K33A Hardington 49.30 70 P P 09 59 19.1 +0.1
baz=308
121A Cookes Peak, D 49.33 87 P P 09 59 20.3 +0.8
baz=313,SNR=7.4
BGNE Belgrade 49.38 72 P P 09 59 19.8 +0.2
baz=309,SNR=6.4
BGNE Belgrade 49.38 72 eP P 09 59 20.2 +0.7
comp=Z,48nm,0.8s
C38A Sawbill Land. 49.41 61 P P 09 59 19.4 -0.4
baz=307
L33A Hoskins 49.42 70 P P 09 59 19.5 -0.4
baz=309
O31A Woolen Ranch, 49.48 74 P P 09 59 20.7 +0.4
baz=310
J34A George 49.49 68 P P 09 59 20.1 -0.2
baz=308,SNR=5.5
E37A Wrenshall 49.49 63 P P 09 59 20.3 0.0
baz=307
G36A St. Michael 49.55 65 P P 09 59 21.0 +0.2
baz=308
I35A Creekview Farm 49.69 67 P P 09 59 21.8 -0.1
baz=308
N32A Faulken Farm, 49.70 72 P P 09 59 22.0 0.0
baz=309
K34A Le Mars 49.78 69 P P 09 59 22.7 +0.1
baz=309,SNR=6.9
M33A Taylor Creek F 49.84 71 P P 09 59 23.0 -0.1
baz=309,SNR=8.8
H36A Jessenland, He 49.85 66 P P 09 59 23.5 +0.4
baz=308,SNR=12
J35A Milford 49.87 68 P P 09 59 23.1 -0.2
baz=308
O32A Brockman Farm, 50.03 73 P P 09 59 24.4 -0.1
baz=310
L34A Svendsen Farm, 50.06 70 P P 09 59 24.5 -0.2
baz=309,SNR=8.1
SPMN Marine on St. 50.08 65 P P 09 59 24.9 0.0
baz=308,SNR=6.0
SPMN Marine on St. 50.08 65 eP P 09 59 25.3 +0.5
comp=Z,13nm,0.6s
CBKS Cedar Bluff 50.08 75 P P 09 59 25.7 +0.7
baz=310
CBKS Cedar Bluff 50.08 75 eP P 09 59 26.1 +1.1
CBKS pmax pmax
comp=Z,23nm,0.8s
CBKS Cedar Bluff 50.08 75 eP P 09 59 26.1 +1.1
comp=Z,23nm,0.8s
I36A Fitzsimmons Fa 50.14 67 P P 09 59 25.1 -0.2
baz=308
M34A Aspy Farms, Fr 50.24 71 P P 09 59 25.9 -0.1
baz=309
P32A Huiting Farm, 50.24 74 P P 09 59 26.1 0.0
baz=310,SNR=6.3
K35A Storm Lake 50.25 69 P P 09 59 25.7 -0.5
baz=309,SNR=6.4
J36A Seneca 1, Swea 50.39 67 P P 09 59 26.9 -0.2
baz=309
H37A Dierke Farm, C 50.41 65 P P 09 59 27.7 +0.4
baz=308,SNR=5.7
L35A Bielow Farm, R 50.46 69 P P 09 59 27.2 -0.5
baz=309
I37A Lemond, Waseca 50.49 66 P P 09 59 28.3 +0.3
baz=309,SNR=14
O33A Hebron 50.55 73 P P 09 59 28.3 -0.2
baz=310,SNR=11
Q32A Meitler Ranch, 50.67 74 P P 09 59 29.7 +0.3
baz=310,SNR=13
N34A Lincoln 50.70 71 P P 09 59 29.3 -0.3
baz=310
K36A Gilmore City 50.76 68 P P 09 59 29.7 -0.2
baz=309,SNR=7.6
M35A Neola 50.78 70 P P 09 59 30.3 +0.2
baz=310
J37A Redenius Farm, 50.85 67 P P 09 59 30.5 -0.1
baz=309,SNR=10
P33A Williams Farm, 50.90 73 P P 09 59 31.1 0.0
baz=310
R32A Long Quarter, 50.95 75 P P 09 59 31.7 +0.2
baz=311
L36A Harm Buss Farm 50.97 69 P P 09 59 31.2 -0.3
baz=309
O34A Beatrice 51.01 72 P P 09 59 31.4 -0.5
baz=310,SNR=12
I38A Scanlan Farm, 51.08 66 P P 09 59 32.4 0.0
baz=309,SNR=7.4
Q33A Connelly Farm, 51.10 74 P P 09 59 32.6 +0.1
baz=311,SNR=12
K37A Belmond 51.14 68 P P 09 59 32.3 -0.5
baz=309,SNR=6.4
N35A Tabor 51.19 71 P P 09 59 33.6 +0.3
baz=310,SNR=6.7
M36A Felix, Anita 51.30 70 P P 09 59 34.1 0.0
baz=310
P34A Walnut Farm, R 51.34 73 P P 09 59 34.3 -0.1
baz=310
MNTX Cornudas Mount 51.38 86 P P 09 59 35.5 +0.7
baz=314,SNR=7.9
MNTX Cornudas Mount 51.38 86 eP P 09 59 36.1 +1.3
comp=Z,6.6nm,0.9s
O35A Humboldt 51.42 71 P P 09 59 34.6 -0.4
baz=310
MSTX Muleshoe 51.44 82 P P 09 59 35.7 +0.4
baz=313,SNR=7.8
MSTX Muleshoe 51.44 82 eP P 09 59 36.0 +0.7
comp=Z,20nm,1.2s
J38A Wedel Dairy, R 51.45 66 P P 09 59 35.2 +0.1
baz=309,SNR=5.1
L37A Phoenix Point, 51.48 68 P P 09 59 35.3 -0.1
baz=310,SNR=7.1
AMTX Amarillo 51.49 81 P P 09 59 36.0 +0.3
baz=312
AMTX Amarillo 51.49 81 eP P 09 59 36.4 +0.7
comp=Z,24nm,1.6s
SUMG Summit 51.49 16 eP P 09 59 36.2 +0.7
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 51.49 16 eP P 09 59 36.2 +0.7
comp=Z,6.5nm,0.9s
Q34A Chapman 51.68 73 P P 09 59 37.0 +0.1
baz=311
K38A Parkersburg 51.71 67 P P 09 59 36.8 -0.3
baz=310
KSU1 Kansas State U 51.76 73 P P 09 59 37.3 -0.2
baz=311
M37A Trindle Farm, 51.77 69 P P 09 59 37.8 +0.3
baz=310,SNR=11
HHC Hu-ho-hao-te 51.80 290 eP P 09 59 35.5 -2.4
HHC pP pP 09 59 48.0 -2.2
HHC sP sP 09 59 53.3 -2.0
HHC S S 10 06 50.0 -6.8
HHC PMZ
comp=Z,19nm,1.0s
HHC PMZ
comp=Z,360nm,7.4s
HHC LN
comp=Z,940nm,13.6s
HHC LE
comp=Z,520nm,13.6s
HHC LZ
comp=Z,920nm,13.6s
P35A Duane Minner, 51.83 72 P P 09 59 37.5 -0.5
baz=311,SNR=5.1
J39A Decorah 51.88 66 P P 09 59 37.8 -0.5
baz=310,SNR=27
R34A Isabella, Hill 51.90 74 P P 09 59 38.5 -0.1
baz=311,SNR=7.0
S33A Kaszmaul Farm, 51.91 75 P P 09 59 38.6 -0.1
baz=311
L38A Oak Wood Farm, 51.92 68 P P 09 59 38.5 -0.2
baz=310,SNR=12
SCIA State Center 51.93 68 eP P 09 59 39.4 +0.6
comp=Z,20nm,0.7s
N37A Lee Faris, Mou 52.09 70 P P 09 59 40.1 +0.2
baz=310,SNR=8.7
K39A Oelwein 52.17 67 P P 09 59 39.9 -0.6
baz=310,SNR=8.1
P36A Good Intent, A 52.25 72 P P 09 59 40.7 -0.4
baz=311,SNR=8.8
M38A Pleasantville 52.25 69 P P 09 59 41.1 0.0
baz=310,SNR=5.7
Q35A Mercer Eighty, 52.25 73 P P 09 59 40.5 -0.7
baz=311
S34A Willow Spring 52.38 75 P P 09 59 41.5 -0.6
baz=312
J40A Soldiers Grove 52.38 65 P P 09 59 41.4 -0.7

	baz=310									
L39A	**Vinton**	52.48	67	P		**P**		09 59 42.5	-0.3	
	baz=310,SNR=12									
R35A	**Emporia Munici**	52.51	74	P		**P**		09 59 42.8	-0.2	
	baz=311									
O37A	**Wolven Farm, M**	52.51	70	P		**P**		09 59 42.9	-0.2	
	baz=311,SNR=9.8									
Q36A	**Arnold C. Orve**	52.53	72	P		**P**		09 59 42.6	-0.6	
	baz=311									
K40A	**Colesburg**	52.60	66	P		**P**		09 59 43.1	-0.6	
	baz=310									
N38A	**Joes South For**	52.63	69	P		**P**		09 59 43.8	-0.2	
	baz=311,SNR=14									
P37A	**Lathrop**	52.77	71	P		**P**		09 59 44.5	-0.5	
	baz=311,SNR=16									
T34A	**McClaskey Farm**	52.78	75	P		**P**		09 59 44.9	-0.2	
	baz=312,SNR=8.2									
M39A	**Webster**	52.80	68	P		**P**		09 59 45.3	+0.1	
	baz=310,SNR=15									
J41A	**Loganville**	52.81	65	P		**P**		09 59 44.8	-0.5	
	baz=310,SNR=8.5									
S35A	**Otter Creek Ra**	52.86	74	P		**P**		09 59 45.3	-0.4	
	baz=312,SNR=7.8									
R36A	**Gordon, Harris**	52.92	73	P		**P**		09 59 45.8	-0.3	
	baz=312,SNR=8.3									
V33A	**Lossen Ranch,**	52.92	77	P		**P**		09 59 46.2	0.0	
	baz=312									
O38A	**Galt**	52.93	70	P		**P**		09 59 46.0	-0.2	
	baz=311									
U34A	**Anderson Ranch**	52.96	76	P		**P**		09 59 46.3	-0.2	
	baz=312,SNR=6.0									
U34A	**Anderson Ranch**	52.96	76	*eP*		**P**		09 59 46.5	0.0	
	comp=Z,29nm,1.1s									
L40A	**Anamosa**	52.97	67	P		**P**		09 59 45.9	-0.5	
	baz=310,SNR=8.2									
JFWS	**Jewell Farm**	52.97	65	*eP*		**P**		09 59 45.8	-0.6	
JFWS				pmax		pmax				
	comp=Z,13nm,0.8s									
JFWS	**Jewell Farm**	52.97	65	*eP*		**P**		09 59 45.8	-0.6	
	comp=Z,13nm,0.8s									
N39A	**Derby Farms, D**	53.00	69	P		**P**		09 59 46.5	-0.2	
	baz=311,SNR=23									
K41A	**Shullsburg**	53.13	66	P		**P**		09 59 47.2	-0.5	
	baz=310,SNR=9.4									
P38A	**Dawn**	53.22	71	P		**P**		09 59 47.7	-0.6	
	baz=311,SNR=14									
T35A	**Sooner Cattle**	53.25	75	P		**P**		09 59 48.2	-0.4	
	baz=312									
W33A	**Caddo, Fort Co**	53.26	78	P		**P**		09 59 48.8	+0.1	
	baz=313									
S36A	**Lake Cedric, C**	53.26	74	P		**P**		09 59 48.1	-0.6	
	baz=312									
R37A	**Teagarden Farm**	53.33	73	P		**P**		09 59 48.1	-1.0	
	baz=312									
WMOK	**Wichita Mounta**	53.35	79	P		**P**		09 59 49.5	+0.2	
	baz=313,SNR=6.7									
WMOK	**Wichita Mounta**	53.35	79	*eP*		**P**		09 59 50.0	+0.6	
WMOK				pmax		pmax				
	comp=Z,16nm,1.4s									
WMOK	**Wichita Mounta**	53.35	79	*eP*		**P**		09 59 50.0	+0.6	
	comp=Z,16nm,1.4s									
L41A	**Preston**	53.37	66	P		**P**		09 59 48.6	-0.7	
	baz=311,SNR=9.1									
V34A	**Guthrie**	53.37	77	P		**P**		09 59 49.3	-0.2	
	baz=312									
V34A	**Guthrie**	53.37	77	*eP*		**P**		09 59 49.9	+0.4	
	comp=Z,22nm,1.2s									
O39A	**Kirksville**	53.38	69	P		**P**		09 59 49.1	-0.4	
	baz=311,SNR=11									
T36A	**Boggs Farm, Ca**	53.53	75	P		**P**		09 59 50.1	-0.6	
	baz=312									
Q38A	**Cooks Store, C**	53.61	71	P		**P**		09 59 50.2	-1.0	
	baz=312,SNR=11									
W34A	**Bridge Creek,**	53.62	77	P		**P**		09 59 51.3	-0.1	
	baz=313									
X33A	**Lawton**	53.65	79	P		**P**		09 59 51.6	0.0	
	baz=313									
S37A	**Fort Scott**	53.69	73	P		**P**		09 59 51.1	-0.7	
	baz=312,SNR=14									
P39B	**Salisbury**	53.77	70	P		**P**		09 59 51.7	-0.6	
	baz=312,SNR=16									
V35A	**Meyer Ranch, C**	53.83	76	P		**P**		09 59 52.5	-0.4	
	baz=313									
O40A	**La Belle**	53.86	69	P		**P**		09 59 52.6	-0.4	
	baz=311,SNR=23									
Q39A	**Willow Grove F**	53.93	71	P		**P**		09 59 52.5	-1.0	
	baz=312,SNR=8.5									
Y33A	**Hilltop Ranch,**	53.94	79	P		**P**		09 59 53.5	-0.2	
	baz=313									
R38A	**Fenwick Farm,**	53.95	72	P		**P**		09 59 52.1	-1.5	
	baz=312,SNR=10									
X34A	**Smith Ranch, M**	54.02	78	P		**P**		09 59 54.5	+0.3	
	baz=313									
T37A	**Cheneyville 18**	54.06	74	P		**P**		09 59 53.8	-0.7	
	baz=312,SNR=15									
TX31	**Lajitas Ar. Si**	54.09	87	*eP*		**P**		09 59 55.5	+0.6	
LTX	**Lajitas**	54.09	87	*eP*		**P**		09 59 55.4	+0.5	
LTX	**Lajitas**	54.09	87	*eP*		**P**		09 59 55.4	+0.5	
TXAR	**Lajitas Array**	54.09	87	P		**P**		09 59 55.4	+0.5	
	comp=Z,8.2nm,0.8s,baz=299,slow=5.1,SNR=83									
TXAR				LR		LR		10 22 23.6		
	comp=Z,121nm,18.1s,baz=0.0,slow=35									
P40A	**Paris**	54.15	70	P		**P**		09 59 54.7	-0.4	
	baz=312,SNR=27									
W35A	**Tecumseh**	54.22	77	P		**P**		09 59 55.7	0.0	
	baz=313,SNR=5.4									
ABTX	**Abilene, Hawle**	54.27	81	P		**P**		09 59 56.0	-0.1	
	baz=314									
S38A	**Stockton**	54.32	73	P		**P**		09 59 55.2	-1.2	
	baz=312,SNR=17									
Z33A	**Whitaker Ranch**	54.35	80	P		**P**		09 59 56.5	-0.2	
	baz=314									
V36A	**Jenks**	54.35	76	P		**P**		09 59 56.4	-0.2	
	baz=313									
TUL1	**Leonard**	54.36	75	P		**P**		09 59 56.1	-0.6	
	baz=313									
TUL1	**Leonard**	54.36	75	*eP*		**P**		09 59 56.4	-0.2	
	comp=Z,12nm,0.9s									
R39A	**Chumby, Stover**	54.38	71	P		**P**		09 59 56.5	-0.3	
	baz=312									
U37A	**Salina**	54.43	75	P		**P**		09 59 56.7	-0.5	
	baz=313,SNR=6.9									
O41A	**Passleys Farm,**	54.43	68	P		**P**		09 59 56.6	-0.5	
	baz=312,SNR=10									
Q40A	**Laux Farm, Aux**	54.49	70	P		**P**		09 59 56.8	-0.8	
	baz=312,SNR=13									
T38A	**Diamond**	54.49	73	P		**P**		09 59 56.8	-0.8	
	baz=312,SNR=7.3									
Y34A	**Reagan Ranch,**	54.50	79	P		**P**		09 59 58.0	+0.3	
	baz=313,SNR=6.1									
W36A	**Wetumka**	54.62	76	P		**P**		09 59 58.4	-0.2	
	baz=313									
S39A	**Bolivar**	54.63	72	P		**P**		09 59 56.9	-1.7	
	baz=312,SNR=6.9									
X35A	**Drake**	54.67	78	P		**P**		09 59 58.9	-0.1	
	baz=313,SNR=5.1									
133A	**Hamilton Ranch**	54.72	81	P		**P**		09 59 59.6	+0.2	
	baz=314,SNR=5.9									
V37A	**Hulbert**	54.77	75	P		**P**		09 59 59.1	-0.5	
	baz=313,SNR=6.8									
O42A	**Bath**	54.84	68	P		**P**		09 59 59.5	-0.5	
	baz=312									
R40A	**Maddies Statio**	54.84	71	P		**P**		09 59 58.5	-1.7	
	baz=312,SNR=13									
X36A	**Centrahoma**	54.93	77	P		**P**		10 00 00.9	+0.1	
	baz=313									
Y35A	**Marietta**	54.97	78	P		**P**		10 00 01.8	+0.7	
	baz=314,SNR=6.4									
T39A	**Clever**	55.04	73	P		**P**		10 00 00.5	-1.2	
	baz=313,SNR=13									
HDIL	**Hopedale**	55.05	67	P		**P**		10 00 01.2	-0.4	
	baz=312,SNR=11									
HDIL	**Hopedale**	55.05	67	*eP*		**P**		10 00 01.5	-0.1	
	comp=Z,37nm,0.8s									
P42A	**Winchester**	55.09	69	P		**P**		10 00 01.3	-0.6	
	baz=312,SNR=9.2									
W37B	**Quinton**	55.10	76	P		**P**		10 00 02.3	+0.2	
	baz=313,SNR=6.9									
233A	**Rising Star**	55.14	81	P		**P**		10 00 02.4	-0.1	
	baz=314,SNR=7.3									
S40A	**Lebanon**	55.17	72	P		**P**		10 00 02.7	+0.2	
	baz=313									
HHAR	**Hobbs**	55.21	74	*eP*		**P**		10 00 02.3	-0.6	
	comp=Z,6.3nm,0.8s									
V38A	**Canehill**	55.22	75	P		**P**		10 00 02.3	-0.6	
	baz=313,SNR=10									
Z35A	**Perchaven, San**	55.23	79	P		**P**		10 00 02.7	-0.3	
	baz=314									
134A	**White-Moore Ra**	55.26	80	P		**P**		10 00 03.2	0.0	
	baz=314									
U39A	**Green Forest**	55.41	74	P		**P**		10 00 03.3	-1.0	
	baz=313,SNR=5.7									
Y36A	**Durant**	55.43	78	P		**P**		10 00 04.8	+0.3	
	baz=314,SNR=5.3									
Q42A	**Golden Eagle**	55.44	69	P		**P**		10 00 04.3	-0.1	
	baz=312,SNR=16									
T40A	**Mansfield**	55.46	72	P		**P**		10 00 03.2	-1.5	
	baz=313,SNR=5.3									
X37A	**Clayton**	55.51	76	P		**P**		10 00 05.3	+0.3	
	baz=314,SNR=6.6									
333A	**Richland Sprin**	55.57	82	P		**P**		10 00 05.3	-0.2	
	baz=315,SNR=6.8									
234A	**Clairette**	55.62	81	P		**P**		10 00 05.7	-0.2	
	baz=314									
S41A	**Jillco Farms,**	55.62	71	P		**P**		10 00 04.4	-1.4	
	baz=313,SNR=12									
JCT	**Junction City**	55.66	83	P		**P**		10 00 05.3	-0.9	
	baz=315									
JCT	**Junction City**	55.66	83	*eP*		**P**		10 00 06.0	-0.2	
JCT				pmax		pmax				
	comp=Z,7.0nm,0.7s									
JCT	**Junction City**	55.66	83	*eP*		**P**		10 00 06.0	-0.2	
	comp=Z,7.4nm,0.7s									
135A	**Vickery Place,**	55.67	80	P		**P**		10 00 05.1	-1.1	
	baz=314									
V39A	**Pettigrew**	55.69	74	P		**P**		10 00 05.4	-0.9	
	baz=313,SNR=5.5									
W38A	**Poteau**	55.69	75	P		**P**		10 00 06.3	0.0	
	baz=313,SNR=9.5									
Z36A	**Blue Ridge**	55.77	78	P		**P**		10 00 06.7	-0.2	
	baz=314									
Y37A	**Hugo**	55.77	77	P		**P**		10 00 06.7	-0.2	
	baz=314									
X38A	**Whitesboro**	55.78	76	P		**P**		10 00 06.2	-0.7	
	baz=314									
U40A	**Yellville**	55.80	73	P		**P**		10 00 05.9	-1.2	
	baz=313,SNR=6.8									
Q43A	**New Douglas**	55.90	69	P		**P**		10 00 07.4	-0.3	
	baz=313,SNR=13									
433A	**Art**	55.90	82	P		**P**		10 00 07.3	-0.6	
	baz=315									
334A	**Lometa**	56.02	81	P		**P**		10 00 08.7	0.0	
	baz=315,SNR=9.3									
WHTX	**Lake Whitney,**	56.04	80	P		**P**		10 00 09.0	+0.2	
	baz=314									
WHTX	**Lake Whitney,**	56.04	80	*eP*		**P**		10 00 09.3	+0.5	
	comp=Z,30nm,1.4s									
W39A	**Magazine**	56.04	75	P		**P**		10 00 08.5	-0.3	
	baz=314,SNR=7.9									
V40A	**Witts Springs**	56.20	74	P		**P**		10 00 09.0	-1.0	
	baz=313,SNR=12									
136A	**Ennis**	56.27	79	P		**P**		10 00 10.3	-0.2	
	baz=314									
Z37A	**Pogue Cattle C**	56.31	78	P		**P**		10 00 10.7	0.0	
	baz=314									
Q44A	**Meyer Farm, Va**	56.31	68	P		**P**		10 00 09.5	-1.2	
	baz=313									
X39A	**Fountain Ranch**	56.31	76	P		**P**		10 00 10.9	+0.1	
	baz=314,SNR=8.3									
VLDQ	**Val d'Or**	56.34	53	*eP*		**P**		10 00 09.9	-0.9	
	comp=Z,13nm,0.8s									
434A	**Burnet**	56.37	82	P		**P**		10 00 11.1	-0.2	
	baz=315									
SFIN	**Lafayette**	56.41	66	P		**P**		10 00 11.3	-0.1	
	baz=313,SNR=7.7									
SFIN	**Lafayette**	56.41	66	*eP*		**P**		10 00 11.5	+0.1	
	comp=Z,19nm,0.6s									
W40A	**Ferguson Farm,**	56.47	74	P		**P**		10 00 11.5	-0.3	
	baz=314,SNR=6.0									
SCHQ	**Schefferville**	56.59	42	P		**P**		10 00 13.2	+0.8	
	comp=Z,8.1nm,0.8s,baz=323,slow=7.6,SNR=8.8									
SCHQ				LR		LR		10 25 41.1		
	comp=Z,146nm,18.4s,baz=320,slow=37									
SCHQ	**Schefferville**	56.59	42	*eP*		**P**		10 00 13.0	+0.6	
	comp=Z,12nm,0.9s									
236A	**Katherine and**	56.59	79	P		**P**		10 00 13.1	+0.3	
	baz=315									
S43A	**Fulton Ridge,**	56.61	70	P		**P**		10 00 12.1	-0.7	
	baz=313,SNR=20									
V41A	**Mountainview**	56.61	73	P		**P**		10 00 11.7	-1.2	
	baz=314,SNR=11									
MIAR	**Mount Ida**	56.61	75	P		**P**		10 00 12.6	-0.3	
	baz=314,SNR=13									
MIAR	**Mount Ida**	56.61	75	*eP*		**P**		10 00 13.3	+0.4	
MIAR				pmax		pmax				
	comp=Z,16nm,0.9s									
MIAR	**Mount Ida**	56.61	75	*eP*		**P**		10 00 13.3	+0.4	
	comp=Z,16nm,0.9s									
Z38A	**Mt. Pleasant**	56.66	77	P		**P**		10 00 12.7	-0.6	
	baz=314									
Y39A	**Lockesburg**	56.72	76	P		**P**		10 00 12.9	-0.7	
	baz=314									
R44A	**Waltonville**	56.72	69	P		**P**		10 00 12.9	-0.7	
	baz=313,SNR=7.9									
U42A	**Revenden**	56.76	72	P		**P**		10 00 12.4	-1.4	
	baz=314									
534A	**Blanco**	56.79	83	P		**P**		10 00 13.8	-0.5	
	baz=315									
435B	**Jarll**	56.80	81	P		**P**		10 00 14.3	0.0	
	baz=315									
X201	**Greenbrier Sit**	56.82	74	*eP*		**P**		10 00 14.4	+0.1	
	comp=Z,16nm,1.3s									
336A	**Riesel**	56.83	80	P		**P**		10 00 14.3	-0.1	
	baz=315									
X301	**Greenbrier Sit**	56.84	74	*eP*		**P**		10 00 14.5	+0.1	
	comp=Z,8.4nm,0.9s									
WHAR	**Wooly Hollow**	56.87	74	*eP*		**P**		10 00 13.8	-0.9	
	comp=Z,18nm,1.4s									
PBMO	**Poplar Bluff**	56.94	71	*eP*		**P**		10 00 14.3	-0.8	
	comp=Z,41nm,1.7s									
OLIL	**Olney**	56.96	68	*eP*		**P**		10 00 15.2	0.0	
	comp=Z,35nm,0.6s									
W41B	**Gary Mavity, V**	56.97	74	P		**P**		10 00 14.5	-0.9	
	baz=314,SNR=5.8									
S44A	**Carbondale**	57.00	70	P		**P**		10 00 14.7	-0.8	
	baz=313,SNR=6.1									
138A	**Matatall Enter**	57.01	78	P		**P**		10 00 15.0	-0.7	
	baz=314									
237A	**Washetta, Mont**	57.03	79	P		**P**		10 00 15.2	-0.6	
	baz=315									
V42A	**Cord**	57.04	73	P		**P**		10 00 14.3	-1.6	
	baz=314									
X40A	**Basin Creek Fa**	57.09	75	P		**P**		10 00 15.9	-0.4	
	baz=314,SNR=5.2									
832A	**Faith Ranch, C**	57.11	85	P		**P**		10 00 16.4	-0.1	
	baz=315,SNR=7.4									
Y40A	**Okolona**	57.16	75	P		**P**		10 00 15.2	-1.5	
	baz=314									
733A	**Divot King Ran**	57.22	84	P		**P**		10 00 17.0	-0.2	
	baz=316									
X41A	**Kaden, Bauxite**	57.28	75	P		**P**		10 00 17.0	-0.6	
	baz=314									
S45A	**Carrier Mills**	57.40	69	P		**P**		10 00 17.9	-0.5	
	baz=314,SNR=7.0									
PARMO	**Parma**	57.41	71	*eP*		**P**		10 00 17.1	-1.4	
833A	**Chaparral WMA,**	57.44	85	P		**P**		10 00 18.7	0.0	
	baz=316									
WLAR	**White Oak Lake**	57.48	76	*eP*		**P**		10 00 19.5	+0.5	
	comp=Z,32nm,0.9s									
BLO	**Bloomington**	57.56	67	*eP*		**P**		10 00 19.4	-0.1	
BLO				pmax		pmax				
	comp=Z,19nm,1.0s									
BLO	**Bloomington**	57.56	67	*eP*		**P**		10 00 19.4	-0.1	
	comp=Z,18nm,1.0s									
734A	**La Parita Cree**	57.58	84	P		**P**		10 00 20.2	+0.4	
	baz=316									
635A	**Leesville**	57.67	83	P		**P**		10 00 20.8	+0.4	
	baz=316									
USIN	**University of**	57.73	68	*eP*		**P**		10 00 20.8	+0.1	
	comp=Z,58nm,0.6s									
933A	**Laredo**	58.02	85	P		**P**		10 00 23.0	+0.1	
	baz=316									
636A	**Smothers Creek**	58.05	82	P		**P**		10 00 23.3	+0.2	
	baz=316									
ARA0	**ARCESS Array S**	58.11	353	*eP*		**P**		10 00 21.2	-1.7	
ARCES	**ARCESS Array B**	58.11	353	P		**P**		10 00 21.2	-1.7	
	comp=Z,1.6nm,0.6s,baz=32,slow=7.1,SNR=6.0									
Y42A	**Garnett, Star**	58.17	75	P		**P**		10 00 23.6	-0.2	
	baz=314									
WCI	**Wyandotte Cave**	58.33	67	*eP*		**P**		10 00 25.0	0.0	
WCI				pmax		pmax				
	comp=Z,22nm,0.9s									
WCI	**Wyandotte Cave**	58.33	67	*eP*		**P**		10 00 25.0	0.0	
	comp=Z,22nm,0.9s									
736A	**Circle Diamond**	58.41	82	P		**P**		10 00 26.8	+1.2	
	baz=316									
835A	**Beeville**	58.42	83	P		**P**		10 00 26.8	+1.1	
	baz=316									
934A	**Benavides**	58.49	85	P		**P**		10 00 27.1	+0.9	
	baz=316									
340A	**Bronson**	58.60	78	P		**P**		10 00 27.5	+0.6	
	baz=315									
034A	**Hebbronville**	58.78	85	P		**P**		10 00 28.8	+0.6	
	baz=317									
W45A	**Hickory Valley**	58.79	72	P		**P**		10 00 28.4	+0.2	
	baz=314									
440A	**Kirbyville**	59.04	79	P		**P**		10 00 30.5	+0.6	
	baz=316									
TRQ	**Mont Tremblant**	59.08	53	*eP*		**P**		10 00 30.1	0.0	
341A	**Kurthwood**	59.10	78	P		**P**		10 00 30.6	+0.3	
	baz=315									
X45A	**UM Field Stati**	59.18	72	P		**P**		10 00 31.1	+0.3	
	baz=315									
143A	**Socs Landing,**	59.19	75	P		**P**		10 00 31.5	+0.5	
	baz=315									
ALLY	**Alegheny Colle**	59.38	61	*eP*		**P**		10 00 32.9	+0.8	
	comp=Z,45nm,0.6s									
GTA	**Gaotai**	59.44	296	*eP*		**P**		10 00 31.5	-1.3	
GTA				pP		pP		10 00 42.8	-2.6	
GTA				sP		sP		10 00 48.3	-2.1	
GTA				S		**S**		10 08 35.5	-3.2	
GTA				PMZ						
	comp=Z,4.0nm,1.9s									
GTA				PMZ						
	comp=Z,71nm,4.3s									
GTA				LN						
	comp=Z,370nm,16.2s									
GTA				LE						
	comp=Z,460nm,17.1s									
GTA				LZ						
	comp=Z,520nm,15.7s									
LZH	**Lanzhou**	59.47	291	*eP*		**P**		10 00 32.0	-1.1	
LZH				pP		pP		10 00 44.0	-1.7	
LZH				sP		sP		10 00 48.5	-2.2	
LZH				PP		**PP**		10 02 45.0	+0.6	
LZH				PMZ						
	comp=Z,34nm,1.4s									
LZH				PMZ						
	comp=Z,93nm,9.2s									
LZH				LN						
	comp=Z,410nm,16.5s									
LZH				LE						
	comp=Z,400nm,16.7s									
LZH				LZ						
	comp=Z,500nm,19.2s									
Y45A	**Yeager Farm, C**	59.48	73	P		**P**		10 00 33.5	+0.6	
	baz=315									
342A	**Flagon Creek P**	59.58	77	P		**P**		10 00 34.1	+0.5	
	baz=316									
035Z	**Hargill**	59.59	85	P		**P**		10 00 34.3	+0.6	
	baz=317									
243A	**Waterproof**	59.73	76	P		**P**		10 00 35.0	+0.3	
	baz=315									
M54A	**Oil Creek Stat**	59.73	60	P		**P**		10 00 34.8	+0.2	
	baz=315,SNR=5.4									
Y46A	**Houston**	59.87	73	P		**P**		10 00 35.4	-0.3	
	baz=315,SNR=8.3									
N54A	**Moraine State**	59.94	61	P		**P**		10 00 35.9	-0.2	
	baz=315,SNR=5.5									
244A	**Avery, Jackson**	60.09	75	P		**P**		10 00 37.4	+0.3	
	baz=316									
145A	**Houston Renfro**	60.14	74	P		**P**		10 00 37.4	-0.1	
	baz=315									
LMQ	**La Malbaie**	60.19	50	*eP*		**P**		10 00 38.1	+0.5	
Z46A	**Louisville**	60.31	73	P		**P**		10 00 39.0	+0.3	
	baz=315									
Y47A	**UCPARC, Winfie**	60.45	72	P		**P**		10 00 39.0	-0.6	
	baz=315,SNR=14									
344A	**Westbrook Farm**	60.48	76	P		**P**		10 00 40.3	+0.5	
	baz=316									
146A	**Union**	60.64	74	P		**P**		10 00 40.9	0.0	
	baz=316									
SWET	**Sewanee**	60.64	69	*eP*		**P**		10 00 40.4	-0.5	
	comp=Z,14nm,1.7s									
Z47A	**Carrollton**	60.82	73	P		**P**		10 00 41.5	-0.6	
	baz=316,SNR=7.6									
NCB	**Newcomb**	60.84	55	*eP*		**P**		10 00 42.8	+0.6	
	comp=Z,0.3nm,1.7s									
Z48A	**Northport**	61.00	72	P		**P**		10 00 42.5	-0.8	
	baz=316,SNR=8.9									
345A	**Thompson Farm,**	61.00	75	P		**P**		10 00 43.5	+0.2	
	baz=316									
TZTN	**Tazewell**	61.07	67	*eP*		**P**		10 00 44.0	+0.2	
	comp=Z,11nm,0.8s									
147A	**Livingston**	61.08	73	P		**P**		10 00 43.4	-0.5	
	baz=316									
544A	**White Castle**	61.18	77	P		**P**		10 00 45.4	+0.8	
	baz=316									
BINY	**Binghamton**	61.19	58	*eP*		**P**		10 00 45.5	+0.9	
	comp=Z,70nm,1.6s									
O56A	**Blue Knob Stat**	61.20	61	P		**P**		10 00 44.6	-0.1	
	baz=315,SNR=5.0									
445A	**Amite**	61.23	76	P		**P**		10 00 45.6	+0.7	
	baz=316									
CPCT	**Cooper Cave**	61.29	68	*eP*		**P**		10 00 44.9	-0.4	
	comp=Z,3.4nm,0.5s									
SSPA	**Standing Stone**	61.30	60	*eP*		**P**		10 00 46.0	+0.

	comp=Z,35nm,1.5s								
HRV	**Adam Dziewonsk**	**63.24**	**55**	*e*P		**P**		**10 00 59.2**	**+1.0**
	comp=Z,35nm,1.5s								
KMSC	**Kings Mountain**	**63.33**	**67**	P		**P**		**10 00 59.0**	**0.0**
	baz=316,SNR=8.1								
KMSC	**Kings Mountain**	**63.33**	**67**	*e*P		**P**		**10 00 59.2**	**+0.3**
	comp=Z,23nm,0.8s								
GOGA	**Godfrey**	**63.36**	**69**	*e*P		**P**		**10 00 58.8**	**-0.4**
GOGA				pmax		pmax			
	comp=Z,16nm,0.9s								
GOGA	**Godfrey**	**63.36**	**69**	*e*P		**P**		**10 00 58.8**	**-0.4**
	comp=Z,16nm,0.9s								
WES	**Weston**	**63.45**	**55**	*e*P		**P**		**10 01 00.4**	**+0.8**
WES	**Weston**	**63.45**	**55**	*e*P		**P**		**10 01 00.4**	**+0.8**
GGN	**Saint George**	**63.62**	**50**	*e*P		**P**		**10 01 01.3**	**+0.7**
	comp=Z,87nm,1.8s								
EMMW	**East Machias**	**63.63**	**51**	*e*P		**P**		**10 01 01.5**	**+0.7**
	comp=Z,23nm,0.8s								
BRYW	**Bryant College**	**63.68**	**55**	*e*P		**P**		**10 01 02.1**	**+0.9**
	comp=Z,18nm,0.7s								
JSC	**Jenkinsville**	**63.99**	**67**	*e*P		**P**		**10 01 03.9**	**+0.6**
JSC				pmax		pmax			
	comp=Z,17nm,0.9s								
JSC	**Jenkinsville**	**63.99**	**67**	*e*P		**P**		**10 01 03.9**	**+0.6**
	comp=Z,17nm,0.9s								
LMN	**Caledonia Moun**	**64.02**	**48**	*e*P		**P**		**10 01 03.9**	**+0.6**
	comp=Z,32nm,0.8s								
DRLN	**Deer Lake**	**64.58**	**41**	*e*P		**P**		**10 01 07.8**	**+0.9**
	comp=Z,22nm,0.8s								
GYA	**Guiyang**	**64.70**	**281**	P		**P**		**10 01 06.8**	**-1.4**
GYA				pP		pP		10 01 19.5	-1.4
GYA				PP		**PP**		**10 03 31.0**	**+0.4**
GYA				S		**S**		**10 09 41.3**	**-4.0**
GYA				sS		sS		10 10 01.0	-5.4
GYA				ScS		**SKSac**		**10 10 54.5**	**-4.7**
GYA				SS		**SS**		**10 13 52.0**	**-4.3**
GYA				PMZ					
	comp=Z,20nm,1.0s								
GYA				PMZ					
	comp=Z,120nm,5.8s								
GYA				LN					
	comp=Z,450nm,20.4s								
GYA				LE					
	comp=Z,420nm,22.2s								
GYA				LZ					
	comp=Z,440nm,20.6s								
FIA0	**FINESS Array S**	**66.01**	**351**	*e*P		**P**		**10 01 15.2**	**-0.8**
FIA0	**FINESS Array S**	**66.01**	**351**	*e*P		**P**		**10 01 15.2**	**-0.8**
FINES	**FINESS Array B**	**66.01**	**351**	P		**P**		**10 01 15.2**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=14,slow=12,SNR=7.4								
NB2	**NORSAR Subarra**	**67.26**	**359**	P		**P**		**10 01 23.8**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=4.0,slow=6.5								
NB200	**NORSAR Array S**	**67.26**	**359**	*e*P		**P**		**10 01 24.2**	**+0.1**
NOA	**NORSAR Array B**	**67.26**	**359**	P		**P**		**10 01 24.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=3.0,slow=6.4,SNR=7.9								
KMI	**Kunming**	**68.06**	**283**	P		**P**		**10 01 28.8**	**-1.0**
KMI				PMZ					
	comp=Z,11nm,0.7s								
KMI				PMZ					
	comp=Z,150nm,4.5s								
KMI				LN					
	comp=Z,500nm,12.9s								
KMI				LE					
	comp=Z,350nm,14.1s								
KMI				LZ					
	comp=Z,530nm,14.7s								
KSH	**Kashi**	**71.61**	**311**	P		**P**		**10 01 52.0**	**+0.6**
KSH				pP		pP		10 02 04.5	+0.3
KSH				PcP		**PcP**		**10 02 11.8**	**+1.4**
KSH				PP		**PP**		**10 04 34.5**	**+4.4**
KSH				S		**S**		**10 11 06.3**	**-1.1**
KSH				SKS		**SKSac**		**10 11 46.5**	**-4.7**
KSH				SS		**SS**		**10 15 43.8**	**+1.5**
KSH				PMZ					
	comp=Z,6.0nm,0.7s								
KSH				PMZ					
	comp=Z,230nm,5.5s								
KSH				LN					
	comp=Z,360nm,11.7s								
KSH				LE					
	comp=Z,330nm,12.6s								
KSH				LZ					
	comp=Z,340nm,14.5s								
CMAR	**Chiang Mai Arr**	**75.39**	**281**	P		**P**		**10 02 13.8**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=28,slow=6.5,SNR=6.2								
AKASG	**Malin Array Be**	**76.15**	**347**	P		**P**		**10 02 16.1**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=19,slow=6.0,SNR=3.0								
CLL	**Collm**	**76.97**	**357**	*e*P		**P**		**10 02 24.0**	**+1.9**
CLL	**Collm**	**76.97**	**357**	*e*P		**P**		**10 02 24.0**	**+1.9**
KECS	**Kecovo**	**79.34**	**352**	*e*P		**P**		**10 02 30.8**	**-4.5**
KECS				*e*				10 02 44.8	
GERES	**GERESS Array B**	**79.41**	**356**	P		**P**		**10 02 35.6**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=5.4,slow=5.6,SNR=3.5								
ESDC	**Sonseca Array**	**88.03**	**10**	P		**P**		**10 03 19.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=325,slow=4.9,SNR=4.5								
AS31	**Alice Springs**	**89.16**	**228**	*e*P		**P**		**10 03 25.4**	**0.0**
	comp=Z,2.7nm,0.6s								
ASAR	**Alice Springs**	**89.17**	**228**	P		**P**		**10 03 25.4**	**0.0**
	comp=Z,3.2nm,0.5s,baz=24,slow=5.1,SNR=23								
GRMC	**Gramalote, San**	**89.31**	**78**	*e*P		**P**		**10 03 26.0**	**-0.5**
CBRI	**Barrientos, No**	**89.32**	**78**	*e*P		**P**		**10 03 26.0**	**-0.5**
BTLC	**Betulia, Santa**	**89.66**	**79**	*e*P		**P**		**10 03 28.0**	**-0.2**
NORC	**Norcasia**	**89.75**	**81**	*e*P		**P**		**10 03 27.9**	**-0.5**
BARC	**Barichara**	**89.97**	**79**	*e*P		**P**		**10 03 28.8**	**-0.8**
TOLC	**Tolima**	**90.24**	**82**	*e*P		**P**		**10 03 31.4**	**+0.3**
RUSC	**La Rusia**	**90.58**	**80**	*e*P		**P**		**10 03 32.1**	**-0.7**
RUSC	**La Rusia**	**90.58**	**80**	*e*P		**P**		**10 03 33.4**	**+0.5**
	comp=Z,5.2nm,1.0s								
OTAV	**Otavalo**	**91.72**	**87**	*e*P		**P**		**10 03 38.1**	**+0.1**
CPUP	**Villa Florida**	**125.04**	**89**	PKP		**PKPdf**		**10 09 30.0**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=279,slow=1.9,SNR=5.8								
QSPA	**South Pole Qui**	**141.79**	**180**	*e*PKPpre		PKPpre		10 09 55.7	
TSUM	**Tsumeb**	**146.47**	**344**	*e*PKPdf		**PKPab**		**10 10 11.8**	**-0.2**
MAW	**Mawson**	**149.78**	**218**	PKPbc		**PKPbc**		**10 10 18.6**	**+0.5**
	comp=Z,7.3nm,0.9s,baz=116,slow=3.8,SNR=15								
LBTB	**Lobatse**	**150.04**	**328**	*e*PKP2		**PKPbc**		**10 10 21.4**	**+1.2**
LBTB	**Lobatse**	**150.04**	**328**	*e*PKPbc		**PKPbc**		**10 10 21.4**	**+1.2**

*ISCJB **28** 09:50:43.6±0.8,20°.5S±0°.1×177°.7W±0°.1,h300km,mb4.1/5, Error ellipse: s-maj=24.7km s-min=9.4km az=139.3*
*IDC **28** 09:50:45.7±2.4,20°.56S×177°.71W,h309km±26km,mb3.8/5, mb1 3.9/8,mb1mx3.5/48,mbtmp4.6/8,Error ellipse: s-maj=28.1km s-min=17.4km az=137.0*

ISC 28 09:50:44.9±0.9,20°.5S±0°.2×177°.6W±0°.1,h300km,n17, σ1§47/17,mb4.2/5,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.58**	**42**	P	**Pn**	**09 52 47.6**	**+1.9**
	12nm,0.3s,baz=153,slow=2.9,SNR=14						
AFI				S	**S**	**09 54 19.7**	**-4.2**
	21nm,0.3s,baz=253,slow=23,SNR=8.5						
DZM	**Mont Dzumac**	**14.93**	**261**	P	**Pn**	**09 54 02.2**	**-0.4**
	1.7nm,0.3s,baz=82,slow=19,SNR=12						
URZ	**Urewera**	**18.32**	**193**	P	**P**	**09 54 36.7**	**-1.2**
	3.0nm,0.3s,baz=7.1,slow=7.0,SNR=18						
CTA	**Charters Tower**	**33.83**	**264**	P	**P**	**09 56 59.5**	**-0.3**
	35nm,1.2s,baz=76,slow=4.2,SNR=5.7						
ASAR	**Alice Springs**	**44.86**	**257**	P	**P**	**09 58 29.4**	**-1.0**
	10nm,0.8s,baz=94,slow=8.8,SNR=8.1						
MJAR	**Matsushiro Arr**	**70.37**	**323**	P	**P**	**10 01 26.3**	**-0.4**
	2.6nm,0.5s,baz=158,slow=6.5,SNR=8.8						
USRK	**Ussuriysk Ar.**	**79.11**	**326**	P	**P**	**10 02 18.0**	**+1.7**
	2.6nm,0.8s,baz=161,slow=1.7,SNR=4.3						
TXAR	**Lajitas Array**	**86.74**	**57**	P	**P**	**10 02 57.4**	**+1.6**
	0.3nm,0.6s,baz=247,slow=6.5,SNR=3.1						
AKASG	**Malin Array Be**	**143.13**	**331**	PKhKP	PKPpre	10 09 38.6	
	1.5nm,0.5s,baz=44,slow=4.4,SNR=7.9						
BRTR	**Keskin Array B**	**147.05**	**313**	PKPbc	**PKPdf**	**10 09 50.5**	**+0.1**
	1.0nm,0.6s,baz=114,slow=3.1,SNR=4.0						
CLL	**Collm**	**148.09**	**347**	↑*i*P	**PKPbc**	**10 09 54.8**	**-0.2**
	comp=Z,9.0nm,0.7s						
DPC	**Dobruska-Polom**	**148.18**	**343**	*e*PKP	**PKPbc**	**10 09 55.6**	**+0.2**
BRG	**Berggiesshubel**	**148.29**	**346**	*e*P	**PKPbc**	**10 09 55.5**	**-0.1**
	comp=Z,4.5nm,0.8s						
PRU	**Pruhonice**	**148.97**	**345**	*e*PKP	**PKPbc**	**10 09 57.3**	**0.0**
GOPC	**GO Pecny, Ondr**	**148.98**	**344**	*e*PKP	**PKPbc**	**10 09 57.4**	**0.0**
KHC	**Kasperske Hory**	**150.00**	**345**	*e*PKP	**PKPbc**	**10 09 59.9**	**0.0**
KHC				*ex*	x	10 10 04.2	
GERES	**GERESS Array B**	**150.24**	**345**	PKPbc	**PKPbc**	**10 10 00.1**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=38,slow=2.4,SNR=11						

JMA 28 09:55:13.2±0.4,36°.99N×143°.75E,h40km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.33**	**280**	S	Sn	09 56 17.7	+1.3
ONAJ	**Iwakimizuishiy**	**2.36**	**274**	S	Sn	09 56 18.5	+1.2
JIO	**Ouri**	**2.40**	**308**	*e*S	Sn	09 56 19.5	+1.4
JMM	**Marumori**	**2.51**	**291**	*e*S	Sn	09 56 23.2	+2.3
JFT	**Otama**	**2.77**	**282**	S	Sn	09 56 30.1	+2.7
JMK	**Ichinoseki**	**2.80**	**315**	*e*S	Sn	09 56 30.5	+2.6
JOU	**Okura**	**2.81**	**300**	*e*S	Sn	09 56 30.9	+2.7
JOM	**Ohasama**	**3.15**	**323**	S	Sn	09 56 37.9	+1.4
JYK	**Kaneyama**	**3.30**	**307**	*e*S	Sn	09 56 43.2	+2.9
JRG	**Rokugo**	**3.44**	**315**	*e*S	Sn	09 56 46.5	+2.9
JAG	**Ashikaga**	**3.50**	**262**	P	Pn	09 56 06.5	+1.4
JAG				*e*S	Sn	09 56 45.6	+0.4
JRY	**Ryogami san**	**4.03**	**257**	P	Pn	09 56 13.9	+1.6
JRY				*e*S	Sn	09 56 58.2	-0.1
JOD2	**Odawara 2**	**4.15**	**247**	S	Sn	09 57 00.8	-0.5
JTM	**Tenmabayashi**	**4.33**	**332**	*e*S	Sn	09 57 06.0	+0.3
MAT	**Matsushiro**	**4.47**	**266**	P	Pn	09 56 21.3	+2.8
JOT	**Ohata**	**4.86**	**335**	P	Pn	09 56 25.0	+1.2
JKB	**Kayabe**	**5.32**	**338**	P	Pn	09 56 31.9	+1.8
JCH	**Churui**	**5.62**	**357**	P	Pn	09 56 34.3	0.0

*IDC **28** 09:58:12.1±2.3,37°.01S×179°.70W,h0km,mb4.5/2, mb1 4.8/3,mb1mx4.1/28,mbtmp4.5/3,ML4.4/1,Error ellipse: s-maj=93.4km s-min=36.5km az=158.0*
*NEIC **28** 09:58:12.8,37°.52S×179°.27W,h22km,ML4.3(WEL),After WEL.*
*WEL **28** 09:58:14.0±0.4,37°.51S×179°.30W,h33km,ML4.3/21, Error ellipse: s-maj=3.7km s-min=2.6km az=90.0*

ISC 28 09:58:14.8±3.2,37°.69S±0°.05×179°.45W±0°.06, h31km±24km,n141,σ0§80/141,5C-4D,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.70**	**265**	PN	**Pn**	**09 59 42.6**	**+0.3**
WMGZ				SN	**Sn**	**09 59 04.4**	**+1.4**
WMGZ	**Waiomatatini S**	**1.70**	**265**	Pn	**Pn**	**09 58 42.6**	**+0.3**
WMGZ				Sn	**Sn**	**09 59 04.4**	**+1.4**
MXZ	**Matakaoa Point**	**1.79**	**273**	PN	**Pn**	**09 58 43.1**	**-0.5**
MXZ				SN	**Sn**	**09 59 04.7**	**-0.5**
MXZ				AML	AML	09 59 05.2	
MXZ				AML	AML	09 59 05.2	
MXZ				AML	AML	09 59 05.5	
MXZ	**Matakaoa Point**	**1.79**	**273**	Pn	**Pn**	**09 58 43.1**	**-0.5**
MXZ				Sn	**Sn**	**09 59 04.7**	**-0.5**
PUZ	**Puketiti**	**1.86**	**257**	PN	**Pn**	**09 58 44.9**	**+0.4**
PUZ				AML	AML	09 59 09.6	
PUZ				AML	AML	09 59 10.8	
PUZ	**Puketiti**	**1.86**	**257**	Pn	**Pn**	**09 58 44.9**	**+0.4**
CNGZ	**Carnagh Statio**	**2.02**	**246**	PN	**Pn**	**09 58 47.9**	**+1.3**
CNGZ	**Carnagh Statio**	**2.02**	**246**	Pn	**Pn**	**09 58 48.0**	**+1.3**
CNGZ				Sn	**Sn**	**09 59 11.0**	**+0.2**
TWGZ	**Tauwhareparae**	**2.09**	**256**	PN	**Pn**	**09 58 48.5**	**+0.7**
TWGZ				SN	**Sn**	**09 59 14.9**	**+2.2**
TWGZ	**Tauwhareparae**	**2.09**	**256**	Pn	**Pn**	**09 58 48.5**	**+0.7**
TWGZ				Sn	**Sn**	**09 59 14.9**	**+2.2**
HAZ	**Te Kaha**	**2.20**	**267**	PN	**Pn**	**09 58 49.4**	**+0.3**
TKGZ	**Te Karaka**	**2.26**	**250**	⇓PN	**Pn**	**09 58 50.9**	**+0.9**
TKGZ	**Te Karaka**	**2.26**	**250**	Pn	**Pn**	**09 58 51.0**	**+0.9**
PRGZ	**Paritu Road**	**2.44**	**239**	PN	**Pn**	**09 58 53.5**	**+1.0**
PRGZ	**Paritu Road**	**2.44**	**239**	Pn	**Pn**	**09 58 53.5**	**+1.0**
MWZ	**Matawai**	**2.48**	**254**	⇓PN	**Pn**	**09 58 53.3**	**+0.2**
MWZ				AML	AML	09 59 24.3	
MWZ				AML	AML	09 59 24.3	
MWZ				AML	AML	09 59 24.7	
MWZ				AML	AML	09 59 25.1	
MWZ	**Matawai**	**2.48**	**254**	Pn	**Pn**	**09 58 53.3**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.54**	**234**	⇑PN	**Pn**	**09 58 54.9**	**+1.0**
MHGZ	**Mahia Peninsul**	**2.54**	**234**	Pn	**Pn**	**09 58 54.9**	**+1.0**
RAGZ	**Rawiri**	**2.60**	**251**	PN	**Pn**	**09 58 55.4**	**+0.6**
RAGZ	**Rawiri**	**2.60**	**251**	Pn	**Pn**	**09 58 55.4**	**+0.6**
KNZ	**Kokohu**	**2.63**	**239**	PN	**Pn**	**09 58 55.6**	**+0.6**
KNZ				AML	AML	09 59 31.3	
KNZ				AML	AML	09 59 35.0	
KNZ	**Kokohu**	**2.63**	**239**	Pn	**Pn**	**09 58 55.6**	**+0.6**
SNGZ	**Shannon Statio**	**2.76**	**246**	⇑PN	**Pn**	**09 58 57.7**	**+0.8**
SNGZ				SN	**Sn**	**09 59 28.3**	**-0.8**
SNGZ	**Shannon Statio**	**2.76**	**246**	Pn	**Pn**	**09 58 57.7**	**+0.8**
SNGZ				Sn	**Sn**	**09 59 28.3**	**-0.8**
URZ	**Urewera**	**2.78**	**257**	Pn	**Pn**	**09 58 57.7**	**+0.6**
	61nm,0.3s,baz=87,slow=9.2,SNR=338						
URZ				Sn	**Sn**	**09 59 30.1**	**+0.5**
	124nm,0.3s,baz=134,slow=22,SNR=50						
URZ	**Urewera**	**2.78**	**257**	PN	**Pn**	**09 58 58.1**	**+0.9**
URZ				AML	AML	09 59 31.7	
URZ				AML	AML	09 59 32.2	
URZ	**Urewera**	**2.78**	**257**	Pn	**Pn**	**09 58 58.1**	**+0.9**
URZ				Sn	**Sn**	**09 59 30.1**	**+0.5**
WHHZ	**Waihua**	**2.96**	**241**	PN	**Pn**	**09 59 00.5**	**+1.0**
WHHZ				SN	**Sn**	**09 59 36.1**	**+2.2**
RTZ	**Ruatahuna**	**2.97**	**251**	PN	**Pn**	**09 59 01.1**	**+1.3**
RAHZ	**Arahi**	**2.99**	**245**	PN	**Pn**	**09 59 01.3**	**+1.2**
RAHZ				SN	**Sn**	**09 59 37.5**	**+2.6**
RAHZ	**Arahi**	**2.99**	**245**	Pn	**Pn**	**09 59 01.3**	**+1.2**
EDRZ	**Edgecumbe**	**3.05**	**261**	PN	**Pn**	**09 59 01.6**	**+0.7**
EDRZ				AML	AML	09 59 41.1	
EDRZ				AML	AML	09 59 48.5	
EDRZ	**Edgecumbe**	**3.05**	**261**	Pn	**Pn**	**09 59 01.6**	**+0.7**
MARZ	**Manawahe**	**3.09**	**263**	PN	**Pn**	**09 59 01.8**	**+0.3**
MARZ	**Manawahe**	**3.09**	**263**	Pn	**Pn**	**09 59 01.8**	**+0.3**
OPRZ	**Ohinepanea**	**3.17**	**266**	PN	**Pn**	**09 59 02.8**	**+0.2**
OPRZ	**Ohinepanea**	**3.17**	**266**	Pn	**Pn**	**09 59 02.8**	**+0.2**
ARHZ	**Aropaoanui**	**3.21**	**240**	PN	**Pn**	**09 59 03.9**	**+0.9**
ARHZ	**Aropaoanui**	**3.21**	**240**	Pn	**Pn**	**09 59 03.9**	**+0.9**
TARZ	**Mount Tarawera**	**3.25**	**259**	PN	**Pn**	**09 59 04.3**	**+0.7**
TARZ	**Mount Tarawera**	**3.25**	**259**	Pn	**Pn**	**09 59 04.3**	**+0.7**
RRRZ	**Republican Roa**	**3.26**	**257**	PN	**Pn**	**09 59 04.2**	**+0.5**
RRRZ	**Republican Roa**	**3.26**	**257**	Pn	**Pn**	**09 59 04.2**	**+0.5**
NMHZ	**Naumai**	**3.26**	**243**	PN	**Pn**	**09 59 04.8**	**+0.9**
NMHZ	**Naumai**	**3.26**	**243**	Pn	**Pn**	**09 59 04.8**	**+0.9**
CKHZ	**Cape Kidnapper**	**3.36**	**233**	PN	**Pn**	**09 59 05.9**	**+0.8**
CKHZ	**Cape Kidnapper**	**3.36**	**233**	Pn	**Pn**	**09 59 05.9**	**+0.8**
HLRZ	**Highlands Stat**	**3.37**	**259**	PN	**Pn**	**09 59 05.7**	**+0.4**
PRRZ	**Plateau Road**	**3.38**	**255**	⇑PN	**Pn**	**09 59 05.9**	**+0.5**
PRRZ	**Plateau Road**	**3.38**	**255**	Pn	**Pn**	**09 59 05.9**	**+0.5**
KARZ	**Kaharoa**	**3.43**	**263**	PN	**Pn**	**09 59 06.2**	**+0.1**
KARZ	**Kaharoa**	**3.43**	**263**	Pn	**Pn**	**09 59 06.2**	**+0.1**
ALRZ	**Allen Road**	**3.43**	**254**	PN	**Pn**	**09 59 06.8**	**+0.6**
ALRZ	**Allen Road**	**3.43**	**254**	Pn	**Pn**	**09 59 06.8**	**+0.6**
MRHZ	**Matea Rd**	**3.45**	**249**	PN	**Pn**	**09 59 07.2**	**+0.7**
HSRZ	**Hossack Road**	**3.46**	**258**	PN	**Pn**	**09 59 07.1**	**+0.8**
MCHZ	**McNeill Hill**	**3.50**	**239**	PN	**Pn**	**09 59 07.8**	**+0.8**
MCHZ	**McNeill Hill**	**3.50**	**239**	Pn	**Pn**	**09 59 07.8**	**+0.8**
BKZ	**Black Stump Fm**	**3.52**	**244**	⇓PN	**Pn**	**09 59 07.9**	**+0.6**
BKZ				AML	AML	09 59 53.4	
BKZ				AML	AML	09 59 54.2	
BKZ	**Black Stump Fm**	**3.52**	**244**	Pn	**Pn**	**09 59 07.9**	**+0.6**
KAHZ	**Kahuranaki**	**3.56**	**233**	PN	**Pn**	**09 59 08.3**	**+0.4**
KAHZ	**Kahuranaki**	**3.56**	**233**	Pn	**Pn**	**09 59 08.3**	**+0.4**
WPRZ	**Whakapapatarin**	**3.56**	**255**	PN	**Pn**	**09 59 08.8**	**+0.8**
WPRZ	**Whakapapatarin**	**3.56**	**255**	Pn	**Pn**	**09 59 08.8**	**+0.8**
KWHZ	**Kaweka Forest**	**3.67**	**241**	PN	**Pn**	**09 59 09.9**	**+0.4**
PXZ	**Pawanui**	**3.71**	**230**	PN	**Pn**	**09 59 09.6**	**-0.4**
PXZ				AML	AML	10 00 02.6	
PXZ				AML	AML	10 00 02.9	
PXZ	**Pawanui**	**3.71**	**230**	Pn	**Pn**	**09 59 09.6**	**-0.4**
PXZ				Sn	**Sn**	**09 59 53.5**	**+0.7**
KRHZ	**Kereru**	**3.81**	**238**	PN	**Pn**	**09 59 10.4**	**+0.1**
KUTZ	**Kaahu Road**	**3.82**	**256**	⇓PN	**Pn**	**09 59 12.0**	**+0.5**
KUTZ	**Kaahu Road**	**3.82**	**256**	Pn	**Pn**	**09 59 12.0**	**+0.5**
BHHZ	**Black Hill Sta**	**3.95**	**242**	PN	**Pn**	**09 59 13.8**	**+0.5**
BHHZ	**Black Hill Sta**	**3.95**	**242**	Pn	**Pn**	**09 59 13.8**	**+0.5**
KUZ	**Kuaotunu**	**3.97**	**282**	⇑PN	Pn	09 59 12.3	-1.3
KUZ				AML	AML	09 59 56.7	
KUZ	**Kuaotunu**	**3.97**	**282**	Pn	Pn	09 59 12.3	-1.3
WPHZ	**Waipukurau**	**3.99**	**232**	PN	**Pn**	**09 59 14.2**	**+0.4**
WPHZ	**Waipukurau**	**3.99**	**232**	Pn	**Pn**	**09 59 14.2**	**+0.4**
PRHZ	**Porangahau**	**3.99**	**229**	PN	**Pn**	**09 59 13.8**	**-0.1**
PRHZ	**Porangahau**	**3.99**	**229**	Pn	**Pn**	**09 59 13.8**	**-0.1**
TOZ	**Tahuroa Road**	**4.01**	**268**	PN	**Pn**	**09 59 14.4**	**+0.4**
TOZ	**Tahuroa Road**	**4.01**	**268**	Pn	**Pn**	**09 59 14.4**	**+0.4**
TLZ	**Tolley Road**	**4.01**	**259**	PN	**Pn**	**09 59 14.2**	**0.0**
TLZ	**Tolley Road**	**4.01**	**259**	Pn	**Pn**	**09 59 14.2**	**0.0**
PNHZ	**Pukenui**	**4.06**	**236**	PN	**Pn**	**09 59 14.7**	**-0.1**
PNHZ	**Pukenui**	**4.06**	**236**	Pn	**Pn**	**09 59 14.7**	**-0.1**
KRVZ	**Karewarewa**	**4.11**	**249**	PN	**Pn**	**09 59 16.0**	**+0.5**
KRVZ				AML	AML	10 00 03.9	
KRVZ				AML	AML	10 00 11.7	
KRVZ	**Karewarewa**	**4.11**	**249**	Pn	**Pn**	**09 59 16.0**	**+0.5**
OTVZ	**Oturere**	**4.11**	**248**	PN	**Pn**	**09 59 16.2**	**+0.6**
OTVZ				AML	AML	10 00 03.6	
OTVZ	**Oturere**	**4.11**	**248**	Pn	**Pn**	**09 59 16.2**	**+0.6**
MOVZ	**Moawhango**	**4.14**	**244**	PN	**Pn**	**09 59 16.4**	**+0.6**
MOVZ				AML	AML	10 00 04.9	
MOVZ				AML	AML	10 00 06.7	
MOVZ	**Moawhango**	**4.14**	**244**	Pn	**Pn**	**09 59 16.4**	**+0.6**
TUVZ	**Tukino**	**4.16**	**246**	PN	**Pn**	**09 59 16.8**	**+0.5**
TUVZ	**Tukino**	**4.16**	**246**	Pn	**Pn**	**09 59 16.8**	**+0.5**
ANWZ	**Angora Road**	**4.21**	**228**	PN	**Pn**	**09 59 16.1**	**-0.7**
WNVZ	**Wahianoa**	**4.22**	**246**	PN	**Pn**	**09 59 17.6**	**+0.5**
WNVZ	**Wahianoa**	**4.22**	**246**	Pn	**Pn**	**09 59 17.6**	**+0.5**
FWVZ	**Far West T-bar**	**4.23**	**247**	PN	**Pn**	**09 59 18.2**	**+0.9**
FWVZ				AML	AML	10 00 05.3	
FWVZ				AML	AML	10 00 06.2	
FWVZ	**Far West T-bar**	**4.23**	**247**	Pn	**Pn**	**09 59 18.2**	**+0.9**
TSZ	**Takapari Road**	**4.29**	**235**	PN	**Pn**	**09 59 17.3**	**-0.7**
TSZ				AML	AML	10 00 20.8	
TSZ	**Takapari Road**	**4.29**	**235**	Pn	**Pn**	**09 59 17.3**	**-0.7**
DVHZ	**Dannevirke**	**4.30**	**231**	PN	**Pn**	**09 59 17.9**	**-0.2**
DVHZ	**Dannevirke**	**4.30**	**231**	Pn	**Pn**	**09 59 17.9**	**-0.2**
GRZ	**Great Barrier**	**4.33**	**288**	PN	**Pn**	**09 59 17.4**	**-1.0**
MKAZ	**Moumakai**	**4.33**	**276**	⇑PN	**Pn**	**09 59 18.0**	**-0.5**
MKAZ	**Moumakai**	**4.33**	**276**	Pn	**Pn**	**09 59 18.0**	**-0.5**
BFZ	**Birch Farm**	**4.49**	**227**	Pn	Pn	09 59 19.3	-1.4
BFZ				AML	AML	10 00 17.3	
BFZ				AML	AML	10 00 17.3	
BFZ				AML	AML	10 00 21.1	
BFZ				AML	AML	10 00 21.1	
BFZ	**Birch Farm**	**4.49**	**227**	Pn	Pn	09 59 19.3	-1.4
PRWZ	**Pori Road**	**4.57**	**230**	PN	**Pn**	**09 59 21.6**	**-0.2**
PRWZ	**Pori Road**	**4.57**	**230**	Pn	**Pn**	**09 59 21.6**	**-0.2**
POWZ	**Post Office Ro**	**4.60**	**233**	PN	**Pn**	**09 59 22.9**	**+0.7**
POWZ	**Post Office Ro**	**4.60**	**233**	Pn	**Pn**	**09 59 22.9**	**+0.7**
TIWZ	**Tintock**	**4.76**	**228**	PN	**Pn**	**09 59 23.6**	**-0.8**
TIWZ				AML	AML	10 00 22.7	
TIWZ				AML	AML	10 00 33.6	
TIWZ	**Tintock**	**4.76**	**228**	Pn	**Pn**	**09 59 23.6**	**-0.8**
VRZ	**Vera Road**	**4.77**	**251**	PN	**Pn**	**09 59 25.4**	**+0.9**
VRZ	**Vera Road**	**4.77**	**251**	Pn	**Pn**	**09 59 25.4**	**+0.9**
WAZ	**Wanganui**	**4.82**	**243**	PN	**Pn**	**09 59 25.5**	**+0.3**
WAZ

STB				*e*Sg	**Sn**	09 58 53.6	-1.0	
	319nm,0.3s							
STB	**Steinbach**	**0.87**	**168**	Pg	**Pn**	09 58 41.1	-0.1	
STB				Sg	**Sn**	09 58 53.6	-1.0	
	319nm,0.3s							
SORT	**Sorpetalsperre**	**0.90**	**95**	*e*Pg	**Pg**	09 58 39.4	+0.5	
SORT				*e*Sg	**Sg**	09 58 51.1	+0.6	
	169nm,0.2s							
SORT	**Sorpetalsperre**	**0.90**	**95**	Pg	**Pg**	09 58 39.4	+0.5	
SORT				Sg	**Sg**	09 58 51.1	+0.6	
	169nm,0.2s							
MEM	**Membach**	**0.90**	**202**	P	**Pn**	09 58 41.5	-0.2	
MEM	**Membach**	**0.90**	**202**	P	**Pn**	09 58 41.6	-0.1	
MEM	**Membach**	**0.90**	**202**	*e*Pg	**Pn**	09 58 41.0	-0.7	
MEM				*e*Sg	**Sb**	09 58 53.9	+1.1	
MEM	**Membach**	**0.90**	**202**	Pg	**Pn**	09 58 41.0	-0.7	
MEM	**Membach**	**0.90**	**202**	P	**Pn**	09 58 41.5	-0.2	
MEM				Sg	**Sb**	09 58 53.9	+1.1	
TDN	**Todenfeld**	**0.90**	**164**	*e*Sg	**Sb**	09 58 53.3	+0.4	
	92nm,0.1s							
TDN	**Todenfeld**	**0.90**	**164**	Sg	**Sb**	09 58 53.3	+0.4	
	92nm,0.1s							
BDSL	**Dessel**	**0.96**	**257**	P	**Pn**	09 58 42.9	+0.4	
BDSL	**Dessel**	**0.96**	**257**	P	**Pn**	09 58 42.8	+0.4	
AHRW	**Bad Neuenahr-A**	**0.96**	**160**	*e*Pg	**Pb**	09 58 41.8	+0.5	
AHRW				*e*Sg	**Sn**	09 58 55.9	-0.9	
BLCH	**La Chartreuse**	**1.00**	**217**	P	**Sn**	09 58 57.8	-0.1	
IBBN	**Ibbenburen**	**1.15**	**40**	*e*Pg	**Pg**	09 58 44.2	+0.5	
IBBN				*e*Sg	**Sg**	09 58 59.1	+0.6	
IBBN	**Ibbenburen**	**1.15**	**40**	Pg	**Pg**	09 58 44.2	+0.5	
IBBN				Sg	**Sg**	09 58 59.1	+0.6	
HILG	**Hillesheim**	**1.16**	**176**	*e*Pg	**Pn**	09 58 46.1	+0.9	
HILG	**Hillesheim**	**1.16**	**176**	Pg	**Pn**	09 58 46.1	+0.9	
BHE	**Schloss Buerre**	**1.16**	**160**	*e*Pg	**Pn**	09 58 45.3	0.0	
BHE				*e*Sg	**Sn**	09 59 01.3	-0.5	
	74nm,0.2s							
BHE	**Schloss Buerre**	**1.16**	**160**	Pg	**Pn**	09 58 45.3	0.0	
BHE				Sg	**Sn**	09 59 01.3	-0.5	
	74nm,0.2s							
LOH	**Wallersheim-Lo**	**1.26**	**180**	*e*Pg	**Pn**	09 58 47.2	+0.5	
LOH				*e*Sg	**Sn**	09 59 04.8	+0.5	
	127nm,0.2s							
LOH	**Wallersheim-Lo**	**1.26**	**180**	Pg	**Pn**	09 58 47.2	+0.5	
LOH				Sg	**Sn**	09 59 04.8	+0.5	
	127nm,0.2s							
KOE	**Koeppel**	**1.26**	**143**	*e*Pg	**Pn**	09 58 47.0	+0.3	
KOE	**Koeppel**	**1.26**	**143**	Pg	**Pn**	09 58 47.0	+0.3	
BCLA	**Clavier**	**1.29**	**218**	P	**Pn**	09 58 49.0	+2.0	
BCLA	**Clavier**	**1.29**	**218**	P	**Sn**	09 59 06.6	+1.5	
BCLA	**Clavier**	**1.29**	**218**	P	**Pn**	09 58 49.0	+2.0	
BGG	**Burgeitz**	**1.33**	**158**	*e*Pg	**Pb**	09 58 48.2	+0.6	
BGG	**Burgeitz**	**1.33**	**158**	Pg	**Pb**	09 58 48.2	+0.6	
BGES	**Gesves**	**1.41**	**222**	P	**Pb**	09 58 50.9	+2.0	
BGES	**Gesves**	**1.41**	**222**	P	**Pb**	09 58 50.8	+2.0	
RCHB	**Rochefort**	**1.54**	**214**	P	**Sn**	09 59 13.2	+2.1	
BMRD	**Maredsous**	**1.60**	**225**	P	**Pg**	09 58 54.9	+2.4	
BMRD	**Maredsous**	**1.60**	**225**	P	**Sg**	09 59 15.9	+2.6	
BMRD	**Maredsous**	**1.60**	**225**	P	**Pg**	09 58 54.9	+2.4	
BRQR	**Ronqui˜xre**	**1.69**	**241**	P	**Sg**	09 59 18.4	+2.4	
TNS	**Taunus Mts**	**1.71**	**135**	*e*Pn	**Pn**	09 58 53.4	+0.5	
TNS				*e*Pg	**Pg**	09 58 55.7	+1.1	
TNS				*e*Sg	**Sb**	09 59 16.4	+0.2	
TNS	**Taunus Mts**	**1.71**	**135**	Pn	**Pn**	09 58 53.4	+0.5	
GIVF	**Givet**	**1.73**	**220**	*e*Pn	**Pb**	09 58 53.8	-0.6	
	SNR=1.0							
GIVF	**Givet**	**1.73**	**220**	*e*Pg	**Pg**	09 58 56.5	+1.6	
GIVF				*e*Sn	**Sn**	09 59 15.6	-0.3	
	197nm,0.4s,SNR=1.0							
GIVF	**Givet**	**1.73**	**220**	*e*Pn	**Pb**	09 58 53.8	-0.6	
	SNR=1.0							
GIVF	**Givet**	**1.73**	**220**	*e*Pg	**Pg**	09 58 56.5	+1.6	
GIVF				*e*Sn	**Sn**	09 59 15.6	-0.3	
	98nm,0.4s,SNR=1.0							
BSKQ	**Steenkerk**	**1.75**	**244**	P	**Sg**	09 59 19.4	+1.5	
WLF	**Walferdange**	**1.80**	**188**	P	**Sg**	09 58 58.0	+1.8	
WLF	**Walferdange**	**1.80**	**188**	*e*Pg	**Pg**	09 58 57.7	+1.5	
WLF				*e*Sg	**Sg**	09 59 20.4	+1.0	
WLF	**Walferdange**	**1.80**	**188**	Pg	**Pg**	09 58 57.7	+1.5	
WLF				Sg	**Sg**	09 59 20.4	+1.0	
DOU	**Dourbes**	**1.83**	**223**	P	**Pb**	09 58 56.4	+0.2	
DOU	**Dourbes**	**1.83**	**223**	P	**Sg**	09 59 19.8	-0.7	
DOU	**Dourbes**	**1.83**	**223**	P	**Pb**	09 58 56.3	+0.2	
BAIF	**Baives**	**2.03**	**228**	*e*Pn	**Pn**	09 58 57.4	+0.2	
	SNR=1.0							
BAIF	**Baives**	**2.03**	**228**	*e*Pg	**Pg**	09 59 02.1	+1.4	
BAIF				*e*Sn	**Sn**	09 59 22.7	-0.6	
	55nm,0.4s,SNR=1.0							
BAIF				*e*Sg	**Sg**	09 59 29.7	+2.7	
	82nm,0.6s							
BAIF	**Baives**	**2.03**	**228**	*e*Pn	**Pn**	09 58 57.4	+0.2	
	SNR=1.0							
BAIF	**Baives**	**2.03**	**228**	*e*Pg	**Pg**	09 59 02.1	+1.4	
BAIF				*e*Sn	**Sn**	09 59 22.7	-0.6	
	27nm,0.4s,SNR=1.0							
BAIF				*e*Sg	**Sg**	09 59 29.7	+2.7	
	41nm,0.6s							
CLZ	**Clausthal**	**2.42**	**79**	*e*Pn	**Pn**	09 59 01.7	-0.8	
CLZ				*e*Pg	**Pg**	09 59 08.1	0.0	
CLZ				*e*Sg	**Sb**	09 59 36.5	+0.1	
CLZ	**Clausthal**	**2.42**	**79**	Pn	**Pn**	09 59 01.7	-0.8	
PAGF	**Fort de Pagny**	**2.94**	**191**	*e*Pg	**Pg**	09 59 18.3	+0.2	
	baz=20							
PAGF				*e*Sg	**Sg**	09 59 58.2	+2.1	
	20nm,0.6s,baz=18							
PAGF	**Fort de Pagny**	**2.94**	**191**	*e*Pg	**Pg**	09 59 18.3	+0.2	
PAGF				*e*Sg	**Sg**	09 59 58.2	+2.1	
	9.9nm,0.6s							
CDF	**Champ du Feu**	**3.07**	**171**	*e*Pn	**Pn**	09 59 11.7	+0.1	
	SNR=1.0							
CDF				*e*Sg	**Sg**	10 00 00.0	-0.3	
	36nm,0.5s							
CDF	**Champ du Feu**	**3.07**	**171**	*e*Pn	**Pn**	09 59 11.7	+0.1	
	SNR=1.0							
CDF				*e*Sg	**Sg**	10 00 00.0	-0.3	
	18nm,0.5s							
MEZF	**Maizieres J'vi**	**3.10**	**199**	*e*Pn	**Pn**	09 59 11.8	-0.1	
	baz=14							
MEZF	**Maizieres J'vi**	**3.10**	**199**	*e*Pg	**Pg**	09 59 21.3	+0.2	
	baz=12							
MEZF				*e*Sg	**Sg**	10 00 02.6	+1.4	
	61nm,0.5s,baz=12							
MEZF	**Maizieres J'vi**	**3.10**	**199**	*e*Pn	**Pn**	09 59 11.8	-0.1	
MEZF	**Maizieres J'vi**	**3.10**	**199**	*e*Pg	**Pg**	09 59 21.3	+0.2	
MEZF				*e*Sg	**Sg**	10 00 02.6	+1.4	
	30nm,0.5s							
SFTF	**Sexfontaines**	**3.38**	**197**	*e*Pg	**Pg**	09 59 26.5	-0.1	
SFTF				*e*Sg	**Sg**	10 00 11.8	+1.4	
	42nm,0.4s							
SFTF	**Sexfontaines**	**3.38**	**197**	*e*Pg	**Pg**	09 59 26.5	-0.1	
SFTF				*e*Sg	**Sg**	10 00 11.8	+1.4	
	21nm,0.4s							
HAU	**Haudompre**	**3.44**	**182**	*e*Pg	**Pg**	09 59 27.1	-0.6	
HAU				*e*Sg	**Sg**	10 00 11.4	-0.9	
	40nm,0.4s,SNR=1.0							
HAU	**Haudompre**	**3.44**	**182**	*e*Pg	**Pg**	09 59 27.1	-0.6	
HAU				*e*Sg	**Sg**	10 00 11.4	-0.9	
	20nm,0.4s,SNR=1.0							
HINF	**Hinteralfeld**	**3.63**	**177**	*e*Pg	**Pg**	09 59 31.2	-0.2	
HINF				*e*Sg	**Sg**	10 00 18.4	-0.1	
	25nm,0.6s							
HINF	**Hinteralfeld**	**3.63**	**177**	*e*Pg	**Pg**	09 59 31.2	-0.2	
HINF				*e*Sg	**Sg**	10 00 18.4	-0.1	
	12nm,0.6s							
NKC	**Novy Kostel**	**3.93**	**106**	*e*PN	**Pn**	09 59 25.1	+1.8	
NKC				*e*SG	**Sg**	10 00 27.6	-0.4	
	18nm,0.7s							
NKC	**Novy Kostel**	**3.93**	**106**	Pn	**Pn**	09 59 25.1	+1.8	
NKC				Sg	**Sg**	10 00 27.6	-0.4	
	18nm,0.7s							
CLL	**Collm**	**4.05**	**89**	*e*Pg	**Pg**	09 59 37.0	-2.3	
CLL				*e*Sg	**Sb**	10 00 28.0	+4.7	
	comp=Z,20nm,0.8s							
LOR	**Lormes**	**4.53**	**204**	*e*Pn	**Pn**	09 59 31.7	+0.1	
	baz=28,SNR=1.0							
LOR				*e*Sn	**Sn**	10 00 22.8	-2.2	
	baz=22							
LOR				*e*Sg	**Sg**	10 00 47.0	-0.3	
	comp=Z,22nm,0.5s							
LOR	**Lormes**	**4.53**	**204**	*e*Pn	**Pn**	09 59 31.7	+0.1	
	SNR=1.0							
LOR				*e*Sn	**Sn**	10 00 22.8	-2.2	
LOR				*e*Sg	**Sg**	10 00 47.0	-0.3	
	comp=Z,11nm,0.5s							
BRG	**Berggiesshubel**	**4.69**	**94**	PN	**Pg**	09 59 49.3	-2.3	
BRG				SG	**Sg**	10 00 59.3	+7.0	
	comp=Z,11nm,1.1s							
SSF	**Saint Saulge**	**4.82**	**206**	*e*Pn	**Pn**	09 59 35.8	+0.3	
	SNR=1.0							
SSF				*e*Sg	**Sg**	10 00 56.0	-0.4	
	comp=Z,46nm,0.5s							
SSF	**Saint Saulge**	**4.82**	**206**	*e*Pn	**Pn**	09 59 35.8	+0.3	
	SNR=1.0							
SSF				*e*Sg	**Sg**	10 00 56.0	-0.4	
	comp=Z,23nm,0.5s							
CABF	**La Chapelle**	**4.84**	**184**	*e*Pn	**Pn**	09 59 36.3	+0.3	
	SNR=1.0							
CABF				*e*Sg	**Sg**	10 00 56.4	-0.9	
	comp=Z,46nm,0.8s							
CABF	**La Chapelle**	**4.84**	**184**	*e*Pn	**Pn**	09 59 36.3	+0.3	
	SNR=1.0							
CABF				*e*Sg	**Sg**	10 00 56.4	-0.9	
	comp=Z,23nm,0.8s							
KHC	**Kasperske Hory**	**5.07**	**114**	*e*PN	**Pn**	09 59 41.1	+2.1	
KHC	**Kasperske Hory**	**5.07**	**114**	Pn	**Pn**	09 59 41.1	+2.1	
AVF	**Avril sur Loir**	**5.11**	**205**	*e*Pn	**Pn**	09 59 39.8	+0.3	
	SNR=1.0							
AVF				*e*Sn	**Sn**	10 00 36.5	-2.6	
	comp=Z,4.5nm,0.4s,SNR=1.0							
AVF				*e*Sg	**Sg**	10 01 05.3	-0.4	
	comp=Z,13nm,0.6s							
AVF	**Avril sur Loir**	**5.11**	**205**	*e*Pn	**Pn**	09 59 39.8	+0.3	
	SNR=1.0							
AVF				*e*Sn	**Sn**	10 00 36.5	-2.6	
	comp=Z,2.2nm,0.4s,SNR=1.0							
AVF				*e*Sg	**Sg**	10 01 05.3	-0.4	
	comp=Z,6.5nm,0.6s							
SMF	**Signal de Mont**	**5.12**	**201**	*e*Pn	**Pn**	09 59 39.8	+0.1	
	SNR=1.0							
SMF				*e*Sn	**Sn**	10 00 34.9	-4.6	
	comp=Z,7.9nm,0.4s,SNR=1.0							
SMF				*e*Sg	**Sg**	10 01 05.0	-1.2	
	comp=Z,17nm,0.3s							
SMF	**Signal de Mont**	**5.12**	**201**	*e*Pn	**Pn**	09 59 39.8	+0.1	
	SNR=1.0							
SMF				*e*Sn	**Sn**	10 00 34.9	-4.6	
	comp=Z,4.0nm,0.4s,SNR=1.0							
SMF				*e*Sg	**Sg**	10 01 05.0	-1.2	
	comp=Z,8.7nm,0.3s							
LDF	**La Druitiere**	**5.16**	**239**	*e*Pn	**Pn**	09 59 41.0	+0.8	
	SNR=1.0							
LDF				*e*Sn	**Sn**	10 00 37.8	-2.6	
	comp=Z,4.9nm,0.3s							
LDF	**La Druitiere**	**5.16**	**239**	*e*Pn	**Pn**	09 59 41.0	+0.8	
	SNR=1.0							
LDF				*e*Sn	**Sn**	10 00 37.8	-2.6	
	comp=Z,2.5nm,0.3s							
FLN	**La Foliniere**	**5.26**	**242**	*e*Pn	**Pn**	09 59 42.3	+0.7	
	baz=64,SNR=1.0							
FLN				*e*Sn	**Sn**	10 00 39.0	-3.8	
	comp=Z,7.3nm,0.2s,SNR=1.0							
FLN	**La Foliniere**	**5.26**	**242**	*e*Pn	**Pn**	09 59 42.3	+0.7	
	SNR=1.0							
FLN				*e*Sn	**Sn**	10 00 39.0	-3.8	
	comp=Z,3.7nm,0.2s,SNR=1.0							
BGF	**Bois d'Agland**	**5.46**	**208**	*e*Pn	**Pn**	09 59 44.8	+0.4	
	SNR=1.0							
BGF				*e*Sn	**Sn**	10 00 44.3	-3.6	
	comp=Z,35nm,0.4s							
BGF				*e*Sg	**Sg**	10 01 15.1	-2.0	
	comp=Z,37nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**5.46**	**208**	*e*Pn	**Pn**	09 59 44.8	+0.4	
	SNR=1.0							
GRR	**Gorron**	**5.68**	**240**	*e*Pn	**Pn**	09 59 46.4	-0.9	
GRR				*e*Sn	**Sn**	10 00 48.8	-4.3	
	comp=Z,17nm,0.3s							
GRR	**Gorron**	**5.68**	**240**	*e*Pn	**Pn**	09 59 46.4	-0.9	
TCF	**Toulx Ste Croi**	**5.90**	**211**	*e*Sg	**Sg**	10 01 29.6	-1.5	
	comp=Z,13nm,0.6s							
MFF	**Saint Martin d**	**6.54**	**225**	*e*Sg	**Sg**	10 01 48.7	-3.1	
	comp=Z,7.5nm,0.3s,SNR=1.0							
SGMF	**Saint Gilles**	**6.70**	**245**	*e*Sg	**Sg**	10 01 53.7	-3.0	
	comp=Z,14nm,0.6s,SNR=1.0							
ROSF	**Rostrenen**	**7.07**	**248**	*e*Sg	**Sg**	10 02 05.8	-2.7	
	comp=Z,11nm,0.8s,SNR=1.0							
CAF	**Calviac**	**7.17**	**206**	*e*Pn	**Pn**	10 00 07.4	-0.5	
	SNR=1.0							
CAF	**Calviac**	**7.17**	**206**	*e*Pn	**Pn**	10 00 07.4	-0.5	
	SNR=1.0							
LASF	**Ste Croix**	**7.59**	**195**	*e*Sg	**Sg**	10 02 21.3	-4.1	
	comp=Z,5.6nm,0.3s,SNR=1.0							

*ISCJB **28** 10:03:01.0±0.6,64°.91N±0°.03×1°.00E±0°.10,h10km,Error ellipse: s-maj=6.2km s-min=4.4km az=23.6*
*NAO **28** 10:03:01.5±2.8,65°.05N±0°.98E,ML3.1*
*CSEM **28** 10:03:02.5±0.3,64°.98N±0°.66E,h10km,ML3.1,Error ellipse: s-maj=9.7km s-min=4.8km az=124.0*
*BER **28** 10:03:04.3±3.3,65°.04N±0°.59E,h15km,MD2.9,ML2.9, ML4.1(BGS)*
*NEIC **28** 10:03:05.7,65°.05N×0°.56E,h15km,ML4.4(BER), ML4.2(BGS),After BER.*
*BGS **28** 10:03:05.7±1.0,65°.02N×0°.44E,h32km±15km,ML4.2*
*IDC **28** 10:03:06.6±5.4,65°.16N×1°.66E,h0km,mb1 3.4/3, mb1mx3.1/34,mbtmp3.3/3,ML3.0/3,Error ellipse: s-maj=54.2km s-min=28.3km az=89.0*

ISC 28 10:02:59.5±1.1,64°.97N±0°.06×0°.63E±0°.06,h10km,n97,σ3$31/154,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MOL	**Molde**	**3.91**	**125**	*e*P	**Pn**		**10 04 03.4**	**+3.9**
MOL	**Molde**	**3.91**	**125**	*e*P	**Pn**		**10 04 03.4**	**+3.9**
MOL	**Molde**	**3.91**	**125**	*e*P	**Pn**		**10 04 03.3**	**+3.9**
MOL				*e*P	**Pn**		**10 04 03.4**	**+3.9**
MOL				IAML			10 04 48.2	
	comp=Z,41nm,0.4s							
MOL	**Molde**	**3.91**	**125**	*e*P	**Pn**		**10 04 03.3**	**+3.9**
MOL	**Molde**	**3.91**	**125**	*e*P	**Pn**		**10 04 03.4**	**+3.9**
FOO	**Floro**	**3.93**	**148**	*e*P	**Pn**		**10 04 03.9**	**+4.2**
FOO				*e*S	**Sn**		**10 04 46.0**	**+0.2**
FOO	**Floro**	**3.93**	**148**	*e*P	**Pn**		**10 04 03.9**	**+4.2**
FOO				*e*S	**Sn**		**10 04 46.0**	**+0.2**
FOO	**Floro**	**3.93**	**148**	*e*P	**Pn**		**10 04 03.9**	**+4.2**
FOO				*e*P	Pb		10 04 04.5	-4.2
FOO				*e*S	**Sn**		**10 04 46.0**	**+0.2**
FOO				*e*S	**Sn**		**10 04 48.0**	**+2.2**
FOO				IAML			10 04 49.5	
	comp=Z,37nm,0.3s							
FOO	**Floro**	**3.93**	**148**	*e*P	**Pn**		**10 04 03.9**	**+4.2**
FOO				*e*S	**Sn**		**10 04 48.0**	**+2.2**
	SNR=53							
FOO	**Floro**	**3.93**	**148**	*e*P	**Pn**		**10 04 03.9**	**+4.2**
FOO				*e*S	**Sn**		**10 04 48.0**	**+2.2**
AKN	**Aaknes**	**4.00**	**132**	Pn	**Pn**		**10 04 04.8**	**+4.1**
AKN				Sn	**Sn**		**10 04 48.7**	**+1.2**
AKN	**Aaknes**	**4.00**	**132**	Pn	**Pn**		**10 04 04.8**	**+4.1**
AKN				Sn	**Sn**		**10 04 48.7**	**+1.2**
AKN	**Aaknes**	**4.00**	**132**	Pn	**Pn**		**10 04 04.8**	**+4.1**
AKN				Sn	**Sn**		**10 04 48.7**	**+1.2**
SUE	**Sulen**	**4.36**	**153**	*e*P	**Pn**		**10 04 08.8**	**+3.2**
SUE				IAML			10 04 57.6	
	comp=Z,18nm,0.2s							
SUE	**Sulen**	**4.36**	**153**	*e*P	**Pn**		**10 04 08.8**	**+3.2**
	SNR=53							
SUE	**Sulen**	**4.36**	**153**	*e*P	**Pn**		**10 04 08.8**	**+3.2**
SOFL	**Sornfelli, Far**	**4.48**	**233**	*e*P	**Pn**		**10 04 09.2**	**+1.9**
SOFL				*e*S	**Sn**		**10 04 56.5**	**-2.9**
SOFL				AML	AML		10 05 02.7	
	comp=E,192nm,0.3s							
SOFL				AML	AML		10 05 04.3	
	comp=N,85nm,0.5s							
SOFL	**Sornfelli, Far**	**4.48**	**233**	*e*P	**Pn**		**10 04 09.2**	**+1.9**
SOFL				*e*S	**Sn**		**10 04 56.5**	**-2.9**
SOFL				AML	AML		10 05 02.7	
	comp=E,192nm,0.3s							
SOFL				AML	AML		10 05 04.3	
	comp=N,85nm,0.5s							
SOFL	**Sornfelli, Far**	**4.48**	**233**	*e*P	**Pn**		**10 04 09.2**	**+1.9**
SOFL				*e*P	Pb		10 04 09.3	-8.7
SOFL				*e*S	**Sn**		**10 04 56.5**	**-2.9**
SOFL				AML	AML		10 05 02.7	
	comp=E,192nm,0.3s							
SOFL				AML	AML		10 05 04.3	
	comp=N,85nm,0.5s							
SOFL	**Sornfelli, Far**	**4.48**	**233**	*e*P	**Pn**		**10 04 09.4**	**+2.1**
	SNR=53							
SOFL	**Sornfelli, Far**	**4.48**	**233**	*e*P	**Pn**		**10 04 09.2**	**+1.9**
SOFL				*e*S	**Sn**		**10 04 56.5**	**-2.9**

YEL1	**Yell**	**4.51**	**191**	*e*P	**Pn**		**10 04 11.2**	**+3.5**
YEL1	**Yell**	**4.51**	**191**	*e*P	**Pn**		**10 04 11.2**	**+3.5**
YEL1	**Yell**	**4.51**	**191**	*e*P	**Pn**		**10 04 11.2**	**+3.5**
YEL1	**Yell**	**4.51**	**191**	*e*P	**Pn**		**10 04 11.2**	**+3.5**
YEL1	**Yell**	**4.51**	**191**	*e*P	**Pn**		**10 04 11.2**	**+3.5**
HYA	**Hoyanger**	**4.58**	**144**	*e*P	**Pn**		**10 04 12.1**	**+3.5**
HYA				*e*S	**Sn**		**10 05 02.3**	**+0.4**
HYA				IAML			10 05 08.9	
	comp=Z,38nm,0.3s							
HYA	**Hoyanger**	**4.58**	**144**	*e*P	**Pn**		**10 04 12.1**	**+3.5**
	SNR=53							
HYA	**Hoyanger**	**4.58**	**144**	*e*P	**Pn**		**10 04 12.1**	**+3.5**
HYA				*e*S	**Sn**		**10 05 02.3**	**+0.4**
NSS	**Namsos**	**4.88**	**90**	*e*P	**Pn**		**10 04 15.9**	**+3.2**
NSS				*e*S	**Sn**		**10 05 07.8**	**-1.3**
NSS				IAML			10 05 14.0	
	comp=Z,16nm,0.3s							
NSS	**Namsos**	**4.88**	**90**	*e*P	**Pn**		**10 04 15.9**	**+3.2**
	SNR=53							
NSS				*e*S	**Sn**		**10 05 07.8**	**-1.3**
	SNR=53							
NSS	**Namsos**	**4.88**	**90**	*e*P	**Pn**		**10 04 15.9**	**+3.2**
NSS				*e*S	**Sn**		**10 05 07.8**	**-1.3**
LRW	**Lerwick**	**4.93**	**191**	*e*P	**Pn**		**10 04 17.2**	**+3.8**
LRW				*e*S	**Sn**		**10 05 08.9**	**-1.5**
LRW				AML	AML		10 05 12.9	
	comp=N,133nm,0.6s							
LRW				AML	AML		10 05 13.1	
	comp=E,97nm,0.5s							
LRW	**Lerwick**	**4.93**	**191**	*e*P	**Pn**		**10 04 17.2**	**+3.8**
LRW				*e*S	**Sn**		**10 05 08.9**	**-1.5**
LRW				AML	AML		10 05 12.9	
	comp=N,133nm,0.6s							
LRW				AML	AML		10 05 13.1	
	comp=E,97nm,0.5s							
LRW	**Lerwick**	**4.93**	**191**	*e*P	**Pn**		**10 04 17.2**	**+3.8**
LRW				*e*P	**Pn**		**10 04 17.3**	**+3.8**
LRW				*e*S	**Sn**		**10 05 08.9**	**-1.5**
LRW				*e*S	**Sn**		**10 05 09.3**	**-1.1**
LRW				AML	AML		10 05 12.9	
	comp=N,133nm,0.6s							
LRW				AML	AML		10 05 13.1	
	comp=E,97nm,0.5s							
LRW	**Lerwick**	**4.93**	**191**	*e*P	**Pn**		**10 04 17.2**	**+3.8**
LRW				*e*S	**Sn**		**10 05 08.9**	**-1.5**
LRW	**Lerwick**	**4.93**	**191**	*e*P	**Pn**		**10 04 17.2**	**+3.8**
LRW				*e*S	**Sn**		**10 05 08.9**	**-1.5**
LRW				*e*S	**Sn**		**10 05 09.3**	**-1.1**
ASK	**Askoy**	**4.97**	**153**	*e*P	**Pn**		**10 04 18.0**	**+4.0**
ASK				*e*S	**Sn**		**10 05 12.3**	**+0.9**
ASK				IAML			10 05 21.6	
	comp=Z,6.9nm,0.4s							
ASK	**Askoy**	**4.97**	**153**	*e*P	**Pn**		**10 04 18.0**	**+4.0**
ASK				*e*S	**Sn**		**10 05 12.3**	**+0.9**
SAN1	**Sandwick**	**5.05**	**191**	*e*P	**Pn**		**10 04 18.9**	**+3.8**
SAN1	**Sandwick**	**5.05**	**191**	*e*P	**Pn**		**10 04 18.9**	**+3.8**
SAN1	**Sandwick**	**5.05**	**191**	*e*P	**Pn**		**10 04 18.9**	**+3.8**
SAN1	**Sandwick**	**5.05**	**191**	*e*P	**Pn**		**10 04 18.9**	**+3.8**
SAN1	**Sandwick**	**5.05**	**191**	*e*P	**Pn**		**10 04 18.9**	**+3.8**
KONS	**Konsvik**	**5.37**	**68**	*e*P	**Pn**		**10 04 22.9**	**+3.4**
KONS				*e*S	**Sn**		**10 05 17.8**	**-3.6**
KONS				IAML			10 05 24.4	
	comp=Z,35nm,0.3s							
KONS	**Konsvik**	**5.37**	**68**	*e*P	**Pn**		**10 04 22.9**	**+3.4**
	SNR=53							
LOF	**Lofoten**	**6.05**	**53**	*e*P	**Pn**		**10 04 30.3**	**+1.5**
LOF				*e*S	**Sn**		**10 05 32.6**	**-5.2**
LOF				IAML			10 05 37.9	
	comp=Z,20nm,0.6s							
LOF	**Lofoten**	**6.05**	**53**	*e*P	**Pn**		**10 04 30.3**	**+1.5**
	SNR=53							
LOF	**Lofoten**	**6.05**	**53**	*e*P	**Pn**		**10 04 30.3**	**+1.5**
LOF				*e*S	**Sn**		**10 05 32.6**	**-5.2**
KMY	**Karmoy**	**6.17**	**157**	*e*P	**Pn**		**10 04 32.4**	**+1.9**
KMY				*e*S	**Sn

	comp=N,38nm,0.3s							
DRUM	**Mains of Drumt**	**8.23**	**192**	*eP*		**Pn**	10 05 02.1	**+3.4**
DRUM				*eS*		**Sn**	10 06 27.9	**-3.7**
DRUM				AML		AML	10 06 31.7	
	comp=E,51nm,0.5s							
DRUM				AML		AML	10 06 32.1	
	comp=N,38nm,0.3s							
DRUM	**Mains of Drumt**	**8.23**	**192**	*eP*		**Pn**	10 05 02.1	**+3.4**
DRUM	**Mains of Drumt**	**8.23**	**192**	*eP*		**Pn**	10 05 02.1	**+3.4**
DRUM				*eS*		**Sn**	10 06 27.9	**-3.7**
KTK1	**Kautokeino**	**9.70**	**55**	*ePn*		**Pn**	10 05 23.4	**+4.6**
KTK1	**Kautokeino**	**9.70**	**55**	*ePn*		**Pn**	10 05 23.4	**+4.6**
	SNR=55							
KTK1	**Kautokeino**	**9.70**	**55**	*ePn*		**Pn**	10 05 23.4	**+4.6**
HEF	**Hetta**	**9.72**	**59**	*ePn*		**Pn**	10 05 22.4	**+3.3**
HEF	**Hetta**	**9.72**	**59**	*ePn*		**Pn**	10 05 22.4	**+3.3**
	SNR=55							
HEF	**Hetta**	**9.72**	**59**	*ePn*		**Pn**	10 05 22.4	**+3.3**
ESK	**Eskdalemuir**	**9.87**	**193**	*ePn*		**Pn**	10 05 24.0	**+2.8**
ESK	**Eskdalemuir**	**9.87**	**193**	*ePn*		**Pn**	10 05 24.0	**+2.8**
ESK				*eS*		**Sn**	10 07 05.7	**-6.3**
ARCES	**ARCESS Array B**	**10.60**	**54**	Pn		**Pn**	10 05 33.5	**+2.3**
	comp=N,0.2nm,0.3s,baz=250,slow=13,SNR=16							
ARCES				Sn		**Sn**	10 07 24.4	**-5.5**
	comp=N,0.4nm,0.3s,baz=246,slow=22,SNR=3.2							
ARE0	**ARCESS Array S**	**10.60**	**54**	*ePn*		**Pn**	10 05 35.2	**+4.0**
ARE0				IAML			10 07 29.3	
	comp=Z,1.7nm,0.5s							
ARE0	**ARCESS Array S**	**10.60**	**54**	*ePn*		**Pn**	10 05 35.2	**+4.0**
	SNR=55							
ARA0	**ARCESS Array S**	**10.61**	**54**	Pn		**Pn**	10 05 33.5	**+2.3**
	baz=243,slow=14							
ARA0				Sn		**Sn**	10 07 24.2	**-5.6**
	baz=245,slow=22							
ARA0	**ARCESS Array S**	**10.61**	**54**	Pn		**Pn**	10 05 33.5	**+2.3**
	baz=243,slow=14							
ARA0				Sn		**Sn**	10 07 24.2	**-5.6**
	baz=245,slow=22							
ARA0	**ARCESS Array S**	**10.61**	**54**	Pn		**Pn**	10 05 33.5	**+2.3**
	SNR=5.8							
FIA0	**FINESS Array S**	**11.97**	**95**	Pn		**Pn**	10 05 51.8	**+1.9**
	baz=302,slow=11							
FIA0				Sn		**Sn**	10 07 58.7	**-4.5**
	baz=300,slow=28							
FIA0	**FINESS Array S**	**11.97**	**95**	Pn		**Pn**	10 05 51.8	**+1.9**
	baz=302,slow=11							
FIA0				Sn		**Sn**	10 07 58.7	**-4.5**
	baz=300,slow=28							
FIA0	**FINESS Array S**	**11.97**	**95**	Pn		**Pn**	10 05 51.8	**+1.9**
FINES	**FINESS Array B**	**11.97**	**95**	Pn		**Pn**	10 05 53.1	**+3.2**
	comp=Z,0.1nm,0.3s,baz=298,slow=9.3,SNR=4.2							
FINES				Sn		**Sn**	10 07 57.7	**-5.5**
	comp=Z,0.3nm,0.3s,baz=300,slow=19,SNR=5.1							

IDC 28 10:03:11.4±3.4, 6°91S×126°81E, h408km±38km, mb2.9/2, mb1 3.0/5, mb1mx2.8/34, mbtmp3.8/5, Error ellipse: s-maj=76.5km s-min=13.7km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.18**	**186**	P	P	10 05 40.7	-1.2
	0.4nm,0.3s,baz=12,slow=9.1,SNR=8.7						
WRA	**Warramunga Arr**	**14.88**	**151**	P	P	10 06 22.0	-0.3
	0.5nm,0.3s,baz=330,slow=12,SNR=14						
WRA				S	S	10 08 56.8	-3.5
	0.1nm,0.3s,baz=334,slow=21,SNR=3.9						
ASAR	**Alice Springs**	**18.00**	**159**	P	P	10 06 56.1	+0.5
	0.7nm,0.3s,baz=344,slow=14,SNR=17						
ASAR				S	S	10 10 02.4	+1.3
	0.1nm,0.3s,baz=340,slow=22,SNR=5.5						
MKAR	**Makanchi Array**	**66.45**	**328**	P	P	10 13 18.8	+0.3
	0.3nm,0.4s,baz=128,slow=8.7,SNR=3.3						
KURBB	**Kurchatov Arra**	**70.81**	**330**	P	P	10 13 44.8	-0.1
	0.4nm,0.5s,baz=132,slow=5.3,SNR=7.5						

MEX 28 10:03:22.4±0.6, 18°51N×101°27W, h25km±24km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.90**	**105**	*eP*	Pb	10 03 36.6	-2.8
ARIG				*eS*	Sb	10 03 47.7	-3.3
ZIIG	**Zihuatanejo**	**0.92**	**192**	*eP*	Pb	10 03 36.9	-2.9
ZIIG				*eS*	Sb	10 03 48.6	-2.9
MEIG	**Mezcala**	**1.67**	**110**	*eP*	Pn	10 03 47.0	-3.1
MEIG				*i* S	Sn	10 04 07.9	-3.0
CAIG	**El Cayaco**	**1.74**	**147**	*eP*	Pn	10 03 47.6	-3.5
YAIG	**Yautepec**	**2.11**	**80**	*eP*	Pn	10 03 54.4	-1.9
YAIG				*i* S	Sn	10 04 19.1	-2.8
PPM	**Popocatepetl**	**2.56**	**77**	*i* P	Pn	10 04 04.5	+1.7
TLIG	**Tlapa**	**2.74**	**110**	*eP*	Pn	10 04 02.8	-2.1
TLIG				*eS*	Sn	10 04 34.8	-2.5

*ISK **28** 10:05:30.6, 39°13N×29°01E, h10km, ML2.7*
*ISCJB **28** 10:05:31.1±0.4, 39°13N±0°03×28°99E±0°03, h7km±5km, Error ellipse: s-maj=5.4km s-min=3.6km az=167.8*
*DDA **28** 10:05:31.2, 39°12N×29°02E, h6km, Md3.0*
*CSEM **28** 10:05:31.2±0.1, 39°13N×29°00E, h8km, MD3.0, Error ellipse: s-maj=1.7km s-min=1.5km az=162.0*
ISC 28 10:05:31.5±0.9, 39°13N±0°03×29°01E±0°02, h12km±8km, n47, σ0°34/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**249**	P	**Pg**	10 05 36.9	**+0.2**
DEMI				S	**Sg**	10 05 40.3	**+0.1**
DEMI	**Demirci**	**0.25**	**249**	*i* P	**Pg**	10 05 36.9	**+0.2**
DEMI				*i* S	**Sg**	10 05 40.3	**+0.1**
GEDZ	**Gediz**	**0.32**	**105**	*e*PG	**Pg**	10 05 38.3	**+0.2**
GEDZ				*e*SG	**Sg**	10 05 42.9	**+0.4**
GEDZ	**Gediz**	**0.32**	**105**	*e*Pg	**Pg**	10 05 38.3	**+0.2**
GEDZ				*e*Sg	**Sg**	10 05 42.9	**+0.4**
GDZ	**Gediz**	**0.37**	**96**	P	**Pg**	10 05 38.6	**-0.3**
GDZ				S	**Sg**	10 05 43.9	**0.0**
GDZ	**Gediz**	**0.37**	**96**	*i* P	**Pg**	10 05 38.6	**-0.3**
GDZ				*i* S	**Sg**	10 05 43.9	**0.0**
TVSB	**Tavsanli**	**0.47**	**48**	*e*PG	**Pg**	10 05 40.3	**-0.6**
TVSB				*e*SG	**Sg**	10 05 46.6	**-0.5**
TVSB	**Tavsanli**	**0.47**	**48**	*e*Pg	**Pg**	10 05 40.3	**-0.6**
TVSB				*e*Sg	**Sg**	10 05 46.7	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*PG	**Pg**	10 05 44.2	**-0.4**
KULA				*e*SG	**Sg**	10 05 53.1	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*Pg	**Pg**	10 05 44.2	**-0.4**
KULA				*e*Sg	**Sg**	10 05 53.1	**-0.4**
KHL	**Karahalli**	**0.90**	**153**	*e*PG	**Pg**	10 05 48.6	**-0.3**
KHL				*e*SG	**Sg**	10 06 00.8	**+0.1**
KHL	**Karahalli**	**0.90**	**153**	*e*Pg	**Pg**	10 05 48.6	**-0.3**
KHL				*e*Sg	**Sg**	10 06 00.8	**+0.1**
AKS	**Akhisar**	**0.97**	**255**	*e*PG	**Pg**	10 05 49.8	**-0.3**
AKS	**Akhisar**	**0.97**	**255**	*e*Pg	**Pg**	10 05 49.8	**-0.3**
BALB	**Balikesir**	**1.01**	**300**	*e*PG	**Pb**	10 05 51.0	**0.0**
BALB	**Balikesir**	**1.01**	**300**	*e*Pg	**Pb**	10 05 51.0	**0.0**
IGD	**Bursa**	**1.14**	**7**	*i* P	**Pb**	10 05 52.1	**-1.0**
IGD				*i* S	**Sn**	10 06 10.0	**+1.1**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	**Pn**	10 05 54.6	**-0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**356**	*e*PN	**Pn**	10 05 54.6	**0.0**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*PN	**Pb**	10 05 55.0	**0.0**
IZI	**Iznik**	**1.25**	**16**	*e*PN	**Pn**	10 05 54.7	**-0.3**
BORA	**Eskisehir**	**1.34**	**56**	P	**Pb**	10 05 56.7	**0.0**
BORA				S	**Sg**	10 06 14.9	**+0.1**
BORA	**Eskisehir**	**1.34**	**56**	*i* P	**Pb**	10 05 56.7	**0.0**
BORA				*i* S	**Sg**	10 06 14.9	**+0.1**
GONE	**Gonen-Balikesi**	**1.37**	**312**	*e*PN	**Pn**	10 05 56.4	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pn**	10 05 57.0	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pn**	10 05 57.0	**-0.1**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pn**	10 05 57.6	**+0.2**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pn**	10 05 57.6	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*PN	**Pn**	10 05 57.8	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*Pn	**Pn**	10 05 57.8	**-0.2**
ESKT	**Eskisehir**	**1.48**	**74**	*e*PN	**Pn**	10 05 58.0	**-0.1**
ESKT	**Eskisehir**	**1.48**	**74**	*e*Pn	**Pn**	10 05 58.0	**-0.1**
ESKT	**Eskisehir**	**1.48**	**74**	*i* P	**Pg**	10 06 00.0	**+0.1**
ESKT				*i* S	**Sg**	10 06 18.8	**-0.3**
SEYT	**Eskypehyr**	**1.48**	**74**	P	**Pg**	10 06 00.0	**+0.1**
SEYT				S	**Sg**	10 06 18.8	**-0.3**
EDC	**Edincik**	**1.50**	**324**	*e*PN	**Pn**	10 05 58.4	**+0.1**
EDC	**Edincik**	**1.50**	**324**	*e*Pn	**Pn**	10 05 58.4	**+0.1**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pn**	10 06 01.8	**+0.2**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	10 06 01.8	**+0.2**
HRT	**Hereke**	**1.76**	**16**	*e*Pn	**Pn**	10 06 01.9	**0.0**
HRT	**Hereke**	**1.76**	**16**	*e*Pn	**Pn**	10 06 01.9	**0.0**
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*PN	**Pn**	10 06 03.3	**+0.6**
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*Pn	**Pn**	10 06 03.3	**+0.6**
MRMT	**Marmara Adasi**	**1.83**	**324**	*e*PN	**Pn**	10 06 03.1	**+0.3**
MRMT	**Marmara Adasi**	**1.83**	**324**	*e*Pn	**Pn**	10 06 03.1	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	*e*PN	**Pn**	10 06 05.2	**+0.3**
CTKS	**Kestanelik-??a**	**2.14**	**350**	*e*PN	**Pn**	10 06 07.2	**+0.2**
CTKS	**Kestanelik-??a**	**2.14**	**350**	*e*Pn	**Pn**	10 06 07.2	**+0.2**

NNC 28 10:22:58.6±0.3, 51°76N×75°30E, h0km, mb3.5, mpv3.1, 10C-7D, Error ellipse: s-maj=6.4km s-min=2.3km az=31.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.33**	**118**	⇑Pn	Pn	10 23 38.3	+0.1
	14nm,0.7s						
KURBB				⇓Lg	Lg	10 24 12.5	
	178nm,0.7s						
VOSK	**Vostochnaya**	**2.82**	**292**	⇑Pg	Pb	10 23 49.9	0.0
	12nm,0.8s						
VOSK				⇓Lg	Lg	10 24 28.1	
	43nm,0.8s						
BVA0	**Borovoye Array**	**3.26**	**295**	⇓Pg	Pb	10 23 56.9	-0.5
	3.9nm,0.8s,baz=231,slow=37,SNR=11						
BVA0				Lg	Lg	10 24 43.1	
	17nm,0.7s,baz=112,slow=24,SNR=7.9						
CHKZ	**Chkalovo**	**3.43**	**306**	⇓Pg	Pb	10 24 02.3	+2.0
	4.4nm,0.7s						
CHKZ				⇓Lg	Lg	10 24 47.8	
	30nm,0.7s						
OTUK	**Ortayu**	**4.00**	**210**	⇑Pg	Pb	10 24 12.5	+2.5
	3.1nm,0.8s						
OTUK				⇓Lg	Lg	10 25 05.5	
	27nm,0.9s						
ZRNK	**Zerenda**	**4.04**	**290**	⇑Pg	Pb	10 24 11.8	+1.2
	2.9nm,0.7s						
ZRNK				⇓Lg	Lg	10 25 07.9	
	22nm,0.8s						
MK31	**Makanchi Array**	**6.75**	**135**	Pn	Pn	10 24 39.4	+0.4
	0.9nm,0.7s,baz=305,slow=13,SNR=6.9						
MK31				⇑Sn	Sn	10 25 57.7	+1.2
	1.6nm,0.6s,baz=321,slow=22,SNR=6.4						
MK31				⇑Lg	Lg	10 26 32.3	
	11nm,0.8s,baz=315,slow=23,SNR=9.2						
TKM2	**Tokmak 2**	**8.85**	**179**	⇑Lg	Lg	10 27 38.4	
	12nm,0.9s						
PDGK	**Podgornoye**	**8.90**	**160**	⇑Lg	Lg	10 27 38.6	
	22nm,1.1s						
KK31	**Karatay Array**	**9.24**	**202**	⇑Lg	Lg	10 27 51.7	
	6.1nm,0.8s,baz=19,slow=28,SNR=3.9						
MNAS	**Manas**	**9.47**	**193**	⇑Lg	Lg	10 28 00.1	
	8.3nm,0.9s						

*JMA **28** 10:29:07.0±0.1, 22°38N×121°63E, h25km, M3.6*
*TAP **28** 10:29:08.5, 22°32N×121°49E, h11km, ML3.7, C*
ISC 28 10:29:05.8±1.2, 22°34N±0°03×121°65E±0°03, h8km±10km, n55, σ1°26/84, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.32**	**197**	P	**Pg**	10 29 14.6	**+2.4**
	baz=167						
TTN	**Taitung**	**0.62**	**311**	*e*P	**Pb**	10 29 19.8	**+0.9**
	baz=324						
TTN				S	**Sb**	10 29 27.5	**-0.2**
	baz=324						
ECL	**Taimali**	**0.69**	**292**	⇑*i*P	**Pg**	10 29 19.1	**-0.1**
	baz=299						
TAW	**Tawu**	**0.70**	**271**	P	**Pg**	10 29 19.1	**-0.2**
	baz=273						
TAW				S	**Sg**	10 29 26.6	**-1.8**
	baz=273						
TWG	**Pinlang**	**0.71**	**312**	P	**Pg**	10 29 20.0	**+0.4**
	baz=322						
TWG				S	**Sg**	10 29 29.1	**+0.2**
	baz=322						
EAST	**Anshuo**	**0.74**	**273**	P	**Pg**	10 29 19.8	**-0.3**
	baz=276						
EAST				*e*S	**Sg**	10 29 27.7	**-2.2**
	baz=276						
CHKT	**Chengkung**	**0.80**	**341**	*e*P	**Pg**	10 29 21.7	**+0.5**
	baz=352						
TSEB	**Hengchuen, Pin**	**0.82**	**238**	*e*P	**Pb**	10 29 22.2	**-0.2**
	baz=234						
TSEB				S	**Sb**	10 29 32.1	**-1.5**
	baz=234						
HEN	**Hengchun**	**0.91**	**248**	*e*P	**Pg**	10 29 23.2	**-0.1**
	baz=245						
HEN				S	**Sg**	10 29 33.3	**-1.9**
	baz=245						
SCZT	**Fangliau**	**0.95**	**272**	P	**Pg**	10 29 23.2	**-1.0**
	baz=273						
SSD	**Sandimen**	**1.02**	**293**	P	**Pg**	10 29 24.2	**-1.2**
	baz=298						
ELDTW	**Lidau**	**1.02**	**325**	*e*P	**Pg**	10 29 24.7	**-0.9**
	baz=333						
TWF1	**Yuli**	**1.05**	**342**	*e*P	**Pb**	10 29 26.1	**-0.2**
	baz=350						
STYT	**Tauyuan**	**1.16**	**315**	*e*P	**Pb**	10 29 27.1	**-1.1**
	baz=321						
STYT				*e*S	**Sb**	10 29 40.7	**-2.7**
	baz=321						
TWP	**Hsiaoliuchiu**	**1.19**	**270**	*e*P	**Pn**	10 29 29.8	**+1.0**
	baz=271						
EHY	**Hungye**	**1.20**	**345**	*e*P	**Pn**	10 29 28.0	**-0.9**
	baz=352						
SGST	**Jiashian**	**1.23**	**307**	*e*P	**Pb**	10 29 29.1	**-0.2**
	baz=312						
SGST				*e*S	**Sg**	10 29 45.1	**-0.3**
	baz=312						
TWM1	**Shoushan**	**1.23**	**293**	*e*P	**Pb**	10 29 29.7	**+0.3**
	baz=297						
YUS	**Yu-Shan**	**1.31**	**331**	*e*P	**Pn**	10 29 30.0	**-0.8**
	baz=337						
WTP	**Ta-pu**	**1.31**	**313**	*e*P	**Pn**	10 29 30.6	**+0.1**
	baz=318						
WTP				*e*S	**Sb**	10 29 47.6	**-0.1**
	baz=318						
ALS	**Alishan**	**1.40**	**326**	*e*P	**Pn**	10 29 31.8	**-0.1**
	baz=332						
CHN4	**Tsaushan**	**1.40**	**316**	*e*P	**Pn**	10 29 32.2	**+0.6**
	baz=321						
CHN4				*e*S	**Sg**	10 29 51.0	**+0.1**
	baz=321						
TWK	**Hsinying**	**1.41**	**311**	*e*P	**Pn**	10 29 32.6	**+0.8**
	baz=315						
TWK				*e*S	**Sg**	10 29 51.4	**+0.1**
	baz=315						
ESL	**Shilin**	**1.48**	**352**	*e*P	**Pn**	10 29 32.6	**-0.1**
	baz=358						
WDT	**Danda**	**1.48**	**341**	*e*P	**Pn**	10 29 33.1	**0.0**
	baz=347						
CHN5	**Tsauling**	**1.54**	**324**	*e*P	**Pn**	10 29 34.2	**+0.6**
	baz=329						
CHN5				*e*S	**Sn**	10 29 54.4	**+0.6**
	baz=329						
CHY	**Chiayi**	**1.61**	**316**	*e*P	**Pn**	10 29 35.5	**+1.0**
	baz=320						
CHY				*e*S	**Sn**	10 29 55.8	**+0.3**
	baz=320						
CHN8	**Yiju**	**1.66**	**307**	*e*S	**Sb**	10 29 57.5	**-0.2**
	baz=311						
WGK	**Gukeng**	**1.67**	**323**	*e*S	**Sb**	10 29 59.0	**+1.0**
	baz=328						
SMLT	**Sun Moon Lake**	**1.68**	**336**	*e*P	**Pn**	10 29 36.3	**+0.7**
	baz=340						
SMLT				*e*S	**Sn**	10 29 59.2	**+1.8**
	baz=340						
TYC	**Yuchr**	**1.72**	**335**	*e*P	**Pn**	10 29 37.3	**+1.3**
	baz=340						
TYC				*e*S	**Sn**	10 29 58.7	**+0.6**
	baz=340						
TWD	**Chiawan**	**1.73**	**358**	*e*P	**Pn**	10 29 36.0	**-0.1**
	baz=3.0						
WNT	**Mingjian**	**1.77**	**330**	*e*P	**Pn**	10 29 38.8	**+2.1**
	baz=334						
WNT				*e*S	**Sb**	10 30 01.5	**+0.6**
	baz=334						
WHF	**Hehuan Shan**	**1.83**	**349**	*e*S	**Sn**	10 30 01.5	**0.0**
	baz=353						
WSF	**Szhu**	**1.84**	**315**	*e*S	**Sn**	10 30 01.2	**0.0**
	baz=318						
TWT	**Tachien**	**1.95**	**347**	*e*P	**Pn**	10 29 40.3	**+0.9**
	baz=351						
ENA	**Nanau**	**2.08**	**2**	*e*P	**Pn**	10 29 41.1	**+0.2**
	baz=6.0						
NNS	**Nan Shan**	**2.10**	**353**	*e*P	**Pn**	10 29 43.0	**+1.5**
	baz=357						
NNS				*e*S	**Sn**	10 30 08.5	**+0.7**
	baz=357						
TWQ1	**Liyutan**	**2.15**	**338**	*e*P	**Pn**	10 29 44.4	**+2.4**
	baz=342						
TWQ1				*e*S	**Sn**	10 30 10.6	**+1.7**
	baz=342						
NSY	**Sanyi**	**2.22**	**339**	*e*P	**Pn**	10 29 45.6	**+2.7**
	baz=342						
NSY				*e*S	**Sn**	10 30 13.2	**+2.7**
	baz=342						
TWC	**Suao**	**2.26**	**5**	*e*P	**Pn**	10 29 44.9	**+1.4**
	baz=8.0						
ENTT	**Nioudou**	**2.29**	**358**	*e*P	**Pn**	10 29 44.8	**+0.9**
	baz=1.0						
NSK	**Sanguang**	**2.34**	**353**	*e*P	**Pn**	10 29 46.1	**+1.5**
	baz=357						
NSK				*e*S	**Sn**	10 30 13.4	**-0.1**
	baz=357						
NSTT	**Nanjuang**	**2.35**	**345**	*e*P	**Pn**	10 29 47.7	**+2.9**
	baz=349						
NSTT				*e*S	**Sn**	10 30 15.8	**+2.0**
	baz=349						
TWE	**Neicheng**	**2.37**	**0**	*e*P	**Pn**	10 29 47.3	**+2.4**
	baz=4.0						
JYNG	**Yonagunijimaku**	**2.41**	**29**	P	**Pn**	10 29 46.4	**+0.9**
JYNG				S	**Sn**	10 30 13.6	**-1.7**
YOJ	**Yonaguni jima**	**2.45**	**30**	P	**Pn**	10 29 46.9	**+0.8**
YOJ				*e*S	**Sn**	10 30 15.5	**-0.7**
HATJ	**Hateruma jima**	**2.62**	**49**	P	**Pn**	10 29 49.5	**+1.2**
HATJ				S	**Sn**	10 30 18.9	**-1.4**
IRIF	**Iriomote-Funau**	**2.75**	**44**	P	**Pn**	10 29 51.5	**+1.3**
IRIF				S	**Sn**	10 30 23.3	**-0.4**
JKRS	**Kuro-shima**	**2.87**	**49**	P	**Pn**	10 29 53.3	**+1.4**
JKRS				*e*S	**Sn**	10 30 25.1	**-1.6**
JIJ	**Ishigaki jima**	**3.05**	**48**	P	**Pn**	10 29 55.2	**+0.9**
JIJ				S	**Sn**	10 30 28.7	**-2.3**
ISGG	**Ishigakijimahi**	**3.31**	**47**	P	**Pn**	10 29 58.6	**+0.7**
JISG				S	**Sn**	10 30 36.3	**-1.1**
JTJ	**Tarama**	**3.62**	**50**	P	**Pn**	10 30 03.4	**+1.3**
JTJ				S	**Sn**	10 30 44.2	**-0.8**
JIRB	**Irabujima**	**4.07**	**52**	*e*S	**Sn**	10 30 54.7	**-1.5**
JOGS	**Gusukube**	**4.20**	**54**	S	**Sn**	10 30 59.6	**+0.1**

DDA 28 10:36:47.0, 39°08N×28°90E, h30km, Md2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.15**	**254**	*i* P	Pn	10 36 54.3	+0.9
DEMI				*i* S	Sn	10 36 57.4	+0.2
GDZ	**Gediz**	**0.45**	**89**	*i* P	Pb	10 36 57.0	+0.3
GDZ				*i* S	Sb	10 37 02.6	-0.8

WEL 28 10:37:11.0±0.8, 37°51S×179°36W, h33km, ML4.1/4, 1C-1D, Error ellipse: s-maj=7.1km s-min=4.5km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.79**	**260**	PN	Pn	10 37 38.9	-0.7
WMGZ				SN	Sn	10 38 00.5	-0.7
MXZ	**Matakaoa Point**	**1.86**	**268**	PN	Pn	10 37 39.6	-0.9
MXZ				AML	AML	10 37 46.9	
MXZ				SN	Sn	10 38 00.3	-2.5
MXZ				AML	AML	10 38 01.7	
MXZ				AML	AML	10 38 01.7	
PUZ	**Puketiti**	**1.97**	**253**	⇓PN	Pn	10 37 41.2	-0.8
PUZ				AML	AML	10 38 05.9	
PUZ				AML	AML	10 38 07.1	
CNGZ	**Carnagh Statio**	**2.15**	**243**	PN	Pn	10 37 44.4	-0.2
TWGZ	**Tauwhareparae**	**2.21**	**252**	PN	Pn	10 37 44.8	-0.6
TWGZ				SN	Sn	10 38 10.7	-0.9
HAZ	**Te Kaha**	**2.28**	**263**	PN	Pn	10 37 45.8	-0.5
TKGZ	**Te Karaka**	**2.39**	**246**	PN	Pn	10 37 47.2	-0.6
RIGZ	**Rimuhau**	**2.56**	**241**	PN	Pn	10 37 49.6	-0.6
PRGZ	**Paritu Road**	**2.59**	**236**	PN	Pn	10 37 49.8	-0.8
MWZ	**Matawai**	**2.60**	**251**	PN	Pn	10 37 49.6	-1.1
MWZ				AML	AML	10 38 20.5	
MWZ				AML	AML	10 38 21.0	
MWZ				AML	AML	10 38 21.0	
MHGZ	**Mahia Peninsul**	**2.70**	**232**	PN	Pn	10 37 51.1	-1.0
RAGZ	**Rawiri**	**2.73**	**248**	PN	Pn	10 37 52.0	-0.5
KNZ	**Kokohu**	**2.78**	**236**	PN	Pn	10 37 52.0	-1.1
URZ	**Urewera**	**2.89**	**254**	⇑PN	Pn	10 37 54.6	-0.1
URZ				AML	AML	10 38 28.0	
URZ				AML	AML	10 38 28.5	
SNGZ	**Shannon Statio**	**2.90**	**243**	PN	Pn	10 37 54.0	-0.8
RTZ	**Ruatahuna**	**3.09**	**248**	PN	Pn	10 37 57.5	0.0
WHHZ	**Waihua**	**3.10**	**239**	PN	Pn	10 37 57.0	-0.6
TARZ	**Mount Tarawera**	**3.35**	**256**	PN	Pn	10 38 00.8	-0.4
ARHZ	**Aropaoanui**	**3.36**	**238**	PN	Pn	10 38 00.8	-0.3
NMHZ	**Naumai**	**3.41**	**241**	PN	Pn	10 38 01.3	-0.6
PRRZ	**Plateau Road**	**3.50**	**252**	PN	Pn	10 38 02.1	-0.9
**MCH

DAV	**Davao City (W)**	**2.30**	**7**	Sn	**Sg**	**11 05 31.5**	**+2.3**
	87nm,0.3s,baz=98,slow=22,SNR=6.1							
BUKP	**Musuan**	**3.10**	**355**	*eP*	**Pb**	**11 05 08.4**	**-2.2**
BUKP				*eS*	Sg	11 06 07.6	+13
FITZ	**Fitzroy Crossi**	**22.73**	**179**	P	**P**	**11 09 18.6**	**+1.0**
	1.7nm,0.5s,baz=18,slow=6.5,SNR=6.8							
WRA	**Warramunga Arr**	**26.12**	**160**	P	**P**	**11 09 49.1**	**-0.6**
	3.4nm,0.9s,baz=334,slow=11,SNR=19							
CMAR	**Chiang Mai Arr**	**29.12**	**300**	P	**P**	**11 10 17.1**	**+0.5**
	0.4nm,0.3s,baz=113,slow=13,SNR=3.0							
ASAR	**Alice Springs**	**29.48**	**164**	P	**P**	**11 10 19.0**	**-0.8**
	0.4nm,0.6s,baz=337,slow=6.6,SNR=6.3							
MJAR	**Matsushiro Arr**	**33.77**	**19**	P	**P**	**11 10 57.3**	**-0.1**
	1.7nm,0.8s,baz=193,slow=9.2,SNR=6.5							
STKA	**Stephens Creek**	**39.61**	**158**	P	**P**	**11 11 48.0**	**+0.8**
	0.7nm,0.5s,baz=338,slow=12,SNR=3.2							
MKAR	**Makanchi Array**	**55.90**	**326**	P	**P**	**11 13 54.2**	**+0.7**
	0.3nm,0.4s,baz=116,slow=8.2,SNR=3.8							
ILAR	**Eielson Array**	**84.78**	**25**	P	**P**	**11 16 49.8**	**+0.1**
	0.2nm,0.6s,baz=254,slow=5.8,SNR=4.7							

*ISK **28** 11:12:22.9, 39˚.09N×29˚.04E, h8km, ML2.9*
*ISCJB **28** 11:12:23.4±0.4, 39˚.10N±0˚.04×29˚.03E±0˚.03, h10km±5km, Error ellipse: s-maj=6.1km s-min=4.2km az=168.8*
*DDA **28** 11:12:23.2, 39˚.11N×29˚.02E, h7km, Md3.0*
*CSEM **28** 11:12:23.7±0.1, 39˚.09N×29˚.05E, h10km, ML2.9, Error ellipse: s-maj=2.6km s-min=2.2km az=167.0*

ISC 28 11:12:23.1±1.0, 39˚.11N±0˚.03×29˚.06E±0˚.02, h10km±9km, n39, σ0s39/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**257**	P	**Pg**	**11 12 28.6**	**-0.1**
DEMI				S	**Sg**	**11 12 32.0**	**-0.4**
DEMI	**Demirci**	**0.27**	**257**	*i* P	**Pg**	**11 12 28.6**	**-0.1**
DEMI				*i* S	**Sg**	**11 12 32.0**	**-0.4**
GEDZ	**Gediz**	**0.28**	**103**	*e*PG	**Pb**	**11 12 30.1**	**-0.2**
GEDZ	**Gediz**	**0.28**	**103**	*e*Pg	**Pb**	**11 12 30.1**	**-0.2**
GDZ	**Gediz**	**0.33**	**93**	P	**Pb**	**11 12 31.2**	**0.0**
GDZ				S	**Sb**	**11 12 36.1**	**-0.5**
GDZ	**Gediz**	**0.33**	**93**	*i* P	**Pb**	**11 12 31.2**	**0.0**
GDZ				*i* S	**Sb**	**11 12 36.1**	**-0.5**
TVSB	**Tavsanli**	**0.46**	**42**	*e*PG	**Pg**	**11 12 32.5**	**+0.3**
TVSB				*e*SG	**Sb**	**11 12 39.8**	**-0.7**
TVSB	**Tavsanli**	**0.46**	**42**	*e*Pg	**Pg**	**11 12 32.5**	**+0.3**
TVSB				*e*Sg	**Sb**	**11 12 39.8**	**-0.7**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*PG	**Pg**	**11 12 36.1**	**+0.1**
KULA				*e*SG	**Sg**	**11 12 44.9**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*Pg	**Pg**	**11 12 36.2**	**+0.1**
KULA				*e*Sg	**Sg**	**11 12 44.9**	**+0.1**
KHL	**Karahalli**	**0.86**	**155**	*e*PG	**Pb**	**11 12 40.4**	**+0.2**
KHL	**Karahalli**	**0.86**	**155**	*e*Pg	**Pb**	**11 12 40.4**	**+0.2**
AKS	**Akhisar**	**1.00**	**257**	*e*PG	**Pb**	**11 12 42.8**	**+0.3**
AKS	**Akhisar**	**1.00**	**257**	*e*Pg	**Pb**	**11 12 42.8**	**+0.3**
BALB	**Balikesir**	**1.06**	**301**	*e*PG	**Pn**	**11 12 44.3**	**+0.3**
BALB				*e*SG	**Sn**	**11 12 58.5**	**-0.3**
BALB	**Balikesir**	**1.06**	**301**	*e*Pg	**Pn**	**11 12 44.3**	**+0.3**
BALB				*e*Sg	**Sn**	**11 12 58.5**	**-0.3**
IGD	**Bursa**	**1.16**	**5**	*i* P	**Pb**	**11 12 44.5**	**-0.8**
IGD				*i* S	**Sb**	**11 12 59.3**	**-1.1**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*PN	**Pg**	**11 12 47.4**	**+0.3**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*Pn	**Pg**	**11 12 47.4**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN	**Pg**	**11 12 47.8**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn	**Pg**	**11 12 47.8**	**+0.3**
IZI	**Iznik**	**1.27**	**14**	*e*PN	**Pg**	**11 12 47.9**	**+0.4**
IZI	**Iznik**	**1.27**	**14**	*e*Pn	**Pg**	**11 12 47.9**	**+0.4**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pg**	**11 12 48.1**	**+0.5**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pg**	**11 12 48.1**	**+0.5**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*PN	**Pb**	**11 12 49.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*Pn	**Pb**	**11 12 49.8**	**+0.2**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*PN	**Pb**	**11 12 49.7**	**-0.1**
ADVT	**Abdulvahap**	**1.43**	**21**	*e*Pn	**Pb**	**11 12 49.7**	**-0.1**
ESKT	**Eskisehir**	**1.45**	**73**	*e*PN	**Pb**	**11 12 50.2**	**-0.1**
ESKT	**Eskisehir**	**1.45**	**73**	*e*Pn	**Pb**	**11 12 50.2**	**-0.1**
ARMT	**Armutlu**	**1.47**	**354**	*e*PN	**Pb**	**11 12 50.8**	**+0.3**
ARMT	**Armutlu**	**1.47**	**354**	*e*Pn	**Pb**	**11 12 50.8**	**+0.3**
EDC	**Edincik**	**1.54**	**324**	*e*PN	**Pb**	**11 12 51.8**	**0.0**
EDC	**Edincik**	**1.54**	**324**	*e*Pn	**Pb**	**11 12 51.8**	**0.0**
GULT	**Gulveren**	**1.74**	**40**	*e*PN	**Pn**	**11 12 54.1**	**+0.7**
GULT	**Gulveren**	**1.74**	**40**	*e*Pn	**Pn**	**11 12 54.1**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.94**	**79**	*e*PN	**Pn**	**11 12 56.6**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.94**	**79**	*e*Pn	**Pn**	**11 12 56.6**	**+0.3**

WEL 28 11:14:40.2±0.7, 37˚.53S×179˚.39W, h33km, ML3.8/5, 2C-1D, Error ellipse: s-maj=6.3km s-min=4.3km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.76**	**260**	PN	Pn	11 15 07.6	-0.8
WMGZ				SN	Sn	11 15 28.9	-0.8
MXZ	**Matakaoa Point**	**1.83**	**268**	⇓PN	Pn	11 15 08.4	-0.8
MXZ				SN	Sn	11 15 28.7	-2.5
MXZ				AML	AML	11 15 30.4	
PUZ	**Puketiti**	**1.94**	**253**	PN	Pn	11 15 09.9	-0.9
PUZ				AML	AML	11 15 34.6	
CNGZ	**Carnagh Statio**	**2.12**	**243**	PN	Pn	11 15 13.1	-0.2
TWGZ	**Tauwhareparae**	**2.17**	**252**	⇑PN	Pn	11 15 13.7	-0.4
HAZ	**Te Kaha**	**2.25**	**263**	PN	Pn	11 15 14.8	-0.3
HAZ				SN	Sn	11 15 39.8	-1.9
TKGZ	**Te Karaka**	**2.36**	**247**	PN	Pn	11 15 16.0	-0.6
TKGZ				SN	Sn	11 15 43.5	-0.9
RIGZ	**Rimuhau**	**2.53**	**242**	PN	Pn	11 15 16.2	-2.8
MWZ	**Matawai**	**2.56**	**251**	⇑PN	Pn	11 15 18.3	-1.1
MWZ				AML	AML	11 15 49.2	
MWZ				AML	AML	11 15 49.7	
MHGZ	**Mahia Peninsul**	**2.67**	**232**	PN	Pn	11 15 19.9	-1.0
RAGZ	**Rawiri**	**2.70**	**248**	PN	Pn	11 15 20.7	-0.6
KNZ	**Kokohu**	**2.74**	**236**	PN	Pn	11 15 20.8	-1.1
URZ	**Urewera**	**2.86**	**254**	PN	Pn	11 15 23.2	-0.3
URZ				AML	AML	11 15 56.9	
URZ				AML	AML	11 15 57.1	
RTZ	**Ruatahuna**	**3.06**	**248**	PN	Pn	11 15 26.3	0.0
TARZ	**Mount Tarawera**	**3.32**	**257**	PN	Pn	11 15 29.5	-0.4
ARHZ	**Aropaoanui**	**3.32**	**238**	PN	Pn	11 15 29.8	0.0
BKZ	**Black Stump Fm**	**3.62**	**242**	PN	Pn	11 15 33.1	-0.9
BHHZ	**Black Hill Sta**	**4.06**	**240**	PN	Pn	11 15 39.0	-1.1
CTZ	**Chatham Island**	**6.54**	**162**	PN	Pn	11 16 15.8	+1.7

MEX 28 11:16:26.0±0.4, 14˚.53N×92˚.37W, h6km±7km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.76**	**7**	*e*P	Pn	11 16 54.0	-3.3
CCIG				*i* S	Sn	11 17 15.5	-4.7

*NEIC **28** 11:18:10.9, 32˚.11N×115˚.17W, h8km, ML2.9(ECX), ML2.5(PAS), After ECX.*
*ECX **28** 11:18:10.9±0.5, 32˚.11N×115˚.17W, h8km, MD2.7, ML2.9*
*MEX **28** 11:18:11.5±0.6, 32˚.17N×115˚.04W, h20km±139km, MD3.9*

ISC 28 11:18:06.7±1.3, 32˚.15N±0˚.02×115˚.04W±0˚.03, h7km±11km, n37, σ0s79/59, 4C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.29**	**332**	*e*P	**Pn**	**11 18 16.6**	**-0.7**
MBIG				*e*S	**Sb**	**11 18 20.0**	**+0.9**
MBIG	**Mexicali**	**0.29**	**332**	*e*P	**Pn**	**11 18 16.6**	**-0.7**
CPBX	**Cerro Prieto**	**0.35**	**320**	*e*P	**Pn**	**11 18 16.9**	**-1.2**
CPBX				*e*S	**Sb**	**11 18 21.8**	**+1.0**
CPBX				⇑*e*		11 18 24.0	
CPBX				IAML		11 18 24.0	
	comp=E,5μm,0.2s						
CPBX	**Cerro Prieto**	**0.35**	**320**	*e*P	**Pn**	**11 18 17.3**	**-0.8**
CPBX				*e*S	**Sb**	**11 18 20.3**	**-0.6**
ECBX	**El Chinero**	**0.68**	**181**	⇑*e*P	**Pb**	**11 18 21.7**	**+0.8**
ECBX				*e*S	**Sb**	**11 18 30.4**	**0.0**
WESC	**Westside Schoo**	**0.84**	**316**	*e*P	**Pn**	**11 18 25.4**	**+0.5**
YUH	**Yuha Desert**	**0.90**	**304**	⇑*e*P	**Pb**	**11 18 25.3**	**+0.8**
GLA	**Glamis**	**0.91**	**11**	P	**Pn**	**11 18 26.7**	**+0.7**
	baz=193,SNR=22						
GLA				S	**Sn**	**11 18 38.9**	**-0.5**
	baz=193						
RMX	**La Rumorosa**	**0.99**	**297**	*e*P	**Pb**	**11 18 26.6**	**+0.4**
RMX				*e*S	**Sg**	**11 18 39.5**	**+1.0**
SWSC	**Sam W. Stewart**	**1.02**	**321**	P	**Pn**	**11 18 28.4**	**+1.1**
	baz=139,SNR=12						
SWSC				S	**Sb**	**11 18 40.2**	**+0.1**
	baz=139						
IKP	**In-Ko-Pah, Jac**	**1.03**	**299**	P	**Pn**	**11 18 27.8**	**+0.2**
	baz=116,SNR=34						
IKP				S	**Sg**	**11 18 40.8**	**+0.9**
	baz=116						
IKP	**In-Ko-Pah, Jac**	**1.03**	**299**	*e*P	**Pb**	**11 18 27.5**	**+0.6**
CRR	**Carrizo Plain**	**1.07**	**313**	*e*P	**Pn**	**11 18 28.9**	**+0.8**
SPIG	**San Pedro Mart**	**1.16**	**198**	*e*P	**Pn**	**11 18 29.8**	**+0.1**
SPIG				*i* S	**Sb**	**11 18 45.7**	**+1.0**
SPIG	**San Pedro Mart**	**1.16**	**198**	*e*P	**Pn**	**11 18 29.8**	**+0.1**
SPIG				*e*S	**Sb**	**11 18 44.7**	**0.0**
SPIG	**San Pedro Mart**	**1.16**	**198**	*e*P	**Pn**	**11 18 29.8**	**+0.1**
SPIG				*i* S	**Sb**	**11 18 45.7**	**+1.0**
SPX	**San Pedro Mart**	**1.16**	**198**	*e*P	**Pn**	**11 18 29.8**	**+0.1**
SPX	**San Pedro Mart**	**1.16**	**198**	*e*P	**Pn**	**11 18 29.7**	**0.0**
SPX				*e*S	**Sg**	**11 18 43.7**	**-0.4**
ZAX	**El Zacaton**	**1.23**	**239**	*e*P	**Pg**	**11 18 30.0**	**-0.3**
ZAX				⇑*e*		11 18 50.6	
ZAX				IAML		11 18 50.6	
	comp=E,204nm,0.5s						
MONP2	**Monument Peak**	**1.38**	**303**	P	**Pn**	**11 18 32.9**	**+0.4**
	baz=120,SNR=14						
CBX	**Cerro Bola**	**1.39**	**277**	*e*P	**Pn**	**11 18 32.6**	**+0.1**
CBX				*e*S	**Sg**	**11 18 49.4**	**-1.9**
CBX	**Cerro Bola**	**1.39**	**277**	*e*P	**Pn**	**11 18 32.9**	**+0.4**
CBX				*e*S	**Sg**	**11 18 50.8**	**-0.4**
CBX				IAML		11 18 52.4	
	comp=E,287nm,0.2s						
CBX				*e*		11 18 52.4	
CBX	**Cerro Bola**	**1.39**	**277**	*e*P	**Pn**	**11 18 32.6**	**+0.1**
CBX				*e*S	**Sg**	**11 18 49.4**	**-1.9**
TJIG	**Tijuana**	**1.41**	**282**	*i* P	**Pn**	**11 18 33.1**	**+0.3**
TJIG				*i* S	**Sb**	**11 18 49.6**	**-1.9**
TJIG	**Tijuana**	**1.41**	**282**	*e*P	**Pn**	**11 18 33.1**	**+0.3**
ECNX	**Esteban Cantu**	**1.42**	**250**	*e*P	**Pn**	**11 18 33.2**	**+0.2**
BAR	**Barrett**	**1.48**	**291**	*e*P	**Pn**	**11 18 34.3**	**+0.6**
PBX	**Punta Banda**	**1.49**	**254**	*e*P	**Pn**	**11 18 34.2**	**+0.3**
BC3	**Big Chuckawall**	**1.54**	**347**	P	**Pb**	**11 18 35.5**	**0.0**
	baz=167						
BC3				S	**Sn**	**11 18 54.3**	**-0.6**
	baz=167						
Y12C	**Blythe**	**1.65**	**15**	P	**Pg**	**11 18 37.8**	**-0.5**
	baz=196						
TPFO	**Pinon Flats**	**1.88**	**321**	P	**Pn**	**11 18 39.7**	**+0.4**
	baz=139						
TPFO				S	**Sn**	**11 19 02.1**	**-1.1**
	baz=139						
PFO	**Pinyon Flats O**	**1.88**	**321**	P	**Pn**	**11 18 39.9**	**+0.5**
	baz=139						
PFO				S	**Sn**	**11 19 02.3**	**-1.1**
	baz=139						
PFO	**Pinyon Flats O**	**1.88**	**321**	*e*Pn	**Pn**	**11 18 40.0**	**+0.7**
PFO				*e*Sn	**Sg**	**11 19 08.4**	**+1.2**
109C	**Camp Elliot, M**	**1.89**	**293**	P	**Pn**	**11 18 40.1**	**+0.7**
	baz=111						
109C				Sb	**Sb**	**11 19 06.5**	**+1.1**
	baz=111						
214A	**Organ Pipe Nat**	**1.90**	**95**	*e*Pn	**Pb**	**11 18 40.9**	**-0.8**
214A				*e*Sn	**Sn**	**11 19 04.1**	**+0.4**
IRM	**Iron Mountain**	**2.00**	**357**	Pb	**Pg**	**11 18 45.2**	**+0.2**
	baz=178,SNR=7.7						
GMRC	**Granite Mounta**	**2.67**	**349**	S	**Sn**	**11 19 22.5**	**-0.5**
	baz=169						

IDC 28 11:26:54.3±1.6, 5˚.57N×125˚.24E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/46, mbtmp3.6/4, Error ellipse: s-maj=216.9km s-min=23.8km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.88**	**161**	P	P	11 32 36.9	-0.3
	0.1nm,0.3s,baz=341,slow=9.1,SNR=7.7						
ASAR	**Alice Springs**	**30.26**	**164**	P	P	11 33 07.5	+0.2
	0.2nm,0.3s,baz=341,slow=7.0,SNR=11						
STKA	**Stephens Creek**	**40.37**	**158**	P	P	11 34 33.9	-0.2
	0.5nm,0.3s,baz=354,slow=10,SNR=4.6						
ZALV	**Zalesovo Beam**	**58.29**	**333**	P	P	11 36 50.8	0.0
	0.8nm,0.4s,baz=134,slow=8.3,SNR=1.8						

*NIED **28** 11:32:00, 38˚.20N×144˚.50E, h8km, Mw4.0 Best double couple: M0 1.26000×10^15 NP1:ϕs29.00000°, δ26.00000°, λ-93.00000°. NP2:ϕs213.00000°, δ64.00000°, λ-89.00000°.*
*IDC **28** 11:32:23.4±1.0, 37˚.98N×144˚.81E, h0km, mb3.8/9, mb1 4.1/13, mb1mx3.8/52, mbtmp3.9/13, ML3.5/4, MS3.0/10, Ms1 3.0/10, ms1mx2.8/42, Error ellipse: s-maj=23.7km s-min=19.0km az=146.0*
*NEIC **28** 11:32:25.9±0.6, 38˚.13N×144˚.65E, h10km, mb4.3/5, Error ellipse: s-maj=12.4km s-min=10.3km az=154.0*
*ISCJB **28** 11:32:27.2±0.5, 38˚.10N±0˚.03×144˚.55E±0˚.04, h33km, mb3.9/14, MS3.1/6, Error ellipse: s-maj=5.5km s-min=4.3km az=136.7*
*JMA **28** 11:32:28.1±0.2, 38˚.20N×144˚.54E, h43km, M4.4*

ISC 28 11:32:29.2±0.8, 38˚.16N±0˚.05×144˚.65E±0˚.07, h35km, n50, σ2s41/58, mb3.9/14, MS3.0/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.51**	**292**	P	**Pn**	**11 33 06.6**	**-0.9**
JIO	**Ouri**	**2.61**	**277**	P	**Pn**	**11 33 08.0**	**-0.9**
JIO				S	**Sn**	**11 33 37.2**	**-2.2**
MIYJ	**Miyakonagasawa**	**2.62**	**303**	P	**Pn**	**11 33 07.8**	**-1.2**
MIYJ				*e*S	**Sn**	**11 33 37.7**	**-1.9**
JMK	**Ichinoseki**	**2.80**	**287**	P	**Pn**	**11 33 10.9**	**-0.6**
JMK				*e*S	**Sn**	**11 33 42.1**	**-2.0**
JOM	**Ohasama**	**2.93**	**298**	P	**Pn**	**11 33 12.9**	**-0.4**
JOM				*e*S	**Sn**	**11 33 46.5**	**-0.8**
JANG	**Nango**	**3.29**	**313**	P	**Pn**	**11 33 17.1**	**-1.1**
JYK	**Kaneyama**	**3.45**	**284**	P	**Pn**	**11 33 20.2**	**-0.2**
JFT	**Otama**	**3.48**	**261**	P	**Pn**	**11 33 21.0**	**+0.2**
JFT				S	**Sn**	**11 33 59.4**	**-1.3**
ERM	**Erimo**	**4.01**	**344**	*e*Pn	**Pn**	**11 33 27.2**	**-0.9**
JOT	**Ohata**	**4.25**	**320**	P	**Pn**	**11 33 31.3**	**-0.1**
JCH	**Churui**	**4.55**	**348**	P	**Pn**	**11 33 33.9**	**-1.7**
JCH				S	**Sn**	**11 34 22.9**	**-4.3**
BSO1	**Boso 1**	**4.59**	**221**	P	**Pn**	**11 33 33.7**	**-1.9**
BSO1				*e*S	**Sn**	**11 34 25.4**	**-2.0**
JKB	**Kayabe**	**4.64**	**324**	P	**Pn**	**11 33 36.9**	**+0.1**
JRY	**Ryogami san**	**5.07**	**247**	P	**Pn**	**11 33 42.0**	**-0.8**
JRY				S	**Sn**	**11 34 35.5**	**-4.6**
NEM2	**Nemuro 2**	**5.26**	**9**	P	**Pn**	**11 33 41.6**	**-3.7**
NEM2				*e*S	**Sn**	**11 34 37.2**	**-7.5**
JOD2	**Odawara 2**	**5.32**	**239**	P	**Pn**	**11 33 45.3**	**-0.9**
JOD2				S	**Sn**	**11 34 41.1**	**-5.2**
MJAR	**Matsushiro Arr**	**5.38**	**254**	P	**Pn**	**11 33 46.1**	**-0.9**
	3.6nm,0.3s,baz=80,slow=15,SNR=33						
MJAR				S	**Sn**	**11 34 46.3**	**-1.4**
	2.8nm,0.3s,baz=96,slow=16,SNR=4.0						
MAJO	**Matsushiro**	**5.38**	**254**	*e*Pn	**Pn**	**11 33 44.1**	**-2.9**
	30nm,0.5s						
MAJO				*e*Sn	**Sn**	**11 34 45.4**	**-2.4**
JOSM	**Okushiri--Mats**	**5.57**	**316**	P	**Pn**	**11 33 49.3**	**-0.3**
JTKR	**Abashiri--Toko**	**5.83**	**355**	P	**Pn**	**11 33 50.6**	**-2.5**
JTKR				S	**Sn**	**11 34 53.1**	**-5.5**
JHR	**Hokuryu**	**6.00**	**339**	P	**Pn**	**11 33 55.5**	**+0.1**
JHR				*e*S	**Sn**	**11 35 00.2**	**-2.6**
ASAJ	**Asahikawa**	**6.14**	**346**	*e*Pn	**Pn**	**11 33 56.5**	**-0.9**
	6.3nm,0.3s						
ASAJ				*e*Sn	**Sn**	**11 35 09.1**	**+2.6**
JHJ	**Hachijo jima 2**	**6.41**	**220**	Pn	**Pn**	**11 33 58.2**	**-2.9**
	18nm,0.3s,baz=113,slow=23,SNR=6.3						
JHJ				S	**Sn**	**11 35 06.6**	**-6.3**
	40nm,0.3s,baz=99,slow=23,SNR=7.6						
USRK	**Ussuriysk Ar.**	**11.28**	**306**	Pn	**Pn**	**11 35 08.2**	**+0.3**
	0.4nm,0.3s,baz=107,slow=14,SNR=17						
USRK				LR	LR	11 39 49.7	
	comp=Z,92nm,19.8s,baz=84,slow=39						
JNU	**Nakatsue**	**12.28**	**250**	LR	LR	11 40 08.9	
	comp=Z,54nm,18.0s,baz=294,slow=38						
MDJ	**Mudanjiang**	**13.01**	**304**	*e*Pn	**Pn**	**11 35 31.9**	**+0.5**
	20nm,1.1s						
KSRS	**Korea Array**	**13.25**	**272**	Pn	**Pn**	**11 35 36.4**	**+1.6**
	0.2nm,0.3s,baz=80,slow=13,SNR=6.5						
KSRS				LR	LR	11 40 06.4	
	comp=Z,22nm,21.3s,baz=22,slow=34						
KSAR	**Wonju Array Be**	**13.28**	**272**	Pn	**Pn**	**11 35 36.4**	**+1.2**
KLR	**Kul'dur**	**14.45**	**324**	Pn	**Pn**	**11 35 49.1**	**-1.9**
	0.1nm,0.3s,baz=131,slow=13,SNR=4.4						
KLR				LR	LR	11 41 21.1	
	comp=Z,51nm,19.7s,baz=160,slow=37						
SEY	**Seymchan**	**25.24**	**8**	P	**P**	**11 37 51.9**	**+0.3**
	4.3nm,0.7s,baz=176,slow=4.5,SNR=13						
H11N2	**WAKE ISLAND Hy**	**26.65**	**127**	T	T	12 05 50.4	
	baz=319,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**26.66**	**127**	T	T	12 05 55.3	
	baz=319,slow=75,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**26.67**	**127**	T	T	12 05 44.6	
	baz=319,slow=75,SNR=7.1						
SONM	**Songino Array**	**29.34**	**302**	P	**P**	**11 38 29.1**	**+0.4**
	0.3nm,0.4s,baz=103,slow=12,SNR=2.7						
SONM				LR	LR	11 50 18.1	
	comp=Z,31nm,20.9s,baz=77,slow=36						
TLY	**Talaya**	**31.58**	**309**	LR	LR	11 52 35.4	
	comp=Z,35nm,18.2s,baz=92,slow=38						
ZALV	**Zalesovo Beam**	**43.07**	**312**	P	**P**	**11 40 26.2**	**+0.8**
	0.5nm,0.4s,baz=87,slow=7.6,SNR=3.8						
ZALV				LR	LR	11 59 55.2	
	comp=Z,19nm,18.1s,baz=248,slow=38						
NRIK	**Noril'sk**	**43.34**	**334**	LR	LR	12 00 17.2	
	comp=Z,41nm,18.5s,baz=111,slow=38						
CMAR	**Chiang Mai Arr**	**44.26**	**257**	LR	LR	12 01 52.5	
	comp=Z,12nm,19.2s,baz=315,slow=40						
MKAR	**Makanchi Array**	**45.70**	**302**	P	**P**	**11 40 46.9**	**+0.2**
	0.9nm,0.8s,baz=88,slow=7.4,SNR=6.9						
ILAR	**Eielson Array**	**47.16**	**33**	P	**P**	**11 40 57.0**	**-0.7**
	0.4nm,0.8s,baz=262,slow=5.7,SNR=4.4						
KURK	**Kurchatov**	**47.27**	**308**	*e*P	**P**	**11 41 00.0**	**+1.2**
	4.0nm,0.5s						
WRAB	**Tennant Creek**	**58.59**	**191**	*e*P	**P**	**11 42 24.0**	**+1.4**
	3.2nm,0.6s						
WRA	**Warramunga Arr**	**58.60**	**191**	P	**P**	**11 42 20.6**	**-2.0**
	2.3nm,0.6s,baz=9.2,slow=7.3,SNR=7.0						
FINES	**FINESS Array B**	**68.99**	**333**	P	**P**	**11 43 33.3**	**+2.7**
	0.8nm,0.7s,baz=64,slow=6.8,SNR=2.8						
FFC	**Flin Flon**	**71.35**	**34**	*e*P	**P**	**11 43 47.7**	**+2.6**
	0.8nm,0.3s						
DUG	**Dugway, Tooele**	**74.66**	**51**	*e*P	**P**	**11 44 06.6**	**+1.4**
	0.9nm,0.7s						
AKASG	**Malin Array Be**	**74.95**	**324**	LR	LR	12 19 48.0	
	comp=Z,18nm,19.1s,baz=240,slow=38						
PDAR	**Pinedale Array**	**75.03**	**47**	P	**P**	**11 44 07.6**	**+0.2**
	0.3nm,0.4s,baz=268,slow=4.5,SNR=5.3						
WUAZ	**Wupatki**	**78.43**	**54**	*e*P	**P**	**11 44 27.8**	**+1.1**
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**87.39**	**54**	P	**P**	**11 45 13.1**	**0.0**
	0.2nm,0.7s,baz=331,slow=3.5,SNR=3.5						

IDC 28 11:35:36.5±1.8, 6˚.26S×130˚.03E, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.7/40, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=85.5km s-min=25.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.53**	**200**	Pn	Pn	11 38 35.2	-1.1
	0.8nm,0.3s,baz=29,slow=13,SNR=39						
FITZ				Sn	Sn	11 40 40.4	-16
	0.5nm,0.3s,baz=285,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**14.23**	**163**	Pn	Pn	11 38 58.6	-0.9
	0.3nm,0.3s,baz=348,slow=10,SNR=23						
WRA				Sn	Sn	11 41 26.4	-12
	1.1nm,0.3s,baz=333,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.71**	**168**	P	P	11 39 45.3	-0.5
	0.5nm,0.3s,baz=347,slow=9.7,SNR=54						
ASAR				S	Sn	11 42 50.2	-13
	0.2nm,0.3s,baz=345,slow=26,SNR=5.1						
STKA	**Stephens Creek**	**27.69**	**158**	P	P	11 41 26.9	+0.4
	0.7nm,0.4s,baz=334,slow=11,SNR=5.0						
**MKA

*ISCJB **28** 11:44:33.6±0.6,50.°15N±0.°04×19.°03E±0.°03, h0km, Error ellipse: s-maj=5.7km s-min=2.4km az=14.5*
*CSEM **28** 11:44:34.6±0.3,50.°16N×19.°09E, h2km, ML2.9/9, Error ellipse: s-maj=7.8km s-min=3.5km az=9.0*
*IPEC **28** 11:44:35.1±0.2,50.°17N×19.°14E, h2km,2km, ML2.2/3, Error ellipse: s-maj=2.8km s-min=1.1km az=166.0*
*WAR **28** 11:44:35.5,50.09N×19.19E, h1km, Mw2.5*
*PRU **28** 11:44:35.3,50.16N×19.09E, h0km*

ISC 28 11:44:35.4±0.8, 50.°04N±0.°03×19.°10E±0.°02, h0km, n36, σ1s06/54, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.26**	**344**	*e*Pg	**Pg**	**11 44 42.7**	**+2.3**
CHZP	**Chorzow**	**0.26**	**344**	*e*Pg	**Pg**	**11 44 42.7**	**+2.2**
CHZP				*e*Sg	**Sg**	**11 44 47.5**	**+3.7**
OJC	**Ojcow**	**0.48**	**68**	*e*Pg	**Pg**	**11 44 43.3**	**-1.4**
OJC				*e*Sg	**Sg**	**11 44 49.6**	**-1.3**
OJC	**Ojcow**	**0.48**	**68**	*e*Pg	**Pg**	**11 44 43.3**	**-1.4**
OJC				*e*Sg	**Sg**	**11 44 49.6**	**-1.3**
OJC	**Ojcow**	**0.48**	**68**	*e*Pg	**Pg**	**11 44 43.3**	**-1.4**
OJC				*e*Sg	**Sg**	**11 44 49.6**	**-1.3**
OKC	**Ostrava-Krasne**	**0.65**	**252**	*e*PG	**Pb**	**11 44 49.4**	**-0.2**
OKC				*e*SG	**Sb**	**11 44 58.4**	**-0.8**
	20nm,0.4s						
OKC	**Ostrava-Krasne**	**0.65**	**252**	Pg	**Pb**	**11 44 49.4**	**-0.2**
OKC				Sg	**Sb**	**11 44 58.4**	**-0.8**
	20nm,0.4s						
LANS	**Liptovska Anna**	**0.92**	**165**	*e*Pg	**Pg**	**11 44 54.0**	**+1.0**
LANS				*e*Sg	**Sb**	**11 45 07.7**	**+0.6**
LANS	**Liptovska Anna**	**0.92**	**165**	*e*PG	**Pg**	**11 44 54.0**	**+1.0**
LANS				*e*SG	**Sb**	**11 45 07.7**	**+0.6**
NIE	**Niedzica**	**0.99**	**128**	*e*Pg	**Pb**	**11 44 55.9**	**+0.4**
NIE				*e*Sg	**Sb**	**11 45 10.6**	**+1.4**
NIE	**Niedzica**	**0.99**	**128**	*e*Pg	**Pb**	**11 44 55.9**	**+0.4**
NIE				*e*Sg	**Sb**	**11 45 10.6**	**+1.4**
NIE	**Niedzica**	**0.99**	**128**	*e*Pg	**Pb**	**11 44 55.9**	**+0.4**
NIE				*e*Sg	**Sb**	**11 45 10.6**	**+1.4**
MORC	**Moravsky Berou**	**1.04**	**256**	*e*Pg	**Pb**	**11 44 56.3**	**-0.1**
MORC				*e*Sg	**Sb**	**11 45 10.2**	**-0.4**
	32nm,0.4s						
KRLC	**Kraliky**	**1.50**	**272**	*e*SG	**Sg**	**11 45 23.1**	**-0.4**
KRLC	**Kraliky**	**1.50**	**272**	Sg	**Sg**	**11 45 23.1**	**-0.4**
VYHS	**Vyhne**	**1.56**	**187**	*e*Pn	**Pn**	**11 45 04.0**	**-0.4**
VYHS				*e*Sn	**Sn**	**11 45 25.6**	**+0.3**
VYHS	**Vyhne**	**1.56**	**187**	*e*PN	**Pn**	**11 45 04.0**	**-0.4**
VYHS				*e*SN	**Sn**	**11 45 25.5**	**+0.3**
VYHS				*e*LG	Lg	11 45 27.7	
VRAC	**Vranov**	**1.79**	**247**	*e*Pn	**Pb**	**11 45 08.3**	**-0.7**
VRAC				*e*Sg	**Sg**	**11 45 33.1**	**+0.3**
	13nm,0.7s						
KECS	**Kecovo**	**1.80**	**149**	*e*Sn	**Sn**	**11 45 32.0**	**+0.7**
KECS	**Kecovo**	**1.80**	**149**	*e*SN	**Sn**	**11 45 32.0**	**+0.7**
KECS				*e*LG	Lg	11 45 33.2	
DPC	**Dobruska-Polom**	**1.81**	**281**	*e*PG	**Pn**	**11 45 07.2**	**-0.7**
DPC				*e*SG	**Sb**	**11 45 32.2**	**-0.6**
	13nm,0.4s						
DPC	**Dobruska-Polom**	**1.81**	**281**	Pg	**Pn**	**11 45 07.2**	**-0.7**
DPC				Sg	**Sb**	**11 45 32.2**	**-0.6**
	13nm,0.4s						
CRVS	**Cervenica-Dubn**	**1.91**	**126**	*e*Sn	**Sg**	**11 45 36.9**	**0.0**
CRVS	**Cervenica-Dubn**	**1.91**	**126**	*e*SN	**Sg**	**11 45 36.9**	**0.0**
KRUC	**Moravsky**	**2.02**	**242**	*e*Pg	**Pb**	**11 45 13.2**	**+0.3**
KRUC				*e*Sg	**Sg**	**11 45 40.4**	**+0.2**
	19nm,0.7s						
UPC	**Upice**	**2.04**	**284**	*e*SG	**Sb**	**11 45 38.5**	**-0.7**
UPC	**Upice**	**2.04**	**284**	Sg	**Sb**	**11 45 38.5**	**-0.7**
GOPC	**GO Pecny, Ondr**	**2.79**	**269**	*e*SG	**Sg**	**11 46 04.2**	**-0.8**
	4.4nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.79**	**269**	Sg	**Sg**	**11 46 04.2**	**-0.8**
	4.4nm,0.3s						
PRU	**Pruhonice**	**2.94**	**271**	*e*SG	**Sg**	**11 46 08.9**	**-1.0**
	5.6nm,0.4s						
PRU	**Pruhonice**	**2.94**	**271**	Sg	**Sg**	**11 46 08.9**	**-1.0**
	5.6nm,0.4s						
PVCC	**Panska Ves**	**2.95**	**281**	*e*SG	**Sg**	**11 46 09.0**	**-1.1**
	11nm,0.3s						
PVCC	**Panska Ves**	**2.95**	**281**	Sg	**Sg**	**11 46 09.0**	**-1.1**
	11nm,0.3s						
BRG	**Berggiesshubel**	**3.40**	**286**	SG	**Sg**	**11 46 24.7**	**+0.1**
	3.7nm,0.8s						
KHC	**Kasperske Hory**	**3.71**	**258**	*e*SG	**Sg**	**11 46 33.8**	**-0.7**
	4.5nm,0.4s						
KHC	**Kasperske Hory**	**3.71**	**258**	Sg	**Sg**	**11 46 33.8**	**-0.7**
	4.5nm,0.4s						

*ISK **28** 11:46:15.5,38.°59N×39.°57E, h5km, MD2.9*
*ISCJB **28** 11:46:17.1±0.6,38.°60N±0.°03×39.°55E±0.°05, h8km±7km, Error ellipse: s-maj=7.1km s-min=5.0km az=33.1*
*CSEM **28** 11:46:17.5±0.3,38.°60N×39.°50E, h10km, MD2.9, Error ellipse: s-maj=7.5km s-min=6.3km az=146.0*
*DDA **28** 11:46:17.5,38.°62N×39.°54E, h7km, Md2.7*

ISC 28 11:46:16.3±1.1, 38.°60N±0.°03×39.°53E±0.°03, h17km±10km, n24, σ0s87/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.28**	**219**	*e*PG	**Pb**	**11 46 22.6**	**-0.5**
SVRC				*e*SG	**Sb**	**11 46 27.9**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.28**	**219**	*e*Pg	**Pb**	**11 46 22.6**	**-0.5**
SVRC				*e*Sg	**Sb**	**11 46 27.9**	**+0.3**
PTK	**Pertek**	**0.31**	**340**	*e*PG	**Pg**	**11 46 23.4**	**+0.3**
PTK	**Pertek**	**0.31**	**340**	*e*Pg	**Pg**	**11 46 23.4**	**+0.3**
ELZG	**Elazig**	**0.44**	**257**	P	**Pb**	**11 46 25.8**	**0.0**
ELZG				S	**Sb**	**11 46 32.6**	**+0.5**
ELZG	**Elazig**	**0.44**	**257**	*i* P	**Pb**	**11 46 25.8**	**0.0**
ELZG				*i* S	**Sb**	**11 46 32.6**	**+0.5**
BINT	**Bingol**	**0.80**	**70**	*e*PG	**Pn**	**11 46 35.1**	**+2.2**
BNGB	**Bing ¶ll**	**0.98**	**66**	*e*PG	**Pb**	**11 46 35.1**	**+0.2**
ERZN	**Erzincan**	**1.00**	**9**	*e*PG	**Pb**	**11 46 35.7**	**-0.5**
ERZN				*e*SG	**Sn**	**11 46 51.0**	**+1.6**
EZC	**Erzincan**	**1.16**	**353**	*e*Pg	**Pn**	**11 46 35.7**	**-2.2**
EZC				*e*Sg	**Sb**	**11 46 51.0**	**-1.8**
URFA	**Urfa**	**1.29**	**206**	*e*PN	**Pg**	**11 46 41.4**	**+0.2**
URFA	**Urfa**	**1.29**	**206**	*e*Pn	**Pg**	**11 46 41.4**	**+0.2**
MAZI	**Mazidag**	**1.35**	**147**	*e*Pn	**Pg**	**11 46 41.9**	**-0.4**
MAZI	**Mazidag**	**1.35**	**147**	*e*Pn	**Pg**	**11 46 41.9**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.39**	**108**	*e*PN	**Pg**	**11 46 42.4**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.39**	**108**	*e*Pn	**Pg**	**11 46 42.4**	**-0.7**
BTMN	**Batman**	**1.54**	**117**	P	**Pg**	**11 46 45.0**	**-1.0**
BTMN				S	**Sg**	**11 47 06.3**	**+0.2**
BTMN	**Batman**	**1.54**	**117**	*i* P	**Pg**	**11 46 45.0**	**-1.0**
BTMN				*i* S	**Sg**	**11 47 06.3**	**+0.2**
DARE	**Darende-Malaty**	**1.60**	**270**	*e*PN	**Pg**	**11 46 46.5**	**-0.7**
DARE	**Darende-Malaty**	**1.60**	**270**	*e*Pn	**Pg**	**11 46 46.5**	**-0.7**
MARD	**Mardin**	**1.62**	**142**	*i* P	**Pb**	**11 46 45.6**	**-0.2**
MARD				*i* S	**Sb**	**11 47 05.6**	**-0.4**
GUMT	**Gumushane**	**1.86**	**359**	*e*PN	**Pb**	**11 46 50.1**	**+0.2**
GUMT	**Gumushane**	**1.86**	**359**	*e*Pn	**Pb**	**11 46 50.1**	**+0.2**
EZM	**Erzurum**	**1.93**	**47**	*e*PN	**Pb**	**11 46 50.7**	**-0.5**

*GUC **28** 12:08:56.5±0.6,35.°87S×73.°43W, h14km±8km, ML4.0*

ISC 28 12:08:55.5±2.7, 35.°81S±0.°05×73.°4W±0.°1, h7km±14km, n19, σ2s43/29, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.61**	**122**	*i* P	**Pg**	**12 09 08.1**	**+0.9**
COCH				*i* S	**Sb**	**12 09 16.9**	**-0.4**
COCH				IAML		12 09 18.7	
	comp=E,27μm,0.4s						
CCHI	**Chillan**	**1.35**	**126**	*i* P	**Pn**	**12 09 19.9**	**-0.9**
CCHI				*i* S	**Sn**	**12 09 37.9**	**-1.0**
CCHI				IAML		12 09 49.2	
	comp=N,4μm,0.7s						
TALC	**Talca**	**1.52**	**75**	*i* P	**Pn**	**12 09 23.5**	**+0.4**
TALC				*i* S	**Sn**	**12 09 43.4**	**+0.3**
NICH	**Los Niches**	**1.97**	**66**	*i* P	**Pn**	**12 09 31.0**	**+1.7**
NICH				*i* S	**Sb**	**12 09 57.4**	**+0.9**
NICH				IAML		12 10 08.0	
	comp=N,2μm,0.6s						
CANA	**Caviahue**	**2.81**	**138**	*i* P	**Pn**	**12 09 41.5**	**+0.4**
CANA				*i* S	**Sg**	**12 10 26.0**	**+0.2**
AAGR	**Agrelo**	**4.67**	**56**	*i* P	**Pn**	**12 10 08.3**	**+1.7**
AAGR				*i* S	**Sb**	**12 11 12.3**	**-2.1**
ARCO	**CERRO ARCO**	**4.76**	**53**	*i* P	**Pn**	**12 10 09.7**	**+2.0**
ARCO				*i* S	**Sb**	**12 11 14.1**	**-2.8**
ARCO				IAML		12 11 37.5	
	comp=Z,22nm,0.7s						
AUSP	**Uspallata**	**4.91**	**44**	*i* P	**Pn**	**12 10 11.7**	**+1.7**
AUSP				*i* S	**Sb**	**12 11 19.3**	**-2.0**
ASAL	**Salagasta**	**4.98**	**51**	*i* P	**Pn**	**12 10 11.9**	**+1.1**
RTLS	**Leoncito**	**5.28**	**42**	*i* P	**Pn**	**12 10 16.3**	**+1.3**
RTLS				*i* S	**Sb**	**12 11 27.0**	**-4.9**
ACAN	**Cantantal**	**6.27**	**58**	*i* P	**Pn**	**12 10 25.4**	**-3.0**
ACCO	**Cerro Coronel**	**6.36**	**36**	*i* P	**Pn**	**12 10 29.5**	**-0.5**
AMOG	**MOGNA**	**6.38**	**42**	*i* P	**Pn**	**12 10 28.4**	**-1.6**
AROD	**Rodeo**	**6.54**	**32**	*i* P	**Pn**	**12 10 31.6**	**-0.8**
AROD				*i* S	**Sn**	**12 11 52.8**	**+5.4**
ACDV	**Cuesta del Vie**	**6.69**	**34**	*i* P	**Pn**	**12 10 32.8**	**-1.6**
ACDV				*i* S	**Sn**	**12 11 55.1**	**+4.2**
AVFE	**Valle Fertil**	**7.17**	**46**	*i* P	**Pn**	**12 10 37.1**	**-3.8**
AVFE				IAML		12 12 01.6	
	comp=Z,6.1nm,0.6s						
AVFE				*i* S	**Sn**	**12 12 03.3**	**+0.6**
ACHE	**Chepes**	**7.31**	**53**	*i* P	Pn	12 10 38.2	-4.6
AGUA	**GUANDACOL**	**7.56**	**35**	*i* P	**Pn**	**12 10 42.9**	**-3.3**
VCA	**Vinchina**	**8.32**	**34**	IAML		12 11 01.2	
	comp=Z,11nm,0.2s						

*DDA **28** 12:11:41.5,39.°11N×29.°04E, h7km, Md3.0*
*ISK **28** 12:11:41.4,39.°08N×29.°06E, h5km, ML3.0*
*CSEM **28** 12:11:42.0±0.1,39.°10N×29.°05E, h2km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.2km az=170.0*

ISC 28 12:11:42.0±1.0, 39.°11N±0.°02×29.°05E±0.°02, h7km±9km, n59, σ0s68/77, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**256**	P	**Pg**	**12 11 47.4**	**0.0**
DEMI				S	**Sg**	**12 11 51.2**	**+0.2**
DEMI	**Demirci**	**0.27**	**256**	*i* P	**Pg**	**12 11 47.4**	**0.0**
DEMI				*i* S	**Sg**	**12 11 51.2**	**+0.2**
GEDZ	**Gediz**	**0.28**	**103**	*e*PG	**Pg**	**12 11 47.8**	**+0.2**
GEDZ	**Gediz**	**0.28**	**103**	*e*Pg	**Pg**	**12 11 47.8**	**+0.2**
GDZ	**Gediz**	**0.33**	**93**	P	**Pg**	**12 11 48.5**	**-0.1**
GDZ				S	**Sg**	**12 11 53.3**	**+0.3**
GDZ	**Gediz**	**0.33**	**93**	*i* P	**Pg**	**12 11 48.5**	**-0.1**
GDZ				*i* S	**Sg**	**12 11 53.3**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**43**	*e*PG	**Pg**	**12 11 51.1**	**0.0**
TVSB				*e*SG	**Sg**	**12 11 57.9**	**+0.7**
TVSB	**Tavsanli**	**0.47**	**43**	*e*Pg	**Pg**	**12 11 51.1**	**0.0**
TVSB				*e*Sg	**Sg**	**12 11 57.9**	**+0.7**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*PG	**Pg**	**12 11 54.5**	**-0.4**
KULA				*e*SG	**Sg**	**12 12 03.1**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*Pg	**Pg**	**12 11 54.5**	**-0.4**
KULA				*e*Sg	**Sg**	**12 12 03.1**	**-0.4**
KHL	**Karahalli**	**0.86**	**155**	*e*PG	**Pg**	**12 11 57.6**	**-1.0**
KHL	**Karahalli**	**0.86**	**155**	*e*Pg	**Pg**	**12 11 57.6**	**-1.0**
AKS	**Akhisar**	**0.99**	**257**	*e*PG	**Pb**	**12 12 01.6**	**0.0**
AKS	**Akhisar**	**0.99**	**257**	*e*Pg	**Pb**	**12 12 01.6**	**0.0**
BALB	**Balikesir**	**1.05**	**301**	*e*PG	**Pn**	**12 12 02.9**	**-0.3**
BALB	**Balikesir**	**1.05**	**301**	*e*Pg	**Pn**	**12 12 02.9**	**-0.3**
IGD	**Bursa**	**1.16**	**6**	*i* P	**Pg**	**12 12 03.0**	**-1.3**
IGD				*i* S	**Sb**	**12 12 20.1**	**+0.5**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*PN	**Pn**	**12 12 06.0**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*Pn	**Pn**	**12 12 06.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN	**Pb**	**12 12 06.0**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn	**Pb**	**12 12 06.0**	**-0.2**
IZI	**Iznik**	**1.27**	**15**	*e*PN	**Pn**	**12 12 06.3**	**0.0**
IZI	**Iznik**	**1.27**	**15**	*e*Pn	**Pn**	**12 12 06.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pb**	**12 12 06.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pb**	**12 12 06.4**	**0.0**
BALY	**Balya**	**1.28**	**300**	P	**Pb**	**12 12 06.5**	**+0.1**
BALY				S	**Sn**	**12 12 23.7**	**-0.1**
BALY	**Balya**	**1.28**	**300**	*i* P	**Pb**	**12 12 06.5**	**+0.1**
BALY				*i* S	**Sn**	**12 12 23.7**	**-0.1**
BORA	**Eskisehir**	**1.33**	**54**	P	**Pn**	**12 12 06.7**	**-0.4**
BORA				S	**Sn**	**12 12 25.1**	**0.0**
BORA	**Eskisehir**	**1.33**	**54**	*i* P	**Pn**	**12 12 06.7**	**-0.4**
BORA				*i* S	**Sn**	**12 12 25.1**	**0.0**
GEMT	**Gemlik**	**1.33**	**4**	*e*PN	**Pg**	**12 12 07.5**	**0.0**
GEMT	**Gemlik**	**1.33**	**4**	*e*Pn	**Pg**	**12 12 07.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN	**Pg**	**12 12 09.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn	**Pg**	**12 12 09.0**	**-0.1**
DNZL	**Cakiroluk**	**1.42**	**180**	P	**Pg**	**12 12 08.8**	**-0.4**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pg**	**12 12 08.8**	**-0.4**
DNZL				*i* S	**Sn**	**12 12 29.9**	**+2.6**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pg**	**12 12 09.4**	**+0.1**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pg**	**12 12 09.5**	**+0.1**
ESKT	**Eskisehir**	**1.45**	**73**	*e*PN	**Pg**	**12 12 09.9**	**0.0**
ESKT	**Eskisehir**	**1.45**	**73**	*e*Pn	**Pg**	**12 12 09.9**	**0.0**
ESKT	**Eskisehir**	**1.45**	**73**	*i* P	**Pn**	**12 12 08.4**	**-0.4**
ESKT				*i* S	**Sb**	**12 12 27.9**	**-0.3**
SEYT	**Eskypehyr**	**1.45**	**73**	P	**Pn**	**12 12 08.4**	**-0.4**
SEYT				S	**Sb**	**12 12 27.9**	**-0.3**
ARMT	**Armutlu**	**1.46**	**354**	*e*PN	**Pb**	**12 12 09.3**	**-0.3**
ARMT	**Armutlu**	**1.46**	**354**	*e*Pn	**Pb**	**12 12 09.3**	**-0.3**
BOLV	**Bolvadin**	**1.53**	**104**	P	**Pg**	**12 12 10.9**	**-0.5**
BOLV				S	**Sg**	**12 12 33.1**	**+1.9**
BOLV	**Bolvadin**	**1.53**	**104**	*i* P	**Pg**	**12 12 10.9**	**-0.5**
BOLV				*i* S	**Sg**	**12 12 33.1**	**+1.9**
EDC	**Edincik**	**1.54**	**324**	*e*PN	**Pn**	**12 12 10.1**	**+0.2**
EDC	**Edincik**	**1.54**	**324**	*e*Pn	**Pn**	**12 12 10.1**	**+0.2**
GULT	**Gulveren**	**1.74**	**40**	*e*PN	**Pb**	**12 12 13.8**	**-0.5**
GULT	**Gulveren**	**1.74**	**40**	*e*Pn	**Pb**	**12 12 13.8**	**-0.5**
HRT	**Hereke**	**1.78**	**15**	*e*PN	**Pb**	**12 12 14.2**	**-0.7**
HRT	**Hereke**	**1.78**	**15**	*e*Pn	**Pb**	**12 12 14.2**	**-0.7**
SPNC	**Sapanca-Adapaz**	**1.85**	**31**	*e*PN	**Pb**	**12 12 15.2**	**-0.9**
SPNC	**Sapanca-Adapaz**	**1.85**	**31**	*e*Pn	**Pb**	**12 12 15.2**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*PN	**Pn**	**12 12 16.2**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*Pn	**Pn**	**12 12 16.2**	**+0.6**
ISK	**Istanbul-Kandi**	**1.96**	**0**	*e*PN	**Pb**	**12 12 16.7**	**-1.3**
ISK	**Istanbul-Kandi**	**1.96**	**0**	*e*Pn	**Pb**	**12 12 16.7**	**-1.3**
MDUB	**Mudurnu**	**2.14**	**50**	*e*PN	**Pb**	**12 12 19.6**	**-1.5**
MDUB	**Mudurnu**	**2.14**	**50**	*e*Pn	**Pb**	**12 12 19.7**	**-1.5**

*NIED **28** 12:18:00,33.°00N×130.°70E, h11km, Mw4.1 Best double couple: Mo1.64000×10^15 NP1:φs219.00000°, δ76.00000°, λ179.00000°. NP2:φs310.00000°, δ89.00000°, λ14.00000°.*
*ISCJB **28** 12:18:25.9±0.6,33.°03N±0.°04×130.°73E±0.°06, h13km±4km, mb3.5/5, MS3.1/7, Error ellipse: s-maj=8.5km s-min=6.3km az=36.1*
*IDC **28** 12:18:26.2±0.9,33.°10N×130.°67E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/49, mbtmp3.6/8, ML2.8/3, MS3.1/10, Ms1 3.1/10, ms1mx2.9/48, Error ellipse: s-maj=15.9km s-min=6.0km az=178.0*
*JMA **28** 12:18:26.2,33.°02N×130.°74E, h11km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs130.00000°, δ87.00000°, λ-10.00000°. NP2: φs221.00000°, δ80.00000°, λ-177.00000°. Principal axes: T Plg5.0000°, Azm176.0000°; N Plg80.0000°, Azm295.0000°; P Plg9.0000°, Azm85.0000°;*
JMA Felt IV J1.

ISC 28 12:18:27.1±1.1, 33.°02N±0.°04×130.°72E±0.°04, h5km±8km, n20, σ1s38/17, mb3.5/5, MS3.1/7, 1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTA	**Tamana**	**0.17**	**252**	⇓P	**Pg**	**12 18 30.2**	**-0.2**
JTA				S	**Sg**	**12 18 33.2**	**+0.6**
JNU	**Nakatsue**	**0.17**	**52**	Pg	**Pg**	**12 18 29.4**	**-1.2**
	17μm,0.3s,baz=288,slow=20,SNR=5807						
JNU				Lg	Lg	12 18 32.1	
	22μm,0.3s,baz=348,slow=19,SNR=658						
JNU				LR	LR	12 18 46.0	
	comp=Z,681nm,20.0s,baz=4.5,slow=113						
JNU	**Nakatsue**	**0.17**	**52**	⇓P	**Pg**	**12 18 29.9**	**-0.6**
JNU				S	**Sg**	**12 18 32.5**	**-0.3**
JIU2	**Izumi 2**	**0.48**	**170**	⇑P	**Pg**	**12 18 35.5**	**-0.8**
JIU2				S	**Sg**	**12 18 42.2**	**-0.3**
KSRS	**Korea Array**	**4.98**	**333**	Pn	**Pn**	**12 19 41.2**	**-1.4**
	0.4nm,0.3s,baz=150,slow=15,SNR=4.9						
KSRS				Pg	**Pb**	**12 19 56.8**	**+1.9**
	2.4nm,0.3s,baz=152,slow=17,SNR=33						
KSRS				Lg	Lg	12 21 00.5	
	4.3nm,0.3s,baz=160,slow=25,SNR=6.2						
MAT	**Matsushiro**	**7.09**	**58**	P	**Pn**	**12 20 11.8**	**+0.1**
MAT				*e*S	Sn	12 21 42.6	+10
MJAR	**Matsushiro Arr**	**7.09**	**58**	Pn	**Pn**	**12 20 12.3**	**+0.6**
	1.1nm,0.3s,baz=242,slow=14,SNR=35						
MJAR				Lg	Lg	12 22 10.0	
	0.3nm,0.3s,baz=237,slow=29,SNR=8.5						
MJAR				LR	LR	12 23 05.7	
	comp=Z,130nm,19.8s,baz=255,slow=39						
USRK	**Ussuriysk Ar.**	**11.21**	**5**	Pn	**Pn**	**12 21 08.7**	**+0.7**
	0.1nm,0.3s,baz=183,slow=16,SNR=5.7						
USRK				LR	LR	12 25 09.2	
	comp=Z,69nm,18.3s,baz=168,slow=36						
KLR	**Kul'dur**	**16.22**	**2**	LR	LR	12 27 57.5	
	comp=Z,49nm,19.3s,baz=160,slow=35						
SONM	**Songino Array**	**23.57**	**316**	P	**P**	**12 23 36.8**	**-1.9**
	1.0nm,0.9s,baz=120,slow=8.8,SNR=4.8						
SONM				LR	LR	12 33 39.3	
	comp=Z,48nm,19.9s,baz=89,slow=39						
DAV	**Davao City (W)**	**26.25**	**192**	LR	LR	12 34 40.7	
	comp=Z,51nm,20.1s,baz=341,slow=37						
MA2	**Magadan**	**29.71**	**21**	LR	LR	12 37 39.1	
	comp=Z,38nm,18.4s,baz=126,slow=39						
CMAR	**Chiang Mai Arr**	**31.94**	**251**	LR	LR	12 36 32.4	
	comp=Z,18nm,21.1s,baz=255,slow=34						
ZALV	**Zalesovo Beam**	**38.46**	**317**	LR	LR	12 40 44.7	
	comp=Z,25nm,19.1s,baz=68,slow=35						
KURBB	**Kurchatov Arra**	**41.74**	**311**	P	**P**	**12 26 14.9**	**-2.2**
	0.5nm,0.6s,baz=96,slow=8.2,SNR=5.3						
WRA	**Warramunga Arr**	**52.77**	**176**	P	**P**	**12 27 45.4**	**+2.1**
	0.6nm,0.8s,baz=355,slow=8.1,SNR=3.9						
ASAR	**Alice Springs**	**56.45**	**176**	P	**P**	**12 28 08.8**	**-1.2**
	0.4nm,0.7s,baz=13,slow=12,SNR=3.7						
ARCES	**ARCESS Array B**	**64.53**	**338**	LR	LR	13 03 00.8	
	comp=Z,25nm,18.1s,baz=107,slow=42						
KBZ	**Khabaz**	**66.63**	**308**	LR	LR	13 01 37.7	
	comp=Z,30nm,18.2s,baz=150,slow=39						
FINES	**FINESS Array B**	**68.06**	**330**	P	**P**	**12 29 28.2**	**+0.8**
	0.9nm,0.7s,baz=35,slow=7.0,SNR=3.7						

*IDC **28** 12:19:56.8±1.1,26.°89N×143.°90E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.8/45, mbtmp3.9/10, ML3.0/2, Error ellipse: s-maj=37.3km s-min=16.9km az=79.0*
*ISCJB **28** 12:19:59.9±0.7,26.°93N±0.°08×143.°79E±0.°09, h33km, mb4.2/13, Error ellipse: s-maj=13.3km s-min=10.3km az=39.4*
*NEIC **28** 12:20:02.3±0.7,26.°96N×143.°72E, h35km, mb4.6/5, Error ellipse: s-maj=19.9km s-min=10.9km az=75.0*

ISC 28 12:20:02.3±0.9, 27.°0N±0.°1×143.°7E±0.°1, h35km, n16, σ1s00/17, mb4.2/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.37**	**276**	*e*Pn	**Pn**	**12 20 23.7**	**-1.2**
CBIJ				*e*Sn	**Sn**	**12 20 41.8**	**0.0**
MJAR	**Matsushiro Arr**	**10.63**	**335**	Pn	**Pn**	**12 22 30.4**	**-1.7**
	0.7nm,0.3s,baz=154,slow=8.0,SNR=5.6						
USRK	**Ussuriysk Ar.**	**19.62**	**334**	P	**Pn**	**12 24 29.8**	**+0.5**
	0.1nm,0.3s,baz=143,slow=10,SNR=4.2						
CMAR	**Chiang Mai Arr**	**41.98**	**268**	P	**P**	**12 27 50.9**	**+0.6**
	0.6nm,0.4s,baz=72,slow=5.5,SNR=4.5						
WRAB	**Tennant Creek**	**47.50**	**192**	*e*P	**P**	**12 28 34.4**	**+0.3**
	7.7nm,1.1s						
WRA	**Warramunga Arr**	**47.51**	**192**	P	**P**	**12 28 34.0**	**-0.1**
	3.7nm,0.6s,baz=12,slow=8.6,SNR=19						
FITZ	**Fitzroy Crossi**	**48.11**	**203**	*e*P	**P**	**12 28 39.7**	**+0.9**
	3.4nm,0.7s						
ZALV	**

PLCA	**Paso Flores**	**5.87**	**162**	Pn	**Pn**	**12 28 48.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=2.1						
PLCA				Lg	Lg	12 30 22.7	
	comp=Z,0.7nm,0.3s,baz=274,slow=19,SNR=3.2						
PLCA				LR	LR	12 31 06.1	
	comp=Z,93nm,18.3s,baz=331,slow=39						
ACDV	**Cuesta del Vie**	**5.97**	**34**	*i* P	**Pn**	**12 28 45.6**	**-2.9**
ACDV				*i* S	Sn	12 30 05.8	+10
AVFE	**Valle Fertil**	**6.48**	**47**	*i* P	Pn	12 28 50.0	-5.5
AVFE				IAML		12 30 29.8	
	comp=Z,12nm,0.6s						
ACHE	**Chepes**	**6.65**	**55**	*i* P	Pn	12 28 51.5	-6.3
ACHE				*i* S	**Sn**	**12 30 15.6**	**+3.1**
AGUA	**GUANDACOL**	**6.84**	**35**	*i* P	Pn	12 28 54.6	-5.7
AGUA				*i* S	**Sn**	**12 30 21.4**	**+4.3**
LPAZ	**La Paz**	**19.31**	**14**	P	**Pn**	**12 31 45.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=206,slow=7.7,SNR=6.9						
SIV	**San Ignacio**	**21.89**	**32**	P	**P**	**12 32 10.3**	**-2.2**
	comp=Z,2.4nm,0.7s,baz=219,slow=9.6,SNR=6.2						
TXAR	**Lajitas Array**	**70.39**	**332**	P	**P**	**12 38 33.5**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=157,slow=9.8,SNR=4.5						

*NNC **28** 12:36:40.4±3.8,54°.12N×86°.44E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=36.5km s-min=28.0km az=86.0*
*IDC **28** 12:36:40.3±2.1,54°.24N×86°.10E,h0km,mb1 3.5/3, mb1mx3.2/54,mbtmp3.5/3,ML3.1/3,Error ellipse: s-maj=17.6km s-min=10.2km az=61.0*
ISC 28 12:36:44.0±6.8,**54°.3N**±0°.2×**86°.1E**±0°.4,**h35**km,**n8,** σ0.8**59**/8, **5C-2D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.86**	**245**	*i*		12 41 10.0	
	baz=68,slow=310,SNR=2.3						
ZALV	**Zalesovo Beam**	**0.86**	**245**	Pg	Pn	12 36 54.3	-5.3
	1.4nm,0.3s,baz=65,slow=17,SNR=22						
ZALV				Lg	Lg	12 37 07.2	
	6.6nm,0.3s,baz=69,slow=31,SNR=42						
KURK	**Kurchatov**	**5.83**	**235**	⇑Pn	**Pn**	**12 38 08.3**	**+0.4**
	2.7nm,0.8s						
KURK				⇑Lg	Lg	12 39 48.6	
	6.7nm,1.0s						
KURBB	**Kurchatov Arra**	**5.94**	**235**	Pn	**Pn**	**12 38 09.8**	**+0.4**
	0.2nm,0.3s,baz=52,slow=14,SNR=12						
KURBB				Lg	Lg	12 39 48.8	
	0.1nm,0.3s,baz=53,slow=30,SNR=5.0						
KURBB	**Kurchatov Arra**	**5.94**	**235**	⇓Pn	**Pn**	**12 38 09.5**	**+0.1**
	2.9nm,0.5s						
KURBB				⇑Lg	Lg	12 39 52.1	
	7.5nm,0.7s						
MK31	**Makanchi Array**	**7.92**	**200**	⇑Pn	**Pn**	**12 38 36.6**	**0.0**
	2.1nm,0.6s,baz=25,slow=13,SNR=11						
MK31				⇓Sn	**Sn**	**12 40 04.3**	**-0.6**
	0.4nm,0.4s,baz=35,slow=25,SNR=5.2						
MK31				⇑Lg	Lg	12 40 48.7	
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**7.92**	**200**	Pn	**Pn**	**12 38 36.0**	**-0.6**
	0.7nm,0.3s,baz=24,slow=13,SNR=14						
MKAR				Sn	**Sn**	**12 40 05.5**	**+0.6**
	0.1nm,0.3s,baz=27,slow=27,SNR=7.3						
MKAR				Lg	Lg	12 40 49.5	
	0.2nm,0.3s,baz=16,slow=27,SNR=3.6						
BVAR	**Borovoye Array**	**9.44**	**269**	Pn	**Pn**	**12 38 56.8**	**-0.6**
	0.3nm,0.3s,baz=74,slow=16,SNR=5.0						

*DDA **28** 12:44:45.0,37°.09N×32°.87E,h6km,Md3.2*
*ISCJB **28** 12:44:45.8±1.0,37°.06N±0°.03×32°.84E±0°.04,h4km±7km, Error ellipse: s-maj=5.6km s-min=4.5km az=27.8*
*CSEM **28** 12:44:45.9±0.2,37°.06N×32°.88E,h5km,MD3.0,Error ellipse: s-maj=4.5km s-min=4.0km az=28.0*
*ISK **28** 12:44:46.5,37°.11N×32°.86E,h10km,MD3.0*
ISC 28 12:44:46.0±1.1,**37°.09N**±0°.03×**32°.87E**±0°.02,**h6**km±11km, **n29,** σ0.**982**/47,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.95**	**335**	*e*PG	**Pb**	**12 45 04.8**	**0.0**
KONT				*e*SG	**Sb**	**12 45 18.6**	**+0.9**
KONT	**Konya--Tatoy**	**0.95**	**335**	*e*Pg	**Pb**	**12 45 04.8**	**0.0**
KONT				*e*Sg	**Sb**	**12 45 18.6**	**+0.9**
GAZI	**Gazipasa**	**0.96**	**208**	P	**Pg**	**12 45 04.1**	**-0.3**
GAZI				S	**Sg**	**12 45 16.6**	**-0.2**
GAZI	**Gazipasa**	**0.96**	**208**	*i* P	**Pg**	**12 45 04.1**	**-0.3**
GAZI				*i* S	**Sg**	**12 45 16.6**	**-0.2**
YESY	**Yesilyurt**	**0.98**	**45**	*e*PG	**Pg**	**12 45 05.0**	**+0.2**
YESY				*e*SG	**Sn**	**12 45 19.8**	**-0.9**
YESY	**Yesilyurt**	**0.98**	**45**	*e*Pg	**Pg**	**12 45 05.0**	**+0.2**
YESY				*e*Sg	**Sn**	**12 45 19.8**	**-0.9**
KERG	**Konya-Eregli**	**1.05**	**71**	P	**Pg**	**12 45 04.6**	**-1.6**
KERG				S	**Sb**	**12 45 21.0**	**+0.2**
KERG	**Konya-Eregli**	**1.05**	**71**	*i* P	**Pg**	**12 45 04.6**	**-1.6**
KERG				*i* S	**Sb**	**12 45 21.0**	**+0.2**
LADK	**Ladik-KONYA**	**1.18**	**340**	*e*PN	**Pn**	**12 45 09.3**	**+0.2**
LADK				*e*SN	**Sb**	**12 45 24.9**	**+0.4**
LADK	**Ladik-KONYA**	**1.18**	**340**	*e*Pn	**Pn**	**12 45 09.3**	**+0.2**
LADK				*e*Sn	**Sb**	**12 45 24.9**	**+0.4**
KIZK	**Mersin**	**1.19**	**120**	P	**Pg**	**12 45 08.1**	**-0.6**
KIZK				S	**Sg**	**12 45 24.2**	**+0.1**
KIZK	**Mersin**	**1.19**	**120**	*i* P	**Pg**	**12 45 08.1**	**-0.6**
KIZK				*i* S	**Sg**	**12 45 24.2**	**+0.1**
SULT	**Sultanhani-AKS**	**1.22**	**25**	*e*PN	**Pn**	**12 45 09.6**	**-0.1**
SULT	**Sultanhani-AKS**	**1.22**	**25**	*e*Pn	**Pn**	**12 45 09.6**	**-0.1**
CHBY	**Cihanbeyli**	**1.49**	**1**	*e*PN	**Pn**	**12 45 13.6**	**+0.2**
CHBY	**Cihanbeyli**	**1.49**	**1**	*e*Pn	**Pn**	**12 45 13.6**	**+0.2**
GULE	**Gulek**	**1.54**	**82**	P	**Pb**	**12 45 15.1**	**+0.2**
GULE				S	**Sg**	**12 45 36.0**	**+0.7**
GULE	**Gulek**	**1.54**	**82**	*i* P	**Pb**	**12 45 15.2**	**+0.2**
GULE				*i* S	**Sg**	**12 45 36.0**	**+0.7**
SUTC	**Sutluce-Ispart**	**1.54**	**285**	*e*PN	**Pn**	**12 45 14.4**	**+0.3**
SUTC	**Sutluce-Ispart**	**1.54**	**285**	*e*Pn	**Pn**	**12 45 14.4**	**+0.3**
DED	**Mersin**	**1.55**	**94**	*i* P	**Pn**	**12 45 14.1**	**0.0**
DED				*i* S	**Sb**	**12 45 35.2**	**+0.3**
KDHN	**Kadinhani**	**1.55**	**338**	P	**Pn**	**12 45 14.6**	**+0.3**
KDHN				S	**Sg**	**12 45 35.6**	**-0.3**
KDHN	**Kadinhani**	**1.55**	**338**	*i* P	**Pn**	**12 45 14.6**	**+0.3**
KDHN				*i* S	**Sg**	**12 45 35.6**	**-0.3**
NIG	**Nigde**	**1.72**	**53**	*e*PN	**Pb**	**12 45 17.5**	**-0.6**
NIG	**Nigde**	**1.72**	**53**	*e*Pn	**Pb**	**12 45 17.5**	**-0.6**
KIZT	**Kizilcal**	**1.95**	**337**	*e*PN	**Pn**	**12 45 20.6**	**+0.8**
KIZT	**Kizilcal**	**1.95**	**337**	*e*Pn	**Pn**	**12 45 20.6**	**+0.8**
YURE	**YUREGIR**	**2.23**	**96**	P	**Pb**	**12 45 26.9**	**+0.2**
YURE	**YUREGIR**	**2.23**	**96**	*i* P	**Pb**	**12 45 26.9**	**+0.2**
YURE				*i* S	**Sg**	**12 46 01.4**	**+3.8**

*WAR **28** 12:46:53.1,50°.06N×18°.05E,h1km,Mw2.2*
*ISCJB **28** 12:46:56.7±0.6,50°.04N±0°.04×18°.38E±0°.03,h0km, Error ellipse: s-maj=5.8km s-min=2.9km az=4.1*
*IPEC **28** 12:46:57.3±0.2,50°.08N×18°.45E,h0km±3km,ML1.5/3, Error ellipse: s-maj=2.0km s-min=1.1km az=160.0*
*CSEM **28** 12:46:57.3±0.3,50°.06N×18°.39E,h1km,ML2.5/5,Error ellipse: s-maj=5.7km s-min=2.9km az=4.0*
*PRU **28** 12:46:58.1,50°.04N×18°.41E,h0km*
ISC 28 12:46:57.3±0.8,**50°.08N**±0°.04×**18°.43E**±0°.02,**h0**km,**n21,** σ1.**907**/39,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**270**	*e*Sg	**Sg**	**12 47 04.3**	**+2.1**
OKC	**Ostrava-Krasne**	**0.31**	**217**	*e*PG	**Pg**	**12 47 03.5**	**+0.3**
OKC				*e*SG	**Sg**	**12 47 07.9**	**+0.8**
	20nm,0.4s						
OKC	**Ostrava-Krasne**	**0.31**	**217**	Pg	**Pg**	**12 47 03.5**	**+0.3**
OKC				Sg	**Sg**	**12 47 07.9**	**+0.8**
	20nm,0.4s						
MORC	**Moravsky Berou**	**0.65**	**242**	*e*Pg	**Pg**	**12 47 10.0**	**+0.2**
MORC				*e*Sg	**Sg**	**12 47 18.0**	**-0.2**
	9.1nm,0.1s,baz=63						
OJC	**Ojcow**	**0.89**	**81**	*e*Pg	**Pg**	**12 47 14.7**	**+0.3**
OJC				*e*Sg	**Sb**	**12 47 28.0**	**-0.1**
OJC	**Ojcow**	**0.89**	**81**	*e*Pg	**Pg**	**12 47 14.7**	**+0.3**
OJC				*e*Sg	**Sb**	**12 47 28.0**	**-0.1**
OJC	**Ojcow**	**0.89**	**81**	*e*Pg	**Pg**	**12 47 14.7**	**+0.3**
OJC				*e*Sg	**Sb**	**12 47 28.0**	**-0.1**
KRLC	**Kraliky**	**1.06**	**270**	*e*PG	**Pg**	**12 47 16.9**	**-0.8**
KRLC				*e*SG	**Sg**	**12 47 31.0**	**-0.4**
KRLC	**Kraliky**	**1.06**	**270**	Pg	**Pg**	**12 47 16.9**	**-0.8**
KRLC				Sg	**Sg**	**12 47 31.0**	**-0.4**
LANS	**Liptovska Anna**	**1.15**	**144**	*e*Pg	**Pg**	**12 47 19.6**	**+0.2**
LANS				*e*Sg	**Sg**	**12 47 33.7**	**-0.6**
LANS	**Liptovska Anna**	**1.15**	**144**	*e*PG	**Pg**	**12 47 19.6**	**+0.2**
LANS				*e*SG	**Sg**	**12 47 33.7**	**-0.6**
DPC	**Dobruska-Polom**	**1.38**	**282**	*e*PG	**Pg**	**12 47 23.1**	**-0.7**
DPC				*e*SG	**Sg**	**12 47 41.3**	**-0.3**
	5.4nm,0.4s						
DPC	**Dobruska-Polom**	**1.38**	**282**	Pg	**Pg**	**12 47 23.1**	**-0.7**
DPC				Sg	**Sg**	**12 47 41.3**	**-0.3**
	5.4nm,0.4s						
NIE	**Niedzica**	**1.38**	**118**	*e*Pg	**Pb**	**12 47 24.2**	**+0.1**
NIE				*e*Sg	**Sn**	**12 47 44.4**	**+1.5**
NIE	**Niedzica**	**1.38**	**118**	*e*Pg	**Pb**	**12 47 24.2**	**+0.1**
NIE				*e*Sg	**Sn**	**12 47 44.4**	**+1.5**
VRAC	**Vranov**	**1.42**	**238**	*e*Pg	**Pn**	**12 47 23.8**	**-0.6**
	baz=57						
VRAC				*e*Sg	**Sg**	**12 47 42.0**	**-1.0**
	5.9nm,0.2s,baz=57						
VYHS	**Vyhne**	**1.61**	**170**	*e*Pg	**Pb**	**12 47 28.0**	**0.0**
VYHS				*e*Sn	**Sn**	**12 47 45.8**	**-2.8**
VYHS	**Vyhne**	**1.61**	**170**	*e*PG	**Pb**	**12 47 28.0**	**0.0**
VYHS				*e*SN	**Sn**	**12 47 45.8**	**-2.8**
VYHS				*e*LG	Lg	12 47 51.1	
KRUC	**Moravsky**	**1.67**	**233**	*e*Pg	**Pn**	**12 47 28.0**	**+0.1**
	baz=52						
KRUC				*e*Sg	**Sn**	**12 47 49.7**	**-0.3**
	4.2nm,0.2s,baz=52						
KHC	**Kasperske Hory**	**3.30**	**255**	*e*SG	**Sb**	**12 48 39.6**	**+2.3**
	1.6nm,0.3s						
KHC	**Kasperske Hory**	**3.30**	**255**	Sg	**Sb**	**12 48 39.6**	**+2.3**
	1.6nm,0.3s						

*ISCJB **28** 12:56:10.7±0.6,37°.09N±0°.02×32°.82E±0°.03,h5km±5km, Error ellipse: s-maj=4.8km s-min=3.6km az=147.4*
*DDA **28** 12:56:10.1,37°.10N×32°.86E,h22km,Md3.3*
*CSEM **28** 12:56:11.0±0.2,37°.08N×32°.85E,h10km,MD3.3, Error ellipse: s-maj=4.8km s-min=3.7km az=60.0*
*ISK **28** 12:56:11.8,37°.15N×32°.78E,h10km,MD3.0*
ISC 28 12:56:10.7±1.1,**37°.09N**±0°.02×**32°.86E**±0°.02,**h6**km±10km, **n35,** σ0.**970**/58,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERMK	**Ermenek**	**0.45**	**174**	P	**Pg**	**12 56 18.6**	**-0.8**
ERMK				S	**Sb**	**12 56 27.2**	**-0.9**
ERMK	**Ermenek**	**0.45**	**174**	*i* P	**Pg**	**12 56 18.6**	**-0.8**
ERMK				*i* S	**Sb**	**12 56 27.2**	**-0.9**
KMER	**Konya-Meram**	**0.78**	**330**	P	**Pg**	**12 56 25.8**	**0.0**
KMER				S	**Sg**	**12 56 36.1**	**+0.1**
KMER	**Konya-Meram**	**0.78**	**330**	*i* P	**Pg**	**12 56 25.8**	**0.0**
KMER				*i* S	**Sg**	**12 56 36.1**	**+0.1**
KONT	**Konya--Tatoy**	**0.94**	**335**	*e*PG	**Pg**	**12 56 28.9**	**+0.1**
KONT				*e*SG	**Sg**	**12 56 41.1**	**0.0**
KONT	**Konya--Tatoy**	**0.94**	**335**	*e*Pg	**Pg**	**12 56 28.9**	**+0.1**
GAZI	**Gazipasa**	**0.96**	**207**	P	**Pg**	**12 56 29.3**	**+0.2**
GAZI				S	**Sg**	**12 56 42.3**	**+0.8**
GAZI	**Gazipasa**	**0.96**	**207**	*i* P	**Pg**	**12 56 29.3**	**+0.2**
GAZI				*i* S	**Sg**	**12 56 42.3**	**+0.8**
YESY	**Yesilyurt**	**0.99**	**45**	*e*PG	**Pn**	**12 56 31.1**	**-0.2**
YESY				*e*SG	**Sn**	**12 56 45.7**	**+0.1**
YESY	**Yesilyurt**	**0.99**	**45**	*e*Pg	**Pn**	**12 56 31.1**	**-0.2**
KERG	**Konya-Eregli**	**1.06**	**72**	P	**Pg**	**12 56 29.7**	**-1.4**
KERG				S	**Sb**	**12 56 45.8**	**0.0**
KERG	**Konya-Eregli**	**1.06**	**72**	*i* P	**Pg**	**12 56 29.7**	**-1.4**
KERG				*i* S	**Sb**	**12 56 45.8**	**0.0**
LADK	**Ladik-KONYA**	**1.18**	**341**	*e*PN	**Pn**	**12 56 34.0**	**+0.2**
LADK				*e*SN	**Sn**	**12 56 49.2**	**-1.0**
LADK	**Ladik-KONYA**	**1.18**	**341**	*e*Pn	**Pn**	**12 56 34.0**	**+0.2**
LADK				*e*Sn	**Sn**	**12 56 49.2**	**-1.0**
KIZK	**Mersin**	**1.20**	**120**	P	**Pn**	**12 56 33.3**	**-0.7**
KIZK				S	**Sb**	**12 56 49.3**	**-0.3**
KIZK	**Mersin**	**1.20**	**120**	*i* P	**Pn**	**12 56 33.3**	**-0.7**
KIZK				*i* S	**Sb**	**12 56 49.3**	**-0.3**
SULT	**Sultanhani-AKS**	**1.23**	**25**	*e*PN	**Pg**	**12 56 34.5**	**+0.2**
SULT	**Sultanhani-AKS**	**1.23**	**25**	*e*Pn	**Pg**	**12 56 34.5**	**+0.2**
CHBY	**Cihanbeyli**	**1.49**	**1**	*e*PN	**Pb**	**12 56 38.8**	**-0.1**
CHBY	**Cihanbeyli**	**1.49**	**1**	*e*Pn	**Pb**	**12 56 38.8**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.53**	**285**	*e*PN	**Pn**	**12 56 38.8**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.53**	**285**	*e*Pn	**Pn**	**12 56 38.8**	**+0.1**
KDHN	**Kadinhani**	**1.55**	**338**	P	**Pb**	**12 56 39.6**	**-0.2**
KDHN				S	**Sb**	**12 56 59.2**	**-0.5**
KDHN	**Kadinhani**	**1.55**	**338**	*i* P	**Pb**	**12 56 39.6**	**-0.2**
KDHN				*i* S	**Sb**	**12 56 59.2**	**-0.5**
GULE	**Gulek**	**1.55**	**82**	P	**Pn**	**12 56 39.0**	**0.0**
GULE				S	**Sg**	**12 57 00.6**	**+0.2**
GULE	**Gulek**	**1.55**	**82**	*i* P	**Pn**	**12 56 39.0**	**0.0**
GULE				*i* S	**Sg**	**12 57 00.6**	**+0.2**
DED	**Mersin**	**1.56**	**94**	*i* P	**Pn**	**12 56 38.8**	**-0.2**
DED				*i* S	**Sb**	**12 56 59.7**	**-0.3**
NIG	**Nigde**	**1.73**	**53**	*e*PN	**Pb**	**12 56 42.7**	**-0.3**
NIG	**Nigde**	**1.73**	**53**	*e*Pn	**Pb**	**12 56 42.7**	**-0.3**
KIZT	**Kizilcal**	**1.95**	**337**	*e*PN	**Pn**	**12 56 44.8**	**+0.3**
KIZT	**Kizilcal**	**1.95**	**337**	*e*Pn	**Pn**	**12 56 44.8**	**+0.3**
AKO	**Adana**	**2.10**	**79**	*i* P	**Pb**	**12 56 48.9**	**-0.3**
AKO				*i* S	**Sb**	**12 57 17.0**	**+1.5**
YURE	**YUREGIR**	**2.24**	**96**	*i* P	**Pg**	**12 56 53.4**	**-0.3**
YURE				*i* S	**Sg**	**12 57 25.4**	**+2.7**
YAYL	**Yayladag**	**2.82**	**111**	P	**Pn**	**12 56 56.9**	**+0.5**
YAYL				S	**Sn**	**12 57 32.0**	**+1.2**
YAYL	**Yayladag**	**2.82**	**111**	*i* P	**Pn**	**12 56 56.9**	**+0.5**
YAYL				*i* S	**Sn**	**12 57 32.0**	**+1.2**

IDC 28 12:56:56.4±26.0,**23°.32S**×**178°.75W**,**h451**km±231km, **mb3.1/4,mb1 3.2/4,mb1mx3.0/20,mbtmp4.0/4,Error ellipse: s-maj=187.4km s-min=40.7km az=104.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**24.61**	**301**	P	P	13 01 40.0	+0.5
	25nm,0.4s,baz=180,slow=20,SNR=6.0						
CTA	**Charters Tower**	**32.62**	**269**	P	P	13 02 50.2	+0.6
	5.2nm,0.6s,baz=90,slow=12,SNR=11						
STKA	**Stephens Creek**	**36.00**	**247**	P	P	13 03 17.6	-0.3
	1.0nm,0.7s,baz=104,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**43.26**	**260**	P	P	13 04 16.1	-0.7
	0.4nm,0.6s,baz=95,slow=7.1,SNR=5.9						
WRA	**Warramunga Arr**	**43.59**	**265**	P	P	13 04 18.7	-0.8
	0.8nm,0.4s,baz=92,slow=8.5,SNR=53						
AKASG	**Malin Array Be**	**145.09**	**329**	PKPbc	PKPdf	13 15 41.1	-0.1
	5.8nm,0.6s,baz=40,slow=4.4,SNR=20						

GUC 28 13:11:25.1±0.4,**35°.87S**×**73°.45W**,**h30**km±5km,**ML3.7,1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.60**	**117**	*i*eP	Pb	13 11 36.6	-0.5
COCH				*e*S	Sb	13 11 45.1	-0.2
COCH				IAML		13 11 46.4	
	comp=N,16μm,0.5s						
CCSP	**San Pedro de C**	**1.01**	**164**	*e*P	Pn	13 11 43.0	-0.4
CCSP				*e*S	Sn	13 11 56.7	+0.1
CCSP				IAML		13 12 00.4	
	comp=N,3μm,0.5s						
CCHI	**Chillan**	**1.33**	**124**	*e*P	Pn	13 11 48.4	+0.8
CCHI				*e*S	Sb	13 12 05.7	-0.4
CCHI				IAML		13 12 13.0	
	comp=E,2μm,0.9s						
TALC	**Talca**	**1.55**	**73**	*e*P	Pn	13 11 51.6	+1.0
TALC				*e*S	Sb	13 12 11.7	-0.7

IDC 28 13:14:02.9±6.8,**11°.93S**×**166°.66E**,**h215**km±70km,**mb3.7**/6, **mb1 3.8**/7,**mb1mx3.4**/36,**mbtmp4.2**/7,**Error ellipse: s-maj=59.7km s-min=24.8km az=157.0,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.09**	**181**	P	Pn	13 16 23.1	-0.1
	1.3nm,0.3s,baz=129,slow=22,SNR=30						
CTA	**Charters Tower**	**21.21**	**245**	P	P	13 18 33.1	+0.9
	6.0nm,0.7s,baz=83,slow=14,SNR=5.1						
STKA	**Stephens Creek**	**30.44**	**225**	P	P	13 19 56.0	+0.5
	3.0nm,0.7s,baz=54,slow=10,SNR=7.3						
WRA	**Warramunga Arr**	**32.04**	**251**	P	P	13 20 09.2	-0.5
	1.7nm,0.8s,baz=85,slow=9.3,SNR=25						
ASAR	**Alice Springs**	**33.21**	**245**	P	P	13 20 19.2	-0.7
	2.4nm,0.7s,baz=68,slow=9.6,SNR=33						
ILAR	**Eielson Array**	**84.06**	**18**	P	P	13 26 08.7	-0.4
	1.2nm,0.6s,baz=240,slow=4.9,SNR=18						
MKAR	**Makanchi Array**	**94.78**	**317**	P	P	13 27 00.9	+0.7
	0.8nm,0.7s,baz=96,slow=5.7,SNR=7.1						
ARCES	**ARCESS Array B**	**117.41**	**346**	PKP	PKPdf	13 32 22.4	0.0
	1.5nm,0.9s,baz=90,slow=2.3,SNR=3.6						

*ISCJB **28** 13:19:28.0±0.6,39°.09N±0°.04×29°.05E±0°.04,h2km±8km, Error ellipse: s-maj=8.0km s-min=4.1km az=156.1*
*DDA **28** 13:19:27.6,39°.13N×29°.05E,h7km,Md2.7*
*ISK **28** 13:19:27.7,39°.07N×29°.08E,h6km,ML2.8*
*CSEM **28** 13:19:28.2±0.1,39°.08N×29°.06E,h2km,MD2.7,Error ellipse: s-maj=3.5km s-min=2.5km az=140.0*
ISC 28 13:19:28.2±0.9,**39°.08N**±0°.03×**29°.06E**±0°.02,**h10**km±9km, **n31,** σ0.**938**/44,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**262**	P	**Pg**	**13 19 33.8**	**0.0**
DEMI				S	**Sg**	**13 19 37.4**	**-0.1**
DEMI	**Demirci**	**0.27**	**262**	*i* P	**Pg**	**13 19 33.8**	**0.0**
DEMI				*i* S	**Sg**	**13 19 37.4**	**-0.1**
GDZ	**Gediz**	**0.32**	**89**	P	**Pg**	**13 19 34.9**	**+0.2**
GDZ				S	**Sg**	**13 19 39.6**	**+0.5**
GDZ	**Gediz**	**0.32**	**89**	*i* P	**Pg**	**13 19 34.9**	**+0.2**
GDZ				*i* S	**Sg**	**13 19 39.6**	**+0.5**
TVSB	**Tavsanli**	**0.48**	**40**	*e*PG	**Pg**	**13 19 37.4**	**-0.2**
TVSB				*e*SG	**Sg**	**13 19 44.1**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**40**	*e*Pg	**Pg**	**13 19 37.4**	**-0.2**
TVSB				*e*Sg	**Sg**	**13 19 44.1**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*PG	**Pg**	**13 19 40.8**	**0.0**
KULA				*e*SG	**Sg**	**13 19 49.4**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*Pg	**Pg**	**13 19 40.8**	**0.0**
KULA				*e*Sg	**Sg**	**13 19 49.4**	**+0.1**
KHL	**Karahalli**	**0.84**	**154**	*e*PG	**Pg**	**13 19 44.3**	**-0.1**
KHL	**Karahalli**	**0.84**	**154**	*e*Pg	**Pg**	**13 19 44.3**	**-0.1**
AKS	**Akhisar**	**1.00**	**259**	*e*PG	**Pg**	**13 19 47.0**	**-0.3**
AKS	**Akhisar**	**1.00**	**259**	*e*Pg	**Pg**	**13 19 47.1**	**-0.3**
BALB	**Balikesir**	**1.07**	**302**	*e*PN	**Pn**	**13 19 49.6**	**+0.3**
BALB				*e*SN	**Sn**	**13 20 04.8**	**+0.5**
BALB	**Balikesir**	**1.07**	**302**	*e*Pn	**Pn**	**13 19 49.6**	**+0.3**
BALB				*e*Sn	**Sn**	**13 20 04.8**	**+0.5**
IGD	**Bursa**	**1.19**	**5**	*i* P	**Pb**	**13 19 49.1**	**-1.7**
IGD				*i* S	**Sb**	**13 20 06.0**	**-0.2**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*PN	**Pg**	**13 19 52.5**	**-0.1**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*Pn	**Pg**	**13 19 52.5**	**-0.1**
IZI	**Iznik**	**1.29**	**14**	*e*PN	**Pg**	**13 19 53.3**	**+0.3**
IZI	**Iznik**	**1.29**	**14**	*e*Pn	**Pg**	**13 19 53.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.30**	**335**	*e*PN	**Pb**	**13 19 52.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.30**	**335**	*e*Pn	**Pb**	**13 19 52.8**	**0.0**
BORA	**Eskisehir**	**1.34**	**53**	P	**Pn**	**13 19 52.7**	**-0.4**
BORA				S	**Sg**	**13 20 11.9**	**+0.6**
BORA	**Eskisehir**	**1.34**	**53**	*i* P	**Pn**	**13 19 52.7**	**-0.4**
BORA				*i* S	**Sg**	**13 20 11.9**	**+0.6**
ADVT	**Abdulvahap**	**1.45**	**21**	*e*PN	**Pg**	**13 19 55.9**	**-0.1**
ADVT	**Abdulvahap**	**1.45**	**21**	*e*Pn	**Pg**	**13 19 55.9**	**-0.1**
ARMT	**Armutlu**	**1.49**	**354**	*e*PN	**Pg**	**13 19 56.9**	**+0.1**
ARMT	**Armutlu**	**1.49**	**354**	*e*Pn	**Pg**	**13 19 56.9**	**+0.1**
EDC	**Edincik**	**1.57**	**324**	*e*PN	**Pb**	**13 19 57.4**	**+0.1**
EDC	**Edincik**	**1.57**	**324**	*e*Pn	**Pb**	**13 19 57.4**	**+0.1**
GULT	**Gulveren**	**1.75**	**39**	*e*PN	**Pb**	**13 20 00.3**	**-0.2**
GULT	**Gulveren**	**1.75**	**39**	*e*Pn	**Pb**	**13 20 00.3**	**-0.2**

*NIED **28** 13:22:00,38°.20N×142°.00E,h47km,Mw4.1 Best double couple: M0**1.79000×10^15 NP1:**φ**s39.00000°,**δ**21.00000°,**λ**112.00000°. NP2:**φ**s196.00000°,**δ**70.00000°,**λ**82.00000°.*
*ISCJB **28** 13:22:57.9±0.7,38°.19N±0°.03×142°.01

baz=318,slow=76,SNR=198
TLY Talaya 30.02 309 LR LR 13 41 02.5
comp=Z,52nm,19.7s,baz=138,slow=36
ZALV Zalesovo Beam 41.57 311 P **P** 13 30 40.7 **-0.6**
2.5nm,0.5s,baz=84,slow=7.8,SNR=14
CMAR Chiang Mai Arr 42.34 255 LR LR 13 49 32.7
comp=Z,10nm,18.6s,baz=290,slow=38
MKAR Makanchi Array 44.00 301 P **P** 13 31 00.3 **-0.8**
2.6nm,0.6s,baz=86,slow=10,SNR=22
KURK Kurchatov 45.68 307 *e*P **P** 13 31 13.2 **-1.2**
48nm,0.8s
KURBB Kurchatov Arra 45.75 307 P **P** 13 31 13.9 **-1.0**
4.1nm,0.6s,baz=82,slow=8.4,SNR=50
ILAR Eielson Array 48.22 33 P **P** 13 31 34.6 **+0.6**
1.8nm,0.7s,baz=270,slow=6.6,SNR=24
ILAR LR LR 13 53 55.0
comp=Z,23nm,18.3s,baz=84,slow=38
BVAR Borovoye Array 50.23 312 P **P** 13 31 49.0 **-0.6**
0.8nm,0.5s,baz=71,slow=9.9,SNR=4.5
WRAB Tennant Creek 58.27 189 *e*P **P** 13 32 47.5 **-0.7**
6.7nm,1.2s
WRA Warramunga Arr 58.28 189 P **P** 13 32 47.5 **-0.9**
2.4nm,0.6s,baz=7.5,slow=7.0,SNR=19
ASAR Alice Springs 62.01 189 P **P** 13 33 13.9 **+0.1**
7.6nm,0.5s,baz=2.4,slow=4.9,SNR=17
FINES FINESS Array B 68.06 332 P **P** 13 33 51.8 **-0.9**
1.5nm,0.7s,baz=70,slow=11,SNR=6.3
STKA Stephens Creek 69.71 180 P **P** 13 34 03.0 **-0.1**
1.4nm,0.8s,baz=2.4,slow=7.7,SNR=3.0
NB2 NORSAR Subarra 73.34 337 P **P** 13 34 24.0 **-1.0**
comp=Z,0.9nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 73.34 337 P **P** 13 34 24.1 **-0.8**
comp=Z,1.2nm,0.7s,baz=39,slow=6.1,SNR=5.7
NOA LR LR 14 10 36.5
comp=Z,10nm,19.8s,baz=150,slow=39
PDAR Pinedale Array 76.45 46 P **P** 13 34 44.4 **+0.8**
comp=Z,1.6nm,0.6s,baz=245,slow=2.7,SNR=12
TXAR Lajitas Array 88.97 53 P **P** 13 35 49.4 **+0.9**
comp=Z,1.2nm,0.5s,baz=299,slow=3.2,SNR=23
LPAZ La Paz 145.62 59 PKPbc **PKPbc** 13 42 33.5 **+0.4**
comp=Z,3.5nm,0.6s,baz=288,slow=5.1,SNR=13

---

*ISCJB **28** 13:28:25.8±0.5, 37.36N±0.03×36.34E±0.03, h1km±6km, Error ellipse: s-maj=5.0km s-min=3.4km az=179.9*
*ISK **28** 13:28:25.1, 37.40N×36.37E, h7km, MD2.8*
*CSEM **28** 13:28:26.1±0.2, 37.41N×36.34E, h2km, MD2.8, Error ellipse: s-maj=6.3km s-min=4.6km az=170.0*
*DDA **28** 13:28:26.2, 37.40N×36.39E, h7km, Md2.9*
ISC 28 13:28:25.9±1.0, 37.37N±0.03×36.36E±0.02, h6km±9km, n29, σ1s21/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAMA	**Osmaniye**	**0.30**	**126**		*i*	P	**Pg**	**13 28 32.0**	**+0.1**
KAMA					*i*	S	**Sg**	**13 28 36.6**	**+0.7**
HCB	**Kahramanmara¯**	**0.43**	**93**		*i*	P	**Pg**	**13 28 34.5**	**+0.1**
HCB					*i*	S	**Sg**	**13 28 41.2**	**+1.1**
KOZT	**Kozan**	**0.44**	**285**		*e*	PG	**Pg**	**13 28 33.5**	**-0.9**
KOZT					*e*	SG	**Sg**	**13 28 40.7**	**+0.4**
KOZT	**Kozan**	**0.44**	**285**		*e*	Pg	**Pg**	**13 28 33.6**	**-0.9**
KOZT					*e*	Sg	**Sg**	**13 28 40.7**	**+0.4**
KMRS	**Kahramanmaras**	**0.45**	**72**		*e*	PG	**Pg**	**13 28 34.0**	**-0.7**
KMRS					*e*	SG	**Sg**	**13 28 40.6**	**0.0**
KMRS	**Kahramanmaras**	**0.45**	**72**		*e*	Pg	**Pg**	**13 28 34.0**	**-0.7**
KMRS					*e*	Sg	**Sg**	**13 28 40.6**	**0.0**
CEYT	**Ceyhan**	**0.60**	**234**		*e*	PG	**Pg**	**13 28 38.4**	**+0.8**
CEYT	**Ceyhan**	**0.60**	**234**		*e*	Pg	**Pg**	**13 28 38.4**	**+0.8**
AKO	**Adana**	**0.74**	**278**		*i*	P	**Pg**	**13 28 39.4**	**-0.7**
AKO					*i*	S	**Sb**	**13 28 52.2**	**+0.8**
YURE	**YUREGIR**	**0.79**	**228**			P	**Pb**	**13 28 43.2**	**+1.1**
YURE	**YUREGIR**	**0.79**	**228**		*i*	P	**Pb**	**13 28 43.2**	**+1.1**
KUZU	**Kuzuini**	**0.82**	**136**			P	**Pg**	**13 28 42.6**	**+0.9**
KUZU						S	**Sn**	**13 28 57.2**	**+0.7**
KUZU	**Kuzuini**	**0.82**	**136**		*i*	P	**Pg**	**13 28 42.6**	**+0.9**
KUZU					*i*	S	**Sn**	**13 28 57.2**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.00**	**188**		*e*	PG	**Pg**	**13 28 45.1**	**0.0**
TAHT					*e*	SG	**Sb**	**13 28 59.8**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.00**	**188**		*e*	Pg	**Pg**	**13 28 45.1**	**0.0**
TAHT					*e*	Sg	**Sb**	**13 28 59.8**	**+0.8**
SARI	**SarD1z-Kayseri**	**1.04**	**2**		*e*	PG	**Pg**	**13 28 45.3**	**-0.6**
KARA	**Karaisali**	**1.05**	**265**		*e*	PG	**Pg**	**13 28 45.5**	**-0.5**
KARA	**Karaisali**	**1.05**	**265**		*e*	Pg	**Pg**	**13 28 45.6**	**-0.5**
PINB	**Pinarbasi**	**1.31**	**1**			P	**Pb**	**13 28 50.9**	**-0.2**
PINB						S	**Sn**	**13 29 10.8**	**+1.9**
PINB	**Pinarbasi**	**1.31**	**1**		*i*	P	**Pb**	**13 28 50.9**	**-0.2**
PINB					*i*	S	**Sn**	**13 29 10.8**	**+1.9**
DED	**Mersin**	**1.31**	**253**		*i*	P	**Pn**	**13 28 48.9**	**-1.9**
DED					*i*	S	**Sb**	**13 29 08.1**	**0.0**
YAYL	**Yayladag**	**1.34**	**189**			P	**Pn**	**13 28 47.7**	**-3.6**
YAYL						S	**Sb**	**13 29 06.9**	**-2.2**
YAYL	**Yayladag**	**1.34**	**189**		*i*	P	**Pn**	**13 28 47.7**	**-3.6**
YAYL					*i*	S	**Sb**	**13 29 06.9**	**-2.2**
ATAB	**Bozova**	**1.54**	**86**			P	**Pg**	**13 28 55.7**	**+0.2**
ATAB						S	**Sg**	**13 29 16.6**	**+1.1**
ATAB	**Bozova**	**1.54**	**86**		*i*	P	**Pg**	**13 28 55.7**	**+0.2**
ATAB					*i*	S	**Sg**	**13 29 16.6**	**+1.1**
MERS	**Mersin**	**1.55**	**252**		*e*	PN	**Pn**	**13 28 53.7**	**-0.5**
MERS	**Mersin**	**1.55**	**252**		*e*	Pn	**Pn**	**13 28 53.7**	**-0.5**
NIG	**Nigde**	**1.58**	**299**		*e*	PN	**Pn**	**13 28 54.8**	**+0.1**
NIG	**Nigde**	**1.58**	**299**		*e*	Pn	**Pn**	**13 28 54.8**	**+0.1**

IDC 28 13:31:22.4±10.0, 26.64N×143.08E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.5/43, mbtmp4.0/3, Error ellipse: s-maj=371.8km s-min=31.5km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.08**	**191**			P	P	13 39 56.2	+0.1
	0.4nm,0.4s,baz=12,slow=8.6,SNR=8.4								
ASAR	**Alice Springs**	**50.79**	**191**			P	P	13 40 24.3	-0.4
	0.2nm,0.7s,baz=9.9,slow=5.9,SNR=4.2								
MKAR	**Makanchi Array**	**51.38**	**310**			P	P	13 40 28.8	-0.1
	0.3nm,0.4s,baz=89,slow=8.8,SNR=2.8								

NNC 28 13:33:26.8±0.4, 50.03N×78.68E, h1km±4km, mb3.6, mpv3.3, 27C-12D, Error ellipse: s-maj=6.6km s-min=2.7km az=65.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.56**	**350**			↑P	Pg	13 33 37.6	+0.1
KUR07						↑S	Sb	13 33 46.5	-1.5
KUR06	**Kurchatov Arra**	**0.58**	**350**			↑P	Pg	13 33 38.1	+0.2
KUR06						↑S	Sg	13 33 46.8	+1.4
KUR14	**Kurchatov Arra**	**0.58**	**355**			↑P	Pg	13 33 38.0	0.0
KUR14						↑S	Sg	13 33 46.6	+1.1
KUR15	**Kurchatov Arra**	**0.59**	**353**			↑P	Pg	13 33 38.3	+0.2
KUR15						↓S	Sg	13 33 47.1	+1.3
KURBB	**Kurchatov Arra**	**0.60**	**351**			↑P	Pg	13 33 38.5	+0.3
	93nm,0.3s								
KURBB						↑S	Sg	13 33 47.0	+1.0
	433nm,0.8s								
KUR16	**Kurchatov Arra**	**0.61**	**349**			↑P	Pg	13 33 38.5	+0.1
KUR16						↓S	Sg	13 33 47.3	+1.1
KUR17	**Kurchatov Arra**	**0.61**	**348**			↑P	Pg	13 33 38.6	+0.1
KUR17						↑S	Sg	13 33 47.7	+1.2
KUR05	**Kurchatov Arra**	**0.62**	**352**			↑P	Pg	13 33 38.7	+0.1
KUR05						↓S	Sg	13 33 47.5	+1.0
KUR04	**Kurchatov Arra**	**0.64**	**352**			↑P	Pg	13 33 39.1	+0.1
KUR04						↑S	Sg	13 33 48.0	+0.8
MK31	**Makanchi Array**	**4.04**	**142**			Pn	Pn	13 34 30.8	+1.0
	0.3nm,0.2s,baz=11,slow=3.6,SNR=92								
MK31						↓Pg	Pb	13 34 39.3	+0.6
	5.0nm,0.5s,baz=329,slow=13,SNR=9.1								
MK31						Lg	Lg	13 35 34.4	
	22nm,0.5s,baz=329,slow=28,SNR=18								
OTUK	**Ortayu**	**4.53**	**249**			↓Pn	Pn	13 34 37.9	+1.4
	2.7nm,0.2s								
OTUK						↑Pg	Pb	13 34 49.9	+2.8
OTUK						↑Lg	Lg	13 35 52.6	
	25nm,0.7s								
VOSK	**Vostochnaya**	**5.52**	**302**			↑Pn	Pn	13 34 50.7	+0.6
	1.1nm,0.4s								
VOSK						↓Pg	Pb	13 35 06.9	+2.9
	1.4nm,0.4s								
VOSK						↑Sn	Sn	13 35 54.8	+0.6
	2.4nm,0.5s								
VOSK						↓Lg	Lg	13 36 18.9	
	10nm,1.1s								
BVA0	**Borovoye Array**	**5.98**	**303**			Pn	Pn	13 34 57.4	+1.0
	0.6nm,0.4s,baz=102,slow=16,SNR=9.6								
BVA0						↓Pg	Pb	13 35 14.2	+2.5
	1.4nm,0.5s,baz=108,slow=15,SNR=9.6								
BVA0						↑Sn	Sn	13 36 08.0	+2.6
	3.2nm,0.5s,baz=112,slow=24,SNR=5.9								
BVA0						↓Lg	Lg	13 36 35.6	
	3.1nm,0.5s,baz=99,slow=14,SNR=4.4								
CHKZ	**Chkalovo**	**6.18**	**309**			↑Pn	Pn	13 35 00.3	+1.1
	1.0nm,0.5s								
CHKZ						↑Sn	Sn	13 36 10.1	-0.4
	1.4nm,0.4s								
CHKZ						↑Lg	Lg	13 36 42.1	
	7.5nm,0.8s								
ZRNK	**Zerenda**	**6.71**	**300**			↑Pn	Pn	13 35 07.0	+0.6
	1.0nm,0.3s								
ZRNK						↓Sn	Sn	13 36 23.0	-0.4
	4.0nm,0.8s								
ZRNK						↑Lg	Lg	13 36 59.5	
	5.6nm,0.7s								
PDGK	**Podgornoye**	**6.73**	**175**			↓Lg	Lg	13 37 01.9	
	22nm,0.8s								
TKM2	**Tokmak 2**	**7.42**	**198**			↑Lg	Lg	13 37 22.2	
	12nm,0.8s								
MNAS	**Manas**	**8.67**	**212**			↑Lg	Lg	13 38 01.0	
	4.8nm,0.6s								
KK31	**Karatay Array**	**8.92**	**222**			↓Lg	Lg	13 38 10.8	
	2.3nm,0.6s,baz=38,slow=27,SNR=4.6								

---

*SOME **28** 13:41:30.0, 40.87N×69.62E, h20km*
*NNC **28** 13:41:31.6±1.8, 40.80N×69.90E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=13.3km s-min=8.6km az=37.0*
*KRNET **28** 13:41:34.9±0.1, 40.94N×69.98E, mb2.7*
ISC 28 13:41:33.8±2.7, 41.05N±0.05×69.84E±0.07, h8km±17km, n15, σ2s12/27, 11C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.10**	**7**		*e*	P	**Pb**	**13 41 54.0**	**-1.2**
	119nm,0.3s								
IUG					*e*	S	**Sn**	**13 42 10.8**	**-0.3**
	92nm,0.8s								
BTK	**Batken**	**1.24**	**143**		↓*e*	P	**Pn**	**13 41 56.7**	**-0.8**
	baz=144								
BTK					↓*i*	S	**Sb**	**13 42 11.6**	**-2.1**
	baz=144								
BRLS	**Boroldav**	**1.74**	**356**		*e*	P	**Pn**	**13 42 04.3**	**0.0**
	21nm,0.5s								
BRLS					*e*	S	**Sb**	**13 42 28.5**	**+0.6**
	24nm,0.7s								
ARK	**Arkit**	**1.76**	**64**		↑*e*	P	**Pb**	**13 42 06.5**	**+0.1**
	baz=60								
ARK					↑*e*	S	**Sg**	**13 42 31.5**	**+1.1**
	baz=60								
KK31	**Karatay Array**	**2.11**	**13**			P	**Pb**	**13 42 11.4**	**-0.8**
	4.0nm,0.4s,baz=202,slow=16,SNR=45								
KK31					↓S		**Sg**	**13 42 42.2**	**+0.7**
	12nm,0.4s,baz=197,slow=28,SNR=4.4								
DRK	**Karamyk**	**2.17**	**136**		↓*i*	P	**Pn**	**13 42 12.1**	**+1.6**
	baz=136								
DRK					↓*e*	S	**Sn**	**13 42 39.1**	**+1.4**
	baz=136								
OHH	**Osh**	**2.30**	**102**		↓*e*	P	**Pn**	**13 42 14.1**	**+2.1**
	baz=100								
OHH					↓*e*	S	**Sb**	**13 42 43.6**	**-0.5**
	baz=100								
MNAS	**Manas**	**2.45**	**53**		↑*i*	P	**Pb**	**13 42 18.1**	**-0.1**
	baz=50								
MNAS					↑*i*	S	**Sg**	**13 42 53.0**	**+0.4**
	baz=50								
MNAS	**Manas**	**2.45**	**53**		↓Pg		**Pb**	**13 42 18.3**	**0.0**
	1.8nm,0.4s								
MNAS					↑Lg		Lg	13 42 52.3	
	7.5nm,0.5s								
MRKS	**Merke**	**3.04**	**55**		*e*	P	**Pb**	**13 42 29.3**	**+1.1**
	4.6nm,0.5s								
MRKS					*e*	S	**Sg**	**13 43 11.1**	**-0.4**
	13nm,0.5s								
ARLS	**Aral**	**3.46**	**75**		↑*i*	P	**Pb**	**13 42 32.6**	**-2.9**
	baz=73								
ARLS					↑*i*	S	**Sb**	**13 43 15.0**	**-2.8**
	baz=73								
AAK	**Ala-Archa**	**3.82**	**64**		↑Pg		**Pb**	**13 42 43.2**	**+1.7**
	2.1nm,0.5s								
AAK					↓Lg		Lg	13 43 37.2	
	9.3nm,0.8s								
KZA	**Kyzart**	**4.18**	**74**		↑*i*	P	**Pn**	**13 42 41.4**	**+3.1**
	baz=72								
KZA					↑*i*	S	**Sb**	**13 43 33.0**	**-5.7**
	baz=72								
TKM2	**Tokmak 2**	**4.68**	**65**		↑Pg		**Pb**	**13 42 58.5**	**+2.3**
	3.0nm,0.8s								
TKM2					↓Lg		Lg	13 44 03.6	
	4.8nm,0.6s								
KST	**Kastek**	**4.97**	**64**		*e*	P	**Pb**	**13 43 04.0**	**+2.9**
KST					*e*	S	**Sg**	**13 44 10.5**	**-2.9**
	9.4nm,0.8s								

MEX 28 13:48:01.7±0.6, 14.77N×92.56W, h63km±41km, MD3.6, Near coast of Chiapas

---

*NIED **28** 13:54:00, 40.00N×142.40E, h47km, Mw3.6 Best double couple: M₀2.70000×10¹⁴ NP1:φs69.00000°, δ13.00000°, λ-20.00000°. NP2:φs179.00000°, δ85.00000°, λ-102.00000°.*
JMA 28 13:54:14.4±0.1, 40.03N×142.41E, h38km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.43**	**258**		P		Pn	13 54 24.3	+0.4
JTH					S		Sn	13 54 31.4	+0.6
MIYJ	**Miyakonagasawa**	**0.64**	**225**		P		Pn	13 54 26.8	-0.3
MIYJ					S		Sn	13 54 35.5	-0.5
JANG	**Nango**	**0.77**	**297**		P		Pn	13 54 28.5	-0.2
JANG					S		Sn	13 54 38.2	-0.8
JKZ	**Kuzumaki**	**0.83**	**267**		P		Pn	13 54 30.1	+0.5
JKZ					S		Sn	13 54 41.2	+0.5
JOM	**Ohasama**	**1.03**	**238**		P		Pn	13 54 32.6	+0.4
JOM					*e*	S	Sn	13 54 45.7	+0.4
OFUJ	**Ofunato**	**1.11**	**211**		P		Pn	13 54 33.6	+0.2
JTM	**Tenmabayashi**	**1.27**	**307**		P		Pn	13 54 36.3	+0.7
JTM					S		Sn	13 54 52.6	+1.1
JAH	**Hinai**	**1.37**	**277**		P		Pn	13 54 38.0	+1.1
JAH					S		Sn	13 54 55.3	+1.5
JMK	**Ichinoseki**	**1.42**	**221**		P		Pn	13 54 38.3	+0.7
JRG	**Rokugo**	**1.51**	**246**		P		Pn	13 54 40.6	+1.7

---

*ISCJB **28** 13:54:36.6±0.2, 46.58N±0.03×147.00E±0.02, h295km±2km, mb4.7/236, Error ellipse: s-maj=4.4km s-min=2.4km az=160.9*
*BJI **28** 13:54:36.1, 46.68N×147.05E, h295km, mb4.8/58, mB4.4/31*
*SKHL **28** 13:54:37.3±0.2, 46.46N×147.17E, h305km±2km, mb5.2/4, msh5.1/5*
*MOS **28** 13:54:37.1±0.9, 46.63N×146.93E, h301km, mb4.7/71, Error ellipse: s-maj=6.2km s-min=4.8km az=85.9*
*NEIC **28** 13:54:38.4±0.1, 46.64N×146.92E, mb4.8/190, Error ellipse: s-maj=4.4km s-min=2.1km az=158.0*
*IDC **28** 13:54:38.6±0.6, 46.64N×146.93E, h300km±5km, mb4.1/23, mb1 4.3/32, mb1mx4.1/49, mbtmp4.9/32, Error ellipse: s-maj=10.6km s-min=7.6km az=155.0*
*JMA **28** 13:54:38.1±0.4, 45.99N×147.18E, h331km, M4.9*
ISC 28 13:54:37.3±0.5, 46.50N±0.04×147.09E±0.04, h293km±3km, n830, σ1s27/904, mb4.7/236, 15C-13D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.38**	**156**		*c*	*i*P	**Pn**	**13 55 19.9**	**+0.9**
KUR						*i*S	**S**	**13 55 52.4**	**+0.3**
KUR						pmax	pmax		
	comp=Z,444nm,0.4s								
KUR						pmax	pmax		
	comp=E,54nm,0.5s								
KUR						pmax	pmax		
	comp=N,80nm,0.3s								
KUR						smax	smax		
	comp=N,806nm,0.7s								
KUR						smax	smax		
	comp=E,274nm,0.7s								
KUR	**Kuril'sk**	**1.38**	**156**		*i*	P	**Pn**	**13 55 17.8**	**-1.2**
KUR						AMB	AMB	13 55 20.3	
	comp=E,40nm,0.5s								
KUR						AMB	AMB	13 55 20.3	
	comp=E,28nm,0.5s								
KUR						AMB	AMB	13 55 20.3	
	comp=E,220nm,0.5s								
KUR						*e*S	**S**	**13 55 50.8**	**-1.3**
KUR						A	A	13 55 52.0	
	comp=E,490nm,2.0s								
KUR						A	A	13 55 52.0	
	comp=E,1μm,2.0s								
KUR						A	A	13 55 52.7	
	comp=E,280nm,1.0s								
YUK	**Yuzh-Kuril'sk**	**2.61**	**200**		*c*	*i*PN	**Pn**	**13 55 28.9**	**+0.1**
YUK						*i*S	**S**	**13 56 09.6**	**-0.2**
YUK						pmax	pmax		
	comp=Z,874nm,0.4s								
YUK						pmax	pmax		
	comp=E,282nm,0.2s								
YUK						pmax	pmax		
	comp=N,457nm,0.3s								
YUK						smax	smax		
	comp=E,2μm,0.5s								
YUK						smax	smax		
	comp=N,2μm,0.7s								
YUK	**Yuzh-Kuril'sk**	**2.61**	**200**		*e*	P	**Pn**	**13 55 28.9**	**+0.1**
YUK						AMB	AMB	13 55 30.8	
	comp=N,460nm,0.5s								
YUK						AMB	AMB	13 55 30.8	
	comp=N,280nm,0.5s								
YUK						AMB	AMB	13 55 30.8	
	comp=N,880nm,0.5s								
YUK						*e*S	**S**	**13 56 09.9**	**+0.1**
YUK						A	A	13 56 18.0	
	comp=N,189nm,0.6s								
YUK						A	A	13 56 18.0	
	comp=N,250nm,0.6s								
SHO	**Shikotan**	**2.63**	**184**		*c*	*i*PN	**Pn**	**13 55 26.5**	**-2.5**
SHO						pmax	pmax		
	comp=Z,971nm,0.5s								
SHO						pmax	pmax		
	comp=E,128nm,0.3s								
SHO						pmax	pmax		
	comp=N,266nm,0.2s								
SHO	**Shikotan**	**2.63**	**184**		*e*	P	**Pn**	**13 55 26.7**	**-2.3**
SHO						AMB	AMB	13 55 27.1	
	comp=N,680nm,0.5s								
SHO						*e*S	**S**	**13 56 05.1**	**-5.1**
SHO						A	A	13 56 06.4	
	comp=N,640nm,0.5s								
JRA	**Rausu**	**2.91**	**209**			P	**Pn**	**13 55 32.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**3.02**	**280**		↑*i*	PN	**Pn**	**13 55 34.4**	**+1.8**
YSS					*i*	S	**S**	**13 56 17.5**	**+0.7**
YSS						pmax	pmax		
	comp=E,160nm,0.9s								
YSS						pmax	pmax		
	comp=Z,230nm,0.9s								
YSS						smax	smax		
	comp=N,220nm,1.2s								
YSS						smax	smax		
	comp=E,490nm,1.2s								
YSS	**Yuzh-Sakhalins**	**3.02**	**280**		*e*	P	**Pn**	**13 55 34.3**	**+1.7**
YSS						AMB	AMB	13 55 35.0	
	comp=E,160nm,0.9s								
YSS						AMB	AMB	13 55 35.0	
	comp=E,230nm,0.9s								
YSS						*e*S	**S**	**13 56 18.3**	**+1.5**
YSS						A	A	13 56 21.0	
	comp=E,220nm,1.0s								
YSS						A	A	13 56 21.0	
	comp=E,490nm,1.0s								
YSS	**Yuzh-Sakhalins**	**3.02**	**280**		*e*	Pn	**Pn**	**13 55 34.1**	**+1.5**
NEM2	**Nemuro 2**	**3.27**	**197**			P	**Pn**	**13 55 33.5**	**-1.8**
NEM2						*e*S	**S**	**13 56 17.1**	**-4.6**
JTKR	**Abashiri--Toko**	**3.38**	**223**			P	**Pn**	**13 55 37.5**	**+1.1**
JSE	**Soyaes**	**3.51**	**246**			P	**Pn**	**13 55 39.3**	**+1.6**
JWK2	**Keihoku**	**3.81**	**254**			P	**Pn**	**13 55 43.4**	**+2.4**
JAK	**Akkeshi**	**3.89**	**207**			P	**Pn**	**13 55 40.5**	**-1.4**
JAK						*e*S	**S**	**13 56 29.6**	**-4.1**
ASAJ	**Asahikawa**	**3.96**	**235**			P	**Pn**	**13 55 44.1**	**+1.4**
	baz=80,slow=9.6								
ASAJ	**Asahikawa**	**3.96**	**235**		*e*	Pn	**Pn**	**13 55 44.3**	**+1.6**
JAR	**Ashorobuto**	**3.98**	**218**			P	**Pn**	**13 55 43.3**	**+0.4**
JKK2	**Kamakawa 2**	**4.04**	**231**			P	**Pn**	**13 55 44.8**	**+1.2**
UGL	**Uglegorsk**	**4.26**	**309**		*c*	*i*PN	**Pn**	**13 55 46.6**	**+0.8**
UGL						*e*S	**S**	**13 56 41.0**	**+0.2**
UGL						pmax	pmax		
	comp=Z,260nm,0.5s								
UGL						pmax	pmax		
	comp=Z,600nm,2.0s								
UGL						smax	smax		
	comp=N,1μm,0.8s								
UGL						smax	smax		
	comp=E,2μm,6.0s								
UGL	**Uglegorsk**	**4.26**	**309**		*e*	P	**Pn**	**13 55 46.8**	**+1.0**
UGL						AMB	AMB	13 55 47.2	
	comp=E,610nm,2.0s								
UGL						AMB	AMB	13 55 47.5	
	comp=E,260nm,0.5s								
UGL						*e*S	**S**	**13 56 41.2**	**+0.4**
UGL						A	A	13 56 44.0	
	comp=E,1μm,7.0s								
UGL						A	A	13 56 44.0	
	comp=E,2μm,7.0s								
UGL						A	A	13 56 44.0	
	comp=E,700nm,7.0s								
UGL						A	A	13 57 04.0	
	comp=E,116nm,0.4s								
UGL						A	A	13 57 04.0	
	comp=E,181nm,0.4s								
JHR	**Hokuryu**	**4.69**	**236**			P	**Pn**	**13 55 52.2**	**+1.3**
JCH	**Churui**	**4.71**	**216**			P	**Pn**	**13 55 49.7**	**-1.4**
JCH						*e*S	**S**	**13 56 45.1**	**-5.3**
JNBK	**Urakawa-nobuka**	**5.24**	**218**			P	**Pn**	**13 55 55.4**	**-1.9**
JNBK						*e*S	**S**	**13 56 55.8**	**-5.8**
TYV	**Tymovskoe**	**5.26**	**328**		*e*	PN	**Pn**	**13 55 56.5**	**-0.9**
TYV						*e*S	**S**	**13 57 02.5**	**+0.6**
TYV						pmax	pmax		
	comp=Z,156nm,0.8s								
TYV						smax	smax		
	comp=E,288nm,1.4s								
TYV						smax	smax		
	comp=Z,1μm,10.0s								
TYV	**Tymovskoe**	**5.26**	**328**		*e*	P	**Pn**	**13 55 58.1**	**+0.7**
TYV						AMB	AMB	13 55 58.7	
	comp=Z,400nm,2.0s								
TYV						AMB	AMB	13 55 58.8	
	comp=Z,180nm,1.0s								
TYV						*e*S	**S**	**13 57 01.9**	**

SKR A A 13 57 51.0
comp=E,450nm,0.8s
JANG Nango 7.34 216 P **Pn** **13 56 19.5 -3.2**
JANG eS S 13 57 39.1 -8.9
TEY Ternei 7.48 263 eP **Pn** **13 56 25.0 +0.7**
TEY AMB AMB 13 56 29.5
comp=E,25nm,0.5s
NKL Nikolayevsk 7.84 330 *i* PN **Pn** **13 56 29.0 +0.4**
NKL pmax pmax
comp=Z,500nm,3.0s
NKL pmax pmax
comp=N,65nm,1.0s
NKL pmax pmax
comp=E,43nm,1.0s
NKL pmax pmax
comp=Z,130nm,1.0s
NKL Nikolayevsk 7.84 330 eP **Pn** **13 56 29.0 +0.4**
NKL AMB AMB 13 56 30.0
comp=Z,500nm,3.0s
NKL AMB AMB 13 56 30.0
comp=Z,65nm,1.0s
NKL AMB AMB 13 56 30.0
comp=Z,43nm,1.0s
NKL AMB AMB 13 56 30.0
comp=Z,130nm,1.0s
PAU Pauzhetka 8.10 49 eP **Pn** **13 56 32.2 +0.4**
PAU eS **S** **13 58 01.5 -3.1**
GRNR Gornyy 8.26 305 eP **Pn** **13 56 33.8 0.0**
GRNR AMB AMB 13 56 34.6
comp=Z,52nm,1.0s
HABR Khabarovsk 8.39 288 *de* PN **Pn** **13 56 33.8 -1.7**
HABR eS **S** **13 58 09.4 -2.0**
HABR pmax pmax
comp=Z,60nm,0.8s
HABR pmax pmax
comp=N,13nm,0.8s
HABR pmax pmax
comp=E,118nm,0.9s
HABR MLR MLR
comp=Z,82nm,13.0s
JMK Ichinoseki 8.69 212 P **Pn** **13 56 36.8 -2.4**
JMK eS S 13 58 09.5 -8.8
PEA0 Petropavlovsk- 9.52 42 ePn **Pn** **13 56 49.6 +0.2**
PEA0B Petropavlovsk- 9.52 42 ePn **Pn** **13 56 49.8 +0.4**
PETK Petropavlovsk- 9.52 42 P **Pn** **13 56 50.0 +0.6**
comp=Z,4.8nm,0.3s,baz=223,slow=6.7,SNR=56
PETK Petropavlovsk- 9.52 42 PN **Pn** **13 56 50.0 +0.6**
PETK pmax pmax
comp=Z,5.0nm,0.3s
PET Petropavlovsk 9.93 45 *i* PN **Pn** **13 56 54.5 +0.2**
PET pmax pmax
comp=Z,69nm,1.0s
PET Petropavlovsk 9.93 45 eP **Pn** **13 56 54.2 -0.1**
PET Petropavlovsk 9.93 45 ePn **Pn** **13 56 54.0 -0.2**
KLR Kul'dur 10.66 290 P **Pn** **13 57 04.7 +1.3**
comp=Z,4.3nm,0.3s,baz=92,slow=11,SNR=44
USRK Ussuriysk Ar. 10.88 263 P **Pn** **13 57 07.0 +0.9**
comp=Z,12nm,0.3s,baz=69,slow=12,SNR=115
EKMR Ekimchan 11.25 311 eP **Pn** **13 57 11.5 +0.9**
EKMR AMB AMB 13 57 13.5
comp=Z,90nm,0.9s
EKMR AMB AMB 13 57 13.5
comp=Z,110nm,0.9s
EKMR AMB AMB 13 57 13.5
comp=Z,160nm,0.9s
VLA Vladivostok 11.32 258 ⇓ *i* PN **Pn** **13 57 11.6 +0.1**
VLA eS **S** **13 59 13.3 -4.6**
VLA pmax pmax
comp=Z,61nm,0.6s
VLA Vladivostok 11.32 258 eP **Pn** **13 57 11.6 +0.1**
MJB9 Matsu-Tunnel 11.96 217 ePn **Pn** **13 57 19.2 -0.2**
MAJO Matsushiro 11.96 217 *d* PN **Pn** **13 57 19.9 +0.5**
MAJO Matsushiro 11.96 217 eP **Pn** **13 57 19.9 +0.5**
MAJO Matsushiro 11.96 217 ePn **Pn** **13 57 19.1 -0.3**
MAT Matsushiro 11.96 217 P **Pn** **13 57 19.5 +0.1**
MAT eS **S** **13 59 27.6 -5.0**
MJAR Matsushiro Arr 11.96 217 P **Pn** **13 57 19.7 +0.2**
comp=Z,10nm,0.3s,baz=24,slow=11,SNR=93
MDJ Mudanjiang 12.41 268 P **Pn** **13 57 24.5 -0.3**
MDJ S **S** **13 59 41.5 -1.1**
MDJ PcP **PcP** **14 02 39.8 +0.8**
MDJ ScP **ScP** **14 05 44.5 +1.0**
MDJ PcS **PcS** **14 06 14.3 +1.2**
MDJ ScS **ScS** **14 09 22.5 +2.9**
MDJ PMZ
comp=Z,130nm,0.7s
MDJ PMZ
comp=Z,110nm,3.2s
MDJ Mudanjiang 12.41 268 eP **Pn** **13 57 25.2 +0.4**
MDJ Mudanjiang 12.41 268 ePn **Pn** **13 57 25.0 +0.2**
MA2 Magadan 13.28 8 P **Pn** **13 57 34.4 -0.7**
comp=Z,9.5nm,0.3s,baz=210,slow=10,SNR=75
BMKR Bomnak 14.18 312 eP **Pn** **13 57 45.8 -0.1**
BMKR AMB AMB 13 57 48.9
comp=Z,122nm,0.7s
ZEA Zeya 14.61 307 eP **Pn** **13 57 51.0 -0.1**
ZEA AMB AMB 13 57 53.4
comp=Z,62nm,0.9s
ZEA AMB AMB 13 57 53.4
comp=Z,71nm,0.9s
ZEA AMB AMB 13 57 53.4
comp=Z,110nm,0.9s
KROS Kirovskiy 15.03 309 eP **P** **13 57 55.0 +0.2**
KROS AMB AMB 13 57 58.7
comp=Z,26nm,0.6s
KROS AMB AMB 13 57 58.7
comp=Z,48nm,0.6s
KROS AMB AMB 13 57 58.7
comp=Z,66nm,0.6s
CN2 Changchun 15.50 268 eP **P** **13 57 58.8 -1.2**
CN2 eS **S** **14 00 46.0 -2.4**
CN2 PMZ
comp=Z,40nm,0.7s
CN2 PMZ
comp=Z,100nm,3.0s
CN2 LN
comp=Z,200nm,17.0s
CN2 LE
comp=Z,100nm,17.0s
CN2 LZ
comp=Z,200nm,14.0s
SEY Seymchan 16.74 8 P **P** **13 58 14.2 +0.9**
comp=Z,4.3nm,0.3s,baz=198,slow=8.4,SNR=91
SEY Seymchan 16.74 8 *c i* P **P** **13 58 14.0 +0.7**
SEY Seymchan 16.74 8 eP **P** **13 58 14.0 +0.7**
KSRS Korea Array 16.84 244 P **Pn** **13 58 16.6 -0.8**
comp=Z,3.0nm,0.3s,baz=50,slow=11,SNR=79
KSRS S **S** **14 01 19.8 +4.5**
baz=59,slow=22,SNR=4.6
KSRS ScP **ScP** **14 05 51.8 +0.2**
comp=Z,0.0nm,0.3s,baz=263,slow=1.0,SNR=5.3
KS01 Wonju Array Si 16.84 245 eP **P** **13 58 15.3 +0.5**
KSAR Wonju Array Be 16.87 244 P **Pn** **13 58 16.6 -1.2**
KSAR S **S** **14 01 19.8 +3.9**
KSAR Wonju Array Be 16.87 244 P **Pn** **13 58 16.6 -1.2**
KSAR S **S** **14 01 19.8 +3.9**
KSAR ScP **ScP** **14 05 51.8 +0.2**
CLNS Chul'man 17.14 315 eP **P** **13 58 17.3 -0.5**
CLNS pmax pmax
comp=Z,34nm,0.8s
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,16nm,1.0s
INCN Inchon 17.63 247 eP **P** **13 58 24.9 +1.6**
comp=E,95nm,0.7s
TJN Taejon 17.87 243 ⇑ *i* P **P** **13 58 27.2 +1.4**
YAK Yakutsk 18.49 334 P **P** **13 58 31.3 -0.8**
comp=E,0.1nm,0.3s,baz=5.2,slow=0.4,SNR=45
YAK S **S** **14 01 42.3 -4.7**
comp=E,0.0nm,0.3s,baz=96,slow=22,SNR=14
YAK Yakutsk 18.49 334 eP **P** **13 58 30.8 -1.3**
YAK eS **S** **14 01 42.7 -4.4**
YAK pmax pmax
comp=E,23nm,1.2s
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=Z,101nm,0.9s
YAK pmax pmax
comp=Z,51nm,0.7s
YAK smax smax
comp=N,254nm,1.3s
YAK smax smax
comp=E,160nm,1.3s

YAK Yakutsk 18.49 334 eP **P** **13 58 31.0 -1.1**
comp=E,106nm,0.7s
YAK eS **S** **14 01 44.7 -2.4**
HIA Hailar 18.51 289 eP **P** **13 58 30.6 -2.0**
HIA pmax pmax
comp=Z,114nm,1.4s
HIA Hailar 18.51 289 eP **P** **13 58 30.6 -2.0**
comp=Z,114nm,1.4s
DL2 Dalian 20.13 257 ⇑ *i* P **P** **13 58 51.0 +1.2**
DL2 PMZ
comp=Z,66nm,0.9s
BOD Bodaibo 23.00 312 eP **P** **13 59 14.3 -2.2**
BOD pmax pmax
comp=Z,15nm,1.4s
BJI Beijing 23.32 265 P **P** **13 59 21.3 +1.7**
BJI S **S** **14 03 15.0 +5.1**
BJI PMZ
comp=Z,45nm,1.1s
BJT Baijiatuau 23.33 265 eP **P** **13 59 21.1 +1.3**
BJT pmax pmax
comp=Z,38nm,0.9s
BJT Baijiatuau 23.33 265 eP **P** **13 59 21.1 +1.3**
comp=Z,38nm,0.9s
BILL Bilibino 23.75 18 *d i* P **P** **13 59 21.7 -1.5**
BILL eS **S** **14 03 13.7 -2.4**
BILL pmax pmax
comp=Z,19nm,1.7s
BILL Bilibino 23.75 18 eP **P** **13 59 21.6 -1.6**
comp=Z,43nm,1.9s
HHC Hu-ho-hao-te 26.16 270 eP **P** **13 59 46.3 +1.0**
HHC S **S** **14 03 56.0 +1.1**
HHC PMZ
comp=Z,64nm,1.2s
HHC PMZ
comp=Z,83nm,5.6s
TIXI Tiksi 26.67 347 ⇑ *i* P **P** **13 59 47.2 -2.1**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 27.04 288 *d i* P **P** **13 59 52.0 -1.1**
ULN pmax pmax
comp=Z,39nm,0.9s
ULN Ulaanbaatar 27.04 288 eP **P** **13 59 52.3 -0.8**
comp=Z,31nm,0.8s
SONA1 Songino Array 27.47 288 eP **P** **13 59 56.0 -0.9**
SONA1 eScP **ScP** **14 06 18.7 -0.2**
SONM Songino Array 27.48 288 P **P** **13 59 56.0 -1.0**
comp=Z,13nm,0.3s,baz=77,slow=8.5,SNR=63
SONM ScP **ScP** **14 06 18.5 -0.4**
comp=Z,3.3nm,0.8s,baz=121,slow=2.4,SNR=13
TLY Talaya 28.59 297 P **P** **14 00 06.0 -0.6**
comp=Z,3.5nm,0.6s,baz=92,slow=5.8,SNR=11
TLY ScP **ScP** **14 06 22.9 +0.8**
comp=Z,1.3nm,0.5s,baz=102,slow=1.8,SNR=5.5
TLY Talaya 28.59 297 ⇑ eP **P** **14 00 06.2 -0.4**
TLY pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 29.00 294 eP **P** **14 00 09.0 -1.4**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
WHN Wuhan 29.90 249 ⇑ *i* P **P** **14 00 19.0 +0.7**
XAN Xi'an 31.37 260 P **P** **14 00 31.5 +0.3**
XAN pP pP 14 01 27.3 -0.6
XAN sP sP 14 02 00.8 -0.9
XAN PMZ
comp=Z,18nm,1.0s
XAN PMZ
comp=Z,55nm,4.7s
TWG Pinlang 31.61 231 eP **P** **14 00 34.2 +0.9**
comp=Z,161nm,1.6s
TWG ePP **PnPn** **14 01 51.3 +0.2**
ENH Enshi 33.27 254 eP **P** **14 00 47.3 -0.4**
comp=Z,8.8nm,1.0s
LZH Lanzhou 33.74 268 ⇓ P **P** **14 00 52.8 +1.0**
LZH pP pP 14 01 51.5 +2.5
LZH PP **PnPn** **14 02 18.0 +1.4**
LZH sP sP 14 02 24.5 +1.8
LZH PMZ
comp=Z,35nm,1.2s
LZH PMZ
comp=Z,110nm,5.8s
GTA Gaotai 34.89 276 ⇓ P **P** **14 01 02.5 +1.0**
GTA pP pP 14 02 01.3 +2.3
GTA sP sP 14 02 34.0 +1.3
GTA S **S** **14 06 09.0 -1.5**
GTA sS sS 14 07 49.5 -4.7
GTA SS **SS** **14 08 42.8 -13**
GTA PMZ
comp=Z,48nm,1.4s
GTA PMZ
comp=Z,84nm,5.0s
GTA LN
comp=Z,79nm,15.9s
GTA LE
comp=Z,62nm,14.3s
GTA LZ
comp=Z,62nm,16.2s
TT01 Tatalina 35.36 42 eP **P** **14 01 05.7 +0.6**
TTA Tatalina 35.36 41 eP **P** **14 01 05.2 0.0**
TTA pmax pmax
comp=Z,33nm,1.0s
TTA Tatalina 35.36 41 eP **P** **14 01 05.2 0.0**
comp=Z,33nm,1.0s
SVW2 Sparrevohn 35.60 45 eP **P** **14 01 08.3 +1.2**
comp=Z,33nm,1.0s
CD2 Chengdu 36.73 260 eP **P** **14 01 16.3 -0.8**
CD2 pP pP 14 02 14.5 -0.6
CD2 sP sP 14 02 48.5 -0.1
CD2 S **S** **14 06 37.0 -1.5**
CD2 sS sS 14 08 22.5 -0.3
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.2s
PPLA Purkeypile 37.11 41 eP **P** **14 01 21.2 +1.2**
comp=Z,30nm,0.7s
OHAK Old Harbor 37.18 51 eP **P** **14 01 20.3 -0.1**
comp=Z,50nm,0.7s
SPU Mount Spurr 37.30 44 eP **P** **14 01 22.5 +1.1**
KDAK Kodiak Island 37.46 50 *i* P **P** **14 01 22.7 -0.1**
KDAK Kodiak Island 37.46 50 eP **P** **14 01 22.7 -0.1**
BPAW Bear Paw Mtn. 37.59 39 eP **P** **14 01 24.3 +0.4**
comp=Z,18nm,0.7s
GYA Guiyang 37.64 252 eP **P** **14 01 24.8 0.0**
GYA PMZ
comp=Z,10.0nm,0.8s
KTH Kantishna Hill 37.65 40 eP **P** **14 01 25.0 +0.6**
comp=Z,54nm,0.9s
MLY Manley 37.67 38 eP **P** **14 01 24.6 +0.1**
comp=Z,15nm,0.5s
COLD Coldfoot 37.88 34 eP **P** **14 01 25.6 -0.5**
comp=Z,10nm,0.8s
CNPM China Poot 37.90 47 eP **P** **14 01 25.6 -0.8**
comp=Z,32nm,0.6s
SUA Susitna One 37.90 44 eP **P** **14 01 26.5 0.0**
comp=Z,35nm,0.5s
TRF Thorofare Moun 37.94 40 eP **P** **14 01 26.9 0.0**
comp=Z,15nm,0.6s
BRLK Bradley Lake 38.04 46 eP **P** **14 01 26.6 -1.0**
comp=Z,35nm,0.8s
BWN Browne 38.26 39 eP **P** **14 01 30.6 +1.2**
comp=Z,89nm,0.6s
RC01 Rabbit Creek A 38.43 44 eP **P** **14 01 30.3 -0.5**
comp=Z,42nm,0.7s
MCK McKinley 38.52 40 eP **P** **14 01 31.8 +0.2**
MCK pmax pmax
comp=Z,32nm,0.8s
MCK McKinley 38.52 40 eP **P** **14 01 31.8 +0.2**
MCK McKinley 38.52 40 eP **P** **14 01 31.8 +0.2**
comp=Z,32nm,0.8s
RND Reindeer 38.59 40 eP **P** **14 01 31.7 -0.5**
RND pmax pmax
comp=Z,28nm,0.8s
RND Reindeer 38.59 40 eP **P** **14 01 31.6 -0.5**
comp=Z,28nm,0.8s
PMR Palmer 38.65 43 eP **P** **14 01 32.0 -0.6**
PMR pmax pmax
comp=Z,28nm,0.6s
PMR Palmer 38.65 43 eP **P** **14 01 32.0 -0.6**
comp=Z,28nm,0.6s
SEW Seward 38.70 46 eP **P** **14 01 32.8 -0.2**
comp=Z,49nm,0.8s
MDM Murphy Dome 38.74 38 eP **P** **14 01 33.3 0.0**
comp=Z,23nm,0.7s
WRH Wood River Hil 38.83 39 eP **P** **14 01 34.0 -0.1**
comp=Z,36nm,0.6s
COLA College 38.91 38 eP **P** **14 01 34.8 +0.2**

COLA pmax pmax
comp=Z,55nm,0.6s
COLA College 38.91 38 eP **P** **14 01 34.8 +0.2**
COLA College 38.91 38 eP **P** **14 01 34.8 +0.2**
comp=Z,55nm,0.6s
CCB Clear Creek Bu 38.94 38 eP **P** **14 01 34.8 -0.2**
comp=Z,13nm,0.6s
SML Sawmill 39.00 43 eP **P** **14 01 35.9 +0.3**
SML pmax pmax
comp=Z,112nm,0.7s
SML Sawmill 39.00 43 eP **P** **14 01 35.9 +0.3**
comp=Z,112nm,0.7s
IL1 Eielson Array 39.33 38 eP **P** **14 01 37.4 -0.7**
ILAR Eielson Array 39.33 38 P **P** **14 01 37.8 -0.4**
comp=Z,28nm,0.7s,baz=260,slow=6.3,SNR=304
ILAR PcP **PcP** **14 03 39.0 -1.1**
comp=Z,1.1nm,0.5s,baz=283,slow=3.6,SNR=4.2
ILAR ScP **ScP** **14 06 58.5 -1.5**
comp=Z,0.5nm,0.6s,baz=265,slow=3.7,SNR=5.5
ILAR Eielson Array 39.33 38 P **P** **14 01 37.8 -0.4**
ILAR 14 03 39.0
ILAR pmax pmax
comp=Z,26nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,0.5s
ILAR pmax pmax
comp=N,1.0nm,0.6s
ILB Eielson Array 39.33 38 eP **P** **14 01 37.7 -0.4**
HDA Harding Lake 39.33 39 eP **P** **14 01 37.4 -0.8**
comp=N,28nm,0.4s
ZAA0 Zalesovo Array 39.36 304 eP **P** **14 01 36.8 -1.7**
ZAA0 eScP **ScP** **14 06 59.7 -0.6**
ZALV Zalesovo Beam 39.36 304 P **P** **14 01 36.9 -1.6**
comp=N,3.9nm,0.4s,baz=73,slow=6.6,SNR=15
ZALV PcP **PcP** **14 03 40.5 +0.2**
comp=N,1.4nm,0.7s,baz=132,slow=2.2,SNR=3.5
ZALV ScP **ScP** **14 06 59.2 -1.1**
comp=N,5.5nm,0.9s,baz=63,slow=3.1,SNR=13
SCM Sheep Creek Mo 39.47 43 eP **P** **14 01 39.9 +0.4**
SCM pmax pmax
comp=Z,71nm,1.2s
SCM Sheep Creek Mo 39.47 43 eP **P** **14 01 39.9 +0.4**
comp=Z,71nm,1.2s
NVS Novosibirsk 40.02 306 eP **P** **14 01 42.1 -1.8**
PAX Paxson 40.16 41 eP **P** **14 01 44.4 -0.7**
PAX pmax pmax
comp=Z,12nm,0.7s
PAX Paxson 40.16 41 eP **P** **14 01 44.4 -0.7**
comp=Z,12nm,0.7s
KLU Klutina 40.19 43 eP **P** **14 01 46.1 +0.8**
comp=Z,67nm,1.0s
DIV Divide 40.32 44 eP **P** **14 01 47.0 +0.6**
DIV Divide 40.32 44 eP **P** **14 01 47.0 +0.6**
comp=Z,54nm,0.7s
EYAK Cordova Ski Ar 40.44 45 eP **P** **14 01 48.1 +0.8**
comp=Z,28nm,0.7s
DOT Dot Lake 40.69 40 eP **P** **14 01 48.5 -0.8**
comp=Z,47nm,0.6s
BMRM Bremner River 40.91 44 eP **P** **14 01 51.8 +0.6**
comp=Z,42nm,0.8s
MENT Mentasta 40.96 41 eP **P** **14 01 52.0 +0.5**
comp=Z,24nm,0.6s
WMQ Urumqi 41.11 289 P **P** **14 01 53.5 +0.5**
WMQ pP pP 14 02 52.8 +0.6
WMQ sP sP 14 03 25.0 -0.5
WMQ PMZ
comp=Z,15nm,0.7s
WMQ PMZ
comp=Z,35nm,3.7s
WMQ LN
comp=Z,11nm,18.1s
WMQ LZ
comp=Z,11nm,17.1s
KMI Kunming 41.14 254 P **P** **14 01 54.5 +0.8**
KMI PMZ
comp=Z,12nm,0.7s
KMI PMZ
comp=Z,68nm,4.6s
CRQM Cirque 41.66 44 eP **P** **14 01 58.5 +1.1**
comp=Z,69nm,0.8s
EGAK Eagle 41.76 38 eP **P** **14 01 57.3 -0.6**
comp=Z,41nm,0.6s
BALM Baldy 41.97 43 eP **P** **14 02 00.8 +1.0**
BALM pmax pmax
comp=Z,47nm,0.8s
BALM Baldy 41.97 43 eP **P** **14 02 00.8 +1.0**
comp=Z,47nm,0.8s
DAWY Dawson 42.65 38 eP **P** **14 02 04.8 -0.3**
comp=Z,9.6nm,0.8s
PCA Pinnacle 43.20 44 eP **P** **14 02 10.0 +0.4**
comp=Z,41nm,0.6s
MK31 Makanchi Array 43.33 295 eP **P** **14 02 09.9 -0.8**
MK31 Makanchi Array 43.33 295 eP **P** **14 02 09.9 -0.8**
MK31 eScP **ScP** **14 07 15.4 -0.9**
MKAR Makanchi Array 43.33 295 P **P** **14 02 09.9 -0.8**
comp=Z,18nm,0.6s,baz=71,slow=7.6,SNR=228
MKAR ScP **ScP** **14 07 15.7 -0.6**
comp=Z,2.7nm,0.7s,baz=62,slow=3.9,SNR=13
MKAR Makanchi Array 43.33 295 eP **P** **14 02 09.8 -0.9**
MK01 Makanchi Array 43.33 295 eP **P** **14 02 09.9 -0.9**
MK01 eScP **ScP** **14 07 15.6 -0.7**
MAKZ Makanchi 43.52 295 eP **P** **14 02 11.5 -0.7**
MAKZ pmax pmax
comp=Z,17nm,0.7s
MAKZ Makanchi 43.52 295 eP **P** **14 02 11.5 -0.7**
comp=Z,17nm,0.7s
KURK Kurchatov 44.00 302 eP **P** **14 02 14.6 -1.4**
KURK pmax pmax
comp=Z,76nm,0.7s
KURK Kurchatov 44.00 302 eP **P** **14 02 14.6 -1.4**
KURK Kurchatov 44.00 302 eP **P** **14 02 14.6 -1.4**
comp=Z,76nm,0.7s
KURK eScP **ScP** **14 07 17.9 -1.0**
INK Inuvik 44.07 32 P **P** **14 02 15.8 -0.4**
comp=Z,24nm,0.4s,baz=286,slow=5.8,SNR=72
INK PcP **PcP** **14 03 55.9 +0.3**
comp=Z,2.8nm,0.6s,baz=331,slow=3.6,SNR=3.3
INK Inuvik 44.07 32 eP **P** **14 02 15.6 -0.6**
INK Inuvik 44.07 32 eP **P** **14 02 15.7 -0.6**
comp=Z,22nm,0.5s
INK PcP **PcP** **14 03 55.9 +0.3**
HYT Haines Junctio 44.31 43 eP **P** **14 02 20.1 +1.7**
comp=Z,147nm,0.8s
SKAG Skagway 45.77 44 eP **P** **14 02 30.7 +1.0**
comp=Z,24nm,1.2s
NONG Nongkai 45.89 247 P **P** **14 02 32.8 +1.7**
comp=Z,50nm,1.2s,comp=Z,5μm
LSA Lhasa 46.13 269 eP **P** **14 02 34.9 +1.5**
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 46.13 269 eP **P** **14 02 34.9 +1.5**
comp=Z,19nm,0.6s
SKNT Sakolnakorn 46.18 245 P **P** **14 02 35.8 +2.4**
comp=Z,21nm,1.2s
PDGK Podgornoye 46.65 292 P **P** **14 02 35.8 -0.9**
PDGK pmax pmax
comp=Z,5.0nm,0.5s
CHKZ Chkalovo 47.37 308 P **P** **14 02 39.9 -2.2**
CHKZ pmax pmax
comp=Z,26nm,0.7s
LOEI Loei 47.50 248 P **P** **14 02 42.1 -1.5**
comp=Z,21nm,1.2s
VOSK Vostochnaya 47.56 307 eP **P** **14 02 42.1 -1.5**
VOSK pmax pmax
comp=Z,34nm,0.6s
VOSK Vostochnaya 47.56 307 eP **P** **14 02 42.1 -1.5**
comp=Z,34nm,0.6s
VOSK eScP **ScP** **14 07 32.9 -0.8**
BVA0 Borovoye Array 47.76 307 *i* P **P** **14 02 43.5 -1.6**
BVA0 pmax pmax
comp=Z,13nm,0.6s
UTTA Uttaradit 47.79 249 P **P** **14 02 47.0 +1.3**
comp=Z,4.1nm,0.7s,comp=Z,41nm
BRVK Borovoye 47.81 308 *d* P **P** **14 02 44.4 -1.0**
BRVK pmax pmax
comp=Z,79nm,0.8s
BRVK Borovoye 47.81 308 eP **P** **14 02 44.4 -1.0**
BRVK Borovoye 47.81 308 eP **P** **14 02 44.2 -1.2**
comp=Z,67nm,0.7s
LAMP Lampang 47.82 251 P **P** **14 02 47.7 +1.7**
comp=Z,8.9nm,0.8s
CMMT Chiang Mai 48.05 252 P **P** **14 02 48.7 +0.9**
comp=Z,19nm,1.1s
CHTO Chiang Mai 48.06 252 P **P** **14 02 48.8 +1.0**
comp=Z,95nm,1.0s
CHTO Chiang Mai 48.06 252 eP **P** **14 02 48.6 +0.8**

CHTO pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 48.06 252 *e*P **P 14 02 48.6 +0.8**
comp=Z,14nm,0.8s
CHAI Chaiyaphum 48.24 246 P **P 14 02 50.1 +0.9**
comp=Z,6.6nm,0.7s
CMAR Chiang Mai Arr 48.31 251 P **P 14 02 51.0 +1.3**
comp=Z,3.8nm,0.8s,baz=30,slow=7.2,SNR=25
CMAR ScP **ScP 14 07 37.8 +0.4**
comp=Z,1.6nm,0.8s,baz=11,slow=3.5,SNR=8.6
CM01 Chiang Mai Arr 48.33 251 *e*P **P 14 02 50.9 +1.0**
CM01 *e*ScP **ScP 14 07 38.8 +1.2**
PBKT Sadao Pong 48.38 248 P **P 14 02 51.9 +1.7**
comp=Z,12nm,0.7s
ZRNK Zerenda 48.55 308 *e*P **P 14 02 50.1 -1.0**
ZRNK pmax pmax
comp=Z,27nm,0.6s
ZRNK Zerenda 48.55 308 *e*P **P 14 02 50.0 -1.0**
comp=Z,27nm,0.6s
ZRNK *e*ScP **ScP 14 07 36.7 -1.2**
DLBC Dease Lake 48.70 44 P **P 14 02 54.5 +2.2**
comp=Z,16nm,0.5s,baz=294,slow=6.7,SNR=45
DLBC Dease Lake 48.70 44 *e*P **P 14 02 54.2 +2.0**
comp=Z,32nm,1.1s
OTUK Ortayu 48.76 301 P **P 14 02 52.0 -0.8**
OTUK pmax pmax
comp=Z,12nm,0.6s
TKM2 Tokmak 2 49.33 293 P **P 14 02 57.6 +0.2**
TKM2 Tokmak 2 49.33 293 *e*P **P 14 02 57.5 +0.1**
comp=Z,6.5nm,0.6s
SRAK Srakaew 49.63 244 P **P 14 02 58.6 -1.1**
comp=Z,55nm,0.8s,comp=Z,382nm
DIB Dawson Inlet, 49.71 51 *e*P **P 14 03 00.9 +1.2**
comp=Z,38nm,1.4s
UMPA Umpang Tak 50.01 249 P **P 14 03 05.7 +3.2**
comp=Z,7.9nm,1.0s,comp=Z,156nm
AAK Ala-Archa 50.18 294 *d i*P **P 14 03 03.4 -0.3**
AAK pmax pmax
comp=Z,29nm,0.9s
AAK Ala-Archa 50.18 294 *e*P **P 14 03 03.4 -0.3**
AAK Ala-Archa 50.18 294 *e*P **P 14 03 03.5 -0.3**
comp=Z,12nm,0.8s
EKS2 Erkin-Say 50.62 294 *e*P **P 14 03 06.8 -0.1**
EKS2 pmax pmax
comp=Z,17nm,0.8s
EKS2 Erkin-Say 50.62 294 *e*P **P 14 03 06.8 -0.1**
comp=Z,17nm,0.8s
KSH Kashi 50.86 289 P **P 14 03 13.3 +4.5**
KSH pP pP 14 04 14.5 +3.8
KSH PcP **PcP 14 04 24.8 +4.0**
KSH PP **PP 14 05 15.5 +7.5**
KSH S **S 14 10 06.0 +4.1**
KSH ScS **ScS 14 12 29.8 +1.7**
KSH SS **SS 14 13 45.3 +5.0**
KSH PMZ
comp=Z,13nm,0.6s
KSH PMZ
comp=Z,100nm,2.6s
KSH LN
comp=Z,86nm,5.4s
KSH LE
comp=Z,84nm,6.1s
KSH LZ
comp=Z,120nm,6.4s
GUN Gumba 50.87 271 *e*P **P 14 03 09.5 +0.3**
comp=Z,54nm,0.3s
SVE Sverdlovsk 51.14 315 *e*P **P 14 03 09.6 -0.7**
SVE pmax pmax
comp=Z,22nm,0.7s
SVE Sverdlovsk 51.14 315 *e*P **P 14 03 09.6 -0.7**
KKN Kakani 51.36 271 *e*P **P 14 03 13.1 +0.4**
comp=Z,18nm,0.3s
PKIN Phulchoki 51.41 271 *e*P **P 14 03 13.3 +0.2**
comp=Z,19nm,0.3s
MNAS Manas 51.52 294 P **P 14 03 13.2 -0.3**
MNAS pmax pmax
comp=Z,13nm,0.8s
DMN Daman 51.59 271 *e*P **P 14 03 15.0 +0.5**
comp=Z,17nm,0.4s
GKN Gorkha 51.67 272 *e*P **P 14 03 15.4 +0.5**
comp=Z,85nm,0.4s
PHET Kaeng Krachan 51.98 246 P **P 14 03 19.6 +2.5**
ARU Arti 52.34 315 *d i*P **P 14 03 17.6 -1.6**
ARU 14 04 24.6
ARU 14 05 17.0
ARU SS **SS 14 13 57.1 -5.4**
ARU pmax pmax
comp=Z,15nm,0.6s
ARU Arti 52.34 315 *e*P **P 14 03 17.6 -1.6**
ARU Arti 52.34 315 *e*P **P 14 03 17.5 -1.6**
comp=Z,21nm,0.8s
KK31 Karatay Array 52.43 296 *i*P **P 14 03 19.2 -0.9**
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 52.43 296 *e*P **P 14 03 19.5 -0.6**
KKAR Karatay Array 52.43 296 *e*P **P 14 03 19.5 -0.6**
PYUN Piuthan 52.75 273 *e*P **P 14 03 23.4 +0.6**
comp=Z,64nm,0.5s
YKA Yellowknife Ar 53.56 35 P **P 14 03 27.7 -0.2**
comp=Z,6.0nm,0.7s,baz=302,slow=7.0,SNR=17
YKA PcP **PcP 14 04 30.7 +0.4**
comp=Z,2.5nm,0.7s,baz=300,slow=3.5,SNR=5.9
AB31 Akbulak array 55.34 307 *i*P **P 14 03 40.0 -0.9**
AB31 pmax pmax
comp=Z,15nm,0.4s
ABKAR Akbulak array 55.34 307 *e*P **P 14 03 40.1 -0.8**
AKTO Aktyubinsk 55.74 309 P **P 14 03 40.6 -3.1**
ARCES ARCESS Array B 56.66 339 P **P 14 03 49.2 -0.7**
comp=Z,2.6nm,0.7s,baz=52,slow=7.9,SNR=5.8
LLLB Lillooet 56.68 50 *e*P **P 14 03 50.7 +0.3**
comp=Z,10nm,0.7s
PGC Sidney 56.94 52 *e*P **P 14 03 52.4 +0.3**
comp=Z,15nm,0.9s
A04D Lummi Island 57.31 52 P **P 14 03 55.2 +0.5**
baz=305,SNR=5.5
NLWA Neilton Lookou 57.43 54 *e*P **P 14 03 56.8 +1.1**
comp=Z,14nm,0.8s
B05A Bryant 57.90 52 P **P 14 03 59.7 +0.9**
baz=306,SNR=6.1
KBL Kabul 58.25 288 *e*P **P 14 04 00.8 -0.9**
KBL pmax pmax
comp=Z,21nm,0.6s
KBL Kabul 58.25 288 *e*P **P 14 04 00.8 -0.9**
comp=Z,21nm,0.6s
G03D McMinnville, O 59.04 56 P **P 14 04 07.9 +1.2**
baz=307
B08A Colville Reser 59.34 51 *e*P **P 14 04 09.3 +0.6**
comp=Z,33nm,1.4s
I03D Drain, OR 59.90 57 P **P 14 04 13.8 +1.3**
baz=307,SNR=5.6
G05D Wamic, OR 60.12 55 P **P 14 04 15.4 +1.3**
baz=308,SNR=7.2
C09A Chrisman Ranch 60.24 51 *e*P **P 14 04 15.5 +0.6**
comp=Z,14nm,0.6s
I04A Tendick Farm, 60.38 56 P **P 14 04 17.0 +1.1**
baz=308,SNR=17
NEW Newport 60.57 50 P **P 14 04 17.9 +0.9**
comp=Z,13nm,0.7s,baz=318,slow=4.9,SNR=13
NEW Newport 60.57 50 P **P 14 04 17.7 +0.6**
baz=308,SNR=7.1
NEW Newport 60.57 50 P **P 14 04 18.0 +0.9**
NEW pmax pmax
comp=Z,13nm,0.7s
NEW Newport 60.57 50 *e*P **P 14 04 18.0 +0.9**
NEW Newport 60.57 50 *e*P **P 14 04 17.6 +0.6**
comp=Z,17nm,0.8s
I05D Terrebonne, OR 60.66 55 P **P 14 04 18.8 +1.1**
baz=308,SNR=11
L02D Cave Junction, 60.68 59 P **P 14 04 19.3 +1.4**
baz=308
HUMO Hull Mountain 60.78 58 *e*P **P 14 04 20.0 +1.4**
comp=Z,21nm,1.3s
SUMG Summit 61.17 2 *e*P **P 14 04 20.0 -1.1**
SUMG pmax pmax
comp=Z,8.0nm,0.7s
SUMG Summit 61.17 2 *e*P **P 14 04 20.0 -1.1**
comp=Z,8.4nm,0.7s
J05D Fort Rock, OR 61.37 56 P **P 14 04 24.4 +1.8**
baz=308,SNR=19
G08A Pilot Rock 61.41 53 *e*P **P 14 04 23.8 +0.9**
comp=Z,5.8nm,0.8s
K04D Chiloquin, OR 61.48 57 P **P 14 04 24.0 +0.7**
baz=308
M02C Callahan 61.59 59 P **P 14 04 25.5 +1.5**
baz=309,SNR=5.0
WALA Waterton Lakes 61.74 48 *e*P **P 14 04 25.5 +0.6**
comp=Z,20nm,0.9s
K05A Summer Lake 61.91 57 *e*P **P 14 04 28.1 +1.8**
comp=Z,31nm,0.8s
F10A Beach Ranch, E 61.94 52 *e*P **P 14 04 27.2 +0.9**
comp=Z,9.0nm,0.8s
N02D Trinity Center 61.94 59 P **P 14 04 27.5 +1.1**
baz=309,SNR=9.8
M04C Macdel 61.95 58 P **P 14 04 27.6 +1.1**
baz=309,SNR=10
BSMT Bassoo Peak 62.05 49 P **P 14 04 28.5 +1.3**
BLMT Blacktail Moun 62.17 49 *e*P **P 14 04 28.9 +1.0**
WDC Whiskeytown Da 62.28 59 *e*P **P 14 04 29.6 +1.1**
WDC pmax pmax
comp=Z,11nm,0.8s
WDC Whiskeytown Da 62.28 59 *e*P **P 14 04 29.6 +1.1**
comp=Z,11nm,0.8s
JTMT Jette 62.38 49 *e*P **P 14 04 30.3 +1.1**
FIA1 FINESS Array S 62.41 332 *e*P **P 14 04 27.4 -1.6**
comp=Z,6.9nm,0.6s
FINES FINESS Array B 62.42 332 P **P 14 04 27.7 -1.3**
comp=Z,5.6nm,0.6s,baz=38,slow=8.2,SNR=28
FINES S **S 14 12 28.7 -2.9**
comp=Z,2.1nm,0.8s,baz=60,slow=16,SNR=6.5
YBMT Yellow Bay 62.45 49 *e*P **P 14 04 30.8 +1.1**
BMO Blue Mountains 62.60 53 *e*P **P 14 04 31.7 +1.0**
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO Blue Mountains 62.60 53 *e*P **P 14 04 31.7 +1.0**
comp=Z,9.9nm,0.9s
SWMT Swartz Lake 62.68 49 *e*P **P 14 04 32.2 +1.0**
MOD Modoc Plateau 62.77 57 *e*P **P 14 04 33.0 +1.1**
comp=Z,16nm,0.6s
O03D Paynes Creek 62.90 59 P **P 14 04 33.3 +0.6**
baz=309,SNR=11
OBN Obninsk 63.09 323 *i*P **P 14 04 32.4 -1.1**
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN Obninsk 63.09 323 *e*P **P 14 04 32.4 -1.1**
GEYT Alibeck 63.10 298 P **P 14 04 33.7 -0.3**
comp=Z,6.8nm,0.4s,baz=9.9,slow=3.5,SNR=20
MSO Missoula 63.15 49 P **P 14 04 35.1 +0.9**
baz=310,SNR=15
MSO Missoula 63.15 49 *e*P **P 14 04 35.0 +0.7**
comp=Z,24nm,1.0s
WVOR Wild Horse Val 63.39 56 *e*P **P 14 04 36.8 +0.9**
WVOR pmax pmax
comp=Z,19nm,1.0s
WVOR Wild Horse Val 63.39 56 *e*P **P 14 04 36.8 +0.9**
comp=Z,19nm,1.0s
CHMT Chamberlain Mo 63.45 49 *e*P **P 14 04 36.5 +0.2**
VRH Novokhopyorsk 63.46 317 *e*P **P 14 04 34.1 -1.9**
VRH pmax pmax
comp=Z,5.0nm,0.6s
FFC Flin Flon 63.53 37 *e*P **P 14 04 36.6 +0.2**
FFC pmax pmax
comp=Z,37nm,0.8s
FFC Flin Flon 63.53 37 *e*P **P 14 04 36.9 +0.5**
FFC Flin Flon 63.53 37 *e*P **P 14 04 36.6 +0.2**
comp=Z,37nm,0.8s
ORV Oroville 63.55 60 *e*P **P 14 04 37.1 +0.3**
ORV pmax pmax
comp=Z,15nm,0.6s
ORV Oroville 63.55 60 *e*P **P 14 04 37.1 +0.3**
comp=Z,14nm,0.6s
FCC Fort Churchill 63.67 31 *e*P **P 14 04 36.6 -0.6**
FCC Fort Churchill 63.67 31 *e*P **P 14 04 36.6 -0.6**
FCC Fort Churchill 63.67 31 *e*P **P 14 04 36.6 -0.6**
AFDM Forest Hills D 64.25 60 *e*P **P 14 04 41.8 +0.3**
comp=Z,14nm,1.2s
MFID Camas Ranch 64.34 53 *e*P **P 14 04 42.8 +0.8**
comp=Z,30nm,1.6s
EGMT Eagleton 64.51 46 P **P 14 04 43.5 +0.4**
baz=312,SNR=8.3
EGMT Eagleton 64.51 46 *e*P **P 14 04 43.6 +0.5**
comp=Z,30nm,1.1s
LRM Limekiln Ridge 64.59 50 *e*P **P 14 04 44.5 +0.8**
VSR Storozhevoye 64.63 319 *e*P **P 14 04 42.1 -1.5**
VSR pmax pmax
comp=Z,7.0nm,0.9s
PAHR Pah Rah Range 64.70 58 *e*P **P 14 04 45.4 +0.9**
comp=Z,27nm,1.1s
DLMT Dillon 64.81 50 *e*P **P 14 04 46.1 +1.0**
comp=Z,22nm,0.9s
HLID Hailey 65.02 52 P **P 14 04 47.4 +1.0**
baz=311,SNR=14
HLID Hailey 65.02 52 *e*P **P 14 04 47.5 +1.0**
comp=Z,6.4nm,0.9s
MCMT McKenzie Canyo 65.03 51 *e*P **P 14 04 47.0 +0.3**
BOZ Bozeman (W) 65.13 49 P **P 14 04 48.1 +1.0**
baz=312,SNR=40
BOZ Bozeman (W) 65.13 49 *e*P **P 14 04 48.1 +1.0**
BOZ pmax pmax
comp=Z,20nm,0.8s
BOZ Bozeman (W) 65.13 49 *e*P **P 14 04 48.1 +1.0**
BOZ Bozeman (W) 65.13 49 *e*P **P 14 04 48.1 +1.0**
comp=Z,20nm,0.8s
CMB Columbia Colle 65.19 60 *e*P **P 14 04 48.3 +0.8**
CMB pmax pmax
comp=Z,13nm,0.8s
CMB Columbia Colle 65.19 60 *e*P **P 14 04 48.3 +0.8**
comp=Z,13nm,0.8s
WAKR Water 65.45 59 *e*P **P 14 04 50.4 +1.0**
comp=Z,17nm,0.8s
BMN Battle Mountai 65.49 57 *e*P **P 14 04 50.8 +1.2**
BMN pmax pmax
comp=Z,17nm,0.8s
BMN Battle Mountai 65.49 57 *e*P **P 14 04 50.8 +1.2**
comp=Z,17nm,0.8s
YHB Horse Butte 65.96 50 *e*P **P 14 04 53.5 +1.0**
comp=Z,20nm,0.8s
GCMT Greycliff 66.06 48 *e*P **P 14 04 54.1 +1.1**
YHH Holmes Hill 66.12 50 *e*P **P 14 04 54.5 +0.9**
comp=Z,13nm,0.9s
YFT Old Faithful 66.35 50 *e*P **P 14 04 57.4 +2.4**
comp=Z,18nm,1.0s
MLAC Mammoth, Mammo 66.38 60 P **P 14 04 56.7 +1.4**
baz=312
ELK Elko 66.42 55 *e*P **P 14 04 56.2 +0.7**
ELK pmax pmax
comp=Z,6.0nm,0.6s
ELK Elko 66.42 55 *e*P **P 14 04 56.1 +0.7**
comp=Z,5.6nm,0.6s
YPP Pitchstone Pla 66.49 50 *e*P **P 14 04 57.6 +1.6**
comp=Z,29nm,1.9s
H17A Grant Village 66.53 50 P **P 14 04 58.5 +2.4**
baz=313
H17A Grant Village 66.53 50 *e*P **P 14 04 58.5 +2.4**
comp=Z,22nm,1.0s
IMW Indian Meadow 66.67 50 *e*P **P 14 04 58.6 +1.5**
comp=Z,12nm,1.0s
RLMT Red Lodge 66.72 49 P **P 14 04 58.3 +1.0**
baz=313,SNR=6.8
RLMT Red Lodge 66.72 49 *e*P **P 14 04 58.2 +1.0**
comp=Z,41nm,1.8s
NC405 NORSAR Array S 66.84 338 *e*P **P 14 04 56.1 -1.4**
MOOW Moose Ponds 66.88 50 *e*P **P 14 04 59.2 +0.9**
comp=Z,21nm,1.3s
DGMT Dagmar 66.91 43 P **P 14 04 58.2 0.0**
baz=315
TPAW Teton Pass 66.94 51 *e*P **P 14 05 00.4 +1.6**
comp=Z,27nm,1.1s
GOF Gofitskoye 66.97 312 *i*P **P 14 04 58.1 -0.5**
GOF pmax pmax
comp=Z,55nm,0.7s
NB2 NORSAR Subarra 67.03 338 P **P 14 04 57.2 -1.5**
comp=Z,4.2nm,0.6s,baz=31,slow=6.5
NOA NORSAR Array B 67.03 338 P **P 14 04 57.5 -1.2**
comp=Z,4.1nm,0.6s,baz=32,slow=6.4,SNR=16
LOHW Long Hollow 67.04 50 *e*P **P 14 05 00.5 +1.1**
comp=Z,24nm,1.4s
REDW Red Top Meadow 67.08 51 *e*P **P 14 05 00.8 +1.2**
comp=Z,32nm,1.4s
A25A Svangstu Ranch 67.09 42 P **P 14 04 59.5 +0.2**
baz=315
HVU Hansel Valley 67.11 53 *e*P **P 14 05 00.7 +1.0**
HVU pmax pmax
comp=Z,13nm,1.1s
HVU Hansel Valley 67.11 53 *e*P **P 14 05 00.7 +1.0**
comp=Z,13nm,1.1s
WRA Warramunga Arr 67.12 193 P **P 14 04 60.0 +0.3**
comp=Z,0.6nm,0.6s,baz=10.0,slow=6.6,SNR=5.8
WRA pP **pP 14 06 07.3 +1.8**
comp=Z,2.1nm,0.8s,baz=12,slow=6.8,SNR=7.1
LAO LASA Array 67.18 46 P **P 14 05 00.4 +0.4**
baz=314,SNR=5.1
LAO LASA Array 67.18 46 *e*P **P 14 05 00.6 +0.6**
comp=Z,20nm,1.0s
AHID Auburn Hatcher 67.35 51 *e*P **P 14 05 01.9 +0.6**
comp=Z,15nm,1.1s
BGU Big Grassy Mou 67.54 54 *e*P **P 14 05 03.4 +0.9**
comp=Z,3.5nm,0.7s
PKM Mcpherson Peak 67.60 63 P **P 14 05 04.0 +1.1**
baz=312
A26A Wade Farm, Ken 67.62 42 P **P 14 05 02.8 +0.2**
baz=316
CWC Cottonwood Cre 67.62 60 P **P 14 05 03.8 +0.7**
baz=312
GRAC Grapevine Rang 67.68 59 P **P 14 05 04.4 +1.2**
baz=312,SNR=16
NCK Nalchik 67.75 310 *i*P **P 14 05 03.1 -0.4**
NCK pmax pmax
comp=Z,24nm,0.4s
R11A Troy Canyon, C 67.82 57 P **P 14 05 04.9 +0.7**
baz=313,SNR=5.9
HWUT Hardware Ranch 67.89 53 *e*P **P 14 05 05.6 +1.0**
comp=Z,24nm,1.2s
ISA Isabella, Lake 67.91 61 P **P 14 05 05.1 +0.4**
baz=312
KIV Kislovodsk 67.92 311 *e*P **P 14 05 05.6 +1.0**
KIV pmax pmax
comp=Z,47nm,0.9s
KIV Kislovodsk 67.92 311 *e*P **P 14 05 04.9 +0.3**
comp=Z,43nm,0.9s
A27A Ledoux Ranch, 67.94 41 P **P 14 05 05.1 +0.5**
baz=316,SNR=5.0
KBZ Khabaz 67.96 311 P **P 14 05 05.1 +0.4**
comp=Z,20nm,0.8s,baz=40,slow=4.7,SNR=34
GUDG Gudauri 67.99 309 P **P 14 05 06.4 +1.1**
ZEI Tsey 68.08 309 *e*P **P 14 05 04.6 -1.2**
ZEI pmax pmax
comp=Z,61nm,0.7s
DUG Dugway, Tooele 68.16 54 P **P 14 05 06.8 +0.6**
baz=313,SNR=19
DUG Dugway, Tooele 68.16 54 *e*P **P 14 05 07.5 +1.2**
DUG pmax pmax
comp=Z,20nm,0.7s
DUG Dugway, Tooele 68.16 54 *e*P **P 14 05 07.5 +1.2**
DUG Dugway, Tooele 68.16 54 *e*P **P 14 05 07.5 +1.2**
comp=Z,20nm,0.7s
BW06 Boulder Array 68.18 51 P **P 14 05 06.8 +0.3**
baz=314,SNR=20
BW06 Boulder Array 68.18 51 *e*P **P 14 05 06.9 +0.5**
comp=Z,0.9nm,1.3s
PD31 Pinedale Array 68.18 51 *e*P **P 14 05 06.9 +0.4**
PDAR Pinedale Array 68.18 51 P **P 14 05 07.2 +0.7**
comp=Z,12nm,0.6s,baz=280,slow=2.6,SNR=77
PDAR pP **pP 14 06 16.0 +3.6**
comp=Z,1.1nm,0.7s,baz=308,slow=2.2,SNR=2.3
MPMC Manual Prospec 68.23 60 P **P 14 05 07.4 +0.6**
baz=312,SNR=18
SCZ2 Santa Cruz Isl 68.31 63 P **P 14 05 08.1 +0.9**
baz=312
FURC Furnace Creek, 68.33 60 P **P 14 05 08.0 +0.8**
baz=313,SNR=25
TBLG Delisi 68.36 308 P **P 14 05 08.0 +0.8**
TBLG Delisi 68.36 308 P **P 14 05 08.0 +0.7**
TPNV Topopah Spring 68.37 59 P **P 14 05 08.7 +1.0**
baz=313,SNR=23
TPNV Topopah Spring 68.37 59 *e*P **P 14 05 08.4 +0.7**
TPNV pmax pmax
comp=Z,21nm,0.8s
TPNV Topopah Spring 68.37 59 *e*P **P 14 05 08.4 +0.7**
comp=Z,20nm,0.8s
NEY Neytrino 68.39 310 *i*P **P 14 05 09.2 +1.6**
NEY pmax pmax
comp=Z,3.0nm,0.8s
CTU Camp Tracy 68.41 53 *e*P **P 14 05 08.5 +0.7**
comp=Z,23nm,0.7s
A28A Rude Farm, Bot 68.42 41 P **P 14 05 07.7 +0.2**
baz=317
OSI Osito Audit: C 68.45 62 P **P 14 05 08.6 +0.6**
baz=312
OSI Osito Audit: C 68.45 62 *e*P **P 14 05 08.8 +0.8**
comp=Z,24nm,0.4s
ONI Oni 68.45 310 P **P 14 05 08.8 +0.9**
ONI Oni 68.45 310 P **P 14 05 08.8 +0.9**
LRMC Laurel Mtn Rad 68.51 61 P **P 14 05 09.0 +0.6**
baz=313
JLU Jordanelle 68.64 53 *e*P **P 14 05 09.4 +0.1**
comp=Z,14nm,1.2s
B28A Dugan Ranch, T 68.71 41 P **P 14 05 09.8 +0.5**
baz=317
EDW2 Edwards Air Fo 68.72 62 P **P 14 05 10.6 +0.9**
baz=313,SNR=17
D26A Manning 68.77 43 P **P 14 05 09.8 0.0**
baz=316
A29A Manning Farm, 68.87 40 P **P 14 05 10.4 +0.1**
baz=318,SNR=10
DECC Green Verdugo 68.94 62 P **P 14 05 11.5 +0.5**
baz=313
SHOC Shoshone, Teco 69.07 60 P **P 14 05 12.3 +0.5**
baz=313,SNR=5.8
MWC Mount Wilson 69.12 62 *e*P **P 14 05 12.6 +0.3**
MWC pmax pmax
comp=Z,34nm,1.4s
MWC Mount Wilson 69.12 62 *e*P **P 14 05 12.6 +0.3**
comp=Z,34nm,1.4s
B29A Wagenman Farm, 69.15 41 P **P 14 05 11.8 -0.3**
baz=318
GSC Goldstone, Bar 69.15 60 P **P 14 05 13.1 +0.7**
baz=313,SNR=13
GSC Goldstone, Bar 69.15 60 *e*P **P 14 05 13.0 +0.7**
GSC pmax pmax
comp=Z,20nm,1.1s
GSC Goldstone, Bar 69.15 60 *e*P **P 14 05 13.0 +0.6**
comp=Z,20nm,1.1s
C28A Hausauer Farms 69.23 42 P **P 14 05 13.0 +0.5**
baz=317
A30A Hoffart Farm, 69.27 40 P **P 14 05 12.8 +0.1**
baz=318
SHPR Sheep Range 69.32 59 *e*P **P 14 05 14.4 +1.0**
comp=Z,12nm,0.8s
ULM Lac du Bonnet 69.34 38 P **P 14 05 12.6 -0.5**
comp=Z,5.5nm,0.5s,baz=331,slow=7.0,SNR=7.8
ULM Lac du Bonnet 69.34 38 *e*P **P 14 05 12.5 -0.6**
ULM pmax pmax
comp=Z,7.0nm,0.6s
ULM Lac du Bonnet 69.34 38 *e*P **P 14 05 12.5 -0.6**
ULM Lac du Bonnet 69.34 38 *e*P **P 14 05 12.5 -0.6**
comp=Z,7.4nm,0.6s
AKASG Malin Array Be 69.35 323 P **P 14 05 12.2 -0.9**
comp=Z,2.4nm,0.5s,baz=35,slow=6.2,SNR=11
BFSC Mount Eddy Ra 69.36 62 P **P 14 05 14.4 +0.7**
baz=313,SNR=9.2
TUQ Turquoise Moun 69.59 60 P **P 14 05 15.7 +0.6**
baz=313,SNR=13
B30A Myrvik Farm, E 69.62 40 P **P 14 05 14.7 -0.2**
baz=318,SNR=5.7
CCUT Cedar City 69.65 57 *e*P **P 14 05 16.4 +0.8**
comp=Z,8.8nm,0.8s
MSU Marysvale 69.67 55 *e*P **P 14 05 16.9 +1.3**
MSU Marysvale 69.67 55 *e*P **P 14 05 16.9 +1.3**
TMUT Trail Mountain 69.67 54 *e*P **P 14 05 16.6 +0.8**
comp=Z,16nm,0.8s
HEC Hector,Ludlow 69.76 61 P **P 14 05 16.9 +0.9**
baz=313,SNR=6.8
P17A Butcher Ranch, 69.81 54 *e*P **P 14 05 17.4 +1.0**
comp=Z,26nm,1.1s
K22A Casper 69.86 49 P **P 14 05 16.9 +0.2**
baz=315,SNR=7.7
K22A Casper 69.86 49 *e*P **P 14 05 16.9 +0.2**
comp=Z,9.8nm,0.5s
H25A Fruitdale 69.94 46 P **P 14 05 16.8 -0.1**
baz=316
B31A Greenbush Farm 69.95 40 P **P 14 05 16.9 +0.1**
baz=319
MTPU Mount Pierson 69.99 56 *e*P **P 14 05 19.1 +1.4**
comp=Z,17nm,0.7s
MURC Murrieta 70.07 62 P **P 14 05 18.5 +0.6**
baz=313
A32A Rocking H Ranc 70.08 39 P **P 14 05 17.3 -0.3**
baz=319
RSSD Black Hills 70.08 46 P **P 14 05 18.2 +0.1**
baz=316
RSSD Black Hills 70.08 46 *e*P **P 14 05 18.1 +0.1**
RSSD pmax pmax
comp=Z,18nm,0.6s
RSSD Black Hills 70.08 46 *e*P **P 14 05 18.1 +0.1**
comp=Z,18nm,0.6s
LCMT Little Creek M 70.09 57 *e*P **P 14 05 19.3 +1.2**
comp=Z,14nm,0.8s
C30A Mose, Pekin 70.11 41 P **P 14 05 17.7 -0.1**
baz=318
SRU San Rafael Swe 70.19 54 *e*P **P 14 05 19.3 +0.6**

SRU					pmax		pmax				
	comp=Z,29nm,0.7s										
SRU	**San Rafael Swe**	**70.19**	**54**	*eP*		**P**		**14 05 19.3**	**+0.6**
	comp=Z,28nm,0.7s										
GMRC	**Granite Mounta**	**70.19**	**60**	P		**P**		**14 05 19.2**	**+0.4**
	baz=314,SNR=10										
LDFC	**Landfair**	**70.32**	**60**	*eP*		**P**		**14 05 20.1**	**+0.6**
	comp=Z,35nm,0.8s										
PKCU	**Pink Cliffs**	**70.33**	**56**	*eP*		**P**		**14 05 21.4**	**+1.6**
	comp=Z,9.8nm,0.9s										
C31A	**Landman Farms,**	**70.38**	**40**	P		**P**		**14 05 19.5**	**0.0**
	baz=319										
MMU	**Miners Mountai**	**70.39**	**55**	*eP*		**P**		**14 05 21.5**	**+1.5**
B32A	**Ashes, Strandq**	**70.46**	**39**	P		**P**		**14 05 19.3**	**-0.7**
	baz=319,SNR=7.0										
PFO	**Pinyon Flats O**	**70.51**	**62**	P		**P**		**14 05 21.4**	**+0.8**
	baz=314										
PFO	**Pinyon Flats O**	**70.51**	**62**	*eP*		**P**		**14 05 21.5**	**+0.8**
PFO					pmax		pmax				
	comp=Z,7.0nm,0.9s										
PFO	**Pinyon Flats O**	**70.51**	**62**	*eP*		**P**		**14 05 21.5**	**+0.8**
	comp=Z,6.9nm,0.9s										
TPFO	**Pinon Flats**	**70.52**	**62**	P		**P**		**14 05 21.1**	**+0.4**
	baz=314,SNR=5.9										
BELC	**Belle Mtn. Jos**	**70.53**	**61**	P		**P**		**14 05 20.8**	**+0.1**
	baz=314,SNR=6.6										
A33A	**Warroad**	**70.54**	**38**	P		**P**		**14 05 19.8**	**-0.6**
	baz=320,SNR=6.4										
109C	**Camp Elliot, M**	**70.61**	**63**	P		**P**		**14 05 22.5**	**+1.4**
	baz=314										
O20A	**White River Ci**	**70.72**	**52**	P		**P**		**14 05 22.5**	**+0.6**
	baz=315										
O20A	**White River Ci**	**70.72**	**52**	*eP*		**P**		**14 05 22.1**	**+0.2**
	comp=Z,17nm,0.6s										
AGMN	**Agassiz Nation**	**70.83**	**39**	P		**P**		**14 05 21.6**	**-0.6**
	baz=320										
AGMN	**Agassiz Nation**	**70.83**	**39**	*eP*		**P**		**14 05 21.9**	**-0.3**
	comp=Z,10nm,1.0s										
ASAR	**Alice Springs**	**70.85**	**193**	P		**P**		**14 05 23.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=9.0,slow=5.8,SNR=18										
ASAR					pP		**pP**	**14 06 32.4**	**+3.4**
	comp=Z,1.4nm,0.9s,baz=13,slow=6.3,SNR=4.4										
F29A	**Eureka**	**70.88**	**43**	P		**P**		**14 05 22.2**	**-0.3**
	baz=318										
IRM	**Iron Mountain**	**70.93**	**60**	P		**P**		**14 05 24.0**	**+0.9**
	baz=314,SNR=16										
D31A	**Mcclaflin, Tow**	**70.94**	**41**	P		**P**		**14 05 22.6**	**-0.2**
	baz=319										
B33A	**Robert and Kas**	**70.96**	**39**	P		**P**		**14 05 23.3**	**+0.3**
	baz=320										
MONP2	**Monument Peak**	**71.03**	**62**	P		**P**		**14 05 24.6**	**+0.7**
	baz=314										
W13A	**Hualapai Mount**	**71.03**	**59**	*eP*		**P**		**14 05 24.6**	**+0.7**
	comp=Z,6.7nm,0.7s										
U15A	**North Rim**	**71.05**	**57**	*eP*		**P**		**14 05 25.1**	**+1.1**
	comp=Z,20nm,0.8s										
BC3	**Big Chuckawall**	**71.09**	**61**	P		**P**		**14 05 24.6**	**+0.5**
	baz=314,SNR=5.6										
D32A	**Dogwood Acres,**	**71.20**	**40**	P		**P**		**14 05 24.1**	**-0.2**
	baz=319										
B34A	**Aery, Baudette**	**71.20**	**38**	P		**P**		**14 05 23.7**	**-0.7**
	baz=320										
E31A	**Nome**	**71.24**	**41**	P		**P**		**14 05 24.0**	**-0.6**
	baz=319,SNR=5.7										
C33A	**Trail**	**71.28**	**39**	P		**P**		**14 05 24.4**	**-0.4**
	baz=320										
G29A	**Hoven**	**71.31**	**43**	P		**P**		**14 05 24.8**	**-0.3**
	baz=318										
PHWY	**Pilot Hill**	**71.38**	**49**	*eP*		**P**		**14 05 25.9**	**-0.1**
	comp=Z,3.2nm,0.8s										
IKP	**In-Ko-Pah, Jac**	**71.39**	**62**	P		**P**		**14 05 26.7**	**+0.8**
	baz=314										
PV09	**Paradox Valley**	**71.39**	**54**	*eP*		**P**		**14 05 26.5**	**+0.5**
N23A	**Red Feather La**	**71.42**	**50**	P		**P**		**14 05 26.4**	**+0.3**
	baz=316,SNR=6.9										
N23A	**Red Feather La**	**71.42**	**50**	*eP*		**P**		**14 05 26.9**	**+0.7**
	comp=Z,9.3nm,0.8s										
PDMCI	**Parker Dam,Lak**	**71.43**	**60**	P		**P**		**14 05 26.6**	**+0.6**
	baz=314,SNR=15										
Y12C	**Blythe**	**71.59**	**60**	P		**P**		**14 05 27.9**	**+1.0**
	baz=314,SNR=5.8										
Y12C	**Blythe**	**71.59**	**60**	*eP*		**P**		**14 05 27.9**	**+1.0**
	comp=Z,21nm,0.7s										
PV04	**Paradox Valley**	**71.59**	**53**	*eP*		**P**		**14 05 27.6**	**+0.5**
F31A	**Hecla**	**71.59**	**42**	P		**P**		**14 05 26.8**	**+0.1**
	baz=319										
B35A	**Bob, Littlefor**	**71.69**	**38**	P		**P**		**14 05 26.8**	**-0.5**
	baz=321,SNR=7.6										
PV05	**Paradox Valley**	**71.70**	**54**	*eP*		**P**		**14 05 28.7**	**+0.8**
D33A	**AnnSam, Waubun**	**71.71**	**40**	P		**P**		**14 05 26.9**	**-0.5**
	baz=320										
GLA	**Glamis**	**71.89**	**61**	P		**P**		**14 05 29.5**	**+0.7**
	baz=314,SNR=5.4										
GLA	**Glamis**	**71.89**	**61**	*eP*		**P**		**14 05 29.3**	**+0.5**
GLA					pmax		pmax				
	comp=Z,14nm,0.8s										
GLA	**Glamis**	**71.89**	**61**	*eP*		**P**		**14 05 29.3**	**+0.5**
	comp=Z,14nm,0.8s										
PV01	**Paradox Valley**	**71.96**	**53**	*eP*		**P**		**14 05 30.1**	**+0.8**
I29A	**Vivian Onida**	**71.99**	**44**	P		**P**		**14 05 29.2**	**0.0**
	baz=318										
D34A	**Park Rapids**	**72.04**	**39**	P		**P**		**14 05 29.2**	**-0.2**
	baz=320,SNR=5.2										
G31A	**Conde**	**72.09**	**42**	P		**P**		**14 05 30.3**	**+0.6**
	baz=319										
SMCO	**Snowmass**	**72.09**	**52**	*eP*		**P**		**14 05 31.0**	**+0.7**
	comp=Z,27nm,1.4s										
C35A	**Jirik Farms, M**	**72.10**	**38**	P		**P**		**14 05 29.3**	**-0.5**
	baz=321										
E33A	**Westby DABS, E**	**72.13**	**40**	P		**P**		**14 05 29.4**	**-0.5**
	baz=320,SNR=7.3										
WUAZ	**Wupatki**	**72.21**	**57**	P		**P**		**14 05 31.6**	**+0.7**
	baz=315,SNR=11										
WUAZ	**Wupatki**	**72.21**	**57**	*eP*		**P**		**14 05 31.8**	**+1.0**
	comp=Z,15nm,1.0s										
SUSD	**Miller**	**72.33**	**43**	P		**P**		**14 05 31.5**	**+0.3**
	baz=319										
Y14A	**Wickenburg**	**72.36**	**59**	*eP*		**P**		**14 05 32.5**	**+0.9**
	comp=Z,64nm,0.8s										
ISCO	**Idaho Springs**	**72.38**	**51**	P		**P**		**14 05 32.5**	**+0.6**
	baz=316,SNR=8.2										
ISCO	**Idaho Springs**	**72.38**	**51**	*eP*		**P**		**14 05 32.5**	**+0.6**
ISCO					pmax		pmax				
	comp=Z,23nm,1.6s										
ISCO	**Idaho Springs**	**72.38**	**51**	*eP*		**P**		**14 05 32.5**	**+0.6**
	comp=Z,24nm,1.6s										
G32A	**Webster**	**72.40**	**42**	P		**P**		**14 05 31.3**	**-0.2**
	baz=319,SNR=6.7										
I30A	**Oacoma**	**72.50**	**44**	P		**P**		**14 05 32.3**	**+0.1**
	baz=319										
F33A	**5 Mile Ranch,**	**72.50**	**41**	P		**P**		**14 05 31.8**	**-0.3**
	baz=320,SNR=5.5										
H31A	**Wolsey**	**72.52**	**43**	P		**P**		**14 05 32.3**	**0.0**
	baz=319										
C36A	**Pine Crest Far**	**72.54**	**38**	P		**P**		**14 05 32.0**	**-0.3**
	baz=322										
D35A	**Remer**	**72.54**	**39**	P		**P**		**14 05 31.7**	**-0.7**
	baz=321										
MVCO	**Mesa Verde**	**72.66**	**54**	P		**P**		**14 05 34.0**	**+0.5**
	baz=316,SNR=14										
MVCO	**Mesa Verde**	**72.66**	**54**	*eP*		**P**		**14 05 34.2**	**+0.8**
	comp=Z,17nm,0.8s										
I31A	**Royce, Wessing**	**72.83**	**43**	P		**P**		**14 05 34.1**	**0.0**
	baz=319										
C37A	**Embarrass**	**72.84**	**37**	P		**P**		**14 05 33.9**	**-0.1**
	baz=322										
D36A	**Goodland**	**72.85**	**38**	P		**P**		**14 05 33.3**	**-0.8**
	baz=321										
J30A	**Dallas**	**72.91**	**44**	P		**P**		**14 05 34.7**	**+0.1**
	baz=319										
G33A	**Ortonville**	**72.93**	**41**	P		**P**		**14 05 34.2**	**-0.4**
	baz=320,SNR=9.2										
X16A	**Lo Mia Camp, P**	**72.95**	**58**	*eP*		**P**		**14 05 36.5**	**+1.3**
	comp=Z,16nm,0.8s										
EYMN	**Ely**	**72.95**	**37**	P		**P**		**14 05 34.5**	**-0.3**
	baz=322										
H32A	**Carlson Farm,**	**72.99**	**42**	P		**P**		**14 05 35.0**	**-0.1**
	baz=320										
F34A	**Alexandria**	**73.00**	**40**	P		**P**		**14 05 35.1**	**0.0**
	baz=320										
H33A	**Prehn Over Nor**	**73.18**	**42**	P		**P**		**14 05 36.1**	**-0.1**
	baz=320,SNR=5.4										
D37A	**Cotton**	**73.18**	**38**	P		**P**		**14 05 35.4**	**-0.7**
	baz=322										
S22A	**4UR Ranch, Cre**	**73.20**	**53**	P		**P**		**14 05 37.1**	**+0.4**
	baz=316,SNR=14										
S22A	**4UR Ranch, Cre**	**73.20**	**53**	*eP*		**P**		**14 05 37.6**	**+0.9**
	comp=Z,12nm,0.9s										
C38A	**Sawbill Land.**	**73.23**	**37**	P		**P**		**14 05 35.7**	**-0.6**
	baz=322,SNR=6.5										
Q24A	**Divide**	**73.23**	**51**	P		**P**		**14 05 36.9**	**0.0**
	baz=317,SNR=5.0										
Q24A	**Divide**	**73.23**	**51**	*eP*		**P**		**14 05 37.2**	**+0.4**
	comp=Z,7.7nm,0.9s										
G34A	**Benson**	**73.26**	**41**	P		**P**		**14 05 36.7**	**+0.2**
	baz=320										
J31A	**Geddes**	**73.29**	**44**	P		**P**		**14 05 37.1**	**+0.3**
	baz=319										
E36A	**McGregor**	**73.33**	**39**	P		**P**		**14 05 36.6**	**-0.3**
	baz=322,SNR=8.6										
K30A	**Basset**	**73.33**	**45**	P		**P**		**14 05 37.1**	**0.0**
	baz=319,SNR=5.3										
I32A	**Karley and Nic**	**73.34**	**43**	P		**P**		**14 05 36.4**	**-0.7**
	baz=320										
BUR08	**Bucovina Ar. S**	**73.39**	**323**	*eP*		**P**		**14 05 37.4**	**0.0**
OGNE	**Ogallala**	**73.41**	**48**	P		**P**		**14 05 38.2**	**+0.6**
	baz=318										
OGNE	**Ogallala**	**73.41**	**48**	*eP*		**P**		**14 05 37.9**	**+0.3**
	comp=Z,54nm,1.0s										
W18A	**Petrified Fore**	**73.44**	**56**	P		**P**		**14 05 39.1**	**+1.1**
	baz=316										
H34A	**Spellman Lake,**	**73.64**	**41**	P		**P**		**14 05 38.6**	**-0.2**
	baz=320										
I33A	**Coleman**	**73.64**	**42**	P		**P**		**14 05 38.9**	**+0.1**
	baz=320										
F36A	**Milaca**	**73.72**	**39**	P		**P**		**14 05 38.6**	**-0.6**
	baz=321										
X18A	**Snowflake**	**73.74**	**57**	*eP*		**P**		**14 05 40.5**	**+0.7**
	comp=Z,11nm,0.8s										
K31A	**O'Neill**	**73.79**	**45**	P		**P**		**14 05 40.2**	**+0.5**
	baz=319										
214A	**Organ Pipe Nat**	**73.87**	**61**	P		**P**		**14 05 41.2**	**+0.9**
	baz=315,SNR=6.3										
214A	**Organ Pipe Nat**	**73.87**	**61**	*eP*		**P**		**14 05 41.4**	**+1.0**
	comp=Z,48nm,1.1s										
SDCO	**Great Sand Dun**	**73.92**	**52**	P		**P**		**14 05 41.4**	**+0.5**
	baz=317										
SDCO	**Great Sand Dun**	**73.92**	**52**	*eP*		**P**		**14 05 41.6**	**+0.7**
	comp=Z,10nm,1.3s										
ECSD	**EROS Data Cent**	**73.97**	**43**	P		**P**		**14 05 40.4**	**-0.3**
	baz=320,SNR=17										
ECSD	**EROS Data Cent**	**73.97**	**43**	*eP*		**P**		**14 05 40.4**	**-0.3**
	comp=Z,23nm,1.0s										
H35A	**Sunnyside Ranc**	**74.04**	**41**	P		**P**		**14 05 41.4**	**+0.3**
	baz=321										
I34A	**Hadley**	**74.08**	**42**	P		**P**		**14 05 41.4**	**+0.1**
	baz=320										
L31A	**Butterfield Fa**	**74.08**	**45**	P		**P**		**14 05 42.0**	**+0.5**
	baz=319										
J33A	**Davis**	**74.12**	**43**	P		**P**		**14 05 41.5**	**0.0**
	baz=320										
SPMN	**Marine on St.**	**74.53**	**39**	P		**P**		**14 05 43.2**	**-0.7**
	baz=322										
H36A	**Jessenland, He**	**74.54**	**40**	P		**P**		**14 05 44.2**	**+0.3**
	baz=321										
J34A	**George**	**74.61**	**42**	P		**P**		**14 05 44.4**	**0.0**
	baz=321										
L32A	**Elgin**	**74.62**	**45**	P		**P**		**14 05 44.8**	**+0.3**
	baz=320										
I35A	**Creekview Farm**	**74.62**	**42**	P		**P**		**14 05 44.4**	**-0.1**
	baz=321										
K33A	**Hardington**	**74.64**	**44**	P		**P**		**14 05 45.1**	**+0.5**
	baz=320										
M31A	**Lambtecht Ranc**	**74.65**	**46**	P		**P**		**14 05 45.0**	**+0.3**
	baz=319										
CLL	**Collm**	**74.86**	**332**	*i* P		**P**		**14 05 45.1**	**-0.5**
	comp=Z,6.0nm,0.6s										
CLL	**Collm**	**74.86**	**332**	*i* P		**P**		**14 05 45.1**	**-0.5**
CLL					pmax		pmax				
	comp=Z,6.0nm,0.6s										
CLL	**Collm**	**74.86**	**332**	*eP*		**P**		**14 05 45.1**	**-0.5**
J35A	**Milford**	**74.90**	**42**	P		**P**		**14 05 45.5**	**-0.5**
	baz=321										
I36A	**Fitzsimmons Fa**	**74.94**	**41**	P		**P**		**14 05 45.5**	**-0.7**
	baz=322										
T25A	**Trinidad**	**74.96**	**52**	P		**P**		**14 05 46.7**	**0.0**
	baz=318										
T25A	**Trinidad**	**74.96**	**52**	*eP*		**P**		**14 05 47.0**	**+0.3**
	comp=Z,14nm,1.0s										
H37A	**Dierke Farm, C**	**74.99**	**40**	P		**P**		**14 05 45.8**	**-0.7**
	baz=322										
BGNE	**Belgrade**	**75.00**	**45**	P		**P**		**14 05 46.7**	**+0.1**
	baz=320										
K34A	**Le Mars**	**75.01**	**43**	P		**P**		**14 05 45.9**	**-0.7**
	baz=321										
N31A	**Bailey Ranch,**	**75.05**	**46**	P		**P**		**14 05 46.8**	**-0.2**
	baz=320										
I37A	**Lemond, Waseca**	**75.22**	**40**	P		**P**		**14 05 47.6**	**-0.2**
	baz=322,SNR=6.9										
J36A	**Seneca 1, Swea**	**75.33**	**41**	P		**P**		**14 05 48.0**	**-0.4**
	baz=321										
M33A	**Taylor Creek F**	**75.34**	**44**	P		**P**		**14 05 48.4**	**-0.2**
	baz=320										
ANMO	**Albuquerque**	**75.43**	**54**	P		**P**		**14 05 49.9**	**+0.5**
	baz=317										
ANMO	**Albuquerque**	**75.43**	**54**	*eP*		**P**		**14 05 50.5**	**+1.1**
ANMO					pmax		pmax				
	comp=Z,24nm,1.5s										
ANMO	**Albuquerque**	**75.43**	**54**	*eP*		**P**		**14 05 50.5**	**+1.1**
	comp=Z,24nm,1.5s										
L34A	**Svendsen Farm,**	**75.43**	**44**	P		**P**		**14 05 48.6**	**-0.5**
	baz=321										
LAZ	**Ladron**	**75.44**	**55**	*eP*		**P**		**14 05 50.7**	**+1.2**
BR131	**Keskin Array S**	**75.63**	**313**	*eP*		**P**		**14 05 50.5**	**+0.1**
BRTR	**Keskin Array B**	**75.63**	**313**	P		**P**		**14 05 50.5**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=99,slow=3.8,SNR=9.9										
I38A	**Scanlan Farm,**	**75.67**	**40**	P		**P**		**14 05 49.6**	**-0.8**
	baz=322										
M34A	**Aspy Farms, Fr**	**75.69**	**44**	P		**P**		**14 05 50.6**	**+0.1**
	baz=321										
J37A	**Redenius Farm,**	**75.70**	**41**	P		**P**		**14 05 50.3**	**-0.3**
	baz=322,SNR=8.4										
L35A	**Bielow Farm, R**	**75.71**	**43**	P		**P**		**14 05 50.2**	**-0.5**
	baz=321										
K36A	**Gilmore City**	**75.82**	**42**	P		**P**		**14 05 50.3**	**-0.9**
	baz=322										
BNM	**Barren Site**	**75.91**	**55**	*eP*		**P**		**14 05 53.1**	**+0.9**
BR231	**Keskin MP Arra**	**75.97**	**314**	*eP*		**P**		**14 05 51.0**	**-1.2**
K37A	**Belmond**	**76.09**	**41**	P		**P**		**14 05 52.1**	**-0.7**
	baz=322,SNR=5.6										
L36A	**Harm Buss Farm**	**76.13**	**42**	P		**P**		**14 05 52.5**	**-0.5**
	baz=322										
P32A	**Huiting Farm,**	**76.14**	**46**	P		**P**		**14 05 52.1**	**-1.0**
	baz=320,SNR=5.5										
M35A	**Neola**	**76.14**	**44**	P		**P**		**14 05 52.7**	**-0.3**
	baz=321,SNR=8.6										
CBKS	**Cedar Bluff**	**76.17**	**48**	P		**P**		**14 05 52.6**	**-0.7**
	baz=319										
J38A	**Wedel Dairy, R**	**76.18**	**40**	P		**P**		**14 05 51.9**	**-1.3**
	baz=322										
O33A	**Hebron**	**76.30**	**46**	P		**P**		**14 05 53.5**	**-0.5**
	baz=320										
319A	**Douglas**	**76.39**	**59**	*eP*		**P**		**14 05 55.9**	**+1.1**
	comp=Z,27nm,0.9s										
121A	**Cookes Peak, D**	**76.43**	**57**	P		**P**		**14 05 56.1**	**+1.0**
	baz=317,SNR=9.3										
121A	**Cookes Peak, D**	**76.43**	**57**	*eP*		**P**		**14 05 56.0**	**+1.0**
	comp=Z,30nm,1.2s										
J39A	**Decorah**	**76.51**	**40**	P		**P**		**14 05 54.1**	**-1.0**
	baz=323										
L37A	**Phoenix Point,**	**76.54**	**42**	P		**P**		**14 05 54.5**	**-0.7**
	baz=322,SNR=5.6										
KHC	**Kasperske Hory**	**76.54**	**331**	*eP*		**P**		**14 05 55.8**	**+0.6**
KHC	**Kasperske Hory**	**76.54**	**331**	*eP*		**P**		**14 05 55.8**	**+0.6**
M36A	**Felix, Anita**	**76.57**	**43**	P		**P**		**14 05 55.1**	**-0.4**
	baz=322										
K38A	**Parkersburg**	**76.58**	**41**	P		**P**		**14 05 54.6**	**-0.9**
	baz=322										
N35A	**Tar**	**76.64**	**44**	P		**P**		**14 05 55.2**	**-0.7**
	baz=321,SNR=6.0										
Q32A	**Meitler Ranch,**	**76.64**	**47**	P		**P**		**14 05 55.1**	**-0.8**
	baz=320,SNR=7.7										
O34A	**Beatrice**	**76.65**	**45**	P		**P**		**14 05 54.8**	**-1.1**
	baz=321,SNR=5.9										
P33A	**Williams Farm,**	**76.73**	**46**	P		**P**		**14 05 55.8**	**-0.6**
	baz=320										
GERES	**GERESS Array B**	**76.74**	**330**	P		**P**		**14 05 55.0**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=20,slow=4.4,SNR=8.0										
GERES	**GERESS Array B**	**76.74**	**330**	*eP*		**P**		**14 05 55.8**	**-0.6**
GEA0	**GERESS Array S**	**76.75**	**330**	*eP*		**P**		**14 05 56.0**	**-0.4**
J40A	**Soldiers Grove**	**76.89**	**39**	P		**P**		**14 05 56.1**	**-1.1**
	baz=323										
L38A	**Oak Wood Farm,**	**76.89**	**41**	P		**P**		**14 05 56.6**	**-0.6**
	baz=322										
K39A	**Oelwein**	**76.93**	**40**	P		**P**		**14 05 56.5**	**-0.9**
	baz=323										
SCIA	**State Center**	**76.96**	**42**	*eP*		**P**		**14 05 57.6**	**0.0**
	comp=Z,36nm,0.6s										
R32A	**Long Quarter,**	**76.99**	**47**	P		**P**		**14 05 57.5**	**-0.5**
	baz=320										
N36A	**Muff Farm, Cla**	**77.00**	**43**	P		**P**		**14 05 57.3**	**-0.6**
	baz=322										
Q33A	**Connelly Farm,**	**77.00**	**46**	P		**P**		**14 05 57.1**	**-0.8**
	baz=320,SNR=7.7										
P34A	**Walnut Farm, R**	**77.08**	**45**	P		**P**		**14 05 57.6**	**-0.8**
	baz=321,SNR=9.1										
J41A	**Loganville**	**77.23**	**39**	P		**P**		**14 05 58.1**	**-1.0**
	baz=324										
K40A	**Colesburg**	**77.27**	**40**	P		**P**		**14 05 58.4**	**-0.9**
	baz=323										
L39A	**Vinton**	**77.34**	**41**	P		**P**		**14 05 59.4**	**-0.3**
	baz=323										
M38A	**Pleasantville**	**77.35**	**42**	P		**P**		**14 05 59.6**	**-0.2**
	baz=322										
N37A	**Lee Faris, Mou**	**77.40**	**43**	P		**P**		**14 05 59.5**	**-0.6**
	baz=322,SNR=5.3										
S32A	**Newby Ranch, P**	**77.43**	**48**	P		**P**		**14 05 59.4**	**-0.9**
	baz=320										
R33A	**Olander Ranch,**	**77.45**	**47**	P		**P**		**14 05 59.8**	**-0.6**
	baz=320										
Q34A	**Chapman**	**77.50**	**46**	P		**P**		**14 06 00.3**	**-0.3**
	baz=321										
KSU1	**Kansas State U**	**77.53**	**46**	P		**P**		**14 06 00.2**	**-0.6**
	baz=321										
KSU1	**Kansas State U**	**77.53**	**46**	*eP*		**P**		**14 06 00.0**	**-0.8**
	comp=Z,18nm,0.6s										
O36A	**Bolckow**	**77.53**	**44**	P		**P**		**14 06 00.2**	**-0.5**
	baz=322										
K41A	**Shullsburg**	**77.71**	**40**	P		**P**		**14 06 00.7**	**-1.1**
	baz=324										
L40A	**Anamosa**	**77.74**	**40**	P		**P**		**14 06 00.7**	**-1.2**
	baz=323										
M39A	**Webster**	**77.77**	**41**	P		**P**		**14 06 01.7**	**-0.4**
	baz=323,SNR=5.1										
P36A	**Good Intent, A**	**77.81**	**44**	P		**P**		**14 06 01.7**	**-0.6**
	baz=322										
N38A	**Joes South For**	**77.83**	**42**	P		**P**		**14 06 01.8**	**-0.6**
	baz=322										
R34A	**Isabella, Hill**	**77.83**	**47**	P		**P**		**14 06 02.3**	**-0.2**
	baz=321										
T32A	**Huddler Ranch,**	**77.83**	**48**	P		**P**		**14 06 02.1**	**-0.4**
	baz=320,SNR=7.3										
O37A	**Wolven Farm, M**	**77.89**	**43**	P		**P**		**14 06 02.5**	**-0.3**
	baz=322,SNR=5.6										
Q35A	**Mercer Eighty,**	**78.00**	**45**	P		**P**		**14 06 02.8**	**-0.6**
	baz=321										
L41A	**Preston**	**78.05**	**40**	P		**P**		**14 06 03.1**	**-0.5**
	baz=324										
VLDQ	**Val d'Or**	**78.07**	**29**	*eP*		**P**		**14 06 02.2**	**-1.4**
	comp=Z,66nm,0.6s										
N39A	**Derby Farms, D**	**78.10**	**42**	P		**P**		**14 06 03.4**	**-0.5**
	baz=323,SNR=7.0										
AMTX	**Amarillo**	**78.11**	**52**	P		**P**		**14 06 04.5**	**+0.3**
	baz=319										
AMTX	**Amarillo**	**78.11**	**52**	*eP*		**P**		**14 06 04.8**	**+0.5**
	comp=Z,22nm,0.8s										
MSTX	**Muleshoe**	**78.20**	**53**	P		**P**		**14 06 04.8**	**+0.1**
	baz=319										
MSTX	**Muleshoe**	**78.20**	**53**	*eP*		**P**		**14 06 04.5**	**-0.2**
	comp=Z,5.7nm,0.6s										
O38A	**Galt**	**78.24**	**43**	P		**P**		**14 06 04.5**	**-0.2**
	baz=322										
P37A	**Lathrop**	**78.25**	**44**	P		**P**		**14 06 04.5**	**-0.3**
	baz=322										
T33A	**Patterson Ranc**	**78.26**	**48**	P		**P**		**14 06 04.8**	**0.0**
	baz=320										
R35A	**Emporia Munici**	**78.33**	**46**	P		**P**		**14 06 05.4**	**+0.2**
	baz=321										
U32A	**Winter Ranch,**	**78.40**	**49**	P		**P**		**14 06 05.9**	**+0.2**
	baz=320										
MNTX	**Cornudas Mount**	**78.42**	**56**	P

	baz=322						
TUL1	**Leonard** comp=Z,25nm,0.8s	80.41	47	*e*P	P	14 06 16.6	+0.1
Y33A	**Hilltop Ranch,** baz=321,SNR=5.9	80.42	50	P	P	14 06 16.3	-0.1
V36A	**Jenks** baz=322	80.43	47	P	P	14 06 17.0	+0.5
W35A	**Tecumseh** baz=321	80.45	48	P	P	14 06 16.9	+0.3
Q42A	**Golden Eagle** baz=324	80.58	42	P	P	14 06 17.7	+0.4
TRQ	**Mont Tremblant**	80.68	28	*e*P	P	14 06 17.1	-0.6
U38A	**Gravette** baz=322,SNR=6.5	80.70	46	P	P	14 06 18.0	0.0
S40A	**Lebanon** baz=323,SNR=8.3	80.70	44	P	P	14 06 17.4	-0.5
T39A	**Clever** baz=323	80.74	45	P	P	14 06 17.8	-0.4
V37A	**Hulbert** baz=322,SNR=8.5	80.76	47	P	P	14 06 18.1	-0.1
LMQ	**La Malbaie**	80.78	25	*e*P	P	14 06 17.4	-0.8
W36A	**Wetumka** baz=322	80.79	48	P	P	14 06 18.6	+0.1
Z33A	**Whitaker Ranch** baz=321	80.89	51	P	P	14 06 19.4	+0.4
Y34A	**Reagan Ranch,** baz=321,SNR=5.7	80.91	50	P	P	14 06 19.2	+0.1
SFIN	**Lafayette** baz=326	80.92	39	P	P	14 06 18.7	-0.3
ABTX	**Abilene, Hawle** baz=320	80.93	52	P	P	14 06 20.0	+0.8
ABTX	**Abilene, Hawle** comp=Z,12nm,1.0s	80.93	52	*e*P	P	14 06 18.4	-0.9
X35A	**Drake** baz=321	80.98	49	P	P	14 06 19.8	+0.3
HHAR	**Hobbs** comp=Z,12nm,0.7s	81.05	46	*e*P	P	14 06 19.3	-0.5
T40A	**Mansfield** baz=323,SNR=8.3	81.05	44	P	P	14 06 19.3	-0.5
S41A	**Jillco Farms,** baz=324,SNR=7.9	81.07	43	P	P	14 06 19.2	-0.7
V38A	**Canehill** baz=322,SNR=11	81.14	46	P	P	14 06 20.1	-0.2
TX31	**Lajitas Ar. Si**	81.16	57	*e*P	P	14 06 21.1	+0.5
TXAR	**Lajitas Array** comp=Z,16nm,0.7s,baz=295,slow=4.1,SNR=202	81.17	57	P	P	14 06 21.6	+0.9
X36A	**Centrahoma** baz=322	81.17	48	P	P	14 06 20.6	+0.2
U39A	**Green Forest** baz=323,SNR=24	81.19	45	P	P	14 06 19.8	-0.7
Q44A	**Meyer Farm, Va** baz=325	81.28	41	P	P	14 06 20.9	0.0
Z34A	**Collier Ranch,** baz=321	81.28	50	P	P	14 06 20.7	-0.4
Y35A	**Marietta** baz=321	81.33	49	P	P	14 06 21.5	+0.2
133A	**Hamilton Ranch** baz=321	81.33	51	P	P	14 06 21.6	+0.3
T41A	**Mountain View** baz=324,SNR=11	81.50	44	P	P	14 06 21.7	-0.4
U40A	**Yellville** baz=323,SNR=5.2	81.52	45	P	P	14 06 21.5	-0.7
V39A	**Pettigrew** baz=323,SNR=11	81.54	46	P	P	14 06 22.1	-0.4
X37A	**Clayton** baz=322	81.66	48	P	P	14 06 23.1	+0.2
Z35A	**Perchaven, San** baz=321	81.66	50	P	P	14 06 23.3	+0.2
W38A	**Poteau** baz=322,SNR=9.6	81.71	47	P	P	14 06 23.3	0.0
Y36A	**Durant** baz=322,SNR=7.2	81.73	49	P	P	14 06 23.4	+0.1
R44A	**Waltonville** baz=325	81.78	41	P	P	14 06 23.2	-0.3
233A	**Rising Star** baz=321	81.80	52	P	P	14 06 23.8	0.0
134A	**White-Moore Ra** baz=321	81.81	51	P	P	14 06 24.1	+0.3
X38A	**Whitesboro** baz=322,SNR=11	81.87	47	P	P	14 06 24.5	+0.4
S43A	**Fulton Ridge,** baz=324,SNR=8.5	81.87	42	P	P	14 06 23.7	-0.3
V40A	**Witts Springs** baz=323,SNR=7.0	81.97	45	P	P	14 06 24.3	-0.4
W39A	**Magazine** baz=323	81.98	46	P	P	14 06 25.0	+0.4
U41A	**Viola** baz=324	81.98	44	P	P	14 06 24.4	-0.2
Z36A	**Blue Ridge** baz=322	82.14	49	P	P	14 06 25.6	+0.1
S44A	**Carbondale** baz=325,SNR=8.8	82.15	42	P	P	14 06 25.3	-0.2
135A	**Vickery Place,** baz=321	82.18	50	P	P	14 06 26.2	+0.5
234A	**Clairette** baz=321,SNR=5.8	82.22	51	P	P	14 06 26.2	+0.3
333A	**Richland Sprin** baz=321	82.28	52	P	P	14 06 26.6	+0.3
U42A	**Revenden** baz=324	82.31	44	P	P	14 06 25.9	-0.3
V41A	**Mountainview** baz=324,SNR=9.7	82.32	45	P	P	14 06 25.8	-0.6
W40A	**Ferguson Farm,** baz=323,SNR=5.9	82.34	46	P	P	14 06 26.5	0.0
PBMO	**Poplar Bluff** comp=Z,34nm,1.1s	82.35	43	*e*P	P	14 06 26.3	-0.2
X39A	**Fountain Ranch** baz=323,SNR=12	82.36	47	P	P	14 06 26.9	+0.2
S45A	**Carrier Mills** baz=325	82.48	41	P	P	14 06 26.9	-0.2
JCT	**Junction City** baz=320,SNR=9.6	82.48	53	P	P	14 06 27.2	-0.2
JCT	**Junction City** comp=Z,14nm,0.7s	82.48	53	*e*P	P	14 06 27.5	+0.1
JCT				pmax	pmax		
JCT	**Junction City** comp=Z,14nm,0.7s	82.48	53	*e*P	P	14 06 27.5	+0.1
Y38A	**Idabel** baz=322	82.50	48	P	P	14 06 27.7	+0.3
WHTX	**Lake Whitney,** baz=321	82.59	51	P	P	14 06 27.8	-0.1
WHTX	**Lake Whitney,** comp=Z,19nm,0.6s	82.59	51	*e*P	P	14 06 28.3	+0.4
MMNY	**Mt. Morris Dam**	82.59	32	*e*P	P	14 06 26.9	-0.7
MIAR	**Mount Ida** baz=323,SNR=8.3	82.60	47	P	P	14 06 27.8	0.0
MIAR	**Mount Ida** comp=Z,16nm,0.6s	82.60	47	*e*P	P	14 06 27.8	0.0
MIAR				pmax	pmax		
MIAR	**Mount Ida** comp=Z,16nm,0.6s	82.60	47	*e*P	P	14 06 27.8	0.0
X201	**Greenbrier Sit** comp=Z,20nm,1.0s	82.61	45	*e*P	P	14 06 27.8	-0.1
Z37A	**Pogue Cattle C** baz=322,SNR=5.8	82.62	49	P	P	14 06 28.3	+0.3
X301	**Greenbrier Sit** comp=Z,11nm,0.6s	82.63	45	*e*P	P	14 06 27.5	-0.5
WHAR	**Wooly Hollow** comp=Z,30nm,0.7s	82.65	45	*e*P	P	14 06 27.8	-0.2
V42A	**Cord** baz=324,SNR=7.1	82.67	44	P	P	14 06 27.9	-0.3
334A	**Lometa** baz=321,SNR=6.7	82.68	52	P	P	14 06 28.9	+0.5
136A	**Ennis** baz=322	82.71	50	P	P	14 06 28.7	+0.3
W41B	**Gary Mavity, V** baz=324,SNR=6.8	82.76	45	P	P	14 06 28.5	-0.2
NCB	**Newcomb** comp=Z,0.1nm,1.0s	82.78	29	*e*P	P	14 06 28.0	-0.7
Y39A	**Lockesburg** baz=323	82.82	47	P	P	14 06 29.0	0.0
M54A	**Oil Creek Stat** baz=330	83.00	33	P	P	14 06 29.5	-0.3
X40A	**Basin Creek Fa** baz=323	83.02	46	P	P	14 06 30.3	+0.4
434A	**Burnet** baz=321	83.06	52	P	P	14 06 30.4	0.0
533A	**Kerrville** baz=321	83.22	53	P	P	14 06 31.7	+0.6
Z39A	**Irene McRaven,** baz=323	83.33	48	P	P	14 06 32.1	+0.6
N54A	**Moraine State** baz=330	83.34	34	P	P	14 06 31.4	-0.1
ACCN	**Adirondack Com** comp=Z,9.9nm,0.8s	83.49	29	*e*P	P	14 06 31.9	-0.4
WLAR	**White Oak Lake** comp=Z,25nm,0.8s	83.52	47	*e*P	P	14 06 33.3	+0.8
534A	**Blanco**	83.56	53	P	P	14 06 33.1	+0.2
	baz=321,SNR=6.8						
633A	**Saathoff Ranch** baz=321,SNR=7.3	83.61	53	P	P	14 06 34.2	+1.1
HNH	**Hanover** comp=Z,11nm,0.8s	83.65	28	*e*P	P	14 06 33.2	+0.2
LMN	**Caledonia Moun** comp=Z,27nm,0.7s	83.85	22	*e*P	P	14 06 33.7	-0.3
GGN	**Saint George** comp=Z,7.2nm,0.7s	83.99	23	*e*P	P	14 06 34.3	-0.4
832A	**Faith Ranch, C** baz=321	84.06	55	P	P	14 06 36.3	+1.0
WVT	**Waverly** comp=Z,13nm,0.8s	84.09	42	*e*P	P	14 06 35.4	+0.1
WVT				pmax	pmax		
WVT	**Waverly** comp=Z,13nm,0.8s	84.09	42	*e*P	P	14 06 35.4	+0.1
733A	**Divot King Ran** baz=321	84.11	54	P	P	14 06 36.4	+0.8
NATX	**Nacogdoches** baz=323	84.25	49	P	P	14 06 37.1	+0.9
536A	**Bastrop** baz=322	84.29	52	P	P	14 06 37.3	+0.8
734A	**La Parita Cree** baz=321	84.42	53	P	P	14 06 38.5	+1.3
SSPA	**Standing Stone** comp=Z,14nm,0.7s	84.42	33	*e*P	P	14 06 36.4	-0.6
Z42A	**Norrel Spur, H** baz=324	84.43	46	P	P	14 06 37.1	0.0
141A	**Papa Simpson,** baz=323	84.48	47	P	P	14 06 38.3	+0.9
O56A	**Blue Knob Stat** baz=330,SNR=7.0	84.49	33	P	P	14 06 36.7	-0.7
438A	**Sam Houston St** baz=322	84.62	50	P	P	14 06 39.1	+1.0
636A	**Smothers Creek** baz=322	84.76	52	P	P	14 06 39.8	+1.0
735A	**Kenedy** baz=321	84.83	53	P	P	14 06 41.0	+1.8
241A	**Mo Tay, Goldon** baz=323	84.94	48	P	P	14 06 40.8	+1.2
HRV	**Adam Dziewonsk** comp=Z,11nm,0.9s	84.96	28	*e*P	P	14 06 39.5	-0.1
HRV				pmax	pmax		
HRV	**Adam Dziewonsk** comp=Z,11nm,0.9s	84.96	28	*e*P	P	14 06 39.5	-0.1
933A	**Laredo** baz=321,SNR=5.6	84.97	55	P	P	14 06 40.9	+1.0
142A	**Monroe** baz=324	85.01	47	P	P	14 06 41.0	+1.0
Y45A	**Yeager Farm, C** baz=325	85.13	44	P	P	14 06 41.8	+1.2
WES	**Weston** comp=Z,27nm,0.8s	85.15	28	*e*P	P	14 06 39.8	-0.7
WES				pmax	pmax		
WES	**Weston** comp=Z,27nm,0.8s	85.15	28	*e*P	P	14 06 39.8	-0.7
736A	**Circle Diamond** baz=322	85.16	52	P	P	14 06 42.8	+2.0
637A	**Eagle Lake** baz=322	85.19	52	P	P	14 06 43.1	+2.2
835A	**Beeville** baz=321	85.26	53	P	P	14 06 42.9	+1.6
242A	**Grayson** baz=324	85.30	47	P	P	14 06 42.6	+1.2
934A	**Benavides** baz=321	85.41	54	P	P	14 06 43.6	+1.6
Y46A	**Houston** baz=325	85.44	44	P	P	14 06 42.8	+0.7
MVL	**Millersville**	85.55	32	*e*P	P	14 06 42.4	-0.1
TZTN	**Tazewell** comp=Z,132nm,2.0s	85.65	39	*e*P	P	14 06 41.8	-1.3
SWET	**Sewanee** comp=Z,8.7nm,0.7s	85.71	41	*e*P	P	14 06 43.0	-0.4
034A	**Hebbronville** baz=321	85.73	55	P	P	14 06 45.0	+1.4
Y47A	**UCPARC, Winfie** baz=326	85.91	43	P	P	14 06 44.2	-0.2
CPCT	**Cooper Cave** comp=Z,10.0nm,0.9s	86.15	40	*e*P	P	14 06 45.5	-0.1
TKL	**Tuckaleechee C** comp=Z,13nm,0.8s	86.30	39	*e*P	P	14 06 46.4	+0.1
TKL				pmax	pmax		
TKL	**Tuckaleechee C** comp=Z,13nm,0.8s	86.30	39	*e*P	P	14 06 46.4	+0.1
146A	**Union** baz=325	86.37	45	P	P	14 06 47.8	+1.2
147A	**Livingston** baz=326	86.72	44	P	P	14 06 49.0	+0.7
247A	**Quitman** baz=326	87.06	45	P	P	14 06 50.8	+0.8
248A	**Dixon Mills** baz=326	87.45	44	P	P	14 06 53.0	+1.2
545A	**Edgard** baz=325	87.76	47	P	P	14 06 53.8	+0.5
KMSC	**Kings Mountain** baz=329	87.79	38	P	P	14 06 53.1	-0.3
GOGA	**Godfrey** comp=Z,8.0nm,0.9s	88.33	40	*e*P	P	14 06 55.7	-0.2
GOGA				pmax	pmax		
GOGA	**Godfrey** comp=Z,8.3nm,0.9s	88.33	40	*e*P	P	14 06 55.7	-0.2
LPAZ	**La Paz** comp=Z,1.9nm,0.7s,baz=50,slow=3.2,SNR=5.7	138.03	56	PKP	PKPdf	14 13 29.2	+1.0
CPUP	**Villa Florida** comp=Z,2.0nm,0.5s,baz=286,slow=1.8,SNR=7.3	152.06	52	PKPbc	PKPbc	14 13 58.0	+0.2
CPUP	**Villa Florida** comp=Z,2.0nm,0.5s	152.06	52	PKIKP	PKPbc	14 13 58.0	+0.2
CPUP				pmax	pmax		
PLCA	**Paso Flores** comp=Z,9.4nm,0.5s,baz=309,slow=2.5,SNR=24	152.34	92	PKPbc	PKPbc	14 13 59.0	+0.9
PLCA	**Paso Flores** comp=Z,9.0nm,0.5s	152.34	92	PKIKP	PKPbc	14 13 59.0	+0.9
PLCA				pmax	pmax		

JMA 28 13:58:20.7,33°03′N×130°73′E,h10km±1km,M0.2,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	0.15	54	P	Pg	13 58 24.3	+0.1
JNU				S	Sg	13 58 26.8	+0.2
JNU	**Nakatsue** 32nm,1.2s	0.15	54	*e*P	Pg	13 58 26.6	+2.4
JTA	**Tamana**	0.18	248	P	Pg	13 58 24.6	+0.1
JTA				S	Sg	13 58 27.4	+0.2

WEL 28 13:59:22.9±0.3,36.79S×176.84E,h192km±3km,ML3.8/1C-4D,Error ellipse: s-maj=4.2km s-min=3.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	1.22	142	PN	Pn	13 59 53.7	+0.2
HAZ				SN	Sn	14 00 17.2	0.0
MXZ	**Matakaoa Point**	1.40	124	PN	Pn	13 59 55.2	+0.2
MXZ				SN	Sn	14 00 19.6	-0.4
URZ	**Urewera**	1.48	172	⇑PN	Pn	13 59 55.9	+0.2
WMGZ	**Waiomatatini S**	1.62	130	PN	Pn	13 59 57.0	0.0
WMGZ				SN	Sn	14 00 23.6	0.0
MWZ	**Matawai**	1.63	161	⇓PN	Pn	13 59 57.2	+0.1
MWZ				SN	Sn	14 00 23.9	0.0
MWZ				AML	AML	14 00 27.1	
TWGZ	**Tauwhareparae**	1.65	147	PN	Pn	13 59 57.8	+0.4
PUZ	**Puketiti**	1.71	139	PN	Pn	13 59 57.7	-0.2
RAGZ	**Rawiri**	1.76	165	PN	Pn	13 59 58.8	+0.4
RTZ	**Ruatahuna**	1.82	176	PN	Pn	13 59 58.9	-0.1
TKGZ	**Te Karaka**	1.83	154	PN	Pn	13 59 58.8	-0.2
CNGZ	**Carnagh Statio**	2.01	148	PN	Pn	14 00 00.7	-0.1
SNGZ	**Shannon Statio**	2.02	169	PN	Pn	14 00 00.9	-0.2
RIGZ	**Rimuhau**	2.04	159	PN	Pn	14 00 01.2	-0.1
RAHZ	**Arahi**	2.13	175	PN	Pn	14 00 02.2	0.0
RAHZ				SN	Sn	14 00 32.8	-0.1
PRGZ	**Paritu Road**	2.28	159	PN	Pn	14 00 03.2	-0.7
NMHZ	**Naumai**	2.30	181	PN	Pn	14 00 04.1	0.0
WHHZ	**Waihua**	2.30	172	PN	Pn	14 00 03.6	-0.4
KNZ	**Kokohu**	2.32	164	PN	Pn	14 00 03.2	-1.0
BKZ	**Black Stump Fm**	2.38	186	PN	Pn	14 00 04.0	-1.0
BKZ				AML	AML	14 00 42.0	
ARHZ	**Aropaoanui**	2.47	177	PN	Pn	14 00 05.6	-0.3
MHGZ	**Mahia Peninsul**	2.50	161	PN	Pn	14 00 05.8	-0.5
KWHZ	**Kaweka Forest**	2.65	187	⇓PN	Pn	14 00 07.3	-0.7
MCHZ	**McNeill Hill**	2.65	182	PN	Pn	14 00 07.4	-0.5
FWVZ	**Far West T-bar**	2.66	202	PN	Pn	14 00 08.3	0.0
WHVZ	**Whangaehu Hut**	2.67	201	PN	Pn	14 00 08.2	-0.2
WNVZ	**Wahianoa**	2.71	201	PN	Pn	14 00 08.4	-0.4
MOVZ	**Moawhango**	2.74	198	PN	Pn	14 00 08.2	-1.0
BHHZ	**Black Hill Sta**	2.76	193	PN	Pn	14 00 08.0	-1.3
KRHZ	**Kereru**	2.87	187	PN	Pn	14 00 09.2	-1.3
KAHZ	**Kahuranaki**	3.00	179	PN	Pn	14 00 10.6	-1.5
PNHZ	**Pukenui**	3.15	189	PN	Pn	14 00 11.9	-2.1
PNHZ				SN	Sn	14 00 51.5	-2.6
PXZ	**Pawanui**	3.23	180	AML	AML	14 00 10.6	
PXZ				AML	AML	14 00 10.6	
PXZ				⇓PN	Pn	14 00 12.6	-2.2
PXZ				AML	AML	14 01 03.1	
WPHZ	**Waipukurau**	3.28	185	PN	Pn	14 00 13.2	-2.3
WAZ	**Wanganui**	3.29	206	PN	Pn	14 00 14.8	-0.8
TSZ	**Takapari Road**	3.33	192	⇓PN	Pn	14 00 13.9	-2.2
DVHZ	**Dannevirke**	3.54	188	PN	Pn	14 00 15.7	-2.9
POWZ	**Post Office Ro**	3.69	193	PN	Pn	14 00 17.8	-2.6
PRWZ	**Pori Road**	3.81	190	PN	Pn	14 00 19.5	-2.5
BFZ	**Birch Farm**	3.91	187	PN	Pn	14 00 20.0	-3.1
MRZ	**Mangatainoka R**	3.98	194	PN	Pn	14 00 20.7	-3.4
TIWZ	**Tintock**	4.04	190	AML	AML	14 00 24.7	
OGWZ	**Otaki Gorge**	4.22	197	PN	Pn	14 00 23.6	-3.5
HOWZ	**Holdsworth Sta**	4.22	194	PN	Pn	14 00 23.4	-3.8
KIW	**Kapiti Island**	4.33	200	PN	Pn	14 00 25.2	-3.3
MTW	**Mount Morrison**	4.48	193	PN	Pn	14 00 26.2	-4.2
CAW	**Cannon Point**	4.52	197	PN	Pn	14 00 26.8	-4.1
TRWZ	**Traveller**	4.68	191	PN	Pn	14 00 29.4	-3.6
MSWZ	**Moikau Station**	4.78	194	PN	Pn	14 00 29.8	-4.4
TCW	**Tory Channel**	4.84	204	PN	Pn	14 00 31.3	-3.7
PLWZ	**Palliser**	4.92	194	PN	Pn	14 00 31.4	-4.7
TUWZ	**Tuamarina**	5.15	205	PN	Pn	14 00 35.0	-3.8
QRZ	**Quartz Range**	5.25	219	PN	Pn	14 00 36.7	-3.5
BSWZ	**Blackbirch Sta**	5.42	204	PN	Pn	14 00 38.8	-3.7
THZ	**Tophouse**	5.82	210	PN	Pn	14 00 44.7	-3.0
KHZ	**Kahutara**	6.16	203	PN	Pn	14 00 47.8	-4.3
OXZ	**Oxford**	7.49	208	PN	Pn	14 01 03.5	-5.8

*CSEM **28** 14:04:30.4,45°92N×14°19E,h0km,ML0.5,Suspected Mining explosion.*

LJU 28 14:04:30.4,45°92N×14°19E,h0km,ML0.4,4C Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAVS	**Javornik**	0.09	257	⇑*i*Pg	Pg	14 04 32.1	0.0
JAVS				*i* Sg	Sg	14 04 33.9	+0.6
JAVS	**Javornik** comp=Z,28nm,0.2s	0.09	257	⇑*i*Pg	Pg	14 04 32.1	-0.1
JAVS				*i* Sg	Sg	14 04 33.9	+0.6
CRNS	**Crni Vrh** comp=Z,28nm,0.2s	0.17	16	*i* Pg	Pg	14 04 33.5	-0.2
CRNS				*i* Sg	Sg	14 04 36.5	+0.5
CRNS	**Crni Vrh** comp=Z,5.0nm,0.1s	0.17	16	*i* Pg	Pg	14 04 33.5	-0.2
CRNS				*i* Sg	Sg	14 04 36.5	+0.5
GBAS	**Gorenja Brezov** comp=Z,4.0nm,0.1s	0.17	83	*i* Pg	Pg	14 04 33.6	-0.1
GBAS				*i* Sg	Sg	14 04 36.5	+0.4
GBAS	**Gorenja Brezov** comp=Z,3.0nm,0.1s	0.17	83	*i* Pg	Pg	14 04 33.6	-0.1
GBAS				*i* Sg	Sg	14 04 36.5	+0.5
CEY	**Cerknica** comp=Z,6.0nm,0.2s	0.24	137	⇑*i*Pg	Pg	14 04 35.0	0.0
CEY				*i* Sg	Sg	14 04 39.6	+1.5
CEY	**Cerknica** comp=Z,6.0nm,0.2s	0.24	137	⇑*i*Pg	Pg	14 04 35.0	0.0
CEY				*i* Sg	Sg	14 04 39.6	+1.5
VOJS	**Vojsko** comp=Z,4.0nm,0.1s	0.25	298	*i* Pg	Pg	14 04 34.9	-0.2
VOJS				*i* Sg	Sg	14 04 39.4	+1.1
VOJS	**Vojsko** comp=Z,4.0nm,0.1s	0.25	298	*i* Pg	Pg	14 04 34.9	-0.2
VOJS				*i* Sg	Sg	14 04 39.4	+1.1
SKDS	**Skadanscina** comp=Z,2.0nm,0.1s	0.39	199	*i* Pg	Pg	14 04 37.4	-0.5
SKDS				*i* Sg	Sg	14 04 43.5	+0.6
SKDS	**Skadanscina** comp=Z,2.0nm,0.1s	0.39	199	*i* Pg	Pg	14 04 37.4	-0.4
SKDS				*i* Sg	Sg	14 04 43.5	+0.6

*SJA **28** 14:18:10.9±0.4,24°18S×67°07W,h212km±5km,ML2.9, MW3.0*
*ISCJB **28** 14:18:11.6±0.5,24°23S±0°04×67°05W±0°05,h208km±8km, mb3.0/1,Error ellipse: s-maj=8.2km s-min=5.1km az=155.3*
*IDC **28** 14:18:15.5±2.7,23°91S×66°96W,h191km±19km,mb2.8/1, mb1 3.6/4,mb1mx3.3/26,mbtmp3.9/4,MS2.9/1,Ms1 2.9/1, ms1mx2.3/9,Error ellipse: s-maj=37.4km s-min=24.1km az=142.0*

ISC 28 14:18:12.7±0.8,24°27S±0°05×67°09W±0°05,h192km±8km, n30,σ1°69/38,3C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	1.52	108	*i* P	Pn	14 18 46.6	+0.7
AZAP	**Zapla**	1.85	89	*i* P	Pn	14 18 50.0	+0.7
AZAP				*i* S	Sn	14 19 18.3	+0.6
HJA	**Humahuaca**	1.87	56	*i* P	Pn	14 18 49.8	+0.1
HJA				*i* S	Sn	14 19 18.6	+0.3
FSA	**Cafayete**	2.10	151	*i* P	Pn	14 18 52.9	+1.1
FSA				*i* S	Sn	14 19 23.7	+1.4
FSA	comp=Z,16nm,0.9s			IAML		14 19 24.9	
LVC	**Limon Verde** comp=Z,2μm,0.3s,baz=140,slow=8.9,SNR=482	2.35	314	P	Pn	14 18 55.6	+0.8
LVC				S	Sn	14 19 27.8	+0.3
ASTB	**Santa Barbara**	2.43	83	*i* P	Pn	14 18 55.4	0.0
PB06	**IPOC Station P**	2.76	304	*e*P	Pn	14 19 00.0	+0.8
ALOL	**LOMAS DE OLMED**	2.88	82	*i* P	Pn	14 18 59.6	-0.9
AHML	**Horco Molle**	2.97	148	*i* P	Pn	14 19 02.1	+0.5
AHML				*i* S	Sn	14 19 40.1	+0.3
ANCH	**Antofagasta**	3.09	280	‖*e*P	Pn	14 19 04.1	+1.2
PB09	**IPOC Station P**	3.16	321	‖*e*P	Pn	14 19 04.6	+0.6
PB10	**IPOC Station P**	3.26	283	*e*P	Pn	14 19 05.9	+0.9
PB04	**IPOC Station P**	3.41	304	*e*P	Pn	14 19 07.0	0.0
PB07	**IPOC Station P**	3.61	314	⇑*e*P	Pn	14 19 09.5	-0.1
PB01	**IPOC Station P**	3.90	325	‖*e*P	Pn	14 19 12.3	-0.8
PB08	**IPOC Station P**	4.53	335	‖*e*P	Pn	14 19 21.0	-0.3
HMBC	**Humberstone**	4.74	326	*e*P	Pn	14 19 21.7	-2.0
PB11	**IPOC Station P**	5.08	332	*e*P	Pn	14 19 26.0	-2.1
AGUA	**GUANDACOL**	5.35	193	*i* P	Pn	14 19 31.8	+0.3
MNMC	**Minye Minye**	5.62	335	⇑*e*P	Pn	14 19 33.9	-1.3
ACDV	**Cuesta del Vie**	6.15	197	*i* P	Pn	14 19 42.6	+0.7
AVFE	**Valle Fertil**	6.38	183	*i* P	Pn	14 19 44.8	0.0
AVFE				*i* S	Sn	14 20 54.8	-2.9
AVFE				IAML		14 21 01.6	
ACCO	**Cerro Coronel** comp=Z,7.6nm,0.3s	6.54	195	*i* P	Pn	14 19 47.8	+0.7
ACHE	**Chepes**	6.88	177	*i* P	Pn	14 19 51.9	+0.5
ACHE				*i* S	Sn	14 21 06.1	-3.5
LPAZ	**La Paz** comp=Z,1.8nm,0.3s,baz=146,slow=7.3,SNR=19	8.00	353	P	Pn	14 20 06.2	-0.4
LPAZ				S	Sn	14 21 30.7	-6.2
SIV	**San Ignacio** comp=Z,1.5nm,0.3s,baz=224,slow=14,SNR=16	9.98	36	P	Pn	14 20 29.4	-2.6
SIV				LR	LR	14 24 15.2	
TXAR	**Lajitas Array** comp=Z,66nm,19.4s,baz=41,slow=37	63.84	325	P	P	14 28 26.6	+1.7
WRA	**Warramunga Arr** comp=Z,0.2nm,0.4s,baz=134,slow=6.4,SNR=3.7	131.35	207	PKP	PKPdf	14 37 05.2	+2.3
MKAR	**Makanchi Array** comp=Z,0.6nm,0.5s,baz=293,slow=3.9,SNR=6.7	146.78	40	PKPbc	PKPab	14 37 34.5	+0.8
KLR	**Kul'dur** comp=Z,0.8nm,0.5s,baz=339,slow=3.2,SNR=4.1	151.03	334	PKPbc	PKPbc	14 37 43.7	+1.1

*MOS **28** 14:22:25.3±1.4,52°65N×107°08E,h4km,mb4.3/1,Error ellipse: s-maj=17.1km s-min=10.3km az=137.2*
*BYKL **28** 14:22:26.5±0.1,52°73N×106°95E,h14km±3km*

ISC 28 14:22:25.6±1.1,52°68N±0°02×107°05E±0°02,h1km±10km, n37,σ1°64/80,7C-1D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRG	**Tyrgan**	0.43	280	⇑*

	3µm,0.1s							
TRG	**Tyrgan**	**0.43**	**280**	⇑*i*	Pg	**Pg**	**14 22 33.9**	**+0.1**
TRG				*e*			14 22 38.8	
TRG				pmax	pmax			
	comp=Z,644nm,0.1s							
TRG				smax	smax			
	comp=N,3µm,0.1s							
KELR	**Kotokel**	**0.63**	**83**	⇑*i*	Pg	**Pg**	**14 22 38.7**	**+1.0**
KELR				*e*	Sg	**Sg**	**14 22 47.7**	**+1.7**
KAB	**Kabansk**	**0.68**	**201**	⇑*i*	Pg	**Pg**	**14 22 39.6**	**+1.0**
KAB				*e*	Sg	**Sb**	**14 22 49.5**	**-0.6**
KAB				Pmax				
	comp=N,860nm,0.2s							
KAB				Smax				
	comp=N,5µm,0.4s							
KAB	**Kabansk**	**0.68**	**201**	⇑*i*	Pg	**Pg**	**14 22 39.5**	**+1.0**
KAB				*i*			14 22 49.4	
KAB				pmax	pmax			
	comp=Z,871nm,0.3s							
KAB				smax	smax			
	comp=N,5µm,0.4s							
UUDB	**Ulan-Yde**	**0.90**	**155**	⇑*i*	Pg	**Pb**	**14 22 43.9**	**-0.1**
UUDB				*e*	Sg	**Sb**	**14 22 56.7**	**+0.1**
UUDB				Pmax				
	comp=N,478nm,0.3s							
UUDB				Smax				
	comp=N,582nm,0.2s							
OGRR	**Ongureny**	**1.02**	**19**	*e*	Pg	**Pg**	**14 22 44.9**	**-0.2**
OGRR				*e*	Sg	**Sg**	**14 22 58.2**	**0.0**
OGRR				Pmax				
	comp=N,165nm,0.1s							
OGRR				Smax				
	comp=N,720nm,0.2s							
MXMB	**Maximikha**	**1.18**	**60**	*e*	Pg	**Pg**	**14 22 48.5**	**+0.3**
MXMB				*e*	Sg	**Sb**	**14 23 05.3**	**+0.7**
BGT	**Bolshoye Golou**	**1.19**	**238**	*e*	Pg	**Pg**	**14 22 48.6**	**+0.2**
BGT				*e*	Sg	**Sg**	**14 23 04.1**	**+0.3**
BGT				Pmax				
	comp=N,146nm,0.2s							
BGT				Smax				
	comp=N,1µm,0.3s							
LSTR	**Listvyanka**	**1.59**	**240**	⇓*i*	Pg	**Pn**	**14 22 54.6**	**-0.2**
LSTR				*e*	Sg	**Sn**	**14 23 15.2**	**-0.7**
LSTR				*e*			14 23 18.2	
LSTR				Pmax				
	comp=N,60nm,0.1s							
LSTR				Smax				
	comp=N,451nm,0.3s							
LSTR	**Listvyanka**	**1.59**	**240**	⇑*i*	Pg	**Pn**	**14 22 54.6**	**-0.2**
LSTR				*e*			14 23 15.7	
LSTR				pmax	pmax			
	comp=Z,59nm,0.2s							
LSTR				smax	smax			
	comp=N,445nm,0.4s							
IRK	**Irkutsk**	**1.75**	**256**	*e*Pg	Pn	**Pn**	**14 22 56.7**	**-0.4**
IRK				*e*Sg	Sn	**Sn**	**14 23 20.1**	**0.0**
IRK				Pmax				
	comp=N,211nm,0.1s							
IRK				Smax				
	comp=N,1µm,0.2s							
IRK	**Irkutsk**	**1.75**	**256**	*e*PN	Pn	**Pn**	**14 22 56.7**	**-0.4**
IRK				*e*			14 23 18.8	
IRK				pmax	pmax			
	comp=Z,210nm,0.1s							
IRK				smax	smax			
	comp=N,1µm,0.3s							
IVK	**Ivanovka**	**1.84**	**242**	*e*Pg	Pn	**Pn**	**14 22 58.5**	**+0.2**
IVK				*e*Sg	Sb	**Sb**	**14 23 23.0**	**-0.6**
IVK				Pmax				
	comp=N,59nm,0.1s							
IVK				Smax				
	comp=N,780nm,0.2s							
IVK	**Ivanovka**	**1.84**	**242**	*e*PN	Pn	**Pn**	**14 22 58.5**	**+0.2**
IVK				*e*			14 23 23.3	
IVK				pmax	pmax			
	comp=Z,92nm,0.3s							
IVK				smax	smax			
	comp=N,783nm,0.2s							
SYVR	**Suvo**	**2.03**	**60**	*e*Pn	Pn	**Pn**	**14 23 01.2**	**+0.3**
SYVR				*e*Pg	Pb	**Pb**	**14 23 03.0**	**-0.2**
SYVR				*e*Sg	Sg	**Sg**	**14 23 30.6**	**-0.1**
SYVR				Pmax				
	comp=N,25nm,0.2s							
SYVR				Smax				
	comp=N,125nm,0.3s							
TLY	**Talaya**	**2.32**	**246**	*e*Pn	Pn	**Pn**	**14 23 04.9**	**0.0**
TLY				*e*Pg	Pb	**Pb**	**14 23 08.3**	**+0.1**
TLY				*e*Sn	Sn	**Sn**	**14 23 32.9**	**-1.2**
TLY				*e*Sg	Sb	**Sb**	**14 23 37.7**	**+0.3**
TLY				Pmax				
	comp=N,39nm,0.1s							
TLY				Smax				
	comp=N,331nm,0.2s							
TLY	**Talaya**	**2.32**	**246**	*e*PN	Pb	**Pb**	**14 23 07.2**	**-1.0**
TLY				*e*			14 23 37.4	
TLY				pmax	pmax			
	comp=Z,20nm,0.3s							
ARS	**Arshan**	**2.94**	**257**	*e*Pn	Pn	**Pn**	**14 23 13.4**	**-0.1**
ARS				*e*Pg	Pb	**Pb**	**14 23 17.7**	**-1.1**
ARS				*e*PgPg	Pg	**Pg**	**14 23 22.4**	**+0.5**
ARS				*e*Sn	Sn	**Sn**	**14 23 46.9**	**-2.5**
ARS				*e*Sg	Sb	**Sb**	**14 23 54.9**	**-0.3**
ARS				max				
	comp=Z,63nm,0.2s							
ARS				Smax				
	comp=Z,413nm,0.3s							
ARS	**Arshan**	**2.94**	**257**	*e*PN	Pn	**Pn**	**14 23 14.2**	**+0.7**
ARS				*e*			14 23 20.0	
ARS				*e*			14 23 55.0	
ARS				pmax	pmax			
	comp=Z,62nm,0.2s							
ARS				smax	smax			
	comp=E,411nm,0.4s							
YLYR	**Ulyunkhan**	**3.28**	**46**	*e*Pn	Pn	**Pn**	**14 23 19.1**	**+0.9**
YLYR				*e*Pg	Pb	**Pb**	**14 23 25.1**	**+0.5**
YLYR				*e*Sg	Sg	**Sg**	**14 24 08.6**	**-2.4**
YLYR				Pmax				
	comp=E,15nm,0.5s							
YLYR				Smax				
	comp=E,56nm,0.2s							
ZAK	**Zakamensk**	**3.29**	**227**	*e*Pn	Pn	**Pn**	**14 23 17.5**	**-0.8**
ZAK				*e*Pg	Pb	**Pb**	**14 23 25.3**	**+0.5**
ZAK				*e*Sn	Sn	**Sn**	**14 23 55.8**	**-2.3**
ZAK				*e*Sg	Sb	**Sb**	**14 24 07.9**	**+2.5**
ZAK				Pmax				
	comp=E,8.0nm,0.2s							
ZAK				Smax				
	comp=E,62nm,0.2s							
NIZ	**Nizh Angarsk**	**3.43**	**24**	*e*Pn	Pn	**Pn**	**14 23 20.9**	**+0.8**
NIZ				*e*Pg	Pb	**Pb**	**14 23 27.3**	**+0.3**
NIZ				*e*Sn	Sn	**Sn**	**14 23 59.7**	**-1.6**
NIZ				*e*			14 24 05.1	
NIZ				*e*Sg	Sb	**Sb**	**14 24 11.7**	**+2.6**
NIZ				Pmax				
	comp=E,26nm,0.3s							
NIZ				Smax				
	comp=E,373nm,0.6s							
MOY	**Mondy**	**3.86**	**257**	*e*	Pn	**Pn**	**14 23 28.4**	**+2.2**
MOY				*e*Pg	Pb	**Pb**	**14 23 34.8**	**+0.3**
MOY				*e*			14 23 42.2	
MOY				*e*			14 24 14.5	
MOY				*e*Sg	Sb	**Sb**	**14 24 22.9**	**+1.1**
MOY				max				
	comp=E,63nm,0.6s							
MOY				Smax				
	comp=E,85nm,0.4s							
MOY	**Mondy**	**3.86**	**257**	*e*PN	Pn	**Pn**	**14 23 28.4**	**+2.2**
MOY				*e*			14 23 36.6	
MOY				*e*			14 24 24.4	
MOY				pmax	pmax			
	comp=Z,63nm,0.7s							
MOY				smax	smax			
	comp=N,86nm,0.4s							
KMO	**Kumora**	**4.03**	**36**	*e*Pn	Pn	**Pn**	**14 23 29.0**	**+0.6**
KMO				*e*Pg	Pb	**Pb**	**14 23 39.1**	**+1.8**
KMO				*e*Sn	Sn	**Sn**	**14 24 14.5**	**-1.6**
KMO				*e*Sg	Sg	**Sg**	**14 24 31.2**	**-3.7**
KMO				Pmax				
	comp=N,19nm,0.4s							
KMO				Smax				
	comp=N,149nm,1.1s							
KMO	**Kumora**	**4.03**	**36**	*e*PN	Pn	**Pn**	**14 23 32.6**	**+4.2**
KMO				*e*			14 23 41.7	
KMO				*e*S	Sn	**Sn**	**14 24 16.8**	**+0.7**
KMO				*e*			14 24 30.3	
KMO				pmax	pmax			
	comp=Z,15nm,0.4s							
KMO				smax	smax			
	comp=N,149nm,1.2s							
CIT	**Chita**	**4.04**	**97**	*e*	Pg		14 23 53.9	+11
CIT				*e*Sg	**Sg**	**Sg**	**14 24 34.3**	**-1.1**
CIT				Smax				
	comp=N,229nm,0.3s							
ORL	**Orlik**	**4.41**	**271**	*e*Pn	**Pn**	**Pn**	**14 23 34.1**	**+0.4**
ORL				*e*Pg	**Pb**	**Pb**	**14 23 44.5**	**+0.6**
ORL				*e*			14 24 26.6	
ORL				*e*Sg	**Sb**	**Sb**	**14 24 40.4**	**+2.8**
ORL				*e*			14 24 52.1	
ORL				Pmax				
	comp=N,8.0nm,0.3s							
ORL				max				
	comp=N,81nm,0.8s							
ORL	**Orlik**	**4.41**	**271**	*e*PN	**Pn**	**Pn**	**14 23 34.4**	**+0.7**
ORL				*e*			14 23 45.9	
ORL				*e*			14 24 40.3	
ORL				pmax	pmax			
	comp=Z,13nm,0.5s							
ORL				smax	smax			
	comp=N,80nm,0.6s							
KPC	**Khapcheranga**	**4.49**	**130**	*e*Pn	**Pn**	**Pn**	**14 23 34.7**	**-0.1**
KPC				*e*Pg	**Pb**	**Pb**	**14 23 48.1**	**+2.9**
KPC				*e*Sn	**Sn**	**Sn**	**14 24 27.1**	**-0.5**
KPC				*e*Sg	**Sg**	**Sg**	**14 24 47.2**	**-2.5**
KPC				Pmax				
	comp=N,25nm,0.6s							
KPC				Smax				
	comp=N,60nm,0.3s							
KPC	**Khapcheranga**	**4.49**	**130**	*e*PN	**Pn**	**Pn**	**14 23 35.0**	**+0.2**
KPC				*e*			14 23 48.3	
KPC				*e*			14 24 47.3	
KPC				pmax	pmax			
	comp=Z,25nm,0.6s							
KPC				smax	smax			
	comp=E,74nm,1.1s							
UKT	**Uakit**	**4.79**	**51**	*e*Pn	**Pn**	**Pn**	**14 23 39.4**	**+0.6**
UKT				*e*Pg	**Pb**	**Pb**	**14 23 53.0**	**+2.8**
UKT				*e*			14 23 59.4	
UKT				*e*Sg	**Sg**	**Sg**	**14 24 55.8**	**-3.4**
UKT				max				
	comp=E,9.0nm,0.7s							
UKT				Smax				
	comp=E,40nm,1.0s							
UKT	**Uakit**	**4.79**	**51**	*e*PN	**Pn**	**Pn**	**14 23 39.6**	**+0.8**
UKT				*e*			14 23 53.1	
UKT				*e*S	**Sn**	**Sn**	**14 24 35.4**	**+0.5**
UKT				*e*			14 24 56.4	
UKT				pmax	pmax			
	comp=Z,9.0nm,0.9s							
UKT				smax	smax			
	comp=N,41nm,1.1s							
SVKR	**Severomuysk**	**5.13**	**45**	*e*Sg	**Sg**	**Sg**	**14 25 06.6**	**-3.6**
SVKR				Smax				
	comp=N,123nm,0.5s							
TUP	**Tupik**	**7.88**	**72**	*e*Pn	**Pn**	**Pn**	**14 24 21.4**	**+0.1**
TUP				*e*Sg	**Sg**	**Sg**	**14 26 31.8**	**-6.8**
TUP				Smax				
	comp=N,44nm,1.4s							
TUP	**Tupik**	**7.88**	**72**	*e*PN	**Pn**	**Pn**	**14 24 21.3**	**0.0**
TUP				*e*			14 24 47.8	
TUP				*e*S	**Sn**	**Sn**	**14 25 49.6**	**-1.5**
TUP				*e*			14 26 30.7	
TUP				pmax	pmax			
	comp=Z,3.0nm,0.5s							
TUP				smax	smax			
	comp=N,42nm,1.3s							

WEL	**Wellington**	**2.76**	**33**	Pn	Pn		14 28 02.9	-1.5
QRZ	**Quartz Range**	**2.78**	**356**	PN	Pn		14 28 03.9	-0.9
QRZ				AML	AML		14 28 49.9	
QRZ				AML	AML		14 28 52.3	
QRZ				AML	AML		14 28 52.3	
QRZ				AML	AML		14 28 53.8	
QRZ	**Quartz Range**	**2.78**	**356**	Pn	Pn		14 28 03.9	-0.9
MSWZ	**Moikau Station**	**2.86**	**41**	AML	AML		14 28 37.5	
DUWZ	**D'Urville Isla**	**2.93**	**18**	PN	Pn		14 28 06.9	+0.1
DUWZ	**D'Urville Isla**	**2.93**	**18**	Pn	Pn		14 28 07.0	+0.1
WKZ	**Wanaka**	**2.95**	**244**	⇑PN	Pn		14 28 06.4	-0.8
WKZ				AML	AML		14 29 00.7	
WKZ				AML	AML		14 29 01.5	
WKZ	**Wanaka**	**2.95**	**244**	Pn	Pn		14 28 06.4	-0.8
EAZ	**Earnscleugh**	**2.96**	**235**	PN	Pn		14 28 06.1	-1.1
EAZ				AML	AML		14 28 58.5	
EAZ				AML	AML		14 28 58.5	
EAZ				AML	AML		14 29 03.3	
EAZ				AML	AML		14 29 03.4	
EAZ	**Earnscleugh**	**2.96**	**235**	Pn	Pn		14 28 06.1	-1.1
CAW	**Cannon Point**	**3.03**	**35**	PN	Pn		14 28 06.4	-1.8
CAW				AML	AML		14 28 41.7	
CAW				AML	AML		14 28 45.0	
CAW	**Cannon Point**	**3.03**	**35**	Pn	Pn		14 28 06.4	-1.8
TRWZ	**Traveller**	**3.09**	**45**	PN	Pn		14 28 07.3	-1.8
TRWZ	**Traveller**	**3.09**	**45**	Pn	Pn		14 28 07.3	-1.8
MTW	**Mount Morrison**	**3.18**	**41**	AML	AML		14 28 47.3	
TUZ	**Tuapeka**	**3.24**	**222**	⇓PN	Pn		14 28 09.8	-1.2
TUZ				AML	AML		14 29 12.2	
TUZ				AML	AML		14 29 12.2	
TUZ				AML	AML		14 29 12.9	
TUZ				AML	AML		14 29 12.9	
TUZ	**Tuapeka**	**3.24**	**222**	Pn	Pn		14 28 09.8	-1.2
OGWZ	**Otaki Gorge**	**3.31**	**34**	PN	Pn		14 28 10.4	-1.7
OGWZ	**Otaki Gorge**	**3.31**	**34**	Pn	Pn		14 28 10.4	-1.7
HOWZ	**Holdsworth Sta**	**3.39**	**38**	PN	Pn		14 28 11.8	-1.5
HOWZ	**Holdsworth Sta**	**3.39**	**38**	Pn	Pn		14 28 11.8	-1.5
MRZ	**Mangatainoka R**	**3.61**	**36**	PN	Pn		14 28 14.2	-2.0
MRZ	**Mangatainoka R**	**3.61**	**36**	Pn	Pn		14 28 14.2	-2.0
MSZ	**Milford Sound**	**3.64**	**251**	PN	Pn		14 28 15.5	-1.1
MSZ				AML	AML		14 29 20.6	
MSZ				AML	AML		14 29 20.7	
MSZ	**Milford Sound**	**3.64**	**251**	Pn	Pn		14 28 15.5	-1.1
MLZ	**Mavora Lakes**	**3.76**	**240**	PN	Pn		14 28 17.0	-1.3
MLZ				AML	AML		14 29 33.3	
MLZ				AML	AML		14 29 41.4	
MLZ	**Mavora Lakes**	**3.76**	**240**	Pn	Pn		14 28 17.0	-1.3
SYZ	**Scrubby Hill**	**3.89**	**220**	PN	Pn		14 28 19.1	-0.9
SYZ				AML	AML		14 29 35.6	
SYZ				AML	AML		14 29 36.0	
SYZ	**Scrubby Hill**	**3.89**	**220**	Pn	Pn		14 28 19.1	-0.9
WHZ	**Wether Hill Ro**	**4.12**	**235**	AML	AML		14 29 38.8	
WHZ				AML	AML		14 29 54.8	
TSZ	**Takapari Road**	**4.28**	**35**	Pn	Pn		14 28 22.6	-2.7
DCZ	**Deep Cove**	**4.42**	**243**	PN	Pn		14 28 26.6	-0.7
DCZ				AML	AML		14 29 43.6	
DCZ				AML	AML		14 29 44.2	
DCZ	**Deep Cove**	**4.42**	**243**	Pn	Pn		14 28 26.6	-0.7
PNHZ	**Pukenui**	**4.50**	**36**	Pn	Pn		14 28 25.2	-3.2
DREZ	**Durham Road**	**4.54**	**14**	Pn	Pn		14 28 27.8	-1.2
APZ	**The Paps**	**4.66**	**225**	PN	Pn		14 28 30.2	-0.5
APZ	**The Paps**	**4.66**	**225**	Pn	Pn		14 28 30.2	-0.5
VRZ	**Vera Road**	**4.72**	**19**	Pn	Pn		14 28 31.8	+0.3
WNVZ	**Wahianoa**	**4.78**	**27**	Pn	Pn		14 28 31.8	-0.6
BHHZ	**Black Hill Sta**	**4.80**	**32**	Pn	Pn		14 28 31.6	-1.0
WTVZ	**West Tongariro**	**4.97**	**26**	Pn	Pn		14 28 33.8	-1.1
HIZ	**Hauiti**	**5.33**	**18**	Pn	Pn		14 28 38.8	-1.0
MWZ	**Matawai**	**6.38**	**36**	Pn	Pn		14 28 50.5	-3.8
MKAZ	**Moumakai**	**6.75**	**17**	Pn	Pn		14 28 57.8	-1.5
CTZ	**Chatham Island**	**7.71**	**95**	Pn	Pn		14 29 11.0	-1.4

*NEIC **28** 14:27:19.9, 43.°60S×172.°78E, h10km, ML4.1 (WEL), After WEL.*

WEL 28 14:27:20.1±0.1, 43.°61S×172.°76E, h9km, ML4.1/26, 9C-3D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m s	ISC
CRLZ	**Canterbury Las**	**0.10**	**287**	⇓	Pg	Pg	14 27 29.7		0.0
CRLZ					SG	Sg	14 27 24.4		-0.1
CRLZ					AML	AML	14 27 24.8		
CRLZ					AML	AML	14 27 24.9		
CRLZ					AML	AML	14 27 24.9		
CRLZ	**Canterbury Las**	**0.10**	**287**	⇓	Pg	Pg	14 27 22.7		0.0
CRLZ					Sg	Sg	14 27 24.4		-0.1
MQZ	**McQueen's Vall**	**0.13**	**217**	⇑	PG	Pg	14 27 23.3		+0.2
MQZ					SG	Sg	14 27 25.4		+0.3
MQZ					AML	AML	14 27 25.9		
MQZ	**McQueen's Vall**	**0.13**	**217**	⇑	Pg	Pg	14 27 23.3		+0.3
MQZ					Sg	Sg	14 27 25.4		+0.3
OXZ	**Oxford**	**0.59**	**298**	⇑	P*	Pg	14 27 31.6		-0.1
OXZ					S*	Sg	14 27 39.6		+0.2
OXZ	**Oxford**	**0.59**	**298**		P*	Pg	14 27 31.6		-0.1
OXZ					S*	Sg	14 27 39.6		+0.2
LTZ	**Lake Taylor**	**0.90**	**336**		P*	Pg	14 27 37.3		-0.1
LTZ						AML	14 27 50.0		
LTZ						AML	14 27 50.4		
LTZ	**Lake Taylor**	**0.90**	**336**		P*	Pg	14 27 37.3		-0.1
RPZ	**Rata Peaks**	**1.24**	**264**	⇑	P*	Pn	14 27 42.4		-1.3
RPZ						AML	14 28 01.5		
RPZ						AML	14 28 01.8		
RPZ	**Rata Peaks**	**1.24**	**264**		P*	Pn	14 27 42.4		-1.3
INZ	**Inchbonnie**	**1.30**	**312**	⇑	PN	Pn	14 27 43.2		-1.3
KHZ	**Kahutara**	**1.32**	**26**	⇑	PN	Pn	14 27 43.2		-1.4
KHZ	**Kahutara**	**1.32**	**26**		Pn	Pn	14 27 43.2		-1.4
WVZ	**Waitaha Valley**	**1.57**	**289**	⇑	PN	Pn	14 27 47.4		-0.7
WVZ						AML	14 28 13.8		
WVZ						AML	14 28 19.6		
WVZ	**Waitaha Valley**	**1.57**	**289**		Pn	Pn	14 27 47.4		-0.7
THZ	**Tophouse**	**1.84**	**3**	⇑	PN	Pn	14 27 50.7		-1.3
THZ						AML	14 28 25.7		
THZ						AML	14 28 31.4		
THZ	**Tophouse**	**1.84**	**3**		Pn	Pn	14 27 50.7		-1.3
DSZ	**Denniston Nort**	**1.99**	**339**		PN	Pn	14 27 54.0		+0.1
DSZ						AML	14 28 21.3		
DSZ						AML	14 28 21.3		
DSZ						AML	14 28 21.6		
DSZ						AML	14 28 21.6		
DSZ	**Denniston Nort**	**1.99**	**339**		Pn	Pn	14 27 54.0		+0.1
LBZ	**Lake Benmore**	**2.01**	**246**		PN	Pn	14 27 53.4		-0.8
LBZ						AML	14 28 31.7		
LBZ						AML	14 28 31.7		
LBZ						AML	14 28 36.7		
LBZ						AML	14 28 36.7		
LBZ	**Lake Benmore**	**2.01**	**246**		Pn	Pn	14 27 53.4		-0.8
BSWZ	**Blackbirch Sta**	**2.06**	**24**		PN	Pn	14 27 53.8		-1.0
BSWZ						AML	14 28 37.3		
BSWZ						AML	14 28 47.3		
BSWZ	**Blackbirch Sta**	**2.06**	**24**		Pn	Pn	14 27 53.9		-1.0
ODZ	**Otahua Downs**	**2.09**	**226**		PN	Pn	14 27 53.9		-1.4
ODZ						AML	14 28 29.7		
ODZ						AML	14 28 29.8		
ODZ						AML	14 28 32.9		
ODZ						AML	14 28 33.8		
ODZ	**Otahua Downs**	**2.09**	**226**		Pn	Pn	14 27 53.9		-1.4
FOZ	**Fox Glacier**	**2.14**	**271**		PN	Pn	14 27 56.3		+0.4
FOZ						AML	14 28 24.0		
FOZ						AML	14 28 24.0		
FOZ						AML	14 28 38.1		
FOZ						AML	14 28 38.1		
FOZ	**Fox Glacier**	**2.14**	**271**		Pn	Pn	14 27 56.3		+0.4
TUWZ	**Tuamarina**	**2.34**	**22**		PN	Pn	14 27 57.2		-1.5
TUWZ						AML	14 28 44.6		
TUWZ						AML	14 28 48.9		
TUWZ	**Tuamarina**	**2.34**	**22**		Pn	Pn	14 27 57.2		-1.5
NNZ	**Nelson**	**2.43**	**11**		PN	Pn	14 27 59.1		-0.9
NNZ						AML	14 28 47.0		
NNZ						AML	14 28 48.6		
NNZ						AML	14 28 53.4		
NNZ						AML	14 29 00.3		
NNZ	**Nelson**	**2.43**	**11**		Pn	Pn	14 27 59.1		-0.8
TCW	**Tory Channel**	**2.65**	**26**		AML	AML	14 28 38.3		
TCW						AML	14 29 02.6		
PLWZ	**Palliser**	**2.75**	**43**		PN	Pn	14 28 02.3		-2.1
PLWZ	**Palliser**	**2.75**	**43**		Pn	Pn	14 28 02.3		-2.1
HHSZ	**Highcliff Hill**	**2.75**	**213**		PN	Pn	14 28 03.1		-1.3
HHSZ	**Highcliff Hill**	**2.75**	**213**		Pn	Pn	14 28 03.1		-1.3
WEL	**Wellington**	**2.76**	**33**		PN	Pn	14 28 02.9		-1.5

WEL 28 14:30:47.4±0.2, 43.°61S×172.°81E, h10km±1km, ML3.7/7, 1C-1D, Error ellipse: s-maj=1.8km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m s	ISC
CRLZ	**Canterbury Las**	**0.14**	**284**	⇑	PG	Pg	14 30 50.3		-0.1
CRLZ					SG	Sg	14 30 51.9		-0.7
CRLZ					AML	AML	14 30 52.2		
CRLZ					AML	AML	14 30 52.7		
CRLZ					AML	AML	14 30 52.8		
MQZ	**McQueen's Vall**	**0.15**	**228**		PG	Pg	14 30 51.0		+0.3
MQZ					SG	Sg	14 30 53.0		0.0
MQZ					AML	AML	14 30 53.3		
LTZ	**Lake Taylor**	**0.91**	**334**	⇓	P*	Pb	14 31 05.2		-0.1
LTZ					AML	AML	14 31 17.9		
LTZ					AML	AML	14 31 18.0		
KHZ	**Kahutara**	**1.31**	**25**		PN	Pn	14 31 10.9		-0.8
THZ	**Tophouse**	**1.84**	**2**		PN	Pn	14 31 18.3		-0.9
THZ					AML	AML	14 31 59.0		
THZ					AML	AML	14 32 11.9		
LBZ	**Lake Benmore**	**2.05**	**247**		PN	Pn	14 31 21.9		-0.1
LBZ					AML	AML	14 31 56.4		
LBZ					AML	AML	14 31 59.7		
ODZ	**Otahua Downs**	**2.12**	**226**		AML	AML	14 31 57.1		
FOZ	**Fox Glacier**	**2.18**	**271**		PN	Pn	14 31 24.2		+0.6
FOZ					AML	AML	14 32 04.6		
NNZ	**Nelson**	**2.43**	**10**		PN	Pn	14 31 27.0		-0.1
EAZ	**Earnscleugh**	**2.99**	**236**		PN	Pn	14 31 34.0		-0.9

*ISK **28** 14:31:42.4, 40.°04N×33.°59E, h26km, MD2.5*
*DDA **28** 14:31:44.0, 40.°03N×33.°53E, h7km, Md2.7, Suspected Mining explosion.*
*ISCJB **28** 14:31:44.1±0.5, 40.°01N±0.°03×33.°57E±0.°04, h0km, Error ellipse: s-maj=4.8km s-min=3.6km az=0.1*
*CSEM **28** 14:31:44.3±0.2, 40.°00N×33.°56E, h2km, MD2.7, Error ellipse: s-maj=4.8km s-min=3.8km az=95.0, Suspected Mining explosion.*

ISC 28 14:31:43.7±0.8, 39.°95N±0.°03×33.°51E±0.°03, h0km, n18, σ0s75/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m s	ISC
ELDT	**Eldivan**	**0.55**	**354**		P	Pg	**14 31 53.9**		**-0.3**
ELDT					S	Sg	**14 32 02.1**		**+0.8**
ELDT	**Eldivan**	**0.55**	**354**	*i*	P	Pg	**14 31 53.9**		**-0.3**
ELDT				*i*	S	Sg	**14 32 02.1**		**+0.8**
KAMT	**Kaman**	**0.60**	**164**	*e*	PG	Pb	**14 31 56.3**		**-0.9**
KAMT				*e*	SG	Sb	**14 32 06.7**		**+0.5**
KAMT	**Kaman**	**0.60**	**164**	*e*	Pg	Pb	**14 31 56.3**		**-0.9**
KAMT				*e*	Sg	Sb

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**248**	P	**Pg**	**14 38 12.0**	**+0.1**
DEMI				S	**Sg**	**14 38 15.7**	**+0.4**
DEMI	**Demirci**	**0.26**	**248**	*i* P	**Pg**	**14 38 12.0**	**+0.1**
DEMI				*i* S	**Sg**	**14 38 15.7**	**+0.4**
GEDZ	**Gediz**	**0.32**	**108**	*e*PG	**Pb**	**14 38 13.7**	**-0.9**
GEDZ				*e*SG	**Sg**	**14 38 18.0**	**+0.8**
GEDZ	**Gediz**	**0.32**	**108**	*e*Pg	**Pb**	**14 38 13.7**	**-0.9**
GEDZ				*e*Sg	**Sg**	**14 38 18.0**	**+0.8**
GDZ	**Gediz**	**0.36**	**98**	P	**Pg**	**14 38 13.7**	**-0.1**
GDZ				S	**Sg**	**14 38 18.5**	**-0.1**
GDZ	**Gediz**	**0.36**	**98**	*i* P	**Pg**	**14 38 13.7**	**-0.1**
GDZ				*i* S	**Sg**	**14 38 18.6**	**-0.1**
TVSB	**Tavsanli**	**0.46**	**48**	*e*PG	**Pg**	**14 38 15.1**	**-0.5**
TVSB	**Tavsanli**	**0.46**	**48**	*e*Pg	**Pg**	**14 38 15.1**	**-0.5**
KULA	**Kula-Manisa**	**0.69**	**204**	*e*PG	**Pg**	**14 38 19.6**	**-0.3**
KULA				*e*SG	**Sg**	**14 38 28.3**	**-0.5**
KULA	**Kula-Manisa**	**0.69**	**204**	*e*Pg	**Pg**	**14 38 19.6**	**-0.3**
KULA				*e*Sg	**Sg**	**14 38 28.3**	**-0.5**
KHL	**Karahalli**	**0.91**	**154**	*e*PG	**Pg**	**14 38 24.0**	**-0.1**
KHL				*e*SG	**Sb**	**14 38 36.7**	**-0.1**
KHL	**Karahalli**	**0.91**	**154**	*e*Pg	**Pg**	**14 38 24.0**	**-0.1**
KHL				*e*Sg	**Sb**	**14 38 36.7**	**-0.1**
AKS	**Akhisar**	**0.98**	**255**	*e*PG	**Pg**	**14 38 25.1**	**-0.3**
AKS	**Akhisar**	**0.98**	**255**	*e*Pg	**Pg**	**14 38 25.1**	**-0.3**
BALB	**Balikesir**	**1.01**	**300**	*e*PG	**Pb**	**14 38 26.0**	**-0.4**
BALB				*e*SG	**Sb**	**14 38 40.4**	**+0.5**
BALB	**Balikesir**	**1.01**	**300**	*e*Pg	**Pb**	**14 38 26.0**	**-0.4**
BALB				*e*Sg	**Sb**	**14 38 40.4**	**+0.5**
IGD	**Bursa**	**1.13**	**7**	*i* P	**Pg**	**14 38 26.6**	**-1.7**
IGD				*i* S	**Sg**	**14 38 42.6**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.23**	**355**	*e*PN	**Pg**	**14 38 29.8**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.23**	**355**	*e*Pn	**Pg**	**14 38 29.8**	**-0.5**
CAVI	**Cavuskoy**	**1.23**	**31**	*e*PN	**Pn**	**14 38 30.4**	**+0.2**
CAVI	**Cavuskoy**	**1.23**	**31**	*e*Pn	**Pn**	**14 38 30.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.23**	**336**	*e*PN	**Pn**	**14 38 30.6**	**+0.4**
KCTX	**Karacabey (Bur**	**1.23**	**336**	*e*Pn	**Pn**	**14 38 30.6**	**+0.4**
BALY	**Balya**	**1.24**	**299**	P	**Pg**	**14 38 30.0**	**-0.5**
BALY	**Balya**	**1.24**	**299**	*i* P	**Pg**	**14 38 29.9**	**-0.5**
IZI	**Iznik**	**1.24**	**16**	*e*PN	**Pb**	**14 38 30.3**	**-0.1**
IZI	**Iznik**	**1.24**	**16**	*e*Pn	**Pb**	**14 38 30.3**	**-0.1**
GEMT	**Gemlik**	**1.30**	**6**	*e*PN	**Pg**	**14 38 32.4**	**+0.8**
GEMT	**Gemlik**	**1.30**	**6**	*e*Pn	**Pg**	**14 38 32.4**	**+0.8**
BORA	**Eskisehir**	**1.33**	**56**	P	**Pn**	**14 38 31.4**	**-0.1**
BORA				S	**Sn**	**14 38 49.7**	**+0.2**
BORA	**Eskisehir**	**1.33**	**56**	*i* P	**Pn**	**14 38 31.4**	**-0.1**
BORA				*i* S	**Sn**	**14 38 49.7**	**+0.2**
ADVT	**Abdulvahap**	**1.40**	**23**	*e*PN	**Pg**	**14 38 34.1**	**+0.5**
ADVT	**Abdulvahap**	**1.40**	**23**	*e*Pn	**Pg**	**14 38 34.1**	**+0.5**
ARMT	**Armutlu**	**1.43**	**355**	*e*PN	**Pb**	**14 38 33.2**	**-0.3**
ARMT	**Armutlu**	**1.43**	**355**	*e*Pn	**Pb**	**14 38 33.2**	**-0.3**
DNZL	**Cakiroluk**	**1.45**	**179**	P	**Pn**	**14 38 33.1**	**-0.2**
DNZL				S	**Sg**	**14 38 54.8**	**+1.6**
DNZL	**Cakiroluk**	**1.45**	**179**	*i* P	**Pn**	**14 38 33.1**	**-0.2**
DNZL				*i* S	**Sg**	**14 38 54.8**	**+1.6**
ESKT	**Eskisehir**	**1.47**	**74**	*e*PN	**Pg**	**14 38 34.6**	**-0.2**
ESKT	**Eskisehir**	**1.47**	**74**	*e*Pn	**Pg**	**14 38 34.6**	**-0.2**
ESKT	**Eskisehir**	**1.47**	**74**	*i* P	**Pg**	**14 38 34.8**	**0.0**
ESKT				*i* S	**Sg**	**14 38 53.9**	**0.0**
SEYT	**Eskypehyr**	**1.47**	**74**	P	**Pg**	**14 38 34.8**	**0.0**
SEYT				S	**Sg**	**14 38 53.9**	**+0.1**
EDC	**Edincik**	**1.50**	**324**	*e*PN	**Pb**	**14 38 34.4**	**-0.3**
EDC	**Edincik**	**1.50**	**324**	*e*Pn	**Pb**	**14 38 34.4**	**-0.3**
IZM	**Izmir**	**1.56**	**242**	*e*PN	**Pb**	**14 38 35.6**	**-0.2**
IZM	**Izmir**	**1.56**	**242**	*e*Pn	**Pb**	**14 38 35.6**	**-0.2**
GULT	**Gulveren**	**1.73**	**41**	*e*PN	**Pb**	**14 38 38.4**	**-0.2**
GULT	**Gulveren**	**1.73**	**41**	*e*Pn	**Pb**	**14 38 38.4**	**-0.2**
HRT	**Hereke**	**1.75**	**16**	*e*PN	**Pb**	**14 38 39.3**	**+0.3**
HRT	**Hereke**	**1.75**	**16**	*e*Pn	**Pb**	**14 38 39.3**	**+0.3**
KRBG	**Karabiga-Canak**	**1.82**	**314**	*e*PN	**Pb**	**14 38 39.3**	**-0.9**
KRBG	**Karabiga-Canak**	**1.82**	**314**	*e*Pn	**Pb**	**14 38 39.3**	**-0.9**
MRMT	**Marmara Adasi**	**1.83**	**324**	*e*PN	**Pb**	**14 38 39.9**	**-0.4**
MRMT	**Marmara Adasi**	**1.83**	**324**	*e*Pn	**Pb**	**14 38 39.9**	**-0.4**
ISK	**Istanbul-Kandi**	**1.92**	**1**	*e*PN	**Pb**	**14 38 41.6**	**-0.3**
ISK	**Istanbul-Kandi**	**1.92**	**1**	*e*Pn	**Pb**	**14 38 41.6**	**-0.3**
RKY	**Sarkoy-Tekirda**	**2.10**	**318**	*e*PN	**Pb**	**14 38 44.0**	**-0.9**
RKY	**Sarkoy-Tekirda**	**2.10**	**318**	*e*Pn	**Pb**	**14 38 44.0**	**-0.9**

*ISCJB **28** 14:41:43.9±0.5, 65°.19N±0'.04×133°.1W±0'.1, h10km, mb3.5/2, Error ellipse: s-maj=6.6km s-min=4.9km az=24.4*
*PGC **28** 14:41:46.5, 65°.23N×133°.10W, h1km, ML3.9/9, 253km Sse of Fort McPherson, Nt Northern Yukon Territory, Canada*
*IDC **28** 14:41:47.3±2.4, 65°.33N×133°.18W, h18km±17km, mb3.5/2, mb1 3.7/6, mb1mx3.4/45, mbtmp3.6/6, ML3.7/4, Error ellipse: s-maj=11.5km s-min=8.5km az=27.0*
ISC 28 14:41:45.0±0.7, **65°.19N**±0'.04×**132°.94W**±0'.05, **h10**km, **n22,** σ2**s66**/36, **Northern Yukon Territory**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**3.00**	**251**	Pn	**Pn**	**14 42 33.8**	**+1.2**
DAWY				Sg	**Sb**	**14 43 18.4**	**+3.3**
INK	**Inuvik**	**3.14**	**356**	Pn	**Pn**	**14 42 35.2**	**+0.8**
	2.2nm,0.3s,baz=181,slow=16,SNR=55						
INK				Pg	**Pg**	**14 42 43.3**	**-1.8**
	14nm,0.3s,baz=175,slow=13,SNR=95						
INK				Sn	**Sn**	**14 43 11.7**	**-0.2**
	17nm,0.3s,baz=199,slow=10,SNR=6.5						
INK				Lg	Lg	14 43 20.6	
	21nm,0.3s,baz=0.0,slow=20,SNR=8.9						
INK	**Inuvik**	**3.14**	**356**	Pn	**Pn**	**14 42 35.2**	**+0.8**
INK				Sn	**Sn**	**14 43 12.8**	**+0.9**
CLVN	**Colville Lake**	**3.35**	**53**	Pn	**Pn**	**14 42 39.7**	**+2.3**
BVCY	**Beaver Creek**	**4.48**	**235**	Pn	**Pn**	**14 42 53.6**	**+0.6**
YUK5	**Granite Creek**	**4.65**	**211**	Pn	**Pn**	**14 42 56.5**	**+1.1**
YUK3	**Moose Creek**	**4.81**	**228**	Pn	**Pn**	**14 42 58.2**	**+0.6**
HYT	**Haines Junctio**	**4.85**	**207**	Pn	**Pn**	**14 42 59.3**	**+1.1**
HYT				Sg	**Sb**	**14 44 14.0**	**+5.5**
YUK2	**White River**	**4.92**	**230**	Pn	**Pn**	**14 42 59.5**	**+0.5**
YUK2				Sg	**Sb**	**14 44 16.4**	**+6.0**
YUK6	**Outpost Mounta**	**4.93**	**212**	Pn	**Pn**	**14 43 01.0**	**+1.8**
YUK6				Sg	**Sg**	**14 44 18.7**	**-4.3**
YUK7	**Dusty Glacier**	**5.25**	**209**	Pn	**Pn**	**14 43 05.8**	**+2.1**
CTGM	**Chitina Glacie**	**5.70**	**226**	Pn	**Pn**	**14 43 11.8**	**+1.9**
PAX	**Paxson**	**5.93**	**254**	Pn	**Pn**	**14 43 13.2**	**+0.4**
ILAR	**Eielson Array**	**5.93**	**272**	Pn	**Pn**	**14 43 11.3**	**-1.5**
	0.3nm,0.3s,baz=79,slow=12,SNR=15						
ILAR				Sn	**Sn**	**14 44 16.8**	**-4.0**
	0.7nm,0.3s,baz=74,slow=29,SNR=5.2						
ILAR				Lg	Lg	14 44 43.8	
	1.6nm,0.3s,baz=71,slow=26,SNR=5.6						
PLBC	**Pleasant Camp**	**5.97**	**197**	Pn	**Pn**	**14 43 16.2**	**+2.9**
PLBC				Sn	**Sn**	**14 44 20.4**	**-1.3**
PLBC				Sg	**Sg**	**14 44 53.3**	**-3.3**
DLBC	**Dease Lake**	**6.92**	**167**	Pn	**Pn**	**14 43 28.3**	**+1.8**
	2.6nm,0.3s,baz=11,slow=10,SNR=27						
DLBC				Sn	**Sn**	**14 44 47.1**	**+1.9**
	baz=18,slow=20,SNR=2.2						
DLBC				Lg	Lg	14 45 20.7	
	2.3nm,0.3s,baz=109,slow=21,SNR=10						
DLBC	**Dease Lake**	**6.92**	**167**	Pn	**Pn**	**14 43 28.6**	**+2.2**
DLBC				Sg	**Sg**	**14 45 20.9**	**-5.9**
FNBB	**Fort Nelson**	**7.85**	**139**	Sg	**Sg**	**14 45 54.8**	**-1.9**
YKW3	**Yellowknife Ar**	**8.50**	**100**	P	**Pn**	**14 43 49.4**	**+1.4**
YKW3				Pn	**Pn**	**14 43 49.5**	**+1.6**
YKA	**Yellowknife Ar**	**8.53**	**100**	Pn	**Pn**	**14 43 49.1**	**+0.7**
	1.7nm,0.3s,baz=295,slow=13,SNR=38						
YKA				Sn	**Sn**	**14 45 20.7**	**-3.9**
	1.2nm,0.3s,baz=292,slow=23,SNR=7.4						
FINES	**FINESS Array B**	**52.71**	**12**	P	**P**	**14 50 60.0**	**+0.9**
	0.6nm,0.6s,baz=338,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**65.04**	**334**	P	**P**	**14 52 24.8**	**-0.1**
	0.1nm,0.2s,baz=27,slow=5.9,SNR=2.2						

*ISCJB **28** 14:45:57.0±0.4, 33°.02N±0°.02×115°.58W±0'.03, h10km±3km, Error ellipse: s-maj=3.9km s-min=3.0km az=39.7*
*NEIC **28** 14:45:57.9, 33°.00N×115°.56W, h12km, ML2.6(PAS), After PAS.*
NEIC Felt [II] at Brawley.
*ECX **28** 14:45:58.5±0.6, 33°.02N×115°.62W, h12km, MD2.5, ML2.7*
ISC 28 14:45:56.8±0.9, **33°.01N**±0°.02×**115°.58W**±0'.02, **h18**km±3km, **n35,** σ0**s55**/52, **5C-9D, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLIC	**Calipatria**	**0.14**	**17**	⇓*i*P	**Pg**	**14 46 01.4**	**+0.4**
CLIC	**Calipatria**	**0.14**	**17**	⇓*i*P	**Pg**	**14 46 01.4**	**+0.4**
SWSC	**Sam W. Stewart**	**0.20**	**252**	P	**Pg**	**14 46 02.0**	**+0.2**
	baz=75,SNR=103						
SWSC				S	**Sg**	**14 46 05.0**	**-0.1**
	baz=75						
SWSC	**Sam W. Stewart**	**0.20**	**252**	⇑*i*P	**Pg**	**14 46 02.0**	**+0.2**
SWSC	**Sam W. Stewart**	**0.20**	**252**	⇑*i*P	**Pb**	**14 46 01.0**	**-0.5**
SWSC				*i* S	**Sg**	**14 46 05.1**	**-0.1**
COK	**Cook Ranch**	**0.20**	**219**	⇓*i*P	**Pg**	**14 46 02.5**	**+0.7**
COK	**Cook Ranch**	**0.20**	**219**	⇓*i*P	**Pg**	**14 46 02.5**	**+0.7**
ERPC	**Ernies Place**	**0.27**	**196**	⇓*i*P	**Pb**	**14 46 03.9**	**+0.7**
ERPC	**Ernies Place**	**0.27**	**196**	⇓*i*P	**Pb**	**14 46 03.9**	**+0.7**
CRR	**Carrizo Plain**	**0.35**	**250**	⇑*i*P	**Pb**	**14 46 04.8**	**+0.2**
YUH	**Yuha Desert**	**0.46**	**219**	⇓*i*P	**Pb**	**14 46 06.5**	**0.0**
BATC	**Bat Cave Butte**	**0.50**	**334**	⇓*i*P	**Pb**	**14 46 07.7**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**0.57**	**232**	P	**Pg**	**14 46 08.7**	**+0.4**
	baz=53,SNR=37						
IKP				S	**Sb**	**14 46 16.4**	**+0.3**
	baz=53						
IKP	**In-Ko-Pah, Jac**	**0.57**	**232**	*e*P	**Pg**	**14 46 08.6**	**+0.4**
RMX	**La Rumorosa**	**0.59**	**226**	*e*P	**Pb**	**14 46 08.4**	**-0.1**
RMX				*e*S	**Sg**	**14 46 16.0**	**-0.4**
RMX				IAML		14 46 16.9	
	comp=E,314nm,0.1s						
RMX				⇓*e*		14 46 16.9	
GLA	**Glamis**	**0.63**	**86**	P	**Pb**	**14 46 09.1**	**-0.1**
	baz=265,SNR=81						
GLA				S	**Sb**	**14 46 17.7**	**-0.1**
	baz=265						
CPBX	**Cerro Prieto**	**0.63**	**159**	*e*P	**Pn**	**14 46 10.3**	**-0.5**
CPBX				*e*S	**Sn**	**14 46 19.1**	**-1.3**
CPBX				⇑*e*		14 46 20.4	
CPBX				IAML		14 46 20.4	
	comp=N,1μm,0.4s						
BC3	**Big Chuckawall**	**0.65**	**9**	P	**Pg**	**14 46 10.1**	**+0.3**
	baz=188,SNR=107						
BC3				S	**Sg**	**14 46 19.4**	**+0.9**
	baz=188						
MONP2	**Monument Peak**	**0.72**	**261**	P	**Pg**	**14 46 11.1**	**+0.1**
	baz=81,SNR=59						
MONP2				S	**Sg**	**14 46 21.0**	**+0.3**
	baz=81						
TPFO	**Pinon Flats**	**0.95**	**309**	P	**Pb**	**14 46 14.3**	**-0.5**
	baz=129,SNR=41						
TPFO				S	**Sb**	**14 46 27.5**	**+0.5**
	baz=129						
PFO	**Pinyon Flats O**	**0.95**	**309**	P	**Pb**	**14 46 14.6**	**-0.3**
	baz=129,SNR=51						
PFO				S	**Sb**	**14 46 27.7**	**+0.5**
	baz=129						
PFO	**Pinyon Flats O**	**0.95**	**309**	*e*Pg	**Pb**	**14 46 14.6**	**-0.3**
PFO				*e*Sg	**Sg**	**14 46 27.9**	**-0.1**
BAR	**Barrett**	**0.98**	**251**	*e*P	**Pb**	**14 46 15.3**	**0.0**
BELC	**Belle Mtn. Jos**	**1.05**	**340**	P	**Pb**	**14 46 16.2**	**-0.4**
	baz=160,SNR=16						
TJIG	**Tijuana**	**1.09**	**239**	*e*P	**Pb**	**14 46 17.0**	**-0.1**
CBX	**Cerro Bola**	**1.15**	**233**	*e*P	**Pn**	**14 46 18.0**	**-0.1**
CBX				*e*S	**Sb**	**14 46 33.1**	**+0.2**
CBX				IAML		14 46 37.6	
	comp=N,297nm,0.4s						
CBX				⇓*e*		14 46 37.6	
Y12C	**Blythe**	**1.15**	**50**	Pg	**Pg**	**14 46 18.9**	**-0.2**
	baz=229,SNR=13						
Y12C				S	**Sn**	**14 46 33.6**	**+0.4**
	baz=229						
IRM	**Iron Mountain**	**1.20**	**17**	Pb	**Pb**	**14 46 19.3**	**+0.2**
	baz=197,SNR=115						
IRM				S	**Sn**	**14 46 35.5**	**+0.9**
	baz=197						
109C	**Camp Elliot, M**	**1.29**	**265**	Pb	**Pb**	**14 46 20.9**	**+0.4**
	baz=85						
109C				S	**Sb**	**14 46 37.5**	**+0.7**
	baz=85						
MURC	**Murrieta**	**1.48**	**294**	Pg	**Pg**	**14 46 25.2**	**-0.1**
	baz=113,SNR=12						
MURC				Sb	**Sg**	**14 46 44.2**	**-0.4**
	baz=113						
ECNX	**Esteban Cantu**	**1.60**	**213**	*e*P	**Pb**	**14 46 25.7**	**-0.2**
ZAX	**El Zacaton**	**1.60**	**202**	*e*P	**Pb**	**14 46 25.9**	**0.0**
ZAX				*e*S	**Sb**	**14 46 46.7**	**+0.8**
ZAX				IAML		14 46 51.1	
	comp=E,92nm,0.7s						
ZAX				*e*		14 46 51.1	
PDMCI	**Parker Dam,Lak**	**1.76**	**42**	Sb	**Sb**	**14 46 51.7**	**+1.4**
	baz=223						
GMRC	**Granite Mounta**	**1.77**	**358**	Pg	**Pg**	**14 46 30.6**	**-0.4**
	baz=177,SNR=26						
214A	**Organ Pipe Nat**	**2.56**	**113**	*e*Pn	**Pn**	**14 46 36.0**	**-1.5**

*DJA **28** 14:49:02.4±0.7, 6°.5S±4'×10°.3E±', h10km, M4.1/6, MLv4.1/6*
*IDC **28** 14:49:20.3±9.5, 5°.41S×103°.23E, h132km±86km, mb3.5/7, mb1 3.6/7, mb1mx3.3/43, mbtmp3.9/7, Error ellipse: s-maj=72.9km s-min=17.7km az=59.0*
ISC 28 14:49:03.8±1.3, **6°.4S**±0'.1×**103°.28E**±0'.1, **h35**km, **n17,** σ0**s61**/14, **mb4.0/7, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.47**	**56**	P	**Pn**	**14 49 28.1**	**+0.4**
KASI				S	**Sn**	**14 49 45.2**	**-0.5**
LWLI	**Liwa**	**1.54**	**30**	P	**Pn**	**14 49 28.4**	**-0.5**
LWLI				S	**Sn**	**14 49 48.2**	**+0.5**
MNAI	**Manna**	**2.01**	**351**	P	**Pn**	**14 49 35.2**	**0.0**
CGJI	**Cibinong**	**2.41**	**96**	P	**Pn**	**14 49 40.7**	**-0.1**
LHSI	**Lahat**	**2.52**	**6**	P	**Pn**	**14 49 42.6**	**+0.3**
CNJI	**Cibinong**	**3.94**	**104**	P	**Pn**	**14 50 01.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**25.02**	**350**	P	**P**	**14 54 23.6**	**-1.1**
	1.2nm,0.7s,baz=183,slow=8.8,SNR=9.7						
H08S2	**Diego Garcia H**	**30.58**	**266**	T	T	15 27 24.5	
	baz=89,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**30.59**	**266**	T	T	15 27 20.8	
	baz=89,slow=75,SNR=17						
H08S1	**Diego Garcia H**	**30.60**	**266**	T	T	15 27 23.7	
	baz=89,slow=75,SNR=18						
WRA	**Warramunga Arr**	**33.04**	**117**	P	P	14 55 46.7	+10
	0.4nm,0.7s,baz=289,slow=10,SNR=10						
ASAR	**Alice Springs**	**34.10**	**124**	P	P	14 55 58.6	+13
	0.3nm,0.5s,baz=300,slow=8.0,SNR=6.2						
KSRS	**Korea Array**	**49.28**	**26**	P	**P**	**14 57 49.5**	**+0.2**
	0.9nm,0.6s,baz=222,slow=7.3,SNR=6.0						
SONM	**Songino Array**	**54.03**	**3**	P	**P**	**14 58 25.0**	**+0.3**
	2.2nm,0.6s,baz=181,slow=8.5,SNR=9.4						
USRK	**Ussuriysk Ar.**	**56.59**	**24**	P	**P**	**14 58 43.0**	**0.0**
	1.9nm,0.7s,baz=214,slow=4.9,SNR=7.5						
ZALV	**Zalesovo Beam**	**62.06**	**348**	P	**P**	**14 59 20.2**	**-0.5**
	1.3nm,0.3s,baz=161,slow=6.1,SNR=6.3						
TXAR	**Lajitas Array**	**145.82**	**45**	PKPbc	**PKPab**	**15 08 41.8**	**+1.2**
	1.9nm,0.6s,baz=293,slow=1.1,SNR=30						

*NIED **28** 14:50:00, 37°.30N×142°.30E, h8km, Mw4.2 Best double couple: M₀1.95000×10¹⁵ NP1:φ₀206.00000°, δ38.00000°, λ-116.00000°. NP2:φ₀58.00000°, δ56.00000°, λ-71.00000°.*
*JMA **28** 14:50:10.7±0.4, 37°.26N×142°.34E, h5km±3km, M4.3*
*ISCJB **28** 14:50:12.7±0.5, 37°.34N±0'.05×142°.39E±0'.05, h19km, mb4.3/19, MS3.4/7, Error ellipse: s-maj=7.4km s-min=5.2km az=144.5*
*IDC **28** 14:50:12.7±0.8, 37°.61N×142°.41E, h0km, mb4.2/13, mb1 4.3/17, mb1mx4.1/44, mbtmp4.1/17, ML3.4/4, MS3.3/11, Ms1 3.3/11, ms1mx3.1/41, Error ellipse: s-maj=18.8km s-min=17.3km az=136.0*
*NEIC **28** 14:50:13.9±3.6, 37°.46N×142°.39E, h11km±22km, mb4.4/5, Error ellipse: s-maj=14.3km s-min=7.9km az=119.0*
ISC 28 14:50:13.9±0.7, **37°.27N**±0'.06×**142°.18E**±0'.06, **h19**km, **n61,** σ1**s42/48, mb4.2**/19, **MS3.2**/7, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.04**	**276**	P	**Pb**	**14 50 33.1**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.11**	**262**	P	**Pn**	**14 50 33.8**	**-0.7**
JMM	**Marumori**	**1.25**	**299**	P	**Pn**	**14 50 35.5**	**-0.9**
JIO	**Ouri**	**1.36**	**331**	P	**Pn**	**14 50 36.8**	**-1.0**
JFT	**Otama**	**1.49**	**280**	P	**Pb**	**14 50 40.5**	**-0.4**
JFT				*e*S	**Sg**	**14 51 01.4**	**-0.6**
JOU	**Okura**	**1.62**	**313**	P	**Pn**	**14 50 41.8**	**+0.2**
JOU				*e*S	**Sb**	**14 51 03.7**	**+0.3**
JMK	**Ichinoseki**	**1.84**	**336**	P	**Pn**	**14 50 44.4**	**-0.1**
JYS	**Shirataka**	**1.93**	**300**	P	**Pb**	**14 50 47.4**	**-1.0**
JFY	**Yanaizu**	**1.98**	**275**	P	**Pn**	**14 50 47.5**	**+1.1**
JYK	**Kaneyama**	**2.19**	**320**	P	**Pn**	**14 50 49.5**	**+0.3**
JOM	**Ohasama**	**2.31**	**343**	P	**Pn**	**14 50 51.2**	**+0.2**
JAG	**Ashikaga**	**2.34**	**250**	P	**Pn**	**14 50 52.2**	**+0.8**
MJAR	**Matsushiro Arr**	**3.26**	**258**	Pn	**Pn**	**14 51 07.0**	**+3.0**
	3.7nm,0.3s,baz=73,slow=7.6,SNR=31						
MJAR				Sn	**Sb**	**14 51 50.6**	**+0.1**
	4.5nm,0.3s,baz=83,slow=32,SNR=5.2						
MAJO	**Matsushiro**	**3.26**	**258**	*e*Pn	**Pn**	**14 51 07.3**	**+3.3**
MAT	**Matsushiro**	**3.26**	**258**	P	**Pb**	**14 51 07.5**	**-3.7**
MAT				*e*S	**Sb**	**14 51 48.6**	**-2.0**
JHJ2	**Mitsune**	**4.57**	**206**	*e*Pn	**Pn**	**14 51 23.4**	**+1.4**
JHJ	**Hachijo jima 2**	**4.58**	**206**	Pn	**Pn**	**14 51 22.1**	**0.0**
	22nm,0.3s,baz=335,slow=23,SNR=20						
JHJ				Sn	**Sn**	**14 52 11.3**	**-3.5**
	8.4nm,0.3s,baz=90,slow=20,SNR=2.8						
ERM	**Erimo**	**4.80**	**9**	*e*Pn	**Pn**	**14 51 23.8**	**-1.4**
ASAJ	**Asahikawa**	**6.85**	**3**	Pn	**Pn**	**14 51 52.4**	**-1.0**
ASAJ	**Asahikawa**	**6.85**	**3**	*e*Pn	**Pn**	**14 51 52.4**	**-1.0**
	5.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.69**	**2**	*e*P	**Pn**	**14 52 28.6**	**-3.6**
	17nm,0.8s						
JNU	**Nakatsue**	**10.13**	**249**	Pn	Pn	14 52 44.5	+6.2
	0.3nm,0.3s,baz=74,slow=7.4,SNR=8.2						
JNU	**Nakatsue**	**10.13**	**249**	*e*Pn	Pn	14 52 44.5	+6.1
	9.2nm,1.0s						
USRK	**Ussuriysk Ar.**	**10.37**	**315**	Pn	Pn	14 52 48.8	+7.1
	0.2nm,0.3s,baz=130,slow=13,SNR=16						
USRK				LR	LR	14 56 19.6	
	comp=Z,193nm,18.1s,baz=150,slow=36						
KSRS	**Korea Array**	**11.35**	**275**	Pn	Pn	14 53 00.3	+5.3
	0.1nm,0.3s,baz=89,slow=14,SNR=10						
KSRS				LR	LR	14 56 53.5	
	comp=Z,78nm,19.2s,baz=90,slow=35						
KSAR	**Wonju Array Be**	**11.38**	**275**	Pn	Pn	14 53 00.3	+4.9
KLR	**Kul'dur**	**14.15**	**331**	Pn	**Pn**	**14 53 32.9**	**-0.3**
	0.2nm,0.3s,baz=119,slow=14,SNR=3.6						
KLR				LR	LR	14 58 29.4	
	comp=Z,82nm,21.1s,baz=143,slow=36						
PETK	**Petropavlovsk-**	**19.18**	**29**	LR	LR	15 01 14.4	
	comp=Z,32nm,19.6s,baz=229,slow=35						
MA2	**Magadan**	**23.00**	**11**	*e*P	**P**	**14 55 16.7**	**-0.7**
YAK	**Yakutsk**	**25.98**	**347**	P	**P**	**14 55 45.8**	**+0.7**
	8.2nm,0.6s,baz=302,slow=2.9,SNR=4.7						
YAK				LR	LR	15 06 15.4	
	comp=Z,73nm,18.6s,baz=170,slow=38						
YAK	**Yakutsk**	**25.98**	**347**	*e*P	**P**	**14 55 45.0**	**-0.1**
	13nm,0.8s						
SEY	**Seymchan**	**26.45**	**10**	P	**P**	**14 55 50.6**	**+1.2**
	4.9nm,0.6s,baz=190,slow=8.4,SNR=26						
ULN	**Ulaanbaatar**	**27.73**	**304**	*e*P	**P**	**14 56 02.6**	**+1.3**
	4.1nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**27.75**	**122**	T	T	15 24 49.3	
	baz=315,slow=75,SNR=330						
H11N1	**WAKE ISLAND Hy**	**27.76**	**122**	T	T	15 24 51.2	
	baz=315,slow=75,SNR=240						
H11N3	**WAKE ISLAND Hy**	**27.77**	**122**	T	T	15 24 50.8	
	baz=315,slow=75,SNR=281						
SONM	**Songino Array**	**28.16**	**303**	P	**P**	**14 56 06.4**	**+1.3**
	4.6nm,0.9s,baz=100,slow=9.1,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	15 25 48.8	
	baz=317,slow=76,SNR=173						
H11S3	**WAKE ISLAND Hy**	**28.48**	**124**	T	T	15 25 47.8	
	baz=317,slow=76,SNR=154

SONM Songino Array 64.94 331 P **P** **15 05 05.5 +0.4**
0.6nm,0.6s,baz=143,slow=7.9,SNR=5.6
SEY Seymchan 69.28 2 P **P** **15 05 32.5 +0.3**
0.7nm,0.5s,baz=176,slow=11,SNR=6.5
VNDA Vanda 71.46 177 P **P** **15 05 41.8 -3.6**
0.5nm,0.5s,baz=336,slow=7.7,SNR=7.4
VNDA LR 15 35 48.2
comp=Z,62nm,18.3s,baz=340,slow=35
MKAR Makanchi Array 78.03 320 P **P** **15 06 23.6 -0.3**
0.7nm,0.6s,baz=114,slow=6.0,SNR=8.0
ZALV Zalesovo Beam 79.55 328 P **P** **15 06 30.9 -1.1**
1.2nm,0.6s,baz=103,slow=5.1,SNR=5.1
ILAR Eielson Array 85.76 23 P **P** **15 07 03.4 -0.6**
1.4nm,0.7s,baz=251,slow=4.9,SNR=21
NRIK Noril'sk 85.78 342 P **P** **15 07 04.0 -0.2**
1.5nm,0.4s,baz=140,slow=5.1,SNR=4.6
GERES GERESS Array B 122.44 325 PKP **PKPdf** **15 13 22.2 +1.7**
0.2nm,0.3s,baz=38,slow=3.7,SNR=3.3

*ISCJB **28** 15:06:27.4±0.4, 40°.17N±0°.03×27°.73E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=3.1km az=31.7*
*CSEM **28** 15:06:27.5±0.1, 40°.18N×27°.73E, h1km, MD2.7, Error ellipse: s-maj=3.5km s-min=3.0km az=33.0, Suspected Mining explosion.*
*ISK **28** 15:06:27.3, 40°.18N×27°.73E, h9km, MD2.7*
*DDA **28** 15:06:59.6, 40°.18N×27°.76E, h3km, Md2.6, Suspected Mining explosion.*
ISC 28 15:06:27.5±0.8, 40°.19N±0°.02×27°.73E±0°.02, h0km, n41, σ0s80/56, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GONE	**Gonen-Balikesi**	**0.14**	**192**	*e*PG	**Pg**	**15 06 30.9**	**+0.6**
GONE	**Gonen-Balikesi**	**0.14**	**192**	*e*Pg	**Pg**	**15 06 30.9**	**+0.7**
EDC	**Edincik**	**0.19**	**34**	*e*PG	**Pg**	**15 06 31.9**	**+0.7**
EDC				*e*SG	**Sg**	**15 06 31.9**	**+1.6**
EDC	**Edincik**	**0.19**	**34**	*e*Pg	**Pg**	**15 06 31.9**	**+0.7**
EDC				*e*Sg	**Sg**	**15 06 35.3**	**+1.7**
KRBG	**Karabiga-Canak**	**0.39**	**302**	*e*PG	**Pg**	**15 06 34.9**	**0.0**
KRBG				*e*SG	**Sb**	**15 06 42.2**	**-1.6**
KRBG	**Karabiga-Canak**	**0.39**	**302**	*e*Pg	**Pg**	**15 06 34.9**	**0.0**
KRBG				*e*Sg	**Sb**	**15 06 42.2**	**-1.5**
MRMT	**Marmara Adasi**	**0.43**	**347**	*e*PG	**Pg**	**15 06 36.4**	**+0.7**
MRMT				*e*SG	**Sg**	**15 06 43.1**	**+1.9**
MRMT	**Marmara Adasi**	**0.43**	**347**	*e*Pg	**Pg**	**15 06 36.4**	**+0.7**
MRMT				*e*Sg	**Sg**	**15 06 43.1**	**+1.9**
BALY	**Balya**	**0.45**	**190**	P	**Pg**	**15 06 35.7**	**-0.5**
BALY				S	**Sb**	**15 06 45.9**	**+0.2**
BALY	**Balya**	**0.45**	**190**	*i* P	**Pg**	**15 06 35.7**	**-0.5**
BALY				*i* S	**Sb**	**15 06 45.9**	**+0.2**
KCTX	**Karacabey (Bur**	**0.49**	**81**	*e*PG	**Pg**	**15 06 36.5**	**-0.4**
KCTX				*e*SG	**Sg**	**15 06 44.4**	**+1.2**
KCTX	**Karacabey (Bur**	**0.49**	**81**	*e*Pg	**Pg**	**15 06 36.5**	**-0.4**
KCTX				*e*Sg	**Sg**	**15 06 44.4**	**+1.2**
BALB	**Balikesir**	**0.56**	**168**	*e*PG	**Pg**	**15 06 38.6**	**+0.4**
BALB	**Balikesir**	**0.56**	**168**	*e*Pg	**Pg**	**15 06 38.6**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.65**	**320**	*e*PG	**Pg**	**15 06 39.7**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.65**	**320**	*e*Pg	**Pg**	**15 06 39.7**	**-0.3**
SART	**Tekirdag**	**0.65**	**320**	P	**Pg**	**15 06 40.7**	**+0.7**
SART				S	**Sb**	**15 06 50.7**	**-0.8**
SART	**Tekirdag**	**0.65**	**320**	*i* P	**Pg**	**15 06 40.7**	**+0.7**
SART				*i* S	**Sb**	**15 06 50.7**	**-0.8**
MDNY	**Mudanya-Bursa**	**0.90**	**78**	*e*PG	**Pg**	**15 06 45.0**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.90**	**78**	*e*Pg	**Pg**	**15 06 45.0**	**+0.2**
ARMT	**Armutlu**	**0.95**	**66**	*e*PG	**Pg**	**15 06 46.2**	**+0.5**
ARMT	**Armutlu**	**0.95**	**66**	*e*Pg	**Pb**	**15 06 46.2**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.98**	**283**	*e*PG	**Pg**	**15 06 46.4**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.98**	**283**	*e*Pg	**Pg**	**15 06 46.4**	**+0.1**
ERIK	**Erikli-Kesan**	**1.04**	**298**	*e*PG	**Pg**	**15 06 47.3**	**-0.2**
ERIK	**Erikli-Kesan**	**1.04**	**298**	*e*Pg	**Pg**	**15 06 47.3**	**-0.2**
IGD	**Bursa**	**1.13**	**86**	*i* P	**Pg**	**15 06 48.4**	**-0.8**
IGD				*i* S	**Sb**	**15 07 05.3**	**+0.1**
CTKS	**Kestanelik-??a**	**1.20**	**29**	*e*PG	**Pg**	**15 06 50.6**	**0.0**
CTKS	**Kestanelik-??a**	**1.20**	**29**	*e*Pn	**Pg**	**15 06 50.6**	**0.0**
IZI	**Iznik**	**1.34**	**83**	*e*PN	**Pg**	**15 06 52.6**	**-0.7**
IZI	**Iznik**	**1.34**	**83**	*e*Pn	**Pg**	**15 06 52.6**	**-0.7**
DEMI	**Demirci**	**1.38**	**146**	P	**Pn**	**15 06 53.9**	**-0.1**
DEMI				S	**Sn**	**15 07 13.4**	**+0.4**
DEMI	**Demirci**	**1.38**	**146**	*i* P	**Pn**	**15 06 53.9**	**-0.1**
DEMI				*i* S	**Sn**	**15 07 13.4**	**+0.4**
GADA	**Gvkgeada**	**1.40**	**271**	*e*PN	**Pn**	**15 06 53.6**	**-0.6**
GADA	**Gvkgeada**	**1.40**	**271**	*e*Pn	**Pn**	**15 06 53.6**	**-0.7**
TVSB	**Tavsanli**	**1.53**	**118**	*e*PN	**Pn**	**15 06 55.5**	**-0.6**
TVSB	**Tavsanli**	**1.53**	**118**	*e*Pn	**Pn**	**15 06 55.5**	**-0.6**
ADVT	**Abdulvahap**	**1.56**	**80**	*e*PN	**Pn**	**15 06 55.3**	**-1.2**
ADVT	**Abdulvahap**	**1.56**	**80**	*e*Pn	**Pn**	**15 06 55.3**	**-1.2**
SIGR	**SIGRI**	**1.74**	**237**	*e*PN	**Pn**	**15 06 58.8**	**-0.1**
SIGR	**SIGRI**	**1.74**	**237**	*e*Pn	**Pn**	**15 06 58.8**	**-0.2**

*KRNET **28** 15:10:58.6±0.1, 39°.88N×77°.76E, mb3.4*
*SOME **28** 15:10:59.7, 40°.23N×77°.67E, h5km*
*NNC **28** 15:11:00.8±1.5, 40°.28N×77°.73E, h6km±7km, mb3.6, mpv3.3, Error ellipse: s-maj=11.2km s-min=5.5km az=168.0*
ISC 28 15:11:00.5±2.6, 40°.13N±0°.10×77°.83E±0°.05, h3km±13km, n38, σ1s54/69, 26C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**2.39**	**10**	⇑*e*P	**Pb**	**15 11 43.4**	**-0.8**
PRZ	baz=10.0			⇑*i*S	**Sb**	**15 12 15.0**	**+0.8**
ANVS	**Anan'yevo**	**2.66**	**357**	⇓*e*P	**Pb**	**15 11 47.1**	**-1.6**
ANVS	baz=359			⇓*i*S	**Sb**	**15 12 21.8**	**0.0**
BOOM	**Boomskoye usch**	**2.76**	**330**	⇑*e*P	**Pb**	**15 11 48.1**	**-2.4**
BOOM	baz=333			⇑*e*S	**Sb**	**15 12 23.5**	**-1.2**
KZA	**Kyzart**	**2.76**	**316**	⇑*i*P	**Pn**	**15 11 45.0**	**-0.9**
KZA	baz=320			⇑*i*S	**Sb**	**15 12 22.0**	**-2.9**
SATY	**Saty**	**2.96**	**8**	*e*P	**Pb**	**15 11 52.8**	**-1.1**
SATY	74nm,0.9s			⇓*i*S	**Sb**	**15 12 31.2**	**+0.7**
IZV	**Izvestkoviy**	**3.05**	**343**	*e*P	**Pb**	**15 11 54.1**	**-1.3**
IZV	24nm,0.6s			*e*S	**Sb**	**15 12 33.2**	**+0.1**
ZHN	**Zhinishke**	**3.07**	**8**	*e*P	**Pb**	**15 11 54.5**	**-1.2**
ZHN	41nm,0.6s			*e*S	**Sb**	**15 12 34.1**	**+0.4**
MDOK	**Medeo**	**3.09**	**349**	*e*P	**Pb**	**15 11 54.9**	**-1.2**
MDOK	19nm,0.6s			*e*S	**Sb**	**15 12 34.5**	**+0.3**
UZB	**Uzynbulak**	**3.15**	**16**	*e*P	**Pb**	**15 11 56.5**	**-0.6**
UZB	14nm,0.6s			*e*S	**Sb**	**15 12 36.8**	**+1.0**
KOTS	**Kotyrbulak**	**3.15**	**350**	*e*P	**Pb**	**15 11 56.0**	**-1.1**
KOTS	50nm,0.7s			*e*S	**Sb**	**15 12 36.4**	**+0.4**
KNDC	**Almaty**	**3.15**	**348**	⇓Pg	**Pb**	**15 11 55.9**	**-1.3**
KNDC	23nm,0.6s			⇓Lg	Lg	15 12 37.0	
ARLS	**Aral**	**3.17**	**304**	⇑*i*P	**Pn**	**15 11 50.5**	**-0.8**
ARLS	baz=309			⇑*i*S	**Sn**	**15 12 31.9**	**+2.2**
MTBS	**Maitube**	**3.18**	**341**	*e*P	**Pg**	**15 12 01.9**	**+0.5**
MTBS	26nm,0.4s			*e*S	**Sg**	**15 12 46.4**	**+3.8**
AAA	**Alma-Ata**	**3.21**	**348**	*e*P	**Pb**	**15 11 56.4**	**-1.7**
AAA	68nm,0.1s			*e*S	**Sb**	**15 12 37.2**	**-0.5**
KST	**Kastek**	**3.23**	**335**	*e*P	**Pb**	**15 11 57.2**	**-1.4**
KST	4.0nm,0.7s			⇑*i*S	**Sb**	**15 12 38.4**	**0.0**
TKM2	**Tokmak 2**	**3.26**	**330**	⇓Pn	**Pn**	**15 11 50.6**	**-2.0**
TKM2	1.6nm,0.3s			⇓Pg	**Pb**	**15 11 57.4**	**-1.6**
TKM2	7.0nm,0.4s			⇓Lg	Lg	15 12 39.3	
KBK	**Karagaybulak**	**3.33**	**320**	⇑*i*P	**Pn**	**15 11 52.3**	**-1.2**
KBK	45nm,0.5s baz=324			⇑*i*S	**Sn**	**15 12 35.1**	**+1.4**
KURS	**Kuram**	**3.37**	**4**	*e*P	**Pb**	**15 12 00.6**	**-0.1**
KURS	4.6nm,0.3s 40nm,0.8s			*e*S	**Sb**	**15 12 44.2**	**+2.1**
SHLS	**Shalkode**	**3.40**	**26**	*e*P	**Pb**	**15 12 00.5**	**-0.9**
SHLS	21nm,0.7s 59nm,0.6s			*e*S	**Sb**	**15 12 43.9**	**+0.8**
PDGK	**Podgornoye**	**3.43**	**21**	⇓Pn	**Pn**	**15 11 53.0**	**-1.6**
PDGK	6.0nm,0.7s 9.4nm,0.3s			⇑Pg	**Pb**	**15 12 01.1**	**-0.7**
PDGK	64nm,0.7s			⇓Lg	Lg	15 12 44.6	
DGS	**Degeres**	**3.47**	**334**	*e*P	**Pb**	**15 12 01.0**	**-1.6**
DGS	15nm,0.9s 30nm,0.5s			*e*S	**Sb**	**15 12 45.5**	**+0.3**
AAK	**Ala-Archa**	**3.54**	**316**	⇑*i*P	**Pn**	**15 11 55.7**	**-0.8**
AAK	baz=319			⇑*i*S	**Sn**	**15 12 40.2**	**+1.2**
AAK	**Ala-Archa**	**3.54**	**316**	⇑Pg	**Pb**	**15 12 01.7**	**-2.2**
AAK	13nm,0.8s 40nm,0.6s			⇓Lg	Lg	15 12 47.5	
FRU1	**Bishkek**	**3.60**	**319**	⇑*e*P	**Pn**	**15 11 55.5**	**-1.7**
FRU1	baz=322			⇑*e*S	**Sn**	**15 12 39.8**	**-0.4**
CHMS	**Chumysh**	**3.68**	**322**	⇑*i*P	**Pn**	**15 11 57.3**	**-1.0**
CHMS	baz=325			⇑*i*S	**Sn**	**15 12 43.0**	**+0.8**
KTBS	**Karatobe**	**3.68**	**347**	*e*P	**Pb**	**15 12 05.9**	**-0.2**
KTBS				*e*S	**Sb**	**15 12 53.5**	**+2.3**
CHKK	**Chushkaly**	**3.79**	**351**	*e*P	**Pb**	**15 12 07.2**	**-0.8**
CHKK	11nm,0.4s 144nm,0.5s			*e*S	**Sb**	**15 12 56.2**	**+1.9**
KUU	**Kurty**	**3.92**	**344**	⇑*i*P	**Pb**	**15 12 08.2**	**-2.0**
KUU	14nm,0.7s 36nm,0.8s			*e*S	**Sb**	**15 12 56.9**	**-1.2**
EKS2	**Erkin-Say**	**3.96**	**311**	⇑*i*P	**Pn**	**15 12 01.1**	**-1.1**
EKS2	baz=314 baz=314			⇑*i*S	**Sn**	**15 12 50.0**	**+0.8**
MNBS	**Baschi**	**3.97**	**6**	*e*P	**Pb**	**15 12 09.6**	**-1.5**
MNBS				*e*S	**Sb**	**15 12 59.9**	**+0.3**
ARXS	**Arharly**	**4.08**	**360**	*e*P	**Pb**	**15 12 12.4**	**-0.6**
ARXS	8.6nm,0.5s 100nm,0.6s			*e*S	**Sb**	**15 13 04.5**	**+1.8**
MRKS	**Merke**	**4.34**	**309**	*e*P	**Pb**	**15 12 16.2**	**-1.1**
MRKS	5.9nm,0.4s 15nm,0.3s			*e*S	**Sb**	**15 13 11.2**	**+1.1**
DJR	**Jarkent**	**4.45**	**18**	*e*P	**Pb**	**15 12 18.6**	**-0.6**
DJR	12nm,0.5s 39nm,0.5s			*e*S	**Sb**	**15 13 15.5**	**+2.3**
MNAS	**Manas**	**4.65**	**302**	⇓Pg	**Pb**	**15 12 23.7**	**+1.0**
MNAS	6.3nm,1.1s 19nm,1.1s			⇑Lg	Lg	15 13 22.3	
KAPS	**Kapalarasan**	**5.28**	**12**	⇑*e*P	**Pb**	**15 12 37.2**	**+3.9**
KAPS	6.4nm,0.5s 16nm,0.6s			⇓*e*S	**Sg**	**15 13 46.9**	**-2.9**
KK31	**Karatay Array**	**6.24**	**301**	⇑Pg	**Pb**	**15 12 51.9**	**+2.2**
KK31	1.1nm,0.6s,baz=92,slow=19,SNR=4.2 1.2nm,0.4s,baz=111,slow=24,SNR=6.2			⇓Lg	Lg	15 14 13.6	
MK31	**Makanchi Array**	**7.41**	**24**	⇓Pn	**Pn**	**15 12 47.6**	**-1.9**
MK31	0.1nm,0.2s 0.8nm,0.6s			⇑Pg	Pb	15 13 14.7	+5.1
MK31	2.0nm,0.8s			⇓Lg	Lg	15 14 52.9	
OTUK	**Ortayu**	**9.02**	**336**	⇓Lg	Lg	15 15 39.5	
	14nm,1.3s						

*ISCJB **28** 15:13:05.4±0.8, 13°.66N±0°.08×90°.99W±0°.06, h65km±10km, mb3.8/3, Error ellipse: s-maj=15.0km s-min=7.3km az=35.1*
*IDC **28** 15:13:06.4±1.4, 13°.59N×90°.98W, h61km±6km, mb3.5/3, mb1 3.9/5, mb1mx3.6/31, mbtmp3.9/5, MS3.1/12, Ms1 3.2/12, ms1mx3.0/25, Error ellipse: s-maj=37.6km s-min=28.7km az=103.0*
*CASC **28** 15:13:07.6±1.7, 13°.59N×90°.82W, h20km±9km, MD4.8, ML4.0*
*MEX **28** 15:13:11.8±0.3, 13°.81N×91°.42W, h80km, MD4.0*
ISC 28 15:13:06.0±1.0, 13°.62N±0°.10×91°.01W±0°.07, h62km±8km, n41, σ1s75/45, mb3.8/3, 5C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUS1	**Cusmapa**	**1.07**	**74**	⇑*e*P	**Pn**	**15 13 24.5**	**-0.7**
CUS1				*e*S	**Sn**	**15 13 36.8**	**-2.6**
SONS	**Sonsonate**	**1.26**	**85**	*e*P	**Pn**	**15 13 26.8**	**-0.8**
SONS				*e*S	**Sn**	**15 13 41.2**	**-2.5**
MONT	**Ecomontaæa**	**1.34**	**80**	*e*P	**Pn**	**15 13 28.9**	**-0.1**
RTR	**El Retiro**	**1.35**	**78**	*e*P	**Pn**	**15 13 29.1**	**+0.1**
SBLS	**San Blas**	**1.36**	**81**	*e*P	**Pn**	**15 13 29.0**	**-0.2**
SBLS				*e*S	**Sn**	**15 13 46.6**	**+0.1**
SNJE	**San Jose**	**1.39**	**80**	⇑*e*P	**Pn**	**15 13 29.3**	**-0.1**
COLS	**Colinas**	**1.66**	**88**	*e*P	**Pn**	**15 13 33.4**	**+0.3**
COLS				*e*S	**Sn**	**15 13 53.9**	**+0.3**
SNET	**Serv Nac Est T**	**1.73**	**88**	*e*P	**Pn**	**15 13 34.0**	**+0.1**
SNET				*e*S	**Sn**	**15 13 54.8**	**-0.2**
SNET	comp=Z,6µm,0.2s			AML	AML	15 13 59.8	
LFU	**La Fuente**	**1.85**	**86**	⇑*e*P	**Pn**	**15 13 35.7**	**+0.2**
LFRS	**El Faro**	**1.89**	**90**	⇑*e*P	**Pn**	**15 13 36.3**	**+0.1**
LBRS	**Las Brisas**	**1.92**	**86**	⇑*e*P	**Pn**	**15 13 36.3**	**-0.1**
CAHU	**Cacacuatique**	**2.72**	**87**	*e*P	**Pn**	**15 13 47.6**	**0.0**
CNCH	**Conchagua**	**3.11**	**96**	*e*P	**Pn**	**15 13 53.0**	**+0.3**
CNGN	**Cerro Negro**	**4.35**	**104**	*e*P	**Pn**	**15 14 09.7**	**0.0**
CNGN	comp=N,342nm,0.3s			AML	AML	15 15 22.3	
MOMN	**Momotombo**	**4.52**	**105**	*e*P	**Pn**	**15 14 11.6**	**-0.5**
COPN	**Copaltepe**	**4.54**	**108**	*e*P	**Pn**	**15 14 12.5**	**+0.2**
COPN				*e*S	**Sn**	**15 14 57.9**	**-5.9**
COPN	comp=Z,285nm,0.6s			AML	AML	15 15 04.5	
TISN	**Laguna Tiscapa**	**4.85**	**107**	*e*P	**Pn**	**15 14 15.6**	**-1.0**
CMIG	**Matias Romero**	**5.09**	**313**	P	**Pn**	**15 14 20.9**	**+1.2**
	comp=Z,3.0nm,0.3s,baz=120,slow=10,SNR=21						
CMIG				S	**Sn**	**15 15 14.9**	**-2.2**
	comp=Z,8.5nm,0.3s,baz=119,slow=12,SNR=4.1						
CMIG				LR	LR	15 15 45.8	
	comp=Z,33nm,20.5s,baz=159,slow=31						
HUIG	**Huatulco**	**5.38**	**294**	*e*P	**Pn**	**15 14 24.2**	**+0.5**
JCR	**Jicaral**	**6.88**	**122**	*e*P	**Pn**	**15 14 46.8**	**+2.4**
JCR				*e*S	**Sn**	**15 16 01.7**	**+0.2**
TEIG	**Tepich**	**7.07**	**21**	P	**Pn**	**15 14 48.0**	**+1.1**
TEIG				LR	LR	15 17 54.0	
	comp=Z,164nm,20.6s,baz=358,slow=41						
CGA2	**Cerro Gallo 2**	**7.34**	**119**	*e*P	**Pn**	**15 14 54.8**	**+4.0**
URSC	**Urasca**	**8.02**	**117**	*e*P	**Pn**	**15 15 02.5**	**+2.4**
BUS	**Buena Vista**	**8.17**	**119**	*e*P	**Pn**	**15 15 05.5**	**+3.1**
BUS				*e*S	**Sn**	**15 16 29.0**	**-4.6**
TXAR	**Lajitas Array**	**19.55**	**325**	P	**Pn**	**15 17 31.0**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=141,slow=12,SNR=30						
TXAR				PcP	**PcP**	**15 21 48.2**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=145,slow=4.6,SNR=3.6						
LPIG	**La Paz**	**21.00**	**303**	LR	LR	15 24 55.4	
	comp=Z,52nm,20.1s,baz=343,slow=34						
TKL	**Tuckaleechee C**	**22.89**	**15**	P	**P**	**15 18 04.1**	**-0.5**
	comp=Z,6.2nm,0.6s,baz=186,slow=12,SNR=7.3						
TKL				pP	**pP**	**15 18 20.4**	**+2.3**
	comp=Z,29nm,1.1s,baz=189,slow=13,SNR=11						
TKL				LR	LR	15 27 47.6	
	comp=Z,96nm,21.2s,baz=201,slow=38						
SJG	**San Juan**	**24.32**	**76**	LR	LR	15 28 02.8	
	comp=Z,36nm,21.2s,baz=108,slow=37						

NNA Nana 29.06 150 LR LR 15 28 38.6
comp=Z,31nm,21.5s,baz=328,slow=32
ULM Lac du Bonnet 36.74 355 LR LR 15 35 53.5
comp=Z,36nm,20.7s,baz=334,slow=37
LPAZ La Paz 37.34 142 LR LR 15 35 36.8
comp=Z,48nm,20.1s,baz=277,slow=36
SCHQ Schefferville 45.25 19 LR LR 15 40 59.0
comp=Z,68nm,20.3s,baz=293,slow=37
CPUP Villa Florida 51.48 140 LR LR 15 44 16.5
comp=Z,22nm,18.1s,baz=224,slow=36
YKA Yellowknife Ar 51.62 346 P **P** **15 22 07.3 +1.4**
comp=Z,0.6nm,0.6s,baz=146,slow=5.8,SNR=2.8
YKA pP **pP** **15 22 21.9 -0.2**
comp=Z,1.5nm,0.7s,baz=154,slow=7.4,SNR=5.1
ILAR Eielson Array 63.56 337 P **P** **15 23 29.2 -0.7**
comp=Z,0.5nm,0.8s,baz=176,slow=4.9,SNR=9.1
ILAR pP **pP** **15 23 46.9 +0.4**
comp=Z,0.6nm,0.8s,baz=146,slow=5.0,SNR=5.2
PPT Papeete 65.58 243 LR LR 15 45 28.6
comp=Z,28nm,21.4s,baz=20,slow=30
NOA NORSAR Array B 84.02 29 LR LR 16 00 40.1
comp=Z,13nm,21.6s,baz=25,slow=34
WRA Warramunga Arr 136.23 255 PKP **PKPdf** **15 32 21.6 +0.2**
comp=Z,0.7nm,0.7s,baz=65,slow=1.0,SNR=13
ASAR Alice Springs 136.44 250 PKP **PKPdf** **15 32 22.4 +0.6**
comp=Z,0.5nm,0.8s,baz=106,slow=2.1,SNR=5.9
FITZ Fitzroy Crossi 144.51 258 PKP **PKPdf** **15 32 36.3 -0.1**
comp=Z,5.2nm,1.1s,baz=150,slow=2.1,SNR=4.0
CMAR Chiang Mai Arr 146.65 343 PKPbc **PKPbc** **15 32 41.4 -0.3**
comp=Z,2.6nm,0.6s,baz=346,slow=3.0,SNR=16
CMAR pPKPbc pPKPbc 15 32 59.0 -0.6
comp=Z,2.7nm,0.5s,baz=338,slow=3.0,SNR=8.1

*IDC **28** 15:13:44.7±0.8, 0°.62S×127°.69E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.9/32, mbtmp4.0/10, ML3.9/2, MS3.2/3, Ms1 3.1/3, ms1mx2.6/37, Error ellipse: s-maj=38.4km s-min=15.2km az=79.0*
*ISCJB **28** 15:13:48.3±0.4, 0°.62S±0°.04×127°.61E±0°.03, h41km, mb4.1/9, MS3.5/1, Error ellipse: s-maj=6.0km s-min=4.7km az=8.6*
*NEIC **28** 15:13:50.5±1.1, 0°.67S×127°.63E, h46km±12km, mb4.7/2, Error ellipse: s-maj=12.0km s-min=8.1km az=50.0*
NEIC Felt [III] at Labuha.
*DJA **28** 15:13:50.4±0.5, 1°.S±3°×127°.8E±°, h30km, M4.6/4, mB5.4/1, mb4.8/3, MLv4.5/4, Mw(mB)4.8/1*
ISC 28 15:13:50.5±0.7, 0°.62S±0°.06×127°.58E±0°.06, h41km, n31, σ1s34/39, mb4.0/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.08**	**259**	P	**Pn**	15 13 49.4	-7.8
SANI	**Sanana**	**2.13**	**228**	P	**Pn**	**15 14 23.4**	**-0.3**
SANI				S	**Sn**	**15 14 50.2**	**+1.3**
NLAI	**Namlea**	**2.64**	**191**	P	**Pn**	**15 14 30.9**	**+0.2**
NLAI				S	**Sn**	**15 15 03.3**	**+1.8**
MSAI	**Masohi**	**3.02**	**154**	P	**Pn**	**15 14 34.4**	**-1.5**
MSAI				S	**Sn**	**15 15 15.8**	**+5.0**
SWI	**Sorong**	**3.68**	**94**	P	**Pn**	**15 14 45.0**	**0.0**
KMSI	**Cibinong**	**3.79**	**288**	P	**Pn**	**15 14 47.5**	**+1.0**
KMSI				S	**Sn**	**15 15 31.8**	**+1.9**
LUWI	**Luwuk**	**4.83**	**265**	P	**Pn**	**15 15 00.7**	**0.0**
LUWI				S	**Sn**	**15 15 56.1**	**+0.7**
LUWI	**Luwuk**	**4.83**	**265**	*e*P	**Pn**	**15 15 00.8**	**0.0**
FAKI	**Fak Fak**	**5.19**	**116**	P	**Pn**	**15 15 04.9**	**-0.8**
	31nm,1.0s,0.2nm						
FAKI	**Fak Fak**	**5.19**	**116**	*e*P	**Pn**	**15 15 04.7**	**-1.0**
MRSI	**Marisa**	**5.75**	**281**	P	**Pn**	**15 15 13.3**	**0.0**
MRSI				S	**Sn**	**15 16 19.0**	**+0.9**
PCI	**Palu**	**7.75**	**268**	P	**Pn**	**15 15 41.4**	**+0.5**
	31nm,0.9s,0.3nm						
DAV	**Davao City (W)**	**7.90**	**345**	LR	LR	15 19 14.3	
	comp=Z,62nm,21.2s,baz=232,slow=42						
TTSI	**Tana Toraja**	**8.12**	**253**	P	**Pn**	**15 15 47.3**	**+1.3**
TTSI				S	**Sn**	**15 17 16.3**	**-0.3**
SPSI	**Sidrap Palu**	**8.48**	**247**	P	**Pn**	**15 15 52.2**	**+1.3**
SPSI				S	**Sn**	**15 17 23.2**	**-2.2**
KAPI	**Kappang**	**8.96**	**241**	Pn	**Pn**	**15 15 58.7**	**+1.4**
	2.7nm,0.3s,baz=63,slow=3.8,SNR=6.7						
KAPI				Sn	**Sn**	**15 17 37.3**	**+0.3**
	1.4nm,0.3s,baz=102,slow=19,SNR=1.9						
KAPI	**Kappang**	**8.96**	**241**	*e*P	**Pn**	**15 15 58.8**	**+1.4**
	12nm,0.5s						
KAPI				Sn	**Sn**	**15 17 37.3**	**+0.3**
SOEI	**Soe**	**9.65**	**200**	*e*P	**Pn**	**15 16 05.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**17.48**	**186**	P	**Pn**	**15 17 50.6**	**-0.7**
	0.2nm,0.3s,baz=24,slow=8.2,SNR=6.9						
FITZ				LR	LR	15 25 31.6	
	comp=Z,65nm,18.0s,baz=70,slow=40						
WRAB	**Tennant Creek**	**20.30**	**161**	*e*P	**P**	**15 18 22.1**	**-1.0**
WRA	**Warramunga Arr**	**20.31**	**161**	P	**P**	**15 18 21.3**	**-1.9**
	4.0nm,0.7s,baz=341,slow=12,SNR=30						
PMBI	**Palembang**	**22.91**	**264**	P	P	15 18 42.9	-8.3
ASAR	**Alice Springs**	**23.71**	**165**	P	**P**	**15 18 58.2**	**-0.7**
	7.4nm,0.8s,baz=345,slow=11,SNR=60						
ASAR				S	**S**	**15 23 12.7**	**+1.3**
	1.9nm,0.9s,baz=352,slow=22,SNR=8.6						
STKA	**Stephens Creek**	**33.79**	**158**	P	**P**	**15 20 28.6**	**-0.1**
	3.1nm,0.9s,baz=315,slow=7.2,SNR=6.0						
STKA				LR	LR	15 34 34.6	
	comp=Z,80nm,18.3s,baz=15,slow=37						
MJAR	**Matsushiro Arr**	**38.27**	**14**	P	**P**	**15 21 07.8**	**+0.9**
	1.2nm,0.9s,baz=185,slow=8.4,SNR=4.0						
USRK	**Ussuriysk Ar.**	**44.80**	**4**	P	**P**	**15 22 00.1**	**-0.2**
	0.8nm,0.7s,baz=186,slow=13,SNR=2.4						
SONM	**Songino Array**	**51.67**	**342**	P	**P**	**15 22 53.7**	**+0.3**
	0.6nm,0.6s,baz=142,slow=7.3,SNR=2.8						
MKAR	**Makanchi Array**	**61.61**	**326**	P	**P**	**15 24 04.0**	**0.0**
	1.1nm,0.4s,baz=116,slow=8.8,SNR=16						
ZALV	**Zalesovo Beam**	**64.83**	**334**	P	**P**	**15 24 25.1**	**0.0**
	0.3nm,0.3s,baz=126,slow=7.3,SNR=2.5						
KURK	**Kurchatov**	**65.86**	**328**	*e*P	**P**	**15 24 30.4**	**-1.4**
	18nm,0.6s						
TIXI	**Tiksi**	**72.16**	**0**	*e*P	**P**	**15 25 09.5**	**-1.0**
	1.2nm,0.6s						

*ISCJB **28** 15:21:07.9±0.5, 39°.16N±0°.03×29°.01E±0°.03, h3km±6km, Error ellipse: s-maj=5.9km s-min=3.7

BALY	**Balya**	**1.23**	**299**	*i* P	**Pn**	**15 21 31.8**	**0.0**
BALY				*i* S	**Sg**	**15 21 46.6**	**-1.0**
BORA	**Eskisehir**	**1.32**	**56**	P	**Pn**	**15 21 32.6**	**-0.5**
BORA				S	**Sn**	**15 21 51.4**	**+0.3**
BORA	**Eskisehir**	**1.32**	**56**	*i* P	**Pn**	**15 21 32.6**	**-0.5**
BORA				*i* S	**Sn**	**15 21 51.4**	**+0.3**
ADVT	**Abdulvahap**	**1.39**	**23**	*e*Pn	**Pg**	**15 21 35.0**	**+0.3**
ADVT	**Abdulvahap**	**1.39**	**23**	*e*Pn	**Pg**	**15 21 35.0**	**+0.3**
ARMT	**Armutlu**	**1.41**	**355**	*e*PN	**Pn**	**15 21 34.1**	**-0.2**
ARMT	**Armutlu**	**1.41**	**355**	*e*Pn	**Pn**	**15 21 34.1**	**-0.2**
ESKT	**Eskisehir**	**1.47**	**75**	*e*PN	**Pb**	**15 21 35.4**	**-0.3**
ESKT	**Eskisehir**	**1.47**	**75**	*e*Pn	**Pb**	**15 21 35.4**	**-0.3**
ESKT	**Eskisehir**	**1.47**	**75**	*i* P	**Pg**	**15 21 36.2**	**+0.1**
ESKT				*i* S	**Sg**	**15 21 55.3**	**+0.2**
SEYT	**Eskypehyr**	**1.47**	**75**	P	**Pg**	**15 21 36.2**	**+0.1**
SEYT				S	**Sg**	**15 21 55.3**	**+0.2**
EDC	**Edincik**	**1.48**	**323**	*e*PN	**Pb**	**15 21 35.7**	**-0.3**
EDC	**Edincik**	**1.48**	**323**	*e*Pn	**Pb**	**15 21 35.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**217**	*e*PN	**Pb**	**15 21 35.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**217**	*e*Pn	**Pb**	**15 21 35.7**	**-0.5**
GULT	**Gulveren**	**1.72**	**42**	*e*PN	**Pb**	**15 21 39.2**	**-0.8**
GULT	**Gulveren**	**1.72**	**42**	*e*Pn	**Pb**	**15 21 39.2**	**-0.8**

ISCJB ***28*** *15:29:59.7±0.5, 37°.16N±0°.04×142°.46E±0°.06, h19km, mb4.0/14, MS2.9/2, Error ellipse: s-maj=7.7km s-min=5.8km az=22.6*

IDC ***28*** *15:29:59.5±0.8, 37°.22N×142°.36E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.8/45, mbtmp3.9/14, ML3.7/3, MS2.9/5, Ms1 2.9/5, ms1mx2.6/37, Error ellipse: s-maj=22.8km s-min=16.7km az=103.0*

NIED ***28*** *15:30:00, 37°.40N×141°.80E, h8km, Mw3.9 Best double couple: M0 6.75000×10^14 NP1: φ=60.00000°, δ=42.00000°, λ=-58.00000°. NP2: φ=201.00000°, δ=56.00000°, λ=-115.00000°.*

NEIC ***28*** *15:30:04.2±0.5, 37°.20N×142°.37E, h35km, mb4.6/3, Error ellipse: s-maj=12.9km s-min=8.2km az=105.0*

JMA ***28*** *15:30:07.1±0.3, 37°.41N×141°.82E, h26km, M3.5*

ISC 28 15:30:02.0±0.6, 37°.21N±0°.05×142°.25E±0°.06, h19km, n40, σ1=44/34, mb3.9/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.11**	**278**	P	**Pn**	**15 30 21.4**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.16**	**265**	P	**Pb**	**15 30 23.0**	**-0.5**
JMM	**Marumori**	**1.33**	**300**	P	**Pn**	**15 30 24.4**	**-1.1**
JIO	**Ouri**	**1.43**	**330**	P	**Pb**	**15 30 27.2**	**-0.8**
JFT	**Otama**	**1.55**	**282**	P	**Pb**	**15 30 28.8**	**-1.3**
JOU	**Okura**	**1.70**	**313**	P	**Pn**	**15 30 30.6**	**-0.1**
JFY	**Yanaizu**	**2.04**	**276**	P	**Pb**	**15 30 36.4**	**-2.0**
MJAR	**Matsushiro Arr**	**3.31**	**260**	P	**Pn**	**15 30 55.3**	**+2.5**
	2.8nm,0.3s,baz=88,slow=15,SNR=9.8						
MJAR				Sn	**Sb**	**15 31 38.5**	**-1.4**
	3.3nm,0.3s,baz=59,slow=13,SNR=4.5						
MJAR				LR	LR	15 32 38.6	
	comp=Z,123nm,18.4s,baz=120,slow=47						
MAJO	**Matsushiro**	**3.31**	**260**	*e*Pn	**Pn**	**15 30 55.1**	**+2.4**
MAT	**Matsushiro**	**3.31**	**260**	P	**Pb**	**15 30 56.0**	**-4.1**
MAT				*e*S	**Sn**	**15 31 34.0**	**+2.4**
JHJ2	**Mitsune**	**4.55**	**207**	*e*Pn	**Pn**	**15 31 09.4**	**-0.4**
JHJ	**Hachijo jima 2**	**4.56**	**207**	Pn	**Pn**	**15 31 10.1**	**+0.2**
	22nm,0.3s,baz=80,slon=22,SNR=10						
JHJ				Sn	**Sn**	**15 32 01.1**	**-1.2**
	21nm,0.3s,baz=73,slow=19,SNR=4.1						
ERM	**Erimo**	**4.85**	**8**	*e*Pn	**Pn**	**15 31 12.9**	**-0.9**
ASAJ	**Asahikawa**	**6.90**	**2**	Pn	**Pn**	**15 31 41.0**	**-1.0**
	1.6nm,0.3s,baz=218,slow=14,SNR=17						
ASAJ				Sn	**Sn**	**15 32 59.0**	**-1.0**
	baz=270,slow=20						
CBIJ	**Chichi jima**	**10.09**	**180**	*e*Pn	**Pn**	**15 32 24.4**	**-1.4**
USRK	**Ussuriysk Ar.**	**10.45**	**315**	Pn	Pn	15 32 36.6	+5.9
	0.2nm,0.3s,baz=139,slow=12,SNR=11						
KSRS	**Korea Array**	**11.41**	**276**	Pn	Pn	15 32 50.6	+6.8
	0.1nm,0.3s,baz=79,slow=15,SNR=2.7						
KSRS				LR	LR	15 36 18.3	
	comp=Z,37nm,21.4s,baz=107,slow=33						
KSAR	**Wonju Array Be**	**11.44**	**275**	Pn	Pn	15 32 50.6	+6.3
KLR	**Kul'dur**	**14.22**	**331**	LR	LR	15 39 09.0	
	comp=Z,51nm,18.1s,baz=155,slow=38						
SEY	**Seymchan**	**26.49**	**10**	P	**P**	**15 35 38.6**	**+0.9**
	2.7nm,0.3s,baz=189,slow=8.4,SNR=15						
H11N2	**WAKE ISLAND Hy**	**27.67**	**122**	T	T	16 04 42.4	
	baz=315,slow=75,SNR=76						
H11N1	**WAKE ISLAND Hy**	**27.68**	**122**	T	T	16 04 41.1	
	baz=315,slow=75,SNR=59						
H11N3	**WAKE ISLAND Hy**	**27.69**	**122**	T	T	16 04 39.6	
	baz=315,slow=75,SNR=76						
SONM	**Songino Array**	**28.24**	**303**	P	**P**	**15 35 54.9**	**+1.1**
	1.1nm,0.7s,baz=109,slow=9.8,SNR=5.5						
SONM				LR	LR	15 46 15.7	
	comp=Z,35nm,19.1s,baz=79,slow=34						
H11S1	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	16 05 37.5	
	baz=316,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	16 05 39.0	
	baz=316,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**28.42**	**124**	T	T	16 05 36.7	
	baz=316,slow=76,SNR=42						
ZALV	**Zalesovo Beam**	**42.29**	**312**	P	**P**	**15 37 54.3**	**+0.3**
	0.3nm,0.3s,baz=102,slow=6.3,SNR=3.4						
ZALV				LR	LR	15 58 22.8	
	comp=Z,14nm,18.3s,baz=68,slow=40						
MKAR	**Makanchi Array**	**44.59**	**302**	P	**P**	**15 38 14.5**	**+1.8**
	0.9nm,0.6s,baz=86,slow=9.8,SNR=10						
KURK	**Kurchatov**	**46.35**	**308**	*e*P	**P**	**15 38 27.0**	**+0.4**
	33nm,0.8s						
ILAR	**Eielson Array**	**48.98**	**32**	P	**P**	**15 38 46.3**	**-0.6**
	0.7nm,0.7s,baz=270,slow=6.5,SNR=9.9						
WRAB	**Tennant Creek**	**57.33**	**189**	P	**P**	**15 39 49.7**	**+1.0**
	6.6nm,1.1s						
WRA	**Warramunga Arr**	**57.34**	**189**	P	**P**	**15 39 48.8**	**0.0**
	0.8nm,0.7s,baz=7.1,slow=7.2,SNR=9.6						
ABKAR	**Akbulak array**	**58.33**	**310**	*e*P	**P**	**15 39 55.8**	**+0.2**
	0.5nm,0.5s						
ASAR	**Alice Springs**	**61.06**	**189**	P	**P**	**15 40 15.4**	**+0.8**
	0.7nm,0.9s,baz=37,slow=8.5,SNR=4.9						
FINES	**FINESS Array B**	**68.96**	**332**	P	**P**	**15 41 05.1**	**-0.4**
	1.0nm,0.6s,baz=37,slow=7.5,SNR=4.9						
AKASG	**Malin Array Be**	**74.56**	**323**	P	**P**	**15 41 39.6**	**+0.2**
	0.6nm,0.4s,baz=48,slow=7.7,SNR=3.6						
SCHQ	**Schefferville**	**84.98**	**16**	P	**P**	**15 42 37.9**	**+2.1**
	3.4nm,0.4s,baz=353,slow=6.0,SNR=3.5						
TXAR	**Lajitas Array**	**89.48**	**53**	P	**P**	**15 42 58.6**	**+0.5**
	0.3nm,0.6s,baz=316,slow=3.5,SNR=4.0						
LPAZ	**La Paz**	**146.03**	**60**	PKPbc	**PKPab**	**15 49 41.7**	**-0.5**
	1.1nm,0.6s,baz=288,slow=2.3,SNR=4.2						

IDC 28 15:31:13.4±2.0, 5°.26N×125°.67E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/42, mbtmp3.4/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/20, Error ellipse: s-maj=124.6km s-min=24.1km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.79**	**210**	LR	LR	15 38 39.6	
	comp=Z,36nm,18.0s,baz=92,slow=38						
FITZ	**Fitzroy Crossi**	**23.21**	**180**	P	P	15 36 21.5	-0.7
	0.7nm,0.6s,baz=349,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**26.45**	**161**	P	P	15 36 52.8	+0.4
	0.9nm,0.8s,baz=342,slow=10.0,SNR=8.8						
ASAR	**Alice Springs**	**29.85**	**165**	P	P	15 37 22.9	+0.2
	0.2nm,0.8s,baz=337,slow=6.4,SNR=4.3						
MKAR	**Makanchi Array**	**55.70**	**325**	P	P	15 40 51.7	-0.1
	0.1nm,0.4s,baz=111,slow=7.9,SNR=2.4						

ISCJB ***28*** *16:04:33.9±0.8, 12°.29N±0°.09×144°.0E±0°.1, h27km, mb3.9/13, MS3.9/1, Error ellipse: s-maj=19.6km s-min=9.1km az=32.7*

IDC ***28*** *16:04:39.2±2.1, 12°.37N×144°.20E, h60km±22km, mb3.6/13, mb1 3.7/13, mb1mx3.6/41, mbtmp3.9/13, MS3.8/1, Ms1 3.8/1, ms1mx2.8/31, Error ellipse: s-maj=30.5km s-min=14.6km az=94.0*

ISC 28 16:04:35.1±0.9, 12°.3N±0°.1×144°.2E±0°.2, h27km, n22, σ1=22/19, mb3.8/13, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.41**	**27**	P	**Pb**	**16 05 00.3**	**-0.4**
	84nm,0.3s,baz=310,slow=8.5,SNR=65						
GUMO				S	**Sb**	**16 05 19.8**	**+1.6**
	268nm,0.3s,baz=187,slow=23,SNR=31						
GUMO				LR	LR	16 05 51.9	
	comp=Z,226nm,19.4s,baz=235,slow=53						
H11S3	**WAKE ISLAND Hy**	**22.50**	**71**	T	T	16 33 06.9	
	baz=258,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**22.52**	**71**	T	T	16 33 12.7	
	baz=258,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**22.52**	**71**	T	T	16 33 11.9	
	baz=258,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**22.98**	**68**	T	T	16 33 38.2	
	baz=255,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy**	**22.99**	**68**	T	T	16 33 38.9	
	baz=255,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**23.00**	**68**	T	T	16 33 39.3	
	baz=255,slow=75,SNR=22						
JNU	**Nakatsue**	**24.02**	**332**	P	**P**	**16 09 47.6**	**-0.4**
	3.5nm,0.7s,baz=139,slow=11,SNR=5.8						
MJAR	**Matsushiro Arr**	**24.71**	**348**	P	**P**	**16 09 54.0**	**-0.1**
	0.7nm,0.4s,baz=163,slow=9.2,SNR=4.0						
KSRS	**Korea Array**	**28.96**	**333**	P	**P**	**16 10 33.4**	**+1.0**
	0.6nm,0.4s,baz=146,slow=9.0,SNR=4.9						
WRA	**Warramunga Arr**	**33.51**	**197**	P	**P**	**16 11 12.8**	**+0.2**
	0.7nm,0.8s,baz=18,slow=9.7,SNR=10						
ASAR	**Alice Springs**	**37.17**	**196**	P	**P**	**16 11 45.1**	**+1.0**
	0.5nm,0.6s,baz=20,slow=11,SNR=13						
ASAR				PcP	**PcP**	**16 14 05.7**	**+1.7**
	0.3nm,0.7s,baz=29,slow=3.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**43.98**	**284**	P	**P**	**16 12 40.7**	**+0.2**
	0.7nm,0.5s,baz=81,slow=6.5,SNR=6.3						
CMAR				PcP	**PcP**	**16 14 27.7**	**+1.6**
	0.4nm,0.7s,baz=66,slow=1.7,SNR=4.2						
SONM	**Songino Array**	**47.40**	**326**	P	**P**	**16 13 07.8**	**+0.5**
	0.5nm,0.5s,baz=135,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**61.95**	**317**	P	**P**	**16 14 52.8**	**+0.1**
	1.7nm,0.5s,baz=92,slow=8.3,SNR=27						
ZALV	**Zalesovo Beam**	**62.27**	**325**	P	**P**	**16 14 56.5**	**+1.9**
	0.4nm,0.3s,baz=103,slow=6.5,SNR=2.6						
ZALV				PcP	**PcP**	**16 15 33.1**	**-1.2**
	0.7nm,0.4s,baz=106,slow=5.1,SNR=3.7						
ILAR	**Eielson Array**	**69.97**	**25**	P	**P**	**16 15 43.1**	**-0.8**
	0.3nm,0.5s,baz=251,slow=5.9,SNR=5.7						
BVAR	**Borovoye Array**	**70.52**	**322**	P	**P**	**16 15 46.9**	**-0.6**
	2.1nm,0.3s,baz=106,slow=8.2,SNR=19						
DLBC	**Dease Lake**	**77.38**	**33**	LR	LR	16 48 05.0	
	comp=Z,55nm,20.0s,baz=321,slow=34						
AKTO	**Aktyubinsk**	**76.19**	**319**	P	**P**	**16 16 31.3**	**-0.9**
	1.6nm,0.5s,baz=98,slow=12,SNR=4.9						
FINES	**FINESS Array B**	**92.03**	**335**	P	**P**	**16 17 39.8**	**-1.6**
	0.5nm,0.3s,baz=73,slow=6.4,SNR=7.2						
DBIC	**Dimbokro**	**143.92**	**300**	PKP	**PKPdf**	**16 24 07.2**	**-2.0**
	2.6nm,0.7s,baz=315,slow=2.9,SNR=5.2						

CSEM ***28*** *16:06:01.4, 51°.47N×16°.12E, h0km*

PRU 28 16:05:59.8, 51°.53N×16°.09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**169**	*e*Pg	Pg	16 06 13.2	0.0
KSP				*e*Sg	Sg	16 06 22.4	+0.2
UPC	**Upice**	**1.02**	**183**	*e*PG	Pg	16 06 19.3	-0.1
UPC				*e*SG	Sg	16 06 33.0	+0.3
	16nm,0.3s						
UPC	**Upice**	**1.02**	**183**	Pg	Pg	16 06 19.3	-0.1
UPC				Sg	Sg	16 06 33.0	+0.3
	16nm,0.3s						
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG	Pg	16 06 22.1	-0.5
DPC				*e*SG	Sg	16 06 37.6	-0.4
	7.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.19**	**173**	Pg	Pg	16 06 22.1	-0.5
DPC				Sg	Sg	16 06 37.6	-0.4
	7.0nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG	Pg	16 06 25.8	-0.6
PVCC				*e*SG	Sb	16 06 44.9	0.0
	30nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**224**	Pg	Pg	16 06 25.8	-0.6
PVCC				Sg	Sb	16 06 44.9	0.0
	30nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**245**	PG	Pn	16 06 28.0	0.0
BRG				SG	Sg	16 06 47.8	-0.2
	13nm,0.4s						
KRLC	**Kraliky**	**1.52**	**163**	*e*PG	Pn	16 06 27.8	-0.5
KRLC				*e*SG	Sg	16 06 47.8	-0.8
KRLC	**Kraliky**	**1.52**	**163**	Pg	Pn	16 06 27.8	-0.5
KRLC				Sg	Sg	16 06 47.8	-0.8
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	*e*PG	Pb	16 06 33.4	-0.5
GOPC				*e*SG	Sb	16 06 57.1	-0.1
	3.8nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	Pg	Pb	16 06 33.4	-0.5
GOPC				Sg	Sb	16 06 57.1	-0.1
	3.8nm,0.3s						
PRU	**Pruhonice**	**1.83**	**213**	*e*PG	Pb	16 06 33.8	-0.3
PRU				*e*SG	Sb	16 06 57.4	-0.2
PRU	**Pruhonice**	**1.83**	**213**	Pg	Pb	16 06 33.8	-0.3
PRU				Sg	Sb	16 06 57.4	-0.2
CLL	**Collm**	**1.95**	**265**	*e*Sg	Pn	16 06 35.0	+0.9
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PG	Pb	16 06 52.6	+0.4
KHC	**Kasperske Hory**	**2.89**	**215**	Pg	Pb	16 06 52.6	+0.4

ISCJB ***28*** *16:06:32.7±0.4, 51°.49N±0°.02×16°.05E±0°.02, h0km, Error ellipse: s-maj=3.0km s-min=2.0km az=10.2*

CSEM ***28*** *16:06:33.5±0.3, 51°.55N×16°.09E, h0km±1km, ML3.6/15, Error ellipse: s-maj=4.5km s-min=2.5km az=11.0*

IDC ***28*** *16:06:34.5±1.0, 51°.49N×16°.01E, h0km, mb1 3.5/4, mb1mx3.2/37, mbtmp3.4/4, ML3.1/4, Error ellipse: s-maj=22.6km s-min=8.8km az=126.0*

BGR ***28*** *16:06:35.0±0.4, 51°.49N×16°.10E, h1km, ML3.2/15, Error ellipse: s-maj=4.4km s-min=2.2km az=19.0*

PRU ***28*** *16:06:35.3, 51°.48N×16°.08E, h0km*

ISC 28 16:06:32.9±0.8, 51°.60N±0°.03×16°.11E±0°.02, h0km, n101, σ1=15/185, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.76**	**171**	*i* Pg	**Pg**	**16 06 47.8**	**+0.3**
KSP				*e*Sg	**Sg**	**16 06 57.4**	**0.0**
KSP	**Ksiaz**	**0.76**	**171**	*e*Pg	**Pg**	**16 06 47.9**	**+0.3**
KSP				*e*Sg	**Sg**	**16 06 55.7**	**-1.7**
KSP	**Ksiaz**	**0.76**	**171**	Pg	**Pg**	**16 06 47.9**	**+0.3**
KSP				*e*Sg	**Sg**	**16 06 57.4**	**0.0**
UPC	**Upice**	**1.09**	**183**	*i* PG	**Pg**	**16 06 53.8**	**0.0**
UPC				*e*SG	**Sg**	**16 07 07.7**	**-0.3**
	169nm,0.4s						
UPC	**Upice**	**1.09**	**183**	Pg	**Pg**	**16 06 53.8**	**0.0**
UPC				Sg	**Sg**	**16 07 07.7**	**-0.3**
	169nm,0.4s						
DPC	**Dobruska-Polom**	**1.25**	**174**	*e*PG	**Pg**	**16 06 56.7**	**-0.2**
DPC				*e*SG	**Sg**	**16 07 11.9**	**-1.3**
	131nm,0.6s						
DPC	**Dobruska-Polom**	**1.25**	**174**	*e*Pg	**Pg**	**16 06 56.7**	**-0.2**
DPC				*e*Sg	**Sg**	**16 07 12.2**	**-1.0**
DPC	**Dobruska-Polom**	**1.25**	**174**	Pg	**Pg**	**16 06 56.7**	**-0.2**
DPC				Sg	**Sg**	**16 07 11.9**	**-1.3**
	131nm,0.6s						
PVCC	**Panska Ves**	**1.44**	**223**	*e*PG	**Pb**	**16 07 00.9**	**+0.2**
PVCC				*e*SG	**Sn**	**16 07 19.7**	**-0.3**
	312nm,0.5s						
PVCC	**Panska Ves**	**1.44**	**223**	Pg	**Pb**	**16 07 00.9**	**+0.2**
PVCC				Sg	**Sn**	**16 07 19.7**	**-0.3**
	312nm,0.5s						
BRG	**Berggiesshubel**	**1.54**	**243**	PN	**Pn**	**16 07 01.9**	**+0.2**
BRG				PG	**Pg**	**16 07 02.9**	**+0.5**
BRG				SG	**Sb**	**16 07 22.7**	**+0.3**
	156nm,0.4s						
KRLC	**Kraliky**	**1.58**	**164**	*e*PG	**Pn**	**16 07 02.1**	**-0.2**
KRLC				*e*SG	**Sn**	**16 07 22.8**	**-0.6**
KRLC	**Kraliky**	**1.58**	**164**	Pg	**Pn**	**16 07 02.1**	**-0.2**
KRLC				Sg	**Sn**	**16 07 22.8**	**-0.6**
FBE	**Freiberg**	**1.86**	**250**	*e*Pg	**Pg**	**16 07 08.5**	**0.0**
FBE				*e*Sg	**Sg**	**16 07 32.2**	**-0.3**
FBE	**Freiberg**	**1.86**	**250**	Pg	**Pg**	**16 07 08.5**	**0.0**
FBE				Sg	**Sg**	**16 07 32.2**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.88**	**207**	*e*PN	**Pn**	**16 07 06.1**	**-0.2**
GOPC				*e*PG	**Pb**	**16 07 08.2**	**+0.1**
GOPC				*e*SG	**Sb**	**16 07 31.7**	**-0.5**
	95nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.88**	**207**	Pn	**Pn**	**16 07 06.1**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.88**	**207**	Pg	**Pb**	**16 07 08.2**	**+0.1**
GOPC				Sg	**Sb**	**16 07 31.7**	**-0.5**
	95nm,0.6s						
PRU	**Pruhonice**	**1.89**	**212**	*e*PN	**Pn**	**16 07 06.1**	**-0.4**
PRU				*e*PG	**Pb**	**16 07 08.0**	**-0.3**
PRU				*ex*	x	16 07 25.3	
PRU				*e*SG	**Sn**	**16 07 31.4**	**+0.4**
	61nm,0.5s						
PRU	**Pruhonice**	**1.89**	**212**	Pn	**Pn**	**16 07 06.1**	**-0.4**
PRU	**Pruhonice**	**1.89**	**212**	Pg	**Pb**	**16 07 08.0**	**-0.3**
PRU				Sg	**Sn**	**16 07 31.4**	**+0.4**
	61nm,0.5s						
CLL	**Collm**	**1.96**	**263**	*i* Pn	**Pn**	**16 07 06.9**	**-0.6**
CLL				*e*Pg	**Pb**	**16 07 10.0**	**+0.5**
CLL				*i*		16 07 13.9	
CLL				*i* Sg	**Sg**	**16 07 36.5**	**+0.5**
	comp=Z,58nm,0.7s						
CLL	**Collm**	**1.96**	**263**	*e*Pn	**Pn**	**16 07 07.1**	**-0.4**
CLL				*e*Pg	**Pg**	**16 07 10.9**	**+0.4**
CLL				*e*Sg	**Sg**	**16 07 36.8**	**+0.8**
CLL	**Collm**	**1.96**	**263**	Pn	**Pn**	**16 07 07.1**	**-0.4**
MORC	**Moravsky Berou**	**2.04**	**153**	*e*Pn	**Pn**	**16 07 08.2**	**-0.3**
MORC				*e*Sg	**Sb**	**16 07 36.1**	**-0.6**
OKC	**Ostrava-Krasne**	**2.19**	**143**	*e*PN	**Pn**	**16 07 09.8**	**-0.7**
OKC				*e*PG	**Pb**	**16 07 13.8**	**+0.5**
OKC				*e*SG	**Sb**	**16 07 41.2**	**+0.3**
	comp=Z,156nm,0.7s						
OKC	**Ostrava-Krasne**	**2.19**	**143**	*e*Pn	**Pn**	**16 07 09.7**	**-0.8**
OKC				*e*Pg	**Pg**	**16 07 14.3**	**-0.5**
OKC				*e*Sg	**Sb**	**16 07 41.2**	**+0.3**
OKC	**Ostrava-Krasne**	**2.19**	**143**	Pn	**Pn**	**16 07 09.8**	**-0.7**
OKC	**Ostrava-Krasne**	**2.19**	**143**	Pg	**Pb**	**16 07 13.8**	**+0.5**
OKC				Sg	**Sb**	**16 07 41.2**	**+0.3**
	comp=Z,156nm,0.7s						
VRAC	**Vranov**	**2.31**	**172**	*e*Pn	**Pn**	**16 07 12.7**	**+0.4**
TREC	**Trest**	**2.34**	**190**	*e*PG	**Pb**	**16 07 16.6**	**+0.7**
TREC				*e*SG	**Sb**	**16 07 46.3**	**+1.0**
	comp=Z,56nm,0.6s						
TREC	**Trest**	**2.34**	**190**	Pg	**Pb**	**16 07 16.6**	**+0.7**
TREC				Sg	**Sb**	**16 07 46.3**	**+1.0**
	comp=Z,56nm,0.6s						
WERD	**Werda**	**2.66**	**246**	*e*Pn	**Pn**	**16 07 17.2**	**+0.1**
WERD				*e*Pg	**Pg**	**16 07 23.5**	**-0.4**
WERD				*e*Sg	**Sg**	**16 07 57.0**	**-1.4**
WERD	**Werda**	**2.66**	**246**	Pn	**Pn**	**16 07 17.2**	**+0.1**
WERD	**Werda**	**2.66**	**246**	Pg	**Pg**	**16 07 23.0**	**-0.4**
WERD				Sg	**Sg**	**16 07 57.0**	**-1.4**
NKC	**Novy Kostel**	**2.69**	**241**	*e*PN	**Pn**	**16 07 17.6**	**+0.2**
NKC				*e*PG	**Pg**	**16 07 24.8**	**+0.4**
NKC				*e*SN	**Sn**	**16 07 52.0**	**+1.3**
NKC				*e*SG	**Sg**	**16 07 59.4**	**+0.2**
	comp=Z,130nm,0.6s						
NKC	**Novy Kostel**	**2.69**	**241**	Pn	**Pn**	**16 07 17.6**	**+0.2**
NKC	**Novy Kostel**	**2.69**	**241**	Pg	**Pg**	**16 07 24.8**	**+0.4**
NKC				Sn	**Sn**	**16 07 52.0**	**+1.3**
NKC				Sg	**Sg**	**16 07 59.4**	**+0.2**
	comp=Z,130nm,0.6s						
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Pg**	**16 07 24.9**	**0.0**
OJC				*e*Sg	**Sg**	**16 08 00.7**	**+0.7**
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Pg**	**16 07 25.3**	**+0.4**
OJC				*e*Sg	**Sg**	**16 08 00.2**	**+0.2**
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Pg**	**16 07 24.9**	**0.0**
OJC				*e*Sg	**Sg**	**16 08 00.7**	**+0.7**
KHC	**Kasperske Hory**	**2.95**	**214**	*e*PN	**Pn**	**16 07 20.6**	**-0.5**
KHC				*e*PG	**Pb**	**16 07 27.2**	**+0.8**
KHC				*e*SN	**Sn**	**16 07 56.4**	**-0.8**
KHC				*e*SG	**Sg**	**16 08 05.6**	**-2.1**
	comp=Z,33nm,0.7s						
KHC	**Kasperske Hory**	**2.95**	**214**	Pn	**Pn**	**16 07 20.6**	**-0.5**
KHC	**Kasperske Hory**	**2.95**	**214**	Pg	**Pb**	**16 07 27.2**	**+0.8**
KHC				Sn	**Sn**	**16 07 56.4**	**-0.8**
KHC				Sg	**Sg**	**16 08 05.6**	**-2.1**
	comp=Z,33nm,0.7s						
MANZ	**Manzenberg**	**3.01**	**239**	*e*Pn	**Pn**	**16 07 22.6**	**+0.8**
MANZ				*e*Pg	**Pg**	**16 07 31.0**	**+0.5**
MANZ				*e*Sg	**Sg**	**16 08 08.1**	**-1.3**
MANZ	**Manzenberg**	**3.01**	**239**	Pn	**Pn**	**16 07 22.6**	**+0.8**

WTTA	**Wattenberg**	**5.22**	**216**	Pn		**Pn**	**16 07 53.8**	**+1.3**
	comp=Z,0.3nm,0.1s							
WTTA				Sg		**Sg**	**16 09 23.6**	**+2.9**
	comp=Z,3.0nm,0.3s							
MYKA	**Terra Mystica**	**5.23**	**199**	*e*Pn		**Pb**	**16 08 04.2**	**-1.0**
	comp=Z,1.1nm,0.2s							
MYKA				Sg		**Sg**	**16 09 23.5**	**+2.7**
	comp=Z,1.8nm,0.2s							
MOTA	**Moosalm**	**5.36**	**219**	*e*Pn		**Pn**	**16 07 55.7**	**+1.4**
	comp=Z,2.4nm,0.3s							
MOTA				Sg		**Sg**	**16 09 28.0**	**+2.9**
	comp=Z,4.7nm,0.4s							
MOTA	**Moosalm**	**5.36**	**219**	Pn		**Pn**	**16 07 55.7**	**+1.4**
	comp=Z,2.4nm,0.3s							
MOTA				Sg		**Sg**	**16 09 28.0**	**+2.9**
	comp=Z,4.7nm,0.4s							
RETA	**Reutte**	**5.39**	**222**	*e*Pn		**Pn**	**16 07 54.8**	**+0.3**
	comp=Z,3µm,0.0s							
RETA				Sg		**Sg**	**16 09 27.2**	**+1.3**
	comp=Z,4.4nm,0.3s							
RETA	**Reutte**	**5.39**	**222**	Pn		**Pn**	**16 07 54.8**	**+0.3**
	comp=Z,3µm,0.0s							
RETA				Sg		**Sg**	**16 09 27.2**	**+1.3**
	comp=Z,4.4nm,0.3s							
ABTA	**Abfaltersbach**	**5.39**	**207**	*e*Pn		**Pn**	**16 07 54.2**	**-0.5**
	comp=Z,0.2nm,0.1s							
ABTA				Sg		**Sg**	**16 09 28.6**	**+2.4**
	comp=Z,18nm,0.7s							
ABTA	**Abfaltersbach**	**5.39**	**207**	Pn		**Pn**	**16 07 54.2**	**-0.5**
	comp=Z,0.2nm,0.1s							
ABTA				Sg		**Sg**	**16 09 28.6**	**+2.4**
	comp=Z,18nm,0.7s							
FETA	**Feichten**	**5.77**	**220**	*e*Pn		**Pn**	**16 08 02.6**	**+2.7**
	comp=Z,0.4nm,0.2s							
FETA				Sg		**Sg**	**16 09 40.4**	**+2.1**
	comp=Z,0.2nm,0.2s							
DAVA	**Damuels**	**5.92**	**226**	Sg		**Sg**	**16 09 44.2**	**+1.1**
	comp=Z,3.0nm,0.3s							
DAVA	**Damuels**	**5.92**	**226**	Sg		**Sg**	**16 09 44.2**	**+1.1**
	comp=Z,3.0nm,0.3s							
AKASG	**Malin Array Be**	**8.30**	**91**	Pn		**Pn**	**16 08 33.5**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=280,slow=12,SNR=4.6							
AKASG				Lg		Lg	16 11 07.1	
	comp=Z,0.3nm,0.3s,baz=279,slow=28,SNR=4.7							
FINES	**FINESS Array B**	**11.29**	**25**	Pn		**Pn**	**16 09 14.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=207,slow=14,SNR=5.2							
ARCES	**ARCESS Array B**	**18.54**	**10**	Pn		**P**	**16 10 47.8**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=202,slow=12,SNR=4.5							

CSEM ***28*** *16:09:12.7±0.5,51.53N×16.10E,h1km,ML2.9/4, Error ellipse: s-maj=7.1km s-min=4.2km az=13.0*
PRU ***28*** *16:09:14.0,51.49N×16.12E,h0km*
ISC 28 16:09:13.3±2.4,51.5N±0.1×16.09E±0.06,h0km,n15,
σ0s38/28,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**169**	*e*Pg	**Pg**	**16 09 26.7**	**+0.2**
KSP				*e*Sg	**Sg**	**16 09 35.8**	**+0.4**
KSP	**Ksiaz**	**0.69**	**169**	*e*Pg	**Pg**	**16 09 26.7**	**+0.2**
KSP				*e*Sg	**Sg**	**16 09 35.8**	**+0.4**
UPC	**Upice**	**1.01**	**183**	*e*PG	**Pg**	**16 09 32.7**	**0.0**
UPC				*e*SG	**Sg**	**16 09 46.4**	**+0.6**
	23nm,0.3s						
UPC	**Upice**	**1.01**	**183**	Pg	**Pg**	**16 09 32.7**	**0.0**
UPC				Sg	**Sg**	**16 09 46.4**	**+0.6**
	23nm,0.3s						
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	**Pg**	**16 09 35.6**	**-0.3**
DPC				*e*SG	**Sg**	**16 09 51.0**	**-0.1**
	7.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.18**	**173**	Pg	**Pg**	**16 09 35.6**	**-0.3**
DPC				Sg	**Sg**	**16 09 51.0**	**-0.1**
	7.0nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**225**	*e*PG	**Pg**	**16 09 39.6**	**-0.1**
PVCC				*e*SG	**Sb**	**16 09 58.1**	**0.0**
	31nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**225**	Pg	**Pg**	**16 09 39.6**	**-0.1**
PVCC				Sg	**Sb**	**16 09 58.1**	**0.0**
	31nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**245**	PG	**Pn**	**16 09 41.4**	**0.0**
BRG				SG	**Sg**	**16 10 01.3**	**0.0**
	11nm,0.5s						
BRG				PG		16 10 42.3	
BRG				SG		16 11 02.2	
	7.7nm,0.4s						
KRLC	**Kraliky**	**1.51**	**163**	*e*PG	**Pn**	**16 09 41.6**	**0.0**
KRLC				*e*SG	**Sg**	**16 10 00.9**	**-0.9**
KRLC	**Kraliky**	**1.51**	**163**	Pg	**Pn**	**16 09 41.6**	**0.0**
KRLC				Sg	**Sg**	**16 10 00.9**	**-0.9**
GOPC	**GO Pecny, Ondr**	**1.81**	**208**	*e*SG	**Sg**	**16 10 10.9**	**-0.4**
GOPC	**GO Pecny, Ondr**	**1.81**	**208**	Sg	**Sg**	**16 10 10.9**	**-0.4**
PRU	**Pruhonice**	**1.82**	**213**	*e*PG	**Pb**	**16 09 47.6**	**+0.2**
PRU				*e*SG	**Sg**	**16 10 11.3**	**-0.4**
	4.1nm,0.3s						
PRU	**Pruhonice**	**1.82**	**213**	Pg	**Pb**	**16 09 47.6**	**+0.2**
PRU				Sg	**Sg**	**16 10 11.3**	**-0.4**
	4.1nm,0.3s						

BJI ***28*** *16:13:29.8,52.08N×171.93W,h27km,mb5.3/76, mB5.1/53,Ms4.9/67,Ms7 4.6/62*
ISCJB ***28*** *16:13:30.3±0.1,51.84N±0.02×171.69W±0.02,h33km, mb5.2/398,MS4.6/48,Error ellipse: s-maj=3.4km s-min=1.4km az=0.9*
MOS ***28*** *16:13:30.8±1.0,51.90N×171.80W,h35km,mb5.4/115, MS4.6/33,Error ellipse: s-maj=6.0km s-min=4.3km az=91.0*
GCMT ***28*** *16:13:32.2±0.2,51.93N×171.86W,h35km±1km,MW5.2/90, Moment Tensor Solution. s52,c79; s90,c152; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.96±.14; Mθθ 1.79±.12; Mϕϕ 0.16±.10; Mrθ 6.23±.34; Mϕθ 1.83±.08; Mrϕ-0.07±.12; Best double couple: M₀6.76000×10¹⁶ NP1:ϕs268.00000°,δ81.00000°,λ-75.00000°. NP2: ϕs27.00000°,δ18.00000°,λ-150.00000°. Principal axes: T 6.7360, Plg35.0000°, Azm345.0000°; N 0.0460, Plg15.0000°, Azm86.0000°; P -6.7840, Plg51.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *16:13:32.2,51.72N×171.76W,h44km,mb5.2/297, ML5.0(AEIC),After AEIC.*
IDC ***28*** *16:13:33.2±1.6,51.97N×171.83W,h37km±11km,mb4.7/35, mb1 4.8/37,mb1mx4.8/44,mbtmp4.9/37,ML4.5/2,MS4.5/28, Ms1 4.5/28,ms1mx4.3/39,Error ellipse: s-maj=13.7km s-min=8.1km az=162.0*
ISC 28 16:13:31.9±0.4,51.82N±0.04×171.83W±0.02,h32km±2km,
h31km:pP-P,n1276,σ1s28/1381,mb5.2/400,MS4.6/49,
28C-17D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.47**	**289**	P	**Pb**	**16 13 57.8**	**-0.8**
KONE	**Korovin Northe**	**1.52**	**293**	P	**Pb**	**16 13 59.0**	**-0.4**
KOKL	**Mount Kliuchef**	**1.55**	**290**	P	**Pb**	**16 13 59.3**	**-0.6**
NIKH	**Nikolski High**	**2.16**	**57**	P	**Pn**	**16 14 06.2**	**+0.6**
NIKH				S	**Sn**	**16 14 32.6**	**+1.4**
GSMY	**Great Sitkin M**	**2.62**	**277**	P	**Pn**	**16 14 13.4**	**+1.4**
GSTR	**Great Sitkin T**	**2.63**	**278**	*e*Pn	**Pn**	**16 14 14.3**	**+2.1**
GSTD	**Great Sitkin T**	**2.68**	**277**	P	**Pn**	**16 14 14.2**	**+1.4**
GSTD				S	**Sn**	**16 14 46.3**	**+2.1**
GSCK	**Great Sitkin C**	**2.69**	**276**	P	**Pn**	**16 14 14.3**	**+1.4**
OKWR	**Okmok West Rim**	**2.74**	**52**	P	**Pn**	**16 14 15.7**	**+2.0**
OKAK	**Okmok**	**2.75**	**49**	P	**Pn**	**16 14 13.9**	**+0.2**
OKER	**Okmok East Rim**	**2.83**	**53**	P	**Pn**	**16 14 17.1**	**+2.3**
ETKA	**Kagalaska Isla**	**2.84**	**273**	P	**Pn**	**16 14 16.5**	**+1.6**
ADAG	**Mount Adagdak**	**2.96**	**275**	P	**Pn**	**16 14 18.8**	**+2.2**
KIRH	**Kanaga Island**	**3.26**	**273**	P	**Pn**	**16 14 23.2**	**+2.4**
KIKV	**Kanaga Island**	**3.31**	**273**	P	**Pn**	**16 14 23.4**	**+1.9**
MGOD	**Makushin Gods**	**3.60**	**55**	P	**Pn**	**16 14 27.2**	**+1.7**
MCIR	**Makushin Cirqu**	**3.67**	**53**	P	**Pn**	**16 14 28.6**	**+2.1**
TAPA	**Tanaga Point A**	**3.71**	**272**	P	**Pn**	**16 14 29.3**	**+2.3**
TAFL	**Tanaga Flats**	**3.77**	**271**	P	**Pn**	**16 14 30.1**	**+2.4**
TAFP	**Tanaga Falls P**	**3.81**	**274**	P	**Pn**	**16 14 30.8**	**+2.4**
TAFP				S	**Sn**	**16 15 15.5**	**+3.4**
UNV	**Unalaska Valle**	**3.82**	**56**	P	**Pn**	**16 14 30.5**	**+2.1**
UNV				S	**Sn**	**16 15 14.2**	**+2.1**
AKRB	**Akutan Reef Bi**	**4.18**	**54**	P	**Pn**	**16 14 35.9**	**+2.5**
AKRB				S	**Sn**	**16 15 23.9**	**+2.8**
AKGG	**Akutan Green G**	**4.26**	**54**	P	**Pn**	**16 14 36.7**	**+2.3**
GAEA	**Gareloi East**	**4.29**	**272**	P	**Pn**	**16 14 37.1**	**+2.2**
AKUT	**Akutan**	**4.33**	**55**	P	**Pn**	**16 14 37.9**	**+2.4**
AKUT				S	**Sn**	**16 15 27.4**	**+2.6**
WESP	**Westdahl Peak**	**5.05**	**55**	P	**Pn**	**16 14 47.6**	**+2.2**
SPIA	**Saint Paul Isl**	**5.45**	**9**	P	**Pn**	**16 14 53.0**	**+2.3**
SPIA				S	**Sn**	**16 15 56.6**	**+4.4**
DT1	**Dutton Round H**	**6.58**	**56**	P	**Pn**	**16 15 08.5**	**+2.2**
DOL	**Dolgoi Island**	**6.82**	**57**	P	**Pn**	**16 15 12.0**	**+2.4**
SDPT	**Sand Point**	**7.62**	**58**	P	**Pn**	**16 15 24.0**	**+3.4**
VNWF	**Veniaminof 8**	**8.43**	**54**	P	**Pn**	**16 15 34.8**	**+3.0**
VNNF	**Veniaminof 3**	**8.61**	**54**	P	**Pn**	**16 15 37.7**	**+3.5**
ANNW	**Aniakchak Nort**	**9.46**	**52**	P	**Pn**	**16 15 49.9**	**+4.1**
GAMB	**Gambell**	**11.99**	**0**	*e*Pn	**Pn**	**16 16 23.2**	**+2.9**
KDAK	**Kodiak Island**	**12.58**	**54**	*i* P	**Pn**	**16 16 27.7**	**-0.7**
KDAK	**Kodiak Island**	**12.58**	**54**	*e*P	**Pn**	**16 16 27.5**	**-1.0**
	27nm,0.5s						
RSO	**Renoubt South**	**13.66**	**43**	*e*Pn	**Pn**	**16 16 47.5**	**+4.1**
HOM	**Homer**	**13.77**	**47**	*e*Pn	**Pn**	**16 16 47.4**	**+2.8**
CNPM	**China Poot**	**13.90**	**48**	*e*Pn	**Pn**	**16 16 46.5**	**0.0**
TT01	**Tatalina**	**13.96**	**31**	*e*Pn	**Pn**	**16 16 50.1**	**+3.0**
BRLK	**Bradley Lake**	**14.16**	**48**	*e*Pn	**Pn**	**16 16 50.7**	**+0.6**
SPU	**Mount Spurr**	**14.33**	**41**	*e*Pn	**P**	**16 16 56.0**	**-3.1**
SEW	**Seward**	**14.96**	**48**	*e*Pn	**Pn**	**16 16 59.0**	**-1.8**
SUA	**Susitna One**	**15.02**	**42**	*e*Pn	**Pn**	**16 17 02.5**	**+0.8**
PPLA	**Purkeypile**	**15.26**	**36**	*e*Pn	**P**	**16 17 08.8**	**-0.7**
	136nm,1.0s						
RC01	**Rabbit Creek A**	**15.26**	**44**	*e*Pn	**Pn**	**16 17 05.0**	**+0.2**
	72nm,0.9s						
KTH	**Kantishna Hill**	**16.12**	**35**	*e*Pn	**Pn**	**16 17 17.4**	**+1.5**
	121nm,1.1s						
SML	**Sawmill**	**16.20**	**43**	*e*P	**Pn**	**16 17 16.3**	**-0.5**
SML				pmax	pmax		
	comp=Z,79nm,0.8s						
SML	**Sawmill**	**16.20**	**43**	*e*Pn	**Pn**	**16 17 16.3**	**-0.5**
	comp=Z,79nm,0.8s						
TRF	**Thorofare Moun**	**16.29**	**36**	*e*Pn	**P**	**16 17 20.2**	**-0.7**
	comp=Z,229nm,1.6s						
BPAW	**Bear Paw Mtn.**	**16.43**	**34**	*e*Pn	**P**	**16 17 21.8**	**-0.6**
	comp=Z,199nm,1.2s						
SCM	**Sheep Creek Mo**	**16.63**	**43**	*e*P	**Pn**	**16 17 21.6**	**-0.8**
SCM				pmax	pmax		
	comp=Z,120nm,0.6s						
SCM	**Sheep Creek Mo**	**16.63**	**43**	*e*Pn	**Pn**	**16 17 21.6**	**-0.8**
	comp=Z,118nm,0.6s						
RND	**Reindeer**	**16.80**	**37**	*e*P	**P**	**16 17 25.9**	**-0.5**
RND				pmax	pmax		
	comp=Z,140nm,1.0s						
RND	**Reindeer**	**16.80**	**37**	*e*Pn	**P**	**16 17 25.9**	**-0.5**
	comp=Z,138nm,1.0s						
EYAK	**Cordova Ski Ar**	**16.84**	**49**	*e*Pn	**Pn**	**16 17 25.6**	**+0.7**
	comp=Z,28nm,0.8s						
MCK	**McKinley**	**16.95**	**36**	*e*P	**Pn**	**16 17 26.5**	**+0.2**
MCK				pmax	pmax		
	comp=Z,110nm,1.0s						
MCK	**McKinley**	**16.95**	**36**	*e*Pn	**Pn**	**16 17 26.5**	**+0.2**
	comp=Z,108nm,1.0s						
BWN	**Browne**	**17.01**	**35**	*e*Pn	**Pn**	**16 17 27.5**	**+0.5**
	comp=Z,329nm,1.2s						
DIV	**Divide**	**17.03**	**47**	*e*Pn	**Pn**	**16 17 25.6**	**-1.8**
	comp=Z,48nm,0.9s						
KLU	**Klutina**	**17.10**	**45**	*e*Pn	**Pn**	**16 17 25.8**	**-2.5**
	comp=Z,64nm,0.8s						
MLY	**Manley**	**17.11**	**31**	*e*P	**P**	**16 17 30.8**	**+1.0**
	comp=Z,56nm,0.8s						
BMRM	**Bremner River**	**17.51**	**48**	*e*Pn	**Pn**	**16 17 31.4**	**-1.9**
	comp=Z,66nm,0.8s						
WRH	**Wood River Hil**	**17.67**	**35**	*e*Pn	**Pn**	**16 17 33.8**	**-1.4**
	comp=Z,78nm,1.0s						
CCB	**Clear Creek Bu**	**17.87**	**35**	*e*Pn	**Pn**	**16 17 36.3**	**-1.4**
	comp=Z,71nm,1.3s						
MDM	**Murphy Dome**	**17.91**	**34**	*e*Pn	**Pn**	**16 17 38.3**	**+0.1**
	comp=Z,69nm,0.9s						
PAX	**Paxson**	**17.91**	**41**	*e*P	**Pn**	**16 17 38.2**	**-0.1**
PAX				pmax	pmax		
	comp=Z,75nm,1.0s						
PAX	**Paxson**	**17.91**	**41**	*e*P	**Pn**	**16 17 38.2**	**-0.1**
	comp=Z,75nm,1.0s						
COLA	**College**	**17.99**	**34**	*e*P	**P**	**16 17 41.5**	**+2.1**
COLA				pmax	pmax		
	comp=Z,91nm,1.0s						
COLA	**College**	**17.99**	**34**	*e*Pn	**P**	**16 17 41.5**	**+2.1**
	comp=Z,91nm,1.0s						
PET	**Petropavlovsk**	**17.99**	**285**	*e*P	**P**	**16 17 40.7**	**+1.2**
PET				*e*S	**Sn**	**16 20 55.5**	**-3.2**
PET				pmax	pmax		
	comp=Z,200nm,18.7s						
PET				MLR	MLR		
	comp=Z,1µm,21.0s						
PET				MLR	MLR		
	comp=Z,700nm,20.0s						
PET	**Petropavlovsk**	**17.99**	**285**	*e*Pn	**P**	**16 17 41.0**	**+1.5**
	comp=Z,37nm,1.1s						
HDA	**Harding Lake**	**18.05**	**36**	*e*Pn	**Pn**	**16 17 39.3**	**-0.6**
	comp=Z,141nm,1.2s						
CRQM	**Cirque**	**18.13**	**49**	*e*Pn	**Pn**	**16 17 40.2**	**-0.8**
	comp=Z,150nm,0.8s						
IL1	**Eielson Array**	**18.27**	**35**	*e*Pn	**P**	**16 17 40.8**	**-1.7**
ILAR	**Eielson Array**	**18.27**	**35**	P	**P**	**16 17 40.6**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=236,slow=10,SNR=48						
ILAR				S	**Sn**	**16 21 04.6**	**-0.7**
	baz=232,slow=15,SNR=2.6						
ILAR				PcP	**PcP**	**16 22 13.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=275,slow=3.5,SNR=4.2						
ILAR				LR	LR	16 25 14.5	
	comp=Z,2µm,19.1s,baz=241,slow=39						
ILAR				ScP	**ScP**	**16 25 43.7**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=222,slow=1.2,SNR=4.9						
ILB	**Eielson Array**	**18.27**	**35**	*e*Pn	**P**	**16 17 40.7**	**-1.9**
PEA0	**Petropavlovsk-**	**18.55**	**286**	*e*P	**Pn**	**16 17 47.7**	**+1.7**
PEA0B	**Petropavlovsk-**	**18.55**	**286**	*e*P	**Pn**	**16 17 47.7**	**+1.7**
	comp=Z,114nm,1.3s						
PETK	**Petropavlovsk-**	**18.55**	**286**	P	**Pn**	**16 17 47.7**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=88,slow=14,SNR=40						
PETK				PcP	**PcP**	**16 22 15.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=77,slow=3.3,SNR=3.7						
PETK				LR	LR	16 25 17.5	
	comp=Z,606nm,19.2s,baz=88,slow=38						
BALM	**Baldy**	**18.58**	**49**	*e*P	**P**	**16 17 45.7**	**-0.4**
BALM				pmax	pmax		
	comp=Z,110nm,1.1s						
BALM	**Baldy**	**18.58**	**49**	*e*P	**P**	**16 17 45.7**	**-0.4**
	comp=Z,114nm,1.1s						
COLD	**Coldfoot**	**18.77**	**26**	*e*P	**Pn**	**16 17 48.6**	**0.0**
	comp=Z,112nm,1.3s						
DOT	**Dot Lake**	**18.78**	**40**	*e*P	**P**	**16 17 44.1**	**-4.2**
	comp=Z,129nm,1.0s						
PCA	**Pinacle**	**19.35**	**52**	*e*P	**Pn**	**16 17 55.8**	**0.0**
	comp=Z,179nm,0.6s						
BILL	**Bilibino**	**19.42**	**335**	*d* iP	**Pn**	**16 17 57.5**	**+1.1**
BILL				pmax	pmax		
	comp=Z,193nm,1.3s						
BILL				MLR	MLR		
	comp=Z,2µm,16.0s						
BILL	**Bilibino**	**19.42**	**335**	*e*P	**Pn**	**16 17 56.9**	**+0.5**
	comp=Z,172nm,1.2s						
FYU	**Fort Yukon**	**19.85**	**32**	*e*P	**P**	**16 18 00.4**	**+0.6**
	comp=Z,184nm,1.2s						
SKR	**Severo-Kuril's**	**20.01**	**279**	*e*P	Pn	16 18 04.5	+0.9
SKR				*e*S	**S**	**16 21 38.4**	**-6.4**
SKR				pmax	pmax		
	comp=Z,118nm,1.3s						
SKR				MLR	MLR		
	comp=Z,700nm,17.0s						
SKR				MLR	MLR		
	comp=Z,500nm,17.0s						
DHAK	**Deception Hill**	**20.23**	**56**	*e*P	Pn	16 18 05.2	-0.9
	comp=Z,336nm,1.2s						
EGAK	**Eagle**	**20.42**	**39**	*e*P	**P**	**16 18 05.3**	**-0.7**
	comp=Z,58nm,0.8s						
HYT	**Haines Junctio**	**20.83**	**51**	*e*P	**P**	**16 18 11.4**	**+0.8**
	comp=Z,119nm,0.7s						
SEY	**Seymchan**	**21.95**	**314**	P	**P**	**16 18 23.8**	**+1.3**
	comp=Z,20nm,0.6s,baz=96,slow=7.1,SNR=76						
SEY				PcP	**PcP**	**16 22 21.4**	**+1.3**
	comp=Z,7.8nm,0.9s,baz=172,slow=4.7,SNR=3.5						
SEY				ScP	**ScP**	**16 25 54.7**	**0.0**
	comp=Z,4.0nm,0.9s,baz=158,slow=1.1,SNR=6.5						
WRAK	**Wrangell Islan**	**23.36**	**63**	*e*P	**P**	**16 18 37.8**	**+0.5**
	comp=Z,62nm,1.0s						
H02N1	**VAN INLET T-PH**	**23.74**	**71**	P	**P**	**16 18 42.3**	**+1.2**
H02N1				T	T	16 43 24.8	
DIB	**Dawson Inlet,**	**23.79**	**71**	*e*P	**P**	**16 18 42.9**	**+1.5**
	comp=Z,108nm,1.4s						
H02S1	**DAWSON INLET T**	**23.79**	**71**	P	**P**	**16 18 42.6**	**+1.2**
H02S1				T	T	16 43 25.3	
	SNR=24						
DLBC	**Dease Lake**	**24.47**	**58**	P	**P**	**16 18 49.5**	**+1.7**
	comp=Z,40nm,0.5s,baz=278,slow=9.1,SNR=77						
DLBC				LR	LR	16 29 15.5	
	comp=Z,1µm,20.4s,baz=296,slow=39						
DLBC	**Dease Lake**	**24.47**	**58**	*e*P	**P**	**16 18 49.6**	**+1.8**
	comp=Z,223nm,1.3s						
INK	**Inuvik**	**24.64**	**34**	P	**P**	**16 18 48.0**	**-1.1**
	comp=Z,17nm,0.5s,baz=258,slow=7.8,SNR=76						
INK				PcP	**PcP**	**16 22 26.8**	**+1.3**
	comp=Z,9.4nm,0.7s,baz=251,slow=1.9,SNR=6.5						
INK				LR	LR	16 29 32.5	
	comp=Z,2µm,18.6s,baz=234,slow=39						
INK	**Inuvik**	**24.64**	**34**	*e*P	**P**	**16 18 47.8**	**-1.4**
	comp=Z,79nm,1.2s						
INK				PcP	**PcP**	**16 22 26.8**	**+1.3**
BBB	**Bella Bella**	**26.62**	**72**	P	**P**	**16 19 08.4**	**+1.3**
	comp=Z,8.5nm,0.9s,baz=296,slow=10,SNR=6.6						
BBB				LR	LR	16 27 54.6	
	comp=Z,433nm,19.4s,baz=289,slow=32						
BBB	**Bella Bella**	**26.62**	**72**	*e*P	**P**	**16 19 07.7**	**+0.6**
	comp=Z,35nm,0.9s						
KUR	**Kuril'sk**	**27.22**	**272**	*e*P	**P**	**16 19 13.4**	**+0.8**
TYV	**Tymovskoe**	**28.10**	**286**	*e*P	**P**	**16 19 18.2**	**-2.2**
TYV				pmax	pmax		
	comp=Z,11nm,0.8s						
TYV				MLR	MLR		
	comp=E,1µm,16.0s						
TYV				MLR	MLR		
	comp=Z,1µm,16.0s						
YUK	**Yuzh-Kuril'sk**	**29.05**	**271**	*e*P	**P**	**16 19 29.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**29.58**	**279**	*e*P	**P**	**16 19 35.2**	**+1.6**
YSS				*e*		16 24 19.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**29.58**	**279**	*e*P	**P**	**16 19 34.1**	**+0.5**
	comp=Z,127nm,1.7s						
LLLB	**Lillooet**	**30.82**	**72**	*e*P	**P**	**16 19 44.6**	**0.0**
	comp=Z,23nm,1.0s						
NLWA	**Neilton Lookou**	**30.94**	**79**	*e*P	**P**	**16 19 46.4**	**+0.6**
	comp=Z,38nm,1.0s						
ASAJ	**Asahikawa**	**31.04**	**274**	P	**P**	**16 19 47.1**	**+0.7**
	comp=Z,95nm,1.1s						
ASAJ	**Asahikawa**	**31.04**	**274**	*e*P	**P**	**16 19 47.2**	**+0.7**
	comp=Z,189nm,1.3s						
A04D	**Lummi Island**	**31.08**	**76**	P	**P**	**16 19 47.2**	**+0.4**
	baz=294						
B05A	**Bryant**	**31.64**	**76**	P	**P**	**16 19 52.7**	**+0.9**
	baz=295						
YKW3	**Yellowknife Ar**	**31.73**	**48**	*e*P	**P**	**16 19 52.4**	**0.0**
	comp=Z,25nm,1.1s						
YKA	**Yellowknife Ar**	**31.74**	**48**	P	**P**	**16 19 51.9**	**-0.6**
	comp=Z,3.7nm,0.4s,baz=271,slow=7.9,SNR=30						
YKA				PcP	**PcP**	**16 22 43.2**	**+0.1**
	comp=Z,5.3nm,1.0s,baz=278,slow=2.3,SNR=5.0						
YKA				LR	LR	16 34 29.0	
	comp=Z,256nm,18.4s,baz=0.0,slow=40						
YKB5	**Yellowknife Ar**	**31.74**	**48**	*e*P	**P**	**16 19 52.7**	**+0.2**
YKB5				*e*PcP	**PcP**	**16 22 43.7**	**+0.5**
B06A	**Marblemount**	**31.90**	**76**	*e*P	**P**	**16 19 53.5**	**-0.5**
	comp=Z,19nm,1.0s						
F04D	**Rainier, OR**	**32.07**	**81**	P	**P**	**16 19 55.9**	**+0.3**
	baz=298						
D05A	**Enumclaw**	**32.18**	**78**	*e*P	**P**	**16 19 57.8**	**+1.2**
	comp=Z,102nm,1.2s						
KIP	**Kipapa**	**32.19**	**155**	*i* P	**P**	**16 19 58.3**	**+1.5**
KIP				pmax	pmax		
	comp=Z,950nm,1.7s						
G03D	**McMinnville, O**	**32.34**	**82**	P	**P**	**16 19 58.7**	**+0.7**
	baz=299						
YAK	**Yakutsk**	**32.39**	**311**	P	**P**	**16 19 56.6**	**-1.6**
	comp=Z,6.2nm,0.4s,baz=192,slow=0.8,SNR=5.7						
YAK				PcP	**PcP**	**16 22 44.8**	**-0.1**
	comp=Z,21nm,0.6s,baz=176,slow=0.8,SNR=10						
YAK				ScP	**ScP**	**16 26 24.3**	**-1.7**
	comp=Z,4.1nm,0.5s,baz=187,slow=1.4,SNR=5.5						
YAK	**Yakutsk**	**32.39**	**311**	*e*P	**P**	**16 19 57.1**	**-1.1**
YAK				*e*PP	**pP**	**16 20 06.2**	**-1.2**
YAK				*e*PPP	PPP	16 21 13.5	
YAK				*e*		16 22 44.8	
YAK				*e*S	**S**	**16 25 08.5**	**-1.6**
YAK				*e*		16 25 26.0	
YAK				*e*SS	**SnSn**	**16 27 00.8**	**-2.9**
YAK				*e*		16 30 21.8	
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,12nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,62nm,2.9s						

	comp=Z,28nm,1.0s									
J05D	**Fort Rock, OR**	**34.58**	**84**	P		**P**		**16 20 19.4**	**+1.8**
	baz=302,SNR=14									
K04D	**Chiloquin, OR**	**34.61**	**85**	P		**P**		**16 20 18.6**	**+0.6**
	baz=303									
M02C	**Callahan**	**34.62**	**88**	P		**P**		**16 20 19.7**	**+1.7**
	baz=304,SNR=11									
NEW	**Newport**	**34.62**	**74**	P		**P**		**16 20 18.3**	**+0.4**
	baz=297									
NEW	**Newport**	**34.62**	**74**	*e*P		**P**		**16 20 17.7**	**-0.2**
NEW					pmax	pmax				
	comp=Z,49nm,1.0s									
NEW	**Newport**	**34.62**	**74**	*e*P		**P**		**16 20 17.7**	**-0.2**
	comp=Z,50nm,0.9s									
EDM	**Edmonton**	**34.76**	**64**	*e*P		**P**		**16 20 19.7**	**+0.7**
EDM					pmax	pmax				
	comp=Z,150nm,1.1s									
EDM	**Edmonton**	**34.76**	**64**	*e*P		**P**		**16 20 19.7**	**+0.7**
	comp=Z,149nm,1.1s									
KMRM	**Mail Ridge**	**34.76**	**90**	*e*P		**P**		**16 20 21.8**	**+2.6**
	comp=Z,24nm,1.0s									
E09A	**Wood Farm, Sta**	**34.83**	**77**	*e*P		**P**		**16 20 21.1**	**+1.5**
G08A	**Pilot Rock**	**34.93**	**79**	*e*P		**P**		**16 20 21.0**	**+0.3**
	comp=Z,18nm,1.0s									
N02D	**Trinity Center**	**34.95**	**88**	P		**P**		**16 20 22.2**	**+1.5**
	baz=305,SNR=6.0									
M04C	**Macdoel**	**35.02**	**86**	P		**P**		**16 20 22.7**	**+1.2**
	baz=304,SNR=12									
K05A	**Summer Lake**	**35.09**	**84**	*e*P		**P**		**16 20 24.1**	**+1.9**
	comp=Z,96nm,1.3s									
KLR	**Kul'dur**	**35.20**	**289**	P		**P**		**16 20 22.2**	**-0.5**
	comp=Z,9.5nm,0.7s,baz=58,slow=8.8,SNR=36									
WDC	**Whiskeytown Da**	**35.27**	**89**	*e*P		**P**		**16 20 25.3**	**+1.8**
WDC					pmax	pmax				
	comp=Z,17nm,1.0s									
WDC	**Whiskeytown Da**	**35.27**	**89**	*e*P		**P**		**16 20 25.3**	**+1.8**
	comp=Z,17nm,1.0s									
F10A	**Beach Ranch, E**	**35.65**	**77**	*e*P		**P**		**16 20 27.4**	**+0.6**
	comp=Z,14nm,0.8s									
O03D	**Paynes Creek**	**35.90**	**89**	P		**P**		**16 20 30.0**	**+1.0**
	baz=306,SNR=23									
MOD	**Modoc Plateau**	**35.91**	**85**	*e*P		**P**		**16 20 30.0**	**+0.8**
	comp=Z,28nm,0.9s									
MOD					*e*PcP		**PcP**	**16 22 57.5**	**+1.9**
H11N2	**WAKE ISLAND Hy**	**36.10**	**215**		T		T	16 59 02.0		
	baz=21,slow=76,SNR=126									
H11N3	**WAKE ISLAND Hy**	**36.11**	**215**		T		T	16 59 02.6		
	baz=21,slow=76,SNR=128									
H11N1	**WAKE ISLAND Hy**	**36.12**	**215**		T		T	16 59 06.2		
	baz=21,slow=76,SNR=132									
WALA	**Waterton Lakes**	**36.16**	**71**	*e*P		**P**		**16 20 31.6**	**+0.5**
	comp=Z,22nm,0.8s									
BMO	**Blue Mountains**	**36.16**	**79**	*e*P		**P**		**16 20 31.8**	**+0.6**
	comp=Z,16nm,1.1s									
BSMT	**Bassoo Peak**	**36.20**	**73**	*e*P		**P**		**16 20 31.8**	**+0.2**
BLMT	**Blacktail Moun**	**36.38**	**73**	*e*P		**P**		**16 20 33.8**	**+0.7**
ORV	**Oroville**	**36.52**	**89**	*e*P		**P**		**16 20 34.5**	**+0.3**
ORV					pmax	pmax				
	comp=Z,9.0nm,0.9s									
ORV	**Oroville**	**36.52**	**89**	*e*P		**P**		**16 20 34.5**	**+0.3**
	comp=Z,9.3nm,0.9s									
JTMT	**Jette**	**36.55**	**73**	*e*P		**P**		**16 20 35.0**	**+0.5**
WVOR	**Wild Horse Val**	**36.64**	**83**	*e*P		**P**		**16 20 35.9**	**+0.5**
WVOR					pmax	pmax				
	comp=Z,35nm,0.9s									
WVOR	**Wild Horse Val**	**36.64**	**83**	*e*P		**P**		**16 20 35.9**	**+0.5**
	comp=Z,35nm,0.9s									
YBMT	**Yellow Bay**	**36.66**	**73**	*e*P		**P**		**16 20 35.9**	**+0.5**
SWMT	**Swartz Lake**	**36.83**	**73**	*e*P		**P**		**16 20 36.9**	**0.0**
MSO	**Missoula**	**37.20**	**74**	P		**P**		**16 20 40.3**	**+0.3**
	baz=300									
MSO	**Missoula**	**37.20**	**74**	*e*P		**P**		**16 20 39.9**	**-0.1**
	comp=Z,48nm,1.3s									
MSO					*e*PcP		**PcP**	**16 22 59.9**	**+0.6**
AFDM	**Forest Hills D**	**37.22**	**90**	*e*P		**P**		**16 20 40.1**	**0.0**
	comp=Z,10nm,0.9s									
AFDM					*e*PcP		**PcP**	**16 23 00.3**	**+0.9**
H11S1	**WAKE ISLAND Hy**	**37.30**	**215**		T		T	17 00 30.9		
	baz=21,slow=76,SNR=210									
H11S2	**WAKE ISLAND Hy**	**37.31**	**215**		T		T	17 00 36.7		
	baz=21,slow=76,SNR=353									
H11S3	**WAKE ISLAND Hy**	**37.31**	**215**		T		T	17 00 39.0		
	baz=21,slow=76,SNR=334									
USRK	**Ussuriysk Ar.**	**37.51**	**281**		P		**P**		**16 20 42.1**	**-0.5**
	comp=Z,5.5nm,0.8s,baz=63,slow=7.4,SNR=9.2									
USRK					PcP		**PcP**		**16 23 01.3**	**+1.1**
	comp=Z,8.5nm,0.9s,baz=81,slow=3.4,SNR=7.3									
USRK					LR		LR	16 35 51.2		
	comp=Z,390nm,21.2s,baz=48,slow=36									
RES	**Resolute Bay**	**37.52**	**25**	*e*P		**P**		**16 20 41.9**	**-0.3**
RES					pmax	pmax				
	comp=Z,32nm,0.9s									
RES	**Resolute Bay**	**37.52**	**25**	*e*P		**P**		**16 20 41.9**	**-0.3**
	comp=Z,32nm,0.9s									
CHMT	**Chamberlain Mo**	**37.57**	**74**	*e*P		**P**		**16 20 42.8**	**-0.4**
PAHR	**Pah Rah Range**	**37.74**	**88**	*e*P		**P**		**16 20 45.9**	**+1.1**
	comp=Z,70nm,1.1s									
PAHR					*e*PcP		**PcP**		**16 23 02.2**	**+1.0**
MFID	**Camas Ranch**	**37.83**	**80**	*e*P		**P**		**16 20 45.6**	**+0.2**
	comp=Z,20nm,1.1s									
CMB	**Columbia Colle**	**38.14**	**90**	*e*P		**P**		**16 20 49.1**	**+1.1**
CMB					*e*			16 23 03.1		
CMB					pmax	pmax				
	comp=Z,9.0nm,0.9s									
CMB	**Columbia Colle**	**38.14**	**90**	*e*P		**P**		**16 20 49.1**	**+1.1**
	comp=Z,9.3nm,0.9s									
CMB					*e*PcP		**PcP**	**16 23 03.1**	**+0.8**
MJAR	**Matsushiro Arr**	**38.15**	**266**		P		**P**	**16 20 49.0**	**+1.0**
	comp=Z,14nm,0.7s,baz=42,slow=5.7,SNR=11									
MJAR					PcP		**PcP**		**16 23 02.7**	**+0.4**
	comp=Z,11nm,1.0s,baz=46,slow=1.2,SNR=9.1									
MJAR					LR		LR	16 36 16.1		
	comp=Z,246nm,20.5s,baz=65,slow=36									
MAJO	**Matsushiro**	**38.15**	**266**	*c i*	P		**P**	**16 20 48.6**	**+0.5**
MAJO					pmax	pmax				
	comp=Z,275nm,1.1s									
MAJO	**Matsushiro**	**38.15**	**266**	*e*P		**P**		**16 20 48.5**	**+0.4**
	comp=Z,47nm,1.1s									
MAT	**Matsushiro**	**38.15**	**266**	P		**P**		**16 20 49.3**	**+1.2**
MAT					S		**S**		**16 26 39.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**38.15**	**266**	*e*P		**P**		**16 20 48.6**	**+0.5**
	comp=Z,13nm,1.1s									
VLA	**Vladivostok**	**38.16**	**280**	⇑ *i*P		**P**		**16 20 47.0**	**-1.0**
VLA					*i* *PP		**pP**	**16 20 56.3**	**-1.0**
VLA					*i* *SP		**sP**	**16 21 00.0**	**-1.1**
VLA					*i*			16 22 14.1		
VLA					*i*			16 23 00.3		
VLA					*e*S		**S**	**16 26 38.3**	**-0.7**
VLA					pmax	pmax				
	comp=Z,45nm,1.4s									
SAO	**San Andreas Ge**	**38.27**	**93**	*e*P		**P**		**16 20 49.5**	**+0.4**
SAO					pmax	pmax				
	comp=Z,18nm,1.1s									
SAO	**San Andreas Ge**	**38.27**	**93**	*e*P		**P**		**16 20 49.5**	**+0.4**
	comp=Z,18nm,1.1s									
WAKR	**Walker**	**38.44**	**89**	*e*P		**P**		**16 20 52.0**	**+1.3**
	comp=Z,38nm,1.0s									
WAKR					*e*PcP		**PcP**	**16 23 05.0**	**+1.6**
HRY	**Holter Researc**	**38.51**	**73**	*e*P		**P**		**16 20 50.4**	**-0.8**
LRM	**Limekiln Ridge**	**38.60**	**75**	*e*P		**P**		**16 20 51.6**	**-0.4**
HLID	**Hailey**	**38.61**	**79**	P		**P**		**16 20 52.4**	**+0.3**
	baz=303									
HLID	**Hailey**	**38.61**	**79**	*e*P		**P**		**16 20 52.6**	**+0.5**
	comp=Z,20nm,1.1s									
HLID					*e*PcP		**PcP**	**16 23 05.3**	**+1.4**
BMN	**Battle Mountai**	**38.66**	**85**	*e*P		**P**		**16 20 53.0**	**+0.6**
BMN					pmax	pmax				
	comp=Z,16nm,0.8s									
BMN	**Battle Mountai**	**38.66**	**85**	*e*P		**P**		**16 20 53.0**	**+0.6**
	comp=Z,16nm,0.8s									
MDJ	**Mudanjiang**	**38.75**	**283**	P		**P**		**16 20 52.0**	**-0.9**
MDJ					S		**S**	**16 26 43.8**	**-4.1**
MDJ					PMZ					
	comp=Z,56nm,4.4s									
MDJ					LN					
	comp=Z,350nm,17.1s									
MDJ					LE					
	comp=Z,450nm,19.2s									
MDJ					LZ					
	comp=Z,670nm,20.1s									
MDJ	**Mudanjiang**	**38.75**	**283**	*e*P		**P**		**16 20 51.6**	**-1.3**
	comp=Z,37nm,1.8s									
DLMT	**Dillon**	**38.75**	**75**	*e*P		**P**		**16 20 53.0**	**-0.2**
	comp=Z,12nm,0.9s									
MCMT	**McKenzie Canyo**	**38.88**	**76**	*e*P		**P**		**16 20 54.6**	**+0.2**
EGMT	**Eagleton**	**39.08**	**70**	P		**P**		**16 20 56.1**	**+0.2**
	baz=299									
EGMT	**Eagleton**	**39.08**	**70**	*e*P		**P**		**16 20 55.4**	**-0.4**
	comp=Z,93nm,1.1s									
BOZ	**Bozeman (W)**	**39.18**	**74**	P		**P**		**16 20 56.9**	**+0.2**
	baz=301									
BOZ	**Bozeman (W)**	**39.18**	**74**	*e*P		**P**		**16 20 56.5**	**-0.3**
BOZ					pmax	pmax				
	comp=Z,46nm,1.3s									
BOZ	**Bozeman (W)**	**39.18**	**74**	*e*P		**P**		**16 20 56.5**	**-0.3**
	comp=Z,46nm,1.3s									
ELK	**Elko**	**39.70**	**83**	*e*P		**P**		**16 21 01.8**	**+0.6**
ELK					pmax	pmax				
	comp=Z,12nm,0.8s									
ELK	**Elko**	**39.70**	**83**	*e*P		**P**		**16 21 01.8**	**+0.6**
	comp=Z,12nm,0.8s									
QLMT	**Earthquake Lak**	**39.73**	**75**	*e*P		**P**		**16 21 01.5**	**+0.1**
YHB	**Horse Butte**	**39.92**	**75**	*e*P		**P**		**16 21 02.9**	**-0.1**
	comp=Z,40nm,1.1s									
TIN	**Tinemaha, Big**	**40.09**	**90**	P		**P**		**16 21 05.8**	**+1.5**
	baz=309,SNR=5.4									
YMR	**Madison River**	**40.10**	**75**	*e*P		**P**		**16 21 03.9**	**-0.7**
	comp=Z,44nm,0.4s									
YHH	**Holmes Hill**	**40.10**	**75**	*e*P		**P**		**16 21 04.6**	**0.0**
	comp=Z,48nm,1.0s									
SMMC	**Simmler**	**40.10**	**93**	P		**P**		**16 21 06.3**	**+1.8**
	baz=311,SNR=5.3									
GCMT	**Greycliff**	**40.27**	**73**	*e*P		**P**		**16 21 06.2**	**+0.3**
FFC	**Flin Flon**	**40.30**	**57**	*e*P		**P**		**16 21 05.7**	**-0.1**
FFC					pmax	pmax				
	comp=Z,20nm,0.8s									
FFC	**Flin Flon**	**40.30**	**57**	*e*P		**P**		**16 21 05.7**	**-0.1**
	comp=Z,20nm,0.8s									
VES	**Vestal, Richgr**	**40.33**	**92**	P		**P**		**16 21 07.1**	**+0.9**
	baz=310									
YPP	**Pitchstone Pla**	**40.41**	**76**	*e*P		**P**		**16 21 06.5**	**-0.7**
	comp=Z,22nm,1.4s									
H17A	**Grant Village**	**40.48**	**76**	P		**P**		**16 21 08.8**	**+1.1**
	baz=303,SNR=13									
H17A	**Grant Village**	**40.48**	**76**	*e*P		**P**		**16 21 09.2**	**+1.5**
	comp=Z,40nm,1.0s									
LKWY	**Lake**	**40.49**	**75**	*e*P		**P**		**16 21 09.4**	**+1.6**
LKWY					pmax	pmax				
	comp=Z,33nm,0.9s									
LKWY	**Lake**	**40.49**	**75**	*e*P		**P**		**16 21 09.4**	**+1.6**
	comp=Z,33nm,0.9s									
PKM	**Mcpherson Peak**	**40.50**	**94**	P		**P**		**16 21 09.5**	**+1.7**
	baz=311,SNR=9.1									
IMW	**Indian Meadow**	**40.53**	**76**	*e*P		**P**		**16 21 08.8**	**+0.5**
	comp=Z,28nm,1.0s									
CWC	**Cottonwood Cre**	**40.57**	**91**	P		**P**		**16 21 09.3**	**+0.9**
	baz=310									
FLWY	**Flagg Ranch**	**40.58**	**76**	*e*P		**P**		**16 21 08.8**	**+0.3**
	comp=Z,34nm,1.1s									
HVU	**Hansel Valley**	**40.61**	**80**	*e*P		**P**		**16 21 08.9**	**+0.2**
HVU					pmax	pmax				
	comp=Z,19nm,0.9s									
HVU	**Hansel Valley**	**40.61**	**80**	*e*P		**P**		**16 21 08.9**	**+0.2**
	comp=Z,19nm,0.9s									
GRAC	**Grapevine Rang**	**40.66**	**89**	P		**P**		**16 21 10.5**	**+1.5**
	baz=309									
MOOW	**Moose Ponds**	**40.73**	**76**	*e*P		**P**		**16 21 09.9**	**+0.2**
	comp=Z,11nm,1.1s									
MOOW					*e*PcP		**PcP**	**16 23 12.5**	**+1.8**
TPAW	**Teton Pass**	**40.75**	**77**	*e*P		**P**		**16 21 10.5**	**+0.5**
	comp=Z,30nm,1.3s									
ISA	**Isabella, Lake**	**40.82**	**92**	P		**P**		**16 21 10.8**	**+0.4**
	baz=310									
ISA	**Isabella, Lake**	**40.82**	**92**	*e*P		**P**		**16 21 10.8**	**+0.4**
ISA					pmax	pmax				
	comp=Z,33nm,1.1s									
ISA	**Isabella, Lake**	**40.82**	**92**	*e*P		**P**		**16 21 10.8**	**+0.4**
	comp=Z,33nm,1.1s									
RLMT	**Red Lodge**	**40.87**	**74**	P		**P**		**16 21 10.9**	**0.0**
	baz=303									
RLMT	**Red Lodge**	**40.87**	**74**	*e*P		**P**		**16 21 11.2**	**+0.3**
	comp=Z,67nm,1.0s									
REDW	**Red Top Meadow**	**40.88**	**77**	*e*P		**P**		**16 21 11.7**	**+0.7**
	comp=Z,31nm,1.1s									
SNOW	**Snow King Moun**	**40.89**	**77**	*e*P		**P**		**16 21 12.9**	**+1.8**
	comp=Z,56nm,1.5s									
LOHW	**Long Hollow**	**40.90**	**77**	*e*P		**P**		**16 21 10.0**	**-1.1**
	comp=Z,7.7nm,0.8s									
R11A	**Troy Canyon, C**	**40.92**	**86**	P		**P**		**16 21 11.9**	**+0.6**
	baz=308,SNR=22									
R11A	**Troy Canyon, C**	**40.92**	**86**	*e*P		**P**		**16 21 11.6**	**+0.2**
	comp=Z,30nm,1.1s									
R11A					*e*PcP		**PcP**	**16 23 12.9**	**+1.6**
BGU	**Big Grassy Mou**	**40.95**	**81**	*e*P		**P**		**16 21 11.9**	**+0.4**
	comp=Z,14nm,0.9s									
DAC	**Darwin (Calif)**	**40.97**	**90**	*e*P		**P**		**16 21 12.7**	**+0.9**
DAC					pmax	pmax				
	comp=Z,15nm,0.9s									
DAC	**Darwin (Calif)**	**40.97**	**90**	*e*P		**P**		**16 21 12.7**	**+0.9**
	comp=Z,15nm,0.9s									
DAC					*e*ScP		**ScP**	**16 26 59.0**	**+0.4**
AHID	**Auburn Hatcher**	**41.07**	**78**	*e*P		**P**		**16 21 12.8**	**+0.3**
	comp=Z,31nm,1.1s									
BOD	**Bodaibo**	**41.15**	**309**	*e*P		**P**		**16 21 11.9**	**-0.8**
BOD					pmax	pmax				
	comp=Z,21nm,1.5s									
MPMC	**Manual Prospec**	**41.18**	**91**	P		**P**		**16 21 14.1**	**+0.6**
	baz=310,SNR=9.4									
SCZ2	**Santa Cruz Isl**	**41.20**	**95**	P		**P**		**16 21 14.3**	**+0.9**
	baz=312									
FURC	**Furnace Creek,**	**41.31**	**90**	P		**P**		**16 21 14.9**	**+0.6**
	baz=310,SNR=12									
OSI	**Osito Audit: C**	**41.35**	**93**	P		**P**		**16 21 15.4**	**+0.6**
	baz=311									
OSI	**Osito Audit: C**	**41.35**	**93**	*e*P		**P**		**16 21 14.2**	**-0.5**
	comp=Z,32nm,1.0s									
TPNV	**Topopah Spring**	**41.38**	**89**	P		**P**		**16 21 16.1**	**+1.0**
	baz=309									
TPNV	**Topopah Spring**	**41.38**	**89**	*e*P		**P**		**16 21 15.6**	**+0.5**
TPNV					pmax	pmax				
	comp=Z,55nm,0.9s									
TPNV	**Topopah Spring**	**41.38**	**89**	*e*P		**P**		**16 21 15.6**	**+0.5**
	comp=Z,55nm,0.9s									
HWUT	**Hardware Ranch**	**41.45**	**80**	*e*P		**P**		**16 21 16.2**	**+0.5**
	comp=Z,11nm,1.0s									
HWUT					*e*PcP		**PcP**	**16 23 14.1**	**+1.1**
BLG	**Laguna Peak, P**	**41.47**	**94**	P		**P**		**16 21 16.1**	**+0.4**
	baz=312									
DUG	**Dugway, Tooele**	**41.52**	**82**	P		**P**		**16 21 16.5**	**+0.4**
	baz=307									
DUG	**Dugway, Tooele**	**41.52**	**82**	*e*P		**P**		**16 21 16.5**	**+0.4**
DUG	**Dugway, Tooele**	**41.52**	**82**	*e*P		**P**		**16 21 16.5**	**+0.4**
EDW2	**Edwards Air Fo**	**41.63**	**92**	P		**P**		**16 21 17.8**	**+0.8**
	baz=311,SNR=7.4									
CN2	**Changchun**	**41.69**	**285**	*e*P		**P**		**16 21 16.0**	**-1.3**
CN2					*e*S		**S**	**16 27 32.0**	**+0.2**
CN2					PMZ					
	comp=Z,10.0nm,0.5s									
CN2					PMZ					
	comp=Z,100nm,3.0s									
CN2					LN					
	comp=Z,500nm,24.0s									
CN2					LE					
	comp=Z,600nm,24.0s									
CN2					LZ					
	comp=Z,600nm,20.0s									
LAO	**LASA Array**	**41.83**	**70**	P		**P**		**16 21 18.6**	**+0.1**
	baz=302									
LAO	**LASA Array**	**41.83**	**70**	*e*P		**P**		**16 21 19.0**	**+0.4**
	comp=Z,47nm,1.1s									
TCUT	**Toone Canyon**	**41.83**	**80**	*e*P		**P**		**16 21 17.5**	**-1.3**
	comp=Z,27nm,0.9s									
CTU	**Camp Tracy**	**41.87**	**81**	*e*P		**P**		**16 21 19.2**	**+0.2**
	comp=Z,51nm,1.0s									
PSUT	**Pine Spring**	**41.88**	**85**	*e*P		**P**		**16 21 18.7**	**-0.5**
	comp=Z,14nm,0.8s									
PASC	**Pasadena Art C**	**41.98**	**93**	*e*P		**P**		**16 21 20.6**	**+0.8**
	comp=Z,25nm,1.2s									
BW06	**Boulder Array**	**42.00**	**77**	P		**P**		**16 21 19.9**	**-0.3**
	baz=305									
BW06	**Boulder Array**	**42.00**	**77**	*e*P		**P**		**16 21 20.0**	**-0.2**
PD31	**Pinedale Array**	**42.00**	**77**	*e*P		**P**		**16 21 20.0**	**-0.2**
PDAR	**Pinedale Array**	**42.00**	**77**	P		**P**		**16 21 20.4**	**+0.2**
	comp=Z,28nm,0.9s,baz=305,slow=5.2,SNR=89									
PDAR					ScP		**ScP**		**16 27 01.4**	**-1.3**
	comp=Z,2.7nm,1.1s,baz=306,slow=3.5,SNR=5.3									
MWC	**Mount Wilson**	**42.02**	**93**	*e*P		**P**		**16 21 20.1**	**-0.3**
MWC					pmax	pmax				
	comp=Z,83nm,1.4s									
MWC	**Mount Wilson**	**42.02**	**93**	*e*P		**P**		**16 21 20.1**	**-0.3**
	comp=Z,82nm,1.4s									
SHOC	**Shoshone, Teco**	**42.03**	**90**	P		**P**		**16 21 21.1**	**+0.8**
	baz=310,SNR=5.6									
DGMT	**Dagmar**	**42.06**	**67**	P		**P**		**16 21 20.0**	**-0.4**
	baz=301									
DGMT	**Dagmar**	**42.06**	**67**	*e*P		**P**		**16 21 20.8**	**+0.4**
	comp=Z,179nm,1.8s									
GSC	**Goldstone, Bar**	**42.09**	**91**	P		**P**		**16 21 21.5**	**+0.7**
	baz=311,SNR=35									
GSC	**Goldstone, Bar**	**42.09**	**91**	*e*P		**P**		**16 21 21.0**	**+0.2**
GSC					pmax	pmax				
	comp=Z,37nm,0.8s									
GSC	**Goldstone, Bar**	**42.09**	**91**	*e*P		**P**		**16 21 20.9**	**+0.2**
	comp=Z,37nm,0.8s									
HIA	**Hailar**	**42.10**	**295**	*e*P		**P**		**16 21 20.5**	**-0.2**
HIA					pmax	pmax				
	comp=Z,68nm,1.1s									
HIA	**Hailar**	**42.10**	**295**	*e*P		**P**		**16 21 20.5**	**-0.2**
	comp=Z,68nm,1.1s									
JLU	**Jordanelle**	**42.11**	**81**	*e*P		**P**		**16 21 21.5**	**+0.4**
	comp=Z,19nm,1.0s									
BFSC	**Mount Baldy Ra**	**42.26**	**93**	P		**P**		**16 21 23.1**	**+0.8**
	baz=312,SNR=18									
CBIJ	**Chichi jima**	**42.29**	**252**	*e*P		**P**		**16 21 23.2**	**+0.8**
	comp=Z,150nm,1.1s									
SHPR	**Sheep Range**	**42.34**	**88**	*e*P		**P**		**16 21 22.6**	**-0.3**
	comp=Z,13nm,1.0s									
SHPR					*e*PcP		**PcP**		**16 23 17.8**	**+1.9**
A25A	**Svangstu Ranch**	**42.44**	**66**	P		**P**		**16 21 23.5**	**0.0**
	baz=301,SNR=10									
FCC	**Fort Churchill**	**42.45**	**49**	*e*P		**P**		**16 21 23.1**	**-0.2**
FCC					pmax	pmax				
	comp=Z,61nm,1.0s									
FCC	**Fort Churchill**	**42.45**	**49**	*e*P		**P**		**16 21 23.1**	**-0.2**
	comp=Z,61nm,1.0s									
TUQ	**Turquoise Moun**	**42.55**	**90**	P		**P**		**16 21 25.1**	**+0.4**
	baz=310									
HEC	**Hector,Ludlow**	**42.69**	**91**	P		**P**		**16 21 26.4**	**+0.7**
	baz=311,SNR=8.7									
B25A	**Knox Farm, Ray**	**42.76**	**66**	P		**P**		**16 21 25.8**	**-0.2**
	baz=302									
CCUT	**Cedar City**	**42.79**	**86**	*e*P		**P**		**16 21 27.4**	**+0.7**
	comp=Z,30nm,1.3s									
MSU	**Marysvale**	**42.93**	**84**	*e*P		**P**		**16 21 28.4**	**+0.6**
MSU	**Marysvale**	**42.93**	**84**	*e*P		**P**		**16 21 28.4**	**+0.6**
MURC	**Murrieta**	**42.97**	**93**	P		**P**		**16 21 28.6**	**+0.7**
	baz=312,SNR=6.3									
TMUT	**Trail Mountain**	**43.04**	**82**	*e*P		**P**		**16 21 29.4**	**+0.6**
	comp=Z,30nm,0.9s									
A26A	**Wade Farm, Ken**	**43.07**	**65**	P		**P**		**16 21 28.0**	**-0.5**
	baz=301									
GMRC	**Granite Mounta**	**43.14**	**91**	P		**P**		**16 21 30.0**	**+0.6**
	baz=311,SNR=18									
LCMT	**Little Creek M**	**43.20**	**86**	*e*P		**P**		**16 21 30.7**	**+0.8**
	comp=Z,23nm,1.0s									
MTPU	**Mount Pierson**	**43.22**	**84**	*e*P		**P**		**16 21 31.2**	**+0.9**
	comp=Z,32nm,1.3s									
P17A	**Butcher Ranch,**	**43.22**	**82**	*e*P		**P**		**16 21 30.7**	**+0.6**
	comp=Z,19nm,0.9s									
LDFC	**Landfair**	**43.29**	**90**	*e*P		**P**		**16 21 30.7**	**+0.1**
	comp=Z,50nm,0.8s									
PFO	**Pinyon Flats O**	**43.42**	**92**	P		**P**		**16 21 32.3**	**+0.6**
	baz=312,SNR=5.5									
PFO	**Pinyon Flats O**	**43.42**	**92**	*e*P		**P**		**16 21 31.8**	**+0.2**
PFO					pmax	pmax				
	comp=Z,21nm,1.0s									
PFO	**Pinyon Flats O**	**43.42**	**92**	*e*P		**P**		**16 21 31.8**	**+0.2**
	comp=Z,21nm,1.0s									
TPFO	**Pinon Flats**	**43.43**	**92**	P		**P**		**16 21 32.4**	**+0.6**
	baz=312,SNR=6.8									
P18A	**Preston Nutter**	**43.43**	**81**	*e*P		**P**		**16 21 32.4**	**+0.5**
	comp=Z,42nm,1.1s									
BELC	**Belle Mtn. Jos**	**43.45**	**92**	P		**P**		**16 21 32.1**	**+0.2**
	baz=312,SNR=15									
109C

GLA	**Glamis**	**44.81**	**92**	*e*P		**P**	**16 21 42.4**	**-0.3**
GLA				pmax		pmax			
	comp=Z,25nm,1.0s								
GLA	**Glamis**	**44.81**	**92**	*e*P		**P**	**16 21 42.4**	**-0.3**
	comp=Z,25nm,1.0s								
PV09	**Paradox Valley**	**44.81**	**82**	*e*P		**P**	**16 21 42.7**	**-0.2**
D28A	**Regan**	**44.81**	**66**	P		**P**	**16 21 42.0**	**-0.5**
	baz=303								
JNU	**Nakatsue**	**44.94**	**269**	P		**P**	**16 21 44.5**	**+0.8**
	comp=Z,19nm,0.7s,baz=41,slow=8.0,SNR=18								
JNU	**Nakatsue**	**44.94**	**269**	*e*P		**P**	**16 21 43.7**	**0.0**
	comp=Z,45nm,1.0s								
PV10	**Paradox Valley**	**44.94**	**82**	*e*P		**P**	**16 21 44.2**	**+0.2**
TJN	**Taejon**	**44.98**	**275**	*d iP*		**P**	**16 21 44.3**	**+0.4**
MDND	**Maddock**	**45.00**	**65**	P		**P**	**16 21 43.3**	**-0.7**
	baz=303								
MDND	**Maddock**	**45.00**	**65**	*e*P		**P**	**16 21 44.1**	**+0.1**
	comp=Z,158nm,1.2s								
PV04	**Paradox Valley**	**45.02**	**82**	*e*P		**P**	**16 21 44.4**	**-0.1**
PV05	**Paradox Valley**	**45.09**	**82**	*e*P		**P**	**16 21 44.0**	**-1.2**
A30A	**Hoffart Farm,**	**45.13**	**63**	P		**P**	**16 21 44.5**	**-0.5**
	baz=303,SNR=6.4								
N23A	**Red Feather La**	**45.29**	**77**	P		**P**	**16 21 46.4**	**-0.3**
	baz=307,SNR=13								
N23A	**Red Feather La**	**45.29**	**77**	*e*P		**P**	**16 21 46.5**	**-0.2**
	comp=Z,40nm,1.3s								
WUAZ	**Wupatki**	**45.32**	**86**	P		**P**	**16 21 47.3**	**+0.4**
	baz=311								
WUAZ	**Wupatki**	**45.32**	**86**	*e*P		**P**	**16 21 47.6**	**+0.7**
	comp=Z,37nm,0.8s								
PHWY	**Pilot Hill**	**45.34**	**76**	*e*P		**P**	**16 21 46.6**	**-0.5**
	comp=Z,23nm,1.5s								
Y14A	**Wickenburg**	**45.35**	**89**	*e*P		**P**	**16 21 47.3**	**+0.3**
	comp=Z,77nm,0.9s								
B30A	**Myrvik Farm, E**	**45.38**	**64**	P		**P**	**16 21 46.7**	**-0.3**
	baz=303,SNR=12								
PV01	**Paradox Valley**	**45.38**	**82**	*e*P		**P**	**16 21 47.2**	**-0.2**
D29A	**Pettibone, Tap**	**45.44**	**66**	P		**P**	**16 21 46.9**	**-0.7**
	baz=304								
113A	**Mohawk Valley,**	**45.66**	**91**	*e*P		**P**	**16 21 49.0**	**-0.4**
	comp=Z,24nm,1.3s								
SMCO	**Snowmass**	**45.71**	**79**	*e*P		**P**	**16 21 49.9**	**-0.4**
C30A	**Mose, Pekin**	**45.71**	**65**	P		**P**	**16 21 49.0**	**-0.6**
	baz=304								
ULM	**Lac du Bonnet**	**45.75**	**60**	P		**P**	**16 21 49.3**	**-0.5**
	comp=Z,23nm,0.9s,baz=301,slow=8.4,SNR=20								
ULM				LR		LR	16 43 36.6		
	comp=Z,510nm,18.1s,baz=308,slow=40								
ULM	**Lac du Bonnet**	**45.75**	**60**	*e*P		**P**	**16 21 49.4**	**-0.4**
ULM				pmax		pmax			
	comp=Z,54nm,1.1s								
ULM	**Lac du Bonnet**	**45.75**	**60**	*e*P		**P**	**16 21 48.8**	**-1.0**
	comp=Z,54nm,1.1s								
A31A	**Linda, St. Vin**	**45.75**	**63**	P		**P**	**16 21 49.0**	**-0.9**
	baz=303								
B31A	**Greenbush Farm**	**45.77**	**63**	P		**P**	**16 21 49.6**	**-0.5**
	baz=304,SNR=12								
X16A	**Lo Mia Camp, P**	**46.00**	**88**	*e*P		**P**	**16 21 53.2**	**+0.9**
	comp=Z,24nm,0.9s								
F29A	**Eureka**	**46.00**	**68**	P		**P**	**16 21 50.8**	**-1.1**
	baz=305								
MVCO	**Mesa Verde**	**46.01**	**83**	P		**P**	**16 21 51.9**	**-0.5**
	baz=310								
MVCO	**Mesa Verde**	**46.01**	**83**	*e*P		**P**	**16 21 52.4**	**0.0**
	comp=Z,13nm,0.6s								
C31A	**Landman Farms,**	**46.08**	**64**	P		**P**	**16 21 51.5**	**-1.0**
	baz=304								
A32A	**Rocking H Ranc**	**46.14**	**62**	P		**P**	**16 21 52.2**	**-0.8**
	baz=304,SNR=6.5								
ISCO	**Idaho Springs**	**46.16**	**78**	*e*P		**P**	**16 21 54.7**	**+1.1**
ISCO				pmax		pmax			
	comp=Z,12nm,1.1s								
ISCO	**Idaho Springs**	**46.16**	**78**	*e*P		**P**	**16 21 54.7**	**+1.1**
	comp=Z,12nm,1.1s								
NRIK	**Noril'sk**	**46.18**	**331**	P		**P**	**16 21 52.7**	**-0.3**
	comp=Z,17nm,0.7s,baz=71,slow=8.0,SNR=36								
				PcP		**PcP**	**16 23 29.8**	**+1.5**
NRIK	comp=Z,17nm,0.8s,baz=72,slow=2.8,SNR=7.9								
NRIK				LR		LR	16 43 02.4		
	comp=Z,531nm,19.6s,baz=86,slow=38								
G29A	**Hoven**	**46.31**	**68**	P		**P**	**16 21 53.1**	**-1.3**
	baz=305								
B32A	**Ashes, Strandq**	**46.41**	**63**	P		**P**	**16 21 54.1**	**-0.9**
	baz=304,SNR=13								
F30A	**Leola**	**46.46**	**67**	P		**P**	**16 21 54.7**	**-0.9**
	baz=305								
H29A	**Onida**	**46.48**	**69**	P		**P**	**16 21 55.1**	**-0.6**
	baz=306								
D31A	**Mcclaflin, Tow**	**46.51**	**65**	P		**P**	**16 21 54.4**	**-1.4**
	baz=305								
W18A	**Petrified Fore**	**46.60**	**86**	P		**P**	**16 21 56.4**	**-0.6**
	baz=311								
W18A	**Petrified Fore**	**46.60**	**86**	*e*P		**P**	**16 21 57.2**	**+0.3**
	comp=Z,35nm,0.8s								
E31A	**Nome**	**46.69**	**66**	P		**P**	**16 21 56.2**	**-1.1**
	baz=305,SNR=5.9								
S22A	**4UR Ranch, Cre**	**46.70**	**81**	P		**P**	**16 21 58.3**	**+0.4**
	baz=309,SNR=20								
S22A	**4UR Ranch, Cre**	**46.70**	**81**	*e*P		**P**	**16 21 57.9**	**+0.1**
	comp=Z,30nm,1.4s								
C32A	**Crookston**	**46.73**	**64**	P		**P**	**16 21 56.8**	**-0.8**
	baz=304								
A33A	**Warroad**	**46.73**	**62**	P		**P**	**16 21 56.8**	**-0.8**
	baz=304,SNR=24								
I29A	**Vivian Onida**	**46.78**	**70**	P		**P**	**16 21 57.5**	**-0.6**
	baz=306,SNR=6.4								
214A	**Organ Pipe Nat**	**46.80**	**91**	P		**P**	**16 21 59.0**	**+0.5**
	baz=313,SNR=11								
214A	**Organ Pipe Nat**	**46.80**	**91**	*e*P		**P**	**16 21 58.9**	**+0.5**
	comp=Z,102nm,1.1s								
G30A	**Faulkton**	**46.80**	**68**	P		**P**	**16 21 57.7**	**-0.5**
	baz=306,SNR=14								
AGMN	**Agassiz Nation**	**46.83**	**63**	P		**P**	**16 21 57.2**	**-1.2**
	baz=304								
AGMN	**Agassiz Nation**	**46.83**	**63**	*e*P		**P**	**16 21 57.5**	**-0.9**
	comp=Z,59nm,1.0s								
X18A	**Snowflake**	**46.85**	**86**	*e*P		**P**	**16 21 59.5**	**+0.6**
	comp=Z,16nm,0.8s								
D32A	**Dogwood Acres,**	**46.85**	**65**	P		**P**	**16 21 57.3**	**-1.3**
	baz=305								
F31A	**Hecla**	**46.89**	**67**	P		**P**	**16 21 57.9**	**-1.0**
	baz=305								
Q24A	**Divide**	**46.95**	**78**	*e*P		**P**	**16 22 00.0**	**+0.1**
	comp=Z,9.7nm,0.9s								
B33A	**Robert and Kas**	**47.00**	**63**	P		**P**	**16 21 58.8**	**-0.9**
	baz=304,SNR=9.4								
C33A	**Trail**	**47.19**	**63**	P		**P**	**16 21 59.6**	**-1.6**
	baz=305								
G31A	**Conde**	**47.28**	**67**	P		**P**	**16 22 00.6**	**-1.3**
	baz=306								
SUSD	**Miller**	**47.31**	**69**	P		**P**	**16 22 01.4**	**-0.8**
	baz=306,SNR=6.3								
I30A	**Oacoma**	**47.35**	**69**	P		**P**	**16 22 00.9**	**-1.7**
	baz=306								
B34A	**Aery, Baudette**	**47.39**	**62**	P		**P**	**16 22 01.9**	**-0.9**
	baz=305,SNR=20								
D33A	**AnnSam, Waubun**	**47.50**	**64**	P		**P**	**16 22 02.6**	**-1.1**
	baz=305,SNR=13								
SDCO	**Great Sand Dun**	**47.51**	**80**	P		**P**	**16 22 04.3**	**+0.1**
	baz=310								
SDCO	**Great Sand Dun**	**47.51**	**80**	*e*P		**P**	**16 22 04.5**	**+0.3**
	comp=Z,36nm,1.4s								
F32A	**Veblen**	**47.52**	**66**	P		**P**	**16 22 02.3**	**-1.5**
	baz=306								
H31A	**Wolsey**	**47.57**	**68**	P		**P**	**16 22 03.3**	**-0.9**
	baz=306								
OGNE	**Ogallala**	**47.61**	**74**	P		**P**	**16 22 03.9**	**-0.8**
	baz=308								
OGNE	**Ogallala**	**47.61**	**74**	*e*P		**P**	**16 22 03.1**	**-1.6**
	comp=Z,125nm,1.5s								
J30A	**Dallas**	**47.66**	**70**	P		**P**	**16 22 04.1**	**-0.9**
	baz=307,SNR=9.3								
G32A	**Webster**	**47.67**	**67**	P		**P**	**16 22 03.8**	**-1.2**
	baz=306								
C34A	**RKJ Ranch, Bem**	**47.73**	**63**	P		**P**	**16 22 04.0**	**-1.4**
	baz=305								
E33A	**Westby DABS, E**	**47.78**	**65**	P		**P**	**16 22 04.5**	**-1.3**
	baz=306								
I31A	**Royce, Wessing**	**47.80**	**69**	P		**P**	**16 22 04.8**	**-1.2**
	baz=307								
D34A	**Park Rapids**	**47.90**	**64**	P		**P**	**16 22 05.5**	**-1.2**
	baz=306,SNR=14								
B35A	**Bob, Littlefor**	**47.97**	**61**	P		**P**	**16 22 06.0**	**-1.2**
	baz=305,SNR=13								
K30A	**Basset**	**47.99**	**71**	P		**P**	**16 22 07.3**	**-0.3**
	baz=307,SNR=11								
F33A	**5 Mile Ranch,**	**48.01**	**66**	P		**P**	**16 22 06.4**	**-1.2**
	baz=306								
J31A	**Geddes**	**48.12**	**70**	P		**P**	**16 22 07.4**	**-1.1**
	baz=307,SNR=9.8								
H32A	**Carlson Farm,**	**48.15**	**68**	P		**P**	**16 22 07.3**	**-1.5**
	baz=307,SNR=14								
C35A	**Jirik Farms, M**	**48.21**	**62**	P		**P**	**16 22 08.0**	**-1.2**
	baz=306,SNR=17								
E34A	**Wadena**	**48.25**	**64**	P		**P**	**16 22 08.0**	**-1.4**
	baz=306								
G33A	**Ortonville**	**48.31**	**66**	P		**P**	**16 22 09.0**	**-0.9**
	baz=306								
I32A	**Karley and Nic**	**48.42**	**68**	P		**P**	**16 22 09.1**	**-1.7**
	baz=307								
H33A	**Prehn Over Nor**	**48.44**	**67**	P		**P**	**16 22 09.8**	**-1.2**
	baz=307,SNR=7.8								
KSCO	**Kaye Shedlock'**	**48.45**	**77**	P		**P**	**16 22 11.5**	**+0.2**
	baz=309								
KSCO	**Kaye Shedlock'**	**48.45**	**77**	*e*P		**P**	**16 22 11.8**	**+0.5**
	comp=Z,108nm,1.2s								
D35A	**Remer**	**48.53**	**63**	P		**P**	**16 22 10.4**	**-1.2**
	baz=306,SNR=17								
T25A	**Trinidad**	**48.56**	**80**	P		**P**	**16 22 12.6**	**+0.4**
	baz=310,SNR=13								
T25A	**Trinidad**	**48.56**	**80**	*e*P		**P**	**16 22 12.6**	**+0.4**
	comp=Z,68nm,1.1s								
J32A	**Parkston**	**48.59**	**69**	P		**P**	**16 22 10.7**	**-1.5**
	baz=307,SNR=6.0								
F34A	**Alexandria**	**48.62**	**65**	P		**P**	**16 22 10.8**	**-1.6**
	baz=306								
E35A	**Pequot Lakes**	**48.65**	**64**	P		**P**	**16 22 11.6**	**-0.9**
	baz=306,SNR=5.7								
LAZ	**Ladron**	**48.67**	**85**	*e*P		**P**	**16 22 14.6**	**+1.4**
ANMO	**Albuquerque**	**48.73**	**83**	P		**P**	**16 22 12.4**	**-1.2**
	baz=311								
ANMO	**Albuquerque**	**48.73**	**83**	*i P*		**P**	**16 22 13.9**	**+0.3**
ANMO				pmax		pmax			
	comp=Z,18nm,1.2s								
ANMO	**Albuquerque**	**48.73**	**83**	*e*P		**P**	**16 22 13.7**	**+0.1**
G34A	**Benson**	**48.74**	**66**	P		**P**	**16 22 11.6**	**-1.6**
	baz=307								
L31A	**Butterfield Fa**	**48.74**	**71**	P		**P**	**16 22 13.1**	**-0.3**
	baz=308								
IRK	**Irkutsk**	**48.78**	**306**	*e*P		**P**	**16 22 11.5**	**-2.0**
IRK				pmax		pmax			
	comp=Z,68nm,1.7s								
I33A	**Coleman**	**48.79**	**68**	P		**P**	**16 22 11.6**	**-2.0**
	baz=307								
C36A	**Pine Crest Far**	**48.80**	**62**	P		**P**	**16 22 12.7**	**-1.0**
	baz=306,SNR=8.7								
K32A	**Verdigre**	**48.95**	**70**	P		**P**	**16 22 13.7**	**-1.3**
	baz=308								
D36A	**Goodland**	**48.97**	**62**	P		**P**	**16 22 13.9**	**-1.1**
	baz=306,SNR=8.2								
F35A	**Swanville**	**48.97**	**65**	P		**P**	**16 22 13.9**	**-1.1**
	baz=307								
H34A	**Spellman Lake,**	**49.00**	**67**	P		**P**	**16 22 13.8**	**-1.5**
	baz=307,SNR=7.4								
LPM	**Los Pinos Moun**	**49.05**	**84**	*e*P		**P**	**16 22 16.4**	**+0.4**
ECSD	**EROS Data Cent**	**49.09**	**68**	P		**P**	**16 22 14.4**	**-1.6**
	baz=307								
ECSD	**EROS Data Cent**	**49.09**	**68**	*e*P		**P**	**16 22 14.8**	**-1.2**
	comp=Z,63nm,1.3s								
J33A	**Davis**	**49.14**	**69**	P		**P**	**16 22 15.0**	**-1.3**
	baz=308								
BNM	**Barren Site**	**49.16**	**84**	*e*P		**P**	**16 22 17.2**	**+0.4**
M31A	**Lambtecht Ranc**	**49.18**	**72**	P		**P**	**16 22 15.4**	**-1.3**
	baz=308								
C37A	**Embarrass**	**49.18**	**61**	P		**P**	**16 22 15.2**	**-1.4**
	baz=306,SNR=11								
E36A	**McGregor**	**49.31**	**63**	P		**P**	**16 22 16.5**	**-1.1**
	baz=307,SNR=17								
I34A	**Hadley**	**49.33**	**67**	P		**P**	**16 22 16.2**	**-1.6**
	baz=307								
L32A	**Elgin**	**49.34**	**71**	P		**P**	**16 22 16.7**	**-1.1**
	baz=308								
D37A	**Cotton**	**49.38**	**62**	P		**P**	**16 22 16.6**	**-1.5**
	baz=306,SNR=8.8								
319A	**Douglas**	**49.39**	**89**	*e*P		**P**	**16 22 17.9**	**-0.6**
	comp=Z,22nm,1.0s								
EYMN	**Ely**	**49.42**	**61**	P		**P**	**16 22 17.4**	**-1.0**
	baz=306								
EYMN	**Ely**	**49.42**	**61**	*e*P		**P**	**16 22 17.1**	**-1.4**
	comp=Z,58nm,1.1s								
TLY	**Talaya**	**49.43**	**305**	P		**P**	**16 22 18.7**	**+0.3**
	comp=Z,11nm,0.7s,baz=36,slow=6.8,SNR=23								
TLY				PcP		**PcP**	**16 23 42.2**	**+2.0**
	comp=Z,8.1nm,0.7s,baz=306,slow=3.3,SNR=5.1								
TLY	**Talaya**	**49.43**	**305**	*e*P		**P**	**16 22 19.5**	**+1.1**
TLY				*e*PPP		PPP	16 25 04.3		
TLY				*e*S		**S**	**16 29 26.2**	**+3.0**
TLY				*e*			16 32 04.7		
TLY				pmax		pmax			
	comp=Z,35nm,1.3s								
TLY				MLR		MLR			
	comp=Z,308nm,17.0s								
TLY	**Talaya**	**49.43**	**305**	*e*P		**P**	**16 22 18.5**	**+0.1**
	comp=Z,24nm,0.9s								
TLY				PcP		**PcP**	**16 23 42.2**	**+2.0**
BJI	**Beijing**	**49.48**	**286**	P		**P**	**16 22 20.3**	**+1.4**
BJI				PcP		**PcP**	**16 23 42.0**	**+1.4**
BJI				S		**S**	**16 29 23.0**	**-1.1**
BJI				ScS		**ScS**	**16 32 06.5**	**-1.5**
BJI				PMZ					
	comp=Z,22nm,0.9s								
BJI				PMZ					
	comp=Z,130nm,6.4s								
BJI				LN					
	comp=Z,450nm,15.6s								
BJI				LE					
	comp=Z,540nm,19.8s								
BJI				LZ					
	comp=Z,470nm,21.8s								
KBS	**Kingsbay**	**49.49**	**359**	*e*P		**P**	**16 22 18.9**	**+0.3**
KBS				pmax		pmax			
	comp=Z,33nm,0.8s								
KBS	**Kingsbay**	**49.49**	**359**	*e*P		**P**	**16 22 18.9**	**+0.3**
	comp=Z,33nm,0.8s								
BJT	**Baijiatuau**	**49.50**	**286**	*e*P		**P**	**16 22 19.0**	**-0.1**
BJT				pmax		pmax			
	comp=Z,50nm,1.4s								
BJT	**Baijiatuau**	**49.50**	**286**	*e*P		**P**	**16 22 19.0**	**-0.1**
	comp=Z,50nm,1.4s								
N31A	**Bailey Ranch,**	**49.51**	**72**	P		**P**	**16 22 18.1**	**-1.2**
	baz=309								
H35A	**Sunnyside Ranc**	**49.52**	**66**	P		**P**	**16 22 17.7**	**-1.5**
	baz=307								
121A	**Cookes Peak, D**	**49.53**	**87**	P		**P**	**16 22 19.4**	**-0.2**
	baz=313,SNR=10								
121A	**Cookes Peak, D**	**49.53**	**87**	*e*P		**P**	**16 22 19.8**	**+0.2**
	comp=Z,26nm,1.0s								
F36A	**Milaca**	**49.55**	**64**	P		**P**	**16 22 18.0**	**-1.4**
	baz=307,SNR=12								
K33A	**Hardington**	**49.55**	**69**	P		**P**	**16 22 18.4**	**-1.2**
	baz=308								
BGNE	**Belgrade**	**49.62**	**71**	P		**P**	**16 22 18.8**	**-1.2**
	baz=308								
BGNE	**Belgrade**	**49.62**	**71**	*e*P		**P**	**16 22 20.0**	**-0.1**
	comp=Z,116nm,0.9s								
L33A	**Hoskins**	**49.67**	**70**	P		**P**	**16 22 18.5**	**-1.9**
	baz=308								
C38A	**Sawbill Land.**	**49.68**	**61**	P		**P**	**16 22 19.2**	**-1.2**
	baz=306,SNR=6.6								
O31A	**Woolen Ranch,**	**49.71**	**73**	P		**P**	**16 22 19.8**	**-0.9**
	baz=309								
J34A	**George**	**49.74**	**68**	P		**P**	**16 22 18.9**	**-2.0**
	baz=308								
E37A	**Wrenshall**	**49.75**	**63**	P		**P**	**16 22 19.4**	**-1.6**
	baz=307								
G36A	**St. Michael**	**49.80**	**65**	P		**P**	**16 22 19.7**	**-1.6**
	baz=307								
ULN	**Ulaanbaatar**	**49.89**	**300**	*e*P		**P**	**16 22 22.0**	**-0.2**
ULN				pmax		pmax			
	comp=Z,16nm,0.9s								
ULN	**Ulaanbaatar**	**49.89**	**300**	*e*P		**P**	**16 22 21.9**	**-0.2**
	comp=Z,16nm,0.9s								
N32A	**Stulken Farm,**	**49.94**	**72**	P		**P**	**16 22 20.8**	**-1.7**
	baz=309								
I35A	**Creekview Farm**	**49.95**	**67**	P		**P**	**16 22 20.7**	**-1.8**
	baz=308								
K34A	**Le Mars**	**50.03**	**69**	P		**P**	**16 22 22.2**	**-0.9**
	baz=308,SNR=12								
M33A	**Taylor Creek F**	**50.08**	**71**	P		**P**	**16 22 22.6**	**-1.0**
	baz=309,SNR=7.8								
H36A	**Jessenland, He**	**50.10**	**66**	P		**P**	**16 22 22.8**	**-0.8**
	baz=308,SNR=7.3								
J35A	**Milford**	**50.12**	**68**	P		**P**	**16 22 22.3**	**-1.5**
	baz=308								
SPB5	**Spitsbergen Ar**	**50.16**	**358**	*e*P		**P**	**16 22 23.0**	**-0.6**
SPA1	**Spitsbergen Ar**	**50.17**	**358**	*e*P		**P**	**16 22 22.8**	**-0.9**
SPB1	**Spitsbergen Ar**	**50.17**	**358**	*e*P		**P**	**16 22 22.4**	**-1.3**
SPB4	**Spitsbergen Ar**	**50.17**	**358**	*e*P		**P**	**16 22 22.7**	**-1.0**
SPA0	**Spitsbergen Ar**	**50.17**	**358**	*e*P		**P**	**16 22 22.5**	**-1.2**
SPA3	**Spitsbergen Ar**	**50.17**	**358**	*e*P		**P**	**16 22 22.6**	**-1.1**
SPA2	**Spitsbergen Ar**	**50.17**	**358**	*e*P		**P**	**16 22 22.7**	**-1.0**
SPB2	**Spitsbergen Ar**	**50.17**	**358**	*e*P		**P**	**16 22 22.7**	**-1.0**
SPB3	**Spitsbergen Ar**	**50.17**	**358**	*e*P		**P**	**16 22 22.6**	**-1.2**
C39A	**Grand Marais**	**50.24**	**60**	P		**P**	**16 22 23.1**	**-1.5**
	baz=307								
SONA1	**Songino Array**	**50.25**	**300**	*e*P		**P**	**16 22 24.7**	**-0.2**
SONM	**Songino Array**	**50.27**	**300**	P		**P**	**16 22 25.2**	**+0.2**
	comp=Z,8.3nm,0.7s,baz=52,slow=7.5,SNR=52								
SONM				PcP		**PcP**	**16 23 45.1**	**+1.5**
	comp=Z,7.2nm,0.8s,baz=59,slow=1.8,SNR=7.4								
SONM				ScP		**ScP**	**16 27 36.6**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=56,slow=2.2,SNR=4.3								
SONM				LR		LR	16 43 58.6		
	comp=Z,1μm,21.1s,baz=71,slow=36								
O32A	**Brockman Farm,**	**50.27**	**73**	P		**P**	**16 22 23.5**	**-1.5**
	baz=309								
L34A	**Svendsen Farm,**	**50.31**	**70**	P		**P**	**16 22 24.4**	**-0.9**
	baz=309,SNR=7.4								
CBKS	**Cedar Bluff**	**50.32**	**75**	P		**P**	**16 22 24.7**	**-0.7**
	baz=310								
CBKS	**Cedar Bluff**	**50.32**	**75**	*e*P		**P**	**16 22 25.2**	**-0.2**
CBKS				pmax		pmax			
	comp=Z,76nm,1.1s								
CBKS	**Cedar Bluff**	**50.32**	**75**	*e*P		**P**	**16 22 25.2**	**-0.2**
	comp=Z,76nm,1.1s								
SPMN	**Marine on St.**	**50.34**	**64**	P		**P**	**16 22 24.3**	**-1.1**
	baz=308								
SPMN	**Marine on St.**	**50.34**	**64**	*e*P		**P**	**16 22 24.2**	**-1.1**
	comp=Z,43nm,1.2s								
ZAK	**Zakamensk**	**50.38**	**304**	*e*P		**P**	**16 22 26.0**	**+0.2**
ZAK				*e*			16 23 47.2		
ZAK				pmax		pmax			
	comp=Z,25nm,1.4s								
ZAK				pmax		pmax			
	comp=Z,26nm,1.1s								
I36A	**Fitzsimmons Fa**	**50.40**	**66**	P		**P**	**16 22 24.4**	**-1.5**
	baz=308								
P32A	**Huiting Farm,**	**50.48**	**73**	P		**P**	**16 22 25.3**	**-1.3**
	baz=310								
M34A	**Aspy Farms, Fr**	**50.48**	**70**	P		**P**	**16 22 25.2**	**-1.4**
	baz=309								
K35A	**Storm Lake**	**50.51**	**68**	P		**P**	**16 22 25.2**	**-1.5**
	baz=308								
DAG	**Danmarks Havn**	**50.55**	**8**	*i P*		**P**	**16 22 25.8**	**-0.8**
	comp=Z,63nm,0.7s								
J36A	**Seneca 1, Swea**	**50.64**	**67**	P		**P**	**16 22 26.1**	**-1.6**
	baz=308								
H37A	**Dierke Farm, C**	**50.67**	**65**	P		**P**	**16 22 26.4**	**-1.5**
	baz=308								
L35A	**Bielow Farm, R**	**50.70**	**69**	P		**P**	**16 22 26.3**	**-1.9**
	baz=309								
I37A	**Lemond, Waseca**	**50.75**	**66**	P		**P**	**16 22 27.8**	**-0.8**
	baz=308,SNR=7.8								
MOY	**Mondy**	**50.77**	**307**	*e*P		**P**	**16 22 30.4**	**+1.7**
MOY				pmax		pmax			
	comp=Z,44nm,1.4s								
O33A	**Hebron**	**50.80**	**72**	P		**P**	**16 22 27.8**	**-1.1**
	baz=310								
Q32A	**Meitler Ranch,**	**50.91**	**74**	P		**P**	**16 22 29.2**	**-0.6**
	baz=310,SNR=12								
N34A	**Lincoln**	**50.95**	**71**	P		**P**	**16 22 28.5**	**-1.6**
	baz=309								
M35A	**Neola**	**51.02**	**70**	P		**P**	**16 22 29.3**	**-1.4**
	baz=309								
J37A	**Redenius Farm,**	**51.10**	**67**	P		**P**	**16 22 29.9**	**-1.3**
	baz=309,SNR=16								
P33A	**Williams Farm,**	**51.14**	**73**	P		**P**	**16 22 30.4**	**-1.2**
	baz=310								
R32A	**Long Quarter,**	**51.19**	**75**	P		**P**	**16 22 30.5**	**-1.4**
	baz=310,SNR=5.8								
L36A	**Harm Buss Farm**	**51.22**	**69**	P		**P**	**16 22 30.5**	**-1.6**
	baz=309								
O34A	**Beatrice**	**51.25**	**72**	P		**P**	**16 22 31.0**	**-1.3**
	baz=310,SNR=9.9								
I38A	**Scanlan Farm,**	**51.34**	**65**	P		**P**	**16 22 31.8**	**-1.1**
	baz=309,SNR=6.9								
Q33A	**Connelly Farm,**	**51.34**	**74**	P		**P**	**16 22 32.3**	**-0.7**
	baz=310,SNR=15								
TIA	**Tai'an**	**51.38**	**282**	*e*P		**P**	**16 22 33.3**	**0.0**
TIA				PMZ					
	comp=Z,60nm,1.0s								
K37A	**Belmond**	**51.39**	**67**	P		**P**	**16 22 32.2**	**-1.2**
	baz=309,SNR=14								
N35A	**Tabor**	**51.44**	**70**	P		**P**	**16 22 32.6**	**-1.1**
	baz=310,SNR=6.8								
GUMO	**Guam**	**51.52**	**238**	*e*P		**P**	**16 22 34.0**	**-0.5**
GUMO				pmax		pmax			
	comp=

SCIA	State Center	52.18	68	eP		P	16 22 38.6	-0.7	
	comp=Z,196nm,1.6s								
O36A	Bolckow	52.30	71	P		P	16 22 38.5	-1.7	
	baz=310								
SSE	Sheshan	52.33	274	P		P	16 22 43.3	+2.9	
SSE				pP		sP	16 22 52.5	-1.2	
SSE				S		S	16 30 08.0	+4.3	
SSE				PMZ					
	comp=Z,93nm,1.2s								
SSE				PMZ					
	comp=Z,120nm,3.8s								
SSE				LN					
	comp=Z,150nm,27.2s								
SSE				LE					
	comp=Z,150nm,27.2s								
SSE				LZ					
	comp=Z,240nm,23.5s								
T33A	Patterson Ranc	52.34	76	P		P	16 22 39.4	-1.2	
	baz=311								
N37A	Lee Faris, Mou	52.34	70	P		P	16 22 39.9	-0.6	
	baz=310,SNR=9.3								
U32A	Winter Ranch,	52.35	77	P		P	16 22 39.3	-1.3	
	baz=312								
K39A	Oelwein	52.43	66	P		P	16 22 39.6	-1.5	
	baz=310,SNR=12								
P36A	Good Intent, A	52.49	71	P		P	16 22 40.4	-1.1	
	baz=310,SNR=16								
Q35A	Mercer Eighty,	52.49	73	P		P	16 22 40.3	-1.3	
	baz=311								
M38A	Pleasantville	52.50	68	P		P	16 22 40.3	-1.4	
	baz=310								
S34A	Willow Spring	52.61	74	P		P	16 22 41.3	-1.2	
	baz=311								
J40A	Soldiers Grove	52.64	65	P		P	16 22 41.1	-1.5	
	baz=310,SNR=5.6								
L39A	Vinton	52.74	67	P		P	16 22 42.0	-1.4	
	baz=310,SNR=20								
R35A	Emporia Munici	52.75	73	P		P	16 22 42.5	-1.0	
	baz=311,SNR=6.2								
O37A	Wolven Farm, M	52.76	70	P		P	16 22 42.6	-1.0	
	baz=310,SNR=12								
Q36A	Arnold C. Orve	52.77	72	P		P	16 22 42.2	-1.5	
	baz=311								
U33A	Lingo Farm, Me	52.85	76	P		P	16 22 42.5	-1.8	
	baz=312								
K40A	Colesburg	52.86	66	P		P	16 22 42.4	-1.8	
	baz=310								
N38A	Joes South For	52.88	69	P		P	16 22 43.4	-1.1	
	baz=310,SNR=10								
T34A	McClaskey Farm	53.01	75	P		P	16 22 44.6	-0.9	
	baz=312,SNR=14								
P37A	Lathrop	53.02	71	P		P	16 22 44.3	-1.2	
	baz=311,SNR=8.6								
M39A	Webster	53.05	68	P		P	16 22 44.7	-1.1	
	baz=310,SNR=20								
J41A	Loganville	53.07	65	P		P	16 22 44.4	-1.4	
	baz=310,SNR=7.4								
S35A	Otter Creek Ra	53.10	74	P		P	16 22 44.9	-1.3	
	baz=311,SNR=9.4								
NJ2	Nanjing	53.11	277	eP		P	16 22 47.3	+1.1	
NJ2				PMZ					
	comp=Z,47nm,1.1s								
V33A	Lossen Ranch,	53.15	77	P		P	16 22 45.1	-1.4	
	baz=312								
R36A	Gordon, Harris	53.16	73	P		P	16 22 45.2	-1.3	
	baz=311,SNR=24								
O38A	Galt	53.18	70	P		P	16 22 45.4	-1.2	
	baz=311,SNR=12								
U34A	Anderson Ranch	53.19	76	P		P	16 22 45.9	-0.9	
	baz=312,SNR=7.2								
U34A	Anderson Ranch	53.19	76	eP		P	16 22 45.5	-1.3	
	comp=Z,81nm,1.2s								
L40A	Anamosa	53.22	67	P		P	16 22 45.3	-1.6	
	baz=310,SNR=8.6								
JFWS	Jewell Farm	53.23	65	eP		P	16 22 45.2	-1.8	
JFWS				pmax	pmax				
	comp=Z,27nm,0.8s								
JFWS	Jewell Farm	53.23	65	eP		P	16 22 45.2	-1.8	
	comp=Z,27nm,0.8s								
N39A	Derby Farms, D	53.25	68	P		P	16 22 45.9	-1.3	
	baz=310,SNR=23								
K41A	Shullsburg	53.39	65	P		P	16 22 46.8	-1.4	
	baz=310,SNR=9.8								
Q37A	Longview Farm,	53.42	72	P		P	16 22 46.5	-2.0	
	baz=311								
P38A	Dawn	53.47	70	P		P	16 22 47.3	-1.4	
	baz=311,SNR=23								
X32A	Elmer	53.48	79	P		P	16 22 48.4	-0.6	
	baz=312								
W33A	Caddo, Fort Co	53.49	78	P		P	16 22 48.3	-0.8	
	baz=312								
T35A	Sooner Cattle	53.49	75	P		P	16 22 47.7	-1.3	
	baz=312,SNR=6.3								
S36A	Lake Cedric, C	53.50	73	P		P	16 22 47.8	-1.3	
	baz=311								
SFJD	Kangerlussuaq	53.52	25	eP		P	16 22 47.7	-1.1	
SFJD				pmax	pmax				
	comp=Z,32nm,1.0s								
SFJD	Kangerlussuaq	53.52	25	⇑iP		P	16 22 48.9	+0.2	
	comp=Z,30nm,1.1s								
SFJD	Kangerlussuaq	53.52	25	eP		P	16 22 47.6	-1.1	
	comp=Z,32nm,1.0s								
R37A	Teagarden Farm	53.57	72	P		P	16 22 47.8	-1.7	
	baz=311								
WMOK	Wichita Mounta	53.58	78	P		P	16 22 48.0	-1.7	
	baz=312								
WMOK	Wichita Mounta	53.58	78	eP		P	16 22 49.3	-0.4	
WMOK				pmax	pmax				
	comp=Z,19nm,0.9s								
WMOK	Wichita Mounta	53.58	78	eP		P	16 22 49.3	-0.4	
	comp=Z,19nm,0.9s								
V34A	Guthrie	53.60	76	P		P	16 22 48.6	-1.2	
	baz=312								
V34A	Guthrie	53.60	76	eP		P	16 22 48.8	-1.1	
	comp=Z,39nm,1.1s								
L41A	Preston	53.62	66	P		P	16 22 48.1	-1.8	
	baz=310,SNR=9.7								
O39A	Kirksville	53.63	69	P		P	16 22 48.4	-1.6	
	baz=311								
U35A	Pawnee	53.72	75	P		P	16 22 49.1	-1.6	
	baz=312								
T36A	Boggs Farm, Ca	53.77	74	P		P	16 22 49.4	-1.7	
	baz=312								
W34A	Bridge Creek,	53.85	77	eP		P	16 22 51.0	-0.6	
	comp=Z,26nm,1.1s								
Q38A	Cooks Store, C	53.85	71	P		P	16 22 49.8	-1.8	
	baz=311,SNR=15								
S37A	Fort Scott	53.93	73	P		P	16 22 50.4	-1.8	
	baz=312,SNR=20								
P39B	Salisbury	54.01	70	P		P	16 22 51.3	-1.5	
	baz=311,SNR=27								
V35A	Meyer Ranch, C	54.06	76	P		P	16 22 52.3	-0.9	
	baz=312								
O40A	La Belle	54.11	69	P		P	16 22 52.2	-1.2	
	baz=311,SNR=62								
Q39A	Willow Grove F	54.17	70	P		P	16 22 52.1	-1.8	
	baz=311,SNR=31								
X34A	Smith Ranch, M	54.24	78	P		P	16 22 53.5	-1.1	
	baz=313								
TX31	Lajitas Ar. Si	54.29	87	eP		P	16 22 54.5	-0.5	
TXAR	Lajitas Array	54.29	87	P		P	16 22 54.8	-0.2	
	comp=Z,33nm,0.9s,baz=300,slow=4.9,SNR=142								
TXAR				PcP		PcP	16 23 59.4	+0.5	
	comp=Z,7.3nm,0.8s,baz=251,slow=1.5,SNR=5.0								
TXAR				ScP		ScP	16 27 52.9	-1.6	
	comp=Z,1.4nm,0.9s,baz=236,slow=2.3,SNR=4.1								
TXAR				LR		LR	16 43 58.2		
	comp=Z,225nm,20.1s,baz=0.0,slow=34								
T37A	Cheneyville 18	54.30	73	P		P	16 22 53.3	-1.6	
	baz=312,SNR=16								
U36A	Oologah	54.30	75	P		P	16 22 53.6	-1.3	
	baz=312								
P40A	Paris	54.40	69	P		P	16 22 54.2	-1.3	
	baz=311,SNR=49								
W35A	Tecumseh	54.45	77	P		P	16 22 55.6	-0.4	
	baz=312,SNR=7.2								
SLBS	Sierra La Lagu	54.46	96	eP		P	16 22 56.6	+0.3	
	comp=Z,37nm,1.0s								
ABTX	Abilene, Hawle	54.49	81	P		P	16 22 55.5	-0.9	
	baz=314								
ABTX	Abilene, Hawle	54.49	81	eP		P	16 22 56.2	-0.2	
	comp=Z,60nm,1.4s								
S38A	Stockton	54.56	72	P		P	16 22 54.8	-2.0	
	baz=312,SNR=21								
Z33A	Whitaker Ranch	54.57	80	P		P	16 22 55.1	-1.8	
	baz=313								
V36A	Jenks	54.59	75	P		P	16 22 56.0	-1.0	
	baz=312								
TUL1	Leonard	54.59	75	P		P	16 22 55.8	-1.2	
	baz=312								
TUL1	Leonard	54.59	75	eP		P	16 22 55.9	-1.2	
	comp=Z,117nm,1.9s								
R39A	Chumby, Stover	54.62	71	P		P	16 22 55.3	-1.9	
	baz=312								
U37A	Salina	54.66	74	P		P	16 22 56.5	-1.1	
	baz=312,SNR=18								
O41A	Passleys Farm,	54.68	68	P		P	16 22 56.2	-1.4	
	baz=311,SNR=17								
Y34A	Reagan Ranch,	54.73	78	P		P	16 22 57.7	-0.3	
	baz=313,SNR=14								
T38A	Diamond	54.73	73	P		P	16 22 56.5	-1.6	
	baz=312,SNR=10								
Q40A	Laux Farm, Aux	54.73	70	P		P	16 22 56.3	-1.7	
	baz=312,SNR=24								
HPIG		54.75	90	eP		P	16 22 58.2	-0.3	
	comp=Z,15nm,0.8s								
W36A	Wetumka	54.85	76	P		P	16 22 57.8	-1.1	
	baz=313								
S39A	Bolivar	54.87	72	P		P	16 22 57.2	-1.8	
	baz=312								
P41A	Barry, Barry	54.87	69	P		P	16 22 57.6	-1.4	
	baz=312,SNR=6.6								
X35A	Drake	54.90	77	P		P	16 22 58.5	-0.8	
	baz=313,SNR=5.7								
133A	Hamilton Ranch	54.94	80	P		P	16 22 59.0	-0.6	
	baz=314,SNR=8.7								
V37A	Hulbert	55.00	75	P		P	16 22 58.6	-1.4	
	baz=312								
Z34A	Collier Ranch,	55.03	79	P		P	16 22 59.1	-1.1	
	baz=313								
U38A	Gravette	55.08	74	P		P	16 22 59.0	-1.6	
	baz=312,SNR=9.3								
R40A	Maddies Statio	55.09	71	P		P	16 22 59.1	-1.5	
	baz=312,SNR=14								
X36A	Centrahoma	55.16	77	P		P	16 23 00.8	-0.4	
	baz=313								
Y35A	Marietta	55.20	78	P		P	16 23 01.4	0.0	
	baz=313								
T39A	Clever	55.28	73	P		P	16 23 00.0	-2.0	
	baz=312,SNR=16								
HDIL	Hopedale	55.30	67	P		P	16 23 01.0	-1.1	
	baz=312								
HDIL	Hopedale	55.30	67	eP		P	16 23 00.7	-1.4	
	comp=Z,48nm,0.8s								
W37B	Quinton	55.33	76	P		P	16 23 01.6	-0.8	
	baz=313,SNR=7.4								
P42A	Winchester	55.35	68	P		P	16 23 00.9	-1.5	
	baz=312,SNR=7.9								
233A	Rising Star	55.36	81	P		P	16 23 02.3	-0.3	
	baz=314,SNR=15								
S40A	Lebanon	55.41	71	P		P	16 23 00.8	-2.2	
	baz=312								
HHAR	Hobs	55.45	74	eP		P	16 23 01.4	-1.9	
	comp=Z,14nm,0.9s								
V38A	Canehill	55.45	74	P		P	16 23 02.1	-1.2	
	baz=313								
134A	White-Moore Ra	55.48	80	P		P	16 23 03.3	-0.2	
	baz=314,SNR=6.4								
U39A	Green Forest	55.65	73	P		P	16 23 02.9	-1.8	
	baz=313,SNR=10.0								
Y36A	Durant	55.66	77	P		P	16 23 04.1	-0.6	
	baz=313,SNR=8.3								
Q42A	Golden Eagle	55.69	69	P		P	16 23 03.8	-1.0	
	baz=312,SNR=13								
T40A	Mansfield	55.70	72	P		P	16 23 02.9	-2.2	
	baz=312,SNR=16								
X37A	Clayton	55.74	76	P		P	16 23 04.5	-0.8	
	baz=313,SNR=14								
333A	Richland Sprin	55.79	81	P		P	16 23 05.0	-0.8	
	baz=314,SNR=15								
234A	Clairette	55.84	80	P		P	16 23 04.8	-1.2	
	baz=314,SNR=6.1								
S41A	Jillco Farms,	55.87	71	P		P	16 23 04.0	-2.2	
	baz=312,SNR=28								
JCT	Junction City	55.87	83	P		P	16 23 05.2	-1.2	
	baz=314								
JCT	Junction City	55.87	83	eP		P	16 23 05.4	-1.0	
JCT				pmax	pmax				
	comp=Z,22nm,0.8s								
JCT	Junction City	55.87	83	eP		P	16 23 05.2	-1.2	
	comp=Z,22nm,0.8s								
135A	Vickery Place,	55.90	79	P		P	16 23 04.7	-1.8	
	baz=314								
YOJ	Yonaguni jima	55.91	267	eP		P	16 23 06.2	-0.4	
YOJ				pmax	pmax				
	comp=Z,183nm,1.1s								
YOJ	Yonaguni jima	55.91	267	eP		P	16 23 06.2	-0.4	
	comp=Z,183nm,1.1s								
V39A	Pettigrew	55.92	74	P		P	16 23 05.2	-1.5	
	baz=313,SNR=8.1								
W38A	Poteau	55.92	75	P		P	16 23 05.8	-0.8	
	baz=313,SNR=9.5								
Z36A	Blue Ridge	56.00	78	P		P	16 23 05.2	-2.0	
	baz=314								
Y37A	Hugo	56.01	77	P		P	16 23 05.0	-2.3	
	baz=313								
X38A	Whitesboro	56.01	76	P		P	16 23 06.2	-1.0	
	baz=313,SNR=8.3								
SLM	Saint Louis	56.04	69	eP		P	16 23 05.8	-1.7	
SLM				pmax	pmax				
	comp=Z,34nm,0.7s								
SLM	Saint Louis	56.04	69	eP		P	16 23 05.8	-1.7	
	comp=Z,34nm,0.7s								
U40A	Yellville	56.04	73	P		P	16 23 05.4	-2.1	
	baz=313,SNR=18								
SCO	Scoresbysund	56.08	12	iP		P	16 23 06.9	-0.3	
433A	Art	56.12	82	P		P	16 23 07.2	-0.9	
	baz=314,SNR=16								
Q43A	New Douglas	56.15	68	P		P	16 23 07.1	-1.1	
	baz=312,SNR=18								
T41A	Mountain View	56.22	71	P		P	16 23 06.4	-2.3	
	baz=313,SNR=8.9								
334A	Lometa	56.24	81	P		P	16 23 08.7	-0.2	
	baz=314,SNR=22								
WHTX	Lake Whitney,	56.26	80	P		P	16 23 08.8	-0.3	
	baz=314,SNR=8.9								
WHTX	Lake Whitney,	56.26	80	eP		P	16 23 08.6	-0.5	
	comp=Z,40nm,1.0s								
W39A	Magazine	56.28	74	P		P	16 23 08.1	-1.1	
	baz=313,SNR=14								
V40A	Witts Springs	56.44	73	P		P	16 23 08.4	-1.9	
	baz=313,SNR=7.0								
136A	Ennis	56.49	79	P		P	16 23 09.2	-1.5	
	baz=314								
X39A	Fountain Ranch	56.55	75	P		P	16 23 10.0	-1.1	
	baz=313,SNR=16								
Q44A	Meyer Farm, Va	56.57	68	P		P	16 23 09.6	-1.5	
	baz=312,SNR=8.5								
Y38A	Idabel	56.58	76	P		P	16 23 09.3	-2.0	
	baz=314								
434A	Burnet	56.58	81	P		P	16 23 10.7	-0.8	
	baz=314,SNR=18								
U41A	Viola	56.60	72	P		P	16 23 09.5	-2.0	
	baz=313,SNR=6.5								
VLDQ	Val d'Or	56.62	53	eP		P	16 23 09.0	-2.4	
	comp=Z,41nm,0.9s								
533A	Kenville	56.63	83	P		P	16 23 10.8	-1.0	
	baz=315,SNR=6.2								
SFIN	Lafayette	56.67	66	P		P	16 23 10.7	-1.2	
	baz=312,SNR=10.0								
SFIN	Lafayette	56.67	66	eP		P	16 23 10.9	-0.9	
	comp=Z,82nm,1.3s								
W40A	Ferguson Farm,	56.71	74	P		P	16 23 11.3	-0.9	
	baz=313,SNR=6.3								
335A	Moody	56.77	80	P		P	16 23 11.0	-1.8	
	baz=314								
ZAA0	Zalesovo Array	56.79	317	eP		P	16 23 11.2	-1.4	
ZALV	Zalesovo Beam	56.79	317	P		P	16 23 12.1	-0.5	
	comp=Z,6.2nm,0.7s,baz=27,slow=7.0,SNR=19								
ZALV				PcP		PcP	16 24 08.6	+0.5	
	comp=Z,15nm,0.9s,baz=31,slow=2.9,SNR=12								
ZALV				ScP		ScP	16 28 04.9	0.0	
	comp=Z,2.9nm,1.0s,baz=44,slow=4.9,SNR=5.1								
ZALV				LR		LR	16 48 22.0		
	comp=Z,608nm,21.7s,baz=70,slow=37								
236A	Katherine and	56.82	79	P		P	16 23 11.4	-1.7	
	baz=314								
NVS	Novosibirsk	56.84	318	⇑iP		P	16 23 13.1	+0.3	
NVS				i			16 24 09.1		
NVS				e			16 32 56.9		
NVS				pmax	pmax				
	comp=Z,40nm,1.3s								
NVS				pmax	pmax				
	comp=N,16nm,1.4s								
NVS				pmax	pmax				
	comp=E,22nm,1.3s								
V41A	Mountainview	56.85	73	P		P	16 23 11.3	-2.0	
	baz=313,SNR=17								
MIAR	Mount Ida	56.85	75	P		P	16 23 12.1	-1.1	
	baz=314								
MIAR	Mount Ida	56.85	75	eP		P	16 23 12.5	-0.7	
MIAR				pmax	pmax				
	comp=Z,72nm,1.2s								
MIAR	Mount Ida	56.85	75	eP		P	16 23 12.5	-0.7	
	comp=Z,72nm,1.2s								
S43A	Fulton Ridge,	56.85	70	P		P	16 23 11.5	-1.8	
	baz=313,SNR=29								
SCHQ	Schefferville	56.87	42	P		P	16 23 12.4	-0.7	
	comp=Z,30nm,0.9s,baz=321,slow=8.1,SNR=26								
SCHQ				LR		LR	16 48 45.2		
	comp=Z,905nm,18.6s,baz=308,slow=37								
SCHQ	Schefferville	56.87	42	eP		P	16 23 12.6	-0.6	
	comp=Z,41nm,0.9s								
137A	Heron Place, G	56.88	78	P		P	16 23 12.5	-0.9	
	baz=314								
WHN	Wuhan	56.93	279	⇓iP		P	16 23 14.8	+1.0	
WHN				S		S	16 31 05.3	-0.2	
WHN				PMZ					
	comp=Z,190nm,1.1s								
WHN				LZ					
	comp=Z,740nm,15.7s								
R44A	Waltonville	56.97	69	P		P	16 23 11.1	-2.9	
	baz=313								
633A	Saathoff Ranch	56.97	83	P		P	16 23 12.5	-1.7	
	baz=315								
U42A	Revenden	57.00	72	P		P	16 23 12.1	-2.2	
	baz=313,SNR=16								
534A	Blanco	57.01	82	P		P	16 23 13.3	-1.2	
	baz=315,SNR=6.8								
X201	Greenbrier Sit	57.06	73	eP		P	16 23 14.0	-0.8	
	comp=Z,28nm,1.1s								
X301	Greenbrier Sit	57.08	73	eP		P	16 23 13.2	-1.7	
	comp=Z,33nm,1.0s								
WHAR	Wooly Hollow	57.11	73	eP		P	16 23 13.4	-1.6	
	comp=Z,25nm,1.0s								
PBMO	Poplar Bluff	57.19	71	eP		P	16 23 13.7	-1.9	
	comp=Z,52nm,1.2s								
OLIL	Olney	57.21	68	eP		P	16 23 14.3	-1.4	
	comp=Z,80nm,1.0s								
W41B	Gary Mavity, V	57.21	73	P		P	16 23 14.2	-1.5	
	baz=313,SNR=16								
138A	Matatall Enter	57.24	78	P		P	16 23 15.7	-0.3	
	baz=314								
S44A	Carbondale	57.25	69	P		P	16 23 14.3	-1.7	
	baz=313,SNR=7.4								
SIUC	Southern Illin	57.26	69	eP		P	16 23 14.8	-1.2	
	comp=Z,42nm,1.0s								
237A	Washetta, Mont	57.26	79	P		P	16 23 14.5	-1.6	
	baz=314								
V42A	Cord	57.28	72	P		P	16 23 14.3	-2.0	
	baz=313								
AAM	Ann Arbor	57.29	62	eP		P	16 23 15.0	-1.2	
AAM				pmax	pmax				
	comp=Z,39nm,0.3s								
AAM	Ann Arbor	57.29	62	eP		P	16 23 15.0	-1.2	
	comp=Z,39nm,0.3s								
832A	Faith Ranch, C	57.31	85	P		P	16 23 16.0	-0.7	
	baz=316,SNR=7.7								
X40A	Basin Creek Fa	57.33	74	P		P	16 23 15.1	-1.5	
	baz=314,SNR=8.2								
733A	Divot King Ran	57.42	84	P		P	16 23 16.5	-0.9	
	baz=315								
UALR	University of	57.43	74	eP		P	16 23 15.5	-1.8	
	comp=Z,24nm,1.0s								
H06N1	SOCORRO T-PHAS	57.43	101	T		T	17 25 43.5		
	SNR=40								
436A	Wall Ranch, Ga	57.52	80	P		P	16 23 17.2	-0.8	
	baz=315								
H06E1	SOCORRO T-PHAS	57.53	101	T		T	17 25 46.2		
	SNR=10								
535A	Dale	57.56	82	P		P	16 23 17.4	-0.9	
	baz=315								
833A	Chaparral WMA,	57.64	84	P		P	16 23 18.5	-0.4	
	baz=316								
S45A	Carrier Mills	57.65	69	P		P	16 23 16.9	-1.9	
	baz=313,SNR=13								
PARMO	Parma	57.66	70	eP		P	16 23 18.0	-0.9	
SSLB	Suanglung	57.68	268	eP		P	16 23 19.5	+0.2	
	comp=Z,26nm,0.6s								
337A	Centerville	57.69	79	P		P	16 23 18.4	-0.8	
	baz=315								
WLAR	White Oak Lake	57.72	75	eP		P	16 23 18.9	-0.4	
	comp=Z,103nm,1.1s								
YULB	Yu-li	57.76	267	eP		P	16 23 23.2	+3.4	
	comp=Z,9.9nm,0.6s								
734A	La Parita Cree	57.79	83	P		P	16 23 19.4	-0.5	
	baz=315								
XAN	Xi'an	57.79	285	P		P	16 23 20.0	0.0	
XAN				pP		pP	16 23 30.3	+0.7	
XAN				sP		sP	16 23 34.0	+0.7	
XAN				PcP		PcP	16 24 13.8	+1.4	
XAN				PP		PP	16 25 28.0	+0.1	
XAN				S		S	16 31 12.3	-4.7	
XAN				SS		SS	16 35 02.5	-4.8	
XAN				PMZ					
	comp=Z,67nm,1.2s								
XAN				PMZ					
	comp=Z,81nm,7.5s								
XAN				LN					
	comp=Z,150nm,23.6s								
XAN				LE					
	comp=Z,500nm,20.8s								
XAN				LZ					
	comp=Z,500nm,21.9s								
BLO	Bloomington	57.81	66	eP		P	16 23 18.8	-1.2	
BLO				pmax	pmax				
	comp=Z,38nm,0.8s								
BLO	Bloomington	57.81	66	eP		P	16 23 18.8	-1.2	
	comp=Z,38nm,0.8s								
Z40A	Long Farm, Mag	57.84	76	P		P	16 23 18.9	-1.4	
	baz=314								
PVMO	Portageville	57.86	71	eP		P	16 23 19.7	-0.7	
	comp=Z,398nm,0.3s								
Y41A	Eaglette Beard	57.88	75	P		P	16 23 19.1	-1.5	
	baz=314								
635A	Leesville	57.89	82	P		P	16 23 19.3	-1.3	
	baz=315								
HBAR	Harrisburg	57.89	72	eP		P	16 23 19.8	-0.8	
KEV	Kevo	57.96	352	eP		P	16 23 20.0	-0.5	
KEV				pmax	pmax				
	comp=Z,14nm,0.9s								
KEV	Kevo	57.96	352	eP		P	16 23 20.0	-0.5	
	comp=Z,14nm,0.9s								
USIN	University of	57.98	68	eP		P	16 23 19.5	-1.7	
	comp=Z,101nm,0.8s								
GNAR	Gosnell	57.98	71	eP		P	16 23 20.0	-1.2	
SADO	Sadowa	58.02	57	eP		P	16 23 20.3	-1.1	
	comp=Z,26nm,1.0s								
933A	Laredo	58.22	85	P		P	16 23 22.2	-0.8	
	baz=316								
636A	Smothers Creek	58.26	82	P		P	16 23 22.6	-0.6	
	baz=315								
ARA0	ARCESS Array S	58.29	353	eP		P	16 23 21.2	-1.7	
ARCES	ARCESS Array B	58.29	353	P		P	16 23 21.5	-1.4	
	comp=Z,8.3nm,0.7s,baz=17,slow=8.2,SNR=30					

baz=314
V45A Humboldt 58.76 71 P P 16 23 26.2 -0.4
baz=314
LVZ Lovozero 58.97 349 *i* P P 16 23 27.2 -0.5
LVZ pmax pmax
comp=Z,59nm,2.5s
LVZ Lovozero 58.97 349 *e*P P 16 23 26.1 -1.6
comp=Z,37nm,0.8s
034A Hebbronville 58.98 85 P P 16 23 28.4 +0.1
baz=316
W45A Hickory Valley 59.03 71 P P 16 23 27.0 -1.6
baz=314,SNR=5.6
ACSO Alum Creek Sta 59.07 63 *e*P P 16 23 27.5 -1.2
comp=Z,101nm,2.0s
WVT Waverly 59.15 70 *e*P P 16 23 28.7 -0.6
WVT pmax pmax
comp=Z,58nm,1.3s
WVT Waverly 59.15 70 *e*P P 16 23 28.4 -1.0
comp=Z,58nm,1.4s
OXF Oxford 59.35 72 *e*P P 16 23 30.6 -0.1
OXF pmax pmax
comp=Z,160nm,1.0s
OXF Oxford 59.35 72 *e*P P 16 23 29.9 -0.9
comp=Z,160nm,1.0s
TRQ Mont Tremblant 59.36 53 *e*P P 16 23 29.3 -1.4
GTA Gaotai 59.36 296 ⇑P P 16 23 30.8 -0.1
GTA pP pP 16 23 38.8 -1.8
GTA sP sP 16 23 43.5 -0.8
GTA ScP **ScP** **16 28 16.8 0.0**
GTA S **S** **16 31 35.3 -2.2**
GTA sS sS 16 31 52.5 -0.9
GTA ScS **ScS** **16 33 16.3 -2.4**
GTA SS **SS** **16 35 32.0 +0.1**
GTA PMZ
comp=Z,35nm,1.3s
GTA PMZ
comp=Z,89nm,7.1s
GTA LN
comp=Z,900nm,18.1s
GTA LE
comp=Z,620nm,18.5s
GTA LZ
comp=Z,1μm,17.6s
LZH Lanzhou 59.37 290 ⇑P P 16 23 32.8 +1.7
LZH pP sP 16 23 43.5 -0.9
LZH sP pP 16 23 47.8 +7.1
LZH PP **PP** **16 25 43.0 +1.0**
LZH S **S** **16 31 36.3 -1.4**
LZH sS sS 16 31 54.0 +0.4
LZH PMZ
comp=Z,94nm,1.0s
LZH PMZ
comp=Z,210nm,4.5s
LZH LN
comp=Z,850nm,16.5s
LZH LE
comp=Z,900nm,17.0s
LZH LZ
comp=Z,1μm,19.0s
ERPA Erie 59.40 60 *e*P P 16 23 30.0 -1.0
X45A UM Field Stati 59.42 72 P P 16 23 31.0 -0.2
baz=314
035A Encino 59.43 84 P P 16 23 32.1 +0.7
baz=316
BUF Buffalo 59.45 58 *e*P P 16 23 30.5 -0.8
ALLY Alegheny Colle 59.64 60 *e*P P 16 23 32.1 -0.6
comp=Z,100nm,0.9s
ZAIG Zacatecas 59.70 91 *e*P P 16 23 33.2 -0.4
comp=Z,17nm,1.3s
Y45A Yeager Farm, C 59.72 73 P P 16 23 33.3 0.0
baz=315
M54A Oil Creek Stat 60.00 60 P P 16 23 34.2 -1.0
baz=314,SNR=6.6
MMNY Mt. Morris Dam 60.08 58 *e*P P 16 23 35.3 -0.4
ENH Enshi 60.09 282 *e*P P 16 23 35.4 -0.6
comp=Z,189nm,1.7s
Y46A Houston 60.12 72 P P 16 23 34.6 -1.4
baz=315
N54A Moraine State 60.20 61 P P 16 23 34.7 -1.9
baz=314,SNR=9.8
244A Avery, Jackson 60.32 75 P P 16 23 35.8 -1.7
baz=315
LONY Lake Ozonia 60.47 55 *e*P P 16 23 37.0 -1.3
comp=Z,29nm,1.2s
LMQ La Malbaie 60.47 50 *e*P P 16 23 37.6 -0.6
Y47A UCPARC, Winfie 60.70 72 P P 16 23 38.6 -1.4
baz=315,SNR=19
344A Westbrook Farm 60.71 75 P P 16 23 39.5 -0.6
baz=315
FRNY Flat Rock 60.82 54 *e*P P 16 23 39.4 -1.2
comp=Z,29nm,1.1s
146A Union 60.88 73 P P 16 23 40.1 -1.1
baz=315
SWET Sewanee 60.89 69 *e*P P 16 23 39.7 -1.6
comp=Z,16nm,1.5s
Z47A Carrollton 61.06 72 P P 16 23 41.0 -1.5
baz=315
NCB Newcomb 61.11 55 *e*P P 16 23 42.2 -0.5
comp=Z,0.8nm,1.5s
MCWV Mont Chateau 61.20 62 *e*P P 16 23 42.8 -0.5
comp=Z,24nm,0.9s
Z48A Northport 61.24 72 P P 16 23 42.2 -1.5
baz=315,SNR=21
147A Livingston 61.32 73 P P 16 23 43.0 -1.2
baz=315,SNR=7.1
TZTN Tazewell 61.33 67 *e*P P 16 23 43.2 -1.0
comp=Z,33nm,1.0s
O56A Blue Knob Stat 61.46 60 P P 16 23 43.7 -1.4
baz=315,SNR=9.1
BINY Binghamton 61.46 57 *e*P P 16 23 44.9 -0.2
CPCT Cooper Cave 61.54 68 *e*P P 16 23 44.1 -1.6
comp=Z,17nm,1.3s
247A Quitman 61.56 74 P P 16 23 44.8 -1.0
baz=316
SSPA Standing Stone 61.57 60 *e*P P 16 23 45.0 -0.8
comp=Z,92nm,1.3s
MDV Middlebury 61.62 54 *e*P P 16 23 44.8 -1.3
KURK Kurchatov 61.76 317 *d i*P P 16 23 46.1 -0.8
KURK pmax pmax
comp=Z,158nm,0.9s
KURK Kurchatov 61.76 317 *e*P P 16 23 45.8 -1.1
comp=Z,157nm,0.8s
ACCN Adirondack Com 61.81 55 *e*P P 16 23 46.8 -0.6
comp=Z,53nm,1.1s
TKL Tuckaleechee C 61.83 67 *e*P P 16 23 46.3 -1.3
TKL pmax pmax
comp=Z,23nm,1.0s
TKL Tuckaleechee C 61.83 67 *e*P P 16 23 46.3 -1.3
comp=Z,23nm,1.0s
248A Dixon Mills 62.04 73 P P 16 23 48.0 -1.1
baz=316
PQI Presque Isle 62.20 49 *e*P P 16 23 49.7 -0.2
comp=Z,0.5nm,1.0s
HNH Hanover 62.28 54 *e*P P 16 23 50.0 -0.5
comp=Z,111nm,1.7s
TRY Troy 62.28 55 *e*P P 16 23 50.1 -0.5
comp=Z,47nm,1.0s
447A Lucedale 62.43 75 P P 16 23 51.5 -0.2
baz=316
N59A State Game Lan 62.49 58 P P 16 23 51.4 -0.6
baz=316,SNR=11
BLA Blacksburg 62.62 64 *e*P P 16 23 52.6 -0.3
BLA Blacksburg 62.62 64 *e*P P 16 23 52.6 -0.3
PKME Peaks-Kenny Pk 62.62 51 *e*P P 16 23 51.2 -1.6
comp=Z,64nm,1.0s
CHKZ Chkalovo 62.65 324 *i* P P 16 23 51.1 -1.7
CHKZ pmax pmax
comp=Z,52nm,1.3s
WMQ Urumqi 62.66 307 P P 16 23 55.3 +2.1
WMQ pP sP 16 24 05.5 -1.1
WMQ sP pP 16 24 09.5 +6.6
WMQ PcP **PcP** **16 24 33.8 +2.0**
WMQ S **S** **16 32 19.3 +0.1**
WMQ ScS **SKKSac** **16 33 41.3 -1.8**
WMQ SS **SS** **16 36 25.5 +2.4**
WMQ PMZ
comp=Z,22nm,0.7s
WMQ PMZ
comp=Z,92nm,3.6s
WMQ LN
comp=Z,340nm,19.9s
WMQ LE
comp=Z,260nm,26.3s
WMQ LZ
comp=Z,280nm,25.3s
FFD Franklin Falls 62.77 54 *e*P P 16 23 53.2 -0.6
comp=Z,62nm,1.0s
MVL Millersville 62.84 59 *e*P P 16 23 53.9 -0.4
comp=Z,19nm,0.8s
MOIG Morelia 62.85 92 *e*P P 16 23 54.5 -0.5
comp=Z,82nm,1.4s
LUPA Lehigh Univers 62.93 58 *e*P P 16 23 54.2 -0.7
comp=Z,64nm,1.1s
WVL Waterville 62.95 52 *e*P P 16 23 54.0 -1.0
ODNJ Ogdensburg 62.98 57 *e*P P 16 23 54.7 -0.6
comp=Z,30nm,1.0s
SDMD Soldier's Deli 63.00 60 *e*P P 16 23 54.9 -0.6
comp=Z,66nm,0.6s
MK31 Makanchi Array 63.06 312 *e*P P 16 23 55.3 -0.5
MK31 Makanchi Array 63.06 312 *e*P P 16 23 54.7 -1.0
MKAR Makanchi Array 63.06 312 P P 16 23 54.9 -0.8
comp=Z,11nm,0.7s,baz=53,slow=6.2,SNR=83
MKAR PKiKP **PKiKP** **16 30 44.5 +1.2**
comp=Z,0.2nm,0.2s,baz=59,slow=5.6,SNR=2.6
MKAR PKPPKP **P'P'df** **16 52 55.5 -5.4**
comp=Z,1.5nm,1.0s,baz=223,slow=3.6,SNR=5.3
MKAR LR LR 16 53 43.8
comp=Z,428nm,18.7s,baz=30,slow=38
MK01 Makanchi Array 63.08 312 *e*P P 16 23 54.0 -1.8
CD2 Chengdu 63.08 286 *e*P P 16 23 56.0 -0.1
CD2 pP pP 16 24 06.0 +0.2
CD2 sP sP 16 24 09.8 +0.3
CD2 PcS 16 28 34.0
CD2 S **S** **16 32 24.8 0.0**
CD2 sS sS 16 32 41.0 +0.2
CD2 SS **SS** **16 36 31.5 +1.2**
CD2 PMZ
comp=Z,120nm,0.6s
CD2 PMZ
comp=Z,160nm,5.2s
CD2 LN
comp=Z,760nm,13.9s
CD2 LE
comp=Z,690nm,18.9s
CD2 LZ
comp=Z,620nm,19.5s
BRAL Brewton 63.12 73 *e*P P 16 23 56.1 -0.2
MAKZ Makanchi 63.20 312 *e*P P 16 23 55.1 -1.5
MAKZ pmax pmax
comp=Z,33nm,1.1s
MAKZ Makanchi 63.20 312 *e*P P 16 23 55.1 -1.5
comp=Z,33nm,1.1s
BVA0 Borovoye Array 63.25 323 *i* P P 16 23 56.7 -0.2
BVA0 pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 63.26 323 *d i*P P 16 23 54.5 -2.4
BRVK pmax pmax
comp=Z,141nm,1.0s
BRVK Borovoye 63.26 323 *e*P P 16 23 55.7 -1.2
comp=Z,130nm,0.7s
VOSK Vostochnaya 63.27 323 *e*P P 16 23 56.6 -0.4
VOSK pmax pmax
comp=Z,56nm,1.1s
VOSK Vostochnaya 63.27 323 *e*P P 16 23 56.1 -0.9
comp=Z,56nm,1.1s
QUA2 Belchertown 63.28 55 *e*P P 16 23 55.5 -1.7
comp=Z,49nm,1.3s
BRNJ Basking Ridge 63.29 58 *e*P P 16 23 57.2 -0.1
comp=Z,61nm,0.9s
PAL Palisades 63.40 57 *e*P P 16 23 57.8 -0.2
PAL pmax pmax
comp=Z,62nm,0.9s
PAL Palisades 63.40 57 *e*P P 16 23 57.8 -0.2
comp=Z,62nm,0.9s
SVE Sverdlovsk 63.44 331 ⇑*e*P P 16 23 58.6 +0.5
SVE pmax pmax
comp=Z,54nm,0.8s
SVE MLR MLR
comp=Z,692nm,21.0s
HRV Adam Dziewonsk 63.52 54 *e*P P 16 23 59.1 +0.3
HRV pmax pmax
comp=Z,54nm,1.3s
HRV Adam Dziewonsk 63.52 54 *e*P P 16 23 59.1 +0.3
comp=Z,54nm,1.3s
CPNY Central Park 63.53 57 *e*P P 16 23 58.6 -0.3
comp=Z,43nm,0.8s
KMSC Kings Mountain 63.59 66 P P 16 23 58.2 -1.1
baz=316,SNR=22
KMSC Kings Mountain 63.59 66 *e*P P 16 23 58.4 -0.9
comp=Z,74nm,1.0s
GOGA Godfrey 63.61 69 *e*P P 16 23 58.3 -1.2
GOGA pmax pmax
comp=Z,46nm,1.0s
GOGA Godfrey 63.61 69 *e*P P 16 23 57.7 -1.8
comp=Z,46nm,1.0s
RABL Rabaul 63.65 221 *e*P P 16 24 00.2 +0.3
comp=Z,54nm,1.2s
YLE Yale 63.68 56 *e*P P 16 23 59.2 -0.6
comp=Z,35nm,0.9s
WES Weston 63.72 54 *e*P P 16 24 00.1 0.0
WES Weston 63.72 54 *e*P P 16 23 59.6 -0.5
MANU Manus Island 63.78 227 *e*P P 16 24 01.4 +0.6
comp=Z,88nm,1.5s
ZRNK Zerenda 63.82 324 *e*P P 16 24 00.2 -0.4
ZRNK pmax pmax
comp=Z,100nm,0.6s
ZRNK Zerenda 63.82 324 *e*P P 16 23 59.9 -0.7
comp=Z,104nm,0.6s
BCX Boston College 63.84 54 *e*P P 16 24 01.0 +0.2
comp=Z,207nm,1.6s
GGN Saint George 63.89 50 *e*P P 16 24 00.4 -0.8
comp=Z,84nm,1.1s
EMMW East Machias 63.91 50 *e*P P 16 24 00.6 -0.6
comp=Z,71nm,0.9s
URVA University of 63.95 62 *e*P P 16 24 01.1 -0.6
BRYW Bryant College 63.95 55 *e*P P 16 24 01.0 -0.7
comp=Z,78nm,1.1s
JSC Jenkinsville 64.25 67 *e*P P 16 24 03.5 -0.2
JSC Jenkinsville 64.25 67 *e*P P 16 24 03.5 -0.2
LMN Caledonia Moun 64.30 48 *e*P P 16 24 03.6 -0.2
comp=Z,96nm,0.8s
ARU Arti 64.40 332 *c i*P P 16 24 04.0 -0.3
ARU 16 24 37.8
ARU 16 26 24.5
ARU S **S** **16 32 40.3 0.0**
ARU pmax pmax
comp=Z,48nm,0.6s
ARU MLR MLR
comp=Z,572nm,21.0s
ARU Arti 64.40 332 *e*P P 16 24 03.3 -1.0
comp=Z,53nm,0.7s
GYA Guiyang 64.55 281 P P 16 24 06.0 0.0
GYA pP sP 16 24 18.3 -1.1
GYA PP **PP** **16 26 30.0 +2.1**
GYA S **S** **16 32 41.5 -1.8**
GYA sS sS 16 32 58.8 -0.5
GYA ScS **SKSac** **16 33 53.0 -5.1**
GYA SS **SS** **16 36 51.5 -2.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.8s
GYA LN
comp=Z,480nm,20.4s
GYA LE
comp=Z,460nm,22.0s
GYA LZ
comp=Z,490nm,20.6s
DRLN Deer Lake 64.86 41 *e*P P 16 24 06.5 -0.9
comp=Z,74nm,0.9s
KLMR Klimovskoe 64.90 344 *e*P P 16 24 05.3 -2.2
KLMR *e* 16 24 37.4
KLMR pmax pmax
comp=Z,10.0nm,1.0s
NHSC New Hope 65.72 67 *e*P P 16 24 12.9 -0.4
comp=Z,248nm,1.3s
TLIG Tlapa 66.07 92 *e*P P 16 24 14.9 -0.9
comp=Z,18nm,1.0s
FIA1 FINESS Array S 66.18 351 *e*P P 16 24 15.0 -0.8
FINES FINESS Array B 66.18 351 P P 16 24 14.5 -1.3
comp=Z,11nm,0.6s,baz=28,slow=8.6,SNR=40
FINES PcP **PcP** **16 24 45.1 -0.7**
comp=Z,4.3nm,0.5s,baz=64,slow=4.5,SNR=8.6
FINES PKPPKP **P'P'df** **16 52 51.1 -5.7**
comp=Z,2.9nm,0.9s,baz=134,slow=4.0,SNR=7.2
FINES LR LR 16 56 30.3
comp=Z,455nm,18.7s,baz=12,slow=39
OTUK Ortayu 66.27 319 P P 16 24 15.4 -1.3
OTUK pmax pmax
comp=Z,59nm,1.2s
TAOE Nuku Hiva Isla 66.29 145 *e*LR LR 16 44 15.6
comp=Z,1μm,22.8s,baz=346
TAOE Nuku Hiva Isla 66.29 145 *e*T T 17 36 40.7
comp=Z,144nm,0.3s
PDGK Podgornoye 66.98 311 *i* P P 16 24 20.4 -0.8
PDGK pmax pmax
comp=Z,50nm,0.9s
NC204 NORSAR Array S 67.23 359 *e*P P 16 24 21.7 -0.9
NC303 NORSAR Array S 67.28 358 *e*P P 16 24 21.6 -1.2
JAY Jayapura 67.35 233 LR LR 16 50 41.7
comp=Z,11nm,20.1s,slow=33
NC405 NORSAR Array S 67.38 358 *e*P P 16 24 22.3 -1.2
NB201 NORSAR Array S 67.45 358 *e*P P 16 24 22.7 -1.2
NBO02 NORSAR Array S 67.46 359 *e*P P 16 24 23.6 -0.4
NB2 NORSAR Subarra 67.46 358 P P 16 24 23.0 -1.0
comp=Z,10nm,0.6s,baz=4.2,slow=6.5
NOA NORSAR Array B 67.46 358 P P 16 24 23.1 -1.0
comp=Z,8.8nm,0.6s,baz=3.0,slow=6.4,SNR=46
NOA LR LR 16 53 07.9
comp=Z,217nm,21.7s,baz=0.0,slow=35
NOA NORSAR Array B 67.46 358 P P 16 24 23.1 -1.0
NOA pmax pmax
comp=Z,8.0nm,0.6s
NOA MLR MLR
comp=Z,217nm,21.7s
NBO00 NORSAR Array S 67.48 359 *e*P P 16 24 23.5 -0.6
NAO01 NORSAR Array S 67.67 359 *e*P P 16 24 23.8 -1.5
NC602 NORSAR Array S 67.76 358 *e*P P 16 24 25.3 -0.6
KMI Kunming 67.92 283 P P 16 24 28.5 +0.8
KMI pP pP 16 24 38.8 +1.3
KMI sP sP 16 24 43.0 +1.8
KMI PP **PP** **16 27 01.5 +4.1**
KMI S **S** **16 33 19.3 -5.1**
KMI sS sS 16 33 44.3 +3.7
KMI SS **SS** **16 37 41.3 -4.8**
KMI PMZ
comp=Z,57nm,1.1s
KMI PMZ
comp=Z,220nm,4.0s
KMI LN
comp=Z,330nm,18.1s
KMI LE
comp=Z,290nm,17.0s
KMI LZ
comp=Z,230nm,19.2s
QIZ Qiongzhong 68.10 273 P P 16 24 28.5 -0.1
QIZ pP **pP** **16 24 37.8 -0.6**
QIZ S **S** **16 33 26.5 +0.2**
QIZ SS **SS** **16 37 49.0 +0.3**
QIZ LE
comp=Z,180nm,17.0s
QIZ LZ
comp=Z,170nm,16.2s
DWPF Disney Wildern 68.67 71 *e*P P 16 24 30.6 -1.5
comp=Z,30nm,0.6s
KONO Kongsberg 68.88 359 *e*P P 16 24 34.2 +1.4
KONO pmax pmax
comp=Z,76nm,1.7s
KONO Kongsberg 68.88 359 *e*P P 16 24 32.6 -0.3
comp=Z,76nm,1.8s
VSU Vasula 69.04 350 *i* P P 16 24 34.1 +0.3
VSU pmax pmax
comp=Z,159nm,1.0s
TKM2 Tokmak 2 69.08 313 *e*P P 16 24 34.7 0.0
TKM2 pmax pmax
comp=Z,38nm,0.9s
TKM2 Tokmak 2 69.08 313 *e*P P 16 24 34.2 -0.5
comp=Z,38nm,0.9s
FRU Bishkek 69.59 314 *i* P P 16 24 36.0 -1.6
FRU *e* 16 25 04.0
FRU *e* 16 27 12.0
FRU pmax pmax
comp=Z,140nm,1.5s
AKTO Aktyubinsk 69.71 329 *i* P P 16 24 38.7 +0.6
AAK Ala-Archa 69.81 314 *c i*P P 16 24 38.9 -0.2
AAK pmax pmax
comp=Z,126nm,0.7s
AAK Ala-Archa 69.81 314 *e*P P 16 24 38.7 -0.4
comp=Z,53nm,0.8s
MSVF Nonsavu 69.82 190 *e*P P 16 24 41.1 +2.0
MSVF *e**PP **pP** **16 24 48.1 -0.9**
MSVF pmax pmax
comp=Z,43nm,1.1s
MSVF Nonsavu 69.82 190 *e*P P 16 24 39.9 +0.7
comp=Z,43nm,1.1s
AB31 Akbulak array 70.08 327 *i* P P 16 24 38.7 -1.8
ABKAR Akbulak array 70.08 327 *e*P P 16 24 39.9 -0.6
EKS2 Erkin-Say 70.10 314 *e*P P 16 24 40.6 -0.3
EKS2 pmax pmax
comp=Z,46nm,0.7s
EKS2 Erkin-Say 70.10 314 *e*P P 16 24 40.6 -0.3
comp=Z,46nm,0.7s
MNAS Manas 70.81 315 *i* P P 16 24 44.6 -0.6
MNAS pmax pmax
comp=Z,3.0nm,0.4s
OBN Obninsk 70.85 343 *i* P P 16 24 44.8 -0.2
OBN *e* 16 25 04.5
OBN *e*S S **16 34 00.5 +3.0**
OBN pmax pmax
comp=Z,18nm,1.2s
OBN MLR MLR
comp=Z,517nm,21.0s
CCIG Comitan 71.03 88 *e*P P 16 24 46.1 -0.8
comp=Z,47nm,1.6s
KK31 Karatay Array 71.17 317 *i* P P 16 24 46.1 -1.1
KK31 pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 71.17 317 *e*P P 16 24 46.6 -0.6
KKAR Karatay Array 71.17 317 *e*P P 16 24 46.6 -0.6
LSA Lhasa 71.31 294 P P 16 24 49.8 +1.0
LSA PMZ
comp=Z,13nm,0.9s
LSA Lhasa 71.31 294 *e*P P 16 24 49.6 +0.8
LSA pmax pmax
comp=Z,80nm,0.7s
LSA Lhasa 71.31 294 *e*P P 16 24 49.5 +0.8
comp=Z,80nm,0.7s
KSH Kashi 71.61 311 P P 16 24 53.5 +3.4
KSH pP sP 16 25 04.5 +0.9
KSH PcP **PcP** **16 25 13.0 +3.8**
KSH PP **PP** **16 27 34.0 +5.4**
KSH S **S** **16 34 10.0 +2.8**
KSH ScS **ScS** **16 34 52.8 -0.1**
KSH SS **SS** **16 38 48.0 +6.2**
KSH PMZ
comp=Z,52nm,0.7s
KSH LN
comp=Z,650nm,18.0s
KSH LE
comp=Z,380nm,13.7s
KSH LZ
comp=Z,680nm,19.0s
PPT Papeete 71.77 158 LR LR 16 49 10.0
comp=Z,353nm,20.4s,baz=334,slow=30
PPT2 Papeete2 71.79 158 *e*S S **16 34 08.7 -0.6**
comp=Z,255nm,23.5s
PPT2 Papeete2 71.79 158 *e*LR LR 16 46 39.9
comp=Z,621nm,22.5s,baz=346
ESK Eskdalemuir 72.81 7 *e*P P 16 24 54.8 -2.0
ESK pmax pmax
comp=Z,23nm,1.1s
ESK Eskdalemuir 72.81 7 *e*P P 16 24 54.8 -2.0
comp=Z,23nm,1.1s
NONG Nongkai 72.97 278 P P 16 24 59.0 +0.7
comp=Z,37nm,1.0s
SKNT Sakolnakorn 73.28 276 P P 16 25 01.0 +0.8
comp=Z,39nm,1.0s
BSD Bornholm Skovb 73.29 356 *i* P P 16 24 59.7 +0.1
comp=Z,11nm,0.6s
MYLDM Lahad Datu 73.43 257 *e*P P 16 25 02.5 +1.5
comp=Z,46nm,1.2s
KLNR Kaliningrad 73.47 353 *e*P P 16 25 01.3 +0.6
KLNR pmax pmax
comp=Z,77nm,1.2s
VRH Novokhopyorsk 73.50 339 *e*P P 16 25 01.6 +0.7
VRH pmax pmax
comp=Z,30nm,0.5s
UBPT Khong Chiam 73.65 274 P P 16 25 03.9 +1.6
comp=Z,26nm,1.5s,comp=Z,3μm
SUW Suwalki 73.79 351 *e*P P 16 25 02.6 0.0
SUW Suwalki 73.79 351 *e*P P 16 25 02.6 0.0
VSR Storozhevoye 74.04 340 *e*P P 16 25 04.6 +0.5
VSR pmax pmax
comp=Z,30nm,0.9s
VSR MLR MLR
comp=Z,890nm,28.0s
KKM Kota Kinabalu 74.14 259 *e*P P 16 25 04.6 -0.8

	comp=Z,22nm,1.1s									
KHON	**Khomkaen**	**74.48**	**277**		P		**P**		**16 25 08.2**	**+1.0**
	comp=Z,29nm,1.0s,comp=Z,2µm									
LOEI	**Loei**	**74.55**	**279**		P		**P**		**16 25 06.3**	**-1.3**
	comp=Z,173nm,1.1s									
LAMP	**Lampang**	**74.77**	**281**		P		**P**		**16 25 10.5**	**+1.6**
	comp=Z,7.2nm,1.3s									
UTTA	**Uttaradit**	**74.80**	**279**		P		**P**		**16 25 09.9**	**+0.9**
	comp=Z,12nm,0.7s,comp=Z,107nm									
CMMT	**Chiang Mai**	**74.97**	**281**		P		**P**		**16 25 10.6**	**+0.6**
	comp=Z,33nm,1.5s,comp=Z,491nm									
CHTO	**Chiang Mai**	**74.97**	**281**		P		**P**		**16 25 10.6**	**+0.6**
	comp=Z,149nm,1.5s,comp=Z,2µm									
CHTO	**Chiang Mai**	**74.97**	**281**	*e*	P		**P**		**16 25 10.4**	**+0.4**
CHTO					pmax		pmax			
	comp=Z,88nm,1.5s									
CHTO	**Chiang Mai**	**74.97**	**281**	*e*	P		**P**		**16 25 09.8**	**-0.3**
	comp=Z,88nm,1.5s									
CM31	**Chiang Mai Arr**	**75.24**	**281**	*e*	P		**P**		**16 25 11.6**	**0.0**
CMAR	**Chiang Mai Arr**	**75.24**	**281**		P		**P**		**16 25 11.9**	**+0.4**
	comp=Z,16nm,1.0s,baz=27,slow=6.1,SNR=63									
CMAR					LR		LR		17 02 10.1	
	comp=Z,131nm,18.1s,baz=31,slow=39									
CMAR	**Chiang Mai Arr**	**75.24**	**281**		P		**P**		**16 25 12.0**	**+0.4**
CMAR					pmax		pmax			
	comp=Z,16nm,1.0s									
CMAR					MLR		MLR			
	comp=Z,131nm,18.1s									
CM01	**Chiang Mai Arr**	**75.26**	**281**	*e*	P		**P**		**16 25 11.8**	**0.0**
CHAI	**Chaiyaphum**	**75.33**	**277**		P		**P**		**16 25 13.2**	**+1.1**
	comp=Z,4.9nm,1.2s,comp=Z,56nm									
PBKT	**Sadao Pong**	**75.44**	**278**		P		**P**		**16 25 13.8**	**+1.1**
	comp=Z,17nm,1.5s									
CWF	**Charnwood Fore**	**75.51**	**6**	*e*	P		**P**		**16 25 12.9**	**+0.3**
	comp=Z,34nm,1.3s									
GUN	**Gumba**	**75.63**	**297**	*e*	P		**P**		**16 25 14.2**	**+0.1**
	comp=Z,215nm,0.6s									
TGUH	**Tegucigalpa,Un**	**75.74**	**85**	*e*	P		**P**		**16 25 15.4**	**+1.0**
	comp=Z,55nm,1.0s									
LUWI	**Luwuk**	**75.86**	**250**	*e*	P		**P**		**16 25 14.4**	**-0.7**
	comp=Z,117nm,0.4s									
RAMN	**Ramite**	**75.97**	**296**	*e*	P		**P**		**16 25 15.9**	**-0.1**
	comp=Z,607nm,1.1s									
DZM	**Mont Dzumac**	**76.00**	**201**	*e*	P		**P**		**16 25 16.6**	**+0.9**
	comp=Z,128nm,1.1s									
DZM	**Mont Dzumac**	**76.00**	**201**	*e*	LR		LR		16 48 37.9	
	comp=Z,921nm,21.2s									
KKN	**Kakani**	**76.06**	**297**	*e*	P		**P**		**16 25 16.4**	**0.0**
	comp=Z,83nm,0.6s									
PKIN	**Phulchoki**	**76.16**	**297**	*e*	P		**P**		**16 25 17.2**	**+0.1**
	comp=Z,37nm,0.7s									
COEN	**Coen**	**76.22**	**225**	*e*	P		**P**		**16 25 16.8**	**-0.2**
	comp=Z,22nm,1.1s									
GKN	**Gorkha**	**76.24**	**298**	*e*	P		**P**		**16 25 17.1**	**-0.3**
	comp=Z,219nm,0.7s									
DMN	**Daman**	**76.29**	**297**	*e*	P		**P**		**16 25 17.6**	**-0.2**
AKASG	**Malin Array Be**	**76.31**	**346**		P		**P**		**16 25 16.2**	**-0.9**
	comp=Z,6.3nm,0.5s,baz=16,slow=5.7,SNR=21									
AKASG					LR		LR		17 00 27.9	
	comp=Z,703nm,21.9s,baz=20,slow=37									
AKBB	**Malin Array Si**	**76.31**	**346**	*e*	P		**P**		**16 25 16.8**	**-0.3**
AKBB					pmax		pmax			
	comp=Z,10.0nm,0.7s									
AKBB	**Malin Array Si**	**76.31**	**346**	*e*	P		**P**		**16 25 16.1**	**-1.0**
	comp=Z,10nm,0.7s									
KIEV	**Kiev**	**76.31**	**346**	*c i*	P		**P**		**16 25 16.4**	**-0.8**
KIEV					pmax		pmax			
	comp=Z,10.0nm,1.0s									
KIEV	**Kiev**	**76.31**	**346**	*e*	P		**P**		**16 25 16.3**	**-0.9**
	comp=Z,10nm,0.7s									
AK11	**Malin Array Si**	**76.34**	**346**	*e*	P		**P**		**16 25 15.6**	**-1.7**
SRAK	**Srakaew**	**76.74**	**276**		P		**P**		**16 25 19.2**	**-0.9**
	comp=Z,132nm,1.1s,comp=Z,1µm									
KOLN	**Koldanda**	**77.00**	**298**	*e*	P		**P**		**16 25 21.9**	**+0.2**
	comp=Z,78nm,0.7s									
UMPA	**Umpang Tak**	**77.02**	**280**		P		**P**		**16 25 24.4**	**+2.7**
	comp=Z,9.9nm,1.1s									
PYUN	**Piuthan**	**77.07**	**299**	*e*	P		**P**		**16 25 21.9**	**-0.2**
	comp=Z,314nm,1.0s									
CLL	**Collm**	**77.17**	**357**	*i*	P		**P**		**16 25 22.1**	**+0.1**
	comp=Z,13nm,0.7s									
CLL				*e*					16 25 33.0	
CLL				*e*	S		**S**		**16 35 09.0**	**+0.3**
CLL				*e*	PS		**PnS**		**16 35 44.0**	**-5.8**
CLL				*e*	SS		**SS**		**16 40 08.0**	**+2.9**
CLL				*e*	SSS		SSS		16 43 36.0	
CLL				*e*	SSSS				16 45 48.0	
CLL					LmH				17 03 00.0	
	comp=N,300nm,20.8s									
CLL					LmH				17 03 00.0	
	comp=E,100nm,18.3s									
CLL					LmV				17 05 00.0	
	comp=Z,200nm,20.1s									
CLL	**Collm**	**77.17**	**357**	*i*	P		**P**		**16 25 22.1**	**+0.1**
CLL				*e*	S		**S**		**16 35 09.0**	**+0.3**
CLL					pmax		pmax			
	comp=Z,13nm,0.7s									
CLL					MLR		MLR			
	comp=Z,200nm,20.1s									
CLL	**Collm**	**77.17**	**357**	*e*	P		**P**		**16 25 20.9**	**-1.1**
	comp=Z,12nm,0.6s									
TBI	**Tubuai**	**77.38**	**159**	*e*	LR		LR		16 49 20.8	
	comp=Z,753nm,25.8s,baz=344									
TBI	**Tubuai**	**77.38**	**159**	*e*	T		T		17 50 31.2	
	comp=Z,19nm,0.2s									
KSP	**Ksiaz**	**77.48**	**355**	*e*	P		**P**		**16 25 24.2**	**+0.4**
KSP	**Ksiaz**	**77.48**	**355**	*e*	P		**P**		**16 25 24.2**	**+0.4**
CHBT	**CHBT**	**77.53**	**275**		P		**P**		**16 25 28.1**	**+3.6**
	comp=Z,57nm,1.2s									
BRG	**Berggiesshubel**	**77.56**	**356**	*e*	P		**P**		**16 25 24.7**	**+0.4**
	comp=Z,24nm,1.1s									
BRG					S		S		16 35 03.0	-10
	comp=N,322nm,22.9s									
	comp=E,207nm,16.4s									
	comp=Z,332nm,17.6s									
BRG	**Berggiesshubel**	**77.56**	**356**	*e*	P		**P**		**16 25 24.7**	**+0.4**
BRG					S		S		16 35 03.0	-10
BRG					pmax		pmax			
	comp=Z,24nm,1.1s									
BRG					MLR		MLR			
	comp=N,322nm,22.9s									
BRG					MLR		MLR			
	comp=E,207nm,16.4s									
BRG					MLR		MLR			
	comp=Z,332nm,17.6s									
BEBN	**Eben Emael**	**77.74**	**2**		P		**P**		**16 25 26.0**	**+0.8**
	comp=Z,6.5nm,1.5s									
UPC	**Upice**	**77.83**	**355**	*e*	P		**P**		**16 25 25.7**	**-0.1**
UPC				*e*	S		**S**		**16 35 14.2**	**-1.8**
UPC					AMS		AMS		17 03 30.0	
	comp=Z,500nm,18.2s									
UPC	**Upice**	**77.83**	**355**	*e*	P		**P**		**16 25 25.7**	**-0.1**
UPC				*e*	S		**S**		**16 35 14.2**	**-1.8**
UPC					MLR		MLR			
	comp=Z,500nm,18.2s									
LVV	**L'vov**	**77.84**	**350**	*e*	P		**P**		**16 25 25.7**	**-0.1**
LVV					MLR		MLR			
	comp=Z,600nm,24.0s									
OJC	**Ojcow**	**77.86**	**352**	*e*	P		**P**		**16 25 26.2**	**+0.3**
OJC	**Ojcow**	**77.86**	**352**	*e*	P		**P**		**16 25 26.2**	**+0.3**
OJC	**Ojcow**	**77.86**	**352**	*e*	P		**P**		**16 25 25.4**	**-0.5**
	comp=Z,13nm,0.9s									
PVCC	**Panska Ves**	**77.88**	**356**		AMS		AMS		17 03 50.0	
	comp=Z,500nm,17.1s									
MEM	**Membach**	**77.93**	**1**		P		**P**		**16 25 26.0**	**-0.2**
	comp=Z,13nm,1.3s									
DPC	**Dobruska-Polom**	**77.97**	**355**	*e*	P		**P**		**16 25 26.9**	**+0.3**
DPC				*e*	PCP		**PcP**		**16 25 34.1**	**-2.2**
DPC					AMS		AMS		17 05 40.0	
	comp=Z,400nm,19.2s									
DPC	**Dobruska-Polom**	**77.97**	**355**	*e*	P		**P**		**16 25 26.9**	**+0.3**
DPC				*e*					16 25 34.1	
DPC					MLR		MLR			
	comp=Z,400nm,19.2s									
BCLA	**Clavier**	**78.11**	**2**		P		**P**		**16 25 26.5**	**-0.7**
	comp=Z,11nm,1.5s									
KWP	**Kalwaria Pacla**	**78.17**	**350**	*e*	P		**P**		**16 25 28.1**	**+0.4**
KWP	**Kalwaria Pacla**	**78.17**	**350**	*e*	P		**P**		**16 25 28.1**	**+0.4**
KRLC	**Kraliky**	**78.22**	**354**	*e*	P		**P**		**16 25 28.0**	**0.0**
KRLC	**Kraliky**	**78.22**	**354**	*e*	P		**P**		**16 25 28.0**	**0.0**
NKC	**Novy Kostel**	**78.26**	**357**		AMS		AMS		17 03 30.0	
	comp=Z,300nm,20.9s									
SRDT	**SRDT**	**78.28**	**278**		P		**P**		**16 25 30.6**	**+1.9**
	comp=Z,85nm,1.0s									
OKC	**Ostrava-Krasne**	**78.36**	**353**	*e*	P		**P**		**16 25 29.1**	**+0.4**
OKC					AMS		AMS		17 03 20.0	
	comp=Z,400nm,16.8s									
OKC	**Ostrava-Krasne**	**78.36**	**353**	*e*	P		**P**		**16 25 29.1**	**+0.4**
OKC					MLR		MLR			
	comp=Z,400nm,16.8s									
DOU	**Dourbes**	**78.42**	**2**		P		**P**		**16 25 29.5**	**+0.5**
	comp=Z,12nm,1.4s									
PRU	**Pruhonice**	**78.42**	**356**	*e*	P		**P**		**16 25 29.0**	**0.0**
PRU				*e*	S		**S**		**16 35 21.0**	**-1.3**
PRU					AMS		AMS		17 04 20.0	
	comp=Z,500nm,18.3s									
PRU	**Pruhonice**	**78.42**	**356**	*e*	P		**P**		**16 25 29.0**	**0.0**
PRU				*e*	S		**S**		**16 35 21.0**	**-1.3**
PRU					MLR		MLR			
	comp=Z,500nm,18.3s									
MORC	**Moravsky Berou**	**78.47**	**354**	⇓	*i* P		**P**		**16 25 29.3**	**0.0**
MORC	**Moravsky Berou**	**78.47**	**354**		*e* P		**P**		**16 25 29.3**	**0.0**
MORC					pmax		pmax			
	comp=Z,47nm,1.0s									
MORC	**Moravsky Berou**	**78.47**	**354**		*e* P		**P**		**16 25 28.1**	**-1.2**
	comp=Z,47nm,1.0s									
GOPC	**GO Pecny, Ondr**	**78.49**	**356**		*e* P		**P**		**16 25 29.4**	**0.0**
GOPC					*e* PCP		**PcP**		**16 25 37.1**	**-1.4**
GOPC					AMS		AMS		17 04 30.0	
	comp=Z,500nm,18.6s									
GOPC	**GO Pecny, Ondr**	**78.49**	**356**		*e* P		**P**		**16 25 29.4**	**0.0**
GOPC					*e*				16 25 37.1	
GOPC					MLR		MLR			
	comp=Z,500nm,18.6s									
STHS	**Stebnicka Huta**	**78.53**	**351**		*e* P		**P**		**16 25 31.7**	**+2.1**
STHS					pmax		pmax			
	comp=Z,9.0nm,0.7s									
STHS	**Stebnicka Huta**	**78.53**	**351**		*e* P		**P**		**16 25 31.7**	**+2.1**
NIE	**Niedzica**	**78.61**	**352**		*e* P		**P**		**16 25 30.7**	**+0.6**
NIE	**Niedzica**	**78.61**	**352**		*e* P		**P**		**16 25 30.7**	**+0.6**
GRFO	**Grafenberg**	**78.83**	**358**		*e* P		**P**		**16 25 31.1**	**-0.2**
GRFO					pmax		pmax			
	comp=Z,23nm,0.8s									
GRFO	**Grafenberg**	**78.83**	**358**		*e* P		**P**		**16 25 31.1**	**-0.2**
	comp=Z,23nm,0.8s									
KBL	**Kabul**	**78.86**	**313**		*e* P		**P**		**16 25 30.5**	**-1.5**
KBL					pmax		pmax			
	comp=Z,46nm,0.8s									
KBL	**Kabul**	**78.86**	**313**		*e* P		**P**		**16 25 30.5**	**-1.5**
	comp=Z,46nm,0.8s									
WLF	**Walferdange**	**78.88**	**1**		P		**P**		**16 25 31.6**	**0.0**
	comp=Z,9.8nm,1.8s									
KOLS	**Kolonicke sedl**	**78.91**	**351**		*e* P		**P**		**16 25 31.8**	**+0.1**
KOLS					pmax		pmax			
	comp=Z,6.0nm,0.9s									
KOLS	**Kolonicke sedl**	**78.91**	**351**		*e* P		**P**		**16 25 31.8**	**+0.1**
GOF	**Gofitskoye**	**78.92**	**336**	⇓	*i* P		**P**		**16 25 33.4**	**+1.5**
GOF					pmax		pmax			
	comp=Z,241nm,1.3s									
SORM	**Soroca**	**78.94**	**346**	⇑	*i* P		**P**		**16 25 31.5**	**-0.4**
LANS	**Liptovska Anna**	**78.95**	**352**		*e* P		**P**		**16 25 32.8**	**+0.8**
LANS	**Liptovska Anna**	**78.95**	**352**		*e* P		**P**		**16 25 32.8**	**+0.8**
VRAC	**Vranov**	**78.99**	**354**	⇑	*i* P		**P**		**16 25 32.2**	**0.0**
CRVS	**Cervenica-Dubn**	**79.02**	**351**		*e* P		**P**		**16 25 32.5**	**+0.2**
CRVS	**Cervenica-Dubn**	**79.02**	**351**		*e* P		**P**		**16 25 32.5**	**+0.2**
TREC	**Trest**	**79.07**	**355**		AMS		AMS		17 04 00.0	
	comp=Z,500nm,21.1s									
PHET	**Kaeng Krachan**	**79.08**	**277**		P		**P**		**16 25 36.0**	**+2.9**
	comp=Z,10nm,1.0s									
TTSI	**Tana Toraja**	**79.20**	**251**		P		**P**		**16 25 34.5**	**+0.7**
	comp=Z,39nm,1.2s,comp=Z,480nm									
KHC	**Kasperske Hory**	**79.32**	**356**		*e* P		**P**		**16 25 34.4**	**+0.4**
KHC					*e* S		S		**16 35 33.7**	**+1.7**
KHC					AMS		AMS		17 04 40.0	
	comp=Z,400nm,21.6s									
KHC	**Kasperske Hory**	**79.32**	**356**		*e* P		**P**		**16 25 33.9**	**-0.1**
KHC					pmax		pmax			
	comp=Z,7.0nm,0.8s									
KHC	**Kasperske Hory**	**79.32**	**356**		*e* P		**P**		**16 25 33.4**	**-0.6**
	comp=Z,6.5nm,0.8s									
KECS	**Kecovo**	**79.52**	**352**		*e* P		**P**		**16 25 35.1**	**0.0**
KECS					pmax		pmax			
	comp=Z,6.0nm,0.9s									
KECS	**Kecovo**	**79.52**	**352**		*e* P		**P**		**16 25 35.1**	**0.0**
LANF	**Langenberg**	**79.58**	**0**		*e* P		**P**		**16 25 36.1**	**+0.7**
GEC2	**GERESS Array S**	**79.60**	**356**		*e* P		**P**		**16 25 36.1**	**+0.5**
GEC2					pmax		pmax			
	comp=Z,53nm,1.8s									
GEC2	**GERESS Array S**	**79.60**	**356**		*e* P		**P**		**16 25 35.3**	**-0.4**
GERES	**GERESS Array B**	**79.60**	**356**		P		**P**		**16 25 35.1**	**-0.6**
	comp=Z,5.0nm,0.6s,baz=18,slow=4.8,SNR=40									
GEA0	**GERESS Array S**	**79.61**	**356**		*e* P		**P**		**16 25 34.5**	**-1.1**
VYHS	**Vyhne**	**79.65**	**353**		*e* P		**P**		**16 25 36.2**	**+0.4**
VYHS					pmax		pmax			
	comp=Z,6.0nm,1.1s									
VYHS	**Vyhne**	**79.65**	**353**		*e* P		**P**		**16 25 36.2**	**+0.4**
STU	**Stuttgart**	**79.78**	**359**		*e* P		**P**		**16 25 35.3**	**-1.2**
STU					pmax		pmax			
	comp=Z,20nm,1.1s									
STU	**Stuttgart**	**79.78**	**359**		*e* P		**P**		**16 25 35.3**	**-1.2**
	comp=Z,20nm,1.1s									
BUR08	**Bucovina Ar. S**	**79.84**	**348**		*e* P		**P**		**16 25 35.6**	**-1.4**
BURAR	**Bucovina Array**	**79.87**	**348**	⇑	*i* P		**P**		**16 25 36.9**	**-0.2**
SPSI	**Sidrap Palu**	**79.97**	**250**		P		**P**		**16 25 38.4**	**+0.5**
	comp=Z,16nm,1.3s									
KIS	**Kishinev**	**79.98**	**346**		*e* P		**P**		**16 25 39.0**	**+1.4**
KIS					LRM		MLR		17 02 00.0	
	comp=Z,1µm,20.0s									
KIS	**Kishinev**	**79.98**	**346**		*e* P		**P**		**16 25 39.0**	**+1.4**
KIS					MLR		MLR			
	comp=N,800nm,20.0s									
KIS					MLR		MLR			
	comp=Z,1µm,20.0s									
KIS					MLR		MLR			
	comp=Z,1µm,20.0s									
KIV	**Kislovodsk**	**80.04**	**335**		*e* P		**P**		**16 25 37.9**	**-0.2**
KIV					*e* S		**S**		**16 35 38.9**	**-1.0**
KIV					*e* SS		**SS**		**16 40 50.3**	**+1.5**
KIV					pmax		pmax			
	comp=Z,38nm,1.1s									
KIV					pmax		pmax			
	comp=Z,24nm,4.3s									
KIV					MLR		MLR			
	comp=Z,390nm,19.0s									
KIV	**Kislovodsk**	**80.04**	**335**		*e* P		**P**		**16 25 37.1**	**-1.0**
	comp=Z,29nm,0.9s									
MILM	**Milestii Mici**	**80.06**	**346**	⇑	*i* P		**P**		**16 25 38.1**	**+0.1**
PSZ	**Piszkesteto**	**80.13**	**352**		*e* P		**P**		**16 25 39.9**	**+1.4**
PSZ					pmax		pmax			
	comp=Z,19nm,1.3s									
PSZ	**Piszkesteto**	**80.13**	**352**		*e* P		**P**		**16 25 39.1**	**+0.6**
	comp=Z,19nm,1.3s									
KBZ	**Khabaz**	**80.20**	**335**		P		**P**		**16 25 38.9**	**+0.1**
	comp=Z,12nm,0.8s,baz=96,slow=1.6,SNR=19									
BFO	**Black Forest**	**80.23**	**360**		*i* P		**P**		**16 25 39.8**	**+0.9**
BFO	**Black Forest**	**80.23**	**360**		*e* P		**P**		**16 25 39.1**	**+0.2**
	comp=Z,18nm,1.2s									
NCK	**Nalchik**	**80.23**	**335**		*e* P		**P**		**16 25 39.6**	**+0.6**
NCK					pmax		pmax			
	comp=Z,109nm,1.2s									
ECH	**Echery**	**80.34**	**1**		*e* P		**P**		**16 25 39.7**	**+0.2**
CONA	**Conrad Observa**	**80.41**	**355**		*i* P		**P**		**16 25 40.1**	**+0.1**
	comp=Z,18nm,0.9s,SNR=18									
CTAO	**Charters Tower**	**80.42**	**220**		*e* P		**P**		**16 25 41.7**	**+1.5**
CTAO					pmax		pmax			
	comp=Z,53nm,1.1s									
CTAO	**Charters Tower**	**80.42**	**220**		*e* P		**P**		**16 25 41.7**	**+1.5**
	comp=Z,53nm,1.1s									
ANN	**Anapa**	**80.50**	**339**		*e* P		P		16 25 33.0	-7.4
ANN					*e* S		S		16 35 32.5	-12
ANN					pmax		pmax			
	comp=Z,115nm,1.3s									
ANN					MLR		MLR			
	comp=Z,663nm,25.0s									
ANN					MLR		MLR			
	comp=E,686nm,25.0s									
ANN					MLR		MLR			
	comp=N,1µm,25.0s									
ARCR	**ARCALIA**	**80.50**	**349**	⇓	*i* P		**P**		**16 25 42.4**	**+2.0**
GEYT	**Alibeck**	**80.56**	**322**		P		**P**		**16 25 40.4**	**-0.5**
	comp=N,19nm,0.9s,baz=343,slow=4.6,SNR=31									
GEYT					PP		**PP**		**16 28 42.0**	**-1.8**
	comp=N,3.5nm,0.9s,baz=29,slow=3.4,SNR=3.8									
GEYT					LR		LR		17 05 18.1	
	comp=N,646nm,18.1s,baz=5.0,slow=39									
MOA	**Molln**	**80.57**	**356**		*i* P		**P**		**16 25 41.2**	**+0.4**
	comp=N,7.2nm,0.9s,SNR=6.8									
NEY	**Neytrino**	**80.69**	**335**		*e* P		**P**		**16 25 41.8**	**+0.1**
NEY					pmax		pmax			
	comp=Z,2.0nm,0.9s									
MOF	**Molkenrain**	**80.70**	**1**	⇑	*e* P		**P**		**16 25 41.9**	**+0.3**
TESR	**Tescani**	**80.77**	**347**	⇑	*i* P		**P**		**16 25 41.4**	**-0.4**
ZEI	**Tsey**	**80.81**	**334**		*e* P		**P**		**16 25 41.3**	**-1.1**
ZEI					pmax		pmax			
	comp=Z,81nm,1.0s									
KAPI	**Kappang**	**80.83**	**250**		*e* P		**P**		**16 25 45.2**	**+2.7**
	comp=Z,77nm,1.5s									
GUDG	**Gudauri**	**80.95**	**334**		P		**P**		**16 25 44.8**	**+1.7**
DRGR		**80.98**	**350**	⇓	*i* P		**P**		**16 25 44.4**	**+1.4**
MTN	**Manton Dam**	**81.01**	**236**		*e* P		**P**		**16 25 43.5**	**+0.1**
	comp=Z,107nm,1.4s									
SIM	**Simferopol'**	**81.04**	**342**		*e* P		**P**		**16 25 45.0**	**+1.7**
SIM					pmax		pmax			
	comp=Z,18nm,1.0s									
RETA	**Reutte**	**81.05**	**358**		*i* P		**P**		**16 25 43.6**	**+0.2**
	comp=Z,20nm,1.1s,SNR=9.0									
ARSA	**Arzberg**	**81.11**	**355**		*i* P		**P**		**16 25 44.2**	**+0.5**
	comp=Z,17nm,1.2s,SNR=8.2									
ONI	**Oni**	**81.11**	**334**		P		**P**		**16 25 44.4**	**+0.6**
ONI	**Oni**	**81.11**	**334**		P		**P**		**16 25 44.4**	**+0.6**
SOC	**Sochi**	**81.13**	**337**		*e* P		**P**		**16 25 44.1**	**+0.3**
SOC					*e*				16 28 46.4	
SOC					*e* PPP		PPP		16 30 44.0	
SOC					*e* S		**S**		**16 35 51.5**	**+0.4**
SOC					pmax		pmax			
	comp=Z,46nm,0.8s									
SOC					MLR		MLR			
	comp=Z,750nm,20.0s									
WATA	**Walderalm**	**81.18**	**358**		*i* P		**P**		**16 25 44.6**	**+0.4**
	comp=Z,0.2nm,0.2s,SNR=6.1									
MOTA	**Moosalm**	**81.18**	**358**		*i* PcP		**P**		**16 25 45.2**	**+0.9**
	comp=Z,30nm,1.1s,SNR=14									
LOMF	**Lomont**	**81.20**	**1**		*e* P		**P**		**16 25 44.9**	**+0.7**
WTTA	**Wattenberg**	**81.25**	**358**		*i* P		**P**		**16 25 44.0**	**-0.7**
	comp=Z,15nm,0.8s									
DAVA	**Damuels**	**81.26**	**359**		*i* PcP		**P**		**16 25 45.3**	**+0.7**
	comp=Z,10nm,0.8s									
RKT	**Rikitea**	**81.31**	**146**		*e* LR		LR		16 51 10.4	
	comp=Z,880nm,22.8s,baz=340									
RKT	**Rikitea**	**81.31**	**146**		*e* T		T		17 55 15.0	
	comp=Z,2.5nm,0.2s									
KSM	**Kuching**	**81.34**	**261**		*e* P		**P**		**16 25 46.0**	**+0.7**
	comp=Z,24nm,1.2s									
CHVG	**Ch'k'valeri**	**81.35**	**335**		P		**P**		**16 25 41.3**	**-3.7**
KBA	**Koelnbreinsper**	**81.38**	**356**		*i* P		**P**		**16 25 44.9**	**-0.4**
	comp=Z,45nm,0.9s,SNR=19									
VRI	**Vrincioaia**	**81.39**	**347**	⇑	*i* P		**P**		**16 25 45.9**	**+0.7**
PLOR	**Plostina**	**81.41**	**347**	⇓	*i* P		**P**		**16 25 45.2**	**-0.1**
FETA	**Feichten**	**81.51**	**358**		*i* P		**P**		**16 25 46.1**	**+0.1**
	comp=Z,32nm,1.0s,SNR=16									
TBLG	**Delisi**	**81.56**	**333**		P		**P**		**16 25 47.3**	**+1.2**
TBLG	**Delisi**	**81.56**	**333**		P		**P**		**16 25 47.3**	**+1.2**
SOKA	**Soboth**	**81.70**	**355**		*i* P		**P**		**16 25 46.7**	**-0.2**
	comp=Z,22nm,0.9s,SNR=18									
ABTA	**Abfaltersbach**	**81.74**	**357**		*i* P		**P**		**16 25 47.1**	**-0.1**
	comp=Z,31nm,1.3s,SNR=12									
TLCR		**81.74**	**345**	⇑	*i* P		**P**		**16 25 47.6**	**+0.6**
MYKA	**Terra Mystica**	**81.82**	**356**		*i* P		**P**		**16 25 46.9**	**-0.6**
	comp=Z,11nm,1.3s									
CFR	**Carcaliu**	**81.86**	**346**	⇑	*i* P		**P**		**16 25 48.8**	**+1.2**
MLR	**Muntele Rosu**	**81.86**	**347**	⇓	*i* P		**P**		**16 25 49.4**	**+1.6**
MLR	**Muntele Rosu**	**81.86**	**347**		*e* P		**P**		**16 25 48.5**	**+0.7**
MLR					pmax		pmax			
	comp=Z,13nm,1.1s									
MLR	**Muntele Rosu**	**81.86**	**347**		*e* P		**P**		**16 25 48.0**	**+0.2**
	comp=Z,13nm,1.1s									
GROS	**Grobnik**	**81.89**	**355**		*i* P		**P**		**16 25 48.2**	**+0.3**
OBKA	**Obir**	**81.90**	**356**		*i* P		**P**		**16 25 47.4**	**-0.6**
	comp=Z,8.6nm,0.5s,SNR=6.2									
FUORN	**Ofenpass-Fuorn**	**81.92**	**359**		*e* P		**P**		**16 25 47.7**	**-0.5**
	comp=Z,47nm,1.3s									
SURA	**Surathani**	**81.97**	**275**		P		**P**		**16 25 50.8**	**+2.2**
	comp=Z,29nm,1.2s									
VOIR		**82.03**	**348

comp=Z,75nm,1.0s
SIGR **SIGRI** 88.04 346 P **P** 16 26 19.3 +0.6
PMRV **Marv??o** 88.12 12 eLR LR 16 56 53.5
comp=Z,311nm,18.0s
ES19 **SONSECA Array** 88.25 9 eP **P** 16 26 18.6 -1.2
ESDC **Sonseca Array** 88.27 9 P **P** 16 26 19.6 -0.3
comp=Z,3.9nm,0.6s,baz=347,slow=4.5,SNR=24
ESDC LR LR 17 06 24.4
comp=Z,116nm,20.3s,baz=330,slow=36
ESLA **Sonseca Array** 88.27 9 eP **P** 16 26 18.3 -1.7
comp=Z,6.8nm,0.8s
FITZ **Fitzroy Crossi** 88.27 238 eP **P** 16 26 19.9 0.0
comp=Z,46nm,1.1s
PMAFR **Mafra** 88.32 14 eP **P** 16 26 20.5 +0.4
comp=Z,141nm,1.5s
PAB **San Pablo** 88.36 10 eP **P** 16 26 19.7 -0.7
PAB pmax pmax
comp=Z,29nm,1.8s
PAB **San Pablo** 88.36 10 eP **P** 16 26 19.7 -0.7
comp=Z,29nm,1.8s
AGG **Agios Georgios** 88.69 349 eP **P** 16 26 20.8 -1.1
AGG pmax pmax
comp=Z,33nm,1.0s
AGG **Agios Georgios** 88.69 349 eP **P** 16 26 20.8 -1.1
comp=Z,33nm,1.0s
DSL **Palaion Diasel** 88.72 350 P **P** 16 26 22.3 +0.3
DSL **Palaion Diasel** 88.72 350 P **P** 16 26 22.3 +0.3
EVR **Evrytania** 88.86 349 P **P** 16 26 23.4 +0.6
EVR **Evrytania** 88.86 349 P **P** 16 26 23.4 +0.6
AS01 **Alice Springs** 88.86 228 eP **P** 16 26 22.6 -0.1
AS31 **Alice Springs** 88.89 228 eP **P** 16 26 22.6 -0.2
comp=Z,8.0nm,0.8s
ASAR **Alice Springs** 88.89 228 P **P** 16 26 22.8 0.0
comp=Z,31nm,0.9s,baz=35,slow=4.4,SNR=97
ASAR PKKPbc **PKKPbc** 16 44 02.1 +1.6
comp=Z,0.3nm,0.8s,baz=184,slow=1.9,SNR=4.4
ASAR LR LR 17 01 20.2
comp=Z,240nm,21.5s,baz=44,slow=32
ANX **Ano Chora** 89.16 349 P **P** 16 26 24.7 +0.5
DSF **Desfina** 89.27 349 P **P** 16 26 23.7 -1.0
PBAR **Barrancos** 89.40 12 eP **P** 16 26 25.6 +0.4
comp=Z,60nm,1.3s
KLV **Kalavryta, Ach** 89.68 349 P **P** 16 26 25.6 -1.0
GUR **Goura** 89.76 349 P **P** 16 26 26.6 -0.4
DRO **Drossia** 89.82 349 P **P** 16 26 28.2 +1.0
CISI **Cisompet, Garu** 89.96 258 eP **P** 16 26 28.3 +0.2
comp=Z,62nm,1.3s
PVAQ **Vaqueiros** 90.07 13 eP **P** 16 26 29.1 +0.8
PVAQ **Vaqueiros** 90.07 13 eLR LR 16 58 02.3
comp=Z,231nm,20.0s
PRAC **Prado** 91.40 82 eP **P** 16 26 34.5 -0.4
comp=Z,31nm,1.0s
OTAV **Otavalo** 91.91 87 eP **P** 16 26 37.9 +0.1
comp=Z,15nm,0.8s
LAST **Lasithi** 92.07 346 eP **P** 16 26 37.7 -0.1
comp=Z,36nm,0.9s
STKA **Stephens Creek** 92.81 218 P **P** 16 26 41.5 +0.6
comp=Z,11nm,1.1s,baz=8.2,slow=8.8,SNR=9.0
STKA LR LR 17 03 20.2
comp=Z,646nm,21.4s,baz=23,slow=32
STKA **Stephens Creek** 92.81 218 eP **P** 16 26 42.4 +1.6
STKA pmax pmax
comp=Z,5.0nm,1.2s
STKA **Stephens Creek** 92.81 218 eP **P** 16 26 41.7 +0.9
comp=Z,5.0nm,1.2s
PMOZ **Porto Moniz, M** 92.82 21 eLR LR 16 59 17.1
comp=Z,178nm,18.0s
MBWA **Marble Bar** 93.92 240 eP **P** 16 26 46.1 -0.1
comp=Z,98nm,2.0s
KMBO **Kilima Mbogo** 123.89 324 PKP **PKPdf** 16 32 27.3 +0.1
comp=Z,2.7nm,0.8s,baz=131,slow=2.1,SNR=4.3
CPUP **Villa Florida** 125.23 89 PKP **PKPdf** 16 32 29.3 +0.4
comp=Z,6.6nm,1.1s,baz=342,slow=4.4,SNR=6.0
CPUP **Villa Florida** 125.23 89 ePKIKP **PKPdf** 16 32 30.0 +1.0
CPUP **Villa Florida** 125.23 89 ePKPdf **PKPdf** 16 32 29.1 +0.2
PLCA **Paso Flores** 127.01 111 PKP **PKPdf** 16 32 32.5 +0.4
comp=Z,15nm,1.0s,baz=310,slow=2.8,SNR=14
PLCA **Paso Flores** 127.01 111 ePKIKP **PKPdf** 16 32 32.7 +0.7
PLCA **Paso Flores** 127.01 111 ePKPdf **PKPdf** 16 32 31.8 -0.2
SBA **Scott Base** 130.08 186 ePKIKP **PKPdf** 16 32 38.4 +1.7
SBA **Scott Base** 130.08 186 ePKPdf **PKPdf** 16 32 37.7 +1.0
TRQA **Tornquist** 130.37 103 ePKPdf **PKPdf** 16 32 38.7 +0.2
LSZ **Lusaka** 140.19 329 ePKIKP **PKPdf** 16 32 54.5 -3.0
LSZ **Lusaka** 140.19 329 ePKPdf **PKPdf** 16 32 54.5 -3.0
TSUM **Tsumeb** 146.62 344 ePKPdf **PKPbc** 16 33 09.9 -0.4
MAW **Mawson** 149.50 218 PKPbc **PKPbc** 16 33 16.6 +0.4
comp=Z,69nm,1.0s,baz=73,slow=2.3,SNR=59
MAW **Mawson** 149.50 218 ePKP2 **PKPbc** 16 33 15.7 -0.6
MAW **Mawson** 149.50 218 ePKPbc **PKPbc** 16 33 15.8 -0.5
LBTB **Lobatse** 150.11 327 ePKIKP **PKPbc** 16 33 19.4 +0.1
LBTB **Lobatse** 150.11 327 ePKPbc **PKPbc** 16 33 19.4 +0.1
BOSA **Boshof** 153.53 325 PKPbc **PKPbc** 16 33 27.4 +0.4
comp=Z,13nm,1.0s,baz=3.0,slow=1.2,SNR=11
BOSA **Boshof** 153.53 325 ePKIKP **PKPdf** 16 33 19.1 -0.2
BOSA 16 33 27.4
BOSA **Boshof** 153.53 325 ePKPdf **PKPdf** 16 33 19.1 -0.2
BOSA PKPbc **PKPbc** 16 33 27.4 +0.4
SYO **Syowa Base** 157.25 209 ePKPdf **PKPdf** 16 33 20.0 -2.8
SNAA **Sanae** 159.48 170 ePKIKP **PKPdf** 16 33 24.0 -1.6
SNAA **Sanae** 159.48 170 ePKPdf **PKPdf** 16 33 24.0 -1.6

*NIED **28** 16:17:00, 37.˚10N×141.˚10E, h68km, Mw3.9 Best double couple: M0 8.01000×10^14 NP1:ϕs 189.00000°, δ23.00000°, λ57.00000°. NP2:ϕs 44.00000°, δ71.00000°, λ103.00000°.*
*IDC **28** 16:17:10.9±2.0, 36.˚93N×141.˚46E, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.6/38, mbtmp3.8/4, ML2.8/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/41, Error ellipse: s-maj=34.0km s-min=28.4km az=80.0*
*JMA **28** 16:17:17.4±0.1, 37.˚13N×141.˚06E, h54km±1km, M3.9*
JMA Felt II J1.

ISC 28 16:17:14.1±2.3, 37°09'N±0'.05×141°30'E±0'.08, h17km±14km, n22, σ1s03/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	0.40	272	P	**Pn**	16 17 26.2	+1.0
ONAJ				S	**Sn**	16 17 32.3	0.0
JFK	**Kawauchi**	0.44	309	P	**Pn**	16 17 26.7	+1.0
JFK				S	**Sn**	16 17 33.1	-0.1
JHO	**Hitachi**	0.76	231	P	**Pn**	16 17 30.4	+0.4
JHO				S	**Sb**	16 17 39.4	+0.6
JMM	**Marumori**	0.87	333	P	**Pn**	16 17 32.0	+0.4
JMM				S	**Sg**	16 17 42.7	0.0
JFT	**Otama**	0.88	299	P	**Pn**	16 17 31.9	+0.2
JFT				S	**Sg**	16 17 42.2	-0.7
JFY	**Yanaizu**	1.31	284	P	**Pn**	16 17 36.9	-0.8
JIO	**Ouri**	1.36	2	P	**Pb**	16 17 39.3	+0.1
JOU	**Okura**	1.37	339	P	**Pn**	16 17 38.8	+0.3
JYS	**Shirataka**	1.50	319	P	**Pn**	16 17 40.4	+0.2
MJAR	**Matsushiro Arr**	2.54	259	Pn	**Pn**	16 17 54.6	+0.1
MJAR	5.2nm,0.3s,baz=82,slow=15,SNR=32			Sn	**Sn**	16 18 27.2	+2.1
MAT	**Matsushiro**	2.54	259	P	**Pn**	16 17 54.9	+0.3
MAT				S	**Sn**	16 18 23.3	-1.8
JHJ	**Hachijo jima 2**	4.15	198	Pn	**Pn**	16 18 18.4	+1.7
JHJ	27nm,0.3s,baz=38,slow=11,SNR=17			Sn	**Sn**	16 19 05.5	+0.7
ASAJ	**Asahikawa**	7.09	8	Pn	**Pn**	16 18 57.8	+0.8
USRK	**Ussuriysk Ar.**	10.02	318	Pn	**Pn**	16 19 38.7	+1.5
H11N2	**WAKE ISLAND Hy**	28.25	121	T	T	16 53 12.9	
H11N1	**WAKE ISLAND Hy**	28.26	121	T	T	16 53 18.8	
H11N3	**WAKE ISLAND Hy**	28.27	121	T	T	16 53 19.5	
H11S1	**WAKE ISLAND Hy**	28.96	123	T	T	16 54 03.3	
H11S3	**WAKE ISLAND Hy**	28.97	123	T	T	16 54 03.1	
H11S2	**WAKE ISLAND Hy**	28.98	123	T	T	16 54 02.8	
TLY	**Talaya**	30.23	311	LR	LR	16 35 16.6	

baz=315,slow=75,SNR=18
comp=Z,92nm,21.3s,baz=222,slow=36
WRA **Warramunga Arr** 57.10 188 P **P** 16 26 58.1 -1.5
0.7nm,0.8s,baz=6.5,slow=7.5,SNR=2.8

*IDC **28** 16:19:27.5±2.1, 36.˚96N×144.˚16E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.5/38, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=47.9km s-min=31.7km az=84.0*
*ISCJB **28** 16:19:30.3±1.0, 37.˚02N±0.˚06×143.˚94E±0.˚07, h33km, mb3.7/2, Error ellipse: s-maj=9.3km s-min=7.7km az=40.7*
*JMA **28** 16:19:32.4±0.2, 37.˚11N×143.˚84E, h44km, M3.6*

ISC 28 16:19:32.4±1.6, 36°99'N±0'.06×143°9'E±0'.1, h35km, n13, σ1s40/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	2.44	280	S	**Sn**	16 20 38.0	-0.3
ONAJ	**Iwakimizuishiy**	2.47	274	P	**Pn**	16 20 10.7	+0.5
ONAJ				S	**Sn**	16 20 39.1	-0.1
JIO	**Ouri**	2.49	307	P	**Pn**	16 20 10.4	+0.1
JIO				S	**Sn**	16 20 38.3	-1.2
JMM	**Marumori**	2.62	291	P	**Pn**	16 20 12.7	+0.6
JMM				S	**Sn**	16 20 43.0	+0.4
JMK	**Ichinoseki**	2.88	314	P	**Pn**	16 20 15.7	0.0
JFT	**Otama**	2.88	282	S	**Sn**	16 20 50.2	+1.0
JOM	**Ohasama**	3.21	321	P	**Pn**	16 20 20.5	+0.2
JOM				S	**Sn**	16 20 55.9	-1.5
JAG	**Ashikaga**	3.61	262	S	**Sn**	16 21 07.0	-0.1
MJAR	**Matsushiro Arr**	4.58	266	Pn	**Pn**	16 20 41.2	+2.1
MJAR	1.3nm,0.3s,baz=88,slow=15,SNR=8.3			Sn	**Sn**	16 21 28.2	-3.0
JHJ	**Hachijo jima 2**	5.12	222	Pn	**Pn**	16 20 46.2	-0.4
JHJ	5.2nm,0.3s,baz=90,slow=19,SNR=3.7			Sn	**Sn**	16 21 41.1	-3.3
ASAJ	**Asahikawa**	7.19	353	Pn	**Pn**	16 21 14.2	-0.7
WRA	**Warramunga Arr**	57.34	191	P	**P**	16 29 17.2	+0.2
ASAR	1.6nm,1.1s,baz=8.3,slow=7.1,SNR=8.4 **Alice Springs**	61.06	190	P	**P**	16 29 43.6	+0.9
	0.2nm,0.5s,baz=5.3,slow=7.5,SNR=4.6						

*DDA **28** 16:29:40.7, 39.˚19N×29.˚04E, h7km, Md2.3*
*ISCJB **28** 16:29:41.8±0.5, 39.˚08N±0.˚04×29.˚05E±0.˚04, h7km±6km, Error ellipse: s-maj=7.5km s-min=3.9km az=155.3*
*ISK **28** 16:29:41.4, 39.˚07N×29.˚06E, h8km, MD2.8*
*CSEM **28** 16:29:41.7±0.1, 39.˚08N×29.˚05E, h5km, MD2.8, Error ellipse: s-maj=2.5km s-min=1.9km az=149.0*

ISC 28 16:29:41.9±0.9, 39°08'N±0'.03×29°05'E±0'.02, h10km±8km, n26, σ0s41/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	0.27	261	P	**Pg**	16 29 47.3	0.0
DEMI				S	**Sg**	16 29 51.0	+0.1
DEMI	**Demirci**	0.27	261	*i* P	**Pg**	16 29 47.3	0.0
DEMI				*i* S	**Sg**	16 29 51.0	+0.1
GEDZ	**Gediz**	0.28	98	*e*PG	**Pg**	16 29 47.4	-0.2
GEDZ				*e*SG	**Sg**	16 29 52.3	+0.9
GEDZ	**Gediz**	0.28	98	*e*Pg	**Pg**	16 29 47.4	-0.2
GEDZ				*e*Sg	**Sg**	16 29 52.3	+0.9
GDZ	**Gediz**	0.33	89	P	**Pg**	16 29 48.5	-0.1
GDZ				S	**Sg**	16 29 53.3	+0.2
GDZ	**Gediz**	0.33	89	*i* P	**Pg**	16 29 48.5	-0.1
GDZ				*i* S	**Sg**	16 29 53.3	+0.2
TVSB	**Tavsanli**	0.48	41	*e*PG	**Pg**	16 29 51.0	-0.4
TVSB				*e*SG	**Sg**	16 29 57.7	-0.1
TVSB	**Tavsanli**	0.48	41	*e*Pg	**Pg**	16 29 51.0	-0.4
TVSB				*e*Sg	**Sg**	16 29 57.7	-0.1
KULA	**Kula-Manisa**	0.65	208	*e*PG	**Pg**	16 29 54.3	-0.1
KULA				*e*SG	**Sg**	16 30 03.0	+0.1
KULA	**Kula-Manisa**	0.65	208	*e*Pg	**Pg**	16 29 54.3	-0.1
KULA				*e*Sg	**Sg**	16 30 03.0	+0.1
BALB	**Balikesir**	1.07	302	*e*PN	**Pn**	16 30 03.4	+0.5
BALB				*e*SN	**Sn**	16 30 18.5	+0.7
BALB	**Balikesir**	1.07	302	*e*Pn	**Pn**	16 30 03.4	+0.5
BALB				*e*Sn	**Sn**	16 30 18.5	+0.7
IGD	**Bursa**	1.19	6	*i* P	**Pb**	16 30 03.6	-0.9
IGD				*i* S	**Sn**	16 30 20.7	-0.1
CAVI	**Cavuskoy**	1.27	28	*e*PN	**Pb**	16 30 06.2	+0.2
CAVI	**Cavuskoy**	1.27	28	*e*Pn	**Pb**	16 30 06.2	+0.2
MDNY	**Mudanya-Bursa**	1.29	354	*e*PN	**Pn**	16 30 06.0	0.0
MDNY	**Mudanya-Bursa**	1.29	354	*e*Pn	**Pn**	16 30 06.0	0.0
KCTX	**Karacabey (Bur**	1.30	336	*e*PN	**Pg**	16 30 06.8	0.0
KCTX	**Karacabey (Bur**	1.30	336	*e*Pn	**Pg**	16 30 06.8	0.0
BORA	**Eskisehir**	1.34	53	*i* P	**Pg**	16 30 07.8	0.0
BORA				*i* S	**Sb**	16 30 23.8	-0.8
AYDB	**Zeytinkoy-Aydi**	1.46	219	*e*PN	**Pn**	16 30 08.0	-0.4
AYDB	**Zeytinkoy-Aydi**	1.46	219	*e*Pn	**Pn**	16 30 08.0	-0.4
ARMT	**Armutlu**	1.49	354	*e*PN	**Pb**	16 30 09.4	-0.3
ARMT	**Armutlu**	1.49	354	*e*Pn	**Pb**	16 30 09.4	-0.3
GULT	**Gulveren**	1.76	39	*e*PN	**Pn**	16 30 13.0	+0.5
GULT	**Gulveren**	1.76	39	*e*Pn	**Pn**	16 30 13.0	+0.5

*MOS **28** 16:43:56.7±1.2, 51.˚86N×171.˚90W, h33km, mb4.5/28, Error ellipse: s-maj=10.2km s-min=7.4km az=77.4*
*ISCJB **28** 16:43:58.6±0.2, 51.˚84N±0.˚04×171.˚79W±0.˚03, h50km, mb4.4/69, MS3.5/10, Error ellipse: s-maj=5.8km s-min=2.3km az=167.0*
*NEIC **28** 16:43:60.0±0.4, 51.˚85N×171.˚83W, h49km±3km, mb4.4/61, ML4.4(AEIC), Error ellipse: s-maj=6.7km s-min=2.4km az=166.0*
*IDC **28** 16:44:01.4±4.0, 51.˚99N×171.˚82W, h60km±35km, mb3.9/28, mb1 4.0/30, mb1mx3.9/54, mbtmp4.1/30, ML4.0/2, MS3.4/10, Ms1 3.4/10, ms1mx3.2/48, Error ellipse: s-maj=18.9km s-min=10.0km az=171.0*

ISC 28 16:43:60.0±0.5, 51°84'N±0'.08×171°77'W±0'.03, h50km, n206, σ1s16/211, mb4.4/69, MS3.6/10, 3C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	1.49	291	P	**Pn**	16 44 24.5	+0.1
KOFP	**Korovin Flat P**	1.50	288	P	**Pn**	16 44 24.1	-0.3
KONE	**Korovin Northe**	1.55	292	P	**Pn**	16 44 25.3	+0.2
KOKV	**Korovin Volcan**	1.56	290	P	**Pn**	16 44 25.5	+0.1
KOKV				S	**Sn**	16 44 46.0	+1.5
KOKL	**Mount Kliuchef**	1.57	289	P	**Pn**	16 44 25.2	-0.3
NIKH	**Nikolski High**	2.12	56	P	**Pn**	16 44 31.8	-1.0
NIKH				S	**Sn**	16 44 58.1	+0.2
GSMY	**Great Sitkin M**	2.66	276	P	**Pn**	16 44 39.5	-0.8
GSTR	**Great Sitkin T**	2.67	277	*e*Pn	**Pn**	16 44 39.8	-0.6
OKWE	**Okmok W'ng Wal**	2.70	51	P	**Pn**	16 44 40.6	-0.3
GSTD	**Great Sitkin T**	2.71	276	P	**Pn**	16 44 39.6	-0.5
GSTD				S	**Sn**	16 45 13.5	-0.8
GSCK	**Great Sitkin C**	2.72	275	P	**Pn**	16 44 40.0	-1.2
OKTU	**Okmok Mt. Tuli**	2.75	54	P	**Pn**	16 44 41.6	+0.1
ETKA	**Kagalaska Isla**	2.87	272	P	**Pn**	16 44 42.1	-1.2
ADAG	**Mount Adagdak**	3.00	275	P	**Pn**	16 44 44.5	-0.4
KIRH	**Kanaga Island**	3.30	273	P	**Pn**	16 44 48.5	-0.6
KIKV	**Kanaga Island**	3.35	273	P	**Pn**	16 44 49.5	-0.2
TAPA	**Tanaga Point A**	3.75	272	P	**Pn**	16 44 54.8	-0.5
UNV	**Unalaska Valle**	3.77	56	P	**Pn**	16 44 54.7	-0.8
UNV				S	**Sn**	16 45 37.8	-0.9
TAFP	**Tanaga Falls P**	3.85	273	P	**Pn**	16 44 56.4	-0.2
TAFP				S	**Sn**	16 45 41.2	+0.6
AKUT	**Akutan**	4.29	55	P	**Pn**	16 45 02.1	-0.5
WESP	**Westdahl Peak**	5.00	55	P	**Pn**	16 45 11.4	-1.1
SPIA	**Saint Paul Isl**	5.42	9	P	**Pn**	16 45 18.5	+0.4
SPIA				S	**Sn**	16 46 21.9	+2.8
DTNA	**Dutton South F**	6.58	56	P	**Pn**	16 45 33.7	-0.2
SDPT	**Sand Point**	7.58	58	P	**Pn**	16 45 45.9	-1.8
CHGN	**Chignik**	9.03	55	*e*Pn	**Pn**	16 46 07.2	-0.3
GAMB	**Gambell**	11.97	0	*e*Pn	**Pn**	16 46 46.5	-1.1
OHAK	**Old Harbor**	12.00	56	*e*Pn	**Pn**	16 46 46.1	-1.9
KDAK	**Kodiak Island**	12.54	54	*ce*P	**Pn**	16 46 56.0	+0.6
SVW2	**Sparrevohn**	12.85	38	*e*Pn	**Pn**	16 47 02.2	+2.6
RSO	**Redoubt South**	13.62	43	*e*Pn	**Pn**	16 47 10.3	-0.2
CNPM	**China Poot**	13.86	48	*e*Pn	**Pn**	16 47 13.9	+0.4
TT01	**Tatalina**	13.92	31	*e*Pn	**Pn**	16 47 15.0	+0.8
TTA	**Tatalina**	13.94	31	*e*P	**Pn**	16 47 15.6	+1.0
TTA	**Tatalina**	13.94	31	*e*Pn	**Pn**	16 47 15.6	+1.0
SPU	**Mount Spurr**	14.29	41	*e*Pn	**Pn**	16 47 19.4	+0.2
SEW	**Seward**	14.92	48	*e*Pn	**Pn**	16 47 27.0	-0.5
RC01	**Rabbit Creek A**	15.22	44	*e*Pn	**Pn**	16 47 32.9	+1.6
	7.6nm,0.9s						
PPLA	**Purkeypile**	15.23	36	*e*Pn	**Pn**	16 47 33.4	+1.8
	36nm,1.5s						
KTH	**Kantishna Hill**	16.08	35	*e*Pn	**P**	16 47 44.3	-0.8
	46nm,1.8s						
SML	**Sawmill**	16.16	43	*e*P	**Pn**	16 47 43.8	+0.4
SML				pmax	pmax		
	comp=Z,16nm,1.1s						
SML	**Sawmill**	16.16	43	*e*Pn	**Pn**	16 47 43.8	+0.4
	comp=Z,16nm,1.1s						
TRF	**Thorofare Moun**	16.25	36	*e*P	**P**	16 47 46.8	-0.2
	comp=Z,20nm,1.2s						
BPAW	**Bear Paw Mtn.**	16.40	34	*e*P	**P**	16 47 48.4	-0.1
	comp=Z,14nm,0.9s						
SCM	**Sheep Creek Mo**	16.59	43	*e*P	**Pn**	16 47 48.3	-0.6
SCM				pmax	pmax		
	comp=Z,27nm,1.4s						
SCM	**Sheep Creek Mo**	16.59	43	*e*Pn	**Pn**	16 47 48.3	-0.6
	comp=Z,27nm,1.4s						
RND	**Reindeer**	16.76	37	*e*P	**P**	16 47 57.5	+5.0
RND				pmax	pmax		
	comp=Z,15nm,1.0s						
RND	**Reindeer**	16.76	37	*e*Pn	**P**	16 47 57.5	+5.0
	comp=Z,15nm,1.0s						
KLU	**Klutina**	17.06	45	*e*Pn	**Pn**	16 47 53.7	-1.0
	comp=Z,11nm,1.0s						
MLY	**Manley**	17.08	31	*e*Pn	**P**	16 47 55.5	-0.5
	comp=Z,6.3nm,0.7s						
DHY	**Denali Highway**	17.16	40	*e*Pn	**P**	16 47 57.9	+0.9
	comp=Z,13nm,1.1s						
BMRM	**Bremner River**	17.47	48	*e*Pn	**Pn**	16 47 59.8	+0.1
	comp=Z,7.0nm,0.8s						
CCB	**Clear Creek Bu**	17.83	35	*e*Pn	**P**	16 48 04.5	+0.2
	comp=Z,9.0nm,1.1s						
MDM	**Murphy Dome**	17.87	34	*e*Pn	**P**	16 48 06.5	+1.8
	comp=Z,19nm,1.4s						
PAX	**Paxson**	17.87	41	*e*P	**P**	16 48 06.5	+1.6
PAX				pmax	pmax		
	comp=Z,14nm,1.2s						
PAX	**Paxson**	17.87	41	*e*Pn	**P**	16 48 06.5	+1.6
	comp=Z,14nm,1.2s						
COLA	**College**	17.95	34	*e*P	**P**	16 48 07.5	+2.0
CRQM	**Cirque**	18.08	49	*e*P	**Pn**	16 48 09.2	+1.7
	comp=Z,16nm,0.6s						
IL1	**Eielson Array**	18.23	35	*e*P	**P**	16 48 07.5	-1.2
ILAR	**Eielson Array**	18.23	35	P	**P**	16 48 06.8	-1.9
	comp=Z,0.3nm,0.3s,baz=230,slow=10,SNR=16						
ILAR				LR	LR	16 55 21.1	
	comp=Z,95nm,19.5s,baz=247,slow=38						
ILB	**Eielson Array**	18.23	35	*e*P	**P**	16 48 06.7	-2.0
BALM	**Baldy**	18.54	49	*e*P	**Pn**	16 48 14.4	+1.6
BALM				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BALM	**Baldy**	18.54	49	*e*Pn	**Pn**	16 48 14.4	+1.6
	comp=Z,8.5nm,0.6s						
PEA0	**Petropavlovsk-**	18.58	286	*e*P	**Pn**	16 48 14.4	+1.2
PEA0B	**Petropavlovsk-**	18.58	286	*e*P	**Pn**	16 48 13.9	+0.7
	comp=Z,29nm,1.3s						
PETK	**Petropavlovsk-**	18.58	286	P	**Pn**	16 48 13.8	+0.6
	comp=Z,1.4nm,0.3s,baz=90,slow=14,SNR=39						
PETK				LR	LR	16 55 52.9	
	comp=Z,92nm,19.3s,baz=89,slow=38						
COLD	**Coldfoot**	18.74	26	*e*P	**Pn**	16 48 15.6	+0.5
	comp=Z,11nm,1.2s						
PCA	**Pinnacle**	19.31	52	*e*P	**Pn**	16 48 22.1	+0.1
	comp=Z,24nm,0.6s						
BILL	**Bilibino**	19.42	335	*i* P	**Pn**	16 48 23.9	+0.7
BILL				pmax	pmax		
	comp=Z,17nm,1.0s						
BILL				MLR	MLR		
	comp=Z,139nm,16.0s						
BILL	**Bilibino**	19.42	335	*e*P	**P**	16 48 18.4	-3.3
	comp=Z,16nm,0.7s						
DHAK	**Deception Hill**	20.18	56	*e*P	Pn	16 48 32.2	-0.2
	comp=Z,24nm,0.8s						
EGAK	**Eagle**	20.38	39	*e*P	**P**	16 48 32.6	+0.5
	comp=Z,8.8nm,0.6s						
HYT	**Haines Junctio**	20.79	51	*e*P	Pn	16 48 38.3	-1.3
	comp=Z,16nm,0.7s						
DAWY	**Dawson**	20.81	42	*e*P	**P**	16 48 37.4	+0.5
	comp=Z,5.0nm,0.7s						
SKAG	**Skagway**	21.69	55	*e*P	**P**	16 48 47.0	+0.7
	comp=Z,16nm,0.8s						
SEY	**Seymchan**	21.96	314	P	**P**	16 48 50.2	+1.1
	comp=Z,3.4nm,0.6s,baz=109,slow=11,SNR=21						
SEY	**Seymchan**	21.96	314	*i* P	**P**	16 48 50.4	+1.3
DLBC	**Dease Lake**	24.43	58	P	**P**	16 49 15.3	+1.7
	comp=Z,7.8nm,0.5s,baz=290,slow=8.8,SNR=17						
DLBC	**Dease Lake**	24.43	58	*e*P	**P**	16 49 14.6	+1.1
	comp=Z,14nm,0.8s						
INK	**Inuvik**	24.61	34	P	**P**	16 49 14.3	-0.7
	comp=Z,3.3nm,0.5s,baz=244,slow=7.0,SNR=17						
INK				LR	LR	16 58 41.0	
	comp=Z,114nm,19.1s,baz=252,slow=36						
INK	**Inuvik**	24.61	34	*e*P	**P**	16 49 14.3	-0.7
	comp=Z,21nm,1.4s						
YSS	**Yuzh-Sakhalins**	29.61	279	*e*P	**P**	16 49 59.1	-1.0
YSS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	29.61	279	*e*P	**P**	16 49 59.1	-1.0
	comp=Z,7.8nm,0.9s						
YKA	**Yellowknife Ar**	31.70	48	P	**P**	16 50 18.2	-0.1
	comp=Z,0.6nm,0.4s,baz=274,slow=8.0,SNR=5.7						
YKA				LR	LR	17 03 30.3	
	comp=Z,20nm,19.1s,baz=0.0,slow=37						
YKB5	**Yellowknife Ar**	31.70	48	*e*P	**P**	16 50 18.7	+0.3
TIXI	**Tiksi**	32.43	329	P	**P**	16 50 24.4	-0.2
	comp=Z,0.4nm,0.5s,baz=104,slow=10.0,SNR=2.3						
TIXI				PcP	**PcP**	16 53 10.9	+0.3
	comp=Z,2.6nm,0.6s,baz=121,slow=5.7,SNR=8.8						
NEW	**Newport**	34.58	74	P	**P**	16 50 43.8	+0.1
	comp=Z,5.2nm,0.9s,baz=52,slow=3.2,SNR=4.4						
NEW				LR	LR	17 03 05.0	
	comp=Z,44nm,19.1s,baz=346,slow=33						
NEW	**Newport**	34.58	74	*e*P	**P**	16 50 44.9	+1.2
NEW				pmax	pmax		
	comp=Z,5.0nm,0.8s				

PDAR	Pinedale Array	41.96	77	P		P		16 51 46.4	+0.4
	comp=Z,3.2nm,0.9s,baz=305,slow=5.2,SNR=16								
GSC	Goldstone, Bar	42.05	91	*e*P		P		16 51 47.9	+1.3
GSC				pmax	pmax				
	comp=Z,6.0nm,0.6s								
GSC	Goldstone, Bar	42.05	91	*e*P		P		16 51 47.9	+1.3
	comp=Z,6.3nm,0.6s								
TMUT	Trail Mountain	43.00	82	*e*P		P		16 51 55.7	+1.1
	comp=Z,20nm,1.7s								
P18A	Preston Nutter	43.39	81	*e*P		P		16 51 57.7	0.0
	comp=Z,4.2nm,0.9s								
SRU	San Rafael Swe	43.54	82	*e*P		P		16 51 59.5	+0.7
SRU				pmax	pmax				
	comp=Z,6.0nm,1.0s								
SRU	San Rafael Swe	43.54	82	*e*P		P		16 51 59.5	+0.7
	comp=Z,5.6nm,1.0s								
KSRS	Korea Array	43.99	275	P		P		16 52 02.8	+0.7
	comp=Z,4.9nm,0.6s,baz=52,slow=7.8,SNR=20								
KSRS				LR		LR		17 10 52.3	
	comp=Z,43nm,20.3s,baz=20,slow=37								
KS01	Wonju Array Si	43.99	276	*e*P		P		16 52 02.0	-0.2
KS15	Wonju Array Si	44.02	276	*e*P		P		16 52 01.9	-0.4
KSAR	Wonju Array Be	44.02	276	P		P		16 52 02.8	+0.4
KSAR	Wonju Array Be	44.02	276	P		P		16 52 02.8	+0.4
U15A	North Rim	44.13	86	*e*P		P		16 52 04.7	+1.0
	comp=Z,8.6nm,1.3s								
JNU	Nakatsue	44.98	269	P		P		16 52 09.9	-0.2
	comp=Z,3.1nm,0.5s,baz=259,slow=2.9,SNR=5.7								
TJN	Taejon	45.02	275	*i* P		P		16 52 11.4	+1.1
PV05	Paradox Valley	45.05	82	*e*P		P		16 52 11.8	+0.9
WUAZ	Wupatki	45.28	87	*e*P		P		16 52 13.7	+1.1
	comp=Z,4.3nm,0.8s								
Y14A	Wickenburg	45.31	89	*e*P		P		16 52 13.3	+0.6
	comp=Z,46nm,0.2s								
PV01	Paradox Valley	45.34	82	*e*P		P		16 52 13.7	+0.5
ULM	Lac du Bonnet	45.70	60	P		P		16 52 15.5	-0.1
	comp=Z,2.0nm,0.5s,baz=310,slow=7.9,SNR=3.2								
AGMN	Agassiz Nation	46.79	63	*e*P		P		16 52 24.2	0.0
	comp=Z,5.9nm,0.8s								
SDCO	Great Sand Dun	47.47	80	*e*P		P		16 52 30.9	+0.9
	comp=Z,4.9nm,1.0s								
ECSD	EROS Data Cent	49.05	68	*e*P		P		16 52 40.4	-1.3
	comp=Z,3.6nm,0.6s								
ULN	Ulaanbaatar	49.92	300	*i* P		P		16 52 48.5	+0.1
ULN				pmax	pmax				
	comp=Z,2.0nm,1.0s								
SPITS	Spitsbergen Ar	50.15	358	LR		LR		17 14 38.6	
	comp=Z,61nm,18.0s,baz=355,slow=37								
SONM	Songino Array	50.29	300	P		P		16 52 51.1	-0.1
	comp=Z,0.4nm,0.5s,baz=54,slow=7.3,SNR=4.5								
SONM				PcP		PcP		16 54 09.5	+0.1
	comp=Z,0.7nm,0.7s,baz=56,slow=3.6,SNR=3.2								
MNTX	Cornudas Mount	51.55	86	*e*P		P		16 53 00.7	0.0
	comp=Z,3.5nm,1.0s								
HHC	Hu-ho-hao-te	51.72	290	*e*P		P		16 53 03.0	+1.0
HHC				pmax	pmax				
	comp=Z,17nm,1.0s								
HHC				pmax	pmax				
	comp=Z,110nm,6.8s								
SFJD	Kangerlussuaq	53.49	25	LR		LR		17 19 48.0	
	comp=Z,75nm,18.1s,baz=286,slow=40								
WMOK	Wichita Mounta	53.53	78	*e*P		P		16 53 15.0	-0.4
WMOK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
WMOK	Wichita Mounta	53.53	78	*e*P		P		16 53 15.0	-0.4
	comp=Z,3.0nm,0.9s								
TX31	Lajitas Ar. Si	54.25	87	*e*P		P		16 53 21.1	+0.3
TXAR	Lajitas Array	54.25	87	P		P		16 53 21.2	+0.5
	comp=Z,2.9nm,0.7s,baz=297,slow=5.3,SNR=26								
TXAR				PcP		PcP		16 54 25.5	+1.0
	comp=Z,1.1nm,0.7s,baz=222,slow=1.4,SNR=4.6								
ZALV	Zalesovo Beam	56.80	317	P		P		16 53 39.6	+1.0
	comp=Z,0.9nm,0.3s,baz=32,slow=8.5,SNR=3.6								
ZALV				PcP		PcP		16 54 33.9	0.0
	comp=Z,0.7nm,0.5s,baz=37,slow=3.3,SNR=3.7								
ARCES	ARCESS Array B	58.28	353	P		P		16 53 47.7	-1.1
	comp=Z,2.2nm,0.9s,baz=28,slow=8.8,SNR=4.6								
ARCES				PcP		PcP		16 54 39.6	+0.2
	comp=Z,1.0nm,0.6s,baz=19,slow=5.1,SNR=6.7								
ARCES				LR		LR		17 18 46.5	
	comp=Z,55nm,22.0s,baz=176,slow=36								
GTA	Gaotai	59.39	296	*e*P		P		16 53 56.0	-1.1
GTA				pP		pP		16 54 01.5	-9.5
GTA				sP		sP		16 54 04.5	-12
GTA				pmax	pmax				
	comp=Z,2.0nm,1.0s								
LZH	Lanzhou	59.40	291	*e*P		P		16 53 58.0	+0.7
LZH				pP		pP		16 54 09.0	-2.1
LZH				sP		sP		16 54 14.0	-2.8
LZH				PP		PP		16 56 11.3	+2.8
LZH				pmax	pmax				
	comp=Z,21nm,1.3s								
LZH				pmax	pmax				
	comp=Z,49nm,6.8s								
LZH				LR		LR			
	comp=N,170nm,16.6s								
LZH				LR		LR			
	comp=E,150nm,16.5s								
LZH				LR		LR			
	comp=Z,190nm,19.1s								
KURK	Kurchatov	61.77	317	*c i* P		P		16 54 12.3	-0.6
KURK				pmax	pmax				
	comp=Z,21nm,1.2s								
KURK	Kurchatov	61.77	317	*e*P		P		16 54 12.1	-0.9
	comp=Z,14nm,0.7s								
WMQ	Urumqi	62.67	307	P		P		16 54 21.8	+2.6
WMQ				pP		pP		16 54 31.8	-1.4
WMQ				sP		sP		16 54 35.8	-3.1
WMQ				pmax	pmax				
	comp=Z,13nm,0.8s								
WMQ				pmax	pmax				
	comp=Z,170nm,9.5s								
WMQ				LR		LR			
	comp=N,38nm,17.1s								
WMQ				LR		LR			
	comp=Z,33nm,21.3s								
MKAR	Makanchi Array	63.08	312	P		P		16 54 20.6	-1.2
	comp=Z,0.9nm,0.4s,baz=40,slow=5.9,SNR=14								
MK01	Makanchi Array	63.09	312	*e*P		P		16 54 20.8	-1.1
BRVK	Borovoye	63.27	323	*i* P		P		16 54 22.6	-0.3
BRVK				pmax	pmax				
	comp=Z,15nm,1.2s								
BRVK	Borovoye	63.27	323	*e*P		P		16 54 22.8	-0.1
	comp=Z,19nm,1.2s								
VOSK	Vostochnaya	63.27	323	*e*P		P		16 54 22.3	-0.7
VOSK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
VOSK	Vostochnaya	63.27	323	*e*P		P		16 54 22.3	-0.7
	comp=Z,3.9nm,1.0s								
KMSC	Kings Mountain	63.54	66	*e*P		P		16 54 24.9	-0.2
	comp=Z,7.7nm,0.9s								
ZRNK	Zerenda	63.82	324	*e*P		P		16 54 26.3	-0.3
ZRNK				pmax	pmax				
	comp=Z,10.0nm,0.5s								
ZRNK	Zerenda	63.82	324	*e*P		P		16 54 26.3	-0.3
	comp=Z,10nm,0.5s								
LMN	Caledonia Moun	64.25	48	*e*P		P		16 54 29.6	0.0
	comp=Z,9.9nm,0.7s								
ARU	Arti	64.40	332	*d i* P		P		16 54 29.7	-0.6
ARU								16 56 48.0	
ARU				PPP		PPP		16 58 22.9	
ARU				S		S		17 03 07.7	+3.0
ARU				SS		SS		17 07 09.8	-4.4
ARU				pmax	pmax				
	comp=Z,5.0nm,0.7s								
ARU	Arti	64.40	332	*e*P		P		16 54 29.8	-0.6
	comp=Z,13nm,1.3s								
FINES	FINESS Array B	66.17	351	P		P		16 54 40.5	-1.2
	comp=Z,0.8nm,0.5s,baz=27,slow=9.4,SNR=6.2								
FINES				PcP		PcP		16 55 11.3	-0.2
	comp=Z,1.0nm,0.5s,baz=33,slow=4.5,SNR=6.3								
FINES				LR		LR		17 25 06.4	
	comp=Z,46nm,21.9s,baz=20,slow=37								
NB2	NORSAR Subarra	67.44	358	P		P		16 54 49.1	-0.8
	comp=Z,1.2nm,0.6s,baz=4.5,slow=6.9								
NOA	NORSAR Array B	67.44	358	P		P		16 54 48.8	-1.1
	comp=Z,1.1nm,0.6s,baz=2.8,slow=6.4,SNR=7.0								
ABKAR	Akbulak array	70.08	327	*e*P		P		16 55 06.0	-0.4
EKS2	Erkin-Say	70.12	314	*e*P		P		16 55 06.2	-0.7
EKS2				pmax	pmax				
	comp=Z,9.0nm,1.1s								
EKS2	Erkin-Say	70.12	314	*e*P		P		16 55 06.2	-0.7
	comp=Z,9.0nm,1.1s								
KKAR	Karatay Array	71.18	317	*e*P		P		16 55 12.4	-0.8
KKAR	Karatay Array	71.18	317	*e*P		P		16 55 12.4	-0.8
LSA	Lhasa	71.33	294	*e*P		P		16 55 16.0	+1.1
LSA				pmax	pmax				
	comp=Z,11nm,0.7s								
LSA	Lhasa	71.33	294	*e*P		P		16 55 16.0	+1.1
	comp=Z,11nm,0.7s								
KSH	Kashi	71.62	311	*e*P		P		16 55 19.8	+3.7
KSH				pP		pP		16 56 07.3	+37
KSH				pmax	pmax				
	comp=Z,4.0nm,0.6s								
CHTO	Chiang Mai	75.00	281	*e*P		P		16 55 36.0	-0.1
CHTO				pmax	pmax				
	comp=Z,19nm,1.9s								
CHTO	Chiang Mai	75.00	281	*e*P		P		16 55 36.0	-0.1
	comp=Z,19nm,1.9s								
CM31	Chiang Mai Arr	75.28	281	*e*P		P		16 55 38.2	+0.6
CMAR	Chiang Mai Arr	75.28	281	P		P		16 55 38.0	+0.3
	comp=Z,3.3nm,0.8s,baz=27,slow=6.8,SNR=30								
CM01	Chiang Mai Arr	75.30	281	*e*P		P		16 55 38.2	+0.4
GUN	Gumba	75.66	297	*e*P		P		16 55 40.3	+0.1
	comp=Z,25nm,0.5s								
KKN	Kakani	76.08	297	*e*P		P		16 55 42.6	+0.2
	comp=Z,11nm,0.5s								
PKIN	Phulchoki	76.18	297	*e*P		P		16 55 44.0	+0.9
GKN	Gorkha	76.27	298	*e*P		P		16 55 43.5	+0.1
	comp=Z,24nm,0.6s								
AKASG	Malin Array Be	76.30	346	P		P		16 55 41.0	-2.0
	comp=Z,0.8nm,0.5s,baz=13,slow=5.6,SNR=3.7								
AKASG	Malin Array Be	76.30	346	P		P		16 55 41.0	-2.0
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.5s								
DMN	Daman	76.32	297	*e*P		P		16 55 44.4	+0.6
	comp=Z,9.4nm,0.4s								
PYUN	Piuthan	77.09	299	*e*P		P		16 55 48.4	+0.3
GERES	GERESS Array B	79.58	356	P		P		16 56 00.8	-0.6
	comp=Z,0.5nm,0.5s,baz=22,slow=4.3,SNR=4.8								
GEYT	Alibeck	80.56	322	P		P		16 56 06.7	-0.1
	comp=Z,2.1nm,0.9s,baz=46,slow=4.2,SNR=3.4								
WRA	Warramunga Arr	85.52	230	P		P		16 56 32.0	-0.4
	comp=Z,1.3nm,0.8s,baz=34,slow=6.0,SNR=10								
WRA	Warramunga Arr	85.52	230	P		P		16 56 32.0	-0.4
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
BRTR	Keskin Array B	86.16	341	P		P		16 56 35.9	+0.2
	comp=Z,0.6nm,0.5s,baz=55,slow=2.7,SNR=4.2								
ESDC	Sonseca Array	88.24	9	P		P		16 56 44.6	-1.0
	comp=Z,0.5nm,0.5s,baz=343,slow=4.0,SNR=4.0								
AS01	Alice Springs	88.91	228	*e*P		P		16 56 48.6	-0.1
AS31	Alice Springs	88.93	228	*e*P		P		16 56 49.3	+0.5
	comp=Z,1.9nm,0.7s								
ASAR	Alice Springs	88.93	228	P		P		16 56 49.2	+0.4
	comp=Z,5.5nm,0.7s,baz=28,slow=4.8,SNR=75								
MATP	Matopo	144.88	326	PKP		PKPdf		17 03 31.1	-0.3
	comp=Z,7.5nm,0.8s,baz=24,slow=3.5,SNR=17								
TSUM	Tsumeb	146.61	344	*e*PKPbc		PKPbc		17 03 36.1	0.0
MAW	Mawson	149.54	218	PKPbc		PKPbc		17 03 42.7	+0.6
	comp=Z,8.8nm,0.8s,baz=103,slow=2.4,SNR=17								
BOSA	Boshof	153.54	325	PKPbc		PKPbc		17 03 52.8	0.0
	comp=Z,2.5nm,0.9s,baz=26,slow=3.0,SNR=2.7								

IDC ***28*** *16:59:51.0±1.3,51.˚76N×171.˚79W,h0km,mb3.7/6, mb1 3.8/8,mb1mx3.5/60,mbtmp3.6/8,ML3.3/2,Error ellipse: s-maj=38.0km s-min=22.2km az=166.0*

ISCJB ***28*** *16:59:53.1±0.9,51.˚7N±0.˚1×171.˚56W±0.˚06,h27km, mb3.7/6,Error ellipse: s-maj=17.9km s-min=4.0km az=166.1*

NEIC ***28*** *16:59:55.1,51.˚70N×171.˚64W,h42km,ML3.5(AEIC),After AEIC.*

ISC 28 16:59:55.1±1.1,51.˚7N±0.˚2×171.˚60W±0.˚05,h27km,n30, σ0s93/28,mb3.7/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOSE	Korovin Southe	1.64	293	P		Pn	17 00 22.4	+0.2
KOFP	Korovin Flat P	1.64	290	P		Pn	17 00 21.9	-0.3
KONE	Korovin Northe	1.69	294	P		Pn	17 00 22.8	-0.1
KOKL	Mount Kliuchef	1.71	291	P		Pn	17 00 23.4	+0.2
KOWE	Korovin West	1.76	292	P		Pn	17 00 23.6	-0.2
NIKH	Nikolski High	2.09	52	P		Pn	17 00 27.7	-0.7
NIKH				S		Sn	17 00 52.7	-0.9
OKAK	Okmok	2.71	46	P		Pn	17 00 34.9	-1.9
GSMY	Great Sitkin M	2.78	278	P		Pn	17 00 37.3	-0.5
GSTR	Great Sitkin T	2.79	279	P		Pn	17 00 36.9	-1.0
GSTD	Great Sitkin T	2.84	278	P		Pn	17 00 37.7	-0.9
GSTD				S		Sn	17 01 11.9	0.0
ETKA	Kagalaska Isla	2.99	274	P		Pn	17 00 40.5	-0.2
ADAG	Mount Adagdak	3.11	277	P		Pn	17 00 42.0	-0.4
KIKV	Kanaga Island	3.46	275	P		Pn	17 00 46.2	-1.0
UNV	Unalaska Valle	3.75	54	P		Pn	17 00 51.5	+0.4
UNV				S		Sn	17 01 35.7	+1.4
TAFP	Tanaga Falls P	3.97	275	P		Pn	17 00 53.1	-1.1
TAFP				S		Sn	17 01 41.1	+1.4
AKRB	Akutan Reef Bi	4.12	52	P		Pn	17 00 55.7	-0.5
ILAR	Eielson Array	18.26	35	P		Pn	17 04 07.5	+1.3
	0.1nm,0.3s,baz=236,slow=9.8,SNR=4.5							
PETK	Petropavlovsk-	18.71	286	P		P	17 04 11.1	-0.2
	0.1nm,0.3s,baz=90,slow=14,SNR=2.4							
INK	Inuvik	24.64	33	P		P	17 05 12.1	-0.8
	0.9nm,0.5s,baz=287,slow=7.4,SNR=3.4							
YKA	Yellowknife Ar	31.70	48	P		P	17 06 17.2	+1.2
	0.5nm,0.6s,baz=275,slow=6.6,SNR=3.0							
H11N2	WAKE ISLAND Hy	36.11	216	T		T	17 45 29.3	
	baz=22,slow=76,SNR=6.9							
H11N3	WAKE ISLAND Hy	36.12	216	T		T	17 45 30.1	
	baz=22,slow=76,SNR=7.2							
H11N1	WAKE ISLAND Hy	36.13	216	T		T	17 45 27.7	
	baz=22,slow=76,SNR=6.2							
H11S1	WAKE ISLAND Hy	37.31	215	T		T	17 46 57.2	
	baz=22,slow=76,SNR=5.9							
H11S2	WAKE ISLAND Hy	37.32	215	T		T	17 46 58.2	
	baz=22,slow=76,SNR=5.0							
H11S3	WAKE ISLAND Hy	37.32	215	T		T	17 47 01.4	
	baz=22,slow=76,SNR=4.2							
TXAR	Lajitas Array	54.15	87	P		P	17 09 18.5	+0.6
	0.2nm,0.5s,baz=311,slow=6.1,SNR=4.0							
MKAR	Makanchi Array	63.23	312	P		P	17 10 18.8	-1.9
	0.2nm,0.3s,baz=20,slow=5.4,SNR=2.8							
BVAR	Borovoye Array	63.41	323	P		P	17 10 22.0	+0.2
	0.6nm,0.5s,baz=38,slow=5.1,SNR=5.0							
ASAR	Alice Springs	88.94	228	P		P	17 12 47.0	+0.1
	0.7nm,0.8s,baz=21,slow=4.9,SNR=7.6							

ISCJB ***28*** *17:04:14.3±0.3,67.˚03N±0.˚02×21.˚09E±0.˚07,h0km, Error ellipse: s-maj=3.8km s-min=2.7km az=7.3*

UPP ***28*** *17:04:14.8±0.1,67.˚05N×20.˚97E,h0km,ML2.1,Explosion*

IDC ***28*** *17:04:15.5±1.1,67.˚04N×21.˚08E,h0km,mb1 2.8/3, mb1mx2.7/43,mbtmp2.7/3,ML2.4/3,Error ellipse: s-maj=17.7km s-min=8.7km az=106.0*

NAO ***28*** *17:04:15.3±0.9,67.˚06N×21.˚11E,ML2.4*

CSEM ***28*** *17:04:15.1±0.2,67.˚05N×20.˚99E,h2km,ML2.1,Error ellipse: s-maj=5.3km s-min=3.9km az=93.0,Mining explosion.*

HEL ***28*** *17:04:15.6±0.1,67.˚06N×20.˚97E,h0km,ML2.3, ML2.1(UPP),Explosion*

BER ***28*** *17:04:17.5±2.6,67.˚05N×20.˚77E,h0km,ML1.7, ML2.4(NAO),Suspected explosion*

ISC 28 17:04:14.4±0.7,67.˚04N±0.˚02×20.˚98E±0.˚02,h0km,n78, σ1s20/114,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASU	Masugnsbyn	0.58	43	P		Pg	17 04 25.8	+0.3
MASU	Masugnsbyn	0.58	43	*i* P		Pg	17 04 25.8	+0.3
MASU	Masugnsbyn	0.58	43	P		Pg	17 04 25.8	+0.3
ERTU	Ertsjaerv	0.69	135	P		Pg	17 04 27.9	+0.4
ERTU	Ertsjaerv	0.69	135	*i* P		Pg	17 04 27.9	+0.4
ERTU	Ertsjaerv	0.69	135	P		Pg	17 04 27.9	+0.4
PAJU	Pajala	0.84	90	P		Pg	17 04 30.5	0.0
PAJU	Pajala	0.84	90	*i* P		Pg	17 04 30.5	0.0
PAJU	Pajala	0.84	90	P		Pg	17 04 30.5	0.0
HARU	Harads	0.88	180	P		Pg	17 04 31.5	+0.2
HARU	Harads	0.88	180	*i* P		Pg	17 04 31.5	+0.2
HARU	Harads	0.88	180	P		Pg	17 04 31.5	+0.2
SALU	Saltoluokta	1.02	291	P		Pg	17 04 33.8	-0.1
SALU	Saltoluokta	1.02	291	*e*P		Pg	17 04 33.8	-0.1
SALU	Saltoluokta	1.02	291	P		Pg	17 04 33.8	-0.1
LANU	Lannavaara	1.09	20	*e*P		Pg	17 04 34.4	-0.8
LANU				*e*SB		Sb	17 04 50.6	-0.2
LANU	Lannavaara	1.09	20	P		Pg	17 04 34.4	-0.8
LANU				Sb		Sb	17 04 50.6	-0.2
NIKU	Nikkaluokta	1.12	319	P		Pg	17 04 35.3	-0.5
NIKU	Nikkaluokta	1.12	319	*e*P		Pg	17 04 35.3	-0.5
NIKU	Nikkaluokta	1.12	319	P		Pg	17 04 35.3	-0.5
SJUU	Sjulsmark	1.56	170	P		Pn	17 04 43.6	+0.2
SJUU	Sjulsmark	1.56	170	*e*P		Pn	17 04 43.6	+0.2
SJUU	Sjulsmark	1.56	170	P		Pn	17 04 43.6	+0.2
TOF	Tornio	1.65	124	*e*P		Pn	17 04 44.2	-0.4
TOF				*e*S		Sn	17 05 07.0	+0.6
TOF	Tornio	1.65	124	P		Pn	17 04 44.2	-0.4
TOF				S		Sn	17 05 07.0	+0.6
HEF	Hetta	1.71	35	*e*P		Pn	17 04 45.6	+0.2
HEF				*e*S		Sg	17 05 09.4	0.0
HEF	Hetta	1.71	35	*e*P		Pn	17 04 45.5	0.0
HEF				MSG			17 05 08.0	
	comp=Z,15nm,0.2s							
HEF				*e*SN		Sb	17 05 08.7	-0.1
HEF	Hetta	1.71	35	*e*P		Pn	17 04 45.7	+0.2
	SNR=50							
HEF				Sn		Sb	17 05 08.7	-0.1
HEF				*e*S		Sg	17 05 09.4	0.0
	SNR=50							
LILU	Lilltraesk	1.82	195	P		Pn	17 04 47.7	+0.7
LILU				S		Sg	17 05 13.2	+0.3
LILU	Lilltraesk	1.82	195	*e*P		Pn	17 04 47.7	+0.7
LILU				*e*S		Sg	17 05 13.2	+0.3
LILU	Lilltraesk	1.82	195	P		Pn	17 04 47.7	+0.7
KIF	Kilpisjarvi	1.98	358	Pn		Pb	17 04 50.9	-0.3
KIF				Lg		Lg	17 05 18.1	
KIF	Kilpisjarvi	1.98	358	Pn		Pb	17 04 50.9	-0.3
KIF				Lg		Lg	17 05 18.1	
KIF	Kilpisjarvi	1.98	358	*e*PB		Pb	17 04 50.7	-0.5
KIF				MSG			17 05 14.4	
	comp=Z,27nm,0.2s							
KIF				*e*SG		Sg	17 05 17.8	0.0
KIF	Kilpisjarvi	1.98	358	Pb		Pb	17 04 50.7	-0.5
KIF				Sg		Sg	17 05 17.8	0.0
KIF				Lg		Lg	17 05 18.1	
RNF	Rovaniemi	2.04	100	*e*P		Pn	17 04 51.4	+1.4
RNF				*e*SG		Sg	17 05 19.6	-0.2
RNF	Rovaniemi	2.04	100	P		Pn	17 04 51.3	+1.4
RNF				Sg		Sg	17 05 19.6	-0.2
KTK1	Kautokeino	2.16	22	*e*P		Pb	17 04 53.5	-0.8
KTK1				IAML			17 05 25.9	
	comp=Z,9.4nm,0.1s							
KTK1	Kautokeino	2.16	22	*e*P		Pb	17 04 53.5	-0.8
	SNR=50							
SGF	Sodankyl	2.20	77	*e*PG		Pg	17 04 56.0	-0.4
SGF				*e*SG		Sg	17 05 25.4	+0.5
SGF	Sodankyl	2.20	77	Pg		Pg	17 04 56.0	-0.4
SGF				Sg		Sg	17 05 25.3	+0.5
TRO	Tromso	2.71	345	*e*P		Pn	17 05 01.1	+1.9
TRO	Tromso	2.71	345	*e*P		Pn	17 05 01.1	+1.9
	SNR=50							
OUL	Oulu	2.81	132	*e*PB		Pb	17 05 03.6	-1.7
OUL				*e*SG		Sg	17 05 43.1	-1.3
OUL	Oulu	2.81	132	Pb		Pb	17 05 03.6	-1.7
OUL				Sg		Sg	17 05 43.1	-1.3
ARA0	ARCESS Array S	3.02	32	Pn		Pn	17 05 04.0	+0.6
	baz=211,slow=14							
ARA0				Sn		Sn	17 05 40.7	+0.5
	baz=214,slow=22							
ARA0	ARCESS Array S	3.02	32	Pn		Pn	17 05 04.0	+0.6
	baz=211,slow=14							
ARA0				Sn		Sn	17 05 40.7	+0.5
	baz=214,slow=22							
ARA0	ARCESS Array S	3.02	32	Pn		Pn	17 05 04.0	+0.6
	SNR=50							
ARA0				Sn		Sn	17 05 40.7	+0.5
	SNR=50							
ARCES	ARCESS Array B	3.02	32	Pn		Pn	17 05 04.0	+0.6
	comp=Z,0.5nm,0.3s,baz=206,slow=14,SNR=20							
ARCES				Sn		Sn	17 05 41.8	+1.6
	comp=Z,1.1nm,0.3s,baz=219,slow=21,SNR=10							
ARE0	ARCESS Array S	3.02	32	*e*P		Pn	17 05 04.5	+1.1
ARE0	ARCESS Array S	3.02	32	*e*P		Pn	17 05 04.0	+0.6
ARE0				*e*SB		Sb	17 05 44.4	-1.9
ARE0	ARCESS Array S	3.02	32	P		Pn	17 05 04.0	+0.6
ARE0				Sb		Sb	17 05 44.4	-1.9
OUFX	Oulainen	3.10	148	*e*P		Pn	17 05 06.7	+2.2
OUFX	Oulainen	3.10	148	P		Pn	17 05 06.7	+2.2
UMAU	Umeaa	3.17	182	*e*P		Pn	17 05 07.5	+1.9
UMAU	Umeaa	3.17	182	P		Pn	17 05 07.4	+1.9
VRF	Varrio	3.41	74	*e*SG		Sb	17 05 60.0	+2.4
MSF	Maaselka	3.43	106	*e*P		Pn	17 05 10.6	+1.5
MSF				*e*SG		Sg	17 06 05.0	+0.6
MSF	Maaselka	3.43

*NEIC **28** 17:25:56.9±0.1, 15°.32S×173°.40W, h10km, mb4.9/83, Error ellipse: s-maj=7.0km s-min=3.7km az=140.0*
NEIC Felt at Apia, Samoa.
*GCMT **28** 17:25:56.9±0.3, 15°.31S×173°.19W, h27km±1km, MW5.1/75, Moment Tensor Solution. s29,c31; s75,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mr=0.30±.14; Mθθ=1.57±.11; Mφφ=1.27±.11; Mrθ=-5.88±.47; Mθφ=0.15±.09; Mφr=1.49±.20; Best double couple: M=6.17500×10^{16} NP1:φs=254.00000°,δ86.00000°,λ82.00000°. NP2: φs=140.00000°,δ9.00000°,λ155.00000°. Principal axes: T 5.6700, Plg48.0000°, Azm156.0000°; N 1.0130, Plg8.0000°, Azm255.0000°; P -6.6810, Plg41.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **28** 17:26:00.1±0.2, 15°.28S±0°.05×173°.52W±0°.04, h42km, mb4.9/97, MS4.0/25 Error ellipse: s-maj=8.8km s-min=4.0km az=142.7*

ISC 28 17:26:01.4±0.3, 15°.39S±0°.06×173°.35W±0°.06, h42km, n323, σ1s11/301, mb4.9/97, MS4.0/25, 9C-10D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**46**	Pn		Pn	17 26 28.0	-6.4
	621nm,0.3s,baz=160,slow=1.1,SNR=434							
AFI				Sn		Sn	17 26 46.8	-13
	4µm,0.3s,baz=193,slow=12,SNR=29							
NIUE	**Niue**	**4.92**	**139**	P		**Pn**	**17 27 11.2**	**-1.6**
	baz=5.0,SNR=79							
MSVF	**Nonsavu**	**8.57**	**253**	*e*Pn		**Pn**	**17 27 59.2**	**-3.8**
RAR	**Rarotonga**	**14.13**	**116**	Pn		**Pn**	**17 29 15.4**	**-3.6**
	3.9nm,0.3s,baz=77,slow=18,SNR=7.0							
RAR				LR		LR	17 33 23.0	
	comp=Z,644nm,19.2s,baz=298,slow=32							
RAR	**Rarotonga**	**14.13**	**116**	*e*Pn		**Pn**	**17 29 15.8**	**-3.2**
DZM	**Mont Dzumac**	**20.25**	**248**	*e*P		Pn	17 30 38.7	+3.1
	115nm,1.4s							
DZM				*e*LR		LR	17 35 39.2	
	730nm,24.9s							
DZM	**Mont Dzumac**	**20.25**	**248**	P		**P**	**17 30 33.1**	**-0.3**
	11nm,0.9s,baz=96,slow=17,SNR=5.1							
DZM				LR		LR	17 37 17.0	
	comp=Z,495nm,19.6s,baz=67,slow=34							
DZM	**Mont Dzumac**	**20.25**	**248**	*e*P		**P**	**17 30 31.7**	**-1.7**
	33nm,0.9s							
PAE	**Paea**	**22.90**	**99**	*e*T		T	17 54 21.6	
	4.8nm,0.3s							
PPT	**Papeete**	**22.90**	**99**	LR		LR	17 37 22.6	
	comp=Z,257nm,21.2s,baz=279,slow=30							
PPT2	**Papeete2**	**22.90**	**99**	*e*LQ		LQ	17 35 33.3	
	606nm,29.2s							
PPT2				*e*LR		LR	17 36 16.4	
	1µm,27.0s,baz=262							
OUZ	**Omahuta**	**22.96**	**208**	*e*P		**P**	**17 31 04.4**	**+2.2**
	111nm,1.5s							
TVO	**Taravao**	**23.22**	**99**	*e*T		T	17 54 33.6	
	2.2nm,0.3s							
TBI	**Tubuai**	**23.86**	**113**	*e*LQ		LQ	17 36 01.1	
	400nm,27.8s							
TBI				*e*LR		LR	17 36 50.3	
	1µm,27.5s,baz=284							
TBI	**Tubuai**	**23.86**	**113**	*e*T		T	17 55 32.6	
	18nm,0.3s							
URZ	**Urewera**	**24.29**	**198**	P		**P**	**17 31 15.3**	**+0.5**
	8.8nm,0.4s,baz=272,slow=3.0,SNR=13							
VAH	**Vaihoa**	**24.81**	**93**	*e*T		T	17 56 55.0	
	9.1nm,0.3s							
BKZ	**Black Stump Fm**	**25.31**	**199**	*e*P		**P**	**17 31 24.0**	**-0.2**
	112nm,1.8s							
HNR	**Honiara**	**26.73**	**280**	LR		LR	17 40 19.9	
	comp=Z,280nm,20.8s,baz=72,slow=32							
HNR	**Honiara**	**26.73**	**280**	*e*P		**P**	**17 31 33.0**	**-4.2**
	94nm,0.9s							
BFZ	**Birch Farm**	**26.78**	**198**	*e*P		**P**	**17 31 39.1**	**+1.7**
	188nm,1.4s							
RPZ	**Rata Peaks**	**31.21**	**202**	LR		LR	17 44 35.8	
	comp=Z,888nm,19.7s,baz=44,slow=36							
TAOE	**Nuku Hiva Isla**	**33.08**	**83**	*e*LR		LR	17 41 05.8	
	388nm,25.2s							
PYZ	**Puysegur Point**	**34.95**	**204**	*e*P		**P**	**17 32 48.5**	**-0.8**
	229nm,1.6s							
ARMA	**Armidale**	**35.39**	**239**	P		**P**	**17 32 53.0**	**-0.5**
	baz=36,SNR=5.1							
ARMA	**Armidale**	**35.39**	**239**	*e*P		**P**	**17 32 52.7**	**-0.8**
	88nm,1.9s							
RMQ	**Roma**	**36.94**	**246**	P		**P**	**17 33 06.7**	**+0.1**
	baz=37							
RKT	**Rikitea**	**36.95**	**108**	*e*LR		LR	17 42 50.8	
	677nm,28.5s							
RKT	**Rikitea**	**36.95**	**108**	*e*T		T	18 11 47.9	
	10nm,0.3s							
CNB	**Canberra Magne**	**38.80**	**232**	P		**P**	**17 33 22.0**	**-0.3**
	baz=39,SNR=4.5							
H11S2	**WAKE ISLAND Hy**	**38.98**	**329**	T		T	18 14 02.6	
	baz=146,slow=76,SNR=6.2							
H11S3	**WAKE ISLAND Hy**	**38.99**	**329**	T		T	18 14 12.5	
	baz=146,slow=76,SNR=10							
H11S1	**WAKE ISLAND Hy**	**38.99**	**329**	T		T	18 14 06.1	
	baz=146,slow=76,SNR=10							
CAN	**Canberra**	**39.08**	**232**	P		**P**	**17 33 24.1**	**-0.5**
	baz=39							
YNG	**Young**	**39.19**	**234**	P		**P**	**17 33 25.8**	**+0.2**
	baz=39							
HLK	**Haleakala**	**39.65**	**26**	*e*P		**P**	**17 33 27.4**	**-2.3**
	112nm,1.0s							
H11N3	**WAKE ISLAND Hy**	**39.92**	**330**	T		T	18 15 59.9	
	baz=149,slow=76,SNR=8.4							
H11N1	**WAKE ISLAND Hy**	**39.93**	**330**	T		T	18 16 00.6	
	baz=149,slow=76,SNR=45							
H11N2	**WAKE ISLAND Hy**	**39.94**	**330**	T		T	18 16 03.7	
	baz=149,slow=76,SNR=9.9							
MTSU	**Mount Surprise**	**40.56**	**260**	P		**P**	**17 33 36.6**	**-0.6**
	baz=41,SNR=4.3							
CMSA	**Cobar Meteorol**	**40.60**	**239**	P		**P**	**17 33 36.5**	**-0.8**
	baz=41,SNR=8.1							
QLP	**Quilpie**	**40.97**	**247**	P		**P**	**17 33 40.5**	**+0.1**
	baz=41,SNR=3.6							
COEN	**Coen**	**42.03**	**266**	P		**P**	**17 33 49.3**	**+0.2**
	baz=42							
COEN	**Coen**	**42.03**	**266**	*e*P		**P**	**17 33 49.2**	**0.0**
	68nm,1.9s							
TOO	**Toolangi**	**42.51**	**231**	P		**P**	**17 33 52.6**	**-0.2**
	baz=43,SNR=6.6							
STKA	**Stephens Creek**	**44.08**	**240**	P		**P**	**17 34 05.1**	**-0.5**
	16nm,0.9s,baz=80,slow=9.9,SNR=21							
STKA				LR		LR	17 50 46.5	
	comp=Z,113nm,18.3s,baz=45,slow=34							
STKA	**Stephens Creek**	**44.08**	**240**	P		**P**	**17 34 05.3**	**-0.3**
	baz=44,SNR=16							
STKA	**Stephens Creek**	**44.08**	**240**	*e*P		**P**	**17 34 05.2**	**-0.3**
	3.0nm,0.8s							
ARPS	**Mount Arapiles**	**45.04**	**233**	P		**P**	**17 34 12.3**	**-0.8**
	baz=45							
HTT	**Hallett**	**46.59**	**238**	P		**P**	**17 34 25.0**	**-0.5**
	baz=47,SNR=6.8							
JAY	**Jayapura**	**47.03**	**281**	LR		LR	17 51 59.5	
	comp=Z,5.7nm,21.2s,slow=33							
BBOO	**Buckleboo**	**48.86**	**240**	P		**P**	**17 34 42.3**	**-0.7**
	baz=49,SNR=5.7							
BBOO	**Buckleboo**	**48.86**	**240**	*e*P		**P**	**17 34 42.6**	**-0.5**
	73nm,1.9s							
WB8	**Warramunga Arr**	**49.86**	**257**	P		**P**	**17 34 50.0**	**-0.9**
	baz=50							
WB2	**Warramunga Arr**	**49.88**	**257**	*e*P		**P**	**17 34 49.6**	**-1.4**
	34nm,1.6s							
WRAB	**Tennant Creek**	**49.88**	**257**	*e*P		**P**	**17 34 50.4**	**-0.7**
	22nm,1.4s							
WR1	**Warramunga Arr**	**49.89**	**257**	*e*P		**P**	**17 34 49.9**	**-1.3**
	35nm,1.6s							
WR1				*e*PcP		**PcP**	**17 36 11.7**	**+0.5**
WRA	**Warramunga Arr**	**49.89**	**257**	P		**P**	**17 34 49.9**	**-1.3**
	4.4nm,0.6s,baz=92,slow=6.9,SNR=100							
WRA				PcP		**PcP**	**17 36 11.7**	**+0.5**
	2.2nm,0.8s,baz=89,slow=3.6,SNR=4.9							
WRA				LR		LR	17 55 32.4	
	comp=Z,123nm,18.5s,baz=100,slow=36							
AS01	**Alice Springs**	**50.12**	**252**	*e*P		**P**	**17 34 51.7**	**-1.1**
AS31	**Alice Springs**	**50.16**	**252**	*e*P		**P**	**17 34 52.2**	**-1.0**
	5.5nm,0.6s							
ASAR	**Alice Springs**	**50.16**	**252**	P		**P**	**17 34 52.1**	**-1.1**
	11nm,0.6s,baz=89,slow=7.8,SNR=194							
ASAR				LR		LR	17 54 19.0	
	comp=Z,231nm,21.8s,baz=96,slow=34							
GUMO	**Guam**	**50.37**	**303**	LR		LR	17 52 50.9	
	comp=Z,63nm,21.1s,baz=164,slow=32							
MTN	**Manton Dam**	**53.78**	**265**	P		**P**	**17 35 19.4**	**-0.8**
	baz=54,SNR=3.7							
MTN	**Manton Dam**	**53.78**	**265**	*e*P		**P**	**17 35 19.3**	**-0.8**
	59nm,1.7s							
WRKA	**Warakurna**	**55.24**	**250**	P		**P**	**17 35 30.2**	**-0.5**
	baz=55,SNR=30							
FORT	**Forrest**	**55.46**	**243**	P		**P**	**17 35 31.3**	**-0.9**
	baz=56							
FORT	**Forrest**	**55.46**	**243**	*e*P		**P**	**17 35 31.1**	**-1.1**
	514nm,1.2s							
FITZ	**Fitzroy Crossi**	**58.26**	**258**	*e*P		**P**	**17 35 52.5**	**+0.4**
	30nm,1.9s							
SOEI	**Soe**	**60.98**	**267**	*e*P		**P**	**17 36 09.4**	**-1.7**
	105nm,1.8s							
SBA	**Scott Base**	**63.27**	**185**	*e*P		**P**	**17 36 29.4**	**+4.1**
	22nm,1.0s							
VNDA	**Vanda**	**63.39**	**186**	P		**P**	**17 36 28.8**	**+2.7**
	8.9nm,1.0s,baz=5.9,slow=6.6,SNR=31							
VNDA				LR		LR	17 58 36.0	
	comp=Z,76nm,21.7s,baz=336,slow=31							
VNDA	**Vanda**	**63.39**	**186**	*e*P		**P**	**17 36 28.9**	**+2.7**
	16nm,1.1s							
MBWA	**Marble Bar**	**63.41**	**254**	*e*P		**P**	**17 36 27.9**	**+0.7**
	67nm,1.9s							
MJAR	**Matsushiro Arr**	**68.96**	**320**	P		**P**	**17 37 02.2**	**-0.2**
	3.3nm,1.1s,baz=157,slow=7.8,SNR=3.4							
MJAR				LR		LR	18 01 47.4	
	comp=Z,174nm,21.7s,baz=95,slow=31							
CASY	**Casey**	**70.44**	**205**	*e*P		**P**	**17 37 11.8**	**+0.8**
	13nm,1.0s							
KCPM	**Cahto Peak**	**71.76**	**38**	*e*P		**P**	**17 37 22.8**	**+3.2**
	12µm,0.6s							
EDW2	**Edwards Air Fo**	**72.50**	**45**	P		**P**	**17 37 24.9**	**+0.8**
	baz=236							
PETK	**Petropavlovsk-**	**72.63**	**342**	P		**P**	**17 37 24.0**	**-0.4**
	4.3nm,0.9s,baz=126,slow=12,SNR=5.1							
PETK				LR		LR	18 04 37.0	
	comp=Z,59nm,20.8s,baz=146,slow=32							
PEA1	**Petropavlovsk-**	**72.64**	**342**	*e*P		**P**	**17 37 24.0**	**-0.4**
M02C	**Callahan**	**73.26**	**37**	P		**P**	**17 37 29.6**	**+1.1**
	baz=231							
MPMC	**Manual Prospec**	**73.49**	**44**	P		**P**	**17 37 30.4**	**+0.3**
	baz=236							
YSS	**Yuzh-Sakhalins**	**73.50**	**330**	*e*P		**P**	**17 37 30.4**	**+0.8**
	24nm,1.0s							
GSC	**Goldstone, Bar**	**73.55**	**45**	P		**P**	**17 37 30.2**	**0.0**
	baz=237							
HEC	**Hector,Ludlow**	**73.61**	**46**	P		**P**	**17 37 30.6**	**0.0**
	baz=238							
HUMO	**Hull Mountain**	**73.97**	**36**	*e*P		**P**	**17 37 33.5**	**+1.0**
	5.5nm,0.9s							
GMRC	**Granite Mounta**	**74.06**	**46**	P		**P**	**17 37 33.9**	**+0.6**
	baz=238							
IRM	**Iron Mountain**	**74.09**	**47**	P		**P**	**17 37 33.9**	**+0.5**
	baz=238							
I03D	**Drain, OR**	**74.44**	**35**	P		**P**	**17 37 35.7**	**+0.5**
	baz=230							
QSPA	**South Pole Qui**	**74.66**	**180**	*e*P		**P**	**17 37 37.9**	**+1.5**
214A	**Organ Pipe Nat**	**74.67**	**50**	P		**P**	**17 37 36.8**	**0.0**
	baz=240							
PDMCI	**Parker Dam,Lak**	**74.88**	**47**	P		**P**	**17 37 38.6**	**+0.7**
	baz=239							
I04A	**Tendick Farm,**	**75.03**	**36**	P		**P**	**17 37 39.3**	**+0.7**
	baz=231							
MOD	**Modoc Plateau**	**75.08**	**38**	*e*P		**P**	**17 37 39.5**	**+0.4**
	14nm,1.3s							
K05A	**Summer Lake**	**75.23**	**37**	*e*P		**P**	**17 37 40.7**	**+0.6**
	15nm,1.0s							
J05D	**Fort Rock, OR**	**75.38**	**37**	P		**P**	**17 37 41.5**	**+0.7**
	baz=232							
Y14A	**Wickenburg**	**75.51**	**48**	*e*P		**P**	**17 37 42.5**	**+0.9**
	18nm,0.8s							
BMN	**Battle Mountai**	**76.11**	**41**	*e*P		**P**	**17 37 45.1**	**0.0**
	3.8nm,0.8s							
KSRS	**Korea Array**	**76.18**	**316**	P		**P**	**17 37 47.4**	**+2.1**
	1.5nm,0.9s,baz=122,slow=6.2,SNR=5.9							
KSRS				LR		LR	18 05 34.0	
	comp=Z,79nm,21.5s,baz=110,slow=31							
KS15	**Wonju Array Si**	**76.20**	**316**	*e*P		**P**	**17 37 47.1**	**+1.7**
KSAR	**Wonju Array Be**	**76.20**	**316**	P		**P**	**17 37 47.4**	**+1.9**
KS01	**Wonju Array Si**	**76.21**	**316**	*e*P		**P**	**17 37 47.5**	**+2.0**
X16A	**Lo Mia Camp, P**	**76.87**	**48**	*e*P		**P**	**17 37 50.1**	**+0.6**
	6.8nm,0.8s							
319A	**Douglas**	**77.05**	**52**	*e*P		**P**	**17 37 51.2**	**+0.7**
	12nm,0.8s							
KNB	**Kanab**	**77.19**	**46**	*e*P		**P**	**17 37 51.7**	**+0.4**
	41nm,2.0s							
U15A	**North Rim**	**77.26**	**46**	*e*P		**P**	**17 37 51.8**	**0.0**
	11nm,1.4s							
USRK	**Ussuriysk Ar.**	**77.40**	**323**	P		**P**	**17 37 53.5**	**+1.5**
	2.0nm,0.8s,baz=96,slow=3.8,SNR=4.3							
USRK				LR		LR	18 05 27.1	
	comp=Z,216nm,21.5s,baz=112,slow=31							
G08A	**Pilot Rock**	**77.90**	**36**	*e*P		**P**	**17 37 54.8**	**-0.2**
	6.7nm,0.9s							
BMO	**Blue Mountains**	**78.59**	**37**	*e*P		**P**	**17 37 58.5**	**-0.3**
	4.1nm,0.8s							
MFID	**Camas Ranch**	**78.65**	**39**	*e*P		**P**	**17 37 59.2**	**+0.1**
	4.3nm,0.9s							
121A	**Cookes Peak, D**	**78.70**	**52**	P		**P**	**17 38 00.3**	**+0.6**
	baz=244							
DUG	**Dugway, Tooele**	**78.82**	**43**	P		**P**	**17 38 00.6**	**+0.4**
	baz=239							
NLU	**North Lily Min**	**79.18**	**43**	*e*P		**P**	**17 37 58.7**	**-3.6**
	49nm,1.6s							
TT01	**Tatalina**	**79.21**	**8**	*e*P		**P**	**17 38 02.6**	**+1.0**
TTA	**Tatalina**	**79.23**	**8**	*e*P		**P**	**17 38 02.5**	**+0.6**
	11nm,1.2s							
F10A	**Beach Ranch, E**	**79.28**	**36**	*e*P		**P**	**17 38 02.0**	**-0.5**
	4.7nm,0.8s							
TMUT	**Trail Mountain**	**79.43**	**44**	*e*P		**P**	**17 38 04.7**	**+1.0**
	9.5nm,0.9s							
BMRM	**Bremner River**	**79.49**	**14**	*e*P		**P**	**17 38 02.4**	**-0.9**
	16nm,1.0s							
HLID	**Hailey**	**79.59**	**39**	P		**P**	**17 38 04.8**	**+0.5**
	baz=237							
HLID	**Hailey**	**79.59**	**39**	*e*P		**P**	**17 38 04.7**	**+0.3**
	7.1nm,0.7s							
HVU	**Hansel Valley**	**79.67**	**41**	*e*P		**P**	**17 38 04.9**	**+0.1**
	5.6nm,0.7s							
SRU	**San Rafael Swe**	**79.80**	**45**	*e*P		**P**	**17 38 05.8**	**+0.2**
	14nm,1.5s							
MNTX	**Cornudas Mount**	**80.18**	**53**	P		**P**	**17 38 07.9**	**+0.2**
	baz=245							
MNTX	**Cornudas Mount**	**80.18**	**53**	*e*P		**P**	**17 38 07.7**	**0.0**
	27nm,1.8s							
TCUT	**Toone Canyon**	**80.21**	**43**	*e*P		**P**	**17 38 08.6**	**+0.8**
	23nm,0.7s							
BNM	**Barren Site**	**80.28**	**51**	*e*P		**P**	**17 38 08.7**	**+0.3**
PV05	**Paradox Valley**	**80.28**	**46**	*e*P		**P**	**17 38 09.4**	**+1.1**
PV09	**Paradox Valley**	**80.46**	**46**	*e*P		**P**	**17 38 09.8**	**+0.4**
TX31	**Lajitas Ar. Si**	**80.56**	**56**	*e*P		**P**	**17 38 09.9**	**0.0**
LTX	**Lajitas**	**80.57**	**56**	*e*P		**P**	**17 38 09.4**	**-0.5**
TXAR	**Lajitas Array**	**80.57**	**56**	P		**P**	**17 38 09.4**	**-0.5**
	5.3nm,1.0s,baz=231,slow=6.0,SNR=25							
TXAR				LR		LR	18 08 14.1	
	comp=Z,75nm,19.2s,baz=0.0,slow=32							
KTH	**Kantishna Hill**	**80.59**	**10**	*e*P		**P**	**17 38 08.9**	**-0.3**
	9.2nm,1.0s							
TRF	**Thorofare Moun**	**80.60**	**10**	*e*P		**P**	**17 38 08.8**	**-0.5**
	8.6nm,0.8s							
PV01	**Paradox Valley**	**80.68**	**46**	*e*P		**P**	**17 38 10.3**	**-0.2**
ANMO	**Albuquerque**	**80.76**	**50**	P		**P**	**17 38 11.6**	**+0.7**
	baz=244							
ANMO	**Albuquerque**	**80.76**	**50**	*e*P		**P**	**17 38 11.3**	**+0.4**
	16nm,1.4s							
RND	**Reindeer**	**80.82**	**11**	*e*P		**P**	**17 38 10.8**	**+0.4**
	17nm,1.3s							
MCK	**McKinley**	**81.10**	**11**	*e*P		**P**	**17 38 11.7**	**-0.2**
	12nm,0.8s							
CN2	**Changchun**	**81.11**	**320**	*e*P		P	17 38 23.3	+11
CN2				*e*S		**S**	**17 48 19.5**	**+0.6**
CN2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
CN2					pmax	pmax		
	comp=Z,100nm,5.0s							
CN2					LR	LR		
	comp=N,200nm,17.0s							
CN2					LR	LR		
	comp=E,200nm,17.0s							
CN2					LR	LR		
	comp=Z,200nm,20.0s							
HYT	**Haines Junctio**	**81.19**	**17**	*e*P		**P**	**17 38 13.2**	**+0.7**
	comp=Z,8.8nm,1.2s							
MCMT	**McKenzie Canyo**	**81.22**	**39**	*e*P		**P**	**17 38 13.7**	**+0.5**
DLMT	**Dillon**	**81.65**	**38**	*e*P		**P**	**17 38 15.5**	**+0.2**
	comp=Z,5.7nm,1.0s							
REDW	**Red Top Meadow**	**81.69**	**41**	*e*P		**P**	**17 38 15.7**	**-0.1**
	comp=Z,9.8nm,1.3s							
TPAW	**Teton Pass**	**81.70**	**41**	*e*P		**P**	**17 38 16.1**	**+0.3**
	comp=Z,6.6nm,0.8s							
BSMT	**Bassoo Peak**	**81.72**	**36**	*e*P		**P**	**17 38 15.4**	**-0.3**
S22A	**4UR Ranch, Cre**	**81.73**	**47**	P		**P**	**17 38 16.6**	**+0.5**
	baz=243							
S22A	**4UR Ranch, Cre**	**81.73**	**47**	*e*P		**P**	**17 38 16.8**	**+0.7**
	comp=Z,34nm,1.8s							
IMW	**Indian Meadow**	**81.91**	**40**	*e*P		**P**	**17 38 16.9**	**0.0**
	comp=Z,7.2nm,0.8s							
WRH	**Wood River Hil**	**81.93**	**11**	*e*P		**P**	**17 38 15.7**	**-0.4**
	comp=Z,15nm,1.0s							
MOOW	**Moose Ponds**	**81.96**	**41**	*e*P		**P**	**17 38 16.6**	**-0.5**
	comp=Z,3.9nm,1.1s							
MLY	**Manley**	**82.00**	**9**	*e*P		**P**	**17 38 15.7**	**-0.9**
	comp=Z,5.7nm,0.9s							
HDA	**Harding Lake**	**82.08**	**11**	*e*P		**P**	**17 38 16.8**	**-0.2**
	comp=Z,6.6nm,0.8s							
HDA				*e*S		**S**	**17 48 26.8**	**-1.4**
CHMT	**Chamberlain Mo**	**82.09**	**37**	*e*P		**P**	**17 38 17.1**	**-0.6**
CCB	**Clear Creek Bu**	**82.14**	**11**	*e*P		**P**	**17 38 16.7**	**-0.5**
	comp=Z,9.4nm,0.7s							
FLWY	**Flagg Ranch**	**82.15**	**40**	*e*P		**P**	**17 38 18.6**	**+0.5**
	comp=Z,10.0nm,0.9s							
YHB	**Horse Butte**	**82.18**	**39**	*e*P		**P**	**17 38 18.6**	**+0.3**
	comp=Z,9.5nm,0.9s							
BW06	**Boulder Array**	**82.22**	**42**	P		**P**	**17 38 18.6**	**0.0**
	baz=241							
BW06	**Boulder Array**	**82.22**	**42**	*e*P		**P**	**17 38 18.2**	**-0.3**
	comp=Z,9.7nm,1.3s							
PD31	**Pinedale Array**	**82.22**	**42**	*e*P		**P**	**17 38 18.2**	**-0.3**
PDAR	**Pinedale Array**	**82.22**	**42**	P		**P**	**17 38 17.6**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=196,slow=3.5,SNR=13							
PDAR				LR		LR	18 09 02.4	
	comp=Z,128nm,19.7s,baz=244,slow=32							
MDM	**Murphy Dome**	**82.35**	**11**	*e*P		**P**	**17 38 17.9**	**-0.5**
	comp=Z,18nm,1.4s							
BOZ	**Bozeman (W)**	**82.38**	**39**	P		**P**	**17 38 19.3**	**+0.1**
	baz=239							
BOZ	**Bozeman (W)**	**82.38**	**39**	*e*P		**P**	**17 38 19.1**	**-0.1**
	comp=Z,8.8nm,1.2s							
ILAR	**Eielson Array**	**82.42**	**11**	P		**P**	**17 38 18.2**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=220,slow=6.1,SNR=23							
ILAR				LR		LR	18 08 14.5	
	comp=Z,83nm,21.4s,baz=212,slow=31							
ILB	**Eielson Array**	**82.42**	**11**	*e*P		**P**	**17 38 18.1**	**-0.7**
IL1	**Eielson Array**	**82.42**	**11**	*e*P		**P**	**17 38 17.9**	**-0.8**
SDCO	**Great Sand Dun**	**82.67**	**48**	P		**P**	**17 38 21.4**	**+0.4**
	baz=244							
SDCO	**Great Sand Dun**	**82.67**	**48**	*e*P		**P**	**17 38 20.9**	**-0.1**
	comp=Z,11nm,1.4s							
QIZ	**Qiongzhong**	**82.94**	**292**	P		**P**	**17 38 21.5**	**-1.0**
QIZ				S		**S**	**17 48 36.5**	**-2.3**
MSTX	**Muleshoe**	**83.11**	**52**	P		**P**	**17 38 23.6**	**+0.3**
	baz=246							
MSTX	**Muleshoe**	**83.11**	**52**	*e*P		**P**	**17 38 23.3**	**+0.1**
	comp=Z,42nm,1.4s							
832A	**Faith Ranch, C**	**83.16**	**58**	P		**P**	**17 38 23.8**	**+0.4**
	baz=249							
T25A	**Trinidad**	**83.20**	**49**	P		**P**	**17 38 24.1**	**+0.4**
	baz=245							
DAWY	**Dawson**	**83.40**	**14**	*e*P		**P**	**17 38 23.8**	**0.0**
	comp=Z,11nm,1.2s							
Q24A	**Divide**	**83.45**	**47**	P		**P**	**17 38 25.2**	**+0.1**
	baz=244							
Q24A	**Divide**	**83.45**	**47**	*e*P		**P**	**17 38 25.2**	**+0.1**
	comp=Z,16nm,1.2s							
ISCO	**Idaho Springs**	**83.49**	**46**	P		**P**	**17 38 25.0**	**-0.3**
	baz=244							
933A	**Laredo**	**83.50**	**59**	P		**P**	**17 38 25.3**	**+0.2**
	baz=249							
RLMT	**Red Lodge**	**83.56**	**40**	P		**P**	**17 38 26.0**	**+0.7**
	baz=241							
RLMT	**Red Lodge**	**83.56**	**40**	*e*P		**P**	**17 38 25.7**	**+0.4**
	comp=Z,11nm,1.1s							
EGAK	**Eagle**	**83.60**	**13**	*e*P		**P**	**17 38 24.7**	**-0.1**
	comp=Z,3.7nm,0.8s							
N23A	**Red Feather La**	**83.74**	**45**	P		**P**	**17 38 26.6**	**+0.1**
	baz=244							
N23A	**Red Feather La**	**83.74**	**45**	*e*P		**P**	**17 38 26.5**	**+0.1**
	comp=Z,13nm,1.1s							
034A	**Hebbronville**	**83.79**	**60**	P		**P**	**17 38 27.8**	**+1.1**
	baz=249							
934A	**Benavides**	**84.12**	**59**	P		**P**	**17 38 28.8**	**+0.5**
	baz=249							
COLD	**Coldfoot**	**84.12**	**9**	*e*P		**P**	**17 38 28.7**	**+1.2**
	comp=Z,9.3nm,1.0s							
633A	**Saathoff Ranch**	**84.24**	**57**	P		**P**	**17 38 29.5**	**+0.5**
	baz=249							
834A	**Tilden**	**84.28**	**59**	P		**P**	**17 38 30.1**	**+1.0**
	baz=249							
AMTX	**Amarillo**	**84.30**	**

WHAR	**Wooly Hollow**	91.67	54	*e*P	P	17 39 05.2	+0.7
	comp=Z,7.8nm,1.0s						
CD2	**Chengdu**	91.84	301	*e*P	P	17 39 05.0	-0.5
CMAR	**Chiang Mai Arr**	92.66	288	P	P	17 39 10.0	+0.6
	comp=Z,0.7nm,1.0s,baz=111,slow=4.1,SNR=3.8						
CMAR				LR	LR	18 15 47.3	
	comp=Z,42nm,21.8s,baz=115,slow=32						
SNAA	**Sanae**	92.92	177	P	P	17 39 10.7	+1.0
SNAA	**Sanae**	92.92	177	*e*P	P	17 39 10.7	+1.0
	comp=Z,17nm,1.2s						
LZH	**Lanzhou**	93.25	306	*e*P	P	17 39 11.3	-0.7
LZH				pP	PcP	17 39 14.5	+1.9
LZH				sP	pP	17 39 16.0	-8.8
LZH				*e*PP	PP	17 42 57.3	+1.0
LZH				SKS	SKSac	17 49 44.0	+0.7
LZH				*e*S	S	17 50 16.0	-0.5
LZH				sS	ScS	17 50 22.3	+4.1
LZH				*e*SS	SS	17 56 34.5	+1.2
LZH				PMZ			
	comp=Z,16nm,1.5s						
LZH				PMZ			
	comp=Z,100nm,9.3s						
LZH				LN			
	comp=Z,370nm,17.5s						
LZH				LE			
	comp=Z,230nm,17.6s						
LZH				LZ			
	comp=Z,480nm,19.5s						
LCO	**Las Campanas**	93.31	121	*e*P	P	17 39 14.0	+1.3
	comp=Z,13nm,0.9s						
VNA1	**Neumayer--Stat**	93.56	175	P	P	17 39 14.6	+2.1
ULM	**Lac du Bonnet**	93.89	39	LR	LR	18 16 00.4	
	comp=Z,162nm,19.8s,baz=234,slow=32						
SONM	**Songino Array**	94.87	318	LR	LR	18 17 04.9	
	comp=Z,62nm,21.5s,baz=91,slow=32						
LPAZ	**La Paz**	99.77	110	LR	LR	18 14 30.8	
	comp=Z,21nm,18.1s,baz=150,slow=29						
MK32	**Makanchi Array**	110.85	315	*e*PKiKP	PKiKP	17 44 28.9	-1.1
MKAR	**Makanchi Array**	110.85	315	PKiKP	PKiKP	17 44 28.9	-1.1
	comp=Z,0.4nm,0.6s,baz=57,slow=4.5,SNR=3.7						
KSH	**Kashi**	115.50	307	PKP	PKPdf	17 44 41.3	+2.1
KSH				PP	PP	17 45 49.0	+7.4
KSH				PKS	PKSdf	17 48 17.3	+1.3
KSH				SKS	SKSdf	17 51 52.8	+4.5
KSH				SKKS	SKKSac	17 52 42.0	+2.4
KSH				PPMZ			
	comp=Z,52nm,3.8s						
KSH				LN			
	comp=Z,96nm,5.1s						
KSH				LE			
	comp=Z,81nm,5.2s						
VOSK	**Vostochnaya**	117.61	322	*e*PKPdf	PKPdf	17 44 42.1	-0.6
ZRNK	**Zerenda**	118.73	322	*e*PKPdf	PKPdf	17 44 44.6	-0.3
ARAO	**ARCESS Array S**	124.60	352	*e*PKPdf	PKPdf	17 44 55.9	+0.2
ARCES	**ARCESS Array B**	124.60	352	PKP	PKPdf	17 44 55.9	+0.2
	comp=Z,2.8nm,0.8s,baz=324,slow=6.0,SNR=6.6						
FIA0	**FINESS Array S**	131.94	348	*e*PKPdf	PKPdf	17 45 09.8	-0.1
FINES	**FINESS Array B**	131.94	348	PKP	PKPdf	17 45 09.8	0.0
	comp=Z,1.9nm,0.8s,baz=56,slow=4.8,SNR=7.0						
AKASG	**Malin Array Be**	140.34	338	PKP	PKPdf	17 45 25.2	-0.6
	comp=Z,2.2nm,0.8s,baz=26,slow=2.0,SNR=7.4						
KWP	**Kalwaria Pacla**	143.42	342	*e*PKP	PKPbc	17 45 29.3	+0.7
OJC	**Ojcow**	143.66	346	*e*PKP	PKPbc	17 45 29.6	+0.3
TSUM	**Tsumeb**	143.98	198	*e*PKPdf	PKPdf	17 45 32.5	-0.9
STHS	**Stebnicka Huta**	144.03	344	*e*PKP	PKPdf	17 45 32.0	-0.4
UPC	**Upice**	144.16	350	AMS	AMS	18 47 50.0	
	comp=Z,100nm,15.5s						
KOLS	**Kolonicke sedl**	144.18	342	*e*PKP	PKPdf	17 45 31.9	-0.8
DPC	**Dobruska-Polom**	144.26	349	*e*PKP	PKPdf	17 45 32.1	-0.7
NIE	**Niedzica**	144.28	345	*e*PKP	PKPdf	17 45 32.5	-0.3
BUR08	**Bucovina Ar. S**	144.35	338	*e*PKPdf	PKPdf	17 45 32.5	-0.7
PVCC	**Panska Ves**	144.37	351	AMS	AMS	18 47 40.0	
	comp=Z,100nm,21.7s						
BURAR	**Bucovina Array**	144.37	338	⇓*i*P	PKPbc	17 45 31.9	+0.3
OKC	**Ostrava-Krasne**	144.39	347	*e*PKP	PKPdf	17 45 32.4	-0.6
OKC				AMS	AMS	18 52 30.0	
KRLC	**Kraliky**	144.44	349	*e*PKP	PKPdf	17 45 32.5	-0.7
CRVS	**Cervenica-Dubn**	144.44	343	*e*PKP	PKPdf	17 45 33.0	-0.1
MORC	**Moravsky Berou**	144.57	348	⇑*i*P	PKPdf	17 45 33.1	-0.3
MORC	**Moravsky Berou**	144.57	348	*e*PKPdf	PKPdf	17 45 32.9	-0.5
LANS	**Liptovska Anna**	144.73	345	*e*PKP	PKPdf	17 45 34.5	+0.8
TESR	**Tescani**	144.76	336	⇓*i*P	PKPbc	17 45 32.8	0.0
PRU	**Pruhonice**	144.90	351	*e*PKP	PKPdf	17 45 33.7	-0.2
PRU				AMS	AMS	18 48 30.0	
	comp=Z,200nm,21.2s						
GOPC	**GO Pecny, Ondr**	144.93	351	AMS	AMS	18 49 00.0	
	comp=Z,200nm,21.8s						
KECS	**Kecovo**	145.09	344	*e*PKP	PKPdf	17 45 34.4	+0.1
ARCR	**ARCALIA**	145.13	339	⇑*i*P	PKPdf	17 45 35.2	+0.8
VRAC	**Vranov**	145.21	349	⇑*i*P	PKPdf	17 45 35.4	+0.9
CFR	**Carcaliu**	145.21	333	⇓*i*P	PKPdf	17 45 34.9	+0.4
VRI	**Vrincioaia**	145.25	335	⇓*i*P	PKPdf	17 45 35.5	+0.8
PLOR	**Plostina**	145.30	335	⇑*i*P	PKPdf	17 45 35.3	+0.5
TREC	**Trest**	145.42	350	AMS	AMS	18 49 20.0	
	comp=Z,100nm,20.1s						
VYHS	**Vyhne**	145.49	346	*e*PKP	PKPab	17 45 36.3	+1.0
KMBO	**Kilima Mbogo**	145.58	244	PKPbc	PKPab	17 45 38.2	+1.2
	comp=Z,6.1nm,1.1s,baz=211,slow=6.0,SNR=7.2						
KMBO	**Kilima Mbogo**	145.58	244	*e*PKPdf	PKPab	17 45 37.2	+0.3
TIRR	**Tirgusor**	145.65	332	⇑*i*P	PKPab	17 45 36.9	+1.0
TIRR	**Tirgusor**	145.65	332	*e*PKPbc	PKPab	17 45 36.5	+0.5
HARR	**Harsova**	145.68	333	⇑*i*P	PKPab	17 45 37.0	+0.9
PSZ	**Piszkesteto**	145.76	344	*e*PKPdf	PKPbc	17 45 36.0	0.0
WLF	**Walferdange**	145.81	1	*e*PKPdf	PKPdf	17 45 35.5	+0.1
KHC	**Kasperske Hory**	145.87	352	*e*PKP	PKPbc	17 45 36.2	-0.1
KHC				*ex*	x	17 45 47.6	
KHC				*ex*	x	17 45 54.8	
KHC				AMS	AMS	18 48 40.0	
KHC	**Kasperske Hory**	145.87	352	*e*PKPdf	PKPdf	17 45 35.7	+0.1
MLR	**Muntele Rosu**	145.88	336	⇑*i*P	PKPab	17 45 37.2	+0.2
MLR	**Muntele Rosu**	145.88	336	*e*PKPdf	PKPdf	17 45 36.1	+0.2
ISR	**Istrita**	145.94	335	⇓*i*P	PKPab	17 45 37.5	+0.4
GEC2	**GERESS Array S**	146.13	352	*e*PKPdf	PKPdf	17 45 35.9	-0.3
GERES	**GERESS Array B**	146.13	352	PKPbc	PKPdf	17 45 36.3	+0.1
	comp=Z,2.1nm,0.7s,baz=31,slow=3.1,SNR=25						
GEA0	**GERESS Array S**	146.14	352	*e*PKPdf	PKPdf	17 45 36.5	+0.3
BR101	**Keskin Array S**	146.18	321	*e*PKPdf	PKPab	17 45 38.4	0.0
BR131	**Keskin Array S**	146.18	321	*e*PKPdf	PKPab	17 45 38.0	-0.3
BRTR	**Keskin Array B**	146.18	321	PKPbc	PKPab	17 45 38.4	0.0
	comp=Z,5.7nm,0.8s,baz=102,slow=2.1,SNR=25						
VOIR		146.27	336	⇑*i*P	PKPab	17 45 39.1	+0.7
ARR	**Arges**	146.49	337	⇓*i*P	PKPab	17 45 39.9	+0.7
BR231	**Keskin MP Arra**	146.62	322	*e*PKPdf	PKPbc	17 45 38.2	-0.7
CONA	**Conrad Observa**	146.67	349	*e*PKPbc	PKPbc	17 45 38.1	-0.7
	comp=Z,4.2nm,0.7s,SNR=9.1						
SIRR	**Siria**	146.75	341	⇓*i*P	PKPab	17 45 41.0	+0.9
MOA	**Molln**	147.02	351	*i* PKPbc	PKPbc	17 45 38.7	-0.9
	comp=Z,21nm,1.4s,SNR=8.2						
PRD	**Provadia**	147.08	332	*i* P	PKPdf	17 45 26.7	-11
BFO	**Black Forest**	147.12	358	*e*PKPdf	PKPbc	17 45 39.8	-0.2
GZR	**Gura Zlata**	147.14	339	⇓*i*P	PKPab	17 45 41.1	-0.7
BZS	**Buzias**	147.34	340	⇑*i*P	PKPab	17 45 41.7	-0.7
ARSA	**Arzberg**	147.38	349	*i* PKPbc	PKPbc	17 45 39.7	-1.0
	comp=Z,15nm,1.5s,SNR=5.9						
RETA	**Reutte**	147.81	355	*i* sPKPdf	PKPbc	17 45 42.3	+0.4
	comp=Z,13nm,1.2s,SNR=6.0						
WATA	**Walderalm**	147.88	354	*i* PKiKP	PKiKP	17 45 44.1	0.0
	comp=Z,3.7nm,0.6s						
KBA	**Koelnbreinsper**	147.91	351	*i* PKPbc	PKPdf	17 45 40.3	+0.9
	comp=Z,9.9nm,1.4s						
MOTA	**Moosalm**	147.92	354	*i* PKPab	PKPab	17 45 43.6	-1.3
	comp=Z,4.6nm,0.7s						
WTTA	**Wattenberg**	147.95	354	*i* PKPab	PKPab	17 45 43.7	-1.3
	comp=Z,7.7nm,0.7s						
SOKA	**Soboth**	148.03	349	*i* PKPbc	PKPdf	17 45 40.0	+0.6
	comp=Z,15nm,1.1s,SNR=6.8						
JMB	**Yambol**	148.03	332	*i* P	PKPab	17 45 45.5	+0.2
MDVR	**Moldovita**	148.04	340	⇓*i*P	PKPbc	17 45 43.3	+0.7
DAVA	**Damuels**	148.08	356	*i* sPKPdf	PKPbc	17 45 43.5	+0.7
	comp=Z,13nm,1.3s						
FETA	**Feichten**	148.28	355	*i* PKiKP	PKiKP	17 45 44.5	-0.5
	comp=Z,6.5nm,1.1s						
OBKA	**Obir**	148.28	350	*i* PKPdf	PKPdf	17 45 40.2	+0.3
	comp=Z,9.4nm,1.2s						
MYKA	**Terra Mystica**	148.31	351	*i* PKPdf	PKPdf	17 45 40.2	+0.3
	comp=Z,11nm,1.0s,SNR=6.0						
ABTA	**Abfaltersbach**	148.35	352	*i* PKPdf	PKPdf	17 45 40.4	+0.4
	comp=Z,16nm,1.4s,SNR=6.1						
MPEP	**Malo Peshtene**	148.53	336	*i* P	PKPbc	17 45 44.3	+0.5
FUORN	**Ofenpass-Fuorn**	148.71	355	*e*PKPdf	PKPbc	17 45 43.2	-1.4
PGB	**Panagyurishte**	149.03	334	*i* P	PKPbc	17 45 45.9	+0.7
SENIN	**Lac Senin/Sane**	149.11	359	*e*PKPbc	PKPbc	17 45 44.7	-0.8
KDZ	**Kurdzhali**	149.21	332	*i* P	PKPbc	17 45 45.5	-0.1
VTS	**Vitosha**	149.38	336	⇓*i*P	PKPbc	17 45 46.7	+0.5
VTS	**Vitosha**	149.38	336	*i* P	PKPbc	17 45 46.5	+0.3
RZN	**Rozhen**	149.49	333	*i* P	PKPbc	17 45 46.5	-0.1
MMB	**Musomiste**	150.00	334	*i* P	PKPbc	17 45 47.8	+0.2
KKB	**Krupnik**	150.04	335	*i* P	PKPbc	17 45 48.1	+0.4
ES19	**SONSECA Array**	154.08	19	*e*PKPbc	PKPbc	17 45 57.0	+0.1
ES19				*e*PKPab	PKPab	17 46 10.7	+0.2
ESDC	**Sonseca Array**	154.08	19	PKPab	PKPab	17 46 10.7	+0.3
	comp=Z,0.8nm,0.6s,baz=318,slow=2.5,SNR=4.2						

IDC ***28*** *17:36:59.6±2.8, 33°.93S×178°.73W, h0km, mb4.2/4, mb1 4.4/6, mb1mx4.0/36, mbtmp4.3/6, ML4.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=61.1km s-min=31.6km az=117.0*

ISCJB ***28*** *17:37:03.3±0.9, 33°.99S±0°.05×178°.9W±0°.2, h33km, mb4.7/13, Error ellipse: s-maj=18.8km s-min=5.7km az=14.6*

NEIC ***28*** *17:37:13.4±1.6, 34°.83S×178°.99W, h113km±14km, mb4.9/9, Error ellipse: s-maj=21.4km s-min=14.0km az=123.0*

ISC 28 17:37:02.1±1.4, 34°.07S±0°.08×178°.4W±0°.2, h37km, n47, σ2s71/52, mb4.6/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	4.39	217	*e*Pn	Pn	17 38 02.0	-4.2
MXZ	**Matakaoa Point**	4.39	217	SN	Sn	17 38 56.1	0.0
WMGZ	**Waiomatatini S**	4.55	214	PN	Pn	17 38 11.1	+2.7
WMGZ				SN	Sn	17 39 03.7	+3.8
HAZ	**Te Kaha**	4.81	219	PN	Pn	17 38 15.7	+3.7
HAZ				SN	Sn	17 39 10.4	+4.0
PUZ	**Puketiti**	4.83	213	PN	Pn	17 38 14.4	+2.1
PUZ				SN	Sn	17 39 08.2	+1.3
TWGZ	**Tauwhareparae**	5.04	214	PN	Pn	17 38 19.9	+4.8
TWGZ				SN	Sn	17 39 14.8	+2.7
CNGZ	**Carnagh Statio**	5.19	211	PN	Pn	17 38 19.6	+2.4
CNGZ				SN	Sn	17 39 22.3	+6.6
TKGZ	**Te Karaka**	5.31	214	SN	Sn	17 39 18.9	+0.1
MWZ	**Matawai**	5.38	217	PN	Pn	17 38 22.2	+2.3
MWZ				SN	Sn	17 39 22.0	+1.4
KUZ	**Kuaotunu**	5.49	239	*e*PN	Pn	17 38 21.1	-0.2
URZ	**Urewera**	5.54	220	Pn	Pn	17 38 23.7	+1.7
	9.3nm,0.3s,baz=37,slow=8.6,SNR=18						
URZ				Sn	Sn	17 39 25.8	+1.5
	12nm,0.3s,baz=217,slow=6.0,SNR=10.0						
URZ	**Urewera**	5.54	220	*e*Pn	Pn	17 38 22.9	+0.9
URZ				Sn	Sn	17 39 25.8	+1.5
URZ	**Urewera**	5.54	220	PN	Pn	17 38 22.7	+0.7
URZ				SN	Sn	17 39 25.1	+0.8
RIGZ	**Rimuhau**	5.57	213	PN	Pn	17 38 24.0	+1.5
SNGZ	**Shannon Statio**	5.82	215	PN	Pn	17 38 27.8	+1.9
BKZ	**Black Stump Fm**	6.54	217	*e*Pn	Pn	17 38 35.7	0.0
QUZ	**Omahuta**	6.69	258	*e*Pn	Pn	17 38 40.3	+2.4
HIZ	**Hauiti**	7.02	229	*e*Pn	Pn	17 38 43.3	+0.9
BFZ	**Birch Farm**	7.86	211	*e*Pn	Pn	17 38 54.3	+0.5
BFZ				*e*Sn	Sn	17 40 17.5	-3.9
SNZO	**South Karori**	9.06	215	*e*Sn	Sn	17 40 45.2	-5.7
THZ	**Tophouse**	10.30	219	*e*Pn	Pn	17 39 26.0	-1.3
THZ				*e*Sn	Sn	17 41 15.7	-5.7
KHZ	**Kahutara**	10.46	215	*e*Pn	Pn	17 39 27.3	-2.2
KHZ				*e*Sn	Sn	17 41 18.1	-7.3
MQZ	**McQueen's Vall**	11.87	213	*e*Sn	Sn	17 41 46.9	-13
OXZ	**Oxford**	11.88	216	*e*Sn	Sn	17 41 47.8	-12
RPZ	**Rata Peaks**	12.65	217	Pn	Pn	17 39 57.9	-1.5
	0.6nm,0.3s,baz=32,slow=9.5,SNR=3.3						
RPZ				Sn	Sn	17 42 07.2	-12
	0.7nm,0.3s,baz=40,slow=17,SNR=5.6						
RPZ	**Rata Peaks**	12.65	217	*e*Pn	Pn	17 39 57.9	-1.5
RPZ				*e*Sn	Sn	17 42 05.0	-14
ODZ	**Otahua Downs**	13.82	214	*e*Pn	Pn	17 40 14.5	-0.9
ODZ				*e*Sn	Sn	17 42 35.4	-12
WKZ	**Wanaka**	14.47	218	*e*Pn	Pn	17 40 18.4	-5.9
DZM	**Mont Dzumac**	17.91	308	LR	LR	17 47 01.1	
	comp=Z,106nm,19.2s,baz=175,slow=34						
STKA	**Stephens Creek**	33.48	262	P	P	17 43 39.9	+2.0
	1.3nm,0.7s,baz=113,slow=13,SNR=3.5						
STKA	**Stephens Creek**	33.48	262	*e*P	P	17 43 39.5	+1.5
	7.4nm,1.9s						
XMAS	**Kiritimati**	40.98	33	*e*P	P	17 44 53.4	+12
	175nm,1.4s						
PTCN	**Pitcairn Islan**	42.63	91	*e*P	P	17 45 07.0	+12
	325nm,0.7s						
AS01	**Alice Springs**	42.66	271	*e*P	P	17 44 55.1	-0.3
AS31	**Alice Springs**	42.70	271	*e*P	P	17 44 55.7	0.0
	1.5nm,0.7s						
ASAR	**Alice Springs**	42.70	271	P	P	17 44 56.2	+0.5
	3.1nm,0.7s,baz=112,slow=7.4,SNR=69						
WB2	**Warramunga Arr**	44.01	276	*e*P	P	17 45 06.3	0.0
	18nm,1.5s						
WRAB	**Tennant Creek**	44.02	276	*e*P	P	17 45 06.6	+0.4
	44nm,1.9s						
WR1	**Warramunga Arr**	44.02	276	*e*P	P	17 45 06.5	+0.2
	32nm,1.9s						
WRA	**Warramunga Arr**	44.02	276	P	P	17 45 06.5	+0.2
	3.6nm,0.6s,baz=117,slow=7.4,SNR=41						
FITZ	**Fitzroy Crossi**	52.11	273	P	P	17 46 08.9	+0.1
	2.3nm,0.7s,baz=139,slow=11,SNR=9.2						
FITZ	**Fitzroy Crossi**	52.11	273	*e*P	P	17 46 09.1	+0.3
	16nm,1.5s						
FAKI	**Fak Fak**	55.37	293	*e*P	P	17 46 28.5	-4.2
	67nm,1.3s						
SOEI	**Soe**	57.62	281	*e*P	P	17 46 50.3	+1.4
	46nm,1.4s						
MAW	**Mawson**	68.77	201	*e*P	P	17 48 03.3	+1.5
	1.0nm,0.9s						
JHC	**Johnson Canyon**	88.09	43	*e*P	P	17 49 54.4	+5.7
FINES	**FINESS Array B**	148.43	338	PKPbc	PKPab	17 56 46.2	-1.1
	1.9nm,0.5s,baz=46,slow=4.0,SNR=11						

ISCJB ***28*** *17:44:04.9±0.2, 2°.70N±0°.03×123°.63E±0°.04, h400km, mb4.3/40, Error ellipse: s-maj=5.4km s-min=4.0km az=159.8*

NEIC ***28*** *17:44:05.4±0.5, 2°.68N×123°.59E, h390km±7km, mb4.6/31, Error ellipse: s-maj=7.8km s-min=5.5km az=64.0*

IDC ***28*** *17:44:06.7±1.0, 2°.64N×123°.50E, h412km±10km, mb3.5/10, mb1 3.6/12, mb1mx3.2/44, mbtmp4.3/12, Error ellipse: s-maj=18.5km s-min=7.5km az=74.0*

DJA ***28*** *17:44:07.8±0.4, 3°N±4°×12°4E±°, h367km±4km, M4.3/15, mb4.5/15, mB4.7/7, MLv4.5/10, Mw(mB)4.0/7*

ISC 28 17:44:06.7±0.3, 2°.58N±0°.04×123°.60E±0°.05, h400km, n93, σ1s84/107, mb4.3/40, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	2.03	169	P	Pn	17 45 03.3	+0.4
SGSI	**Sangihe**	2.22	60	P	Pn	17 45 02.7	-1.4
MRSI	**Marisa**	2.67	218	P	Pn	17 45 06.9	-0.5
LUWI	**Luwuk**	3.69	193	P	Pn	17 45 15.2	-0.8
LUWI				S	S	17 46 08.4	-3.7
LUWI	**Luwuk**	3.69	193	*e*Pn	Pn	17 45 14.1	-1.9
LUWI				*e*S	S	17 46 07.0	-5.0
DAV	**Davao City (W)**	4.88	24	P	Pn	17 45 28.8	+1.3
	51nm,0.3s,baz=288,slow=6.4,SNR=3.0						
DAV				S	S	17 46 33.5	+0.4
	30nm,0.3s,baz=36,slow=19,SNR=2.0						
DAV	**Davao City (W)**	4.88	24	*e*Pn	Pn	17 45 25.0	-2.6
LBMI	**Labuha**	5.04	129	P	Pn	17 45 29.4	+0.1
	98nm,0.6s,1μm						
PCI	**Palu**	5.11	227	P	Pn	17 45 29.1	-0.9
	64nm,0.7s,958nm0.4nm						
SANI	**Sanana**	5.18	153	P	Pn	17 45 28.1	-2.6
SANI				S	S	17 46 32.8	-6.1
MYLDM	**Lahad Datu**	5.71	297	*e*Pn	Pn	17 45 35.6	-0.7
TTSI	**Tana Toraja**	6.75	214	P	P	17 45 49.5	+1.3
	45nm,0.7s,517nm0.2nm						
SPSI	**Sidrap Palu**	7.54	211	P	P	17 45 56.9	-0.2
	92nm,0.6s,1μm0.4nm						
KKM	**Kota Kinabalu**	8.13	295	*e*Pn	Pn	17 46 00.9	-2.5
SWI	**Sorong**	8.39	114	P	P	17 46 06.6	+0.1
KAPI	**Kappang**	8.47	207	P	P	17 46 07.6	+0.2
	4.9nm,0.3s,baz=35,slow=4.9,SNR=23						
KAPI				S	S	17 47 44.6	-1.2
	3.8nm,0.3s,baz=251,slow=21,SNR=5.5						
KAPI	**Kappang**	8.47	207	*e*Pn	Pn	17 46 04.3	-2.8
BNDI	**Bandanaira**	9.46	138	P	Pn	17 46 20.9	+2.3
BBKI	**Banjar Baru**	10.61	236	P	Pn	17 46 33.8	+1.8
SOEI	**Soe**	12.27	177	*e*P	Pn	17 46 54.0	+2.7
PLAI	**Plampang**	12.73	207	P	Pn	17 46 55.0	-1.5
TWSI	**Taliwang, Sumb**	13.09	211	P	Pn	17 47 03.9	+3.3
	24nm,0.8s						
KSM	**Kuching**	13.33	266	*e*P	P	17 47 00.5	-0.7
JAGI	**Jajag, Banyuwa**	14.47	221	P	P	17 47 16.3	+2.8
	56nm,0.5s,1μm						
JAGI	**Jajag, Banyuwa**	14.47	221	*e*P	P	17 47 15.7	+2.2
NGJI	**Ngawi**	15.63	231	P	P	17 47 29.3	+3.1
PWJI	**Pagerwojo**	15.79	228	P	P	17 47 28.7	+0.8
	46nm,0.8s						
PCJI	**Pacitan**	16.37	229	P	P	17 47 35.3	+1.2
UGM	**Wanagama**	16.70	231	P	P	17 47 38.9	+1.3
UGM	**Wanagama**	16.70	231	*e*P	P	17 47 38.4	+0.8
	319nm,1.6s						
MTN	**Manton Dam**	17.05	154	*e*P	P	17 47 41.4	+0.1
	17nm,0.4s						
GENI	**Genyem**	17.34	107	P	P	17 47 48.8	+4.3
KPJI	**Karang Pucung**	17.64	236	P	P	17 47 48.6	+1.0
CISI	**Cisompet, Garu**	18.69	237	*e*P	P	17 47 57.5	-1.3
	28nm,0.7s						
MYKOM	**Kota Tinggi**	19.75	268	*e*P	P	17 48 07.8	-1.3
	17nm,0.6s						
TWG	**Pinlang**	20.27	353	*e*P	P	17 48 13.2	-0.5
	79nm,0.3s						
FITZ	**Fitzroy Crossi**	20.65	174	P	P	17 48 17.3	+0.1
	3.2nm,0.4s,baz=25,slow=8.6,SNR=38						
FITZ				S	S	17 51 41.6	+0.1
	3.6nm,1.0s,baz=105,slow=20,SNR=1.9						
FITZ	**Fitzroy Crossi**	20.65	174	*e*P	P	17 48 17.7	+0.5
	27nm,1.9s						
TPUB	**Ta-pu**	20.80	352	*e*P	P	17 48 18.1	-0.5
	120nm,1.8s						
IPM	**Ipoh**	22.61	275	*e*P	P	17 48 36.2	+1.0
	21nm,1.6s						
KULM	**Kulim**	23.05	277	*e*P	P	17 48 37.8	-1.3
	42nm,1.9s						
MBWA	**Marble Bar**	23.89	189	*e*P	P	17 48 46.4	-0.2
	54nm,1.8s						
PSI	**Prapat**	24.65	271	*e*P	P	17 48 53.1	-0.6
	7.0nm,0.8s						
WRAB	**Tennant Creek**	24.74	155	*e*P	P	17 48 53.8	-0.4
	19nm,1.3s						
WRA	**Warramunga Arr**	24.74	155	P	P	17 48 53.7	-0.6
	5.9nm,0.3s,baz=338,slow=9.5,SNR=132						
WRA				S	S	17 52 44.1	-2.6
	3.0nm,0.9s,baz=336,slow=15,SNR=8.3						
WRA				ScP	ScP	17 55 17.2	-1.8
	0.6nm,0.5s,baz=340,slow=3.0,SNR=6.1						
WB2	**Warramunga Arr**	24.75	155	*e*P	P	17 48 53.8	-0.5
	8.5nm,0.7s						
COEN	**Coen**	25.43	131	*e*P	P	17 48 59.9	-0.5
	39nm,1.5s						
ANA2	**Anatahan**	25.70	56	*e*P	P	17 49 01.3	-1.4
AS31	**Alice Springs**	27.95	160	*e*P	P	17 49 22.9	+0.2
	1.2nm,0.8s						
ASAR	**Alice Springs**	27.95	160	P	P	17 49 22.7	0.0
	2.0nm,0.4s,baz=341,slow=7.8,SNR=98						
ASAR				S	S	17 53 37.8	+0.7
	2.4nm,0.9s,baz=352,slow=21,SNR=10.0						
ASAR				ScP	ScP	17 55 27.4	-1.1
	2.2nm,0.6s,baz=338,slow=3.1,SNR=26						
AS01	**Alice Springs**	27.97	159	*e*P	P	17 49 22.9	0.0
GYA	**Guiyang**	28.77	327	*e*P	P	17 49 30.0	0.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RABL	**Rabaul**	29.

*IDC **28** 17:58:19.1±1.6,9.°21N×126.°64E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.5/34,mbtmp3.8/5,Error ellipse: s-maj=118.3km s-min=20.3km az=72.0*
*NEIC **28** 17:58:20.0±0.4,9.°35N×126.°88E,h10km,mb4.4/8,Error ellipse: s-maj=15.5km s-min=6.5km az=82.0*
*MAN **28** 17:58:27,9.°09N×126.°37E,h32km,mb4.7,ML3.6,MS3.6*

ISC 28 17:58:21.9±0.7,9.°25N±0.°03×126.°63E±0.°07,h20km±4km, n39,σ1°49/44,mb4.0/11,4C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.09**	**194**	*iP*	**Pb**	**17 58 43.4**	**+1.3**
BIPH				*iS*	**Sb**	**17 58 54.4**	**-1.5**
BUKP	**Musuan**	**2.06**	**229**	*eP*	**Pb**	**17 58 57.6**	**-1.2**
BUKP				*eS*	**Sn**	**17 59 21.2**	**+0.5**
CGP	**Cagayan de Oro**	**2.07**	**248**	*eP*	**Pn**	**17 58 56.4**	**+0.8**
CGP				*eS*	**Sn**	**17 59 17.9**	**-3.0**
MATI	**Mati**	**2.32**	**189**	*eP*	**Pn**	**17 59 01.0**	**+2.0**
MATI				*eS*	**Sn**	**17 59 27.6**	**+0.7**
DAV	**Davao City (W)**	**2.40**	**206**	Sn	**Sb**	**17 59 31.9**	**-1.9**
	57nm,0.3s,baz=296,slow=19,SNR=3.6						
DAV	**Davao City (W)**	**2.40**	**206**	*ePn*	**Pn**	**17 59 00.8**	**+0.6**
DAV				*eSn*	**Sb**	**17 59 31.9**	**-1.9**
PLP	**Palo**	**2.51**	**320**	*eP*	**Pb**	**17 59 06.8**	**+0.5**
PLP				*i S*	**Sb**	**17 59 35.9**	**-0.9**
BESP	**Borongan**	**2.62**	**333**	*eP*	**Pb**	**17 59 08.2**	**0.0**
BESP				*eS*	**Sb**	**17 59 40.4**	**+0.5**
OCLP	**Ormoc**	**2.68**	**312**	*eP*	**Pb**	**17 59 09.6**	**+0.4**
KCP	**Kidapawan**	**2.70**	**215**	*eP*	**Pn**	**17 59 06.5**	**+2.2**
KCP				*eS*	**Sn**	**17 59 34.8**	**-1.7**
LLP	**Lapu-Lapu**	**2.83**	**292**	*iP*	**Pb**	**17 59 10.6**	**-1.4**
LLP				*i S*	**Sn**	**17 59 42.8**	**+3.1**
DCPH	**Dipolog City**	**3.31**	**259**	*eP*	**Pn**	**17 59 14.6**	**+2.0**
SNPH	**Sibulan**	**3.35**	**272**	*i P*	**Pn**	**17 59 13.9**	**+0.6**
SNPH				*i S*	**Sn**	**17 59 51.3**	**-1.3**
IPIL	**Ipil**	**4.27**	**250**	*eP*	**Pn**	**17 59 27.8**	**+1.9**
IPIL				*eS*	**Sn**	**18 00 14.5**	**-0.7**
NACB	**Ninganchiao**	**15.60**	**343**	*ePn*	**Pn**	**18 01 59.3**	**-1.5**
	18nm,0.8s						
CBIJ	**Chichi jima**	**23.05**	**38**	*eP*	**P**	**18 03 21.8**	**-4.3**
	54nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.19**	**182**	P	**P**	**18 04 04.2**	**-0.2**
	1.3nm,0.9s,baz=2.2,slow=13,SNR=10						
FITZ	**Fitzroy Crossi**	**27.19**	**182**	*eP*	**P**	**18 04 04.5**	**+0.1**
	28nm,1.9s						
MAJO	**Matsushiro**	**29.13**	**19**	*eP*	**P**	**18 04 19.2**	**-2.5**
	6.3nm,1.1s						
WR1	**Warramunga Arr**	**29.98**	**165**	*eP*	**P**	**18 04 29.3**	**0.0**
	27nm,1.8s						
WRA	**Warramunga Arr**	**29.98**	**165**	P	**P**	**18 04 29.3**	**0.0**
	0.4nm,0.6s,baz=347,slow=9.2,SNR=21						
AS31	**Alice Springs**	**33.48**	**168**	*eP*	**P**	**18 05 00.9**	**+0.8**
	2.5nm,1.4s						
ASAR	**Alice Springs**	**33.48**	**168**	P	**P**	**18 04 59.9**	**-0.1**
	0.4nm,0.3s,baz=348,slow=7.2,SNR=40						
AS01	**Alice Springs**	**33.48**	**168**	*eP*	**P**	**18 05 00.4**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**39.88**	**72**	T	T	18 49 02.3	
	baz=262,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**39.89**	**72**	T	T	18 48 56.5	
	baz=262,slow=75,SNR=44						
H11S2	**WAKE ISLAND Hy**	**39.89**	**72**	T	T	18 48 59.9	
	baz=262,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**40.25**	**70**	T	T	18 49 30.0	
	baz=265,slow=75,SNR=23						
H11N2	**WAKE ISLAND Hy**	**40.25**	**70**	T	T	18 49 35.4	
	baz=265,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**40.26**	**70**	T	T	18 49 36.4	
	baz=265,slow=75,SNR=19						
STKA	**Stephens Creek**	**43.33**	**161**	*eP*	**P**	**18 06 23.6**	**+0.8**
	6.3nm,1.9s						
MK01	**Makanchi Array**	**53.03**	**323**	*eP*	**P**	**18 07 38.4**	**+0.8**
MK31	**Makanchi Array**	**53.05**	**323**	*eP*	**P**	**18 07 37.4**	**-0.3**
MK32	**Makanchi Array**	**53.05**	**323**	*eP*	**P**	**18 07 38.2**	**+0.4**
MKAR	**Makanchi Array**	**53.05**	**323**	P	**P**	**18 07 38.2**	**+0.4**
	0.3nm,0.3s,baz=109,slow=7.6,SNR=9.3						
MKAR	**Makanchi Array**	**53.05**	**323**	*eP*	**P**	**18 07 37.8**	**0.0**
MAKZ	**Makanchi**	**53.25**	**323**	*eP*	**P**	**18 07 39.8**	**+0.6**
	4.7nm,1.4s						
ARA0	**ARCESS Array S**	**85.27**	**340**	*eP*	**P**	**18 10 57.9**	**+0.8**
ARCES	**ARCESS Array B**	**85.27**	**340**	P	**P**	**18 10 57.9**	**+0.8**
	0.9nm,0.8s,baz=64,slow=8.1,SNR=2.7						

IDC 28 18:06:08.9±2.2,28.°11N×142.°87E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/33,mbtmp3.3/4,ML3.5/1,Error ellipse: s-maj=56.6km s-min=22.6km az=92.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.18**	**211**	Pn	Pn	18 06 33.6	+0.9
	8.7nm,0.3s,baz=195,slow=20,SNR=1.5						
JCJ				Sn	Sn	18 06 49.0	-0.4
	7.4nm,0.3s,baz=182,slow=24,SNR=9.4						
MJAR	**Matsushiro Arr**	**9.29**	**336**	Pn	Pn	18 08 23.5	-0.7
	0.5nm,0.3s,baz=139,slow=11,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**23.46**	**106**	T	T	18 35 56.7	
	baz=293						
H11N1	**WAKE ISLAND Hy**	**23.46**	**106**	T	T	18 36 21.6	
	baz=293						
H11N3	**WAKE ISLAND Hy**	**23.48**	**106**	T	T	18 36 17.7	
	baz=293						
WRA	**Warramunga Arr**	**48.48**	**191**	P	P	18 14 53.6	+0.1
	0.4nm,0.4s,baz=12,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**50.31**	**309**	P	P	18 15 07.1	-0.3
	0.3nm,0.8s,baz=88,slow=10,SNR=1.9						
ASAR	**Alice Springs**	**52.20**	**190**	P	P	18 15 21.2	-0.5
	0.1nm,0.4s,baz=21,slow=12,SNR=1.2						

*TEH **28** 18:19:03.7,39.°77N×48.°04E,h18km,ML2.7*

ISC 28 18:19:00.9±4.3,39.°94N±0.°07×48.°4E±0.°3,h58km,n5, σ0°48/8,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**1.95**	**214**	*ePn*	**Pn**	**18 19 32.0**	**+0.2**
IHRS				*eSg*	**Sn**	**18 19 55.4**	**+0.2**
IHRS				*eAMB*	AMB	18 19 58.6	
	comp=Z,2μm,0.1s						
IMRD	**Marand**	**2.44**	**241**	*ePn*	**Pn**	**18 19 38.1**	**-0.4**
IMRD				*eAMB*	AMB	18 19 55.8	
	comp=Z,786nm,0.1s						
ISHB	**Shabestar**	**2.74**	**234**	*ePn*	**Pn**	**18 19 42.3**	**-0.4**
ISHB				*eAMB*	AMB	18 20 30.5	
	comp=Z,115nm,0.2s						
DGRG	**David-gareji**	**2.77**	**304**	P	**Pn**	**18 19 42.5**	**-0.4**
DGRG				S	**Sn**	**18 20 15.7**	**+0.5**
GUDG	**Gudauri**	**3.91**	**312**	P	**Pn**	**18 19 58.3**	**-0.2**
GUDG				S	**Sn**	**18 20 43.8**	**+0.5**

*IDC **28** 18:22:37.1±1.3,51.°82N×171.°74W,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.4/45,mbtmp3.4/7,ML3.5/1,Error ellipse: s-maj=41.5km s-min=25.8km az=173.0*
*ISCJB **28** 18:22:42.7±0.8,52.°0N±0.°1×171.°51W±0.°08,h44km, mb3.5/6,Error ellipse: s-maj=18.7km s-min=4.8km az=163.2*
*NEIC **28** 18:22:42.3,51.°92N×171.°52W,h21km,ML3.3(AEIC),After AEIC.*

ISC 28 18:22:44.0±0.9,52.°0N±0.°1×171.°56W±0.°06,h44km,n25, σ0°94/21,mb3.5/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.58**	**284**	P	**Pn**	**18 23 09.6**	**+0.2**
KOFP	**Korovin Flat P**	**1.59**	**282**	P	**Pn**	**18 23 09.4**	**-0.3**
KOKL	**Mount Kliuchef**	**1.66**	**283**	*ePn*	**Pn**	**18 23 10.7**	**+0.1**
NIKH	**Nikolski High**	**1.93**	**58**	*ePn*	**Pn**	**18 23 13.1**	**-1.2**
NIKH				*eSn*	**Sn**	**18 23 35.3**	**-2.0**
OKWE	**Okmok W'ng Wal**	**2.51**	**52**	P	**Pn**	**18 23 22.9**	**+0.6**
GSMY	**Great Sitkin M**	**2.78**	**273**	*ePn*	**Pn**	**18 23 27.0**	**+1.0**
GSTR	**Great Sitkin T**	**2.78**	**274**	*ePn*	**Pn**	**18 23 26.4**	**+0.5**
GSCK	**Great Sitkin C**	**2.84**	**272**	*ePn*	**Pn**	**18 23 27.6**	**+0.8**
ADAG	**Mount Adagdak**	**3.12**	**272**	*ePn*	**Pn**	**18 23 31.6**	**+1.0**
UNV	**Unalaska Valle**	**3.59**	**57**	*ePn*	**Pn**	**18 23 37.9**	**+0.9**
UNV				S	**Sn**	**18 24 18.9**	**+0.8**
AKUT	**Akutan**	**4.10**	**56**	*ePn*	**Pn**	**18 23 45.6**	**+1.5**
SPIA	**Saint Paul Isl**	**5.26**	**8**	*ePn*	**Pn**	**18 24 00.1**	**+0.1**
ILAR	**Eielson Array**	**18.04**	**35**	P	**P**	**18 26 51.8**	**+0.8**
	0.1nm,0.3s,baz=247,slow=8.7,SNR=4.5						
YKA	**Yellowknife Ar**	**31.51**	**48**	P	**P**	**18 29 02.5**	**+1.3**
	0.8nm,0.6s,baz=276,slow=5.8,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**36.33**	**216**	T	T	19 08 14.2	
	baz=21,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**36.34**	**216**	T	T	19 08 18.8	
	baz=21,slow=75,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**36.35**	**216**	T	T	19 08 21.4	
	baz=21,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**37.53**	**215**	T	T	19 09 46.9	
	baz=21,slow=76,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**37.54**	**215**	T	T	19 09 42.1	
	baz=21,slow=76,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**37.54**	**215**	T	T	19 09 43.1	
	baz=21,slow=76,SNR=5.9						
PDAR	**Pinedale Array**	**41.80**	**77**	P	**P**	**18 30 29.4**	**+0.1**
	0.3nm,0.5s,baz=277,slow=14,SNR=2.0						
TXAR	**Lajitas Array**	**54.11**	**87**	P	**P**	**18 32 03.9**	**-0.5**
	0.2nm,0.6s,baz=298,slow=7.8,SNR=2.4						
MKAR	**Makanchi Array**	**63.08**	**312**	P	**P**	**18 33 06.2**	**-0.3**
	0.1nm,0.3s,baz=48,slow=7.2,SNR=1.7						
BVAR	**Borovoye Array**	**63.22**	**323**	P	**P**	**18 33 06.6**	**-0.7**
	0.5nm,0.6s,baz=45,slow=7.1,SNR=4.7						
ASAR	**Alice Springs**	**89.12**	**228**	P	**P**	**18 35 33.7**	**-0.8**
	0.4nm,1.1s,baz=31,slow=5.1,SNR=5.8						

*ATH **28** 18:37:47.9,36.°37N×25.°43E,h16km±3km,ML2.1/4,Error ellipse: s-maj=8.0km s-min=2.7km az=95.0*
*ISCJB **28** 18:37:49.6±1.4,36.°39N±0.°04×25.°41E±0.°07,h5km±9km, Error ellipse: s-maj=9.4km s-min=6.8km az=12.6*
*THE **28** 18:37:49.0,36.°39N×25.°40E,h7km±1km,ML1.7/3,Error ellipse: s-maj=2.0km s-min=0.8km az=100.0*
*CSEM **28** 18:37:49.5±0.2,36.°36N×25.°41E,h2km,ML2.1,Error ellipse: s-maj=39.6km s-min=8.5km az=97.0*

ISC 28 18:37:49.2±1.2,36.°40N±0.°03×25.°41E±0.°04,h7km±7km, n26,σ0°51/38,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR3	**Thira Island,**	**0.01**	**316**	P	**Pg**	**18 37 50.4**	**0.0**
THR3	**Thira Island,**	**0.01**	**316**	P	**Pg**	**18 37 50.4**	**0.0**
THT1	**Athinios (Pele**	**0.02**	**135**	P	**Pg**	**18 37 50.6**	**+0.1**
THT1				S	**Sg**	**18 37 51.4**	**+0.1**
THT1	**Athinios (Pele**	**0.02**	**135**	P	**Pg**	**18 37 50.6**	**+0.1**
THT1				S	**Sg**	**18 37 51.4**	**+0.1**
THR7	**Fira-Santorini**	**0.03**	**37**	P	**Pg**	**18 37 50.6**	**+0.1**
THR7	**Fira-Santorini**	**0.03**	**37**	P	**Pg**	**18 37 50.6**	**+0.1**
SAP2K	**Karterados**	**0.03**	**73**	P	**Pg**	**18 37 50.9**	**+0.3**
SAP2K				S	**Sg**	**18 37 51.4**	**-0.1**
SAP2K				AML	AML	18 37 53.6	
	comp=N,2649μm,0.1s						
SAP2K				AML	AML	18 37 55.0	
	comp=E,3545μm,0.3s						
SAP1	**Santorini-Akro**	**0.04**	**194**	S	**Sg**	**18 37 51.1**	**-0.6**
SAP1	**Santorini-Akro**	**0.04**	**194**	P	**Pg**	**18 37 51.7**	**+1.0**
SAP1	**Santorini-Akro**	**0.04**	**194**	S	**Sg**	**18 37 51.1**	**-0.6**
SAP1				P	**Pg**	**18 37 51.7**	**+1.0**
SAP1				AML	AML	18 37 53.1	
	comp=N,3831μm,0.1s						
SAP1				AML	AML	18 37 53.3	
	comp=E,1864μm,0.2s						
THR6	**Thira Island,**	**0.05**	**192**	P	**Pg**	**18 37 50.5**	**-0.2**
THR6	**Thira Island,**	**0.05**	**192**	P	**Pg**	**18 37 50.5**	**-0.2**
THR2	**Thira Island,**	**0.05**	**25**	P	**Pg**	**18 37 50.6**	**-0.2**
THR2	**Thira Island,**	**0.05**	**25**	P	**Pg**	**18 37 50.6**	**-0.2**
SANT	**Santorini**	**0.05**	**128**	P	**Pg**	**18 37 51.2**	**+0.4**
SANT				S	**Sg**	**18 37 52.2**	**+0.3**
SANT	**Santorini**	**0.05**	**128**	P	**Pg**	**18 37 51.2**	**+0.4**
SANT				S	**Sg**	**18 37 52.2**	**+0.3**
SANT	**Santorini**	**0.05**	**128**	S	**Sg**	**18 37 50.8**	**-1.1**
SANT				P	**Pg**	**18 37 51.8**	**+1.0**
SANT				AML	AML	18 37 52.7	
	comp=N,413μm,0.1s						
SANT				AML	AML	18 37 52.9	
	comp=E,1065μm,0.1s						
THR5	**Thira Island,**	**0.05**	**287**	P	**Pg**	**18 37 50.6**	**-0.2**
THR5	**Thira Island,**	**0.05**	**287**	P	**Pg**	**18 37 50.6**	**-0.2**
THR8	**Santorini-Mono**	**0.06**	**85**	P	**Pg**	**18 37 50.5**	**-0.3**
THR8	**Santorini-Mono**	**0.06**	**85**	P	**Pg**	**18 37 50.5**	**-0.3**
CMBO	**Columbo, Santo**	**0.07**	**357**	P	**Pg**	**18 37 51.4**	**+0.4**
CMBO				S	**Sg**	**18 37 53.2**	**+0.9**
CMBO	**Columbo, Santo**	**0.07**	**357**	P	**Pg**	**18 37 51.4**	**+0.4**
CMBO				S	**Sg**	**18 37 53.2**	**+0.9**
CMBO	**Columbo, Santo**	**0.07**	**357**	P	**Pg**	**18 37 51.5**	**+0.5**
CMBO				S	**Sg**	**18 37 52.3**	**+0.1**
CMBO				AML	AML	18 37 53.7	
	comp=E,2657μm,0.2s						
CMBO				AML	AML	18 37 54.3	
	comp=N,3354μm,0.3s						
APE	**Apeiranthos**	**0.67**	**8**	P	**Pb**	**18 38 03.4**	**0.0**
APE				S	**Sb**	**18 38 12.5**	**-0.5**
APE	**Apeiranthos**	**0.67**	**8**	P	**Pb**	**18 38 03.4**	**0.0**
APE				S	**Sb**	**18 38 12.5**	**-0.5**

*NIED **28** 18:55:00,37.°50N×141.°40E,h50km,Mw3.9 Best double couple: M0 8.86000×10^14 NP1:φs 17.00000°,δ53.00000°, λ-170.00000°. NP2:φs 282.00000°,δ82.00000°, λ-37.00000°.*

JMA 28 18:55:39.4±0.1,37.°49N×141.°43E,h39km±1km,M3.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**255**	P	Pn	18 55 49.4	-0.1
JFK				eS	Sn	18 55 56.2	-0.5
JMM	**Marumori**	**0.63**	**307**	P	Pn	18 55 51.8	-0.1
JMM				eS	Sn	18 56 00.4	-0.4
ONAJ	**Iwakimizuishiy**	**0.64**	**233**	P	Pn	18 55 51.7	-0.3
ONAJ				eS	Sn	18 56 00.2	-0.8
JFT	**Otama**	**0.87**	**272**	P	Pn	18 55 55.8	+0.6
JFT				eS	Sn	18 56 07.1	+0.4
JIO	**Ouri**	**0.96**	**356**	P	Pn	18 55 56.4	0.0
JIO				S	Sn	18 56 08.1	-0.8
JOU	**Okura**	**1.06**	**326**	P	Pn	18 55 58.1	+0.3
JOU				S	Sn	18 56 12.2	+0.8
JYS	**Shirataka**	**1.30**	**304**	P	Pn	18 56 02.1	+1.0
JYS				S	Sn	18 56 18.4	+1.1
JFY	**Yanaizu**	**1.38**	**267**	P	Pn	18 56 02.7	+0.6
JMK	**Ichinoseki**	**1.47**	**354**	P	Pn	18 56 03.5	+0.2
JMK				S	Sn	18 56 22.1	+0.8
MAT	**Matsushiro**	**2.75**	**251**	P	Pn	18 56 22.8	+1.9
MAT				S	Sn	18 56 58.2	+5.3

IDC 28 18:56:12.8±1.3,4.°14N×128.°15E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.6/36,mbtmp3.7/6,Error ellipse: s-maj=60.6km s-min=22.3km az=66.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.69**	**166**	P	P	19 01 36.0	+0.3
	0.3nm,0.3s,baz=345,slow=10,SNR=2.9						
CMAR	**Chiang Mai Arr**	**31.90**	**299**	P	P	19 02 40.0	-0.2
	0.6nm,0.7s,baz=115,slow=6.2,SNR=5.0						
KSRS	**Korea Array**	**33.16**	**360**	P	P	19 02 50.9	-0.1
	0.7nm,0.6s,baz=180,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**38.03**	**161**	P	P	19 03 32.5	-0.5
	2.0nm,0.9s,baz=317,slow=19,SNR=2.2						
MKAR	**Makanchi Array**	**58.04**	**324**	P	P	19 06 07.4	-0.3
	0.6nm,0.6s,baz=123,slow=9.2,SNR=6.8						
GEYT	**Alibeck**	**71.75**	**309**	P	P	19 07 37.8	+0.5
	0.4nm,0.3s,baz=46,slow=4.2,SNR=1.8						

*CSEM **28** 18:56:28.6±0.3,43.°23N×45.°42E,h10km,ML2.8,Error ellipse: s-maj=10.8km s-min=4.8km az=130.0*
*TIF **28** 18:56:29.0,43.°14N×45.°36E,h27km±2km*
*ISCJB **28** 18:56:31.2±0.5,43.°12N±0.°03×45.°21E±0.°03,h97km±4km, Error ellipse: s-maj=4.9km s-min=3.1km az=13.6*
*MOS **28** 18:56:31.7±0.3,43.°10N×45.°20E,h79km,mb4.4/1,Error ellipse: s-maj=9.7km s-min=7.1km az=25.9*

ISC 28 18:56:30.9±1.0,43.°13N±0.°03×45.°23E±0.°02,h89km±7km, n62,σ1°86/104,8C-15D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMGR	**Komgaron**	**0.28**	**255**	*iP*	**Pn**	**18 56 45.2**	**+1.1**
KMGR				*i S*	**Sn**	**18 56 55.6**	**+1.6**
VLKR	**Vladikavkaz**	**0.42**	**259**	*iP*	**Pn**	**18 56 46.0**	**+1.1**
VLKR				*eS*	**Sn**	**18 56 57.3**	**+1.9**
GROC	**Groznyy**	**0.42**	**80**	*iP*	**Pn**	**18 56 46.3**	**+1.4**
GROC				*i S*	**Sn**	**18 56 57.4**	**+2.1**
BTKR	**Batakoyurt**	**0.56**	**296**	*iP*	**Pn**	**18 56 48.0**	**+2.0**
BTKR				*i S*	**Sn**	**18 57 00.2**	**+2.8**
ARNR	**Ardon**	**0.70**	**274**	*iP*	**Pn**	**18 56 48.7**	**+1.4**
ARNR				*i S*	**Sn**	**18 57 01.5**	**+2.0**
TRKR	**Terskaya**	**0.70**	**329**	*iP*	**Pn**	**18 56 49.2**	**+2.0**
TRKR				*eS*	**Sn**	**18 57 02.6**	**+3.2**
LACR	**Lac**	**0.75**	**247**	*iP*	**Pn**	**18 56 48.0**	**+0.1**
LACR				*i S*	**Sn**	**18 57 00.0**	**-0.7**
KORR	**Kora**	**0.85**	**267**	*iP*	**Pn**	**18 56 49.9**	**+1.0**
KORR				*i S*	**Sn**	**18 57 03.2**	**+0.8**
GUDG	**Gudauri**	**0.87**	**220**	P	**Pn**	**18 56 47.0**	**-2.2**
GUDG				S	**Sn**	**18 57 00.4**	**-2.6**
GUDG	**Gudauri**	**0.87**	**220**	P	**Pn**	**18 56 50.0**	**+0.7**
GUDG				S	**Sn**	**18 57 04.0**	**+1.0**
STDR	**Stavd-Durt**	**0.89**	**286**	*iP*	**Pn**	**18 56 51.0**	**+1.8**
STDR				*eS*	**Sn**	**18 57 03.6**	**+0.6**
PRTR	**Priterechnaya**	**0.93**	**312**	*iP*	**Pn**	**18 56 51.7**	**+2.0**
PRTR				*eS*	**Sn**	**18 57 06.8**	**+3.0**
DLMR	**Dylym**	**1.02**	**93**	*i P*	**Pn**	**18 56 52.0**	**+1.2**
DLMR				*i S*	**Sn**	**18 57 06.5**	**+0.8**
DLMR				pmax	pmax		
	comp=Z,172nm,0.1s						
ZEI	**Tsey**	**1.04**	**251**	*iP*	**Pn**	**18 56 51.0**	**-0.1**
ZEI				*eS*	**Sn**	**18 57 05.1**	**-1.2**
LSNR	**Lesken**	**1.04**	**279**	*iP*	**Pn**	**18 56 52.3**	**+1.3**
LSNR				*i S*	**Sn**	**18 57 07.5**	**+1.4**
DUS	**Dusheti**	**1.11**	**201**	P	**Pn**	**18 56 52.9**	**+1.0**
DUS				S	**Sn**	**18 57 09.3**	**+1.6**
DUS	**Dusheti**	**1.11**	**201**	P	**Pn**	**18 56 52.8**	**+1.0**
DUS				S	**Sn**	**18 57 08.7**	**+1.1**
DUS	**Dusheti**	**1.11**	**201**	P	**Pn**	**18 56 52.9**	**+1.0**
DUS				S	**Sn**	**18 57 08.7**	**+1.1**
DBC	**Dubki**	**1.18**	**95**	*iP*	Pn	18 57 03.6	+11
DBC				*i S*	Sn	18 57 20.5	+12
DBC				pmax	pmax		
	comp=Z,23nm,0.6s						
UNCR	**Uncukul**	**1.22**	**109**	*i P*	**Pn**	**18 56 54.0**	**+0.9**
UNCR				*i S*	**Sn**	**18 57 11.0**	**+1.1**
UNCR				pmax	pmax		
	comp=Z,143nm,0.2s						
XNZR	**Khunzakh**	**1.23**	**118**	*eP*	**Pn**	**18 56 54.5**	**+1.1**
XNZR				*eS*	**Sn**	**18 57 12.5**	**+2.2**
DIGR	**Digorskoe uzhe**	**1.23**	**260**	*iP*	**Pn**	**18 56 53.6**	**+0.1**
DIGR				*i S*	**Sn**	**18 57 09.6**	**-0.8**
NCK	**Nalchik**	**1.25**	**288**	*eP*	**Pn**	**18 56 53.8**	**+0.3**
KRNR	**Karanay**	**1.27**	**103**	*eP*	**Pn**	**18 56 54.8**	**+1.1**
KRNR				*i S*	**Sn**	**18 57 11.8**	**+0.9**
KRNR				pmax	pmax		
	comp=Z,52nm,0.2s						
ARKR	**Arakani**	**1.40**	**112**	*iP*	**Pn**	**18 56 56.8**	**+1.5**
ARKR				*eS*	**Sn**	**18 57 16.0**	**+2.2**
ARKR				pmax	pmax		
	comp=Z,50nm,0.2s						
SEAG	**Tbilisi Sea**	**1.40**	**193**	P	**Pn**	**18 56 55.0**	**-0.4**
SEAG				S	**Sn**	**18 57 14.7**	**+0.9**
SEAG	**Tbilisi Sea**	**1.40**	**193**	P	**Pn**	**18 56 56.0**	**+0.6**
SEAG				S	**Sn**	**18 57 14.9**	**+1.1**
SEAG	**Tbilisi Sea**	**1.40**	**193**	P	**Pn**	**18 56 56.0**	**+0.6**
SEAG				S	**Sn**	**18 57 14.9**	**+1.1**
BUJR	**Buynaksk**	**1.41**	**102**	*iP*	**Pn**	**18 56 57.5**	**+2.1**
BUJR				*i S*	**Sn**	**18 57 16.5**	**+2.5**
BUJR				pmax	pmax		
	comp=Z,74nm,0.5s						
ONI	**Oni**	**1.42**	**248**	P	**Pn**	**18 56 56.1**	**+0.5**
ONI				S	**Sn**	**18 57 16.0**	**+1.8**
ONI	**Oni**	**1.42**	**248**	P	**Pn**	**18 56 56.9**	**+1.4**
ONI				S	**Sn**	**18 57 15.9**	**+1.7**
ONI	**Oni**	**1.42**	**248**	P	**Pn**	**18 56 57.0**	**+1.4**
ONI				S	**Sn**	**18 57 16.0**	**+1.8**
TBLG	**Delisi**	**1.45**	**195**	P	**Pn**	**18 56 55.6**	**-0.3**
TBLG				S	**Sn**	**18 57 15.6**	**+0.8**
TBLG	**Delisi**	**1.45**	**195**	P	**Pn**	**18 56 56.6**	**+0.7**
TBLG				S	**Sn**	**18 57 15.6**	**+0.8**
TBLG	**Delisi**	**1.45**	**195**	P	**Pn**	**18 56 56.6**	**+0.7**
TBLG				S	**Sn**	**18 57 15.6**	**+0.8**
TBLG	**Delisi**	**1.45**	**195**	P	**Pn**	**18 56 56.6**	**+0.7**
TBLG				S	**Sn**	**18 57 15.6**	**+0.8**
GNBR	**Gunib**	**1.47**	**120**	*iP*	**Pn**	**18 56 57.7**	**+1.4**
GNBR				*e*		18 57 17.7	
GNBR				pmax	pmax		
	comp=Z,195nm,0.4s						
GNBR				smax	smax		
	comp=E,351nm,0.5s						
GNBR				smax	smax		
	comp=E,341nm,0.5s						
GNBR				smax	smax		
	comp=N,302nm,0.3s						
DGRG	**David-gareji**	**1.68**	**176**	P	**Pn**	**18 56 60.0**	**+1.0**
DGRG	**David-gareji**	**1.68**	**176**	P	**Pn**	**18 57 00.1**	**+1.2**
DGRG				S	**Sn**	**18 57 21.7**	**+1.5**
KMKR	**Kumukh**	**1.70

MK02				⇑S		Sn	18 59 05.7	-0.4
MK06	**Makanchi Array**	**0.62**	**86**	⇑P		**Pn**	**18 58 56.6**	**+0.4**
MK06				⇓S		Sn	18 59 06.0	-0.2
MK07	**Makanchi Array**	**0.62**	**88**	⇑P		**Pn**	**18 58 56.4**	**+0.2**
MK07				⇑S		Sn	18 59 05.7	-0.5
KAPS	**Kapalarasan**	**2.04**	**226**	*e*S		**Sn**	**18 59 39.5**	**-1.7**
	79nm,0.3s							
KAPS	**Kapalarasan**	**2.04**	**226**	*e*P		**Pn**	**18 59 16.0**	**+0.2**
	22nm,0.4s							
ZSN	**Zaisan**	**2.16**	**69**	*e*P		Pg	18 59 29.3	+6.4
	2.0nm,0.4s							
ZSN				*e*S		Sg	19 00 02.5	+12
	6.7nm,0.4s							
DJR	**Jarkent**	**2.66**	**206**	*e*P		**Pn**	**18 59 24.4**	**+0.1**
	6.9nm,0.3s							
DJR				⇓*i*S		**Sn**	**18 59 54.4**	**-2.2**
	52nm,0.6s							
TDK	**Taldyqorghan**	**2.72**	**232**	*e*P		**Pn**	**18 59 27.1**	**+2.0**
	14nm,0.1s							
TDK				*e*S		**Sn**	**18 59 58.5**	**+0.5**
	58nm,0.5s							
MNBS	**Baschi**	**3.40**	**220**	*e*P		**Pb**	**18 59 41.6**	**-0.2**
MNBS				*e*S		**Sb**	**19 00 23.5**	**+0.4**
ARXS	**Arharly**	**3.57**	**226**	*e*P		**Pb**	**18 59 43.7**	**-0.9**
	4.1nm,0.4s							
ARXS				*e*S		**Sb**	**19 00 27.4**	**-0.5**
	15nm,0.4s							
PDGK	**Podgornoye**	**3.67**	**203**	⇓Pn		**Pn**	**18 59 41.0**	**+2.9**
	1.4nm,0.5s							
PDGK				⇓Lg		Lg	19 00 23.7	
	3.8nm,0.3s							
CHKK	**Chushkaly**	**4.23**	**229**	*e*P		**Pb**	**18 59 55.0**	**-0.9**
	2.0nm,0.2s							
CHKK				*e*S		**Sb**	**19 00 47.7**	**+0.7**
	12nm,0.4s							
KURBB	**Kurchatov Arra**	**4.34**	**335**	⇓Pg		**Pg**	**19 00 04.5**	**0.0**
	0.8nm,0.4s							
KURBB				⇑Lg		Lg	19 01 08.4	
	14nm,0.6s							
KUU	**Kurty**	**4.57**	**233**	*e*P		**Pb**	**19 00 00.7**	**-0.9**
	2.3nm,0.3s							
KUU				*e*S		**Sb**	**19 00 56.4**	**-0.3**
	23nm,0.4s							
MDOK	**Medeo**	**4.73**	**223**	*e*P		**Pb**	**19 00 03.9**	**-0.5**
	1.4nm,0.4s							
MDOK				*e*S		**Sb**	**19 01 02.0**	**+0.7**
	5.3nm,0.5s							

JMA 28 18:59:25.7±0.3,38°.57N×142°.89E,h17km±4km,M3.5,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.08**	**298**	P	Pb	18 59 45.9	-0.1
JIO	**Ouri**	**1.22**	**265**	P	Pn	18 59 47.7	-0.2
JIO				*e*S	Sb	19 00 02.9	-0.7
JMK	**Ichinoseki**	**1.36**	**287**	P	Pn	18 59 50.1	+0.2
JOM	**Ohasama**	**1.54**	**306**	P	Pn	18 59 52.7	+0.4

*IDC **28** 19:16:16.8±2.8,8°.62S×123°.49E,h74km±27km,mb3.6/9,*
mb1 3.9/12,mb1mx3.7/31,mbtmp4.0/12,MS2.7/3,
Ms1 2.8/3,ms1mx2.4/30,Error ellipse: s-maj=35.1km
s-min=13.2km az=70.0
*ISCJB **28** 19:16:18.6±0.3,8°.85S±0°.03×123°.58E±0°.03,h100km,*
mb4.4/18,Error ellipse: s-maj=5.6km s-min=3.7km
az=40.3
*NEIC **28** 19:16:19.6±0.6,8°.91S×123°.37E,h97km±8km,mb4.9/14,*
Error ellipse: s-maj=10.6km s-min=7.3km az=47.0
*BJI **28** 19:16:19.6,9°.31S×123°.09E,h122km,mb4.5/12,mB5.0/6*
*DJA **28** 19:16:20.6±0.3,9°.5±5°×12°.4E±°,h135km±6km,M4.8/6,*
mb4.9/6,mB5.2/3,MLv4.8/6,Mw(mB)4.6/3
ISC 28 19:16:19.9±0.4,8°.87S±0°.03×123°.65E±0°.03,h100km,n65,
σ2s50/73,mb4.7/18,1D,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.07**	**145**	P	Pn	19 16 47.2	+6.0
SOEI	**Soe**	**1.07**	**145**	*e*Pn	Pn	19 16 47.0	+5.9
BATI	**Baumata**	**1.33**	**180**	P	Pn	19 16 48.9	+4.8
MMRI	**Maumere**	**1.42**	**279**	P	**Pn**	**19 16 44.2**	**-0.9**
MMRI	**Maumere**	**1.42**	**279**	*e*Pn	**Pn**	**19 16 44.3**	**-0.9**
EDFI	**Ende, Flores**	**1.94**	**273**	P	**Pn**	**19 16 51.8**	**0.0**
EDFI				S	**Sn**	**19 17 18.4**	**+2.2**
WSI	**Waingapu**	**3.41**	**256**	P	**Pn**	**19 17 10.6**	**-0.5**
WSI				S	**Sn**	**19 17 52.3**	**+1.7**
KDI	**Kendari**	**4.99**	**348**	P	**Pn**	**19 17 31.8**	**-0.7**
KAPI	**Kappang**	**5.45**	**314**	P	Pn	19 17 31.8	-6.9
	1.1nm,0.3s,baz=191,slow=16,SNR=3.6						
KAPI				LR	LR	19 19 59.9	
	comp=Z,22nm,19.6s,baz=186,slow=43						
KAPI	**Kappang**	**5.45**	**314**	*e*Pn	**Pn**	**19 17 37.6**	**-1.1**
PLAI	**Plampang**	**5.81**	**270**	P	**Pn**	**19 17 43.1**	**-0.5**
	213nm,0.6s,3μm1.0nm						
PLAI				S	**Sn**	**19 18 46.2**	**-2.7**
	213nm,0.6s,3μm1.0nm						
SPSI	**Sidrap Palu**	**6.22**	**321**	P	Pn	19 17 58.0	+8.8
TWSI	**Taliwang, Sumb**	**6.69**	**271**	P	**Pn**	**19 17 54.6**	**-1.0**
	81nm,0.5s						
SAUI	**Saumlaki**	**7.62**	**84**	P	**Pn**	**19 18 11.7**	**+3.5**
SAUI	**Saumlaki**	**7.62**	**84**	*e*Pn	**Pn**	**19 18 12.0**	**+3.8**
SAUI				*e*Sn	**Sn**	**19 19 31.1**	**-1.8**
LUWI	**Luwuk**	**7.83**	**354**	*e*Pn	**Pn**	**19 18 14.0**	**+2.9**
LUWI				*e*Sn	**Sn**	**19 19 36.2**	**-1.9**
MTN	**Manton Dam**	**8.34**	**119**	*e*Pn	**Pn**	**19 18 21.2**	**+3.2**
MTN				*e*Sn	**Sn**	**19 19 51.1**	**+0.5**
FITZ	**Fitzroy Crossi**	**9.38**	**168**	P	**Pn**	**19 18 32.4**	**+0.3**
	16nm,0.3s,baz=4.9,slow=10.0,SNR=405						
FITZ				S	**Sn**	**19 20 14.0**	**-1.8**
	9.8nm,0.3s,baz=136,slow=8.1,SNR=12						
FITZ				LR	LR	19 22 38.4	
	comp=Z,46nm,20.0s,baz=52,slow=40						
FITZ	**Fitzroy Crossi**	**9.38**	**168**	*e*Pn	**Pn**	**19 18 32.5**	**+0.4**
FITZ				*e*Sn	**Sn**	**19 20 11.1**	**-4.7**
JAGI	**Jajag, Banyuwa**	**9.40**	**272**	P	**Pn**	**19 18 28.5**	**-4.0**
JAGI	**Jajag, Banyuwa**	**9.40**	**272**	*e*Pn	Pn	19 18 27.4	-5.1
JAGI				*e*Sn	Sn	19 20 02.8	-14
FAKI	**Fak Fak**	**10.39**	**56**	*e*Pn	**Pn**	**19 18 48.9**	**+2.9**
PWJI	**Pagerwojo**	**11.75**	**273**	P	**Pn**	**19 19 02.0**	**-2.3**
MBWA	**Marble Bar**	**12.79**	**197**	*e*Pn	**Pn**	**19 19 15.4**	**-2.7**
UGM	**Wanagama**	**13.03**	**273**	P	**Pn**	**19 19 20.3**	**-0.9**
UGM	**Wanagama**	**13.03**	**273**	*e*Pn	Pn	19 19 15.2	-6.0
MYLDM	**Lahad Datu**	**14.87**	**340**	*e*Pn	**Pn**	**19 19 45.3**	**+0.2**
WRA	**Warramunga Arr**	**15.10**	**138**	P	**Pn**	**19 19 48.9**	**+1.0**
	0.7nm,0.3s,baz=315,slow=12,SNR=50						
WRA				S	Sn	19 22 26.1	-8.6
	1.3nm,0.3s,baz=308,slow=22,SNR=5.2						
WRAB	**Tennant Creek**	**15.10**	**138**	*e*Pn	**Pn**	**19 19 48.3**	**+0.4**
	45nm,1.5s						
WRAB				*e*Sn	Sn	19 22 26.8	-7.9
WB2	**Warramunga Arr**	**15.11**	**138**	*e*Pn	**Pn**	**19 19 47.9**	**-0.1**
	15nm,1.2s						
AS31	**Alice Springs**	**17.68**	**148**	*e*P	**Pn**	**19 20 22.7**	**+2.8**
	3.7nm,0.8s						
ASAR	**Alice Springs**	**17.68**	**148**	P	**Pn**	**19 20 21.9**	**+2.1**
	1.1nm,0.3s,baz=326,slow=14,SNR=100						
ASAR				S	**Sn**	**19 23 30.7**	**-6.4**
	0.4nm,0.3s,baz=322,slow=23,SNR=8.2						
AS01	**Alice Springs**	**17.71**	**147**	*e*P	**Pn**	**19 20 23.1**	**+2.9**
COEN	**Coen**	**19.79**	**107**	*e*P	**P**	**19 20 44.0**	**+1.6**
	87nm,2.0s						
COEN				*e*S	**S**	**19 24 14.3**	**-5.9**
FORT	**Forrest**	**22.18**	**170**	*e*P	**P**	**19 21 06.7**	**-1.2**
	208nm,0.7s						
PMG	**Port Moresby**	**23.21**	**93**	*e*P	**P**	**19 21 17.9**	**-0.5**
	125nm,1.9s						
CTAO	**Charters Tower**	**24.52**	**120**	*e*P	**P**	**19 21 30.7**	**+0.4**
	65nm,1.7s						
MANU	**Manus Island**	**24.55**	**75**	*e*P	**P**	**19 21 32.9**	**+2.3**
	170nm,1.9s						
NWAO	**Narrogin (SRO)**	**24.66**	**193**	P	**P**	**19 21 31.9**	**+0.6**
	7.6nm,0.4s,baz=258,slow=9.2,SNR=11						
NWAO	**Narrogin (SRO)**	**24.66**	**193**	*e*P	**P**	**19 21 30.2**	**-1.1**
	185nm,1.9s						
BBOO	**Buckleboo**	**26.44**	**156**	*e*P	**P**	**19 21 49.4**	**+1.9**
	64nm,1.8s						
STKA	**Stephens Creek**	**28.32**	**146**	P	**P**	**19 22 07.0**	**+2.8**
	1.5nm,0.4s,baz=332,slow=8.2,SNR=8.1						
STKA	**Stephens Creek**	**28.32**	**146**	*e*P	**P**	**19 22 07.0**	**+2.8**
	5.5nm,1.8s						
SSLB	**Suanglung**	**32.57**	**355**	*e*P	**P**	**19 22 42.1**	**+0.3**
	52nm,1.6s						
NACB	**Ninganchiao**	**32.91**	**357**	*e*P	**P**	**19 22 45.5**	**+0.8**
	16nm,0.9s						
CM01	**Chiang Mai Arr**	**36.46**	**318**	*e*P	**P**	**19 23 14.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**36.50**	**318**	P	**P**	**19 23 13.8**	**-1.9**
	0.4nm,0.6s,baz=138,slow=6.9,SNR=5.3						
CHTO	**Chiang Mai**	**36.75**	**319**	*e*P	**P**	**19 23 15.3**	**-2.6**
	13nm,1.8s						
GYA	**Guiyang**	**38.80**	**335**	*e*P	**P**	**19 23 35.5**	**+0.3**
GYA				PMZ			
	10.0nm,1.0s						
KMI	**Kunming**	**39.46**	**329**	P	**P**	**19 23 40.8**	**0.0**
KMI				PMZ			
	4.0nm,0.9s						
KMI				PMZ			
	140nm,4.9s						
TAU	**Tasmania Unive**	**39.74**	**153**	*e*P	**P**	**19 23 42.6**	**-0.1**
	47nm,1.3s						
ENH	**Enshi**	**41.23**	**341**	*e*pP	pP	19 24 15.7	-2.6
MJAR	**Matsushiro Arr**	**47.20**	**16**	P	**P**	**19 24 40.1**	**-2.6**
	1.0nm,0.7s,baz=192,slow=8.9,SNR=3.2						
LZH	**Lanzhou**	**48.45**	**338**	⇓P	**P**	**19 24 52.0**	**-0.5**
LZH				pP	pP	19 25 21.0	+4.7
LZH				sP	sP	19 25 35.5	+7.9
LZH				PP	**PP**	**19 26 46.3**	**+0.1**
LZH				*e*S	**S**	**19 31 47.0**	**+0.9**
LZH				sS	sS	19 32 35.0	+8.0
LZH				SS	**SS**	**19 35 11.3**	**-6.1**
LZH				PMZ			
	32nm,1.2s						
LZH				PMZ			
	150nm,4.5s						
HHC	**Hu-ho-hao-te**	**50.71**	**348**	*e*P	**P**	**19 25 12.5**	**+3.0**
HHC				PMZ			
	19nm,1.0s						
HHC				PMZ			
	58nm,7.6s						
CN2	**Changchun**	**52.45**	**2**	*e*P	**P**	**19 25 25.5**	**+3.3**
CN2				PMZ			
	10.0nm,0.5s						
SONM	**Songino Array**	**58.49**	**346**	P	**P**	**19 26 03.5**	**-2.2**
	0.2nm,0.4s,baz=168,slow=7.4,SNR=3.3						
KSH	**Kashi**	**65.32**	**321**	*e*P	**P**	**19 26 52.3**	**+0.7**
KSH				pP	PcP	19 27 23.5	+0.4
KSH				PP	**PP**	**19 29 19.5**	**+2.8**
KSH				S	**S**	**19 35 24.0**	**-3.8**
KSH				ScS	**SKSac**	**19 36 31.0**	**-6.7**
KSH				SS	**SS**	**19 39 42.5**	**-0.4**
KSH				PMZ			
	3.0nm,0.6s						
KSH				PMZ			
	74nm,3.6s						
KSH				LN			
	100nm,5.4s						
KSH				LE			
	85nm,5.3s						
MK01	**Makanchi Array**	**66.51**	**330**	*e*P	**P**	**19 26 56.8**	**-2.1**
MKAR	**Makanchi Array**	**66.53**	**330**	P	**P**	**19 26 57.0**	**-2.1**
	1.0nm,0.7s,baz=137,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	**70.64**	**337**	P	**P**	**19 27 21.3**	**-3.1**
	0.8nm,0.7s,baz=126,slow=2.0,SNR=2.7						
MAW	**Mawson**	**70.95**	**201**	P	**P**	**19 27 26.9**	**+0.8**
	1.5nm,0.9s,baz=74,slow=7.4,SNR=3.8						
VNDA	**Vanda**	**71.43**	**172**	P	**P**	**19 27 30.6**	**+1.8**
	0.8nm,0.5s,baz=314,slow=8.3,SNR=7.3						
QSPA	**South Pole Qui**	**81.12**	**180**	*e*P	**P**	**19 28 25.8**	**+1.8**
ILAR	**Eielson Array**	**97.73**	**26**	LR	LR	20 15 52.2	
	comp=Z,11nm,19.9s,baz=260,slow=37						

*DDA **28** 19:19:25.9,40°.60N×29°.06E,h12km,Md2.5*
*CSEM **28** 19:19:26.4±0.1,40°.62N×29°.08E,h2km,ML2.6,Error*
ellipse: s-maj=2.2km s-min=1.9km az=4.0
*ISK **28** 19:19:26.0,40°.63N×29°.08E,h5km,ML2.6*
ISC 28 19:19:26.4±0.9,40°.62N±0°.02×29°.07E±0°.02,h8km±7km,
n63,σ0s61/82,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMT	**Armutlu**	**0.17**	**251**	*e*PG	**Pg**	**19 19 29.5**	**-0.4**
ARMT				*e*SG	**Sg**	**19 19 33.2**	**+0.9**
ARMT	**Armutlu**	**0.17**	**251**	*e*Pg	**Pg**	**19 19 29.5**	**-0.4**
ARMT				*e*Sg	**Sg**	**19 19 33.2**	**+0.9**
GEMT	**Gemlik**	**0.21**	**154**	*e*PG	**Pg**	**19 19 30.7**	**+0.1**
GEMT	**Gemlik**	**0.21**	**154**	*e*Pg	**Pg**	**19 19 30.7**	**+0.1**
BUY	**Buyukada**	**0.23**	**9**	P	**Pg**	**19 19 30.9**	**-0.2**
BUY	**Buyukada**	**0.23**	**9**	*i*P	**Pg**	**19 19 30.9**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.29**	**209**	*e*PG	**Pg**	**19 19 32.1**	**0.0**
MDNY	**Mudanya-Bursa**	**0.29**	**209**	*e*Pg	**Pg**	**19 19 32.1**	**0.0**
IGD	**Bursa**	**0.37**	**164**	*i*P	**Pg**	**19 19 32.5**	**-1.1**
IGD				*i*S	**Sg**	**19 19 37.8**	**-0.8**
IZI	**Iznik**	**0.42**	**133**	*e*PG	**Pg**	**19 19 34.4**	**-0.2**
IZI	**Iznik**	**0.42**	**133**	*e*Pg	**Pg**	**19 19 34.4**	**-0.2**
ISK	**Istanbul-Kandi**	**0.44**	**359**	*e*PG	**Pg**	**19 19 34.5**	**-0.5**
ISK				*e*SG	**Sg**	**19 19 41.6**	**+0.7**
ISK	**Istanbul-Kandi**	**0.44**	**359**	*e*Pg	**Pg**	**19 19 34.5**	**-0.5**
ISK				*e*Sg	**Sg**	**19 19 41.6**	**+0.7**
HRT	**Hereke**	**0.50**	**66**	*e*PG	**Pg**	**19 19 35.7**	**-0.3**
HRT				*e*SG	**Sg**	**19 19 42.7**	**+0.1**
HRT	**Hereke**	**0.50**	**66**	*e*Pg	**Pg**	**19 19 35.7**	**-0.3**
HRT				*e*Sg	**Sg**	**19 19 42.7**	**+0.1**
ADVT	**Abdulvahap**	**0.54**	**110**	*e*PG	**Pb**	**19 19 37.1**	**-1.0**
ADVT	**Abdulvahap**	**0.54**	**110**	*e*Pg	**Pb**	**19 19 37.1**	**-1.0**
BGKT	**Bogazkoy**	**0.60**	**338**	*e*PG	**Pg**	**19 19 37.3**	**-0.7**
BGKT				*e*SG	**Sg**	**19 19 45.7**	**-0.2**
BGKT	**Bogazkoy**	**0.60**	**338**	*e*Pg	**Pg**	**19 19 37.3**	**-0.7**
BGKT				*e*Sg	**Sg**	**19 19 45.7**	**-0.2**
KLYT	**Kilyos**	**0.63**	**358**	*e*PG	**Pg**	**19 19 38.7**	**+0.2**
KLYT	**Kilyos**	**0.63**	**358**	*e*Pg	**Pg**	**19 19 38.7**	**+0.2**
KCTX	**Karacabey (Bur**	**0.65**	**237**	*e*PG	**Pg**	**19 19 38.6**	**-0.3**
KCTX	**Karacabey (Bur**	**0.65**	**237**	*e*Pg	**Pg**	**19 19 38.6**	**-0.3**
ELBA	**Catalca**	**0.71**	**318**	P	**Pb**	**19 19 40.8**	**-0.2**
ELBA				S	**Sg**	**19 19 49.1**	**-0.3**
ELBA	**Catalca**	**0.71**	**318**	*i*P	**Pb**	**19 19 40.8**	**-0.2**
ELBA				*i*S	**Sg**	**19 19 49.1**	**-0.3**
CAVI	**Cavuskoy**	**0.72**	**125**	*e*PG	**Pb**	**19 19 40.6**	**-0.6**
CAVI	**Cavuskoy**	**0.72**	**125**	*e*Pg	**Pb**	**19 19 40.6**	**-0.6**
CTKS	**Kestanelik-??a**	**0.75**	**325**	*e*PG	**Pb**	**19 19 41.7**	**+0.1**
CTKS	**Kestanelik-??a**	**0.75**	**325**	*e*Pg	**Pb**	**19 19 41.7**	**+0.1**
EDC	**Edincik**	**0.96**	**254**	*e*PG	**Pb**	**19 19 45.1**	**-0.1**
EDC	**Edincik**	**0.96**	**254**	*e*Pg	**Pb**	**19 19 45.1**	**-0.1**
KAND	**Kocaeli-Kandir**	**0.97**	**61**	P	**Pg**	**19 19 44.6**	**-0.5**
KAND				S	**Sg**	**19 19 57.1**	**-0.6**
KAND	**Kocaeli-Kandir**	**0.97**	**61**	*i*P	**Pg**	**19 19 44.6**	**-0.5**
KAND				*i*S	**Sg**	**19 19 57.1**	**-0.6**
GULT	**Gulveren**	**1.12**	**99**	*e*PN	**Pb**	**19 19 48.0**	**+0.1**
GULT	**Gulveren**	**1.12**	**99**	*e*Pn	**Pb**	**19 19 48.0**	**+0.1**
MRMT	**Marmara Adasi**	**1.12**	**270**	*e*PN	**Pn**	**19 19 48.6**	**+0.2**
MRMT	**Marmara Adasi**	**1.12**	**270**	*e*Pn	**Pn**	**19 19 48.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.20**	**242**	*e*PN	**Pn**	**19 19 49.9**	**+0.5**
GONE	**Gonen-Balikesi**	**1.20**	**242**	*e*Pn	**Pn**	**19 19 49.9**	**+0.5**
TVSB	**Tavsanli**	**1.21**	**165**	*e*PN	**Pn**	**19 19 49.7**	**+0.1**
TVSB	**Tavsanli**	**1.21**	**165**	*e*Pn	**Pn**	**19 19 49.7**	**+0.1**
BORA	**Eskisehir**	**1.29**	**124**	P	**Pb**	**19 19 50.7**	**-0.2**
BORA				S	**Sn**	**19 20 08.1**	**-0.2**
BORA	**Eskisehir**	**1.29**	**124**	*i*P	**Pb**	**19 19 50.7**	**-0.2**
BORA				*i*S	**Sn**	**19 20 08.1**	**-0.2**
BALB	**Balikesir**	**1.34**	**223**	*e*PN	**Pg**	**19 19 52.0**	**0.0**
BALB	**Balikesir**	**1.34**	**223**	*e*Pn	**Pg**	**19 19 52.0**	**0.0**
KRBG	**Karabiga-Canak**	**1.37**	**261**	*e*PN	**Pg**	**19 19 52.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.37**	**261**	*e*Pn	**Pg**	**19 19 52.8**	**+0.2**
SAHE	**Sakarya_HENDEK**	**1.38**	**80**	P	**Pg**	**19 19 52.4**	**-0.3**
SAHE				S	**Sn**	**19 20 12.0**	**+1.8**
SAHE	**Sakarya_HENDEK**	**1.38**	**80**	*i*P	**Pg**	**19 19 52.4**	**-0.3**
SAHE				*i*S	**Sn**	**19 20 12.0**	**+1.8**
BALY	**Balya**	**1.42**	**232**	P	**Pn**	**19 19 51.8**	**-0.6**
BALY				S	**Sg**	**19 20 11.8**	**-0.1**
BALY	**Balya**	**1.42**	**232**	*i*P	**Pn**	**19 19 51.8**	**-0.6**
BALY				*i*S	**Sg**	**19 20 11.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.44**	**273**	*e*PN	**Pg**	**19 19 53.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.44**	**273**	*e*Pn	**Pg**	**19 19 53.9**	**-0.1**
MDUB	**Mudurnu**	**1.63**	**95**	*e*PN	**Pb**	**19 19 56.6**	**-0.1**
MDUB	**Mudurnu**	**1.63**	**95**	*e*Pn	**Pb**	**19 19 56.6**	**-0.1**
ERIK	**Erikli-Kesan**	**1.94**	**272**	*e*PN	**Pb**	**19 20 01.1**	**-0.9**
ERIK	**Erikli-Kesan**	**1.94**	**272**	*e*Pn	**Pb**	**19 20 01.1**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.99**	**264**	*e*PN	**Pb**	**19 20 01.6**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.99**	**264**	*e*Pn	**Pb**	**19 20 01.7**	**-1.1**
KULA	**Kula-Manisa**	**2.13**	**189**	*e*PN	**Pn**	**19 20 03.3**	**+1.1**
KULA	**Kula-Manisa**	**2.13**	**189**	*e*Pn	**Pn**	**19 20 03.3**	**+1.1**
EDRB	**Edirne**	**2.14**	**306**	*e*PN	**Pb**	**19 20 04.0**	**-1.3**
EDRB	**Edirne**	**2.14**	**306**	*e*Pn	**Pb**	**19 20 04.0**	**-1.3**

*ISCJB **28** 19:28:07.6±0.7,37°.78N±0°.04×29°.14E±0°.07,h7km±7km,*
Error ellipse: s-maj=10.0km s-min=6.0km az=161.0
*DDA **28** 19:28:07.1,37°.78N×29°.11E,h7km,Md2.8*
*CSEM **28** 19:28:07.6±0.2,37°.75N×29°.15E,h2km,MD2.5,Error*
ellipse: s-maj=4.7km s-min=4.4km az=58.0
*ISK **28** 19:28:07.2,37°.77N×29°.15E,h7km,MD2.5*
ISC 28 19:28:07.4±1.1,37°.80N±0°.05×29°.15E±0°.05,h7km±8km,
n14,σ0s45/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.10**	**243**	*e*PG	**Pg**	**19 28 09.1**	**-0.6**
DENT				*e*SG	**Sg**	**19 28 12.2**	**+0.9**
DENT	**Denizli**	**0.10**	**243**	*e*Pg	**Pg**	**19 28 09.1**	**-0.6**
DENT				*e*Sg	**Sg**	**19 28 12.2**	**+0.9**
DNZL	**Cakiroluk**	**0.13**	**216**	P	**Pg**	**19 28 10.1**	**-0.2**
DNZL				S	**Sg**	**19 28 11.9**	**-0.4**
DNZL	**Cakiroluk**	**0.13**	**216**	*i*P	**Pg**	**19 28 10.1**	**-0.2**
DNZL				*i*S	**Sg**	**19 28 11.9**	**-0.4**
KHL	**Karahalli**	**0.60**	**30**	*e*PG	**Pb**	**19 28 20.4**	**+0.1**
KHL	**Karahalli**	**0.60**	**30**	*e*Pg	**Pb**	**19 28 20.4**	**+0.1**
GOLH	**Golhisar**	**0.65**	**149**	P	**Pg**	**19 28 19.6**	**-0.3**
GOLH				S	**Sb**	**19 28 31.0**	**+0.5**
GOLH	**Golhisar**	**0.65**	**149**	*i*P	**Pg**	**19 28 19.6**	**-0.3**
GOLH				*i*S	**Sb**	**19 28 30.9**	**+0.5**
KULA	**Kula-Manisa**	**0.81**	**332**	*e*PG	**Pb**	**19 28 24.0**	**+0.1**
KULA				*e*SG	**Sb**	**19 28 35.1**	**0.0**
KULA	**Kula-Manisa**	**0.81**	**332**	*e*Pg	**Pb**	**19 28 24.0**	**+0.1**
KULA				*e*Sg	**Sb**	**19 28 35.1**	**0.0**
YER	**Yerkesik**	**0.95**	**226**	*e*PG	**Pg**	**19 28 25.5**	**-0.2**
YER	**Yerkesik**	**0.95**	**226**	*e*Pg	**Pg**	**19 28 25.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**279**	*e*PG	**Pg**	**19 28 26.6**	**0.0**
AYDB				*e*SG	**Sn**	**19 28 42.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**279**	*e*Pg	**Pg**	**19 28 26.6**	**0.0**
AYDB				*e*Sg	**Sn**	**19 28 42.1**	**-0.4**

*IDC **28** 19:52:49.7±0.8,5°.51S×104°.10E,h0km,mb4.1/15,*
mb1 4.1/15,mb1mx4.0/38,mbtmp4.1/15,Error ellipse:
s-maj=34.4km s-min=13.9km az=52.0
*NEIC **28** 19:53:00.8±0.6,5°.57S×104°.15E,h92km±6km,mb4.5/18,*
Error ellipse: s-maj=10.1km s-min=4.8km az=46.0
*ISCJB **28** 19:53:02.7±0.5,5°.53S±0°.06×104°.29E±0°.06,h126km±3km,*
mb4.3/30,Error ellipse: s-maj=14.1km s-min=4.5km
az=43.9
*DJA **28** 19:53:03.8±0.3,6°.S±4°×10°.4E±°,h98km±4km,M4.7/16,*
mB5.6/2,mb4.8/4,MLv4.6/16,Mw(mB)5.1/2
ISC 28 19:53:02.3±0.7,5°.69S±0°.07×104°.16E±0°.06,h110km±6km,
n85,σ1s38/88,mb4.2/30,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.37**	**64**	P	**Pn**	**19 53 19.4**	**+1.0**
KASI				S	**Sn**	**19 53 31.4**	**+0.9**
LWLI	**Liwa**	**0.67**	**351**	P	**Pn**	**19 53 22.1**	**+1.5**
LWLI				S	**Sn**	**19 53 36.0**	**+1.7**
BLSI	**Bandar Lampung**	**1.12**	**74**	P	**Pn**	**19 53 26.1**	**+1.3**
BLSI				S	**Sn**	**19 53 41.8**	**-0.1**
CGJI	**Cibinong**	**1.78**	**121**	P	**Pn**	**19 53 33.6**	**+1.1**
LHSI	**Lahat**	**1.95**	**341**	P	**Pn**	**19 53 37.1**	**+2.4**
TNG	**Tangerang**	**2.52**	**101**	P	**Pn**	**19 53 44.4**	**+2.4**
DBJI	**Dramaga**	**2.71**	**109**	P	**Pn**	**19 53 46.4**	**+1.8**
SKJI	**Sukabumi**	**2.72**	**119**	P	**Pn**	**19 53 46.5**	**+1.9**
SKJI				S	**Sn**	**19 54 17.6**	**+0.5**
CBJI	**Citeko**	**2.77**	**105**	P	**Pn**	**19 53 49.3**	**+4.0**
PMBI	**Palembang**	**2.81**	**13**	P	**Pn**	**19 53 47.1**	**+

MK01	**Makanchi Array**	**55.71**	**342**	*e*P	**P**	**20 02 26.8**	**-0.6**
MK31	**Makanchi Array**	**55.74**	**342**	*e*P	**P**	**20 02 28.0**	**+0.5**
MK32	**Makanchi Array**	**55.74**	**342**	*e*P	**P**	**20 02 27.4**	**-0.1**
MKAR	**Makanchi Array**	**55.74**	**342**	P	**P**	**20 02 27.4**	**-0.1**
	1.4nm,0.4s,baz=150,slow=9.2,SNR=29						
MKAR	**Makanchi Array**	**55.74**	**342**	*e*P	**P**	**20 02 27.9**	**+0.4**
ASAJ	**Asahikawa**	**60.45**	**31**	*e*P	**P**	**20 03 00.1**	**-0.3**
	61nm,1.6s						
GEYT	**Allbeck**	**60.92**	**319**	P	**P**	**20 03 03.7**	**-0.1**
	1.1nm,0.8s,baz=131,slow=4.2,SNR=3.5						
ZAA0	**Zalesovo Array**	**61.60**	**347**	*e*P	**P**	**20 03 07.0**	**-0.9**
ZALV	**Zalesovo Beam**	**61.60**	**347**	P	**P**	**20 03 07.1**	**-0.9**
	2.6nm,0.3s,baz=151,slow=5.8,SNR=24						
ZAA1	**Zalesovo Array**	**61.60**	**347**	*e*P	**P**	**20 03 07.1**	**-0.9**
VOSK	**Vostochnaya**	**64.63**	**338**	*e*P	**P**	**20 03 26.9**	**-1.2**
	9.9nm,2.0s						
ZRNK	**Zerenda**	**65.55**	**337**	*e*P	**P**	**20 03 33.5**	**-0.5**
	1.5nm,0.6s						
ABKAR	**Akbulak array**	**66.86**	**330**	*e*P	**P**	**20 03 42.3**	**-0.1**
ARU	**Arti**	**72.24**	**335**	*e*P	**P**	**20 04 15.2**	**-0.2**
	14nm,1.7s						
BR101	**Keskin Array S**	**78.86**	**312**	*e*P	**P**	**20 04 54.3**	**+0.6**
BRTR	**Keskin Array B**	**78.86**	**312**	P	**P**	**20 04 54.3**	**+0.6**
	1.0nm,0.8s,baz=136,slow=6.2,SNR=5.2						
BUR08	**Bucovina Ar. S**	**86.77**	**318**	*e*P	**P**	**20 05 36.9**	**+2.5**
FIA0	**FINESS Array S**	**89.29**	**332**	*e*P	**P**	**20 05 46.9**	**+1.1**
FINES	**FINESS Array B**	**89.29**	**332**	P	**P**	**20 05 46.9**	**+1.1**
	0.6nm,0.4s,baz=107,slow=4.7,SNR=15						
ARA0	**ARCESS Array S**	**91.33**	**340**	*e*P	**P**	**20 05 56.1**	**+0.9**
ARCES	**ARCESS Array B**	**91.33**	**340**	P	**P**	**20 05 56.1**	**+0.9**
	1.7nm,1.0s,baz=115,slow=4.1,SNR=4.5						
TXAR	**Lajitas Array**	**144.73**	**45**	PKP	**PKPdf**	**20 12 27.3**	**+0.3**
	1.9nm,0.6s,baz=279,slow=1.4,SNR=22						

*ISCJB **28** 20:02:33.4±0.2,59°.79N×0°.02×154°.15W±0°.05, h175km±2km, mb3.6/5, Error ellipse: s-maj=4.9km s-min=3.1km az=35.9*

*NEIC **28** 20:02:34.8,59°.72N×154°.13W,h176km,MG3.7(AEIC), After AEIC.*

*IDC **28** 20:02:35.6±5.8, 60°.04N×154°.15W, h168km±52km, mb3.3/5, mb1 3.6/7, mb1mx3.2/37, mbtmp3.9/7, Error ellipse: s-maj=50.1km s-min=21.2km az=22.0*

ISC 28 20:02:34.6±0.7,59°.80N±0°.04×154°.14W±0°.04, h173km±5km, n119, σ1°28/141, mb3.7/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.48**	**108**	*e*Pn	**Pn**	**20 02 58.5**	**0.0**
AUL	**Augustine Lava**	**0.55**	**140**	P	**Pn**	**20 02 59.0**	**+0.2**
AUL				S	**Sn**	**20 03 17.2**	**-0.1**
ILS	**Iliamna Low So**	**0.56**	**74**	P	**Pn**	**20 02 59.1**	**+0.2**
ILW	**Iliamna West**	**0.57**	**62**	*e*Pn	**Pn**	**20 02 58.8**	**-0.2**
AUE	**Augustine Isla**	**0.59**	**139**	*e*Pn	**Pn**	**20 02 59.1**	**+0.1**
AUI	**Augustine Isla**	**0.59**	**142**	P	**Pn**	**20 02 59.1**	**+0.1**
AUI				S	**Sn**	**20 03 17.1**	**-0.6**
AUSE	**Augustine SEas**	**0.60**	**141**	P	**Pn**	**20 02 59.1**	**+0.1**
INE	**Iliamna NE**	**0.60**	**64**	P	**Pn**	**20 02 58.8**	**-0.4**
MCNL	**McNeil River**	**0.63**	**189**	P	**Pn**	**20 02 58.5**	**-0.7**
MCNL				S	**Sn**	**20 03 16.7**	**-1.3**
ILIM	**Iliamna**	**0.65**	**64**	*e*Pn	**Pn**	**20 02 59.5**	**+0.2**
CDD	**Cape Douglas**	**0.91**	**164**	P	**Pn**	**20 03 00.2**	**-0.8**
RED	**Redoubt Volcan**	**0.92**	**47**	P	**Pn**	**20 03 01.0**	**-0.1**
RED				S	**Sn**	**20 03 21.9**	**+0.4**
RDWB	**Redoubt West**	**0.94**	**43**	P	**Pn**	**20 03 01.2**	**-0.1**
RDWB				S	**Sn**	**20 03 21.6**	**-0.3**
RSO	**Redoubt South**	**0.96**	**46**	*e*Pn	**Pn**	**20 03 01.3**	**-0.2**
RSO				*e*Sn	**Sn**	**20 03 20.8**	**-1.4**
NCT	**North Crescent**	**0.97**	**38**	*e*Pn	**Pn**	**20 03 01.6**	**+0.2**
FOSS	**Fourpeaked Sta**	**1.03**	**167**	*e*Pn	**Pn**	**20 03 01.1**	**-0.8**
RDJH	**Redoubt Jeurge**	**1.03**	**40**	P	**Pn**	**20 03 02.2**	**+0.3**
RDJH				S	**Sn**	**20 03 23.4**	**+0.3**
FOPK	**Fourpeaked Vol**	**1.10**	**162**	P	**Pn**	**20 03 01.3**	**-1.2**
KAHC	**Katmai Hardscr**	**1.24**	**201**	P	**Pn**	**20 03 02.4**	**-1.3**
HOM	**Homer**	**1.27**	**95**	*e*Pn	**Pn**	**20 03 03.9**	**+0.2**
HOM				*e*Sn	**Sn**	**20 03 24.4**	**-1.9**
BGRM	**Barrier Glacie**	**1.28**	**41**	P	**Pn**	**20 03 04.3**	**+0.3**
KAWH	**Katmai**	**1.47**	**194**	P	**Pn**	**20 03 04.3**	**-1.4**
SVW2	**Sparrevohn**	**1.48**	**332**	*e*Pn	**Pn**	**20 03 06.1**	**+0.3**
SVW2				*e*Sn	**Sn**	**20 03 30.6**	**+0.7**
CNPM	**China Poot**	**1.50**	**99**	*e*Pn	**Pn**	**20 03 05.8**	**-0.2**
CNPM				*e*Sn	**Sn**	**20 03 29.3**	**-0.8**
KVTA	**Katmai Vly 10**	**1.55**	**203**	P	**Pn**	**20 03 05.4**	**-1.0**
KAKN	**Katmai Knife C**	**1.58**	**198**	P	**Pn**	**20 03 05.6**	**-1.3**
KELA	**Mount Kelaz**	**1.60**	**212**	P	**Pn**	**20 03 05.7**	**-1.4**
BRLK	**Bradley Lake**	**1.64**	**90**	P	**Pn**	**20 03 07.1**	**-0.3**
BRLK				S	**Sn**	**20 03 31.8**	**-1.0**
KABU	**Katmai Buttres**	**1.65**	**202**	P	**Pn**	**20 03 07.2**	**-0.9**
CKL	**Chakachamna La**	**1.66**	**32**	P	**Pn**	**20 03 08.3**	**+0.7**
SPWE	**Spurr West**	**1.67**	**27**	P	**Pn**	**20 03 08.7**	**+1.0**
SPCR	**Spurr Chakacha**	**1.70**	**33**	P	**Pn**	**20 03 08.5**	**+0.6**
SPU	**Mount Spurr**	**1.73**	**36**	*e*Pn	**Pn**	**20 03 08.4**	**+0.2**
KABR	**Katmai Barrier**	**1.73**	**195**	P	**Pn**	**20 03 06.7**	**-1.6**
STLK	**Strandline Lak**	**2.04**	**33**	P	**Pn**	**20 03 12.3**	**+0.7**
SLKM	**Skilak Lake**	**2.08**	**68**	*e*Pn	**Pn**	**20 03 12.3**	**+0.2**
KDAK	**Kodiak Island**	**2.18**	**158**	*e*Pn	**Pn**	**20 03 11.2**	**-2.0**
PLK5	**Peulik 5**	**2.30**	**219**	P	**Pn**	**20 03 13.9**	**-0.6**
SUA	**Susitna One**	**2.36**	**44**	*e*Pn	**Pn**	**20 03 15.4**	**+0.1**
SEW	**Seward**	**2.38**	**81**	*e*Pn	**Pn**	**20 03 15.4**	**0.0**
SEW				*e*Sn	**Sn**	**20 03 45.7**	**-1.3**
PLK1	**Peulik 1**	**2.38**	**214**	P	**Pn**	**20 03 14.5**	**-0.9**
FIB	**Fire Island**	**2.39**	**53**	*e*Pn	**Pn**	**20 03 16.3**	**+0.8**
PLK3	**Peulik 3**	**2.39**	**209**	P	**Pn**	**20 03 14.6**	**-1.0**
PLK4	**Peulik 4**	**2.47**	**209**	P	**Pn**	**20 03 15.4**	**-1.1**
PLBL	**Peulik Blue Cr**	**2.53**	**215**	P	**Pn**	**20 03 16.5**	**-0.8**
RC01	**Rabbit Creek A**	**2.53**	**57**	*e*Pn	**Pn**	**20 03 16.8**	**-0.4**
OHAK	**Old Harbor**	**2.63**	**170**	*e*Pn	**Pn**	**20 03 15.8**	**-2.5**
PMR	**Palmer**	**3.05**	**52**	*e*Pn	**Pn**	**20 03 22.0**	**-1.4**
GHO	**Glory Hole Cre**	**3.23**	**50**	*e*Pn	**Pn**	**20 03 24.8**	**-1.0**
PPLA	**Purkeypile**	**3.24**	**16**	*e*Pn	**Pn**	**20 03 27.5**	**+1.6**
TT01	**Tatalina**	**3.24**	**345**	*e*Pn	**Pn**	**20 03 26.1**	**+0.2**
TTA	**Tatalina**	**3.27**	**345**	*e*Pn	**Pn**	**20 03 26.4**	**+0.3**
SML	**Sawmill**	**3.48**	**52**	*e*Pn	**Pn**	**20 03 27.6**	**-1.3**
ANNW	**Aniakchak Nort**	**3.56**	**219**	P	**Pn**	**20 03 29.2**	**-0.7**
ANPB	**Aniakchak Plen**	**3.72**	**218**	P	**Pn**	**20 03 30.9**	**-1.0**
CAST	**Castle Rocks**	**3.76**	**14**	*e*Pn	**Pn**	**20 03 32.7**	**+0.4**
HUR	**Hurricane**	**3.85**	**32**	*e*Pn	**Pn**	**20 03 33.5**	**+0.1**
HIN	**Hinchinbrook I**	**3.87**	**78**	*e*Pn	**Pn**	**20 03 33.7**	**-0.1**
SCM	**Sheep Creek Mo**	**3.91**	**56**	*e*Pn	**Pn**	**20 03 33.3**	**-1.0**
MID	**Middleton Isla**	**3.98**	**92**	*e*Pn	**Pn**	**20 03 34.8**	**-0.3**
KTH	**Kantishna Hill**	**4.06**	**21**	*e*Pn	**Pn**	**20 03 36.0**	**-0.2**
TRF	**Thorofare Moun**	**4.09**	**25**	*e*Pn	**Pn**	**20 03 36.5**	**-0.2**
TRF				*e*Sn	**Sn**	**20 04 24.1**	**-1.3**
CHGN	**Chignik**	**4.18**	**215**	*e*Pn	**Pn**	**20 03 35.3**	**-2.5**
CHUM	**Lake Minchumin**	**4.18**	**11**	*e*Pn	**Pn**	**20 03 38.9**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.26**	**76**	*e*Pn	**Pn**	**20 03 38.4**	**-0.3**
DIV	**Divide**	**4.35**	**69**	*e*Pn	**Pn**	**20 03 39.4**	**-0.5**
DIV				*e*Sn	**Sn**	**20 04 27.6**	**-3.4**
KLU	**Klutina**	**4.38**	**64**	*e*Pn	**Pn**	**20 03 39.7**	**-0.7**
RND	**Reindeer**	**4.41**	**33**	*e*Pn	**Pn**	**20 03 39.9**	**-0.8**
VNHG	**Veniaminof 1**	**4.48**	**219**	P	**Pn**	**20 03 40.6**	**-1.1**
VNSG	**Veniaminof 6**	**4.53**	**218**	P	**Pn**	**20 03 41.1**	**-1.3**
BPAW	**Bear Paw Mtn.**	**4.56**	**18**	*e*Pn	**Pn**	**20 03 41.1**	**-1.5**
BPAW				*e*Sn	**Sn**	**20 04 31.8**	**-4.1**
DHY	**Denali Highway**	**4.62**	**42**	*e*Pn	**Pn**	**20 03 43.0**	**-0.5**
DHY				*e*Sn	**Sn**	**20 04 34.9**	**-2.5**
MCK	**McKinley**	**4.65**	**30**	*e*Pn	**Pn**	**20 03 43.4**	**-0.4**
BMRM	**Bremner River**	**4.87**	**72**	*e*Pn	**Pn**	**20 03 46.8**	**+0.1**
BWN	**Browne**	**4.91**	**25**	*e*Pn	**Pn**	**20 03 47.2**	**+0.2**
PAX	**Paxson**	**5.24**	**49**	*e*Pn	**Pn**	**20 03 51.2**	**-0.2**
PAX				*e*Sn	**Sn**	**20 04 49.6**	**-2.0**
VRDI	**Verde Repeater**	**5.47**	**70**	P	**Pn**	**20 03 54.9**	**+0.3**
WRH	**Wood River Hil**	**5.47**	**29**	*e*Pn	**Pn**	**20 03 53.5**	**-0.9**
MLY	**Manley**	**5.48**	**15**	*e*Pn	**Pn**	**20 03 53.7**	**-0.9**
KHIT	**Khitrov Hills**	**5.48**	**79**	P	**Pn**	**20 03 54.8**	**+0.1**
CRQM	**Cirque**	**5.56**	**75**	*e*Pn	**Pn**	**20 03 56.1**	**+0.4**
SDPT	**Sand Point**	**5.62**	**220**	*e*Pn	**Pn**	**20 03 53.0**	**-3.4**
CCB	**Clear Creek Bu**	**5.69**	**29**	*e*Pn	**Pn**	**20 03 56.3**	**-1.0**
CCB				*e*Sn	**Sn**	**20 04 57.9**	**-4.3**
HDA	**Harding Lake**	**5.72**	**33**	*e*Pn	**Pn**	**20 03 56.9**	**-0.8**
HDA				*e*Sn	**Sn**	**20 05 00.2**	**-2.8**
MDM	**Murphy Dome**	**5.86**	**25**	*e*Pn	**Pn**	**20 03 58.5**	**-1.0**
COLA	**College**	**5.87**	**27**	*e*Pn	**Pn**	**20 03 58.8**	**-0.8**
COLA				*e*Sn	**Sn**	**20 05 04.0**	**-2.4**
MENT	**Mentasta**	**5.91**	**53**	*e*Pn	**Pn**	**20 04 00.3**	**0.0**
BALM	**Baldy**	**5.97**	**73**	*e*Pn	**Pn**	**20 04 02.0**	**+0.8**
ILAR	**Eielson Array**	**6.02**	**31**	P	**Pn**	**20 04 00.6**	**-1.1**
	12nm,0.3s,baz=227,slow=13,SNR=315						
ILAR				S	**Sn**	**20 05 06.0**	**-4.1**
	12nm,0.3s,baz=213,slow=16,SNR=17						
ILB	**Eielson Array**	**6.02**	**31**	*e*Pn	**Pn**	**20 04 01.0**	**-0.7**
IL1	**Eielson Array**	**6.02**	**31**	*e*Pn	**Pn**	**20 04 00.1**	**-1.5**
DOT	**Dot Lake**	**6.14**	**47**	*e*Pn	**Pn**	**20 04 02.1**	**-1.2**
IM3	**Indian Mountai**	**6.21**	**1**	P	**Pn**	**20 04 04.7**	**+0.6**
LOGN	**Logan Glacier**	**6.61**	**75**	P	**Pn**	**20 04 10.5**	**+1.0**
PCA	**Pinnacle**	**6.98**	**82**	*e*Pn	**Pn**	**20 04 14.9**	**+0.5**
PCA				*e*Sn	**Sn**	**20 05 30.9**	**-2.1**
COLD	**Coldfoot**	**7.66**	**12**	*e*Pn	**Pn**	**20 04 22.2**	**-0.9**
EGAK	**Eagle**	**7.83**	**45**	*e*Pn	**Pn**	**20 04 25.0**	**-0.5**
FYU	**Fort Yukon**	**7.88**	**27**	*e*Pn	**Pn**	**20 04 23.3**	**-2.8**
DHAK	**Deception Hill**	**8.15**	**88**	*e*Pn	**Pn**	**20 04 30.8**	**+1.0**
DAWY	**Dawson**	**8.15**	**52**	*e*Pn	**Pn**	**20 04 30.3**	**+0.5**
HYT	**Haines Junctio**	**8.32**	**76**	*e*Pn	**Pn**	**20 04 32.7**	**+0.6**
SKAG	**Skagway**	**9.53**	**84**	*e*Pn	**Pn**	**20 04 48.6**	**+0.7**
INK	**Inuvik**	**12.34**	**38**	*e*Pn	**Pn**	**20 05 24.6**	**+0.3**
DLBC	**Dease Lake**	**12.44**	**86**	*e*Pn	**Pn**	**20 05 26.4**	**+0.6**
GSTR	**Great Sitkin T**	**14.45**	**247**	*e*Pn	**Pn**	**20 05 48.1**	**-2.9**
YKA	**Yellowknife Ar**	**19.05**	**65**	P	**P**	**20 06 44.1**	**+0.8**
	0.7nm,0.3s,baz=276,slow=9.8,SNR=18						
BOZ	**Bozeman (W)**	**28.80**	**100**	*e*P	**P**	**20 08 16.8**	**+0.6**
PAHR	**Pah Rah Range**	**29.61**	**117**	*e*P	**P**	**20 08 24.4**	**+0.9**
GCMT	**Greyciiff**	**29.67**	**98**	*e*P	**P**	**20 08 24.7**	**+0.7**
FCC	**Fort Churchill**	**29.78**	**65**	*e*P	**P**	**20 08 26.5**	**+1.9**
TCUT	**Toone Canyon**	**32.24**	**106**	*e*P	**P**	**20 08 46.5**	**-0.2**
R11A	**Troy Canyon, C**	**32.44**	**114**	*e*P	**P**	**20 08 50.6**	**+2.2**
DAC	**Darwin (Calif)**	**33.23**	**119**	*e*P	**P**	**20 08 56.2**	**+0.9**
JFWS	**Jewell Farm**	**41.51**	**84**	*e*P	**P**	**20 10 04.7**	**+0.2**
TXAR	**Lajitas Array**	**45.45**	**109**	P	**P**	**20 10 37.9**	**+1.6**
	0.2nm,0.5s,baz=309,slow=5.7,SNR=2.5						
KSRS	**Korea Array**	**52.66**	**282**	P	**P**	**20 11 31.4**	**+0.7**
	0.8nm,0.5s,baz=37,slow=6.4,SNR=5.0						
SONM	**Songino Array**	**54.44**	**305**	P	**P**	**20 11 44.8**	**+1.1**
	0.7nm,0.4s,baz=49,slow=6.2,SNR=6.5						
ZALV	**Zalesovo Beam**	**57.19**	**323**	P	**P**	**20 12 03.2**	**+0.2**
	1.0nm,0.5s,baz=38,slow=5.9,SNR=5.1						
MKAR	**Makanchi Array**	**64.22**	**321**	P	**P**	**20 12 50.2**	**-0.4**
	0.2nm,0.3s,baz=48,slow=6.7,SNR=1.4						

IDC 28 20:02:55.4±6.0, 4°.51S×153°.79E, h94km±49km, mb3.6/7, mb1 3.8/8, mb1mx3.5/34, mbtmp4.0/8, MS2.4/2, Ms1 2.4/2, ms1mx2.2/32, Error ellipse: s-maj=44.0km s-min=25.1km az=88.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.83**	**129**	LR	LR	20 07 44.4	
	comp=Z,16nm,19.4s,baz=335,slow=37						
PMG	**Port Moresby**	**8.18**	**233**	P	Pn	20 04 52.2	+0.7
	2.7nm,0.3s,baz=103,slow=2.8,SNR=7.7						
PMG				S	Sn	20 06 20.4	-1.9
	1.9nm,0.3s,baz=134,slow=18,SNR=11						
PMG				LR	LR	20 08 17.0	
	comp=Z,45nm,21.6s,baz=92,slow=39						
WRA	**Warramunga Arr**	**24.37**	**229**	P	P	20 08 05.2	+0.2
	6.8nm,0.8s,baz=54,slow=10.0,SNR=48						
ASAR	**Alice Springs**	**27.03**	**223**	P	P	20 08 28.6	-0.4
	1.0nm,0.8s,baz=61,slow=10,SNR=7.7						
STKA	**Stephens Creek**	**29.53**	**201**	P	P	20 08 49.6	-1.5
	2.3nm,0.7s,baz=24,slow=15,SNR=7.4						
CMAR	**Chiang Mai Arr**	**58.65**	**295**	P	P	20 12 44.0	+0.6
	0.8nm,0.8s,baz=107,slow=6.3,SNR=4.9						
VNDA	**Vanda**	**73.08**	**178**	P	P	20 14 16.7	+1.7
	1.2nm,0.8s,baz=336,slow=8.3,SNR=4.9						
MKAR	**Makanchi Array**	**80.76**	**319**	P	P	20 14 58.6	0.0
	0.2nm,0.2s,baz=90,slow=5.8,SNR=4.4						
ILAR	**Eielson Array**	**81.53**	**22**	P	P	20 15 01.7	-0.5
	0.4nm,0.9s,baz=224,slow=7.6,SNR=3.8						
BVAR	**Borovoye Array**	**89.60**	**323**	LR	LR	20 57 28.0	
	comp=Z,67nm,19.8s,baz=74,slow=36						
TORD	**Torodi Ar. Bea**	**151.15**	**289**	PKPbc	PKPbc	20 22 38.2	-0.6
	1.6nm,0.8s,baz=82,slow=2.5,SNR=7.8						

*NIED **28** 20:13:00,39°.10N×142°.10E,h47km,Mw3.6 Best double couple: M0 2.87000×10^14 NP1:φs 171.00000°,δ19.00000°, λ58.00000°. NP2:φs 25.00000°,δ74.00000°,λ101.00000°.*

*ISCJB **28** 20:13:32.5±1.0,39°.09N±0°.05×142°.2E±0°.1, h50km±7km, mb3.6/5, Error ellipse: s-maj=15.9km s-min=5.6km az=20.6*

*JMA **28** 20:13:33.7±0.1,39°.11N×142°.12E,h46km±1km,M3.6*

JMA Felt I J1.

*IDC **28** 20:13:35.1±2.8,39°.06N×142°.25E,h67km±24km,mb3.3/5, mb1 3.4/8,mb1mx3.2/43,mbtmp3.5/8,MS2.3/1,Ms1 2.3/1, ms1mx2.0/29, Error ellipse: s-maj=32.3km s-min=17.3km az=106.0*

ISC 28 20:13:32.7±1.5,39°.05N±0°.05×142°.24E±0°.09,h40km±15km, n27, σ1°74/28, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.44**	**275**	P	**Pn**	**20 13 43.0**	**+0.3**
OFUJ				S	**Sn**	**20 13 49.5**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.62**	**329**	P	**Pn**	**20 13 44.8**	**-0.3**
MIYJ				S	**Sn**	**20 13 52.5**	**-1.4**
JMK	**Ichinoseki**	**0.80**	**264**	P	**Pn**	**20 13 47.4**	**0.0**
JMK				S	**Sn**	**20 13 57.2**	**-0.9**
JOM	**Ohasama**	**0.85**	**301**	P	**Pn**	**20 13 47.9**	**-0.2**
JOM				S	**Sn**	**20 13 58.0**	**-1.4**
JIO	**Ouri**	**0.91**	**230**	P	**Pn**	**20 13 49.4**	**+0.4**
JIO				S	**Sn**	**20 14 00.4**	**-0.5**
JTH	**Tanohata**	**0.94**	**342**	P	**Pn**	**20 13 49.1**	**-0.3**
JTH				S	**Sn**	**20 14 00.5**	**-1.1**
JRG	**Rokugo**	**1.29**	**286**	P	**Pn**	**20 13 54.1**	**-0.1**
JOU	**Okura**	**1.40**	**242**	P	**Pn**	**20 13 56.2**	**+0.4**
JANG	**Nango**	**1.44**	**338**	P	**Pn**	**20 13 56.1**	**-0.2**
JYK	**Kaneyama**	**1.47**	**266**	P	**Pn**	**20 13 56.9**	**+0.2**
MAT	**Matsushiro**	**4.05**	**233**	P	**Pn**	**20 14 35.4**	**+3.2**
MAT				eS	**Sn**	**20 15 21.5**	**+3.1**
MJAR	**Matsushiro Ar**	**4.05**	**233**	P	**Pn**	**20 14 34.9**	**+2.7**
	1.4nm,0.3s,baz=36,slow=12,SNR=20						
ASAJ	**Asahikawa**	**5.07**	**3**	P	**Pn**	**20 14 47.4**	**+1.3**
	0.5nm,0.3s,baz=198,slow=13,SNR=1.7						
ASAJ				S	**Sn**	**20 15 46.8**	**+3.3**
	0.7nm,0.3s,baz=94,slow=16,SNR=1.6						
JHJ	**Hachijo jima 2**	**6.24**	**199**	S	**Sn**	**20 16 07.9**	**-4.3**
	5.0nm,0.3s,baz=86,slow=19,SNR=2.0						
USRK	**Ussuriysk Ar.**	**9.24**	**307**	P	**Pn**	**20 15 45.7**	**+2.4**
	0.3nm,0.3s,baz=113,slow=15,SNR=5.0						
PETK	**Petropavlovsk-**	**17.63**	**32**	LR	LR	20 24 14.0	
	comp=Z,11nm,20.7s,baz=136,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	20 49 50.2	
	baz=318,slow=75,SNR=732						
H11N1	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	20 49 52.1	
	baz=318,slow=75,SNR=1243						
H11N3	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	20 49 51.5	
	baz=318,slow=75,SNR=638						
H11S1	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	20 50 46.1	
	baz=319,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**29.48**	**127**	T	T	20 50 46.3	
	baz=319,slow=76,SNR=80						
H11S2	**WAKE ISLAND Hy**	**29.50**	**127**	T	T	20 50 47.4	
	baz=319,slow=76,SNR=72						
ZALV	**Zalesovo Beam**	**41.07**	**311**	P	**P**	**20 21 11.4**	**-0.7**
	0.7nm,0.6s,baz=99,slow=8.9,SNR=3.8						
MKAR	**Makanchi Array**	**43.63**	**300**	P	**P**	**20 21 32.7**	**-0.4**
	0.5nm,0.4s,baz=90,slow=10,SNR=6.1						
ILAR	**Eielson Array**	**47.45**	**33**	P	**P**	**20 22 02.6**	**-0.5**
	0.3nm,0.6s,baz=262,slow=6.3,SNR=2.9						
BVAR	**Borovoye Array**	**49.72**	**311**	P	**P**	**20 22 20.5**	**-0.1**
	0.4nm,0.4s,baz=72,slow=6.4,SNR=2.9						
WRA	**Warramunga Arr**	**59.14**	**189**	P	**P**	**20 23 28.9**	**-0.3**
	0.2nm,0.4s,baz=5.5,slow=7.1,SNR=5.5						

*IDC **28** 20:17:54.6±1.1, 12°.55N×141°.91E, h0km, mb3.8/11, mb1 4.0/11,mb1mx3.7/46,mbtmp3.8/11,MS2.7/2, Ms1 2.7/2,ms1mx2.3/44, Error ellipse: s-maj=39.2km s-min=21.1km az=87.0*

*ISCJB **28** 20:17:57.7±0.5, 12°.46N±0°.08×141°.9E±0°.1, h33km, mb4.3/19, MS3.1/1, Error ellipse: s-maj=19.8km s-min=10.4km az=170.1*

*NEIC **28** 20:18:03.5±1.4, 12°.46N×141°.86E, h69km±13km, mb4.6/6, Error ellipse: s-maj=11.6km s-min=6.9km az=90.0*

ISC 28 20:17:59.2±0.7, 12°.5N±0°.1×142°.0E±0°.1, h33km, n27, σ0°.78/25, mb4.2/19, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.97**	**69**	LR	LR	20 20 00.5	
	comp=Z,63nm,19.3s,baz=272,slow=41						
GUMO	**Guam**	**2.97**	**69**	*e*Pn	**Pb**	**20 18 50.5**	**-0.9**
WB2	**Warramunga Arr**	**33.13**	**193**	*e*P	**P**	**20 24 32.7**	**+0.1**
	38nm,1.9s						
WR1	**Warramunga Arr**	**33.14**	**193**	*e*P	**P**	**20 24 32.5**	**-0.1**
	26nm,1.7s						
WRA	**Warramunga Arr**	**33.14**	**193**	P	**P**	**20 24 32.5**	**-0.1**
	0.9nm,0.7s,baz=14,slow=9.6,SNR=7.2						
ASAR	**Alice Springs**	**36.83**	**192**	P	**P**	**20 25 05.2**	**+0.7**
	0.2nm,0.6s,baz=23,slow=12,SNR=4.2						
CMAR	**Chiang Mai Arr**	**41.86**	**284**	P	**P**	**20 25 45.6**	**-0.9**
	0.8nm,0.7s,baz=83,slow=6.7,SNR=9.3						
SONA0	**Songino Array**	**46.05**	**327**	*e*P	**P**	**20 26 19.4**	**-0.6**
	3.3nm,1.3s						
SONM	**Songino Array**	**46.05**	**327**	P	**P**	**20 26 19.3**	**-0.6**
	0.3nm,0.6s,baz=134,slow=8.4,SNR=3.5						
MK32	**Makanchi Array**	**60.35**	**317**	*e*P	**P**	**20 28 05.6**	**+0.5**
MKAR	**Makanchi Array**	**60.35**	**317**	P	**P**	**20 28 05.6**	**+0.5**
	0.7nm,0.6s,baz=96,slow=8.7,SNR=6.4						
BFZ	**Birch Farm**	**61.69**	**151**	*e*P	**P**	**20 28 14.2**	**+0.1**
	446nm,1.9s						
KHZ	**Kahutara**	**61.86**	**154**	*e*P	**P**	**20 28 14.8**	**-0.3**
	182nm,1.5s						
KURK	**Kurchatov**	**63.63**	**321**	*e*P	**P**	**20 28 27.1**	**+0.2**
KURBB	**Kurchatov Arra**	**63.66**	**321**	P	**P**	**20 28 27.1**	**0.0**
	1.8nm,0.8s,baz=104,slow=6.5,SNR=15						
SEW	**Seward**	**68.56**	**30**	*e*P	**P**	**20 28 59.8**	**+1.4**
	53nm,1.8s						
BPAW	**Bear Paw Mtn.**	**68.83**	**26**	*e*P	**P**	**20 29 02.4**	**+2.3**
	4.7nm,0.6s						
BVAR	**Borovoye Array**	**69.05**	**322**	P	**P**	**20 29 01.7**	**+0.1**
	0.9nm,0.4s,baz=101,slow=7.6,SNR=4.4						
ZRNK	**Zerenda**	**69.87**	**322**	*e*P	**P**	**20 29 06.9**	**+0.2**
	3.0nm,1.1s						
ILAR	**Eielson Array**	**70.71**	**25**	P	**P**	**20 29 12.7**	**+1.0**
	0.5nm,0.8s,baz=251,slow=4.

ISCJB ***28*** *20:44:45.3±0.9,8.47N±0.09×127.14E±0.07,h50km, mb3.6/6,Error ellipse: s-maj=12.5km s-min=10.3km az=170.2*

IDC ***28*** *20:44:53.8±6.4,8.26N×126.63E,h106km±54km,mb3.3/6, mb1 3.4/6,mb1mx3.1/48,mbtmp3.6/6,Error ellipse: s-maj=81.9km s-min=17.9km az=66.0*

ISC 28 20:44:47.2±1.2,8.5N±0.1×127.0E±0.1,h50km,n9, σ2s57/12,mb3.6/6,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.67**	**247**	⇓*iP*	**Pn**		**20 44 56.1**	**-4.5**
BIPH				*i*S	**Sn**		**20 45 06.8**	**-3.5**
DAV	**Davao City (W)**	**1.96**	**225**	P	**Pn**		**20 45 21.3**	**+3.4**
	33nm,0.3s,baz=76,slow=4.2,SNR=1.7							
DAV				S	**Sn**		**20 45 42.1**	**+0.8**
	45nm,0.3s,baz=246,slow=21,SNR=14							
CGP	**Cagayan de Oro**	**2.27**	**270**	⇑*eP*	**Pn**		**20 45 23.7**	**+1.5**
CGP				*e*S	**Sn**		**20 45 51.9**	**+3.0**
FITZ	**Fitzroy Crossi**	**26.42**	**183**	P	**P**		**20 50 19.0**	**-0.4**
	1.3nm,0.8s,baz=13,slow=14,SNR=1.9							
WRA	**Warramunga Arr**	**29.13**	**166**	P	**P**		**20 50 45.1**	**+1.4**
	1.0nm,1.0s,baz=350,slow=10.0,SNR=5.3							
ASAR	**Alice Springs**	**32.63**	**168**	P	**P**		**20 51 14.0**	**-0.5**
	0.1nm,0.3s,baz=347,slow=7.6,SNR=3.8							
MKAR	**Makanchi Array**	**53.89**	**323**	P	**P**		**20 54 06.6**	**+1.0**
	0.4nm,0.5s,baz=110,slow=7.7,SNR=6.4							
KURBB	**Kurchatov Arra**	**57.96**	**326**	P	**P**		**20 54 34.9**	**+0.3**
	0.4nm,0.5s,baz=128,slow=5.4,SNR=5.9							
FINES	**FINESS Array B**	**87.82**	**332**	P	**P**		**20 57 29.9**	**-1.0**
	1.4nm,1.0s,baz=83,slow=4.3,SNR=6.5							

NIED ***28*** *20:48:00,36.60N×141.50E,h32km,Mw3.9 Best double couple: M0 7.39000×10^14 NP1:ϕs 11.00000°,δ20.00000°, λ-85.00000°. NP2:ϕs 186.00000°,δ70.00000°, λ-92.00000°.*

IDC ***28*** *20:48:36.1±0.8,36.59N×141.74E,h0km,mb3.9/13, mb1 4.0/17,mb1mx3.8/56,mbtmp3.9/17,ML3.7/4,MS2.9/5, Ms1 2.9/5,ms1mx2.6/41,Error ellipse: s-maj=22.3km s-min=16.1km az=95.0*

ISCJB ***28*** *20:48:38.3±0.3,36.59N±0.03×141.65E±0.04,h26km, mb4.2/23,Error ellipse: s-maj=4.3km s-min=3.8km az=23.7*

JMA ***28*** *20:48:41.9±0.1,36.61N×141.40E,h45km±2km,M4.0 JMA Felt I J1.*

NEIC ***28*** *20:48:41.8±0.5,36.60N×141.61E,h38km±4km,mb4.7/9, Error ellipse: s-maj=5.6km s-min=4.2km az=117.0*

NEIC Recorded [1 JMA] in Fukushima and Ibaraki.

ISC 28 20:48:40.3±0.6,36.60N±0.04×141.58E±0.05,h26km,n69, σ0s84/71,mb4.1/23,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.80**	**309**	P	**Pb**		**20 48 55.0**	**-0.6**
ONAJ				S	**Sb**		**20 49 05.3**	**-0.8**
JHO	**Hitachi**	**0.81**	**271**	P	**Pb**		**20 48 54.9**	**-0.9**
JHO				S	**Sb**		**20 49 04.2**	**-2.2**
JFK	**Kawauchi**	**0.95**	**324**	P	**Pn**		**20 48 57.4**	**-0.6**
JFK				S	**Sb**		**20 49 09.3**	**-1.0**
JFT	**Otama**	**1.35**	**313**	P	**Pn**		**20 49 04.1**	**+0.6**
JFT				*e*S	**Sn**		**20 49 19.0**	**-1.6**
JMM	**Marumori**	**1.41**	**334**	P	**Pn**		**20 49 04.2**	**-0.1**
JMM				S	**Sn**		**20 49 21.5**	**-0.5**
JFY	**Yanaizu**	**1.70**	**299**	P	**Pn**		**20 49 09.2**	**+0.9**
JAG	**Ashikaga**	**1.72**	**265**	P	**Pn**		**20 49 08.3**	**-0.3**
JAG				S	**Sn**		**20 49 28.5**	**-1.2**
JKT	**Katashina**	**1.88**	**276**	P	**Pn**		**20 49 11.1**	**+0.3**
MJAR	**Matsushiro Arr**	**2.71**	**270**	Pn	**Pn**		**20 49 23.1**	**+0.9**
	36nm,0.3s,baz=113,slow=10.0,SNR=281							
MJAR				Sn	**Sn**		**20 49 56.5**	**+2.2**
	24nm,0.3s,baz=68,slow=25,SNR=7.7							
MJAR				LR	LR		20 50 37.2	
	comp=Z,204nm,19.6s,baz=100,slow=43							
MAJO	**Matsushiro**	**2.71**	**270**	*e*Pn	**Pn**		**20 49 23.4**	**+1.1**
MAT	**Matsushiro**	**2.71**	**270**	P	**Pn**		**20 49 23.5**	**+1.3**
MAT				*e*S	**Sn**		**20 49 54.6**	**+0.4**
MJB9	**Matsu-Tunnel**	**2.72**	**270**	*e*Pn	**Pn**		**20 49 23.6**	**+1.3**
JHJ2	**Mitsune**	**3.77**	**203**	*e*Pn	**Pn**		**20 49 37.8**	**+1.1**
JHJ2				*e*Sn	**Sn**		**20 50 18.6**	**-1.6**
JHJ	**Hachijo jima 2**	**3.77**	**204**	Pn	**Pn**		**20 49 37.9**	**+1.1**
	27nm,0.3s,baz=136,slow=23,SNR=9.8							
JHJ				Sn	**Sn**		**20 50 18.5**	**-1.9**
	26nm,0.3s,baz=90,slow=20,SNR=7.0							
ERM	**Erimo**	**5.54**	**12**	*e*Pn	**Pn**		**20 50 01.5**	**+0.5**
ERM				*e*Sn	**Sn**		**20 51 03.2**	**-0.6**
ASAJ	**Asahikawa**	**7.55**	**6**	Pn	**Pn**		**20 50 28.1**	**-0.5**
	1.0nm,0.3s,baz=214,slow=16,SNR=13							
ASAJ				Sn	**Sn**		**20 51 52.0**	**-1.3**
	0.4nm,0.3s,baz=311,slow=19,SNR=2.0							
JNU	**Nakatsue**	**9.45**	**252**	Pn	**Pn**		**20 50 56.0**	**+1.2**
	0.3nm,0.3s,baz=201,slow=18,SNR=4.1							
JNU				LR	LR		20 54 51.8	
	comp=Z,97nm,18.8s,baz=301,slow=39							
JNU	**Nakatsue**	**9.45**	**252**	*e*Pn	**Pn**		**20 50 56.4**	**+1.6**
CBIJ	**Chichi jima**	**9.49**	**177**	*e*Pn	**Pn**		**20 50 56.0**	**+0.6**
CBIJ				*e*Sn	Sn		20 52 31.4	-10
YSS	**Yuzh-Sakhalins**	**10.38**	**4**	*e*Pn	**Pn**		**20 51 08.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.53**	**319**	Pn	Pn		20 51 16.4	+6.9
	0.3nm,0.3s,baz=134,slow=13,SNR=12							
USRK				LR	LR		20 54 53.3	
	comp=Z,60nm,19.7s,baz=103,slow=36							
KSRS	**Korea Array**	**10.95**	**279**	Pn	Pn		20 51 21.8	+6.5
	0.1nm,0.3s,baz=93,slow=14,SNR=7.0							
KSRS				LR	LR		20 55 27.8	
	comp=Z,70nm,18.5s,baz=72,slow=37							
KSAR	**Wonju Array Be**	**10.98**	**278**	Pn	Pn		20 51 21.8	+6.1
JOW	**Kunigami**	**14.92**	**233**	*e*Pn	**Pn**		**20 52 10.4**	**+0.9**
PETK	**Petropavlovsk-**	**20.00**	**29**	LR	LR		21 00 31.3	
	comp=Z,23nm,21.4s,baz=217,slow=36							
SEY	**Seymchan**	**27.19**	**11**	P	**P**		**20 54 21.8**	**+0.4**
	2.5nm,0.2s,baz=183,slow=20,SNR=5.3							
ULN	**Ulaanbaatar**	**27.71**	**305**	*e*P	**P**		**20 54 26.4**	**-0.1**
	1.9nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**27.82**	**120**	T	T		21 23 38.7	
	baz=313,slow=75,SNR=150							
H11N1	**WAKE ISLAND Hy**	**27.82**	**120**	T	T		21 23 48.6	
	baz=313,slow=75,SNR=145							
H11N3	**WAKE ISLAND Hy**	**27.83**	**120**	T	T		21 24 06.0	
	baz=313,slow=75,SNR=126							
SONA1	**Songino Array**	**28.13**	**305**	*e*P	**P**		**20 54 30.2**	**-0.1**
SONA0	**Songino Array**	**28.14**	**305**	*e*P	**P**		**20 54 30.7**	**+0.4**
	2.3nm,0.6s							
SONM	**Songino Array**	**28.14**	**305**	P	**P**		**20 54 30.7**	**+0.4**
	0.8nm,0.6s,baz=115,slow=11,SNR=5.1							
H11S1	**WAKE ISLAND Hy**	**28.52**	**122**	T	T		21 25 30.3	
	baz=314							
H11S3	**WAKE ISLAND Hy**	**28.52**	**122**	T	T		21 24 44.7	
	baz=314,slow=74							
H11S2	**WAKE ISLAND Hy**	**28.53**	**122**	T	T		21 24 53.8	
	baz=314,slow=74							
ZAA0	**Zalesovo Array**	**42.30**	**313**	*e*P	**P**		**20 56 31.3**	**-0.3**
ZAA1	**Zalesovo Array**	**42.30**	**313**	*e*P	**P**		**20 56 31.8**	**+0.2**
ZALV	**Zalesovo Beam**	**42.30**	**313**	P	**P**		**20 56 31.8**	**+0.2**
	1.3nm,0.5s,baz=97,slow=7.6,SNR=7.2							
MK01	**Makanchi Array**	**44.46**	**302**	*e*P	**P**		**20 56 49.1**	**+0.1**
MK31	**Makanchi Array**	**44.46**	**303**	*e*P	**P**		**20 56 49.6**	**+0.5**
MK32	**Makanchi Array**	**44.46**	**303**	*e*P	**P**		**20 56 49.0**	**-0.1**
MKAR	**Makanchi Array**	**44.46**	**303**	P	**P**		**20 56 49.0**	**-0.1**
	0.2nm,0.3s,baz=87,slow=9.8,SNR=4.4							
MKAR	**Makanchi Array**	**44.46**	**303**	*e*P	**P**		**20 56 49.4**	**+0.3**
TT01	**Tatalina**	**45.70**	**35**	*e*P	**P**		**20 56 59.0**	**+0.4**
KURK	**Kurchatov**	**46.30**	**308**	*e*P	**P**		**20 57 03.8**	**+0.2**
	3.0nm,0.7s							
KURBB	**Kurchatov Arra**	**46.37**	**308**	P	**P**		**20 57 04.2**	**+0.1**
	1.4nm,0.5s,baz=82,slow=7.7,SNR=23							
HOM	**Homer**	**47.74**	**39**	*e*P	**P**		**20 57 15.8**	**+1.1**
	125nm,1.2s							
BWN	**Browne**	**48.68**	**33**	*e*P	**P**		**20 57 22.5**	**+0.6**
	24nm,1.1s							
ILAR	**Eielson Array**	**49.79**	**32**	P	**P**		**20 57 30.4**	**0.0**
	0.5nm,0.6s,baz=268,slow=6.5,SNR=6.1							
BVAR	**Borovoye Array**	**50.96**	**313**	P	**P**		**20 57 40.1**	**+0.7**
	0.2nm,0.4s,baz=90,slow=12,SNR=3.2							
DOT	**Dot Lake**	**51.09**	**34**	*e*P	**P**		**20 57 39.9**	**-0.3**
	31nm,0.9s							
DHAK	**Deception Hill**	**54.61**	**39**	*e*P	**P**		**20 58 06.3**	**0.0**
	42nm,1.5s							
INK	**Inuvik**	**54.71**	**27**	*e*P	**P**		**20 58 07.3**	**+0.5**
	7.8nm,1.4s							
WR1	**Warramunga Arr**	**56.65**	**188**	*e*P	**P**		**20 58 21.0**	**-0.3**
	18nm,1.3s							
WRA	**Warramunga Arr**	**56.65**	**188**	P	**P**		**20 58 21.0**	**-0.3**
	0.7nm,0.4s,baz=5.8,slow=7.1,SNR=4.8							
ARU	**Arti**	**56.77**	**319**	*e*P	**P**		**20 58 21.3**	**-0.5**
	3.7nm,1.1s							
ABKAR	**Akbulak array**	**58.32**	**310**	*e*P	**P**		**20 58 32.1**	**-0.7**
ASAR	**Alice Springs**	**60.38**	**188**	P	**P**		**20 58 47.2**	**0.0**
	0.6nm,0.7s,baz=4.0,slow=6.8,SNR=2.8							
ARA0	**ARCESS Array S**	**64.45**	**340**	*e*P	**P**		**20 59 14.5**	**+0.6**
ARCES	**ARCESS Array B**	**64.45**	**340**	P	**P**		**20 59 14.5**	**+0.6**
	1.5nm,0.9s,baz=58,slow=7.5,SNR=3.8							
FIA1	**FINESS Array S**	**69.25**	**332**	*e*P	**P**		**20 59 45.0**	**+0.4**
FIA0	**FINESS Array S**	**69.26**	**332**	*e*P	**P**		**20 59 45.2**	**+0.6**
FINES	**FINESS Array B**	**69.26**	**332**	P	**P**		**20 59 45.2**	**+0.6**
	1.5nm,0.9s,baz=46,slow=12,SNR=3.3							
NB2	**NORSAR Subarra**	**74.64**	**337**	P	**P**		**21 00 17.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=40,slow=5.9							
NB200	**NORSAR Array S**	**74.64**	**337**	*e*P	**P**		**21 00 17.5**	**+0.6**
NOA	**NORSAR Array B**	**74.64**	**337**	P	**P**		**21 00 17.5**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=39,slow=5.7,SNR=5.1							
AKASG	**Malin Array Be**	**74.72**	**322**	P	**P**		**21 00 17.5**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=48,slow=6.2,SNR=6.6							
LPAZ	**La Paz**	**146.79**	**60**	PKPbc	**PKPdf**		**21 08 18.5**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=257,slow=1.5,SNR=5.5							

IDC ***28*** *20:48:44.3±1.2,2.29S×136.82E,h0km,mb3.9/5, mb1 4.0/6,mb1mx3.7/42,mbtmp3.8/6,ML3.4/1,MS3.2/4, Ms1 3.2/4,ms1mx2.6/29,Error ellipse: s-maj=59.9km s-min=24.3km az=90.0*

ISC 28 20:48:51.8±1.4,2.7S±0.1×136.3E±0.2,h35km,n9,σ2s06/9, mb3.7/4,MS3.1/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.27**	**186**	P	**Pn**		**20 52 48.9**	**-1.5**
	0.8nm,0.3s,baz=9.0,slow=13,SNR=32							
WRA				S	**Sn**		**20 55 58.5**	**-3.1**
	0.4nm,0.3s,baz=4.0,slow=23,SNR=6.4							
FITZ	**Fitzroy Crossi**	**18.54**	**213**	P	**Pn**		**20 53 08.2**	**+2.2**
	0.1nm,0.3s,baz=38,slow=12,SNR=2.4							
FITZ				S	**S**		**20 56 34.2**	**-1.1**
	0.2nm,0.3s,baz=211,slow=19,SNR=2.5							
ASAR	**Alice Springs**	**21.00**	**186**	P	**P**		**20 53 33.7**	**+1.4**
	2.4nm,0.5s,baz=14,slow=10,SNR=36							
ASAR				S	**S**		**20 57 26.5**	**+2.0**
	0.9nm,0.7s,baz=13,slow=22,SNR=4.5							
ASAR				LR	LR		21 02 29.0	
	comp=Z,110nm,19.0s,baz=14,slow=38							
STKA	**Stephens Creek**	**29.48**	**171**	P	**P**		**20 54 53.0**	**+0.3**
	1.0nm,0.4s,baz=350,slow=7.4,SNR=7.7							
STKA				LR	LR		21 06 32.2	
	comp=Z,107nm,20.0s,baz=21,slow=36							
JNU	**Nakatsue**	**35.96**	**352**	LR	LR		21 11 07.7	
	comp=Z,27nm,18.2s,baz=123,slow=38							
KSRS	**Korea Array**	**40.67**	**350**	LR	LR		21 10 54.0	
	comp=Z,12nm,19.8s,baz=173,slow=33							
MKAR	**Makanchi Array**	**68.28**	**323**	P	**P**		**20 59 48.1**	**-1.3**
	0.2nm,0.3s,baz=103,slow=3.1,SNR=1.6							
VNDA	**Vanda**	**76.04**	**174**	P	**P**		**21 00 35.8**	**+0.6**
	0.5nm,0.6s,baz=327,slow=7.6,SNR=5.3							
ILAR	**Eielson Array**	**86.82**	**25**	P	P		21 01 26.6	-5.8
	0.4nm,0.8s,baz=253,slow=5.5,SNR=5.2							

CSEM ***28*** *20:50:18.8±0.2,44.03N×8.61E,h10km,ML2.1/9,Error ellipse: s-maj=4.9km s-min=3.2km az=168.0*

ISCJB ***28*** *20:50:19.4±0.5,44.05N±0.04×8.62E±0.04,h24km±5km, Error ellipse: s-maj=6.6km s-min=4.3km az=164.7*

LDG ***28*** *20:50:19.3±0.3,44.07N×8.63E,h15km,Md2.5/1,Ml2.1/8, Error ellipse: s-maj=6.7km s-min=4.0km az=44.0*

ROM ***28*** *20:50:19.7±0.3,44.09N×8.58E,h9km±1km,Md2.0/10, Ml1.6/4,Error ellipse: s-maj=2.9km s-min=1.9km az=155.0*

GEN ***28*** *20:50:20.0,44.07N×8.61E,h2km,ML1.5*

ISC 28 20:50:19.0±1.0,44.05N±0.03×8.61E±0.02,h18km±4km, n46,σ1s15/88,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FINB	**Finale Ligure**	**0.24**	**302**	Pg	**Pg**		**20 50 24.6**	**0.0**
FINB				Sg	**Sg**		**20 50 28.2**	**-0.2**
FINB	**Finale Ligure**	**0.24**	**302**	Pg	**Pg**		**20 50 24.6**	**0.0**
FINB				Sg	**Sg**		**20 50 28.2**	**-0.2**
QLNO	**Quiliano**	**0.33**	**325**	Pg	**Pg**		**20 50 26.2**	**0.0**
QLNO				Sg	**Sg**		**20 50 30.9**	**-0.1**
QLNO	**Quiliano**	**0.33**	**325**	Pg	**Pg**		**20 50 26.2**	**0.0**
QLNO				Sg	**Sg**		**20 50 30.9**	**-0.1**
RORO	**Rocca Rossa**	**0.40**	**279**	Pg	**Pg**		**20 50 27.4**	**+0.2**
RORO				Sg	**Sg**		**20 50 32.8**	**0.0**
	2μm,0.1s							
RORO	**Rocca Rossa**	**0.40**	**279**	Pg	**Pg**		**20 50 27.4**	**+0.2**
RORO	**Rocca Rossa**	**0.40**	**279**	P	**Pg**		**20 50 27.7**	**+0.5**
RORO				Sg	**Sg**		**20 50 32.8**	**0.0**
	2μm,0.1s							
RORO				S	**Sb**		**20 50 33.1**	**-0.3**
PCP	**Piancastagn**	**0.49**	**355**	Pg	**Pg**		**20 50 29.0**	**0.0**
PCP				Sg	**Sg**		**20 50 35.7**	**0.0**
	12nm,0.2s							
PCP	**Piancastagn**	**0.49**	**355**	P	**Pg**		**20 50 29.0**	**0.0**
PCP				Sg	**Sg**		**20 50 35.7**	**0.0**
	12nm,0.2s							
IMI	**Imperia**	**0.54**	**255**	Pg	**Pg**		**20 50 30.1**	**+0.3**
IMI				Sg	**Sg**		**20 50 37.9**	**+0.9**
	23nm,0.2s							
IMI	**Imperia**	**0.54**	**255**	P	**Pg**		**20 50 30.0**	**+0.3**
IMI				S	**Sg**		**20 50 37.5**	**+0.5**
IMI				Sg	**Sg**		**20 50 37.9**	**+0.9**
	23nm,0.2s							
NEGI	**Seborga**	**0.69**	**253**	P	**Pb**		**20 50 33.2**	**+0.7**
NEGI				S	**Sb**		**20 50 42.4**	**+0.8**
SC2M	**Scurtabo**	**0.75**	**62**	Pg	**Pg**		**20 50 34.4**	**+0.6**
	30nm,0.4s							
SC2M	**Scurtabo**	**0.75**	**62**	P	**Pg**		**20 50 34.1**	**+0.3**
SC2M	**Scurtabo**	**0.75**	**62**	Pg	**Pg**		**20 50 34.4**	**+0.6**
	30nm,0.4s							
SC2M				S	**Sg**		**20 50 43.9**	**+0.1**
SBF	**Sospel**	**0.87**	**258**	*e*Pg	**Pb**		**20 50 36.4**	**+0.8**
SBF				*e*Sg	**Sb**		**20 50 48.2**	**+1.2**
	25nm,0.3s							
SBF	**Sospel**	**0.87**	**258**	*e*Pg	**Pb**		**20 50 36.4**	**+0.8**
SBF				*e*Sg	**Sb**		**20 50 48.2**	**+1.2**
	13nm,0.3s							
ENR	**Entracque**	**0.88**	**282**	Pg	**Pb**		**20 50 36.1**	**+0.3**
ENR				Sg	**Sb**		**20 50 48.0**	**+0.8**
ENR	**Entracque**	**0.88**	**282**	Pg	**Pb**		**20 50 36.1**	**+0.3**
ENR				S	**Sb**		**20 50 47.7**	**+0.5**
ENR				Sg	**Sb**		**20 50 48.0**	**+0.8**
STV	**Sant Anna di V**	**0.94**	**282**	Pg	**Pb**		**20 50 37.7**	**+0.8**
STV				Sg	**Sb**		**20 50 50.0**	**+0.8**
STV	**Sant Anna di V**	**0.94**	**282**	Pg	**Pb**		**20 50 37.7**	**+0.8**
STV				Sg	**Sb**		**20 50 50.0**	**+0.8**
DOI	**San Damiano**	**1.08**	**295**	Pg	**Pb**		**20 50 39.8**	**+0.5**
DOI				Sg	**Sb**		**20 50 53.6**	**+0.5**
DOI	**San Damiano**	**1.08**	**295**	Pg	**Pb**		**20 50 39.8**	**+0.5**
DOI				Sg	**Sb**		**20 50 53.6**	**+0.5**
PZZ	**Stroppo**	**1.17**	**294**	Pg	**Pb**		**20 50 41.4**	**+0.8**
PZZ				Sg	**Sb**		**20 50 56.5**	**+0.9**
PZZ	**Stroppo**	**1.17**	**294**	P	**Pn**		**20 50 41.3**	**+0.7**
PZZ				S	**Sb**		**20 50 55.9**	**+0.3**
PZZ				Sg	**Sb**		**20 50 56.5**	**+0.9**
SARO	**Sassorosso**	**1.30**	**83**	P	**Pg**		**20 50 44.1**	**0.0**
MBDF	**Montbardon**	**1.48**	**298**	*e*Pn	**Pn**		**20 50 43.2**	**-1.8**
MBDF	**Montbardon**	**1.48**	**298**	*e*Pg	**Pb**		**20 50 47.0**	**+0.9**
MBDF				*e*Sn	**Sn**		**20 51 02.5**	**-1.5**
	3.4nm,0.2s							
MBDF	**Montbardon**	**1.48**	**298**	*e*Pn	**Pn**		**20 50 43.2**	**-1.8**
MBDF	**Montbardon**	**1.48**	**298**	*e*Pg	**Pb**		**20 50 47.0**	**+0.9**
MBDF				*e*Sn	**Sn**		**20 51 02.5**	**-1.5**
	1.7nm,0.2s							
FRF	**La Foret Royal**	**1.50**	**252**	*e*Pn	**Pn**		**20 50 44.6**	**-0.5**
FRF	**La Foret Royal**	**1.50**	**252**	*e*Pg	**Pb**		**20 50 47.7**	**+1.3**
FRF				*e*Sn	**Sn**		**20 51 02.0**	**-2.3**
FRF				*e*Sg	**Sg**		**20 51 07.7**	**+0.1**
	2.7nm,0.2s							
FRF	**La Foret Royal**	**1.50**	**252**	*e*Pn	**Pn**		**20 50 44.6**	**-0.5**
FRF	**La Foret Royal**	**1.50**	**252**	*e*Pg	**Pb**		**20 50 47.7**	**+1.3**
FRF				*e*Sn	**Sn**		**20 51 02.0**	**-2.3**
FRF				*e*Sg	**Sg**		**20 51 07.7**	**+0.1**
	1.4nm,0.2s							
PGF	**Pioggiola**	**1.53**	**169**	*e*Pn	**Pn**		**20 50 45.0**	**-0.5**
PGF				*e*Sn	**Sn**		**20 51 02.6**	**-2.4**
	0.9nm,0.2s							
PGF	**Pioggiola**	**1.53**	**169**	*e*Pn	**Pn**		**20 50 45.0**	**-0.5**
PGF				*e*Sn	**Sn**		**20 51 02.6**	**-2.4**
	0.4nm,0.2s							
LMR	**La Mourre**	**1.68**	**246**	*e*Pn	**Pn**		**20 50 46.8**	**-0.8**
LMR	**La Mourre**	**1.68**	**246**	*e*Pg	**Pb**		**20 50 51.0**	**+1.5**
LMR				*e*Sn	**Sn**		**20 51 06.7**	**-2.0**
LMR				*e*Sg	**Sb**		**20 51 13.0**	**+2.7**
	1.6nm,0.2s							
LMR	**La Mourre**	**1.68**	**246**	*e*Pn	**Pn**		**20 50 46.8**	**-0.8**
LMR	**La Mourre**	**1.68**	**246**	*e*Pg	**Pb**		**20 50 51.0**	**+1.5**
LMR				*e*Sn	**Sn**		**20 51 06.7**	**-2.0**
LMR				*e*Sg	**Sb**		**20 51 13.0**	**+2.7**
	0.8nm,0.2s							
LPL	**La Plagne**	**1.98**	**318**	*e*Sg	**Sb**		**20 51 22.2**	**+3.0**
	0.7nm,0.3s							
LPL	**La Plagne**	**1.98**	**318**	*e*Sg	**Sb**		**20 51 22.2**	**+3.0**
	0.3nm,0.3s							
ORIF	**Oris-en-Rattie**	**2.14**	**295**	*e*Pg	**Pb**		**20 50 59.3**	**+2.0**
ORIF				*e*Sg	**Sg**		**20 51 27.5**	**-0.4**
	1.3nm,0.3s							
ORIF	**Oris-en-Rattie**	**2.14**	**295**	*e*Pg	**Pb**		**20 50 59.3**	**+2.0**
ORIF				*e*Sg	**Sg**		**20 51 27.5**	**-0.4**
	0.6nm,0.3s							
SMRF	**Simiane la Rot**	**2.19**	**269**	*e*Pn	**Pn**		**20 50 53.6**	**-1.0**
SMRF				*e*Sg	**Sg**		**20 51 29.4**	**-0.1**
	3.3nm,0.3s							
SMRF	**Simiane la Rot**	**2.19**	**269**	*e*Pn	**Pn**		**20 50 53.6**	**-1.0**
SMRF				*e*Sg	**Sg**		**20 51 29.4**	**-0.1**
	1.6nm,0.3s							

IDC ***28*** *20:54:09.3±1.1,55.25N×110.49E,h0km,mb3.7/5, mb1 3.9/11,mb1mx3.6/58,mbtmp3.8/11,ML3.4/5,MS2.8/5, Ms1 2.8/5,ms1mx2.4/40,Error ellipse: s-maj=24.4km s-min=15.6km az=138.0*

MOS ***28*** *20:54:09.0±0.9,55.45N×110.47E,h8km,mb3.9/5,Error ellipse: s-maj=10.9km s-min=6.5km az=68.7*

BYKL ***28*** *20:54:10.1±0.2,55.46N×110.45E*

ISC 28 20:54:09.1±1.1,55.44N±0.02×110.51E±0.02,h1km±8km, n66,σ2s67/127,mb3.8/5,8C-3D,Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.59**	**41**	⇓*iPg*	**Pg**		**20 54 20.7**	**+0.2**
KMO				Pmax			20 54 21.7	
	586nm,0.3s							
KMO				*e*Sg	**Sg**		**20 54 28.5**	**+0.4**
KMO				Smax			20 54 29.7	
	2μm,0.8s							
KMO	**Kumora**	**0.59**	**41**	⇑*iPG*	**Pg**		**20 54 20.7**	**+0.2**
KMO				*e*			20 54 28.6	
KMO				pmax	pmax			
	comp=Z,550nm,0.3s							
KMO				smax	smax			
	comp=E,2μm,1.0s							
NIZ	**Nizh Angarsk**	**0.64**	**302**	⇑*iPg*	**Pg**		**20 54 21.7**	**+0.3**
NIZ				Pmax			20 54 22.5	
	comp=E,1μm,0.2s							
NIZ				*e*Sg	**Sg**		**20 54 30.4**	**+0.7**
NIZ				Smax			20 54 40.3	
	comp=E,2μm,0.2s							
NIZ	**Nizh Angarsk**	**0.64**	**302**	⇑*iPG*	**Pg**		**20 54 21.7**	**+0.3**
NIZ				*e*			20 54 30.5	
NIZ				pmax	pmax			
	comp=Z,1μm,0.2s							
NIZ				smax	smax			
	comp=N,2μm,0.4s							
YLYR	**Ulyunkhan**	**0.68**	**146**	⇓*iPg*	**Pg**		**20 54 23.0**	**+0.8**
	comp=N,2μm,0.4s							
YLYR				⇑*iPg*	**Pg**		**20 54 23.0**	**+0.8**
YLYR	comp=N,1μm,0.4s			⇑*iPg*	**Pg**		**20 54 23.0**	**+0.8**
	comp=N,2μm,0.4s							
YLYR				Pmax			20 54 23.1	
	comp=N,2μm,0.2s							
YLYR				*e*Sg	**Sg**		**20 54 32.4**	**+1.5**

BOD smax smax
comp=E,261nm,0.7s
TRG Tyrgan 3.64 224 *e*Pn **Pn 20 55 07.6 +1.1**
TRG *e*Pg **Pb 20 55 14.9 +0.7**
TRG *e* 20 55 20.2
TRG max 20 55 20.4
comp=E,90nm,0.2s
TRG *e*Sn **Sn 20 55 47.6 -2.5**
TRG *e*Sg **Sb 20 56 02.1 +3.3**
TRG Smax 20 56 10.1
comp=E,461nm,0.5s
TRG Tyrgan 3.64 224 *e*PN **Pn 20 55 07.6 +1.1**
TRG *e* 20 55 15.6
TRG *e*S **Sn 20 55 49.7 -0.4**
TRG *e* 20 56 02.1
TRG pmax pmax
comp=Z,89nm,0.3s
TRG smax smax
comp=N,450nm,0.4s
CIT Chita 3.88 151 *e*Pn **Pn 20 55 10.5 +0.7**
CIT *e*Pg **Pb 20 55 20.2 +1.9**
CIT Pmax 20 55 24.3
comp=N,105nm,0.5s
CIT *e* 20 55 56.3
CIT *e*Sg **Sb 20 56 09.6 +3.9**
CIT Smax 20 56 17.6
comp=N,576nm,0.3s
UUDB Ulan-Yde 3.96 206 *e*Pn **Pn 20 55 12.6 +1.6**
UUDB *e*Pg **Pb 20 55 21.2 +1.5**
UUDB Pmax 20 55 25.6
comp=N,187nm,0.7s
UUDB *e*Sg **Sg 20 56 13.5 -2.8**
UUDB Smax 20 56 22.2
comp=N,689nm,1.0s
STDB Stepnoy Dvoret 4.10 219 *e*Pg **Pb 20 55 24.2 +2.2**
STDB *e*Sg **Sg 20 56 17.9 -2.7**
KAB Kabansk 4.10 216 *e*Pg **Pb 20 55 23.5 +1.5**
KAB Pmax 20 55 32.6
comp=N,74nm,0.4s
KAB *e*Sg **Sg 20 56 16.7 -3.9**
KAB Smax 20 56 36.2
comp=N,1μm,0.7s
KAB Kabansk 4.10 216 *e*PN **Pb 20 55 25.0 +3.0**
KAB *e* 20 56 17.4
KAB pmax pmax
comp=Z,78nm,0.7s
KAB smax smax
comp=N,1μm,0.8s
BGT Bolshoye Golou 4.56 224 *e*Pn **Pn 20 55 20.2 +1.1**
BGT *e*Pg **Pb 20 55 31.4 +1.6**
BGT Pmax 20 55 34.3
comp=N,45nm,0.3s
BGT *e*Sg **Sb 20 56 30.2 +5.0**
BGT Smax 20 56 38.6
comp=N,410nm,0.7s
CRS Chara 4.58 68 *e*Pg **Pb 20 55 33.6 +3.4**
CRS Pmax 20 55 48.1
comp=N,87nm,1.1s
CRS *e*Sn **Sn 20 56 11.6 -1.6**
CRS *e*Sg **Sg 20 56 32.5 -3.5**
CRS Smax 20 57 03.4
comp=N,268nm,1.4s
CRS Chara 4.58 68 *e*PN **Pb 20 55 34.0 +3.8**
CRS *e* 20 56 31.9
CRS pmax pmax
comp=Z,58nm,0.8s
CRS smax smax
comp=E,216nm,1.1s
IRK Irkutsk 4.89 232 *e*Pn **Pn 20 55 24.5 +0.8**
IRK *e*Pg **Pb 20 55 38.1 +2.6**
IRK Pmax 20 55 41.7
comp=E,118nm,0.3s
IRK *e*Sn **Sn 20 56 18.8 -2.1**
IRK *e*Sg **Sg 20 56 41.8 -4.3**
IRK Smax 20 57 48.5
comp=E,1μm,0.5s
IRK Irkutsk 4.89 232 *e*PN **Pn 20 55 24.5 +0.8**
IRK *e* 20 55 37.9
IRK *e* 20 56 40.4
IRK pmax pmax
comp=Z,130nm,0.6s
IRK smax smax
comp=E,1μm,0.5s
LSTR Listvyanka 4.92 226 *e*Pn **Pn 20 55 24.8 +0.6**
LSTR *e* 20 55 26.5
LSTR *e*Pg **Pb 20 55 37.8 +1.8**
LSTR Pmax 20 55 43.7
comp=E,21nm,0.5s
LSTR *e*Sn **Sn 20 56 20.3 -1.4**
LSTR *e*Sg **Sb 20 56 41.3 +5.6**
LSTR Smax 20 56 46.7
comp=E,197nm,1.0s
IVK Ivanovka 5.14 227 *e*Pn **Pn 20 55 27.7 +0.5**
IVK *e*Pg **Pb 20 55 42.2 +2.4**
IVK Pmax 20 55 48.3
comp=E,42nm,0.7s
IVK *e*Sn **Sn 20 56 24.2 -3.0**
IVK *e*Sg **Sb 20 56 48.0 +5.9**
IVK Smax 20 56 57.1
comp=E,282nm,0.6s
TUP Tupik 5.54 97 *e*Pn **Pn 20 55 33.5 +0.8**
TUP *e*Pg **Pb 20 55 49.6 +3.0**
TUP Pmax 20 55 50.2
comp=E,22nm,0.6s
TUP *e*Sn **Sn 20 56 34.3 -2.7**
TUP *e*Sg **Sg 20 57 02.6 -4.4**
TUP Smax 20 57 05.6
comp=E,390nm,1.2s
TUP Tupik 5.54 97 *e*PN **Pn 20 55 33.5 +0.8**
TUP *e* 20 55 50.1
TUP *e*S **Sn 20 56 36.0 -1.0**
TUP *e* 20 57 02.6
TUP pmax pmax
comp=Z,22nm,0.6s
TUP smax smax
comp=N,389nm,1.2s
TLY Talaya 5.56 230 Pn **Pn 20 55 31.1 -1.9**
comp=N,0.0nm,0.3s,baz=63,slow=3.8,SNR=19
TLY Sn **Sn 20 56 36.5 -1.0**
comp=N,0.1nm,0.3s,baz=211,slow=17,SNR=6.9
TLY Lg Lg 20 56 57.9
comp=N,0.3nm,0.3s,baz=286,slow=23,SNR=11
TLY Talaya 5.56 230 *e*Pn **Pn 20 55 32.8 -0.2**
TLY *e*Pg **Pb 20 55 49.8 +2.9**
TLY Pmax 20 55 55.2
comp=N,66nm,0.5s
TLY *e* 20 56 37.7
TLY *e*Sg **Sb 20 57 00.0 +5.9**
TLY Smax 20 57 05.2
comp=N,257nm,0.9s
TLY Talaya 5.56 230*c* *i*PN **Pn 20 55 33.0 0.0**
TLY *e* 20 55 50.6
TLY *e* 20 57 00.3
TLY pmax pmax
comp=Z,36nm,0.3s
KPC Khapcheranga 5.86 168 *e*Pn **Pn 20 55 37.2 +0.1**
KPC *e* 20 55 45.9
KPC *e*Pg **Pb 20 55 55.8 +3.7**
KPC Pmax 20 56 01.8
comp=Z,17nm,0.8s
KPC *e*Sn **Sn 20 56 42.3 -2.7**
KPC *e*Sg **Sg 20 57 11.3 -5.9**
KPC Smax 20 57 18.0
comp=Z,209nm,0.9s
KPC Khapcheranga 5.86 168 *e*PN **Pn 20 55 37.2 +0.1**
KPC *e* 20 55 55.8
KPC *e*S **Sn 20 56 42.2 -2.7**
KPC *e* 20 57 11.4
KPC pmax pmax
comp=Z,14nm,0.4s
KPC smax smax
comp=N,125nm,0.9s
ARS Arshan 5.96 237 *e*Pn **Pn 20 55 38.5 +0.1**
ARS *e*Pg **Pb 20 55 57.3 +3.5**
ARS *e* 20 56 00.2
ARS max 20 56 04.0
comp=N,79nm,0.4s
ARS *e*Sn **Sn 20 56 43.7 -3.7**
ARS *e*Sg **Sg 20 57 13.1 -7.3**
ARS Smax 20 57 23.9
comp=N,599nm,0.8s
ARS Arshan 5.96 237 *e*PN **Pn 20 55 38.6 +0.1**
ARS *e*S **Sb 20 57 12.5 +6.9**
ARS smax smax
comp=E,589nm,0.7s
ZAK Zakamensk 6.69 224 *e*Pn **Pn 20 55 50.0 +1.4**
ZAK *e*Pg **Pb 20 56 10.8 +4.6**
ZAK Pmax 20 56 17.6
comp=E,12nm,0.5s
ZAK *e*Sg **Sg 20 57 36.5 -7.4**
ZAK Smax 20 57 43.4
comp=E,122nm,1.1s
ZAK Zakamensk 6.69 224 *e*PN **Pn 20 55 50.8 +2.2**
ZAK *e* 20 56 10.1
ZAK *e* 20 57 36.2
ZAK pmax pmax
comp=Z,12nm,0.4s
ZAK smax smax
comp=E,122nm,1.1s
MOY Mondy 6.81 240 *e*Pn **Pn 20 55 51.8 +1.6**
MOY max 20 56 04.4
comp=E,54nm,0.5s
MOY *e* 20 57 08.1
MOY *e*Sg **Sg 20 57 40.6 -7.2**
MOY Smax 20 57 54.1
comp=E,250nm,1.1s
MOY Mondy 6.81 240 *e*PN **Pn 20 55 51.9 +1.7**
MOY *e* 20 56 13.1
MOY *e*S **Sn 20 57 06.2 -2.2**
MOY *e* 20 57 39.5
ORL Orlik 6.95 250 *e*Pn **Pn 20 55 53.5 +1.4**
ORL max 20 56 01.7
comp=E,50nm,0.6s
ORL *e*Sn **Sn 20 57 08.8 -2.9**
ORL *e*Sg **Sg 20 57 44.1 -7.9**
ORL Smax 20 57 48.5
comp=E,202nm,0.6s
ORL Orlik 6.95 250 *e*PN **Pn 20 55 53.5 +1.4**
ORL *e* 20 56 15.5
ORL *e*S **Sn 20 57 10.5 -1.2**
ORL *e* 20 57 44.2
ORL pmax pmax
comp=Z,57nm,1.0s
ORL smax smax
comp=N,229nm,1.3s
ULN Ulaanbaatar 7.89 197 *e*Pn **Pn 20 56 05.4 +0.4**
ULN *e*Pg Pb 20 56 33.6 +7.0
ULN *e*Sg **Sg 20 58 16.8 -5.4**
SONM Songino Array 8.04 200 Pn **Pn 20 56 08.9 +1.9**
comp=N,1.1nm,0.3s,baz=14,slow=13,SNR=16
SONM Lg Lg 20 58 22.3
comp=N,5.1nm,0.3s,baz=16,slow=25,SNR=17
SONM LR LR 20 59 28.2
comp=N,61nm,20.1s,baz=19,slow=41
HIA Hailar 8.37 134 *e*Sg Sg 20 58 30.3 -7.5
KLR Kul'dur 14.37 107 Pn **Pn 20 57 34.0 +0.6**
comp=N,0.6nm,0.3s,baz=308,slow=14,SNR=13
KLR Lg Lg 21 01 38.3
comp=N,0.2nm,0.3s,baz=232,slow=7.7,SNR=5.5
ZALV Zalesovo Beam 14.90 275 Pn **Pn 20 57 41.8 +1.1**
comp=N,0.3nm,0.3s,baz=73,slow=9.2,SNR=12
ZALV Lg Lg 21 01 57.8
comp=N,0.1nm,0.3s,baz=83,slow=25,SNR=4.1
ZALV LR LR 21 03 56.8
comp=N,13nm,21.6s,baz=70,slow=39
NRIK Noril'sk 17.35 332 Pn **Pn 20 58 09.4 -2.8**
comp=N,0.5nm,0.3s,baz=144,slow=9.4,SNR=3.0
NRIK Sn Sn 21 01 09.5 -16
comp=N,0.3nm,0.3s,baz=163,slow=20,SNR=4.3
NRIK Lg Lg 21 03 08.7
comp=N,0.4nm,0.3s,baz=229,slow=20,SNR=2.9
NRIK LR LR 21 05 25.4
comp=N,50nm,20.4s,baz=360,slow=39
TIXI Tiksi 18.05 19 Pn **Pn 20 58 16.7 -4.1**
comp=N,0.3nm,0.3s,baz=248,slow=12,SNR=5.4
TIXI Sn Sn 21 01 25.6 -17
comp=N,0.1nm,0.3s,baz=133,slow=19,SNR=4.7
TIXI Lg Lg 21 03 25.5
comp=N,0.1nm,0.3s,baz=319,slow=20,SNR=1.7
MKAR Makanchi Array 19.60 256 P **Pn 20 58 39.5 -0.3**
comp=N,0.3nm,0.3s,baz=48,slow=9.7,SNR=6.9
KURK Kurchatov 19.62 269 P **Pn 20 58 40.1 +0.1**
KURBB Kurchatov Arra 19.72 269 P **Pn 20 58 40.1 -1.1**
comp=N,0.1nm,0.3s,baz=70,slow=12,SNR=7.9
BVAR Borovoye Array 23.35 281 P **P 20 59 19.0 +0.4**
comp=N,1.9nm,0.6s,baz=64,slow=11,SNR=10.0
ARU Arti 28.55 294 LR LR 21 13 14.6
comp=N,16nm,18.2s,baz=43,slow=40
FINES FINESS Array B 41.65 314 P **P 21 01 59.7 +1.3**
comp=N,1.0nm,0.5s,baz=80,slow=10.0,SNR=8.9
ILAR Eielson Array 46.43 35 P **P 21 02 38.2 +1.4**
comp=N,0.9nm,0.8s,baz=302,slow=7.2,SNR=8.6
NOA NORSAR Array B 47.69 319 P **P 21 02 47.5 +0.7**
comp=N,0.7nm,0.8s,baz=77,slow=14,SNR=2.8
GERES GERESS Array B 55.09 307 LR LR 21 29 10.6
comp=N,19nm,19.4s,baz=76,slow=38
WRA Warramunga Arr 77.78 157 P **P 21 06 06.9 -0.7**
comp=N,0.9nm,1.1s,baz=344,slow=5.2,SNR=3.5

WEL 28 21:05:42.4±0.2, 37.56S×179.75W, h12km, ML3.8/5, 3D, Error ellipse: s-maj=2.8km s-min=1.7km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.48**	**259**	PN	Pn	21 06 07.9	-0.9
WMGZ				SN	Sn	21 06 27.3	-0.7
MXZ	**Matakaoa Point**	**1.54**	**269**	‖PN	Pn	21 06 09.0	-0.7
MXZ				SN	Sn	21 06 28.8	-0.8
MXZ				AML	AML	21 06 29.5	
MXZ				AML	AML	21 06 33.4	
MXZ				AML	AML	21 06 33.4	
PUZ	**Puketiti**	**1.66**	**251**	PN	Pn	21 06 10.3	-1.0
PUZ				SN	Sn	21 06 32.3	-0.3
PUZ				AML	AML	21 06 34.1	
CNGZ	**Carnagh Statio**	**1.86**	**240**	PN	Pn	21 06 13.7	-0.3
TWGZ	**Tauwhareparae**	**1.90**	**250**	PN	Pn	21 06 13.9	-0.8
TWGZ				SN	Sn	21 06 37.3	-1.2
HAZ	**Te Kaha**	**1.96**	**263**	‖PN	Pn	21 06 15.1	-0.4
RIGZ	**Rimuhau**	**2.27**	**239**	PN	Pn	21 06 19.0	-0.8
MWZ	**Matawai**	**2.29**	**249**	‖PN	Pn	21 06 18.7	-1.3
MWZ				AML	AML	21 06 47.9	
MWZ				AML	AML	21 06 53.6	
KNZ	**Kokohu**	**2.50**	**233**	AML	AML	21 10 07.7	
URZ	**Urewera**	**2.58**	**253**	PN	Pn	21 06 23.7	-0.3
URZ				AML	AML	21 06 55.2	
URZ				AML	AML	21 06 56.3	
RTZ	**Ruatahuna**	**2.79**	**247**	PN	Pn	21 06 26.5	-0.4
MCHZ	**McNeill Hill**	**3.36**	**235**	PN	Pn	21 06 33.5	-1.2
BHHZ	**Black Hill Sta**	**3.81**	**238**	PN	Pn	21 06 39.6	-1.3
WNVZ	**Wahianoa**	**4.05**	**243**	PN	Pn	21 06 43.4	-1.0
MRZ	**Mangatainoka R**	**4.77**	**228**	PN	Pn	21 06 50.5	-3.6
CTZ	**Chatham Island**	**6.62**	**160**	PN	Pn	21 07 16.8	-2.6

*IDC **28** 21:07:31.2±1.5, 5.98S×129.44E, h0km, mb3.8/4, mb1 4.1/7, mb1mx3.8/30, mbtmp4.0/7, ML4.1/3, Error ellipse: s-maj=67.1km s-min=23.3km az=74.0*
*ISCJB **28** 21:07:45.3±0.4, 6.48S±0.04×129.21E±0.06, h150km, mb3.8/5, Error ellipse: s-maj=8.2km s-min=5.0km az=167.3*
*NEIC **28** 21:07:48.2±1.3, 6.45S×129.03E, h159km±17km, mb4.5/4, Error ellipse: s-maj=20.7km s-min=9.6km az=76.0*

ISC 28 21:07:46.1±0.7, 6.61S±0.05×129.21E±0.07, h150km, n24, σ28 80/33, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.48**	**124**	*e*Pn	Pn	21 08 33.8	+6.9
SAUI				*e*Sn	**Sn**	**21 09 00.4**	**+1.9**
FAKI	**Fak Fak**	**4.75**	**40**	*e*Pn	**Pn**	**21 08 58.1**	**+1.9**
FAKI				*e*Sn	**Sn**	**21 09 48.4**	**-2.6**
SOEI	**Soe**	**5.81**	**237**	*e*Pn	Pn	21 09 17.0	+6.6
SOEI				*e*Sn	**Sn**	**21 10 19.3**	**+3.0**
SOEI				*e*Sn	Sn	21 10 26.4	+10
MTN	**Manton Dam**	**6.48**	**163**	*e*Pn	**Pn**	**21 09 23.4**	**+4.3**
MTN				*e*Sn	**Sn**	**21 10 33.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.94**	**197**	Pn	**Pn**	**21 10 33.6**	**+1.9**
	1.6nm,0.3s,baz=27,slow=11,SNR=108						
FITZ				Sn	**Sn**	**21 12 40.2**	**-3.5**
	1.7nm,0.3s,baz=67,slow=21,SNR=6.9						
WRAB	**Tennant Creek**	**14.15**	**160**	*e*Pn	**P**	**21 11 01.9**	**-1.1**
WRAB				*e*Sn	Sn	21 13 20.5	-16
WRAB				*e*Sn	**Sn**	**21 13 32.2**	**-4.7**
WR1	**Warramunga Arr**	**14.16**	**160**	*e*Pn	**Pn**	**21 11 00.3**	**+0.3**
WR1				*e*Sn	**Sn**	**21 13 31.2**	**-5.9**
WRA	**Warramunga Arr**	**14.16**	**160**	Pn	**Pn**	**21 11 00.3**	**+0.3**
	0.5nm,0.3s,baz=338,slow=12,SNR=32						
WRA				Sn	**Sn**	**21 13 31.2**	**-5.9**
	1.4nm,0.3s,baz=335,slow=23,SNR=12						
WB2	**Warramunga Arr**	**14.16**	**160**	*e*Pn	**Pn**	**21 11 00.7**	**+0.6**
WB2				*e*Sn	**Sn**	**21 13 31.0**	**-6.2**
COEN	**Coen**	**15.55**	**119**	*e*Pn	**P**	**21 11 21.6**	**+3.2**
MBWA	**Marble Bar**	**17.13**	**211**	*e*P	**Pn**	**21 11 38.1**	**+1.5**
	44nm,1.9s						
AS31	**Alice Springs**	**17.55**	**166**	*e*P	**Pn**	**21 11 43.2**	**+1.6**
	3.9nm,0.4s						
AS31				*e*S	**S**	**21 14 54.6**	**-0.8**
ASAR	**Alice Springs**	**17.55**	**166**	P	**Pn**	**21 11 43.2**	**+1.6**
	1.5nm,0.3s,baz=343,slow=11,SNR=119						
ASAR				S	**S**	**21 14 54.6**	**-0.8**
	0.4nm,0.3s,baz=350,slow=26,SNR=4.9						
AS01	**Alice Springs**	**17.56**	**165**	*e*P	**Pn**	**21 11 44.8**	**+3.0**
KKM	**Kota Kinabalu**	**18.06**	**314**	*e*P	**P**	**21 11 43.3**	**-3.0**
	87nm,1.4s						
CM31	**Chiang Mai Arr**	**38.88**	**310**	*e*P	**P**	**21 14 57.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**38.88**	**310**	P	**P**	**21 14 57.6**	**+0.4**
	0.2nm,0.5s,baz=134,slow=6.4,SNR=3.3						
ENH	**Enshi**	**41.27**	**334**	*e*P	**P**	**21 15 14.0**	**-2.7**
	5.5nm,0.4s						
MK32	**Makanchi Array**	**67.47**	**327**	*e*P	**P**	**21 18 26.3**	**+0.5**
MKAR	**Makanchi Array**	**67.47**	**327**	P	**P**	**21 18 26.3**	**+0.5**
	0.6nm,0.3s,baz=126,slow=6.2,SNR=17						
ZALV	**Zalesovo Beam**	**70.89**	**334**	P	**P**	**21 18 46.8**	**+0.2**
	0.8nm,0.5s,baz=129,slow=5.6,SNR=4.3						
ZAA1	**Zalesovo Array**	**70.89**	**334**	*e*P	**P**	**21 18 46.8**	**+0.2**
KURBB	**Kurchatov Arra**	**71.77**	**329**	P	**P**	**21 18 52.6**	**+0.6**
	1.0nm,0.6s,baz=130,slow=5.0,SNR=13						
KURK	**Kurchatov**	**71.78**	**329**	*e*P	**P**	**21 18 52.6**	**+0.6**

*JMA **28** 21:17:09.5±0.1, 24.27N×121.82E, h64km±2km, M2.3*
*ISCJB **28** 21:17:10.2±0.4, 24.27N±0.02×121.89E±0.02, h61km±5km, Error ellipse: s-maj=4.6km s-min=2.6km az=143.1*
*TAP **28** 21:17:10.2, 24.31N×121.80E, h61km, ML2.9, C*

ISC 28 21:17:10.7±1.3, 24.28N±0.03×121.88E±0.03, h59km±7km, n46, σ61/85, 3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.20**	**321**	‖ *i*P	**Pn**	**21 17 19.9**	**-0.1**
	baz=340						
ENA				S	**Sn**	**21 17 27.0**	**+0.3**
	baz=340						
TWD	**Chiawan**	**0.32**	**233**	P	**Pn**	**21 17 20.8**	**0.0**
	baz=230						
TWD				*i* S	**Sn**	**21 17 28.2**	**+0.1**
	baz=230						
TWC	**Suao**	**0.33**	**356**	‖ *i*P	**Pn**	**21 17 21.0**	**+0.1**
	baz=15						
TWC				*i* S	**Sn**	**21 17 28.8**	**+0.4**
	baz=15						
HWA	**Hwalien**	**0.39**	**220**	P	**Pn**	**21 17 21.8**	**+0.4**
	baz=197						
HWA				*e*S	**Sn**	**21 17 29.9**	**+0.7**
	baz=197						
ENTT	**Nioudou**	**0.46**	**322**	‖ *i*P	**Pn**	**21 17 21.7**	**-0.4**
	baz=325						
ENTT				S	**Sn**	**21 17 30.1**	**-0.4**
	baz=325						
TWE	**Neicheng**	**0.48**	**337**	P	**Pn**	**21 17 22.1**	**-0.2**
	baz=342						
TWE				S	**Sn**	**21 17 31.3**	**+0.5**
	baz=342						
NNS	**Nan Shan**	**0.49**	**290**	*e*P	**Pn**	**21 17 22.2**	**-0.4**
	baz=285						
NNS				*e*S	**Sn**	**21 17 30.5**	**-0.7**
	baz=285						
ILA	**Ilan**	**0.50**	**347**	*e*P	**Pn**	**21 17 22.7**	**+0.2**
	baz=352						
ILA				*e*S	**Sn**	**21 17 32.2**	**+1.0**
	baz=352						
EGS		**0.57**	**5**	P	**Pn**	**21 17 23.8**	**+0.5**
	baz=21						
EGS				*e*S	**Sn**	**21 17 33.3**	**+0.8**
	baz=21						
ESL	**Shilin**	**0.61**	**222**	*e*P	**Pn**	**21 17 23.2**	**-0.6**
	baz=219						
ESL				*e*S	**Sn**	**21 17 32.6**	**-0.8**
	baz=219						
NSK	**Sanguang**	**0.62**	**310**	P	**Pn**	**21 17 23.2**	**-0.8**
	baz=306						
NSK				S	**Sn**	**21 17 32.4**	**-1.3**
	baz=306						
TWT	**Tachien**	**0.64**	**268**	P	**Pn**	**21 17 24.2**	**-0.1**
	baz=264						
TWT				*i* S	**Sn**	**21 17 34.2**	**-0.1**
	baz=264						
TWB1	**Santiao Chiao**	**0.74**	**8**	*e*P	**Pn**	**21 17 24.6**	**-0.7**
	baz=26						
TWB1				*e*S	**Sn**	**21 17 36.0**	**-0.1**
	baz=26						
TWA	**Mucha**	**0.75**	**339**	*e*P	**Pn**	**21 17 25.9**	**+0.3**
	baz=334						
TWA				*e*S	**Sn**	**21 17 36.2**	**-0.2**
	baz=334						
NWF	**Wu-fen Shan**	**0.80**	**354**	*i* P	**Pn**	**21 17 26.1**	**-0.1**
	baz=349						
NWF				S	**Sn**	**21 17 37.7**	**+0.2**
	baz=349						
NSTT	**Nanjuang**	**0.87**	**294**	*e*P	**Pn**	**21 17 26.9**	**-0.2**
	baz=295						
NSTT				S	**Sn**	**21 17 38.7**	**-0.4**
	baz=295						
EHY	**Hungye**	**0.92**	**214**	*e*P	**Pn**	**21 17 27.7**	**+0.1**
	baz=206						
EHY				*e*S	**Sn**	**21 17 39.1**	**-1.0**
	baz=206						
TWS1	**Kuangyinshan**	**0.92**	**333**	*e*P	**Pn**	**21 17 27.9**	**+0.2**
	baz=338						
TWS1				*e*S	**Sn**	**21 17 39.5**	**-0.7**
	baz=338						
SMLT	**Sun Moon Lake**	**0.97**	**247**	*e*P	**Pn**	**21 17 28.3**	**-0.2**
	baz=235						
SMLT				*e*S	**Sn**	**21 17 41.8**	**+0.3**
	baz=235						
JYNG	**Yonagunijimaku**	**0.99**	**80**	P	**Pn**	**21 17 28.7**	**+0.2**
JYNG				S	**Sn**	**21 17 42.0**	**+0.3**
TYC	**Yuchr**	**1.00**	**249**	*e*P	**Pn**	**21 17 28.8**	**+0.1**
	baz=239						
TYC				*e*S	**Sn**	**21 17 42.2**	**+0.2**
	baz=239						
TWQ1	**Liyutan**	**1.01**	**274**	*e*P	**Pn**	**21 17 28.3**	**-0.5**
	baz=272						
TWQ1				*e*S	**Sn**	**21 17 41.9**	**-0.3**
	baz=272						
TWY	**Chenhua**	**1.03**	**346**	*e*P	**Pn**	**21 17 28.7**	**-0.3**
	baz=340						
TWF1	**Yuli**	**1.06**	**210**	*e*P	**Pn**	**21 17 28.4**	**-1.1**
	baz=203						
TCU	**Taichung**	**1.10**	**264**	*e*P	**Pn**	**21 17 29.8**	**-0.2**
	baz=272						
TCU				*e*S	**Sn**	**21 17 45.3**	**+0.9**
	baz=272						
YUS	**Yu-Shan**	**1.15**	**227**	*e*P	**Pn**	**21 17 31.1**	**-0.1**
	baz=212						
YUS				*e*S	**Sn**	**21 17 46.6**	**+0.3**
	baz=212						
WNT	**Mingjian**	**1.16**	**250**	*e*P	**Pn**	**21 17 31.2**	**+0.4**
	baz=259						
WNT				*e*S	**Sn**	**21 17 46.6**	**+0.9**
	baz=259						
ALS	**Alishan**	**1.24**	**232**	*e*P	**Pn**	**21 17 32.8**	**+0.7**
	baz=219						
ALS				*e*S	**Sn**	**21 17 49.2**	**+1.1**
	baz=219						
CHKT	**Chengkung**	**1.26**	**202**	*e*P	**Pn**	**21 17 31.5**	**-0.6**
	baz=186						
CHKT				*e*S	**Sn**	**21 17 47.0**	**-1.1**
	baz=186						
CHN5	**Tsauling**	**1.29**	**239**	P	**Pn**	**21 17 33.1**	**+0.5**
	baz=245						
CHN5				*e*S	**Sn**	**21 17 49.5**	**+0.6**
	baz=245						
ELDTW	**Lidau**	**1.34**	**216**	*e*P	**Pn**	**21 17 32.8**	**-0.4**
	baz=205						
WGK	**Gukeng**	**1.34**	**244**	*e*P	**Pn**	**21 17 32.9**	**-0.2**
	baz=239						
WGK				*e*S	**Sn**	**21 17 49.7**	**-0.2**
	baz=239						
CHN4	**Tsaushan**	**1.49**	**232**	*e*P	**Pn**	**21 17 35.8**	**+0.5**
	baz=226						
CHN4				*e*S	**Sn**	**21 17 54.4**	**+0.7**

	baz=226							
STYT	**Tauyuan**	**1.51**	**223**	*e*P		**Pn**	**21 17 35.1**	**-0.4**
	baz=207							
STYT				*e*S		**Sn**	**21 17 54.5**	**+0.3**
	baz=207							
WTP	**Ta-pu**	**1.54**	**229**	*e*P		**Pn**	**21 17 36.8**	**+0.8**
	baz=222							
WTP				*e*S		**Sn**	**21 17 55.8**	**+0.7**
	baz=222							
TWK	**Hsinying**	**1.62**	**232**	*e*P		**Pn**	**21 17 36.6**	**-0.5**
	baz=225							
TWK				*e*S		**Sn**	**21 17 56.3**	**-0.6**
	baz=225							
TWG	**Pinlang**	**1.62**	**207**	*e*P		**Pn**	**21 17 36.9**	**-0.2**
	baz=190							
TWG				*e*S		**Sn**	**21 17 56.5**	**-0.5**
	baz=190							
SGST	**Jiashian**	**1.68**	**225**	*e*P		**Pn**	**21 17 38.5**	**+0.8**
	baz=218							
SGST				*e*S		**Sn**	**21 17 58.5**	**+0.2**
	baz=218							
IRIF	**Iriomote-Funau**	**1.69**	**88**	P		**Pn**	**21 17 37.6**	**-0.3**
IRIF				*e*S		**Sn**	**21 17 58.4**	**-0.1**
SSD	**Sandimen**	**1.90**	**217**	*e*P		**Pn**	**21 17 41.4**	**+0.6**
	baz=201							
JKRS	**Kuro-shima**	**1.95**	**91**	P		**Pn**	**21 17 42.2**	**+0.8**
JKRS				S		**Sn**	**21 18 05.3**	**+0.6**
JIJ	**Ishigaki jima**	**2.07**	**87**	P		**Pn**	**21 17 43.0**	**-0.1**
JIJ				S		**Sn**	**21 18 06.9**	**-0.8**
EAST	**Anshuo**	**2.11**	**207**	*e*P		**Pn**	**21 17 45.6**	**+2.0**
	baz=193							
JISG	**Ishigakijimahi**	**2.24**	**82**	P		**Pn**	**21 17 45.1**	**-0.3**
JISG				*e*S		**Sn**	**21 18 11.5**	**-0.4**
LAY	**Lan-yu**	**2.25**	**188**	*e*P		**Pn**	**21 17 44.1**	**-1.4**
	baz=182							
JTJ	**Tarama**	**2.60**	**81**	*e*S		**Sn**	**21 18 21.0**	**+0.3**

DJA 28 21:20:34.7±0.9, 8°S±45″×11°1E±°, h257km±9km, M3.3/6, mb4.1/1, MLv2.9/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.59**	**122**	P	Pn	21 21 09.4	+0.7
PWJI				S	S	21 21 37.5	+2.1
UGM	**Wanagama**	**0.80**	**255**	P	Pn	21 21 10.6	+1.1
UGM				S	S	21 21 38.0	+1.1
GMJI	**Gumukmas**	**2.20**	**105**	P	Pn	21 21 19.8	+0.3
KPJI	**Karang Pucung**	**2.38**	**279**	P	Pn	21 21 21.8	+0.5
CMJI	**Cimerak**	**2.83**	**268**	P	Pn	21 21 25.9	+0.1
CGJI	**Cibinong**	**5.67**	**281**	P	Pn	21 21 58.6	-0.3

JMA 28 21:46:33.5±0.3, 36°96N×143°76E, h43km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.34**	**281**	P	Pn	21 47 10.7	+1.2
JFK				S	Sn	21 47 38.3	+1.3
JIO	**Ouri**	**2.42**	**309**	P	Pn	21 47 12.0	+1.4
JIO				*e*S	Sn	21 47 39.9	+0.9
JMM	**Marumori**	**2.53**	**292**	P	Pn	21 47 13.7	+1.7
JMM				*e*S	Sn	21 47 43.6	+2.0
JFT	**Otama**	**2.79**	**283**	P	Pn	21 47 18.0	+2.4
JFT				S	Sn	21 47 50.5	+2.5
JMK	**Ichinoseki**	**2.83**	**315**	P	Pn	21 47 17.5	+1.4
JMK				*e*S	Sn	21 47 50.5	+1.6
JOU	**Okura**	**2.83**	**301**	P	Pn	21 47 18.2	+2.0
JOU				*e*S	Sn	21 47 51.0	+1.9
JOM	**Ohasama**	**3.17**	**323**	P	Pn	21 47 22.7	+1.8
JOM				S	Sn	21 47 58.2	+0.7
JYK	**Kaneyama**	**3.32**	**307**	P	Pn	21 47 24.9	+1.9
JRG	**Rokugo**	**3.46**	**316**	P	Pn	21 47 26.8	+1.9
JRG				*e*S	Sn	21 48 07.1	+2.5
JAG	**Ashikaga**	**3.50**	**263**	P	Pn	21 47 27.1	+1.7
JAG				S	Sn	21 48 05.6	0.0
JRY	**Ryogami san**	**4.03**	**258**	P	Pn	21 47 33.9	+1.2

DDA 28 22:00:19.0, 38°.33N×42°.37E, h7km, Md2.8
ISCJB 28 22:00:19.3±0.5, 38°.28N±0°.02×42°.43E±0°.03, h2km±5km, Error ellipse: s-maj=4.1km s-min=3.3km az=146.5
CSEM 28 22:00:19.2±0.1, 38°.30N×42°.44E, h5km, MD2.8, Error ellipse: s-maj=3.5km s-min=2.9km az=156.0
ISK 28 22:00:19.3, 38°.26N×42°.44E, h10km, ML2.8
ISC 28 22:00:19.2±1.1, 38°.29N±0°.02×42°.44E±0°.02, h4km±9km, n47, σ0.960/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATV	**Tatvan**	**0.26**	**328**	P	**Pg**	**22 00 23.7**	**-0.5**
TATV				S	**Sg**	**22 00 27.9**	**+0.3**
TATV	**Tatvan**	**0.26**	**328**	*i* P	**Pg**	**22 00 23.7**	**-0.5**
TATV				*i* S	**Sg**	**22 00 27.9**	**+0.3**
GEVA	**Gevas**	**0.49**	**87**	P	**Pg**	**22 00 28.9**	**+0.3**
GEVA	**Gevas**	**0.49**	**87**	*i* P	**Pg**	**22 00 28.9**	**+0.3**
GEVA				*i* S	**Sb**	**22 00 37.9**	**-0.1**
SIRT	**Sirnak**	**0.79**	**180**	*e*PG	**Pg**	**22 00 34.4**	**+0.1**
SIRT				*e*SG	**Sb**	**22 00 46.0**	**-0.5**
SIRT	**Sirnak**	**0.79**	**180**	*e*Pg	**Pg**	**22 00 34.4**	**+0.1**
SIRT				*e*Sg	**Sb**	**22 00 46.0**	**-0.5**
SIRN	**S¨¨rnak**	**0.79**	**181**	P	**Pb**	**22 00 35.2**	**-0.3**
SIRN				S	**Sb**	**22 00 47.0**	**+0.4**
SIRN	**S¨¨rnak**	**0.79**	**181**	*i* P	**Pb**	**22 00 35.2**	**-0.3**
SIRN				*i* S	**Sb**	**22 00 47.0**	**+0.4**
TVAN	**Van**	**0.80**	**72**	P	**Pg**	**22 00 34.6**	**+0.1**
TVAN	**Van**	**0.80**	**72**	*i* P	**Pg**	**22 00 34.6**	**+0.1**
VANB	**Van**	**0.81**	**68**	*e*PG	**Pg**	**22 00 34.9**	**+0.2**
VANB				*e*SG	**Sb**	**22 00 47.5**	**+0.4**
VANB	**Van**	**0.81**	**68**	*e*Pg	**Pg**	**22 00 34.9**	**+0.2**
VANB				*e*Sg	**Sb**	**22 00 47.5**	**+0.4**
SVAN	**Silvan-Diyarba**	**0.99**	**262**	*e*PG	**Pg**	**22 00 37.9**	**-0.2**
SVAN				*e*SG	**Sb**	**22 00 52.6**	**+0.4**
SVAN	**Silvan-Diyarba**	**0.99**	**262**	*e*Pg	**Pg**	**22 00 37.9**	**-0.2**
SVAN				*e*Sg	**Sb**	**22 00 52.6**	**+0.4**
BTMN	**Batman**	**1.00**	**247**	P	**Pg**	**22 00 38.2**	**-0.2**
BTMN				S	**Sg**	**22 00 51.9**	**+0.5**
BTMN	**Batman**	**1.00**	**247**	*i* P	**Pg**	**22 00 38.2**	**-0.2**
BTMN				*i* S	**Sg**	**22 00 51.9**	**+0.5**
VMUR	**Van-Muradiye**	**1.13**	**51**	P	**Pb**	**22 00 41.2**	**-0.2**
VMUR				S	**Sn**	**22 00 57.8**	**-0.2**
VMUR	**Van-Muradiye**	**1.13**	**51**	*i* P	**Pb**	**22 00 41.2**	**-0.2**
VMUR				*i* S	**Sn**	**22 00 57.8**	**-0.2**
TUTA	**Tutak**	**1.15**	**15**	P	**Pg**	**22 00 40.6**	**-0.6**
TUTA				S	**Sn**	**22 00 57.6**	**-0.9**
TUTA	**Tutak**	**1.15**	**15**	*i* P	**Pg**	**22 00 40.6**	**-0.6**
TUTA				*i* S	**Sn**	**22 00 57.6**	**-0.9**
VRTB	**Varto-Mus**	**1.16**	**319**	*e*PN	**Pn**	**22 00 41.8**	**-0.5**
VRTB				*e*SN	**Sn**	**22 00 59.8**	**+1.2**
VRTB	**Varto-Mus**	**1.16**	**319**	*e*Pn	**Pn**	**22 00 41.8**	**-0.5**
VRTB				*e*Sn	**Sn**	**22 00 59.8**	**+1.2**
BNGL	**BINGOL**	**1.21**	**304**	*i* P	**Pg**	**22 00 41.3**	**-1.0**
BNGL				*i* S	**Sn**	**22 00 59.9**	**0.0**
HKR	**Hakkari**	**1.25**	**124**	*e*PN	**Pg**	**22 00 42.7**	**-0.5**
HKR	**Hakkari**	**1.25**	**124**	*e*Pn	**Pg**	**22 00 42.7**	**-0.5**
AGRB	**Hanur-Agry**	**1.35**	**18**	*e*PN	**Pb**	**22 00 44.8**	**-0.4**
AGRB	**Hanur-Agry**	**1.35**	**18**	*e*Pn	**Pb**	**22 00 44.8**	**-0.4**
CUKT	**Cukurca**	**1.39**	**138**	*e*PN	**Pn**	**22 00 45.1**	**-0.4**
CUKT	**Cukurca**	**1.39**	**138**	*e*Pn	**Pn**	**22 00 45.1**	**-0.4**
CLDR	**Caldiran**	**1.44**	**53**	*e*PN	**Pn**	**22 00 45.7**	**-0.5**
CLDR	**Caldiran**	**1.44**	**53**	*e*Pn	**Pn**	**22 00 45.7**	**-0.5**
BNGB	**Bing¨¶l**	**1.54**	**297**	*e*PN	**Pb**	**22 00 47.8**	**-0.6**
BGOL	**Bingol**	**1.55**	**297**	P	**Pn**	**22 00 47.6**	**0.0**
BGOL	**Bingol**	**1.55**	**297**	*i* P	**Pn**	**22 00 47.6**	**0.0**
BGOL				*i* S	**Sg**	**22 01 10.8**	**+1.8**
BINT	**Bingol**	**1.64**	**292**	*e*Pn	**Pn**	**22 00 47.8**	**-1.0**
MARD	**Mardin**	**1.64**	**234**	*i* P	**Pn**	**22 00 48.5**	**-0.3**
MARD				*i* S	**Sg**	**22 01 11.6**	**-0.2**
EZM	**Erzurum**	**1.82**	**333**	*e*PN	**Pn**	**22 00 52.0**	**+0.5**
DIYA	**Diyarbakir**	**1.86**	**259**	P	**Pn**	**22 00 51.8**	**-0.1**
DIYA				S	**Sn**	**22 01 15.8**	**-0.1**
DIYA	**Diyarbakir**	**1.86**	**259**	*i* P	**Pn**	**22 00 51.8**	**-0.1**
DIYA				*i* S	**Sn**	**22 01 15.8**	**-0.1**
YEDI	**Yedisu-Bingol**	**1.87**	**308**	*e*PN	**Pb**	**22 00 53.2**	**-0.8**
YEDI	**Yedisu-Bingol**	**1.87**	**308**	*e*Pn	**Pb**	**22 00 53.2**	**-0.8**
SENK	**Senkaya-Erzuru**	**2.27**	**358**	*e*PN	**Pn**	**22 00 58.5**	**+0.9**
SENK	**Senkaya-Erzuru**	**2.27**	**358**	*e*Pn	**Pn**	**22 00 58.5**	**+0.9**
PTK	**Pertek**	**2.46**	**285**	*e*PN	**Pn**	**22 01 00.9**	**+0.7**
PTK	**Pertek**	**2.46**	**285**	*e*Pn	**Pn**	**22 01 00.9**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.46**	**273**	*e*PN	**Pn**	**22 01 01.5**	**+1.3**
SVRC	**Sivrice-ELAZID**	**2.46**	**273**	*e*Pn	**Pn**	**22 01 01.5**	**+1.3**

IDC 28 22:03:04.6±1.5, 55°.25N×154°.33W, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.6/54, mbtmp3.7/10, ML3.8/2, Error ellipse: s-maj=32.8km s-min=23.1km az=11.0
ISCJB 28 22:03:08.1±0.7, 55°.68N±0°.06×153°.97W±0°.07, h33km, mb3.7/8, Error ellipse: s-maj=9.4km s-min=4.2km az=152.1
NEIC 28 22:03:11.1±0.5, 55°.77N×154°.13W, h35km, ML3.4(AEIC), Error ellipse: s-maj=7.9km s-min=3.6km az=155.0
ISC 28 22:03:11.5±0.9, 55°.80N±0°.09×154°.06W±0°.06, h35km, n57, σ1.936/59, mb3.8/8, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**1.49**	**16**	P	**Pn**	**22 03 35.4**	**-0.3**
OHAK				S	**Sn**	**22 03 53.8**	**-0.1**
PLK4	**Peulik 4**	**2.23**	**326**	P	**Pn**	**22 03 45.7**	**-0.3**
PLK3	**Peulik 3**	**2.25**	**328**	P	**Pn**	**22 03 46.1**	**-0.1**
KABR	**Katmai Barrier**	**2.39**	**348**	P	**Pn**	**22 03 47.5**	**-0.6**
PLK1	**Peulik 1**	**2.45**	**326**	P	**Pn**	**22 03 48.4**	**-0.5**
CHGN	**Chignik**	**2.50**	**284**	*e*Pn	**Pn**	**22 03 48.0**	**-1.4**
ANPK	**Aniakchak Peak**	**2.50**	**296**	P	**Pn**	**22 03 48.6**	**-1.0**
ANPB	**Aniakchak Plen**	**2.56**	**295**	P	**Pn**	**22 03 49.4**	**-1.0**
KAKN	**Katmai Knife C**	**2.57**	**348**	P	**Pn**	**22 03 50.2**	**-0.4**
ANNW	**Aniakchak Nort**	**2.59**	**299**	P	**Pn**	**22 03 50.4**	**-0.5**
KAWH	**Katmai**	**2.62**	**351**	P	**Pn**	**22 03 51.4**	**+0.1**
KELA	**Mount Kelaz**	**2.81**	**342**	P	**Pn**	**22 03 53.2**	**-0.6**
VNSG	**Veniaminof 6**	**2.84**	**279**	P	**Pn**	**22 03 53.2**	**-1.2**
KAHC	**Katmai Hardscr**	**2.91**	**350**	P	**Pn**	**22 03 54.9**	**-0.3**
FOPK	**Fourpeaked Vol**	**2.99**	**6**	P	**Pn**	**22 03 56.3**	**0.0**
VNKR	**Veniaminof 5**	**3.00**	**277**	P	**Pn**	**22 03 55.0**	**-1.4**
CDD	**Cape Douglas**	**3.15**	**4**	P	**Pn**	**22 03 58.7**	**+0.2**
AUI	**Augustine Isla**	**3.56**	**5**	P	**Pn**	**22 04 04.7**	**+0.5**
AUW	**Augustine West**	**3.60**	**5**	P	**Pn**	**22 04 05.0**	**+0.3**
SDPT	**Sand Point**	**3.67**	**266**	P	**Pn**	**22 04 04.3**	**-1.3**
SDPT				S	**Sn**	**22 04 45.3**	**-2.3**
CNPM	**China Poot**	**4.04**	**21**	P	**Pn**	**22 04 11.0**	**+0.3**
CNPM				S	**Sn**	**22 04 54.0**	**-2.7**
BRLK	**Bradley Lake**	**4.33**	**22**	P	**Pn**	**22 04 14.5**	**-0.2**
BRLK				S	**Sn**	**22 05 01.1**	**-2.7**
DRIA	**Deer Island**	**4.75**	**263**	P	**Pn**	**22 04 19.0**	**-1.6**
SEW	**Seward**	**4.97**	**28**	P	**Pn**	**22 04 22.3**	**-1.1**
SLKM	**Skilak Lake**	**5.14**	**22**	P	**Pn**	**22 04 27.6**	**+1.7**
SVW2	**Sparrevohn**	**5.38**	**352**	P	**Pn**	**22 04 28.9**	**-0.1**
ISLZ	**Isanotski Laza**	**5.62**	**263**	P	**Pn**	**22 04 31.6**	**-0.9**
RC01	**Rabbit Creek A**	**5.77**	**21**	P	**Pn**	**22 04 34.3**	**-0.2**
SUA	**Susitna One**	**5.94**	**16**	P	**Pn**	**22 04 37.0**	**+0.1**
HIN	**Hinchinbrook I**	**6.11**	**38**	P	**Pn**	**22 04 38.4**	**-0.7**
HIN				S	**Sn**	**22 05 45.1**	**-2.5**
WESP	**Westdahl Peak**	**6.25**	**262**	P	**Pn**	**22 04 40.2**	**-1.0**
GHO	**Glory Hole Cre**	**6.56**	**22**	P	**Pn**	**22 04 44.9**	**-0.4**
GHO				S	**Sn**	**22 05 55.2**	**-3.7**
SML	**Sawmill**	**6.72**	**24**	P	**Pn**	**22 04 47.6**	**0.0**
NICHA	**Nichawak Mount**	**6.96**	**46**	P	**Pn**	**22 04 50.6**	**-0.2**
KLU	**Klutina**	**7.11**	**33**	P	**Pn**	**22 04 52.3**	**-0.7**
BMRM	**Bremner River**	**7.18**	**40**	P	**Pn**	**22 04 53.4**	**-0.5**
BMRM				S	**Sn**	**22 06 10.2**	**-3.9**
BAGL	**Bagley Icefiel**	**7.88**	**48**	P	**Pn**	**22 05 03.3**	**-0.1**
TRF	**Thorofare Moun**	**7.91**	**12**	P	**Pn**	**22 05 04.3**	**+0.4**
BALM	**Baldy**	**8.08**	**45**	P	**Pn**	**22 05 06.0**	**-0.2**
PTPK	**Patty Peak**	**8.12**	**44**	P	**Pn**	**22 05 06.9**	**0.0**
ILAR	**Eielson Array**	**9.67**	**19**	Pn	**Pn**	**22 05 28.7**	**+0.8**
	0.4nm,0.3s,baz=203,slow=14,SNR=12						
ILAR				Sn	**Sn**	**22 07 12.7**	**-2.6**
	0.1nm,0.3s,baz=204,slow=15,SNR=3.3						
ILB	**Eielson Array**	**9.67**	**19**	P	**Pn**	**22 05 28.0**	**+0.1**
INK	**Inuvik**	**15.69**	**29**	Pn	**P**	**22 06 53.2**	**+0.1**
	0.2nm,0.3s,baz=221,slow=9.3,SNR=2.1						
YKA	**Yellowknife Ar**	**21.03**	**55**	P	**P**	**22 07 54.5**	**+2.8**
	0.6nm,0.5s,baz=271,slow=9.4,SNR=3.5						
TXAR	**Lajitas Array**	**44.23**	**105**	P	**P**	**22 11 15.6**	**-1.6**
	0.1nm,0.5s,baz=323,slow=12,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**46.36**	**235**	T	T	23 01 16.6	
	baz=29,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**46.37**	**235**	T	T	23 01 17.1	
	baz=29,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**46.38**	**235**	T	T	23 01 17.5	
	baz=29,slow=75,SNR=30						
NRIK	**Noril'sk**	**47.45**	**335**	P	**P**	**22 11 43.0**	**+1.0**
	3.1nm,0.4s,baz=65,slow=5.5,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**47.51**	**234**	T	T	23 02 42.3	
	baz=29,slow=76,SNR=99						
H11S2	**WAKE ISLAND Hy**	**47.53**	**234**	T	T	23 02 43.3	
	baz=29,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**47.53**	**234**	T	T	23 02 42.9	
	baz=29,slow=76,SNR=29						
SONM	**Songino Array**	**56.85**	**307**	P	**P**	**22 12 53.5**	**+1.2**
	0.9nm,0.5s,baz=44,slow=6.7,SNR=4.6						
ZALV	**Zalesovo Beam**	**60.45**	**324**	P	**P**	**22 13 19.1**	**+2.0**
	0.5nm,0.5s,baz=56,slow=4.6,SNR=3.5						
FINES	**FINESS Array B**	**63.10**	**360**	P	**P**	**22 13 36.2**	**+1.5**
	0.5nm,0.6s,baz=144,slow=24,SNR=3.2						
BVAR	**Borovoye Array**	**65.53**	**332**	P	**P**	**22 13 51.4**	**+0.6**
	0.4nm,0.4s,baz=41,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**67.38**	**322**	P	**P**	**22 14 02.9**	**+0.2**
	0.2nm,0.2s,baz=28,slow=6.5,SNR=2.6						

MOS 28 22:09:04.1±1.2, 54°.53N×168°.67E, h15km, mb4.1/5, Error ellipse: s-maj=16.0km s-min=9.3km az=16.0
IDC 28 22:09:04.6±1.9, 54°.67N×168°.55E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.6/53, mbtmp3.9/8, ML2.9/1, MS2.7/3, Ms1 2.7/3, ms1mx2.4/44, Error ellipse: s-maj=56.5km s-min=18.5km az=172.0
ISCJB 28 22:09:05.6±0.7, 54°.44N±0°.07×168°.49E±0°.06, h24km, mb3.9/7, MS2.7/2, Error ellipse: s-maj=10.1km s-min=4.9km az=171.2
KRSC 28 22:09:06.0±2.6, 54°.41N×168°.16E, h16km±34km, ML4.4
ISC 28 22:09:07.5±0.9, 54°.48N±0°.09×168°.52E±0°.07, h24km, n55, σ1.974/56, mb4.0/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.64**	**297**	PN	Pn	22 09 31.7	-3.1
BKI				S	**Sn**	**22 09 51.7**	**-3.4**
BKI	**Bering**	**1.64**	**297**	*e*P	Pn	22 09 31.7	-3.1
BKI				*e*S	**Sn**	**22 09 51.7**	**-3.4**
KBG	**Krutoberegovo**	**3.77**	**301**	*e*S	**Sn**	**22 10 46.1**	**-1.3**
MKZ	**Mys Kozlova**	**3.96**	**274**	PN	**Pn**	**22 10 06.2**	**-0.3**
MKZ	**Mys Kozlova**	**3.96**	**274**	*e*P	**Pn**	**22 10 06.2**	**-0.3**
MKZ				*e*S	**Sn**	**22 10 49.3**	**-2.8**
SMKR	**Semkarok**	**4.53**	**301**	PN	**Pn**	**22 10 14.6**	**+0.1**
SMKR	**Semkarok**	**4.53**	**301**	*e*P	**Pn**	**22 10 14.6**	**+0.1**
ZLN	**Zelenaya**	**4.67**	**292**	PN	**Pn**	**22 10 18.0**	**+1.5**
ZLN	**Zelenaya**	**4.67**	**292**	*e*P	**Pn**	**22 10 18.0**	**+1.5**
ZLN				*e*S	**Sn**	**22 11 12.0**	**+2.0**
SRKR	**Sorokina**	**4.71**	**301**	PN	**Pn**	**22 10 17.0**	**+0.1**
SRKR	**Sorokina**	**4.71**	**301**	*e*P	**Pn**	**22 10 17.0**	**+0.1**
KRSR	**Krestovskiy**	**4.86**	**294**	PN	**Pn**	**22 10 20.3**	**+1.2**
KRSR	**Krestovskiy**	**4.86**	**294**	*e*P	**Pn**	**22 10 20.3**	**+1.2**
KIRR	**Kirishev**	**4.91**	**291**	PN	**Pn**	**22 10 21.6**	**+1.8**
KIRR	**Kirishev**	**4.91**	**291**	*e*P	**Pn**	**22 10 21.6**	**+1.8**
KMNR	**Kamenistaya**	**4.92**	**288**	PN	**Pn**	**22 10 21.9**	**+2.0**
KMNR	**Kamenistaya**	**4.92**	**288**	*e*P	**Pn**	**22 10 21.9**	**+2.0**
KMNR				*e*S	**Sn**	**22 11 18.2**	**+2.1**
KPT	**Kopyto**	**4.98**	**291**	PN	**Pn**	**22 10 22.2**	**+1.5**
KPT	**Kopyto**	**4.98**	**291**	*e*P	**Pn**	**22 10 22.2**	**+1.5**
KOZ	**Kozyrevsk**	**5.19**	**291**	*e*S	**Sn**	**22 11 25.6**	**+3.0**
NLC	**Nalytchevo**	**5.59**	**260**	*e*S	**Sn**	**22 11 29.7**	**-2.6**
SDLR	**Sedlovina**	**5.82**	**262**	PN	**Pn**	**22 10 32.6**	**+0.3**
SDLR	**Sedlovina**	**5.82**	**262**	*e*P	**Pn**	**22 10 32.6**	**+0.3**
SDLR				*e*S	**Sn**	**22 11 37.7**	**-0.6**
UGLR	**Uglovaya**	**5.88**	**261**	PN	**Pn**	**22 10 33.8**	**+0.8**
UGLR	**Uglovaya**	**5.88**	**261**	*e*P	**Pn**	**22 10 33.8**	**+0.8**
UGLR				*e*S	**Sn**	**22 11 40.1**	**+0.5**
KRER	**Koryakskii**	**5.89**	**262**	PN	**Pn**	**22 10 34.4**	**+1.0**
KRER	**Koryakskii**	**5.89**	**262**	*e*P	**Pn**	**22 10 34.4**	**+1.0**
KRER				*e*S	**Sn**	**22 11 39.7**	**-0.5**
AVH	**Avacha**	**5.91**	**262**	PN	**Pn**	**22 10 34.2**	**+0.7**
AVH	**Avacha**	**5.91**	**262**	*e*P	**Pn**	**22 10 34.2**	**+0.7**
AVH				*e*S	**Sn**	**22 11 40.8**	**+0.4**
KRX	**Arik**	**5.94**	**263**	PN	**Pn**	**22 10 34.2**	**+0.3**
KRX	**Arik**	**5.94**	**263**	*e*P	**Pn**	**22 10 34.2**	**+0.3**
KRX				*e*S	**Sn**	**22 11 40.6**	**-0.6**
KOK	**Koryaka**	**5.96**	**263**	PN	**Pn**	**22 10 37.8**	**+3.6**
KOK	**Koryaka**	**5.96**	**263**	*e*P	**Pn**	**22 10 37.8**	**+3.6**
GNL	**Ganaly**	**6.27**	**267**	PN	**Pn**	**22 10 39.4**	**+0.9**
GNL	**Ganaly**	**6.27**	**267**	*e*P	**Pn**	**22 10 39.4**	**+0.9**
RUS	**Russkaya**	**6.32**	**255**	*e*S	**Sn**	**22 11 46.9**	**-3.3**
KRMR	**Karymshinskiy**	**6.39**	**259**	*e*S	**Sn**	**22 11 49.4**	**-2.7**

PETK	**Petropavlovsk-**	**6.55**	**262**	Pn		**Pn**	**22 10 44.0**	**+1.7**
	1.1nm,0.3s,baz=87,slow=19,SNR=12							
PETK				Sn		**Sn**	**22 12 00.3**	**+4.1**
	1.5nm,0.3s,baz=299,slow=16,SNR=5.6							
PETK				LR		LR	22 13 21.4	
	comp=Z,36nm,19.9s,baz=69,slow=39							
PETK	**Petropavlovsk-**	**6.55**	**262**	PN		**Pn**	**22 10 44.0**	**+1.7**
PETK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PETK				MLR	MLR			
	comp=Z,36nm,19.9s							
ILAR	**Eielson Array**	**24.25**	**47**	P		**P**	**22 14 20.8**	**-1.4**
	comp=Z,2.9nm,0.6s,baz=251,slow=8.1,SNR=28							
USRK	**Ussuriysk Ar.**	**25.65**	**262**	LR		LR	22 26 15.1	
	comp=Z,28nm,18.3s,baz=340,slow=40							
INK	**Inuvik**	**29.67**	**40**	P		**P**	**22 15 10.3**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=301,slow=4.5,SNR=3.6							
DLBC	**Dease Lake**	**33.15**	**58**	P		**P**	**22 15 42.4**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=259,slow=11,SNR=3.4							
JNU	**Nakatsue**	**33.96**	**247**	LR		LR	22 29 43.5	
	comp=Z,13nm,19.7s,baz=123,slow=36							
H11N2	**WAKE ISLAND Hy**	**34.71**	**183**	T		T	22 52 38.0	
	baz=1.4,slow=76,SNR=277							
H11N3	**WAKE ISLAND Hy**	**34.72**	**183**	T		T	22 52 40.6	
	baz=1.4,slow=76,SNR=242							
H11N1	**WAKE ISLAND Hy**	**34.72**	**183**	T		T	22 52 38.1	
	baz=1.4,slow=76,SNR=227							
H11S1	**WAKE ISLAND Hy**	**35.93**	**183**	T		T	22 54 11.1	
	baz=1.5,slow=76,SNR=36							
H11S3	**WAKE ISLAND Hy**	**35.94**	**183**	T		T	22 54 12.7	
	baz=1.5,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**35.95**	**183**	T		T	22 54 12.8	
	baz=1.5,slow=76,SNR=50							
MKAR	**Makanchi Array**	**51.95**	**299**	P		**P**	**22 18 14.4**	**+0.3**
	comp=Z,0.2nm,0.2s,baz=54,slow=6.9,SNR=2.1							
BVAR	**Borovoye Array**	**53.32**	**312**	P		**P**	**22 18 23.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=61,slow=7.5,SNR=8.7							
NB2	**NORSAR Subarra**	**63.43**	**348**	P		**P**	**22 19 33.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=17,slow=6.9							
NOA	**NORSAR Array B**	**63.43**	**348**	P		**P**	**22 19 34.6**	**0.0**
	comp=Z,0.5nm,0.6s,baz=18,slow=6.7,SNR=5.1							
TXAR	**Lajitas Array**	**65.47**	**74**	P		**P**	**22 19 48.6**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=302,slow=5.1,SNR=9.9							

WEL 28 22:27:40.5±0.5, 36°56S×177°17E, h5km, ML3.8/6, 2C, Error ellipse: s-maj=5.2km s-min=3.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.18**	**261**	⇑P*	Pg	22 28 02.0	-1.1
KUZ				S*	Sg	22 28 17.1	-1.2
KUZ				AML	AML	22 28 17.4	
KUZ				AML	AML	22 28

BKZ				AML	AML	22 36 13.9	
TWGZ	**Tauwhareparae**	**1.67**	**112**	SN	Sn	22 36 15.0	+0.6
WNVZ	**Whainaroa**	**1.78**	**191**	PN	Pn	22 35 50.5	+0.5
MXZ	**Matakaoa Point**	**1.82**	**90**	PN	Pn	22 35 51.3	+1.1
MOVZ	**Moawhango**	**1.84**	**186**	PN	Pn	22 35 50.4	0.0
ARHZ	**Aropaoanui**	**1.85**	**156**	PN	Pn	22 35 50.7	+0.2
ARHZ				SN	Sn	22 36 16.7	-1.2
BHHZ	**Black Hill Sta**	**1.91**	**179**	PN	Pn	22 35 50.8	-0.4
WMGZ	**Waiomatatini S**	**1.92**	**98**	PN	Pn	22 35 50.8	-0.3
MCHZ	**McNeill Hill**	**1.94**	**164**	SN	Sn	22 36 18.3	-1.3
CNGZ	**Carnagh Statio**	**1.95**	**118**	PN	Pn	22 35 51.8	+0.2
KAHZ	**Kahuranaki**	**2.32**	**163**	PN	Pn	22 35 54.8	-0.9
TSZ	**Takapari Road**	**2.48**	**181**	PN	Pn	22 35 56.3	-1.3
MRZ	**Mangatainoka R**	**3.10**	**186**	PN	Pn	22 36 02.4	-2.6
MRZ				SN	Sn	22 36 38.2	-5.5
BFZ	**Birch Farm**	**3.11**	**177**	AML	AML	22 36 02.8	
BFZ				PN	Pn	22 36 03.5	-1.5
OGWZ	**Otaki Gorge**	**3.30**	**191**	PN	Pn	22 36 05.1	-2.4
HOWZ	**Holdsworth Sta**	**3.34**	**187**	PN	Pn	22 36 04.9	-3.1
KIW	**Kapiti Island**	**3.39**	**194**	PN	Pn	22 36 05.8	-2.8
TRWZ	**Traveller**	**3.83**	**184**	PN	Pn	22 36 11.0	-3.1
TUWZ	**Tuamarina**	**4.17**	**202**	PN	Pn	22 36 15.4	-3.0
NNZ	**Nelson**	**4.17**	**209**	SN	Sn	22 37 03.5	-4.4
KHZ	**Kahutara**	**5.20**	**201**	PN	Pn	22 36 27.4	-4.3
LTZ	**Lake Taylor**	**5.94**	**208**	PN	Pn	22 36 36.1	-5.3
OXZ	**Oxford**	**6.50**	**207**	PN	Pn	22 36 43.2	-5.6

*ISCJB **28** 22:46:27.5±0.5, 40°.23N±0°.03×29°.24E±0°.03, h1km±5km, Error ellipse: s-maj=5.1km s-min=3.4km az=20.4*
*CSEM **28** 22:46:27.9±0.1, 40°.24N×29°.25E, h8km, MD2.9, Error ellipse: s-maj=2.7km s-min=2.1km az=24.0*
*ISK **28** 22:46:27.4, 40°.25N×29°.24E, h5km, MD2.9*
*DDA **28** 22:46:27.6, 40°.26N×29°.27E, h2km, Md2.5*

ISC 28 22:46:27.5±1.0, 40°.24N±0°.02×29°.26E±0°.02, h3km±8km, n53, σ0ᵗ74/74, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGD	**Bursa**	**0.05**	**297**	*i* P	**Pg**	**22 46 28.3**	**-0.3**
IGD				*i* S	**Sg**	**22 46 29.1**	**-0.3**
IZI	**Iznik**	**0.19**	**60**	*e*PG	**Pg**	**22 46 32.1**	**+0.9**
IZI	**Iznik**	**0.19**	**60**	*e*Pg	**Pg**	**22 46 32.1**	**+0.9**
GEMT	**Gemlik**	**0.20**	**344**	*e*PG	**Pg**	**22 46 32.2**	**+0.8**
GEMT				*e*SG	**Sg**	**22 46 35.1**	**+1.1**
GEMT	**Gemlik**	**0.20**	**344**	*e*Pg	**Pg**	**22 46 32.2**	**+0.8**
GEMT				*e*Sg	**Sg**	**22 46 35.1**	**+1.1**
MDNY	**Mudanya-Bursa**	**0.32**	**294**	*e*PG	**Pg**	**22 46 34.1**	**+0.5**
MDNY				*e*SG	**Sg**	**22 46 38.5**	**+0.8**
MDNY	**Mudanya-Bursa**	**0.32**	**294**	*e*Pg	**Pg**	**22 46 34.1**	**+0.5**
MDNY				*e*Sg	**Sg**	**22 46 38.5**	**+0.8**
ADVT	**Abdulvahap**	**0.41**	**62**	*e*PG	**Pg**	**22 46 36.0**	**+0.5**
ADVT				*e*SG	**Sb**	**22 46 42.6**	**-1.5**
ADVT	**Abdulvahap**	**0.41**	**62**	*e*Pg	**Pg**	**22 46 36.0**	**+0.5**
ADVT				*e*Sg	**Sb**	**22 46 42.6**	**-1.5**
ARMT	**Armutlu**	**0.45**	**317**	*e*PG	**Pg**	**22 46 36.5**	**+0.5**
ARMT				*e*SG	**Sg**	**22 46 42.7**	**+0.8**
ARMT	**Armutlu**	**0.45**	**317**	*e*Pg	**Pg**	**22 46 36.5**	**+0.5**
ARMT				*e*Sg	**Sg**	**22 46 42.7**	**+0.8**
CAVI	**Cavuskoy**	**0.45**	**95**	*e*PG	**Pg**	**22 46 36.7**	**+0.6**
CAVI	**Cavuskoy**	**0.45**	**95**	*e*Pg	**Pg**	**22 46 36.7**	**+0.6**
BUY	**Buyukada**	**0.62**	**350**	P	**Pg**	**22 46 40.1**	**+0.7**
BUY				S	**Sg**	**22 46 48.4**	**+0.9**
BUY	**Buyukada**	**0.62**	**350**	*i* P	**Pg**	**22 46 40.1**	**+0.7**
BUY				*i* S	**Sg**	**22 46 48.4**	**+0.9**
HRT	**Hereke**	**0.66**	**28**	*e*PG	**Pg**	**22 46 40.4**	**+0.3**
HRT	**Hereke**	**0.66**	**28**	*e*Pg	**Pg**	**22 46 40.4**	**+0.3**
KCTX	**Karacabey (Bur**	**0.69**	**272**	*e*PG	**Pb**	**22 46 41.5**	**-0.8**
KCTX	**Karacabey (Bur**	**0.69**	**272**	*e*Pg	**Pb**	**22 46 41.5**	**-0.8**
TVSB	**Tavsanli**	**0.81**	**169**	*e*PG	**Pg**	**22 46 43.5**	**+0.5**
TVSB	**Tavsanli**	**0.81**	**169**	*e*Pg	**Pg**	**22 46 43.5**	**+0.5**
ISK	**Istanbul-Kandi**	**0.84**	**350**	*e*PG	**Pg**	**22 46 43.7**	**+0.1**
ISK	**Istanbul-Kandi**	**0.84**	**350**	*e*Pg	**Pg**	**22 46 43.7**	**+0.1**
SILT	**Sile**	**0.96**	**18**	*e*PG	**Pg**	**22 46 46.0**	**+0.1**
SILT	**Sile**	**0.96**	**18**	*e*Pg	**Pg**	**22 46 46.0**	**+0.1**
GULT	**Gulveren**	**0.98**	**78**	*e*PG	**Pb**	**22 46 46.8**	**-0.4**
GULT	**Gulveren**	**0.98**	**78**	*e*Pg	**Pb**	**22 46 46.8**	**-0.4**
BORA	**Eskisehir**	**0.98**	**111**	P	**Pg**	**22 46 46.0**	**-0.4**
BORA				S	**Sn**	**22 47 02.0**	**-0.8**
BORA	**Eskisehir**	**0.98**	**111**	*i* P	**Pg**	**22 46 46.0**	**-0.4**
BORA				*i* S	**Sn**	**22 47 01.9**	**-0.8**
BGKT	**Bogazkoy**	**1.01**	**339**	*e*PG	**Pb**	**22 46 47.2**	**-0.4**
BGKT	**Bogazkoy**	**1.01**	**339**	*e*Pg	**Pb**	**22 46 47.2**	**-0.4**
KLYT	**Kilyos**	**1.02**	**351**	*e*PG	**Pb**	**22 46 47.6**	**-0.3**
KLYT	**Kilyos**	**1.02**	**351**	*e*Pg	**Pb**	**22 46 47.6**	**-0.3**
EDC	**Edincik**	**1.07**	**276**	*e*PG	**Pg**	**22 46 47.6**	**-0.5**
EDC	**Edincik**	**1.07**	**276**	*e*Pg	**Pg**	**22 46 47.6**	**-0.5**
ELBA	**Catalca**	**1.10**	**325**	P	**Pg**	**22 46 48.9**	**-0.3**
ELBA				S	**Sb**	**22 47 03.3**	**-0.8**
ELBA	**Catalca**	**1.10**	**325**	*i* P	**Pb**	**22 46 48.9**	**-0.3**
ELBA				*i* S	**Sb**	**22 47 03.3**	**-0.8**
CTKS	**Kestanelik-??a**	**1.15**	**330**	*e*PN	**Pg**	**22 46 49.4**	**-0.1**
CTKS	**Kestanelik-??a**	**1.15**	**330**	*e*Pn	**Pg**	**22 46 49.4**	**-0.1**
GDZ	**Gediz**	**1.16**	**172**	P	**Pn**	**22 46 51.1**	**+0.3**
GDZ				S	**Sn**	**22 47 09.2**	**+1.9**
GDZ	**Gediz**	**1.16**	**172**	*i* P	**Pn**	**22 46 51.1**	**+0.3**
GDZ				*i* S	**Sn**	**22 47 09.2**	**+1.9**
BALB	**Balikesir**	**1.22**	**241**	*e*PN	**Pb**	**22 46 51.0**	**-0.2**
BALB	**Balikesir**	**1.22**	**241**	*e*Pn	**Pb**	**22 46 51.0**	**-0.2**
GONE	**Gonen-Balikesi**	**1.22**	**261**	*e*PN	**Pb**	**22 46 51.0**	**-0.3**
GONE	**Gonen-Balikesi**	**1.22**	**261**	*e*Pn	**Pb**	**22 46 51.0**	**-0.3**
MRMT	**Marmara Adasi**	**1.32**	**286**	*e*PN	**Pb**	**22 46 53.1**	**+0.1**
MRMT	**Marmara Adasi**	**1.32**	**286**	*e*Pn	**Pb**	**22 46 53.1**	**+0.1**
SAHE	**Sakarya_HENDEK**	**1.36**	**63**	P	**Pg**	**22 46 53.8**	**+0.2**
SAHE				S	**Sn**	**22 47 13.1**	**+1.1**
SAHE	**Sakarya_HENDEK**	**1.36**	**63**	*i* P	**Pg**	**22 46 53.8**	**+0.2**
SAHE				*i* S	**Sn**	**22 47 13.1**	**+1.1**
ESKT	**Eskisehir**	**1.42**	**120**	*i* P	**Pn**	**22 46 52.9**	**-1.4**
ESKT				*i* S	**Sb**	**22 47 13.2**	**0.0**
SEYT	**Eskypehyr**	**1.42**	**120**	P	**Pn**	**22 46 52.9**	**-1.4**
SEYT				S	**Sb**	**22 47 13.2**	**0.0**
KRBG	**Karabiga-Canak**	**1.51**	**276**	*e*PN	**Pb**	**22 46 56.0**	**-0.1**
KRBG	**Karabiga-Canak**	**1.51**	**276**	*e*Pn	**Pb**	**22 46 56.1**	**-0.1**

MAN 28 22:46:37, 13°.54N×119°.91E, h12km, mb4.2, ML3.0, MS2.7, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.38**	**59**	*e*P	Pb	22 46 45.8	0.0
LUBP				*e*S	Sg	22 46 47.1	-2.7
TGY	**Tagaytay City**	**1.15**	**60**	*e*P	Pb	22 46 58.8	-0.1
TGY				*i* S	Sn	22 47 14.7	+0.1
BUSP	**Coron**	**1.55**	**169**	*e*P	Pn	22 47 05.0	+0.6
BUSP				*e*S	Sn	22 47 23.8	-0.7
SJMP	**San Jose**	**1.59**	**132**	*e*P	Pg	22 47 07.3	-0.3
SJMP				*e*S	Sb	22 47 27.2	+0.8
LQP	**Lukban**	**1.69**	**70**	*e*P	Pn	22 47 06.0	-0.5
ENPP	**El Nido**	**2.36**	**192**	*e*P	Pn	22 47 17.2	+1.6
ENPP				*e*S	Sn	22 47 44.9	+0.3
OTRP	**Odiongan**	**2.37**	**119**	*e*P	Pb	22 47 17.8	-1.8
OTRP				*e*S	Sn	22 47 45.8	+1.1
CUYO	**Cuyo Island**	**2.88**	**158**	*e*P	Pn	22 47 22.4	-0.4
CUYO				*e*S	Sn	22 47 53.7	-3.7

*NIED **28** 22:49:00, 25°.70N×141°.10E, h8km, Mw4.4 Best double couple: M₀3.93000×10¹⁵ NP1:φ₀58.00000°, δ19.00000°, λ103.00000°. NP2:φ₀223.00000°, δ72.00000°, λ85.00000°.*
*IDC **28** 22:49:54.0±0.7, 25°.58N×142°.85E, h0km, mb4.2/19, mb1 4.3/21, mb1mx4.3/34, mbtmp4.2/21, ML3.5/2, MS3.1/12, Ms1 3.1/12, ms1mx3.0/38, Error ellipse: s-maj=26.0km s-min=13.7km az=83.0*
*ISCJB **28** 22:49:57.8±0.4, 25°.60N±0°.05×142°.83E±0°.08, h40km, mb4.5/29, MS3.2/8, Error ellipse: s-maj=10.8km s-min=7.6km az=164.7*
*NEIC **28** 22:49:59.2±3.0, 25°.64N×142°.79E, h34km±20km, mb4.7/12, Error ellipse: s-maj=10.1km s-min=7.8km az=96.0*

ISC 28 22:49:59.6±0.5, 25°.55N±0°.07×142°.8E±0°.1, h40km, n58, σ1ᵗ29/51, mb4.5/29, MS3.3/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.64**	**340**	Pn	**Pn**	**22 50 25.4**	**-0.5**
JCJ					**Sn**	**22 50 49.7**	**+4.0**
CBIJ	**Chichi jima**	**1.64**	**340**	*e*Pn	**Pn**	**22 50 24.8**	**-1.1**
CBIJ				*e*Sn	**Sn**	**22 50 49.7**	**+3.9**
MJAR	**Matsushiro Arr**	**11.64**	**341**	Pn	**Pn**	**22 52 42.4**	**-0.8**
	0.5nm,0.3s,baz=152,slow=12,SNR=5.2						
MJAR				LR	LR	22 56 55.2	
	comp=Z,101nm,19.2s,baz=145,slow=36						
GUMO	**Guam**		**12.06 170**	LR	LR	22 56 48.0	
	comp=Z,109nm,20.4s,baz=56,slow=34						
JNU	**Nakatsue**		**12.85 309**	LR	LR	22 56 23.6	
	comp=Z,23nm,18.5s,baz=123,slow=30						
ERM	**Erimo**		**16.42 1**	*e*Pn	**Pn**	**22 53 43.0**	**-4.0**
	85nm,1.5s						
KSRS	**Korea Array**		**17.35 317**	P	**P**	**22 53 59.8**	**+0.2**
	0.1nm,0.3s,baz=123,slow=12,SNR=6.6						
KSRS				LR	LR	22 59 56.4	
	comp=Z,75nm,20.4s,baz=126,slow=35						
KSAR	**Wonju Array Be**		**17.37 317**	P	**P**	**22 53 59.9**	**0.0**
YOJ	**Yonaguni jima**		**17.98 271**	*e*Pn	**Pn**	**22 54 05.2**	**-1.4**
	171nm,1.2s						
USRK	**Ussuriysk Ar.**		**20.58 337**	P	**P**	**22 54 35.7**	**+0.7**
	1.7nm,0.5s,baz=141,slow=10.0,SNR=5.4						
H11N2	**WAKE ISLAND Hy**		**22.95 100**	T	T	23 18 32.4	
	baz=290,slow=74,SNR=56						
H11N1	**WAKE ISLAND Hy**		**22.96 100**	T	T	23 18 32.1	
	baz=290,slow=74,SNR=50						
H11N3	**WAKE ISLAND Hy**		**22.97 100**	T	T	23 18 33.7	
	baz=290,slow=74,SNR=59						
H11S3	**WAKE ISLAND Hy**		**23.20 103**	T	T	23 18 54.4	
	baz=292,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**		**23.21 103**	T	T	23 18 53.4	
	baz=292,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hy**		**23.22 103**	T	T	23 18 54.3	
	baz=292,slow=74,SNR=14						
KLR	**Kul'dur**		**25.16 343**	P	**P**	**22 55 21.5**	**+0.5**
	5.2nm,0.7s,baz=145,slow=7.0,SNR=26						
PETK	**Petropavlovsk-**		**29.71 18**	LR	LR	23 08 06.9	
	comp=Z,14nm,21.6s,baz=169,slow=37						
SONA1	**Songino Array**		**36.22 317**	*e*P	**P**	**22 56 57.6**	**-1.2**
SONM	**Songino Array**		**36.22 317**	P	**P**	**22 56 58.4**	**-0.3**
	1.5nm,0.6s,baz=132,slow=10,SNR=7.6						
SONM				LR	LR	23 11 36.1	
	comp=Z,48nm,19.0s,baz=103,slow=36						
SEY	**Seymchan**		**37.91 7**	P	**P**	**22 57 13.3**	**+0.6**
	2.1nm,0.2s,baz=192,slow=3.8,SNR=6.1						
CMAR	**Chiang Mai Arr**		**41.14 269**	P	**P**	**22 57 40.7**	**+0.5**
	0.8nm,0.6s,baz=53,slow=7.0,SNR=6.8						
CMAR				LR	LR	23 15 26.1	
	comp=Z,15nm,18.0s,baz=225,slow=37						
WB2	**Warramunga Arr**		**45.97 191**	*e*P	**P**	**22 58 20.1**	**+1.2**
	9.8nm,0.8s						
WRA	**Warramunga Arr**		**45.97 191**	P	**P**	**22 58 20.1**	**+1.2**
	7.5nm,0.9s,baz=12,slow=8.6,SNR=34						
FITZ	**Fitzroy Crossi**		**46.50 203**	*e*P	**P**	**22 58 24.1**	**+1.0**
	7.7nm,1.0s						
ASAR	**Alice Springs**		**49.69 191**	P	**P**	**22 58 48.7**	**+1.1**
	1.0nm,0.7s,baz=13,slow=7.4,SNR=9.5						
ZALV	**Zalesovo Beam**		**51.02 320**	P	**P**	**22 58 56.9**	**-0.6**
	0.9nm,0.5s,baz=105,slow=8.9,SNR=5.1						
ZALV				PcP	**PcP**	**23 00 13.3**	**+0.3**
	2.0nm,0.6s,baz=118,slow=3.4,SNR=7.1						
ZALV				LR	LR	23 21 08.4	
	comp=Z,39nm,19.4s,baz=70,slow=37						
MK01	**Makanchi Array**		**51.89 310**	*e*P	**P**	**22 59 03.9**	**-0.2**
MK31	**Makanchi Array**		**51.89 311**	*e*P	**P**	**22 59 03.1**	**-1.1**
MKAR	**Makanchi Array**		**51.89 311**	P	**P**	**22 59 04.2**	**0.0**
	1.3nm,0.6s,baz=93,slow=9.1,SNR=14						
MKAR				PcP	**PcP**	**23 00 16.9**	**+0.3**
	1.2nm,0.7s,baz=75,slow=5.4,SNR=4.9						
NRIK	**Noril'sk**		**54.28 339**	P	**P**	**22 59 21.6**	**+0.2**
	3.4nm,0.6s,baz=115,slow=8.8,SNR=6.3						
NRIK				LR	LR	23 22 49.5	
	comp=Z,17nm,19.0s,baz=127,slow=36						
MSVF	**Nonsavu**		**55.02 138**	*e*P	**P**	**22 59 28.5**	**+1.0**
	110nm,1.8s						
HPAH	**Hawaii Prepara**		**56.53 82**	*e*P	**P**	**22 59 38.0**	**-0.3**
	77nm,0.6s						
STKA	**Stephens Creek**		**57.12 181**	P	**P**	**22 59 41.9**	**-0.2**
	4.8nm,0.9s,baz=352,slow=12,SNR=5.6						
STKA	**Stephens Creek**		**57.12 181**	*e*P	**P**	**22 59 42.5**	**+0.4**
	9.4nm,1.9s						
TRF	**Thorofare Moun**		**57.15 29**	*e*P	**P**	**22 59 42.2**	**+0.1**
	6.8nm,0.8s						
MDM	**Murphy Dome**		**58.25 28**	*e*P	**P**	**22 59 51.2**	**+1.5**
	6.5nm,1.2s						
SCM	**Sheep Creek Mo**		**58.32 32**	*e*P	**P**	**22 59 50.9**	**+0.6**
	12nm,0.9s						
HDA	**Harding Lake**		**58.73 29**	*e*P	**P**	**22 59 53.2**	**+0.2**
	49nm,1.0s						
IL1	**Eielson Array**		**58.80 28**	*e*P	**P**	**22 59 51.1**	**-2.4**
ILAR	**Eielson Array**		**58.80 28**	P	**P**	**22 59 53.0**	**-0.5**
	2.5nm,0.8s,baz=260,slow=5.8,SNR=20						
ZRNK	**Zerenda**		**60.40 318**	*e*P	**P**	**23 00 04.5**	**-0.3**
	4.6nm,1.0s						
KKAR	**Karatay Array**		**60.45 307**	*e*P	**P**	**23 00 04.0**	**-1.2**
ARU	**Arti**		**65.98 323**	LR	LR	23 32 14.1	
	comp=Z,30nm,18.4s,baz=68,slow=38						
ARU	**Arti**		**65.98 323**	*e*P	**P**	**23 00 41.1**	**-0.6**
	5.8nm,0.8s						
ABKAR	**Akbulak array**		**66.57 315**	*e*P	**P**	**23 00 45.6**	**0.0**
AKTO	**Aktyubinsk**		**67.53 316**	LR	LR	23 29 55.9	
	comp=Z,18nm,19.1s,baz=36						
GEYT	**Alibeck**		**70.81 304**	P	**P**	**23 01 12.6**	**+0.3**
	0.5nm,0.3s,baz=335,slow=6.7,SNR=3.8						
ARCES	**ARCESS Array B**		**75.18 341**	P	**P**	**23 01 37.9**	**+0.4**
	3.2nm,0.9s,baz=214,slow=5.9,SNR=5.7						
KBZ	**Khabaz**		**79.47 313**	P	**P**	**23 02 03.2**	**+1.3**
	5.3nm,0.8s,baz=63,slow=7.0,SNR=9.3						
FINES	**FINESS Array B**		**79.57 334**	P	**P**	**23 02 02.1**	**0.0**
	3.7nm,0.4s,baz=58,slow=5.0,SNR=50						
AKASG	**Malin Array Be**		**84.19 324**	P	**P**	**23 02 26.4**	**-0.3**
	0.7nm,0.4s,baz=53,slow=5.4,SNR=4.5						
NB2	**NORSAR Subarra**		**85.25 339**	P	**P**	**23 02 31.4**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=49,slow=4.6						
NOA	**NORSAR Array B**		**85.25 339**	P	**P**	**23 02 31.5**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=46,slow=4.9,SNR=8.7						
NOA				LR	LR	23 46 29.1	
	comp=Z,11nm,18.1s,baz=60,slow=40						
BRTR	**Keskin Array B**		**87.46 313**	P	**P**	**23 02 42.5**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=95,slow=3.4,SNR=3.4						
GERES	**GERESS Array B**		**93.12 329**	P	**P**	**23 03 07.7**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=42,slow=6.1,SNR=3.8						
TORD	**Torodi Ar. Bea**		**126.02 311**	PKP	**PKPdf**	**23 08 58.8**	**+0.5**
	comp=Z,1.4nm,1.1s,baz=46,slow=3.0,SNR=3.5						
LPAZ	**La Paz**		**149.72 78**	PKPbc	**PKPbc**	**23 09 47.7**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=5.6,slow=10.0,SNR=4.4						

BUC 28 23:08:17.4±0.3, 45°.39N×26°.52E, h8km±4km, MD2.2/2, 8D, Error ellipse: s-maj=2.3km s-min=1.3km az=131.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISR	**Istrita**	**0.27**	**176**	*i* P	Pb	23 08 23.9	-0.7
ISR	**Istrita**	**0.27**	**176**	S	Sg	23 08 27.2	+0.8
ISR	**Istrita**	**0.27**	**176**	*i* P	Pb	23 08 23.9	-0.7
ISR				*i* S	Sg	23 08 27.2	+0.8
MLR	**Muntele Rosu**	**0.42**	**284**	*i* P	Pg	23 08 26.1	+0.6
MLR	**Muntele Rosu**	**0.42**	**284**	S	Sg	23 08 31.9	+0.9
MLR	**Muntele Rosu**	**0.42**	**284**	*i* P	Pg	23 08 26.1	+0.6
MLR				*i* S	Sg	23 08 31.9	+0.9
PLOR	**Plostina**	**0.47**	**11**	*i* P	Pb	23 08 27.3	-0.7
PLOR	**Plostina**	**0.47**	**11**	S	Sb	23 08 34.7	-0.4
PLOR	**Plostina**	**0.47**	**11**	*i* P	Pb	23 08 27.3	-0.7
PLOR				*i* S	Sb	23 08 34.7	-0.4
VRI	**Vrincioaia**	**0.50**	**17**	*i* P	Pb	23 08 27.8	-0.7
VRI	**Vrincioaia**	**0.50**	**17**	S	Sb	23 08 35.2	-0.7
VRI	**Vrincioaia**	**0.50**	**17**	*i* P	Pb	23 08 27.8	-0.7
VRI				*i* S	Sb	23 08 35.2	-0.7
VOIR		**1.03**	**273**	S	Sn	23 08 53.9	+0.9
VOIR		**1.03**	**273**	*i* S	Sn	23 08 53.9	+0.9

*ISCJB **28** 23:15:46.4±0.2, 51°.59N±0°.01×16°.13E±0°.02, h0km, mb3.5/4, MS3.6/2, Error ellipse: s-maj=1.8km s-min=1.7km az=176.2*
*MOS **28** 23:15:47.7±1.2, 51°.65N×16°.12E, h10km, mb4.0/1, Error ellipse: s-maj=8.4km s-min=4.6km az=86.2*
*LDG **28** 23:15:47.3±0.1, 51°.59N×16°.17E, h1km, Ml3.9/8, Error ellipse: s-maj=3.6km s-min=2.2km az=8.0, Suspected Mining induced.*
*CSEM **28** 23:15:48.5±0.1, 51°.58N×16°.11E, h2km, ML4.2/8, Ms3.8, Error ellipse: s-maj=2.1km s-min=2.0km az=28.0*
*IDC **28** 23:15:48.2±0.7, 51°.62N×15°.94E, h0km, mb3.6/4, mb1 3.6/12, mb1mx3.5/42, mbtmp3.6/12, ML3.5/8, MS3.6/2, Ms1 3.7/2, ms1mx2.3/44, Error ellipse: s-maj=11.4km s-min=7.1km az=112.0*
*PRU **28** 23:15:49.8, 51°.53N×16°.11E, h0km*
*WAR **28** 23:15:49.7, 51°.55N×16°.11E, h1km, Mw3.2*
*VIE **28** 23:15:49.9±0.4, 51°.50N×16°.11E, h0km, mb3.2/18, ML3.5/15, Ms3.8/5, Error ellipse: s-maj=4.0km s-min=3.0km az=72.0, Suspected Mining induced.*
*BGR **28** 23:15:49.7±0.3, 51°.54N×16°.11E, h1km, ML3.7/14, Error ellipse: s-maj=4.4km s-min=2.2km az=17.0*
*UPP **28** 23:15:50.0±3.2, 51°.63N×15°.58E, h0km, ML1.9, Suspected explosion*
*BNS **28** 23:15:52.6±0.4, 51°.62N×15°.93E, h10km, ML3.6*

ISC 28 23:15:47.3±0.5, 51°.60N±0°.02×16°.10E±0°.02, h0km, n248, σ1ᵗ71/351, mb3.5/4, 14C-20D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.77**	**171**	*i* Pg	**Pb**	**23 16 03.2**	**-0.3**
KSP				*e*Sg	**Sg**	**23 16 12.8**	**+0.8**
KSP				*e*		23 16 17.5	
KSP	**Ksiaz**	**0.77**	**171**	*i* P	**Pb**	**23 16 03.2**	**-0.3**
KSP				*e*		23 16 17.5	
KSP	**Ksiaz**	**0.77**	**171**	*e*Pg	**Pb**	**23 16 03.3**	**-0.3**
KSP				*e*Sg	**Sg**	**23 16 12.6**	**+0.6**
KSP	**Ksiaz**	**0.77**	**171**	*i* Pg	**Pb**	**23 16 03.2**	**-0.3**
KSP				Sg	**Sg**	**23 16 12.6**	**+0.6**
UPC	**Upice**	**1.10**	**183**	*i* PG	**Pb**	**23 16 09.3**	**+0.2**
UPC				*e*SG	**Sg**	**23 16 23.3**	**+0.8**
	563nm,0.3s						
UPC				AMS	AMS	23 16 40.0	
	500nm,2.7s						
UPC	**Upice**	**1.10**	**183**	*i* P	**Pb**	**23 16 09.3**	**+0.2**
UPC				*e*		23 16 23.3	
UPC				smax	smax		
	comp=N,563nm,0.3s						
UPC				MLR	MLR		
	comp=Z,500nm,2.7s						
UPC	**Upice**	**1.10**	**183**	Pg	**Pb**	**23 16 09.3**	**+0.2**
UPC				Sg	**Sg**	**23 16 23.3**	**+0.8**
	comp=Z,563nm,0.3s						
DPC	**Dobruska-Polom**	**1.26**	**173**	*e*PG	**Pb**	**23 16 12.1**	**+0.1**
DPC				*e*SG	**Sg**	**23 16 27.9**	**+0.1**
	comp=Z,232nm,0.4s						
DPC				AMS	AMS	23 16 40.0	
	comp=Z,700nm,3.0s						
DPC	**Dobruska-Polom**	**1.26**	**173**	*e*P	**Pb**	**23 16 12.1**	**+0.1**
DPC				*e*		23 16 27.9	
DPC				smax	smax		
	comp=N,232nm,0.4s						
DPC				MLR	MLR		
	comp=Z,700nm,3.0s						
DPC	**Dobruska-Polom**	**1.26**	**173**	*e*Pg	**Pb**	**23 16 12.1**	**+0.1**
DPC				*e*Sg	**Sg**	**23 16 28.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.26**	**173**	Pg	**Pb**	**23 16 12.1**	**+0.1**
DPC				Sg	**Sg**	**23 16 27.9**	**+0.1**
	comp=Z,232nm,0.4s						
PVCC	**Panska Ves**	**1.45**	**223**	*i* PG	**Pb**	**23 16 15.6**	**+0.5**
PVCC				*e*SG	**Sn**	**23 16 35.6**	**+1.3**
	comp=Z,863nm,0.3s						
PVCC	**Panska Ves**	**1.45**	**223**	*i* P	**Pb**	**23 16 15.6**	**+0.5**
PVCC				*e*		23 16 35.6	
PVCC				smax	smax		
	comp=N,863nm,0.3s						
PVCC	**Panska Ves**	**1.45**	**223**	Pg	**Pb**	**23 16 15.6**	**+0.5**
PVCC				Sg	**Sn**	**23 16 35.6**	**+1.3**
	comp=N,863nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**243**	PN	**Pb**	**23 16 16.6**	**-0.1**
BRG				PG	**Pg**	**23 16 18.3**	**+

OKC				*e*Pg	**Pg**	23 16 29.5	+0.3
OKC				*e*Sg	**Sb**	23 16 56.7	+1.1
OKC	**Ostrava-Krasne**	**2.19 143**		Pn	**Pn**	23 16 25.0	0.0
VRAC	**Vranov**	**2.32 172**		Pn	**Pn**	23 16 28.1	+1.4
	comp=Z,7.1nm,0.3s,baz=341,slow=13,SNR=46						
VRAC				Lg	Lg	23 17 01.3	
	comp=Z,38nm,0.3s,baz=269,slow=22,SNR=13						
VRAC	**Vranov**	**2.32 172**	⇑	*i*P	**Pn**	23 16 27.3	+0.6
VRAC	**Vranov**	**2.32 172**		S	**Sb**	23 16 59.9	+0.8
VRAC	**Vranov**	**2.32 172**	⇑	*i*P	**Pn**	23 16 27.3	+0.6
VRAC				*e*Sg	**Sb**	23 17 00.7	+1.6
TREC	**Trest**	**2.34 190**	⇓	*e*PN	**Pn**	23 16 28.1	+1.0
TREC				*e*PG	**Pg**	23 16 32.1	-0.1
TREC				*e*SG	**Sb**	23 17 01.3	+1.5
	comp=Z,135nm,0.4s						
TREC				AMS	AMS	23 17 40.0	
	comp=Z,200nm,4.6s						
TREC	**Trest**	**2.34 190**		*e*P	**Pn**	23 16 28.1	+1.0
TREC				*e*		23 17 01.3	
TREC				smax	smax		
	comp=N,135nm,0.4s						
TREC				MLR	MLR		
	comp=Z,200nm,4.6s						
TREC	**Trest**	**2.34 190**		Pn	**Pn**	23 16 28.1	+1.0
TREC	**Trest**	**2.34 190**		Pg	**Pg**	23 16 32.1	-0.1
TREC				Sg	**Sb**	23 17 01.3	+1.5
	comp=Z,135nm,0.4s						
WERD	**Werda**	**2.66 246**		*e*Pn	**Pn**	23 16 32.4	+1.0
WERD				*e*Pg	**Pg**	23 16 39.1	+0.9
WERD				*e*Sg	**Sg**	23 17 12.7	0.0
WERD	**Werda**	**2.66 246**		Pn	**Pn**	23 16 32.4	+1.0
NKC	**Novy Kostel**	**2.69 241**	⇓	*i*PN	**Pn**	23 16 33.1	+1.3
NKC				*e*PG	**Pg**	23 16 40.4	+1.6
NKC				*e*SG	**Sg**	23 17 15.4	+1.9
	comp=Z,440nm,0.4s						
NKC				AMS	AMS	23 18 10.0	
	comp=Z,300nm,4.0s						
NKC	**Novy Kostel**	**2.69 241**		*i* P	**Pn**	23 16 33.1	+1.3
NKC				*e*		23 17 15.4	
NKC				smax	smax		
	comp=N,440nm,0.4s						
NKC				MLR	MLR		
	comp=Z,300nm,4.0s						
NKC	**Novy Kostel**	**2.69 241**		Pn	**Pn**	23 16 33.1	+1.3
NKC	**Novy Kostel**	**2.69 241**		Pg	**Pg**	23 16 40.4	+1.6
NKC				Sg	**Sg**	23 17 15.4	+1.9
	comp=Z,440nm,0.4s						
OJC	**Ojcow**	**2.72 119**		*e*Pn	**Pn**	23 16 31.2	-1.0
OJC				*e*Pg	**Pg**	23 16 40.0	+0.6
OJC				*e*Sn	**Sn**	23 17 05.0	-0.8
OJC				*e*Sg	**Sg**	23 17 15.4	+0.8
OJC	**Ojcow**	**2.72 119**		*e*P	**Pn**	23 16 31.2	-1.0
OJC				*e*		23 17 05.0	
OJC	**Ojcow**	**2.72 119**		*e*Pn	**Pn**	23 16 31.4	-0.8
OJC				*e*Pg	**Pg**	23 16 40.4	+1.0
OJC				*e*Sg	**Sg**	23 17 15.5	+0.8
OJC	**Ojcow**	**2.72 119**		Pn	**Pn**	23 16 31.4	-0.8
OJC	**Ojcow**	**2.72 119**		*e*Pn	**Pn**	23 16 31.2	-1.0
OJC				*e*Pg	**Pg**	23 16 40.0	+0.6
OJC				*e*Sn	**Sn**	23 17 05.0	-0.8
OJC				*e*Sg	**Sg**	23 17 15.4	+0.8
KHC	**Kasperske Hory**	**2.95 214**	⇓	*i*PN	**Pn**	23 16 36.2	+0.7
KHC				*e*PG	**Pg**	23 16 42.7	-1.2
KHC				*e*SN	**Sn**	23 17 11.9	+0.3
KHC				*e*SG	**Sg**	23 17 21.2	-0.9
	comp=Z,100nm,0.5s						
KHC				AMS	AMS	23 17 50.0	
	comp=Z,200nm,4.4s						
KHC	**Kasperske Hory**	**2.95 214**		*i* P	**Pn**	23 16 36.2	+0.7
KHC				*e*		23 17 11.9	
KHC				smax	smax		
	comp=N,100nm,0.5s						
KHC				MLR	MLR		
	comp=Z,200nm,4.4s						
KHC	**Kasperske Hory**	**2.95 214**		Pn	**Pn**	23 16 36.2	+0.7
KHC	**Kasperske Hory**	**2.95 214**		Pg	**Pg**	23 16 42.7	-1.2
KHC				Sn	**Sn**	23 17 11.9	+0.3
KHC				Sg	**Sg**	23 17 21.2	-0.9
	comp=Z,100nm,0.5s						
MANZ	**Manzenberg**	**3.00 239**		*e*Pn	**Pn**	23 16 37.7	+1.5
MANZ				*e*Pg	**Pg**	23 16 45.9	+1.1
MANZ				*e*Sg	**Sg**	23 17 24.3	+0.5
MANZ	**Manzenberg**	**3.00 239**		Pn	**Pn**	23 16 37.7	+1.5
ROTZ	**Rotzenmuhle**	**3.08 235**		*e*Pn	**Pn**	23 16 38.3	+1.1
ROTZ				*e*Sg	**Sg**	23 17 25.6	-0.7
ROTZ	**Rotzenmuhle**	**3.08 235**		Pn	**Pn**	23 16 38.3	+1.1
ROTZ				Sg	**Sg**	23 17 25.6	-0.7
GEC2	**GERESS Array S**	**3.16 210**		*e*Pn	**Pn**	23 16 39.0	+0.7
GEC2				*e*Pg	**Pg**	23 16 47.9	+0.1
GEC2				*e*Sg	**Sg**	23 17 26.9	-1.9
GEC2	**GERESS Array S**	**3.16 210**		Pn	**Pn**	23 16 39.0	+0.7
GERES	**GERESS Array B**	**3.16 210**		Pn	**Pn**	23 16 39.3	+0.9
	comp=Z,7.4nm,0.3s,baz=32,slow=13,SNR=166						
GERES				Lg	Lg	23 17 26.7	
	comp=Z,19nm,0.3s,baz=24,slow=26,SNR=5.3						
SMOL	**Smolenice**	**3.21 164**		*e*P	**Pg**	23 16 48.9	+0.2
SMOL	**Smolenice**	**3.21 164**		*e*Pg	**Pg**	23 16 48.9	+0.2
SMOL				*e*Sg	**Sg**	23 17 30.7	+0.4
SMOL	**Smolenice**	**3.21 164**		*e*PG	**Pg**	23 16 48.9	+0.2
SMOL				*e*SG	**Sg**	23 17 30.7	+0.4
LANS	**Liptovska Anna**	**3.27 137**		*e*P	**Pn**	23 16 41.1	+1.3
LANS	**Liptovska Anna**	**3.27 137**		*e*Pg	**Pg**	23 16 50.0	+0.1
LANS				*e*Sg	**Sg**	23 17 31.1	-1.1
LANS	**Liptovska Anna**	**3.27 137**		*e*	**Pn**	23 16 41.1	+1.3
LANS	**Liptovska Anna**	**3.27 137**		*e*PG	**Pg**	23 16 50.0	+0.1
LANS				*e*SG	**Sg**	23 17 31.1	-1.1
ASSE	**Asse, Remlinge**	**3.41 281**		*e*Pn	**Pn**	23 16 43.1	+1.5
ASSE	**Asse, Remlinge**	**3.41 281**		Pn	**Pn**	23 16 43.1	+1.5
NIE	**Niedzica**	**3.46 128**		*e*P	**Pg**	23 16 53.4	-0.1
NIE				*e*S	**Sg**	23 17 37.9	-0.4
NIE	**Niedzica**	**3.46 128**		*e*P	**Pg**	23 16 53.4	-0.1
NIE	**Niedzica**	**3.46 128**		*e*P	**Pg**	23 16 53.4	-0.2
NIE				*e*S	**Sg**	23 17 37.9	-0.5
CLZ	**Clausthal**	**3.57 276**		*e*Pn	**Pn**	23 16 46.1	+2.2
CLZ				*e*Pg	**Pg**	23 16 56.5	+0.9
CLZ				*e*Sg	**Sg**	23 17 42.4	+0.5
CLZ	**Clausthal**	**3.57 276**		Pn	**Pn**	23 16 46.1	+2.2
VYHS	**Vyhne**	**3.58 149**		*e*P	**Pn**	23 16 44.4	+0.4
VYHS	**Vyhne**	**3.58 149**		*e*Pg	**Pg**	23 16 57.1	+1.3
VYHS				*e*Sg	**Sg**	23 17 42.3	+0.2
VYHS	**Vyhne**	**3.58 149**		*e*	**Pn**	23 16 44.4	+0.4
VYHS	**Vyhne**	**3.58 149**		*e*PG	**Pg**	23 16 57.1	+1.3
VYHS				*e*SG	**Sg**	23 17 42.3	+0.2
VYHS				*e*LG	Lg	23 17 52.4	
BSD	**Bornholm Skovb**	**3.59 349**		*i* P	**Pn**	23 16 44.9	+0.8
BSD				*i* S	**Sn**	23 17 25.2	-2.0
BSD	**Bornholm Skovb**	**3.59 349**		*i* P	**Pn**	23 16 44.9	+0.8
	SNR=49						
BSD				*i* S	**Sn**	23 17 25.2	-2.0
GRA1	**Grafenberg Arr**	**3.65 240**		Pn	**Pn**	23 16 46.6	+1.6
GRA1	**Grafenberg Arr**	**3.65 240**		Pg	**Pg**	23 16 58.6	+1.5
GRA1				Sg	**Sg**	23 17 44.8	+0.5
GRF	**Grafenberg Arr**	**3.65 240**		*e*Pn	**Pn**	23 16 46.6	+1.6
GRF				*e*Pg	**Pg**	23 16 58.6	+1.5
GRF				*e*Sg	**Sg**	23 17 44.8	+0.5
CONA	**Conrad Observa**	**3.68 182**		Pn	**Pn**	23 16 46.7	+1.2
	comp=Z,8.6nm,0.4s,SNR=16						
SOP	**Sopron**	**3.93 175**	⇑	*e*Pn	**Pn**	23 16 50.1	+1.2
MOA	**Molln**	**3.94 198**		Pn	**Pn**	23 16 50.3	+1.3
	comp=Z,41nm,0.4s,SNR=44						
STHS	**Stebnicka Huta**	**3.94 122**		*e*P	**Pg**	23 17 05.3	+2.4
STHS	**Stebnicka Huta**	**3.94 122**		*e*Pg	**Pg**	23 17 05.3	+2.4
STHS	**Stebnicka Huta**	**3.94 122**		*e*PG	**Pg**	23 17 05.3	+2.4
STHS				*e*LG	Lg	23 18 03.2	
KECS	**Kecovo**	**4.21 136**		*e*P	**Pn**	23 16 54.0	+1.3
KECS	**Kecovo**	**4.21 136**		*e*Pg	**Pg**	23 17 09.1	+1.1
KECS				*e*Sg	**Sg**	23 18 00.1	-2.4
KECS	**Kecovo**	**4.21 136**		*e*	**Pn**	23 16 54.0	+1.3
KECS	**Kecovo**	**4.21 136**		*e*PG	**Pg**	23 17 09.1	+1.1
KECS				*e*SG	**Sg**	23 18 00.1	-2.4
KECS				*e*LG	Lg	23 18 12.1	
ARSA	**Arzberg**	**4.37 185**		Pn	**Pn**	23 16 56.7	+1.8
	SNR=13						
CRVS	**Cervenica-Dubn**	**4.37 126**		*e*P	**Pn**	23 16 56.3	+1.3
CRVS	**Cervenica-Dubn**	**4.37 126**		*e*Pg	**Pg**	23 17 12.8	+1.7
CRVS				*e*Sg	**Sg**	23 18 08.4	+0.6
CRVS	**Cervenica-Dubn**	**4.37 126**		*e*	**Pn**	23 16 56.3	+1.3
CRVS	**Cervenica-Dubn**	**4.37 126**		*e*PG	**Pg**	23 17 12.8	+1.7
CRVS				*e*SG	**Sg**	23 18 08.4	+0.6
PSZ	**Piszkesteto**	**4.43 145**	⇓	*i*P	**Pn**	23 16 56.8	+1.0
PSZ	**Piszkesteto**	**4.43 145**	⇓	*i*P	**Pn**	23 16 56.8	+1.0
PSZ	**Piszkesteto**	**4.43 145**	⇑	*e*Pn	**Pn**	23 16 57.3	+1.5
KWP	**Kalwaria Pacla**	**4.65 113**		*e*Pn	**Pn**	23 16 59.4	+0.6
KWP				*e*Pg	**Pg**	23 17 15.8	-0.5
KWP	**Kalwaria Pacla**	**4.65 113**	⇑	*i*P	**Pn**	23 16 59.1	+0.4
KWP	**Kalwaria Pacla**	**4.65 113**		*e*P	**Pn**	23 16 59.4	+0.6
KWP	**Kalwaria Pacla**	**4.65 113**		*e*Pn	**Pn**	23 16 59.3	+0.6
KWP	**Kalwaria Pacla**	**4.65 113**		*e*Pn	**Pn**	23 16 59.4	+0.6
KWP				*e*Pg	**Pg**	23 17 15.8	-0.5
BLEU	**Blekinge**	**4.71 358**		P	**Pn**	23 17 00.7	+1.1
BLEU	**Blekinge**	**4.71 358**		P	**Pn**	23 17 00.7	+1.1
KOLS	**Kolonicke sedl**	**4.78 122**		*e*Pg	**Pg**	23 17 22.5	+3.7
KOLS	**Kolonicke sedl**	**4.78 122**		*e*	**Pn**	23 17 01.1	+0.6
KOLS	**Kolonicke sedl**	**4.78 122**		*e*PG	**Pg**	23 17 22.5	+3.7
KOLS				*e*LG	Lg	23 18 38.2	
BJUU	**Bjuv**	**4.84 339**		P	**Pn**	23 17 01.0	-0.3
BJUU				S	**Sn**	23 17 56.7	-1.2
BJUU	**Bjuv**	**4.84 339**		P	**Pn**	23 17 01.0	-0.3
BJUU				S	**Sn**	23 17 56.7	-1.2
KBA	**Koelnbreinsper**	**4.87 203**		Pn	**Pn**	23 17 03.6	+1.6
	comp=Z,24nm,0.4s,SNR=19						
KBA				Sg	**Sg**	23 18 27.1	+3.4
	comp=Z,36nm,0.5s						
SUW	**Suwalki**	**4.93 58**		*e*Pn	**Pn**	23 17 04.8	+2.3
SUW				*e*Sn	**Sn**	23 18 01.6	+1.4
SUW	**Suwalki**	**4.93 58**		*e*P	**Pn**	23 17 04.8	+2.3
SUW				*e*		23 18 01.6	
SUW	**Suwalki**	**4.93 58**		*e*Pn	**Pn**	23 17 04.8	+2.3
SUW				*e*Sn	**Sn**	23 18 01.6	+1.4
SUW	**Suwalki**	**4.93 58**		*e*Pn	**Pn**	23 17 04.8	+2.2
SUW				*e*Sn	**Sn**	23 18 01.6	+1.4
UZH	**Uzhgorod**	**4.97 124**		*e*P	**Pn**	23 17 07.0	+3.9
UZH				*e*S	**Sn**	23 18 04.4	+3.1
UZH				smax	smax		
	comp=E,60nm,0.8s						
SOKA	**Soboth**	**4.98 188**		Pn	**Pn**	23 17 05.1	+1.8
	comp=E,3.8nm,0.4s,SNR=6.8						
SOKA				Sg	**Sg**	23 18 31.8	+4.7
	comp=E,1.7nm,0.2s						
DEL	**Delary**	**5.05 346**		P	**Pn**	23 17 04.6	+0.4
DEL	**Delary**	**5.05 346**		P	**Pn**	23 17 04.6	+0.4
BEE	**Becsehely**	**5.16 175**		*e*Pn	**Pn**	23 17 07.6	+1.9
KOGS	**Kog**	**5.16 179**		*i* Pn	**Pn**	23 17 07.4	+1.7
KOGS	**Kog**	**5.16 179**		*i* Pn	**Pn**	23 17 07.4	+1.7
GROS	**Grobnik**	**5.16 185**		*i* Pn	**Pn**	23 17 07.8	+2.0
GROS	**Grobnik**	**5.16 185**		*i* Pn	**Pn**	23 17 07.8	+2.0
WATA	**Walderalm**	**5.19 216**		Pn	**Pn**	23 17 08.6	+2.3
	SNR=8.2						
OBKA	**Obir**	**5.20 192**		Pn	**Pn**	23 17 08.1	+1.7
	comp=E,1.4nm,0.3s						
WTTA	**Wattenberg**	**5.23 216**		Pn	**Pn**	23 17 08.7	+1.9
	SNR=5.4						
MYKA	**Terra Mystica**	**5.23 199**		Pn	**Pn**	23 17 08.1	+1.3
	comp=E,2.4nm,0.3s						
MYKA				Sg	**Sg**	23 18 39.9	+4.7
	comp=E,2μm,0.0s						
LVV	**L'vov**	**5.35 106**		*e*P	**Pn**	23 17 10.2	+1.9
LVV				*i* S	**Sn**	23 18 11.0	+0.5
MOTA	**Moosalm**	**5.36 219**		Pn	**Pn**	23 17 09.5	+0.8
	SNR=18						
MOTA				Sg	**Sg**	23 18 44.1	+4.7
	comp=E,0.8nm,0.2s						
VXJU	**Vaexsjoe**	**5.37 353**		P	**Pn**	23 17 09.6	+0.9
VXJU	**Vaexsjoe**	**5.37 353**		P	**Pn**	23 17 09.6	+0.9
RETA	**Reutte**	**5.39 222**		Pn	**Pn**	23 17 09.8	+0.9
	comp=E,552nm,0.0s						
ABTA	**Abfaltersbach**	**5.40 207**		Pn	**Pn**	23 17 10.7	+1.6
	comp=E,6.8nm,0.3s,SNR=7.9						
KOE	**Koeppel**	**5.41 261**		*e*Pn	**Pn**	23 17 10.6	+1.4
KOE	**Koeppel**	**5.41 261**		Pn	**Pn**	23 17 10.6	+1.4
MOZS	**Mozjanca**	**5.42 192**		*i* Pn	**Pn**	23 17 11.4	+2.0
MOZS	**Mozjanca**	**5.42 192**		*i* Pn	**Pn**	23 17 11.4	+2.0
HOBG	**Hohbusch**	**5.54 267**		*e*Pn	**Pn**	23 17 12.5	+1.6
HOBG	**Hohbusch**	**5.54 267**		Pn	**Pn**	23 17 12.5	+1.6
VNDS	**Vrh nad Dolski**	**5.58 190**		*i* Pn	**Pn**	23 17 13.3	+1.7
VNDS	**Vrh nad Dolski**	**5.58 190**		*i* Pn	**Pn**	23 17 13.3	+1.7
OSKU	**Oskarshamn**	**5.61 0**		P	**Pn**	23 17 13.1	+1.3
OSKU	**Oskarshamn**	**5.61 0**		P	**Pn**	23 17 13.1	+1.3
CRNS	**Crni Vrh**	**5.66 193**		*i* Pn	**Pn**	23 17 14.0	+1.4
CRNS	**Crni Vrh**	**5.66 193**		*i* Pn	**Pn**	23 17 14.0	+1.4
BGG	**Burgeitz**	**5.72 259**		*e*Pn	**Pn**	23 17 14.9	+1.5
BGG	**Burgeitz**	**5.72 259**		Pn	**Pn**	23 17 14.9	+1.5
BYXU	**Byxelkrok**	**5.72 5**		P	**Pn**	23 17 15.0	+1.5
BYXU	**Byxelkrok**	**5.72 5**		P	**Pn**	23 17 15.0	+1.5
LAUG	**Laupendahl**	**5.73 271**		*e*Pn	**Pn**	23 17 14.8	+1.3
LAUG	**Laupendahl**	**5.73 271**		Pn	**Pn**	23 17 14.8	+1.3
FABU	**Falkenberg**	**5.76 341**		P	**Pn**	23 17 14.2	+0.3
FABU				S	**Sn**	23 18 16.8	-3.9
FABU	**Falkenberg**	**5.76 341**		P	**Pn**	23 17 14.2	+0.3
FETA	**Feichten**	**5.77 220**		Pn	**Pn**	23 17 16.5	+2.2
	comp=E,0.2nm,0.1s						
GNOU	**Gnosjoe**	**5.86 347**		P	**Pn**	23 17 16.2	+0.8
GNOU	**Gnosjoe**	**5.86 347**		P	**Pn**	23 17 16.2	+0.8
STB	**Steinbach**	**5.92 264**		*e*Pn	**Pn**	23 17 17.6	+1.4
STB				*e*Sn	**Sn**	23 18 22.3	-2.4
	comp=E,17nm,0.7s						
STB	**Steinbach**	**5.92 264**		Pn	**Pn**	23 17 17.6	+1.4
DAVA	**Damuels**	**5.92 226**		Pn	**Pn**	23 17 17.2	+0.8
	comp=E,2.1nm,0.3s						
EKSU	**Eksjoe**	**6.00 356**		P	**Pn**	23 17 18.4	+1.1
EKSU	**Eksjoe**	**6.00 356**		P	**Pn**	23 17 18.4	+1.1
VSTU	**Vaestervik**	**6.08 2**		P	**Pn**	23 17 19.6	+1.3
VSTU	**Vaestervik**	**6.08 2**		P	**Pn**	23 17 19.6	+1.3
HILG	**Hillesheim**	**6.10 261**		*e*Pn	**Pn**	23 17 20.1	+1.5
HILG	**Hillesheim**	**6.10 261**		Pn	**Pn**	23 17 20.1	+1.5
BMR	**Baia Mare**	**6.21 126**	⇑	*i*P	**Pn**	23 17 20.2	+0.1
BMR	**Baia Mare**	**6.21 126**	⇑	*i*P	**Pn**	23 17 20.2	+0.1
KLL	**Kalltalsperre**	**6.24 265**		*e*Pn	**Pn**	23 17 21.8	+1.3
KLL	**Kalltalsperre**	**6.24 265**		Pn	**Pn**	23 17 21.8	+1.3
DAVOX	**Davos/Dischmat**	**6.32 223**		Pn	**Pn**	23 17 23.5	+1.7
	comp=E,1.1nm,0.3s,baz=22,slow=18,SNR=13						
DAVOX				Lg	Lg	23 19 08.2	
	comp=E,1.7nm,0.3s,baz=160,slow=4.0,SNR=6.7						
MEM	**Membach**	**6.43 265**		PN	**Pn**	23 17 24.3	+1.0
MEM	**Membach**	**6.43 265**		Pn	**Pn**	23 17 24.2	+1.0
SIRR	**Siria**	**6.47 143**	⇑	*i*P	**Pn**	23 17 24.3	+0.5
SIRR	**Siria**	**6.47 143**	⇑	*i*P	**Pn**	23 17 24.3	+0.5
DRGR		**6.47 135**	⇓	*i*P	**Pn**	23 17 24.4	+0.5
DRGR		**6.47 135**	⇓	*i*P	**Pn**	23 17 24.4	+0.5
CDF	**Champ du Feu**	**6.52 244**		*e*Pn	**Pn**	23 17 23.4	-1.1
CDF				*e*Sg	**Sg**	23 19 13.3	-3.3
	comp=E,61nm,0.9s						
CDF	**Champ du Feu**	**6.52 244**		*e*Pn	**Pn**	23 17 23.4	-1.1
WLF	**Walferdange**	**6.62 257**		PN	**Pn**	23 17 27.1	+1.3
WLF	**Walferdange**	**6.62 257**		Pn	**Pn**	23 17 27.1	+1.3
BCLA	**Clavier**	**6.92 264**		PN	**Pn**	23 17 31.7	+1.8
BCLA	**Clavier**	**6.92 264**		Pn	**Pn**	23 17 31.6	+1.8
BZS	**Buzias**	**7.02 146**	⇑	*i*P	**Pn**	23 17 31.2	0.0
BZS	**Buzias**	**7.02 146**	⇑	*i*P	**Pn**	23 17 31.2	0.0
SLIT	**Slitere, Latvi**	**7.03 28**		*e*P	**Pn**	23 17 32.5	+1.2
	SNR=47						
HINF	**Hinteralfeld**	**7.09 241**		*e*Pn	**Pn**	23 17 30.3	-2.0
HINF	**Hinteralfeld**	**7.09 241**		*e*Pg	**Pg**	23 17 58.5	-4.6
HINF				*e*Sg	**Sg**	23 19 31.2	-3.7
	comp=E,42nm,0.8s						
BURAR	**Bucovina Array**	**7.14 120**	⇑	*i*P	**Pn**	23 17 32.9	-0.1
BURAR	**Bucovina Array**	**7.14 120**	⇑	*i*P	**Pn**	23 17 32.9	-0.1
HAU	**Haudompre**	**7.26 244**		*e*Pn	**Pn**	23 17 33.2	-1.4
HAU				*e*Sg	**Sg**	23 19 36.1	-4.3
	comp=E,38nm,0.7s						
GIVF	**Givet**	**7.30 263**		*e*Sg	**Sg**	23 19 36.5	-4.9
	comp=E,55nm,1.0s						
PAGF	**Fort de Pagny**	**7.34 250**		*e*Pn	**Pn**	23 17 34.5	-1.1
	baz=71						
PAGF				*e*Sg	**Sg**	23 19 38.0	-4.8
	comp=E,17nm,1.1s						
PAGF	**Fort de Pagny**	**7.34 250**		*e*Pn	**Pn**	23 17 34.5	-1.1
DOU	**Dourbes**	**7.44 263**		PN	**Pn**	23 17 39.2	+2.2
DOU	**Dourbes**	**7.44 263**		Pn	**Pn**	23 17 39.2	+2.2
CABF	**La Chapelle**	**8.25 237**		*e*Sg	**Sg**	23 20 07.9	-4.1
	comp=E,44nm,0.8s						
KIEV	**Kiev**	**8.30 91**		*i* P	**Pn**	23 17 49.8	+1.1
KIEV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AKASG	**Malin Array Be**	**8.30 91**		Pn	**Pn**	23 17 48.2	-0.6
	comp=Z,1.8nm,0.3s,baz=281,slow=12,SNR=6.3						
AKASG				Sn	**Sn**	23 19 18.4	-4.9
	comp=Z,1.4nm,0.3s,baz=266,slow=24,SNR=4.7						
AKASG				Lg	Lg	23 20 17.5	
	comp=Z,0.4nm,0.3s,baz=278,slow=28,SNR=3.2						
MTSE	**Matsula**	**8.38 29**		*e*P	**Pn**	23 17 52.6	+2.7
	SNR=47						
LPL	**La Plagne**	**8.69 229**		*e*P	**Pn**	23 17 56.9	+2.5
LPL				*e*Sg	**Sg**	23 20 20.1	-6.2
	comp=Z,15nm,1.0s						
LPL	**La Plagne**	**8.69 229**		*e*P	**Pn**	23 17 56.9	+2.5
LOR	**Lormes**	**9.08 246**		*e*Pn	**Pn**	23 17 58.5	-1.0
	baz=64						
LOR				*e*Sg	Sn	23 20 32.6	+50
	comp=Z,23nm,1.0s						
LOR	**Lormes**	**9.08 246**		*e*Pn	**Pn**	23 17 58.5	-1.0
VSU	**Vasula**	**9.19 37**	⇑	*e*P	**Pn**	23 18 02.2	+1.3
VSU	**Vasula**	**9.19 37**		*e*P	**Pn**	23 18 03.4	+2.5
	SNR=47						
SBF	**Sospel**	**9.69 220**		*e*P	**Pn**	23 18 09.3	+1.4
SBF	**Sospel**	**9.69 220**		*e*P	**Pn**	23 18 09.3	+1.4
MEF	**Metsahovi**	**9.80 25**		*e*P	**Pn**	23 18 11.4	+2.1
	SNR=47						
NOA	**NORSAR Array B**	**9.84 346**		Pn	**Pn**	23 18 07.6	-2.3
	comp=Z,0.2nm,0.3s,baz=160,slow=11,SNR=2.7						
RAF	**Rauma**	**9.95 16**		*e*P	**Pn**	23 18 11.6	+0.3
	SNR=47						
FINES	**FINESS Array B**	**11.28 25**		Pn	**Pn**	23 18 27.3	-2.3
	comp=Z,0.2nm,0.3s,baz=198,slow=13,SNR=11						
FINES				Sn	**Sn**	23 20 27.4	-8.8
	comp=Z,0.6nm,0.3s,baz=219,slow=21,SNR=6.5						
FINES				Lg	Lg	23 21 45.7	
	baz=206,slow=25,SNR=2.2						
FINES	**FINESS Array B**	**11.28 25**		*e*P	**Pn**	23 18 28.9	-0.7
EKA	**Eskdalemuir Ar**	**12.06 296**		Pn	**Pn**	23 18 37.8	-2.4
	baz=101,slow=14,SNR=9.1						
OBN	**Obninsk**	**12.71 66**		*i* P	**Pn**	23 18 48.8	-0.3
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VSR	**Storozhevoye**	**14.39 82**		*e*P	**Pn**	23 19 15.2	+3.1
VSR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KLMR	**Klimovskoe**	**15.89 45**		*e*P	**Pn**	23 19 29.3	-2.8
KLMR				*e*		23 22 22.4	
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.4s						
VRH	**Novokhopyorsk**	**15.97 81**		*e*P	**Pn**	23 19 28.7	-4.4
VRH				pmax	pmax		
	comp=Z,10.0nm,1.6s						
ARCES	**ARCESS Array B**	**18.53 10**		Pn	**P**	23 19 59.4	-5.7
	comp=Z,0.2nm,0.3s,baz=202,slow=9.3,SNR=2.6						
ARCES	**ARCESS Array B**	**18.53 10**		*e*P	**Pn**	23 20 06.9	+1.8
ARU	**Arti**	**25.10 62**		P	**P**	23 21 13.5	+0.2
	comp=Z,1.7nm,0.7s,baz=270,slow=6.0,SNR=4.9						
ARU

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODBI	**Odobesti**	**0.09**	**222**	⇑*iP*	Pg	23 22 30.6	+0.2
ODBI	**Odobesti**	**0.09**	**222**	S	Sg	23 22 34.3	+1.4
ODBI	**Odobesti**	**0.09**	**222**	⇑*iP*	Pg	23 22 30.6	+0.2
ODBI				*i* S	Sg	23 22 34.3	+1.4
ODBI	**Odobesti**	**0.09**	**222**	S	Sg	23 22 34.3	+1.4
VRI	**Vrincioaia**	**0.29**	**278**	⇑*iP*	Pb	23 22 33.5	+0.3
VRI	**Vrincioaia**	**0.29**	**278**	⇑*iP*	Pb	23 22 33.5	+0.3
VRI				*i* S	Sg	23 22 38.7	+1.1
VRI	**Vrincioaia**	**0.29**	**278**	S	Sg	23 22 38.7	+1.1
PLOR	**Plostina**	**0.34**	**274**	⇓*iP*	Pb	23 22 34.5	+0.3
PLOR	**Plostina**	**0.34**	**274**	⇓*iP*	Pb	23 22 34.5	+0.3
PLOR				*i* S	Sb	23 22 40.3	+1.1
PLOR	**Plostina**	**0.34**	**274**	S	Sb	23 22 40.3	+1.1
MLR	**Muntele Rosu**	**0.90**	**248**	⇑*iP*	Pb	23 22 43.7	0.0
MLR	**Muntele Rosu**	**0.90**	**248**	⇑*iP*	Pb	23 22 43.7	0.0
CFR	**Carcaliu**	**0.96**	**133**	S	Sg	23 22 57.5	-0.3
CFR	**Carcaliu**	**0.96**	**133**	*i* S	Sg	23 22 57.5	-0.3

*MDD **28** 23:28:35.2±2.6,37.°39N×13.°98W,h0km,mb3.9/10, Error ellipse: s-maj=25.4km s-min=19.6km az=40.0,PRXIMO*
*INMG **28** 23:28:37.2±0.8,37.°34N×14.°35W,h10km,ML2.2, Error ellipse: s-maj=9.0km s-min=5.5km az=23.0*
*CSEM **28** 23:28:39.0±0.3,37.°56N×13.°66W,h10km,ML2.7/5, Error ellipse: s-maj=6.7km s-min=5.0km az=44.0*

ISC 28 23:28:37.4±3.9,37.°5N±0.°1×13.°8W±0.°2,h10km,n52, σ0s76/87, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.80**	**67**	*e*Pn	**Pn**	**23 29 36.8**	**+0.7**
PMAFR	**Mafra**	**3.80**	**67**	P	**Pn**	**23 29 36.7**	**+0.7**
	2.7nm,0.1s,SNR=4.0						
PMAFR	**Mafra**	**3.80**	**67**	*e*Pn	**Pn**	**23 29 36.8**	**+0.7**
PTEO	**Sao Teotonio**	**4.00**	**88**	*e*Pn	**Pn**	**23 29 39.2**	**+0.5**
PTEO				*e*Sn	**Sn**	**23 30 25.2**	**-0.5**
PTEO	**Sao Teotonio**	**4.00**	**88**	Pn	**Pn**	**23 29 39.2**	**+0.5**
PTEO				Sn	**Sn**	**23 30 25.2**	**-0.5**
PTEO	**Sao Teotonio**	**4.00**	**88**	Pn	**Pn**	**23 29 39.2**	**+0.5**
PTEO				Sn	**Sn**	**23 30 25.2**	**-0.5**
PNCL	**Nicolau / Gran**	**4.18**	**80**	*e*Pn	**Pn**	**23 29 42.3**	**+1.1**
PNCL				*e*Sn	**Sn**	**23 30 30.3**	**+0.1**
PNCL				A	A	23 30 34.9	
	1.4nm,0.2s						
PNCL	**Nicolau / Gran**	**4.18**	**80**	*e*Pn	**Pn**	**23 29 42.3**	**+1.1**
PNCL				*e*Sn	**Sn**	**23 30 30.3**	**+0.1**
	1.4nm,0.2s						
MESJ	**Messejana**	**4.41**	**84**	*e*Pn	**Pn**	**23 29 45.0**	**+0.7**
MESJ				*e*Sn	**Sn**	**23 30 35.1**	**-0.5**
MESJ				A	A	23 30 38.5	
	2.9nm,0.9s						
MESJ	**Messejana**	**4.41**	**84**	Pn	**Pn**	**23 29 45.0**	**+0.7**
MESJ				Sn	**Sn**	**23 30 35.1**	**-0.5**
	2.9nm,0.9s						
MESJ	**Messejana**	**4.41**	**84**	Pn	**Pn**	**23 29 45.0**	**+0.7**
MESJ				*e*Sn	**Sn**	**23 30 35.1**	**-0.5**
	2.9nm,0.9s						
PCVE	**Castro Verde**	**4.54**	**87**	*e*Pn	**Pn**	**23 29 46.7**	**+0.5**
PCVE				*e*Sn	**Sn**	**23 30 37.6**	**-1.5**
PCVE				A	A	23 30 42.7	
	2.0nm,0.8s						
PCVE	**Castro Verde**	**4.54**	**87**	Pn	**Pn**	**23 29 46.7**	**+0.5**
PCVE				Sn	**Sn**	**23 30 37.6**	**-1.5**
	2.0nm,0.8s						
PCVE	**Castro Verde**	**4.54**	**87**	Pn	**Pn**	**23 29 46.7**	**+0.5**
PCVE				*e*Sn	**Sn**	**23 30 37.6**	**-1.5**
	2.0nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.65**	**92**	*e*Pn	**Pn**	**23 29 48.6**	**+0.9**
PBDV	**Barranco-do-Ve**	**4.65**	**92**	Pn	**Pn**	**23 29 48.6**	**+0.9**
PBDV	**Barranco-do-Ve**	**4.65**	**92**	Pn	**Pn**	**23 29 48.6**	**+0.9**
PTOM	**Tomar**	**4.69**	**62**	*e*Pn	**Pn**	**23 29 49.1**	**+1.0**
PTOM	**Tomar**	**4.69**	**62**	Pn	**Pn**	**23 29 49.1**	**+1.0**
PTOM	**Tomar**	**4.69**	**62**	Pn	**Pn**	**23 29 49.1**	**+1.0**
PVAQ	**Vaqueiros**	**4.81**	**90**	*e*Pn	**Pn**	**23 29 50.3**	**+0.5**
PVAQ				*e*Sn	**Sn**	**23 30 45.4**	**-0.2**
PVAQ				A	A	23 30 49.9	
	1.7nm,0.4s						
PVAQ	**Vaqueiros**	**4.81**	**90**	Pn	**Pn**	**23 29 50.3**	**+0.5**
PVAQ				Sn	**Sn**	**23 30 45.4**	**-0.2**
	1.7nm,0.4s						
PVAQ	**Vaqueiros**	**4.81**	**90**	Pn	**Pn**	**23 29 50.3**	**+0.5**
PVAQ				*e*Sn	**Sn**	**23 30 45.4**	**-0.2**
	1.7nm,0.4s						
EGRO	**El Granado**	**4.99**	**88**	P	**Pn**	**23 29 52.6**	**+0.3**
	0.7nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 30 49.5**	**-0.5**
	6.0nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**4.99**	**88**	P	**Pn**	**23 29 52.6**	**+0.3**
	0.7nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**23 30 49.5**	**-0.5**
	6.0nm,0.4s,SNR=7.9						
PESTR	**Estremoz**	**5.04**	**73**	*e*Pn	**Pn**	**23 29 53.5**	**+0.4**
PESTR				*e*Sn	**Sn**	**23 30 51.3**	**-0.1**
PESTR	**Estremoz**	**5.04**	**73**	*e*Pn	**Pn**	**23 29 53.5**	**+0.4**
PESTR				*e*Sn	**Sn**	**23 30 51.3**	**-0.1**
PMRV	**Marv??o**	**5.35**	**67**	*e*Pn	**Pn**	**23 29 57.8**	**+0.5**
PMRV	**Marv??o**	**5.35**	**67**	Pn	**Pn**	**23 29 57.8**	**+0.5**
PMRV	**Marv??o**	**5.35**	**67**	Pn	**Pn**	**23 29 57.8**	**+0.5**
PBAR	**Barrancos**	**5.36**	**81**	*e*Pn	**Pn**	**23 29 57.7**	**+0.3**
PBAR				*e*Sn	**Sn**	**23 30 59.8**	**+0.7**
PBAR				A	A	23 31 04.1	
	2.7nm,0.5s						
PBAR	**Barrancos**	**5.36**	**81**	Pn	**Pn**	**23 29 57.7**	**+0.3**
PBAR				Sn	**Sn**	**23 30 59.8**	**+0.7**
	2.7nm,0.5s						
PBAR	**Barrancos**	**5.36**	**81**	Pn	**Pn**	**23 29 57.7**	**+0.3**
PBAR				*e*Sn	**Sn**	**23 30 59.8**	**+0.7**
	2.7nm,0.5s						
EBAD	**Badajoz**	**5.46**	**75**	P	**Pn**	**23 29 59.3**	**+0.5**
	0.6nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**23 31 01.3**	**-0.3**
	0.4nm,0.1s,SNR=5.5						
EBAD	**Badajoz**	**5.46**	**75**	P	**Pn**	**23 29 59.3**	**+0.5**
	0.6nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**23 31 01.3**	**-0.3**
	0.4nm,0.1s,SNR=5.5						
EMIN	**Mina Concepcio**	**5.63**	**85**	P	**Pn**	**23 30 01.1**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**23 31 04.5**	**-1.3**
	1.0nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.63**	**85**	P	**Pn**	**23 30 01.1**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**23 31 04.5**	**-1.3**
	1.0nm,0.3s,SNR=7.9						
POLO	**Lamas de Olo**	**6.01**	**48**	*e*Pn	**Pn**	**23 30 06.7**	**+0.3**
POLO	**Lamas de Olo**	**6.01**	**48**	*e*Pn	**Pn**	**23 30 06.7**	**+0.3**
ELOB	**Lobios**	**6.17**	**44**	P	**Pn**	**23 30 09.4**	**+0.7**
	0.2nm,0.0s,SNR=4.0						
ELOB				S	**Sn**	**23 31 19.7**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.17**	**44**	P	**Pn**	**23 30 09.4**	**+0.7**
	0.2nm,0.0s,SNR=4.0						
ELOB				S	**Sn**	**23 31 19.7**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.36**	**53**	*e*Pn	**Pn**	**23 30 11.4**	**+0.2**
MVO	**Moncorvo**	**6.36**	**53**	P	**Pn**	**23 30 11.3**	**+0.1**
	0.5nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**23 31 24.4**	**+0.5**
	0.1nm,0.0s,SNR=7.9						
MVO	**Moncorvo**	**6.36**	**53**	*e*Pn	**Pn**	**23 30 11.4**	**+0.2**
MVO				S	**Sn**	**23 31 24.4**	**+0.5**
	0.1nm,0.0s,SNR=7.9						
ECAB	**El Cabril**	**6.63**	**83**	P	**Pn**	**23 30 15.1**	**+0.2**
	0.8nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**23 31 29.2**	**-1.3**
	0.0nm,0.0s,SNR=7.9						
ECAB	**El Cabril**	**6.63**	**83**	P	**Pn**	**23 30 15.1**	**+0.2**
	0.8nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**23 31 29.2**	**-1.3**
	SNR=7.9						
EAGO	**Agolada(Pontev**	**6.83**	**38**	P	**Pn**	**23 30 17.6**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**23 31 33.1**	**-2.4**
	0.3nm,0.1s,SNR=4.0						
EAGO	**Agolada(Pontev**	**6.83**	**38**	P	**Pn**	**23 30 17.6**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**23 31 33.1**	**-2.4**
	0.3nm,0.1s,SNR=4.0						
ECAL	**Calabor**	**6.98**	**49**	P	**Pn**	**23 30 21.1**	**+1.3**
	0.1nm,0.0s,SNR=4.0						
ECAL	**Calabor**	**6.98**	**49**	P	**Pn**	**23 30 21.1**	**+1.3**
	0.1nm,0.0s,SNR=4.0						

EADA	**Adamuz**	**7.29**	**82**	P	**Pn**	**23 30 24.0**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**23 31 46.9**	**0.0**
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.29**	**82**	P	**Pn**	**23 30 24.0**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**23 31 46.9**	**0.0**
	0.6nm,0.2s,SNR=7.9						

WEL 28 23:28:38.3±1.1,36.°32S×177.°40E,h33km,ML3.8/4,Error ellipse: s-maj=8.6km s-min=7.6km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.42**	**252**	PN	Pn	23 29 01.6	-0.1
KUZ				SN	Sn	23 29 18.5	-0.8
KUZ				AML	AML	23 29 20.0	
MXZ	**Matakaoa Point**	**1.44**	**150**	P*	Pn	23 28 59.8	-2.2
MXZ				S*	Sn	23 29 17.4	-2.4
MXZ				AML	AML	23 29 28.1	
MXZ				T	T	23 30 23.3	
HAZ	**Te Kaha**	**1.47**	**168**	P*	Pn	23 29 01.1	-1.4
HAZ				S*	Sn	23 29 21.4	+0.9
HAZ				T	T	23 30 20.9	
GRZ	**Great Barrier**	**1.57**	**272**	PN	Pn	23 29 03.8	0.0
GRZ				SN	Sn	23 29 21.6	-1.5
WMGZ	**Waiomatatini S**	**1.71**	**152**	*e*PN	Pn	23 29 07.0	+1.3
WIAZ	**Waiheke Island**	**1.89**	**255**	PN	Pn	23 29 08.6	+0.3
TWGZ	**Tauwhareparae**	**1.91**	**166**	*e*PN	Pn	23 29 10.1	+1.4
URZ	**Urewera**	**1.95**	**187**	P*	Pn	23 29 09.3	+0.2
URZ				AML	AML	23 29 46.1	
URZ				AML	AML	23 29 47.3	
MKAZ	**Moumakai**	**1.96**	**246**	PN	Pn	23 29 09.3	+0.1
MKAZ				SN	Sn	23 29 31.3	-1.5
MKAZ				AML	AML	23 29 45.2	
HIZ	**Hauiti**	**2.98**	**222**	PN	Pn	23 29 24.1	+0.8

*ISCJB **28** 23:34:04.8±0.9,5.°98N±0.°10×127.°1E±0.°1,h179km±7km, mb3.9/12, Error ellipse: s-maj=24.2km s-min=13.2km az=154.4*
*IDC **28** 23:34:06.7±1.2,5.°94N×127.°00E,h181km±10km,mb3.7/12, mb1 3.8/12,mb1mx3.5/34,mbtmp4.1/12, Error ellipse: s-maj=31.2km s-min=10.9km az=69.0*
*MAN **28** 23:34:07,6.°33N×127.°23E,h148km,mb4.8,ML3.7,MS3.7*

ISC 28 23:34:05.1±1.2,6.°05N±0.°10×127.°2E±0.°1,h165km±10km, n18,σ1s26/24,mb4.0/12,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.31**	**313**	*e*P	**Pn**	**23 34 34.1**	**+0.1**
MATI				*e*S	**Sn**	**23 34 54.7**	**-1.5**
DAV	**Davao City (W)**	**1.92**	**302**	P	**Pn**	**23 34 41.6**	**+1.3**
	81nm,0.3s,baz=139,slow=4.2,SNR=4.8						
DAV				S	**Sn**	**23 35 09.2**	**+1.8**
	99nm,0.3s,baz=109,slow=5.4,SNR=13						
BIPH	**Bislig**	**2.29**	**338**	⇑*iP*	**Pn**	**23 34 45.4**	**+0.9**
BIPH				*i* S	**Sn**	**23 35 12.5**	**-2.5**
KCP	**Kidapawan**	**2.33**	**294**	⇓*eP*	**Pn**	**23 34 45.1**	**+0.2**
KCP				*i* S	**Sn**	**23 35 15.8**	**0.0**
BUKP	**Musuan**	**2.81**	**310**	*e*P	**Pn**	**23 34 52.5**	**+1.7**
BUKP				*e*S	**Sn**	**23 35 25.0**	**-1.3**
WRA	**Warramunga Arr**	**26.76**	**165**	P	**P**	**23 39 28.9**	**-0.7**
	1.0nm,0.6s,baz=339,slow=11,SNR=15						
CMAR	**Chiang Mai Arr**	**30.20**	**297**	P	**P**	**23 39 59.6**	**-0.6**
	0.7nm,0.3s,baz=100,slow=7.2,SNR=4.5						
ASAR	**Alice Springs**	**30.24**	**168**	P	**P**	**23 40 00.3**	**-0.2**
	0.6nm,0.4s,baz=352,slow=7.9,SNR=14						
ASAR				PcP	**PcP**	**23 42 56.5**	**-0.8**
	0.8nm,0.5s,baz=92,slow=8.5,SNR=11						
STKA	**Stephens Creek**	**40.12**	**161**	P	**P**	**23 41 25.3**	**+0.4**
	3.0nm,0.6s,baz=328,slow=10,SNR=6.3						
SONM	**Songino Array**	**45.29**	**340**	P	**P**	**23 42 06.8**	**+0.4**
	0.5nm,0.4s,baz=153,slow=8.5,SNR=3.7						
PETK	**Petropavlovsk-**	**53.12**	**22**	P	**P**	**23 43 08.2**	**+2.7**
	4.7nm,0.8s,baz=191,slow=6.0,SNR=5.0						
MKAR	**Makanchi Array**	**55.96**	**324**	P	**P**	**23 43 26.8**	**+0.5**
	1.7nm,0.5s,baz=122,slow=8.1,SNR=21						
ZALV	**Zalesovo Beam**	**58.77**	**332**	P	**P**	**23 43 44.9**	**-0.8**
	1.8nm,0.5s,baz=131,slow=6.1,SNR=6.3						
NRIK	**Noril'sk**	**68.31**	**346**	P	**P**	**23 44 47.8**	**-0.3**
	2.8nm,0.7s,baz=123,slow=2.6,SNR=4.5						
ILAR	**Eielson Array**	**82.82**	**26**	P	**P**	**23 46 10.7**	**+0.1**
	0.9nm,0.8s,baz=233,slow=6.3,SNR=7.8						
ARCES	**ARCESS Array B**	**88.46**	**340**	P	**P**	**23 46 37.1**	**-1.2**
	2.9nm,0.8s,baz=80,slow=6.7,SNR=6.8						
FINES	**FINESS Array B**	**90.04**	**332**	P	**P**	**23 46 44.9**	**-0.9**
	1.3nm,0.8s,baz=49,slow=5.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**122.64**	**290**	PKP	**PKPdf**	**23 52 41.4**	**-0.8**
	0.7nm,0.5s,baz=69,slow=1.9,SNR=14						

KRSC 28 23:37:06.7±2.4,54.°32N×167.°85E,h2km±49km,ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.40**	**310**	*e*P	Pn	23 37 32.7	-0.6
BKI				*e*S	Sn	23 37 52.3	0.0
MKZ	**Mys Kozlova**	**3.58**	**276**	*e*P	Pn	23 38 06.6	+3.4
MKZ				*e*S	Sb	23 38 50.3	-4.3
SDLR	**Sedlovina**	**5.42**	**263**	*e*P	Pn	23 38 34.5	+6.0
UGLR	**Uglovaya**	**5.47**	**262**	*e*P	Pn	23 38 32.2	+3.0
KRER	**Koryakskii**	**5.49**	**263**	*e*P	Pn	23 38 32.3	+2.7
AVH	**Avacha**	**5.50**	**263**	*e*P	Pn	23 38 35.0	+5.3
KRX	**Arik**	**5.53**	**264**	*e*P	Pn	23 38 34.2	+4.1
GNL	**Ganaly**	**5.88**	**268**	*e*P	Pn	23 38 40.7	+5.9
RUS	**Russkaya**	**5.90**	**255**	*e*P	Pn	23 38 40.4	+5.4

*IDC **28** 23:44:38.0±2.0, 10.°30N×85.°17W,h0km,mb4.2/10, mb1 4.4/11,mb1mx4.1/40,mbtmp4.2/11,ML3.9/1,MS3.9/23, Ms1 3.9/23,ms1mx3.8/32,Error ellipse: s-maj=53.1km s-min=24.7km az=27.0*
*CASC **28** 23:44:41.9±1.8, 10.°80N×85.°12W,h6km±5km,MD4.3, ML4.0,mb4.8(NEIC)*
*ISCJB **28** 23:44:42.2±0.3, 10.°80N±0.°02×85.°11W±0.°02,h12km±2km, mb4.7/74,MS3.9/19,Error ellipse: s-maj=4.5km s-min=2.5km az=135.7*
*NEIC **28** 23:44:47.4±1.3, 10.°52N×85.°01W,h56km±12km,mb4.8/69, MD4.4(HDC),Error ellipse: s-maj=13.6km s-min=9.1km az=217.0*
NEIC Felt at Alajuela, Bagaces, Liberia, Naranjo and Upala.

ISC 28 23:44:43.1±0.7,10.°73N±0.°03×85.°12W±0.°03,h12km±4km, n531,σ1s31/522,mb4.8/74,MS3.8/19,10C-6D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APGM	**Casa M¯¡quinas**	**0.08**	**246**	⇑*iP*	**Pg**	**23 44 45.2**	**-0.5**
APGM				*e*S	**Sg**	**23 44 47.5**	**-0.1**
CUI	**Cuipilapa**	**0.09**	**209**	⇓*iP*	**Pg**	**23 44 45.3**	**-0.4**
CUI				*e*S	**Sg**	**23 44 48.9**	**+1.2**
COLC	**Colonia**	**0.10**	**230**	⇓*iP*	**Pg**	**23 44 45.8**	**-0.2**
COLC				*e*S	**Sg**	**23 44 49.0**	**+1.0**
GUAB	**Guayabo de Bag**	**0.11**	**257**	⇑*iP*	**Pg**	**23 44 45.3**	**-0.8**
GUAB				*e*S	**Sg**	**23 44 48.3**	**+0.1**
LIM1	**Limonal**	**0.13**	**255**	⇑*iP*	**Pg**	**23 44 46.0**	**-0.4**
LIM1				*e*S	**Sg**	**23 44 49.4**	**+0.6**
PTEN	**Parque Tenorio**	**0.13**	**97**	⇑*iP*	**Pg**	**23 44 45.2**	**-1.2**
PTEN				*e*S	**Sg**	**23 44 49.2**	**+0.4**
AMAS	**Alto Masis**	**0.17**	**133**	⇓*iP*	**Pg**	**23 44 46.4**	**-0.6**
GPS2	**Hotel Rinc¯‡n**	**0.23**	**275**	⇑*iP*	**Pg**	**23 44 47.4**	**-0.6**
GPS2				*e*S	**Sg**	**23 44 51.0**	**-0.3**
APPA	**Casa M¯¡quinas**	**0.23**	**276**	*e*P	**Pg**	**23 44 47.5**	**-0.6**
APPA				*e*S	**Sg**	**23 44 51.6**	**+0.2**
A494	**Palo Verde**	**0.44**	**210**	⇓*iP*	**Pg**	**23 44 51.8**	**0.0**
A494				*e*S	**Sb**	**23 44 59.7**	**+0.2**
ARE1	**Arenal 1**	**0.48**	**124**	⇑*iP*	**Pg**	**23 44 52.4**	**-0.1**
JCR	**Jicaral**	**0.88**	**179**	⇓*iP*	**Pb**	**23 44 59.4**	**-1.0**
JCR				*e*S	**Sn**	**23 45 12.9**	**-1.2**
CGA2	**Cerro Gallo 2**	**0.96**	**138**	⇑*iP*	**Pb**	**23 45 00.4**	**-1.4**
CGA2				*e*S	**Sg**	**23 45 16.0**	**+1.7**
CONN	**Concepcion**	**0.96**	**329**	*e*P	Pb	23 44 59.1	-2.6
HDC	**Heredia**	**1.23**	**126**	*e*Pn	**Pn**	**23 45 04.9**	**-1.4**
HDC				*e*Sn	**Sg**	**23 45 25.4**	**+2.6**
LCR2	**La Lucha 2**	**1.48**	**132**	⇑*iP*	**Pn**	**23 45 08.2**	**-1.6**
LCR2				*e*S	**Sg**	**23 45 31.4**	**+0.7**
URSC	**Urasca**	**1.59**	**124**	⇑*iP*	**Pn**	**23 45 10.6**	**-0.7**

MASN	**Masaya**	**1.60**	**321**	*e*P	**Pn**	**23 45 09.8**	**-1.6**
QCR	**Quepos**	**1.60**	**144**	⇓*iP*	**Pn**	**23 45 10.2**	**-1.1**
QCR				*e*S	**Sb**	**23 45 33.0**	**0.0**
ESPN	**Las Esperanzas**	**1.66**	**29**	*e*P	Pn	23 45 09.9	-2.2
ESPN				*e*S	**Sn**	**23 45 31.6**	**-1.8**
BUS	**Buena Vista**	**1.78**	**131**	⇑*iP*	**Pn**	**23 45 13.7**	**-0.5**
BUS				*e*S	**Sn**	**23 45 38.1**	**+1.1**
MGAN	**Managua**	**1.79**	**322**	*e*P	**Pn**	**23 45 12.1**	**-1.8**
TISN	**Laguna Tiscapa**	**1.80**	**321**	*e*P	**Pn**	**23 45 11.7**	**-2.3**
XAVN	**Gruta Xavier**	**1.84**	**320**	*e*P	**Pn**	**23 45 13.2**	**-1.3**
COPN	**Copaltepe**	**2.04**	**315**	*e*P	**Pn**	**23 45 15.1**	**-2.2**
COPN				AML	AML	23 45 53.3	
	comp=Z,2µm,0.6s						
MOMN	**Momotombo**	**2.17**	**320**	*e*P	Pn	23 45 16.4	-2.7
CNGN	**Cerro Negro**	**2.34**	**319**	*e*P	**Pn**	**23 45 19.4**	**-2.1**
CNGN				AML	AML	23 46 02.3	
	comp=E,894nm,0.5s						
ESTN	**Estel**	**2.65**	**333**	*e*P	**Pn**	**23 45 24.5**	**-1.3**
BRU2	**Volcan**	**3.07**	**129**	*e*P	**Pn**	**23 45 33.6**	**+1.9**
TBS2		**3.10**	**128**	*e*P	**Pn**	**23 45 33.8**	**+1.7**
BRU	**Baru**	**3.17**	**127**	*e*P	**Pn**	**23 45 36.4**	**+3.1**
CNCH	**Conchagua**	**3.67**	**314**	*e*P	**Pn**	**23 45 39.8**	**0.0**
TGUH	**Tegucigalpa,Un**	**3.92**	**328**	*e*Pn	Pn	23 45 48.0	+4.9
TGUH				*e*Sn	**Sn**	**23 46 33.3**	**+4.3**
VSM	**San Miguel**	**4.08**	**311**	*e*P	**Pn**	**23 45 46.2**	**+0.5**
PACA	**Pacayal**	**4.15**	**311**	*e*P	**Pn**	**23 45 46.1**	**-0.3**
PACA				*e*S	**Sn**	**23 46 38.9**	**+3.9**
CAHU	**Cacacuatique**	**4.27**	**315**	*e*P	**Pn**	**23 45 51.1**	**+2.9**
LFRS	**El Faro**	**4.81**	**307**	*e*P	**Pn**	**23 45 54.8**	**-0.6**
LFRS				*e*S	**Sn**	**23 46 50.2**	**-1.0**
ZANG	**Zanguenga, Cho**	**5.47**	**108**	*e*P	**Pn**	**23 46 03.4**	**-1.1**
AZU	**Azuero**	**5.61**	**121**	*e*P	**Pn**	**23 46 07.5**	**+1.1**
CCIG	**Comitan**	**8.77**	**310**	*e*Pn	**Pn**	**23 46 54.2**	**+4.2**
HELC	**Santa Helena**	**10.51**	**115**	*e*Pn	**Pn**	**23 47 13.7**	**-0.3**
CMIG	**Matias Romero**	**11.39**	**305**	Pn	**Pn**	**23 47 25.9**	**+0.1**
	comp=E,0.9nm,0.3s,baz=129,slow=13,SNR=6.1						
ROSC	**El Rosal**	**12.20**	**118**	LR	LR	23 52 12.5	
	comp=E,509nm,18.4s,baz=321,slow=38						
ROSC	**El Rosal**	**12.20**	**118**	*e*Pn	Pn	23 47 42.8	+5.6
OTAV	**Otavalo**	**12.36**	**147**	*e*Pn	Pn	23 47 46.0	+6.5
SDV	**Santo Domingo**	**14.39**	**96**	LR	LR	23 55 22.2	
	comp=E,449nm,18.5s,baz=280,slow=45						
TLIG	**Tlapa**	**14.69**	**299**	*e*Pn	**Pn**	**23 48 14.7**	**+3.6**
MOIG	**Morelia**	**17.86**	**302**	*e*P	**Pn**	**23 48 51.2**	**-0.7**
	comp=E,193nm,1.8s						
ATAH	**Atahualpa**	**18.97**	**159**	LR	LR	23 55 47.2	
	comp=E,1µm,18.4s,baz=342,slow=36						
SJG	**San Juan**	**19.77**	**66**	LR	LR	23 57 18.8	
	comp=E,428nm,19.5s,baz=260,slow=38						
035Z	**Hargill**	**19.86**	**324**	P	**Pn**	**23 49 17.2**	**+1.4**
	baz=140						
544A	**White Castle**	**20.09**	**345**	P	**P**	**23 49 19.5**	**+2.9**
	baz=162						
447A	**Lucedale**	**20.23**	**351**	P	**P**	**23 49 20.0**	**+1.7**
	baz=170						
445A	**Amite**	**20.48**	**347**	P	**P**	**23 49 23.5**	**+2.5**
	baz=165						
542A	**Morse**	**20.50**	**341**	P	**P**	**23 49 24.1**	**+2.9**
	baz=159						
ZAIG	**Zacatecas**	**20.52**	**308**	*e*P	**P**	**23 49 24.4**	**+2.7**
	comp=E,20nm,1.1s						
444A	**Pine Grove**	**20.56**	**346**	P	**P**	**23 49 24.4**	**+2.6**
	baz=164						
541A	**Lake Charles**	**20.65**	**340**	P	**P**	**23 49 25.6**	**+2.8**
	baz=157						
TIGA	**Tifton**	**20.66**	**4**	P	**P**	**23 49 24.0**	**+1.1**
	baz=184,SNR=6.3						
TIGA	**Tifton**	**20.66**	**4**	*e*P	**P**	**23 49 23.3**	**+0.5**
	comp=E,70nm,1.0s						
034A	**Hebbronville**	**20.67**	**324**	P	**P**	**23 49 25.3**	**+2.3**
	baz

143A	Socs Landing, baz=164	22.62	346	P		P	23 49 44.8	+0.9
GOGA	Godfrey comp=E,26nm,1.1s	22.62	4	eP		P	23 49 47.1	+3.2
Z46A	Louisville baz=170	22.63	352	P		P	23 49 45.3	+1.3
Z48A	Northport baz=174,SNR=14	22.65	355	P		P	23 49 46.2	+2.0
436A	Wall Ranch, Ga baz=149	22.70	333	P		P	23 49 45.9	+1.1
NATX	Nacogdoches baz=155	22.71	339	P		P	23 49 46.1	+1.2
337A	Centerville baz=152	22.78	336	P		P	23 49 45.9	+0.3
633A	Saathoff Ranch baz=142	22.79	327	P		P	23 49 46.8	+1.0
239A	Gary baz=156	22.88	339	P		P	23 49 46.7	0.0
534A	Blanco baz=144,SNR=6.4	22.88	329	P		P	23 49 46.9	+0.2
141A	Papa Simpson, baz=160	22.92	343	P		P	23 49 47.4	+0.3
Z45A	Winona baz=168,SNR=5.5	22.92	350	P		P	23 49 48.1	+1.0
435B	Jarrell baz=147	23.07	332	P		P	23 49 48.8	+0.2
Z43A	Armstrong Fami baz=164	23.07	347	P		P	23 49 48.9	+0.3
238A	Jacksonville baz=154	23.10	338	P		P	23 49 49.3	+0.4
140A	Cam and Jess, baz=158	23.15	342	P		P	23 49 50.5	+1.1
Y47A	UCPARC, Winfie baz=173,SNR=11	23.20	354	P		P	23 49 50.3	+0.4
533A	Kerrville baz=143	23.20	328	P		P	23 49 50.7	+0.6
336A	Riesel baz=150	23.25	334	P		P	23 49 50.7	+0.2
Y46A	Houston baz=170,SNR=6.3	23.30	352	P		P	23 49 51.1	+0.2
Z42A	Norrel Spur, H baz=163	23.30	345	P		P	23 49 51.5	+0.6
237A	Washetta, Mont baz=153	23.36	337	P		P	23 49 51.9	+0.4
Y45A	Yeager Farm, C baz=169,SNR=14	23.38	351	P		P	23 49 52.7	+0.9
335A	Moody baz=148	23.41	333	P		P	23 49 52.3	+0.1
434A	Burnet baz=146	23.42	331	P		P	23 49 52.1	-0.1
Z41A	Richland Creek baz=161	23.50	344	P		P	23 49 53.3	+0.3
Y44A	Strider, Charl baz=167,SNR=6.2	23.59	349	P		P	23 49 54.1	+0.3
236A	Katherine and baz=151	23.65	335	P		P	23 49 54.3	-0.1
Z40A	Long Farm, Mag baz=159	23.68	343	P		P	23 49 54.7	0.0
138A	Matatall Enter baz=155	23.68	339	P		P	23 49 55.2	+0.5
Y43A	Makayla and Ka baz=166	23.68	348	P		P	23 49 54.9	+0.2
433A	Art baz=144,SNR=7.9	23.78	329	P		P	23 49 55.7	-0.1
Y42A	Garnett, Star baz=164	23.80	346	P		P	23 49 56.3	+0.5
334A	Lometa baz=147	23.83	331	P		P	23 49 56.2	-0.1
137A	Heron Place, G baz=153	23.87	337	P		P	23 49 57.0	+0.4
CCAR	Cane Creek comp=E,623nm,1.9s	23.87	346	eP		P	23 49 56.8	+0.2
Z39A	Irene McRaven, baz=158	23.90	341	P		P	23 49 58.8	+2.0
JCT	Junction City baz=142	23.93	327	P		P	23 49 57.0	-0.2
JCT	Junction City comp=E,18nm,1.2s	23.93	327	eP		P	23 49 58.2	+1.0
OXF	Oxford comp=E,64nm,0.9s	23.99	351	eP		P	23 49 59.1	+1.4
WLAR	White Oak Lake comp=E,111nm,1.3s	24.00	343	eP		P	23 49 57.0	-0.7
NNA	Nana comp=E,294nm,19.6s,baz=325,slow=36	24.02	160	LR		LR	23 58 39.8	
WHTX	Lake Whitney, baz=149,SNR=8.5	24.03	334	P		P	23 49 58.3	+0.1
WHTX	Lake Whitney, comp=E,238nm,1.8s	24.03	334	eP		P	23 49 58.6	+0.5
WHTX				eP	P	sP	23 50 25.7	+23
Y41A	Eaglette Beard baz=162	24.04	345	P		P	23 49 58.1	-0.1
136A	Ennis baz=152,SNR=5.4	24.06	336	P		P	23 49 58.0	-0.4
X44A	Crenshaw baz=168	24.10	350	P		P	23 49 58.7	0.0
Z38A	Mt. Pleasant baz=156	24.18	339	P		P	23 49 59.2	-0.2
333A	Richland Sprin baz=145,SNR=13	24.19	330	P		P	23 49 59.3	-0.4
X43A	Marvell baz=166	24.25	348	P		P	23 50 00.2	0.0
234A	Clairette baz=148	24.35	332	P		P	23 50 01.1	+0.1
Z37A	Pogue Cattle C baz=154	24.36	338	P		P	23 50 01.4	+0.3
SWET	Sewanee comp=E,5.5nm,0.9s	24.39	358	eP		P	23 50 02.9	+1.5
135A	Vickery Place, baz=150	24.50	334	P		P	23 50 02.4	0.0
KMSC	Kings Mountain baz=189	24.54	7	P		P	23 50 03.6	+0.9
KMSC	Kings Mountain comp=E,50nm,1.7s	24.54	7	eP		P	23 50 06.0	+3.2
W45A	Hickory Valley baz=170,SNR=9.1	24.59	352	P		P	23 50 03.6	+0.4
X41A	Kaden, Bauxite baz=162	24.60	345	P		P	23 50 02.9	-0.4
CPCT	Cooper Cave comp=E,5nm,1.0s	24.61	1	eP		P	23 50 03.9	+0.4
X40A	Basin Creek Fa baz=162	24.67	345	P		P	23 50 04.1	+0.1
Y38A	Idabel baz=157	24.71	341	P		P	23 50 04.2	-0.1
233A	Rising Star baz=146	24.71	331	P		P	23 50 06.7	+2.3
Z36A	Blue Ridge baz=153	24.72	337	P		P	23 50 05.2	+0.8
134A	White-Moore Ra baz=148	24.80	333	P		P	23 50 05.3	+0.1
UALR	University of comp=E,37nm,1.0s	24.82	346	eP		P	23 50 06.1	+0.8
TKL	Tuckaleechee C comp=E,11nm,0.8s,baz=179,slow=12,SNR=6.5	24.84	3	P		P	23 50 07.1	+1.6
TKL				LR		LR	23 59 51.4	
TKL	Tuckaleechee C comp=E,45nm,1.5s	24.84	3	eP		P	23 50 07.1	+1.6
MIAR	Mount Ida baz=160,SNR=20	24.93	343	P		P	23 50 06.7	+0.4
MIAR	Mount Ida comp=E,18nm,0.8s	24.93	343	eP		P	23 50 06.0	-0.3
X39A	Fountain Ranch baz=159,SNR=7.3	25.05	342	P		P	23 50 07.8	+0.4
Y37A	Hugo baz=155	25.06	339	P		P	23 50 07.5	+0.1
Z35A	Perchaven, San baz=151	25.10	335	P		P	23 50 07.8	-0.1
V45A	Humboldt baz=171	25.14	353	P		P	23 50 08.2	+0.1
W41B	Gary Mavity, V baz=163,SNR=17	25.18	346	P		P	23 50 08.6	+0.1
HPIG	comp=E,20nm,1.4s	25.19	313	eP		P	23 50 09.3	+0.3
133A	Hamilton Ranch baz=147,SNR=11	25.21	332	P		P	23 50 09.9	+1.0
HBAR	Harrisburg	25.22	349	eP		P	23 50 09.1	+0.2
Y36A	Durant baz=154	25.23	338	P		P	23 50 09.8	+0.8
X301	Greenbrier Sit comp=E,37nm,1.2s	25.28	346	eP		P	23 50 09.7	+0.3
WHAR	Wooly Hollow comp=E,77nm,1.5s	25.30	346	eP		P	23 50 09.6	0.0
X201	Greenbrier Sit comp=E,68nm,1.5s	25.32	346	eP		P	23 50 09.9	+0.1
LTX	Lajitas	25.35	320	eP		P	23 50 10.3	+0.1
TXAR	Lajitas Array comp=E,14nm,1.0s,baz=144,slow=8.4,SNR=72	25.35	320	P		P	23 50 10.3	+0.1
TX31	Lajitas Ar. Si	25.35	320	eP		P	23 50 10.4	+0.1
V44A	Blytheville baz=169	25.36	351	P		P	23 50 09.8	-0.3
W40A	Ferguson Farm, baz=162,SNR=7.5	25.40	345	P		P	23 50 11.3	+0.8
WVT	Waverly comp=E,45nm,1.4s	25.40	355	eP		P	23 50 11.2	+0.7
Z34A	Collier Ranch, baz=150	25.41	334	P		P	23 50 10.6	-0.1
X38A	Whitesboro baz=157,SNR=8.3	25.42	341	P		P	23 50 11.5	+0.8
GNAR	Gosnell	25.51	351	eP		P	23 50 12.5	+1.0
Y35A	Marietta baz=152	25.52	337	P		P	23 50 12.1	+0.4
ABTX	Abilene, Hawle baz=145	25.57	331	P		P	23 50 12.4	+0.3
ABTX	Abilene, Hawle comp=E,32nm,1.4s	25.57	331	eP		P	23 50 14.7	+2.5
W39A	Magazine baz=160,SNR=11	25.60	343	P		P	23 50 12.6	+0.2
V42A	Cord baz=166,SNR=17	25.60	348	P		P	23 50 12.6	+0.2
W38A	Poteau baz=158,SNR=10	25.70	342	P		P	23 50 13.5	+0.3
GLAT	Glass	25.70	352	eP		P	23 50 12.9	-0.4
Z33A	Whitaker Ranch baz=148,SNR=10	25.71	333	P		P	23 50 13.8	+0.4
UTMT	University of comp=E,91nm,0.4s	25.72	353	eP		P	23 50 14.5	+1.1
TZTN	Tazewell comp=E,34nm,1.1s	25.74	3	eP		P	23 50 16.8	+3.1
V41A	Mountainview baz=164,SNR=20	25.75	347	P		P	23 50 13.9	+0.2
X36A	Centrahoma baz=154	25.85	338	P		P	23 50 14.6	-0.1
Y34A	Reagan Ranch, baz=150,SNR=5.3	25.85	335	P		P	23 50 15.0	+0.3
V40A	Witts Springs baz=162,SNR=9.2	25.92	346	P		P	23 50 15.6	+0.2
X35A	Drake baz=153	25.93	337	P		P	23 50 14.8	-0.6
W37B	Quinton baz=156,SNR=5.2	26.05	340	P		P	23 50 16.8	+0.4
U42A	Revenden baz=166,SNR=20	26.10	349	P		P	23 50 16.6	-0.2
V39A	Pettigrew baz=161,SNR=11	26.16	344	P		P	23 50 18.0	+0.4
U41A	Viola baz=165,SNR=7.1	26.23	348	P		P	23 50 18.3	+0.2
Y33A	Hilltop Ranch, baz=149	26.26	334	P		P	23 50 18.0	-0.4
W36A	Wetumka baz=155	26.32	339	P		P	23 50 18.6	-0.3
PBMO	Poplar Bluff comp=E,56nm,1.6s	26.37	350	eP		P	23 50 19.2	-0.1
V38A	Canehill baz=159	26.40	343	P		P	23 50 19.1	-0.6
X34A	Smith Ranch, M baz=151	26.44	336	P		P	23 50 19.6	-0.4
U40A	Yellville baz=163,SNR=13	26.45	346	P		P	23 50 20.1	0.0
W35A	Tecumseh baz=153	26.56	338	P		P	23 50 20.7	-0.4
U39A	Green Forest baz=161,SNR=9.2	26.64	345	P		P	23 50 21.8	0.0
V37A	Hulbert baz=158	26.64	342	P		P	23 50 21.5	-0.3
HHAR	Hobbs comp=E,21nm,1.3s	26.66	344	eP		P	23 50 23.2	+1.2
X33A	Lawton baz=150	26.66	335	P		P	23 50 22.2	+0.2
BLA	Blacksburg comp=E,17nm,1.0s	26.70	8	eP		P	23 50 27.3	+4.9
V36A	Jenks baz=156,SNR=5.3	26.81	340	P		P	23 50 23.1	-0.2
TUL1	Leonard baz=156	26.87	341	P		P	23 50 23.7	-0.2
TUL1	Leonard comp=E,42nm,1.4s	26.87	341	eP		P	23 50 24.2	+0.3
T41A	Mountain View baz=165,SNR=15	26.87	348	P		P	23 50 23.3	-0.6
X32A	Elmer baz=148	26.90	333	P		P	23 50 26.4	+2.3
U38A	Gravette baz=160,SNR=7.5	26.93	343	P		P	23 50 24.9	+0.5
WMOK	Wichita Mounta baz=149,SNR=8.7	26.95	335	P		P	23 50 24.2	-0.5
WMOK	Wichita Mounta comp=E,36nm,1.5s	26.95	335	eP		P	23 50 25.2	+0.6
W34A	Bridge Creek, baz=152	26.98	337	P		P	23 50 24.9	0.0
W34A	Bridge Creek, comp=E,29nm,1.1s	26.98	337	eP		P	23 50 25.9	+1.1
S45A	Carrier Mills baz=172	27.01	354	P		P	23 50 24.6	-0.5
S43A	Fulton Ridge, baz=169	27.09	351	P		P	23 50 25.2	-0.6
V35A	Meyer Ranch, C baz=154	27.09	339	P		P	23 50 25.8	-0.1
S44A	Carbondale baz=171	27.10	353	P		P	23 50 25.7	-0.2
U37A	Salina baz=158	27.11	342	P		P	23 50 26.1	0.0
SIUC	Southern Illin comp=E,95nm,1.8s	27.12	353	eP		P	23 50 26.6	+0.6
T40A	Mansfield baz=164	27.14	347	P		P	23 50 26.2	-0.1
W33A	Caddo, Fort Co baz=150	27.18	336	P		P	23 50 27.9	+1.2
USIN	University of comp=E,58nm,1.4s	27.21	356	eP		P	23 50 28.0	+1.1
T39A	Clyer baz=162	27.22	345	P		P	23 50 26.8	-0.2
U36A	Oologah baz=157	27.29	341	P		P	23 50 26.7	-0.9
S41A	Jillco Farms, baz=166,SNR=8.0	27.40	349	P		P	23 50 27.5	-1.1
LPIG	La Paz comp=E,231nm,20.4s,baz=100,slow=36	27.40	302	LR		LR	00 00 58.9	
WCI	Wyandotte Cave comp=E,46nm,1.1s	27.40	358	eP		P	23 50 29.4	+0.8
V34A	Guthrie baz=153	27.41	338	P		P	23 50 28.2	-0.5
T38A	Diamond baz=160,SNR=5.1	27.46	344	P		P	23 50 28.5	-0.7
W32A	Sentinel baz=149	27.48	334	P		P	23 50 28.7	-0.7
PTGA	Pitinga comp=E,590nm,18.3s,baz=292,slow=39	27.49	113	LR		LR	00 02 18.9	
S40A	Lenon baz=164,SNR=6.3	27.56	347	P		P	23 50 29.7	-0.4
U35A	Pawnee baz=155	27.61	339	P		P	23 50 30.1	-0.3
R44A	Waltonville baz=171	27.63	353	P		P	23 50 29.9	-0.7
V33A	Lossen Ranch, baz=151	27.69	337	P		P	23 50 30.1	-1.1
T37A	Cheneyville 18 baz=159,SNR=9.2	27.72	343	P		P	23 50 30.6	-0.9
S39A	Bolivar baz=162,SNR=5.9	27.84	346	P		P	23 50 31.7	-0.8
V32A	Arapaho baz=150	27.91	335	P		P	23 50 32.0	-1.2
S38A	Stockton baz=161	27.92	345	P		P	23 50 31.9	-1.4
U34A	Anderson Ranch baz=153	27.95	338	P		P	23 50 32.7	-0.9
T36A	Boggs Farm, Ca baz=157	27.95	341	P		P	23 50 33.1	-0.5
OLIL	Olney comp=E,45nm,1.2s	28.01	355	eP		P	23 50 36.4	+2.4
T35A	Sooner Cattle baz=156	28.02	340	P		P	23 50 34.0	-0.3
MNTX	Cornudas Mount baz=134	28.04	321	P		P	23 50 33.2	-1.2
MNTX	Cornudas Mount comp=E,13nm,1.6s	28.04	321	eP		P	23 50 34.6	+0.1
U33A	Lingo Farm, Me baz=152	28.16	337	P		P	23 50 35.0	-0.4
SLM	Saint Louis comp=E,78nm,1.5s	28.16	351	eP		P	23 50 35.6	+0.2
R40A	Maddies Statio baz=165	28.18	348	P		P	23 50 34.9	-0.6
MSTX	Muleshoe baz=141	28.22	328	P		P	23 50 36.3	+0.3
MSTX	Muleshoe comp=E,8.3nm,1.0s	28.22	328	eP		P	23 50 38.8	+2.7
Q44A	Meyer Farm, Va baz=172	28.27	354	P		P	23 50 35.7	-0.6
S37A	Fort Scott baz=160,SNR=9.3	28.29	344	P		P	23 50 35.8	-0.7
BLO	Bloomington comp=E,27nm,1.1s	28.35	358	eP		P	23 50 35.3	-1.8
T34A	McClaskey Farm baz=154	28.35	339	P		P	23 50 38.3	+1.2
R39A	Chumby, Stover baz=163,SNR=8.3	28.37	347	P		P	23 50 36.6	-0.6
Q43A	New Douglas baz=170	28.39	352	P		P	23 50 36.6	-0.8
R38A	Fenwick Farm, baz=162	28.45	345	P		P	23 50 37.9	-0.1
U32A	Winter Ranch, baz=150	28.46	336	P		P	23 50 37.9	-0.2
Q42A	Golden Eagle baz=169	28.48	351	P		P	23 50 37.7	-0.5
S36A	Lake Cedric, C baz=158,SNR=5.1	28.48	342	P		P	23 50 37.3	-0.9
S35A	Otter Creek Ra baz=157	28.66	341	P		P	23 50 39.6	-0.3
T33A	Patterson Ranc baz=152	28.78	338	P		P	23 50 41.0	+0.1
R37A	Teagarden Farm baz=160	28.81	344	P		P	23 50 40.7	-0.5
Q40A	Laux Farm, Aux baz=166	28.82	349	P		P	23 50 40.1	-1.2
S34A	Willow Spring baz=155	28.94	340	P		P	23 50 42.4	+0.1
R36A	Gordon, Harris baz=159	29.01	343	P		P	23 50 42.8	-0.2
Q39A	Willow Grove F baz=164	29.05	347	P		P	23 50 42.7	-0.6
P42A	Winchester baz=169	29.11	352	P		P	23 50 43.5	-0.3
Q38A	Cooks Store, C baz=163	29.12	346	P		P	23 50 43.5	-0.4
T32A	Huddler Ranch, baz=151	29.12	337	P		P	23 50 44.0	0.0
R35A	Emporia Munici baz=157	29.21	342	P		P	23 50 44.8	0.0
Q37A	Longview Farm, baz=161	29.24	345	P		P	23 50 45.0	0.0
P41A	Barry, Barry baz=168	29.30	351	P		P	23 50 45.9	+0.4
SAML	Samuel comp=E,9.4nm,1.4s	29.30	131	eP		P	23 50 44.6	-1.2
P40A	Paris baz=166,SNR=7.5	29.34	349	P		P	23 50 45.3	-0.5
P39B	Salisbury baz=164	29.43	348	P		P	23 50 45.9	-0.8
ACSO	Alum Creek Sta comp=E,32nm,0.9s	29.44	3	eP		P	23 50 48.7	+2.0
R34A	Isabella, Hill baz=155	29.52	340	P		P	23 50 47.1	-0.4
SFIN	Lafayette baz=176,SNR=11	29.58	357	P		P	23 50 47.5	-0.5
SFIN	Lafayette comp=E,31nm,1.0s	29.58	357	eP		P	23 50 48.6	+0.7
Q36A	Arnold C. Orve baz=159	29.59	344	P		P	23 50 48.6	+0.6
Q35A	Mercer Eighty, baz=158	29.66	343	P		P	23 50 48.7	0.0
O42A	Bath baz=170	29.67	352	P		P	23 50 48.5	-0.3
O41A	Passleys Farm, baz=168	29.71	351	P		P	23 50 48.4	-0.7
P38A	Dawn baz=163	29.73	347	P		P	23 50 48.9	-0.4
R33A	Olander Ranch, baz=154	29.78	339	P		P	23 50 50.1	+0.3
O40A	La Belle baz=166,SNR=5.5	29.88	350	P		P	23 50 50.0	-0.6
P37A	Lathop baz=162	29.89	346	P		P	23 50 50.7	0.0
HDIL	Hopedale baz=172,SNR=5.9	29.93	354	P		P	23 50 51.0	-0.1
HDIL	Hopedale comp=E,57nm,1.0s	29.93	354	eP		P	23 50 51.9	+0.8
O56A	Blue Knob Stat baz=193	29.98	10	P		P	23 50 52.0	+0.3
Q34A	Chapman baz=156	29.99	341	P		P	23 50 51.2	-0.5
KSU1	Kansas State U baz=157	30.05	342	P		P	23 50 52.2	0.0
121A	Cookes Peak, D baz=131	30.11	320	P		P	23 50 51.7	-1.4
O39A	Kirksville baz=165	30.13	349	P		P	23 50 53.3	+0.4
P36A	Good Intent, A baz=160	30.14	344	P		P	23 50 52.9	0.0
R32A	Long Quarter, baz=153	30.14	338	P		P	23 50 54.1	+1.1
O38A	Galt baz=163	30.19	347	P		P	23 50 53.9	+0.4
P35A	Duane Minner, baz=158	30.27	343	P		P	23 50 55.2	+1.1
Q33A	Connelly Farm, baz=155	30.35	340	P		P	23 50 51.6	-3.3
O37A	Wolven Farm, M baz=162	30.39	346	P		P	23 50 55.5	+0.3
SSPA	Standing Stone comp=E,9.3nm,0.9s	30.46	11	eP		P	23 50 58.3	+2.5
P34A	Walnut Farm, R baz=157	30.53	342	P		P	23 50 56.6	+0.1
O36A	Bolckow baz=161	30.55	345	P		P	23 50 57.1	+0.5
Q32A	Meitler Ranch, baz=153	30.59	339	P		P	23 50 58.6	+1.6
P33A	Williams Farm, baz=155	30.70	341	P		P	23 50 59.0	+1.1
N39A	Derby Farms, D baz=166	30.73	349	P		P	23 50 58.0	-0.1
N38A	Joes South For baz=164	30.79	348	P		P	23 50 59.6	+0.9
O35A	Humboldt baz=159	30.93	344	P		P	23 51 00.4	+0.5
ANMO	Albuquerque baz=136	30.96	324	P		P	23 51 01.5	+1.0
ANMO	Albuquerque comp=E,7.6nm,1.5s	30.96	324	eP		P	23 51 02.9	+2.4
N37A	Lee Faris, Mou baz=162	30.97	347	P		P	23 51 00.1	-0.1
O34A	Beatrice baz=158	31.07	343	P		P	23 51 01.3	+0.1
P32A	Huiting Farm, baz=154	31.17	340	P		P	23 51 03.7	+1.6
N36A	Muff Farm, Cla baz=161	31.20	346	P		P	23 51 03.8	+1.5
O33A	Hebron baz=156	31.25	341	P		P	23 51 03.2	+0.5
M39A	Webster baz=166,SNR=5.4	31.25	350	P		P	23 51 02.0	-0.7
M38A	Pleasantville baz=165,SNR=7.6	31.38	348	P		P	23 51 03.5	-0.4
N35A	Tabor baz=160	31.41	345	P		P	23 51 04.3	+0.1
M37A	Trindle Farm, baz=163	31.55	347	P		P	23 51 04.7	-0.7
L41A	Preston baz=170,SNR=18	31.58	352	P		P	23 51 04.8	-0.8
N34A	Lincoln baz=158	31.62	343	P		P	23 51 06.5	+0.4
O32A	Brockman Farm, baz=155	31.64	341	P		P	23 51 07.2	+1.0
L40A	Anamosa baz=168,SNR=9.4	31.66	351	P		P	23 51 06.6	+0.2
LPAZ	La Paz comp=E,199nm,20.0s,baz=316,slow=40	31.68	148	LR		LR	00 05 18.2	
LPAZ	La Paz comp=E,5.2nm,1.4s	31.68	148	eP		P	23 51 11.4	+4.0
M36A	Felix, Anita baz=162	31.77	346	P		P	23 51 07.1	-0.2
KSPA	Keystone Colle comp=E,15nm,1.0s	31.79	13	eP		P	23 51 11.0	+3.5
L39A	Vinton baz=167	31.85	350	P		P	23 51 07.6	-0.4
SCIA	State Center comp=E,59nm,1.1s	31.86	349	eP		P	23 51 09.7	+1.6
M35A	Neola baz=160	32.00	345	P		P	23 51 09.7	+0.4
L38A	Oak Wood Farm, baz=165,SNR=12	32.03	349	P		P	23 51 09.6	-0.1
K41A	Shullsburg baz=170,SNR=7.6	32.08	353	P		P	23 51 09.1	-0.9
L37A	Phoenix Point, baz=164	32.17	348	P		P	23 51 10.5	-0.3
M34A	Aspy Farms, Fr baz=158	32.27	344	P		P	23 51 11.5	-0.1

K40A	Colesburg baz=169,SNR=12	32.28	352	P		P	23 51 10.7	-1.1
L36A	Harm Buss Farm baz=162	32.35	347	P		P	23 51 12.2	-0.2
BINY	Binghamton	32.35	13	*e*P		P	23 51 14.9	+2.5
JFWS	Jewell Farm comp=E,45nm,1.0s	32.37	353	*e*P		P	23 51 12.6	0.0
K39A	Oelwein baz=167,SNR=11	32.40	351	P		P	23 51 11.9	-0.8
K38A	Parkersburg baz=166	32.49	349	P		P	23 51 13.2	-0.4
MMNY	Mt. Morris Dam	32.49	10	*e*P		P	23 51 17.0	+3.3
SDCO	Great Sand Dun baz=141	32.54	329	P		P	23 51 13.2	-1.3
SDCO	Great Sand Dun comp=E,2.7nm,0.9s	32.54	329	*e*P		P	23 51 18.8	+4.3
L35A	Bielow Farm, R baz=161	32.57	346	P		P	23 51 15.2	+0.9
K37A	Belmond baz=164,SNR=17	32.77	348	P		P	23 51 15.3	-0.8
J41A	Loganville baz=171,SNR=5.9	32.79	353	P		P	23 51 15.2	-1.0
M31A	Lambtecht Ranc baz=154	32.84	341	P		P	23 51 17.7	+0.9
J40A	Soldiers Grove baz=170,SNR=7.4	32.91	352	P		P	23 51 17.0	-0.3
J39A	Decorah baz=168	32.98	351	P		P	23 51 17.4	-0.5
K35A	Storm Lake baz=162	33.07	346	P		P	23 51 19.5	+0.8
L33A	Hoskins baz=158	33.07	343	P		P	23 51 18.6	-0.2
J38A	Wedel Dairy, R baz=167,SNR=7.2	33.09	350	P		P	23 51 18.2	-0.7
214A	Organ Pipe Nat baz=124	33.16	314	P		P	23 51 18.7	-1.0
S22A	4UR Ranch, Cre baz=139	33.22	328	P		P	23 51 20.1	-0.4
K34A	Le Mars baz=160	33.24	345	P		P	23 51 20.0	-0.3
J36A	Seneca 1, Swea baz=163	33.45	348	P		P	23 51 22.4	+0.3
OGNE	Ogallala baz=149	33.59	337	P		P	23 51 24.1	+0.7
X16A	Lo Mia Camp, P comp=E,24nm,0.9s	33.66	319	*e*P		P	23 51 26.6	+2.3
I38A	Scanlan Farm, baz=167	33.77	351	P		P	23 51 24.4	-0.4
I37A	Lemond, Waseca baz=165,SNR=5.6	33.93	349	P		P	23 51 25.2	-1.0
I36A	Fitzsimmons Fa baz=164	34.05	349	P		P	23 51 27.9	+0.7
I35A	Creekview Farm baz=162	34.09	347	P		P	23 51 27.4	-0.2
ISCO	Idaho Springs baz=142	34.19	331	P		P	23 51 29.2	+0.3
K30A	Basset baz=154	34.24	341	P		P	23 51 30.3	+1.3
SADO	Sadowa	34.30	8	*e*P		P	23 51 29.3	-0.2
WUAZ	Wupatki baz=130	34.31	320	P		P	23 51 30.3	+0.5
ECSD	EROS Data Cent baz=160,SNR=6.2	34.36	345	P		P	23 51 29.2	-0.7
ECSD	EROS Data Cent comp=E,16nm,1.3s	34.36	345	*e*P		P	23 51 29.8	-0.2
H37A	Dierke Farm, C baz=166	34.39	350	P		P	23 51 30.8	+0.6
Y14A	Wickenburg comp=E,31nm,0.8s	34.41	317	*e*P		P	23 51 33.8	+3.1
I34A	Hadley baz=161	34.46	346	P		P	23 51 31.5	+0.7
H36A	Jessenland, He baz=165	34.57	349	P		P	23 51 31.4	-0.3
J30A	Dallas baz=155	34.79	341	P		P	23 51 34.4	+0.7
H35A	Sunnyside Ranc baz=163	34.86	348	P		P	23 51 34.4	+0.1
LONY	Lake Ozonia comp=E,17nm,1.0s	34.97	13	*e*P		P	23 51 37.8	+2.6
SPMN	Marine on St. baz=167,SNR=7.6	35.00	351	P		P	23 51 35.2	-0.2
SPMN	Marine on St. comp=E,41nm,1.1s	35.00	351	*e*P		P	23 51 35.1	-0.3
H34A	Spellman Lake, baz=162	35.04	347	P		P	23 51 36.4	+0.7
G36A	St. Michael baz=165	35.17	349	P		P	23 51 36.2	-0.7
GLA	Glamis baz=123	35.18	314	P		P	23 51 35.1	-2.2
H33A	Prehn Over Nor baz=160	35.28	346	P		P	23 51 37.6	-0.3
H32A	Carlson Farm, baz=159	35.29	345	P		P	23 51 37.7	-0.3
G35A	Watkins baz=164	35.29	349	P		P	23 51 38.6	+0.6
Y12C	Blythe baz=124	35.35	315	P		P	23 51 37.2	-1.4
Y12C	Blythe comp=E,6.0nm,0.8s	35.35	315	*e*P		P	23 51 41.6	+3.0
PDMCI	Parker Dam,Lak baz=125	35.39	316	P		P	23 51 38.2	-0.8
COWI	Conover	35.41	355	*e*P		P	23 51 39.0	0.0
G34A	Benson baz=162	35.55	347	P		P	23 51 40.3	+0.1
W13A	Hualapai Mount comp=E,8.3nm,1.2s	35.68	317	*e*P		P	23 51 43.5	+1.7
F36A	Milaca baz=166,SNR=13	35.74	350	P		P	23 51 40.3	-1.4
IKP	In-Ko-Pah, Jac baz=121	35.90	312	P		P	23 51 41.8	-1.7
F35A	Swanville baz=164	35.92	349	P		P	23 51 43.0	-0.4
BC3	Big Chuckawall baz=122	35.95	314	P		P	23 51 43.9	-0.1
G32A	Webster baz=159	36.01	345	P		P	23 51 43.7	-0.5
G31A	Conde baz=158	36.16	344	P		P	23 51 45.0	-0.5
F33A	5 Mile Ranch, baz=161	36.27	347	P		P	23 51 45.2	-1.1
E36A	McGregor baz=166	36.33	351	P		P	23 51 46.1	-0.8
TRQ	Mont Tremblant	36.50	12	*e*P		P	23 51 50.2	+1.9
BELC	Belle Mtn. Jos baz=122	36.52	314	P		P	23 51 49.2	+0.4
E35A	Pequot Lakes baz=164	36.57	349	P		P	23 51 48.8	-0.1
TPFO	Pinon Flats baz=121	36.63	313	P		P	23 51 51.2	+1.4
PFO	Pinyon Flats O comp=E,12nm,1.1s	36.64	313	*e*P		P	23 51 51.9	+2.0
E34A	Wadena baz=163	36.67	348	P		P	23 51 49.1	-0.7
F31A	Hecla baz=158	36.76	345	P		P	23 51 50.0	-0.5
D37A	Cotton baz=168,SNR=6.1	36.83	352	P		P	23 51 50.3	-0.7
E33A	Westby DABS, E baz=162	36.83	347	P		P	23 51 49.5	-1.7
K22A	Casper baz=143	36.88	333	P		P	23 51 53.7	+1.9
D36A	Goodland baz=167	36.96	351	P		P	23 51 51.4	-0.8
PKME	Peaks-Kenny Pk comp=E,9.8nm,0.9s	36.99	19	*e*P		P	23 51 56.5	+4.0
D35A	Remer baz=165	37.01	350	P		P	23 51 51.6	-1.0
RSSD	Black Hills baz=148	37.07	337	P		P	23 51 55.9	+2.5
MURC	Murrieta baz=120	37.16	313	P		P	23 51 52.9	-1.3
F29A	Eureka baz=156	37.17	343	P		P	23 51 54.0	0.0
D34A	Park Rapids baz=163	37.22	349	P		P	23 51 53.4	-1.0
C38A	Sawbill Land. baz=170	37.23	353	P		P	23 51 53.0	-1.5
H25A	Fruitdale baz=149	37.33	338	P		P	23 51 57.6	+2.1
SHPR	Sheep Range comp=E,7.1nm,1.3s	37.34	318	*e*P		P	23 51 58.3	+2.5
C37A	Embarrass baz=168	37.35	352	P		P	23 51 55.3	-0.3
D33A	AnnSam, Waubun baz=162,SNR=5.0	37.41	348	P		P	23 51 54.4	-1.6
C36A	Pine Crest Far baz=167	37.47	351	P		P	23 51 55.3	-1.3
EYMN	Ely	37.48	353	P		P	23 51 55.2	-1.5
C35A	Jirik Farms, M baz=170	37.60	350	P		P	23 51 56.2	-1.5
D32A	Dogwood Acres, baz=166,SNR=9.9	37.65	347	P		P	23 51 58.0	-0.1
RRX	Edison Barstow baz=161	37.68	347	P		P	23 51 56.6	-1.9
C34A	RKJ Ranch, Bem baz=122	37.68	315	P		P	23 51 59.0	+0.4
D31A	Mcclaflin, Tow baz=164	37.71	349	P		P	23 51 58.7	-0.1
GSC	Goldstone, Bar baz=160	37.74	346	P		P	23 51 59.9	+0.5
GSC	Goldstone, Bar comp=E,5.0nm,1.0s	37.77	315	*e*P		P	23 52 02.5	+3.1
VLDQ	Val d'Or comp=E,22nm,1.0s	37.81	8	*e*P		P	23 52 00.5	+1.1
C33A	Trail baz=163	37.98	348	P		P	23 52 00.1	-0.7
B35A	Bob, Littlefor baz=166	38.20	351	P		P	23 52 02.1	-0.5
BW06	Boulder Array baz=139	38.37	331	P		P	23 52 02.4	-2.2
BW06	Boulder Array	38.37	331	*e*P		P	23 52 04.7	+0.2
PD31	Pinedale Array	38.37	331	*e*P		P	23 52 04.4	-0.1
PDAR	Pinedale Array comp=E,2.0nm,0.9s,baz=124,slow=7.7,SNR=3.6	38.37	331	P		P	23 52 04.4	-0.1
EDW2	Edwards Air Fo baz=121	38.38	314	P		P	23 52 04.8	+0.3
B33A	Robert and Kas baz=163	38.44	349	P		P	23 52 05.0	+0.3
C31A	Landman Farms, baz=160	38.44	346	P		P	23 52 03.8	-0.9
B34A	Aery, Baudette baz=165,SNR=12	38.47	350	P		P	23 52 03.4	-1.5
AGMN	Agassiz Nation baz=163,SNR=9.0	38.52	348	P		P	23 52 04.3	-1.1
AGMN	Agassiz Nation comp=E,22nm,1.0s	38.52	348	*e*P		P	23 52 04.7	-0.7
HWUT	Hardware Ranch comp=E,5.4nm,1.0s	38.53	328	*e*P		P	23 52 07.5	+1.6
D28A	Regan baz=155	38.62	343	P		P	23 52 05.6	-0.7
MPMC	Manual Prospec baz=123,SNR=8.7	38.65	316	P		P	23 52 06.5	-0.4
B32A	Ashes, Strandg baz=162,SNR=6.9	38.74	348	P		P	23 52 06.7	-0.6
MDND	Maddock baz=157	38.95	344	P		P	23 52 09.9	+0.9
B31A	Greenbush Farm baz=160	39.01	347	P		P	23 52 09.3	-0.2
D26A	Manning baz=152	39.04	341	P		P	23 52 09.2	-0.6
A33A	Warroad baz=164,SNR=5.9	39.04	349	P		P	23 52 08.8	-0.9
C28A	Hausauer Farms baz=156	39.04	344	P		P	23 52 10.2	+0.4
B30A	Myrvik Farm, E baz=159	39.19	346	P		P	23 52 10.7	-0.4
A32A	Rocking H Ranc baz=162	39.23	348	P		P	23 52 11.1	-0.3
B29A	Wagenman Farm, baz=158	39.46	345	P		P	23 52 12.5	-0.8
VES	Vestal, Richgr baz=121	39.64	315	P		P	23 52 15.3	+0.3
A30A	Hoffart Farm, baz=159	39.65	346	P		P	23 52 14.0	-0.8
B28A	Dugan Ranch, T baz=156	39.71	344	P		P	23 52 16.2	+0.8
A29A	Manning Farm, baz=158	39.85	345	P		P	23 52 16.2	-0.3
RCTC	Rector, Farmer baz=121	39.98	315	P		P	23 52 18.2	+0.4
RLMT	Red Lodge baz=141	40.05	333	P		P	23 52 19.0	+0.5
LAO	LASA Array baz=147	40.06	337	P		P	23 52 18.0	-0.3
ULM	Lac du Bonnet comp=E,8.9nm,0.9s,baz=164,slow=6.5,SNR=9.6	40.39	349	P		P	23 52 21.0	+0.1
ULM					LR	LR	00 10 42.6	
	comp=E,123nm,19.0s,baz=154,slow=38							
ULM	Lac du Bonnet	40.39	349	*e*P		P	23 52 21.2	+0.3
	comp=E,25nm,1.1s							
PAGB	Antelope Grade comp=E,18nm,0.9s	40.40	314	*e*P		P	23 52 23.0	+1.6
A26A	Wade Farm, Ken baz=154	40.58	343	P		P	23 52 22.3	-0.3
TVH2	Borealis Mine	40.76	318	*e*P		P	23 52 27.2	+2.7
TVH2				*e*pP		sP	23 52 41.5	+12
DGMT	Dagmar baz=151	40.87	341	P		P	23 52 25.2	+0.2
A25A	Svangstu Ranch baz=152	40.94	342	P		P	23 52 25.8	+0.2
BMN	Battle Mountai comp=E,14nm,1.4s	40.98	322	*e*P		P	23 52 28.6	+2.4
WAKR	Walker comp=E,19nm,1.3s	41.27	318	*e*P		P	23 52 32.0	+3.3
HLID	Hailey baz=134	41.40	327	P		P	23 52 29.9	+0.2
HLID	Hailey comp=E,2.4nm,1.0s	41.40	327	*e*P		P	23 52 33.2	+3.5
MCMT	McKenzie Canyo	41.50	330	*e*P		P	23 52 32.9	+2.4
MCMT				*e*pP		sP	23 52 47.9	+12
MSO	Missoula baz=137	43.47	331	P		P	23 52 44.4	-1.9
SLMT	Seeley Lake	43.57	332	*e*P		P	23 52 50.1	+2.9
O03D	Paynes Creek baz=122	43.78	319	P		P	23 52 48.0	-0.9
NEW	Newport baz=134	46.01	331	P		P	23 53 06.0	-0.5
G05D	Wamic, OR baz=127	46.27	325	P		P	23 53 06.2	-2.4
SCHQ	Schefferville comp=E,4.1nm,0.6s,baz=214,slow=4.9,SNR=7.4	46.31	15	P		P	23 53 07.5	-1.2
SCHQ					LR	LR	00 13 02.1	
	comp=E,278nm,18.5s,baz=219,slow=36							
SCHQ	Schefferville comp=E,50nm,1.9s	46.31	15	*e*P		P	23 53 07.5	-1.2
PLCA	Paso Flores	52.95	166	LR		LR	00 12 14.3	
	comp=E,66nm,18.1s,baz=333,slow=32							
YKA	Yellowknife Ar comp=E,1.5nm,0.7s,baz=143,slow=6.3,SNR=6.0	55.87	344	P		P	23 54 21.1	+0.7
YKA					LR	LR	00 21 27.1	
	comp=E,10nm,19.3s,baz=180,slow=39							
YKB5	Yellowknife Ar	55.87	344	*e*P		P	23 54 21.1	+0.7
TAOE	Nuku Hiva Isla comp=E,224nm,26.0s	58.10	253	*e*LR		LR	00 11 35.8	
SUMG	Summit comp=E,11nm,1.1s	67.69	14	*i* P		P	23 55 40.6	+0.2
ILAR	Eielson Array comp=E,0.9nm,0.9s,baz=101,slow=4.7,SNR=5.9	68.50	336	P		P	23 55 42.7	-2.5
ILAR					LR	LR	00 31 14.1	
	comp=E,116nm,19.7s,baz=119,slow=41							
ILB	Eielson Array	68.50	336	*e*P		P	23 55 42.7	-2.5
PPT2	Papeete2 comp=E,221nm,28.0s	69.59	247	*e*LR		LR	00 17 01.6	
ESDC	Sonseca Array comp=E,0.9nm,0.7s,baz=274,slow=6.7,SNR=5.7	76.45	52	P		P	23 56 32.5	-0.7
EKA	Eskdalemuir Ar comp=E,2.2nm,0.9s,baz=250,slow=4.4,SNR=4.1	76.68	36	P		P	23 56 31.7	-2.3
DBIC	Dimbokro comp=E,37nm,21.2s,baz=266,slow=33	79.26	85	LR		LR	00 28 01.6	
NOA	NORSAR Array B comp=E,42nm,21.4s,baz=290,slow=33	83.75	29	LR		LR	00 30 22.5	
TOA1	Torodi Ar. Sit comp=E,26nm,1.8s	84.55	78	*e*P		P	23 57 15.6	-1.4
TORD	Torodi Ar. Bea comp=E,0.3nm,0.7s,baz=300,slow=5.0,SNR=2.5	84.55	78	P		P	23 57 15.6	-1.4
TORD					LR	LR	00 34 41.7	
	comp=E,62nm,19.2s,baz=220,slow=36							
ARCES	ARCESS Array B comp=E,34nm,18.1s,baz=282,slow=38	87.05	19	LR		LR	00 39 15.7	
KEST	Kesra comp=E,36nm,18.7s,baz=239,slow=36	87.41	54	LR		LR	00 36 49.4	
GERES	GERESS Array B comp=E,61nm,19.1s,baz=284,slow=33	87.75	41	LR		LR	00 32 41.2	
FINES	FINESS Array B comp=E,74nm,21.5s,baz=266,slow=32	90.49	27	LR		LR	00 33 49.0	
AKASG	Malin Array comp=E,57nm,21.6s,baz=290,slow=33	96.59	36	LR		LR	00 37 41.6	
PETK	Petropavlovsk- comp=E,24nm,18.2s,baz=80,slow=38	97.07	327	LR		LR	00 46 31.4	
AS31	Alice Springs	140.70	246	*e*PKPpre		PKPpre	00 04 09.2	
ASAR	Alice Springs comp=E,0.2nm,0.4s,baz=94,slow=2.8,SNR=2.8	140.70	246	PKP		PKPdf	00 04 09.3	-4.5
WR1	Warramunga Arr	140.94	252	*e*PKPpre		PKPpre	00 04 09.0	
WRA	Warramunga Arr comp=E,0.9nm,0.9s,baz=88,slow=2.7,SNR=3.2	140.94	252	PKP		PKPdf	00 04 09.0	-5.2

WEL 28 23:46:48.3±0.1, 43.60S×172.75E, h8km, ML3.5/13, 3C-2D, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	Canterbury Las	0.10	288	⇓PG	Pg	23 46 50.6	0.0
CRLZ				SG	Sg	23 46 52.3	+0.1
CRLZ				AML	AML	23 46 52.5	
CRLZ				AML	AML	23 46 52.5	
CRLZ				AML	AML	23 46 53.0	
MQZ	McQueen's Vall	0.12	214	⇑PG	Pg	23 46 51.3	+0.2
MQZ				SG	Sg	23 46 53.2	+0.2
MQZ				AML	AML	23 46 53.5	
OXZ	Oxford	0.59	298	⇓P*	Pg	23 46 59.5	-0.1
OXZ				S*	Sg	23 47 07.3	0.0
LTZ	Lake Taylor	0.89	337	P*	Pg	23 47 05.3	-0.1
LTZ				S*	Sg	23 47 16.9	-0.1
LTZ				AML	AML	23 47 17.9	
RPZ	Rata Peaks	1.23	264	⇑P*	Pn	23 47 10.3	-1.5
RPZ				AML	AML	23 47 29.1	
RPZ				AML	AML	23 47 35.2	
INZ	Inchbonnie	1.30	312	⇑P*	Pn	23 47 12.2	-0.4
KHZ	Kahutara	1.32	26	PN	Pn	23 47 11.1	-1.9
WVZ	Waitaha Valley	1.56	289	PN	Pn	23 47 16.3	+0.1
WVZ				AML	AML	23 47 40.6	
THZ	Tophouse	1.84	4	AML	AML	23 47 45.7	
THZ				AML	AML	23 47 58.8	
DSZ	Denniston Nort	1.98	339	AML	AML	23 47 50.7	
DSZ				AML	AML	23 47 54.5	
LBZ	Lake Benmore	2.01	246	PN	Pn	23 47 21.5	-1.0
LBZ				AML	AML	23 47 58.3	
LBZ				AML	AML	23 47 59.6	
ODZ	Otahua Downs	2.09	226	PN	Pn	23 47 21.9	-1.6
ODZ				AML	AML	23 47 59.4	
ODZ				AML	AML	23 47 59.6	
ODZ				AML	AML	23 48 01.7	
ODZ				AML	AML	23 48 04.8	
FOZ	Fox Glacier	2.13	271	PN	Pn	23 47 24.4	+0.3
FOZ				AML	AML	23 48 03.4	
FOZ				AML	AML	23 48 04.8	
NNZ	Nelson	2.43	11	AML	AML	23 47 46.5	
NNZ				AML	AML	23 48 43.0	
JCZ	Jackson Bay	2.91	259	AML	AML	23 48 27.2	
TUZ	Tuapeka	3.23	222	PN	Pn	23 47 38.4	-0.8
TUZ				AML	AML	23 48 37.1	
TUZ				AML	AML	23 48 40.9	
MRZ	Mangatainoka R	3.62	37	PN	Pn	23 47 42.5	-2.0

*ISCJB **29** 00:04:00.4±0.4, 0.05S±0.05×122.88E±0.04, h162km, mb3.9/9, Error ellipse: s-maj=6.7km s-min=6.0km az=144.4*
*IDC **29** 00:04:01.8±1.8, 0.10S×122.91E, h160km±15km, mb3.7/9, mb1 3.9/11,mb1mx3.5/34,mbtmp4.1/11, MS3.0/2, Ms1 3.1/2,ms1mx2.6/40, Error ellipse: s-maj=23.5km s-min=8.9km az=77.0*
*DJA **29** 00:04:02.9±0.4, 0°S±4°×12°3E±°, h132km±6km, M4.6/6, mB5.4/1,mb4.8/3,MLv4.5/6,Mw(mB)4.9/1*

ISC 29 00:04:01.7±0.6, 0.09S±0.05×122.94E±0.05, h162km, n24, σ1s51/34, mb3.9/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	Luwuk	0.96	190	P	Pn	00 04 26.6	-0.7
LUWI				S	Sn	00 04 44.7	-2.3
MRSI	Marisa	1.14	299	P	Pn	00 04 27.1	-1.7
MRSI				S	Sn	00 04 45.7	-3.9
KMSI	Cibinong	1.23	58	P	Pn	00 04 30.1	+0.5
PCI	Palu	3.21	255	P	Pn	00 04 52.7	+0.6
PCI				S	Sn	00 05 31.0	-0.3
SANI	Sanana	3.62	123	P	Pn	00 04 56.2	-1.2
SANI				S	Sn	00 05 36.2	-4.5
KDI	Kendari	3.86	185	P	Pn	00 05 00.0	-0.4
TTSI	Tana Toraja	4.28	227	S	Sn	00 05 53.6	-2.5
LBMI	Labuha	4.60	97	P	Pn	00 05 10.0	0.0
SPSI	Sidrap Palu	4.99	219	P	Pn	00 05 14.0	-1.1
NLAI	Namlea 123nm,0.4s,5μm	5.21	127	P	Pn	00 05 19.4	+1.4
KAPI	Kappang 1.7nm,0.3s,baz=21,slow=8.2,SNR=6.5	5.84	213	P	Pn	00 05 27.2	+0.9
KAPI				S	Sn	00 06 31.7	-1.1
	0.9nm,0.3s,baz=58,slow=19,SNR=4.3						
KAPI				LR	LR	00 07 08.8	
	comp=Z,50nm,18.3s,baz=349,slow=32						
FITZ	Fitzroy Crossi 1.7nm,0.3s,baz=7.0,slow=9.4,SNR=58	18.10	172	P	Pn	00 08 02.5	-0.5
FITZ				S	S	00 11 19.9	-0.4
	0.0nm,0.3s,baz=352,slow=14,SNR=4.9						
WRA	Warramunga Arr 4.3nm,0.8s,baz=326,slow=11,SNR=57	22.67	151	P	P	00 08 49.8	+0.3
WRA				PcP	PcP	00 12 35.9	-0.7
	0.4nm,0.7s,baz=313,slow=2.5,SNR=3.4						
WRA				S	S	00 12 47.8	+2.2
	0.7nm,0.8s,baz=335,slow=16,SNR=4.3						
WRA				ScP	ScP	00 15 59.4	+0.2
	1.3nm,0.8s,baz=320,slow=2.7,SNR=8.9						
ASAR	Alice Springs 1.1nm,0.4s,baz=330,slow=7.3,SNR=18	25.74	156	P	P	00 09 17.8	+0.4
ASAR				PcP	PcP	00 12 43.6	+0.4
	0.7nm,0.3s,baz=348,slow=2.1,SNR=8.2						
ASAR				ScP	ScP	00 16 08.4	+0.7
	1.1nm,0.6s,baz=343,slow=2.8,SNR=12						
CMAR	Chiang Mai Arr 1.3nm,0.3s,baz=131,slow=7.4,SNR=4.8	29.92	309	P	P	00 09 55.4	+0.7
STKA	Stephens Creek 6.0nm,0.7s,baz=303,slow=9.0,SNR=9.5	36.21	153	P	P	00 10 50.1	+1.1
MJAR	Matsushiro Arr 1.3nm,0.5s,baz=201,slow=8.8,SNR=3.9	39.10	20	P	P	00 11 12.3	-0.9
USRK	Ussuriysk Ar. 1.3nm,0.6s,baz=165,slow=7.3,SNR=3.6	44.83	9	P	P	00 11 59.4	0.0
SONM	Songino Array 1.0nm,0.8s,baz=169,slow=9.2,SNR=4.5	49.85	345	P	P	00 12 39.6	+1.2
MKAR	Makanchi Array 0.8nm,0.3s,baz=125,slow=8.6,SNR=16	58.65	328	P	P	00 13 42.3	+0.3
VNDA	Vanda 2.0nm,0.8s,baz=312,slow=6.5,SNR=13	80.17	172	P	P	00 15 54.0	+0.6
ILAR	Eielson Array comp=Z,16nm,20.0s,baz=222,slow=37	90.15	25	LR	LR	01 00 17.2	
TORD	Torodi Ar. Bea 0.5nm,0.7s,baz=44,slow=2.2,SNR=3.8	120.37	285	PKP	PKPdf	00 22 33.7	-1.1
TXAR	Lajitas Array 0.3nm,0.7s,baz=236,slow=1.0,SNR=3.2	126.92	53	PKP	PKPdf	00 22 47.9	+0.8

*NNC **29** 00:21:08.7±0.6, 44.71N×80.57E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=14.3km s-min=3.7km az=119.0*
*SOME **29** 00:21:10.8, 44.72N×80.40E, h15km*

ISC 29 00:21:08.6±1.4, 44.73N±0.03×80.54E±0.05, h1km±12km, n20, σ0s61/37, 6C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	Jarkent 18nm,0.1s	0.67	234	⇓*i* P	Pb	00 21 22.2	-0.8
DJR				⇓*i* S	Sg	00 21 30.5	+0.6
	52nm,0.2s						
KAPS	Kapalarasan 8.5nm,0.1s	1.00	304	⇓*e* P	Pg	00 21 28.2	+0.4
KAPS				*e* S	Sg	00 21 40.1	-0.7
	16nm,0.3s						
KTMS	Ketmen 8.5nm,0.1s	1.29	186	*e* P	Pn	00 21 34.4	+0.5
KTMS				*e* S	Sn	00 21 51.1	-0.7
	22nm,0.1s						
TDK	Taldyqorghan 33nm,0.4s	1.54	281	*e* P	Pn	00 21 37.6	+0.4
TDK				*e* S	Sn	00 21 56.4	-1.5
	41nm,0.3s						
PDGK	Podgornoye 1.1nm,0.4s	1.59	209	⇑P	Pg	00 21 38.5	-0.6
PDGK				⇓S	Sg	00 21 59.2	-0.6
	36nm,0.4s						
SHLS	Shalkode 8.6nm,0.1s	1.64	197	*e* P	Pg	00 21 40.2	+0.2
SHLS				*e* S	Sg	00 22 01.1	-0.2
	28nm,0.2s						
UZB	Uzynbulak 3.7nm,0.1s	1.92	215	*e* P	Pb	00 21 44.2	-0.3
UZB				*e* S	Sb	00 22 08.1	-0.9
	50nm,0.2s						

ARXS	**Arharly**	**2.01**	**256**	*e*P		**Pb**	**00 21 45.9**	**0.0**
	9.4nm,0.2s							
ARXS				*e*S		**Sb**	**00 22 11.0**	**-0.4**
	29nm,0.2s							
KURS	**Kuram**	**2.11**	**235**	*e*P		**Pb**	**00 21 47.1**	**-0.5**
KURS				*e*S		**Sn**	**00 22 12.9**	**+1.0**
ZHN	**Zhinishke**	**2.18**	**225**	*e*P		**Pb**	**00 21 49.3**	**+0.5**
	12nm,0.1s							
ZHN				*e*S		**Sb**	**00 22 16.4**	**+0.1**
	82nm,0.1s							
SATY	**Saty**	**2.27**	**223**	*e*P		**Pb**	**00 21 50.7**	**+0.3**
	5.7nm,0.1s							
SATY				*e*S		**Sb**	**00 22 19.3**	**+0.2**
	70nm,0.3s							
MAKZ	**Makanchi**	**2.31**	**25**	⇑Pg		**Pb**	**00 21 50.9**	**-0.1**
	0.6nm,0.5s							
MAKZ				⇓Lg		Lg	00 22 21.8	
	2.0nm,0.5s							
MK31	**Makanchi Array**	**2.40**	**30**	⇑Pg		**Pb**	**00 21 52.6**	**0.0**
	1.3nm,0.6s,baz=210,slow=16,SNR=19							
MK31				⇑Lg		Lg	00 22 24.0	
	3.8nm,0.6s,baz=210,slow=27,SNR=3.9							
CHKK	**Chushkaly**	**2.68**	**253**	*e*P		**Pb**	**00 21 57.0**	**-0.3**
	1.1nm,0.1s							
CHKK				*e*S		**Sb**	**00 22 30.3**	**-0.4**
	19nm,0.2s							
KOTS	**Kotyrbulak**	**2.89**	**240**	*e*P		**Pb**	**00 22 01.0**	**+0.1**
KOTS				*e*S		**Sb**	**00 22 37.7**	**+0.8**
KTBS	**Karatobe**	**2.95**	**251**	*e*P		**Pb**	**00 22 02.0**	**0.0**
KTBS				*e*S		**Sb**	**00 22 39.3**	**+0.7**
MDOK	**Medeo**	**2.96**	**239**	*e*P		**Pb**	**00 22 02.3**	**0.0**
	1.4nm,0.2s							
MDOK				*e*S		**Sb**	**00 22 39.0**	**-0.1**
	18nm,0.5s							
KUU	**Kurty**	**3.13**	**256**	*e*P		**Pb**	**00 22 04.7**	**-0.2**
	3.8nm,0.3s							
KUU				*e*S		**Sb**	**00 22 43.2**	**-0.4**
	6.0nm,0.3s							
KST	**Kastek**	**3.71**	**245**	*e*P		**Pb**	**00 22 15.0**	**+0.1**
	1.2nm,0.1s							
KST				⇑*i*S		**Sb**	**00 23 01.6**	**+1.1**
	3.9nm,0.4s							
TKM2	**Tokmak 2**	**4.00**	**245**	⇓Pg		**Pb**	**00 22 21.0**	**+0.9**
	1.4nm,0.8s							
TKM2				⇑Lg		Lg	00 23 14.9	
	1.3nm,0.3s							

NIED ***29*** *00:32:00,37.50N×142.40E,h8km,Mw3.8 Best double couple: M₀4.81000×10¹⁴ NP1:φs18.00000°,δ35.00000°, λ-109.00000°. NP2:φs221.00000°,δ57.00000°, λ-77.00000°.*

JMA ***29*** *00:32:11.9±0.3,37.46N×142.42E,h6km±3km,M4.0*

IDC ***29*** *00:32:11.2±0.9,37.40N×142.53E,h0km,mb3.7/9, mb1 3.9/10,mb1mx3.7/43,mbtmp3.7/10,ML3.1/1,MS3.0/2, Ms1 3.0/2,ms1mx2.5/43,Error ellipse: s-maj=26.9km s-min=20.0km az=78.0*

ISCJB ***29*** *00:32:12.8±0.7,37.47N±0.06×142.52E±0.06,h21km, mb3.8/9,MS3.6/1,Error ellipse: s-maj=8.1km s-min=7.0km az=5.7*

ISC 29 00:32:14.8±0.9,37.50N±0.07×142.44E±0.07,h21km,n28, σ1$18/27,mb3.6/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.26**	**264**	P	**Pn**	**00 32 35.1**	**-2.0**
JIO	**Ouri**	**1.29**	**318**	P	**Pn**	**00 32 36.2**	**-1.3**
JIO				*e*S	**Sn**	**00 32 53.4**	**-0.7**
JMM	**Marumori**	**1.36**	**286**	P	**Pn**	**00 32 36.8**	**-1.7**
JMM				*e*S	**Sn**	**00 32 55.0**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.37**	**254**	P	**Pn**	**00 32 36.6**	**-2.1**
JOU	**Okura**	**1.65**	**302**	P	**Pn**	**00 32 42.0**	**-0.6**
JOU				*e*S	**Sn**	**00 33 03.4**	**+0.2**
JFT	**Otama**	**1.68**	**271**	P	**Pn**	**00 32 42.4**	**-0.5**
JFT				*e*S	**Sn**	**00 33 03.9**	**+0.2**
JOM	**Ohasama**	**2.17**	**336**	P	**Pn**	**00 32 49.2**	**-0.5**
JYK	**Kaneyama**	**2.17**	**311**	P	**Pn**	**00 32 49.9**	**+0.2**
JRG	**Rokugo**	**2.37**	**324**	P	**Pn**	**00 32 53.1**	**+0.7**
JAG	**Ashikaga**	**2.62**	**247**	P	**Pn**	**00 32 55.2**	**-0.7**
MJAR	**Matsushiro Arr**	**3.52**	**256**	Pn	**Pn**	**00 33 09.5**	**+1.2**
	1.8nm,0.3s,baz=72,slow=10,SNR=11						
MJAR				Sn	**Sb**	**00 33 58.8**	**+0.1**
	2.6nm,0.3s,baz=147,slow=12,SNR=5.7						
MJAR				LR	LR	00 34 44.9	
	comp=Z,54nm,18.4s,baz=80,slow=43						
MAT	**Matsushiro**	**3.52**	**256**	P	**Pn**	**00 33 10.3**	**+2.0**
MAT				*e*S	**Sn**	**00 33 51.9**	**+2.6**
H11N2	**WAKE ISLAND Hy 27.70**	**123**		T	T	01 06 49.4	
	baz=315,slow=75,SNR=91						
H11N1	**WAKE ISLAND Hy 27.70**	**123**		T	T	01 06 50.1	
	baz=315,slow=75,SNR=69						
H11N3	**WAKE ISLAND Hy 27.71**	**123**		T	T	01 06 51.1	
	baz=315,slow=75,SNR=57						
SONM	**Songino Array**	**28.21**	**303**	P	**P**	**00 38 05.7**	**-0.4**
	0.4nm,0.6s,baz=99,slow=9.5,SNR=2.7						
H11S1	**WAKE ISLAND Hy 28.44**	**125**		T	T	01 07 46.3	
	baz=317,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy 28.44**	**125**		T	T	01 07 47.0	
	baz=317,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy 28.45**	**125**		T	T	01 07 46.4	
	baz=317,slow=76,SNR=45						
ZALV	**Zalesovo Beam**	**42.21**	**312**	P	**P**	**00 40 07.0**	**+1.1**
	0.5nm,0.5s,baz=67,slow=8.0,SNR=2.8						
MKAR	**Makanchi Array**	**44.57**	**302**	P	**P**	**00 40 25.5**	**+0.3**
	0.5nm,0.8s,baz=83,slow=8.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**46.37**	**308**	P	**P**	**00 40 39.3**	**0.0**
	1.1nm,0.6s						
ILAR	**Eielson Array**	**48.66**	**33**	P	**P**	**00 40 57.1**	**+0.2**
	0.5nm,0.8s,baz=269,slow=6.6,SNR=5.9						
WRA	**Warramunga Arr**	**57.64**	**189**	P	**P**	**00 42 02.0**	**-1.4**
	3.6nm,0.8s,baz=7.9,slow=7.4,SNR=20						
SPITS	**Spitsbergen Ar**	**60.23**	**349**	LR	LR	01 10 54.4	
	comp=Z,46nm,20.3s,baz=320,slow=38						
ASAR	**Alice Springs**	**61.37**	**189**	P	**P**	**00 42 28.5**	**-0.6**
	1.8nm,0.8s,baz=12,slow=6.6,SNR=14						
FINES	**FINESS Array B**	**68.78**	**332**	P	**P**	**00 43 17.6**	**+0.7**
	1.1nm,0.7s,baz=30,slow=6.4,SNR=5.1						
TXAR	**Lajitas Array**	**89.19**	**53**	P	**P**	**00 45 09.6**	**+0.4**
	0.2nm,0.7s,baz=327,slow=1.5,SNR=2.5						

ISCJB ***29*** *00:36:31.9±0.5,39.09N±0.04×28.99E±0.05,h20km±6km, Error ellipse: s-maj=7.9km s-min=5.5km az=153.6*

CSEM ***29*** *00:36:31.4±0.2,39.12N×28.99E,h15km,Error ellipse: s-maj=6.7km s-min=5.1km az=128.0*

ISK ***29*** *00:36:31.1,39.05N×29.08E,h26km, ML2.3*

DDA ***29*** *00:36:32.0,39.10N×29.00E,h5km, Md2.8*

ISC 29 00:36:31.5±1.0,39.09N±0.04×29.02E±0.03,h15km±8km, n25,σ0$65/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**259**	P	**Pb**	**00 36 37.0**	**-0.6**
DEMI				S	**Sg**	**00 36 40.4**	**-0.1**
DEMI	**Demirci**	**0.24**	**259**	*i* P	**Pb**	**00 36 37.0**	**-0.6**
DEMI				*i* S	**Sg**	**00 36 40.4**	**-0.1**
GDZ	**Gediz**	**0.36**	**90**	P	**Pb**	**00 36 39.6**	**0.0**
GDZ				S	**Sb**	**00 36 45.1**	**0.0**
GDZ	**Gediz**	**0.36**	**90**	*i* P	**Pb**	**00 36 39.6**	**0.0**
GDZ				*i* S	**Sb**	**00 36 45.1**	**0.0**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*PG	**Pb**	**00 36 44.7**	**+0.3**
KULA				*e*SG	**Sb**	**00 36 53.5**	**+0.3**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*Pg	**Pb**	**00 36 44.7**	**+0.3**
KULA				*e*Sg	**Sb**	**00 36 53.5**	**+0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*PN	**Pn**	**00 36 52.3**	**+0.8**
BALB				*e*SN	**Sn**	**00 37 06.2**	**+0.4**
BALB	**Balikesir**	**1.04**	**302**	*e*Pn	**Pn**	**00 36 52.3**	**+0.8**
BALB				*e*Sn	**Sn**	**00 37 06.2**	**+0.4**
IGD	**Bursa**	**1.18**	**7**	*i* P	**Pn**	**00 36 52.7**	**-0.8**
IGD				*i* S	**Sg**	**00 37 10.7**	**+1.0**
CAVI	**Cavuskoy**	**1.28**	**29**	*e*PN	**Pn**	**00 36 54.0**	**-0.8**
CAVI	**Cavuskoy**	**1.28**	**29**	*e*Pn	**Pn**	**00 36 54.0**	**-0.8**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*PN	**Pn**	**00 36 54.0**	**-0.9**
KCTX	**Karacabey (Bur**	**1.28**	**337**	*e*Pn	**Pn**	**00 36 54.0**	**-0.9**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*PN	**Pn**	**00 36 54.2**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pn**	**00 36 54.2**	**-0.7**
IZI	**Iznik**	**1.29**	**15**	*e*PN	**Pn**	**00 36 54.6**	**-0.5**
IZI	**Iznik**	**1.29**	**15**	*e*Pn	**Pn**	**00 36 54.6**	**-0.5**
BORA	**Eskisehir**	**1.36**	**54**	P	**Pg**	**00 36 57.7**	**0.0**
BORA	**Eskisehir**	**1.36**	**54**	*i* P	**Pg**	**00 36 57.7**	**0.0**
BORA				*i* S	**Sg**	**00 37 16.6**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*PN	**Pn**	**00 36 56.5**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**218**	*e*Pn	**Pn**	**00 36 56.5**	**-0.7**
ARMT	**Armutlu**	**1.48**	**355**	*e*PN	**Pn**	**00 36 56.8**	**-0.8**
ARMT	**Armutlu**	**1.48**	**355**	*e*Pn	**Pn**	**00 36 56.8**	**-0.8**
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pn**	**00 37 00.9**	**-0.7**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pn**	**00 37 00.9**	**-0.7**

CASC 29 00:36:56.0±1.6,10.77N×85.15W,h15km±7km,MD4.3, ML3.6,2C-2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.92**	**330**	*e*P	Pb	00 37 13.2	-0.4
JCR	**Jicaral**	**0.92**	**177**	⇓*i*P	Pb	00 37 13.0	-0.6
JCR				*e*S	Sb	00 37 25.5	-0.1
CGA2	**Cerro Gallo 2**	**1.01**	**138**	*e*P	Pb	00 37 14.2	-1.0
CGA2				*e*S	Sg	00 37 28.7	-0.1
URSC	**Urasca**	**1.64**	**124**	⇑*e*P	Pn	00 37 24.6	+0.1
ESPN	**Las Esperanzas**	**1.64**	**30**	*e*P	Pn	00 37 23.9	-0.5
ESPN				*e*S	Sn	00 37 45.4	+0.2
QCR	**Quepos**	**1.65**	**144**	⇑*e*P	Pn	00 37 25.3	+0.8
QCR				*e*S	Sn	00 37 45.4	-0.1
BUS	**Buena Vista**	**1.83**	**131**	⇓*e*P	Pn	00 37 27.6	+0.3
BUS				*e*S	Sn	00 37 51.2	+0.8
COPN	**Copaltepe**	**1.99**	**315**	*e*P	Pn	00 37 30.0	+0.9

TIR ***29*** *00:41:02.4,40.14N×19.91E,h261km,ML2.0*

SKO ***29*** *00:41:14.0,40.01N×19.94E,h3km*

THE ***29*** *00:41:15.1,40.20N×19.87E,h0km±2km,ML2.5/8,Error ellipse: s-maj=2.8km s-min=0.9km az=303.0*

CSEM ***29*** *00:41:15.7±0.3,40.16N×19.91E,h2km,ML2.4,Error ellipse: s-maj=7.3km s-min=4.3km az=84.0*

ATH ***29*** *00:41:16.1,40.13N×19.95E,h10km±5km,ML2.4/1,Error ellipse: s-maj=5.8km s-min=1.8km az=254.0*

ISC 29 00:41:16.5±1.2,40.13N±0.02×20.01E±0.03,h0km±10km, n41,σ0$89/66,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.44**	**202**	P	**Pg**	**00 41 24.0**	**-1.0**
KEK				S	**Sg**	**00 41 31.7**	**+1.0**
KEK	**Kerkira**	**0.44**	**202**	P	**Pg**	**00 41 24.0**	**-1.0**
KEK				S	**Sg**	**00 41 31.7**	**+1.0**
SGD	**Sagiada**	**0.54**	**161**	P	**Pg**	**00 41 26.6**	**-0.2**
SGD				S	**Sb**	**00 41 37.6**	**+0.5**
SGD	**Sagiada**	**0.54**	**161**	P	**Pg**	**00 41 26.6**	**-0.2**
SGD				S	**Sb**	**00 41 37.0**	**-0.1**
SGD	**Sagiada**	**0.54**	**161**	P	**Pg**	**00 41 26.6**	**-0.2**
SGD				S	**Sb**	**00 41 37.0**	**-0.1**
JAN	**Janina**	**0.80**	**126**	P	**Pb**	**00 41 32.8**	**-0.4**
JAN				S	**Sn**	**00 41 45.9**	**-1.7**
JAN	**Janina**	**0.80**	**126**	P	**Pb**	**00 41 32.8**	**-0.4**
JAN				S	**Sn**	**00 41 45.9**	**-1.7**
NEST	**Nestorio**	**0.84**	**70**	P	**Pg**	**00 41 31.9**	**-0.8**
NEST	**Nestorio**	**0.84**	**70**	P	**Pg**	**00 41 31.9**	**-0.8**
NEST	**Nestorio**	**0.84**	**70**	P	**Pg**	**00 41 31.4**	**-1.3**
PENT	**Pentalofos**	**0.87**	**85**	P	**Pg**	**00 41 32.9**	**-0.2**
PENT	**Pentalofos**	**0.87**	**85**	P	**Pg**	**00 41 33.2**	**+0.1**
PENT	**Pentalofos**	**0.87**	**85**	P	**Pg**	**00 41 33.2**	**+0.1**
KPRO	**Kipourio**	**1.05**	**99**	P	**Pg**	**00 41 36.8**	**+0.1**
KPRO				S	**Sn**	**00 41 54.1**	**+0.2**
KPRO	**Kipourio**	**1.05**	**99**	P	**Pg**	**00 41 36.8**	**+0.1**
KPRO				S	**Sn**	**00 41 54.1**	**+0.2**
KPRO	**Kipourio**	**1.05**	**99**	P	**Pg**	**00 41 36.6**	**0.0**
OHR	**Ohrid**	**1.15**	**31**	*i* Pn	**Pg**	**00 41 36.7**	**-2.0**
OHR				*i* Sn	**Sn**	**00 41 56.8**	**+0.4**
OHR	**Ohrid**	**1.15**	**31**	*i* Pn	**Pg**	**00 41 36.6**	**-2.0**
OHR				*i* Sn	**Sn**	**00 41 56.8**	**+0.4**
TIR	**Tirane**	**1.23**	**355**	*i* PG	**Pg**	**00 41 39.5**	**-0.5**
TIR				*i* PG	**Sn**	**00 41 58.5**	**+0.4**
TIR	**Tirane**	**1.23**	**355**	*i* Pg	**Pg**	**00 41 39.5**	**-0.5**
TIR	**Tirane**	**1.23**	**355**	P	**Pg**	**00 41 39.8**	**-0.2**
TIR	**Tirane**	**1.23**	**355**	P	**Pg**	**00 41 39.8**	**-0.2**
TIR				S	**Sn**	**00 41 59.1**	**+0.9**
TIR				AML	AML	00 42 01.1	
	comp=E,556μm,0.7s						
TIR				AML	AML	00 42 04.6	
	comp=N,515μm,0.7s						
FNA	**Florina**	**1.23**	**57**	P	**Pg**	**00 41 38.7**	**-1.4**
FNA				S	**Sn**	**00 41 58.8**	**+0.4**
FNA	**Florina**	**1.23**	**57**	P	**Pg**	**00 41 38.7**	**-1.4**
FNA				S	**Sn**	**00 41 58.8**	**+0.4**
KZN	**Kozani**	**1.36**	**82**	P	**Pn**	**00 41 42.0**	**-0.8**
KZN				S	**Sn**	**00 42 02.4**	**+0.9**
KZN	**Kozani**	**1.36**	**82**	P	**Pb**	**00 41 42.8**	**-0.1**
KZN				S	**Sn**	**00 42 02.4**	**+0.9**
LKD2	**Lefkada island**	**1.43**	**159**	P	**Pb**	**00 41 43.2**	**-0.7**
LKD2				S	**Sg**	**00 42 04.1**	**+1.8**
LKD2	**Lefkada island**	**1.43**	**159**	P	**Pb**	**00 41 43.2**	**-0.7**
LKD2				S	**Sg**	**00 42 04.1**	**+1.8**
THL	**Klokotos Trika**	**1.64**	**109**	P	**Pn**	**00 41 46.6**	**0.0**
THL				S	**Sg**	**00 42 10.6**	**+1.4**
THL	**Klokotos Trika**	**1.64**	**109**	P	**Pn**	**00 41 46.6**	**0.0**
THL				S	**Sg**	**00 42 10.6**	**+1.4**
EVR	**Evrytania**	**1.84**	**130**	P	**Pn**	**00 41 49.0**	**-0.4**
EVR				S	**Sg**	**00 42 15.9**	**+0.2**
EVR	**Evrytania**	**1.84**	**130**	P	**Pn**	**00 41 49.0**	**-0.4**
EVR				S	**Sg**	**00 42 15.9**	**+0.2**
GRG	**Griva**	**2.00**	**65**	P	**Pn**	**00 41 52.0**	**+0.4**
GRG	**Griva**	**2.00**	**65**	P	**Pn**	**00 41 52.0**	**+0.4**
AGG	**Agios Georgios**	**2.10**	**121**	P	**Pn**	**00 41 52.3**	**-0.7**
AGG				S	**Sb**	**00 42 22.6**	**+0.4**
AGG	**Agios Georgios**	**2.10**	**121**	P	**Pn**	**00 41 52.3**	**-0.7**
AGG				S	**Sb**	**00 42 22.6**	**+0.4**
ANX	**Ano Chora**	**2.13**	**135**	P	**Pn**	**00 41 53.4**	**0.0**
ANX	**Ano Chora**	**2.13**	**135**	P	**Pn**	**00 41 53.4**	**0.0**
BARS	**Barje**	**3.01**	**26**	*e*Pn	**Pn**	**00 42 04.7**	**-0.7**
IVAS	**Ivanjica**	**3.45**	**2**	*e*Pn	**Pn**	**00 42 13.5**	**+2.0**
BOVS	**Bovan**	**3.73**	**19**	*e*Pn	**Pn**	**00 42 14.2**	**-1.1**

IDC ***29*** *00:41:20.8±1.2,55.45N×110.26E,h0km,mb3.4/2, mb1 3.6/10,mb1mx3.4/60,mbtmp3.6/10,ML3.3/7,MS2.6/1, Ms1 2.6/1,ms1mx2.2/39,Error ellipse: s-maj=24.2km s-min=12.8km az=133.0*

MOS ***29*** *00:41:20.4±1.1,55.51N×110.13E,h11km,mb4.4/1,Error ellipse: s-maj=10.4km s-min=6.2km az=71.2*

BYKL ***29*** *00:41:22.0±0.2,55.45N×110.19E*

ISC 29 00:41:20.8±1.1,55.45N±0.02×110.21E±0.02,h2km±8km, n61,σ2$51/129,8C-3D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.50**	**311**	⇑*i*Pg	**Pg**	**00 41 31.6**	**+1.1**
NIZ				*e*Sg	**Sg**	**00 41 38.6**	**+1.6**
NIZ				Pmax			
	228nm,0.2s						
NIZ				Smax			
	2μm,0.1s						
NIZ	**Nizh Angarsk**	**0.50**	**311**	*e*PG	**Pg**	**00 41 31.7**	**+1.2**
NIZ				*e*		00 41 38.6	
NIZ				pmax	pmax		
	comp=Z,260nm,0.4s						
NIZ				smax	smax		
	comp=E,2μm,0.3s						
KMO	**Kumora**	**0.71**	**51**	⇑*i*Pg	**Pg**	**00 41 35.0**	**+0.5**
KMO				*e*Sg	**Sg**	**00 41 44.3**	**+0.6**
KMO				Pmax			
	comp=E,1μm,0.2s						
KMO				Smax			
	comp=E,1μm,0.6s						
KMO	**Kumora**	**0.71**	**51**	*e*PG	**Pg**	**00 41 34.9**	**+0.5**
KMO				*e*		00 41 44.3	
KMO				pmax	pmax		
	comp=Z,1μm,0.2s						
KMO				smax	smax		
	comp=N,2μm,0.8s						
YLYR	**Ulyunkhan**	**0.79**	**136**	⇑*i*Pg	**Pg**	**00 41 36.7**	**+0.8**
YLYR				*e*Sg	**Sg**	**00 41 47.3**	**+1.2**
YLYR				Pmax			
	comp=N,181nm,0.2s						
YLYR				Smax			
	comp=N,582nm,0.1s						
YLYR	**Ulyunkhan**	**0.79**	**136**	*e*PG	**Pg**	**00 41 36.9**	**+1.0**
YLYR				*e*		00 41 46.1	
YLYR				pmax	pmax		
	comp=Z,183nm,0.1s						
YLYR				smax	smax		
	comp=E,721nm,0.1s						
YOA	**Uoyan**	**1.09**	**51**	*e*Pg	**Pb**	**00 41 42.0**	**-0.5**
YOA				*e*Sg	**Sb**	**00 41 58.1**	**+0.8**
YOA				Pmax			
	comp=E,1μm,0.2s						
YOA				Smax			
	comp=E,4μm,0.3s						
YOA	**Uoyan**	**1.09**	**51**	⇑*i*PG	**Pb**	**00 41 42.2**	**-0.3**
YOA				*i*		00 41 58.6	
YOA				pmax	pmax		
	comp=Z,1μm,0.2s						
YOA				smax	smax		
	comp=N,4μm,0.3s						
SYVR	**Suvo**	**1.80**	**184**	*e*Pg	**Pb**	**00 41 54.7**	**+0.2**
SYVR				*e*		00 41 59.0	
SYVR				*e*Sg	**Sb**	**00 42 18.4**	**+1.0**
SYVR				Pmax			
	comp=N,217nm,0.4s						
SYVR				Smax			
	comp=N,2μm,0.8s						
SYVR	**Suvo**	**1.80**	**184**	*e*PN	**Pb**	**00 41 54.6**	**+0.1**
SYVR				*e*		00 42 17.6	
SYVR				pmax	pmax		
	comp=Z,221nm,0.4s						
SYVR				smax	smax		
	comp=E,2μm,0.8s						
UKT	**Uakit**	**1.94**	**87**	⇓*i*Pg	**Pn**	**00 41 56.3**	**+1.3**
UKT				*e*Sg	**Sb**	**00 42 23.0**	**+1.3**
UKT				Pmax			
	comp=E,265nm,0.4s						
UKT				Smax			
	comp=E,1μm,0.4s						
UKT	**Uakit**	**1.94**	**87**	*e*PN	**Pn**	**00 41 54.2**	**-0.8**
UKT				*e*		00 41 56.2	
UKT				*e*S	**Sn**	**00 42 20.0**	**0.0**
UKT				*e*		00 42 22.9	
UKT				pmax	pmax		
	comp=Z,266nm,0.4s						
UKT				smax	smax		
	comp=N,1μm,0.5s						
SVKR	**Severomuysk**	**2.00**	**69**	*e*Pg	**Pb**	**00 41 57.8**	**-0.2**
SVKR				*e*Sg	**Sb**	**00 42 23.8**	**+0.3**
SVKR				Pmax			
	comp=N,402nm,0.2s						
SVKR				Smax			
	comp=N,2μm,0.6s						
SVKR	**Severomuysk**	**2.00**	**69**	*e*PN	**Pb**	**00 41 59.2**	**+1.2**
SVKR				*e*		00 42 25.1	
SVKR				pmax	pmax		
	comp=Z,417nm,0.4s						
SVKR				smax	smax		
	comp=N,3μm,0.7s						
MXMB	**Maximikha**	**2.35**	**202**	*e*Pn	**Pn**	**00 42 01.6**	**+1.1**
MXMB				*e*Pg	**Pb**	**00 42 04.2**	**+0.3**
MXMB				*e*Sn	**Sn**	**00 42 29.9**	**-0.1**
MXMB				*e*Sg	**Sg**	**00 42 35.6**	**-0.7**
MXMB				Pmax			
	comp=N,829nm,0.2s						
MXMB				Smax			
	comp=N,6μm,0.5s						
OGRR	**Ongureny**	**2.37**	**221**	*e*Pn	**Pn**	**00 42 02.2**	**+1.5**
OGRR				*e*Pg	**Pb**	**00 42 04.3**	**+0.2**
OGRR				*e*Sn	**Sn**	**00 42 29.0**	**-1.3**
OGRR				*e*Sg	**Sb**	**00 42 35.1**	**+1.3**
OGRR				Pmax			
	comp=N,183nm,0.2s						
OGRR				Smax			
	comp=N,502nm,0.3s						
OGRR	**Ongureny**	**2.37**	**221**	*e*PN	**Pn**	**00 42 02.2**	**+1.5**
OGRR				*e*		00 42 05.2	
OGRR				*e*		00 42 35.2	
OGRR				pmax	pmax		
	comp=Z,184nm,0.6s						
OGRR				smax	smax		
	comp=N,479nm,0.6s						
KELR	**Kotokel**	**2.97**	**206**	*e*Pn	**Pn**	**00 42 09.8**	**+0.8**
KELR				*e*Pg	**Pb**	**00 42 15.0**	**+0.5**
KELR				*e*Sg	**Sb**	**00 42 54.0**	**+2.8**
BOD	**Bodaibo**	**3.17**	**40**	*e*Pn	**Pn**	**00 42 12.5**	**+0.8**
BOD				*e*Pg	**Pb**	**00 42 18.1**	**+0.3**
BOD				*e*Sn	**Sn**	**00 42 49.7**	**-0.3**
BOD				*e*Sg	**Sb**	**00 42 58.9**	**+2.1**
BOD				Pmax			
	comp=N,57nm,0.2s						
BOD				Smax			
	comp=N,305nm,0.4s						
BOD	**Bodaibo**	**3.17**	**40**	*e*PN	**Pn**	**00 42 11.9**	**+0.2**
BOD				*e*		00 42 17.8	
BOD				*e*S	**Sn**	**00 42 48.5**	**-1.5**
BOD				*e*		00 42 57.9	
BOD				pmax	pmax		
	comp=Z,75nm,0.4s						
BOD				smax	smax		
	comp=N,303nm,0.6s						
TRG	**Tyrgan**	**3.52**	**222**	⇓*i*Pn	**Pn**	**00 42 17.8**	**+1.1**
TRG				*e*Pg	**Pb**	**00 42 25.2**	**+1.3**
TRG				*e*PgPg	**PbPb**	**00 42 27.7**	**+0.6**
TRG				*e*Sn	**Sn**	**00 42 56.7**	**-2.2**
TRG				*e*Sg	**Sb**	**00 43 10.6**	**+3.4**
TRG				Pmax			
	comp=N,68nm,0.3s						
TRG				Smax			
	comp=N,257nm,0.3s						
TRG	**Tyrgan**	**3.52**	**222**	*e*PN	**Pn**	**00 42 17.7**	**+1.1**
TRG				*e*		00 42 25.5	
TRG				*e*S	**Sn**	**00 42 58.6**	**-0.3**
TRG				*e*		00 43 10.3	
TRG				pmax	pmax		
	comp=Z,72nm,0.4s						
TRG				smax	smax		
	comp=E,258nm,0.4s						
UUDB	**Ulan-Yde**	**3.90**	**204**	*e*Pn	**Pn**	**00 42 22.4**	**+0.7**
UUDB				*e*Pg	**Pb**	**00 42 31.4**	**+1.2**
UUDB				*e*		00 42 36.2	
UUDB				*e*Sn	**Sn**	**00 43 06.8**	**-1.2**
UUDB				*e*Sg	**Sg**	**00 43 22.4**	**-3.4**
UUDB				Pmax			
	comp=E,58nm,

IVK				*e*Sn	**Sn**	00 43 32.6	-3.2		
IVK				*e*Sg	**Sg**	00 43 56.7	-5.4		
IVK				Pmax					
	comp=E,19nm,0.3s								
IVK				Smax					
	comp=E,140nm,0.6s								
TLY	**Talaya**	**5.44**	**229**	Pn	**Pn**	**00 42 43.1**	**+0.3**		
	comp=E,0.0nm,0.3s,baz=42,slow=10,SNR=19								
TLY				Pg	**Pb**	**00 43 00.6**	**+4.2**		
	comp=E,0.1nm,0.3s,baz=19,slow=11,SNR=15								
TLY				Sn	**Sn**	**00 43 44.7**	**-1.3**		
	comp=E,0.1nm,0.3s,baz=233,slow=16,SNR=16								
TLY				Lg	Lg	00 44 09.6			
	comp=E,0.1nm,0.3s,baz=251,slow=21,SNR=3.1								
TLY	**Talaya**	**5.44**	**229**	*e*Pn	**Pn**	**00 42 42.3**	**-0.6**		
TLY				*e*		00 42 49.9			
TLY				*e*Pg	**Pb**	**00 43 00.1**	**+3.6**		
TLY				*e*Sn	**Sn**	**00 43 44.4**	**-1.6**		
TLY				*e*Sg	**Sg**	**00 44 09.4**	**-5.9**		
TLY				Pmax					
	comp=E,35nm,0.4s								
TLY				Smax					
	comp=E,120nm,0.5s								
TUP	**Tupik**	**5.71**	**96**	*e*Pn	**Pn**	**00 42 46.9**	**+0.3**		
TUP				*e*		00 42 51.1			
TUP				*e*Pg	**Pb**	**00 43 04.3**	**+3.2**		
TUP				*e*Sn	**Sn**	**00 43 52.2**	**-0.5**		
TUP				*e*Sg	**Sg**	**00 44 18.9**	**-5.1**		
TUP				Pmax					
	comp=E,14nm,0.6s								
TUP				Smax					
	comp=E,184nm,0.8s								
TUP	**Tupik**	**5.71**	**96**	*e*PN	**Pn**	**00 42 46.9**	**+0.3**		
TUP				*e*		00 43 04.3			
TUP				*e*S	**Sn**	**00 43 52.5**	**-0.2**		
TUP				*e*		00 44 19.8			
TUP				pmax	pmax				
	comp=Z,14nm,0.6s								
TUP				smax	smax				
	comp=E,183nm,0.8s								
ARS	**Arshan**	**5.82**	**236**	*e*Pn	**Pn**	**00 42 48.5**	**+0.3**		
ARS				*e*		00 42 56.6			
ARS				*e*Pg	**Pb**	**00 43 06.9**	**+3.8**		
ARS				*e*Sn	**Sn**	**00 43 52.9**	**-2.7**		
ARS				*e*Sg	**Sg**	**00 44 20.9**	**-6.8**		
ARS				Pmax					
	comp=E,74nm,0.5s								
ARS				Smax					
	comp=E,409nm,0.7s								
ARS	**Arshan**	**5.82**	**236**	*e*PN	**Pn**	**00 42 48.5**	**+0.3**		
ARS				*e*		00 43 06.8			
ARS				*e*S	**Sn**	**00 43 54.4**	**-1.2**		
ARS				*e*		00 44 19.2			
ARS				pmax	pmax				
	comp=Z,74nm,0.5s								
ARS				smax	smax				
	comp=E,405nm,0.7s								
KPC	**Khapcheranga**	**5.90**	**166**	*e*Pn	**Pn**	**00 42 51.4**	**+2.1**		
KPC				*e*Pg	**Pb**	**00 43 09.1**	**+4.7**		
KPC				*e*Sg	**Sg**	**00 44 25.2**	**-5.1**		
KPC				Pmax					
	comp=E,6.0nm,0.3s								
KPC				Smax					
	comp=E,72nm,0.7s								
ZAK	**Zakamensk**	**6.58**	**222**	*e*Pn	**Pn**	**00 42 58.8**	**+0.1**		
ZAK				*e*Pg	**Pb**	**00 43 20.1**	**+4.1**		
ZAK				*e*Sn	**Sn**	**00 44 09.4**	**-4.9**		
ZAK				*e*Sg	**Sg**	**00 44 44.0**	**-8.0**		
ZAK				Pmax					
	comp=E,12nm,0.6s								
ZAK				Smax					
	comp=E,60nm,1.1s								
ZAK	**Zakamensk**	**6.58**	**222**	*e*PN	**Pn**	**00 42 58.7**	**+0.1**		
ZAK				*e*		00 43 20.3			
ZAK				*e*S	**Sn**	**00 44 16.2**	**+1.9**		
ZAK				*e*		00 44 43.8			
ZAK				pmax	pmax				
	comp=Z,12nm,0.5s								
ZAK				smax	smax				
	comp=E,60nm,1.2s								
MOY	**Mondy**	**6.67**	**239**	*e*Pn	**Pn**	**00 43 01.1**	**+1.2**		
MOY				*e*Pg	Pb	00 43 22.9	+5.4		
MOY				*e*Sn	**Sn**	**00 44 13.8**	**-2.7**		
MOY				*e*Sg	**Sg**	**00 44 49.3**	**-5.6**		
MOY				*e*Pg					
	comp=E,20nm,0.5s								
MOY				Smax					
	comp=E,98nm,1.0s								
MOY	**Mondy**	**6.67**	**239**	*e*PN	**Pn**	**00 43 01.6**	**+1.7**		
MOY				*e*		00 43 23.4			
MOY				*e*S	**Sn**	**00 44 15.4**	**-1.1**		
MOY				*e*		00 44 49.3			
MOY				pmax	pmax				
	comp=Z,19nm,0.5s								
MOY				smax	smax				
	comp=E,98nm,1.3s								
ORL	**Orlik**	**6.79**	**249**	*i*Pn	**Pn**	**00 43 02.8**	**+1.3**		
ORL				*e*Sn	**Sn**	**00 44 16.4**	**-3.1**		
ORL				*e*Sg	**Sg**	**00 44 51.2**	**-7.5**		
ORL				Smax					
	comp=E,126nm,1.0s								
ORL	**Orlik**	**6.79**	**249**	*e*PN	**Pn**	**00 43 02.8**	**+1.3**		
ORL				*e*		00 43 24.3			
ORL				*e*S	**Sn**	**00 44 17.9**	**-1.6**		
ORL				*e*		00 44 53.2			
ORL				pmax	pmax				
	comp=Z,60nm,0.7s								
ORL				smax	smax				
	comp=N,126nm,1.3s								
ULN	**Ulaanbaatar**	**7.84**	**196**	*e*Sg	**Sg**	**00 45 26.7**	**-5.8**		
ULN	**Ulaanbaatar**	**7.84**	**196**	*i* PN	**Pn**	**00 43 17.5**	**+1.5**		
SONM	**Songino Array**	**7.98**	**199**	Pn	**Pn**	**00 43 19.2**	**+1.3**		
	comp=N,0.3nm,0.3s,baz=9.5,slow=14,SNR=4.2								
SONM				Lg	Lg	00 45 34.5			
	comp=N,2.1nm,0.3s,baz=11,slow=26,SNR=19								
SONM				LR	LR	00 46 40.8			
	comp=N,41nm,18.4s,baz=26,slow=40								
HIA	**Hailar**	**8.50**	**133**	*e*PN	**Pn**	**00 43 29.5**	**+4.6**		
YAK	**Yakutsk**	**12.04**	**49**	*i* P	**Pn**	**00 44 12.8**	**-0.4**		
KLR	**Kul'dur**	**14.53**	**106**	Pn	**Pn**	**00 44 47.8**	**+0.5**		
	comp=N,0.1nm,0.3s,baz=339,slow=21,SNR=2.7								
KLR				Lg	Lg	00 48 58.1			
	comp=N,0.1nm,0.3s,baz=217,slow=18,SNR=6.1								
ZALV	**Zalesovo Beam**	**14.73**	**275**	Pn	**Pn**	**00 44 50.7**	**+0.6**		
	comp=N,0.2nm,0.3s,baz=78,slow=7.7,SNR=8.1								
ZALV				Lg	Lg	00 49 05.0			
	baz=2.5,slow=23,SNR=3.0								
NRIK	**Noril'sk**	**17.27**	**333**	P	**Pn**	**00 45 21.8**	**-1.0**		
	comp=N,0.2nm,0.3s,baz=158,slow=19,SNR=2.6								
NRIK				S	Sn	00 48 21.1	-14		
	comp=N,0.3nm,0.3s,baz=36,slow=19,SNR=3.3								
TIXI	**Tiksi**	**18.10**	**19**	P	**Pn**	**00 45 32.1**	**-1.0**		
	comp=N,0.2nm,0.3s,baz=198,slow=6.4,SNR=2.4								
TIXI				S	Sn	00 48 40.4	-15		
	comp=N,0.1nm,0.3s,baz=90,slow=16,SNR=2.7								
TIXI				Lg	Lg	00 50 45.9			
	comp=N,0.3nm,0.3s,baz=308,slow=15,SNR=3.7								
TIXI	**Tiksi**	**18.10**	**19**	*e*P	**Pn**	**00 45 31.7**	**-1.4**		
TIXI				pmax	pmax				
	comp=Z,4.0nm,1.2s								
VLA	**Vladivostok**	**18.66**	**122**	*e*P	**Pn**	**00 45 40.2**	**+0.1**		
VLA				*i* S	**S**	**00 49 12.1**	**-0.9**		
VLA				pmax	pmax				
	comp=Z,20nm,0.7s								
MKAR	**Makanchi Array**	**19.44**	**255**	P	**P**	**00 45 48.7**	**+0.3**		
	comp=Z,0.2nm,0.3s,baz=57,slow=8.8,SNR=8.3								
KURK	**Kurchatov**	**19.46**	**269**	*e*P	**P**	**00 45 47.3**	**-1.2**		
KURK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KURBB	**Kurchatov Arra**	**19.55**	**269**	P	**P**	**00 45 49.5**	**-0.1**		
	comp=Z,0.1nm,0.3s,baz=68,slow=11,SNR=5.6								
BVAR	**Borovoye Array**	**23.18**	**281**	P	**P**	**00 46 30.7**	**+2.1**		
	comp=Z,0.6nm,0.5s,baz=69,slow=13,SNR=4.0								
ILAR	**Eielson Array**	**46.53**	**35**	P	**P**	**00 49 49.1**	**0.0**		
	comp=Z,0.6nm,0.8s,baz=319,slow=6.9,SNR=6.9								
CLL	**Collm**	**53.50**	**309**	*e*P	**P**	**00 50 40.0**	**-2.2**		

*IDC **29** 00:42:20.0±3.5, 36°.40S×177°.59E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/25, mbtmp3.6/2, Error ellipse: s-maj=74.9km s-min=26.9km az=71.0*
*WEL **29** 00:42:23.2±0.8, 36°.44S×177°.28E, h12km, ML3.8/3, Error ellipse: s-maj=7.6km s-min=6.8km az=0.0*
*ISCJB **29** 00:42:25.2±1.3, 36°.45S±0°.09×177°.24E±0°.10, h33km, mb3.5/2, Error ellipse: s-maj=15.0km s-min=6.9km az=41.1*

ISC 29 00:42:25.7±1.6, 36°.4S±0°.1×177°.29E±0°.09, h35km, n11, σ1s37/15, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZ	**Kuaotunu**	**1.30**	**255**	PN	**Pn**	**00 42 46.3**	**-1.0**
KUZ				SN	**Sn**	**00 43 03.1**	**-0.5**
KUZ				AML	AML	00 43 05.1	
HAZ	**Te Kaha**	**1.39**	**164**	P*	**Pn**	**00 42 45.9**	**-2.6**
HAZ				S*	**Sn**	**00 43 03.4**	**-2.3**
GRZ	**Great Barrier**	**1.49**	**276**	PN	**Pn**	**00 42 48.9**	**-1.1**
GRZ				SN	**Sn**	**00 43 07.2**	**-1.0**
WMGZ	**Waiomatatini S**	**1.66**	**148**	PN	**Pn**	**00 42 53.5**	**+1.2**
WIAZ	**Waiheke Island**	**1.77**	**257**	PN	**Pn**	**00 42 53.6**	**-0.2**
URZ	**Urewera**	**1.84**	**184**	Pn	**Pn**	**00 42 54.5**	**-0.3**
	2.8nm,0.3s,baz=269,slow=3.8,SNR=9.7						
URZ				Sn	**Sn**	**00 43 17.5**	**+0.7**
	4.4nm,0.3s,baz=270,slow=13,SNR=12						
URZ				LR	LR	00 43 46.2	
	comp=Z,235nm,21.7s,baz=6.0,slow=45						
URZ	**Urewera**	**1.84**	**184**	P*	**Pn**	**00 42 55.1**	**+0.3**
URZ				AML	AML	00 43 18.7	
URZ				AML	AML	00 43 24.4	
HIZ	**Hauiti**	**2.85**	**222**	PN	**Pn**	**00 43 09.7**	**+1.1**
ASAR	**Alice Springs**	**39.34**	**277**	P	**P**	**00 49 52.8**	**+1.0**
	0.6nm,0.5s,baz=123,slow=8.1,SNR=5.4						
WRA	**Warramunga Arr**	**40.90**	**282**	P	**P**	**00 50 06.1**	**+1.4**
	0.5nm,0.6s,baz=122,slow=7.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**156.49**	**191**	PKPab	**PKPab**	**01 02 45.4**	**-0.5**
	0.3nm,0.8s,baz=176,slow=3.9,SNR=4.4						

MEX 29 00:44:44.8±0.3, 17°.34N×101°.21W, h16km±10km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.36**	**318**	*e*P	Pg	00 44 51.1	-1.1
ZIIG				*e*S	Sg	00 44 55.9	-1.3
CAIG	**El Cayaco**	**0.95**	**108**	*i* P	Pb	00 44 59.5	-3.4
CAIG				*i* S	Sb	00 45 06.4	-8.9
ARIG	**Puente Sto Nin**	**1.25**	**41**	*i* P	Pn	00 45 03.8	-3.8
ARIG				*i* S	Sb	00 45 19.0	-4.8
EZ5V		**3.11**	**314**	*e*P	Pn	00 45 35.7	+2.3
EZ5V				*e*S	Sg	00 46 24.6	-0.1
R15V		**3.20**	**305**	*e*P	Pn	00 45 35.3	+0.8
R15V				*e*S	Sn	00 46 12.1	-0.3

*ISCJB **29** 00:48:40.1±0.5, 37°.78N±0°.02×21°.10E±0°.02, h1km±3km, mb3.6/7, Error ellipse: s-maj=3.4km s-min=2.9km az=33.9*
*IDC **29** 00:48:40.1±1.1, 37°.75N×21°.24E, h0km, mb3.6/7, mb1 3.5/10, mb1mx3.4/42, mbtmp3.4/10, ML2.5/1, Error ellipse: s-maj=25.7km s-min=19.7km az=128.0*
*ATH **29** 00:48:40.6, 37°.84N×21°.15E, h16km±2km, ML3.2/6, Error ellipse: s-maj=2.9km s-min=0.9km az=291.0*
*CSEM **29** 00:48:41.4±0.3, 37°.81N×21°.13E, h10km, ML3.2, Error ellipse: s-maj=5.4km s-min=4.2km az=35.0*
*THE **29** 00:48:41.4, 37°.80N×21°.14E, h0km±2km, ML3.3/25, Error ellipse: s-maj=2.2km s-min=0.7km az=210.0*

ISC 29 00:48:40.9±0.8, 37°.83N±0°.02×21°.12E±0°.02, h11km±5km, n119, σ1s29/186, mb3.6/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.10**	**31**	P	**Pg**	**00 48 43.4**	**-0.2**
VTN				S	**Sg**	**00 48 46.0**	**+0.5**
VTN	**Vitineika**	**0.10**	**31**	P	**Pg**	**00 48 43.4**	**-0.2**
VTN				S	**Sg**	**00 48 46.0**	**+0.5**
ZKS	**Zakynthos**	**0.30**	**243**	P	**Pb**	**00 48 47.3**	**-1.1**
ZKS				S	**Sb**	**00 48 52.3**	**-1.0**
ZKS	**Zakynthos**	**0.30**	**243**	P	**Pb**	**00 48 47.2**	**-1.1**
ZKS				S	**Sb**	**00 48 52.3**	**-1.0**
ZKS	**Zakynthos**	**0.30**	**243**	P	**Pb**	**00 48 47.2**	**-1.1**
ZKS				S	**Sb**	**00 48 52.7**	**-0.6**
ZKS				AML	AML	00 49 03.1	
	comp=N,20776µm,0.7s						
ZKS				AML	AML	00 49 03.7	
	comp=E,20645µm,0.6s						
RLS	**Riolos of Patr**	**0.35**	**50**	P	**Pb**	**00 48 47.6**	**-1.7**
RLS				S	**Sb**	**00 48 53.3**	**-1.6**
RLS	**Riolos of Patr**	**0.35**	**50**	P	**Pb**	**00 48 47.7**	**-1.6**
RLS				S	**Sb**	**00 48 53.0**	**-1.9**
RLS	**Riolos of Patr**	**0.35**	**50**	S	**Sb**	**00 48 53.0**	**-1.9**
RLS				AML	AML	00 48 56.1	
	comp=N,10588µm,0.6s						
RLS				AML	AML	00 48 58.0	
	comp=E,10650µm,0.4s						
KFL	**Anninata**	**0.38**	**316**	P	**Pb**	**00 48 48.6**	**-1.2**
KFL				S	**Sb**	**00 48 56.6**	**+0.9**
KFL	**Anninata**	**0.38**	**316**	P	**Pb**	**00 48 48.7**	**-1.0**
KFL				S	**Sb**	**00 48 55.2**	**-0.5**
KFL	**Anninata**	**0.38**	**316**	P	**Pb**	**00 48 48.8**	**-1.0**
KFL				S	**Sb**	**00 48 55.2**	**-0.5**
AXS	**Araxos**	**0.41**	**29**	P	**Pb**	**00 48 49.4**	**-0.9**
AXS				S	**Sb**	**00 48 56.8**	**+0.2**
AXS	**Araxos**	**0.41**	**29**	P	**Pb**	**00 48 49.4**	**-0.9**
AXS				S	**Sg**	**00 48 54.5**	**-0.1**
AXS	**Araxos**	**0.41**	**29**	P	**Pb**	**00 48 49.9**	**-0.4**
AXS				S	**Sg**	**00 48 54.5**	**-0.1**
DRO	**Drossia**	**0.48**	**75**	P	**Pg**	**00 48 49.5**	**-0.8**
DRO				S	**Sb**	**00 48 58.1**	**-0.5**
DRO	**Drossia**	**0.48**	**75**	P	**Pg**	**00 48 49.5**	**-0.8**
DRO				S	**Sb**	**00 48 56.8**	**-1.8**
DRO	**Drossia**	**0.48**	**75**	P	**Pg**	**00 48 49.2**	**-1.1**
DRO				S	**Sb**	**00 48 56.8**	**-1.8**
DRO				AML	AML	00 49 01.5	
	comp=E,15929µm,0.7s						
DRO				AML	AML	00 49 01.8	
	comp=N,11974µm,0.5s						
VLS	**Valsamata**	**0.54**	**309**	P	**Pb**	**00 48 51.3**	**-1.2**
VLS				S	**Sb**	**00 49 00.5**	**+0.1**
VLS	**Valsamata**	**0.54**	**309**	P	**Pb**	**00 48 51.3**	**-1.2**
VLS				S	**Sb**	**00 48 59.2**	**-1.2**
UPR	**University Cam**	**0.69**	**49**	P	**Pb**	**00 48 54.7**	**-0.3**
UPR				S	**Sb**	**00 49 05.3**	**+0.7**
UPR	**University Cam**	**0.69**	**49**	P	**Pb**	**00 48 54.7**	**-0.3**
UPR				S	**Sb**	**00 49 05.3**	**+0.7**
PDO	**Prodromos**	**0.77**	**4**	P	**Pb**	**00 48 56.1**	**-0.2**
PDO				S	**Sn**	**00 49 08.2**	**-1.1**
PDO	**Prodromos**	**0.77**	**4**	P	**Pb**	**00 48 56.1**	**-0.2**
PDO				S	**Sb**	**00 49 05.6**	**-1.2**
PDO	**Prodromos**	**0.77**	**4**	P	**Pg**	**00 48 54.8**	**-1.0**
PDO				S	**Sb**	**00 49 05.5**	**-1.2**
PDO				AML	AML	00 49 12.3	
	comp=N,9640µm,0.3s						
PDO				AML	AML	00 49 12.6	
	comp=E,6760µm,0.4s						
LAKA	**Lakka**	**0.79**	**59**	P	**Pg**	**00 48 55.1**	**-1.1**
LAKA				S	**Sb**	**00 49 07.9**	**+0.4**
LAKA	**Lakka**	**0.79**	**59**	P	**Pg**	**00 48 55.1**	**-1.1**
LAKA				S	**Sb**	**00 49 07.9**	**+0.4**
LAKA	**Lakka**	**0.79**	**59**	P	**Pg**	**00 48 55.0**	**-1.1**
KLV	**Kalavryta, Ach**	**0.84**	**75**	P	**Pg**	**00 48 55.7**	**-1.4**
KLV				S	**Sn**	**00 49 10.6**	**-0.6**
KLV	**Kalavryta, Ach**	**0.84**	**75**	P	**Pg**	**00 48 55.7**	**-1.4**
KLV				S	**Sn**	**00 49 10.6**	**-0.6**
KLV	**Kalavryta, Ach**	**0.84**	**75**	P	**Pg**	**00 48 55.3**	**-1.4**
PVO	**Paravola**	**0.84**	**22**	P	**Pn**	**00 48 57.6**	**-1.2**
PVO				S	**Sn**	**00 49 10.0**	**-1.3**
PVO	**Paravola**	**0.84**	**22**	P	**Pn**	**00 48 57.6**	**-1.2**
PVO				S	**Sn**	**00 49 10.0**	**-1.3**
PVO	**Paravola**	**0.84**	**22**	P	**Pb**	**00 48 56.8**	**-0.9**
EFP	**Efpalio**	**0.86**	**46**	P	**Pb**	**00 48 57.1**	**-0.7**
EFP				S	**Sn**	**00 49 11.2**	**-0.3**
EFP	**Efpalio**	**0.86**	**46**	P	**Pb**	**00 48 57.7**	**-0.1**
EFP				S	**Sn**	**00 49 11.2**	**-0.3**
EFP	**Efpalio**	**0.86**	**46**	P	**Pb**	**00 48 57.5**	**-0.4**
ITM	**Ithomi**	**0.91**	**135**	P	**Pb**	**00 48 58.1**	**-0.7**
ITM				S	**Sb**	**00 49 10.5**	**-0.5**
ITM	**Ithomi**	**0.91**	**135**	P	**Pb**	**00 48 58.6**	**-0.3**
ITM				S	**Sb**	**00 49 10.5**	**-0.5**
ITM	**Ithomi**	**0.91**	**135**	P	**Pb**	**00 48 58.5**	**-0.3**
ITM				S	**Sb**	**00 49 11.1**	**+0.1**
ITM				AML	AML	00 49 24.8	
	comp=N,1244µm,0.7s						
ITM				AML	AML	00 49 29.0	
	comp=E,1268µm,0.6s						
TRIZ	**Trizonia**	**0.92**	**54**	P	**Pg**	**00 48 57.5**	**-1.1**

TRIP	**Tripoli**	**0.96**	**108**	P	**Pb**	**00 48 59.3**	**-0.4**
TRIP	**Tripoli**	**0.96**	**108**	P	**Pb**	**00 48 59.3**	**-0.4**
GUR	**Goura**	**0.97**	**84**	P	**Pg**	**00 48 57.9**	**-1.7**
GUR				S	**Sn**	**00 49 14.1**	**-0.4**
GUR	**Goura**	**0.97**	**84**	P	**Pg**	**00 48 57.9**	**-1.7**
GUR				S	**Sn**	**00 49 14.1**	**-0.4**
GUR	**Goura**	**0.97**	**84**	P	**Pg**	**00 48 57.4**	**-2.3**
KALE	**Kalithea**	**0.98**	**55**	P	**Pg**	**00 48 58.8**	**-0.9**
KALE				S	**Sn**	**00 49 15.0**	**+0.4**
KALE	**Kalithea**	**0.98**	**55**	P	**Pg**	**00 48 58.8**	**-0.9**
KALE				S	**Sn**	**00 49 15.0**	**+0.4**
KALE	**Kalithea**	**0.98**	**55**	P	**Pg**	**00 48 58.8**	**-0.9**
ANX	**Ano Chora**	**0.99**	**39**	P	**Pg**	**00 48 59.0**	**-0.9**
ANX				S	**Sn**	**00 49 14.7**	**-0.2**
ANX	**Ano Chora**	**0.99**	**39**	P	**Pn**	**00 49 00.0**	**-0.9**
ANX				S	**Sn**	**00 49 14.7**	**-0.2**
LKD2	**Lefkada island**	**1.02**	**339**	P	**Pb**	**00 48 59.9**	**-0.8**
LKD2				S	**Sn**	**00 49 17.2**	**+1.5**
LKD2	**Lefkada island**	**1.02**	**339**	P	**Pb**	**00 49 00.0**	**-0.8**
LKD2				S	**Sb**	**00 49 14.1**	**-0.1**
LKD2	**Lefkada island**	**1.02**	**339**	P	**Pb**	**00 48 60.0**	**-0.8**
LKD2				S	**Sb**	**00 49 14.1**	**-0.1**
LKD2				AML	AML	00 49 23.1	
	comp=E,4802µm,0.6s						
LKD2				AML	AML	00 49 23.4	
	comp=N,3002µm,0.7s						
PYL	**PYLOS**	**1.06**	**152**	P	**Pg**	**00 49 00.3**	**-1.0**
PYL				S	**Sn**	**00 49 16.6**	**+0.1**
PYL	**PYLOS**	**1.06**	**152**	P	**Pb**	**00 49 00.6**	**-0.7**
PYL				S	**Sn**	**00 49 16.6**	**+0.1**
PYL	**PYLOS**	**1.06**	**152**	P	**Pb**	**00 49 00.6**	**-0.7**
VLX	**Vlachokerasia**	**1.10**	**114**	P	**Pg**	**00 49 00.9**	**-1.2**
VLX	**Vlachokerasia**	**1.10**	**114**	P	**Pb**	**00 49 01.3**	**-0.7**
VLX	**Vlachokerasia**	**1.10**	**114**	P	**Pb**	**00 49 01.3**	**-0.7**
EVR	**Evrytania**	**1.21**	**26**	P	**Pn**	**00 49 03.7**	**-0.2**
EVR				S	**Sn**	**00 49 23.0**	**+2.6**
EVR	**Evrytania**	**1.21**	**26**	P	**Pn**	**00 49 03.7**	**-0.2**
EVR				S	**Sn**	**00 49 23.0**	**+2.6**
THAL	**Thalero**	**1.23**	**80**	P	**Pg**	**00 49 02.7**	**-2.0**
THAL				S	**Sn**	**00 49 22.4**	**+1.5**
THAL	**Thalero**	**1.23**	**80**	P	**Pg**	**00 49 02.7**	**-2.0**
THAL				S	**Sn**	**00 49 22.4**	**+1.5**
DSF	**Desfina**	**1.25**	**62**	P	**Pn**	**00 49 03.9**	**-0.5**
DSF				S	**Sn**	**00 49 22.9**	**+1.6**
DSF	**Desfina**	**1.25**	**62**	P	**Pn**	**00 49 03.9**	**-0.5**
DSF				S	**Sn**	**00 49 22.9**	**+1.6**
DSL	**Palaion Diasel**	**1.30**	**359**	P	**Pb**	**00 49 05.0**	**-0.4**
DSL				S	**Sn**	**00 49 26.6**	**+4.1**
DSL	**Palaion Diasel**	**1.30**	**359**	P	**Pb**	**00 49 05.3**	**-0.1**
DSL				S	**Sn**	**00 49 26.6**	**+4.1**
DSL	**Palaion Diasel**	**1.30**	**359**	P	**Pb**	**00 49 05.3**	**-0.1**
LTK	**Loutraki**	**1.47**	**82**	P	**Pb**	**00 49 07.4**	**-0.9**
LTK				S	**Sg**	**00 49 30.3**	**+2.0**
LTK	**Loutraki**	**1.47**	**82**	P	**Pb**	**00 49 07.4**	**-0.9**
LTK				S	**Sg**	**00 49 30.3**	**+2.0**
AGG	**Agios Georgios**	**1.52**	**38**	P	**Pg**	**00 49 08.9**	**-1.2**
AGG				S	**Sg**	**00 49 30.4**	**+0.6**
AGG	**Agios Georgios**	**1.52**	**38**	P	**Pg**	**00 49 08.9**	**-1.2**
AGG				S	**Sg**	**00 49 30.4**	**+0.6**
LKR	**Lokris**	**1.69**	**61**	P	**Pg**	**00 49 12.4**	**-0.9**
LKR				S	**Sg**	**00 49 35.1**	**-0.1**
LKR	**Lokris**	**1.69**	**61**	P	**Pg**	**00 49 12.4**	**-0.9**
LKR				S	**Sg**	**00 49 35.1**	**-0.1**
ATAL	**Atalanti**	**1.72**	**60**	P	**Pb**	**00 49 11.7**	**-0.9**
ATAL				S	**Sg**	**00 49 35.6**	**-0.8**
ATAL	**Atalanti**	**1.72**	**60**	P	**Pb**	**00 49 11.7**	**-0.9**
ATAL				S	**Sg**	**00 49 35.6**	**-0.8**
VILL	**Villia**	**1.76**	**79**	P	**Pg**	**00 49 13.2**	**-1.5**
VILL	**Villia**	**1.76**	**79**	P	**Pg**	**00 49 13.2**	**-1.5**
VLI	**Veliai**	**1.83**	**127**	P	**Pg**	**00 49 14.4**	**-1.5**
VLI	**Veliai**	**1.83**	**127**	P	**Pg**	**00 49 14.4**	**-1.5**
JAN	**Janina**	**1.83**	**353**	P	**Pb**	**00 49 14.0**	**-0.5**
JAN				S	**Sg**	**00 49 39.4**	**-0.5**
JAN	**Janina**	**1.83**	**353**	P	**Pb**	**00 49 14.0**	**-0.5**
JAN				S	**Sg**	**00 49 39.4**	**-0.5**
THL	**Klokotos Trika**	**1.86**	**22**	P	**Pg**	**00 49 15.5**	**-1.2**
THL	**Klokotos Trika**	**1.86**	**22**	P	**Pg**	**00 49 15.5**	**-1.2**
SGD	**Sagiada**	**1.91**	**339**	P	**Pb**	**00 49 14.5**	**-1.3**
SGD	**Sagiada**	**1.91**	**339**	P	**Pb**	**00 49 14.5**	**-1.3**
SMIA	**Simia**	**1.94**	**57**	P	**Pb**	**00 49 16.2**	**-0.2**
SMIA	**Simia**	**1.94**	**57**	P	**Pb**	**00 49 16.2**	**-0.2**
VLY	**Voula,Athens**	**2.12**	**89**	P	**Pb**	**00 49 18.0**	**-1.3**
VLY	**Voula,Athens**	**2.12**	**89**	P	**Pb**	**00 49 18.0**	**-1.3**
KPRO	**Kipourio**	**2.13**	**5**	P	**Pg**	**00 49 19.9**	**-1.8**
KPRO	**Kipourio**	**2.13**	**5**	P	**Pg**	**00 49 19.9**	**-1.8**
KEK	**Kerkira**	**2.14**	**332**	P	**Pb**	**00 49 18.2**	**-1.6**
KEK	**Kerkira**	**2.14**	**332**	P	**Pb**	**00 49 18.2**	**-1.6**
PTL	**Penteli**	**2.18**	**83**	P	**Pb

BORA				S	**Sn**	**00 53 32.0**	**+0.9**		
BORA	**Eskisehir**	**1.31**	**57**	*i* P	**Pg**	**00 53 13.7**	**+0.5**		
BORA				*i* S	**Sn**	**00 53 32.0**	**+0.9**		
ARMT	**Armutlu**	**1.39**	**355**	*e*PN	**Pn**	**00 53 14.1**	**0.0**		
ARMT	**Armutlu**	**1.39**	**355**	*e*Pn	**Pn**	**00 53 14.1**	**0.0**		
AYDB	**Zeytinkoy-Aydi**	**1.51**	**216**	*e*PN	**Pb**	**00 53 15.6**	**-1.0**		
AYDB	**Zeytinkoy-Aydi**	**1.51**	**216**	*e*Pn	**Pb**	**00 53 15.6**	**-1.0**		
GULT	**Gulveren**	**1.71**	**42**	*e*PN	**Pb**	**00 53 19.4**	**-0.4**		
GULT	**Gulveren**	**1.71**	**42**	*e*Pn	**Pb**	**00 53 19.4**	**-0.4**		

ISK ***29*** *00:54:58.1, 39.01N×29.26E, h7km, MD2.4*
ISCJB ***29*** *00:54:59.5±0.6, 39.09N±0.05×29.07E±0.05, h9km, Error ellipse: s-maj=7.6km s-min=4.2km az=146.7*
CSEM ***29*** *00:54:59.6±0.2, 39.10N×29.08E, h5km, Error ellipse: s-maj=5.9km s-min=3.4km az=133.0*
DDA ***29*** *00:54:59.8, 39.06N×29.07E, h7km, Md2.6*

ISC 29 00:54:58.6±0.9, 39.01N±0.05×29.16E±0.03, h9km, n13, σ0s77/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.20**	**81**	*e*PG	**Pg**	**00 55 00.6**	**-2.1**
GDZ	**Gediz**	**0.26**	**73**	P	**Pb**	**00 55 06.4**	**+0.8**
GDZ				S	**Sb**	**00 55 11.2**	**+1.0**
GDZ	**Gediz**	**0.26**	**73**	*i* P	**Pb**	**00 55 06.4**	**+0.8**
GDZ				*i* S	**Sb**	**00 55 11.2**	**+1.0**
DEMI	**Demirci**	**0.35**	**275**	P	**Pg**	**00 55 05.4**	**-0.2**
DEMI				S	**Sg**	**00 55 09.3**	**-0.9**
DEMI	**Demirci**	**0.35**	**275**	*i* P	**Pg**	**00 55 05.4**	**-0.2**
DEMI				*i* S	**Sg**	**00 55 09.3**	**-0.9**
TVSB	**Tavsanli**	**0.49**	**28**	*e*PG	**Pg**	**00 55 07.9**	**-0.3**
TVSB				*e*SG	**Sg**	**00 55 14.6**	**-0.2**
TVSB	**Tavsanli**	**0.49**	**28**	*e*Pg	**Pg**	**00 55 07.9**	**-0.3**
TVSB				*e*Sg	**Sg**	**00 55 14.6**	**-0.2**
KULA	**Kula-Manisa**	**0.63**	**218**	*e*PG	**Pb**	**00 55 12.2**	**+0.4**
KULA				*e*SG	**Sb**	**00 55 21.2**	**+0.3**
KULA	**Kula-Manisa**	**0.63**	**218**	*e*Pg	**Pb**	**00 55 12.3**	**+0.4**
KULA				*e*Sg	**Sb**	**00 55 21.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.37**	**351**	*e*PN	**Pn**	**00 55 24.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.37**	**351**	*e*Pn	**Pn**	**00 55 24.3**	**+0.3**
ARMT	**Armutlu**	**1.57**	**352**	*e*PN	**Pb**	**00 55 27.5**	**-0.3**
ARMT	**Armutlu**	**1.57**	**352**	*e*Pn	**Pb**	**00 55 27.5**	**-0.3**

ISCJB ***29*** *01:05:10.8±1.1, 71.91N±0.09×0.7E±0.3, h10km, mb3.4/2, MS3.0/3, Error ellipse: s-maj=13.0km s-min=10.5km az=148.6*
IDC ***29*** *01:05:11.6±2.1, 71.77N×0.46E, h0km, mb3.4/2, mb1 3.5/7, mb1mx3.2/47, mbtmp3.4/7, ML3.2/5, MS2.9/5, Ms1 3.0/5, ms1mx2.5/37, Error ellipse: s-maj=36.7km s-min=23.6km az=115.0*
BER ***29*** *01:05:15.5±3.2, 71.93N×0.06W, h15km±60km, ML1.9*

ISC 29 01:05:12.5±1.4, 71.86N±0.10×0.6E±0.1, h10km, n16, σ1s82/17, MS2.9/3, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOF	**Lofoten**	**5.79**	**124**	*e*P	**Pn**	**01 06 40.7**	**+2.4**
TRO	**Tromso**	**6.44**	**101**	*e*P	**Pn**	**01 06 48.5**	**+1.3**
TRO				*e*S	**Sn**	**01 07 58.8**	**-1.8**
TRO				IAML		01 08 01.4	
	comp=Z,2.0nm,0.5s						
KONS	**Konsvik**	**6.97**	**134**	*e*P	**Pn**	**01 06 56.3**	**+1.8**
KONS				*e*S	**Sn**	**01 08 10.9**	**-2.7**
KIF	**Kilpisjarvi**	**7.33**	**103**	*e*P	**Pn**	**01 07 01.4**	**+2.0**
KIF				*e*S	**Sn**	**01 08 22.7**	**+0.2**
SPA0	**Spitsbergen Ar**	**7.50**	**25**	*e*P	**Pn**	**01 07 01.5**	**-0.3**
SPITS	**Spitsbergen Ar**	**7.50**	**25**	Pn	**Pn**	**01 07 01.4**	**-0.4**
	baz=210,slow=17,SNR=23						
NSS	**Namsos**	**8.47**	**145**	*e*P	**Pn**	**01 07 17.5**	**+2.5**
ARCES	**ARCESS Array B**	**8.53**	**94**	Pn	**Pn**	**01 07 17.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=302,slow=11,SNR=7.9						
HEF	**Hetta**	**8.54**	**103**	*e*P	**Pn**	**01 07 19.2**	**+3.3**
NOA	**NORSAR Array B**	**11.63**	**154**	Pn	**Pn**	**01 07 59.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=342,slow=12,SNR=3.2						
NOA				LR	LR	01 12 32.3	
	comp=Z,36nm,19.1s,baz=340,slow=38						
FINES	**FINESS Array B**	**14.36**	**124**	Pn	**Pn**	**01 08 34.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=338,slow=10,SNR=3.4						
FINES				LR	LR	01 13 35.9	
	comp=Z,56nm,19.5s,baz=36,slow=35						
EKA	**Eskdalemuir Ar**	**16.67**	**188**	Pn	**Pn**	**01 09 04.8**	**-1.1**
	baz=3.9,slow=12,SNR=2.9						
GERES	**GERESS Array B**	**23.87**	**158**	P	**P**	**01 10 26.2**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=354,slow=9.4,SNR=10						
DAVOX	**Davos/Dischmat**	**25.54**	**165**	LR	LR	01 20 43.1	
	comp=Z,32nm,18.6s,baz=59,slow=37						
MLR	**Muntele Rosu**	**29.05**	**142**	LR	LR	01 23 08.4	
	comp=Z,15nm,19.2s,baz=38,slow=37						
TORD	**Torodi Ar. Bea**	**58.69**	**179**	P	**P**	**01 15 09.8**	**0.0**
	comp=Z,0.4nm,0.9s,baz=353,slow=7.8,SNR=2.9						
TORD				LR	LR	01 40 34.8	
	comp=Z,26nm,19.1s,baz=120,slow=36						

ISK ***29*** *01:06:38.0, 38.32N×42.44E, h5km, ML2.0*
ISCJB ***29*** *01:06:39.4±0.6, 38.32N±0.03×42.43E±0.04, h3km±6km, Error ellipse: s-maj=5.4km s-min=4.6km az=161.7*
CSEM ***29*** *01:06:39.3±0.1, 38.33N×42.43E, h8km, Error ellipse: s-maj=3.8km s-min=3.0km az=152.0*
DDA ***29*** *01:06:39.2, 38.36N×42.39E, h7km, Md2.6*

ISC 29 01:06:39.4±1.1, 38.32N±0.03×42.44E±0.02, h8km±11km, n25, σ0s33/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TATV	**Tatvan**	**0.23**	**324**	P	**Pg**	**01 06 44.0**	**-0.2**
TATV				S	**Sg**	**01 06 47.6**	**+0.2**
TATV	**Tatvan**	**0.23**	**324**	*i* P	**Pg**	**01 06 44.0**	**-0.2**
TATV				*i* S	**Sg**	**01 06 47.6**	**+0.2**
GEVA	**Gevas**	**0.48**	**91**	P	**Pg**	**01 06 49.1**	**+0.2**
GEVA				S	**Sb**	**01 06 57.7**	**0.0**
GEVA	**Gevas**	**0.48**	**91**	*i* P	**Pg**	**01 06 49.1**	**+0.2**
GEVA				*i* S	**Sb**	**01 06 57.7**	**0.0**
VANB	**Van**	**0.79**	**70**	*e*PG	**Pg**	**01 06 54.4**	**-0.3**
VANB	**Van**	**0.79**	**70**	*e*Pg	**Pg**	**01 06 54.4**	**-0.3**
SIRT	**Sirnak**	**0.82**	**180**	*e*PG	**Pg**	**01 06 54.7**	**-0.5**
SIRT				*e*SG	**Sb**	**01 07 07.0**	**-0.2**
SIRT	**Sirnak**	**0.82**	**180**	*e*Pg	**Pg**	**01 06 54.7**	**-0.5**
SIRT				*e*Sg	**Sb**	**01 07 07.0**	**-0.2**
SIRN	**S¨¨rnak**	**0.82**	**182**	P	**Pg**	**01 06 55.4**	**+0.1**
SIRN	**S¨¨rnak**	**0.82**	**182**	*i* P	**Pg**	**01 06 55.4**	**+0.1**
SVAN	**Silvan-Diyarba**	**0.99**	**261**	*e*PG	**Pg**	**01 06 58.0**	**-0.5**
SVAN				*e*SG	**Sb**	**01 07 12.8**	**+0.6**
SVAN	**Silvan-Diyarba**	**0.99**	**261**	*e*Pg	**Pg**	**01 06 58.0**	**-0.5**
SVAN				*e*Sg	**Sb**	**01 07 12.8**	**+0.6**
BTMN	**Batman**	**1.02**	**245**	P	**Pg**	**01 06 58.6**	**-0.4**
BTMN				S	**Sb**	**01 07 13.3**	**+0.3**
BTMN	**Batman**	**1.02**	**245**	*i* P	**Pg**	**01 06 58.6**	**-0.4**
BTMN				*i* S	**Sb**	**01 07 13.3**	**+0.3**
TUTA	**Tutak**	**1.12**	**15**	P	**Pb**	**01 07 01.0**	**-0.1**
TUTA	**Tutak**	**1.12**	**15**	*i* P	**Pb**	**01 07 01.0**	**-0.1**
AGRB	**Hanur-Agry**	**1.32**	**19**	*e*PN	**Pb**	**01 07 04.3**	**-0.3**
AGRB	**Hanur-Agry**	**1.32**	**19**	*e*Pn	**Pb**	**01 07 04.3**	**-0.3**
CUKT	**Cukurca**	**1.42**	**139**	*e*PN	**Pb**	**01 07 06.2**	**0.0**
CUKT	**Cukurca**	**1.42**	**139**	*e*Pn	**Pb**	**01 07 06.2**	**0.0**
CLDR	**Caldiran**	**1.42**	**54**	*e*PN	**Pn**	**01 07 05.7**	**0.0**
CLDR	**Caldiran**	**1.42**	**54**	*e*Pn	**Pn**	**01 07 05.7**	**0.0**
MARD	**Mardin**	**1.66**	**233**	*i* P	**Pg**	**01 07 11.2**	**-0.1**
MARD				*i* S	**Sb**	**01 07 31.3**	**-0.3**
PTK	**Pertek**	**2.46**	**284**	*e*PN	**Pn**	**01 07 20.3**	**+0.3**
PTK	**Pertek**	**2.46**	**284**	*e*Pn	**Pn**	**01 07 20.3**	**+0.3**

KRSC 29 01:17:59.0±1.8, 50.75N×157.67E, h100km±25km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.90**	**323**	*e*P	Pn	01 18 20.3	+2.0
PAU				*e*S	Sn	01 18 34.5	+1.7
SKR	**Severo-Kuril's**	**0.99**	**267**	*e*P	Pn	01 18 20.4	+1.2
SKR				*e*S	Sn	01 18 34.5	0.0
ASAK	**Asacha**	**1.64**	**5**	P	Pn	01 18 28.9	+1.8
RUS	**Russkaya**	**1.77**	**17**	*e*P	Pn	01 18 31.7	+3.2
RUS				*e*S	Sn	01 18 53.5	+2.5
DALK	**Dalny**	**2.38**	**16**	*e*P	Pn	01 18 39.8	+3.3
UGLR	**Uglovaya**	**2.56**	**16**	*e*P	Pn	01 18 41.7	+2.7
AVH	**Avacha**	**2.60**	**14**	*e*P	Pn	01 18 42.1	+2.6
AVH				*e*S	Sn	01 19 13.3	+2.7
NLC	**Nalytchevo**	**2.64**	**22**	*e*S	Sn	01 19 11.8	+0.6
SDLR	**Sedlovina**	**2.64**	**16**	*e*P	Pn	01 18 42.1	+2.1
SDLR				*e*S	Sn	01 19 12.6	+1.1
KRER	**Koryakskii**	**2.64**	**14**	*e*P	Pn	01 18 42.7	+2.6
KRX	**Arik**	**2.68**	**13**	*e*P	Pn	01 18 42.5	+1.9
GNL	**Ganaly**	**2.96**	**3**	*e*P	Pn	01 18 45.2	+1.0
MKZ	**Mys Kozlova**	**4.54**	**31**	*e*P	Pn	01 19 08.0	+2.6
MKZ				*e*S	Sn	01 19 57.4	+0.4
BKI	**Bering**	**6.71**	**45**	*e*S	Sn	01 20 48.4	-1.2

CASC 29 01:22:01.5±2.3, 12.63N×88.28W, h35km±999km, MD3.8, ML3.6, 3C-5D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.77**	**34**	*e*P	Pn	01 22 16.3	+0.3
CNCH				*e*S	Sn	01 22 27.4	+0.8
LCY	**Lacayo**	**0.79**	**359**	*i*↓P	Pn	01 22 16.5	+0.2
LCY				*e*S	Sn	01 22 27.4	+0.4
VSM	**San Miguel**	**0.79**	**0**	*i*↓P	Pn	01 22 16.7	+0.3
BLLM	**Bellamira**	**0.81**	**3**	*i*↓P	Pn	01 22 16.7	+0.2
PACA	**Pacayal**	**0.84**	**357**	*i*↓P	Pn	01 22 17.1	+0.2
SNVI	**San Vicente**	**1.12**	**331**	*e*P	Pn	01 22 20.8	-0.1
SNVI				*e*S	Sn	01 22 35.2	+0.1
CAHU	**Cacacuatique**	**1.14**	**3**	*i*↓P	Pn	01 22 21.6	+0.4
CAHU				*e*S	Sn	01 22 36.8	+1.2
LFRS	**El Faro**	**1.25**	**322**	*i*↓P	Pn	01 22 22.4	-0.2
LBRS	**Las Brisas**	**1.33**	**326**	*e*P	Pn	01 22 24.0	+0.3
LFU	**La Fuente**	**1.38**	**324**	*i*↓P	Pn	01 22 24.6	+0.3
TEL3	**Telica 3**	**1.40**	**92**	*e*P	Pn	01 22 24.4	-0.1
SNET	**Serv Nac Est T**	**1.41**	**319**	*e*P	Pn	01 22 24.8	+0.1
SNET				*e*S	Sn	01 22 41.8	-0.3
SNET				AML	AML	01 22 43.9	
	comp=Z,1μm,0.2s						
BOQS	**Boqueron**	**1.47**	**318**	*i*↑P	Pn	01 22 25.8	0.0
BOQS				*e*S	Sn	01 22 44.4	+0.5
CNGN	**Cerro Negro**	**1.54**	**95**	*e*P	Pn	01 22 26.2	-0.3
CNGN				*e*S	Sn	01 22 46.4	+0.9
CNGN				AML	AML	01 22 54.7	
	comp=E,472nm,0.2s						
COPN	**Copaltepe**	**1.70**	**105**	*e*P	Pn	01 22 28.3	-0.4
COPN				*e*S	Sn	01 22 49.6	+0.3
MOMN	**Momotombo**	**1.71**	**97**	*e*P	Pn	01 22 28.5	-0.3
TGUH	**Tegucigalpa,Un**	**1.72**	**34**	*e*P	Pn	01 22 29.4	+0.5
SBLS	**San Blas**	**1.78**	**313**	*e*P	Pn	01 22 30.3	+0.3
MONT	**Ecomontaæa**	**1.81**	**313**	*e*P	Pn	01 22 31.3	+0.8
RTR	**El Retiro**	**1.84**	**314**	*e*P	Pn	01 22 31.6	+0.9
ESTN	**Estel**	**1.92**	**76**	*e*P	Pn	01 22 31.7	-0.1
ESTN				*e*S	Sn	01 22 55.7	+0.9
XAVN	**Gruta Xavier**	**1.96**	**104**	*e*P	Pn	01 22 32.3	0.0
MGAN	**Managua**	**2.04**	**103**	*e*P	Pn	01 22 33.9	+0.5
MGAN				*e*S	Sn	01 22 57.6	+0.1
CUS1	**Cusmapa**	**2.07**	**308**	*e*P	Pn	01 22 33.9	+0.1
CONN	**Concepcion**	**2.80**	**112**	*e*P	Pn	01 22 44.6	+0.7
CGA2	**Cerro Gallo 2**	**4.55**	**124**	*e*P	Pn	01 23 10.7	+2.6
QCR	**Quepos**	**5.14**	**128**	*e*P	Pn	01 23 17.5	+1.5
URSC	**Urasca**	**5.21**	**122**	*e*S	Sn	01 24 19.8	+3.5
BUS	**Buena Vista**	**5.38**	**124**	*e*P	Pn	01 23 22.3	+2.5
BUS				*e*S	Sn	01 24 17.9	-2.9

ISCJB ***29*** *01:25:41.7±0.5, 38.54N±0.02×35.94E±0.03, h3km±6km, Error ellipse: s-maj=4.5km s-min=3.8km az=137.6*
DDA ***29*** *01:25:41.6, 38.53N×35.98E, h7km, Md2.8*
ISK ***29*** *01:25:41.2, 38.51N×35.94E, h12km, MD2.7*
CSEM ***29*** *01:25:41.5±0.2, 38.51N×35.96E, h8km, Error ellipse: s-maj=4.4km s-min=3.4km az=133.0*

ISC 29 01:25:41.9±1.0, 38.53N±0.02×35.96E±0.02, h11km±9km, n28, σ0s58/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.34**	**345**	*e*PG	**Pg**	**01 25 48.9**	**+0.2**
BNN				*e*SG	**Sg**	**01 25 54.1**	**+0.8**
BNN	**Bunyan**	**0.34**	**345**	*e*Pg	**Pg**	**01 25 48.9**	**+0.2**
BNN				*e*Sg	**Sg**	**01 25 54.1**	**+0.8**
PINB	**Pinarbasi**	**0.38**	**66**	P	**Pg**	**01 25 48.8**	**-0.7**
PINB				S	**Sg**	**01 25 54.7**	**+0.1**
PINB	**Pinarbasi**	**0.38**	**66**	*i* P	**Pg**	**01 25 48.8**	**-0.7**
PINB				*i* S	**Sg**	**01 25 54.6**	**+0.1**
SARI	**SarD1z-Kayseri**	**0.38**	**108**	*e*PG	**Pg**	**01 25 49.0**	**-0.5**
SARI				*e*SG	**Sb**	**01 25 55.8**	**-0.8**
YAHY	**KAYSERI_Yahyal**	**0.64**	**228**	P	**Pg**	**01 25 53.9**	**-0.4**
YAHY				S	**Sb**	**01 26 03.3**	**-0.7**
YAHY	**KAYSERI_Yahyal**	**0.64**	**228**	*i* P	**Pg**	**01 25 53.9**	**-0.4**
YAHY				*i* S	**Sb**	**01 26 03.4**	**-0.7**
AVNS	**Nevsehir-Avano**	**0.92**	**288**	P	**Pg**	**01 25 59.5**	**0.0**
AVNS				S	**Sb**	**01 26 12.3**	**+0.3**
AVNS	**Nevsehir-Avano**	**0.92**	**288**	*i* P	**Pg**	**01 25 59.5**	**0.0**
AVNS				*i* S	**Sb**	**01 26 12.3**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**0.92**	**14**	P	**Pg**	**01 25 59.3**	**-0.3**
CUSAR				S	**Sb**	**01 26 12.4**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**0.92**	**14**	*i* P	**Pg**	**01 25 59.3**	**-0.3**
CUSAR				*i* S	**Sb**	**01 26 12.4**	**+0.2**
CUALT	**Altinyayla-SIV**	**0.97**	**40**	P	**Pg**	**01 25 59.9**	**-0.7**
CUALT				S	**Sb**	**01 26 14.2**	**+0.5**
CUALT	**Altinyayla-SIV**	**0.97**	**40**	*i* P	**Pg**	**01 25 59.9**	**-0.7**
CUALT				*i* S	**Sb**	**01 26 14.2**	**+0.5**
KOZT	**Kozan**	**1.05**	**186**	*e*PG	**Pb**	**01 26 01.2**	**-0.9**
KOZT	**Kozan**	**1.05**	**186**	*e*Pg	**Pb**	**01 26 01.2**	**-0.9**
AKO	**Adana**	**1.14**	**201**	*i* P	**Pb**	**01 26 03.1**	**-0.5**
AKO				*i* S	**Sn**	**01 26 20.0**	**+0.7**
NIG	**Nigde**	**1.14**	**249**	*e*PN	**Pb**	**01 26 03.3**	**-0.5**
NIG	**Nigde**	**1.14**	**249**	*e*Pn	**Pb**	**01 26 03.3**	**-0.5**
DARE	**Darende-Malaty**	**1.20**	**87**	*e*PN	**Pb**	**01 26 04.3**	**-0.3**
DARE	**Darende-Malaty**	**1.20**	**87**	*e*Pn	**Pb**	**01 26 04.3**	**-0.3**
KMRS	**Kahramanmaras**	**1.26**	**144**	*e*PN	**Pn**	**01 26 05.2**	**-0.3**
KMRS	**Kahramanmaras**	**1.26**	**144**	*e*Pn	**Pn**	**01 26 05.2**	**-0.3**
HCB	**Kahramanmara¨**	**1.40**	**147**	*i* P	**Pg**	**01 26 09.6**	**+0.9**
KAMA	**Osmaniye**	**1.45**	**157**	*i* P	**Pg**	**01 26 11.2**	**+1.4**
KAMA				*i* S	**Sg**	**01 26 29.6**	**+1.1**
KARA	**Karaisali**	**1.45**	**210**	*e*PN	**Pn**	**01 26 07.8**	**-0.3**
KARA	**Karaisali**	**1.45**	**210**	*e*Pn	**Pn**	**01 26 07.8**	**-0.3**
AKCD	**Akcadag**	**1.56**	**98**	P	**Pb**	**01 26 11.2**	**+0.4**
AKCD				S	**Sg**	**01 26 32.2**	**+0.2**
AKCD	**Akcadag**	**1.56**	**98**	*i* P	**Pb**	**01 26 11.2**	**+0.4**
AKCD				*i* S	**Sg**	**01 26 32.2**	**+0.2**

MEX 29 01:33:33.8±1.0, 17.68N×101.17W, h35km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.29**	**256**	*i* P	Pn	01 33 39.7	-2.0
ZIIG				*e*S	Sn	01 33 45.6	-1.5
ARIG	**Puente Sto Nin**	**0.98**	**52**	*e*P	Pn	01 33 49.4	-1.7
ARIG				*e*S	Sn	01 34 03.2	-0.7
CAIG	**El Cayaco**	**1.06**	**126**	*e*P	Pn	01 33 49.6	-2.6
CAIG				*i* S	Sn	01 34 01.6	-4.2
ACX	**Acapulco**	**1.49**	**123**	*e*P	Pn	01 34 00.0	+1.9

NIED ***29*** *01:39:00, 40.00N×143.80E, h11km, Mw3.7 Best double couple: M0=4.23000×10^14 NP1:φs=192.00000°, δ29.00000°, λ71.00000°. NP2:φs=33.00000°, δ62.00000°, λ100.00000°.*
IDC ***29*** *01:39:13.6±1.4, 40.64N×144.02E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/40, mbtmp3.6/6, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/33, Error ellipse: s-maj=38.2km s-min=26.4km az=97.0*
JMA ***29*** *01:39:17.6±0.3, 40.05N×143.77E, h0km, M3.8*
ISCJB ***29*** *01:39:18.6±0.9, 40.02N±0.05×143.81E±0.09, h10km, mb3.5/5, Error ellipse: s-maj=11.2km s-min=5.7km az=29.0*

ISC 29 01:39:16.7±1.1, 40.07N±0.06×143.88E±0.09, h10km, n29, σ2s50/21, mb3.8/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.56**	**266**	P	**Pb**	**01 39 45.0**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.66**	**253**	P	**Pb**	**01 39 46.9**	**-0.6**
JANG	**Nango**	**1.84**	**280**	P	**Pb**	**01 39 49.6**	**-0.8**
JOM	**Ohasama**	**2.08**	**254**	P	**Pb**	**01 39 53.5**	**-1.1**
JTM	**Tenmabayashi**	**2.26**	**289**	P	**Pb**	**01 39 56.7**	**-1.0**
JMK	**Ichinoseki**	**2.34**	**242**	P	**Pn**	**01 39 56.6**	**+1.3**
JAH	**Hinai**	**2.49**	**274**	P	**Pb**	**01 39 59.9**	**-1.7**
JOT	**Ohata**	**2.52**	**302**	P	**Pb**	**01 40 00.8**	**-1.2**
JCH	**Churui**	**2.57**	**351**	*e*S	**Sb**	**01 40 34.4**	**-0.1**
JRG	**Rokugo**	**2.59**	**256**	P	**Pb**	**01 40 01.2**	**-2.1**
JKB	**Kayabe**	**2.82**	**311**	*e*S	**Sn**	**01 40 37.4**	**+1.6**
JYK	**Kaneyama**	**2.96**	**248**	P	**Pn**	**01 40 05.7**	**+1.9**
JOU	**Okura**	**3.02**	**237**	P	**Pn**	**01 40 06.5**	**+1.8**
JAR	**Ashorobuto**	**3.22**	**359**	P	**Pb**	**01 40 12.1**	**-1.9**
NEM2	**Nemuro 2**	**3.57**	**22**	P	Pn	01 40 17.6	+5.4
NEM2				*e*S	**Sn**	**01 40 58.5**	**+4.1**
MJAR	**Matsushiro Arr**	**5.69**	**233**	Pn	**Pn**	**01 40 44.1**	**+2.8**
	0.9nm,0.3s,baz=35,slow=12,SNR=7.7						
USRK	**Ussuriysk Ar.**	**9.75**	**299**	Pn	**Pn**	**01 41 41.0**	**+4.0**
	0.4nm,0.3s,baz=120,slow=12,SNR=5.0						
KSRS	**Korea Array**	**12.73**	**263**	LR	LR	01 46 41.1	
	comp=Z,46nm,18.9s,baz=320,slow=35						
SONM	**Songino Array**	**27.86**	**299**	P	**P**	**01 45 02.2**	**-4.3**
	0.4nm,0.3s,baz=114,slow=7.0,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.30**	**129**	T	T	02 14 54.4	
	baz=321,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.31**	**129**	T	T	02 14 57.0	
	baz=321,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.32**	**129**	T	T	02 14 56.4	
	baz=321,slow=76,SNR=9.8						
H11S1	**WAKE ISLAND My**	**29.13**	**131**	T	T	02 16 00.7	
	baz=322,slow=76,SNR=5.2						
H11S3	**WAKE ISLAND My**	**29.14**	**131**	T	T	02 16 01.8	
	baz=322,slow=76,SNR=4.4						
H11S2	**WAKE ISLAND My**	**29.15**	**131**	T	T	02 15 58.4	
	baz=322,slow=76,SNR=4.1						
MKAR	**Makanchi Array**	**44.21**	**300**	P	**P**	**01 47 23.4**	**-2.5**
	0.1nm,0.5s,baz=80,slow=8.9,SNR=2.2						
INK	**Inuvik**	**50.80**	**28**	P	P	01 48 10.2	-6.6
	1.0nm,0.5s,baz=243,slow=2.3,SNR=3.2						
WRA	**Warramunga Arr**	**60.36**	**190**	P	**P**	**01 49 28.5**	**+2.5**
	0.5nm,0.5s,baz=8.1,slow=7.0,SNR=11						
FINES	**FINESS Array B**	**67.02**	**333**	P	**P**	**01 50 05.8**	**-3.7**
	0.4nm,0.6s,baz=39,slow=9.0,SNR=2.9						

MAN ***29*** *01:47:41, 5.59N×126.15E, h96km, mb4.9, ML3.8, MS3.9*
ISCJB ***29*** *01:47:43.8±0.8, 5.79N±0.09×126.07E±0.09, h115km±11km, mb3.6/6, Error ellipse: s-maj=14.8km s-min=14.2km az=18.4*
IDC ***29*** *01:47:44.9±1.9, 5.93N×126.31E, h113km±17km, mb3.4/6, mb1 3.6/6, mb1mx3.3/37, mbtmp3.8/6, Error ellipse: s-maj=93.3km s-min=16.8km az=70.0*

ISC 29 01:47:44.5±1.2, 5.8N±0.1×126.10E±0.09, h103km±13km, n12, σ1s31/18, mb3.5/6, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.17**	**8**	*e*P	**Pn**	**01 48 05.0**	**-2.1**
MATI				*e*S	**Sn**	**01 48 25.4**	**+1.2**
DAV	**Davao City (W)**	**1.39**	**338**	P	**Pn**	**01 48 08.2**	**-1.4**
	76nm,0.3s,baz=99,slow=1.5,SNR=4.1						
DAV				S	**Sn**	**01 48 29.5**	**+1.0**
	108nm,0.3s,baz=132,slow=22,SNR=8.2						
KCP	**Kidapawan**	**1.58**	**321**	*i*↓P	**Pn**	**01 48 11.6**	**-0.5**
KCP				*i* S	**Sn**	**01 48 33.4**	**+0.5**
BUKP	**Musuan**	**2.33**	**334**	*e*P	**Pn**	**01 48 21.2**	**-0.4**
BUKP				*e*S	**Sn**	**01 48 52.4**	**+2.5**
CTBH	**Cotabato--PC H**	**2.33**	**308**	*i*↓P	**Pn**	**01 48 21.9**	**+0.3**
CTBH				*i* S	**Sn**	**01 48 50.1**	**+0.1**
BIPH	**Bislig**	**2.41**	**6**	*i*↓P	**Pn**	**01 48 23.3**	**+0.8**
BIPH				*e*S	**Sn**	**01 48 53.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**23.73**	**181**	P	**P**	**01 52 48.2**	**+

baz=315,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 29.23 122 T T 02 27 38.6
baz=315,slow=76,SNR=14
ZALV Zalesovo Beam 41.59 312 P **P** **01 58 51.8 +0.2**
0.7nm,0.4s,baz=96,slow=8.8,SNR=3.3
ZALV PcP **PcP** **02 00 48.4 -0.2**
0.8nm,0.6s,baz=71,slow=1.3,SNR=3.8
MKAR Makanchi Array 43.77 302 P **P** **01 59 08.8 -0.6**
0.7nm,0.6s,baz=86,slow=9.6,SNR=6.3
ILAR Eielson Array 49.62 32 P **P** **01 59 55.3 +0.4**
0.5nm,0.7s,baz=273,slow=6.9,SNR=5.6
WRA Warramunga Arr 57.10 187 P **P** **02 00 49.8 -0.5**
0.4nm,0.5s,baz=5.3,slow=7.4,SNR=7.5
ARCES ARCESS Array B 63.79 339 P **P** **02 01 35.0 -0.6**
3.0nm,1.0s,baz=48,slow=7.2,SNR=4.1
FINES FINESS Array B 68.57 332 P **P** **02 02 05.8 -0.5**
1.9nm,0.7s,baz=57,slow=7.0,SNR=8.5
NB2 NORSAR Subarra 73.97 337 P **P** **02 02 38.8 -0.2**
comp=Z,0.5nm,0.6s,baz=38,slow=6.2
NOA NORSAR Array B 73.97 337 P **P** **02 02 38.1 -1.0**
comp=Z,0.7nm,0.7s,baz=40,slow=5.9,SNR=4.9
AKASG Malin Array Be 74.01 322 P **P** **02 02 39.0 -0.4**
comp=Z,1.2nm,0.6s,baz=45,slow=6.5,SNR=5.8
GERES GERESS Array B 82.45 328 P **P** **02 03 25.2 -1.1**
comp=Z,0.5nm,0.5s,baz=26,slow=6.4,SNR=6.0

ISK ***29*** *02:01:34.0, 38.°99N×29.°36E, h13km, MD2.7*
ISCJB ***29*** *02:01:35.8±0.6, 39.°10N±0.°04×29.°13E±0.°05, h9km, Error ellipse: s-maj=7.2km s-min=4.1km az=145.9*
DDA ***29*** *02:01:36.0, 39.°11N×29.°12E, h7km, Md2.7*
CSEM ***29*** *02:01:36.0±0.2, 39.°11N×29.°13E, h5km, Error ellipse: s-maj=5.4km s-min=3.2km az=131.0*
ISC 29 02:01:35.9±1.1, 39.°10N±0.°04×29.°14E±0.°03, h9km, n15, σ0s79/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.27**	**92**	P	**Pg**	**02 01 42.0**	**+0.7**
GDZ				S	**Sg**	**02 01 46.0**	**+1.1**
GDZ	**Gediz**	**0.27**	**92**	*i* P	**Pg**	**02 01 42.0**	**+0.7**
GDZ				*i* S	**Sg**	**02 01 46.0**	**+1.1**
DEMI	**Demirci**	**0.34**	**261**	P	**Pg**	**02 01 42.8**	**+0.3**
DEMI				S	**Sg**	**02 01 47.3**	**+0.3**
DEMI	**Demirci**	**0.34**	**261**	*i* P	**Pg**	**02 01 42.8**	**+0.3**
DEMI				*i* S	**Sg**	**02 01 47.3**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**35**	*e*PG	**Sg**	**02 01 44.1**	**-0.2**
TVSB				*e*SG	**Sg**	**02 01 50.1**	**0.0**
TVSB	**Tavsanli**	**0.43**	**35**	*e*Pg	**Pg**	**02 01 44.2**	**-0.2**
TVSB				*e*Sg	**Sg**	**02 01 50.1**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*PG	**Pg**	**02 01 49.1**	**-0.1**
KULA				*e*SG	**Sg**	**02 01 58.6**	**+0.3**
KULA	**Kula-Manisa**	**0.69**	**213**	*e*Pg	**Pg**	**02 01 49.2**	**-0.1**
KULA				*e*Sg	**Sg**	**02 01 58.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*PN	**Pn**	**02 01 60.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.29**	**351**	*e*Pn	**Pn**	**02 02 00.0**	**0.0**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*PN	**Pg**	**02 02 01.8**	**+0.7**
KCTX	**Karacabey (Bur**	**1.31**	**333**	*e*Pn	**Pg**	**02 02 01.8**	**+0.7**
ARMT	**Armutlu**	**1.48**	**352**	*e*PN	**Pn**	**02 02 02.9**	**+0.1**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn	**Pn**	**02 02 02.9**	**+0.1**
GULT	**Gulveren**	**1.70**	**38**	*e*PN	**Pn**	**02 02 03.2**	**-2.7**

ISCJB ***29*** *02:04:53.8±0.9, 37.°13N±0.°05×141.°00E±0.°06, h6km±4km, mb3.5/8, Error ellipse: s-maj=9.3km s-min=6.5km az=43.3*
IDC ***29*** *02:04:53.9±1.2, 37.°10N×140.°98E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.6/30, mbtmp3.6/9, ML3.3/1, MS2.5/1, Ms1 2.5/1, ms1mx1.9/28, Error ellipse: s-maj=29.5km s-min=23.4km az=137.0*
JMA ***29*** *02:04:55.8, 37.°13N×140.°85E, h7km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs=8.00000°, δ54.00000°, λ-106.00000°. NP2:ϕs214.00000°, δ39.00000°, λ-69.00000°. Principal axes: T Plg8.0000°, Azm109.0000°; N Plg13.0000°, Azm17.0000°; P Plg75.0000°, Azm230.0000°;*
JMA Felt III J1.
ISC 29 02:04:55.4±1.2, 37.°13N±0.°04×140.°88E±0.°06, h7km±6km, n24, σ0s63/23, mb3.7/8, 6C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.07**	**249**	⇑P	**Pg**	**02 04 57.2**	**0.0**
ONAJ				S	**Sg**	**02 04 58.3**	**-0.2**
JFK	**Kawauchi**	**0.24**	**359**	⇑P	**Pg**	**02 05 00.5**	**+0.3**
JHO	**Hitachi**	**0.57**	**206**	⇓P	**Pg**	**02 05 06.6**	**+0.2**
JHO				*e*S	**Sg**	**02 05 14.3**	**+0.5**
JFT	**Otama**	**0.58**	**312**	⇑P	**Pg**	**02 05 06.9**	**+0.3**
JMM	**Marumori**	**0.74**	**355**	⇑P	**Pg**	**02 05 09.6**	**-0.1**
JSB	**Shiboa**	**0.78**	**259**	⇑P	**Pb**	**02 05 11.1**	**-0.3**
JSB				*e*S	**Sb**	**02 05 22.0**	**-0.3**
JFY	**Yanaizu**	**0.98**	**287**	⇑P	**Pg**	**02 05 14.1**	**-0.1**
JFY				*e*S	**Sg**	**02 05 26.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.22**	**256**	Pn	**Pn**	**02 05 34.1**	**+1.4**
	7.8nm,0.3s,baz=81,slow=16,SNR=6.4						
MJAR				Sn	**Sb**	**02 06 03.6**	**0.0**
	11nm,0.3s,baz=71,slow=31,SNR=8.4						
MAT	**Matsushiro**	**2.22**	**256**	P	**Pb**	**02 05 34.7**	**-1.2**
MAT				S	**Sb**	**02 06 04.6**	**+0.9**
KSRS	**Korea Array**	**10.33**	**276**	LR	LR	02 11 21.5	
	comp=Z,31nm,21.3s,baz=135,slow=37						
SONM	**Songino Array**	**27.38**	**304**	P	**P**	**02 10 41.7**	**+0.3**
	0.5nm,0.4s,baz=99,slow=7.4,SNR=2.2						
H11N2	**WAKE ISLAND Hy 28.56 120**			T	T	02 40 37.0	
	baz=312,slow=75,SNR=110						
H11N1	**WAKE ISLAND Hy 28.57 120**			T	T	02 40 38.7	
	baz=312,slow=75,SNR=101						
H11N3	**WAKE ISLAND Hy 28.58 120**			T	T	02 40 37.6	
	baz=312,slow=75,SNR=75						
H11S1	**WAKE ISLAND Hy 29.27 122**			T	T	02 41 29.0	
	baz=314,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy 29.27 122**			T	T	02 41 29.5	
	baz=314,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy 29.29 122**			T	T	02 41 31.0	
	baz=314,slow=75,SNR=5.9						
MKAR	**Makanchi Array 43.71 302**			P	**P**	**02 13 01.4**	**+0.4**
	0.5nm,0.7s,baz=92,slow=8.5,SNR=4.3						
ILAR	**Eielson Array 49.65 32**			P	**P**	**02 13 47.9**	**+0.6**
	0.2nm,0.6s,baz=269,slow=6.3,SNR=3.0						
WRA	**Warramunga Arr 57.09 187**			P	**P**	**02 14 41.6**	**-0.9**
	0.5nm,0.6s,baz=4.7,slow=7.0,SNR=6.1						
FINES	**FINESS Array B 68.53 332**			P	**P**	**02 15 57.8**	**-0.5**
	0.9nm,0.7s,baz=36,slow=12,SNR=3.7						
NOA	**NORSAR Array B 73.94 337**			P	**P**	**02 16 30.5**	**-0.6**
	0.5nm,0.7s,baz=77,slow=6.1,SNR=3.1						
AKASG	**Malin Array Be 73.96 322**			P	**P**	**02 16 30.6**	**-0.7**
	0.3nm,0.4s,baz=50,slow=5.8,SNR=3.0						
GERES	**GERESS Array B 82.41 328**			P	**P**	**02 17 18.6**	**+0.3**
	0.2nm,0.3s,baz=38,slow=8.7,SNR=3.3						

ISCJB ***29*** *02:23:44.0±0.2, 6.°80N±0.°02×73.°05W±0.°02, h162km±1km, mb4.0/35, Error ellipse: s-maj=4.5km s-min=2.8km az=38.1*
FUNV ***29*** *02:23:44.1, 6.°76N×73.°25W, h167km, MW4.7*
NEIC ***29*** *02:23:45.4±0.5, 6.°75N×73.°03W, h159km±6km, mb4.3/24, Error ellipse: s-maj=8.9km s-min=6.3km az=104.0*
NEIC Felt at Duitama.
IDC ***29*** *02:23:45.5±0.5, 6.°79N×72.°95W, h167km±4km, mb3.4/13, mb1 3.7/19, mb1mx3.6/31, mbtmp4.0/19, Error ellipse: s-maj=12.1km s-min=6.6km az=128.0*
RSNC ***29*** *02:23:46.2±0.8, 6.°78N×73.°15W, h151km±3km, ML4.6*
ISC 29 02:23:45.1±0.5, 6.°82N±0.°03×73.°08W±0.°04, h163km±4km, n105, σ1s38/146, mb4.1/35, 11C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.21**	**298**	*i* P	**Pn**	**02 24 06.6**	**-0.6**
BTLC				*e*S	**Sn**	**02 24 22.8**	**-1.4**
BARC	**Barichara**	**0.25**	**205**	*i* P	**Pn**	**02 24 06.3**	**-1.1**
BARC				*e*S	**Sn**	**02 24 21.2**	**-3.2**
BARC				*i*		02 24 24.2	
	comp=Z,8μm,0.3s						
GIRC	**Giron, Santand**	**0.28**	**336**	*i* P	**Pn**	**02 24 06.4**	**-1.0**
GIRC				*e*S	**Sn**	**02 24 22.1**	**-2.3**
PAMC	**Pamplona, Colo**	**0.64**	**36**	*i* P	**Pn**	**02 24 09.2**	**-0.1**
PAMC				*e*S	**Sn**	**02 24 25.9**	**-1.7**
BRRC	**Barranca, Sant**	**0.69**	**294**	⇑*i* P	**Pn**	**02 24 08.2**	**-0.8**
BRRC				*e*S	**Sn**	**02 24 25.2**	**-2.0**
BRRC				*i*		02 24 28.0	
	comp=Z,5μm,0.3s						
RUSC	**La Rusia**	**0.92**	**180**	⇑*i* P	**Pn**	**02 24 10.2**	**-0.9**
RUSC				*e*S	**Sn**	**02 24 29.1**	**-1.9**
RUSC				*i*		02 24 30.8	
	comp=Z,7μm,0.5s						
CBRI	**Barrientos, No**	**0.93**	**17**	*i* P	**Pn**	**02 24 10.9**	**+0.1**
CBRI				*e*S	**Sn**	**02 24 30.0**	**-0.6**
GRMC	**Gramalote, San**	**0.93**	**17**	*i* P	**Pn**	**02 24 12.2**	**+1.4**
GRMC				*e*S	**Sn**	**02 24 32.2**	**+1.7**
GRMC				*i*		02 24 36.8	
	comp=Z,3μm,0.3s						
CAPV	**Capacho**	**1.29**	**36**	⇓*i* P	**Pn**	**02 24 14.4**	**+0.5**
CAPV				*e*S	**Sn**	**02 24 35.6**	**-0.4**
OCAC	**Ocana**	**1.43**	**350**	*e*P	**Pn**	**02 24 15.1**	**-0.1**
OCAC				*e*S	**Sn**	**02 24 37.5**	**-0.8**
OCAC				*i*		02 24 42.0	
	comp=Z,5μm,0.6s						
YOPC	**Yopal, Colombi**	**1.59**	**156**	*i* P	**Pn**	**02 24 17.0**	**+0.2**
YOPC				*e*S	**Sn**	**02 24 40.5**	**-0.7**
YOPC				*i*		02 24 41.9	
	comp=Z,4μm,0.5s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	**Pn**	**02 24 22.0**	**-1.1**
NORC				*e*S	**Sn**	**02 24 50.5**	**-2.0**
CHIC	**Chingaza**	**2.27**	**197**	*e*P	**Pn**	**02 24 24.1**	**-0.5**
CHIC				*e*S	**Sn**	**02 24 53.9**	**-1.3**
CHIC				*i*		02 25 03.9	
	comp=Z,2μm,0.6s						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**02 24 26.1**	**+0.9**
	comp=Z,702nm,0.3s,baz=288,slow=20,SNR=1350						
ROSC				S	**Sn**	**02 24 57.9**	**+1.7**
	comp=Z,999nm,0.3s,baz=17,slow=19,SNR=12						
ROSC	**El Rosal**	**2.32**	**212**	*e*Pn	**Pn**	**02 24 25.8**	**+0.5**
ROSC				*e*Sn	**Sn**	**02 24 54.8**	**-1.4**
HELC	**Santa Helena**	**2.52**	**256**	*e*P	**Pn**	**02 24 26.2**	**-1.2**
HELC				*e*S	**Sn**	**02 24 57.6**	**-2.5**
HELC				*i*		02 25 05.5	
	comp=Z,2μm,0.4s						
HELC	**Santa Helena**	**2.52**	**256**	*e*Pn	**Pn**	**02 24 27.8**	**+0.4**
HELC				*e*Sn	**Sn**	**02 24 57.6**	**-2.5**
VIGV	**El Vigia**	**2.63**	**40**	⇑*e*P	**Pn**	**02 24 28.9**	**+0.4**
VIGV				*e*S	**Sn**	**02 25 01.1**	**-1.1**
SOCV	**Socops**	**2.64**	**56**	⇓*i* P	**Pn**	**02 24 28.7**	**+0.1**
SOCV				*e*S	**Sn**	**02 25 01.3**	**-1.0**
VILC	**Villavicencio,**	**2.76**	**193**	*e*P	**Pn**	**02 24 29.5**	**-0.7**
VILC				*e*S	**Sn**	**02 25 03.6**	**-1.5**
VILC				*i*		02 25 08.0	
	comp=Z,2μm,0.3s						
GUYC	**Guyana, Colomb**	**2.79**	**236**	*e*P	**Pn**	**02 24 30.3**	**-0.7**
GUYC				*e*S	**Sn**	**02 25 04.1**	**-2.3**
GUYC				*i*		02 25 12.9	
	comp=Z,5μm,0.5s						
DBBC	**Dabeiba**	**3.12**	**274**	*e*P	**Pn**	**02 24 34.1**	**-0.5**
TOLC	**Tolima**	**3.15**	**225**	*e*P	**Pn**	**02 24 34.8**	**-0.4**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**02 24 36.0**	**+0.6**
	comp=Z,111nm,0.3s,baz=196,slow=2.7,SNR=50						
SDV				S	**Sn**	**02 25 13.2**	**-1.2**
	comp=Z,292nm,0.3s,baz=50,slow=20,SNR=44						
SDV	**Santo Domingo**	**3.17**	**50**	*e*P	**Pn**	**02 24 35.8**	**+0.4**
SDV	**Santo Domingo**	**3.17**	**50**	*e*Pn	**Pn**	**02 24 36.1**	**+0.6**
SDV				*e*Sn	**Sn**	**02 25 12.7**	**-1.7**
SDV	**Santo Domingo**	**3.17**	**50**	*e*P	**Pn**	**02 24 36.0**	**+0.6**
ELOV	**Elorza**	**3.57**	**87**	⇓*e*P	**Pn**	**02 24 40.6**	**+0.3**
ELOV				*e*S	**Sn**	**02 25 21.8**	**-1.3**
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**02 24 39.6**	**-0.7**
PRAC				*e*S	**Sn**	**02 25 21.4**	**-1.9**
PRAC	**Prado**	**3.57**	**210**	*e*Pn	**Pn**	**02 24 39.7**	**-0.6**
PRAC				*e*Sn	**Sn**	**02 25 21.2**	**-2.1**
SJAC	**San Juan de Ar**	**3.63**	**194**	*e*P	**Pn**	**02 24 40.0**	**-1.1**
SJAC				*i*		02 25 27.2	
	comp=Z,3μm,0.3s						
VIRV	**Villa del Rosa**	**3.72**	**10**	⇑*i* P	**Pn**	**02 24 40.9**	**-1.3**
VIRV				*e*S	**Sn**	**02 25 23.0**	**-3.6**
GUVC	**San Jose del G**	**4.27**	**174**	*e*P	**Pn**	**02 24 49.2**	**-0.1**
GUVC				*i*		02 25 42.1	
	comp=Z,337nm,0.8s						
SANV	**Sanarito**	**4.40**	**53**	⇑*e*P	**Pn**	**02 24 50.7**	**-0.4**
SANV				*e*S	**Sn**	**02 25 41.0**	**-1.5**
CURV	**Curarigua**	**4.42**	**44**	⇑*e*P	**Pn**	**02 24 51.0**	**-0.3**
DABV	**Dabajuro**	**4.74**	**30**	⇑*i* P	**Pn**	**02 24 55.1**	**-0.2**
DABV				*e*S	**Sn**	**02 25 47.2**	**-3.0**
TEPV	**Terepaima**	**4.95**	**51**	⇑*e*P	**Pn**	**02 24 57.9**	**-0.4**
SIQV	**Siquisique**	**4.99**	**40**	⇑*i* P	**Pn**	**02 24 57.3**	**-1.4**
MAPV	**Macapo**	**5.46**	**56**	⇑*i* P	**Pn**	**02 25 04.4**	**-0.5**
POPC	**Popayan, Colom**	**5.56**	**220**	*e*P	**Pn**	**02 25 05.6**	**-0.8**
POPC				*i*		02 25 09.5	
	comp=Z,124nm,0.3s						
MONV	**Montecano**	**5.95**	**31**	*e*P	**Pn**	**02 25 10.3**	**-1.1**
JACV	**Jacura**	**5.97**	**44**	*e*P	**Pn**	**02 25 10.9**	**-0.7**
TURV	**Turiamo**	**6.31**	**55**	*e*P	**Pn**	**02 25 15.1**	**-1.0**
MERV	**Las Mercedes**	**7.13**	**70**	*e*P	**Pn**	**02 25 25.2**	**-1.9**
BIRV	**Birongo**	**7.65**	**61**	*e*P	**Pn**	**02 25 32.5**	**-1.4**
CUPV	**Cepira**	**7.89**	**65**	*e*P	**Pn**	**02 25 35.4**	**-1.8**
OTAV	**Otavalo**	**8.46**	**220**	*e*Pn	**Pn**	**02 25 43.9**	**-1.2**
OTAV				*e*Sn	**Sn**	**02 27 19.0**	**-0.6**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**02 25 52.1**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=349,slow=1.3,SNR=16						
PCRV				S	**Sn**	**02 27 30.2**	**-1.6**
	comp=Z,4.7nm,0.3s,baz=114,slow=20,SNR=4.3						
PCRV	**Puerto La Cruz**	**8.99**	**68**	*e*P	**Pn**	**02 25 51.2**	**-0.6**
MTDJ	**Mount Denham**	**12.14**	**339**	*e*Pn	**Pn**	**02 26 34.8**	**+1.7**
MTDJ				*e*Sn	**Sn**	**02 28 44.8**	**-2.9**
SDDR	**Presa de Saban**	**12.21**	**8**	*e*Pn	**Pn**	**02 26 36.6**	**+2.6**
	comp=Z,18nm,0.6s						
SJG	**San Juan**	**13.10**	**30**	P	**Pn**	**02 26 43.9**	**-1.3**
	comp=Z,6.3nm,0.3s,baz=202,slow=12,SNR=15						
SJG	**San Juan**	**13.10**	**30**	*e*Pn	**Pn**	**02 26 43.5**	**-1.7**
ATAH	**Atahualpa**	**14.84**	**201**	P	**Pn**	**02 27 06.3**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=30,slow=20,SNR=2.3						
PTGA	**Pitinga**	**15.08**	**119**	P	**Pn**	**02 27 08.8**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=313,slow=19,SNR=3.3						
PTGA				S	**S**	**02 30 05.0**	**+3.0**
	comp=Z,1.8nm,0.3s,baz=56,slow=8.4,SNR=4.3						
SAML	**Samuel**	**18.51**	**148**	*e*P	**P**	**02 27 49.3**	**+0.1**
	comp=Z,4.9nm,0.8s						
SAML				*e*Sn	**S**	**02 31 12.9**	**+0.9**
NNA	**Nana**	**19.05**	**191**	P	**P**	**02 27 56.3**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=0.0,slow=8.1,SNR=2.1						
CCIG	**Comitan**	**20.89**	**298**	*e*P	**P**	**02 28 16.7**	**+1.7**
	comp=Z,11nm,0.7s						
LPAZ	**La Paz**	**23.47**	**168**	P	**P**	**02 28 41.0**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=335,slow=16,SNR=4.4						
LPAZ				pP	**pP**	**02 29 13.4**	**+1.4**
	comp=Z,3.1nm,0.7s,baz=341,slow=12,SNR=5.7						
LPAZ				S	**S**	**02 32 39.7**	**-3.2**
	comp=Z,1.1nm,1.0s,baz=342,slow=9.6,SNR=1.8						
LPAZ	**La Paz**	**23.47**	**168**	*e*P	**P**	**02 28 41.2**	**+0.3**
	comp=Z,5.4nm,1.0s						
CMIG	**Matias Romero**	**23.62**	**298**	P	**P**	**02 28 39.0**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=110,slow=7.5,SNR=5.0						
SIV	**San Ignacio**	**25.59**	**152**	P	**P**	**02 28 58.7**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=329,slow=3.7,SNR=2.3						
SIV				pP	**pP**	**02 29 31.7**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=332,slow=6.9,SNR=3.5						
PB01	**IPOC Station P**	**27.91**	**173**	*e*P	**P**	**02 29 20.2**	**-0.1**
	comp=Z,65nm,1.9s						
WVT	**Waverly**	**32.15**	**337**	*e*P	**P**	**02 29 59.0**	**+1.6**
	comp=Z,3.7nm,0.7s						
PBMO	**Poplar Bluff**	**33.77**	**334**	*e*P	**P**	**02 30 13.5**	**+2.1**
	comp=Z,5.0nm,0.8s						
SFIN	**Lafayette**	**35.70**	**342**	*e*P	**P**	**02 30 29.1**	**+1.1**
	comp=Z,6.7nm,0.6s						
TXAR	**Lajitas Array**	**36.50**	**312**	P	**P**	**02 30 36.0**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=129,slow=9.1,SNR=22						
TX31	**Lajitas Ar. Si**	**36.50**	**312**	*e*P	**P**	**02 30 36.1**	**+1.1**
WMOK	**Wichita Mounta**	**36.51**	**323**	*e*P	**P**	**02 30 34.8**	**-0.2**
	comp=Z,1.6nm,0.7s						
EMMW	**East Machias**	**38.06**	**7**	*e*P	**P**	**02 30 49.8**	**+2.0**
	comp=Z,16nm,0.6s						
GGN	**Saint George**	**38.54**	**7**	*e*P	**P**	**02 30 53.8**	**+2.0**
	comp=Z,14nm,0.7s						
MNTX	**Cornudas Mount**	**39.01**	**314**	*e*P	**P**	**02 30 56.6**	**+0.7**
	comp=Z,10nm,1.4s						
LMN	**Caledonia Moun**	**39.54**	**9**	*e*P	**P**	**02 31 01.3**	**+1.2**
	comp=Z,12nm,0.8s						
LAZ	**Ladron**	**41.71**	**316**	*e*P	**P**	**02 31 20.3**	**+1.9**
SDCO	**Great Sand Dun**	**42.58**	**321**	*e*P	**P**	**02 31 26.8**	**+1.4**
	comp=Z,1.4nm,0.7s						
EYMN	**Ely**	**43.89**	**342**	*e*P	**P**	**02 31 35.3**	**-0.1**
	comp=Z,9.0nm,1.1s						
WUAZ	**Wupatki**	**45.25**	**315**	*e*P	**P**	**02 31 48.2**	**+1.5**
	comp=Z,4.9nm,0.8s						
Y14A	**Wickenburg**	**45.68**	**312**	*e*P	**P**	**02 31 51.6**	**+1.7**
	comp=Z,13nm,0.8s						
U15A	**North Rim**	**46.35**	**315**	*e*P	**P**	**02 31 56.8**	**+1.4**
	comp=Z,8.6nm,1.6s						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**02 32 02.3**	**+0.1**
	comp=Z,2.7nm,0.4s,baz=130,slow=6.0,SNR=4.1						
LCMT	**Little Creek M**	**47.30**	**315**	*e*P	**P**	**02 32 05.1**	**+2.5**
	comp=Z,3.1nm,1.0s						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**02 32 09.4**	**+0.9**
	comp=Z,14nm,0.6s,baz=193,slow=6.7,SNR=21						
SCHQ	**Schefferville**	**48.14**	**5**	*e*P	**P**	**02 32 10.1**	**+1.5**
	comp=Z,16nm,0.7s						
HWUT	**Hardware Ranch**	**48.63**	**322**	*e*P	**P**	**02 32 12.9**	**+0.1**
	comp=Z,1.2nm,0.5s						
DUG	**Dugway, Tooele**	**48.64**	**319**	*e*P	**P**	**02 32 14.7**	**+1.8**
	comp=Z,1.0nm,0.5s						
TPAW	**Teton Pass**	**49.36**	**324**	*e*P	**P**	**02 32 19.7**	**+1.3**
	comp=Z,1.5nm,0.6s						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**02 33 55.3**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=133,slow=6.5,SNR=12						
YKA				pP	**pP**	**02 34 35.7**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=130,slow=6.7,SNR=1.7						
DBIC	**Dimbokro**	**67.69**	**86**	P	**P**	**02 34 24.6**	**-0.9**
	comp=Z,5.4nm,1.1s,baz=268,slow=6.6,SNR=5.2						
SUMG	**Summit**	**68.98**	**11**	⇑*i* P	**P**	**02 34 33.5**	**+0.6**
	comp=Z,14nm,0.7s						
SUMG	**Summit**	**68.98**	**11**	*e*P	**P**	**02 34 32.8**	**-0.1**
	comp=Z,15nm,0.7s						
ESDC	**Sonseca Array**	**69.62**	**50**	P	**P**	**02 34 34.6**	**-2.5**
	comp=Z,0.1nm,0.4s,baz=249,slow=3.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**73.69**	**78**	P	**P**	**02 35 00.5**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=284,slow=6.3,SNR=18						
TORD				pP	**pP**	**02 35 41.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=288,slow=5.5,SNR=1.8						
TORD				ScS	**ScS**	**02 44 55.0**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=233,slow=4.5,SNR=4.9						
DAG	**Danmarks Havn**	**75.65**	**11**	*i* P	**P**	**02 35 12.2**	**+0.3**
	comp=Z,2.4nm,0.7s						
ILAR	**Eielson Array**	**76.98**	**335**	P	**P**	**02 35 19.8**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=98,slow=4.9,SNR=4.1						
ILAR				pP	**pP**	**02 36 01.1**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=98,slow=5.8,SNR=3.1						
NOA	**NORSAR Array B**	**81.31**	**29**	P	**P**	**02 35 44.1**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=268,slow=5.3,SNR=2.9						
GERES	**GERESS Array B**	**82.80**	**42**	P	**P**	**02 35 51.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=267,slow=3.8,SNR=3.4						
ARCES	**ARCESS Array B**	**86.66**	**20**	P	**P**	**02 36 10.2**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=272,slow=3.5,SNR=4.3						
FINES	**FINESS Array B**	**88.42**	**28**	P	**P**	**02 36 17.8**	**-0.8**
	comp=Z,1.4nm,1.0s,baz=339,slow=15,SNR=2.7						
NRIK	**Noril'sk**	**102.84**	**7**	P	**Pdif**	**02 37 24.2**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=0.0,slow=1.0,SNR=1.8						
NRIK				sP		02 38 25.2	
	comp=Z,5.9nm,0.6s,baz=69,slow=2.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**116.66**	**14**	PKP	**PKPdf**	**02 42 10.4**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=271,slow=3.1,SNR=1.2						
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**	**02 42 20.9**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=305,slow=0.6,SNR=3.3						
LZH	**Lanzhou**	**137.22**	**4**	*e*PKP	**PKPdf**	**02 42 50.5**	**+0.6**
LZH				pPKP	pPKPdf	02 43 31.8	-0.9
LZH				sPKP		02 43 49.3	
LZH				LR	LR		
	comp=N,97nm,18.0s						
LZH				LR	LR		
	comp=E,100nm,17.8s						
LZH				LR	LR		
	comp=Z,130nm,20.0s						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**02 43 14.

VIRV	Villa del Rosa	3.73	10	*e*P	Pn	02 34 13.9	+0.1
VIRV				*e*S	Sn	02 34 55.4	-2.6

WEL 29 02:36:54.4±0.9, 46°38S×165°98E, h5km, ML3.7/11, 2C-4D, Error ellipse: s-maj=9.9km s-min=3.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	Puysegur Point	0.53	67	⇓PG	Pb	02 37 05.7	-0.5
PYZ				SG	Sb	02 37 13.8	-0.3
DCZ	Deep Cove	1.23	42	P*	Pg	02 37 14.3	-3.6
DCZ				AML	AML	02 37 15.7	
DCZ				AML	AML	02 37 29.8	
DCZ				AML	AML	02 37 32.0	
DCZ				AML	AML	02 37 44.8	
WHZ	Wether Hill Ro	1.45	71	⇓PN	Pn	02 37 19.9	-1.5
WHZ				SN	Sb	02 37 40.0	-0.7
WHZ				AML	AML	02 37 41.8	
APZ	The Paps	1.46	109	⇓PN	Pn	02 37 21.1	-0.4
APZ				AML	AML	02 37 55.6	
APZ				AML	AML	02 38 00.2	
MLZ	Mavora Lakes	1.80	57	⇓PN	Pn	02 37 25.8	-0.4
MLZ				SN	Sn	02 37 49.7	+0.2
MLZ				AML	AML	02 37 56.9	
SYZ	Scrubby Hill	2.19	95	⇑PN	Pn	02 37 31.4	0.0
SYZ				AML	AML	02 38 18.9	
SYZ				AML	AML	02 38 18.9	
SYZ				AML	AML	02 38 19.1	
SYZ				AML	AML	02 38 19.1	
TUZ	Tuapeka	2.57	82	PN	Pn	02 37 36.6	-0.1
TUZ				AML	AML	02 38 12.9	
TUZ				AML	AML	02 38 13.7	
EAZ	Earnscleugh	2.59	65	⇑PN	Pn	02 37 37.3	+0.3
EAZ				SN	Sn	02 38 08.6	-0.3
EAZ				AML	AML	02 38 10.0	
EAZ				AML	AML	02 38 13.2	
EAZ				AML	AML	02 38 15.4	
WKZ	Wanaka	2.64	55	PN	Pn	02 37 37.7	+0.1
WKZ				SN	Sn	02 38 08.7	-1.4
WKZ				AML	AML	02 38 20.3	
JCZ	Jackson Bay	3.04	42	PN	Pn	02 37 42.2	-1.0
JCZ				AML	AML	02 38 31.3	
JCZ				AML	AML	02 38 32.5	
HHSZ	Highcliff Hill	3.25	83	PN	Pn	02 37 46.2	+0.1
ODZ	Otahua Downs	3.53	69	PN	Pn	02 37 48.1	-1.8
LBZ	Lake Benmore	3.57	58	PN	Pn	02 37 49.1	-1.4
LBZ				AML	AML	02 40 18.7	
FOZ	Fox Glacier	3.94	45	PN	Pn	02 37 53.7	-1.7
RPZ	Rata Peaks	4.47	55	PN	Pn	02 38 00.7	-2.2
RPZ				AML	AML	02 38 52.9	
WVZ	Waitaha Valley	4.73	47	PN	Pn	02 38 05.1	-1.2

IDC 29 02:51:47.2±2.3, 4°21N×125°60E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/25, mbtmp3.4/3, Error ellipse: s-maj=206.8km s-min=27.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.50	161	P	P	02 57 16.8	-0.6
	0.7nm,1.1s,baz=339,slow=10,SNR=11						
ASAR	Alice Springs	28.87	164	P	P	02 57 48.4	+0.6
	0.3nm,0.7s,baz=351,slow=9.4,SNR=3.3						
MKAR	Makanchi Array	56.52	326	P	P	03 01 31.3	-0.1
	0.3nm,0.3s,baz=117,slow=8.4,SNR=4.3						

GUC 29 02:52:02.8±0.5, 35°71S×73°35W, h30km±11km, ML3.7, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	Cobquecura	0.62	133	⇑*i*P	Pb	02 52 14.8	-0.4
COCH				*i*S	Sb	02 52 23.5	-0.2
COCH				IAML		02 52 24.4	
	comp=N,5μm,0.5s						
CCHI	Chillan	1.36	131	*e*P	Pn	02 52 26.6	+0.7
CCHI				*i*S	Sb	02 52 44.3	-0.5
CCHI				IAML		02 52 55.1	
	comp=N,1μm,0.4s						
TALC	Talca	1.43	78	⇑*i*P	Pb	02 52 28.4	-0.4
TALC				*i*S	Sb	02 52 46.2	-0.5
CLCH	Cerro Calan	3.27	46	IAML		02 53 56.7	
	comp=N,331nm,0.7s						
ROCH	El Roble	3.34	36	*e*P	Pn	02 52 54.6	+1.3
ROCH				IAML		02 54 01.0	
	comp=N,157nm,0.3s						
PEL	Peldehue	3.37	42	*e*P	Pn	02 52 55.1	+1.6
PEL				IAML		02 53 57.1	
	comp=N,171nm,0.6s						

ISCJB 29 03:04:41.9±1.1, 37°90N±0°04×27°11E±0°05, h14km±19km, Error ellipse: s-maj=7.7km s-min=4.3km az=41.5
DDA 29 03:04:42.2, 37°90N×27°12E, h7km, Md2.6
CSEM 29 03:04:42.4±0.1, 37°90N×27°10E, h5km, Error ellipse: s-maj=3.4km s-min=2.4km az=51.0
ISK 29 03:04:42.4, 37°93N×27°11E, h6km, MD2.5
ISC 29 03:04:42.3±1.0, 37°90N±0°03×27°12E±0°03, h12km±10km, n14, σ0.8s25/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	G?zelcaml?	0.22	156	P	Pg	03 04 46.9	-0.2
GCAM				S	Sg	03 04 50.5	+0.3
GCAM	G?zelcaml?	0.22	156	*i*P	Pg	03 04 46.9	-0.2
GCAM				*i*S	Sg	03 04 50.5	+0.3
DGB	¯zmir	0.24	309	*i*P	Pg	03 04 47.4	0.0
DGB				*i*S	Sg	03 04 50.4	-0.4
IZM	Izmir	0.51	13	*e*PG	Pg	03 04 52.3	0.0
IZM				*e*SG	Sg	03 04 58.9	-0.2
IZM	Izmir	0.51	13	*e*Pg	Pg	03 04 52.3	0.0
IZM				*e*Sg	Sg	03 04 58.9	-0.2
ZEY	¯zmir	0.59	305	*i*P	Pg	03 04 54.0	+0.1
ZEY				*i*S	Sg	03 05 02.1	+0.4
AYDB	Zeytinkoy-Aydi	0.61	86	*e*PG	Pg	03 04 54.3	0.0
AYDB				*e*SG	Sb	03 05 03.5	-0.1
AYDB	Zeytinkoy-Aydi	0.61	86	*e*Pg	Pg	03 04 54.3	0.0
AYDB				*e*Sg	Sb	03 05 03.6	-0.1
URLA	Izmir	0.61	318	P	Pg	03 04 54.3	0.0
URLA				S	Sg	03 05 02.9	+0.5
URLA	Izmir	0.61	318	*i*P	Pg	03 04 54.3	0.0
URLA				*i*S	Sg	03 05 02.9	+0.5
BODT	Bodrum	0.85	170	*e*PG	Pb	03 04 59.1	0.0
BODT	Bodrum	0.85	170	*e*Pg	Pb	03 04 59.1	0.0
CHOS	Chios island	0.97	300	*e*PG	Pg	03 05 00.6	-0.4
CHOS	Chios island	0.97	300	*e*Pg	Pg	03 05 00.6	-0.4

DJA 29 03:06:00.2±0.7, 0°N±4°×126°5E±°, h92km±14km, M3.6/5, MLv3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	1.27	277	P	Pn	03 06 23.3	+0.1
KMSI				S	Sn	03 06 42.0	+1.5
GTOI	Gorontalo	2.24	275	P	Pn	03 06 38.5	+2.9
LBMI	Labuha	2.50	115	P	Pn	03 06 39.7	+0.6
LBMI				S	Sn	03 07 06.0	-2.9
SANI	Sanana	2.57	163	P	Pn	03 06 40.1	0.0
SANI				S	Sn	03 07 14.9	+4.2
LUWI	Luwuk	2.87	239	P	Pn	03 06 44.8	+0.8
LUWI				S	Sn	03 07 14.1	-3.7
MRSI	Marisa	3.30	271	P	Pn	03 06 50.9	+1.1

NNC 29 03:27:25.1±5.1, 37°50N×70°38E, h117km±149km, mb3.0, mpv3.7, 5C-4D, Error ellipse: s-maj=44.2km s-min=40.1km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	Manas	5.24	17	⇑P	Pn	03 28 40.4	-1.0
	7.4nm,0.9s						
MNAS				⇑S	Sn	03 29 40.0	-0.8
	8.2nm,0.6s						
KK31	Karatay Array	5.60	1	⇑P	Pn	03 28 44.4	-1.6
	2.5nm,0.3s,baz=177,slow=13,SNR=4.9						
KK31				⇑S	Sn	03 29 51.6	+2.4
	16nm,0.8s,baz=186,slow=33,SNR=4.7						

AAK	Ala-Archa	6.02	30	⇑P	Pn	03 28 53.5	+1.6
	4.4nm,0.6s						
AAK				⇓S	Sn	03 30 01.4	+1.7
	7.9nm,0.9s						
TKM2	Tokmak 2	6.73	35	⇓P	Pn	03 29 03.3	+1.8
	4.2nm,0.5s						
TKM2				⇓S	Sn	03 30 15.8	-1.0
	2.9nm,0.7s						
AB31	Akbulak array	13.97	331	⇓P	Pn	03 30 37.2	-0.6
	0.4nm,0.5s						

CSEM 29 03:28:56.3±0.3, 33°51N×49°94E, h2km, Error ellipse: s-maj=8.7km s-min=6.7km az=20.0
THR 29 03:28:56.0±1.6, 33°60N×49°90E, h6km±9km, ML3.7
TEH 29 03:28:57.0, 33°51N×49°95E, h5km, ML3.9
ISC 29 03:28:54.6±1.4, 33°63N±0°03×49°87E±0°03, h18km±4km, n57, σ1.1s41/59, 2D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHMZ	Khomeyn	0.13	33	*e*Pg	Pg	03 28 59.4	+0.5
KHMZ				AML	AML	03 29 02.5	
	comp=E,18μm,0.1s						
KHMZ	Khomeyn	0.13	33	*e*Pg	Pg	03 28 59.4	+0.5
ASAO	Ashtian	0.92	8	*e*Pg	Pn	03 29 14.1	+1.2
ASAO				AML	AML	03 29 33.4	
	comp=E,2μm,0.3s						
IPIR	Pirpir	1.27	138	⇓*e*Pg	Pb	03 29 17.5	-0.7
IPIR				*e*AMB	AMB	03 29 34.9	
	comp=E,17μm,0.2s						
IPIR	Pirpir	1.27	138	⇓*e*Pg	Pb	03 29 17.5	-0.7
QAM	Ghamsar	1.31	84	*e*Pg	Pb	03 29 19.1	+0.3
QAM				*e*Sg	Sb	03 29 36.0	+0.7
QAM				*e*AMB	AMB	03 29 40.4	
	comp=E,75μm,0.2s						
HAGD	Aghdareh	1.33	333	*e*Pn	Pg	03 29 20.9	+0.5
HAGD	Aghdareh	1.33	333	*e*Pn	Pg	03 29 20.9	+0.5
GHVR	GHOM	1.45	54	*e*Pg	Pg	03 29 22.5	-0.1
GHVR				AML	AML	03 29 45.2	
	comp=N,2μm,0.3s						
IKLH	Kolahrood	1.46	102	*e*Pn	Pb	03 29 20.7	-0.6
IKLH				*e*AMB	AMB	03 29 42.5	
	comp=E,31μm,0.1s						
IKLH	Kolahrood	1.46	102	*e*Pn	Pb	03 29 20.7	-0.6
IKFM	Kafar-mosalman	1.69	267	*e*Pn	Pg	03 29 28.0	+0.8
IKFM	Kafar-mosalman	1.69	267	*e*Pn	Pg	03 29 28.0	+0.8
SHGR	Shooshtar-Gavs	1.77	211	*e*Pg	Pg	03 29 29.0	+0.5
SHGR	Shooshtar-Gavs	1.77	211	*e*Pg	Pg	03 29 29.0	+0.5
IRAZ	Razeghan	1.77	1	*e*Pn	Pg	03 29 28.7	0.0
IRAZ				*e*AMB	AMB	03 30 01.6	
	comp=Z,8μm,0.2s						
IRAZ	Razeghan	1.77	1	*e*Pn	Pg	03 29 28.7	0.0
IBZA	Bozab	1.87	297	*e*Pn	Pg	03 29 30.1	-0.4
IBZA				*e*AMB	AMB	03 30 03.6	
	comp=Z,7μm,0.2s						
IBZA	Bozab	1.87	297	*e*Pn	Pg	03 29 30.1	-0.4
HKZM	Kohzaman	1.92	336	*e*Pn	Pg	03 29 30.7	-0.8
HKZM	Kohzaman	1.92	336	*e*Pn	Pg	03 29 30.7	-0.8
IKOM	Komasi	2.04	286	*e*Pn	Pg	03 29 33.3	-0.5
IKOM				*e*AMB	AMB	03 29 40.8	
	comp=Z,5μm,0.2s						
IKOM	Komasi	2.04	286	*e*Pn	Pg	03 29 33.3	-0.5
IVRN	Varamin	2.05	48	*e*Pn	Pb	03 29 32.5	+1.2
IVRN				*e*AMB	AMB	03 30 03.6	
	comp=Z,10μm,0.1s						
IVRN	Varamin	2.05	48	*e*Pn	Pb	03 29 32.5	+1.2
IMHD	Mahdasht	2.15	17	*e*Pn	Pg	03 29 34.6	-1.3
IMHD				*e*AMB	AMB	03 30 07.4	
	comp=Z,10μm,0.1s						
IMHD	Mahdasht	2.15	17	*e*Pn	Pg	03 29 34.6	-1.3
IZEF	Zefreh	2.18	109	*e*Pn	Pb	03 29 33.0	-0.7
IZEF				*e*Sg	Sb	03 30 01.9	+1.4
IZEF				*e*AMB	AMB	03 30 06.8	
	comp=Z,8μm,0.1s						
IZEF	Zefreh	2.18	109	*e*Pn	Pb	03 29 33.0	-0.7
IZEF				*e*Sg	Sb	03 30 01.9	+1.4
IGAR	Gharneh	2.19	123	*e*Pn	Pb	03 29 32.8	-1.0
IGAR				*e*AMB	AMB	03 29 34.9	
	comp=Z,14μm,0.1s						
THKV	Tehran--Karaj	2.42	20	*e*Pn	Pb	03 29 39.0	+1.2
THKV	Tehran--Karaj	2.42	20	*e*Pn	Pb	03 29 39.0	+1.2
SNGE	Sanandaj	2.55	306	*e*Pn	Pg	03 29 40.9	-2.6
SNGE				AML	AML	03 30 20.1	
	comp=E,304nm,0.3s						
SNGE				AML	AML	03 30 22.1	
	comp=N,772nm,0.4s						
SNGE	Sanandaj	2.55	306	*e*Pn	Pg	03 29 40.8	-2.6
NASN	Na'in	2.60	108	*e*Pn	Pb	03 29 41.0	+0.3
NASN				AML	AML	03 30 18.3	
	comp=N,328nm,0.3s						
NASN	Na'in	2.60	108	*e*Pn	Pb	03 29 41.0	+0.3
IDMV	Damavand	2.63	42	*e*Pn	Pb	03 29 41.6	+0.2
IDMV				*e*AMB	AMB	03 30 22.3	
	comp=Z,3μm,0.1s						
IDMV	Damavand	2.63	42	*e*Pn	Pb	03 29 41.6	+0.2
DAMV	Damavand	2.64	40	*e*Pn	Pb	03 29 41.4	-0.1
DAMV				AML	AML	03 30 21.4	
	comp=E,306nm,0.5s						
DAMV	Damavand	2.64	40	*e*Pn	Pb	03 29 41.4	-0.1
IVIS	Veis	2.66	290	*e*Pn	Pb	03 29 41.0	-0.8
IVIS				*e*AMB	AMB	03 30 30.6	
	comp=Z,2μm,0.2s						
IVIS	Veis	2.66	290	*e*Pn	Pb	03 29 41.0	-0.8
IAFJ	Afjeh	2.69	34	*e*AMB	AMB	03 30 26.6	
	comp=Z,5μm,0.1s						
ILIN	Lien	2.73	299	*e*Pn	Pg	03 29 45.3	-1.7
ILIN				*e*AMB	AMB	03 30 38.4	
	comp=N,3μm,0.2s						
ILIN	Lien	2.73	299	*e*Pn	Pg	03 29 45.3	-1.7
IRAM	Ramesheh	2.79	130	*e*Pn	Pb	03 29 41.8	-2.1
IRAM				*e*AMB	AMB	03 29 47.9	
	comp=Z,3μm,0.1s						
IRAM	Ramesheh	2.79	130	*e*Pn	Pb	03 29 41.8	-2.1
IGHG	Ghaleghazi	2.83	285	*e*Pn	Pb	03 29 44.6	-0.1
IGHG				*e*AMB	AMB	03 30 32.7	
	comp=Z,2μm,0.3s						
IGHG	Ghaleghazi	2.83	285	*e*Pn	Pb	03 29 44.6	-0.1
IFIR	Firoozkooh	3.11	49	*e*Pn	Pb	03 29 48.0	-1.4
IFIR				*e*AMB	AMB	03 30 49.0	
	comp=Z,2μm,0.2s						
IFIR	Firoozkooh	3.11	49	*e*Pn	Pb	03 29 48.0	-1.4
IPRN	Peran	3.30	37	*e*Pn	Pb	03 29 53.3	+0.7
IPRN				*e*AMB	AMB	03 30 51.4	
	comp=Z,2μm,0.3s						
IALA	Alasht	3.44	44	*e*Pn	Pb	03 29 53.5	-1.6
IALA				*e*AMB	AMB	03 30 04.6	
	comp=Z,2μm,0.2s						
IALA	Alasht	3.44	44	*e*Pn	Pb	03 29 53.5	-1.6
ISHM	Shahmirzad	3.56	51	*e*Pn	Pb	03 29 54.1	-3.0
ISHM				*e*AMB	AMB	03 30 59.3	
	comp=Z,3μm,0.3s						
IANJ	Anjilo	3.81	60	*e*Pn	Pb	03 29 57.0	-4.3
IANJ				*e*AMB	AMB	03 31 06.1	
	comp=Z,1μm,0.2s						
IANJ	Anjilo	3.81	60	*e*Pn	Pb	03 29 57.0	-4.3

CSEM 29 03:34:46.7±0.3, 40°85N×39°89E, h5km, Error ellipse: s-maj=5.7km s-min=2.8km az=95.0
ISK 29 03:34:46.3, 40°87N×39°84E, h13km, MD2.2
DDA 29 03:34:48.0, 40°84N×39°76E, h7km, Md2.6
ISC 29 03:34:46.5±1.9, 40°85N±0°06×39°87E±0°10, h14km±11km, n12, σ0.8s22/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACK	Trabzon	0.12	319	P	Pg	03 34 49.8	-0.1
MACK				S	Sg	03 34 52.5	+0.3
MACK	Trabzon	0.12	319	*i*P	Pg	03 34 49.8	-0.1
MACK				*i*S	Sg	03 34 52.5	+0.3
KTUT	Trabzon	0.16	329	*e*PG	Pg	03 34 50.1	-0.2
KTUT				*e*SG	Sg	03 34 52.8	-0.2
KTUT	Trabzon	0.16	329	*e*Pg	Pg	03 34 50.1	-0.2
KTUT				*e*Sg	Sg	03 34 52.8	-0.2
GUMT	Gumushane	0.49	217	*e*PG	Pg	03 34 56.1	-0.2
GUMT				*e*SG	Sb	03 35 03.7	-0.5
GUMT	Gumushane	0.49	217	*e*Pg	Pg	03 34 56.1	-0.2
KELT	Kelkit	0.85	214	P	Pb	03 35 03.3	+0.2
KELT				S	Sb	03 35 14.7	+0.2
KELT	Kelkit	0.85	214	*i*P	Pb	03 35 03.3	+0.2
KELT				*i*S	Sb	03 35 14.7	+0.2
ESPY	Espiye-Giresun	0.87	275	*e*PG	Pg	03 35 03.2	-0.2
ESPY				*e*SG	Sb	03 35 15.1	+0.1
ESPY	Espiye-Giresun	0.87	275	*e*Pg	Pg	03 35 03.2	-0.2
ESPY				*e*Sg	Sb	03 35 15.1	+0.1
SUSE	Susehri	1.43	244	P	Pg	03 35 13.8	-0.2
SUSE				S	Sg	03 35 32.5	0.0
SUSE	Susehri	1.43	244	*i*P	Pg	03 35 13.8	-0.2
SUSE				*i*S	Sg	03 35 32.5	0.0

NIED 29 03:46:00, 38°20N×142°50E, h17km, Mw3.5 Best double couple: M0.2.03000×10^14 NP1:φs43.00000°, δ20.00000°, λ-108.00000°. NP2:φs243.00000°, δ71.00000°, λ-83.00000°.
JMA 29 03:46:58.0±0.2, 38°20N×142°47E, h35km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	Ouri	0.92	286	P	Pn	03 47 14.8	+0.4
JIO				S	Sn	03 47 26.5	+0.1
OFUJ	Ofunato	1.08	325	P	Pn	03 47 17.1	+0.5
OFUJ				S	Sn	03 47 30.7	+0.3
JMK	Ichinoseki	1.23	308	P	Pn	03 47 19.7	+1.0
JMM	Marumori	1.37	256	P	Pn	03 47 20.9	+0.4
JMM				S	Sn	03 47 37.2	-0.2
JOU	Okura	1.43	277	P	Pn	03 47 22.6	+1.1
JFK	Kawauchi	1.51	237	P	Pn	03 47 22.3	-0.3
JOM	Ohasama	1.57	324	P	Pn	03 47 24.8	+1.4
JYK	Kaneyama	1.80	294	P	Pn	03 47 28.4	+1.8
JYK				S	Sn	03 47 52.5	+4.3
MAT	Matsushiro	3.78	245	P	Pn	03 47 57.0	+3.3
MAT				*e*S	Sn	03 48 40.7	+3.7

WEL 29 03:52:50.5±0.8, 39°65S×174°03E, h207km±8km, ML3.5/5, 1C-1D, Error ellipse: s-maj=6.0km s-min=4.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	Wanganui	0.74	98	⇑PN	Pn	03 53 20.2	+0.7
WAZ				SN	S	03 53 41.8	-0.2
WNVZ	Wahianoa	1.25	75	PN	Pn	03 53 22.7	-0.4
MOVZ	Moawhango	1.35	80	PN	Pn	03 53 23.0	-0.7
KIW	Kapiti Island	1.38	151	PN	Pn	03 53 24.1	+0.3
KIW				SN	S	03 53 47.4	-2.3
OGWZ	Otaki Gorge	1.45	144	PN	Pn	03 53 24.8	+0.5
OGWZ				SN	S	03 53 48.7	-1.9
TSZ	Takapari Road	1.54	106	PN	Pn	03 53 25.1	-0.1
MRZ	Mangatainoka R	1.55	131	PN	Pn	03 53 25.4	+0.1
TCW	Tory Channel	1.57	173	PN	Pn	03 53 26.1	+0.7
TCW				AML	AML	03 53 52.1	
TCW				AML	AML	03 53 53.3	
BHHZ	Black Hill Sta	1.58	85	PN	Pn	03 53 24.7	-0.9
NNZ	Nelson	1.64	198	PN	Pn	03 53 25.3	-0.7
NNZ				SN	S	03 53 51.8	-1.7
QRZ	Quartz Range	1.64	224	PN	Pn	03 53 25.5	-0.5
CAW	Cannon Point	1.65	152	PN	Pn	03 53 26.4	+0.1
CAW				SN	S	03 53 52.3	-1.5
CAW				AML	AML	03 53 54.8	
HOWZ	Holdsworth Sta	1.68	138	PN	Pn	03 53 26.4	-0.1
PNHZ	Pukenui	1.69	100	PN	Pn	03 53 26.4	-0.2
TUWZ	Tuamarina	1.78	182	PN	Pn	03 53 27.6	+0.3
TUWZ				AML	AML	03 53 28.2	
TUWZ				AML	AML	03 53 55.4	
MTW	Mount Morrison	1.88	144	PN	Pn	03 53 28.1	-0.1
MTW				AML	AML	03 53 56.9	
MTW				AML	AML	03 53 58.3	
BFZ	Birch Farm	1.98	122	PN	Pn	03 53 29.2	-0.2
BFZ				AML	AML	03 54 02.8	
BFZ				AML	AML	03 54 31.4	
BSWZ	Blackbirch Sta	2.06	183	PN	Pn	03 53 30.6	+0.5
THZ	Tophouse	2.28	202	PN	Pn	03 53 32.1	-0.4
DSZ	Denniston Nort	2.69	218	PN	Pn	03 53 36.4	-0.6
KHZ	Kahutara	2.79	188	⇓PN	Pn	03 53 37.8	-0.1
LTZ	Lake Taylor	3.40	202	PN	Pn	03 53 43.9	-1.3
OXZ	Oxford	3.96	202	PN	Pn	03 53 50.6	-1.4
MQZ	McQueen's Vall	4.18	194	PN	Pn	03 53 52.4	-2.2

IDC 29 03:54:29.3±2.5, 2°23S×136°91E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/38, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=115.2km s-min=25.5km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	17.79	188	P	Pn	03 58 38.8	+0.3
	0.1nm,0.3s,baz=9.3,slow=12,SNR=8.2						
ASAR	Alice Springs	21.51	188	P	P	03 59 19.5	-0.5
	0.5nm,0.5s,baz=12,slow=11,SNR=5.4						
MKAR	Makanchi Array	68.31	323	P	P	04 05 33.1	+0.7
	0.2nm,0.5s,baz=120,slow=8.5,SNR=2.9						
KURBB	Kurchatov Arra	72.30	325	P	P	04 05 56.8	+0.1
	0.4nm,0.8s,baz=117,slow=6.1,SNR=4.2						
BVAR	Borovoye Array	77.89	325	P	P	04 06 28.5	-0.5
	0.5nm,0.5s,baz=104,slow=6.1,SNR=2.6						

NIED 29 03:58:00, 38°90N×142°00E, h59km, Mw3.9 Best double couple: M0.87000×10^14 NP1:φs206.00000°, δ22.00000°, λ84.00000°. NP2:φs33.00000°, δ68.00000°, λ92.00000°.
ISCJB 29 03:58:35.1±1.0, 38°88N±0°04×142°0E±0°1, h55km±6km, mb3.9/10, Error ellipse: s-maj=15.4km s-min=6.2km az=15.1
JMA 29 03:58:36.5±0.1, 38°89N×141°97E, h50km±1km, M3.8
JMA Felt II J1.
IDC 29 03:58:39.3±3.4, 38°84N×141°95E, h80km±28km, mb3.6/10, mb1 3.7/13, mb1mx3.5/55, mbtmp3.9/13, MS2.7/4, Ms1 2.7/4, ms1mx2.4/45, Error ellipse: s-maj=30.4km s-min=19.4km az=74.0
ISC 29 03:58:36.1±1.5, 38°88N±0°06×142°1E±0°1, h48km±10km, n31, σ1.1s25/31, mb4.0/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	0.36	304	P	Pn	03 58 45.7	0.0
OFUJ				S	Sn	03 58 51.9	-0.6
JMK	Ichinoseki	0.66	277	P	Pn	03 58 48.8	-0.4
JMK				S	Sn	03 58 57.5	-1.1
JIO	Ouri	0.69	233	P	Pn	03 58 49.4	-0.3
JIO				S	Sn	03 58 58.0	-1.5
JOM	Ohasama	0.84	315	P	Pn	03 58 51.4	-0.2
JOM				S	Sn	03 59 02.0	-1.0
JOU	Okura	1.20	245	P	Pn	03 58 56.1	-0.4
JOU				S	Sn	03 59 10.8	-0.9
JRG	Rokugo	1.22	296	P	Pn	03 58 56.3	-0.5
JYK	Kaneyama	1.32	272	P	Pn	03 58 57.7	-0.5
JMM	Marumori	1.41	225	P	Pn	03 58 58.8	-0.6
JMM				S	Sn

H11S2	**WAKE ISLAND Hy**	**29.51**	**127**	T	T	04 35 53.4		
	baz=318,slow=76,SNR=72							
ZALV	**Zalesovo Beam**	**41.07**	**311**	P	**P**	**04 06 14.4**	**-0.3**	
	1.7nm,0.5s,baz=91,slow=7.4,SNR=7.7							
MKAR	**Makanchi Array**	**43.59**	**301**	P	**P**	**04 06 35.3**	**-0.1**	
	1.8nm,0.6s,baz=86,slow=10.0,SNR=14							
KURBB	**Kurchatov Arra**	**45.29**	**307**	P	**P**	**04 06 48.2**	**-0.6**	
	4.2nm,0.6s,baz=81,slow=8.1,SNR=29							
ILAR	**Eielson Array**	**47.67**	**33**	P	**P**	**04 07 08.3**	**+1.0**	
	0.3nm,0.6s,baz=268,slow=6.3,SNR=6.3							
BVAR	**Borovoye Array**	**49.72**	**311**	P	**P**	**04 07 23.0**	**-0.2**	
	1.9nm,0.5s,baz=65,slow=9.0,SNR=6.3							
AKTO	**Aktyubinsk**	**57.83**	**311**	P	**P**	**04 08 21.0**	**-1.5**	
	1.1nm,0.6s,baz=90,slow=9.9,SNR=3.6							
WRA	**Warramunga Arr**	**58.95**	**188**	P	**P**	**04 08 29.9**	**-0.7**	
	0.5nm,0.5s,baz=6.3,slow=7.0,SNR=16							
FINES	**FINESS Array B**	**67.42**	**332**	P	**P**	**04 09 25.5**	**-0.7**	
	1.2nm,0.6s,baz=54,slow=9.7,SNR=4.6							
AKASG	**Malin Array Be**	**73.15**	**322**	P	**P**	**04 10 00.7**	**-0.7**	
	0.5nm,0.5s,baz=45,slow=6.3,SNR=3.2							

DDA 29 04:08:02.2, 39.12N × 29.05E, h7km, Md2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**254**	*i* P	Pb	04 08 09.0	-0.4
DEMI				*i* S	Sb	04 08 12.8	-1.4
GDZ	**Gediz**	**0.34**	**95**	*i* P	Pb	04 08 10.0	-0.7
GDZ				*i* S	Sb	04 08 14.9	-1.4
IGD	**Bursa**	**1.15**	**6**	*i* P	Pg	04 08 23.1	-1.2
IGD				*i* S	Sb	04 08 39.9	+0.3

SOME ***29*** *04:08:12.2, 44.27N × 82.03E, h20km*
NNC ***29*** *04:08:13.6±3.9, 44.35N × 81.87E, h0km, mb2.6, mpv2.1, Error ellipse: s-maj=56.4km s-min=8.7km az=122.0*

ISC 29 04:08:13.4±2.9, 44.25N±0.06 × 81.93E±0.09, h3km±25km, n12, σ1°19/22, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.40**	**235**	*e*P	**Pb**	**04 08 39.7**	**-0.5**
	3.8nm,0.1s						
KTMS				*e*S	**Sg**	**04 08 59.5**	**+1.3**
	24nm,0.1s						
DJR	**Jarkent**	**1.54**	**274**	*e*P	**Pn**	**04 08 41.9**	**+0.1**
	4.5nm,0.1s						
DJR				*e*S	**Sb**	**04 09 03.1**	**+0.7**
	32nm,0.3s						
SHLS	**Shalkode**	**1.84**	**234**	*e*P	**Pb**	**04 08 46.8**	**-1.1**
	7.3nm,0.2s						
SHLS				*e*S	**Sb**	**04 09 12.1**	**+0.7**
	23nm,0.3s						
PDGK	**Podgornoye**	**2.00**	**243**	⇑Pn	**Pn**	**04 08 48.3**	**+0.3**
	1.5nm,0.4s						
PDGK				⇓Sn	**Sb**	**04 09 15.9**	**+0.4**
	7.0nm,0.5s						
KAPS	**Kapalarasan**	**2.10**	**300**	*e*P	**Pb**	**04 08 51.0**	**-1.2**
	2.2nm,0.5s						
KAPS				*e*S	**Sb**	**04 09 19.3**	**+0.6**
	21nm,0.3s						
UZB	**Uzynbulak**	**2.38**	**243**	*e*P	**Pb**	**04 08 55.2**	**-1.7**
	1.4nm,0.0s						
UZB				*e*S	**Sb**	**04 09 26.4**	**-0.3**
	5.2nm,0.2s						
MNBS	**Baschi**	**2.54**	**267**	*e*P	**Pb**	**04 08 57.9**	**-1.8**
MNBS				*e*S	**Sb**	**04 09 31.1**	**-0.3**
MK31	**Makanchi Array**	**2.55**	**6**	⇑Pg	**Pb**	**04 08 58.2**	**-1.6**
	0.2nm,0.3s,baz=184,slow=15,SNR=7.6						
MK31				⇓Lg	Lg	04 09 29.4	
	1.0nm,0.4s,baz=184,slow=29,SNR=13						
MAKZ	**Makanchi**	**2.56**	**1**	⇑Pg	**Pb**	**04 09 00.3**	**+0.4**
	0.4nm,0.3s						
MAKZ				⇓Lg	Lg	04 09 30.2	
	1.6nm,0.3s						
SATY	**Saty**	**2.82**	**246**	*e*P	**Pb**	**04 09 03.6**	**-0.9**
	4.1nm,0.2s						
SATY				*e*S	**Sb**	**04 09 40.8**	**+1.3**
	14nm,0.3s						
ARXS	**Arharly**	**2.95**	**271**	*e*P	**Pb**	**04 09 06.1**	**-0.5**
	2.0nm,0.3s						
ARXS				*e*S	**Sb**	**04 09 45.1**	**+2.1**
	9.1nm,0.3s						
CHKK	**Chushkaly**	**3.57**	**266**	*e*P	**Pb**	**04 09 15.5**	**-1.7**
	3.0nm,0.8s						
CHKK				*e*S	**Sb**	**04 10 01.2**	**+0.2**
	7.7nm,0.2s						

ISCJB ***29*** *04:15:03.5±0.5, 24.52S±0.07 × 179.7E±0.1, h517km, mb4.0/16, Error ellipse: s-maj=13.2km s-min=7.7km az=27.4*
IDC ***29*** *04:15:07.9±1.8, 24.52S × 179.50E, h553km±20km, mb3.6/15, mb1 3.7/16, mb1mx3.6/38, mbtmp4.5/16, Error ellipse: s-maj=16.5km s-min=14.9km az=78.0*

ISC 29 04:15:03.8±0.6, 24.56S±0.08 × 179.8E±0.1, h517km, n28, σ1°53/30, mb4.0/16, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.09**	**157**	P	P	04 16 38.5	+6.2
	160nm,0.3s,baz=66,slow=12,SNR=6.9						
DZM	**Mont Dzumac**	**12.54**	**279**	P	**P**	**04 17 49.3**	**+1.1**
	3.3nm,0.3s,baz=83,slow=14,SNR=24						
AFI	**Afiamalu**	**13.23**	**38**	P	**P**	**04 17 54.8**	**-0.6**
	3.4nm,0.3s,baz=39,slow=18,SNR=4.2						
AFI				S	**S**	**04 20 14.2**	**-2.7**
	2.1nm,0.3s,baz=120,slow=20,SNR=4.2						
URZ	**Urewera**	**13.85**	**189**	P	**P**	**04 18 00.6**	**-0.9**
	1.1nm,0.3s,baz=14,slow=4.5,SNR=3.8						
URZ				S	**S**	**04 20 26.2**	**-1.8**
	0.7nm,0.3s,baz=36,slow=23,SNR=5.2						
CTA	**Charters Tower**	**31.33**	**271**	P	**P**	**04 20 41.8**	**0.0**
	24nm,0.4s,baz=94,slow=11,SNR=35						
STKA	**Stephens Creek**	**34.34**	**249**	P	**P**	**04 21 07.2**	**+0.1**
	3.5nm,0.4s,baz=97,slow=12,SNR=15						
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**04 22 06.7**	**-1.2**
	3.1nm,0.6s,baz=94,slow=7.2,SNR=26						
ASAR				PcP	**PcP**	**04 23 49.5**	**-2.6**
	0.8nm,0.6s,baz=98,slow=3.3,SNR=5.6						
WRA	**Warramunga Arr**	**42.21**	**267**	P	**P**	**04 22 10.0**	**-1.3**
	9.5nm,0.5s,baz=99,slow=8.3,SNR=201						
WRA				PcP	**PcP**	**04 23 51.8**	**-1.9**
	1.2nm,0.7s,baz=96,slow=3.3,SNR=4.7						
FITZ	**Fitzroy Crossi**	**50.62**	**266**	P	**P**	**04 23 14.3**	**-0.9**
	8.2nm,0.7s,baz=103,slow=6.8,SNR=20						
VNDA	**Vanda**	**53.71**	**185**	P	**P**	**04 23 38.5**	**+2.1**
	0.6nm,0.5s,baz=42,slow=7.4,SNR=5.8						
MJAR	**Matsushiro Arr**	**72.35**	**326**	P	**P**	**04 25 37.1**	**+0.1**
	5.8nm,0.7s,baz=159,slow=6.1,SNR=17						
JNU	**Nakatsue**	**73.92**	**319**	P	**P**	**04 25 45.1**	**-1.0**
	5.8nm,0.7s,baz=153,slow=7.3,SNR=4.0						
MAW	**Mawson**	**77.08**	**201**	P	**P**	**04 26 04.1**	**+1.1**
	3.0nm,0.6s,baz=145,slow=5.0,SNR=13						
KSRS	**Korea Array**	**78.65**	**320**	P	**P**	**04 26 12.2**	**+0.3**
	3.1nm,0.7s,baz=132,slow=5.8,SNR=10						
PETK	**Petropavlovsk-**	**79.70**	**347**	P	**P**	**04 26 17.7**	**+0.5**
	3.6nm,0.6s,baz=117,slow=8.5,SNR=4.2						
USRK	**Ussuriysk Ar.**	**81.23**	**327**	P	**P**	**04 26 26.6**	**+1.2**
	2.7nm,0.6s,baz=122,slow=3.5,SNR=6.5						
KLR	**Kul'dur**	**85.03**	**331**	P	**P**	**04 26 46.6**	**+2.4**
	0.9nm,0.6s,baz=266,slow=8.8,SNR=4.5						
SEY	**Seymchan**	**89.88**	**348**	P	**P**	**04 27 07.0**	**+0.2**
	0.5nm,0.3s,baz=143,slow=7.4,SNR=4.1						
TXAR	**Lajitas Array**	**90.91**	**58**	P	**P**	**04 27 15.7**	**+3.2**
	0.4nm,0.7s,baz=220,slow=7.5,SNR=5.0						
ILAR	**Eielson Array**	**92.71**	**14**	P	**P**	**04 27 19.8**	**0.0**
	0.2nm,0.6s,baz=225,slow=5.6,SNR=4.4						
NB2	**NORSAR Subarra**	**142.71**	**351**	PKP	**PKPdf**	**04 33 34.8**	**-2.7**
	comp=Z,1.2nm,0.6s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**142.71**	**351**	PKhKP	PKPpre	04 33 34.1	
	comp=Z,3.5nm,0.8s,baz=16,slow=4.8,SNR=9.4						
AKASG	**Malin Array Be**	**145.44**	**327**	PKPbc	**PKPdf**	**04 33 40.9**	**-1.6**
	comp=Z,2.4nm,0.4s,baz=46,slow=4.2,SNR=8.8						
BRTR	**Keskin Array B**	**147.85**	**306**	PKPbc	**PKPbc**	**04 33 50.8**	**0.0**
	comp=Z,2.5nm,0.8s,baz=147,slow=5.7,SNR=4.8						
CLL	**Collm**	**151.44**	**343**	⇓*i* P	**PKPbc**	**04 33 59.5**	**+0.8**
	comp=Z,10.0nm,0.7s						
CLL				*i*		04 34 10.1	
	comp=Z,6.0nm,0.8s						
BRG	**Berggiesshubel**	**151.56**	**341**	*i* PKP	**PKPbc**	**04 34 00.0**	**+1.0**
	comp=Z,6.5nm,0.5s						
GERES	**GERESS Array B**	**153.42**	**339**	PKPab	**PKPab**	**04 34 17.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=345,slow=3.0,SNR=1.9						
TORD	**Torodi Ar. Bea**	**168.51**	**189**	PKPab	**PKPab**	**04 35 24.9**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=158,slow=4.4,SNR=6.0						

BJI ***29*** *04:19:36.0, 5.64S × 102.02E, h33km, mb5.2/76, mB5.3/63, Ms5.3/79, Ms7 5.1/72*
IDC ***29*** *04:19:37.5±0.4, 5.03S × 102.06E, h0km, mb4.8/32, mb1 4.8/33, mb1mx4.7/42, mbtmp4.8/33, ML3.8/1, MS4.7/24, Ms1 4.7/24, ms1mx4.6/36, Error ellipse: s-maj=14.7km s-min=8.9km az=52.0*
MOS ***29*** *04:19:41.8±1.1, 4.87S × 102.12E, h36km, mb5.5/50, MS4.8/11, Error ellipse: s-maj=10.0km s-min=5.0km az=108.3*
ISCJB ***29*** *04:19:42.2±0.5, 5.03S±0.03 × 101.91E±0.03, h44km±4km, mb5.1/111, MS4.8/35, Error ellipse: s-maj=5.7km s-min=3.2km az=136.0*
GCMT ***29*** *04:19:42.2±0.2, 5.27S × 101.69E, h34km, MW5.2/84, Moment Tensor Solution. s78,c119; s84,c127; Duration: 1°0 Moment tensor: Scale 10^17Nm; Mrr 0.68±.02; Mθθ -0.42±.01; Mϕϕ -0.25±.02; Mrθ 0.47±.02; Mθϕ 0.39±.01; Mϕr -0.35±.03; Best double couple: M0 0.91900 × 10^17 NP1 ϕs 127.00000°, δ 65.00000°, λ 88.00000°. NP2 ϕs 311.00000°, δ 25.00000°, λ 94.00000°. Principal axes: T 0.8920, Plg 70.0000°, Azm 34.0000°; N 0.0550, Plg 1.0000°, Azm 128.0000°; P -0.9470, Plg 20.0000°, Azm 219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *04:19:42.2±1.4, 5.04S × 101.89E, h32km±9km, mb5.3/41 Error ellipse: s-maj=6.1km s-min=3.9km az=53.0*
DJA ***29*** *04:19:43.3±0.4, 5.3S × 10.2E±, h42km±3km, M5.3/47, mB5.7/37, mb5.4/47, MLv5.9/12, Mw(mB)5.2/37*
KLM ***29*** *04:19:43.2, 5.09S × 101.76E, h42km, mb5.4, ML5.5, MS6.1*

ISC 29 04:19:41.7±0.4, 5.09S±0.03 × 101.86E±0.04, h29km±2km, h29km: pP-P, n701, σ1°64/692, mb5.2/123, MS4.7/37, 57C-20D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.30**	**57**	P	**Pb**	**04 20 04.9**	**-0.7**
MNAI	**Manna**	**1.30**	**57**	*e*Pn	**Pn**	**04 20 04.7**	**+0.8**
KSI	**Kapahiang**	**1.60**	**27**	P	**Pn**	**04 20 08.6**	**+0.5**
LHSI	**Lahat**	**2.07**	**53**	P	**Pn**	**04 20 16.4**	**+1.9**
LWLI	**Liwa**	**2.19**	**88**	P	**Pn**	**04 20 17.6**	**+1.4**
KASI	**Kota Agung**	**2.66**	**100**	P	**Pn**	**04 20 23.8**	**+1.2**
PPSI	**Pulau Pagai**	**2.96**	**321**	P	**Pb**	**04 20 32.6**	**-1.1**
BLSI	**Bandar Lampung**	**3.38**	**95**	P	**Pn**	**04 20 34.8**	**+2.3**
PMBI	**Palembang**	**3.61**	**54**	P	**Pn**	**04 20 37.6**	**+2.0**
JMBI	**JAMBI**	**3.86**	**27**	P	**Pn**	**04 20 41.2**	**+2.1**
SBJI	**Serang**	**4.37**	**104**	P	**Pn**	**04 20 48.6**	**+2.5**
PDSI	**Padang**	**4.38**	**341**	P	**Pn**	**04 20 46.3**	**+0.1**
TNG	**Tangerang**	**4.88**	**103**	P	**Pn**	**04 20 55.9**	**+2.8**
TNG				P	**Pn**	**04 20 56.3**	**+3.1**
SKJI	**Sukabumi**	**5.04**	**112**	P	**Pn**	**04 20 58.4**	**+3.0**
DBJI	**Dramaga**	**5.08**	**107**	P	**Pn**	**04 20 57.7**	**+1.8**
BKNI	**Bangkinang**	**5.44**	**351**	P	**Pn**	**04 21 01.3**	**+0.5**
BKNI	**Bangkinang**	**5.44**	**351**	*e*Pn	**Pn**	**04 21 00.7**	**-0.2**
BKNI				*e*S	**Sn**	**04 22 10.8**	**+8.3**
MNSI	**Mandailing Nat**	**6.27**	**339**	P	**Pn**	**04 21 11.9**	**-0.4**
CISI	**Cisompet, Garu**	**6.40**	**113**	P	**Pn**	**04 21 14.3**	**+0.1**
CISI	**Cisompet, Garu**	**6.40**	**113**	*e*Pn	**Pn**	**04 21 14.1**	**-0.1**
CISI				*e*S	**Sn**	**04 22 22.1**	**-4.3**
JCJI	**Jatiwangi**	**6.53**	**103**	P	**Pn**	**04 21 18.7**	**+2.9**
TPRI	**Tanjung Pinang**	**6.53**	**24**	P	**Pn**	**04 21 18.4**	**+2.6**
XMIS	**Christmas Isla**	**6.54**	**145**	*e*Pn	Pn	04 21 10.6	-5.4
	72nm,0.6s						
XMIS				*e*S	Sn	04 22 19.3	-10
CMJI	**Cimerak**	**7.07**	**113**	P	**Pn**	**04 21 25.7**	**+2.4**
MYKOM	**Kota Tinggi**	**7.11**	**16**	⇓P	**Pn**	**04 21 26.6**	**+2.8**
MYKOM	**Kota Tinggi**	**7.11**	**16**	*e*Pn	**Pn**	**04 21 24.7**	**+0.9**
KGM	**Kluang**	**7.20**	**12**	⇑P	**Pn**	**04 21 27.7**	**+2.6**
KPJI	**Karang Pucung**	**7.37**	**108**	P	**Pn**	**04 21 29.5**	**+2.1**
GSI	**Gunungsitoli**	**7.66**	**326**	P	**Pn**	**04 21 30.5**	**-0.8**
GSI	**Gunungsitoli**	**7.66**	**326**	*e*Pn	**Pn**	**04 21 30.3**	**-1.0**
GSI				*e*S	**Sn**	**04 22 52.7**	**-4.5**
FRIM	**Kepong**	**8.27**	**358**	⇑P	**Pn**	**04 21 41.2**	**+1.4**
PSI	**Prapat**	**8.37**	**339**	P	**Pn**	**04 21 37.9**	**-3.3**
PSI	**Prapat**	**8.37**	**339**	*e*Pn	**Pn**	**04 21 37.9**	**-3.3**
COCO	**West Island**	**8.63**	**215**	P	**Pn**	**04 21 43.5**	**-1.2**
COCO	**West Island**	**8.63**	**215**	*e*Pn	**Pn**	**04 21 43.5**	**-1.2**
UGM	**Wanagama**	**9.05**	**109**	P	**Pn**	**04 21 51.8**	**+1.3**
UGM	**Wanagama**	**9.05**	**109**	*e*Pn	**Pn**	**04 21 51.8**	**+1.3**
TSI	**Tuntungan**	**9.14**	**339**	P	**Pn**	**04 21 52.8**	**+1.1**
TPTI		**9.52**	**330**	P	**Pn**	**04 21 58.0**	**+1.1**
IPM	**Ipoh**	**9.54**	**355**	⇓P	**Pn**	**04 21 58.5**	**+1.3**
IPM	**Ipoh**	**9.54**	**355**	*e*Pn	**Pn**	**04 21 59.3**	**+2.1**
PWJI	**Pagerwojo**	**10.30**	**107**	P	**Pn**	**04 22 07.8**	**+0.3**
KULM	**Kulim**	**10.38**	**353**	⇓P	**Pn**	**04 22 09.9**	**+1.2**
KULM	**Kulim**	**10.38**	**353**	*e*Pn	**Pn**	**04 22 08.8**	**+0.2**
KULM				*e*S	**Sn**	**04 24 08.3**	**+4.2**
KTGM	**Kuala Trenggan**	**10.42**	**7**	⇑P	**Pn**	**04 22 12.0**	**+2.8**
KSM	**Kuching**	**10.66**	**53**	⇑P	**Pn**	**04 22 14.7**	**+2.1**
KSM	**Kuching**	**10.66**	**53**	*e*Pn	**Pn**	**04 22 14.2**	**+1.7**
GRJI	**Gresik**	**10.71**	**100**	P	**Pn**	**04 22 16.0**	**+2.8**
MLSI	**Meulooh, Aceh**	**10.77**	**329**	P	**Pn**	**04 22 13.7**	**-0.4**
ABJI	**Asem Bagus**	**12.58**	**103**	P	**Pn**	**04 22 41.7**	**+2.8**
JAGI	**Jajag, Banyuwa**	**12.66**	**106**	P	**Pn**	**04 22 41.2**	**+1.3**
JAGI	**Jajag, Banyuwa**	**12.66**	**106**	*e*Pn	**Pn**	**04 22 39.5**	**-0.4**
JAGI				*e*S	**Sn**	**04 24 55.6**	**-4.3**
SBUM	**Sibu**	**12.77**	**54**	⇑P	**Pn**	**04 22 45.3**	**+3.9**
SBUM	**Sibu**	**12.77**	**54**	*e*Pn	**Pn**	**04 22 44.7**	**+3.3**
TRTT	**Trang**	**13.02**	**350**	P	**P**	**04 22 53.9**	**-1.0**
BBKI	**Banjar Baru**	**13.04**	**83**	P	**Pn**	**04 22 47.4**	**+2.3**
SRBI	**Singaraja**	**13.59**	**103**	P	**Pn**	**04 22 55.2**	**+2.6**
BTM	**Bintulu**	**13.90**	**54**	⇓P	**Pn**	**04 23 00.1**	**+3.2**
PLAI	**Plampang**	**16.23**	**104**	P	**Pn**	**04 23 29.0**	**+1.3**
CHBT	**CHBT**	**17.73**	**1**	P	**P**	**04 23 50.3**	**+3.2**
	490nm,1.4s						
KAPI	**Kappang**	**17.82**	**91**	P	**Pn**	**04 23 44.8**	**-2.8**
	0.3nm,0.3s,baz=270,slow=14,SNR=2.8						
KAPI	**Kappang**	**17.82**	**91**	*e*Pn	**Pn**	**04 23 44.9**	**-2.8**
	128nm,1.3s						
SPSI	**Sidrap Palu**	**17.88**	**87**	P	**Pn**	**04 23 48.6**	**+0.1**
TTSI	**Tana Toraja**	**18.02**	**84**	P	**P**	**04 23 51.6**	**+1.1**
KKM	**Kota Kinabalu**	**18.10**	**53**	⇑P	**P**	**04 23 52.4**	**+1.0**
KKM	**Kota Kinabalu**	**18.10**	**53**	*e*Pn	**Pn**	**04 23 50.9**	**-0.3**
	317nm,1.6s						
PCI	**Palu**	**18.42**	**78**	P	**Pn**	**04 23 57.0**	**+1.9**
	538nm,1.7s,9μm						
TSM	**Tawau**	**18.51**	**60**	⇑P	**Pn**	**04 23 56.6**	**+0.5**
SDKM	**Sandakan**	**18.65**	**55**	⇑P	**Pn**	**04 23 58.3**	**+0.4**
KDM	**Kudat**	**19.11**	**52**	⇓P	**Pn**	**04 24 04.1**	**+0.7**
MYLDM	**Lahad Datu**	**19.49**	**59**	⇓P	**Pn**	**04 24 08.0**	**0.0**
MYLDM	**Lahad Datu**	**19.49**	**59**	*e*P	**Pn**	**04 24 08.4**	**+0.4**
	379nm,1.3s						
KHLT	**Khaolaem Dam**	**20.02**	**351**	P	Pn	04 24 18.1	+3.9
	14nm,1.4s						
MMRI	**Maumere**	**20.53**	**101**	P	Pn	04 24 19.3	-1.0
MMRI	**Maumere**	**20.53**	**101**	*e*P	**P**	**04 24 17.6**	**-0.3**
	104nm,0.6s						
MMRI				*e*S	**S**	**04 28 03.3**	**-3.0**
UBPT	**Khong Chiam**	**20.55**	**10**	P	**P**	**04 24 17.0**	**-1.0**
	305nm,1.2s,4μm						
KDI	**Kendari**	**20.72**	**88**	P	Pn	04 24 21.4	-1.1
	201nm,1.1s,2μm						
CHAI	**Chaiyaphum**	**20.85**	**0**	P	**P**	**04 24 20.9**	**-0.5**
	26nm,1.0s,243nm						
LUWI	**Luwuk**	**21.26**	**80**	P	**P**	**04 24 26.8**	**+1.0**
LUWI	**Luwuk**	**21.26**	**80**	*e*P	**P**	**04 24 25.9**	**+0.1**
	322nm,0.8s						
KHON	**Khomkaen**	**21.31**	**3**	P	**P**	**04 24 26.6**	**+0.4**
	60nm,1.0s						
UMPA	**Umpang Tak**	**21.36**	**352**	P	**P**	**04 24 29.4**	**+2.5**
	11nm,1.2s,1μm						
PBKT	**Sadao Pong**	**21.54**	**358**	P	P	04 24 37.0	+8.3
	42nm,1.3s						
BATI	**Baumata**	**22.19**	**105**	P	**P**	**04 24 37.4**	**+1.6**
SOEI	**Soe**	**22.69**	**103**	P	**P**	**04 24 42.8**	**+1.5**
SOEI	**Soe**	**22.69**	**103**	*e*P	**P**	**04 24 42.2**	**+0.9**
	226nm,0.9s						
LAMP	**Lampang**	**23.56**	**355**	P	**P**	**04 24 50.9**	**+1.0**
	12nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.57**	**353**	P	**P**	**04 24 49.0**	**-1.0**
	10nm,0.5s,baz=183,slow=8.4,SNR=33						
CMAR				LR	LR	04 35 13.8	
	comp=Z,2μm,18.7s,baz=188,slow=40						
MBWA	**Marble Bar**	**23.58**	**134**	*e*P	**P**	**04 24 50.8**	**+0.7**
	28nm,0.8s						
MBWA				*e*S	Sn	04 29 17.0	-7.1
CHTO	**Chiang Mai**	**23.92**	**353**	P	**P**	**04 24 52.7**	**-0.6**
	152nm,1.7s,4μm						
CHTO	**Chiang Mai**	**23.92**	**353**	*e*P	**P**	**04 24 52.0**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,65nm,1.4s						
CHTO	**Chiang Mai**	**23.92**	**353**	*e*P	**P**	**04 24 52.0**	**-1.3**
	comp=Z,65nm,1.4s						
SANI	**Sanana**	**24.26**	**84**	P	**P**	**04 24 56.7**	**+0.1**
PALK	**Pallekele**	**24.43**	**300**	LR	LR	04 33 28.4	
	comp=Z,2μm,19.9s,baz=116,slow=34						
SGSI	**Sangihe**	**25.20**	**70**	P	**P**	**04 25 07.2**	**+2.2**
QIZ	**Qiongzhong**	**25.22**	**18**	P	**P**	**04 25 06.0**	**+0.9**
QIZ				sP	**sP**	**04 25 19.3**	**+2.1**
QIZ				S	**S**	**04 29 30.8**	**+1.9**
QIZ				sS	**sS**	**04 29 43.0**	**0.0**
QIZ				PMZ			
	comp=Z,440nm,7.0s						
QIZ				LN			
	comp=Z,2μm,15.9s						
QIZ				LE			
	comp=Z,1μm,18.1s						
QIZ				LZ			
	comp=Z,3μm,15.2s						
QIZ	**Qiongzhong**	**25.22**	**18**	*e*P	**P**	**04 25 05.5**	**+0.4**
	comp=Z,61nm,1.4s						
OTRP	**Odiongan**	**26.50**	**49**	*e*P	**P**	**04 25 16.9**	**+0.1**
RCP	**Roxas**	**26.55**	**51**	⇑*e*P	**P**	**04 25 18.4**	**+1.1**
DAV	**Davao City (W)**	**26.57**	**63**	LR	LR	04 36 51.3	
	comp=Z,2μm,19.4s,baz=195,slow=39						
DAV	**Davao City (W)**	**26.57**	**63**	*e*P	**P**	**04 25 18.3**	**+0.8**
	comp=Z,357nm,0.4s						
FITZ	**Fitzroy Crossi**	**26.59**	**121**	P	**P**	**04 25 18.3**	**+0.7**
	comp=Z,32nm,1.0s,baz=306,slow=7.8,SNR=23						
FITZ				LR	LR	04 36 31.7	
	comp=Z,2μm,21.2s,baz=311,slow=38						
FITZ	**Fitzroy Crossi**	**26.59**	**121**	P	**P**	**04 25 17.7**	**0.0**
	baz=27,SNR=19						
TGY	**Tagaytay City**	**26.86**	**45**	LR	LR	04 36 21.9	
	comp=Z,2μm,21.1s,baz=221,slow=38						
H08S2	**Diego Garcia H**	**29.30**	**263**	T	T	04 56 17.0	
	baz=86,slow=75,SNR=780						
H08S3	**Diego Garcia H**	**29.30**	**264**	T	T	04 56 17.1	
	baz=86,slow=75,SNR=2035						
H08S1	**Diego Garcia H**	**29.32**	**263**	T	T	04 56 18.0	
	baz=86,slow=75,SNR=849						
BWNR	**Bhubaneshwar**	**29.75**	**328**	*e*P	**P**	**04 25 46.3**	**+0.5**
BWNR				IAmb	IAmb	04 25 49.0	
	comp=Z,66nm,1.3s						
MTN	**Manton Dam**	**29.90**	**107**	P	**P**	**04 25 47.1**	**-0.1**
	baz=30,SNR=4.8						
MTN	**Manton Dam**	**29.90**	**107**	*e*P	**P**	**04 25 45.8**	**-1.4**
	comp=Z,58nm,1.3s						
KMI	**Kunming**	**30.04**	**2**	P	**P**	**04 25 49.5**	**+1.0**
KMI				pP	pP	04 25 58.8	+1.7
KMI				sP	sP	04 26 04.0	+3.3
KMI				PP	**PP**	**04 26 53.3**	**-3.4**
KMI				S	**S**	**04 30 49.5**	**+4.2**
KMI				sS	sS	04 31 05.8	+6.4
KMI				SS	**ScP**	**04 32 27.0**	**-3.7**
KMI				PMZ			
	comp=Z,20nm,1.4s						
KMI				PMZ			
	comp=Z,230nm,4.7s						
KMI				LN			
	comp=Z,870nm,23.3s						
KMI				LE			
	comp=Z,3μm,17.0s						
KMI				LZ			
	comp=Z,3μm,17.3s						
NWAO	**Narrogin (SRO)**	**31.19**	**155**	P	**P**	**04 25 59.2**	**+0.7**
	comp=Z,9.1nm,0.9s,baz=290,slow=16,SNR=3.5						
NWAO	**Narrogin (SRO)**	**31.19**	**155**	*e*P	**P**	**04 25 59.1**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,30nm,0.8s						
NWAO	**Narrogin (SRO)**	**31.19**	**155**	*e*P	**P**	**04 25 59.1**	**+0.7**
	comp=Z,30nm,0.8s						
GYA	**Guiyang**	**31.70**	**

comp=Z,93nm,0.5s
DMN Daman 36.31 334 *e*P **P 04 26 44.3 +1.0**
comp=Z,42nm,0.8s
KKN Kakani 36.39 335 *e*P **P 04 26 45.1 +1.2**
comp=Z,48nm,0.6s
GKN Gorkha 36.85 334 *e*P **P 04 26 49.0 +1.2**
KOLN Koldanda 37.12 333 *e*P **P 04 26 51.7 +1.6**
WHN Wuhan 37.39 18 ⇑P **P 04 26 52.0 -0.1**
WHN PP **PnPn 04 28 21.8 +3.2**
WHN S **S 04 32 43.0 +4.6**
WHN PMZ
comp=Z,320nm,2.1s
WHN LN
comp=Z,7μm,19.8s
WHN LE
comp=Z,4μm,14.9s
WHN LZ
comp=Z,7μm,17.7s
PYUN Piuthan 37.68 332 *e*P **P 04 26 56.3 +1.5**
comp=Z,153nm,1.0s
GENI Genyem 38.29 88 P **P 04 26 58.1 -1.9**
XAN Xi'an 39.48 9 P **P 04 27 08.8 -0.9**
XAN pP pP 04 27 18.5 +0.1
XAN PP **PnPn 04 28 46.0 +2.3**
XAN PcS **PcS 04 33 01.0 -6.2**
XAN S **S 04 33 12.0 +1.9**
XAN PMZ
comp=Z,53nm,1.3s
XAN PMZ
comp=Z,190nm,4.9s
XAN LN
comp=Z,2μm,13.9s
XAN LE
comp=Z,2μm,12.7s
XAN LZ
comp=Z,3μm,14.2s
NJ2 Nanjing 40.32 23 *e*P **P 04 27 17.5 +0.9**
NJ2 S **S 04 33 22.0 -0.6**
NJ2 PMZ
comp=Z,14nm,0.5s
NJ2 LN
comp=Z,2μm,18.4s
NJ2 LE
comp=Z,3μm,16.8s
NJ2 LZ
comp=Z,3μm,18.4s
LZH Lanzhou 41.00 2 ⇑P **P 04 27 23.0 +0.6**
LZH pP pP 04 27 32.8 +1.7
LZH sP sP 04 27 36.8 +2.1
LZH PP **PnPn 04 29 02.5 +0.8**
LZH S **S 04 33 34.0 +1.1**
LZH PMZ
comp=Z,65nm,1.1s
LZH PMZ
comp=Z,330nm,5.0s
LZH LN
comp=Z,4μm,16.5s
LZH LE
comp=Z,3μm,16.0s
LZH LZ
comp=Z,4μm,17.5s
KUDL Kundal 41.11 325 *e*P **P 04 27 24.3 +1.1**
KUDL IAmb IAmb 04 27 34.5
comp=Z,11nm,0.6s
NDI New Delhi 41.11 326 IAmb IAmb 04 27 13.1
comp=Z,24nm,0.5s
NDI *e*S **S 04 33 35.0 +0.5**
BHGR Bahadurgarh 41.27 326 *e*P **P 04 27 21.9 -2.6**
BHGR IAmb IAmb 04 27 23.0
comp=Z,80nm,0.7s
JOSI Joshimath 41.37 330 *e*P **P 04 27 24.2 -1.4**
JOSI IAmb IAmb 04 27 27.8
comp=Z,160nm,1.1s
KHET Khetri 41.45 324 *e*P **P 04 27 26.9 +0.9**
KHET IAmb IAmb 04 27 28.0
comp=Z,15nm,1.2s
COEN Coen 41.62 105 P **P 04 27 27.1 -0.6**
baz=42,SNR=7.3
COEN Coen 41.62 105 *e*P **P 04 27 27.3 -0.3**
comp=Z,28nm,1.0s
MTSU Mount Surprise 43.44 111 P **P 04 27 40.1 -2.3**
baz=44,SNR=5.5
SDNR Sundarnagar 43.44 328 *e*P **P 04 27 44.0 +1.8**
TIA Tai'an 43.50 18 ⇑P **P 04 27 41.8 -0.8**
TIA PMZ
comp=Z,20nm,1.2s
TIA PMZ
comp=Z,300nm,6.5s
TIA LN
comp=Z,2μm,18.8s
TIA LE
comp=Z,2μm,16.0s
TIY Taiyuan 43.70 12 *e*P **P 04 27 44.5 +0.2**
TIY S **S 04 34 12.5 -0.1**
TIY sS sS 04 34 36.5 +9.4
TIY PMZ
comp=Z,33nm,0.6s
TIY PMZ
comp=Z,230nm,3.6s
TIY LN
comp=Z,3μm,15.3s
TIY LE
comp=Z,690nm,13.5s
TIY LZ
comp=Z,2μm,15.3s
GTA Gaotai 44.31 358 ⇑P **P 04 27 49.5 +0.3**
GTA pP pP 04 27 59.5 +1.5
GTA sP sP 04 28 03.3 +1.8
GTA PcP **PcP 04 29 34.8 +1.6**
GTA ScP **ScP 04 33 23.8 +0.5**
GTA S **S 04 34 22.5 +0.9**
GTA sS sS 04 34 39.5 +3.4
GTA SS **SS 04 37 34.0 -7.0**
GTA PMZ
comp=Z,29nm,1.3s
GTA PMZ
comp=Z,360nm,8.1s
GTA LN
comp=Z,3μm,17.1s
GTA LE
comp=Z,1μm,16.2s
GTA LZ
comp=Z,3μm,17.1s
HTT Hallett 44.52 134 P **P 04 27 50.9 0.0**
baz=45,SNR=5.1
THN Thein Dam 44.83 328 *e*P **P 04 27 53.0 -0.3**
THN *ex* x 04 28 03.8
PMG Port Moresby 45.11 98*c i*P **P 04 27 55.4 -0.5**
PMG pmax pmax
comp=Z,805nm,1.7s
PMG Port Moresby 45.11 98 *e*P **P 04 27 55.0 -0.9**
comp=Z,134nm,1.1s
MANU Manus Island 45.51 88 *e*P **P 04 27 57.3 -1.7**
comp=Z,126nm,0.8s
CTA Charters Tower 45.65 113 LR LR 04 48 31.6
comp=Z,1μm,20.6s,baz=280,slow=38
CTAO Charters Tower 45.65 113 *e*P **P 04 28 00.9 +0.9**
CTAO pmax pmax
comp=Z,69nm,0.9s
CTAO Charters Tower 45.65 113 *e*P **P 04 28 00.9 +0.9**
comp=Z,69nm,0.9s
STKA Stephens Creek 45.73 131 P **P 04 28 00.7 +0.2**
comp=Z,3.8nm,0.7s,baz=309,slow=9.0,SNR=12
STKA LR LR 04 47 34.0
comp=Z,2μm,21.9s,baz=297,slow=37
STKA Stephens Creek 45.73 131 P **P 04 28 01.6 +1.1**
baz=46,SNR=12
STKA Stephens Creek 45.73 131 P **P 04 28 00.7 +0.2**
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 45.73 131 P **P 04 28 00.7 +0.2**
comp=Z,5.4nm,0.8s
BTO Baotou 46.08 9 *e*P **P 04 28 03.5 +0.3**
HHC Hu-ho-hao-te 46.57 10 *e*P **P 04 28 08.0 +1.0**
HHC sP sP 04 28 23.5 +4.1
HHC PP **PP 04 29 55.0 -1.9**
HHC S **S 04 34 58.5 +4.4**
HHC sS sS 04 35 09.5 +0.9
HHC SS **SS 04 38 14.5 -6.1**
HHC PMZ
comp=Z,76nm,1.1s
HHC PMZ
comp=Z,190nm,6.5s
HHC LN
comp=Z,2μm,13.7s
HHC LE
comp=Z,780nm,12.2s
HHC LZ
comp=Z,1μm,13.9s
BJT Baijiatuau 46.77 15 *e*P **P 04 28 08.8 +0.3**
BJT pmax pmax
comp=Z,41nm,0.9s
BJT Baijiatuau 46.77 15 *e*P **P 04 28 08.8 +0.3**
comp=Z,41nm,0.9s
BJI Beijing 46.80 15 P **P 04 28 08.8 +0.1**
BJI pP **pP 04 28 18.8 +1.3**
BJI PP **PP 04 30 00.5 +1.3**
BJI S **S 04 34 49.5 -7.6**
BJI sS **sS 04 35 12.0 +0.3**
BJI PMZ
comp=Z,46nm,1.3s
BJI PMZ
comp=Z,440nm,4.3s
BJI LN
comp=Z,870nm,18.3s
BJI LE
comp=Z,3μm,14.5s
JNU Nakatsue 46.91 34 P **P 04 28 08.6 -1.2**
comp=Z,10nm,0.5s,baz=279,slow=1.4,SNR=12
JNU Nakatsue 46.91 34 *e*P **P 04 28 09.0 -0.8**
DL2 Dalian 47.44 21 P **P 04 28 13.0 -0.7**
DL2 S **S 04 35 05.0 -1.3**
DL2 PMZ
comp=Z,37nm,1.5s
DL2 PMZ
comp=Z,300nm,3.9s
DL2 LN
comp=Z,880nm,20.8s
DL2 LE
comp=Z,2μm,18.4s
DL2 LZ
comp=Z,2μm,22.2s
KS15 Wonju Array Si 48.76 28 *e*P **P 04 28 24.7 +0.7**
KSAR Wonju Array Be 48.76 28 P **P 04 28 23.5 -0.5**
KSAR Wonju Array Be 48.76 28 P **P 04 28 23.5 -0.5**
KSRS Korea Array 48.79 28 P **P 04 28 23.5 -0.7**
comp=Z,11nm,0.8s,baz=223,slow=7.6,SNR=24
KSRS LR LR 04 48 39.7
comp=Z,231nm,21.9s,baz=230,slow=36
KS01 Wonju Array Si 48.80 28 *e*P **P 04 28 23.3 -0.9**
WMQ Urumqi 50.33 347 P **P 04 28 37.3 +1.4**
WMQ pP sP 04 28 47.3 -1.1
WMQ sP pP 04 28 50.5 +5.6
WMQ PcP **PcP 04 29 54.0 -0.4**
WMQ PP **PP 04 30 28.5 -3.2**
WMQ S **S 04 35 46.3 -0.8**
WMQ sS sS 04 36 03.0 +1.3
WMQ PMZ
comp=Z,50nm,0.9s
WMQ PMZ
comp=Z,290nm,4.5s
WMQ LN
comp=Z,380nm,21.5s
WMQ LE
comp=Z,510nm,19.1s
WMQ LZ
comp=Z,460nm,22.7s
KSH Kashi 50.40 334 P **P 04 28 36.3 -0.3**
KSH pP pP 04 28 46.3 +0.8
KSH PcP **PcP 04 29 54.5 -0.3**
KSH PP **PP 04 30 33.0 +0.5**
KSH S **S 04 35 42.3 -6.0**
KSH ScS **ScS 04 38 19.3 -6.6**
KSH PMZ
comp=Z,20nm,0.7s
KSH PMZ
comp=Z,360nm,4.1s
KSH LN
comp=Z,160nm,7.5s
KSH LE
comp=Z,270nm,9.0s
KSH LZ
comp=Z,720nm,17.3s
SNY Shenyang 50.72 21 ⇑P **P 04 28 37.5 -1.3**
SNY PMZ
comp=Z,30nm,1.1s
SNY PMZ
comp=Z,180nm,3.9s
SNY LN
comp=Z,960nm,18.8s
SNY LE
comp=Z,2μm,16.1s
SNY LZ
comp=Z,2μm,14.9s
PDGK Podgornoye 52.27 339 *i* P **P 04 28 51.2 +0.9**
PDGK pmax pmax
comp=Z,76nm,1.4s
SONM Songino Array 52.84 4 P **P 04 28 55.7 +1.0**
comp=Z,48nm,0.7s,baz=185,slow=9.2,SNR=211
SONM PcP **PcP 04 30 04.6 +0.9**
comp=Z,4.6nm,0.5s,baz=189,slow=3.5,SNR=4.1
SONM LR LR 04 54 25.9
comp=Z,1μm,18.5s,baz=194,slow=40
SONA1 Songino Array 52.86 4 *e*P **P 04 28 54.6 -0.2**
ULN Ulaanbaatar 52.92 4*c i*P **P 04 28 56.0 +0.7**
ULN pmax pmax
comp=Z,93nm,1.7s
ULN Ulaanbaatar 52.92 4 *e*P **P 04 28 55.3 0.0**
comp=Z,38nm,0.8s
CN2 Changchun 53.11 21 ⇑P **P 04 28 56.0 -0.6**
CN2 *e*S **S 04 36 18.8 -6.3**
CN2 PMZ
comp=Z,70nm,1.2s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,2μm,17.0s
CN2 LE
comp=Z,1μm,17.0s
CN2 LZ
comp=Z,1μm,18.0s
TKM2 Tokmak 2 53.39 336 *i* P **P 04 28 59.3 +0.4**
TKM2 pmax pmax
comp=Z,34nm,0.9s
TKM2 Tokmak 2 53.39 336 *e*P **P 04 28 59.5 +0.5**
comp=Z,44nm,1.0s
MAJO Matsushiro 53.56 36*c i*P **P 04 28 58.2 -1.9**
MAJO pmax pmax
comp=Z,212nm,1.2s
MAJO Matsushiro 53.56 36 *e*P **P 04 28 58.2 -1.9**
comp=Z,72nm,1.4s
MAT Matsushiro 53.56 36 P **P 04 28 57.7 -2.4**
MAT S **S 04 36 35.6 +4.0**
MJB9 Matsu-Tunnel 53.56 36 *e*P **P 04 28 58.7 -1.4**
comp=Z,19nm,1.4s
MJAR Matsushiro Arr 53.56 36 P **P 04 28 58.5 -1.6**
comp=Z,22nm,1.0s,baz=218,slow=7.8,SNR=53
AAK Ala-Archa 53.60 335*c i*P **P 04 29 01.0 +0.5**
AAK pmax pmax
comp=Z,24nm,1.5s
AAK Ala-Archa 53.60 335 *e*P **P 04 29 01.3 +0.8**
comp=Z,12nm,0.8s
FRU Bishkek 53.72 335⇑*i*P **P 04 29 01.0 -0.1**
FRU *e* 04 36 35.0
FRU *e* 04 36 48.0
FRU pmax pmax
comp=Z,100nm,1.9s
FRU MLR MLR
comp=E,2μm,22.0s
EKS2 Erkin-Say 53.93 335 *e*P **P 04 29 03.8 +1.0**
EKS2 pmax pmax
comp=Z,26nm,0.8s
EKS2 Erkin-Say 53.93 335 *e*P **P 04 29 03.8 +1.0**
comp=Z,26nm,0.8s
MK01 Makanchi Array 54.46 344 *e*P **P 04 29 05.9 -0.6**
MK31 Makanchi Array 54.49 344 *i* P **P 04 29 06.4 -0.3**
MK31 pmax pmax
comp=Z,19nm,0.7s
MK31 Makanchi Array 54.49 344 *e*P **P 04 29 07.0 +0.3**
MKAR Makanchi Array 54.49 344 P **P 04 29 07.0 +0.3**
comp=Z,22nm,0.7s,baz=144,slow=8.0,SNR=124
MKAR LR LR 04 56 19.4
comp=Z,406nm,19.9s,baz=156,slow=40
MKAR Makanchi Array 54.49 344 *e*P **P 04 29 07.0 +0.3**
MKAR Makanchi Array 54.49 344 *e*P **P 04 29 07.0 +0.3**
MAKZ Makanchi 54.59 343 *e*P **P 04 29 07.4 0.0**
MAKZ pmax pmax
comp=Z,23nm,1.1s
MAKZ Makanchi 54.59 343 *e*P **P 04 29 07.4 0.0**
comp=Z,23nm,1.1s
OPO Ambohidratompo 54.96 251 P **P 04 29 12.9 +2.1**
comp=Z,2.8nm,0.8s,baz=138,slow=12,SNR=2.4
VLA Vladivostok 55.14 27*c i*P **P 04 29 11.1 -0.3**
VLA pmax pmax
comp=Z,49nm,1.2s
ZAK Zakamensk 55.26 1 *e*P **P 04 29 11.7 -0.6**
ZAK pmax pmax
comp=Z,15nm,1.4s
MDJ Mudanjiang 55.38 24 P **P 04 29 13.0 -0.1**
MDJ pP sP 04 29 24.0 -1.6
MDJ sP pP 04 29 28.0 +5.9
MDJ PcP **PcP 04 30 14.5 +1.2**
MDJ PP **PP 04 31 19.8 +2.6**
MDJ S **S 04 36 55.5 -0.3**
MDJ SS **SS 04 40 45.3 +4.4**
MDJ PMZ
comp=Z,28nm,1.0s
MDJ PMZ
comp=Z,190nm,5.7s
MDJ LN
comp=Z,760nm,15.3s
MDJ LE
comp=Z,680nm,13.8s
MDJ LZ
comp=Z,1μm,15.3s
MDJ Mudanjiang 55.38 24 *e*P **P 04 29 13.0 -0.1**
comp=Z,34nm,1.1s
KKAR Karatay Array 55.73 333 *e*P **P 04 29 15.6 -0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 55.73 333 *e*P **P 04 29 15.6 -0.1**
comp=Z,1.0nm,0.5s
USRK Ussuriysk Ar. 56.05 26 P **P 04 29 17.8 -0.1**
comp=Z,68nm,0.7s,baz=219,slow=6.1,SNR=133
MOY Mondy 56.54 359 *e*P **P 04 29 22.1 +0.7**
MOY pmax pmax
comp=Z,76nm,3.1s
TLY Talaya 56.56 1 P **P 04 29 22.7 +1.1**
comp=Z,3.9nm,0.5s,baz=178,slow=8.9,SNR=7.7
TLY Talaya 56.56 1 *e*P **P 04 29 22.6 +1.1**
TLY *e*S **S 04 37 05.3 -6.0**
TLY pmax pmax
comp=Z,51nm,1.5s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 56.56 1 *e*P **P 04 29 22.5 +1.0**
comp=Z,84nm,1.6s
IRK Irkutsk 57.15 2 *e*P **P 04 29 25.2 -0.4**
IRK pmax pmax
comp=Z,117nm,2.2s
CIT Chita 57.75 9 *e*P **P 04 29 30.6 +0.7**
CIT *e* 04 29 38.7
CIT *e* 04 29 43.8
CIT pmax pmax
comp=Z,99nm,1.6s
GEYT Alibeck 58.99 320 P **P 04 29 39.5 +0.7**
comp=Z,2.3nm,0.3s,baz=152,slow=6.7,SNR=6.3
GEYT LR LR 04 57 29.6
comp=Z,697nm,20.8s,baz=115,slow=38
KURK Kurchatov 59.08 343*c i*P **P 04 29 39.2 +0.1**
KURK pmax pmax
comp=Z,192nm,1.2s
KURK Kurchatov 59.08 343 *e*P **P 04 29 39.0 -0.1**
comp=Z,134nm,1.0s
OTUK Ortayu 59.08 337 P **P 04 29 39.1 -0.1**
OTUK pmax pmax
comp=Z,26nm,0.9s
KLR Kul'dur 60.02 22 P **P 04 29 45.4 -0.3**
comp=Z,16nm,0.5s,baz=232,slow=5.9,SNR=69
KLR LR LR 04 58 12.1
comp=Z,978nm,18.3s,baz=218,slow=39
KLR Kul'dur 60.02 22*c i*P **P 04 29 45.2 -0.5**
ERM Erimo 60.06 35 *i* P **P 04 29 45.2 -0.9**
ERM pmax pmax
comp=Z,69nm,2.5s
ZALV Zalesovo Beam 60.53 349 P **P 04 29 49.1 0.0**
comp=Z,34nm,0.5s,baz=189,slow=5.5,SNR=192
ZALV LR LR 04 59 43.5
comp=Z,759nm,20.4s,baz=84,slow=40
HABR Khabarovsk 60.72 25 *e*P **P 04 29 47.4 -3.0**
HABR *e**PP **pP 04 29 57.6 -1.9**
HABR *e**SP **sP 04 30 01.9 -1.1**
HABR *e* 04 30 31.5
HABR *e*S **S 04 38 01.7 -3.7**
HABR *e**SS **sS 04 38 18.9 -1.5**
HABR *e* 04 39 35.3
HABR *e*SS **SS 04 42 02.3 -2.4**
HABR pmax pmax
comp=E,43nm,1.5s
HABR pmax pmax
comp=Z,81nm,1.5s
HABR pmax pmax
comp=N,32nm,1.5s
HABR MLR MLR
comp=Z,636nm,18.0s
CASY Casey 61.39 176 *e*P **P 04 29 55.2 +0.5**
comp=Z,32nm,1.5s
NVS Novosibirsk 61.69 348⇑*i*P **P 04 29 56.6 -0.3**
NVS *i* 04 30 13.5
NVS *e*S **S 04 38 16.3 -1.2**
NVS pmax pmax
comp=Z,40nm,1.6s
NVS pmax pmax
comp=N,39nm,1.7s
NVS pmax pmax
comp=E,30nm,1.5s
NVS smax smax
comp=N,26nm,1.7s
NVS smax smax
comp=E,39nm,1.8s
YSS Yuzh-Sakhalins 63.15 30⇑*i*P **P 04 30 06.6 -0.2**
YSS *e* 04 30 14.1
YSS pmax pmax
comp=Z,90nm,1.4s
YSS Yuzh-Sakhalins 63.15 30 *e*P **P 04 30 06.9 +0.1**
comp=Z,195nm,1.4s
VOSK Vostochnaya 63.25 340 P **P 04 30 06.6 -0.8**
VOSK pmax pmax
comp=Z,28nm,1.2s
VOSK Vostochnaya 63.25 340 *e*P **P 04 30 07.0 -0.4**
BOD Bodaibo 63.46 7 *e*P **P 04 30 07.9 -0.8**
BOD pmax pmax
comp=Z,37nm,1.8s
BVA0 Borovoye Array 63.70 339 P **P 04 30 09.7 -0.7**
BVA0 pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 63.77 339*c i*P **P 04 30 10.5 -0.3**
BRVK pmax pmax
comp=Z,59nm,1.2s
BRVK Borovoye 63.77 339 *e*P **P 04 30 10.2 -0.6**
comp=Z,36nm,0.8s
ZRNK Zerenda 64.14 339 *e*P **P 04 30 13.1 -0.1**
ZRNK pmax pmax
comp=Z,19nm,0.8s
ZRNK Zerenda 64.14 339 *e*P **P 04 30 13.1 -0.1**
comp=Z,19nm,0.8s
CHKZ Chkalovo 64.16 340 *i* P **P 04 30 12.9 -0.4**
CHKZ pmax pmax
comp=Z,46nm,1.0s
DZM Mont Dzumac 64.56 112 *e*SS SS 04 43 09.9 +4.0
comp=Z,253nm,23.9s
DZM *e*LR LR 04 49 42.0
comp=Z,1μm,23.9s
KMBO Kilima Mbogo 64.61 271 LR LR 04 54 16.1
comp=Z,361nm,20.8s,baz=90,slow=32
KUR Kuril'sk 64.75 34 *e*P **P 04 30 16.4 -0.9**
AB31 Akbulak array 65.22 331 *i* P **P 04 30 20.3 -0.1**
AB31 pmax pmax
comp=Z,45nm,1.0s
ABKAR Akbulak array 65.22 331 *e*P **P 04 30 20.4 +0.1**
comp=Z,19nm,0.7s
TYV Tymovskoe 65.81 27 *e*P **P 04 30 23.0 -1.1**
TYV pmax pmax
comp=N,116nm,1.8s
TYV MLR MLR
comp=E,1μm,17.0s
TYV MLR MLR
comp=Z,1μm,17.0s
NKL Nikolayevsk 66.60 24 *e*P **P 04 30 28.0 -1.1**
NKL pmax pmax
comp=Z,120nm,1.5s
NKL MLR MLR
comp=N,500nm,14.0s
NKL MLR MLR
comp=E,600nm,14.0s
NKL MLR MLR
comp=Z,1μm,14.0s
MAW Mawson 67.79 195 P **P 04 30 38.2 +1.7**

comp=Z,3.4nm,0.8s,baz=309,slow=7.7,SNR=5.5
MAW LR LR 04 55 53.6
comp=Z,1µm,18.5s,baz=56,slow=32
TBLG Delisi 69.74 318 P **P** **04 30 50.2 +1.1**
TBLG Delisi 69.74 318 P **P** **04 30 50.2 +1.1**
SVE Sverdlovsk 70.23 337 *de*P **P** **04 30 52.5 +0.7**
SVE *e*S **S** **04 39 58.6 -2.8**
SVE pmax pmax
comp=Z,78nm,1.5s
SVE MLR MLR
comp=Z,609nm,22.0s
GUDG Gudauri 70.24 319 P **P** **04 30 54.8 +2.3**
YAK Yakutsk 70.26 14 P **P** **04 30 51.1 -0.7**
comp=Z,20nm,0.4s,baz=35,slow=0.5,SNR=5.8
YAK Yakutsk 70.26 14 *c i*P **P** **04 30 50.8 -1.1**
YAK pmax pmax
comp=Z,35nm,0.9s
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK Yakutsk 70.26 14 *e*P **P** **04 30 50.9 -1.0**
ARU Arti 70.76 336 *c i*P **P** **04 30 55.3 +0.3**
ARU 04 33 27.7
ARU PPP PPP 04 35 12.4
ARU S **S** **04 40 10.2 +2.5**
ARU SS **SS** **04 44 42.0 +1.6**
ARU pmax pmax
comp=Z,59nm,1.7s
ARU MLR MLR
comp=Z,685nm,23.0s
ARU Arti 70.76 336 *e*P **P** **04 30 55.5 +0.4**
ZEI Tsey 70.77 319 *e*P P 04 31 02.4 +6.7
ONI Oni 70.98 318 P P 04 30 48.6 -8.1
ONI Oni 70.98 318 P P 04 30 48.6 -8.2
NCK Nalchik 71.28 319 *e*P **P** **04 30 59.7 +1.2**
NCK pmax pmax
comp=Z,10.0nm,0.7s
NEY Neytrino 71.75 319 *e*P **P** **04 31 02.1 +0.6**
NEY pmax pmax
comp=Z,1.0nm,0.9s
KBZ Khabaz 71.84 319 P **P** **04 31 02.6 +0.8**
comp=Z,5.1nm,0.7s,baz=112,slow=7.0,SNR=11
KIV Kislovodsk 72.08 319 *e*P **P** **04 31 04.0 +0.6**
KIV *e* 04 31 24.5
KIV *e*S **S** **04 40 24.3 +0.6**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,318nm,18.0s
SOC Sochi 73.88 318 *e*P **P** **04 31 12.0 -1.9**
SOC *e*PPP PPP 04 35 41.3
SOC *e*S **SKiKP** **04 40 41.0 -0.1**
SOC MLR MLR
comp=Z,169nm,16.0s
PEA0 Petropavlovsk- 74.51 31 *e*P **P** **04 31 16.8 -0.7**
PETK Petropavlovsk- 74.51 31 P **P** **04 31 16.9 -0.6**
comp=Z,7.5nm,0.7s,baz=205,slow=3.1,SNR=6.4
PETK LR LR 05 04 52.3
comp=Z,333nm,20.6s,baz=248,slow=36
NRIK Noril'sk 74.92 355 P **P** **04 31 18.6 -0.9**
comp=Z,15nm,0.9s,baz=166,slow=5.1,SNR=24
NRIK LR LR 05 08 33.8
comp=Z,807nm,18.5s,baz=160,slow=39
PET Petropavlovsk 74.97 32 *e*P **P** **04 31 18.1 -1.9**
PET *e*S **S** **04 40 54.6 -1.1**
PET pmax pmax
comp=Z,56nm,1.4s
PET pmax pmax
comp=Z,100nm,16.7s
PET MLR MLR
comp=Z,400nm,20.0s
SYO Syowa Base 75.57 199 ‖ *e*P **P** **04 31 23.9 +0.6**
SYO Syowa Base 75.57 199 ‖ *e*pP pP 04 31 35.2 +2.6
BOSA Boshof 75.83 242 P **P** **04 31 26.0 +0.2**
comp=Z,3.3nm,0.9s,baz=38,slow=4.0,SNR=3.6
BOSA LR LR 04 59 37.8
comp=Z,1µm,19.0s,baz=82,slow=32
ANN Anapa 75.86 319 *e*P **P** **04 31 23.0 -2.4**
ANN *e**PP **pP** **04 31 31.1 -3.6**
ANN *e* 04 34 15.2
ANN *e*S **S** **04 41 03.4 -2.5**
ANN *e*SS **SS** **04 46 01.8 +3.1**
ANN pmax pmax
comp=Z,24nm,1.1s
VRH Novokhopyorsk 75.90 326 *e*P **P** **04 31 25.9 +0.4**
VRH pmax pmax
comp=Z,60nm,1.9s
BR131 Keskin Array S 76.77 313 *e*P **P** **04 31 31.1 +0.3**
BRTR Keskin Array B 76.77 313 P **P** **04 31 30.6 -0.2**
comp=Z,2.3nm,0.7s,baz=135,slow=7.7,SNR=17
BRTR LR LR 05 07 45.3
comp=Z,337nm,18.5s,baz=112,slow=38
VSR Storozhevoye 77.36 325 *e*P **P** **04 31 33.3 -0.4**
VSR pmax pmax
comp=Z,30nm,1.6s
SEY Seymchan 77.79 21 P **P** **04 31 36.1 +0.3**
comp=Z,5.1nm,0.7s,baz=232,slow=6.0,SNR=20
SEY Seymchan 77.79 21 *e*P **P** **04 31 36.3 +0.4**
SIM Simferopol' 78.12 318 *e*P **P** **04 31 38.2 +0.1**
SIM S **S** **04 41 39.0 +8.4**
SIM pmax pmax
comp=Z,100nm,13.5s
TIXI Tiksi 78.60 8 P **P** **04 31 39.0 -1.2**
comp=Z,7.2nm,0.5s,baz=257,slow=6.6
TIXI Tiksi 78.60 8 *c i*P **P** **04 31 38.8 -1.4**
TIXI pmax pmax
comp=Z,69nm,2.5s
TIXI Tiksi 78.60 8 *e*P **P** **04 31 39.0 -1.2**
comp=Z,3.5nm,0.4s
VNDA Vanda 78.80 169 P **P** **04 31 41.7 +0.4**
comp=Z,0.8nm,0.6s,baz=2.5,slow=6.0,SNR=4.5
VNDA LR LR 05 04 58.5
comp=Z,250nm,19.1s,baz=312,slow=34
MOS Moscow 80.08 329 *e*P **P** **04 31 48.9 +0.3**
MOS *e* 04 32 01.4
MOS *e*S **S** **04 41 48.3 -2.7**
MOS pmax pmax
comp=Z,63nm,0.8s
OBN Obninsk 80.38 328 ⇑ *i*P **P** **04 31 51.0 +0.8**
OBN *i* 04 31 59.2
OBN *i* 04 35 00.9
OBN *i*S S 04 41 44.2 -10
OBN pmax pmax
comp=Z,34nm,1.4s
OBN MLR MLR
comp=Z,396nm,22.0s
KLMR Klimovskoe 81.40 334 *e*P **P** **04 31 53.8 -1.7**
KLMR pmax pmax
comp=Z,62nm,1.5s
PSN Preselentsi 81.81 315 ⇑ *i*P pP 04 32 07.8 +0.3
PSN Preselentsi 81.81 315 ⇑ P pP 04 32 07.8 +0.3
TIRR Tirgusor 81.85 316 ‖ *i*P **P** **04 31 59.3 +1.0**
TIRR Tirgusor 81.85 316 ‖ P **P** **04 31 59.3 +1.0**
CFR Carcaliu 82.23 317 ‖ *i*P P 04 32 09.6 +9.4
CFR Carcaliu 82.23 317 ‖ P P 04 32 09.6 +9.4
SORM Soroca 82.88 320 ⇑ *i*P **P** **04 32 04.1 +0.6**
SORM Soroca 82.88 320 ⇑ P **P** **04 32 04.1 +0.6**
AKASG Malin Array Be 83.05 322 P **P** **04 32 04.4 +0.1**
comp=Z,1.7nm,0.6s,baz=86,slow=4.8,SNR=15
KIEV Kiev 83.06 322 *e*P **P** **04 32 04.8 +0.4**
KIEV Kiev 83.06 322 *e*P **P** **04 32 04.8 +0.4**
VRI Vrincioaia 83.36 317 ⇑ *i*P **P** **04 32 07.6 +1.4**
VRI Vrincioaia 83.36 317 ⇑ P **P** **04 32 07.6 +1.4**
PLOR Plostina 83.41 317 ‖ *i*P **P** **04 32 09.1 +2.6**
PLOR Plostina 83.41 317 ‖ P **P** **04 32 09.1 +2.6**
TESR Tescani 83.58 318 ‖ *i*P **P** **04 32 07.8 +0.6**
MLR Muntele Rosu 83.81 317 ‖ *i*P **P** **04 32 10.3 +1.6**
MLR Muntele Rosu 83.81 317 *e*P **P** **04 32 10.2 +1.6**
MLR Muntele Rosu 83.81 317 *e*P **P** **04 32 10.2 +1.6**
PRAR RASCA 84.06 319 ‖ *i*P **P** **04 32 11.3 +1.6**
VOIR 84.41 316 ⇑ *i*P pP 04 32 18.6 -2.4
VOIR 84.41 316 ⇑ P pP 04 32 18.6 -2.4
ARR Arges 84.68 316 ⇑ *i*P sP 04 32 27.2 +1.4
BURAR Bucovina Array 84.79 319 ⇑ *i*P **P** **04 32 15.6 +2.1**
BURAR Bucovina Array 84.79 319 ⇑ P **P** **04 32 15.6 +2.1**
BUR08 Bucovina Ar. S 84.81 319 *e*P **P** **04 32 15.5 +1.9**
VTS Vitosha 85.11 313 ⇑ *i*P sP 04 32 27.0 -1.1
VTS Vitosha 85.11 313 ⇑ P sP 04 32 27.0 -1.1
LOT Lotru 85.29 316 ⇑ *i*P sP 04 32 27.6 -1.3
GZR Gura Zlata 85.96 316 ⇑ *i*P sP 04 32 29.6 -2.6
GZR Gura Zlata 85.96 316 ⇑ P sP 04 32 29.7 -2.5
LVV L'vov 86.05 321 *e*P **P** **04 32 20.6 +1.0**
DRGR 86.28 317 ⇑ *i*P **P** **04 32 23.7 +2.8**
DRGR 86.28 317 ⇑ P **P** **04 32 23.7 +2.8**
MDVR Moldovita 86.59 315 ⇑ *i*P **P** **04 32 23.8 +1.4**
VSU Vasula 86.59 329 *c i*P **P** **04 32 23.0 +1.0**
VSU pmax pmax
comp=Z,156nm,2.5s
APA Apatity 86.61 339 ‖ *i*P P 04 32 36.5 +15
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,800nm,19.0s
BZS Buzias 86.81 316 ⇑ *i*P **P** **04 32 23.8 +0.4**
BZS Buzias 86.81 316 ⇑ P **P** **04 32 23.8 +0.4**
KWP Kalwaria Pacla 86.85 320 *e*P **P** **04 32 24.2 +0.6**
KWP Kalwaria Pacla 86.85 320 *e*P **P** **04 32 24.2 +0.6**
SIRR Siria 86.90 317 ⇑ *i*P **P** **04 32 27.4 +3.5**
UZH Uzhgorod 86.92 319 *e*P **P** **04 32 23.8 -0.1**
UZH *e* 04 32 33.2
UZH *e*S **S** **04 42 57.2 -3.2**
KOLS Kolonicke sedl 86.99 319 *e*P **P** **04 32 26.1 +1.8**
KOLS pmax pmax
comp=Z,26nm,1.3s
KOLS Kolonicke sedl 86.99 319 *e*P **P** **04 32 26.1 +1.8**
KOLS Kolonicke sedl 86.99 319 *e*S **S** **04 43 00.8 -0.3**
SUW Suwalki 87.46 325 *e*P **P** **04 32 27.3 +0.9**
SUW Suwalki 87.46 325 *e*P **P** **04 32 27.3 +0.9**
CRVS Cervenica-Dubn 87.51 319 *e*P **P** **04 32 28.8 +2.0**
CRVS Cervenica-Dubn 87.51 319 *e*P **P** **04 32 28.8 +2.0**
FINES FINESS Array B 87.69 332 P **P** **04 32 28.1 +0.7**
comp=Z,4.2nm,0.8s,baz=120,slow=7.7,SNR=13
KECS Kecovo 88.07 319 *e*P **P** **04 32 30.1 +0.6**
KECS pmax pmax
comp=Z,5.0nm,1.4s
KECS Kecovo 88.07 319 *e*P **P** **04 32 30.1 +0.6**
NIE Niedzica 88.35 320 *e*P **P** **04 32 32.4 +1.6**
NIE Niedzica 88.35 320 *e*P **P** **04 32 32.4 +1.6**
OJC Ojcow 88.81 320 *e*P **P** **04 32 34.0 +1.1**
OJC Ojcow 88.81 320 *e*P **P** **04 32 34.0 +1.1**
VYHS Vyhne 89.16 319 *e*P **P** **04 32 35.7 +1.1**
VYHS pmax pmax
comp=Z,9.0nm,1.6s
VYHS Vyhne 89.16 319 *e*P **P** **04 32 35.7 +1.1**
VYHS Vyhne 89.16 319 *e*S **S** **04 43 24.1 +2.3**
SNAA Sanae 89.80 198 *e*P **P** **04 32 38.6 +1.4**
SNAA pmax pmax
comp=Z,352nm,1.1s
SNAA Sanae 89.80 198 *e*P **P** **04 32 39.3 +2.1**
comp=Z,333nm,0.8s
OKC Ostrava-Krasne 89.80 320 AMS AMS 05 20 20.0
comp=Z,200nm,16.7s
ARCES ARCESS Array B 89.99 340 P **P** **04 32 38.9 +0.9**
comp=Z,3.7nm,0.7s,baz=91,slow=5.0,SNR=13
ARCES LR LR 05 19 15.7
comp=Z,260nm,18.3s,baz=108,slow=40
MORC Moravsky Berou 90.18 320 ⇑ *i*P **P** **04 32 41.3 +1.9**
MORC Moravsky Berou 90.18 320 ⇑ P **P** **04 32 41.3 +1.9**
DPC Dobruska-Polom 91.03 320 *e*P **P** **04 32 45.3 +2.0**
DPC *e*pP **sP** **04 32 54.9 -1.3**
DPC *e*S **S** **04 43 40.6 +1.5**
DPC AMS AMS 05 22 20.0
DPC Dobruska-Polom 91.03 320 *e*P **P** **04 32 45.3 +2.0**
DPC *e* 04 32 54.9
DPC *e*S **S** **04 43 40.6 +1.5**
CONA Conrad Observa 91.06 318 *i*P **P** **04 32 43.0 -0.6**
comp=Z,3.4nm,1.2s
KSP Ksiaz 91.11 321 *e*P **P** **04 32 45.3 +1.7**
KSP Ksiaz 91.11 321 *e*P **P** **04 32 45.3 +1.7**
GROS Grobnik 91.14 316 *i*P **P** **04 32 45.1 +1.1**
ARSA Arzberg 91.21 317 *i* PcP **P** **04 32 46.1 +1.8**
comp=Z,8.7nm,1.4s
BOJS Bojanci 91.21 315 *e*P **P** **04 32 45.4 +1.2**
UPC Upice 91.25 320 AMS AMS 05 24 10.0
comp=Z,300nm,21.2s
TREC Trest 91.45 319 AMS AMS 05 24 30.0
comp=Z,300nm,23.8s
SOKA Soboth 91.49 317 *i* PcP **P** **04 32 47.2 +1.6**
comp=Z,7.1nm,1.2s
LJU Ljubljana 91.77 316 *i*P **P** **04 32 48.4 +1.5**
OBKA Obir 91.80 316 *i* PcP **P** **04 32 48.7 +1.6**
comp=Z,3.1nm,0.6s
GOPC GO Pecny, Ondr 91.97 320 *e*S **S** **04 43 48.2 +0.7**
GOPC AMS AMS 05 23 10.0
comp=Z,300nm,18.4s
MOA Molln 92.12 318 *i*P **P** **04 32 48.4 -0.1**
comp=Z,1.8nm,0.6s
PRU Pruhonice 92.13 320 *e*S **S** **04 43 49.7 +0.7**
PRU AMS AMS 05 23 10.0
comp=Z,300nm,19.2s
PVCC Panska Ves 92.17 320 AMS AMS 05 24 30.0
comp=Z,200nm,18.1s
MYKA Terra Mystica 92.44 316 *i* PcP **P** **04 32 51.6 +1.6**
comp=Z,4.5nm,1.1s
GERES GERESS Array B 92.58 319 P **P** **04 32 51.6 +1.0**
comp=Z,0.9nm,0.6s,baz=94,slow=5.4,SNR=8.6
BRG Berggiesshubel 92.59 321 *e*P **P** **04 32 52.6 +2.1**
comp=Z,15nm,1.6s
BRG Berggiesshubel 92.59 321 *e*P **P** **04 32 52.6 +2.1**
BRG pmax pmax
comp=Z,15nm,1.6s
KHC Kasperske Hory 92.68 319 *e*S **S** **04 43 52.4 -1.6**
KHC AMS AMS 05 24 30.0
comp=Z,300nm,21.5s
CLL Collm 93.22 321 *e*(P) **P** **04 32 52.0 -1.3**
CLL *e*S **S** **04 43 55.0 -3.5**
CLL *e*PS **PS** **04 45 18.0 +3.1**
CLL Collm 93.22 321 *e*P **P** **04 32 52.0 -1.3**
CLL *e*S **S** **04 43 55.0 -3.5**
NKC Novy Kostel 93.50 320 AMS AMS 05 30 40.0
comp=Z,200nm,15.2s
WTTA Wattenberg 93.85 317 *i* pP pP 04 33 06.4 +0.3
comp=Z,4.2nm,0.7s
HSPB Hornsund (broa 94.09 347 *e*P **P** **04 32 57.7 +0.9**
HSPB *e* 04 36 51.2
RETA Reutte 94.46 317 *i* PcP **P** **04 33 00.0 +0.8**
comp=Z,4.0nm,1.1s
FETA Feichten 94.46 317 *e*PcP **P** **04 33 01.2 +1.8**
comp=Z,4.5nm,1.3s
NOA NORSAR Array B 94.73 331 P **P** **04 32 59.9 -0.3**
comp=Z,0.7nm,0.7s,baz=93,slow=4.8,SNR=3.6
NOA LR LR 05 20 18.6
comp=Z,315nm,21.9s,baz=110,slow=38
KEST Kesra 94.98 305 LR LR 05 19 20.4
comp=Z,125nm,18.3s,baz=354,slow=38
DAVA Damuels 95.05 317 *i*P **P** **04 33 01.5 -0.6**
comp=Z,3.6nm,0.8s
ILAR Eielson Array 103.55 24 PP PP 04 37 55.0 -0.7
comp=Z,0.9nm,1.0s,baz=295,slow=4.8,SNR=5.0
TBI Tubuai 104.98 116 *e*LR LR 05 08 26.1
comp=Z,409nm,29.8s
PPT2 Papeete2 106.02 110 *e*Pdif **Pdif** **04 33 49.5 -2.2**
comp=Z,37nm,25.0s
PPT2 Papeete2 106.02 110 *e*Sdif Sdif 04 45 49.9 +1.3
comp=Z,295nm,27.8s
PPT2 Papeete2 106.02 110 *e*PS PS 04 47 31.5 -2.2
comp=Z,87nm,27.8s
PPT2 Papeete2 106.02 110 *e*LR LR 05 08 56.9
comp=Z,447nm,22.5s
TAOE Nuku Hiva Isla 116.65 102 *e*LR LR 05 13 52.2
comp=Z,348nm,23.2s
YKA Yellowknife Ar 116.74 18 PKP **PKPdf** **04 38 21.6 -1.3**
comp=Z,0.6nm,0.6s,baz=329,slow=2.1,SNR=5.9
RKT Rikitea 117.86 119 *e*LR LR 05 14 21.3
comp=Z,485nm,29.0s
B05A Bryant 123.00 34 P **PKPdf** **04 38 36.6 +1.2**
baz=305
I03D Drain, OR 124.72 39 P **PKPdf** **04 38 39.9 +1.0**
baz=301
I04A Tendick Farm, 125.25 38 P **PKPdf** **04 38 40.6 +0.7**
baz=302
L02D Cave Junction, 125.33 41 P **PKPdf** **04 38 40.3 +0.2**
baz=300
I05D Terrebonne, OR 125.62 37 P **PKPdf** **04 38 41.5 +0.9**
baz=303
NEW Newport 125.65 31 P **PKPdf** **04 38 41.6 +1.0**
baz=310
M02C Callahan 126.20 41 P **PKPdf** **04 38 43.0 +1.2**
baz=300
J05D Fort Rock, OR 126.25 38 P **PKPdf** **04 38 43.0 +1.0**
baz=302
N02D Trinity Center 126.50 41 P **PKPdf** **04 38 43.4 +0.9**
baz=300
M04C Macdoel 126.66 40 P **PKPdf** **04 38 43.8 +1.0**
baz=301
O03D Paynes Creek 127.44 42 P **PKPdf** **04 38 44.9 +0.6**
baz=300
MSO Missoula 128.22 31 P **PKPdf** **04 38 46.4 +0.8**
baz=312
HLID Hailey 130.11 34 P **PKPdf** **04 38 50.5 +1.1**
baz=310
BOZ Bozeman (W) 130.20 30 P **PKPdf** **04 38 50.4 +1.0**
baz=314
BOZ Bozeman (W) 130.20 30 *e*PKIKP **PKPdf** **04 38 50.7 +1.2**
BOZ Bozeman (W) 130.20 30 *e*PKPdf **PKPdf** **04 38 50.7 +1.2**
REDW Red Top Meadow 132.18 32 *e*PKPdf **PKPdf** **04 38 55.0 +1.6**
R11A Troy Canyon, C 132.55 40 P **PKPdf** **04 38 55.6 +1.4**
baz=305
ULM Lac du Bonnet 132.58 15 PKP **PKPdf** **04 38 54.3 +0.7**
comp=Z,2.7nm,0.6s,baz=323,slow=2.8,SNR=4.9
FMP Fort Macarthur 133.10 47 P **PKPdf** **04 38 56.9 +1.9**
baz=298
DUG Dugway, Tooele 133.16 37 P **PKPdf** **04 38 57.1 +1.9**
baz=309
DUG Dugway, Tooele 133.16 37 *e*PKIKP **PKPdf** **04 38 56.4 +1.2**
DUG Dugway, Tooele 133.16 37 *e*PKPdf **PKPdf** **04 38 56.4 +1.2**
BW06 Boulder Array 133.28 32 P **PKPdf** **04 38 57.4 +1.9**
baz=315
PDAR Pinedale Array 133.28 32 PKP **PKPdf** **04 38 56.4 +0.9**
comp=Z,0.9nm,0.6s,baz=124,slow=2.1,SNR=6.1
PDAR SKPbc **SKPbc** **04 42 22.5 +0.8**
comp=Z,0.5nm,0.4s,baz=291,slow=1.3,SNR=5.2
C31A Landman Farms, 134.25 18 P **PKPdf** **04 38 58.2 +1.4**
baz=332
C33A Trail 134.87 17 P **PKPdf** **04 38 59.7 +1.7**
baz=335
RSSD Black Hills 134.94 26 *e*PKIKP **PKPdf** **04 38 58.8 +0.2**
RSSD Black Hills 134.94 26 *e*PKPdf **PKPdf** **04 38 58.8 +0.2**
BC3 Big Chuckawall 135.18 46 P **PKPdf** **04 39 00.7 +1.5**
baz=301
C34A RKJ Ranch, Bem 135.21 16 P **PKPdf** **04 38 59.7 +1.1**
baz=336
SWSC Sam W. Stewart 135.29 47 P **PKPdf** **04 39 00.6 +1.4**
baz=300
PDMCI Parker Dam,Lak 135.76 44 P **PKPdf** **04 39 01.9 +1.8**
baz=303
Y12C Blythe 135.79 45 P **PKPdf** **04 39 01.9 +1.8**
baz=302
O20A White River Ci 135.82 33 P **PKPdf** **04 39 02.0 +1.7**
baz=314
GLA Glamis 135.94 46 P **PKPdf** **04 39 02.3 +1.8**
baz=301
D35A Remer 135.97 16 P **PKPdf** **04 39 01.2 +1.2**
baz=337
D37A Cotton 136.31 14 P **PKPdf** **04 39 02.2 +1.5**
baz=339
E36A McGregor 136.70 15 P **PKPdf** **04 39 03.2 +1.8**
baz=338
WUAZ Wupatki 136.94 41 P **PKPdf** **04 39 04.9 +2.4**
baz=307
WUAZ Wupatki 136.94 41 *e*PKPdf **PKPdf** **04 39 04.8 +2.3**
F36A Milaca 137.23 16 P **PKPdf** **04 39 04.1 +1.6**
baz=337
G36A St. Michael 137.75 16 P **PKPdf** **04 39 05.4 +2.0**
baz=337
H35A Sunnyside Ranc 137.92 18 P **PKPdf** **04 39 05.6 +1.8**
baz=335
K30A Basset 137.99 24 P **PKPdf** **04 39 05.4 +1.3**
baz=327
ECSD EROS Data Cent 138.20 20 P **PKPdf** **04 39 05.6 +1.3**
baz=332
S22A 4UR Ranch, Cre 138.28 35 P **PKPdf** **04 39 06.8 +1.8**
baz=314
I37A Lemoni, Waseca 138.96 17 P **PKPdf** **04 39 07.5 +1.8**
baz=336
SDCO Great Sand Dun 139.02 34 P **PKPdf** **04 39 08.2 +1.9**
baz=316
J36A Seneca 1, Swea 139.31 18 P **PKPdf** **04 39 08.7 +2.4**
baz=335
J37A Redenius Farm, 139.56 17 P **PKPdf** **04 39 09.2 +2.4**
baz=336
J39A Decorah 140.06 15 P **PKPdf** **04 39 09.8 +2.1**
baz=339
ANMO Albuquerque 140.40 38 *e*PKIKP **PKPdf** **04 39 08.6 -0.3**
ANMO Albuquerque 140.40 38 *e*PKPdf **PKPdf** **04 39 08.6 -0.3**
O33A Hebron 141.00 24 P **PKPdf** **04 39 12.5 +3.0**
baz=328
M37A Trindle Farm, 141.13 19 P PKPpre 04 39 04.5
baz=334
N39A Derby Farms, D 142.10 18 P PKPpre 04 39 07.1
baz=336
R33A Olander Ranch, 142.32 26 P PKPpre 04 39 08.3
baz=326
S32A Newby Ranch, P 142.40 27 P PKPpre 04 39 08.3
baz=325
R34A Isabella, Hill 142.64 25 P PKPpre 04 39 08.5
baz=328
P37A Lathrop 142.66 21 P PKPpre 04 39 09.5
baz=333
T32A Huddler Ranch, 142.82 28 P PKPpre 04 39 09.4
baz=324
P38A Dawn 142.91 20 P PKPpre 04 39 09.5
baz=334
O40A La Belle 142.99 18 P PKPpre 04 39 09.4
baz=337
T33A Patterson Ranc 143.22 27 P PKPbc 04 39 10.1 -0.4
baz=325
MSTX Muleshoe 143.27 35 *e*PKPdf PKPbc 04 39 11.9 +1.1
O41A Passleys Farm, 143.28 16 P PKPab 04 39 09.9 +0.6
baz=338
P39B Salisbury 143.29 19 P PKPab 04 39 09.7 +0.3
baz=335
R36A Gordon, Harris 143.34 23 P PKPbc 04 39 10.3 -0.5
baz=330
O42A Bath 143.43 15 P PKPab 04 39 10.1 +0.1
baz=340
U32A Winter Ranch, 143.43 29 P PKPab 04 39 10.5 +0.3
baz=324
Q38A Cooks Store, C 143.47 20 P PKPab 04 39 10.2 +0.1
baz=334,SNR=6.1
P40A Paris 143.47 18 P PKPbc 04 39 10.8 -0.4
baz=336
S35A Otter Creek Ra 143.56 25 P PKPab 04 39 10.9 +0.4
baz=329
R37A Teagarden Farm 143.60 22 P PKPab 04 39 10.6 -0.1
baz=331
Q39A Willow Grove F 143.62 20 P PKPab 04 39 11.0 +0.3
baz=335
P41A Barry, Barry 143.64 17 P PKPab 04 39 10.8 0.0
baz=338
M54A Oil Creek Stat 143.71 2 P PKPbc 04 39 11.4 -0.4
baz=357
T34A McClaskey Farm 143.74 26 P PKPbc 04 39 11.8 -0.3
baz=327
U33A Lingo Farm, Me 143.81 28 P PKPab 04 39 11.9 +0.3
baz=325
S36A Lake Cedric, C 143.82 24 P PKPab 04 39 11.8 +0.2
baz=330
P42A Winchester 143.93 16 P PKPab 04 39 11.7 -0.2
baz=339
V32A Arapaho 143.94 30 P PKPab 04 39 12.4 +0.3
baz=323
SFIN Lafayette 143.95 12 P PKPbc 04 39 12.3 -0.2
baz=345
Q40A Laux Farm, Aux 143.96 19 P PKPab 04 39 12.0 0.0
baz=336,SNR=8.0
R38A Fenwick Farm, 144.06 21 P **PKPab** **04 39 11.8 -0.6**
baz=333,SNR=10
U34A Anderson Ranch 144.07 27 P **PKPab** **04 39 12.7 +0.2**
baz=326
U34A Anderson Ranch 144.07 27 *e*PKPdf PKPbc 04 39 13.5 +0.4
S37A Fort Scott 144.09 23 P **PKPab** **04 39 12.2 -0.3**
baz=331
T35A Sooner Cattle 144.12 26 P PKPbc 04 39 13.1 -0.1
baz=328,SNR=12
V33A Lossen Ranch, 144.22 29 P PKPbc 04 39 13.4 -0.1
baz=324,SNR=5.7
N54A Moraine State 144.24 2 P **PKPab** **04 39 13.1 0.0**
baz=357
R39A Chumby, Stover 144.25 20 P **PKPab** **04 39 13.2 0.0**
baz=334,SNR=35
N59A State Game Lan 144.26 357 P PKPbc 04 39 13.5 0.0
baz=4.0
T36A Boggs Farm, Ca 144.27 25 P PKPbc 04 39 13.8 +0.2
baz=329,SNR=15
W32A Sentinel 144.31 30 P PKPbc 04 39 13.9 +0.1
baz=322,SNR=8.8
U35A Pawnee 144.49 26 P PKPbc 04 39 14.5 +0.1
baz=327,SNR=28
Q42A Golden Eagle 144.50 17 P **PKPab** **04 39 14.0 0.0**
baz=338,SNR=9.5
R40A Maddies Statio 144.53 19 P **PKPab** **04 39 14.2 0.0**
baz=335,SNR=34
S38A Stockton 144.55 22 P **PKPab** **04 39 13.8 -0.5**
baz=332,SNR=19
V34A Guthrie 144.57 28 P PKPbc 04 39 14.8 +0.1

	baz=325,SNR=18							
V34A	**Guthrie**	144.57	28	*e*PKPdf	PKPbc	04 39 14.9	+0.2	
SSPA	**Standing Stone**	144.60	360	*e*PKPdf	PKPab	04 39 14.4	+0.1	
T37A	**Cheneyville 18**	144.61	23	P	PKPbc	04 39 14.6	-0.1	
	baz=330,SNR=18							
W33A	**Caddo, Fort Co**	144.67	29	P	PKPdf	04 39 15.7	-0.5	
	baz=323,SNR=22							
Q43A	**New Douglas**	144.70	16	P	PKPab	04 39 14.7	-0.1	
	baz=340,SNR=9.8							
S39A	**Bolivar**	144.71	21	P	PKPab	04 39 14.6	-0.3	
	baz=333,SNR=41							
ACSO	**Alum Creek Sta**	144.74	6	*e*PKPdf	PKPab	04 39 14.8	0.0	
X32A	**Elmer**	144.84	31	P	PKPab	04 39 15.2	-0.3	
	baz=322,SNR=12							
WMOK	**Wichita Mounta**	144.85	30	P	PKPab	04 39 15.4	-0.2	
	baz=322,SNR=14							
WMOK	**Wichita Mounta**	144.85	30	*e*PKIKP	PKPab	04 39 15.3	-0.2	
WMOK	**Wichita Mounta**	144.85	30	*e*PKPdf	PKPab	04 39 15.3	-0.2	
U36A	**Oologah**	144.90	25	P	PKPbc	04 39 15.8	+0.2	
	baz=328,SNR=16							
Q44A	**Meyer Farm, Va**	144.92	15	P	PKPab	04 39 15.5	-0.1	
	baz=341,SNR=15							
T38A	**Diamond**	144.93	23	P	PKPab	04 39 15.4	-0.3	
	baz=331,SNR=39							
W34A	**Bridge Creek,**	144.94	29	P	PKPbc	04 39 16.1	+0.2	
	baz=324,SNR=9.3							
W34A	**Bridge Creek,**	144.94	29	*e*PKPdf	PKPbc	04 39 16.0	+0.1	
V35A	**Meyer Ranch, t**	144.94	27	P	PKPbc	04 39 16.0	+0.2	
	baz=326,SNR=11							
O56A	**Blue Knob Stat**	144.97	1	P	PKPbc	04 39 15.9	+0.1	
	baz=359,SNR=9.2							
S40A	**Lebanon**	145.08	20	P	PKPbc	04 39 16.0	-0.2	
	baz=334,SNR=55							
U37A	**Salina**	145.14	24	P	PKPab	04 39 16.5	0.0	
	baz=330,SNR=29							
X33A	**Lawton**	145.14	30	P	PKPbc	04 39 16.1	-0.4	
	baz=323							
T39A	**Clever**	145.28	22	P	PKPbc	04 39 16.8	-0.1	
	baz=333,SNR=66							
TUL1	**Leonard**	145.28	26	P	PKPab	04 39 17.0	0.0	
	baz=328,SNR=21							
TUL1	**Leonard**	145.28	26	*e*PKPdf	PKPab	04 39 17.1	0.0	
V36A	**Jenks**	145.32	26	P	PKPab	04 39 17.2	0.0	
	baz=328,SNR=20							
S41A	**Jillco Farms,**	145.34	19	P	PKPab	04 39 17.2	0.0	
	baz=336,SNR=118							
U38A	**Gravette**	145.41	23	P	PKPbc	04 39 17.2	-0.1	
	baz=331,SNR=64							
X34A	**Smith Ranch, M**	145.43	29	P	PKPab	04 39 17.6	0.0	
	baz=324,SNR=9.3							
W35A	**Tecumseh**	145.43	28	P	PKPbc	04 39 17.4	0.0	
	baz=326,SNR=20							
T40A	**Mansfield**	145.48	20	P	PKPbc	04 39 17.1	-0.4	
	baz=334,SNR=32							
Y33A	**Hilltop Ranch,**	145.50	31	P	PKPbc	04 39 17.7	+0.1	
	baz=322							
R44A	**Waltonville**	145.52	15	P	PKPab	04 39 17.7	-0.1	
	baz=340,SNR=22							
V37A	**Hulbert**	145.58	25	P	PKPbc	04 39 17.9	0.0	
	baz=329,SNR=21							
W36A	**Wetumka**	145.74	27	P	PKPbc	04 39 18.4	+0.1	
	baz=327,SNR=18							
U39A	**Green Forest**	145.81	22	P	PKPdf	04 39 18.3	+0.2	
	baz=332,SNR=38							
T41A	**Mountain View**	145.83	20	P	PKPbc	04 39 18.4	-0.2	
	baz=335,SNR=60							
TXAR	**Lajitas Array**	145.87	42	PKPbc	PKPab	04 39 20.3	+0.7	
	comp=Z,12nm,0.7s,baz=332,slow=1.0,SNR=57							
S43A	**Fulton Ridge,**	145.88	17	P	PKPdf	04 39 18.2	0.0	
	baz=338,SNR=7.6							
V38A	**Canehill**	145.90	24	P	PKPdf	04 39 18.5	+0.2	
	baz=330,SNR=19							
Y34A	**Reagan Ranch,**	145.98	30	P	PKPbc	04 39 19.2	0.0	
	baz=323,SNR=14							
S44A	**Carbondale**	145.99	16	P	PKPbc	04 39 19.1	+0.1	
	baz=340,SNR=7.6							
Z33A	**Whitaker Ranch**	145.99	32	P	PKPbc	04 39 19.3	0.0	
	baz=321,SNR=7.0							
X35A	**Drake**	146.00	29	P	PKPbc	04 39 19.0	-0.2	
	baz=325,SNR=16							
ABTX	**Abilene, Hawle**	146.03	34	P	PKPab	04 39 19.7	-0.3	
	baz=319							
U40A	**Yellville**	146.07	22	P	PKPbc	04 39 19.2	-0.1	
	baz=333,SNR=48							
W37B	**Quinton**	146.09	26	P	PKPbc	04 39 19.6	+0.1	
	baz=328,SNR=10							
X36A	**Centrahoma**	146.15	28	P	PKPbc	04 39 19.8	+0.1	
	baz=326,SNR=11							
WCI	**Wyandotte Cave**	146.18	12	*e*PKP2	PKPbc	04 39 19.7	0.0	
WCI	**Wyandotte Cave**	146.18	12	*e*PKPbc	PKPbc	04 39 19.7	0.0	
S45A	**Carrier Mills**	146.19	15	P	PKPbc	04 39 19.8	+0.2	
	baz=341,SNR=6.2							
V39A	**Pettigrew**	146.22	23	P	PKPbc	04 39 19.6	-0.3	
	baz=332							
Z34A	**Collier Ranch,**	146.37	31	P	PKPbc	04 39 20.4	0.0	
	baz=323							
Y35A	**Marietta**	146.37	29	P	PKPbc	04 39 20.2	-0.1	
	baz=324							
U41A	**Viola**	146.41	20	P	PKPbc	04 39 20.5	+0.1	
	baz=335,SNR=25							
133A	**Hamilton Ranch**	146.44	33	P	PKPab	04 39 21.2	-0.3	
	baz=320,SNR=16							
W38A	**Poteau**	146.54	25	P	PKPbc	04 39 21.1	+0.3	
	baz=330							
V40A	**Witts Springs**	146.57	22	P	PKPbc	04 39 20.6	-0.3	
	baz=333,SNR=26							
X37A	**Clayton**	146.58	26	P	PKPbc	04 39 20.9	0.0	
	baz=328							
U42A	**Revenden**	146.63	19	P	PKPbc	04 39 21.0	0.0	
	baz=336,SNR=34							
W39A	**Magazine**	146.73	24	P	PKPbc	04 39 21.3	0.0	
	baz=331,SNR=8.1							
Z35A	**Perchaven, San**	146.73	30	P	PKPbc	04 39 21.2	-0.2	
	baz=324							
Y36A	**Durant**	146.74	28	P	PKPbc	04 39 21.0	-0.4	
	baz=326							
X38A	**Whitesboro**	146.75	26	P	PKPbc	04 39 21.8	+0.4	
	baz=329,SNR=15							
V41A	**Mountainview**	146.83	21	P	PKPbc	04 39 21.4	-0.2	
	baz=334,SNR=40							
233A	**Rising Star**	146.90	33	P	PKPbc	04 39 22.6	+0.6	
	baz=320,SNR=34							
134A	**White-Moore Ra**	146.91	32	P	PKPbc	04 39 22.4	+0.4	
	baz=322							
Y37A	**Hugo**	146.98	27	P	PKPbc	04 39 22.1	0.0	
	baz=327							
W40A	**Ferguson Farm,**	147.02	23	P	PKPbc	04 39 22.2	+0.1	
	baz=332,SNR=11							
V42A	**Cord**	147.08	20	P	PKPbc	04 39 22.2	-0.1	
	baz=335,SNR=38							
Z36A	**Blue Ridge**	147.18	29	P	PKPbc	04 39 22.7	0.0	
	baz=325							
X39A	**Fountain Ranch**	147.19	25	P	PKPbc	04 39 23.2	+0.5	
	baz=330							
135A	**Vickery Place,**	147.27	31	P	PKPbc	04 39 23.7	+0.8	
	baz=323							
234A	**Clairette**	147.32	33	P	PKPbc	04 39 23.8	+0.6	
	baz=321,SNR=13							
W41B	**Gary Mavity, V**	147.34	22	P	PKPbc	04 39 22.9	-0.1	
	baz=333							
333A	**Richland Sprin**	147.37	34	P	PKPbc	04 39 23.9	+0.6	
	baz=319,SNR=28							
MIAR	**Mount Ida**	147.38	24	P	PKPbc	04 39 23.5	+0.4	
	baz=331							
MIAR	**Mount Ida**	147.38	24	*e*PKP2	PKPbc	04 39 23.6	+0.4	
MIAR	**Mount Ida**	147.38	24	*e*PKPbc	PKPbc	04 39 23.6	+0.4	
Y38A	**Idabel**	147.42	26	P	PKPbc	04 39 23.2	-0.1	
	baz=328							
JCT	**Junction City**	147.53	36	P	PKPbc	04 39 24.5	+0.7	
	baz=317,SNR=19							
JCT	**Junction City**	147.53	36	*e*PKP2	PKPbc	04 39 24.2	+0.4	
JCT	**Junction City**	147.53	36	*e*PKPbc	PKPbc	04 39 24.2	+0.4	
V44A	**Blytheville**	147.54	18	P	PKPbc	04 39 23.9	+0.3	
	baz=338							
Z37A	**Pogue Cattle C**	147.63	28	P	PKPbc	04 39 24.3	+0.4	
	baz=326							
Y39A	**Lockesburg**	147.69	25	P	PKPbc	04 39 24.4	+0.4	
	baz=329							
WHTX	**Lake Whitney,**	147.69	32	P	PKPbc	04 39 24.7	+0.5	
	baz=322							
WHTX	**Lake Whitney,**	147.69	32	*e*PKPbc	PKPbc	04 39 24.5	+0.3	
X40A	**Basin Creek Fa**	147.73	23	P	PKPbc	04 39 24.6	+0.4	
	baz=332							
433A	**Art**	147.74	35	P	PKPbc	04 39 24.7	+0.4	
	baz=318,SNR=15							
136A	**Ennis**	147.78	30	P	PKPbc	04 39 24.6	+0.2	
	baz=324							
334A	**Lometa**	147.78	33	P	PKPbc	04 39 25.1	+0.7	
	baz=320							
X41A	**Kaden, Bauxite**	147.84	23	P	PKPbc	04 39 24.5	+0.1	
	baz=332							
Z38A	**Mt. Pleasant**	147.88	27	P	PKPbc	04 39 24.7	+0.1	
	baz=327							
V45A	**Humboldt**	147.90	17	P	PKPbc	04 39 24.6	0.0	
	baz=339							
Y40A	**Okolona**	147.96	24	P	PKPbc	04 39 25.0	+0.2	
	baz=331							
137A	**Heron Place, G**	148.06	29	P	PKPbc	04 39 26.1	+1.0	
	baz=325							
434A	**Burnet**	148.16	34	P	PKPbc	04 39 25.7	+0.2	
	baz=320,SNR=5.2							
236A	**Katherine and**	148.16	31	P	PKPbc	04 39 26.3	+0.9	
	baz=324							
Z39A	**Irene McRaven,**	148.25	26	P	PKPbc	04 39 26.4	+0.9	
	baz=329							
335A	**Moody**	148.26	33	P	PKPbc	04 39 26.3	+0.6	
	baz=321,SNR=5.9							
533A	**Kerrville**	148.27	36	P	PKPbc	04 39 26.4	+0.6	
	baz=318,SNR=9.0							
138A	**Matatall Enter**	148.32	28	P	PKPbc	04 39 27.0	+1.2	
	baz=326,SNR=5.9							
Y41A	**Eaglette Beard**	148.35	23	P	PKPbc	04 39 26.3	+0.5	
	baz=332							
W45A	**Hickory Valley**	148.38	17	P	PKPbc	04 39 25.9	0.0	
	baz=339							
X43A	**Marvell**	148.42	20	P	PKPbc	04 39 26.8	+0.9	
	baz=335							
336A	**Riesel**	148.49	32	P	PKPbc	04 39 27.0	+0.8	
	baz=322,SNR=12							
237A	**Washetta, Mont**	148.52	30	P	PKPbc	04 39 27.5	+1.2	
	baz=325							
435B	**Jarrell**	148.56	33	P	PKPbc	04 39 27.2	+0.7	
	baz=321							
Z40A	**Long Farm, Mag**	148.57	25	P	PKPbc	04 39 27.3	+0.9	
	baz=330							
534A	**Blanco**	148.63	35	P	PKPbc	04 39 27.1	+0.4	
	baz=318,SNR=8.0							
633A	**Saathoff Ranch**	148.64	37	P	PKPbc	04 39 27.7	+1.0	
	baz=317,SNR=6.2							
X44A	**Crenshaw**	148.69	19	P	PKPbc	04 39 27.1	+0.5	
	baz=337							
Y42A	**Garnett, Star**	148.71	22	P	PKPbc	04 39 27.4	+0.7	
	baz=333							
Z41A	**Richland Creek**	148.81	24	P	PKPbc	04 39 27.8	+0.8	
	baz=331							
238A	**Jacksonville**	148.85	29	P	PKPbc	04 39 28.2	+1.0	
	baz=326							
Y43A	**Makayla and Ka**	148.95	21	P	PKPbc	04 39 28.1	+0.7	
	baz=335							
832A	**Faith Ranch, C**	148.98	40	P	PKPbc	04 39 28.8	+1.2	
	baz=314							
436A	**Hall Ranch, Ga**	149.00	32	P	PKPbc	04 39 28.8	+1.2	
	baz=322							
X45A	**UM Field Stati**	149.00	18	P	PKPbc	04 39 27.4	-0.1	
	baz=338							
140A	**Cam and Jess,**	149.02	26	P	PKPbc	04 39 28.6	+1.0	
	baz=329							
337A	**Centerville**	149.04	30	P	PKPbc	04 39 29.2	+1.5	
	baz=324,SNR=6.9							
733A	**Divot King Ran**	149.10	38	P	PKPbc	04 39 29.1	+1.2	
	baz=316							
TKL	**Tuckaleechee C**	149.13	9	PKPbc	PKPbc	04 39 28.1	+0.3	
	comp=Z,20nm,0.8s,baz=123,slow=2.9,SNR=27							
Z42A	**Norrel Spur, H**	149.14	23	P	PKPbc	04 39 28.7	+0.8	
	baz=332,SNR=5.7							
239A	**Gary**	149.15	28	P	PKPbc	04 39 28.9	+1.0	
	baz=327							
535A	**Dale**	149.15	34	P	PKPbc	04 39 28.9	+0.9	
	baz=320							
Y44A	**Strider, Charl**	149.16	20	P	PKPbc	04 39 28.6	+0.8	
	baz=336							
634A	**China Grove, S**	149.18	36	P	PKPbc	04 39 29.2	+1.1	
	baz=318							
NATX	**Nacogdoches**	149.27	28	P	PKPbc	04 39 29.2	+1.0	
	baz=326							
NATX	**Nacogdoches**	149.27	28	*e*PKPbc	PKPbc	04 39 29.0	+0.8	
338A	**Crockett**	149.29	30	P	PKPbc	04 39 29.6	+1.3	
	baz=325							
437A	**Phantom Ranch,**	149.30	31	P	PKPbc	04 39 29.4	+1.1	
	baz=323							
833A	**Chaparral WMA,**	149.31	39	P	PKPbc	04 39 29.8	+1.4	
	baz=315							
141A	**Papa Simpson,**	149.34	25	P	PKPbc	04 39 29.2	+0.8	
	baz=330							
536A	**Bastrop**	149.39	34	P	PKPbc	04 39 29.5	+1.0	
	baz=321							
734A	**La Parita Cree**	149.45	37	P	PKPbc	04 39 30.3	+1.5	
	baz=317							
Y45A	**Yeager Farm, C**	149.46	19	P	PKPbc	04 39 29.2	+0.6	
	baz=337,SNR=8.0							
Z43A	**Armstrong Fami**	149.47	22	P	PKPbc	04 39 29.4	+0.7	
	baz=334							
635A	**Leesville**	149.51	35	P	PKPbc	04 39 30.4	+1.5	
	baz=319,SNR=9.1							
Y46A	**Houston**	149.66	18	P	PKPbc	04 39 29.2	0.0	
	baz=338,SNR=8.5							
339A	**Huntington**	149.68	29	P	PKPbc	04 39 30.2	+0.9	
	baz=326,SNR=5.5							
438A	**Sam Houston St**	149.70	31	P	PKPbc	04 39 30.8	+1.4	
	baz=324							
Z44A	**Pea Ridge, Bel**	149.70	21	P	PKPbc	04 39 30.1	+0.9	
	baz=335							
142A	**Monroe**	149.78	24	P	PKPbc	04 39 30.4	+0.9	
	baz=332							
537A	**Green Hill Far**	149.79	33	P	PKPbc	04 39 30.8	+1.2	
	baz=322							
241A	**Mo Tay, Goldon**	149.84	26	P	PKPbc	04 39 30.7	+1.1	
	baz=330,SNR=6.3							
636A	**Smothers Creek**	149.85	34	P	PKPbc	04 39 31.5	+1.7	
	baz=320,SNR=10							
143A	**Socs Landing,**	149.86	23	P	PKPbc	04 39 30.4	+0.7	
	baz=333							
Z45A	**Winona**	149.87	20	P	PKPbc	04 39 30.1	+0.5	
	baz=337							
933A	**Laredo**	149.89	40	P	PKPbc	04 39 31.6	+1.7	
	baz=314							
735A	**Kenedy**	149.89	36	P	PKPbc	04 39 31.8	+2.0	
	baz=318							
340A	**Bronson**	149.92	28	P	PKPbc	04 39 30.7	+0.9	
	baz=328,SNR=9.6							
Y47A	**UCPARC, Winfie**	149.94	16	P	PKPbc	04 39 29.4	-0.4	
	baz=340,SNR=5.1							
KMSC	**Kings Mountain**	149.94	5	P	PKPbc	04 39 30.0	+0.2	
	baz=354,SNR=9.8							
KMSC	**Kings Mountain**	149.94	5	*e*PKPbc	PKPbc	04 39 29.9	+0.2	
KMSC				*e*PKPab	PKPab	04 39 35.2	-0.1	
834A	**Tilden**	149.98	38	P	PKPbc	04 39 31.7	+1.6	
	baz=316							
439A	**Center Grove,**	150.02	30	P	PKPbc	04 39 31.5	+1.4	
	baz=325							
538A	**Harpers Horsep**	150.12	31	P	PKPbc	04 39 32.0	+1.7	
	baz=324							
242A	**Grayson**	150.12	24	P	PKPbc	04 39 31.2	+0.9	
	baz=331							
736A	**Circle Diamond**	150.25	35	P	PKPbc	04 39 32.5	+1.8	
	baz=320							
Z46A	**Louisville**	150.28	18	P	PKPbc	04 39 31.4	+0.7	
	baz=338,SNR=8.3							
637A	**Eagle Lake**	150.28	33	P	PKPbc	04 39 32.3	+1.5	
	baz=321							
144A	**Alexander Plac**	150.29	21	P	PKPbc	04 39 31.5	+0.9	
	baz=335							
835A	**Beeville**	150.30	37	P	PKPbc	04 39 32.7	+1.9	
	baz=318							
341A	**Kurthwood**	150.32	27	P	PKPbc	04 39 31.8	+1.0	
	baz=329,SNR=9.3							
934A	**Benavides**	150.37	39	P	PKPbc	04 39 33.0	+1.9	
	baz=316							
440A	**Kirbyville**	150.45	28	P	PKPbc	04 39 32.6	+1.5	
	baz=327,SNR=9.3							
145A	**Houston Renfro**	150.49	20	P	PKPbc	04 39 32.1	+1.0	
	baz=336,SNR=8.4							
Z48A	**Northport**	150.52	16	P	PKPbc	04 39 31.0	-0.2	
	baz=341,SNR=5.8							
Z47A	**Carrollton**	150.53	17	P	PKPbc	04 39 31.3	+0.1	
	baz=340,SNR=7.6							
243A	**Waterproof**	150.56	24	P	PKPbc	04 39 32.1	+0.8	
	baz=332							
539A	**Cross D Ranch,**	150.60	30	P	PKPbc	04 39 33.2	+1.7	
	baz=325							
034A	**Hebbronville**	150.65	40	P	PKPbc	04 39 33.4	+1.7	
	baz=315							
342A	**Flagon Creek P**	150.65	25	P	PKPbc	04 39 32.5	+0.9	
	baz=330							
244A	**Avery, Jackson**	150.72	22	P	PKPbc	04 39 32.5	+0.8	
	baz=334,SNR=14							
146A	**Union**	150.75	19	P	PKPbc	04 39 32.6	+0.8	
	baz=337,SNR=9.4							
638A	**Rosharon**	150.78	32	P	PKPbc	04 39 33.9	+2.0	
	baz=323							
441A	**DeRidder**	150.80	27	P	PKPbc	04 39 33.3	+1.4	
	baz=328							
540A	**Vidor**	150.88	29	P	PKPbc	04 39 33.8	+1.7	
	baz=326							
147A	**Livingston**	150.97	18	P	PKPbc	04 39 32.7	+0.4	
	baz=339,SNR=8.6							
245A	**Little AP, Sta**	151.02	21	P	PKPbc	04 39 33.4	+1.0	
	baz=335							
035A	**Encino**	151.10	39	P	PKPbc	04 39 34.8	+2.1	
	baz=315							
344A	**Westbrook Farm**	151.23	23	P	PKPbc	04 39 34.0	+1.1	
	baz=333,SNR=9.2							
GOGA	**Godfrey**	151.38	9	*e*PKIKP	PKPdf	04 39 27.0	-0.2	
GOGA				*e*		04 39 33.7		
GOGA				*e*		04 39 41.0		
GOGA	**Godfrey**	151.38	9	*e*PKPdf	PKPdf	04 39 27.0	-0.2	
GOGA				*e*PKPbc	PKiKP	04 39 33.7	-0.1	
GOGA				*e*PKPab	PKPab	04 39 41.0	-0.3	
541A	**Lake Charles**	151.38	28	P	PKPbc	04 39 34.9	+1.5	
	baz=327							
247A	**Quitman**	151.43	19	P	PKPbc	04 39 34.6	+1.2	
	baz=338,SNR=5.5							
345A	**Thompson Farm,**	151.62	22	P	PKPbc	04 39 35.0	+1.1	
	baz=334							
248A	**Dixon Mills**	151.66	17	P	PKPbc	04 39 34.8	+0.9	
	baz=340,SNR=5.8							
445A	**Amite**	152.02	23	P	PKPbc	04 39 35.3	+0.5	
	baz=333							
347A	**Saraland**	152.06	19	P	PKPbc	04 39 35.7	+0.9	
	baz=338							
348A	**Jackson**	152.25	18	P	PKPbc	04 39 35.9	+0.6	
	baz=339							
645A	**Chauvin**	153.04	25	P	PKPbc	04 39 37.8	+0.8	
	baz=332							

IDC ***29*** *04:27:16.2±0.4,53°.36N×159°.71W,h0km,mb4.7/40, mb1 4.8/44,mb1mx4.8/58,mbtmp4.7/44,ML4.2/4,MS3.2/5, Ms1 3.3/5,ms1mx3.0/39,Error ellipse: s-maj=14.1km s-min=8.9km az=174.0*

BJI ***29*** *04:27:17.0,53°.68N×159°.89W,h13km,mb4.9/39, mB5.0/24,Ms4.9/16,Ms7 4.6/16*

MOS ***29*** *04:27:18.7±1.1,53°.66N×159°.59W,h19km,mb5.1/60, Error ellipse: s-maj=8.0km s-min=5.0km az=87.1*

ISCJB ***29*** *04:27:20.4±0.1,53°.63N±0°.02×159°.56W±0°.02,h33km, mb4.8/238,MS3.7/4,Error ellipse: s-maj=2.8km s-min=1.7km az=23.7*

NEIC ***29*** *04:27:20.2,53°.56N×159°.83W,h23km,mb4.9/170, ML4.5(AEIC),After AEIC.*

ISC 29 04:27:21.4±0.3,53°.56N±0°.05×159°.60W±0°.03,h35km, n934,σ1$55/1018,mb4.9/238,MS3.4/4,27C-32D,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	1.87	344	P	Pn	04 27 50.2	-0.7
SDPT				S	Sn	04 28 13.4	+0.2
DOL	**Dolgoi Island**	2.08	321	P	Pn	04 27 52.5	-1.3
DT1	**Dutton Round H**	2.21	316	P	Pn	04 27 54.5	-1.0
DT1				S	Sn	04 28 20.9	-0.7
PS4A	**Pavlof South-4**	2.23	325	P	Pn	04 27 55.3	-0.5
PVV	**Pavlof Volcano**	2.23	326	P	Pn	04 27 55.2	-0.6
PVV				S	Sn	04 28 22.1	+0.1
DTNA	**Dutton South F**	2.23	317	P	Pn	04 27 55.0	-0.9
PN6	**Pavlof North-6**	2.33	325	P	Pn	04 27 57.6	+0.3
PN6				S	Sn	04 28 28.0	+3.2
VNWF	**Veniaminof 8**	2.60	0	P	Pn	04 28 00.8	-0.2
VNNG	**Veniaminof 1**	2.68	5	P	Pn	04 28 03.6	+1.5
VNNF	**Veniaminof 3**	2.74	3	P	Pn	04 28 04.9	+1.9
CHGN	**Chignik**	2.83	13	*e*Pn	Pn	04 28 03.8	-0.4
CHGN				*e*S	Sn	04 28 37.9	+0.9
SSLN	**Shishaldin Nor**	2.88	298	P	Pn	04 28 04.4	-0.4
SSLW	**Shishaldin Wes**	2.93	296	P	Pn	04 28 04.6	-0.9
WESE	**West Dahl East**	3.08	289	P	Pn	04 28 06.5	-1.2
WESP	**Westdahl Peak**	3.17	289	P	Pn	04 28 07.5	-1.2
WESP				S	Sn	04 28 42.2	-3.1
ANPB	**Aniakchak Plen**	3.34	13	P	Pn	04 28 11.8	+0.6
ANNE	**Aniakchak Nort**	3.48	14	P	Pn	04 28 14.2	+1.2
ANNW	**Aniakchak Nort**	3.51	12	P	Pn	04 28 13.6	+0.2
AKUT	**Akutan**	3.70	281	*e*Pn	Pn	04 28 14.9	-1.1
AKUT				*e*S	Sn	04 28 54.9	-3.5
AKGG	**Akutan Green G**	3.84	282	P	Pn	04 28 17.1	-0.8
UNV	**Unalaska Valle**	4.12	277	P	Pn	04 28 19.7	-2.0
MTBL	**Makushin Table**	4.22	278	P	Pn	04 28 22.1	-1.2
MCIR	**Makushin Cirqu**	4.35	278	P	Pn	04 28 23.1	-1.4
PLK4	**Peulik 4**	4.48	23	P	Pn	04 28 28.3	+1.5
PLK3	**Peulik 3**	4.55	23	P	Pn	04 28 29.0	+1.3
PLK1	**Peulik 1**	4.58	20	P	Pn	04 28 28.9	+0.9
KJL	**Kejulik**	5.05	25	P	Pn	04 28 35.1	+0.5
OKER	**Okmok East Rim**	5.05	272	P	Pn	04 28 34.2	-0.4
OKTU	**Okmok Mt. Tuli**	5.05	271	P	Pn	04 28 33.8	-0.8
OHAK	**Old Harbor**	5.14	42	P	Pn	04 28 35.0	-0.8
NIKH	**Nikolski High**	5.59	268	*e*Pn	Pn	04 28 40.2	-1.8
CNPM	**China Poot**	7.55	34	*e*Pn	Pn	04 29 08.5	-0.5
BRLK	**Bradley Lake**	7.85	34	*e*Pn	Pn	04 29 10

PCA eSn **Sn** 04 32 29.8 -2.8
MENT Mentasta 12.54 35 ePn **Pn** 04 30 16.3 -0.9
CCB Clear Creek Bu 12.63 24 ePn **Pn** 04 30 15.5 -2.8
HDA Harding Lake 12.65 26 ePn **Pn** 04 30 14.0 -4.7
HDA eSn **Sn** 04 32 31.0 -7.1
MDM Murphy Dome 12.80 22 ePn **Pn** 04 30 17.9 -2.8
COLA College 12.81 23 eP **Pn** 04 30 18.1 -2.7
COLA eS **Sn** 04 32 38.9 -3.0
COLA pmax pmax
comp=Z,12nm,0.6s
COLA College 12.81 23 ePn **Pn** 04 30 18.1 -2.7
comp=Z,12nm,0.6s
COLA eS **Sn** 04 32 38.9 -3.0
DOT Dot Lake 12.91 32 Pn **Pn** 04 30 17.8 -4.4
comp=Z,25nm,1.0s
DOT eS **Sn** 04 32 43.3 -1.2
IL1 Eielson Array 12.96 25 ePn **Pn** 04 30 19.1 -3.8
IL1 eSn **Sn** 04 32 38.1 -7.5
ILAR Eielson Array 12.96 25 Pn **Pn** 04 30 19.4 -3.5
comp=Z,1.1nm,0.3s,baz=218,slow=13,SNR=44
ILAR Sn **Sn** 04 32 40.0 -5.6
comp=Z,1.5nm,0.3s,baz=6.0,slow=24,SNR=5.8
ILAR LR LR 04 35 20.5
comp=Z,36nm,19.7s,baz=208,slow=37
ILB Eielson Array 12.96 25 ePn **Pn** 04 30 19.8 -3.1
DHAK Deception Hill 13.06 56 ePn **Pn** 04 30 25.7 +1.4
DHAK eSn **Sn** 04 32 45.1 -3.2
HYT Haines Junctio 13.96 50 ePn **P** 04 30 40.0 -4.2
HYT eSn **Sn** 04 33 09.8 -0.4
COLD Coldfoot 14.45 15 ePn **Pn** 04 30 42.6 -0.5
SKAG Skagway 14.59 56 ePn **P** 04 30 48.3 -2.7
EGAK Eagle 14.62 32 ePn **Pn** 04 30 44.6 -0.8
DAWY Dawson 14.77 37 ePn **Pn** 04 30 48.0 +0.6
WRAK Wrangell Islan 15.86 69 ePn **P** 04 31 08.9 +3.9
comp=Z,22nm,1.0s
DLBC Dease Lake 17.16 62 P **P** 04 31 19.8 +0.1
comp=Z,0.2nm,0.3s,baz=267,slow=11,SNR=9.7
DLBC Dease Lake 17.16 62 ePn **P** 04 31 19.7 +0.1
comp=Z,14nm,1.0s
BBB Bella Bella 18.98 81 P **Pn** 04 31 41.1 +0.7
comp=Z,0.2nm,0.3s,baz=48,slow=16,SNR=3.1
BBB LR LR 04 37 09.2
comp=Z,132nm,18.3s,baz=178,slow=31
INK Inuvik 19.22 30 P **Pn** 04 31 44.2 +1.0
comp=Z,3.3nm,0.3s,baz=230,slow=12,SNR=34
INK S **S** 04 35 18.4 +0.8
comp=Z,0.1nm,0.3s,baz=280,slow=19,SNR=6.4
INK LR LR 04 39 36.9
comp=Z,154nm,19.5s,baz=230,slow=38
INK Inuvik 19.22 30 eP **Pn** 04 31 44.0 +0.8
INK eS **S** 04 35 20.9 +3.3
INK pmax pmax
comp=Z,54nm,0.9s
INK Inuvik 19.22 30 eP **Pn** 04 31 44.0 +0.8
comp=Z,54nm,0.9s
INK eS **S** 04 35 20.9 +3.3
BILL Bilibino 21.67 325 *d* iP **P** 04 32 09.3 +0.8
BILL *i* 04 32 28.6
BILL pmax pmax
comp=Z,11nm,1.1s
BILL Bilibino 21.67 325 eP **P** 04 32 09.6 +1.1
comp=Z,44nm,1.2s
LLLB Lillooet 23.18 82 eP **P** 04 32 26.1 +1.4
comp=Z,34nm,1.7s
E03A Lebam 23.97 92 eP **P** 04 32 34.7 +2.4
comp=Z,17nm,0.9s
B05A Bryant 24.03 87 P **P** 04 32 34.9 +2.1
baz=297
D05A Enumclaw 24.60 90 eP **P** 04 32 41.0 +3.0
comp=Z,30nm,1.1s
PET Petropavlovsk 24.71 286⇑ *i* P **P** 04 32 40.1 +1.1
PET eS **S** 04 36 56.8 -1.5
PET pmax pmax
comp=Z,86nm,1.1s
PET MLR MLR
comp=Z,100nm,19.0s
PET Petropavlovsk 24.71 286 eP **P** 04 32 38.3 -0.6
comp=Z,88nm,1.1s
LON Longmire 24.92 90 eP **P** 04 32 42.7 +1.7
LON pmax pmax
comp=Z,6.0nm,1.1s
LON Longmire 24.92 90 eP **P** 04 32 42.7 +1.7
comp=Z,6.1nm,1.1s
YKW3 Yellowknife Ar 24.94 51 eP **P** 04 32 43.0 +2.0
comp=Z,13nm,1.0s
YKA Yellowknife Ar 24.95 51 P **P** 04 32 43.1 +2.1
comp=Z,7.7nm,0.8s,baz=271,slow=6.4,SNR=83
YKA PcP **PcP** 04 36 15.6 +0.2
comp=Z,3.3nm,0.7s,baz=273,slow=2.0,SNR=12
YKB5 Yellowknife Ar 24.95 51 eP **P** 04 32 40.4 -0.6
YKB5 ePcP **PcP** 04 36 14.6 -0.7
F04A Amboy 24.97 93 eP **P** 04 32 42.6 +1.2
comp=Z,9.2nm,0.9s
COR Corvallis 25.17 96 eP **P** 04 32 43.6 +0.4
COR pmax pmax
comp=Z,88nm,1.8s
COR Corvallis 25.17 96 eP **P** 04 32 43.6 +0.4
comp=Z,88nm,1.8s
PEA0 Petropavlovsk- 25.23 286 eP **P** 04 32 43.5 -0.2
PEA0B Petropavlovsk- 25.23 286 eP **P** 04 32 44.0 +0.3
comp=Z,60nm,0.8s
PETK Petropavlovsk- 25.23 286 P **P** 04 32 43.6 -0.1
comp=Z,36nm,0.6s,baz=79,slow=13,SNR=24
LTY Liberty 25.35 88 eP **P** 04 32 44.8 -0.2
comp=Z,22nm,1.8s
B08A Colville Reser 25.63 85 eP **P** 04 32 50.1 +2.7
comp=Z,10nm,0.8s
I04A Tendick Farm, 26.15 97 P **P** 04 32 53.4 +1.2
baz=305
SEY Seymchan 26.34 310 P **P** 04 32 55.4 +1.8
comp=Z,5.8nm,0.7s,baz=234,slow=19,SNR=2.6
SEY Seymchan 26.34 310 *i* P **P** 04 32 55.2 +1.6
L02D Cave Junction, 26.42 101 P **P** 04 32 56.5 +1.9
baz=308
I05D Terrebonne, OR 26.48 95 P **P** 04 32 56.8 +1.7
baz=304
NEW Newport 26.99 84 P **P** 04 33 01.3 +1.6
comp=Z,8.1nm,0.8s,baz=297,slow=7.5,SNR=8.7
NEW LR LR 04 41 54.6
comp=Z,32nm,20.2s,baz=290,slow=32
NEW Newport 26.99 84 P **P** 04 33 01.8 +2.1
baz=298
NEW Newport 26.99 84 eP **P** 04 33 01.0 +1.3
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 26.99 84 eP **P** 04 33 00.9 +1.3
comp=Z,10nm,0.9s
J05D Fort Rock, OR 27.14 97 P **P** 04 33 03.3 +2.1
baz=306
YBH Yreka Blue Hor 27.20 101 eP **P** 04 33 02.3 +0.6
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 27.20 101 eP **P** 04 33 02.3 +0.6
comp=Z,6.3nm,0.9s
EDM Edmonton 27.21 72 eP **P** 04 33 03.7 +2.1
EDM pmax pmax
comp=Z,31nm,1.3s
EDM Edmonton 27.21 72 eP **P** 04 33 03.7 +2.1
comp=Z,31nm,1.3s
K05A Summer Lake 27.67 97 eP **P** 04 33 09.2 +3.1
comp=Z,12nm,0.9s
M04C Macdoel 27.68 100 P **P** 04 33 08.6 +2.5
baz=308
MOD Modoc Plateau 28.52 98 eP **P** 04 33 14.0 +0.5
comp=Z,6.7nm,0.9s
WALA Waterton Lakes 28.52 80 eP **P** 04 33 15.8 +2.3
comp=Z,6.9nm,1.0s
BSMT Bassoo Peak 28.56 83 eP **P** 04 33 16.4 +2.4
BSMT ePcP **PcP** 04 36 22.2 -2.3
O03D Paynes Creek 28.65 102 P **P** 04 33 15.9 +1.3
baz=310
BLMT Blacktail Moun 28.74 83 eP **P** 04 33 18.0 +2.4
JTMT Jette 28.91 83 eP **P** 04 33 18.4 +1.4
YBMT Yellow Bay 29.02 83 eP **P** 04 33 20.1 +2.2
MSO Missoula 29.57 84 P **P** 04 33 24.4 +1.6
baz=300
MSO Missoula 29.57 84 eP **P** 04 33 20.9 -1.8
comp=Z,7.2nm,1.3s
MSO ePcP **PcP** 04 36 25.6 -1.3
CHMT Chamberlain Mo 29.93 84 eP **P** 04 33 27.8 +1.7
CHMT ePcP **PcP** 04 36 27.6 -0.4
MFID Camas Ranch 30.28 92 eP **P** 04 33 31.2 +2.1
comp=Z,4.3nm,0.8s
PAHR Pah Rah Range 30.44 101 eP **P** 04 33 33.0 +2.4
comp=Z,5.5nm,0.8s
HLID Hailey 31.04 90 P **P** 04 33 37.6 +1.7
baz=305
HLID Hailey 31.04 90 eP **P** 04 33 37.9 +2.0
comp=Z,2.8nm,0.8s
DLMT Dillon 31.13 86 eP **P** 04 33 38.6 +2.0
comp=Z,5.4nm,0.9s
DLMT ePcP **PcP** 04 36 31.9 +0.8
BMN Battle Mountai 31.25 97 eP **P** 04 33 39.9 +2.1
BMN pmax pmax
comp=Z,14nm,1.4s
BMN Battle Mountai 31.25 97 eP **P** 04 33 39.9 +2.1
comp=Z,14nm,1.4s
MCMT McKenzie Canyo 31.27 87 eP **P** 04 33 39.9 +1.9
MCMT ePP **PnPn** 04 34 42.0 +1.5
MCMT ePcP **PcP** 04 36 30.9 -0.6
BOZ Bozeman (W) 31.55 85 P **P** 04 33 42.2 +1.9
baz=302,SNR=6.3
BOZ Bozeman (W) 31.55 85 eP **P**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 31.55 85 eP **P** 04 33 42.5 +2.2
comp=Z,4.2nm,0.8s
ELK Elko 32.23 95 eP **P** 04 33 48.9 +2.5
ELK eS **S** 04 38 53.5 -3.9
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 32.23 95 eP **P** 04 33 48.9 +2.5
comp=Z,6.5nm,0.9s
ELK eS **S** 04 38 53.5 -3.9
YHH Holmes Hill 32.48 86 eP **P** 04 33 50.9 +2.2
comp=Z,11nm,0.8s
YHH eS **S** 04 38 53.0 -8.2
H17A Grant Village 32.86 86 P **P** 04 33 53.3 +1.4
baz=304
H17A Grant Village 32.86 86 eP **P** 04 33 54.5 +2.6
comp=Z,17nm,1.3s
IMW Indian Meadow 32.92 87 eP **P** 04 33 53.9 +1.3
comp=Z,5.4nm,0.8s
TPAW Teton Pass 33.15 88 eP **P** 04 33 56.8 +2.3
comp=Z,21nm,1.9s
RLMT Red Lodge 33.24 84 P **P** 04 33 57.1 +2.0
baz=303,SNR=7.9
RLMT Red Lodge 33.24 84 eP **P** 04 33 56.5 +1.4
comp=Z,17nm,0.9s
VES Vestal, Richgr 33.24 106 P **P** 04 33 56.3 +1.3
baz=315
REDW Red Top Meadow 33.28 88 eP **P** 04 33 56.1 +0.5
comp=Z,7.1nm,1.1s
PKM Mcpherson Peak 33.50 108 P **P** 04 33 58.7 +1.1
baz=316
R11A Troy Canyon, C 33.57 99 P **P** 04 34 00.1 +2.1
baz=312,SNR=5.4
R11A Troy Canyon, C 33.57 99 eP **P** 04 33 59.1 +1.0
comp=Z,9.1nm,1.0s
ISA Isabella, Lake 33.72 105 P **P** 04 34 00.6 +1.3
baz=315
DAC Darwin (Calif) 33.80 104 eP **P** 04 34 00.1 0.0
DAC *e* 04 36 37.6
DAC pmax pmax
comp=Z,6.0nm,0.7s
DAC Darwin (Calif) 33.80 104 eP **P** 04 34 00.1 0.0
comp=Z,6.3nm,0.7s
DAC ePcP **PcP** 04 36 37.5 -1.1
MPMC Manual Prospec 34.01 104 P **P** 04 34 04.2 +2.2
baz=314,SNR=10
DUG Dugway, Tooele 34.02 94 P **P** 04 34 04.0 +2.0
baz=309,SNR=11
DUG Dugway, Tooele 34.02 94 eP **P** 04 34 02.9 +1.0
DUG *e* 04 36 37.7
DUG pmax pmax
comp=Z,20nm,1.2s
DUG Dugway, Tooele 34.02 94 eP **P** 04 34 02.9 +1.0
comp=Z,20nm,1.2s
DUG ePcP **PcP** 04 36 37.7 -1.4
TPNV Topopah Spring 34.12 101 P **P** 04 34 05.1 +2.2
baz=313,SNR=5.9
TPNV Topopah Spring 34.12 101 eP **P** 04 34 04.5 +1.7
TPNV pmax pmax
comp=Z,13nm,0.8s
TPNV Topopah Spring 34.12 101 eP **P** 04 34 04.5 +1.7
comp=Z,13nm,0.8s
LAO LASA Array 34.20 79 P **P** 04 34 05.5 +2.2
baz=302
LAO LASA Array 34.20 79 eP **P** 04 34 05.1 +1.8
comp=Z,17nm,1.0s
LAO ePcP **PcP** 04 36 37.5 -1.9
BW06 Boulder Array 34.40 88 P **P** 04 34 06.8 +1.5
baz=306
BW06 Boulder Array 34.40 88 eP **P** 04 34 07.2 +1.9
comp=Z,5.1nm,0.9s
PDAR Pinale Array 34.40 88 P **P** 04 34 06.8 +1.5
comp=Z,3.6nm,0.8s,baz=296,slow=4.8,SNR=22
DGMT Dagmar 34.47 75 P **P** 04 34 06.5 +0.9
baz=300
EDW2 Edwards Air Fo 34.55 106 P **P** 04 34 08.1 +1.6
baz=316
TIXI Tiksi 34.81 328 PcP **PcP** 04 36 40.7 0.0
comp=Z,9.3nm,0.8s,baz=57,slow=2.5,SNR=7.8
TIXI Tiksi 34.81 328 eP **P** 04 34 06.7 -1.6
TIXI *e* 04 36 41.2
TIXI pmax pmax
comp=Z,21nm,0.6s
TIXI Tiksi 34.81 328 eP **P** 04 34 06.7 -1.6
comp=Z,21nm,0.6s
TIXI ePcP **PcP** 04 36 41.2 +0.5
GSC Goldstone, Bar 34.93 104 P **P** 04 34 11.7 +1.9
baz=315,SNR=9.9
GSC Goldstone, Bar 34.93 104 eP **P** 04 34 10.8 +1.0
GSC pmax pmax
comp=Z,12nm,1.0s
GSC Goldstone, Bar 34.93 104 eP **P** 04 34 10.8 +1.0
comp=Z,12nm,1.0s
SHPR Sheep Range 35.06 101 eP **P** 04 34 13.0 +2.1
comp=Z,3.2nm,0.9s
BFSC Mount Baldy Ra 35.20 106 P **P** 04 34 13.9 +1.7
baz=316
CCUT Cedar City 35.41 98 eP **P** 04 34 15.3 +1.2
comp=Z,7.2nm,0.9s
MSU Marysvale 35.48 96 eP **P** 04 34 17.0 +2.4
MSU *e* 04 36 44.6
MSU Marysvale 35.48 96 eP **P** 04 34 17.0 +2.4
MSU ePcP **PcP** 04 36 44.6 +1.1
A26A Wade Farm, Ken 35.49 74 P **P** 04 34 16.0 +1.6
baz=300
FCC Fort Churchill 35.53 55 eP **P** 04 34 14.8 +0.3
FCC pmax pmax
comp=Z,26nm,1.0s
FCC Fort Churchill 35.53 55 eP **P** 04 34 14.8 +0.3
comp=Z,26nm,1.0s
HEC Hector,Ludlow 35.54 104 P **P** 04 34 16.8 +1.7
baz=315
TMUT Trail Mountain 35.55 94 eP **P** 04 34 16.7 +1.4
comp=Z,11nm,0.9s
P17A Butcher Ranch, 35.71 93 eP **P** 04 34 17.5 +0.9
comp=Z,8.7nm,1.2s
Q16A Castle Valley 35.81 94 eP **P** 04 34 18.7 +1.2
comp=Z,14nm,1.0s
Q16A ePcP **PcP** 04 36 45.0 +0.6
LCMT Little Creek M 35.84 98 eP **P** 04 34 19.0 +1.3
comp=Z,13nm,1.1s
LCMT ePcP **PcP** 04 36 41.7 -2.8
P18A Preston Nutter 35.91 92 eP **P** 04 34 20.1 +1.6
comp=Z,7.6nm,0.8s
MURC Murrieta 35.93 106 P **P** 04 34 20.2 +1.9
baz=317
GMRC Granite Mounta 35.96 103 P **P** 04 34 20.6 +1.9
baz=315,SNR=9.6
SRU San Rafael Swe 36.07 93 eP **P** 04 34 22.2 +2.5
SRU *e* 04 36 44.8
SRU pmax pmax
comp=Z,13nm,0.8s
SRU San Rafael Swe 36.07 93 eP **P** 04 34 22.1 +2.5
comp=Z,12nm,0.8s
SRU ePcP **PcP** 04 36 44.8 -0.4
KNB Kanab 36.09 98 eP **P** 04 34 20.8 +1.0
KNB pmax pmax
comp=Z,9.0nm,0.9s
KNB Kanab 36.09 98 eP **P** 04 34 20.8 +1.0
comp=Z,8.9nm,0.9s
D26A Manning 36.23 77 P **P** 04 34 21.8 +1.0
baz=302
K22A Casper 36.27 85 P **P** 04 34 22.6 +1.3
baz=306,SNR=11
K22A Casper 36.27 85 eP **P** 04 34 22.9 +1.5
comp=Z,15nm,0.8s
BELC Belle Mtn. Jos 36.33 105 P **P** 04 34 23.2 +1.3
baz=316,SNR=6.2
PFO Pinyon Flats O 36.34 106 P **P** 04 34 23.6 +1.6
baz=317
PFO Pinyon Flats O 36.34 106 eP **P** 04 34 23.9 +1.9
PFO pmax pmax
comp=Z,7.0nm,1.1s
PFO Pinyon Flats O 36.34 106 eP **P** 04 34 23.9 +1.9
comp=Z,7.0nm,1.1s
TPFO Pinon Flats 36.35 106 P **P** 04 34 23.5 +1.5
baz=317
109C Camp Elliot, M 36.50 107 P **P** 04 34 24.9 +1.8
baz=317
A28A Rude Farm, Bot 36.50 73 P **P** 04 34 24.5 +1.5
baz=300
YSS Yuzh-Sakhalins 36.55 284⇑ eP **P** 04 34 24.1 +0.7
YSS pmax pmax
comp=Z,8.0nm,0.6s
NEE2 Needles Airpor 36.58 102 P **P** 04 34 25.5 +1.7
baz=315
B28A Dugan Ranch, T 36.68 73 P **P** 04 34 25.5 +0.9
baz=301
IRM Iron Mountain 36.71 104 P **P** 04 34 27.0 +2.0
baz=316,SNR=8.4
W13A Hualapai Mount 36.78 101 eP **P** 04 34 27.0 +1.3
comp=Z,11nm,0.9s
O20A White River Ci 36.78 90 P **P** 04 34 27.2 +1.4
baz=309,SNR=24
O20A White River Ci 36.78 90 eP **P** 04 34 27.3 +1.6
comp=Z,31nm,0.8s
U15A North Rim 36.80 98 eP **P** 04 34 26.9 +0.9
comp=Z,11nm,1.0s
U15A ePcP **PcP** 04 36 46.8 -0.7
YAK Yakutsk 36.81 312 eP **P** 04 34 25.8 +0.3
YAK *e**PP **sP** 04 34 37.8 -2.0
YAK *e* 04 35 49.6
YAK ePPP PPP 04 36 04.6
YAK *e* 04 36 46.1
YAK eS **S** 04 40 07.5 +0.6
YAK eSS **SnSn** 04 42 39.1 -0.7
YAK eSSS SSS 04 42 59.8
YAK *e* 04 44 36.3
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=E,18nm,1.1s
YAK pmax pmax
comp=Z,177nm,4.9s
YAK pmax pmax
comp=N,46nm,3.5s
YAK pmax pmax
comp=E,40nm,2.8s
YAK smax smax
comp=N,26nm,1.5s
YAK smax smax
comp=E,91nm,1.6s
H25A Fruitdale 36.87 81 P **P** 04 34 27.8 +1.6
baz=305,SNR=7.3
MONP2 Monument Peak 36.88 106 P **P** 04 34 28.3 +1.6
baz=317
BC3 Big Chuckawall 36.89 105 P **P** 04 34 28.2 +1.6
baz=316
RSSD Black Hills 36.89 82 P **P** 04 34 27.8 +1.2
baz=305
RSSD Black Hills 36.89 82 eP **P** 04 34 27.9 +1.2
RSSD *e* 04 36 47.7
RSSD pmax pmax
comp=Z,20nm,0.9s
RSSD Black Hills 36.89 82 eP **P** 04 34 27.9 +1.2
comp=Z,20nm,0.9s
RSSD ePcP **PcP** 04 36 47.7 +0.1
C28A Hausauer Farms 37.05 74 P **P** 04 34 29.1 +1.4
baz=302
A29A Manning Farm, 37.08 72 P **P** 04 34 29.3 +1.4
baz=301,SNR=10
PDMCI Parker Dam,Lak 37.19 103 P **P** 04 34 30.7 +1.7
baz=315
IKP In-Ko-Pah, Jac 37.24 106 P **P** 04 34 31.4 +1.9
baz=317
B29A Wagenman Farm, 37.25 73 P **P** 04 34 30.5 +1.2
baz=301
PV09 Paradox Valley 37.30 93 eP **P** 04 34 32.0 +1.8
Y12C Blythe 37.36 104 P **P** 04 34 32.3 +1.9
baz=316,SNR=5.0
Y12C Blythe 37.36 104 eP **P** 04 34 31.7 +1.3
comp=Z,9.3nm,0.7s
MDND Maddock 37.43 74 P **P** 04 34 32.5 +1.6
baz=302,SNR=5.1
MDND Maddock 37.43 74 eP **P** 04 34 32.6 +1.7
comp=Z,50nm,0.9s
PV10 Paradox Valley 37.43 93 eP **P** 04 34 33.0 +1.7
PV05 Paradox Valley 37.59 93 eP **P** 04 34 32.9 +0.2
PV05 ePcP **PcP** 04 36 50.4 +0.6
A30A Hoffart Farm, 37.60 71 P **P** 04 34 33.3 +1.0
baz=301
N23A Red Feather La 37.68 87 P **P** 04 34 34.9 +1.4
baz=308,SNR=8.8
N23A Red Feather La 37.68 87 eP **P** 04 34 35.0 +1.6
comp=Z,19nm,1.1s
GLA Glamis 37.69 105 P **P** 04 34 35.1 +1.8
baz=317
B30A Myrvik Farm, E 37.84 72 P **P** 04 34 35.7 +1.3
baz=302,SNR=10.0
PV01 Paradox Valley 37.87 93 eP **P** 04 34 36.7 +1.7
WUAZ Wupatki 37.96 99 P **P** 04 34 37.9 +2.2
baz=314,SNR=14
WUAZ Wupatki 37.96 99 eP **P** 04 34 37.6 +1.8
comp=Z,15nm,0.8s
Y14A Wickenburg 38.11 102 eP **P** 04 34 38.8 +1.9
comp=Z,38nm,0.8s
SMCO Snowmass 38.15 90 eP **P** 04 34 38.7 +1.2
comp=Z,6.6nm,1.1s
SMCO ePcP **PcP** 04 36 50.8 -1.0
C30A Mose, Pekin 38.15 73 P **P** 04 34 38.2 +1.2
baz=302
B31A Greenbush Farm 38.24 72 P **P** 04 34 38.6 +0.9
baz=302
ULM Lac du Bonnet 38.29 68 P **P** 04 34 39.3 +1.2
comp=Z,11nm,0.7s,baz=293,slow=9.6,SNR=15
ULM Lac du Bonnet 38.29 68 eP **P** 04 34 37.7 -0.4
ULM pmax pmax
comp=Z,12nm,0.8s
ULM Lac du Bonnet 38.29 68 eP **P** 04 34 37.7 -0.4
comp=Z,12nm,0.8s
F29A Eureka 38.39 77 P **P** 04 34 40.3 +1.3
baz=304
MVCO Mesa Verde 38.52 94 P **P** 04 34 41.3 +0.8
baz=312
MVCO Mesa Verde 38.52 94 eP **P** 04 34 42.1 +1.6
comp=Z,5.3nm,0.8s
C31A Landman Farms, 38.52 73 P **P** 04 34 41.2 +1.0
baz=302
ISCO Idaho Springs 38.56 88 P **P** 04 34 41.8 +0.9
baz=309
ISCO Idaho Springs 38.56 88 eP **P** 04 34 42.7 +1.8
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO Idaho Springs 38.56 88 eP **P** 04 34 42.7 +1.8
comp=Z,3.0nm,0.9s
A32A Rocking H Ranc 38.63 70 P **P** 04 34 42.1 +1.1
baz=302,SNR=5.2
X16A Lo Mia Camp, P 38.69 100 eP **P** 04 34 43.4 +1.6
comp=Z,8.8nm,1.0s
X16A ePcP **PcP** 04 36 53.1 -0.2
G29A Hoven 38.69 77 P **P** 04 34 42.8 +1.1
baz=305
H29A Onida 38.85 78 P **P** 04 34 44.1 +1.2
baz=305
F30A Leola 38.85 76 P **P** 04 34 44.0 +1.0
baz=304
B32A Ashes, Strandq 38.88 71 P **P** 04 34 44.0 +0.9
baz=302
D31A Mcclaflin, Tow 38.93 74 P **P** 04 34 44.4 +0.8
baz=303
E31A Nome 39.11 74 P **P** 04 34 45.7 +0.7
baz=304
I29A Vivian Onida 39.15 79 P **P** 04 34 46.6 +1.1
baz=306
S22A 4UR Ranch, Cre 39.16 92 P **P** 04 34 47.6 +1.6
baz=311
S22A 4UR Ranch, Cre 39.16 92 eP **P** 04 34 47.0 +1.0
comp=Z,7.0nm,1.2s
G30A Faulkton 39.18 77 P **P** 04 34 47.0 +1.3
baz=305,SNR=7.0
A33A Warroad 39.24 70 P **P** 04 34 47.0 +0.9
baz=302,SNR=9.5
AGMN Agassiz Nation 39.31 71 P **P** 04 34 47.5 +0.8
baz=302,SNR=11
AGMN Agassiz Nation 39.31 71 eP **P** 04 34 46.9 +0.2
comp=Z,15nm,0.8s

Q24A	**Divide** baz=310	39.37	89	P		P	04 34 49.0 +1.3
B33A	**Robert and Kas** baz=303,SNR=5.2	39.48	71	P		P	04 34 49.1 +0.9
X18A	**Snowflake** comp=Z,11nm,1.0s	39.49	98	*e*P		P	04 34 50.4 +1.8
214A	**Organ Pipe Nat** baz=317,SNR=7.3	39.65	104	P		P	04 34 51.6 +1.9
214A	**Organ Pipe Nat** comp=Z,86nm,1.1s	39.65	104	*e*P		P	04 34 51.6 +1.9
C33A	**Trail** baz=303	39.66	72	P		P	04 34 50.6 +1.0
SUSD	**Miller** baz=306	39.69	78	P		P	04 34 50.9 +1.0
I30A	**Oacoma** baz=306	39.72	79	P		P	04 34 51.1 +0.9
B34A	**Aery, Baudette** baz=303,SNR=10	39.89	70	P		P	04 34 52.4 +0.8
F32A	**Veblen** baz=305	39.93	75	P		P	04 34 52.4 +0.5
H31A	**Wolsey** baz=306,SNR=7.0	39.95	77	P		P	04 34 53.1 +1.0
D33A	**AnnSam, Waubun** baz=304	39.95	72	P		P	04 34 52.6 +0.5
SDCO	**Great Sand Dun** baz=311,SNR=9.1	39.95	91	P		P	04 34 54.3 +1.8
SDCO	**Great Sand Dun** comp=Z,8.1nm,1.3s	39.95	91	*e*P		P	04 34 53.2 +0.7
OGNE	**Ogallala** baz=308,SNR=6.4	39.98	84	P		P	04 34 54.1 +1.7
OGNE	**Ogallala** comp=Z,33nm,1.0s	39.98	84	*e*P		P	04 34 53.0 +0.5
J30A	**Dallas** baz=307,SNR=15	40.03	80	P		P	04 34 54.0 +1.2
G32A	**Webster** baz=305	40.06	76	P		P	04 34 53.7 +0.6
C34A	**RKJ Ranch, Bem** baz=304	40.20	71	P		P	04 34 54.7 +0.5
E33A	**Westby DABS, E** baz=304	40.22	73	P		P	04 34 54.8 +0.5
K30A	**Basset** baz=307,SNR=5.7	40.35	81	P		P	04 34 57.1 +1.7
D34A	**Park Rapids** baz=304,SNR=5.7	40.35	72	P		P	04 34 55.8 +0.4
F33A	**5 Mile Ranch,** baz=305	40.43	74	P		P	04 34 56.4 +0.4
B35A	**Bob, Littlefor** baz=303,SNR=8.6	40.48	70	P		P	04 34 57.0 +0.6
J31A	**Geddes** baz=307	40.49	79	P		P	04 34 57.3 +0.7
H32A	**Carlson Farm,** baz=306,SNR=8.1	40.54	77	P		P	04 34 57.3 +0.3
C35A	**Jirik Farms, M** baz=304,SNR=5.8	40.70	71	P		P	04 34 58.6 +0.3
G33A	**Ortonville** baz=305	40.71	75	P		P	04 34 58.8 +0.4
I32A	**Karley and Nic** baz=306	40.80	77	P		P	04 34 59.5 +0.3
H33A	**Prehn Over Nor** baz=306,SNR=5.4	40.84	76	P		P	04 34 59.9 +0.4
KSCO	**Kaye Shedlock'** baz=310	40.84	87	P		P	04 35 01.0 +1.3
KSCO	**Kaye Shedlock'** comp=Z,17nm,0.7s	40.84	87	*e*P		P	04 35 01.9 +2.2
K31A	**O'Neill** baz=307	40.88	80	P		P	04 35 01.6 +1.7
J32A	**Parkston** baz=307	40.97	78	P		P	04 35 01.2 +0.7
D35A	**Remer** baz=304,SNR=6.7	41.00	71	P		P	04 35 01.4 +0.7
T25A	**Trinidad** baz=312,SNR=6.4	41.00	91	P		P	04 35 02.9 +1.7
T25A	**Trinidad** comp=Z,16nm,0.9s	41.00	91	*e*P		P	04 35 02.5 +1.4
F34A	**Alexandria** baz=305	41.05	74	P		P	04 35 01.5 +0.3
L31A	**Butterfield Fa** baz=308	41.11	81	P		P	04 35 02.9 +1.2
I33A	**Coleman** baz=306	41.18	77	P		P	04 35 02.7 +0.5
CLNS	**Chul'man**	41.19	306	*e*P		P	04 35 01.7 -0.5
CLNS	comp=Z,16nm,0.8s			pmax		pmax	
CLNS	comp=E,14nm,0.9s			pmax		pmax	
CLNS	comp=N,8.0nm,1.0s			pmax		pmax	
LAZ	**Ladron**	41.24	96	*e*P		P	04 35 05.2 +2.2
ANMO	**Albuquerque** baz=314	41.27	95	P		P	04 35 04.6 +1.3
ANMO	**Albuquerque** comp=Z,6.0nm,1.2s	41.27	95	*ce*P		P	04 35 05.1 +1.8
ANMO				pmax		pmax	
ANMO	**Albuquerque** comp=Z,5.5nm,1.1s	41.27	95	*e*P		P	04 35 03.2 -0.1
ANMO				*e*PcP		PcP	04 37 02.8 +1.3
C36A	**Pine Crest Far** baz=304,SNR=6.5	41.31	70	P		P	04 35 04.3 +1.0
K32A	**Verdigre** baz=308	41.32	79	P		P	04 35 04.1 +0.7
F35A	**Swanville** baz=305	41.40	73	P		P	04 35 04.5 +0.5
H34A	**Spellman Lake,** baz=306	41.40	76	P		P	04 35 04.5 +0.5
D36A	**Goodland** baz=304,SNR=6.9	41.45	71	P		P	04 35 05.0 +0.5
ECSD	**EROS Data Cent** baz=307,SNR=6.1	41.47	77	P		P	04 35 05.0 +0.4
ECSD	**EROS Data Cent** comp=Z,5.2nm,0.7s	41.47	77	*e*P		P	04 35 05.1 +0.4
J33A	**Davis** baz=307	41.51	78	P		P	04 35 05.6 +0.6
KLR	**Kul'dur** comp=Z,5.3nm,0.6s,baz=63,slow=8.5,SNR=13	41.55	293	P		P	04 35 05.0 -0.2
KLR	**Kul'dur**	41.55	293	P		P	04 35 05.0 -0.2
LPM	**Los Pinos Moun**	41.60	96	*e*P		P	04 35 08.4 +2.4
C37A	**Embarrass** baz=304,SNR=15	41.69	70	P		P	04 35 07.3 +0.9
BNM	**Barren Site**	41.72	96	*e*P		P	04 35 08.8 +1.7
BNM				*e*PcP		PcP	04 37 03.5 +0.4
E36A	**McGregor** baz=305,SNR=10	41.77	72	P		P	04 35 07.9 +0.9
D37A	**Cotton** baz=305	41.88	70	P		P	04 35 08.3 +0.4
K33A	**Hardington** baz=308	41.92	79	P		P	04 35 09.0 +0.6
H35A	**Sunnyside Ranc** baz=306,SNR=6.1	41.93	75	P		P	04 35 08.9 +0.5
EYMN	**Ely** baz=304,SNR=13	41.95	69	P		P	04 35 09.5 +0.9
EYMN	**Ely** comp=Z,20nm,0.8s	41.95	69	*e*P		P	04 35 09.5 +0.9
BGNE	**Belgrade** baz=309,SNR=6.2	41.98	81	P		P	04 35 10.0 +1.1
BGNE	**Belgrade** comp=Z,75nm,0.8s	41.98	81	*e*P		P	04 35 10.6 +1.7
F36A	**Milaca** baz=306	42.00	73	P		P	04 35 09.3 +0.3
L33A	**Hoskins** baz=308	42.03	80	P		P	04 35 09.8 +0.5
O31A	**Woolen Ranch,** baz=310	42.08	83	P		P	04 35 10.8 +1.2
319A	**Douglas** comp=Z,8.9nm,1.0s	42.13	101	*e*P		P	04 35 10.7 +0.4
121A	**Cookes Peak, D** baz=316,SNR=9.3	42.17	99	P		P	04 35 12.7 +2.0
121A	**Cookes Peak, D** comp=Z,15nm,1.1s	42.17	99	*e*P		P	04 35 12.4 +1.6
C38A	**Sawbill Land.** baz=304,SNR=8.6	42.20	69	P		P	04 35 11.1 +0.5
E37A	**Wrenshall** baz=305	42.23	71	P		P	04 35 11.8 +1.0
G36A	**St. Michael** baz=306	42.23	74	P		P	04 35 11.6 +0.7
N32A	**Stulken Farm,** baz=309	42.30	82	P		P	04 35 12.2 +0.7
K34A	**Le Mars** baz=308,SNR=6.4	42.40	78	P		P	04 35 13.2 +0.9
H11N2	**WAKE ISLAND Hy** baz=27,slow=76,SNR=57	42.44	230	T		T	05 20 30.7
M33A	**Taylor Creek F** baz=309	42.45	80	P		P	04 35 13.4 +0.8
H11N3	**WAKE ISLAND Hy** baz=27,slow=76,SNR=87	42.45	230	T		T	05 20 30.7
H11N1	**WAKE ISLAND Hy** baz=27,slow=76,SNR=55	42.46	230	T		T	05 20 30.7
O32A	**Brockman Farm,** baz=310	42.63	82	P		P	04 35 15.0 +0.9
L34A	**Svendsen Farm,** baz=308	42.68	79	P		P	04 35 15.1 +0.6
CBKS	**Cedar Bluff** baz=311	42.69	85	P		P	04 35 15.9 +1.2
CBKS	**Cedar Bluff**	42.69	85	*e*P		P	04 35 16.8 +2.1
CBKS	comp=Z,38nm,1.1s			pmax		pmax	
CBKS	**Cedar Bluff** comp=Z,38nm,1.1s	42.69	85	*e*P		P	04 35 16.8 +2.1
SPMN	**Marine on St.** baz=306	42.78	73	P		P	04 35 16.0 +0.7
C39A	**Grand Marais** baz=305,SNR=8.1	42.78	68	P		P	04 35 15.6 +0.3
N33A	**J Bar K, Exete** baz=309	42.82	81	P		P	04 35 16.4 +0.7
P32A	**Huiting Farm,** baz=310,SNR=10	42.84	83	P		P	04 35 16.9 +1.0
K35A	**Storm Lake** baz=308	42.88	77	P		P	04 35 16.6 +0.4
J36A	**Seneca 1, Swea** baz=308	43.03	76	P		P	04 35 17.6 +0.2
L35A	**Bielow Farm, R** baz=308	43.08	78	P		P	04 35 18.1 +0.4
H37A	**Dierke Farm, C** baz=307	43.10	74	P		P	04 35 18.6 +0.8
O33A	**Hebron** baz=310,SNR=11	43.16	82	P		P	04 35 19.1 +0.7
I37A	**Lemond, Waseca** baz=307	43.16	75	P		P	04 35 18.9 +0.6
Q32A	**Meitler Ranch,** baz=310,SNR=9.0	43.28	84	P		P	04 35 20.8 +1.4
N34A	**Lincoln** baz=309,SNR=6.6	43.31	81	P		P	04 35 20.2 +0.6
K36A	**Gilmore City** baz=308	43.39	77	P		P	04 35 20.7 +0.4
M35A	**Neola** baz=309,SNR=7.3	43.39	79	P		P	04 35 21.3 +1.0
J37A	**Redenius Farm,** baz=308,SNR=10	43.50	76	P		P	04 35 21.6 +0.5
P33A	**Williams Farm,** baz=310	43.50	83	P		P	04 35 22.1 +0.9
R32A	**Long Quarter,** baz=311,SNR=5.8	43.56	85	P		P	04 35 22.8 +1.2
L36A	**Harm Buss Farm** baz=309	43.60	78	P		P	04 35 22.1 +0.2
H11S1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=17	43.60	230	T		T	05 21 57.5
H11S2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=4.4	43.61	230	T		T	05 21 57.5
H11S3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=5.0	43.62	230	T		T	05 21 57.5
O34A	**Beatrice** baz=310,SNR=12	43.62	81	P		P	04 35 22.7 +0.6
Q33A	**Connelly Farm,** baz=311,SNR=8.8	43.70	84	P		P	04 35 24.0 +1.2
I38A	**Scanlan Farm,** baz=307	43.76	74	P		P	04 35 23.8 +0.5
K37A	**Belmond** baz=308,SNR=8.1	43.78	76	P		P	04 35 23.7 +0.3
N35A	**Tabor** baz=309,SNR=16	43.80	80	P		P	04 35 24.6 +1.0
S32A	**Newby Ranch, P** baz=312	43.90	86	P		P	04 35 25.2 +0.8
M36A	**Fei, Anita** baz=309	43.92	79	P		P	04 35 25.1 +0.5
P34A	**Walnut Farm, R** baz=310	43.94	82	P		P	04 35 24.3 -0.5
R33A	**Olander Ranch,** baz=311,SNR=6.3	44.06	84	P		P	04 35 26.6 +0.9
L37A	**Phoenix Point,** baz=309,SNR=5.2	44.11	77	P		P	04 35 26.5 +0.4
J38A	**Wedel Dairy, R** baz=308,SNR=6.0	44.12	75	P		P	04 35 26.5 +0.4
MSTX	**Muleshoe** baz=314,SNR=7.7	44.14	93	P		P	04 35 27.6 +1.1
MSTX	**Muleshoe** comp=Z,15nm,1.1s	44.14	93	*e*P		P	04 35 27.6 +1.1
AMTX	**Amarillo** baz=314	44.16	91	P		P	04 35 27.9 +1.2
AMTX	**Amarillo** comp=Z,16nm,1.0s	44.16	91	*e*P		P	04 35 28.0 +1.4
MNTX	**Cornudas Mount** baz=316,SNR=14	44.19	97	P		P	04 35 28.7 +1.8
MNTX	**Cornudas Mount** comp=Z,7.1nm,0.8s	44.19	97	*e*P		P	04 35 28.6 +1.8
N36A	**Muff Farm, Cla** baz=310	44.23	79	P		P	04 35 27.6 +0.6
T32A	**Huddler Ranch,** baz=312	44.25	86	P		P	04 35 27.9 +0.7
Q34A	**Chapman** baz=311	44.28	83	P		P	04 35 28.2 +0.7
USRK	**Ussuriysk Ar.** comp=Z,2.0nm,0.6s,baz=147,slow=40,SNR=3.3	44.32	287	P		P	04 35 25.8 -1.9
K38A	**Parkersburg** baz=308	44.36	76	P		P	04 35 28.4 +0.3
KSU1	**Kansas State U** baz=311	44.36	83	P		P	04 35 28.6 +0.5
KSU1	**Kansas State U** comp=Z,15nm,0.8s	44.36	83	*e*P		P	04 35 27.9 -0.1
M37A	**Trindle Farm,** baz=309	44.39	78	P		P	04 35 29.0 +0.7
P35A	**Duane Minner,** baz=310,SNR=12	44.43	82	P		P	04 35 29.2 +0.6
R34A	**Isabella, Hill** baz=311,SNR=18	44.51	84	P		P	04 35 30.3 +1.1
S33A	**Kaszmaul Farm,** baz=312,SNR=11	44.52	85	P		P	04 35 30.5 +1.1
J39A	**Decorah** baz=308	44.55	74	P		P	04 35 29.6 +0.1
L38A	**Oak Wood Farm,** baz=309	44.57	77	P		P	04 35 29.5 -0.1
O36A	**Bolckow** baz=310,SNR=5.5	44.67	80	P		P	04 35 31.1 +0.6
N37A	**Lee Faris, Mou** baz=310,SNR=12	44.71	79	P		P	04 35 31.8 +1.0
T33A	**Patterson Ranc** baz=312	44.72	86	P		P	04 35 31.7 +0.7
U32A	**Winter Ranch,** baz=312	44.74	87	P		P	04 35 32.0 +0.8
K39A	**Oelwein** baz=309	44.84	75	P		P	04 35 31.3 -0.5
P36A	**Good Intent, A** baz=310,SNR=16	44.85	81	P		P	04 35 32.4 +0.4
Q35A	**Mercer Eighty,** baz=311	44.86	82	P		P	04 35 32.0 0.0
M38A	**Pleasantville** baz=309	44.88	78	P		P	04 35 32.4 +0.2
S34A	**Willow Spring** baz=312,SNR=10	44.98	84	P		P	04 35 33.8 +0.7
VLA	**Vladivostok**	45.05	286	⇑*i*P		P	04 35 33.0 -0.4
VLA				*i* *PP		pP	04 35 39.4 -4.4
VLA				*i*			04 37 13.6
VLA	comp=Z,13nm,0.8s			pmax		pmax	
J40A	**Soldiers Grove** baz=308	45.07	74	P		P	04 35 33.7 +0.1
R35A	**Emporia Munici** baz=311	45.11	83	P		P	04 35 34.4 +0.3
O37A	**Wolven Farm, M** baz=310,SNR=9.7	45.12	80	P		P	04 35 34.7 +0.6
Q36A	**Arnold C. Orve** baz=311	45.13	82	P		P	04 35 34.3 +0.1
L39A	**Vinton** baz=309	45.13	76	P		P	04 35 34.2 0.0
V32A	**Arapaho** baz=313	45.16	88	P		P	04 35 33.6 -0.9
U33A	**Lingo Farm, Me** baz=312,SNR=5.6	45.23	86	P		P	04 35 35.7 +0.7
N38A	**Joes South For** baz=310,SNR=5.4	45.26	78	P		P	04 35 35.6 +0.4
K40A	**Colesburg** baz=309	45.27	75	P		P	04 35 35.2 -0.1
P37A	**Lathrop** baz=311	45.38	80	P		P	04 35 36.3 +0.2
T34A	**McClaskey Farm** baz=312,SNR=19	45.39	85	P		P	04 35 37.0 +0.7
M39A	**Webster** baz=310,SNR=5.1	45.44	77	P		P	04 35 36.9 +0.3
W32A	**Sentinel** baz=313	45.45	89	P		P	04 35 38.0 +1.2
S35A	**Otter Creek Ra** baz=312,SNR=25	45.46	84	P		P	04 35 37.6 +0.7
J41A	**Loganville** baz=308	45.50	73	P		P	04 35 37.0 -0.1
R36A	**Gordon, Harris** baz=311	45.52	83	P		P	04 35 37.4 +0.1
V33A	**Lossen Ranch,** baz=313	45.54	87	P		P	04 35 38.0 +0.5
O38A	**Galt** baz=310	45.55	79	P		P	04 35 37.6 +0.1
U34A	**Anderson Ranch** baz=313,SNR=5.2	45.57	86	P		P	04 35 38.4 +0.7
U34A	**Anderson Ranch** comp=Z,30nm,1.0s	45.57	86	*e*P		P	04 35 38.9 +1.2
MAJO	**Matsushiro**	45.58	274	*ce*P		P	04 35 38.1 +0.3
MAJO	comp=Z,25nm,1.0s			pmax		pmax	
MAJO	**Matsushiro** comp=Z,32nm,1.2s	45.58	274	*e*P		P	04 35 37.5 -0.3
MAT	**Matsushiro**	45.58	274	P		P	04 35 37.2 -0.6
MJAR	**Matsushiro Arr** comp=Z,6.1nm,0.9s,baz=36,slow=6.1,SNR=16	45.58	274	P		P	04 35 38.1 +0.2
MJAR	comp=Z,2.6nm,0.5s,baz=64,slow=8.5,SNR=9.1			ScP		ScP	04 41 10.1 +4.4
MJB9	**Matsu-Tunnel** comp=Z,8.2nm,1.2s	45.58	274	*e*P		P	04 35 37.8 0.0
L40A	**Anamosa** baz=309	45.62	76	P		P	04 35 38.0 -0.1
N39A	**Derby Farms, D** baz=310	45.63	78	P		P	04 35 38.2 0.0
BOD	**Bodaibo**	45.73	312	⇑*i*P		P	04 35 38.3 -0.4
BOD				*e*S		S	04 42 18.3 -1.0
BOD	comp=Z,20nm,1.2s			pmax		pmax	
Q37A	**Longview Farm,** baz=311	45.78	81	P		P	04 35 39.0 -0.4
K41A	**Shullsburg** baz=309	45.81	74	P		P	04 35 39.3 -0.2
P38A	**Dawn** baz=311,SNR=9.4	45.84	80	P		P	04 35 39.9 +0.1
T35A	**Sooner Cattle** baz=312,SNR=6.8	45.86	85	P		P	04 35 40.5 +0.5
S36A	**Lake Cedric, C** baz=312,SNR=14	45.87	83	P		P	04 35 40.5 +0.4
W33A	**Caddo, Fort Co** baz=313	45.89	88	P		P	04 35 41.6 +1.3
X32A	**Elmer** baz=314	45.90	89	P		P	04 35 40.9 +0.5
WMOK	**Wichita Mounta** baz=314,SNR=8.4	45.99	89	P		P	04 35 42.1 +1.0
WMOK	**Wichita Mounta**	45.99	89	*e*P		P	04 35 41.0 -0.1
WMOK	comp=Z,13nm,0.8s			pmax		pmax	
WMOK	**Wichita Mounta** comp=Z,13nm,0.8s	45.99	89	*e*P		P	04 35 41.0 -0.1
V34A	**Guthrie** baz=313	45.99	87	P		P	04 35 41.6 +0.5
V34A	**Guthrie** comp=Z,18nm,1.1s	45.99	87	*e*P		P	04 35 42.2 +1.1
O39A	**Kirksville** baz=310	46.01	78	P		P	04 35 41.0 -0.1
L41A	**Preston** baz=309	46.03	75	P		P	04 35 41.3 0.0
U35A	**Pawnee** baz=313,SNR=12	46.09	85	P		P	04 35 42.4 +0.5
T36A	**Boggs Farm, Ca** baz=312,SNR=9.5	46.14	84	P		P	04 35 42.6 +0.5
Q38A	**Cooks Store, C** baz=311,SNR=11	46.22	81	P		P	04 35 42.4 -0.4
W34A	**Bridge Creek,** baz=313	46.25	87	P		P	04 35 43.7 +0.6
S37A	**Fort Scott** baz=312	46.30	83	P		P	04 35 43.4 0.0
P39B	**Salisbury** baz=311	46.38	79	P		P	04 35 44.1 +0.1
V35A	**Meyer Ranch, C** baz=313,SNR=5.8	46.44	86	P		P	04 35 45.3 +0.7
O40A	**La Belle** baz=311,SNR=8.4	46.48	78	P		P	04 35 44.9 0.0
Q39A	**Willow Grove F** baz=311	46.54	80	P		P	04 35 45.0 -0.3
R38A	**Fenwick Farm,** baz=312,SNR=8.1	46.56	82	P		P	04 35 44.7 -0.8
X34A	**Smith Ranch, M** baz=314	46.65	88	P		P	04 35 45.8 -0.4
T37A	**Cheneyville 18** baz=312,SNR=9.0	46.67	83	P		P	04 35 46.4 +0.1
U36A	**Oologah** baz=313,SNR=7.7	46.67	85	P		P	04 35 46.9 +0.5
P40A	**Paris** baz=311,SNR=13	46.77	79	P		P	04 35 47.0 -0.1
W35A	**Tecumseh** baz=314,SNR=6.4	46.84	87	P		P	04 35 48.4 +0.7
TX31	**Lajitas Ar. Si**	46.92	98	*e*P		P	04 35 50.0 +1.4
TX31				*e*PcP		PcP	04 37 20.6 -0.1
TXAR	**Lajitas Array** comp=Z,14nm,0.8s,baz=301,slow=5.5,SNR=114	46.92	98	P		P	04 35 50.1 +1.6
TXAR	comp=Z,2.4nm,0.8s,baz=255,slow=0.5,SNR=3.6			PcP		PcP	04 37 21.1 +0.4
TXAR	comp=Z,49nm,21.2s,baz=0.0,slow=34			LR		LR	04 53 33.8
S38A	**Stockton** baz=312,SNR=12	46.92	82	P		P	04 35 47.8 -0.6
ABTX	**Abilene, Hawle** baz=315	46.95	91	P		P	04 35 49.3 +0.7
ABTX	**Abilene, Hawle** comp=Z,24nm,1.1s	46.95	91	*e*P		P	04 35 49.1 +0.5
V36A	**Jenks** baz=313,SNR=12	46.96	85	P		P	04 35 49.3 +0.6
TUL1	**Leonard** baz=313,SNR=12	46.97	85	P		P	04 35 49.2 +0.6
TUL1	**Leonard** comp=Z,30nm,0.7s	46.97	85	*e*P		P	04 35 49.4 +0.7
R39A	**Chumby, Stover** baz=312	46.98	81	P		P	04 35 48.2 -0.6
U37A	**Salina** baz=313,SNR=13	47.03	84	P		P	04 35 49.5 +0.3
O41A	**Passleys Farm,** baz=311	47.07	77	P		P	04 35 49.2 -0.2
T38A	**Diamond** baz=312,SNR=16	47.10	83	P		P	04 35 49.7 0.0
Q40A	**Laux Farm, Aux** baz=311,SNR=6.3	47.10	79	P		P	04 35 49.3 -0.4
Y34A	**Reagan Ranch,** baz=314	47.14	89	P		P	04 35 50.8 +0.8
S39A	**Bolivar** baz=312,SNR=9.7	47.23	82	P		P	04 35 49.6 -1.2
W36A	**Wetumka** baz=314,SNR=8.0	47.23	86	P		P	04 35 51.5 +0.8
P41A	**Barry, Barry** baz=311	47.25	78	P		P	04 35 50.7 -0.1
X35A	**Drake** baz=314	47.30	88	P		P	04 35 51.9 +0.6
V37A	**Hulbert** baz=313,SNR=7.7	47.37	85	P		P	04 35 52.1 +0.2
133A	**Hamilton Ranch** baz=315,SNR=8.5	47.39	91	P		P	04 35 53.0 +1.0
U38A	**Gravette** baz=313,SNR=18	47.44	84	P		P	04 35 52.5 +0.1
Z34A	**Collier Ranch,** baz=315	47.45	89	P		P	04 35 53.1 +0.6
R40A	**Maddies Statio** baz=312,SNR=12	47.45	80	P		P	04 35 51.5 -0.9
HPIG	comp=Z,5.2nm,0.8s	47.53	102	*e*P		P	04 35 52.7 -0.8
X36A	**Centrahoma** baz=314,SNR=5.1	47.55	87	P		P	04 35 54.1 +0.9
Y35A	**Marietta** baz=314,SNR=7.5	47.60	88	P		P	04 35 54.9 +1.3
DAG	**Danmarks Havn** comp=Z,15nm,0.9s	47.60	11	⇓*i*P		P	04 35 54.7 +1.6
T39A	**Clever** baz=312,SNR=22	47.65	82	P		P	04 35 53.5 -0.5
HDIL	**Hopedale** baz=311	47.70	76	P		P	04 35 54.5 +0.2
HDIL	**Hopedale** comp=Z,34nm,1.3s	47.70	76	*e*P		P	04 35 53.8 -0.5
W37B	**Quinton** baz=314,SNR=8.6	47.71	86	P		P	04 35 55.4 +0.9
P42A	**Winchester** baz=311	47.73	78	P		P	04 35 54.1 -0.4
SUMG	**Summit**	47.76	20	*e*P		P	04 35 55.1 +0.3
SUMG	comp=Z,10.0nm,1.1s			pmax		pmax	
SUMG	**Summit** comp=Z,6.0nm,0.8s	47.76	20	*i* P		P	04 35 57.1 +2.3
SUMG	**Summit** comp=Z,9.7nm,1.1s	47.76	20	*e*P		P	04 35 55.1 +0.3
S40A	**Lebanon** baz=312	47.78	81	P		P	04 35 54.2 -0.7
HHAR	**Hobbs** comp=Z,11nm,0.8s	47.81	83	*e*P		P	04 35 54.5 -0.8
233A	**Rising Star** baz=316,SNR=11	47.82	91	P		P	04 35 56.3 +0.9
V38A	**Canehill** baz=313,SNR=18	47.82	84	P		P	04 35 55.5 +0.2

Z35A	**Perchaven, San**	47.88	89	P		P		04 35 56.6	+0.9
	baz=315								
134A	**White-Moore Ra**	47.91	90	P		P		04 35 56.9	+0.8
	baz=315								
U39A	**Green Forest**	48.02	83	P		P		04 35 56.5	-0.4
	baz=313,SNR=13								
Y36A	**Durant**	48.05	88	P		P		04 35 58.5	+1.3
	baz=314,SNR=8.7								
Q42A	**Golden Eagle**	48.06	78	P		P		04 35 57.2	+0.1
	baz=312,SNR=6.4								
T40A	**Mansfield**	48.07	82	P		P		04 35 56.2	-1.0
	baz=312,SNR=13								
NRIK	**Noril'sk**	48.08	334	P		P		04 35 58.4	+1.4
	comp=Z,13nm,0.9s,baz=49,slow=6.0,SNR=8.6								
X37A	**Clayton**	48.12	86	P		P		04 35 58.7	+1.1
	baz=314								
S41A	**Jillco Farms,**	48.23	81	P		P		04 35 57.6	-0.9
	baz=312,SNR=13								
333A	**Richland Sprin**	48.26	92	P		P		04 35 59.4	+0.5
	baz=316,SNR=8.6								
234A	**Clairette**	48.28	91	P		P		04 35 59.8	+0.8
	baz=316								
V39A	**Pettigrew**	48.29	84	P		P		04 35 58.9	-0.2
	baz=313								
W38A	**Poteau**	48.30	85	P		P		04 35 59.8	+0.8
	baz=314,SNR=7.1								
135A	**Vickery Place,**	48.33	90	P		P		04 36 00.3	+1.0
	baz=315								
JCT	**Junction City**	48.38	94	P		P		04 36 00.5	+0.7
	baz=316,SNR=19								
JCT	**Junction City**	48.38	94	*e*P		P		04 35 59.4	-0.4
JCT				pmax		pmax			
	comp=Z,34nm,0.8s								
JCT	**Junction City**	48.38	94	*e*P		P		04 35 59.4	-0.4
	comp=Z,34nm,0.8s								
X38A	**Whitesboro**	48.39	86	P		P		04 36 00.6	+0.8
	baz=314								
Y37A	**Hugo**	48.40	87	P		P		04 36 01.0	+1.3
	baz=314,SNR=7.7								
Z36A	**Blue Ridge**	48.41	88	P		P		04 36 00.3	+0.5
	baz=315								
U40A	**Yellville**	48.41	83	P		P		04 35 59.2	-0.7
	baz=313,SNR=16								
Q43A	**New Douglas**	48.53	78	P		P		04 36 01.0	+0.3
	baz=312,SNR=5.1								
SFJD	**Kangerlussuaq**	48.57	30	P		P		04 36 01.7	+1.1
	comp=Z,7.2nm,0.7s,baz=310,slow=12,SNR=4.8								
SFJD				PcP		PcP		04 37 25.0	-0.8
	comp=Z,16nm,0.4s,baz=135,slow=5.7,SNR=12								
SFJD	**Kangerlussuaq**	48.57	30	*e*P		P		04 36 02.1	+1.5
SFJD				*e*				04 37 23.2	
SFJD	**Kangerlussuaq**	48.57	30	*e*P		P		04 36 02.1	+1.5
SFJD				*e*PcP		PcP		04 37 23.2	-2.6
T41A	**Mountain View**	48.59	81	P		P		04 35 60.0	-1.2
	baz=313,SNR=5.4								
433A	**Art**	48.61	93	P		P		04 36 02.1	+0.6
	baz=316,SNR=11								
W39A	**Magazine**	48.65	84	P		P		04 36 02.1	+0.4
	baz=314,SNR=9.8								
WHTX	**Lake Whitney,**	48.70	90	P		P		04 36 03.3	+1.2
	baz=316								
WHTX	**Lake Whitney,**	48.70	90	*e*P		P		04 36 02.7	+0.5
	comp=Z,23nm,0.9s								
334A	**Lometa**	48.70	92	P		P		04 36 03.0	+0.8
	baz=316								
V40A	**Witts Springs**	48.80	83	P		P		04 36 02.4	-0.6
	baz=313,SNR=13								
136A	**Ennis**	48.91	89	P		P		04 36 04.8	+1.1
	baz=315								
X39A	**Fountain Ranch**	48.92	85	P		P		04 36 04.5	+0.7
	baz=314,SNR=5.7								
Z37A	**Pogue Cattle C**	48.94	88	P		P		04 36 04.7	+0.8
	baz=315								
Q44A	**Meyer Farm, Va**	48.95	77	P		P		04 36 03.8	-0.2
	baz=312								
Y38A	**Idabel**	48.96	86	P		P		04 36 05.0	+0.9
	baz=314								
U41A	**Viola**	48.97	82	P		P		04 36 03.5	-0.7
	baz=313,SNR=6.5								
434A	**Burnet**	49.05	92	P		P		04 36 05.9	+0.9
	baz=316,SNR=9.8								
W40A	**Ferguson Farm,**	49.07	84	P		P		04 36 05.1	+0.1
	baz=314								
SFIN	**Lafayette**	49.09	75	P		P		04 36 05.2	+0.2
	baz=311,SNR=5.8								
SFIN	**Lafayette**	49.09	75	*e*P		P		04 36 04.2	-0.8
	comp=Z,22nm,1.1s								
533A	**Kerrville**	49.13	93	P		P		04 36 05.7	+0.1
	baz=317								
V41A	**Mountainview**	49.21	83	P		P		04 36 05.1	-0.9
	baz=313,SNR=15								
MIAR	**Mount Ida**	49.22	85	P		P		04 36 06.5	+0.5
	baz=314,SNR=7.1								
MIAR	**Mount Ida**	49.22	85	*e*P		P		04 36 06.3	+0.2
MIAR				*e*				04 37 26.7	
MIAR				pmax		pmax			
	comp=Z,16nm,0.9s								
MIAR	**Mount Ida**	49.22	85	*e*P		P		04 36 06.3	+0.2
	comp=Z,16nm,0.9s								
MIAR				*e*PcP		PcP		04 37 26.7	-2.1
335A	**Moody**	49.22	91	P		P		04 36 07.3	+1.1
	baz=316								
S43A	**Fulton Ridge,**	49.22	79	P		P		04 36 05.8	-0.3
	baz=313,SNR=22								
236A	**Katherine and**	49.24	90	P		P		04 36 07.4	+1.1
	baz=316								
137A	**Heron Place, G**	49.28	88	P		P		04 36 07.9	+1.3
	baz=315								
R44A	**Waltonville**	49.35	78	P		P		04 36 06.7	-0.3
	baz=312								
U42A	**Revenden**	49.36	81	P		P		04 36 06.4	-0.8
	baz=313								
X201	**Greenbrier Sit**	49.42	83	*e*P		P		04 36 08.0	+0.3
	comp=Z,26nm,1.7s								
VLDQ	**Val d'Or**	49.43	61	*e*P		P		04 36 06.7	-0.8
	comp=Z,58nm,1.9s								
X301	**Greenbrier Sit**	49.44	83	*e*P		P		04 36 07.8	+0.1
	comp=Z,6.9nm,0.9s								
435B	**Jarrell**	49.48	92	P		P		04 36 08.9	+0.7
	baz=316								
336A	**Riesel**	49.49	90	P		P		04 36 09.4	+1.1
	baz=316								
534A	**Blanco**	49.50	93	P		P		04 36 08.8	+0.5
	baz=317,SNR=6.6								
PBMO	**Poplar Bluff**	49.55	80	*e*P		P		04 36 07.6	-1.0
	comp=Z,6.4nm,0.8s								
W41B	**Gary Mavity, V**	49.57	83	P		P		04 36 08.3	-0.5
	baz=314								
OLIL	**Olney**	49.60	77	*e*P		P		04 36 09.5	+0.6
	comp=Z,37nm,1.1s								
138A	**Matatall Enter**	49.64	88	P		P		04 36 10.6	+1.3
	baz=315								
V42A	**Cord**	49.65	82	P		P		04 36 08.6	-0.8
	baz=314								
237A	**Washetta, Mont**	49.67	89	P		P		04 36 10.6	+1.0
	baz=316								
X40A	**Basin Creek Fa**	49.70	84	P		P		04 36 09.8	0.0
	baz=314								
Y40A	**Okolona**	49.77	85	P		P		04 36 09.9	-0.3
	baz=314								
832A	**Faith Ranch, C**	49.88	96	P		P		04 36 12.2	+1.0
	baz=318,SNR=11								
733A	**Divot King Ran**	49.97	95	P		P		04 36 12.8	+1.0
	baz=318,SNR=6.2								
S45A	**Carrier Mills**	50.02	78	P		P		04 36 11.7	-0.4
	baz=313								
PARMO	**Parma**	50.03	80	*e*P		P		04 36 12.2	0.0
238A	**Jacksonville**	50.08	88	P		P		04 36 13.9	+1.2
	baz=316								
WLAR	**White Oak Lake**	50.09	85	*e*P		P		04 36 14.0	+1.2
	comp=Z,35nm,0.9s								
833A	**Chaparral WMA,**	50.20	95	P		P		04 36 14.9	+1.3
	baz=318,SNR=6.8								
BLO	**Bloomington**	50.22	75	*e*P		P		04 36 13.9	+0.3
BLO				pmax		pmax			
	comp=Z,15nm,0.6s								
BLO	**Bloomington**	50.22	75	*e*P		P		04 36 13.9	+0.3
	comp=Z,15nm,0.6s								
Z40A	**Long Farm, Mag**	50.22	86	P		P		04 36 14.9	+1.2
	baz=315,SNR=6.3								
Y41A	**Eaglette Beard**	50.26	85	P		P		04 36 14.8	+0.9
	baz=315,SNR=6.5								
536A	**Bastrop**	50.30	92	P		P		04 36 15.7	+1.3
	baz=317								
SCHQ	**Schefferville**	50.36	49	P		P		04 36 15.3	+0.7
	comp=Z,10nm,0.7s,baz=312,slow=7.6,SNR=13								
SCHQ	**Schefferville**	50.36	49	*e*P		P		04 36 14.3	-0.3
	comp=Z,25nm,1.0s								

USIN	**University of**	50.36	77	*e*P		P		04 36 15.2	+0.4
	comp=Z,49nm,1.3s								
635A	**Leesville**	50.38	93	P		P		04 36 16.0	+1.1
	baz=317								
239A	**Gary**	50.46	88	P		P		04 36 16.5	+1.0
	baz=316								
NATX	**Nacogdoches**	50.53	88	P		P		04 36 17.3	+1.3
	baz=316,SNR=6.3								
NATX	**Nacogdoches**	50.53	88	*e*P		P		04 36 17.5	+1.4
	comp=Z,50nm,0.9s								
140A	**Cam and Jess,**	50.55	87	P		P		04 36 17.4	+1.1
	baz=315								
Z41A	**Richland Creek**	50.58	85	P		P		04 36 17.6	+1.2
	baz=315								
SADO	**Sadowa**	50.67	65	P		P		04 36 17.3	+0.3
	comp=Z,15nm,0.7s,baz=322,slow=9.0,SNR=8.8								
CCAR	**Cane Creek**	50.73	84	*e*P		P		04 36 19.0	+1.4
	comp=Z,47nm,0.7s								
636A	**Smothers Creek**	50.74	92	P		P		04 36 19.4	+1.8
	baz=317								
438A	**Sam Houston St**	50.77	90	P		P		04 36 19.7	+1.8
	baz=316								
Y42A	**Garnett, Star**	50.77	84	P		P		04 36 18.8	+0.9
	baz=315,SNR=6.2								
933A	**Laredo**	50.79	96	P		P		04 36 19.6	+1.5
	baz=318								
X43A	**Marvell**	50.84	83	P		P		04 36 18.5	+0.1
	baz=314								
834A	**Tilden**	50.84	95	P		P		04 36 20.2	+1.7
	baz=318								
KSRS	**Korea Array**	51.03	283	P		P		04 36 20.7	+0.9
	comp=Z,7.7nm,0.7s,baz=50,slow=7.1,SNR=25								
KS01	**Wonju Array Si**	51.03	283	*e*P		P		04 36 20.2	+0.4
KS01				*e*PcP		PcP		04 37 33.5	-1.9
KSAR	**Wonju Array Be**	51.06	283	P		P		04 36 20.7	+0.7
KSAR	**Wonju Array Be**	51.06	283	P		P		04 36 20.7	+0.7
Z42A	**Norrel Spur, H**	51.08	85	P		P		04 36 20.9	+0.7
	baz=315								
Y43A	**Makayla and Ka**	51.23	83	P		P		04 36 22.0	+0.7
	baz=315								
241A	**Mo Tay, Goldon**	51.38	87	P		P		04 36 23.7	+1.2
	baz=316,SNR=9.4								
W45A	**Hickory Valley**	51.40	81	P		P		04 36 22.5	-0.1
	baz=314								
WVT	**Waverly**	51.52	79	*e*P		P		04 36 23.6	+0.1
WVT				pmax		pmax			
	comp=Z,16nm,0.9s								
WVT	**Waverly**	51.52	79	*e*P		P		04 36 23.6	+0.1
	comp=Z,16nm,0.9s								
Y44A	**Strider, Charl**	51.62	83	P		P		04 36 24.6	+0.4
	baz=315,SNR=7.8								
440A	**Kirbyville**	51.67	89	P		P		04 36 26.5	+1.8
	baz=316								
OXF	**Oxford**	51.71	82	*e*P		P		04 36 25.3	+0.4
OXF				pmax		pmax			
	comp=Z,56nm,1.1s								
OXF	**Oxford**	51.71	82	*e*P		P		04 36 25.3	+0.4
	comp=Z,56nm,1.1s								
341A	**Kurthwood**	51.72	88	P		P		04 36 26.3	+1.3
	baz=316,SNR=13								
143A	**Socs Landing,**	51.80	85	P		P		04 36 26.6	+1.1
	baz=315								
242A	**Grayson**	51.81	86	P		P		04 36 26.5	+0.8
	baz=316								
Z44A	**Pea Ridge, Bel**	51.97	84	P		P		04 36 27.2	+0.3
	baz=315								
Y45A	**Yeager Farm, C**	52.09	82	P		P		04 36 27.0	-0.7
	baz=315								
441A	**DeRidder**	52.13	88	P		P		04 36 29.6	+1.6
	baz=316								
TRQ	**Mont Tremblant**	52.16	61	*e*P		P		04 36 28.2	0.0
342A	**Flagon Creek P**	52.20	87	P		P		04 36 29.7	+1.2
	baz=316								
JNU	**Nakatsue**	52.30	276	P		P		04 36 29.4	+0.1
	comp=Z,9.8nm,0.8s,baz=166,slow=9.1,SNR=7.4								
Z45A	**Winona**	52.34	83	P		P		04 36 29.7	0.0
	baz=315								
144A	**Alexander Plac**	52.43	84	P		P		04 36 30.8	+0.5
	baz=315								
Y46A	**Houston**	52.48	82	P		P		04 36 30.7	+0.1
	baz=315,SNR=6.8								
ZAIG	**Zacatecas**	52.52	103	*e*P		P		04 36 31.9	+0.5
	comp=Z,8.6nm,1.0s								
M54A	**Oil Creek Stat**	52.54	69	P		P		04 36 30.2	-0.9
	baz=312								
244A	**Avery, Jackson**	52.70	85	P		P		04 36 33.2	+1.0
	baz=316,SNR=7.9								
N54A	**Moraine State**	52.73	69	P		P		04 36 32.1	-0.4
	baz=313								
145A	**Houston Renfro**	52.75	84	P		P		04 36 33.1	+0.5
	baz=316								
Z46A	**Louisville**	52.91	83	P		P		04 36 33.9	+0.1
	baz=315								
Y47A	**UCPARC, Winfie**	53.06	81	P		P		04 36 34.6	-0.3
	baz=315								
344A	**Westbrook Farm**	53.09	86	P		P		04 36 36.3	+1.1
	baz=316								
245A	**Little AP, Sta**	53.17	84	P		P		04 36 36.1	+0.3
	baz=316								
LONY	**Lake Ozonia**	53.22	63	*e*P		P		04 36 35.1	-0.9
	comp=Z,12nm,0.8s								
146A	**Union**	53.24	83	P		P		04 36 36.6	+0.4
	baz=316								
Z47A	**Carrollton**	53.42	82	P		P		04 36 37.3	-0.3
	baz=315,SNR=6.1								
FRNY	**Flat Rock**	53.60	62	*e*P		P		04 36 37.9	-0.8
	comp=Z,8.2nm,0.6s								
Z48A	**Northport**	53.60	81	P		P		04 36 38.4	-0.5
	baz=315								
345A	**Thompson Farm,**	53.61	85	P		P		04 36 39.7	+0.7
	baz=316								
147A	**Livingston**	53.68	83	P		P		04 36 39.5	0.0
	baz=316								
445A	**Amite**	53.84	86	P		P		04 36 41.1	+0.4
	baz=316								
NCB	**Newcomb**	53.84	63	*e*P		P		04 36 40.0	-0.6
	comp=Z,0.3nm,0.8s								
346A	**Big Creek Wild**	53.89	85	P		P		04 36 41.3	+0.2
	baz=316								
247A	**Quitman**	53.92	83	P		P		04 36 41.7	+0.5
	baz=316								
O56A	**Blue Knob Stat**	53.99	69	P		P		04 36 41.4	-0.4
	baz=313								
BINY	**Binghamton**	54.10	66	*e*P		P		04 36 41.9	-0.6
	comp=Z,22nm,0.9s								
SSPA	**Standing Stone**	54.12	68	*e*P		P		04 36 41.5	-1.1
	comp=Z,15nm,0.9s								
TKL	**Tuckaleechee C**	54.21	77	PcP		PcP		04 37 47.5	+0.1
	comp=Z,2.7nm,0.6s,baz=80,slow=5.5,SNR=4.2								
TLY	**Talaya**	54.25	310	P		P		04 36 44.6	+1.2
	comp=Z,3.5nm,0.5s,baz=22,slow=8.8,SNR=4.3								
TLY	**Talaya**	54.25	310	*e*P		P		04 36 44.9	+1.5
TLY				pmax		pmax			
	comp=Z,13nm,1.0s								
248A	**Dixon Mills**	54.41	83	P		P		04 36 44.9	+0.1
	baz=316								
347A	**Saraland**	54.43	84	P		P		04 36 45.6	+0.7
	baz=316								
ACCN	**Adirondack Com**	54.54	63	*e*P		P		04 36 46.3	+0.7
	comp=Z,31nm,1.0s								
348A	**Jackson**	54.80	83	P		P		04 36 47.8	+0.2
	baz=316								
TRY	**Troy**	54.98	64	*e*P		P		04 36 48.6	-0.2
	comp=Z,24nm,0.9s								
HNH	**Hanover**	55.05	62	*e*P		P		04 36 49.4	+0.1
	comp=Z,15nm,0.8s								
BLA	**Blacksburg**	55.06	73	*e*P		P		04 36 49.8	+0.2
	comp=Z,16nm,0.8s								
N59A	**State Game Lan**	55.09	67	P		P		04 36 49.8	+0.1
	baz=314,SNR=5.5								
ULN	**Ulaanbaatar**	55.26	305	*ce*P		P		04 36 51.8	+0.8
ULN				pmax		pmax			
	comp=Z,10.0nm,1.0s								
ULN	**Ulaanbaatar**	55.26	305	*e*P		P		04 36 49.8	-1.2
	comp=Z,12nm,1.1s								
ULN				*e*PcP		PcP		04 37 52.1	+0.7
ZAK	**Zakamensk**	55.31	309	*e*P		P		04 36 51.0	-0.2
ZAK				*e*				04 37 51.1	
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.5s								
ZAK				pmax		pmax			
	comp=Z,6.0nm,1.1s								
LUPA	**Lehigh Univers**	55.53	67	*e*P		P		04 36 53.5	+0.7
	comp=Z,43nm,1.2s								
PKME	**Peaks-Kenny Pk**	55.53	59	*e*P		P		04 36 53.1	+0.4
	comp=Z,15nm,0.8s								
SONA1	**Songino Array**	55.59	305	*e*P		P		04 36 54.1	+0.8
SONA1				*e*PcP		PcP		04 37 53.9	+1.2

SONM	**Songino Array**	55.60	305	P		P		04 36 54.4	+1.0
	comp=Z,6.0nm,0.8s,baz=46,slow=7.3,SNR=22								
SONM				PcP		PcP		04 37 53.8	+1.0
	comp=Z,4.5nm,0.9s,baz=46,slow=4.1,SNR=4.4								
ODNJ	**Ogdensburg**	55.62	66	*e*P		P		04 36 53.9	+0.5
	comp=Z,8.4nm,0.9s								
WVL	**Waterville**	55.83	60	*e*P		P		04 36 54.8	-0.1
	comp=Z,24nm,0.8s								
BRNJ	**Basking Ridge**	55.91	66	*e*P		P		04 36 53.8	-1.7
	comp=Z,16nm,0.7s								
BJI	**Beijing**	55.92	293	P		P		04 36 56.0	+0.4
BJI				PMZ					
	comp=Z,11nm,0.7s								
KMSC	**Kings Mountain**	55.99	75	P		P		04 36 55.4	-0.8
	baz=315								
KMSC	**Kings Mountain**	55.99	75	*e*P		P		04 36 54.5	-1.7
	comp=Z,18nm,1.1s								
QUA2	**Belchertown**	56.00	63	*e*P		P		04 36 55.9	-0.2
	comp=Z,14nm,0.8s								
HRV	**Adam Dziewonsk**	56.26	63	*e*P		P		04 36 59.0	+1.0
HRV				pmax		pmax			
	comp=Z,25nm,1.4s								
HRV	**Adam Dziewonsk**	56.26	63	*e*P		P		04 36 59.0	+1.0
	comp=Z,25nm,1.4s								
WES	**Weston**	56.47	63	*e*P		P		04 36 59.4	-0.1
WES				pmax		pmax			
	comp=Z,41nm,0.6s								
WES	**Weston**	56.47	63	*e*P		P		04 36 59.4	-0.1
	comp=Z,41nm,0.6s								
BRYW	**Bryant College**	56.69	63	*e*P		P		04 37 00.5	-0.6
	comp=Z,24nm,0.6s								
EMMW	**East Machias**	56.85	58	*e*P		P		04 37 02.4	+0.2
	comp=Z,15nm,0.6s								
GGN	**Saint George**	56.88	58	*e*P		P		04 37 01.2	-1.1
	comp=Z,11nm,0.8s								
ARCES	**ARCESS Array B**	57.16	358	P		P		04 37 04.7	+0.7
	comp=Z,8.0nm,0.8s,baz=27,slow=7.0,SNR=16								
ARCES				PcP		PcP		04 37 59.0	+0.7
	comp=Z,4.5nm,0.7s,baz=35,slow=4.4,SNR=4.6								
LMN	**Caledonia Moun**	57.37	56	*e*P		P		04 37 04.9	-0.9
	comp=Z,21nm,0.8s								
HHC	**Hu-ho-hao-te**	57.86	296	*e*P		P		04 37 09.3	-0.2
HHC				PP		PP		04 39 14.0	-3.5
HHC				S		S		04 45 04.3	-2.2
HHC				PMZ					
	comp=Z,17nm,1.0s								
HHC				PMZ					
	comp=Z,150nm,5.5s								
HHC				LN					
	comp=Z,380nm,13.6s								
HHC				LE					
	comp=Z,150nm,12.3s								
HHC				LZ					
	comp=Z,290nm,12.3s								
DRLN	**Deer Lake**	58.37	49	*e*P		P		04 37 11.8	-1.0
	comp=Z,44nm,0.8s								
TLIG	**Tlapa**	58.91	103	*e*P		P		04 37 16.1	-1.0
	comp=Z,14nm,0.9s								
ZAA0	**Zalesovo Array**	60.33	322	*e*P		P		04 37 26.9	+0.7
ZALV	**Zalesovo Beam**	60.33	322	P		P		04 37 26.9	+0.7
	comp=Z,2.1nm,0.5s,baz=49,slow=6.7,SNR=6.5								
ZALV				PcP		PcP		04 38 12.1	+1.0
	comp=Z,5.2nm,0.8s,baz=22,slow=2.9,SNR=7.9								
CMIG	**Matias Romero**	61.44	100	P		P		04 37 34.5	+0.3
	comp=Z,4.0nm,0.7s,baz=340,slow=4.9,SNR=6.4								
TEIG	**Tepich**	62.92	92	P		P		04 37 42.9	-1.2
	comp=Z,1.1nm,0.5s,baz=270,slow=20,SNR=2.8								
XAN	**Xi'an**	64.26	293	P		P		04 37 53.3	+0.4
XAN				PMZ					
	comp=Z,7.0nm,0.9s								
KLMR	**Klimovskoe**	64.92	350	*e*P		P		04 37 56.5	-0.2
KLMR				pmax		pmax			
	comp=Z,16nm,1.0s								
GTA	**Gaotai**	65.01	303	⇓P		P		04 37 58.0	+0.2
GTA				pP		pP		04 38 04.5	-4.0
GTA				sP		sP		04 38 07.3	-5.3
GTA				S		S		04 46 38.3	+1.0
GTA				PMZ					
	comp=Z,9.0nm,1.2s								
GTA				PMZ					
	comp=Z,110nm,5.7s								
GTA				LN					
	comp=Z,240nm,16.2s								
GTA				LE					
	comp=Z,160nm,17.8s								
GTA				LZ					
	comp=Z,170nm,17.1s								
SVE	**Sverdlovsk**	65.17	337	⇓*i*P		P		04 37 59.6	+1.2
SVE				pmax		pmax			
	comp=Z,31nm,1.0s								
KURK	**Kurchatov**	65.18	323	P		P		04 38 00.0	+1.4
KURK	**Kurchatov**	65.18	323	P		P		04 38 00.0	+1.4
FIA1	**FINESS Array S**	65.26	357	*e*P		P		04 37 59.4	+0.6
	comp=Z,11nm,0.7s								
FINES	**FINESS Array B**	65.26	357	P		P		04 37 59.7	+0.8
	comp=Z,9.6nm,0.7s,baz=17,slow=7.3,SNR=49								
NC204	**NORSAR Array S**	65.26	5	*e*P		P		04 38 00.4	+1.4
KURBB	**Kurchatov Arra**	65.29	323	P		P		04 38 00.0	+0.7
	comp=Z,2.3nm,0.7s,baz=33,slow=5.7,SNR=7.9								
LZH	**Lanzhou**	65.45	298	⇑P		P		04 38 02.0	+1.2
LZH				pP		pP		04 38 08.3	-3.2
LZH				sP		sP		04 38 11.3	-4.3
LZH				PP		PP		04 40 23.5	-1.1
LZH				*e*S		S		04 46 43.3	+0.4
LZH				sS		sS		04 46 53.0	-7.6
LZH				*e*SS		SS		04 50 57.0	+1.0
LZH				PMZ					
	comp=Z,27nm,1.0s								
LZH				PMZ					
	comp=Z,140nm,5.6s								
LZH				LN					
	comp=Z,520nm,17.0s								
LZH		

ESK	**Eskdalemuir**	**69.76**	**14**	*e*P		**P**	**04 38 27.8**	**+0.4**
ESK				pmax		pmax			
	comp=Z,19nm,0.9s								
ESK	**Eskdalemuir**	**69.76**	**14**	*e*P		**P**	**04 38 27.8**	**+0.4**
	comp=Z,19nm,0.9s								
OBN	**Obninsk**	**70.88**	**350**	*e*P		**P**	**04 38 33.5**	**-0.7**
OBN				pmax		pmax			
	comp=Z,35nm,1.7s								
GYA	**Guiyang**	**71.29**	**289**	*e*P		**P**	**04 38 37.3**	**-0.1**
GYA				PMZ					
	comp=Z,10.0nm,1.0s								
ABKAR	**Akbulak array**	**72.25**	**334**	*e*P		**P**	**04 38 43.1**	**+0.5**
CWF	**Charnwood Fore**	**72.54**	**14**	*e*P		**P**	**04 38 45.9**	**+1.6**
	comp=Z,12nm,0.9s								
SUW	**Suwalki**	**72.77**	**358**	*e*P		**P**	**04 38 46.5**	**+0.9**
SUW	**Suwalki**	**72.77**	**358**	*e*P		**P**	**04 38 46.5**	**+0.9**
TKM2	**Tokmak 2**	**72.88**	**321**	*e*P		**P**	**04 38 47.8**	**+1.0**
TKM2				pmax		pmax			
	comp=Z,13nm,1.3s								
TKM2	**Tokmak 2**	**72.88**	**321**	*e*P		**P**	**04 38 47.8**	**+1.0**
	comp=Z,13nm,1.3s								
AAK	**Ala-Archa**	**73.54**	**321**	*ce*P		**P**	**04 38 51.7**	**+1.1**
AAK				pmax		pmax			
	comp=Z,23nm,1.7s								
EKS2	**Erkin-Say**	**73.78**	**322**	*e*P		**P**	**04 38 52.2**	**+0.2**
EKS2				pmax		pmax			
	comp=Z,6.0nm,0.9s								
EKS2	**Erkin-Say**	**73.78**	**322**	*e*P		**P**	**04 38 52.2**	**+0.2**
	comp=Z,6.2nm,0.9s								
VRH	**Novokhopyorsk**	**74.09**	**346**	*e*P		**P**	**04 38 53.9**	**+0.5**
VRH				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VSR	**Storozhevoye**	**74.42**	**348**	*e*P		**P**	**04 38 56.0**	**+0.7**
VSR				pmax		pmax			
	comp=Z,20nm,0.7s								
KMI	**Kunming**	**74.53**	**291**	P		**P**	**04 38 57.3**	**+0.6**
KMI				sP		pP	04 39 05.5	-2.1
KMI				PMZ					
	comp=Z,8.0nm,0.8s								
KKAR	**Karatay Array**	**74.56**	**324**	*e*P		**P**	**04 38 57.1**	**+0.7**
KKAR	**Karatay Array**	**74.56**	**324**	*e*P		**P**	**04 38 57.0**	**+0.7**
BEBN	**Eben Emael**	**75.28**	**10**	P		**P**	**04 39 02.4**	**+2.1**
CLL	**Collm**	**75.32**	**5**	⇓*i*P		**P**	**04 39 02.0**	**+1.4**
	comp=Z,12nm,0.9s								
CLL				*i*			04 39 12.0		
CLL	**Collm**	**75.32**	**5**	⇓*i*P		**P**	**04 39 02.0**	**+1.4**
CLL				*i*			04 39 12.0		
CLL				pmax		pmax			
	comp=Z,12nm,0.9s								
CLL				MLR		MLR			
	comp=Z,900nm,20.2s								
CLL	**Collm**	**75.32**	**5**	*e*P		**P**	**04 39 01.5**	**+0.9**
	comp=Z,12nm,0.9s								
MEM	**Membach**	**75.50**	**9**	P		**P**	**04 39 03.5**	**+1.8**
	comp=Z,9.5nm,1.2s								
BCLA	**Clavier**	**75.62**	**10**	P		**P**	**04 39 04.0**	**+1.7**
KSH	**Kashi**	**75.66**	**319**	P		P	04 39 07.3	+4.4
KSH				pP		pP	04 39 13.3	-0.5
KSH				S		S	04 48 49.8	+8.2
KSH				ScS		**ScS**	**04 49 20.0**	**+6.0**
KSH				SS		SS	04 53 44.0	+12
KSH				PMZ					
	comp=Z,16nm,0.8s								
KSH				LN					
	comp=Z,180nm,10.2s								
KSH				LE					
	comp=Z,140nm,5.9s								
BRG	**Berggiesshubel**	**75.80**	**4**	*e*P		**P**	**04 39 04.9**	**+1.6**
	comp=Z,14nm,1.0s								
BRG	**Berggiesshubel**	**75.80**	**4**	*e*P		**P**	**04 39 04.9**	**+1.6**
BRG				pmax		pmax			
	comp=Z,14nm,1.0s								
AKASG	**Malin Array Be**	**75.85**	**354**	P		**P**	**04 39 04.3**	**+0.8**
	comp=Z,5.4nm,0.4s,baz=8.8,slow=5.7,SNR=49								
AKBB	**Malin Array Si**	**75.85**	**354**	*e*P		**P**	**04 39 03.9**	**+0.3**
AKBB				pmax		pmax			
	comp=Z,24nm,0.8s								
AKBB	**Malin Array Si**	**75.85**	**354**	*e*P		**P**	**04 39 03.9**	**+0.3**
	comp=Z,24nm,0.8s								
KIEV	**Kiev**	**75.86**	**354**	*d*i*P*		**P**	**04 39 04.3**	**+0.7**
KIEV				pmax		pmax			
	comp=Z,37nm,1.0s								
KIEV	**Kiev**	**75.86**	**354**	*e*P		**P**	**04 39 03.9**	**+0.2**
	comp=Z,30nm,0.9s								
DOU	**Dourbes**	**75.86**	**10**	P		**P**	**04 39 05.6**	**+1.9**
AK11	**Malin Array Si**	**75.88**	**354**	*e*P		**P**	**04 39 04.2**	**+0.5**
KSP	**Ksiaz**	**75.92**	**3**	*e*P		**P**	**04 39 05.6**	**+1.6**
KSP	**Ksiaz**	**75.92**	**3**	*e*P		**P**	**04 39 05.6**	**+1.6**
PVCC	**Panska Ves**	**76.17**	**4**	*e*P		**P**	**04 39 07.5**	**+2.0**
PVCC				*ep*P		**pP**	**04 39 10.4**	**-6.0**
PVCC	**Panska Ves**	**76.17**	**4**	*e*P		**P**	**04 39 07.5**	**+2.0**
PVCC				*e*			04 39 10.4		
UPC	**Upice**	**76.24**	**3**	*e*P		**P**	**04 39 07.9**	**+2.0**
UPC	**Upice**	**76.24**	**3**	*e*P		**P**	**04 39 07.9**	**+2.0**
NKC	**Novy Kostel**	**76.37**	**5**	*e*P		**P**	**04 39 08.6**	**+2.0**
NKC	**Novy Kostel**	**76.37**	**5**	*e*P		**P**	**04 39 08.6**	**+2.0**
DPC	**Dobruska-Polom**	**76.41**	**3**	*e*P		**P**	**04 39 09.0**	**+2.1**
DPC				*ex*		x	04 39 17.2		
DPC	**Dobruska-Polom**	**76.41**	**3**	*e*P		**P**	**04 39 09.0**	**+2.1**
DPC				*e*			04 39 17.2		
PRU	**Pruhonice**	**76.71**	**4**	*e*P		**P**	**04 39 10.5**	**+2.0**
PRU	**Pruhonice**	**76.71**	**4**	*e*P		**P**	**04 39 10.5**	**+2.0**
GOPC	**GO Pecny, Ondr**	**76.80**	**4**	*e*P		**P**	**04 39 11.0**	**+2.0**
GOPC	**GO Pecny, Ondr**	**76.80**	**4**	*e*P		**P**	**04 39 11.0**	**+2.0**
LVV	**L'vov**	**76.95**	**358**	*e*P		**P**	**04 39 10.8**	**+0.9**
OKC	**Ostrava-Krasne**	**76.96**	**2**	*e*P		**P**	**04 39 12.1**	**+2.2**
OKC	**Ostrava-Krasne**	**76.96**	**2**	*e*P		**P**	**04 39 12.1**	**+2.2**
MORC	**Moravsky Berou**	**77.01**	**2**	⇓*i*P		**P**	**04 39 12.0**	**+1.7**
MORC	**Moravsky Berou**	**77.01**	**2**	⇓P		**P**	**04 39 12.0**	**+1.7**
MORC	**Moravsky Berou**	**77.01**	**2**	*e*P		**P**	**04 39 10.8**	**+0.5**
	comp=Z,37nm,0.9s								
KWP	**Kalwaria Pacla**	**77.17**	**358**	*e*P		**P**	**04 39 13.0**	**+1.9**
KWP	**Kalwaria Pacla**	**77.17**	**358**	⇓*i*P		**P**	**04 39 13.3**	**+2.2**
KWP	**Kalwaria Pacla**	**77.17**	**358**	⇓P		**P**	**04 39 13.3**	**+2.2**
PMG	**Port Moresby**	**77.18**	**234**	P		**P**	**04 39 10.5**	**-1.0**
	comp=Z,16nm,0.7s,baz=243,slow=19,SNR=6.9								
STHS	**Stebnicka Huta**	**77.40**	**359**	*e*P		**P**	**04 39 15.2**	**+2.8**
STHS				pmax		pmax			
	comp=Z,20nm,1.0s								
STHS	**Stebnicka Huta**	**77.40**	**359**	*e*P		**P**	**04 39 15.2**	**+2.8**
NIE	**Niedzica**	**77.40**	**0**	*e*P		**P**	**04 39 14.4**	**+2.0**
NIE	**Niedzica**	**77.40**	**0**	*e*P		**P**	**04 39 14.4**	**+2.0**
VRAC	**Vranov**	**77.46**	**3**	⇑*i*P		**P**	**04 39 14.7**	**+1.9**
VRAC	**Vranov**	**77.46**	**3**	⇑P		**P**	**04 39 14.7**	**+1.9**
KHC	**Kasperske Hory**	**77.53**	**5**	*e*P		**P**	**04 39 15.4**	**+2.2**
KHC				*ep*P		**PcP**	**04 39 18.8**	**-4.6**
KHC				*es*P		**pP**	**04 39 23.7**	**-0.4**
KHC	**Kasperske Hory**	**77.53**	**5**	*e*P		**P**	**04 39 15.4**	**+2.2**
KHC				*e*			04 39 18.8		
KHC				*e*			04 39 23.7		
KHC	**Kasperske Hory**	**77.53**	**5**	*e*P		**P**	**04 39 14.3**	**+1.1**
	comp=Z,7.6nm,1.1s								
LANS	**Liptovska Anna**	**77.67**	**1**	*e*P		**P**	**04 39 16.7**	**+2.8**
LANS	**Liptovska Anna**	**77.67**	**1**	*e*P		**P**	**04 39 16.7**	**+2.8**
GEC2	**GERESS Array S**	**77.82**	**5**	*e*P		**P**	**04 39 15.3**	**+0.5**
GEC2				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GEC2	**GERESS Array S**	**77.82**	**5**	*e*P		**P**	**04 39 15.3**	**+0.5**
	comp=Z,7.2nm,0.8s								
GERES	**GERESS Array B**	**77.82**	**5**	P		**P**	**04 39 16.4**	**+1.6**
	comp=Z,4.3nm,0.7s,baz=357,slow=5.3,SNR=32								
GEA0	**GERESS Array S**	**77.82**	**5**	*e*P		**P**	**04 39 16.3**	**+1.4**
KOLS	**Kolonicke sedl**	**77.87**	**359**	*e*P		**P**	**04 39 17.2**	**+2.1**
KOLS				pmax		pmax			
	comp=Z,8.0nm,1.1s								
KOLS	**Kolonicke sedl**	**77.87**	**359**	*e*P		**P**	**04 39 17.2**	**+2.1**
CRVS	**Cervenica-Dubn**	**77.91**	**359**	*e*P		**P**	**04 39 17.5**	**+2.2**
CRVS				*e*			04 39 25.6		
CRVS	**Cervenica-Dubn**	**77.91**	**359**	*e*P		**P**	**04 39 17.5**	**+2.2**
CRVS				*e*			04 39 25.6		
BFO	**Black Forest**	**77.97**	**8**	*e*P		**P**	**04 39 15.9**	**+0.2**
BFO				pmax		pmax			
	comp=Z,7.0nm,0.9s								
BFO	**Black Forest**	**77.97**	**8**	*e*P		**P**	**04 39 15.9**	**+0.2**
	comp=Z,7.5nm,0.9s								
VYHS	**Vyhne**	**78.32**	**1**	*e*P		**P**	**04 39 19.7**	**+2.2**
VYHS				pmax		pmax			
	comp=Z,8.0nm,1.1s								
VYHS	**Vyhne**	**78.32**	**1**	*e*P		**P**	**04 39 19.7**	**+2.2**
KECS	**Kecovo**	**78.34**	**360**	*e*P		**P**	**04 39 19.4**	**+1.8**
KECS				pmax		pmax			
	comp=Z,8.0nm,0.9s								
KECS	**Kecovo**	**78.34**	**360**	*e*P		**P**	**04 39 19.4**	**+1.8**
SORM	**Soroca**	**78.46**	**355**	⇓*i*P		**P**	**04 39 19.1**	**+0.8**
SORM	**Soroca**	**78.46**	**355**	⇓P		**P**	**04 39 19.2**	**+0.9**
CONA	**Conrad Observa**	**78.82**	**3**	*e*P		**P**	**04 39 22.6**	**+2.2**
	comp=Z,15nm,1.0s,SNR=8.8								
MOA	**Molln**	**78.83**	**4**	*i* P		**P**	**04 39 22.0**	**+1.6**
	comp=Z,3.4nm,1.0s								
PSZ	**Piszkesteto**	**78.90**	**0**	⇓*i*P		**P**	**04 39 23.2**	**+2.4**
PSZ	**Piszkesteto**	**78.90**	**0**	⇓P		**P**	**04 39 23.2**	**+2.4**
PSZ	**Piszkesteto**	**78.90**	**0**	*e*P		**P**	**04 39 21.9**	**+1.1**
	comp=Z,14nm,1.0s								
RETA	**Reutte**	**79.00**	**7**	*i* P		**P**	**04 39 23.5**	**+2.1**
	comp=Z,4.2nm,0.8s								
BUR08	**Bucovina Ar. S**	**79.09**	**357**	*e*P		**P**	**04 39 22.9**	**+1.0**
BURAR	**Bucovina Array**	**79.12**	**357**	⇓*i*P		**P**	**04 39 23.8**	**+1.7**
BURAR	**Bucovina Array**	**79.12**	**357**	⇓P		**P**	**04 39 23.8**	**+1.7**
DAVA	**Damuels**	**79.14**	**7**	*i* P		**P**	**04 39 24.1**	**+1.9**
	comp=Z,3.7nm,0.8s								
MOTA	**Moosalm**	**79.16**	**6**	*i* P		**P**	**04 39 24.4**	**+2.0**
	comp=Z,12nm,0.9s								
WATA	**Walderalm**	**79.20**	**6**	*i* P		**P**	**04 39 24.8**	**+2.2**
	comp=Z,18nm,1.1s								
WTTA	**Wattenberg**	**79.28**	**6**	*i* P		**P**	**04 39 25.1**	**+2.0**
	comp=Z,14nm,0.8s,SNR=5.8								
MOTC	**Monteria, Cord**	**79.39**	**90**	*e*P		**P**	**04 39 22.5**	**-1.4**
FETA	**Feichten**	**79.46**	**7**	*i* P		**P**	**04 39 26.1**	**+2.0**
	comp=Z,11nm,0.8s,SNR=5.7								
ARSA	**Arzberg**	**79.48**	**3**	*i* P		**P**	**04 39 26.1**	**+2.1**
	comp=Z,9.2nm,0.9s,SNR=5.7								
KBA	**Koelnbreinsper**	**79.56**	**5**	*i* P		**P**	**04 39 27.0**	**+2.4**
	comp=Z,23nm,0.9s,SNR=10								
ARCR	**ARCALIA**	**79.68**	**357**	⇑*i*P		**P**	**04 39 27.7**	**+2.7**
FUORN	**Ofenpass-Fuorn**	**79.83**	**7**	*e*P		**P**	**04 39 27.6**	**+1.5**
	comp=Z,31nm,1.4s								
ABTA	**Abfaltersbach**	**79.85**	**6**	*i* P		**P**	**04 39 27.8**	**+1.8**
	comp=Z,12nm,1.0s,SNR=6.9								
DRGR		**80.01**	**358**	⇓*i*P		**P**	**04 39 28.2**	**+1.3**
DRGR		**80.01**	**358**	⇓P		**P**	**04 39 28.2**	**+1.3**
MYKA	**Terra Mystica**	**80.02**	**5**	*i* P		**P**	**04 39 28.7**	**+1.7**
	comp=Z,4.7nm,0.6s								
SOKA	**Soboth**	**80.04**	**4**	*i* P		**P**	**04 39 29.1**	**+2.0**
	comp=Z,27nm,1.1s,SNR=16								
TESR	**Tesceani**	**80.17**	**356**	⇑*i*P		**P**	**04 39 29.2**	**+1.5**
OBKA	**Obir**	**80.19**	**4**	*i* P		**P**	**04 39 29.8**	**+2.0**
	comp=Z,42nm,0.7s,SNR=27								
GROS	**Grobnik**	**80.27**	**3**	*i* P		**P**	**04 39 29.9**	**+1.6**
CADS	**Cadrg**	**80.43**	**5**	*i* P		**P**	**04 39 30.1**	**+1.0**
SIRR	**Siria**	**80.55**	**359**	⇑*i*P		**P**	**04 39 31.8**	**+2.1**
VRI	**Vrincioaia**	**80.81**	**356**	⇓*i*P		**P**	**04 39 32.6**	**+1.5**
VRI	**Vrincioaia**	**80.81**	**356**	⇓P		**P**	**04 39 32.6**	**+1.5**
PLOR	**Plostina**	**80.83**	**356**	⇑*i*P		**P**	**04 39 33.2**	**+2.0**
PLOR	**Plostina**	**80.83**	**356**	⇑P		**P**	**04 39 33.2**	**+2.0**
KIV	**Kislovodsk**	**81.00**	**344**	*e*P		**P**	**04 39 33.8**	**+1.5**
KIV				pmax		pmax			
	comp=Z,24nm,1.0s								
KIV	**Kislovodsk**	**81.00**	**344**	*e*P		**P**	**04 39 32.9**	**+0.6**
	comp=Z,18nm,0.7s								
GUN	**Gumba**	**81.11**	**305**	*e*P		**P**	**04 39 34.4**	**+0.9**
	comp=Z,96nm,0.9s								
KBZ	**Khabaz**	**81.19**	**344**	P		**P**	**04 39 35.5**	**+2.3**
	comp=Z,10.0nm,0.9s,baz=277,slow=2.1,SNR=17								
BZS	**Buzias**	**81.20**	**359**	⇓*i*P		**P**	**04 39 34.5**	**+1.3**
BZS	**Buzias**	**81.20**	**359**	⇓P		**P**	**04 39 34.5**	**+1.3**
MLR	**Muntele Rosu**	**81.22**	**356**	⇓*i*P		**P**	**04 39 35.6**	**+2.2**
MLR	**Muntele Rosu**	**81.22**	**356**	⇓P		**P**	**04 39 35.6**	**+2.2**
MLR	**Muntele Rosu**	**81.22**	**356**	*e*P		**P**	**04 39 34.1**	**+0.7**
	comp=Z,16nm,1.4s								
BOJS	**Bojanci**	**81.22**	**4**	*i* P		**P**	**04 39 34.9**	**+1.6**
NCK	**Nalchik**	**81.30**	**343**	*e*P		**P**	**04 39 35.8**	**+2.0**
NCK				pmax		pmax			
	comp=Z,30nm,0.4s								
VOIR		**81.30**	**357**	⇓*i*P		**P**	**04 39 35.6**	**+1.8**
VOIR		**81.30**	**357**	⇓P		**P**	**04 39 35.6**	**+1.8**
LOT	**Lotru**	**81.33**	**358**	⇑*i*P		**P**	**04 39 35.2**	**+1.2**
TLCR		**81.37**	**354**	⇑*i*P		**P**	**04 39 35.8**	**+1.7**
TLCR		**81.37**	**354**	⇑P		**P**	**04 39 35.8**	**+1.7**
ARR	**Arges**	**81.39**	**357**	⇑*i*P		**P**	**04 39 36.4**	**+2.1**
GZR	**Gura Zlata**	**81.41**	**358**	⇑*i*P		**P**	**04 39 36.0**	**+1.6**
GZR	**Gura Zlata**	**81.41**	**358**	⇑P		**P**	**04 39 36.0**	**+1.6**
CFR	**Carcaliu**	**81.42**	**354**	⇓*i*P		**P**	**04 39 35.8**	**+1.5**
CFR	**Carcaliu**	**81.42**	**354**	⇓P		**P**	**04 39 35.8**	**+1.5**
KKN	**Kakani**	**81.50**	**306**	*e*P		**P**	**04 39 36.1**	**+0.7**
RAMN	**Ramite**	**81.56**	**304**	*e*P		**P**	**04 39 36.1**	**+0.4**
PKIN	**Phulchoki**	**81.62**	**306**	*e*P		**P**	**04 39 36.7**	**+0.6**
	comp=Z,17nm,0.5s								
GKN	**Gorkha**	**81.63**	**306**	*e*P		**P**	**04 39 36.5**	**+0.5**
	comp=Z,63nm,0.8s								
DMN	**Daman**	**81.74**	**306**	*e*P		**P**	**04 39 37.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**81.95**	**290**	P		**P**	**04 39 37.8**	**+0.2**
	comp=Z,6.5nm,0.8s,baz=19,slow=5.3,SNR=30								
CM01	**Chiang Mai Arr**	**81.97**	**290**	*e*P		**P**	**04 39 37.2**	**-0.4**
MDVR	**Moldovita**	**82.03**	**359**	⇑*i*P		**P**	**04 39 39.5**	**+1.8**
TIRR	**Tirgusor**	**82.12**	**354**	⇓*i*P		**P**	**04 39 39.7**	**+1.7**
TIRR	**Tirgusor**	**82.12**	**354**	*e*P		**P**	**04 39 39.2**	**+1.2**
TIRR				pmax		pmax			
	comp=Z,18nm,0.8s								
TIRR	**Tirgusor**	**82.12**	**354**	*e*P		**P**	**04 39 39.2**	**+1.2**
	comp=Z,18nm,0.8s								
PYUN	**Piuthan**	**82.34**	**308**	*e*P		**P**	**04 39 40.4**	**+0.7**
	comp=Z,88nm,1.0s								
NORC	**Norcasia**	**82.42**	**91**	*e*P		**P**	**04 39 39.1**	**-1.0**
BARC	**Barichara**	**82.61**	**89**	*e*P		**P**	**04 39 40.2**	**-1.2**
GEYT	**Alibeck**	**83.22**	**331**	P		**P**	**04 39 45.3**	**+1.4**
	comp=Z,6.9nm,0.7s,baz=22,slow=1.6,SNR=6.8								
MTE	**Manta**	**83.36**	**21**	*e*P		**P**	**04 39 45.5**	**+0.8**
	comp=Z,39nm,1.0s								
PRAC	**Prado**	**83.88**	**92**	*e*P		**P**	**04 39 46.8**	**-0.8**
	comp=Z,14nm,0.8s								
VTS	**Vitosha**	**84.20**	**358**	⇑*i*P		**P**	**04 39 49.9**	**+0.9**
VTS	**Vitosha**	**84.20**	**358**	⇑P		**P**	**04 39 49.9**	**+0.9**
AQU	**L'Aquila**	**84.28**	**5**	*e*P		**P**	**04 39 49.8**	**+0.5**
AQU				pmax		pmax			
	comp=Z,25nm,1.0s								
AQU	**L'Aquila**	**84.28**	**5**	*e*P		**P**	**04 39 49.8**	**+0.5**
	comp=Z,25nm,1.0s								
PDG	**Podgorica**	**84.38**	**1**	⇓*i*P		**P**	**04 39 50.7**	**+1.0**
OTAV	**Otavalo**	**84.54**	**97**	*e*P		**P**	**04 39 51.6**	**+0.1**
OTAV	**Otavalo**	**84.54**	**97**	*e*P		**P**	**04 39 50.9**	**-0.6**
	comp=Z,8.7nm,1.1s								
ES19	**SONSECA Array**	**84.77**	**19**	*e*P		**P**	**04 39 52.6**	**+0.8**
ESDC	**Sonseca Array**	**84.79**	**19**	P		**P**	**04 39 53.3**	**+1.4**
	comp=Z,3.9nm,0.6s,baz=344,slow=4.9,SNR=17								
SKO	**Skopje**	**84.84**	**359**	*i* P		**P**	**04 39 54.1**	**+2.0**
VAY	**Valandovo**	**85.48**	**358**	*i* P		**P**	**04 39 57.2**	**+1.9**
OHR	**Ohrid**	**85.71**	**360**	*i* P		**P**	**04 39 58.1**	**+1.6**
ANTO	**Ankara**	**86.33**	**350**	*e*P		**P**	**04 40 00.6**	**+0.9**
ANTO				pmax		pmax			
	comp=Z,18nm,0.8s								
ANTO	**Ankara**	**86.33**	**350**	*e*P		**P**	**04 40 00.6**	**+0.9**
	comp=Z,18nm,0.8s								
BR231	**Keskin MP Arra**	**86.36**	**350**	*e*P		**P**	**04 40 01.9**	**+2.1**
BR131	**Keskin Array S**	**86.39**	**350**	*e*P		**P**	**04 40 01.8**	**+1.8**
BRTR	**Keskin Array B**	**86.39**	**350**	P		**P**	**04 40 01.5**	**+1.5**
	comp=Z,8.9nm,0.9s,baz=39,slow=2.4,SNR=38								
CTA	**Charters Tower**	**86.88**	**230**	P		**P**	**04 40 01.5**	**-0.8**
	comp=Z,8.0nm,0.9s,baz=220,slow=8.8,SNR=3.3								
KAPI	**Kappang**	**88.46**	**260**	P		**P**	**04 40 09.2**	**-0.9**
	comp=Z,3.9nm,0.4s,baz=221,slow=19,SNR=3.8								
KEST	**Kesra**	**90.56**	**9**	P		**P**	**04 40 20.9**	**+1.1**
	comp=Z,4.8nm,0.9s,baz=304,slow=5.8,SNR=4.9								
KEST	**Kesra**	**90.56**	**9**	*e*P		**P**	**04 40 19.3**	**-0.5**
	comp=Z,6.2nm,1.0s								
WB2	**Warramunga Arr**	**92.54**	**239**	*e*P		**P**	**04 40 27.8**	**-1.1**
	comp=Z,11nm,0.9s								
WRA	**Warramunga Arr**	**92.55**	**239**	P		**P**	**04 40 27.7**	**-1.2**
	comp=Z,8.2nm,0.8s,baz=40,slow=5.3,SNR=48								
HYB	**Hyderabad**	**93.55**	**306**	*i* P		**P**	**04 40 34.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**95.67**	**247**	P		**P**	**04 40 42.2**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=61,slow=3.1,SNR=8.2								
AS01	**Alice Springs**	**95.84**	**238**	*e*P		**P**	**04 40 42.7**	**-1.3**
ASAR	**Alice Springs**	**95.87**	**238**	P		**P**	**04 40 43.5**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=32,slow=4.8,SNR=13								
ASAR				PKKP		**PKKPdf**	**04 57 32.5**	**0.0**
	comp=Z,0.8nm,0.5s,baz=215,slow=2.0,SNR=12								
PALK	**Pallekele**	**101.09**	**299**	*i* P		**Pdif**	**04 41 07.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**111.66**	**20**	PKiKP		**PKiKP**	**04 45 51.5**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=333,slow=3.2,SNR=9.5								
KMBO	**Kilima Mbogo**	**125.91**	**339**	PKP		**PKPdf**	**04 46 20.8**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=240,slow=1.8,SNR=6.1								
QSPA	**South Pole Qui**	**143.33**	**180**	*e*PKPpre		PKPpre	04 46 46.6		
TSUM	**Tsumeb**	**145.64**	**5**	*e*PKPdf		**PKPab**	**04 46 56.8**	**+0.2**
LBTB	**Lobatse**	**151.23**	**350**	*e*PKIKP		**PKPbc**	**04 47 11.6**	**+0.7**
LBTB	**Lobatse**	**151.23**	**350**	*e*PKPbc		**PKPbc**	**04 47 11.6**	**+0.7**
BOSA	**Boshof**	**154.83**	**350**	PKPbc		**PKPbc**	**04 47 17.2**	**-1.5**
	comp=Z,3.7nm,0.9s,baz=19,slow=1.6,SNR=3.1								
BOSA				PKPab		**PKPab**	**04 47 35.1**	**+1.2**
	comp=Z,4.2nm,0.9s,baz=7.8,slow=5.8,SNR=4.4								
MAW	**Mawson**	**155.49**	**219**	PKPbc		PKPbc	04 47 17.9		
	comp=Z,1.2nm,0.5s,baz=128,slow=2.5,SNR=9.4								
MAW				PKPab		**PKPab**	**04 47 34.7**	**-0.9**	
	comp=Z,2.8nm,0.7s,baz=145,slow=5.5,SNR=5.3								

NEIC ***29*** *04:27:52.4, 15.50N×93.86W, h16km, mb4.3/1, MD4.0(MEX), After MEX.*

MEX 29 04:27:52.4±1.0, 15.50N×93.85W, h16km±190km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TGBT	**Tuxtla Gutierr**	**1.47**	**30**	*e*P		Pn	04 28 15.1	-3.1
TGBT				*e*S		Sn	04 28 32.3	-4.7
CCIG	**Comitan**	**1.82**	**65**	*e*P		Pn	04 28 20.1	-3.2
CCIG				*e*S		Sn	04 28 40.6	-5.6
CCIG	**Comitan**	**1.82**	**65**	*e*P		Pn	04 28 20.1	-3.2
CCIG				*e*S		Sn	04 28 40.6	-5.6
HUIG	**Huatulco**	**2.19**	**277**	*e*P		Pn	04 28 24.7	-3.4
HUIG				*e*S		Sn	04 28 47.6	-7.3
HUIG	**Huatulco**	**2.19**	**277**	*e*P		Pn	04 28 24.7	-3.4
HUIG				*e*S		Sn	04 28 47.6	-7.3
VHO	**Vista Hermosa**	**3.18**	**300**	*e*P		Pn	04 28 40.1	-1.8
VHO				*e*S		Sn	04 29 15.3	-4.3
VHO	**Vista Hermosa**	**3.18**	**300**	*e*P		Pn	04 28 40.1	-1.8
VHO				*e*S		Sn	04 29 15.3	-4.3
TEIG	**Tepich**	**7.09**	**48**	Pn		Pn	04 29 36.9	+1.3
AMTX	**Amarillo**	**20.54**	**341**	*e*P		P	04 32 24.4	-6.0
	7.4nm,0.5s							

SOME ***29*** *04:30:45.7, 39.48N×72.67E, h5km*
KRNET ***29*** *04:30:48.0±0.1, 39.53N×72.66E, h7km, mb3.7*
NNC ***29*** *04:30:53.5±10.0, 39.69N×72.63E, h236km±173km, mb2.5, mpv3.8, Error ellipse: s-maj=178.3km s-min=55.4km az=0.0*

**ISC 29 04:30:44.9±1.6, 39.49N±0.06×72.71E±0.03, h0km±11km, n34, s52/67, 24C-17D, Ky

ARXS	**Arharly** 12nm,0.6s	**6.07**	**37**	*eP*	**Pg**	**04 32 39.8**	**-1.4**
ARXS	26nm,0.6s			*eS*	**Sg**	**04 34 02.6**	**+2.7**
AB31	**Akbulak array** 1.0nm,0.5s	**13.35**	**321**	⇓*P*	**Pn**	**04 33 54.1**	**-1.5**

*ISCJB **29** 04:34:42.6±0.5, 39.°14N±0.°03×28.°99E±0.°03, h2km±6km, Error ellipse: s-maj=5.3km s-min=3.3km az=174.0*
*CSEM **29** 04:34:42.9±0.1, 39.°14N×29.°00E, h2km, Error ellipse: s-maj=2.2km s-min=1.7km az=7.0*
*ISK **29** 04:34:42.4, 39.°14N×29.°00E, h5km, MD3.0*
*DDA **29** 04:34:42.3, 39.°11N×29.°00E, h7km, Md3.1*

ISC 29 04:34:42.8±1.0, 39.°14N±0.°02×29.°00E±0.°02, h6km±9km, n67, σ0.°65/84, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**246**	P	**Pg**	**04 34 47.4**	**-0.2**
DEMI				S	**Sg**	**04 34 50.7**	**-0.1**
DEMI	**Demirci**	**0.24**	**246**	*i* P	**Pg**	**04 34 47.4**	**-0.2**
DEMI				*i* S	**Sg**	**04 34 50.7**	**-0.1**
GEDZ	**Gediz**	**0.34**	**107**	*e*PG	**Pb**	**04 34 50.1**	**-1.1**
GEDZ				*e*SG	**Sg**	**04 34 54.7**	**+0.9**
GEDZ	**Gediz**	**0.34**	**107**	*e*Pg	**Pb**	**04 34 50.1**	**-1.1**
GEDZ				*e*Sg	**Sg**	**04 34 54.7**	**+0.9**
GDZ	**Gediz**	**0.38**	**98**	P	**Pg**	**04 34 50.1**	**-0.2**
GDZ				S	**Sg**	**04 34 55.7**	**+0.4**
GDZ	**Gediz**	**0.38**	**98**	*i* P	**Pg**	**04 34 50.1**	**-0.2**
GDZ				*i* S	**Sg**	**04 34 55.7**	**+0.4**
TVSB	**Tavsanli**	**0.47**	**49**	*e*PG	**Pg**	**04 34 52.0**	**0.0**
TVSB				*e*SG	**Sg**	**04 34 58.5**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**49**	*e*Pg	**Pg**	**04 34 52.0**	**0.0**
TVSB				*e*Sg	**Sg**	**04 34 58.5**	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*PG	**Pg**	**04 34 55.3**	**-0.6**
KULA				*e*SG	**Sg**	**04 35 05.2**	**+0.5**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*Pg	**Pg**	**04 34 55.3**	**-0.6**
KULA				*e*Sg	**Sg**	**04 35 05.2**	**+0.5**
KHL	**Karahalli**	**0.91**	**153**	*e*PG	**Pb**	**04 35 00.8**	**-0.3**
KHL	**Karahalli**	**0.91**	**153**	*e*Pg	**Pb**	**04 35 00.8**	**-0.3**
AKS	**Akhisar**	**0.96**	**255**	*e*PG	**Pb**	**04 35 01.4**	**-0.4**
AKS	**Akhisar**	**0.96**	**255**	*e*Pg	**Pb**	**04 35 01.4**	**-0.4**
BALB	**Balikesir**	**1.00**	**300**	*e*PG	**Pb**	**04 35 02.4**	**-0.1**
BALB				*e*SG	**Sb**	**04 35 16.4**	**+0.5**
BALB	**Balikesir**	**1.00**	**300**	*e*Pg	**Pb**	**04 35 02.4**	**-0.1**
BALB				*e*Sg	**Sb**	**04 35 16.4**	**+0.5**
IGD	**Bursa**	**1.13**	**8**	*i* P	**Pg**	**04 35 03.5**	**-1.0**
IGD				*i* S	**Sn**	**04 35 20.4**	**-0.6**
BALY	**Balya**	**1.22**	**300**	P	**Pn**	**04 35 06.2**	**-0.3**
BALY				S	**Sn**	**04 35 22.8**	**-0.5**
BALY	**Balya**	**1.22**	**300**	*i* P	**Pn**	**04 35 06.2**	**-0.3**
BALY				*i* S	**Sn**	**04 35 22.8**	**-0.5**
KCTX	**Karacabey (Bur**	**1.23**	**336**	*e*PN	**Pb**	**04 35 06.1**	**-0.3**
KCTX	**Karacabey (Bur**	**1.23**	**336**	*e*Pn	**Pb**	**04 35 06.1**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.23**	**356**	*e*PN	**Pn**	**04 35 06.4**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.23**	**356**	*e*Pn	**Pn**	**04 35 06.4**	**-0.1**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*PN	**Pn**	**04 35 06.5**	**-0.2**
CAVI	**Cavuskoy**	**1.24**	**31**	*e*Pn	**Pn**	**04 35 06.5**	**-0.2**
BORA	**Eskisehir**	**1.35**	**56**	P	**Pn**	**04 35 08.0**	**-0.2**
BORA				S	**Sn**	**04 35 26.7**	**+0.3**
BORA	**Eskisehir**	**1.35**	**56**	*i* P	**Pn**	**04 35 08.0**	**-0.2**
BORA				*i* S	**Sn**	**04 35 26.7**	**+0.3**
GONE	**Gonen-Balikesi**	**1.36**	**312**	*e*PN	**Pb**	**04 35 08.4**	**-0.2**
GONE	**Gonen-Balikesi**	**1.36**	**312**	*e*Pn	**Pb**	**04 35 08.4**	**-0.2**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*PN	**Pb**	**04 35 09.3**	**-0.2**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*Pn	**Pb**	**04 35 09.3**	**-0.2**
ARMT	**Armutlu**	**1.43**	**356**	*e*PN	**Pb**	**04 35 09.6**	**-0.2**
ARMT	**Armutlu**	**1.43**	**356**	*e*Pn	**Pb**	**04 35 09.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**216**	*e*PN	**Pg**	**04 35 10.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**216**	*e*Pn	**Pg**	**04 35 10.9**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**75**	*e*PN	**Pb**	**04 35 10.4**	**-0.5**
ESKT	**Eskisehir**	**1.49**	**75**	*e*Pn	**Pb**	**04 35 10.4**	**-0.5**
EDC	**Edincik**	**1.49**	**324**	*e*PN	**Pb**	**04 35 10.6**	**-0.2**
EDC	**Edincik**	**1.49**	**324**	*e*Pn	**Pb**	**04 35 10.6**	**-0.2**
GULT	**Gulveren**	**1.74**	**42**	*e*PN	**Pb**	**04 35 14.3**	**-0.9**
GULT	**Gulveren**	**1.74**	**42**	*e*Pn	**Pb**	**04 35 14.3**	**-0.9**
HRT	**Hereke**	**1.76**	**17**	*e*PN	**Pn**	**04 35 14.1**	**+0.3**
HRT	**Hereke**	**1.76**	**17**	*e*Pn	**Pn**	**04 35 14.1**	**+0.3**
KRBG	**Karabiga-Canak**	**1.81**	**314**	*e*PN	**Pn**	**04 35 15.1**	**+0.6**
KRBG	**Karabiga-Canak**	**1.81**	**314**	*e*Pn	**Pn**	**04 35 15.1**	**+0.6**
MRMT	**Marmara Adasi**	**1.81**	**324**	*e*PN	**Pb**	**04 35 15.7**	**-0.8**
MRMT	**Marmara Adasi**	**1.81**	**324**	*e*Pn	**Pb**	**04 35 15.7**	**-0.8**
ISK	**Istanbul-Kandi**	**1.92**	**1**	*e*PN	**Pn**	**04 35 16.7**	**+0.7**
ISK	**Istanbul-Kandi**	**1.92**	**1**	*e*Pn	**Pn**	**04 35 16.7**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*PN	**Pn**	**04 35 17.5**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.98**	**80**	*e*Pn	**Pn**	**04 35 17.5**	**+0.6**
SILT	**Sile**	**2.07**	**14**	*e*PN	**Pn**	**04 35 19.1**	**+1.1**
SILT	**Sile**	**2.07**	**14**	*e*Pn	**Pn**	**04 35 19.1**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.08**	**318**	*e*PN	**Pn**	**04 35 19.1**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.08**	**318**	*e*Pn	**Pn**	**04 35 19.1**	**+0.8**
KLYT	**Kilyos**	**2.11**	**1**	*e*PN	**Pn**	**04 35 19.4**	**+0.8**
KLYT	**Kilyos**	**2.11**	**1**	*e*Pn	**Pn**	**04 35 19.4**	**+0.8**
LPK	**Lapseki**	**2.12**	**306**	*e*PN	**Pb**	**04 35 19.9**	**-1.7**
LPK	**Lapseki**	**2.12**	**306**	*e*Pn	**Pb**	**04 35 19.9**	**-1.7**
CTKS	**Kestanelik-??a**	**2.13**	**350**	*e*PN	**Pn**	**04 35 19.6**	**+0.8**
CTKS	**Kestanelik-??a**	**2.13**	**350**	*e*Pn	**Pn**	**04 35 19.6**	**+0.8**
KIZT	**Kizilcal**	**2.26**	**96**	*e*PN	**Pn**	**04 35 21.2**	**+0.4**
KIZT	**Kizilcal**	**2.26**	**96**	*e*Pn	**Pn**	**04 35 21.2**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.31**	**304**	*e*PN	**Pn**	**04 35 22.6**	**+1.2**
GELI	**Tayfur-Gelibol**	**2.31**	**304**	*e*Pn	**Pn**	**04 35 22.6**	**+1.2**
ERIK	**Erikli-Kesan**	**2.45**	**309**	*e*PN	**Pn**	**04 35 24.4**	**+1.2**
ERIK	**Erikli-Kesan**	**2.45**	**309**	*e*Pn	**Pn**	**04 35 24.4**	**+1.2**

*DDA **29** 04:38:40.7, 39.°13N×28.°99E, h7km, Md2.6*
*CSEM **29** 04:38:41.7±0.1, 39.°09N×29.°01E, h2km, Error ellipse: s-maj=2.7km s-min=2.2km az=164.0*
*ISK **29** 04:38:41.2, 39.°08N×29.°01E, h5km, ML2.7*

ISC 29 04:38:41.2±1.0, 39.°11N±0.°03×29.°00E±0.°02, h11km±9km, n44, σ0.°54/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**252**	P	**Pg**	**04 38 46.0**	**0.0**
DEMI				S	**Sg**	**04 38 49.0**	**-0.3**
DEMI	**Demirci**	**0.23**	**252**	*i* P	**Pg**	**04 38 46.0**	**0.0**
DEMI				*i* S	**Sg**	**04 38 49.0**	**-0.3**
GEDZ	**Gediz**	**0.33**	**102**	*e*PG	**Pg**	**04 38 48.2**	**+0.4**
GEDZ				*e*SG	**Sg**	**04 38 52.4**	**+0.1**
GEDZ	**Gediz**	**0.33**	**102**	*e*Pg	**Pg**	**04 38 48.3**	**+0.4**
GEDZ				*e*Sg	**Sg**	**04 38 52.4**	**+0.1**
GDZ	**Gediz**	**0.38**	**94**	P	**Pg**	**04 38 48.9**	**+0.1**
GDZ				S	**Sg**	**04 38 53.8**	**0.0**
GDZ	**Gediz**	**0.38**	**94**	*i* P	**Pg**	**04 38 48.9**	**+0.1**
GDZ				*i* S	**Sg**	**04 38 53.8**	**0.0**
TVSB	**Tavsanli**	**0.49**	**47**	*e*PG	**Pg**	**04 38 50.7**	**-0.2**
TVSB	**Tavsanli**	**0.49**	**47**	*e*Pg	**Pg**	**04 38 50.7**	**-0.2**
KULA	**Kula-Manisa**	**0.65**	**204**	*e*PG	**Pg**	**04 38 54.1**	**+0.2**
KULA				*e*SG	**Sg**	**04 39 02.4**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**204**	*e*Pg	**Pg**	**04 38 54.1**	**+0.2**
KULA				*e*Sg	**Sg**	**04 39 02.4**	**-0.1**
AKS	**Akhisar**	**0.95**	**256**	*e*PG	**Pb**	**04 39 00.1**	**+0.3**
AKS				*e*SG	**Sn**	**04 39 13.5**	**-0.7**
AKS	**Akhisar**	**0.95**	**256**	*e*Pg	**Pb**	**04 39 00.1**	**+0.3**
AKS				*e*Sg	**Sn**	**04 39 13.5**	**-0.7**
BALB	**Balikesir**	**1.01**	**302**	*e*PG	**Pb**	**04 39 01.2**	**+0.4**
BALB				*e*SG	**Sn**	**04 39 15.3**	**-0.4**
BALB	**Balikesir**	**1.01**	**302**	*e*Pg	**Pb**	**04 39 01.2**	**+0.4**
BALB				*e*Sg	**Sn**	**04 39 15.3**	**-0.4**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*PN	**Pg**	**04 39 06.1**	**+0.8**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*Pn	**Pg**	**04 39 06.1**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*PN	**Pg**	**04 39 06.7**	**+1.3**
MDNY	**Mudanya-Bursa**	**1.26**	**356**	*e*Pn	**Pg**	**04 39 06.7**	**+1.3**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*PN	**Pg**	**04 39 05.9**	**+0.3**
CAVI	**Cavuskoy**	**1.27**	**31**	*e*Pn	**Pg**	**04 39 05.9**	**+0.3**
IZI	**Iznik**	**1.28**	**17**	*e*PN	**Pg**	**04 39 06.2**	**+0.4**
IZI	**Iznik**	**1.28**	**17**	*e*Pn	**Pg**	**04 39 06.2**	**+0.4**
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*PN	**Pg**	**04 39 08.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.38**	**313**	*e*Pn	**Pg**	**04 39 08.0**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**217**	*e*PN	**Pb**	**04 39 08.9**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**217**	*e*Pn	**Pb**	**04 39 08.9**	**+0.5**
ARMT	**Armutlu**	**1.45**	**356**	*e*PN	**Pg**	**04 39 09.8**	**+0.7**
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn	**Pg**	**04 39 09.8**	**+0.7**
EDC	**Edincik**	**1.51**	**325**	*e*PN	**Pb**	**04 39 10.1**	**+0.8**
EDC	**Edincik**	**1.51**	**325**	*e*Pn	**Pb**	**04 39 10.1**	**+0.8**
GULT	**Gulveren**	**1.76**	**41**	*e*PN	**Pb**	**04 39 14.1**	**+0.4**
GULT	**Gulveren**	**1.76**	**41**	*e*Pn	**Pb**	**04 39 14.1**	**+0.4**
KRBG	**Karabiga-Canak**	**1.83**	**315**	*e*PN	**Pb**	**04 39 14.6**	**-0.1**
KRBG	**Karabiga-Canak**	**1.83**	**315**	*e*Pn	**Pb**	**04 39 14.6**	**-0.1**
MRMT	**Marmara Adasi**	**1.84**	**325**	*e*PN	**Pb**	**04 39 14.9**	**0.0**
MRMT	**Marmara Adasi**	**1.84**	**325**	*e*Pn	**Pb**	**04 39 14.9**	**0.0**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*PN	**Pb**	**04 39 16.7**	**-0.1**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*Pn	**Pb**	**04 39 16.7**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*PN	**Pb**	**04 39 18.8**	**-0.7**
RKY	**Sarkoy-Tekirda**	**2.10**	**319**	*e*Pn	**Pb**	**04 39 18.8**	**-0.7**
KLYT	**Kilyos**	**2.14**	**1**	*e*PN	**Pb**	**04 39 19.4**	**-0.6**
KLYT	**Kilyos**	**2.14**	**1**	*e*Pn	**Pb**	**04 39 19.4**	**-0.6**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*PN	**Pb**	**04 39 19.1**	**-1.2**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*Pn	**Pb**	**04 39 19.1**	**-1.2**

CASC 29 04:39:22.6±2.0, 10.°80N×85.°13W, h10km±4km, MD3.6, ML3.2, 9C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESS	**Mesas**	**0.09**	**229**	⇑*eP*	Pg	04 39 25.2	+0.1
APGM	**Casa M¯ịquinas**	**0.12**	**214**	⇓*eP*	Pg	04 39 25.7	+0.1
APGM				*eS*	Sg	04 39 28.1	+0.5
GUAB	**Guayabo de Bag**	**0.14**	**228**	⇑*iP*	Pg	04 39 26.1	+0.3
GUAB				*eS*	Sg	04 39 31.1	+3.0
CUI	**Cuipilapa**	**0.14**	**195**	⇓*iP*	Pg	04 39 25.9	-0.1
COLC	**Colonia**	**0.15**	**210**	⇓*eP*	Pg	04 39 26.3	+0.2
COLC				*eS*	Sg	04 39 29.1	+0.6
LIM1	**Limonal**	**0.16**	**231**	⇑*eP*	Pg	04 39 26.6	+0.4
LIM1				*eS*	Sg	04 39 29.7	+1.1
PTEN	**Parque Tenorio**	**0.16**	**121**	⇑*iP*	Pg	04 39 25.8	-0.4
PTEN				*eS*	Sg	04 39 30.5	+1.8
GPS2	**Hotel Rinc¯ţn**	**0.23**	**258**	⇑*iP*	Pg	04 39 28.0	+0.6
GPS2				*eS*	Sg	04 39 32.1	+1.5
AMAS	**Alto Masis**	**0.23**	**145**	⇓*eP*	Pg	04 39 27.0	-0.4
AMAS				*eS*	Sg	04 39 32.0	+1.4
APPA	**Casa M¯ịquinas**	**0.23**	**260**	*eS*	Sg	04 39 32.1	+1.4
CONN	**Concepcion**	**0.91**	**327**	*eP*	Pb	04 39 40.4	0.0
JCR	**Jicaral**	**0.94**	**179**	⇓*iP*	Pg	04 39 40.1	-0.7
JCR				*eS*	Sb	04 39 53.6	0.0
CGA2	**Cerro Gallo 2**	**1.01**	**140**	⇑*eP*	Pg	04 39 41.1	-1.1
CGA2				*eS*	Sg	04 39 55.0	-0.4
ESPN	**Las Esperanzas**	**1.61**	**30**	*eP*	Pn	04 39 53.4	-0.7
ESPN				*eS*	Sn	04 40 11.9	+0.1
URSC	**Urasca**	**1.64**	**126**	⇑*eP*	Pn	04 39 51.3	-0.3
URSC				*eS*	Sb	04 40 14.1	+0.4
QCR	**Quepos**	**1.66**	**145**	⇑*eP*	Pn	04 39 52.0	+0.2
BUS	**Buena Vista**	**1.83**	**132**	⇑*iP*	Pn	04 39 54.3	-0.1
BUS				*eS*	Sb	04 40 19.5	0.0
COPN	**Copaltepe**	**1.99**	**314**	*eP*	Pn	04 39 56.6	+0.4
MOMN	**Momotombo**	**2.12**	**319**	*eP*	Pn	04 39 58.9	+0.8

JMA 29 04:39:49.9±0.3, 38.°32N×144.°58E, h39km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.40**	**289**	P	Pn	04 40 28.3	+1.6
MIYJ	**Miyakonagasawa**	**2.49**	**301**	P	Pn	04 40 29.2	+1.3
MIYJ				S	Sn	04 40 58.0	+1.0
JIO	**Ouri**	**2.54**	**274**	P	Pn	04 40 30.3	+1.7
JIO				*eS*	Sn	04 40 59.6	+1.3
JMK	**Ichinoseki**	**2.71**	**285**	P	Pn	04 40 32.8	+2.0
JOM	**Ohasama**	**2.81**	**295**	P	Pn	04 40 34.2	+1.9
JOM				S	Sn	04 41 07.8	+2.9
JANG	**Nango**	**3.14**	**312**	P	Pn	04 40 37.6	+0.8
JYK	**Kaneyama**	**3.36**	**282**	P	Pn	04 40 42.4	+2.6
JFT	**Otama**	**3.45**	**258**	P	Pn	04 40 43.7	+2.6
JFT				*eS*	Sn	04 41 23.2	+2.5
JOT	**Ohata**	**4.09**	**319**	P	Pn	04 40 53.2	+3.3
JCH	**Churui**	**4.39**	**348**	P	Pn	04 40 54.5	+0.5
JCH				*eS*	Sn	04 41 41.6	-2.2
JKB	**Kayabe**	**4.48**	**324**	P	Pn	04 40 57.9	+2.7
JRY	**Ryogami san**	**5.08**	**245**	P	Pn	04 41 05.3	+1.7
JRY				S	Sn	04 42 01.1	+0.1
MAT	**Matsushiro**	**5.37**	**253**	P	Pn	04 41 10.5	+3.0
MAT				*eS*	Sn	04 42 10.5	+2.4

CASC 29 04:41:44.1±2.5, 10.°78N×85.°12W, h13km±15km, MD4.2, ML3.8, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCR	**Jicaral**	**0.92**	**180**	⇓*eP*	Pg	04 42 01.0	-1.0
JCR				*eS*	Sg	04 42 13.8	-0.3
CONN	**Concepcion**	**0.93**	**328**	*eP*	Pb	04 42 02.4	+0.3
CGA2	**Cerro Gallo 2**	**0.99**	**140**	*eP*	Pb	04 42 01.4	-1.8
CGA2				*eS*	Sg	04 42 16.2	-0.1
URSC	**Urasca**	**1.62**	**125**	⇑*eP*	Pn	04 42 12.3	-0.2
ESPN	**Las Esperanzas**	**1.62**	**30**	*eP*	Pn	04 42 11.4	-1.0
ESPN				*eS*	Sn	04 42 32.9	-0.3
QCR	**Quepos**	**1.64**	**145**	⇓*eP*	Pn	04 42 12.4	-0.3
QCR				*eS*	Sn	04 42 34.2	+0.6
MGAN	**Managua**	**1.75**	**321**	*eP*	Pn	04 42 14.8	+0.5
TISN	**Laguna Tiscapa**	**1.76**	**320**	*eP*	Pn	04 42 15.0	+0.6
BUS	**Buena Vista**	**1.81**	**132**	⇓*eP*	Pn	04 42 15.6	+0.2
BUS				*eS*	Sb	04 42 39.5	-0.6
COPN	**Copaltepe**	**2.01**	**314**	*eP*	Pn	04 42 17.9	+0.2
MOMN	**Momotombo**	**2.14**	**319**	*eP*	Pn	04 42 20.6	+1.0
ESTN	**Estel**	**2.61**	**332**	*eP*	Pn	04 42 27.0	+0.8

*ISCJB **29** 04:46:44.7±0.5, 39.°12N±0.°03×28.°99E±0.°03, h1km±6km, Error ellipse: s-maj=5.3km s-min=3.6km az=161.7*
*ISK **29** 04:46:44.6, 39.°12N×28.°98E, h5km, ML2.8*
*DDA **29** 04:46:44.0, 39.°15N×28.°99E, h7km, Md2.9*
*CSEM **29** 04:46:45.0±0.1, 39.°11N×29.°00E, h2km, Error ellipse: s-maj=1.6km s-min=1.5km az=156.0*

ISC 29 04:46:44.9±1.0, 39.°13N±0.°02×28.°99E±0.°02, h6km±11km, n59, σ0.°66/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**247**	P	**Pg**	**04 46 49.6**	**+0.2**
DEMI				S	**Sg**	**04 46 52.7**	**+0.3**
DEMI	**Demirci**	**0.23**	**247**	*i* P	**Pg**	**04 46 49.6**	**+0.2**
DEMI				*i* S	**Sg**	**04 46 52.7**	**+0.3**
GEDZ	**Gediz**	**0.34**	**105**	*e*PG	**Pg**	**04 46 51.9**	**+0.3**
GEDZ	**Gediz**	**0.34**	**105**	*e*Pg	**Pg**	**04 46 51.9**	**+0.3**
GDZ	**Gediz**	**0.39**	**96**	P	**Pg**	**04 46 52.3**	**-0.1**
GDZ				S	**Sg**	**04 46 57.3**	**-0.2**
GDZ	**Gediz**	**0.39**	**96**	*i* P	**Pg**	**04 46 52.3**	**-0.1**
GDZ				*i* S	**Sg**	**04 46 57.3**	**-0.2**
TVSB	**Tavsanli**	**0.49**	**49**	*e*PG	**Pg**	**04 46 54.7**	**+0.4**
TVSB				*e*SG	**Sg**	**04 47 01.4**	**+0.7**
TVSB	**Tavsanli**	**0.49**	**49**	*e*Pg	**Pg**	**04 46 54.7**	**+0.4**
TVSB				*e*Sg	**Sg**	**04 47 01.4**	**+0.7**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*PG	**Pg**	**04 46 57.4**	**-0.3**
KULA				*e*SG	**Sg**	**04 47 05.9**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*Pg	**Pg**	**04 46 57.4**	**-0.3**
KULA				*e*Sg	**Sg**	**04 47 05.9**	**-0.5**
KHL	**Karahalli**	**0.91**	**152**	*e*PG	**Pg**	**04 47 02.2**	**-0.2**
KHL	**Karahalli**	**0.91**	**152**	*e*Pg	**Pg**	**04 47 02.2**	**-0.2**
AKS	**Akhisar**	**0.95**	**255**	*e*PG	**Pb**	**04 47 03.4**	**-0.4**
AKS				*e*SG	**Sb**	**04 47 16.2**	**-0.4**
AKS	**Akhisar**	**0.95**	**255**	*e*Pg	**Pb**	**04 47 03.4**	**-0.4**
AKS				*e*Sg	**Sb**	**04 47 16.2**	**-0.4**
BALB	**Balikesir**	**1.00**	**301**	*e*PG	**Pb**	**04 47 04.4**	**-0.2**
BALB				*e*SG	**Sb**	**04 47 18.4**	**+0.4**
BALB	**Balikesir**	**1.00**	**301**	*e*Pg	**Pb**	**04 47 04.4**	**-0.2**
BALB				*e*Sg	**Sb**	**04 47 18.4**	**+0.4**
IGD	**Bursa**	**1.14**	**8**	*i* P	**Pg**	**04 47 05.6**	**-1.2**
IGD				*i* S	**Sg**	**04 47 20.6**	**-1.0**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*PN	**Pn**	**04 47 08.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*Pn	**Pn**	**04 47 08.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**356**	*e*PN	**Pn**	**04 47 08.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**356**	*e*Pn	**Pn**	**04 47 08.9**	**+0.1**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*PN	**Pn**	**04 47 09.2**	**+0.1**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*Pn	**Pn**	**04 47 09.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.36**	**313**	*e*PN	**Pg**	**04 47 11.0**	**+0.1**
GONE	**Gonen-Balikesi**	**1.36**	**313**	*e*Pn	**Pg**	**04 47 11.0**	**+0.1**
ADVT	**Abdulvahap**	**1.42**	**24**	*e*PN	**Pg**	**04 47 12.1**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**24**	*e*Pn	**Pg**	**04 47 12.1**	**-0.1**
ARMT	**Armutlu**	**1.43**	**356**	*e*PN	**Pg**	**04 47 12.4**	**0.0**
ARMT	**Armutlu**	**1.43**	**356**	*e*Pn	**Pg**	**04 47 12.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**216**	*e*PN	**Pg**	**04 47 12.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**216**	*e*Pn	**Pg**	**04 47 12.6**	**-0.3**
EDC	**Edincik**	**1.49**	**325**	*e*PN	**Pg**	**04 47 13.4**	**-0.1**
EDC	**Edincik**	**1.49**	**325**	*e*Pn	**Pg**	**04 47 13.4**	**-0.1**
GULT	**Gulveren**	**1.75**	**42**	*e*PN	**Pn**	**04 47 16.6**	**+0.7**
GULT	**Gulveren**	**1.75**	**42**	*e*Pn	**Pn**	**04 47 16.6**	**+0.7**
HRT	**Hereke**	**1.77**	**17**	*e*PN	**Pn**	**04 47 16.9**	**+0.8**
HRT	**Hereke**	**1.77**	**17**	*e*Pn	**Pn**	**04 47 16.9**	**+0.8**
KRBG	**Karabiga-Canak**	**1.81**	**315**	*e*PN	**Pn**	**04 47 17.4**	**+0.8**
KRBG	**Karabiga-Canak**	**1.81**	**315**	*e*Pn	**Pn**	**04 47 17.4**	**+0.8**
MRMT	**Marmara Adasi**	**1.82**	**324**	*e*PN	**Pb**	**04 47 17.9**	**-0.7**
MRMT	**Marmara Adasi**	**1.82**	**324**	*e*Pn	**Pb**	**04 47 17.9**	**-0.7**
ISK	**Istanbul-Kandi**	**1.93**	**2**	*e*PN	**Pn**	**04 47 19.1**	**+0.8**
ISK	**Istanbul-Kandi**	**1.93**	**2**	*e*Pn	**Pn**	**04 47 19.1**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*PN	**Pn**	**04 47 20.1**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*Pn	**Pn**	**04 47 20.1**	**+0.8**
YER	**Yerkesik**	**2.07**	**196**	*e*PN	**Pn**	**04 47 21.1**	**+0.8**
YER	**Yerkesik**	**2.07**	**196**	*e*Pn	**Pn**	**04 47 21.1**	**+0.8**
SILT	**Sile**	**2.08**	**14**	*e*PN	**Pn**	**04 47 21.4**	**+1.0**
SILT	**Sile**	**2.08**	**14**	*e*Pn	**Pn**	**04 47 21.4**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.08**	**319**	*e*PN	**Pn**	**04 47 21.6**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.08**	**319**	*e*Pn	**Pn**	**04 47 21.6**	**+1.1**
LPK	**Lapseki**	**2.12**	**307**	*e*PN	**Pn**	**04 47 21.9**	**+1.0**
LPK	**Lapseki**	**2.12**	**307**	*e*Pn	**Pn**	**04 47 21.9**	**+1.0**
KLYT	**Kilyos**	**2.12**	**1**	*e*PN	**Pn**	**04 47 21.9**	**+1.0**
KLYT	**Kilyos**	**2.12**	**1**	*e*Pn	**Pn**	**04 47 21.9**	**+1.0**
CTKS	**Kestanelik-??a**	**2.13**	**350**	*e*PN	**Pb**	**04 47 22.6**	**-1.3

KUU	**Kurty**	**5.98**	**50**	*e*P		**Pg**	**04 54 58.5**	**-3.3**
	7.4nm,0.6s							
KUU				*e*S		**Sg**	**04 56 18.3**	**-1.0**
	8.1nm,0.5s							
KTBS	**Karatobe**	**6.09**	**53**	*e*P		**Pg**	**04 55 02.3**	**-1.4**
KTBS				*e*S		**Sg**	**04 56 24.6**	**+2.0**
ARXS	**Arharly**	**7.05**	**53**	*e*P		**Pg**	**04 55 19.8**	**-2.5**
	4.0nm,0.3s							
ARXS				*e*S		**Sg**	**04 56 54.7**	**+1.1**
	6.9nm,0.4s							
AB31	**Akbulak array**	**11.51**	**325**	⇓P		**Pn**	**04 55 52.0**	**-0.6**
	0.1nm,0.3s							
AB31				⇑S		**Sn**	**04 58 01.8**	**+0.2**
	0.3nm,0.4s							

SJA 29 04:59:05.0±0.7, 29.13S×68.16W, h12km±5km, ML3.4, MW4.0, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.39**	**354**	*i* P	**Pg**	04 59 13.2	+0.4
VCA				*i* S	**Sg**	04 59 19.6	-0.4
ACDV	**Cuesta del Vie**	**1.33**	**218**	*i* P	**Pb**	04 59 30.2	+0.1
AMOG	**MOGNA**	**1.83**	**189**	*i* P	**Pb**	04 59 38.3	-0.2
CYA	**Choya**	**2.18**	**72**	*i* P	**Pn**	04 59 42.8	+1.6
CYA				*i* S	**Sb**	05 00 12.0	+0.5
RTLL	**Cerro Villicun**	**2.21**	**187**	*i* P	**Pb**	04 59 44.2	-0.8
SJA	**San Juan**	**2.42**	**188**	*i* P	**Pb**	04 59 46.8	-1.8
SJA				*i* S	**Sb**	05 00 17.5	-0.9
SJA				IAML		05 00 22.4	
	comp=Z,173nm,0.5s						
RTCV	**Cerro Valdivia**	**2.75**	**187**	*i* P	**Pb**	04 59 51.8	-2.3
RTLS	**Leoncito**	**2.84**	**200**	*i* P	**Pb**	04 59 53.8	-2.1

*CSEM **29** 05:00:41.9±0.1, 39.13N×28.99E, h2km, Error ellipse: s-maj=2.3km s-min=1.9km az=168.0*
*DDA **29** 05:00:41.2, 39.13N×28.99E, h7km, Md3.1*
*ISK **29** 05:00:41.3, 39.13N×28.97E, h5km, MD3.1*

ISC 29 05:00:41.8±1.0, 39.14N±0.02×28.99E±0.02, h7km±9km, n85, σ0≈80/102, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**246**	P	**Pg**	**05 00 46.5**	**0.0**
DEMI				S	**Sg**	**05 00 50.0**	**+0.3**
DEMI	**Demirci**	**0.24**	**246**	*i* P	**Pg**	**05 00 46.5**	**0.0**
DEMI				*i* S	**Sg**	**05 00 50.0**	**+0.3**
GEDZ	**Gediz**	**0.34**	**106**	*e*PG	**Pb**	**05 00 49.1**	**-1.0**
GEDZ				*e*SG	**Sg**	**05 00 53.9**	**+1.0**
GEDZ	**Gediz**	**0.34**	**106**	*e*Pg	**Pb**	**05 00 49.1**	**-1.0**
GEDZ				*e*Sg	**Sg**	**05 00 53.9**	**+1.0**
GDZ	**Gediz**	**0.38**	**97**	P	**Pg**	**05 00 49.1**	**-0.2**
GDZ				S	**Sg**	**05 00 54.5**	**+0.2**
GDZ	**Gediz**	**0.38**	**97**	*i* P	**Pg**	**05 00 49.1**	**-0.2**
GDZ				*i* S	**Sg**	**05 00 54.5**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**49**	*e*PG	**Pg**	**05 00 51.1**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**49**	*e*Pg	**Pg**	**05 00 51.1**	**+0.1**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*PG	**Pg**	**05 00 54.4**	**-0.4**
KULA				*e*SG	**Sg**	**05 01 03.7**	**+0.1**
KULA	**Kula-Manisa**	**0.68**	**203**	*e*Pg	**Pg**	**05 00 54.4**	**-0.4**
KULA				*e*Sg	**Sg**	**05 01 03.7**	**+0.1**
KHL	**Karahalli**	**0.91**	**153**	*e*PG	**Pb**	**05 00 59.4**	**-0.5**
KHL	**Karahalli**	**0.91**	**153**	*e*Pg	**Pb**	**05 00 59.4**	**-0.5**
AKS	**Akhisar**	**0.96**	**255**	*e*PG	**Pb**	**05 01 00.1**	**-0.6**
AKS				*e*SG	**Sb**	**05 01 13.3**	**-0.1**
AKS	**Akhisar**	**0.96**	**255**	*e*Pg	**Pb**	**05 01 00.1**	**-0.6**
AKS				*e*Sg	**Sb**	**05 01 13.4**	**-0.1**
BALB	**Balikesir**	**1.00**	**300**	*e*PG	**Pg**	**05 01 00.6**	**-0.3**
BALB	**Balikesir**	**1.00**	**300**	*e*Pg	**Pg**	**05 01 00.6**	**-0.3**
IGD	**Bursa**	**1.14**	**8**	*i* P	**Pg**	**05 01 02.3**	**-1.3**
IGD				*i* S	**Sg**	**05 01 17.6**	**-0.7**
BALY	**Balya**	**1.22**	**300**	P	**Pg**	**05 01 03.3**	**-1.9**
BALY				S	**Sn**	**05 01 22.4**	**+0.3**
BALY	**Balya**	**1.22**	**300**	*i* P	**Pg**	**05 01 03.3**	**-1.9**
BALY				*i* S	**Sn**	**05 01 22.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*PN	**Pn**	**05 01 05.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*Pn	**Pb**	**05 01 05.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.23**	**356**	*e*PN	**Pn**	**05 01 05.1**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.23**	**356**	*e*Pn	**Pb**	**05 01 05.1**	**-0.3**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*PN	**Pn**	**05 01 05.9**	**+0.3**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pb**	**05 01 05.9**	**+0.3**
IZI	**Iznik**	**1.25**	**17**	*e*PN	**Pn**	**05 01 06.2**	**+0.4**
IZI	**Iznik**	**1.25**	**17**	*e*Pn	**Pn**	**05 01 06.2**	**+0.4**
GEMT	**Gemlik**	**1.30**	**7**	*e*PN	**Pg**	**05 01 06.8**	**0.0**
GEMT	**Gemlik**	**1.30**	**7**	*e*Pn	**Pg**	**05 01 06.8**	**0.0**
BORA	**Eskisehir**	**1.35**	**56**	P	**Pn**	**05 01 06.5**	**-0.6**
BORA				S	**Sn**	**05 01 25.6**	**+0.3**
BORA	**Eskisehir**	**1.35**	**56**	*i* P	**Pn**	**05 01 06.5**	**-0.6**
BORA				*i* S	**Sn**	**05 01 25.6**	**+0.3**
GONE	**Gonen-Balikesi**	**1.36**	**312**	*e*PN	**Pg**	**05 01 07.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.36**	**312**	*e*Pn	**Pg**	**05 01 07.5**	**-0.3**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*PN	**Pg**	**05 01 08.6**	**-0.3**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*Pn	**Pg**	**05 01 08.6**	**-0.3**
ARMT	**Armutlu**	**1.43**	**356**	*e*PN	**Pb**	**05 01 08.6**	**-0.1**
ARMT	**Armutlu**	**1.43**	**356**	*e*Pn	**Pb**	**05 01 08.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**216**	*e*PN	**Pb**	**05 01 09.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**216**	*e*Pn	**Pb**	**05 01 09.1**	**-0.4**
EDC	**Edincik**	**1.49**	**325**	*e*PN	**Pb**	**05 01 09.6**	**-0.1**
EDC	**Edincik**	**1.49**	**325**	*e*Pn	**Pb**	**05 01 09.6**	**-0.1**
ESKT	**Eskisehir**	**1.49**	**75**	*e*PN	**Pg**	**05 01 10.1**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**75**	*e*Pn	**Pg**	**05 01 10.1**	**-0.2**
IZM	**Izmir**	**1.54**	**242**	*e*PN	**Pb**	**05 01 10.3**	**-0.4**
IZM	**Izmir**	**1.54**	**242**	*e*Pn	**Pb**	**05 01 10.3**	**-0.4**
DKL	**Dikili**	**1.63**	**268**	*e*PN	**Pb**	**05 01 11.5**	**-0.6**
DKL	**Dikili**	**1.63**	**268**	*e*Pn	**Pb**	**05 01 11.5**	**-0.6**
BUY	**Buyukada**	**1.71**	**3**	P	**Pg**	**05 01 14.0**	**-0.6**
BUY				S	**Sg**	**05 01 38.0**	**+1.2**
BUY	**Buyukada**	**1.71**	**3**	*i* P	**Pg**	**05 01 14.0**	**-0.6**
BUY				*i* S	**Sg**	**05 01 38.0**	**+1.2**
GULT	**Gulveren**	**1.74**	**42**	*e*PN	**Pb**	**05 01 13.9**	**-0.2**
GULT	**Gulveren**	**1.74**	**42**	*e*Pn	**Pb**	**05 01 13.9**	**-0.2**
HRT	**Hereke**	**1.76**	**17**	*e*PN	**Pb**	**05 01 13.6**	**-0.8**
HRT	**Hereke**	**1.76**	**17**	*e*Pn	**Pb**	**05 01 13.6**	**-0.8**
KRBG	**Karabiga-Canak**	**1.81**	**314**	*e*PN	**Pb**	**05 01 14.4**	**-0.8**
KRBG	**Karabiga-Canak**	**1.81**	**314**	*e*Pn	**Pb**	**05 01 14.4**	**-0.8**
MRMT	**Marmara Adasi**	**1.82**	**324**	*e*PN	**Pn**	**05 01 14.2**	**+0.7**
MRMT	**Marmara Adasi**	**1.82**	**324**	*e*Pn	**Pn**	**05 01 14.2**	**+0.7**
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*PN	**Pb**	**05 01 16.0**	**-1.2**
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*Pn	**Pb**	**05 01 16.0**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*PN	**Pb**	**05 01 17.1**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*Pn	**Pb**	**05 01 17.1**	**-1.2**
BGKT	**Bogazkoy**	**2.05**	**355**	*e*PN	**Pb**	**05 01 17.9**	**-1.4**
BGKT	**Bogazkoy**	**2.05**	**355**	*e*Pn	**Pb**	**05 01 17.9**	**-1.4**
SILT	**Sile**	**2.07**	**14**	*e*PN	**Pn**	**05 01 18.1**	**+1.2**
SILT	**Sile**	**2.07**	**14**	*e*Pn	**Pn**	**05 01 18.1**	**+1.2**
YER	**Yerkesik**	**2.08**	**196**	*e*PN	**Pb**	**05 01 18.4**	**-1.4**
YER	**Yerkesik**	**2.08**	**196**	*e*Pn	**Pb**	**05 01 18.4**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.08**	**318**	*e*PN	**Pn**	**05 01 17.9**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.08**	**318**	*e*Pn	**Pn**	**05 01 17.9**	**+0.7**
KLYT	**Kilyos**	**2.11**	**1**	*e*PN	**Pn**	**05 01 18.7**	**+1.2**
KLYT	**Kilyos**	**2.11**	**1**	*e*Pn	**Pn**	**05 01 18.7**	**+1.2**
LPK	**Lapseki**	**2.12**	**306**	*e*PN	**Pn**	**05 01 18.4**	**+0.8**
LPK	**Lapseki**	**2.12**	**306**	*e*Pn	**Pn**	**05 01 18.4**	**+0.8**
CTKS	**Kestanelik-??a**	**2.13**	**350**	*e*PN	**Pn**	**05 01 18.4**	**+0.7**
CTKS	**Kestanelik-??a**	**2.13**	**350**	*e*Pn	**Pn**	**05 01 18.4**	**+0.7**
MDUB	**Mudurnu**	**2.16**	**51**	*e*PN	**Pb**	**05 01 19.7**	**-1.5**
MDUB	**Mudurnu**	**2.16**	**51**	*e*Pn	**Pb**	**05 01 19.7**	**-1.5**
EZN	**Ezine**	**2.18**	**289**	*e*PN	**Pn**	**05 01 18.9**	**+0.6**
EZN	**Ezine**	**2.18**	**289**	*e*Pn	**Pn**	**05 01 18.9**	**+0.6**
KIZT	**Kizilcal**	**2.26**	**96**	*e*PN	**Pn**	**05 01 21.1**	**+1.4**
KIZT	**Kizilcal**	**2.26**	**96**	*e*Pn	**Pn**	**05 01 21.1**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.31**	**304**	*e*PN	**Pn**	**05 01 21.3**	**+1.1**
GELI	**Tayfur-Gelibol**	**2.31**	**304**	*e*Pn	**Pn**	**05 01 21.3**	**+1.1**
ERIK	**Erikli-Kesan**	**2.45**	**310**	*e*PN	**Pn**	**05 01 23.2**	**+1.1**
ERIK	**Erikli-Kesan**	**2.45**	**310**	*e*Pn	**Pn**	**05 01 23.2**	**+1.1**

*IDC **29** 05:27:17.5±2.4, 37.76N×140.08E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/31, mbtmp3.5/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/40, Error ellipse: s-maj=40.7km s-min=35.4km az=89.0*
*ISCJB **29** 05:27:20.3±0.6, 37.69N±0.03×139.95E±0.03, h9km±5km, mb3.4/2, Error ellipse: s-maj=5.5km s-min=3.8km az=140.9*
*JMA **29** 05:27:20.7, 37.68N×139.94E, h8km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs242.00000°, δ60.00000°, λ133.00000°. NP2: φs0.00000°, δ51.00000°, λ40.00000°. Principal axes: T Plg53.0000°, Azm206.0000°; N Plg37.0000°, Azm37.0000°; P Plg5.0000°, Azm303.0000°;*
JMA Felt III J1.

ISC 29 05:27:19.4±1.2, 37.72N±0.03×140.02E±0.04, h7km±10km, n14, σ0≈76/23, 4C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.32**	**128**	⇓P	**Pb**	**05 27 27.7**	**+0.3**
JFY	**Yanaizu**	**0.40**	**219**	⇑P	**Pg**	**05 27 27.4**	**+0.3**
JFY				S	**Sg**	**05 27 31.9**	**-0.4**
JYS	**Shirataka**	**0.51**	**4**	⇑P	**Pb**	**05 27 31.3**	**+0.7**
JYS				S	**Sb**	**05 27 38.9**	**+0.7**
JNS	**Sasagawa**	**0.56**	**281**	⇓P	**Pg**	**05 27 30.6**	**+0.3**
JNS				S	**Sg**	**05 27 37.4**	**-0.3**
JMM	**Marumori**	**0.63**	**76**	P	**Pn**	**05 27 34.1**	**-0.6**
JMM				S	**Sb**	**05 27 43.2**	**+1.4**
JFK	**Kawauchi**	**0.77**	**117**	⇓P	**Pb**	**05 27 35.8**	**+0.8**
JFK				S	**Sb**	**05 27 46.2**	**+0.6**
JOU	**Okura**	**0.82**	**38**	⇑P	**Pn**	**05 27 37.6**	**+0.2**
JOU				S	**Sn**	**05 27 49.0**	**-0.8**
JYA	**Atsumi**	**0.91**	**345**	⇓P	**Pn**	**05 27 38.2**	**-0.3**
JYA				S	**Sb**	**05 27 50.5**	**+0.8**
JHK	**Hiroka**	**0.92**	**240**	⇑P	**Pg**	**05 27 36.7**	**-0.4**
JHK				S	**Sg**	**05 27 47.7**	**-1.4**
MJAR	**Matsushiro Arr**	**1.86**	**232**	Pn	**Pn**	**05 27 52.1**	**+0.5**
	15nm,0.3s,baz=47,slow=12,SNR=93						
MJAR				Sn	**Sn**	**05 28 16.4**	**+1.0**
	13nm,0.3s,baz=31,slow=33,SNR=12						
MAT	**Matsushiro**	**1.86**	**232**	P	**Pn**	**05 27 52.1**	**+0.4**
MAT				S	**Sn**	**05 28 15.5**	**+0.1**
KSRS	**Korea Array**	**9.61**	**272**	LR	LR	05 32 40.7	
	comp=Z,31nm,19.3s,baz=30,slow=33						
MKAR	**Makanchi Array**	**42.81**	**301**	P	**P**	**05 35 17.1**	**-0.7**
	0.1nm,0.3s,baz=79,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**57.60**	**186**	P	**P**	**05 37 09.3**	**-0.6**
	0.4nm,0.5s,baz=3.2,slow=7.6,SNR=10						

*IDC **29** 05:36:45.3±0.4, 33.95S×72.13W, h0km, mb4.9/20, mb1 5.0/23, mb1mx4.9/29, mbtmp4.9/23, ML4.9/3, MS5.2/17, Ms1 5.2/17, ms1mx5.1/22, Error ellipse: s-maj=18.4km s-min=12.3km az=86.0*
*GCMT **29** 05:36:46.0±0.1, 33.98S×72.54W, h19km, MW5.5/110, Moment Tensor Solution. s91,c145; s110,c196; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr1.52±.03; Mθθ-0.09±.02; Mφφ-1.43±.03; Mrθ-0.05±.05; Mθφ-0.20±.01; Mφr-2.02±.08; Best double couple: M○2.51000×10^17 NP1:φs183.00000°, δ72.00000°, λ87.00000°. NP2:φs13.00000°, δ18.00000°, λ100.00000°. Principal axes: T 2.5470, Plg63.0000°, Azm88.0000°; N -0.0760, Plg3.0000°, Azm184.0000°; P -2.4730, Plg27.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **29** 05:36:46.8±0.5, 33.91S×72.34W, h20km±7km, ML5.1*
*NEIC **29** 05:36:46.0, 33.91S×72.34W, h20km, mb5.5/183, MS5.2/146, ML5.1(GUC), After GUC.*
NEIC Felt [III] at Curico, Iloca, Molina, Navidad, Paredones, Pichilemu and San Antonio; [II] at Chepica, Cobquecura, Colina, Concepcion, Constitucion, El Quisco, Lolol, Parral, Rancagua, San Carlos, Santa Cruz, Santiago, Talca, Talcahuano, Tiltil, Valparaiso and Vina del Mar.
*ISCJB **29** 05:36:47.5±0.9, 33.88S±0.02×72.41W±0.04, h22km±6km, mb5.4/203, MS5.2/163, Error ellipse: s-maj=5.2km s-min=3.9km az=176.8*
*BJI **29** 05:36:49.1, 33.90S×72.10W, h18km, mB5.4/29, Ms5.5/28, Ms7 5.4/28*
*MOS **29** 05:36:50.0±1.1, 33.77S×72.19W, h31km, mb5.6/48, MS5.3/13, Error ellipse: s-maj=14.7km s-min=7.0km az=100.8*

ISC 29 05:36:50.4±0.8, 33.90S±0.03×72.17W±0.04, h30km±5km, n1086, σ1≈34/1036, mb5.5/203, MS5.2/162, 28C-21D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.51**	**164**	⇓*i*P	**Pb**	**05 36 58.1**	**-2.7**
CHPI				*i* S	**Sb**	**05 37 06.9**	**-1.2**
CHPI				IAML		05 37 08.7	
	comp=E,146μm,0.2s						
RCDM	**Rinconada Maip**	**1.21**	**70**	⇑*i*P	**Pn**	**05 37 11.2**	**-0.1**
ANTU	**Antumapu**	**1.32**	**76**	⇓*i*P	**Pn**	**05 37 13.8**	**+0.9**
ANTU				IAML		05 37 38.7	
	comp=N,50μm,0.5s						
ROC1	**El Roble**	**1.34**	**47**	⇓*e*P	**Pn**	**05 37 13.5**	**+0.2**
ROC1				*e*S	**Sb**	**05 37 35.5**	**+3.7**
ROC1	**El Roble**	**1.34**	**47**	*e*Pn	**Pn**	**05 37 13.1**	**-0.2**
ROCH	**El Roble**	**1.34**	**47**	⇑*i*P	**Pn**	**05 37 13.3**	**0.0**
ROCH				*i* S	**Sb**	**05 37 33.6**	**+1.6**
ROCH				IAML		05 37 46.3	
	comp=N,52μm,0.8s						
NICH	**Los Niches**	**1.34**	**145**	⇓*i*P	**Pn**	**05 37 12.7**	**-0.4**
NICH				*i* S	**Sb**	**05 37 32.6**	**+0.8**
CLCH	**Cerro Calan**	**1.46**	**70**	⇑*i*P	**Pn**	**05 37 15.7**	**+0.9**
CLCH				IAML		05 37 51.9	
	comp=N,51μm,1.0s						
PEL	**Peldehue**	**1.46**	**59**	⇑*i*P	**Pn**	**05 37 15.7**	**+1.0**
PEL				⇑*i*P	**Pn**	**05 37 15.7**	**+1.0**
PEL				*e*S	**Sb**	**05 37 37.1**	**+2.1**
PEL				IAML		05 37 45.9	
	comp=N,44μm,0.7s						
TALC	**Talca**	**1.56**	**164**	⇓*i*P	**Pn**	**05 37 15.5**	**-0.5**
TALC				*i* S	**Sb**	**05 37 37.5**	**-0.3**
FCH	**Farellones**	**1.67**	**70**	⇑*i*P	**Pn**	**05 37 18.8**	**+0.9**
FCH				*i* S	**Sb**	**05 37 43.5**	**+2.0**
FCH				IAML		05 37 52.9	
	comp=E,20μm,0.9s						
YECH	**El Yeso**	**1.76**	**83**	IAML		05 37 56.1	
	comp=N,33μm,1.1s						
AUSP	**Uspallata**	**2.88**	**55**	*e*P	**Pn**	**05 37 37.8**	**+3.3**
AAGR	**Agrelo**	**2.91**	**75**	⇓*e*P	**Pb**	**05 37 38.4**	**-3.2**
ARCO	**CERRO ARCO**	**2.91**	**70**	*e*P	**Pb**	**05 37 39.6**	**-2.1**
ARCO				IAML		05 37 48.5	
	comp=Z,5μm,0.5s						
AVIZ	**Vizcacheras**	**3.08**	**83**	*e*P	**Pb**	**05 37 42.4**	**-2.0**
ASAL	**Salagasta**	**3.09**	**66**	*e*P	**Pb**	**05 37 42.6**	**-2.1**
RTLS	**Leoncito**	**3.20**	**50**	*e*P	**Pn**	**05 37 41.5**	**+2.5**
RTCV	**Cerro Valdivia**	**3.67**	**57**	*e*P	**Pn**	**05 37 47.8**	**+2.7**
SJA	**San Juan**	**3.86**	**53**	*e*P	**Pn**	**05 37 51.3**	**+3.6**
SJA				IAML		05 38 59.7	
	comp=Z,1μm,0.6s						
RTLL	**Cerro Villicun**	**4.04**	**52**	*e*P	**Pn**	**05 37 52.5**	**+2.3**
ACCO	**Cerro Coronel**	**4.23**	**39**	*e*P	**Pn**	**05 37 55.5**	**+2.5**
ACCO				IAML		05 39 16.7	
	comp=Z,2μm,0.5s						
AMOG	**MOGNA**	**4.29**	**47**	*e*P	**Pn**	**05 37 55.9**	**+2.2**
ACAN	**Cantantal**	**4.49**	**70**	*e*P	**Pn**	**05 37 59.6**	**+3.2**
LCO	**Las Campanas**	**5.04**	**15**	*e*Pn	**Pn**	**05 38 02.2**	**-1.9**
	comp=Z,796nm,0.8s						
AVFE	**Valle Fertil**	**5.14**	**52**	*e*P	**Pn**	**05 38 07.3**	**+1.9**
AVFE				IAML		05 39 28.0	
	comp=Z,982nm,0.6s						
ACHE	**Chepes**	**5.40**	**61**	*e*P	**Pn**	**05 38 05.7**	**-3.3**
AGUA	**GUANDACOL**	**5.41**	**36**	*e*P	**Pn**	**05 38 10.5**	**+1.4**
MRA	**San Martin**	**5.61**	**76**	*e*P	**Pn**	**05 38 14.5**	**+2.6**
MRA				IAML		05 39 32.9	
	comp=Z,840nm,0.7s						
VCA	**Vinchina**	**6.17**	**34**	*e*P	**Pn**	**05 38 20.4**	**+0.8**
VCA				IAML		05 40 15.2	
	comp=Z,1μm,0.7s						
PLCA	**Paso Flores**	**6.94**	**170**	*e*P	**Pn**	**05 38 29.5**	**-0.5**
PLCA	**Paso Flores**	**6.94**	**170**	Pn	**Pn**	**05 38 29.4**	**-0.7**
	comp=Z,10nm,0.3s,baz=2.6,slow=10.0,SNR=147						
PLCA				Lg		05 40 19.9	
	comp=Z,4.3nm,0.3s,baz=40,slow=23,SNR=4.0						
PLCA				LR	LR	05 41 06.6	
	comp=Z,10μm,18.9s,baz=12,slow=38						
PLCA	**Paso Flores**	**6.94**	**170**	*e*P	**Pn**	**05 38 29.5**	**-0.5**
TRQA	**Tornquist**	**9.24**	**120**	*e*Pn	**Pn**	**05 39 03.4**	**+1.8**
PB10	**IPOC Station P**	**10.45**	**8**	*e*Pn	**Pn**	**05 39 19.5**	**+1.3**
LVC	**Limon Verde**	**11.61**	**15**	Pn	Pn	05 39 27.9	-6.5
	comp=Z,104nm,0.3s,baz=176,slow=8.7,SNR=23						
LVC				Sn	**Sn**	**05 41 35.3**	**-8.0**
	comp=Z,91nm,0.3s,baz=124,slow=3.6,SNR=2.1						
LVC				LR	LR	05 44 07.7	
	comp=Z,42μm,18.4s,baz=206,slow=38						
LVC	**Limon Verde**	**11.61**	**15**	*e*Pn	Pn	05 39 28.9	-5.5
LVC				Sn	**Sn**	**05 41 35.3**	**-8.0**

PB04	**IPOC Station P**	**11.66**	**9**	*e*Pn		**Pn**	**05 39 36.0**	**+1.0**
PB01	**IPOC Station P**	**13.03**	**11**	*e*Pn		**Pn**	**05 39 54.6**	**+1.0**
CHRN	**Cochrane**	**13.34**	**181**	*e*Pn		**Pn**	**05 39 56.9**	**-0.6**
CPUP	**Villa Florida**	**14.89**	**63**	Pn		**Pn**	**05 40 17.7**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=251,slow=12,SNR=10							
CPUP				Sn		**Sn**	**05 43 00.2**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=252,slow=9.3,SNR=2.3							
CPUP				Lg		Lg	05 44 31.1	
	comp=Z,1.1nm,0.3s,baz=289,slow=4.7,SNR=3.9							
CPUP				LR		LR	05 46 57.0	
	comp=Z,12μm,19.4s,baz=240,slow=41							
CPUP	**Villa Florida**	**14.89**	**63**	*e*Pn		**Pn**	**05 40 18.9**	**+0.2**
CPUP				Sn		**Sn**	**05 43 00.2**	**-2.6**
CPUP				Lg		Lg	05 44 31.1	
LPAZ	**La Paz**	**17.91**	**13**	P		**Pn**	**05 40 58.0**	**0.0**
	comp=Z,2.2nm,0.3s,baz=193,slow=8.0,SNR=48							
LPAZ	**La Paz**	**17.91**	**13**	*e*P		**Pn**	**05 40 57.8**	**-0.1**
LPAZ	**La Paz**	**17.91**	**13**	*e*Pn		**Pn**	**05 40 57.9**	**-0.1**
	comp=Z,196nm,1.0s							
SIV	**San Ignacio**	**20.45**	**32**	P		**P**	**05 41 24.7**	**-0.9**
	comp=Z,27nm,0.5s,baz=229,slow=13,SNR=58							
SIV				LR		LR	05 50 46.8	
	comp=Z,13μm,18.5s,baz=229,slow=41							
EFI	**East Falkland**	**20.49**	**154**	*e*P		**P**	**05 41 23.6**	**-2.1**
EFI				pmax		pmax		
	comp=Z,223nm,1.5s							
EFI	**East Falkland**	**20.49**	**154**	*e*P		**P**	**05 41 24.8**	**-0.9**
	comp=Z,369nm,1.6s							
EFI				LR		LR		
	comp=Z,6μm,21.0s							
USHA	**Ushuaia**	**21.09**	**174**	P		**P**	**05 41 33.7**	**+1.6**
	comp=Z,164nm,1.0s,baz=325,slow=9.5,SNR=11							
USHA				LR		LR	05 50 19.2	
	comp=Z,18μm,18.2s,baz=338,slow=39							
NNA	**Nana**	**22.23**	**348**	P		**P**	**05 41 44.6**	**-0.1**
	comp=Z,53nm,0.7s,baz=185,slow=12,SNR=12							
NNA				LR		LR	05 48 30.5	
	comp=Z,2μm,20.6s,baz=174,slow=32							
NNA	**Nana**	**22.23**	**348**	*e*P		**P**	**05 41 45.4**	**+0.7**
	comp=Z,501nm,1.1s							
SPB	**Sao Paulo**	**23.95**	**71**	PFAKE			05 42 10.0	+8.0
SPB				LR		LR		
	comp=Z,7μm,20.0s							
SAML	**Samuel**	**26.18**	**20**	*e*P		**P**	**05 42 21.7**	**-0.7**
	comp=Z,189nm,1.4s							
SAML				LR		LR		
	comp=Z,9μm,21.0s							
ATAH	**Atahualpa**	**27.25**	**346**	P		**P**	**05 42 32.4**	**-0.1**
	comp=Z,8.4nm,1.0s,baz=192,slow=6.5,SNR=3.9							
ATAH				LR		LR	05 52 13.1	
	comp=Z,3μm,18.1s,baz=186,slow=34							
PMSA	**Palmer Station**	**31.30**	**173**	PFAKE			05 43 20.0	+13
PMSA				LR		LR		
	comp=Z,6μm,21.0s							
OTAV	**Otavalo**	**34.47**	**349**	*e*P		**P**	**05 43 36.6**	**+0.5**
OTAV	**Otavalo**	**34.47**	**349**	*e*P		**P**	**05 43 37.1**	**+1.0**
	comp=Z,59nm,1.5s							
OTAV				LR		LR		
	comp=Z,2μm,19.0s							
PTGA	**Pitinga**	**34.93**	**22**	P		**P**	**05 43 38.7**	**-1.0**
	comp=Z,97nm,1.2s,baz=201,slow=9.0,SNR=44							
PTGA	**Pitinga**	**34.93**	**22**	*e*P		**P**	**05 43 38.8**	**-0.8**
	comp=Z,117nm,1.2s							
PTGA				LR		LR		
	comp=Z,33μm,19.0s							
CMBC

comp=Z,18nm,22.0s
QSPA **South Pole Qui** 56.33 180 *e*P P 05 46 28.2 -0.1
comp=Z,418nm,1.1s
QSPA LR LR
comp=Z,1µm,21.0s
NVL **N'lazarevskaya** 56.45 157 *e*P P 05 46 31.0 +2.1
NVL *e*S S 05 54 19.4 +1.8
TLIG **Tlapa** 57.03 330 *e*P P 05 46 34.0 +0.3
comp=Z,42nm,1.3s
ASCN **Ascension** 59.00 78 PFAKE 05 47 00.0 +12
ASCN LR LR
comp=Z,2µm,20.0s
SHEL **Horse Pasture** 61.86 91 PFAKE 05 47 20.0 +13
SHEL LR LR
comp=Z,1µm,20.0s
SBA **Scott Base** 63.15 192 *e*P P 05 47 16.2 +1.4
SBA pmax pmax
comp=Z,29nm,1.1s
SBA **Scott Base** 63.15 192 *e*P P 05 47 16.2 +1.4
comp=Z,29nm,1.1s
SBA LR LR
comp=Z,2µm,19.0s
ZAIG **Zacatecas** 63.35 329 *e*P P 05 47 18.2 +1.0
comp=Z,15nm,1.0s
VNDA **Vanda** 64.17 191 P P 05 47 21.9 +0.3
comp=Z,4.4nm,0.9s,baz=123,slow=5.6,SNR=18
VNDA LR LR 06 11 26.8
comp=Z,1µm,20.4s,baz=130,slow=32
VNDA **Vanda** 64.17 191 P P 05 47 21.9 +0.3
VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA **Vanda** 64.17 191 *e*P P 05 47 22.3 +0.8
comp=Z,40nm,1.2s
035A **Encino** 65.32 335 P P 05 47 30.5 +0.9
baz=157
034A **Hebbronville** 65.64 334 P P 05 47 32.5 +0.8
baz=156,SNR=6.8
KVTX **Kingsville** 65.80 335 PFAKE 05 47 40.0 +7.3
KVTX LR LR
comp=Z,445nm,20.0s
TIGA **Tifton** 65.88 349 P P 05 47 32.5 -0.6
baz=170
TIGA **Tifton** 65.88 349 *e*P P 05 47 31.9 -1.2
comp=Z,52nm,0.9s
SYO **Syowa Base** 66.00 159‖ *e*P P 05 47 24.4 -9.1
SYO **Syowa Base** 66.00 159‖ *e*X P 05 47 31.0 -2.5
934A **Benavides** 66.08 334 P P 05 47 35.6 +1.2
baz=156
BRAL **Brewton** 66.23 346 PFAKE 05 47 40.0 +4.7
BRAL LR LR
comp=Z,622nm,21.0s
BBSR **BB Station** 66.30 7 *e*P P 05 47 36.0 +0.2
comp=Z,48nm,1.3s
BBSR LR LR
comp=Z,839nm,22.0s
933A **Laredo** 66.36 334 P P 05 47 37.1 +0.8
baz=156,SNR=16
835A **Beeville** 66.46 335 P P 05 47 38.3 +1.4
baz=157,SNR=9.0
445A **Amite** 66.54 343 P P 05 47 38.4 +1.0
baz=164,SNR=5.7
834A **Tilden** 66.56 335 P P 05 47 38.8 +1.3
baz=156,SNR=21
444A **Pine Grove** 66.62 343 P P 05 47 39.2 +1.3
baz=163,SNR=6.0
348A **Jackson** 66.64 345 P P 05 47 38.2 +0.2
baz=166
541A **Lake Charles** 66.65 340 P P 05 47 39.3 +1.2
baz=161
638A **Rosharon** 66.72 338 P P 05 47 38.8 +0.3
baz=159
347A **Saraland** 66.77 345 P P 05 47 39.2 +0.4
baz=165
736A **Circle Diamond** 66.81 336 P P 05 47 40.5 +1.4
baz=158,SNR=16
TAOE **Nuku Hiva Isla** 66.85 275 *e*S S 05 56 27.3 -3.7
comp=Z,3µm,24.2s
TAOE **Nuku Hiva Isla** 66.85 275 *e*LR LR 06 07 48.4
comp=Z,2µm,22.4s,baz=136
443A **Delano Plantat** 66.93 342 P P 05 47 39.7 -0.1
baz=163
346A **Big Creek Wild** 66.96 344 P P 05 47 40.5 +0.5
baz=165,SNR=8.1
735A **Kenedy** 66.97 336 P P 05 47 41.2 +1.1
baz=157,SNR=12
540A **Vidor** 67.02 340 P P 05 47 41.3 +0.9
baz=161
345A **Thompson Farm,** 67.02 343 P P 05 47 41.0 +0.6
baz=164
637A **Eagle Lake** 67.02 337 P P 05 47 41.5 +1.1
baz=158,SNR=7.4
833A **Chaparral WMA,** 67.05 334 P P 05 47 41.3 +0.7
baz=156,SNR=13
NHSC **New Hope** 67.08 353 *e*P P 05 47 41.3 +0.5
comp=Z,170nm,1.2s
NHSC LR LR
comp=Z,784nm,20.0s
SACV **Santiago Islan** 67.08 52 PFAKE 05 47 50.0 +8.8
SACV LR LR
comp=Z,614nm,19.0s
539A **Cross D Ranch,** 67.14 339 P P 05 47 42.0 +0.8
baz=160
734A **La Parita Cree** 67.22 335 P P 05 47 42.2 +0.4
baz=157,SNR=11
832A **Faith Ranch, C** 67.22 334 P P 05 47 42.2 +0.4
baz=155,SNR=26
TBI **Tubuai** 67.23 256 *e*S S 05 56 37.1 +1.9
comp=Z,2µm,28.2s
TBI **Tubuai** 67.23 256 *e*LR LR 06 08 08.7
comp=Z,3µm,26.8s,baz=113
TBI **Tubuai** 67.23 256 *e*T T 07 00 35.9
comp=Z,5.8nm,0.3s
248A **Dixon Mills** 67.27 346 P P 05 47 41.0 -1.0
baz=166
636A **Smothers Creek** 67.29 337 P P 05 47 42.8 +0.6
baz=158,SNR=22
344A **Westbrook Farm** 67.32 343 P P 05 47 43.0 +0.7
baz=164,SNR=7.9
733A **Divot King Ran** 67.37 334 P P 05 47 43.0 +0.3
baz=156,SNR=14
247A **Quitman** 67.41 345 P P 05 47 43.3 +0.4
baz=165,SNR=8.4
635A **Leesville** 67.45 336 P P 05 47 43.5 +0.3
baz=157,SNR=6.3
538A **Harpers Horsep** 67.48 338 P P 05 47 43.8 +0.4
baz=159
246A **Jackson Lee, B** 67.49 344 P P 05 47 43.3 0.0
baz=165
440A **Kirbyville** 67.51 340 P P 05 47 44.3 +0.8
baz=161,SNR=6.7
537A **Green Hill Far** 67.61 337 P P 05 47 44.8 +0.7
baz=159,SNR=7.7
SLBS **Sierra La Lagu** 67.61 323 *e*P P 05 47 45.6 +1.2
comp=Z,27nm,0.8s
634A **China Grove, S** 67.64 335 P P 05 47 44.2 -0.2
baz=157
342A **Flagon Creek P** 67.66 341 P P 05 47 45.2 +0.8
baz=162,SNR=12
245A **Little AP, Sta** 67.68 344 P P 05 47 45.0 +0.5
baz=164,SNR=12
439A **Center Grove,** 67.79 339 P P 05 47 46.4 +1.1
baz=160,SNR=11
GOGA **Godfrey** 67.80 350 *e*P P 05 47 44.2 -1.1
GOGA pmax pmax
comp=Z,32nm,0.9s
GOGA **Godfrey** 67.80 350 *e*P P 05 47 44.2 -1.1
comp=Z,32nm,0.9s
GOGA LR LR
comp=Z,508nm,21.0s
341A **Kurthwood** 67.84 341 P P 05 47 46.3 +0.7
baz=162,SNR=27
536A **Bastrop** 67.84 337 P P 05 47 46.0 +0.3
baz=158
244A **Avery, Jackson** 67.88 343 P P 05 47 46.4 +0.6
baz=164,SNR=8.0
243A **Waterproof** 67.92 342 P P 05 47 46.3 +0.2
baz=163
147A **Livingston** 67.94 345 P P 05 47 46.3 +0.2
baz=166,SNR=9.4
438A **Sam Houston St** 67.97 338 P P 05 47 46.6 +0.2
baz=159
535A **Dale** 67.97 336 P P 05 47 46.9 +0.4
baz=158,SNR=17
633A **Saathoff Ranch** 68.00 335 P P 05 47 47.2 +0.5
baz=156,SNR=11
146A **Union** 68.07 345 P P 05 47 47.8 +0.8
baz=165,SNR=9.4
340A **Bronson** 68.12 340 P P 05 47 46.9 -0.4
baz=161
145A **Houston Renfro** 68.23 344 P P 05 47 48.9 +0.9
baz=164,SNR=14
339A **Huntington** 68.24 339 P P 05 47 48.8 +0.8
baz=160,SNR=20
437A **Phantom Ranch,** 68.25 338 P P 05 47 48.3 +0.1
baz=159
242A **Grayson** 68.26 342 P P 05 47 48.3 +0.1
baz=162,SNR=5.9
534A **Blanco** 68.28 336 P P 05 47 48.2 -0.2
baz=157,SNR=7.1
HPIG 68.34 328 *e*P P 05 47 48.8 -0.3
comp=Z,59nm,1.0s
JSC **Jenkinsville** 68.36 352 *e*P P 05 47 48.9 +0.1
JSC **Jenkinsville** 68.36 352 *e*P P 05 47 48.9 +0.1
144A **Alexander Plac** 68.38 343 P P 05 47 48.8 -0.1
baz=164
436A **Wall Ranch, Ga** 68.40 337 P P 05 47 49.2 +0.1
baz=158
Z47A **Carrollton** 68.40 346 P P 05 47 49.3 +0.3
baz=166,SNR=17
241A **Mo Tay, Goldon** 68.43 341 P P 05 47 50.2 +0.9
baz=162,SNR=12
Z48A **Northport** 68.47 346 P P 05 47 49.2 -0.3
baz=166,SNR=12
338A **Crockett** 68.48 339 P P 05 47 50.9 +1.3
baz=160,SNR=18
533A **Kerrville** 68.51 335 P P 05 47 50.4 +0.5
baz=156,SNR=25
Z46A **Louisville** 68.58 345 P P 05 47 50.4 +0.2
baz=165,SNR=28
337A **Centerville** 68.62 338 P P 05 47 51.1 +0.6
baz=159,SNR=9.1
435B **Jarrell** 68.67 337 P P 05 47 50.7 -0.1
baz=158,SNR=5.6
NATX **Nacogdoches** 68.67 340 P P 05 47 50.9 +0.2
baz=160,SNR=11
NATX **Nacogdoches** 68.67 340 *e*P P 05 47 51.3 +0.5
comp=Z,109nm,0.8s
NATX LR LR
comp=Z,479nm,20.0s
142A **Monroe** 68.67 342 P P 05 47 50.8 0.0
baz=163
240A **Hunter Patters** 68.67 340 P P 05 47 51.0 +0.2
baz=161,SNR=8.1
143A **Socs Landing,** 68.68 343 P P 05 47 51.0 +0.2
baz=163,SNR=15
MEH **Mehetia** 68.75 262 *e*T T 07 02 30.1
comp=Z,23nm,0.2s
239A **Gary** 68.86 340 P P 05 47 52.5 +0.6
baz=160,SNR=5.3
Z45A **Winona** 68.92 344 P P 05 47 52.7 +0.4
baz=165,SNR=8.4
434A **Burnet** 68.92 336 P P 05 47 52.0 -0.4
baz=157,SNR=37
141A **Papa Simpson,** 68.97 341 P P 05 47 52.7 0.0
baz=162
336A **Riesel** 68.99 338 P P 05 47 52.6 -0.2
baz=158,SNR=35
CNNC **Cliffs of the** 68.99 355 *e*P P 05 47 52.5 -0.1
comp=Z,60nm,0.8s
CNNC LR LR
comp=Z,764nm,20.0s
Z44A **Pea Ridge, Bel** 69.00 344 P P 05 47 52.7 0.0
baz=164,SNR=8.5
238A **Jacksonville** 69.03 339 P P 05 47 52.6 -0.4
baz=160
Y47A **UCPARC, Winfie** 69.04 346 P P 05 47 52.5 -0.5
baz=166,SNR=42
335A **Moody** 69.08 337 P P 05 47 53.0 -0.3
baz=158,SNR=8.3
Z43A **Armstrong Fami** 69.13 343 P P 05 47 53.0 -0.6
baz=163
433A **Art** 69.15 335 P P 05 47 53.3 -0.6
baz=156,SNR=56
JCT **Junction City** 69.15 335 P P 05 47 53.8 -0.1
baz=156,SNR=36
JCT **Junction City** 69.15 335 *e*P P 05 47 53.9 0.0
JCT pmax pmax
comp=Z,110nm,1.0s
JCT **Junction City** 69.15 335 *e*P P 05 47 53.9 0.0
comp=Z,112nm,0.9s
JCT LR LR
comp=Z,429nm,22.0s
140A **Cam and Jess,** 69.19 341 P P 05 47 53.7 -0.3
baz=161
KMSC **Kings Mountain** 69.22 352 P P 05 47 53.7 -0.5
baz=172,SNR=11
Y46A **Houston** 69.23 345 P P 05 47 53.4 -0.8
baz=165,SNR=22
237A **Washetta, Mont** 69.23 339 P P 05 47 54.4 +0.1
baz=159,SNR=16
Y45A **Yeager Farm, C** 69.36 345 P P 05 47 55.3 +0.3
baz=165,SNR=9.6
334A **Lometa** 69.39 336 P P 05 47 54.7 -0.6
baz=157,SNR=30
236A **Katherine and** 69.45 338 P P 05 47 55.3 -0.4
baz=159,SNR=12
Z41A **Richland Creek** 69.57 342 P P 05 47 55.9 -0.4
baz=162,SNR=13
TXAR **Lajitas Array** 69.60 331 P P 05 47 56.3 -0.5
comp=Z,11nm,0.7s,baz=151,slow=8.4,SNR=72
TXAR LR LR 06 14 07.0
comp=Z,2µm,18.3s,baz=0.0,slow=32
TX31 **Lajitas Ar. Si** 69.60 331 *e*P P 05 47 55.9 -0.8
TX31 *e*P P 05 47 56.4 -0.4
Y44A **Strider, Charl** 69.60 344 P P 05 47 55.9 -0.6
baz=164
333A **Richland Sprin** 69.64 336 P P 05 47 56.2 -0.6
baz=157,SNR=32
138A **Matatall Enter** 69.64 339 P P 05 47 56.7 0.0
baz=160,SNR=6.2
VAH **Vaihoa** 69.72 265 *e*P P 05 48 01.4 +3.7
comp=Z,76nm,1.0s
Y43A **Makayla and Ka** 69.72 343 P P 05 47 57.5 +0.3
baz=164,SNR=7.5
Z40A **Long Farm, Mag** 69.72 341 P P 05 47 57.0 -0.3
baz=162
WHTX **Lake Whitney,** 69.74 337 P P 05 47 56.7 -0.8
baz=158
WHTX **Lake Whitney,** 69.74 337 *e*P P 05 47 57.4 -0.1
comp=Z,90nm,0.8s
TVO **Taravao** 69.77 262 *e*T T 07 03 46.5
comp=Z,1.0nm,0.2s
137A **Heron Place, G** 69.77 339 P P 05 47 57.6 0.0
baz=160,SNR=14
Y42A **Garnett, Star** 69.86 343 P P 05 47 58.2 +0.1
baz=163,SNR=9.3
X45A **UM Field Stati** 69.86 345 P P 05 47 57.6 -0.5
baz=165
136A **Ennis** 69.89 338 P P 05 47 58.5 +0.2
baz=159,SNR=7.3
Z39A **Irene McRaven,** 69.92 340 P P 05 47 58.2 -0.3
baz=161
CCAR **Cane Creek** 69.93 343 *e*P P 05 47 59.2 +0.7
comp=Z,76nm,1.0s
OXF **Oxford** 69.95 345 *e*P P 05 47 57.8 -0.9
OXF pmax pmax
comp=Z,160nm,0.9s
OXF **Oxford** 69.95 345 *e*P P 05 47 57.8 -0.9
comp=Z,158nm,0.8s
CPCT **Cooper Cave** 69.95 349 *e*P P 05 47 58.5 -0.2
comp=Z,34nm,0.8s
SWET **Sewanee** 69.96 348 *e*P P 05 47 58.2 -0.5
comp=Z,26nm,0.8s
TIAR **Tiarei** 69.96 262 *e*P P 05 48 03.6 +4.3
comp=Z,8.9nm,0.9s
TIAR **Tiarei** 69.96 262 *e*T T 07 04 00.9
comp=Z,4.1nm,0.2s
234A **Clairette** 69.97 337 P P 05 47 58.9 0.0
baz=157,SNR=39
TKL **Tuckaleechee C** 70.05 350 *e*P P 05 47 58.2 -1.0
TKL pmax pmax
comp=Z,51nm,0.9s
TKL **Tuckaleechee C** 70.05 350 *e*P P 05 47 58.2 -1.0
comp=Z,51nm,0.9s
WLAR **White Oak Lake** 70.05 342 *e*P P 05 48 00.2 +0.9
comp=Z,69nm,1.0s
X44A **Crenshaw** 70.10 344 P P 05 47 59.2 -0.4
baz=164,SNR=5.2
PAE **Paea** 70.10 262 *e*P P 05 48 03.5 +3.4
comp=Z,14nm,1.1s
PAE **Paea** 70.10 262 *e*T T 07 04 11.7
comp=Z,1.1nm,0.3s
Y41A **Eaglette Beard** 70.11 342 P P 05 48 00.2 +0.6
baz=162,SNR=16
PPT2 **Papeete2** 70.14 262 *e*P P 05 48 04.9 +4.5
comp=Z,71nm,1.1s
PPT2 *e*S S 05 57 09.9 -0.1
comp=Z,2µm,24.0s
PPT2 **Papeete2** 70.14 262 *e*LR LR 06 09 21.1
comp=Z,3µm,27.5s,baz=122
PPT2 **Papeete2** 70.14 262 *e*T T 07 04 13.4
comp=Z,1.7nm,0.3s
PPT **Papeete** 70.15 262 P P 05 48 01.1 +0.7
comp=Z,71nm,1.0s,baz=70,slow=6.7,SNR=7.9
PPT LR LR 06 11 26.9
comp=Z,1µm,18.4s,baz=142,slow=30
Z38A **Mt. Pleasant** 70.16 340 P P 05 48 00.0 +0.1
baz=160
233A **Rising Star** 70.24 336 P P 05 48 00.6 0.0
baz=157,SNR=25
135A **Vickery Place,** 70.25 338 P P 05 48 00.4 -0.2
baz=158,SNR=8.3
X43A **Marvell** 70.29 344 P P 05 48 00.9 +0.2
baz=164,SNR=8.3
Z37A **Pogue Cattle C** 70.30 339 P P 05 48 00.7 -0.1
baz=160
Y40A **Okolona** 70.41 341 P P 05 48 01.7 +0.2
baz=162,SNR=8.8
134A **White-Moore Ra** 70.48 337 P P 05 48 02.1 +0.1
baz=158,SNR=13
W45A **Hickory Valley** 70.53 345 P P 05 48 01.7 -0.4
baz=165
Y39A **Locksburg** 70.55 341 P P 05 48 02.3 0.0
baz=161,SNR=5.5
Z36A **Blue Ridge** 70.61 339 P P 05 48 02.6 -0.1
baz=159,SNR=29
W44A **Shelby Farms P** 70.64 345 P P 05 48 02.1 -0.8
baz=165
X41A **Kaden, Bauxite** 70.67 342 P P 05 48 02.8 -0.2
baz=162,SNR=9.2
Y38A **Idabel** 70.72 340 P P 05 48 02.5 -0.9
baz=160,SNR=8.4
X40A **Basin Creek Fa** 70.74 342 P P 05 48 02.5 -0.9
baz=162,SNR=5.7
133A **Hamilton Ranch** 70.79 336 P P 05 48 03.2 -0.7
baz=157,SNR=20
TZTN **Tazewell** 70.89 350 *e*P P 05 48 04.2 -0.2
comp=Z,96nm,1.4s
UALR **University of** 70.89 343 *e*P P 05 48 04.2 -0.1
comp=Z,46nm,1.0s
Z35A **Perchaven, San** 70.91 338 P P 05 48 03.7 -0.9
baz=158,SNR=16
MIAR **Mount Ida** 70.99 341 P P 05 48 04.2 -0.8
baz=162,SNR=35
MIAR **Mount Ida** 70.99 341 *e*P P 05 48 04.8 -0.2
MIAR pmax pmax
comp=Z,47nm,1.0s
MIAR **Mount Ida** 70.99 341 PFAKE 05 48 10.0 +5.0
MIAR LR LR
comp=Z,334nm,20.0s
Y37A **Hugo** 71.02 340 P P 05 48 04.7 -0.5
baz=160,SNR=14
V45A **Humboldt** 71.04 346 P P 05 48 04.4 -0.9
baz=166,SNR=6.3
ABTX **Abilene, Hawle** 71.05 336 P P 05 48 04.6 -0.9
baz=156,SNR=18
ABTX **Abilene, Hawle** 71.05 336 *e*P P 05 48 05.1 -0.3
comp=Z,87nm,0.8s
X39A **Fountain Ranch** 71.10 341 P P 05 48 05.0 -0.7
baz=161,SNR=19
Y36A **Durant** 71.14 339 P P 05 48 05.4 -0.5
baz=159,SNR=9.3
Z34A **Collier Ranch,** 71.16 337 P P 05 48 05.3 -0.8
baz=158,SNR=11
BLA **Blacksburg** 71.17 353 *e*P P 05 48 06.3 +0.2
BLA pmax pmax
comp=Z,29nm,1.0s
BLA **Blacksburg** 71.17 353 *e*P P 05 48 06.3 +0.2
comp=Z,29nm,1.0s
BLA LR LR
comp=Z,692nm,19.0s
WVT **Waverly** 71.19 347 *e*P P 05 48 05.0 -1.2
WVT pmax pmax
comp=Z,160nm,0.8s
WVT **Waverly** 71.19 347 *e*P P 05 48 05.0 -1.2
comp=Z,164nm,0.8s
W41B **Gary Mavity, V** 71.24 343 P P 05 48 05.7 -0.8
baz=163,SNR=21
X301 **Greenbrier Sit** 71.34 343 *e*P P 05 48 06.8 -0.3
comp=Z,98nm,0.9s
Z33A **Whitaker Ranch** 71.36 337 P P 05 48 06.5 -0.8
baz=157,SNR=21
WHAR **Wooly Hollow** 71.36 343 *e*P P 05 48 06.3 -1.0
comp=Z,80nm,1.0s
Y35A **Marietta** 71.38 338 P P 05 48 07.0 -0.4
baz=159,SNR=12
X201 **Greenbrier Sit** 71.39 343 *e*P P 05 48 06.9 -0.4
comp=Z,101nm,1.0s
X38A **Whitesboro** 71.44 340 P P 05 48 07.2 -0.5
baz=160,SNR=36
W40A **Ferguson Farm,** 71.47 342 P P 05 48 07.6 -0.2
baz=162,SNR=18
GNAR **Gosnell** 71.48 345 *e*P P 05 48 09.0 +1.1
X37A **Clayton** 71.52 340 P P 05 48 07.3 -0.9
baz=160
UTMT **University of** 71.60 346 *e*P P 05 48 09.1 +0.5
comp=Z,196nm,0.9s
GLAT **Glass** 71.62 345 *e*P P 05 48 09.3 +0.6
V42A **Cord** 71.64 344 P P 05 48 07.9 -0.9
baz=163,SNR=8.3
Y34A **Reagan Ranch,** 71.65 338 P P 05 48 08.1 -0.9
baz=158,SNR=16
W39A **Magazine** 71.66 341 P P 05 48 08.6 -0.4
baz=161,SNR=49
W38A **Poteau** 71.74 341 P P 05 48 09.0 -0.5
baz=161,SNR=17
X36A **Centrahoma** 71.79 339 P P 05 48 08.6 -1.3
baz=159,SNR=27
V41A **Mountainview** 71.80 343 P P 05 48 08.8 -1.2
baz=163,SNR=30
X35A **Drake** 71.82 339 P P 05 48 09.1 -0.9
baz=159,SNR=14
CBN **Corbin Frederi** 71.91 356 *e*P P 05 48 10.8 +0.4
comp=Z,23nm,0.6s
CBN LR LR
comp=Z,760nm,21.0s
Y33A **Hilltop Ranch,** 71.97 337 P P 05 48 10.1 -0.9
baz=157,SNR=15
V40A **Witts Springs** 71.99 342 P P 05 48 10.2 -0.8
baz=162,SNR=20
W37B **Quinton** 72.05 340 P P 05 48 10.1 -1.3
baz=160,SNR=18
PARMO **Parma** 72.10 345 *e*P P 05 48 11.7 +0.1
U42A **Revenden** 72.13 344 P P 05 48 10.6 -1.1
baz=164,SNR=29
V39A **Pettigrew** 72.23 342 P P 05 48 11.1 -1.4
baz=162
X34A **Smith Ranch, M** 72.27 338 P P 05 48 11.8 -0.9
baz=158,SNR=22
U41A **Viola** 72.28 343 P P 05 48 11.6 -1.1
baz=163,SNR=19
W36A **Wetumka** 72.28 339 P P 05 48 11.5 -1.3
baz=159,SNR=15
PBMO **Poplar Bluff** 72.35 345 *e*P P 05 48 11.9 -1.2
comp=Z,49nm,0.7s
MNTX **Cornudas Mount** 72.37 331 P P 05 48 11.7 -1.7
baz=152,SNR=42
MNTX **Cornudas Mount** 72.37 331 *e*P P 05 48 11.8 -1.7
comp=Z,40nm,0.8s
MNTX LR LR
comp=Z,2µm,20.0s
X33A **Lawton** 72.42 337 P P 05 48 12.6 -1.1
baz=158,SNR=11
V38A **Canehill** 72.45 341 P P 05 48 13.1 -0.7
baz=161,SNR=17
W35A **Tecumseh** 72.49 339 P P 05 48 13.0 -1.0
baz=159,SNR=11
U40A **Yellville** 72.52 343 P P 05 48 13.6 -0.6
baz=162,SNR=37
HSIG 72.55 325 *e*P P 05 48 15.0 +0.5
comp=Z,35nm,0.9s
X32A **Elmer** 72.57 337 P P 05 48 14.2 -0.3
baz=157,SNR=11
V37A **Hulbert** 72.67 341 P P 05 48 14.6 -0.5
baz=160,SNR=21
WMOK **Wichita Mounta** 72.69 337 P P 05 48 14.9 -0.5
baz=157,SNR=19
WMOK **Wichita Mounta** 72.69 337 *e*P P 05 48 14.8 -0.5
WMOK pmax pmax
comp=Z,36nm,1.0s
WMOK **Wichita Mounta** 72.69 337 *e*P P 05 48 14.8 -0.5
comp=Z,36nm,1.0s
WMOK LR LR
comp=Z,319nm,20.0s

U39A **Green Forest** 72.70 342 P P 05 48 13.3 -2.0
baz=162,SNR=24
HHAR **Hobbs** 72.72 342 eP P 05 48 14.5 -0.9
comp=Z,42nm,0.8s
V36A **Jenks** 72.81 340 P P 05 48 14.6 -1.2
baz=160,SNR=17
S45A **Carrier Mills** 72.84 346 P P 05 48 14.6 -1.4
baz=166
W34A **Bridge Creek,** 72.84 338 P P 05 48 14.7 -1.4
baz=158,SNR=8.6
W34A **Bridge Creek,** 72.84 338 eP P 05 48 16.0 -0.1
comp=Z,81nm,1.1s
TUL1 **Leonard** 72.88 340 P P 05 48 14.7 -1.7
baz=160,SNR=22
TUL1 **Leonard** 72.88 340 eP P 05 48 15.5 -0.9
comp=Z,65nm,0.8s
T41A **Mountain View** 72.91 344 P P 05 48 15.1 -1.4
baz=163,SNR=21
USIN **University of** 72.94 347 eP P 05 48 15.3 -1.3
comp=Z,89nm,0.9s
WCI **Wyandotte Cave** 72.96 348 eP P 05 48 16.0 -0.8
WCI pmax pmax
comp=Z,38nm,1.0s
WCI **Wyandotte Cave** 72.96 348 eP P 05 48 16.0 -0.8
comp=Z,38nm,1.0s
W33A **Caddo, Fort Co** 72.98 338 P P 05 48 16.3 -0.7
baz=158,SNR=21
S44A **Carbondale** 72.99 346 P P 05 48 15.5 -1.4
baz=165
U38A **Gravette** 72.99 341 P P 05 48 15.7 -1.3
baz=161,SNR=11
SIUC **Southern Illin** 73.00 346 eP P 05 48 16.9 0.0
comp=Z,68nm,0.7s
S43A **Fulton Ridge,** 73.04 345 P P 05 48 15.8 -1.4
baz=165,SNR=34
V35A **Meyer Ranch, C** 73.04 339 P P 05 48 15.8 -1.5
baz=159,SNR=13
SDMD **Soldier's Deli** 73.08 356 eP P 05 48 18.4 +1.0
comp=Z,15nm,0.9s
U37A **Salina** 73.16 341 P P 05 48 17.4 -0.5
baz=160,SNR=14
T40A **Mansfield** 73.19 343 P P 05 48 17.4 -0.8
baz=163,SNR=20
W32A **Sentinel** 73.20 337 P P 05 48 17.5 -0.8
baz=157,SNR=32
T39A **Clever** 73.28 342 P P 05 48 17.3 -1.4
baz=162,SNR=11
MAW **Mawson** 73.30 164 P P 05 48 18.5 0.0
comp=Z,20nm,0.6s,baz=222,slow=7.0,SNR=44
MAW LR LR 06 22 48.7
comp=Z,2µm,18.7s,baz=232,slow=38
MAW **Mawson** 73.30 164 eP P 05 48 18.4 -0.1
MAW pmax pmax
comp=Z,15nm,1.2s
MAW **Mawson** 73.30 164 eP P 05 48 18.4 -0.1
comp=Z,15nm,1.3s
U36A **Oologah** 73.31 340 P P 05 48 17.6 -1.2
baz=160
V34A **Guthrie** 73.31 339 P P 05 48 17.7 -1.2
baz=158,SNR=22
V34A **Guthrie** 73.31 339 eP P 05 48 18.7 -0.2
comp=Z,102nm,1.2s
MSTX **Muleshoe** 73.37 334 P P 05 48 18.0 -1.4
baz=154,SNR=38
MSTX **Muleshoe** 73.37 334 eP P 05 48 18.9 -0.6
comp=Z,72nm,0.8s
S41A **Jillco Farms,** 73.42 344 P P 05 48 18.8 -0.7
baz=163,SNR=41
R44A **Waltonville** 73.49 346 P P 05 48 17.9 -1.9
baz=166,SNR=8.8
T38A **Diamond** 73.53 342 P P 05 48 19.2 -0.9
baz=161,SNR=33
V33A **Lossen Ranch,** 73.53 338 P P 05 48 19.1 -1.1
baz=158,SNR=14
U35A **Pawnee** 73.58 340 P P 05 48 19.4 -1.0
baz=159,SNR=33
S40A **Lebanon** 73.61 343 P P 05 48 19.5 -1.1
baz=163,SNR=32
MVL **Millersville** 73.64 357 eP P 05 48 21.9 +1.2
comp=Z,65nm,1.5s
V32A **Arapaho** 73.68 337 P P 05 48 20.1 -1.0
baz=157,SNR=7.2
319A **Douglas** 73.76 327 eP P 05 48 22.9 +1.1
OLIL **Olney** 73.77 347 eP P 05 48 20.5 -1.0
comp=Z,88nm,1.5s
T37A **Cheneyville 18** 73.78 341 P P 05 48 20.7 -0.9
baz=161,SNR=15
AMTX **Amarillo** 73.80 335 P P 05 48 20.8 -1.1
baz=155
U34A **Anderson Ranch** 73.88 339 P P 05 48 21.3 -0.9
baz=158,SNR=17
U34A **Anderson Ranch** 73.88 339 eP P 05 48 22.2 0.0
comp=Z,96nm,1.1s
S39A **Bolivar** 73.90 343 P P 05 48 21.1 -1.2
baz=162,SNR=28
T36A **Boggs Farm, Ca** 73.98 340 P P 05 48 21.6 -1.1
baz=160,SNR=18
S38A **Stockton** 73.99 342 P P 05 48 22.0 -0.9
baz=162,SNR=28
T35A **Sooner Cattle** 74.02 340 P P 05 48 22.3 -0.8
baz=159,SNR=17
O56A **Blue Knob Stat** 74.04 355 P P 05 48 22.4 -0.7
baz=175,SNR=8.3
U33A **Lingo Farm, Me** 74.05 338 P P 05 48 22.1 -1.1
baz=158,SNR=6.6
SLM **Saint Louis** 74.10 345 eP P 05 48 23.2 -0.2
SLM pmax pmax
comp=Z,81nm,0.7s
SLM **Saint Louis** 74.10 345 eP P 05 48 23.2 -0.2
comp=Z,81nm,0.7s
121A **Cookes Peak, D** 74.10 329 P P 05 48 23.5 -0.3
baz=150,SNR=26
121A **Cookes Peak, D** 74.10 329 eP P 05 48 24.5 +0.7
comp=Z,68nm,0.8s
Q44A **Meyer Farm, Va** 74.11 346 P P 05 48 22.5 -0.9
baz=166,SNR=5.7
LUPA **Lehigh Univers** 74.19 357 eP P 05 48 25.1 +1.2
comp=Z,22nm,1.0s
R40A **Maddies Statio** 74.22 344 P P 05 48 23.2 -1.0
baz=163,SNR=31
BRNJ **Basking Ridge** 74.25 358 eP P 05 48 25.4 +1.1
comp=Z,27nm,0.8s
U32A **Winter Ranch,** 74.27 338 P P 05 48 23.9 -0.7
baz=157,SNR=10
Q43A **New Douglas** 74.28 346 P P 05 48 23.2 -1.3
baz=165,SNR=21
T34A **McClaskey Farm** 74.32 339 P P 05 48 23.9 -0.8
baz=159,SNR=31
S37A **Fort Scott** 74.35 342 P P 05 48 24.2 -0.7
baz=161,SNR=11
SSPA **Standing Stone** 74.36 355 eP P 05 48 25.1 +0.2
comp=Z,108nm,1.7s
R39A **Chumby, Stover** 74.42 343 P P 05 48 24.2 -1.1
baz=162,SNR=22
Q42A **Golden Eagle** 74.42 345 P P 05 48 24.3 -1.0
baz=164,SNR=19
ACSO **Alum Creek Sta** 74.44 351 eP P 05 48 24.5 -0.9
ACSO LR LR
comp=Z,87nm,0.7s
comp=Z,674nm,22.0s
R38A **Fenwick Farm,** 74.52 342 P P 05 48 24.5 -1.3
baz=162,SNR=9.5
S36A **Lake Cedric, C** 74.52 341 P P 05 48 24.7 -1.2
baz=160,SNR=21
N59A **State Game Lan** 74.53 357 P P 05 48 25.6 -0.3
baz=177,SNR=14
ODNJ **Ogdensburg** 74.65 358 eP P 05 48 27.5 +1.0
comp=Z,45nm,1.4s
S35A **Otter Creek Ra** 74.68 340 P P 05 48 25.5 -1.4
baz=160,SNR=13
T33A **Patterson Ranc** 74.69 339 P P 05 48 25.9 -1.0
baz=158
Q40A **Laux Farm, Aux** 74.84 344 P P 05 48 26.6 -1.2
baz=163,SNR=30
N54A **Moraine State** 74.84 354 P P 05 48 26.7 -1.1
baz=173,SNR=6.0
LIC **Lamto** 74.85 72 eP P 05 48 27.9 -0.5
comp=Z,52nm,0.9s
YLE **Yale** 74.85 359 eP P 05 48 29.3 +1.6
comp=Z,66nm,0.9s
R37A **Teagarden Farm** 74.87 342 P P 05 48 26.6 -1.3
baz=161,SNR=8.2
S34A **Willow Spring** 74.92 340 P P 05 48 27.2 -1.1
baz=159
SUR **Sutherland** 74.97 119 PFAKE 05 48 40.0 +11
SUR LR LR
comp=Z,2µm,19.0s
T32A **Huddler Ranch,** 74.98 338 P P 05 48 27.6 -1.0
baz=157
BNM **Barren Site** 75.02 331 eP P 05 48 30.1 +1.0
P42A **Winchester** 75.03 346 P P 05 48 27.5 -1.3
baz=165,SNR=9.8
R36A **Gordon, Harris** 75.06 341 P P 05 48 27.5 -1.6
baz=160,SNR=9.9
S33A **Kaszmaul Farm,** 75.09 339 P P 05 48 28.1 -1.1
baz=158
Q39A **Willow Grove F** 75.10 343 P P 05 48 28.3 -0.9
baz=162,SNR=8.9
TIC **Toumodi** 75.11 71 eP P 05 48 29.6 -0.3
KIC **Kosan Boka** 75.16 72 eP P 05 48 30.0 -0.2
comp=Z,105nm,1.0s
LPM **Los Pinos Moun** 75.16 331 eP P 05 48 30.7 +0.8
Q38A **Cooks Store, C** 75.18 343 P P 05 48 28.1 -1.6
baz=162
SFIN **Lafayette** 75.19 348 P P 05 48 27.3 -2.4
baz=167,SNR=6.0
SFIN **Lafayette** 75.19 348 eP P 05 48 28.3 -1.4
comp=Z,60nm,1.3s
R35A **Emporia Munici** 75.25 341 P P 05 48 28.7 -1.4
baz=160,SNR=7.7
DBIC **Dimbokro** 75.25 71 P P 05 48 30.6 -0.1
comp=Z,24nm,1.0s,baz=206,slow=6.2,SNR=11
DBIC LR LR 06 20 29.7
comp=Z,1µm,18.4s,baz=214,slow=35
DBIC **Dimbokro** 75.25 71 eP P 05 48 31.1 +0.3
comp=Z,100nm,1.4s
P41A **Barry, Barry** 75.27 345 P P 05 48 28.6 -1.6
baz=164,SNR=10
Q37A **Longview Farm,** 75.31 342 P P 05 48 28.2 -2.2
baz=161
P40A **Paris** 75.35 344 P P 05 48 29.0 -1.6
baz=163,SNR=40
M54A **Oil Creek Stat** 75.36 354 P P 05 48 28.2 -2.5
baz=174
LAZ **Ladron** 75.45 331 eP P 05 48 32.7 +1.1
BRYW **Bryant College** 75.45 0 eP P 05 48 32.5 +1.3
comp=Z,152nm,1.5s
S32A **Newby Ranch, P** 75.47 338 P P 05 48 30.3 -1.1
baz=158
P39B **Salisbury** 75.47 344 P P 05 48 29.6 -1.7
baz=163,SNR=18
R34A **Isabella, Hill** 75.52 340 P P 05 48 29.7 -2.0
baz=159
ALLY **Allegheny Colle** 75.54 354 eP P 05 48 32.3 +0.6
comp=Z,38nm,0.9s
O42A **Bath** 75.57 346 P P 05 48 30.1 -1.7
baz=165,SNR=8.0
ANMO **Albuquerque** 75.64 331 P P 05 48 31.5 -1.3
baz=151
ANMO **Albuquerque** 75.64 331 cP P 05 48 33.4 +0.7
ANMO pmax pmax
comp=Z,29nm,1.2s
ANMO **Albuquerque** 75.64 331 eP P 05 48 33.0 +0.3
comp=Z,42nm,1.1s
ANMO LR LR
comp=Z,2µm,21.0s
Q36A **Arnold C. Orve** 75.65 341 P P 05 48 30.6 -1.8
baz=160
O41A **Passleys Farm,** 75.66 345 P P 05 48 30.8 -1.6
baz=164,SNR=11
Q35A **Mercer Eighty,** 75.70 341 P P 05 48 30.8 -1.9
baz=160
R33A **Olander Ranch,** 75.74 339 P P 05 48 31.6 -1.4
baz=158,SNR=6.0
HDIL **Hopedale** 75.76 347 P P 05 48 31.1 -1.9
baz=166,SNR=12
HDIL **Hopedale** 75.76 347 eP P 05 48 32.1 -0.9
comp=Z,64nm,0.9s
HDIL LR LR
comp=Z,831nm,19.0s
P38A **Dawn** 75.79 343 P P 05 48 31.5 -1.7
baz=162,SNR=20
QUA2 **Belchertown** 75.81 360 eP P 05 48 34.3 +1.1
comp=Z,43nm,1.1s
BINY **Binghamton** 75.81 357 eP P 05 48 34.0 +0.7
comp=Z,36nm,1.2s
BINY LR LR
comp=Z,794nm,19.0s
214A **Organ Pipe Nat** 75.88 325 P P 05 48 33.6 -0.3
baz=146,SNR=9.0
214A **Organ Pipe Nat** 75.88 325 eP P 05 48 34.2 +0.3
comp=Z,124nm,0.8s
BCX **Boston College** 75.88 1 eP P 05 48 34.6 +1.1
comp=Z,50nm,1.1s
O40A **La Belle** 75.88 345 P P 05 48 32.2 -1.4
baz=163,SNR=12
WES **Weston** 75.92 1 eP P 05 48 35.5 +1.7
WES pmax pmax
comp=Z,74nm,1.4s
WES **Weston** 75.92 1 eP P 05 48 35.5 +1.7
comp=Z,74nm,1.4s
P37A **Lathrop** 75.95 343 P P 05 48 32.8 -1.3
baz=161
Q34A **Chapman** 76.01 340 P P 05 48 33.0 -1.5
baz=159,SNR=6.7
HRV **Adam Dziewonsk** 76.04 0 eP P 05 48 35.5 +1.0
HRV pmax pmax
comp=Z,72nm,1.5s
HRV **Adam Dziewonsk** 76.04 0 eP P 05 48 35.5 +1.0
comp=Z,72nm,1.5s
R32A **Long Quarter,** 76.06 339 P P 05 48 33.9 -0.9
baz=158,SNR=9.2
KSU1 **Kansas State U** 76.09 341 P P 05 48 33.1 -1.8
baz=159
KSU1 **Kansas State U** 76.09 341 eP P 05 48 34.8 -0.1
comp=Z,26nm,0.9s
KSU1 LR LR
comp=Z,564nm,19.0s
O39A **Kirksville** 76.15 344 P P 05 48 34.4 -0.8
baz=163,SNR=8.3
P36A **Good Intent, A** 76.20 342 P P 05 48 33.6 -2.0
baz=161,SNR=5.8
O38A **Galt** 76.24 343 P P 05 48 33.7 -2.1
baz=162
TRY **Troy** 76.28 359 eP P 05 48 36.8 +1.0
comp=Z,90nm,1.0s
P35A **Duane Minner,** 76.33 341 P P 05 48 34.6 -1.7
baz=160,SNR=11
Q33A **Connelly Farm,** 76.34 340 P P 05 48 35.2 -1.2
baz=158
MMNY **Mt. Morris Dam** 76.45 356 eP P 05 48 37.3 +0.4
O37A **Wolven Farm, M** 76.45 343 P P 05 48 35.5 -1.4
baz=162,SNR=8.6
Q32A **Meitler Ranch,** 76.54 339 P P 05 48 36.4 -1.1
baz=158
AAM **Ann Arbor** 76.56 351 eP P 05 48 37.5 0.0
AAM pmax pmax
comp=Z,46nm,0.9s
AAM **Ann Arbor** 76.56 351 eP P 05 48 37.5 0.0
comp=Z,46nm,0.9s
AAM LR LR
comp=Z,713nm,20.0s
P34A **Walnut Farm, R** 76.56 341 P P 05 48 36.3 -1.3
baz=159,SNR=11
O36A **Bolckow** 76.62 342 P P 05 48 35.9 -2.0
baz=161
BUF **Buffalo** 76.70 355 eP P 05 48 39.3 +1.0
P33A **Williams Farm,** 76.70 340 P P 05 48 37.0 -1.4
baz=159
CBKS **Cedar Bluff** 76.74 338 P P 05 48 38.0 -0.6
baz=157,SNR=6.4
CBKS **Cedar Bluff** 76.74 338 eP P 05 48 39.4 +0.8
CBKS pmax pmax
comp=Z,64nm,0.9s
CBKS **Cedar Bluff** 76.74 338 eP P 05 48 39.4 +0.8
comp=Z,64nm,0.8s
CBKS LR LR
comp=Z,432nm,22.0s
N39A **Derby Farms, D** 76.74 344 P P 05 48 37.2 -1.3
baz=163,SNR=19
T25A **Trinidad** 76.80 334 P P 05 48 39.3 +0.1
baz=153,SNR=34
T25A **Trinidad** 76.80 334 eP P 05 48 39.6 +0.3
comp=Z,87nm,0.9s
N38A **Joes South For** 76.83 344 P P 05 48 37.7 -1.3
baz=162,SNR=14
ACCN **Adirondack Com** 76.93 359 eP P 05 48 40.1 +0.6
comp=Z,61nm,1.4s
O35A **Humboldt** 76.99 342 P P 05 48 38.1 -1.9
baz=160
113A **Mohawk Valley,** 77.00 325 eP P 05 48 41.6 +1.4
FFD **Franklin Falls** 77.00 0 eP P 05 48 41.2 +1.2
comp=Z,210nm,1.6s
N37A **Lee Faris, Mou** 77.02 343 P P 05 48 38.7 -1.5
baz=162
O34A **Beatrice** 77.12 341 P P 05 48 39.4 -1.4
baz=160,SNR=24
P32A **Huiting Farm,** 77.14 339 P P 05 48 39.8 -1.1
baz=158
W18A **Petrified Fore** 77.14 329 P P 05 48 41.0 -0.2
baz=149
W18A **Petrified Fore** 77.14 329 eP P 05 48 43.0 +1.8
comp=Z,74nm,1.1s
M39A **Webster** 77.24 345 P P 05 48 39.8 -1.6
baz=163,SNR=11
HNH **Hanover** 77.24 360 eP P 05 48 42.4 +1.1
comp=Z,43nm,1.0s
N36A **Muff Farm, Cla** 77.26 342 P P 05 48 39.9 -1.6
baz=161
O33A **Hebron** 77.27 340 P P 05 48 39.7 -1.9
baz=159
M38A **Pleasantville** 77.41 344 P P 05 48 40.9 -1.4
baz=162,SNR=17
N35A **Tabor** 77.48 342 P P 05 48 41.3 -1.4
baz=160,SNR=7.8
NCB **Newcomb** 77.53 358 eP P 05 48 43.4 +0.5
comp=Z,0.2nm,0.9s
MDV **Middlebury** 77.54 359 eP P 05 48 43.3 +0.4
L40A **Anamosa** 77.59 346 P P 05 48 42.2 -1.1
baz=164,SNR=15
M37A **Trindle Farm,** 77.60 343 P P 05 48 42.3 -1.1
baz=162,SNR=12
Y14A **Wickenburg** 77.61 326 eP P 05 48 44.1 +0.4
O32A **Brockman Farm,** 77.64 340 P P 05 48 41.7 -2.0
baz=158
N34A **Lincoln** 77.68 341 P P 05 48 42.3 -1.5
baz=160
SDCO **Great Sand Dun** 77.74 334 P P 05 48 44.1 -0.5
baz=152,SNR=27
SDCO **Great Sand Dun** 77.74 334 eP P 05 48 44.6 +0.1
comp=Z,17nm,1.0s
SDCO LR LR
comp=Z,890nm,19.0s
GLA **Glamis** 77.74 324 P P 05 48 43.7 -0.8
baz=145
GLA **Glamis** 77.74 324 eP P 05 48 45.9 +1.5
GLA pmax pmax
comp=Z,72nm,1.5s
GLA **Glamis** 77.74 324 eP P 05 48 45.9 +1.5
comp=Z,72nm,1.5s
L39A **Vinton** 77.82 345 P P 05 48 43.1 -1.5
baz=163,SNR=8.3
M36A **Felix, Anita** 77.83 343 P P 05 48 42.8 -1.8
baz=161
O31A **Woolen Ranch,** 77.84 339 P P 05 48 43.9 -0.9
baz=157
N33A **J Bar K, Exete** 77.85 341 P P 05 48 43.3 -1.5
baz=159
KSCO **Kaye Shedlock'** 77.85 336 P P 05 48 44.2 -0.8
baz=155
SCIA **State Center** 77.88 344 eP P 05 48 44.8 -0.1
comp=Z,299nm,1.9s
SCIA LR LR
comp=Z,471nm,19.0s
K41A **Shullsburg** 77.93 346 P P 05 48 43.8 -1.3
baz=165,SNR=14
L38A **Oak Wood Farm,** 78.05 344 P P 05 48 45.2 -0.6
baz=163,SNR=8.5
IKP **In-Ko-Pah, Jac** 78.05 323 P P 05 48 44.8 -1.3
baz=144
M35A **Neola** 78.06 342 P P 05 48 44.7 -1.2
baz=160
N32A **Stulken Farm,** 78.11 340 P P 05 48 45.3 -1.0
baz=158
WVL **Waterville** 78.13 2 eP P 05 48 47.5 +1.3
comp=Z,82nm,1.3s
Y12C **Blythe** 78.17 325 eP P 05 48 47.9 +1.2
comp=Z,38nm,0.9s
LONY **Lake Ozonia** 78.18 358 eP P 05 48 47.3 +0.7
comp=Z,87nm,1.6s
LONY LR LR
comp=Z,596nm,19.0s
K40A **Colesburg** 78.19 346 P P 05 48 45.6 -1.0
baz=164,SNR=14
WUAZ **Wupatki** 78.19 328 P P 05 48 46.4 -0.6
baz=148,SNR=21
WUAZ **Wupatki** 78.19 328 eP P 05 48 47.8 +0.8
comp=Z,39nm,1.0s
WUAZ LR LR
comp=Z,673nm,19.0s
L37A **Phoenix Point,** 78.21 344 P P 05 48 45.6 -1.2
baz=162,SNR=5.6
JFWS **Jewell Farm** 78.22 347 eP P 05 48 46.4 -0.4
JFWS pmax pmax
comp=Z,150nm,1.5s
JFWS **Jewell Farm** 78.22 347 eP P 05 48 46.4 -0.4
comp=Z,152nm,1.5s
JFWS LR LR
comp=Z,668nm,20.0s
S22A **4UR Ranch, Cre** 78.24 333 P P 05 48 45.7 -1.7
baz=151,SNR=17
S22A **4UR Ranch, Cre** 78.24 333 eP P 05 48 47.7 +0.3
comp=Z,26nm,1.2s
M34A **Aspy Farms, Fr** 78.33 342 P P 05 48 46.5 -0.9
baz=160
K39A **Oelwein** 78.35 345 P P 05 48 45.5 -2.0
baz=164,SNR=8.4
BAR **Barrett** 78.35 323 eP P 05 48 48.2 +0.4
comp=Z,25nm,0.9s
N31A **Bailey Ranch,** 78.35 340 P P 05 48 46.9 -0.7
baz=158
EMMW **East Machias** 78.36 3 eP P 05 48 49.1 +1.7
comp=Z,78nm,1.3s
FRNY **Flat Rock** 78.38 359 eP P 05 48 47.5 -0.1
comp=Z,26nm,0.9s
MONP2 **Monument Peak** 78.40 323 P P 05 48 46.5 -1.8
baz=144
L36A **Harm Buss Farm** 78.41 343 P P 05 48 46.9 -0.9
baz=161
MVCO **Mesa Verde** 78.43 331 P P 05 48 48.3 -0.1
baz=150,SNR=19
MVCO **Mesa Verde** 78.43 331 eP P 05 48 49.2 +0.8
comp=Z,45nm,1.0s
MVCO LR LR
comp=Z,2µm,19.0s
K38A **Parkersburg** 78.48 345 P P 05 48 47.2 -1.1
baz=163
BC3 **Big Chuckawall** 78.53 324 P P 05 48 48.4 -0.5
baz=145,SNR=16
M33A **Taylor Creek F** 78.56 341 P P 05 48 48.2 -0.5
baz=159
SADO **Sadowa** 78.56 355 eP P 05 48 48.8 +0.2
comp=Z,99nm,1.7s
J41A **Loganville** 78.61 347 P P 05 48 47.8 -1.1
baz=165,SNR=14
L35A **Bielow Farm, R** 78.63 342 P P 05 48 47.7 -1.4
baz=160,SNR=7.3
BGNE **Belgrade** 78.66 340 P P 05 48 48.1 -1.2
baz=158
BGNE **Belgrade** 78.66 340 eP P 05 48 49.8 +0.5
comp=Z,155nm,1.3s
Q24A **Divide** 78.69 334 P P 05 48 49.5 -0.4
baz=153,SNR=19
Q24A **Divide** 78.69 334 eP P 05 48 50.1 +0.3
comp=Z,37nm,0.8s
L34A **Svendsen Farm,** 78.71 342 P P 05 48 48.4 -1.1
baz=160
J40A **Soldiers Grove** 78.78 346 P P 05 48 48.9 -0.9
baz=164,SNR=13
K37A **Belmond** 78.79 344 P P 05 48 48.7 -1.3
baz=162
IRM **Iron Mountain** 78.80 325 P P 05 48 50.1 -0.1
baz=145,SNR=17
GGN **Saint George** 78.80 4 eP P 05 48 50.6 +0.7
comp=Z,84nm,1.4s
M31A **Lambtecht Ranc** 78.84 340 P P 05 48 49.7 -0.6
baz=158
PKME **Peaks-Kenny Pk** 78.84 2 eP P 05 48 50.5 +0.4
comp=Z,71nm,1.4s
PKME LR LR
comp=Z,541nm,20.0s
K36A **Gilmore City** 78.86 343 P P 05 48 49.6 -0.7
baz=162
J39A **Decorah** 78.92 346 P P 05 48 49.0 -1.6
baz=164,SNR=15
W13A **Hualapai Mount** 78.97 326 eP P 05 48 52.1 +0.7
TPFO **Pinon Flats** 78.99 324 P P 05 48 49.8 -1.6
baz=144,SNR=6.9
PFO **Pinyon Flats O** 78.99 324 P P 05 48 50.3 -1.1
baz=144
PFO **Pinyon Flats O** 78.99 324 eP P 05 48 52.6 +1.2
PFO pmax pmax
comp=Z,43nm,1.0s
PFO **Pinyon Flats O** 78.99 324 eP P 05 48 52.6 +1.2

comp=Z,43nm,1.0s
PFO LR LR
comp=Z,972nm,21.0s
J38A Wedel Dairy, R 79.06 345 P P 05 48 49.9 -1.5
baz=163,SNR=12
K35A Storm Lake 79.13 343 P P 05 48 51.1 -0.7
baz=161
L33A Hoskins 79.13 341 P P 05 48 50.5 -1.4
baz=159
PV01 Paradox Valley 79.25 332 eP P 05 48 53.6 +0.8
J37A Redenius Farm, 79.29 344 P P 05 48 51.4 -1.2
baz=162,SNR=7.6
K34A Le Mars 79.31 342 P P 05 48 52.1 -0.6
baz=160
TSUM Tsumeb 79.35 106 PFAKE 05 49 00.0 +6.1
TSUM LR LR
comp=Z,3µm,20.0s
MURC Murrieta 79.35 323 P P 05 48 53.0 -0.3
baz=144,SNR=6.8
U15A North Rim 79.36 328 eP P 05 48 53.9 +0.4
OGNE Ogallala 79.40 337 P P 05 48 52.7 -0.7
baz=155
OGNE Ogallala 79.40 337 PFAKE 05 49 00.0 +6.6
OGNE LR LR
comp=Z,354nm,20.0s
PV05 Paradox Valley 79.42 331 eP P 05 48 54.7 +1.0
K33A Hardington 79.47 342 P P 05 48 52.6 -1.1
baz=159
J36A Seneca 1, Swea 79.49 344 P P 05 48 52.1 -1.7
baz=162,SNR=7.3
LDFC Landfair 79.53 325 eP P 05 48 55.9 +1.6
comp=Z,122nm,1.5s
GMRC Granite Mounta 79.55 325 P P 05 48 54.8 +0.4
baz=145,SNR=29
L31A Butterfield Fa 79.57 340 P P 05 48 53.9 -0.3
baz=158,SNR=11
ISCO Idaho Springs 79.59 334 P P 05 48 54.6 -0.2
baz=152,SNR=26
ISCO Idaho Springs 79.59 334 eP P 05 48 54.9 +0.1
ISCO pmax pmax
comp=Z,25nm,1.0s
ISCO Idaho Springs 79.59 334 eP P 05 48 54.9 +0.1
comp=Z,25nm,1.0s
ISCO LR LR
comp=Z,370nm,19.0s
PV04 Paradox Valley 79.61 331 eP P 05 48 55.0 +0.2
LMN Caledonia Moun 79.67 5 eP P 05 48 54.9 +0.3
comp=Z,50nm,1.2s
I38A Scanlan Farm, 79.72 345 P P 05 48 53.5 -1.4
baz=163,SNR=18
J35A Milford 79.73 343 P P 05 48 53.6 -1.4
baz=161
K32A Verdigre 79.78 341 P P 05 48 53.9 -1.5
baz=159
TRQ Mont Tremblant 79.78 358 eP P 05 48 55.3 -0.1
PV09 Paradox Valley 79.79 331 eP P 05 48 56.9 +1.0
J34A George 79.84 343 P P 05 48 54.6 -1.0
baz=160
HEC Hector,Ludlow 79.91 324 P P 05 48 56.8 +0.5
baz=144,SNR=8.2
I37A Lemond, Waseca 79.93 345 P P 05 48 54.8 -1.3
baz=162,SNR=15
K31A O'Neill 79.96 340 P P 05 48 55.5 -0.8
baz=158,SNR=8.2
I36A Fitzsimmons Fa 80.07 344 P P 05 48 54.9 -2.0
baz=162
KNB Kanab 80.08 328 eP P 05 48 58.6 +1.2
KNB pmax pmax
comp=Z,55nm,0.9s
KNB Kanab 80.08 328 eP P 05 48 58.6 +1.2
comp=Z,55nm,0.9s
BFSC Mount Baldy Ra 80.09 323 P P 05 48 56.8 -0.6
baz=143,SNR=13
CASY Casey 80.11 181 eP P 05 48 57.0 0.0
comp=Z,57nm,1.3s
CASY LR LR
comp=Z,337nm,19.0s
J33A Davis 80.12 342 P P 05 48 55.9 -1.3
baz=160,SNR=7.8
I35A Creekview Farm 80.14 343 P P 05 48 56.3 -0.9
baz=161
TUQ Turquoise Moun 80.20 325 P P 05 48 58.1 +0.1
baz=144,SNR=19
BOSA Boshof 80.21 118 P P 05 48 58.3 -0.1
comp=Z,19nm,1.0s,baz=240,slow=4.7,SNR=14
BOSA LR LR 06 21 34.1
comp=Z,728nm,18.5s,baz=238,slow=34
BOSA Boshof 80.21 118 eP P 05 48 58.5 +0.1
comp=Z,66nm,1.4s
K30A Basset 80.25 340 P P 05 48 57.7 -0.3
baz=157,SNR=7.7
LCMT Little Creek M 80.27 328 eP P 05 48 59.5 +1.2
comp=Z,31nm,1.1s
RRX Edison Barstow 80.27 324 P P 05 48 57.8 -0.5
baz=144
MWC Mount Wilson 80.28 323 eP P 05 48 59.9 +1.4
MWC pmax pmax
comp=Z,33nm,1.0s
MWC Mount Wilson 80.28 323 eP P 05 48 59.9 +1.4
comp=Z,33nm,1.0s
H37A Dierke Farm, C 80.36 345 P P 05 48 57.7 -0.7
baz=163
J32A Parkston 80.41 341 P P 05 48 57.9 -0.8
baz=159
ECSD EROS Data Cent 80.42 342 P P 05 48 57.5 -1.3
baz=160,SNR=35
ECSD EROS Data Cent 80.42 342 eP P 05 48 57.9 -0.9
comp=Z,47nm,0.8s
ECSD LR LR
comp=Z,326nm,20.0s
DECC Green Verdugo 80.44 323 P P 05 48 57.5 -1.7
baz=143
GSC Goldstone, Bar 80.52 324 P P 05 48 59.6 0.0
baz=144
GSC Goldstone, Bar 80.52 324 eP P 05 49 01.1 +1.5
GSC pmax pmax
comp=Z,20nm,0.9s
GSC Goldstone, Bar 80.52 324 eP P 05 49 01.1 +1.5
comp=Z,20nm,0.9s
I34A Hadley 80.52 343 P P 05 48 58.0 -1.3
baz=160
J31A Geddes 80.57 341 P P 05 48 58.4 -1.2
baz=158
H36A Jessenland, He 80.58 344 P P 05 48 59.4 -0.2
baz=162,SNR=9.6
MTPU Mount Pierson 80.66 329 eP P 05 49 01.9 +1.2
comp=Z,21nm,0.9s
N23A Red Feather La 80.68 335 P P 05 49 00.5 0.0
baz=152,SNR=10
N23A Red Feather La 80.68 335 eP P 05 49 01.6 +1.1
BLG Laguna Peak, P 80.70 322 P P 05 48 59.0 -1.5
baz=142
SHPR Sheep Range 80.72 326 eP P 05 49 01.9 +1.2
comp=Z,54nm,1.1s
SHOC Shoshone, Teco 80.75 325 P P 05 48 59.9 -0.8
baz=144
I33A Coleman 80.76 342 P P 05 48 59.9 -0.8
baz=160
CCUT Cedar City 80.77 328 eP P 05 49 02.7 +1.6
comp=Z,45nm,1.0s
EDW2 Edwards Air Fo 80.77 323 P P 05 49 01.4 +0.5
baz=143,SNR=14
J30A Dallas 80.81 340 P P 05 49 00.0 -0.9
baz=158
O20A White River Ci 80.86 333 P P 05 49 01.6 +0.2
baz=150,SNR=14
O20A White River Ci 80.86 333 eP P 05 49 02.3 +0.9
comp=Z,26nm,1.0s
PHWY Pilot Hill 80.86 335 eP P 05 49 02.0 +0.4
comp=Z,28nm,1.1s
SRU San Rafael Swe 80.87 331 eP P 05 49 01.8 +0.3
SRU pmax pmax
comp=Z,110nm,1.8s
SRU San Rafael Swe 80.87 331 eP P 05 49 01.8 +0.3
comp=Z,115nm,1.8s
SCZ2 Santa Cruz Isl 80.90 322 P P 05 49 00.4 -1.2
baz=142
H35A Sunnyside Ranc 80.90 344 P P 05 48 59.8 -1.5
baz=161,SNR=20
I32A Karley and Nic 80.92 342 P P 05 48 59.8 -1.7
baz=159
OSI Osito Audit: C 80.92 323 P P 05 49 01.4 -0.3
baz=142
OSI Osito Audit: C 80.92 323 eP P 05 49 03.6 +1.8
comp=Z,37nm,0.8s
SPMN Marine on St. 80.95 345 P P 05 49 00.7 -0.9
baz=163
Q16A Castle Valley 80.97 330 eP P 05 49 02.9 +0.8
comp=Z,38nm,1.0s
MSU Marysvale 81.06 329 eP P 05 49 03.5 +0.9
MSU Marysvale 81.06 329 eP P 05 49 03.5 +0.9
H34A Spellman Lake, 81.09 343 P P 05 49 00.7 -1.6
baz=160
COWI Conover 81.10 348 eP P 05 49 02.4 0.0
comp=Z,80nm,1.6s
COWI LR LR
comp=Z,577nm,20.0s
G36A St. Michael 81.17 345 P P 05 49 01.6 -1.1
baz=162,SNR=8.8
I31A Royce, Wessing 81.20 341 P P 05 49 01.4 -1.6
baz=158
P18A Preston Nutter 81.20 331 eP P 05 49 04.1 +0.7
comp=Z,43nm,0.9s
P17A Butcher Ranch, 81.27 331 eP P 05 49 04.5 +0.9
comp=Z,56nm,1.2s
TMUT Trail Mountain 81.31 330 eP P 05 49 05.1 +1.1
comp=Z,76nm,1.6s
G35A Watkins 81.31 344 P P 05 49 02.0 -1.5
baz=162
I30A Oacoma 81.34 340 P P 05 49 02.1 -1.6
baz=158
H33A Prehn Over Nor 81.34 343 P P 05 49 02.4 -1.3
baz=160,SNR=11
H32A Carlson Farm, 81.35 342 P P 05 49 02.3 -1.5
baz=159
MPMC Manual Prospec 81.46 324 P P 05 49 03.4 -1.4
baz=144,SNR=13
FURC Furnace Creek, 81.49 325 P P 05 49 03.6 -0.9
baz=144
TPNV Topopah Spring 81.58 326 P P 05 49 05.8 +0.5
baz=144,SNR=12
TPNV Topopah Spring 81.58 326 eP P 05 49 07.0 +1.7
TPNV pmax pmax
comp=Z,24nm,0.9s
TPNV Topopah Spring 81.58 326 eP P 05 49 07.0 +1.7
comp=Z,24nm,0.9s
G34A Benson 81.60 343 P P 05 49 04.6 -0.4
baz=161
H31A Wolsey 81.60 341 P P 05 49 04.3 -0.8
baz=158
ISA Isabella, Lake 81.63 323 P P 05 49 04.7 -0.7
baz=143
ISA Isabella, Lake 81.63 323 eP P 05 49 06.5 +1.0
ISA pmax pmax
comp=Z,30nm,1.0s
ISA Isabella, Lake 81.63 323 eP P 05 49 06.5 +1.0
comp=Z,30nm,0.9s
I29A Vivian Onida 81.69 340 P P 05 49 04.7 -0.8
baz=157
PKM Mcpherson Peak 81.69 322 P P 05 49 06.7 +0.7
baz=142,SNR=9.0
SUSD Miller 81.70 341 P P 05 49 04.0 -1.6
baz=158
F36A Milaca 81.71 345 P P 05 49 03.7 -1.9
baz=162,SNR=17
G33A Ortonville 81.75 343 P P 05 49 04.2 -1.6
baz=160
VLDQ Val d'Or 81.78 356 eP P 05 49 06.0 +0.1
comp=Z,54nm,1.0s
F35A Swanville 81.94 344 P P 05 49 05.2 -1.5
baz=162,SNR=7.4
F34A Alexandria 82.03 344 P P 05 49 06.2 -1.1
baz=161,SNR=6.6
G32A Webster 82.07 342 P P 05 49 06.1 -1.4
baz=159
VES Vestal, Richgr 82.07 323 P P 05 49 07.4 -0.4
baz=142,SNR=9.6
E37A Wrenshall 82.15 346 P P 05 49 06.4 -1.5
baz=163
E36A McGregor 82.28 345 P P 05 49 07.2 -1.4
baz=163,SNR=20
F33A 5 Mile Ranch, 82.32 343 P P 05 49 07.3 -1.5
baz=160
G30A Faulkton 82.38 341 P P 05 49 07.7 -1.5
baz=158
R11A Troy Canyon, C 82.42 327 P P 05 49 09.8 +0.1
baz=145,SNR=18
R11A Troy Canyon, C 82.42 327 eP P 05 49 10.4 +0.6
comp=Z,28nm,1.0s
K22A Casper 82.43 335 P P 05 49 09.1 -0.5
baz=152,SNR=17
K22A Casper 82.43 335 eP P 05 49 10.4 +0.8
LBTB Lobatse 82.45 115 eP P 05 49 10.0 -0.3
LBTB Lobatse 82.45 115 eP P 05 49 10.0 -0.3
JLU Jordanelle 82.52 331 eP P 05 49 12.3 +2.0
comp=Z,21nm,0.9s
F32A Veblen 82.55 343 P P 05 49 08.6 -1.3
baz=160
E35A Pequot Lakes 82.56 345 P P 05 49 09.2 -0.8
baz=162
G29A Hoven 82.65 341 P P 05 49 08.9 -1.7
baz=157
E34A Wadena 82.69 344 P P 05 49 09.5 -1.2
baz=161
CTU Camp Tracy 82.71 331 eP P 05 49 15.7 +4.5
comp=Z,24nm,0.7s
D37A Cotton 82.72 346 P P 05 49 09.7 -1.1
baz=163
DUG Dugway, Tooele 82.73 330 P P 05 49 10.9 -0.3
baz=147,SNR=27
DUG Dugway, Tooele 82.73 330 eP P 05 49 11.5 +0.2
DUG pmax pmax
comp=Z,74nm,1.3s
DUG Dugway, Tooele 82.73 330 eP P 05 49 11.5 +0.2
comp=Z,74nm,1.3s
DUG LR LR
comp=Z,1µm,20.0s
F31A Hecla 82.83 342 P P 05 49 10.2 -1.3
baz=159
E33A Westby DABS, E 82.88 344 P P 05 49 10.4 -1.2
baz=160
D36A Goodland 82.89 346 P P 05 49 10.8 -0.9
baz=163
RSSD Black Hills 82.90 337 P P 05 49 11.0 -1.1
baz=154
RSSD Black Hills 82.90 337 eP P 05 49 12.5 +0.4
RSSD pmax pmax
comp=Z,18nm,0.9s
RSSD Black Hills 82.90 337 eP P 05 49 12.5 +0.4
comp=Z,18nm,0.8s
C39A Grand Marais 82.93 348 P P 05 49 10.2 -1.7
baz=165,SNR=16
D35A Remer 82.98 345 P P 05 49 10.9 -1.3
baz=162,SNR=15
F30A Leola 83.00 341 P P 05 49 11.0 -1.4
baz=158
C38A Sawbill Land. 83.04 347 P P 05 49 10.9 -1.6
baz=164,SNR=19
SNZO South Karori 83.16 224 PFAKE 05 49 20.0 +6.5
SNZO LR LR
comp=Z,2µm,19.0s
E32A Braaten, Kindr 83.21 343 P P 05 49 12.5 -0.9
baz=160
H25A Fruitdale 83.22 338 P P 05 49 12.9 -0.6
baz=154,SNR=7.3
F29A Eureka 83.22 341 P P 05 49 12.2 -1.3
baz=157
C37A Embarrass 83.22 347 P P 05 49 12.0 -1.5
baz=164,SNR=8.3
D34A Park Rapids 83.24 344 P P 05 49 12.2 -1.3
baz=161
EYMN Ely 83.30 347 P P 05 49 12.4 -1.4
baz=164,SNR=21
EYMN Ely 83.30 347 eP P 05 49 13.1 -0.7
comp=Z,48nm,1.1s
EYMN LR LR
comp=Z,455nm,20.0s
C36A Pine Crest Far 83.38 346 P P 05 49 12.9 -1.3
baz=163,SNR=12
E31A Nome 83.38 342 P P 05 49 13.2 -1.1
baz=159,SNR=8.8
HWUT Hardware Ranch 83.41 331 eP P 05 49 14.5 -0.3
comp=Z,124nm,1.8s
HWUT LR LR
comp=Z,2µm,19.0s
BGU Big Grassy Mou 83.44 330 eP P 05 49 16.4 +1.5
comp=Z,56nm,1.5s
D33A AnnSam, Waubun 83.44 344 P P 05 49 13.4 -1.2
baz=161,SNR=5.5
CMLA Cha da Macela 83.46 35 PFAKE 05 49 20.0 +5.1
CMLA LR LR
comp=Z,2µm,21.0s
C35A Jirik Farms, M 83.56 345 P P 05 49 13.9 -1.3
baz=162,SNR=23
LTZ Lake Taylor 83.59 222 eP P 05 49 19.6 +3.8
comp=Z,135nm,1.6s
BW06 Boulder Array 83.63 333 P P 05 49 14.9 -1.1
baz=150,SNR=7.5
BW06 Boulder Array 83.63 333 eP P 05 49 15.5 -0.5
BW06 eP P 05 49 16.6 +0.6
BW06 LR LR
comp=Z,1µm,19.0s
PD31 Pinedale Array 83.63 333 eP P 05 49 16.6 +0.6
PDAR Pinedale Array 83.63 333 P P 05 49 15.9 0.0
comp=Z,3.7nm,0.9s,baz=134,slow=4.3,SNR=17
PDAR LR LR 06 23 05.7
comp=Z,1µm,18.4s,baz=154,slow=33
RPZ Rata Peaks 83.64 221 LR LR 06 19 00.4
comp=Z,2µm,18.6s,baz=150,slow=30
C34A RKJ Ranch, Bem 83.71 345 P P 05 49 15.0 -1.0
baz=161
D31A Mcclaflin, Tow 83.80 343 P P 05 49 15.5 -0.9
baz=159
DRLN Deer Lake 83.82 10 eP P 05 49 16.5 +0.1
SAO San Andreas Ge 83.98 322 eP P 05 49 20.2 +2.6
SAO pmax pmax
comp=Z,17nm,1.2s
SAO San Andreas Ge 83.98 322 eP P 05 49 20.2 +2.6
comp=Z,17nm,1.2s
C33A Trail 84.00 344 P P 05 49 16.4 -1.1
baz=161
B35A Bob, Littlefor 84.13 346 P P 05 49 16.5 -1.6
baz=162,SNR=13
AHID Auburn Hatcher 84.21 332 eP P 05 49 19.2 +0.3
comp=Z,25nm,1.0s
AHID LR LR
comp=Z,940nm,19.0s
ELK Elko 84.22 329 eP P 05 49 19.5 +0.4
ELK pmax pmax
comp=Z,22nm,1.0s
ELK Elko 84.22 329 eP P 05 49 19.4 +0.4
comp=Z,22nm,0.9s
TORD Torodi Ar. Bea 84.28 70 P P 05 49 19.3 -0.4
comp=Z,30nm,1.0s,baz=282,slow=6.7,SNR=88
TORD LR LR 06 26 30.6
comp=Z,1µm,18.1s,baz=240,slow=35
WAKR Walker 84.34 325 eP P 05 49 21.5 +1.9
comp=Z,32nm,1.2s
CMB Columbia Colle 84.44 324 eP P 05 49 21.0 +1.1
CMB pmax pmax
comp=Z,35nm,1.5s
B34A Aery, Baudette 84.45 345 P P 05 49 18.1 -1.6
baz=162,SNR=8.4
B33A Robert and Kas 84.45 345 P P 05 49 18.6 -1.1
baz=161
C31A Landman Farms, 84.50 343 P P 05 49 19.2 -0.8
baz=159
AGMN Agassiz Nation 84.53 344 P P 05 49 18.6 -1.5
baz=161,SNR=10
AGMN Agassiz Nation 84.53 344 eP P 05 49 19.2 -0.8
comp=Z,25nm,0.8s
AGMN LR LR
comp=Z,644nm,19.0s
C30A Mose, Pekin 84.60 343 P P 05 49 19.5 -0.9
baz=158,SNR=7.6
REDW Red Top Meadow 84.63 333 eP P 05 49 20.4 -0.7
comp=Z,19nm,1.1s
D28A Regan 84.67 341 P P 05 49 19.9 -0.9
baz=157
TPAW Teton Pass 84.77 333 eP P 05 49 21.7 -0.1
comp=Z,23nm,1.1s
B32A Ashes, Strandq 84.78 344 P P 05 49 19.9 -1.4
baz=160,SNR=19
BMN Battle Mountai 84.84 327 eP P 05 49 24.3 +2.2
BMN pmax pmax
comp=Z,8.0nm,1.0s
BMN Battle Mountai 84.84 327 eP P 05 49 24.3 +2.2
comp=Z,7.7nm,0.9s
MOOW Moose Ponds 84.91 333 eP P 05 49 22.6 +0.1
comp=Z,12nm,1.1s
MDND Maddock 85.02 342 P P 05 49 21.1 -1.5
baz=158,SNR=6.7
MDND Maddock 85.02 342 eP P 05 49 23.0 +0.4
comp=Z,145nm,0.9s
A33A Warroad 85.03 345 P P 05 49 21.7 -0.9
baz=161,SNR=16
D26A Manning 85.04 340 P P 05 49 21.8 -1.0
baz=155
B31A Greenbush Farm 85.06 343 P P 05 49 21.7 -1.1
baz=159
C28A Hausauer Farms 85.10 341 P P 05 49 22.0 -1.0
baz=157
IMW Indian Meadow 85.11 333 eP P 05 49 24.1 +0.5
comp=Z,94nm,2.0s
FLWY Flagg Ranch 85.18 333 eP P 05 49 23.8 0.0
comp=Z,32nm,1.0s
B30A Myrvik Farm, E 85.25 343 P P 05 49 22.6 -1.1
baz=159,SNR=34
A32A Rocking H Ranc 85.26 344 P P 05 49 22.4 -1.4
baz=160
PAHR Pah Rah Range 85.27 325 eP P 05 49 25.2 +1.0
comp=Z,128nm,1.8s
YPP Pitchstone Pla 85.38 333 eP P 05 49 27.1 +2.2
comp=Z,38nm,1.6s
H17A Grant Village 85.40 333 P P 05 49 23.6 -1.3
baz=149
H17A Grant Village 85.40 333 eP P 05 49 26.8 +1.9
comp=Z,9.4nm,0.9s
A31A Linda, St. Vin 85.43 344 P P 05 49 23.5 -1.1
baz=160
AFDM Forest Hills D 85.44 324 eP P 05 49 25.8 +0.9
comp=Z,69nm,1.6s
LKWY Lake 85.48 334 PFAKE 05 49 30.0 +4.7
LKWY LR LR
comp=Z,503nm,20.0s
B29A Wagenman Farm, 85.52 342 P P 05 49 24.1 -1.0
baz=158
YFT Old Faithful 85.55 333 eP P 05 49 27.3 +1.7
comp=Z,25nm,1.0s
RLMT Red Lodge 85.55 335 P P 05 49 24.6 -1.0
baz=150,SNR=8.2
RLMT Red Lodge 85.55 335 PFAKE 05 49 30.0 +4.4
RLMT LR LR
comp=Z,490nm,19.0s
A30A Hoffart Farm, 85.70 343 P P 05 49 25.1 -0.9
baz=159
B28A Dugan Ranch, T 85.77 342 P P 05 49 25.4 -0.9
baz=157
YMR Madison River 85.78 333 eP P 05 49 28.0 +1.2
YHH Holmes Hill 85.84 334 eP P 05 49 28.2 +1.1
comp=Z,33nm,1.0s
LAO LASA Array 85.89 337 P P 05 49 26.9 -0.1
baz=152
LAO LASA Array 85.89 337 eP P 05 49 27.4 +0.3
comp=Z,54nm,1.2s
LAO LR LR
comp=Z,392nm,19.0s
C25A Freed Ranch, W 85.90 340 P P 05 49 26.9 -0.1
baz=155
A29A Manning Farm, 85.92 342 P P 05 49 25.7 -1.4
baz=158,SNR=13
YHB Horse Butte 85.94 333 eP P 05 49 28.3 +0.8
comp=Z,16nm,1.1s
QLMT Earthquake Lak 86.09 333 eP P 05 49 30.1 +1.8
ORV Oroville 86.16 324 eP P 05 49 30.0 +1.5
ORV pmax pmax
comp=Z,71nm,1.2s
ORV Oroville 86.16 324 eP P 05 49 30.0 +1.5
comp=Z,71nm,1.3s
A28A Rude Farm, Bot 86.17 342 P P 05 49 27.6 -0.7
baz=157
HLID Hailey 86.20 331 P P 05 49 28.6 -0.2
baz=146,SNR=47
HLID Hailey 86.20 331 eP P 05 49 29.1 +0.3
comp=Z,53nm,1.4s
HLID LR LR
comp=Z,540nm,22.0s
B25A Knox Farm, Ray 86.38 340 P P 05 49 29.1 -0.2
baz=155
ULM Lac du Bonnet 86.38 345 P P 05 49 28.3 -0.9
comp=Z,12nm,0.9s,baz=167,slow=3.4,SNR=13
ULM Lac du Bonnet 86.38 345 P P 05 49 28.3 -0.9
ULM pmax pmax
comp=Z,13nm,1.0s
ULM Lac du Bonnet 86.38 345 eP P 05 49 28.6 -0.6
A27A Ledoux Ranch, 86.46 341 P P 05 49 30.1 +0.3
baz=156
A26A Wade Farm, Ken 86.63 341 P P 05 49 30.7 +0.1
baz=156
MCMT McKenzie Canyo 86.63 332 P P 05 49 32.0 +1.0
MFID Camas Ranch 86.66 330 eP P 05 49 31.8 +0.8
comp=Z,52nm,1.5s
DGMT Dagmar 86.86 339 P P 05 49 31.4 -0.3
baz=154,SNR=12

DGMT Dagmar 86.86 339 *e*P **P** **05 49 31.5 -0.1**
comp=Z,90nm,0.9s
DGMT LR LR
comp=Z,374nm,20.0s
BOZ Bozeman (W) 86.86 333 P **P** **05 49 31.1 -0.9**
baz=148,SNR=8.2
BOZ Bozeman (W) 86.86 333 *e*P **P** **05 49 32.0 +0.1**
BOZ pmax pmax
comp=Z,12nm,1.1s
BOZ Bozeman (W) 86.86 333 *e*P **P** **05 49 32.0 +0.1**
comp=Z,12nm,1.1s
BOZ LR LR
comp=Z,871nm,21.0s
O03D Paynes Creek 86.88 324 P **P** **05 49 31.6 -0.5**
baz=141,SNR=19
A25A Svangstu Ranch 86.97 340 P **P** **05 49 31.7 -0.5**
baz=155,SNR=6.5
DLMT Dillon 86.98 333 *e*P **P** **05 49 33.0 +0.4**
WVOR Wild Horse Val 87.08 327 *e*P **P** **05 49 32.6 -0.5**
WVOR pmax pmax
comp=Z,57nm,1.9s
WVOR Wild Horse Val 87.08 327 *e*P **P** **05 49 32.6 -0.5**
comp=Z,57nm,1.9s
WVOR LR LR
comp=Z,702nm,19.0s
LRM Limekiln Ridge 87.32 333 *e*P **P** **05 49 35.0 +0.7**
MOD Modoc Plateau 87.42 326 *e*P **P** **05 49 35.5 +0.7**
comp=Z,128nm,1.8s
WDC Whiskeytown Da 87.46 324 *e*P **P** **05 49 34.2 -0.6**
WDC pmax pmax
comp=Z,35nm,0.8s
WDC Whiskeytown Da 87.46 324 *e*P **P** **05 49 34.2 -0.6**
comp=Z,35nm,0.8s
KMRM Mail Ridge 87.77 323 *e*P **P** **05 49 37.9 +1.5**
comp=Z,58nm,1.1s
N02D Trinity Center 87.84 324 P **P** **05 49 36.3 -0.4**
baz=140
M04C Macdoel 88.05 325 P **P** **05 49 36.9 -0.8**
baz=141,SNR=15
EGMT Eagleton 88.23 336 PFAKE 05 49 50.0 +12
EGMT LR LR
comp=Z,3μm,22.0s
M02C Callahan 88.24 324 P **P** **05 49 37.9 -0.6**
baz=140,SNR=12
KHMM Horse Mountain 88.27 324 *e*P **P** **05 49 40.5 +1.6**
comp=Z,34nm,0.9s
K05A Summer Lake 88.34 326 *e*P **P** **05 49 39.8 +0.6**
HOG Hogback Mounta 88.34 326 P **P** **05 49 40.1 +0.9**
YBH Yreka Blue Hor 88.43 325 *e*P **P** **05 49 39.1 -0.4**
YBH pmax pmax
comp=Z,29nm,1.1s
YBH Yreka Blue Hor 88.43 325 *e*P **P** **05 49 39.1 -0.4**
comp=Z,29nm,1.1s
BMO Blue Mountains 88.45 330 *e*P **P** **05 49 40.1 +0.6**
comp=Z,16nm,1.4s
BMO LR LR
comp=Z,719nm,20.0s
SCHQ Schefferville 88.50 3 P **P** **05 49 39.0 -0.3**
comp=Z,1.1nm,1.0s,baz=174,slow=2.2,SNR=8.5
SCHQ Schefferville 88.50 3 *e*P **P** **05 49 39.4 0.0**
CHMT Chamberlain Mo 88.53 333 *e*P **P** **05 49 40.5 +0.5**
MSO Missoula 88.72 333 P **P** **05 49 41.4 +0.6**
baz=147
J05D Fort Rock, OR 88.93 327 P **P** **05 49 41.9 0.0**
baz=141,SNR=12
L02D Cave Junction, 89.18 324 P **P** **05 49 43.5 +0.6**
baz=140
SWMT Swartz Lake 89.31 333 *e*P **P** **05 49 44.0 +0.5**
F10A Beach Ranch, E 89.32 330 *e*P **P** **05 49 44.4 +0.8**
G08A Pilot Rock 89.50 329 *e*P **P** **05 49 46.0 +1.5**
comp=Z,42nm,1.6s
I05D Terrebonne, OR 89.80 327 P **P** **05 49 46.2 +0.4**
baz=141
I04A Tendick Farm, 89.87 326 P **P** **05 49 46.5 +0.3**
baz=140
BSMT Bassoo Peak 89.89 333 *e*P **P** **05 49 46.8 +0.4**
LSZ Lusaka 89.94 108 *e*P **P** **05 49 50.0 +2.6**
LSZ Lusaka 89.94 108 *e*P **P** **05 49 50.0 +2.6**
LSZ LR LR
comp=Z,3μm,20.0s
CROR Criterion Ridg 90.14 328 P **P** **05 49 49.1 +1.6**
G06A Carlson Farm, 90.18 328 *e*P **P** **05 49 50.3 +2.7**
G05D Wamic, OR 90.49 328 P **P** **05 49 49.7 +0.7**
baz=141
HAWA Hanford 90.62 329 PFAKE 05 50 00.0 +11
HAWA LR LR
comp=Z,622nm,20.0s
NEW Newport 91.13 332 P **P** **05 49 51.3 -0.6**
comp=Z,1.6nm,0.7s,baz=114,slow=2.1,SNR=4.1
NEW Newport 91.13 332 P **P** **05 49 51.3 -0.6**
NEW MLR MLR
comp=Z,678nm,19.0s
NEW Newport 91.13 332 P **P** **05 49 51.3 -0.6**
NEW LR LR
comp=Z,678nm,19.0s
RTC Rabat Centre 91.17 49 PFAKE 05 50 00.0 +7.7
RTC LR LR
comp=Z,5μm,20.0s
C09A Chrisman Ranch 91.22 331 *e*P **P** **05 49 53.2 +0.9**
FFC Flin Flon 91.93 343 *e*P **P** **05 49 56.4 +1.0**
FFC Flin Flon 91.93 343 *e*P **P** **05 49 56.4 +1.0**
FFC LR LR
comp=Z,538nm,19.0s
B08A Colville Reser 92.09 331 *e*P P 05 50 01.8 +5.4
TAM Tamanrasset 92.88 65 *e*P **P** **05 50 01.3 +0.5**
TAM pmax pmax
comp=Z,17nm,1.2s
TAM MLR MLR
comp=Z,2μm,20.0s
TAM Tamanrasset 92.88 65 *e*P **P** **05 50 01.3 +0.5**
comp=Z,17nm,1.2s
TAM LR LR
comp=Z,2μm,20.0s
NLWA Neilton Lookou 93.28 328 PFAKE 05 50 10.0 +8.2
NLWA LR LR
comp=Z,536nm,20.0s
EDM Edmonton 93.85 337 *e*P **P** **05 50 03.0 -1.3**
EDM Edmonton 93.85 337 *e*P **P** **05 50 03.0 -1.3**
MTE Manteigas 94.95 44 PFAKE 05 50 20.0 +10
MTE LR LR
comp=Z,2μm,20.0s
POHA Pohakuloa 95.51 290 PFAKE 05 50 20.0 +7.0
POHA LR LR
comp=Z,560nm,19.0s
MSVF Nonsavu 95.75 244 PFAKE 05 50 20.0 +6.0
MSVF LR LR
comp=Z,732nm,19.0s
PAB San Pablo 96.28 46 PFAKE 05 50 20.0 +4.2
PAB LR LR
comp=Z,2μm,19.0s
ESDC Sonseca Array 96.59 46 P **P** **05 50 17.2 -0.1**
comp=Z,0.2nm,0.3s,baz=212,slow=5.3,SNR=5.2
ESDC LR LR 06 33 24.4
comp=Z,1μm,19.2s,baz=280,slow=35
ES19 SONSECA Array 96.65 46 *e*P **P** **05 50 17.4 0.0**
FUNA Funafuti 100.43 252 PFAKE 05 50 40.0 +5.0
FUNA LR LR
comp=Z,7μm,20.0s
DZM Mont Dzumac 101.21 234 *e*PS PS 06 03 50.6 +0.3
comp=Z,265nm,23.9s
DZM *e*SS SS 06 09 17.2 +1.9
comp=Z,446nm,23.9s
DZM Mont Dzumac 101.21 234 *e*LR LR 06 23 45.5
comp=Z,1μm,20.9s
ABPO Ambohimpanom 101.91 123 PFAKE 05 50 50.0 +8.2
ABPO LR LR
comp=Z,446nm,19.0s
SFJD Kangerlussuaq 101.92 8 PFAKE 05 50 50.0 +10
SFJD LR LR
comp=Z,536nm,20.0s
YKA Yellowknife Ar 101.93 341 P **Pdif** **05 50 39.1 -1.3**
comp=Z,0.6nm,0.8s,baz=173,slow=29,SNR=3.7
WRAK Wrangell Islan 103.40 330 PFAKE 05 50 50.0 +2.9
WRAK LR LR
comp=Z,452nm,21.0s
VSL Villasalto 104.90 52 PFAKE 05 55 20.0
VSL LR LR
comp=Z,2μm,19.0s
SSB Saint Sauveur 104.97 45 PFAKE 05 55 20.0
SSB LR LR
comp=Z,1μm,19.0s
JOHN Johnston Islan 105.12 280 PFAKE 05 51 00.0 +4.3
JOHN LR LR
comp=Z,111nm,19.0s
KMBO Kilima Mbogo 105.41 102 PFAKE 05 55 20.0
KMBO LR LR
comp=Z,1μm,21.0s
BORG Borgarnes 106.04 20 PFAKE 05 55 20.0
BORG LR LR
comp=Z,765nm,19.0s
BNI Bardonecchia 106.12 46 PFAKE 05 55 20.0
BNI LR LR
comp=Z,2μm,20.0s
CLTB Caltabellotta 106.50 56 PFAKE 05 55 20.0
CLTB LR LR
comp=Z,2μm,19.0s
ESK Eskdalemuir 106.56 34 PFAKE 05 55 20.0
ESK LR LR
comp=Z,1μm,20.0s
WDD Wied Dalam 106.56 58 PFAKE 05 55 20.0
WDD LR LR
comp=Z,5μm,19.0s
VLC Villacollemand 107.94 49 PFAKE 05 55 20.0
VLC LR LR
comp=Z,407nm,19.0s
WLF Walferdange 108.22 42 PFAKE 05 55 20.0
WLF LR LR
comp=Z,2μm,20.0s
CEL Celeste 108.68 56 PFAKE 05 55 30.0
CEL LR LR
comp=Z,3μm,20.0s
BFO Black Forest 108.78 44 PFAKE 05 55 30.0
BFO LR LR
comp=Z,870nm,20.0s
AQU L'Aquila 108.97 51 PFAKE 05 55 30.0
AQU LR LR
comp=Z,1μm,19.0s
CUC Castrocucco 109.45 55 PFAKE 05 55 30.0
CUC LR LR
comp=Z,922nm,19.0s
TIP Timpagrande 109.71 56 PFAKE 05 55 30.0
TIP LR LR
comp=Z,3μm,21.0s
EGAK Eagle 111.95 334 PFAKE 05 55 30.0
EGAK LR LR
comp=Z,483nm,21.0s
NKC Novy Kostel 112.06 44 *e*SP SP 06 05 44.0 +7.9
NKC AMS AMS 06 41 10.0
comp=Z,1μm,19.4s
GERES GERESS Array B 112.17 45 PKiKP **PKiKP** **05 55 21.9 -0.7**
comp=Z,1.1nm,0.7s,baz=202,slow=1.4,SNR=9.8
GERES GERESS Array B 112.17 45 PKIKP **PKiKP** **05 55 22.0 -0.7**
KHC Kasperske Hory 112.22 45 *e*SP SP 06 05 39.7 +2.0
KHC *ex* x 06 06 56.7
KHC *e*SS **SS** **06 11 48.1 +2.5**
KHC AMS AMS 06 46 50.0
comp=Z,800nm,20.7s
TIR Tirane 112.81 55 PFAKE 05 55 30.0
TIR LR LR
comp=Z,2μm,20.0s
CLL Collm 112.85 43 *e*PP PP 05 56 13.0 +0.3
CLL *e*Sdif Sdif 06 03 54.0 +2.4
CLL *e*PS **PS** **06 05 48.0 +0.6**
CLL *e*PPS PPS 06 07 00.0
CLL *e*SS **SS** **06 11 54.0 +0.3**
CLL *e*SSS SSS 06 15 48.0
CLL *e*SSSS 06 19 42.0
CLL *e* 06 22 48.0
CLL LmV 06 41 00.0
comp=Z,900nm,20.2s
CLL LmH 06 42 00.0
comp=N,300nm,20.5s
CLL LmH 06 42 00.0
comp=E,700nm,19.9s
PRU Pruhonice 113.16 44 *e*PP PP 05 56 13.8 -1.1
PRU *e*SP SP 06 05 52.0 +5.8
PRU *e*SS **SS** **06 11 59.6 +1.7**
PRU AMS AMS 06 43 20.0
comp=E,1μm,20.0s
BRG Berggiesshubel 113.19 43 PDIFF **PP** **05 56 11.0 -4.1**
comp=E,4.9nm,1.1s
BRG *e* 06 04 05.0
BRG *i* 06 05 50.0
comp=N,407nm,16.0s
comp=E,811nm,19.6s
comp=Z,1μm,20.3s
GOPC GO Pecny, Ondr 113.27 45 *e*PP PP 05 56 14.9 -0.9
GOPC *e*SP SP 06 05 51.2 +3.9
GOPC *ex* x 06 07 03.7
GOPC *e*SS **SS** **06 12 03.5 +4.1**
GOPC AMS AMS 06 43 30.0
comp=Z,1μm,19.2s
PVCC Panska Ves 113.41 44 *e*PP PP 05 56 15.5 -1.2
PVCC *e*SP SP 06 05 52.0 +3.5
PVCC *ex* x 06 07 08.4
PVCC AMS AMS 06 42 00.0
comp=Z,1μm,21.1s
TREC Trest 113.42 45 *e*SP SP 06 05 52.8 +4.1
TREC *ex* x 06 07 05.0
TREC AMS AMS 06 54 50.0
comp=Z,800nm,17.5s
ILAR Eielson Array 114.06 333 PKP **PKiKP** **05 55 25.0 -0.6**
comp=Z,0.6nm,0.9s,baz=179,slow=2.3,SNR=5.3
ILAR PKKPbc **PKKPbc** **06 06 05.8 -2.6**
comp=Z,0.4nm,0.9s,baz=298,slow=3.8,SNR=4.0
UPC Upice 114.23 44 *e*PP **PP** **05 56 20.8 -1.8**
UPC *e*PS **PS** **06 06 00.0 -0.1**
UPC *ex* x 06 07 14.2
UPC *e*SS SS 06 12 14.0 +1.9
UPC AMS AMS 06 44 00.0
comp=Z,1μm,20.8s
DPC Dobruska-Polom 114.35 45 *e*PKP PKPdf 05 55 27.2 +0.5
DPC *ex* x 05 55 35.8
DPC *e*PP **PP** **05 56 21.8 -1.7**
DPC *e*SP SP 06 06 04.6 +7.4
DPC *ex* x 06 07 17.7
DPC *e*SS **SS** **06 12 15.9 +2.2**
DPC AMS AMS 06 44 30.0
comp=Z,900nm,18.9s
DPC Dobruska-Polom 114.35 45 *e*PKIKP PKPdf 05 55 27.2 +0.5
DPC *e* 05 55 35.8
DPC *e* 05 56 21.8
DPC *e*SP SP 06 06 04.6 +7.4
DPC *e* 06 07 17.7
DPC *e*SS **SS** **06 12 15.9 +2.2**
DPC MLR MLR
comp=Z,900nm,18.9s
HNR Honiara 114.42 239 PFAKE 05 55 40.0 +12
HNR LR LR
comp=Z,581nm,19.0s
COLA College 114.47 333 PFAKE 05 55 40.0 +14
COLA LR LR
comp=Z,407nm,19.0s
SANT Santorini 114.64 62 PFAKE 05 55 40.0 +12
SANT LR LR
comp=Z,445nm,21.0s
KONO Kongsberg 114.70 34 PFAKE 05 55 40.0 +13
KONO LR LR
comp=Z,861nm,20.0s
MORC Moravsky Berou 114.84 46⇑ *i*P PKPdf 05 55 28.1 +0.5
MORC Moravsky Berou 114.84 46 ⇑PKIKP PKPdf 05 55 28.1 +0.5
CTAO Charters Tower 115.01 220 PFAKE 05 55 40.0 +11
CTAO LR LR
comp=Z,1μm,19.0s
VYHS Vyhne 115.11 47 *e*PKIKP **PKPdf** **05 55 28.2 0.0**
VYHS Vyhne 115.11 47 *e*PKP **PKPdf** **05 55 28.2 0.0**
OKC Ostrava-Krasne 115.22 46 *e*SP SP 06 06 09.9 +4.8
OKC *ex* x 06 07 24.6
OKC AMS AMS 06 48 50.0
comp=Z,900nm,19.6s
PSZ Piszkesteto 115.53 48 PFAKE 05 55 40.0 +11
PSZ LR LR
comp=Z,1μm,20.0s
NOA NORSAR Array B 116.00 33 PKP **PKPdf** **05 55 29.6 0.0**
comp=Z,1.7nm,1.1s,baz=242,slow=1.7,SNR=2.4
CRVS Cervenica-Dubn 116.87 48 *e*PKIKP **PKPdf** **05 55 32.0 +0.5**
CRVS Cervenica-Dubn 116.87 48 *e*PKP **PKPdf** **05 55 32.0 +0.5**
DRGR 116.88 50⇓ *i*P **PKPdf** **05 55 32.0 +0.3**
DRGR 116.88 50 ⇓PKIKP **PKPdf** **05 55 32.0 +0.3**
ASAR Alice Springs 117.60 207 PKP **PKPdf** **05 55 32.6 -1.3**
comp=Z,1.0nm,0.8s,baz=156,slow=0.6,SNR=7.4
ASAR PKKPbc **PKKPbc** **06 05 55.0 -0.2**
comp=Z,0.8nm,0.9s,baz=0.0,slow=5.0,SNR=4.6
VOIR 117.90 52⇓ *i*P **PKPdf** **05 55 33.5 -0.2**
VOIR 117.90 52 ⇓PKIKP **PKPdf** **05 55 33.5 -0.2**
MLR Muntele Rosu 118.51 52⇑ *i*P **PKPdf** **05 55 27.6 -7.4**
MLR Muntele Rosu 118.51 52 ⇑PKIKP **PKPdf** **05 55 27.6 -7.4**
BURAR Bucovina Array 118.77 50⇓ *i*P **PKPdf** **05 55 36.1 +0.7**
BURAR Bucovina Array 118.77 50 ⇓PKIKP **PKPdf** **05 55 36.1 +0.7**
ISP Isparta 118.93 62 PFAKE 05 55 50.0 +14
ISP LR LR
comp=Z,875nm,20.0s
PLOR Plostina 119.09 52⇑ *i*P **PKPdf** **05 55 35.8 -0.2**
PLOR Plostina 119.09 52 ⇑PKIKP **PKPdf** **05 55 35.8 -0.2**
VRI Vrincioaia 119.15 52⇑ *i*P **PKPdf** **05 55 34.3 -1.7**
VRI Vrincioaia 119.15 52 ⇑PKIKP **PKPdf** **05 55 34.3 -1.7**
TESR Tescani 119.32 52⇑ *i*P **PKPdf** **05 55 35.9 -0.4**
TIRR Tirgusor 119.80 54⇓ *i*P **PKPdf** **05 55 36.9 -0.4**
TIRR Tirgusor 119.80 54 ⇓PKIKP **PKPdf** **05 55 36.9 -0.4**
CFR Carcaliu 119.85 53⇑ *i*P **PKPdf** **05 55 36.6 -0.7**
CFR Carcaliu 119.85 53 ⇑PKIKP **PKPdf** **05 55 36.6 -0.7**
CSS Mathiatis 119.95 66 PFAKE 05 55 50.0 +12
CSS LR LR
comp=Z,203nm,21.0s
WRA Warramunga Arr 120.79 209 PKP **PKPdf** **05 55 37.8 -2.3**
comp=Z,1.7nm,0.5s,baz=159,slow=1.7,SNR=43
WRA PKKPab **PKKPab** **06 05 50.7 +2.9**
comp=Z,0.8nm,0.8s,baz=344,slow=4.3,SNR=3.1
WRAB Tennant Creek 120.80 209⇓ *i*PKIKP **PKPdf** **05 55 38.4 -1.7**
WRAB Tennant Creek 120.80 209 PFAKE 05 55 50.0 +10
WRAB LR LR
comp=Z,1μm,20.0s
KIS Kishinev 120.89 52 *e*PKP **PP** **05 57 14.0 +5.1**
KIS LRM MLR 06 52 00.0
comp=Z,3μm,20.0s
ANTO Ankara 121.32 60 PFAKE 05 55 50.0 +10
ANTO LR LR
comp=Z,562nm,21.0s
BRTR Keskin Array B 121.88 61 PKP **PKPdf** **05 55 39.9 -1.8**
comp=Z,4.6nm,0.9s,baz=186,slow=3.7,SNR=19
KBS Kingsbay 121.89 13 PFAKE 05 55 50.0 +10
KBS LR LR
comp=Z,560nm,21.0s
KIEV Kiev 122.20 47 *de*PKIKP **PKPdf** **05 55 40.7 -1.0**
KIEV Kiev 122.20 47 *e*PKPdf **PKPdf** **05 55 40.2 -1.5**
KIEV LR LR
comp=Z,888nm,21.0s
AKASG Malin Array Be 122.21 47 PKP **PKPdf** **05 55 40.0 -1.7**
comp=Z,7.9nm,0.9s,baz=269,slow=2.3,SNR=16
AKASG Malin Array Be 122.21 47 PKIKP **PKPdf** **05 55 40.0 -1.7**
VSU Vasula 122.69 38 *i* PKIKP **PKPdf** **05 55 42.1 -0.3**
VSU pmax pmax
comp=Z,80nm,1.7s
FINES FINESS Array B 122.97 35 PKP **PKPdf** **05 55 41.9 -1.0**
comp=Z,4.2nm,0.9s,baz=180,slow=0.2,SNR=8.3
PMG Port Moresby 123.00 228 PFAKE 05 55 50.0 +5.6
PMG LR LR
comp=Z,966nm,19.0s
ARCES ARCESS Array B 123.97 25 PKP **PKPdf** **05 55 43.0 -1.6**
comp=Z,2.1nm,0.8s,baz=247,slow=2.5,SNR=7.4
MBWA Marble Bar 124.08 193 PFAKE 05 55 50.0 +3.6
MBWA LR LR
comp=Z,897nm,22.0s
KEV Kevo 124.52 25 PFAKE 05 55 50.0 +4.4
KEV LR LR
comp=Z,804nm,20.0s
FITZ Fitzroy Crossi 125.57 201 PKP **PKPdf** **05 55 48.0 -1.3**
comp=Z,5.9nm,0.9s,baz=219,slow=4.4,SNR=7.5
H11S2 WAKE ISLAND Hyl 125.66 269 T T 08 14 56.1
baz=118,slow=74,SNR=61
H11S1 WAKE ISLAND Hyl 125.67 269 T T 08 14 55.5
baz=118,slow=74,SNR=46
H11S3 WAKE ISLAND Hyl 125.68 269 T T 08 14 55.4
baz=118,slow=74,SNR=44
LVZ Lovozero 127.23 27⇑ *i*PKIKP **PKPdf** **05 55 50.9 0.0**
LVZ Lovozero 127.23 27 PFAKE 05 56 00.0 +9.1
LVZ LR LR
comp=Z,871nm,20.0s
OBN Obninsk 127.44 43 *i* PKIKP **PKPdf** **05 55 50.4 -1.2**
OBN pmax pmax
comp=Z,30nm,1.4s
OBN Obninsk 127.44 43 PFAKE 05 56 00.0 +8.4
OBN LR LR
comp=Z,821nm,19.0s
MOS Moscow 128.11 43 *e*PKIKP **PKPdf** **05 55 53.1 +0.3**
MOS pmax pmax
comp=Z,37nm,0.8s
MOS MLR MLR
comp=Z,1μm,21.0s
VSR Storozhevoye 128.46 48 *e*PKIKP **PKPdf** **05 55 54.3 +0.6**
VSR pmax pmax
comp=Z,30nm,1.7s
KLMR Klimovskoe 129.39 36 *e*PKIKP **PKPdf** **05 55 54.6 -0.5**
KLMR *e*PPP PPP 06 00 49.9
KLMR pmax pmax
comp=Z,87nm,1.4s
NEY Neytrino 129.41 59⇑ *i*PKIKP **PKPdf** **05 55 57.8 +1.8**
KIV Kislovodsk 129.53 58 *i* PKIKP **PKPdf** **05 55 54.6 -1.5**
KIV *e* 05 58 03.4
KIV *e*PS **PS** **06 08 12.7 -4.3**
KIV *e*SS SS 06 15 23.3 -4.5
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,582nm,21.0s
KIV Kislovodsk 129.53 58 *e*PKPdf **PKPdf** **05 55 56.4 +0.3**
KIV LR LR
comp=Z,563nm,20.0s
KBZ Khabaz 129.64 59 PKP **PKPdf** **05 55 55.8 -0.3**
comp=Z,6.5nm,1.0s,baz=25,slow=1.5,SNR=11
VRH Novokhopyorsk 130.06 49 *e*PKIKP **PKPdf** **05 55 57.5 +0.8**
VRH pmax pmax
comp=Z,20nm,1.4s
ZEI Tsey 130.16 60 *i* PKIKP **PKPdf** **05 55 56.6 -0.9**
ZEI pmax pmax
comp=Z,26nm,0.6s
GNI Garni 130.18 63 PFAKE 05 56 10.0 +12
GNI LR LR
comp=Z,816nm,20.0s
BILL Bilibino 132.70 334⇑ *i*PKIKP **PKPdf** **05 56 02.6 +1.4**
BILL *i* 05 58 27.4
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 132.70 334 *e*PKPdf **PKPdf** **05 56 02.0 +0.8**
BILL LR LR
comp=Z,464nm,19.0s
PET Petropavlovsk 139.45 314 *e*PKHKP PKPpre 05 56 07.0
PET *e*SS SS 06 17 31.2 +5.0
PET MLR MLR
comp=Z,200nm,17.0s
PET Petropavlovsk 139.45 314 PFAKE 05 56 20.0 +5.8
PET LR LR
comp=Z,367nm,20.0s
KAPI Kappang 139.68 199 PKP **PKPdf** **05 56 14.0 -1.9**
comp=Z,5.8nm,0.3s,baz=108,slow=3.2,SNR=3.3
KAPI Kappang 139.68 199 PKP **PKPdf** **05 56 14.0 -1.9**
KAPI LR LR
comp=Z,565nm,20.0s
ARU Arti 139.74 41 *i* PKIKP **PKPdf** **05 56 15.7 +1.1**
ARU *i* 05 59 07.5
ARU MLR MLR
comp=Z,1μm,22.0s
ARU Arti 139.74 41 *e*PKPdf **PKPdf** **05 56 14.9 +0.3**
ARU LR LR
comp=Z,1μm,20.0s
SEY Seymchan 139.89 330 PKP **PKPdf** **05 56 12.7 -2.0**
comp=Z,4.7nm,0.8s,baz=45,slow=0.8,SNR=12
SEY Seymchan 139.89 330⇑ *i*PKIKP **PKPdf** **05 56 15.5 +0.8**
GEYT Alibeck 139.92 70 PKP **PKPdf** **05 56 13.9 -1.7**
comp=Z,5.1nm,0.8s,baz=298,slow=3.2,SNR=7.6
PETK Petropavlovsk- 140.01 314 PKP **PKPdf** **05 56 14.8 -0.5**
comp=Z,4.8nm,0.8s,baz=98,slow=8.1,SNR=4.9
TIXI Tiksi 140.58 350 PKP **PKPdf** **05 56 13.7 -2.0**
comp=Z,5.0nm,0.7s,baz=29,slow=4.3,SNR=5.3
TIXI Tiksi 140.58 350⇓ *i*PKIKP **PKPdf** **05 56 15.8 +0.1**
TIXI pmax pmax
comp=Z,12nm,1.2s
TIXI Tiksi 140.58 350 PKP **PKPdf** **05 56 13.7 -2.0**
TIXI LR LR
comp=Z,396nm,19.0s
AB31 Akbulak array 141.71 52 PKHKP PKPpre 05 56 11.5
AB31 pmax pmax
comp=Z,8.0nm,0.7s
NRIK Noril'sk 142.75 12 PKP **PKPdf** **05 56 18.0 -1.7**
comp=Z,5.1nm,0.6s,baz=340,slow=3.6,SNR=5.6
NRIK Noril'sk 142.75 12 PKIKP **PKPdf** **05 56 18.0 -1.7**
NRIK pmax pmax
comp=Z,5.0nm,0.6s
PALK Pallekele 143.53 130*c* *i*PKIKP **PKPdf** **05 56 21.5 -1.3**
POO Poona 146.07 108⇑ *i*P **PKPdf** **05 56 25.0 -2.0**
comp=Z,80nm,1.0s
GSI Gunungsitoli 146.18 161 *e*PKPdf **PKPbc** **05 56 28.4 0.0**
ZRNK Zerenda 146.52 43 PKP2 **PKPbc** **05 56 27.6 -0.6**
ZRNK pmax pmax
comp=Z,136nm,1.4s

BRVK	**Borovoye**	**147.22**	**43**	⇑*i* PKIKP	**PKPdf**	**05 56 27.8**	**-0.1**
BRVK				*i*		05 56 31.5	
BRVK				pmax	pmax		
	comp=Z,123nm,1.2s						
BRVK	**Borovoye**	**147.22**	**43**	*e*PKPdf	**PKPdf**	**05 56 28.1**	**+0.3**
BRVK				LR	LR		
	comp=Z,807nm,20.0s						
BVA0	**Borovoye Array**	**147.29**	**43**	*i* PKIKP	**PKPdf**	**05 56 28.4**	**+0.4**
BVA0				pmax	pmax		
	comp=Z,44nm,1.1s						
BVAR	**Borovoye Array**	**147.29**	**43**	PKPbc	**PKPdf**	**05 56 28.8**	**+0.8**
	comp=Z,25nm,0.9s,baz=276,slow=2.8,SNR=6.9						
KUR	**Kuril'sk**	**147.44**	**302**	*i* PKHKP	PKPpre	05 56 24.9	
KUR				*e*SSS	SSS	06 24 35.4	
KSM	**Kuching**	**147.65**	**185**	*e*PKPdf	**PKPdf**	**05 56 30.2**	**+0.3**
VOSK	**Vostochnaya**	**147.73**	**43**	PKIKP	**PKPdf**	**05 56 29.5**	**+0.8**
VOSK				pmax	pmax		
	comp=Z,79nm,1.4s						
YAK	**Yakutsk**	**148.60**	**340**	PKP	**PKPdf**	**05 56 28.3**	**-1.5**
	comp=Z,19nm,0.4s,baz=211,slow=2.5,SNR=2.0						
YAK				PKPbc	**PKPbc**	**05 56 33.3**	**-0.3**
	comp=Z,14nm,0.4s,baz=220,slow=0.8,SNR=9.3						
YAK	**Yakutsk**	**148.60**	**340**	*e*PKP2	**PKPbc**	**05 56 33.2**	**-0.3**
YAK				*e*		06 00 07.6	
YAK				*e*SS	SS	06 19 13.9	+3.9
YAK				pmax	pmax		
	comp=Z,59nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
YAK				pmax	pmax		
	comp=E,12nm,1.6s						
YAK				pmax	pmax		
	comp=Z,248nm,4.8s						
YAK				pmax	pmax		
	comp=N,28nm,2.1s						
YAK				pmax	pmax		
	comp=E,72nm,4.0s						
YAK	**Yakutsk**	**148.60**	**340**	PKP	**PKPdf**	**05 56 28.4**	**-1.5**
YAK				PKPbc	**PKPbc**	**05 56 33.3**	**-0.3**
YAK				LR	LR		
	comp=Z,580nm,21.0s						
DAV	**Davao City (W)**	**148.65**	**216**	PFAKE		05 56 40.0	+1.3
DAV				LR	LR		
	comp=Z,383nm,20.0s						
HYB	**Hyderabad**	**149.07**	**115**	*i* PKP	**PKPbc**	**05 56 37.0**	**+0.8**
TYV	**Tymovskoe**	**149.56**	**314**	*e*PKP2	**PKPbc**	**05 56 35.8**	**-0.5**
TYV				pmax	pmax		
	comp=Z,79nm,1.4s						
KKAR	**Karatay Array**	**149.60**	**61**	*e*PKPdf	**PKPdf**	**05 56 33.4**	**+1.3**
LHMI	**Lhok Sumawe**	**149.73**	**158**	*e*PKPdf	**PKPdf**	**05 56 33.9**	**+0.7**
NKL	**Nikolayevsk**	**149.77**	**320**	*e*PKHKP	**PKPbc**	**05 56 36.0**	**-0.7**
NKL				pmax	pmax		
	comp=Z,160nm,1.5s						
NKL				pmax	pmax		
	comp=Z,300nm,4.0s						
OTUK	**Ortayu**	**149.95**	**51**	PKHKP	**PKPdf**	**05 56 34.0**	**+1.5**
OTUK				pmax	pmax		
	comp=Z,97nm,1.4s						
IPM	**Ipoh**	**150.05**	**166**	*e*PKPdf	**PKPdf**	**05 56 36.0**	**+2.3**
YSS	**Yuzh-Sakhalins**	**150.65**	**307**	⇑*e*PKIKP	**PKPbc**	**05 56 39.2**	**+0.1**
YSS				pmax	pmax		
	comp=Z,64nm,1.7s						
YSS	**Yuzh-Sakhalins**	**150.65**	**307**	*e*PKPdf	**PKPdf**	**05 56 34.5**	**+0.9**
YSS				LR	LR		
	comp=Z,248nm,19.0s						
KULM	**Kulim**	**150.76**	**165**	*e*PKPdf	**PKPdf**	**05 56 34.6**	**-0.2**
KULM				LR	LR		
	comp=Z,760nm,21.0s						
MNAS	**Manas**	**151.11**	**62**	PKIKP	**PKPbc**	**05 56 37.9**	**-2.6**
MNAS				pmax	pmax		
	comp=Z,70nm,1.8s						
ERM	**Erimo**	**151.15**	**297**	PFAKE		05 56 40.0	-0.4
ERM				LR	LR		
	comp=Z,507nm,20.0s						
KKM	**Kota Kinabalu**	**151.21**	**198**	PFAKE		05 56 40.0	-1.5
KKM				LR	LR		
	comp=Z,476nm,20.0s						
ASAJ	**Asahikawa**	**151.31**	**301**	PKPbc	**PKPbc**	**05 56 40.2**	**-0.5**
	comp=Z,4.0nm,0.3s,baz=36,slow=33,SNR=3.2						
EKS2	**Erkin-Say**	**152.03**	**62**	*e*PKIKP	**PKPdf**	**05 56 37.1**	**+1.1**
EKS2				MLR	MLR		
	comp=Z,575nm,19.0s						
EKS2	**Erkin-Say**	**152.03**	**62**	*e*PKPdf	**PKPdf**	**05 56 37.1**	**+1.1**
EKS2				LR	LR		
	comp=Z,575nm,19.0s						
AAK	**Ala-Archa**	**152.56**	**62**	PKP	**PKPdf**	**05 56 37.2**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=179,slow=3.3,SNR=9.2						
AAK				PKPbc	**PKiKP**	**05 56 44.4**	**+0.3**
	comp=Z,16nm,0.8s,baz=168,slow=3.1,SNR=21						
AAK	**Ala-Archa**	**152.56**	**62**	PKIKP	**PKPdf**	**05 56 37.2**	**+0.3**
AAK						05 56 44.4	
AAK				MLR	MLR		
	comp=Z,515nm,19.0s						
AAK	**Ala-Archa**	**152.56**	**62**	PKP	**PKPdf**	**05 56 37.2**	**+0.3**
AAK				PKPbc	**PKiKP**	**05 56 44.4**	**+0.3**
AAK				LR	LR		
	comp=Z,515nm,19.0s						
FRU	**Bishkek**	**152.62**	**61**	*e*PKIKP	**PKPdf**	**05 56 40.0**	**+3.2**
FRU				*i*		05 56 44.5	
FRU				pmax	pmax		
	comp=Z,135nm,2.0s						
KURBB	**Kurchatov Arra**	**152.88**	**43**	PKP	**PKPdf**	**05 56 36.6**	**-0.2**
	comp=Z,5.4nm,1.2s,baz=301,slow=2.0,SNR=15						
KURBB				PKPbc	**PKPbc**	**05 56 43.5**	**-0.6**
	comp=Z,13nm,0.8s,baz=297,slow=2.8,SNR=45						
KURK	**Kurchatov**	**152.88**	**43**	PKIKP	**PKPdf**	**05 56 36.6**	**-0.2**
KURK						05 56 43.5	
KURK				MLR	MLR		
	comp=Z,996nm,21.0s						
KURK	**Kurchatov**	**152.88**	**43**	PKP	**PKPdf**	**05 56 36.6**	**-0.2**
KURK				PKPbc	**PKPbc**	**05 56 43.5**	**-0.6**
KURK				LR	LR		
	comp=Z,996nm,21.0s						
NVS	**Novosibirsk**	**152.92**	**32**	*e*PKIKP	**PKPdf**	**05 56 37.0**	**+0.3**
NVS				pmax	pmax		
	comp=Z,102nm,1.5s						
NVS				pmax	pmax		
	comp=E,27nm,1.4s						
THN	**Thein Dam**	**153.14**	**84**	*e*P	**PKPdf**	**05 56 41.0**	**+3.2**
TKM2	**Tokmak 2**	**153.32**	**61**	PKIKP	**PKPdf**	**05 56 38.2**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,30nm,1.3s						
TKM2	**Tokmak 2**	**153.32**	**61**	*e*PKPdf	**PKPdf**	**05 56 38.4**	**+0.3**
TKM2				LR	LR		
	comp=Z,589nm,20.0s						
KSH	**Kashi**	**153.94**	**68**	PKPbc	**PKPdf**	**05 56 39.3**	**+0.4**
KSH				pPKP	pPKPdf	05 56 50.0	+1.2
KSH				PP	**PP**	**06 00 38.5**	**+3.1**
KSH				SKS	**SKSdf**	**06 03 40.8**	**-2.9**
KSH				SKKS	**SKKSac**	**06 07 22.0**	**-1.1**
KSH				SS	**SS**	**06 20 10.5**	**-1.2**
KSH				LN			
	comp=Z,790nm,15.6s						
KSH				LE			
	comp=Z,580nm,15.7s						
KSH				LZ			
	comp=Z,560nm,16.2s						
ZALV	**Zalesovo Beam**	**154.20**	**32**	PKP	**PKPdf**	**05 56 37.6**	**-1.0**
	comp=Z,5.2nm,0.9s,baz=276,slow=2.8,SNR=20						
ZALV				PKPbc	**PKPbc**	**05 56 46.4**	**-0.4**
	comp=Z,22nm,0.8s,baz=293,slow=3.4,SNR=35						
MJAR	**Matsushiro Arr**	**155.09**	**285**	PKP	**PKPdf**	**05 56 39.2**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=208,slow=2.1,SNR=4.3						
MAJO	**Matsushiro**	**155.09**	**285**	PFAKE		05 56 50.0	+10
MAJO				LR	LR		
	comp=Z,415nm,20.0s						
BOD	**Bodaibo**	**155.72**	**352**	*e*PKP2	**PKPab**	**05 57 05.8**	**-1.2**
BOD				pmax	pmax		
	comp=Z,49nm,1.3s						
KLR	**Kul'dur**	**156.59**	**318**	PKP	**PKPdf**	**05 56 40.8**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=358,slow=2.9,SNR=6.3						
MK31	**Makanchi Array**	**156.78**	**49**	*i* PKIKP	**PKPdf**	**05 56 42.0**	**-0.4**
MK31				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MKAR	**Makanchi Array**	**156.78**	**49**	PKP	**PKPdf**	**05 56 41.8**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=298,slow=2.6,SNR=18						
MKAR				PKPab	**PKPab**	**05 57 11.9**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=316,slow=3.3,SNR=4.6						
USRK	**Ussuriysk Ar.**	**158.68**	**306**	PKPab	**PKPab**	**05 57 21.1**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=74,slow=6.9,SNR=4.9						
MDJ	**Mudanjiang**	**160.10**	**309**	PFAKE		05 56 50.0	+3.6
MDJ				LR	LR		
	comp=Z,408nm,21.0s						
IRK	**Irkutsk**	**161.49**	**7**	*e*PKP2	**PKPab**	**05 57 29.9**	**-2.3**
IRK				pmax	pmax		
	comp=Z,47nm,1.4s						
WMQ	**Urumqi**	**161.50**	**52**	PKP	**PKPdf**	**05 56 48.3**	**+0.2**
WMQ				PKPab	**PKPab**	**05 57 32.5**	**-0.2**
WMQ				PP	**PP**	**06 01 19.5**	**+3.1**
WMQ				SKS	**SKSdf**	**06 03 48.3**	**-2.6**
WMQ				SS	**SS**	**06 21 30.0**	**-1.5**
WMQ				PPMZ			
	comp=Z,170nm,5.9s						
WMQ				LN			
	comp=Z,220nm,21.1s						
WMQ				LE			
	comp=Z,430nm,21.3s						
MOY	**Mondy**	**161.57**	**14**	*e*PKP2	**PKPab**	**05 57 33.8**	**+1.1**
PBKT	**Sadao Pong**	**161.67**	**159**	PKP	**PKPdf**	**05 56 50.1**	**+1.2**
TLY	**Talaya**	**161.97**	**8**	*i* PKIKP	**PKPdf**	**05 56 47.5**	**-0.7**
TLY				*e*		05 57 35.3	
TLY				*e*		06 01 18.8	
TLY				*e*SS	SS	06 21 36.3	+1.9
TLY				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TLY	**Talaya**	**161.97**	**8**	PFAKE		05 57 00.0	+12
TLY				LR	LR		
	comp=Z,672nm,20.0s						
HIA	**Hailar**	**162.29**	**334**	PFAKE		05 57 00.0	+11
HIA				LR	LR		
	comp=Z,607nm,21.0s						
UTTA	**Uttaradit**	**162.64**	**156**	PKP	**PKPdf**	**05 56 50.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**162.69**	**150**	PKP	**PKPdf**	**05 56 49.1**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=250,slow=2.5,SNR=19						
CHTO	**Chiang Mai**	**163.01**	**150**	PKP	**PKPdf**	**05 56 50.6**	**+0.4**
CHTO	**Chiang Mai**	**163.01**	**150**	*e*PKIKP	**PKPdf**	**05 56 49.9**	**-0.3**
CHTO				MLR	MLR		
	comp=Z,568nm,20.0s						
CHTO	**Chiang Mai**	**163.01**	**150**	*e*PKPdf	**PKPdf**	**05 56 49.9**	**-0.3**
CHTO				LR	LR		
	comp=Z,568nm,20.0s						
CMMT	**Chiang Mai**	**163.01**	**150**	PKP	**PKPdf**	**05 56 50.6**	**+0.4**
LAMP	**Lampang**	**163.02**	**152**	PKP	**PKPdf**	**05 56 51.7**	**+1.5**
CN2	**Changchun**	**163.12**	**311**	*e*PKP	**PKPdf**	**05 56 53.5**	**+3.9**
CN2				PP	**PP**	**06 01 31.3**	**+6.4**
CN2				SS	SS	06 21 55.0	+7.0
CN2				PPMZ			
	comp=Z,200nm,6.0s						
CN2				LN			
	comp=Z,400nm,19.0s						
CN2				LE			
	comp=Z,600nm,19.0s						
CN2				LZ			
	comp=Z,400nm,20.0s						
ZAK	**Zakamensk**	**163.20**	**10**	*e*PKIKP	**PKPdf**	**05 56 48.6**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
KSRS	**Korea Array**	**163.29**	**288**	PKP	**PKPdf**	**05 56 49.2**	**-0.7**
	comp=Z,2.4nm,1.0s,baz=132,slow=1.9,SNR=6.9						
KSRS				PKPab	**PKPab**	**05 57 41.4**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=108,slow=4.0,SNR=3.5						
KSAR	**Wonju Array Be**	**163.33**	**288**	PKIKP	**PKPdf**	**05 56 49.3**	**-0.7**
KSAR						05 57 41.4	
KSAR	**Wonju Array Be**	**163.33**	**288**	PKP	**PKPdf**	**05 56 49.2**	**-0.7**
KSAR				PKPab	**PKPab**	**05 57 41.4**	**+0.5**
INCN	**Inchon**	**164.31**	**289**	PFAKE		05 57 00.0	+9.1
INCN				LR	LR		
	comp=Z,564nm,21.0s						
YHNB	**Yeheng**	**165.03**	**236**	PFAKE		05 57 00.0	+8.0
YHNB				LR	LR		
	comp=Z,667nm,21.0s						
QIZ	**Qiongzhong**	**165.08**	**187**	PKP	**PKPdf**	**05 56 52.8**	**+0.7**
QIZ				PP	**PP**	**06 01 37.5**	**+3.4**
QIZ				SS	SS	06 22 14.8	+8.5
QIZ				LE			
	comp=Z,400nm,23.5s						
QIZ				LZ			
	comp=Z,480nm,18.4s						
QIZ	**Qiongzhong**	**165.08**	**187**	PFAKE		05 57 00.0	+7.9
QIZ				LR	LR		
	comp=Z,510nm,20.0s						
TATO	**Taipei**	**165.15**	**237**	PFAKE		05 57 00.0	+8.0
TATO				LR	LR		
	comp=Z,517nm,20.0s						
LSA	**Lhasa**	**165.21**	**102**	*e*PKIKP	**PKPdf**	**05 56 53.0**	**+0.5**
LSA				MLR	MLR		
	comp=Z,746nm,22.0s						
LSA	**Lhasa**	**165.21**	**102**	*e*PKPdf	**PKPdf**	**05 56 53.0**	**+0.5**
LSA				LR	LR		
	comp=Z,746nm,22.0s						
SNY	**Shenyang**	**165.27**	**307**	⇓PKP	**PKPdf**	**05 56 52.3**	**+0.8**
SNY				PP	**PP**	**06 01 40.3**	**+4.0**
SNY				SS	SS	06 22 12.8	+2.5
SNY				PPMZ			
	comp=Z,130nm,6.4s						
SNY				LN			
	comp=Z,320nm,17.6s						
SNY				LE			
	comp=Z,170nm,17.1s						
SNY				LZ			
	comp=Z,530nm,18.6s						
ULN	**Ulaanbaatar**	**166.04**	**2**	PFAKE		05 57 00.0	+7.8
ULN				LR	LR		
	comp=Z,688nm,20.0s						
SONM	**Songino Array**	**166.04**	**4**	PKP	**PKPdf**	**05 56 51.7**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=129,slow=0.9,SNR=5.3						
SONM				PKPab	**PKPab**	**05 57 53.3**	**+0.8**
	comp=Z,4.9nm,0.9s,baz=337,slow=4.2,SNR=12						
KMI	**Kunming**	**170.19**	**152**	PKP	**PKPdf**	**05 56 55.5**	**-0.4**
KMI				pPKP	pPKPdf	05 57 01.8	-4.0
BJI	**Beijing**	**170.94**	**315**	PKP	**PKPdf**	**05 56 55.0**	**-0.5**
BJI				SS	SS	06 23 10.3	+3.5
BJI				PPMZ			
	comp=Z,190nm,10.2s						
BJI				LN			
	comp=Z,570nm,21.8s						
BJI				LE			
	comp=Z,280nm,21.8s						
BJI				LZ			
	comp=Z,640nm,21.8s						
BJT	**Baijiatuan**	**170.96**	**315**	PFAKE		05 57 00.0	+4.5
BJT				LR	LR		
	comp=Z,811nm,20.0s						
GTA	**Gaotai**	**171.54**	**47**	⇓PKP	**PKPdf**	**05 56 56.8**	**+0.8**
GTA				pPKP	pPKPdf	05 57 07.5	+1.6
GTA				PKPab	**PKPab**	**05 58 18.3**	**+1.1**
GTA				PP	**PP**	**06 02 11.5**	**+3.4**
GTA				SKS	**SKSdf**	**06 03 55.0**	**-2.3**
GTA				SKKS	**SKKSac**	**06 08 52.5**	**-0.3**
GTA				SS	**SS**	**06 23 09.8**	**-3.3**
GTA				PPMZ			
	comp=Z,290nm,10.0s						
GTA				LN			
	comp=Z,320nm,18.5s						
GTA				LE			
	comp=Z,330nm,18.5s						
GTA				LZ			
	comp=Z,430nm,18.5s						
TIA	**Tai'an**	**172.04**	**289**	⇓PKP	**PKPdf**	**05 56 56.3**	**+0.1**
HHC	**Hu-ho-hao-te**	**172.46**	**338**	*e*PKP	**PKPdf**	**05 56 54.3**	**-2.0**
HHC				PP	**PP**	**06 02 13.0**	**+1.1**
HHC				SKS	**SKSdf**	**06 03 59.0**	**+1.5**
HHC				SKKS	**SKKSac**	**06 08 56.3**	**-0.6**
HHC				PPMZ			
	comp=Z,120nm,10.7s						
HHC				LN			
	comp=Z,530nm,18.6s						
HHC				LE			
	comp=Z,640nm,17.6s						
HHC				LZ			
	comp=Z,720nm,17.9s						
GYA	**Guiyang**	**172.51**	**172**	PKP	**PKPdf**	**05 56 56.0**	**-0.8**
GYA				PKPab	**PKPab**	**05 58 23.3**	**+1.7**
GYA				PKS	**PKSdf**	**06 00 27.5**	**-1.8**
GYA				PP	**PP**	**06 02 15.5**	**+3.6**
GYA				PPMZ			
	comp=Z,140nm,8.3s						
CD2	**Chengdu**	**175.44**	**130**	PKP	**PKPdf**	**05 56 57.8**	**+0.2**
CD2				pPKP	pPKPdf	05 57 04.0	-3.5
CD2				sPKP		05 57 06.0	
CD2				PP	**PP**	**06 02 27.5**	**+0.3**
CD2				SKS	**SKSdf**	**06 04 00.0**	**+1.4**
CD2				SKKS	**SKKSac**	**06 09 12.8**	**+1.2**
CD2				SS	**SS**	**06 23 53.0**	**+2.0**
CD2				PPMZ			
	comp=Z,220nm,5.4s						
LZH	**Lanzhou**	**176.07**	**55**	*e*PKP	**PKPdf**	**05 56 58.0**	**+0.2**
LZH				pPKP	pPKPdf	05 57 04.0	-3.7
LZH				sPKP		05 57 06.0	
LZH				PP	**PP**	**06 02 33.0**	**+2.5**
LZH				SKS	**SKSdf**	**06 03 57.0**	**-1.8**
LZH				SKKS	**SKKSac**	**06 09 15.5**	**+0.8**
LZH				SS	**SS**	**06 23 54.0**	**-3.5**
LZH				PPMZ			
	comp=Z,540nm,9.3s						
LZH				LN			
	comp=Z,670nm,17.6s						
LZH				LE			
	comp=Z,700nm,18.2s						
LZH				LZ			
	comp=Z,910nm,20.1s						
ENH	**Enshi**	**176.11**	**202**	PFAKE		05 57 10.0	+12
ENH				LR	LR		
	comp=Z,680nm,22.0s						
XAN	**Xi'an**	**179.08**	**279**	PKP	**PKPdf**	**05 56 57.8**	**-0.3**
XAN				PKPab		05 58 54.3	
XAN				PP	**PP**	**06 02 44.5**	**-0.6**
XAN				LN			
	comp=Z,400nm,19.6s						
XAN				LE			
	comp=Z,230nm,19.8s						
XAN				LZ			
	comp=Z,570nm,20.0s						

*IDC **29** 05:38:39.8±1.3,51.68N×171.96W,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.5/56,mbtmp3.5/5,ML3.6/1,MS3.8/1, Ms1 3.8/1,ms1mx2.7/50,Error ellipse: s-maj=168.1km s-min=23.4km az=132.0*

*ISCJB **29** 05:38:43.5±1.0,51.6N±0.1×171.49W±0.08,h27km, mb3.6/4,MS3.8/1,Error ellipse: s-maj=17.4km s-min=6.1km az=169.4*

*NEIC **29** 05:38:48.3,52.11N×171.71W,h50km,ML3.4(AEIC),After AEIC.*

ISC 29 05:38:44.5±1.3,51.7N±0.2×171.61W±0.06,h27km,n20, σ1§56/15,mb3.7/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.65**	**295**	P	**Pb**	**05 39 13.3**	**-0.9**
KOSE				S	**Sn**	**05 39 32.2**	**+0.2**
KOFP	**Korovin Flat P**	**1.65**	**292**	P	**Pn**	**05 39 12.6**	**+0.8**
KONE	**Korovin Northe**	**1.72**	**296**	P	**Pb**	**05 39 13.7**	**-1.5**
KOKL	**Mount Kliuchef**	**1.72**	**293**	P	**Pb**	**05 39 14.3**	**-1.2**
KOWE	**Korovin West**	**1.77**	**294**	P	**Pb**	**05 39 14.7**	**-1.6**
NIKH	**Nikolski High**	**2.13**	**52**	P	**Pn**	**05 39 18.8**	**+0.6**
NIKH				S	**Sn**	**05 39 42.5**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**2.76**	**51**	P	**Pn**	**05 39 29.3**	**+2.3**
GSTD	**Great Sitkin T**	**2.83**	**279**	P	**Pn**	**05 39 30.7**	**+2.7**
ILAR	**Eielson Array**	**18.30**	**35**	P	**P**	**05 42 57.5**	**+1.4**
	0.1nm,0.3s,baz=233,slow=9.3,SNR=6.2						
INK	**Inuvik**	**24.68**	**33**	P	**P**	**05 44 02.5**	**-0.2**
	1.7nm,0.6s,baz=234,slow=6.8,SNR=6.0						
YKA	**Yellowknife Ar**	**31.73**	**48**	P	**P**	**05 45 06.1**	**+0.5**
	0.2nm,0.4s,baz=275,slow=7.2,SNR=6.2						
H11N2	**WAKE ISLAND Hy 36.07**	**216**		T	T	06 24 22.3	
	baz=23,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy 36.08**	**216**		T	T	06 24 19.7	
	baz=23,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy 36.09**	**216**		T	T	06 24 18.7	
	baz=23,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy 37.27**	**215**		T	T	06 25 48.7	
	baz=24,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy 37.28**	**215**		T	T	06 25 55.7	
	baz=24,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy 37.28**	**215**		T	T	06 25 59.8	
	baz=24,slow=76,SNR=13						
ARCES	**ARCESS Array B**	**58.44**	**353**	LR	LR	06 15 05.0	
	comp=Z,74nm,19.6s,baz=184,slow=37						
WRA	**Warramunga Arr**	**85.50**	**230**	P	**P**	**05 51 17.6**	**-2.2**
	0.3nm,0.7s,baz=13,slow=3.7,SNR=2.6						
ASAR	**Alice Springs**	**88.90**	**228**	P	**P**	**05 51 36.4**	**+0.2**
	0.3nm,0.7s,baz=25,slow=5.1,SNR=3.4						

*ISCJB **29** 05:40:04.4±1.0,33.86S±0.08×72.4W±0.3,h17km,mb4.9/9, Error ellipse: s-maj=33.4km s-min=11.3km az=1.9*

*IDC **29** 05:40:09.6±3.0,33.87S×72.29W,h45km±26km,mb4.5/7, mb1 4.7/9,mb1mx4.3/26,mbtmp4.8/9,ML4.6/2,Error ellipse: s-maj=34.7km s-min=19.1km az=92.0*

ISC 29 05:40:06.1±0.8,33.89S±0.09×72.3W±0.2,h17km,n26, σ1§47/26,mb5.0/9,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**6.97**	**169**	P	**Pn**	**05 41 48.8**	**+1.3**
	2.1nm,0.3s,baz=76,slow=18,SNR=2.6						
LPAZ	**La Paz**	**17.92**	**13**	P	**Pn**	**05 44 15.4**	**+0.2**
	1.0nm,0.3s,baz=192,slow=7.2,SNR=5.4						
SIV	**San Ignacio**	**20.49**	**32**	P	**P**	**05 44 44.0**	**+0.7**
	18nm,0.8s,baz=225,slow=11,SNR=3.9						
USHA	**Ushuaia**	**21.11**	**174**	P	**P**	**05 44 50.9**	**+1.2**
	52nm,0.8s,baz=346,slow=4.2,SNR=2.8						
NNA	**Nana**	**22.19**	**348**	P	**P**	**05 45 05.9**	**+4.3**
	13nm,0.8s,baz=194,slow=9.5,SNR=4.0						
PTGA	**Pitinga**	**34.95**	**22**	P	**P**	**05 46 57.1**	**-0.2**
	14nm,0.9s,baz=219,slow=10,SNR=4.7						
TXAR	**Lajitas Array**	**69.53**	**331**	P	**P**	**05 51 13.8**	**-0.1**
	2.6nm,0.7s,baz=150,slow=7.9,SNR=6.7						
LIC	**Lamto**	**74.94**	**72**	*e*P	**P**	**05 51 48.2**	**+1.6**
	122nm,2.2s						
TIC	**Toumodi**	**75.20**	**71**	*e*P	**P**	**05 51 49.6**	**+1.5**
KIC	**Kosan Boka**	**75.25**	**72**	*e*P	**P**	**05 51 50.1**	**+1.7**
	45nm,0.9s						
DBIC	**Dimbokro**	**75.35**	**71**	P	**P**	**05 51 48.1**	**-0.8**
	11nm,0.6s,baz=214,slow=5.7,SNR=9.0						
BOSA	**Boshof**	**80.31**	**118**	P	**P**	**05 52 17.6**	**+1.0**
	5.3nm,0.8s,baz=228,slow=3.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**84.38**	**70**	P	**P**	**05 52 36.2**	**-1.6**
	8.7nm,0.6s,baz=259,slow=5.3,SNR=16						
WRA	**Warramunga Arr**	**120.75**	**209**	PKP	**PKPdf**	**05 58 55.6**	**-2.2**
	0.8nm,0.7s,baz=162,slow=1.8,SNR=5.8						
BRTR	**Keskin Array B**	**121.97**	**61**	PKP	**PKPdf**	**05 58 58.0**	**-1.5**
	1.5nm,0.7s,baz=190,slow=2.8,SNR=5.1						
AKASG	**Malin Array Be**	**122.28**	**47**	PKP	**PKPdf**	**05 58 57.9**	**-1.6**
	1.6nm,0.7s,baz=268,slow=2.5,SNR=5.8						
FINES	**FINESS Array B**	**123.02**	**35**	PKP	**PKPdf**	**05 59 00.8**	**+0.2**
	1.2nm,0.7s,baz=298,slow=5.8,SNR=2.9						
ARCES	**ARCESS Array B**	**124.00**	**25**	PKP	**PKPdf**	**05 59 01.2**	**-1.2**
	3.0nm,0.9s,baz=251,slow=2.8,SNR=4.1						
KBZ	**Khabaz**	**129.72**	**59**	PKP	**PKPdf**	**05 59 14.3**	**+0.3**
	2.

mb1 3.7/3,mb1mx3.4/38,mbtmp3.5/3,Error ellipse: s-maj=388.1km s-min=26.0km az=60.0
TAP ***29*** *05:40:41.1,21.˚47N× 119.˚92E, h98km± 1km, ML3.9, C*
ISC 29 05:40:41.9±2.1, 21.˚43N±0.˚07×119.˚78E±0.˚06, h27km±14km, n40, σ0°88/69, mb3.5/3, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun** baz=62	**1.06**	**57**	*e*P	**Pn**	**05 41 01.0**	**-0.1**
HEN				S	**Sb**	**05 41 16.1**	**+0.9**
TWP	**Hsiaoliuchiu** baz=25	**1.06**	**31**	*e*P	**Pn**	**05 41 00.6**	**-0.6**
TWP				*e*S	**Sb**	**05 41 16.6**	**+1.3**
TWK1	**Hengchun** baz=60	**1.09**	**62**	⇓*i*P	**Pn**	**05 41 01.2**	**-0.2**
TSEB	**Hengchuen, Pin** baz=63	**1.15**	**66**	*i* P	**Pn**	**05 41 01.6**	**-0.6**
TSEB				*i* S	**Sn**	**05 41 16.9**	**-0.2**
SCZT	**Fangliau** baz=36	**1.23**	**40**	P	**Pn**	**05 41 03.0**	**-0.4**
SCZT				S	**Sn**	**05 41 19.2**	**+0.2**
KAU	**Kaohsiung** baz=11	**1.24**	**23**	*e*P	**Pn**	**05 41 03.6**	**+0.1**
KAU				*e*S	**Sb**	**05 41 20.8**	**+0.5**
EAST	**Anshuo** baz=35	**1.38**	**46**	*i* P	**Pn**	**05 41 05.4**	**-0.1**
EAST				*i* S	**Sn**	**05 41 22.7**	**-0.2**
TAW	**Tawu** baz=46	**1.39**	**48**	*e*P	**Pn**	**05 41 05.5**	**-0.1**
TAW				S	**Sn**	**05 41 23.0**	**-0.2**
TWM1	**Shoushan** baz=19	**1.51**	**23**	*e*P	**Pb**	**05 41 08.6**	**-0.8**
TWM1				*e*S	**Sn**	**05 41 26.2**	**0.0**
SSD	**Sandimen** baz=28	**1.54**	**31**	*e*P	**Pn**	**05 41 07.5**	**-0.1**
SSD				*e*S	**Sn**	**05 41 26.5**	**-0.2**
LAY	**Lan-yu** baz=69	**1.76**	**69**	P	**Pn**	**05 41 09.2**	**-1.5**
LAY				*e*S	**Sn**	**05 41 30.4**	**-1.9**
SGST	**Jiashian** baz=21	**1.81**	**24**	*e*P	**Pn**	**05 41 11.4**	**0.0**
SGST				*e*S	**Sn**	**05 41 33.3**	**-0.2**
WDGT	**Dungji** baz=353	**1.83**	**357**	*e*P	**Pn**	**05 41 10.7**	**-0.9**
WDGT				*e*S	**Sn**	**05 41 32.7**	**-1.2**
TWG	**Pinlang** baz=45	**1.84**	**41**	P	**Pn**	**05 41 11.9**	**+0.2**
TWG				*e*S	**Sn**	**05 41 33.8**	**-0.3**
TWK	**Hsinying** baz=23	**1.95**	**20**	*e*P	**Pn**	**05 41 13.0**	**-0.3**
TWK				*e*S	**Sn**	**05 41 36.5**	**-0.4**
STYT	**Tauyuan** baz=25	**1.95**	**28**	*e*P	**Pn**	**05 41 12.8**	**-0.6**
STYT				*e*S	**Sn**	**05 41 36.3**	**-0.8**
WTP	**Ta-pu** baz=20	**1.97**	**23**	*e*P	**Pn**	**05 41 14.0**	**+0.4**
WTP				*e*S	**Sn**	**05 41 37.3**	**-0.2**
CHN4	**Tsaushan** baz=25	**2.06**	**21**	*e*P	**Pn**	**05 41 14.9**	**+0.1**
CHN4				*e*S	**Sn**	**05 41 39.1**	**-0.5**
ELDTW	**Lidau** baz=31	**2.10**	**33**	*e*P	**Pn**	**05 41 16.0**	**+0.6**
PNG	**Penghu** baz=351	**2.14**	**355**	*e*P	**Pn**	**05 41 16.2**	**+0.3**
PNG				*e*S	**Sn**	**05 41 41.1**	**-0.5**
CHY	**Chiayi** baz=20	**2.15**	**16**	*e*P	**Pn**	**05 41 17.1**	**+1.0**
CHY				*e*S	**Sn**	**05 41 41.2**	**-0.6**
ALS	**Alishan** baz=22	**2.28**	**24**	*e*P	**Pn**	**05 41 17.9**	**-0.3**
ALS				*e*S	**Sn**	**05 41 44.9**	**-0.7**
CHN5	**Tsauling** baz=24	**2.32**	**21**	*e*P	**Pn**	**05 41 18.0**	**-0.4**
CHN5				*e*S	**Sn**	**05 41 44.5**	**-1.6**
YUS	**Yu-Shan** baz=25	**2.32**	**28**	*e*P	**Pn**	**05 41 19.8**	**+0.9**
YUS				*e*S	**Sn**	**05 41 45.4**	**-1.5**
WGK	**Gukeng** baz=15	**2.36**	**18**	*e*P	**Pn**	**05 41 19.2**	**+0.2**
WGK				*e*S	**Sn**	**05 41 47.1**	**0.0**
TWF1	**Yuli** baz=26	**2.38**	**36**	*e*P	**Pn**	**05 41 19.5**	**+0.3**
TWF1				*e*S	**Sn**	**05 41 46.9**	**-0.6**
EHY	**Hungye** baz=41	**2.52**	**34**	*e*P	**Pn**	**05 41 21.3**	**+0.2**
WDT	**Danda** baz=26	**2.64**	**28**	*e*P	**Pn**	**05 41 23.3**	**+0.3**
WDT				*e*S	**Sn**	**05 41 51.5**	**-2.8**
SMLT	**Sun Moon Lake** baz=29	**2.66**	**23**	*e*P	**Pn**	**05 41 23.4**	**+0.3**
SMLT				*e*S	**Sn**	**05 41 53.5**	**-1.1**
TYC	**Yuchr** baz=29	**2.66**	**22**	*e*P	**Pn**	**05 41 22.5**	**-0.6**
TYC				*e*S	**Sn**	**05 41 52.5**	**-1.9**
TWQ1	**Liyutan** baz=16	**3.05**	**17**	*e*P	**Pn**	**05 41 28.5**	**+0.1**
TWT	**Tachien** baz=22	**3.10**	**24**	*e*P	**Pn**	**05 41 29.3**	**0.0**
KNM	**Kinmen** baz=333	**3.22**	**338**	*e*P	**Pn**	**05 41 29.1**	**-1.7**
KNM				*e*S	**Sn**	**05 42 08.0**	**-0.3**
NSTT	**Nanjuang** baz=18	**3.38**	**19**	*e*P	**Pn**	**05 41 32.6**	**-0.4**
NSTT				*e*S	**Sn**	**05 42 10.0**	**-2.4**
ENA	**Nanau** baz=37	**3.49**	**31**	*e*P	**Pn**	**05 41 33.8**	**-0.7**
NSK	**Sanguang** baz=23	**3.55**	**24**	*e*P	**Pn**	**05 41 35.6**	**+0.3**
ENTT	**Nioudou** baz=15	**3.60**	**27**	*e*P	**Pn**	**05 41 36.9**	**+0.9**
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=110,slow=8.4,SNR=3.4	**39.48**	**319**	P	**P**	**05 48 11.6**	**+1.5**
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=343,slow=9.0,SNR=3.9	**43.51**	**160**	P	**P**	**05 48 43.0**	**-0.4**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=347,slow=8.0,SNR=4.3	**46.88**	**162**	P	**P**	**05 49 11.0**	**+0.9**

IDC ***29*** *05:49:25.4±1.6,21.˚43N× 120.˚08E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/45, mbtmp3.9/4, MS4.0/3, Ms1 4.1/3, ms1mx3.2/49, Error ellipse: s-maj=53.8km s-min=25.7km az=60.0*
ISCJB ***29*** *05:49:30.0±0.6,21.˚46N±0.˚03× 119.˚82E±0.˚04, h60km±8km, mb3.8/3, Error ellipse: s-maj=7.0km s-min=5.2km az=171.0*
TAP ***29*** *05:49:29.1,21.˚47N× 119.˚98E, h98km, ML4.5, D*
ISC 29 05:49:30.6±1.7, 21.˚44N±0.˚09× 119.˚84E±0.˚07, h62km±18km, n62, σ0°78/81, mb3.7/3, 2C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun** baz=60	**1.01**	**56**	⇓*i*P	**Pn**	05 49 48.7	-0.1
HEN				S	**Sn**	**05 50 02.9**	**+0.6**
TWP	**Hsiaoliuchiu** baz=22	**1.02**	**28**	*e*P	**Pn**	**05 49 49.0**	**-0.1**
TWP				*e*S	**Sn**	**05 50 03.6**	**+0.9**
TWK1	**Hengchun** baz=58	**1.03**	**61**	⇓P	**Pn**	05 49 48.7	-0.4
TSEB	**Hengchuen, Pin** baz=62	**1.09**	**65**	⇓*i*P	**Pn**	05 49 49.1	-0.7
TSEB				*i* S	**Sn**	**05 50 03.8**	**-0.3**
SCZT	**Fangliau** baz=34	**1.18**	**38**	*i* P	**Pn**	**05 49 50.7**	**-0.4**
SCZT				*e*S	**Sn**	**05 50 06.3**	**0.0**
KAU	**Kaohsiung** baz=7.0	**1.20**	**21**	*e*P	**Pn**	**05 49 50.9**	**-0.5**
KAU				*e*S	**Sn**	**05 50 08.7**	**+1.8**
EAST	**Anshuo** baz=33	**1.32**	**45**	⇓*i*P	**Pn**	05 49 52.9	-0.2
EAST				*e*S	**Sn**	**05 50 09.6**	**-0.3**
TAW	**Tawu** baz=50	**1.34**	**47**	P	**Pn**	05 49 52.7	-0.5
TAW				*e*S	**Sn**	**05 50 10.1**	**0.0**
SGLT	**Jiouru** baz=21	**1.41**	**25**	*e*P	**Pn**	05 49 54.7	+0.5
SGLT				*e*S	**Sn**	**05 50 13.5**	**+1.6**
TWM1	**Shoushan** baz=17	**1.48**	**21**	*e*P	**Pn**	05 49 55.8	+0.7
TWM1				*e*S	**Sn**	**05 50 13.6**	**+0.1**
SSD	**Sandimen** baz=26	**1.49**	**29**	P	**Pn**	**05 49 54.9**	**-0.4**
SSD				*e*S	**Sn**	**05 50 13.4**	**-0.4**
TAI1	**Yung-k'ang** baz=1.0	**1.63**	**13**	*e*P	**Pn**	**05 49 56.7**	**-0.4**
TAI1				*e*S	**Sn**	**05 50 18.0**	**+0.9**
LAY	**Lan-yu** baz=69	**1.70**	**69**	⇓P	**Pn**	**05 49 56.3**	**-1.8**
LAY				S	**Sn**	**05 50 16.8**	**-2.0**
SCLT	**Jiali** baz=7.0	**1.76**	**11**	*e*P	**Pn**	**05 49 58.4**	**-0.4**
SCLT				*e*S	**Sn**	**05 50 20.3**	**+0.1**
SGST	**Jiashian** baz=19	**1.77**	**23**	P	**Pn**	**05 49 59.2**	**+0.1**
SGST				*e*S	**Sn**	**05 50 21.1**	**+0.5**
TTN	**Taitung** baz=49	**1.78**	**43**	*e*P	Pn	05 49 59.4	+0.2
TTN				*e*S	**Sn**	**05 50 21.6**	**+0.8**
TWG	**Pinlang** baz=43	**1.79**	**40**	P	Pn	05 49 59.5	+0.2
TWG				S	**Sn**	**05 50 20.8**	**-0.1**
WDGT	**Dungji** baz=351	**1.82**	**355**	*e*P	**Pn**	**05 49 59.0**	**-0.6**
WDGT				*e*S	**Sn**	**05 50 20.2**	**-1.4**
STYT	**Tauyuan** baz=16	**1.91**	**26**	*e*P	**Pn**	**05 50 00.9**	**-0.1**
STYT				*e*S	**Sn**	**05 50 23.8**	**-0.3**
TWK	**Hsinying** baz=21	**1.91**	**18**	*e*P	**Pn**	**05 50 01.3**	**+0.2**
TWK				*e*S	**Sn**	**05 50 23.1**	**-1.0**
CHN8	**Yiju** baz=7.0	**1.93**	**10**	*e*P	**Pn**	**05 49 59.9**	**-1.2**
CHN8				*e*S	**Sn**	**05 50 24.9**	**+0.6**
WTP	**Ta-pu** baz=19	**1.93**	**22**	⇑P	**Pn**	**05 50 01.2**	**-0.1**
WTP				*e*S	**Sn**	**05 50 24.8**	**+0.2**
CHN4	**Tsaushan** baz=23	**2.02**	**20**	*e*P	**Pn**	**05 50 02.1**	**-0.3**
CHN4				*e*S	**Sn**	**05 50 26.1**	**-0.6**
ELDTW	**Lidau** baz=29	**2.05**	**32**	*e*P	Pn	05 50 03.2	+0.2
ELDTW				*e*S	**Sn**	**05 50 26.8**	**-0.8**
CHY	**Chiayi** baz=18	**2.12**	**15**	*e*P	**Pn**	**05 50 03.9**	**+0.2**
CHY				*e*S	**Sn**	**05 50 28.6**	**-0.3**
PNG	**Penghu** baz=350	**2.13**	**353**	*e*P	**Pn**	**05 50 03.5**	**-0.4**
PNG				*e*S	**Sn**	**05 50 27.9**	**-1.4**
CHKT	**Chengkung** baz=49	**2.17**	**40**	*e*P	**Pn**	**05 50 03.9**	**-0.6**
CHKT				*e*S	**Sn**	**05 50 31.0**	**+0.7**
WSF	**Szhu** baz=6.0	**2.21**	**9**	*e*P	**Pn**	**05 50 04.2**	**-0.9**
WSF				*e*S	**Sn**	**05 50 31.4**	**+0.1**
ALS	**Alishan** baz=21	**2.25**	**23**	P	**Pn**	**05 50 05.7**	**-0.1**
ALS				*e*S	**Sn**	**05 50 32.6**	**+0.1**
CHN5	**Tsauling** baz=22	**2.28**	**20**	*e*P	**Pn**	**05 50 05.7**	**-0.4**
CHN5				*e*S	**Sn**	**05 50 32.9**	**-0.2**
YUS	**Yu-Shan** baz=24	**2.28**	**27**	*e*P	Pn	05 50 06.8	+0.4
YUS				*e*S	**Sn**	**05 50 33.3**	**-0.4**
TWF1	**Yuli** baz=25	**2.33**	**35**	⇑*e*P	Pn	05 50 07.3	+0.7
TWF1				*e*S	**Sn**	**05 50 34.9**	**+0.7**
WGK	**Gukeng** baz=14	**2.33**	**17**	*e*P	**Pn**	**05 50 06.8**	**+0.2**
WGK				*e*S	**Sn**	**05 50 34.3**	**+0.1**
WTCT	**Ta-ch'eng**	**2.45**	**10**	*e*P	**Pn**	**05 50 07.6**	**-0.6**
WTCT				*e*S	**Sn**	**05 50 36.6**	**-0.4**
EHY	**Hungye** baz=40	**2.47**	**33**	*e*P	Pn	05 50 08.7	+0.1
EHY				*e*S	**Sn**	**05 50 37.0**	**-0.6**
WNT	**Mingjian** baz=24	**2.55**	**18**	*e*P	**Pn**	**05 50 09.5**	**-0.1**
WNT				*e*S	**Sn**	**05 50 38.3**	**-1.1**
WDT	**Danda** baz=25	**2.60**	**27**	*e*P	Pn	05 50 10.9	+0.4
WDT				*e*S	**Sn**	**05 50 41.0**	**-0.1**
SMLT	**Sun Moon Lake** baz=20	**2.62**	**22**	*e*P	**Pn**	**05 50 10.9**	**+0.3**
SMLT				*e*S	**Sn**	**05 50 41.3**	**-0.1**
TYC	**Yuchr** baz=27	**2.62**	**21**	P	**Pn**	**05 50 10.9**	**+0.3**
TYC				*e*S	**Sn**	**05 50 41.9**	**+0.6**
ESL	**Shilin** baz=40	**2.78**	**32**	*e*P	**Pn**	**05 50 12.7**	**-0.1**
TCU	**Taichung** baz=4.0	**2.80**	**16**	*e*P	**Pn**	**05 50 13.3**	**+0.2**
TCU				*e*S	**Sn**	**05 50 46.6**	**+0.9**
WHF	**Hehuan Shan** baz=16	**3.00**	**26**	*e*P	Pn	05 50 17.1	+1.0
TWQ1	**Liyutan** baz=14	**3.02**	**16**	*e*P	**Pn**	**05 50 16.0**	**0.0**
TWQ1				*e*S	**Sn**	**05 50 51.0**	**0.0**
TWT	**Tachien** baz=21	**3.06**	**24**	*e*P	Pn	05 50 17.7	+1.0
NSY	**Sanyi** baz=14	**3.08**	**16**	*e*P	**Pn**	**05 50 15.2**	**-1.7**
NSY				*e*S	**Sn**	**05 50 51.1**	**-1.4**
TWD	**Chiawan** baz=38	**3.09**	**31**	*e*P	**Pn**	**05 50 16.9**	**0.0**
KNM	**Kinmen** baz=332	**3.23**	**337**	*e*P	**Pn**	**05 50 18.6**	**-0.3**
KNM				*e*S	**Sn**	**05 50 55.3**	**-0.9**
NNS	**Nan Shan** baz=17	**3.30**	**25**	*e*P	Pn	05 50 21.6	+1.6
NSTT	**Nanjuang** baz=17	**3.35**	**18**	*e*P	**Pn**	**05 50 20.3**	**-0.2**
NSTT				*e*S	**Sn**	**05 50 58.1**	**-1.0**
ENA	**Nanau** baz=36	**3.45**	**30**	*e*P	Pn	05 50 22.1	+0.2
NSK	**Sanguang** baz=22	**3.51**	**23**	*e*P	Pn	05 50 24.0	+1.2
ENTT	**Nioudou** baz=18	**3.56**	**26**	*e*P	Pn	05 50 25.2	+1.8
TWC	**Suao** baz=35	**3.66**	**30**	*e*P	**Pn**	**05 50 24.2**	**-0.6**
TWE	**Neicheng** baz=34	**3.67**	**27**	*e*P	**Pn**	**05 50 24.4**	**-0.6**
EGS		**3.90**	**29**	*e*P	**Pn**	**05 50 27.9**	**-0.2**
NWF	**Wu-fen Shan** baz=16	**4.03**	**26**	*e*P	**Pn**	**05 50 29.6**	**-0.3**
NWF				*e*S	**Sn**	**05 51 13.8**	**-2.2**
CMAR	**Chiang Mai Arr** 1.7nm,0.3s,baz=72,slow=8.9,SNR=5.9	**19.86**	**265**	P	Pn	05 54 00.4	+1.4
CMAR				LR	LR	06 02 16.2	
	comp=Z,103nm,19.9s,baz=100,slow=38						
SONM	**Songino Array** 0.7nm,0.7s,baz=161,slow=11,SNR=4.7	**28.47**	**341**	P	P	05 55 23.2	+3.2
WRA	**Warramunga Arr** 5.2nm,0.9s,baz=344,slow=9.0,SNR=6.5	**43.51**	**160**	P	P	05 57 30.8	+2.6
ASAR	**Alice Springs** 0.5nm,0.5s,baz=342,slow=6.4,SNR=7.2	**46.88**	**162**	P	**P**	**05 57 56.2**	**+1.2**
NOA	**NORSAR Array B** comp=Z,344nm,20.6s,baz=245,slow=40	**80.06**	**332**	LR	LR	06 42 13.3	
YKA	**Yellowknife Ar** comp=Z,58nm,18.4s,baz=180,slow=39	**85.97**	**22**	LR	LR	06 45 44.9	

ISK ***29*** *05:50:25.9,39.˚00N× 29.˚21E, h8km, ML2.0*
DDA ***29*** *05:50:25.9,39.˚09N× 29.˚01E, h7km, Md2.7*
ISCJB ***29*** *05:50:26.5±0.6,39.˚08N±0.˚05× 29.˚02E±0.˚05, h9km, Error ellipse: s-maj=7.8km s-min=4.1km az=145.3*
CSEM ***29*** *05:50:26.5±0.2,39.˚10N× 29.˚02E, h0km, 3km, ML2.0, Error ellipse: s-maj=7.3km s-min=4.1km az=150.0*
ISC 29 05:50:26.2±1.0, 39.˚08N±0.˚04× 29.˚01E±0.˚03, h9km, n14, σ0°32/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**261**	P	**Pg**	**05 50 31.1**	**+0.1**
DEMI				S	**Sg**	**05 50 34.4**	**+0.2**
DEMI	**Demirci**	**0.23**	**261**	*i* P	**Pg**	**05 50 31.1**	**+0.1**
DEMI				*i* S	**Sg**	**05 50 34.4**	**+0.2**
GDZ	**Gediz**	**0.37**	**88**	P	**Pg**	**05 50 33.7**	**+0.2**
GDZ				S	**Sg**	**05 50 38.9**	**+0.6**
GDZ	**Gediz**	**0.37**	**88**	*i* P	**Pg**	**05 50 33.7**	**+0.2**
GDZ				*i* S	**Sg**	**05 50 38.9**	**+0.6**
TVSB	**Tavsanli**	**0.51**	**43**	PG	**Pg**	**05 50 36.2**	**0.0**
TVSB				*e*SG	**Sg**	**05 50 42.7**	**-0.2**
TVSB	**Tavsanli**	**0.51**	**43**	*i* Pg	**Pg**	**05 50 36.2**	**0.0**
TVSB				*e*Sg	**Sg**	**05 50 42.7**	**-0.2**
KULA	**Kula-Manisa**	**0.63**	**206**	*e*PG	**Pb**	**05 50 39.1**	**-0.3**
KULA				*e*SG	**Sb**	**05 50 48.1**	**-0.2**
KULA	**Kula-Manisa**	**0.63**	**206**	*e*Pg	**Pb**	**05 50 39.1**	**-0.3**
KULA				*e*Sg	**Sb**	**05 50 48.1**	**-0.2**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*PN	**Pg**	**05 50 51.0**	**-0.1**
CAVI	**Cavuskoy**	**1.29**	**30**	*e*Pn	**Pg**	**05 50 51.0**	**-0.1**
IZI	**Iznik**	**1.31**	**16**	*e*PN	**Pg**	**05 50 51.2**	**-0.1**
IZI	**Iznik**	**1.31**	**16**	*e*Pn	**Pg**	**05 50 51.2**	**-0.1**
ARMT	**Armutlu**	**1.49**	**356**	*e*PN	**Pg**	**05 50 55.4**	**+0.6**
ARMT	**Armutlu**	**1.49**	**356**	*e*Pn	**Pg**	**05 50 55.4**	**+0.6**

GUC ***29*** *05:52:51.0±0.7,33.˚96S× 72.˚38W, h31km±5km, ML3.0*
ISC 29 05:52:51.7±3.1, 33.˚96S±0.˚06× 72.˚3W±0.˚1, h5km±16km, n21, σ1°93/30, 1C-9D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.48**	**153**	*i* S	**Sb**	**05 53 09.6**	**-0.4**
RCDM	**Rinconada Maip**	**1.30**	**69**	⇓*i*P	**Pn**	**05 53 14.8**	**-1.8**
RCDM				*i* S	**Sb**	**05 53 33.3**	**-0.5**
ANTU	**Antumapu**	**1.41**	**74**	*e*S	**Sn**	**05 53 36.9**	**-0.2**
ANTU				IAML		05 53 41.2	
	comp=E,314nm,0.4s						
ROC1	**El Roble**	**1.43**	**47**	⇓*e*P	**Pn**	**05 53 17.3**	**-1.3**
ROC1				⇓*e*S	**Sb**	**05 53 39.2**	**+1.5**
ROCH	**El Roble**	**1.44**	**47**	*e*P	**Pn**	**05 53 17.1**	**-1.5**
ROCH				*i* S	**Sn**	**05 53 36.7**	**-1.4**
ROCH				IAML		05 53 48.9	
	comp=E,283nm,0.4s						
CLCH	**Cerro Calan**	**1.55**	**69**	⇓*i*P	**Pn**	**05 53 19.2**	**-0.8**
CLCH				*i* S	**Sn**	**05 53 40.4**	**-0.1**
CLCH				IAML		05 53 46.1	
	comp=E,236nm,0.8s						
PEL	**Peldehue**	**1.55**	**59**	⇑*i*P	**Pn**	**05 53 19.4**	**-0.6**
PEL				*i* S	**Sn**	**05 53 40.2**	**-0.4**
PEL				IAML		05 53 49.6	
	comp=N,360nm,0.5s						
FCH	**Farellones**	**1.76**	**70**	*e*P	**Pn**	**05 53 22.7**	**-0.5**
FCH				*i* S	**Sn**	**05 53 46.8**	**+0.6**
FCH				IAML		05 53 51.7	
	comp=E,195nm,0.3s						
AUSP	**Uspallata**	**2.97**	**55**	*e*P	**Pb**	**05 53 44.8**	**-0.5**
AUSP				⇓*e*S	**Sg**	**05 54 27.2**	**-0.1**
AAGR	**Agrelo**	**3.00**	**74**	*e*P	**Pb**	**05 53 46.8**	**+1.1**
ARCO	**CERRO ARCO**	**3.00**	**69**	*e*P	**Pb**	**05 53 45.6**	**-0.2**
ARCO				IAML		05 53 50.3	
	comp=Z,43nm,0.3s						
ASAL	**Salagasta**	**3.18**	**65**	*e*P	**Pb**	**05 53 48.1**	**-0.6**
ASAL				*e*S	**Sg**	**05 54 33.6**	**-0.3**
RTLS	**Leoncito**	**3.30**	**50**	*e*P	**Pb**	**05 53 49.6**	**-1.3**
RTLS				⇓*e*S	**Sg**	**05 54 37.9**	**+0.2**
RTCV	**Cerro Valdivia**	**3.77**	**57**	*e*P	**Pn**	**05 53 54.2**	**+3.7**
RTLL	**Cerro Villicun**	**4.14**	**52**	*e*P	**Pn**	**05 53 56.4**	**+0.8**
RTLL				⇓*e*S	**Sb**	**05 54 59.2**	**+3.8**
ACCO	**Cerro Coronel**	**4.32**	**40**	*e*P	**Pn**	**05 53 59.6**	**+1.3**
ACCO				IAML		05 55 15.9	
	comp=Z,9.6nm,0.4s						
AMOG	**MOGNA**	**4.39**	**48**	⇓*e*P	**Pn**	**05 53 59.6**	**+0.6**
AROD	**Rodeo**	**4.46**	**33**	*e*P	**Pn**	**05 54 00.8**	**+0.5**
AVFE	**Valle Fertil**	**5.24**	**52**	⇓*e*P	**Pn**	**05 54 15.5**	**+4.8**
AVFE				*e*S	**Sb**	**05 55 21.9**	**-5.1**
AVFE				IAML		05 55 30.7	
	comp=Z,5.0nm,0.5s						
CYA	**Choya**	**7.80**	**47**	IAML		05 40 48.5	
	comp=Z,304nm,0.7s						
FSA	**Cafayete**	**9.53**	**36**	IAML		05 41 12.8	
	comp=Z,98nm,0.8s						

GUC ***29*** *05:58:28.6±0.5,33.˚93S× 72.˚31W, h20km±12km, ML2.8*
ISC 29 05:58:27.2±2.3, 33.˚93S±0.˚04× 72.˚3W±0.˚1, h8km±12km, n19, σ2°00/32, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.54**	**150**	⇓*i*P	**Pb**	**05 58 38.4**	**-0.4**
CHPI				*i* S	**Sb**	**05 58 46.5**	**-0.2**
CHPI				IAML		05 58 48.3	
	comp=E,619nm,0.4s						
RCDM	**Rinconada Maip**	**1.34**	**71**	*i* P	**Pn**	**05 58 51.8**	**-0.4**
RCDM				*i* S	**Sn**	**05 59 09.4**	**-0.8**
RCDM				IAML		05 59 12.1	
	comp=N,242nm,0.1s						
NICH	**Los Niches**	**1.41**	**140**	*i* P	**Pn**	**05 58 53.0**	**-0.1**
NICH				*i* S	**Sn**	**05 59 11.5**	**-0.4**
NICH				IAML		05 59 16.0	
	comp=E,749nm,0.5s						
ROC1	**El Roble**	**1.45**	**50**	*i* P	**Pg**	**05 58 54.9**	**0.0**
ROC1				*i* S	Sg	05 59 25.0	+11
ROCH	**El Roble**	**1.45**	**49**	*i* P	**Pb**	**05 58 54.3**	**-0.3**
ROCH				*i* S	**Sb**	**05 59 13.8**	**+0.5**
ROCH				IAML		05 59 25.6	
	comp=E,207nm,0.5s						
PEL	**Peldehue**	**1.58**	**61**	*i* P	**Pb**	**05 58 55.9**	**-0.7**
PEL				*i* S	**Sn**	**05 59 16.0**	**-0.1**
PEL				IAML		05 59 26.9	
	comp=N,207nm,0.6s						
PEL				IAML		05 59 27.1	
	comp=E,161nm,0.4s						
CLCH	**Cerro Calan**	**1.58**	**71**	*i* P	**Pb**	**05 58 56.4**	**-0.3**

CLCH				*e*S		**Sn**	**05 59 16.7**	**+0.4**
CLCH				IAML			05 59 22.6	
	comp=E,208nm,0.5s							
FCH	**Farellones**	**1.80**	**71**	*i* P		**Pb**	**05 58 59.9**	**-0.7**
FCH				*i* S		**Sb**	**05 59 23.9**	**+0.4**
FCH				IAML			05 59 29.3	
	comp=E,179nm,0.3s							
AUSP	**Uspallata**	**2.99**	**56**	*i* P		**Pb**	**05 59 18.7**	**-2.3**
AUSP				*i* S		**Sg**	**06 00 05.3**	**+1.9**
ARCO	**CERRO ARCO**	**3.04**	**70**	*i* P		**Pb**	**05 59 19.6**	**-2.0**
ARCO				*i* S		**Sg**	**06 00 07.0**	**+2.2**
ARCO				IAML			06 00 10.0	
	comp=Z,13nm,0.4s							
AAGR	**Agrelo**	**3.04**	**75**	*i* P		**Pb**	**05 59 19.9**	**-1.7**
ASAL	**Salagasta**	**3.21**	**66**	*i* P		**Pb**	**05 59 22.0**	**-2.5**
ASAL				*i* S		**Sg**	**06 00 11.0**	**+0.6**
RTLS	**Leoncito**	**3.31**	**51**	*i* P		**Pb**	**05 59 22.6**	**-3.9**
RTLS				*i* S		**Sg**	**06 00 11.5**	**-2.2**
RTCV	**Cerro Valdivia**	**3.79**	**58**	*i* P		**Pn**	**05 59 29.6**	**+3.6**
RTLL	**Cerro Villicun**	**4.15**	**53**	*i* P		**Pn**	**05 59 34.0**	**+3.0**
RTLL				*i* S		**Sb**	**06 00 31.9**	**+1.0**
ACCO	**Cerro Coronel**	**4.32**	**41**	*i* P		**Pn**	**05 59 35.7**	**+2.1**
ACCO				IAML			06 00 52.7	
	comp=Z,6.1nm,0.5s							
AMOG	**MOGNA**	**4.40**	**48**	*i* P		**Pn**	**05 59 37.2**	**+2.8**
AROD	**Rodeo**	**4.46**	**34**	*i* P		**Pn**	**05 59 36.5**	**+1.1**
AVFE	**Valle Fertil**	**5.25**	**53**	*i* P		**Pn**	**05 59 49.0**	**+2.8**
AVFE				*i* S		**Sb**	**06 00 58.4**	**-4.2**
AVFE				IAML			06 01 11.5	
	comp=Z,4.8nm,0.6s							

*ISK **29** 06:02:35.6, 39.07N×29.04E, h6km, ML2.3*
*ISCJB **29** 06:02:36.2±0.6, 39.07N±0.05×29.02E±0.04, h6km±7km, Error ellipse: s-maj=9.2km s-min=4.3km az=156.4*
*DDA **29** 06:02:36.0, 39.10N×29.03E, h7km, Md2.9*
*CSEM **29** 06:02:36.3±0.1, 39.08N×29.02E, h5km, MD2.9, Error ellipse: s-maj=2.6km s-min=1.7km az=143.0*

ISC 29 06:02:36.5±1.0, 39.08N±0.03×29.03E±0.03, h7km±10km, n24, σ0.30/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**262**	P		**Pg**	**06 02 41.5**	**+0.1**
DEMI				S		**Sg**	**06 02 45.0**	**+0.2**
DEMI	**Demirci**	**0.25**	**262**	*i* P		**Pg**	**06 02 41.5**	**+0.1**
DEMI				*i* S		**Sg**	**06 02 45.0**	**+0.2**
GDZ	**Gediz**	**0.35**	**88**	P		**Pg**	**06 02 43.5**	**+0.1**
GDZ				S		**Sg**	**06 02 48.2**	**+0.2**
GDZ	**Gediz**	**0.35**	**88**	*i* P		**Pg**	**06 02 43.5**	**+0.1**
GDZ				*i* S		**Sg**	**06 02 48.2**	**+0.2**
TVSB	**Tavsanli**	**0.50**	**42**	*e*Pg		**Pg**	**06 02 45.9**	**-0.3**
TVSB				*e*SG		**Sg**	**06 02 52.7**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**42**	*e*Pg		**Pg**	**06 02 45.9**	**-0.3**
TVSB				*e*Sg		**Sg**	**06 02 52.7**	**-0.1**
KULA	**Kula-Manisa**	**0.63**	**207**	*e*PG		**Pg**	**06 02 48.4**	**-0.3**
KULA				*e*SG		**Sg**	**06 02 56.8**	**-0.1**
KULA	**Kula-Manisa**	**0.63**	**207**	*e*Pg		**Pg**	**06 02 48.4**	**-0.3**
KULA				*e*Sg		**Sg**	**06 02 56.8**	**-0.1**
BALB	**Balikesir**	**1.05**	**303**	*e*PN		**Pn**	**06 02 57.6**	**0.0**
BALB				*e*SN		**Sb**	**06 03 11.5**	**+0.5**
BALB	**Balikesir**	**1.05**	**303**	*e*Pn		**Pn**	**06 02 57.6**	**0.0**
BALB				*e*Sn		**Sb**	**06 03 11.5**	**+0.5**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*PN		**Pn**	**06 03 00.6**	**-0.3**
CAVI	**Cavuskoy**	**1.29**	**29**	*e*Pn		**Pn**	**06 03 00.6**	**-0.3**
KCTX	**Karacabey (Bur**	**1.30**	**337**	*e*PN		**Pg**	**06 03 01.2**	**-0.2**
KCTX	**Karacabey (Bur**	**1.30**	**337**	*e*Pn		**Pg**	**06 03 01.2**	**-0.2**
IZI	**Iznik**	**1.30**	**15**	*e*PN		**Pg**	**06 03 01.4**	**-0.1**
IZI	**Iznik**	**1.30**	**15**	*e*Pn		**Pg**	**06 03 01.4**	**-0.1**
BORA	**Eskisehir**	**1.36**	**53**	P		**Pb**	**06 03 02.0**	**-0.3**
BORA				S		**Sn**	**06 03 20.3**	**0.0**
BORA	**Eskisehir**	**1.36**	**53**	*i* P		**Pb**	**06 03 02.0**	**-0.3**
BORA				*i* S		**Sn**	**06 03 20.3**	**0.0**
ARMT	**Armutlu**	**1.49**	**355**	*e*PN		**Pb**	**06 03 04.1**	**-0.4**
ARMT	**Armutlu**	**1.49**	**355**	*e*Pn		**Pb**	**06 03 04.1**	**-0.4**
GULT	**Gulveren**	**1.77**	**40**	*e*PN		**Pn**	**06 03 08.1**	**+0.5**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn		**Pn**	**06 03 08.1**	**+0.5**
SILT	**Sile**	**2.13**	**13**	*e*PN		**Pn**	**06 03 12.8**	**+0.5**
SILT	**Sile**	**2.13**	**13**	*e*Pn		**Pn**	**06 03 12.9**	**+0.5**

WEL 29 06:03:06.8±0.1, 43.54S×172.16E, h9km, ML3.7/17, 7C-3D, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OXZ	**Oxford**	**0.23**	**337**	⇑P		Pg	06 03 11.3	-0.1
OXZ				SG		Sg	06 03 14.6	+0.1
CRLZ	**Canterbury Las**	**0.34**	**96**	⇑P		Pg	06 03 13.4	0.0
CRLZ				SG		Sg	06 03 18.7	+0.8
CRLZ				AML		AML	06 03 20.6	
MQZ	**McQueen's Vall**	**0.40**	**115**	⇓P		Pg	06 03 14.3	-0.2
MQZ				SG		Sg	06 03 20.2	+0.5
MQZ				AML		AML	06 03 20.6	
LTZ	**Lake Taylor**	**0.76**	**6**	P*		Pg	06 03 21.5	+0.1
LTZ				S*		Sg	06 03 31.9	+0.7
LTZ				AML		AML	06 03 33.3	
RPZ	**Rata Peaks**	**0.82**	**257**	⇑P*		Pg	06 03 22.4	-0.2
RPZ				S*		Sb	06 03 34.1	-0.3
RPZ				AML		AML	06 03 41.8	
INZ	**Inchbonnie**	**0.97**	**327**	⇑P*		Pg	06 03 24.8	-0.5
WVZ	**Waitaha Valley**	**1.14**	**294**	⇓P*		Pg	06 03 27.8	-0.8
WVZ				AML		AML	06 03 45.2	
WVZ				AML		AML	06 03 50.2	
KHZ	**Kahutara**	**1.51**	**43**	⇑PN		Pn	06 03 32.3	-1.7
LBZ	**Lake Benmore**	**1.66**	**239**	PN		Pn	06 03 35.1	-1.0
LBZ				AML		AML	06 04 03.7	
LBZ				AML		AML	06 04 03.8	
LBZ				AML		AML	06 04 06.7	
LBZ				AML		AML	06 04 06.7	
FOZ	**Fox Glacier**	**1.71**	**269**	⇑PN		Pn	06 03 36.9	+0.2
FOZ				AML		AML	06 04 03.4	
FOZ				AML		AML	06 04 05.0	
FOZ				AML		AML	06 04 05.8	
FOZ				AML		AML	06 04 07.8	
DSZ	**Denniston Nort**	**1.81**	**352**	PN		Pn	06 03 37.0	-1.2
DSZ				AML		AML	06 04 07.1	
DSZ				AML		AML	06 04 09.1	
DSZ				AML		AML	06 04 11.0	
DSZ				AML		AML	06 04 12.3	
ODZ	**Otahua Downs**	**1.86**	**215**	PN		Pn	06 03 37.1	-1.7
ODZ				AML		AML	06 04 05.6	
ODZ				AML		AML	06 04 05.8	
ODZ				AML		AML	06 04 13.2	
ODZ				AML		AML	06 04 13.2	
THZ	**Tophouse**	**1.86**	**17**	⇓PN		Pn	06 03 37.2	-1.6
THZ				AML		AML	06 04 16.3	
THZ				AML		AML	06 04 17.7	
TUWZ	**Tuamarina**	**2.49**	**33**	PN		Pn	06 03 46.5	-0.9
NNZ	**Nelson**	**2.49**	**22**	AML		AML	06 03 46.0	
NNZ				⇑PN		Pn	06 03 46.5	-1.0
NNZ				AML		AML	06 04 43.7	
JCZ	**Jackson Bay**	**2.50**	**256**	AML		AML	06 04 31.2	
JCZ				AML		AML	06 04 31.5	
WKZ	**Wanaka**	**2.60**	**239**	PN		Pn	06 03 47.5	-1.6
WKZ				AML		AML	06 04 34.2	
WKZ				AML		AML	06 04 39.7	
EAZ	**Earnscleugh**	**2.65**	**229**	PN		Pn	06 03 48.3	-1.4
EAZ				AML		AML	06 04 32.4	
EAZ				AML		AML	06 04 35.0	
EAZ				AML		AML	06 04 35.0	
EAZ				AML		AML	06 04 35.3	
QRZ	**Quartz Range**	**2.72**	**6**	PN		Pn	06 03 49.4	-1.3
QRZ				AML		AML	06 04 44.6	
QRZ				AML		AML	06 04 45.4	
QRZ				AML		AML	06 06 21.8	
TUZ	**Tuapeka**	**3.01**	**216**	PN		Pn	06 03 53.0	-1.7
TUZ				AML		AML	06 04 51.1	
TUZ				AML		AML	06 04 51.5	
MLZ	**Mavora Lakes**	**3.42**	**236**	PN		Pn	06 03 58.8	-1.6
SYZ	**Scrubby Hill**	**3.69**	**214**	PN		Pn	06 04 02.9	-1.0
SYZ				AML		AML	06 05 09.2	
SYZ				AML		AML	06 05 18.0	

*CSEM **29** 06:04:20.3, 43.44N×13.00E, h9km, MD1.7/4*
ROM 29 06:04:20.3±0.1, 43.44N×13.00E, h9km±1km, Md1.7/4, Ml0.6/3, Error ellipse: s-maj=1.6km s-min=0.9km az=21.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CING	**Cingoli**	**0.15**	**115**	Pg		Pg	06 04 23.9	+0.3
CING				Sg		Sg	06 04 27.3	+1.4
	8.0nm,0.5s							
CING	**Cingoli**	**0.15**	**115**	Pg		Pg	06 04 23.9	+0.3
CING				Sg		Sg	06 04 27.3	+1.4
	8.0nm,0.5s							
SSFR	**Montelago di S**	**0.16**	**268**	Pg		Pg	06 04 24.3	+0.5
SSFR				Sg		Sg	06 04 27.1	+0.9
	34nm,0.1s							
SSFR	**Montelago di S**	**0.16**	**268**	Pg		Pg	06 04 24.3	+0.5
SSFR				Sg		Sg	06 04 27.1	+0.9
	34nm,0.1s							
SNTG	**Esanatoglia**	**0.19**	**194**	Pg		Pg	06 04 25.0	+0.7
SNTG				Sg		Sg	06 04 28.5	+1.5
SNTG	**Esanatoglia**	**0.19**	**194**	Pg		Pg	06 04 25.0	+0.7
SNTG				Sg		Sg	06 04 28.5	+1.5
FRON	**Frontone**	**0.22**	**291**	Pg		Pg	06 04 25.5	+0.8
FRON				Sg		Sg	06 04 29.5	+1.8
	9.0nm,0.1s							
FRON	**Frontone**	**0.22**	**291**	Pg		Pg	06 04 25.5	+0.8
FRON				Sg		Sg	06 04 29.5	+1.8
	9.0nm,0.1s							
PIEI	**Pieia**	**0.35**	**286**	Pg		Pg	06 04 28.0	+0.7
PIEI				Sg		Sb	06 04 33.9	-0.7
PIEI	**Pieia**	**0.35**	**286**	Pg		Pg	06 04 28.0	+0.7
PIEI				Sg		Sb	06 04 33.9	-0.7

IDC 29 06:04:31.8±2.1, 21.71N×143.13E, h288km±18km, mb3.3/12, mb1 3.4/13, mb1mx3.2/46, mbtmp3.9/13, Error ellipse: s-maj=25.4km s-min=15.5km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**5.43**	**351**	P		Pn	06 05 55.7	+1.7
	8.1nm,0.3s,baz=266,slow=19,SNR=2.0							
JCJ				S		S	06 06 58.6	-1.4
	baz=280,slow=19,SNR=1.8							
KSRS	**Korea Array**	**20.48**	**323**	P		P	06 08 48.3	+0.1
	1.4nm,0.7s,baz=155,slow=8.2,SNR=5.2							
USRK	**Ussuriysk Ar.**	**24.25**	**340**	P		P	06 09 23.6	+0.6
	0.5nm,0.4s,baz=151,slow=9.3,SNR=3.0							
KLR	**Kul'dur**	**28.92**	**344**	P		P	06 10 05.3	+0.8
	2.2nm,0.5s,baz=175,slow=5.6,SNR=11							
SONM	**Songino Array**	**39.30**	**320**	P		P	06 11 32.5	-0.9
	0.3nm,0.3s,baz=133,slow=8.1,SNR=3.0							
WRA	**Warramunga Arr**	**42.28**	**192**	P		P	06 11 57.5	-0.2
	1.0nm,0.6s,baz=17,slow=8.8,SNR=13							
MKAR	**Makanchi Array**	**54.65**	**313**	P		P	06 13 31.4	+0.1
	0.3nm,0.3s,baz=89,slow=8.3,SNR=4.7							
KURBB	**Kurchatov Arra**	**57.48**	**317**	P		P	06 13 51.2	0.0
	0.4nm,0.3s,baz=94,slow=7.7,SNR=14							
ILAR	**Eielson Array**	**62.05**	**27**	P		P	06 14 21.8	-0.1
	0.3nm,0.6s,baz=243,slow=5.1,SNR=4.9							
BVAR	**Borovoye Array**	**62.63**	**319**	P		P	06 14 26.4	+0.5
	1.9nm,0.4s,baz=104,slow=8.2,SNR=10							
YKA	**Yellowknife Ar**	**76.47**	**28**	P		P	06 15 49.9	+0.1
	0.6nm,0.5s,baz=292,slow=6.0,SNR=7.1							
ARCES	**ARCESS Array B**	**78.90**	**341**	P		P	06 16 03.0	0.0
	2.3nm,0.8s,baz=72,slow=8.1,SNR=13							
FINES	**FINESS Array B**	**83.15**	**334**	P		P	06 16 24.3	-1.2
	1.0nm,0.5s,baz=74,slow=4.5,SNR=14							

*NNC **29** 06:15:47.4±3.5, 53.95N×86.71E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=26.7km s-min=24.9km az=55.0*
IDC 29 06:15:48.0±2.4, 54.10N×86.38E, h0km, mb1 3.4/2, mb1mx3.1/39, mbtmp3.4/2, ML3.3/2, 7C-4D, Error ellipse: s-maj=18.2km s-min=11.7km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**261**	*i*			06 21 10.0	
	baz=80,slow=307,SNR=4.9							
ZALV	**Zalesovo Beam**	**0.93**	**261**	Pg		Pg	06 16 04.6	-1.3
	3.1nm,0.3s,baz=80,slow=17,SNR=18							
ZALV				Lg		Lg	06 16 19.7	
	5.4nm,0.3s,baz=80,slow=32,SNR=19							
KURK	**Kurchatov**	**5.83**	**238**	⇑Pn		Pn	06 17 17.2	+1.5
	0.6nm,0.3s							
KURK				⇑Lg		Lg	06 18 58.4	
	3.7nm,0.9s							
KURBB	**Kurchatov Arra**	**5.94**	**237**	Pn		Pn	06 17 17.9	+0.7
	0.5nm,0.3s,baz=54,slow=14,SNR=12							
KURBB				Sn		Sn	06 18 24.6	-1.1
	baz=52,slow=18,SNR=2.3							
KURBB				Lg		Lg	06 18 58.0	
	0.1nm,0.3s,baz=52,slow=29,SNR=7.9							
KURBB	**Kurchatov Arra**	**5.94**	**237**	⇑Pn		Pn	06 17 17.8	+0.7
	1.9nm,0.5s							
KURBB				⇓Sn		Sn	06 18 27.2	+1.5
	1.6nm,0.4s							
KURBB				⇑Lg		Lg	06 19 00.4	
	6.8nm,0.8s							
MK31	**Makanchi Array**	**7.77**	**201**	⇑Pn		Pn	06 17 39.0	-3.3
	0.3nm,0.4s,baz=24,slow=14,SNR=10							
MK31				⇓Sn		Sn	06 19 07.8	-3.1
	0.2nm,0.3s,baz=29,slow=30,SNR=4.0							
MK31				⇓Lg		Lg	06 19 52.4	
	0.3nm,0.4s,baz=24,slow=29,SNR=3.6							
MKAR	**Makanchi Array**	**7.77**	**201**	Pn		Pn	06 17 43.6	+1.3
	0.8nm,0.3s,baz=24,slow=14,SNR=12							
MKAR				Sn		Sn	06 19 10.4	-0.5
	0.2nm,0.3s,baz=32,slow=27,SNR=4.7							
MKAR				Lg		Lg	06 19 53.4	
	0.1nm,0.3s,baz=20,slow=31,SNR=5.1							
MAKZ	**Makanchi**	**7.82**	**203**	⇑Pn		Pn	06 17 42.7	-0.4
	0.8nm,0.5s							
MAKZ				⇓Sn		Sn	06 19 14.2	+2.0
	1.1nm,0.7s							
MAKZ				⇑Lg		Lg	06 19 54.4	
	2.7nm,0.8s							

IDC 29 06:16:01.3±3.5, 30.10S×138.68E, h0km, mb1 3.0/3, mb1mx3.0/22, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=102.5km s-min=15.8km az=46.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**3.07**	**126**	Pn		Pn	06 16 51.2	+0.1
	0.4nm,0.3s,baz=300,slow=13,SNR=4.3							
STKA				Sn		Sn	06 17 27.9	-0.7
	1.6nm,0.3s,baz=0.0,slow=20,SNR=4.5							
STKA				Lg		Lg	06 17 39.3	
	2.1nm,0.3s,baz=334,slow=14,SNR=5.3							
ASAR	**Alice Springs**	**7.69**	**325**	Pn		Pn	06 17 54.4	-0.2
	0.1nm,0.3s,baz=151,slow=12,SNR=3.7							
ASAR				Sn		Sn	06 19 23.8	+1.2
	0.1nm,0.3s,baz=159,slow=21,SNR=4.0							
WRA	**Warramunga Arr**	**10.85**	**338**	Pn		Pn	06 18 38.2	+0.3
	0.1nm,0.3s,baz=161,slow=12,SNR=5.6							
WRA				Sn		Sn	06 20 41.5	+1.4
	0.1nm,0.3s,baz=158,slow=23,SNR=3.3							

JMA 29 06:16:10.2±0.2, 38.24N×144.35E, h11km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**2.26**	**293**	P		Pn	06 16 48.5	+1.0
JIO	**Ouri**	**2.37**	**276**	P		Pn	06 16 49.9	+0.9
JIO				*e*S		Sn	06 17 19.0	+1.0
MIYJ	**Miyakonagasawa**	**2.38**	**305**	P		Pn	06 16 49.8	+0.6
JMK	**Ichinoseki**	**2.55**	**287**	P		Pn	06 16 52.8	+1.3
JOM	**Ohasama**	**2.69**	**298**	P		Pn	06 16 54.8	+1.4
JOM				*e*S		Sn	06 17 27.8	+1.9
JOU	**Okura**	**2.90**	**274**	P		Pn	06 16 58.0	+1.6
JANG	**Nango**	**3.06**	**315**	*e*S		Sn	06 17 35.6	+0.4
JRG	**Rokugo**	**3.12**	**293**	P		Pn	06 17 01.6	+2.2
JRG				*e*S		Sn	06 17 39.1	+2.4
JYK	**Kaneyama**	**3.20**	**283**	*e*S		Sn	06 17 41.2	+2.6
JFT	**Otama**	**3.26**	**258**	*e*S		Sn	06 17 41.0	+1.0
JCH	**Churui**	**4.43**	**351**	P		Pn	06 17 16.2	-1.2
JCH				*e*S		Sn	06 18 06.6	-2.4
JRY	**Ryogami san**	**4.89**	**245**	P		Pn	06 17 23.7	+0.1
JRY				*e*S		Sn	06 18 17.5	-2.7
NEM2	**Nemuro 2**	**5.23**	**11**	P		Pn	06 17 23.8	-4.5
NEM2				*e*S		Sn	06 18 19.7	-8.8
JTKR	**Abashiri--Toko**	**5.74**	**357**	*e*S		Sn	06 18 35.5	-5.5

TAP 29 06:21:22.0, 21.35N×119.83E, h75km±1km, ML3.6, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HEN	**Hengchun**	**1.07**	**52**	*e*P		Pn	06 21 42.6	+1.0
	baz=60							
HEN				*e*S		Sn	06 21 57.5	+1.2
	baz=60							
TWP	**Hsiaoliuchiu**	**1.11**	**26**	*e*P		Pn	06 21 43.8	+1.6
	baz=27							
TWP				*e*S		Sn	06 21 59.3	+2.0
	baz=27							
TSEB	**Hengchuen, Pin**	**1.14**	**61**	*e*P		Pn	06 21 41.6	-0.8
	baz=60							
TSEB				*e*S		Sn	06 21 58.0	+0.2
	baz=60							
SCZT	**Fangliau**	**1.26**	**36**	*e*P		Pn	06 21 44.2	+0.2
	baz=36							
SCZT				*e*S		Sn	06 22 00.7	+0.2
	baz=36							
EAST	**Anshuo**	**1.40**	**42**	P		Pn	06 21 47.1	+1.2
	baz=34							
EAST				*e*S		Sn	06 22 04.3	+0.4
	baz=34							
TWM1	**Shoushan**	**1.57**	**20**	*e*P		Pn	06 21 49.4	+1.4
	baz=13							
TWM1				*e*S		Sn	06 22 08.6	+0.8
	baz=13							
SSD	**Sandimen**	**1.58**	**28**	*e*P		Pn	06 21 49.2	+1.0
	baz=28							
LAY	**Lan-yu**	**1.75**	**66**	*e*P		Pn	06 21 50.8	+0.4
	baz=67							
LAY				*e*S		Sn	06 22 11.0	-0.9
	baz=67							
TWG	**Pinlang**	**1.87**	**38**	*e*P		Pn	06 21 53.9	+1.9
	baz=38							
TWG				*e*S		Sn	06 22 15.7	+0.9
	baz=38							
STYT	**Tauyuan**	**2.00**	**25**	*e*P		Pn	06 21 55.0	+1.2
	baz=26							
STYT				*e*S		Sn	06 22 18.6	+0.5
	baz=26							
TWK	**Hsinying**	**2.01**	**18**	*e*P		Pn	06 21 56.1	+2.2
	baz=27							
TWK				*e*S		Sn	06 22 17.8	-0.4
	baz=27							
WTP	**Ta-pu**	**2.03**	**21**	*e*P		Pn	06 21 55.6	+1.4
	baz=21							
WTP				*e*S		Sn	06 22 19.8	+1.1
	baz=21							
CHN4	**Tsaushan**	**2.12**	**19**	*e*P		Pn	06 21 55.9	+0.6
	baz=27							
CHN4				*e*S		Sn	06 22 21.5	+0.7
	baz=27							
ALS	**Alishan**	**2.34**	**23**	*e*P		Pn	06 21 59.4	+0.8
	baz=23							
ALS				*e*S		Sn	06 22 28.5	+2.0
	baz=23							
YUS	**Yu-Shan**	**2.37**	**26**	*e*P		Pn	06 22 01.3	+2.0
	baz=26							
YUS				*e*S		Sn	06 22 28.5	+0.8
	baz=26							
CHN5	**Tsauling**	**2.38**	**19**	*e*P		Pn	06 22 00.3	+1.4
	baz=27							
CHN5				*e*S		Sn	06 22 27.5	+0.4
	baz=27							
TWF1	**Yuli**	**2.42**	**34**	*e*P		Pn	06 22 01.9	+2.5
	baz=34							
TWF1				*e*S		Sn	06 22 29.4	+1.4
	baz=34							
EHY	**Hungye**	**2.56**	**32**	*e*P		Pn	06 22 02.9	+1.6
	baz=33							
EHY				*e*S		Sn	06 22 32.6	+1.2
	baz=33							
WDT	**Danda**	**2.69**	**26**	*e*P		Pn	06 22 05.1	+1.8
	baz=27							
WDT				*e*S		Sn	06 22 35.2	+0.2
	baz=27							
SMLT	**Sun Moon Lake**	**2.71**	**21**	*e*P		Pn	06 22 05.5	+2.0
	baz=28							
SMLT				*e*S		Sn	06 22 36.9	+1.5
	baz=28							
TYC	**Yuchr**	**2.72**	**20**	*e*P		Pn	06 22 05.5	+2.1
	baz=31							
TYC				*e*S		Sn	06 22 37.1	+1.9
	baz=31							
WHF	**Hehuan Shan**	**3.09**	**25**	*e*P		Pn	06 22 10.7	+1.9
	baz=17							
WHF				*e*S		Sn	06 22 45.3	+0.4
	baz=17							
TWQ1	**Liyutan**	**3.11**	**16**	*e*P		Pn	06 22 10.7	+1.8
	baz=16							
TWQ1				*e*S		Sn	06 22 45.3	+0.4
	baz=16							
TWT	**Tachien**	**3.15**	**23**	*e*P		Pn	06 22 10.8	+1.3
	baz=23							
TWT				*e*S		Sn	06 22 45.9	-0.1
	baz=23							

*DDA **29** 06:34:03.9, 38.82N×26.14E, h26km, Ml3.8*
*ISK **29** 06:34:04.9, 38.81N×26.20E, h13km, ML3.7*
*ISCJB **29** 06:34:04.3±0.4, 38.82N±0.01×26.14E±0.02, h6km±3km, Error ellipse: s-maj=3.2km s-min=2.2km az=162.2*
*THE **29** 06:34:04.7, 38.81N×26.16E, h0km±1km, ML3.5/7, Error ellipse: s-maj=1.4km s-min=0.6km az=248.0*
*ATH **29** 06:34:04.4, 38.81N×26.18E, h28km±1km, ML3.6/3, Error ellipse: s-maj=2.0km s-min=0.8km az=85.0*
*CSEM **29** 06:34:05.3±0.1, 38.80N×26.17E, h10km, ML3.6, Error ellipse: s-maj=2.4km s-min=1.9km az=68.0*
ISC 29 06:34:05.4±0.9, 38.83N±0.01×26.19E±0.02, h12km±8km, n173, σ0.81/227, 14C-14D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PRK	**Paraskevi**	**0.42**	**9**	P		**Pg**	**06 34 13.8**	**-0.1**
PRK				S		**Sb**	**06 34 20.6**	**-0.6**
PRK	**Paraskevi**	**0.42**	**9**	P		**Pg

DGB	˜zmir	0.94	145	⇓	*i* P	Pg	06 34 22.4	-1.3
DGB					*i* S	Sg	06 34 35.7	-0.3
EZN	Ezine	1.00	6		*e*PG	Pb	06 34 24.8	+0.1
EZN	Ezine	1.00	6		P	Pg	06 34 24.1	-0.7
EZN					S	Sn	06 34 39.2	-0.2
EZN	Ezine	1.00	6		P	Pg	06 34 24.1	-0.7
EZN	Ezine	1.00	6		*e*Pg	Pb	06 34 24.8	+0.1
EZN					S	Sn	06 34 39.2	-0.2
BOZC	Bozcaada	1.02	354	⇑	*i* P	Pg	06 34 24.3	-0.8
BOZC					*i* S	Sn	06 34 39.1	-0.7
SMG	Samos	1.23	155		P	Pn	06 34 27.0	-1.4
SMG					S	Sg	06 34 45.0	+0.1
SMG	Samos	1.23	155		P	Pn	06 34 27.0	-1.4
SMG					S	Sg	06 34 45.0	+0.1
SMG	Samos	1.23	155		P	Pn	06 34 26.6	-1.8
SMG					S	Sn	06 34 45.2	+0.3
SMG	comp=E,6977µm,0.8s				AML	AML	06 34 46.1	
SMG	comp=N,4298µm,0.4s				AML	AML	06 34 48.3	
AKS	Akhisar	1.27	87		*e*PN	Pb	06 34 29.3	+0.1
AKS	Akhisar	1.27	87		*e*Pn	Pb	06 34 29.3	+0.1
LIA	Limnos Island	1.32	324		P	Pn	06 34 29.2	-0.5
LIA					S	Sg	06 34 48.9	+0.8
LIA	Limnos Island	1.32	324		P	Pn	06 34 29.3	-0.5
LIA					S	Sg	06 34 47.7	-0.4
GADA	Gvkgeada	1.38	351		*e*PN	Pn	06 34 30.2	-0.3
GADA	Gvkgeada	1.38	351		P	Pn	06 34 30.0	-0.5
GADA					S	Sg	06 34 49.1	+0.8
GADA	Gvkgeada	1.38	351		*e*Pn	Pn	06 34 30.2	-0.3
GADA					S	Sg	06 34 49.1	-0.8
GCAM	G?zelcaml?	1.39	143		P	Pn	06 34 30.5	-0.1
GCAM					S	Sg	06 34 50.7	+0.4
GCAM	G?zelcaml?	1.39	143		*i* P	Pn	06 34 30.5	-0.1
GCAM					*i* S	Sg	06 34 50.7	+0.4
BALY	Balya	1.44	50		P	Pn	06 34 30.9	-0.4
BALY					S	Sg	06 34 51.7	0.0
BALY	Balya	1.44	50		*i* P	Pn	06 34 30.9	-0.4
BALY					*i* S	Sg	06 34 51.7	0.0
BALB	Balikesir	1.54	58		*e*PN	Pn	06 34 32.7	-0.1
BALB	Balikesir	1.54	58		*e*Pn	Pn	06 34 32.7	-0.1
GELI	Tayfur-Gelibol	1.59	8		*e*PN	Pn	06 34 33.3	0.0
GELI	Tayfur-Gelibol	1.59	8		*e*Pn	Pn	06 34 33.3	0.0
AYDB	Zeytinkoy-Aydi	1.60	123		*e*PN	Pn	06 34 33.6	0.0
AYDB	Zeytinkoy-Aydi	1.60	123		*e*Pn	Pn	06 34 33.6	0.0
LPK	Lapseki	1.61	16		*e*PN	Pn	06 34 33.5	0.0
LPK	Lapseki	1.61	16		*e*Pn	Pn	06 34 33.6	0.0
GONE	Gonen-Balikesi	1.68	43		*e*PN	Pn	06 34 34.8	+0.1
GONE	Gonen-Balikesi	1.68	43		*e*Pn	Pn	06 34 34.8	+0.1
SMTH	Samothraki Isl	1.72	343		P	Pn	06 34 34.5	-0.7
SMTH					S	Sb	06 34 59.0	+0.5
SMTH	Samothraki Isl	1.72	343		P	Pn	06 34 34.5	-0.7
SMTH					S	Sb	06 34 59.0	+0.5
SMTH	Samothraki Isl	1.72	343		P	Pn	06 34 34.5	-0.7
KRBG	Karabiga-Canak	1.79	28		*e*PN	Pn	06 34 36.6	+0.6
KRBG	Karabiga-Canak	1.79	28		*e*Pn	Pn	06 34 36.6	+0.6
EREA	Eretria	1.81	258		P	Pn	06 34 35.4	-1.0
EREA	Eretria	1.81	258		P	Pn	06 34 35.5	-1.0
EREA	Eretria	1.81	258		P	Pn	06 34 35.5	-1.0
APE	Apeiranthos	1.83	197		*e*PN	Pn	06 34 35.8	-0.9
APE	Apeiranthos	1.83	197		P	Pn	06 34 34.9	-1.8
APE	Apeiranthos	1.83	197	⇓	*i* P	Pn	06 34 35.1	-1.6
APE	Apeiranthos	1.83	197		P	Pn	06 34 34.9	-1.8
APE	Apeiranthos	1.83	197		*e*Pn	Pn	06 34 35.8	-0.9
APE	Apeiranthos	1.83	197		P	Pn	06 34 34.0	-2.7
AOS	Alonnisos	1.83	282		P	Pn	06 34 37.7	+1.0
AOS					S	Sb	06 35 01.6	-0.1
AOS	Alonnisos	1.83	282		P	Pn	06 34 37.7	+1.0
AOS					S	Sb	06 35 01.6	-0.1
AOS	Alonnisos	1.83	282		P	Pn	06 34 37.8	+1.0
ERIK	Erikli-Kesan	1.86	8		*e*PN	Pn	06 34 37.5	+0.4
ERIK	Erikli-Kesan	1.86	8		*e*Pn	Pn	06 34 37.5	+0.4
ENEZ	Enez	1.91	359		*e*PN	Pn	06 34 38.2	+0.5
ENEZ	Enez	1.91	359		P	Pn	06 34 37.9	+0.2
ENEZ	Enez	1.91	359		P	Pn	06 34 37.9	+0.2
ENEZ	Enez	1.91	359		*e*Pn	Pn	06 34 38.2	+0.5
KULA	Kula-Manisa	1.96	98		*e*PN	Pn	06 34 38.6	+0.1
KULA	Kula-Manisa	1.96	98		P	Pn	06 34 38.5	0.0
KULA					S	Sb	06 35 05.7	+0.2
KULA	Kula-Manisa	1.96	98		*e*Pn	Pn	06 34 38.6	+0.1
KULA					S	Sb	06 35 05.7	+0.2
BODT	Bodrum	1.97	153		*e*PN	Pn	06 34 37.9	-0.7
BODT	Bodrum	1.97	153		P	Pn	06 34 37.6	-1.0
BODT					S	Sb	06 35 05.2	-0.6
BODT	Bodrum	1.97	153		P	Pn	06 34 37.6	-1.0
BODT	Bodrum	1.97	153		*e*Pn	Pn	06 34 37.9	-0.7
BODT					S	Sb	06 35 05.2	-0.6
BDRM	Kayabasi	2.02	150		P	Pn	06 34 38.5	-0.8
BDRM					S	Sb	06 35 08.5	+1.4
BDRM	Kayabasi	2.02	150		*i* P	Pn	06 34 38.5	-0.8
BDRM					*i* S	Sb	06 35 08.5	+1.4
KESN	Edirne-Kesan	2.03	11		P	Pn	06 34 39.5	-0.3
KESN					S	Sn	06 35 06.2	+0.9
KESN	Edirne-Kesan	2.03	11		*i* P	Pn	06 34 39.5	-0.3
KESN					*i* S	Sn	06 35 06.2	+0.9
ALN	Alexandroupoli	2.07	357		*e*PN	Pn	06 34 40.8	+0.8
ALN	Alexandroupoli	2.07	357		P	Pn	06 34 39.7	-0.3
ALN					S	Sn	06 35 06.7	+1.0
ALN	Alexandroupoli	2.07	357		P	Pn	06 34 39.7	-0.3
ALN	Alexandroupoli	2.07	357		*e*Pn	Pn	06 34 40.8	+0.8
ALN					S	Sn	06 35 06.7	+1.0
ALN	Alexandroupoli	2.07	357		P	Pn	06 34 39.6	-0.4
MRMT	Marmara Adasi	2.08	31		*e*PN	Pn	06 34 40.6	+0.4
MRMT	Marmara Adasi	2.08	31		*e*Pn	Pn	06 34 40.6	+0.4
VLY	Voula,Athens	2.12	243		P	Pn	06 34 39.8	-0.8
VLY	Voula,Athens	2.12	243		P	Pn	06 34 39.8	-0.8
SERI	Serifos	2.14	220		P	Pn	06 34 37.7	-3.2
SKIA	Skiathos	2.15	280		P	Pn	06 34 40.1	-1.0
SKIA	Skiathos	2.15	280		P	Pn	06 34 40.1	-1.0
KCTX	Karacabey (Bur	2.21	49		*e*PN	Pn	06 34 42.1	+0.2
KCTX	Karacabey (Bur	2.21	49		*e*Pn	Pn	06 34 42.1	+0.2
OUR	Ouranopolis	2.28	312		*e*PN	Pn	06 34 43.6	+0.8
OUR	Ouranopolis	2.28	312		*e*Pn	Pn	06 34 43.6	+0.8
VILL	Villia	2.35	255		P	Pn	06 34 45.1	+1.2
YER	Yerkesik	2.36	135		*e*PN	Pn	06 34 44.2	+0.1
YER	Yerkesik	2.36	135		*e*Pn	Pn	06 34 44.2	+0.1
VIL2	Platees	2.37	256		P	Pn	06 34 45.1	+1.0
DNZL	Cakiroluk	2.52	116		P	Pn	06 34 47.0	+0.7
DNZL	Cakiroluk	2.52	116		*i* P	Pn	06 34 47.0	+0.7
DNZL					*i* S	Sg	06 35 25.6	-0.8
KAVA	Kavala	2.52	330		P	Pn	06 34 45.7	-0.5
KAVA	Kavala	2.52	330		P	Pn	06 34 45.7	-0.5
MHLO	Agia Marina, M	2.56	214		P	Pn	06 34 43.8	-2.9
GDZ	Gediz	2.58	83		*i* P	Pg	06 34 53.6	-1.3
GDZ					*i* S	Sg	06 35 26.2	-2.1
MDNY	Mudanya-Bursa	2.59	53		*e*PN	Pn	06 34 48.3	+1.2
MDNY	Mudanya-Bursa	2.59	53		*e*Pn	Pn	06 34 48.3	+1.2
TVSB	Tavsanli	2.62	75		*e*PN	Pn	06 34 48.4	+0.8
TVSB	Tavsanli	2.62	75		*e*Pn	Pn	06 34 48.4	+0.8
LTK	Loutraki	2.65	253		P	Pn	06 34 47.8	-0.2
LTK	Loutraki	2.65	253		P	Pn	06 34 47.8	-0.2
KHL	Karahalli	2.66	100		*e*PN	Pn	06 34 49.5	+1.3
KHL	Karahalli	2.66	100		*e*Pn	Pn	06 34 49.5	+1.3
DALY	Dalyan (Mu˘la	2.80	135		*e*PN	Pn	06 34 50.5	+0.5
DALY	Dalyan (Mu˘la	2.80	135		*e*Pn	Pn	06 34 50.5	+0.5
IZI	Iznik	2.95	58		*e*PN	Pn	06 34 52.8	+0.6
IZI	Iznik	2.95	58		*e*Pn	Pn	06 34 52.8	+0.6
HORT	Hortiatis	2.97	308		P	Pn	06 34 52.9	+0.5
HORT	Hortiatis	2.97	308		P	Pn	06 34 52.9	+0.5
SRS	Serrai	3.04	320		P	Pn	06 34 53.8	+0.5
SRS	Serrai	3.04	320		P	Pn	06 34 53.8	+0.5
NVR	Nevrokopi	3.09	325		P	Pn	06 34 54.5	+0.5
ISK	Istanbul-Kandi	3.14	44		*e*PN	Pn	06 34 55.5	+0.8
ISK	Istanbul-Kandi	3.14	44		*e*Pn	Pn	06 34 55.5	+0.8
CAVI	Cavuskoy	3.14	63		*e*PN	Pn	06 34 55.8	+1.0
CAVI	Cavuskoy	3.14	63		*e*Pn	Pn	06 34 55.8	+1.0
KLV	Kalavryta, Ach	3.27	257		P	Pn	06 34 56.3	-0.2
KLV	Kalavryta, Ach	3.27	257		P	Pn	06 34 56.3	-0.2
KLYT	Kilyos	3.27	41		*e*PN	Pn	06 34 57.4	+1.0
KLYT	Kilyos	3.27	41		*e*Pn	Pn	06 34 57.4	+1.0
BARS	Barje	5.19	322		*e*Pn	Pn	06 35 23.7	+0.9
SELS	Selova	5.83	320		*e*Pn	Pn	06 35 33.2	+1.6
TIRR	Tirgusor	5.87	16	⇓	*i* P	Pn	06 35 32.3	+0.2
TIRR	Tirgusor	5.87	16	⇓	*i* P	Pn	06 35 32.3	+0.2
BOVS	Bovan	5.87	326		*e*Pn	Pn	06 35 34.2	+2.0
BOLS	Boljevac	5.93	329		*e*Pn	Pn	06 35 33.6	+0.6
CFR	Carcaliu	6.51	12	⇑	*i* P	Pn	06 35 42.6	+1.6
CFR	Carcaliu	6.51	12	⇑	*i* P	Pn	06 35 42.6	+1.6
KUBS	Kucevo	6.53	300		*e*Pn	Pn	06 35 41.3	+0.1
MLR	Muntele Rosu	6.66	359	⇑	*i* P	Pn	06 35 44.1	+0.9
MLR	Muntele Rosu	6.66	359	⇑	*i* P	Pn	06 35 44.1	+0.9
MDVR	Moldovita	6.83	332	⇑	*i* P	Pn	06 35 45.9	+0.5
MDVR	Moldovita	6.83	332	⇑	*i* P	Pn	06 35 45.9	+0.5
PLOR	Plostina	7.03	3	⇓	*i* P	Pn	06 35 48.8	+0.7
PLOR	Plostina	7.03	3	⇓	*i* P	Pn	06 35 48.8	+0.7
GZR	Gura Zlata	7.04	340	⇓	*i* P	Pn	06 35 48.4	+0.1
GZR	Gura Zlata	7.04	340	⇓	*i* P	Pn	06 35 48.4	+0.1
VRI	Vrincioaia	7.05	3	⇑	*i* P	Pn	06 35 48.3	-0.1
VRI	Vrincioaia	7.05	3	⇑	*i* P	Pn	06 35 48.3	-0.1
DOPR	Dopca	7.16	356	⇑	*i* P	Pn	06 35 49.2	-0.7
DOPR	Dopca	7.16	356	⇑	*i* P	Pn	06 35 49.2	-0.7
TESR	Tescani	7.69	2	⇓	*i* P	Pn	06 35 58.1	+0.9
TESR	Tescani	7.69	2	⇓	*i* P	Pn	06 35 58.1	+0.9
DRGR		8.36	343	⇓	*i* P	Pn	06 36 07.4	+1.0
DRGR		8.36	343	⇓	*i* P	Pn	06 36 07.4	+1.0
BURAR	Bucovina Array	8.81	356	⇑	*i* P	Pn	06 36 14.0	+1.3
BURAR	Bucovina Array	8.81	356	⇑	*i* P	Pn	06 36 14.0	+1.3

GUC ***29*** *06:38:53.1±0.6, 33°.96S×72°.27W, h31km±5km, ML2.8*
ISC 29 06:38:53.5±2.1, 33°.96S±0°.05×72°.3W±0°.1, h14km±11km, n19, σ2^{s}09/32, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHPI	Pichilemu	0.48	152		*i* P	Pg	06 39 03.4	+0.3
CHPI					*i* S	Sb	06 39 11.3	+0.6
CHPI					IAML		06 39 13.9	
	comp=N,622nm,0.1s							
RCDM	Rinconada Maip	1.32	69		*i* P	Pn	06 39 17.0	-0.4
RCDM					*i* S	Sb	06 39 35.0	+0.3
RCDM					IAML		06 39 40.2	
	comp=N,226nm,0.1s							
NICH	Los Niches	1.35	140		*i* P	Pn	06 39 17.4	-0.6
NICH					*i* S	Sn	06 39 35.8	+0.1
NICH					IAML		06 39 41.0	
	comp=E,718nm,0.5s							
ROC1	El Roble	1.45	47		*i* P	Pb	06 39 20.2	-0.1
ROC1					*i* S	Sg	06 39 50.5	+10
ROCH	El Roble	1.45	47		*i* P	Pn	06 39 19.2	-0.3
ROCH					*i* S	Sb	06 39 39.0	+0.2
ROCH					IAML		06 39 48.5	
	comp=N,203nm,0.4s							
CLCH	Cerro Calan	1.56	69		*i* P	Pn	06 39 21.0	+0.2
CLCH					*i* S	Sb	06 39 41.6	-0.2
CLCH					IAML		06 39 47.4	
	comp=E,184nm,0.4s							
PEL	Peldehue	1.56	59		*i* P	Pn	06 39 20.9	+0.1
PEL					*e*S	Sn	06 39 40.7	-0.3
PEL					IAML		06 39 51.7	
	comp=N,219nm,0.7s							
FCH	Farellones	1.78	70		*i* P	Pn	06 39 24.6	+0.6
FCH					*i* S	Sb	06 39 48.6	+0.3
FCH					IAML		06 39 49.5	
	comp=N,176nm,0.2s							
AUSP	Uspallata	2.98	55		*i* P	Pb	06 39 43.9	-2.7
AUSP					*i* S	Sg	06 40 30.7	+1.3
AAGR	Agrelo	3.01	74		*i* P	Pb	06 39 45.0	-1.9
ARCO	CERRO ARCO	3.02	69		*i* P	Pb	06 39 44.8	-2.3
ARCO					*i* S	Sg	06 40 32.5	+2.1
ARCO					IAML		06 40 34.8	
	comp=Z,14nm,0.4s							
ASAL	Salagasta	3.19	66		*i* P	Pb	06 39 47.2	-2.9
ASAL					*i* S	Sg	06 40 36.3	+0.2
RTLS	Leoncito	3.31	50		*i* P	Pn	06 39 47.9	+2.8
RTLS					*i* S	Sg	06 40 37.9	-1.9
RTCV	Cerro Valdivia	3.78	57		*i* P	Pn	06 39 54.7	+3.3
RTLL	Cerro Villicun	4.15	52		*i* P	Pn	06 39 59.9	+3.4
RTLL					*i* S	Sb	06 40 57.4	+1.1
AMOG	MOGNA	4.40	48		*i* P	Pn	06 40 02.2	+2.4
AROD	Rodeo	4.47	33		*i* P	Pn	06 40 02.0	+0.9
AVFE	Valle Fertil	5.25	52		*i* P	Pn	06 40 14.2	+2.6
AVFE					*i* S	Sb	06 41 23.2	-4.7
AVFE					IAML		06 41 36.6	
	comp=Z,4.3nm,0.4s							
MRA	San Martin	5.71	76		*i* P	Pn	06 40 22.4	+4.4

ISN ***29*** *06:39:08.3±0.3, 36°.97N×42°.58E, h0km, ML3.0*
CSEM ***29*** *06:39:10.2±0.3, 37°.09N×42°.48E, h2km, MD3.0, Error ellipse: s-maj=7.6km s-min=3.7km az=7.0*
ISK ***29*** *06:39:11.1, 37°.20N×42°.53E, h15km, MD3.2*
DDA ***29*** *06:39:31.3, 37°.23N×42°.42E, h7km, Md3.0*
ISC 29 06:39:10.4±1.6, 37°.14N±0°.06×42°.48E±0°.03, h2km±12km, n19, σ1^{s}08/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIRN	S˘–rnak	0.36	351		*i* P	Pg	06 39 17.6	+0.3
SIRN					*i* S	Sb	06 39 24.3	-1.4
SIRT	Sirnak	0.36	354		*e*PG	Pg	06 39 17.8	+0.4
SIRT					*e*SG	Sb	06 39 23.2	-2.5
SIRT	Sirnak	0.36	354		*e*Pg	Pg	06 39 17.8	+0.4
SIRT					*e*Sg	Sb	06 39 23.3	-2.5
CUKT	Cukurca	0.90	83		*e*PG	Pb	06 39 28.5	-0.4
CUKT					*e*SG	Sb	06 39 40.7	-0.7
CUKT	Cukurca	0.90	83		*e*Pg	Pb	06 39 28.5	-0.4
CUKT					*e*Sg	Sb	06 39 40.7	-0.7
HKR	Hakkari	1.09	66		*e*PG	Pb	06 39 31.9	-0.8
HKR					*e*SG	Sb	06 39 46.0	-0.9
HKR	Hakkari	1.09	66		*e*Pg	Pb	06 39 31.3	-0.8
HKR					*e*Sg	Sb	06 39 46.0	-0.9
BTMN	Batman	1.22	308		P	Pg	06 39 34.4	+0.6
BTMN					S	Sn	06 39 52.1	+0.4
BTMN	Batman	1.22	308		*i* P	Pg	06 39 34.4	+0.6
BTMN					*i* S	Sn	06 39 52.1	+0.4
GEVA	Gevas	1.25	21		P	Pn	06 39 35.4	+0.3
GEVA	Gevas	1.25	21		*i* P	Pn	06 39 35.4	+0.3
GEVA					*i* S	Sn	06 39 55.8	+3.1
MARD	Mardin	1.37	278		*i* P	Pn	06 39 35.9	-0.8
MARD					*i* S	Sb	06 39 55.1	+0.2
TATV	Tatvan	1.37	353		P	Pg	06 39 37.6	+0.8
TATV					S	Sn	06 39 56.6	+1.0
TATV	Tatvan	1.37	353		*e*P	Pg	06 39 37.6	+0.8
TATV					*i* S	Sn	06 39 56.6	+1.0
SVAN	Silvan-Diyarba	1.43	315		*e*PN	Pn	06 39 37.4	-0.1
SVAN	Silvan-Diyarba	1.43	315		*e*Pn	Pn	06 39 37.4	-0.1
MAZI	Mazidag	1.66	282		*e*PN	Pn	06 39 40.5	-0.1
MAZI	Mazidag	1.66	282		*e*Pn	Pn	06 39 40.5	-0.1
BNGL	BINGOL	2.09	330		*i* P	Pb	06 39 49.3	+0.1
BNGL					*i* S	Sg	06 40 17.7	+0.1

IDC ***29*** *06:46:18.5±1.2, 33°.95S×72°.13W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.8/21, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=52.6km s-min=19.9km az=87.0*
GUC ***29*** *06:46:20.0±0.7, 33°.95S×72°.39W, h25km±5km, ML3.5*
ISC 29 06:46:21.6±1.7, 34°.00S±0°.04×72°.34W±0°.07, h17km±10km, n34, σ1^{s}57/49, mb4.0/3, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHPI	Pichilemu	0.48	145		*e*P	Pg	06 46 31.3	+0.1
CHPI					*i* S	Sb	06 46 39.7	+1.4
CHPI					IAML		06 46 41.1	
	comp=E,4µm,0.5s							
NICH	Los Niches	1.36	138		*e*P	Pn	06 46 46.1	+0.4
NICH					*e*S	Sg	06 47 05.6	+0.1
RCDM	Rinconada Maip	1.37	69	⇓	*i* P	Pn	06 46 45.1	-0.8
ANTU	Antumapu	1.48	74		*e*P	Pn	06 46 47.4	0.0
ANTU					*i* S	Sb	06 47 07.5	+0.3
ANTU					IAML		06 47 11.3	
	comp=E,1µm,0.8s							
ROC1	El Roble	1.50	48		*i* P	Pn	06 46 47.6	-0.3
ROC1					*i* S	Sg	06 47 22.5	+12
ROCH	El Roble	1.51	48	⇓	*i* P	Pn	06 46 47.3	-0.7
ROCH					IAML		06 47 18.7	
	comp=E,1µm,0.7s							
TALC	Talca	1.51	158		*e*P	Pn	06 46 47.9	0.0
TALC					*i* S	Sb	06 47 09.5	+1.4
CLCH	Cerro Calan	1.61	69	⇑	*i* P	Pn	06 46 49.3	0.0
CLCH					*i* S	Sn	06 47 09.9	+0.1
CLCH					IAML		06 47 24.1	
	comp=N,1µm,0.9s							
PEL	Peldehue	1.62	59	⇑	*i* P	Pn	06 46 49.4	+0.1
PEL					*i* S	Sb	06 47 11.5	+0.3
PEL					IAML		06 47 21.3	
	comp=E,1µm,1.2s							
FCH	Farellones	1.83	69		*e*P	Pn	06 46 52.8	+0.3
FCH					*i* S	Sb	06 47 17.3	-0.3
FCH					IAML		06 47 25.8	
	comp=N,791nm,0.3s							
AUSP	Uspallata	3.04	55		*i* P	Pn	06 47 11.5	+2.4
AUSP					*i* S	Sg	06 48 00.3	+1.0
AAGR	Agrelo	3.07	74		*i* P	Pn	06 47 10.4	+1.1
ARCO	CERRO ARCO	3.07	69		*i* P	Pn	06 47 10.9	+1.5
ARCO					*i* S	Sg	06 48 00.6	+0.3
ARCO					IAML		06 48 06.6	
	comp=Z,107nm,0.6s							
ASAL	Salagasta	3.25	65		*i* P	Pn	06 47 13.6	+1.8
ASAL					*i* S	Sg	06 48 05.6	-0.4
RTLS	Leoncito	3.37	50		*i* P	Pn	06 47 16.0	+2.4
RTLS					*i* S	Sg	06 48 09.4	-0.4
RTCV	Cerro Valdivia	3.84	57		*i* P	Pn	06 47 22.2	+2.4
RTCV					*i* S	Sg	06 48 19.9	-4.9
RTLL	Cerro Villicun	4.20	52		*i* P	Pn	06 47 27.4	+2.5
RTLL					*i* S	Sb	06 48 29.0	+3.4
ACCO	Cerro Coronel	4.38	40		*i* P	Pn	06 47 29.8	+2.2
ACCO					IAML		06 48 52.4	
	comp=Z,40nm,0.7s							
AMOG	MOGNA	4.45	48		*i* P	Pn	06 47 30.6	+2.2
AROD	Rodeo	4.53	33		*i* P	Pn	06 47 31.6	+2.0
AROD					*i* S	Sb	06 48 36.2	+1.1
ACAN	Cantantal	4.65	70		*i* P	Pn	06 47 32.3	+1.8
ACAN					*i* S	Sb	06 48 38.8	+3.5
ACDV	Cuesta del Vie	4.69	36		*i* P	Pn	06 47 33.4	+1.7
AVFE	Valle Fertil	5.30	52		*i* P	Pn	06 47 42.1	+2.0
AVFE					IAML		06 48 59.2	
	comp=Z,27nm,0.7s							
ACHE	Chepes	5.56	61		*i* P	Pn	06 47 45.6	+2.0
AGUA	GUANDACOL	5.56	37		*i* P	Pn	06 47 45.2	+1.6
MRA	San Martin	5.77	76		*i* P	Pn	06 47 47.3	+0.9
PLCA	Paso Flores	6.87	169		Pn	Pn	06 48 02.1	+0.5
	comp=Z,0.3nm,0.3s,baz=359,slow=10,SNR=9.3							
PLCA					Lg	Lg	06 49 56.2	
	comp=Z,0.3nm,0.3s,baz=302,slow=24,SNR=3.6							
LPAZ	La Paz	18.04	13		P	Pn	06 50 31.6	-0.4
	comp=Z,0.1nm,0.3s,baz=189,slow=7.8,SNR=5.6							
SIV	San Ignacio	20.60	32		P	P	06 50 58.7	-1.3
	comp=Z,1.8nm,0.9s,baz=195,slow=4.6,SNR=4.8							
TXAR	Lajitas Array	69.61	331		P	P	06 57 29.9	+0.1
	comp=Z,0.3nm,0.6s,baz=154,slow=6.2,SNR=4.2							
MAW	Mawson	73.25	164		P	P	06 57 51.6	+0.3
	comp=Z,1.4nm,0.7s,baz=189,slow=7.3,SNR=4.1							
TORD	Torodi Ar. Bea	84.44	70		P	P	06 58 51.9	-1.7
	comp=Z,0.7nm,0.6s,baz=282,slow=5.8,SNR=6.3							
BVAR	Borovoye Array	147.45	43		PKPbc	PKPdf	07 06 01.9	+0.4
	comp=Z,0.8nm,0.6s,baz=302,slow=6.8,SNR=5.9							
ZALV	Zalesovo Beam	154.35	32		PKPbc	PKPbc	07 06 19.4	-0.9
	comp=Z,0.8nm,0.6s,baz=224,slow=2.8,SNR=4.2							

JMA ***29*** *06:47:20.7±0.3, 32°.28N×137°.89E, h399km, M3.4*
IDC ***29*** *06:47:21.4±1.6, 32°.32N×137°.78E, h392km±15km, mb3.0/8, mb1 3.1/12, mb1mx2.9/47, mbtmp3.8/12, Error ellipse: s-maj=27.1km s-min=18.4km az=72.0*
ISC 29 06:47:20.3±1.0, 32°.3N±0°.1×137°.82E±0°.09, h376km, n21, σ1^{s}66/25, mb3.3/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JWZ	Kozaga	2.

MKAR Makanchi Array 156.87 49 PKPab **PKPab 07 08 29.9 -2.5**
comp=N,0.3nm,0.5s,baz=281,slow=2.8,SNR=3.9

IDC ***29*** *07:02:21.9±0.7, 33°.91S×72°.25W, h0km, mb4.3/7, mb1 4.4/9, mb1mx4.2/24, mbtmp4.3/9, ML4.4/2, MS4.1/11, Ms1 4.1/11, ms1mx3.8/26, Error ellipse: s-maj=33.0km s-min=20.3km az=79.0*
NEIC ***29*** *07:02:23.0, 33°.97S×72°.47W, h30km, mb4.7/41, ML4.3(GUC), After GUC.*
NEIC Felt [II] at Curico, Iloca and Talca.
GUC ***29*** *07:02:23.7±0.7, 33°.97S×72°.47W, h30km±8km, ML4.3*
ISCJB ***29*** *07:02:24.4±0.3, 34°.01S±0°.03×72°.43W±0°.04, h17km, mb4.6/46, MS4.1/8, Error ellipse: s-maj=4.3km s-min=4.2km az=173.5*
BJI ***29*** *07:02:24.4, 34°.00S×71°.90W, h18km, mB5.3/4, Ms5.1/6, Ms7 4.9/4*

ISC 29 07:02:25.0±0.4, 33°.97S±0°.03×72°.36W±0°.04, h17km, n128, σ2s35/134, mb4.7/46, MS4.1/8, 5C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHPI	**Pichilemu**	**0.51**	**145**	⇓*i*	*i*P	**Pg**	**07 02 34.8**	**-0.4**
CHPI					*i* S	**Sb**	**07 02 42.9**	**+0.3**
CHPI					IAML		07 02 45.2	
	comp=E,18μm,0.4s							
ANTU	**Antumapu**	**1.49**	**75**	*e*P		**Pn**	**07 02 51.0**	**0.0**
ANTU					*e*S	**Sb**	**07 03 11.3**	**+0.4**
ANTU					IAML		07 03 18.6	
	comp=N,8μm,0.9s							
ROC1	**El Roble**	**1.50**	**49**	*i* P		**Pg**	**07 02 53.2**	**-0.7**
ROC1				*i* S		Sg	07 03 28.7	+15
ROC1	**El Roble**	**1.50**	**49**	*e*Pn		**Pn**	**07 02 50.7**	**-0.7**
ROCH	**El Roble**	**1.51**	**49**	⇑*i*	*i*P	**Pn**	**07 02 50.6**	**-0.8**
ROCH					IAML		07 03 22.6	
	comp=N,7μm,0.9s							
TALC	**Talca**	**1.54**	**157**	*e*P		**Pn**	**07 02 51.2**	**-0.5**
TALC				*i* S		**Sn**	**07 03 11.7**	**+0.4**
PEL	**Peldehue**	**1.62**	**60**	⇑*i*	*i*P	**Pn**	**07 02 53.0**	**+0.1**
PEL				*i* S		**Sb**	**07 03 15.0**	**+0.3**
PEL				IAML			07 03 22.8	
	comp=E,6μm,1.1s							
FCH	**Farellones**	**1.84**	**70**	⇓*i*	*i*P	**Pn**	**07 02 56.2**	**+0.1**
FCH				IAML			07 03 28.8	
	comp=E,4μm,0.3s							
COCH	**Cobquecura**	**2.18**	**189**	⇑*i*	*i*P	**Pn**	**07 02 59.0**	**-1.4**
AUSP	**Uspallata**	**3.04**	**56**	*i* P		**Pb**	**07 03 15.7**	**-3.2**
AUSP				⇓*i*	S	**Sg**	**07 04 05.7**	**+2.8**
AAGR	**Agrelo**	**3.08**	**74**	*i* P		**Pn**	**07 03 15.3**	**+2.3**
AAGR				*i* S		**Sg**	**07 04 06.7**	**+2.8**
ARCO	**CERRO ARCO**	**3.08**	**69**	*i* P		**Pn**	**07 03 15.6**	**+2.6**
ARCO				*i* S		**Sg**	**07 04 07.4**	**+3.4**
ARCO				IAML			07 04 10.4	
	comp=Z,428nm,0.4s							
AVIZ	**Vizcacheras**	**3.24**	**82**	*i* P		**Pn**	**07 03 16.4**	**+1.2**
AVIZ				*i* S		**Sg**	**07 04 09.2**	**0.0**
ASAL	**Salagasta**	**3.26**	**66**	*i* P		**Pn**	**07 03 18.0**	**+2.7**
ASAL				*i* S		**Sg**	**07 04 12.1**	**+2.4**
RTLS	**Leoncito**	**3.37**	**51**	*i* P		**Pb**	**07 03 20.3**	**-4.1**
RTLS				*i* S		**Sg**	**07 04 15.8**	**+2.6**
RTCV	**Cerro Valdivia**	**3.84**	**58**	*i* P		**Pn**	**07 03 26.0**	**+2.7**
RTLL	**Cerro Villicun**	**4.21**	**52**	*i* P		**Pn**	**07 03 31.0**	**+2.7**
RTLL				*i* S		**Sg**	**07 04 34.8**	**-5.2**
ACCO	**Cerro Coronel**	**4.38**	**40**	*i* P		**Pn**	**07 03 33.5**	**+2.5**
ACCO				*i* S		**Sg**	**07 04 39.9**	**-5.8**
ACCO				IAML			07 04 54.3	
	comp=Z,221nm,0.5s							
AMOG	**MOGNA**	**4.45**	**48**	*i* P		**Pn**	**07 03 34.1**	**+2.3**
AMOG				*i* S		**Sb**	**07 04 40.2**	**+4.0**
AROD	**Rodeo**	**4.52**	**34**	*i* P		**Pn**	**07 03 34.9**	**+2.0**
ACAN	**Cantantal**	**4.66**	**70**	*i* P		**Pn**	**07 03 36.4**	**+1.8**
ACAN				*i* S		**Sb**	**07 04 43.8**	**+1.7**
ACDV	**Cuesta del Vie**	**4.68**	**37**	*i* P		**Pn**	**07 03 37.1**	**+2.0**
ACDV				*i* S		**Sb**	**07 04 45.6**	**+2.7**
LCO	**Las Campanas**	**5.15**	**16**	*e*Pn		**Pn**	**07 03 39.8**	**-1.7**
AVFE	**Valle Fertil**	**5.31**	**53**	*i* P		**Pn**	**07 03 44.7**	**+1.2**
AVFE				IAML			07 05 08.3	
	comp=Z,143nm,0.6s							
AGUA	**GUANDACOL**	**5.56**	**37**	*i* P		**Pn**	**07 03 48.7**	**+1.7**
ACHE	**Chepes**	**5.57**	**61**	*i* P		**Pn**	**07 03 50.0**	**+2.9**
ACHE				*i* S		**Sb**	**07 05 07.4**	**-0.9**
MRA	**San Martin**	**5.78**	**76**	*i* P		**Pn**	**07 03 50.4**	**+0.3**
PLCA	**Paso Flores**	**6.90**	**168**	Pn		**Pn**	**07 04 05.7**	**+0.3**
	comp=Z,2.7nm,0.3s,baz=5.1,slow=10,SNR=61							
PLCA				Lg		Lg	07 06 00.8	
	comp=Z,0.5nm,0.3s,baz=294,slow=20,SNR=3.3							
PLCA				LR		LR	07 06 42.9	
	comp=Z,584nm,20.0s,baz=10,slow=38							
PLCA	**Paso Flores**	**6.90**	**168**	*e*Pn		**Pn**	**07 04 06.0**	**+0.7**
PLCA				Lg		Lg	07 06 00.8	
TRQA	**Tornquist**	**9.34**	**119**	*e*Pn		**Pn**	**07 04 37.6**	**-1.2**
LVC	**Limon Verde**	**11.72**	**16**	Pn		Pn	07 05 06.8	-5.0
	comp=Z,16nm,0.3s,baz=205,slow=11,SNR=5.6							
LVC				LR		LR	07 09 44.5	
	comp=Z,2μm,19.5s,baz=205,slow=38							
PB01	**IPOC Station P**	**13.13**	**12**	*e*Pn		P	07 05 35.6	-5.3
CPUP	**Villa Florida**	**15.06**	**64**	Pn		**Pn**	**07 05 58.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=249,slow=16,SNR=4.5							
CPUP				LR		LR	07 12 08.2	
	comp=Z,762nm,18.6s,baz=241,slow=39							
LPAZ	**La Paz**	**18.02**	**13**	P		**Pn**	**07 06 34.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=190,slow=6.8,SNR=20							
LPAZ	**La Paz**	**18.02**	**13**	*e*Pn		**P**	**07 06 35.4**	**-0.3**
	comp=Z,16nm,1.0s							
SIV	**San Ignacio**	**20.59**	**32**	P		**P**	**07 07 00.7**	**-2.6**
	comp=Z,7.8nm,0.9s,baz=229,slow=12,SNR=17							
SIV				LR		LR	07 16 43.5	
	comp=Z,717nm,19.1s,baz=224,slow=42							
USHA	**Ushuaia**	**21.04**	**174**	P		**P**	**07 07 11.2**	**+3.5**
	comp=Z,65nm,0.8s,baz=354,slow=10,SNR=3.5							
SAML	**Samuel**	**26.30**	**21**	*e*P		**P**	**07 07 59.4**	**-0.3**
	comp=Z,11nm,0.9s							
OTAV	**Otavalo**	**34.51**	**349**	*e*P		**P**	**07 09 15.4**	**+2.5**
	comp=Z,4.7nm,1.0s							
PTGA	**Pitinga**	**35.05**	**22**	LR		LR	07 25 40.7	
	comp=Z,189nm,18.2s,baz=198,slow=40							
PTGA	**Pitinga**	**35.05**	**22**	*e*P		**P**	**07 09 16.4**	**-0.6**
	comp=Z,42nm,1.8s							
HELC	**Santa Helena**	**40.06**	**355**	*e*P		**P**	**07 10 00.5**	**+0.7**
	comp=Z,9.0nm,0.6s							
PCRV	**Puerto La Cruz**	**44.52**	**11**	LR		LR	07 30 20.1	
	comp=Z,393nm,18.8s,baz=187,slow=38							
VNA1	**Neumayer--Stat**	**49.80**	**157**	P		**P**	**07 11 17.6**	**+1.2**
SNAA	**Sanae**	**51.71**	**158**	P		**P**	**07 11 31.0**	**+0.2**
SNAA	**Sanae**	**51.71**	**158**	*e*P		**P**	**07 11 31.2**	**+0.4**
	comp=Z,23nm,1.1s							
QSPA	**South Pole Qui**	**56.26**	**180**	*e*P		**P**	**07 12 05.3**	**+1.0**
VNDA	**Vanda**	**64.07**	**191**	P		P	07 13 02.9	+5.5
	comp=Z,2.0nm,1.0s,baz=87,slow=5.3,SNR=5.0							
VNDA	**Vanda**	**64.07**	**191**	*e*P		**P**	**07 12 59.3**	**+1.9**
	comp=Z,11nm,1.6s							
SYO	**Syowa Base**	**65.99**	**159**	⇑*e*X		**P**	**07 13 08.4**	**-1.5**
SYO	**Syowa Base**	**65.99**	**159**	⇑*e*pP		pP	07 13 13.6	-1.8
TAOE	**Nuku Hiva Isla**	**66.70**	**275**	*e*LR		LR	07 33 05.1	
	comp=Z,76nm,23.9s							
TBI	**Tubuai**	**67.06**	**257**	*e*LR		LR	07 33 19.5	
	comp=Z,179nm,26.5s							
HPIG		**68.32**	**328**	*e*P		**P**	**07 13 27.3**	**+1.8**
	comp=Z,7.1nm,0.8s							
JCT	**Junction City**	**69.15**	**335**	*e*P		**P**	**07 13 31.6**	**+1.2**
	comp=Z,14nm,0.9s							
TXAR	**Lajitas Array**	**69.58**	**331**	P		**P**	**07 13 33.1**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=156,slow=8.4,SNR=12							
TXAR				LR		LR	07 40 29.3	
	comp=Z,120nm,18.3s,baz=0.0,slow=33							
TX31	**Lajitas Ar. Si**	**69.58**	**331**	*e*P		**P**	**07 13 33.4**	**+0.3**
TX31				*e*P		**P**	**07 13 33.8**	**+0.6**
WHTX	**Lake Whitney,**	**69.75**	**337**	*e*P		**P**	**07 13 36.3**	**+2.3**
	comp=Z,14nm,0.8s							
PPT2	**Papeete2**	**69.97**	**262**	*e*LR		LR	07 34 44.8	
	comp=Z,158nm,27.2s							
PPT	**Papeete**	**69.98**	**262**	LR		LR	07 37 47.8	
	comp=Z,84nm,20.6s,baz=124,slow=30							
SWET	**Sewanee**	**69.99**	**348**	*e*P		**P**	**07 13 35.7**	**+0.2**
	comp=Z,2.8nm,0.7s							
WLAR	**White Oak Lake**	**70.07**	**342**	*e*P		**P**	**07 13 37.6**	**+1.7**
	comp=Z,17nm,0.5s							
MIAR	**Mount Ida**	**71.00**	**342**	*e*P		**P**	**07 13 42.9**	**+1.3**
	comp=Z,6.3nm,1.0s							
ABTX	**Abilene, Hawle**	**71.05**	**336**	*e*P		**P**	**07 13 42.1**	**+0.1**
	comp=Z,12nm,0.9s							
WVT	**Waverly**	**71.22**	**347**	*e*P		**P**	**07 13 42.7**	**-0.2**
	comp=Z,21nm,0.8s							
X301	**Greenbrier Sit**	**71.36**	**343**	*e*P		**P**	**07 13 44.0**	**+0.2**
	comp=Z,14nm,1.0s							
X201	**Greenbrier Sit**	**71.41**	**343**	*e*P		**P**	**07 13 44.5**	**+0.5**
	comp=Z,15nm,1.0s							
MNTX	**Cornudas Mount**	**72.36**	**331**	*e*P		**P**	**07 13 49.4**	**-0.5**
	comp=Z,4.7nm,0.8s							
PBMO	**Poplar Bluff**	**72.38**	**345**	*e*P		**P**	**07 13 49.9**	**+0.1**
	comp=Z,8.6nm,1.0s							
HHAR	**Hobbs**	**72.74**	**342**	*e*P		**P**	**07 13 56.1**	**+4.0**
	comp=Z,10nm,1.2s							
TUL1	**Leonard**	**72.89**	**340**	*e*P		**P**	**07 13 48.6**	**-4.3**
	comp=Z,5.4nm,0.6s							
MAW	**Mawson**	**73.28**	**164**	P		**P**	**07 13 55.1**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=212,slow=5.7,SNR=10.0							
MAW				LR		LR	07 48 24.6	
	comp=Z,136nm,18.1s,baz=242,slow=38							
MAW	**Mawson**	**73.28**	**164**	*e*P		**P**	**07 13 55.4**	**+0.5**
	comp=Z,1.9nm,1.2s							
MSTX	**Muleshoe**	**73.37**	**334**	*e*P		**P**	**07 13 56.5**	**+0.6**
	comp=Z,8.9nm,0.9s							
319A	**Douglas**	**73.74**	**328**	*e*P		**P**	**07 14 00.8**	**+2.7**
	comp=Z,6.6nm,0.9s							
121A	**Cookes Peak, D**	**74.08**	**329**	*e*P		**P**	**07 13 56.7**	**-3.5**
	comp=Z,16nm,1.3s							
DBIC	**Dimboloo**	**75.42**	**71**	P		**P**	**07 14 07.3**	**-0.9**
	comp=Z,4.9nm,0.7s,baz=216,slow=8.0,SNR=3.6							
ANMO	**Albuquerque**	**75.63**	**332**	*e*P		**P**	**07 14 11.4**	**+2.3**
	comp=Z,3.1nm,0.9s							
TRY	**Troy**	**76.34**	**359**	*e*P		**P**	**07 14 14.8**	**+2.0**
	comp=Z,24nm,1.1s							
T25A	**Trinidad**	**76.79**	**334**	*e*P		**P**	**07 14 17.1**	**+1.4**
	comp=Z,48nm,1.8s							
X16A	**Lo Mia Camp, P**	**77.27**	**328**	*e*P		**P**	**07 14 20.3**	**+1.8**
	comp=Z,5.1nm,0.9s							
SDCO	**Great Sand Dun**	**77.73**	**334**	*e*P		**P**	**07 14 24.8**	**+3.7**
	comp=Z,2.1nm,0.8s							
WUAZ	**Wupatki**	**78.17**	**328**	*e*P		**P**	**07 14 25.4**	**+2.0**
	comp=Z,6.1nm,1.0s							
S22A	**4UR Ranch, Cre**	**78.23**	**333**	*e*P		**P**	**07 14 26.4**	**+2.5**
MVCO	**Mesa Verde**	**78.41**	**331**	*e*P		**P**	**07 14 29.3**	**+4.4**
	comp=Z,5.8nm,1.0s							
U15A	**North Rim**	**79.33**	**328**	*e*P		**P**	**07 14 33.5**	**+3.5**
	comp=Z,3.2nm,0.8s							
TSUM	**Tsumeb**	**79.48**	**106**	*e*P		**P**	**07 14 31.7**	**+0.6**
	comp=Z,12nm,1.3s							
TSUM					*e*PcP	**pP**	**07 14 37.3**	**+0.6**
LMN	**Caledonia Moun**	**79.75**	**5**	*e*P		**P**	**07 14 32.2**	**+0.6**
	comp=Z,8.6nm,1.0s							
KNB	**Kanab**	**80.06**	**328**	*e*P		**P**	**07 14 35.8**	**+2.1**
	comp=Z,33nm,2.0s							
BOSA	**Boshof**	**80.32**	**118**	P		**P**	**07 14 35.2**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=247,slow=3.6,SNR=7.0							
ECSD	**EROS Data Cent**	**80.44**	**342**	*e*P		P	07 14 40.2	+4.8
	comp=Z,5.0nm,1.0s							
SHPR	**Sheep Range**	**80.69**	**326**	*e*P		**P**	**07 14 39.9**	**+2.8**
	comp=Z,3.6nm,0.9s							
CCUT	**Cedar City**	**80.74**	**328**	*e*P		**P**	**07 14 41.3**	**+3.8**
	comp=Z,8.4nm,1.4s							
VLDQ	**Val d'Or**	**81.84**	**357**	*e*PcP		**PcP**	**07 14 50.1**	**+1.8**
PDAR	**Pinedale Array**	**83.62**	**333**	P		**P**	**07 14 51.8**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=165,slow=6.1,SNR=3.1							
TOA0	**Torodi Ar. Sit**	**84.45**	**70**	*e*P		**P**	**07 14 56.4**	**-0.7**
TOA0				*e*P		**P**	**07 14 56.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**84.45**	**70**	P		**P**	**07 14 56.1**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=251,slow=4.4,SNR=24							
TORD				LR		LR	07 52 07.9	
	comp=Z,80nm,18.2s,baz=330,slow=35							
HLID	**Hailey**	**86.18**	**331**	*e*P		**P**	**07 15 08.9**	**+3.7**
	comp=Z,4.7nm,1.1s							
MCMT	**McKenzie Canyo**	**86.62**	**332**	*e*P		**P**	**07 15 09.7**	**+2.2**
WDC	**Whiskeytown Da**	**87.43**	**324**	*e*P		**P**	**07 15 15.5**	**+4.4**
	comp=Z,3.7nm,0.8s							
ESDC	**Sonseca Array**	**96.75**	**46**	LR		LR	08 00 54.8	
	comp=Z,39nm,18.0s,baz=110,slow=36							
DZM	**Mont Dzumac**	**101.04**	**234**	*e*LR		LR	07 49 16.2	
	comp=Z,242nm,27.8s							
WLF	**Walferdange**	**108.38**	**42**	*e*PKiKP		**PKiKP**	**07 20 49.1**	**-2.9**
DOT	**Dot Lake**	**112.42**	**333**	*e*PKiKP		**PKiKP**	**07 20 59.3**	**+0.1**
CHGN	**Chignik**	**115.46**	**322**	*e*PKPdf		**PKPdf**	**07 21 09.9**	**+4.8**
WRA	**Warramunga Arr**	**120.65**	**209**	PKP		**PKPdf**	**07 21 15.3**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=156,slow=1.6,SNR=7.1							
BRTR	**Keskin Array B**	**122.05**	**61**	PKP		**PKPdf**	**07 21 17.9**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=177,slow=2.5,SNR=4.1							
ARCES	**ARCESS Array B**	**124.10**	**25**	PKP		**PKPdf**	**07 21 21.0**	**-0.5**
	comp=Z,4.3nm,1.1s,baz=285,slow=4.3,SNR=2.6							
H11S2	**WAKE ISLAND Hyl**	**125.50**	**269**	T		T	09 40 32.0	
	baz=117							
H11S1	**WAKE ISLAND Hyl**	**125.52**	**269**	T		T	09 40 34.4	
	baz=117							
H11S3	**WAKE ISLAND Hyl**	**125.52**	**269**	T		T	09 40 32.6	
	baz=117							
H11N3	**WAKE ISLAND Hyl**	**125.92**	**271**	T		T	09 40 49.4	
	baz=122							
H11N1	**WAKE ISLAND Hyl**	**125.93**	**271**	T		T	09 40 33.0	
	baz=122							
H11N2	**WAKE ISLAND Hyl**	**125.93**	**271**	T		T	09 40 51.8	
	baz=122							
SOEI	**Soe**	**133.73**	**203**	*e*PKPdf		**PKPdf**	**07 21 37.8**	**-3.8**
SEY	**Seymchan**	**139.88**	**330**	PKP		**PKPdf**	**07 21 51.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=121,slow=2.8,SNR=2.6							
ZRNK	**Zerenda**	**146.68**	**43**	*e*PKPdf		**PKPbc**	**07 22 04.3**	**-1.0**
BRVK	**Borovoye**	**147.37**	**43**	*e*PKPdf		**PKPbc**	**07 22 07.6**	**+0.4**
VOSK	**Vostochnaya**	**147.89**	**43**	*e*PKPdf		**PKPdf**	**07 22 06.0**	**+0.4**
KKAR	**Karatay Array**	**149.77**	**61**	*e*PKPbc		**PKPbc**	**07 22 13.7**	**-0.1**
KSH	**Kashi**	**154.11**	**68**	PKPbc		**PKPdf**	**07 22 13.3**	**-2.5**
KSH				pPKP		PKiKP	07 22 24.0	0.0
KSH				PP		**PP**	**07 26 12.8**	**-0.1**
KSH				SKS		**SKSdf**	**07 29 16.5**	**-5.4**
KSH				SKKS		**SKKSac**	**07 32 55.0**	**-7.0**
KSH				SS		**SS**	**07 45 41.5**	**-10**
KSH				PPMZ				
	comp=Z,120nm,4.3s							
KSH				LN				
	comp=Z,76nm,4.2s							
KSH				LE				
	comp=Z,67nm,5.4s							
ZALV	**Zalesovo Beam**	**154.35**	**32**	PKP		**PKPdf**	**07 22 14.9**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=255,slow=4.5,SNR=3.9							
ZALV				PKPbc		**PKiKP**	**07 22 23.6**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=291,slow=3.5,SNR=12							
MKAR	**Makanchi Array**	**156.95**	**49**	PKP		**PKPdf**	**07 22 17.9**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=318,slow=1.9,SNR=3.3							
MKAR				PKPab		**PKPab**	**07 22 48.8**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=308,slow=2.1,SNR=6.2							
WMQ	**Urumqi**	**161.66**	**52**	PKP		**PKPdf**	**07 22 25.3**	**+0.4**
WMQ				LN				
	comp=Z,40nm,27.1s							
SONM	**Songino Array**	**166.12**	**4**	PKPab		**PKPab**	**07 23 28.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=335,slow=5.1,SNR=3.8							
HHC	**Hu-ho-hao-te**	**172.46**	**337**	*e*PKP		**PKPdf**	**07 22 30.8**	**-2.2**
LZH	**Lanzhou**	**176.24**	**55**	*e*PKP		**PKPdf**	**07 22 33.5**	**-0.9**
LZH				pPKP		pPKPdf	07 22 39.5	-0.8
LZH				sPKP			07 22 42.5	
LZH				LN				
	comp=Z,140nm,18.0s							
LZH				LE				
	comp=Z,140nm,18.2s							
LZH				LZ				
	comp=Z,180nm,20.0s							
XAN	**Xi'an**	**178.93**	**274**	PKP		**PKPdf**	**07 22 35.8**	**+1.1**

KRNET 29 07:04:41.6±0.1, 41°.80N×69°.95E, mb1.8, 3C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**1.37**	**17**	⇑	Pg	Pb	07 05 41.6	+34
	0.3nm,0.3s,baz=160,slow=15,SNR=14							
KK31				⇓	Lg	Lg	07 06 13.1	
	3.2nm,0.5s,baz=153,slow=28,SNR=12							
ARK	**Arkit**	**1.50**	**89**	⇓*i*	*i*P	Pn	07 05 09.3	-0.6
	baz=90							
ARK				⇓	*i*S	Sb	07 05 30.1	0.0
	baz=90							
BTK	**Batken**	**1.86**	**159**	⇓	*e*P	Pn	07 05 15.3	+0.5
	baz=159							
BTK				⇓	*i*S	Sn	07 05 39.2	+0.2
	baz=159							
MNAS	**Manas**	**2.02**	**69**	⇑	Pn	Pg	07 05 31.8	+11
	0.6nm,0.4s							
MNAS				⇑	Sn	Sg	07 05 55.7	+9.3
	1.2nm,0.3s							
ARLS	**Aral**	**3.27**	**87**	⇓	*e*P	Pn	07 05 35.0	+0.8
	baz=87							
ARLS				⇓	*e*S	Sn	07 06 13.8	-0.1
	baz=87							

SOME 29 07:04:46.6, 40°.27N×71°.52E, h30km, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IUG	**luzhnay**	**2.19**	**330**	*e*P		Pb	07 05 25.4	-0.1
	8.0nm,0.3s							
IUG				*e*S		Sb	07 05 53.6	+1.3
	9.7nm,0.3s							
MRKS	**Merke**	**2.79**	**27**	*e*P		Pb	07 05 35.6	-0.2
	1.9nm,0.2s							
MRKS				*e*S		Sb	07 06 11.0	+1.5
	4.7nm,0.2s							
BRLS	**Borolday**	**2.87**	**332**	*e*P		Pb	07 05 36.4	-0.7
	0.9nm,0.3s							
BRLS				*e*S		Sb	07 06 12.2	+0.4
	3.5nm,0.2s							

ISCJB ***29*** *07:06:56.6±0.5, 39°.03N±0°.03×27°.58E±0°.04, h0km, Error ellipse: s-maj=5.0km s-min=3.4km az=35.6*
DDA ***29*** *07:06:56.3, 39°.07N×27°.56E, h7km, Md2.7, Suspected Mining explosion.*
CSEM ***29*** *07:06:56.6±0.4, 39°.02N×27°.55E, h1km, MD2.7, Error ellipse: s-maj=9.2km s-min=7.2km az=109.0, Suspected Mining explosion.*
ISK ***29*** *07:06:56.8, 39°.03N×27°.58E, h11km, MD2.7*

ISC 29 07:06:55.5±0.8, 39°.07N±0°.03×27°.52E±0°.03, h0km, n16, σ0s50/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BALB	**Balikesir**	**0.64**	**26**	*e*PG		**Pn**	**07 07 10.8**	**-0.9**
BALB				*e*SG		**Sb**	**07 07 19.6**	**+0.6**
BALB	**Balikesir**	**0.64**	**26**	*e*Pg		**Pn**	**07 07 10.9**	**-0.9**
BALB				*e*Sg		**Sb**	**07 07 19.6**	**+0.6**
BALY	**Balya**	**0.68**	**6**	P		**Pg**	**07 07 08.8**	**+0.3**
BALY				S		**Sb**	**07 07 19.9**	**-0.3**
BALY	**Balya**	**0.68**	**6**	*i* P		**Pg**	**07 07 08.8**	**+0.3**
BALY				*i* S		**Sb**	**07 07 19.9**	**-0.3**
DEMI	**Demirci**	**0.93**	**91**	P		**Pb**	**07 07 14.7**	**+0.2**
DEMI				S		**Sb**	**07 07 26.8**	**-0.6**
DEMI	**Demirci**	**0.93**	**91**	*i* P		**Pb**	**07 07 14.7**	**+0.2**
DEMI				*i* S		**Sb**	**07 07 26.8**	**-0.6**
URLA	**Izmir**	**1.01**	**226**	P		**Pb**	**07 07 16.2**	**+0.3**
URLA				S		**Sn**	**07 07 31.5**	**-0.4**
URLA	**Izmir**	**1.01**	**226**	*i* P		**Pb**	**07 07 16.2**	**+0.3**
URLA				*i* S		**Sn**	**07 07 31.5**	**-0.4**
KULA	**Kula-Manisa**	**1.04**	**121**	*e*PG		**Pg**	**07 07 15.5**	**0.0**
KULA				*e*SG		**Sb**	**07 07 30.7**	**-0.1**
KULA	**Kula-Manisa**	**1.04**	**121**	*e*Pg		**Pg**	**07 07 15.5**	**0.0**
KULA				*e*Sg		**Sb**	**07 07 30.7**	**-0.1**
DGB	**˜zmir**	**1.13**	**207**	*i* P		**Pn**	**07 07 18.7**	**+0.1**
DGB				*i* S		**Sn**	**07 07 34.3**	**-0.4**
ZEY	**˜zmir**	**1.15**	**224**	*i* P		**Pg**	**07 07 16.9**	**-0.6**
ZEY				*i* S		**Sn**	**07 07 36.5**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**1.15**	**165**	*e*PN		**Pb**	**07 07 18.4**	**0.0**
AYDB				*e*SN		**Sb**	**07 07 34.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.15**	**165**	*e*Pn		**Pb**	**07 07 18.4**	**0.0**
AYDB				*e*Sn		**Sb**	**07 07 34.3**	**+0.4**
TVSB	**Tavsanli**	**1.55**	**75**	*e*PN		**Pn**	**07 07 24.7**	**+0.2**
TVSB	**Tavsanli**	**1.55**	**75**	*e*Pn		**Pn**	**07 07 24.7**	**+0.2**

SCB 29 07:15:05.1±0.5, 12°.55S×69°.52W, h25km, MI3.6/1, Error ellipse: s-maj=37.5km s-min=9.7km az=73.0, Central Peru

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

Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.42**	**313**	P	**Pb**	**07 19 04.8**	**+0.1**
ONAJ				S	**Sb**	**07 19 11.1**	**+0.3**
JHO	**Hitachi**	**0.54**	**248**	P	**Pb**	**07 19 06.3**	**-0.2**
JHO				*i* S	**Sb**	**07 19 13.6**	**-0.4**
JFK	**Kawauchi**	**0.61**	**336**	P	**Pg**	**07 19 07.5**	**-0.1**
JFK				S	**Sb**	**07 19 15.9**	**-0.1**
JFT	**Otama**	**0.98**	**316**	P	**Pb**	**07 19 13.9**	**-0.2**
JFT				S	**Sb**	**07 19 26.2**	**-0.5**
JMM	**Marumori**	**1.10**	**343**	P	**Pb**	**07 19 15.2**	**-0.9**
JMM				S	**Sb**	**07 19 29.2**	**-0.9**
JAG	**Ashikaga**	**1.45**	**255**	P	**Pn**	**07 19 20.1**	**-0.9**
JAG				S	**Sn**	**07 19 38.1**	**-1.5**
MJAR	**Matsushiro Arr** 8.2nm,0.3s,baz=89,slow=15,SNR=27	**2.41**	**264**	Pn	**Pn**	**07 19 33.4**	**-0.8**
MJAR				Sn	**Sn**	**07 20 03.9**	**+0.5**
MAT	**Matsushiro** 15nm,0.3s,baz=84,slow=29,SNR=6.1	**2.41**	**264**	P	**Pn**	**07 19 34.8**	**+0.6**
MAT				S	**Sn**	**07 20 03.1**	**-0.3**
KSRS	**Korea Array** 0.1nm,0.3s,baz=91,slow=14,SNR=3.6	**10.61**	**277**	Pn	**Pn**	**07 21 29.1**	**+2.4**
SEY	**Seymchan** 1.0nm,0.7s,baz=170,slow=6.1,SNR=2.9	**27.04**	**11**	P	**P**	**07 24 38.0**	**+1.4**
SONM	**Songino Array** 1.1nm,0.7s,baz=98,slow=9.5,SNR=5.1	**27.76**	**304**	P	**P**	**07 24 43.3**	**-0.1**
H11N2	**WAKE ISLAND Hy** baz=313,slow=75,SNR=218	**28.19**	**120**	T	T	07 54 18.7	
H11N1	**WAKE ISLAND Hy** baz=313,slow=75,SNR=232	**28.20**	**120**	T	T	07 54 18.7	
H11N3	**WAKE ISLAND Hy** baz=313,slow=75,SNR=201	**28.21**	**120**	T	T	07 54 18.6	
H11S1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=292	**28.89**	**122**	T	T	07 55 10.0	
H11S3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=218	**28.89**	**122**	T	T	07 55 10.0	
H11S2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=229	**28.91**	**122**	T	T	07 55 10.0	
ZALV	**Zalesovo Beam** 1.3nm,0.7s,baz=84,slow=4.8,SNR=4.9	**41.93**	**313**	P	**P**	**07 26 44.6**	**-0.4**
ZALV				PcP	**PcP**	**07 28 40.3**	**+0.1**
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=89,slow=9.6,SNR=10	**44.08**	**302**	P	**P**	**07 27 02.3**	**-0.3**
ILAR	**Eielson Array** 0.4nm,0.7s,baz=260,slow=5.2,SNR=5.3	**49.78**	**32**	P	**P**	**07 27 47.1**	**+0.3**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=11,slow=5.7,SNR=3.3	**60.55**	**188**	P	**P**	**07 29 04.4**	**-0.6**
FINES	**FINESS Array B** 1.2nm,0.8s,baz=64,slow=11,SNR=4.3	**68.92**	**332**	P	**P**	**07 29 58.7**	**-0.5**
NOA	**NORSAR Array B** 0.7nm,0.7s,baz=39,slow=5.9,SNR=4.1	**74.32**	**337**	P	**P**	**07 30 31.2**	**-0.5**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=294,slow=3.0,SNR=5.3	**90.40**	**52**	P	**P**	**07 31 56.8**	**+0.5**
LPAZ	**La Paz** 1.5nm,0.6s,baz=279,slow=3.5,SNR=5.2	**146.96**	**60**	PKPbc	**PKPbc**	**07 38 38.5**	**+0.1**

*WEL **29** 07:21:12.5±0.8,35°.47S×178°.71E,h230km±8km, ML4.6/18, Error ellipse: s-maj=9.2km s-min=8.5km az=90.0*
*ISCJB **29** 07:21:13.6±1.1,35°.9S±0°.1×178°.7E±0°.2,h270km±8km, mb4.3/2, Error ellipse: s-maj=26.0km s-min=14.7km az=26.9*
*IDC **29** 07:21:14.1±4.2,35°.78S×178°.75E,h246km±44km, mb4.2/2, mb1 4.3/4, mb1mx3.6/29, mbtmp4.6/4, Error ellipse: s-maj=75.6km s-min=34.8km az=4.0*

ISC 29 07:21:15.4±1.3,**35°.9S**±0°.1×**178°.6E**±0°.1,**h262**km±8km,**n76,** σ0**82**/84,**2C-4D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.68**	**188**	⇓P	**Pn**	**07 21 54.2**	**-2.0**
MXZ				SN	**S**	**07 22 26.0**	**-2.5**
MXZ				AML	AML	07 22 29.1	
MXZ				AML	AML	07 22 37.0	
WMGZ	**Waiomatatini S**	**1.93**	**184**	PN	**Pn**	**07 21 57.5**	**-0.7**
HAZ	**Te Kaha**	**1.97**	**199**	⇓PN	**Pn**	**07 21 56.9**	**-1.7**
HAZ				SN	**S**	**07 22 32.3**	**-0.4**
PUZ	**Puketiti**	**2.19**	**187**	PN	**Pn**	**07 21 59.5**	**-1.0**
PUZ				SN	**S**	**07 22 36.1**	**-0.3**
PUZ				AML	AML	07 22 56.5	
TWGZ	**Tauwhareparae**	**2.33**	**192**	PN	**Pn**	**07 22 02.0**	**+0.1**
TWGZ				SN	**S**	**07 22 40.2**	**+1.4**
OPRZ	**Ohinepanea**	**2.54**	**219**	PN	**Pn**	**07 22 03.9**	**0.0**
MWZ	**Matawai**	**2.58**	**199**	⇓PN	**Pn**	**07 22 03.9**	**-0.4**
MWZ				AML	AML	07 22 48.1	
MWZ				AML	AML	07 22 53.2	
MWZ				AML	AML	07 22 56.2	
MWZ				AML	AML	07 22 57.7	
CNGZ	**Carnagh Statio**	**2.61**	**187**	PN	**Pn**	**07 22 04.6**	**+0.1**
TKGZ	**Te Karaka**	**2.61**	**193**	PN	**Pn**	**07 22 04.3**	**-0.2**
TKGZ				SN	**S**	**07 22 45.7**	**+2.1**
URZ	**Urewera** 15nm,0.3s,baz=54,slow=8.7,SNR=277	**2.64**	**206**	P	**Pn**	**07 22 04.1**	**-0.7**
URZ				S	**S**	**07 22 44.2**	**+0.1**
URZ	**Urewera** 57nm,0.3s,baz=282,slow=22,SNR=19	**2.64**	**206**	⇓PN	**Pn**	**07 22 04.1**	**-0.7**
URZ				SN	**S**	**07 22 44.9**	**+0.7**
URZ				AML	AML	07 22 54.8	
RIGZ	**Rimuhau**	**2.89**	**193**	PN	**Pn**	**07 22 06.6**	**-0.8**
RTZ	**Ruatahuna**	**3.01**	**205**	PN	**Pn**	**07 22 08.8**	**+0.1**
SNGZ	**Shannon Statio**	**3.05**	**199**	PN	**Pn**	**07 22 09.5**	**+0.4**
PRGZ	**Paritu Road**	**3.08**	**190**	PN	**Pn**	**07 22 09.5**	**0.0**
PRRZ	**Plateau Road**	**3.14**	**213**	PN	**Pn**	**07 22 10.3**	**+0.3**
KNZ	**Kokohu**	**3.21**	**193**	⇑PN	**Pn**	**07 22 10.5**	**-0.2**
KNZ				AML	AML	07 22 57.8	
KNZ				AML	AML	07 23 01.1	
ALRZ	**Allen Road**	**3.21**	**213**	PN	**Pn**	**07 22 11.4**	**+0.6**
MHGZ	**Mahia Peninsul**	**3.30**	**189**	PN	**Pn**	**07 22 12.1**	**+0.3**
WHHZ	**Waihua**	**3.36**	**198**	PN	**Pn**	**07 22 13.5**	**+1.1**
NMHZ	**Naumai**	**3.50**	**203**	PN	**Pn**	**07 22 14.6**	**+0.5**
ARHZ	**Aropaoanui**	**3.59**	**200**	PN	**Pn**	**07 22 15.4**	**+0.3**
BKZ	**Black Stump Fm**	**3.67**	**206**	PN	**Pn**	**07 22 16.0**	**+0.1**
BKZ				AML	AML	07 23 09.6	
BKZ				AML	AML	07 23 11.5	
RITZ	**Rihia Road**	**3.77**	**214**	PN	**Pn**	**07 22 17.8**	**+0.8**
MCHZ	**McNeill Hill**	**3.85**	**202**	PN	**Pn**	**07 22 18.9**	**+1.0**
KWHZ	**Kaweka Forest**	**3.92**	**205**	PN	**Pn**	**07 22 19.5**	**+0.6**
BHHZ	**Black Hill Sta**	**4.11**	**208**	PN	**Pn**	**07 22 20.7**	**-0.3**
KAHZ	**Kahuranaki**	**4.12**	**199**	PN	**Pn**	**07 22 21.7**	**+0.5**
KRHZ	**Kereru**	**4.14**	**204**	PN	**Pn**	**07 22 21.1**	**-0.1**
WHVZ	**Whangaehu Hut**	**4.14**	**214**	PN	**Pn**	**07 22 21.5**	**0.0**
MOVZ	**Moawhango**	**4.17**	**212**	PN	**Pn**	**07 22 21.2**	**-0.5**
WNVZ	**Wahianoa**	**4.17**	**214**	PN	**Pn**	**07 22 21.7**	**-0.1**
PXZ	**Pawanui**	**4.35**	**198**	PN	**Pn**	**07 22 23.6**	**-0.1**
PXZ				AML	AML	07 23 24.3	
PXZ				AML	AML	07 23 24.3	
PXZ				AML	AML	07 23 25.1	
PXZ				AML	AML	07 23 25.1	
PNHZ	**Pukenui**	**4.44**	**204**	PN	**Pn**	**07 22 24.6**	**-0.2**
WPHZ	**Waipukurau**	**4.50**	**201**	PN	**Pn**	**07 22 25.6**	**+0.1**
PRHZ	**Porangahau**	**4.63**	**199**	PN	**Pn**	**07 22 26.8**	**-0.3**
TSZ	**Takapari Road**	**4.65**	**206**	PN	**Pn**	**07 22 26.5**	**-0.8**
TSZ				AML	AML	07 23 42.8	
TSZ				AML	AML	07 23 49.9	
DVHZ	**Dannevirke**	**4.80**	**203**	PN	**Pn**	**07 22 28.6**	**-0.5**
WAZ	**Wanganui**	**4.80**	**215**	PN	**Pn**	**07 22 29.7**	**+0.7**
ANWZ	**Angora Road**	**4.86**	**199**	PN	**Pn**	**07 22 30.1**	**+0.3**
POWZ	**Post Office Ro**	**5.01**	**205**	PN	**Pn**	**07 22 31.4**	**-0.2**
PRWZ	**Pori Road**	**5.09**	**203**	PN	**Pn**	**07 22 33.2**	**+0.6**
BFZ	**Birch Farm**	**5.12**	**200**	⇑PN	**Pn**	**07 22 33.0**	**0.0**
BFZ				AML	AML	07 23 40.5	
BFZ				AML	AML	07 23 40.5	
BFZ				AML	AML	07 23 40.6	
BFZ				AML	AML	07 23 40.6	
MRZ	**Mangatainoka R**	**5.32**	**206**	PN	**Pn**	**07 22 34.6**	**-0.7**
TIWZ	**Tintock**	**5.32**	**203**	PN	**Pn**	**07 22 35.2**	**-0.2**
TIWZ				AML	AML	07 23 43.9	
TIWZ				AML	AML	07 23 50.1	
HOWZ	**Holdsworth Sta**	**5.55**	**205**	PN	**Pn**	**07 22 37.3**	**-0.9**
OGWZ	**Otaki Gorge**	**5.60**	**208**	PN	**Pn**	**07 22 38.3**	**-0.5**
KIW	**Kapiti Island**	**5.74**	**209**	PN	**Pn**	**07 22 39.5**	**-1.0**
KIW				AML	AML	07 23 50.8	
MTW	**Mount Morrison**	**5.79**	**204**	PN	**Pn**	**07 22 40.2**	**-0.9**
MTW				AML	AML	07 23 56.3	
MTW				AML	AML	07 23 57.2	
CAW	**Cannon Point**	**5.89**	**207**	PN	**Pn**	**07 22 41.5**	**-0.9**
CAW				AML	AML	07 23 56.7	
CAW				AML	AML	07 23 56.8	
TRWZ	**Traveller**	**5.95**	**202**	PN	**Pn**	**07 22 42.7**	**-0.4**
TRWZ				AML	AML	07 23 57.9	
TRWZ				AML	AML	07 23 57.9	
PAWZ	**Paruwai Farm**	**6.01**	**203**	PN	**Pn**	**07 22 43.2**	**-0.7**
PAWZ				AML	AML	07 23 58.5	
PAWZ				AML	AML	07 24 02.8	
MSWZ	**Moikau Station**	**6.10**	**204**	PN	**Pn**	**07 22 44.1**	**-0.8**
MSWZ				AML	AML	07 24 03.4	
MSWZ				AML	AML	07 24 07.8	
PLWZ	**Palliser**	**6.24**	**204**	PN	**Pn**	**07 22 45.8**	**-0.9**
TCW	**Tory Channel**	**6.29**	**211**	PN	**Pn**	**07 22 46.2**	**-1.1**
TCW				AML	AML	07 24 05.6	
TCW				AML	AML	07 24 13.8	
TUWZ	**Tuamarina**	**6.62**	**212**	PN	**Pn**	**07 22 50.1**	**-1.2**
TUWZ				AML	AML	07 24 11.0	
TUWZ				AML	AML	07 24 14.6	
NNZ	**Nelson**	**6.70**	**216**	PN	**Pn**	**07 22 51.4**	**-1.0**
QRZ	**Quartz Range**	**6.85**	**222**	PN	**Pn**	**07 22 52.7**	**-1.5**
BSWZ	**Blackbirch Sta**	**6.88**	**211**	PN	**Pn**	**07 22 54.2**	**-0.4**
THZ	**Tophouse**	**7.35**	**215**	PN	**Pn**	**07 22 59.7**	**-0.8**
KHZ	**Kahutara**	**7.60**	**209**	PN	**Pn**	**07 23 02.8**	**-0.8**
LTZ	**Lake Taylor**	**8.44**	**213**	PN	**Pn**	**07 23 13.1**	**-1.1**
CTZ	**Chatham Island**	**8.66**	**156**	PN	**P**	**07 23 23.7**	**0.0**
INZ	**Inchbonnie**	**8.78**	**217**	PN	**Pn**	**07 23 17.6**	**-0.8**
OXZ	**Oxford**	**8.98**	**212**	PN	**Pn**	**07 23 19.9**	**-1.0**
MQZ	**McQueen's Vall**	**9.04**	**208**	PN	**Pn**	**07 23 20.2**	**-1.5**
WVZ	**Waitaha Valley**	**9.39**	**218**	PN	**Pn**	**07 23 26.1**	**0.0**
RPZ	**Rata Peaks** 1.1nm,0.3s,baz=52,slow=17,SNR=8.4	**9.72**	**214**	P	**Pn**	**07 23 29.8**	**-0.5**
RPZ				S	**S**	**07 25 19.0**	**-0.8**
RPZ	**Rata Peaks** 1.8nm,0.3s,baz=103,slow=20,SNR=7.3	**9.72**	**214**	PN	**Pn**	**07 23 30.0**	**-0.3**
LBZ	**Lake Benmore**	**10.64**	**215**	PN	**Pn**	**07 23 41.2**	**-0.5**
ODZ	**Otahua Downs**	**10.96**	**211**	PN	**Pn**	**07 23 46.2**	**+0.6**
JCZ	**Jackson Bay**	**11.10**	**220**	PN	**Pn**	**07 23 47.5**	**0.0**
ASAR	**Alice Springs** 8.6nm,0.4s,baz=114,slow=7.9,SNR=188	**40.33**	**275**	P	**P**	**07 28 29.2**	**+1.3**
WRA	**Warramunga Arr** 8.7nm,0.6s,baz=119,slow=7.7,SNR=169	**41.83**	**280**	P	**P**	**07 28 40.5**	**+0.5**
ARCES	**ARCESS Array B** 3.8nm,1.1s,baz=27,slow=2.2,SNR=7.0	**143.23**	**345**	PKP	**PKPdf**	**07 40 16.7**	**-0.5**
FINES	**FINESS Array B** 0.9nm,0.4s,baz=42,slow=4.3,SNR=10	**149.09**	**334**	PKPbc	**PKPbc**	**07 40 31.8**	**+0.1**

*IDC **29** 07:31:55.3±1.1,33°.96S×72°.32W,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.6/22,mbtmp3.5/5,ML3.7/2,MS3.5/1, Ms1 3.5/1,ms1mx2.9/13, Error ellipse: s-maj=39.9km s-min=31.0km az=95.0*
*ISCJB **29** 07:31:56.4±1.2,33°.94S±0°.03×72°.48W±0°.06,h15km±9km, mb3.5/2,MS3.3/1, Error ellipse: s-maj=8.3km s-min=5.7km az=11.8*
*GUC **29** 07:31:57.8±0.8,33°.96S×72°.30W,h27km±6km, ML3.8*

ISC 29 07:31:57.0±2.1,**33°.94S**±0°.04×**72°.33W**±0°.07,**h10**km±11km, **n40,** σ1**51**/60,**4C-6D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.53**	**149**	⇓*i*P	**Pb**	**07 32 07.8**	**-0.5**
CHPI				*i* S	**Sb**	**07 32 15.9**	**-0.1**
CHPI				IAML		07 32 17.6	
	comp=E,7μm,0.3s						
RCDM	**Rinconada Maip**	**1.35**	**71**	⇑*i*P	**Pn**	**07 32 21.5**	**-0.4**
RCDM				*i* S	**Sg**	**07 32 40.2**	**-0.2**
NICH	**Los Niches**	**1.40**	**140**	⇓*i*P	**Pn**	**07 32 22.5**	**-0.1**
NICH				*i* S	**Sn**	**07 32 41.4**	**+0.3**
ROC1	**El Roble**	**1.46**	**49**	*i* P	**Pg**	**07 32 25.0**	**-0.1**
ANTU	**Antumapu**	**1.46**	**76**	⇓*i*P	**Pn**	**07 32 24.0**	**+0.5**
ANTU				*i* S	**Sg**	**07 32 43.6**	**-0.5**
ANTU				IAML		07 32 46.2	
	comp=N,3μm,0.4s						
ROCH	**El Roble**	**1.47**	**49**	⇑*i*P	**Pn**	**07 32 23.7**	**0.0**
ROCH				*i* S	**Sb**	**07 32 43.7**	**+0.5**
ROCH				IAML		07 32 56.2	
	comp=N,2μm,0.4s						
TALC	**Talca**	**1.57**	**159**	⇓*i*P	**Pn**	**07 32 25.3**	**+0.4**
TALC				*i* S	**Sn**	**07 32 45.6**	**+0.4**
FSR	**Penalolen**	**1.57**	**74**	⇓*i*P	**Pg**	**07 32 26.9**	**-0.3**
FSR				*i* S	**Sg**	**07 32 47.5**	**-0.1**
PEL	**Peldehue**	**1.59**	**60**	⇑*i*P	**Pb**	**07 32 26.1**	**-0.4**
PEL				*i* S	**Sg**	**07 32 47.7**	**-0.4**
PEL				IAML		07 32 56.6	
	comp=N,2μm,0.5s						
CLCH	**Cerro Calan**	**1.59**	**71**	⇑*i*P	**Pn**	**07 32 25.9**	**+0.6**
CLCH				*i* S	**Sb**	**07 32 47.0**	**+0.2**
CLCH				IAML		07 32 52.2	
	comp=E,3μm,0.4s						
FCH	**Farellones**	**1.81**	**71**	⇓*i*P	**Pn**	**07 32 29.2**	**+0.7**
FCH				*i* S	**Sb**	**07 32 53.1**	**-0.1**
FCH				IAML		07 33 01.9	
	comp=N,2μm,0.3s						
AUSP	**Uspallata**	**3.01**	**56**	*i* P	**Pn**	**07 32 47.4**	**+2.4**
AUSP				*i* S	**Sg**	**07 33 35.4**	**+1.8**
AAGR	**Agrelo**	**3.05**	**75**	*i* P	**Pn**	**07 32 47.3**	**+1.9**
ARCO	**CERRO ARCO**	**3.05**	**70**	*i* P	**Pn**	**07 32 47.4**	**+2.0**
ARCO				*i* S	**Sg**	**07 33 35.6**	**+0.7**
ARCO				IAML		07 33 42.8	
	comp=Z,161nm,0.5s						
ASAL	**Salagasta**	**3.22**	**66**	*i* P	**Pn**	**07 32 49.9**	**+2.1**
ASAL				*i* S	**Sg**	**07 33 40.0**	**-0.5**
RTLS	**Leoncito**	**3.33**	**51**	*i* P	**Pn**	**07 32 51.4**	**+2.0**
RTLS				*i* S	**Sg**	**07 33 43.3**	**-0.6**
RTCV	**Cerro Valdivia**	**3.80**	**58**	*i* P	**Pn**	**07 32 57.6**	**+2.0**
RTLL	**Cerro Villicun**	**4.17**	**52**	*i* P	**Pn**	**07 33 03.0**	**+2.3**
RTLL				*i* S	**Sb**	**07 34 03.0**	**+2.2**
ACCO	**Cerro Coronel**	**4.34**	**41**	*i* P	**Pn**	**07 33 05.5**	**+2.2**
AMOG	**MOGNA**	**4.41**	**48**	*i* P	**Pn**	**07 33 06.3**	**+2.2**
AMOG				*i* S	**Sb**	**07 34 08.5**	**+0.5**
AROD	**Rodeo**	**4.47**	**34**	*i* P	**Pn**	**07 33 06.9**	**+1.7**
ACAN	**Cantantal**	**4.62**	**70**	*i* P	**Pn**	**07 33 09.3**	**+2.3**
ACAN				*i* S	**Sb**	**07 34 13.8**	**-0.2**
ACDV	**Cuesta del Vie**	**4.64**	**37**	*i* P	**Pn**	**07 33 08.9**	**+1.5**
ACDV				*i* S	**Sb**	**07 34 13.3**	**-1.4**
AVFE	**Valle Fertil**	**5.27**	**53**	*i* P	**Pn**	**07 33 18.2**	**+2.3**
AVFE				*i* S	**Sb**	**07 34 28.7**	**-3.9**
AVFE				IAML		07 34 41.3	
	comp=Z,51nm,0.5s						
AGUA	**GUANDACOL**	**5.51**	**37**	*i* P	**Pn**	**07 33 20.3**	**+1.1**
ACHE	**Chepes**	**5.53**	**61**	*i* P	**Pn**	**07 33 22.0**	**+2.5**
ACHE				*i* S	**Sb**	**07 34 36.2**	**-4.0**
MRA	**San Martin**	**5.75**	**77**	*i* P	**Pn**	**07 33 24.7**	**+2.2**
MRA				IAML		07 35 07.4	
	comp=Z,49nm,0.7s						
VCA	**Vinchina**	**6.27**	**35**	*i* P	**Pn**	**07 33 30.6**	**+0.9**
VCA				IAML		07 35 14.1	
	comp=Z,52nm,0.6s						
PLCA	**Paso Flores**	**6.93**	**169**	Pn	**Pn**	**07 33 39.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=351,slow=13,SNR=7.0						
PLCA				Lg	Lg	07 35 29.6	
	comp=Z,0.1nm,0.3s,baz=279,slow=19,SNR=2.7						
TCA	**Tanti**	**7.02**	**70**	*i* P	**Pn**	**07 33 41.4**	**+1.4**
TCA				IAML		07 35 44.4	
	comp=Z,20nm,0.5s						
CYA	**Choya**	**7.83**	**47**	*i* P	**Pn**	**07 33 52.2**	**+1.2**
FSA	**Cafayete**	**9.54**	**37**	*i* P	**Pn**	**07 34 15.4**	**+0.7**
CPUP	**Villa Florida**	**15.02**	**64**	Pn	**Pn**	**07 35 31.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=233,slow=10.0,SNR=2.6						
SIV	**San Ignacio**	**20.55**	**32**	P	**P**	**07 36 35.2**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=224,slow=8.5,SNR=3.7						
SIV				LR	LR	07 45 57.5	
	comp=Z,119nm,19.3s,baz=22,slow=41						
TXAR	**Lajitas Array**	**69.56**	**331**	P	**P**	**07 43 06.8**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=150,slow=9.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	**P**	**07 44 29.4**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=242,slow=3.1,SNR=6.2						
WRA	**Warramunga Arr**	**120.70**	**209**	PKP	**PKPdf**	**07 50 48.2**	**-1.6**
	comp=Z,0.4nm,1.1s,baz=160,slow=1.7,SNR=2.9						
BVAR	**Borovoye Array**	**147.40**	**43**	PKPbc	**PKPbc**	**07 51 40.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=327,slow=2.4,SNR=2.8						
ZALV	**Zalesovo Beam**	**154.30**	**32**	PKPbc	**PKPbc**	**07 51 58.0**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=318,slow=4.1,SNR=2.1						
MKAR	**Makanchi Array**	**156.91**	**49**	PKPab	**PKPab**	**07 52 21.7**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=258,slow=4.8,SNR=3.0						

*ISK **29** 07:32:12.8,39°.09N×29°.00E,h7km,MD2.3*
*ISCJB **29** 07:32:13.6±0.6,39°.08N±0°.04×29°.01E±0°.05,h9km, Error ellipse: s-maj=7.2km s-min=4.1km az=145.0*
*CSEM **29** 07:32:13.6±0.1,39°.10N×28°.99E,h9km±1km,MD2.6, Error ellipse: s-maj=4.1km s-min=2.8km az=134.0*
*DDA **29** 07:32:14.1,39°.08N×28°.98E,h7km,Md2.6*

ISC 29 07:32:13.8±1.1,**39°.10N**±0°.04×**29°.00E**±0°.03,**h9**km,**n14,** σ0**41**/22,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**257**	P	**Pg**	**07 32 18.7**	**+0.2**
DEMI				S	**Sg**	**07 32 22.1**	**+0.4**
DEMI	**Demirci**	**0.23**	**257**	*i* P	**Pg**	**07 32 18.7**	**+0.2**
DEMI				*i* S	**Sg**	**07 32 22.1**	**+0.4**
GDZ	**Gediz**	**0.38**	**91**	P	**Pg**	**07 32 21.9**	**+0.6**
GDZ				S	**Sg**	**07 32 26.8**	**+0.6**
GDZ	**Gediz**	**0.38**	**91**	*i* P	**Pg**	**07 32 21.9**	**+0.6**
GDZ				*i* S	**Sg**	**07 32 26.8**	**+0.6**
TVSB	**Tavsanli**	**0.50**	**45**	*e*PG	**Pg**	**07 32 23.1**	**-0.6**
TVSB				*e*SG	**Sg**	**07 32 30.4**	**+0.1**
TVSB	**Tavsanli**	**0.50**	**45**	*e*Pg	**Pg**	**07 32 23.1**	**-0.6**
TVSB				*e*Sg	**Sg**	**07 32 30.4**	**+0.1**
KULA	**Kula-Manisa**	**0.64**	**205**	*e*PG	**Pg**	**07 32 26.1**	**-0.1**
KULA				*e*SG	**Sg**	**07 32 34.4**	**-0.2**
KULA	**Kula-Manisa**	**0.64**	**205**	*e*Pg	**Pg**	**07 32 26.1**	**-0.1**
KULA				*e*Sg	**Sg**	**07 32 34.4**	**-0.2**
KHL	**Karahalli**	**0.87**	**152**	*e*PG	**Pg**	**07 32 30.2**	**-0.4**
KHL	**Karahalli**	**0.87**	**152**	*e*Pg	**Pg**	**07 32 30.2**	**-0.4**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*Pn	**Pn**	**07 32 37.8**	**-0.2**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*Pn	**Pn**	**07 32 37.8**	**-0.2**
ARMT	**Armutlu**	**1.47**	**356**	*e*PN	**Pn**	**07 32 40.5**	**-0.1**
ARMT	**Armutlu**	**1.47**	**356**	*e*Pn	**Pn**	**07 32 40.5**	**-0.1**

*DDA **29** 07:39:07.6,39°.11N×29°.00E,h7km,Md2.7*
*ISK **29** 07:39:07.2,38°.98N×29°.25E,h5km,MD2.5*
*ISCJB **29** 07:39:08.1±0.6,39°.08N±0°.05×29°.01E±0°.05,h9km, Error ellipse: s-maj=8.1km s-min=4.1km az=146.4*
*CSEM **29** 07:39:08.0±0.2,39°.11N×29°.00E,h2km,MD2.5, Error ellipse: s-maj=6.1km s-min=3.1km az=134.0*

ISC 29 07:39:09.0±1.1,**39°.09N**±0°.04×**29°.01E**±0°.03,**h9**km,**n13,** σ1**17**/21,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**259**	P	**Pg**	**07 39 12.5**	**-1.4**
DEMI				S	**Sg**	**07 39 15.9**	**-1.2**
DEMI	**Demirci**	**0.24**	**259**	*i* P	**Pg**	**07 39 12.5**	**-1.4**
DEMI				*i* S	**Sg**	**07 39 15.9**	**-1.2**
GDZ	**Gediz**	**0.36**	**90**	P	**Pg**	**07 39 15.4**	**-0.9**
GDZ				S	**Sg**	**07 39 20.7**	**-0.4**
GDZ	**Gediz**	**0.36**	**90**	*i* P	**Pg**	**07 39 15.4**	**-0.9**
GDZ				*i* S	**Sg**	**07 39 20.7**	**-0.4**
TVSB	**Tavsanli**	**0.50**	**44**	*e*PG	**Pg**	**07 39 17.1**	**-1.7**
TVSB				*e*SG	**Sg**	**07 39 24.8**	**-0.6**
TVSB	**Tavsanli**	**0.50**	**44**	*e*Pg	**Pg**	**07 39 17.1**	**-1.7**
TVSB				*e*Sg	**Sg**	**07 39 24.8**	**-0.6**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*PG	**Pg**	**07 39 20.7**	**-0.7**
KULA				*e*SG	**Sg**	**07 39 29.3**	**-0.4**
KULA	**Kula-Manisa**	**0.64**	**206**	*e*Pg	**Pg**	**07 39 20.7**	**-0.7**
KULA				*e*Sg	**Sg**	**07 39 29.3**	**-0.4**
BALB	**Balikesir**	**1.04**	**302**	*e*PN	**Pn**	**07 39 32.2**	**+2.5**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*PN	**Pg**	**07 39 32.6**	**-1.1**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*Pn	**Pg**	**07 39 32.6**	**-1.1**
IZI	**Iznik**	**1.29**	**16**	*e*PN	**Pg**	**07 39 33.8**	**-0.1**
IZI	**Iznik**	**1.29**	**16**	*e*Pn	**Pg**	**07 39 33.8**	**-0.1**

*GUC **29** 07:41:07.0±0.5,33°.96S×72°.36W,h28km±8km, ML3.4*

ISC 29 07:41:05.9±2.5,**33°.97S**±0°.05×**72°.6W**±0°.1,**h14**km±14km, **n27,** σ1**80**/35,**2C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.65**	**131**	*e*P	**Pg

YOPC				*i*			07 44 25.9	
	comp=Z,22nm,1.0s							
NORC	**Norcasia**	**2.18**	**235**	*eP*		**Pn**	**07 44 04.5**	**+0.5**
NORC				*eS*		**Sn**	**07 44 32.4**	**-1.2**
CHIC	**Chingaza**	**2.27**	**197**	*eP*		**Pn**	**07 44 06.4**	**+0.9**
CHIC				*eS*		**Sn**	**07 44 36.2**	**+0.1**
CHIC				*i*			07 44 44.0	
	comp=Z,31nm,0.4s							
HELC	**Santa Helena**	**2.52**	**256**	*eP*		**Pn**	**07 44 08.6**	**+0.3**
HELC				*eS*		**Sn**	**07 44 41.3**	**+0.2**
HELC				*i*			07 44 48.1	
	comp=Z,33nm,0.2s							
VIGV	**El Vigia**	**2.63**	**40**	*eP*		**Pn**	**07 44 10.5**	**+1.2**
VIGV				*eS*		**Sn**	**07 44 41.6**	**-1.5**
SOCV	**Socops**	**2.64**	**56**	*eP*		**Pn**	**07 44 11.1**	**+1.6**
SOCV				*eS*		**Sn**	**07 44 41.7**	**-1.6**
DBBC	**Dabeiba**	**3.12**	**274**	*eP*		**Pn**	**07 44 15.7**	**+0.4**
TOLC	**Tolima**	**3.15**	**225**	*eP*		**Pn**	**07 44 17.5**	**+1.4**
ELOV	**Elorza**	**3.57**	**87**	*eP*		**Pn**	**07 44 22.5**	**+1.5**
ELOV				*eS*		**Sn**	**07 45 01.4**	**-2.5**
PRAC	**Prado**	**3.57**	**210**	*eP*		**Pn**	**07 44 22.1**	**+1.1**
PRAC				*eS*		**Sn**	**07 45 04.1**	**0.0**
SJAC	**San Juan de Ar**	**3.63**	**194**	*eP*		**Pn**	**07 44 23.4**	**+1.5**
VIRV	**Villa del Rosa**	**3.72**	**10**	*eP*		**Pn**	**07 44 24.0**	**+1.1**
VIRV				*eS*		**Sn**	**07 45 03.9**	**-3.6**
SANV	**Sanarito**	**4.40**	**52**	*eP*		**Pn**	**07 44 33.0**	**+1.2**
BAUV	**El Baul**	**5.41**	**67**	*eP*		**Pn**	**07 44 44.7**	**-0.3**
MAPV	**Macapo**	**5.46**	**56**	*eP*		**Pn**	**07 44 46.5**	**+0.9**
MONV	**Montecano**	**5.95**	**31**	*eP*		**Pn**	**07 44 52.2**	**+0.1**

GUC 29 07:43:42.3±0.4, 35°32S×71°98W, h50km±1km, ML3.5, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.30**	**106**	*i*	P	Pn	07 43 50.8	-0.6
TALC				*i*	S	Sn	07 43 57.7	-0.2
NICH	**Los Niches**	**0.69**	**63**	*i*	P	Pn	07 43 56.1	+0.2
NICH				*i*	S	Sn	07 44 06.5	+0.6
NICH					IAML		07 44 09.0	
	comp=E,4μm,0.1s							
CHPI	**Pichilemu**	**0.93**	**359**	*i*	P	Pn	07 43 59.4	+0.4
CHPI				*i*	S	Sn	07 44 12.2	+1.0
COCH	**Cobquecura**	**1.04**	**219**	*i*	P	Pn	07 44 00.9	+0.3
COCH				*i*	S	Sn	07 44 15.0	+0.9
COCH					IAML		07 44 16.6	
	comp=E,2μm,0.4s							
CCHI	**Chillan**	**1.28**	**183**	*i*	P	Pn	07 44 04.4	+0.5
CCHI				*i*	S	Sn	07 44 21.6	+1.6
CLCH	**Cerro Calan**	**2.26**	**32**	*i*	P	Pn	07 44 18.8	+1.5
CLCH				*i*	S	Sn	07 44 46.1	+2.1
CLCH					IAML		07 45 02.6	
	comp=E,567nm,0.5s							
PEL	**Peldehue**	**2.42**	**27**	*i*	P	Pn	07 44 20.6	+1.2
PEL				*i*	S	Sn	07 44 49.9	+1.9
PEL					IAML		07 45 01.6	
	comp=N,246nm,0.5s							
ROCH	**El Roble**	**2.48**	**19**	*i*	P	Pn	07 44 21.7	+1.3
ROCH				*i*	S	Sn	07 44 52.0	+2.4
ROCH					IAML		07 45 05.3	
	comp=N,316nm,0.4s							

*IDC **29** 07:43:44.0±1.1, 43°.80S×170°.13E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/23, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=50.5km s-min=8.9km az=177.0*
*ISCJB **29** 07:43:45.1±0.6, 43°.50S±0°.03×170°.24E±0°.04, h8km±5km, mb3.4/2, Error ellipse: s-maj=6.0km s-min=3.3km az=145.0*
*NEIC **29** 07:43:45.7, 43°.48S×170°.28E, h5km, ML4.1(WEL), After WEL.*
*WEL **29** 07:43:45.8±0.1, 43°.49S×170°.27E, h5km, ML4.0/26, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0*
WEL Felt in the West Coast region, maximum reported intensity MM 4.

ISC 29 07:43:45.7±1.0, 43°50S±0°.03×170°27E±0°.02, h10km±8km, n78, σ1°17/86, 8C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FOZ	**Fox Glacier**	**0.33**	**265**	⇑P	G	**Pg**	**07 43 52.5**	**+0.3**
FOZ					SG	**Sg**	**07 43 56.7**	**+0.1**
FOZ					AML	AML	07 43 57.6	
FOZ					AML	AML	07 43 57.9	
FOZ					AML	AML	07 43 57.9	
FOZ	**Fox Glacier**	**0.33**	**265**	Pg		**Pg**	**07 43 52.1**	**-0.1**
FOZ					Sg	**Sg**	**07 43 56.7**	**+0.1**
WVZ	**Waitaha Valley**	**0.55**	**39**	⇑P	G	**Pg**	**07 43 56.0**	**-0.5**
WVZ					AML	AML	07 44 02.4	
WVZ					AML	AML	07 44 06.2	
WVZ	**Waitaha Valley**	**0.55**	**39**	Pg		**Pg**	**07 43 55.9**	**-0.5**
WVZ					Sg	**Sg**	**07 44 02.1**	**-1.5**
RPZ	**Rata Peaks**	**0.61**	**110**	Pg		**Pg**	**07 43 57.7**	**+0.1**
	218nm,0.3s,baz=280,slow=9.0,SNR=3180							
RPZ					Lg	Lg	07 44 05.8	
	700nm,0.3s,baz=17,slow=19,SNR=109							
RPZ	**Rata Peaks**	**0.61**	**110**	P*		**Pg**	**07 43 57.7**	**+0.1**
RPZ					SG	**Sg**	**07 44 05.7**	**+0.2**
RPZ					AML	AML	07 44 06.4	
RPZ	**Rata Peaks**	**0.61**	**110**	P*		**Pg**	**07 43 57.3**	**-0.3**
RPZ					Sg	**Sg**	**07 44 05.8**	**+0.2**
LBZ	**Lake Benmore**	**0.88**	**184**	⇑P*		**Pg**	**07 44 02.7**	**0.0**
LBZ					AML	AML	07 44 03.0	
LBZ					AML	AML	07 44 20.5	
LBZ					AML	AML	07 44 20.5	
LBZ					AML	AML	07 44 20.9	
LBZ	**Lake Benmore**	**0.88**	**184**	P*		**Pg**	**07 44 02.3**	**-0.4**
INZ	**Inchbonnie**	**1.16**	**48**	⇑P*		**Pg**	**07 44 06.6**	**-1.4**
INZ					S*	**Sb**	**07 44 23.5**	**+0.4**
JCZ	**Jackson Bay**	**1.21**	**242**	P*		**Pg**	**07 44 08.3**	**-0.8**
JCZ					AML	AML	07 44 28.3	
JCZ					AML	AML	07 44 30.2	
JCZ	**Jackson Bay**	**1.21**	**242**	P*		**Pg**	**07 44 08.1**	**-0.9**
OXZ	**Oxford**	**1.30**	**83**	⇑P*		**Pn**	**07 44 10.4**	**+0.4**
OXZ					S*	**Sb**	**07 44 27.7**	**+0.6**
OXZ	**Oxford**	**1.30**	**83**	P*		**Pn**	**07 44 10.4**	**+0.4**
OXZ					S*	**Sb**	**07 44 27.7**	**+0.6**
ODZ	**Otahua Downs**	**1.56**	**170**	PN		**Pn**	**07 44 13.9**	**+0.3**
ODZ					AML	AML	07 44 36.0	
ODZ					AML	AML	07 44 36.0	
ODZ					AML	AML	07 44 38.2	
ODZ					AML	AML	07 44 38.2	
ODZ	**Otahua Downs**	**1.56**	**170**	Pn		**Pn**	**07 44 13.9**	**+0.3**
WKZ	**Wanaka**	**1.60**	**214**	⇑PN		**Pn**	**07 44 14.4**	**+0.3**
WKZ					AML	AML	07 44 18.5	
WKZ					AML	AML	07 44 20.8	
WKZ					AML	AML	07 44 45.4	
WKZ					AML	AML	07 44 47.8	
WKZ	**Wanaka**	**1.60**	**214**	Pn		**Pn**	**07 44 14.4**	**+0.3**
LTZ	**Lake Taylor**	**1.64**	**65**	PN		**Pn**	**07 44 15.5**	**+0.9**
LTZ					AML	AML	07 44 40.0	
LTZ					AML	AML	07 44 41.3	
LTZ	**Lake Taylor**	**1.64**	**65**	Pn		**Pn**	**07 44 15.5**	**+0.9**
CRLZ	**Canterbury Las**	**1.72**	**93**	PN		**Pn**	**07 44 16.2**	**+0.6**
CRLZ					AML	AML	07 44 45.2	
CRLZ					AML	AML	07 44 51.4	
CRLZ	**Canterbury Las**	**1.72**	**93**	Pn		**Pn**	**07 44 16.2**	**+0.6**
MQZ	**McQueen's Vall**	**1.75**	**97**	⇑PN		**Pn**	**07 44 16.2**	**+0.1**
MQZ					AML	AML	07 44 45.4	
MQZ					AML	AML	07 44 54.9	
MQZ	**McQueen's Vall**	**1.75**	**97**	Pn		**Pn**	**07 44 16.2**	**+0.1**
EAZ	**Earnscleugh**	**1.86**	**201**	⇓PN		**Pn**	**07 44 17.4**	**-0.2**
EAZ					AML	AML	07 44 48.1	
EAZ					AML	AML	07 44 48.1	
EAZ					AML	AML	07 44 56.9	
EAZ					AML	AML	07 44 57.0	
EAZ	**Earnscleugh**	**1.86**	**201**	Pn		**Pn**	**07 44 17.4**	**-0.2**
MSZ	**Milford Sound**	**2.05**	**234**	PN		**Pn**	**07 44 20.9**	**+0.6**
MSZ					AML	AML	07 44 55.2	
MSZ					AML	AML	07 44 55.2	
MSZ					AML	AML	07 44 57.2	
MSZ					AML	AML	07 44 57.3	
MSZ	**Milford Sound**	**2.05**	**234**	Pn		**Pn**	**07 44 20.9**	**+0.6**
DSZ	**Denniston Nort**	**2.09**	**33**	⇓PN		**Pn**	**07 44 21.6**	**+0.6**
DSZ					AML	AML	07 45 00.3	
DSZ					AML	AML	07 45 00.8	
DSZ					AML	AML	07 45 01.0	
DSZ					AML	AML	07 45 01.0	
DSZ	**Denniston Nort**	**2.09**	**33**	Pn		**Pn**	**07 44 21.6**	**+0.6**
HHSZ	**Highcliff Hill**	**2.39**	**174**	PN		**Pn**	**07 44 25.7**	**+0.7**
HHSZ	**Highcliff Hill**	**2.39**	**174**	Pn		**Pn**	**07 44 25.7**	**+0.7**
MLZ	**Mavora Lakes**	**2.42**	**219**	PN		**Pn**	**07 44 25.4**	**0.0**
MLZ					AML	AML	07 44 33.3	
MLZ					AML	AML	07 45 17.3	
MLZ	**Mavora Lakes**	**2.42**	**219**	Pn		**Pn**	**07 44 25.4**	**0.0**
TUZ	**Tuapeka**	**2.49**	**190**	PN		**Pn**	**07 44 25.9**	**-0.4**
TUZ					AML	AML	07 44 59.9	
TUZ					AML	AML	07 45 05.9	
TUZ					AML	AML	07 45 08.7	
TUZ					AML	AML	07 45 10.5	
TUZ	**Tuapeka**	**2.49**	**190**	Pn		**Pn**	**07 44 25.9**	**-0.4**
THZ	**Tophouse**	**2.61**	**49**	PN		**Pn**	**07 44 28.8**	**+0.8**
THZ					AML	AML	07 45 09.5	
THZ					AML	AML	07 45 14.6	
THZ	**Tophouse**	**2.61**	**49**	Pn		**Pn**	**07 44 28.8**	**+0.8**
KHZ	**Kahutara**	**2.64**	**67**	*e*Pn		**Pn**	**07 44 30.1**	**+1.8**
WHZ	**Wether Hill Ro**	**2.91**	**214**	PN		**Pn**	**07 44 31.5**	**-0.6**
WHZ					AML	AML	07 44 40.3	
WHZ					AML	AML	07 45 25.3	
WHZ	**Wether Hill Ro**	**2.91**	**214**	Pn		**Pn**	**07 44 31.5**	**-0.6**
DCZ	**Deep Cove**	**2.97**	**228**	PN		**Pn**	**07 44 32.8**	**0.0**
DCZ					AML	AML	07 45 21.8	
DCZ					AML	AML	07 45 25.3	
DCZ	**Deep Cove**	**2.97**	**228**	Pn		**Pn**	**07 44 32.8**	**0.0**
SYZ	**Scrubby Hill**	**3.14**	**194**	⇓PN		**Pn**	**07 44 34.6**	**-0.6**
SYZ					AML	AML	07 45 11.6	
SYZ					AML	AML	07 45 37.8	
SYZ	**Scrubby Hill**	**3.14**	**194**	Pn		**Pn**	**07 44 34.6**	**-0.6**
QRZ	**Quartz Range**	**3.16**	**33**	PN		**Pn**	**07 44 35.8**	**+0.2**
QRZ					AML	AML	07 45 26.5	
QRZ					AML	AML	07 45 30.5	
QRZ					AML	AML	07 45 34.9	
BSWZ	**Blackbirch Sta**	**3.21**	**57**	PN		**Pn**	**07 44 38.5**	**+2.2**
BSWZ	**Blackbirch Sta**	**3.21**	**57**	Pn		**Pn**	**07 44 38.5**	**+2.2**
NNZ	**Nelson**	**3.25**	**46**	PN		**Pn**	**07 44 38.6**	**+1.9**
NNZ					AML	AML	07 45 36.1	
NNZ					AML	AML	07 47 23.9	
NNZ	**Nelson**	**3.25**	**46**	Pn		**Pn**	**07 44 38.6**	**+1.9**
TUWZ	**Tuamarina**	**3.42**	**54**	PN		**Pn**	**07 44 40.8**	**+1.7**
TUWZ					AML	AML	07 45 26.2	
TUWZ					AML	AML	07 45 43.1	
TUWZ	**Tuamarina**	**3.42**	**54**	Pn		**Pn**	**07 44 40.8**	**+1.7**
PYZ	**Puysegur Point**	**3.69**	**223**	PN		**Pn**	**07 44 43.2**	**+0.5**
PYZ	**Puysegur Point**	**3.69**	**223**	Pn		**Pn**	**07 44 43.2**	**+0.5**
APZ	**The Paps**	**3.70**	**205**	PN		**Pn**	**07 44 41.6**	**-1.3**
APZ	**The Paps**	**3.70**	**205**	Pn		**Pn**	**07 44 41.6**	**-1.3**
TCW	**Tory Channel**	**3.75**	**54**	PN		**Pn**	**07 44 47.1**	**+3.5**
TCW					AML	AML	07 45 37.4	
TCW					AML	AML	07 45 37.6	
TCW	**Tory Channel**	**3.75**	**54**	Pn		**Pn**	**07 44 47.1**	**+3.5**
CAW	**Cannon Point**	**4.29**	**58**	PN		**Pn**	**07 44 51.1**	**+0.1**
CAW					AML	AML	07 45 42.5	
CAW					AML	AML	07 45 46.3	
CAW	**Cannon Point**	**4.29**	**58**	Pn		**Pn**	**07 44 51.1**	**+0.1**
KIW	**Kapiti Island**	**4.34**	**54**	PN		**Pn**	**07 44 53.2**	**+1.4**
KIW	**Kapiti Island**	**4.34**	**54**	Pn		**Pn**	**07 44 53.2**	**+1.4**
OGWZ	**Otaki Gorge**	**4.53**	**55**	PN		**Pn**	**07 44 54.2**	**-0.1**
OGWZ	**Otaki Gorge**	**4.53**	**55**	Pn		**Pn**	**07 44 54.2**	**-0.1**
MTW	**Mount Morrison**	**4.53**	**61**	PN		**Pn**	**07 44 54.3**	**-0.1**
MTW	**Mount Morrison**	**4.53**	**61**	Pn		**Pn**	**07 44 54.3**	**-0.1**
MRZ	**Mangatainoka R**	**4.87**	**56**	PN		**Pn**	**07 44 58.9**	**-0.2**
MRZ	**Mangatainoka R**	**4.87**	**56**	Pn		**Pn**	**07 44 58.9**	**-0.2**
PKE	**Pukeiti**	**5.14**	**34**	Pn		**Pn**	**07 45 04.0**	**+1.3**
VRZ	**Vera Road**	**5.53**	**39**	AML		AML	07 46 24.3	
HIZ	**Hauiti**	**6.08**	**36**	⇑PN		**Pn**	**07 45 15.9**	**+0.3**
HIZ					AML	AML	07 50 30.6	
HIZ	**Hauiti**	**6.08**	**36**	Pn		**Pn**	**07 45 15.9**	**+0.3**
URZ	**Urewera**	**7.37**	**47**	Pn		**Pn**	**07 45 37.0**	**+3.7**
	0.5nm,0.3s,baz=214,slow=7.3,SNR=2.5							
URZ					Sn	**Sn**	**07 46 52.8**	**-4.2**
	1.3nm,0.3s,baz=347,slow=18,SNR=4.1							
ASAR	**Alice Springs**	**35.80**	**292**	P		**P**	**07 50 45.7**	**+0.4**
	0.3nm,0.5s,baz=125,slow=7.3,SNR=7.2							
WRA	**Warramunga Arr**	**38.10**	**297**	P		**P**	**07 51 04.7**	**-0.2**
	0.4nm,0.5s,baz=137,slow=7.7,SNR=13							
BRTR	**Keskin Array B**	**147.62**	**278**	PKPbc		**PKPdf**	**08 03 29.3**	**+1.8**
	0.6nm,0.6s,baz=79,slow=3.1,SNR=2.2							
TORD	**Torodi Ar. Bea**	**148.19**	**201**	PKPbc		**PKPdf**	**08 03 30.4**	**+1.4**
	0.9nm,1.1s,baz=167,slow=4.0,SNR=2.6							
ARCES	**ARCESS Array B**	**148.34**	**337**	PKPbc		**PKPbc**	**08 03 30.3**	**-0.8**
	4.8nm,1.1s,baz=99,slow=2.9,SNR=2.8							

MEX 29 07:44:14.8±0.7, 14°16N×92°28W, h16km±999km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCIG	**Comitan**	**2.12**	**4**	*eP*		Pn	07 44 47.3	-2.4
CCIG				*i*	S	Sn	07 45 06.5	-9.3

IDC 29 07:47:26.5±2.5, 53°72N×86°66E, h0km, mb1 2.8/2, mb1mx2.8/43, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=22.5km s-min=13.2km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.11**	**283**	*i*			07 55 10.0	
	baz=101,slow=309,SNR=3.3							
ZALV	**Zalesovo Beam**	**1.11**	**283**	Pg		Pg	07 47 47.5	-0.3
	1.2nm,0.3s,baz=106,slow=14,SNR=18							
ZALV					Lg	Lg	07 48 03.0	
	0.9nm,0.3s,baz=101,slow=29,SNR=7.1							
ZALV					Rg	Rg	07 48 10.9	
	1.3nm,0.3s,baz=100,slow=40,SNR=5.4							
KURBB	**Kurchatov Arra**	**5.88**	**242**	Pn		Pn	07 48 55.9	+1.1
	0.1nm,0.3s,baz=59,slow=14,SNR=5.5							
KURBB					Lg	Lg	07 50 33.3	
	0.0nm,0.3s,baz=56,slow=30,SNR=4.6							
MKAR	**Makanchi Array**	**7.47**	**204**	Pn		Pn	07 49 17.7	+1.0
	0.1nm,0.3s,baz=26,slow=14,SNR=8.5							
MKAR					Lg	Lg	07 51 23.1	
	0.0nm,0.3s,baz=17,slow=31,SNR=2.7							

*ISCJB **29** 07:54:16.0±0.6, 6°.83N±0°.04×73°.11W±0°.04, h160km±5km, Error ellipse: s-maj=8.2km s-min=4.1km az=37.1*
*FUNV **29** 07:54:16.4, 6°.75N×73°.21W, h162km, MW3.7*
*RSNC **29** 07:54:18.5±0.8, 6°.79N×73°.14W, h144km±4km, ML2.4*

ISC 29 07:54:15.9±1.4, 6°82N±0°.04×73°11W±0°.05, h162km±8km, n23, σ1°11/39, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**198**	*eP*		**Pn**	**07 54 38.0**	**-0.1**
BARC				*eS*		**Sn**	**07 54 52.5**	**-2.5**
BARC				*i*			07 54 55.9	
	comp=Z,99nm,0.2s							
PAMC	**Pamplona, Colo**	**0.66**	**38**	*eP*		**Pn**	**07 54 40.8**	**+0.8**
PAMC				*i*			07 54 41.1	
	comp=Z,19nm,0.2s							
PAMC				*eS*		**Sn**	**07 54 58.0**	**-0.5**
BRRC	**Barranca, Sant**	**0.67**	**295**	*eP*		**Pn**	**07 54 39.7**	**+0.2**
BRRC				*eS*		**Sn**	**07 54 56.4**	**-1.1**
BRRC				*i*			07 54 59.2	
	comp=Z,55nm,0.1s							
RUSC	**La Rusia**	**0.92**	**179**	*eP*		**Pn**	**07 54 41.9**	**0.0**
RUSC				*eS*		**Sn**	**07 55 00.1**	**-1.6**
RUSC				*i*			07 55 01.9	
	comp=Z,34nm,0.2s							
GRMC	**Gramalote, San**	**0.94**	**19**	*i*	P	**Pn**	**07 54 43.7**	**+2.2**
GRMC				*eS*		**Sn**	**07 55 03.2**	**+1.9**
GRMC				*i*			07 55 04.4	
	comp=Z,27nm,0.3s							
CAPV	**Capacho**	**1.30**	**37**	⇓*eP*		**Pn**	**07 54 45.0**	**+0.2**
CAPV				*eS*		**Sn**	**07 55 07.4**	**+0.5**
OCAC	**Ocana**	**1.43**	**352**	*eP*		**Pn**	**07 54 46.5**	**+0.7**
OCAC				*eS*		**Sn**	**07 55 08.6**	**-0.3**
OCAC				*i*			07 55 13.2	
	comp=Z,26nm,0.3s							
YOPC	**Yopal, Colombi**	**1.61**	**155**	*eP*		**Pn**	**07 54 48.6**	**+1.0**
YOPC				*eS*		**Sn**	**07 55 12.4**	**+0.3**
YOPC				*i*			07 55 13.3	
	comp=Z,23nm,0.4s							
NORC	**Norcasia**	**2.15**	**235**	*eP*		**Pn**	**07 54 53.8**	**+0.3**
NORC				*eS*		**Sn**	**07 55 21.8**	**-0.9**
CHIC	**Chingaza**	**2.26**	**196**	*eP*		**Pn**	**07 54 56.1**	**+0.9**
CHIC				*eS*		**Sn**	**07 55 25.7**	**0.0**
CHIC				*i*			07 55 31.0	
	comp=Z,15nm,0.2s							
HELC	**Santa Helena**	**2.49**	**256**	*eP*		**Pn**	**07 54 58.5**	**+0.7**
HELC				*eS*		**Sn**	**07 55 30.4**	**+0.2**
HELC				*i*			07 55 38.3	
	comp=Z,32nm,0.3s							
VIGV	**El Vigia**	**2.65**	**41**	*eP*		**Pn**	**07 54 59.9**	**+0.4**
VIGV				*eS*		**Sn**	**07 55 33.3**	**+0.1**
SOCV	**Socops**	**2.66**	**57**	*eP*		**Pn**	**07 55 01.4**	**+1.8**
SOCV				*eS*		**Sn**	**07 55 33.1**	**-0.4**
DBBC	**Dabeiba**	**3.09**	**274**	*eP*		**Pn**	**07 55 05.8**	**+0.8**
TOLC	**Tolima**	**3.13**	**225**	*eP*		**Pn**	**07 55 06.9**	**+1.2**
PRAC	**Prado**	**3.56**	**210**	*eP*		**Pn**	**07 55 11.3**	**+0.4**
PRAC				*eS*		**Sn**	**07 55 53.1**	**-0.6**
VIRV	**Villa del Rosa**	**3.73**	**11**	*eP*		**Pn**	**07 55 13.4**	**+0.4**
VIRV				*eS*		**Sn**	**07 55 55.2**	**-2.2**
QARV	**Quebrada Arrib**	**4.22**	**37**	*eP*		**Pn**	**07 55 20.4**	**+1.0**
SANV	**Sanarito**	**4.43**	**53**	*eP*		**Pn**	**07 55 22.8**	**+0.7**
CURV	**Curarigua**	**4.44**	**44**	*eP*		**Pn**	**07 55 22.8**	**+0.5**
CURV				*eS*		**Sn**	**07 56 11.7**	**-2.6**
BAUV	**El Baul**	**5.44**	**67**	*eP*		**Pn**	**07 55 35.1**	**-0.3**
MAPV	**Macapo**	**5.49**	**57**	*eP*		**Pn**	**07 55 36.4**	**+0.4**
MONV	**Montecano**	**5.97**	**31**	*eP*		**Pn**	**07 55 42.4**	**+0.1**

*CSEM **29** 08:07:41.1±0.6, 61°.06N×28°.94E, h1km, ML2.2, Error ellipse: s-maj=10.4km s-min=6.6km az=124.0, Mining explosion.*
*IDC **29** 08:07:41.2±2.3, 60°.97N×29°.13E, h0km, mb1 3.2/2, mb1mx2.9/47, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=19.9km s-min=12.1km az=151.0*
*HEL **29** 08:07:42.7±0.3, 60°.99N×28°.99E, h0km, ML2.2, Explosion*
*NAO **29** 08:07:43.4±1.9, 61°.07N×28°.98E, ML2.3*
*BER **29** 08:07:44.0±4.5, 61°.14N×29°.01E, h0km, ML2.3(NAO), Suspected explosion*

ISC 29 08:07:42.2±1.4, 61°04N±0°.04×28°94E±0°.05, h16km±9km, n30, σ1°29/48, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VJF	**Virojoki**	**0.85**	**234**	Pg		**Pg**	**08 07 58.1**	**-0.5**
VJF					Sg	**Sg**	**08 08 10.1**	**-1.3**
VJF	**Virojoki**	**0.85**	**234**	Pb		**Pg**	**08 07 58.1**	**-0.5**
VJF					Sb	**Sn**	**08 08 10.1**	**-1.3**
FIA0	**FINESS Array S**	**1.44**	**287**	Pg		**Pb**	**08 08 09.3**	**+0.8**
	baz=113,slow=18							
FIA0					Lg	Lg	08 08 29.9	
	baz=104,slow=37							
FIA0					Rg	Rg	08 08 36.0	
	baz=105,slow=37							
FIA0	**FINESS Array S**	**1.44**	**287**	Pg		**Pb**	**08 08 09.3**	**+0.8**
	baz=113,slow=18							
FIA0					Lg	Lg	08 08 29.9	
	baz=104,slow=37							
FIA0					Rg	Rg	08 08 36.0	
	baz=105,slow=37							
FIA0	**FINESS Array S**	**1.44**	**287**	PG		**Pb**	**08 08 09.0**	**+0.4**
	baz=111							
FIA0					SG	**Sg**	**08 08 29.1**	**+0.5**
FIA0	**FINESS Array S**	**1.44**	**287**	Pg		**Pb**	**08 08 09.0**	**+0.4**
FIA0					Sg	**Sg**	**08 08 29.1**	**+0.5**
FINES	**FINESS Array B**	**1.44**	**287**	Pg		**Pb**	**08 08 09.3**	**+0.8**
	0.9nm,0.3s,baz=112,slow=18,SNR=38							
FINES					Lg	Lg	08 08 29.8	
	4.2nm,0.3s,baz=106,slow=30,SNR=5.5							
PVF	**Pernaja**	**1.59**	**253**	PG		**Pb**	**08 08 11.0**	**-0.1**
	baz=72							
PVF					MSG		08 08 30.6	
	comp=Z,14nm,0.2s							
PVF					SN	**Sg**	**08 08 33.0**	**-0.3**
PVF	**Pernaja**	**1.59**	**253**	Pg		**Pb**	**08 08 11.0**	**-0.1**
PVF					Sn	**Sg**	**08 08 33.0**	**-0.3**
SUF	**Sumiainen**	**2.14**	**323**	PG		**Pb**	**08 08 21.7**	**+1.2**
SUF					MSG		08 08 47.8	
	comp=Z,13nm,0.2s							
SUF					SG	**Sg**	**08 08 51.0**	**+0.2**
SUF	**Sumiainen**	**2.14**	**323**	Pg		**Pb**	**08 08 21.7**	**+1.2**
SUF					Sg	**Sg**	**08 08 51.0**	**+0.2**
JOF	**Joensuu**	**2.19**	**30**	PB		**Pb**	**08 08 21.8**	**+0.4**
JOF					SN	**Sb**	**08 08 49.6**	**+1.4**
JOF	**Joensuu**	**2.19**	**30**	Pb		**Pb**	**08 08 21.8**	**+0.4**
KEF	**Keuruu**	**2.25**	**302**	PG		**Pb**	**08 08 23.2**	**+0.9**
	baz=119							
KEF					MSG		08 08 50.9	
	comp=Z,12nm,0.2s							
KEF					SG	**Sg**	**08 08 53.2**	**-1.1**
KEF	**Keuruu**	**2.25**	**302**	Pg		**Pb**	**08 08 23.2**	**+0.9**
KEF					Sg	**Sg**	**08 08 53.2**	**-1.1**
MEF	**Metsahovi**	**2.39**	**252**	PG		**Pb**	**08 08 23.7**	**-1.0**
MEF

Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.48**	**281**	*i*		08 35 10.0	
	baz=92,slow=312,SNR=13						
ZALV	**Zalesovo Beam**	**3.48**	**281**	Pn	Pn	08 14 43.5	+2.2
	0.7nm,0.3s,baz=92,slow=13,SNR=12						
ZALV				Lg	Lg	08 15 35.0	
	1.0nm,0.3s,baz=95,slow=28,SNR=7.0						
KURBB	**Kurchatov Arra**	**7.96**	**254**	Pn	Pn	08 15 42.0	-0.7
	0.1nm,0.3s,baz=64,slow=14,SNR=6.3						
KURBB				Sn	Sn	08 17 12.9	-0.4
	0.0nm,0.3s,baz=67,slow=25,SNR=4.7						
KURBB				Lg	Lg	08 17 59.4	
	0.0nm,0.3s,baz=64,slow=30,SNR=4.8						
MKAR	**Makanchi Array**	**8.51**	**222**	Pn	Pn	08 15 51.4	+1.0
	0.1nm,0.3s,baz=38,slow=14,SNR=4.9						
MKAR				Sn	Sn	08 17 25.5	-1.6
	0.0nm,0.3s,baz=33,slow=19,SNR=3.6						
MKAR				Lg	Lg	08 18 14.7	
	0.1nm,0.3s,baz=39,slow=32,SNR=3.0						
SONM	**Songino Array**	**11.47**	**113**	Lg	Lg	08 19 38.5	
	0.3nm,0.3s,baz=297,slow=29,SNR=6.3						

JMA ***29*** *08:19:14.0±0.4, 43°.80N×147°.85E, h0km, M3.7*
SKHL ***29*** *08:19:14.3±0.8, 44°.03N×148°.09E, h36km±5km, mb4.1/3*
ISC 29 08:19:12.4±3.5, 44°.0N±0°.1×148°.2E±0°.2, h70km, n7, σ1§91/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.03**	**262**	*i* P	Pn	**08 19 30.0**	**-1.2**
SHO				AMB	AMB	08 19 32.4	
	99nm,0.3s						
SHO				*i* S	Sn	**08 19 42.0**	**-3.2**
SHO				A	A	08 19 44.6	
	480nm,0.3s						
SHO				A	A	08 19 44.6	
	490nm,0.3s						
KUR	**Kuril'sk**	**1.25**	**348**	*e*P	Pn	**08 19 34.1**	**+0.1**
KUR				AMB	AMB	08 19 35.2	
	32nm,0.3s						
KUR				*i* S	Sn	**08 19 48.9**	**-1.3**
KUR				A	A	08 19 52.7	
	71nm,0.3s						
KUR				A	A	08 19 52.7	
	120nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.71**	**271**	*i* P	Pn	**08 19 39.8**	**-0.3**
YUK				AMB	AMB	08 19 44.1	
	25nm,0.2s						
YUK				AMB	AMB	08 19 44.1	
	46nm,0.2s						
YUK				AMB	AMB	08 19 44.1	
	89nm,0.2s						
YUK				*i* S	Sn	**08 19 59.6**	**-1.6**
YUK				A	A	08 20 01.4	
	250nm,0.4s						
YUK				A	A	08 20 01.4	
	380nm,0.4s						
NEM2	**Nemuro 2**	**1.92**	**251**	P	Pn	**08 19 43.3**	**+0.4**
NEM2				*e*S	Sn	**08 20 04.6**	**-1.6**
JAK	**Akkeshi**	**2.77**	**250**	*e*S	Sn	**08 20 26.7**	**0.0**
JAR	**Ashorobuto**	**3.32**	**259**	P	Pn	**08 20 04.6**	**+2.7**
JAR				*e*S	Sn	**08 20 41.9**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.85**	**309**	*e*P	Pn	**08 20 24.8**	**+2.1**

MOS ***29*** *08:22:10.9±1.0, 32°.18S×71°.28W, h33km, mb5.2/25, Error ellipse: s-maj=18.0km s-min=7.8km az=103.0*
GUC ***29*** *08:22:13.4±0.7, 32°.24S×71°.34W, h43km±2km, ML4.8*
SJA ***29*** *08:22:13.2±1.4, 32°.19S×71°.31W, h10km±13km, ML4.7, MW4.5*
ISCJB ***29*** *08:22:13.4±0.4, 32°.18S±0°.03×71°.28W±0°.06, h60km±4km, mb5.0/122, Error ellipse: s-maj=8.5km s-min=4.3km az=171.7*
NEIC ***29*** *08:22:13.0, 32°.24S×71°.34W, h43km, mb5.0/109, After GUC.*
NEIC Felt [IV] at Los Vilos and Zapallar; [III] at Canela, Colina, Illapel, Lampa, Quillota, Quilpue, Salamanca, San Bernardo, Santiago, Talagante, Tiltil, Valparaiso, Villa Alemana and Vina del Mar; [II] at Puente Alto, Rancagua and San Jose de Maipo. Also felt at La Ligua, Limache and San Antonio.
IDC ***29*** *08:22:13.6±0.5, 32°.20S×71°.29W, h50km±3km, mb4.5/11, mb1 4.5/15, mb1mx4.4/23, mbtmp4.7/15, MS3.9/10, Ms1 3.8/10, ms1mx3.7/17, Error ellipse: s-maj=19.8km s-min=13.5km az=81.0*
BJI ***29*** *08:22:14.3, 32°.20S×71°.20W, h50km, mB5.0/6, Ms5.1/6, Ms7 5.0/4*
ISC 29 08:22:13.4±0.5, 32°.27S±0°.03×71°.51W±0°.05, h47km±4km, h46km:pP-P,n690, σ1§03/715, mb5.0/122, MS3.9/7, 9C-14D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.82**	**149**	⇓*i*P	Pn	**08 22 28.9**	**0.0**
ROCH				*i* S	Sn	**08 22 40.6**	**+0.5**
ROCH				IAML		08 22 42.1	
	comp=N,89μm,0.3s						
ROC1	**El Roble**	**0.82**	**149**	*e*P	Pn	**08 22 29.0**	**+0.1**
ROC1				*e*S	Sn	**08 22 40.7**	**+0.6**
ROC1	**El Roble**	**0.82**	**149**	*e*Pn	Pn	**08 22 28.1**	**-0.8**
PEL	**Peldehue**	**1.12**	**142**	⇓*i*P	Pn	**08 22 33.0**	**+0.3**
PEL				*i* S	Sn	**08 22 47.4**	**+0.4**
PEL				IAML		08 22 47.9	
	comp=N,35μm,0.3s						
RCDM	**Rinconada Maip**	**1.35**	**154**	⇑*i*P	Pn	**08 22 36.3**	**+0.4**
RCDM				*i* S	Sn	**08 22 53.6**	**+0.9**
CLCH	**Cerro Calan**	**1.39**	**144**	⇓*i*P	Pn	**08 22 37.0**	**+0.5**
CLCH				*i* S	Sn	**08 22 54.9**	**+1.1**
CLCH				IAML		08 22 56.0	
	comp=E,42μm,0.7s						
FCH	**Farellones**	**1.47**	**136**	⇓*i*P	Pn	**08 22 38.0**	**+0.2**
FCH				*i* S	Sn	**08 22 56.9**	**+0.8**
FCH				IAML		08 22 57.7	
	comp=E,12μm,0.2s						
ANTU	**Antumapu**	**1.49**	**151**	⇓*i*P	Pn	**08 22 38.5**	**+0.7**
ANTU				*i* S	Sn	**08 22 56.3**	**+0.1**
ANTU				IAML		08 23 04.1	
	comp=E,17μm,0.4s						
AUSP	**Uspallata**	**1.80**	**89**	*e*P	Pn	**08 22 44.4**	**+2.2**
YECH	**El Yeso**	**1.84**	**140**	⇑*i*P	Pn	**08 22 43.1**	**+0.3**
YECH				*i* S	Sn	**08 23 05.3**	**+0.2**
YECH				IAML		08 23 06.9	
	comp=N,18μm,0.4s						
RTLS	**Leoncito**	**1.94**	**77**	⇓*e*P	Pn	**08 22 46.5**	**+2.3**
ARCO	**CERRO ARCO**	**2.25**	**105**	⇓*e*P	Pn	**08 22 51.8**	**+3.5**
ARCO				IAML		08 23 26.4	
	comp=Z,4μm,0.6s						
ASAL	**Salagasta**	**2.29**	**99**	⇓*e*P	Pn	**08 22 52.6**	**+3.9**
AAGR	**Agrelo**	**2.40**	**111**	⇓*e*P	Pn	**08 22 53.9**	**+3.5**
RTCV	**Cerro Valdivia**	**2.55**	**82**	*e*P	Pn	**08 22 54.8**	**+2.4**
SJA	**San Juan**	**2.62**	**74**	*e*P	Pn	**08 22 56.0**	**+2.8**
SJA				IAML		08 23 15.8	
	comp=Z,4μm,0.6s						
ACCO	**Cerro Coronel**	**2.68**	**52**	⇓*e*P	Pn	**08 22 57.3**	**+3.0**
ACCO				*e*S	Sn	**08 23 28.6**	**+2.9**
ACCO				IAML		08 23 48.0	
	comp=Z,5μm,0.8s						
NICH	**Los Niches**	**2.74**	**175**	⇓*i*P	Pn	**08 22 56.0**	**+1.2**
RTLL	**Cerro Villicun**	**2.75**	**71**	*e*P	Pn	**08 22 56.9**	**+1.8**
TALC	**Talca**	**3.12**	**182**	*e*P	Pn	**08 23 01.8**	**+1.7**
LCO	**Las Campanas**	**3.32**	**12**	*e*Pn	Pn	**08 23 03.0**	**-0.1**
ACAN	**Cantantal**	**3.66**	**91**	*e*P	Pn	**08 23 08.9**	**+1.3**
VACH	**Vallenar**	**3.74**	**10**	⇓*i*P	Pn	**08 23 08.4**	**-0.2**
VACH				*e*S	Sn	**08 23 51.0**	**-0.4**
AVFE	**Valle Fertil**	**3.82**	**66**	*e*P	Pn	**08 23 12.0**	**+2.2**
AVFE				IAML		08 24 03.8	
	comp=Z,2μm,0.5s						
CCHI	**Chillan**	**4.35**	**186**	*e*P	Pn	**08 23 18.2**	**+1.3**
PLCA	**Paso Flores**	**8.48**	**175**	P	Pn	**08 24 14.3**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=353,slow=11,SNR=15						
PLCA				Lg	Lg	08 26 39.3	
	baz=196,slow=19,SNR=1.3						
PLCA				LR	LR	08 27 27.6	
	comp=Z,662nm,20.0s,baz=22,slow=37						
PLCA	**Paso Flores**	**8.48**	**175**	*e*P	Pn	**08 24 16.5**	**+2.8**
PLCA	**Paso Flores**	**8.48**	**175**	*e*Pn	Pn	**08 24 16.5**	**+2.8**
PLCA				Lg	Lg	08 26 39.3	
TRQA	**Tornquist**	**9.70**	**129**	*e*Pn	Pn	**08 24 30.6**	**+0.2**
LVC	**Limon Verde**	**9.89**	**14**	P	Pn	**08 24 28.8**	**-4.5**
	comp=Z,103nm,0.3s,baz=99,slow=4.5,SNR=23						
LVC				LR	LR	08 28 58.9	
	comp=Z,1μm,19.5s,baz=178,slow=42						
LVC	**Limon Verde**	**9.89**	**14**	*e*Pn	Pn	**08 24 33.3**	**-0.1**
CPUP	**Villa Florida**	**13.71**	**68**	P	Pn	**08 25 20.9**	**-4.2**
	comp=Z,0.7nm,0.3s,baz=231,slow=12,SNR=14						
CPUP				S	Sn	08 27 40.8	-15
	comp=Z,0.5nm,0.3s,baz=210,slow=18,SNR=3.1						
CPUP				LR	LR	08 31 21.9	
	comp=Z,453nm,18.9s,baz=246,slow=41						
CPUP	**Villa Florida**	**13.71**	**68**	*e*P	Pn	**08 25 21.5**	**-3.7**
CPUP	**Villa Florida**	**13.71**	**68**	*e*Pn	Pn	**08 25 21.4**	**-3.7**
CPUP				S	Sn	08 27 40.8	-15
LPAZ	**La Paz**	**16.20**	**12**	P	Pn	**08 25 58.1**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=188,slow=8.0,SNR=26						
LPAZ	**La Paz**	**16.20**	**12**	*e*P	Pn	**08 25 58.6**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,49nm,1.4s						
LPAZ	**La Paz**	**16.20**	**12**	*e*Pn	Pn	**08 25 58.5**	**+0.1**
	comp=Z,49nm,1.4s						
SIV	**San Ignacio**	**18.78**	**33**	P	P	**08 26 26.8**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=225,slow=12,SNR=23						
NNA	**Nana**	**20.77**	**345**	P	P	**08 26 51.3**	**+0.7**
	comp=Z,12nm,0.6s,baz=210,slow=12,SNR=3.8						
EFI	**East Falkland**	**21.75**	**157**	⇓P	P	**08 26 59.8**	**-0.9**
EFI				pmax	pmax		
	comp=Z,28nm,1.0s						
USHA	**Ushuaia**	**22.66**	**175**	P	P	**08 27 11.6**	**+1.1**
	comp=Z,59nm,0.6s,baz=333,slow=8.9,SNR=12						
SPB	**Sao Paulo**	**22.93**	**74**	*e*P	P	**08 27 13.1**	**-0.4**
	comp=Z,36nm,1.1s						
SAML	**Samuel**	**24.46**	**20**	*e*P	P	**08 27 26.7**	**-1.3**
	comp=Z,8.4nm,0.8s						
OTAV	**Otavalo**	**32.99**	**347**	*e*P	P	**08 28 46.3**	**+1.8**
	comp=Z,12nm,1.3s						
OTAV				*e*PcP	PcP	**08 31 28.7**	**+0.9**
PTGA	**Pitinga**	**33.21**	**21**	*e*P	P	**08 28 44.4**	**-1.6**
	comp=Z,22nm,1.0s						
PRAC	**Prado**	**35.93**	**354**	*e*P	P	**08 29 10.7**	**+1.3**
	comp=Z,13nm,0.8s						
CHIC	**Chingaza**	**36.75**	**356**	*e*P	P	**08 29 18.2**	**+1.2**
NORC	**Norcasia**	**37.76**	**355**	*e*P	P	**08 29 25.1**	**+0.1**
RUSC	**La Rusia**	**37.98**	**357**	*e*P	P	**08 29 28.1**	**+0.7**
HELC	**Santa Helena**	**38.44**	**354**	*e*P	P	**08 29 31.1**	**0.0**
HELC	**Santa Helena**	**38.44**	**354**	*e*P	P	**08 29 30.8**	**-0.3**
	comp=Z,30nm,0.9s						
BARC	**Barichara**	**38.68**	**357**	*e*P	P	**08 29 33.1**	**+0.1**
VNA1	**Neumayer--Stat**	**51.09**	**158**	P	P	**08 31 11.7**	**+0.9**
SNAA	**Sanae**	**53.02**	**158**	P	P	**08 31 25.5**	**+0.3**
SNAA	**Sanae**	**53.02**	**158**	*e*P	P	**08 31 25.5**	**+0.3**
SNAA				*PP	pP	**08 31 39.0**	**+0.8**
SNAA				pmax	pmax		
	comp=Z,2μm,1.5s						
SNAA	**Sanae**	**53.02**	**158**	*e*P	P	**08 31 25.3**	**+0.1**
	comp=Z,30nm,1.2s						
NVL	**N'lazarevskaya**	**57.73**	**157**	*e*P	P	**08 32 01.4**	**+2.4**
QSPA	**South Pole Qui**	**57.96**	**180**	*e*P	P	**08 32 01.8**	**+0.9**
034A	**Hebbronville**	**64.43**	**333**	P	P	**08 32 46.4**	**+1.5**
	baz=155						
934A	**Benavides**	**64.85**	**334**	P	P	**08 32 49.2**	**+1.6**
	baz=155						
445A	**Amite**	**65.15**	**342**	P	P	**08 32 51.0**	**+1.5**
	baz=162						
933A	**Laredo**	**65.15**	**333**	P	P	**08 32 50.6**	**+1.0**
	baz=154,SNR=6.4						
835A	**Beeville**	**65.22**	**334**	P	P	**08 32 51.1**	**+1.2**
	baz=156						
834A	**Tilden**	**65.34**	**334**	P	P	**08 32 52.2**	**+1.5**
	baz=155,SNR=10.0						
736A	**Circle Diamond**	**65.55**	**335**	P	P	**08 32 54.0**	**+1.9**
	baz=156,SNR=6.9						
346A	**Big Creek Wild**	**65.55**	**343**	P	P	**08 32 53.5**	**+1.5**
	baz=163						
735A	**Kenedy**	**65.72**	**335**	P	P	**08 32 54.9**	**+1.7**
	baz=156						
637A	**Eagle Lake**	**65.74**	**336**	P	P	**08 32 54.7**	**+1.4**
	baz=157						
248A	**Dixon Mills**	**65.83**	**345**	P	P	**08 32 53.9**	**+0.1**
	baz=165						
833A	**Chaparral WMA,**	**65.83**	**333**	P	P	**08 32 54.9**	**+0.9**
	baz=154,SNR=15						
VNDA	**Vanda**	**65.88**	**191**	P	P	**08 32 55.1**	**+1.5**
	comp=Z,1.5nm,0.9s,baz=138,slow=3.5,SNR=5.4						
344A	**Westbrook Farm**	**65.94**	**342**	P	P	**08 32 55.4**	**+0.9**
	baz=162						
734A	**La Parita Cree**	**65.99**	**334**	P	P	**08 32 55.8**	**+0.9**
	baz=155						
832A	**Faith Ranch, C**	**66.02**	**333**	P	P	**08 32 55.9**	**+0.8**
	baz=154,SNR=14						
636A	**Smothers Creek**	**66.03**	**336**	P	P	**08 32 56.6**	**+1.5**
	baz=156,SNR=5.1						
246A	**Jackson Lee, B**	**66.07**	**344**	P	P	**08 32 55.5**	**+0.1**
	baz=164						
733A	**Divot King Ran**	**66.15**	**333**	P	P	**08 32 56.8**	**+0.8**
	baz=154						
635A	**Leesville**	**66.19**	**335**	P	P	**08 32 56.2**	**0.0**
	baz=156						
245A	**Little AP, Sta**	**66.27**	**343**	P	P	**08 32 57.2**	**+0.5**
	baz=163,SNR=6.7						
342A	**Flagon Creek P**	**66.29**	**341**	P	P	**08 32 57.8**	**+1.0**
	baz=161						
439A	**Center Grove,**	**66.48**	**338**	P	P	**08 32 59.0**	**+1.0**
	baz=158						
244A	**Avery, Jackson**	**66.48**	**342**	P	P	**08 32 58.6**	**+0.6**
	baz=162,SNR=5.3						
341A	**Kurthwood**	**66.50**	**340**	P	P	**08 32 58.9**	**+0.8**
	baz=160,SNR=7.1						
243A	**Waterproof**	**66.54**	**342**	P	P	**08 32 58.9**	**+0.5**
	baz=162						
536A	**Bastrop**	**66.57**	**336**	P	P	**08 32 59.5**	**+0.9**
	baz=156						
146A	**Union**	**66.65**	**344**	P	P	**08 32 59.6**	**+0.5**
	baz=164						
438A	**Sam Houston St**	**66.66**	**338**	P	P	**08 33 00.2**	**+1.0**
	baz=158						
535A	**Dale**	**66.71**	**335**	P	P	**08 32 59.8**	**+0.3**
	baz=156						
633A	**Saathoff Ranch**	**66.77**	**334**	P	P	**08 33 00.6**	**+0.6**
	baz=155,SNR=9.3						
340A	**Bronson**	**66.79**	**339**	P	P	**08 33 00.6**	**+0.6**
	baz=159						
145A	**Houston Renfro**	**66.83**	**343**	P	P	**08 33 00.8**	**+0.6**
	baz=163,SNR=5.4						
JSC	**Jenkinsville**	**66.83**	**351**	*e*P	P	**08 33 00.2**	**0.0**
JSC				pmax	pmax		
	comp=Z,13nm,1.1s						
JSC	**Jenkinsville**	**66.83**	**351**	*e*P	P	**08 33 00.2**	**0.0**
	comp=Z,13nm,1.1s						
242A	**Grayson**	**66.89**	**341**	P	P	**08 33 01.7**	**+1.1**
	baz=161						
339A	**Huntington**	**66.91**	**339**	P	P	**08 33 01.7**	**+0.9**
	baz=159						
Z47A	**Carrollton**	**66.97**	**345**	P	P	**08 33 01.0**	**-0.1**
	baz=165						
144A	**Alexander Plac**	**66.97**	**343**	P	P	**08 33 02.1**	**+1.0**
	baz=163						
Z48A	**Northport**	**67.02**	**345**	P	P	**08 33 01.0**	**-0.4**
	baz=165						
534A	**Blanco**	**67.03**	**335**	P	P	**08 33 01.7**	**+0.1**
	baz=155						
241A	**Mo Tay, Goldon**	**67.07**	**340**	P	P	**08 33 02.3**	**+0.6**
	baz=160						
Z46A	**Louisville**	**67.16**	**344**	P	P	**08 33 02.8**	**+0.6**
	baz=164,SNR=5.0						
338A	**Crockett**	**67.17**	**338**	P	P	**08 33 03.2**	**+0.8**
	baz=158						
HPIG		**67.27**	**327**	*e*P	P	**08 33 04.3**	**+1.0**
	comp=Z,34nm,1.6s						
533A	**Kerrville**	**67.27**	**334**	P	P	**08 33 03.7**	**+0.6**
	baz=155,SNR=10						
TAOE	**Nuku Hiva Isla**	**67.28**	**274**	*e*LR	LR	08 53 52.4	
	comp=Z,100nm,24.9s						
142A	**Monroe**	**67.30**	**341**	P	P	**08 33 03.8**	**+0.6**
	baz=161						
143A	**Socs Landing,**	**67.30**	**342**	P	P	**08 33 03.9**	**+0.8**
	baz=162,SNR=7.7						
SYO	**Syowa Base**	**67.31**	**159**	⇓*e*P	P	**08 33 01.0**	**-1.9**
337A	**Centerville**	**67.32**	**337**	P	P	**08 33 04.4**	**+1.1**
	baz=158						
240A	**Hunter Patters**	**67.33**	**340**	P	P	**08 33 04.4**	**+1.0**
	baz=160						
NATX	**Nacogdoches**	**67.34**	**339**	P	P	**08 33 04.1**	**+0.6**
	baz=159						
435B	**Jarrell**	**67.40**	**336**	P	P	**08 33 04.4**	**+0.5**
	baz=156						
Z45A	**Winona**	**67.50**	**344**	P	P	**08 33 05.0**	**+0.5**
	baz=163						
239A	**Gary**	**67.52**	**339**	P	P	**08 33 05.2**	**+0.6**
	baz=159						
Y47A	**UCPARC, Winfie**	**67.59**	**345**	P	P	**08 33 04.7**	**-0.3**
	baz=165,SNR=11						
Z44A	**Pea Ridge, Bel**	**67.59**	**343**	P	P	**08 33 05.6**	**+0.6**
	baz=163						
141A	**Papa Simpson,**	**67.61**	**341**	P	P	**08 33 06.0**	**+0.8**
	baz=160						
434A	**Burnet**	**67.67**	**335**	P	P	**08 33 05.8**	**+0.2**
	baz=156,SNR=11						
KMSC	**Kings Mountain**	**67.69**	**351**	P	P	**08 33 05.2**	**-0.4**
	baz=171						
336A	**Riesel**	**67.70**	**337**	P	P	**08 33 06.3**	**+0.5**
	baz=157,SNR=8.0						
238A	**Jacksonville**	**67.71**	**338**	P	P	**08 33 06.6**	**+0.8**
	baz=158						
Y46A	**Houston**	**67.80**	**344**	P	P	**08 33 06.0**	**-0.3**
	baz=164,SNR=10						
335A	**Moody**	**67.80**	**336**	P	P	**08 33 06.6**	**+0.2**
	baz=156						
140A	**Cam and Jess,**	**67.84**	**340**	P	P	**08 33 07.3**	**+0.7**
	baz=160						
JCT	**Junction City**	**67.92**	**334**	P	P	**08 33 07.6**	**+0.3**
	baz=154,SNR=12						
JCT	**Junction City**	**67.92**	**334**	*e*P	P	**08 33 08.0**	**+0.7**
JCT				pmax	pmax		
	comp=Z,34nm,1.1s						
JCT	**Junction City**	**67.92**	**334**	*e*P	P	**08 33 08.0**	**+0.7**
	comp=Z,34nm,1.1s						
237A	**Washetta, Mont**	**67.92**	**338**	P	P	**08 33 07.5**	**+0.4**
	baz=158						
Y45A	**Yeager Farm, C**	**67.94**	**344**	P	P	**08 33 07.5**	**+0.3**
	baz=164,SNR=12						
334A	**Lometa**	**68.13**	**336**	P	P	**08 33 08.9**	**+0.4**
	baz=156,SNR=17						
236A	**Katherine and**	**68.16**	**337**	P	P	**08 33 09.0**	**+0.4**
	baz=157						
TBI	**Tubuai**	**68.17**	**256**	*e*LR	LR	08 54 03.9	
	comp=Z,276nm,26.5s						
TBI	**Tubuai**	**68.17**	**256**	*e*T	T	09 47 30.0	
	comp=Z,8.8nm,0.2s						
Y44A	**Strider, Charl**	**68.19**	**343**	P	P	**08 33 09.0**	**+0.2**
	baz=163						
Z41A	**Richland Creek**	**68.20**	**341**	P	P	**08 33 09.1**	**+0.3**
	baz=161						
Y43A	**Makayla and Ka**	**68.32**	**343**	P	P	**08 33 09.9**	**+0.3**
	baz=162						
Z40A	**Long Farm, Mag**	**68.37**	**340**	P	P	**08 33 10.1**	**+0.2**
	baz=160						
333A	**Richland Sprin**	**68.39**	**335**	P	P	**08 33 10.4**	**+0.3**
	baz=155,SNR=12						
X45A	**UM Field Stati**	**68.44**	**344**	P	P	**08 33 10.0**	**-0.4**
	baz=164						
TXAR	**Lajitas Array**	**68.45**	**330**	P	P	**08 33 11.2**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=150,slow=8.3,SNR=43						
TXAR				LR	LR	08 58 39.2	
	comp=Z,72nm,18.9s,baz=0.0,slow=32						
TX31	**Lajitas Ar. Si**	**68.45**	**330**	*e*P	P	**08 33 11.3**	**+0.7**
WHTX	**Lake Whitney,**	**68.46**	**336**	P	P	**08 33 10.8**	**+0.3**
	baz=156						
WHTX	**Lake Whitney,**	**68.46**	**336**	*e*P	P	**08 33 10.9**	**+0.4**
	comp=Z,11nm,0.8s						
137A	**Heron Place, G**	**68.46**	**338**	P	P	**08 33 11.4**	**+0.9**
	baz=158						
CPCT	**Cooper Cave**	**68.46**	**349**	*e*P	P	**08 33 10.5**	**0.0**
	comp=Z,13nm,1.1s						
Y42A	**Garnett, Star**	**68.47**	**342**	P	P	**08 33 10.7**	**+0.2**
	baz=162						
OXF	**Oxford**	**68.53**	**344**	*e*P	P	**08 33 10.4**	**-0.4**
OXF				pmax	pmax		
	comp=Z,65nm,1.1s						
OXF	**Oxford**	**68.53**	**344**	*e*P	P	**08 33 10.4**	**-0.4**
	comp=Z,65nm,1.1s						
Z39A	**Irene McRaven,**	**68.58**	**340**	P	P	**08 33 11.8**	**+0.6**
	baz=159						
136A	**Ennis**	**68.59**	**337**	P	P	**08 33 11.5**	**+0.2**
	baz=157						
WLAR	**White Oak Lake**	**68.69**	**341**	*e*P	P	**08 33 13.3**	**+1.4**
	comp=Z,54nm,1.4s						
234A	**Clairette**	**68.70**	**336**	P	P	**08 33 12.3**	**+0.2**
	baz=156,SNR=15						
Y41A	**Eaglette Beard**	**68.73**	**341**	P	P	**08 33 12.6**	**+0.4**
	baz=161,SNR=10						
X43A	**Marvell**	**68.89**	**343**	P	P	**08 33 13.6**	**+0.5**
	baz=162						
135A	**Vickery Place,**	**68.96**	**337**	P	P	**08 33 14.1**	**+0.4**
	baz=157						
Z37A	**Pogue Cattle C**	**68.97**	**338**	P	P	**08 33 14.0**	**+0.4**
	baz=158						
233A	**Rising Star**	**68.98**	**335**	P	P	**08 33 14.0**	**+0.2**
	baz=155,SNR=14						
Y40A	**Okolona**	**69.04**	**341**	P	P	**08 33 14.4**	**+0.3**
	baz=160						
W45A	**Hickory Valley**	**69.09**	**345**	P	P	**08 33 14.1**	**-0.3**
	baz=164,SNR=5.8						
134A	**White-Moore Ra**	**69.20**	**336**	P	P	**08 33 15.3**	**+0.2**
	baz=156						
Y39A	**Lockesburg**	**69.20**	**340**	P	P	**08 33 15.0**	**-0.1**
	baz=160						
W44A	**Shelby Farms P**	**69.22**	**344**	P	P	**08 33 14.9**	**-0.3**
	baz=163						
X41A	**Kaden, Bauxite**	**69.29**	**342**	P	P	**08 33 14.9**	**-0.7**
	baz=161						
Z36A	**Blue Ridge**	**69.30**	**338**	P	P	**08 33 16.0**	**+0.4**
	baz=158,SNR=7.6						
X40A	**Basin Creek Fa**	**69.37**	**341**	P	P	**08 33 15.7**	**-0.4**
	baz=161						
Y38A	**Idabel**	**69.38**	**339**	P	P	**08 33 16.0**	**-0.2**
	baz=159						
133A	**Hamilton Ranch**	**69.52**	**336**	P	P	**08 33 17.2**	**+0.1**
	baz=155,SNR=11						
MEH	**Mehetia**	**69.53**	**261**	*e*T	T	09 49 11.6	
	comp=Z,23nm,0.2s						
V45A	**Humboldt**	**69.60**	**345**	P	P	**08 33 17.0**	**-0.5**
	baz=164						
Z35A	**Perchaven, San**	**69.62**	**337**	P	P	**08 33 17.9**	**+0.2**
	baz=157,SNR=12						
MIAR	**Mount Ida**	**69.62**	**341**	P	P	**08 33 17.6**	**-0.1**
	baz=160,SNR=9.8						
MIAR	**Mount Ida**	**69.62**	**341**	*e*P	P	**08 33 17.1**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,26nm,1.3s						
MIAR	**Mount Ida**	**69.62**	**341**	*e*P	P	**08 33 17.1**	**-0.6**
	comp=Z,26nm,1.3s						
Y37A	**Hugo**	**69.70**	**339**	P	P	**08 33 18.5**	**+0.4**
	baz=158						
X39A	**Fountain Ranch**	**69.75**	**340**	P	P	**08 33 18.5**	**0.0**
	baz=160,SNR=11						
ABTX	**Abil

baz=161,SNR=6.3
Y33A **Hilltop Ranch,** 70.69 336 P P 08 33 24.2 -0.1
baz=156,SNR=5.9
W37B **Quinton** 70.72 339 P P 08 33 24.2 -0.1
baz=159,SNR=12
U42A **Revenden** 70.72 343 P P 08 33 24.1 -0.3
baz=162,SNR=14
TIAR **Tiarei** 70.75 261 *e*T T 09 50 43.0
comp=Z,5.9nm,0.3s
V39A **Pettigrew** 70.86 341 P P 08 33 25.3 0.0
baz=160
U41A **Viola** 70.88 343 P P 08 33 25.0 -0.4
baz=162,SNR=6.8
PBMO **Poplar Bluff** 70.93 344 *e*P P 08 33 25.3 -0.3
comp=Z,28nm,1.1s
PPT2 **Papeete2** 70.93 261 *e*LR LR 08 55 10.2
comp=Z,101nm,25.5s
PPT2 **Papeete2** 70.93 261 *e*T T 09 50 48.7
comp=Z,1.1nm,0.3s
PPT **Papeete** 70.94 261 LR LR 08 56 13.1
comp=Z,26nm,18.7s,baz=162,slow=29
W36A **Wetumka** 70.96 339 P P 08 33 25.1 -0.7
baz=158,SNR=5.6
X34A **Smith Ranch, M** 70.97 337 P P 08 33 26.3 +0.3
baz=156,SNR=11
V38A **Canehill** 71.09 340 P P 08 33 26.2 -0.5
baz=160,SNR=10
U40A **Yellville** 71.13 342 P P 08 33 26.7 -0.1
baz=161,SNR=19
X33A **Lawton** 71.14 337 P P 08 33 26.2 -0.7
baz=156,SNR=5.0
W35A **Tecumseh** 71.17 338 P P 08 33 26.2 -0.9
baz=157
MNTX **Cornudas Mount** 71.23 330 P P 08 33 27.1 -0.5
baz=150,SNR=15
MNTX **Cornudas Mount** 71.23 330 *e*P P 08 33 27.1 -0.5
comp=Z,11nm,1.1s
X32A **Elmer** 71.30 336 P P 08 33 27.8 -0.2
baz=155
V37A **Hulbert** 71.32 340 P P 08 33 27.6 -0.4
baz=159,SNR=6.1
U39A **Green Forest** 71.32 341 P P 08 33 27.9 -0.2
baz=160,SNR=18
S45A **Carrier Mills** 71.39 346 P P 08 33 27.7 -0.6
baz=165
WMOK **Wichita Mounta** 71.41 337 P P 08 33 28.1 -0.6
baz=156,SNR=5.9
WMOK **Wichita Mounta** 71.41 337 *e*P P 08 33 28.1 -0.6
WMOK pmax pmax
comp=Z,10.0nm,1.3s
WMOK **Wichita Mounta** 71.41 337 *e*P P 08 33 28.1 -0.6
comp=Z,10nm,1.3s
V36A **Jenks** 71.47 339 P P 08 33 28.6 -0.4
baz=158,SNR=7.5
T41A **Mountain View** 71.50 343 P P 08 33 28.6 -0.5
baz=162,SNR=13
W34A **Bridge Creek,** 71.53 338 P P 08 33 28.9 -0.4
baz=157
TUL1 **Leonard** 71.54 339 P P 08 33 29.0 -0.4
baz=158,SNR=7.2
TUL1 **Leonard** 71.54 339 *e*P P 08 33 29.2 -0.1
comp=Z,19nm,0.8s
S44A **Carbondale** 71.55 345 P P 08 33 28.7 -0.6
baz=164,SNR=6.1
SIUC **Southern Illin** 71.56 345 *e*P P 08 33 29.3 -0.1
comp=Z,32nm,1.0s
S43A **Fulton Ridge,** 71.61 345 P P 08 33 29.1 -0.6
baz=163,SNR=17
U38A **Gravette** 71.63 341 P P 08 33 29.3 -0.5
baz=160
W33A **Caddo, Fort Co** 71.69 337 P P 08 33 30.7 +0.5
baz=156,SNR=6.4
V35A **Meyer Ranch, C** 71.72 339 P P 08 33 29.9 -0.5
baz=158,SNR=5.6
T40A **Mansfield** 71.80 342 P P 08 33 30.5 -0.4
baz=161,SNR=7.2
U37A **Salina** 71.80 340 P P 08 33 30.4 -0.5
baz=159,SNR=5.5
T39A **Clever** 71.90 342 P P 08 33 31.2 -0.3
baz=160,SNR=13
W32A **Sentinel** 71.92 336 P P 08 33 31.7 0.0
baz=155,SNR=16
U36A **Oologah** 71.97 340 P P 08 33 31.5 -0.4
baz=158
V34A **Guthrie** 72.00 338 P P 08 33 31.6 -0.5
baz=157
V34A **Guthrie** 72.00 338 *e*P P 08 33 32.4 +0.2
comp=Z,17nm,0.8s
S41A **Jillco Farms,** 72.02 343 P P 08 33 32.0 -0.1
baz=162,SNR=19
R44A **Waltonville** 72.04 346 P P 08 33 31.3 -0.9
baz=164
MVL **Millersville** 72.04 356 *e*P P 08 33 33.0 +0.8
comp=Z,19nm,1.3s
T38A **Diamond** 72.16 341 P P 08 33 32.7 -0.3
baz=160,SNR=11
MSTX **Muleshoe** 72.16 333 P P 08 33 33.3 0.0
baz=152,SNR=14
MSTX **Muleshoe** 72.16 333 *e*P P 08 33 33.4 +0.2
comp=Z,32nm,1.1s
S40A **Lebanon** 72.22 343 P P 08 33 33.1 -0.2
baz=161,SNR=15
V33A **Lossen Ranch,** 72.24 337 P P 08 33 33.5 -0.1
baz=156
U35A **Pawnee** 72.25 339 P P 08 33 33.7 +0.1
baz=158,SNR=14
T37A **Cheneyville 18** 72.42 341 P P 08 33 34.1 -0.4
baz=159,SNR=5.8
O56A **Blue Knob Stat** 72.47 354 P P 08 33 34.8 -0.1
baz=174
S39A **Bolivar** 72.51 342 P P 08 33 34.8 -0.4
baz=161,SNR=18
U34A **Anderson Ranch** 72.56 338 P P 08 33 35.5 0.0
baz=157
AMTX **Amarillo** 72.56 334 P P 08 33 35.7 0.0
baz=153
LUPA **Lehigh Univers** 72.59 357 *e*P P 08 33 35.8 +0.3
comp=Z,17nm,1.0s
S38A **Stockton** 72.61 342 P P 08 33 35.4 -0.3
baz=160,SNR=24
T36A **Boggs Farm, Ca** 72.63 340 P P 08 33 35.6 -0.2
baz=158,SNR=5.4
Q44A **Meyer Farm, Va** 72.66 346 P P 08 33 34.8 -1.1
baz=164
T35A **Sooner Cattle** 72.69 339 P P 08 33 36.1 -0.1
baz=158,SNR=8.6
U33A **Lingo Farm, Me** 72.74 338 P P 08 33 36.1 -0.4
baz=156
R40A **Maddies Statio** 72.81 343 P P 08 33 36.4 -0.4
baz=162,SNR=31
Q43A **New Douglas** 72.84 345 P P 08 33 36.4 -0.6
baz=164,SNR=6.2
ACSO **Alum Creek Sta** 72.92 351 *e*P P 08 33 36.8 -0.6
comp=Z,80nm,1.3s
N59A **State Game Lan** 72.93 357 P P 08 33 38.0 +0.5
baz=176,SNR=5.3
U32A **Winter Ranch,** 72.98 337 P P 08 33 37.7 -0.3
baz=156
S37A **Fort Scott** 72.98 341 P P 08 33 37.5 -0.4
baz=159,SNR=11
121A **Cookes Peak, D** 72.99 328 P P 08 33 39.6 +1.3
baz=148,SNR=16
121A **Cookes Peak, D** 72.99 328 *e*P P 08 33 39.3 +1.0
comp=Z,28nm,1.2s
T34A **McClaskey Farm** 72.99 339 P P 08 33 38.2 +0.2
baz=157,SNR=13
Q42A **Golden Eagle** 72.99 345 P P 08 33 37.6 -0.4
baz=163,SNR=13
R39A **Chumby, Stover** 73.03 342 P P 08 33 37.7 -0.5
baz=161,SNR=15
R38A **Fenwick Farm,** 73.14 342 P P 08 33 38.2 -0.6
baz=160,SNR=7.5
S36A **Lake Cedric, C** 73.17 340 P P 08 33 38.6 -0.4
baz=159,SNR=13
N54A **Moraine State** 73.29 353 P P 08 33 39.3 -0.3
baz=172
S35A **Otter Creek Ra** 73.34 340 P P 08 33 40.1 0.0
baz=158,SNR=12
Q40A **Laux Farm, Aux** 73.43 343 P P 08 33 40.6 0.0
baz=162,SNR=17
R37A **Teagarden Farm** 73.50 341 P P 08 33 40.4 -0.6
baz=159,SNR=8.2
S34A **Willow Spring** 73.59 339 P P 08 33 41.4 -0.1
baz=158
P42A **Winchester** 73.60 345 P P 08 33 40.8 -0.7
baz=163,SNR=6.7
T32A **Huddler Ranch,** 73.68 337 P P 08 33 42.3 +0.2
baz=156
R36A **Gordon, Harris** 73.70 341 P P 08 33 41.5 -0.6
baz=159
Q39A **Willow Grove F** 73.70 343 P P 08 33 41.5 -0.6
baz=161
SFIN **Lafayette** 73.71 348 P P 08 33 40.8 -1.3
baz=166
Q38A **Cooks Store, C** 73.79 342 P P 08 33 42.3 -0.4
baz=160,SNR=9.2
M54A **Oil Creek Stat** 73.80 354 P P 08 33 41.8 -0.8
baz=173
LIC **Lamto** 73.81 72 *e*P P 08 33 42.0 -1.3
comp=Z,108nm,2.2s
P41A **Barry, Barry** 73.84 344 P P 08 33 42.2 -0.7
baz=163,SNR=6.1
BNM **Barren Site** 73.87 330 *e*P P 08 33 45.0 +1.5
R35A **Emporia Munici** 73.90 340 P P 08 33 42.8 -0.5
baz=158
Q37A **Longview Farm,** 73.93 342 P P 08 33 42.7 -0.8
baz=160
P40A **Paris** 73.94 344 P P 08 33 43.3 -0.2
baz=162,SNR=20
LPM **Los Pinos Moun** 74.01 330 *e*P P 08 33 45.8 +1.5
TIC **Toumodi** 74.06 71 *e*P P 08 33 43.3 -1.5
P39B **Salisbury** 74.07 343 P P 08 33 43.7 -0.5
baz=161,SNR=9.6
KIC **Kosan Boka** 74.12 72 *e*P P 08 33 43.8 -1.4
comp=Z,38nm,0.8s
O42A **Bath** 74.12 345 P P 08 33 43.9 -0.7
baz=164
S32A **Newby Ranch, P** 74.16 338 P P 08 33 45.0 +0.1
baz=156
QUA2 **Belchertown** 74.19 359 *e*P P 08 33 45.5 +0.7
comp=Z,12nm,1.0s
R34A **Isabella, Hill** 74.19 339 P P 08 33 44.8 -0.2
baz=157
DBIC **Dimbokro** 74.21 71 P P 08 33 44.2 -1.4
comp=Z,15nm,0.6s,baz=224,slow=5.1,SNR=21
DBIC LR LR 09 03 10.1
comp=Z,66nm,21.9s,baz=190,slow=33
BINY **Binghamton** 74.22 357 *e*P P 08 33 45.9 +0.8
comp=Z,23nm,1.2s
O41A **Passleys Farm,** 74.22 345 P P 08 33 44.5 -0.6
baz=163,SNR=10
Q36A **Arnold C. Orve** 74.28 341 P P 08 33 44.4 -1.1
baz=159
LAZ **Ladron** 74.30 330 *e*P P 08 33 47.7 +1.7
HDIL **Hopedale** 74.31 346 P P 08 33 45.0 -0.6
baz=164
HDIL **Hopedale** 74.31 346 *e*P P 08 33 45.1 -0.5
comp=Z,30nm,1.2s
Q35A **Mercer Eighty,** 74.35 340 P P 08 33 45.5 -0.5
baz=158
P38A **Dawn** 74.39 343 P P 08 33 45.4 -0.7
baz=161,SNR=7.9
R33A **Olander Ranch,** 74.42 339 P P 08 33 45.7 -0.6
baz=157
O40A **La Belle** 74.46 344 P P 08 33 46.0 -0.5
baz=162,SNR=12
ANMO **Albuquerque** 74.48 331 P P 08 33 47.7 +0.7
baz=150
ANMO **Albuquerque** 74.48 331 *c i*P P 08 33 47.8 +0.7
ANMO *i* *PP pP 08 33 59.8 -0.8
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO **Albuquerque** 74.48 331 *e*P P 08 33 47.9 +0.8
comp=Z,16nm,1.3s
P37A **Lathrop** 74.57 342 P P 08 33 46.2 -0.9
baz=160
Q34A **Chapman** 74.67 340 P P 08 33 47.4 -0.4
baz=158
MAW **Mawson** 74.71 164 P P 08 33 47.8 0.0
comp=Z,4.9nm,0.6s,baz=219,slow=6.3,SNR=11
MAW LR LR 09 07 12.9
comp=Z,115nm,19.7s,baz=150,slow=36
KSU1 **Kansas State U** 74.74 340 P P 08 33 47.5 -0.6
baz=158
O39A **Kirksville** 74.74 343 P P 08 33 47.7 -0.5
baz=162,SNR=5.8
R32A **Long Quarter,** 74.75 338 P P 08 33 48.0 -0.3
baz=156
P36A **Good Intent, A** 74.83 341 P P 08 33 47.6 -1.0
baz=159,SNR=6.8
O38A **Galt** 74.84 343 P P 08 33 48.3 -0.4
baz=161
214A **Organ Pipe Nat** 74.86 324 P P 08 33 50.1 +1.0
baz=145,SNR=5.9
214A **Organ Pipe Nat** 74.86 324 *e*P P 08 33 50.3 +1.2
comp=Z,46nm,1.1s
MMNY **Mt. Morris Dam** 74.87 355 *e*P P 08 33 49.0 +0.2
P35A **Duane Minner,** 74.97 341 P P 08 33 49.0 -0.5
baz=159
Q33A **Connelly Farm,** 75.01 339 P P 08 33 49.6 -0.2
baz=157
O37A **Wolven Farm, M** 75.06 342 P P 08 33 49.3 -0.7
baz=160
P34A **Walnut Farm, R** 75.22 340 P P 08 33 50.9 0.0
baz=158,SNR=5.6
Q32A **Meitler Ranch,** 75.22 338 P P 08 33 51.1 +0.1
baz=156
O36A **Bolckow** 75.24 342 P P 08 33 50.2 -0.9
baz=160
N39A **Derby Farms, D** 75.32 344 P P 08 33 50.9 -0.5
baz=162,SNR=7.9
N38A **Joes South For** 75.42 343 P P 08 33 51.6 -0.5
baz=161
CBKS **Cedar Bluff** 75.44 338 P P 08 33 52.7 +0.4
baz=156,SNR=7.1
CBKS **Cedar Bluff** 75.44 338 *e*P P 08 33 52.5 +0.3
CBKS pmax pmax
comp=Z,43nm,1.2s
CBKS **Cedar Bluff** 75.44 338 *e*P P 08 33 52.5 +0.3
comp=Z,43nm,1.2s
T25A **Trinidad** 75.58 333 P P 08 33 54.7 +1.4
baz=152,SNR=22
HNH **Hanover** 75.61 359 *e*P P 08 33 54.1 +1.1
comp=Z,18nm,0.9s
O35A **Humboldt** 75.62 341 P P 08 33 52.3 -0.9
baz=159
N37A **Lee Faris, Mou** 75.63 342 P P 08 33 52.8 -0.5
baz=160
O34A **Beatrice** 75.77 340 P P 08 33 53.6 -0.5
baz=158,SNR=12
P32A **Huiting Farm,** 75.81 339 P P 08 33 53.1 -1.2
baz=156
M39A **Webster** 75.82 344 P P 08 33 53.5 -0.8
baz=162
N36A **Muff Farm, Cla** 75.88 342 P P 08 33 54.0 -0.7
baz=160
O33A **Hebron** 75.93 340 P P 08 33 54.8 -0.2
baz=157,SNR=8.7
M38A **Pleasantville** 76.00 343 P P 08 33 54.7 -0.6
baz=161,SNR=11
L41A **Preston** 76.01 346 P P 08 33 54.5 -0.9
baz=163,SNR=7.2
W18A **Petrified Fore** 76.04 328 P P 08 33 56.8 +0.8
baz=147
N35A **Tabor** 76.11 341 P P 08 33 55.3 -0.6
baz=159,SNR=7.6
L40A **Anamosa** 76.16 345 P P 08 33 55.6 -0.6
baz=163,SNR=16
M37A **Trindle Farm,** 76.20 343 P P 08 33 56.3 -0.1
baz=160,SNR=10.0
O32A **Brockman Farm,** 76.30 339 P P 08 33 56.9 -0.3
baz=157
N34A **Lincoln** 76.32 341 P P 08 33 56.6 -0.6
baz=158
L39A **Vinton** 76.39 344 P P 08 33 56.9 -0.6
baz=162,SNR=6.3
M36A **Felix, Anita** 76.44 342 P P 08 33 57.2 -0.6
baz=160
SCIA **State Center** 76.47 344 *e*P P 08 33 57.8 -0.2
comp=Z,13nm,0.8s
K41A **Shullsburg** 76.48 346 P P 08 33 57.7 -0.4
baz=164,SNR=14
WVL **Waterville** 76.49 1 *e*P P 08 33 59.0 +1.0
comp=Z,30nm,1.3s
N33A **J Bar K, Exete** 76.50 340 P P 08 33 58.0 -0.2
baz=158
SDCO **Great Sand Dun** 76.53 333 P P 08 33 59.9 +1.1
baz=151,SNR=18
SDCO **Great Sand Dun** 76.53 333 *e*P P 08 33 59.4 +0.6
comp=Z,14nm,1.1s
LONY **Lake Ozonia** 76.57 358 *e*P P 08 33 58.3 -0.3
comp=Z,21nm,1.3s
KSCO **Kaye Shedlock'** 76.59 336 P P 08 33 59.7 +0.8
baz=153
KSCO **Kaye Shedlock'** 76.59 336 *e*P P 08 33 60.0 +1.0
comp=Z,55nm,1.4s
L38A **Oak Wood Farm,** 76.63 344 P P 08 33 58.1 -0.8
baz=161
M35A **Neola** 76.69 342 P P 08 33 58.6 -0.6
baz=159
GLA **Glamis** 76.75 324 P P 08 34 01.0 +1.2
baz=143
K40A **Colesburg** 76.75 345 P P 08 33 58.7 -0.9
baz=163
FRNY **Flat Rock** 76.76 358 *e*P P 08 33 59.9 +0.4
comp=Z,10nm,0.8s
JFWS **Jewell Farm** 76.77 346 *e*P P 08 33 59.0 -0.6
JFWS pmax pmax
comp=Z,50nm,1.5s
JFWS **Jewell Farm** 76.77 346 *e*P P 08 33 59.0 -0.6
comp=Z,50nm,1.5s
N32A **Stulken Farm,** 76.77 339 P P 08 33 59.3 -0.5
baz=157
L37A **Phoenix Point,** 76.81 343 P P 08 33 58.8 -1.1
baz=161
K39A **Oelwein** 76.92 345 P P 08 33 59.6 -1.0
baz=162,SNR=8.0
M34A **Aspy Farms, Fr** 76.96 341 P P 08 34 00.1 -0.7
baz=158
L36A **Harm Buss Farm** 77.01 343 P P 08 34 00.3 -0.8
baz=160
S22A **4UR Ranch, Cre** 77.05 332 P P 08 34 02.9 +1.1
baz=150,SNR=11
K38A **Parkersburg** 77.06 344 P P 08 34 00.9 -0.5
baz=162
IKP **In-Ko-Pah, Jac** 77.08 323 P P 08 34 02.6 +0.8
baz=142
WUAZ **Wupatki** 77.10 328 P P 08 34 03.4 +1.5
baz=146,SNR=13
WUAZ **Wupatki** 77.10 328 *e*P P 08 34 03.5 +1.5
comp=Z,22nm,1.0s
GGN **Saint George** 77.14 3 *e*P P 08 34 02.6 +0.9
comp=Z,16nm,1.0s
J41A **Loganville** 77.15 346 P P 08 34 01.5 -0.3
baz=164,SNR=9.2
SWSC **Sam W. Stewart** 77.15 323 P P 08 34 02.8 +0.7
baz=143
Y12C **Blythe** 77.16 324 P P 08 34 03.3 +1.2
baz=144
Y12C **Blythe** 77.16 324 *e*P P 08 34 04.0 +2.0
comp=Z,21nm,1.1s
PKME **Peaks-Kenny Pk** 77.19 2 *e*P P 08 34 02.3 +0.4
comp=Z,28nm,1.3s
M33A **Taylor Creek F** 77.20 341 P P 08 34 01.2 -1.0
baz=158
L35A **Bielow Farm, R** 77.25 342 P P 08 34 01.8 -0.6
baz=159
MVCO **Mesa Verde** 77.27 330 P P 08 34 03.9 +0.9
baz=148,SNR=14
MVCO **Mesa Verde** 77.27 330 *e*P P 08 34 04.0 +1.1
comp=Z,28nm,1.3s
BGNE **Belgrade** 77.32 340 P P 08 34 02.6 -0.3
baz=157
BGNE **Belgrade** 77.32 340 *e*P P 08 34 03.2 +0.4
comp=Z,47nm,1.1s
J40A **Soldiers Grove** 77.33 346 P P 08 34 02.3 -0.5
baz=163,SNR=14
L34A **Svendsen Farm,** 77.33 341 P P 08 34 02.2 -0.7
baz=158
K37A **Belmond** 77.38 343 P P 08 34 02.4 -0.7
baz=161
BAR **Barrett** 77.39 322 *e*P P 08 34 05.2 +1.7
comp=Z,18nm,1.3s
PDMCI **Parker Dam,Lak** 77.41 325 P P 08 34 04.0 +0.5
baz=144
MONP2 **Monument Peak** 77.43 323 P P 08 34 05.1 +1.2
baz=142
K36A **Gilmore City** 77.46 343 P P 08 34 03.2 -0.3
baz=160
Q24A **Divide** 77.46 334 P P 08 34 05.0 +0.9
baz=151,SNR=11
Q24A **Divide** 77.46 334 *e*P P 08 34 05.5 +1.4
comp=Z,28nm,0.8s
J39A **Decorah** 77.48 345 P P 08 34 03.1 -0.6
baz=162,SNR=10
M31A **Lambtecht Ranc** 77.51 339 P P 08 34 04.7 +0.8
baz=156
BC3 **Big Chuckawall** 77.54 324 P P 08 34 05.3 +0.9
baz=143
J38A **Wedel Dairy, R** 77.63 344 P P 08 34 03.9 -0.6
baz=162
J37A **Redenius Farm,** 77.88 344 P P 08 34 05.2 -0.6
baz=161
K34A **Le Mars** 77.93 342 P P 08 34 05.9 -0.2
baz=159
LMN **Caledonia Moun** 77.99 5 *e*P P 08 34 06.8 +0.4
comp=Z,19nm,1.0s
TPFO **Pinon Flats** 78.01 323 P P 08 34 08.7 +1.7
baz=142,SNR=9.9
PFO **Pinyon Flats O** 78.02 323 P P 08 34 08.6 +1.6
baz=142,SNR=5.1
PFO **Pinyon Flats O** 78.02 323 *e*P P 08 34 09.0 +2.0
PFO pmax pmax
comp=Z,19nm,1.1s
PFO **Pinyon Flats O** 78.02 323 *e*P P 08 34 09.0 +2.0
comp=Z,19nm,1.1s
J36A **Seneca 1, Swea** 78.08 343 P P 08 34 06.4 -0.6
baz=160,SNR=6.3
PV01 **Paradox Valley** 78.09 331 *e*P P 08 34 08.9 +1.4
BELC **Belle Mtn. Jos** 78.09 323 P P 08 34 08.2 +0.7
baz=143
K33A **Hardington** 78.10 341 P P 08 34 06.5 -0.7
baz=158
OGNE **Ogallala** 78.11 337 P P 08 34 07.6 +0.2
baz=154
L31A **Butterfield Fa** 78.23 340 P P 08 34 08.2 +0.3
baz=156,SNR=12
PV05 **Paradox Valley** 78.26 331 *e*P P 08 34 09.6 +1.2
I38A **Scanlan Farm,** 78.29 345 P P 08 34 07.2 -0.9
baz=162,SNR=15
SMCO **Snowmass** 78.34 333 *e*P P 08 34 10.5 +1.4
comp=Z,26nm,1.0s
ISCO **Idaho Springs** 78.36 334 P P 08 34 09.8 +0.8
baz=151,SNR=12
ISCO **Idaho Springs** 78.36 334 *e*P P 08 34 10.0 +0.9
ISCO pmax pmax
comp=Z,12nm,1.0s
ISCO **Idaho Springs** 78.36 334 *e*P P 08 34 10.0 +0.9
comp=Z,12nm,1.0s
MURC **Murrieta** 78.39 322 P P 08 34 10.3 +1.3
baz=142,SNR=5.0
PV04 **Paradox Valley** 78.45 331 *e*P P 08 34 09.8 +0.4
J34A **George** 78.45 342 P P 08 34 08.7 -0.3
baz=159
I37A **Lemond, Waseca** 78.51 344 P P 08 34 08.8 -0.5
baz=161,SNR=6.7
GMRC **Granite Mounta** 78.55 324 P P 08 34 11.5 +1.5
baz=143,SNR=14
K31A **O'Neill** 78.61 340 P P 08 34 09.9 0.0
baz=157,SNR=6.8
PV09 **Paradox Valley** 78.63 331 *e*P P 08 34 12.0 +1.4
I36A **Fitzsimmons Fa** 78.66 344 P P 08 34 09.7 -0.5
baz=161
I35A **Creekview Farm** 78.74 343 P P 08 34 10.1 -0.5
baz=160
J33A **Davis** 78.75 341 P P 08 34 10.0 -0.7
baz=158,SNR=5.3
K30A **Basset** 78.91 339 P P 08 34 11.9 +0.3
baz=156,SNR=7.4
HEC **Hector,Ludlow** 78.92 324 P P 08 34 13.3 +1.4
baz=142
H37A **Dierke Farm, C** 78.93 345 P P 08 34 11.1 -0.6
baz=162
KNB **Kanab** 79.00 327 *e*P P 08 34 14.0 +1.6
KNB pmax pmax
comp=Z,30nm,1.2s
KNB **Kanab** 79.00 327 *e*P P 08 34 14.0 +1.6
comp=Z,30nm,1.2s
ECSD **EROS Data Cent** 79.04 342 P P 08 34 12.2 -0.1
baz=158,SNR=22
ECSD **EROS Data Cent** 79.04 342 *e*P P 08 34 11.9 -0.4
comp=Z,43nm,1.2s
J32A **Parkston** 79.04 341 P P 08 34 11.7 -0.6
baz=157
BFSC **Mount Baldy Ra** 79.12 323 P P 08 34 14.5 +1.3
baz=142,SNR=6.1
H36A **Jessenland, He** 79.16 344 P P 08 34 12.7 -0.2
baz=161,SNR=6.0
LCMT **Little Creek M** 79.19 327 *e*P P 08 34 14.9 +1.5
comp=Z,13nm,1.2s
TUQ **Turquoise Moun** 79.19 324 P P 08 34 14.8 +1.3
baz=143
J31A **Geddes** 79.22 340 P P 08 34 13.0 -0.3
baz=157

TSUM	Tsumeb	79.26	106	*e*P		P	08 34 13.8	-0.5		
	comp=Z,9.3nm,1.0s									
MWC	Mount Wilson	79.32	322	*e*P		P	08 34 16.1	+1.8		
MWC				pmax		pmax				
	comp=Z,11nm,1.0s									
MWC	Mount Wilson	79.32	322	*e*P		P	08 34 16.1	+1.8		
	comp=Z,11nm,1.0s									
I33A	Coleman	79.38	342	P		P	08 34 13.8	-0.4		
	baz=158									
N23A	Red Feather La	79.44	334	P		P	08 34 15.8	+0.9		
	baz=151,SNR=8.4									
N23A	Red Feather La	79.44	334	*e*P		P	08 34 15.9	+1.0		
	comp=Z,19nm,1.3s									
J30A	Dallas	79.47	340	P		P	08 34 14.3	-0.4		
	baz=156									
H35A	Sunnyside Ranc	79.49	343	P		P	08 34 14.2	-0.5		
	baz=160,SNR=16									
SPMN	Marine on St.	79.52	345	P		P	08 34 13.9	-0.9		
	baz=162									
SPMN	Marine on St.	79.52	345	*e*P		P	08 34 13.9	-0.9		
	comp=Z,5.1nm,0.6s									
GSC	Goldstone, Bar	79.53	324	P		P	08 34 16.5	+1.3		
	baz=142,SNR=7.9									
GSC	Goldstone, Bar	79.53	324	*e*P		P	08 34 16.7	+1.5		
GSC				pmax		pmax				
	comp=Z,14nm,1.1s									
GSC	Goldstone, Bar	79.53	324	*e*P		P	08 34 16.7	+1.5		
	comp=Z,14nm,1.1s									
I32A	Karley and Nic	79.54	341	P		P	08 34 14.6	-0.4		
	baz=158									
COWI	Conover	79.62	348	*e*P		P	08 34 14.9	-0.5		
	comp=Z,18nm,1.4s									
PHWY	Pilot Hill	79.62	335	*e*P		P	08 34 16.6	+0.7		
	comp=Z,19nm,1.1s									
O20A	White River Ci	79.67	332	P		P	08 34 16.7	+0.6		
	baz=149,SNR=9.5									
O20A	White River Ci	79.67	332	*e*P		P	08 34 16.9	+0.9		
	comp=Z,36nm,1.5s									
SHPR	Sheep Range	79.68	326	*e*P		P	08 34 17.4	+1.3		
	comp=Z,15nm,1.1s									
CCUT	Cedar City	79.68	327	*e*P		P	08 34 18.0	+1.8		
	comp=Z,20nm,1.1s									
H34A	Spellman Lake,	79.70	343	P		P	08 34 15.2	-0.6		
	baz=159									
SRU	San Rafael Swe	79.73	330	*e*P		P	08 34 17.4	+1.0		
SRU				pmax		pmax				
	comp=Z,15nm,0.9s									
SRU	San Rafael Swe	79.73	330	*e*P		P	08 34 17.4	+1.0		
	comp=Z,15nm,0.9s									
G36A	St. Michael	79.74	344	P		P	08 34 15.5	-0.5		
	baz=161									
EDW2	Edwards Air Fo	79.80	323	P		P	08 34 17.4	+0.7		
	baz=141,SNR=8.6									
Q16A	Castle Valley	79.84	330	*e*P		P	08 34 18.5	+1.5		
	comp=Z,17nm,1.0s									
MSU	Marysvale	79.94	329	*e*P		P	08 34 19.0	+1.4		
MSU	Marysvale	79.94	329	*e*P		P	08 34 19.0	+1.4		
H33A	Prehn Over Nor	79.96	342	P		P	08 34 17.1	-0.2		
	baz=158,SNR=6.6									
H32A	Carlson Farm,	79.98	341	P		P	08 34 17.1	-0.3		
	baz=158									
I30A	Oacoma	79.99	340	P		P	08 34 16.9	-0.6		
	baz=156									
LRMC	Laurel Mtn Rad	80.11	323	P		P	08 34 19.3	+0.9		
	baz=142									
P17A	Butcher Ranch,	80.12	330	*e*P		P	08 34 19.6	+1.1		
	comp=Z,27nm,1.3s									
TMUT	Trail Mountain	80.17	330	*e*P		P	08 34 20.2	+1.3		
	comp=Z,20nm,1.4s									
VLDQ	Val d'Or	80.19	356	*e*P		P	08 34 18.6	+0.2		
	comp=Z,16nm,0.8s									
G34A	Benson	80.20	343	P		P	08 34 17.5	-1.1		
	baz=159									
H31A	Wolsey	80.24	341	P		P	08 34 17.9	-0.8		
	baz=157									
F36A	Milaca	80.28	345	P		P	08 34 18.0	-0.9		
	baz=161,SNR=11									
SUSD	Miller	80.34	340	P		P	08 34 19.0	-0.4		
	baz=157									
I29A	Vivian Onida	80.35	339	P		P	08 34 18.9	-0.5		
	baz=156									
G33A	Ortonville	80.36	342	P		P	08 34 18.7	-0.7		
	baz=159									
MPMC	Manual Prospec	80.46	324	P		P	08 34 20.9	+0.5		
	baz=142,SNR=9.4									
BOSA	Boshof	80.48	118	P		P	08 34 20.1	-0.8		
	comp=Z,7.3nm,0.8s,baz=244,slow=3.5,SNR=13									
BOSA				pP		pP	08 34 34.1	-0.5		
	comp=Z,5.1nm,0.5s,baz=230,slow=3.9,SNR=6.0									
BOSA				LR		LR	09 06 18.1			
	comp=Z,79nm,19.0s,baz=196,slow=33									
F35A	Swanville	80.52	344	P		P	08 34 19.6	-0.6		
	baz=160,SNR=7.1									
TPNV	Topopah Spring	80.56	325	P		P	08 34 22.6	+1.7		
	baz=143,SNR=8.4									
F34A	Alexandria	80.63	343	P		P	08 34 20.3	-0.5		
	baz=160									
ISA	Isabella, Lake	80.65	323	P		P	08 34 22.9	+1.6		
	baz=141									
DAC	Darwin (Calif)	80.69	324	*e*P		P	08 34 23.3	+1.7		
DAC				pmax		pmax				
	comp=Z,18nm,1.0s									
DAC	Darwin (Calif)	80.69	324	*e*P		P	08 34 23.2	+1.7		
	comp=Z,18nm,1.0s									
PKM	Mcpherson Peak	80.75	322	P		P	08 34 23.3	+1.4		
	baz=140,SNR=7.6									
E36A	McGregor	80.84	345	P		P	08 34 21.3	-0.7		
	baz=161,SNR=11									
H29A	Onida	80.87	340	P		P	08 34 21.9	-0.3		
	baz=156									
F33A	5 Mile Ranch,	80.92	343	P		P	08 34 21.7	-0.7		
	baz=159									
G30A	Faulkton	81.03	341	P		P	08 34 22.3	-0.6		
	baz=156									
CWC	Cottonwood Cre	81.06	324	P		P	08 34 24.6	+1.0		
	baz=142									
VES	Vestal, Richgr	81.10	323	P		P	08 34 24.6	+1.1		
	baz=141,SNR=12									
E35A	Pequot Lakes	81.14	344	P		P	08 34 22.8	-0.7		
	baz=160									
F32A	Veblen	81.16	342	P		P	08 34 22.8	-0.9		
	baz=158									
K22A	Casper	81.19	335	P		P	08 34 24.5	+0.4		
	baz=150,SNR=5.8									
K22A	Casper	81.19	335	*e*P		P	08 34 25.2	+1.1		
	comp=Z,28nm,1.1s									
D37A	Cotton	81.28	346	P		P	08 34 23.2	-1.0		
	baz=162									
E34A	Wadena	81.28	344	P		P	08 34 23.5	-0.8		
	baz=160									
G29A	Hoven	81.31	340	P		P	08 34 23.8	-0.7		
	baz=156									
R11A	Troy Canyon, C	81.36	326	P		P	08 34 26.4	+1.3		
	baz=143,SNR=9.4									
R11A	Troy Canyon, C	81.36	326	*e*P		P	08 34 26.6	+1.4		
	comp=Z,14nm,1.1s									
JLU	Jordanelle	81.37	330	*e*P		P	08 34 26.4	+1.2		
	comp=Z,7.7nm,0.8s									
F31A	Hecla	81.45	341	P		P	08 34 24.6	-0.6		
	baz=157									
C39A	Grand Marais	81.46	347	P		P	08 34 24.4	-0.8		
	baz=164,SNR=9.7									
E33A	Westby DABS, E	81.47	343	P		P	08 34 24.4	-0.9		
	baz=159									
D35A	Remer	81.56	345	P		P	08 34 25.0	-0.7		
	baz=161,SNR=6.5									
C38A	Sawbill Land.	81.58	347	P		P	08 34 24.7	-1.1		
	baz=163,SNR=14									
DUG	Dugway, Tooele	81.61	329	P		P	08 34 27.2	+0.8		
	baz=146,SNR=14									
DUG	Dugway, Tooele	81.61	329	*e*P		P	08 34 27.3	+0.9		
DUG				pmax		pmax				
	comp=Z,19nm,1.4s									
DUG	Dugway, Tooele	81.61	329	*e*P		P	08 34 27.3	+0.9		
	comp=Z,20nm,1.4s									
RSSD	Black Hills	81.61	337	P		P	08 34 26.8	+0.4		
	baz=152									
RSSD	Black Hills	81.61	337	*e*P		P	08 34 27.0	+0.6		
RSSD				pmax		pmax				
	comp=Z,17nm,1.0s									
RSSD	Black Hills	81.61	337	*e*P		P	08 34 27.0	+0.6		
	comp=Z,17nm,1.0s									
CASY	Casey	81.76	181	*e*P		P	08 34 27.8	+1.0		
	comp=Z,38nm,1.8s									
C37A	Embarrass	81.77	346	P		P	08 34 26.3	-0.6		
	baz=162,SNR=5.4									
D34A	Park Rapids	81.82	344	P		P	08 34 26.4	-0.7		
	baz=160									
EYMN	Ely	81.84	347	P		P	08 34 26.3	-0.9		
	baz=163,SNR=8.1									
EYMN	Ely	81.84	347	*e*P		P	08 34 26.2	-1.0		
	comp=Z,9.7nm,1.2s									
F29A	Eureka	81.86	340	P		P	08 34 26.8	-0.6		
	baz=156									
H25A	Fruitdale	81.92	337	P		P	08 34 27.2	-0.6		
	baz=153,SNR=5.4									
C36A	Pine Crest Far	81.93	346	P		P	08 34 26.9	-0.8		
	baz=162,SNR=7.2									
E31A	Nome	82.00	342	P		P	08 34 27.8	-0.3		
	baz=158									
D33A	AnnSam, Waubun	82.03	343	P		P	08 34 27.6	-0.6		
	baz=159									
C35A	Jirik Farms, M	82.12	345	P		P	08 34 28.0	-0.7		
	baz=161,SNR=12									
HWUT	Hardware Ranch	82.25	331	*e*P		P	08 34 30.4	+0.6		
	comp=Z,20nm,1.1s									
C34A	RKJ Ranch, Bem	82.29	344	P		P	08 34 28.9	-0.6		
	baz=160									
BGU	Big Grassy Mou	82.30	330	*e*P		P	08 34 31.3	+1.3		
	comp=Z,13nm,1.3s									
D32A	Dogwood Acres,	82.31	343	P		P	08 34 29.3	-0.4		
	baz=158									
BW06	Boulder Array	82.42	333	P		P	08 34 30.3	-0.4		
	baz=148									
BW06	Boulder Array	82.42	333	*e*P		P	08 34 29.7	-1.0		
BW06				*e*P		P	08 34 31.0	+0.3		
PDAR	Pinedale Array	82.42	333	P		P	08 34 30.4	-0.2		
	comp=Z,4.1nm,1.0s,baz=132,slow=4.4,SNR=14									
PDAR				LR		LR	09 07 29.8			
	comp=Z,32nm,21.7s,baz=135,slow=33									
C33A	Trail	82.59	344	P		P	08 34 30.4	-0.7		
	baz=159									
LBTB	Lobatse	82.63	115	*e*P		P	08 34 31.7	-0.5		
LBTB				pmax		pmax				
	comp=Z,89nm,2.0s									
LBTB	Lobatse	82.63	115	*e*P		P	08 34 31.7	-0.5		
	comp=Z,89nm,2.0s									
B35A	Bob, Littlefor	82.69	345	P		P	08 34 30.9	-0.7		
	baz=161,SNR=11									
HVU	Hansel Valley	82.90	330	*e*P		P	08 34 33.6	+0.5		
HVU				pmax		pmax				
	comp=Z,10.0nm,1.0s									
HVU	Hansel Valley	82.90	330	*e*P		P	08 34 33.6	+0.5		
	comp=Z,10nm,1.0s									
B34A	Aery, Baudette	83.02	345	P		P	08 34 32.5	-0.8		
	baz=160									
B33A	Robert and Kas	83.03	344	P		P	08 34 32.6	-0.7		
	baz=160									
C31A	Landman Farms,	83.10	343	P		P	08 34 33.4	-0.4		
	baz=158									
AGMN	Agassiz Nation	83.12	344	P		P	08 34 33.4	-0.4		
	baz=159,SNR=5.2									
AGMN	Agassiz Nation	83.12	344	*e*P		P	08 34 33.4	-0.4		
	comp=Z,31nm,1.5s									
ELK	Elko	83.13	328	*e*P		P	08 34 35.3	+0.9		
ELK				pmax		pmax				
	comp=Z,9.0nm,0.9s									
ELK	Elko	83.13	328	*e*P		P	08 34 35.3	+0.9		
	comp=Z,8.8nm,0.9s									
TORD	Torodi Ar. Bea	83.20	70	P		P	08 34 34.0	-1.1		
	comp=Z,18nm,0.8s,baz=258,slow=4.5,SNR=100									
TORD				pP		pP	08 34 49.1	+0.2		
	comp=Z,7.7nm,0.9s,baz=280,slow=5.4,SNR=7.5									
TORD				LR		LR	09 08 24.0			
	comp=Z,115nm,21.9s,baz=235,slow=33									
C30A	Mose, Pekin	83.21	342	P		P	08 34 34.4	+0.1		
	baz=157,SNR=5.6									
WAKR	Walker	83.34	324	*e*P		P	08 34 37.6	+2.1		
	comp=Z,16nm,1.2s									
B32A	Ashes, Strandq	83.37	344	P		P	08 34 34.5	-0.6		
	baz=159,SNR=12									
REDW	Red Top Meadow	83.44	332	*e*P		P	08 34 36.4	+0.5		
	comp=Z,12nm,1.3s									
SNOW	Snow King Moun	83.48	332	*e*P		P	08 34 36.8	+0.6		
	comp=Z,7.6nm,1.1s									
LOHW	Long Hollow	83.55	333	*e*P		P	08 34 37.0	+0.6		
	comp=Z,5.4nm,1.1s									
TPAW	Teton Pass	83.58	332	*e*P		P	08 34 36.8	+0.1		
	comp=Z,11nm,1.2s									
A33A	Warroad	83.61	344	P		P	08 34 35.8	-0.5		
	baz=160,SNR=8.8									
MDND	Maddock	83.64	341	P		P	08 34 36.2	-0.4		
	baz=156									
MDND	Maddock	83.64	341	*e*P		P	08 34 37.1	+0.5		
	comp=Z,55nm,1.0s									
B31A	Greenbush Farm	83.67	343	P		P	08 34 36.1	-0.6		
	baz=158									
D26A	Manning	83.71	339	P		P	08 34 36.9	-0.1		
	baz=154									
C28A	Hausauer Farms	83.74	341	P		P	08 34 37.0	-0.1		
	baz=156									
A32A	Rocking H Ranc	83.84	344	P		P	08 34 37.5	0.0		
	baz=159									
B30A	Myrvik Farm, E	83.86	342	P		P	08 34 37.6	0.0		
	baz=157,SNR=16									
IMW	Indian Meadow	83.92	333	*e*P		P	08 34 39.2	+0.8		
	comp=Z,23nm,1.6s									
FLWY	Flagg Ranch	83.98	333	*e*P		P	08 34 39.7	+1.1		
	comp=Z,12nm,0.9s									
A31A	Linda, St. Vin	84.03	343	P		P	08 34 37.6	-0.9		
	baz=158									
B29A	Wagenman Farm,	84.14	342	P		P	08 34 38.7	-0.4		
	baz=156									
PAHR	Pah Rah Range	84.24	325	*e*P		P	08 34 41.7	+1.7		
	comp=Z,24nm,1.5s									
RLMT	Red Lodge	84.32	334	P		P	08 34 40.3	0.0		
	baz=148									
RLMT	Red Lodge	84.32	334	*e*P		P	08 34 41.0	+0.7		
	comp=Z,5.8nm,0.8s									
B28A	Dunn Ranch, T	84.40	341	P		P	08 34 40.3	-0.1		
	baz=156									
AFDM	Forest Hills D	84.45	323	*e*P		P	08 34 42.1	+1.1		
	comp=Z,8.9nm,1.2s									
A29A	Manning Farm,	84.53	342	P		P	08 34 40.6	-0.5		
	baz=157,SNR=6.1									
C25A	Freed Ranch, W	84.57	339	P		P	08 34 41.2	-0.1		
	baz=153									
YMR	Madison River	84.58	333	*e*P		P	08 34 43.1	+1.5		
	comp=Z,23nm,1.0s									
LAO	LASA Array	84.61	337	P		P	08 34 41.4	-0.2		
	baz=151									
YHH	Holmes Hill	84.63	333	*e*P		P	08 34 43.0	+0.9		
YHB	Horse Butte	84.74	333	*e*P		P	08 34 44.2	+1.7		
	comp=Z,11nm,1.2s									
ULM	Lac du Bonnet	84.95	345	P		P	08 34 42.3	-0.8		
	comp=Z,8.1nm,0.8s,baz=146,slow=3.3,SNR=8.0									
GCMT	Greycliff	85.04	334	*e*P		P	08 34 44.2	+0.4		
B25A	Knox Farm, Ray	85.04	339	P		P	08 34 43.9	+0.2		
	baz=153									
HLID	Hailey	85.05	330	P		P	08 34 44.6	+0.5		
	baz=145,SNR=12									
HLID	Hailey	85.05	330	*e*P		P	08 34 45.2	+1.2		
	comp=Z,10nm,1.1s									
A27A	Ledoux Ranch,	85.10	341	P		P	08 34 44.3	+0.3		
	baz=155									
A26A	Wade Farm, Ken	85.28	340	P		P	08 34 45.0	+0.1		
	baz=154									
MCMT	McKenzie Canyo	85.45	332	*e*P		P	08 34 47.1	+1.0		
DGMT	Dagmar	85.53	339	P		P	08 34 46.4	+0.3		
	baz=153									
DGMT	Dagmar	85.53	339	*e*P		P	08 34 46.8	+0.7		
	comp=Z,46nm,0.4s									
A25A	Svangstu Ranch	85.62	340	P		P	08 34 46.8	+0.3		
	baz=154									
BOZ	Bozeman (W)	85.65	333	P		P	08 34 47.0	0.0		
	baz=147,SNR=7.0									
BOZ	Bozeman (W)	85.65	333	*e*P		P	08 34 47.1	+0.1		
BOZ				pmax		pmax				
	comp=Z,7.0nm,1.1s									
BOZ	Bozeman (W)	85.65	333	*e*P		P	08 34 47.1	+0.1		
	comp=Z,7.1nm,1.1s									
DLMT	Dillon	85.79	332	*e*P		P	08 34 48.3	+0.6		
	comp=Z,16nm,1.2s									
O03D	Paynes Creek	85.89	324	P		P	08 34 48.0	-0.2		
	baz=139									
WVOR	Wild Horse Val	86.01	327	*e*P		P	08 34 49.8	+1.0		
WVOR				pmax		pmax				
	comp=Z,7.0nm,1.1s									
WVOR	Wild Horse Val	86.01	327	*e*P		P	08 34 49.8	+1.0		
	comp=Z,6.7nm,1.1s									
MOD	Modoc Plateau	86.38	326	*e*P		P	08 34 51.6	+0.9		
	comp=Z,12nm,1.2s									
KMRM	Mail Ridge	86.80	323	*e*P		P	08 34 55.1	+2.5		
	comp=Z,27nm,1.1s									
SCHQ	Schefferville	86.84	3	P		P	08 34 50.9	-1.4		
	comp=Z,12nm,1.0s,baz=97,slow=1.3,SNR=6.1									
SCHQ	Schefferville	86.84	3	*e*P		P	08 34 51.8	-0.5		
M04C	Macdoel	87.03	325	P		P	08 34 54.2	+0.4		
	baz=139									
M02C	Callahan	87.24	324	P		P	08 34 55.0	+0.2		
	baz=138									
K05A	Summer Lake	87.29	326	*e*P		P	08 34 56.6	+1.5		
	comp=Z,22nm,1.2s									
KHMM	Horse Mountain	87.29	323	*e*P		P	08 34 57.3	+2.2		
	comp=Z,59nm,1.6s									
BMO	Blue Mountains	87.33	329	*e*P		P	08 34 55.6	+0.5		
BMO				pmax		pmax				
	comp=Z,8.0nm,1.3s									
BMO	Blue Mountains	87.33	329	*e*P		P	08 34 55.6	+0.5		
	comp=Z,8.0nm,1.3s									
CHMT	Chamberlain Mo	87.33	333	*e*P		P	08 34 55.9	+0.6		
MSO	Missoula	87.53	332	P		P	08 34 56.7	+0.6		
	baz=145									
K04D	Chiloquin, OR	87.63	325	P		P	08 34 57.1	+0.5		
	baz=139									
J05D	Fort Rock, OR	87.88	326	P		P	08 34 58.7	+0.8		
	baz=140,SNR=8.0									
SWMT	Swartz Lake	88.11	333	*e*P		P	08 34 59.5	+0.7		
L02D	Cave Junction,	88.18	324	P		P	08 35 00.1	+0.9		
	baz=138									
BLMT	Blacktail Moun	88.67	333	*e*P		P	08 35 02.2	+0.7		
BSMT	Bassoo Peak	88.70	332	*e*P		P	08 35 02.8	+1.1		
I05D	Terrebonne, OR	88.73	327	P		P	08 35 02.7	+0.9		
	baz=140									
WALA	Waterton Lakes	89.35	334	*e*P		P	08 35 05.1	+0.5		
EDM	Edmonton	92.58	336	*e*P		P	08 35 18.1	-1.3		
EDM	Edmonton	92.58	336	*e*P		P	08 35 18.1	-1.3		
YKA	Yellowknife Ar	100.56	341	P		Pdif	08 35 54.4	-0.9		
	comp=Z,0.3nm,0.7s,baz=140,slow=5.0,SNR=3.5									
ASAR	Alice Springs	119.31	207	PKP		PKPdf	08 40 56.8	-1.3		
	comp=Z,0.6nm,0.5s,baz=131,slow=1.6,SNR=11									
BRTR	Keskin Array B	120.59	60	PKP		PKPdf	08 40 58.8	-1.3		
	comp=Z,0.9nm,0.6s,baz=200,slow=3.6,SNR=4.5									
KIEV	Kiev	120.68	47	*i* PKIKP		PKPdf	08 40 58.6	-1.0		
AKASG	Malin Array Be	120.69	47	PKP		PKPdf	08 40 58.0	-1.7		
	comp=Z,0.6nm,0.5s,baz=266,slow=2.6,SNR=4.5									
AKASG	Malin Array Be	120.69	47	PKIKP		PKPdf	08 40 58.0	-1.7		
VSU	Vasula	121.06	37	*i* PKIKP		PKPdf	08 40 59.9	-0.2		
ARCES	ARCESS Array B	122.26	24	PKP		PKPdf	08 41 00.6	-1.6		
	comp=Z,2.7nm,1.0s,baz=292,slow=2.8,SNR=3.4									
WRA	Warramunga Arr	122.49	209	*i* PKIKP		PKPdf	08 41 02.8	-1.4		
	comp=Z,2.2nm,0.6s,baz=155,slow=1.7,SNR=39									
WRAB	Tennant Creek	122.49	209	*i* PKIKP		PKPdf	08 41 03.0	-1.2		
LVZ	Lovozero	125.52	27	*i* PKIKP		PKPdf	08 41 12.5	+4.0		
OBN	Obninsk	125.87	42	*e*PKIKP		PKPdf	08 41 09.6	+0.2		
OBN				pmax		pmax				
	comp=Z,11nm,1.3s									
H11S2	WAKE ISLAND Hy	126.22	270	T		T	11 00 19.5			
	baz=117,slow=75,SNR=667									
H11S1	WAKE ISLAND Hy	126.24	270	T		T	11 00 19.1			
	baz=117,slow=75,SNR=430									
H11S3	WAKE ISLAND Hy	126.24	270	T		T	11 00 20.9			
	baz=117,slow=75,SNR=536									
H11N3	WAKE ISLAND Hy	126.59	272	T		T	11 00 45.1			
	baz=117,slow=75,SNR=305									
H11N1	WAKE ISLAND Hy	126.61	272	T		T	11 00 45.4			
	baz=117,slow=75,SNR=100									
H11N2	WAKE ISLAND Hy	126.61	272	T		T	11 00 46.7			
	baz=117,slow=75,SNR=807									
FITZ	Fitzroy Crossi	127.29	201	PKP		PKPdf	08 41 12.8	-0.6		
	comp=Z,1.2nm,0.6s,baz=223,slow=2.1,SNR=5.4									
KLMR	Klimovskoe	127.74	35	*e*PKIKP		PKPdf	08 41 11.1	-1.7		
KLMR				pmax		pmax				
	comp=Z,13nm,1.4s									
BILL	Bilibino	131.47	335	*i* PKIKP		PKPdf	08 41 20.3	+0.5		
BILL				pmax		pmax				
	comp=Z,4.0nm,1.1s									
ARU	Arti	138.14	40	PKP		PKPdf	08 41 32.3	-0.2		
	comp=Z,11nm,0.2s,baz=292,slow=4.4,SNR=4.8									
ARU	Arti	138.14	40	*i* PKIKP		PKPdf	08 41 33.3	+0.7		
ARU							08 44 21.0			
ARU				SS		SS	09 02 25.3	-4.7		
PET	Petropavlovsk	138.70	315	PKIKP		PKPdf	08 41 37.6	+3.9		
SEY	Seymchan	138.74	331	PKP		PKPdf	08 41 33.1	-0.3		
	comp=Z,5.6nm,1.0s,baz=62,slow=1.5,SNR=7.8									
SEY	Seymchan	138.74	331	*i* PKIKP		PKPdf	08 41 33.9	+0.4		
AKTO	Aktyubinsk	138.88	49	PKP		PKPdf	08 41 31.3	-2.8		
	comp=Z,1.1nm,0.6s,baz=339,slow=8.8,SNR=4.3									
AB31	Akbulak array	140.25	50	*i* PKIKP		PKPdf	08 41 36.4	-0.2		
AB31				pmax		pmax				
	comp=Z,1.0nm,0.6s									
ABKAR	Akbulak array	140.25	50	*e*PKPdf		PKPdf	08 41 35.9	-0.7		
BRVK	Borovoye	145.63	41	*c i* PKIKP		PKPbc	08 41 46.2	-0.2		
BRVK				*i*			08 41 51.2			
BRVK	Borovoye	145.63	41	*e*PKPdf		PKP

comp=Z,94nm,5.4s
KSH LE
comp=Z,73nm,4.9s
MJAR Matsushiro Arr 155.16 288 PKPab **PKPab 08 42 25.6 -0.8**
comp=Z,1.2nm,0.8s,baz=120,slow=2.1,SNR=3.6
MK31 Makanchi Array 155.27 46 *i* PKIKP **PKPdf 08 42 00.2 -1.0**
MKAR Makanchi Array 155.27 46 PKP **PKPdf 08 41 59.8 -1.5**
comp=Z,0.2nm,0.2s,baz=294,slow=1.2,SNR=6.4
MKAR PKPbc PKPbc 08 42 09.6
comp=Z,2.7nm,0.9s,baz=323,slow=3.0,SNR=13
MKAR PKPab **PKPab 08 42 24.1 -2.5**
comp=Z,3.6nm,0.6s,baz=285,slow=1.8,SNR=21
WMQ Urumqi 160.03 49 PKP **PKPdf 08 42 07.0 -0.3**
WMQ LN
comp=Z,46nm,26.3s
KSRS Korea Array 163.24 293 PKPab **PKPab 08 43 02.5 +1.1**
comp=Z,3.0nm,1.1s,baz=112,slow=3.4,SNR=4.8
KSAR Wonju Array Be 163.27 293 PKP2 **PKPab 08 43 02.6 +1.0**
KSAR Wonju Array Be 163.27 293 PKPab **PKPab 08 43 02.5 +1.0**
CMAR Chiang Mai Arr 163.78 146 PKP **PKPdf 08 42 11.8 -0.1**
comp=Z,0.9nm,0.3s,baz=268,slow=2.8,SNR=4.6
SONM Songino Array 164.37 5 PKPab **PKPab 08 43 05.5 -0.5**
comp=Z,1.3nm,0.7s,baz=343,slow=3.8,SNR=8.6
GTA Gaotai 169.99 42 *e*PKP **PKPdf 08 42 16.3 +0.3**
GTA pPKP pPKPdf 08 42 26.8 -3.7
GTA PKPab **PKPab 08 43 31.5 +0.3**
HHC Hu-ho-hao-te 171.09 345 *e*PKP **PKPdf 08 42 18.8 +2.3**
HHC PP **PP 08 47 31.0 +5.1**
HHC PPMZ
comp=Z,79nm,10.0s
HHC LN
comp=Z,91nm,16.0s
HHC LE
comp=Z,100nm,11.1s
HHC LZ
comp=Z,79nm,17.3s
KMI Kunming 171.28 143 PKP **PKPdf 08 42 16.3 -1.0**
GYA Guiyang 174.00 164 *e*PKP **PKPdf 08 42 17.5 -0.7**
GYA sPKP 08 42 38.0
GYA PKPab **PKPab 08 43 50.5 +1.4**
GYA PKS **PKSdf 08 45 48.3 -2.4**
GYA PP **PP 08 47 43.8 +3.6**
GYA PPMZ
comp=Z,120nm,8.3s
LZH Lanzhou 174.59 44 *e*PKP **PKPdf 08 42 18.8 +0.6**
LZH pPKP pPKPdf 08 42 34.0 +1.3
LZH sPKP 08 42 39.5
LZH LN
comp=Z,170nm,18.1s
LZH LE
comp=Z,180nm,18.0s
LZH LZ
comp=Z,220nm,20.2s
CD2 Chengdu 175.74 107 PKP **PKPdf 08 42 18.5 0.0**
CD2 pPKP pPKPdf 08 42 33.5 +0.5
CD2 sPKP 08 42 39.3
CD2 PP **PP 08 47 49.0 -1.2**
CD2 SKS **SKSdf 08 49 17.3 -0.6**
CD2 SKKS **SKKSac 08 54 30.5 -2.0**
CD2 SS **SS 09 09 11.8 -2.6**
CD2 PPMZ
comp=Z,160nm,5.4s
XAN Xi'an 178.20 349 PKP **PKPdf 08 42 21.3 +2.4**

*ISCJB **29** 08:26:37.7±0.6,20.82N±0.03×103.50E±0.04,h10km, mb3.7/3,Error ellipse: s-maj=6.0km s-min=3.7km az=138.8*
*PLV **29** 08:26:38.5±2.3,20.80N×103.45E,h0km±12km,ML3.6*
*IDC **29** 08:26:39.0±1.4,20.93N×103.51E,h0km,mb3.7/3, mb1 3.7/4,mb1mx3.3/49,mbtmp3.6/4,ML3.6/1,Error ellipse: s-maj=32.3km s-min=25.1km az=68.0*

ISC 29 08:26:39.0±0.8,20.79N±0.03×103.42E±0.03,h10km,n17, σ1§81/24,mb3.6/3,Laos

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DBV	**Dienbien**	**0.71**	**328**	*e*Pn		**Pg**	**08 26 51.6**	**-1.1**
DBV				*e*Pg		**Pb**	**08 26 53.1**	**-0.4**
DBV				*e*Sg		**Sg**	**08 27 00.1**	**-1.9**
DBV				AML	AML		08 27 02.9	
	comp=E,2μm,0.3s							
DBV				AML	AML		08 27 05.5	
	comp=N,3μm,0.4s							
TGV	**Tuan Giao**	**0.80**	**360**	*e*Pn		**Pg**	**08 26 53.4**	**-1.1**
TGV				*e*Pg		**Pb**	**08 26 54.6**	**-0.4**
MLVB	**It Ong**	**1.27**	**349**	*e*Pg		Pn	08 26 56.1	-6.8
MLVB				*e*Sg		Sb	08 27 07.5	-12
SPV	**Sa-pa**	**1.59**	**14**	*e*Pn		**Pn**	**08 27 07.1**	**-0.3**
HBVN	**Hoa-Binh**	**1.81**	**88**	*e*Pg		**Pg**	**08 27 12.6**	**-1.1**
DHV	**Doan Hung**	**1.84**	**63**	*e*Pg		**Pg**	**08 27 14.1**	**-0.4**
DHV				*e*Sg		**Sg**	**08 27 38.0**	**-0.4**
VTVB	**Vinh Tuy**	**2.00**	**43**	*e*Pg		**Pg**	**08 27 17.4**	**-0.1**
CCVB	**Con Cuong**	**2.21**	**141**	*e*Pn		**Pb**	**08 27 16.8**	**-2.2**
CCVB				*e*Sg		**Sg**	**08 27 49.4**	**-0.5**
THV	**Thanh Hoa**	**2.40**	**112**	*e*Pg		**Pg**	**08 27 23.7**	**-1.4**
THV				*e*Sg		**Sg**	**08 27 55.9**	**-0.3**
BCVB	**Bac Can**	**2.45**	**63**	*e*Pg		**Pg**	**08 27 24.5**	**-1.5**
HGVB	**Ha Giang**	**2.51**	**35**	*e*Sg		**Sg**	**08 27 57.5**	**-2.1**
VIVB	**Vinh**	**3.02**	**134**	*e*Sg		**Sg**	**08 28 15.3**	**-0.8**
CBVB	**Cao Bang**	**3.17**	**54**	*e*Pn		**Pn**	**08 27 30.7**	**+1.6**
CBVB				*e*Pg		**Pg**	**08 27 37.7**	**-2.2**
CMAR	**Chiang Mai Arr**	**4.82**	**242**	Pn		**Pn**	**08 27 56.0**	**+4.3**
	comp=N,0.6nm,0.3s,baz=59,slow=14,SNR=3.2							
CMAR				Pg		**Pg**	**08 28 07.6**	**-3.8**
	comp=N,1.2nm,0.3s,baz=57,slow=18,SNR=13							
CMAR				Lg		Lg	08 29 12.2	
	comp=N,0.1nm,0.3s,baz=65,slow=28,SNR=3.7							
MKAR	**Makanchi Array 31.13 331**			P		**P**	**08 32 59.1**	**+1.2**
	comp=N,0.2nm,0.2s,baz=132,slow=8.7,SNR=3.9							
ZALV	**Zalesovo Beam 36.02 341**			P		**P**	**08 33 40.2**	**-0.1**
	comp=N,1.0nm,0.5s,baz=148,slow=8.5,SNR=3.9							
WRA	**Warramunga Arr 50.54 141**			P		**P**	**08 35 40.0**	**+2.1**
	comp=N,0.7nm,0.9s,baz=332,slow=8.5,SNR=3.4							

*NIED **29** 08:35:00,37.40N×141.30E,h32km,Mw3.5 Best double couple: M₀1.78000×10¹⁴ NP1:φ₀26.00000°,δ35.00000°, λ65.00000°. NP2:φ₀235.00000°,δ59.00000°,λ106.00000°.*

JMA 29 08:35:32.0±0.1,37.43N×141.27E,h26km±1km,M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**0.32**	**259**	P		Pb	08 35 39.4	0.0
JFK				*e*S		Sb	08 35 44.2	-0.3
ONAJ	**Iwakimizuishiy**	**0.50**	**229**	P		Pb	08 35 42.0	-0.3
ONAJ				*e*S		Sb	08 35 48.9	-0.3
JMM	**Marumori**	**0.58**	**319**	P		Pb	08 35 43.2	-0.3
JMM				*e*S		Sb	08 35 51.3	-0.1
JFT	**Otama**	**0.75**	**277**	P		Pn	08 35 46.7	-0.2
JFT				*e*S		Sb	08 35 56.8	+0.6
JIO	**Ouri**	**1.02**	**3**	P		Pn	08 35 49.9	-0.8
JIO				*e*S		Sb	08 36 03.0	-1.1
JOU	**Okura**	**1.05**	**333**	P		Pn	08 35 51.2	+0.1
JOU				*e*S		Sb	08 36 05.1	+0.2
JYS	**Shirataka**	**1.24**	**310**	P		Pb	08 35 54.5	-0.2
JYS				*e*S		Sb	08 36 11.2	+0.9
JFY	**Yanaizu**	**1.25**	**269**	P		Pn	08 35 54.3	+0.5
JFY				*e*S		Sb	08 36 11.2	+0.7
MAT	**Matsushiro**	**2.61**	**251**	P		Pn	08 36 13.1	+0.6
MAT				S		Sb	08 36 47.6	-2.0

SJA 29 08:45:41.1±0.3,27.38S×66.12W,h11km±2km,ML2.5, MW3.7,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AHML	**Horco Molle**	**0.92**	**50**	*i* P		Pg	08 45 58.7	-0.1
AHML				*i* S		Sb	08 46 12.1	+0.7
CYA	**Choya**	**1.09**	**165**	*i* P		Pb	08 46 02.0	0.0
CYA				IAML			08 46 20.2	
	comp=Z,103nm,0.4s							
FSA	**Cafayete**	**1.27**	**6**	*i* P		Pg	08 46 05.6	-0.1
FSA				IAML			08 46 23.4	
	comp=Z,122nm,0.3s							
VCA	**Vinchina**	**2.28**	**233**	*i* P		Pb	08 46 21.3	-1.2
VCA				*i* S		Sb	08 46 50.9	+0.1
AGUA	**GUANDACOL**	**2.96**	**224**	*i* P		Pn	08 46 30.7	+2.6
AVFE	**Valle Fertil**	**3.47**	**199**	IAML			08 47 35.3	
	comp=Z,8.9nm,0.4s							
TCA	**Tanti**	**4.16**	**162**	*i* P		Pn	08 46 47.8	+3.2

IDC 29 08:56:31.4±5.5,39.41N×110.40E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.3/46,mbtmp3.5/4,ML3.4/1,MS3.4/2, Ms1 3.4/2,ms1mx2.4/49,Error ellipse: s-maj=117.1km s-min=24.5km az=84.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SONM	**Songino Array**	**8.91**	**342**	Pn		Pn	08 58 42.1	+0.6
	0.4nm,0.3s,baz=159,slow=12,SNR=4.5							
SONM				Sn		Sn	09 00 20.1	-2.5
	0.1nm,0.3s,baz=168,slow=22,SNR=2.7							
SONM				Lg		Lg	09 01 13.9	
	0.3nm,0.3s,baz=154,slow=27,SNR=4.0							
MKAR	**Makanchi Array**	**21.73**	**299**	P		P	09 01 23.9	-0.3
	1.3nm,0.9s,baz=96,slow=12,SNR=7.4							
CMAR	**Chiang Mai Arr**	**23.12**	**209**	P		P	09 01 39.0	0.0
	1.1nm,0.3s,baz=13,slow=10,SNR=8.1							
KURBB	**Kurchatov Arra**	**24.97**	**307**	P		P	09 01 56.5	+0.1
	0.8nm,0.8s,baz=108,slow=10.0,SNR=6.1							
ARCES	**ARCESS Array B**	**51.97**	**334**	LR		LR	09 29 49.1	
	comp=Z,37nm,18.4s,baz=282,slow=38							
FINES	**FINESS Array B**	**53.75**	**324**	LR		LR	09 33 38.9	
	comp=Z,33nm,18.4s,baz=213,slow=41							

SJA 29 08:59:47.5±0.3,31.78S×70.91W,h105km±4km,ML2.7, MW3.6,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROC1	**El Roble**	**1.20**	**184**	*i* P		Pn	09 00 11.7	+0.9
ROC1				*i* P		Pn	09 00 11.9	+1.1
ROC1				*i* S		Sn	09 00 29.6	+1.3
AUSP	**Uspallata**	**1.37**	**109**	*i* P		Pn	09 00 14.1	+1.3
AUSP				*i* S		Sn	09 00 33.8	+1.9
RTLS	**Leoncito**	**1.38**	**91**	*i* P		Pn	09 00 14.2	+1.4
RTLS				*i* S		Sn	09 00 34.0	+2.0
ACCO	**Cerro Coronel**	**1.98**	**54**	*i* P		Pn	09 00 22.0	+1.7
ACCO				*i* S		Sn	09 00 47.4	+2.1
AROD	**Rodeo**	**2.02**	**38**	*i* P		Pn	09 00 22.6	+1.7
AROD				*i* S		Sn	09 00 48.4	+1.9
RTLL	**Cerro Villicun**	**2.13**	**79**	*i* P		Pn	09 00 23.1	+1.1
RTLL				*i* S		Sn	09 00 49.5	+1.1
AMOG	**MOGNA**	**2.23**	**69**	*i* P		Pn	09 00 24.2	+0.9
AMOG				*i* S		Sn	09 00 52.1	+1.4
AGUA	**GUANDACOL**	**3.09**	**43**	*i* P		Pn	09 00 36.0	+1.3
AVFE	**Valle Fertil**	**3.16**	**70**	*i* P		Pn	09 00 37.0	+1.3
AVFE				*i* S		Sn	09 01 13.5	+0.7
AVFE				IAML			09 01 15.3	
	comp=Z,17nm,0.3s							
VCA	**Vinchina**	**3.83**	**38**	IAML			09 01 19.1	
	comp=Z,9.3nm,0.3s							

*ISCJB **29** 09:06:02.9±0.5,39.09N±0.04×29.05E±0.03,h6km±7km, Error ellipse: s-maj=7.2km s-min=4.0km az=161.0*
*DDA **29** 09:06:02.9,39.10N×29.06E,h7km,Md2.5*
*ISK **29** 09:06:02.2,39.09N×29.05E,h6km,ML2.4*
*CSEM **29** 09:06:03.0±0.1,39.09N×29.05E,h8km,MD2.5,Error ellipse: s-maj=2.3km s-min=1.7km az=149.0*

ISC 29 09:06:03.2±0.9,39.09N±0.03×29.06E±0.02,h13km±8km, n31,σ0§41/44,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DEMI	**Demirci**	**0.27**	**260**	P		**Pg**	**09 06 09.0**	**+0.1**
DEMI				S		**Sg**	**09 06 12.8**	**0.0**
DEMI	**Demirci**	**0.27**	**260**	*i* P		**Pg**	**09 06 09.0**	**+0.1**
DEMI				*i* S		**Sg**	**09 06 12.8**	**0.0**
GEDZ	**Gediz**	**0.28**	**99**	*e*PG		**Pg**	**09 06 09.0**	**-0.1**
GEDZ	**Gediz**	**0.28**	**99**	*e*Pg		**Pg**	**09 06 09.0**	**-0.1**
GDZ	**Gediz**	**0.33**	**90**	P		**Pg**	**09 06 10.1**	**0.0**
GDZ				S		**Sg**	**09 06 14.9**	**+0.2**
GDZ	**Gediz**	**0.33**	**90**	*i* P		**Pg**	**09 06 10.1**	**0.0**
GDZ				*i* S		**Sg**	**09 06 14.9**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**41**	PG		**Pg**	**09 06 12.0**	**-0.8**
TVSB				*e*SG		**Sg**	**09 06 18.9**	**-0.3**
TVSB	**Tavsanli**	**0.48**	**41**	*i* Pg		**Pg**	**09 06 12.0**	**-0.8**
TVSB				*e*Sg		**Sg**	**09 06 18.9**	**-0.3**
KULA	**Kula-Manisa**	**0.65**	**208**	PG		**Pg**	**09 06 15.2**	**-0.7**
KULA				*e*SG		**Sg**	**09 06 24.6**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**208**	*i* Pg		**Pg**	**09 06 15.2**	**-0.7**
KULA				*e*Sg		**Sg**	**09 06 24.6**	**0.0**
KHL	**Karahalli**	**0.85**	**154**	*e*PG		**Pg**	**09 06 19.0**	**-0.7**
KHL	**Karahalli**	**0.85**	**154**	*e*Pg		**Pg**	**09 06 19.0**	**-0.7**
AKS	**Akhisar**	**0.99**	**258**	*e*PG		**Pg**	**09 06 22.3**	**0.0**
AKS				*e*SG		**Sb**	**09 06 35.8**	**+0.6**
AKS	**Akhisar**	**0.99**	**258**	*e*Pg		**Pg**	**09 06 22.3**	**0.0**
AKS				*e*Sg		**Sb**	**09 06 35.8**	**+0.6**
BALB	**Balikesir**	**1.06**	**302**	*e*PG		**Pb**	**09 06 22.8**	**-0.7**
BALB	**Balikesir**	**1.06**	**302**	*e*Pg		**Pb**	**09 06 22.8**	**-0.7**
IGD	**Bursa**	**1.18**	**5**	*i* P		**Pb**	**09 06 25.2**	**-0.2**
IGD				*i* S		**Sg**	**09 06 41.3**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*PN		**Pn**	**09 06 26.9**	**+0.2**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*Pn		**Pn**	**09 06 26.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**354**	*e*PN		**Pn**	**09 06 27.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.29**	**354**	*e*Pn		**Pn**	**09 06 27.2**	**+0.3**
IZI	**Iznik**	**1.29**	**14**	*e*PN		**Pn**	**09 06 27.2**	**+0.2**
IZI	**Iznik**	**1.29**	**14**	*e*Pn		**Pn**	**09 06 27.2**	**+0.2**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*PN		**Pn**	**09 06 27.3**	**+0.3**
KCTX	**Karacabey (Bur**	**1.29**	**336**	*e*Pn		**Pn**	**09 06 27.3**	**+0.3**
BORA	**Eskisehir**	**1.34**	**53**	P		**Pb**	**09 06 28.4**	**+0.1**
BORA				S		**Sg**	**09 06 46.3**	**-0.2**
BORA	**Eskisehir**	**1.34**	**53**	*i* P		**Pb**	**09 06 28.4**	**+0.1**
BORA				*i* S		**Sg**	**09 06 46.3**	**-0.2**
ARMT	**Armutlu**	**1.48**	**354**	*e*PN		**Pn**	**09 06 30.0**	**+0.4**
ARMT	**Armutlu**	**1.48**	**354**	*e*Pn		**Pn**	**09 06 30.0**	**+0.4**
GULT	**Gulveren**	**1.75**	**40**	*e*PN		**Pn**	**09 06 34.0**	**+0.6**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn		**Pn**	**09 06 34.0**	**+0.6**

RSPR 29 09:07:24.0,18.16N×68.68W,h127km±1km,MD3.5/8, 7C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IMPR	**Mona Island, P**	**0.71**	**96**	⇑*e*P		Pn	09 07 43.8	-0.3
IMPR	**Mona Island, P**	**0.71**	**96**	*e*S		Sn	09 07 59.3	0.0
DR12	**Loma Pena Alta**	**0.91**	**313**	⇓*e*P		Pn	09 07 42.8	-3.1
CRPR	**Cabo Rojo, PR**	**1.50**	**96**	⇓*e*P		Pn	09 07 51.1	-0.7
CRPR	**Cabo Rojo, PR**	**1.50**	**96**	*e*S		Sn	09 08 13.4	+0.4
AGPR	**Aguadilla, PR**	**1.52**	**78**	⇑*e*P		Pn	09 07 52.1	0.0
AGPR	**Aguadilla, PR**	**1.52**	**78**	*e*S		Sn	09 08 13.3	-0.2
LRS	**Lares**	**1.75**	**85**	⇑*e*P		Pn	09 07 54.9	+0.2
AOPR	**Arecibo Observ**	**1.84**	**84**	⇑*e*P		Pn	09 07 55.5	-0.3
AOPR	**Arecibo Observ**	**1.84**	**84**	*e*S		Sn	09 08 20.3	+0.1
OBIP	**Obispado Ponce**	**1.97**	**93**	⇑*e*P		Pn	09 07 56.9	-0.5
HUMP	**Col San Antoni**	**2.69**	**90**	*e*S		Sn	09 08 39.6	+0.4
HUMP	**Col San Antoni**	**2.69**	**90**	⇑*e*P		Pn	09 08 06.7	+0.3
ABV	**Anegada**	**4.16**	**81**	⇑*e*P		Pn	09 08 26.8	+0.9

*IDC **29** 09:27:23.3±2.8,53.54N×87.54E,h0km,mb1 3.6/2, mb1mx3.2/45,mbtmp3.6/2,ML3.2/2,Error ellipse: s-maj=25.8km s-min=13.8km az=61.0*
*NNC **29** 09:27:23.9±3.4,53.47N×87.52E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=25.7km s-min=21.1km az=43.0*

ISC 29 09:27:26.5±4.0,53.7N±0.1×87.6E±0.2,h35km,n9, σ0§88/12,6C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**282**	*i*			09 38 10.0	
	baz=102,slow=312,SNR=48							
ZALV	**Zalesovo Beam**	**1.65**	**282**	Pg		**Pn**	**09 27 53.2**	**+0.4**
	9.9nm,0.3s,baz=102,slow=13,SNR=57							
ZALV				Lg		Lg	09 28 15.3	
	5.1nm,0.3s,baz=105,slow=28,SNR=12							
KURK	**Kurchatov**	**6.23**	**245**	⇑Pn		**Pn**	**09 28 55.3**	**-0.5**
	2.5nm,0.7s							
KURK				⇑Lg		Lg	09 30 40.0	
	7.3nm,0.9s							
KURBB	**Kurchatov Arra**	**6.32**	**245**	Pn		**Pn**	**09 28 58.2**	**+1.1**
	0.4nm,0.3s,baz=62,slow=14,SNR=17							
KURBB				Lg		Lg	09 30 42.6	
	0.1nm,0.3s,baz=63,slow=32,SNR=12							
KURBB	**Kurchatov Arra**	**6.32**	**245**	⇑Pn		**Pn**	**09 28 57.6**	**+0.4**
	3.6nm,0.3s							
KURBB				⇑Sn		**Sn**	**09 30 08.1**	**+0.1**
	3.8nm,0.7s							
KURBB				⇓Lg		Lg	09 30 44.0	
	17nm,0.8s							
MK31	**Makanchi Array**	**7.64**	**208**	⇑Pn		**Pn**	**09 29 14.2**	**-1.1**
	0.4nm,0.3s,baz=29,slow=14,SNR=12							
MK31				Sn		**Sn**	**09 30 42.1**	**+1.6**
	1.6nm,0.8s,baz=30,slow=24,SNR=5.4							
MK31				⇑Lg		Lg	09 31 22.8	
	1.4nm,0.5s,baz=27,slow=36,SNR=6.1							
MKAR	**Makanchi Array**	**7.64**	**208**	Pn		**Pn**	**09 29 15.4**	**+0.2**
	0.6nm,0.3s,baz=29,slow=14,SNR=14							
MKAR				Sn		**Sn**	**09 30 40.6**	**0.0**
	0.1nm,0.3s,baz=29,slow=26,SNR=9.1							
MKAR				Lg		Lg	09 31 22.2	
	0.2nm,0.3s,baz=23,slow=35,SNR=9.6							
MAKZ	**Makanchi**	**7.72**	**210**	⇓Pn		**Pn**	**09 29 16.5**	**+0.1**
	0.7nm,0.5s							
MAKZ				⇓Sn		**Sn**	**09 30 42.2**	**-0.2**
	2.4nm,0.9s							
MAKZ				⇓Lg		Lg	09 31 23.6	
	6.5nm,1.1s							
BVAR	**Borovoye Array**	**10.29**	**273**	Sn		**Sn**	**09 31 44.1**	**-1.2**
	0.2nm,0.3s,baz=76,slow=24,SNR=4.3							

IDC 29 09:33:57.0±0.9,13.80N×145.06E,h116km±5km,mb3.1/5, mb1 3.4/5,mb1mx3.1/48,mbtmp3.4/5,Error ellipse: s-maj=47.1km s-min=20.5km az=103.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**0.28**	**221**	P		Pn	09 34 15.2	+1.8
	656nm,0.3s,baz=135,slow=1.4,SNR=635							
GUMO				LR		LR	09 34 21.3	
	comp=Z,44nm,20.1s,baz=237,slow=87							
GUMO				S		Sn	09 34 27.2	+1.5
	545nm,0.3s,baz=52,slow=23,SNR=84							
H11N1	**WAKE ISLAND Hy 21.71**	**71**		T		T	10 01 49.3	
	baz=257,slow=75,SNR=4.1							
H11N2	**WAKE ISLAND Hy 21.72**	**71**		T		T	10 01 53.1	
	baz=257,slow=75,SNR=4.1							
H11N3	**WAKE ISLAND Hy 21.73**	**71**		T		T	10 01 53.5	
	baz=257,slow=75,SNR=5.2							
WRA	**Warramunga Arr**	**35.15**	**198**	P		P	09 40 39.5	-0.3
	0.7nm,0.9s,baz=19,slow=9.5,SNR=6.8							
ASAR	**Alice Springs**	**38.80**	**196**	P		P	09 41 10.6	-0.1
	0.2nm,0.7s,baz=19,slow=12,SNR=4.5							
KURBB	**Kurchatov Arra**	**64.58**	**320**	P		P	09 44 22.0	+0.2
	0.2nm,0.5s,baz=102,slow=6.6,SNR=2.1							
ILAR	**Eielson Array**	**68.30**	**25**	P		P	09 44 43.9	-1.5
	0.2nm,0.4s,baz=251,slow=5.9,SNR=4.3							
YKA	**Yellowknife Ar**	**82.59**	**27**	P		P	09 46 07.3	+0.3
	0.2nm,0.4s,baz=281,slow=5.0,SNR=3.0							

*ISK **29** 09:39:27.7,39.11N×28.99E,h6km,ML3.1*
*DDA **29** 09:39:27.6,39.11N×29.01E,h3km,Md2.8*
*ISCJB **29** 09:39:28.1±0.5,39.12N±0.04×29.00E±0.03,h5km±7km, Error ellipse: s-maj=7.1km s-min=3.7km az=0.1*
*CSEM **29** 09:39:28.2±0.1,39.11N×29.00E,h5km,MD2.8,Error ellipse: s-maj=1.9km s-min=1.6km az=6.0*

ISC 29 09:39:28.3±0.9,39.13N±0.03×28.99E±0.02,h9km±10km, n57,σ0§50/70,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DEMI	**Demirci**	**0.23**	**249**	P		**Pg**	**09 39 33.0**	**-0.1**
DEMI				S		**Sg**	**09 39 36.3**	**0.0**
DEMI	**Demirci**	**0.23**	**249**	*i* P		**Pg**	**09 39 33.0**	**-0.1**
DEMI				*i* S		**Sg**	**09 39 36.3**	**0.0**
GEDZ	**Gediz**	**0.33**	**104**	*e*PG		**Pg**	**09 39 35.1**	**+0.2**
GEDZ				*e*SG		**Sg**	**09 39 39.8**	**+0.4**
GEDZ	**Gediz**	**0.33**	**104**	*e*Pg		**Pg**	**09 39 35.2**	**+0.2**
GEDZ				*e*Sg		**Sg**	**09 39 39.8**	**+0.4**
GDZ	**Gediz**	**0.38**	**95**	P		**Pg**	**09 39 35.7**	**-0.2**
GDZ				S		**Sg**	**09 39 40.9**	**0.0**
GDZ	**Gediz**	**0.38**	**95**	*i* P		**Pg**	**09 39 35.7**	**-0.2**
GDZ				*i* S		**Sg**	**09 39 40.9**	**0.0**
TVSB	**Tavsanli**	**0.49**	**48**	*e*PG		**Pg**	**09 39 37.5**	**-0.3**
TVSB	**Tavsanli**	**0.49**	**48**	*e*Pg		**Pg**	**09 39 37.5**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**203**	*e*PG		**Pg**	**09 39 40.7**	**-0.4**
KULA				*e*SG		**Sg**	**09 39 49.6**	**-0.2**
KULA	**Kula-Manisa**	**0.66**	**203**	*e*Pg		**Pg**	**09 39 40.7**	**-0.4**
KULA				*e*Sg		**Sg**	**09 39 49.6**	**-0.2**
KHL	**Karahalli**	**0.90**	**153**	*e*PG		**Pg**	**09 39 45.2**	**-0.5**
KHL	**Karahalli**	**0.90**	**153**	*e*Pg		**Pg**	**09 39 45.2**	**-0.5**
AKS	**Akhisar**	**0.95**	**255**	*e*PG		**Pg**	**09 39 46.7**	**+0.1**
AKS	**Akhisar**	**0.95**	**255**	*e*Pg		**Pg**	**09 39 46.7**	**+0.1**
BALB	**Balikesir**	**1.00**	**301**	*e*PG		**Pb**	**09 39 47.9**	**+0.1**
BALB	**Balikesir**	**1.00**	**301**	*e*Pg		**Pb**	**09 39 47.9**	**+0.1**
IGD	**Bursa**	**1.15**	**8**	*i* P		**Pb**	**09 39 49.0**	**-1.3**
IGD				*i* S		**Sg**	**09 40 04.0**	**-1.3**
BALY	**Balya**	**1.23**	**300**	P		**Pb**	**09 39 51.8**	**+0.1**
BALY	**Balya**	**1.23**	**300**	*i* P		**Pb**	**09 39 51.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*PN		**Pn**	**09 39 51.6**	**-0.2**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*Pn		**Pn**	**09 39 51.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*PN		**Pn**	**09 39 51.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**356**

IESO					*e*Sg	**Sg**	**09 39 48.1 +0.5**
IESO	**Jesolo**	**0.31**	**190**		*e*Pg	**Pg**	**09 39 42.6 -0.8**
IESO					*e*Sg	**Sg**	**09 39 48.1 +0.5**
MLNI	**Malnisio**	**0.33**	**358**	⇑	*e*Pg	**Pg**	**09 39 43.3 -0.5**
MLNI					*e*Sg	**Sb**	**09 39 50.2 +0.2**
MLNI	**Malnisio**	**0.33**	**358**		*e*Pg	**Pg**	**09 39 43.3 -0.5**
MLNI					*e*Sg	**Sb**	**09 39 50.2 +0.2**
TLI	**Talmassons**	**0.35**	**73**	⇑	*e*Pg	**Pg**	**09 39 43.9 -0.3**
TLI	**Talmassons**	**0.35**	**73**		*e*Pg	**Pg**	**09 39 43.9 -0.3**
VARN	**Col Varnada, M**	**0.40**	**296**	⇑	*e*Pg	**Pg**	**09 39 44.0 -1.1**
VARN	**Col Varnada, M**	**0.40**	**296**		*e*Pg	**Pg**	**09 39 44.0 -1.1**
STAL	**STALIGIAL**	**0.44**	**8**		Pg	**Pg**	**09 39 45.1 -0.8**
STAL					Sg	**Sb**	**09 39 52.9 -0.4**
	753nm,0.2s						
STAL	**STALIGIAL**	**0.44**	**8**		Pg	**Pg**	**09 39 45.1 -0.8**
STAL					Sg	**Sb**	**09 39 52.9 -0.4**
	753nm,0.2s						
CIMO	**Cimolais**	**0.51**	**345**	⇑	*e*Pg	**Pg**	**09 39 45.9 -1.2**
CIMO					*e*Sg	**Sb**	**09 39 54.1 -0.9**
CIMO	**Cimolais**	**0.51**	**345**		*e*Pg	**Pg**	**09 39 45.9 -1.2**
CIMO					*e*Sg	**Sb**	**09 39 54.1 -0.9**
GEPF	**Gemona**	**0.58**	**38**		Pg	**Pg**	**09 39 47.8 -0.6**
GEPF					Sg	**Sb**	**09 39 57.0 -0.1**
	39µm,0.3s						
GEPF	**Gemona**	**0.58**	**38**		Pg	**Pg**	**09 39 47.8 -0.6**
GEPF					Sg	**Sb**	**09 39 57.0 -0.1**
	39µm,0.3s						
CGRP	**Cima Grappa**	**0.58**	**276**		Pg	**Pg**	**09 39 47.0 -1.5**
	268nm,0.6s						
CGRP	**Cima Grappa**	**0.58**	**276**	⇑	*e*Pg	**Pg**	**09 39 47.3 -1.1**
CGRP					*e*Sg	**Sg**	**09 39 56.2 +0.1**
CGRP	**Cima Grappa**	**0.58**	**276**		Pg	**Pg**	**09 39 47.0 -1.5**
	268nm,0.6s						
CGRP					*e*Sg	**Sg**	**09 39 56.2 +0.1**
BAD	**Bernadia**	**0.60**	**46**	⇑	*e*Pg	**Pg**	**09 39 48.2 -0.6**
BAD	**Bernadia**	**0.60**	**46**		*e*Pg	**Pg**	**09 39 48.2 -0.6**
BOO	**Bordano**	**0.60**	**33**	⇑	*e*Pg	**Pg**	**09 39 48.1 -0.7**
BOO	**Bordano**	**0.60**	**33**		*e*Pg	**Pg**	**09 39 48.1 -0.7**
AGOR	**Agordo**	**0.61**	**319**		Pg	**Pg**	**09 39 48.0 -1.0**
	199nm,0.4s						
AGOR	**Agordo**	**0.61**	**319**	⇓	*e*Pg	**Pg**	**09 39 48.0 -1.0**
VINO	**Villanova**	**0.63**	**46**		Pg	**Pg**	**09 39 48.5 -0.9**
VINO					Sg	**Sb**	**09 39 58.4 -0.3**
	35µm,0.3s						
VINO	**Villanova**	**0.63**	**46**	⇓	*e*Pg	**Pg**	**09 39 48.5 -0.9**
VINO					*e*Sg	**Sb**	**09 39 58.4 -0.3**
VINO	**Villanova**	**0.63**	**46**		Pg	**Pg**	**09 39 48.5 -0.9**
VINO					Sg	**Sb**	**09 39 58.4 -0.3**
	35µm,0.3s						
FUSE	**Fusea**	**0.65**	**24**	⇑	*e*Pg	**Pg**	**09 39 48.5 -1.2**
FUSE					*e*Sg	**Sb**	**09 39 58.3 -0.8**
FUSE	**Fusea**	**0.65**	**24**		*e*Pg	**Pg**	**09 39 48.5 -1.2**
CSMI	**Casera Mimoias**	**0.69**	**2**		*e*Pg	**Pg**	**09 39 49.8 -0.8**
CSMI	**Casera Mimoias**	**0.69**	**2**		*e*Pg	**Pg**	**09 39 49.8 -0.8**
SABO	**M.te Sabotino**	**0.70**	**77**		Pg	**Pb**	**09 39 50.8 -0.3**
	384nm,0.2s						
SABO	**M.te Sabotino**	**0.70**	**77**	⇑	*e*Pg	**Pb**	**09 39 50.5 -0.6**
SABO					*e*Sg	**Sb**	**09 40 01.3 +0.6**
SABO	**M.te Sabotino**	**0.70**	**77**		Pg	**Pb**	**09 39 50.8 -0.3**
	384nm,0.2s						
PTCC	**Patocco-Chiusa**	**0.77**	**41**		Pg	**Pg**	**09 39 51.0 -1.1**
PTCC					Sg	**Sb**	**09 40 03.5 +0.7**
	123nm,0.3s						
PTCC	**Patocco-Chiusa**	**0.77**	**41**		Pg	**Pg**	**09 39 51.0 -1.1**
PTCC					Sg	**Sb**	**09 40 03.5 +0.7**
	123nm,0.3s						
ZOU	**Zoufplan**	**0.77**	**18**		*e*Pg	**Pg**	**09 39 51.8 -0.4**
FVI	**Forni Avoltri**	**0.78**	**8**		Pg	**Pb**	**09 39 52.3 -0.3**
	71µm,0.4s						
FVI	**Forni Avoltri**	**0.78**	**8**		Pg	**Pb**	**09 39 52.3 -0.3**
	71µm,0.4s						
DRE	**Drenchia**	**0.79**	**63**		*e*Pg	**Pb**	**09 39 52.4 -0.3**
DRE	**Drenchia**	**0.79**	**63**		*e*Pg	**Pb**	**09 39 52.4 -0.3**
TRI	**Trieste**	**0.81**	**98**		Pg	**Pg**	**09 39 52.2 -0.5**
	93nm,0.1s						
TRI	**Trieste**	**0.81**	**98**		*e*Pg	**Pg**	**09 39 52.3 -0.5**
TRI	**Trieste**	**0.81**	**98**		Pg	**Pg**	**09 39 52.2 -0.5**
	93nm,0.1s						
TEOL	**Teolo**	**0.81**	**236**	⇑	*e*Pg	**Pg**	**09 39 52.1 -0.7**
TEOL					*e*Sg	**Sb**	**09 40 04.4 +0.5**
TEOL	**Teolo**	**0.81**	**236**		*e*Pg	**Pg**	**09 39 52.1 -0.7**
TEOL					*e*Sg	**Sb**	**09 40 04.4 +0.5**
CADS	**Cadrg**	**0.88**	**62**		*i* Pg	**Pg**	**09 39 53.5 -0.5**
CADS					*i* Sg	**Sb**	**09 40 06.3 +0.6**
	comp=Z,288nm,0.2s						
CADS	**Cadrg**	**0.88**	**62**		*i* Pg	**Pg**	**09 39 53.5 -0.5**
CADS					*i* Sg	**Sb**	**09 40 06.3 +0.6**
	comp=Z,288nm,0.2s						
VOJS	**Vojsko**	**0.90**	**76**		*i* Pg	**Pg**	**09 39 54.1 -0.5**
VOJS	**Vojsko**	**0.90**	**76**		*i* Pg	**Pg**	**09 39 54.1 -0.5**
PANI	**Panarotta**	**0.93**	**285**		*e*Pg	**Pg**	**09 39 54.4 -0.7**
ABTA	**Abfaltersbach**	**0.93**	**355**		Pg	**Pb**	**09 39 55.2 +0.2**
	comp=Z,8.6nm,0.1s,SNR=14						
ACOM	**Acomizza, Ital**	**0.95**	**40**	⇑	Pg	**Pg**	**09 39 54.8 -0.7**
	comp=Z,310nm,0.2s						
ACOM	**Acomizza, Ital**	**0.95**	**40**		*e*Pg	**Pg**	**09 39 55.0 -0.5**
ACOM	**Acomizza, Ital**	**0.95**	**40**	⇑	Pg	**Pg**	**09 39 54.8 -0.7**
	comp=Z,310nm,0.2s						
DDS	**Dosso del Somm**	**1.00**	**274**		*e*Pg	**Pg**	**09 39 55.6 -0.9**
DDS	**Dosso del Somm**	**1.00**	**274**		*e*Pg	**Pg**	**09 39 55.6 -0.9**
MARN	**Marana (Italy)**	**1.01**	**260**		*e*Pg	**Pg**	**09 39 55.5 -1.0**
MARN	**Marana (Italy)**	**1.01**	**260**		*e*Pg	**Pg**	**09 39 55.5 -1.0**
MYKA	**Terra Mystica**	**1.07**	**41**		Pn	**Pn**	**09 39 57.5 -0.3**
	comp=Z,40nm,0.2s,SNR=45						
MYKA					Sn	**Sn**	**09 40 13.8 +1.2**
	comp=Z,48nm,0.2s						
KOSI	**Kohlern**	**1.08**	**307**		Pg	**Pg**	**09 39 57.4 -0.5**
KOSI					Sg	**Sb**	**09 40 12.2 +0.6**
	comp=Z,192nm,0.4s						
KOSI	**Kohlern**	**1.08**	**307**		Pg	**Pg**	**09 39 57.4 -0.5**
KOSI					Sg	**Sb**	**09 40 12.2 +0.6**
	comp=Z,192nm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.10**	**261**		Pg	**Pg**	**09 39 57.2 -1.1**
	comp=Z,383nm,0.2s						
ROVR	**Rover¯¤ Verone**	**1.10**	**261**		Pg	**Pg**	**09 39 57.2 -1.1**
	comp=Z,383nm,0.2s						
APPI	**Appiano**	**1.17**	**305**		Pg	**Pb**	**09 39 59.1 -0.1**
APPI					Sg	**Sn**	**09 40 15.3 +0.3**
	comp=Z,279nm,0.3s						
APPI	**Appiano**	**1.17**	**305**		Pg	**Pb**	**09 39 59.1 -0.1**
APPI					Sg	**Sn**	**09 40 15.3 +0.3**
	comp=Z,279nm,0.3s						
RISI	**Rein**	**1.19**	**342**		Pg	**Pn**	**09 39 59.8 +0.3**
	comp=Z,558nm,0.4s						
RISI	**Rein**	**1.19**	**342**		Pg	**Pn**	**09 39 59.8 +0.3**
	comp=Z,558nm,0.4s						
OZOL	**Ozolo**	**1.24**	**299**		*e*Pg	**Pn**	**09 40 00.2 +0.1**
OZOL	**Ozolo**	**1.24**	**299**		*e*Pg	**Pn**	**09 40 00.2 +0.1**
KNDS	**Knezji Dol**	**1.27**	**103**		*i* Pg	**Pn**	**09 40 00.3 -0.1**
KNDS					*i* Sg	**Sn**	**09 40 18.2 +0.8**
KNDS	**Knezji Dol**	**1.27**	**103**		*i* Pg	**Pn**	**09 40 00.3 -0.1**
KNDS					*i* Sg	**Sn**	**09 40 18.2 +0.8**
BALD	**Monte Baldo**	**1.27**	**264**		*e*Pg	**Pn**	**09 40 00.4 -0.3**
BALD	**Monte Baldo**	**1.27**	**264**		*e*Pg	**Pn**	**09 40 00.4 -0.3**
ABSI	**Aberstueckl**	**1.28**	**316**		Pg	**Pb**	**09 40 01.2 +0.1**
	comp=Z,291nm,0.2s						
ABSI	**Aberstueckl**	**1.28**	**316**		Pg	**Pb**	**09 40 01.2 +0.1**
	comp=Z,291nm,0.2s						
LJU	**Ljubljana**	**1.35**	**80**		*e*Pg	**Pg**	**09 40 02.3 -0.7**
LJU					*e*Sg	**Sg**	**09 40 21.0 +0.5**
KBA	**Koelnbreinsper**	**1.35**	**21**		Pg	**Pg**	**09 40 02.7 -0.4**
	comp=Z,25nm,0.3s,SNR=53						
KBA					Sg	**Sg**	**09 40 22.1 +1.4**
	comp=Z,44nm,0.2s						
ROSI	**Rosskopf**	**1.39**	**323**		Pg	**Pg**	**09 40 03.3 -0.5**
	comp=Z,293nm,0.4s						
ROSI	**Rosskopf**	**1.39**	**323**		Pg	**Pg**	**09 40 03.3 -0.5**
	comp=Z,293nm,0.4s						
MAGA	**Magasa**	**1.40**	**269**		Pg	**Pn**	**09 40 02.1 -0.2**
MAGA					Sg	**Sg**	**09 40 21.9 -0.2**
	comp=Z,548nm,0.4s						
MAGA	**Magasa**	**1.40**	**269**		Pg	**Pn**	**09 40 02.1 -0.2**
MAGA					Sg	**Sg**	**09 40 21.9 -0.2**
	comp=Z,548nm,0.4s						
RNI	**Roncone**	**1.41**	**277**		*e*Pg	**Pn**	**09 40 02.9 +0.4**
CARE	**Lago del Cares**	**1.47**	**295**		*e*Pg	**Pn**	**09 40 03.9 +0.4**
CARE	**Lago del Cares**	**1.47**	**295**		*e*Pg	**Pn**	**09 40 03.8 +0.4**
SALO	**Salr**	**1.48**	**263**		Pg	**Pn**	**09 40 03.4 0.0**
	comp=Z,335nm,0.7s						
SALO	**Salr**	**1.48**	**263**		Pg	**Pn**	**09 40 03.4 0.0**
	comp=Z,335nm,0.7s						
MABI	**Malga Bissina**	**1.49**	**280**		Pg	**Pn**	**09 40 04.2 +0.6**
MABI					Sg	**Sb**	**09 40 24.2 +0.7**
	comp=Z,133nm,0.3s						
MABI	**Malga Bissina**	**1.49**	**280**		Pg	**Pn**	**09 40 04.2 +0.6**
MABI					Sg	**Sb**	**09 40 24.2 +0.7**
	comp=Z,133nm,0.3s						
OBKA	**Obir**	**1.50**	**62**		Pg	**Pg**	**09 40 05.3 -0.7**
	comp=Z,3.2nm,0.1s,SNR=13						
OBKA					Sg	**Sg**	**09 40 26.1 +0.6**
	comp=Z,120nm,0.4s						
WTTA	**Wattenberg**	**1.59**	**335**		Pg	**Pg**	**09 40 06.9 -0.8**
	comp=Z,59nm,0.3s						
WTTA	**Wattenberg**	**1.59**	**335**		Pg	**Pg**	**09 40 07.0 -0.8**
	comp=Z,8.3nm,0.1s,SNR=19						
MOSI	**Grossmontoni**	**1.65**	**300**		Pg	**Pb**	**09 40 07.3 0.0**
	comp=Z,498nm,0.4s						
MOSI	**Grossmontoni**	**1.65**	**300**		Pg	**Pb**	**09 40 07.3 0.0**
	comp=Z,498nm,0.4s						
PDKS	**Podkum**	**1.67**	**81**		*i* Pg	**Pb**	**09 40 07.3 -0.4**
PDKS					*i* Sg	**Sg**	**09 40 30.6 -0.3**
PDKS	**Podkum**	**1.67**	**81**		*i* Pg	**Pb**	**09 40 07.3 -0.4**
PDKS					*i* Sg	**Sg**	**09 40 30.6 -0.3**
WATA	**Walderalm**	**1.68**	**335**		Pg	**Pg**	**09 40 08.6 -0.7**
	SNR=29						
BRMO	**Bormio**	**1.70**	**294**		Pg	**Pb**	**09 40 08.2 +0.1**
	comp=Z,95nm,0.3s						
BRMO	**Bormio**	**1.70**	**294**		Pg	**Pb**	**09 40 08.2 +0.1**
	comp=Z,95nm,0.3s						
FETA	**Feichten**	**1.78**	**313**		Pg	**Pb**	**09 40 09.8 +0.3**
	comp=Z,2.2nm,0.1s,SNR=34						
FETA					Sg	**Sg**	**09 40 34.3 +0.1**
	comp=Z,22nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**1.82**	**297**		Pg	**Pb**	**09 40 10.2 -0.2**
	comp=Z,86nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**1.82**	**297**		Pg	**Pb**	**09 40 10.2 -0.2**
	comp=Z,86nm,0.5s						
MOTA	**Moosalm**	**1.85**	**326**		Pg	**Pb**	**09 40 11.2 +0.4**
	comp=Z,11nm,0.2s,SNR=15						
SOKA	**Soboth**	**1.88**	**62**		Pn	**Pn**	**09 40 09.1 +0.2**
	comp=Z,1.1nm,0.2s						
SOKA					Sn	**Sb**	**09 40 34.0 -0.6**
	comp=Z,38nm,0.3s						
SFI	**Santa Sofia**	**2.00**	**196**		Pg	**Pn**	**09 40 09.2 -1.2**
	comp=Z,28nm,0.5s						
NVLJ	**Novalja**	**2.03**	**128**		*i* Pn	**Pn**	**09 40 11.0 +0.1**
NVLJ					Sn	**Sn**	**09 40 37.3 +1.3**
NVLJ	**Novalja**	**2.03**	**128**		*i* Pn	**Pn**	**09 40 10.9 +0.1**
NVLJ					Sn	**Sn**	**09 40 37.2 +1.3**
RETA	**Reutte**	**2.10**	**323**		Pn	**Pn**	**09 40 11.6 -0.3**
	comp=Z,0.2nm,0.1s,SNR=13						
ASQU	**Asqua**	**2.11**	**197**		Pg	**Pn**	**09 40 11.1 -0.9**
	comp=Z,29nm,0.4s						
MOA	**Molln**	**2.32**	**28**		Pn	**Pn**	**09 40 15.4 +0.5**
	comp=Z,2.0nm,0.2s						
MOA					Sg	**Sg**	**09 40 52.0 +0.4**
	comp=Z,7.7nm,0.3s						
ARSA	**Arzberg**	**2.46**	**53**		Pg	**Pg**	**09 40 22.9 -1.3**
	comp=Z,1.9nm,0.3s						
ARSA					Sg	**Sg**	**09 40 55.4 -0.7**
	comp=Z,5.1nm,0.2s						
UDBI	**Udbina**	**2.57**	**119**		*e*Pn	**Pn**	**09 40 18.5 +0.1**
UDBI					Sn	**Sn**	**09 40 50.3 +0.8**
UDBI	**Udbina**	**2.57**	**119**		*e*Pn	**Pn**	**09 40 18.5 +0.1**
UDBI					Sn	**Sn**	**09 40 50.3 +0.8**
CONA	**Conrad Observa**	**3.06**	**45**		Sn	**Sn**	**09 41 02.7 +1.1**
	comp=Z,1.2nm,0.2s						
KHC	**Kasperske Hory**	**3.37**	**11**		*e*PN	**Pn**	**09 40 30.9 +1.5**
KHC					*e*PG	**Pg**	**09 40 39.8 -1.9**
KHC					*e*SN	**Sn**	**09 41 12.6 +3.3**
KHC					*e*SG	**Sg**	**09 41 25.2 -0.2**
	comp=Z,9.1nm,0.4s						
KHC	**Kasperske Hory**	**3.37**	**11**		Pn	**Pn**	**09 40 30.9 +1.5**
	comp=Z,2.3nm,0.4s						
KHC	**Kasperske Hory**	**3.37**	**11**		Pg	**Pg**	**09 40 39.8 -1.9**
KHC					Sn	**Sn**	**09 41 12.6 +3.3**
KHC					Sg	**Sg**	**09 41 25.2 -0.2**
	comp=Z,9.1nm,0.4s						
GOPC	**GO Pecny, Ondr**	**4.35**	**19**		*e*SG	**Sg**	**09 41 54.3 -2.2**
	comp=Z,6.2nm,0.5s						
GOPC	**GO Pecny, Ondr**	**4.35**	**19**		Sg	**Sg**	**09 41 54.3 -2.2**
	comp=Z,6.2nm,0.5s						
PRU	**Pruhonice**	**4.36**	**16**		*e*SG	**Sg**	**09 41 55.0 -2.1**
	comp=Z,7.7nm,0.4s						
PRU	**Pruhonice**	**4.36**	**16**		Sg	**Sg**	**09 41 55.0 -2.1**
	comp=Z,7.7nm,0.4s						
NKC	**Novy Kostel**	**4.42**	**359**		*e*SG	**Sg**	**09 41 58.1 -0.7**
	comp=Z,9.1nm,0.4s						
NKC	**Novy Kostel**	**4.42**	**359**		Sg	**Sg**	**09 41 58.1 -0.7**
	comp=Z,9.1nm,0.4s						
DPC	**Dobruska-Polom**	**5.16**	**27**		*e*SG	**Sg**	**09 42 20.6 -2.1**
	comp=Z,4.1nm,0.6s						
DPC	**Dobruska-Polom**	**5.16**	**27**		Sg	**Sg**	**09 42 20.6 -2.1**
	comp=Z,4.1nm,0.6s						
CLL	**Colln**	**5.50**	**2**		*e*Sg	**Sg**	**09 42 34.0 +0.6**
	comp=Z,10.0nm,0.9s						

CSEM ***29*** *09:40:35.6, 42°.97N × 13°.02E, h15km, MD1.7/3*
ROM 29 09:40:35.6±0.2, 42°.97N×13°.02E, h15km±3km, Md1.7/3, Ml1.9/3, Error ellipse: s-maj=2.0km s-min=1.3km az=53.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.09**	**293**	Pg	Pg	09 40 39.2	+0.2
CESI				Sg	Sg	09 40 41.6	+0.5
CESI	**CESI - Serrava**	**0.09**	**293**	Pg	Pg	09 40 39.2	+0.2
CESI				Sg	Sg	09 40 41.6	+0.5
NRCA	**Norcia**	**0.15**	**153**	Pg	Pb	09 40 40.0	-0.2
NRCA				Sg	Sb	09 40 43.0	-0.2
	395nm,0.1s						
NRCA	**Norcia**	**0.15**	**153**	Pg	Pb	09 40 40.0	-0.2
NRCA				Sg	Sb	09 40 43.0	-0.2
	395nm,0.1s						
CING	**Cingoli**	**0.43**	**17**	Pg	Pg	09 40 44.1	-0.1
CING				Sg	Sb	09 40 51.2	+0.1
	25nm,0.5s						
CING	**Cingoli**	**0.43**	**17**	Pg	Pg	09 40 44.1	-0.1
CING				Sg	Sb	09 40 51.2	+0.1
	25nm,0.5s						

CSEM ***29*** *09:46:46.7, 37°.36N × 28°.06E, h10km, ML2.0*
ISK 29 09:46:46.7, 37°.36N×28°.06E, h10km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.28**	**141**	*e*Pg	Pg	09 46 52.6	+0.2
YER				*e*SG	Sg	09 46 57.4	+1.1
YER	**Yerkesik**	**0.28**	**141**	*e*Pg	Pg	09 46 52.6	+0.2
YER				*e*Sg	Sg	09 46 57.4	+1.1
AYDB	**Zeytinkoy-Aydi**	**0.60**	**347**	*e*PG	Pb	09 46 59.0	-0.4
AYDB	**Zeytinkoy-Aydi**	**0.60**	**347**	*e*Pg	Pb	09 46 59.1	-0.4
BODT	**Bodrum**	**0.67**	**244**	*e*PG	Pg	09 46 59.5	-0.2
BODT				*e*SG	Sb	09 47 10.2	+0.4
BODT	**Bodrum**	**0.67**	**244**	*e*Pg	Pg	09 46 59.5	-0.1
BODT				*e*Sg	Sb	09 47 10.2	+0.4
DALY	**Dalyan (Mu¯la**	**0.72**	**139**	*e*PG	Pb	09 47 01.8	+0.5
DALY	**Dalyan (Mu¯la**	**0.72**	**139**	*e*Pg	Pb	09 47 01.8	+0.5
IZM	**Izmir**	**1.22**	**329**	*e*PN	Pg	09 47 10.7	+0.6
IZM	**Izmir**	**1.22**	**329**	*e*Pn	Pg	09 47 10.7	+0.6
KULA	**Kula-Manisa**	**1.25**	**22**	*e*PN	Pb	09 47 10.5	+0.1
KULA	**Kula-Manisa**	**1.25**	**22**	*e*Pn	Pb	09 47 10.5	+0.1

DSN ***29*** *09:54:16.2±1.4, 28°.63N × 55°.71E, h15km, ML4.2, Error ellipse: s-maj=40.7km s-min=9.3km az=69.0*
IDC ***29*** *09:54:21.6±1.3, 27°.72N×54°.93E, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.7/53, mbtmp3.8/14, ML3.4/2, MS3.0/5, Ms1 3.0/5, ms1mx2.6/51, Error ellipse: s-maj=27.0km s-min=20.8km az=168.0*
TEH ***29*** *09:54:23.6, 27°.70N × 55°.01E, h21km, ML3.8*
ISCJB ***29*** *09:54:24.5±0.4, 27°.71N±0°.04×54°.91E±0°.05, h20km, mb3.7/12, MS3.0/4, Error ellipse: s-maj=7.0km s-min=4.2km az=145.2*
THR ***29*** *09:54:25.6±0.4, 27°.80N×55°.05E, h15km±12km, ML3.7*
CSEM ***29*** *09:54:26.4±0.3, 27°.71N×55°.04E, h15km, ML3.7, Error ellipse: s-maj=8.9km s-min=5.7km az=53.0*
ISC 29 09:54:24.7±0.6, 27°.59N±0°.04×54°.97E±0°.04, h20km, n76, σ1§66/76, mb3.8/12, MS2.9/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.08**	**100**	*e*Pg	**Pn**	**09 54 45.6**	**+0.7**
BNDS				AML	AML	09 55 05.0	
	comp=N,2µm,0.5s						
BNDS				AML	AML	09 55 08.4	
	comp=E,2µm,0.6s						
BNDS	**Bandar-Abbas**	**1.08**	**100**	*e*Pg	**Pn**	**09 54 45.6**	**+0.7**
GENO	**Geno**	**1.08**	**100**	*e*Pg	**Pn**	**09 54 45.3**	**+0.4**
GENO	**Geno**	**1.08**	**100**	*e*Pg	**Pn**	**09 54 45.3**	**+0.4**
IBND	**Bandar-abas**	**1.40**	**95**	*e*Pg	**Pb**	**09 54 50.8**	**+0.6**
IBND				*e*Sg	**Sb**	**09 55 10.8**	**+3.2**
IBND				*e*AMB	AMB	09 55 16.5	
	comp=Z,69µm,0.5s						
IBND	**Bandar-abas**	**1.40**	**95**	*e*Pg	**Pb**	**09 54 50.8**	**+0.6**
IBND				*e*Sg	**Sb**	**09 55 10.8**	**+3.2**
NIAN	**Nian**	**1.66**	**91**	*e*Pn	**Pn**	**09 54 53.6**	**+1.0**
NIAN	**Nian**	**1.66**	**91**	*e*Pn	**Pn**	**09 54 53.6**	**+1.0**
GHIR	**Ghir-Karzin**	**1.89**	**292**	*e*Pg	**Pb**	**09 55 00.2**	**+1.7**
GHIR				AML	AML	09 55 37.0	
	comp=E,369nm,0.6s						
GHIR	**Ghir-Karzin**	**1.89**	**292**	*e*Pg	**Pb**	**09 55 00.2**	**+1.7**
BANOM	**Banah**	**2.04**	**144**	*e*P	**Pb**	**09 55 00.3**	**-0.8**
	SNR=9.8						
BANOM				S	**Sb**	**09 55 33.7**	**+7.6**
BANOM	**Banah**	**2.04**	**144**	P	**Pb**	**09 55 00.3**	**-0.8**
	SNR=9.8						
ISRV	**Sarvestan**	**2.42**	**318**	*e*Pn	**Pn**	**09 55 05.2**	**+1.7**
ISRV				*e*AMB	AMB	09 56 16.7	
	comp=Z,5µm,0.6s						
ISRV	**Sarvestan**	**2.42**	**318**	*e*Pn	**Pn**	**09 55 05.2**	**+1.7**
NGRK	**Negar Kerman**	**2.57**	**37**	*e*Pn	**Pn**	**09 55 05.1**	**-0.4**
NGRK	**Negar Kerman**	**2.57**	**37**	*e*Pn	**Pn**	**09 55 05.1**	**-0.4**
NAZ	**Nazwa, Dubai**	**2.66**	**166**	P	**Pb**	**09 55 11.5**	**-0.2**
NAZ	**Nazwa, Dubai**	**2.66**	**166**	P	**Pb**	**09 55 11.5**	**-0.2**
UOSS	**Minazif**	**2.86**	**157**	P	**Pb**	**09 55 12.1**	**-2.9**
	SNR=9.3						
KRBR	**Kerman**	**2.86**	**33**	*e*Pn	**Pn**	**09 55 09.9**	**+0.5**
KRBR				AML	AML	09 55 56.9	
	comp=N,247nm,0.5s						
KRBR				AML	AML	09 56 05.7	
	comp=E,317nm,0.6s						
KRBR	**Kerman**	**2.86**	**33**	*e*Pn	**Pn**	**09 55 09.9**	**+0.5**
TVBK	**TV Kerman**	**2.86**	**33**	*e*Pn	**Pn**	**09 55 10.5**	**+1.0**
TVBK	**TV Kerman**	**2.86**	**33**	*e*Pn	**Pn**	**09 55 10.5**	**+1.0**
FAQ	**Al Faqa, Dubai**	**2.89**	**169**	P	**Pb**	**09 55 15.9**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.89**	**169**	P	**Pb**	**09 55 15.9**	**+0.4**
HATD	**Hatta, Dubai**	**2.94**	**159**	P	**Pb**	**09 55 14.7**	**-1.8**
HATD	**Hatta, Dubai**	**2.94**	**159**	P	**Pb**	**09 55 14.7**	**-1.8**
ASHO	**Ashiyiah**	**3.05**	**161**	*i* P	**Pb**	**09 55 15.7**	**-2.7**
	SNR=10						
ASHO	**Ashiyiah**	**3.05**	**161**	P	**Pb**	**09 55 15.7**	**-2.7**
	SNR=10						
KHGB	**Koh Gabri**	**3.08**	**25**	*e*Pn	**Pn**	**09 55 13.4**	**+1.0**
KHGB	**Koh Gabri**	**3.08**	**25**	*e*Pn	**Pn**	**09 55 13.4**	**+1.0**
CHMN	**Cheshme madani**	**3.20**	**44**	*e*Pn	**Pn**	**09 55 17.0**	**+2.8**
CHMN	**Cheshme madani**	**3.20**	**44**	*e*Pn	**Pn**	**09 55 17.0**	**+2.8**
IMEH	**Mehriz**	**3.80**	**355**	*e*Pn	**Pn**	**09 55 22.9**	**+0.5**
IMEH				*e*AMB	AMB	09 56 31.7	
	comp=Z,1µm,0.5s						
IMEH	**Mehriz**	**3.80**	**355**	*e*Pn	**Pn**	**09 55 22.9**	**+0.5**
IBAF	**Bafgh**	**4.02**	**7**	*e*Pn	**Pn**	**09 55 25.3**	**0.0**
IBAF				*e*AMB	AMB	09 56 46.2	
	comp=Z,791nm,0.4s						
IBAF	**Bafgh**	**4.02**	**7**	*e*Pn	**Pn**	**09 55 25.3**	**0.0**
ISAD	**Sadrabad**	**4.45**	**346**	*

FCH					IAML			09 58 39.7	
	comp=N,2µm,0.3s								
AUSP	**Uspallata**	**3.12**	**56**	*i* P		**Pn**		**09 58 24.5**	**+2.3**
AAGR	**Agrelo**	**3.16**	**74**	*i* P		**Pn**		**09 58 24.0**	**+1.5**
ARCO	**CERRO ARCO**	**3.16**	**69**	*i* P		**Pn**		**09 58 24.2**	**+1.7**
ARCO				*i* S		**Sg**		**09 59 13.7**	**-0.3**
ARCO					IAML			09 59 20.1	
	comp=Z,170nm,0.6s								
ASAL	**Salagasta**	**3.34**	**66**	*i* P		**Pn**		**09 58 26.5**	**+1.5**
ASAL				*i* S		**Sg**		**09 59 18.1**	**-1.5**
RTLS	**Leoncito**	**3.44**	**51**	*i* P		**Pn**		**09 59 29.2**	**+2.6**
RTLS				*i* S		**Sg**		**09 59 21.9**	**-1.1**
RTCV	**Cerro Valdivia**	**3.92**	**58**	*i* P		**Pn**		**09 58 35.0**	**+2.1**
RTLL	**Cerro Villicun**	**4.28**	**53**	*i* P		**Pn**		**09 58 40.3**	**+2.3**
RTLL				*i* S		**Sb**		**09 59 41.5**	**+1.7**
ACCO	**Cerro Coronel**	**4.45**	**41**	*i* P		**Pn**		**09 58 43.6**	**+3.1**
ACCO				*i* S		**Sb**		**09 59 46.5**	**+1.6**
AMOG	**MOGNA**	**4.53**	**49**	*i* P		**Pn**		**09 58 43.6**	**+2.2**
AROD	**Rodeo**	**4.58**	**34**	*i* P		**Pn**		**09 58 44.4**	**+2.1**
AROD				*i* S		**Sb**		**09 59 49.8**	**+1.0**
ACAN	**Cantantal**	**4.74**	**70**	*i* P		**Pn**		**09 58 46.0**	**+1.9**
ACAN				*i* S		**Sb**		**09 59 51.5**	**-1.4**
ACDV	**Cuesta del Vie**	**4.75**	**37**	*i* P		**Pn**		**09 58 47.2**	**+2.7**
AVFE	**Valle Fertil**	**5.38**	**53**	*i* P		**Pn**		**09 58 55.2**	**+2.1**
AVFE					IAML			10 00 14.1	
	comp=Z,64nm,0.8s								
AGUA	**GUANDACOL**	**5.62**	**38**	*i* P		**Pn**		**09 58 58.2**	**+1.8**
AGUA				*i* S		**Sb**		**10 00 13.0**	**-5.5**
MRA	**San Martin**	**5.86**	**76**	*i* P		**Pn**		**09 59 00.7**	**+1.0**
MRA					IAML			10 00 26.2	
	comp=Z,54nm,0.6s								
VCA	**Vinchina**	**6.38**	**36**	*i* P		**Pn**		**09 59 08.1**	**+1.2**
VCA					IAML			10 01 06.0	
	comp=Z,66nm,0.6s								
PLCA	**Paso Flores**	**6.88**	**168**	Pn		**Pn**		**09 59 15.4**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=1.4,slow=12,SNR=7.5								
PLCA				Lg		Lg		10 01 06.6	
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=1.8								
CPUP	**Villa Florida**	**15.14**	**64**	Pn		**Pn**		**10 01 07.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=246,slow=14,SNR=2.5								
LPAZ	**La Paz**	**18.06**	**13**	P		**Pn**		**10 01 43.3**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=190,slow=5.5,SNR=9.5								
SIV	**San Ignacio**	**20.66**	**33**	P		**P**		**10 02 11.1**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=223,slow=7.5,SNR=4.5								
TXAR	**Lajitas Array**	**69.57**	**331**	P		**P**		**10 08 42.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=157,slow=8.9,SNR=6.5								
MAW	**Mawson**	**73.27**	**164**	P		**P**		**10 09 03.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=239,slow=7.2,SNR=5.4								
TORD	**Torodi Ar. Bea**	**84.53**	**70**	P		**P**		**10 10 06.0**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=286,slow=6.8,SNR=10.0								
WRA	**Warramunga Arr**	**120.59**	**210**	PKP		**PKPdf**		**10 16 24.6**	**-0.8**
	comp=Z,0.5nm,1.1s,baz=166,slow=1.6,SNR=3.5								
BVAR	**Borovoye Array**	**147.51**	**43**	PKPbc		**PKPbc**		**10 17 17.4**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=306,slow=5.3,SNR=4.7								
KURBB	**Kurchatov Arra**	**153.10**	**43**	PKPbc		**PKPbc**		**10 17 30.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=295,slow=2.8,SNR=6.2								
ZALV	**Zalesovo Beam**	**154.41**	**32**	PKPbc		**PKPbc**		**10 17 32.7**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=319,slow=4.2,SNR=3.1								
MKAR	**Makanchi Array**	**157.02**	**49**	PKPab		**PKPab**		**10 17 58.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=285,slow=4.2,SNR=3.8								

NNC ***29*** *10:04:02.7±2.5,49.°70N×80.°95E,h0km,mb2.9,mpv2.6, Error ellipse: s-maj=43.6km s-min=9.9km az=51.0, Suspected Mining explosion.*

IDC ***29*** *10:04:04.8±1.1,49.°82N×80.°88E,h0km,mb1 2.7/2, mb1mx2.7/39,mbtmp2.7/2,ML2.2/2,Error ellipse: s-maj=18.2km s-min=8.8km az=55.0*

ISC 29 10:03:58.5±1.2,49.°90N±0.°05×81.°37E±0.°08,h0km,n8, σ0s80/10,4C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**1.94**	**296**	⇓Pn	**Pg**	**10 04 35.8**	**0.0**
	2.2nm,0.3s						
KURK				⇑Sn	**Sb**	**10 04 59.1**	**-0.4**
	15nm,0.5s						
KURBB	**Kurchatov Arra**	**1.96**	**293**	Pn	**Pg**	**10 04 36.0**	**0.0**
	0.4nm,0.3s,baz=114,slow=17,SNR=20						
KURBB				Lg	Lg	10 04 58.2	
	0.7nm,0.3s,baz=114,slow=32,SNR=23						
KURBB	**Kurchatov Arra**	**1.96**	**293**	⇓Pn	**Pg**	**10 04 36.1**	**0.0**
	1.5nm,0.3s						
KURBB				⇓Sn	**Sb**	**10 04 59.5**	**-0.5**
	33nm,0.7s						
MAKZ	**Makanchi**	**3.12**	**172**	⇑Pg	**Pb**	**10 04 54.5**	**-0.4**
	0.7nm,0.3s						
MAKZ				⇑Lg	Lg	10 05 39.2	
	3.3nm,0.6s						
MK31	**Makanchi Array**	**3.17**	**169**	⇑Pg	**Pg**	**10 04 58.2**	**-1.1**
	0.6nm,0.4s,baz=338,slow=14,SNR=16						
MK31				⇓Lg	Lg	10 05 41.9	
	1.4nm,0.5s,baz=347,slow=25,SNR=8.0						
MKAR	**Makanchi Array**	**3.17**	**169**	Pn	**Pb**	**10 04 57.1**	**+1.4**
	0.4nm,0.3s,baz=348,slow=14,SNR=11						
MKAR				Sn	**Sb**	**10 05 35.8**	**+0.9**
	0.4nm,0.3s,baz=343,slow=19,SNR=4.0						
MKAR				Lg	Lg	10 05 42.9	
	0.8nm,0.3s,baz=347,slow=25,SNR=4.6						
ZALV	**Zalesovo Beam**	**4.58**	**26**	Pn	**Pb**	**10 05 19.9**	**+0.2**
	0.4nm,0.3s,baz=219,slow=12,SNR=3.5						
ZALV				Lg	Lg	10 06 35.8	
	0.4nm,0.3s,baz=215,slow=24,SNR=3.8						
I46RU	**ZALESOVO INFRA**	**4.58**	**26**	*i*		10 36 04.0	
	baz=218,slow=312,SNR=2.0						

IDC 29 10:05:27.0±542.0,50.°87N×113.°06E,h0km,Error ellipse: s-maj=205.1km s-min=110.0km az=58.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**5.32**	**237**	*i*		10 39 40.0	
	baz=54,slow=320,SNR=5.9						
I45RU	**USSURIYSK INFR**	**14.40**	**110**	*i*		11 40 10.0	
	baz=306,slow=314,SNR=2.6						
I46RU	**ZALESOVO INFRA**	**17.45**	**291**	*i*		11 47 10.0	
	baz=88,slow=313,SNR=1.6						

SOME 29 10:05:46.2,46.°62N×79.°60E,h0km,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**1.34**	**187**	*e*P	Pg	10 06 11.5	-0.4
	1.0nm,0.3s						
KAPS				*e*S	Sb	10 06 30.1	0.0
	3.0nm,0.6s						
ARXS	**Arharly**	**2.71**	**208**	*e*P	Pg	10 06 36.9	-1.2
	1.6nm,0.3s						
ARXS				*e*S	Sg	10 07 13.2	0.0
	5.2nm,0.4s						

DDA ***29*** *10:18:48.9,37.°22N×28.°19E,h7km,Md2.8,Suspected Mining explosion.*

ISCJB ***29*** *10:18:49.4±0.5,37.°24N±0.°03×28.°21E±0.°03,h0km,Error ellipse: s-maj=4.5km s-min=3.7km az=8.9*

ISK ***29*** *10:18:49.3,37.°22N×28.°21E,h7km,ML2.6*

CSEM ***29*** *10:18:49.6±0.2,37.°24N×28.°21E,h1km,ML2.6,Error ellipse: s-maj=5.7km s-min=4.4km az=1.0, Suspected Mining explosion.*

ISC 29 10:18:49.1±0.8,37.°25N±0.°03×28.°14E±0.°03,h0km,n21, σ0s93/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.16**	**136**	*e*PG	**Pg**	**10 18 51.7**	**-0.4**
YER				*e*SG	**Sg**	**10 18 54.6**	**+0.4**
YER	**Yerkesik**	**0.16**	**136**	*e*Pg	**Pg**	**10 18 51.7**	**-0.4**
YER				*e*Sg	**Sg**	**10 18 54.6**	**+0.4**
TURN	**Turunc**	**0.53**	**136**	*i* P	**Pg**	**10 18 57.5**	**-1.7**
TURN				*i* S	**Sg**	**10 19 06.1**	**+0.1**
BDRM	**Kayabasi**	**0.59**	**252**	P	**Pg**	**10 19 00.8**	**+0.5**
BDRM				S	**Sb**	**10 19 10.3**	**-0.8**
BDRM	**Kayabasi**	**0.59**	**252**	*i* P	**Pg**	**10 19 00.8**	**+0.5**
BDRM				*i* S	**Sb**	**10 19 10.3**	**-0.8**
BODT	**Bodrum**	**0.69**	**254**	*e*PG	**Pb**	**10 19 03.7**	**-0.3**
BODT				*e*SG	**Sb**	**10 19 14.7**	**+0.6**
BODT	**Bodrum**	**0.69**	**254**	*e*Pg	**Pb**	**10 19 03.7**	**-0.3**
BODT				*e*Sg	**Sb**	**10 19 14.7**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**344**	*e*PG	**Pb**	**10 19 04.0**	**-0.4**
AYDB				*e*SG	**Sb**	**10 19 16.5**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**344**	*e*Pg	**Pb**	**10 19 04.3**	**-0.4**
AYDB				*e*Sg	**Sb**	**10 19 16.5**	**+1.3**
DNZL	**Cakiroluk**	**0.84**	**58**	P	**Pg**	**10 19 05.2**	**0.0**
DNZL				S	**Sg**	**10 19 15.6**	**-0.5**
DNZL	**Cakiroluk**	**0.84**	**58**	*i* P	**Pg**	**10 19 05.2**	**0.0**
DNZL				*i* S	**Sg**	**10 19 15.6**	**-0.5**
GLHS	**Glhisar (BURDU**	**1.09**	**95**	*e*PG	**Pg**	**10 19 09.6**	**-0.3**
GLHS	**Glhisar (BURDU**	**1.09**	**95**	*e*Pg	**Pg**	**10 19 09.6**	**-0.3**
GOLH	**Golhisar**	**1.13**	**90**	P	**Pg**	**10 19 09.8**	**-0.9**
GOLH	**Golhisar**	**1.13**	**90**	*i* P	**Pg**	**10 19 09.8**	**-0.9**
GOLH				*i* S	**Sn**	**10 19 29.3**	**+0.7**
KULA	**Kula-Manisa**	**1.33**	**18**	*e*PN	**Pb**	**10 19 14.8**	**-0.1**
KULA	**Kula-Manisa**	**1.33**	**18**	*e*Pn	**Pb**	**10 19 14.8**	**-0.1**
ELL	**Elmali**	**1.50**	**109**	*e*PN	**Pn**	**10 19 16.6**	**-0.7**
ELL	**Elmali**	**1.50**	**109**	*e*Pn	**Pn**	**10 19 16.6**	**-0.7**
AKAS	**Kas**	**1.55**	**130**	P	**Pg**	**10 19 19.2**	**+0.4**
AKAS	**Kas**	**1.55**	**130**	*i* P	**Pg**	**10 19 19.2**	**+0.4**
AKAS				*i* S	**Sb**	**10 19 42.5**	**+3.5**

ISK ***29*** *10:21:39.7,39.°12N×28.°99E,h5km,ML3.0*

DDA ***29*** *10:21:39.6,39.°15N×28.°99E,h7km,Ml3.2*

CSEM ***29*** *10:21:40.1±0.1,39.°13N×29.°00E,h0km±1km,ML3.2,Error ellipse: s-maj=1.8km s-min=1.3km az=8.0*

ISC 29 10:21:40.1±1.0,39.°15N±0.°02×28.°99E±0.°02,h7km±9km, n69,σ0s65/90,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**244**	P	**Pg**	**10 21 44.8**	**0.0**
DEMI				S	**Sg**	**10 21 48.0**	**0.0**
DEMI	**Demirci**	**0.23**	**244**	*i* P	**Pg**	**10 21 44.8**	**0.0**
DEMI				*i* S	**Sg**	**10 21 48.0**	**0.0**
GEDZ	**Gediz**	**0.34**	**107**	*e*PG	**Pg**	**10 21 46.7**	**-0.2**
GEDZ				*e*SG	**Sg**	**10 21 52.2**	**+0.8**
GEDZ	**Gediz**	**0.34**	**107**	*e*Pg	**Pg**	**10 21 46.7**	**-0.2**
GEDZ				*e*Sg	**Sg**	**10 21 52.2**	**+0.8**
GDZ	**Gediz**	**0.39**	**98**	P	**Pg**	**10 21 47.4**	**-0.3**
GDZ				S	**Sg**	**10 21 52.9**	**0.0**
GDZ	**Gediz**	**0.39**	**98**	*i* P	**Pg**	**10 21 47.4**	**-0.3**
GDZ				*i* S	**Sg**	**10 21 52.9**	**0.0**
TVSB	**Tavsanli**	**0.48**	**50**	*e*PG	**Pg**	**10 21 49.4**	**0.0**
TVSB				*e*SG	**Sg**	**10 21 56.2**	**+0.6**
TVSB	**Tavsanli**	**0.48**	**50**	*e*Pg	**Pg**	**10 21 49.4**	**0.0**
TVSB				*e*Sg	**Sg**	**10 21 56.2**	**+0.6**
KULA	**Kula-Manisa**	**0.68**	**202**	*e*PG	**Pg**	**10 21 52.7**	**-0.5**
KULA				*e*SG	**Sg**	**10 22 01.6**	**-0.5**
KULA	**Kula-Manisa**	**0.68**	**202**	*e*Pg	**Pg**	**10 21 52.7**	**-0.5**
KULA				*e*Sg	**Sg**	**10 22 01.6**	**-0.5**
KHL	**Karahalli**	**0.92**	**153**	*e*PG	**Pg**	**10 21 57.4**	**-0.4**
KHL	**Karahalli**	**0.92**	**153**	*e*Pg	**Pg**	**10 21 57.4**	**-0.4**
AKS	**Akhisar**	**0.95**	**254**	*e*PG	**Pb**	**10 21 58.6**	**-0.4**
AKS	**Akhisar**	**0.95**	**254**	*e*Pg	**Pb**	**10 21 58.6**	**-0.4**
BALB	**Balikesir**	**0.99**	**300**	*e*PG	**Pb**	**10 21 59.6**	**0.0**
BALB				*e*SG	**Sb**	**10 22 13.5**	**+0.6**
BALB	**Balikesir**	**0.99**	**300**	*e*Pg	**Pb**	**10 21 59.6**	**0.0**
BALB				*e*Sg	**Sb**	**10 22 13.5**	**+0.6**
IGD	**Bursa**	**1.13**	**8**	*i* P	**Pg**	**10 22 01.2**	**-0.6**
IGD				*i* S	**Sg**	**10 22 16.6**	**+0.1**
BALY	**Balya**	**1.21**	**300**	P	**Pn**	**10 22 03.6**	**0.0**
BALY				S	**Sb**	**10 22 19.3**	**-0.2**
BALY	**Balya**	**1.21**	**300**	*i* P	**Pn**	**10 22 03.6**	**0.0**
BALY				*i* S	**Sb**	**10 22 19.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.22**	**337**	*e*PN	**Pn**	**10 22 04.0**	**+0.3**
KCTX	**Karacabey (Bur**	**1.22**	**337**	*e*Pn	**Pn**	**10 22 04.0**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.22**	**356**	*e*PN	**Pn**	**10 22 04.1**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.22**	**356**	*e*Pn	**Pn**	**10 22 04.1**	**+0.4**
CAVI	**Cavuskoy**	**1.24**	**32**	*e*PN	**Pn**	**10 22 04.2**	**+0.2**
CAVI	**Cavuskoy**	**1.24**	**32**	*e*Pn	**Pn**	**10 22 04.2**	**+0.2**
IZI	**Iznik**	**1.25**	**17**	*e*PN	**Pn**	**10 22 04.6**	**+0.5**
IZI	**Iznik**	**1.25**	**17**	*e*Pn	**Pn**	**10 22 04.6**	**+0.5**
GONE	**Gonen-Balikesi**	**1.35**	**312**	*e*PN	**Pg**	**10 22 06.3**	**+0.3**
GONE	**Gonen-Balikesi**	**1.35**	**312**	*e*Pn	**Pg**	**10 22 06.3**	**+0.3**
BORA	**Eskisehir**	**1.35**	**57**	P	**Pn**	**10 22 05.4**	**-0.1**
BORA				S	**Sn**	**10 22 23.7**	**-0.1**
BORA	**Eskisehir**	**1.35**	**57**	*i* P	**Pn**	**10 22 05.4**	**-0.1**
BORA				*i* S	**Sn**	**10 22 23.7**	**-0.1**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*PN	**Pg**	**10 22 07.2**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**24**	*e*Pn	**Pg**	**10 22 07.2**	**0.0**
ARMT	**Armutlu**	**1.42**	**356**	*e*PN	**Pg**	**10 22 07.6**	**+0.2**
ARMT	**Armutlu**	**1.42**	**356**	*e*Pn	**Pg**	**10 22 07.6**	**+0.2**
DNZL	**Cakiroluk**	**1.46**	**178**	P	**Pg**	**10 22 07.8**	**-0.3**
DNZL				S	**Sg**	**10 22 27.9**	**+1.0**
DNZL	**Cakiroluk**	**1.46**	**178**	*i* P	**Pg**	**10 22 07.8**	**-0.3**
DNZL				*i* S	**Sg**	**10 22 27.9**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**216**	*e*PN	**Pb**	**10 22 07.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**216**	*e*Pn	**Pb**	**10 22 07.6**	**-0.4**
EDC	**Edincik**	**1.48**	**324**	*e*PN	**Pg**	**10 22 08.3**	**-0.2**
EDC	**Edincik**	**1.48**	**324**	*e*Pn	**Pg**	**10 22 08.3**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**75**	*e*PN	**Pb**	**10 22 08.1**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**75**	*e*Pn	**Pb**	**10 22 08.1**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**75**	*i* P	**Pb**	**10 22 07.8**	**-0.5**
ESKT				*i* S	**Sn**	**10 22 26.4**	**-0.9**
SEYT	**Eskypehyr**	**1.49**	**75**	P	**Pb**	**10 22 07.8**	**-0.5**
SEYT				S	**Sn**	**10 22 26.5**	**-0.9**
GULT	**Gulveren**	**1.74**	**42**	*e*PN	**Pb**	**10 22 11.8**	**-0.7**
GULT	**Gulveren**	**1.74**	**42**	*e*Pn	**Pb**	**10 22 11.9**	**-0.7**
KRBG	**Karabiga-Canak**	**1.80**	**314**	*e*PN	**Pb**	**10 22 12.8**	**-0.7**
KRBG	**Karabiga-Canak**	**1.80**	**314**	*e*Pn	**Pb**	**10 22 12.8**	**-0.7**
MRMT	**Marmara Adasi**	**1.81**	**324**	*e*PN	**Pb**	**10 22 13.0**	**-0.6**
MRMT	**Marmara Adasi**	**1.81**	**324**	*e*Pn	**Pb**	**10 22 13.0**	**-0.6**
ISK	**Istanbul-Kandi**	**1.92**	**2**	*e*PN	**Pb**	**10 22 14.6**	**-0.9**
ISK	**Istanbul-Kandi**	**1.92**	**2**	*e*Pn	**Pb**	**10 22 14.6**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.99**	**81**	*e*PN	**Pn**	**10 22 15.2**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.99**	**81**	*e*Pn	**Pn**	**10 22 15.2**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.08**	**318**	*e*PN	**Pb**	**10 22 16.7**	**-1.5**
RKY	**Sarkoy-Tekirda**	**2.08**	**318**	*e*Pn	**Pb**	**10 22 16.7**	**-1.5**
BCK	**Bucak**	**2.10**	**143**	*e*PN	**Pn**	**10 22 16.5**	**+0.6**
BCK	**Bucak**	**2.10**	**143**	*e*Pn	**Pn**	**10 22 16.5**	**+0.6**
KLYT	**Kilyos**	**2.10**	**1**	*e*PN	**Pn**	**10 22 17.1**	**+1.3**
KLYT	**Kilyos**	**2.10**	**1**	*e*Pn	**Pn**	**10 22 17.1**	**+1.3**
LPK	**Lapseki**	**2.11**	**306**	*e*PN	**Pn**	**10 22 17.1**	**+1.2**
LPK	**Lapseki**	**2.11**	**306**	*e*Pn	**Pn**	**10 22 17.1**	**+1.2**
CTKS	**Kestanelik-??a**	**2.12**	**350**	*e*PN	**Pb**	**10 22 17.5**	**-1.4**
CTKS	**Kestanelik-??a**	**2.12**	**350**	*e*Pn	**Pb**	**10 22 17.5**	**-1.4**
KIZT	**Kizilcal**	**2.27**	**96**	*e*PN	**Pn**	**10 22 19.1**	**+0.9**
KIZT	**Kizilcal**	**2.27**	**96**	*e*Pn	**Pn**	**10 22 19.1**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.31**	**304**	*e*PN	**Pn**	**10 22 19.9**	**+1.3**
GELI	**Tayfur-Gelibol**	**2.31**	**304**	*e*Pn	**Pn**	**10 22 19.9**	**+1.3**

ISCJB ***29*** *10:32:38.6±0.4,36.°21N±0.°03×137.°96E±0.°03,h10km, mb3.5/3,MS2.9/2,Error ellipse: s-maj=4.0km s-min=4.0km az=137.9*

JMA ***29*** *10:32:38.8,36.°19N×137.°95E,h4km±1km,M3.4 Broadband fault plane solution: P waves. NP1: φs244.00000°,δ74.00000°,λ143.00000°. NP2: φs345.00000°,δ55.00000°,λ20.00000°. Principal axes: T Plg37.0000°, Azm199.0000°; N Plg50.0000°, Azm43.0000°; P Plg12.0000°, Azm298.0000°;*

JMA Felt III J1.

IDC ***29*** *10:32:39.1±1.0,36.°22N×137.°94E,h0km,mb3.3/3, mb1 3.6/6,mb1mx3.4/52,mbtmp3.5/6,ML3.1/3,MS2.8/3, Ms1 2.8/3,ms1mx2.5/28 Error ellipse: s-maj=12.2km s-min=7.7km az=123.0*

ISC 29 10:32:40.0±0.8,36.°20N±0.°03×137.°99E±0.°03,h10km,n17, σ1s64/24,mb3.5/3,2C-3D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.23**	**24**	⇑P	**Pg**	**10 32 43.7**	**-1.1**
JNG				S	**Sg**	**10 32 47.5**	**-0.5**
JNT	**Takato**	**0.34**	**159**	⇑P	**Pg**	**10 32 45.6**	**-1.2**
JNT				S	**Sg**	**10 32 50.9**	**-0.5**
MAT	**Matsushiro**	**0.39**	**27**	P	**Pg**	**10 32 46.2**	**-1.5**
MAT				S	**Sg**	**10 32 52.1**	**-0.7**
MAT	**Matsushiro**	**0.39**	**27**	P	**Pg**	**10 32 46.4**	**-1.3**
MAT				S	**Sg**	**10 32 51.9**	**-0.9**
MJAR	**Matsushiro Arr**	**0.39**	**28**	Pg	**Pg**	**10 32 46.5**	**-1.1**
	146nm,0.3s,baz=220,slow=18,SNR=737						
MJAR				Lg	Lg	10 32 52.2	
	385nm,0.3s,baz=300,slow=32,SNR=79						
MJAR				LR	LR	10 33 15.5	
	comp=Z,392nm,22.0s,baz=220,slow=93						
JGN	**Niukaw**	**0.54**	**273**	⇓P	**Pg**	**10 32 48.5**	**-2.0**
JGN				S	**Sg**	**10 32 55.5**	**-2.2**
JTT	**Ttatey**	**0.67**	**308**	⇓P	**Pg**	**10 32 51.6**	**-1.3**
JRY	**Ryogami san**	**0.76**	**103**	⇓P	**Pg**	**10 32 53.1**	**-1.6**
JRY				S	**Sg**	**10 33 03.9**	**-0.8**
JYN	**Shimob**	**0.83**	**147**	P	**Pg**	**10 32 54.9**	**-1.1**
JYN				S	**Sg**	**10 33 06.8**	**0.0**
JHJ	**Hachijo jima 2**	**3.41**	**154**	Pn	**Pn**	**10 33 35.2**	**+2.0**
	6.3nm,0.3s,baz=322,slow=17,SNR=3.5						
JHJ				Sn	**Sb**	**10 34 17.8**	**-4.2**
	2.8nm,0.3s,baz=66,slow=20,SNR=2.4						
JNU	**Nakatsue**	**6.61**	**244**	Pn	**Pn**	**10 34 18.9**	**+1.7**
	0.3nm,0.3s,baz=92,slow=12,SNR=3.8						
JNU				Sn	**Sn**	**10 35 35.2**	**+2.5**
	0.0nm,0.3s,baz=21,slow=17,SNR=2.1						
KSRS	**Korea Array**	**8.17**	**282**	Pn	**Pn**	**10 34 39.4**	**+0.8**
	0.3nm,0.3s,baz=96,slow=14,SNR=3.2						
KSRS				LR	LR	10 37 30.7	
	comp=Z,53nm,21.0s,baz=133,slow=36						
PETK	**Petropavlovsk-**	**21.85**	**33**	LR	LR	10 46 31.9	
	comp=Z,23nm,19.3s,baz=248,slow=38						
ILAR	**Eielson Array**	**51.67**	**32**	P	**P**	**10 41 47.4**	**+0.7**
	0.8nm,1.1s,baz=268,slow=5.5,SNR=5.6						
ARU	**Arti**	**55.16**	**318**	LR	LR	11 06 25.7	
	comp=Z,15nm,18.6s,baz=343,slow=37						
WRA	**Warramunga Arr**	**55.94**	**184**	P	**P**	**10 42 18.4**	**+0.1**
	0.2nm,0.4s,baz=0.2,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**59.66**	**184**	P	**P**	**10 42 45.3**	**+0.8**
	0.3nm,0.9s,baz=4.5,slow=8.7,SNR=3.0						

IDC 29 10:35:50.7±549.0,50.°77N×112.°78E,h0km,Error ellipse: s-maj=209.3km s-min=110.2km az=57.0,Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**5.12**	**237**	*i*		11 07 30.0	
	baz=54,slow=316,SNR=6.4						
I45RU	**USSURIYSK INFR**	**14.53**	**109**	*i*		12 12 00.0	
	baz=306,slow=305,SNR=1.9						
I46RU	**ZALESOVO INFRA**	**17.32**	**291**	*i*		12 20 30.0	
	baz=86,slow=313,SNR=3.3						

NSSC ***29*** *10:41:27.4±1.3,36.°55N×36.°95E,h0km±9km,MD0.9,ML2.1*

DDA ***29*** *10:41:27.4,36.°45N×36.°99E,h7km,Md2.9,Suspected Mining explosion.*

ISCJB ***29*** *10:41:28.2±0.6,36.°50N±0.°02×36.°94E±0.°05,h0km,Error ellipse: s-maj=6.4km s-min=3.3km az=12.0*

ISC 29 10:41:27.7±0.9,36.°46N±0.°03×36.°91E±0.°06,h0km,n9, σ0s82/18,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRWC	**Darouich**	**0.25**	**310**	*e*P	**Pg**	**10 41 32.1**	**-0.4**
DRWC				*e*S	**Sg**	**10 41 36.7**	**+0.9**
DRWC				AML	AML	10 41 38.4	
	comp=N,308nm,0.3s						
DRWC				AML	AML	10 41 42.7	
	comp=E,195nm,0.3s						
KUZU	**Kuzuini**	**0.34**	**23**	*i* P	**Pg**	**10 41 33.7**	**-0.6**
KUZU				*i* S	**Sg**	**10 41 38.6**	**0.0**
BTCH	**Batrach**	**0.55**	**221**	*e*P	**Pb**	**10 41 40.1**	**-0.2**
BTCH				*e*S	**Sb**	**10 41 49.8**	**+1.0**
BTCH				AML	AML	10 41 56.1	
	comp=E,98nm,0.3s						
BTCH				AML	AML	10 41 56.2	
	comp=N,87nm,0.3s						
KAMA	**Osmaniye**	**0.75**	**345**	*i* P	**Pg**	**10 41 42.2**	**+0.2**
KAMA				*i* S	**Sb**	**

CPUP	**Villa Florida**	**27.34**	**139**	LR	LR	11 00 40.3	
	comp=Z,91nm,18.4s,baz=298,slow=42						
TXAR	**Lajitas Array**	**43.75**	**325**	P	**P**	**10 49 34.4**	**-0.3**
	0.4nm,0.7s,baz=147,slow=9.7,SNR=7.1						
BINY	**Binghamton**	**48.18**	**1**	*e*P	**P**	**10 50 10.7**	**+1.4**
	13nm,0.9s						
ANMO	**Albuquerque**	**49.55**	**328**	*e*P	**P**	**10 50 20.4**	**+0.3**
	2.7nm,0.9s						
SDCO	**Great Sand Dun**	**51.23**	**331**	*e*P	**P**	**10 50 33.5**	**+0.5**
	4.0nm,1.0s						
X16A	**Lo Mia Camp, P**	**51.96**	**323**	*e*P	**P**	**10 50 39.1**	**+0.7**
	2.5nm,0.8s						
WUAZ	**Wupatki**	**52.69**	**324**	*e*P	**P**	**10 50 44.5**	**+0.8**
	6.6nm,1.0s						
LMN	**Caledonia Moun**	**52.93**	**11**	*e*P	**P**	**10 50 46.2**	**+1.1**
	7.8nm,0.9s						
CCUT	**Cedar City**	**55.26**	**325**	*e*P	**P**	**10 51 03.4**	**+0.9**
	1.9nm,0.9s						
AGMN	**Agassiz Nation**	**56.79**	**345**	*e*P	**P**	**10 51 12.5**	**-0.4**
	7.1nm,1.0s						
PDAR	**Pinedale Array**	**57.09**	**332**	P	**P**	**10 51 14.5**	**-1.0**
	0.5nm,0.6s,baz=148,slow=10,SNR=2.9						
PDAR				PcP	**PcP**	**10 52 09.7**	**-0.4**
	1.1nm,0.7s,baz=161,slow=5.7,SNR=5.7						
HWUT	**Hardware Ranch**	**57.19**	**329**	*e*P	**P**	**10 51 15.9**	**-0.3**
	4.1nm,0.8s						
ULM	**Lac du Bonnet**	**58.60**	**346**	P	**P**	**10 51 24.1**	**-1.5**
	3.8nm,0.8s,baz=135,slow=7.6,SNR=3.7						
BOZ	**Bozeman (W)**	**60.25**	**333**	*e*P	**P**	**10 51 37.5**	**+0.1**
	5.6nm,1.1s						
MFID	**Camas Ranch**	**60.68**	**328**	*e*P	**P**	**10 51 40.8**	**+0.5**
	4.9nm,0.8s						
MSO	**Missoula**	**62.20**	**332**	*e*P	**P**	**10 51 50.9**	**+0.5**
	4.8nm,1.0s						
K05A	**Summer Lake**	**63.00**	**325**	*e*P	**P**	**10 51 56.7**	**+0.7**
	5.3nm,0.9s						
DBIC	**Dimbokro**	**72.97**	**81**	LR	LR	11 23 39.4	
	comp=Z,74nm,18.8s,baz=195,slow=35						
YKA	**Yellowknife Ar**	**74.35**	**343**	P	**P**	**10 53 05.4**	**-0.6**
	0.8nm,0.7s,baz=151,slow=5.2,SNR=4.5						
CRAG	**Craig**	**76.94**	**331**	*e*P	**P**	**10 53 17.3**	**-3.7**
	111nm,1.6s						
TOA0	**Torodi Ar. Sit**	**80.33**	**76**	*e*P	**P**	**10 53 41.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**80.33**	**76**	P	**P**	**10 53 41.5**	**+0.9**
	2.2nm,0.7s,baz=287,slow=5.7,SNR=14						
IL1	**Eielson Array**	**87.22**	**336**	*e*P	**P**	**10 54 14.2**	**-0.6**
ILAR	**Eielson Array**	**87.22**	**336**	P	**P**	**10 54 13.9**	**-0.8**
	1.2nm,0.8s,baz=122,slow=3.5,SNR=13						
MDM	**Murphy Dome**	**87.83**	**336**	*e*P	**P**	**10 54 17.9**	**+0.2**
	6.4nm,1.0s						
KTH	**Kantishna Hill**	**88.50**	**334**	*e*P	**P**	**10 54 21.4**	**+0.4**
	7.7nm,0.9s						
BPAW	**Bear Paw Mtn.**	**88.69**	**335**	*e*P	**P**	**10 54 21.3**	**-0.5**
	6.0nm,0.9s						
MLY	**Manley**	**88.86**	**336**	*e*P	**P**	**10 54 22.7**	**+0.1**
	4.6nm,0.9s						
CAST	**Castle Rocks**	**88.96**	**334**	*e*P	**P**	**10 54 22.7**	**-0.4**
	8.7nm,0.9s						
SYO	**Syowa Base**	**93.40**	**161**	*e*P	**P**	**10 54 41.6**	**-2.0**
BVAR	**Borovoye Array**	**126.20**	**24**	PKP	**PKPdf**	**11 00 31.3**	**+0.3**
	0.6nm,0.6s,baz=306,slow=3.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**130.13**	**14**	PKP	**PKPdf**	**11 00 38.9**	**+0.4**
	1.1nm,0.5s,baz=327,slow=2.5,SNR=7.0						
KURK	**Kurchatov**	**131.14**	**21**	PKP	**PKPdf**	**11 00 41.4**	**+0.9**
KURBB	**Kurchatov Arra**	**131.19**	**21**	PKP	**PKPdf**	**11 00 41.4**	**+0.8**
	1.5nm,0.8s,baz=322,slow=2.6,SNR=8.3						
MKAR	**Makanchi Array**	**135.76**	**21**	PKP	**PKPdf**	**11 00 49.7**	**+0.3**
	0.9nm,0.8s,baz=312,slow=6.4,SNR=6.0						
KSH	**Kashi**	**138.79**	**32**	*e*PKP	**PKPdf**	**11 00 51.8**	**-3.5**
KSH				PP	**PP**	**11 03 46.8**	**+0.6**
KSH				SKS	SKSdf	11 07 51.0	-12
KSH				PPMZ			
	100nm,4.9s						
KSH				LN			
	68nm,5.6s						
KSH				LE			
	83nm,4.7s						
WMQ	**Urumqi**	**140.15**	**18**	PKP	**PKPdf**	**11 00 56.0**	**-1.6**
HHC	**Hu-ho-hao-te**	**144.69**	**349**	*e*PKP	**PKPdf**	**11 01 08.5**	**+2.7**
GTA	**Gaotai**	**146.81**	**5**	*e*PKPbc	**PKPbc**	**11 01 11.3**	**0.0**
GTA				pPKP	pPKPdf	11 01 23.0	+0.5
LZH	**Lanzhou**	**150.26**	**359**	*e*PKPbc	**PKPdf**	**11 01 13.8**	**-1.5**
LZH				pPKP	pPKPdf	11 01 33.8	+5.6
LZH				sPKP		11 01 42.5	
LZH				LN			
	130nm,18.0s						
LZH				LE			
	130nm,17.9s						
LZH				LZ			
	170nm,20.1s						

*IDC **29** 10:45:43.5±1.9,5.°02S×101.°76E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/41, mbtmp4.1/9, Error ellipse: s-maj=66.3km s-min=18.7km az=55.0*
*DJA **29** 10:45:57.2±0.7,5.°S±6.°×10.°3E±.°, h79km±11km, M4.3/7, MLv4.3/7*

ISC 29 10:45:49.5±1.1,**4.°9S**±0.°1×**102.°0E**±0.°1,**h36**km,**n25,** σ1=**44**/20,**mb3.8/9,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.12**	**59**	P	**Pn**	**10 46 10.7**	**+2.0**
KSI	**Kapahiang**	**1.41**	**25**	P	Pn	10 46 16.3	+3.5
LHSI	**Lahat**	**1.89**	**54**	P	**Pn**	**10 46 21.8**	**+2.6**
LWLI	**Liwa**	**2.06**	**92**	P	**Pn**	**10 46 22.3**	**+0.5**
KASI	**Kota Agung**	**2.56**	**103**	P	**Pn**	**10 46 29.7**	**+1.2**
KLSI		**2.74**	**85**	P	**Pn**	**10 46 29.7**	**-1.3**
PPSI	**Pulau Pagai**	**2.93**	**317**	P	Pn	10 46 46.3	+13
PDSI	**Padang**	**4.28**	**339**	P	**Pn**	**10 46 52.7**	**+0.5**
PPBI	**Pangkal Pinang**	**4.97**	**56**	P	**Pn**	**10 46 58.4**	**-3.3**
SKJI	**Sukabumi**	**4.98**	**115**	P	**Pn**	**10 47 00.7**	**-1.2**
DBJI	**Dramaga**	**5.00**	**109**	P	**Pn**	**10 47 03.5**	**+1.4**
DSRI	**Dabo**	**5.13**	**30**	P	**Pn**	**10 47 04.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**23.44**	**353**	P	**P**	**10 50 54.1**	**-1.6**
	1.3nm,0.4s,baz=185,slow=7.6,SNR=3.0						
H08S2	**Diego Garcia H**	**29.44**	**263**	T	T	11 22 19.2	
	baz=86,slow=75,SNR=39						
H08S3	**Diego Garcia H**	**29.45**	**263**	T	T	11 22 20.6	
	baz=86,slow=75,SNR=41						
H08S1	**Diego Carcia H**	**29.46**	**263**	T	T	11 22 21.3	
	baz=86,slow=75,SNR=24						
WRA	**Warramunga Arr**	**34.83**	**118**	P	**P**	**10 52 37.3**	**-0.1**
	1.1nm,0.8s,baz=291,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**35.95**	**124**	P	**P**	**10 52 47.2**	**+0.3**
	0.5nm,0.4s,baz=300,slow=8.0,SNR=19						
KSRS	**Korea Array**	**48.60**	**28**	P	**P**	**10 54 30.4**	**+0.7**
	0.5nm,0.6s,baz=211,slow=7.4,SNR=3.5						
SONM	**Songino Array**	**52.69**	**4**	P	**P**	**10 55 01.7**	**+1.1**
	3.2nm,0.6s,baz=182,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**54.38**	**343**	P	**P**	**10 55 12.3**	**-0.5**
	1.8nm,0.7s,baz=141,slow=8.4,SNR=14						
USRK	**Ussuriysk Ar.**	**55.86**	**26**	P	**P**	**10 55 23.5**	**0.0**
	4.1nm,0.9s,baz=224,slow=4.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**60.42**	**348**	P	**P**	**10 55 54.0**	**-1.2**
	3.3nm,0.5s,baz=178,slow=5.4,SNR=13						
BVAR	**Borovoye Array**	**63.61**	**339**	P	**P**	**10 56 16.4**	**-0.3**
	0.5nm,0.6s,baz=157,slow=7.8,SNR=3.7						
TXAR	**Lajitas Array**	**145.68**	**42**	PKPbc	**PKPbc**	**11 05 25.9**	**+0.6**
	1.0nm,0.8s,baz=301,slow=1.4,SNR=14						

IDC 29 10:54:22.3±1.4,**3.°68S**×**151.°69E, h0**km,**mb3.7**/6, **mb1 3.9**/6,**mb1mx3.6**/34,**mbtmp3.7**/6,**MS3.1**/1,**Ms1 3.3**/1, **ms1mx2.7**/17,**Error ellipse: s-maj=64.7km s-min=22.9km az=118.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.40**	**225**	P	P	10 59 33.5	+0.4
	1.6nm,0.9s,baz=49,slow=10,SNR=9.7						
ASAR	**Alice Springs**	**26.27**	**219**	P	P	11 00 00.4	+0.8
	0.3nm,0.9s,baz=52,slow=11,SNR=2.7						
FITZ	**Fitzroy Crossi**	**29.26**	**239**	P	P	11 00 25.6	-0.7
	3.2nm,1.2s,baz=68,slow=11,SNR=2.6						
STKA	**Stephens Creek**	**29.61**	**198**	P	P	11 00 28.9	-0.4
	1.1nm,0.8s,baz=4.8,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**56.40**	**295**	LR	LR	11 27 57.0	
	comp=Z,15nm,19.4s,baz=175,slow=36						
ILAR	**Eielson Array**	**81.55**	**22**	P	P	11 06 41.2	-0.4
	0.2nm,0.7s,baz=238,slow=5.2,SNR=4.1						
BVAR	**Borovoye Array**	**87.68**	**323**	P	P	11 07 13.4	+0.6
	0.9nm,0.7s,baz=102,slow=6.6,SNR=4.8						

*IDC **29** 10:54:55.8±2.0,3.°96S×152.°38E, h0km, mb4.0/8,*

mb1 4.2/8, mb1mx3.8/34, mbtmp4.0/8, MS3.0/1, Ms1 3.0/1, ms1mx2.5/17, Error ellipse: s-maj=64.1km s-min=23.3km az=117.0
*ISCJB **29** 10:54:59.7±1.7,4.°0S±0.°2×152.°3E±0.°3, h33km, mb3.8/8, Error ellipse: s-maj=55.1km s-min=19.1km az=26.3*

ISC 29 10:55:01.2±2.0,**4.°0S**±0.°3×**152.°4E**±0.°4,**h35**km,**n9,** σ0=**58**/8, **mb3.8/8,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.45**	**224**	LR	LR	10 58 45.2	
	comp=Z,103nm,20.2s,baz=24,slow=31						
WRA	**Warramunga Arr**	**23.65**	**226**	P	**P**	**11 00 08.8**	**-0.8**
	4.7nm,0.9s,baz=46,slow=9.1,SNR=8.9						
ASAR	**Alice Springs**	**26.45**	**221**	P	**P**	**11 00 35.8**	**+0.6**
	1.7nm,0.9s,baz=62,slow=8.5,SNR=5.5						
FITZ	**Fitzroy Crossi**	**29.66**	**240**	P	**P**	**11 01 03.9**	**+0.1**
	1.2nm,0.8s,baz=41,slow=9.3,SNR=2.6						
CMAR	**Chiang Mai Arr**	**57.13**	**295**	P	**P**	**11 04 45.3**	**+0.4**
	0.9nm,0.4s,baz=108,slow=5.5,SNR=6.3						
MKAR	**Makanchi Array**	**79.43**	**319**	P	**P**	**11 07 04.1**	**0.0**
	0.6nm,0.8s,baz=102,slow=6.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**80.24**	**326**	P	**P**	**11 07 08.0**	**-0.2**
	0.5nm,0.3s,baz=120,slow=8.5,SNR=4.0						
ILAR	**Eielson Array**	**81.59**	**22**	P	**P**	**11 07 15.3**	**+0.2**
	0.5nm,0.7s,baz=251,slow=5.7,SNR=4.5						
BVAR	**Borovoye Array**	**88.34**	**323**	P	**P**	**11 07 48.7**	**-0.6**
	1.6nm,0.7s,baz=104,slow=6.1,SNR=7.6						

IDC 29 11:06:53.2±1.1,**75.°01N**×**133.°38E, h0**km,**mb3.6**/5, **mb1 3.8**/6,**mb1mx3.5**/45,**mbtmp3.6**/6,**ML5.4**/1,**Error ellipse: s-maj=42.2km s-min=16.6km az=135.0,Laptev Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIXI	**Tiksi**	**3.62**	**203**	Pn	Pn	11 07 49.9	-0.5
	1.2nm,0.3s,baz=9.5,slow=6.1,SNR=6.9						
TIXI				Sn	Sn	11 08 30.8	-3.0
	2.9nm,0.3s,baz=329,slow=22,SNR=7.7						
TIXI				Lg	Lg	11 08 48.4	
	3.2nm,0.3s,baz=286,slow=20,SNR=10						
ILAR	**Eielson Array**	**26.84**	**69**	P	P	11 12 35.1	+0.4
	0.6nm,0.7s,baz=321,slow=8.5,SNR=10						
ZALV	**Zalesovo Beam**	**28.29**	**249**	P	P	11 12 47.1	-0.6
	0.5nm,0.4s,baz=38,slow=7.3,SNR=2.2						
SONM	**Songino Array**	**29.57**	**218**	P	P	11 13 00.2	+0.8
	1.2nm,0.8s,baz=3.7,slow=8.5,SNR=5.5						
MKAR	**Makanchi Array**	**35.53**	**247**	P	P	11 13 51.9	+0.5
	0.5nm,0.5s,baz=23,slow=7.8,SNR=3.8						
TXAR	**Lajitas Array**	**69.69**	**51**	P	P	11 18 03.8	-0.6
	0.3nm,0.8s,baz=356,slow=2.7,SNR=3.8						

SJA 29 11:08:17.0±0.3,**29.°48S**×**70.°00W, h102**km±7km,**ML2.5, MW3.6,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AROD	**Rodeo**	**0.83**	**147**	*i* P	Pn	11 08 37.5	+1.3
ACDV	**Cuesta del Vie**	**1.03**	**133**	*i* P	Pn	11 08 39.2	+1.1
ACDV				*i* S	Sn	11 08 55.6	+1.6
AGUA	**GUANDACOL**	**1.31**	**91**	*i* P	Pn	11 08 42.3	+1.1
AGUA				*i* S	Sn	11 09 00.9	+1.3
ACCO	**Cerro Coronel**	**1.37**	**144**	*i* P	Pn	11 08 43.7	+1.5
ACCO				*i* S	Sn	11 09 03.4	+2.2
VCA	**Vinchina**	**1.73**	**65**	*i* P	Pn	11 08 47.5	+1.1
VCA				IAML		11 09 17.9	
	comp=Z,35nm,0.3s						

IDC 29 11:08:30.1±2.2,**1.°91N**×**126.°82E, h0**km,**mb3.3**/3, **mb1 3.5**/3,**mb1mx3.3**/31,**mbtmp3.4**/3,**Error ellipse: s-maj=180.8km s-min=25.1km az=66.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.93**	**162**	P	P	11 13 34.3	-1.7
	0.3nm,0.4s,baz=340,slow=11,SNR=13						
ASAR	**Alice Springs**	**26.34**	**165**	P	P	11 14 09.4	+1.4
	0.2nm,0.7s,baz=347,slow=8.1,SNR=3.0						
MKAR	**Makanchi Array**	**59.10**	**326**	P	P	11 18 32.3	-0.1
	0.6nm,0.4s,baz=111,slow=7.9,SNR=6.4						

*ISK **29** 11:13:01.8, 37.°14N×28.°66E, h5km, ML2.2*
*ISCJB **29** 11:13:03.9±0.6, 37.°13N±0.°04×28.°54E±0.°04, h0km, Error ellipse: s-maj=6.1km s-min=4.2km az=28.5*
*DDA **29** 11:13:03.5, 37.°07N×28.°53E, h7km, Md2.7, Suspected Mining explosion.*
*CSEM **29** 11:13:03.3±0.4, 37.°12N×28.°57E, h1km, ML2.2, Error ellipse: s-maj=8.9km s-min=6.6km az=32.0, Suspected Mining explosion.*

ISC 29 11:13:03.3±0.9,**37.°14N**±0.°03×**28.°63E**±0.°04,**h0**km,**n15,** σ0=**83**/27,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.27**	**184**	*i* P	**Pb**	**11 13 09.9**	**-1.0**
TURN				*i* S	**Sb**	**11 13 16.3**	**+0.3**
YER	**Yerkesik**	**0.28**	**269**	*e*PG	**Pg**	**11 13 08.3**	**-0.3**
YER				*e*SG	**Sg**	**11 13 12.7**	**+0.5**
YER	**Yerkesik**	**0.28**	**269**	*e*Pg	**Pg**	**11 13 08.3**	**-0.3**
YER				*e*Sg	**Sg**	**11 13 12.7**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.32**	**176**	*e*PG	**Pg**	**11 13 08.6**	**-0.8**
DALY				*e*SG	**Sg**	**11 13 13.7**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.32**	**176**	*e*Pg	**Pg**	**11 13 08.6**	**-0.8**
DALY				*e*Sg	**Sg**	**11 13 13.7**	**+0.1**
DNZL	**Cakiroluk**	**0.64**	**31**	P	**Pb**	**11 13 17.1**	**-0.4**
DNZL	**Cakiroluk**	**0.64**	**31**	*i* P	**Pb**	**11 13 17.1**	**-0.4**
DNZL				*i* S	**Sn**	**11 13 29.7**	**-1.2**
BDRM	**Kayabasi**	**0.95**	**266**	P	**Pg**	**11 13 20.5**	**-1.0**
BDRM				S	**Sg**	**11 13 34.2**	**+0.4**
BDRM	**Kayabasi**	**0.95**	**266**	*i* P	**Pg**	**11 13 20.5**	**-1.0**
BDRM				*i* S	**Sg**	**11 13 34.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**324**	*e*PG	**Pg**	**11 13 22.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**324**	*e*Pg	**Pg**	**11 13 22.2**	**-0.2**
BODT	**Bodrum**	**1.06**	**266**	*e*PN	**Pg**	**11 13 22.8**	**-0.8**
BODT				*e*SN	**Sb**	**11 13 39.3**	**+0.4**
BODT	**Bodrum**	**1.06**	**266**	*e*Pn	**Pg**	**11 13 22.8**	**-0.8**
BODT				*e*Sn	**Sb**	**11 13 39.3**	**+0.4**
AKAS	**Kas**	**1.20**	**139**	P	**Pn**	**11 13 27.6**	**+0.2**
AKAS				S	**Sn**	**11 13 46.4**	**+1.9**
AKAS	**Kas**	**1.20**	**139**	*i* P	**Pn**	**11 13 27.6**	**+0.2**
AKAS				*i* S	**Sn**	**11 13 46.4**	**+1.9**

*ISK **29** 11:15:49.0, 37.°56N×36.°60E, h5km, ML2.5*
*ISCJB **29** 11:15:50.4±0.6, 37.°56N±0.°03×36.°58E±0.°04, h4km±6km, Error ellipse: s-maj=5.0km s-min=4.3km az=161.2*
*DDA **29** 11:15:50.1, 37.°52N×36.°64E, h7km, Md2.6*
*CSEM **29** 11:15:50.2±0.2, 37.°57N×36.°55E, h5km, ML2.5, Error ellipse: s-maj=6.1km s-min=5.1km az=29.0*

ISC 29 11:15:49.4±1.3,**37.°56N**±0.°02×**36.°60E**±0.°02,**h1**km±11km, **n28,** σ1=**54**/42,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMRS	**Kahramanmaras**	**0.25**	**102**	*e*PG	**Pg**	**11 15 54.7**	**+0.6**
KMRS				*e*SG	**Sg**	**11 15 59.2**	**+1.9**
KMRS	**Kahramanmaras**	**0.25**	**102**	*e*Pg	**Pg**	**11 15 54.7**	**+0.6**
KMRS				*e*Sg	**Sg**	**11 15 59.2**	**+1.9**
KAMA	**Osmaniye**	**0.38**	**171**	*i* P	**Pb**	**11 15 57.6**	**-1.3**
KAMA				*i* S	**Sb**	**11 16 03.4**	**-1.9**
KOZT	**Kozan**	**0.61**	**263**	*e*PG	**Pb**	**11 16 01.8**	**-1.2**
KOZT				*e*SG	**Sb**	**11 16 12.2**	**+0.1**
KOZT	**Kozan**	**0.61**	**263**	*e*Pg	**Pb**	**11 16 01.8**	**-1.2**
GAZ	**Gaziantep**	**0.62**	**128**	*e*PG	**Pb**	**11 16 03.0**	**-0.1**
GAZ	**Gaziantep**	**0.62**	**128**	*e*Pg	**Pb**	**11 16 03.0**	**-0.1**
SARI	**SarD1z-Kayseri**	**0.86**	**351**	*e*PG	**Pb**	**11 16 06.5**	**-0.8**
SARI				*e*SG	**Sb**	**11 16 19.5**	**+0.1**
KUZU	**Kuzuini**	**0.87**	**154**	P	**Pn**	**11 16 09.0**	**+0.1**
KUZU				S	**Sn**	**11 16 22.7**	**+0.4**
KUZU	**Kuzuini**	**0.87**	**154**	*i* P	**Pn**	**11 16 09.0**	**+0.1**
KUZU				*i* S	**Sn**	**11 16 22.7**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**1.11**	**299**	P	**Pg**	**11 16 09.7**	**-1.0**
YAHY	**KAYSERI_Yahyal**	**1.11**	**299**	*i* P	**Pg**	**11 16 09.7**	**-1.0**
YAHY				*i* S	**Sn**	**11 16 35.5**	**+7.1**
PINB	**Pinarbasi**	**1.13**	**352**	P	**Pn**	**11 16 12.5**	**-0.1**
PINB				S	**Sn**	**11 16 28.8**	**-0.1**
PINB	**Pinarbasi**	**1.13**	**352**	*i* P	**Pn**	**11 16 12.5**	**-0.1**
PINB				*i* S	**Sn**	**11 16 28.8**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.22**	**196**	*e*PN	**Pn**	**11 16 13.3**	**-0.4**
TAHT				*e*SN	**Sn**	**11 16 31.1**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.22**	**196**	*e*Pn	**Pn**	**11 16 13.3**	**-0.4**
TAHT				*e*Sn	**Sn**	**11 16 31.1**	**+0.2**
DARE	**Darende-Malaty**	**1.23**	**34**	*e*PN	**Pn**	**11 16 13.8**	**-0.1**
DARE	**Darende-Malaty**	**1.23**	**34**	*e*Pn	**Pn**	**11 16 13.8**	**-0.1**
AKCD	**Akcadag**	**1.28**	**55**	P	**Pn**	**11 16 13.8**	**-0.8**
AKCD				S	**Sn**	**11 16 33.2**	**+0.6**
AKCD	**Akcadag**	**1.28**	**55**	*i* P	**Pn**	**11 16 13.8**	**-0.8**
AKCD				*i* S	**Sn**	**11 16 33.1**	**+0.6**
BNN	**Bunyan**	**1.42**	**336**	*e*PN	**Pg**	**11 16 17.0**	**+0.4**
BNN	**Bunyan**	**1.42**	**336**	*e*Pn	**Pg**	**11 16 17.0**	**+0.4**
NIG	**Nigde**	**1.67**	**290**	*e*PN	**Pb**	**11 16 20.1**	**-0.9**
NIG	**Nigde**	**1.67**	**290**	*e*Pn	**Pb**	**11 16 20.1**	**-0.9**
URFA	**Urfa**	**1.77**	**93**	*e*PN	**Pb**	**11 16 22.2**	**-0.6**
URFA	**Urfa**	**1.77**	**93**	*e*Pn	**Pb**	**11 16 22.2**	**-0.6**
PTK	**Pertek**	**2.58**	**58**	*e*PN	**Pb**	**11 16 33.7**	**-2.8**
PTK	**Pertek**	**2.58**	**58**	*e*Pn	**Pb**	**11 16 33.7**	**-2.8**

*ISK **29** 11:18:47.7, 40.°55N×37.°29E, h5km, ML2.6*
*ISCJB **29** 11:18:49.3±0.8, 40.°53N±0.°06×37.°30E±0.°06, h6km±9km, Error ellipse: s-maj=11.3km s-min=5.2km az=28.9*
*CSEM **29** 11:18:49.2±0.3, 40.°52N×37.°31E, h8km, ML2.6, Error ellipse: s-maj=7.7km s-min=5.6km az=11.0*
*DDA **29** 11:18:49.0, 40.°53N×37.°34E, h7km, Md2.8*

ISC 29 11:18:49.3±1.1,**40.°52N**±0.°04×**37.°31E**±0.°03,**h6**km±9km, **n18,** σ0=**70**/30,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.12**	**174**	*e*PG	**Pg**	**11 18 51.3**	**-0.6**
RSDY				*e*SG	**Sg**	**11 18 54.3**	**+0.7**
RSDY	**Resadiye-TOKAT**	**0.12**	**174**	*e*Pg	**Pg**	**11 18 51.3**	**-0.6**
RSDY				*e*Sg	**Sg**	**11 18 54.3**	**+0.7**
ERBA	**Erbaa**	**0.45**	**291**	P	**Pg**	**11 18 58.3**	**+0.3**
ERBA				S	**Sb**	**11 19 05.4**	**-1.3**
ERBA	**Erbaa**	**0.45**	**291**	*i* P	**Pg**	**11 18 58.3**	**+0.3**
ERBA				*i* S	**Sb**	**11 19 05.4**	**-1.3**
CUZAR	**Zara_SIVAS**	**0.72**	**151**	P	**Pg**	**11 19 02.2**	**-1.0**
CUZAR				S	**Sb**	**11 19 14.3**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.72**	**151**	*i* P	**Pg**	**11 19 02.2**	**-1.0**
CUZAR				*i* S	**Sb**	**11 19 14.3**	**-0.3**
SUSE	**Susehri**	**0.75**	**114**	P	**Pg**	**11 19 04.0**	**+0.3**
SUSE				S	**Sb**	**11 19 16.3**	**+0.9**
SUSE	**Susehri**	**0.75**	**114**	*i* P	**Pg**	**11 19 04.0**	**+0.3**
SUSE				*i* S	**Sb**	**11 19 16.3**	**+0.9**
GRSN	**GIRESUNGRSN**	**0.83**	**61**	P	**Pg**	**11 19 05.1**	**-0.2**
GRSN	**GIRESUNGRSN**	**0.83**	**61**	*i* P	**Pg**	**11 19 05.1**	**-0.2**
ESPY	**Espiye-Giresun**	**1.15**	**69**	*e*PN	**Pg**	**11 19 10.1**	**-1.2**
ESPY				*e*SN	**Sn**	**11 19 28.6**	**+0.6**
ESPY	**Espiye-Giresun**	**1.15**	**69**	*e*Pn	**Pg**	**11 19 10.1**	**-1.2**
ESPY				*e*Sn	**Sn**	**11 19 28.6**	**+0.6**
KELT	**Kelkit**	**1.53**	**103**	P	**Pn**	**11 19 17.1**	**-0.3**
KELT				S	**Sg**	**11 19 38.7**	**+0.2**
KELT	**Kelkit**	**1.53**	**103**	*i* P	**Pn**	**11 19 17.1**	**-0.3**
KELT				*i* S	**Sg**	**11 19 38.7**	**+0.2**
GUMT	**Gumushane**	**1.66**	**91**	*e*PN	**Pn**	**11 19 18.9**	**-0.1**
GUMT	**Gumushane**	**1.66**	**91**	*e*Pn	**Pn**	**11 19 18.9**	**-0.1**
YOZ	**Yozgat**	**1.76**	**241**	*e*PN	**Pn**	**11 19 20.8**	**+0.3**
YOZ	**Yozgat**	**1.76**	**241**	*e*Pn	**Pn**	**11 19 20.8**	**+0.3**

SJA 29 11:28:52.9±0.3,**31.°33S**×**68.°68W, h106**km±1km,**ML1.6, MW3.5,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.18**	**90**	*i* P	Pn	11 29 08.4	+0.6
AMOG	**MOGNA**	**0.42**	**23**	*i* P	Pn	11 29 09.

KDI	Kendari	10.51	58	P		Pn	11 38 21.9	-0.7	
PCI	Palu	10.64	35	P		Pn	11 38 25.9	+1.5	
KSI	Kapahiang	12.57	298	P		Pn	11 38 51.1	+0.2	
MBWA	Marble Bar	12.79	154	*e*Pn		Pn	11 38 49.8	-4.0	
MBWA				*e*Sn		Sn	11 40 54.9	-21	
DSRI	Dabo	12.90	315	P		Pn	11 38 56.8	+1.4	
MRSI	Marisa	13.00	39	P		Pn	11 38 58.5	+1.8	
TPRI	Tanjung Pinang	13.96	319	P		Pn	11 39 11.5	+1.7	
FITZ	Fitzroy Crossi	14.27	127	Pn		Pn	11 39 09.8	-4.3	
	0.8nm,0.3s,baz=312,slow=6.7,SNR=24								
FITZ				Sn		Sn	11 41 36.7	-15	
	1.3nm,0.3s,baz=0.0,slow=19,SNR=6.9								
FITZ				LR		LR	11 45 33.6		
	comp=Z,126nm,18.8s,baz=284,slow=41								
FITZ	Fitzroy Crossi	14.27	127	*e*Pn		Pn	11 39 06.8	-7.2	
FITZ				*e*Sn		Sn	11 41 33.1	-18	
FITZ				Sn		Sn	11 41 36.7	-15	
SANI	Sanana	14.36	59	P		Pn	11 39 16.6	+1.2	
MTN	Manton Dam	17.36	102	*e*Pn		Pn	11 39 53.2	-1.1	
	34nm,0.6s								
SWI	Sorong	19.53	64	P		P	11 40 19.5	+0.2	
FAKI	Fak Fak	19.60	71	P		P	11 40 20.2	+0.2	
FAKI	Fak Fak	19.60	71	*e*P		P	11 40 18.2	-1.8	
	70nm,0.6s								
DAV	Davao City (W)	20.41	36	LR		LR	11 49 09.2		
	comp=Z,113nm,21.9s,baz=328,slow=40								
WRA	Warramunga Arr	22.36	119	P		P	11 40 49.9	-0.1	
	4.0nm,0.3s,baz=295,slow=12,SNR=87								
WRA				PcP		PcP	11 44 45.4	+0.6	
	2.4nm,0.6s,baz=303,slow=1.8,SNR=8.7								
WRA				LR		LR	11 49 52.4		
	comp=Z,246nm,21.1s,baz=235,slow=38								
WRAB	Tennant Creek	22.37	119	*e*P		P	11 40 50.5	+0.5	
	13nm,0.8s								
WB2	Warramunga Arr	22.37	119	*e*P		P	11 40 49.8	-0.3	
	12nm,0.8s								
NWAO	Narrogin (SRO)	23.36	173	P		P	11 41 01.6	+1.5	
	2.8nm,0.6s,baz=276,slow=13,SNR=3.1								
AS31	Alice Springs	23.77	128	*e*P		P	11 41 04.8	+0.6	
	2.8nm,0.6s								
ASAR	Alice Springs	23.77	128	P		P	11 41 04.6	+0.4	
	3.7nm,0.3s,baz=303,slow=9.6,SNR=66								
ASAR				PcP		PcP	11 44 48.2	+0.5	
	1.7nm,0.5s,baz=304,slow=1.8,SNR=10								
ASAR				S		S	11 45 24.8	+6.5	
	1.9nm,0.8s,baz=296,slow=22,SNR=6.8								
AS01	Alice Springs	23.80	128	*e*P		P	11 41 04.6	+0.1	
GENI	Genyem	27.21	77	P		P	11 41 35.5	0.0	
UTTA	Uttaradit	30.20	334	P		P	11 42 02.9	+0.8	
CMAR	Chiang Mai Arr	31.54	332	P		P	11 42 13.8	-0.1	
	5.1nm,0.8s,baz=165,slow=8.4,SNR=29								
CMAR				PcP		PcP	11 45 07.3	+0.8	
	1.1nm,0.6s,baz=183,slow=2.2,SNR=5.9								
STKA	Stephens Creek	33.97	135	P		P	11 42 36.0	+0.9	
	5.2nm,0.6s,baz=313,slow=9.8,SNR=15								
STKA	Stephens Creek	33.97	135	*e*P		P	11 42 35.9	+0.8	
	1.6nm,0.8s								
KMI	Kunming	36.22	343	P		P	11 42 55.8	+1.1	
KMI				pP		pP	11 43 03.0	+0.5	
KMI				pmax		pmax			
	comp=Z,11nm,0.8s								
H08S2	Diego Garcia H	40.79	270	T		T	12 26 28.4		
	baz=96,slow=75,SNR=16								
H08S3	Diego Garcia H	40.80	270	T		T	12 26 25.7		
	baz=96,slow=75,SNR=15								
H08S1	Diego Carcia H	40.81	269	T		T	12 26 28.7		
	baz=96,slow=75,SNR=20								
HYB	Hyderabad	43.97	308	*i* P		P	11 43 58.0	-1.0	
GUN	Gumba	46.08	325	*e*P		P	11 44 15.6	-0.4	
DMN	Daman	46.29	324	*e*P		P	11 44 16.2	-1.4	
	comp=Z,19nm,0.5s								
KKN	Kakani	46.33	324	*e*P		P	11 44 16.6	-1.2	
LZH	Lanzhou	46.47	349	*e*P		P	11 44 21.8	+3.1	
LZH				pP		sP	11 44 32.5	+2.7	
LZH				sP		pP	11 44 36.5	+10	
LZH				*e*PP		PP	11 46 12.0	+3.7	
LZH				pmax		pmax			
	comp=Z,18nm,1.3s								
LZH				pmax		pmax			
	comp=Z,45nm,6.4s								
LZH				LR		LR			
	comp=N,130nm,14.2s								
LZH				LR		LR			
	comp=E,150nm,14.5s								
LZH				LR		LR			
	comp=Z,180nm,17.8s								
GKN	Gorkha	46.86	324	*e*P		P	11 44 20.3	-1.6	
KOLN	Koldanda	47.30	323	*e*P		P	11 44 23.4	-2.0	
	comp=Z,30nm,0.5s								
PYUN	Piuthan	47.90	323	*e*P		P	11 44 28.3	-1.8	
	comp=Z,13nm,0.5s								
KSRS	Korea Array	48.75	15	LR		LR	12 07 26.8		
	comp=Z,17nm,18.5s,baz=185,slow=39								
BJI	Beijing	49.53	2	P		P	11 44 41.0	-1.0	
BJI				pmax		pmax			
	comp=Z,8.0nm,0.7s								
BJI				pmax		pmax			
	comp=Z,94nm,3.7s								
HHC	Hu-ho-hao-te	50.32	358	*e*P		P	11 44 50.0	+1.8	
HHC				pmax		pmax			
	comp=Z,35nm,1.0s								
HHC				pmax		pmax			
	comp=Z,120nm,5.1s								
GTA	Gaotai	50.53	346	*e*P		P	11 44 51.3	+1.4	
GTA				pP		pP	11 44 54.8	-3.1	
GTA				sP		sP	11 44 58.0	-3.0	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
MJAR	Matsushiro Arr	51.43	25	LR		LR	12 05 39.5		
	comp=Z,22nm,21.1s,baz=190,slow=35								
DZM	Mont Dzumac	51.95	110	LR		LR	12 09 03.5		
	comp=Z,97nm,18.2s,baz=214,slow=38								
USRK	Ussuriysk Ar.	56.13	16	P		P	11 45 28.7	-2.1	
	comp=Z,4.9nm,1.0s,baz=191,slow=5.6,SNR=5.9								
SONM	Songino Array	57.63	354	P		P	11 45 40.4	-1.2	
	comp=Z,4.7nm,0.6s,baz=176,slow=8.9,SNR=24								
SONM				LR		LR	12 11 56.9		
	comp=Z,36nm,19.5s,baz=182,slow=38								
WMQ	Urumqi	58.27	338	P		P	11 45 47.3	+1.3	
WMQ				pP		sP	11 45 57.3	+0.1	
WMQ				sP		pP	11 46 01.3	+7.2	
WMQ				pmax		pmax			
	comp=Z,5.0nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,5.0nm,3.9s								
RPZ	Rata Peaks	59.94	135	LR		LR	12 13 49.9		
	comp=Z,92nm,18.0s,baz=236,slow=38								
KSH	Kashi	60.19	327	P		P	11 46 05.0	+5.5	
KSH				pP		sP	11 46 25.0	+14	
KSH				PcP		PcP	11 46 47.8	+2.9	
KSH				PP		PP	11 48 19.5	+6.9	
KSH				S		S	11 54 12.3	+0.5	
KSH				ScS		SKKSac	11 55 46.0	-2.5	
KSH	Kashi	60.19	327	SS		SS	11 58 14.0	+4.4	
KSH				pmax		pmax			
	comp=Z,3.0nm,0.3s								
KSH				pmax		pmax			
	comp=Z,87nm,3.7s								
KSH				LR		LR			
	comp=N,170nm,6.9s								
KSH				LR		LR			
	comp=E,140nm,8.0s								
MKAR	Makanchi Array	62.84	336	P		P	11 46 15.7	-1.4	
	comp=E,1.7nm,0.3s,baz=150,slow=7.0,SNR=35								
URZ	Urewera	63.21	128	LR		LR	12 16 33.3		
	comp=E,103nm,18.0s,baz=248,slow=39								
MAW	Mawson	66.86	199	P		P	11 46 44.0	+1.0	
	comp=E,6.0nm,1.0s,baz=39,slow=7.2,SNR=7.1								
ZALV	Zalesovo Beam	67.95	342	P		P	11 46 47.8	-2.2	
	comp=E,1.8nm,0.5s,baz=157,slow=5.3,SNR=8.4								
GEYT	Alibeck	70.24	316	P		P	11 47 04.1	-0.6	
	comp=E,3.0nm,0.4s,baz=140,slow=4.7,SNR=5.3								
SYO	Syowa Base	75.34	201	*e*P		P	11 47 33.4	-0.9	
SYO	Syowa Base	75.34	201	*e*pP		pP	11 47 48.4	+5.8	
KMBO	Kilima Mbogo	76.47	271	P		P	11 47 41.1	-1.0	
	comp=E,1.8nm,0.6s,baz=40,slow=8.7,SNR=4.7								
AKTO	Aktyubinsk	76.89	327	LR		LR	12 27 11.1		
	comp=E,19nm,19.4s,slow=40								
ARU	Arti	79.98	332	LR		LR	12 26 52.8		
	comp=E,36nm,18.1s,baz=152,slow=38								
MATP	Matopo	82.24	251	P		P	11 48 13.5	+0.1	
	comp=E,3.9nm,0.6s,baz=106,slow=4.8,SNR=9.8								
BOSA	Boshof	84.09	242	P		P	11 48 23.8	+0.9	
	comp=E,3.1nm,0.7s,baz=95,slow=2.9,SNR=5.7								
BOSA				LR		LR	12 20 04.1		
	comp=E,72nm,18.5s,baz=171,slow=32								
ASF	Jabal al Asfar	84.14	304	LR		LR	12 28 06.2		
	comp=E,109nm,21.0s,slow=37								
LBTB	Lobatse	84.28	246	P		P	11 48 25.0	+1.1	
	comp=E,3.2nm,0.8s,baz=144,slow=5.6,SNR=5.5								
BRTR	Keskin Array B	88.59	311	P		P	11 48 44.0	-0.6	
	comp=E,1.3nm,0.7s,baz=131,slow=5.6,SNR=6.5								
PPT	Papeete	93.42	108	LR		LR	12 33 06.6		
	comp=E,29nm,18.8s,baz=192,slow=37								
FINES	FINESS Array B	97.30	331	P		P	11 49 23.4	-0.7	
	comp=E,0.7nm,0.6s,baz=152,slow=6.3,SNR=2.9								
FINES				LR		LR	12 37 21.2		
	comp=E,23nm,20.6s,baz=330,slow=38								
ILAR	Eielson Array	102.71	26	PKKPbc		PKKPbc	12 05 47.7	-2.1	
	comp=E,0.3nm,0.6s,baz=106,slow=1.9,SNR=5.3								
TORD	Torodi Ar. Bea	113.45	280	PKiKP		PKiKP	11 54 29.5	-0.8	
	comp=E,0.5nm,0.4s,baz=53,slow=1.6,SNR=5.4								
YKA	Yellowknife Ar	116.90	23	PKP		PKPdf	11 54 35.3	-0.3	
	comp=E,0.8nm,0.6s,baz=303,slow=1.9,SNR=5.6								
TXAR	Lajitas Array	139.95	55	PKhKP		PKPpre	11 55 13.2		
	comp=E,0.1nm,0.4s,baz=238,slow=4.3,SNR=4.2								
TXAR				PKP		PKPdf	11 55 18.4	-2.0	
	comp=E,0.2nm,0.5s,baz=224,slow=1.0,SNR=3.9								
CPUP	Villa Florida	143.16	193	PKhKP		PKPpre	11 55 21.1		
	comp=E,1.2nm,0.5s,baz=159,slow=4.7,SNR=4.1								
LPAZ	La Paz	154.13	176	PKPab		PKPab	11 56 06.9	+0.6	
	comp=E,2.2nm,0.6s,baz=161,slow=3.7,SNR=8.2								

MEX 29 11:36:33.5±0.3, 17.74N×100.89W, h49km±8km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.57	257	*e*P		Pn	11 36 44.0	-1.5
ZIIG				*e*S		Sn	11 36 52.2	-1.9
ARIG	Puente Sto Nin	0.75	43	*e*P		Pn	11 36 46.2	-1.7
ARIG				*e*S		Sn	11 36 56.3	-1.9
CAIG	El Cayaco	0.90	139	*e*P		Pn	11 36 48.4	-1.5
CAIG				*e*S		Sn	11 36 59.9	-2.1
MEIG	Mezcala	1.22	81	*e*P		Pn	11 36 59.9	+5.6
TLIG	Tlapa	2.22	94	*e*P		Pn	11 37 06.8	-1.2

MEX 29 11:36:36.4±1.0, 16.26N×95.86W, h16km±720km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.55	206	*e*P		Pg	11 36 45.4	-1.9
HUIG				*e*S		Sg	11 36 52.7	-1.9
VHO	Vista Hermosa	1.16	314	*e*P		Pn	11 36 54.4	-3.9
VHO				*e*S		Sb	11 37 08.5	-4.7

DDA ***29*** *11:40:47.9, 39.12N×29.00E, h9km, Ml4.0*
IDC ***29*** *11:40:48.5±1.3, 39.17N×29.11E, h0km, mb3.6/4, mb1 3.5/6, mb1mx3.4/30, mbtmp3.5/6, ML3.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/39, Error ellipse: s-maj=24.1km s-min=16.3km az=171.0*
ISCJB ***29*** *11:40:48.4±0.4, 39.12N±0.01×29.01E±0.02, h6km±3km, mb3.6/4, MS2.8/1, Error ellipse: s-maj=2.5km s-min=2.3km az=10.0*
CSEM ***29*** *11:40:48.8±0.1, 39.10N×29.02E, h5km, ML4.0, Error ellipse: s-maj=1.9km s-min=1.7km az=37.0*
ISK ***29*** *11:40:48.0, 39.13N×29.02E, h4km, ML4.0*
THE ***29*** *11:40:49.2, 39.07N×29.01E, h4km±2km, ML3.8/5, Error ellipse: s-maj=2.5km s-min=0.9km az=147.0*

ISC 29 11:40:48.9±1.0, 39.13N±0.02×29.00E±0.01, h4km±8km, n220,σ095/280, mb3.5/4, 21C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DEMI	Demirci	0.24	247	P		Pg	11 40 53.6	0.0
DEMI				S		Sg	11 40 56.9	+0.2
DEMI	Demirci	0.24	247	↓*i*P		Pg	11 40 53.6	0.0
DEMI				*i* S		Sg	11 40 56.9	+0.2
GEDZ	Gediz	0.33	105	PG		Pg	11 40 54.8	-0.6
GEDZ				*e*SG		Sg	11 40 59.7	-0.1
GEDZ	Gediz	0.33	105	*i* Pg		Pg	11 40 54.8	-0.6
GEDZ				*e*Sg		Sg	11 40 59.7	-0.1
GDZ	Gediz	0.38	97	P		Pg	11 40 55.8	-0.5
GDZ				S		Sg	11 41 01.0	-0.2
GDZ	Gediz	0.38	97	↓*i*P		Pg	11 40 55.8	-0.5
GDZ				*i* S		Sg	11 41 01.1	-0.2
TVSB	Tavsanli	0.48	49	*e*PG		Pg	11 40 57.8	-0.3
TVSB				*e*SG		Sg	11 41 04.7	+0.3
TVSB	Tavsanli	0.48	49	*e*Pg		Pg	11 40 57.8	-0.3
TVSB				*e*Sg		Sg	11 41 04.7	+0.3
KULA	Kula-Manisa	0.67	203	*e*PG		Pg	11 41 01.1	-0.7
KULA	Kula-Manisa	0.67	203	P		Pg	11 41 01.0	-0.8
KULA				S		Sg	11 41 09.7	-0.9
KULA	Kula-Manisa	0.67	203	*e*Pg		Pg	11 41 01.0	-0.7
KULA				S		Sg	11 41 09.7	-0.9
KHL	Karahalli	0.91	153	*e*PG		Pg	11 41 05.8	-0.6
KHL	Karahalli	0.91	153	*e*Pg		Pg	11 41 05.8	-0.6
BALB	Balikesir	1.00	301	*e*PG		Pg	11 41 08.2	+0.1
BALB				*e*SG		Sb	11 41 23.2	+0.9
BALB	Balikesir	1.00	301	*e*Pg		Pg	11 41 08.2	+0.1
BALB				*e*Sg		Sb	11 41 23.2	+0.9
IGD	Bursa	1.14	8	↑*i*P		Pg	11 41 08.8	-2.0
IGD				*i* S		Sb	11 41 26.1	-0.2
BALY	Balya	1.23	300	P		Pg	11 41 12.3	-0.1
BALY				S		Sg	11 41 28.6	+0.2
BALY	Balya	1.23	300	↓*i*P		Pg	11 41 12.3	-0.1
BALY				*i* S		Sg	11 41 28.6	+0.2
KCTX	Karacabey (Bur	1.23	337	*e*PN		Pg	11 41 12.5	-0.1
KCTX	Karacabey (Bur	1.23	337	*e*Pn		Pg	11 41 12.5	-0.1
MDNY	Mudanya-Bursa	1.24	356	*e*PN		Pg	11 41 12.1	-0.5
MDNY	Mudanya-Bursa	1.24	356	*e*Pn		Pg	11 41 12.1	-0.5
CAVI	Cavuskoy	1.25	31	*e*PN		Pg	11 41 12.0	-0.9
CAVI	Cavuskoy	1.25	31	*e*Pn		Pg	11 41 12.0	-0.9
IZI	Iznik	1.26	17	*e*PN		Pg	11 41 12.8	-0.2
IZI	Iznik	1.26	17	*e*Pn		Pg	11 41 12.8	-0.2
GEMT	Gemlik	1.31	6	*e*PN		Pn	11 41 13.8	-0.1
GEMT	Gemlik	1.31	6	*e*Pn		Pn	11 41 13.8	-0.1
GONE	Gonen-Balikesi	1.36	312	*e*PN		Pn	11 41 14.6	-0.1
GONE	Gonen-Balikesi	1.36	312	*e*Pn		Pn	11 41 14.6	-0.1
DENT	Denizli	1.38	179	*e*PN		Pn	11 41 14.4	-0.5
DENT	Denizli	1.38	179	*e*Pn		Pn	11 41 14.5	-0.5
ADVT	Abdulvahap	1.42	24	*e*PN		Pn	11 41 15.2	-0.2
ADVT	Abdulvahap	1.42	24	*e*Pn		Pn	11 41 15.2	-0.2
ARMT	Armutlu	1.43	356	*e*PN		Pn	11 41 15.8	+0.1
ARMT	Armutlu	1.43	356	*e*Pn		Pn	11 41 15.8	+0.1
DNZL	Cakiroluk	1.44	178	P		Pn	11 41 14.5	-1.5
DNZL				S		Sn	11 41 35.8	+0.4
DNZL	Cakiroluk	1.44	178	↑*i*P		Pn	11 41 14.5	-1.5
DNZL				*i* S		Sn	11 41 35.8	+0.4
AYDB	Zeytinkoy-Aydi	1.47	217	*e*PN		Pn	11 41 15.9	-0.3
AYDB	Zeytinkoy-Aydi	1.47	217	*e*Pn		Pn	11 41 16.0	-0.3
ESKT	Eskisehir	1.49	74	*e*PN		Pn	11 41 16.0	-0.5
ESKT	Eskisehir	1.49	74	*e*Pn		Pn	11 41 16.0	-0.5
ESKT	Eskisehir	1.49	74	↓*i*P		Pn	11 41 15.7	-0.8
ESKT				*i* S		Sg	11 41 42.9	+6.2
SEYT	Eskypehyr	1.49	74	P		Pn	11 41 15.7	-0.8
EDC	Edincik	1.49	325	*e*PN		Pn	11 41 16.5	0.0
EDC	Edincik	1.49	325	*e*Pn		Pn	11 41 16.5	0.0
GPA	Golpazari	1.53	41	*e*PN		Pn	11 41 16.6	-0.5
GPA	Golpazari	1.53	41	*e*Pn		Pn	11 41 16.6	-0.5
IZM	Izmir	1.54	242	*e*PN		Pn	11 41 17.1	-0.1
IZM	Izmir	1.54	242	*e*Pn		Pn	11 41 17.1	-0.1
BOLV	Bolvadin	1.58	105	P		Pn	11 41 17.2	-0.6
BOLV				S		Sg	11 41 39.4	-0.3
BOLV	Bolvadin	1.58	105	↓*i*P		Pn	11 41 17.2	-0.6
BOLV				*i* S		Sg	11 41 39.4	-0.3
KNL	Bal¯–kesir	1.60	315	↓*i*P		Pn	11 41 17.9	-0.1
KNL				*i* S		Sb	11 41 39.9	+0.2
DKL	Dikili	1.63	268	*e*PN		Pn	11 41 18.4	+0.1
DKL	Dikili	1.63	268	*e*Pn		Pn	11 41 18.4	+0.1
BUY	Buyukada	1.72	3	P		Pn	11 41 19.1	-0.5
BUY				S		Sn	11 41 41.5	-0.4
BUY	Buyukada	1.72	3	*i* P		Pn	11 41 19.1	-0.5
BUY				*i* S		Sn	11 41 41.5	-0.4
GULT	Gulveren	1.75	42	*e*PN		Pn	11 41 20.0	0.0
GULT	Gulveren	1.75	42	*e*Pn		Pn	11 41 20.0	0.0
HRT	Hereke	1.76	17	*e*PN		Pn	11 41 20.4	+0.1
HRT	Hereke	1.76	17	*e*Pn		Pn	11 41 20.4	+0.1
ISP	Isparta	1.77	137	P		Pn	11 41 18.9	-1.5
ISP				S		Sn	11 41 41.0	-2.5
ISP	Isparta	1.77	137	P		Pn	11 41 18.9	-1.5
ISP				S		Sn	11 41 41.0	-2.5
AYVA	Ayvalik	1.80	276	P		Pb	11 41 22.1	-0.3
AYVA				S		Sb	11 41 45.8	+0.5
AYVA	Ayvalik	1.80	276	*i* P		Pb	11 41 22.1	-0.3
AYVA				*i* S		Sb	11 41 45.8	+0.5
KRBG	Karabiga-Canak	1.82	314	*e*PN		Pn	11 41 21.2	+0.3
KRBG	Karabiga-Canak	1.82	314	*e*Pn		Pn	11 41 21.2	+0.3
MRMT	Marmara Adasi	1.82	324	*e*PN		Pn	11 41 20.8	-0.3
MRMT	Marmara Adasi	1.82	324	*e*Pn		Pn	11 41 20.8	-0.3
SPNC	Sapanca-Adapaz	1.85	33	*e*PN		Pn	11 41 21.4	0.0
SPNC	Sapanca-Adapaz	1.85	33	*e*Pn		Pn	11 41 21.4	0.0
ISK	Istanbul-Kandi	1.93	1	*e*PN		Pn	11 41 22.8	+0.3
ISK	Istanbul-Kandi	1.93	1	P		Pn	11 41 21.6	-0.9
ISK				S		Sn	11 41 46.7	-0.5
ISK	Istanbul-Kandi	1.93	1	P		Pn	11 41 21.6	-0.9
ISK	Istanbul-Kandi	1.93	1	*e*Pn		Pn	11 41 22.8	+0.3
ISK				S		Sn	11 41 46.7	-0.5
GOLH	Golhisar	1.95	167	P		Pn	11 41 22.1	-0.7
GOLH	Golhisar	1.95	167	*i* P		Pn	11 41 22.1	-0.7
GOLH				*i* S		Sg	11 41 56.5	+5.1
DGB	¯zmir	1.98	238	*i* P		Pb	11 41 25.8	+0.3
DGB				*i* S		Sb	11 41 50.6	+0.2
SVRH	Sivrihisar-ESK	1.98	80	*e*PN		Pn	11 41 23.0	-0.3
SVRH	Sivrihisar-ESK	1.98	80	*e*Pn		Pn	11 41 23.0	-0.3
GCAM	G?zelcaml?	1.99	225	P		Pb	11 41 25.1	-0.6
GCAM				S		Sn	11 41 48.9	+0.2
GCAM	G?zelcaml?	1.99	225	*i* P		Pb	11 41 25.1	-0.6
GCAM				*i* S		Sn	11 41 48.9	+0.2
GLHS	Glhisar (BURDU	2.01	169	*e*PN		Pn	11 41 23.0	-0.7
GLHS	Glhisar (BURDU	2.01	169	*e*Pn		Pn	11 41 23.0	-0.7
URLA	Izmir	2.03	248	*i* P		Pg	11 41 27.9	+0.1
URLA				*i* S		Sg	11 41 54.7	+0.5
BGKT	Bogazkoy	2.05	355	*e*PN		Pn	11 41 24.4	+0.3
BGKT	Bogazkoy	2.05	355	*e*Pn		Pn	11 41 24.4	+0.3
YER	Yerkesik	2.07	196	*e*PN		Pn	11 41 24.6	+0.1
YER	Yerkesik	2.07	196	P		Pn	11 41 22.9	-1.6
YER	Yerkesik	2.07	196	P		Pn	11 41 22.9	-1.6
YER	Yerkesik	2.07	196	*e*Pn		Pn	11 41 24.7	+0.1
SILT	Sile	2.08	14	*e*PN		Pn	11 41 24.9	+0.4
SILT	Sile	2.08	14	*e*Pn		Pn	11 41 24.9	+0.4
BCK	Bucak	2.09	143	*e*PN		Pn	11 41 24.4	-0.3
BCK	Bucak	2.09	143	*e*Pn		Pn	11 41 24.4	-0.3
RKY	Sarkoy-Tekirda	2.09	319	*e*PN		Pn	11 41 25.1	+0.4
RKY	Sarkoy-Tekirda	2.09	319	*e*Pn		Pn	11 41 25.1	+0.4
SART	Tekirdag	2.09	319	P		Pn	11 41 25.6	+0.8
SART	Tekirdag	2.09	319	*i* P		Pn	11 41 25.6	+0.8
SART				*i* S		Sg	11 41 55.2	-0.9
KLYT	Kilyos	2.12	1	*e*PN		Pn	11 41 24.4	-0.6
KLYT	Kilyos	2.12	1	*e*Pn		Pn	11 41 24.5	-0.6
PRK	Paraskevi	2.12	274	P		Pn	11 41 24.9	-0.2
PRK				S		Sn	11 41 51.7	-0.2
PRK	Paraskevi	2.12	274	P		Pn	11 41 24.9	-0.2
PRK				S		Sn	11 41 51.7	-0.2
LPK	Lapseki	2.12	306	*e*PN		Pn	11 41 25.7	+0.6
LPK	Lapseki	2.12	306	*e*Pn		Pn	11 41 25.7	+0.6
CTKS	Kestanelik-??a	2.13	350	*e*PN		Pn	11 41 25.0	-0.3
CTKS	Kestanelik-??a	2.13	350	*e*Pn		Pn	11 41 25.0	-0.3
ZEY	¯zmir	2.15	246	*i* P		Pb	11 41 29.0	+0.7
ZEY				*i* S		Sg	11 41 57.3	-0.6
MDUB	Mudurnu	2.16	51	*e*PN		Pn	11 41 25.7	0.0
MDUB	Mudurnu	2.16	51	*e*Pn		Pn	11 41 25.7	0.0
KAND	Kocaeli-Kandir	2.16	25	P		Pn	11 41 25.1	-0.6
KAND	Kocaeli-Kandir	2.16	25	*i* P		Pn	11 41 25.1	-0.6
KAND				*i* S		Sg	11 41 57.1	-1.2
TKR	Tekirdag	2.17	329	*e*PN		Pn	11 41 26.1	+0.4
TKR	Tekirdag	2.17	329	*e*Pn		Pn	11 41 26.2	+0.4
SLVT	Silivri	2.18	344	P		Pn	11 41 27.

BRTR				Lg	Lg	11 42 40.9		
	1.7nm,0.3s,baz=258,slow=25,SNR=2.8							
SULT	**Sultanhani-AKS**	**3.66**	**103**	*e*PN	**Pn**	**11 41 46.8**	**+0.5**
SULT	**Sultanhani-AKS**	**3.66**	**103**	*e*Pn	**Pn**	**11 41 46.8**	**+0.5**
CANT	**Cankiri**	**3.85**	**66**	*e*PN	**Pn**	**11 41 49.6**	**+0.6**
KAVA	**Kavala**	**3.91**	**300**	P	**Pn**	**11 41 49.7**	**0.0**
KAVA	**Kavala**	**3.91**	**300**	P	**Pn**	**11 41 49.7**	**0.0**
PSN	**Preselentsi**	**4.58**	**353**	*i*P	**Pn**	**11 41 59.0**	**0.0**
PSN	**Preselentsi**	**4.58**	**353**	*i*P	**Pn**	**11 41 59.0**	**0.0**
TIRR	**Tirgusor**	**5.34**	**355**	*i*P	**Pn**	**11 42 09.2**	**-0.1**
TIRR	**Tirgusor**	**5.34**	**355**	S	**Sn**	**11 43 09.2**	**-2.0**
TIRR	**Tirgusor**	**5.34**	**355**	*i*P	**Pn**	**11 42 09.2**	**-0.1**
VTS	**Vitosha**	**5.58**	**310**	*i*P	**Pn**	**11 42 13.6**	**+0.7**
VTS	**Vitosha**	**5.58**	**310**	*i*P	**Pn**	**11 42 13.6**	**+0.7**
HARR	**Harsova**	**5.61**	**352**	*i*P	**Pn**	**11 42 15.7**	**+2.7**
CFR	**Carcaliu**	**6.07**	**354**	*i*P	**Pn**	**11 42 19.5**	**+0.1**
CFR	**Carcaliu**	**6.07**	**354**	*i*P	**Pn**	**11 42 19.5**	**+0.1**
MLR	**Muntele Rosu**	**6.74**	**341**	*i*P	**Pn**	**11 42 30.2**	**+1.5**
MLR	**Muntele Rosu**	**6.74**	**341**	*i*P	**Pn**	**11 42 30.2**	**+1.5**
PLOR	**Plostina**	**6.93**	**346**	*i*P	**Pn**	**11 42 33.8**	**+2.5**
VRI	**Vrincioaia**	**6.93**	**347**	*i*P	**Pn**	**11 42 32.3**	**+1.1**
VOIR		**6.94**	**336**	*i*P	**Pn**	**11 42 31.7**	**+0.2**
VOIR		**6.94**	**336**	*i*P	**Pn**	**11 42 31.7**	**+0.2**
BOVS	**Bovan**	**7.09**	**312**	*e*Pn	**Pn**	**11 42 34.1**	**+0.7**
DOPR	**Dopca**	**7.33**	**340**	*i*P	**Pn**	**11 42 37.9**	**+1.2**
DOPR	**Dopca**	**7.33**	**340**	*i*P	**Pn**	**11 42 37.9**	**+1.2**
KUBS	**Kucevo**	**7.60**	**316**	*e*Pn	**Pn**	**11 42 39.5**	**-0.9**
BZS	**Buzias**	**8.47**	**322**	*i*P	**Pn**	**11 42 53.5**	**+1.2**
BZS	**Buzias**	**8.47**	**322**	*i*P	**Pn**	**11 42 53.5**	**+1.2**
BURAR	**Bucovina Array**	**8.91**	**343**	*i*P	**Pn**	**11 43 00.5**	**+2.1**
BURAR	**Bucovina Array**	**8.91**	**343**	*i*P	**Pn**	**11 43 00.5**	**+2.1**
AKASG	**Malin Array Be**	**11.57**	**1**	Pn	**Pn**	**11 43 33.1**	**-1.6**
	0.5nm,0.3s,baz=179,slow=12,SNR=3.3							
GERES	**GERESS Array B**	**14.65**	**316**	LR	LR	11 50 21.8		
	comp=Z,35nm,19.7s,baz=144,slow=39							
FINES	**FINESS Array B**	**22.41**	**356**	P	**P**	**11 45 49.2**	**+1.1**
	1.4nm,0.8s,baz=158,slow=8.5,SNR=3.4							
FINES				LR	LR	11 55 17.2		
	comp=Z,34nm,20.2s,baz=14,slow=39							
TORD	**Torodi Ar. Bea**	**35.38**	**231**	P	**P**	**11 47 46.8**	**+1.0**
	0.3nm,0.5s,baz=40,slow=10,SNR=2.7							
MKAR	**Makanchi Array**	**39.09**	**61**	P	**P**	**11 48 16.2**	**-0.8**
	1.0nm,0.6s,baz=281,slow=7.7,SNR=6.2							
ZALV	**Zalesovo Beam**	**40.07**	**49**	P	**P**	**11 48 24.2**	**-0.9**
	0.5nm,0.4s,baz=270,slow=8.7,SNR=3.0							

*ISK **29** 11:48:57.7, 39.°13N×28.°96E, h5km, ML2.5*
*DDA **29** 11:48:58.1, 39.°09N×29.°00E, h7km, Md1.9*
*CSEM **29** 11:48:58.3±0.1, 39.°13N×28.°96E, h5km, ML2.5, Error ellipse: s-maj=2.7km s-min=2.2km az=160.0*

ISC 29 11:48:58.3±1.1, 39.°13N±0.°03×28.°96E±0.°02, h15km±10km, n23, σ0s44/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.21**	**247**	P	**Pg**	**11 49 03.2**	**+0.1**
DEMI				S	**Sg**	**11 49 06.5**	**0.0**
DEMI	**Demirci**	**0.21**	**247**	*i*P	**Pg**	**11 49 03.2**	**+0.1**
DEMI				*i*S	**Sg**	**11 49 06.5**	**0.0**
GEDZ	**Gediz**	**0.36**	**103**	*e*PG	**Pg**	**11 49 05.7**	**+0.1**
GEDZ				*e*SG	**Sg**	**11 49 11.4**	**+0.7**
GEDZ	**Gediz**	**0.36**	**103**	*e*Pg	**Pg**	**11 49 05.7**	**+0.1**
GEDZ				*e*Sg	**Sg**	**11 49 11.4**	**+0.7**
GDZ	**Gediz**	**0.40**	**95**	P	**Pg**	**11 49 06.1**	**-0.4**
GDZ				S	**Sg**	**11 49 11.4**	**-0.8**
GDZ	**Gediz**	**0.40**	**95**	*i*P	**Pg**	**11 49 06.1**	**-0.4**
GDZ				*i*S	**Sg**	**11 49 11.3**	**-0.8**
TVSB	**Tavsanli**	**0.50**	**50**	*e*PG	**Pg**	**11 49 07.8**	**-0.5**
TVSB				*e*SG	**Sg**	**11 49 14.7**	**-0.5**
TVSB	**Tavsanli**	**0.50**	**50**	*e*Pg	**Pg**	**11 49 07.8**	**-0.5**
TVSB				*e*Sg	**Sg**	**11 49 14.7**	**-0.5**
KULA	**Kula-Manisa**	**0.66**	**201**	*e*PG	**Pg**	**11 49 10.7**	**-0.4**
KULA				*e*SG	**Sg**	**11 49 19.8**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**201**	*e*Pg	**Pg**	**11 49 10.7**	**-0.4**
KULA				*e*Sg	**Sg**	**11 49 19.8**	**0.0**
KHL	**Karahalli**	**0.91**	**151**	*e*PG	**Pg**	**11 49 15.9**	**-0.1**
KHL	**Karahalli**	**0.91**	**151**	*e*Pg	**Pg**	**11 49 15.9**	**-0.1**
AKS	**Akhisar**	**0.93**	**255**	*e*PG	**Pg**	**11 49 16.2**	**0.0**
AKS	**Akhisar**	**0.93**	**255**	*e*Pg	**Pg**	**11 49 16.3**	**0.0**
BALB	**Balikesir**	**0.98**	**302**	*e*PG	**Pg**	**11 49 16.6**	**-0.7**
BALB	**Balikesir**	**0.98**	**302**	*e*Pg	**Pg**	**11 49 16.6**	**-0.7**
IGD	**Bursa**	**1.15**	**9**	*i*P	**Pb**	**11 49 19.9**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**32**	*e*PN	**Pg**	**11 49 23.0**	**+0.2**
CAVI	**Cavuskoy**	**1.27**	**32**	*e*Pn	**Pg**	**11 49 23.0**	**+0.2**
IZI	**Iznik**	**1.27**	**18**	*e*PN	**Pg**	**11 49 23.3**	**+0.5**
IZI	**Iznik**	**1.27**	**18**	*e*Pn	**Pg**	**11 49 23.3**	**+0.5**
ARMT	**Armutlu**	**1.44**	**357**	*e*PN	**Pb**	**11 49 25.1**	**+0.4**
ARMT	**Armutlu**	**1.44**	**357**	*e*Pn	**Pb**	**11 49 25.2**	**+0.4**

*ISCJB **29** 11:55:52.6±0.5, 39.°10N±0.°03×29.°01E±0.°03, h3km±6km, Error ellipse: s-maj=5.7km s-min=3.8km az=174.8*
*DDA **29** 11:55:52.5, 39.°11N×29.°03E, h7km, Md2.5*
*ISK **29** 11:55:52.4, 39.°10N×28.°99E, h6km, ML2.8*
*CSEM **29** 11:55:52.8±0.1, 39.°09N×29.°01E, h3km, MD2.5, Error ellipse: s-maj=1.7km s-min=1.1km az=4.0*

ISC 29 11:55:53.0±0.9, 39.°10N±0.°03×29.°01E±0.°02, h10km±8km, n55, σ0s52/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**257**	P	**Pg**	**11 55 57.9**	**0.0**
DEMI				S	**Sg**	**11 56 00.9**	**-0.2**
DEMI	**Demirci**	**0.24**	**257**	*i*P	**Pg**	**11 55 57.9**	**0.0**
DEMI				*i*S	**Sg**	**11 56 00.9**	**-0.2**
GDZ	**Gediz**	**0.37**	**91**	P	**Pg**	**11 56 00.1**	**-0.2**
GDZ				S	**Sg**	**11 56 05.5**	**+0.3**
GDZ	**Gediz**	**0.37**	**91**	*i*P	**Pg**	**11 56 00.1**	**-0.2**
GDZ				*i*S	**Sg**	**11 56 05.5**	**+0.3**
TVSB	**Tavsanli**	**0.50**	**45**	*e*PG	**Pg**	**11 56 02.5**	**-0.2**
TVSB				*e*SG	**Sg**	**11 56 09.2**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**45**	*e*Pg	**Pg**	**11 56 02.5**	**-0.2**
TVSB				*e*Sg	**Sg**	**11 56 09.2**	**-0.1**
KULA	**Kula-Manisa**	**0.64**	**205**	*e*PG	**Pg**	**11 56 05.0**	**-0.5**
KULA				*e*SG	**Sg**	**11 56 14.3**	**+0.4**
KULA	**Kula-Manisa**	**0.64**	**205**	*e*Pg	**Pg**	**11 56 05.0**	**-0.5**
KULA				*e*Sg	**Sg**	**11 56 14.3**	**+0.4**
KHL	**Karahalli**	**0.87**	**152**	*e*PG	**Pg**	**11 56 09.4**	**-0.4**
KHL	**Karahalli**	**0.87**	**152**	*e*Pg	**Pg**	**11 56 09.4**	**-0.4**
AKS	**Akhisar**	**0.96**	**257**	*e*PG	**Pg**	**11 56 11.1**	**-0.4**
AKS	**Akhisar**	**0.96**	**257**	*e*Pg	**Pg**	**11 56 11.1**	**-0.4**
BALB	**Balikesir**	**1.03**	**302**	*e*PG	**Pg**	**11 56 12.4**	**-0.4**
BALB				*e*SG	**Sb**	**11 56 26.7**	**+0.1**
BALB	**Balikesir**	**1.03**	**302**	*e*Pg	**Pg**	**11 56 12.4**	**-0.4**
BALB				*e*Sg	**Sb**	**11 56 26.7**	**+0.1**
IGD	**Bursa**	**1.18**	**7**	*i*P	**Pb**	**11 56 14.2**	**-1.3**
IGD				*i*S	**Sb**	**11 56 30.7**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*PN	**Pg**	**11 56 17.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.27**	**337**	*e*Pn	**Pg**	**11 56 17.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*PN	**Pg**	**11 56 17.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*Pn	**Pg**	**11 56 17.3**	**-0.2**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*PN	**Pb**	**11 56 17.4**	**+0.1**
CAVI	**Cavuskoy**	**1.28**	**30**	*e*Pn	**Pb**	**11 56 17.4**	**+0.1**
IZI	**Iznik**	**1.29**	**16**	*e*PN	**Pb**	**11 56 17.6**	**+0.1**
IZI	**Iznik**	**1.29**	**16**	*e*Pn	**Pb**	**11 56 17.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*PN	**Pb**	**11 56 19.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.40**	**313**	*e*Pn	**Pb**	**11 56 19.1**	**-0.1**
ADVT	**Abdulvahap**	**1.45**	**23**	*e*PN	**Pb**	**11 56 20.1**	**0.0**
ADVT	**Abdulvahap**	**1.45**	**23**	*e*Pn	**Pb**	**11 56 20.1**	**0.0**
ARMT	**Armutlu**	**1.47**	**356**	*e*PN	**Pb**	**11 56 20.4**	**-0.2**
ARMT	**Armutlu**	**1.47**	**356**	*e*Pn	**Pb**	**11 56 20.4**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**73**	*e*PN	**Pb**	**11 56 20.6**	**-0.3**
ESKT	**Eskisehir**	**1.49**	**73**	*e*Pn	**Pb**	**11 56 20.6**	**-0.3**
ESKT	**Eskisehir**	**1.49**	**73**	*i*P	**Pn**	**11 56 20.3**	**+0.3**
ESKT				*i*S	**Sn**	**11 56 38.9**	**-0.7**
SEYT	**Eskypehyr**	**1.49**	**73**	P	**Pn**	**11 56 20.3**	**+0.3**
SEYT				S	**Sn**	**11 56 38.9**	**-0.7**
EDC	**Edincik**	**1.53**	**325**	*e*PN	**Pb**	**11 56 21.1**	**-0.5**
EDC	**Edincik**	**1.53**	**325**	*e*Pn	**Pb**	**11 56 21.1**	**-0.5**
GPA	**Golpazari**	**1.56**	**40**	*e*PN	**Pb**	**11 56 21.6**	**-0.4**
GPA	**Golpazari**	**1.56**	**40**	*e*Pn	**Pb**	**11 56 21.6**	**-0.4**
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pn**	**11 56 24.6**	**+0.7**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pn**	**11 56 24.6**	**+0.7**
HRT	**Hereke**	**1.80**	**16**	*e*PN	**Pn**	**11 56 24.9**	**+0.7**
HRT	**Hereke**	**1.80**	**16**	*e*Pn	**Pn**	**11 56 24.9**	**+0.7**
KRBG	**Karabiga-Canak**	**1.85**	**315**	*e*PN	**Pn**	**11 56 25.5**	**+0.7**
KRBG	**Karabiga-Canak**	**1.85**	**315**	*e*Pn	**Pn**	**11 56 25.5**	**+0.7**
MRMT	**Marmara Adasi**	**1.86**	**325**	*e*PN	**Pn**	**11 56 25.8**	**+0.7**
MRMT	**Marmara Adasi**	**1.86**	**325**	*e*Pn	**Pn**	**11 56 25.8**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*PN	**Pn**	**11 56 27.5**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.98**	**79**	*e*Pn	**Pn**	**11 56 27.5**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.12**	**319**	*e*PN	**Pn**	**11 56 29.1**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.12**	**319**	*e*Pn	**Pn**	**11 56 29.2**	**+0.5**
LPK	**Lapseki**	**2.15**	**307**	*e*PN	**Pn**	**11 56 29.9**	**+0.9**
LPK	**Lapseki**	**2.15**	**307**	*e*Pn	**Pn**	**11 56 29.9**	**+0.9**
CTKS	**Kestanelik-??a**	**2.17**	**350**	*e*PN	**Pn**	**11 56 30.3**	**+1.0**
CTKS	**Kestanelik-??a**	**2.17**	**350**	*e*Pn	**Pn**	**11 56 30.3**	**+1.0**
KIZT	**Kizilcal**	**2.25**	**95**	*e*PN	**Pn**	**11 56 31.4**	**+1.0**
KIZT	**Kizilcal**	**2.25**	**95**	*e*Pn	**Pn**	**11 56 31.4**	**+1.0**

*ISCJB **29** 12:05:59.4±0.5, 39.°12N±0.°03×28.°99E±0.°03, h1km±7km, Error ellipse: s-maj=5.9km s-min=3.7km az=177.5*
*CSEM **29** 12:05:59.8±0.1, 39.°10N×28.°99E, h5km, ML3.4, Error ellipse: s-maj=2.6km s-min=2.2km az=173.0*
*ISK **29** 12:05:59.2, 39.°10N×28.°98E, h5km, ML3.1*
*DDA **29** 12:05:59.4, 39.°12N×29.°00E, h7km, Ml3.4*

ISC 29 12:05:59.7±1.0, 39.°12N±0.°02×29.°00E±0.°02, h5km±12km, n55, σ0s60/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**251**	P	**Pg**	**12 06 04.5**	**+0.3**
DEMI				S	**Sg**	**12 06 07.8**	**+0.5**
DEMI	**Demirci**	**0.23**	**251**	*i*P	**Pg**	**12 06 04.5**	**+0.3**
DEMI				*i*S	**Sg**	**12 06 07.8**	**+0.5**
GEDZ	**Gediz**	**0.33**	**103**	*e*PG	**Pg**	**12 06 06.6**	**+0.5**
GEDZ				*e*SG	**Sg**	**12 06 11.7**	**+1.2**
GEDZ	**Gediz**	**0.33**	**103**	*e*Pg	**Pg**	**12 06 06.6**	**+0.5**
GDZ	**Gediz**	**0.38**	**94**	P	**Pg**	**12 06 06.8**	**-0.3**
GDZ				S	**Sg**	**12 06 11.6**	**-0.4**
GDZ	**Gediz**	**0.38**	**94**	*i*P	**Pg**	**12 06 06.8**	**-0.3**
GDZ				*i*S	**Sg**	**12 06 11.6**	**-0.4**
TVSB	**Tavsanli**	**0.49**	**47**	*e*PG	**Pg**	**12 06 09.0**	**-0.1**
TVSB				*e*SG	**Sg**	**12 06 15.3**	**-0.2**
TVSB	**Tavsanli**	**0.49**	**47**	*e*Pg	**Pg**	**12 06 09.0**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*PG	**Pg**	**12 06 12.0**	**-0.4**
KULA				*e*SG	**Sg**	**12 06 20.5**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**204**	*e*Pg	**Pg**	**12 06 12.0**	**-0.4**
KULA				*e*Sg	**Sg**	**12 06 20.5**	**-0.4**
KHL	**Karahalli**	**0.89**	**152**	*e*PG	**Pb**	**12 06 16.9**	**-0.9**
KHL	**Karahalli**	**0.89**	**152**	*e*Pg	**Pb**	**12 06 16.9**	**-0.9**
AKS	**Akhisar**	**0.95**	**256**	*e*PG	**Pb**	**12 06 17.9**	**-0.8**
AKS	**Akhisar**	**0.95**	**256**	*e*Pg	**Pb**	**12 06 17.9**	**-0.8**
BALB	**Balikesir**	**1.01**	**301**	*e*PG	**Pb**	**12 06 19.5**	**-0.2**
BALB				*e*SG	**Sb**	**12 06 34.0**	**+0.6**
BALB	**Balikesir**	**1.01**	**301**	*e*Pg	**Pb**	**12 06 19.5**	**-0.2**
BALB				*e*Sg	**Sb**	**12 06 34.0**	**+0.6**
IGD	**Bursa**	**1.16**	**8**	*i*P	**Pg**	**12 06 20.0**	**-1.9**
IGD				*i*S	**Sg**	**12 06 35.4**	**-1.5**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*PN	**Pn**	**12 06 24.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*Pn	**Pn**	**12 06 24.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*PN	**Pg**	**12 06 23.4**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*Pn	**Pg**	**12 06 23.4**	**-0.4**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*PN	**Pg**	**12 06 23.9**	**-0.1**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*Pn	**Pg**	**12 06 23.9**	**-0.1**
IZI	**Iznik**	**1.27**	**17**	*e*PN	**Pg**	**12 06 23.7**	**-0.4**
IZI	**Iznik**	**1.27**	**17**	*e*Pn	**Pg**	**12 06 23.7**	**-0.4**
GEMT	**Gemlik**	**1.32**	**6**	*e*PN	**Pg**	**12 06 25.4**	**+0.3**
GEMT	**Gemlik**	**1.32**	**6**	*e*Pn	**Pg**	**12 06 25.4**	**+0.3**
GONE	**Gonen-Balikesi**	**1.37**	**313**	*e*PN	**Pb**	**12 06 25.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.37**	**313**	*e*Pn	**Pb**	**12 06 25.7**	**-0.2**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN	**Pb**	**12 06 26.7**	**-0.3**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn	**Pb**	**12 06 26.7**	**-0.3**
ARMT	**Armutlu**	**1.45**	**356**	*e*PN	**Pn**	**12 06 26.4**	**-0.2**
ARMT	**Armutlu**	**1.45**	**356**	*e*Pn	**Pn**	**12 06 26.5**	**-0.2**
ESKT	**Eskisehir**	**1.49**	**74**	*e*PN	**Pb**	**12 06 27.5**	**-0.5**
ESKT	**Eskisehir**	**1.49**	**74**	*e*Pn	**Pb**	**12 06 27.5**	**-0.5**
ESKT	**Eskisehir**	**1.49**	**74**	*i*P	**Pg**	**12 06 28.0**	**-0.3**
ESKT				*i*S	**Sg**	**12 06 48.0**	**+0.3**
SEYT	**Eskypehyr**	**1.49**	**74**	P	**Pg**	**12 06 28.0**	**-0.3**
SEYT				S	**Sg**	**12 06 48.0**	**+0.3**
EDC	**Edincik**	**1.51**	**325**	*e*PN	**Pb**	**12 06 27.7**	**-0.5**
EDC	**Edincik**	**1.51**	**325**	*e*Pn	**Pb**	**12 06 27.7**	**-0.5**
GPA	**Golpazari**	**1.55**	**40**	*e*PN	**Pb**	**12 06 28.6**	**-0.3**
GPA	**Golpazari**	**1.55**	**40**	*e*Pn	**Pb**	**12 06 28.6**	**-0.3**
GULT	**Gulveren**	**1.76**	**41**	*e*PN	**Pn**	**12 06 31.6**	**+0.6**
GULT	**Gulveren**	**1.76**	**41**	*e*Pn	**Pn**	**12 06 31.6**	**+0.6**
HRT	**Hereke**	**1.78**	**17**	*e*PN	**Pn**	**12 06 31.8**	**+0.6**
HRT	**Hereke**	**1.78**	**17**	*e*Pn	**Pn**	**12 06 31.8**	**+0.6**
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*PN	**Pn**	**12 06 33.0**	**+0.7**
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*Pn	**Pn**	**12 06 33.0**	**+0.7**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*PN	**Pn**	**12 06 34.3**	**+0.8**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*Pn	**Pn**	**12 06 34.3**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*PN	**Pn**	**12 06 34.5**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.99**	**80**	*e*Pn	**Pn**	**12 06 34.5**	**+0.4**
SILT	**Sile**	**2.09**	**13**	*e*PN	**Pn**	**12 06 36.6**	**+1.1**
SILT	**Sile**	**2.09**	**13**	*e*Pn	**Pn**	**12 06 36.6**	**+1.1**
MDUB	**Mudurnu**	**2.17**	**51**	*e*PN	**Pn**	**12 06 37.0**	**+0.4**
MDUB	**Mudurnu**	**2.17**	**51**	*e*Pn	**Pn**	**12 06 37.0**	**+0.4**

KRSC 29 12:08:02.6±1.5, 52.°49N×159.°48E, h59km±19km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.59**	**265**	*i*P	Pn	12 08 17.1	+1.6
RUS				*e*S	Sn	12 08 25.9	+1.1
DALK	**Dalny**	**0.70**	**321**	*i*P	Pn	12 08 19.2	+2.4
DALK				*i*S	Sn	12 08 28.7	+1.6
PET	**Petropavlovsk**	**0.73**	**317**	*i*P	Pn	12 08 18.5	+1.3
PET				*i*S	Sn	12 08 28.4	+0.6
UGLR	**Uglovaya**	**0.82**	**331**	P	Pn	12 08 19.5	+1.1
UGLR				*e*S	Sn	12 08 31.0	+0.9
GRL	**Gorelyy**	**0.86**	**275**	*e*P	Pn	12 08 21.0	+2.1
GRL				*e*S	Sn	12 08 32.6	+1.7
SDLR	**Sedlovina**	**0.87**	**336**	*e*P	Pn	12 08 20.4	+1.4
SDLR				*e*S	Sn	12 08 31.8	+0.7
KRMR	**Karymshinskiy**	**0.89**	**293**	*e*P	Pn	12 08 20.2	+1.1
KRMR				*e*S	Sn	12 08 31.5	+0.2
AVH	**Avacha**	**0.90**	**330**	*i*P	Pn	12 08 21.2	+1.8
AVH				*e*S	Sn	12 08 32.9	+1.2
KRER	**Koryakskii**	**0.93**	**332**	*i*P	Pn	12 08 21.7	+1.8
KRER				*e*S	Sn	12 08 33.9	+1.3
KOK	**Koryaka**	**0.95**	**328**	*e*S	Sn	12 08 33.3	+0.3
ASAK	**Asacha**	**0.97**	**264**	*i*P	Pn	12 08 22.0	+1.7
ASAK				*e*S	Sn	12 08 35.0	+1.6
KRX	**Arik**	**1.01**	**330**	*i*P	Pn	12 08 22.7	+1.9
KRX				*e*S	Sn	12 08 34.9	+0.6
GNL	**Ganaly**	**1.52**	**323**	*i*P	Pn	12 08 29.1	+1.4
GNL				*e*S	Sn	12 08 47.4	+0.9
KII	**Karymskiy**	**1.55**	**359**	*e*P	Pn	12 08 30.7	+2.7
KII				*e*S	Sn	12 08 49.9	+2.7
MKZ	**Mys Kozlova**	**2.47**	**32**	*e*P	Pn	12 08 42.9	+2.5
MKZ				*e*S	Sn	12 09 11.6	+2.3
SKR	**Severo-Kuril's**	**2.77**	**231**	*e*P	Pn	12 08 46.6	+2.1
SKR				*e*S	Sn	12 09 18.2	+1.6
TUMR	**Tumrok**	**2.83**	**8**	P	Pn	12 08 48.7	+3.3
KMNR	**Kamenistaya**	**3.31**	**7**	P	Pn	12 08 55.5	+3.6
ESO	**Esso**	**3.48**	**353**	*e*P	Pn	12 08 57.2	+3.0
BZMR	**Bezymyannaya**	**3.51**	**9**	P	Pn	12 08 58.1	+3.4
KPT	**Kopyto**	**3.51**	**7**	P	Pn	12 08 58.5	+3.7
KOZ	**Kozyrevsk**	**3.59**	**4**	P	Pn	12 08 59.4	+3.7
ZLN	**Zelenaya**	**3.62**	**12**	*e*P	Pn	12 09 00.3	+4.1
KLY	**Klyuchi**	**3.90**	**10**	P	Pn	12 09 04.6	+4.7
BDR	**Baidarnaya**	**4.21**	**13**	*e*P	Pn	12 09 09.3	+5.0
KBG	**Krutoberegovo**	**4.22**	**25**	S	Sn	12 09 58.1	+5.9
SMKR	**Semkarok**	**4.26**	**15**	*e*P	Pn	12 09 08.8	+3.8
SRKR	**Sorokina**	**4.29**	**13**	*e*P	Pn	12 09 09.7	+4.4
BKI	**Bering**	**4.71**	**52**	*e*P	Pn	12 09 13.4	+2.4
BKI				*e*S	Sn	12 10 02.3	-1.9

*DDA **29** 12:10:40.6, 39.°11N×29.°01E, h7km, Ml3.5*
*ISK **29** 12:10:40.4, 39.°09N×29.°00E, h5km, ML3.2*
*CSEM **29** 12:10:40.9±0.1, 39.°10N×29.°00E, h2km, ML3.5, Error ellipse: s-maj=2.1km s-min=2.0km az=133.0*

ISC 29 12:10:41.1±1.0, 39.°12N±0.°02×29.°00E±0.°02, h4km±10km, n103, σ0s77/121, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**250**	P	**Pg**	**12 10 45.5**	**-0.1**
DEMI				S	**Sg**	**12 10 49.0**	**+0.4**
DEMI	**Demirci**	**0.23**	**250**	*i*P	**Pg**	**12 10 45.5**	**-0.1**
DEMI				*i*S	**Sg**	**12 10 49.0**	**+0.4**
GDZ	**Gediz**	**0.38**	**95**	P	**Pg**	**12 10 48.1**	**-0.4**
GDZ				S	**Sg**	**12 10 53.5**	**+0.1**
GDZ	**Gediz**	**0.38**	**95**	*i*P	**Pg**	**12 10 48.1**	**-0.4**
GDZ				*i*S	**Sg**	**12 10 53.5**	**+0.1**
TVSB	**Tavsanli**	**0.49**	**48**	*e*PG	**Pg**	**12 10 50.5**	**0.0**
TVSB				*e*SG	**Sg**	**12 10 57.2**	**+0.4**
TVSB	**Tavsanli**	**0.49**	**48**	*e*Pg	**Pg**	**12 10 50.5**	**0.0**
TVSB				*e*Sg	**Sg**	**12 10 57.2**	**+0.4**
KULA	**Kula-Manisa**	**0.66**	**203**	*e*PG	**Pg**	**12 10 53.3**	**-0.5**
KULA				*e*SG	**Sg**	**12 11 01.7**	**-0.7**
KULA	**Kula-Manisa**	**0.66**	**203**	*e*Pg	**Pg**	**12 10 53.3**	**-0.5**
KULA				*e*Sg	**Sg**	**12 11 01.7**	**-0.7**
KHL	**Karahalli**	**0.90**	**152**	*e*PG	**Pg**	**12 10 58.3**	**0.0**
KHL	**Karahalli**	**0.90**	**152**	*e*Pg	**Pg**	**12 10 58.3**	**0.0**
AKS	**Akhisar**	**0.95**	**256**	*e*PG	**Pg**	**12 10 59.1**	**-0.2**
AKS	**Akhisar**	**0.95**	**256**	*e*Pg	**Pg**	**12 10 59.1**	**-0.2**
BALB	**Balikesir**	**1.01**	**301**	*e*PG	**Pb**	**12 11 00.9**	**-0.2**
BALB	**Balikesir**	**1.01**	**301**	*e*Pg	**Pb**	**12 11 00.9**	**-0.2**
IGD	**Bursa**	**1.15**	**8**	*i*P	**Pg**	**12 11 01.9**	**-1.2**
IGD				*i*S	**Sg**	**12 11 17.2**	**-0.9**
BALY	**Balya**	**1.23**	**300**	P	**Pg**	**12 11 04.5**	**-0.2**
**B

KTMS	**Ketmen**	**2.11**	**246**	*e*P		**Pn**	**12 21 08.9**	**+0.4**
	4.2nm,0.2s							
KTMS				*e*S		**Sb**	**12 21 36.4**	**-1.3**
	10nm,0.3s							
DJR	**Jarkent**	**2.31**	**271**	*e*P		**Pn**	**12 21 12.4**	**+1.3**
	7.0nm,0.3s							
DJR				*e*S		**Sb**	**12 21 42.6**	**-0.6**
	6.8nm,0.2s							
MK31	**Makanchi Array**	**2.52**	**349**	⇓Pg		**Pn**	**12 21 15.4**	**+1.4**
	0.4nm,0.5s,baz=164,slow=17,SNR=21							
MK31				⇑Lg		Lg	12 21 48.2	
	0.9nm,0.3s,baz=168,slow=28,SNR=12							
SHLS	**Shalkode**	**2.55**	**244**	*e*P		**Pb**	**12 21 17.5**	**-1.7**
	9.5nm,0.2s							
SHLS				*e*S		**Sb**	**12 21 51.1**	**+0.8**
	17nm,0.2s							
MAKZ	**Makanchi**	**2.58**	**344**	⇑Pg		**Pn**	**12 21 15.5**	**+0.7**
	0.5nm,0.4s							
MAKZ				⇑Lg		Lg	12 21 48.7	
	0.5nm,0.3s							
PDGK	**Podgornoye**	**2.74**	**250**	⇑Pg		**Pn**	**12 21 18.3**	**+1.4**
	0.9nm,0.5s							
PDGK				⇑Lg		Lg	12 21 54.0	
	2.7nm,0.5s							
KAPS	**Kapalarasan**	**2.77**	**291**	*e*P		**Pb**	**12 21 20.4**	**-2.4**
	1.1nm,0.2s							
KAPS				*e*S		**Sb**	**12 21 56.2**	**-0.2**
	2.8nm,0.2s							
CHKK	**Chushkaly**	**4.35**	**266**	*e*P		**Pb**	**12 21 49.1**	**-0.6**
	0.7nm,0.1s							
CHKK				*e*S		**Sb**	**12 22 45.2**	**+3.3**
	1.7nm,0.3s							

*ISCJB **29** 12:23:37.6±0.7,6°.83N±0°.05×73°.06W±0°.05,h156km±6km, Error ellipse: s-maj=11.3km s-min=5.2km az=43.9*
*FUNV **29** 12:23:38.2,6°.83N×73°.19W,h155km,MW2.6*
*RSNC **29** 12:23:40.2±1.2,6°.77N×73°.12W,h145km±7km,ML3.1*
ISC 29 12:23:37.0±1.5,**6°.84N**±0°.05×**73°.05W**±0°.06,**h162**km±9km, **n18,**σ1$**38/28,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**208**	*i* P	**Pn**	**12 23 59.5**	**+0.3**
BARC				*e*S	**Sn**	**12 24 14.7**	**-1.5**
BARC				*i*		12 24 16.4	
	comp=Z,183nm,0.4s						
PAMC	**Pamplona, Colo**	**0.61**	**35**	*e*P	**Pn**	**12 24 02.3**	**+1.5**
PAMC				*e*S	**Sn**	**12 24 19.5**	**+0.5**
BRRC	**Barranca, Sant**	**0.71**	**292**	*i* P	**Pn**	**12 24 01.3**	**+0.5**
BRRC				*e*S	**Sn**	**12 24 19.0**	**0.0**
BRRC				*i*		12 24 23.1	
	comp=Z,182nm,0.2s						
RUSC	**La Rusia**	**0.94**	**182**	*e*P	**Pn**	**12 24 03.4**	**+0.3**
RUSC				*e*S	**Sn**	**12 24 21.6**	**-1.4**
RUSC				*i*		12 24 23.1	
	comp=Z,108nm,0.4s						
CAPV	**Capacho**	**1.25**	**36**	*e*P	**Pn**	**12 24 05.3**	**-0.1**
CAPV				*e*S	**Sn**	**12 24 27.1**	**-0.1**
OCAC	**Ocana**	**1.42**	**349**	*e*P	**Pn**	**12 24 08.3**	**+1.5**
OCAC				*i*		12 24 34.4	
	comp=Z,108nm,0.0s						
NORC	**Norcasia**	**2.21**	**235**	*e*P	**Pn**	**12 24 15.2**	**-0.1**
NORC				*e*S	**Sn**	**12 24 43.6**	**-1.3**
CHIC	**Chingaza**	**2.30**	**197**	*e*P	**Pn**	**12 24 17.5**	**+0.8**
CHIC				*e*S	**Sn**	**12 24 46.7**	**-0.7**
CHIC				*i*		12 24 52.7	
	comp=Z,40nm,0.4s						
ROSC	**El Rosal**	**2.35**	**212**	*e*P	**Pn**	**12 24 19.1**	**+1.7**
ROSC				*i*		12 24 53.2	
	comp=Z,106nm,0.5s						
HELC	**Santa Helena**	**2.54**	**255**	*e*P	**Pn**	**12 24 20.9**	**+1.3**
HELC				*e*S	**Sn**	**12 24 50.7**	**-1.8**
HELC				*i*		12 24 59.8	
	comp=Z,90nm,0.5s						
SOCV	**Socops**	**2.61**	**56**	*e*P	**Pn**	**12 24 21.7**	**+1.6**
SOCV				*e*S	**Sn**	**12 24 53.4**	**0.0**
DBBC	**Dabeiba**	**3.14**	**273**	*e*P	**Pn**	**12 24 28.2**	**+1.5**
TOLC	**Tolima**	**3.18**	**225**	*e*P	**Pn**	**12 24 29.3**	**+1.8**
PRAC	**Prado**	**3.60**	**211**	*e*P	**Pn**	**12 24 33.2**	**+0.6**
PRAC				*i*		12 25 19.2	
	comp=Z,102nm,0.2s						
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*P	**Pn**	**12 24 34.4**	**+0.7**
VIRV				*e*S	**Sn**	**12 25 14.1**	**-3.8**
CURV	**Curarigua**	**4.39**	**44**	*e*P	**Pn**	**12 24 43.9**	**+1.1**
BAUV	**El Baul**	**5.39**	**67**	*e*P	**Pn**	**12 24 55.6**	**-0.1**
MONV	**Montecano**	**5.92**	**31**	*e*P	**Pn**	**12 25 03.5**	**+0.6**

*ISCJB **29** 12:40:34.6±0.3,31°.95S±0°.04×68°.27W±0°.04,h124km±4km, mb4.4/12,Error ellipse: s-maj=5.9km s-min=5.4km az=164.0*
*SJA **29** 12:40:34.9±0.4,31°.97S×68°.26W,h122km±6km,ML4.3, MW4.0*
*GUC **29** 12:40:35.9±0.4,31°.75S×68°.89W,h9km±8km,ML3.9*
*IDC **29** 12:40:36.0±0.6,31°.89S×68°.38W,h124km±5km,mb3.8/4, mb1 3.9/9,mb1mx3.7/34,mbtmp4.1/9,Error ellipse: s-maj=25.1km s-min=16.2km az=92.0*
*NEIC **29** 12:40:35.1±0.6,31°.95S×68°.23W,h115km±6km,mb4.2/6, MD4.3(SJA),Error ellipse: s-maj=9.9km s-min=6.7km az=85.0*
NEIC Felt [IV] at San Juan.
ISC 29 12:40:35.4±0.5,**31°.87S**±0°.05×**68°.28W**±0°.04,**h117**km±5km, **h117**km**:pP-P,n46,**σ1$**53/65,mb4.2/12,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.22**	**272**	*i* P	**Pn**	**12 40 52.6**	**+0.8**
SJA	**San Juan**	**0.42**	**325**	*i* P	**Pn**	**12 40 54.0**	**+1.4**
RTLL	**Cerro Villicun**	**0.56**	**343**	*i* P	**Pn**	**12 40 54.8**	**+1.3**
ARCO	**CERRO ARCO**	**1.11**	**209**	*i* P	**Pn**	**12 40 58.3**	**-0.2**
ARCO				IAML		12 40 58.8	
	comp=Z,5μm,0.3s						
ARCO				*i* S	**Sn**	**12 41 15.7**	**-0.3**
ACCO	**Cerro Coronel**	**1.44**	**332**	*i* P	**Pn**	**12 41 04.6**	**+2.2**
FCH	**Farellones**	**2.23**	**229**	*i* P	**Pn**	**12 41 12.2**	**+0.3**
FCH				*i* S	**Sn**	**12 41 39.8**	**-0.2**
FCH				IAML		12 41 42.7	
	comp=N,914nm,0.6s						
MRA	**San Martin**	**2.24**	**105**	*i* P	**Pn**	**12 41 12.4**	**+0.6**
MRA				*i* S	**Sn**	**12 41 39.5**	**-0.2**
MRA				IAML		12 41 42.0	
	comp=Z,2μm,0.4s						
PEL	**Peldehue**	**2.40**	**237**	*i* P	**Pn**	**12 41 12.8**	**-1.0**
PEL				*i* S	**Sn**	**12 41 41.0**	**-2.2**
PEL				IAML		12 41 44.7	
	comp=E,734nm,0.3s						
ROCH	**El Roble**	**2.56**	**244**	*i* P	**Pn**	**12 41 15.1**	**-0.9**
ROCH				*i* S	**Sn**	**12 41 45.2**	**-2.0**
ROCH				IAML		12 41 49.2	
	comp=N,2μm,0.4s						
ROC1	**El Roble**	**2.56**	**244**	*e*Pn	**Pn**	**12 41 15.3**	**-0.8**
ROC1				*e*Sn	**Sn**	**12 41 46.0**	**-1.4**
TLL	**Tololo Astrono**	**2.75**	**307**	*e*P	**Pn**	**12 41 19.6**	**+1.0**
LCO	**Las Campanas**	**3.53**	**323**	*i* P	**Pn**	**12 41 29.3**	**+0.4**
LCO				*i* S	**Sn**	**12 42 09.4**	**-0.9**
LCO				IAML		12 42 14.2	
	comp=E,435nm,0.2s						
LCO	**Las Campanas**	**3.53**	**323**	*e*Pn	**Pn**	**12 41 30.1**	**+1.2**
LCO				*e*Sn	**Sn**	**12 42 11.4**	**+1.1**
TRQA	**Tornquist**	**8.05**	**142**	*e*Pn	**Pn**	**12 42 27.7**	**-1.8**
TRQA				*e*Sn	**Sn**	**12 43 57.1**	**-1.7**
PLCA	**Paso Flores**	**9.03**	**191**	P	**Pn**	**12 42 42.6**	**-0.1**
	comp=E,0.2nm,0.3s,baz=19,slow=14,SNR=3.0						
LVC	**Limon Verde**	**9.24**	**356**	P	**Pn**	**12 42 45.5**	**-0.5**
	comp=E,113nm,0.3s,baz=159,slow=12,SNR=52						
LVC				S	**Sn**	**12 44 22.8**	**-5.6**
	comp=E,40nm,0.3s,baz=160,slow=17,SNR=3.0						
CPUP	**Villa Florida**	**11.05**	**63**	P	**Pn**	**12 43 09.8**	**-0.2**
	comp=E,0.3nm,0.3s,baz=242,slow=12,SNR=5.6						
CPUP				S	**Sn**	**12 45 10.0**	**-1.7**
	comp=E,0.2nm,0.3s,baz=261,slow=18,SNR=1.7						
LPAZ	**La Paz**	**15.51**	**1**	P	**P**	**12 44 10.0**	**-0.2**
	comp=E,0.8nm,0.3s,baz=179,slow=10,SNR=17						
LPAZ	**La Paz**	**15.51**	**1**	*e*P	**P**	**12 44 10.4**	**+0.1**
	comp=E,7.4nm,0.8s						
SIV	**San Ignacio**	**17.12**	**24**	P	**Pn**	**12 44 28.2**	**+0.7**
	comp=E,0.9nm,0.3s,baz=207,slow=9.1,SNR=14						
USHA	**Ushuaia**	**22.95**	**180**	P	**P**	**12 45 30.0**	**+0.7**
	comp=E,20nm,0.6s,baz=347,slow=9.8,SNR=4.1						
SAML	**Samuel**	**23.30**	**13**	*e*P	**P**	**12 45 33.5**	**+0.5**
	comp=E,6.4nm,0.8s						

HELC	**Santa Helena**	**38.47**	**348**	*e*P		**P**	**12 47 47.2**	**+0.7**
	comp=E,39nm,0.6s							
VNA1	**Neumayer--Stat**	**50.42**	**158**	P		**P**	**12 49 24.0**	**+3.6**
SNAA	**Sanae**	**52.39**	**159**	P		**P**	**12 49 34.0**	**-1.2**
SNAA	**Sanae**	**52.39**	**159**	*e*P		**P**	**12 49 34.3**	**-0.9**
	comp=E,3.2nm,0.8s							
CMIG	**Matias Romero**	**54.96**	**328**	P		**P**	**12 49 52.6**	**-1.8**
	comp=E,84nm,0.4s,baz=161,slow=12							
VHO	**Vista Hermosa**	**55.79**	**327**	P		**P**	**12 49 59.8**	**-0.8**
TXAR	**Lajitas Array**	**59.54**	**327**	P		**P**	**12 51 32.3**	**+0.7**
	comp=E,0.5nm,0.6s,baz=149,slow=8.3,SNR=7.1							
WVT	**Waverly**	**70.08**	**343**	*e*P		**P**	**12 51 34.5**	**-0.1**
	comp=E,5.7nm,0.6s							
MAW	**Mawson**	**74.29**	**163**	pP	pP		12 52 29.8	+1.2
	comp=E,2.6nm,0.9s,baz=256,slow=8.3,SNR=5.0							
X16A	**Lo Mia Camp, P**	**77.44**	**325**	*e*P		**P**	**12 52 18.8**	**+0.9**
	comp=E,2.2nm,0.9s							
TOA0	**Torodi Ar. Sit**	**80.50**	**68**	*e*P		**P**	**12 52 34.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**80.50**	**68**	P		**P**	**12 52 34.9**	**+0.1**
	comp=E,1.6nm,0.7s,baz=250,slow=4.9,SNR=8.1							
TORD				pP		**pP**	**12 53 06.0**	**+1.5**
	comp=E,1.7nm,0.7s,baz=251,slow=5.5,SNR=6.3							
O20A	**White River Ci**	**80.64**	**330**	*e*P		**P**	**12 52 38.0**	**+2.8**
	comp=E,20nm,0.6s							
PDAR	**Pinedale Array**	**83.38**	**331**	P		**P**	**12 52 50.0**	**+0.5**
	comp=E,0.5nm,0.5s,baz=134,slow=4.3,SNR=3.8							
HLID	**Hailey**	**86.11**	**328**	*e*P		**P**	**12 53 04.3**	**+1.1**
	comp=E,2.5nm,1.1s							
MCMT	**McKenzie Canyo**	**86.44**	**330**	*e*P		**P**	**12 53 06.0**	**+1.2**
ASAR	**Alice Springs**	**120.84**	**204**	PKP		**PKPdf**	**12 59 12.6**	**-1.7**
	comp=E,0.2nm,0.5s,baz=146,slow=1.8,SNR=5.3							
ASAR				pPKP		**pPKPdf**	**12 59 45.8**	**-0.2**
	comp=E,0.2nm,0.6s,baz=114,slow=2.3,SNR=1.4							
WRA	**Warramunga Arr**	**124.11**	**206**	PKP		**PKPdf**	**12 59 19.2**	**-1.5**
	comp=E,0.6nm,0.3s,baz=160,slow=1.8,SNR=16							
WRA				pPKP		**pPKPdf**	**12 59 52.4**	**+0.1**
	comp=E,0.4nm,0.4s,baz=160,slow=1.8,SNR=2.5							
BVAR	**Borovoye Array**	**143.58**	**42**	PKP		**PKPdf**	**12 59 55.5**	**-0.3**
	comp=E,0.4nm,0.4s,baz=270,slow=1.2,SNR=3.1							
KURBB	**Kurchatov Arra**	**149.16**	**43**	PKPbc		**PKPbc**	**13 00 09.9**	**+0.3**
	comp=E,1.9nm,0.6s,baz=298,slow=3.2,SNR=14							
KURBB				pPKPbc		**pPKPbc**	**13 00 42.5**	**+1.4**
	comp=E,1.2nm,0.7s,baz=301,slow=3.2,SNR=4.4							
KURK	**Kurchatov**	**149.17**	**43**	PKPbc		**PKPbc**	**13 00 09.9**	**+0.3**
KURK				pPKPbc		**pPKPbc**	**13 00 42.5**	**+1.4**
ZALV	**Zalesovo Beam**	**150.73**	**33**	PKPbc		**PKPbc**	**13 00 13.5**	**+0.2**
	comp=E,4.6nm,0.6s,baz=300,slow=3.1,SNR=17							
ZALV				pPKPbc		**pPKPbc**	**13 00 46.8**	**+2.0**
	comp=E,3.0nm,0.7s,baz=301,slow=3.4,SNR=3.3							
MKAR	**Makanchi Array**	**152.99**	**48**	PKPbc		**PKPbc**	**13 00 18.4**	**-0.3**
	comp=E,0.7nm,0.8s,baz=328,slow=5.1,SNR=3.6							
MKAR				pPKPbc		**pPKPbc**	**13 00 52.0**	**+1.7**
	comp=E,0.8nm,0.7s,baz=276,slow=5.6,SNR=3.7							
LZH	**Lanzhou**	**172.22**	**55**	*e*PKP		**PKPdf**	**13 00 31.8**	**+1.2**
LZH				pPKP		**pPKPdf**	**13 00 58.3**	**-4.2**
LZH				sPKP			13 01 11.0	
LZH				PKP		**PKPab**	**13 01 57.0**	**+1.9**
LZH				LR		LR		
	comp=N,97nm,18.0s							
LZH				LR		LR		
	comp=E,100nm,18.2s							
LZH				LR		LR		
	comp=Z,150nm,20.1s							

MEX 29 12:46:30.7±0.8,**21°.23N**×**99°.47W**,**h31**km±40km,**MD3.8, Central Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**1.01**	**156**	*e*P	Pn	12 46 46.6	-2.3
DEIG				*i* S	Sn	12 46 59.2	-3.0
ZUVM	**ZUMPANGO**	**1.44**	**165**	*e*P	Pn	12 46 54.8	-0.1
VTVM	**Tizayuca**	**1.59**	**156**	*e*P	Pb	12 46 59.7	+0.1
AZVM	**Cuida Lopez Ma**	**1.64**	**174**	*e*P	Pn	12 46 55.8	-2.0
AZVM				*e*S	Sn	12 47 15.1	-3.0
PTVM	**Pico Tres Padr**	**1.66**	**168**	*e*P	Pn	12 46 56.3	-1.7
PTVM				*e*S	Sn	12 47 15.9	-2.5
IGIG	**Irapuato, Guan**	**1.80**	**255**	*e*P	Pn	12 46 57.7	-2.2
IGIG				*e*S	Sn	12 47 19.4	-2.5
MZVM		**2.04**	**174**	*i* P	Pn	12 47 00.6	-2.4
MZVM				*i* S	Sn	12 47 24.7	-2.7
PPM	**Popocatepetl**	**2.29**	**160**	*e*P	Pn	12 47 08.1	+1.2
ZAIG	**Zacatecas**	**3.26**	**299**	*e*P	Pb	12 47 26.8	-1.3

IDC 29 12:49:57.9±6.9,**26°.50N**×**142°.78E**,**h38**km±59km,**mb3.6/4, mb1 3.8/5,mb1mx3.4/46,mbtmp3.8/5,ML3.9/1,Error ellipse: s-maj=65.4km s-min=23.4km az=77.0,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.74**	**340**	Pn	Pn	12 52 28.9	-0.2
	1.0nm,0.3s,baz=159,slow=11,SNR=8.8						
WRA	**Warramunga Arr**	**46.89**	**191**	P	P	12 58 24.7	+0.1
	3.5nm,0.9s,baz=12,slow=8.6,SNR=18						
ASAR	**Alice Springs**	**50.61**	**191**	P	P	12 58 52.9	-0.3
	0.4nm,0.6s,baz=8.6,slow=6.1,SNR=11						
MKAR	**Makanchi Array**	**51.26**	**310**	P	P	12 58 58.7	+0.8
	0.5nm,0.7s,baz=102,slow=6.1,SNR=3.0						
KURBB	**Kurchatov Arra**	**53.83**	**315**	P	P	12 59 16.1	-0.8
	0.5nm,0.5s,baz=92,slow=8.7,SNR=5.9						
LPAZ	**La Paz**	**149.55**	**77**	PKPbc	PKPbc	13 09 44.3	-0.5
	0.7nm,0.6s,baz=288,slow=3.2,SNR=2.5						

IDC 29 12:54:09.8±1.2,**26°.71N**×**142°.88E**,**h0**km,**mb3.4/4, mb1 3.6/5,mb1mx3.4/44,mbtmp3.4/5,ML3.5/1,Error ellipse: s-maj=47.7km s-min=23.2km az=91.0,Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.58**	**339**	Pn	Pn	12 56 40.2	-2.5
	0.3nm,0.3s,baz=163,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**47.11**	**191**	P	P	13 02 43.6	-0.2
	0.6nm,0.5s,baz=12,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**50.83**	**191**	P	P	13 03 11.9	-0.4
	0.3nm,0.8s,baz=6.6,slow=6.1,SNR=5.5						
MKAR	**Makanchi Array**	**51.20**	**310**	P	P	13 03 15.5	+0.5
	0.2nm,0.5s,baz=77,slow=9.0,SNR=2.4						
ILAR	**Eielson Array**	**57.75**	**28**	P	P	13 04 02.3	+0.1
	0.3nm,0.8s,baz=278,slow=6.1,SNR=3.4						

WEL 29 12:55:13.0±0.5,**38°.47S**×**175°.95E**,**h156**km±4km,**ML3.5/11, 7C-2D,Error ellipse: s-maj=2.6km s-min=2.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.72**	**213**	⇑PN	Pn	12 55 36.5	+0.1
BKZ	**Black Stump Fm**	**0.81**	**149**	⇑PN	Pn	12 55 37.1	+0.1
BKZ				SN	Sn	12 55 54.4	-1.1
RTZ	**Ruatahuna**	**0.82**	**101**	PN	Pn	12 55 37.2	+0.1
RTZ				SN	Sn	12 55 55.3	-0.1
FWVZ	**Far West T-bar**	**0.84**	**201**	PN	Pn	12 55 37.4	0.0
WNVZ	**Wahianoa**	**0.90**	**198**	⇑PN	Pn	12 55 37.8	0.0
URZ	**Urewera**	**0.94**	**77**	⇓PN	Pn	12 55 37.6	-0.2
URZ				SN	Sn	12 55 55.7	-1.1
MOVZ	**Moawhango**	**0.95**	**189**	PN	Pn	12 55 37.7	-0.3
MTVZ	**Mangateitei**	**0.99**	**202**	PN	Pn	12 55 38.4	+0.1
BHHZ	**Black Hill Sta**	**1.02**	**175**	PN	Pn	12 55 38.4	-0.2
BHHZ				SN	Sn	12 55 56.6	-1.7
KWHZ	**Kaweka Forest**	**1.02**	**159**	PN	Pn	12 55 38.9	+0.3
KWHZ				SN	Sn	12 55 57.9	-0.4
MCHZ	**McNeill Hill**	**1.14**	**149**	PN	Pn	12 55 40.3	+0.8
VRZ	**Vera Road**	**1.14**	**234**	⇑PN	Pn	12 55 39.6	+0.1
KRHZ	**Kereru**	**1.22**	**164**	⇑PN	Pn	12 55 40.3	0.0
MWZ	**Matawai**	**1.25**	**84**	AML	AML	12 56 04.5	
RIGZ	**Rimuhau**	**1.44**	**100**	PN	Pn	12 55 42.7	+0.3
PNHZ	**Pukenui**	**1.46**	**172**	PN	Pn	12 55 42.2	-0.4
WAZ	**Wanganui**	**1.49**	**210**	PN	Pn	12 55 42.5	-0.3
KAHZ	**Kahuranaki**	**1.51**	**152**	PN	Pn	12 55 43.4	+0.3
TSZ	**Takapari Road**	**1.59**	**180**	⇑PN	Pn	12 55 43.4	-0.5
HAZ	**Te Kaha**	**1.61**	**64**	PN	Pn	12 55 43.4	-0.8
WPHZ	**Waipukurau**	**1.64**	**167**	PN	Pn	12 55 44.0	-0.4
PXZ	**Pawanui**	**1.71**	**156**	PN	Pn	12 55 45.0	-0.2
PXZ				AML	AML	12 56 02.1	
PXZ				AML	AML	12 56 07.0	
PXZ				AML	AML	12 56 14.9	
DVHZ	**Dannevirke**	**1.83**	**175**	⇑PN	Pn	12 55 45.6	-1.0
PRHZ	**Porangahau**	**1.87**	**164**	PN	Pn	12 55 46.6	-0.4
POWZ	**Post Office Ro**	**1.93**	**184**	PN	Pn	12 55 46.5	-1.1
ANWZ	**Angora Road**	**2.03**	**169**	⇓PN	Pn	12 55 48.2	-0.6
PRWZ	**Pori Road**	**2.08**	**180**	PN	Pn	12 55 48.5	-0.9
MRZ	**Mangatainoka R**	**2.21**	**187**	PN	Pn	12 55 49.3	-1.6
BFZ	**Birch Farm**	**2.22**	**174**	PN	Pn	12 55 49.6	-1.4
TIWZ	**Tintock**	**2.31**	**181**	PN	Pn	12 55 50.5	-1.6
OGWZ	**Otaki Gorge**	**2.42**	**194**	PN	Pn	12 55 51.7	-1.6
HOWZ	**Holdsworth Sta**	**2.45**	**188**	PN	Pn	12 55 51.8	-1.9
KIW	**Kapiti Island**	**2.52**	**198**	PN	Pn	12 55 52.5	-2.1
MTW	**Mount Morrison**	**2.71**	**187**	PN	Pn	12 55 54.5	-2.4
CAW	**Cannon Point**	**2.72**	**194**	PN	Pn	12 55 54.9	-2.2
TCW	**Tory Channel**	**3.02**	**205**	PN	Pn	12 55 58.3	-2.5
PLWZ	**Palliser**	**3.14**	**190**	PN	Pn	12 55 59.4	-2.9
TUWZ	**Tuamarina**	**3.33**	**207**	PN	Pn	12 56 01.9	-2.8
NNZ	**Nelson**	**3.38**	**215**	PN	Pn	12 56 02.3	-3.0
THZ	**Tophouse**	**4.03**	**214**	PN	Pn	12 56 10.6	-3.3
KHZ	**Kahutara**	**4.35**	**204**	PN	Pn	12 56 14.7	-3.2

*IDC **29** 13:03:59.4±1.2,22°.54S×179°.50W,h534km±13km, mb3.4/16,mb1 3.5/18,mb1mx3.5/33,mbtmp4.3/18,Error ellipse: s-maj=14.5km s-min=11.4km az=123.0*
*ISCJB **29** 13:04:01.9±0.3,22°.76S±0°.06×179°.57W±0°.08,h579km, mb4.1/33,Error ellipse: s-maj=9.7km s-min=8.0km az=25.6*
*NEIC **29** 13:04:02.4±1.3,22°.62S×179°.62W,h571km±12km, mb4.3/13,Error ellipse: s-maj=23.8km s-min=14.8km az=136.0*
NEIC Felt at Suva.
ISC 29 13:04:02.6±0.4,**22°.73S**±0°.07×**179°.48W**±0°.08,**h579**km, **n108,**σ1$**44/114,mb4.2/33,13C-18D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.48**	**335**	*e*P	**P**	**13 05 36.5**	**-1.9**
RAO	**Raoul Island**	**6.65**	**168**	P	**P**	**13 05 45.4**	**-2.9**
	41nm,0.3s,baz=90,slow=16,SNR=3.1						
RAO				S	**S**	**13 07 10.8**	**-4.2**
	46nm,0.3s,baz=270,slow=20,SNR=4.8						
AFI	**Afiamalu**	**11.42**	**41**	P	P	13 06 29.7	-5.9
	1.7nm,0.3s,baz=218,slow=12,SNR=5.5						
AFI				S	**S**	**13 08 35.2**	**-6.0**
	1.1nm,0.3s,baz=202,slow=19,SNR=2.5						
AFI	**Afiamalu**	**11.42**	**41**	*e*P	P	13 06 28.6	-6.9
DZM	**Mont Dzumac**	**13.04**	**270**	*e*P	**P**	**13 06 50.8**	**-1.2**
URZ	**Urewera**	**15.76**	**190**	P	**P**	**13 07 16.8**	**-1.6**
	1.7nm,0.3s,baz=293,slow=3.6,SNR=9.0						
CTA	**Charters Tower**	**31.97**	**268**	P	**P**	**13 09 42.1**	**-0.3**
	6.6nm,0.5s,baz=94,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**35.61**	**247**	P	**P**	**13 10 12.8**	**0.0**
	2.5nm,0.5s,baz=90,slow=12,SNR=12						
ASAR	**Alice Springs**	**42.71**	**259**	P	**P**	**13 11 09.3**	**-0.6**
	1.1nm,0.6s,baz=97,slow=6.8,SNR=24						
ASAR				PcP	**PcP**	**13 12 48.6**	**+0.5**
	1.1nm,0.8s,baz=116,slow=3.9,SNR=6.7						
ASAR				ScP	**ScP**	**13 15 48.7**	**+4.2**
	0.4nm,0.8s,baz=104,slow=5.2,SNR=4.1						
ASAR				S	**S**	**13 16 50.2**	**-2.3**
	1.2nm,0.9s,baz=98,slow=14,SNR=7.9						
WRA	**Warramunga Arr**	**42.97**	**265**	P	**P**	**13 11 10.8**	**-1.2**
	0.7nm,0.3s,baz=96,slow=8.4,SNR=65						
WRA				PcP	**PcP**	**13 12 49.5**	**+0.4**
	1.0nm,0.8s,baz=95,slow=3.2,SNR=4.1						
WRA				ScP	**ScP**	**13 15 49.9**	**+4.3**
	0.8nm,0.8s,baz=107,slow=3.5,SNR=5.9						
WRA				S	**S**	**13 16 52.6**	**-3.8**
	0.8nm,0.9s,baz=104,slow=13,SNR=3.1						
VNDA	**Vanda**	**55.58**	**185**	P	**P**	**13 12 46.6**	**+2.9**
	0.7nm,0.5s,baz=4.8,slow=6.3,SNR=9.5						
VNDA				PcP	**PcP**	**13 13 36.6**	**+2.0**
	1.3nm,0.9s,baz=353,slow=4.1,SNR=4.2						
CASY	**Casey**	**61.37**	**206**	*e*P	**P**	**13 13 20.8**	**-1.9**
	5.1nm,0.6s						
QSPA	**South Pole Qui**	**67.35**	**180**	*e*P	**P**	**13 14 02.5**	**+1.9**
MJAR	**Matsushiro Arr**	**71.21**	**325**	P	**P**	**13 14 23.4**	**-0.6**
	1.8nm,0.7s,baz=163,slow=4.5,SNR=6.3						
KSRS	**Korea Array**	**77.66**	**320**	P	**P**	**13 15 01.1**	**+1.0**
	0.5nm,0.7s,baz=274,sl

comp=Z,2.0nm,0.6s,baz=80,slow=3.3,SNR=4.9
BR131 Keskin Array S 147.23 309 *e*PKPdf **PKPdf 13 22 40.2 +1.6**
BRTR Keskin Array B 147.23 309 PKPbc **PKPbc 13 22 41.6 -0.3**
comp=Z,2.7nm,0.7s,baz=139,slow=4.7,SNR=12
EKA Eskdalemuir Ar 147.32 4 PKPbc **PKPbc 13 22 41.1 -0.3**
comp=Z,1.4nm,0.4s,baz=0.4,slow=2.9,SNR=13
MMAI Mount Meron Ar 147.63 296 PKPbc **PKPbc 13 22 44.1 +1.1**
comp=Z,6.5nm,0.5s,baz=72,slow=5.4,SNR=8.6
BR231 Keskin MP Arra 147.81 310 *e*PKPdf **PKPbc 13 22 42.1 -1.3**
KWP Kalwaria Pacla 147.96 332 ⇓*i*P **PKPbc 13 22 44.0 +0.7**
CFR Carcaliu 148.23 321 ⇑*i*P **PKPbc 13 22 44.8 +0.8**
BUR08 Bucovina Ar. S 148.24 328 *e*PKPbc **PKPbc 13 22 45.1 +1.0**
BURAR Bucovina Array 148.25 327 ⇑*i*P **PKPbc 13 22 46.3 +2.1**
EIL Elat 148.42 290 PKPbc **PKPbc 13 22 45.9 +0.8**
comp=Z,5.6nm,0.8s,baz=1.3,slow=10,SNR=4.0
TIRR Tirgusor 148.48 320 ⇑*i*P PKPpre 13 22 31.3
VRI Vrincioaia 148.60 324 ⇓*i*P **PKPbc 13 22 45.4 +0.4**
PLOR Plostina 148.66 324 ⇓*i*P **PKPbc 13 22 45.2 0.0**
KOLS Kolonicke sedl 148.68 332 *e*PKP **PKPbc 13 22 45.9 +0.8**
STHS Stebnicka Huta 148.74 334 *e*PKP **PKPbc 13 22 46.1 +0.9**
CRVS Cervenica-Dubn 149.05 333 *e*PKP **PKPbc 13 22 46.5 +0.5**
ISR Istrita 149.17 323 ⇓*i*P **PKPbc 13 22 46.9 +0.5**
DOPR Dopca 149.26 325 ⇓*i*P **PKPbc 13 22 47.8 +1.2**
MLR Muntele Rosu 149.27 324 ⇓*i*P **PKPbc 13 22 46.8 0.0**
MLR Muntele Rosu 149.27 324 *e*PKPbc **PKPbc 13 22 46.3 -0.4**
OKC Ostrava-Krasne 149.59 337 ⇑*e*PKP **PKPbc 13 22 47.6 +0.4**
LANS Liptovska Anna 149.66 335 *e*PKP **PKPbc 13 22 49.0 +1.5**
UPC Upice 149.74 340 ⇑*e*PKP **PKPbc 13 22 48.2 +0.6**
DPC Dobruska-Polom 149.78 340 ⇑*e*PKP **PKPbc 13 22 48.4 +0.7**
KECS Kecovo 149.78 333 *e*PKP **PKPbc 13 22 48.2 +0.5**
KECS *e* 13 22 55.4
VOIR 149.79 324 ⇓*i*P **PKPbc 13 22 48.7 +0.8**
MORC Moravsky Berou 149.86 338 ⇓*i*P **PKPbc 13 22 48.8 +0.9**
MORC Moravsky Berou 149.86 338 *e*PKPbc **PKPbc 13 22 47.9 0.0**
KRLC Kraliky 149.87 339 ⇑*e*PKP **PKPbc 13 22 48.5 +0.6**
CLL Collm 149.87 344 ⇑*i*PKPbc **PKPbc 13 22 48.1 +0.3**
comp=Z,17nm,0.9s
CLL ⇓*i*PKPab **PKPab 13 22 55.8 -0.1**
comp=Z,5.0nm,0.8s
CLL Collm 149.87 344 *e*PKPbc **PKPbc 13 22 48.1 +0.3**
BRG Berggiesshubel 150.02 343 *e*PKP **PKPbc 13 22 48.6 +0.4**
comp=Z,11nm,0.6s
BRG *e* 13 22 56.6
comp=Z,5.8nm,0.7s
DRGR 150.05 329 ⇓*i*P **PKPbc 13 22 48.8 +0.3**
ARR Arges 150.06 325 ⇓*i*P **PKPbc 13 22 50.2 +1.6**
PVCC Panska Ves 150.15 342 ⇑*e*PKP **PKPbc 13 22 49.4 +0.9**
VYHS Vyhne 150.44 335 *e*PKP **PKPbc 13 22 49.7 +0.4**
VYHS *e* 13 22 58.8
LOT Lotru 150.46 326 ⇓*i*P **PKPbc 13 22 49.3 -0.2**
GOPC GO Pecny, Ondr 150.64 341 ⇑*e*PKP **PKPbc 13 22 50.2 +0.5**
PRU Pruhonice 150.64 341 ⇑*e*PKP **PKPbc 13 22 49.9 +0.2**
SIRR Siria 150.93 329 ⇓*i*P **PKPbc 13 22 51.1 +0.6**
GZR Gura Zlata 151.00 327 ⇓*i*P **PKPbc 13 22 50.9 +0.2**
BZS Buzias 151.43 328 ⇓*i*P **PKPbc 13 22 51.8 +0.2**
KHC Kasperske Hory 151.69 342 ⇑*e*PKP **PKPbc 13 22 52.4 +0.3**
KHC *e*PKPAB **PKPab 13 23 04.4 +0.7**
GEC2 GERESS Array S 151.91 341 *e*PKPbc **PKPbc 13 22 51.8 -0.9**
GERES GERESS Array B 151.91 341 PKPbc **PKPbc 13 22 52.7 0.0**
comp=Z,1.1nm,0.6s,baz=56,slow=2.4,SNR=8.9
GEA0 GERESS Array S 151.92 341 *e*PKPbc **PKPbc 13 22 52.6 -0.1**
VTS Vitosha 152.63 322 ⇑*i*P **PKPdf 13 22 46.2 -0.7**
FUORN Ofenpass-Fuorn 154.89 344 *e*PKPab **PKPab 13 23 17.6 -0.2**
PDG Podgorica 154.90 326 ⇓*i*P **PKPbc 13 23 00.5 +1.4**
ESDC Sonseca Array 162.68 12 PKPab **PKPab 13 23 51.4 -0.2**
comp=Z,0.2nm,0.3s,baz=341,slow=6.0,SNR=2.7
TORD Torodi Ar. Bea 170.41 187 PKP **PKPdf 13 23 05.2 -0.3**
comp=Z,0.9nm,0.9s,baz=213,slow=0.6,SNR=3.9
TORD PKPab **PKPab 13 24 27.1 +1.0**
comp=Z,0.7nm,0.7s,baz=182,slow=4.0,SNR=4.1

*ISCJB **29** 13:12:17.6±0.3,49°.85N±0°.02×18°.34E±0°.02, h0km, Error ellipse: s-maj=3.4km s-min=1.8km az=13.5*
*IPEC **29** 13:12:18.4±0.2,49°.83N×18°.54E, h0km±3km, ML2.7/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*IDC **29** 13:12:19.6±1.0,49°.81N×18°.46E, h0km, mb1 3.1/3, mb1mx3.0/54, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=19.8km s-min=8.0km az=151.0*
*BGR **29** 13:12:19.6±0.4, 49°.88N×18°.46E, h1km, ML3.1/10, Error ellipse: s-maj=7.8km s-min=3.3km az=173.0*
*CSEM **29** 13:12:19.1±0.2, 49°.83N×18°.39E, h2km, ML3.5/16, Error ellipse: s-maj=4.6km s-min=2.4km az=15.0*
ISC 29 13:12:18.1±0.7,**49°.87N**±0°.02×**18°.45E**±0°.01,**h0km**,**n99,**
σ1§**21**/159,**16C-4D**,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**262**	*e*PG	**Pg**		**13 12 23.9**	**+2.0**
OKC				*e*SG	**Sg**		**13 12 27.4**	**+3.0**
OKC	**Ostrava-Krasne**	**0.20**	**262**	*e*Pg	**Pg**		**13 12 23.8**	**+2.0**
OKC				*e*Sg	**Sg**		**13 12 27.4**	**+3.0**
OKC	**Ostrava-Krasne**	**0.20**	**262**	Pg	**Pg**		**13 12 23.8**	**+2.0**
OKC				Sg	**Sg**		**13 12 27.4**	**+3.0**
RAC	**Raciborz**	**0.27**	**323**	*e*Pg	**Pb**		**13 12 25.5**	**-0.4**
RAC				*e*Sg	**Sb**		**13 12 30.6**	**-0.5**
MORC	**Moravsky Berou**	**0.59**	**262**	⇓*i*P	**Pb**		**13 12 31.4**	**+0.1**
MORC				S	**Sb**		**13 12 39.0**	**-1.3**
MORC	**Moravsky Berou**	**0.59**	**262**	*e*Pg	**Pb**		**13 12 30.8**	**-0.6**
MORC				*e*Sg	**Sb**		**13 12 39.1**	**-1.3**
MORC	**Moravsky Berou**	**0.59**	**262**	*e*Pg	**Pb**		**13 12 30.7**	**-0.6**
MORC	**Moravsky Berou**	**0.59**	**262**	⇓*i*P	**Pb**		**13 12 31.4**	**+0.1**
MORC				*e*Sg	**Sg**		**13 12 38.6**	**+1.5**
161nm,0.5s								
OJC	**Ojcow**	**0.94**	**67**	*i* Pg	**Pg**		**13 12 36.2**	**+0.2**
OJC				*e*Sg	**Sb**		**13 12 49.1**	**-1.2**
OJC	**Ojcow**	**0.94**	**67**	*e*Pg	**Pg**		**13 12 36.4**	**+0.3**
OJC				*e*Sg	**Sb**		**13 12 49.5**	**-0.8**
OJC	**Ojcow**	**0.94**	**67**	Pg	**Pg**		**13 12 36.4**	**+0.3**
OJC				Sg	**Sb**		**13 12 49.5**	**-0.8**
LANS	**Liptovska Anna**	**0.98**	**137**	*e*Pg	**Pb**		**13 12 37.8**	**-0.1**
LANS				*e*Sg	**Sn**		**13 12 53.1**	**-0.5**
LANS	**Liptovska Anna**	**0.98**	**137**	*e*PG	**Pb**		**13 12 37.8**	**-0.1**
LANS				*e*SG	**Sn**		**13 12 53.1**	**-0.5**
KRLC	**Kraliky**	**1.10**	**282**	*e*PG	**Pg**		**13 12 39.3**	**+0.2**
KRLC				*e*SG	**Sg**		**13 12 54.0**	**+0.7**
KRLC	**Kraliky**	**1.10**	**282**	Pg	**Pg**		**13 12 39.3**	**+0.2**
KRLC				Sg	**Sg**		**13 12 54.0**	**+0.7**
NIE	**Niedzica**	**1.28**	**110**	*e*Pg	**Pb**		**13 12 43.1**	**0.0**
NIE				*e*Sg	**Sn**		**13 13 01.3**	**+0.1**
NIE	**Niedzica**	**1.28**	**110**	*e*Pg	**Pb**		**13 12 43.1**	**0.0**
NIE				*e*Sg	**Sn**		**13 13 01.3**	**+0.1**
VRAC	**Vranov**	**1.33**	**246**	Pg	**Pb**		**13 12 44.3**	**+0.4**
16nm,0.3s,baz=65,slow=16,SNR=36								
VRAC				Lg	Lg		13 13 01.4	
62nm,0.3s,baz=148,slow=19,SNR=28								
VRAC	**Vranov**	**1.33**	**246**	⇑*i*P	**Pb**		**13 12 44.3**	**+0.4**
VRAC	**Vranov**	**1.33**	**246**	S	**Sg**		**13 13 01.3**	**+0.5**
VRAC	**Vranov**	**1.33**	**246**	*e*Pg	**Pn**		**13 12 43.9**	**0.0**
VRAC	**Vranov**	**1.33**	**246**	⇑*i*P	**Pb**		**13 12 44.3**	**+0.4**
VRAC				*e*Sg	**Sg**		**13 13 01.2**	**+0.5**
130nm,0.3s								
VYHS	**Vyhne**	**1.40**	**169**	*e*Pn	**Pn**		**13 12 44.9**	**+0.1**
VYHS				*e*Sn	**Sb**		**13 13 03.5**	**+0.2**
VYHS	**Vyhne**	**1.40**	**169**	*e*PN	**Pn**		**13 12 44.8**	**0.0**
VYHS				*e*SN	**Sb**		**13 13 03.5**	**+0.2**
VYHS				eLG	Lg		13 13 06.1	
DPC	**Dobruska-Polom**	**1.45**	**290**	*e*PG	**Pb**		**13 12 46.3**	**+0.3**
DPC				*e*SG	**Sn**		**13 13 05.9**	**+0.5**
106nm,0.4s								
DPC	**Dobruska-Polom**	**1.45**	**290**	*e*Pg	**Pb**		**13 12 46.4**	**+0.3**
DPC				*e*Sg	**Sn**		**13 13 06.1**	**+0.7**
DPC	**Dobruska-Polom**	**1.45**	**290**	Pg	**Pb**		**13 12 46.4**	**+0.4**
DPC				Sg	**Sn**		**13 13 06.1**	**+0.7**
SMOL	**Smolenice**	**1.51**	**207**	*e*Pn	**Pb**		**13 12 46.9**	**0.0**
SMOL				*e*Sn	**Sn**		**13 13 07.7**	**+1.0**
SMOL	**Smolenice**	**1.51**	**207**	*e*PN	**Pb**		**13 12 46.9**	**0.0**
SMOL				*e*SN	**Sn**		**13 13 07.7**	**+1.0**
KRUC	**Moravsky**	**1.56**	**240**	*e*Pg	**Pn**		**13 12 47.3**	**+0.2**
KRUC				*e*Sg	**Sn**		**13 13 08.3**	**+0.3**
69nm,0.4s								
KSP	**Ksiaz**	**1.69**	**306**	*e*Pn	**Pb**		**13 12 49.9**	**-0.1**
KSP				*e*Pg	**Pg**		**13 12 52.5**	**+2.0**
KSP				*e*Sg	**Sg**		**13 13 13.6**	**+1.2**
KSP	**Ksiaz**	**1.69**	**306**	*e*Pn	**Pg**		**13 12 50.5**	**0.0**
KSP				*e*Sg	**Sg**		**13 13 13.3**	**+0.9**
KSP	**Ksiaz**	**1.69**	**306**	Pn	**Pg**		**13 12 50.5**	**0.0**
UPC	**Upice**	**1.69**	**293**	*e*PG	**Pb**		**13 12 50.2**	**+0.1**
UPC				*e*SG	**Sg**		**13 13 13.1**	**+0.7**
168nm,0.9s								
UPC	**Upice**	**1.69**	**293**	Pg	**Pb**		**13 12 50.2**	**+0.1**
UPC				Sg	**Sg**		**13 13 13.1**	**+0.7**
168nm,0.9s								
STHS	**Stebnicka Huta**	**1.87**	**103**	*e*Pn	**Pg**		**13 12 54.1**	**+0.2**
STHS				*e*Sn	**Sg**		**13 13 21.2**	**+3.1**
STHS	**Stebnicka Huta**	**1.87**	**103**	*e*PN	**Pg**		**13 12 54.1**	**+0.2**
STHS				*e*SN	**Sg**		**13 13 21.2**	**+3.1**
STHS				eLG	Lg		13 13 29.5	
KECS	**Kecovo**	**1.92**	**135**	*e*Pg	**Pg**		**13 12 54.6**	**-0.3**
KECS				*e*Sn	**Sb**		**13 13 18.2**	**-0.3**
KECS	**Kecovo**	**1.92**	**135**	*e*	**Pn**		**13 12 51.6**	**-0.4**
KECS	**Kecovo**	**1.92**	**135**	*e*PG	**Pg**		**13 12 54.6**	**-0.3**
KECS				*e*SN	**Sb**		**13 13 18.2**	**-0.3**
KECS				eLG	Lg		13 13 29.5	
TREC	**Trest**	**2.01**	**255**	*e*PG	**Pb**		**13 12 55.8**	**+0.3**
TREC				*e*SG	**Sb**		**13 13 22.0**	**+1.0**
46nm,0.4s								
TREC	**Trest**	**2.01**	**255**	Pg	**Pb**		**13 12 55.8**	**+0.3**
TREC				Sg	**Sb**		**13 13 22.0**	**+1.0**
46nm,0.4s								
PSZ	**Piszkesteto**	**2.17**	**153**	⇑*i*P	**Pb**		**13 12 57.0**	**-1.2**
PSZ	**Piszkesteto**	**2.17**	**153**	⇑*i*P	**Pb**		**13 12 57.0**	**-1.2**
CRVS	**Cervenica-Dubn**	**2.19**	**115**	*e*Pn	**Pg**		**13 12 59.5**	**-0.5**
CRVS	**Cervenica-Dubn**	**2.19**	**115**	*e*PN	**Pg**		**13 12 59.5**	**-0.5**
GOPC	**GO Pecny, Ondr**	**2.37**	**273**	*e*PN	**Pn**		**13 12 59.1**	**+0.9**
GOPC				*e*PG	**Pb**		**13 13 01.6**	**0.0**
GOPC				*ex*	x		13 13 24.1	
GOPC				*e*SN	**Sn**		**13 13 28.1**	**+0.2**
GOPC				*e*SG	**Sb**		**13 13 32.2**	**+0.8**
28nm,0.4s								
GOPC	**GO Pecny, Ondr**	**2.37**	**273**	Pn	**Pn**		**13 12 59.1**	**+0.9**
GOPC	**GO Pecny, Ondr**	**2.37**	**273**	Pg	**Pb**		**13 13 01.6**	**0.0**
GOPC				Sn	**Sn**		**13 13 28.1**	**+0.2**
GOPC				Sg	**Sb**		**13 13 32.2**	**+0.8**
28nm,0.4s								
PRU	**Pruhonice**	**2.53**	**274**	*e*PG	**Pg**		**13 13 07.4**	**+0.9**
PRU				*e*SN	**Sn**		**13 13 32.0**	**+0.2**
PRU				*e*SG	**Sb**		**13 13 37.4**	**+1.5**
26nm,0.5s								
PRU	**Pruhonice**	**2.53**	**274**	Pg	**Pg**		**13 13 07.4**	**+0.9**
PRU				Sn	**Sn**		**13 13 32.0**	**+0.2**
PRU				Sg	**Sb**		**13 13 37.4**	**+1.5**
26nm,0.5s								
PVCC	**Panska Ves**	**2.58**	**286**	*e*SG	**Sg**		**13 13 40.7**	**-0.2**
58nm,0.5s								
PVCC	**Panska Ves**	**2.58**	**286**	Sg	**Sg**		**13 13 40.7**	**-0.2**
58nm,0.5s								
CONA	**Conrad Observa**	**2.58**	**222**	*e*Pn	**Pn**		**13 13 01.2**	**0.0**
3.7nm,0.3s								
CONA				Sn	**Sn**		**13 13 32.8**	**-0.5**
9.6nm,0.3s								
CONA	**Conrad Observa**	**2.58**	**222**	Pn	**Pn**		**13 13 01.2**	**0.0**
3.7nm,0.3s								
CONA				Sn	**Sn**		**13 13 32.8**	**-0.5**
9.6nm,0.3s								
KWP	**Kalwaria Pacla**	**2.77**	**93**	⇑*i*P	**Pn**		**13 13 05.3**	**+1.6**
KWP	**Kalwaria Pacla**	**2.77**	**93**	S	**Sg**		**13 13 52.7**	**+5.6**
KWP	**Kalwaria Pacla**	**2.77**	**93**	⇑*i*P	**Pn**		**13 13 05.3**	**+1.6**
BRG	**Berggiesshubel**	**3.06**	**291**	PG	**Pb**		**13 13 14.9**	**+1.6**
BRG				SG	**Sg**		**13 13 55.6**	**-0.6**
40nm,0.6s								
BRG	**Berggiesshubel**	**3.06**	**291**	*e*Pg	**Pg**		**13 13 16.0**	**-0.6**
BRG				*e*Sg	**Sg**		**13 13 55.8**	**-0.4**
BRG	**Berggiesshubel**	**3.06**	**291**	Pg	**Pg**		**13 13 16.0**	**-0.6**
BRG				Sg	**Sg**		**13 13 55.8**	**-0.4**
KHC	**Kasperske Hory**	**3.26**	**259**	*e*PN	**Pn**		**13 13 11.1**	**+0.7**
KHC				*e*PG	**Pb**		**13 13 18.0**	**+1.2**
KHC				*ex*	x		13 13 21.5	
KHC				*e*SN	**Sn**		**13 13 47.7**	**-2.2**
KHC				*e*SG	**Sg**		**13 14 01.1**	**-1.6**
35nm,0.4s								
KHC	**Kasperske Hory**	**3.26**	**259**	Pn	**Pn**		**13 13 11.1**	**+0.7**
KHC	**Kasperske Hory**	**3.26**	**259**	Pg	**Pb**		**13 13 18.0**	**+1.2**
KHC				Sn	**Sn**		**13 13 47.7**	**-2.2**
KHC				Sg	**Sg**		**13 14 01.1**	**-1.6**
35nm,0.4s								
GEC2	**GERESS Array S**	**3.27**	**254**	*e*Pg	**Pg**		**13 13 20.5**	**-0.1**
GEC2				*e*Sg	**Sg**		**13 14 03.1**	**+0.2**
GEC2	**GERESS Array S**	**3.27**	**254**	Pg	**Pg**		**13 13 20.5**	**-0.1**
GEC2				Sg	**Sg**		**13 14 03.1**	**+0.2**
GERES	**GERESS Array B**	**3.27**	**254**	Pn	**Pn**		**13 13 12.4**	**+1.8**
0.5nm,0.3s,baz=71,slow=14,SNR=6.3								
GERES				Pg	**Pg**		**13 13 19.6**	**-1.0**
1.7nm,0.3s,baz=69,slow=17,SNR=17								
GERES				Sn	**Sn**		**13 13 47.7**	**-2.5**
1.7nm,0.3s,baz=80,slow=24,SNR=4.8								
GERES				Lg	Lg		13 14 01.8	
10nm,0.3s,baz=70,slow=27,SNR=15								
MOA	**Molln**	**3.42**	**235**	*e*Sg	**Sg**		**13 14 06.4**	**-1.4**
45nm,0.7s								
MOA	**Molln**	**3.42**	**235**	Sg	**Sg**		**13 14 06.4**	**-1.4**
45nm,0.7s								
FBE	**Freiberg**	**3.43**	**290**	*e*Sg	**Sg**		**13 14 07.9**	**-0.2**
FBE	**Freiberg**	**3.43**	**290**	Sg	**Sg**		**13 14 07.9**	**-0.2**
CLL	**Collm**	**3.76**	**295**	*e*Pg	**Pg**		**13 13 30.0**	**-0.1**
CLL				*e*Sg	**Sg**		**13 14 18.0**	**-0.7**
comp=Z,28nm,0.6s								
NKC	**Novy Kostel**	**3.88**	**278**	*e*SG	**Sg**		**13 14 22.7**	**-0.1**
comp=Z,28nm,0.5s								
NKC	**Novy Kostel**	**3.88**	**278**	Sg	**Sg**		**13 14 22.7**	**-0.1**
comp=Z,28nm,0.5s								
WERD	**Werda**	**3.99**	**281**	*e*Sg	**Sg**		**13 14 24.4**	**-1.8**
DRGR		**4.19**	**136**	⇓*i*P	**Pn**		**13 13 23.8**	**+0.6**
DRGR		**4.19**	**136**	⇓*i*P	**Pn**		**13 13 23.8**	**+0.6**
SIRR	**Siria**	**4.19**	**148**	⇑*i*P	**Pn**		**13 13 23.4**	**+0.1**
SIRR	**Siria**	**4.19**	**148**	⇑*i*P	**Pn**		**13 13 23.4**	**+0.1**
KBA	**Koelnbreinsper**	**4.39**	**233**	Sg	**Sg**		**13 14 40.6**	**+1.5**
comp=Z,13nm,0.6s								
KBA	**Koelnbreinsper**	**4.39**	**233**	Sg	**Sg**		**13 14 40.6**	**+1.5**
comp=Z,13nm,0.6s								
BZS	**Buzias**	**4.76**	**152**	⇑*i*P	**Pn**		**13 13 32.3**	**+1.3**
BZS	**Buzias**	**4.76**	**152**	⇑*i*P	**Pn**		**13 13 32.3**	**+1.3**
BURAR	**Bucovina Array**	**5.01**	**114**	⇑*i*P	**Pn**		**13 13 36.0**	**+1.4**
BURAR	**Bucovina Array**	**5.01**	**114**	⇑*i*P	**Pn**		**13 13 36.0**	**+1.4**
WTTA	**Wattenberg**	**5.22**	**243**	*i* Sg	**Sg**		**13 15 04.0**	**-1.6**
comp=Z,12nm,0.8s								
WTTA	**Wattenberg**	**5.22**	**243**	Sg	**Sg**		**13 15 04.0**	**-1.6**
comp=Z,12nm,0.8s								
GZR	**Gura Zlata**	**5.34**	**145**	⇑*i*P	**Pn**		**13 13 39.9**	**+0.8**
GZR	**Gura Zlata**	**5.34**	**145**	⇑*i*P	**Pn**		**13 13 39.9**	**+0.8**
MOTA	**Moosalm**	**5.49**	**245**	*i* Sg	**Sg**		**13 15 14.7**	**+0.5**
comp=Z,6.2nm,0.3s								
MOTA	**Moosalm**	**5.49**	**245**	Sg	**Sg**		**13 15 14.7**	**+0.5**
comp=Z,6.2nm,0.3s								
MDVR	**Moldovita**	**5.55**	**155**	⇑*i*P	**Pn**		**13 13 42.7**	**+0.8**
MDVR	**Moldovita**	**5.55**	**155**	⇑*i*P	**Pn**		**13 13 42.7**	**+0.8**
RETA	**Reutte**	**5.62**	**248**	*i* Sg	**Sg**		**13 15 20.1**	**+1.6**
comp=Z,4.7nm,0.4s								
RETA	**Reutte**	**5.62**	**248**	Sg	**Sg**		**13 15 20.1**	**+1.6**
comp=Z,4.7nm,0.4s								
FETA	**Feichten**	**5.87**	**244**	Sg	**Sg**		**13 15 30.5**	**+3.9**
comp=Z,13nm,0.8s								
DAVOX	**Davos/Dischmat**	**6.49**	**245**	Sn	**Sn**		**13 15 09.6**	**-0.2**
comp=Z,0.1nm,0.3s,baz=336,slow=20,SNR=2.2								
DAVOX				Lg	Lg		13 15 46.7	
comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=5.0								
AKASG	**Malin Array Be**	**6.96**	**79**	Pn	**Pn**		**13 13 59.4**	**-1.7**
comp=Z,0.8nm,0.3s,baz=261,slow=13,SNR=4.5								
AKASG				Lg	Lg		13 16 00.3	
comp=Z,0.6nm,0.3s,baz=273,slow=28,SNR=3.0								
FINES	**FINESS Array B**	**12.37**	**17**	Pn	**Pn**		**13 15 12.1**	**-3.0**
comp=Z,0.2nm,0.3s,baz=205,slow=35,SNR=5.2								
FINES				Sn	Sn		13 17 23.8	-10
comp=Z,0.2nm,0.3s,baz=205,slow=22,SNR=3.9								
RCP	**Roxas**	**2.33**	**235**	⇓*e*P	**Pn**		**13 21 39.1**	**+1.3**
GQP	**Guinayangan**	**2.39**	**294**	⇓*e*P	**Pn**		**13 21 39.5**	**+0.9**
GQP				*e*S	**Sb**		**13 22 12.7**	**+0.4**
OTRP	**Odiongan**	**2.66**	**258**	*e*P	**Pn**		**13 21 41.6**	**-0.8**
LLP	**Lapu-Lapu**	**2.68**	**195**	*e*P	**Pn**		**13 21 42.5**	**-0.1**
LLP				*e*S	**Sg**		**13 22 24.5**	**-0.1**
BOAC	**Boac**	**2.82**	**281**	*e*P	**Pn**		**13 21 44.8**	**+0.3**
BOAC				*e*S	**Sn**		**13 22 19.6**	**+0.3**
GUIM	**Jordan**	**3.07**	**222**	*e*P	**Pn**		**13 21 49.1**	**+1.1**
GUIM				*e*S	**Sn**		**13 22 25.6**	**+0.3**
JAP	**San Jose, Anti**	**3.44**	**231**	⇓*e*P	**Pn**		**13 21 56.4**	**+3.2**
TGY	**Tagaytay City**	**3.83**	**288**	P	**Pb**		**13 22 03.6**	**-3.2**
20nm,0.3s,baz=3.8,slow=22,SNR=3.3								
TGY				S	**Sb**		**13 22 52.3**	**-1.5**
42nm,0.3s,baz=133,slow=19,SNR=2.2								
BALP	**Baler**	**4.12**	**313**	*e*P	**Pn**		**13 22 01.6**	**-0.9**
BALP				*e*S	**Sn**		**13 22 49.8**	**-1.4**
CUYO	**Cuyo Island**	**4.14**	**241**	*e*P	**Pn**		**13 22 03.9**	**+1.1**
LUBP	**Lubang**	**4.40**	**281**	*e*P	**Pg**		**13 22 23.6**	**+0.9**
LUBP				*e*S	Sn		13 22 27.3	-31
CAUP	**Cauayan**	**4.87**	**326**	*e*P	**Pn**		**13 22 12.6**	**-0.1**
BUKP	**Musuan**	**5.02**	**176**	*e*P	**Pn**		**13 22 18.0**	**+3.1**
ENPP	**El Nido**	**5.42**	**252**	*e*P	**Pn**		**13 22 20.7**	**+0.3**
SCZP	**Santa Cruz**	**5.43**	**302**	*e*P	**Pn**		**13 22 20.9**	**+0.4**
BOLP	**Bolinao**	**5.76**	**307**	*e*P	**Pn**		**13 22 27.4**	**+2.3**
SGCP	**Mt. Cagua**	**5.87**	**335**	*e*P	**Pn**		**13 22 28.6**	**+2.0**
DAV	**Davao City (W)**	**5.88**	**171**	LR	LR		13 25 18.0	
comp=Z,252nm,19.6s,baz=329,slow=44								
APYP	**Conner**	**5.93**	**326**	*e*P	**Pn**		**13 22 29.6**	**+2.3**
APYP				*e*S	**Sn**		**13 23 37.3**	**+1.3**
ABRA	**Dolores**	**6.07**	**321**	*e*P	**Pn**		**13 22 30.1**	**+0.8**
ABRA				*e*S	**Sn**		**13 23 40.4**	**+1.0**
KSRS	**Korea Array**	**24.60**	**6**	P	P		13 26 27.7	+7.6
1.5nm,0.8s,baz=184,slow=11,SNR=2.6								
CMAR	**Chiang Mai Arr**	**25.38**	**286**	P	**P**		**13 26 27.9**	**+0.5**
0.5nm,0.6s,baz=102,slow=8.5,SNR=3.0								
CMAR				LR	LR		13 37 44.8	
comp=Z,28nm,19.8s,baz=95,slow=39								
USRK	**Ussuriysk Ar.**	**31.80**	**10**	P	**P**		**13 27 28.5**	**+4.2**
1.0nm,0.6s,baz=191,slow=4.4,SNR=4.3								
WRA	**Warramunga Arr**	**34.01**	**164**	P	**P**		**13 27 41.4**	**-2.6**
0.7nm,0.8s,baz=346,slow=8.7,SNR=8.0								
WRA				PcP	**PcP**		**13 30 20.7**	**-1.5**
0.2nm,0.5s,baz=343,slow=2.8,SNR=4.0								
ASAR	**Alice Springs**	**37.46**	**166**	P	**P**		**13 28 12.4**	**-1.2**
1.0nm,0.5s,baz=347,slow=7.2,SNR=24								
ASAR				PcP	**PcP**		**13 30 31.0**	**-1.4**
0.2nm,0.4s,baz=339,slow=3.2,SNR=2.9								
SONM	**Songino Array**	**38.01**	**340**	P	**P**		**13 28 18.8**	**+0.7**
0.3nm,0.3s,baz=191,slow=7.0,SNR=2.3								
STKA	**Stephens Creek**	**47.40**	**160**	P	**P**		**13 29 33.1**	**-1.2**
1.8nm,0.6s,baz=358,slow=5.2,SNR=5.7								
MKAR	**Makanchi Array**	**48.99**	**322**	P	**P**		**13 29 46.3**	**-0.3**
0.8nm,0.8s,baz=101,slow=6.4,SNR=6.5								
ZALV	**Zalesovo Beam**	**51.57**	**331**	P	**P**		**13 30 05.5**	**-0.5**
0.5nm,0.3s,baz=123,slow=7.3,SNR=3.6								
ILAR	**Eielson Array**	**77.75**	**26**	P	**P**		**13 32 57.0**	**+0.2**
0.2nm,0.8s,baz=301,slow=8.6,SNR=3.3								
NOA	**NORSAR Array B**	**89.71**	**333**	LR	LR		14 16 58.6	
comp=Z,28nm,19.9s,baz=175,slow=37								

*NIED **29** 13:37:00, 29°.

YER	**Yerkesik**	**0.33**	**152**	*e*Pg	**Pg**	13 44 52.3	-0.1
YER				*e*Sg	**Sb**	**13 44 58.2**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.54**	**343**	*e*PG	**Pg**	13 44 56.3	+0.1
AYDB	**Zeytinkoy-Aydi**	**0.54**	**343**	*e*Pg	**Pg**	13 44 56.3	+0.1
BDRM	**Kayabasi**	**0.63**	**235**	P	**Pg**	13 44 57.8	+0.1
BDRM				S	**Sb**	13 45 06.3	0.0
BDRM	**Kayabasi**	**0.63**	**235**	*i* P	**Pg**	13 44 57.8	+0.1
BDRM				*i* S	**Sb**	13 45 06.3	0.0
TURN	**Turunc**	**0.69**	**143**	*i* P	**Pg**	13 44 58.2	-0.6
TURN				*i* S	**Sg**	13 45 08.0	0.0
BODT	**Bodrum**	**0.72**	**240**	*e*PG	**Pb**	13 44 59.4	+0.1
BODT				*e*SG	**Sb**	13 45 10.1	+1.2
BODT	**Bodrum**	**0.72**	**240**	*e*Pg	**Pb**	13 44 59.4	+0.1
BODT				*e*Sg	**Sb**	13 45 10.1	+1.2
GCAM	**G?zelcaml?**	**0.73**	**292**	P	**Pg**	13 44 59.7	0.0
GCAM				S	**Sb**	13 45 08.5	-0.7
GCAM	**G?zelcaml?**	**0.73**	**292**	*i* P	**Pg**	13 44 59.7	0.0
GCAM				*i* S	**Sb**	13 45 08.5	-0.7
DALY	**Dalyan (Mu¨la**	**0.76**	**143**	*e*PG	**Pb**	13 45 00.1	+0.2
DALY	**Dalyan (Mu¨la**	**0.76**	**143**	*e*Pg	**Pb**	13 45 00.1	+0.2
DNZL	**Cakiroluk**	**0.80**	**71**	P	**Pg**	13 45 01.6	+0.6
DNZL				S	**Sg**	13 45 11.9	+0.1
DNZL	**Cakiroluk**	**0.80**	**71**	*i* P	**Pg**	13 45 01.6	+0.6
DNZL				*i* S	**Sg**	13 45 11.8	+0.1
DGB	**¨zmir**	**1.14**	**303**	*i* P	**Pg**	13 45 07.6	+0.2
DGB				*i* S	**Sg**	13 45 23.3	+0.9
IZM	**Izmir**	**1.17**	**326**	*e*PN	**Pb**	13 45 07.1	+0.1
IZM	**Izmir**	**1.17**	**326**	*e*Pn	**Pb**	13 45 07.1	+0.1
KULA	**Kula-Manisa**	**1.18**	**22**	*e*PN	**Pn**	13 45 06.3	-0.7
KULA	**Kula-Manisa**	**1.18**	**22**	*e*Pn	**Pn**	13 45 06.3	-0.7

ISCJB ***29*** *13:58:47.6±0.3,36°.59N±0°.03×71°.11E±0°.04, h188km, mb3.9/25, Error ellipse: s-maj=5.3km s-min=3.1km az=156.2*

IDC ***29*** *13:58:48.8±2.1,36°.44N×71°.09E, h194km±20km, mb3.5/23, mb1 3.6/29, mb1mx3.5/54, mbtmp4.1/29, Error ellipse: s-maj=11.5km s-min=9.1km az=1.0*

NEIC ***29*** *13:58:50.7±0.9,36°.64N×71°.18E, h217km±9km, mb4.5/4, Error ellipse: s-maj=21.4km s-min=10.0km az=127.0*

NNC ***29*** *13:58:56.6±0.7,37°.28N×71°.07E, h284km±31km, mb3.0, mpv4.3, Error ellipse: s-maj=15.9km s-min=5.5km az=174.0*

ISC 29 13:58:48.4±0.4,**36°.57N**±0°.05×**71°.13E**±0°.05,**h188**km,**n71,** σ1ᵎ**75**/80,**mb3.7**/25,**3C-7D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.64**	**221**	*e*Pn		Pn	13 59 39.1	+5.5
CEP	**Cherat**	**2.82**	**167**	P		Pn	13 59 41.5	+6.0
CEP				S		**Sn**	**14 00 19.0**	**+6.9**
CHCP	**Chirah Chowk**	**3.39**	**148**	P	⇓	Pn	13 59 48.2	+5.9
THW	**Thamme Wali**	**3.80**	**172**	P		Pn	13 59 52.8	+5.4
SARP	**Sargodha**	**4.81**	**164**	P	⇓	**Pn**	**14 00 04.6**	**+4.4**
KSH	**Kashi**	**4.83**	**51**	Pn		**Pn**	**13 59 58.3**	**-2.1**
KSH				Sn		Sn	14 00 45.5	-11
KSH	comp=N,180nm,0.5s			smax		smax		
KSH	comp=E,170nm,0.6s			smax		smax		
THN	**Thein Dam**	**5.60**	**136**	*e*P		**Pn**	**14 00 11.5**	**+1.1**
THN				*e*S		**Sn**	**14 01 15.0**	**+0.1**
MNAS	**Manas**	**6.00**	**10**	P	⇓	**Pn**	**14 00 17.4**	**+1.8**
MNAS	comp=E,25nm,0.4s			⇑S		**Sn**	**14 01 22.6**	**-1.9**
EKS2	**Erkin-Say**	**6.42**	**18**	*e*Pn		**Pn**	**14 00 22.4**	**+1.4**
KK31	**Karatay Array**	**6.54**	**356**	P		**Pn**	**14 00 23.6**	**+1.1**
KK31	comp=E,8.4nm,0.3s,baz=178,slow=11,SNR=182			⇑S		**Sn**	**14 01 33.4**	**-3.5**
KKAR	**Karatay Array**	**6.54**	**356**	*e*Pn		**Pn**	**14 00 23.8**	**+1.2**
AAK	**Ala-Archa**	**6.59**	**22**	P		**Pn**	**14 00 25.3**	**+2.1**
AAK	comp=E,9.9nm,0.3s,baz=182,slow=5.7,SNR=34			S		**Sn**	**14 01 33.7**	**-4.6**
AAK	**Ala-Archa**	**6.59**	**22**	⇓P		**Pn**	**14 00 24.9**	**+1.7**
AAK	comp=E,22nm,0.6s			⇓S		**Sn**	**14 01 36.5**	**-1.7**
AAK	**Ala-Archa**	**6.59**	**22**	*e*Pn		**Pn**	**14 00 25.0**	**+1.7**
SDNR	**Sundarnagar**	**7.01**	**135**	*e*P		**Pn**	**14 00 32.0**	**+3.2**
SDNR				*e*S		**Sn**	**14 01 48.0**	**-0.1**
TKM2	**Tokmak 2**	**7.21**	**27**	⇑P		**Pn**	**14 00 33.0**	**+1.4**
TKM2	comp=E,18nm,0.6s			⇓S		**Sn**	**14 01 51.4**	**-1.7**
TKM2	**Tokmak 2**	**7.21**	**27**	*e*Pn		**Pn**	**14 00 33.1**	**+1.6**
KHET	**Khetri**	**9.35**	**154**	*e*P		**Pn**	**14 01 00.6**	**+1.2**
KHET				*e*S		**Sn**	**14 02 41.2**	**-2.7**
KHET				IAML			14 03 14.9	
KHET	comp=E,8.7nm,0.3s			IAML			14 03 16.4	
NDI	**New Delhi**	**9.39**	**145**	*e*P		**Pn**	**14 00 57.0**	**-3.0**
KUDL	**Kundal**	**9.55**	**150**	*e*P		**Pn**	**14 01 04.0**	**+2.0**
KUDL				*e*S		**Sn**	**14 02 44.5**	**-4.0**
KUDL				IAML			14 03 30.9	
KUDL	comp=E,10nm,0.6s			IAML			14 03 31.2	
SONA	**Sohna**	**9.70**	**147**	*e*P		**Pn**	**14 01 05.3**	**+1.3**
SONA				*e*S		**Sn**	**14 02 48.8**	**-3.5**
SONA				IAML			14 03 21.9	
SONA	comp=N,9.3nm,0.4s			IAML			14 03 23.8	
GEYT	**Alibeck**	**10.46**	**281**	P		**Pn**	**14 01 13.7**	**-0.1**
GEYT	comp=E,0.6nm,0.3s,baz=102,slow=12,SNR=5.0			S		**Sn**	**14 03 09.6**	**-0.7**
MAKZ	**Makanchi**	**13.04**	**35**	*e*Pn		**Pn**	**14 01 46.4**	**-0.3**
PYUN	**Piuthan**	**13.10**	**127**	*e*P		**Pn**	**14 01 48.3**	**+0.4**
MK01	**Makanchi Array**	**13.16**	**36**	*e*Pn		**Pn**	**14 01 47.7**	**-0.6**
MKAR	**Makanchi Array**	**13.17**	**36**	P		**Pn**	**14 01 49.0**	**+0.6**
KOLN	**Koldanda**	**13.72**	**126**	*e*P		**Pn**	**14 01 56.7**	**+1.1**
GKN	**Gorkha**	**14.26**	**123**	*e*P		**P**	**14 02 03.9**	**-0.1**
WMQ	**Urumqi**	**14.57**	**55**	P		**Pn**	**14 02 06.0**	**+0.1**
WMQ	comp=Z,4.0nm,0.8s			pmax		pmax		
DMN	**Daman**	**14.83**	**123**	*e*P		**P**	**14 02 10.5**	**0.0**
KKN	**Kakani**	**14.83**	**122**	*e*P		**P**	**14 02 10.7**	**+0.2**
KURBB	**Kurchatov Arra**	**15.02**	**18**	P		**Pn**	**14 02 10.5**	**-0.7**
PKIN	**Phulchoki**	**15.04**	**123**	*e*P		**P**	**14 02 14.3**	**+1.4**
ABKAR	**Akbulak array**	**15.07**	**331**	*e*Pn		**Pn**	**14 02 11.4**	**-0.4**
KURK	**Kurchatov**	**15.13**	**19**	*e*Pn		**Pn**	**14 02 11.5**	**-1.0**
VOSK	**Vostochnaya**	**16.15**	**360**	*e*P		**P**	**14 02 24.7**	**+0.2**
RAMN	**Ramite**	**16.27**	**122**	*e*P		**Pn**	**14 02 27.9**	**+1.1**
ZRNK	**Zerenda**	**16.45**	**355**	*e*P		**Pn**	**14 02 29.0**	**+0.6**
BVAR	**Borovoye Array**	**16.46**	**358**	P		**Pn**	**14 02 28.9**	**+0.2**
BRVK	**Borovoye**	**16.50**	**358**	*e*P		**Pn**	**14 02 29.3**	**+0.3**
AKTO	**Aktyubinsk**	**16.77**	**330**	P		**Pn**	**14 02 33.0**	**+0.6**
ZAA0	**Zalesovo Array**	**19.81**	**24**	*e*P		**P**	**14 03 04.3**	**0.0**
ZALV	**Zalesovo Beam**	**19.81**	**24**	P		**P**	**14 03 05.8**	**+1.4**
ARU	**Arti**	**21.60**	**341**	P		**P**	**14 03 24.2**	**+1.0**
LZH	**Lanzhou**	**26.30**	**81**	⇓P		**P**	**14 04 06.5**	**-0.3**
LZH				pP		pP	14 04 49.5	+4.6
LZH				PP		**PnPn**	**14 04 59.5**	**+1.3**
LZH				sP		PP	14 05 15.0	+5.0
LZH	comp=Z,21nm,1.0s			pmax		pmax		
SONM	comp=Z,53nm,4.6s **Songino Array**	**28.21**	**55**	P		**P**	**14 04 24.3**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=265,slow=10,SNR=4.2							

BRTR	**Keskin Array B**	**29.51**	**288**	P		**P**	**14 04 36.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=96,slow=11,SNR=4.3							
CMAR	**Chiang Mai Arr**	**30.40**	**119**	P		**P**	**14 04 43.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=298,slow=7.9,SNR=4.3							
HHC	**Hu-ho-hao-te**	**31.64**	**70**	*e*P		**P**	**14 04 54.5**	**+0.6**
HHC	comp=E,17nm,1.0s			pmax		pmax		
AKASG	**Malin Array Be**	**32.98**	**309**	P		**P**	**14 05 05.6**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=80,slow=7.2,SNR=6.0							
NRIK	**Noril'sk**	**34.04**	**10**	P		**P**	**14 05 15.6**	**+1.5**
	comp=Z,1.6nm,0.5s,baz=174,slow=10,SNR=2.5							
FINES	**FINESS Array B**	**37.48**	**326**	P		**P**	**14 05 44.4**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=130,slow=9.8,SNR=8.3							
ARCES	**ARCESS Array B**	**41.12**	**338**	P		**P**	**14 06 14.3**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=116,slow=8.2,SNR=7.5							
NB2	**NORSAR Subarra**	**44.38**	**323**	P		**P**	**14 06 39.9**	**0.0**
	comp=Z,2.5nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.38**	**323**	P		**P**	**14 06 40.2**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=97,slow=7.7,SNR=12							
KSRS	**Korea Array**	**44.76**	**71**	P		**P**	**14 06 44.1**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=272,slow=37,SNR=3.4							
KLR	**Kul'dur**	**45.02**	**54**	P		**P**	**14 06 45.7**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=283,slow=8.7,SNR=5.8							
TIXI	**Tiksi**	**45.67**	**22**	P		**P**	**14 06 50.0**	**+0.2**
	comp=Z,2.7nm,0.3s,baz=276,slow=3.5,SNR=15							
USRK	**Ussuriysk Ar.**	**46.05**	**61**	P		**P**	**14 06 53.7**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=244,slow=9.3,SNR=3.3							
KMBO	**Kilima Mbogo**	**48.95**	**228**	P		**P**	**14 07 13.8**	**-2.4**
	comp=Z,1.1nm,0.5s,baz=198,slow=22,SNR=2.1							
ESDC	**Sonseca Array**	**57.51**	**298**	P		**P**	**14 08 19.0**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=58,slow=8.4,SNR=3.1							
TOA0	**Torodi Ar. Sit**	**65.82**	**269**	*e*P		**P**	**14 09 12.0**	**-1.9**
TORD	**Torodi Ar. Bea**	**65.82**	**269**	P		**P**	**14 09 12.6**	**-1.3**
	comp=Z,4.0nm,0.6s,baz=53,slow=5.9,SNR=31							
IL1	**Eielson Array**	**74.68**	**16**	*e*P		**P**	**14 10 06.1**	**-0.8**
ILAR	**Eielson Array**	**74.68**	**16**	P		**P**	**14 10 06.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=331,slow=3.7,SNR=14							
FITZ	**Fitoy Crossi**	**74.86**	**127**	P		**P**	**14 10 08.2**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=304,slow=7.3,SNR=3.9							
BOSA	**Boshof**	**77.87**	**220**	P		**P**	**14 10 25.4**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=30,slow=8.1,SNR=2.9							
YKA	**Yellowknife Ar**	**81.17**	**3**	P		**P**	**14 10 42.6**	**0.0**
	comp=Z,1.8nm,0.5s,baz=351,slow=5.4,SNR=20							
NWAO	**Narrogin (SRO)**	**81.46**	**142**	P		**P**	**14 10 43.5**	**-1.0**
	comp=Z,7.9nm,1.1s,baz=234,slow=3.0,SNR=2.9							
WRA	**Warramunga Arr**	**91.94**	**122**	P		**P**	**14 10 46.3**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=325,slow=4.9,SNR=20							
ASAR	**Alice Springs**	**84.21**	**125**	P		**P**	**14 10 58.0**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=314,slow=4.9,SNR=15							

ISCJB ***29*** *14:11:45.8±0.6,39°.07N±0°.04×29°.05E±0°.04, h9km, Error ellipse: s-maj=7.0km s-min=4.0km az=149.6*

DDA ***29*** *14:11:45.2,39°.11N×29°.04E, h7km, Md2.5*

CSEM ***29*** *14:11:45.8±0.1,39°.08N×29°.05E, h5km, ML2.4, Error ellipse: s-maj=4.3km s-min=3.0km az=142.0*

ISK ***29*** *14:11:45.3,39°.08N×29°.04E, h6km, ML2.4*

ISC 29 14:11:45.9±0.9,**39°.08N**±0°.03×**29°.05E**±0°.03,**h9**km,**n16,** σ0ᵎ**41**/24,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**262**	P		**Pg**	**14 11 51.4**	**+0.1**
DEMI				S		**Sg**	**14 11 55.0**	**+0.1**
DEMI	**Demirci**	**0.27**	**262**	*i* P		**Pg**	**14 11 51.4**	**+0.1**
DEMI				*i* S		**Sg**	**14 11 55.0**	**+0.1**
GDZ	**Gediz**	**0.33**	**88**	P		**Pg**	**14 11 51.9**	**-0.7**
GDZ				S		**Sg**	**14 11 57.9**	**+0.9**
GDZ	**Gediz**	**0.33**	**88**	*i* P		**Pg**	**14 11 51.9**	**-0.7**
GDZ				*i* S		**Sg**	**14 11 57.9**	**+0.9**
TVSB	**Tavsanli**	**0.49**	**40**	*e*PG		**Pg**	**14 11 55.4**	**-0.1**
TVSB				*e*SG		**Sg**	**14 12 02.3**	**+0.4**
TVSB	**Tavsanli**	**0.49**	**40**	*e*Pg		**Pg**	**14 11 55.4**	**-0.1**
TVSB				*e*Sg		**Sg**	**14 12 02.3**	**+0.4**
KULA	**Kula-Manisa**	**0.64**	**209**	*e*PG		**Pg**	**14 11 58.4**	**+0.1**
KULA				*e*SG		**Sg**	**14 12 07.1**	**+0.3**
KULA	**Kula-Manisa**	**0.64**	**209**	*e*Pg		**Pg**	**14 11 58.4**	**+0.1**
KULA				*e*Sg		**Sg**	**14 12 07.1**	**+0.3**
KHL	**Karahalli**	**0.84**	**154**	*e*PG		**Pb**	**14 12 02.8**	**0.0**
KHL	**Karahalli**	**0.84**	**154**	*e*Pg		**Pb**	**14 12 02.8**	**0.0**
AKS	**Akhisar**	**0.99**	**259**	*e*PG		**Pb**	**14 12 04.7**	**-0.5**
AKS	**Akhisar**	**0.99**	**259**	*e*Pg		**Pb**	**14 12 04.7**	**-0.5**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*PN		**Pg**	**14 12 11.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.30**	**336**	*e*Pn		**Pg**	**14 12 11.0**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**219**	*e*PN		**Pn**	**14 12 12.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.45**	**219**	*e*Pn		**Pn**	**14 12 12.4**	**-0.1**

NIED ***29*** *14:19:00,37°.00N×141°.10E, h50km, Mw3.8 Best double couple: M₀6.57000×10¹⁴ NP1:φ₉209.00000°,δ23.00000°, λ98.00000°. NP2:φ₉21.00000°,δ68.00000°,λ87.00000°.*

ISCJB ***29*** *14:19:32.3±0.7,36°.95N±0°.04×141°.21E±0°.07, h52km±5km, mb3.8/12, Error ellipse: s-maj=9.9km s-min=5.4km az=20.1*

JMA ***29*** *14:19:33.8±0.1,36°.96N×141°.07E, h51km±1km, M3.9*

JMA Felt II J1.

IDC ***29*** *14:19:35.1±1.7,36°.96N×141°.12E, h62km±15km, mb3.6/11, mb1 3.7/16, mb1mx3.6/38, mbtmp3.9/16, MS2.6/2, Ms1 2.6/2, ms1mx2.2/41, Error ellipse: s-maj=14.9km s-min=10.2km az=88.0*

ISC 29 14:19:34.1±1.1,**36°.96N**±0°.05×**141°.13E**±0°.08,**h46**km±8km, **n32,** σ1ᵎ**31**/36,**mb3.9**/12,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.30**	**298**	P		**Pn**	**14 19 42.6**	**-0.3**
ONAJ				S		**Sn**	**14 19 48.6**	**-0.6**
JFK	**Kawauchi**	**0.45**	**334**	P		**Pn**	**14 19 44.2**	**-0.4**
JFK				S		**Sn**	**14 19 51.4**	**-0.6**
JHO	**Hitachi**	**0.57**	**232**	P		**Pn**	**14 19 45.3**	**-0.7**
JHO				S		**Sn**	**14 19 53.2**	**-1.3**
JFT	**Otama**	**0.84**	**312**	P		**Pn**	**14 19 49.8**	**+0.2**
JFT				S		**Sn**	**14 20 00.9**	**0.0**
JMM	**Marumori**	**0.94**	**344**	P		**Pn**	**14 19 50.4**	**-0.5**
JMM				S		**Sn**	**14 20 02.4**	**-0.8**
JSB	**Shiboa**	**0.97**	**271**	P		**Pn**	**14 19 51.0**	**-0.3**
JSB				S		**Sn**	**14 20 03.6**	**-0.3**
JFY	**Yanaizu**	**1.22**	**292**	P		**Pn**	**14 19 54.3**	**-0.4**
MJAR	**Matsushiro Arr**	**2.38**	**261**	P		**Pn**	**14 20 10.8**	**+0.2**
MJAR	15nm,0.3s,baz=83,slow=15,SNR=135 11nm,0.3s,baz=309,slow=37,SNR=6.3			S		**Sn**	**14 20 40.3**	**+1.7**
MJAR	comp=Z,89nm,21.6s,baz=80,slow=47			LR		LR	14 21 24.4	
MAT	**Matsushiro**	**2.38**	**261**	P		**Pn**	**14 20 11.1**	**+0.5**
MAT				S		**Sn**	**14 20 40.3**	**+1.7**
JHJ	**Hachijo jima 2**	**3.99**	**196**	P		**Pn**	**14 20 32.7**	**0.0**
JHJ	33nm,0.3s,baz=325,slow=19,SNR=20 45nm,0.3s,baz=76,slow=21,SNR=11			S		**Sn**	**14 21 19.4**	**+1.2**
ASAJ	**Asahikawa**	**7.23**	**8**	P		**Pn**	**14 21 16.8**	**-0.3**
ASAJ				S		**Sn**	**14 22 39.6**	**+1.7**
JNU	**Nakatsue**	**9.23**	**249**	P		**Pn**	**14 21 46.2**	**+1.6**
USRK	0.3nm,0.3s,baz=73,slow=4.3,SNR=4.2 **Ussuriysk Ar.**	**10.02**	**319**	P		**Pn**	**14 21 59.5**	**+4.2**
KSRS	0.2nm,0.3s,baz=101,slow=10,SNR=5.6 **Korea Array**	**10.54**	**277**	P		**Pn**	**14 22 03.8**	**+1.3**
KSRS	0.2nm,0.3s,baz=82,slow=15,SNR=2.7 comp=Z,45nm,19.9s,baz=99,slow=36			LR		LR	14 25 52.9	
SEY	**Seymchan**	**26.91**	**11**	P		**P**	**14 25 13.1**	**+2.7**
SONM	1.6nm,1.0s,baz=229,slow=14,SNR=3.5 **Songino Array**	**27.64**	**304**	P		**P**	**14 25 17.0**	**-0.3**
H11N2	0.8nm,0.6s,baz=102,slow=8.7,SNR=4.3 **WAKE ISLAND Hy**	**28.31**	**120**	T		T	14 55 18.0	
H11N1	baz=313,slow=75,SNR=106 **WAKE ISLAND Hy**	**28.32**	**120**	T		T	14 55 18.5	
H11N3	baz=313,slow=75,SNR=158 **WAKE ISLAND Hy**	**28.33**	**120**	T		T	14 55 24.9	
H11S1	baz=313,slow=75,SNR=119 **WAKE ISLAND Hy**	**29.01**	**122**	T		T	14 56 17.9	
H11S3	baz=314,slow=75,SNR=121 **WAKE ISLAND Hy**	**29.02**	**122**	T		T	14 56 18.0	
H11S2	baz=314,slow=75,SNR=161 **WAKE ISLAND Hy**	**29.03**	**122**	T		T	14 56 14.4	
ZALV	baz=314,slow=75,SNR=76 **Zalesovo Beam**	**41.79**	**312**	P		**P**	**14 27 18.2**	**-0.6**
NRIK	1.3nm,0.4s,baz=87,slow=7.1,SNR=9.3 **Noril'sk**	**43.24**	**335**	P		**P**	**14 27 30.8**	**+0.5**
MKAR	1.0nm,0.3s,baz=124,slow=11,SNR=2.3 **Makanchi Array**	**43.96**	**302**	P		**P**	**14 27 35.5**	**-1.0**
	1.2nm,0.8s,baz=86,slow=10,SNR=8.9							

ILAR	**Eielson Array**	**49.68**	**32**	P		**P**	**14 28 21.1**	**+0.2**
	0.8nm,0.8s,baz=268,slow=5.4,SNR=12							
WRA	**Warramunga Arr**	**56.96**	**188**	P		**P**	**14 29 14.1**	**-0.6**
	0.6nm,0.6s,baz=4.4,slow=7.3,SNR=20							
ASAR	**Alice Springs**	**60.69**	**188**	P		**P**	**14 29 40.9**	**+0.3**
	0.1nm,0.4s,baz=9.6,slow=8.6,SNR=7.3							
GEYT	**Alibeck**	**63.67**	**299**	P		**P**	**14 29 58.2**	**-2.4**
	1.1nm,0.7s,baz=83,slow=12,SNR=2.7							
FINES	**FINESS Array B**	**68.77**	**332**	P		**P**	**14 30 32.2**	**-0.6**
	1.4nm,0.7s,baz=19,slow=8.8,SNR=4.4							
KBZ	**Khabaz**	**70.77**	**311**	P		**P**	**14 30 45.1**	**-0.3**
	2.1nm,0.8s,baz=345,slow=4.1,SNR=4.4							
AKASG	**Malin Array Be**	**74.21**	**322**	P		**P**	**14 31 04.5**	**-1.3**
	0.8nm,0.3s,baz=47,slow=6.0,SNR=8.9							

NIED ***29*** *14:36:00,33°.40N×131°.90E, h59km, Mw3.9 Best double couple: M₀6.88000×10¹⁴ NP1:φ₉279.00000°,δ27.00000°, λ96.00000°. NP2:φ₉91.00000°,δ63.00000°,λ87.00000°.*

ISCJB ***29*** *14:36:09.8±0.4,33°.38N±0°.04×131°.93E±0°.04, h74km±3km, mb3.5/7, Error ellipse: s-maj=7.1km s-min=4.9km az=161.6*

JMA ***29*** *14:36:11.1,33°.41N×131°.91E, h64km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φ₉106.00000°,δ68.00000°,λ67.00000°. NP2: φ₉335.00000°,δ31.00000°,λ135.00000°. Principal axes: T Plg60.0000°, Azm342.0000°; N Plg21.0000°, Azm115.0000°; P Plg20.0000°, Azm213.0000°;*

JMA Felt II J1.

IDC ***29*** *14:36:11.4±1.2,33°.33N×131°.83E, h74km±11km, mb3.3/7, mb1 3.5/9, mb1mx3.3/43, mbtmp3.6/9 Error ellipse: s-maj=20.8km s-min=17.8km az=68.0*

ISC 29 14:36:10.8±0.8,**33°.38N**±0°.05×**131°.93E**±0°.04,**h66**km±6km, **n21,** σ0ᵎ**57**/33,**mb3.5**/7,**5C-5D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JUS	**Usuki**	**0.35**	**205**	⇑P		**Pn**	**14 36 22.3**	**+0.3**
JUS				S		**Sn**	**14 36 30.3**	**+0.2**
JKI	**Kunimi**	**0.39**	**310**	⇓P		**Pn**	**14 36 22.2**	**-0.1**
JKI				S		**Sn**	**14 36 30.2**	**-0.5**
JBEP	**Beppuamama**	**0.44**	**264**	⇑P		**Pn**	**14 36 22.8**	**0.0**
JBEP				S		**Sn**	**14 36 31.5**	**0.0**
JNA	**Nagahama**	**0.49**	**69**	⇑P		**Pn**	**14 36 23.4**	**+0.2**
JNA				S		**Sn**	**14 36 32.4**	**+0.1**
UWA2	**Uwa jima 2**	**0.61**	**106**	⇑P		**Pn**	**14 36 24.5**	**+0.1**
UWA2				S		**Sn**	**14 36 34.6**	**+0.2**
JTO	**Tosashimizu**	**0.90**	**125**	⇑P		**Pn**	**14 36 28.1**	**+0.3**
JTO				S		**Sn**	**14 36 40.3**	**-0.2**
JHM	**Kurahashi**	**0.91**	**33**	⇓P		**Pn**	**14 36 28.1**	**+0.2**
JHM				S		**Sn**	**14 36 41.0**	**+0.4**
JNU	**Nakatsue**	**0.92**	**254**	P		**Pn**	**14 36 28.5**	**+0.3**
JNU	113nm,0.3s,baz=119,slow=5.1,SNR=1985 173nm,0.3s,baz=273,slow=20,SNR=83			S		**Sn**	**14 36 41.4**	**+0.5**
JNU	comp=Z,148nm,18.3s,baz=120,slow=57			LR		LR	14 36 58.2	
JKU	**Kubokawa**	**0.95**	**94**	P		**Pn**	**14 36 28.5**	**0.0**
JKU				S		**Sn**	**14 36 41.5**	**-0.2**
JET	**Tanbara**	**1.01**	**67**	⇓P		**Pn**	**14 36 29.3**	**0.0**
JET				S		**Sn**	**14 36 43.1**	**0.0**
JIU2	**Izumi 2**	**1.25**	**229**	⇓P		**Pn**	**14 36 32.7**	**+0.3**
JIU2				S		**Sn**	**14 36 49.2**	**+0.6**
JHT	**Toyohira**	**1.34**	**18**	⇓P		**Pn**	**14 36 33.9**	**+0.3**
JHT				S		**Sn**	**14 36 51.0**	**+0.4**
KSRS	**Korea Array**	**5.21**	**322**	P		**Pn**	**14 37 26.7**	**+0.5**
	0.6nm,0.3s,baz=140,slow=15,SNR=6.3							
JHJ	**Hachijo jima 2**	**6.58**	**90**	P		**Pn**	**14 37 45.5**	**+0.5**
	10nm,0.3s,baz=269,slow=23,SNR=5.8							
SONM	**Songino Array**	**24.03**	**314**	P		**P**	**14 41 19.5**	**-0.1**
	2.3nm,0.5s,baz=132,slow=9.6,SNR=17							
MKAR	**Makanchi Array**	**39.63**	**305**	P		**P**	**14 43 34.7**	**-1.2**
	0.2nm,0.6s,baz=101,slow=7.8,SNR=2.5							
WRA	**Warramunga Arr**	**53.08**	**177**	P		**P**	**14 45 19.9**	**-1.5**
	0.3nm,0.8s,baz=358,slow=8.4,SNR=3.0							
ILAR	**Eielson Array**	**56.65**	**30**	P		**P**	**14 45 47.4**	**+0.6**
	0.6nm,0.7s,baz=264,slow=5.6,SNR=9.9							
ASAR	**Alice Springs**	**56.76**	**178**	P		**P**	**14 45 48.5**	**+0.6**
	0.4nm,1.0s,baz=359,slow=6.3,SNR=4.3							
ARCES	**ARCESS Array B**	**64.57**	**338**	P		**P**	**14 46 39.8**	**-0.8**
	1.8nm,0.9s,baz=64,slow=8.1,SNR=3.6							
YKA	**Yellowknife Ar**	**70.71**	**27**	P		**P**	**14 47 20.7**

ISC 29 15:13:38.7±0.9, 9°63S±0.08×112°83E±0.06, h36km, n14, σ3.9 09/17, mb3.8/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.48**	**24**	P	**Pn**	**15 14 02.0**	**-0.8**
GMJI				S	**Sn**	**15 14 21.6**	**+0.7**
JAGI	**Jajag, Banyuwa**	**1.74**	**49**	P	**Pn**	**15 14 06.5**	**+0.1**
JAGI				S	**Sn**	**15 14 28.6**	**+1.2**
PWJI	**Pagerwojo**	**1.90**	**328**	P	**Pn**	**15 14 08.3**	**-0.2**
ABJI	**Asem Bagus**	**2.29**	**37**	P	**Pn**	**15 14 16.4**	**+2.4**
NGJI	**Ngawi**	**2.63**	**329**	P	**Pn**	**15 14 20.0**	**+1.4**
UGM	**Wanagama**	**2.85**	**307**	P	**Pn**	**15 14 22.1**	**+0.4**
TWSI	**Taliwang, Sumb**	**4.10**	**78**	P	**Pn**	**15 14 41.6**	**+2.8**
KPJI	**Karang Pucung**	**4.49**	**300**	P	**Pn**	**15 14 46.2**	**+2.1**
FITZ	**Fitzroy Crossi**	**15.01**	**125**	Pn	**Pn**	**15 17 07.4**	**-0.8**
	0.1nm,0.3s,baz=318,slow=15,SNR=5.8						
FITZ				Sn	**Sn**	**15 19 44.3**	**-9.0**
	0.1nm,0.3s,baz=14,slow=23,SNR=5.3						
WRA	**Warramunga Arr**	**23.15**	**119**	P	**P**	**15 18 42.1**	**0.0**
	0.5nm,0.9s,baz=294,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**24.49**	**127**	P	**P**	**15 18 56.0**	**+1.3**
	0.3nm,0.5s,baz=304,slow=8.9,SNR=9.6						
STKA	**Stephens Creek**	**34.63**	**134**	P	**P**	**15 20 29.1**	**+4.5**
	0.8nm,0.3s,baz=333,slow=9.0,SNR=2.1						
SONM	**Songino Array**	**57.50**	**355**	P	**P**	**15 23 22.6**	**-1.8**
	0.3nm,0.3s,baz=175,slow=8.6,SNR=2.7						
MKAR	**Makanchi Array**	**62.44**	**337**	P	**P**	**15 23 56.1**	**-2.1**
	0.5nm,0.4s,baz=152,slow=7.4,SNR=9.4						

DDA 29 15:14:00.8, 39°09N×29°01E, h7km, Md2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**259**	*i* P	Pg	15 14 06.0	+0.6
DEMI				*i* S	Sg	15 14 09.4	+0.7
GDZ	**Gediz**	**0.37**	**90**	*i* P	Pg	15 14 08.2	+0.2
GDZ				*i* S	Sg	15 14 13.8	+0.9

*ISCJB **29** 15:16:45.4±0.3, 1°.64N±0°.03×127°.49E±0°.05, h128km, mb4.4/39, Error ellipse: s-maj=7.0km s-min=3.9km az=172.6*
*NEIC **29** 15:16:48.5±1.4, 1°.63N×127°.58E, h148km±13km, mb4.4/20, Error ellipse: s-maj=12.5km s-min=4.8km az=63.0*
NEIC Felt [III] at Labuha.
*IDC **29** 15:16:48.8±2.1, 1°.57N×127°.36E, h144km±19km, mb3.9/16, mb1 3.9/18, mb1mx3.7/50, mbtmp4.3/18, Error ellipse: s-maj=23.8km s-min=9.8km az=74.0*
*DJA **29** 15:16:50.2±1.2, 1°.N±3°×12°.7E±°, h23km±10km, M4.8/6, mb4.6/5, MLv4.9/6*

ISC 29 15:16:47.4±0.5, 1°.58N±0°.05×127°.42E±0°.06, h128km, n66, σ1.9 33/73, mb4.4/39, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.21**	**178**	P	**Pn**	**15 17 25.2**	**+1.3**
LBMI				S	**Sn**	**15 17 52.4**	**+0.5**
SGSI	**Sangihe**	**2.81**	**318**	P	**Pn**	**15 17 32.2**	**+0.6**
SGSI				S	**Sn**	**15 18 05.7**	**+0.1**
SANI	**Sanana**	**3.88**	**202**	P	**Pn**	**15 17 45.7**	**+0.1**
SANI				S	**Sn**	**15 18 27.1**	**-3.6**
GTOI	**Gorontalo**	**4.51**	**258**	S	**Sn**	**15 18 45.4**	**-0.1**
NLAI	**Namlea**	**4.80**	**184**	P	**Pn**	**15 17 59.1**	**+1.3**
NLAI				S	**Sn**	**15 18 52.0**	**-0.6**
LUWI	**Luwuk**	**5.33**	**241**	P	**Pn**	**15 18 05.2**	**+0.3**
FAKI	**Fak Fak**	**6.58**	**133**	P	Pn	15 18 27.4	+5.6
KDI	**Kendari**	**7.30**	**221**	P	**Pn**	**15 18 30.7**	**-0.8**
MYLDM	**Lahad Datu**	**9.59**	**292**	*e*Pn	Pn	15 19 06.4	+4.1
KAPI	**Kappang**	**10.08**	**229**	P	**Pn**	**15 19 11.2**	**+2.3**
	1.2nm,0.3s,baz=49,slow=7.2,SNR=9.5						
KAPI				S	**Sn**	**15 20 58.1**	**-2.1**
	6.6nm,0.3s,baz=39,slow=18,SNR=10						
KAPI	**Kappang**	**10.08**	**229**	*e*Pn	**Pn**	**15 19 11.1**	**+2.2**
KAPI				*e*Sn	**Sn**	**15 21 00.9**	**+0.6**
JAY	**Jayapura**	**13.89**	**107**	P	**P**	**15 20 04.0**	**+1.0**
MTN	**Manton Dam**	**14.80**	**166**	*e*Pn	**Pn**	**15 20 09.5**	**-0.9**
SBUM	**Sibu**	**15.21**	**273**	*e*Pn	**P**	**15 20 18.6**	**+0.9**
	11nm,0.9s						
KSM	**Kuching**	**17.10**	**270**	*e*P	**Pn**	**15 20 39.5**	**+0.6**
	7.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.64**	**185**	P	**P**	**15 21 06.4**	**+0.2**
	0.3nm,0.3s,baz=0.8,slow=8.8,SNR=7.3						
FITZ	**Fitzroy Crossi**	**19.64**	**185**	*e*P	**P**	**15 21 06.5**	**+0.2**
	12nm,1.4s						
CISI	**Cisompet, Garu**	**21.56**	**245**	*e*P	**P**	**15 21 28.1**	**+1.1**
	49nm,1.1s						
TWG	**Pinlang**	**21.99**	**344**	*e*P	**P**	**15 21 27.2**	**-4.1**
	53nm,0.8s						
WRAB	**Tennant Creek**	**22.44**	**163**	*e*P	**P**	**15 21 35.2**	**-0.6**
	17nm,1.1s						
WRA	**Warramunga Arr**	**22.45**	**163**	P	**P**	**15 21 35.5**	**-0.5**
	4.4nm,0.4s,baz=343,slow=9.2,SNR=91						
WRA				ScP	**ScP**	**15 28 49.6**	**-2.3**
	0.3nm,0.8s,baz=350,slow=3.1,SNR=5.7						
WB2	**Warramunga Arr**	**22.45**	**163**	*e*P	**P**	**15 21 35.6**	**-0.4**
	9.2nm,0.8s						
YULB	**Yu-li**	**22.48**	**345**	*e*P	**P**	**15 21 33.6**	**-2.6**
	27nm,1.7s						
TPUB	**Ta-pu**	**22.57**	**344**	*e*P	**P**	**15 21 35.0**	**-2.1**
	24nm,0.7s						
MYKOM	**Kota Tinggi**	**23.56**	**271**	*e*P	**P**	**15 21 46.4**	**-0.1**
	18nm,0.6s						
AS31	**Alice Springs**	**25.88**	**166**	*e*P	**P**	**15 22 07.0**	**-0.4**
	1.3nm,0.6s						
ASAR	**Alice Springs**	**25.88**	**166**	P	**P**	**15 22 07.0**	**-0.4**
	1.5nm,0.4s,baz=345,slow=7.8,SNR=90						
ASAR				ScP	**ScP**	**15 28 59.1**	**-2.2**
	0.8nm,0.9s,baz=357,slow=1.9,SNR=6.2						
AS01	**Alice Springs**	**25.89**	**166**	*e*P	**P**	**15 22 06.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**32.57**	**303**	P	**P**	**15 23 07.0**	**+0.2**
	1.1nm,0.9s,baz=128,slow=8.1,SNR=7.4						
KMI	**Kunming**	**33.39**	**317**	P	**P**	**15 23 15.5**	**+1.4**
KMI				pmax	pmax		
	comp=Z,12nm,0.9s						
KSAR	**Wonju Array Be**	**35.69**	**1**	P	**P**	**15 23 33.6**	**+0.3**
KSRS	**Korea Array**	**35.70**	**1**	P	**P**	**15 23 33.6**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=178,slow=9.5,SNR=10.0						
STKA	**Stephens Creek**	**35.89**	**159**	P	**P**	**15 23 35.5**	**+0.2**
	comp=Z,10nm,0.6s,baz=334,slow=8.8,SNR=29						
STKA	**Stephens Creek**	**35.89**	**159**	*e*P	**P**	**15 23 35.0**	**-0.2**
	comp=Z,2.7nm,0.7s						
XAN	**Xi'an**	**36.63**	**334**	P	**P**	**15 23 41.5**	**-0.1**
XAN				pmax	pmax		
	comp=Z,14nm,0.6s						
BJI	**Beijing**	**39.62**	**346**	P	**P**	**15 24 06.3**	**-0.2**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LZH	**Lanzhou**	**40.69**	**330**	↓P	**P**	**15 24 17.0**	**+1.4**
LZH				pP	pP	15 24 46.5	+2.2
LZH				PP	**sP**	**15 25 01.8**	**+3.0**
LZH				sP	PP	15 25 56.0	+4.0
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,500nm,5.2s						
HHC	**Hu-ho-hao-te**	**41.64**	**342**	*e*P	**P**	**15 24 24.3**	**+1.1**
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.1s						
USRK	**Ussuriysk Ar.**	**42.63**	**5**	P	**P**	**15 24 31.2**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=176,slow=7.1,SNR=7.1						
ULN	**Ulaanbaatar**	**49.36**	**342**	*e*P	**P**	**15 25 23.8**	**-0.1**
	comp=Z,6.6nm,1.2s						
SONM	**Songino Array**	**49.54**	**341**	P	**P**	**15 25 25.2**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=155,slow=8.6,SNR=9.3						
SONA1	**Songino Array**	**49.55**	**341**	*e*P	**P**	**15 25 24.9**	**-0.5**
WMQ	**Urumqi**	**54.87**	**326**	P	**P**	**15 26 05.3**	**+0.6**
WMQ				pP	pP	15 26 35.5	+0.6
WMQ				sP	sP	15 26 49.8	+0.8
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,55nm,5.5s						
WMQ				LR	LR		
	comp=N,14nm,14.7s						
WMQ				LR	LR		
	comp=E,11nm,16.1s						
WMQ				LR	LR		
	comp=Z,5.0nm,14.1s						
MK01	**Makanchi Array**	**59.68**	**326**	*e*P	**P**	**15 26 38.1**	**-0.2**
MK31	**Makanchi Array**	**59.70**	**326**	*e*P	**P**	**15 26 38.3**	**-0.2**
MKAR	**Makanchi Array**	**59.70**	**326**	P	**P**	**15 26 38.4**	**-0.1**
	comp=Z,6.1nm,0.4s,baz=116,slow=7.9,SNR=84						
MAKZ	**Makanchi**	**59.89**	**326**	*e*P	**P**	**15 26 39.6**	**-0.2**
	comp=Z,6.0nm,0.5s						
KSH	**Kashi**	**60.04**	**316**	*e*P	P	15 26 46.8	+5.7
KSH				pP	sP	15 27 24.5	-1.3
KSH				PcP	**PcP**	**15 27 30.0**	**+4.2**
KSH				PP	PP	15 29 02.5	+7.4
KSH				S	**S**	**15 34 44.8**	**+0.6**
KSH				ScS	SKKSac	15 36 15.3	-4.1
KSH	**Kashi**	**60.04**	**316**	SS	SS	15 38 45.0	+1.8
KSH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KSH				pmax	pmax		
	comp=Z,75nm,5.4s						
KSH				LR	LR		
	comp=N,220nm,6.7s						
KSH				LR	LR		
	comp=E,140nm,7.7s						
TKM2	**Tokmak 2**	**61.80**	**319**	*e*P	**P**	**15 26 53.0**	**-0.1**
	comp=E,5.8nm,0.6s						
ZALV	**Zalesovo Beam**	**62.80**	**333**	P	**P**	**15 26 57.5**	**-1.7**
	comp=E,0.6nm,0.4s,baz=130,slow=4.6,SNR=4.0						
EKS2	**Erkin-Say**	**62.89**	**318**	*e*P	**P**	**15 27 00.5**	**+0.3**
	comp=E,4.4nm,0.8s						
KBL	**Kabul**	**63.37**	**308**	*e*P	**P**	**15 27 03.1**	**-0.5**
	comp=E,7.1nm,0.8s						
KURBB	**Kurchatov Array**	**63.91**	**328**	P	**P**	**15 27 06.0**	**-0.6**
	comp=E,6.0nm,0.6s,baz=127,slow=6.1,SNR=53						
KURK	**Kurchatov**	**63.91**	**328**	P	**P**	**15 27 06.0**	**-0.6**
KKAR	**Karatay Array**	**65.26**	**318**	*e*P	**P**	**15 27 14.8**	**-0.8**
VOSK	**Vostochnaya**	**69.03**	**327**	*e*P	**P**	**15 27 37.8**	**-1.3**
	comp=E,4.4nm,0.9s						
BVAR	**Borovoye Array**	**69.48**	**327**	P	**P**	**15 27 41.0**	**-0.9**
	comp=E,1.6nm,0.4s,baz=126,slow=7.5,SNR=14						
BRVK	**Borovoye**	**69.56**	**327**	*e*P	**P**	**15 27 41.4**	**-1.0**
	comp=E,9.6nm,0.9s						
ZRNK	**Zerenda**	**70.20**	**327**	*e*P	**P**	**15 27 45.2**	**-1.1**
	comp=E,5.7nm,0.9s						
NRIK	**Noril'sk**	**72.66**	**346**	P	**P**	**15 28 00.1**	**-0.6**
	comp=E,1.9nm,0.5s,baz=141,slow=5.2,SNR=2.7						
GEYT	**Alibeck**	**72.77**	**309**	*e*P	**P**	**15 28 01.9**	**-0.2**
	comp=E,2.2nm,0.6s,baz=188,slow=5.5,SNR=5.9						
ABKAR	**Akbulak array**	**74.24**	**321**	*e*P	**P**	**15 28 09.1**	**-1.3**
AKTO	**Aktyubinsk**	**75.76**	**322**	P	**P**	**15 28 18.4**	**-0.7**
	comp=E,3.3nm,0.6s,baz=110,slow=7.7,SNR=11						
ARU	**Arti**	**77.11**	**328**	P	**P**	**15 28 25.1**	**-1.4**
	comp=E,1.9nm,0.5s,baz=270,slow=3.4,SNR=4.6						
VNDA	**Vanda**	**81.22**	**173**	P	**P**	**15 28 48.3**	**-0.2**
	comp=E,0.7nm,0.5s,baz=315,slow=8.1,SNR=5.3						

IDC 29 15:19:20.2±7.8, 15°.76S×175°.98W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/32, mbtmp3.7/3, Error ellipse: s-maj=344.4km s-min=36.3km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.34**	**257**	P	P	15 27 56.4	+0.1
	0.2nm,0.5s,baz=92,slow=7.5,SNR=4.7						
ASAR	**Alice Springs**	**47.63**	**252**	P	P	15 27 58.2	-0.3
	1.1nm,0.4s,baz=88,slow=7.7,SNR=26						
ILAR	**Eielson Array**	**83.29**	**12**	P	P	15 31 48.5	0.0
	0.4nm,0.6s,baz=215,slow=5.9,SNR=6.3						

MAN 29 15:26:55, 13°.50N×119°.99E, h12km, mb4.2, ML3.0, MS2.8, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.34**	**47**	*e*P	Pg	15 27 02.0	+0.1
LUBP				*e*S	Sg	15 27 06.1	-0.4
PGP	**Puerto Galera**	**0.94**	**90**	*i*↑*e*P	Pg	15 27 13.2	0.0
PGP				*i* S	Sn	15 27 26.9	-0.5
TGY	**Tagaytay City**	**1.10**	**57**	*i*↑*e*P	Pb	15 27 15.2	-0.9
SJMP	**San Jose**	**1.51**	**133**	*e*P	Pn	15 27 22.1	+0.2
SJMP				*e*S	Sb	15 27 42.1	0.0
LQP	**Lukban**	**1.63**	**68**	*i*↑*e*P	Sg	15 27 52.9	+5.5
BOAC	**Boac**	**1.81**	**91**	*e*P	Pn	15 27 25.6	-0.4
OTRP	**Odiongan**	**2.28**	**119**	*e*P	Pb	15 27 34.8	-1.4
OTRP				*e*S	Sb	15 28 05.0	+0.7
ENPP	**El Nido**	**2.34**	**194**	*e*P	Pn	15 27 33.9	+0.5
ENPP				*e*S	Sn	15 28 02.5	+0.4
CUYO	**Cuyo Island**	**2.82**	**159**	*e*P	Pn	15 27 40.9	+1.0
CUYO				*e*S	Sn	15 28 13.8	-0.1

JMA 29 15:52:14.1±0.1, 36°.83N×141°.10E, h49km±1km, M2.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.36**	**318**	P	Pn	15 52 23.6	-0.2
ONAJ				S	Sn	15 52 30.2	-0.6
JHO	**Hitachi**	**0.48**	**243**	P	Pn	15 52 24.9	-0.1
JHO				S	Sn	15 52 32.4	-0.5
JFK	**Kawauchi**	**0.56**	**341**	P	Pn	15 52 25.8	-0.3
JFK				S	Sn	15 52 33.9	-0.9
JFT	**Otama**	**0.92**	**319**	P	Pn	15 52 31.5	+0.8
JFT				S	Sn	15 52 43.6	+0.7
JMM	**Marumori**	**1.06**	**347**	P	Pn	15 52 32.4	-0.2
JMM				*e*S	Sn	15 52 45.8	-0.5
JFY	**Yanaizu**	**1.25**	**298**	P	Pn	15 52 36.2	+0.9
JFY				S	Sn	15 52 52.3	+1.2
MAT	**Matsushiro**	**2.34**	**264**	P	Pn	15 52 51.9	+1.8
MAT				S	Sn	15 53 20.8	+3.1

*NIED **29** 15:59:00, 38°.40N×141°.80E, h74km, Mw3.8 Best double couple: M0 4.78000×10^14 NP1:φs203.00000°, δ33.00000°, λ110.00000°. NP2:φs360.00000°, δ59.00000°, λ78.00000°.*

JMA 29 15:59:38.9, 38°.44N×141°.84E, h57km±1km, M3.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.39**	**272**	P	Pn	15 59 49.4	0.0
JIO				S	Sn	15 59 56.7	-0.3
OFUJ	**Ofunato**	**0.65**	**348**	P	Pn	15 59 52.4	0.0
OFUJ				S	Sn	16 00 02.2	0.0
JMK	**Ichinoseki**	**0.70**	**317**	P	Pn	15 59 53.3	+0.3
JMK				S	Sn	16 00 03.5	+0.2
JOU	**Okura**	**0.93**	**266**	P	Pn	15 59 55.9	0.0
JOU				S	Sn	16 00 08.3	-0.1
JMM	**Marumori**	**1.00**	**236**	P	Pn	15 59 56.5	-0.4
JMM				S	Sn	16 00 09.2	-1.0
JOM	**Ohasama**	**1.12**	**338**	P	Pn	15 59 58.6	+0.2
JOM				*e*S	Sn	16 00 13.0	+0.2
JYK	**Kaneyama**	**1.25**	**293**	P	Pn	16 00 00.5	+0.3
JYK				*e*S	Sn	16 00 16.5	+0.4
JFK	**Kawauchi**	**1.32**	**216**	P	Pn	16 00 00.9	-0.2
JFK				*e*S	Sn	16 00 17.1	-0.5
JRG	**Rokugo**	**1.34**	**316**	P	Pn	16 00 01.6	+0.2
JYS	**Shirataka**	**1.41**	**262**	P	Pn	16 00 02.8	+0.5
JYS				S	Sn	16 00 20.6	+0.7
JFT	**Otama**	**1.50**	**233**	P	Pn	16 00 04.0	+0.4
JFT				S	Sn	16 00 22.2	+0.1
MAT	**Matsushiro**	**3.46**	**238**	P	Pn	16 00 32.1	+1.9
MAT				S	Sn	16 01 11.0	+1.1

IDC 29 16:07:16.7±4.5, 6°.59S×130°.99E, h36km±59km, mb3.5/1, mb1 4.2/6, mb1mx3.6/31, mbtmp4.3/6, ML4.4/4, Error ellipse: s-maj=53.8km s-min=24.1km az=97.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.69**	**3**	Pn	Pn	16 08 36.9	-1.8
	13nm,0.3s,baz=358,slow=8.9,SNR=1.2						
SIJI				Sn	Sn	16 09 31.4	-11
	13nm,0.3s,baz=272,slow=24,SNR=2.0						
FITZ	**Fitzroy Crossi**	**12.58**	**204**	Pn	Pn	16 10 15.0	+1.8
	2.3nm,0.3s,baz=29,slow=8.6,SNR=50						
FITZ				Sn	Sn	16 12 31.2	-0.9
	1.5nm,0.3s,baz=108,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**13.67**	**167**	Pn	Pn	16 10 28.1	0.0
	1.3nm,0.3s,baz=350,slow=13,SNR=3.4						
WRA				Sn	Sn	16 12 57.4	-1.4
	2.4nm,0.3s,baz=341,slow=25,SNR=10						
PMG	**Port Moresby**	**16.26**	**101**	Pn	Pn	16 11 03.6	+1.2
	0.5nm,0.3s,baz=304,slow=18,SNR=2.5						
ASAR	**Alice Springs**	**17.21**	**171**	P	P	16 11 15.7	0.0
	0.9nm,0.3s,baz=346,slow=9.9,SNR=44						
ASAR				S	Sn	16 14 23.0	-2.0
	0.5nm,0.3s,baz=346,slow=23,SNR=5.4						
STKA	**Stephens Creek**	**27.04**	**160**	P	P	16 12 56.0	+0.2
	0.9nm,0.9s,baz=341,slow=18,SNR=2.0						

PRU 29 16:08:20.0, 50°.14N×19°.15E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.42**	**79**	*e*Pg	Pg	16 08 27.6	-0.5
OJC				*e*Sg	Sg	16 08 33.1	-0.5
OKC	**Ostrava-Krasne**	**0.71**	**245**	*e*SG	Sg	16 08 44.0	+1.1
LANS	**Liptovska Anna**	**1.01**	**168**	*e*PG	Pg	16 08 38.8	-0.6
LANS				*e*SG	Sg	16 08 52.2	-0.3
NIE	**Niedzica**	**1.04**	**134**	*e*Pg	Pg	16 08 39.4	-0.5
NIE				*e*Sg	Sb	16 08 55.5	+0.5
KRLC	**Kraliky**	**1.53**	**268**	*e*SG	Sg	16 09 08.2	-0.8
VYHS	**Vyhne**	**1.66**	**187**	*e*PN	Pn	16 08 48.9	-1.5
VYHS				*e*SN	Sn	16 09 09.7	-2.7
VYHS				*e*LG	Lg	16 09 16.9	
DPC	**Dobruska-Polom**	**1.83**	**278**	*e*SG	Sb	16 09 18.1	+0.3

*CSEM **29** 16:09:19.4±0.5, 50°.09N×18°.42E, h1km, Error ellipse: s-maj=8.7km s-min=3.8km az=38.0*

PRU 29 16:09:19.5, 50°.10N×18°.41E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.31**	**213**	*e*PG	Pg	16 09 25.6	+0.1
OKC				*e*SG	Sg	16 09 29.2	-0.3
	14nm,0.6s						
OKC	**Ostrava-Krasne**	**0.31**	**213**	Pg	Pg	16 09 25.6	+0.1
OKC				Sg	Sg	16 09 29.2	-0.3
	14nm,0.6s						
MORC	**Moravsky Berou**	**0.65**	**240**	*e*Pg	Pg	16 09 31.8	-0.1
MORC				*e*Sg	Sg	16 09 40.6	+0.3
KRLC	**Kraliky**	**1.05**	**269**	*e*PG	Pg	16 09 39.5	-0.1
KRLC	**Kraliky**	**1.05**	**269**	Pg	Pg	16 09 39.5	-0.1
LANS	**Liptovska Anna**	**1.17**	**144**	*e*SG	Sg	16 09 57.5	+0.4
LANS	**Liptovska Anna**	**1.17**	**144**	*e*PG	Pg	16 09 41.1	-0.9
LANS				*e*SG	Sg	16 09 57.5	+0.4
DPC	**Dobruska-Polom**	**1.36**	**281**	*e*SG	Sn	16 10 04.3	-0.4
	4.0nm,0.4s						
DPC	**Dobruska-Polom**	**1.36**	**281**	Sg	Sn	16 10 04.3	-0.4
	4.0nm,0.4s						
VYHS	**Vyhne**	**1.63**	**170**	*e*Sn	Sn	16 10 10.0	-1.2
VYHS	**Vyhne**	**1.63**	**170**	*e*SN	Sn	16 10 10.0	-1.2

*NIED **29** 16:39:00, 38°.00N×144°.50E, h17km, Mw4.2 Best double couple: M0 2.00000×10^15 NP1:φs258.00000°, δ79.00000°, λ-3.00000°. NP2:φs348.00000°, δ87.00000°, λ-169.00000°.*
*IDC **29** 16:39:04.8±0.6, 37°.80N×144°.75E, h0km, mb4.2/24, mb1 4.3/33, mb1mx4.3/51, mbtmp4.3/33, ML4.1/7, MS3.3/14, Ms1 3.3/14, ms1mx3.1/47, Error ellipse: s-maj=15.6km s-min=12.6km az=128.0*
*BJI **29** 16:39:05.9, 38°.32N×145°.09E, h26km, mb4.4/38, mB4.7/24, Ms3.9/22, Ms7.3/20*
*JMA **29** 16:39:09.8±0.2, 37°.98N×144°.45E, h42km, M4.9*
*MOS **29** 16:39:10.4±1.0, 38°.19N×144°.53E, h36km, mb4.6/22, Error ellipse: s-maj=8.8km s-min=5.9km az=108.2*
*NEIC **29** 16:39:10.3±1.7, 37°.91N×144°.65E, h32km±11km, mb4.5/29, Error ellipse: s-maj=8.2km s-min=4.5km az=147.0*

ISC 29 16:39:09.2±0.7, 37°.91N±0°.04×144°.77E±0°.04, h26km±4km, n174, σ2.9 39/206, mb4.4/59, MS3.5/10, 10C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.70**	**297**	P	**Pn**	**16 39 48.6**	**-2.3**
JIO	**Ouri**	**2.75**	**283**	P	**Pn**	**16 39 49.1**	**-2.5**
JIO				*e*S	**Sn**	**16 40 18.0**	**-5.9**
MIYJ	**Miyakonagasawa**	**2.85**	**307**	P	**Pn**	**16 39 50.5**	**-2.4**
MIYJ				S	**Sn**	**16 40 20.5**	**-5.8**
JMK	**Ichinoseki**	**2.98**	**292**	P	**Pn**	**16 39 52.6**	**-2.1**
JMK				*e*S	**Sn**	**16 40 25.0**	**-4.5**
JOM	**Ohasama**	**3.14**	**301**	P	**Pn**	**16 39 55.1**	**-1.8**
JOM				*e*S	**Sn**	**16 40 29.1**	**-4.4**
JOU	**Okura**	**3.27**	**279**	P	**Pn**	**16 39 57.0**	**-1.7**
JOU				S	**Sn**	**16 40 32.2**	**-4.6**
JANG	**Nango**	**3.53**	**315**	P	**Pn**	**16 39 59.9**	**-2.4**
JFT	**Otama**	**3.54**	**265**	P	**Pn**	**16 40 00.8**	**-1.6**
JFT				S	**Sn**	**16 40 38.3**	**-5.1**
JRG	**Rokugo**	**3.56**	**296**	P	**Pn**	**16 40 01.2**	**-1.6**
JYK	**Kaneyama**	**3.61**	**288**	P	**Pn**	**16 40 01.8**	**-1.6**
JYK				*e*S	**Sn**	**16 40 40.9**	**-4.2**
JAH	**Hinai**	**3.94**	**307**	P	**Pn**	**16 40 06.4**	**-1.6**
JAH				*e*S	**Sn**	**16 40 49.5**	**-3.9**
JTM	**Tenmabayashi**	**4.06**	**316**	P	**Pn**	**16 40 07.7**	**-1.9**
JTM				*e*S	**Sn**	**16 40 50.2**	**-6.1**
ERM	**Erimo**	**4.29**	**344**	*ce*P	**Pn**	**16 40 11.1**	**-1.6**
ERM				pmax	pmax		
	comp=Z,136nm,2.5s						
ERM	**Erimo**	**4.29**	**344**	*e*Pn	**Pn**	**16 40 11.0**	**-1.6**
BSO1	**Boso 1**	**4.46**	**224**	P	**Pn**	**16 40 12.8**	**-1.8**
JOT	**Ohata**	**4.51**	**322**	P	**Pn**	**16 40 14.5**	**-1

HABR	**Khabarovsk**	**12.71**	**329**	*ce*P		**Pn**	**16 42 05.0**	**-3.1**
HABR				*e*S		**Sn**	**16 44 24.9**	**-3.7**
HABR				pmax	pmax			
	comp=N,18nm,1.4s							
HABR				pmax	pmax			
	comp=E,16nm,1.4s							
HABR				pmax	pmax			
	comp=Z,41nm,1.4s							
HABR				MLR	MLR			
	comp=Z,102nm,15.0s							
MDJ	**Mudanjiang**	**13.23**	**305**	P		**Pn**	**16 42 14.3**	**-0.9**
MDJ				S		**Sn**	**16 44 40.8**	**-0.6**
MDJ				PcP		**PcP**	**16 47 44.8**	**+0.2**
MDJ				ScP		**ScP**	**16 51 17.3**	**+1.2**
MDJ				ScS		**ScS**	**16 54 54.3**	**+1.7**
MDJ				PMZ				
	comp=Z,35nm,1.2s							
MDJ				PMZ				
	comp=Z,47nm,4.8s							
MDJ	**Mudanjiang**	**13.23**	**305**	*e*Pn		**Pn**	**16 42 14.5**	**-0.8**
KSRS	**Korea Array**	**13.36**	**273**	Pn		**Pn**	**16 42 17.5**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=84,slow=13,SNR=16							
KSRS				LR		LR	16 47 23.9	
	comp=Z,144nm,18.3s,baz=76,slow=37							
KS01	**Wonju Array Si**	**13.38**	**273**	*e*Pn		**Pn**	**16 42 19.0**	**+1.8**
KS15	**Wonju Array Si**	**13.39**	**273**	*e*Pn		**Pn**	**16 42 18.1**	**+0.7**
KSAR	**Wonju Array Be**	**13.39**	**273**	P		**Pn**	**16 42 17.5**	**+0.1**
KSAR	**Wonju Array Be**	**13.39**	**273**	Pn		**Pn**	**16 42 17.5**	**+0.1**
INCN	**Inchon**	**14.37**	**274**	*e*Pn		**Pn**	**16 42 30.8**	**-0.1**
KLR	**Kul'dur**	**14.71**	**324**	Pn		**Pn**	**16 42 34.2**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=122,slow=10,SNR=11							
KLR				LR		LR	16 48 13.3	
	comp=Z,52nm,18.2s,baz=126,slow=37							
KLR	**Kul'dur**	**14.71**	**324**	*i*P		**Pn**	**16 42 34.1**	**-1.3**
PEA0	**Petropavlovsk-**	**17.65**	**26**	*e*Pn		**P**	**16 43 15.6**	**+1.7**
PEA0B	**Petropavlovsk-**	**17.65**	**26**	*e*P		**P**	**16 43 15.2**	**+1.4**
	comp=Z,41nm,1.6s							
PETK	**Petropavlovsk-**	**17.65**	**26**	P		**P**	**16 43 14.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=207,slow=9.3,SNR=4.2							
PETK				LR		LR	16 50 46.6	
	comp=Z,53nm,19.5s,baz=214,slow=40							
HIA	**Hailar**	**21.29**	**310**	*e*P		**P**	**16 43 51.9**	**-1.7**
HIA				pmax	pmax			
	comp=Z,13nm,1.1s							
HIA	**Hailar**	**21.29**	**310**	*e*P		**P**	**16 43 51.9**	**-1.7**
	comp=Z,12nm,1.1s							
BJI	**Beijing**	**22.30**	**284**	P		**P**	**16 44 04.5**	**+0.1**
BJI				sP		**pP**	**16 44 11.8**	**+0.2**
BJI				S		**S**	**16 48 07.0**	**-1.2**
BJI				sS		Sn	16 48 17.5	-3.3
BJI				PMZ				
	comp=Z,8.0nm,1.3s							
BJI				LN				
	comp=Z,150nm,14.0s							
BJI				LE				
	comp=Z,90nm,8.6s							
BJT	**Baijiatuan**	**22.30**	**284**	*e*P		**P**	**16 44 04.0**	**-0.5**
BJT				pmax	pmax			
	comp=Z,13nm,0.9s							
BJT	**Baijiatuan**	**22.30**	**284**	*e*P		**P**	**16 44 04.0**	**-0.5**
	comp=Z,13nm,0.9s							
CLNS	**Chul'man**	**23.08**	**332**	*e*P		**P**	**16 44 15.8**	**+3.2**
CLNS				pmax	pmax			
	comp=Z,11nm,0.9s							
GUMO	**Guam**	**24.22**	**180**	LR		LR	16 51 24.7	
	comp=Z,44nm,21.0s,baz=20,slow=31							
SEY	**Seymchan**	**25.49**	**8**	P		**P**	**16 44 36.3**	**+1.4**
	comp=Z,5.9nm,0.9s,baz=186,slow=7.0,SNR=17							
HHC	**Hu-ho-hao-te**	**25.75**	**287**	*e*P		**P**	**16 44 38.0**	**+0.3**
HHC				PP		**PnPn**	**16 45 18.5**	**+3.8**
HHC				S		**S**	**16 49 04.0**	**-1.2**
HHC				PMZ				
	comp=Z,27nm,0.9s							
HHC				PMZ				
	comp=Z,84nm,5.2s							
HHC				LN				
	comp=Z,160nm,8.8s							
HHC				LE				
	comp=Z,140nm,11.6s							
HHC				LZ				
	comp=Z,120nm,10.8s							
YAK	**Yakutsk**	**25.89**	**344**	P		**P**	**16 44 38.2**	**-0.4**
	comp=Z,7.6nm,0.4s,baz=114,slow=1.1,SNR=6.4							
YAK				LR		LR	16 56 26.6	
	comp=Z,45nm,18.0s,baz=344,slow=40							
YAK	**Yakutsk**	**25.89**	**344**	*e*P		**P**	**16 44 37.7**	**-0.9**
YAK				*e**PP		**sP**	**16 44 48.4**	**-1.1**
YAK				*e*			16 45 16.5	
YAK				*e*PPP		PPP	16 45 26.2	
YAK				*e*			16 48 06.0	
YAK				*e*S		**S**	**16 49 05.6**	**-1.2**
YAK				*e**SS		**sS**	**16 49 24.6**	**+5.1**
YAK				*e*SS		**SnSn**	**16 50 00.8**	**-3.2**
YAK				*e*SSS		SSS	16 50 22.5	
YAK				*e*			16 55 31.3	
YAK				pmax	pmax			
	comp=Z,11nm,0.9s							
YAK				pmax	pmax			
	comp=Z,54nm,5.3s							
YAK				pmax	pmax			
	comp=N,53nm,5.1s							
YAK				pmax	pmax			
	comp=E,56nm,6.0s							
YAK				smax	smax			
	comp=N,20nm,2.8s							
YAK				smax	smax			
	comp=E,41nm,2.2s							
YAK	**Yakutsk**	**25.89**	**344**	*e*P		**P**	**16 44 37.2**	**-1.4**
	comp=E,12nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**26.42**	**127**	T		T	17 11 58.2	
	baz=319,slow=74,SNR=52							
H11N1	**WAKE ISLAND Hy**	**26.43**	**127**	T		T	17 12 17.5	
	baz=319,slow=74,SNR=30							
H11N3	**WAKE ISLAND Hy**	**26.43**	**127**	T		T	17 12 15.0	
	baz=319,slow=74,SNR=37							
H11S1	**WAKE ISLAND Hy**	**27.21**	**129**	T		T	17 12 54.2	
	baz=319,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**27.21**	**129**	T		T	17 12 51.0	
	baz=319,slow=76,SNR=9.4							
H11S2	**WAKE ISLAND Hy**	**27.23**	**129**	T		T	17 12 48.6	
	baz=319,slow=76,SNR=3.6							
BOD	**Bodaibo**	**28.29**	**325**	*e*P		**P**	**16 44 56.9**	**-3.3**
BOD				pmax	pmax			
	comp=Z,17nm,1.5s							
ULN	**Ulaanbaatar**	**29.11**	**302**	⇓*i*P		**P**	**16 45 08.1**	**+0.2**
ULN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
ULN	**Ulaanbaatar**	**29.11**	**302**	*e*P		**P**	**16 45 10.3**	**+2.5**
	comp=Z,7.5nm,1.2s							
XAN	**Xi'an**	**29.16**	**273**	P		**P**	**16 45 10.0**	**+1.8**
XAN				pP		sP	16 45 17.3	-1.8
XAN				S		**S**	**16 49 59.3**	**+0.4**
XAN				PMZ				
	comp=Z,8.0nm,1.3s							
XAN				PMZ				
	comp=Z,76nm,5.1s							
XAN				LN				
	comp=Z,120nm,14.9s							
XAN				LE				
	comp=Z,75nm,15.0s							
XAN				LZ				
	comp=Z,100nm,14.0s							
SONA1	**Songino Array**	**29.55**	**302**	*e*P		**P**	**16 45 10.2**	**-1.5**
SONM	**Songino Array**	**29.55**	**302**	P		**P**	**16 45 12.4**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=94,slow=4.3,SNR=3.9							
SONM				LR		LR	16 57 39.2	
	comp=Z,103nm,18.3s,baz=136,slow=38							
ENH	**Enshi**	**30.06**	**266**	*e*P		**P**	**16 45 19.0**	**+2.7**
	comp=Z,13nm,0.8s							
ZAK	**Zakamensk**	**31.86**	**307**	*e*P		**P**	**16 45 35.5**	**+3.5**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.4s							
LZH	**Lanzhou**	**32.55**	**280**	*e*P		**P**	**16 45 41.3**	**+3.0**
LZH				pP		sP	16 45 48.5	-0.8
LZH				sP		pP	16 45 51.8	+5.7
LZH				PP		**PP**	**16 46 49.5**	**-2.5**
LZH				PMZ				
	comp=Z,23nm,1.1s							
LZH				PMZ				
	comp=Z,69nm,5.4s							
LZH				LN				
	comp=Z,380nm,12.7s							
LZH				LE				
	comp=Z,390nm,12.9s							
LZH				LZ				
	comp=Z,420nm,15.8s							
GTA	**Gaotai**	**34.86**	**287**	*e*P		**P**	**16 46 01.0**	**+2.6**
GTA				pP		sP	16 46 09.0	-0.3
GTA				sP		pP	16 46 13.0	+6.9
GTA				S		**S**	**16 51 31.0**	**+3.1**
GTA				sS		sS	16 51 43.0	+2.3
GTA				SS		**SnSn**	**16 53 46.3**	**+3.4**
GTA				PMZ				
	comp=Z,3.0nm,1.3s							
GTA				PMZ				
	comp=Z,48nm,4.8s							
GTA				LN				
	comp=Z,110nm,15.9s							
GTA				LE				
	comp=Z,140nm,17.3s							
GTA				LZ				
	comp=Z,130nm,17.1s							
QIZ	**Qiongzhong**	**35.73**	**248**	P		**P**	**16 46 05.5**	**-0.3**
QIZ				S		**S**	**16 51 45.0**	**+3.8**
KMI	**Kunming**	**37.73**	**263**	P		**P**	**16 46 25.5**	**+2.5**
KMI				pP		sP	16 46 33.0	-1.0
KMI				PMZ				
	comp=Z,8.0nm,1.1s							
KMI				LN				
	comp=Z,120nm,15.2s							
KMI				LE				
	comp=Z,140nm,15.5s							
KMI				LZ				
	comp=Z,160nm,16.6s							
WMQ	**Urumqi**	**42.83**	**297**	P		**P**	**16 47 05.5**	**+0.5**
WMQ				pP		pP	16 47 13.0	+0.1
WMQ				sP		sP	16 47 16.5	+0.5
WMQ				PMZ				
	comp=Z,4.0nm,0.6s							
WMQ				PMZ				
	comp=Z,95nm,4.7s							
ZAA0	**Zalesovo Array**	**43.31**	**312**	*e*P		**P**	**16 47 08.2**	**-0.4**
ZALV	**Zalesovo Beam**	**43.31**	**312**	P		**P**	**16 47 08.8**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=82,slow=6.6,SNR=5.3							
ZALV				PcP		**PcP**	**16 48 57.0**	**-0.1**
	comp=Z,4.0nm,0.5s,baz=90,slow=2.9,SNR=13							
NRIK	**Noril'sk**	**43.62**	**334**	LR		LR	17 06 30.3	
	comp=Z,48nm,18.6s,baz=74,slow=38							
CMAR	**Chiang Mai Arr**	**44.30**	**257**	P		**P**	**16 47 17.8**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=54,slow=9.1,SNR=3.8							
MLY	**Manley**	**45.69**	**32**	*e*P		**P**	**16 47 28.9**	**+1.4**
	comp=Z,5.5nm,1.2s							
MK01	**Makanchi Array**	**45.92**	**302**	*e*P		**P**	**16 47 29.3**	**-0.3**
MK31	**Makanchi Array**	**45.92**	**302**	*e*P		**P**	**16 47 29.5**	**-0.1**
MK31	**Makanchi Array**	**45.92**	**302**	*e*P		**P**	**16 47 29.4**	**-0.1**
MKAR	**Makanchi Array**	**45.92**	**302**	P		**P**	**16 47 29.7**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=87,slow=9.1,SNR=12							
MKAR				LR		LR	17 07 47.6	
	comp=Z,40nm,18.7s,baz=83,slow=38							
MKAR	**Makanchi Array**	**45.92**	**302**	*e*P		**P**	**16 47 29.5**	**-0.1**
MKAR	**Makanchi Array**	**45.92**	**302**	*e*P		**P**	**16 47 29.4**	**-0.1**
RND	**Reindeer**	**46.45**	**35**	*e*P		**P**	**16 47 33.8**	**+0.3**
RND				pmax	pmax			
	comp=Z,7.0nm,1.0s							
RND	**Reindeer**	**46.45**	**35**	*e*P		**P**	**16 47 33.8**	**+0.3**
	comp=Z,7.4nm,1.0s							
MDM	**Murphy Dome**	**46.75**	**33**	*e*P		**P**	**16 47 37.3**	**+1.5**
	comp=Z,9.3nm,1.1s							
ILAR	**Eielson Array**	**47.32**	**33**	P		**P**	**16 47 40.9**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=263,slow=6.2,SNR=27							
ILB	**Eielson Array**	**47.32**	**33**	*e*P		**P**	**16 47 40.3**	**+0.1**
IL1	**Eielson Array**	**47.32**	**33**	*e*P		**P**	**16 47 40.1**	**-0.2**
KURK	**Kurchatov**	**47.50**	**308**	P		**P**	**16 47 42.2**	**+0.4**
KURK	**Kurchatov**	**47.50**	**308**	P		**P**	**16 47 42.1**	**+0.4**
KURBB	**Kurchatov Arra**	**47.57**	**308**	P		**P**	**16 47 42.1**	**-0.2**
	comp=Z,4.8nm,0.6s,baz=81,slow=7.9,SNR=46							
CRQM	**Cirque**	**49.28**	**38**	*e*P		**P**	**16 47 57.0**	**+1.4**
	comp=Z,18nm,1.0s							
KKN	**Kakani**	**50.24**	**277**	*e*P		P	16 48 15.0	+12
PKIN	**Phulchoki**	**50.25**	**277**	*e*P		P	16 48 15.6	+12
	comp=Z,2.7nm,0.3s							
GKN	**Gorkha**	**50.65**	**277**	*e*P		P	16 48 18.0	+12
	comp=Z,7.4nm,0.3s							
TKM2	**Tokmak 2**	**51.56**	**299**	*e*P		**P**	**16 48 13.7**	**+0.6**
TKM2				pmax	pmax			
	comp=Z,4.0nm,0.8s							
TKM2	**Tokmak 2**	**51.56**	**299**	*e*P		**P**	**16 48 13.7**	**+0.6**
	comp=Z,4.1nm,0.8s							
KOLN	**Koldanda**	**51.57**	**278**	*e*P		P	16 48 24.5	+11
	comp=Z,5.3nm,0.3s							
VOSK	**Vostochnaya**	**51.69**	**312**	*e*P		**P**	**16 48 13.6**	**-0.1**
VOSK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
VOSK	**Vostochnaya**	**51.69**	**312**	*e*P		**P**	**16 48 13.6**	**-0.1**
	comp=Z,3.7nm,0.8s							
PYUN	**Piuthan**	**51.90**	**278**	*e*P		P	16 48 27.1	+11
BVAR	**Borovoye Array**	**51.96**	**312**	P		**P**	**16 48 16.1**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=81,slow=9.2,SNR=13							
BVAR				PcP		**PcP**	**16 49 28.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=79,slow=3.8,SNR=4.3							
BRVK	**Borovoye**	**52.01**	**312**	*i*P		**P**	**16 48 16.8**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
INK	**Inuvik**	**52.39**	**28**	P		**P**	**16 48 19.7**	**+1.1**
	comp=Z,2.9nm,0.6s,baz=306,slow=5.7,SNR=9.3							
KSH	**Kashi**	**52.48**	**295**	*e*P		**P**	**16 48 23.0**	**+3.0**
KSH				pP		sP	16 48 30.8	-0.3
KSH				PcP		**PcP**	**16 49 34.3**	**+4.0**
KSH				PP		**PP**	**16 50 22.3**	**+3.6**
KSH				S		**S**	**16 55 48.0**	**+3.1**
KSH				ScS		**ScS**	**16 58 08.0**	**-0.2**
KSH				SS		**SS**	**16 59 23.5**	**+0.8**
KSH				PMZ				
	comp=Z,2.0nm,0.4s							
KSH				LZ				
	comp=Z,140nm,6.4s							
KKAR	**Karatay Array**	**54.99**	**301**	P		**P**	**16 48 36.6**	**-1.6**
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KKAR	**Karatay Array**	**54.99**	**301**	P		**P**	**16 48 36.6**	**-1.6**
	comp=Z,0.9nm,0.3s							
ARU	**Arti**	**57.47**	**319**	P		P	16 48 47.5	-8.1
	comp=Z,1.4nm,0.3s,baz=273,slow=10,SNR=2.4							
ARU	**Arti**	**57.47**	**319**	*i*P		**P**	**16 48 55.6**	**0.0**
ARU							16 51 00.0	
ARU				S		**S**	**16 56 51.9**	**+0.9**
ARU				SS		**SS**	**17 00 39.8**	**-0.5**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
WRA	**Warramunga Arr**	**58.37**	**192**	P		**P**	**16 49 01.1**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=11,slow=7.0,SNR=16							
ABKAR	**Akbulak array**	**59.41**	**311**	*e*P		**P**	**16 49 08.8**	**-0.4**
AKTO	**Aktyubinsk**	**60.07**	**313**	P		**P**	**16 49 13.4**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=72,slow=13,SNR=5.1							
YKA	**Yellowknife Ar**	**61.70**	**31**	P		**P**	**16 49 25.0**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=301,slow=6.6,SNR=11							
ASAR	**Alice Springs**	**62.09**	**191**	P		**P**	**16 49 26.1**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=7.3,slow=7.3,SNR=7.3							
KLMR	**Klimovskoe**	**64.43**	**328**	*e*P		**P**	**16 49 40.4**	**-2.4**
KLMR				*e*			16 50 13.3	
KLMR				pmax	pmax			
	comp=Z,11nm,1.4s							
GEYT	**Alibeck**	**65.73**	**300**	P		**P**	**16 49 52.0**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=33,slow=5.7,SNR=4.5							
K05A	**Summer Lake**	**68.31**	**52**	*e*P		**P**	**16 50 09.0**	**+0.8**
	comp=Z,12nm,1.0s							
FINES	**FINESS Array B**	**69.27**	**333**	P		**P**	**16 50 13.1**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=50,slow=10,SNR=10							
FINES				LR		LR	17 25 00.5	
	comp=Z,30nm,19.7s,baz=43,slow=40							
SUMG	**Summit**	**69.79**	**1**	*e*P		**P**	**16 50 16.7**	**-0.4**
SUMG				pmax	pmax			
	comp=Z,38nm,2.0s							
SUMG	**Summit**	**69.79**	**1**	*e*P		**P**	**16 50 16.7**	**-0.4**
	comp=Z,38nm,2.0s							
HLID	**Hailey**	**71.81**	**49**	*e*P		**P**	**16 50 30.4**	**+0.7**
	comp=Z,2.4nm,0.2s							
DLMT	**Dillon**	**71.83**	**46**	*e*P		**P**	**16 50 30.8**	**+1.1**
	comp=Z,4.3nm,0.8s							
BOZ	**Bozeman (W)**	**72.21**	**46**	*e*P		**P**	**16 50 33.3**	**+1.3**
BOZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BOZ	**Bozeman (W)**	**72.21**	**46**	*e*P		**P**	**16 50 33.3**	**+1.3**
	comp=Z,4.8nm,0.9s							
KIV	**Kislovodsk**	**72.33**	**312**	*e*P		**P**	**16 50 33.9**	**+1.3**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,34nm,18.0s							
KBZ	**Khabaz**	**72.34**	**312**	P		**P**	**16 50 33.4**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=96,slow=6.9,SNR=4.8							
TPAW	**Teton Pass**	**73.89**	**47**	*e*P		**P**	**16 50 42.0**	**-0.1**
	comp=Z,5.0nm,0.9s							
DAC	**Darwin (Calif)**	**74.01**	**56**	*e*P		**P**	**16 50 43.6**	**+0.8**
DAC				pmax	pmax			
	comp=Z,4.0nm,0.9s							
DAC	**Darwin (Calif)**	**74.01**	**56**	*e*P		**P**	**16 50 43.6**	**+0.8**
	comp=Z,3.6nm,0.9s							
NB2	**NORSAR Subarra**	**74.39**	**339**	P		**P**	**16 50 43.8**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=35,slow=6.2							
NOA	**NORSAR Array B**	**74.39**	**339**	P		**P**	**16 50 44.4**	**0.0**
	comp=Z,2.5nm,0.8s,baz=36,slow=6.0,SNR=7.0							
NOA				LR		LR	17 27 30.8	
	comp=Z,19nm,20.9s,baz=5.0,slow=39							
HWUT	**Hardware Ranch**	**74.66**	**49**	*e*P		**P**	**16 50 46.8**	**+0.3**
	comp=Z,5.4nm,0.9s							
DUG	**Dugway, Tooele**	**74.75**	**51**	*e*P		**P**	**16 50 48.1**	**+1.1**
DUG				pmax	pmax			
	comp=Z,5.0nm,0.9s							
DUG	**Dugway, Tooele**	**74.75**	**51**	*e*P		**P**	**16 50 48.1**	**+1.1**
	comp=Z,5.0nm,0.9s							
PDAR	**Pinedale Array**	**75.14**	**47**	P		**P**	**16 50 50.4**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=276,slow=3.1,SNR=13							
AKASG	**Malin Array Be**	**75.21**	**324**	P		**P**	**16 50 48.8**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=42,slow=6.0,SNR=8.9							
AKASG				LR		LR	17 28 07.3	
	comp=Z,22nm,18.0s,baz=285,slow=39							
KIEV	**Kiev**	**75.22**	**324**	⇑*i*P		**P**	**16 50 49.3**	**0.0**
KIEV				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SHPR	**Sheep Range**	**75.47**	**55**	*e*P		**P**	**16 50 52.9**	**+1.7**
	comp=Z,5.8nm,1.0s							
CCUT	**Cedar City**	**76.00**	**53**	*e*P		**P**	**16 50 56.1**	**+1.8**
	comp=Z,6.0nm,0.9s							
LCMT	**Little Creek M**	**76.40**	**54**	*e*P		**P**	**16 50 57.6**	**+1.1**
	comp=Z,6.3nm,0.9s							
SRU	**San Rafael Swe**	**76.81**	**51**	*e*P		**P**	**16 51 00.3**	**+1.4**
SRU				pmax	pmax			
	comp=Z,8.0nm,0.9s							
SRU	**San Rafael Swe**	**76.81**	**51**	*e*P		**P**	**16 51 00.2**	**+1.4**
	comp=Z,8.2nm,0.9s							
W13A	**Hualapai Mount**	**77.14**	**56**	*e*P		**P**	**16 51 01.7**	**+0.9**
	comp=Z,4.3nm,1.0s							
ULM	**Lac du Bonnet**	**77.28**	**35**	P		**P**	**16 51 00.9**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=333,slow=12,SNR=2.9							
PV09	**Paradox Valley**	**78.04**	**50**	*e*P		**P**	**16 51 06.0**	**+0.1**
PV05	**Paradox Valley**	**78.33**	**51**	*e*P		**P**	**16 51 08.7**	**+1.3**
PV01	**Paradox Valley**	**78.62**	**50**	*e*P		**P**	**16 51 09.8**	**+0.8**
X16A	**Lo Mia Camp, P**	**79.14**	**55**	*e*P		**P**	**16 51 13.5**	**+1.6**
	comp=Z,3.8nm,0.8s							
BUR08	**Bucovina Ar. S**	**79.24**	**323**	*e*P		**P**	**16 51 12.3**	**+0.3**
BURAR	**Bucovina Array**	**79.25**	**323**	⇑*i*P		**P**	**16 51 12.6**	**+0.5**
BRTR	**Keskin Array B**	**80.24**	**313**	P		**P**	**16 51 16.6**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=83,slow=4.5,SNR=3.9							
ANMO	**Albuquerque**	**81.97**	**52**	⇑*i*P		**P**	**16 51 28.8**	**+1.8**
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.2s							
GERES	**GERESS Array B**	**83.34**	**330**	P		**P**	**16 51 33.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=15,slow=5.5,SNR=3.6							
GERES				LR		LR	17 32 09.0	
	comp=Z,32nm,19.4s,baz=61,slow=38							
BFO	**Black Forest**	**85.81**	**333**	*ce*P		**P**	**16 51 47.5**	**+1.3**
FUORN	**Ofenpass-Fuorn**	**86.50**	**330**	*e*P		**P**	**16 51 50.3**	**+0.4**
	comp=Z,8.4nm,1.1s							
TXAR	**Lajitas Array**	**87.46**	**54**	P		**P**	**16 51 55.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=302,slow=2.4,SNR=5.5							
TORD	**Torodi Ar. Bea**	**118.54**	**318**	PKP		**PKPdf**	**16 57 54.1**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=336,slow=3.2,SNR=2.4							
LPAZ	**La Paz**	**143.94**	**62**	PKP		**PKPdf**	**16 58 42.9**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=58,slow=3.5,SNR=3.3							

IDC 29 17:02:00.5±950.0, 29°.18N×14°.32E, h0km, Error ellipse: s-maj=404.9km s-min=134.6km az=127.0, Libya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**7.84**	**329**	*i*			17 46 00.0	
	baz=145,slow=325,SNR=2.7							
I42PT	**GRACIOSA ISLAN**	**36.12**	**297**	*i*			20 43 20.0	
	baz=94,slow=311,SNR=0.6							
I11CV	**MAIO ISLAND IN**	**37.21**	**256**	*i*			20 53 10.0	
	baz=60,slow=315,SNR=0.6							

ISK ***29*** *17:04:33.4, 39°.32N×29°.11E, h15km, MD2.5*
ISCJB ***29*** *17:04:35.0±0.7, 39°.38N±0°.04×29°.15E±0°.05, h8km, Error ellipse: s-maj=6.5km s-min=4.9km az=44.9*
CSEM ***29*** *17:04:35.1±0.4, 39°.40N×29°.14E, h10km, MD2.3, Error ellipse: s-maj=10.8km s-min=9.0km az=125.0*
DDA ***29*** *17:04:37.8, 39°.19N×29°.21E, h7km, Md2.3*

ISC 29 17:04:34.6±0.9, 39°.39N±0°.03×29°.14E±0°.04, h8km, n12, σ0s86/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.26**	**77**	*e*PG		**Pb**	**17 04 41.1**	**-0.4**
TVSB				*e*SG		**Sg**	**17 04 44.5**	**+1.3**
TVSB	**Tavsanli**	**0.26**	**77**	*e*Pg		**Pb**	**17 04 41.1**	**-0.4**
TVSB				*e*Sg		**Sg**	**17 04 44.5**	**+1.3**
GDZ	**Gediz**	**0.40**	**139**	P		**Pg**	**17 04 42.8**	**+0.3**
GDZ				S		**Sg**	**17 04 46.7**	**-1.1**
GDZ	**Gediz**	**0.40**	**139**	*i* P		**Pg**	**17 04 42.8**	**+0.3**
GDZ				*i* S		**Sg**	**17 04 46.7**	**-1.1**
DEMI	**

IDI			S	Sb	17 05 15.0	0.0
IDI	**Anoyia**	**0.59 234**	P	Pn	17 05 06.8	-0.1
IDI			S	Sb	17 05 14.0	-1.0
IDI	**Anoyia**	**0.59 234**	P	Pn	17 05 06.8	-0.1
IDI			S	Sb	17 05 14.0	-1.0
IDI			AML	AML	17 05 15.2	
	comp=N,7614μm,0.2s					
IDI			AML	AML	17 05 15.6	
	comp=E,5942μm,0.2s					
THR6	**Thira Island,**	**0.72 355**	P	Pn	17 05 08.2	-0.5
SAP1	**Santorini-Akro**	**0.72 355**	P	Pn	17 05 08.2	-0.6
SAP1			S	Sn	17 05 19.7	+0.9
SAP1	**Santorini-Akro**	**0.72 355**	P	Pn	17 05 08.2	-0.6
SAP1			S	Sn	17 05 19.7	+0.9
SAP1			AML	AML	17 05 19.8	
	comp=E,22494μm,0.6s					
SAP1			AML	AML	17 05 20.5	
	comp=N,21566μm,0.5s					
SANT	**Santorini**	**0.73 359**	P	Pn	17 05 08.4	-0.5
SANT			S	Sn	17 05 19.3	+0.2
SANT	**Santorini**	**0.73 359**	P	Pn	17 05 08.0	-1.0
SANT			S	Sn	17 05 19.4	+0.3
SANT	**Santorini**	**0.73 359**	P	Pn	17 05 08.0	-1.0
SANT			S	Sn	17 05 19.4	+0.3
SANT			AML	AML	17 05 19.9	
	comp=E,8207μm,0.3s					
SANT			AML	AML	17 05 20.2	
	comp=N,3298μm,0.4s					
THT1	**Athinios (Pele**	**0.75 357**	P	Pn	17 05 08.3	-0.8
THT1			S	Sn	17 05 19.6	+0.2
SAP2K	**Karterados**	**0.78 358**	P	Pn	17 05 08.7	-0.8
SAP2K			S	Sn	17 05 20.9	+0.9
SAP2K			AML	AML	17 05 21.3	
	comp=E,16376μm,0.5s					
SAP2K			AML	AML	17 05 22.5	
	comp=N,20932μm,0.6s					
THR3	**Thira Island,**	**0.78 356**	P	Pn	17 05 09.1	-0.3
THR7	**Fira-Santorini**	**0.79 357**	P	Pn	17 05 09.4	-0.2
THR5	**Thira Island,**	**0.79 352**	*e*PG	Pn	17 05 09.2	-0.4
THR5			eSG	Sb	17 05 21.4	+1.0
THR5	**Thira Island,**	**0.79 352**	P	Pn	17 05 09.0	-0.6
ZKR	**Zakros**	**0.80 130**	P	Pb	17 05 10.0	-0.2
ZKR			S	Sb	17 05 21.2	+0.5
ZKR	**Zakros**	**0.80 130**	P	Pb	17 05 10.8	+0.6
ZKR			S	Sb	17 05 21.2	+0.5
ZKR	**Zakros**	**0.80 130**	P	Pb	17 05 10.8	+0.6
ZKR			S	Sn	17 05 19.9	-0.6
THR2	**Thira island,**	**0.81 358**	P	Pn	17 05 09.4	-0.6
SIVA	**Sivas**	**0.82 222**	P	Pb	17 05 10.3	-0.3
SIVA			S	Sb	17 05 21.9	+0.6
SIVA	**Sivas**	**0.82 222**	P	Pb	17 05 10.3	-0.3
SIVA			S	Sn	17 05 20.6	-0.5
SIVA	**Sivas**	**0.82 222**	P	Pb	17 05 10.8	+0.4
SIVA			S	Sn	17 05 20.6	-0.5
CMBO	**Columbo, Santo**	**0.84 356**	P	Pn	17 05 10.1	-0.2
CMBO			S	Sb	17 05 22.2	+0.4
CMBO	**Columbo, Santo**	**0.84 356**	P	Pn	17 05 09.4	-0.9
CMBO			S	Sb	17 05 22.2	+0.4
CMBO	**Columbo, Santo**	**0.84 356**	P	Pn	17 05 09.4	-0.9
VAM	**Vamos**	**1.07 258**	P	Pn	17 05 13.5	+0.1
VAM			S	Sb	17 05 28.1	-0.2
VAM	**Vamos**	**1.07 258**	P	Pn	17 05 11.9	-1.5
VAM			S	Sn	17 05 27.1	-0.1
IMMV	**Iera Moni Meta**	**1.23 262**	P	Pn	17 05 15.9	+0.2
IMMV			S	Sb	17 05 32.0	-1.0
IMMV	**Iera Moni Meta**	**1.23 262**	P	Pn	17 05 16.3	+0.6
IMMV			S	Sb	17 05 32.0	-1.0
IMMV	**Iera Moni Meta**	**1.23 262**	P	Pn	17 05 16.3	+0.6
MHLO	**Agia Marina, M**	**1.37 321**	P	Pn	17 05 17.3	-0.3
MHLO			S	Sn	17 05 34.7	+0.1
MHLO	**Agia Marina, M**	**1.37 321**	P	Pn	17 05 17.5	-0.1
MHLO			S	Sn	17 05 34.7	+0.1
MHLO	**Agia Marina, M**	**1.37 321**	P	Pn	17 05 17.5	-0.1
KARP	**Karpathos**	**1.38 93**	*e*PN	Pb	17 05 18.9	-1.0
KARP			*e*SN	Sb	17 05 36.9	-0.3
KARP	**Karpathos**	**1.38 93**	P	Pn	17 05 17.7	0.0
KARP			S	Sn	17 05 35.3	+0.4
KARP	**Karpathos**	**1.38 93**	P	Pn	17 05 17.8	0.0
KARP	**Karpathos**	**1.38 93**	*e*Pn	Pb	17 05 18.9	-1.0
KARP			S	Sn	17 05 35.9	+1.0
KARP			*e*Sn	Sb	17 05 36.9	-0.3
KARP	**Karpathos**	**1.38 93**	P	Pn	17 05 17.8	0.0
KARP			S	Sn	17 05 35.9	+1.0
GVD	**Gavdhos**	**1.39 235**	P	Pn	17 05 18.6	+0.8
GVD			S	Sn	17 05 35.8	+0.7
GVD	**Gavdhos**	**1.39 235**	P	Pb	17 05 20.2	+0.2
GVD			S	Sn	17 05 35.8	+0.7
GVD	**Gavdhos**	**1.39 235**	P	Pb	17 05 20.2	+0.2
APE	**Apeiranthos**	**1.43 2**	*e*PN	Pn	17 05 18.6	+0.1
APE			*e*SN	Sb	17 05 38.0	-0.8
APE	**Apeiranthos**	**1.43 2**	P	Pn	17 05 17.9	-0.6
APE	**Apeiranthos**	**1.43 2**	P	Pn	17 05 17.2	-1.3
APE	**Apeiranthos**	**1.43 2**	*e*Pn	Pn	17 05 18.6	+0.1
APE			*e*Sn	Sb	17 05 38.0	-0.8
APE	**Apeiranthos**	**1.43 2**	P	Pn	17 05 17.2	-1.3
NIS1	**Nisyros Isl.**	**1.68 54**	*e*PN	Pb	17 05 25.6	+0.5
NIS1	**Nisyros Isl.**	**1.68 54**	*e*Pn	Pb	17 05 25.6	+0.5
SERI	**Serifos**	**1.72 333**	P	Pn	17 05 21.6	-0.9
SERI	**Serifos**	**1.72 333**	P	Pn	17 05 21.6	-0.9
ANKY	**Antikythira Is**	**1.78 278**	P	Pn	17 05 23.0	-0.3
ANKY	**Antikythira Is**	**1.78 278**	P	Pn	17 05 23.0	-0.3
BODT	**Bodrum**	**2.06 46**	*e*PN	Pb	17 05 29.4	-2.0
BODT	**Bodrum**	**2.06 46**	P	Pn	17 05 27.5	+0.4
BODT	**Bodrum**	**2.06 46**	P	Pn	17 05 27.5	+0.4
BODT	**Bodrum**	**2.06 46**	*e*Pn	Pb	17 05 29.4	-2.0
ARG	**Arkhangelos**	**2.23 74**	P	Pb	17 05 32.0	-2.3
VLI	**Veliai**	**2.32 299**	P	Pn	17 05 30.7	0.0
VLI			S	Sn	17 05 59.2	+1.0
VLI	**Veliai**	**2.32 299**	P	Pn	17 05 30.9	+0.2
VLI	**Veliai**	**2.32 299**	P	Pn	17 05 30.9	+0.2
DID	**Didima**	**2.60 317**	P	Pn	17 05 34.8	+0.3
DID	**Didima**	**2.60 317**	P	Pn	17 05 35.1	+0.6
DID	**Didima**	**2.60 317**	P	Pn	17 05 35.1	+0.6
YER	**Yerkesik**	**2.71 56**	*e*PN	Pn	17 05 38.4	+2.2
YER	**Yerkesik**	**2.71 56**	*e*Pn	Pn	17 05 38.4	+2.2
CHOS	**Chios island**	**2.79 9**	*e*PN	Pn	17 05 38.5	+1.3
CHOS	**Chios island**	**2.79 9**	*e*Pn	Pn	17 05 38.5	+1.3
DALY	**Dalyan (Mu˙la**	**2.83 64**	*e*PN	Pn	17 05 39.6	+2.0
DALY	**Dalyan (Mu˙la**	**2.83 64**	*e*Pn	Pn	17 05 39.6	+2.0
AYDB	**Zeytinkoy-Aydi**	**3.01 39**	*e*PN	Pn	17 05 42.3	+2.0
AYDB	**Zeytinkoy-Aydi**	**3.01 39**	*e*Pn	Pn	17 05 42.3	+2.0
VLX	**Vlachokerasia**	**3.04 306**	P	Pn	17 05 41.5	+0.9
VLX	**Vlachokerasia**	**3.04 306**	P	Pn	17 05 41.5	+0.9
VLX	**Vlachokerasia**	**3.04 306**	P	Pn	17 05 41.9	+1.3
LTK	**Loutraki**	**3.12 321**	P	Pn	17 05 42.5	+0.8
TRIP	**Tripoli**	**3.20 307**	P	Pn	17 05 44.9	+2.1
TRIP	**Tripoli**	**3.20 307**	P	Pn	17 05 44.9	+2.1
GUR	**Goura**	**3.41 313**	P	Pn	17 05 46.4	+0.7
GLHS	**Glhisar (BURDU**	**3.58 64**	*e*PN	Pn	17 05 50.5	+2.4
GLHS	**Glhisar (BURDU**	**3.58 64**	*e*Pn	Pn	17 05 50.5	+2.4
SIGR	**SIGRI**	**3.58 5**	*e*PN	Pn	17 05 49.4	+1.4
SIGR	**SIGRI**	**3.58 5**	*e*Pn	Pn	17 05 49.4	+1.4
KLV	**Kalavryta, Ach**	**3.59 313**	P	Pn	17 05 49.3	+1.1
KLV			S	Sn	17 06 30.1	+0.5
ELL	**Elmali**	**3.75 71**	*e*PN	Pn	17 05 52.6	+2.2
ELL	**Elmali**	**3.75 71**	*e*Pn	Pn	17 05 52.7	+2.2
AGG	**Agios Georgios**	**4.21 324**	*e*PN	Pn	17 05 57.2	+0.5
AGG	**Agios Georgios**	**4.21 324**	*e*Pn	Pn	17 05 57.2	+0.5
BRTR	**Keskin Array B**	**7.65 55**	Pn	Pn	17 06 47.4	+3.3
	comp=N,0.2nm,0.3s,baz=234,slow=18,SNR=3.6					
MMAI	**Mount Meron Ar**	**8.62 105**	Pn	Pn	17 06 56.1	-1.2
	comp=N,0.6nm,0.3s,baz=297,slow=13,SNR=3.2					
MMAI			Sn	Sn	17 08 31.5	-1.9
	comp=N,1.0nm,0.3s,baz=310,slow=33,SNR=1.7					
EIL	**Elat**	**9.96 124**	Pn	Pn	17 07 14.3	-1.2
	comp=N,0.3nm,0.3s,baz=121,slow=5.4,SNR=2.4					
EIL			Sn	Sn	17 09 02.0	-4.1
	comp=N,0.3nm,0.3s,baz=22,slow=17,SNR=2.5					
TORD	**Torodi Ar. Bea**	**30.99 230**	P	P	17 11 09.9	+0.6
	comp=N,0.3nm,0.4s,baz=32,slow=8.4,SNR=6.9					
MKAR	**Makanchi Array**	**43.30 57**	P	P	17 12 53.4	0.0
	comp=N,0.4nm,0.4s,baz=268,slow=8.3,SNR=4.1					
ZALV	**Zalesovo Beam**	**44.49 47**	P	P	17 13 02.3	-0.5
	comp=N,0.7nm,0.4s,baz=275,slow=8.7,SNR=5.1					

NIED ***29*** *17:09:00,38.˚20N×141.˚60E,h59km,Mw4.0 Best double couple: M₀1.08000×10¹⁵ NP1:φs18.00000°,δ44.00000°, λ92.00000°. NP2:φs195.00000°,δ46.00000°,λ88.00000°.*
ISCJB ***29*** *17:09:31.2±0.6,38.˚18N±0.˚03×141.˚74E±0.˚07,h53km±5km, mb3.9/16,MS2.9/2, Error ellipse: s-maj=8.9km s-min=4.7km az=15.0*
JMA ***29*** *17:09:32.9±0.1,38.˚21N×141.˚60E,h53km±1km,M4.0*
JMA Felt II J1.
IDC ***29*** *17:09:32.5±1.6,38.˚16N×141.˚78E,h49km±16km, mb3.7/16, mb1 3.9/22,mb1mx3.7/47,mbtmp4.0/22,ML3.5/4,MS2.9/6, Ms1 2.9/6,ms1mx2.6/48,Error ellipse: s-maj=18.1km s-min=10.5km az=92.0*

ISC 29 17:09:31.8±1.1,38.˚17N±0.˚04×141.˚77E±0.˚07,h44km±10km, n44,σ1s44/50,mb3.9/16,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JIO	**Ouri**	**0.44**	**311**	P		**Pn**	**17 09 42.6**	**+0.6**
JIO					*e*S	**Sn**	**17 09 49.1**	**0.0**
JMM	**Marumori**	**0.83**	**249**	P		**Pn**	**17 09 46.9**	**-0.2**
JMM					*e*S	**Sn**	**17 09 56.9**	**-1.3**
JMK	**Ichinoseki**	**0.90**	**331**	P		**Pn**	**17 09 48.2**	**+0.2**
JMK					*e*S	**Sn**	**17 09 58.9**	**-0.9**
JOU	**Okura**	**0.90**	**283**	P		**Pn**	**17 09 47.6**	**-0.4**
JOU					*e*S	**Sn**	**17 09 58.3**	**-1.5**
JFK	**Kawauchi**	**1.07**	**222**	P		**Pn**	**17 09 50.9**	**+0.5**
JFK					*e*S	**Sn**	**17 10 03.8**	**-0.3**
JFT	**Otama**	**1.31**	**241**	P		**Pn**	**17 09 54.1**	**+0.4**
JFT					*e*S	**Sn**	**17 10 09.3**	**-0.6**
JYK	**Kaneyama**	**1.34**	**304**	P		**Pn**	**17 09 53.6**	**-0.4**
JYK					*e*S	**Sn**	**17 10 09.7**	**-0.9**
JYS	**Shirataka**	**1.35**	**273**	P		**Pn**	**17 09 53.9**	**-0.3**
JYS					*e*S	**Sn**	**17 10 09.4**	**-1.5**
JOM	**Ohasama**	**1.36**	**344**	P		**Pn**	**17 09 54.6**	**+0.3**
JOM					*e*S	**Sn**	**17 10 10.6**	**-0.5**
JRG	**Rokugo**	**1.52**	**324**	P		**Pn**	**17 09 56.8**	**+0.3**
JYA	**Atsumi**	**1.67**	**285**	P		**Pn**	**17 09 58.2**	**-0.4**
JYA					*e*S	**Sn**	**17 10 17.7**	**-1.2**
MJAR	**Matsushiro Arr**	**3.27**	**241**	P		**Pn**	**17 10 22.1**	**+1.5**
	7.8nm,0.3s,baz=41,slow=12,SNR=50							
MJAR				LR		LR	17 11 56.5	
	comp=Z,122nm,19.5s,baz=65,slow=44							
MAT	**Matsushiro**	**3.27**	**241**	P		**Pn**	**17 10 22.1**	**+1.5**
MAT					S	**Sn**	**17 11 00.1**	**+1.8**
JHJ	**Hachijo jima 2**	**5.29**	**198**	P		**Pn**	**17 10 49.6**	**+1.2**
	13nm,0.3s,baz=351,slow=16,SNR=16							
JHJ					S	**Sn**	**17 11 47.6**	**-0.4**
	54nm,0.3s,baz=62,slow=22,SNR=8.0							
ASAJ	**Asahikawa**	**5.98**	**6**	P		**Pn**	**17 10 57.8**	**+0.1**
USRK	**Usuriysk Ar.**	**9.52**	**312**	P		**Pn**	**17 11 46.8**	**+0.5**
	1.1nm,0.3s,baz=118,slow=14,SNR=14							
JNU	**Nakatsue**	**10.19**	**244**	P		**Pn**	**17 11 59.3**	**+3.8**
	0.3nm,0.3s,baz=45,slow=3.2,SNR=5.5							
JNU				LR		LR	17 16 06.9	
	comp=Z,73nm,19.4s,baz=122,slow=39							
KSRS	**Korea Array**	**10.98**	**271**	P		**Pn**	**17 12 08.9**	**+2.6**
	0.4nm,0.3s,baz=80,slow=14,SNR=6.3							
KSRS				LR		LR	17 15 54.4	
	comp=Z,49nm,18.9s,baz=78,slow=35							
JCJ	**Chichijima**	**11.05**	**178**	P		**Pn**	**17 12 07.7**	**+0.5**
	10nm,0.3s,baz=151,slow=21,SNR=1.8							
JCJ					S	**Sn**	**17 14 03.6**	**-5.8**
	3.8nm,0.3s,baz=27,slow=18,SNR=1.5							
KLR	**Kul'dur**	**13.21**	**330**	P		**P**	**17 12 43.1**	**-2.4**
	0.2nm,0.3s,baz=156,slow=6.5,SNR=4.3							
KLR				LR		LR	17 17 18.8	
	comp=Z,42nm,18.9s,baz=162,slow=35							
YAK	**Yakutsk**	**25.03**	**347**	P		**P**	**17 14 50.8**	**-0.6**
	2.3nm,0.3s,baz=146,slow=2.7,SNR=3.5							
SEY	**Seymchan**	**25.62**	**11**	P		**P**	**17 14 57.9**	**+1.1**
	3.1nm,1.1s,baz=237,slow=10,SNR=4.9							
SONM	**Songino Array**	**27.41**	**302**	P		**P**	**17 15 14.7**	**+1.5**
	0.9nm,0.5s,baz=98,slow=8.9,SNR=6.5							
H11N2	**WAKE ISLAND Hy**	**28.50**	**123**	T		T	17 45 36.2	
	baz=316,slow=75,SNR=688							
H11N1	**WAKE ISLAND Hy**	**28.51**	**123**	T		T	17 45 39.7	
	baz=316,slow=75,SNR=752							
H11N3	**WAKE ISLAND Hy**	**28.52**	**123**	T		T	17 45 37.6	
	baz=316,slow=75,SNR=612							
H11S1	**WAKE ISLAND Hy**	**29.26**	**125**	T		T	17 46 36.4	
	baz=317,slow=76,SNR=260							
H11S3	**WAKE ISLAND Hy**	**29.26**	**125**	T		T	17 46 34.9	
	baz=317,slow=76,SNR=357							
H11S2	**WAKE ISLAND Hy**	**29.27**	**125**	T		T	17 46 36.1	
	baz=317,slow=76,SNR=190							
ZALV	**Zalesovo Beam**	**41.37**	**311**	P		**P**	**17 17 12.3**	**-1.0**
	0.7nm,0.4s,baz=87,slow=5.7,SNR=5.3							
CMAR	**Chiang Mai Arr**	**42.07**	**254**	P		**P**	**17 17 21.5**	**+2.0**
	0.2nm,0.4s,baz=46,slow=6.2,SNR=2.7							
CMAR				LR		LR	17 36 27.0	
	comp=Z,7.9nm,20.8s,baz=95,slow=38							
MKAR	**Makanchi Array**	**43.77**	**301**	P		**P**	**17 17 32.0**	**-1.0**
	0.6nm,0.5s,baz=89,slow=10.0,SNR=6.0							
ILAR	**Eielson Array**	**48.39**	**33**	P		**P**	**17 18 09.4**	**+0.4**
	0.7nm,0.7s,baz=273,slow=6.1,SNR=7.5							
INK	**Inuvik**	**53.25**	**28**	P		**P**	**17 18 46.2**	**+0.8**
	0.9nm,0.5s,baz=118,slow=7.7,SNR=3.4							
AKTO	**Aktyubinsk**	**58.13**	**312**	P		**P**	**17 19 20.9**	**+0.1**
	0.6nm,0.5s,baz=46,slow=6.0,SNR=2.6							
AKTO				LR		LR	17 45 18.9	
	comp=Z,21nm,20.2s,baz=200,slow=37							
WRA	**Warramunga Arr**	**58.22**	**188**	P		**P**	**17 19 21.2**	**-0.4**
	2.3nm,0.5s,baz=5.6,slow=7.1,SNR=67							
ASAR	**Alice Springs**	**61.95**	**188**	P		**P**	**17 19 47.1**	**0.0**
	1.4nm,0.7s,baz=355,slow=2.2,SNR=38							
ARCES	**ARCESS Array B**	**63.04**	**339**	P		**P**	**17 19 52.9**	**-1.0**
	1.5nm,0.8s,baz=38,slow=6.1,SNR=3.6							
STKA	**Stephens Creek**	**69.69**	**180**	P		**P**	**17 20 37.0**	**+0.3**
	1.2nm,0.9s,baz=340,slow=18,SNR=2.6							
NB2	**NORSAR Subarra**	**73.25**	**337**	P		P	17 20 48.8	-9.3
	comp=Z,0.9nm,0.5s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**73.25**	**337**	P		**P**	**17 20 57.3**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=40,slow=6.1,SNR=3.5							
PDAR	**Pinedale Array**	**76.67**	**46**	P		**P**	**17 21 18.2**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=270,slow=1.5,SNR=4.2							
TXAR	**Lajitas Array**	**89.21**	**53**	P		**P**	**17 22 24.2**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=273,slow=3.0,SNR=8.4							
LPAZ	**La Paz**	**145.87**	**59**	PKPbc		**PKPbc**	**17 29 07.4**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=355,slow=4.5,SNR=4.7							

MEX 29 17:18:36.5±0.3,17.˚05N×101.˚33W,h16km±14km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ZIIG	**Zihuatanejo**	**0.57**	**347**	*e*P		Pg	17 18 45.8	-1.9
ZIIG					*e*S	Sg	17 18 53.0	-2.3
CAIG	**El Cayaco**	**1.02**	**90**	*e*P		Pb	17 18 52.2	-3.5
CAIG					*e*S	Sb	17 19 03.9	-5.0
ARIG	**Puente Sto Nin**	**1.54**	**37**	*e*P		Pn	17 18 59.8	-3.5
ARIG					*e*S	Sn	17 19 17.1	-6.0

ISK ***29*** *17:30:27.3,38.˚60N×39.˚62E,h5km,MD2.6*
ISCJB ***29*** *17:30:28.8±0.7,38.˚60N±0.˚04×39.˚63E±0.˚05,h3km±9km, Error ellipse: s-maj=8.3km s-min=4.6km az=135.1*
CSEM ***29*** *17:30:28.7±0.4,38.˚61N×39.˚59E,h8km,MD2.6,Error ellipse: s-maj=10.2km s-min=6.6km az=32.0*
DDA ***29*** *17:30:28.6,38.˚60N×39.˚61E,h7km,Md2.6*

ISC 29 17:30:28.7±1.0,38.˚58N±0.˚04×39.˚61E±0.˚03,h10km±11km, n15,σ0s58/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.31**	**230**	*e*PG		**Pg**	**17 30 34.7**	**-0.4**
SVRC					*e*SG	**Sb**	**17 30 41.1**	**-0.7**
SVRC	**Sivrice-ELAZID**	**0.31**	**230**	*e*Pg		**Pg**	**17 30 34.7**	**-0.4**
SVRC					*e*Sg	**Sb**	**17 30 41.1**	**-0.7**
PTK	**Pertek**	**0.35**	**331**	*e*PG		**Pg**	**17 30 35.3**	**-0.6**
PTK					*e*SG	**Sg**	**17 30 41.0**	**+0.5**
PTK	**Pertek**	**0.35**	**331**	*e*Pg		**Pg**	**17 30 35.3**	**-0.6**
PTK					*e*Sg	**Sg**	**17 30 41.0**	**+0.5**
ELZG	**Elazig**	**0.50**	**260**	P		**Pg**	**17 30 38.0**	**-0.4**
ELZG					S	**Sg**	**17 30 46.0**	**+0.9**
ELZG	**Elazig**	**0.50**	**260**	*i* P		**Pg**	**17 30 38.0**	**-0.4**
ELZG					*i* S	**Sg**	**17 30 46.0**	**+0.9**
DYBB	**Diyarbakir**	**0.75**	**146**	*e*PG		**Pb**	**17 30 44.0**	**0.0**
DYBB					*e*SG	**Sb**	**17 30 55.0**	**+0.6**
DIYA	**Diyarbakir**	**0.77**	**148**	P		**Pn**	**17 30 46.3**	**+0.5**
DIYA					S	**Sb**	**17 30 55.3**	**+0.5**
DIYA	**Diyarbakir**	**0.77**	**148**	*i* P		**Pn**	**17 30 46.3**	**+0.5**
DIYA					*i* S	**Sb**	**17 30 55.3**	**+0.5**
DIY	**Diyarbakir**	**0.84**	**145**	*e*Pg		**Pg**	**17 30 44.0**	**-0.9**
DIY					*e*Sg	**Sg**	**17 30 55.0**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.32**	**109**	*e*PN		**Pn**	**17 30 53.2**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.32**	**109**	*e*Pn		**Pn**	**17 30 53.2**	**-0.1**
BTMN	**Batman**	**1.48**	**117**	P		**Pb**	**17 30 56.5**	**+0.1**
BTMN				S		**Sg**	**17 31 16.8**	**+0.6**
BTMN	**Batman**	**1.48**	**117**	*i* P		**Pb**	**17 30 56.5**	**+0.1**
BTMN				*i* S		**Sg**	**17 31 16.8**	**+0.6**
MARD	**Mardin**	**1.57**	**144**	*i* P		**Pg**	**17 30 58.7**	**-0.1**
MARD				*i* S		**Sn**	**17 31 16.8**	**-0.4**

NIED ***29*** *17:49:00,35.˚70N×140.˚90E,h8km,Mw3.7 Best double couple: M₀4.66000×10¹⁴ NP1:φs5.00000°,δ39.00000°, λ-75.00000°. NP2:φs165.00000°,δ52.00000°, λ-102.00000°.*
IDC ***29*** *17:49:46.0±1.6,35.˚62N×140.˚98E,h0km,mb3.5/3, mb1 3.6/6,mb1mx3.4/40,mbtmp3.5/6,ML3.4/3,MS2.7/1, Ms1 2.7/1,ms1mx2.0/35,Error ellipse: s-maj=34.1km s-min=18.8km az=78.0*
ISCJB ***29*** *17:49:46.2±0.9,35.˚67N±0.˚03×141.˚08E±0.˚07,h16km±6km, mb3.5/3,Error ellipse: s-maj=9.3km s-min=5.0km az=177.3*
JMA ***29*** *17:49:48.5±0.1,35.˚66N×140.˚86E,h14km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φs177.00000°,δ70.00000°,λ-111.00000°. NP2: φs45.00000°,δ29.00000°,λ-46.00000°. Principal axes: T Plg22.0000°, Azm283.0000°; N Plg19.0000°, Azm185.0000°; P Plg60.0000°, Azm57.0000°;*
JMA Felt I J1.

ISC 29 17:49:47.7±0.9,35.˚67N±0.˚03×140.˚90E±0.˚06,h15km±5km, n23,σ0s96/24,mb3.6/3,5C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
CHOJ	**Chosi**	**0.05**	**315**	⇓P		**Pg**	**17 49 50.9**	**+0.4**
CHOJ					S	**Sg**	**17 49 52.8**	**+0.4**
JCN	**Nagara**	**0.62**	**247**	⇑P		**Pb**	**17 50 00.7**	**+0.4**
KTR	**Katsuura**	**0.71**	**223**	⇑P		**Pg**	**17 50 01.4**	**-0.1**
KTR					*e*S	**Sb**	**17 50 11.5**	**+0.3**
JYT	**Yasato**	**0.80**	**314**	⇑P		**Pg**	**17 50 03.1**	**-0.2**
JYT					S	**Sg**	**17 50 13.2**	**-0.7**
BSO4	**Boso 4**	**0.82**	**214**	P		**Pg**	**17 50 04.0**	**+0.4**
BSO4					X		17 50 14.8	
BSO3	**Boso 3**	**0.92**	**200**	⇑P		**Pg**	**17 50 05.8**	**+0.3**
JHO	**Hitachi**	**0.98**	**344**	P		**Pb**	**17 50 06.0**	**-0.4**
JHO					S	**Sg**	**17 50 18.9**	**-0.6**
BSO1	**Boso 1**	**1.01**	**176**	⇑P		**Pb**	**17 50 06.2**	**-0.5**
MJAR	**Matsushiro Arr**	**2.35**	**293**	Pn		**Pn**	**17 50 25.6**	**-0.2**
	9.4nm,0.3s,baz=104,slow=13,SNR=33							
MJAR					Sn	**Sb**	**17 50 58.8**	**+0.2**
	7.0nm,0.3s,baz=96,slow=32,SNR=7.2							
MAT	**Matsushiro**	**2.35**	**293**	P		**Pn**	**17 50 26.1**	**+0.3**
MAT					S	**Sb**	**17 50 58.0**	**-0.6**
JHJ	**Hachijo jima 2**	**2.71**	**200**	Pn		**Pn**	**17 50 29.9**	**-0.7**
	20nm,0.3s,baz=95,slow=23,SNR=15							
JHJ					Sn	**Sn**	**17 51 03.4**	**+0.2**
	36nm,0.3s,baz=68,slow=23,SNR=9.1							
ASAJ	**Asahikawa**	**8.54**	**8**	Pn		**Pn**	**17 51 50.8**	**0.0**
	0.5nm,0.3s,baz=201,slow=12,SNR=4.9							
ASAJ					Sn	**Sn**	**17 53 28.3**	**+1.5**
	0.1nm,0.3s,baz=337,slow=18,SNR=1.9							
JNU	**Nakatsue**	**8.66**	**256**	Pn		**Pn**	**17 51 49.6**	**-3.0**
	0.1nm,0.3s,baz=260,slow=17,SNR=2.6							
JNU				LR		LR	17 55 11.9	
	comp=Z,47nm,21.2s,baz=124,slow=37							
KSRS	**Korea Array**	**10.59**	**284**	Pn		Pn	17 52 28.8	+10
	0.1nm,0.3s,baz=95,slow=14,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**27.84**	**118**	T		T

RUS	**Russkaya**	**2.87**	**18**	*e*P	Pn	17 59 21.2	+2.5
RUS				S	Sb	17 59 56.8	-2.6
PET	**Petropavlovsk**	**3.46**	**16**	PN	Pn	17 59 29.8	+3.0
PET				S	Sn	18 00 11.1	+3.6
PET	**Petropavlovsk**	**3.46**	**16**	P	Pn	17 59 29.8	+3.0
PET				*e*S	Sn	18 00 11.1	+3.6
DALK	**Dalny**	**3.49**	**17**	PN	Pb	17 59 31.6	-3.3
DALK				S	Sb	18 00 13.4	-3.6
DALK	**Dalny**	**3.49**	**17**	*e*P	Pb	17 59 31.6	-3.3
DALK				*e*S	Sb	18 00 13.4	-3.6
UGLR	**Uglovaya**	**3.67**	**17**	PN	Pb	17 59 34.0	-4.1
UGLR				S	Sn	18 00 17.5	+4.7
UGLR	**Uglovaya**	**3.67**	**17**	*e*P	Pb	17 59 34.0	-4.1
UGLR				S	Sn	18 00 17.5	+4.7
AVH	**Avacha**	**3.71**	**16**	PN	Pb	17 59 35.0	-3.7
AVH				S	Sn	18 00 17.9	+4.2
AVH	**Avacha**	**3.71**	**16**	*e*P	Pb	17 59 35.0	-3.7
AVH				S	Sn	18 00 17.9	+4.2
KRER	**Koryakskii**	**3.75**	**16**	PN	Pn	17 59 34.9	+4.0
KRER				S	Sb	18 00 20.2	-4.5
KRER	**Koryakskii**	**3.75**	**16**	P	Pn	17 59 34.9	+4.0
KRER				S	Sb	18 00 20.2	-4.5
NLC	**Nalytchevo**	**3.75**	**22**	S	Sn	18 00 19.1	+4.6
SDLR	**Sedlovina**	**3.75**	**17**	PN	Pn	17 59 34.3	+3.4
SDLR				S	Sb	18 00 19.9	-4.7
SDLR	**Sedlovina**	**3.75**	**17**	P	Pn	17 59 34.3	+3.4
SDLR				S	Sb	18 00 19.9	-4.7
KRX	**Arik**	**3.78**	**15**	PN	Pb	17 59 35.9	-4.1
KRX				S	Sb	18 00 21.0	-4.7
KRX	**Arik**	**3.78**	**15**	P	Pb	17 59 35.9	-4.1
KRX				S	Sb	18 00 21.0	-4.7
GNL	**Ganaly**	**4.02**	**8**	PN	Pn	17 59 38.3	+3.7
GNL	**Ganaly**	**4.02**	**8**	*e*P	Pn	17 59 38.3	+3.7
MKZ	**Mys Kozlova**	**5.64**	**29**	PN	Pn	17 59 58.7	+2.0
MKZ	**Mys Kozlova**	**5.64**	**29**	P	Pn	17 59 58.7	+2.0

NEIC ***29*** *18:00:14.9, 16°.42N×98°.46W, h5km, MD4.0(MEX), After MEX.*

MEX 29 18:00:14.9±1.1, 16°.42N×98°.46W, h5km±34km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.32**	**95**	*e*P	Pg	18 00 20.8	-0.4
PNIG				*e*S	Sg	18 00 25.2	-0.2
PNIG	**Pinotepa**	**0.32**	**95**	*e*P	Pg	18 00 20.8	-0.4
PNIG				*e*S	Sg	18 00 25.2	-0.2
TLIG	**Tlapa**	**1.14**	**355**	*e*P	Pg	18 00 33.9	-3.0
TLIG				*e*S	Sg	18 00 48.1	-3.6
ACP2	**Acapulco**	**1.44**	**288**	*e*P	Pn	18 00 39.9	-1.7
ACP2				*e*S	Sb	18 00 58.9	-1.9
VHO	**Vista Hermosa**	**1.78**	**68**	*e*P	Pn	18 00 43.6	-2.9
VHO				*i* S	Sn	18 01 05.0	-4.5
VHO	**Vista Hermosa**	**1.78**	**68**	*e*P	Pn	18 00 43.6	-2.9
VHO				*i* S	Sn	18 01 05.0	-4.5
CAIG	**El Cayaco**	**1.84**	**290**	*e*P	Pn	18 00 41.9	-5.2
CAIG				*e*S	Sn	18 01 06.0	-4.7
CAIG	**El Cayaco**	**1.84**	**290**	*e*P	Pn	18 00 41.9	-5.2
CAIG				*e*S	Sn	18 01 06.0	-4.7
MEIG	**Mezcala**	**1.86**	**324**	*e*P	Pn	18 00 45.1	-2.4
MEIG				*e*S	Sn	18 01 06.7	-4.7
MEIG	**Mezcala**	**1.86**	**324**	*e*P	Pn	18 00 45.1	-2.4
MEIG				*e*S	Sn	18 01 06.7	-4.7
YAIG	**Yautepec**	**2.50**	**347**	*e*P	Pn	18 00 52.8	-3.5
YAIG				*e*S	Sn	18 01 24.1	-3.1
YAIG	**Yautepec**	**2.50**	**347**	*e*P	Pn	18 00 52.8	-3.5
YAIG				*e*S	Sn	18 01 24.1	-3.1
ARIG	**Puente Sto Nin**	**2.58**	**316**	*e*P	Pn	18 00 55.0	-2.4
ARIG				*e*S	Sn	18 01 25.4	-3.8

ISCJB ***29*** *18:12:55.9±1.1, 24°.2S±0°.1×179°.9E±0°.2, h526km, mb3.9/6, Error ellipse: s-maj=21.5km s-min=13.9km az=165.4*
IDC ***29*** *18:12:57.6±3.6, 24°.24S×179°.86E, h535km±38km, mb3.4/7, mb1 3.6/9, mb1mx3.3/31, mbtmp4.4/9, Error ellipse: s-maj=27.6km s-min=19.2km az=47.0*

ISC 29 18:12:56.7±1.0, 24°.3S±0°.1×180°.0E±0°.2, h526km, n12, σ0s99/13, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.63**	**277**	P	**P**	**18 15 43.0**	**+1.0**
	1.3nm,0.3s,baz=99,slow=18,SNR=9.0						
URZ	**Urewera**	**14.12**	**189**	P	**P**	**18 15 58.0**	**+0.8**
	2.7nm,0.3s,baz=90,slow=3.0,SNR=14						
URZ				S	**S**	**18 18 24.3**	**-1.7**
	1.2nm,0.3s,baz=90,slow=21,SNR=17						
RPZ	**Rata Peaks**	**20.70**	**199**	P	**P**	**18 17 00.3**	**+0.2**
	10nm,0.7s,baz=34,slow=7.3,SNR=5.7						
STKA	**Stephens Creek**	**34.54**	**249**	P	**P**	**18 19 01.3**	**+0.1**
	0.7nm,0.3s,baz=76,slow=8.6,SNR=9.7						
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**18 20 00.9**	**-0.5**
	2.9nm,0.8s,baz=97,slow=6.7,SNR=32						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**18 20 03.6**	**-1.1**
	8.3nm,0.6s,baz=103,slow=8.4,SNR=69						
VNDA	**Vanda**	**53.98**	**185**	P	**P**	**18 21 31.7**	**+1.1**
	1.1nm,0.8s,baz=6.0,slow=6.2,SNR=6.1						
MAW	**Mawson**	**77.36**	**200**	P	**P**	**18 23 57.2**	**+0.5**
	2.3nm,0.4s,baz=123,slow=6.5,SNR=9.3						
TXAR	**Lajitas Array**	**90.68**	**58**	P	**P**	**18 25 03.6**	**+0.1**
	1.4nm,0.7s,baz=216,slow=6.6,SNR=16						
ARCES	**ARCESS Array B**	**132.27**	**348**	PKP	**PKPdf**	**18 31 09.4**	**-0.7**
	2.2nm,0.8s,baz=318,slow=1.6,SNR=6.0						
BRTR	**Keskin Array B**	**147.79**	**307**	PKPbc	**PKPbc**	**18 31 41.5**	**-1.2**
	0.5nm,0.6s,baz=124,slow=4.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**168.78**	**189**	PKPab	**PKPab**	**18 33 17.5**	**-0.5**
	1.1nm,0.7s,baz=161,slow=3.7,SNR=5.6						

IDC 29 18:18:15.3±4.6, 2°.28S×138°.71E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/39, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=204.8km s-min=26.5km az=87.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.06**	**193**	P	P	18 22 28.4	0.0
	0.1nm,0.3s,baz=15,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**21.76**	**192**	P	P	18 23 08.6	-0.2
	0.4nm,0.7s,baz=19,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**69.45**	**322**	P	P	18 29 25.5	0.0
	1.2nm,1.0s,baz=124,slow=6.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**73.38**	**325**	P	P	18 29 49.1	0.0
	0.8nm,0.8s,baz=115,slow=5.6,SNR=6.1						
BVAR	**Borovoye Array**	**78.96**	**325**	P	P	18 30 21.0	+0.1
	1.2nm,0.8s,baz=93,slow=3.0,SNR=5.6						

ISCJB ***29*** *18:20:32.2±0.7, 25°.6N±0°.1×95°.35E±0°.07, h150km, mb3.5/4, Error ellipse: s-maj=17.1km s-min=6.3km az=21.2*
IDC ***29*** *18:20:33.0±3.7, 25°.69N×95°.50E, h139km±36km, mb3.3/4, mb1 3.4/5, mb1mx3.0/53, mbtmp3.6/5, Error ellipse: s-maj=72.9km s-min=19.0km az=70.0*

ISC 29 18:20:33.3±1.0, 25°.6N±0°.1×95°.31E±0°.10, h150km, n12, σ0s96/17, mb3.6/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.89**	**154**	P	**Pn**	**18 22 24.8**	**-0.5**
	0.2nm,0.3s,baz=331,slow=13,SNR=9.7						
RAMN	**Ramite**	**7.93**	**281**	*e*Pn	**Pn**	**18 22 27.3**	**+1.2**
RAMN				*e*Sn	**Sn**	**18 23 56.2**	**+1.6**
	61nm,0.3s						
GUN	**Gumba**	**8.73**	**287**	*e*Pn	**Pn**	**18 22 37.4**	**+0.5**
GUN				*e*Sn	**Sn**	**18 24 13.6**	**-0.5**
	165nm,0.7s						
PKIN	**Phulchoki**	**9.09**	**285**	*e*Pn	**Pn**	**18 22 41.8**	**+0.3**
KKN	**Kakani**	**9.23**	**286**	*e*Pn	**Pn**	**18 22 43.8**	**+0.5**
KKN				*e*Sn	**Sn**	**18 24 24.7**	**-1.1**
	36nm,0.4s						
GKN	**Gorkha**	**9.83**	**286**	*e*Pn	**Pn**	**18 22 51.9**	**+0.7**
GKN				*e*Sn	**Sn**	**18 24 39.1**	**-1.1**
	71nm,0.4s						
KOLN	**Koldanda**	**10.69**	**284**	*e*Pn	**Pn**	**18 23 03.2**	**+0.5**
PYUN	**Piuthan**	**11.28**	**285**	*e*Pn	**Pn**	**18 23 09.0**	**-1.4**
PYUN				*e*Sn	**Sn**	**18 25 13.9**	**-1.3**
	58nm,0.5s						
MKAR	**Makanchi Array**	**23.53**	**337**	P	**P**	**18 25 30.6**	**+0.8**
	0.4nm,0.6s,baz=152,slow=9.1,SNR=4.5						
SONM	**Songino Array**	**23.83**	**19**	P	**P**	**18 25 32.0**	**-0.6**
	0.3nm,0.5s,baz=211,slow=8.2,SNR=3.6						
WRA	**Warramunga Arr**	**59.07**	**136**	P	**P**	**18 30 18.1**	**+0.1**
	1.1nm,0.4s,baz=322,slow=7.5,SNR=44						
ASAR	**Alice Springs**	**61.62**	**139**	P	**P**	**18 30 35.8**	**+0.5**
	1.0nm,0.4s,baz=323,slow=6.5,SNR=40						

NIED ***29*** *18:21:00, 38°.50N×144°.50E, h5km, Mw3.9 Best double couple: M0 7.50000×10^14 NP1:φs6.00000°, δ35.00000°, λ-88.00000°. NP2:φs184.00000°, δ55.00000°, λ-91.00000°.*
NEIC ***29*** *18:21:32.0±3.1, 38°.40N×144°.79E, h4km±18km, mb4.6/3, Error ellipse: s-maj=10.7km s-min=6.3km az=118.0*
IDC ***29*** *18:21:31.2±0.9, 38°.35N×144°.79E, h0km, mb4.0/15, mb1 4.1/21, mb1mx3.9/52, mbtmp4.0/21, ML3.4/6, MS2.8/4, Ms1 2.8/4, ms1mx2.5/41, Error ellipse: s-maj=22.0km s-min=15.7km az=94.0*
ISCJB ***29*** *18:21:34.9±0.5, 38°.44N±0°.04×144°.55E±0°.06, h35km, mb4.1/18, Error ellipse: s-maj=6.9km s-min=5.4km az=25.4*
JMA ***29*** *18:21:35.6±0.2, 38°.47N×144°.46E, h48km, M4.3*

ISC 29 18:21:36.2±0.7, 38°.44N±0°.05×144°.69E±0°.07, h35km, n53, σ2s37/59, mb4.1/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.44**	**286**	P	**Pn**	**18 22 11.8**	**-1.8**
MIYJ	**Miyakonagasawa**	**2.51**	**298**	P	**Pn**	**18 22 12.5**	**-2.0**
JMK	**Ichinoseki**	**2.76**	**282**	P	**Pn**	**18 22 16.6**	**-1.4**
JOM	**Ohasama**	**2.84**	**292**	P	**Pn**	**18 22 17.6**	**-1.5**
JOM				*e*S	**Sn**	**18 22 48.1**	**-4.0**
JANG	**Nango**	**3.13**	**309**	P	**Pn**	**18 22 20.7**	**-2.3**
JYK	**Kaneyama**	**3.42**	**279**	P	**Pn**	**18 22 25.9**	**-1.1**
JYK				*e*S	**Sn**	**18 23 04.1**	**-2.3**
JFT	**Otama**	**3.56**	**256**	P	**Pn**	**18 22 28.2**	**-0.7**
ERM	**Erimo**	**3.76**	**342**	*e*Pn	**Pn**	**18 22 30.9**	**-0.8**
JOT	**Ohata**	**4.06**	**318**	P	**Pn**	**18 22 34.3**	**-1.5**
JCH	**Churui**	**4.29**	**347**	P	**Pn**	**18 22 37.6**	**-1.4**
JCH				*e*S	**Sn**	**18 23 23.1**	**-4.7**
JKB	**Kayabe**	**4.44**	**322**	P	**Pn**	**18 22 40.8**	**-0.2**
JKB				*e*S	**Sn**	**18 23 26.0**	**-5.4**
BSO1	**Boso 1**	**4.81**	**219**	P	**Pn**	**18 22 43.5**	**-2.2**
NEM2	**Nemuro 2**	**4.99**	**9**	P	**Pn**	**18 22 45.3**	**-3.2**
NEM2				*e*S	**Sn**	**18 23 38.4**	**-6.5**
JRY	**Ryogami san**	**5.21**	**244**	P	**Pn**	**18 22 50.1**	**-1.6**
JOSM	**Okushiri--Mats**	**5.40**	**314**	P	**Pn**	**18 22 53.8**	**-0.4**
MJAR	**Matsushiro Arr**	**5.49**	**252**	Pn	**Pn**	**18 22 55.1**	**-0.4**
	4.9nm,0.3s,baz=58,slow=9.5,SNR=118						
MJAR				LR	LR	18 25 16.3	
	comp=Z,103nm,19.9s,baz=85,slow=41						
MAJO	**Matsushiro**	**5.49**	**252**	*e*Pn	**Pn**	**18 22 55.7**	**+0.2**
	50nm,0.5s						
MAT	**Matsushiro**	**5.49**	**252**	P	**Pn**	**18 22 55.5**	**0.0**
JOD2	**Odawara 2**	**5.49**	**237**	P	**Pn**	**18 22 53.5**	**-2.1**
JOD2				*e*S	**Sn**	**18 23 52.8**	**-4.7**
JTKR	**Abashiri--Toko**	**5.56**	**354**	P	**Pn**	**18 22 54.2**	**-2.2**
JTKR				*e*S	**Sn**	**18 23 53.4**	**-5.6**
ASAJ	**Asahikawa**	**5.89**	**345**	Pn	**Pn**	**18 23 00.3**	**-0.7**
	1.6nm,0.3s,baz=205,slow=13,SNR=18						
ASAJ				Sn	**Sn**	**18 24 07.4**	**+0.2**
	baz=90,slow=20						
JHJ	**Hachijo jima 2**	**6.63**	**218**	Pn	**Pn**	**18 23 09.4**	**-1.8**
	7.9nm,0.3s,baz=102,slow=12,SNR=10						
JHJ				Sn	**Sn**	**18 24 17.4**	**-8.1**
	16nm,0.3s,baz=67,slow=22,SNR=5.6						
USRK	**Ussuriysk Ar.**	**11.14**	**305**	Pn	**Pn**	**18 24 13.2**	**+0.2**
	0.3nm,0.3s,baz=97,slow=12,SNR=6.4						
JNU	**Natsuse**	**12.40**	**249**	LR	LR	18 29 28.3	
	comp=Z,54nm,19.7s,baz=120,slow=38						
MDJ	**Mudanjiang**	**12.88**	**303**	*e*Pn	**Pn**	**18 24 36.6**	**-0.1**
	6.4nm,0.8s						
KSRS	**Korea Array**	**13.27**	**271**	Pn	**Pn**	**18 24 42.9**	**+0.9**
	0.1nm,0.3s,baz=72,slow=16,SNR=2.6						
KSRS				LR	LR	18 29 35.8	
	comp=Z,52nm,18.3s,baz=103,slow=36						
KSAR	**Wonju Array Ke**	**13.30**	**271**	Pn	**Pn**	**18 24 42.9**	**+0.4**
KLR	**Kul'dur**	**14.24**	**323**	LR	LR	18 30 28.4	
	comp=Z,25nm,19.4s,baz=170,slow=37						
PETK	**Petropavlovsk-**	**17.21**	**27**	P	**Pn**	**18 25 34.3**	**+0.6**
	0.1nm,0.3s,baz=220,slow=13,SNR=4.1						
SEY	**Seymchan**	**24.97**	**8**	P	**P**	**18 26 57.0**	**+0.9**
	3.3nm,0.7s,baz=203,slow=9.1,SNR=13						
YAK	**Yakutsk**	**25.37**	**343**	P	**P**	**18 27 00.6**	**+0.9**
	9.2nm,0.6s,baz=106,slow=2.2,SNR=8.7						
H11N2	**WAKE ISLAND Hy**	**26.79**	**128**	T	T	18 55 09.5	
	baz=319,slow=74,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**26.80**	**128**	T	T	18 55 09.9	
	baz=319,slow=74,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**26.81**	**128**	T	T	18 55 13.4	
	baz=319,slow=74,SNR=3.7						
SONM	**Songino Array**	**29.22**	**301**	P	**P**	**18 27 36.0**	**+1.4**
	1.0nm,0.7s,baz=104,slow=7.8,SNR=6.0						
ENH	**Enshi**	**30.04**	**265**	*e*P	**P**	**18 27 43.8**	**+1.8**
	2.7nm,0.4s						
TIXI	**Tiksi**	**34.26**	**351**	P	**P**	**18 28 18.7**	**+0.3**
	2.7nm,0.9s,baz=84,slow=4.2,SNR=4.3						
TIXI	**Tiksi**	**34.26**	**351**	*e*P	**P**	**18 28 17.2**	**-1.2**
ZALV	**Zalesovo Beam**	**42.91**	**311**	P	**P**	**18 29 32.2**	**+1.0**
	0.7nm,0.4s,baz=80,slow=10,SNR=4.4						
ZALV				PcP	**PcP**	**18 31 22.2**	**+0.8**
	0.7nm,0.6s,baz=99,slow=2.9,SNR=3.8						
MKAR	**Makanchi Array**	**45.59**	**302**	P	**P**	**18 29 53.7**	**+1.0**
	1.6nm,0.7s,baz=85,slow=8.4,SNR=12						
KURK	**Kurchatov**	**47.12**	**308**	*e*P	**P**	**18 30 05.2**	**+0.5**
	22nm,0.7s						
KURBB	**Kurchatov Arra**	**47.20**	**307**	P	**P**	**18 30 06.1**	**+0.8**
	4.4nm,0.5s,baz=80,slow=8.1,SNR=44						
BVAR	**Borovoye Array**	**51.55**	**312**	P	**P**	**18 30 39.6**	**+1.1**
	2.0nm,0.8s,baz=69,slow=8.4,SNR=7.1						
BVAR				PcP	**PcP**	**18 31 53.4**	**+1.3**
	0.5nm,0.5s,baz=67,slow=3.7,SNR=3.2						
BRVK	**Borovoye**	**51.61**	**312**	*e*P	**P**	**18 30 39.8**	**+0.9**
WRAB	**Tennant Creek**	**58.87**	**191**	*e*P	**P**	**18 31 31.8**	**+0.3**
WRA	**Warramunga Arr**	**58.88**	**191**	P	**P**	**18 31 31.3**	**-0.2**
	1.4nm,0.8s,baz=9.8,slow=7.3,SNR=10						
ABKAR	**Akbulak array**	**59.01**	**310**	*e*P	**P**	**18 31 33.5**	**+1.2**
	2.1nm,0.7s						
AKTO	**Aktyubinsk**	**59.66**	**312**	P	**P**	**18 31 37.8**	**+1.0**
	0.8nm,0.5s,baz=90,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**62.60**	**191**	P	**P**	**18 31 56.6**	**-0.3**
	0.4nm,0.7s,baz=21,slow=8.0,SNR=5.3						
GEYT	**Alibeck**	**65.41**	**300**	P	**P**	**18 32 15.8**	**+0.4**
	1.3nm,0.7s,baz=29,slow=3.3,SNR=4.0						
FINES	**FINESS Array B**	**68.76**	**333**	P	**P**	**18 32 37.0**	**+0.8**
	1.4nm,0.8s,baz=46,slow=5.5,SNR=6.1						
KBZ	**Khabaz**	**71.93**	**312**	P	**P**	**18 32 57.8**	**+1.9**
	1.3nm,0.6s,baz=63,slow=4.5,SNR=4.3						
TXAR	**Lajitas Array**	**87.20**	**54**	P	**P**	**18 34 19.5**	**+0.3**
	0.1nm,0.5s,baz=312,slow=4.3,SNR=2.8						

JMA 29 18:23:05.2, 36°.70N×140°.56E, h5km±1km, M2.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.09**	**175**	P	Pg	18 23 07.1	0.0
JHO				S	Sg	18 23 08.6	+0.2
JYT	**Yasato**	**0.56**	**212**	P	Pg	18 23 16.1	+0.2
JYT				S	Sg	18 23 23.1	0.0
JSB	**Shiboa**	**0.58**	**298**	P	Pg	18 23 17.1	+0.8
MAT	**Matsushiro**	**1.90**	**266**	P	Pn	18 23 38.6	+0.3
MAT				S	Sn	18 24 03.5	+0.9

NIED ***29*** *18:42:00, 38°.40N×142°.40E, h71km, Mw4.0 Best double couple: Mo1.02000×10^15 NP1:φs34.00000°, δ7.00000°, λ78.00000°. NP2:φs226.00000°, δ83.00000°, λ91.00000°.*

JMA 29 18:42:57.2±0.1, 38°.36N×142°.35E, h37km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.79**	**277**	P	Pn	18 43 12.1	+0.3
JIO				*e*S	Sn	18 43 22.6	+0.2
OFUJ	**Ofunato**	**0.90**	**324**	P	Pn	18 43 13.7	+0.5
OFUJ				*e*S	Sn	18 43 25.4	+0.4
JMK	**Ichinoseki**	**1.06**	**304**	P	Pn	18 43 16.2	+0.7
JMM	**Marumori**	**1.32**	**249**	P	Pn	18 43 19.3	+0.2
JOU	**Okura**	**1.32**	**271**	P	Pn	18 43 20.2	+1.1
JOM	**Ohasama**	**1.38**	**324**	P	Pn	18 43 21.3	+1.4
JFK	**Kawauchi**	**1.53**	**230**	P	Pn	18 43 21.7	-0.3
JYK	**Kaneyama**	**1.66**	**290**	P	Pn	18 43 24.8	+1.1
JRG	**Rokugo**	**1.69**	**308**	P	Pn	18 43 26.2	+2.0
JFT	**Otama**	**1.80**	**243**	P	Pn	18 43 26.5	+0.8
JYS	**Shirataka**	**1.80**	**266**	P	Pn	18 43 26.9	+1.2
MAT	**Matsushiro**	**3.76**	**242**	P	Pn	18 43 56.4	+3.7
MAT				*e*S	Sn	18 44 41.6	+5.9

IDC ***29*** *18:49:19.4±1.2, 8°.96N×91°.82E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/46, mbtmp3.7/8, ML4.1/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/42, Error ellipse: s-maj=32.0km s-min=20.1km az=65.0*
ISCJB ***29*** *18:49:21.4±0.8, 8°.92N±0°.09×91°.81E±0°.09, h30km, mb3.6/6, Error ellipse: s-maj=14.9km s-min=10.7km az=40.6*

ISC 29 18:49:23.5±1.1, 8°.9N±0°.1×91°.8E±0°.1, h30km, n18, σ1s78/14, mb3.6/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.14**	**263**	Pn	**Pn**	**18 52 00.1**	**-0.9**
	1.6nm,0.3s,baz=116,slow=14,SNR=26						
PALK				Sn	Sn	18 53 53.0	-12
	3.0nm,0.3s,baz=115,slow=18,SNR=10						
PALK				LR	LR	18 55 32.6	
	comp=Z,42nm,18.6s,baz=115,slow=34						
CMAR	**Chiang Mai Arr**	**11.78**	**35**	Pn	**Pn**	**18 52 08.4**	**-1.3**
	0.3nm,0.3s,baz=233,slow=14,SNR=16						
CMAR				Sn	**Sn**	**18 54 20.6**	**+0.4**
	0.1nm,0.3s,baz=222,slow=29,SNR=3.3						
RAMN	**Ramite**	**18.68**	**345**	*e*P	**P**	**18 53 39.1**	**-0.5**
PKIN	**Phulchoki**	**19.60**	**343**	*e*P	**Pn**	**18 53 53.8**	**+2.6**
	41nm,0.4s						
DMN	**Daman**	**19.72**	**342**	*e*P	**Pn**	**18 53 55.6**	**+3.0**
	16nm,0.3s						
GUN	**Gumba**	**19.78**	**344**	*e*P	**Pn**	**18 53 55.0**	**+1.6**
KKN	**Kakani**	**19.84**	**343**	*e*P	**Pn**	**18 53 56.9**	**+2.9**
	11nm,0.3s						
GKN	**Gorkha**	**20.23**	**341**	*e*P	Pn	18 54 02.3	+3.7
	38nm,0.3s						
PYUN	**Piuthan**	**20.89**	**338**	*e*P	Pn	18 54 11.1	+4.8
	21nm,0.4s						
H08S3	**Diego Garcia H**	**25.30**	**230**	T	T	19 21 29.4	
	baz=50,slow=75,SNR=407						
H08S2	**Diego Garcia H**	**25.30**	**230**	T	T	19 21 23.4	
	baz=50,slow=75,SNR=183						
H08S1	**Diego Garcia H**	**25.32**	**230**	T	T	19 21 24.5	
	baz=50,slow=75,SNR=289						
MKAR	**Makanchi Array**	**38.68**	**349**	P	**P**	**18 56 44.0**	**-0.6**
	1.1nm,0.7s,baz=178,slow=9.0,SNR=11						
SONM	**Songino Array**	**40.77**	**15**	P	**P**	**18 57 01.1**	**-1.0**
	1.1nm,0.6s,baz=204,slow=8.8,SNR=9.0						
KURBB	**Kurchatov Arra**	**43.08**	**348**	P	**P**	**18 57 20.4**	**-0.4**
	0.7nm,0.7s,baz=172,slow=7.4,SNR=9.9						
ZALV	**Zalesovo Beam**	**45.33**	**354**	P	**P**	**18 57 37.6**	**-1.1**
	0.7nm,0.4s,baz=170,slow=8.8,SNR=3.9						
WRA	**Warramunga Arr**	**50.68**	**125**	P	**P**	**18 58 21.2**	**+0.5**
	0.2nm,0.3s,baz=300,slow=9.8,SNR=7.5						
ASAR	**Alice Springs**	**52.29**	**129**	P	**P**	**18 58 34.1**	**+1.4**
	0.2nm,0.6s,baz=305,slow=7.2,SNR=3.6						

IDC 29 18:52:58.7±4.5, 23°.22N×95°.81E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/45, mbtmp3.5/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/32, Error ellipse: s-maj=416.4km s-min=29.6km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.92**	**338**	P	P	18 58 32.6	0.0
	0.4nm,0.7s,baz=155,slow=9.8,SNR=3.5						
AAK	**Ala-Archa**	**26.23**	**323**	LR	LR	19 10 36.7	
	comp=Z,15nm,20.2s,baz=182,slow=40						
GEYT	**Alibeck**	**35.35**	**303**	LR	LR	19 17 27.8	
	comp=Z,57nm,18.4s,baz=215,slow=42						
WRA	**Warramunga Arr**	**57.03**	**136**	P	P	19 02 46.8	0.0
	0.4nm,0.5s,baz=323,slow=7.4,SNR=8.5						
ASAR	**Alice Springs**	**59.51**	**139**	P	P	19 03 03.9	-0.2
	0.4nm,0.7s,baz=325,slow=6.7,SNR=4.7						

NNC ***29*** *19:15:38.3±8.7, 39°.24N×73°.84E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=64.0km s-min=47.3km az=165.0*
KRNET ***29*** *19:15:42.0±0.1, 39°.79N×74°.07E, mb3.2*

**ISC 29 19:15:39.6±2.6, 39°.4N±0°.2×73°.90E±0°.07, h1km±25km, n15, σ2s10/28, 23C-6D, Tajikist

SHO	**Shikotan**	**4.65**	**224**	*e*P	Pn	19 26 08.0	-4.5
SHO				AMB	AMB	19 26 12.8	
	16nm,0.3s						
SHO				*i* S	Sn	19 26 58.6	-8.9
SHO				A	A	19 27 02.7	
	38nm,0.3s						
SHO				A	A	19 27 02.7	
	62nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.01**	**231**	*i* P	**Pn**	**19 26 16.1**	**-1.1**
YUK				*i* S	**Sn**	**19 27 13.0**	**-2.9**
YUK				A	A	19 27 22.4	
	39nm,0.4s						
YUK				A	A	19 27 22.4	
	54nm,0.4s						
JRA	**Rausu**	**5.48**	**234**	P	**Pn**	**19 26 21.7**	**-1.4**
NEM2	**Nemuro 2**	**5.55**	**226**	P	Pn	19 26 19.9	-4.1
NEM2				*e*S	Sn	19 27 19.8	-8.5
JNK	**Nakash**	**5.93**	**233**	P	**Pn**	**19 26 27.2**	**-1.7**
JTKR	**Abashiri--Toko**	**6.15**	**240**	P	**Pn**	**19 26 31.3**	**-0.4**
JAK	**Akkeshi**	**6.35**	**229**	P	Pn	19 26 30.6	-3.7
JAK				*e*S	Sn	19 27 38.8	-8.1
JAR	**Ashorobuto**	**6.64**	**235**	P	**Pn**	**19 26 37.1**	**-1.1**
ASAJ	**Asahikawa**	**6.86**	**245**	P	**Pn**	**19 26 41.8**	**+0.9**
	1.3nm,0.3s,baz=67,slow=15,SNR=19						
ASAJ	**Asahikawa**	**6.86**	**245**	P	**Pn**	**19 26 42.0**	**+1.0**
JOB	**Onbets**	**6.87**	**233**	P	**Pn**	**19 26 38.2**	**-2.8**
JKK2	**Kamakawa 2**	**6.90**	**243**	P	**Pn**	**19 26 41.7**	**+0.2**
PETK	**Petropavlovsk-**	**7.11**	**33**	P	**Pn**	**19 26 42.4**	**-1.7**
	0.2nm,0.3s,baz=188,slow=9.7,SNR=3.6						
JCH	**Churui**	**7.32**	**233**	P	**Pn**	**19 26 43.6**	**-3.3**
JCH				*e*S	Sn	19 28 01.7	-8.1
JEM	**Erimo**	**7.84**	**230**	P	**Pn**	**19 26 50.9**	**-2.9**
JNBK	**Urakawa-nobuka**	**7.88**	**233**	P	Pn	19 26 50.3	-3.9
JNBK				*e*S	Sn	19 28 11.9	-11
JNB	**Noboribetsu**	**8.73**	**240**	P	**Pn**	**19 27 03.9**	**-1.4**
JKB	**Kayabe**	**9.10**	**237**	P	**Pn**	**19 27 06.7**	**-3.3**
JYM2	**Yakume 2**	**9.34**	**240**	P	**Pn**	**19 27 10.8**	**-2.4**
USRK	**Ussuriysk Ar.**	**13.81**	**264**	P	**Pn**	**19 28 10.6**	**+0.6**
	0.2nm,0.3s,baz=62,slow=13,SNR=3.2						
MJAR	**Matsushiro Arr**	**14.49**	**227**	P	**P**	**19 28 21.4**	**+1.6**
	0.2nm,0.3s,baz=26,slow=10,SNR=9.2						
YAK	**Yakutsk**	**19.15**	**328**	P	**Pn**	**19 29 11.9**	**-1.8**
	0.0nm,0.3s,baz=130,slow=4.7,SNR=5.7						
MKAR	**Makanchi Array**	**45.55**	**296**	P	**P**	**19 33 02.5**	**+0.3**
	0.2nm,0.3s,baz=72,slow=7.8,SNR=3.0						
ARCES	**ARCESS Array B**	**56.88**	**340**	P	**P**	**19 34 27.0**	**+1.1**
	2.1nm,1.0s,baz=35,slow=8.0,SNR=3.1						
WRA	**Warramunga Arr**	**68.67**	**197**	P	**P**	**19 35 46.0**	**+1.7**
	0.2nm,0.4s,baz=15,slow=6.7,SNR=4.5						
ASAR	**Alice Springs**	**72.38**	**197**	P	**P**	**19 36 08.9**	**+2.3**
	0.2nm,0.5s,baz=10.0,slow=6.1,SNR=5.3						

IDC 29 19:27:44.0±5.6, 26.76N×143.06E, h0km, mb3.7/3, mb1 3.8/4, ms1mx3.4/37, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=215.1km s-min=28.5km az=76.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**10.59**	**338**	Pn	Pn	19 30 14.8	-2.2
	0.5nm,0.3s,baz=152,slow=10,SNR=6.8						
WRA	**Warramunga Arr**	**47.19**	**191**	P	P	19 36 18.1	-0.4
	0.9nm,0.7s,baz=9.6,slow=8.3,SNR=6.2						
MKAR	**Makanchi Array**	**51.29**	**310**	P	P	19 36 50.2	+0.4
	0.2nm,0.3s,baz=90,slow=7.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**53.83**	**315**	P	P	19 37 08.7	+0.2
	1.2nm,0.8s,baz=92,slow=8.8,SNR=11						

*CASC **29** 19:28:39.5±2.6, 9.63N×85.80W, h12km±15km, MD4.2, ML3.5, mb4.3(NEIC)*
*IDC **29** 19:28:41.0±1.4, 10.71N×84.89W, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.9/32, mbtmp3.9/5, ML3.5/1, MS3.6/11, Ms1 3.6/11, ms1mx3.4/36, Error ellipse: s-maj=84.1km s-min=33.0km az=48.0*
*ISCJB **29** 19:28:41.8±0.7, 9.75N±0.07×85.78W±0.04, h33km, mb4.1/12, MS3.4/9, Error ellipse: s-maj=10.1km s-min=4.9km az=16.3*
*NEIC **29** 19:28:42.6±0.7, 10.88N×84.68W, h10km, mb4.3/7, Error ellipse: s-maj=18.8km s-min=14.6km az=54.0*
ISC 29 19:28:44.7±0.7, 9.85N±0.07×85.67W±0.06, h35km, n50, σ1s57/43, mb4.2/12, MS3.5/9, 9C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCR	**Jicaral**	**0.55**	**90**	*i*P	**Pn**	**19 28 54.0**	**-2.1**
A494	**Palo Verde**	**0.59**	**33**	*i*P	**Pn**	**19 28 54.9**	**-1.6**
A494				*e*S	**Sn**	**19 29 05.8**	**+0.9**
GPS2	**Hotel Rincˆtn**	**0.95**	**19**	*i*P	**Pn**	**19 29 00.6**	**-1.1**
APPA	**Casa Mˆquinas**	**0.95**	**19**	*e*P	**Pn**	**19 29 00.6**	**-1.1**
AMAS	**Alto Masis**	**1.01**	**41**	*i*P	**Pn**	**19 29 01.5**	**-1.0**
ARE1	**Arenal 1**	**1.12**	**57**	*i*P	**Pn**	**19 29 03.9**	**+0.1**
CGA2	**Cerro Gallo 2**	**1.20**	**82**	*e*P	**Pn**	**19 29 04.0**	**-1.1**
CGA2				*e*S	**Sn**	**19 29 22.1**	**+1.8**
QCR	**Quepos**	**1.54**	**106**	*e*P	**Pn**	**19 29 07.6**	**-2.1**
LCR2	**La Lucha 2**	**1.65**	**94**	*i*P	**Pn**	**19 29 10.1**	**-1.3**
LCR2				*e*S	**Sn**	**19 29 31.2**	**-0.2**
CONN	**Concepcion**	**1.70**	**1**	*e*P	**Pn**	**19 29 11.2**	**-0.7**
URSC	**Urasca**	**1.87**	**90**	*e*P	**Pn**	**19 29 14.3**	**0.0**
BUS	**Buena Vista**	**1.91**	**99**	*e*P	**Pn**	**19 29 13.8**	**-1.3**
TISN	**Laguna Tiscapa**	**2.35**	**346**	*e*P	**Pn**	**19 29 19.6**	**-1.2**
COPN	**Copaltepe**	**2.49**	**339**	*e*P	**Pn**	**19 29 21.2**	**-1.4**
MOMN	**Momotombo**	**2.68**	**342**	*e*P	**Pn**	**19 29 24.4**	**-1.1**
ESPN	**Las Esperanzas**	**2.69**	**30**	*e*P	**Pn**	**19 29 25.1**	**-0.4**
CNGN	**Cerro Negro**	**2.82**	**339**	*e*P	**Pn**	**19 29 26.1**	**-1.2**
CMIG	**Matias Romero**	**11.49**	**310**	Pn	**Pn**	**19 31 27.6**	**+1.3**
	0.3nm,0.3s,baz=112,slow=14,SNR=2.7						
ROSC	**El Rosal**	**12.31**	**113**	LR	LR	19 36 39.7	
	comp=Z,291nm,18.1s,baz=326,slow=40						
ATAH	**Atahualpa**	**18.36**	**156**	LR	LR	19 38 54.9	
	comp=Z,474nm,21.3s,baz=332,slow=32						
DWPF	**Disney Wildern**	**18.60**	**12**	*e*Pn	P	19 32 45.1	-14
	433nm,1.4s						
SJG	**San Juan**	**20.63**	**64**	LR	LR	19 39 47.8	
	comp=Z,78nm,21.4s,baz=266,slow=34						
JCT	**Junction City**	**24.39**	**329**	P	**P**	**19 33 57.6**	**-2.3**
KMSC	**Kings Mountain**	**25.49**	**8**	P	P	19 33 59.3	-10
	12nm,0.9s						
MIAR	**Mount Ida**	**25.62**	**345**	*e*P	**P**	**19 34 10.1**	**-0.8**
	9.0nm,0.8s						
TXAR	**Lajitas Array**	**25.68**	**322**	P	**P**	**19 34 12.0**	**+0.4**
	3.0nm,0.6s,baz=143,slow=9.0,SNR=22						
TXAR				PcP	**PcP**	**19 37 43.1**	**+1.4**
	0.5nm,0.8s,baz=142,slow=4.6,SNR=3.8						
TXAR				LR	LR	19 45 04.2	
	comp=Z,43nm,21.4s,baz=0.0,slow=38						
TKL	**Tuckaleechee C**	**25.75**	**4**	P	**P**	**19 34 13.6**	**+1.5**
	10nm,0.8s,baz=178,slow=11,SNR=10						
LPIG	**La Paz**	**27.43**	**304**	LR	LR	19 46 19.6	
	comp=Z,143nm,19.8s,baz=88,slow=38						
WMOK	**Wichita Mounta**	**27.52**	**336**	*e*P	**P**	**19 34 24.8**	**-3.3**
PTGA	**Pitinga**	**27.66**	**111**	LR	LR	19 46 03.2	
	comp=Z,166nm,18.6s,baz=292,slow=38						
LPAZ	**La Paz**	**31.24**	**146**	LR	LR	19 48 23.1	
	comp=Z,181nm,18.6s,baz=308,slow=38						
SDCO	**Great Sand Dun**	**33.02**	**330**	*e*P	**P**	**19 35 16.7**	**-0.3**
	3.5nm,1.0s						
PDAR	**Pinedale Array**	**38.88**	**332**	P	**P**	**19 36 04.1**	**-2.9**
	0.7nm,0.7s,baz=130,slow=9.5,SNR=3.3						
HWUT	**Hardware Ranch**	**38.99**	**329**	*e*P	**P**	**19 36 07.2**	**-0.7**
	3.6nm,0.8s						
ELK	**Elko**	**40.38**	**325**	*e*P	**P**	**19 36 19.9**	**+0.3**
	3.4nm,0.9s						
ULM	**Lac du Bonnet**	**41.15**	**350**	LR	LR	19 53 57.1	
	comp=Z,43nm,19.0s,baz=356,slow=38						
BMN	**Battle Mountai**	**41.34**	**323**	*e*P	**P**	**19 36 27.9**	**+0.5**
	3.9nm,0.9s						
WVOR	**Wild Horse Val**	**43.42**	**324**	*e*P	**P**	**19 36 44.2**	**-0.1**
	5.5nm,0.8s						
SCHQ	**Schefferville**	**47.30**	**15**	LR	LR	19 56 09.9	
	comp=Z,65nm,19.0s,baz=236,slow=36						
YKA	**Yellowknife Ar**	**56.57**	**344**	P	**P**	**19 38 21.2**	**-2.3**
	0.7nm,0.5s,baz=135,slow=7.9,SNR=11						
ILAR	**Eielson Array**	**69.09**	**336**	P	**P**	**19 39 45.7**	**-1.2**
	1.7nm,0.8s,baz=116,slow=5.0,SNR=18						
ILAR				LR	LR	20 15 36.2	
	comp=Z,43nm,18.9s,baz=100,slow=41						
NOA	**NORSAR Array B**	**84.78**	**29**	LR	LR	20 16 01.7	
	comp=Z,14nm,19.4s,baz=295,slow=34						
KURK	**Kurchatov**	**118.16**	**11**	PKP	**PKPdf**	**19 47 28.0**	**-0.1**
KURBB	**Kurchatov Arra**	**118.23**	**11**	PKP	**PKPdf**	**19 47 28.0**	**-0.3**
	0.3nm,0.6s,baz=352,slow=2.2,SNR=4.4						
MKAR	**Makanchi Array**	**122.59**	**10**	PKP	**PKPdf**	**19 47 36.7**	**-0.2**
	0.2nm,0.2s,baz=310,slow=1.4,SNR=2.4						
KSRS	**Korea Array**	**123.39**	**328**	PKP	**PKPdf**	**19 47 39.3**	**+0.7**
	1.7nm,0.7s,baz=348,slow=2.2,SNR=7.4						
KSAR	**Wonju Array Be**	**123.42**	**328**	PKP	**PKPdf**	**19 47 39.3**	**+0.6**
ASAR	**Alice Springs**	**139.84**	**245**	PKP	**PKPdf**	**19 48 14.0**	**+4.0**
	0.2nm,0.4s,baz=89,slow=2.4,SNR=3.0						
WRA	**Warramunga Arr**	**140.15**	**251**	PKP	**PKPdf**	**19 48 14.1**	**+3.4**
	2.0nm,1.2s,baz=92,slow=2.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**151.51**	**351**	PKPbc	**PKPbc**	**19 48 36.3**	**+0.3**
	3.6nm,1.0s,baz=340,slow=3.3,SNR=15						

*DDA **29** 19:30:56.7, 39.46N×36.64E, h12km, Ml3.5*
*ISK **29** 19:30:56.2, 39.44N×36.65E, h5km, MD3.4*
*CSEM **29** 19:30:57.4±0.1, 39.44N×36.66E, h2km, ML3.5, Error ellipse: s-maj=3.0km s-min=2.7km az=179.0*
ISC 29 19:30:57.4±0.9, 39.46N±0.02×36.65E±0.01, h9km±8km, n77, σ0s86/111, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUALT	**Altinyayla-SIV**	**0.20**	**155**	P	**Pg**	**19 31 01.1**	**-0.5**
CUALT				S	**Sg**	**19 31 04.7**	**+0.3**
CUALT	**Altinyayla-SIV**	**0.20**	**155**	*i* P	**Pg**	**19 31 01.1**	**-0.5**
CUALT				*i* S	**Sg**	**19 31 04.7**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**0.32**	**263**	P	**Pg**	**19 31 03.4**	**-0.3**
CUSAR				S	**Sb**	**19 31 09.7**	**-0.9**
CUSAR	**Sarkisla-SIVAS**	**0.32**	**263**	*i* P	**Pg**	**19 31 03.4**	**-0.3**
CUSAR				*i* S	**Sb**	**19 31 09.7**	**-0.9**
SCER	**sogukcermik**	**0.55**	**42**	P	**Pg**	**19 31 07.3**	**-0.8**
SCER				S	**Sg**	**19 31 16.1**	**+0.8**
SCER	**sogukcermik**	**0.55**	**42**	*i* P	**Pg**	**19 31 07.3**	**-0.8**
SCER				*i* S	**Sg**	**19 31 16.1**	**+0.8**
CUKAN	**kangal_SIVAS**	**0.65**	**102**	P	**Pg**	**19 31 08.9**	**-1.1**
CUKAN				S	**Sb**	**19 31 19.2**	**-1.0**
CUKAN	**kangal_SIVAS**	**0.65**	**102**	*i* P	**Pg**	**19 31 08.9**	**-1.1**
CUKAN				*i* S	**Sb**	**19 31 19.2**	**-1.0**
PINB	**Pinarbasi**	**0.80**	**194**	P	**Pg**	**19 31 11.4**	**-1.4**
PINB				S	**Sg**	**19 31 23.7**	**+0.5**
PINB	**Pinarbasi**	**0.80**	**194**	*i* P	**Pg**	**19 31 11.4**	**-1.4**
PINB				*i* S	**Sg**	**19 31 23.7**	**+0.5**
BNN	**Bunyan**	**0.87**	**226**	*e*PG	**Pg**	**19 31 13.5**	**-0.6**
BNN				*e*SG	**Sb**	**19 31 27.0**	**+0.5**
BNN	**Bunyan**	**0.87**	**226**	*e*Pg	**Pg**	**19 31 13.5**	**-0.6**
BNN				*e*Sg	**Sb**	**19 31 27.0**	**+0.5**
CUGUR	**Gurin_S¨VAS**	**0.88**	**146**	P	**Pg**	**19 31 13.8**	**-0.5**
CUGUR				S	**Sb**	**19 31 27.0**	**+0.2**
CUGUR	**Gurin_S¨VAS**	**0.88**	**146**	*i* P	**Pg**	**19 31 13.8**	**-0.5**
CUGUR				*i* S	**Sb**	**19 31 27.0**	**+0.2**
TOKA	**Tokat**	**0.88**	**351**	P	**Pg**	**19 31 13.5**	**-0.8**
TOKA	**Tokat**	**0.88**	**351**	*i* P	**Pg**	**19 31 13.5**	**-0.8**
YOZ	**Yozgat**	**1.04**	**281**	*e*PG	**Pg**	**19 31 16.6**	**-0.8**
YOZ				*e*SG	**Sn**	**19 31 32.9**	**-0.3**
YOZ	**Yozgat**	**1.04**	**281**	*e*Pg	**Pg**	**19 31 16.6**	**-0.8**
YOZ				*e*Sg	**Sn**	**19 31 32.9**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.06**	**190**	*e*PG	**Pg**	**19 31 17.2**	**-0.6**
SARI				*e*SG	**Sn**	**19 31 33.3**	**-0.3**
DARE	**Darende-Malaty**	**1.10**	**143**	*e*PN	**Pg**	**19 31 18.1**	**-0.4**
DARE				*e*SN	**Sn**	**19 31 33.4**	**-1.0**
DARE	**Darende-Malaty**	**1.10**	**143**	*e*Pn	**Pg**	**19 31 18.1**	**-0.4**
DARE				*e*Sn	**Sn**	**19 31 33.4**	**-1.0**
ERBA	**Erbaa**	**1.23**	**4**	P	**Pn**	**19 31 20.3**	**-0.5**
ERBA				S	**Sg**	**19 31 37.1**	**+0.2**
ERBA	**Erbaa**	**1.23**	**4**	*i* P	**Pn**	**19 31 20.3**	**-0.5**
ERBA				*i* S	**Sg**	**19 31 37.1**	**+0.2**
SUSE	**Susehri**	**1.41**	**57**	P	**Pn**	**19 31 23.3**	**-0.2**
SUSE	**Susehri**	**1.41**	**57**	*i* P	**Pn**	**19 31 23.3**	**-0.2**
KEMA	**Kemaliye**	**1.44**	**97**	P	**Pn**	**19 31 23.1**	**-0.7**
KEMA				S	**Sg**	**19 31 45.0**	**+1.2**
KEMA	**Kemaliye**	**1.44**	**97**	*i* P	**Pn**	**19 31 23.1**	**-0.7**
KEMA				*i* S	**Sg**	**19 31 45.0**	**+1.2**
ILIC	**ilic-Erzincan**	**1.49**	**90**	*e*PN	**Pb**	**19 31 25.4**	**+0.1**
ILIC	**ilic-Erzincan**	**1.49**	**90**	*e*Pn	**Pb**	**19 31 25.4**	**+0.1**
COAL	**Corum-Alaca**	**1.51**	**303**	P	**Pn**	**19 31 24.9**	**+0.2**
COAL				S	**Sg**	**19 31 47.3**	**+1.4**
COAL	**Corum-Alaca**	**1.51**	**303**	*i* P	**Pn**	**19 31 24.9**	**+0.2**
COAL				*i* S	**Sg**	**19 31 47.3**	**+1.4**
AVNS	**Nevsehir-Avano**	**1.54**	**246**	P	**Pb**	**19 31 26.4**	**+0.2**
AVNS				S	**Sg**	**19 31 47.3**	**+0.3**
AVNS	**Nevsehir-Avano**	**1.54**	**246**	*i* P	**Pb**	**19 31 26.4**	**+0.2**
AVNS				*i* S	**Sg**	**19 31 47.3**	**+0.3**
REFA	**Refahiye_ERZ¨**	**1.64**	**91**	P	**Pg**	**19 31 28.4**	**-0.5**
REFA	**Refahiye_ERZ¨**	**1.64**	**91**	*i* P	**Pg**	**19 31 28.4**	**-0.5**
REFA				*i* S	**Sg**	**19 31 51.8**	**+1.6**
KVT	**Kavak**	**1.69**	**344**	*e*PN	**Pb**	**19 31 28.5**	**-0.1**
KVT	**Kavak**	**1.69**	**344**	*e*Pn	**Pb**	**19 31 28.5**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**1.69**	**217**	P	**Pb**	**19 31 28.0**	**-0.7**
YAHY				S	**Sg**	**19 31 51.8**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**1.69**	**217**	*i* P	**Pb**	**19 31 28.0**	**-0.7**
YAHY				*i* S	**Sg**	**19 31 51.8**	**+0.1**
CORM	**Corum**	**1.71**	**296**	*e*PN	**Pb**	**19 31 28.5**	**-0.6**
CORM	**Corum**	**1.71**	**296**	*e*Pn	**Pb**	**19 31 28.5**	**-0.6**
CDAG	**Cicekdag**	**1.77**	**276**	P	**Pb**	**19 31 29.4**	**-0.6**
CDAG				S	**Sg**	**19 31 54.0**	**-0.2**
CDAG	**Cicekdag**	**1.77**	**276**	*i* P	**Pb**	**19 31 29.4**	**-0.6**
CDAG				*i* S	**Sg**	**19 31 54.0**	**-0.2**
CTAK	**Corum_Osmancik**	**1.86**	**310**	P	**Pb**	**19 31 31.5**	**-0.1**
CTAK	**Corum_Osmancik**	**1.86**	**310**	*i* P	**Pb**	**19 31 31.5**	**-0.1**
SAMS	**Samsun-Alacam**	**1.94**	**350**	P	**Pn**	**19 31 31.1**	**+0.6**
SAMS	**Samsun-Alacam**	**1.94**	**350**	*i* P	**Pn**	**19 31 31.1**	**+0.6**
KMRS	**Kahramanmaras**	**1.96**	**174**	*e*PN	**Pn**	**19 31 31.6**	**+0.8**
KMRS	**Kahramanmaras**	**1.96**	**174**	*e*Pn	**Pn**	**19 31 31.6**	**+0.8**
KOZT	**Kozan**	**2.07**	**198**	*e*PN	**Pn**	**19 31 33.0**	**+0.6**
KOZT	**Kozan**	**2.07**	**198**	*e*Pn	**Pn**	**19 31 33.0**	**+0.6**
EZC	**Erzincan**	**2.11**	**81**	*e*Pn	**Pg**	**19 31 38.1**	**+0.2**
KELT	**Kelkit**	**2.12**	**70**	P	**Pb**	**19 31 35.6**	**-0.6**
KELT	**Kelkit**	**2.12**	**70**	*i* P	**Pb**	**19 31 35.6**	**-0.6**
KELT				*i* S	**Sg**	**19 32 06.0**	**+0.4**
ESPY	**Espiye-Giresun**	**2.16**	**47**	*e*PN	**Pn**	**19 31 34.9**	**+1.3**
ESPY	**Espiye-Giresun**	**2.16**	**47**	*e*Pn	**Pn**	**19 31 34.9**	**+1.3**
AKO	**Adana**	**2.20**	**206**	*i* P	**Pb**	**19 31 36.4**	**-1.0**
AKO				*i* S	**Sg**	**19 32 09.0**	**+0.8**
PTK	**Pertek**	**2.21**	**104**	*e*PN	**Pn**	**19 31 35.7**	**+1.3**
PTK	**Pertek**	**2.21**	**104**	*e*Pn	**Pn**	**19 31 35.7**	**+1.3**
KAMT	**Kaman**	**2.27**	**269**	*e*PN	**Pn**	**19 31 36.5**	**+1.2**
SVRC	**Sivrice-ELAZID**	**2.34**	**117**	*e*PN	**Pn**	**19 31 37.2**	**+1.1**
SVRC	**Sivrice-ELAZID**	**2.34**	**117**	*e*Pn	**Pn**	**19 31 37.3**	**+1.1**
ERZN	**Erzincan**	**2.38**	**86**	*e*PN	**Pn**	**19 31 38.0**	**+1.3**
GUMT	**Gumushane**	**2.40**	**64**	*e*PN	**Pn**	**19 31 38.3**	**+1.3**
GUMT	**Gumushane**	**2.40**	**64**	*e*Pn	**Pn**	**19 31 38.3**	**+1.3**
SERE	**Sereflikochisa**	**2.45**	**259**	*e*PN	**Pn**	**19 31 38.8**	**+1.1**
BYBT	**Boyabat**	**2.47**	**325**	*e*PN	**Pn**	**19 31 39.6**	**+1.8**
BYBT	**Boyabat**	**2.47**	**325**	*e*Pn	**Pn**	**19 31 39.6**	**+1.8**
KARA	**Karaisali**	**2.52**	**210**	*e*PN	**Pn**	**19 31 39.6**	**+1.0**
KARA	**Karaisali**	**2.52**	**210**	*e*Pn	**Pn**	**19 31 39.6**	**+1.0**
TOS	**Tosya**	**2.56**	**309**	*e*PN	**Pn**	**19 31 40.4**	**+1.3**
TOS	**Tosya**	**2.56**	**309**	*e*Pn	**Pn**	**19 31 40.4**	**+1.3**
SULT	**Sultanhani-AKS**	**2.75**	**244**	*e*PN	**Pn**	**19 31 43.3**	**+1.6**
AFSR	**Afˆar-Bala (A**	**2.77**	**271**	*e*PN	**Pn**	**19 31 43.4**	**+1.3**
AFSR	**Afˆar-Bala (A**	**2.77**	**271**	*e*Pn	**Pn**	**19 31 43.4**	**+1.3**
TAHT	**Tahtakopru-Hat**	**3.10**	**187**	*e*PN	**Pn**	**19 31 47.6**	**+1.1**
TAHT	**Tahtakopru-Hat**	**3.10**	**187**	*e*Pn	**Pn**	**19 31 47.6**	**+1.1**

ROM 29 19:33:35.7±0.1, 38.03N×14.73E, h11km, Md1.5/3, Ml1.1/2, Error ellipse: s-maj=0.4km s-min=0.2km az=169.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNO	**Monte Soro**	**0.10**	**195**	Pg	Pg	19 33 38.7	+0.2
MNO				Sg	Sg	19 33 41.1	+0.5
	134nm,0.1s						
MSFR	**San Fratello**	**0.11**	**274**	Pg	Pg	19 33 38.9	+0.3
MSFR				Sg	Sg	19 33 41.3	+0.7
	26nm,0.3s						
MUCR	**Ucria**	**0.12**	**82**	Pg	Pg	19 33 39.1	+0.4
MUCR				Sg	Sg	19 33 41.5	+0.6
	97nm,0.5s						

*DDA **29** 19:40:25.8, 39.46N×36.68E, h7km, Md3.0*
*ISK **29** 19:40:25.1, 39.45N×36.66E, h5km, MD3.2*
*ISCJB **29** 19:40:26.3±0.5, 39.44N±0.02×36.66E±0.03, h5km±5km, Error ellipse: s-maj=4.0km s-min=3.7km az=164.2*
*CSEM **29** 19:40:26.1±0.2, 39.45N×36.69E, h5km, MD3.0, Error ellipse: s-maj=3.8km s-min=3.3km az=144.0*
ISC 29 19:40:26.4±1.0, 39.45N±0.02×36.67E±0.02, h7km±8km, n41, σ0s85/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUALT	**Altinyayla-SIV**	**0.19**	**158**	P	**Pg**	**19 40 30.1**	**-0.2**
CUALT				S	**Sg**	**19 40 33.9**	**+0.9**
CUALT	**Altinyayla-SIV**	**0.19**	**158**	*i* P	**Pg**	**19 40 30.1**	**-0.2**
CUALT				*i* S	**Sg**	**19 40 33.9**	**+0.9**
CUSAR	**Sarkisla-SIVAS**	**0.33**	**265**	P	**Pg**	**19 40 32.6**	**-0.4**
CUSAR				S	**Sg**	**19 40 38.1**	**+0.8**
CUSAR	**Sarkisla-SIVAS**	**0.33**	**265**	*i* P	**Pg**	**19 40 32.6**	**-0.4**
CUSAR				*i* S	**Sg**	**19 40 38.1**	**+0.8**
SCER	**sogukcermik**	**0.54**	**41**	P	**Pg**	**19 40 36.4**	**-0.6**
SCER	**sogukcermik**	**0.54**	**41**	*i* P	**Pg**	**19 40 36.4**	**-0.6**
SCER				*i* S	**Sb**	**19 40 47.0**	**+0.6**
CUKAN	**kangal_SIVAS**	**0.63**	**102**	P	**Pg**	**19 40 38.0**	**-0.7**
CUKAN				S	**Sg**	**19 40 47.0**	**+0.1**
CUKAN	**kangal_SIVAS**	**0.63**	**102**	*i* P	**Pg**	**19 40 38.0**	**-0.7**
CUKAN				*i* S	**Sg**	**19 40 47.0**	**+0.1**
PINB	**Pinarbasi**	**0.80**	**195**	P	**Pg**	**19 40 40.3**	**-1.5**
PINB				S	**Sb**	**19 40 53.8**	**0.0**
PINB	**Pinarbasi**	**0.80**	**195**	*i* P	**Pg**	**19 40 40.4**	**-1.5**
PINB				*i* S	**Sb**	**19 40 53.8**	**0.0**
BNN	**Bunyan**	**0.88**	**227**	*e*PG	**Pg**	**19 40 42.3**	**-0.9**
BNN				*e*SG	**Sb**	**19 40 55.9**	**0.0**
BNN	**Bunyan**	**0.88**	**227**	*e*Pg	**Pg**	**19 40 42.3**	**-0.9**
BNN				*e*Sg	**Sb**	**19 40 55.9**	**0.0**
TOKA	**Tokat**	**0.88**	**351**	P	**Pg**	**19 40 42.5**	**-0.9**
TOKA	**Tokat**	**0.88**	**351**	*i* P	**Pg**	**19 40 42.5**	**-0.9**
YOZ	**Yozgat**	**1.06**	**281**	*e*PG	**Pg**	**19 40 45.9**	**-0.9**
YOZ				*e*SG	**Sn**	**19 41 02.1**	**-0.7**
YOZ	**Yozgat**	**1.06**	**281**	*e*Pg	**Pg**	**19 40 45.9**	**-0.9**
YOZ				*e*Sg	**Sn**	**19 41 02.1**	**-0.7**
SARI	**SarD1z-Kayseri**	**1.06**	**191**	*e*PG	**Pg**	**19 40 46.4**	**-0.4**
SARI				*e*SG	**Sb**	**19 41 01.8**	**+0.5**
DARE	**Darende-Malaty**	**1.08**	**144**	*e*PN	**Pn**	**19 40 47.7**	**-0.4**
DARE				*e*SN	**Sn**	**19 41 02.3**	**-1.1**
DARE	**Darende-Malaty**	**1.08**	**144**	*e*Pn	**Pn**	**19 40 47.7**	**-0.4**
ERBA	**Erbaa**	**1.23**	**3**	P	**Pg**	**19 40 49.3**	**-0.8**
ERBA				S	**Sn**	**19 41 07.4**	**+0.4**
ERBA	**Erbaa**	**1.23**	**3**	*i* P	**Pg**	**19 40 49.3**	**-0.8**
ERBA				*i* S	**Sn**	**19 41 07.4**	**+0.4**
SUSE	**Susehri**	**1.40**	**57**	P	**Pb**	**19 40 52.4**	**-0.6**
SUSE	**Susehri**	**1.40**	**57**	*i* P	**Pb**	**19 40 52.4**	**-0.6**
SUSE				*i* S	**

KRTS	Karatas	0.90	206	ePg	Pb	19 48 23.0	-1.0
DED	Mersin	0.95	244	eP	Pb	19 48 23.6	-1.4
DED				iS	Sb	19 48 36.7	-0.6
TAHT	Tahtakopru-Hat	1.03	166	ePG	Pb	19 48 25.5	-0.8
TAHT				eSG	Sn	19 48 40.8	+0.1
TAHT	Tahtakopru-Hat	1.03	166	ePg	Pb	19 48 25.5	-0.8
TAHT				eSg	Sn	19 48 40.8	+0.1
GAZ	Gaziantep	1.09	100	ePN	Pb	19 48 26.9	-0.4
GAZ				eSN	Sg	19 48 42.7	+0.4
GAZ	Gaziantep	1.09	100	ePn	Pb	19 48 26.9	-0.4
GAZ				eSn	Sg	19 48 42.7	+0.4
SARI	SarD1z-Kayseri	1.11	23	ePN	Pb	19 48 26.4	-1.5
KUZU	Kuzuini	1.14	122	P	Pb	19 48 28.2	+0.1
KUZU				S	Sg	19 48 43.5	-0.3
KUZU	Kuzuini	1.14	122	⇑iP	Pb	19 48 28.2	+0.1
KUZU				iS	Sg	19 48 43.5	-0.3
MERS	Mersin	1.19	245	ePN	Pn	19 48 28.0	-0.9
MERS				eSN	Sb	19 48 44.5	+0.2
MERS	Mersin	1.19	245	ePn	Pn	19 48 28.0	-0.9
MERS				eSn	Sb	19 48 44.5	+0.2
NIG	Nigde	1.24	307	ePN	Pn	19 48 28.9	-0.8
NIG	Nigde	1.24	307	ePn	Pn	19 48 28.9	-0.8
YAYL	Yayladag	1.35	172	P	Pn	19 48 28.3	-2.8
YAYL				S	Sn	19 48 46.7	-2.1
YAYL	Yayladag	1.35	172	⇓iP	Pn	19 48 28.3	-2.8
YAYL				iS	Sn	19 48 46.7	-2.1
PINB	Pinarbasi	1.36	18	P	Pn	19 48 30.3	-1.1
PINB				S	Sg	19 48 50.9	-0.2
PINB	Pinarbasi	1.36	18	⇓iP	Pn	19 48 30.3	-1.1
PINB				iS	Sg	19 48 50.9	-0.2
KERG	Konya-Eregli	1.39	272	P	Pn	19 48 30.5	-1.2
KERG				S	Sn	19 48 49.7	-0.1
KERG	Konya-Eregli	1.39	272	⇑iP	Pn	19 48 30.5	-1.2
KERG				iS	Sn	19 48 49.7	-0.1
BSTP	Nigde	1.51	293	iP	Pb	19 48 34.7	+0.1
BSTP				iS	Sg	19 48 56.9	+1.2
AVNS	Nevsehir-Avano	1.64	331	P	Pn	19 48 34.4	-0.7
AVNS				S	Sn	19 48 55.5	-0.3
AVNS	Nevsehir-Avano	1.64	331	⇑iP	Pn	19 48 34.4	-0.7
AVNS				iS	Sn	19 48 55.5	-0.3
KIZK	Mersin	1.65	238	P	Pn	19 48 34.3	-0.8
KIZK				S	Sg	19 48 58.9	-1.2
KIZK	Mersin	1.65	238	⇑iP	Pn	19 48 34.3	-0.8
KIZK				iS	Sg	19 48 58.9	-1.2
CUGUR	Gurin_S˜VAS	1.74	39	P	Pn	19 48 37.0	+0.5
CUGUR				S	Sb	19 49 00.2	+0.1
CUGUR	Gurin_S˜VAS	1.74	39	⇓iP	Pn	19 48 37.0	+0.5
CUGUR				iS	Sb	19 49 00.2	+0.1
DARE	Darende-Malaty	1.74	46	ePN	Pn	19 48 37.1	+0.6
DARE	Darende-Malaty	1.74	46	ePn	Pn	19 48 37.1	+0.6
ATAB	Bozova	1.93	87	P	Pn	19 48 38.0	-1.0
ATAB				S	Sb	19 49 05.1	-0.4
ATAB	Bozova	1.93	87	iP	Pn	19 48 38.0	-1.0
ATAB				iS	Sb	19 49 05.1	-0.4
CUALT	Altinyayla-SIV	2.02	20	P	Pn	19 48 40.7	+0.4
CUALT	Altinyayla-SIV	2.02	20	⇓iP	Pn	19 48 40.7	+0.4
CUALT				iS	Sg	19 49 10.8	-1.1
SULT	Sultanhani-AKS	2.04	294	ePN	Pn	19 48 40.5	0.0
SULT	Sultanhani-AKS	2.04	294	ePn	Pn	19 48 40.5	0.0
CUSAR	Sarkisla-SIVAS	2.06	8	P	Pn	19 48 40.6	-0.2
CUSAR				S	Sn	19 49 07.4	+1.2
CUSAR	Sarkisla-SIVAS	2.06	8	iP	Pn	19 48 40.6	-0.2
CUSAR				iS	Sn	19 49 07.4	+1.2
AKSY	AKSARAY - Alti	2.10	308	P	Pn	19 48 40.8	-0.5
AKSY	AKSARAY - Alti	2.10	308	⇑iP	Pn	19 48 40.8	-0.5
AKSY				iS	Sb	19 49 10.9	+0.6
YOZ	Yozgat	2.30	349	ePN	Pn	19 48 44.4	+0.2
YOZ	Yozgat	2.30	349	ePn	Pn	19 48 44.4	+0.2
CUKAN	kangal_SIVAS	2.31	32	P	Pn	19 48 44.8	+0.5
CUKAN	kangal_SIVAS	2.31	32	⇓iP	Pn	19 48 44.8	+0.5
CUKAN				iS	Sg	19 49 22.4	+1.3
URFA	Urfa	2.35	88	ePN	Pn	19 48 44.1	-0.7
URFA	Urfa	2.35	88	ePn	Pn	19 48 44.1	-0.7
BIDA	Albida	2.39	171	eP	Pn	19 48 45.1	-0.2
BIDA				eS	Sn	19 49 10.6	-3.7
BIDA				AML	AML	19 49 26.8	
	comp=E,7µm,0.5s						
BIDA				AML	AML	19 49 27.5	
	comp=N,7µm,0.5s						
SERE	Sereflikochisa	2.40	311	ePN	Pn	19 48 46.2	+0.7
SERE	Sereflikochisa	2.40	311	ePn	Pn	19 48 46.2	+0.7
ERMK	Ermenek	2.48	254	P	Pn	19 48 48.3	+1.6
ERMK	Ermenek	2.48	254	iP	Pn	19 48 48.3	+1.6
ERMK				iS	Sg	19 49 24.4	-2.3
CDAG	Cicekdag	2.53	333	P	Pn	19 48 48.7	+1.4
CDAG	Cicekdag	2.53	333	⇑iP	Pn	19 48 48.7	+1.4
CDAG				iS	Sb	19 49 25.0	+2.1
KAMT	Kaman	2.61	320	ePN	Pn	19 48 48.6	+0.1
KAMT	Kaman	2.61	320	ePn	Pn	19 48 48.6	+0.1
CHBY	Cihanbeyli	2.65	298	ePN	Pn	19 48 49.6	+0.7
CHBY	Cihanbeyli	2.65	298	ePn	Pn	19 48 49.6	+0.7
SCER	sogukcermik	2.67	21	P	Pn	19 48 50.3	+1.0
SCER	sogukcermik	2.67	21	iP	Pn	19 48 50.3	+1.0
SCER				iS	Sg	19 49 33.6	+0.9
ELZG	Elazig	2.70	65	P	Pn	19 48 49.9	+0.2
ELZG	Elazig	2.70	65	iP	Pn	19 48 49.9	+0.2
ELZG				iS	Sg	19 49 32.3	-1.5
KEMA	Kemaliye	2.79	47	P	Pn	19 48 51.3	+0.4
KEMA	Kemaliye	2.79	47	iP	Pn	19 48 51.3	+0.4
KEMA				iS	Sg	19 49 37.1	+0.3
PHNC	Paralimni	2.80	213	P	Pn	19 48 51.0	+0.1
	baz=19						
PHNC				S	Sn	19 49 25.2	+1.0
PHNC	Paralimni	2.80	213	P	Pn	19 48 51.0	+0.1
PHNC				S	Sn	19 49 25.2	+1.0
LFK	Lefkose	2.82	223	ePN	Pn	19 48 51.5	+0.2
LFK	Lefkose	2.82	223	ePn	Pn	19 48 51.5	+0.2
KONT	Konya--Tatoy	2.84	283	ePN	Pn	19 48 52.3	+0.8
KONT	Konya--Tatoy	2.84	283	ePn	Pn	19 48 52.3	+0.8
SVRC	Sivrice-ELAZID	2.90	69	ePN	Pn	19 48 52.5	+0.1
SVRC	Sivrice-ELAZID	2.90	69	ePn	Pn	19 48 52.5	+0.1
LADK	Ladik-KONYA	2.90	288	ePN	Pn	19 48 52.5	+0.2
LADK	Ladik-KONYA	2.90	288	ePn	Pn	19 48 52.5	+0.2
BRTR	Keskin Array B	2.92	324	Pn	Pn	19 48 53.0	+0.2
	comp=N,14nm,0.3s,baz=157,slow=14,SNR=304						
BRTR				Sn	Sn	19 49 26.1	-1.6
	comp=N,21nm,0.3s,baz=156,slow=16,SNR=5.3						
BRTR				Lg	Lg	19 49 37.0	
	comp=N,18nm,0.3s,baz=128,slow=28,SNR=3.8						
BRTR	Keskin Array B	2.92	324	Pn	Pn	19 48 53.0	+0.2
BRTR				Sn	Sn	19 49 26.0	-1.6
BRTR	Keskin Array B	2.92	324	Pn	Pn	19 48 53.0	+0.2
BRTR				Sn	Sn	19 49 26.1	-1.6
BRTR				Lg	Lg	19 49 37.0	
KKUL	Konya-Kulu	2.93	308	P	Pn	19 48 53.2	+0.3
KKUL	Konya-Kulu	2.93	308	iP	Pn	19 48 53.2	+0.3
KKUL				iS	Sg	19 49 38.5	-2.7
COAL	Corum-Alaca	2.95	347	P	Pn	19 48 54.5	+1.4
COAL	Corum-Alaca	2.95	347	iP	Pn	19 48 54.5	+1.4
COAL				iS	Sb	19 49 38.8	+3.8
CORM	Corum	2.96	341	ePN	Pn	19 48 54.1	+0.9
CORM	Corum	2.96	341	ePn	Pn	19 48 54.1	+0.9
ILIC	ilic-Erzincan	2.96	45	ePN	Pn	19 48 53.6	+0.3
ILIC	ilic-Erzincan	2.96	45	ePn	Pn	19 48 53.6	+0.3
TOKA	Tokat	2.98	9	P	Pn	19 48 53.7	+0.3
TOKA	Tokat	2.98	9	⇓iP	Pn	19 48 53.7	+0.3
TOKA				iS	Sg	19 49 40.3	-2.4
AFSR	Af¯ar-Bala (A	3.02	314	ePN	Pn	19 48 54.1	+0.1
AFSR	Af¯ar-Bala (A	3.02	314	ePn	Pn	19 48 54.1	+0.1
REFA	Refahiye_ERZ˜	3.04	48	iP	Pb	19 48 59.6	-1.0
REFA				iS	Sg	19 49 54.9	+10
GAZI	Gazipasa	3.07	249	P	Pn	19 48 55.8	+1.1
GAZI	Gazipasa	3.07	249	⇓iP	Pn	19 48 55.8	+1.1
GAZI				iS	Sb	19 49 41.8	+3.4
MAMC	Mammari	3.07	225	P	Pn	19 48 53.3	-1.4
	baz=32						
MAMC	Mammari	3.07	225	P	Pn	19 48 53.3	-1.4
HWQ	Hawqa	3.09	179	eP	Pn	19 48 55.7	+0.6
HWQ	Hawqa	3.09	179	eP	Pn	19 48 55.7	+0.6
PTK	Pertek	3.16	60	ePN	Pn	19 48 56.5	+0.4
PTK	Pertek	3.16	60	ePn	Pn	19 48 56.5	+0.4
CSS	Mathiatis	3.17	221	P	Pn	19 48 54.9	-1.1
	baz=28						
CSS				S	Sn	19 49 27.4	-6.0
CSS	Mathiatis	3.17	221	Pn	Pn	19 48 53.4	-2.6
CSS	Mathiatis	3.17	221	Pn	Pn	19 48 53.4	-2.6
CSS	Mathiatis	3.17	221	P	Pn	19 48 54.9	-1.1
CSS	Mathiatis	3.17	221	ePn	Pn	19 48 53.7	-2.3
LEF	Lefka	3.30	228	ePN	Pn	19 48 57.4	-0.4
LEF	Lefka	3.30	228	ePn	Pn	19 48 57.4	-0.4
SUSE	Susehri	3.36	32	P	Pn	19 49 00.5	+1.7
SUSE	Susehri	3.36	32	iP	Pn	19 49 00.5	+1.7
SUSE				iS	Sg	19 49 57.1	+2.2
ERBA	Erbaa	3.37	12	P	Pn	19 49 00.3	+1.5
ERBA	Erbaa	3.37	12	iP	Pn	19 49 00.3	+1.5
ERBA				iS	Sb	19 49 50.9	+4.0
CTAK	Corum_Osmancik	3.37	346	P	Pn	19 49 00.2	+1.3
CTAK	Corum_Osmancik	3.37	346	iP	Pn	19 49 00.2	+1.3
CTAK				iS	Sb	19 49 51.1	+4.0
MARH	Ras Al Marh	3.38	171	eP	Pn	19 49 00.5	+1.3
MARH				eS	Sn	19 49 36.8	-2.3
MARH				AML	AML	19 50 00.7	
	comp=N,709nm,0.6s						
MARH				AML	AML	19 50 04.6	
	comp=E,985nm,0.8s						
ROOS	tl_alroos	3.40	160	eP	Pn	19 48 59.7	+0.4
ROOS				eS	Sn	19 49 36.5	-2.8
ROOS				AML	AML	19 50 07.0	
	comp=E,1µm,0.6s						
ROOS				AML	AML	19 50 18.8	
	comp=N,2µm,0.6s						
DIYA	Diyarbakir	3.42	80	P	Pn	19 49 00.1	+0.7
DIYA	Diyarbakir	3.42	80	iP	Pn	19 49 00.1	+0.7
DIYA				iS	Sb	19 49 49.6	+1.3
DYBB	Diyarbakir	3.44	79	ePN	Pn	19 49 01.1	+1.4
ALFC	Alefka	3.45	231	P	Pn	19 48 58.0	-1.9
	baz=39						
ALFC				S	Sn	19 49 36.0	-4.4
ALFC	Alefka	3.45	231	P	Pn	19 48 58.0	-1.9
ALFC				S	Sn	19 49 36.0	-4.4
ANTO	Ankara	3.46	317	eP	Pn	19 49 01.9	+1.8
ANTO	Ankara	3.46	317	ePn	Pn	19 49 01.9	+1.8
ANTO	Ankara	3.46	317	ePn	Pn	19 49 01.9	+1.8
BHL	Bhannes	3.47	183	eP	Pn	19 49 00.5	+0.2
BHL	Bhannes	3.47	183	eP	Pn	19 49 00.5	+0.2
KIZT	Kizilcal	3.49	297	ePN	Pn	19 49 01.3	+0.8
KIZT	Kizilcal	3.49	297	ePn	Pn	19 49 01.3	+0.8
LOD	Lodumlu	3.49	317	ePN	Pn	19 49 02.0	+1.5
LOD	Lodumlu	3.49	317	ePn	Pn	19 49 02.0	+1.5
DIY	Diyarbakir	3.50	80	ePn	Pn	19 49 01.1	+0.5
SFNV	Sufian	3.53	104	eP	Pn	19 49 00.9	-0.1
SFNV				eS	Sn	19 49 38.2	-4.2
SFNV				AML	AML	19 50 15.5	
	comp=E,3µm,0.5s						
SFNV				AML	AML	19 50 16.5	
	comp=N,1µm,0.4s						
SZAC	Souni	3.57	224	P	Pn	19 49 03.2	+1.7
	baz=32						
SZAC				S	Sn	19 49 46.0	+2.7
SZAC	Souni	3.57	224	P	Pn	19 49 03.2	+1.7
SZAC				S	Sn	19 49 46.0	+2.7
MAZI	Mazidag	3.64	87	ePN	Pn	19 49 02.5	-0.1
MAZI	Mazidag	3.64	87	ePn	Pn	19 49 02.5	-0.1
ELDT	Eldivan	3.65	329	P	Pn	19 49 04.5	+1.8
ELDT	Eldivan	3.65	329	iP	Pn	19 49 04.5	+1.8
ELDT				iS	Sg	19 50 00.4	-3.6
CANT	Cankiri	3.67	332	ePN	Pn	19 49 04.9	+1.9
DQRL	Deir Qamar	3.67	184	eP	Pn	19 49 03.3	+0.3
DQRL	Deir Qamar	3.67	184	eP	Pn	19 49 03.3	+0.3
HAVZ	Havza	3.69	358	P	Pn	19 49 05.0	+1.8
HAVZ	Havza	3.69	358	iP	Pn	19 49 05.0	+1.8
HAVZ				iS	Sg	19 50 02.8	-2.7
KVT	Kavak	3.70	2	ePN	Pn	19 49 04.3	+1.0
KVT	Kavak	3.70	2	ePn	Pn	19 49 04.3	+1.0
AKMC	Akamas	3.70	232	P	Pn	19 49 03.8	+0.4
	baz=40						
AKMC	Akamas	3.70	232	P	Pn	19 49 03.8	+0.4
ERZN	Erzincan	3.74	53	ePN	Pn	19 49 05.4	+1.5
KBSD	Kabsdagh	3.75	94	eP	Pn	19 49 03.4	-0.6
KBSD				eS	Sn	19 49 43.9	-3.9
KBSD				AML	AML	19 50 17.3	
	comp=E,1µm,0.4s						
KBSD				AML	AML	19 50 21.9	
	comp=N,2µm,0.5s						
PPCY	Paphos	3.79	230	P	Pn	19 49 05.9	+1.4
	baz=38						
PPCY	Paphos	3.79	230	P	Pn	19 49 05.9	+1.4
QASN	Qassioun	3.85	175	eP	Pn	19 49 07.6	+2.1
QASN				eS	Sn	19 49 47.8	-2.6
QASN				AML	AML	19 50 12.2	
	comp=N,730nm,0.5s						
QASN				AML	AML	19 50 17.1	
	comp=E,1µm,0.6s						
RCY	Rachaya	3.87	180	eP	Pn	19 49 06.8	+0.9
SUTC	Sutluce-Ispart	3.88	273	ePN	Pn	19 49 07.3	+1.4
SUTC	Sutluce-Ispart	3.88	273	ePn	Pn	19 49 07.3	+1.4
TOS	Tosya	3.92	339	ePN	Pn	19 49 08.3	+1.8
TOS	Tosya	3.92	339	ePn	Pn	19 49 08.3	+1.8
SVRH	Sivrihisar-ESK	3.99	302	ePN	Pn	19 49 09.1	+1.7
SVRH	Sivrihisar-ESK	3.99	302	ePn	Pn	19 49 09.1	+1.7
TOTH	TOTAH	4.03	173	eP	Pn	19 49 10.4	+2.4
TOTH				eS	Sn	19 49 52.0	-2.8
TOTH				AML	AML	19 50 19.5	
	comp=N,217nm,0.6s						
TOTH				AML	AML	19 50 29.3	
	comp=E,208nm,0.6s						
BNGB	Bingˆ¶l	4.12	66	ePN	Pn	19 49 10.6	+1.5
GUMT	Gumushane	4.17	41	ePN	Pn	19 49 11.6	+1.7
GUMT	Gumushane	4.17	41	ePn	Pn	19 49 11.6	+1.7
BYBT	Boyabat	4.17	349	ePN	Pn	19 49 12.1	+2.3
BYBT	Boyabat	4.17	349	ePn	Pn	19 49 12.1	+2.3
ESPY	Espiye-Giresun	4.17	31	ePN	Pn	19 49 11.3	+1.5
ESPY	Espiye-Giresun	4.17	31	ePn	Pn	19 49 11.3	+1.5
KSDI	Kefar Szold	4.18	182	Pn	Pn	19 49 11.3	+1.4
KSDI	Kefar Szold	4.18	182	Pn	Pn	19 49 11.3	+1.4
YEDI	Yedisu-Bingol	4.21	59	ePN	Pn	19 49 11.4	+1.0
YEDI	Yedisu-Bingol	4.21	59	ePn	Pn	19 49 11.4	+1.0
SVAN	Silvan-Diyarba	4.29	78	ePN	Pn	19 49 12.0	+0.5
SVAN	Silvan-Diyarba	4.29	78	ePn	Pn	19 49 12.0	+0.5
HNTI	Hanita	4.32	188	Pn	Pn	19 49 12.8	+0.9
HNTI	Hanita	4.32	188	Pn	Pn	19 49 12.8	+0.9
MMA0B	Mount Meron ar	4.37	185	Pn	Pn	19 49 13.1	+0.5
MMA0B	Mount Meron ar	4.37	185	Pn	Pn	19 49 13.1	+0.5
MMAI	Mount Meron Ar	4.37	185	Pn	Pn	19 49 12.6	0.0
	comp=E,28nm,0.3s,baz=349,slow=12,SNR=101						
MMAI				Sn	Sn	19 50 03.0	-0.2
	comp=E,42nm,0.3s,baz=9.9,slow=18,SNR=5.5						
MMAI				LR	LR	19 51 06.5	
	comp=E,466nm,21.6s,baz=10.0,slow=42						
MMAI	Mount Meron Ar	4.37	185	Pn	Pn	19 49 12.6	0.0
MMAI				Sn	Sn	19 50 03.0	-0.2
MMAI	Mount Meron Ar	4.37	185	Pn	Pn	19 49 12.6	0.0
MMAI				Sn	Sn	19 50 03.0	-0.2
KSHT	Keshet	4.39	181	Pn	Pn	19 49 14.3	+1.5
KSHT	Keshet	4.39	181	Pn	Pn	19 49 14.3	+1.5
ESKT	Eskisehir	4.48	300	ePN	Pn	19 49 15.8	+1.6
ESKT	Eskisehir	4.48	300	ePn	Pn	19 49 15.8	+1.6
SAFT	Safranbolu	4.58	328	ePN	Pn	19 49 16.9	+1.5
SAFT	Safranbolu	4.58	328	ePn	Pn	19 49 16.9	+1.5
ZALF	Zalf	4.61	164	eP	Pn	19 49 17.5	+1.7
ZALF				eS	Sn	19 50 05.0	-3.9
ZALF				AML	AML	19 50 39.8	
	comp=E,328nm,0.6s						
ZALF				AML	AML	19 50 41.2	
	comp=N,238nm,0.6s						
BLGI	Bet Lehem HaGe	4.67	187	Pn	Pn	19 49 16.9	+0.3
BLGI	Bet Lehem HaGe	4.67	187	Pn	Pn	19 49 16.9	+0.3
TCHB	Talchebab	4.70	179	eP	Pn	19 49 19.0	+2.0
TCHB				eS	Sn	19 50 07.0	-4.2
TCHB				AML	AML	19 50 43.1	
	comp=E,300nm,0.6s						
TCHB				AML	AML	19 50 52.1	
	comp=N,350nm,0.7s						
KTUT	Trabzon	4.71	39	ePN	Pn	19 49 18.9	+1.8
KTUT	Trabzon	4.71	39	ePn	Pn	19 49 18.9	+1.8
SALA	Sala	4.71	171	eP	Pn	19 49 18.6	+1.3
SALA				eS	Sn	19 50 08.5	-3.2
SALA				AML	AML	19 50 47.5	
	comp=N,279nm,0.6s						
SALA				AML	AML	19 50 48.2	
	comp=E,36nm,0.5s						
MDUB	Mudurnu	4.78	312	ePN	Pn	19 49 20.0	+1.8
MDUB	Mudurnu	4.78	312	ePn	Pn	19 49 20.0	+1.8
BZK	Bozkurt	4.80	343	ePN	Pn	19 49 20.8	+2.4
BZK	Bozkurt	4.80	343	ePn	Pn	19 49 20.8	+2.4
OFRI	‘Ofer	4.80	189	Pn	Pn	19 49 18.6	+0.1
OFRI	‘Ofer	4.80	189	Pn	Pn	19 49 18.6	+0.1
ELL	Elmali	4.81	264	ePN	Pn	19 49 20.8	+2.1
ELL	Elmali	4.81	264	ePn	Pn	19 49 20.8	+2.1
MMLI	Mount Malkishu	4.94	184	Pn	Pn	19 49 21.9	+1.5
MMLI				Sn	Sn	19 50 18.8	+1.6
MMLI	Mount Malkishu	4.94	184	Pn	Pn	19 49 21.9	+1.5
MMLI				Sn	Sn	19 50 18.8	+1.6
EZM	Erzurum	4.98	58	ePN	Pn	19 49 22.6	+1.4
HMDT	Nahal Hemdat	5.12	183	Pn	Pn	19 49 25.1	+2.3
HMDT				Sn	Sn	19 50 24.5	+3.0
HMDT	Nahal Hemdat	5.12	183	Pn	Pn	19 49 25.1	+2.3
HMDT				Sn	Sn	19 50 24.5	+3.0
SLTI	Sal’it	5.17	188	Pn	Pn	19 49 24.5	+1.0
SLTI				Sn	Sn	19 50 24.3	+1.5
SLTI	Sal’it	5.17	188	Pn	Pn	19 49 24.5	+1.0
SLTI				Sn	Sn	19 50 24.3	+1.5
ASF	Jabal al Asfar	5.26	170	Pn	Pn	19 49 25.8	+1.0
	comp=E,2.5nm,0.3s,baz=270,slow=3.0,SNR=15						
ASF				Lg	Lg	19 50 49.3	
	comp=E,5.0nm,0.3s,baz=19,slow=22,SNR=4.8						
ASF	Jabal al Asfar	5.26	170	Pn	Pn	19 49 25.8	+1.0
ASF				Lg	Lg	19 50 49.3	
DSI	Dead Sea	5.81	184	Pn	Pn	19 49 34.5	+2.2
DSI	Dead Sea	5.81	184	Pn	Pn	19 49 34.5	+2.2
YTIR	Yattir	6.03	186	Pn	Pn	19 49 37.1	+1.6
YTIR	Yattir	6.03	186	Pn	Pn	19 49 37.1	+1.6
MZBI	Masada	6.07	184	Pn	Pn	19 49 37.9	+2.1
MZBI	Masada	6.07	184	Pn	Pn	19 49 37.9	+2.1
MZDA	Masada	6.07	184	Pn	Pn	19 49 37.3	+1.5
MZDA	Masada	6.07	184	Pn	Pn	19 49 37.3	+1.5
KZIT	Kziot	6.57	191	Pn	Pn	19 49 43.8	+1.0
KZIT	Kziot	6.57	191	Pn	Pn	19 49 43.8	+1.0
SOC	Sochi	6.86	24	eP	Pn	19 49 46.6	0.0
SOC				e		19 51 06.4	
SOC				MLR	MLR		
	comp=Z,712nm,13.0s						
PRNI	Paran	7.04	186	Pn	Pn	19 49 50.9	+1.6
PRNI	Paran	7.04	186	Pn	Pn	19 49 50.9	+1.6
AKH	Akhalkalaki	7.14	53	⇑iP	Pn	19 49 57.6	+6.8
AKH	Akhalkalaki	7.14	53	P	Pg	19 50 21.3	-2.3
AKH				S	Sg	19 52 06.8	+11
YAL	Yalta	7.22	350	eP	Pn	19 49 53.2	+1.6
YAL				eS	Sn	19 51 15.2	+2.1
SEV	Sevastopol’	7.35	348	⇓iP	Pn	19 49 53.9	+0.5
SEV				eS	Sn	19 51 16.5	+0.1
HRFI	Mount Harif	7.36	186	Pn	Pn	19 49 56.1	+2.5
HRFI	Mount Harif	7.36	186	Pn	Pn	19 49 56.1	+2.5
GNI	Garni	7.46	66	Pn	Pn	19 49 57.7	+2.6
	comp=Z,0.4nm,0.3s,baz=250,slow=19,SNR=3.7						
GNI	Garni	7.46	66	⇑iP	Pn	19 49 59.0	+3.9
GNI	Garni	7.46	66	Pn	Pn	19 49 57.7	+2.6
GNI	Garni	7.46	66	Pn	Pn	19 49 57.7	+2.6
ANN	Anapa	7.51	9	eP	Pn	19 49 55.4	-0.1
ANN				eS	Sn	19 51 21.8	+1.6
ANN				pmax	pmax		
	comp=Z,26nm,1.2s						
ANN				MLR	MLR		
	comp=E,65nm,11.0s						
ANN				MLR	MLR		
	comp=N,50nm,11.0s						
ANN				MLR	MLR		
	comp=Z,276nm,11.0s						
SUDU	Sudak	7.53	355	⇑eP	Pn	19 49 55.8	-0.1
MBRI	Mt Berech	7.61	186	Pn	Pn	19 49 59.1	+2.0
MBRI	Mt Berech	7.61	186	Pn	Pn	19 49 59.1	+2.0
SIM	Simferopol’	7.68	351	eP	Pn	19 49 59.9	+2.0
SIM				eS	Sn	19 51 26.0	+1.5
SIM				pmax	pmax		
	comp=Z,21nm,0.9s						
SIM				MLR	MLR		
	comp=Z,200nm,14.0s						
EIL	Elat	7.73	186	Pn	Pn	19 50 01.6	+3.0
	comp=Z,1.6nm,0.3s,baz=31,slow=17,SNR=10						
EIL				Sn	Sn	19 51 28.2	+2.5
	comp=Z,1.5nm,0.3s,baz=331,slow=17,SNR=2.9						
EIL				LR	LR	19 53 21.9	
	comp=Z,309nm,21.6s,baz=14,slow=41						
EIL	Elat	7.73	186	Pn	Pn	19 50 01.0	+2.4
EIL				Sn	Sn	19 51 28.4	+2.7
EIL	Elat	7.73	186	Pn	Pn	19 50 01.0	+2.4
EIL				Sn	Sn	19 51 28.2	+2.5
EIL	Elat	7.73	186	Pn	Pn	19 50 01.6	+3.0
EIL				Sn	Sn	19 51 28.2	+2.5
ONI	Oni	7.81	46	P	Pb	19 50 13.1	-8.7
NEY	Neytrino	7.86	40	⇑iP	Pn	19 50 04.0	+3.5
ZEI	Tsey	8.19	46	eP	Pn	19 50 10.0	+4.9
ZEI				pmax	pmax		
	comp=Z,32nm,0.4s						
APE	Apeiranthos	8.26	271	⇓iP	Pn	19 50 10.3	+4.4
APE	Apeiranthos	8.26	271	⇓iP	Pn	19 50 04.5	-1.4
APE	Apeiranthos	8.26	271	⇓iP	Pn	19 50 10.3	+4.4
KBZ	Khabaz	8.29	38	Pn	Pn	19 50 10.9	+4.5
	comp=Z,0.1nm,0.3s,baz=223,slow=3.2,SNR=2.3						
KBZ				LR	LR	19 53 52.5	
	comp=Z,456nm,18.1s,baz=230,slow=42						
KBZ	Khabaz	8.29	38	Pn	Pn	19 50 10.9	+4.5
GUDG	Gudauri	8.34	50	P	Pb	19 50 20.2	-11
KIV	Kislovodsk	8.36	36	eP	Pn	19 50 08.2	+0.8
KIV				eS	Sn	19 51 44.4	+3.0
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,57nm,7.0s						
KVAR	Kislovodsk Arr	8.37	36	Pn	Pn	19 50 10.8	+3.4
	baz=212,slow=6.3,SNR=3.4						
KVAR				LR	LR	19 53 53.2	
	comp=Z,291nm,20.9s,baz=238,slow=42						
KVAR	Kislovodsk Arr	8.37	36	Pn	Pn	19 50 10.8	+3.4
SANT	Santorini	8.41	266	ePn	Pn	19 50 07.5	-0.4
	comp=Z,24nm,0.8s						
SANT	Santorini	8.41	266	ePn	Pn	19 50 07.5	-0.4
	comp=Z,24nm,0.8s						
PSN	Preselentsi	8.59	319	⇑iP	Pn	19 50 14.1	+3.6
PSN	Preselentsi	8.59	319	⇑P	Pn	19 50 14.1	+3.6
TIRR	Tirgusor	9.05	324	⇑iP	Pn	19 50 18.0	+1.4
TIRR	Tirgusor	9.05	324	⇑P	Pn	19 50 18.0	+1.4
TIRR	Tirgusor	9.05	324	⇑iP	Pn	19 50 18.0	+1.4
IDI	Anoyia	9.10	260	Pn	Pn	19 50 16.3	-1.3
	comp=Z,8.2nm,0.3s,baz=68,slow=12,SNR=59						
IDI	Anoyia	9.10	260	ePn	Pn	19 50 17.5	0.0
IDI	Anoyia	9.10	260	ePn	Pn	19 50 17.6	0.0
TLCR		9.43	328	⇑iP	Pn	19 50 25.5	+3.6
TLCR		9.43	328	⇑P	Pn	19 50 25.5	+3.6
HARR	Harsova	9.45	323	⇑iP	Pn	19 50 25.5	+3.3
HARR	Harsova	9.45	323	⇑P	Pn	19 50 25.5	+3.3
RZN	Rozhen	9.63	300	eP	Pn	19 50 27.0	+2.1
CFR	Carcaliu	9.72	326	⇑iP	Pn	19 50 30.1	+4.2
CFR	Carcaliu	9.72	326	⇑P	Pn	19 50 30.1	+4.2
MMB	Musomiste	10.28	298	eP	Pn	19 50 32.0	-1.7
ISR	Istrita	10.44	321	⇑iP	Pn	19 50 40.0	+4.2
ISR	Istrita	10.44	321	⇑P	Pn	19 50 40.0	+4.2
VRI	Vrincioaia	10.89	324	⇑iP	Pn	19 50 44.7	+2.8
VRI	Vrincioaia	10.89	324	⇑P	Pn	19 50 44.7	+2.8
VRI	Vrincioaia	10.89	324	⇑iP	Pn	19 50 44.7	+2.8
HUMR	Humele	10.89	314	⇑iP	Pn	19 50 45.2	+3.2
PLOR	Plostina	10.92	324	⇑iP	Pn	19 50 44.1	+1.8
PLOR	Plostina	10.92	324	⇑P	Pn	19 50 44.1	+1.8
PLOR	Plostina	10.92	324	⇑iP	Pn	19 50 44.1	+1.8
MLR	Muntele Rosu	11.00	321	Pn	Pn	19 50 44.9	+1.3
	comp=Z,0.0nm,0.3s,baz=151,slow=13,SNR=2.4						
MLR				LR	LR	19 55 50.0	
	comp=Z,99nm,18.6s,baz=138,slow=42						
MLR	Muntele Rosu	11.00	321	⇑iP	Pn	19 50 47.3	+3.7
MLR	Muntele Rosu	11.00	321	⇑P	Pn	19 50 47.3	+3.7
MLR	Muntele Rosu	11.00	321	Pn	Pn	19 50 44.9	+1.3
MLR	Muntele Rosu	11.00	321	Pn	Pn	19 50 44.9	+1.3
MPEP	Malo Peshtene	11.01	307	eP	Pn	19 50 46.0	+2.4
VTS	Vitosha	11.02	302	⇑iP	Pn	19 50 45.7	+1.9
VTS	Vitosha	11.02	302	⇑P	Pn	19 50 45.7	+1.9
VTS	Vitosha	11.02	302	eP	Pn	19 50 44.0	+0.2
VTS	Vitosha	11.02	302	⇑iP	Pn	19 50 45.7	+1.9
TESR	Tescani	11.41	326	⇑iP	Pn	19 50 50.7	+1.6
TESR	Tescani	11.41	326	⇑iP	Pn	19 50 50.7	+1.6
VOIR		11.43	318	⇓iP	Pn	19 50 52.4	+3.0
VOIR		11.43	318	⇓P	Pn	19 50 52.4	+3.0
DOPR	Dopca	11.61	321	⇑iP	Pn	19 50 55.1	+3.3
SORM	Soroca	12.08	335	⇑iP	Pn	19 51 00.4	+2.3
SORM	Soroca	12.08	335	⇑P	Pn	19 51 00.5	+2.3
SORM	Soroca	12.08	335	⇑iP	Pn	19 51 00.4	+2.3
LOT	Lotru	12.14	315	⇑iP	Pn	19 51 01.9	+2.8
LOT	Lotru	12.14	315	⇑iP	Pn	19 51 01.9	+2.8
PRAR	RASCA	12.25	328	⇑iP	Pn	19 51 03.8	+3.2
GZR	Gura Zlata	12.67	313	⇑iP	Pn	19 51 09.9	+3.6
GZR	Gura Zlata	12.67	313	⇑P	Pn	19 51 10.0	+3.6
BURAR	Bucovina Array	12.89	326	⇑iP	Pn	19 51 12.1	+2.8
BURAR	Bucovina Array	12.89	326	⇑P	Pn	19 51 12.1	+2.8
BURAR	Bucovina Array	12.89	326	⇑iP	Pn	19 51 12.1	+2.8
MDVR	Moldovita	12.98	309	⇓iP	Pn	19 51 13.6	+3.0

CJR	Cluj-Napoca	13.03	320	⇓	*i*	P	Pn	19 51 14.7	+3.5
CJR	Cluj-Napoca	13.03	320	⇓		P	Pn	19 51 14.7	+3.5
BZS	Buzias	13.47	312	⇑	*i*	P	Pn	19 51 20.0	+2.8
BZS	Buzias	13.47	312	⇑		P	Pn	19 51 20.0	+2.8
BZS	Buzias	13.47	312	⇑	*i*	P	Pn	19 51 20.0	+2.8
DRGR		13.55	318	⇓	*i*	P	Pn	19 51 20.4	+2.1
DRGR		13.55	318	⇓		P	Pn	19 51 20.4	+2.1
DRGR		13.55	318	⇓	*i*	P	Pn	19 51 20.4	+2.1
BMR	Baia Mare	13.73	322	⇓	*i*	P	P	19 51 30.8	+1.5
BMR	Baia Mare	13.73	322	⇓		P	P	19 51 30.8	+1.5
VSR	Storozhevoye	14.03	9	*e*		P	Pn	19 51 25.3	+0.5
VSR	comp=Z,8.0nm,0.6s					pmax	pmax		
KIEV	Kiev	14.14	342	⇑	*i*	P	Pn	19 51 28.1	+1.8
KIEV	Kiev	14.14	342	*e*		P	Pn	19 51 28.3	+2.1
KIEV	comp=Z,26nm,1.4s Kiev	14.14	342	*e*		P	Pn	19 51 28.3	+2.1
AKASG	comp=Z,26nm,1.4s Malin Array Be	14.14	342			Pn	Pn	19 51 24.9	-1.4
AKASG	comp=Z,1.0nm,0.3s,baz=159,slow=11,SNR=8.6 Malin Array Be	14.14	342	*e*		P	Pn	19 51 28.3	+2.0
AKASG	comp=Z,1.0nm,0.3s Malin Array Be	14.14	342			pmax	pmax		
AKASG	comp=Z,1.0nm,0.3s Malin Array Be	14.14	342			Pn	Pn	19 51 24.9	-1.4
VRH	Novokhopyorsk	14.43	15	*e*		P	P	19 51 34.2	-2.8
VRH	comp=Z,10.0nm,0.9s					pmax	pmax		
UZH	Uzhgorod	14.98	323	*e*		P	P	19 51 40.6	-2.5
UZH				*e*		S	Sn	19 54 28.8	+5.7
LVV	L'vov	15.08	329	*e*		P	P	19 51 46.4	+2.1
KOLS	Kolonicke sedl	15.20	324	*e*		P	P	19 51 44.9	-0.7
KOLS	Kolonicke sedl	15.20	324	*e*		P	P	19 51 44.9	-0.7
KOLS	Kolonicke sedl	15.20	324	*e*		P	P	19 51 44.9	-0.7
KWP	Kalwaria Pacla	15.50	326	⇑	*i*	P	P	19 51 47.1	-1.8
KWP	Kalwaria Pacla	15.50	326	⇑		P	P	19 51 47.1	-1.8
KWP	Kalwaria Pacla	15.50	326	⇑	*i*	P	P	19 51 47.1	-1.8
KECS	Kecovo	15.78	320	*e*		P	P	19 51 52.9	+0.8
KECS	Kecovo	15.78	320	*e*		P	P	19 51 52.9	+0.8
KECS	Kecovo	15.78	320	*e*		P	P	19 51 52.9	+0.8
KECS				*e*				19 51 57.9	
VYHS	Vyhne	16.66	317	*e*		P	P	19 52 01.3	-0.5
VYHS	Vyhne	16.66	317	*e*		P	P	19 52 01.3	-0.5
VYHS	Vyhne	16.66	317	*e*		P	P	19 52 01.3	-0.5
LANS	Liptovska Anna	16.73	320	*e*		P	P	19 52 04.7	+2.1
LANS	Liptovska Anna	16.73	320	*e*		P	P	19 52 04.7	+2.1
LANS	Liptovska Anna	16.73	320	*e*		P	P	19 52 04.7	+2.1
VAE	Valguarnera	17.05	277			LR	LR	19 59 29.3	
GEYT	comp=Z,77nm,19.9s,baz=139,slow=40 Alibeck	17.62	81	P			P	19 52 12.4	-0.2
GEYT	comp=Z,0.3nm,0.3s,baz=298,slow=13,SNR=16					LR	LR	20 00 25.5	
OBN	comp=Z,37nm,21.4s,baz=35,slow=42 Obninsk	17.75	1			LR	LR	20 00 38.9	
OBN	comp=Z,89nm,18.5s,baz=170,slow=42 Obninsk	17.75	1	*e*		P	P	19 52 14.8	+1.1
OBN	comp=Z,9.0nm,1.4s					pmax	pmax		
OKC	Ostrava-Krasne	17.83	320	*e*		P	P	19 52 17.4	+2.7
OKC	comp=Z,200nm,12.6s					AMS	AMS	20 00 30.0	
OKC	Ostrava-Krasne	17.83	320	*e*		P	P	19 52 17.4	+2.7
OKC	comp=Z,200nm,12.6s					MLR	MLR		
OKC	Ostrava-Krasne	17.83	320			P	P	19 52 17.4	+2.7
ARSA	Arzberg	17.95	310	*i*		P	P	19 52 25.5	+9.5
CONA	comp=Z,4.4nm,1.1s Conrad Observa	18.05	312	*i*		P	P	19 52 23.9	+6.6
MORC	comp=Z,2.9nm,1.1s Moravsky Berou	18.10	319	*e*		P	P	19 52 18.4	+0.6
OBKA	Obir	18.25	307	*i*		P	P	19 52 27.4	+7.8
VRAC	comp=Z,8.1nm,1.2s Vranov	18.34	317			P	Pn	19 52 21.1	+0.7
VRAC	baz=118,slow=11,SNR=4.3					LR	LR	20 00 42.9	
VRAC	comp=Z,90nm,18.8s,baz=132,slow=41 Vranov	18.34	317			P	Pn	19 52 21.1	+0.7
VRAC	Vranov	18.34	317			P	Pn	19 52 21.1	+0.7
MOS	Moscow	18.41	3	*e*		P	P	19 52 19.9	-1.1
MOS	comp=Z,54nm,1.0s					pmax	pmax		
MYKA	Terra Mystica	18.88	306	*i*		Pn	Pn	19 52 27.5	+0.5
MYKA	comp=Z,26nm,1.3s Terra Mystica	18.88	306			P	Pn	19 52 27.5	+0.5
MOA	comp=Z,26nm,1.3s Molln	18.97	310	*i*		Pn	Pn	19 52 28.3	+0.2
MOA	comp=Z,8.3nm,0.9s Molln	18.97	310			P	Pn	19 52 28.3	+0.2
DPC	comp=Z,8.3nm,0.9s Dobruska-Polom	19.08	319	*e*		P	Pn	19 52 29.6	+0.3
DPC				*e*		pP	sP	19 52 35.3	-0.2
DPC				*ex*			x	19 52 47.7	
DPC	comp=Z,300nm,10.9s					AMS	AMS	20 01 20.0	
DPC	Dobruska-Polom	19.08	319	*e*		P	Pn	19 52 29.6	+0.3
DPC	comp=Z,300nm,10.9s					MLR	MLR		
DPC	Dobruska-Polom	19.08	319			P	Pn	19 52 29.6	+0.3
KBA	Koelnbreinsper	19.23	307	*i*		Pn	P	19 52 30.4	0.0
KBA	comp=Z,6.0nm,1.1s Koelnbreinsper	19.23	307			P	P	19 52 30.4	0.0
UPC	comp=Z,6.0nm,1.1s Upice	19.33	319			AMS	AMS	20 01 30.0	
ABTA	comp=Z,300nm,14.9s Abfaltersbach	19.65	306	*i*		P	P	19 52 34.5	-0.3
ABTA	comp=Z,7.0nm,1.1s Abfaltersbach	19.65	306			P	P	19 52 34.5	-0.3
GERES	comp=Z,7.0nm,1.1s GERESS Array B	19.75	312			P	P	19 52 35.6	-0.4
GERES	comp=Z,0.3nm,0.3s,baz=118,slow=10,SNR=12					LR	LR	20 02 01.4	
GERES	comp=Z,61nm,18.6s,baz=132,slow=42 GERESS Array B	19.75	312			P	P	19 52 35.6	-0.4
GERES	GERESS Array B	19.75	312			P	P	19 52 35.6	-0.4
PRU	Pruhonice	19.84	316	*e*		P	P	19 52 36.9	+0.2
PRU	Pruhonice	19.84	316	*e*		P	P	19 52 36.9	+0.2
PRU	Pruhonice	19.84	316			P	P	19 52 36.9	+0.2
KHC	Kasperske Hory	19.96	313	*e*		P	P	19 52 36.9	-1.2
KHC				*ep*		P	pP	19 52 43.0	+0.1
KHC				*ex*			x	19 52 46.4	
KHC						AMS	AMS	20 01 50.0	
KHC	Kasperske Hory	19.96	313	*e*		P	P	19 52 36.9	-1.2
KHC				*e*				19 52 43.0	
KHC	Kasperske Hory	19.96	313			P	P	19 52 36.9	-1.2
KHC	Kasperske Hory	19.96	313	*e*		Pn	P	19 52 36.8	-1.3
PVCC	comp=Z,2.0nm,0.9s Panska Ves	20.11	318			AMS	AMS	20 02 00.0	
WTTA	comp=Z,300nm,12.0s Wattenberg	20.39	307	*i*		P	P	19 52 42.5	-0.4
WTTA	comp=Z,11nm,1.2s Wattenberg	20.39	307			P	P	19 52 43.8	+0.8
WTTA	Wattenberg	20.39	307			P	P	19 52 42.5	-0.4
WATA	comp=Z,11nm,1.2s Walderalm	20.45	307	*i*		P	P	19 52 43.4	-0.2
WATA	comp=Z,16nm,1.3s Walderalm	20.45	307			P	P	19 52 43.4	-0.2
AKTO	comp=Z,16nm,1.3s Aktyubinsk	20.51	43			P	P	19 52 43.5	-0.6
AKTO	comp=Z,5.3nm,0.6s,baz=246,slow=7,9,SNR=17 Aktyubinsk	20.51	43			P	P	19 52 43.5	-0.6
BRG	Berggiesshubel	20.63	318	*e*		P	P	19 52 45.2	-0.1
	comp=Z,9.7nm,1.2s comp=N,102nm,15.1s comp=E,105nm,16.3s comp=Z,163nm,18.1s								
BRG	Berggiesshubel	20.63	318	*e*		P	P	19 52 45.2	-0.1
BRG	comp=Z,10.0nm,1.2s					pmax	pmax		
BRG	comp=N,102nm,15.1s					MLR	MLR		
BRG	comp=E,163nm,18.1s					MLR	MLR		
MOTA	Moosalm	20.76	306	*i*		P	P	19 52 46.1	-0.8
MOTA	comp=E,10.0nm,1.1s Moosalm	20.76	306			P	P	19 52 46.1	-0.8
BANOM	comp=E,10.0nm,1.1s Banah	20.76	118	*i*		P	P	19 52 47.7	+0.7
FETA	SNR=5.9 Feichten	20.89	305	*i*		P	P	19 52 47.2	-1.2
FETA	comp=E,7.7nm,1.0s Feichten	20.89	305			P	P	19 52 47.2	-1.2
NAZ	comp=E,7.7nm,1.0s Nazwa, Dubai	20.91	121	*i*		P	Pn	19 52 49.9	-1.2
	SNR=8.1								
FAQ	Al Faqa, Dubai	21.02	121	*i*		P	P	19 52 50.8	+1.1
RETA	SNR=6.8 Reutte	21.02	307	*i*		P	P	19 52 48.4	-1.3
RETA	comp=E,5.4nm,0.5s Reutte	21.02	307			P	P	19 52 48.4	-1.3
AB31	comp=E,5.4nm,0.5s Akbulak array	21.06	48	*i*		P	P	19 52 49.9	-0.1
AB31	comp=Z,4.0nm,0.9s					pmax	pmax		
ABKAR	Akbulak array comp=Z,2.1nm,0.6s	21.06	48	*e*		Pn	P	19 52 49.5	-0.5
KEST	Kesra	21.35	274			P	P	19 52 52.9	-0.5
KEST	comp=Z,2.4nm,0.6s,baz=72,slow=3.8,SNR=4.3 Kesra	21.35	274			P	P	19 52 52.9	-0.5
KEST	Kesra	21.35	274			P	P	19 52 52.9	-0.5
CLL	Collm	21.36	318	*e*		P	P	19 52 54.0	+0.8
CLL	comp=Z,3.0nm,0.8s					*i*		19 53 00.4	
CLL	comp=Z,11nm,1.1s					*e*		19 57 12.0	
CLL	Collm	21.36	318	*e*		P	P	19 52 54.0	+0.8
CLL						*i*		19 53 00.4	
CLL	comp=Z,3.0nm,0.8s					pmax	pmax		
DAVOX	Davos/Dischmat comp=Z,2.8nm,0.7s,baz=117,slow=14,SNR=3.9	21.38	304			P	P	19 52 52.9	-0.7
DAVOX	comp=Z,114nm,19.6s,baz=93,slow=41					LR	LR	20 02 43.8	
DAVOX	Davos/Dischmat	21.38	304			P	P	19 52 52.9	-0.7
DAVOX	Davos/Dischmat	21.38	304			P	P	19 52 52.9	-0.7
ASHO	Ashiyiah SNR=6.2	21.38	121	*i*		P	P	19 52 54.7	+1.0
DAVA	Damuels	21.53	306	*i*		P	P	19 52 53.6	-1.6
DAVA	comp=Z,7.6nm,0.7s Damuels	21.53	306			P	P	19 52 53.6	-1.6
VSU	comp=Z,7.6nm,0.7s Vasula	21.93	347	⇑	*i*	P	P	19 52 59.3	+0.1
VSU	comp=Z,28nm,0.8s					pmax	pmax		
SPAK	Spaichingen-Ko	22.48	307	*e*		P	P	19 53 06.7	+1.3
BFO	Black Forest	22.84	307	*ce*		P	P	19 53 07.7	-1.5
BFO	Black Forest	22.84	307	*e*		P	P	19 53 07.6	-1.6
BFO	comp=Z,26nm,1.2s Black Forest	22.84	307	*e*		P	P	19 53 07.6	-1.6
FELD	comp=Z,26nm,1.2s Feldberg im Sc	22.91	306	*e*		P	P	19 53 10.9	+0.9
TOD	Tromm	22.99	311	*e*		P	P	19 53 11.0	+0.3
MBDF	Montbardon	23.06	298			P	P	19 53 11.9	+0.4
LIBD	Limburg	23.25	307	*e*		P	P	19 53 15.4	+2.1
LANF	Langenberg	23.38	309	*e*		P	P	19 53 15.5	+0.9
LANF	Langenberg	23.38	309	*e*		P	P	19 53 15.5	+0.9
MOF	Molkenrain	23.47	306	*e*		P	P	19 53 16.9	+1.3
MOF	Molkenrain	23.47	306	*e*		P	P	19 53 16.9	+1.3
ECH	Echery	23.56	306	*e*		P	P	19 53 16.7	+0.3
ECH	Echery	23.56	306	*e*		P	P	19 53 16.7	+0.3
KLMR	Klimovskoe	23.61	4	*e*		P	P	19 53 14.3	-2.4
KLMR	comp=Z,25nm,0.9s					pmax	pmax		
ORIF	Oris-en-Rattie	23.71	298			P	P	19 53 20.8	+2.8
WSAR	Wadi Sarin comp=Z,8.9nm,0.8s,baz=299,slow=7.6,SNR=5.5	24.10	119			P	P	19 53 21.9	+0.2
WSAR	Wadi Sarin	24.10	119			P	P	19 53 21.9	+0.2
WSAR	Wadi Sarin	24.10	119			P	P	19 53 21.9	+0.2
ARU	Arti	24.36	31	*c*	*i*	P	P	19 53 23.5	-0.3
ARU	comp=Z,2.6nm,0.6s,baz=234,slow=11,SNR=7.3 Arti	24.36	31	*c*	*i*	P	P	19 53 24.0	+0.2
ARU				*e*				19 53 53.3	
ARU						S	S	19 57 44.1	+1.8
ARU						SS	SnSn	19 58 33.5	+7.6
ARU	comp=Z,7.0nm,1.2s					pmax	pmax		
ARU	Arti	24.36	31	*e*		P	P	19 53 23.4	-0.5
ARU	comp=Z,11nm,1.1s Arti	24.36	31	*e*		P	P	19 53 23.4	-0.5
FINES	comp=Z,11nm,1.1s FINESS Array B	24.86	349			P	P	19 53 27.5	-0.8
FINES	comp=Z,3.3nm,0.5s,baz=154,slow=10,SNR=19 FINESS Array B	24.86	349			P	P	19 53 27.5	-0.8
FINES	FINESS Array B	24.86	349			P	P	19 53 27.5	-0.8
SVE	Sverdlovsk	25.50	32	*e*		P	P	19 53 34.2	+0.1
SVE	comp=Z,10.0nm,1.1s					pmax	pmax		
SSF	Saint Saulge	25.69	302			P	P	19 53 35.4	-0.5
TCF	Toulx Ste Croi	26.45	300			P	P	19 53 46.0	+3.1
ATD	Arta Tunnel comp=Z,105nm,19.6s,baz=15,slow=36	26.49	165			LR	LR	20 04 09.9	
RJF	Les Rejaudoux	26.82	298			P	P	19 53 48.7	+2.5
KK31	Karatay Array	26.93	67	*ce*		P	P	19 53 47.6	+0.4
KK31	comp=Z,9.0nm,0.8s					pmax	pmax		
KKAR	Karatay Array	26.93	67	*e*		P	P	19 53 47.8	+0.6
KKAR	comp=Z,10.0nm,0.8s					pmax	pmax		
KKAR	Karatay Array	26.93	67	*e*		P	P	19 53 47.8	+0.6
KKAR	comp=Z,9.5nm,0.8s Karatay Array	26.93	67	*e*		P	P	19 53 47.8	+0.6
ZRNK	comp=Z,9.5nm,0.8s Zerenda	27.76	45			P	P	19 53 53.9	-0.6
ZRNK	comp=Z,8.0nm,1.5s					pmax	pmax		
NB2	NORSAR Subarra	28.31	335			P	P	19 53 57.9	-1.5
NB2	comp=Z,1.7nm,0.9s,baz=136,slow=9.3 NORSAR Subarra	28.31	335			P	P	19 53 57.9	-1.5
NOA	comp=Z,1.7nm,0.9s,SNR=4.0 NORSAR Array B	28.31	335			P	P	19 53 58.2	-1.2
NOA	comp=Z,1.6nm,0.9s,baz=126,slow=9.1,SNR=4.8					LR	LR	20 06 39.2	
NOA	comp=Z,92nm,20.4s,baz=140,slow=39 NORSAR Array B	28.31	335			P	P	19 53 58.2	-1.2
NOA	NORSAR Array B	28.31	335			P	P	19 53 58.2	-1.2
MNAS	Manas	28.40	68			P	P	19 54 00.3	-0.3
MNAS	comp=Z,5.0nm,1.0s					pmax	pmax		
BRVK	Borovoye	28.52	46	⇑	*i*	P	P	19 54 02.8	+1.5
BRVK	comp=Z,11nm,1.7s					pmax	pmax		
BVAR	Borovoye Array comp=Z,0.5nm,0.5s,baz=250,slow=4.4,SNR=6.3	28.57	46			P	P	19 54 02.0	+0.2
BVAR	Borovoye Array	28.57	46			P	P	19 54 02.0	+0.2
BVAR	Borovoye Array	28.57	46			P	P	19 54 02.0	+0.2
BVAR	Borovoye Array	28.57	46			P	P	19 54 02.0	+0.2
OTUK	Ortayu	28.62	56			P	P	19 54 02.4	+0.1
OTUK	comp=Z,7.0nm,1.1s					pmax	pmax		
SJPF	Ste Jean	28.72	293			P	P	19 54 05.2	+1.9
EKS2	Erkin-Say	29.33	68	*e*		P	P	19 54 10.9	+2.1
EKS2	comp=Z,7.0nm,0.9s					pmax	pmax		
EKS2	Erkin-Say	29.33	68	*e*		P	P	19 54 10.9	+2.1
EKS2	comp=Z,6.6nm,0.9s Erkin-Say	29.33	68	*e*		P	P	19 54 10.9	+2.1
AAK	comp=Z,6.6nm,0.9s Ala-Archa	29.86	68			P	P	19 54 13.8	+0.3
AAK	comp=Z,1.3nm,0.3s,baz=249,slow=9.7,SNR=4.4 Ala-Archa	29.86	68			P	P	19 54 13.8	+0.3
AAK	Ala-Archa	29.86	68			P	P	19 54 13.8	+0.3
FRU	Bishkek	29.94	67	*e*		P	P	19 54 15.0	+0.9
TKM2	Tokmak 2	30.66	67	*e*		P	P	19 54 21.3	+0.7
TKM2	comp=Z,8.0nm,1.2s					pmax	pmax		
TKM2	Tokmak 2 comp=Z,7.7nm,1.2s	30.66	67	*e*		P	P	19 54 21.3	+0.7
TKM2	Tokmak 2 comp=Z,7.7nm,1.2s	30.66	67	*e*		P	P	19 54 21.3	+0.7
ESDC	Sonseca Array comp=Z,0.8nm,0.7s,baz=79,slow=8.0,SNR=4.8	31.07	287			P	P	19 54 24.6	+0.5
ESDC	Sonseca Array	31.07	287			P	P	19 54 24.6	+0.5
ESDC	Sonseca Array	31.07	287			P	P	19 54 24.6	+0.5
KSH	Kashi	31.30	74	*e*		P	P	19 54 26.0	-0.3
KSH						pP	sP	19 54 35.0	+1.4
KSH						PcP	PcP	19 57 23.8	+3.6
KSH						S	S	19 59 24.0	-8.4
KSH						ScS	ScS	20 04 57.0	-2.9
KSH	comp=Z,5.0nm,0.7s					PMZ			
KSH	comp=Z,91nm,4.2s					PMZ			
KSH	comp=Z,110nm,5.0s					LN			
KSH	comp=Z,110nm,5.7s					LE			
KSH	comp=Z,170nm,8.6s					LZ			
ARCES	ARCESS Array B comp=Z,1.3nm,0.6s,baz=163,slow=8.9,SNR=8.6	32.70	353	P			P	19 54 37.8	-0.3
ARCES	ARCESS Array B	32.70	353	*e*		P	P	19 54 38.0	-0.1
ARCES	comp=Z,1.0nm,0.6s					pmax	pmax		
ARCES	ARCESS Array B	32.70	353	P			P	19 54 37.8	-0.3
ARCES	ARCESS Array B	32.70	353	P			P	19 54 37.8	-0.3
KURBB	Kurchatov Arra comp=Z,5.9nm,0.8s,baz=269,slow=8.9,SNR=69	32.95	53	P			P	19 54 41.0	+0.6
KURK	Kurchatov	33.02	52	*e*		P	P	19 54 41.5	+0.5
KURK	Kurchatov	33.02	52	*e*		P	P	19 54 41.5	+0.5
KURK	Kurchatov	33.02	52	*e*		P	P	19 54 41.5	+0.5
PDGK	Podgornoye	33.47	66			P	P	19 54 45.7	+0.7
PDGK	comp=Z,10.0nm,1.0s					pmax	pmax		
MKAR	Makanchi Array comp=Z,2.0nm,0.7s,baz=268,slow=7.2,SNR=17	35.26	60	P			P	19 55 00.8	+0.3
MKAR	comp=Z,112nm,18.1s,baz=300,slow=40					LR	LR	20 11 30.3	
MKAR	Makanchi Array	35.26	60	*e*		P	P	19 55 01.3	+0.7
MKAR	comp=Z,2.0nm,0.7s					pmax	pmax		
MKAR	Makanchi Array	35.26	60	P			P	19 55 00.8	+0.3
MKAR	Makanchi Array	35.26	60	P			P	19 55 00.8	+0.3
NVS	Novosibirsk	36.37	46	⇓	*i*	P	P	19 55 12.0	+2.1
NVS	comp=Z,13nm,1.6s					pmax	pmax		
NVS	comp=N,9.0nm,1.2s					pmax	pmax		
NVS	comp=E,10.0nm,1.2s					pmax	pmax		
ZALV	Zalesovo Beam comp=E,1.7nm,0.6s,baz=264,slow=9.8,SNR=9.4	37.17	48	P			P	19 55 16.6	-0.1
ZALV	Zalesovo Beam	37.17	48	P			P	19 55 16.6	-0.1
ZALV	Zalesovo Beam	37.17	48	P			P	19 55 16.6	-0.1
KMBO	Kilima Mbogo comp=E,1.3nm,0.7s,baz=352,slow=9.2,SNR=3.8	38.33	178	P			P	19 55 26.9	-0.3
KMBO	Kilima Mbogo	38.33	178	P			P	19 55 26.9	-0.3
KMBO	Kilima Mbogo	38.33	178	P			P	19 55 26.9	-0.3
TORD	Torodi Ar. Bea comp=E,1.0nm,0.6s,baz=47,slow=6.9,SNR=7.0	38.87	241	P			P	19 55 30.3	-1.2
TORD	comp=E,45nm,19.5s,baz=140,slow=40					LR	LR	20 13 56.2	
TORD	Torodi Ar. Bea	38.87	241	P			P	19 55 30.3	-1.2
TORD	Torodi Ar. Bea	38.87	241	P			P	19 55 30.3	-1.2
PYUN	Piuthan comp=E,35nm,0.8s	40.35	89	*e*		P	P	19 55 44.1	+0.1
KOLN	Koldanda	40.98	89	*e*		P	P	19 55 48.7	-0.5
GKN	Gorkha comp=E,72nm,0.7s	41.70	88	*e*		P	P	19 55 55.4	+0.3
NRIK	Noril'sk comp=E,3.1nm,0.5s,baz=239,slow=5.9,SNR=4.7	42.23	24	P			P	19 55 59.3	+0.7
DMN	Daman comp=E,45nm,0.8s	42.25	89	*e*		P	P	19 56 00.2	+0.6
KKN	Kakani comp=E,33nm,0.6s	42.31	88	*e*		P	P	19 56 00.4	+0.3
PKIN	Phulchoki comp=E,23nm,0.9s	42.49	88	*e*		P	P	19 56 01.9	+0.3
RAMN	Ramite comp=E,89nm,0.7s	43.73	89	*e*		P	P	19 56 11.4	-0.2
LSA	Lhasa	46.15	83	*e*		P	P	19 56 31.6	+0.4
LSA	comp=Z,6.0nm,0.9s					pmax	pmax		
LSA	Lhasa comp=Z,5.7nm,0.9s	46.15	83	*e*		P	P	19 56 31.6	+0.4
LSA	Lhasa comp=Z,5.7nm,0.9s	46.15	83	*e*		P	P	19 56 31.6	+0.4
DBIC	Dimbokro comp=Z,2.1nm,0.5s,baz=26,slow=8.8,SNR=4.8	47.98	241	P			P	19 56 44.6	-0.4
DBIC	Dimbokro	47.98	241	P			P	19 56 44.6	-0.4
DBIC	Dimbokro	47.98	241	P			P	19 56 44.6	-0.4
TLY	Talaya comp=Z,4.2nm,0.6s,baz=312,slow=6.2,SNR=5.2	48.65	50	P			P	19 56 50.7	+0.9
TLY	Talaya	48.65	50	P			P	19 56 50.7	+0.9
TLY	Talaya	48.65	50	P			P	19 56 50.7	+0.9
ZAK	Zakamensk comp=Z,4.0nm,1.3s	48.68	52	*e*		P	P	19 56 50.9	+0.8
ZAK	comp=Z,2.5nm,0.8s,baz=288,slow=6.9,SNR=14					pmax	pmax		
SONM	Songino Array comp=Z,3.0nm,0.8s	51.27	55	P			P	19 57 10.2	+0.3
SONM	Songino Array	51.27	55	*e*		P	P	19 57 10.3	+0.4
SONM	comp=Z,3.0nm,0.8s Songino Array	51.27	55	P			P	19 57 10.2	+0.3
SONM	Songino Array	51.27	55	P			P	19 57 10.2	+0.3
ULN	Ulaanbaatar	51.69	54	⇓	*i*	P	P	19 57 14.2	+1.2
ULN	comp=Z,10.0nm,1.7s					pmax	pmax		
ULN	Ulaanbaatar comp=Z,14nm,1.4s	51.69	54	*e*		P	P	19 57 13.5	+0.4
ULN	Ulaanbaatar comp=Z,14nm,1.4s	51.69	54	*e*		P	P	19 57 13.5	+0.4
BOD	Bodaibo	53.25	41	*e*		P	P	19 57 19.5	-4.7
BOD	comp=Z,8.0nm,0.9s					pmax	pmax		
TIXI	Tiksi	55.93	22	⇓	*i*	P	P	19 57 44.0	+0.5
TIXI	comp=Z,5.0nm,1.0s					pmax	pmax		
TIXI	Tiksi comp=Z,3.9nm,0.9s	55.93	22	*e*		P	P	19 57 43.5	+0.1
TIXI	Tiksi comp=Z,3.9nm,0.9s	55.93	22	*e*		P	P	19 57 43.5	+0.1
CMAR	Chiang Mai Arr comp=Z,1.8nm,0.6s,baz=297,slow=8.6,SNR=16	57.81	91	P			P	19 57 57.0	-0.6
CMAR	Chiang Mai Arr comp=Z,2.0nm,0.6s	57.81	91	*e*		P	P	19 57 56.8	-0.8
CMAR	comp=Z,2.0nm,0.6s					pmax	pmax		
CMAR	Chiang Mai Arr	57.81	91	P			P	19 57 57.0	-0.6
CMAR	Chiang Mai Arr	57.81	91	P			P	19 57 57.0	-0.6
TSUM	Tsumeb comp=Z,91nm,18.8s,baz=111,slow=37	58.86	200			LR	LR	20 23 55.0	
HIA	Hailar	59.17	49	⇑	*i*	P	P	19 58 08.1	+1.4
HIA	comp=Z,7.0nm,1.2s					pmax	pmax		
YAK	Yakutsk	59.46	33	⇓	*i*	P	P	19 58 11.6	+3.2
YAK	comp=Z,6.0nm,0.9s					pmax	pmax		
KLR	Kul'dur comp=Z,1.9nm,0.7s,baz=292,slow=8.1,SNR=8.6	66.23	45	P			P	19 58 53.5	-0.3
KLR

KTH	**Kantishna Hill**	**79.26**	**3**	*e*P	**P**		**20 00 11.2**	**+0.2**
	comp=Z,10nm,1.1s								
KTH	**Kantishna Hill**	**79.26**	**3**	*e*P	**P**		**20 00 11.2**	**+0.2**
	comp=Z,10nm,1.1s								
PPLA	**Purkeypile**	**79.86**	**4**	*e*P	**P**		**20 00 14.7**	**+0.4**
PPLA	**Purkeypile**	**79.86**	**4**	*e*P	**P**		**20 00 14.7**	**+0.4**
PDAR	**Pinedale Array**	**94.25**	**335**	LR	LR		20 45 16.2	
	comp=Z,40nm,18.3s,baz=62,slow=36								
ASAR	**Alice Springs**	**110.08**	**105**	PKiKP	**PKiKP**		**20 06 36.1**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=301,slow=1.3,SNR=4.8								
ASAR	**Alice Springs**	**110.08**	**105**	PKiKP	**PKiKP**		**20 06 36.1**	**-1.8**
ASAR	**Alice Springs**	**110.08**	**105**	PKiKP	**PKiKP**		**20 06 36.1**	**-1.8**
STKA	**Stephens Creek**	**120.09**	**109**	*e*PKiKP	**PKPdf**		**20 06 55.5**	**-1.2**
STKA				pmax	pmax				
	comp=Z,2.0nm,0.8s								

ISCJB ***29*** *19:48:26.5±0.6, 37.°12N±0.°06×142.°63E±0.°07, h9km, mb4.0/13, Error ellipse: s-maj=9.5km s-min=7.0km az=137.2*
NEIC ***29*** *19:48:28.9±5.7, 37.°23N×142.°59E, h10km±35km, mb4.6/2, Error ellipse: s-maj=17.5km s-min=10.4km az=123.0*
JMA ***29*** *19:48:29.0±0.6, 37.°31N×142.°37E, h8km, M4.0*
IDC ***29*** *19:48:33.8±2.4, 37.°11N×142.°42E, h48km±24km, mb3.7/12, mb1 3.8/15, mb1mx3.6/48, mbtmp3.9/15, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/44, Error ellipse: s-maj=22.6km s-min=14.3km az=89.0*

ISC 29 19:48:28.6±0.8, 37°22N±0.°08×142°47E±0.°08, h9km, n33, σ1s91/29, mb4.0/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.28**	**277**	P	**Pn**	**19 48 50.9**	**-1.8**
ONAJ	**Iwakimizuishiy**	**1.34**	**266**	P	**Pn**	**19 48 53.2**	**-0.3**
JFT	**Otama**	**1.72**	**281**	P	**Pn**	**19 48 58.3**	**-0.5**
JYS	**Shirataka**	**2.15**	**299**	P	**Pn**	**19 49 05.9**	**+1.2**
JFY	**Yanaizu**	**2.21**	**276**	P	**Pn**	**19 49 06.4**	**+0.9**
MJAR	**Matsushiro Arr**	**3.48**	**260**	P	**Pn**	**19 49 24.9**	**+2.0**
	4.6nm,0.3s,baz=92,slow=16,SNR=11						
MJAR				S	**Sb**	**19 50 12.3**	**-0.4**
	5.1nm,0.3s,baz=98,slow=25,SNR=6.3						
MJAR				LR	LR	19 50 51.5	
	comp=Z,111nm,18.9s,baz=0.0,slow=40						
MAJO	**Matsushiro**	**3.48**	**260**	*e*Pn	**Pn**	**19 49 25.4**	**+2.5**
MAT	**Matsushiro**	**3.48**	**260**	P	**Pn**	**19 49 25.5**	**+2.6**
MAT				S	**Sn**	**19 50 06.2**	**+1.9**
JHJ	**Hachijo jima 2**	**4.64**	**209**	P	**Pn**	**19 49 39.8**	**+0.9**
	22nm,0.3s,baz=272,slow=24,SNR=15						
JHJ				S	**Sn**	**19 50 30.9**	**-2.0**
	22nm,0.3s,baz=296,slow=22,SNR=8.4						
ASAJ	**Asahikawa**	**6.89**	**1**	P	**Pn**	**19 50 08.4**	**-1.4**
	baz=131,slow=14						
JNU	**Nakatsue**	**10.32**	**250**	P	Pn	19 50 49.3	-7.7
	11nm,1.1s						
USRK	**Ussurisk Ar.**	**10.57**	**315**	P	**Pn**	**19 51 04.8**	**+4.5**
	0.1nm,0.3s,baz=140,slow=12,SNR=4.2						
BJT	**Baijiatuan**	**20.71**	**286**	*e*P	**P**	**19 53 03.4**	**-5.8**
	6.1nm,0.4s						
SEY	**Seymchan**	**26.46**	**10**	P	**P**	**19 54 06.9**	**+1.3**
	2.9nm,0.7s,baz=173,slow=8.7,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**27.53**	**123**	T	T	20 22 59.0	
	baz=315,slow=75,SNR=111						
H11N1	**WAKE ISLAND Hy**	**27.54**	**123**	T	T	20 23 01.0	
	baz=315,slow=75,SNR=110						
H11N3	**WAKE ISLAND Hy**	**27.55**	**123**	T	T	20 23 02.4	
	baz=315,slow=75,SNR=123						
H11S1	**WAKE ISLAND Hy**	**28.26**	**125**	T	T	20 23 59.2	
	baz=317,slow=76,SNR=106						
H11S3	**WAKE ISLAND Hy**	**28.26**	**125**	T	T	20 23 56.8	
	baz=317,slow=76,SNR=130						
H11S2	**WAKE ISLAND Hy**	**28.28**	**125**	T	T	20 23 58.1	
	baz=317,slow=76,SNR=131						
SONM	**Songino Array**	**28.38**	**303**	P	**P**	**19 54 24.0**	**+0.7**
	1.7nm,0.7s,baz=99,slow=8.5,SNR=11						
ZALV	**Zalesovo Beam**	**42.41**	**312**	P	**P**	**19 56 23.8**	**+0.5**
	0.9nm,0.5s,baz=93,slow=7.2,SNR=5.0						
MKAR	**Makanchi Array**	**44.73**	**302**	P	**P**	**19 56 42.9**	**+0.7**
	1.1nm,0.8s,baz=87,slow=9.4,SNR=4.9						
KURK	**Kurchatov**	**46.48**	**308**	*e*P	**P**	**19 56 55.3**	**-0.6**
	9.0nm,0.6s						
KURBB	**Kurchatov Arra**	**46.55**	**308**	P	**P**	**19 56 56.5**	**0.0**
	1.5nm,0.5s,baz=82,slow=8.0,SNR=15						
ILAR	**Eielson Array**	**48.89**	**32**	P	**P**	**19 57 14.2**	**-0.2**
	1.0nm,0.8s,baz=265,slow=5.9,SNR=8.1						
WRA	**Warramunga Arr**	**57.36**	**189**	P	**P**	**19 58 16.6**	**-0.6**
	1.3nm,0.8s,baz=7.9,slow=7.1,SNR=6.0						
ASAR	**Alice Springs**	**61.09**	**189**	P	**P**	**19 58 42.7**	**-0.3**
	0.7nm,0.9s,baz=358,slow=6.0,SNR=4.4						
YKA	**Yellowknife Ar**	**63.23**	**30**	P	**P**	**19 58 57.0**	**0.0**
	0.4nm,0.7s,baz=300,slow=6.2,SNR=3.7						
GEYT	**Allbeck**	**64.48**	**299**	P	**P**	**19 59 04.1**	**-1.6**
	1.1nm,0.5s,baz=48,slow=2.1,SNR=3.7						
FINES	**FINESS Array B**	**69.04**	**333**	P	**P**	**19 59 34.6**	**+0.4**
	0.9nm,0.6s,baz=101,slow=5.8,SNR=3.5						
TXAR	**Lajitas Array**	**89.34**	**53**	P	**P**	**20 01 26.6**	**+0.8**
	0.6nm,0.7s,baz=316,slow=5.0,SNR=2.1						
LPAZ	**La Paz**	**145.87**	**61**	PKPbc	**PKPdf**	**20 08 09.3**	**+0.3**
	1.4nm,0.5s,baz=46,slow=5.0,SNR=5.6						

CSEM ***29*** *19:48:56.7, 42.°32N×13.°49E, h10km, MD1.8/5*
ROM 29 19:48:56.7±0.1, 42°32N×13°49E, h10km±1km, Md1.8/5, MI0.9/3, Error ellipse: s-maj=4.7km s-min=0.9km az=28.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.07**	**298**	Pg	Pg	19 48 59.4	+0.3
AQU				Sg	Sg	19 49 01.2	+0.4
AQU	**L'Aquila**	**0.07**	**298**	Pg	Pg	19 48 59.4	+0.3
AQU				Sg	Sg	19 49 01.2	+0.4
FAGN	**Fagnano**	**0.09**	**127**	Pg	Pg	19 48 59.7	+0.4
FAGN				Sg	Sg	19 49 01.6	+0.5
FAGN	**Fagnano**	**0.09**	**127**	Pg	Pg	19 48 59.7	+0.4
FAGN				Sg	Sg	19 49 01.6	+0.5
VCEL	**Villa Celiera**	**0.27**	**74**	Pg	Pb	19 49 03.1	-0.7
VCEL				Sg	Sb	19 49 07.5	-1.0
	8μm,18.0s						
VCEL	**Villa Celiera**	**0.27**	**74**	Pg	Pb	19 49 03.1	-0.7
VCEL				Sg	Sb	19 49 07.5	-1.0
	8μm,18.0s						
RM33	**Pellescritta (**	**0.28**	**313**	Pg	Pb	19 49 03.1	-0.7
RM33				Sg	Sb	19 49 07.8	-0.8
	15μm,28.0s						
RM33	**Pellescritta (**	**0.28**	**313**	Pg	Pb	19 49 03.1	-0.7
RM33				Sg	Sb	19 49 07.8	-0.8
	15μm,28.0s						
RM32	**Poggio Cancell**	**0.29**	**330**	Pg	Pg	19 49 02.7	+0.1
RM32				Sg	Sb	19 49 08.0	-1.0
	2μm,11.0s						
RM32	**Poggio Cancell**	**0.29**	**330**	Pg	Pg	19 49 02.7	+0.1
RM32				Sg	Sb	19 49 08.0	-1.0
	2μm,11.0s						

NIED ***29*** *19:48:00, 25.°80N×128.°40E, h14km, Mw4.4 Best double couple: M0=4.58000×10^15 NP1:φs=220.00000°, δ40.00000°, λ89.00000°. NP2:φs=42.00000°, δ50.00000°, λ91.00000°.*
IDC ***29*** *19:48:58.1±0.8, 25.°79N×128.°14E, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.0/48, mbtmp4.1/19, ML3.5/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/42, Error ellipse: s-maj=24.2km s-min=16.0km az=81.0*
JMA ***29*** *19:48:59.6±0.3, 25.°77N×128.°39E, h50km±4km, M3.9*
NEIC ***29*** *19:49:03.1±0.6, 25.°79N×128.°10E, h35km, mb4.5/4, Error ellipse: s-maj=13.3km s-min=8.1km az=130.0*

ISC 29 19:48:58.2±1.8, 25°81N±0.°05×128°36E±0.°04, h5km±10km, n53, σ1s59/63, mb4.1/21, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.64**	**302**	P	**Pn**	**19 49 13.3**	**-0.7**
JJT2				*e*S	**Sn**	**19 49 23.1**	**-1.6**
JNTH	**Nagotoyohara**	**0.77**	**337**	P	**Pn**	**19 49 14.7**	**-1.1**
JOW	**Kunigami**	**1.03**	**356**	P	**Pg**	**19 49 18.8**	**+0.9**
JOW				*e*S	**Sn**	**19 49 32.0**	**-2.1**
JAGN	**Aguni-jima**	**1.27**	**308**	P	**Pg**	**19 49 22.4**	**-0.1**
JAGN				*e*S	**Sg**	**19 49 39.1**	**+0.1**
JIH	**Iheya**	**1.27**	**344**	P	**Pg**	**19 49 22.7**	**+0.1**
JIH				*e*S	**Sg**	**19 49 38.7**	**-0.5**
JKE	**Kume jima 2**	**1.50**	**291**	P	**Pn**	**19 49 25.0**	**-0.9**
JKE				*e*S	**Sg**	**19 49 44.3**	**-2.3**
JOKE	**Okinoerabujima**	**1.56**	**7**	P	**Pn**	**19 49 25.8**	**-0.9**
JOKE				*e*S	**Sn**	**19 49 44.6**	**-2.8**
JTK	**Tokunoshima**	**2.04**	**15**	P	**Pn**	**19 49 31.6**	**-1.7**
JTK				*e*S	**Sn**	**19 49 56.7**	**-2.5**
JAMN	**Amaminishikomi**	**2.54**	**17**	P	**Pn**	**19 49 39.6**	**-0.5**
JMZ	**Minamidaito 2**	**2.58**	**89**	P	**Pn**	**19 49 39.6**	**-1.1**
JMZ				*e*S	**Sn**	**19 50 08.1**	**-4.4**
JAM	**Amami Oshima**	**2.83**	**23**	P	**Pn**	**19 49 43.8**	**-0.2**
JAM				S	**Sn**	**19 50 15.0**	**-3.5**
JOGS	**Gusukube**	**2.87**	**249**	P	**Pn**	**19 49 44.2**	**-0.4**
JOGS				*e*S	**Sn**	**19 50 17.4**	**-2.1**
JZK	**Kikaishima**	**2.88**	**30**	P	**Pn**	**19 49 45.7**	**+0.8**
JMJ	**Miyako jima 2**	**2.94**	**251**	P	**Pn**	**19 49 45.5**	**-0.1**
JIKM	**Ikemajima**	**2.95**	**253**	P	**Pn**	**19 49 45.8**	**+0.1**
JIRB	**Irabujima**	**3.04**	**252**	P	**Pn**	**19 49 47.0**	**0.0**
JTAJ	**Takarajima**	**3.42**	**13**	P	**Pn**	**19 49 51.7**	**-0.5**
JTAJ				S	**Sn**	**19 50 28.6**	**-4.5**
JTJ	**Tarama**	**3.51**	**251**	P	**Pn**	**19 49 52.7**	**-0.7**
JISG	**Ishigakijimahi**	**3.86**	**253**	P	**Pn**	**19 49 56.4**	**-1.9**
JIJ	**Ishigaki jima**	**4.08**	**250**	P	**Pn**	**19 50 00.0**	**-1.3**
IRIF	**Iriomote-Funau**	**4.44**	**252**	P	**Pn**	**19 50 05.9**	**-0.4**
JYNG	**Yonagunijimaku**	**5.09**	**256**	P	**Pn**	**19 50 13.9**	**-1.2**
NACB	**Ninganchiao**	**6.35**	**257**	*e*P	**Pn**	**19 50 30.0**	**-2.5**
SSLB	**Suanglung**	**7.02**	**255**	*e*P	**Pn**	**19 50 38.8**	**-3.0**
	10nm,0.5s						
TPUB	**Ta-pu**	**7.46**	**252**	*e*P	**Pn**	**19 50 46.0**	**-1.8**
	11nm,0.4s						
JNU	**Nakatsue**	**7.62**	**16**	Pn	**Pn**	**19 50 51.0**	**+1.1**
	1.0nm,0.3s,baz=195,slow=12,SNR=17						
JNU				Sn	**Sn**	**19 52 14.0**	**-2.7**
	0.4nm,0.3s,baz=31,slow=18,SNR=2.9						
JNU				LR	LR	19 54 13.2	
	comp=Z,291nm,20.2s,baz=296,slow=41						
KSAR	**Wonju Array Be**	**11.61**	**358**	Pn	**Pn**	**19 51 45.4**	**+0.8**
KSRS	**Korea Array**	**11.62**	**358**	Pn	**Pn**	**19 51 45.4**	**+0.7**
	0.1nm,0.3s,baz=175,slow=12,SNR=5.3						
KSRS				LR	LR	19 56 24.5	
	comp=Z,230nm,19.9s,baz=175,slow=38						
DAV	**Davao City (W)**	**18.82**	**189**	LR	LR	20 02 38.8	
	comp=Z,25nm,18.2s,baz=97,slow=44						
KLR	**Kul'dur**	**23.53**	**6**	P	**P**	**19 54 09.1**	**-0.2**
	0.7nm,0.4s,baz=189,slow=5.8,SNR=3.6						
YSS	**Yuzh-Sakhalins**	**24.00**	**25**	*e*P	**P**	**19 54 14.9**	**+1.1**
	11nm,0.6s						
ULN	**Ulaanbaatar**	**27.68**	**328**	*e*P	**P**	**19 54 48.7**	**+1.4**
	2.1nm,0.6s						
SONM	**Songino Array**	**27.97**	**328**	P	**P**	**19 54 51.0**	**+1.1**
	2.9nm,0.6s,baz=138,slow=10,SNR=11						
SONM				LR	LR	20 07 45.1	
	comp=Z,129nm,20.6s,baz=120,slow=40						
CMAR	**Chiang Mai Arr**	**28.17**	**261**	LR	LR	20 07 05.3	
	comp=Z,82nm,18.2s,baz=90,slow=39						
PETK	**Petropavlovsk-**	**35.00**	**31**	P	**P**	**19 55 54.3**	**+2.8**
	1.8nm,0.6s,baz=225,slow=3.3,SNR=6.5						
SEY	**Seymchan**	**40.39**	**17**	P	**P**	**19 56 38.0**	**+1.1**
	1.8nm,0.6s,baz=236,slow=6.3,SNR=6.9						
MKAR	**Makanchi Array**	**41.90**	**312**	P	**P**	**19 56 49.0**	**-0.7**
	3.0nm,0.6s,baz=100,slow=10,SNR=20						
ZALV	**Zalesovo Beam**	**42.65**	**323**	P	**P**	**19 56 54.2**	**-1.4**
	0.8nm,0.5s,baz=110,slow=7.0,SNR=3.0						
KURK	**Kurchatov**	**45.20**	**317**	P	**P**	**19 57 15.3**	**-0.8**
KURBB	**Kurchatov Arra**	**45.24**	**317**	P	**P**	**19 57 15.3**	**-1.1**
	1.1nm,0.5s,baz=104,slow=3.7,SNR=11						
WRA	**Warramunga Arr**	**45.84**	**172**	P	**P**	**19 57 21.9**	**+0.4**
	2.1nm,0.7s,baz=353,slow=8.5,SNR=25						
ASAR	**Alice Springs**	**49.47**	**173**	P	**P**	**19 57 50.4**	**+0.8**
	0.8nm,0.6s,baz=2.9,slow=2.5,SNR=13						
BVAR	**Borovoye Array**	**50.67**	**319**	P	**P**	**19 57 58.6**	**+0.2**
	0.5nm,0.3s,baz=99,slow=9.2,SNR=6.7						
BRVK	**Borovoye**	**50.73**	**319**	*e*P	**P**	**19 57 58.7**	**-0.2**
	22nm,0.8s						
ABKAR	**Akbulak array**	**57.02**	**313**	*e*P	**P**	**19 58 45.5**	**+0.5**
	2.3nm,0.6s						
ILAR	**Eielson Array**	**64.76**	**28**	P	**P**	**19 59 38.2**	**+0.9**
	0.4nm,0.8s,baz=272,slow=7.0,SNR=4.5						
KBZ	**Khabaz**	**69.52**	**310**	P		**20 00 08.7**	**+0.8**
	3.6nm,0.8s,baz=237,slow=8.7,SNR=6.7						
FINES	**FINESS Array B**	**73.29**	**331**	P	**P**	**20 00 30.1**	**-0.3**
	2.2nm,0.5s,baz=74,slow=6.1,SNR=14						
AKASG	**Malin Array Be**	**75.93**	**320**	P	**P**	**20 00 45.6**	**-0.4**
	2.4nm,0.6s,baz=55,slow=6.4,SNR=4.8						
BRTR	**Keskin Array B**	**77.38**	**308**	P	**P**	**20 00 55.0**	**+0.3**
	2.6nm,0.8s,baz=101,slow=5.2,SNR=15						
NB2	**NORSAR Subarra**	**79.74**	**334**	P	**P**	**20 01 06.3**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=53,slow=5.6						
NOA	**NORSAR Array B**	**79.74**	**334**	P	**P**	**20 01 06.4**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=51,slow=5.7,SNR=5.1						
GERES	**GERESS Array B**	**85.61**	**323**	P	**P**	**20 01 38.5**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=58,slow=5.2,SNR=8.5						

THE ***29*** *19:49:19.9, 37.°36N×21.°22E, h1km±1km, ML3.2/6, Error ellipse: s-maj=1.6km s-min=0.4km az=229.0*
ATH ***29*** *19:49:20.2, 37.°37N×21.°24E, h5km±2km, ML3.0/14, Error ellipse: s-maj=2.4km s-min=0.9km az=325.0*
CSEM ***29*** *19:49:20.5±0.3, 37.°39N×21.°23E, h2km, ML3.2, Error ellipse: s-maj=7.2km s-min=3.8km az=41.0*

ISC 29 19:49:20.1±1.1, 37°38N±0.°03×21°22E±0.°02, h4km±10km, n95, σ0s79/121, 3C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKS	**Zakynthos**	**0.47**	**312**	P	**Pb**	**19 49 30.4**	**-0.6**
ZKS	**Zakynthos**	**0.47**	**312**	P	**Pb**	**19 49 30.4**	**-0.6**
ZKS				S	**Sg**	**19 49 35.8**	**+0.5**
ZKS	**Zakynthos**	**0.47**	**312**	P	**Pb**	**19 49 30.6**	**-0.4**
ZKS				S	**Sg**	**19 49 35.8**	**+0.5**
ZKS				AML	AML	19 49 44.4	
	comp=N,8506μm,0.4s						
ZKS				AML	AML	19 49 49.5	
	comp=E,7083μm,0.5s						
VTN	**Vitineika**	**0.54**	**357**	P	**Pb**	**19 49 31.5**	**-0.6**
VTN	**Vitineika**	**0.54**	**357**	P	**Pb**	**19 49 31.9**	**-0.2**
ITM	**Ithomi**	**0.60**	**109**	P	**Pg**	**19 49 31.1**	**-0.4**
ITM				S	**Sg**	**19 49 39.8**	**+0.6**
ITM	**Ithomi**	**0.60**	**109**	P	**Pg**	**19 49 31.1**	**-0.4**
ITM				S	**Sg**	**19 49 39.8**	**+0.6**
ITM	**Ithomi**	**0.60**	**109**	P	**Pg**	**19 49 30.6**	**-0.9**
ITM				AML	AML	19 49 56.0	
	comp=E,2061μm,1.0s						
ITM				AML	AML	19 50 00.7	
	comp=N,2040μm,1.0s						
PYL	**PYLOS**	**0.64**	**139**	P	**Pg**	**19 49 32.0**	**-0.3**
PYL				S	**Sg**	**19 49 40.8**	**+0.2**
PYL	**PYLOS**	**0.64**	**139**	P	**Pg**	**19 49 32.0**	**-0.3**
PYL				S	**Sg**	**19 49 40.8**	**+0.2**
PYL	**PYLOS**	**0.64**	**139**	P	**Pg**	**19 49 31.9**	**-0.4**
PYL				S	**Sg**	**19 49 41.3**	**+0.7**
PYL				AML	AML	19 49 54.3	
	comp=N,1893μm,0.4s						
PYL				AML	AML	19 50 00.2	
	comp=E,2184μm,0.7s						
DRO	**Drossia**	**0.69**	**34**	P	**Pg**	**19 49 33.4**	**+0.1**
DRO				S	**Sb**	**19 49 44.1**	**-0.5**
DRO	**Drossia**	**0.69**	**34**	P	**Pg**	**19 49 33.6**	**+0.3**
DRO				S	**Sg**	**19 49 43.2**	**+0.9**
DRO	**Drossia**	**0.69**	**34**	P	**Pg**	**19 49 33.6**	**+0.3**
DRO				S	**Sg**	**19 49 42.4**	**+0.1**
DRO				AML	AML	19 49 49.4	
	comp=E,3956μm,0.3s						
DRO				AML	AML	19 49 51.0	
	comp=N,5131μm,0.3s						
RLS	**Riolos of Patr**	**0.70**	**16**	P	**Pg**	**19 49 33.6**	**0.0**
RLS	**Riolos of Patr**	**0.70**	**16**	P	**Pg**	**19 49 33.6**	**0.0**
RLS				S	**Sg**	**19 49 43.4**	**+0.7**
RLS	**Riolos of Patr**	**0.70**	**16**	S	**Sg**	**19 49 43.4**	**+0.7**
RLS				AML	AML	19 49 50.7	
	comp=N,1494μm,0.4s						
RLS				AML	AML	19 49 52.7	
	comp=E,991μm,0.4s						
KFL	**Anninata**	**0.81**	**335**	P	**Pg**	**19 49 35.7**	**+0.2**
KFL				S	**Sb**	**19 49 47.4**	**-0.5**
KFL	**Anninata**	**0.81**	**335**	P	**Pg**	**19 49 35.6**	**+0.1**
KFL				S	**Sg**	**19 49 45.8**	**-0.2**
KFL	**Anninata**	**0.81**	**335**	P	**Pg**	**19 49 35.6**	**+0.1**
KFL				S	**Sg**	**19 49 45.8**	**-0.2**
AXS	**Araxos**	**0.82**	**8**	P	**Pg**	**19 49 35.8**	**-0.1**
AXS				S	**Sg**	**19 49 47.8**	**+1.2**
AXS	**Araxos**	**0.82**	**8**	P	**Pg**	**19 49 35.9**	**0.0**
AXS				S	**Sg**	**19 49 47.8**	**+1.2**
AXS	**Araxos**	**0.82**	**8**	P	**Pg**	**19 49 36.6**	**+0.7**
TRIP	**Tripoli**	**0.85**	**80**	P	**Pb**	**19 49 37.0**	**-0.4**
TRIP	**Tripoli**	**0.85**	**80**	P	**Pb**	**19 49 37.0**	**-0.4**
VLX	**Vlachokerasia**	**0.92**	**90**	P	**Pg**	**19 49 37.6**	**-0.1**
VLX				S	**Sb**	**19 49 51.0**	**-0.3**
VLX	**Vlachokerasia**	**0.92**	**90**	P	**Pg**	**19 49 37.6**	**-0.1**
VLX				S	**Sb**	**19 49 51.0**	**-0.3**
VLX	**Vlachokerasia**	**0.92**	**90**	P	**Pb**	**19 49 38.7**	**0.0**
VLS	**Valsamata**	**0.94**	**328**	P	**Pg**	**19 49 37.7**	**-0.4**
VLS				S	**Sb**	**19 49 51.5**	**-0.3**
VLS	**Valsamata**	**0.94**	**328**	P	**Pg**	**19 49 37.7**	**-0.4**
VLS				S	**Sb**	**19 49 51.5**	**-0.3**
KLV	**Kalavryta, Ach**	**0.99**	**48**	P	**Pg**	**19 49 38.7**	**-0.4**
KLV	**Kalavryta, Ach**	**0.99**	**48**	P	**Pg**	**19 49 38.7**	**-0.4**
KLV				S	**Sn**	**19 49 55.6**	**+0.3**
KLV	**Kalavryta, Ach**	**0.99**	**48**	P	**Pg**	**19 49 37.8**	**-1.3**
KLV				AML	AML	19 50 03.8	
	comp=N,916μm,0.5s						
KLV				AML	AML	19 50 04.8	
	comp=E,768μm,0.7s						
LAKA	**Lakka**	**1.05**	**35**	P	**Pg**	**19 49 39.7**	**-0.4**
LAKA	**Lakka**	**1.05**	**35**	P	**Pg**	**19 49 39.7**	**-0.4**
LAKA	**Lakka**	**1.05**	**35**	P	**Pg**	**19 49 38.9**	**-1.2**
LAKA				AML	AML	19 50 12.2	
	comp=N,1409μm,1.2s						
LAKA				AML	AML	19 50 12.5	
	comp=E,1066μm,1.0s						
GUR	**Goura**	**1.05**	**58**	P	**Pg**	**19 49 39.6**	**-0.6**
GUR				S	**Sb**	**19 49 55.5**	**+0.5**
GUR	**Goura**	**1.05**	**58**	P	**Pg**	**19 49 39.6**	**-0.6**
GUR				S	**Sb**	**19 49 55.5**	**+0.5**
GUR	**Goura**	**1.05**	**58**	P	**Pg**	**19 49 39.3**	**-0.8**
GUR				S	**Sn**	**19 49 56.0**	**-0.8**
GUR				AML	AML	19 50 05.6	
	comp=N,2393μm,0.4s						
GUR				AML	AML	19 50 10.7	
	comp=E,1802μm,0.7s						
EFP	**Efpalio**	**1.18**	**27**	P	**Pg**	**19 49 41.6**	**-1.0**
EFP	**Efpalio**	**1.18**	**27**	P	**Pg**	**19 49 41.6**	**-1.0**
TRIZ	**Trizonia**	**1.19**	**34**	P	**Pg**	**19 49 41.4**	**-1.5**
PDO	**Prodromos**	**1.22**	**359**	P	**Pg**	**19 49 42.9**	**-0.5**
PDO				S	**Sn**	**19 50 01.6**	**+0.8**
PDO	**Prodromos**	**1.22**	**359**	P	**Pg**	**19 49 42.9**	**-0.5**
PDO				S	**Sn**	**19 50 01.6**	**+0.8**
PDO	**Prodromos**	**1.22**	**359**	P	**Pg**	**19 49 42.9**	**-0.8**
KALE	**Kalithea**	**1.24**	**35**	P	**Pg**	**19 49 42.5**	**-1.4**
KALE	**Kalithea**	**1.24**	**35**	P	**Pg**	**19 49 42.5**	**-1.4**
KALE				AML	AML	19 50 15.4	
	comp=N,1196μm,0.4s						
KALE				AML	AML	19 50 15.4	
	comp=E,1066μm,0.6s						
PVO	**Paravola**	**1.26**	**11**	P	**Pn**	**19 49 44.6**	**+0.1**
PVO	**Paravola**	**1.26**	**11**	P	**Pn**	**19 49 44.6**	**+0.1**
THAL	**Thalero**	**1.32**	**60**	P	**Pn**	**19 49 44.4**	**-0.8**
THAL	**Thalero**	**1.32**	**60**	P	**Pn**	**19 49 44.4**	**-0.8**
THAL				AML	AML	19 50 15.3	
	comp=E,3020μm,0.7s						
THAL				AML	AML	19 50 22.1	
	comp=N,2524μm,0.9s						
ANX	**Ano Chora**	**1.33**	**24**	P	**Pn**	**19 49 45.2**	**-0.4**
ANX	**Ano Chora**	**1.33**	**24**	P	**Pn**	**19 49 45.2**	**-0.4**
DSF	**Desfina**	**1.46**	**45**	P	**Pn**	**19 49 46.8**	**-0.4**
DSF	**Desfina**	**1.46**	**45**	P	**Pn**	**19 49 46.8**	**-0.4**
LKD2	**Lefkada island**	**1.48**	**343**	P	**Pn**	**19 49 47.3**	**-0.2**
LKD2	**Lefkada island**	**1.48**	**343**	P	**Pn**	**19 49 47.3**	**-0.2**
VLI	**Veliai**	**1.52**	**115**	P	**Pn**	**19 49 47.9**	**-0.2**
VLI	**Veliai**	**1.52**	**115**	P	**Pn**	**19 49 47.9**	**-0.2**
VLI	**Veliai**	**1.52**	**115**	P	**Pn**	**19 49 48.1**	**0.0**
LTK	**Loutraki**	**1.52**	**65**	P	**Pg**	**19 49 50.6**	**+1.3**
LTK	**Loutraki**	**1.52**	**65**	P	**Pg**	**19 49 50.6**	**+1.3**
PROD	**Prodromos**	**1.59**	**56**	P	**Pb**	**19 49 49.9**	**-0.2**
PROD	**Prodromos**	**1.59**	**56**	P	**Pb**	**19 49 49.9**	**-0.2**
PROD				AML	AML	19 50 16.6	
	comp=E,526μm,0.7s						
PROD				AML	AML	19 50 22.6	
	comp=N

STHS	Stebnicka Huta	1.81	116	*e*Pn	Pn	19 49 56.0	+0.7
STHS	Stebnicka Huta	1.81	116	*e*PN	Pn	19 49 56.0	+0.7
STHS				*e*LG	Lg	19 50 28.8	
KHC	Kasperske Hory	3.53	254	*e*SG	Sg	19 51 14.4	-1.7
KHC	Kasperske Hory	3.53	254	Sg	Sg	19 51 14.4	-1.7

IDC ***29*** *19:51:58.9±1.9,36°.59N×141°.28E,h0km,mb3.6/4, mb1 3.7/6,mb1mx3.4/42,mbtmp3.6/6,ML3.6/2,Error ellipse: s-maj=48.1km s-min=20.6km az=72.0*

ISCJB ***29*** *19:52:00.8±1.2,36°.54N±0°.04×141°.07E±0°.06,h9km±6km, mb3.6/4,Error ellipse: s-maj=8.7km s-min=6.4km az=14.6*

NIED ***29*** *19:52:00,36°.60N×140°.90E,h5km,Mw3.5 Best double couple: M₀2.32000×10¹⁴ NP1:φ₀322.00000°,δ53.00000°, λ-150.00000°. NP2:φ₀213.00000°,δ66.00000°, λ-41.00000°.*

JMA ***29*** *19:52:02.7±0.1,36°.55N×140°.95E,h19km±2km,M3.8*

JMA Felt II J1.

ISC 29 19:52:02.4±1.9,36°.59N±0°.04×140°.91E±0°.06,h12km±13km, n19,σ1ᵍ00/20,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.28	275	P	Pb	19 52 09.2	-0.1
JHO				S	Sb	19 52 13.7	-0.3
ONAJ	Iwakimizuishiy	0.52	350	P	Pb	19 52 13.6	+0.1
ONAJ				S	Sb	19 52 21.7	+0.6
JYT	Yasato	0.68	239	P	Pb	19 52 15.8	-0.4
JYT				S	Sb	19 52 25.1	-0.5
JFK	Kawauchi	0.78	358	P	Pg	19 52 17.5	0.0
JFK				S	Sb	19 52 28.5	0.0
JSB	Shiboa	0.88	296	P	Pn	19 52 20.6	-0.1
JSB				S	Sn	19 52 33.6	+0.2
MJAR	Matsushiro Arr	2.18	270	Pn	Pn	19 52 39.6	+1.2
	19nm,0.3s,baz=92,slow=16,SNR=30						
MJAR				Sn	Sb	19 53 08.4	-0.3
	16nm,0.3s,baz=85,slow=28,SNR=4.8						
MAT	Matsushiro	2.18	270	P	Pn	19 52 39.5	+1.0
MAT				S	Sb	19 53 09.4	+0.7
JHJ	Hachijo jima 2	3.58	195	Pn	Pn	19 52 58.4	+0.7
	10nm,0.3s,baz=276,slow=18,SNR=9.2						
JHJ				Sn	Sn	19 53 42.2	+2.3
	12nm,0.3s,baz=65,slow=19,SNR=3.3						
KSRS	Korea Array	10.43	279	Pn	Pn	19 54 37.2	+5.6
	0.2nm,0.3s,baz=93,slow=13,SNR=4.1						
H11N2	WAKE ISLAND Hy	28.27	119	T	T	20 27 22.6	
	baz=312,slow=75,SNR=60						
H11N1	WAKE ISLAND Hy	28.28	119	T	T	20 27 25.7	
	baz=312,slow=75,SNR=35						
H11N3	WAKE ISLAND Hy	28.29	119	T	T	20 27 26.1	
	baz=312,slow=75,SNR=25						
H11S1	WAKE ISLAND Hy	28.96	122	T	T	20 28 21.6	
	baz=314,slow=76,SNR=430						
H11S3	WAKE ISLAND Hy	28.96	122	T	T	20 28 21.8	
	baz=314,slow=76,SNR=208						
H11S2	WAKE ISLAND Hy	28.98	122	T	T	20 28 15.5	
	baz=314,slow=76,SNR=187						
ZALV	Zalesovo Beam	41.92	313	P	P	19 59 52.7	+0.1
	0.3nm,0.4s,baz=93,slow=8.9,SNR=2.3						
KURBB	Kurchatov Arra	45.96	308	P	P	20 00 25.2	+0.1
	1.2nm,0.5s,baz=84,slow=7.8,SNR=3.3						
WRA	Warramunga Arr	56.56	187	P	P	20 01 42.4	-2.4
	0.4nm,0.6s,baz=4.9,slow=7.3,SNR=8.3						
ASAR	Alice Springs	60.29	187	P	P	20 02 10.2	-0.7
	0.2nm,0.6s,baz=8.5,slow=7.8,SNR=3.5						

DDA ***29*** *19:52:36.9,39°.14N×28°.97E,h7km,Md3.1*

ISK ***29*** *19:52:36.8,39°.10N×28°.99E,h5km,ML3.0*

ISCJB ***29*** *19:52:37.2±0.5,39°.12N±0°.02×28°.98E±0°.03,h1km±5km, Error ellipse: s-maj=3.7km s-min=3.4km az=158.1*

CSEM ***29*** *19:52:37.6±0.1,39°.11N×28°.99E,h2km,MD3.1,Error ellipse: s-maj=2.5km s-min=2.3km az=124.0*

ISC 29 19:52:37.4±1.0,39°.13N±0°.02×28°.99E±0°.02,h8km±9km, n74,σ0ᵍ78/92,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.23	249	P	Pg	19 52 41.9	0.0
DEMI				S	Sg	19 52 45.2	+0.2
DEMI	Demirci	0.23	249	*i* P	Pg	19 52 41.9	0.0
DEMI				*i* S	Sg	19 52 45.2	+0.2
GDZ	Gediz	0.39	95	P	Pg	19 52 45.2	+0.2
GDZ				S	Sg	19 52 50.9	+0.7
GDZ	Gediz	0.39	95	*i* P	Pg	19 52 45.2	+0.2
GDZ				*i* S	Sg	19 52 50.9	+0.7
TVSB	Tavsanli	0.49	49	*e*PG	Pg	19 52 47.1	+0.1
TVSB				*e*SG	Sg	19 52 54.1	+0.7
TVSB	Tavsanli	0.49	49	*e*Pg	Pg	19 52 47.1	+0.1
TVSB				*e*Sg	Sg	19 52 54.2	+0.7
KULA	Kula-Manisa	0.66	203	*e*PG	Pg	19 52 49.9	-0.3
KULA				*e*SG	Sg	19 52 58.3	-0.5
KULA	Kula-Manisa	0.66	203	*e*Pg	Pg	19 52 49.9	-0.3
KULA				*e*Sg	Sg	19 52 58.3	-0.5
KHL	Karahalli	0.90	152	*e*PG	Pb	19 52 54.7	-0.7
KHL				*e*SG	Sb	19 53 06.6	-1.1
KHL	Karahalli	0.90	152	*e*Pg	Pb	19 52 54.7	-0.7
KHL				*e*Sg	Sb	19 53 06.6	-1.1
AKS	Akhisar	0.95	255	*e*PG	Pb	19 52 55.5	-0.6
AKS				*e*SG	Sb	19 53 09.3	+0.5
AKS	Akhisar	0.95	255	*e*Pg	Pb	19 52 55.5	-0.6
AKS				*e*Sg	Sb	19 53 09.3	+0.5
BALB	Balikesir	1.00	301	*e*PG	Pb	19 52 56.9	-0.1
BALB				*e*SG	Sb	19 53 10.7	+0.4
BALB	Balikesir	1.00	301	*e*Pg	Pb	19 52 56.9	-0.1
BALB				*e*Sg	Sb	19 53 10.7	+0.4
IGD	Bursa	1.15	8	*i* P	Pg	19 52 58.4	-1.1
IGD				*i* S	Sg	19 53 14.7	+0.2
KCTX	Karacabey (Bur	1.24	337	*e*PN	Pg	19 53 00.8	-0.4
KCTX	Karacabey (Bur	1.24	337	*e*Pn	Pg	19 53 00.8	-0.4
MDNY	Mudanya-Bursa	1.25	356	*e*PN	Pg	19 53 00.9	-0.4
MDNY	Mudanya-Bursa	1.25	356	*e*Pn	Pg	19 53 00.9	-0.4
CAVI	Cavuskoy	1.26	31	*e*PN	Pg	19 53 01.1	-0.5
CAVI	Cavuskoy	1.26	31	*e*Pn	Pg	19 53 01.1	-0.5
IZI	Iznik	1.27	17	*e*PN	Pg	19 53 01.1	-0.7
IZI	Iznik	1.27	17	*e*Pn	Pg	19 53 01.1	-0.7
ADVT	Abdulvahap	1.43	24	*e*PN	Pg	19 53 04.8	0.0
ADVT	Abdulvahap	1.43	24	*e*Pn	Pg	19 53 04.8	0.0
DNZL	Cakiroluk	1.43	178	P	Pg	19 53 04.3	-0.6
DNZL				S	Sn	19 53 23.5	+0.4
DNZL	Cakiroluk	1.43	178	*i* P	Pg	19 53 04.3	-0.6
DNZL				*i* S	Sn	19 53 23.5	+0.4
ARMT	Armutlu	1.44	356	*e*PN	Pg	19 53 05.1	0.0
ARMT	Armutlu	1.44	356	*e*Pn	Pg	19 53 05.1	0.0
AYDB	Zeytinkoy-Aydi	1.46	216	*e*PN	Pb	19 53 04.3	-0.6
AYDB	Zeytinkoy-Aydi	1.46	216	*e*Pn	Pb	19 53 04.3	-0.6
EDC	Edincik	1.50	325	*e*PN	Pg	19 53 05.7	-0.4
EDC	Edincik	1.50	325	*e*Pn	Pg	19 53 05.7	-0.4
ESKT	Eskisehir	1.50	74	*e*PN	Pg	19 53 06.1	-0.1
ESKT	Eskisehir	1.50	74	*e*Pn	Pg	19 53 06.1	-0.1
IZM	Izmir	1.53	242	*e*PN	Pb	19 53 05.7	-0.4
IZM	Izmir	1.53	242	*e*Pn	Pb	19 53 05.7	-0.4
KNL	Bal¯–kesir	1.60	316	*i* P	Pn	19 53 04.5	-1.6
KNL				*i* S	Sg	19 53 28.5	-0.5
DKL	Dikili	1.62	269	*e*PN	Pb	19 53 07.3	-0.2
DKL	Dikili	1.62	269	*e*Pn	Pb	19 53 07.3	-0.2
GULT	Gulveren	1.76	42	*e*PN	Pb	19 53 09.8	-0.2
GULT	Gulveren	1.76	42	*e*Pn	Pb	19 53 09.8	-0.2
HRT	Hereke	1.77	17	*e*PN	Pb	19 53 09.8	-0.4
HRT	Hereke	1.77	17	*e*Pn	Pb	19 53 09.8	-0.4
KRBG	Karabiga-Canak	1.82	315	*e*PN	Pb	19 53 10.5	-0.4
KRBG	Karabiga-Canak	1.82	315	*e*Pn	Pb	19 53 10.5	-0.4
MRMT	Marmara Adasi	1.82	325	*e*PN	Pb	19 53 10.5	-0.6
MRMT	Marmara Adasi	1.82	325	*e*Pn	Pb	19 53 10.5	-0.6
ISK	Istanbul-Kandi	1.94	2	*e*PN	Pb	19 53 12.4	-0.6
ISK	Istanbul-Kandi	1.94	2	*e*Pn	Pb	19 53 12.4	-0.6
SVRH	Sivrihisar-ESK	2.00	80	*e*PN	Pn	19 53 12.1	+0.5
SVRH	Sivrihisar-ESK	2.00	80	*e*Pn	Pn	19 53 12.1	+0.5
BGKT	Bogazkoy	2.06	356	*e*PN	Pb	19 53 13.9	-1.2
BGKT	Bogazkoy	2.06	356	*e*Pn	Pb	19 53 13.9	-1.2
YER	Yerkesik	2.06	196	*e*PN	Pn	19 53 13.2	+0.7
YER	Yerkesik	2.06	196	*e*Pn	Pn	19 53 13.2	+0.7
SILT	Sile	2.09	14	*e*PN	Pb	19 53 14.3	-1.3
SILT	Sile	2.09	14	*e*Pn	Pb	19 53 14.3	-1.3
RKY	Sarkoy-Tekirda	2.09	319	*e*PN	Pb	19 53 14.3	-1.4
RKY	Sarkoy-Tekirda	2.09	319	*e*Pn	Pb	19 53 14.3	-1.4
LPK	Lapseki	2.12	307	*e*PN	Pb	19 53 14.8	-1.3
LPK	Lapseki	2.12	307	*e*Pn	Pb	19 53 14.8	-1.3
KLYT	Kilyos	2.13	1	*e*PN	Pb	19 53 14.9	-1.3
KLYT	Kilyos	2.13	1	*e*Pn	Pb	19 53 14.9	-1.3
CTKS	Kestanelik-??a	2.14	350	*e*PN	Pn	19 53 14.4	+0.9
CTKS	Kestanelik-??a	2.14	350	*e*Pn	Pn	19 53 14.4	+0.9
MDUB	Mudurnu	2.17	51	*e*PN	Pb	19 53 15.6	-1.4
MDUB	Mudurnu	2.17	51	*e*Pn	Pb	19 53 15.6	-1.4
KIZT	Kizilcal	2.27	95	*e*PN	Pn	19 53 16.2	+0.9
KIZT	Kizilcal	2.27	95	*e*Pn	Pn	19 53 16.2	+0.9
GELI	Tayfur-Gelibol	2.32	304	*e*PN	Pn	19 53 17.5	+1.6
GELI	Tayfur-Gelibol	2.32	304	*e*Pn	Pn	19 53 17.5	+1.6
ERIK	Erikli-Kesan	2.45	310	*e*PN	Pn	19 53 19.1	+1.4
ERIK	Erikli-Kesan	2.45	310	*e*Pn	Pn	19 53 19.1	+1.4

NIED ***29*** *20:09:00,37°.10N×142°.40E,h17km,Mw4.5 Best double couple: M₀5.53000×10¹⁵ NP1:φ₀270.00000°,δ49.00000°, λ-133.00000°. NP2:φ₀145.00000°,δ57.00000°, λ-52.00000°.*

ISCJB ***29*** *20:09:43.5±1.0,37°.09N±0°.03×142°.46E±0°.03,h7km±6km, mb4.3/46,MS3.8/10,Error ellipse: s-maj=5.1km s-min=4.6km az=156.1*

BJI ***29*** *20:09:44.8,36°.79N×142°.65E,h30km,mb4.5/20,mB4.8/12, Ms4.2/11,Ms7 4.1/10*

IDC ***29*** *20:09:44.4±0.5,37°.05N×142°.34E,h0km,mb4.2/29, mb1 4.3/35,mb1mx4.2/59,mbtmp4.2/35,ML3.6/5,MS3.7/14, Ms1 3.8/14,ms1mx3.5/43,Error ellipse: s-maj=14.8km s-min=11.7km az=95.0*

JMA ***29*** *20:09:45.3±0.3,37°.06N×142°.37E,h22km±5km,M4.4*

JMA Felt I J1.

NEIC ***29*** *20:09:46.4±2.4,37°.06N×142°.43E,h14km±15km,mb4.7/11, Error ellipse: s-maj=8.0km s-min=5.1km az=115.0*

NEIC Recorded [1 JMA] in Fukushima and Miyagi.

MOS ***29*** *20:09:47.4±1.0,37°.21N×142°.44E,h32km,mb4.7/20,Error ellipse: s-maj=8.8km s-min=5.9km az=104.1*

ISC 29 20:09:47.0±0.8,37°.06N±0°.05×142°.46E±0°.05,h19km±2km, n130,σ1ᵍ50/131,mb4.4/46,MS3.8/10,8C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.30	284	P	Pn	20 10 07.3	-3.0
ONAJ	Iwakimizuishiy	1.33	272	P	Pn	20 10 07.4	-3.3
JMM	Marumori	1.55	302	P	Pn	20 10 11.1	-2.5
JMM				*e*S	Sn	20 10 29.5	-3.8
JIO	Ouri	1.65	328	P	Pn	20 10 12.8	-2.2
JFT	Otama	1.76	286	P	Pn	20 10 14.8	-1.7
JFT				*e*S	Sn	20 10 35.2	-3.1
JOU	Okura	1.93	313	P	Pn	20 10 17.9	-1.0
JOU				*e*S	Sn	20 10 41.0	-1.7
JMK	Ichinoseki	2.13	333	P	Pn	20 10 20.8	-0.8
JMK				*e*S	Sn	20 10 46.6	-0.9
JFY	Yanaizu	2.23	280	P	Pn	20 10 22.0	-1.0
JFY				*e*S	Sn	20 10 48.5	-1.5
JYS	Shirataka	2.23	302	P	Pn	20 10 22.2	-0.7
JYS				*e*S	Sn	20 10 48.2	-1.8
JYK	Kaneyama	2.49	319	P	Pn	20 10 25.6	-1.0
JYK				*e*S	Sn	20 10 56.1	-0.3
JAG	Ashikaga	2.50	256	P	Pn	20 10 24.7	-2.0
JOM	Ohasama	2.58	339	P	Pn	20 10 27.1	-0.7
JNS	Sasagawa	2.62	288	P	Pn	20 10 28.4	+0.1
MJAR	Matsushiro Arr	3.45	263	Pn	Pn	20 10 39.2	-0.6
	43nm,0.3s,baz=88,slow=16,SNR=17.8						
MJAR				Sn	Sn	20 11 21.6	+1.4
	17nm,0.3s,baz=87,slow=29,SNR=6.9						
MJAR				LR	LR	20 12 05.4	
	comp=Z,1μm,19.6s,baz=75,slow=42						
MAJO	Matsushiro	3.45	263	⇓ *i* P	Pn	20 10 40.8	+1.0
MAJO	Matsushiro	3.45	263	*e*Pn	Pn	20 10 39.4	-0.4
MAT	Matsushiro	3.45	263	P	Pn	20 10 39.7	-0.1
MAT				S	Sn	20 11 20.7	+0.5
JHJ2	Mitsune	4.50	210	*e*Pn	Pn	20 10 52.9	-1.2
JHJ	Hachijo jima 2	4.50	210	Pn	Pn	20 10 53.1	-1.1
	66nm,0.3s,baz=306,slow=23,SNR=55						
JHJ				Sn	Sn	20 11 42.3	-3.8
	161nm,0.3s,baz=83,slow=22,SNR=12						
JHJ				LR	LR	20 13 03.5	
	comp=Z,959nm,18.1s,baz=56,slow=45						
ERM	Erimo	4.98	6	*e*P	Pn	20 10 59.5	-1.2
ERM	Erimo	4.98	6	*e*Pn	Pn	20 10 59.5	-1.2
ASAJ	Asahikawa	7.05	1	Pn	Pn	20 11 28.7	-0.5
	baz=270,slow=20						
YUK	Yuzh-Kuril'sk	7.43	19	*i* P	Pn	20 11 32.6	-1.8
KUR	Kuril'sk	9.12	25	*e*P	Pn	20 11 56.1	-1.5
KUR				*i* S	Sn	20 13 33.8	-5.9
KUR				pmax	pmax		
	comp=N,8.0nm,0.6s						
KUR				pmax	pmax		
	comp=E,9.0nm,0.6s						
KUR				pmax	pmax		
	comp=Z,15nm,0.6s						
KUR				smax	smax		
	comp=N,249nm,3.0s						
KUR				smax	smax		
	comp=E,273nm,3.0s						
KUR				smax	smax		
	comp=N,82nm,0.7s						
KUR				smax	smax		
	comp=E,49nm,0.6s						
YSS	Yuzh-Sakhalins	9.89	1⇑	*e*P	Pn	20 12 08.2	+0.1
YSS				*e*S	Sn	20 13 59.6	+1.1
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YSS				MLR	MLR		
	comp=N,300nm,17.0s						
VLA	Vladivostok	10.11	310	⇑ *i* P	Pn	20 12 15.3	+4.2
VLA				pmax	pmax		
	comp=Z,44nm,1.2s						
JNU	Nakatsue	10.27	251	Pn	Pn	20 12 14.4	+1.0
	comp=Z,1.3nm,0.3s,baz=56,slow=5.4,SNR=34						
USRK	Ussuriysk Ar.	10.68	315	Pn	Pn	20 12 19.2	+0.3
	comp=Z,0.8nm,0.3s,baz=124,slow=14,SNR=14						
USRK				LR	LR	20 16 08.6	
	comp=Z,663nm,19.0s,baz=122,slow=36						
KSRS	Korea Array	11.60	276	Pn	Pn	20 12 33.5	+2.0
	comp=Z,0.2nm,0.3s,baz=90,slow=13,SNR=12						
KSRS				LR	LR	20 16 57.6	
	comp=Z,589nm,18.4s,baz=86,slow=38						
KSAR	Wonju Array Be	11.63	276	P	Pn	20 12 33.5	+1.6
KSAR	Wonju Array Be	11.63	276	Pn	Pn	20 12 33.5	+1.6
TJN	Taejon	12.14	271	*c i* P	Pn	20 12 41.6	+2.7
MDJ	Mudanjiang	12.32	312	P	P	20 12 55.3	+1.9
MDJ				pmax	pmax		
	comp=Z,12nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,86nm,4.8s						
MDJ	Mudanjiang	12.32	312	Pn	Pn	20 12 43.2	+1.9
HABR	Khabarovsk	12.63	337	*e*P	Pn	20 12 43.9	-1.7
HABR				pmax	pmax		
	comp=E,12nm,2.0s						
HABR				pmax	pmax		
	comp=Z,21nm,2.0s						
HABR				pmax	pmax		
	comp=N,24nm,2.0s						
HABR				MLR	MLR		
	comp=Z,425nm,16.0s						
KLR	Kul'dur	14.44	331	Pn	Pn	20 13 08.2	-2.1
	comp=Z,0.1nm,0.3s,baz=126,slow=11,SNR=5.4						
KLR				LR	LR	20 18 49.4	
	comp=Z,548nm,18.3s,baz=143,slow=38						
KLR	Kul'dur	14.44	331	⇓ *i* P	Pn	20 13 09.7	-0.6
PETK	Petropavlovsk-	19.25	29	P	P	20 14 10.6	+0.4
	comp=Z,0.2nm,0.3s,baz=200,slow=10,SNR=3.3						
PETK				LR	LR	20 22 53.9	
	comp=Z,52nm,18.1s,baz=226,slow=41						
HIA	Hailar	20.49	314	P	P	20 14 22.7	-1.0
GUMO	Guam	23.47	174	LR	LR	20 24 15.4	
	comp=Z,43nm,20.9s,baz=8.5,slow=37						
YAK	Yakutsk	26.23	346	P	P	20 15 20.5	0.0
	comp=Z,16nm,0.7s,baz=56,slow=1.8,SNR=9.1						
YAK	Yakutsk	26.23	346	*e*P	P	20 15 19.3	-1.2
YAK				*e**PP	sP	20 15 28.0	-0.6
YAK				*e*		20 15 58.5	
YAK				*e*PPP	PPP	20 16 10.9	
YAK				*e*		20 18 45.3	
YAK				*e*S	S	20 19 52.0	+0.4
YAK				*e*SS	SnSn	20 20 55.5	+4.3
YAK				*e*SSS	SSS	20 21 10.6	
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK				pmax	pmax		
	comp=Z,49nm,3.1s						
YAK				pmax	pmax		
	comp=N,64nm,3.5s						
YAK				pmax	pmax		
	comp=E,32nm,3.5s						
YAK				smax	smax		
	comp=N,33nm,3.3s						
YAK				smax	smax		
	comp=E,34nm,3.7s						
YAK				MLR	MLR		
	comp=Z,355nm,16.0s						
YAK				MLR	MLR		
	comp=N,239nm,14.0s						
YAK				MLR	MLR		
	comp=E,152nm,16.0s						
YAK	Yakutsk	26.23	346	*e*P	P	20 15 20.2	-0.3
	comp=E,14nm,0.6s						
SEY	Seymchan	26.61	10	P	P	20 15 25.4	+1.5
	comp=E,5.8nm,0.9s,baz=182,slow=7.7,SNR=12						
SEY	Seymchan	26.61	10	*c i* P	P	20 15 24.9	+1.0
H11N2	WAKE ISLAND Hy	27.45	122	T	T	20 44 32.9	
	baz=314,slow=75,SNR=201						
H11N1	WAKE ISLAND Hy	27.45	122	T	T	20 44 30.2	
	baz=314,slow=75,SNR=200						
H11N3	WAKE ISLAND Hy	27.46	122	T	T	20 44 25.5	
	baz=314,slow=75,SNR=227						
BOD	Bodaibo	27.96	327	*e*P	P	20 15 32.1	-4.0
BOD				pmax	pmax		
	comp=Z,9.0nm,1.9s						
ULN	Ulaanbaatar	28.04	304	P	P	20 15 37.7	+0.6
ENH	Enshi	28.17	266	*e*P	P	20 15 37.4	-0.9
	comp=Z,12nm,0.6s						
H11S1	WAKE ISLAND Hy	28.18	124	T	T	20 45 25.8	
	baz=316,slow=76,SNR=140						
H11S3	WAKE ISLAND Hy	28.18	124	T	T	20 45 23.0	
	baz=316,slow=76,SNR=171						
H11S2	WAKE ISLAND Hy	28.19	124	T	T	20 45 24.2	
	baz=316,slow=76,SNR=200						
SONM	Songino Array	28.47	304	P	P	20 15 40.5	-0.4
	comp=Z,3.5nm,0.8s,baz=94,slow=8.9,SNR=17						
TLY	Talaya	30.95	311	*e*P	P	20 16 02.0	-0.7
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TLY				MLR	MLR		
	comp=Z,204nm,13.0s						
DAV	Davao City (W)	33.58	211	LR	LR	20 30 27.8	
	comp=Z,96nm,18.6s,baz=30,slow=37						
KMI	Kunming	35.80	262	P	P	20 16 45.8	+0.4
KMI				pP	sP	20 16 53.5	-0.1
KMI				sP	pP	20 16 56.8	+5.6
KMI				PMZ			
	comp=Z,7.0nm,0.9s						
KMI				PMZ			
	comp=Z,100nm,5.0s						
KMI				LN			
	comp=Z,160nm,17.4s						
KMI				LE			
	comp=Z,200nm,18.7s						
KMI				LZ			
	comp=Z,180nm,16.2s						
CMAR	Chiang Mai Arr	42.32	256	P	P	20 17 39.4	-0.4
	comp=Z,0.3nm,0.3s,baz=42,slow=7.3,SNR=3.3						
CMAR				LR	LR	20 37 38.4	
	comp=Z,124nm,18.7s,baz=45,slow=40						
ZALV	Zalesovo Beam	42.52	312	P	P	20 17 40.9	-0.1
	comp=Z,3.0nm,0.6s,baz=94,slow=7.0,SNR=18						
ZALV				PcP	PcP	20 19 33.5	+0.2
	comp=Z,1.3nm,0.6s,baz=121,slow=3.4,SNR=4.1						
LSA	Lhasa	43.04	276	*e*P	P	20 17 47.1	+0.9
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LSA	Lhasa	43.04	276	*e*P	P	20 17 47.1	+0.9
	comp=Z,6.0nm,0.9s						
NVS	Novosibirsk	43.43	314	⇓ *i* P	P	20 17 43.2	-5.2
NVS				pmax	pmax		
	comp=Z,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
NRIK	Noril'sk	43.60	335	P	P	20 17 47.6	-1.9
	comp=E,2.4nm,0.5s,baz=137,slow=8.2,SNR=3.7						
MKAR	Makanchi Array	44.81	302	P	P	20 17 59.1	-0.5
	comp=E,2.0nm,0.7s,baz=87,slow=9.8,SNR=23						
KURK	Kurchatov	46.58	308	*e*P	P	20 18 12.6	-0.8
KURK				pmax	pmax		
	comp=Z,89nm,0.8s						
KURK	Kurchatov	46.58	308	*e*P	P	20 18 12.6	-0.8
	comp=Z,89nm,0.8s						
KURBB	Kurchatov Arra	46.65	308	P	P	20 18 13.4	-0.6
	comp=Z,3.6nm,0.6s,baz=84,slow=8.7,SNR=52						
ILAR	Eielson Array	49.02	32	P	P	20 18 33.1	+0.8
	comp=Z,3.1nm,0.7s,baz=263,slow=6.4,SNR=39						
HNR	Honiara	49.07	157	LR	LR	20 38 00.6	
	comp=Z,69nm,18.9s,baz=276,slow=34						
DOT	Dot Lake	50.32	34	*e*P	P	20 18 42.3	+0.1
	comp=Z,6.4nm,0.6s						
TKM2	Tokmak 2	50.35	299	*e*P	P	20 18 42.7	-0.3
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TKM2	Tokmak 2	50.35	299	*e*P	P	20 18 42.7	-0.3
	comp=Z,5.5nm,0.5s						
KSH	Kashi	51.16	294	*e*P	P	20 18 57.8	+8.8
KSH				PP	PP	20 20 55.5	+10
KSH				S	S	20 26 05.5	-0.8
KSH				ScS	ScS	20 28 35.0	-3.8
KSH				PMZ			
	comp=Z,3.0nm,0.3s						
KSH				PMZ			
	comp=Z,170nm,6.0s						
KSH				LN			
	comp=Z,140nm,7.8s						
KSH				LE			
	comp=Z,130nm,11.0s						
KSH				LZ			
	comp=Z,280nm,13.1s						
BVAR	Borovoye Array	51.17	312	P	P	20 18 48.3	-0.5
	comp=Z,0.9nm,0.5s,baz=66,slow=8.8,SNR=8.2						
BVAR				PcP	PcP	20 20 04.8	+0.8
	comp=Z,0.9nm,0.6s

ARCES	**ARCESS Array B**	**64.27**	**340**	P		**P**	**20 20 20.8**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=22,slow=7.0,SNR=4.4							
ARCES				LR		LR	20 52 15.5	
	comp=Z,47nm,18.7s,baz=38,slow=40							
ARCES	**ARCESS Array B**	**64.27**	**340**	*e*P		**P**	**20 20 19.7**	**-0.8**
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
GEYT	**Allbeck**	**64.56**	**299**	P		**P**	**20 20 22.7**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=4.3,slow=5.8,SNR=2.9							
VRH	**Novokhopyorsk**	**68.12**	**318**	*e*P		**P**	**20 20 44.8**	**-0.7**
VRH				pmax		pmax		
	comp=Z,6.0nm,1.0s							
STKA	**Stephens Creek**	**68.58**	**181**	P		**P**	**20 20 49.0**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=355,slow=6.8,SNR=7.6							
STKA	**Stephens Creek**	**68.58**	**181**	P		**P**	**20 20 49.0**	**+0.5**
FINES	**FINESS Array B**	**69.18**	**333**	P		**P**	**20 20 52.1**	**+0.2**
	comp=Z,5.7nm,0.7s,baz=46,slow=8.2,SNR=27							
VSR	**Storozhevoye**	**69.46**	**319**	*e*P		**P**	**20 20 53.7**	**-0.1**
VSR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KBZ	**Khabaz**	**71.52**	**311**	P		**P**	**20 21 07.0**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=64,slow=7.5,SNR=5.7							
KIV	**Kislovodsk**	**71.52**	**311**	*e*P		**P**	**20 21 07.3**	**+0.6**
KIV				pmax		pmax		
	comp=Z,13nm,1.1s							
KIV	**Kislovodsk**	**71.52**	**311**	*e*P		**P**	**20 21 07.8**	**+1.1**
	comp=Z,17nm,1.1s							
NB2	**NORSAR Subarra**	**74.48**	**338**	P		**P**	**20 21 24.0**	**+0.1**
	comp=Z,12nm,1.4s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**74.48**	**338**	P		**P**	**20 21 24.0**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=39,slow=5.8,SNR=4.9							
NOA	**NORSAR Array B**	**74.48**	**338**	P		**P**	**20 21 24.0**	**+0.1**
AKASG	**Malin Array Be**	**74.79**	**323**	P		**P**	**20 21 25.8**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=46,slow=6.2,SNR=9.1							
AKASG				LR		LR	20 58 55.2	
	comp=Z,49nm,18.8s,baz=30,slow=40							
KIEV	**Kiev**	**74.80**	**323**	*i*P		**P**	**20 21 26.3**	**+0.5**
KIEV				*i* *PP		**sP**	**20 21 34.1**	**-0.1**
KIEV				pmax		pmax		
	comp=Z,2.0nm,0.8s							
PDAR	**Pinedale Array**	**77.05**	**46**	P		**P**	**20 21 40.1**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=268,slow=2.8,SNR=12							
KOLS	**Kolonicke sedl**	**79.29**	**325**	*e*P		P	20 22 00.4	+9.3
KOLS	**Kolonicke sedl**	**79.29**	**325**	*e*		P	20 22 00.4	+9.3
STHS	**Stebnicka Huta**	**79.42**	**325**	*e*P		P	20 22 02.6	+11
STHS	**Stebnicka Huta**	**79.42**	**325**	*e*		P	20 22 02.6	+11
BRTR	**Keskin Array B**	**79.46**	**312**	P		**P**	**20 21 53.0**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=210,slow=7.1,SNR=3.6							
DPC	**Dobruska-Polom**	**80.88**	**328**	*e*P		P	20 22 09.6	+10
DPC	**Dobruska-Polom**	**80.88**	**328**	*e*P		P	20 22 09.6	+10
VYHS	**Vyhne**	**81.18**	**326**	*e*P		P	20 22 11.7	+10
VYHS	**Vyhne**	**81.18**	**326**	*e*		P	20 22 11.7	+10
KHC	**Kasperske Hory**	**82.96**	**329**	*e*P		P	20 22 20.3	+10
GERES	**GERESS Array B**	**83.13**	**329**	P		**P**	**20 22 11.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=46,slow=5.6,SNR=4.2							
GERES				LR		LR	21 02 02.9	
	comp=Z,101nm,19.1s,baz=16,slow=38							
ANMO	**Albuquerque**	**83.93**	**50**	*i*P		**P**	**20 22 18.4**	**+2.3**
ANMO				pmax		pmax		
	comp=Z,4.0nm,1.0s							
TXAR	**Lajitas Array**	**89.44**	**53**	P		**P**	**20 22 44.3**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=306,slow=3.8,SNR=13							
TORD	**Torodi Ar. Bea**	**117.90**	**316**	PKP		**PKPdf**	**20 28 32.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=358,slow=3.9,SNR=2.7							
QSPA	**South Pole Qui**	**126.80**	**180**	*e*P		**PKPdf**	**20 28 48.0**	**-0.4**
LPAZ	**La Paz**	**145.95**	**61**	PKPbc		**PKPab**	**20 29 26.9**	**-0.1**
	comp=Z,4.1nm,0.5s,baz=325,slow=4.0,SNR=19							
LPAZ	**La Paz**	**145.95**	**61**	PKP2		**PKPab**	**20 29 27.0**	**-0.1**

*ISCJB **29** 20:11:46.7±0.5, 38.99N±0.03×35.83E±0.03, h3km±7km, Error ellipse: s-maj=5.6km s-min=4.0km az=31.6*
*CSEM **29** 20:11:46.6±0.2, 39.00N×35.84E, h2km, MD2.7, Error ellipse: s-maj=4.7km s-min=3.1km az=38.0*
*ISK **29** 20:11:46.0, 39.00N×35.89E, h5km, MD2.7*
*DDA **29** 20:11:46.3, 39.02N×35.83E, h7km, Md2.6*

ISC 29 20:11:46.5±1.0, 39.01N±0.03×35.83E±0.02, h7km±10km, n22, σ0ˢ74/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.16**	**176**	*e*PG	**Pg**	**20 11 49.8**	**0.0**
BNN				*e*SG	**Sg**	**20 11 52.3**	**+0.1**
BNN	**Bunyan**	**0.16**	**176**	*e*Pg	**Pg**	**20 11 49.8**	**0.0**
BNN				*e*Sg	**Sg**	**20 11 52.3**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**0.52**	**38**	P	**Pg**	**20 11 55.9**	**-0.6**
CUSAR				S	**Sb**	**20 12 06.1**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**0.52**	**38**	*i* P	**Pg**	**20 11 55.9**	**-0.6**
CUSAR				*i* S	**Sb**	**20 12 06.1**	**+0.3**
PINB	**Pinarbasi**	**0.56**	**127**	P	**Pg**	**20 11 57.2**	**-0.1**
PINB				S	**Sg**	**20 12 05.0**	**+0.3**
PINB	**Pinarbasi**	**0.56**	**127**	*i* P	**Pg**	**20 11 57.2**	**-0.1**
PINB				*i* S	**Sg**	**20 12 05.0**	**+0.3**
YOZ	**Yozgat**	**0.74**	**328**	*e*PG	**Pg**	**20 12 00.8**	**0.0**
YOZ				*e*SG	**Sb**	**20 12 12.9**	**+0.7**
YOZ	**Yozgat**	**0.74**	**328**	*e*Pg	**Pg**	**20 12 00.8**	**0.0**
YOZ				*e*Sg	**Sg**	**20 12 12.9**	**+0.7**
SARI	**SarD1z-Kayseri**	**0.76**	**143**	*e*PG	**Pg**	**20 12 00.5**	**-0.6**
SARI				*e*SG	**Sg**	**20 12 10.6**	**-0.4**
SARI	**SarD1z-Kayseri**	**0.76**	**143**	*e*Pg	**Pg**	**20 12 00.5**	**-0.6**
SARI				*e*Sg	**Sg**	**20 12 10.6**	**-0.4**
AVNS	**Nevsehir-Avano**	**0.80**	**255**	S	**Sg**	**20 12 12.9**	**+0.8**
AVNS	**Nevsehir-Avano**	**0.80**	**255**	*i* P	**Pb**	**20 12 02.7**	**0.0**
AVNS				*i* S	**Sg**	**20 12 12.9**	**+0.8**
CDAG	**Cicekdag**	**1.29**	**299**	P	**Pg**	**20 12 10.6**	**-0.6**
CDAG				S	**Sn**	**20 12 28.7**	**+0.2**
CDAG	**Cicekdag**	**1.29**	**299**	*i* P	**Pg**	**20 12 10.6**	**-0.6**
CDAG				*i* S	**Sn**	**20 12 28.7**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.31**	**76**	P	**Pb**	**20 12 11.7**	**+0.2**
CUKAN				S	**Sn**	**20 12 29.8**	**+0.7**
CUKAN	**kangal_SIVAS**	**1.31**	**76**	*i* P	**Pb**	**20 12 11.7**	**+0.2**
CUKAN				*i* S	**Sn**	**20 12 29.8**	**+0.7**
DARE	**Darende-Malaty**	**1.36**	**108**	*e*PN	**Pg**	**20 12 12.5**	**-0.2**
DARE	**Darende-Malaty**	**1.36**	**108**	*e*Pn	**Pg**	**20 12 12.5**	**-0.2**
COAL	**Corum-Alaca**	**1.40**	**333**	P	**Pb**	**20 12 13.2**	**+0.2**
COAL				S	**Sb**	**20 12 28.7**	**-2.5**
COAL	**Corum-Alaca**	**1.40**	**333**	*i* P	**Pb**	**20 12 13.2**	**+0.2**
COAL				*i* S	**Sb**	**20 12 28.7**	**-2.5**
CORM	**Corum**	**1.49**	**322**	*e*PN	**Pg**	**20 12 15.4**	**+0.4**
CORM	**Corum**	**1.49**	**322**	*e*Pn	**Pg**	**20 12 15.4**	**+0.4**

JMA 29 20:25:39.0, 34.08N×135.33E, h8km, M0.6, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWM	**Minabe**	**0.23**	**175**	P	Pg	20 25 43.7	+0.1
JWM				S	Sg	20 25 46.9	+0.1
JWY	**Kouya**	**0.26**	**58**	P	Pg	20 25 44.3	+0.1
JWY				S	Sg	20 25 48.1	+0.4

*DDA **29** 20:25:52.3, 39.86N×29.47E, h7km, Md2.6*
*ISK **29** 20:25:52.8, 39.82N×29.59E, h5km, MD2.7*
*CSEM **29** 20:25:53.7±0.1, 39.82N±29.57E, h2km, MD2.7, Error ellipse: s-maj=3.3km s-min=2.9km az=78.0*

ISC 29 20:25:53.1±1.1, 39.82N±0.02×29.55E±0.03, h6km±12km, n25, σ0ˢ57/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.38**	**191**	*e*PG	**Pg**	**20 26 00.5**	**+0.1**
TVSB				*e*SG	**Sg**	**20 26 06.4**	**+1.0**
TVSB	**Tavsanli**	**0.38**	**191**	*e*Pg	**Pg**	**20 26 00.5**	**+0.1**
TVSB				*e*Sg	**Sg**	**20 26 06.4**	**+1.0**
IGD	**Bursa**	**0.52**	**329**	*i* P	**Pg**	**20 26 01.4**	**-1.7**
IGD				*i* S	**Sg**	**20 26 08.4**	**-1.4**
IZI	**Iznik**	**0.52**	**353**	*e*PG	**Pg**	**20 26 03.1**	**+0.1**
IZI				*e*SG	**Sg**	**20 26 10.6**	**+0.7**
IZI	**Iznik**	**0.52**	**353**	*e*Pg	**Pg**	**20 26 03.2**	**+0.1**
IZI				*e*Sg	**Sg**	**20 26 10.6**	**+0.7**
BORA	**Eskisehir**	**0.70**	**85**	P	**Pg**	**20 26 05.9**	**-0.6**
BORA				S	**Sb**	**20 26 18.2**	**+0.7**
BORA	**Eskisehir**	**0.70**	**85**	*i* P	**Pg**	**20 26 05.9**	**-0.6**
BORA				*i* S	**Sb**	**20 26 18.2**	**+0.7**
GDZ	**Gediz**	**0.73**	**184**	P	**Pb**	**20 26 08.1**	**-0.2**
GDZ				S	**Sb**	**20 26 18.0**	**-0.6**
GDZ	**Gediz**	**0.73**	**184**	*i* P	**Pb**	**20 26 08.1**	**-0.2**
GDZ				*i* S	**Sb**	**20 26 18.0**	**-0.6**
ARMT	**Armutlu**	**0.91**	**325**	*e*PG	**Pb**	**20 26 11.3**	**0.0**
ARMT				*e*SG	**Sb**	**20 26 24.3**	**+0.6**
ARMT	**Armutlu**	**0.91**	**325**	*e*Pg	**Pb**	**20 26 11.3**	**0.0**
ARMT				*e*Sg	**Sb**	**20 26 24.3**	**+0.6**
GULT	**Gulveren**	**0.96**	**50**	*e*PG	**Pb**	**20 26 12.0**	**-0.1**
GULT	**Gulveren**	**0.96**	**50**	*e*Pg	**Pb**	**20 26 12.0**	**-0.1**
DEMI	**Demirci**	**1.01**	**220**	P	**Pn**	**20 26 13.9**	**+0.1**
DEMI				S	**Sg**	**20 26 25.5**	**-0.1**
DEMI	**Demirci**	**1.01**	**220**	*i* P	**Pn**	**20 26 13.9**	**+0.1**
DEMI				*i* S	**Sg**	**20 26 25.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.02**	**296**	*e*PG	**Pn**	**20 26 13.8**	**-0.1**
KCTX	**Karacabey (Bur**	**1.02**	**296**	*e*Pg	**Pn**	**20 26 13.8**	**-0.1**
ESKT	**Eskisehir**	**1.05**	**106**	*i* P	**Pn**	**20 26 14.2**	**-0.2**
ESKT				*i* S	**Sb**	**20 26 27.7**	**+0.1**
SEYT	**Eskypehyr**	**1.05**	**106**	P	**Pn**	**20 26 14.1**	**-0.2**
SEYT				S	**Sb**	**20 26 27.7**	**+0.1**
KLYT	**Kilyos**	**1.48**	**345**	*e*PN	**Pg**	**20 26 21.6**	**+0.1**
KLYT	**Kilyos**	**1.48**	**345**	*e*Pn	**Pg**	**20 26 21.6**	**+0.1**
MRMT	**Marmara Adasi**	**1.69**	**298**	*e*PN	**Pb**	**20 26 25.0**	**+0.4**
MRMT	**Marmara Adasi**	**1.69**	**298**	*e*Pn	**Pb**	**20 26 25.0**	**+0.4**
KRBG	**Karabiga-Canak**	**1.82**	**289**	*e*PN	**Pb**	**20 26 26.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.82**	**289**	*e*Pn	**Pb**	**20 26 26.6**	**-0.2**

JMA 29 20:26:36.4, 36.19N×137.95E, h4km±1km, M1.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.25**	**29**	P	Pg	20 26 41.2	0.0
JNG				*e*S	Sg	20 26 44.7	+0.2
JNT	**Takato**	**0.35**	**154**	P	Pg	20 26 43.4	+0.2
JNT				S	Sg	20 26 48.5	+0.7
MAT	**Matsushiro**	**0.41**	**30**	P	Pg	20 26 43.9	-0.4
MAT				S	Sg	20 26 49.5	-0.1
MAT	**Matsushiro**	**0.41**	**30**	P	Pg	20 26 43.9	-0.4
MAT				*e*S	Sg	20 26 49.7	+0.1
JGN	**Niukaw**	**0.51**	**274**	P	Pg	20 26 46.2	-0.1

*NIED **29** 20:28:00, 27.10N×143.70E, h5km, Mw4.0 Best double couple: M₀9.60000×10¹⁴ NP1:φ₀177.00000°, δ45.00000°, λ-46.00000°. NP2:φ₀303.00000°, δ60.00000°, λ-125.00000°.*
*IDC **29** 20:28:52.4±0.7, 26.91N×143.80E, h0km, mb4.1/16, mb1 4.2/20, mb1mx4.1/42, mbtmp4.1/20, ML3.6/4, Error ellipse: s-maj=21.5km s-min=13.3km az=80.0*
*ISCJB **29** 20:28:55.4±0.5, 26.96N±0.06×143.75E±0.06, h33km, mb4.2/21, Error ellipse: s-maj=8.3km s-min=7.5km az=30.0*
*NEIC **29** 20:28:57.6±0.5, 26.94N×143.72E, h35km, mb4.7/7, Error ellipse: s-maj=10.4km s-min=7.6km az=79.0*

ISC 29 20:28:57.9±0.7, 27.02N±0.07×143.70E±0.08, h35km, n36, σ1ˢ21/41, mb4.1/21, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.35**	**274**	Pn	**Pn**	**20 29 19.6**	**-0.7**
CBIJ				Sn	**Sn**	**20 29 36.5**	**-0.6**
JCJ	**Chichijima**	**1.35**	**274**	Pn	**Pn**	**20 29 19.6**	**-0.7**
	12nm,0.3s,baz=180,slow=20,SNR=8.7						
JCJ				Sn	**Sn**	**20 29 36.5**	**-0.6**
	9.3nm,0.3s,baz=180,slow=24,SNR=12						
JHJ	**Hachijo jima 2**	**6.96**	**332**	Pn	**Pn**	**20 30 35.6**	**-1.8**
	6.6nm,0.3s,baz=100,slow=23,SNR=7.5						
JHJ				Sn	**Sn**	**20 31 50.9**	**-4.5**
	12nm,0.3s,baz=44,slow=16,SNR=4.6						
MJAR	**Matsushiro Arr**	**10.58**	**335**	Pn	**Pn**	**20 31 25.7**	**-1.3**
	2.0nm,0.3s,baz=155,slow=11,SNR=24						
MAJO	**Matsushiro**	**10.58**	**335**	*e*Pn	**Pn**	**20 31 25.8**	**-1.2**
	25nm,0.6s						
MAT	**Matsushiro**	**10.58**	**335**	P	**Pn**	**20 31 25.5**	**-1.5**
MAT				S	**Sn**	**20 33 25.3**	**+1.0**
KSRS	**Korea Array**	**16.90**	**312**	P	P	**20 32 53.3**	**-0.1**
	0.3nm,0.3s,baz=123,slow=12,SNR=9.0						
KSAR	**Wonju Array Be**	**16.92**	**312**	P	**P**	**20 32 53.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**19.57**	**334**	P	**Pn**	**20 33 23.8**	**-0.4**
	0.2nm,0.3s,baz=157,slow=14,SNR=4.9						
YHNB	**Yeheng**	**20.23**	**268**	*e*P	**P**	**20 33 29.3**	**-0.8**
YULB	**Yu-li**	**20.58**	**265**	*e*P	**P**	**20 33 33.6**	**-0.3**
	8.3nm,0.6s						
SSLB	**Suanglung**	**20.79**	**266**	*e*P	**P**	**20 33 36.7**	**+0.5**
	20nm,0.7s						
KLR	**Kul'dur**	**24.03**	**341**	P	**P**	**20 34 10.4**	**+1.0**
	2.0nm,0.6s,baz=133,slow=8.2,SNR=10						
ENH	**Enshi**	**30.13**	**284**	*e*P	**P**	**20 35 03.3**	**-1.3**
SONM	**Songino Array**	**35.71**	**316**	P	**P**	**20 35 54.6**	**+1.4**
	0.6nm,0.4s,baz=115,slow=8.3,SNR=6.6						
CMAR	**Chiang Mai Arr**	**41.97**	**268**	P	**P**	**20 36 45.6**	**-0.2**
	0.9nm,0.6s,baz=72,slow=5.4,SNR=11						
LSA	**Lhasa**	**45.99**	**286**	P	**P**	**20 37 20.1**	**+1.5**
WRAB	**Tennant Creek**	**47.55**	**192**	*e*P	**P**	**20 37 28.1**	**-2.0**
	16nm,0.9s						
WRA	**Warramunga Arr**	**47.56**	**192**	P	**P**	**20 37 29.0**	**-1.2**
	10.0nm,0.9s,baz=10,slow=8.5,SNR=60						
FITZ	**Fitzroy Crossi**	**48.15**	**203**	P	**P**	**20 37 34.0**	**-0.7**
	7.6nm,0.8s,baz=24,slow=8.2,SNR=19						
ZALV	**Zasovo Beam**	**50.43**	**319**	P	**P**	**20 37 52.5**	**+0.7**
	1.5nm,0.6s,baz=98,slow=6.8,SNR=8.1						
ASAR	**Alice Springs**	**51.27**	**192**	P	**P**	**20 37 57.2**	**-1.3**
	0.9nm,0.6s,baz=7.0,slow=5.8,SNR=26						
MKAR	**Makanchi Array**	**51.56**	**310**	P	**P**	**20 38 01.1**	**+0.6**
	1.2nm,0.6s,baz=91,slow=8.8,SNR=15						
MKAR				PcP	**PcP**	**20 39 14.7**	**+0.6**
	0.2nm,0.3s,baz=92,slow=4.3,SNR=2.4						
KURK	**Kurchatov**	**54.00**	**315**	*e*P	**P**	**20 38 18.7**	**+0.3**
	45nm,0.9s						
ILAR	**Eielson Array**	**57.13**	**29**	P	**P**	**20 38 40.6**	**-0.1**
	1.1nm,0.9s,baz=270,slow=5.5,SNR=7.7						
STKA	**Stephens Creek**	**58.60**	**182**	P	**P**	**20 38 50.2**	**-1.1**
	2.2nm,0.7s,baz=333,slow=9.5,SNR=8.0						
BRVK	**Borovoye**	**59.07**	**318**	*e*P	**P**	**20 38 55.2**	**+0.7**
	7.2nm,1.1s						
KKAR	**Karatay Array**	**60.22**	**306**	*e*P	**P**	**20 39 03.5**	**+0.9**
	5.7nm,0.7s						
ABKAR	**Akbulak array**	**66.11**	**315**	*e*P	**P**	**20 39 42.0**	**+0.4**
	0.9nm,0.5s						
GEYT	**Alibeck**	**70.67**	**303**	P	**P**	**20 40 11.6**	**+1.3**
	1.9nm,0.8s,baz=80,slow=1.7,SNR=6.0						
YKA	**Yellowknife Ar**	**71.56**	**29**	P	**P**	**20 40 15.4**	**+0.2**
	0.4nm,0.7s,baz=291,slow=5.9,SNR=3.1						
FINES	**FINESS Array B**	**78.61**	**334**	P	**P**	**20 40 56.6**	**+0.8**
	1.4nm,0.9s,baz=93,slow=3.8,SNR=5.8						
KBZ	**Khabaz**	**79.04**	**314**	P	**P**	**20 40 59.9**	**+1.4**
	2.1nm,0.8s,baz=109,slow=2.4,SNR=6.3						
AKASG	**Malin Array Be**	**83.47**	**324**	P	**P**	**20 41 21.8**	**-0.1**
	0.3nm,0.3s,baz=53,slow=4.8,SNR=4.2						
BRTR	**Keskin Array B**	**87.04**	**313**	P	**P**	**20 41 40.5**	**+0.3**
	0.8nm,0.8s,baz=46,slow=5.3,SNR=3.9						
LPAZ	**La Paz**	**148.63**	**77**	PKPbc	**PKPbc**	**20 48 42.4**	**-0.4**
	1.5nm,0.6s,baz=328,slow=1.9,SNR=5.8						

MAN 29 20:32:46, 18.43N×120.61E, h40km, mb3.8, ML2.5, MS2.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.10**	**177**	*i*P	Pn	20 32 55.0	+2.4
PIP				*e*S	Sn	20 32 59.4	+2.2
ABRA	**Dolores**	**0.78**	**173**	*e*P	Pn	20 33 01.8	+1.2
ABRA				*e*S	Sn	20 33 13.9	+2.9
SGCP	**Mt. Cagua**	**1.37**	**97**	*e*P	Pn	20 33 10.3	+1.6
SGCP				*e*S	Sn	20 33 27.9	+2.3

*NIED **29** 20:38:00, 36.80N×143.20E, h8km, Mw4.4 Best double couple: M₀4.61000×10¹⁵ NP1:φ₀29.00000°, δ42.00000°, λ-97.00000°. NP2:φ₀219.00000°, δ49.00000°, λ-83.00000°.*
*BJI **29** 20:38:17.8, 36.92N×143.39E, h15km, mb4.5/36, mB4.9/23, Ms4.1/13, Ms7 3.9/12*
*IDC **29** 20:38:17.4±0.5, 36.74N×143.34E, h0km, mb4.5/23, mb1 4.6/30, mb1mx4.5/43, mbtmp4.5/30, ML4.0/5, MS3.5/9, Ms1 3.5/9, ms1mx3.2/39, Error ellipse: s-maj=14.8km s-min=11.9km az=120.0*
*NEIC **29** 20:38:18.6±2.4, 36.73N×143.29E, h8km±14km, mb4.7/19, Error ellipse: s-maj=6.7km s-min=4.8km az=123.0*
*ISCJB **29** 20:38:19.3±1.1, 36.82N±0.03×143.18E±0.03, h15km±6km, mb4.6/66, MS4.0/7, Error ellipse: s-maj=5.3km s-min=4.0km az=152.5*
*JMA **29** 20:38:21.3±0.2, 36.84N×143.16E, h59km, M4.8*
*MOS **29** 20:38:22.9±1.0, 37.16N×143.16E, h31km, mb4.8/41, Error ellipse: s-maj=8.3km s-min=5.0km az=112.5*

ISC 29 20:38:20.8±1.0, 36.76N±0.04×143.27E±0.05, h20km±4km, n222, σ1ˢ58/234, mb4.6/76, MS3.7/7, 28C-24D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.01**	**288**	P	**Pn**	**20 38 52.1**	**-1.5**
JFK				S	**Sn**	**20 39 14.0**	**-4.2**
ONAJ	**Iwakimizuishiy**	**2.01**	**280**	P	**Pn**	**20 38 52.1**	**-1.6**
ONAJ				S	**Sn**	**20 39 15.7**	**-2.6**
JHO	**Hitachi**	**2.18**	**267**	P	**Pn**	**20 38 54.6**	**-1.3**
JHO				*e*S	**Sn**	**20 39 18.0**	**-4.3**
JFT	**Otama**	**2.46**	**289**	P	**Pn**	**20 38 59.3**	**-0.6**
JFT				S	**Sn**	**20 39 27.3**	**-2.1**
JMK	**Ichinoseki**	**2.72**	**324**	P	**Pn**	**20 39 01.9**	**-1.5**
JMK				S	**Sn**	**20 39 32.2**	**-3.5**
BSO1	**Boso 1**	**2.81**	**222**	P	**Pn**	**20 39 04.6**	**+0.4**
BSO1				S	**Sn**	**20 39 36.8**	**-0.4**
JAG	**Ashikaga**	**3.09**	**265**	P	**Pn**	**20 39 07.8**	**-0.7**
JAG				S	**Sn**	**20 39 41.1**	**-3.8**
JOM	**Ohasama**	**3.12**	**331**	P	**Pn**	**20 39 07.3**	**-1.6**
JOM				S	**Sn**	**20 39 42.3**	**-3.3**
JYK	**Kaneyama**	**3.15**	**314**	P	**Pn**	**20 39 08.5**	**-0.8**
JYK				*e*S	**Sn**	**20 39 44.5**	**-1.9**
JRY	**Ryogami san**	**3.60**	**259**	P	**Pn**	**20 39 14.7**	**-0.9**
JRY				S	**Sn**	**20 39 53.3**	**-4.3**
JOD2	**Odawara 2**	**3.71**	**247**	P	**Pn**	**20 39 16.2**	**-0.8**
JOD2				*e*S	**Sn**	**20 39 56.3**	**-3.8**
JANG	**Nango**	**3.86**	**340**	P	**Pn**	**20 39 16.5**	**-2.5**
JANG				S	**Sn**	**20 39 57.9**	**-5.9**
JYN	**Shimob**	**4.03**	**253**	P	**Pn**	**20 39 21.5**	**0.0**
JYN				S	**Sn**	**20 40 06.4**	**-1.7**
MJA0	**Matsu Arr-Jizo**	**4.05**	**268**	*e*P	**Pn**	**20 39 22.2**	**+0.5**
MJA0				pmax	pmax		
	comp=Z,16nm,0.3s						
MJAR	**Matsushiro Arr**	**4.08**	**268**	Pn	**Pn**	**20 39 22.1**	**0.0**
	comp=Z,16nm,0.3s,baz=106,slow=10.0,SNR=87						
MJAR				Sn	**Sn**	**20 40 04.8**	**-4.4**
	comp=Z,14nm,0.3s,baz=82,slow=9.5,SNR=5.3						
MJAR				LR	LR	20 41 11.3	
	comp=Z,430nm,20.7s,baz=95,slow=42						
MAJO	**Matsushiro**	**4.08**	**268**	*c* *i*P	**Pn**	**20 39 22.7**	**+0.6**
MAJO	**Matsushiro**	**4.08**	**268**	*e*Pn	**Pn**	**20 39 22.5**	**+0.5**
MAT	**Matsushiro**	**4.08**	**268**	P	**Pn**	**20 39 22.7**	**+0.6**
MAT				S	**Sn**	**20 40 07.8**	**-1.5**
JHJ2	**Mitsune**	**4.62**	**219**	*e*Pn	**Pn**	**20 39 28.2**	**-1.3**
JHJ	**Hachijo jima 2**	**4.63**	**219**	Pn	**Pn**	**20 39 28.1**	**-1.5**
	comp=Z,46nm,0.3s,baz=105,slow=22,SNR=47						
JHJ				Sn	**Sn**	**20 40 18.4**	**-4.4**
	comp=Z,377nm,0.3s,baz=73,slow=19,SNR=13						
JHJ				LR	LR	20 40 53.5	
	comp=Z,70nm,21.4s,baz=54,slow=34						
ERM	**Erimo**	**5.25**	**359**	*c* *i*P	**Pn**	**20 39 35.4**	**-2.6**
ERM				pmax	pmax		
	comp=Z,93nm,1.2s						
ERM	**Erimo**	**5.25**	**359**	*e*Pn	**Pn**	**20 39 34.8**	**-3.3**
	comp=Z,106nm,0.7s						
ASAJ	**Asahikawa**	**7.36**	**356**	Pn	**Pn**	**20 40 05.2**	**-1.9**
	comp=Z,6.1nm,0.3s,baz=212,slow=7.8,SNR=46						
ASAJ				Sn	**Sn**	**20 41 24.8**	**-5.2**
	comp=Z,5.0nm,0.3s,baz=358,slow=26,SNR=10						
ASAJ	**Asahikawa**	**7.36**	**356**	*e*Pn	**Pn**	**20 40 04.7**	**-2.4**
	comp=Z,21nm,0.9s						
ASAJ				Sn	**Sn**	**20 41 24.8**	**-5.2**
YUK	**Yuzh-Kuril'sk**	**7.53**	**14**	*i*P	**Pn**	**20 40 06.3**	**-3.0**
KUR	**Kuril'sk**	**9.14**	**21**	P	**Pn**	**20 40 28.5**	**-3.0**
KUR				*e*S	Sn	20 42 03.4	-10
KUR				smax	smax		
	comp=N,172nm,3.2s				

baz=316,slow=76,SNR=10
H11S3 WAKE ISLAND Hy 27.48 125 T T 21 12 56.3
baz=316,slow=76,SNR=6.2
H11S2 WAKE ISLAND Hy 27.49 125 T T 21 12 53.9
baz=316,slow=76,SNR=7.1
BOD Bodaibo 28.56 327 *eP* **P 20 44 11.4 -3.7**
BOD pmax pmax
comp=Z,19nm,1.4s
ULN Ulaanbaatar 28.74 304*c iP* **P 20 44 17.4 +0.4**
ULN pmax pmax
comp=Z,23nm,2.5s
ULN Ulaanbaatar 28.74 304 *eP* **P 20 44 17.3 +0.3**
comp=Z,8.9nm,1.1s
ENH Enshi 28.80 267 *eP* **P 20 44 17.8 +0.2**
comp=Z,11nm,1.0s
SONM Songino Array 29.17 304 P **P 20 44 21.3 +0.5**
comp=Z,2.7nm,0.8s,baz=106,slow=9.4,SNR=16
SONM PcP **PcP 20 47 28.4 +0.5**
comp=Z,0.5nm,0.7s,baz=90,slow=3.2,SNR=3.2
ZAK Zakamensk 31.61 308 *eP* **P 20 44 41.2 -1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 31.63 311 *eP* P 20 44 48.4 +6.0
TLY pmax pmax
comp=Z,11nm,1.4s
TLY MLR MLR
comp=Z,91nm,15.0s
DAV Davao City (W) 33.68 213 LR LR 20 58 15.1
comp=Z,3µm,19.1s,baz=14,slow=36
GTA Gaotai 34.06 288 ⇓P **P 20 45 04.5 +0.6**
GTA pP sP 20 45 13.8 +1.4
GTA sP pP 20 45 18.0 +8.1
GTA PMZ
comp=Z,8.0nm,1.3s
GTA PMZ
comp=Z,140nm,4.8s
GTA LN
comp=Z,540nm,17.6s
GTA LE
comp=Z,650nm,17.6s
GTA LZ
comp=Z,660nm,17.6s
TIXI Tiksi 35.75 352 P **P 20 45 17.1 -0.7**
comp=Z,2.9nm,0.7s,baz=168,slow=8.1,SNR=7.6
TIXI Tiksi 35.75 352 ⇓*iP* **P 20 45 17.5 -0.3**
TIXI pmax pmax
comp=Z,2.0nm,0.7s
KMI Kunming 36.40 263 P P 20 45 33.8 +10
KMI pP sP 20 45 40.3 +7.5
KMI sP pP 20 45 43.8 +13
KMI pmax pmax
comp=Z,7.0nm,1.2s
CMAR Chiang Mai Arr 42.88 257 P **P 20 46 18.6 +0.6**
comp=Z,2.0nm,0.7s,baz=43,slow=7.5,SNR=21
CMAR Chiang Mai Arr 42.88 257 *eP* **P 20 46 19.1 +1.1**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 43.20 313 P **P 20 46 20.3 +0.2**
comp=Z,3.8nm,0.7s,baz=92,slow=7.3,SNR=17
ZALV PcP **PcP 20 48 09.1 -0.1**
comp=Z,3.4nm,0.6s,baz=92,slow=2.8,SNR=7.0
LSA Lhasa 43.72 276 *eP* **P 20 46 21.9 -3.4**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 43.72 276 *eP* **P 20 46 21.9 -3.4**
comp=Z,4.1nm,0.8s
NVS Novosibirsk 44.10 314⇑*iP* **P 20 46 27.6 +0.2**
NVS pmax pmax
comp=Z,8.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.2s
MKAR Makanchi Array 45.52 303 P **P 20 46 39.0 +0.1**
comp=E,3.4nm,0.9s,baz=87,slow=9.1,SNR=25
MKAR PcP **PcP 20 48 17.2 -0.2**
comp=E,1.1nm,0.7s,baz=103,slow=4.6,SNR=2.5
KAPI Kappang 47.02 213 LR LR 21 05 01.5
comp=E,322nm,19.8s,baz=15,slow=34
KURK Kurchatov 47.27 309 *eP* **P 20 46 51.4 -1.1**
KURK pmax pmax
comp=Z,83nm,0.7s
KURK Kurchatov 47.27 309 *eP* **P 20 46 51.4 -1.1**
comp=Z,82nm,0.7s
TRF Thorofare Moun 47.42 34 *eP* **P 20 46 54.3 +0.5**
PDGK Podgornoye 48.22 299 *iP* **P 20 46 59.2 -0.8**
PDGK pmax pmax
comp=Z,8.0nm,1.2s
ILAR Eielson Array 48.93 32 P **P 20 47 05.1 0.0**
comp=Z,7.0nm,0.8s,baz=265,slow=6.4,SNR=70
ILAR Eielson Array 48.93 32 *eP* **P 20 47 04.9 -0.2**
ILAR pmax pmax
comp=Z,7.0nm,0.8s
DIV Divide 49.59 37 *eP* **P 20 47 11.4 +1.0**
comp=Z,14nm,1.0s
TKM2 Tokmak 2 51.07 299 *eP* **P 20 47 22.2 +0.2**
TKM2 pmax pmax
comp=Z,7.0nm,0.7s
TKM2 Tokmak 2 51.07 299 *eP* **P 20 47 22.2 +0.2**
comp=Z,6.9nm,0.7s
KSH Kashi 51.87 295 *eP* P 20 47 32.8 +4.8
KSH PP **PP 20 49 31.5 +5.8**
KSH PMZ
comp=Z,5.0nm,0.6s
KSH PMZ
comp=Z,130nm,7.2s
KSH LN
comp=Z,350nm,9.9s
KSH LE
comp=Z,250nm,8.8s
BRVK Borovoye 51.91 313 *eP* **P 20 47 27.9 0.0**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 51.91 313 *eP* **P 20 47 27.9 0.0**
comp=Z,8.6nm,0.8s
AAK Ala-Archa 51.93 299 LR LR 21 11 19.6
comp=Z,69nm,18.3s,baz=340,slow=38
EKS2 Erkin-Say 52.42 299 *eP* **P 20 47 32.2 +0.2**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 52.42 299 *eP* **P 20 47 32.2 +0.2**
comp=Z,2.7nm,0.8s
MNAS Manas 53.37 300 *iP* **P 20 47 39.3 +0.3**
MNAS pmax pmax
comp=Z,8.0nm,0.7s
INK Inuvik 53.95 27 P **P 20 47 43.0 +0.4**
comp=Z,6.6nm,0.6s,baz=297,slow=8.9,SNR=19
INK Inuvik 53.95 27 P **P 20 47 43.0 +0.4**
KKAR Karatay Array 54.55 301 *eP* **P 20 47 47.2 -0.2**
KKAR pmax pmax
comp=Z,15nm,1.2s
KKAR Karatay Array 54.55 301 *eP* **P 20 47 47.2 -0.2**
comp=Z,15nm,1.2s
SVE Sverdlovsk 56.33 319 *eP* **P 20 48 00.3 +0.3**
SVE pmax pmax
comp=Z,11nm,0.9s
WRAB Tennant Creek 57.02 190*ceP* **P 20 48 05.1 -0.1**
WRAB pmax pmax
comp=Z,43nm,1.0s
WRAB Tennant Creek 57.02 190 *eP* **P 20 48 04.0 -1.2**
comp=Z,14nm,0.8s
WRA Warramunga Arr 57.03 190 P **P 20 48 04.2 -1.1**
comp=Z,12nm,0.8s,baz=11,slow=7.5,SNR=40
ARU Arti 57.55 319*d iP* **P 20 48 08.5 -0.1**
ARU 20 49 00.9
ARU 20 50 15.4
ARU S **S 20 56 06.3 +1.2**
ARU SS **SS 20 59 56.3 +1.8**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 57.55 319 *eP* **P 20 48 08.0 -0.6**
comp=Z,3.3nm,0.6s
DLBC Dease Lake 57.92 38 P **P 20 48 11.3 -0.1**
comp=Z,2.6nm,0.7s,baz=294,slow=5.0,SNR=3.8
AB31 Akbulak array 59.25 311 *iP* **P 20 48 20.1 -0.5**
AB31 pmax pmax
comp=Z,8.0nm,1.1s
ABKAR Akbulak array 59.25 311 *eP* **P 20 48 20.0 -0.6**
comp=Z,5.1nm,0.8s
ASAR Alice Springs 60.75 190 P **P 20 48 30.6 -0.6**
comp=Z,5.5nm,0.8s,baz=9.5,slow=6.2,SNR=32
MBWA Marble Bar 61.75 205 *eP* **P 20 48 36.9 -1.1**
YKA Yellowknife Ar 63.29 31 P **P 20 48 47.8 0.0**
comp=Z,2.7nm,0.7s,baz=301,slow=6.7,SNR=19
KLMR Klimovskoe 64.77 328 *eP* **P 20 48 55.7 -1.8**
KLMR *e* 20 49 28.1
KLMR pmax pmax
comp=Z,9.0nm,1.4s
GEYT Alibeck 65.27 300 P **P 20 49 01.5 +0.3**
comp=Z,7.2nm,0.8s,baz=28,slow=3.5,SNR=22
STKA Stephens Creek 68.30 182 P **P 20 49 20.6 +0.3**
comp=Z,3.0nm,0.8s,baz=339,slow=8.6,SNR=6.3
VRH Novokhopyorsk 68.77 319 *eP* **P 20 49 21.6 -1.6**
VRH pmax pmax
comp=Z,10.0nm,1.4s
OBN Obninsk 69.20 324⇑*iP* **P 20 49 25.9 +0.2**
OBN pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 69.74 333 P **P 20 49 28.7 -0.3**
comp=Z,5.9nm,0.9s,baz=75,slow=8.1,SNR=15
FINES FINESS Array B 69.74 333 *eP* **P 20 49 28.9 -0.1**
FINES pmax pmax
comp=Z,6.0nm,0.9s
VSR Storozhevoye 70.11 320 *eP* **P 20 49 30.8 -0.7**
VSR pmax pmax
comp=Z,10.0nm,1.4s
SUMG Summit 70.95 1 *eP* **P 20 49 36.9 +0.2**
SUMG pmax pmax
comp=Z,14nm,1.1s
SUMG Summit 70.95 1 *iP* **P 20 49 37.4 +0.7**
comp=Z,8.8nm,0.7s
SUMG Summit 70.95 1 *eP* **P 20 49 36.9 +0.2**
comp=Z,14nm,1.1s
BMO Blue Mountains 71.01 48 *eP* **P 20 49 37.4 +0.2**
BMO pmax pmax
comp=Z,3.0nm,0.8s
BMO Blue Mountains 71.01 48 *eP* **P 20 49 37.4 +0.2**
comp=Z,3.0nm,0.8s
VSU Vasula 71.43 330 P **P 20 49 39.1 -0.3**
VSU pmax pmax
comp=Z,14nm,0.9s
KBZ Khabaz 72.20 312 P **P 20 49 44.6 +0.3**
comp=Z,11nm,0.8s,baz=27,slow=5.6,SNR=31
KIV Kislovodsk 72.20 312 *eP* **P 20 49 45.6 +1.2**
KIV pmax pmax
comp=Z,28nm,0.9s
KIV MLR MLR
comp=Z,77nm,18.0s
KIV Kislovodsk 72.20 312 *eP* **P 20 49 45.1 +0.6**
comp=Z,20nm,0.8s
FFC Flin Flon 73.12 33 *eP* **P 20 49 49.2 -0.4**
FFC pmax pmax
comp=Z,16nm,1.1s
FFC Flin Flon 73.12 33 *eP* **P 20 49 49.2 -0.4**
comp=Z,16nm,1.1s
NB2 NORSAR Subarra 75.00 338 P **P 20 49 59.8 -0.7**
comp=Z,6.8nm,0.9s,baz=37,slow=5.9
NOA NORSAR Array B 75.00 338 P **P 20 50 00.1 -0.4**
comp=Z,4.3nm,0.9s,baz=38,slow=5.8,SNR=13
NOA NORSAR Array B 75.00 338 *eP* **P 20 50 00.4 -0.1**
NOA pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 75.41 323 P **P 20 50 02.5 -0.5**
comp=Z,2.3nm,0.7s,baz=43,slow=5.4,SNR=11
AKASG Malin Array Be 75.41 323 *eP* **P 20 50 02.4 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KIEV Kiev 75.43 323⇑*iP* **P 20 50 02.6 -0.4**
KIEV pmax pmax
comp=Z,5.0nm,1.2s
PDAR Pinedale Array 76.78 46 P **P 20 50 11.0 -0.3**
comp=Z,2.1nm,0.6s,baz=191,slow=1.5,SNR=4.0
SORM Soroca 77.54 322⇑*iP* **P 20 50 14.7 -0.3**
SORM Soroca 77.54 322⇑P **P 20 50 14.7 -0.3**
LVV L'vov 78.47 325 *eP* **P 20 50 20.2 0.0**
KWP Kalwaria Pacla 79.21 325⇑*iP* **P 20 50 25.5 +1.2**
KWP Kalwaria Pacla 79.21 325⇑P **P 20 50 25.5 +1.2**
BURAR Bucovina Array 79.44 323⇓*iP* **P 20 50 25.9 +0.2**
BURAR Bucovina Array 79.44 323⇓P **P 20 50 25.9 +0.2**
TESR Tescani 79.49 321⇓*iP* **P 20 50 26.3 +0.4**
CFR Carcaliu 79.63 319⇓*iP* **P 20 50 27.4 +0.8**
CFR Carcaliu 79.63 319⇓P **P 20 50 27.4 +0.8**
VRI Vrincioaia 79.89 321⇓*iP* **P 20 50 30.1 +2.0**
VRI Vrincioaia 79.89 321⇓P **P 20 50 30.2 +2.1**
KOLS Kolonicke sedl 79.91 325 *eP* **P 20 50 29.0 +0.9**
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS Kolonicke sedl 79.91 325 *eP* **P 20 50 29.0 +0.9**
PLOR Plostina 79.94 321⇑*iP* P 20 50 23.0 -5.4
PLOR Plostina 79.94 321⇑P P 20 50 23.0 -5.4
STHS Stebnicka Huta 80.03 326 *eP* **P 20 50 29.9 +1.1**
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 80.03 326 *eP* **P 20 50 29.9 +1.1**
BRTR Keskin Array B 80.14 312 P **P 20 50 29.9 +0.2**
comp=Z,4.4nm,1.0s,baz=112,slow=5.5,SNR=17
CRVS Cervenica-Dubn 80.30 325 *eP* **P 20 50 30.9 +0.7**
CRVS Cervenica-Dubn 80.30 325 *eP* **P 20 50 30.9 +0.7**
DOPR Dopca 80.50 321⇓*iP* **P 20 50 33.3 +1.9**
MLR Muntele Rosu 80.55 321⇑*iP* **P 20 50 32.3 +0.5**
MLR Muntele Rosu 80.55 321⇑P **P 20 50 32.3 +0.5**
VOIR 81.04 321⇓*iP* **P 20 50 35.6 +1.3**
VOIR 81.04 321⇓P **P 20 50 35.6 +1.3**
KECS Kecovo 81.05 326 *eP* **P 20 50 35.1 +0.9**
KECS pmax pmax
comp=Z,1.0nm,0.9s
KECS Kecovo 81.05 326 *eP* **P 20 50 35.1 +0.9**
DRGR 81.23 323⇑*iP* **P 20 50 34.8 -0.5**
DRGR 81.23 323⇑P **P 20 50 34.8 -0.5**
ARR Arges 81.29 321⇓*iP* **P 20 50 37.7 +2.0**
MORC Moravsky Berou 81.39 328⇓*iP* **P 20 50 37.2 +1.1**
MORC Moravsky Berou 81.39 328⇓P **P 20 50 37.2 +1.1**
DPC Dobruska-Polom 81.47 329 *eP* **P 20 50 37.3 +0.8**
DPC Dobruska-Polom 81.47 329 *eP* **P 20 50 37.3 +0.8**
LOT Lotru 81.67 322⇑*iP* **P 20 50 38.2 +0.5**
PSZ Piszkesteto 81.73 325⇑*iP* **P 20 50 39.0 +1.0**
PSZ Piszkesteto 81.73 325⇑P **P 20 50 39.0 +1.0**
VYHS Vyhne 81.78 326 *eP* **P 20 50 39.0 +0.8**
VYHS *e* 20 50 53.0
VYHS pmax pmax
comp=Z,3.0nm,1.2s
VYHS Vyhne 81.78 326 *eP* **P 20 50 39.0 +0.8**
VYHS *e* 20 50 53.0
BRG Berggiesshubel 82.03 330 *eP* **P 20 50 39.6 +0.2**
comp=Z,5.6nm,1.1s
BRG Berggiesshubel 82.03 330 *eP* **P 20 50 39.6 +0.2**
BRG pmax pmax
comp=Z,6.0nm,1.1s
PVCC Panska Ves 82.05 330 *eP* **P 20 50 40.3 +0.8**
PVCC Panska Ves 82.05 330 *eP* **P 20 50 40.3 +0.8**
CLL Collm 82.06 331⇓*iP* **P 20 50 39.2 -0.3**
comp=Z,10.0nm,0.9s
CLL *i* 20 50 53.5
CLL *e* 20 51 12.0
CLL Collm 82.06 331⇓*iP* **P 20 50 39.2 -0.3**
CLL *i* 20 50 53.5
CLL pmax pmax
comp=Z,10.0nm,0.9s
VRAC Vranov 82.15 328⇓*iP* **P 20 50 39.1 -1.0**
VRAC Vranov 82.15 328⇓P **P 20 50 39.1 -1.0**
GZR Gura Zlata 82.20 322⇑*iP* **P 20 50 41.0 +0.5**
GZR Gura Zlata 82.20 322⇑P **P 20 50 41.0 +0.5**
PRU Pruhonice 82.48 329 *eP* **P 20 50 41.9 +0.1**
PRU Pruhonice 82.48 329 *eP* **P 20 50 41.9 +0.1**
BZS Buzias 82.61 323⇑*iP* **P 20 50 42.6 +0.1**
BZS Buzias 82.61 323⇑P **P 20 50 42.6 +0.1**
TREC Trest 82.62 329 *eP* **P 20 50 43.1 +0.5**
TREC Trest 82.62 329 *eP* **P 20 50 43.1 +0.5**
NKC Novy Kostel 83.13 331 *eP* **P 20 50 45.6 +0.5**
NKC Novy Kostel 83.13 331 *eP* **P 20 50 45.6 +0.5**
MDVR Moldovita 83.16 322⇑*iP* **P 20 50 45.7 +0.2**
CONA Conrad Observa 83.52 327 *i* pP **P 20 50 47.9 +0.7**
comp=Z,7.1nm,0.9s
KHC Kasperske Hory 83.54 329 *eP* **P 20 50 47.6 +0.3**
KHC *ex* x 20 51 01.5
KHC Kasperske Hory 83.54 329 *eP* **P 20 50 47.6 +0.3**
KHC *e* 20 51 01.5
KHC Kasperske Hory 83.54 329 *eP* **P 20 50 47.6 +0.3**
comp=Z,2.3nm,0.8s
ANMO Albuquerque 83.61 51⇓*iP* **P 20 50 47.5 -0.7**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 83.61 51 *eP* **P 20 50 48.9 +0.8**
comp=Z,4.0nm,1.0s
GERES GERESS Array B 83.72 329 P **P 20 50 48.2 -0.1**
comp=Z,1.7nm,0.7s,baz=34,slow=5.0,SNR=20
GERES GERESS Array B 83.72 329 *eP* **P 20 50 48.4 +0.1**
GERES pmax pmax
comp=Z,2.0nm,0.7s
VTS Vitosha 83.99 320⇑*iP* **P 20 50 50.9 +1.0**
VTS Vitosha 83.99 320⇑P **P 20 50 50.9 +1.0**
ARSA Arzberg 84.18 327 *i* pP **P 20 50 50.8 +0.2**
comp=Z,4.1nm,1.1s
MOA Molln 84.26 328 *i* PcP **P 20 50 52.2 +1.2**
comp=Z,4.0nm,1.2s
SOKA Soboth 84.84 327 *i* pP **P 20 50 54.0 0.0**
comp=Z,6.2nm,1.3s
OBKA Obir 85.18 327 *i* PcP **P 20 50 56.9 +1.2**
comp=Z,2.6nm,1.0s
KBA Koelnbreinsper 85.25 328 *i* pP **P 20 50 56.0 -0.2**
comp=Z,3.6nm,0.8s
SKO Skopje 85.34 321 *i* P **P 20 50 57.6 +1.1**
WTTA Wattenberg 85.81 329 *i* PcP **P 20 50 59.9 +0.9**
comp=Z,1.4nm,0.4s
MOTA Moosalm 85.97 330 *i* PcP **P 20 51 00.3 +0.6**
comp=Z,1.6nm,0.5s
RETA Reutte 85.99 330 *i* pP **P 20 50 59.4 -0.4**
comp=Z,5.1nm,0.9s
PDG Podgorica 86.10 322⇑*iP* **P 20 51 00.3 0.0**
BFO Black Forest 86.26 332 *eP* **P 20 51 00.6 -0.4**
BFO pmax pmax
comp=Z,10.0nm,1.4s
BFO Black Forest 86.26 332 *eP* **P 20 51 00.6 -0.4**
comp=Z,10nm,1.4s
OHR Ohrid 86.30 320 *i* P **P 20 51 01.3 0.0**
DAVA Damuels 86.51 330 *i* pP **P 20 51 02.4 0.0**
comp=Z,6.9nm,0.9s
TXAR Lajitas Array 89.09 53 P **P 20 51 15.0 -0.1**
comp=Z,1.7nm,0.7s,baz=298,slow=3.4,SNR=20
TXAR Lajitas Array 89.09 53 P **P 20 51 15.0 -0.1**
MIAR Mount Ida 91.50 44 *eP* **P 20 51 26.1 +0.1**
MIAR pmax pmax
comp=Z,9.0nm,1.4s
MIAR Mount Ida 91.50 44 *eP* **P 20 51 26.1 +0.1**
comp=Z,9.0nm,1.4s
TORD Torodi Ar. Bea 118.56 316 PKP **PKPdf 20 57 06.7 -1.1**
comp=Z,0.3nm,0.6s,baz=13,slow=2.4,SNR=3.3
NNA Nana 136.38 66 *i* PKIKP **PKPdf 20 57 42.1 +0.4**
LPAZ La Paz 145.52 62 PKPbc **PKPdf 20 57 58.5 -0.3**
comp=Z,3.5nm,0.6s,baz=349,slow=4.3,SNR=19
LCO Las Campanas 150.56 85 *e*PKPbc **PKPbc 20 58 12.1 +0.4**

IDC **29** *20:51:51.7±0.4, 13˚.46N×125˚.36E, h0km, mb4.8/27, mb1 4.9/29, mb1mx4.9/32, mbtmp4.8/29, ML4.7/2, MS4.3/30, Ms1 4.3/30, ms1mx4.2/40, Error ellipse: s-maj=17.4km s-min=9.8km az=77.0*
ISCJB **29** *20:51:54.3±0.8, 13˚.50N±0˚.02×125˚.37E±0˚.02, h25km±5km, mb5.0/149, MS4.3/36, Error ellipse: s-maj=3.8km s-min=3.0km az=168.7*
MAN **29** *20:51:54, 13˚.56N×125˚.40E, h35km, mb5.8, ML4.8, MS5.2*
BJI **29** *20:51:55.6, 13˚.45N×125˚.37E, h39km, mb4.8/72, mB5.0/54, Ms4.7/77, Ms7 4.5/71*
MOS **29** *20:51:55.5±0.9, 13˚.46N×125˚.34E, h36km, mb5.3/62, MS4.4/11, Error ellipse: s-maj=9.2km s-min=4.4km az=117.8*
NEIC **29** *20:51:56.5±1.4, 13˚.47N×125˚.32E, h31km±9km, mb5.1/69, Error ellipse: s-maj=5.3km s-min=3.3km az=81.0*
GCMT **29** *20:51:56.5±0.1, 13˚.64N×125˚.33E, h16km, MW5.2/113, Moment Tensor Solution. s83,c126; s113,c210; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr~0.69±.02; Mθθ0.41±.01; Mφφ0.28±.01; Mrθ0.33±.03; Mrφ-0.41±.01; Mθφ~0.07±.03; Best double couple: M≈0.80000×10^17 NP1:φ≈298.0000°, δ57.00000°, λ-104.00000°. NP2:φ≈143.00000°, δ35.00000°, λ-69.00000°. Principal axes: T 0.8170, Plg11.0000°, Azm39.0000°; N -0.0340, Plg12.0000°, Azm306.0000°; P -0.7830, Plg74.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
KLM **29** *20:51:58.2, 13˚.67N×125˚.68E, h96km, mb5.1, MS5.5*
DJA **29** *20:52:02.4±0.4, 14˚.N±2˚×12˚.5E±˚, h95km±4km, M5.0/54, mb5.0/54, mB5.4/26, MLv5.5/1, Mw(mB)4.8/26*
ISC 29 20:51:57.1±0.4, 13˚.49N±0˚.03×125˚.40E±0˚.04, h34km±1km, h34km:pP-P, n491, σ1§66/546, mb5.0/159, MS4.3/36, 45C-27D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.88**	**179**	*eP*	**Pn**	**20 52 25.5**	**-1.4**
MMPH	**Masbate**	**2.07**	**237**⇓*eP*	**Pn**	**20 52 29.1**	**-0.4**
MMPH				*i* S	**Sn**	**20 52 53.2**	**-0.8**
GQP	**Guinayangan**	**2.90**	**278**⇑*eP*	**Pn**	**20 52 39.4**	**-1.5**
GQP				*eS*	**Sn**	**20 53 13.1**	**-1.5**
RCP	**Roxas**	**3.23**	**234**⇑*eP*	**Pn**	**20 52 45.5**	**+0.1**
RCP				*eS*	**Sn**	**20 53 23.0**	**+0.3**
LLP	**Lapu-Lapu**	**3.46**	**204**⇑*eP*	**Pn**	**20 52 48.1**	**-0.5**
LLP				*eS*	**Sn**	**20 53 28.1**	**-0.2**
POLP	**Polilio Island**	**3.58**	**290**	*eP*	**Pn**	**20 52 49.4**	**-0.8**
POLP				*eS*	**Sn**	**20 53 29.3**	**-1.9**
LQP	**Lukban**	**3.80**	**280**⇑*eP*	**Pn**	**20 52 51.2**	**-2.2**
SJMP	**San Jose**	**4.30**	**257**	*eP*	**Pn**	**20 53 01.3**	**+1.2**
BALP	**Baler**	**4.32**	**302**	*eP*	**Pn**	**20 52 56.3**	**-4.2**
BALP				*eS*	**Sn**	**20 53 42.9**	**-6.8**
JAP	**San Jose, Anti**	**4.34**	**231**⇑*eP*	**Pn**	**20 53 03.3**	**+2.5**
TGY	**Tagaytay City**	**4.38**	**278**	Pn	**Pn**	**20 53 00.8**	**-0.5**
	158nm,0.3s,baz=147,slow=1.8,SNR=10						
TGY				Sn	**Sn**	**20 53 51.2**	**0.0**
	89nm,0.3s,baz=36,slow=3.8,SNR=5.0						
SNPH	**Sibulan**	**4.64**	**207**⇓*iP*	Pn	20 52 59.2		-5.7
SNPH				*i* S	**Sn**	**20 53 51.0**	**-6.6**
CGP	**Cagayan de Oro**	**5.06**	**188**⇓*eP*	**Pn**	**20 53 10.4**		**-0.2**
CGP				*eS*	**Sn**	**20 54 07.3**	**-0.5**
BUSP	**Coron**	**5.29**	**254**	*eP*	**Pn**	**20 53 12.9**	**-0.8**
BIPH	**Bislig**	**5.36**	**170**⇓*eP*	**Pn**	**20 53 17.0**		**+2.3**
BIPH				*eS*	**Sn**	**20 54 08.3**	**-7.0**
CVP	**Callao Caves**	**5.42**	**321**⇓*eP*	**Pn**	**20 53 14.4**		**-1.2**
SGCP	**Mt. Cagua**	**5.72**	**326**	*eP*	**Pn**	**20 53 17.7**	**-1.9**
SGCP				*eS*	Sn	20 54 09.3	-15
PAGZ	**Pagadian**	**5.95**	**200**	*eP*	**Pn**	**20 53 25.0**	**+2.2**
ABRA	**Dolores**	**6.12**	**313**	*eP*	**Pn**	**20 53 24.4**	**-0.8**
ABRA				*eS*	**Sn**	**20 54 30.4**	**-3.6**
PIP	**Pasuquin**	**6.65**	**317**⇑*iP*	**Pn**	**20 53 32.1**		**-0.3**
PIP				*eS*	**Sn**	**20 54 47.2**	**+0.2**
TWG	**Pinlang**	**10.15**	**337**	*ePn*	Pn	20 54 14.7	-5.8
TWG				*eSn*	**Sn**	**20 56 06.5**	**-6.5**
YULB	**Yu-li**	**10.59**	**339**	*ePn*	**Pn**	**20 54 24.1**	**-2.4**
KDM	**Kudat**	**10.67**	**233**	⇑P	Pn	20 54 34.0	+6.4
MYLDM	**Lahad Datu**	**10.70**	**220**	*ePn*	**Pn**	**20 54 31.2**	**+3.1**
TPUB	**Ta-pu**	**10.75**	**336**	*ePn*	**Pn**	**20 54 28.3**	**-0.4**
SSLB	**Sunanglung**	**11.07**	**338**	*ePn*	**Pn**	**20 54 34.3**	**+1.2**
YOJ	**Yonaguni jima**	**11.14**	**349**	*eP*	**Pn**	**20 54 32.3**	**-1.7**
YOJ	**Yonaguni jima**	**11.14**	**349**	*ePn*	**Pn**	**20 54 32.3**	**-1.7**
NACB	**Ninganchiao**	**11.22**	**342**	*ePn*	**Pn**	**20 54 32.3**	**-2.8**
SDKM	**Sandakan**	**11.24**	**227**	⇓P	Pn	20 54 40.4	+4.9
YHNB	**Yeheng**	**11.75**	**342**	*ePn*	**Pn**	**20 54 42.8**	**+0.4**
YHNB				*eSn*	Sn	20 56 43.4	-9.1
TSM	**Tawau**	**11.78**	**220**	⇓P	**Pn**	**20 54 46.9**	**+4.1**
TATO	**Taipei**	**12.00**	**343**	*ePn*	**Pn**	**20 54 49.6**	**+3.8**
QZH	**Quanzhou**	**13.07**	**332**	⇓P	**Pn**	**20 54 58.3**	**-2.2**
QZH				LN			
	3µm,13.6s						
QZH				LE			
	2µm,13.0s						
QZH				LZ			
	3µm,17.5s						
LBMI	**Labuha**	**14.19**	**171**	P	**P**	**20 55 26.5**	**+3.7**
LUWI	**Luwuk**	**14.68**	**190**	P	P	20 55 33.4	+5.2
LUWI	**Luwuk**	**14.68**	**190**	*ePn*	**P**	**20 55 28.7**	**+0.5**
PCI	**Palu**	**15.33**	**202**	P	**P**	**20 55 35.7**	**+0.2**
SWI	**Sorong**	**15.40**	**157**	P	**Pn**	**20 55 31.7**	**-0.3**
SANI	**Sanana**	**15.45**	**178**	P	**Pn**	**20 55 32.8**	**+0.1**
	38nm,0.9s						
BTM	**Bintulu**	**15.90**	**231**	⇑P	**Pn**	**20 55 40.1**	**+1.7**
QIZ	**Qiongzhong**	**15.91**	**292**	P	**Pn**	**20 55 38.3**	**-0.3**
QIZ				S	**Sn**	**20 58 33.0**	**-1.1**
QIZ				LE			
	2µm,16.1s						
QIZ				LZ			
	2µm,15.2s						
SBUM	**Sibu**	**17.04**	**231**	⇑P	**Pn**	**20 55 53.5**	**+0.6**
SBUM	**Sibu**	**17.04**	**231**	*ePn*	**Pn**	**20 55 53.3**	**+0.4**
	232nm,1.7s						
MSAI	**Masohi**	**17.09**	**168**	P	**P**	**20 55 58.1**	**+3.1**
KDI	**Kendari**	**17.56**	**189**	P	**P**	**20 56 03.2**	**+3.1**
FAKI	**Fak Fak**	**17.67**	**157**	P	**P**	**20 56 03.5**	**+2.2**
FAKI	**Fak Fak**	**17.67**	**157**	*ePn*	**P**	**20 56 03.1**	**+1.8**
	89nm,1.1s						
MTKI	**Muara Teweh, K**	**17.73**	**217**	P	**P**	**20 56 04.2**	**+2.2**
SSE	**Sheshan**	**17.94**	**348**	P	**P**	**20 56 05.8**	**+1.5**
SSE				pP	**sP**	**20 56 15.8**	**-1.9**

SSE S **S** **20 59 26.8 -1.7**
SSE PMZ
24nm,0.8s
SSE PMZ
190nm,5.5s
SSE LN
620nm,17.1s
SSE LE
2µm,17.1s
SSE LZ
620nm,24.3s
SPSI Sidrap Palu 18.22 198 P **Pn** **20 56 08.3 +0.8**
141nm,0.8s,1µm
GUMO Guam 18.93 87 LR LR 21 03 43.0
comp=Z,1µm,18.1s,baz=262,slow=38
KSM Kuching 19.12 233 ⇓P **Pn** **20 56 18.4 -0.1**
KSM Kuching 19.12 233 *e*P **P** **20 56 12.1 -5.3**
80nm,1.3s
KAPI Kappang 19.23 197 P **P** **20 56 17.7 -0.8**
0.5nm,0.3s,baz=25,slow=8.0,SNR=10
KAPI Kappang 19.23 197 *e*P **Pn** **20 56 20.3 +0.6**
205nm,1.4s
UBPT Khong Chiam 19.39 278 P **Pn** **20 56 21.3 -0.3**
29nm,1.0s,906nm
NJ2 Nanjing 19.42 343 *e*P **Pn** **20 56 21.8 -0.1**
NJ2 S **Sn** **21 00 00.8 +2.0**
NJ2 PMZ
9.0nm,0.8s
NJ2 LN
810nm,17.4s
NJ2 LE
550nm,10.8s
NJ2 LZ
970nm,17.3s
WHN Wuhan 19.80 331 ⇑P **Pn** **20 56 27.8 +1.5**
WHN pP **sP** **20 56 40.3 +2.3**
WHN S **Sn** **21 00 08.5 +0.7**
WHN LN
1µm,12.3s
WHN LE
3µm,16.8s
WHN LZ
3µm,17.2s
BBKI Banjar Baru 19.84 213 P **P** **20 56 25.0 -0.2**
JNU Nakatsue 20.17 13 P **P** **20 56 29.2 +0.5**
46nm,0.9s,baz=182,slow=4.7,SNR=37
JNU LR LR 21 04 55.2
comp=Z,415nm,18.8s,baz=138,slow=39
JNU Nakatsue 20.17 13 *e*P **P** **20 56 29.6 +0.9**
76nm,1.0s
CBIJ Chichi jima 20.72 47 *e*P **P** **20 56 35.2 +0.5**
686nm,1.7s
SKNT Sakolnakorn 20.95 282 P Pn 20 56 40.0 0.0
24nm,1.6s
GENI Genyem 21.68 136 P **P** **20 56 47.0 +1.9**
GYA Guiyang 21.79 309 ⇑*i*P **P** **20 56 46.8 +0.5**
GYA pP sP 20 56 58.3 -1.6
GYA PP **PnPn** **20 57 14.0 +5.9**
GYA S **S** **21 00 41.5 -4.2**
GYA sS sS 21 00 58.5 -1.7
GYA SS **SnSn** **21 01 19.8 +8.1**
GYA PMZ
20nm,1.0s
GYA PMZ
120nm,4.8s
GYA LN
520nm,13.8s
GYA LE
480nm,14.0s
GYA LZ
500nm,14.2s
NONG Nongkai 21.89 285 P **P** **20 56 46.7 -0.6**
72nm,1.4s,7µm
KHON Khomkaen 22.00 280 P **P** **20 56 49.3 +0.8**
10.0nm,0.7s,635nm
MMRI Maumere 22.21 188 P **P** **20 56 53.8 +3.0**
104nm,1.7s
MMRI Maumere 22.21 188 *e*P **P** **20 56 52.4 +1.6**
149nm,1.2s
ENH Enshi 22.24 321 *e*P **P** **20 56 51.1 0.0**
52nm,0.9s
EDFI Ende, Flores 22.40 190 P **P** **20 56 51.1 -1.9**
87nm,1.4s,871nm
CHAI Chaiyaphum 22.77 279 P **P** **20 56 55.8 -1.0**
9.5nm,0.8s,112nm
TJN Taejon 22.85 4 ⇑*i*P **P** **20 56 58.1 +0.7**
SOEI Soe 23.13 183 P **P** **20 57 00.4 -0.1**
SOEI Soe 23.13 183 *e*P **P** **20 56 59.9 -0.6**
201nm,1.4s
PLAI Plampang 23.43 199 P **P** **20 57 01.5 -1.9**
192nm,0.8s,1µm
JHJ Hachijo jima 2 23.53 31 LR LR 21 05 42.8
comp=Z,690nm,18.3s,baz=242,slow=35
LOEI Loei 23.59 283 P **P** **20 57 01.3 -3.7**
83nm,0.8s,10µm
TWSI Taliwang, Sumb 23.65 201 P **P** **20 57 03.2 -2.3**
76nm,1.5s,991nm
PBKT Sadao Pong 23.79 280 P **P** **20 57 06.8 -0.1**
22nm,1.8s
TIA Tai'an 23.81 343 ⇓P **P** **20 57 08.0 +1.1**
TIA S **S** **21 01 21.0 +0.6**
TIA PMZ
10.0nm,0.7s
TIA LN
520nm,19.2s
TIA LE
950nm,12.7s
TIA LZ
630nm,21.2s
KS15 Wonju Array Si 23.95 5 *e*P **P** **20 57 09.0 +0.8**
KSAR Wonju Array Be 23.95 5 P **P** **20 57 08.2 0.0**
KSAR 21 00 50.5
KSAR Wonju Array Be 23.95 5 P **P** **20 57 08.2 0.0**
KSAR PcP **PcP** **21 00 50.5 +0.5**
KSRS Korea Array 23.97 5 P **P** **20 57 08.2 -0.1**
20nm,0.7s,baz=182,slow=11,SNR=86
KSRS PcP **PcP** **21 00 50.5 +0.5**
2.3nm,0.9s,baz=206,slow=3.2,SNR=5.1
KSRS LR LR 21 06 55.7
comp=Z,455nm,19.8s,baz=194,slow=38
KS01 Wonju Array Si 23.99 5 *e*P **P** **20 57 08.7 +0.2**
KS01 *e*PcP **PcP** **21 00 50.4 +0.3**
INU Inuyama 24.15 24 *e*P **P** **20 57 09.6 -0.5**
41nm,0.9s
KMI Kunming 24.27 302 P **P** **20 57 11.3 -0.3**
KMI pP pP 20 57 23.5 +2.1
KMI sP sP 20 57 28.3 +2.7
KMI PP **PnPn** **20 57 47.0 +4.8**
KMI PcP **PcP** **21 00 53.0 +1.7**
KMI S **S** **21 01 30.5 +2.0**
KMI SS **SnSn** **21 02 20.5 +7.9**
KMI PMZ
21nm,1.4s
KMI PMZ
340nm,6.1s
KMI LN
930nm,16.9s
KMI LE
510nm,19.0s
KMI LZ
970nm,15.5s
MYKOM Kota Tinggi 24.29 243 ⇑P **P** **20 57 09.5 -2.0**
MYKOM Kota Tinggi 24.29 243 *e*P **P** **20 57 09.3 -2.2**
49nm,1.2s
UTTA Uttaradit 24.29 283 P **P** **20 57 10.7 -0.8**
3.5nm,0.9s,46nm
JAGI Jajag, Banyuwa 24.51 208 P **P** **20 57 12.3 -1.3**
JAGI Jajag, Banyuwa 24.51 208 *e*P **P** **20 57 12.5 -1.1**
172nm,1.1s
NGJI Ngawi 24.92 215 P **P** **20 57 17.9 +0.6**
SUKH Sukhothai 25.14 282 P **P** **20 57 18.5 -0.7**
7.6nm,0.9s,61nm
LAMP Lampang 25.26 285 P **P** **20 57 22.5 +2.2**
6.1nm,0.8s
PWJI Pagerwojo 25.28 213 P **P** **20 57 22.0 +1.5**
XAN Xi'an 25.34 327 P **P** **20 57 20.0 -1.0**
XAN S **S** **21 01 50.0 +4.9**
XAN PMZ
45nm,1.0s
XAN PMZ
210nm,5.2s
XAN LN
770nm,15.5s
XAN LE
710nm,16.3s
XAN LZ
880nm,15.8s
DL2 Dalian 25.53 353 P **P** **20 57 29.3 +6.8**
DL2 S S 21 02 01.5 +14
DL2 pmax pmax
comp=Z,36nm,1.0s
DL2 LR LR
comp=N,750nm,17.3s
DL2 LR LR
comp=E,1µm,17.5s
DL2 LR LR
comp=Z,820nm,14.5s
IPM Ipoh 25.66 252 ⇓P **P** **20 57 22.5 -1.6**
IPM Ipoh 25.66 252 *e*P **P** **20 57 22.4 -1.7**
comp=Z,121nm,2.0s
MJAR Matsushiro Arr 25.66 24 PcP **PcP** **21 00 54.2 +0.3**
comp=Z,3.7nm,0.8s,baz=182,slow=3.1,SNR=7.8
MJAR LR LR 21 07 39.2
comp=Z,499nm,18.5s,baz=225,slow=37
UMPA Umpang Tak 25.79 279 P **P** **20 57 31.6 +6.4**
comp=Z,6.6nm,1.0s,comp=Z,96nm
CM01 Chiang Mai Arr 25.88 284 *e*P **P** **20 57 24.6 -1.4**
CM01 *e*PcP **PcP** **21 00 55.7 +1.1**
CM31 Chiang Mai Arr 25.90 284 *e*P **P** **20 57 25.9 -0.2**
CM31 *e*PcP **PcP** **21 00 56.4 +1.7**
CMAR Chiang Mai Arr 25.90 284 P **P** **20 57 25.5 -0.6**
comp=Z,15nm,0.9s,baz=98,slow=7.7,SNR=53
CMAR PcP **PcP** **21 00 55.6 +0.9**
comp=Z,6.7nm,0.9s,baz=61,slow=1.1,SNR=20
CMAR LR LR 21 08 41.0
comp=Z,477nm,20.2s,baz=88,slow=39
CMMT Chiang Mai 25.94 285 P **P** **20 57 26.3 -0.2**
comp=Z,11nm,1.1s,comp=Z,350nm
CHTO Chiang Mai 25.94 285 P **P** **20 57 26.4 -0.2**
comp=Z,46nm,1.4s
CHTO Chiang Mai 25.94 285 *e*P **P** **20 57 25.2 -1.3**
CHTO *e* 21 00 56.0
CHTO pmax pmax
comp=Z,12nm,1.1s
CHTO Chiang Mai 25.94 285 *e*P **P** **20 57 25.2 -1.3**
comp=Z,12nm,1.1s
CHTO *e*PcP **PcP** **21 00 56.0 +1.2**
CD2 Chengdu 26.41 315 P **P** **20 57 30.8 +0.1**
CD2 pP pP 20 57 41.5 +1.0
CD2 sP sP 20 57 46.8 +2.1
CD2 S **S** **21 02 02.5 +0.4**
CD2 sS sS 21 02 21.0 +2.6
CD2 PMZ
comp=Z,40nm,0.6s
CD2 PMZ
comp=Z,220nm,5.2s
CD2 LN
comp=Z,2µm,18.9s
CD2 LE
comp=Z,1µm,13.7s
CD2 LZ
comp=Z,2µm,16.5s
MTN Manton Dam 26.78 168 *e*P **P** **20 57 32.6 -1.5**
comp=Z,144nm,1.8s
BJT Baijiatuau 27.64 345 *e*P **P** **20 57 39.0 -2.6**
BJT Baijiatuau 27.64 345 *e*P **P** **20 57 39.0 -2.6**
BJI Beijing 27.66 345 P **P** **20 57 41.5 -0.2**
BJI pP **pP** **20 57 52.0 +0.4**
BJI sP **sP** **20 57 55.3 -0.5**
BJI PcP **PcP** **21 00 59.5 +1.1**
BJI S **S** **21 02 21.0 -0.4**
BJI sS **sS** **21 02 38.3 +0.5**
BJI PMZ
comp=Z,10.0nm,1.6s
BJI PMZ
comp=Z,190nm,5.4s
BJI LN
comp=Z,340nm,16.7s
BJI LE
comp=Z,660nm,16.7s
BJI LZ
comp=Z,410nm,26.4s
SNY Shenyang 28.27 357 ⇓P **P** **20 57 47.0 -0.2**
SNY S **S** **21 02 32.5 +1.4**
SNY PMZ
comp=Z,7.0nm,0.7s
SNY PMZ
comp=Z,190nm,3.9s
SNY LN
comp=Z,250nm,8.4s
SNY LE
comp=Z,1µm,16.5s
SNY LZ
comp=Z,800nm,15.1s
KSI Kapahiang 28.33 235 P **P** **20 57 51.4 +3.3**
comp=Z,93nm,1.0s
LZH Lanzhou 29.68 323 ⇓P **P** **20 58 01.0 +1.0**
LZH pP pP 20 58 11.5 +1.6
LZH sP sP 20 58 17.0 +2.9
LZH PP **PnPn** **20 58 59.3 +3.4**
LZH S **S** **21 02 53.3 -0.4**
LZH sS sS 21 03 11.3 +1.2
LZH PMZ
comp=Z,70nm,1.5s
LZH PMZ
comp=Z,290nm,5.0s
LZH LN
comp=Z,1µm,13.0s
LZH LE
comp=Z,1µm,13.2s
LZH LZ
comp=Z,2µm,14.3s
HHC Hu-ho-hao-te 29.82 339 *e*P **P** **20 58 01.5 +0.4**
HHC pP pP 20 58 10.8 -0.2
HHC sP sP 20 58 16.5 +1.3
HHC S **S** **21 02 51.5 -4.2**
HHC sS sS 21 03 16.3 +4.3
HHC SS **SnSn** **21 04 27.3 -0.4**
HHC PMZ
comp=Z,15nm,1.2s
HHC PMZ
comp=Z,150nm,6.2s
HHC LN
comp=Z,520nm,13.6s
HHC LE
comp=Z,330nm,14.2s
HHC LZ
comp=Z,400nm,13.7s
VLA Vladivostok 30.05 10 ⇓*e*P **P** **20 58 01.6 -1.3**
VLA *e**PP **pP** **20 58 10.9 -1.9**
VLA *e**SP **sP** **20 58 15.2 -1.8**
VLA *i* 20 58 59.3
VLA *e* 21 01 02.1
VLA *e*S **S** **21 02 58.9 0.0**
VLA pmax pmax
comp=Z,14nm,1.2s
USRK Ussuriysk Ar. 31.12 9 P **P** **20 58 12.4 +0.1**
comp=Z,8.4nm,0.8s,baz=187,slow=8.2,SNR=27
USRK LR LR 21 10 20.2
comp=Z,305nm,20.5s,baz=180,slow=36
MDJ Mudanjiang 31.22 6 P **P** **20 58 16.3 +3.0**
MDJ pP pP 20 58 25.0 +1.8
MDJ sP sP 20 58 28.8 +1.4
MDJ S **S** **21 03 19.3 +2.0**
MDJ sS sS 21 03 37.5 +3.8
MDJ PMZ
comp=Z,5.0nm,0.6s
MDJ PMZ
comp=Z,57nm,4.6s
MDJ LN
comp=Z,310nm,17.1s
MDJ LE
comp=Z,450nm,17.1s
MDJ LZ
comp=Z,640nm,17.1s
MDJ Mudanjiang 31.22 6 *e*P **P** **20 58 12.7 -0.6**
FITZ Fitzroy Crossi 31.40 180 P **P** **20 58 13.6 -1.4**
comp=Z,21nm,0.8s,baz=354,slow=9.2
FITZ Fitzroy Crossi 31.40 180 *e*P **P** **20 58 13.7 -1.4**
comp=Z,20nm,0.8s
COEN Coen 32.46 146 *e*P **P** **20 58 23.7 -0.8**
comp=Z,33nm,1.0s
GTA Gaotai 34.28 324 ⇓P **P** **20 58 40.5 +0.2**
GTA pP pP 20 58 50.5 +0.3
GTA sP sP 20 58 54.3 -0.1
GTA PcP **PcP** **21 01 17.0 +0.8**
GTA S **S** **21 04 06.3 +1.0**
GTA sS sS 21 04 22.0 +0.3
GTA SS **SnSn** **21 06 18.0 +1.9**
GTA PMZ
comp=Z,14nm,1.4s
GTA PMZ
comp=Z,200nm,6.4s
GTA LN
comp=Z,540nm,17.3s
GTA LE
comp=Z,650nm,16.6s
GTA LZ
comp=Z,600nm,18.3s
WRAB Tennant Creek 34.37 165 ⇑*i*P **P** **20 58 39.8 -1.3**
WRAB pmax pmax
comp=Z,94nm,1.7s
WRAB Tennant Creek 34.37 165 *e*P **P** **20 58 39.7 -1.3**
comp=Z,60nm,1.6s
WRA Warramunga Arr 34.37 165 P **P** **20 58 39.1 -2.0**
comp=Z,14nm,0.9s,baz=346,slow=9.0,SNR=54
WRA PcP **PcP** **21 01 16.3 -0.3**
comp=Z,8.6nm,0.9s,baz=340,slow=3.2,SNR=12
WRA LR LR 21 16 57.7
comp=Z,256nm,18.0s,baz=355,slow=44
WB2 Warramunga Arr 34.38 165 *e*P **P** **20 58 39.4 -1.7**
comp=Z,20nm,0.8s
MBWA Marble Bar 34.88 189 *e*P **P** **20 58 43.1 -2.4**
comp=Z,83nm,2.0s
MBWA *e*PcP **PcP** **21 01 17.8 -0.2**
LSA Lhasa 35.52 303 P **P** **20 58 52.3 +0.7**
LSA PMZ
comp=Z,28nm,1.2s
LSA Lhasa 35.52 303 *e*P **P** **20 58 52.2 +0.7**
LSA pmax pmax
comp=Z,34nm,1.0s
LSA Lhasa 35.52 303 *e*P **P** **20 58 52.2 +0.7**
comp=Z,34nm,1.0s
HIA Hailar 35.97 354 *e*P **P** **20 58 54.7 +0.1**
HIA Hailar 35.97 354 *e*P **P** **20 58 54.7 +0.1**
KLR Kul'dur 36.02 7 ⇓*i*P **P** **20 58 56.1 +1.2**
ULN Ulaanbaatar 37.52 340 *e*P **P** **20 59 08.4 +0.4**
ULN *e* 21 01 26.2
ULN pmax pmax
comp=Z,56nm,1.1s
ULN Ulaanbaatar 37.52 340 *e*P **P** **20 59 08.4 +0.4**
comp=Z,56nm,1.1s
ULN *e*PcP **PcP** **21 01 26.2 +0.5**
SONM Songino Array 37.72 339 P **P** **20 59 09.7 +0.1**
comp=Z,17nm,0.8s,baz=154,slow=8.8,SNR=100
SONM PcP **PcP** **21 01 26.4 +0.1**
comp=Z,3.2nm,0.8s,baz=157,slow=3.4,SNR=5.7
SONM LR LR 21 16 29.6
comp=Z,450nm,19.5s,baz=153,slow=39
SONM Songino Array 37.72 339 *e*P **P** **20 59 09.9 +0.3**
SONM pmax pmax
comp=Z,17nm,0.8s
SONA1 Songino Array 37.73 339 *e*P **P** **20 59 09.5 -0.2**
AS31 Alice Springs 37.86 167 *e*P **P** **20 59 10.6 -0.3**
comp=Z,6.8nm,0.9s
ASAR Alice Springs 37.86 167 P **P** **20 59 10.2 -0.7**
comp=Z,12nm,0.6s,baz=352,slow=7.2,SNR=69
ASAR PcP **PcP** **21 01 26.6 -0.3**
comp=Z,5.9nm,0.9s,baz=350,slow=3.0,SNR=6.2
ASAR LR LR 21 17 33.8
comp=Z,210nm,18.0s,baz=352,slow=41
AS01 Alice Springs 37.87 167 *e*P **P** **20 59 09.2 -1.7**
AS01 *e*S **S** **21 04 57.8 -2.4**
RAMN Ramite 38.63 296 *e*P **P** **20 59 17.8 +0.1**
comp=Z,91nm,0.7s
CTAO Charters Tower 39.17 148 *e*P **P** **20 59 22.3 +0.3**
CTAO pmax pmax
comp=Z,619nm,1.0s
CTAO Charters Tower 39.17 148 *e*P **P** **20 59 22.3 +0.3**
comp=Z,619nm,1.0s
GUN Gumba 39.46 298 *e*P **P** **20 59 24.6 -0.2**
comp=Z,114nm,0.7s
PKIN Phulchoki 39.81 297 *e*P **P** **20 59 28.0 +0.4**
comp=Z,76nm,1.3s
TYV Tymovskoe 39.82 17 *e*P P 20 59 21.0 -6.0
H11S3 WAKE ISLAND Hy 39.94 77 T T 21 43 22.6
baz=270,slow=75,SNR=24
H11S1 WAKE ISLAND Hy 39.95 77 T T 21 43 29.4
baz=270,slow=75,SNR=25
H11S2 WAKE ISLAND Hy 39.95 77 T T 21 43 18.3
baz=270,slow=75,SNR=22
KKN Kakani 39.95 297 *e*P **P** **20 59 28.1 -0.7**
comp=Z,92nm,1.0s
DMN Daman 40.07 297 *e*P **P** **20 59 29.1 -0.6**
comp=Z,139nm,1.2s
H11N1 WAKE ISLAND Hy 40.16 75 T T 21 43 39.8
baz=267,slow=74,SNR=91
H11N2 WAKE ISLAND Hy 40.17 75 T T 21 43 40.3
baz=267,slow=74,SNR=100
H11N3 WAKE ISLAND Hy 40.18 75 T T 21 43 41.2
baz=267,slow=74,SNR=82
GKN Gorkha 40.56 297 *e*P **P** **20 59 32.9 -0.8**
comp=Z,99nm,0.9s
ZAK Zakamensk 40.97 338 *e*P **P** **20 59 35.6 -1.1**
ZAK *e* 21 01 35.0
ZAK pmax pmax
comp=Z,5.0nm,1.5s
ZAK pmax pmax
comp=Z,6.0nm,1.0s
HNR Honiara 41.17 122 LR LR 21 13 56.4
comp=Z,508nm,21.2s,baz=299,slow=32
KOLN Koldanda 41.41 297 *e*P **P** **20 59 40.4 -0.3**
comp=Z,74nm,0.8s
TLY Talaya 41.93 340 LR LR 21 18 47.5
comp=Z,345nm,19.3s,baz=138,slow=38
TLY Talaya 41.93 340 *e*P **P** **20 59 45.3 +0.9**
TLY *e*S **S** **21 05 57.7 -2.8**
TLY pmax pmax
comp=Z,16nm,1.0s
TLY MLR MLR
comp=Z,249nm,18.0s
TLY Talaya 41.93 340 *e*P **P** **20 59 44.9 +0.5**
comp=Z,14nm,1.0s
PYUN Piuthan 42.00 297 *e*P **P** **20 59 45.3 -0.3**
comp=Z,165nm,1.0s
IRK Irkutsk 42.20 341 *e*P **P** **20 59 44.8 -1.8**
IRK pmax pmax
comp=Z,31nm,2.2s
MOY Mondy 42.85 338 *e*P **P** **20 59 52.4 +0.3**
MOY pmax pmax
comp=Z,40nm,1.8s
FORT Forrest 44.09 177 *e*P **P** **21 00 01.9 -0.2**
comp=Z,622nm,0.8s
WMQ Urumqi 44.19 321 P **P** **21 00 03.5 +0.6**
WMQ pP pP 21 00 13.5 +0.4
WMQ sP sP 21 00 22.3 +5.1
WMQ PP **PcP** **21 01 48.3 +1.0**
WMQ S **S** **21 06 33.0 -1.0**
WMQ SS **SS** **21 09 43.3 -9.3**
WMQ PMZ
comp=Z,10.0nm,1.1s
WMQ PMZ
comp=Z,74nm,3.8s
WMQ LN
comp=Z,520nm,16.1s
WMQ LE
comp=Z,480nm,17.5s
WMQ LZ
comp=Z,180nm,17.7s
BOD Bodaibo 45.08 351 *e*P **P** **21 00 09.1 -0.5**
BOD pmax pmax
comp=Z,14nm,1.4s
HYB Hyderabad 45.24 281 *i*P **P** **21 00 12.0 +0.4**
EIDS Eidsvold 46.03 147 *e*P **P** **21 00 17.5 -0.1**
comp=Z,50nm,0.8s
NWAO Narrogin (SRO) 46.81 189 P **P** **21 00 22.8 -0.8**
comp=Z,16nm,0.6s,baz=254,slow=9.9
NWAO Narrogin (SRO) 46.81 189 *e*P **P** **21 00 21.9 -1.7**
NWAO Narrogin (SRO) 46.81 189 *e*P **P** **21 00 21.9 -1.7**
PEA0 Petropavlovsk- 47.10 26 *e*P **P** **21 00 27.0 +1.3**
PETK Petropavlovsk- 47.10 26 P **P** **21 00 26.5 +0.8**
comp=Z,8.2nm,1.0s,baz=212,slow=5.1,SNR=5.1
PETK LR LR 21 22 46.9
comp=Z,174nm,18.2s,baz=216,slow=39
BBOO Buckleboo 47.16 168 *e*P **P** **21 00 26.5 +0.2**
comp=Z,178nm,0.9s
PET Petropavlovsk 47.45 27 P **P** **21 00 29.0 +0.6**
PET pmax pmax
comp=Z,15nm,1.0s
STKA Stephens Creek 47.71 161 P **P** **21 00 30.9 +0.3**
comp=Z,51nm,1.1s,baz=334,slow=8.2,SNR=36
STKA LR LR 21 25 55.9
comp=Z,213nm,18.9s,baz=351,slow=43
STKA Stephens Creek 47.71 161 *e*P **P** **21 00 30.9 +0.3**
STKA pmax pmax
comp=Z,19nm,1.3s
STKA Stephens Creek 47.71 161 *e*P **P** **21 00 30.9 +0.3**

comp=Z,19nm,1.3s
YAK Yakutsk 48.56 3 LR LR 21 22 38.9
comp=Z,254nm,18.9s,baz=186,slow=38
YAK Yakutsk 48.56 3 *eP* **P 21 00 36.7 -0.1**
YAK pmax pmax
comp=Z,13nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.1s
MK01 Makanchi Array 48.96 321 *eP* **P 21 00 40.0 -0.2**
MK31 Makanchi Array 48.98 322 *i* P **P 21 00 40.9 +0.6**
MK31 pmax pmax
comp=Z,63nm,1.3s
MK31 Makanchi Array 48.98 322 *eP* **P 21 00 41.1 +0.8**
MKAR Makanchi Array 48.98 322 P **P 21 00 41.0 +0.6**
comp=Z,14nm,0.8s,baz=113,slow=9.3,SNR=103
MKAR PcP **PcP 21 02 03.0 -1.1**
comp=Z,10nm,0.9s,baz=97,slow=5.0,SNR=5.9
MKAR LR LR 21 22 34.6
comp=Z,410nm,18.0s,baz=118,slow=38
MAKZ Makanchi 49.17 321 *eP* **P 21 00 42.5 +0.7**
MAKZ pmax pmax
comp=Z,86nm,1.4s
MAKZ Makanchi 49.17 321 *eP* **P 21 00 42.5 +0.7**
comp=Z,86nm,1.4s
PDGK Podgornoye 49.28 316 *i* P **P 21 00 43.5 +0.9**
PDGK pmax pmax
comp=Z,118nm,1.1s
ARMA Armidale 50.44 150 *eP* **P 21 00 52.9 +1.2**
comp=Z,152nm,1.8s
KSH Kashi 50.48 310 P **P 21 00 54.5 +2.5**
KSH pP sP 21 01 06.0 -0.4
KSH PcP **PcP 21 02 13.3 +3.4**
KSH PP **PP 21 02 51.0 +3.1**
KSH S **S 21 08 05.0 +1.2**
KSH ScS **ScS 21 10 38.5 -2.2**
KSH SS **SS 21 11 37.0 -1.0**
KSH PMZ
comp=Z,22nm,0.8s
KSH LN
comp=Z,710nm,12.8s
KSH LE
comp=Z,840nm,16.4s
KSH LZ
comp=Z,690nm,14.9s
ZAA0 Zalesovo Array 51.41 331 *eP* **P 21 00 58.2 -0.4**
ZALV Zalesovo Beam 51.41 331 P **P 21 00 58.3 -0.3**
comp=Z,15nm,0.9s,baz=115,slow=6.7,SNR=47
ZALV PcP **PcP 21 02 11.9 -0.9**
comp=Z,6.7nm,0.9s,baz=96,slow=3.0,SNR=3.8
ZALV LR LR 21 24 06.8
comp=Z,368nm,18.7s,baz=70,slow=38
TKM2 Tokmak 2 51.79 314 *eP* **P 21 01 02.5 +0.6**
TKM2 pmax pmax
comp=Z,48nm,1.4s
TKM2 Tokmak 2 51.79 314 *eP* **P 21 01 02.5 +0.6**
comp=Z,48nm,1.4s
FRU Bishkek 52.45 314⇓ *i* P **P 21 01 07.0 +0.4**
FRU pmax pmax
comp=Z,70nm,2.0s
AAK Ala-Archa 52.47 314 *d iP* **P 21 01 07.8 +0.9**
AAK pmax pmax
comp=Z,19nm,1.0s
AAK Ala-Archa 52.47 314 *eP* **P 21 01 08.3 +1.3**
comp=Z,70nm,1.9s
NVS Novosibirsk 52.69 331⇑ *iP* **P 21 01 08.3 +0.3**
NVS *i* 21 01 23.2
NVS *i* 21 02 15.0
NVS *eS* **S 21 08 38.8 +5.5**
NVS pmax pmax
comp=N,21nm,1.5s
NVS pmax pmax
comp=E,24nm,1.5s
NVS pmax pmax
comp=Z,36nm,1.5s
NVS smax smax
comp=E,25nm,2.4s
SEY Seymchan 52.93 15⇑ *eP* **P 21 01 11.3 +1.6**
KURK Kurchatov 52.95 325 *eP* **P 21 01 10.6 +0.5**
KURK pmax pmax
comp=Z,1μm,1.3s
KURK Kurchatov 52.95 325 *eP* **P 21 01 10.6 +0.5**
comp=Z,1μm,1.3s
EKS2 Erkin-Say 52.98 314 *eP* **P 21 01 11.6 +0.9**
EKS2 pmax pmax
comp=Z,30nm,1.1s
EKS2 Erkin-Say 52.98 314 *eP* **P 21 01 11.6 +0.9**
comp=Z,30nm,1.1s
CAN Canberra 53.45 156 *eP* **P 21 01 14.8 +0.8**
CAN pmax pmax
comp=Z,122nm,1.7s
CAN Canberra 53.45 156 *eP* **P 21 01 14.8 +0.8**
comp=Z,122nm,1.7s
DZM Mont Dzumac 53.56 131 *eP* P 21 01 21.7 +6.6
comp=Z,70nm,1.3s
DZM Mont Dzumac 53.56 131 *e*LR LR 21 17 02.7
comp=Z,229nm,23.4s
MNAS Manas 53.84 313 *i* P **P 21 01 17.9 +0.9**
MNAS pmax pmax
comp=Z,62nm,1.6s
KBL Kabul 54.85 303 *eP* **P 21 01 24.7 +0.2**
KBL pmax pmax
comp=Z,38nm,0.9s
KBL Kabul 54.85 303 *eP* **P 21 01 24.7 +0.2**
comp=Z,38nm,0.9s
KK31 Karatay Array 55.41 313 *i* P **P 21 01 28.3 +0.1**
KK31 pmax pmax
comp=Z,29nm,0.9s
KKAR Karatay Array 55.41 313 *eP* **P 21 01 28.6 +0.4**
KKAR Karatay Array 55.41 313 *eP* **P 21 01 28.6 +0.4**
OTUK Ortayu 55.72 320 *i* P **P 21 01 31.1 +0.7**
OTUK pmax pmax
comp=Z,73nm,1.0s
VOSK Vostochnaya 58.11 324 *eP* **P 21 01 47.0 -0.2**
VOSK pmax pmax
comp=Z,30nm,1.0s
VOSK Vostochnaya 58.11 324 *eP* **P 21 01 47.0 -0.2**
comp=Z,30nm,1.0s
TIXI Tiksi 58.16 1 LR LR 21 26 57.8
comp=Z,226nm,21.3s,baz=194,slow=36
TIXI Tiksi 58.16 1 *eP* **P 21 01 46.7 -0.5**
TIXI pmax pmax
comp=Z,17nm,1.4s
TIXI Tiksi 58.16 1 *eP* **P 21 01 46.7 -0.5**
comp=Z,17nm,1.4s
BRVK Borovoye 58.62 325 *d iP* **P 21 01 51.4 +0.7**
BRVK *i* *SP **sP 21 02 05.6 +0.4**
BRVK pmax pmax
comp=Z,222nm,1.2s
BRVK Borovoye 58.62 325 *eP* **P 21 01 51.2 +0.5**
comp=Z,69nm,1.0s
CHKZ Chkalovo 58.66 325 *i* P **P 21 01 50.9 -0.1**
CHKZ pmax pmax
comp=Z,78nm,1.7s
ZRNK Zerenda 59.31 324 *i* P **P 21 01 55.6 +0.1**
ZRNK pmax pmax
comp=Z,50nm,0.9s
ZRNK Zerenda 59.31 324 *eP* **P 21 01 55.8 +0.3**
comp=Z,68nm,1.1s
MSVF Nonsavu 60.51 119 *eP* **P 21 02 06.2 +1.8**
MSVF pmax pmax
comp=Z,53nm,1.0s
MSVF Nonsavu 60.51 119 *eP* **P 21 02 06.2 +1.8**
comp=Z,53nm,1.0s
BILL Bilibino 60.56 16⇑ *iP* **P 21 02 04.5 +0.7**
BILL *i* 21 02 18.9
BILL *i* 21 02 46.6
BILL *i* S S 21 10 28.1 +11
BILL pmax pmax
comp=Z,5.0nm,1.2s
BILL MLR MLR
comp=Z,125nm,17.0s
BILL Bilibino 60.56 16 *eP* **P 21 02 04.6 +0.7**
comp=Z,17nm,1.2s
NRIK Noril'sk 60.70 346 P **P 21 02 04.8 +0.1**
comp=Z,11nm,1.0s,baz=127,slow=5.9,SNR=12
NRIK PcP **PcP 21 02 48.8 +0.2**
comp=Z,12nm,0.8s,baz=91,slow=1.5,SNR=5.5
NRIK LR LR 21 29 35.6
comp=Z,303nm,20.6s,baz=134,slow=37
AB31 Akbulak array 63.90 318 *i* P **P 21 02 26.3 -0.2**
AB31 pmax pmax
comp=Z,19nm,0.8s
ABKAR Akbulak array 63.90 318 *eP* **P 21 02 26.4 -0.1**
GEYT Alibeck 63.96 306 P **P 21 02 27.9 +0.7**
comp=Z,21nm,0.8s,baz=126,slow=2.6,SNR=61
GEYT LR LR 21 33 09.2

comp=Z,482nm,20.6s,baz=75,slow=39
SVE Sverdlovsk 65.06 327 *cePP* **P 21 02 33.9 0.0**
SVE pmax pmax
comp=Z,51nm,1.1s
AKTO Aktyubinsk 65.33 319 *i* P **P 21 02 35.4 -0.4**
AKTO pmax pmax
comp=Z,21nm,1.1s
HATD Hatta, Dubai 65.81 291 P **P 21 02 40.3 +0.8**
ASHO Ashiyiah 65.89 291 P **P 21 02 39.8 -0.1**
ARU Arti 66.09 326 *d iP* **P 21 02 39.9 -0.7**
ARU *e* 21 03 09.1
ARU 21 05 07.1
ARU S **S 21 11 28.0 +1.6**
ARU 21 12 29.2
ARU SS **SS 21 15 44.5 +2.4**
ARU pmax pmax
comp=Z,25nm,1.0s
ARU Arti 66.09 326 *eP* **P 21 02 40.0 -0.7**
comp=Z,40nm,1.3s
GROC Groznyy 73.35 311 *eP* **P 21 03 24.5 -1.1**
GROC pmax pmax
comp=Z,134nm,1.8s
DGRG David-gareji 73.77 310 P **P 21 03 29.0 +0.9**
DGRG David-gareji 73.77 310 P **P 21 03 29.0 +0.9**
TBLG Delisi 74.22 310 P **P 21 03 31.0 +0.1**
TBLG Delisi 74.22 310 P **P 21 03 30.9 +0.1**
GNI Garni 74.34 308 *i* P **P 21 03 32.1 +0.4**
SNR=5.5
GNI Garni 74.34 308 *c iP* **P 21 03 33.4 +1.7**
GNI pmax pmax
comp=Z,114nm,1.2s
GNI Garni 74.34 308 *eP* **P 21 03 32.9 +1.2**
comp=Z,76nm,1.6s
MRIV Mauritius Mete 74.72 244 *eP* **P 21 03 33.1 -0.9**
ZEI Tsey 74.76 311 *eP* **P 21 03 32.3 -1.9**
ZEI pmax pmax
comp=Z,51nm,0.6s
NCK Nalchik 74.93 312⇑ *iP* **P 21 03 35.0 +0.1**
NCK *i* *SP **sP 21 03 49.2 -0.4**
NCK pmax pmax
comp=Z,15nm,1.0s
ONI Oni 75.11 311 P **P 21 03 36.8 +0.8**
ONI Oni 75.11 311 P **P 21 03 36.8 +0.8**
BGD Bogdanovka 75.11 309 P **P 21 03 37.1 +0.9**
BPAW Bear Paw Mtn. 75.18 27 *eP* **P 21 03 36.6 +0.7**
comp=Z,35nm,1.1s
AKH Akhalkalaki 75.18 310⇑ *iP* **P 21 03 38.0 +1.4**
AKH Akhalkalaki 75.18 310 P **P 21 03 37.4 +0.9**
AKH Akhalkalaki 75.18 310 P **P 21 03 37.4 +0.9**
GOF Gofitskoye 75.21 313⇑ *eP* **P 21 03 36.9 +0.5**
GOF pmax pmax
comp=Z,40nm,1.3s
MLY Manley 75.28 26 *eP* **P 21 03 37.4 +1.0**
comp=Z,24nm,1.2s
KBZ Khabaz 75.42 312 P **P 21 03 37.7 +0.1**
comp=Z,15nm,0.9s,baz=100,slow=5.7,SNR=26
KBZ LR LR 21 41 41.7
comp=Z,195nm,18.2s,baz=76,slow=40
COLD Coldfoot 75.49 24 *eP* **P 21 03 38.9 +1.3**
comp=Z,19nm,1.1s
TRF Thorofare Moun 75.50 28 *eP* **P 21 03 37.8 -0.2**
comp=Z,15nm,1.2s
KIV Kislovodsk 75.55 312 *i* P **P 21 03 38.4 -0.1**
SNR=18
KIV Kislovodsk 75.55 312 *eP* **P 21 03 38.4 -0.1**
KIV *eS* **S 21 13 17.4 +0.3**
KIV pmax pmax
comp=Z,44nm,1.0s
KIV Kislovodsk 75.55 312 *eP* **P 21 03 39.0 +0.5**
comp=Z,40nm,0.9s
NEY Neytrino 75.59 312⇑ *iP* **P 21 03 40.1 +1.2**
NEY pmax pmax
comp=Z,3.0nm,1.1s
VRH Novokhopyorsk 75.66 320 *eP* **P 21 03 38.4 -0.5**
VRH pmax pmax
comp=Z,50nm,1.3s
MCK McKinley 76.09 27 *eP* **P 21 03 41.0 -0.1**
MCK pmax pmax
comp=Z,30nm,1.1s
MCK McKinley 76.09 27 *eP* **P 21 03 41.0 -0.1**
comp=Z,30nm,1.1s
RND Reindeer 76.14 28 *eP* **P 21 03 41.4 -0.1**
RND pmax pmax
comp=Z,25nm,1.3s
RND Reindeer 76.14 28 *eP* **P 21 03 41.4 -0.1**
comp=Z,25nm,1.3s
KLMR Klimovskoe 76.33 330 *eP* **P 21 03 39.0 -3.4**
KLMR *e* 21 06 31.2
KLMR pmax pmax
comp=Z,46nm,1.4s
MDM Murphy Dome 76.35 26 *eP* **P 21 03 42.9 +0.3**
comp=Z,61nm,2.0s
WRH Wood River Hil 76.43 26 *eP* **P 21 03 43.5 +0.5**
comp=Z,21nm,1.5s
SML Sawmill 76.46 29 *eP* **P 21 03 43.6 +0.3**
SML pmax pmax
comp=Z,15nm,1.0s
SML Sawmill 76.46 29 *eP* **P 21 03 43.6 +0.3**
comp=Z,15nm,1.0s
COLA College 76.51 26⇓ *iP* **P 21 03 44.0 +0.6**
COLA pmax pmax
comp=Z,5.0nm,0.9s
CCB Clear Creek Bu 76.54 26 *eP* **P 21 03 43.5 -0.1**
comp=Z,7.9nm,1.2s
IL1 Eielson Array 76.93 26 *eP* **P 21 03 45.6 -0.2**
ILAR Eielson Array 76.93 26 P **P 21 03 45.2 -0.6**
comp=Z,1.8nm,0.8s,baz=251,slow=6.4,SNR=16
ILAR LR LR 21 37 35.7
comp=Z,74nm,20.0s,baz=288,slow=36
ILB Eielson Array 76.93 26 *eP* **P 21 03 45.9 +0.1**
SCM Sheep Creek Mo 76.93 29 *eP* **P 21 03 46.6 +0.6**
SCM pmax pmax
comp=Z,24nm,1.1s
SCM Sheep Creek Mo 76.93 29 *eP* **P 21 03 46.6 +0.6**
comp=Z,24nm,1.1s
VSR Storozhevoye 77.26 320 *eP* **P 21 03 46.9 -1.0**
VSR pmax pmax
comp=Z,40nm,1.1s
KLU Klutina 77.63 29 *eP* **P 21 03 50.6 +0.7**
comp=Z,8.5nm,1.1s
PAX Paxson 77.70 28 *eP* **P 21 03 50.9 +0.6**
PAX pmax pmax
comp=Z,9.0nm,1.1s
PAX Paxson 77.70 28 *eP* **P 21 03 50.9 +0.6**
comp=Z,8.7nm,1.1s
MOS Moscow 77.73 325 *eP* **P 21 03 47.9 -2.5**
MOS *e* 21 03 53.6
MOS pmax pmax
comp=Z,54nm,1.1s
DIV Divide 77.74 30 *eP* **P 21 03 51.4 +0.9**
comp=Z,29nm,1.3s
LVZ Lovozero 77.89 337 *d iP* **P 21 03 51.6 +0.4**
LVZ pmax pmax
comp=Z,15nm,1.1s
DOT Dot Lake 78.26 27 *eP* **P 21 03 53.6 +0.3**
comp=Z,35nm,1.2s
BMRM Bremner River 78.32 30 *eP* **P 21 03 52.7 -1.0**
comp=Z,7.0nm,0.9s
OBN Obninsk 78.39 324 *d iP* **P 21 03 53.5 -0.6**
OBN *i* 21 04 06.8
OBN *i* 21 06 51.8
OBN *i* S **S 21 13 47.0 -0.4**
OBN pmax pmax
comp=Z,32nm,1.0s
OBN MLR MLR
comp=Z,134nm,17.0s
CRQM Cirque 79.06 30 *eP* **P 21 03 58.7 +0.8**
comp=Z,12nm,0.9s
ANN Anapa 79.20 314 *eP* **P 21 03 55.0 -3.8**
ANN *e*PP **PcP 21 04 05.0 -2.0**
ANN *eS* **S 21 13 51.0 -5.4**
ANN pmax pmax
comp=Z,79nm,1.0s
EGAK Eagle 79.37 26 *eP* **P 21 04 00.0 +0.7**
comp=Z,6.7nm,1.1s
DAWY Dawson 80.25 26 *eP* **P 21 04 05.2 +1.0**
comp=Z,17nm,1.4s
SPA0 Spitsbergen Ar 80.71 349 *eP* **P 21 04 06.7 +0.3**
ARCES ARCESS Array B 80.89 339 P **P 21 04 07.4 -0.1**
comp=Z,8.6nm,0.9s,baz=89,slow=6.2,SNR=15
ARCES LR LR 21 45 21.5
comp=Z,115nm,18.8s,baz=102,slow=40
ROOS tl_alroos 81.01 303 *eP* **P 21 04 09.3 +0.4**
DRWC Darouich 81.08 305 *eP* **P 21 04 09.1 -0.1**
DRWC *eP* **PcP 21 04 10.3 -5.3**

ZALF Zalf 81.20 302 *eP* **P 21 04 10.4 +0.5**
SIM Simferopol' 81.50 314 *eP* **P 21 04 09.1 -2.1**
SIM S **S 21 14 23.0 +2.4**
SIM pmax pmax
comp=Z,27nm,1.0s
INK Inuvik 81.62 22 *eP* **P 21 04 11.8 +0.5**
INK pmax pmax
comp=Z,19nm,1.3s
INK Inuvik 81.62 22 *eP* **P 21 04 11.8 +0.5**
comp=Z,19nm,1.3s
HAWK Haweek 81.67 303 *eP* **P 21 04 12.4 0.0**
MARH Ras Al Marh 81.70 303 *eP* **P 21 04 13.2 +0.4**
SALA Sala 81.73 302 *eP* **P 21 04 12.7 -0.2**
HYT Haines Junctio 81.76 29 *eP* **P 21 04 13.9 +1.5**
comp=Z,10.0nm,1.1s
TOTH TOTAH 81.86 302 *eP* **P 21 04 14.0 +0.6**
TCHB Talchebab 82.37 302 *eP* **P 21 04 16.7 +0.6**
FIA1 FINESS Array S 82.67 331 *eP* **P 21 04 16.3 -0.6**
FINES FINESS Array B 82.67 331 P **P 21 04 16.5 -0.4**
comp=Z,5.5nm,0.6s,baz=65,slow=4.8,SNR=40
FINES LR LR 21 44 03.0
comp=Z,231nm,19.2s,baz=78,slow=38
FINES FINESS Array B 82.67 331 *eP* **P 21 04 16.4 -0.5**
FINES pmax pmax
comp=Z,6.0nm,0.6s
BR131 Keskin Array S 82.85 309 *eP* **P 21 04 18.1 -0.5**
BRTR Keskin Array B 82.85 309 P **P 21 04 17.9 -0.7**
comp=Z,3.6nm,0.8s,baz=92,slow=3.8,SNR=19
BRTR PP **PP 21 07 28.1 -0.8**
comp=Z,1.4nm,1.0s,baz=76,slow=7.8,SNR=4.0
BRTR LR LR 21 45 55.6
comp=Z,49nm,19.7s,baz=70,slow=39
BRTR Keskin Array B 82.85 309 *eP* **P 21 04 17.7 -0.8**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
VSU Vasula 83.09 328⇑ *iP* **P 21 04 19.0 -0.2**
VSU pmax pmax
comp=Z,139nm,1.0s
MIR Mirnyy 83.33 192 *i* P **P 21 04 20.0 0.0**
MIR pmax pmax
comp=Z,7.0nm,1.4s
BR231 Keskin MP Arra 83.47 309 *eP* **P 21 04 18.6 -3.1**
ABPO Ambohimpanom 83.48 249 *eP* **P 21 04 22.3 +0.1**
ABPO pmax pmax
comp=Z,19nm,0.9s
ABPO Ambohimpanom 83.48 249 *eP* **P 21 04 22.3 +0.1**
comp=Z,19nm,0.9s
AKASG Malin Array Be 83.55 320 P **P 21 04 20.6 -1.1**
comp=Z,1.4nm,0.6s,baz=62,slow=5.2,SNR=22
AKASG LR LR 21 44 00.1
comp=Z,116nm,18.7s,baz=70,slow=37
KIEV Kiev 83.56 320⇓ *iP* **P 21 04 20.9 -0.8**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 83.56 320 *eP* **P 21 04 20.7 -1.1**
comp=Z,11nm,1.0s
IDID Didziasalis 83.89 325 *eP* **P 21 04 23.0 -0.3**
IDID IAmb IAmb 21 04 24.2
comp=Z,22nm,0.9s
NACGM Naroch 83.97 325 *e* **P 21 04 24.0 +0.2**
NACGM *e*LR LR 21 43 44.0
IZAR Zarasai 84.05 326 *eP* **P 21 04 23.9 -0.2**
IZAR IAmb IAmb 21 04 25.0
comp=Z,19nm,0.9s
CSS Mathiatis 84.06 304 *eP* **P 21 04 24.9 +0.1**
comp=Z,23nm,0.9s
ISAL Salakas 84.16 326 *eP* **P 21 04 24.4 -0.3**
ISAL IAmb IAmb 21 04 25.4
comp=Z,9.2nm,1.0s
SORM Soroca 84.71 318⇓ *iP* **P 21 04 26.8 -0.9**
TLCR 85.12 315⇑ *iP* **P 21 04 29.7 -0.1**
TIRR Tirgusor 85.58 315⇑ *iP* **P 21 04 32.2 +0.1**
TIRR Tirgusor 85.58 315 *eP* **P 21 04 31.8 -0.3**
TIRR pmax pmax
comp=Z,23nm,1.1s
TIRR Tirgusor 85.58 315 *eP* **P 21 04 31.8 -0.3**
comp=Z,23nm,1.1s
CFR Carcaliu 85.59 315⇑ *iP* **P 21 04 32.2 +0.1**
PSN Preselentsi 85.93 314⇑ *iP* **P 21 04 34.5 +0.6**
PSN Preselentsi 85.93 314 P **P 21 04 33.5 -0.4**
DLBC Dease Lake 86.07 31 *eP* **P 21 04 36.1 +1.7**
ODBI Odobesti 86.17 316⇑ *iP* **P 21 04 35.1 +0.1**
SUW Suwalki 86.23 325 *eP* **P 21 04 34.8 -0.3**
SUW Suwalki 86.23 325 *eP* **P 21 04 34.8 -0.3**
TESR Tescani 86.25 317⇑ *iP* **P 21 04 34.8 -0.6**
PRAR RASCA 86.30 318⇑ *iP* **P 21 04 35.4 -0.2**
VRI Vrincioaia 86.37 316⇑ *iP* **P 21 04 35.4 -0.6**
PLOR Plostina 86.42 316⇑ *iP* **P 21 04 36.8 +0.5**
PRD Provadia 86.61 313 P **P 21 04 36.5 -0.7**
BURAR Bucovina Array 86.88 318⇑ *iP* **P 21 04 38.6 0.0**
BUR08 Bucovina Ar. S 86.89 318 *eP* **P 21 04 38.6 0.0**
LVV L'vov 86.99 321 *eP* **P 21 04 36.4 -2.6**
MLR Muntele Rosu 87.00 316⇓ *iP* **P 21 04 39.0 -0.3**
MLR Muntele Rosu 87.00 316 *eP* **P 21 04 38.8 -0.5**
MLR Muntele Rosu 87.00 316 *eP* **P 21 04 38.8 -0.5**
DOPR Dopca 87.24 317⇑ *iP* **P 21 04 39.9 -0.4**
DAG Danmarks Havn 87.46 352 *i* P **P 21 04 40.0 -0.7**
comp=Z,8.0nm,1.1s
ARCR ARCALIA 87.60 318⇑ *iP* **P 21 04 41.0 -1.0**
VOIR 87.62 316⇑ *iP* **P 21 04 41.5 -0.7**
SZH Strazhica 87.62 314 P **P 21 04 41.5 -0.7**
KWP Kalwaria Pacla 87.87 321 *eP* **P 21 04 42.7 -0.5**
KWP Kalwaria Pacla 87.87 321⇑ *iP* **P 21 04 43.4 +0.2**
KWP Kalwaria Pacla 87.87 321 *eP* **P 21 04 42.7 -0.5**
ARR Arges 87.92 316⇑ *iP* **P 21 04 43.8 +0.2**
KOLS Kolonicke sedl 88.36 320 *eP* **P 21 04 43.8 -1.8**
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 88.36 320 *eP* **P 21 04 43.8 -1.8**
KOLS Kolonicke sedl 88.36 320 *eS* **SKSac 21 15 08.2 -3.8**
UZH Uzhgorod 88.44 320 *eP* **P 21 04 43.6 -2.3**
KMBO Kilima Mbogo 88.46 268 P **P 21 04 46.9 -0.1**
comp=Z,4.5nm,0.9s,baz=57,slow=9.2,SNR=8.5
KMBO LR LR 21 45 12.5
comp=Z,169nm,18.3s,baz=80,slow=36
KMBO Kilima Mbogo 88.46 268 *eP* **P 21 04 47.5 +0.6**
LOT Lotru 88.47 316⇑ *iP* **P 21 04 46.2 -0.1**
DRGR 88.76 318⇑ *iP* **P 21 04 45.4 -2.2**
KARP Karpathos 88.82 306 *eP* **P 21 04 47.2 -0.8**
STHS Stebnicka Huta 88.84 321 *eP* **P 21 04 48.7 +0.9**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 88.84 321 *eP* **P 21 04 48.7 +0.9**
STHS Stebnicka Huta 88.84 321 *eS* **S 21 15 28.7 -4.3**
CRVS Cervenica-Dubn 88.88 320 *eP* **P 21 04 48.5 +0.5**
CRVS Cervenica-Dubn 88.88 320 *eP* **P 21 04 48.5 +0.5**
MPEP Malo Peshtene 89.13 314 P **P 21 04 48.5 -0.8**
GZR Gura Zlata 89.16 317⇑ *iP* **P 21 04 49.2 -0.3**
NC405 NORSAR Array S 89.26 334 *eP* **P 21 04 48.3 -1.3**
PPT Papeete 89.37 108 LR LR 21 40 59.4
comp=Z,262nm,18.2s,baz=290,slow=33
PPT2 Papeete2 89.38 108 *eS* **S 21 15 39.9 +0.7**
comp=Z,167nm,25.0s
PPT2 Papeete2 89.38 108 *e*LR LR 21 33 08.5
comp=Z,219nm,21.0s
NIE Niedzica 89.42 321 *eP* **P 21 04 50.5 -0.1**
NIE Niedzica 89.42 321 *eP* **P 21 04 50.5 -0.1**
OJC Ojcow 89.45 322 *eP* **P 21 04 49.9 -0.8**
OJC Ojcow 89.45 322 *eP* **P 21 04 49.8 -0.8**
OJC Ojcow 89.45 322 *eP* **P 21 04 50.5 -0.2**
NB2 NORSAR Subarra 89.51 334 P **P 21 04 48.8 -2.0**
comp=Z,4.2nm,0.9s,baz=61,slow=4.6
NB2 NORSAR Subarra 89.51 334 P **P 21 04 48.8 -2.0**
baz=61,slow=4.6
NOA NORSAR Array B 89.51 334 P **P 21 04 49.0 -1.8**
comp=Z,2.7nm,0.8s,baz=61,slow=4.7,SNR=12
NOA LR LR 21 48 28.5
comp=Z,234nm,18.7s,baz=65,slow=38
NOA NORSAR Array B 89.51 334 *eP* **P 21 04 48.7 -2.0**
NOA pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 89.63 320 *eP* **P 21 04 50.8 -0.7**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 89.63 320 *eP* **P 21 04 50.8 -0.7**
MMB Musomiste 89.67 313 P **P 21 04 50.7 -1.2**
VTS Vitosha 89.73 314⇓ *iP* **P 21 04 52.0 -0.4**
VTS Vitosha 89.73 314 *eP* **P 21 04 52.0 -0.4**
VTS Vitosha 89.73 314 P **P 21 04 51.5 -0.8**
VTS Vitosha 89.73 314 *eP* **P 21 04 52.0 -0.4**
BZS Buzias 89.86 317⇑ *iP* **P 21 04 51.1 -1.5**
SANT Santorini 89.92 307 *eP* **P 21 04 49.6 -3.6**
KKB Krupnik 90.05 313 P **P 21 04 52.0 -1.6**

LAST	Lasithi	90.25	306	*e*P	P	21 04 54.4	-0.4
OKC	Ostrava-Krasne	90.58	322	*e*P	P	21 04 56.1	+0.2
OKC				AMS	AMS	21 52 00.0	
	comp=Z,200nm,13.1s						
OKC	Ostrava-Krasne	90.58	322	*e*P	P	21 04 56.1	+0.2
OKC				MLR	MLR		
	comp=Z,200nm,13.1s						
VAY	Valandovo	90.58	313	*i* P	P	21 04 55.3	-0.8
VYHS	Vyhne	90.65	320	*e*P	P	21 04 56.2	-0.1
VYHS				pmax	pmax		
	comp=Z,12nm,2.2s						
VYHS	Vyhne	90.65	320	*e*P	P	21 04 56.2	-0.1
VYHS				*e*PP	PP	21 08 32.1	+0.8
VYHS				*e*S	S	21 15 37.9	-12
TBI	Tubuai	90.89	114	*e*LR	LR	21 34 10.7	
	comp=Z,177nm,25.0s						
YKA	Yellowknife Ar	91.17	24	P	P	21 04 58.2	-0.1
	comp=Z,1.5nm,0.9s,baz=300,slow=4.5,SNR=7.7						
SKO	Skopje	91.17	314	*i* P	P	21 04 58.6	-0.3
KSP	Ksiaz	91.29	323	*e*P	P	21 04 58.9	-0.3
KSP	Ksiaz	91.29	323	*e*P	P	21 04 58.9	-0.3
DPC	Dobruska-Polom	91.47	323	*e*P	P	21 05 00.3	+0.2
DPC				AMS	AMS	21 48 20.0	
	comp=Z,200nm,18.0s						
DPC	Dobruska-Polom	91.47	323	*e*P	P	21 05 00.3	+0.2
DPC				MLR	MLR		
	comp=Z,200nm,18.0s						
AGG	Agios Georgios	91.49	311	*e*P	P	21 04 58.8	-1.6
AGG	Agios Georgios	91.49	311	*e*P	P	21 04 58.8	-1.6
UPC	Upice	91.59	323	AMS	AMS	21 48 20.0	
	comp=Z,200nm,16.5s						
VRAC	Vranov	91.72	322⇑	*i* P	P	21 05 00.6	-0.6
OHR	Ohrid	91.92	313	*i* P	P	21 05 01.1	-1.3
TREC	Trest	92.39	322	AMS	AMS	21 54 30.0	
	comp=Z,200nm,14.6s						
MAW	Mawson	92.42	200	P	P	21 05 03.5	-0.4
	comp=Z,14nm,1.1s,baz=56,slow=5.0,SNR=16						
MAW	Mawson	92.42	200	*e*P	P	21 05 03.6	-0.2
MAW	Mawson	92.42	200	*e*P	P	21 05 03.6	-0.2
PVCC	Panska Ves	92.42	323	AMS	AMS	21 51 10.0	
	comp=Z,200nm,13.7s						
PDG	Podgorica	92.54	315⇑	*i* P	P	21 05 04.8	-0.4
GOPC	GO Pecny, Ondr	92.55	323	AMS	AMS	21 52 30.0	
	comp=Z,7.8nm,1.1s						
BRG	Berggiesshubel	92.64	324	*e*P	P	21 05 04.8	-0.6
BRG	Berggiesshubel	92.64	324	*e*P	P	21 05 04.8	-0.6
BRG				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PRU	Pruhonice	92.66	323	*e*P	P	21 05 05.5	-0.1
PRU				AMS	AMS	21 54 00.0	
	comp=Z,200nm,12.1s						
PRU	Pruhonice	92.66	323	*e*P	P	21 05 05.5	-0.1
PRU				MLR	MLR		
	comp=Z,200nm,12.1s						
CONA	Conrad Observa	92.70	321	*i* PcP	P	21 05 06.0	0.0
	comp=Z,8.6nm,1.4s						
CLL	Collm	92.99	324	*i* P	P	21 05 06.0	-1.0
	comp=Z,9.0nm,1.2s						
KOGS	Kog	93.05	319	*i* P	P	21 05 07.4	0.0
ARSA	Arzberg	93.19	320	*i* PcP	P	21 05 08.3	+0.2
	comp=Z,7.6nm,1.9s						
VNDA	Vanda	93.22	173	P	P	21 05 07.0	-0.3
	comp=Z,6.6nm,0.9s,baz=314,slow=5.4,SNR=27						
VNDA	Vanda	93.22	173	*e*P	P	21 05 07.2	-0.1
SCO	Scoresbysund	93.26	350	*i* P	P	21 05 07.3	-0.6
	comp=Z,9.4nm,1.1s						
SUMG	Summit	93.46	355	*e*P	P	21 05 09.6	+0.3
SUMG	Summit	93.46	355	*i* P	P	21 05 09.3	0.0
	comp=Z,14nm,1.2s						
SUMG	Summit	93.46	355	*e*P	P	21 05 09.6	+0.3
LLLB	Lillooet	93.48	36	*e*P	P	21 05 10.7	+1.4
KHC	Kasperske Hory	93.59	322	*e*P	P	21 05 09.6	-0.3
KHC				AMS	AMS	21 53 40.0	
	comp=Z,200nm,14.6s						
KHC	Kasperske Hory	93.59	322	*e*P	P	21 05 09.6	-0.3
KHC				MLR	MLR		
	comp=Z,200nm,14.6s						
GEC2	GERESS Array S	93.64	322	*e*P	P	21 05 10.6	+0.4
GEC2	GERESS Array S	93.64	322	*e*P	P	21 05 10.6	+0.4
GERES	GERESS Array B	93.64	322	P	P	21 05 09.4	-0.8
	comp=Z,0.9nm,0.9s,baz=57,slow=4.9,SNR=9.9						
GERES				LR	LR	21 49 10.0	
	comp=Z,126nm,19.6s,baz=60,slow=37						
GEA0	GERESS Array S	93.64	322	*e*P	P	21 05 09.5	-0.7
MOA	Molln	93.72	321	*i* PcP	P	21 05 10.0	-0.5
	comp=Z,8.7nm,1.2s						
SOKA	Soboth	93.72	320	*i* P	P	21 05 09.4	-1.3
	comp=Z,5.2nm,1.1s						
NKC	Novy Kostel	93.78	324	AMS	AMS	21 51 10.0	
	comp=Z,200nm,14.1s						
BOJS	Bojanci	94.06	319	*i* P	P	21 05 12.7	+0.6
OBKA	Obir	94.10	320	*i* PcP	P	21 05 12.1	-0.3
	comp=Z,4.3nm,1.1s						
LJU	Ljubljana	94.30	319	*i* P	P	21 05 13.4	+0.2
ABTA	Abfaltersbach	95.27	320	*i* PcP	P	21 05 16.5	-1.2
	comp=Z,3.9nm,1.1s						
TIP	Timpagrande	95.50	312	*e*P	P	21 05 19.0	+0.1
CUC	Castrocucco	95.86	313	*e*P	P	21 05 18.8	-1.7
MOTA	Moosalm	95.86	321	*i* PcP	P	21 05 19.9	-0.7
	comp=Z,2.9nm,0.8s						
TAOE	Nuku Hiva Isla	96.32	98	*e*SP	SP	21 18 00.0	-0.8
	comp=Z,93nm,25.9s						
TAOE	Nuku Hiva Isla	96.32	98	*e*LR	LR	21 36 39.0	
	comp=Z,171nm,22.6s						
DAVA	Damuels	96.63	322	*i* PcP	P	21 05 22.6	-1.4
	comp=Z,7.0nm,1.1s						
FUORN	Ofenpass-Fuorn	96.71	321	*e*P	P	21 05 24.6	+0.1
BFO	Black Forest	97.05	323	*i* P	Pdif	21 05 26.3	+0.5
TXAR	Lajitas Array	116.33	47	PKP	PKPdf	21 10 38.0	+0.1
	comp=Z,1.0nm,0.8s,baz=190,slow=0.9,SNR=9.9						
TXAR				PKKPbc	PKKPbc	21 21 08.3	+1.0
	comp=Z,1.1nm,1.0s,baz=114,slow=6.0,SNR=5.8						
TORD	Torodi Ar. Bea	118.26	293	PKP	PKPdf	21 10 41.0	-0.8
	comp=Z,3.5nm,0.8s,baz=50,slow=1.8,SNR=20						
TORD				PKKPbc	PKKPbc	21 21 00.6	+0.8
	comp=Z,1.2nm,0.8s,baz=240,slow=2.8,SNR=6.2						
JCT	Junction City	118.34	44	*e*PKIKP	PKPdf	21 10 41.2	-0.5
JCT	Junction City	118.34	44	*e*PKPdf	PKPdf	21 10 41.2	-0.5
MIAR	Mount Ida	119.56	37	*e*PKIKP	PKPdf	21 10 43.9	0.0
MIAR	Mount Ida	119.56	37	*e*PKPdf	PKPdf	21 10 43.9	0.0
LRAL	Lakeview Retre	124.34	33	*e*PKPdf	PKPdf	21 10 52.2	-0.8
DBIC	Dimbokro	126.70	289	PKP	PKPdf	21 10 57.9	-0.1
	comp=Z,9.8nm,1.0s,baz=83,slow=3.0,SNR=5.4						
KIC	Kosan Boka	126.71	289	*e*PKIKP	PKPdf	21 10 58.1	0.0
	comp=Z,68nm,1.2s						
TIC	Toumodi	126.86	289	*e*PKIKP	PKPdf	21 10 58.4	0.0
LIC	Lamto	127.03	289	*e*PKIKP	PKPdf	21 10 57.8	-0.9
	comp=Z,192nm,2.0s						
PLCA	Paso Flores	149.48	156	PKPbc	PKPbc	21 11 43.5	+0.3
	comp=Z,44nm,1.2s,baz=218,slow=2.0,SNR=16						
MOTC	Monteria, Cord	149.55	45	*e*P	PKPdf	21 11 39.7	+0.2
OCAC	Ocana	151.51	42	*e*P	PKPdf	21 11 43.7	+1.0
BRRC	Barranca, Sant	152.09	44	*e*P	PKPbc	21 11 49.3	-0.7
NORC	Norcasia	152.37	48	*e*P	PKPbc	21 11 49.3	-1.4
PAMC	Pamplona, Colo	152.59	42	*e*P	PKPbc	21 11 49.9	-1.8
OTAV	Otavalo	152.71	62	*e*PKPdf	PKPdf	21 11 46.0	+1.1
BARC	Barichara	152.82	44	*e*P	PKPbc	21 11 50.5	-1.5
RUSC	La Rusia	153.39	45	*e*P	PKPbc	21 11 50.5	-3.1
CHIC	Chingaza	153.83	48	*e*P	PKPdf	21 11 45.4	-1.1
LPAZ	La Paz	166.63	104	PKP	PKPdf	21 12 01.4	+0.7
	comp=Z,2.9nm,1.0s,baz=357,slow=2.6,SNR=6.9						
LPAZ				PKPab	PKPab	21 13 04.1	+0.8
	comp=Z,1.7nm,0.9s,baz=237,slow=4.7,SNR=3.7						
CPUP	Villa Florida	166.97	169	PKPab	PKPab	21 13 03.9	+0.4
	comp=Z,2.7nm,0.9s,baz=227,slow=5.5,SNR=4.3						

CSEM ***29*** *21:02:07.6, 42°.37N×13°.50E, h7km, MD2.0/5*

ROM 29 21:02:07.6±0.4, 42°.37N×13°.50E, h7km±2km, Md2.0/5, Ml1.1/2, Error ellipse: s-maj=6.0km s-min=2.0km az=25.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAGN	Fagnano	0.12	150	Pg	Pg	21 02 11.0	+0.7
FAGN				Sg	Sg	21 02 12.7	+0.6
FAGN	Fagnano	0.12	150	Pg	Pg	21 02 11.0	+0.7
FAGN				Sg	Sg	21 02 12.7	+0.6
FIAM	Fiamignano	0.30	250	Pg	Pb	21 02 15.1	-0.3
FIAM				Sg	Sb	21 02 19.3	-1.4
FIAM	Fiamignano	0.30	250	Pg	Pb	21 02 15.1	-0.3
FIAM				Sg	Sb	21 02 19.3	-1.4
PTQR	Pietraquaria	0.36	192	Pg	Pg	21 02 15.3	+0.7
PTQR	Pietraquaria	0.36	192	Pg	Pg	21 02 15.3	+0.7
LNSS	Leonessa	0.41	304	Pg	Pg	21 02 16.1	+0.5
	12nm,0.4s						
LNSS	Leonessa	0.41	304	Pg	Pg	21 02 16.1	+0.5
	12nm,0.4s						
INTR	Introdacqua	0.47	140	Pg	Pb	21 02 17.6	-0.7
INTR				Sg	Sb	21 02 25.3	-0.2
	24nm,0.8s						
INTR	Introdacqua	0.47	140	Pg	Pb	21 02 17.6	-0.7
INTR				Sg	Sb	21 02 25.3	-0.2
	24nm,0.8s						
VVLD	Villa Vallelon	0.51	170	Pg	Pg	21 02 18.0	+0.5
VVLD	Villa Vallelon	0.51	170	Pg	Pg	21 02 18.0	+0.5

ISCJB ***29*** *21:03:51.3±1.1, 13°.7N±0°.2×144°.2E±0°.1, h125km, mb4.0/5, Error ellipse: s-maj=25.2km s-min=17.8km az=159.9*

IDC ***29*** *21:03:52.4±0.8, 13°.73N×144°.61E, h132km±9km, mb3.6/5, mb1 3.8/5, mb1mx3.2/38, mbtmp4.0/5, Error ellipse: s-maj=45.0km s-min=20.8km az=88.0*

ISC 29 21:03:52.4±1.1, 13.7N±0°.2×144.4E±0°.2, h125km, n7, σ1ŝ30/8, mb3.9/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.51	102	P	Pn	21 04 11.8	+0.8
	636nm,0.3s,baz=105,slow=3.7,SNR=338						
GUMO				S	Sn	21 04 25.7	+0.8
	1µm,0.3s,baz=45,slow=19,SNR=88						
WRA	Warramunga Arr	34.85	197	P	P	21 10 31.8	+0.1
	4.1nm,0.8s,baz=14,slow=9.2,SNR=28						
FITZ	Fitzroy Crossi	36.59	211	P	P	21 10 47.7	+1.1
	1.8nm,0.3s,baz=40,slow=12,SNR=14						
ASAR	Alice Springs	38.51	195	P	P	21 11 02.7	0.0
	1.4nm,0.7s,baz=16,slow=7.2,SNR=25						
STKA	Stephens Creek	45.39	183	P	P	21 11 57.5	-1.0
	1.3nm,0.6s,baz=11,slow=10,SNR=3.7						
MKAR	Makanchi Array	61.07	316	P	P	21 13 53.3	+0.1
	0.1nm,0.4s,baz=96,slow=5.9,SNR=2.6						
LPAZ	La Paz	148.53	99	PKPbc	PKPbc	21 23 24.1	-2.2
	1.1nm,0.6s,baz=243,slow=2.3,SNR=4.7						

ISCJB ***29*** *21:09:33.1±0.8, 53°.62N±0°.06×163°.81W±0°.08, h39km, mb3.8/8, Error ellipse: s-maj=9.0km s-min=6.0km az=154.4*

NEIC ***29*** *21:09:34.5, 53°.68N×163°.94W, h26km, ML3.4(AEIC), After AEIC.*

IDC ***29*** *21:09:39.8±10.0, 53°.79N×164°.09W, h84km±78km, mb3.5/9, mb1 3.6/9, mb1mx3.3/40, mbtmp3.8/9, Error ellipse: s-maj=94.0km s-min=27.8km az=156.0*

ISC 29 21:09:34.4±1.1, 53.70N±0°.09×163.90W±0°.07, h39km, n36, σ0ŝ86/33, mb3.9/8, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	0.87	333	P	Pn	21 09 50.7	+0.5
WESP	Westdahl Peak	0.93	329	P	Pn	21 09 51.7	+0.7
WESP				S	Sn	21 10 04.4	+1.2
BRPK	Brown Peak	0.95	5	P	Pn	21 09 51.9	+0.7
WESN	West Dahl Nort	0.96	335	P	Pn	21 09 52.3	+1.0
SSLS	Shishaldin Sou	1.01	357	P	Pn	21 09 52.1	0.0
SSLS				S	Sn	21 10 05.5	+0.3
SSLW	Shishaldin Wes	1.08	353	P	Pn	21 09 53.7	+0.7
SSLN	Shishaldin Nor	1.11	357	P	Pn	21 09 54.7	+1.2
AKSA	Akutan Strait	1.15	293	P	Pn	21 09 54.1	+0.2
AKSA				S	Sn	21 10 08.9	+0.5
AKA	Akutan	1.19	292	P	Pn	21 09 55.0	+0.6
AKA				S	Sn	21 10 10.4	+1.1
AKUT	Akutan	1.19	292	P	Pn	21 09 54.8	+0.4
AKGG	Akutan Green G	1.33	293	P	Pn	21 09 57.0	+0.6
AKRB	Akutan Reef Bi	1.35	289	P	Pn	21 09 57.3	+0.5
UNV	Unalaska Valle	1.55	276	P	Pn	21 09 59.3	-0.1
MTBL	Makushin Table	1.67	280	P	Pn	21 10 01.7	+0.6
DT1	Dutton Round H	1.70	33	P	Pn	21 10 02.7	+1.3
DTNA	Dutton South F	1.74	33	P	Pn	21 10 03.4	+1.3
MGOD	Makushin Gods	1.77	274	P	Pn	21 10 03.1	+0.6
MCIR	Makushin Cirqu	1.79	279	P	Pn	21 10 03.7	+0.9
OKER	Okmok East Rim	2.49	266	P	Pn	21 10 14.3	+1.9
OKTU	Okmok Mt. Tuli	2.49	264	P	Pn	21 10 13.9	+1.5
INK	Inuvik	20.43	33	P	Pn	21 14 09.9	-0.2
	1.1nm,0.5s,baz=249,slow=10,SNR=3.7						
PETK	Petropavlovsk-	22.72	284	P	P	21 14 32.6	0.0
	1.2nm,0.6s,baz=69,slow=12,SNR=5.4						
TIXI	Tiksi	33.33	328	P	P	21 16 07.9	0.0
	1.2nm,0.5s,baz=95,slow=10,SNR=5.1						
H11N2	WAKE ISLAND Hy	40.65	225	T	T	22 00 35.7	
	baz=26,slow=76,SNR=39						
H11N3	WAKE ISLAND Hy	40.65	225	T	T	22 00 39.4	
	baz=26,slow=76,SNR=50						
H11N1	WAKE ISLAND Hy	40.67	225	T	T	22 00 39.1	
	baz=26,slow=76,SNR=44						
H11S1	WAKE ISLAND Hy	41.82	224	T	T	22 02 17.2	
	baz=26,slow=76,SNR=68						
H11S2	WAKE ISLAND Hy	41.84	224	T	T	22 02 07.7	
	baz=26,slow=76,SNR=56						
H11S3	WAKE ISLAND Hy	41.84	224	T	T	22 02 13.5	
	baz=26,slow=76,SNR=42						
SONM	Songino Array	53.40	303	P	P	21 18 50.1	+0.2
	0.5nm,0.4s,baz=39,slow=7.8,SNR=6.3						
BVAR	Borovoye Array	64.46	327	P	P	21 20 06.4	+0.1
	baz=36,slow=8.2						
FINES	FINESS Array B	64.93	355	P	P	21 20 08.5	-0.7
	0.3nm,0.4s,baz=30,slow=5.3,SNR=8.9						
MKAR	Makanchi Array	65.21	316	P	P	21 20 09.9	-1.4
	0.7nm,0.7s,baz=36,slow=6.4,SNR=5.2						
AKASG	Malin Array Be	75.39	351	P	P	21 21 13.0	-0.4
	1.0nm,0.5s,baz=15,slow=6.5,SNR=4.0						
CMAR	Chiang Mai Arr	79.47	287	P	P	21 21 36.4	-0.4
	0.4nm,0.7s,baz=22,slow=6.3,SNR=4.3						
BRTR	Keskin Array B	85.72	347	P	P	21 22 09.2	+0.1
	0.7nm,0.6s,baz=28,slow=1.5,SNR=4.8						

MEX 29 21:17:24.6±0.5, 14°.28N×92°.29W, h74km±42km, MD3.8, Near coast of Chiapas

GUC 29 21:32:25.9±0.7, 20°.08S×69°.01W, h125km±5km, ML3.5, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.15	245	*i* P	Pn	21 32 43.6	+0.1
PB08				*i* S	Sn	21 32 56.7	-0.1
PB08				IAML		21 32 57.3	
	comp=E,1µm,0.2s						
PB11	IPOC Station P	0.69	297	*i* P	Pn	21 32 46.4	+0.6
PB11				*i* S	Sn	21 33 01.7	+0.8
HMBC	Humberstone	0.85	256	*i* P	Pn	21 32 47.8	+0.7
HMBC				*i* S	Sn	21 33 04.2	+1.1
PB01	IPOC Station P	1.06	205	*i* P	Pn	21 32 49.8	+0.7
PB01				*i* S	Sn	21 33 07.5	+0.9
PB01				IAML		21 33 08.5	
	comp=N,893nm,0.3s						
MNMC	Minye Minye	1.09	330	*i* P	Pn	21 32 50.4	+0.8
MNMC				*i* S	Sn	21 33 08.4	+0.9
MNMC				IAML		21 33 10.5	
	comp=N,2µm,0.2s						
PSGC	Pisagua	1.15	294	*i* P	Pn	21 32 50.9	+0.9
PSGC				*i* S	Sn	21 33 09.0	+0.8
PB09	IPOC Station P	1.72	187	*i* P	Pn	21 32 57.6	+1.1
PB09				*i* S	Sn	21 33 21.0	+1.2
PB09				IAML		21 33 24.6	
	comp=E,577nm,0.3s						
PB07	IPOC Station P	1.83	206	*e*P	Pn	21 32 58.5	+0.7
PB07				*i* S	Sn	21 33 22.6	+0.5
PB12	IPOC Station P	1.92	319	*i* P	Pn	21 32 59.2	+0.5
PB12				*i* S	Sn	21 33 24.8	+1.0
PB12				IAML		21 33 25.8	
	comp=N,636nm,0.5s						
PB06	IPOC Station P	2.67	191	*i* P	Pn	21 33 09.3	+1.1
PB06				*i* S	Sn	21 33 40.5	-0.3
PB06				IAML		21 33 42.6	
	comp=E,108nm,0.2s						

WEL 29 21:38:34.3±0.5, 39°.53S×174°.26E, h250km±3km, ML4.2/20, 3C-26D, Error ellipse: s-maj=2.7km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEZ	North Egmont	0.29	333	⇓PN	Pn	21 39 06.8	0.0
NMEZ	Namu Road	0.32	290	PN	Pn	21 39 06.7	0.0
VRZ	Vera Road	0.56	44	PN	Pn	21 39 06.6	-0.8
WAZ	Wanganui	0.60	113	⇓PN	Pn	21 39 08.0	+0.5
WAZ				SN	S	21 39 32.8	-0.8
PKVZ	Pokaka	0.87	75	PN	Pn	21 39 08.4	-0.4
MTVZ	Mangateitei	0.94	82	PN	Pn	21 39 08.9	-0.2
MTVZ				SN	S	21 39 34.2	-2.2
TWVZ	Taurewa	1.02	64	⇓PN	Pn	21 39 09.0	-0.5
TRVZ	Turoa	1.02	78	⇓PN	Pn	21 39 09.5	-0.2
FWVZ	Far West T-bar	1.03	75	⇓PN	Pn	21 39 09.5	-0.3
WNVZ	Wahianoa	1.05	80	⇓PN	Pn	21 39 09.6	-0.2
WHVZ	Whangaehu Hut	1.05	77	⇓PN	Pn	21 39 09.6	-0.3
OHWZ	Ohakea	1.06	130	PN	Pn	21 39 10.2	+0.7
TUVZ	Tukino	1.11	77	PN	Pn	21 39 10.1	0.0
HIZ	Hauiti	1.11	25	⇓PN	Pn	21 39 09.1	-0.9
OTVZ	Oturere	1.15	72	PN	Pn	21 39 10.2	-0.2
MOVZ	Moawhango	1.16	85	⇓PN	Pn	21 39 09.8	-0.5
DUWZ	D'Urville Isla	1.30	192	PN	Pn	21 39 11.0	-0.2
RATZ	Rangitukua	1.34	61	PN	Pn	21 39 11.2	-0.4
BHHZ	Black Hill Sta	1.39	89	⇓PN	Pn	21 39 11.4	-0.5
WATZ	Wairara	1.41	55	⇓PN	Pn	21 39 11.8	-0.2
TSZ	Takapari Road	1.41	113	PN	Pn	21 39 12.0	+0.1
TSZ				AML	AML	21 39 41.7	
TSZ				AML	AML	21 39 42.3	
KIW	Kapiti Island	1.42	160	PN	Pn	21 39 11.7	-0.2
KIW				AML	AML	21 39 40.8	
KIW				AML	AML	21 39 41.0	
POWZ	Post Office Ro	1.44	127	⇓PN	Pn	21 39 12.1	-0.1
OGWZ	Otaki Gorge	1.47	152	PN	Pn	21 39 12.3	0.0
MRZ	Mangatainoka R	1.52	139	⇓PN	Pn	21 39 12.5	-0.2
PNHZ	Pukenui	1.54	105	⇓PN	Pn	21 39 13.0	0.0
KRHZ	Kereru	1.63	95	⇓PN	Pn	21 39 13.5	0.0
DVHZ	Dannevirke	1.66	118	⇓PN	Pn	21 39 13.7	-0.1
PRWZ	Pori Road	1.67	129	⇓PN	Pn	21 39 14.1	+0.3
HOWZ	Holdsworth Sta	1.67	145	PN	Pn	21 39 13.6	-0.3
KWHZ	Kaweka Forest	1.67	87	⇓PN	Pn	21 39 14.2	+0.2
TCW	Tory Channel	1.68	180	PN	Pn	21 39 13.7	-0.2
TCW				AML	AML	21 39 43.8	
TCW				AML	AML	21 39 44.1	
CAW	Cannon Point	1.69	159	⇑PN	Pn	21 39 13.9	-0.2
CAW				AML	AML	21 39 44.7	
CAW				AML	AML	21 39 46.2	
WPHZ	Waipukurau	1.76	108	⇓PN	Pn	21 39 14.9	+0.2
WPHZ				SN	S	21 39 44.5	-2.0
TIWZ	Tintock	1.76	136	PN	Pn	21 39 14.7	0.0
TIWZ				AML	AML	21 39 46.0	
TIWZ				AML	AML	21 39 47.5	
BKZ	Black Stump Fm	1.77	79	⇓PN	Pn	21 39 14.3	-0.4
BKZ				AML	AML	21 39 45.7	
WELL	Wellington	1.80	168	PN	Pn	21 39 14.6	-0.2
WEL				AML	AML	21 39 46.4	
WEL				AML	AML	21 39 46.7	
MRHZ	Matea Rd	1.81	68	PN	Pn	21 39 14.2	-0.9
NNZ	Nelson	1.82	202	⇑PN	Pn	21 39 14.8	-0.3
QRZ	Quartz Range	1.86	225	⇑PN	Pn	21 39 14.5	-0.9
MCHZ	McNeill Hill	1.89	88	PN	Pn	21 39 16.3	+0.6
MTW	Mount Morrison	1.89	150	PN	Pn	21 39 15.4	-0.3
MTW				SN	S	21 39 45.7	-2.7
MTW				AML	AML	21 39 47.8	
BFZ	Birch Farm	1.91	128	⇓PN	Pn	21 39 15.8	-0.1
BFZ				AML	AML	21 39 46.9	
BFZ				AML	AML	21 39 48.0	
BFZ				AML	AML	21 39 48.2	
BFZ				AML	AML	21 39 48.2	
TUWZ	Tuamarina	1.92	187	PN	Pn	21 39 15.4	-0.5
TUWZ				AML	AML	21 39 47.7	
TUWZ				AML	AML	21 39 48.3	
BHW	Baring Head	1.94	166	PN	Pn	21 39 15.6	-0.4
BHW				AML	AML	21 39 48.3	
BHW				AML	AML	21 39 48.3	
ANWZ	Angora Road	1.94	119	PN	Pn	21 39 16.4	+0.3
PRHZ	Porangahau	1.97	113	⇓PN	Pn	21 39 16.7	+0.3
NMHZ	Naumai	2.02	79	PN	Pn	21 39 17.4	+0.4
CPWZ	Castlepoint	2.03	134	PN	Pn	21 39 17.4	+0.5
MSWZ	Moikau Station	2.03	159	PN	Pn	21 39 16.6	-0.4
MSWZ				AML	AML	21 39 49.2	
MSWZ				AML	AML	21 39 51.0	
KAHZ	Kahuranaki	2.04	98	PN	Pn	21 39 17.6	+0.6
PAWZ	Paruwai Farm	2.06	155	PN	Pn	21 39 16.9	-0.3
PAWZ				AML	AML	21 39 50.3	
PAWZ				AML	AML	21 39 50.5	
PXZ	Pawanui	2.06	105	⇓PN	Pn	21 39 17.5	+0.2
PXZ				AML	AML	21 39 17.8	
PXZ				AML	AML	21 39 50.5	
PXZ				AML	AML	21 39 52.0	
PXZ				AML	AML	21 39 52.4	
ARHZ	Aropaoanui	2.13	84	PN	Pn	21 39 18.2	+0.2
TRWZ	Traveller	2.16	150	PN	Pn	21 39 18.0	-0.1
TRWZ				AML	AML	21 39 51.6	
TRWZ				AML	AML	21 39 52.2	
PLWZ	Palliser	2.18	160	PN	Pn	21 39 17.9	-0.4
CKHZ	Cape Kidnapper	2.18	94	PN	Pn	21 39 18.9	+0.5

ODZ				AML	AML	21 40 43.2
ODZ				AML	AML	21 40 45.0
ODZ	**Otahua Downs**	**1.98**	**222**	*e*Pn	Pn	21 40 11.3 +0.4
ODZ				*e*Sn	Sn	21 40 36.8 +0.7
TUZ	**Tuapeka**	**3.13**	**220**	AML	AML	21 41 22.7
TUZ				AML	AML	21 41 26.9

ISCJB ***29*** *21:41:53.9±0.4, 23°.80S±0°.04×66°.68W±0°.06, h211*km*±5*km*, mb3.6/4, Error ellipse: s-maj=8.8km s-min=6.4km az=168.3*

IDC ***29*** *21:41:54.2±1.3, 23°.71S×66°.62W, h200*km*±10*km*, mb3.5/4, mb1 3.6/7, mb1mx3.4/18, mbtmp3.9/7, Error ellipse: s-maj=24.2km s-min=16.2km az=18.0*

SJA ***29*** *21:41:55.8±0.7, 23°.86S×66°.97W, h164*km*±10*km*, ML3.2, MW3.4*

ISC 29 21:41:53.9±0.8, **23°.87S**±0°.05×**66°.78W**±0°.06, **h208**km±7km, **n24**, σ1§**81**/32, **mb3.7**/4, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.42**	**63**	*i* P	**Pn**	**21 42 28.4**	**+0.3**
SLA	**San Lorenzo**	**1.44**	**126**	*i* P	**Pn**	**21 42 28.7**	**+0.7**
SLA				*i* S	**S**	**21 42 52.4**	**-1.9**
AZAP	**Zapla**	**1.61**	**103**	*i* P	**Pn**	**21 42 30.9**	**+1.4**
AZAP				*i* S	**S**	**21 42 55.9**	**-0.9**
ASTB	**Santa Barbara**	**2.13**	**93**	*i* P	**Pn**	**21 42 36.0**	**+1.5**
ASTB				*i* S	**S**	**21 43 06.5**	**+0.8**
LVC	**Limon Verde**	**2.33**	**302**	P	**Pn**	**21 42 38.1**	**+1.3**
	3µm,0.3s,baz=129,slow=7.4,SNR=1108						
LVC				S	**S**	**21 43 10.3**	**+0.6**
	1µm,0.3s,baz=34,slow=24,SNR=14						
FSA	**Cafayete**	**2.35**	**162**	*i* P	**Pn**	**21 42 37.7**	**+0.9**
FSA				*i* S	**S**	**21 43 08.7**	**-1.3**
FSA				IAML		21 43 13.0	
	comp=Z,34nm,0.7s						
AHML	**Horco Molle**	**3.18**	**156**	*i* P	**Pn**	**21 42 47.9**	**+1.8**
AHML				*i* S	**S**	**21 43 26.3**	**-0.4**
CYA	**Choya**	**4.64**	**169**	IAML		21 43 58.6	
	comp=Z,5.7nm,0.2s						
VCA	**Vinchina**	**5.01**	**194**	*i* P	**Pn**	**21 43 10.0**	**+1.2**
ACDV	**Cuesta del Vie**	**6.62**	**198**	*i* P	**Pn**	**21 43 31.4**	**+2.1**
ACDV				*i* S	**S**	**21 44 41.5**	**-3.5**
AVFE	**Valle Fertil**	**6.79**	**185**	*i* P	**Pn**	**21 43 34.0**	**+2.5**
AVFE				IAML		21 44 48.5	
	comp=Z,22nm,0.3s						
ACCO	**Cerro Coronel**	**7.00**	**196**	*i* P	**Pn**	**21 43 37.2**	**+2.8**
ACCO				*i* S	**S**	**21 44 51.7**	**-2.4**
LPAZ	**La Paz**	**7.65**	**350**	P	**Pn**	**21 43 43.2**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=155,slow=5.7,SNR=18						
LPAZ				S	**S**	**21 45 06.8**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=310,slow=17,SNR=3.8						
RTLS	**Leoncito**	**8.21**	**195**	*i* P	**Pn**	**21 43 52.9**	**+2.8**
AUSP	**Uspallata**	**8.64**	**195**	*i* P	**Pn**	**21 43 57.7**	**+2.0**
CPUP	**Villa Florida**	**8.91**	**108**	P	**Pn**	**21 43 58.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=286,slow=12,SNR=7.9						
SIV	**San Ignacio**	**9.50**	**35**	P	**Pn**	**21 44 04.4**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=233,slow=12,SNR=5.1						
TXAR	**Lajitas Array**	**63.69**	**324**	P	**P**	**21 52 04.5**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=149,slow=7.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.33**	**69**	P	**P**	**21 53 20.3**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=251,slow=5.6,SNR=14						
ULM	**Lac du Bonnet**	**78.17**	**341**	P	**P**	**21 53 30.6**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=153,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar**	**94.07**	**340**	P	**P**	**21 54 48.7**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=129,slow=4.7,SNR=5.7						
WRA	**Warramunga Arr**	**131.83**	**207**	PKP	**PKPdf**	**22 00 44.4**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=154,slow=1.9,SNR=8.7						
ZALV	**Zalesovo Beam**	**143.18**	**28**	PKP	**PKPdf**	**22 01 00.9**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=263,slow=2.5,SNR=3.9						
MKAR	**Makanchi Array**	**146.29**	**40**	PKPbc	**PKPbc**	**22 01 10.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=302,slow=3.3,SNR=15						

ISK ***29*** *21:43:30.9, 39°.10N×28°.98E, h6*km*, MD2.8*

ISCJB ***29*** *21:43:31.6±0.6, 39°.09N±0°.05×28°.99E±0°.05, h6*km*±9*km*, Error ellipse: s-maj=10.1km s-min=5.0km az=150.6*

CSEM ***29*** *21:43:31.5±0.2, 39°.12N×28°.98E, h5*km*, MD2.8, Error ellipse: s-maj=4.8km s-min=3.2km az=129.0*

DDA ***29*** *21:43:31.3, 39°.11N×28°.99E, h7*km*, Md2.2*

ISC 29 21:43:31.9±1.1, **39°.11N**±0°.04×**28°.99E**±0°.03, **h4**km±12km, **n14**, σ0§**68**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**252**	P	**Pg**	**21 43 36.6**	**+0.3**
DEMI				S	**Sg**	**21 43 39.6**	**+0.4**
DEMI	**Demirci**	**0.23**	**252**	*i* P	**Pg**	**21 43 36.6**	**+0.3**
DEMI				*i* S	**Sg**	**21 43 39.6**	**+0.4**
GDZ	**Gediz**	**0.38**	**93**	P	**Pg**	**21 43 38.8**	**-0.5**
GDZ				S	**Sg**	**21 43 45.1**	**+0.8**
GDZ	**Gediz**	**0.38**	**93**	*i* P	**Pg**	**21 43 38.8**	**-0.5**
GDZ				*i* S	**Sg**	**21 43 45.1**	**+0.8**
TVSB	**Tavsanli**	**0.50**	**47**	*e*PG	**Pg**	**21 43 41.4**	**0.0**
TVSB				*e*SG	**Sg**	**21 43 48.4**	**+0.5**
TVSB	**Tavsanli**	**0.50**	**47**	*e*Pg	**Pg**	**21 43 41.4**	**0.0**
TVSB				*e*Sg	**Sg**	**21 43 48.4**	**+0.5**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*PG	**Pg**	**21 43 44.3**	**-0.1**
KULA				*e*SG	**Sg**	**21 43 52.5**	**-0.3**
KULA	**Kula-Manisa**	**0.65**	**203**	*e*Pg	**Pg**	**21 43 44.3**	**-0.1**
KULA				*e*Sg	**Sg**	**21 43 52.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*PN	**Pg**	**21 43 55.2**	**-0.7**
KCTX	**Karacabey (Bur**	**1.25**	**337**	*e*Pn	**Pg**	**21 43 55.2**	**-0.7**
IZI	**Iznik**	**1.28**	**17**	*e*PN	**Pn**	**21 43 55.8**	**-0.8**
IZI				*e*SN	**Sn**	**21 44 15.4**	**+1.3**
IZI	**Iznik**	**1.28**	**17**	*e*Pn	**Pn**	**21 43 55.8**	**-0.8**
IZI				*e*Sn	**Sn**	**21 44 15.4**	**+1.3**
ARMT	**Armutlu**	**1.46**	**356**	*e*PN	**Pn**	**21 43 58.2**	**-0.7**
ARMT	**Armutlu**	**1.46**	**356**	*e*Pn	**Pn**	**21 43 58.2**	**-0.7**

CSEM ***29*** *21:54:49.8, 43°.38N×12°.51E, h9*km*, MD1.8/13*

ROM 29 21:54:49.8±0.0, **43°.38N×12°.51E, h9**km**, Md1.8**/13, **Ml1.1**/10, **Error ellipse: s-maj=0.5km s-min=0.5km az=24.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATVO	**AVT- Monte Val**	**0.07**	**274**	Pg	Pg	21 54 52.1	+0.1
ATVO				Sg	Sg	21 54 53.6	+0.1
	137nm,0.1s						
ATVO	**AVT- Monte Val**	**0.07**	**274**	Pg	Pg	21 54 52.1	+0.1
ATVO				Sg	Sg	21 54 53.6	+0.1
	137nm,0.1s						
ATPC	**Poggio Castell**	**0.11**	**341**	Pg	Pg	21 54 52.9	+0.4
ATPC				Sg	Sg	21 54 55.5	+1.1
	107nm,0.1s						
ATPC	**Poggio Castell**	**0.11**	**341**	Pg	Pg	21 54 52.9	+0.4
ATPC				Sg	Sg	21 54 55.5	+1.1
	107nm,0.1s						
MURB	**Monte Urbino**	**0.12**	**173**	Pg	Pg	21 54 53.1	+0.5
MURB				Sg	Sg	21 54 55.3	+0.8
	181nm,0.2s						
MURB	**Monte Urbino**	**0.12**	**173**	Pg	Pg	21 54 53.1	+0.5
MURB				Sg	Sg	21 54 55.3	+0.8
	181nm,0.2s						
PIEI	**Pieia**	**0.16**	**8**	Pg	Pg	21 54 53.8	+0.5
PIEI				Sg	Sg	21 54 56.8	+1.1
	62nm,0.2s						
PIEI	**Pieia**	**0.16**	**8**	Pg	Pg	21 54 53.8	+0.5
PIEI				Sg	Sg	21 54 56.8	+1.1
	62nm,0.2s						
ATTE	**AVT- Monte Tez**	**0.21**	**212**	Pg	Pg	21 54 54.8	+0.7
ATTE				Sg	Sg	21 54 58.4	+1.3
	18nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.21**	**212**	Pg	Pg	21 54 54.8	+0.7
ATTE				Sg	Sg	21 54 58.4	+1.3
	18nm,0.3s						
FRON	**Frontone**	**0.21**	**49**	Pg	Pg	21 54 54.7	+0.5
FRON				Sg	Sg	21 54 58.4	+1.2
	19nm,0.6s						
FRON	**Frontone**	**0.21**	**49**	Pg	Pg	21 54 54.7	+0.5
FRON				Sg	Sg	21 54 58.4	+1.2
	19nm,0.6s						
ATCC	**AVT- Casa Cast**	**0.22**	**153**	Pg	Pg	21 54 55.1	+0.9
ATCC				Sg	Sg	21 54 59.2	+2.0
	39nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.22**	**153**	Pg	Pg	21 54 55.1	+0.9
ATCC				Sg	Sg	21 54 59.2	+2.0
	39nm,0.3s						
BADI	**Badiali**	**0.23**	**305**	Pg	Pg	21 54 55.3	+0.8
BADI				Sg	Sg	21 54 59.4	+1.7
	77nm,0.1s						
BADI	**Badiali**	**0.23**	**305**	Pg	Pg	21 54 55.3	+0.8
BADI				Sg	Sg	21 54 59.4	+1.7
	77nm,0.1s						
ATMC	**Monte Cedrone**	**0.24**	**287**	Pg	Pg	21 54 55.4	+0.8
ATMC				Sg	Sg	21 54 59.4	+1.5
	22nm,0.3s						
ATMC	**Monte Cedrone**	**0.24**	**287**	Pg	Pg	21 54 55.4	+0.8
ATMC				Sg	Sg	21 54 59.4	+1.5
	22nm,0.3s						
PARC	**Parchiule**	**0.33**	**325**	Pg	Pb	21 54 57.3	-0.7
PARC				Sg	Sb	21 55 02.8	-0.6
PARC	**Parchiule**	**0.33**	**325**	Pg	Pb	21 54 57.3	-0.7
PARC				Sg	Sb	21 55 02.8	-0.6
ARVD	**Arcevia**	**0.34**	**69**	Pg	Pg	21 54 57.1	+0.6
ARVD				Sg	Sb	21 55 02.8	-0.8
	7.0nm,0.2s						
ARVD	**Arcevia**	**0.34**	**69**	Pg	Pg	21 54 57.1	+0.6
ARVD				Sg	Sb	21 55 02.8	-0.8
	7.0nm,0.2s						
SNTG	**Esanatoglia**	**0.34**	**111**	Pg	Pg	21 54 57.1	+0.6
SNTG				Sg	Sb	21 55 02.8	-0.8
SNTG	**Esanatoglia**	**0.34**	**111**	Pg	Pg	21 54 57.1	+0.6
SNTG				Sg	Sb	21 55 02.8	-0.8
CAFI	**Castiglion Fio**	**0.40**	**263**	Pg	Pb	21 54 58.4	-0.6
CAFI				Sg	Sb	21 55 04.4	-0.8
	7.0nm,0.3s						
CAFI	**Castiglion Fio**	**0.40**	**263**	Pg	Pb	21 54 58.4	-0.6
CAFI				Sg	Sb	21 55 04.4	-0.8
	7.0nm,0.3s						

IDC 29 21:55:10.4±8.5, **26°.90N×143°.98E, h0**km**, mb3.6**/3, **mb1 3.8**/4, **mb1mx3.5**/34, **mbtmp3.6**/4, **ML3.9**/1, **Error ellipse: s-maj=310.8km s-min=30.0km az=74.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**10.79**	**334**	Pn	Pn	21 57 44.5	-1.7
	0.9nm,0.3s,baz=164,slow=11,SNR=7.6						
SONM	**Songino Array**	**35.97**	**316**	P	P	22 02 13.5	+0.6
	0.3nm,0.4s,baz=126,slow=7.3,SNR=3.3						
WRA	**Warramunga Arr**	**47.49**	**192**	P	P	22 03 47.1	-0.3
	0.7nm,1.0s,baz=12,slow=8.7,SNR=3.7						
MKAR	**Makanchi Array**	**51.83**	**310**	P	P	22 04 20.2	-0.1
	0.4nm,0.4s,baz=92,slow=8.6,SNR=8.8						

IDC 29 22:02:26.3±11.0, **22°.14S×179°.77W, h652**km±108km, **mb3.2**/5, **mb1 3.3**/6, **mb1mx3.0**/31, **mbtmp4.3**/6, **Error ellipse: s-maj=163.7km s-min=36.4km az=43.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.78**	**268**	P	P	22 05 12.9	+0.6
	0.5nm,0.3s,baz=73,slow=19,SNR=4.4						
CTA	**Charters Tower**	**31.72**	**267**	P	P	22 08 00.7	+0.5
	3.8nm,0.4s,baz=91,slow=11,SNR=7.8						
STKA	**Stephens Creek**	**35.60**	**246**	P	P	22 08 32.4	+0.1
	2.3nm,0.4s,baz=107,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**42.56**	**259**	P	P	22 09 28.1	+0.2
	5.4nm,0.8s,baz=97,slow=7.3,SNR=40						
WRA	**Warramunga Arr**	**42.76**	**264**	P	P	22 09 29.1	-0.4
	4.0nm,0.6s,baz=101,slow=8.7,SNR=85						
VNDA	**Vanda**	**56.14**	**185**	P	P	22 11 06.0	+0.1
	0.5nm,0.7s,baz=342,slow=7.8,SNR=5.7						

NIED ***29*** *22:04:00, 36°.40N×140°.50E, h53*km*, Mw3.4 Best double couple: M₀1.63000×10¹⁴ NP1:φs162.00000°, δ36.00000°, λ77.00000°. NP2:φs357.00000°, δ55.00000°, λ99.00000°.*

JMA 29 22:04:41.0±0.1, **36°.43N×140°.55E, h54**km±1km, **M3.5, 2C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.18**	**5**	⇑P	Pn	22 04 49.6	-0.1
JHO				S	Sn	22 04 55.5	-0.4
JYT	**Yasato**	**0.35**	**235**	⇑P	Pn	22 04 51.1	+0.2
JYT				S	Sn	22 04 58.0	-0.1
ONAJ	**Iwakimizuishiy**	**0.70**	**16**	P	Pn	22 04 55.4	+0.4
ONAJ				S	Sn	22 05 04.2	-1.0
JSB	**Shiboa**	**0.74**	**317**	⇓P	Pn	22 04 55.5	+0.1
JSB				S	Sn	22 05 06.1	+0.1
JAG	**Ashikaga**	**0.88**	**270**	⇓P	Pn	22 04 57.5	+0.2
JAG				S	Sn	22 05 09.0	-0.3
JFK	**Kawauchi**	**0.97**	**15**	P	Pn	22 04 58.2	-0.3
JFK				S	Sn	22 05 10.2	-1.2
JFT	**Otama**	**1.10**	**351**	P	Pn	22 05 00.4	+0.2
JFT				S	Sn	22 05 14.2	-0.2
MAT	**Matsushiro**	**1.89**	**274**	P	Pn	22 05 12.1	+1.2
MAT				S	Sn	22 05 37.8	+4.2

TAP ***29*** *22:06:02.0, 24°.13N×122°.86E, h48*km*±2*km*, ML3.2, D*

JMA ***29*** *22:06:01.4±0.1, 24°.34N×122°.89E, h62*km*±1km, M1.4*

ISC 29 22:06:01.5±1.2, **24°.02N**±0°.07×**122°.91E**±0°.03, **h31**km±12km, **n23**, σ1§**07**/40, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.43**	**4**	P	**Pb**	**22 06 10.7**	**-0.2**
JYNG				*e*S	**Sb**	**22 06 17.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.45**	**12**	P	**Pb**	**22 06 10.9**	**-0.3**
YOJ				*e*S	**Sb**	**22 06 17.8**	**-0.1**
IRIF	**Iriomote-Funau**	**0.81**	**67**	P	**Pb**	**22 06 16.5**	**-0.6**
IRIF				*e*S	**Sb**	**22 06 28.2**	**+0.4**
HATJ	**Hateruma jima**	**0.82**	**87**	P	**Pb**	**22 06 18.1**	**+0.8**
HATJ				*e*S	**Sn**	**22 06 29.8**	**+1.8**
JKRS	**Kuro-shima**	**1.03**	**78**	P	**Pn**	**22 06 20.2**	**+0.4**
JKRS				*e*S	**Sn**	**22 06 34.0**	**+0.9**
JIJ	**Ishigaki jima**	**1.18**	**73**	P	**Pn**	**22 06 21.8**	**-0.1**
JIJ				*e*S	**Sn**	**22 06 36.0**	**-0.8**
TWD	**Chiawan**	**1.20**	**273**	*e*P	**Pn**	**22 06 22.1**	**-0.1**
	baz=268						
TWD				*e*S	**Sn**	**22 06 35.8**	**-1.7**
	baz=268						
ESL	**Shilin**	**1.37**	**262**	*e*P	**Pn**	**22 06 23.8**	**-0.7**
	baz=250						
ESL				S	**Sn**	**22 06 40.6**	**-0.9**
	baz=250						
ENTT	**Nioudou**	**1.37**	**297**	*e*P	**Pn**	**22 06 25.8**	**+1.2**
	baz=282						
JISG	**Ishigakijimahi**	**1.40**	**66**	P	**Pn**	**22 06 23.5**	**-1.4**
JISG				*e*S	**Sn**	**22 06 40.8**	**-1.5**
NNS	**Nan Shan**	**1.46**	**287**	*e*P	**Pn**	**22 06 27.1**	**+1.1**
	baz=282						
EHY	**Hungye**	**1.54**	**251**	*e*P	**Pn**	**22 06 26.8**	**-0.1**
	baz=247						
EHY				*e*S	**Sn**	**22 06 45.5**	**-0.3**
	baz=247						
TWT	**Tachien**	**1.60**	**279**	*e*P	**Pb**	**22 06 30.6**	**+0.1**
	baz=265						
TWF1	**Yuli**	**1.62**	**246**	P	**Pn**	**22 06 28.1**	**+0.2**
	baz=234						
TWF1				*e*S	**Sn**	**22 06 47.3**	**-0.5**
	baz=234						
CHKT	**Chengkung**	**1.69**	**237**	*e*P	**Pn**	**22 06 26.8**	**-2.1**
	baz=226						
CHKT				*e*S	**Sn**	**22 06 47.6**	**-1.8**
	baz=226						
SMLT	**Sun Moon Lake**	**1.84**	**266**	*e*P	**Pn**	**22 06 31.7**	**+0.5**
	baz=262						
SMLT				*e*S	**Sn**	**22 06 52.0**	**-1.5**
	baz=262						
YUS	**Yu-Shan**	**1.87**	**254**	*e*P	**Pn**	**22 06 32.8**	**+0.9**
	baz=250						
YUS				*e*S	**Sn**	**22 06 54.0**	**-0.6**
	baz=250						
TYC	**Yuchr**	**1.88**	**267**	*e*P	**Pn**	**22 06 32.1**	**+0.6**
	baz=263						
TYC				*e*S	**Sn**	**22 06 54.2**	**0.0**
	baz=263						
ELDTW	**Lidau**	**1.92**	**245**	*e*P	**Pn**	**22 06 31.5**	**-0.7**
	baz=241						
CHN5	**Tsauling**	**2.09**	**259**	*e*P	**Pn**	**22 06 36.2**	**+1.7**
	baz=247						
CHN5				*e*S	**Sn**	**22 07 00.6**	**+1.1**
	baz=247						
STYT	**Tauyuan**	**2.15**	**247**	*e*P	**Pn**	**22 06 36.7**	**+1.4**
	baz=235						
CHN4	**Tsaushan**	**2.23**	**253**	*e*P	**Pn**	**22 06 37.3**	**+1.0**
	baz=249						
CHN4				*e*S	**Sn**	**22 07 04.0**	**+1.3**
	baz=249						
SGST	**Jiashian**	**2.33**	**247**	*e*P	**Pn**	**22 06 39.1**	**+1.3**
	baz=236						

NIED ***29*** *22:14:00, 35°.70N×140°.70E, h50*km*, Mw5.0 Best double couple: M₀3.80000×10¹⁶ NP1:φs167.00000°, δ17.00000°, λ67.00000°. NP2:φs12.00000°, δ74.00000°, λ97.00000°.*

BJI ***29*** *22:14:29.3, 35°.54N×141°.02E, h29*km*, mb4.9/80, mB4.9/58, Ms4.4/76, Ms7 4.2/69*

MOS ***29*** *22:14:35.2±0.9, 35°.72N×140°.48E, h37*km*, mb5.1/58, MS4.1/13, Error ellipse: s-maj=8.9km s-min=4.7km az=113.3*

ISCJB ***29*** *22:14:36.7±0.3, 35°.62N±0°.02×140°.52E±0°.03, h53*km*±2*km*, mb4.8/156, MS4.1/38, Error ellipse: s-maj=3.8km s-min=3.3km az=37.2*

JMA ***29*** *22:14:37.0±0.1, 35°.74N×140°.62E, h51*km*±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs10.00000°, δ75.00000°, λ93.00000°. NP2:φs180.00000°, δ15.00000°, λ80.00000°. Principal axes: T Plg60.0000°, Azm284.0000°; N Plg3.0000°, Azm189.0000°; P Plg30.0000°, Azm98.0000°;*

JMA Felt III J1.

NEIC ***29*** *22:14:38.5±0.6, 35°.60N×140°.46E, h55*km*±5km, mb4.9/92 Error ellipse: s-maj=4.2km s-min=3.6km az=124.0*

NEIC Felt at Narita. Recorded [3 JMA] in Chiba.

GCMT ***29*** *22:14:38.5±0.2, 35°.66N×140°.74E, h54*km*±1km, MW5.0/79, Moment Tensor Solution. s56,c81; s79,c133; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.20±.13; Mθθ-0.23±.09; Mφφ-2.97±.09; Mrθ0.20±.08; Mφθ-0.46±.07; Mφr2.23±.08; Best double couple: M₀3.84100×10¹⁶ NP1:φs7.00000°, δ63.00000°, λ88.00000°. NP2: φs191.00000°, δ27.00000°, λ94.00000°. Principal axes: T 3.9220, Plg72.0000°, Azm272.0000°; N -0.1560, Plg2.0000°, Azm8.0000°; P -3.7610, Plg18.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***29*** *22:14:38.1±1.3, 35°.64N×140°.55E, h52*km*±12km, mb4.4/33, mb1 4.4/38, mb1mx4.4/47, mbtmp4.6/38, ML4.2/4, MS4.0/34, Ms1 4.0/34, ms1mx4.0/38 Error ellipse: s-maj=13.1km s-min=8.2km az=86.0*

ISC 29 22:14:36.1±0.5, **35°.68N**±0°.03×**140°.56E**±0°.03, **h34**km±1km, **h34**km:**pP-P, n455**, σ1§**59**/488, **mb4.8**/162, **MS4.1**/39, **26C-28D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.25**	**85**	⇑P	**Pb**	**22 14 45.3**	**+2.1**
CHOJ				S	**Sb**	**22 14 51.8**	**+3.7**
JCN	**Nagara**	**0.39**	**228**	⇓P	**Pn**	**22 14 48.6**	**+3.2**
JCN				S	**Sn**	**22 14 57.1**	**+5.6**
JYT	**Yasato**	**0.62**	**332**	⇓P	**Pn**	**22 14 49.6**	**+1.0**
JYT				S	**Sb**	**22 14 59.1**	**+1.9**
BSO4	**Boso 4**	**0.71**	**195**	⇓P	**Pb**	**22 14 51.9**	**+1.8**
BSO3	**Boso 3**	**0.88**	**183**	P	**Pb**	**22 14 53.5**	**+0.7**
JHO	**Hitachi**	**0.93**	**1**	P	**Pb**	**22 14 53.5**	**-0.2**
JHO				S	**Sb**	**22 15 07.2**	**+1.4**
BSO1	**Boso 1**	**1.08**	**161**	P	**Pb**	**22 14 55.8**	**-0.2**
JAG	**Ashikaga**	**1.16**	**310**	⇓P	**Pb**	**22 14 57.2**	**-0.5**
MJAR	**Matsushiro Arr**	**2.09**	**295**	P	**Pb**	**22 15 11.3**	**-2.0**
	102nm,0.3s,baz=104,slow=12,SNR=641						
MJAR				LR	LR	22 16 11.2	
	comp=Z,7µm,19.2s,baz=115,slow=45						
MAJO	**Matsushiro**	**2.09**	**295**	*e*P	**Pb**	**22 15 11.9**	**-1.4**
MAJO				*e*		22 15 32.7	
MAJO	**Matsushiro**	**2.09**	**295**	*e*Pn	**Pb**	**22 15 11.9**	**-1.4**
MAJO				*e*Sn	**Sn**	**22 15 32.7**	**-0.9**
MAT	**Matsushiro**	**2.09**	**295**	P	**Pb**	**22 15 11.9**	**-1.4**
MAT				S	**Sb**	**22 15 36.8**	**-2.1**
MJB9	**Matsu-Tunnel**	**2.09**	**295**	*e*Pn	**Pb**	**22 15 12.0**	**-1.4**
JHJ	**Hachijo jima 2**	**2.64**	**194**	P	**Pn**	**22 15 17.9**	**+1.6**
	239nm,0.3s,baz=20,slow=18,SNR=74						
JHJ				S	**Sn**	**22 15 48.6**	**+1.6**
	410nm,0.3s,baz=90,slow=20,SNR=13						
JHJ				LR	LR	22 16 34.3	
	comp=Z,2µm,19.3s,baz=292,slow=45						
JHJ2	**Mitsune**	**2.64**	**194**	*e*Pn	**Pn**	**22 15 17.8**	**+1.6**
JHJ2				*e*Sn	**Sn**	**22 15 47.7**	**+0.7**
INU	**Inuyama**	**2.91**	**264**	*e*Pn	**Pn**	**22 15 22.9**	**+2.9**
INU				*e*Sn	**Sn**	**22 15 52.7**	**-1.0**
ERM	**Erimo**	**6.64**	**17**	⇑*i*P	**Pn**	**22 16 11.1**	**-0.1**
ERM				pmax	pmax		
	comp=Z,37nm,0.8s						
ERM	**Erimo**	**6.64**	**17**	*e*Pn	**Pn**	**22 16 10.1**	**-1.1**
ERM				*e*Sn	**Sn**	**22 17 23.8**	**-1.8**
JNU	**Nakatsue**	**8.40**	**255**	P	**Pn**	**22 16 38.6**	**+3.2**
	comp=Z,0.8nm,0.3s,baz=64,slow=9.9,SNR=12						
JNU				LR	LR	22 20 16.3	
	comp=Z,5µm,18.5s,baz=118,slow=40						
ASAJ	**Asahikawa**	**8.57**	**10**	P	**Pn**	**22 16 36.9**	**-0.8**
	baz=177,slow=4.5						
ASAJ	**Asahikawa**	**8.57**	**10**	*e*Pn	**Pn**	**22 16 36.9**	**-0.8**
ASAJ				*e*Sn	**Sn**	**22 18 11.9**	**-1.2**
CBIJ	**Chichi jima**	**8.67**	**170**	*e*Pn	**Pn**	**22 16 38.0**	**-1.2**
CBIJ				*e*Sn	**Sn**	**22 18 08.4**	**-7.4**
JCJ	**Chichijima**	**8.67**	**170**	P	**Pn**	**22 16 38.9**	**-0.3**
	comp=Z,10nm,0.3s,baz=356,slow=23,SNR=7.0						
JCJ				S	**Sn**	**22 18 07.1**	**-8.6**
	comp=Z,13nm,0.3s,baz=3.5,slow=23,SNR=3.5						
VLA	**Vladivostok**

DL2 Dalian 15.41 288 P **P** 22 18 16.0 +0.9
DL2 S **S** 22 21 10.5 -5.1
DL2 PMZ
comp=Z,82nm,0.9s
DL2 PMZ
comp=Z,380nm,4.8s
DL2 LE
comp=Z,1µm,19.8s
DL2 LZ
comp=Z,2µm,27.3s
NJ2 Nanjing 18.38 265 *e*P **Pn** 22 18 48.5 +0.3
NJ2 PMZ
comp=Z,18nm,0.7s
NJ2 LN
comp=Z,1µm,17.4s
NJ2 LE
comp=Z,1µm,19.0s
NJ2 LZ
comp=Z,1µm,29.3s
YOJ Yonaguni jima 18.83 238 *e*P **P** 22 18 48.8 -4.2
YOJ pmax pmax
comp=Z,111nm,1.3s
YOJ Yonaguni jima 18.83 238 *e*P **P** 22 18 48.8 -4.2
comp=Z,111nm,1.3s
TIA Tai'an 18.98 278 ⇓P **P** 22 18 54.3 -0.3
TIA PMZ
comp=Z,80nm,1.2s
TIA PMZ
comp=Z,160nm,3.5s
TIA LN
comp=Z,740nm,15.2s
TIA LE
comp=Z,720nm,19.7s
BJI Beijing 19.72 290 P **P** 22 19 00.5 -2.1
BJI S **S** 22 22 40.3 -2.7
BJI PMZ
comp=Z,36nm,1.7s
BJI PMZ
comp=Z,250nm,5.7s
BJI LN
comp=Z,340nm,23.4s
BJI LE
comp=Z,450nm,30.2s
BJI LZ
comp=Z,990nm,32.0s
BJT Baijiatuau 19.72 290 *e*P **P** 22 19 02.0 -0.7
BJT pmax pmax
comp=Z,42nm,1.0s
BJT Baijiatuau 19.72 290 *e*P **P** 22 19 02.0 -0.7
comp=Z,42nm,1.0s
YHNB Yeheng 19.85 242 *e*P **P** 22 19 04.0 -0.2
comp=Z,58nm,1.4s
NACB Ninganchiao 20.00 240 *e*P **P** 22 19 04.6 -1.2
comp=Z,18nm,0.8s
SSLB Suanglung 20.70 240 *e*P **P** 22 19 12.2 -1.2
comp=Z,19nm,1.0s
YULB Yu-li 20.71 239 *e*P **P** 22 19 11.7 -1.9
comp=Z,22nm,1.2s
PEA0 Petropavlovsk- 21.20 29 *e*P **P** 22 19 19.9 +1.3
PEA0B Petropavlovsk- 21.20 29 *e*P **P** 22 19 18.5 -0.1
comp=Z,43nm,1.4s
PETK Petropavlovsk- 21.20 29 P **P** 22 19 19.9 +1.3
comp=Z,11nm,1.0s,baz=224,slow=8.1,SNR=8.1
PETK LR LR 22 27 46.8
comp=Z,86nm,20.2s,baz=218,slow=37
PEA1 Petropavlovsk- 21.20 29 *e*P **P** 22 19 19.9 +1.2
TPUB Ta-pu 21.24 240 *e*P **P** 22 19 17.9 -1.3
comp=Z,168nm,2.0s
TWG Pinlang 21.24 238 *e*P **P** 22 19 20.9 +1.6
comp=Z,110nm,1.0s
PET Petropavlovsk 21.53 31 *e*P **P** 22 19 24.3 +2.2
PET *e*S **S** 22 23 17.5 -1.3
PET pmax pmax
comp=Z,23nm,1.5s
PET MLR MLR
comp=Z,600nm,19.0s
PET MLR MLR
comp=Z,500nm,21.0s
QZH Quanzhou 21.73 247 P **P** 22 19 27.0 +2.5
QZH *e*S **S** 22 23 16.3 -6.8
QZH LN
comp=Z,2µm,18.4s
QZH LE
comp=Z,2µm,17.5s
QZH LZ
comp=Z,2µm,16.6s
WHN Wuhan 22.51 264⇑ *i*P **P** 22 19 32.8 0.0
WHN pP **pP** 22 19 40.8 -1.0
WHN PMZ
comp=Z,96nm,0.8s
WHN LN
comp=Z,730nm,10.4s
WHN LE
comp=Z,3µm,18.0s
WHN LZ
comp=Z,2µm,17.5s
HHC Hu-ho-hao-te 23.29 292 *e*P **P** 22 19 39.5 -1.4
HHC PP **PnPn** 22 20 11.5 +4.3
HHC S **S** 22 23 48.8 -2.2
HHC PMZ
comp=Z,20nm,1.0s
HHC PMZ
comp=Z,120nm,5.9s
HHC LN
comp=Z,240nm,12.4s
HHC LE
comp=Z,220nm,11.6s
HHC LZ
comp=Z,220nm,12.1s
CLNS Chul'man 23.66 338 *e*P **P** 22 19 40.6 -3.7
CLNS pmax pmax
comp=Z,21nm,1.2s
CLNS pmax pmax
comp=N,28nm,1.4s
CLNS pmax pmax
comp=E,13nm,1.2s
XAN Xi'an 25.96 276 P **P** 22 20 04.0 -1.5
XAN pP pP 22 20 13.3 -1.8
XAN PP **PnPn** 22 20 51.0 +7.3
XAN S **S** 22 24 43.0 +9.2
XAN PMZ
comp=E,30nm,0.7s
XAN PMZ
comp=E,160nm,6.0s
XAN LN
comp=E,470nm,18.1s
XAN LE
comp=E,550nm,22.2s
XAN LZ
comp=E,640nm,23.2s
ENH Enshi 26.55 267 *e*P **P** 22 20 09.7 -1.2
comp=E,101nm,0.7s
YAK Yakutsk 27.25 349 P **P** 22 20 16.6 -0.1
comp=E,14nm,0.4s,baz=176,slow=2.1,SNR=8.2
YAK LR LR 22 31 04.1
comp=E,423nm,21.4s,baz=160,slow=36
YAK Yakutsk 27.25 349 *e*P **P** 22 20 15.9 -0.8
YAK *e**PP **sP** 22 20 31.7 +1.2
YAK *e* 22 21 01.7
YAK *e* 22 23 35.2
YAK *e*S **S** 22 24 49.3 -4.1
YAK *e* 22 30 58.2
YAK pmax pmax
comp=Z,38nm,1.9s
YAK pmax pmax
comp=E,9.0nm,1.6s
YAK pmax pmax
comp=N,31nm,1.4s
YAK pmax pmax
comp=Z,14nm,0.6s
YAK pmax pmax
comp=N,9.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.4s
YAK smax smax
comp=N,203nm,3.4s
YAK smax smax
comp=E,79nm,3.8s
YAK MLR MLR
comp=Z,399nm,20.0s
YAK MLR MLR
comp=E,235nm,18.0s
YAK MLR MLR
comp=N,382nm,21.0s
YAK Yakutsk 27.25 349 *e*P **P** 22 20 16.6 -0.1
comp=N,76nm,1.4s

ULN Ulaanbaatar 27.57 307⇓ *i*P **P** 22 20 20.0 0.0
ULN pmax pmax
comp=Z,21nm,1.2s
ULN Ulaanbaatar 27.57 307 *e*P **P** 22 20 19.7 -0.4
comp=Z,20nm,1.2s
SONA1 Songino Array 27.99 306 *e*P **P** 22 20 22.9 -0.9
SONA0 Songino Array 28.00 306 *e*P **P** 22 20 23.7 -0.1
comp=Z,11nm,1.0s
SONM Songino Array 28.00 306 P **P** 22 20 23.7 -0.1
comp=Z,10nm,1.0s,baz=106,slow=8.8,SNR=22
SONM ScP **ScP** 22 27 14.9 -1.5
comp=Z,0.6nm,0.5s,baz=117,slow=2.7,SNR=6.9
SONM LR LR 22 31 53.1
comp=Z,527nm,19.1s,baz=104,slow=37
SONM Songino Array 28.00 306 *e*P **P** 22 20 25.7 +1.9
SONM pmax pmax
comp=Z,10.0nm,1.0s
H11N2 WAKE ISLAND Hy 28.09 117 T T 22 49 36.0
baz=310,slow=75,SNR=87
H11N1 WAKE ISLAND Hy 28.10 117 T T 22 49 33.2
baz=310,slow=75,SNR=98
H11N3 WAKE ISLAND Hy 28.11 117 T T 22 49 34.3
baz=310,slow=75,SNR=93
SEY Seymchan 28.25 11 P **P** 22 20 26.3 +0.6
comp=Z,3.9nm,0.8s,baz=243,slow=9.8,SNR=7.5
SEY Seymchan 28.25 11⇓ *e*P **P** 22 20 27.0 +1.3
BOD Bodaibo 28.32 330 *e*P **P** 22 20 24.4 -2.0
BOD pmax pmax
comp=Z,19nm,1.4s
H11S3 WAKE ISLAND Hy 28.75 120 T T 22 50 20.8
baz=312,slow=75,SNR=272
H11S1 WAKE ISLAND Hy 28.75 120 T T 22 50 27.7
baz=312,slow=75,SNR=368
H11S2 WAKE ISLAND Hy 28.77 120 T T 22 50 27.2
baz=312,slow=75,SNR=210
LZH Lanzhou 29.64 282 *e*P **P** 22 20 37.5 -1.1
LZH pP pP 22 20 46.5 -1.8
LZH sP sP 22 20 50.3 -2.0
LZH PP **PnPn** 22 21 32.0 -2.1
LZH S **S** 22 25 30.0 -2.0
LZH PMZ
comp=Z,52nm,1.1s
LZH PMZ
comp=Z,180nm,4.8s
LZH LN
comp=Z,410nm,11.9s
LZH LE
comp=Z,650nm,12.5s
LZH LZ
comp=Z,980nm,14.9s
GYA Guiyang 30.33 262 P **P** 22 20 45.5 +0.8
GYA pP pP 22 20 54.3 -0.1
GYA PP **PnPn** 22 21 45.0 +1.6
GYA S **S** 22 25 42.5 -0.4
GYA sS sS 22 25 56.5 -2.4
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,540nm,16.6s
GYA LE
comp=Z,460nm,17.0s
GYA LZ
comp=Z,520nm,16.9s
ZAK Zakamensk 30.59 310 *e*P **P** 22 20 45.7 -1.0
ZAK pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 30.72 313 P **P** 22 20 47.8 0.0
comp=Z,5.5nm,0.9s,baz=151,slow=5.4,SNR=4.1
TLY LR LR 22 33 37.3
comp=Z,294nm,18.9s,baz=108,slow=37
CD2 Chengdu 31.00 272 *e*P **P** 22 20 49.3 -1.2
CD2 pP pP 22 20 57.5 -2.8
CD2 sP sP 22 21 01.3 -3.0
CD2 S **S** 22 25 52.0 -1.2
CD2 sS sS 22 26 06.5 -2.8
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.0s
DAV Davao City (W) 31.62 209 LR LR 22 31 41.7
comp=Z,221nm,21.9s,baz=36,slow=32
QIZ Qiongzhong 31.75 247 P **P** 22 20 57.8 +0.7
QIZ S **S** 22 26 06.5 +1.5
QIZ PMZ
comp=Z,16nm,1.1s
QIZ LE
comp=Z,430nm,19.7s
QIZ LZ
comp=Z,490nm,20.9s
GTA Gaotai 32.32 289⇑ P **P** 22 21 02.0 -0.2
GTA pP pP 22 21 09.5 -2.4
GTA sP sP 22 21 12.5 -3.5
GTA PcP **PcP** 22 23 50.5 +1.0
GTA S **S** 22 26 13.3 -0.6
GTA PMZ
comp=Z,10.0nm,1.3s
GTA PMZ
comp=Z,92nm,6.4s
GTA LN
comp=Z,250nm,19.0s
GTA LE
comp=Z,320nm,21.9s
GTA LZ
comp=Z,490nm,24.2s
KMI Kunming 34.09 263 P **P** 22 21 17.0 -0.8
KMI pP pP 22 21 24.3 -3.2
KMI sP sP 22 21 27.5 -4.1
KMI PP **PP** 22 22 33.8 -1.4
KMI S **S** 22 26 44.8 +3.1
KMI PMZ
comp=Z,24nm,1.4s
KMI LN
comp=Z,390nm,22.5s
KMI LE
comp=Z,190nm,25.3s
KMI LZ
comp=Z,540nm,24.4s
BILL Bilibino 35.52 16⇓ *i*P **P** 22 21 29.3 0.0
BILL *i* 22 22 48.7
BILL *i* 22 23 52.1
BILL *i* SS SS 22 29 51.8 +14
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,314nm,23.0s
BILL Bilibino 35.52 16 *e*P **P** 22 21 28.0 -1.4
comp=Z,16nm,1.2s
MIDW Midway 36.25 90 *e*P **P** 22 21 34.6 -1.4
comp=Z,67nm,0.7s
TIXI Tiksi 36.55 354 P **P** 22 21 38.0 -0.2
comp=Z,4.1nm,0.7s,baz=141,slow=9.8,SNR=9.6
TIXI LR LR 22 37 21.8
comp=Z,128nm,21.1s,baz=154,slow=37
TIXI Tiksi 36.55 354⇓ *i*P **P** 22 21 38.1 0.0
TIXI *e**PP **pP** 22 21 49.4 +1.5
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 36.55 354 *e*P **P** 22 21 37.8 -0.4
comp=Z,9.5nm,1.1s
UBPT Khong Chiam 37.34 246 P P 22 21 50.3 +4.8
SKNT Sakolnakorn 37.42 250 P **P** 22 21 46.4 +0.2
comp=Z,15nm,1.3s
NONG Nongkai 37.43 252 P **P** 22 21 45.9 -0.3
comp=Z,42nm,0.9s
FAKI Fak Fak 39.18 193 *e*P **P** 22 21 59.8 -1.1
comp=Z,41nm,1.0s
LOEI Loei 39.21 253 P **P** 22 21 57.7 -3.5
comp=Z,208nm,1.2s,comp=Z,13µm
CHAI Chaiyaphum 39.59 250 P **P** 22 22 03.8 -0.6
comp=Z,11nm,1.0s,comp=Z,106nm
UTTA Uttaradit 39.63 254 P **P** 22 22 04.3 -0.4
comp=Z,5.0nm,1.2s,comp=Z,46nm
LAMP Lampang 39.91 256 P **P** 22 22 07.9 +0.8
comp=Z,5.4nm,0.8s
SANI Sanana 39.93 203 P **P** 22 22 05.8 -1.4
PBKT Sadao Pong 39.98 252 P **P** 22 22 07.0 -0.6
comp=Z,29nm,1.1s,comp=Z,890nm
CMMT Chiang Mai 40.30 257 P **P** 22 22 09.7 -0.6
comp=Z,9.6nm,0.9s,comp=Z,389nm
CHTO Chiang Mai 40.30 257 P **P** 22 22 09.8 -0.5
comp=Z,43nm,0.9s
CHTO Chiang Mai 40.30 257 *e*P **P** 22 22 09.7 -0.5
CHTO pmax pmax
comp=Z,8.0nm,1.0s

CHTO Chiang Mai 40.30 257 *e*P **P** 22 22 09.7 -0.5
comp=Z,8.4nm,1.0s
CM31 Chiang Mai Arr 40.49 256 *e*P **P** 22 22 11.7 -0.2
CM31 *e*PcP **PcP** 22 24 14.6 +0.5
CMAR Chiang Mai Arr 40.49 256 P **P** 22 22 11.7 -0.2
comp=Z,2.4nm,0.8s,baz=47,slow=8.6,SNR=16
CMAR PcP **PcP** 22 24 14.6 +0.5
comp=Z,2.2nm,0.9s,baz=13,slow=2.2,SNR=8.9
CMAR LR LR 22 40 30.8
comp=Z,374nm,18.5s,baz=92,slow=38
SUKH Sukhothai 40.50 254 P **P** 22 22 11.9 0.0
comp=Z,4.4nm,1.1s
CM01 Chiang Mai Arr 40.50 256 *e*P **P** 22 22 11.0 -1.0
CM01 *e*PcP **PcP** 22 24 14.3 +0.1
SRAK Srakaew 40.71 248 P **P** 22 22 10.6 -3.1
comp=Z,42nm,1.0s
WMQ Urumqi 40.85 298 P **P** 22 22 14.8 +0.2
WMQ pP pP 22 22 24.8 +0.3
WMQ sP sP 22 22 27.3 -1.3
WMQ PcP **PcP** 22 24 16.0 +1.0
WMQ S **S** 22 28 23.3 -0.3
WMQ ScS **ScS** 22 32 15.3 -1.7
WMQ PMZ
comp=Z,18nm,1.5s
WMQ PMZ
comp=Z,100nm,3.6s
WMQ LN
comp=Z,140nm,15.1s
WMQ LE
comp=Z,110nm,22.3s
WMQ LZ
comp=Z,150nm,22.3s
CHBT CHBT 41.29 246 P P 22 22 24.0 +5.5
LSA Lhasa 41.66 276 P **P** 22 22 23.0 +1.1
LSA PMZ
comp=Z,37nm,1.1s
LSA Lhasa 41.66 276 *e*P **P** 22 22 23.1 +1.1
LSA pmax pmax
comp=Z,31nm,0.9s
LSA Lhasa 41.66 276 *e*P **P** 22 22 23.1 +1.1
comp=Z,31nm,0.9s
UMPA Umpang Tak 41.83 253 P **P** 22 22 25.2 +2.3
comp=Z,6.3nm,0.9s,comp=Z,904nm
ZAA0 Zalesovo Array 42.33 313 *e*P **P** 22 22 26.4 -0.1
ZAA1 Zalesovo Array 42.33 313 *e*P **P** 22 22 26.6 +0.1
ZAA1 *e*PcP **PcP** 22 24 19.4 -0.2
ZALV Zalesovo Beam 42.33 313 P **P** 22 22 26.6 +0.1
comp=Z,14nm,0.8s,baz=91,slow=7.4,SNR=69
ZALV PcP **PcP** 22 24 19.4 -0.2
comp=Z,1.0nm,0.4s,baz=102,slow=3.9,SNR=3.4
ZALV LR LR 22 39 54.6
comp=Z,122nm,20.9s,baz=70,slow=36
SRDT SRDT 42.73 251 P **P** 22 22 30.4 +0.2
comp=Z,44nm,1.1s
NVS Novosibirsk 43.29 315⇑ *i*P **P** 22 22 35.2 +1.0
NVS pmax pmax
comp=Z,35nm,1.4s
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,23nm,1.3s
NRIK Noril'sk 44.21 336 P **P** 22 22 41.6 +0.1
comp=E,18nm,1.0s,baz=106,slow=9.0,SNR=14
NRIK LR LR 22 42 04.0
comp=E,245nm,19.5s,baz=118,slow=37
MK01 Makanchi Array 44.26 303 *e*P **P** 22 22 41.5 -0.8
MK31 Makanchi Array 44.26 303 *i* P **P** 22 22 42.3 0.0
MK31 pmax pmax
comp=Z,25nm,0.9s
MK31 Makanchi Array 44.26 303 *e*P **P** 22 22 42.0 -0.3
MK32 Makanchi Array 44.26 303 *e*P **P** 22 22 42.4 +0.1
MK32 *e*PcP **PP** 22 24 25.9 +0.3
MKAR Makanchi Array 44.26 303 P **P** 22 22 42.4 +0.1
comp=Z,22nm,1.0s,baz=90,slow=9.5,SNR=137
MKAR PcP **PP** 22 24 25.9 +0.3
comp=Z,2.2nm,0.8s,baz=85,slow=5.1,SNR=3.2
MKAR LR LR 22 41 47.7
comp=Z,314nm,19.7s,baz=91,slow=37
MKAR Makanchi Array 44.26 303 *e*P **P** 22 22 42.0 -0.3
MAKZ Makanchi 44.48 303 *e*P **P** 22 22 44.3 +0.3
MAKZ pmax pmax
comp=Z,21nm,0.9s
MAKZ Makanchi 44.48 303 *e*P **P** 22 22 44.3 +0.3
comp=Z,21nm,0.9s
KURK Kurchatov 46.23 309 P **P** 22 22 58.3 +0.5
KURK pmax pmax
comp=Z,47nm,1.0s
KURK Kurchatov 46.23 309 *e*P **P** 22 22 57.5 -0.3
comp=Z,86nm,1.1s
KURBB Kurchatov Arra 46.30 309 P **P** 22 22 58.3 0.0
comp=Z,46nm,1.0s,baz=84,slow=8.3,SNR=205
RAMN Ramite 46.42 275 *e*P **P** 22 22 59.7 -0.2
comp=Z,133nm,0.9s
GUN Gumba 46.61 276 *e*P **P** 22 23 01.7 +0.2
PDGK Podgornoye 46.81 299 *i* P **P** 22 23 01.7 -0.7
PDGK pmax pmax
comp=Z,36nm,0.8s
SVW2 Sparrevohn 47.02 37 *e*P **P** 22 23 04.1 +0.3
comp=Z,52nm,2.0s
PKIN Phulchoki 47.14 276 *e*P **P** 22 23 06.1 +0.6
comp=Z,23nm,0.8s
KKN Kakani 47.15 277 *e*P **P** 22 23 05.5 0.0
comp=Z,57nm,0.9s
DMN Daman 47.36 276 *e*P **P** 22 23 07.0 -0.2
comp=Z,48nm,1.0s
GKN Gorkha 47.58 277 *e*P **P** 22 23 08.8 0.0
comp=Z,153nm,1.0s
SOEI Soe 47.74 202 P P 22 23 18.4 +8.4
SOEI Soe 47.74 202 *e*P **P** 22 23 09.0 -1.0
comp=Z,78nm,0.9s
KOLN Koldanda 48.51 277 *e*P **P** 22 23 16.7 +0.6
PPLA Purkeypile 48.67 34 *e*P **P** 22 23 17.3 +0.6
comp=Z,13nm,1.1s
PYUN Piuthan 48.87 278 *e*P **P** 22 23 19.0 +0.2
comp=Z,140nm,0.9s
MTN Manton Dam 49.08 192 *e*P **P** 22 23 19.5 -0.6
comp=Z,38nm,0.9s
MLY Manley 49.36 31 *e*P **P** 22 23 23.9 +2.0
comp=Z,6.0nm,0.9s
COEN Coen 49.43 177 *e*P **P** 22 23 20.3 -2.5
comp=Z,25nm,1.2s
COLD Coldfoot 49.67 29 *e*P **P** 22 23 25.4 +1.3
comp=Z,3.9nm,1.2s
TKM2 Tokmak 2 49.67 299 *e*P **P** 22 23 26.1 +1.3
TKM2 pmax pmax
comp=Z,82nm,1.5s
TKM2 Tokmak 2 49.67 299 *e*P **P** 22 23 26.1 +1.3
comp=Z,82nm,1.5s
RND Reindeer 50.18 34 *e*P **P** 22 23 29.0 +0.8
RND pmax pmax
comp=Z,6.0nm,0.9s
RND Reindeer 50.18 34 *e*P **P** 22 23 29.0 +0.8
comp=Z,6.3nm,0.9s
KSH Kashi 50.34 295 *e*P **P** 22 23 32.5 +2.7
KSH pP pP 22 23 40.5 +0.6
KSH PcP **PcP** 22 24 50.0 +1.9
KSH PP **PP** 22 25 29.0 +3.8
KSH S **S** 22 30 42.8 +2.3
KSH ScS **ScS** 22 33 19.0 +0.6
KSH PMZ
comp=Z,24nm,1.0s
KSH PMZ
comp=Z,110nm,4.8s
KSH LN
comp=Z,140nm,7.3s
KSH LE
comp=Z,120nm,6.3s
KSH LZ
comp=Z,240nm,13.4s
FRU Bishkek 50.39 299 *i* P **P** 22 23 30.5 +0.4
FRU *i* 22 23 50.0
MDM Murphy Dome 50.43 32 *e*P **P** 22 23 31.7 +1.8
comp=Z,12nm,0.7s
SML Sawmill 50.49 36 *e*P **P** 22 23 31.9 +1.4
SML pmax pmax
comp=Z,11nm,1.0s
SML Sawmill 50.49 36 *e*P **P** 22 23 31.9 +1.4
comp=Z,11nm,1.0s
WRH Wood River Hil 50.49 32 *e*P **P** 22 23 31.8 +1.4
WRH *e*PcP **PcP** 22 24 48.4 +0.4
AAK Ala-Archa 50.53 299 P **P** 22 23 31.6 +0.3
comp=Z,2.9nm,0.5s,baz=90,slow=6.2,SNR=8.6
AAK Ala-Archa 50.53 299⇑ *i*P **P** 22 23 31.9 +0.6
AAK pmax pmax
comp=Z,16nm,0.9s
CCB Clear Creek Bu 50.61 32 *e*P **P** 22 23 32.9 +1.6

VOSK Vostochnaya 50.67 313 *e*P P 22 23 31.6 -0.4
VOSK pmax pmax
comp=Z,33nm,0.9s
VOSK Vostochnaya 50.67 313 *e*P P 22 23 31.6 -0.4
comp=Z,33nm,0.9s
BVAR Borovoye Array 50.98 313 P P 22 23 34.6 +0.4
comp=Z,7.9nm,0.6s,baz=90,slow=7.4,SNR=52
HDA Harding Lake 50.99 32 *e*P P 22 23 34.8 +0.7
comp=Z,7.7nm,1.0s
IL1 Eielson Array 51.00 32 *e*P P 22 23 34.3 +0.1
ILAR Eielson Array 51.00 32 P P 22 23 34.6 +0.3
comp=Z,3.9nm,0.7s,baz=268,slow=6.0,SNR=37
ILAR LR LR 22 46 13.4
comp=Z,57nm,20.7s,baz=263,slow=37
ILAR Eielson Array 51.00 32 *e*P P 22 23 34.8 +0.5
ILAR pmax pmax
comp=Z,4.0nm,0.7s
ILB Eielson Array 51.00 32 *e*P P 22 23 34.6 +0.3
EKS2 Erkin-Say 51.03 299 *e*P P 22 23 35.3 +0.3
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 51.03 299 *e*P P 22 23 35.3 +0.3
comp=Z,6.5nm,0.8s
BRVK Borovoye 51.04 313*c i*P P 22 23 34.7 0.0
BRVK pmax pmax
comp=Z,55nm,1.0s
BRVK Borovoye 51.04 313 *e*P P 22 23 34.5 -0.1
comp=Z,18nm,0.9s
KLU Klutina 51.66 36 *e*P P 22 23 40.7 +1.4
comp=Z,10nm,1.2s
DIV Divide 51.77 36 *e*P P 22 23 41.7 +1.5
comp=Z,16nm,1.2s
ZRNK Zerenda 51.81 313 *e*P P 22 23 40.6 +0.1
ZRNK pmax pmax
comp=Z,43nm,1.1s
ZRNK Zerenda 51.81 313 *e*P P 22 23 40.6 +0.1
comp=Z,43nm,1.1s
MNAS Manas 51.99 299 *i*P P 22 23 42.4 +0.2
MNAS pmax pmax
comp=Z,14nm,1.0s
GSI Gunungsitoli 52.52 239 P P 22 23 53.0 +6.8
GSI Gunungsitoli 52.52 239 *e*P P 22 23 45.4 -0.8
comp=Z,53nm,1.0s
KK31 Karatay Array 53.21 301 *i*P P 22 23 51.0 0.0
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 53.21 301 *e*P P 22 23 51.5 +0.5
KKAR Karatay Array 53.21 301 *e*P P 22 23 51.5 +0.5
NDI New Delhi 53.26 282 *e*P P 22 23 46.0 -5.6
FITZ Fitzroy Crossi 55.33 197 *e*P P 22 24 06.3 -0.2
comp=Z,21nm,1.0s
WRAB Tennant Creek 55.62 187⇑*i*P P 22 24 06.6 -2.0
WRAB pmax pmax
comp=Z,85nm,1.7s
WRAB Tennant Creek 55.62 187 *e*P P 22 24 08.1 -0.5
comp=Z,32nm,0.9s
WB2 Warramunga Arr 55.63 187 *e*P P 22 24 07.6 -1.1
comp=Z,34nm,0.9s
WR1 Warramunga Arr 55.63 187 *e*P P 22 24 07.9 -0.8
comp=Z,26nm,0.9s
WRA Warramunga Arr 55.63 187 P P 22 24 07.9 -0.8
comp=Z,16nm,0.8s,baz=2.9,slow=7.6,SNR=103
WRA LR LR 22 48 51.5
comp=Z,52nm,18.1s,baz=215,slow=37
SVE Sverdlovsk 55.71 319⇓*e*P P 22 24 09.5 +0.6
SVE pmax pmax
comp=Z,44nm,1.0s
SVE MLR MLR
comp=Z,301nm,18.0s
HYT Haines Junctio 55.80 36 *e*P P 22 24 11.7 +2.1
comp=Z,31nm,1.7s
INK Inuvik 55.90 27 P P 22 24 10.3 +0.2
comp=Z,2.3nm,0.6s,baz=281,slow=7.0,SNR=4.2
INK Inuvik 55.90 27 *e*P P 22 24 10.3 +0.2
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 55.90 27 *e*P P 22 24 10.3 +0.2
comp=Z,5.6nm,1.1s
ARU Arti 56.92 319 P P 22 24 15.4 -2.1
comp=Z,42nm,0.8s,baz=84,slow=3.0,SNR=69
ARU Arti 56.92 319*c i*P P 22 24 17.4 -0.1
ARU 22 25 11.2
ARU S S 22 32 11.5 +2.6
ARU SS SS 22 35 51.8 -5.2
ARU pmax pmax
comp=Z,53nm,1.0s
ARU MLR MLR
comp=Z,218nm,18.0s
ARU Arti 56.92 319 *e*P P 22 24 15.4 -2.1
comp=Z,43nm,0.9s
KBL Kabul 57.26 291 *e*P P 22 24 20.4 -0.2
KBL pmax pmax
comp=Z,24nm,1.5s
KBL Kabul 57.26 291 *e*P P 22 24 20.4 -0.2
comp=Z,24nm,1.5s
HYB Hyderabad 57.48 269 *i*P P 22 24 22.5 +0.4
AB31 Akbulak array 58.29 311 *i*P P 22 24 26.6 -0.7
AB31 pmax pmax
comp=Z,24nm,1.0s
ABKAR Akbulak array 58.29 311 *e*P P 22 24 27.0 -0.3
AKTO Aktyubinsk 59.07 312 P P 22 24 32.5 -0.2
comp=Z,12nm,0.9s,baz=76,slow=9.8,SNR=18
AS01 Alice Springs 59.35 187 *e*P P 22 24 32.7 -2.2
AS31 Alice Springs 59.36 187 *e*P P 22 24 34.4 -0.5
comp=Z,2.5nm,0.5s
ASAR Alice Springs 59.36 187 P P 22 24 34.4 -0.5
comp=Z,5.2nm,0.8s,baz=11,slow=6.9,SNR=47
ASAR LR LR 22 47 41.8
comp=Z,74nm,20.3s,baz=22,slow=33
MBWA Marble Bar 59.88 203 *e*P P 22 24 37.9 -0.6
comp=Z,22nm,0.8s
SPITS Spitsbergen Ar 61.71 349 P P 22 24 50.1 -0.2
comp=Z,5.3nm,0.9s,baz=35,slow=5.3,SNR=5.3
DZM Mont Dzumac 62.45 153 *e*LR LR 22 43 39.9
comp=Z,312nm,23.6s
GEYT Alibeck 63.89 299 P P 22 25 06.1 +0.6
comp=Z,9.2nm,1.0s,baz=46,slow=4.3,SNR=21
GEYT LR LR 22 55 27.7
comp=Z,173nm,18.9s,baz=95,slow=38
KLMR Klimovskoe 64.53 328 *e*P P 22 25 07.6 -1.6
KLMR pmax pmax
comp=Z,22nm,1.5s
ARA0 ARCESS Array S 65.02 339 *e*P P 22 25 12.8 +0.5
ARCES ARCESS Array B 65.02 339 P P 22 25 12.4 +0.1
comp=Z,7.7nm,0.8s,baz=60,slow=7.4,SNR=13
ARCES LR LR 22 56 37.9
comp=Z,198nm,21.3s,baz=61,slow=39
ARCES ARCESS Array B 65.02 339 *e*P P 22 25 12.6 +0.3
ARCES pmax pmax
comp=Z,8.0nm,0.9s
YKB5 Yellowknife Ar 65.32 30 *e*P P 22 25 14.6 +0.2
YKB5 *e*pP sP 22 25 27.8 -0.9
YKA Yellowknife Ar 65.32 30 P P 22 25 14.6 +0.2
comp=Z,1.2nm,0.7s,baz=300,slow=6.6,SNR=11
YKA LR LR 22 57 16.2
comp=Z,5.5nm,18.2s,baz=0.0,slow=39
FORT Forrest 67.15 192 *e*P P 22 25 26.4 +0.1
comp=Z,203nm,0.6s
STKA Stephens Creek 67.21 179 P P 22 25 26.2 -0.5
comp=Z,5.1nm,0.8s,baz=354,slow=6.3,SNR=7.6
STKA LR LR 22 55 39.7
comp=Z,89nm,20.4s,baz=22,slow=37
STKA Stephens Creek 67.21 179 *e*P P 22 25 26.3 -0.5
STKA pmax pmax
comp=Z,9.0nm,1.9s
STKA Stephens Creek 67.21 179 *e*P P 22 25 26.2 -0.5
comp=Z,8.7nm,1.9s
MOS Moscow 67.92 324 *e*P P 22 25 30.7 -0.4
MOS pmax pmax
comp=Z,26nm,1.0s
VRH Novokhopyorsk 68.12 318 *e*P P 22 25 31.8 -0.6
VRH pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 68.76 323 P P 22 25 36.6 +0.3
comp=Z,6.9nm,0.5s,baz=184,slow=6.3,SNR=6.4
OBN Obninsk 68.76 323*c i*P P 22 25 35.7 -0.6
OBN *i* 22 26 00.5
OBN *i*S S 22 34 36.8 -0.4
OBN *i*SS SS 22 39 02.6 +1.0
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,178nm,15.0s
OBN Obninsk 68.76 323 *e*P P 22 25 36.6 +0.3
comp=Z,13nm,0.8s

VSR Storozhevoye 69.49 319 *e*P P 22 25 40.8 -0.2
VSR pmax pmax
comp=Z,30nm,1.0s
FIA1 FINESS Array S 69.68 332 *e*P P 22 25 42.1 +0.2
FIA0 FINESS Array S 69.69 332 *e*P P 22 25 41.8 -0.2
FIA0 FINESS Array S 69.69 332 *e*P P 22 25 41.8 -0.2
FINES FINESS Array B 69.69 332 P P 22 25 41.8 -0.2
comp=Z,3.0nm,0.3s,baz=54,slow=7.1,SNR=26
FINES LR LR 22 58 19.1
comp=Z,107nm,18.3s,baz=50,slow=38
GOF Gofitskoye 70.48 312⇑*e*P P 22 25 47.7 +0.6
GOF pmax pmax
comp=Z,36nm,1.0s
GUDG Gudauri 70.92 309 P P 22 25 51.2 +1.0
DUS Dusheti 70.97 308 P P 22 25 53.2 +2.9
DUS Dusheti 70.97 308 P P 22 25 53.2 +2.9
ZEI Tsey 71.12 309 *e*P P 22 25 50.1 -1.3
ZEI pmax pmax
comp=Z,29nm,0.3s
TBLG Delisi 71.14 308 P P 22 25 51.2 -0.1
TBLG Delisi 71.14 308 P P 22 25 51.2 -0.1
KBZ Khabaz 71.26 311 P P 22 25 52.4 +0.5
comp=Z,18nm,0.9s,baz=53,slow=4.3,SNR=32
KBZ LR LR 23 00 57.3
comp=Z,123nm,20.1s,baz=72,slow=39
VSU Vasula 71.27 329⇓*i*P P 22 25 52.0 +0.4
VSU pmax pmax
comp=Z,35nm,1.7s
KIV Kislovodsk 71.27 311 *i*P P 22 25 53.2 +1.1
SNR=15
KIV Kislovodsk 71.27 311 *e*P P 22 25 52.7 +0.6
KIV pmax pmax
comp=Z,41nm,0.9s
KIV MLR MLR
comp=Z,98nm,18.0s
KIV Kislovodsk 71.27 311 *e*P P 22 25 52.6 +0.5
comp=Z,37nm,0.9s
ONI Oni 71.51 309 P P 22 25 54.1 +0.5
ONI Oni 71.51 309 P P 22 25 54.0 +0.5
HATD Hatta, Dubai 71.68 288 P P 22 25 56.1 +1.3
ASHO Ashiyiah 71.81 288 P P 22 25 56.4 +0.8
GNI Garni 71.96 307 *i*P P 22 25 57.6 +1.2
SNR=7.6
GNI Garni 71.96 307 *e*P P 22 25 57.8 +1.4
GNI pmax pmax
comp=Z,22nm,1.0s
GNI Garni 71.96 307 *e*P P 22 25 57.8 +1.4
comp=Z,22nm,1.0s
NAZ Nazwa, Dubai 71.96 288 P P 22 25 56.4 0.0
SUMG Summit 72.03 360 *e*P P 22 25 57.8 +1.3
SUMG pmax pmax
comp=Z,31nm,1.6s
SUMG Summit 72.03 360 *e*P P 22 25 57.8 +1.3
comp=Z,31nm,1.6s
AKH Akhalkalaki 72.10 308⇑*i*P P 22 25 58.7 +1.4
AKH Akhalkalaki 72.10 308 P P 22 25 57.8 +0.5
AKH Akhalkalaki 72.10 308 P P 22 25 57.8 +0.5
BGD Bogdanovka 72.11 308 P P 22 25 58.5 +1.1
FAQ Al Faqa, Dubai 72.14 288 P P 22 25 57.5 0.0
WALA Waterton Lakes 72.90 42 *e*P P 22 26 05.1 +3.3
comp=Z,4.4nm,0.9s
SWMT Swartz Lake 73.74 43 *e*P P 22 26 08.1 +1.3
ANN Anapa 73.97 314 *e*P P 22 26 05.4 -2.6
ANN *e**PP pP 22 26 16.1 -2.4
ANN *e*S SKiKP 22 35 35.6 +1.9
ANN pmax pmax
comp=Z,29nm,1.6s
MSO Missoula 74.17 43 *e*P P 22 26 12.6 +3.3
comp=Z,4.1nm,1.1s
AKASG Malin Array Be 74.94 322 P P 22 26 13.4 -0.1
comp=Z,8.7nm,0.8s,baz=47,slow=6.1,SNR=36
AKASG LR LR 23 02 10.0
comp=Z,378nm,18.4s,baz=50,slow=38
AKBB Malin Array Si 74.94 322 *e*P P 22 26 13.4 -0.1
AKBB pmax pmax
comp=Z,18nm,0.8s
AKBB Malin Array Si 74.94 322 *e*P P 22 26 13.4 -0.1
comp=Z,18nm,0.8s
PAHR Pah Rah Range 74.94 52 *e*P P 22 26 15.7 +1.7
comp=Z,6.6nm,1.4s
NC405 NORSAR Array S 74.95 337 *e*P P 22 26 13.8 +0.4
KIEV Kiev 74.95 322*c i*P P 22 26 12.6 -1.0
KIEV pmax pmax
comp=Z,16nm,0.9s
KIEV Kiev 74.95 322 *e*P P 22 26 13.1 -0.5
comp=Z,17nm,0.9s
NC303 NORSAR Array S 74.97 337 *e*P P 22 26 13.9 +0.3
AK11 Malin Array Si 74.98 322 *e*P P 22 26 13.4 -0.3
NC204 NORSAR Array S 75.12 337 *e*P P 22 26 14.9 +0.5
NB201 NORSAR Array S 75.13 337 *e*P P 22 26 14.8 +0.3
NB2 NORSAR Subarra 75.16 337 P P 22 26 14.5 -0.2
comp=Z,22nm,1.1s,baz=40,slow=5.9
NB2 NORSAR Subarra 75.16 337 P P 22 26 14.5 -0.2
baz=40,slow=5.9
NB200 NORSAR Array S 75.16 337 *e*P P 22 26 14.7 0.0
NOA NORSAR Array B 75.16 337 P P 22 26 14.7 0.0
comp=Z,11nm,0.9s,baz=39,slow=5.8,SNR=30
NOA LR LR 23 02 00.3
comp=Z,148nm,20.3s,baz=45,slow=38
FFC Flin Flon 75.21 32 *e*P P 22 26 15.5 +0.5
FFC pmax pmax
comp=Z,12nm,1.3s
FFC Flin Flon 75.21 32 *e*P P 22 26 15.5 +0.5
comp=Z,12nm,1.3s
NBO02 NORSAR Array S 75.27 337 *e*P P 22 26 15.1 -0.2
NBO00 NORSAR Array S 75.31 337 *e*P P 22 26 15.8 +0.3
NAO01 NORSAR Array S 75.42 337 *e*P P 22 26 16.7 +0.6
YERR Yerington 75.44 52 *e*P P 22 26 18.4 +1.5
comp=Z,6.9nm,1.2s
LRM Limekiln Ridge 75.60 44 *e*P P 22 26 19.0 +1.3
EGMT Eaglon 75.74 41 *e*P P 22 26 19.4 +1.1
comp=Z,26nm,0.6s
BOZ Bozeman (W) 76.16 43 *e*P P 22 26 22.2 +1.4
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 76.16 43 *e*P P 22 26 22.2 +1.4
comp=Z,7.1nm,0.8s
ELK Elko 76.95 49 *e*P P 22 26 27.2 +1.7
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 76.95 49 *e*P P 22 26 27.1 +1.7
comp=Z,3.2nm,1.0s
SORM Soroca 76.99 320⇑*i*P P 22 26 25.4 +0.1
LVV L'vov 78.06 324 *e*P P 22 26 30.7 -0.5
PRAR RASCA 78.59 321⇓*i*P P 22 26 34.3 +0.1
HWUT Hardware Ranch 78.65 47 *e*P P 22 26 36.4 +1.4
comp=Z,9.4nm,1.2s
KWP Kalwaria Pacla 78.82 324 *e*P P 22 26 36.0 +0.6
KWP Kalwaria Pacla 78.82 324⇓*i*P P 22 26 36.5 +1.1
KWP Kalwaria Pacla 78.82 324 *e*P P 22 26 36.0 +0.6
TESR Tescani 78.92 320⇓*i*P P 22 26 36.2 +0.1
BUR08 Bucovina Ar. S 78.93 321 *e*P P 22 26 36.7 +0.5
BURAR Bucovina Array 78.94 321⇓*i*P P 22 26 36.5 +0.3
CFR Carcaliu 79.00 318⇑*i*P P 22 26 36.6 +0.2
BW06 Boulder Array 79.11 45 *e*P P 22 26 37.7 +0.2
PD31 Pinedale Array 79.11 45 *e*P P 22 26 37.9 +0.5
PDAR Pinedale Array 79.11 45 P P 22 26 37.9 +0.5
comp=Z,1.6nm,0.6s,baz=281,slow=3.3,SNR=11
PDAR LR LR 22 56 52.8
comp=Z,44nm,21.7s,baz=298,slow=32
ODBI Odobesti 79.20 319⇓*i*P P 22 26 39.3 +1.8
BR101 Keskin Array S 79.23 311 *e*P P 22 26 38.4 +0.3
BR131 Keskin Array S 79.23 311 *e*P P 22 26 38.4 +0.4
BRTR Keskin Array B 79.23 311 P P 22 26 38.4 +0.4
comp=Z,6.1nm,0.9s,baz=99,slow=3.9,SNR=29
VRI Vrincioaia 79.31 319⇑*i*P P 22 26 39.9 +1.7
PLOR Plostina 79.36 319⇑*i*P P 22 26 39.4 +0.9
KOLS Kolonicke sedl 79.50 324 *e*P P 22 26 39.4 +0.2
KOLS *e* 22 26 43.1
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 79.50 324 *e*P P 22 26 39.4 +0.2
KOLS *e* 22 26 43.1
ANTO Ankara 79.65 312 *e*P P 22 26 41.1 +0.9
ANTO pmax pmax
comp=Z,12nm,0.9s
ANTO Ankara 79.65 312 *e*P P 22 26 41.1 +0.9
comp=Z,12nm,0.9s
STHS Stebnicka Huta 79.66 325 *e*P P 22 26 41.3 +1.3
STHS pmax pmax
comp=Z,7.0nm,1.1s
STHS Stebnicka Huta 79.66 325 *e*P P 22 26 41.3 +1.3
BR231 Keskin MP Arra 79.68 312 *e*P P 22 26 38.7 -1.7
UZH Uzhgorod 79.70 324 *e*P P 22 26 40.7 +0.5

UZH *e* 22 26 48.9
ARCR ARCALIA 79.73 321⇓*i*P P 22 26 41.9 +1.5
OJC Ojcow 79.77 326 *e*P P 22 26 40.7 +0.1
OJC Ojcow 79.77 326 *e*P P 22 26 41.3 +0.7
OJC pmax pmax
comp=Z,20nm,1.1s
OJC Ojcow 79.77 326 *e*P P 22 26 41.3 +0.7
comp=Z,20nm,1.1s
ISR Istrita 79.89 319⇑*i*P P 22 26 42.8 +1.4
CRVS Cervenica-Dubn 79.92 324 *e*P P 22 26 41.6 +0.2
CRVS Cervenica-Dubn 79.92 324 *e*P P 22 26 41.6 +0.2
PSN Preselentsi 79.93 317⇓*i*P P 22 26 49.7 +8.1
DOPR Dopca 79.94 320⇑*i*P P 22 26 43.2 +1.6
MLR Muntele Rosu 79.97 320⇑*i*P P 22 26 42.8 +0.9
MLR Muntele Rosu 79.97 320 *e*P P 22 26 42.2 +0.3
MLR pmax pmax
comp=Z,6.0nm,1.1s
MLR Muntele Rosu 79.97 320 *e*P P 22 26 42.2 +0.3
comp=Z,6.1nm,1.1s
NIE Niedzica 80.10 325 *e*P P 22 26 43.0 +0.6
NIE Niedzica 80.10 325 *e*P P 22 26 43.0 +0.6
VOIR 80.47 320⇓*i*P P 22 26 45.3 +0.7
LANS Liptovska Anna 80.68 325 *e*P P 22 26 47.1 +1.5
LANS Liptovska Anna 80.68 325 *e*P P 22 26 47.1 +1.5
ARR Arges 80.74 320⇓*i*P P 22 26 46.8 +0.8
DRGR 80.76 322⇑*i*P P 22 26 46.1 0.0
OKC Ostrava-Krasne 80.79 326 AMS AMS 23 06 30.0
comp=Z,200nm,16.3s
KSP Ksiaz 80.88 328 *e*P P 22 26 46.8 +0.2
KSP Ksiaz 80.88 328 *e*P P 22 26 46.8 +0.2
ULM Lac du Bonnet 81.01 33 LR LR 23 01 29.6
comp=Z,35nm,21.5s,baz=289,slow=35
MORC Moravsky Berou 81.11 327⇓*i*P P 22 26 48.7 +0.8
MORC Moravsky Berou 81.11 327 *e*P P 22 26 48.6 +0.7
MORC pmax pmax
comp=Z,38nm,1.0s
MORC Moravsky Berou 81.11 327 *e*P P 22 26 48.6 +0.7
comp=Z,38nm,1.0s
LOT Lotru 81.13 321⇑*i*P P 22 26 49.1 +1.0
DPC Dobruska-Polom 81.23 328 *e*P P 22 26 48.7 +0.2
DPC *e*PCP PcP 22 26 54.4 -0.3
DPC AMS AMS 23 07 10.0
DPC Dobruska-Polom 81.23 328 *e*P P 22 26 48.7 +0.2
KRLC Kraliky 81.23 327 *e*P P 22 26 48.8 +0.3
KRLC Kraliky 81.23 327 *e*P P 22 26 48.8 +0.3
PSZ Piszkesteto 81.35 324⇑*i*P P 22 26 49.8 +0.6
PSZ Piszkesteto 81.35 324 *e*P P 22 26 50.1 +0.9
PSZ pmax pmax
comp=Z,17nm,1.1s
PSZ Piszkesteto 81.35 324 *e*P P 22 26 50.1 +0.9
comp=Z,17nm,1.1s
VYHS Vyhne 81.44 325 *e*P P 22 26 49.9 +0.3
VYHS pmax pmax
comp=Z,5.0nm,1.2s
VYHS Vyhne 81.44 325 *e*P P 22 26 49.9 +0.3
GZR Gura Zlata 81.68 321⇑*i*P P 22 26 50.8 -0.2
BRG Berggiesshubel 81.86 329 *e*PKP P 22 26 38.0 -14
comp=Z,4.8nm,1.2s
VRAC Vranov 81.87 327⇓*i*P P 22 26 52.9 +1.0
CLL Collm 81.92 330 *i*P P 22 26 52.0 0.0
comp=Z,17nm,1.0s
CLL *e*PP PP 22 29 59.0 0.0
CLL *e* 22 43 48.0
CLL Lm MLR 23 09 00.0
comp=Z,100nm,18.9s
CLL Collm 81.92 330 *i*P P 22 26 52.0 0.0
CLL pmax pmax
comp=Z,17nm,1.0s
CLL Collm 81.92 330 *e*P P 22 26 51.7 -0.3
comp=Z,14nm,0.9s
BZS Buzias 82.12 322⇓*i*P P 22 26 53.2 0.0
GOPC GO Pecny, Ondr 82.22 328 *e*P P 22 26 54.0 +0.3
GOPC AMS AMS 23 06 40.0
GOPC GO Pecny, Ondr 82.22 328 *e*P P 22 26 54.0 +0.3
PRU Pruhonice 82.27 328 *e*P P 22 26 54.2 +0.3
PRU AMS AMS 23 08 00.0
comp=Z,200nm,16.3s
PRU Pruhonice 82.27 328 *e*P P 22 26 54.2 +0.3
PRU MLR MLR
comp=Z,200nm,16.3s
PV05 Paradox Valley 82.34 48 *e*P P 22 26 57.5 +2.7
CSS Mathiatis 82.34 308 *e*P P 22 26 57.9 +3.3
comp=Z,4.3nm,1.1s
TREC Trest 82.37 327 *e*P P 22 26 54.7 +0.2
TREC AMS AMS 23 07 40.0
comp=Z,200nm,19.0s
TREC Trest 82.37 327 *e*P P 22 26 54.7 +0.2
TREC MLR MLR
comp=Z,200nm,19.0s
N23A Red Feather La 82.38 45 *e*P P 22 26 56.6 +1.6
comp=Z,8.6nm,1.1s
MDVR Moldovita 82.65 321⇓*i*P P 22 26 56.0 -0.1
NKC Novy Kostel 82.97 329 *e*P P 22 26 57.8 +0.2
NKC Novy Kostel 82.97 329 *e*P P 22 26 57.8 +0.2
RZN Rozhen 83.17 317 P P 22 26 59.0 0.0
X16A Lo Mia Camp, P 83.18 52 *e*P P 22 27 00.9 +1.8
comp=Z,4.5nm,1.0s
CONA Conrad Observa 83.22 326 *i*PcP P 22 26 59.9 +0.9
comp=Z,12nm,1.3s,SNR=5.7
KHC Kasperske Hory 83.33 328 *e*P P 22 26 59.6 +0.1
KHC *e*PCP PcP 22 27 05.3 +1.4
KHC *e*pP sP 22 27 14.9 +0.9
KHC AMS AMS 23 08 20.0
comp=Z,200nm,16.0s
KHC Kasperske Hory 83.33 328 *e*P P 22 26 59.6 +0.1
KHC *e* 22 27 14.9
KHC MLR MLR
comp=Z,200nm,16.0s
KHC Kasperske Hory 83.33 328 *e*P P 22 26 59.2 -0.2
comp=Z,3.9nm,1.1s
VTS Vitosha 83.38 319⇓*i*P P 22 27 00.6 +0.6
VTS Vitosha 83.38 319 *e*P P 22 26 59.7 -0.3
VTS pmax pmax
comp=Z,16nm,1.1s
VTS Vitosha 83.38 319 P P 22 26 59.8 -0.3
VTS Vitosha 83.38 319 *e*P P 22 26 59.7 -0.3
comp=Z,16nm,1.1s
GEC2 GERESS Array S 83.49 328 *e*P P 22 27 00.5 +0.1
GEC2 pmax pmax
comp=Z,5.0nm,1.1s
GEC2 GERESS Array S 83.49 328 *e*P P 22 27 00.5 +0.1
comp=Z,5.3nm,1.1s
GERES GERESS Array B 83.49 328 P P 22 27 00.1 -0.3
comp=Z,3.2nm,1.0s,baz=35,slow=4.9,SNR=17
GERES PP PP 22 30 08.9 -3.2
comp=Z,0.1nm,0.3s,baz=39,slow=6.4,SNR=3.7
GERES LR LR 23 08 20.3
comp=Z,125nm,18.6s,baz=52,slow=39
GERES GERESS Array B 83.49 328 *e*P P 22 27 00.4 +0.1
GERES pmax pmax
comp=Z,3.0nm,1.0s
GEA0 GERESS Array S 83.50 328 *e*P P 22 26 59.9 -0.5
MMB Musomiste 83.78 318 P P 22 27 01.9 0.0
ARSA Arzberg 83.87 326 *i*PcP P 22 27 02.9 +0.6
comp=Z,5.8nm,1.1s
GRFO Grafenberg 83.89 330 *e*P P 22 27 02.5 +0.2
GRFO pmax pmax
comp=Z,18nm,1.0s
GRFO Grafenberg 83.89 330 *e*P P 22 27 02.5 +0.2
comp=Z,18nm,1.0s
S22A 4UR Ranch, Cre 83.92 47 *e*P P 22 27 05.5 +2.5
comp=Z,8.8nm,1.1s
MOA Molln 83.99 327 *i*P P 22 27 02.9 0.0
comp=Z,8.4nm,1.2s,SNR=6.3
GROS Grobnik 84.47 325 *i*P P 22 27 04.9 -0.5
SOKA Soboth 84.53 326 *i*PcP P 22 27 06.0 +0.3
comp=Z,19nm,1.2s,SNR=14
PPT Papeete 84.66 116 LR LR 22 58 56.1
comp=Z,97nm,20.3s,baz=346,slow=31
PPT2 Papeete2 84.67 116 *e*LR LR 22 53 36.9
comp=Z,390nm,25.5s,baz=309
SDCO Great Sand Dun 84.72 47 *e*P P 22 27 09.1 +2.0
comp=Z,5.9nm,1.2s
SKO Skopje 84.75 319 *i*P P 22 27 07.8 +1.0
TIAR Tiarei 84.82 116 *e*T T 00 00 10.4
comp=Z,1.2nm,0.2s
OBKA Obir 84.87 326 *i*P P 22 27 07.4 0.0
comp=Z,3.0nm,0.7s
MYKA Terra Mystica 85.19 326 *i*P P 22 27 08.1 -0.9
comp=Z,3.0nm,0.7s
MEM Membach 85.20 333 P P 22 27 09.5 +0.6
comp=Z,3.8nm,0.9s
ECSD EROS Data Cent 85.41 38 *e*P P 22 27 10.4 +0.3
comp=Z,4.1nm,0.8s
CEY Cerknica 85.51 325 *i*P P 22 27 09.7 -0.9

JAVS	Javornik	85.56	326	*i* P		P	22 27 09.6	-1.3
PDG	Podgorica	85.57	321	‖*i*P		P	22 27 11.0	+0.1
ABTA	Abfaltersbach	85.61	327	*i* P		P	22 27 10.3	-0.8
	comp=Z,3.9nm,0.8s							
BCLA	Clavier	85.61	333	P	P	P	22 27 10.4	-0.5
	comp=Z,8.4nm,1.6s							
T25A	Trinidad	85.77	47	*e*P	P	P	22 27 13.5	+1.3
	comp=Z,9.3nm,0.9s							
RETA	Reutte	85.80	328	*i* PcP	P	P	22 27 12.3	+0.3
	comp=Z,7.1nm,0.9s							
LANF	Langenberg	85.83	331	*e*P	P	P	22 27 12.1	0.0
KARP	Karpathos	85.84	311	*e*P	P	P	22 27 12.7	+0.3
	comp=Z,6.7nm,1.0s							
WLF	Walferdange	85.91	332	P	P	P	22 27 13.0	+0.5
	comp=Z,9.3nm,1.5s							
MEH	Mehetia	85.96	115	*e*T		T	00 01 36.6	
	comp=Z,9.5nm,0.3s							
ANMO	Albuquerque	85.99	49	*c i*P		P	22 27 11.7	-1.7
ANMO					pmax	pmax		
	comp=Z,4.0nm,1.1s							
ANMO	Albuquerque	85.99	49	*e*P		P	22 27 15.3	+1.9
	comp=Z,3.7nm,1.0s							
BFO	Black Forest	86.14	330	*i* P		P	22 27 13.6	0.0
BFO	Black Forest	86.14	330	*e*P		P	22 27 12.0	-1.6
	comp=Z,16nm,1.0s							
DOU	Dourbes	86.14	333	P	P	P	22 27 13.2	-0.4
	comp=Z,7.4nm,1.4s							
FETA	Feichten	86.17	328	*i* PcP	P	P	22 27 13.1	-0.9
	comp=Z,7.2nm,1.1s							
DAVA	Damuels	86.33	329	*i* PcP	P	P	22 27 14.9	+0.2
	comp=Z,12nm,1.2s							
TAOE	Nuku Hiva Isla	86.52	103	*e*LR	LR		22 54 32.0	
	comp=Z,390nm,25.9s							
FUORN	Ofenpass-Fuorn	86.69	328	*e*P	P	P	22 27 16.9	+0.2
	comp=Z,11nm,1.0s							
ECH	Echery	86.70	331	*e*P	P	P	22 27 15.6	-0.8
SCHQ	Schefferville	86.82	15	P	P	P	22 27 17.0	+0.2
	comp=Z,1.1nm,0.3s,baz=18,slow=3.2,SNR=3.7							
SCHQ				LR	LR		23 07 38.5	
	comp=Z,70nm,21.5s,baz=324,slow=37							
SCHQ	Schefferville	86.82	15	*e*P	P	P	22 27 17.0	+0.2
	comp=Z,36nm,1.9s							
MOF	Molkenrain	87.00	331	*e*P	P	P	22 27 16.3	-1.7
THEF	They Montfort	87.15	332	*e*P	P	P	22 27 18.4	-0.2
LOMF	Lomont	87.53	331	*e*P	P	P	22 27 19.9	-0.6
TBI	Tubuai	88.44	120	*e*LR	LR	LR	22 55 24.0	
	comp=Z,285nm,27.0s,baz=311							
AQU	L'Aquila	88.55	324	*e*P	P	P	22 27 25.8	+0.4
AQU					pmax	pmax		
	comp=Z,15nm,1.0s							
AQU	L'Aquila	88.55	324	*e*P	P	P	22 27 25.8	+0.4
	comp=Z,15nm,1.0s							
LTX	Lajitas	91.49	52	*e*P	P	P	22 27 40.2	+0.7
LTX	Lajitas	91.49	52	*e*P	P	P	22 27 40.2	+0.7
TX31	Lajitas Ar. Si	91.49	52	*e*P	P	P	22 27 40.0	+0.5
TXAR	Lajitas Array	91.49	52	P	P	P	22 27 40.2	+0.8
	comp=Z,0.9nm,0.7s,baz=282,slow=2.4,SNR=11							
TXAR				LR	LR	LR	23 02 53.0	
	comp=Z,72nm,21.5s,baz=0.0,slow=32							
MIAR	Mount Ida	93.78	42	*e*P	P	P	22 27 50.4	+0.6
MIAR					pmax	pmax		
	comp=Z,11nm,1.5s							
MIAR	Mount Ida	93.78	42	*e*P	P	P	22 27 50.4	+0.6
	comp=Z,11nm,1.5s							
KEST	Kesra	95.67	322	LR	LR	LR	23 16 50.4	
	comp=Z,114nm,18.2s,baz=242,slow=39							
ODNJ	Ogdensburg	97.06	26	*e*P	P	P	22 27 60.0	-4.6
	comp=Z,36nm,1.8s							
ESDC	Sonseca Array	98.19	333	LR	LR		23 18 06.0	
	comp=Z,81nm,19.4s,baz=275,slow=39							
RKT	Rikitea	98.89	112	*e*LR	LR	LR	23 00 11.7	
	comp=Z,298nm,27.2s,baz=316							
TOA1	Torodi Ar. Sit	117.77	314	*e*PKPdf	PKPdf	PKPdf	22 33 18.4	-1.1
TOA1				*e*PP	PP	PP	22 34 28.7	-3.4
TORD	Torodi Ar. Bea	117.78	314	PKP	PKPdf	PKPdf	22 33 18.4	-1.1
	comp=Z,0.4nm,0.8s,baz=70,slow=1.3,SNR=4.7							
TORD				PP	PP	PP	22 34 28.7	-3.4
	comp=Z,1.1nm,1.0s,baz=26,slow=7.3,SNR=5.4							
QSPA	South Pole Qui	125.43	180	*e*PKPdf	PKPdf	PKPdf	22 33 32.6	0.0
SAML	Samuel	145.69	45	*e*PKPdf	PKPbc	PKPbc	22 34 11.6	-0.2
LPAZ	La Paz	147.97	60	PKPbc	PKPbc	PKPbc	22 34 19.4	+0.3
	comp=Z,5.6nm,0.8s,baz=306,slow=4.8,SNR=14							
PB11	IPOC Station P	149.07	67	*e*PKPbc	PKPbc	PKPbc	22 34 22.2	+0.9

IDC ***29*** *22:22:46.9±1.5, 37.48N×142.96E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/40, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=55.3km s-min=25.6km az=125.0*

ISCJB ***29*** *22:22:48.2±0.9, 37.77N±0.04×142.13E±0.06, h21km, mb3.5/2, Error ellipse: s-maj=7.2km s-min=6.4km az=11.3*

JMA ***29*** *22:22:50.2±0.1, 37.80N×142.06E, h35km±2km, M3.6*

ISC 29 22:22:48.9±1.2, 37.77N±0.05×142.12E±0.08, h21km, n20, σ1§09/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.92	319	P	Pn	22 23 06.1	-0.4
JIO				S	Sb	22 23 17.2	-0.6
JMM	Marumori	1.05	276	P	Pn	22 23 08.1	-0.3
JMM				*e*S	Sn	22 23 20.9	-1.6
JFK	Kawauchi	1.07	248	P	Pn	22 23 08.4	-0.2
JFK				S	Sn	22 23 21.2	-1.6
JOU	Okura	1.29	298	P	Pn	22 23 12.0	+0.2
JOU				*e*S	Sn	22 23 27.8	-0.6
JMK	Ichinoseki	1.38	329	P	Pn	22 23 12.8	-0.1
JMK				*e*S	Sn	22 23 28.9	-1.6
JFT	Otama	1.44	261	P	Pn	22 23 14.7	+1.0
JFT				*e*S	Sn	22 23 32.0	+0.1
JYK	Kaneyama	1.80	310	P	Pn	22 23 19.4	+0.7
JOM	Ohasama	1.82	339	P	Pn	22 23 19.3	+0.3
JRG	Rokugo	2.00	325	P	Pn	22 23 22.5	+1.1
JYA	Atsumi	2.07	294	P	Pn	22 23 23.2	+0.8
JYA				*e*S	Sn	22 23 46.8	-0.7
MJAR	Matsushiro Arr	3.35	250	Pn	Pb	22 23 48.0	+0.4
	1.1nm,0.3s,baz=72,slow=14,SNR=9.0						
JHJ	Hachijo jima 2	5.01	203	Pn	Pn	22 24 04.2	+1.3
	5.0nm,0.3s,baz=68,slow=19,SNR=5.2						
JHJ				Sn	Sn	22 24 57.4	-2.8
	5.1nm,0.3s,baz=50,slow=14,SNR=3.5						
H11N2	WAKE ISLAND Hy 28.06	123		T	T	22 58 03.4	
	baz=315,slow=75,SNR=13						
H11N1	WAKE ISLAND Hy 28.07	123		T	T	22 58 10.9	
	baz=315,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy 28.07	123		T	T	22 58 08.3	
	baz=315,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy 28.80	125		T	T	22 59 03.4	
	baz=317,slow=76,SNR=8.4						
H11S3	WAKE ISLAND Hy 28.80	125		T	T	22 59 04.5	
	baz=317,slow=76,SNR=8.7						
H11S2	WAKE ISLAND Hy 28.82	125		T	T	22 59 05.6	
	baz=317,slow=76,SNR=8.3						
ILAR	Eielson Array	48.58	33	P	P	22 31 30.6	+0.2
	0.2nm,0.7s,baz=266,slow=6.1,SNR=2.8						
WRA	Warramunga Arr	57.87	189	P	P	22 32 39.2	+0.1
	0.5nm,0.6s,baz=7.8,slow=7.7,SNR=6.3						

CSEM ***29*** *22:53:07.6, 39.45N×16.82E, h28km, MD2.1/6*

ROM 29 22:53:07.6±0.3, 39.45N×16.82E, h28km±3km, Md2.1/6, Ml1.3/4, Error ellipse: s-maj=3.1km s-min=2.3km az=84.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIPA	Pietrapaola	0.03	357	Pg	Pb	22 53 12.5	+0.1
PIPA				Sg	Sb	22 53 16.0	+0.3
	121nm,0.2s						
PIPA	Pietrapaola	0.03	357	Pg	Pb	22 53 12.5	+0.1
PIPA				Sg	Sb	22 53 16.0	+0.3
	121nm,0.2s						
LADO	San Nicola del	0.21	143	Pg	Pb	22 53 13.9	+0.2
LADO				Sg	Sb	22 53 17.6	-0.3
	56nm,0.5s						
LADO	San Nicola del	0.21	143	Pg	Pb	22 53 13.9	+0.2
LADO				Sg	Sb	22 53 17.6	-0.3
	56nm,0.5s						
TIP	Timpagrande	0.28	190	Pg	Pb	22 53 15.0	+0.4
TIP				Sg	Sn	22 53 20.3	-0.9
	25nm,0.7s						
TIP	Timpagrande	0.28	190	Pg	Pb	22 53 15.0	+0.4
TIP				Sg	Sn	22 53 20.3	-0.9
	25nm,0.7s						
SERS	Sersale	0.43	194	Pg	Pb	22 53 17.0	+0.1
SERS				Sg	Sb	22 53 23.4	+0.3
	11nm,0.4s						
SERS	Sersale	0.43	194	Pg	Pb	22 53 17.0	+0.1
SERS				Sg	Sb	22 53 23.4	+0.3
	11nm,0.4s						
CAR1	CAROLEI	0.51	247	Pg	Pb	22 53 17.9	-0.2
CAR1				Sg	Sb	22 53 25.7	+0.4
	16nm,0.3s						
CAR1	CAROLEI	0.51	247	Pg	Pb	22 53 17.9	-0.2
CAR1				Sg	Sb	22 53 25.7	+0.4
	16nm,0.3s						
SALB	San Lorenzo Be	0.56	320	Pg	Pb	22 53 19.1	+0.1
SALB	San Lorenzo Be	0.56	320	Pg	Pb	22 53 19.1	+0.1

MEX 29 22:57:00.1±0.4, 14.44N×92.22W, h95km±17km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	1.84	3	*e*P	Pn	22 57 29.8	-0.7

DDA ***29*** *23:00:49.5, 38.68N×39.61E, h7km, Md2.6*

ISK ***29*** *23:00:49.7, 38.57N×39.61E, h11km, MD2.9*

CSEM ***29*** *23:00:50.7±0.3, 38.57N×39.51E, h17km±2km, MD2.9, Error ellipse: s-maj=6.7km s-min=5.5km az=70.0*

ISCJB ***29*** *23:00:51.0±0.5, 38.59N±0.03×39.53E±0.05, h17km±8km, Error ellipse: s-maj=6.5km s-min=4.5km az=153.2*

ISC 29 23:00:50.0±1.2, 38.58N±0.02×39.56E±0.03, h16km±10km, n24, σ0§37/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.28	224	*e*PG	Pg	23 00 56.1	-0.1
SVRC				*e*SG	Sb	23 01 01.3	0.0
SVRC	Sivrice-ELAZID	0.28	224	*e*Pg	Pg	23 00 56.1	-0.1
SVRC				*e*Sg	Sb	23 01 01.3	0.0
PTK	Pertek	0.34	338	*e*PG	Pg	23 00 57.3	+0.2
PTK				*e*SG	Sb	23 01 02.9	0.0
PTK	Pertek	0.34	338	*e*Pg	Pg	23 00 57.3	+0.2
PTK				*e*Sg	Sb	23 01 02.9	0.0
ELZG	Elazig	0.46	260	P	Pg	23 00 59.3	0.0
ELZG				S	Sb	23 01 06.6	+0.3
ELZG	Elazig	0.46	260	*i* P	Pg	23 00 59.3	0.0
ELZG				*i* S	Sb	23 01 06.6	+0.3
DYBB	Diyarbakir	0.78	144	*e*PG	Pg	23 01 04.9	-0.3
BINT	Bingol	0.79	68	*e*Pg	Pn	23 01 08.1	+1.6
DIYA	Diyarbakir	0.79	146	P	Pn	23 01 06.8	+0.2
DIYA				S	Sn	23 01 18.2	+0.1
DIYA	Diyarbakir	0.79	146	*i* P	Pn	23 01 06.8	+0.2
DIYA				*i* S	Sn	23 01 18.2	+0.1
BNGB	Bingˆ¶l	0.97	65	*e*PG	Pb	23 01 08.1	-0.3
KEMA	Kemaliye	1.08	310	P	Pb	23 01 09.9	-0.4
KEMA				S	Sb	23 01 24.3	+0.2
KEMA	Kemaliye	1.08	310	*i* P	Pb	23 01 09.9	-0.4
KEMA				*i* S	Sb	23 01 24.3	+0.2
YEDI	Yedisu-Bingol	1.15	42	*e*PN	Pn	23 01 11.7	+0.1
YEDI	Yedisu-Bingol	1.15	42	*e*Pn	Pn	23 01 11.7	+0.1
URFA	Urfa	1.28	207	*e*PN	Pg	23 01 14.3	-0.3
URFA	Urfa	1.28	207	*e*Pn	Pg	23 01 14.3	-0.3
MAZI	Mazidag	1.32	148	*e*PN	Pb	23 01 14.3	-0.2
MAZI	Mazidag	1.32	148	*e*Pn	Pb	23 01 14.3	-0.2
SVAN	Silvan-Diyarba	1.36	108	*e*PN	Pn	23 01 14.3	0.0
SVAN	Silvan-Diyarba	1.36	108	*e*Pn	Pn	23 01 14.3	0.0
KELT	Kelkit	1.58	352	P	Pg	23 01 20.1	-0.4
KELT				S	Sb	23 01 38.6	-0.2
KELT	Kelkit	1.58	352	*i* P	Pg	23 01 20.1	-0.4
KELT				*i* S	Sb	23 01 38.6	-0.2
MARD	Mardin	1.59	142	*i* P	Pg	23 01 20.4	-0.3
MARD				*i* S	Sb	23 01 39.6	+0.6

ISCJB ***29*** *23:01:18.1±1.4, 39.94N±0.05×142.6E±0.1, h45km±11km, mb3.6/3, Error ellipse: s-maj=15.4km s-min=7.5km az=171.6*

JMA ***29*** *23:01:18.7±0.1, 39.93N×142.51E, h34km±1km, M3.7*

IDC ***29*** *23:01:29.9±9.2, 39.68N×141.78E, h124km±54km, mb3.2/3, mb1 3.3/6, mb1mx3.1/40, mbtmp3.7/6, Error ellipse: s-maj=140.1km s-min=21.4km az=68.0*

ISC 29 23:01:19.5±2.4, 39.84N±0.06×142.5E±0.2, h44km±19km, n24, σ1§78/23, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.50	282	P	Pn	23 01 29.1	-1.4
JTH				S	Sn	23 01 36.5	-1.8
MIYJ	Miyakonagasawa	0.59	244	P	Pn	23 01 30.9	-0.7
MIYJ				S	Sn	23 01 39.7	-0.5
JKZ	Kuzumaki	0.92	280	P	Pn	23 01 35.6	-0.4
JKZ				S	Sn	23 01 47.3	-0.8
JANG	Nango	0.93	306	P	Pn	23 01 34.4	-1.8
JANG				S	Sn	23 01 45.5	-2.9
OFUJ	Ofunato	0.99	221	P	Pn	23 01 37.3	+0.2
OFUJ				S	Sn	23 01 50.8	+0.9
JOM	Ohasama	1.00	249	P	Pn	23 01 37.4	+0.2
JOM				S	Sn	23 01 50.8	+0.6
JMK	Ichinoseki	1.33	229	P	Pn	23 01 42.4	+0.7
JMK				*e*S	Sn	23 01 59.9	+1.7
JTM	Tenmabayashi	1.45	311	P	Pn	23 01 42.5	-0.8
JTM				*e*S	Sn	23 01 59.6	-1.5
JAH	Hinai	1.48	284	P	Pn	23 01 44.1	+0.4
JAH				S	Sn	23 02 02.7	+0.9
JRG	Rokugo	1.51	254	P	Pn	23 01 45.2	+1.1
JRG				*e*S	Sn	23 02 04.7	+2.1
ASAJ	Asahikawa	4.28	1	S	Sn	23 03 15.0	+4.3
	0.7nm,0.3s,baz=193,slow=29,SNR=3.1						
MAT	Matsushiro	4.72	227	P	Pn	23 02 31.3	+3.1
MAT				*e*S	Sn	23 03 30.1	+8.4
MJAR	Matsushiro Arr	4.72	227	P	Pn	23 02 31.5	+3.3
	0.7nm,0.3s,baz=31,slow=12,SNR=15						
JHJ	Hachijo jima 2	7.05	199	P	Pn	23 03 07.1	+6.9
	3.6nm,0.3s,baz=108,slow=6.1,SNR=2.5						
JHJ				S	Sn	23 04 17.1	-1.9
	4.5nm,0.3s,baz=64,slow=9.5,SNR=2.6						
USRK	Ussuriysk Ar.	8.96	303	P	Pn	23 03 31.4	+5.2
	0.3nm,0.3s,baz=109,slow=16,SNR=4.4						
H11N2	WAKE ISLAND Hy 28.99	127		T	T	23 37 57.4	
	baz=318,slow=75,SNR=82						
H11N1	WAKE ISLAND Hy 29.00	127		T	T	23 38 01.8	
	baz=318,slow=75,SNR=52						
H11N3	WAKE ISLAND Hy 29.00	127		T	T	23 37 53.4	
	baz=318,slow=75,SNR=64						
H11S1	WAKE ISLAND Hy 29.80	128		T	T	23 38 58.0	
	baz=320,slow=76,SNR=16						
H11S3	WAKE ISLAND Hy 29.80	129		T	T	23 39 02.4	
	baz=320,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy 29.81	129		T	T	23 38 59.8	
	baz=320,slow=76,SNR=7.8						
ZALV	Zalesovo Beam	40.72	310	P	P	23 08 54.7	-1.0
	1.0nm,0.3s,baz=81,slow=9.2,SNR=3.2						
MKAR	Makanchi Array	43.41	300	P	P	23 09 17.4	-0.4
	0.2nm,0.5s,baz=78,slow=7.4,SNR=3.8						
WRA	Warramunga Arr	59.95	189	P	P	23 11 21.2	-0.1
	0.5nm,0.6s,baz=6.2,slow=6.8,SNR=5.4						

NIED ***29*** *23:16:00, 36.20N×138.00E, h5km, Mw5.0 Best double couple: M0 3.15000×10^16 NP1:φs254.00000°, δ70.00000°, λ167.00000°. NP2:φs349.00000°, δ78.00000°, λ20.00000°.*

BJI ***29*** *23:16:33.6, 36.03N×138.39E, h2km, mb4.6/41, mB5.1/39, Ms5.0/43, Ms7 4.7/40*

IDC ***29*** *23:16:37.2±0.5, 36.25N×137.87E, h0km, mb4.2/22, mb1 4.4/25, mb1mx4.4/34, mbtmp4.2/25, ML3.6/3, MS4.4/35, Ms1 4.4/35, ms1mx4.3/42, Error ellipse: s-maj=12.5km s-min=6.0km az=142.0*

JMA ***29*** *23:16:37.0, 36.19N×137.95E, h4km±1km, M5.4 Broadband fault plane solution: P waves. NP1: φs77.00000°, δ87.00000°, λ-166.00000°. NP2: φs347.00000°, δ76.00000°, λ-3.00000°. Principal axes: T Plg8.0000°, Azm211.0000°; N Plg75.0000°, Azm88.0000°; P Plg12.0000°, Azm303.0000°;*

NEIC ***29*** *23:16:40.2±0.2, 36.26N×137.68E, h10km, mb4.9/108 Error ellipse: s-maj=5.8km s-min=4.5km az=141.0*

NEIC At least 7 people injured at Nagano. Felt at Matsumoto and Nishin. Recorded [5U JMA] in Nagano.

GCMT ***29*** *23:16:40.2±0.2, 36.24N×137.84E, h12km, MW5.0/102, Moment Tensor Solution. s41,c59; s102,c169; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.42±.08; Mθθ 1.18±.07; Mϕϕ -1.60±.07; Mrθ -1.52±.19; Mϕθ -3.25±.06; Mϕr -1.25±.20; Best double couple: Mw3.96600×10^16 NP1:φs79.00000°, δ84.00000°, λ-156.00000°. NP2: φs346.00000°, δ66.00000°, λ-6.00000°. Principal axes: T 3.4570, Plg13.0000°, Azm210.0000°; N 1.0140, Plg65.0000°, Azm91.0000°; P -4.4740, Plg21.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***29*** *23:16:41.3±0.2, 36.29N±0.03×137.75E±0.03, h26km, mb4.7/162, MS4.5/38 Error ellipse: s-maj=4.3km s-min=2.8km az=153.9*

MOS ***29*** *23:16:43.3±1.1, 36.68N×137.71E, h29km, mb4.9/52, MS4.5/15, Error ellipse: s-maj=8.0km s-min=5.8km az=101.8*

ISC 29 23:16:40.2±0.5, 36.21N±0.03×137.98E±0.03, h14km±2km, n388, σ1§99/391, mb4.8/168, MS4.5/39, 14C-8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.22	26	⇑P	Pg	23 16 41.9	-3.3
JNG				*e*S	Sg	23 16 45.8	-2.8
JNT	Takato	0.35	159	⇓P	Pg	23 16 43.8	-3.7
JNT				*e*S	Sg	23 16 49.2	-3.3
MAJO	Matsushiro	0.38	29	*e*P	Pg	23 16 44.8	-3.2
MAJO	Matsushiro	0.38	29	*e*Pg	Pg	23 16 44.8	-3.2
MAJO				*e*Sg	Sg	23 16 50.5	-2.7
MAT	Matsushiro	0.38	29	P	Pg	23 16 44.7	-3.3
MAT				S	Sg	23 16 50.7	-2.5
MAT	Matsushiro	0.38	29	P	Pg	23 16 44.7	-3.3
MAT				S	Sg	23 16 50.9	-2.3
MJAR	Matsushiro Arr	0.38	29	Pg	Pg	23 16 45.0	-3.0
	2μm,0.3s,baz=222,slow=18,SNR=8826						
MJAR				Lg	Lg	23 16 50.9	
	3μm,0.3s,baz=220,slow=30,SNR=90						
MJAR	Matsushiro Arr	0.38	29	P	Pg	23 16 45.0	-3.0
MJB9	Matsu-Tunnel	0.38	28	*e*Pg	Pg	23 16 44.8	-3.2
MJB9				*e*Sg	Sg	23 16 50.9	-2.4
JGN	Niukaw	0.54	272	P	Pg	23 16 46.7	-4.2
JGK	Kuni	0.64	56	P	Pg	23 16 50.1	-2.7
JTT	Ttatey	0.66	307	P	Pg	23 16 49.9	-3.2
JNY	Yasuok	0.85	187	⇑P	Pg	23 16 52.6	-4.2
INU	Inuyama	1.16	223	*e*Pg	Pb	23 16 58.8	-3.2
JJH	Hakui	1.20	307	⇓P	Pb	23 17 00.1	-2.6
JIZZ	Izumozaki	1.45	24	⇑P	Pn	23 17 04.8	-1.1
JAA	Atsumi	1.71	204	⇑P	Pn	23 17 07.5	-2.1
JFM	Mihama	1.76	248	⇑P	Pn	23 17 09.3	-0.9
JFY	Yanaizu	1.83	49	⇑P	Pn	23 17 10.4	-0.9
JSD	Sado	1.84	7	⇑P	Pn	23 17 09.6	-1.8
JHG	Hegura jima	1.84	333	⇓P	Pn	23 17 09.8	-1.6
I30JP	ISUMI INFRASON	2.10	115	Pg	Pn	23 17 16.7	+1.8
	baz=304,slow=18						
I30JP				*i*		23 33 10.0	
	baz=294,slow=301,SNR=0.9						
JYK	Kaneyama	3.30	34	⇑P	Pn	23 17 31.4	0.0
JHJ	Hachijo jima 2	3.42	154	Pn	Pn	23 17 34.2	+1.1
	52nm,0.3s,baz=295,slow=22,SNR=12						
JHJ				Sn	Sb	23 18 23.1	+1.1
	25nm,0.3s,baz=286,slow=22,SNR=2.6						
JHJ				LR	LR	23 19 01.9	
	comp=Z,5μm,20.6s,baz=55,slow=41						
JHJ2	Mitsune	3.44	153	*e*Pn	Pn	23 17 34.5	+1.2
JRG	Rokugo	3.81	33	⇑P	Pn	23 17 38.8	+0.3
JNU	Nakatsue	6.61	244	Pn	Pn	23 18 16.8	-0.2
	2.2nm,0.3s,baz=45,slow=8.8,SNR=51						
JNU				Lg	Lg	23 20 05.3	
	2.3nm,0.3s,baz=327,slow=19,SNR=4.9						
JNU				LR	LR	23 20 54.3	
	comp=Z,3μm,19.9s,baz=66,slow=39						
JNU	Nakatsue	6.61	244	*e*Pn	Pn	23 18 16.8	-0.2
JNU				*e*Sn	Sn	23 19 31.4	-0.7
JNU				*e*Lg	Lg	23 20 05.3	
ERM	Erimo	7.06	33	*e*P	Pn	23 18 23.0	0.0
ERM	Erimo	7.06	33	*e*Pn	Pn	23 18 23.0	0.0
KSRS	Korea Array	8.16	282	Pn	Pn	23 18 38.4	+0.2
	1.6nm,0.3s,baz=97,slow=14,SNR=13						
KSRS				LR	LR	23 21 30.9	
	comp=Z,4μm,21.9s,baz=98,slow=36						
KS01	Wonju Array Si	8.19	282	*e*Pn	Pn	23 18 38.1	-0.4
KS15	Wonju Array Si	8.19	282	*e*Pn	Pn	23 18 38.4	-0.2
KSAR	Wonju Array Be	8.19	282	P	Pn	23 18 38.4	-0.2
KSAR	Wonju Array Be	8.19	282	Pn	Pn	23 18 38.4	-0.2
ASAJ	Asahikawa	8.65	23	*e*Pn	Pn	23 18 46.4	+1.5
USRK	Ussuriysk Ar.	9.20	332	Pn	Pn	23 18 51.9	-0.6
	0.7nm,0.3s,baz=154,slow=13,SNR=12						
USRK				LR	LR	23 21 35.7	
	comp=Z,992nm,21.9s,baz=141,slow=33						
I45RU	USSURIYSK INFR	9.21	332	*i*		00 12 20.0	
	baz=149,slow=312,SNR=0.7						
CBIJ	Chichi jima	9.76	157	*e*Pn	Pn	23 19 00.7	+0.5
MDJ	Mudanjiang	10.55	325	P	Pn	23 19 13.8	+2.9
MDJ				S	Sn	23 21 13.5	+4.7
MDJ				PcP	PcP	23 25 15.5	+0.9
MDJ				ScP	ScP	23 28 48.5	+2.0
MDJ				ScS	ScS	23 32 23.3	+1.9
MDJ				PMZ			
	6.0nm,0.8s						
MDJ				PMZ			
	290nm,5.0s						
MDJ				LN			
	5μm,16.9s						
MDJ				LE			
	5μm,14.3s						
MDJ				LZ			
	2μm,12.6s						
YSS	Yuzh-Sakhalins	11.31	17	*e*P	Pn	23 19 07.9	-13
YSS				MLR	MLR		
	comp=Z,2μm,12.0s						
YSS				MLR	MLR		
	comp=E,3μm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	Yuzh-

TYV pmax pmax
comp=Z,500nm,4.0s
TYV MLR MLR
comp=E,2μm,13.0s
TYV MLR MLR
comp=Z,2μm,13.0s
TIA Tai'an 16.84 276 ⇓P **P 23 20 38.3 +0.8**
TIA S **S 23 23 55.0 +2.2**
TIA PMZ
comp=Z,30nm,1.3s
TIA PMZ
comp=Z,600nm,5.8s
TIA LN
comp=Z,1μm,11.0s
TIA LE
comp=Z,3μm,11.2s
TIA LZ
comp=Z,4μm,11.4s
BJI Beijing 17.57 289 P **P 23 20 45.8 +0.2**
BJI S **S 23 24 13.0 +5.3**
BJI PMZ
comp=Z,33nm,2.4s
BJI PMZ
comp=Z,1μm,5.2s
BJI LN
comp=Z,1μm,12.6s
BJI LE
comp=Z,2μm,16.8s
BJI LZ
comp=Z,2μm,28.7s
BJT Baijiatuau 17.57 289 *e*P **P 23 20 47.9 +2.2**
BJT pmax pmax
comp=Z,188nm,1.8s
BJT Baijiatuau 17.57 289 *e*Pn **P 23 20 47.9 +2.2**
comp=Z,188nm,1.8s
SKR Severo-Kuril's 19.49 36 *e*P **P 23 21 05.0 -1.6**
SKR MLR MLR
comp=Z,1μm,19.0s
QZH Quanzhou 20.08 241 ⇑*i*P **P 23 21 07.0 -6.2**
QZH S **S 23 24 50.0 -8.5**
QZH LR LR
comp=N,2μm,10.2s
QZH LR LR
comp=E,3μm,11.4s
QZH LR LR
comp=Z,4μm,11.8s
WHN Wuhan 20.51 261 ⇑P Pn 23 21 21.0 +1.0
WHN S Sn 23 25 09.5 -1.5
WHN LN
comp=Z,6μm,12.1s
WHN LE
comp=Z,5μm,11.2s
WHN LZ
comp=Z,7μm,12.1s
HHC Hu-ho-hao-te 21.15 291 *e*P **P 23 21 26.0 +1.2**
HHC PP **PnPn 23 21 47.0 +3.0**
HHC S **S 23 25 17.3 -2.4**
HHC sS Sn 23 25 25.0 -1.4
HHC PMZ
comp=Z,21nm,1.1s
HHC PMZ
comp=Z,180nm,4.7s
HHC LN
comp=Z,2μm,12.4s
HHC LE
comp=Z,1μm,10.6s
HHC LZ
comp=Z,1μm,10.7s
PEA0 Petropavlovsk- 21.84 33 *e*P **P 23 21 30.9 -1.1**
PETK Petropavlovsk- 21.84 33 P **P 23 21 31.2 -0.9**
comp=Z,3.4nm,0.7s,baz=224,slow=8.1,SNR=4.7
PETK LR LR 23 30 39.5
comp=Z,2μm,18.4s,baz=221,slow=38
PEA1 Petropavlovsk- 21.84 33 *e*P **P 23 21 31.2 -0.9**
PET Petropavlovsk 22.21 34 *e*P **P 23 21 35.7 -0.3**
PET *e*S **S 23 25 36.3 -3.7**
PET pmax pmax
comp=Z,32nm,1.4s
PET pmax pmax
comp=Z,200nm,12.9s
PET pmax pmax
comp=Z,400nm,16.6s
PET MLR MLR
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,1μm,15.0s
GUMO Guam 23.36 163 P **P 23 21 47.4 -0.8**
comp=Z,158nm,1.0s,baz=23,slow=7.7,SNR=5.6
GUMO LR LR 23 29 29.2
comp=Z,2μm,21.6s,baz=354,slow=33
GUMO Guam 23.36 163 *e*P **P 23 21 48.5 +0.3**
GUMO pmax pmax
comp=Z,370nm,1.3s
GUMO Guam 23.36 163 *e*P **P 23 21 48.5 +0.3**
comp=Z,370nm,1.3s
XAN Xi'an 23.83 273 P **P 23 21 50.3 -2.6**
XAN pP pP 23 21 55.5 -1.7
XAN PP **PnPn 23 22 23.8 +3.0**
XAN S **S 23 26 03.5 -4.8**
XAN PMZ
comp=Z,18nm,0.8s
XAN PMZ
comp=Z,130nm,4.9s
XAN LN
comp=Z,3μm,17.9s
XAN LE
comp=Z,550nm,22.2s
XAN LZ
comp=Z,2μm,15.2s
ENH Enshi 24.51 264 *e*P **P 23 21 58.8 -0.4**
comp=Z,20nm,0.8s
ULN Ulaanbaatar 25.58 307 ⇓*e*P **P 23 22 07.7 -1.2**
ULN *e**PP **sP 23 22 16.6 +1.6**
ULN pmax pmax
comp=Z,12nm,1.7s
ULN Ulaanbaatar 25.58 307 *e*P **P 23 22 09.5 +0.6**
comp=Z,40nm,1.8s
SONA1 Songino Array 26.00 306 *e*P **P 23 22 10.7 -1.9**
SONA0 Songino Array 26.00 306 *e*P **P 23 22 10.3 -2.3**
comp=Z,13nm,1.2s
SONM Songino Array 26.00 306 P **P 23 22 10.3 -2.3**
comp=Z,2.2nm,1.1s,baz=111,slow=8.2,SNR=15
SONM LR LR 23 32 55.7
comp=Z,3μm,18.5s,baz=112,slow=38
YAK Yakutsk 26.37 351 P **P 23 22 13.8 -1.8**
comp=Z,18nm,0.3s,baz=170,slow=1.8,SNR=6.4
YAK LR LR 23 31 39.3
comp=Z,471nm,18.3s,baz=166,slow=34
YAK Yakutsk 26.37 351 *e*P **P 23 22 13.6 -2.0**
YAK *e**PP **sP 23 22 23.3 +1.5**
YAK *e* 23 22 52.5
YAK *e*S **S 23 26 43.8 -4.3**
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,32nm,1.4s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,11nm,0.4s
YAK pmax pmax
comp=N,2.0nm,0.5s
YAK pmax pmax
comp=E,12nm,0.9s
YAK smax smax
comp=N,195nm,3.2s
YAK smax smax
comp=E,129nm,4.1s
YAK MLR MLR
comp=Z,3μm,17.0s
YAK MLR MLR
comp=N,2μm,16.0s
YAK MLR MLR
comp=E,1μm,15.0s
YAK Yakutsk 26.37 351 *e*P **P 23 22 13.8 -1.8**
comp=E,40nm,0.7s
LZH Lanzhou 27.49 280 *e*P **P 23 22 27.0 +0.8**
LZH pP sP 23 22 34.5 +2.1
LZH sP pP 23 22 37.8 +7.2
LZH PMZ
comp=E,23nm,1.2s
SEY Seymchan 28.20 14 P **P 23 22 31.2 -0.9**
comp=E,1.8nm,0.7s,baz=222,slow=9.4,SNR=8.1
SEY Seymchan 28.20 14 P **P 23 22 33.0 +1.0**
ZAK Zakamensk 28.66 311 *e*P **P 23 22 35.4 -1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 28.83 313 LR LR 23 34 02.1
comp=Z,554nm,20.3s,baz=109,slow=36
TLY Talaya 28.83 313 *e*P P 23 22 42.7 +4.8
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,863nm,17.0s
GTA Gaotai 30.17 288 *e*P **P 23 22 53.3 +3.2**
GTA pP sP 23 22 59.3 +3.1
GTA sP pP 23 23 02.3 +7.9
GTA PMZ
comp=Z,7.0nm,1.1s
DAV Davao City (W) 31.14 204 LR LR 23 35 51.3
comp=Z,540nm,18.0s,baz=34,slow=37
KMI Kunming 32.10 260 P **P 23 23 08.5 +1.2**
KMI pP sP 23 23 14.5 +1.1
KMI sP pP 23 23 17.5 +5.8
KMI PP **PP 23 24 16.3 -3.5**
KMI S **S 23 28 25.3 +5.9**
KMI PMZ
comp=Z,9.0nm,1.3s
KMI PMZ
comp=Z,120nm,4.0s
KMI LN
comp=Z,2μm,15.5s
KMI LE
comp=Z,1μm,16.5s
KMI LZ
comp=Z,1μm,15.2s
BILL Bilibino 35.63 18 *i*P **P 23 23 36.0 -1.2**
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,1μm,16.0s
NONG Nongkai 35.63 249 P **P 23 23 39.6 +1.9**
comp=Z,57nm,1.1s
UBPT Khong Chiam 35.68 243 P **P 23 23 40.5 +2.3**
comp=Z,24nm,1.4s,comp=Z,2μm
TIXI Tiksi 35.83 355 ⇑*i*P **P 23 23 37.6 -1.2**
TIXI pmax pmax
comp=Z,14nm,1.7s
TIXI Tiksi 35.83 355 *e*P **P 23 23 36.9 -1.9**
comp=Z,7.7nm,1.0s
LOEI Loei 37.39 250 P **P 23 23 50.3 -2.5**
comp=Z,25nm,0.9s,comp=Z,5μm
UTTA Uttaradit 37.79 251 P **P 23 23 58.6 +2.5**
comp=Z,2.1nm,1.1s
CHAI Chaiyaphum 37.84 247 P **P 23 23 57.8 +1.3**
comp=Z,5.6nm,0.9s
PBKT Sadao Pong 38.18 249 P **P 23 24 01.0 +1.6**
comp=Z,9.4nm,1.8s
CMMT Chiang Mai 38.41 254 P **P 23 24 03.5 +2.1**
comp=Z,9.8nm,0.8s,comp=Z,374nm
CHTO Chiang Mai 38.41 254 P **P 23 24 03.5 +2.1**
comp=Z,71nm,1.9s
CHTO Chiang Mai 38.41 254 *e*P **P 23 24 02.1 +0.7**
CHTO pmax pmax
comp=Z,18nm,1.6s
CHTO Chiang Mai 38.41 254 *e*P **P 23 24 02.1 +0.7**
comp=Z,18nm,1.6s
CM31 Chiang Mai Arr 38.62 253 *e*P **P 23 24 03.4 +0.3**
CMAR Chiang Mai Arr 38.62 253 P **P 23 24 03.3 +0.3**
comp=Z,0.8nm,0.3s,baz=42,slow=8.6,SNR=6.0
CMAR LR LR 23 39 47.5
comp=Z,383nm,19.1s,baz=50,slow=36
SUKH Sukhothai 38.65 251 P **P 23 24 07.9 +4.5**
comp=Z,2.7nm,1.0s
SRAK Srakaew 39.01 245 P **P 23 24 04.0 -2.4**
comp=Z,57nm,0.9s,comp=Z,1μm
LSA Lhasa 39.52 274 *e*P **P 23 24 12.2 +1.0**
LSA pmax pmax
comp=Z,10.0nm,1.0s
LSA Lhasa 39.52 274 *e*P **P 23 24 12.2 +1.0**
comp=Z,10nm,1.0s
LUWI Luwuk 39.67 204 *e*P **P 23 24 13.8 +1.9**
comp=Z,24nm,0.7s
ZAA0 Zalesovo Array 40.45 313 *e*P **P 23 24 16.4 -1.6**
ZAA0 *e*PcP **PcP 23 26 23.3 +2.7**
ZAA1 Zalesovo Array 40.45 313 *e*P **P 23 24 15.7 -2.3**
ZAA1 *e*PcP **PcP 23 26 19.1 -1.4**
ZALV Zalesovo Beam 40.45 313 P **P 23 24 15.7 -2.3**
comp=Z,0.5nm,0.3s,baz=95,slow=7.9,SNR=5.8
ZALV PcP **PcP 23 26 19.1 -1.4**
comp=Z,2.9nm,0.8s,baz=100,slow=3.0,SNR=2.8
ZALV LR LR 23 41 38.8
comp=Z,372nm,18.1s,baz=70,slow=37
GAMB Gambell 40.86 32 *e*P **P 23 24 20.6 -0.6**
comp=Z,104nm,2.0s
MK01 Makanchi Array 42.22 302 *e*P **P 23 24 30.4 -2.3**
MK31 Makanchi Array 42.22 302 *e*P **P 23 24 31.4 -1.3**
MK31 Makanchi Array 42.22 302 *e*P **P 23 24 31.4 -1.3**
MK32 Makanchi Array 42.22 302 *e*P **P 23 24 30.4 -2.3**
MK32 *e*PcP **PcP 23 26 25.8 -0.8**
MKAR Makanchi Array 42.22 302 P **P 23 24 30.4 -2.3**
comp=Z,1.7nm,0.7s,baz=90,slow=9.7,SNR=10
MKAR PcP **PcP 23 26 25.8 -0.8**
comp=Z,0.4nm,0.3s,baz=92,slow=3.9,SNR=2.2
MKAR LR LR 23 42 48.0
comp=Z,1μm,18.0s,baz=99,slow=37
MKAR Makanchi Array 42.22 302 *e*P **P 23 24 31.4 -1.3**
MKAR 23 26 25.8
MKAR Makanchi Array 42.22 302 *e*P **P 23 24 31.4 -1.3**
MKAR PcP **PcP 23 26 25.8 -0.8**
MAKZ Makanchi 42.43 302 *e*P **P 23 24 34.8 +0.4**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
MAKZ Makanchi 42.43 302 *e*P **P 23 24 34.8 +0.4**
comp=Z,6.3nm,1.3s
NRIK Noril'sk 42.89 336 P **P 23 24 35.9 -1.9**
comp=Z,5.3nm,0.8s,baz=109,slow=12,SNR=3.1
RAMN Ramite 44.30 273 *e*P **P 23 24 48.6 -1.4**
comp=Z,61nm,0.8s
KAPI Kappang 44.42 206 LR LR 23 43 28.2
comp=Z,194nm,18.9s,baz=39,slow=36
GUN Gumba 44.48 275 *e*P **P 23 24 50.2 -1.3**
PKIN Phulchoki 45.01 274 *e*P **P 23 24 54.7 -0.9**
comp=Z,15nm,0.7s
KKN Kakani 45.01 275 *e*P **P 23 24 54.6 -1.0**
comp=Z,38nm,0.9s
DMN Daman 45.23 275 *e*P **P 23 24 56.3 -1.1**
GKN Gorkha 45.44 275 *e*P **P 23 24 58.0 -1.0**
comp=Z,82nm,0.9s
KULM Kulim 46.03 237 *e*P **P 23 25 04.2 +0.7**
comp=Z,69nm,1.9s
PMG Port Moresby 46.19 167 LR LR 23 43 27.6
comp=Z,185nm,20.0s,baz=350,slow=35
IPM Ipoh 46.37 236 *e*P **P 23 25 06.2 -0.1**
comp=Z,31nm,1.3s
PYUN Piuthan 46.73 276 *e*P **P 23 25 08.2 -1.0**
comp=Z,144nm,1.0s
TKM2 Tokmak 2 47.59 298 *e*P **P 23 25 15.3 -0.4**
TKM2 pmax pmax
comp=Z,23nm,1.5s
TKM2 Tokmak 2 47.59 298 *e*P **P 23 25 15.3 -0.4**
comp=Z,23nm,1.5s
SVW2 Sparrevohn 47.85 37 *e*P **P 23 25 19.6 +2.4**
comp=Z,15nm,1.0s
KSH Kashi 48.21 294 *e*P P 23 25 26.5 +6.0
KSH PP PP 23 27 21.3 +8.6
KSH S **S 23 32 22.0 +2.5**
KSH ScS **ScS 23 35 10.8 -2.5**
KSH PMZ
comp=Z,4.0nm,0.4s
KSH LN
comp=Z,380nm,11.9s
KSH LE
comp=Z,300nm,9.6s
KSH LZ
comp=Z,560nm,11.5s
FRU Bishkek 48.31 298 *e*P **P 23 25 21.0 -0.1**
VOSK Vostochnaya 48.77 312 *e*P **P 23 25 23.3 -1.2**
VOSK pmax pmax
comp=Z,5.0nm,0.8s
VOSK Vostochnaya 48.77 312 *e*P **P 23 25 23.3 -1.2**
comp=Z,5.4nm,0.8s
BVAR Borovoye Array 49.09 312 P **P 23 25 24.9 -2.0**
comp=Z,1.7nm,0.8s,baz=90,slow=7.9,SNR=9.1
BRVK Borovoye 49.14 312 ⇓*e*P **P 23 25 27.5 +0.3**
BRVK *i* *PP **sP 23 25 38.4 +4.8**
BRVK pmax pmax
comp=Z,21nm,1.7s
BRVK Borovoye 49.14 312 *e*P **P 23 25 27.6 +0.3**
comp=Z,5.7nm,1.1s
MTN Manton Dam 49.21 189 *e*P **P 23 25 30.1 +2.0**
comp=Z,22nm,1.3s
RSO Redoubt South 49.25 38 *e*P **P 23 25 31.2 +3.0**
PPLA Purkeypile 49.42 34 *e*P **P 23 25 32.2 +2.8**
comp=Z,21nm,1.1s
SPU Mount Spurr 49.55 37 *e*P **P 23 25 32.4 +2.0**
BPAW Bear Paw Mtn. 49.92 33 *e*P **P 23 25 35.2 +2.1**
comp=Z,6.1nm,0.9s
ZRNK Zerenda 49.92 312 *e*P **P 23 25 31.9 -1.3**
ZRNK pmax pmax
comp=Z,12nm,1.2s
ZRNK Zerenda 49.92 312 *e*P **P 23 25 31.9 -1.3**
comp=Z,12nm,1.2s
KTH Kantishna Hill 49.97 34 *e*P **P 23 25 35.9 +2.4**
comp=Z,22nm,0.9s
SUA Susitna One 50.17 36 *e*P **P 23 25 36.8 +1.7**
comp=Z,18nm,0.8s
COLD Coldfoot 50.21 29 *e*P **P 23 25 37.5 +2.3**
comp=Z,6.3nm,1.1s
BRLK Bradley Lake 50.24 39 *e*P **P 23 25 37.9 +2.3**
comp=Z,23nm,1.0s
TRF Thorofare Moun 50.26 34 *e*P **P 23 25 37.6 +1.8**
comp=Z,8.2nm,0.8s
BWN Browne 50.59 33 *e*P **P 23 25 41.0 +3.0**
comp=Z,48nm,1.0s
RC01 Rabbit Creek A 50.68 37 *e*P **P 23 25 40.6 +1.7**
comp=Z,24nm,1.2s
MCK McKinley 50.85 33 *e*P **P 23 25 41.9 +1.8**
MCK pmax pmax
comp=Z,14nm,0.9s
MCK McKinley 50.85 33 *e*P **P 23 25 41.9 +1.8**
comp=Z,14nm,0.9s
RND Reindeer 50.91 34 *e*P **P 23 25 40.4 -0.2**
RND pmax pmax
comp=Z,21nm,1.0s
RND Reindeer 50.91 34 *e*P **P 23 25 40.4 -0.2**
comp=Z,21nm,1.0s
SEW Seward 50.92 38 *e*P **P 23 25 44.9 +4.3**
comp=Z,22nm,0.9s
PMR Palmer 50.93 36 *e*P **P 23 25 41.3 +0.6**
PMR pmax pmax
comp=Z,18nm,1.0s
PMR Palmer 50.93 36 *e*P **P 23 25 41.3 +0.6**
comp=Z,18nm,1.0s
MDM Murphy Dome 51.08 32 *e*P **P 23 25 42.5 +0.7**
comp=Z,21nm,1.0s
KKAR Karatay Array 51.14 300 *e*P **P 23 25 41.5 -1.1**
KKAR Karatay Array 51.14 300 *e*P **P 23 25 41.5 -1.1**
WRH Wood River Hil 51.17 32 *e*P **P 23 25 42.9 +0.5**
comp=Z,7.2nm,0.9s
COLA College 51.24 32 *e*P **P 23 25 45.4 +2.4**
COLA pmax pmax
comp=Z,7.0nm,0.8s
CCB Clear Creek Bu 51.28 32 *e*P **P 23 25 46.4 +3.2**
comp=Z,6.3nm,1.0s
SML Sawmill 51.28 36 *e*P **P 23 25 44.4 +1.0**
SML pmax pmax
comp=Z,21nm,0.9s
SML Sawmill 51.28 36 *e*P **P 23 25 44.4 +1.0**
comp=Z,21nm,0.9s
DHY Denali Highway 51.60 34 *e*P **P 23 25 47.4 +1.4**
comp=Z,12nm,1.0s
ILAR Eielson Array 51.66 32 P **P 23 25 45.4 -0.8**
comp=Z,7.8nm,0.9s,baz=275,slow=6.4,SNR=41
ILAR LR LR 23 49 37.0
comp=Z,298nm,18.1s,baz=291,slow=38
ILB Eielson Array 51.66 32 *e*P **P 23 25 45.4 -0.8**
IL1 Eielson Array 51.66 32 *e*P **P 23 25 45.3 -0.9**
HDA Harding Lake 51.66 32 *e*P **P 23 25 47.0 +0.8**
comp=Z,17nm,1.1s
SCM Sheep Creek Mo 51.76 36 *e*P **P 23 25 47.1 +0.1**
SCM pmax pmax
comp=Z,19nm,0.9s
SCM Sheep Creek Mo 51.76 36 *e*P **P 23 25 47.1 +0.1**
comp=Z,19nm,0.9s
KLU Klutina 52.47 36 *e*P **P 23 25 52.4 +0.1**
comp=Z,15nm,1.1s
DIV Divide 52.59 36 *e*P **P 23 25 55.1 +1.9**
comp=Z,29nm,1.1s
EYAK Cordova Ski Ar 52.69 37 *e*P **P 23 25 56.0 +2.2**
comp=Z,20nm,1.0s
DOT Dot Lake 53.01 33 *e*P **P 23 25 57.5 +1.2**
comp=Z,36nm,1.1s
BMRM Bremner River 53.18 36 *e*P **P 23 25 59.6 +2.1**
comp=Z,34nm,1.0s
MENT Mentasta 53.27 34 *e*P **P 23 26 00.3 +2.1**
comp=Z,13nm,1.0s
CRQM Cirque 53.92 37 *e*P **P 23 26 05.5 +2.4**
comp=Z,30nm,1.3s
SVE Sverdlovsk 53.94 318 *e*P **P 23 26 02.3 -0.7**
EGAK Eagle 54.09 31 *e*P **P 23 26 04.3 +0.2**
comp=Z,5.9nm,0.8s
BALM Baldy 54.25 36 *e*P **P 23 26 06.1 +0.7**
BALM pmax pmax
comp=Z,13nm,1.1s
BALM Baldy 54.25 36 *e*P **P 23 26 06.1 +0.7**
comp=Z,13nm,1.1s
DAWY Dawson 54.98 32 *e*P **P 23 26 13.1 +2.4**
comp=Z,5.5nm,1.1s
ARU Arti 55.14 318 *e*P **P 23 26 10.5 -1.3**
ARU pmax pmax
comp=Z,17nm,1.1s
ARU Arti 55.14 318 *e*P **P 23 26 10.5 -1.3**
comp=Z,17nm,1.1s
FITZ Fitzroy Crossi 55.26 194 LR LR 23 48 19.5
comp=Z,186nm,21.9s,baz=37,slow=34
FITZ Fitzroy Crossi 55.26 194 *e*P **P 23 26 13.7 +0.7**
comp=Z,14nm,1.3s
WB2 Warramunga Arr 55.95 184 *e*P **P 23 26 17.5 -0.5**
comp=Z,11nm,1.0s
WR1 Warramunga Arr 55.95 184 *e*P **P 23 26 16.8 -1.2**
comp=Z,15nm,1.1s
WRA Warramunga Arr 55.95 184 P **P 23 26 16.8 -1.2**
comp=Z,5.1nm,0.9s,baz=360,slow=7.5,SNR=20
WRA LR LR 23 47 22.0
comp=Z,267nm,20.8s,baz=355,slow=33
ABKAR Akbulak array 56.35 310 *e*P **P 23 26 18.7 -1.9**
INK Inuvik 56.37 27 *e*P **P 23 26 20.7 +0.3**
INK pmax pmax
comp=Z,14nm,0.9s
INK Inuvik 56.37 27 *e*P **P 23 26 20.7 +0.3**
comp=Z,14nm,0.9s
CTA Charters Tower 56.53 171 LR LR 23 48 14.5
comp=Z,313nm,22.0s,baz=328,slow=34
HYT Haines Junctio 56.59 36 *e*P **P 23 26 24.7 +2.4**
comp=Z,11nm,1.0s
PALK Pallekele 59.49 256 LR LR 23 54 57.4
comp=Z,338nm,18.9s,baz=116,slow=39
AS31 Alice Springs 59.67 184 *e*P **P 23 26 42.9 -1.2**
comp=Z,1.7nm,0.8s
ASAR Alice Springs 59.67 184 P **P 23 26 42.9 -1.3**
comp=Z,4.7nm,0.8s,baz=8.1,slow=5.8,SNR=26
ASAR LR LR 23 51 48.2
comp=Z,244nm,20.7s,baz=5.0,slow=35
DLBC Dease Lake 60.96 37 *e*P **P 23 26 56.0 +3.3**
comp=Z,23nm,1.4s
GEYT Alibeck 61.80 298 P **P 23 26 56.8 -1.8**
comp=Z,2.1nm,0.8s,baz=48,slow=2.1,SNR=5.4
GEYT LR LR 23 55 47.2
comp=Z,603nm,18.6s,baz=60,slow=38
KLMR Klimovskoe 62.96 327 *e*P **P 23 27 05.5 -0.4**
KLMR pmax pmax
comp=Z,13nm,1.1s
ARA0 ARCESS Array S 63.78 339 *e*P **P 23 27 09.9 -1.4**
ARCES ARCESS Array B 63.78 339 P **P 23 27 09.9 -1.4**
comp=Z,2.6nm,0.9s,baz=49,slow=8.5,SNR=2.8
ARCES LR LR 23 58 32.5
comp=Z,548nm,18.6s,baz=70,slow=40
DZM Mont Dzumac 63.91 151 eLR LR 23 46 29.6
comp=Z,876nm,25.1s
YKW3 Yellowknife Ar 65.85 29 *e*P **P 23 27 25.9 +1.1**
comp=Z,12nm,1.1s
YKA Yellowknife Ar 65.89 29 P **P 23 27 24.7 -0.4**
comp=Z,6.7nm,0.9s,baz=300,slow=6.4,SNR=39
YKA LR LR 23 59 26.0
comp=Z,19nm,19.6s,baz=0.0,slow=39
YKB5 Yellowknife Ar 65.89 29 *e*P **P 23 27 24.7 -0.4**
MOS Moscow 66.25 323 *e*P P 23 27 38.3 +11
MOS pmax pmax
comp=Z,30nm,0.8s
MOS MLR MLR
comp=Z,600nm,15.0s
VRH Novokhopyorsk 66.32 317 *e*P **P 23 27 26.2 -1.8**
VRH pmax pmax
comp=Z,3.0nm,0.6s
DAG Danmarks Havn 66.34 354 *i*P **P 23 27 28.4 +0.7**
comp=Z,6.4nm,0.9s
OBN Obninsk 67.08 322 *e*P **P 23 27 32.1 -0.7**
OBN pmax pmax

	comp=Z,6.0nm,1.3s								
FORT	**Forrest**	**67.28**	**189**	*e*P		**P**	**23 27 34.5**	**+0.3**
	comp=Z,225nm,0.8s								
VSR	**Storozhevoye**	**67.71**	**318**	*e*P		**P**	**23 27 35.4**	**-1.5**
VSR				pmax	pmax				
	comp=Z,5.0nm,0.6s								
STKA	**Stephens Creek**	**67.81**	**177**	P		**P**	**23 27 37.5**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=358,slow=13,SNR=4.9								
STKA				LR	LR		23 56 21.4		
	comp=Z,247nm,20.5s,baz=4.7,slow=35								
STKA	**Stephens Creek**	**67.81**	**177**	*e*P		**P**	**23 27 37.5**	**-0.1**
STKA				pmax	pmax				
	comp=Z,10.0nm,2.0s								
STKA	**Stephens Creek**	**67.81**	**177**	*e*P		**P**	**23 27 37.5**	**-0.1**
	comp=Z,10nm,2.0s								
FIA1	**FINESS Array S**	**68.23**	**331**	*e*P		**P**	**23 27 39.5**	**-0.5**
FIA0	**FINESS Array S**	**68.23**	**331**	*e*P		**P**	**23 27 38.7**	**-1.3**
FIA0	**FINESS Array S**	**68.23**	**331**	*e*P		**P**	**23 27 38.6**	**-1.3**
FINES	**FINESS Array B**	**68.23**	**331**	P		**P**	**23 27 38.6**	**-1.3**
	comp=Z,2.3nm,0.7s,baz=59,slow=5.7,SNR=7.8								
FINES				LR	LR		23 57 43.1		
	comp=Z,221nm,18.6s,baz=46,slow=36								
BBOO	**Buckleboo**	**68.68**	**182**	*e*P		**P**	**23 27 45.9**	**+2.9**
	comp=Z,60nm,1.6s								
LLLB	**Lillooet**	**68.74**	**42**	*e*P		**P**	**23 27 44.8**	**+1.3**
	comp=Z,11nm,1.0s								
KBZ	**Khabaz**	**69.32**	**309**	P		**P**	**23 27 47.1**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=50,slow=7.1,SNR=6.2								
KBZ				LR	LR		00 01 44.5		
	comp=Z,398nm,19.8s,baz=49,slow=39								
KIV	**Kislovodsk**	**69.33**	**310**	*e*P		**P**	**23 27 46.8**	**-0.5**
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,307nm,17.0s								
NEY	**Neytrino**	**69.67**	**309**	P		**P**	**23 27 52.0**	**+2.5**
VSU	**Vasula**	**69.74**	**329**	⇓*i*P		**P**	**23 27 51.2**	**+1.8**
VSU				pmax	pmax				
	comp=Z,22nm,1.0s								
GNI	**Garni**	**69.96**	**305**	P		**P**	**23 27 53.1**	**+1.8**
B08A	**Colville Reser**	**71.35**	**43**	*e*P		**P**	**23 28 01.4**	**+1.9**
	comp=Z,10nm,1.1s								
SUMG	**Summit**	**71.48**	**359**	*e*P		**P**	**23 27 59.8**	**-0.5**
SUMG				pmax	pmax				
	comp=Z,21nm,1.0s								
SUMG	**Summit**	**71.48**	**359**	*i* P		**P**	**23 28 00.7**	**+0.4**
	comp=Z,18nm,0.9s								
SUMG	**Summit**	**71.48**	**359**	*e*P		**P**	**23 27 59.8**	**-0.5**
	comp=Z,21nm,1.0s								
EDM	**Edmonton**	**71.68**	**37**	*e*P		**P**	**23 28 03.1**	**+1.7**
EDM				pmax	pmax				
	comp=Z,15nm,1.1s								
EDM	**Edmonton**	**71.68**	**37**	*e*P		**P**	**23 28 03.1**	**+1.7**
	comp=Z,15nm,1.1s								
ANN	**Anapa**	**72.08**	**313**	*e*P		**P**	**23 27 59.6**	**-4.3**
ANN				*e**PP		**pP**	**23 28 06.2**	**-2.4**
ANN				*e*			23 28 19.3		
ANN				*e*PPP	PPP		23 32 21.4		
ANN				*e*S		**S**	**23 37 17.7**	**-7.6**
ANN				pmax	pmax				
	comp=Z,23nm,1.2s								
KTRM	**Thompson Ridge**	**72.50**	**51**	P		P	23 28 11.9	+5.3
KHMM	**Horse Mountain**	**72.84**	**52**	*e*P		**P**	**23 28 11.7**	**+3.0**
	comp=Z,21nm,1.3s								
AKASG	**Malin Array Be**	**73.23**	**321**	P		**P**	**23 28 09.4**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=48,slow=5.8,SNR=8.1								
AKASG				LR	LR		00 01 46.5		
	comp=Z,403nm,18.7s,baz=100,slow=37								
AKBB	**Malin Array Si**	**73.23**	**321**	*e*P		**P**	**23 28 09.4**	**-1.2**
AKBB				pmax	pmax				
	comp=Z,6.0nm,0.6s								
AKBB	**Malin Array Si**	**73.23**	**321**	*e*P		**P**	**23 28 09.4**	**-1.2**
	comp=Z,6.3nm,0.6s								
KIEV	**Kiev**	**73.24**	**321**	P		**P**	**23 28 12.1**	**+1.4**
KIEV				pmax	pmax				
	comp=Z,3.0nm,0.8s								
K05A	**Summer Lake**	**73.58**	**49**	*e*P		**P**	**23 28 15.4**	**+2.2**
	comp=Z,15nm,1.0s								
NC405	**NORSAR Array S**	**73.63**	**336**	*e*P		**P**	**23 28 12.9**	**+0.1**
WDC	**Whiskeytown Da**	**73.76**	**51**	*e*P		**P**	**23 28 15.7**	**+1.8**
WDC				pmax	pmax				
	comp=Z,8.0nm,1.0s								
WDC	**Whiskeytown Da**	**73.76**	**51**	*e*P		**P**	**23 28 15.7**	**+1.8**
	comp=Z,8.4nm,1.0s								
LASM	**Arnica Sink**	**73.80**	**50**	P		**P**	**23 28 16.5**	**+2.1**
NC204	**NORSAR Array S**	**73.82**	**336**	*e*P		**P**	**23 28 12.9**	**-1.0**
NB2	**NORSAR Subarra**	**73.85**	**336**	P		**P**	**23 28 12.5**	**-1.6**
	comp=Z,5.0nm,0.8s,baz=41,slow=6.2								
NB200	**NORSAR Array S**	**73.85**	**336**	*e*P		**P**	**23 28 12.9**	**-1.2**
NOA	**NORSAR Array B**	**73.85**	**336**	P		**P**	**23 28 12.9**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=41,slow=5.9,SNR=13								
NOA				LR	LR		00 02 45.3		
	comp=Z,195nm,18.5s,baz=30,slow=38								
SIM	**Simferopol'**	**73.95**	**314**	*e*P		**P**	**23 28 11.4**	**-3.6**
SIM				*e*S		**SKiKP**	**23 37 44.0**	**+0.9**
SIM				pmax	pmax				
	comp=Z,5.0nm,1.3s								
NBO02	**NORSAR Array S**	**73.96**	**336**	*e*P		**P**	**23 28 15.5**	**+0.7**
LTIM	**Timbered Crate**	**74.09**	**51**	P		**P**	**23 28 18.2**	**+2.2**
BLMT	**Blacktail Moun**	**74.27**	**42**	*e*P		**P**	**23 28 18.6**	**+1.6**
JTMT	**Jette**	**74.47**	**42**	*e*P		**P**	**23 28 20.4**	**+2.2**
BMO	**Blue Mountains**	**74.50**	**46**	*e*P		**P**	**23 28 19.9**	**+1.6**
BMO				pmax	pmax				
	comp=Z,9.0nm,1.0s								
BMO	**Blue Mountains**	**74.50**	**46**	*e*P		**P**	**23 28 19.9**	**+1.6**
	comp=Z,8.8nm,1.0s								
SWMT	**Swartz Lake**	**74.77**	**42**	*e*P		**P**	**23 28 21.5**	**+1.7**
AFDM	**Forest Hills D**	**75.68**	**52**	*e*P		**P**	**23 28 27.7**	**+2.5**
	comp=Z,14nm,1.5s								
FFC	**Flin Flon**	**75.87**	**31**	*e*P		**P**	**23 28 26.8**	**+1.0**
FFC				pmax	pmax				
	comp=Z,10.0nm,1.0s								
FFC	**Flin Flon**	**75.87**	**31**	*e*P		**P**	**23 28 26.8**	**+1.0**
	comp=Z,9.5nm,1.0s								
MFID	**Camas Ranch**	**76.21**	**46**	*e*P		**P**	**23 28 30.0**	**+1.8**
	comp=Z,13nm,1.3s								
PAHR	**Pah Rah Range**	**76.25**	**51**	*e*P		**P**	**23 28 29.1**	**+0.6**
	comp=Z,12nm,1.0s								
LVV	**L'vov**	**76.38**	**322**	*e*P		**P**	**23 28 30.3**	**+1.4**
PNTR	**Pine Nut**	**76.47**	**51**	*e*P		**P**	**23 28 32.3**	**+2.4**
	comp=Z,9.4nm,1.0s								
CMB	**Columbia Colle**	**76.58**	**53**	*e*P		**P**	**23 28 32.4**	**+2.1**
CMB				pmax	pmax				
	comp=Z,7.0nm,0.9s								
CMB	**Columbia Colle**	**76.58**	**53**	*e*P		**P**	**23 28 32.4**	**+2.1**
	comp=Z,7.2nm,0.9s								
LRM	**Limekiln Ridge**	**76.64**	**43**	*e*P		**P**	**23 28 31.5**	**+0.7**
YERR	**Yerington**	**76.76**	**51**	*e*P		**P**	**23 28 33.0**	**+1.6**
	comp=Z,15nm,1.0s								
WAKR	**Walker**	**76.91**	**52**	*e*P		**P**	**23 28 35.0**	**+2.6**
	comp=Z,11nm,1.1s								
HLID	**Hailey**	**76.94**	**45**	*e*P		**P**	**23 28 34.8**	**+2.5**
	comp=Z,4.0nm,1.0s								
MCMT	**McKenzie Canyo**	**77.04**	**44**	*e*P		**P**	**23 28 36.3**	**+3.3**
KWP	**Kalwaria Pacla**	**77.16**	**323**	*e*P		**P**	**23 28 34.0**	**+0.7**
KWP	**Kalwaria Pacla**	**77.16**	**323**	*e*P		**P**	**23 28 34.0**	**+0.7**
BMN	**Battle Mountai**	**77.16**	**49**	*e*P		**P**	**23 28 35.8**	**+2.1**
BMN				pmax	pmax				
	comp=Z,14nm,1.2s								
BMN	**Battle Mountai**	**77.16**	**49**	*e*P		**P**	**23 28 35.8**	**+2.1**
	comp=Z,14nm,1.2s								
BUR08	**Bucovina Ar. S**	**77.20**	**320**	*e*P		**P**	**23 28 33.7**	**0.0**
BRTR	**Keskin Array B**	**77.30**	**310**	LR		LR	00 06 06.9		
	comp=Z,118nm,18.5s,baz=52,slow=38								
TVH3	**East Aurora ar**	**77.39**	**52**	*e*P		**P**	**23 28 37.3**	**+2.2**
	comp=Z,14nm,1.1s								
TVH2	**Borealis Mine**	**77.42**	**52**	*e*P		**P**	**23 28 37.8**	**+2.5**
	comp=Z,4.9nm,0.8s								
KOLS	**Kolonicke sedl**	**77.83**	**323**	*e*P		**P**	**23 28 37.0**	**-0.1**
KOLS				pmax	pmax				
	comp=Z,9.0nm,1.7s								
KOLS	**Kolonicke sedl**	**77.83**	**323**	*e*P		**P**	**23 28 37.0**	**-0.1**
STHS	**Stebnicka Huta**	**78.01**	**323**	*e*P		**P**	**23 28 37.3**	**-0.8**
STHS				*e*			23 28 46.4		
STHS				pmax	pmax				
	comp=Z,6.0nm,1.1s								
STHS	**Stebnicka Huta**	**78.01**	**323**	*e*P		**P**	**23 28 37.3**	**-0.8**
STHS				*e*			23 28 46.4		
STHS				*e*			23 33 40.2		
OJC	**Ojcow**	**78.15**	**325**	*e*P		**P**	**23 28 38.7**	**-0.1**
OJC	**Ojcow**	**78.15**	**325**	*e*P		**P**	**23 28 39.2**	**+0.4**
OJC				pmax	pmax				
	comp=Z,18nm,1.2s								
OJC	**Ojcow**	**78.15**	**325**	*e*P		**P**	**23 28 39.2**	**+0.4**
	comp=Z,18nm,1.2s								
CRVS	**Cervenica-Dubn**	**78.25**	**323**	*e*P		**P**	**23 28 39.7**	**+0.3**
CRVS	**Cervenica-Dubn**	**78.25**	**323**	*e*P		**P**	**23 28 39.7**	**+0.3**
OKC	**Ostrava-Krasne**	**79.18**	**325**	AMS	AMS		00 07 40.0		
	comp=Z,600nm,14.6s								
KSP	**Ksiaz**	**79.31**	**327**	*e*P		**P**	**23 28 44.8**	**-0.4**
KSP	**Ksiaz**	**79.31**	**327**	*e*P		**P**	**23 28 44.8**	**-0.4**
R11A	**Troy Canyon, C**	**79.43**	**50**	*e*P		**P**	**23 28 48.3**	**+2.1**
	comp=Z,7.2nm,0.9s								
MORC	**Moravsky Berou**	**79.50**	**325**	*e*P		**P**	**23 28 46.7**	**+0.4**
MORC				pmax	pmax				
	comp=Z,35nm,1.2s								
MORC	**Moravsky Berou**	**79.50**	**325**	*e*P		**P**	**23 28 46.7**	**+0.4**
	comp=Z,35nm,1.2s								
DPC	**Dobruska-Polom**	**79.65**	**326**	*e*P		**P**	**23 28 47.4**	**+0.3**
DPC				*e*PCP		**PcP**	**23 28 56.6**	**+1.7**
DPC				AMS	AMS		00 07 40.0		
	comp=Z,500nm,13.9s								
DPC	**Dobruska-Polom**	**79.65**	**326**	*e*P		**P**	**23 28 47.4**	**+0.3**
DPC				*e*			23 28 56.6		
DPC				*e*			23 28 58.0		
DPC				MLR	MLR				
	comp=Z,500nm,13.9s								
UPC	**Upice**	**79.68**	**327**	AMS	AMS		00 08 50.0		
	comp=Z,800nm,15.2s								
VYHS	**Vyhne**	**79.80**	**324**	*e*P		P	23 28 55.0	+7.1
VYHS	**Vyhne**	**79.80**	**324**	*e*		P	23 28 55.0	+7.1
HWUT	**Hardware Ranch**	**79.80**	**46**	*e*P		**P**	**23 28 50.2**	**+1.9**
	comp=Z,13nm,1.1s								
DUG	**Dugway, Tooele**	**79.96**	**47**	*e*P		**P**	**23 28 51.5**	**+2.4**
DUG				pmax	pmax				
	comp=Z,9.0nm,0.9s								
DUG	**Dugway, Tooele**	**79.96**	**47**	*e*P		**P**	**23 28 51.5**	**+2.4**
	comp=Z,9.1nm,0.9s								
BW06	**Boulder Array**	**80.19**	**44**	*e*P		**P**	**23 28 50.3**	**-0.1**
PD31	**Pinedale Array**	**80.19**	**44**	*e*P		**P**	**23 28 50.6**	**+0.2**
PDAR	**Pinedale Array**	**80.19**	**44**	P		**P**	**23 28 50.6**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=298,slow=3.2,SNR=8.2								
PVCC	**Panska Ves**	**80.30**	**327**	*e*P		**P**	**23 28 50.7**	**+0.2**
PVCC				AMS	AMS		00 10 50.0		
	comp=Z,400nm,12.6s								
PVCC	**Panska Ves**	**80.30**	**327**	*e*P		**P**	**23 28 50.7**	**+0.2**
PVCC				MLR	MLR				
	comp=Z,400nm,12.6s								
BRG	**Berggiesshubel**	**80.32**	**328**	*e*P		**P**	**23 28 50.6**	**0.0**
	comp=Z,13nm,1.7s								
BRG				*e*			23 33 50.0		
	comp=Z,13nm,1.7s								
BRG	**Berggiesshubel**	**80.32**	**328**	*e*P		**P**	**23 28 50.6**	**0.0**
BRG				*e*			23 33 50.0		
BRG				pmax	pmax				
	comp=Z,13nm,1.7s								
BRG				pmax	pmax				
	comp=Z,13nm,1.7s								
CLL	**Collm**	**80.40**	**329**	*e*P		**P**	**23 28 50.0**	**-1.0**
	comp=Z,4.0nm,0.9s								
CLL				*i*			23 28 56.0		
	comp=Z,6.0nm,0.9s								
CLL				*i*			23 29 02.6		
CLL				LmH			00 01 00.0		
	comp=N,500nm,20.3s								
CLL				LmH			00 01 00.0		
	comp=E,800nm,19.8s								
CLL	**Collm**	**80.40**	**329**	*e*P		**P**	**23 28 50.0**	**-1.0**
CLL				*i*			23 28 56.0		
CLL				pmax	pmax				
	comp=Z,4.0nm,0.9s								
SMOL	**Smolenice**	**80.45**	**325**	*e*P		P	23 29 04.4	+13
SMOL	**Smolenice**	**80.45**	**325**	*e*		P	23 29 04.4	+13
GSC	**Goldstone, Bar**	**80.52**	**53**	*e*P		**P**	**23 28 54.1**	**+2.0**
GSC				pmax	pmax				
	comp=Z,6.0nm,1.0s								
GSC	**Goldstone, Bar**	**80.52**	**53**	*e*P		**P**	**23 28 54.1**	**+2.0**
	comp=Z,6.2nm,1.0s								
GOPC	**GO Pecny, Ondr**	**80.65**	**327**	AMS	AMS		00 09 10.0		
	comp=Z,600nm,13.6s								
PRU	**Pruhonice**	**80.70**	**327**	*e*P		**P**	**23 28 52.7**	**0.0**
PRU				AMS	AMS		00 08 30.0		
	comp=Z,500nm,15.1s								
PRU	**Pruhonice**	**80.70**	**327**	*e*P		**P**	**23 28 52.7**	**0.0**
PRU				MLR	MLR				
	comp=Z,500nm,15.1s								
TREC	**Trest**	**80.79**	**326**	AMS	AMS		00 08 30.0		
	comp=Z,600nm,15.9s								
SHPR	**Sheep Range**	**80.83**	**51**	*e*P		**P**	**23 28 56.4**	**+2.6**
	comp=Z,10nm,1.3s								
CCUT	**Cedar City**	**81.30**	**50**	*e*P		**P**	**23 28 58.3**	**+1.9**
	comp=Z,20nm,1.3s								
MSU	**Marysvale**	**81.41**	**48**	*e*P		**P**	**23 28 59.9**	**+2.9**
MSU	**Marysvale**	**81.41**	**48**	*e*P		**P**	**23 28 59.9**	**+2.9**
NKC	**Novy Kostel**	**81.43**	**328**	AMS	AMS		00 10 10.0		
	comp=Z,700nm,12.4s								
VTS	**Vitosha**	**81.59**	**317**	*e*P		**P**	**23 28 58.4**	**+0.6**
VTS				pmax	pmax				
	comp=Z,5.0nm,1.2s								
VTS	**Vitosha**	**81.59**	**317**	*e*P		**P**	**23 28 58.4**	**+0.6**
	comp=Z,5.2nm,1.2s								
CONA	**Conrad Observa**	**81.60**	**325**	*i* pP		**P**	**23 28 58.0**	**+0.4**
	comp=Z,9.0nm,1.1s								
P17A	**Butcher Ranch,**	**81.65**	**47**	*e*P		**P**	**23 29 00.2**	**+2.0**
	comp=Z,14nm,1.0s								
ULM	**Lac du Bonnet**	**81.68**	**32**	LR	LR		00 08 11.1		
	comp=Z,237nm,20.2s,baz=322,slow=38								
MTPU	**Mount Pierson**	**81.71**	**49**	*e*P		**P**	**23 29 01.6**	**+2.9**
	comp=Z,8.7nm,1.1s								
LCMT	**Little Creek M**	**81.71**	**50**	*e*P		**P**	**23 28 59.4**	**+0.9**
	comp=Z,2.0nm,0.9s								
KHC	**Kasperske Hory**	**81.76**	**327**	*e*P		**P**	**23 28 58.3**	**-0.1**
KHC				*e*pP		**PcP**	**23 29 03.8**	**-0.3**
KHC				*ex*		x	23 29 08.8		
KHC				AMS	AMS		00 09 20.0		
	comp=Z,800nm,15.4s								
KHC	**Kasperske Hory**	**81.76**	**327**	*e*P		**P**	**23 28 58.3**	**-0.1**
KHC				pmax	pmax				
	comp=Z,10.0nm,1.9s								
KHC	**Kasperske Hory**	**81.76**	**327**	*e*P		**P**	**23 28 58.2**	**-0.1**
	comp=Z,9.7nm,1.9s								
PFO	**Pinyon Flats O**	**81.78**	**54**	*e*P		**P**	**23 29 00.6**	**+1.7**
PFO				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PFO	**Pinyon Flats O**	**81.78**	**54**	*e*P		**P**	**23 29 00.6**	**+1.7**
	comp=Z,9.8nm,1.0s								
GERES	**GERESS Array B**	**81.92**	**327**	P		**P**	**23 28 57.9**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=34,slow=5.7,SNR=9.1								
GERES				LR	LR		00 06 34.1		
	comp=Z,323nm,18.1s,baz=33,slow=37								
GEA0	**GERESS Array S**	**81.92**	**327**	*e*P		**P**	**23 28 58.3**	**-1.0**
SRU	**San Rafael Swe**	**82.01**	**47**	*e*P		**P**	**23 29 02.3**	**+2.2**
SRU				pmax	pmax				
	comp=Z,11nm,0.8s								
SRU	**San Rafael Swe**	**82.01**	**47**	*e*P		**P**	**23 29 02.3**	**+2.2**
	comp=Z,11nm,0.8s								
ARSA	**Arzberg**	**82.25**	**325**	*i* PcP		**P**	**23 29 03.5**	**+2.5**
	comp=Z,5.4nm,1.3s								
U15A	**North Rim**	**82.67**	**50**	*e*P		**P**	**23 29 05.1**	**+1.4**
	comp=Z,32nm,1.6s								
SOKA	**Soboth**	**82.90**	**324**	*i* P		**P**	**23 29 04.0**	**-0.4**
	comp=Z,11nm,1.2s								
PV09	**Paradox Valley**	**83.23**	**47**	*e*P		**P**	**23 29 08.6**	**+1.9**
OBKA	**Obir**	**83.25**	**325**	*i* P		**P**	**23 29 05.5**	**-0.8**
	comp=Z,1.8nm,0.6s								
PV05	**Paradox Valley**	**83.53**	**47**	*e*P		**P**	**23 29 10.1**	**+2.0**
MYKA	**Terra Mystica**	**83.58**	**325**	*i* pP		**P**	**23 29 08.5**	**+0.5**
	comp=Z,8.6nm,1.3s								
Y14A	**Wickenburg**	**83.81**	**52**	*e*P		**P**	**23 29 11.3**	**+2.0**
	comp=Z,43nm,1.2s								
PDG	**Podgorica**	**83.83**	**319**	⇑*i*P		P	23 29 04.5	-4.7
WUAZ	**Wupatki**	**83.83**	**50**	*e*P		**P**	**23 29 12.2**	**+2.6**
	comp=Z,21nm,1.1s								
ABTA	**Abfaltersbach**	**84.01**	**326**	*i* P		**P**	**23 29 08.9**	**-1.3**
	comp=Z,5.2nm,1.0s								
WTTA	**Wattenberg**	**84.02**	**327**	*i* pP		**P**	**23 29 09.8**	**-0.5**
	comp=Z,2.7nm,0.6s								
SMCO	**Snowmass**	**84.04**	**45**	*e*P		**P**	**23 29 13.0**	**+2.1**
	comp=Z,9.2nm,1.3s								
RETA	**Reutte**	**84.24**	**327**	*i* pP		**P**	**23 29 12.0**	**+0.7**
	comp=Z,6.8nm,1.1s								
MVCO	**Mesa Verde**	**84.47**	**47**	*e*P		**P**	**23 29 15.1**	**+2.2**
	comp=Z,14nm,1.0s								
X16A	**Lo Mia Camp, P**	**84.50**	**51**	*e*P		**P**	**23 29 15.1**	**+2.1**
	comp=Z,10nm,1.1s								
FETA	**Feichten**	**84.61**	**327**	*i* P		**P**	**23 29 11.2**	**-2.1**
	comp=Z,4.0nm,1.0s								
BFO	**Black Forest**	**84.63**	**329**	*i* P		**P**	**23 29 14.8**	**+1.6**
DAVA	**Damuels**	**84.78**	**327**	*i* pP		**P**	**23 29 13.7**	**-0.5**
	comp=Z,6.7nm,1.2s								
S22A	**4UR Ranch, Cre**	**85.09**	**46**	*e*P		**P**	**23 29 17.4**	**+1.3**
	comp=Z,9.9nm,1.0s								
FUORN	**Ofenpass-Fuorn**	**85.12**	**327**	*e*P		**P**	**23 29 17.4**	**+1.4**
	comp=Z,21nm,1.4s								
SDCO	**Great Sand Dun**	**85.86**	**45**	*e*P		**P**	**23 29 21.6**	**+1.7**
	comp=Z,4.7nm,1.0s								
ECSD	**EROS Data Cent**	**86.25**	**36**	*e*P		**P**	**23 29 21.8**	**+0.4**
	comp=Z,8.0nm,1.4s								
PPT	**Papeete**	**86.77**	**114**	LR	LR		00 00 55.5		
	comp=Z,277nm,20.5s,baz=338,slow=31								
PPT2	**Papeete2**	**86.79**	**114**	*e*S		S	23 39 45.7	-16
	comp=Z,58nm,24.2s								
PPT2	**Papeete2**	**86.79**	**114**	*e*LR	LR		23 56 42.6		
	comp=Z,510nm,22.0s								
SCHQ	**Schefferville**	**86.85**	**14**	LR	LR		00 11 40.5		
	comp=Z,143nm,18.1s,baz=330,slow=38								
ANMO	**Albuquerque**	**87.21**	**48**	⇑*i*P		**P**	**23 29 28.4**	**+1.9**
ANMO				pmax	pmax				
	comp=Z,2.0nm,1.2s								
ANMO	**Albuquerque**	**87.21**	**48**	*e*P		**P**	**23 29 28.7**	**+2.2**
	comp=Z,4.7nm,1.3s								
TAOE	**Nuku Hiva Isla**	**88.68**	**102**	*e*LR	LR		23 57 37.4		
	comp=Z,701nm,24.1s								
GDL2	**Guadalupe Moun**	**90.36**	**49**	*e*P		**P**	**23 29 44.9**	**+3.6**
TBI	**Tubuai**	**90.52**	**119**	*e*LR	LR		23 58 14.6		
	comp=Z,374nm,22.2s								
TX31	**Lajitas Ar. Si**	**92.79**	**50**	*e*P		**P**	**23 29 53.9**	**+1.3**
LTX	**Lajitas**	**92.79**	**50**	*e*P		**P**	**23 29 52.3**	**-0.3**
LTX	**Lajitas**	**92.79**	**50**	*e*P		**P**	**23 29 52.2**	**-0.3**
TXAR	**Lajitas Array**	**92.79**	**50**	P		**P**	**23 29 52.2**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=267,slow=3.1,SNR=15								
ESDC	**Sonseca Array**	**96.75**	**331**	LR	LR		00 16 33.6		
	comp=Z,234nm,18.4s,baz=65,slow=37								
RKT	**Rikitea**	**101.03**	**110**	*e*LR	LR		00 03 22.3		
	comp=Z,635nm,27.5s								
TOA1	**Torodi Ar. Sit**	**115.88**	**312**	*e*PKPdf		**PKPdf**	**23 35 21.6**	**-1.4**
TOA0	**Torodi Ar. Sit**	**115.88**	**312**	*e*PKPdf		**PKPdf**	**23 35 26.7**	**+3.7**
TORD	**Torodi Ar. Bea**	**115.88**	**312**	PKP		**PKPdf**	**23 35 21.6**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=26,slow=3.7,SNR=2.5								
QSPA	**South Pole Qui**	**125.95**	**180**	*e*PKPdf		**PKPdf**	**23 35 41.5**	**+0.7**
SAML	**Samuel**	**146.72**	**41**	*e*PKPdf		**PKPbc**	**23 36 22.8**	**+0.6**
LPAZ	**La Paz**	**149.47**	**56**	PKPbc		**PKPbc**	**23 36 30.6**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=350,slow=3.4,SNR=5.4								
PB11	**IPOC Station P**	**150.75**	**63**	*e*PKPbc		**PKPbc**	**23 36 33.2**	**+0.6**

JMA 29 23:21:25.0, 36.19N×137.96E, h5km±1km, M1.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.24**	**28**	P	Pg	23 21 30.1	+0.3
JNG				S	Sg	23 21 33.6	+0.5

NIED ***29*** *23:21:00, 36.20N×138.00E, h5km, Mw4.6 Best double couple: M0 9.00000×10^15 NP1:φ=241.00000°, δ=48.00000°, λ=167.00000°. NP2:φ=339.00000°, δ=80.00000°, λ=42.00000°.*
BJI ***29*** *23:21:30.1, 35.89N×138.34E, h9km, mb4.5/43, mB5.0/26, Ms4.8/23, Ms7 4.5/23*
JMA ***29*** *23:21:33.7, 36.19N×137.95E, h4km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φs=253.00000°, δ=82.00000°, λ=157.00000°. NP2: φs=347.00000°, δ=67.00000°, λ=9.00000°. Principal axes: T Plg22.0000°, Azm208.0000°; N Plg66.0000°, Azm55.0000°; P Plg10.0000°, Azm302.0000°;*
JMA Felt IV J1.
ISCJB ***29*** *23:21:33.1±0.5, 36.18N±0.02×137.92E±0.03, h2km±3km, mb4.5/91, MS4.6/1 Error ellipse: s-maj=4.3km s-min=3.0km az=35.7*
IDC ***29*** *23:21:33.8±0.5, 36.16N×138.02E, h0km, mb4.1/20, mb1 4.3/23, mb1mx4.2/33, mbtmp4.1/23, ML3.5/3, Error ellipse: s-maj=14.7km s-min=6.

comp=Z,1µm,10.3s
TIA Tai'an 16.81 276 ⇓P **P** 23 25 36.0 +2.7
TIA PMZ
comp=Z,20nm,1.2s
BJI Beijing 17.55 289 P **Pn** 23 25 38.8 -1.5
BJI PMZ
comp=Z,19nm,1.4s
BJT Baijiatuau 17.55 289 *e*P **P** 23 25 44.1 +2.6
BJT pmax pmax
comp=Z,121nm,1.9s
BJT Baijiatuau 17.55 289 *e*Pn **P** 23 25 44.1 +2.6
comp=Z,121nm,1.9s
QZH Quanzhou 20.04 241 ⇓*i*P P 23 26 01.5 -7.4
WHN Wuhan 20.47 261 ⇑P Pn 23 26 19.5 +3.8
HHC Hu-ho-hao-te 21.12 291 *e*P **P** 23 26 21.5 +0.8
HHC PMZ
comp=Z,24nm,1.0s
HHC PMZ
comp=Z,520nm,6.1s
PEA0 Petropavlovsk- 21.87 33 *e*P **P** 23 26 31.8 +3.3
PETK Petropavlovsk- 21.87 33 P **P** 23 26 29.3 +0.8
comp=Z,5.1nm,0.9s,baz=220,slow=5.6,SNR=4.9
PETK Petropavlovsk- 21.87 33 P **P** 23 26 29.3 +0.8
PETK Petropavlovsk- 21.87 33 P **P** 23 26 29.3 +0.8
PEA1 Petropavlovsk- 21.88 33 *e*P **P** 23 26 29.3 +0.8
PET Petropavlovsk 22.25 34 ⇑*i*P **P** 23 26 32.3 -0.2
PET pmax pmax
comp=Z,26nm,1.3s
GUMO Guam 23.35 163 P **P** 23 26 43.1 -1.2
comp=Z,115nm,0.8s,baz=169,slow=4.7,SNR=5.5
GUMO Guam 23.35 163 *e*P **P** 23 26 43.1 -1.2
GUMO Guam 23.35 163 *e*P **P** 23 26 43.1 -1.2
ENH Enshi 24.47 264 *e*P **P** 23 26 54.8 -0.2
comp=Z,20nm,0.8s
ULN Ulaanbaatar 25.57 307 *i* P **P** 23 27 04.7 -0.2
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 25.57 307 *e*P **P** 23 27 04.8 -0.1
comp=Z,9.4nm,1.1s
SONA1 Songino Array 25.98 306 *e*P **P** 23 27 07.2 -1.5
SONA0 Songino Array 25.99 306 *e*P **P** 23 27 07.2 -1.5
comp=Z,16nm,1.4s
SONM Songino Array 25.99 306 P **P** 23 27 07.2 -1.5
comp=Z,1.8nm,1.0s,baz=99,slow=8.4,SNR=5.7
SONM Songino Array 25.99 306 *e*P **P** 23 27 06.6 -2.1
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 25.99 306 P **P** 23 27 07.2 -1.5
YAK Yakutsk 26.38 351 P **P** 23 27 11.2 -0.7
comp=Z,18nm,0.4s,baz=211,slow=5.2,SNR=3.3
YAK Yakutsk 26.38 351 *e*P **P** 23 27 13.7 +1.8
YAK Yakutsk 26.38 351 *e*P **P** 23 27 11.2 -0.7
comp=Z,26nm,0.6s
SEY Seymchan 28.22 14 P **P** 23 27 28.1 -0.3
comp=Z,2.6nm,1.0s,baz=181,slow=3.7,SNR=4.4
SEY Seymchan 28.22 14 *e*P **P** 23 27 28.2 -0.3
SEY Seymchan 28.22 14 *e*P **P** 23 27 28.1 -0.3
GYA Guiyang 28.32 259 *e*P **P** 23 27 29.0 -0.9
GYA PMZ
comp=Z,10.0nm,0.8s
ZAK Zakamensk 28.65 311 *e*P **P** 23 27 36.5 +4.0
ZAK pmax pmax
comp=Z,3.0nm,1.6s
CD2 Chengdu 28.88 269 *e*P **P** 23 27 31.8 -2.9
CD2 pP sP 23 27 38.0 +1.2
CD2 S **S** **23 32 20.3 -5.2**
CD2 sS sS 23 32 31.0 +3.0
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
GTA Gaotai 30.15 288 *e*P **P** 23 27 47.0 +1.0
GTA pP sP 23 27 54.8 +6.6
GTA sP pP 23 27 57.8 +10
GTA S **S** **23 32 45.5 0.0**
GTA sS sS 23 32 58.5 +10
GTA PMZ
comp=Z,4.0nm,1.0s
GTA PMZ
comp=Z,69nm,5.9s
GTA LN
comp=Z,710nm,14.0s
GTA LE
comp=Z,650nm,14.0s
GTA LZ
comp=Z,620nm,14.3s
KMI Kunming 32.07 260 P **P** 23 28 04.5 +1.4
KMI pP sP 23 28 08.3 +3.0
KMI sP pP 23 28 11.0 +6.3
KMI PMZ
comp=Z,6.0nm,0.9s
NONG Nongkai 35.59 249 P **P** 23 28 37.1 +3.5
comp=Z,35nm,0.9s,comp=Z,6µm
SKNT Sakolnakorn 35.64 247 P **P** 23 28 38.2 +4.2
comp=Z,15nm,1.1s
UBPT Khong Chiam 35.65 243 P **P** 23 28 37.4 +3.4
comp=Z,21nm,1.0s,comp=Z,2µm
BILL Bilibino 35.66 18 *e*P **P** 23 28 33.2 -0.4
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL Bilibino 35.66 18 *e*P **P** 23 28 33.2 -0.4
comp=Z,10nm,1.2s
TIXI Tiksi 35.84 355 ⇓*e*P **P** 23 28 33.6 -1.5
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 35.84 355 *e*P **P** 23 28 32.8 -2.4
comp=Z,4.5nm,0.8s
LOEI Loei 37.35 250 P **P** 23 28 48.4 -0.2
comp=Z,60nm,1.2s
UTTA Uttaradit 37.76 251 P **P** 23 28 56.0 +4.0
comp=Z,1.8nm,0.9s
CHAI Chaiyaphum 37.80 247 P **P** 23 28 55.0 +2.6
comp=Z,5.6nm,1.0s,comp=Z,122nm
PBKT Sadao Pong 38.15 249 P **P** 23 28 58.8 +3.5
comp=Z,7.4nm,0.9s
CMMT Chiang Mai 38.37 254 P **P** 23 29 00.7 +3.4
comp=Z,12nm,1.1s,comp=Z,451nm
CHTO Chiang Mai 38.37 254 P **P** 23 29 00.7 +3.4
comp=Z,37nm,1.1s
CM31 Chiang Mai Arr 38.58 253 *e*P **P** 23 29 00.1 +1.2
CMAR Chiang Mai Arr 38.58 253 P **P** 23 29 00.1 +1.2
comp=Z,1.8nm,0.9s,baz=48,slow=6.0,SNR=9.9
CMAR Chiang Mai Arr 38.58 253 P **P** 23 29 00.2 +1.2
CMAR Chiang Mai Arr 38.58 253 P **P** 23 29 00.1 +1.2
CM01 Chiang Mai Arr 38.59 253 *e*P **P** 23 29 01.8 +2.7
WMQ Urumqi 38.73 297 P **P** 23 28 59.5 -0.6
WMQ pP sP 23 29 05.5 +3.2
WMQ sP pP 23 29 08.5 +6.8
WMQ PMZ
comp=Z,7.0nm,0.7s
WMQ PMZ
comp=Z,56nm,6.5s
WMQ LN
comp=Z,340nm,13.1s
WMQ LE
comp=Z,290nm,13.5s
WMQ LZ
comp=Z,130nm,16.3s
SRAK Srakaew 38.97 245 P **P** 23 29 01.7 -0.5
comp=Z,69nm,1.0s,comp=Z,871nm
FAKI Fak Fak 39.27 189 *e*P **P** 23 29 01.7 -3.0
comp=Z,152nm,1.8s
ZAA1 Zalesovo Array 40.44 313 *e*P **P** 23 29 14.5 +0.4
ZAA1 *e*PcP **PcP** 23 31 16.8 -0.1
ZALV Zalesovo Beam 40.44 313 P **P** 23 29 14.5 +0.4
comp=Z,1.2nm,0.8s,baz=90,slow=4.4,SNR=4.1
ZALV PcP **PcP** 23 31 16.8 -0.1
comp=Z,1.8nm,0.7s,baz=76,slow=2.3,SNR=5.2
ZALV Zalesovo Beam 40.44 313 P **P** 23 29 14.5 +0.4
ZALV Zalesovo Beam 40.44 313 P **P** 23 29 14.5 +0.4
SRDT SRDT 40.92 248 P **P** 23 29 22.2 +3.7
comp=Z,37nm,1.2s
UNV Unalaska Valle 41.87 47 *e*P **P** 23 29 23.6 -2.3
comp=Z,42nm,1.2s
MK32 Makanchi Array 42.20 302 *e*P **P** 23 29 27.4 -1.4
MK32 *e*PcP **PcP** 23 31 22.7 -0.1
MKAR Makanchi Array 42.20 302 P **P** 23 29 27.4 -1.4
comp=Z,1.0nm,0.7s,baz=87,slow=9.0,SNR=6.1
MKAR PcP **PcP** 23 31 22.7 -0.1
comp=Z,0.4nm,0.5s,baz=70,slow=4.0,SNR=4.1
MKAR Makanchi Array 42.20 302 *e*P **P** 23 29 29.8 +1.0
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 42.20 302 P **P** 23 29 27.4 -1.4
KURK Kurchatov 44.26 308 *e*P **P** 23 29 43.1 -2.2
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 44.26 308 *e*P **P** 23 29 43.0 -2.2
comp=Z,6.8nm,0.8s
RAMN Ramite 44.27 273 *e*P **P** 23 29 45.4 -0.5
GUN Gumba 44.45 275 *e*P **P** 23 29 47.3 -0.2
PKIN Phulchoki 44.98 274 *e*P **P** 23 29 50.8 -0.8
comp=Z,20nm,0.8s
KKN Kakani 44.98 275 *e*P **P** 23 29 51.2 -0.4
comp=Z,43nm,0.8s
GKN Gorkha 45.41 275 *e*P **P** 23 29 54.5 -0.4
comp=Z,100nm,0.9s
PYUN Piuthan 46.70 276 *e*P **P** 23 30 04.8 -0.3
comp=Z,154nm,1.0s
TKM2 Tokmak 2 47.57 298 *e*P **P** 23 30 12.6 +0.8
TKM2 pmax pmax
comp=Z,7.0nm,1.2s
TKM2 Tokmak 2 47.57 298 *e*P **P** 23 30 12.6 +0.8
comp=Z,7.0nm,1.2s
KSH Kashi 48.19 294 *e*P **P** 23 30 19.0 +2.5
KSH pP sP 23 30 25.3 +6.6
KSH PcP **PcP** **23 31 45.0 +1.2**
KSH PP **PP** **23 32 10.8 +2.1**
KSH S **S** **23 37 17.5 +1.2**
KSH ScS **ScS** **23 40 08.5 -2.0**
KSH PMZ
comp=Z,3.0nm,0.5s
KSH PMZ
comp=Z,130nm,4.2s
KSH LN
comp=Z,240nm,8.4s
KSH LE
comp=Z,360nm,10.6s
KSH LZ
comp=Z,500nm,11.3s
FRU Bishkek 48.29 298 *e*P **P** 23 30 16.0 -1.1
VOSK Vostochnaya 48.76 312 *e*P **P** 23 30 19.3 -1.3
VOSK pmax pmax
comp=Z,6.0nm,1.0s
VOSK Vostochnaya 48.76 312 *e*P **P** 23 30 19.3 -1.3
comp=Z,6.3nm,1.0s
BRVK Borovoye 49.13 312 P **P** 23 30 24.4 +1.0
BRVK pmax pmax
comp=Z,5.0nm,0.8s
RSO Redoubt South 49.29 38 *e*P **P** 23 30 27.4 +2.7
PPLA Purkeypile 49.45 34 *e*P **P** 23 30 25.9 0.0
comp=Z,16nm,1.3s
ZRNK Zerenda 49.91 312 *e*P **P** 23 30 28.6 -0.8
ZRNK pmax pmax
comp=Z,8.0nm,1.2s
ZRNK Zerenda 49.91 312 *e*P **P** 23 30 28.6 -0.8
comp=Z,7.6nm,1.2s
KTH Kantishna Hill 50.00 34 *e*P **P** 23 30 31.7 +1.7
comp=Z,14nm,1.0s
MLY Manley 50.04 32 *e*P **P** 23 30 31.9 +1.7
comp=Z,5.8nm,0.9s
SUA Susitna One 50.20 36 *e*P **P** 23 30 33.7 +2.1
comp=Z,14nm,1.0s
COLD Coldfoot 50.24 29 *e*P **P** 23 30 34.7 +3.0
comp=Z,3.2nm,1.0s
TRF Thorofare Moun 50.29 34 *e*P **P** 23 30 33.6 +1.3
comp=Z,4.9nm,0.8s
BWN Browne 50.62 33 *e*P **P** 23 30 37.3 +2.7
comp=Z,18nm,0.8s
RC01 Rabbit Creek A 50.72 37 *e*P **P** 23 30 36.9 +1.6
comp=Z,12nm,1.0s
MCK McKinley 50.88 33 *e*P **P** 23 30 37.5 +0.9
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 50.88 33 *e*P **P** 23 30 37.5 +0.9
comp=Z,6.6nm,0.8s
RND Reindeer 50.94 34 *e*P **P** 23 30 37.1 0.0
RND pmax pmax
comp=Z,9.0nm,1.0s
RND Reindeer 50.94 34 *e*P **P** 23 30 37.1 0.0
comp=Z,8.5nm,1.0s
SEW Seward 50.96 38 *e*P **P** 23 30 41.0 +3.9
comp=Z,21nm,0.9s
PMR Palmer 50.96 36 *e*P **P** 23 30 37.2 +0.1
PMR pmax pmax
comp=Z,12nm,1.1s
PMR Palmer 50.96 36 *e*P **P** 23 30 37.2 +0.1
comp=Z,12nm,1.1s
MDM Murphy Dome 51.11 32 *e*P **P** 23 30 39.1 +0.9
comp=Z,12nm,1.1s
KKAR Karatay Array 51.12 300 *e*P **P** 23 30 38.6 -0.1
KKAR Karatay Array 51.12 300 *e*P **P** 23 30 38.6 -0.1
WRH Wood River Hil 51.20 32 *e*P **P** 23 30 40.1 +1.2
comp=Z,5.1nm,0.9s
CCB Clear Creek Bu 51.31 32 *e*P **P** 23 30 39.3 -0.4
comp=Z,3.2nm,0.9s
SML Sawmill 51.32 36 *e*P **P** 23 30 40.4 +0.5
SML pmax pmax
comp=Z,10.0nm,0.8s
SML Sawmill 51.32 36 *e*P **P** 23 30 40.4 +0.5
comp=Z,10nm,0.8s
DHY Denali Highway 51.63 34 *e*P **P** 23 30 43.2 +0.8
comp=Z,6.0nm,0.9s
IL1 Eielson Array 51.69 32 *e*P **P** 23 30 42.0 -0.6
ILAR Eielson Array 51.69 32 P **P** 23 30 42.0 -0.6
comp=Z,5.4nm,0.9s,baz=276,slow=6.2,SNR=23
ILAR Eielson Array 51.69 32 P **P** 23 30 42.0 -0.6
ILAR Eielson Array 51.69 32 P **P** 23 30 42.0 -0.6
ILB Eielson Array 51.69 32 *e*P **P** 23 30 42.0 -0.6
HDA Harding Lake 51.70 32 *e*P **P** 23 30 43.0 +0.4
comp=Z,7.1nm,0.8s
SCM Sheep Creek Mo 51.79 36 *e*P **P** 23 30 43.2 -0.3
SCM pmax pmax
comp=Z,17nm,1.2s
SCM Sheep Creek Mo 51.79 36 *e*P **P** 23 30 43.2 -0.3
comp=Z,17nm,1.2s
KLU Kiutina 52.50 36 *e*P **P** 23 30 47.9 -0.9
comp=Z,7.1nm,1.0s
BMRM Bremner River 53.21 36 *e*P **P** 23 30 55.5 +1.5
comp=Z,12nm,0.8s
MENT Mentasta 53.31 34 *e*P **P** 23 30 54.2 -0.4
comp=Z,7.1nm,0.9s
SVE Sverdlovsk 53.93 318 *e*P **P** 23 30 59.5 +0.3
EGAK Eagle 54.13 31 *e*P **P** 23 31 02.3 +1.8
comp=Z,4.9nm,0.8s
ARU Arti 55.14 318 *d i*P **P** 23 31 08.8 +0.8
ARU 23 32 07.6
ARU 23 33 13.0
ARU S **S** **23 38 52.9 +1.7**
ARU SS **SS** **23 42 34.5 -0.1**
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARU MLR MLR
comp=Z,444nm,17.0s
ARU Arti 55.14 318 *e*P **P** 23 31 07.8 -0.3
comp=Z,8.7nm,0.7s
FITZ Fitzroy Crossi 55.23 194 *e*P **P** 23 31 09.3 +0.2
comp=Z,24nm,1.7s
WRAB Tennant Creek 55.92 184 *ce*P **P** 23 31 14.4 +0.4
WRAB pmax pmax
comp=Z,19nm,1.0s
WB2 Warramunga Arr 55.93 184 *e*P **P** 23 31 12.9 -1.1
comp=Z,11nm,1.1s
WR1 Warramunga Arr 55.93 184 *e*P **P** 23 31 12.5 -1.5
comp=Z,18nm,1.4s
WRA Warramunga Arr 55.93 184 P **P** 23 31 12.5 -1.5
comp=Z,2.4nm,0.7s,baz=360,slow=7.7,SNR=22
WRA Warramunga Arr 55.93 184 *e*P **P** 23 31 12.6 -1.5
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 55.93 184 P **P** 23 31 12.5 -1.5
ABKAR Akbulak array 56.34 310 *e*P **P** 23 31 15.2 -1.5
INK Inuvik 56.40 27 *e*P **P** 23 31 17.6 +0.7
INK pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 56.40 27 *e*P **P** 23 31 17.6 +0.7
comp=Z,6.5nm,0.8s
HYT Haines Junctio 56.63 36 *e*P **P** 23 31 20.6 +1.8
comp=Z,5.0nm,0.8s
MBWA Marble Bar 59.58 200 *e*P **P** 23 31 38.5 -1.2
comp=Z,22nm,1.5s
AS01 Alice Springs 59.65 184 *e*P **P** 23 31 37.5 -2.6
AS31 Alice Springs 59.65 184 *e*P **P** 23 31 39.2 -1.0
comp=Z,1.2nm,0.8s
ASAR Alice Springs 59.65 184 P **P** 23 31 39.2 -1.0
comp=Z,2.3nm,0.8s,baz=11,slow=6.9,SNR=16
ASAR Alice Springs 59.65 184 *e*P **P** 23 31 39.3 -0.9
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 59.65 184 P **P** 23 31 39.2 -1.0
GEYT Alibeck 61.78 298 P **P** 23 31 55.0 +0.2
comp=Z,2.1nm,0.7s,baz=56,slow=3.7,SNR=8.7
KLMR Klimovskoe 62.96 327 *e*P **P** 23 32 01.9 -0.3
KLMR pmax pmax
comp=Z,6.0nm,1.0s
YKW3 Yellowknife Ar 65.88 29 *e*P **P** 23 32 21.4 +0.1
comp=Z,6.7nm,1.1s
YKA Yellowknife Ar 65.92 29 P **P** 23 32 20.6 -1.0
comp=Z,3.3nm,0.9s,baz=299,slow=6.7,SNR=17
YKA Yellowknife Ar 65.92 29 *e*P **P** 23 32 21.5 0.0
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 65.92 29 P **P** 23 32 20.6 -1.0
YKB5 Yellowknife Ar 65.92 29 *e*P **P** 23 32 20.6 -1.0
STKA Stephens Creek 67.80 177 P **P** 23 32 33.5 -0.3
comp=Z,3.3nm,0.8s,baz=341,slow=8.7,SNR=4.7
STKA Stephens Creek 67.80 177 *e*P **P** 23 32 33.5 -0.3
STKA pmax pmax
comp=Z,8.0nm,1.9s
STKA Stephens Creek 67.80 177 *e*P **P** 23 32 33.5 -0.3
comp=Z,8.4nm,1.9s
FIA1 FINESS Array S 68.23 331 *e*P **P** 23 32 37.7 +1.5
FIA0 FINESS Array S 68.24 331 *e*P **P** 23 32 36.4 +0.1
FIA0 FINESS Array S 68.24 331 *e*P **P** 23 32 36.4 +0.1
FINES FINESS Array B 68.24 331 P **P** 23 32 36.4 +0.1
comp=Z,3.2nm,0.8s,baz=66,slow=6.7,SNR=10
FINES FINESS Array B 68.24 331 P **P** 23 32 36.4 +0.1
FINES FINESS Array B 68.24 331 P **P** 23 32 36.4 +0.1
KBZ Khabaz 69.31 309 P **P** 23 32 43.1 -0.1
comp=Z,0.9nm,0.7s,baz=34,slow=6.3,SNR=3.1
KBZ Khabaz 69.31 309 *e*P **P** 23 32 43.2 -0.1
KBZ Khabaz 69.31 309 *e*P **P** 23 32 43.1 -0.1
KIV Kislovodsk 69.32 310 *e*P **P** 23 32 41.0 -2.5
KIV pmax pmax
comp=Z,6.0nm,1.1s
GNI Garni 69.94 305 ⇑P **P** 23 32 48.9 +1.4
SUMG Summit 71.50 359 *e*P **P** 23 32 56.2 -0.5
SUMG pmax pmax
comp=Z,13nm,1.1s
SUMG Summit 71.50 359 *i* P **P** 23 32 56.8 +0.1
comp=Z,11nm,1.1s
SUMG Summit 71.50 359 *e*P **P** 23 32 56.2 -0.5
comp=Z,13nm,1.1s
AKASG Malin Array Be 73.23 321 P **P** 23 33 07.6 +0.8
comp=Z,0.5nm,0.4s,baz=49,slow=5.7,SNR=5.5
AKASG Malin Array Be 73.23 321 P **P** 23 33 07.6 +0.8
AKASG Malin Array Be 73.23 321 P **P** 23 33 07.6 +0.8
AKBB Malin Array Si 73.23 321 *e*P **P** 23 33 07.6 +0.8
AKBB pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 73.23 321 *e*P **P** 23 33 07.6 +0.8
comp=Z,6.6nm,0.6s
KIEV Kiev 73.24 321 ⇑*i*P **P** 23 33 07.6 +0.7
K05A Summer Lake 73.62 49 *e*P **P** 23 33 12.9 +3.3
comp=Z,8.9nm,1.0s
NB2 NORSAR Subarra 73.85 336 P **P** 23 33 09.4 -1.0
comp=Z,10.0nm,1.1s,baz=42,slow=6.2
NB200 NORSAR Array S 73.85 336 *e*P **P** 23 33 09.8 -0.6
NOA NORSAR Array B 73.85 336 P **P** 23 33 09.8 -0.6
comp=Z,6.8nm,1.1s,baz=41,slow=5.9,SNR=6.6
NOA NORSAR Array B 73.85 336 P **P** 23 33 09.8 -0.6
NOA NORSAR Array B 73.85 336 P **P** 23 33 09.8 -0.6
NBO02 NORSAR Array S 73.96 336 *e*P **P** 23 33 15.5 +4.5
PAHR Pah Rah Range 76.28 51 *e*P **P** 23 33 25.8 +0.8
comp=Z,5.4nm,0.8s
LRM Umekiln Ridge 76.68 43 *e*P **P** 23 33 28.6 +1.4
BR101 Keskin Array S 77.29 310 *e*P **P** 23 33 31.7 +1.1
BRTR Keskin Array B 77.29 310 P **P** 23 33 31.7 +1.1
comp=Z,1.7nm,0.9s,baz=78,slow=5.9,SNR=6.3
BRTR Keskin Array B 77.29 310 P **P** 23 33 31.7 +1.1
BRTR Keskin Array B 77.29 310 P **P** 23 33 31.7 +1.1
BR231 Keskin MP Arra 77.75 310 *e*P **P** 23 33 34.5 +1.3
KOLS Kolonicke sedl 77.83 323 *e*P **P** 23 33 29.6 -3.7
KOLS Kolonicke sedl 77.83 323 *e*P **P** 23 33 29.6 -3.7
OJC Ojcow 78.15 325 *e*P **P** 23 33 37.3 +2.2
OJC Ojcow 78.15 325 *e*P **P** 23 33 37.3 +2.2
OJC pmax pmax
comp=Z,19nm,1.5s
OJC Ojcow 78.15 325 *e*P **P** 23 33 37.3 +2.2
comp=Z,19nm,1.5s
NIE Niedzica 78.46 324 *e*P **P** 23 33 40.1 +3.2
NIE Niedzica 78.46 324 *e*P **P** 23 33 40.1 +3.2
DPC Dobruska-Polom 79.65 326 *e*pP pP 23 33 48.9 +3.9
VYHS Vyhne 79.79 324 *e*P **P** 23 33 42.7 -1.5
VYHS Vyhne 79.79 324 *e*P **P** 23 33 42.7 -1.5
BW06 Boulder Array 80.23 44 *e*P **P** 23 33 46.7 -0.2
PD31 Pinedale Array 80.23 44 *e*P **P** 23 33 46.9 -0.1
PDAR Pinedale Array 80.23 44 P **P** 23 33 46.9 -0.1
comp=Z,1.7nm,0.8s,baz=298,slow=3.2,SNR=5.9
PDAR Pinedale Array 80.23 44 P **P** 23 33 46.9 -0.1
CLL Collm 80.40 329 *e*P **P** 23 33 46.0 -1.3
CLL *i* 23 33 52.4
comp=Z,12nm,1.3s
CLL Collm 80.40 329 *e*P **P** 23 33 46.0 -1.3
CLL *i* 23 33 52.4
GOPC GO Pecny, Ondr 80.65 327 *e*pP pP 23 33 54.4 +4.0
GOPC GO Pecny, Ondr 80.65 327 *e*P pP 23 33 54.4 +4.0
CONA Conrad Observa 81.60 325 *i* PcP **PcP** 23 34 00.2 +0.3
comp=Z,5.6nm,1.4s
KHC Kasperske Hory 81.76 327 *e*P **P** 23 33 56.5 +1.8
KHC *e*pP **PcP** 23 34 00.2 -0.3
KHC Kasperske Hory 81.76 327 *e*P **P** 23 33 56.5 +1.8
KHC *e* 23 34 00.2
GERES GERESS Array B 81.92 327 P **P** 23 33 55.0 -0.6
comp=Z,0.5nm,0.8s,baz=43,slow=4.4,SNR=3.7
GERES GERESS Array B 81.92 327 P **P** 23 33 55.0 -0.6
GERES GERESS Array B 81.92 327 P **P** 23 33 55.0 -0.6
OBKA Obir 83.25 325 *i* P **P** 23 34 02.0 -0.5
comp=Z,3.8nm,1.0s
PV05 Paradox Valley 83.57 47 *e*P **P** 23 34 08.1 +3.5
APE Apeiranthos 83.91 312 P **P** 23 34 04.8 -1.3
113A Mohawk Valley, 84.10 54 *e*P **P** 23 34 09.1 +2.0
comp=Z,5.5nm,0.3s
RETA Reutte 84.24 327 *i* pP pP 23 34 09.2 0.0
comp=Z,4.7nm,0.8s
S22A 4UR Ranch, Cre 85.12 46 *e*P **P** 23 34 13.8 +1.2
comp=Z,3.5nm,0.9s
SDCO Great Sand Dun 85.89 45 *e*P **P** 23 34 16.0 -0.4
comp=Z,7.4nm,1.1s
ANMO Albuquerque 87.25 48 ⇓P **P** 23 34 22.9 -0.1
LTX Lajitas 92.83 50 *e*P **P** 23 34 48.3 -0.8
LTX Lajitas 92.83 50 *e*P **P** 23 34 48.3 -0.8
TXAR Lajitas Array 92.83 50 P **P** 23 34 48.3 -0.8
comp=Z,0.6nm,0.7s,baz=311,slow=4.1,SNR=6.2
TXAR Lajitas Array 92.83 50 *e*P **P** 23 34 49.7 +0.6
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 92.83 50 P **P** 23 34 48.3 -0.8
CASY Casey 104.30 191 *e*Pdif **Pdif** 23 35 34.2 -5.3
LPAZ La Paz 149.51 56 PKPbc **PKPbc** 23 41 27.8 +1.2
comp=Z,1.9nm,0.8s,baz=292,slow=5.4,SNR=4.1
LPAZ La Paz 149.51 56 *e*PKP2 **PKPbc** 23 41 27.8 +1.2
LPAZ La Paz 149.51 56 *e*PKPbc **PKPbc** 23 41 27.8 +1.2

DDA ***29*** *23:27:49.4, 39.40N×33.23E, h3km, Ml3.6*
ISK ***29*** *23:27:49.2, 39.40N×33.22E, h5km, ML3.5*
CSEM ***29*** *23:27:50.6±0.1, 39.39N×33.20E, h2km, ML3.5, Error ellipse: s-maj=3.0km s-min=2.6km az=21.0*
ISC 29 23:27:49.9±1.1, **39.39N**±0.02×**33.23E**±0.02, **h2**km±10km, **n149**, σ1**s27**/181, **5C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFSR	**Afʿar-Bala (A**	**0.14**	**296**	*e*PG		**Pg**	**23 27 52.1**	**-0.5**
AFSR	**Afʿar-Bala (A**	**0.14**	**296**	*e*Pg		**Pg**	**23 27 52.1**	**-0.5**
BBAL	**Bala**	**0.18**	**332**	P		**Pg**	**23 27 53.2**	**-0.1**
BBAL				S		**Sg**	**23 27 56.3**	**+0.6**
BBAL	**Bala**	**0.18**	**332**	*i* P		**Pg**	**23 27 53.2**	**-0.1**
BBAL				*i* S		**Sg**	**23 27 56.3**	**+0.6**
KKUL	**Konya-Kulu**	**0.33**	**229**	P		**Pg**	**23 27 55.8**	**-0.4**
KKUL				S		**Sg**	**23 28 01.0**	**+0.6**
KKUL	**Konya-Kulu**	**0.33**	**229**	*i* P		**Pg**	**23 27 55.8**	**-0.4**
KKUL				*i* S		**Sg**	**23 28 01.0**	**+0.6**
KAMT	**Kaman**	**0.37**	**93**	*e*PG		**Pg**	**23 27 57.2**	**+0.1**
KAMT				*e*SG		**Sb**	**23 28 03.6**	**-2.1**
KAMT	**Kaman**	**0.37**	**93**	*e*Pg		**Pg**	**23 27 57.2**	**+0.1**
KAMT				*e*Sg		**Sb**	**23 28 03.6**	**-2.1**
SERE	**Sereflikochisa**	**0.51**	**149**	*e*PG		**Pg**	**23 27 60.0**	**+0.3**
SERE				*e*SG		**Sb**	**23 28 08.8**	**-0.8**
SERE	**Sereflikochisa**	**0.51**	**149**	*e*Pg		**Pg**	**23 28 00.0**	**+0.3**
SERE				*e*Sg		**Sb**	**23 28 08.8**	**-0.8**
LOD	**Lodumlu**	**0.62**	**324**	*e*PG		**Pg**	**23 28 01.5**	**-0.3**
LOD	**Lodumlu**	**0.62**	**324**	*e*Pg		**Pg**	**23 28 01.5**	**-0.3**

AKSY	AKSARAY - Alti	0.84	151	P	Pg	23 28 05.2	-0.8
AKSY				S	Sb	23 28 18.9	-0.3
AKSY	AKSARAY - Alti	0.84	151	*i* P	Pg	23 28 05.2	-0.8
AKSY				*i* S	Sb	23 28 18.9	-0.3
CHBY	Cihanbeyli	0.85	198	*e*PG	Pb	23 28 06.4	-1.0
CHBY				*e*SG	Sn	23 28 20.3	-1.7
CHBY	Cihanbeyli	0.85	198	*e*Pg	Pb	23 28 06.4	-1.0
CHBY				*e*Sg	Sn	23 28 20.3	-1.7
CDAG	Cicekdag	0.91	75	P	Pg	23 28 06.7	-0.7
CDAG				S	Sb	23 28 20.1	-1.1
CDAG	Cicekdag	0.91	75	*i* P	Pg	23 28 06.7	-0.7
CDAG				*i* S	Sb	23 28 20.1	-1.1
ELDT	Eldivan	1.11	8	P	Pb	23 28 11.1	-0.9
ELDT				S	Sn	23 28 29.9	+1.1
ELDT	Eldivan	1.11	8	*i* P	Pb	23 28 11.1	-0.9
ELDT				*i* S	Sn	23 28 29.9	+1.1
KIZT	Kizilcal	1.17	245	*e*PN	Pb	23 28 12.2	-0.7
KIZT	Kizilcal	1.17	245	*e*Pn	Pb	23 28 12.2	-0.7
SULT	Sultanhani-AKS	1.21	169	*e*PN	Pb	23 28 13.5	-0.4
SULT	Sultanhani-AKS	1.21	169	*e*Pn	Pn	23 28 13.5	-0.4
KDHN	Kadinhani	1.23	226	P	Pg	23 28 12.5	-0.9
KDHN				S	Sn	23 28 30.5	-0.9
KDHN	Kadinhani	1.23	226	*i* P	Pg	23 28 12.5	-0.9
KDHN				*i* S	Sn	23 28 30.5	-0.9
CANT	Cankiri	1.25	14	*e*PN	Pn	23 28 14.9	+0.3
SVRH	Sivrihisar-ESK	1.32	273	*e*PN	Pb	23 28 15.3	-0.3
SVRH	Sivrihisar-ESK	1.32	273	*e*Pn	Pb	23 28 15.3	-0.3
CORM	Corum	1.34	53	*e*PN	Pg	23 28 15.1	-0.4
CORM	Corum	1.34	53	*e*Pn	Pg	23 28 15.1	-0.4
LADK	Ladik-KONYA	1.36	210	*e*PN	Pb	23 28 15.9	-0.4
LADK	Ladik-KONYA	1.36	210	*e*Pn	Pb	23 28 15.9	-0.4
AVNS	Nevsehir-Avano	1.38	114	P	Pg	23 28 16.9	+0.5
AVNS				S	Sn	23 28 37.7	+2.4
AVNS	Nevsehir-Avano	1.38	114	*i* P	Pg	23 28 16.9	+0.5
AVNS				*i* S	Sn	23 28 37.7	+2.4
KONT	Konya--Tatoy	1.59	206	*e*PN	Pb	23 28 19.5	-0.6
KONT	Konya--Tatoy	1.59	206	*e*Pn	Pb	23 28 19.5	-0.6
COAL	Corum-Alaca	1.60	57	P	Pb	23 28 19.6	-0.8
COAL				S	Sg	23 28 42.2	+0.7
COAL	Corum-Alaca	1.60	57	*i* P	Pb	23 28 19.6	-0.8
COAL				*i* S	Sg	23 28 42.2	+0.7
YOZ	Yozgat	1.64	80	*e*PN	Pg	23 28 21.2	0.0
YOZ	Yozgat	1.64	80	*e*Pn	Pg	23 28 21.2	0.0
NIG	Nigde	1.67	139	*e*PN	Pg	23 28 21.9	0.0
NIG	Nigde	1.67	139	*e*Pn	Pg	23 28 21.9	0.0
ILGA	Ilgaz	1.71	12	P	Pb	23 28 21.5	-0.6
ILGA				S	Sg	23 28 46.1	+1.4
ILGA	Ilgaz	1.71	12	*i* P	Pb	23 28 21.5	-0.6
ILGA				*i* S	Sg	23 28 46.1	+1.4
CTAK	Corum_Osmancik	1.74	43	P	Pb	23 28 21.8	-0.9
CTAK				S	Sg	23 28 46.1	+0.3
CTAK	Corum_Osmancik	1.74	43	*i* P	Pb	23 28 21.8	-0.9
CTAK				*i* S	Sg	23 28 46.1	+0.3
KMER	Konya-Meram	1.75	203	P	Pn	23 28 20.6	-0.8
KMER				S	Sg	23 28 48.7	+2.5
KMER	Konya-Meram	1.75	203	*i* P	Pn	23 28 20.6	-0.8
KMER				*i* S	Sg	23 28 48.7	+2.5
TOS	Tosya	1.75	20	*e*PN	Pb	23 28 21.5	-1.4
TOS	Tosya	1.75	20	*e*Pn	Pb	23 28 21.5	-1.4
ESKT	Eskisehir	1.85	275	*e*PN	Pb	23 28 23.0	-1.5
ESKT	Eskisehir	1.85	275	*e*Pn	Pb	23 28 23.0	-1.5
SAFT	Safranbolu	1.90	347	*e*PN	Pb	23 28 24.2	-1.1
SAFT	Safranbolu	1.90	347	*e*Pn	Pb	23 28 24.2	-1.1
MDUB	Mudurnu	1.90	305	*e*PN	Pb	23 28 23.6	-1.8
MDUB	Mudurnu	1.90	305	*e*Pn	Pb	23 28 23.6	-1.8
BTAS	Taskesti	2.08	305	P	Pb	23 28 27.6	-0.9
BTAS	Taskesti	2.08	305	*i* P	Pb	23 28 27.6	-0.9
BTAS				*i* S	Sg	23 29 00.3	+3.5
KERG	Konya-Eregli	2.09	160	P	Pb	23 28 28.9	+0.2
KERG	Konya-Eregli	2.09	160	*i* P	Pb	23 28 28.9	+0.2
BNN	Bunyan	2.10	104	*e*PN	Pb	23 28 27.8	-1.0
BNN	Bunyan	2.10	104	*e*Pn	Pb	23 28 27.8	-1.0
YAHY	KAYSERI_Yahyal	2.11	127	P	Pn	23 28 27.1	+0.7
YAHY				S	Sg	23 28 57.7	+0.1
YAHY	KAYSERI_Yahyal	2.11	127	*i* P	Pn	23 28 27.1	+0.7
YAHY				*i* S	Sg	23 28 57.7	+0.1
BORA	Eskisehir	2.20	284	P	Pn	23 28 26.6	-1.0
BORA	Eskisehir	2.20	284	*i* P	Pn	23 28 26.6	-1.0
CUSAR	Sarkisla-SIVAS	2.33	88	P	Pb	23 28 32.2	-0.6
CUSAR	Sarkisla-SIVAS	2.33	88	*i* P	Pb	23 28 32.1	-0.6
CUSAR				*i* S	Sg	23 29 05.5	+0.6
GULT	Gulveren	2.34	297	*e*PN	Pn	23 28 29.9	+0.4
GULT	Gulveren	2.34	297	*e*Pn	Pn	23 28 29.9	+0.4
SAHE	Sakarya_HENDEK	2.34	310	P	Pn	23 28 29.1	-0.3
SAHE	Sakarya_HENDEK	2.34	310	*i* P	Pn	23 28 29.1	-0.3
KDZE	Karadeniz Ereo	2.36	325	*e*PN	Pb	23 28 30.8	-2.4
KDZE	Karadeniz Ereo	2.36	325	*e*Pn	Pb	23 28 30.8	-2.4
BYBT	Boyabat	2.39	29	*e*PN	Pb	23 28 31.4	-2.2
BYBT	Boyabat	2.39	29	*e*Pn	Pb	23 28 31.4	-2.2
GULE	Gulek	2.42	149	P	Pg	23 28 36.9	+0.5
GULE	Gulek	2.42	149	*i* P	Pg	23 28 36.9	+0.5
KARA	Karaisali	2.56	145	*e*PN	Pb	23 28 34.1	-2.5
KARA	Karaisali	2.56	145	*e*Pn	Pb	23 28 34.1	-2.5
PINB	Pinarbasi	2.57	105	*i* P	Pg	23 28 39.6	+0.5
AKO	Adana	2.59	137	*i* P	Pn	23 28 34.0	+1.1
AKO				*i* S	Sb	23 29 10.7	+1.3
BZK	Bozkurt	2.64	13	*e*PN	Pn	23 28 34.2	+0.7
BZK	Bozkurt	2.64	13	*e*Pn	Pn	23 28 34.2	+0.7
SARI	SarD1z-Kayseri	2.67	110	*e*PN	Pb	23 28 36.2	-2.4
MERS	Mersin	2.71	158	*e*PN	Pb	23 28 36.5	-2.7
MERS	Mersin	2.71	158	*e*Pn	Pb	23 28 36.5	-2.7
TOKT	Tokat	2.71	69	*e*PN	Pb	23 28 36.6	-2.7
TOKT	Tokat	2.71	69	*e*Pn	Pb	23 28 36.6	-2.7
CAVI	Cavuskoy	2.73	288	*e*PN	Pn	23 28 35.9	+1.0
CAVI	Cavuskoy	2.73	288	*e*Pn	Pn	23 28 35.9	+1.0
CUALT	Altinyayla-SIV	2.74	91	P	Pn	23 28 36.7	+1.6
CUALT	Altinyayla-SIV	2.74	91	*i* P	Pn	23 28 36.7	+1.6
CUALT				*i* S	Sg	23 29 17.2	-0.6
KVT	Kavak	2.74	51	*e*PN	Pb	23 28 36.8	-2.9
KVT	Kavak	2.74	51	*e*Pn	Pb	23 28 36.8	-2.9
ERMK	Ermenek	2.75	185	P	Pn	23 28 35.5	+0.2
ERMK	Ermenek	2.75	185	*i* P	Pn	23 28 35.5	+0.2
KOZT	Kozan	2.79	132	*e*PN	Pn	23 28 37.2	+1.6
KOZT	Kozan	2.79	132	*e*Pn	Pn	23 28 37.2	+1.6
ADVT	Abdulvahap	2.88	292	*e*PN	Pn	23 28 38.0	+1.1
ADVT	Abdulvahap	2.88	292	*e*Pn	Pn	23 28 38.0	+1.1
TVSB	Tavsanli	2.92	272	*e*PN	Pn	23 28 38.6	+1.1
TVSB	Tavsanli	2.92	272	*e*Pn	Pn	23 28 38.6	+1.1
GEDZ	Gediz	2.99	265	*e*PN	Pn	23 28 39.4	+1.0
GEDZ	Gediz	2.99	265	*e*Pn	Pn	23 28 39.4	+1.0
SNOP	Sinop	3.03	29	*e*PN	Pn	23 28 40.4	+1.5
SNOP	Sinop	3.03	29	*e*Pn	Pn	23 28 40.4	+1.5
IZI	Iznik	3.04	289	*e*PN	Pn	23 28 40.4	+1.2
IZI	Iznik	3.04	289	*e*Pn	Pn	23 28 40.4	+1.2
KHL	Karahalli	3.08	251	*e*PN	Pn	23 28 41.0	+1.2
KHL	Karahalli	3.08	251	*e*Pn	Pn	23 28 41.0	+1.2
HRT	Hereke	3.09	299	*e*PN	Pn	23 28 41.2	+1.5
HRT	Hereke	3.09	299	*e*Pn	Pn	23 28 41.3	+1.5
CEYT	Ceyhan	3.09	139	*e*PN	Pn	23 28 41.2	+1.5
CEYT	Ceyhan	3.09	139	*e*Pn	Pn	23 28 41.3	+1.5
YURE	YUREGIR	3.18	143	*i* P	Pg	23 28 51.0	+0.1
ANTB	Antalya	3.21	220	*e*PN	Pn	23 28 42.8	+1.4
ANTB	Antalya	3.21	220	*e*Pn	Pn	23 28 42.8	+1.4
SILT	Sile	3.26	304	*e*PN	Pn	23 28 43.3	+1.2
SILT	Sile	3.26	304	*e*Pn	Pn	23 28 43.3	+1.2
CUKAN	kangal_SIVAS	3.28	90	P	Pn	23 28 44.2	+1.6
CUKAN	kangal_SIVAS	3.28	90	*i* P	Pn	23 28 44.2	+1.6
DARE	Darende-Malaty	3.41	102	*e*PN	Pn	23 28 46.0	+1.7
DARE	Darende-Malaty	3.41	102	*e*Pn	Pn	23 28 46.0	+1.7
KMRS	Kahramanmaras	3.44	122	*e*PN	Pn	23 28 46.7	+2.1
KMRS	Kahramanmaras	3.44	122	*e*Pn	Pn	23 28 46.7	+2.1
ARMT	Armutlu	3.56	291	*e*PN	Pn	23 28 47.2	+1.0
ARMT	Armutlu	3.56	291	*e*Pn	Pn	23 28 47.2	+1.0
GOLH	Golhisar	3.60	235	P	Pn	23 28 47.3	+0.5
GOLH	Golhisar	3.60	235	*i* P	Pn	23 28 47.3	+0.5
ISK	Istanbul-Kandi	3.61	299	*e*PN	Pn	23 28 48.1	+1.3
ISK	Istanbul-Kandi	3.61	299	*e*Pn	Pn	23 28 48.1	+1.3
KULA	Kula-Manisa	3.67	258	*e*PN	Pn	23 28 49.0	+1.2
KULA	Kula-Manisa	3.67	258	*e*Pn	Pn	23 28 49.0	+1.2
KLYT	Kilyos	3.71	302	*e*PN	Pn	23 28 49.3	+1.1
KLYT	Kilyos	3.71	302	*e*Pn	Pn	23 28 49.3	+1.1
AKCD	Akcadag	3.82	105	*i* P	Pg	23 29 02.1	-1.0
CFR	Carcaliu	6.91	329	*i* P	Pb	23 29 44.5	-6.2
HUMR	Humele	8.01	313	*i* P	Pn	23 29 47.8	+0.5
HUMR	Humele	8.01	313	*i* P	Pn	23 29 47.8	+0.5
PLOR	Plostina	8.08	325	*i* P	Pb	23 30 13.2	+2.6
DOPR	Dopca	8.75	321	*i* P	Pn	23 30 04.8	+7.3
SRE	Strehaia	9.13	308	*i* P	Pn	23 30 03.8	+1.1
SRE	Strehaia	9.13	308	*i* P	Pn	23 30 03.8	+1.1
LOT	Lotru	9.25	314	*i* P	Pn	23 30 04.4	0.0
LOT	Lotru	9.25	314	*i* P	Pn	23 30 04.4	0.0
SORM	Soroca	9.43	340	*i* P	Pn	23 30 06.6	-0.1
SORM	Soroca	9.43	340	*i* P	Pn	23 30 06.6	-0.1

IDC 29 23:37:23.1±2.1, 6.66S×130.42E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/34, mbtmp3.5/4, ML3.3/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/15, Error ellipse: s-maj=80.3km s-min=25.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.29	202	Pn	Pn	23 40 19.4	-0.1
	0.1nm,0.3s,baz=28,slow=17,SNR=5.9						
FITZ				Sn	Sn	23 42 31.0	-6.4
	0.8nm,0.3s,baz=184,slow=12,SNR=9.7						
WRA	Warramunga Arr	13.74	164	Pn	Pn	23 40 40.3	+0.9
	0.1nm,0.3s,baz=347,slow=12,SNR=9.6						
WRA				Sn	Sn	23 43 12.6	-0.3
	0.3nm,0.3s,baz=345,slow=22,SNR=5.9						
ASAR	Alice Springs	17.24	169	P	Pn	23 41 25.4	-0.1
	0.4nm,0.3s,baz=346,slow=9.5,SNR=21						
NWAO	Narrogin (SRO)	28.87	203	LR	LR	23 55 54.6	
	comp=Z,166nm,19.1s,baz=190,slow=38						
MKAR	Makanchi Array	68.17	327	P	P	23 48 25.3	0.0
	0.1nm,0.3s,baz=132,slow=6.3,SNR=3.1						

IDC 29 23:42:24.5±4.3, 27.41S×66.62E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/38, mbtmp3.7/4, Error ellipse: s-maj=155.2km s-min=36.2km az=47.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	Diego Garcia H	20.43	17	T	T	00 07 55.2	
	baz=201						
H08S2	Diego Garcia H	20.44	17	T	T	00 07 56.3	
	baz=201						
H08S3	Diego Garcia H	20.45	17	T	T	00 08 01.6	
	baz=201						
ASAR	Alice Springs	60.17	103	P	P	23 52 34.4	0.0
	0.9nm,0.7s,baz=254,slow=6.4,SNR=8.8						
WRA	Warramunga Arr	61.82	99	P	P	23 52 45.6	-0.1
	1.3nm,0.8s,baz=248,slow=6.4,SNR=5.3						
MKAR	Makanchi Array	75.21	11	P	P	23 54 08.1	-0.6
	0.1nm,0.4s,baz=186,slow=5.8,SNR=3.5						
ZALV	Zalesovo Beam	82.54	11	P	P	23 54 49.4	+0.7
	0.7nm,0.7s,baz=206,slow=6.3,SNR=3.4						
YKA	Yellowknife Ar	144.91	1	PKP	PKPbc	00 02 02.1	0.0
	0.5nm,0.8s,baz=346,slow=3.4,SNR=5.9						

IDC 29 23:53:04.0±2.3, 32.47N×95.59E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.4/28, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=69.3km s-min=36.4km az=78.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	14.28	167	Pn	Pn	23 56 27.6	+0.1
	baz=341,slow=13,SNR=3.1						
SONM	Songino Array	17.40	25	P	Pn	23 57 08.2	0.0
	0.2nm,0.3s,baz=207,slow=12,SNR=7.5						
MKAR	Makanchi Array	17.56	328	P	Pn	23 57 10.4	+0.3
	0.1nm,0.3s,baz=132,slow=14,SNR=2.3						
ZALV	Zalesovo Beam	22.81	343	P	P	23 58 08.2	0.0
	0.4nm,0.4s,baz=159,slow=8.9,SNR=4.6						
ARCES	ARCESS Array B	53.03	336	P	P	00 02 22.4	+0.1
	0.7nm,0.8s,baz=93,slow=7.3,SNR=3.8						
NOA	NORSAR Array B	59.53	326	P	P	00 03 08.6	-0.3
	0.2nm,0.5s,baz=78,slow=6.8,SNR=2.3						

*DDA **30** 00:32:48.5, 39.15N×28.95E, h33km, Md2.7*
*ISK **30** 00:32:49.8, 39.13N×28.99E, h6km, MD2.5*
*ISCJB **30** 00:32:50.6±0.7, 39.10N±0.06×29.04E±0.05, h9km, Error ellipse: s-maj=8.8km s-min=4.2km az=150.6*
*CSEM **30** 00:32:50.7±0.1, 39.11N×29.03E, h5km, MD2.5, Error ellipse: s-maj=4.8km s-min=2.3km az=146.0*

ISC 30 00:32:50.9±1.3, 39.11N±0.04×29.04E±0.03, h9km, n10, σ0629/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	Demirci	0.26	256	P	Pg	00 32 56.3	+0.1
DEMI				S	Sg	00 32 59.8	+0.1
DEMI	Demirci	0.26	256	*i* P	Pg	00 32 56.3	+0.1
DEMI				*i* S	Sg	00 32 59.8	+0.1
GEDZ	Gediz	0.29	102	*e*PG	Pg	00 32 57.1	+0.4
GEDZ	Gediz	0.29	102	*e*Pg	Pg	00 32 57.2	+0.4
GDZ	Gediz	0.34	93	P	Pg	00 32 57.4	-0.3
GDZ				S	Sg	00 33 02.4	+0.1
GDZ	Gediz	0.34	93	*i* P	Pg	00 32 57.4	-0.3
GDZ				*i* S	Sg	00 33 02.4	+0.1
TVSB	Tavsanli	0.47	44	*e*PG	Pg	00 32 59.8	-0.4
TVSB				*e*SG	Sg	00 33 06.8	+0.4
TVSB	Tavsanli	0.47	44	*e*Pg	Pg	00 32 59.8	-0.4
TVSB				*e*Sg	Sg	00 33 06.8	+0.4
KULA	Kula-Manisa	0.66	207	*e*PG	Pg	00 33 03.4	-0.3
KULA				*e*SG	Sg	00 33 12.4	0.0
KULA	Kula-Manisa	0.66	207	*e*Pg	Pg	00 33 03.4	-0.3
KULA				*e*Sg	Sg	00 33 12.4	0.0

*ISCJB **30** 00:38:03.0±0.4, 39.24N±0.01×20.56E±0.03, h3km±4km, mb3.4/3, Error ellipse: s-maj=4.0km s-min=2.2km az=160.0*
*CSEM **30** 00:38:03.4±0.2, 39.23N×20.54E, h5km, ML3.0, Error ellipse: s-maj=5.3km s-min=2.9km az=63.0*
*ATH **30** 00:38:03.1, 39.23N×20.60E, h10km±1km, ML2.9/16, Error ellipse: s-maj=1.5km s-min=0.7km az=259.0*
*THE **30** 00:38:03.4, 39.24N×20.61E, h3km, ML3.0/18, Error ellipse: s-maj=0.9km s-min=0.3km az=258.0*
*IDC **30** 00:38:33.2±59.0, 41.88N×24.38E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.1/34, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=1079.0km s-min=60.8km az=45.0*

ISC 30 00:38:03.4±1.0, 39.23N±0.01×20.58E±0.02, h8km±7km, n168, σ1$26/212, mb3.5/3, 6C-8D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	Igoumenitsa	0.36	327	P	Pg	00 38 10.2	-0.1
IGT				S	Sg	00 38 15.5	+0.4
IGT	Igoumenitsa	0.36	327	P	Pg	00 38 10.3	-0.1
IGT				S	Sg	00 38 15.5	+0.4
IGT	Igoumenitsa	0.36	327	P	Pg	00 38 10.3	-0.1
IGT				S	Sg	00 38 15.5	+0.4
IGT				AML	AML	00 38 17.9	
	comp=N,3539μm,0.5s						
IGT				AML	AML	00 38 20.0	
	comp=E,5073μm,0.3s						
DSL	Palaion Diasel	0.41	104	P	Pg	00 38 10.6	-0.8
DSL				S	Sg	00 38 16.5	-0.3
DSL	Palaion Diasel	0.41	104	P	Pg	00 38 10.6	-0.8
DSL				S	Sg	00 38 16.5	-0.3
DSL	Palaion Diasel	0.41	104	P	Pg	00 38 10.3	-1.1
DSL				S	Sg	00 38 17.1	+0.2
DSL				AML	AML	00 38 20.7	
	comp=N,5895μm,0.3s						
DSL				AML	AML	00 38 25.1	
	comp=E,5053μm,0.3s						
LKD2	Lefkada island	0.45	172	P	Pg	00 38 12.2	+0.1
LKD2				S	Sg	00 38 19.5	+1.5
LKD2	Lefkada island	0.45	172	P	Pg	00 38 12.2	+0.1
LKD2				S	Sg	00 38 17.1	-0.9
LKD2	Lefkada island	0.45	172	P	Pg	00 38 13.0	+0.9
LKD2				S	Sg	00 38 17.1	-0.9
SGD	Sagiada	0.47	325	P	Pg	00 38 12.1	-0.3
SGD				S	Sg	00 38 19.0	+0.5
SGD	Sagiada	0.47	325	P	Pg	00 38 12.2	-0.2
SGD				S	Sg	00 38 19.0	+0.5
SGD	Sagiada	0.47	325	P	Pg	00 38 12.5	+0.1
SGD				S	Sb	00 38 20.5	-0.3
JAN	Janina	0.47	26	P	Pg	00 38 11.6	-0.9
JAN				S	Sg	00 38 18.7	0.0
JAN	Janina	0.47	26	P	Pg	00 38 12.1	-0.4
JAN				S	Sg	00 38 18.9	+0.2
JAN	Janina	0.47	26	AML	AML	00 38 20.9	
	comp=E,5187μm,0.4s						
KEK	Kerkira	0.77	308	P	Pg	00 38 18.0	-0.2
KEK				S	Sb	00 38 30.1	+0.4
KEK	Kerkira	0.77	308	P	Pg	00 38 18.1	-0.2
KEK				S	Sg	00 38 29.3	+1.0
PDO	Prodromos	0.79	143	P	Pg	00 38 18.1	-0.5
PDO				S	Sg	00 38 29.4	+0.6
PDO	Prodromos	0.79	143	P	Pg	00 38 18.1	-0.5
PDO				S	Sg	00 38 29.4	+0.6
PDO	Prodromos	0.79	143	P	Pg	00 38 18.8	+0.3
PDO				S	Sb	00 38 30.6	+0.5
PDO				AML	AML	00 38 34.1	
	comp=N,3253μm,0.4s						
PDO				AML	AML	00 38 34.4	
	comp=E,2591μm,0.5s						
KPRO	Kipourio	0.94	40	P	Pg	00 38 20.5	-1.0
KPRO				S	Sb	00 38 34.7	+0.1
KPRO	Kipourio	0.94	40	P	Pg	00 38 20.5	-1.0
KPRO				S	Sb	00 38 34.7	+0.1
KPRO	Kipourio	0.94	40	P	Pg	00 38 20.0	-1.5
PVO	Paravola	0.96	130	P	Pg	00 38 21.1	-0.7
PVO				S	Sb	00 38 35.0	-0.1
PVO	Paravola	0.96	130	P	Pg	00 38 21.1	-0.7
PVO				S	Sb	00 38 35.0	-0.1
PVO	Paravola	0.96	130	P	Pg	00 38 21.8	0.0
EVR	Evrytania	1.00	108	P	Pg	00 38 21.8	-0.9
EVR				S	Sb	00 38 36.1	-0.4
EVR	Evrytania	1.00	108	P	Pg	00 38 21.8	-0.9
EVR				S	Sb	00 38 36.1	-0.4
EVR	Evrytania	1.00	108	P	Pg	00 38 21.4	-1.3
EVR				AML	AML	00 38 46.6	
	comp=N,789μm,0.7s						
PENT	Pentalofos	1.05	24	P	Pg	00 38 22.6	-1.0
PENT				S	Sb	00 38 37.7	-0.2
PENT	Pentalofos	1.05	24	P	Pg	00 38 22.6	-1.0
PENT				S	Sb	00 38 37.7	-0.2
PENT	Pentalofos	1.05	24	P	Pg	00 38 22.3	-1.3
VLS	Valsamata	1.05	180	P	Pg	00 38 22.9	-0.7
VLS				S	Sb	00 38 38.9	+1.1
VLS	Valsamata	1.05	180	P	Pg	00 38 22.5	-1.1
KFL	Anninata	1.13	172	P	Pg	00 38 24.2	-1.0
KFL				S	Sn	00 38 41.7	+0.4
KFL	Anninata	1.13	172	P	Pg	00 38 24.2	-1.0
KFL	Anninata	1.13	172	P	Pg	00 38 23.8	-1.3
THL	Klokotos Trika	1.16	73	P	Pg	00 38 24.1	-1.5
THL				S	Sn	00 38 41.4	-0.4
THL	Klokotos Trika	1.16	73	P	Pg	00 38 24.5	-1.1
THL				S	Sn	00 38 41.4	-0.4
AXS	Araxos	1.21	149	P	Pg	00 38 25.0	-1.6
AXS	Araxos	1.21	149	P	Pg	00 38 25.0	-1.6
ANX	Ano Chora	1.22	121	P	Pg	00 38 25.9	-1.0
ANX				S	Sn	00 38 44.3	+0.7
ANX	Ano Chora	1.22	121	P	Pg	00 38 26.1	-0.8
ANX				S	Sn	00 38 44.3	+0.7
ANX	Ano Chora	1.22	121	AML	AML	00 38 49.2	
	comp=N,1194μm,0.4s						
ANX				AML	AML	00 38 50.7	
	comp=E,1194μm,0.6s						
NEST	Nestorio	1.23	17	P	Pg	00 38 26.0	-1.0
NEST				S	Sn	00 38 43.9	0.0
NEST	Nestorio	1.23	17	P	Pg	00 38 26.1	-1.0
NEST				S	Sn	00 38 43.9	0.0
NEST	Nestorio	1.23	17	P	Pg	00 38 26.1	-0.9
NEST				AML	AML	00 38 51.2	
	comp=E,714μm,0.6s						
NEST				AML	AML	00 38 55.2	
	comp=N,625μm,0.4s						
EFP	Efpalio	1.31	128	P	Pn	00 38 27.5	-0.4
EFP				S	Sn	00 38 46.2	+0.6
EFP	Efpalio	1.31	128	P	Pn	00 38 27.5	-0.4
EFP				S	Sn	00 38 46.2	+0.6
EFP	Efpalio	1.31	128	P	Pg	00 38 29.4	+0.9
UPR	University Cam	1.34	135	P	Pg	00 38 29.2	+0.2
UPR	University Cam	1.34	135	P	Pg	00 38 29.2	+0.2
RLS	Riolos of Patr	1.36	149	P	Pn	00 38 27.7	-1.0
RLS	Riolos of Patr	1.36	149	P	Pn	00 38 27.7	-1.0
AGG	Agios Georgios	1.38	98	P	Pn	00 38 28.1	-0.8
AGG				S	Sn	00 38 47.7	+0.4
AGG	Agios Georgios	1.38	98	P	Pn	00 38 28.1	-0.8
AGG				S	Sn	00 38 47.7	+0.4
AGG	Agios Georgios	1.38	98	P	Pn

TIR	Tirane	2.18	346	⇓*i*P	Pb	00 38 42.0	-1.1
TIR	Tirane	2.18	346	⇓*i*P	Pb	00 38 42.0	-1.1
GRG	Griva	2.21	38	P	Pb	00 38 42.6	-1.1
GRG	Griva	2.21	38	P	Pb	00 38 42.6	-1.1
LTK	Loutraki	2.23	122	P	Pb	00 38 43.4	-0.4
LTK	Loutraki	2.23	122	P	Pb	00 38 43.4	-0.4
SKIA	Skiathos	2.24	91	P	Pb	00 38 44.0	-0.1
SKIA	Skiathos	2.24	91	P	Pb	00 38 44.0	-0.1
ITM	Ithomi	2.31	152	P	Pb	00 38 45.7	+0.5
ITM	Ithomi	2.31	152	P	Pb	00 38 45.7	+0.5
VIL2	Platees	2.33	115	P	Pn	00 38 42.8	+0.7
VLX	Vlachokerasia	2.34	142	P	Pn	00 38 44.0	+1.8
VLX	Vlachokerasia	2.34	142	P	Pn	00 38 44.0	+1.8
VILL	Villia	2.39	116	P	Pn	00 38 42.8	0.0
PLG	Polygyros	2.48	62	P	Pn	00 38 45.2	+1.1
PLG	Polygyros	2.48	62	P	Pn	00 38 45.2	+1.1
PAIG	Paliouri	2.49	73	P	Pn	00 38 43.1	-1.1
PAIG	Paliouri	2.49	73	P	Pn	00 38 43.1	-1.1
PYL	PYLOS	2.51	158	P	Pn	00 38 46.4	+2.0
PYL	PYLOS	2.51	158	P	Pn	00 38 46.4	+2.0
AOS	Alonnisos	2.56	90	P	Pn	00 38 46.5	+1.3
AOS	Alonnisos	2.56	90	P	Pn	00 38 46.5	+1.3
SOH	Sokhos	2.65	52	P	Pn	00 38 48.2	+1.7
SOH	Sokhos	2.65	52	P	Pn	00 38 48.2	+1.7
DID	Didima	2.71	129	P	Pn	00 38 48.9	+1.7
DID	Didima	2.71	129	P	Pn	00 38 48.9	+1.7
EREA	Eretria	2.74	106	P	Pn	00 38 48.9	+1.3
EREA	Eretria	2.74	106	P	Pn	00 38 48.9	+1.3
SKO	Skopje	2.81	13	*i* Pn	Pn	00 38 50.9	+2.3
PTL	Penteli	2.83	114	P	Pn	00 38 49.1	+0.2
PTL	Penteli	2.83	114	P	Pn	00 38 49.1	+0.2
SRS	Serrai	2.98	50	P	Pn	00 38 52.5	+1.6
SRS	Serrai	2.98	50	P	Pn	00 38 52.5	+1.6
VLI	Veliai	3.12	143	P	Pn	00 38 54.0	+1.1
VLI	Veliai	3.12	143	P	Pn	00 38 54.0	+1.1
NVR	Nevrokopi	3.28	49	P	Pn	00 38 57.6	+2.5
PDG	Podgorica	3.35	343	⇓*i*P	Pn	00 38 56.9	+0.9
PDG	Podgorica	3.35	343	*e*Pn	Pn	00 38 56.3	+0.3
PDG	Podgorica	3.35	343	⇓*i*P	Pn	00 38 56.9	+0.9
HCY	Herceg Novi	3.58	334	*e*Pn	Pn	00 38 58.7	-0.5
BARS	Barje	3.70	14	*i* Pn	Pn	00 39 02.1	+1.3
TREB	Trebinje	3.87	335	*e*Pn	Pn	00 39 02.4	-0.7
VTS	Vitosha	3.90	30	⇑*i*P	Pn	00 39 07.9	+4.2
VTS	Vitosha	3.90	30	⇑*i*P	Pn	00 39 07.9	+4.2
SMTH	Samothraki Isl	4.00	70	P	Pn	00 39 05.7	+0.7
SMTH	Samothraki Isl	4.00	70	P	Pn	00 39 05.7	+0.7
IVAS	Ivanjica	4.35	356	*i* Pn	Pn	00 39 12.9	+3.1
CHOS	Chios island	4.36	99	P	Pn	00 39 11.9	+2.0
CHOS	Chios island	4.36	99	P	Pn	00 39 11.9	+2.0
APE	Apeiranthos	4.46	117	⇓*i*P	Pn	00 39 15.6	+4.3
APE	Apeiranthos	4.46	117	⇓*i*P	Pn	00 39 15.6	+4.3
GRUS	Gruza	4.65	1	*i* Pn	Pn	00 39 15.5	+1.6
BBLS	Lazići	4.71	350	*e*Pn	Pn	00 39 13.1	-1.7
DIVS	Divibare	4.88	355	*e*Pn	Pn	00 39 17.4	+0.3
TEKS	Tekeris	5.37	352	*e*Pn	Pn	00 39 22.8	-1.0
MDVR	Moldovita	5.61	8	⇑*i*P	Pn	00 39 29.4	+2.3
MDVR	Moldovita	5.61	8	⇑*i*P	Pn	00 39 29.4	+2.3
UDBI	Udbina	6.39	327	*e*Pn	Pn	00 39 38.5	+0.6
UDBI				Sn	Sn	00 40 49.9	-1.2
NVLJ	Novalja	6.82	323	*e*Pn	Pn	00 39 43.1	-0.5
NVLJ				Sn	Sn	00 40 58.0	-3.3
NVLJ	Novalja	6.82	323	*e*Pn	Pn	00 39 43.1	-0.5
ARR	Arges	6.82	25	⇓*i*P	Pn	00 39 48.0	+4.2
MLR	Muntele Rosu	7.41	31	⇓*i*P	Pn	00 39 55.4	+3.6
CRES	Cresnjev	7.60	332	*e*Pn	Pn	00 39 52.9	-1.4
CEY	Cerknica	7.93	327	*e*Pn	Pn	00 39 58.2	-0.7
PLOR	Plostina	7.98	32	⇑*i*P	Pn	00 40 04.3	+4.6
VRI	Vrincioaia	8.03	32	⇑*i*P	Pn	00 40 04.8	+4.5
FINES	FINESS Array B	22.49	7	P	P	00 43 02.7	-0.3
	comp=E,0.1nm,0.3s,baz=175,slow=12,SNR=6.6						
MKAR	Makanchi Array	44.71	59	P	P	00 46 16.4	-0.5
	comp=E,0.3nm,0.5s,baz=288,slow=7.1,SNR=6.6						
ZALV	Zalesovo Beam	44.96	49	P	P	00 46 18.5	-0.1
	comp=E,1.0nm,0.3s,baz=276,slow=8.5,SNR=7.0						

IDC 30 00:42:32.6±3.1, 20.03S×169.71E, h304km±32km, mb3.7/3, mb1 3.8/4, mb1mx3.3/23, mbtmp4.3/4, Error ellipse: s-maj=110.1km s-min=33.3km az=161.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.66**	**236**	P	Pn	00 43 36.7	+1.2
	2.8nm,0.3s,baz=61,slow=18,SNR=27						
DZM				S	S	00 44 25.2	-0.6
	4.8nm,0.3s,baz=108,slow=22,SNR=3.3						
CTA	**Charters Tower**	**22.08**	**266**	P	P	00 47 03.2	+0.5
	7.4nm,0.9s,baz=84,slow=9.2,SNR=3.8						
WRA	**Warramunga Arr**	**33.20**	**264**	P	P	00 48 40.8	-1.0
	1.6nm,0.6s,baz=96,slow=8.5,SNR=31						
ASAR	**Alice Springs**	**33.38**	**257**	P	P	00 48 44.0	+0.7
	7.7nm,0.5s,baz=83,slow=9.1,SNR=104						
ARCES	**ARCESS Array B**	**125.94**	**345**	PKP	PKPdf	01 00 57.2	-0.7
	1.2nm,0.9s,baz=40,slow=2.1,SNR=4.2						
GERES	**GERESS Array B**	**145.40**	**332**	PKPbc	PKPdf	01 01 34.2	-0.3
	0.4nm,0.5s,baz=30,slow=4.5,SNR=3.0						

MAN 30 00:50:42, 14.96N×123.01E, h32km, mb3.9, ML2.7, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**1.18**	**207**	⇑*i*P	Pb	00 51 03.5	-0.4
GQP				*i* S	Sn	00 51 17.9	+0.7
BALP	**Baler**	**1.58**	**300**	*e*P	Pn	00 51 08.6	+0.8
BALP				*e*S	Sn	00 51 28.6	+1.3
LQP	**Lukban**	**1.65**	**239**	*e*P	Sb	00 51 32.4	-0.1
BOAC	**Boac**	**1.87**	**217**	*e*P	Pn	00 51 12.9	+1.1
OTRP	**Odiongan**	**2.75**	**200**	*e*P	Pn	00 51 25.1	+1.2
OTRP				*e*S	Pb	00 51 29.5	-1.1
SJMP	**San Jose**	**3.09**	**217**	*e*P	Pn	00 51 31.5	+2.9

CSEM 30 01:03:07.6, 45.91N×15.20E, h0km
LJU 30 01:03:07.5, 45.91N×15.20E, h2km, ML0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEGS	**Legarje**	**0.09**	**67**	*i* Pg	Pg	01 03 08.9	-0.3
LEGS				*i* Sg	Sg	01 03 10.6	+0.2
LEGS	**Legarje**	**0.09**	**67**	Pg	Pg	01 03 08.9	-0.3
LEGS				*i* Sg	Sg	01 03 10.6	+0.2
CRES	**Cresnjev**	**0.20**	**116**	*i* Pg	Pg	01 03 11.1	-0.2
CRES				*i* Sg	Sg	01 03 14.5	+0.5
	comp=Z,2.0nm,0.1s						
CRES	**Cresnjev**	**0.20**	**116**	*i* Pg	Pg	01 03 11.1	-0.2
CRES				*i* Sg	Sg	01 03 14.5	+0.6
	comp=Z,2.0nm,0.1s						
PDKS	**Podkum**	**0.20**	**316**	*i* Pg	Pg	01 03 11.8	+0.4
PDKS				*i* Sg	Sg	01 03 14.4	+0.2
	comp=Z,2.0nm,0.1s						
PDKS	**Podkum**	**0.20**	**316**	*i* Pg	Pg	01 03 11.8	+0.3
PDKS				*i* Sg	Sg	01 03 14.4	+0.3
	comp=Z,2.0nm,0.1s						
VISS	**Visnje**	**0.28**	**246**	*e*Pg	Pg	01 03 13.0	+0.2
VISS				*e*Sg	Sg	01 03 17.1	+0.7
VISS	**Visnje**	**0.28**	**246**	*e*Pg	Pg	01 03 13.0	+0.2
VISS				*e*Sg	Sg	01 03 17.0	+0.6
GOLS	**Golise**	**0.31**	**72**	*i* Pg	Pg	01 03 13.8	+0.4
GOLS				*i* Sg	Sg	01 03 18.7	+1.2
	comp=Z,1.0nm,0.1s						
GOLS	**Golise**	**0.31**	**72**	*i* Pg	Pg	01 03 13.9	+0.4
GOLS				*i* Sg	Sg	01 03 18.7	+1.2

DDA 30 01:03:48.6, 39.13N×29.00E, h10km, Ml3.6
ISK 30 01:03:48.8, 39.14N×29.00E, h5km, MD3.4
CSEM 30 01:03:49.5±0.1, 39.13N×29.02E, h2km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.6km az=49.0
ISC 30 01:03:49.5±1.0, 39.13N±0.02×29.03E±0.02, h4km±10km, n151, σ0.98/173, 7C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**249**	P	Pg	01 03 54.2	-0.2
DEMI				S	Sg	01 03 57.7	-0.2
DEMI	**Demirci**	**0.26**	**249**	*i* P	Pg	01 03 54.2	-0.2
DEMI				*i* S	Sg	01 03 57.7	-0.2
GEDZ	**Gediz**	**0.31**	**107**	*e*PG	Pg	01 03 55.6	+0.1
GEDZ				*e*SG	Sg	01 04 01.4	+1.7
GEDZ	**Gediz**	**0.31**	**107**	*e*Pg	Pg	01 03 55.6	+0.1
GDZ				P	Pg	01 03 56.0	-0.4
GDZ				S	Sg	01 04 01.4	+0.3
GDZ	**Gediz**	**0.36**	**97**	*i* P	Pg	01 03 56.0	-0.4
GDZ				*i* S	Sg	01 04 01.4	+0.3
TVSB	**Tavsanli**	**0.46**	**47**	*e*PG	Pg	01 03 58.1	-0.3
TVSB				*e*SG	Sg	01 04 04.6	+0.1
TVSB	**Tavsanli**	**0.46**	**47**	*e*Pg	Pg	01 03 58.1	-0.3
KULA	**Kula-Manisa**	**0.68**	**205**	*e*PG	Pg	01 04 01.6	-0.9
KULA				*e*SG	Sg	01 04 10.6	-0.8
KULA	**Kula-Manisa**	**0.68**	**205**	*e*Pg	Pg	01 04 01.6	-0.9
KULA				*e*Sg	Sg	01 04 10.6	-0.8
KHL	**Karahalli**	**0.90**	**154**	*e*PG	Pg	01 04 06.2	-0.5
KHL	**Karahalli**	**0.90**	**154**	*e*Pg	Pg	01 04 06.2	-0.5
AKS	**Akhisar**	**0.98**	**255**	*e*PG	Pg	01 04 08.1	-0.1
AKS				*e*SG	Sg	01 04 20.7	-0.2
AKS	**Akhisar**	**0.98**	**255**	*e*Pg	Pg	01 04 08.1	-0.1
AKS				*e*Sg	Sg	01 04 20.7	-0.2
BALB	**Balikesir**	**1.02**	**300**	*e*PG	Pg	01 04 09.4	+0.3
BALB				*e*SG	Sg	01 04 22.6	+0.4
BALB	**Balikesir**	**1.02**	**300**	*e*Pg	Pg	01 04 09.4	+0.3
BALB				*e*Sg	Sg	01 04 22.7	+0.4
IGD	**Bursa**	**1.14**	**7**	*i* P	Pg	01 04 09.3	-1.9
IGD				*i* S	Sg	01 04 25.0	-1.0
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*PN	Pg	01 04 12.2	-1.0
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*Pn	Pg	01 04 12.2	-1.0
CAVI	**Cavuskoy**	**1.24**	**30**	*e*PN	Pg	01 04 12.8	-0.4
CAVI	**Cavuskoy**	**1.24**	**30**	*e*Pn	Pg	01 04 12.9	-0.4
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	Pg	01 04 12.7	-0.6
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*Pn	Pg	01 04 12.7	-0.6
BALY	**Balya**	**1.25**	**300**	*i* P	Pg	01 04 12.6	-0.9
BALY	**Balya**	**1.25**	**300**	*i* P	Pg	01 04 12.5	-0.9
IZI	**Iznik**	**1.25**	**16**	*e*PN	Pg	01 04 12.7	-0.7
IZI	**Iznik**	**1.25**	**16**	*e*Pn	Pg	01 04 12.7	-0.7
GEMT	**Gemlik**	**1.30**	**6**	*e*PN	Pn	01 04 14.0	-0.4
GEMT	**Gemlik**	**1.30**	**6**	*e*Pn	Pn	01 04 14.0	-0.4
DENT	**Denizli**	**1.38**	**180**	*e*PN	Pn	01 04 15.4	-0.1
DENT	**Denizli**	**1.38**	**180**	*e*Pn	Pn	01 04 15.4	-0.1
ADVT	**Abdulvahap**	**1.41**	**23**	*e*PN	Pn	01 04 14.9	-1.0
ADVT	**Abdulvahap**	**1.41**	**23**	*e*Pn	Pn	01 04 14.9	-1.0
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	Pn	01 04 15.5	-0.7
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	Pn	01 04 15.5	-0.7
DNZL	**Cakiroluk**	**1.44**	**179**	P	Pn	01 04 15.6	-0.9
DNZL				S	Sb	01 04 35.4	-0.3
DNZL	**Cakiroluk**	**1.44**	**179**	*i* P	Pn	01 04 15.6	-0.9
DNZL				*i* S	Sb	01 04 35.4	-0.3
ESKT	**Eskisehir**	**1.47**	**74**	*e*PN	Pn	01 04 17.0	+0.2
ESKT	**Eskisehir**	**1.47**	**74**	*e*Pn	Pn	01 04 17.0	+0.2
ESKT	**Eskisehir**	**1.47**	**74**	*i* P	Pn	01 04 16.7	-0.1
ESKT				*i* S	Sb	01 04 33.3	-3.1
SEYT	**Eskypehyr**	**1.47**	**74**	P	Pn	01 04 16.7	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.48**	**217**	*e*PN	Pn	01 04 16.6	-0.4
AYDB	**Zeytinkoy-Aydi**	**1.48**	**217**	*e*Pn	Pn	01 04 16.6	-0.4
EDC	**Edincik**	**1.51**	**324**	*e*PN	Pn	01 04 17.2	0.0
EDC	**Edincik**	**1.51**	**324**	*e*Pn	Pn	01 04 17.2	0.0
GPA	**Golpazari**	**1.52**	**40**	*e*PN	Pn	01 04 17.2	-0.2
GPA	**Golpazari**	**1.52**	**40**	*e*Pn	Pn	01 04 17.2	-0.2
IZM	**Izmir**	**1.56**	**242**	*e*PN	Pn	01 04 18.1	+0.1
IZM	**Izmir**	**1.56**	**242**	*e*Pn	Pn	01 04 18.1	+0.1
KNL	**Bal¯–kesir**	**1.62**	**315**	*i* P	Pn	01 04 18.5	-0.3
KNL				*i* S	Sn	01 04 38.5	-1.5
DKL	**Dikili**	**1.65**	**268**	*e*PN	Pn	01 04 18.7	-0.4
DKL	**Dikili**	**1.65**	**268**	*e*Pn	Pn	01 04 18.7	-0.4
BUY	**Buyukada**	**1.72**	**2**	P	Pb	01 04 22.0	+0.4
BUY				S	Sn	01 04 42.7	+0.3
BUY	**Buyukada**	**1.72**	**2**	P	Pb	01 04 22.0	+0.4
BUY				*i* S	Sn	01 04 42.7	+0.3
GULT	**Gulveren**	**1.73**	**41**	*e*PN	Pn	01 04 20.8	+0.4
GULT	**Gulveren**	**1.73**	**41**	*e*Pn	Pn	01 04 20.8	+0.4
HRT	**Hereke**	**1.76**	**16**	*e*PN	Pn	01 04 21.1	+0.4
HRT	**Hereke**	**1.76**	**16**	*e*Pn	Pn	01 04 21.1	+0.4
AYVA	**Ayvalik**	**1.82**	**276**	P	Pn	01 04 20.7	-0.8
AYVA	**Ayvalik**	**1.82**	**276**	*i* P	Pn	01 04 20.7	-0.8
AYVA				*i* S	Sg	01 04 47.9	-0.1
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*PN	Pn	01 04 21.6	0.0
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*Pn	Pn	01 04 21.6	0.0
MRMT	**Marmara Adasi**	**1.83**	**324**	*e*PN	Pn	01 04 22.4	+0.6
MRMT	**Marmara Adasi**	**1.83**	**324**	*e*Pn	Pn	01 04 22.4	+0.6
SPNC	**Sapanca-Adapaz**	**1.84**	**32**	*e*PN	Pn	01 04 22.1	+0.4
SPNC	**Sapanca-Adapaz**	**1.84**	**32**	*e*Pn	Pn	01 04 22.2	+0.4
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*PN	Pn	01 04 23.4	+0.4
ISK	**Istanbul-Kandi**	**1.93**	**1**	*e*Pn	Pn	01 04 23.4	+0.4
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*PN	Pn	01 04 24.0	+0.4
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*Pn	Pn	01 04 24.0	+0.4
GLHS	**Glhisar (BURDU**	**2.01**	**169**	*e*PN	Pn	01 04 24.6	+0.4
GLHS	**Glhisar (BURDU**	**2.01**	**169**	*e*Pn	Pn	01 04 24.6	+0.4
BGKT	**Bogazkoy**	**2.05**	**355**	*e*PN	Pn	01 04 25.4	+0.7
BGKT	**Bogazkoy**	**2.05**	**355**	*e*Pn	Pn	01 04 25.4	+0.7
ELBA	**Catalca**	**2.06**	**347**	*i* P	Pb	01 04 28.0	+0.6
SILT	**Sile**	**2.07**	**13**	*e*PN	Pn	01 04 25.6	+0.7
SILT	**Sile**	**2.07**	**13**	*e*Pn	Pn	01 04 25.6	+0.7
YER	**Yerkesik**	**2.08**	**197**	*e*PN	Pn	01 04 25.6	+0.5
YER	**Yerkesik**	**2.08**	**197**	*e*Pn	Pn	01 04 25.6	+0.5
SART	**Tekirdag**	**2.10**	**318**	*i* P	Pb	01 04 28.9	+0.7
SART				*i* S	Sg	01 04 56.2	-0.8
RKY	**Sarkoy-Tekirda**	**2.10**	**318**	*e*PN	Pn	01 04 25.9	+0.4
RKY	**Sarkoy-Tekirda**	**2.10**	**318**	*e*Pn	Pn	01 04 25.9	+0.4
KLYT	**Kilyos**	**2.12**	**0**	*e*PN	Pn	01 04 25.4	-0.2
KLYT	**Kilyos**	**2.12**	**0**	*e*Pn	Pn	01 04 25.4	-0.2
CTKS	**Kestanelik-??a**	**2.14**	**349**	*e*PN	Pn	01 04 25.8	0.0
CTKS	**Kestanelik-??a**	**2.14**	**349**	*e*Pn	Pn	01 04 25.8	0.0
LPK	**Lapseki**	**2.14**	**306**	*e*PN	Pn	01 04 25.9	0.0
LPK	**Lapseki**	**2.14**	**306**	*e*Pn	Pn	01 04 25.9	0.0
MDUB	**Mudurnu**	**2.14**	**51**	*e*PN	Pn	01 04 26.7	+0.7
MDUB	**Mudurnu**	**2.14**	**51**	*e*Pn	Pn	01 04 26.7	+0.7
TKR	**Tekirdag**	**2.18**	**329**	*e*PN	Pn	01 04 26.7	+0.3
TKR	**Tekirdag**	**2.18**	**329**	*e*Pn	Pn	01 04 26.7	+0.3
EZN	**Ezine**	**2.20**	**289**	*e*PN	Pn	01 04 26.4	-0.2
EZN	**Ezine**	**2.20**	**289**	*e*Pn	Pn	01 04 26.5	-0.2
KIZT	**Kizilcal**	**2.24**	**96**	*e*PN	Pn	01 04 28.1	+0.7
KIZT	**Kizilcal**	**2.24**	**96**	*e*Pn	Pn	01 04 28.1	+0.7
SUTC	**Sutluce-Ispart**	**2.27**	**136**	*e*PN	Pn	01 04 28.6	+0.8
SUTC	**Sutluce-Ispart**	**2.27**	**136**	*e*Pn	Pn	01 04 28.6	+0.8
DALY	**Dalyan (Mu¯la**	**2.33**	**187**	*e*PN	Pn	01 04 29.1	+0.6
DALY	**Dalyan (Mu¯la**	**2.33**	**187**	*e*Pn	Pn	01 04 29.1	+0.6
GELI	**Tayfur-Gelibol**	**2.34**	**304**	*e*PN	Pn	01 04 29.4	+0.8
GELI	**Tayfur-Gelibol**	**2.34**	**304**	*e*Pn	Pn	01 04 29.4	+0.8
BOZC	**Bozcaada**	**2.41**	**288**	*i* P	Pn	01 04 29.0	-0.6
CHOS	**Chios island**	**2.44**	**253**	*e*PN	Pn	01 04 30.5	+0.4
CHOS	**Chios island**	**2.44**	**253**	*e*Pn	Pn	01 04 30.5	+0.4
SIGR	**SIGRI**	**2.46**	**273**	*e*PN	Pn	01 04 30.9	+0.5
SIGR	**SIGRI**	**2.46**	**273**	*e*Pn	Pn	01 04 30.9	+0.5
ERIK	**Erikli-Kesan**	**2.47**	**309**	*e*PN	Pn	01 04 30.5	+0.1
ERIK	**Erikli-Kesan**	**2.47**	**309**	*e*Pn	Pn	01 04 30.5	+0.1
KESN	**Edirne-Kesan**	**2.47**	**314**	P	Pb	01 04 33.4	-1.2
KESN	**Edirne-Kesan**	**2.47**	**314**	*i* P	Pb	01 04 33.4	-1.2
KESN				*i* S	Sb	01 05 06.7	+1.2
BODT	**Bodrum**	**2.47**	**214**	*e*PN	Pn	01 04 31.3	+0.8
BODT	**Bodrum**	**2.47**	**214**	*e*Pn	Pn	01 04 31.3	+0.8
ELL	**Elmali**	**2.48**	**163**	*e*PN	Pn	01 04 31.0	+0.3
ELL	**Elmali**	**2.48**	**163**	*e*Pn	Pn	01 04 31.0	+0.3
GADA	**Gvkgeada**	**2.63**	**295**	*e*PN	Pn	01 04 33.1	+0.4
GADA	**Gvkgeada**	**2.63**	**295**	*e*Pn	Pn	01 04 33.1	+0.4
ENEZ	**Enez**	**2.73**	**307**	*e*PN	Pn	01 04 34.5	+0.5
ENEZ	**Enez**	**2.73**	**307**	*e*Pn	Pn	01 04 34.5	+0.5
LADK	**Ladik-KONYA**	**2.78**	**109**	*e*PN	Pn	01 04 35.6	+0.8
LADK	**Ladik-KONYA**	**2.78**	**109**	*e*Pn	Pn	01 04 35.6	+0.8
KONT	**Konya--Tatoy**	**2.87**	**113**	*e*PN	Pn	01 04 37.2	+1.2
KONT	**Konya--Tatoy**	**2.87**	**113**	*e*Pn	Pn	01 04 37.2	+1.2
ALN	**Alexandroupoli**	**2.89**	**309**	*e*PN	Pn	01 04 36.3	+0.1
ALN	**Alexandroupoli**	**2.89**	**309**	*e*Pn	Pn	01 04 36.3	+0.1
NIS1	**Nisyros Isl.**	**2.92**	**211**	*e*PN	Pn	01 04 37.7	+1.0
NIS1	**Nisyros Isl.**	**2.92**	**211**	*e*Pn	Pn	01 04 37.7	+1.0
LOD	**Lodumlu**	**2.99**	**74**	*e*PN	Pn	01 04 38.8	+1.1
LOD	**Lodumlu**	**2.99**	**74**	*e*Pn	Pn	01 04 38.8	+1.1
AFSR	**Af¯ar-Bala (A**	**3.15**	**83**	*e*PN	Pn	01 04 41.2	+1.2
AFSR	**Af¯ar-Bala (A**	**3.15**	**83**	*e*Pn	Pn	01 04 41.2	+1.2
EDRB	**Edirne**	**3.22**	**328**	*e*PN	Pn	01 04 40.7	-0.1
EDRB	**Edirne**	**3.22**	**328**	*e*Pn	Pn	01 04 40.7	-0.1
APE	**Apeiranthos**	**3.44**	**234**	⇓*i*P	Pg	01 04 56.2	+0.8
KAMT	**Kaman**	**3.65**	**85**	*e*PN	Pn	01 04 47.7	+0.9
KAMT	**Kaman**	**3.65**	**85**	*e*Pn	Pn	01 04 47.7	+0.9
VTS	**Vitosha**	**5.60**	**310**	⇓*i*P	Pn	01 05 17.0	+3.4
TLCR		**6.05**	**359**	⇑*i*P	Pn	01 05 20.0	+0.4
TLCR		**6.05**	**359**	⇑*i*P	Pn	01 05 20.0	+0.4
CFR	**Carcaliu**	**6.08**	**354**	⇓*i*P	Pn	01 05 20.3	+0.3
CFR	**Carcaliu**	**6.08**	**354**	⇓*i*P	Pn	01 05 20.3	+0.3
MLR	**Muntele Rosu**	**6.75**	**341**	⇓*i*P	Pn	01 05 31.9	+2.5
MLR	**Muntele Rosu**	**6.75**	**341**	⇓*i*P	Pn	01 05 31.9	+2.5
VRI	**Vrincioaia**	**6.94**	**347**	⇑*i*P	Pn	01 05 34.6	+2.7
VRI	**Vrincioaia**	**6.94**	**347**	⇑*i*P	Pn	01 05 34.6	+2.7
VOIR		**6.95**	**336**	⇑*i*P	Pn	01 05 34.9	+2.8
VOIR		**6.95**	**336**	⇑*i*P	Pn	01 05 34.9	+2.8
ARR	**Arges**	**7.03**	**334**	⇓*i*P	Pn	01 05 35.2	+2.1
ARR	**Arges**	**7.03**	**334**	⇓*i*P	Pn	01 05 35.2	+2.1
MDVR	**Moldovita**	**7.84**	**318**	⇑*i*P	Pn	01 05 47.8	+3.5
BZS	**Buzias**	**8.48**	**322**	⇓*i*P	Pn	01 05 56.7	+3.7

NIED 30 01:19:00, 35.70N×140.70E, h50km, Mw4.2 Best double couple: M0.2.07000×10^15 NP1:φs211.00000°, δ22.00000°, λ115.00000°. NP2:φs4.00000°, δ70.00000°, λ81.00000°.
IDC 30 01:19:28.3±0.7, 35.62N×140.86E, h0km, mb3.9/12, mb1 4.0/19, mb1mx3.9/39, mbtmp3.9/19, ML3.6/5, MS3.1/7, Ms1 3.2/7, ms1mx2.8/49, Error ellipse: s-maj=19.1km s-min=13.6km az=76.0
NEIC 30 01:19:32.2±2.3, 35.69N×140.89E, h28km±17km, mb4.3/1, Error ellipse: s-maj=10.9km s-min=8.7km az=89.0
ISCJB 30 01:19:33.2±0.5, 35.74N±0.03×140.82E±0.06, h55km±4km, mb4.0/15, MS3.1/3, Error ellipse: s-maj=7.6km s-min=4.9km az=171.1
JMA 30 01:19:34.5±0.1, 35.72N×140.68E, h48km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs8.00000°, δ74.00000°, λ79.00000°. NP2:φs222.00000°, δ19.00000°, λ123.00000°. Principal axes: T Plg60.0000°, Azm263.0000°; N Plg10.0000°, Azm11.0000°; P Plg28.0000°, Azm107.0000°;
JMA Felt II J1.
ISC 30 01:19:34.0±0.8, 35.66N±0.04×140.86E±0.06, h44km±7km, n48, σ1.972/51, mb3.9/15, MS3.1/3, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.04**	**353**	⇑P	Pn	01 19 42.1	+1.2
CHOJ				*e*S	Sn	01 19 47.6	+1.9
JCN	**Nagara**	**0.59**	**246**	⇓P	Pn	01 19 46.3	+0.2
JCN				S	Sn	01 19 55.5	+0.8
JYT	**Yasato**	**0.78**	**316**	⇓P	Pn	01 19 47.4	-1.2
JYT				S	Sn	01 19 56.7	-2.5
BSO4	**Boso 4**	**0.80**	**213**	P	Pn	01 19 49.5	+0.7
BSO3

TWC	**Suao**	**0.59**	**260**	*e*P	**Pb**	**01 31 25.8**	**-0.3**
	baz=253						
TWC				*e*S	**Sb**	**01 31 34.4**	**+0.3**
	baz=253						
NWF	**Wu-fen Shan**	**0.74**	**299**	P	**Pn**	**01 31 28.5**	**-0.6**
	baz=299						
NWF				S	**Sb**	**01 31 38.3**	**+0.2**
	baz=299						
ENA	**Nanau**	**0.74**	**247**	*e*P	**Pn**	**01 31 29.0**	**-0.2**
	baz=240						
ENA				*e*S	**Sn**	**01 31 38.9**	**-0.7**
	baz=240						
TWE	**Neicheng**	**0.75**	**271**	*e*P	**Pn**	**01 31 28.9**	**-0.3**
	baz=266						
TWE				*e*S	**Sb**	**01 31 38.6**	**+0.2**
	baz=266						
ENTT	**Nioudou**	**0.85**	**265**	*e*P	**Pn**	**01 31 30.9**	**+0.3**
	baz=261						
ENTT				*e*S	**Sb**	**01 31 41.2**	**0.0**
	baz=261						
TWY	**Chenhua**	**0.98**	**305**	*e*P	**Pn**	**01 31 33.4**	**+1.0**
	baz=305						
TWY				*e*S	**Sb**	**01 31 44.7**	**-0.4**
	baz=305						
PCYT	**Pengchaiyu**	**0.99**	**337**	*e*P	**Pn**	**01 31 33.2**	**+0.7**
	baz=341						
PCYT				*e*S	**Sn**	**01 31 45.7**	**+0.1**
	baz=341						
NSK	**Sanguang**	**1.03**	**268**	*e*P	**Pn**	**01 31 33.5**	**+0.3**
	baz=265						
NSK				*e*S	**Sb**	**01 31 46.2**	**-0.4**
	baz=265						
NNS	**Nan Shan**	**1.05**	**255**	*e*P	**Pn**	**01 31 34.0**	**+0.5**
	baz=251						
NNS				*e*S	**Sn**	**01 31 47.6**	**+0.1**
	baz=251						
IRIF	**Iriomote-Funau**	**1.19**	**108**	P	**Pn**	**01 31 34.9**	**-0.4**
IRIF				*e*S	**Sn**	**01 31 50.8**	**+0.1**
TWT	**Tachien**	**1.28**	**249**	*e*P	**Pb**	**01 31 38.6**	**+0.8**
	baz=245						
TWT				*e*S	**Sb**	**01 31 53.8**	**-0.2**
	baz=245						
NSTT	**Nanjuang**	**1.36**	**267**	*e*P	**Pb**	**01 31 39.3**	**+0.3**
	baz=264						
NSTT				*e*S	**Sb**	**01 31 57.0**	**+1.0**
	baz=264						
HATJ	**Hateruma jima**	**1.37**	**118**	P	**Pn**	**01 31 37.8**	**+0.1**
JKRS	**Kuro-shima**	**1.46**	**109**	P	**Pn**	**01 31 39.2**	**+0.2**
JKRS				S	**Sn**	**01 31 57.7**	**+0.3**
JIJ	**Ishigaki jima**	**1.54**	**103**	P	**Pn**	**01 31 39.7**	**-0.5**
JIJ				*e*S	**Sn**	**01 31 58.3**	**-1.1**
WDT	**Danda**	**1.57**	**233**	*e*P	**Pb**	**01 31 41.9**	**-0.8**
	baz=228						
WDT				*e*S	**Sn**	**01 32 00.6**	**+0.2**
	baz=228						

IDC 30 01:42:48.5±23.0,**23°78S**×**178°14E**,**h650**km±214km,
mb3.2/4,**mb1 3.3**/4,**mb1mx2.9**/30,**mbtmp4.3**/4,**Error ellipse: s-maj=225.7km s-min=120.8km az=119.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**29.77**	**271**	P	P	01 48 06.3	+0.4
	34nm,1.3s,baz=90,slow=7.1,SNR=5.0						
ASAR	**Alice Springs**	**40.38**	**261**	P	P	01 49 33.1	0.0
	0.7nm,0.4s,baz=98,slow=8.1,SNR=8.1						
WRA	**Warramunga Arr**	**40.72**	**267**	P	P	01 49 35.4	-0.4
	1.2nm,0.3s,baz=104,slow=7.9,SNR=41						
FITZ	**Fitzroy Crossi**	**49.14**	**266**	P	P	01 50 40.4	+0.6
	1.5nm,0.6s,baz=124,slow=6.0,SNR=3.9						
AKASG	**Malin Array Be**	**143.94**	**326**	PKP	PKPbc	02 01 10.9	-0.1
	0.3nm,0.4s,baz=72,slow=1.2,SNR=2.8						
BRTR	**Keskin Array B**	**146.15**	**307**	PKPbc	PKPbc	02 01 17.3	-0.7
	0.4nm,0.5s,baz=78,slow=4.7,SNR=2.9						

*ISCJB **30** 01:48:40.9±0.5,39°.13N±0°.04×28°.99E±0°.05,h9km,Error ellipse: s-maj=6.7km s-min=3.9km az=143.5*
*ISK **30** 01:48:40.3,39°.13N×28°.99E,h8km,MD2.5*
*CSEM **30** 01:48:40.8±0.1,39°.13N×28°.98E,h8km,MD2.5,Error ellipse: s-maj=2.6km s-min=1.8km az=133.0*
*DDA **30** 01:48:41.1,39°.03N×29°.00E,h7km,Md2.6*
ISC 30 01:48:41.0±1.0,**39°12N**±0°.04×**28°.99E**±0°.03,**h9**km,**n20**,
σ**0**§**41**/28,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**249**	P	**Pg**	**01 48 46.1**	**+0.4**
DEMI				S	**Sg**	**01 48 49.3**	**+0.4**
DEMI	**Demirci**	**0.23**	**249**	*i* P	**Pg**	**01 48 46.1**	**+0.4**
DEMI				*i* S	**Sg**	**01 48 49.3**	**+0.4**
GEDZ	**Gediz**	**0.33**	**104**	*e*PG	**Pg**	**01 48 47.4**	**-0.2**
GEDZ	**Gediz**	**0.33**	**104**	*e*Pg	**Pg**	**01 48 47.4**	**-0.2**
GDZ	**Gediz**	**0.38**	**95**	P	**Pg**	**01 48 48.8**	**+0.3**
GDZ				S	**Sg**	**01 48 54.4**	**+0.8**
GDZ	**Gediz**	**0.38**	**95**	*i* P	**Pg**	**01 48 48.8**	**+0.3**
GDZ				*i* S	**Sg**	**01 48 54.4**	**+0.8**
TVSB	**Tavsanli**	**0.49**	**48**	*e*PG	**Pg**	**01 48 50.8**	**+0.3**
TVSB				*e*SG	**Sg**	**01 48 57.1**	**+0.2**
TVSB	**Tavsanli**	**0.49**	**48**	*e*Pg	**Pg**	**01 48 50.8**	**+0.3**
TVSB				*e*Sg	**Sg**	**01 48 57.1**	**+0.2**
KULA	**Kula-Manisa**	**0.66**	**203**	*e*PG	**Pg**	**01 48 53.5**	**-0.2**
KULA				*e*SG	**Sb**	**01 49 03.4**	**-0.7**
KULA	**Kula-Manisa**	**0.66**	**203**	*e*Pg	**Pg**	**01 48 53.5**	**-0.2**
KULA				*e*Sg	**Sb**	**01 49 03.4**	**-0.7**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*PN	**Pn**	**01 49 04.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*Pn	**Pn**	**01 49 04.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*PN	**Pn**	**01 49 04.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*Pn	**Pn**	**01 49 04.3**	**-0.2**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*PN	**Pg**	**01 49 05.1**	**0.0**
CAVI	**Cavuskoy**	**1.26**	**31**	*e*Pn	**Pg**	**01 49 05.1**	**0.0**
IZI	**Iznik**	**1.27**	**17**	*e*PN	**Pn**	**01 49 04.6**	**-0.3**
IZI	**Iznik**	**1.27**	**17**	*e*Pn	**Pn**	**01 49 04.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**217**	*e*PN	**Pn**	**01 49 07.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**217**	*e*Pn	**Pn**	**01 49 07.8**	**+0.2**

*ISCJB **30** 02:07:50.9±0.6,39°.13N±0°.04×29°.01E±0°.05,h9km,Error ellipse: s-maj=6.8km s-min=4.0km az=145.3*
*CSEM **30** 02:07:50.9±0.1,39°.15N×28°.99E,h6km±1km,MD2.8,Error ellipse: s-maj=3.9km s-min=2.4km az=152.0*
*DDA **30** 02:07:50.8,39°.12N×28°.99E,h7km,Md2.6*
*ISK **30** 02:07:50.2,39°.14N×29°.00E,h5km,MD2.8*
ISC 30 02:07:51.1±1.0,**39°15N**±0°.04×**29°00E**±0°.03,**h9**km,**n18**,
σ**0**§**36**/26,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**245**	P	**Pg**	**02 07 56.3**	**+0.2**
DEMI				S	**Sg**	**02 07 59.7**	**+0.3**
DEMI	**Demirci**	**0.24**	**245**	*i* P	**Pg**	**02 07 56.3**	**+0.2**
DEMI				*i* S	**Sg**	**02 07 59.7**	**+0.3**
GEDZ	**Gediz**	**0.34**	**108**	*e*PG	**Pg**	**02 07 58.1**	**+0.3**
GEDZ	**Gediz**	**0.34**	**108**	*e*Pg	**Pg**	**02 07 58.1**	**+0.3**
GDZ	**Gediz**	**0.38**	**99**	P	**Pg**	**02 07 58.4**	**-0.2**
GDZ				S	**Sg**	**02 08 03.4**	**-0.2**
GDZ	**Gediz**	**0.38**	**99**	*i* P	**Pg**	**02 07 58.4**	**-0.2**
GDZ				*i* S	**Sg**	**02 08 03.4**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**50**	*e*PG	**Pg**	**02 08 00.1**	**-0.1**
TVSB				*e*SG	**Sg**	**02 08 06.3**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**50**	*e*Pg	**Pg**	**02 08 00.1**	**-0.1**
TVSB				*e*Sg	**Sg**	**02 08 06.3**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**203**	*e*PG	**Pg**	**02 08 04.1**	**-0.3**
KULA				*e*SG	**Sg**	**02 08 12.9**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**203**	*e*Pg	**Pg**	**02 08 04.1**	**-0.3**
KULA				*e*Sg	**Sg**	**02 08 12.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.22**	**336**	*e*PN	**Pn**	**02 08 14.3**	**-0.1**
KCTX	**Karacabey (Bur**	**1.22**	**336**	*e*Pn	**Pn**	**02 08 14.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.22**	**356**	*e*PN	**Pn**	**02 08 14.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.22**	**356**	*e*Pn	**Pn**	**02 08 14.0**	**-0.4**
IZI	**Iznik**	**1.24**	**17**	*e*PN	**Pn**	**02 08 14.8**	**+0.1**
IZI	**Iznik**	**1.24**	**17**	*e*Pn	**Pn**	**02 08 14.8**	**+0.1**
GULT	**Gulveren**	**1.73**	**42**	*e*PN	**Pn**	**02 08 22.3**	**+0.8**
GULT	**Gulveren**	**1.73**	**42**	*e*Pn	**Pn**	**02 08 22.3**	**+0.8**

*ISCJB **30** 02:15:13.8±0.6,39°.12N±0°.05×28°.99E±0°.05,h9km,Error ellipse: s-maj=7.2km s-min=4.1km az=148.0*
*DDA **30** 02:15:13.6,39°.13N×28°.99E,h7km,Md2.6*
*CSEM **30** 02:15:13.9±0.1,39°.14N×28°.98E,h8km,MD2.5,Error ellipse: s-maj=2.9km s-min=2.2km az=143.0*
*ISK **30** 02:15:13.4,39°.13N×28°.99E,h6km,MD2.5*
ISC 30 02:15:13.8±1.0,**39°13N**±0°.04×**28°99E**±0°.03,**h9**km,**n14**,
σ**0**§**39**/22,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**248**	P	**Pg**	**02 15 19.0**	**+0.5**
DEMI				S	**Sg**	**02 15 22.1**	**+0.4**
DEMI	**Demirci**	**0.23**	**248**	*i* P	**Pg**	**02 15 19.0**	**+0.5**
DEMI				*i* S	**Sg**	**02 15 22.1**	**+0.4**
GEDZ	**Gediz**	**0.34**	**104**	*e*PG	**Pg**	**02 15 20.7**	**+0.1**
GEDZ	**Gediz**	**0.34**	**104**	*e*Pg	**Pg**	**02 15 20.7**	**+0.1**
GDZ	**Gediz**	**0.38**	**96**	P	**Pg**	**02 15 21.5**	**+0.1**
GDZ				S	**Sg**	**02 15 27.0**	**+0.5**
GDZ	**Gediz**	**0.38**	**96**	*i* P	**Pg**	**02 15 21.5**	**+0.1**
GDZ				*i* S	**Sg**	**02 15 27.0**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**49**	*e*PG	**Pg**	**02 15 23.7**	**+0.4**
TVSB				*e*SG	**Sg**	**02 15 30.3**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**49**	*e*Pg	**Pg**	**02 15 23.7**	**+0.4**
TVSB				*e*Sg	**Sg**	**02 15 30.3**	**+0.5**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*PG	**Pb**	**02 15 27.3**	**-0.4**
KULA				*e*SG	**Sg**	**02 15 35.6**	**+0.2**
KULA	**Kula-Manisa**	**0.67**	**203**	*e*Pg	**Pb**	**02 15 27.3**	**-0.4**
KULA				*e*Sg	**Sg**	**02 15 35.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*PN	**Pn**	**02 15 36.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*Pn	**Pn**	**02 15 36.9**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.24**	**356**	*e*PN	**Pg**	**02 15 37.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.24**	**356**	*e*Pn	**Pg**	**02 15 37.7**	**0.0**

*JMA **30** 02:38:10.1±0.1,22°.99N×120°.59E,h0km,M3.7*
*TAP **30** 02:38:12.3,22°.96N×120°.70E,h21km,ML4.0,B*
*ISCJB **30** 02:38:13.7±0.2,22°.94N±0°.01×120°.69E±0°.02,h23km±2km,Error ellipse: s-maj=2.8km s-min=2.0km az=168.9*
ISC 30 02:38:12.7±1.1,**22°95N**±0°.02×**120°68E**±0°.02,**h15**km±9km,
n69,σ**0**§**83**/126,**10C-20D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.16**	**327**	⇓*i* P	**Pb**	**02 38 17.9**	**+0.5**
	baz=322						
SGST				S	**Sb**	**02 38 22.0**	**+1.5**
	baz=322						
SSD	**Sandimen**	**0.20**	**191**	⇓*i* P	**Pb**	**02 38 18.3**	**+0.1**
	baz=194						
SSD				S	**Sb**	**02 38 22.0**	**+0.2**
	baz=194						
STYT	**Tauyuan**	**0.23**	**19**	⇓*i* P	**Pb**	**02 38 18.4**	**-0.1**
	baz=24						
STYT				S	**Sb**	**02 38 22.6**	**+0.1**
	baz=24						
TWM1	**Shoushan**	**0.27**	**242**	⇑*i* P	**Pb**	**02 38 20.2**	**+1.0**
	baz=242						
SGLT	**Jiouru**	**0.28**	**218**	*e*P	**Pb**	**02 38 20.4**	**+1.0**
	baz=214						
SGLT				*e*S	**Sn**	**02 38 26.8**	**-1.4**
	baz=214						
WTP	**Ta-pu**	**0.30**	**349**	⇓*i* P	**Pb**	**02 38 19.8**	**-0.1**
	baz=346						
WTP				S	**Sb**	**02 38 25.5**	**+0.8**
	baz=346						
TWK	**Hsinying**	**0.36**	**331**	⇓P	**Pb**	**02 38 20.7**	**-0.1**
	baz=330						
TWG	**Pinlang**	**0.39**	**109**	⇑*i* P	**Pb**	**02 38 21.2**	**-0.1**
	baz=104						
TWG				*i* S	**Sb**	**02 38 27.1**	**+0.1**
	baz=104						
ELDTW	**Lidau**	**0.40**	**53**	⇑*i* P	**Pb**	**02 38 21.1**	**-0.3**
	baz=45						
ELDTW				*i* S	**Sb**	**02 38 27.9**	**+0.5**
	baz=45						
CHN4	**Tsaushan**	**0.41**	**349**	⇓*i* P	**Pb**	**02 38 21.4**	**-0.2**
	baz=346						
CHN4				*e*S	**Sb**	**02 38 28.6**	**+0.9**
	baz=346						
TAI1	**Yung-k'ang**	**0.42**	**283**	*e*P	**Pb**	**02 38 22.9**	**+1.0**
	baz=281						
TAI1				*e*S	**Sn**	**02 38 30.5**	**-1.3**
	baz=281						
ECL	**Taimali**	**0.43**	**144**	⇓*i* P	**Pb**	**02 38 21.8**	**-0.2**
	baz=147						
ECL				S	**Sb**	**02 38 28.2**	**-0.1**
	baz=147						
TTN	**Taitung**	**0.47**	**114**	⇓P	**Pb**	**02 38 23.3**	**+0.5**
	baz=116						
TTN				*i* S	**Sn**	**02 38 31.3**	**-1.7**
	baz=116						
SCLT	**Jiali**	**0.50**	**297**	*e*P	**Pb**	**02 38 23.7**	**+0.6**
	baz=295						
SCLT				S	**Sn**	**02 38 33.4**	**-0.2**
	baz=295						
KAU	**Kaohsiung**	**0.51**	**222**	*e*P	**Pn**	**02 38 24.7**	**-0.7**
	baz=232						
KAU				*e*S	**Sn**	**02 38 34.6**	**+0.8**
	baz=232						
ALS	**Alishan**	**0.57**	**12**	⇓*i* P	**Pg**	**02 38 24.3**	**+0.2**
	baz=5.0						
ALS				*i* S	**Sb**	**02 38 33.3**	**+0.6**
	baz=5.0						
SCZT	**Fangliau**	**0.58**	**185**	⇓*i* P	**Pb**	**02 38 24.3**	**-0.2**
	baz=187						
SCZT				*e*S	**Sn**	**02 38 34.7**	**-0.8**
	baz=187						
CHN8	**Yiju**	**0.58**	**313**	*e*P	**Pb**	**02 38 24.6**	**0.0**
	baz=323						
CHN8				*e*S	**Sn**	**02 38 34.8**	**-0.9**
	baz=323						
EAST	**Anshuo**	**0.58**	**164**	⇓P	**Pb**	**02 38 24.6**	**0.0**
	baz=166						
EAST				S	**Sb**	**02 38 32.5**	**-0.2**
	baz=166						
CHY	**Chiayi**	**0.59**	**337**	⇓*i* P	**Pb**	**02 38 24.8**	**0.0**
	baz=335						
CHY				S	**Sb**	**02 38 34.6**	**+1.6**
	baz=335						
YUS	**Yu-Shan**	**0.59**	**25**	⇓*i* P	**Pb**	**02 38 25.0**	**-0.1**
	baz=31						
YUS				S	**Sb**	**02 38 33.9**	**+0.4**
	baz=31						
CHN2	**Minshiung**	**0.61**	**342**	⇓P	**Pb**	**02 38 25.4**	**+0.3**
	baz=340						
CHN2				S	**Sn**	**02 38 35.6**	**-0.7**
	baz=340						
TAW	**Tawu**	**0.62**	**161**	⇓*i* P	**Pb**	**02 38 25.2**	**0.0**
	baz=163						
TAW				S	**Sb**	**02 38 33.9**	**+0.1**
	baz=163						
CHN5	**Tsauling**	**0.65**	**0**	⇓*i* P	**Pg**	**02 38 25.4**	**0.0**
	baz=358						
CHN5				S	**Sb**	**02 38 36.2**	**+1.6**
	baz=358						
CHKT	**Chengkung**	**0.65**	**77**	⇑*i* P	**Pb**	**02 38 25.8**	**+0.1**
	baz=92						
CHKT				*i* S	**Sn**	**02 38 36.1**	**-1.3**
	baz=92						
TWP	**Hsiaoliuchiu**	**0.67**	**206**	⇑P	**Pn**	**02 38 28.1**	**+0.5**
	baz=207						
TWP				*e*S	**Sn**	**02 38 40.2**	**+2.5**
	baz=207						
TWF1	**Yuli**	**0.70**	**55**	⇑*i* P	**Pb**	**02 38 26.3**	**-0.3**
	baz=59						
TWF1				*i* S	**Sb**	**02 38 35.7**	**-0.4**
	baz=59						
WGK	**Gukeng**	**0.74**	**352**	P	**Pb**	**02 38 27.5**	**+0.2**
	baz=350						
WGK				S	**Sn**	**02 38 39.2**	**-0.4**
	baz=350						
WSF	**Szhu**	**0.80**	**329**	*e*P	**Pg**	**02 38 28.2**	**-0.1**
	baz=327						
WSF				*e*S	**Sn**	**02 38 40.9**	**-0.3**
	baz=327						
EHY	**Hungye**	**0.81**	**47**	⇑*i* P	**Pg**	**02 38 28.2**	**-0.3**
	baz=52						
EHY				*i* S	**Sg**	**02 38 38.6**	**-0.6**
	baz=52						
WDT	**Danda**	**0.91**	**27**	⇓P	**Pg**	**02 38 29.8**	**-0.6**
	baz=18						
WDT				S	**Sb**	**02 38 43.1**	**+0.8**
	baz=18						
WNT	**Mingjian**	**0.93**	**0**	P	**Pg**	**02 38 30.6**	**0.0**
	baz=347						
WNT				*e*S	**Sn**	**02 38 44.1**	**-0.1**
	baz=347						
HEN	**Hengchun**	**0.94**	**177**	⇓P	**Pn**	**02 38 31.1**	**-0.2**
	baz=170						
HEN				S	**Sn**	**02 38 45.5**	**+1.0**
	baz=170						
SMLT	**Sun Moon Lake**	**0.95**	**12**	⇓*i* P	**Pn**	**02 38 31.4**	**-0.3**
	baz=11						
SMLT				*i* S	**Sn**	**02 38 45.0**	**0.0**
	baz=11						
TYC	**Yuchr**	**0.97**	**10**	⇑P	**Pb**	**02 38 31.2**	**0.0**
	baz=9.0						
TYC				S	**Sn**	**02 38 45.7**	**+0.5**
	baz=9.0						
WTCT	**Ta-ch'eng**	**0.98**	**338**	*e*P	**Pb**	**02 38 30.8**	**-0.6**
	baz=337						
WTCT				*e*S	**Sg**	**02 38 45.3**	**+0.7**
	baz=337						
WDGT	**Dungji**	**0.99**	**289**	*e*P	**Pb**	**02 38 30.0**	**-1.5**
	baz=287						
WDGT				*e*S	**Sb**	**02 38 43.3**	**-1.0**
	baz=287						
TWK1	**Hengchun**	**1.01**	**173**	⇓*e*P	**Pn**	**02 38 32.0**	**-0.3**
	baz=174						
TWK1				S	**Sn**	**02 38 46.2**	**0.0**
	baz=174						
TSEB	**Hengchuen, Pin**	**1.06**	**169**	*e*P	**Pn**	**02 38 33.2**	**+0.2**
	baz=173						
TSEB				*e*S	**Sn**	**02 38 49.5**	**+2.0**
	baz=173						
ESL	**Shilin**	**1.11**	**39**	*e*P	**Pb**	**02 38 33.2**	**-0.4**
	baz=31						
ESL				S	**Sb**	**02 38 47.8**	**-0.1**
	baz=31						
TCU	**Taichung**	**1.19**	**360**	*e*P	**Pn**	**02 38 34.4**	**-0.5**
	baz=345						
TCU				*e*S	**Sn**	**02 38 51.1**	**+0.3**
	baz=345						
PNG	**Penghu**	**1.20**	**301**	⇑*e*P	**Pn**	**02 38 33.3**	**-1.7**
	baz=300						
PNG				*e*S	**Sb**	**02 38 48.5**	**-2.0**
	baz=300						
LAY	**Lan-yu**	**1.21**	**138**	*e*P	**Pn**	**02 38 33.6**	**-1.6**
	baz=129						
WHF	**Hehuan Shan**	**1.31**	**24**	*e*P	**Pn**	**02 38 36.7**	**-0.1**
	baz=23						
WHF				*e*S	**Sg**	**02 38 56.0**	**+0.9**
	baz=23						
HWA	**Hwalien**	**1.33**	**40**	*e*P	**Pg**	**02 38 38.4**	**0.0**
	baz=24						
HWA				*e*S	**Sg**	**02 38 55.9**	**+0.2**
	baz=24						
TWT	**Tachien**	**1.38**	**19**	*e*P	**Pn**	**02 38 37.6**	**0.0**
	baz=6.0						
TWQ1	**Liyutan**	**1.40**	**4**	⇑P	**Pn**	**02 38 37.8**	**+0.2**
	baz=3.0						
TWQ1				*e*S	**Sb**	**02 38 56.4**	**+0.2**
	baz=3.0						
TWD	**Chiawan**	**1.41**	**37**	*e*P	**Pb**	**02 38 38.4**	**-0.3**
	baz=36						
TWD				S	**Sb**	**02 38 56.6**	**+0.2**
	baz=36						
NSY	**Sanyi**	**1.46**	**3**	*e*P	**Pn**	**02 38 38.9**	**+0.3**
	baz=347						
NSY				*e*S	**Sb**	**02 38 59.0**	**+0.9**
	baz=347						
NNS	**Nan Shan**	**1.62**	**23**	*e*P	**Pb**	**02 38 41.6**	**-0.7**
	baz=22						
NNS				*e*S	**Sb**	**02 39 02.7**	**+0.1**
	baz=22						
NSTT	**Nanjuang**	**1.70**	**10**	*e*P	**Pn**	**02 38 41.7**	**-0.1**
	baz=352						
NSTT				*e*S	**Sb**	**02 39 04.5**	**-0.4**
	baz=352						
ENA	**Nanau**	**1.77**	**33**	*e*P	**Pn**	**02 38 43.2**	**+0.5**
	baz=32						
NSK	**Sanguang**	**1.83**	**20**	*e*P	**Pn**	**02 38 43.9**	**+0.3**
	baz=18						
ENTT	**Nioudou**	**1.87**	**26**	*e*P	**Pb**	**02 38 45.4**	**-1.2**
	baz=25						
ENTT				*e*S	**Sb**	**02 39 10.4**	**+0.6**
	baz=25						
TWC	**Suao**	**1.97**	**33**	*e*P	**Pn**	**02 38 46.8**	**+1.3**
	baz=31						
TWE	**Neicheng**	**1.98**	**27**	*e*P	**Pb**	**02 38 47.4**	**-1.1**
	baz=14						
TWE				*e*S	**Sb**	**02 39 13.5**	**+0.5**
	baz=14						
TWA	**Mucha**	**2.19**	**22**	*e*P	**Pb**	**02 38 53.2**	**+1.2**
	baz=4.0						
EGS		**2.21**	**31**	*e*P	**Pb**	**02 38 52.1**	**-0.2**
	baz=29						
NWF	**Wu-fen Shan**	**2.34**	**25**	*e*P	**Pb**	**02 38 53.1**	**-1.6**
	baz=6.0						
KNM	**Kinmen**	**2.52**	**306**	*e*P	**Pn**	**02 38 52.4**	**-0.8**
	baz=303						
JYNG	**Yonagunijimaku**	**2.56**	**54**	P	**Pn**	**02 38 53.8**	**+0.1**
JYNG				*e*S	**Sn**	**02 39 26.2**	**+1.6**
YOJ	**Yonaguni jima**	**2.62**	**54**	P	**Pn**	**02 38 55.1**	**+0.7**
YOJ				*e*S	**Sn**	**02 39 27.1**	**+1.2**
YOJ	**Yonaguni jima**	**2.62**	**54**	*e*P	**Pn**	**02 38 53.8**	**-0.6**
	baz=54						
HATJ	**Hateruma jima**	**3.08**	**68**	P	**Pn**	**02 39 00.5**	**-0.2**
HATJ				S	**Sn**	**02 39 36.5**	**-0.8**
IRIF	**Iriomote-Funau**	**3.12**	**63**	P	**Pn**	**02 39 01.6**	**+0.2**
IRIF				*e*S	**Sn**	**02 39 40.3**	**+1.9**
JKRS	**Kuro-shima**	**3.32**	**67**	P	**Pn**	**02 39 04.2**	**+0.2**
JKRS				*e*S	**Sn**	**02 39 45.3**	**+2.1**
JIJ	**Ishigaki jima**	**3.48**	**65**	P	**Pn**	**02 39 05.8**	**-0.5**
JIJ				S	**Sn**	**02 39 45.5**	**-1.7**
JISG	**Ishigakijimahi**	**3.71**	**63**	P	**Pn**	**02 39 08.9**	**-0.5**
JISG				S	**Sn**	**02 39 52.0**	**-0.9**
JTJ	**Tarama**	**4.05**	**65**	P	**Pn**	**02 39 14.7**	**+0.5**
JTJ				*e*S	**Sn**	**02 40 02.0**	**+0.6**

*ISCJB **30** 02:38:28.9±0.9,27°.00N±0°.06×53°.38E±0°.07,h10km,mb3.6/4,Error ellipse: s-maj=10.5km s-min=7.5km az=142.5*
*IDC **30** 02:38:28.3±2.9,27°.09N×53°.59E,h0km,mb3.5/5,mb1 3.6/5,mb1mx3.4/32,mbtmp3.6/5,Error ellipse: s-maj=61.5km s-min=31.6km az=148.0*
*CSEM **30** 02:38:32.8±1.1,27°.11N×53°.49E,h15km,ML3.2,Error ellipse: s-maj=27.6km s-min=9.1km az=34.0*
*TEH **30** 02:38:34.6,27°.13N×53°.49E,h18km,ML3.2*
ISC 30 02:38:30.5±1.2,**27°02N**±0°.08×**53°45E**±0°.07,**h10**km,**n31**,
σ1§**13**/34,**mb3.5**/4,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.33**	**342**	*e*Pg	**Pn**	**02

IZEF	**Zefreh**	**5.94**	**351**	*e*Pn	**Pn**	**02 39 57.8**	**-0.9**
IPIR	**Pirpir**	**6.07**	**339**	*e*Pn	**Pn**	**02 40 01.3**	**+0.8**
IPIR				*e*AMB	AMB	02 41 16.4	
	comp=E,88nm,0.2s						
IPIR	**Pirpir**	**6.07**	**339**	*e*Pn	**Pn**	**02 40 01.3**	**+0.8**
BRTR	**Keskin Array B**	**20.79**	**313**	P	**P**	**02 43 12.3**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=124,slow=11,SNR=7.5						
ZALV	**Zalesovo Beam**	**35.44**	**32**	P	**P**	**02 45 25.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=235,slow=9.6,SNR=2.1						
FINES	**FINESS Array B**	**39.02**	**339**	P	**P**	**02 45 55.8**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=145,slow=7.0,SNR=5.5						
NOA	**NORSAR Array B**	**44.26**	**332**	P	**P**	**02 46 38.9**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=117,slow=8.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**50.20**	**265**	P	**P**	**02 47 27.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=65,slow=8.4,SNR=9.6						

GUC 30 02:49:00.0±0.5, 20.84S×69.10W, h106km±3km, ML3.5, 3C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.42**	**241**	⇑*i*P	Pn	02 49 16.2	+0.2
PB01				*i* S	Sn	02 49 28.6	+0.6
PB01				IAML		02 49 29.2	
	comp=E,3μm,0.2s						
PB08	**IPOC Station P**	**0.70**	**356**	⇓*i*P	Pn	02 49 19.0	+0.5
PB08				*i* S	Sn	02 49 33.2	+1.1
PB08				IAML		02 49 33.5	
	comp=E,1μm,0.2s						
HMBC	**Humberstone**	**0.93**	**307**	⇓*i*P	Pn	02 49 20.8	+0.5
HMBC				*i* S	Sn	02 49 36.6	+1.0
HMBC				IAML		02 49 36.8	
	comp=N,2μm,0.3s						
PB09	**IPOC Station P**	**0.96**	**188**	⇑*i*P	Pn	02 49 21.3	+0.6
PB09				*i* S	Sn	02 49 37.2	+1.0
PB09				IAML		02 49 38.3	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**1.15**	**220**	⇑*i*P	Pn	02 49 23.2	+0.5
PB07				*i* S	Sn	02 49 40.8	+0.9
PSGC	**Pisagua**	**1.57**	**322**	⇓*i*P	Pn	02 49 27.7	+0.2
PSGC				*i* S	Sn	02 49 49.3	+0.9
MNMC	**Minye Minye**	**1.76**	**344**	⇓*i*P	Pn	02 49 30.9	+0.8
MNMC				*i* S	Sn	02 49 54.4	+1.4
PB04	**IPOC Station P**	**1.78**	**213**	*e*P	Pn	02 49 31.3	+1.0
PB06	**IPOC Station P**	**1.91**	**193**	*e*P	Pn	02 49 32.4	+0.5

*NIED **30** 02:51:00,42.00N×142.60E, h47km, Mw3.8 Best double couple: M0 5.76000×10^14 NP1:φ=273.00000°, δ39.00000°, λ129.00000°. NP2:φ=46.00000°, δ61.00000°, λ63.00000°.*
*ISCJB **30** 02:51:18.0±0.5, 42.04N±0.05×142.55E±0.05, h71km±3km, mb3.8/15, Error ellipse: s-maj=8.4km s-min=5.1km az=147.9*
*JMA **30** 02:51:18.9±0.2, 42.04N×142.58E, h62km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φ=20.00000°, δ80.00000°, λ89.00000°. NP2:φ=208.00000°, δ10.00000°, λ98.00000°. Principal axes: T Plg55.0000°, Azm288.0000°; N Plg1.0000°, Azm20.0000°; P Plg35.0000°, Azm111.0000°;*
JMA Felt I J1.
*IDC **30** 02:51:20.7±1.8, 42.10N×142.52E, h78km±13km, mb3.6/15, mb1 3.7/20, mb1mx3.6/41, mbtmp3.9/20, MS3.3/1, Ms1 3.3/1, ms1mx2.3/36 Error ellipse: s-maj=19.2km s-min=11.9km az=121.0*

ISC 30 02:51:19.1±0.8, 42.04N±0.05×142.55E±0.04, h64km±7km, n39, σ0 89/42, mb4.0/15, 5C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.28**	**32**	⇑P	**Pn**	**02 51 28.9**	**-0.6**
JNBK				*e*S	**Sn**	**02 51 36.7**	**-0.3**
JEM	**Erimo**	**0.45**	**93**	⇑P	**Pn**	**02 51 30.6**	**-0.3**
JBT2	**Biratori 2**	**0.75**	**349**	⇓P	**Pn**	**02 51 33.8**	**-0.4**
JBT2				*e*S	**Sn**	**02 51 45.1**	**-0.1**
JCH	**Churui**	**0.83**	**46**	⇑P	**Pn**	**02 51 34.8**	**-0.3**
JCH				*e*S	**Sn**	**02 51 46.6**	**-0.3**
JFR	**Furan**	**1.12**	**2**	P	**Pn**	**02 51 38.5**	**-0.4**
JEW	**Eniwo**	**1.14**	**315**	⇓P	**Pn**	**02 51 39.1**	**0.0**
JEW				*e*S	**Sn**	**02 51 54.3**	**+0.3**
JKB	**Kayabe**	**1.14**	**263**	⇓P	**Pn**	**02 51 38.8**	**-0.3**
JKB				*e*S	**Sn**	**02 51 53.6**	**-0.5**
JNB	**Noboribetsu**	**1.20**	**291**	⇓P	**Pn**	**02 51 39.1**	**-0.8**
JNB				*e*S	**Sn**	**02 51 54.9**	**-0.5**
JOB	**Onbets**	**1.28**	**47**	⇑P	**Pn**	**02 51 41.6**	**+0.7**
JOT	**Ohata**	**1.30**	**240**	⇓P	**Pn**	**02 51 40.9**	**-0.3**
JOT				*e*S	**Sn**	**02 51 57.4**	**-0.5**
JAB	**Ashibetsu**	**1.48**	**351**	⇓P	**Pn**	**02 51 43.9**	**+0.3**
JAR	**Ashorobuto**	**1.54**	**35**	⇑P	**Pn**	**02 51 44.1**	**-0.3**
JAR				*e*S	**Sn**	**02 52 03.6**	**+0.1**
ASAJ	**Asahikawa**	**2.07**	**1**	P	**Pn**	**02 51 52.5**	**+0.9**
	54nm,0.3s,baz=218,slow=12,SNR=42						
ASAJ				S	**Sn**	**02 52 17.7**	**+1.4**
	24nm,0.3s,baz=75,slow=31,SNR=17						
MJAR	**Matsushiro Arr**	**6.44**	**213**	P	**Pn**	**02 52 54.2**	**+2.9**
	0.9nm,0.3s,baz=30,slow=13,SNR=4.1						
USRK	**Ussuriysk Ar.**	**8.02**	**289**	P	**Pn**	**02 53 14.4**	**+1.6**
	0.3nm,0.3s,baz=90,slow=14,SNR=7.9						
KLR	**Kul'dur**	**10.43**	**317**	P	**Pn**	**02 53 46.7**	**+1.0**
	0.1nm,0.3s,baz=122,slow=17,SNR=4.0						
KSRS	**Korea Array**	**12.15**	**253**	P	**Pn**	**02 54 11.3**	**+2.0**
	baz=62,slow=14,SNR=2.1						
SEY	**Seymchan**	**21.71**	**12**	P	**P**	**02 56 03.1**	**-1.5**
	1.7nm,0.2s,baz=143,slow=17,SNR=4.6						
SONM	**Songino Array**	**26.07**	**295**	P	**P**	**02 56 45.8**	**-0.8**
	0.6nm,0.5s,baz=79,slow=9.2,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**30.32**	**130**	T	T	03 28 59.1	
	baz=324,slow=75,SNR=57						
H11N1	**WAKE ISLAND Hy**	**30.33**	**130**	T	T	03 29 04.8	
	baz=324,slow=75,SNR=73						
H11N3	**WAKE ISLAND Hy**	**30.34**	**130**	T	T	03 29 02.5	
	baz=324,slow=75,SNR=74						
H11S1	**WAKE ISLAND Hy**	**31.18**	**131**	T	T	03 30 07.0	
	baz=325,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**31.19**	**131**	T	T	03 30 12.1	
	baz=325,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**31.20**	**131**	T	T	03 30 09.5	
	baz=325,slow=76,SNR=33						
ZALV	**Zalesovo Beam**	**39.36**	**308**	P	**P**	**02 58 42.0**	**+0.1**
	3.4nm,0.8s,baz=88,slow=7.0,SNR=13						
MKAR	**Makanchi Array**	**42.38**	**298**	P	**P**	**02 59 07.1**	**+0.1**
	1.3nm,0.7s,baz=78,slow=11,SNR=11						
KURBB	**Kurchatov Arra**	**43.77**	**304**	P	**P**	**02 59 17.9**	**-0.1**
	2.8nm,0.4s,baz=77,slow=8.8,SNR=20						
ILAR	**Eielson Array**	**44.84**	**35**	P	**P**	**02 59 26.1**	**-0.3**
	0.3nm,0.5s,baz=263,slow=5.6,SNR=6.7						
BVAR	**Borovoye Array**	**47.97**	**309**	P	**P**	**02 59 51.4**	**+0.3**
	1.4nm,0.3s,baz=78,slow=9.2,SNR=8.8						
INK	**Inuvik**	**49.56**	**29**	P	**P**	**03 00 03.0**	**0.0**
	0.6nm,0.4s,baz=313,slow=12,SNR=7.7						
INK				LR	LR	03 23 05.9	
	comp=Z,26nm,18.1s,baz=272,slow=38						
ARCES	**ARCESS Array B**	**59.64**	**339**	P	**P**	**03 01 14.9**	**-1.1**
	2.3nm,1.1s,baz=35,slow=6.5,SNR=4.8						
WRA	**Warramunga Arr**	**62.14**	**189**	P	**P**	**03 01 33.0**	**-0.5**
	0.5nm,0.9s,baz=6.5,slow=6.8,SNR=6.3						
FINES	**FINESS Array B**	**64.81**	**332**	P	**P**	**03 01 50.3**	**-0.4**
	2.6nm,0.7s,baz=47,slow=8.0,SNR=12						
NB2	**NORSAR Subarra**	**69.92**	**337**	P	**P**	**03 02 22.3**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**69.92**	**337**	P	**P**	**03 02 22.1**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=39,slow=6.1,SNR=7.5						
AKASG	**Malin Array Be**	**70.89**	**322**	P	**P**	**03 02 28.4**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=45,slow=6.2,SNR=3.4						
BRTR	**Keskin Array B**	**76.20**	**311**	P	**P**	**03 03 00.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=103,slow=2.7,SNR=3.7						
TXAR	**Lajitas Array**	**86.39**	**53**	P	**P**	**03 03 56.2**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=299,slow=4.0,SNR=2.9						

*ATH **30** 03:11:12.8, 39.27N×21.11E, h74km±21km, ML1.9/5, Error ellipse: s-maj=21.7km s-min=9.6km az=253.0*

CSEM 30 03:11:20.1, 39.48N×20.85E, h14km, ML1.5/6, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.18**	**1**	P	Pg	03 11 23.3	-1.0
JAN				S	Sb	03 11 28.2	-0.5
JAN	**Janina**	**0.18**	**1**	S	Sg	03 11 19.9	-7.3
JAN				AML	AML	03 11 29.7	
	comp=E,403μm,0.3s						
DSL	**Palaion Diasel**	**0.40**	**151**	P	Pg	03 11 27.4	-0.6
DSL				S	Sg	03 11 33.8	+0.4
DSL	**Palaion Diasel**	**0.40**	**151**	P	Pn	03 11 31.3	-0.2
DSL				S	Sb	03 11 35.2	+0.4
DSL				AML	AML	03 11 39.8	
	comp=E,132μm,0.5s						
DSL				AML	AML	03 11 40.2	
	comp=N,129μm,0.3s						
IGT	**Igoumenitsa**	**0.40**	**278**	P	Pg	03 11 27.7	-0.5
IGT				S	Sg	03 11 34.1	+0.5
IGT	**Igoumenitsa**	**0.40**	**278**	P	Pg	03 11 27.6	-0.6
IGT				S	Sg	03 11 28.6	-5.0
IGT				AML	AML	03 11 36.6	
	comp=E,370μm,0.3s						
IGT				AML	AML	03 11 36.7	
	comp=N,414μm,0.4s						
SGD	**Sagiada**	**0.49**	**286**	P	Pg	03 11 29.7	-0.1
SGD				S	Sb	03 11 37.5	-0.2
SGD	**Sagiada**	**0.49**	**286**	P	Pg	03 11 30.1	+0.2
SGD				S	Sg	03 11 32.8	-3.6
KPRO	**Kipourio**	**0.62**	**40**	P	Pg	03 11 32.2	-0.1
KPRO				S	Sb	03 11 41.0	-0.4
KPRO	**Kipourio**	**0.62**	**40**	P	Pn	03 11 35.4	+0.8
KPRO				S	Sb	03 11 41.3	-0.2
KPRO				AML	AML	03 11 49.5	
	comp=N,53μm,0.5s						
KPRO				AML	AML	03 11 50.9	
	comp=E,68μm,0.6s						
LKD2	**Lefkada island**	**0.70**	**192**	P	Pb	03 11 34.4	+0.2
LKD2				S	Sb	03 11 44.0	+0.2
LKD2	**Lefkada island**	**0.70**	**192**	P	Pn	03 11 40.5	+4.8
LKD2				S	Sn	03 11 49.3	+2.9
PENT	**Pentalofos**	**0.75**	**17**	P	Pb	03 11 35.1	0.0
PENT	**Pentalofos**	**0.75**	**17**	P	Pn	03 11 38.1	+1.6
KEK	**Kerkira**	**0.84**	**286**	P	Pg	03 11 36.2	-0.2
KEK				S	Sb	03 11 47.7	-0.1
THL	**Klokotos Trika**	**0.91**	**84**	P	Pb	03 11 37.4	-0.2
NEST	**Nestorio**	**0.95**	**9**	P	Pb	03 11 38.1	-0.3
NEST	**Nestorio**	**0.95**	**9**	P	Pn	03 11 41.9	+2.7

*CSEM **30** 03:11:22.6±0.1, 38.30N×21.79E, h10km, ML1.3, Error ellipse: s-maj=1.8km s-min=1.6km az=17.0*
*ATH **30** 03:11:23.0, 38.29N×21.78E, h8km±1km, ML1.3/10, Error ellipse: s-maj=1.4km s-min=0.6km az=93.0*

THE 30 03:11:23.3, 38.29N×21.78E, h6km±1km, ML1.6/10, Error ellipse: s-maj=1.0km s-min=0.4km az=124.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.01**	**157**	P	Pg	03 11 24.2	-0.1
UPR				S	Sg	03 11 24.9	-0.1
UPR	**University Cam**	**0.01**	**157**	P	Pg	03 11 24.2	-0.1
UPR				S	Sg	03 11 25.5	+0.5
UPR	**University Cam**	**0.01**	**157**	P	Pg	03 11 23.9	-0.4
UPR				S	Sg	03 11 25.5	+0.5
LAKA	**Lakka**	**0.16**	**109**	P	Pg	03 11 26.6	0.0
LAKA				S	Sg	03 11 29.2	+0.4
LAKA	**Lakka**	**0.16**	**109**	P	Pg	03 11 26.8	+0.2
LAKA				S	Sg	03 11 29.3	+0.5
LAKA	**Lakka**	**0.16**	**109**	P	Pg	03 11 26.8	+0.2
LAKA				S	Sg	03 11 29.3	+0.5
LAKA				AML	AML	03 11 29.8	
	comp=E,203μm,0.2s						
LAKA				AML	AML	03 11 30.7	
	comp=N,158μm,0.3s						
EFP	**Efpalio**	**0.17**	**36**	P	Pg	03 11 26.4	-0.2
EFP				S	Sg	03 11 29.6	+0.7
EFP	**Efpalio**	**0.17**	**36**	P	Pg	03 11 26.4	-0.2
EFP				S	Sg	03 11 29.6	+0.7
EFP	**Efpalio**	**0.17**	**36**	P	Pg	03 11 26.3	-0.3
EFP				AML	AML	03 11 29.7	
	comp=E,950μm,0.2s						
EFP				S	Sg	03 11 29.8	+0.9
EFP				AML	AML	03 11 31.3	
	comp=N,417μm,0.3s						
TRIZ	**Trizonia**	**0.24**	**72**	P	Pg	03 11 28.5	+0.5
TRIZ				S	Sg	03 11 32.3	+1.1
KALE	**Kalithea**	**0.30**	**71**	P	Pg	03 11 29.0	-0.1
KALE				S	Sg	03 11 33.5	+0.4
KALE	**Kalithea**	**0.30**	**71**	P	Pg	03 11 29.0	-0.1
KALE				S	Sg	03 11 33.5	+0.4
KALE	**Kalithea**	**0.30**	**71**	P	Pg	03 11 29.1	0.0
KALE				S	Sg	03 11 34.0	+0.9
KALE				AML	AML	03 11 34.5	
	comp=E,97μm,0.3s						
KALE				AML	AML	03 11 38.4	
	comp=N,113μm,0.2s						
ANX	**Ano Chora**	**0.32**	**20**	P	Pg	03 11 29.1	-0.5
ANX				S	Sg	03 11 34.5	+0.7
ANX	**Ano Chora**	**0.32**	**20**	P	Pg	03 11 29.1	-0.5
ANX				S	Sg	03 11 34.5	+0.7
ANX	**Ano Chora**	**0.32**	**20**	AML	AML	03 11 34.7	
	comp=E,320μm,0.2s						
ANX				S	Sg	03 11 34.7	+0.9
ANX				AML	AML	03 11 34.7	
	comp=N,361μm,0.3s						
AXS	**Araxos**	**0.33**	**253**	P	Pg	03 11 29.1	-0.7
AXS				S	Sg	03 11 34.6	+0.4
AXS	**Araxos**	**0.33**	**253**	P	Pg	03 11 29.1	-0.7
AXS				S	Sg	03 11 34.6	+0.4
RLS	**Riolos of Patr**	**0.34**	**227**	P	Pg	03 11 29.8	-0.1
RLS				S	Sg	03 11 35.4	+1.0
RLS	**Riolos of Patr**	**0.34**	**227**	P	Pg	03 11 29.8	-0.1
RLS				S	Sg	03 11 35.1	+0.7
RLS	**Riolos of Patr**	**0.34**	**227**	S	Sg	03 11 35.1	+0.7
RLS				AML	AML	03 11 35.9	
	comp=E,103μm,0.2s						
RLS				AML	AML	03 11 37.1	
	comp=N,163μm,0.2s						
DRO	**Drossia**	**0.34**	**189**	P	Pg	03 11 29.8	-0.2
DRO				S	Sg	03 11 35.1	+0.6
DRO	**Drossia**	**0.34**	**189**	P	Pg	03 11 29.8	-0.2
DRO				S	Sg	03 11 35.1	+0.6
DRO	**Drossia**	**0.34**	**189**	P	Pg	03 11 30.1	+0.1
DRO				S	Sg	03 11 35.3	+0.8
DRO				AML	AML	03 11 36.0	
	comp=E,215μm,0.4s						
DRO				AML	AML	03 11 41.5	
	comp=N,183μm,0.4s						
PVO	**Paravola**	**0.38**	**328**	P	Pg	03 11 30.0	-0.7
PVO				S	Sg	03 11 36.4	+0.7
PVO	**Paravola**	**0.38**	**328**	P	Pg	03 11 30.0	-0.7
PVO				S	Sg	03 11 36.4	+0.7
PVO	**Paravola**	**0.38**	**328**	P	Pg	03 11 29.8	-0.9
PVO				S	Sg	03 11 36.8	+1.1
KLV	**Kalavryta, Ach**	**0.38**	**130**	P	Pg	03 11 30.4	-0.3
KLV				S	Sg	03 11 36.5	+0.7
KLV	**Kalavryta, Ach**	**0.38**	**130**	P	Pg	03 11 30.4	-0.3
KLV				S	Sg	03 11 36.5	+0.7
KLV	**Kalavryta, Ach**	**0.38**	**130**	P	Pg	03 11 30.7	0.0
KLV				S	Sg	03 11 36.5	+0.8
KLV				AML	AML	03 11 38.8	
	comp=E,39μm,0.3s						
KLV				AML	AML	03 11 39.4	
	comp=N,25μm,0.2s						
PDO	**Prodromos**	**0.56**	**303**	P	Pg	03 11 33.3	-0.8
PDO				S	Sg	03 11 42.5	+1.1
PDO	**Prodromos**	**0.56**	**303**	P	Pg	03 11 33.3	-0.8
PDO				S	Sg	03 11 41.9	+0.5
PDO	**Prodromos**	**0.56**	**303**	P	Pg	03 11 34.2	+0.1
PDO				S	Sg	03 11 41.9	+0.5
PDO				AML	AML	03 11 44.8	
	comp=N,344μm,0.3s						
PDO				AML	AML	03 11 46.1	
	comp=E,193μm,0.2s						
GUR	**Goura**	**0.57**	**129**	P	Pg	03 11 33.6	-0.6
GUR				S	Sg	03 11 42.6	+1.0
GUR	**Goura**	**0.57**	**129**	P	Pg	03 11 33.6	-0.6
GUR				S	Sg	03 11 41.8	+0.2
GUR	**Goura**	**0.57**	**129**	P	Pg	03 11 33.4	-0.8
GUR				S	Sg	03 11 41.8	+0.1
GUR				AML	AML	03 11 43.6	
	comp=N,168μm,0.3s						
GUR				AML	AML	03 11 44.8	
	comp=E,127μm,0.3s						
DSF	**Desfina**	**0.60**	**78**	P	Pg	03 11 33.8	-1.0
DSF				S	Sg	03 11 43.0	+0.4
DSF	**Desfina**	**0.60**	**78**	P	Pg	03 11 33.8	-1.0
DSF				S	Sg	03 11 43.0	+0.4
DSF				AML	AML	03 11 46.0	
	comp=N,61μm,0.1s						
DSF				AML	AML	03 11 46.1	
	comp=E,49μm,0.2s						
EVR	**Evrytania**	**0.62**	**2**	P	Pg	03 11 34.5	-0.8
EVR				S	Sg	03 11 43.6	+0.1
EVR	**Evrytania**	**0.62**	**2**	P	Pg	03 11 34.5	-0.9
EVR				S	Sg	03 11 43.6	+0.1
KFL	**Anninata**	**0.80**	**257**	P	Pg	03 11 37.9	-0.8
KFL				S	Sb	03 11 50.3	-0.6
KFL	**Anninata**	**0.80**	**257**	P	Pg	03 11 37.9	-0.8
KFL				S	Sb	03 11 50.3	-0.6
AGG	**Agios Georgios**	**0.85**	**30**	P	Pg	03 11 38.5	-1.0
AGG	**Agios Georgios**	**0.85**	**30**	P	Pg	03 11 38.5	-1.1
TRIP	**Tripoli**	**0.86**	**153**	P	Pg	03 11 38.7	-1.0
TRIP	**Tripoli**	**0.86**	**153**	P	Pg	03 11 38.7	-1.0
LTK	**Loutraki**	**0.97**	**106**	P	Pg	03 11 41.0	-1.0
LTK	**Loutraki**	**0.97**	**106**	P	Pg	03 11 41.0	-0.9
ZKS	**Zakynthos**	**0.99**	**233**	P	Pg	03 11 42.5	+0.3
ZKS	**Zakynthos**	**0.99**	**233**	P	Pg	03 11 42.5	+0.2
VLX	**Vlachokerasia**	**1.03**	**153**	P	Pg	03 11 42.6	-0.6
VLX	**Vlachokerasia**	**1.03**	**153**	P	Pg	03 11 42.6	-0.5
ITM	**Ithomi**	**1.12**	**174**	P	Pg	03 11 41.8	-2.9
DID	**Didima**	**1.39**	**124**	P	Pn	03 11 48.4	-1.0
DID	**Didima**	**1.39**	**124**	P	Pn	03 11 48.4	-1.0

*SKHL **30** 03:21:24.9±0.4, 43.54N×147.47E, h50km, mb4.5/3*
*JMA **30** 03:21:25.1±0.2, 43.46N×147.30E, h31km, M3.7*

ISC 30 03:21:23.7±2.8, 43.52N±0.10×147.5E±0.1, h34km±3km, n13, σ0 94/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.60**	**306**	*e*P	**Pb**	**03 21 35.7**	**-0.2**
SHO				AMB	AMB	03 21 36.8	
	300nm,0.4s						
SHO				AMB	AMB	03 21 36.8	
	260nm,0.4s						
SHO				AMB	AMB	03 21 36.8	
	490nm,0.4s						
SHO				*e*S	**Sb**	**03 21 44.1**	**-0.2**
SHO				A	A	03 21 44.4	
	170nm,0.2s						
SHO				A	A	03 21 44.4	
	450nm,0.2s						
NEM2	**Nemuro 2**	**1.29**	**264**	P	**Pn**	**03 21 45.2**	**-0.1**
NEM2				*e*S	**Sn**	**03 22 00.2**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.30**	**294**	*e*P	**Pn**	**03 21 45.6**	**+0.2**
YUK				AMB	AMB	03 21 48.6	
	96nm,0.2s						
YUK				AMB	AMB	03 21 48.6	
	67nm,0.2s						
YUK				AMB	AMB	03 21 48.6	
	212nm,0.2s						
YUK				*e*S	**Sn**	**03 22 00.8**	**-0.8**
YUK				A	A	03 22 04.0	
	600nm,0.3s						
YUK				A	A	03 22 04.0	
	110nm,0.3s						
KUR	**Kuril'sk**	**1.73**	**8**	*e*P	**Pn**	**03 21 51.1**	**-0.3**
KUR				AMB	AMB	03 21 57.0	
	15nm,0.1s						
KUR				*e*S	**Sn**	**03 22 12.5**	**+0.2**
KUR				A	A	03 22 13.3	
	41nm,0.2s						
KUR				A	A	03 22 13.3	
	97nm,0.2s						
JRA	**Rausu**	**1.78**	**284**	P	**Pn**	**03 21 52.7**	**+0.7**
JRA				*e*S	**Sn**	**03 22 12.9**	**-0.5**
JNK	**Nakash**	**2.03**	**273**	P	**Pn**	**03 21 55.6**	**+0.2**
JNK				*e*S	**Sn**	**03 22 18.2**	**-1.4**
JAK	**Akkeshi**	**2.12**	**257**	P	**Pn**	**03 21 57.0**	**+0.3**
JAK				*e*S	**Sn**	**03 22 20.1**	**-1.3**
JTKR	**Abashiri--Toko**	**2.65**	**281**	*e*S	**Sn**	**03 22 36.2**	**+1.4**
JAR	**Ashorobuto**	**2.73**	**267**	P	**Pn**	**03 22 06.1**	**+1.0**
JAR				*e*S	**Sn**	**03 22 36.3**	**-0.7**
JOB	**Onbets**	**2.75**	**258**	P	**Pn**	**03 22 06.1**	**+0.7**
JCH	**Churui**	**3.17**	**255**	*e*S	**Sn**	**03 22 46.6**	**-1.1**
JFR	**Furan**	**3.60**	**266**	P	**Pn**	**03 22 19.0**	**+1.9**
JFR				*e*S	**Sn**	**03 22 58.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**3.71**	**252**	P	**Pn**	**03 22 19.1**	**+0.6**

*ISCJB **30** 03:39:26.7±0.4, 59.86N±0.03×153.35W±0.07, h144km±4km, mb4.0/1, Error ellipse: s-maj=6.9km s-min=3.7km az=35.8*
*NEIC **30** 03:39:29.2, 59.87N×153.38W, h134km, MG2.8(AEIC), After AEIC.*
*IDC **30** 03:39:29.7±8.7, 60.15N×153.26W, h134km±70km, mb3.7/1, mb1 3.2/3, mb1mx2.9/39, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/45, Error ellipse: s-maj=72.3km s-min=38.2km az=25.0*

ISC 30 03:39:27.6±1.0, 59.89N±0.04×153.33W±0.04, h143km±6km, n64, σ1 9 40/79, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.15**	**63**	P	**Pn**	**03 39 47.1**	**+0.1**
IVE	**Iliamna Volcan**	**0.20**	**51**	P	**Pn**	**03 39 47.1**	**-0.1**
OPT	**Oil Point**	**0.24**	**168**	P	**Pn**	**03 39 47.2**	**0.0**
AUL	**Augustine Lava**	**0.51**	**186**	P	**Pn**	**03 39 48.2**	**0.0**
AUL				S	**Sn**	**03 40 03.5**	**-0.4**
AUE	**Augustine Isla**	**0.53**	**182**	P	**Pn**	**03 39 48.2**	**-0.1**
AUSE	**Augustine SEas**	**0.55**	**184**	P	**Pn**	**03 39 48.2**	**-0.2**
AUI	**Augustine Isla**	**0.56**	**185**	P	**Pn**	**03 39 48.4**	**-0.1**
AUI				S	**Sn**	**03 40 03.1**	**-1.2**
RDWB	**Redoubt West**	**0.65**	**22**	P	**Pn**	**03 39 49.1**	**-0.1**
RDWB				S	**Sn**	**03 40 05.0**	**-0.6**
NCT	**North Crescent**	**0.70**	**16**	P	**Pn**	**03 39 49.7**	**+0.2**
RDJH	**Redoubt Jeurge**	**0.75**	**20**	P	**Pn**	**03 39 50.0**	**+0.2**
RDJH				S	**Sn**	**03 40 07.0**	**+0.2**
HOM	**Homer**	**0.88**	**105**	P	**Pn**	**

WRH	**Wood River Hil**	**5.21**	**26**	P	**Pn**	**03 40 43.0**	**-0.6**
CCB	**Clear Creek Bu**	**5.42**	**26**	P	**Pn**	**03 40 45.9**	**-0.5**
PTPK	**Patty Peak**	**5.52**	**72**	P	**Pn**	**03 40 48.7**	**+0.9**
KIAG	**Kiagna River**	**5.54**	**74**	P	**Pn**	**03 40 47.8**	**-0.3**
BALM	**Baldy**	**5.55**	**73**	P	**Pn**	**03 40 48.7**	**+0.4**
COLA	**College**	**5.61**	**25**	*e*Pn	**Pn**	**03 40 48.0**	**-0.8**
IL1	**Eielson Array**	**5.74**	**29**	P	**Pn**	**03 40 50.4**	**-0.3**
ILAR	**Eielson Array**	**5.74**	**29**	P	**Pn**	**03 40 50.2**	**-0.4**
	0.7nm,0.3s,baz=216,slow=13,SNR=52						
ILAR				S	**Sn**	**03 41 51.1**	**-4.4**
	0.3nm,0.3s,baz=210,slow=17,SNR=4.7						
ILB	**Eielson Array**	**5.74**	**29**	P	**Pn**	**03 40 50.3**	**-0.3**
PCA	**Pinnacle**	**6.56**	**83**	P	**Pn**	**03 41 02.5**	**+0.8**
YKA	**Yellowknife Ar**	**18.65**	**65**	P	**P**	**03 43 36.0**	**+2.0**
	0.0nm,0.3s,baz=276,slow=9.8,SNR=4.9						
YKA	**Yellowknife Ar**	**18.65**	**65**	P	**P**	**03 43 36.0**	**+2.0**
KSRS	**Korea Array**	**53.04**	**282**	LR	LR	04 11 59.2	
	comp=Z,22nm,20.5s,baz=175,slow=37						
ZALV	**Zalesovo Beam**	**57.36**	**323**	P	**P**	**03 49 01.8**	**+1.5**
	0.8nm,0.4s,baz=31,slow=8.9,SNR=3.0						

BJI ***30*** *03:46:31.8,51.˝70N×170.˝40W,h21km,mb4.6/7,mB5.0/5, Ms4.7/4,Ms7 4.7/3*

IDC ***30*** *03:46:32.6±1.6,51.˝96N×170.˝55W,h0km,mb3.8/15, mb1 4.0/17,mb1mx3.8/64,mbtmp3.8/17,ML3.8/2,MS3.2/7, Ms1 3.1/7,ms1mx2.9/53,Error ellipse: s-maj=40.5km s-min=17.2km az=1.0*

ISCJB ***30*** *03:46:34.6±0.6,51.˝72N±0.˝09×170.˝29W±0.˝05,h31km, mb4.0/20,MS3.2/6,Error ellipse: s-maj=12.8km s-min=3.3km az=163.2*

NEIC ***30*** *03:46:36.0,51.˝74N×170.˝32W,h30km,mb4.2/9, ML3.6(AEIC),After AEIC.*

ISC 30 03:46:37.0±0.8,51.˚9N±0.˚1×170.˚37W±0.˚06,h31km,n67, σ1§25/63,mb4.0/19,MS3.3/6,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.45**	**39**	P	**Pn**	**03 47 00.8**	**-0.2**
NIKH				S	**Sb**	**03 47 21.3**	**0.0**
OKWR	**Okmok West Rim**	**2.05**	**39**	P	**Pn**	**03 47 10.9**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**2.08**	**42**	P	**Pn**	**03 47 10.9**	**+1.1**
OKAK	**Okmok**	**2.11**	**35**	P	**Pn**	**03 47 09.5**	**-0.6**
KOSE	**Korovin Southe**	**2.32**	**283**	P	**Pn**	**03 47 14.2**	**+1.1**
KOFP	**Korovin Flat P**	**2.34**	**282**	P	**Pn**	**03 47 13.9**	**+0.6**
KONE	**Korovin Northe**	**2.37**	**284**	P	**Pn**	**03 47 15.0**	**+1.3**
KOKL	**Mount Kliuchef**	**2.41**	**283**	P	**Pn**	**03 47 15.7**	**+1.4**
KOWE	**Korovin West**	**2.45**	**283**	P	**Pn**	**03 47 16.0**	**+1.2**
UNV	**Unalaska Vaile**	**3.07**	**48**	*e*Pn	**Pn**	**03 47 23.7**	**+0.4**
UNV				*e*S	**Sn**	**03 48 01.2**	**+2.2**
GSMY	**Great Sitkin M**	**3.52**	**275**	P	**Pn**	**03 47 29.6**	**0.0**
GSTR	**Great Sitkin T**	**3.53**	**276**	*e*Pn	**Pn**	**03 47 29.6**	**0.0**
GSTD	**Great Sitkin T**	**3.58**	**275**	P	**Pn**	**03 47 30.6**	**+0.2**
GSTD				S	**Sn**	**03 48 13.1**	**+1.5**
GSCK	**Great Sitkin C**	**3.59**	**275**	P	**Pn**	**03 47 30.3**	**-0.2**
ETKA	**Kagalaska Isla**	**3.74**	**272**	P	**Pn**	**03 47 32.8**	**+0.2**
ADAG	**Mount Adagdak**	**3.86**	**274**	P	**Pn**	**03 47 35.1**	**+0.9**
KIRH	**Kanaga Island**	**4.17**	**273**	P	**Pn**	**03 47 39.0**	**+0.6**
TAPA	**Tanaga Point A**	**4.62**	**272**	P	**Pn**	**03 47 44.7**	**+0.1**
TAFP	**Tanaga Falls P**	**4.72**	**273**	P	**Pn**	**03 47 46.9**	**+0.9**
DT1	**Dutton Round H**	**5.82**	**53**	P	**Pn**	**03 48 02.8**	**+1.7**
DTNA	**Dutton South F**	**5.85**	**53**	P	**Pn**	**03 48 03.1**	**+1.6**
SDPT	**Sand Point**	**6.84**	**55**	*e*Pn	**Pn**	**03 48 16.1**	**+1.0**
SDPT				*e*S	**Sn**	**03 49 31.3**	**-0.5**
CHGN	**Chignik**	**8.31**	**53**	*e*Pn	**Pn**	**03 48 36.1**	**+0.9**
OHAK	**Old Harbor**	**11.27**	**55**	*e*Pn	**Pn**	**03 49 13.9**	**-1.7**
SEW	**Seward**	**14.27**	**47**	*e*Pn	**Pn**	**03 49 54.8**	**-1.7**
RC01	**Rabbit Creek A**	**14.61**	**43**	*e*Pn	**Pn**	**03 50 00.2**	**-1.0**
BPAW	**Bear Paw Mtn.**	**15.90**	**32**	*e*Pn	**P**	**03 50 20.1**	**-1.6**
	4.7nm,0.8s						
KLU	**Klutina**	**16.43**	**45**	*e*Pn	**Pn**	**03 50 23.1**	**-1.9**
	28nm,1.8s						
ILAR	**Eielson Array**	**17.72**	**34**	P	**Pn**	**03 50 40.5**	**-0.5**
	0.2nm,0.3s,baz=231,slow=9.7,SNR=16						
PETK	**Petropavlovsk-**	**19.41**	**286**	P	**P**	**03 50 59.8**	**-0.5**
	0.8nm,0.3s,baz=84,slow=13,SNR=11						
PETK				LR	LR	03 59 08.9	
	comp=Z,43nm,18.1s,baz=93,slow=39						
EGAK	**Eagle**	**19.82**	**38**	*e*P	**P**	**03 51 04.2**	**-0.4**
	3.3nm,0.6s						
HYT	**Haines Junctio**	**20.10**	**51**	*e*P	Pn	03 51 10.3	+0.5
	45nm,1.1s						
DAWY	**Dawson**	**20.22**	**41**	*e*P	**P**	**03 51 09.5**	**+0.4**
	4.4nm,0.9s						
SKAG	**Skagway**	**20.97**	**55**	*e*P	Pn	03 51 19.8	0.0
	21nm,0.9s						
SEY	**Seymchan**	**22.57**	**314**	P	**P**	**03 51 33.2**	**-1.0**
	1.1nm,0.3s,baz=116,slow=13,SNR=4.4						
DLBC	**Dease Lake**	**23.68**	**58**	P	**P**	**03 51 45.1**	**-0.5**
	5.8nm,1.1s,baz=270,slow=11,SNR=3.3						
INK	**Inuvik**	**24.11**	**33**	P	**P**	**03 51 49.0**	**-0.5**
	2.9nm,0.4s,baz=219,slow=6.6,SNR=14						
INK	**Inuvik**	**24.11**	**33**	*e*P	**P**	**03 51 48.9**	**-0.5**
	13nm,1.4s						
YKA	**Yellowknife Ar**	**31.04**	**48**	P	**P**	**03 52 52.6**	**+1.1**
	0.4nm,0.4s,baz=275,slow=8.2,SNR=18						
YKA				LR	LR	04 07 55.4	
	comp=Z,7.4nm,19.0s,baz=180,slow=41						
H11S1	**WAKE ISLAND Hy**	**37.87**	**217**	T	T	04 35 03.6	
	baz=22,slow=74						
H11S2	**WAKE ISLAND Hy**	**37.88**	**217**	T	T	04 34 28.7	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**37.88**	**217**	T	T	04 34 31.2	
	baz=22,slow=74						
N16A	**Rees Ranch, Co**	**41.05**	**81**	*e*P	**P**	**03 54 18.2**	**+0.6**
CN2	**Changchun**	**42.55**	**285**	*e*P	**P**	**03 54 29.0**	**-0.6**
SRU	**San Rafael Swe**	**42.67**	**83**	*e*P	**P**	**03 54 27.2**	**-3.6**
	5.7nm,0.5s						
ULM	**Lac du Bonnet**	**44.93**	**61**	LR	LR	04 15 33.2	
	comp=Z,50nm,18.9s,baz=310,slow=39						
SPITS	**Spitsbergen Ar**	**50.16**	**358**	P	**P**	**03 55 27.9**	**-0.9**
	1.2nm,0.6s,baz=46,slow=3.6,SNR=6.2						
SONA1	**Songino Array**	**51.02**	**301**	*e*P	**P**	**03 55 34.4**	**-1.5**
SONM	**Songino Array**	**51.03**	**301**	P	**P**	**03 55 34.5**	**-1.4**
	0.4nm,0.5s,baz=46,slow=8.3,SNR=4.2						
SUMG	**Summit**	**51.44**	**17**	*e*P	**P**	**03 55 39.7**	**+0.7**
	7.1nm,1.1s						
HHC	**Hu-ho-hao-te**	**52.52**	**291**	*e*P	**P**	**03 55 47.3**	**+0.1**
HHC				PMZ			
	17nm,1.2s						
HHC				PMZ			
	92nm,6.4s						
TX31	**Lajitas Ar. Si**	**53.38**	**88**	*e*P	**P**	**03 55 53.9**	**+0.3**
TXAR	**Lajitas Array**	**53.38**	**88**	P	**P**	**03 55 54.0**	**+0.4**
	0.9nm,0.7s,baz=297,slow=5.5,SNR=9.1						
SCHQ	**Schefferville**	**56.23**	**43**	P	**P**	**03 56 15.2**	**+1.4**
	2.3nm,0.7s,baz=295,slow=5.7,SNR=3.7						
JMIC	**Jan Mayen**	**56.77**	**7**	LR	LR	04 20 09.8	
	comp=Z,24nm,19.9s,baz=48,slow=36						
ZALV	**Zalesovo Beam**	**57.38**	**317**	P	**P**	**03 56 19.8**	**-2.1**
	0.4nm,0.3s,baz=74,slow=1.8,SNR=2.2						
ZALV				LR	LR	04 22 13.1	
	comp=Z,30nm,19.5s,baz=68,slow=37						
ARCES	**ARCESS Array B**	**58.36**	**354**	P	**P**	**03 56 28.0**	**-0.5**
	0.4nm,0.5s,baz=19,slow=9.5,SNR=8.1						
ARCES				LR	LR	04 24 01.8	
	comp=Z,18nm,18.2s,baz=12,slow=39						
WMQ	**Urumqi**	**63.35**	**308**	P	**P**	**03 57 05.8**	**+2.8**
WMQ				pP	sP	03 57 15.8	-0.4
WMQ				sP	pP	03 57 19.8	+7.2
WMQ				PMZ			
	5.0nm,0.7s						
WMQ				PMZ			
	61nm,4.1s						
WMQ				LN			
	40nm,23.7s						
WMQ				LE			
	58nm,23.1s						
MKAR	**Makanchi Array**	**63.70**	**313**	P	**P**	**03 57 04.3**	**-0.9**
	0.3nm,0.4s,baz=58,slow=9.2,SNR=4.1						
ZRNK	**Zerenda**	**64.31**	**325**	*e*P	**P**	**03 57 08.8**	**-0.3**
	14nm,1.6s						
FINES	**FINESS Array B**	**66.28**	**351**	P	**P**	**03 57 21.0**	**-0.6**
	0.5nm,0.3s,baz=259,slow=36,SNR=7.2						
FINES				LR	LR	04 30 12.4	
	comp=Z,30nm,18.1s,baz=38,slow=40						
NOA	**NORSAR Array B**	**67.44**	**359**	P	**P**	**03 57 29.1**	**+0.1**
	0.3nm,0.4s,baz=3.8,slow=6.6,SNR=3.1						
KMI	**Kunming**	**68.79**	**284**	P	**P**	**03 57 42.0**	**+3.6**
KMI				PMZ			
	5.0nm,0.7s						
ABKAR	**Akbulak array**	**70.54**	**328**	*e*P	**P**	**03 57 48.1**	**-0.3**
	0.8nm,0.6s						
GERES	**GERESS Array B**	**79.61**	**357**	P	**P**	**03 58 40.5**	**-0.4**
	0.2nm,0.3s,baz=350,slow=5.4,SNR=3.7						
BRTR	**Keskin Array B**	**86.41**	**342**	P	**P**	**03 59 17.4**	**+1.1**
	0.2nm,0.5s,baz=72,slow=2.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**114.89**	**9**	PKP	PKPdf	04 05 16.0	+1.2
	0.3nm,0.8s,baz=31,slow=1.1,SNR=3.4						

GUC 30 03:49:56.8±0.3,23.˚58S×67.˚44W,h240km±9km,ML4.1, 7C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**2.15**	**293**	⇑*i*P	Pn	03 50 41.7	+1.7
PB06				*i*S	S	03 51 15.8	+1.9
PB06				IAML		03 51 17.8	
	comp=E,313nm,0.5s						
PB09	**IPOC Station P**	**2.43**	**316**	⇑*i*P	Pn	03 50 45.0	+2.1
PB09				*e*S	S	03 51 21.1	+2.0
PB09				IAML		03 51 29.0	
	comp=E,383nm,0.2s						
PB04	**IPOC Station P**	**2.79**	**296**	⇑*i*P	Pn	03 50 48.8	+2.2
PB04				*i*S	S	03 51 28.3	+2.6
PB04				IAML		03 51 31.3	
	comp=N,208nm,0.1s						
PB10	**IPOC Station P**	**2.86**	**271**	⇑*i*P	Pn	03 50 49.2	+2.0
PB10				*e*S	S	03 51 29.0	+2.1
PB10				IAML		03 51 32.4	
	comp=N,338nm,0.3s						
PB07	**IPOC Station P**	**2.91**	**309**	⇑*i*P	Pn	03 50 50.2	+2.2
PB07				*i*S	S	03 51 30.5	+2.2
PB07				IAML		03 51 31.3	
	comp=N,200nm,0.5s						
PB07				IAML		03 51 37.9	
	comp=E,180nm,0.3s						
PB01	**IPOC Station P**	**3.15**	**323**	⇓*i*P	Pn	03 50 52.6	+2.1
PB01				*i*S	S	03 51 35.8	+2.8
PB01				IAML		03 51 38.4	
	comp=E,154nm,0.3s						
PB08	**IPOC Station P**	**3.77**	**335**	*e*P	Pn	03 51 00.8	+2.9
PB08				*i*S	S	03 51 49.5	+3.3
PB08				IAML		03 51 54.6	
	comp=E,66nm,0.5s						
HMBC	**Humberstone**	**3.99**	**325**	⇑*i*P	Pn	03 51 01.4	+1.1
HMBC				*e*S	S	03 51 51.8	+1.3
MNMC	**Minye Minye**	**4.86**	**335**	⇑*i*P	Pn	03 51 14.0	+3.1
MNMC				*i*S	S	03 52 13.1	+3.4

IDC ***30*** *03:53:33.6±0.6,1.˝43N×126.˝03E,h0km,mb4.1/14, mb1 4.2/15,mb1mx4.0/51,mbtmp4.1/15,ML3.9/1,MS2.9/2, Ms1 3.0/2,ms1mx2.6/44,Error ellipse: s-maj=44.2km s-min=12.7km az=76.0*

ISCJB ***30*** *03:53:38.9±0.5,1.˝44N±0.˝06×126.˝3E±0.˝1,h54km, mb4.3/18,MS3.4/3,Error ellipse: s-maj=15.4km s-min=8.1km az=170.2*

NEIC ***30*** *03:53:42.0±1.9,1.˝39N×126.˝25E,h67km±18km,mb4.5/3, Error ellipse: s-maj=21.2km s-min=7.6km az=71.0*

ISC 30 03:53:40.7±0.6,1.˚47N±0.˚08×126.˚5E±0.˚1,h54km,n27, σ1§53/26,mb4.2/18,MS2.8/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**4.45**	**236**	*e*Pn	**Pn**	**03 54 42.7**	**-3.0**
LUWI				*e*S	**Sn**	**03 55 39.9**	**+3.6**
KKM	**Kota Kinabalu**	**11.18**	**294**	*e*Pn	**Pn**	**03 56 18.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**19.46**	**182**	P	**P**	**03 58 01.6**	**-1.6**
	0.2nm,0.3s,baz=30,slow=7.2,SNR=5.6						
FITZ	**Fitzroy Crossi**	**19.46**	**182**	*e*P	**P**	**03 58 02.9**	**-0.2**
GUMO	**Guam**	**21.84**	**56**	LR	LR	04 06 25.0	
	comp=Z,33nm,21.2s,baz=96,slow=35						
WRAB	**Tennant Creek**	**22.64**	**160**	*e*P	**P**	**03 58 36.9**	**-0.4**
	21nm,0.8s						
WRA	**Warramunga Arr**	**22.64**	**160**	P	**P**	**03 58 37.2**	**-0.3**
	15nm,0.7s,baz=332,slow=11,SNR=138						
MBWA	**Marble Bar**	**23.43**	**196**	*e*P	**P**	**03 58 44.5**	**-0.9**
	24nm,0.8s						
ASAR	**Alice Springs**	**26.01**	**164**	P	**P**	**03 59 09.6**	**+0.7**
	3.3nm,0.6s,baz=346,slow=7.1,SNR=29						
ASAR				PcP	**PcP**	**04 02 38.5**	**+2.4**
	0.5nm,0.6s,baz=339,slow=2.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**31.84**	**304**	LR	LR	04 14 01.8	
	comp=Z,18nm,18.4s,baz=285,slow=39						
KSAR	**Wonju Array Be**	**35.82**	**2**	P	**P**	**04 00 37.2**	**+2.2**
KSRS	**Korea Array**	**35.83**	**2**	P	**P**	**04 00 37.2**	**+2.1**
	0.8nm,0.5s,baz=178,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**36.14**	**158**	P	**P**	**04 00 38.1**	**+0.3**
	4.1nm,0.6s,baz=336,slow=10,SNR=7.3						
MJAR	**Matsushiro Arr**	**36.55**	**16**	P	**P**	**04 00 42.1**	**+0.7**
	0.8nm,0.6s,baz=183,slow=10,SNR=4.1						
KLR	**Kul'dur**	**47.80**	**5**	P	**P**	**04 02 13.4**	**+0.8**
	1.0nm,0.4s,baz=229,slow=8.2,SNR=5.0						
SONM	**Songino Array**	**49.35**	**342**	P	**P**	**04 02 23.8**	**-1.0**
	0.8nm,0.5s,baz=164,slow=5.8,SNR=3.7						
MKAR	**Makanchi Array**	**59.26**	**326**	P	**P**	**04 03 36.2**	**-0.5**
	1.5nm,0.5s,baz=122,slow=8.5,SNR=17						
ZALV	**Zalesovo Beam**	**62.47**	**334**	P	**P**	**04 03 56.6**	**-1.7**
	0.5nm,0.4s,baz=134,slow=8.8,SNR=3.6						
KURK	**Kurchatov**	**63.50**	**328**	*e*P	**P**	**04 04 04.3**	**-1.0**
	44nm,0.7s						
BVAR	**Borovoye Array**	**69.06**	**328**	P	**P**	**04 04 40.5**	**-0.4**
	0.7nm,0.4s,baz=133,slow=10,SNR=5.7						
NRIK	**Nal'sik**	**72.55**	**346**	P	**P**	**04 05 00.5**	**-1.2**
	2.9nm,0.6s,baz=132,slow=6.3,SNR=3.9						
ABKAR	**Akbulak array**	**73.72**	**321**	*e*P	**P**	**04 05 08.4**	**-0.7**
	0.9nm,0.6s						
AKTO	**Aktyubinsk**	**75.26**	**322**	P	**P**	**04 05 16.5**	**-1.4**
	1.0nm,0.3s,baz=89,slow=9.5,SNR=4.3						
VNDA	**Vanda**	**81.23**	**173**	P	**P**	**04 05 50.8**	**+0.4**
	0.5nm,0.4s,baz=290,slow=6.6,SNR=6.5						
ARCES	**ARCESS Array B**	**92.46**	**340**	P	**P**	**04 06 45.1**	**-0.4**
	1.2nm,0.7s,baz=77,slow=8.7,SNR=4.7						
AKASG	**Malin Array Be**	**93.46**	**321**	LR	LR	04 51 14.1	
	comp=Z,305nm,21.2s,baz=240,slow=37						
TORD	**Torodi Ar. Bea**	**123.33**	**287**	PKP	**PKPdf**	**04 12 34.0**	**+1.2**
	0.6nm,0.7s,baz=40,slow=1.4,SNR=8.7						

IDC 30 03:59:17.1±8.0,5.˚71S×146.˚24E,h112km±79km,mb3.0/2, mb1 3.3/4,mb1mx3.0/36,mbtmp3.5/4,ML2.8/2,1C,Error ellipse: s-maj=76.2km s-min=32.7km az=139.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.78**	**166**	P	Pn	04 00 14.2	+0.5
	8.6nm,0.3s,baz=330,slow=8.2,SNR=6.0						
PMG				S	Sn	04 00 57.8	+0.4
	13nm,0.3s,baz=180,slow=20,SNR=8.1						
WRA	**Warramunga Arr**	**18.28**	**218**	P	P	04 03 22.4	+0.1
	0.1nm,0.3s,baz=39,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**21.44**	**212**	P	P	04 03 56.5	0.0
	0.3nm,0.7s,baz=46,slow=8.1,SNR=3.2						
ILAR	**Eielson Array**	**85.52**	**23**	P	P	04 11 42.4	+0.1
	0.7nm,0.8s,baz=237,slow=5.2,SNR=7.8						
SYO	**Syowa Base**	**90.60**	**200**	⇑*e*P	P	04 12 09.0	+2.6
TORD	**Torodi Ar. Bea**	**144.29**	**285**	PKP	PKPbc	04 18 39.9	+0.3
	0.3nm,0.4s,baz=66,slow=3.6,SNR=19						

ISCJB ***30*** *04:10:22.9±0.5,39.˚19N±0.˚03×28.˚92E±0.˚03,h5km±6km, Error ellipse: s-maj=5.9km s-min=3.9km az=165.7*

DDA ***30*** *04:10:22.5,39.˚19N×28.˚92E,h5km,Ml3.0*

ISK ***30*** *04:10:22.5,39.˚18N×28.˚93E,h6km,MD3.0*

CSEM ***30*** *04:10:23.2±0.1,39.˚17N×28.˚93E,h8km,ML3.0,Error ellipse: s-maj=2.1km s-min=1.9km az=161.0*

ISC 30 04:10:23.0±1.0,39.˚18N±0.˚02×28.˚95E±0.˚02,h8km±9km, n55,σ0§65/67,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.23**	**232**	P	**Pg**	**04 10 27.8**	**+0.2**
DEMI				S	**Sg**	**04 10 31.0**	**+0.3**
DEMI	**Demirci**	**0.23**	**232**	*i*P	**Pg**	**04 10 27.8**	**+0.2**
DEMI				*i*S	**Sg**	**04 10 31.0**	**+0.3**
GEDZ	**Gediz**	**0.39**	**111**	*e*PG	**Pb**	**04 10 31.3**	**-0.9**
GEDZ	**Gediz**	**0.39**	**111**	*e*Pg	**Pb**	**04 10 31.3**	**-0.9**
GDZ	**Gediz**	**0.43**	**103**	P	**Pg**	**04 10 31.8**	**+0.4**
GDZ				S	**Sb**	**04 10 38.5**	**-1.1**
GDZ	**Gediz**	**0.43**	**103**	*i*P	**Pg**	**04 10 31.8**	**+0.4**
GDZ				*i*S	**Sg**	**04 10 38.5**	**-1.1**
TVSB	**Tavsanli**	**0.48**	**56**	*e*PG	**Pg**	**04 10 32.5**	**+0.1**
TVSB				*e*SG	**Sg**	**04 10 39.0**	**+0.3**
TVSB	**Tavsanli**	**0.48**	**56**	*e*Pg	**Pg**	**04 10 32.5**	**+0.1**
TVSB				*e*Sg	**Sg**	**04 10 39.0**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**198**	*e*PG	**Pb**	**04 10 36.7**	**-0.9**
KULA				*e*SG	**Sg**	**04 10 45.9**	**+0.1**
KULA	**Kula-Manisa**	**0.70**	**198**	*e*Pg	**Pb**	**04 10 36.7**	**-0.9**
KULA				*e*Sg	**Sg**	**04 10 45.9**	**+0.1**
AKS	**Akhisar**	**0.93**	**251**	*e*PG	**Pb**	**04 10 40.8**	**-0.7**
AKS	**Akhisar**	**0.93**	**251**	*e*Pg	**Pb**	**04 10 40.8**	**-0.7**
BALB	**Balikesir**	**0.94**	**299**	*e*PG	**Pb**	**04 10 41.2**	**-0.4**
BALB				*e*SG	**Sb**	**04 10 54.4**	**+0.1**
BALB	**Balikesir**	**0.94**	**299**	*e*Pg	**Pb**	**04 10 41.2**	**-0.4**
BALB				*e*Sg	**Sb**	**04 10 54.4**	**+0.1**
KHL	**Karahalli**	**0.97**	**152**	*e*PG	**Pb**	**04 10 41.6**	**-0.6**
KHL	**Karahalli**	**0.97**	**152**	*e*Pg	**Pb**	**04 10 41.6**	**-0.6**
IGD	**Bursa**	**1.10**	**10**	*i*P	**Pg**	**04 10 42.5**	**-1.6**
KCTX	**Karacabey (Bur**	**1.17**	**337**	*e*PN	**Pn**	**04 10 45.3**	**-0.4**
KCTX	**Karacabey (Bur**	**1.17**	**337**	*e*Pn	**Pn**	**04 10 45.3**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.19**	**358**	*e*PN	**Pb**	**04 10 45.4**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.19**	**358**	*e*Pn	**Pb**	**04 10 45.4**	**-0.4**
IZI	**Iznik**	**1.22**	**19**	*e*PN	**Pn**	**04 10 46.4**	**-0.1**
IZI	**Iznik**	**1.22**	**19**	*e*Pn	**Pn**	**04 10 46.4**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**34**	*e*PN	**Pb**	**04 10 46.4**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**34**	*e*Pn	**Pb**	**04 10 46.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.30**	**312**	*e*PN	**Pg**	**04 10 47.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.30**	**312**	*e*Pn	**Pg**	**04 10 47.8**	**-0.2**
BORA	**Eskisehir**	**1.36**	**59**	P	**Pn**	**04 10 48.2**	**-0.2**
BORA				S	**Sn**	**04 11 08.0**	**+1.4**
BORA	**Eskisehir**	**1.36**	**59**	*i*P	**Pn**	**04 10 48.2**	**-0.2**
BORA				*i*S	**Sn**	**04 11 08.0**	**+1.4**
ADVT	**Abdulvahap**	**1.39**	**26**	*e*PN	**Pb**	**04 10 49.1**	**-0.1**
ADVT	**Abdulvahap**	**1.39**	**26**	*e*Pn	**Pb**	**04 10 49.1**	**-0.1**
EDC	**Edincik**	**1.43**	**325**	*e*PN	**Pb**	**04 10 49.4**	**-0.5**
EDC	**Edincik**	**1.43**	**325**	*e*Pn	**Pb**	**04 10 49.4**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**214**	*e*PN	**Pb**	**04 10 50.2**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**214**	*e*Pn	**Pb**	**04 10 50.2**	**-0.8**
HRT	**Hereke**	**1.73**	**19**	*e*PN	**Pn**	**04 10 53.9**	**+0.5**
HRT	**Hereke**	**1.73**	**19**	*e*Pn	**Pn**	**04 10 53.9**	**+0.5**
GULT	**Gulveren**	**1.74**	**44**	*e*PN	**Pn**	**04 10 54.2**	**+0.6**
GULT	**Gulveren**	**1.74**	**44**	*e*Pn	**Pn**	**04 10 54.2**	**+0.6**
KRBG	**Karabiga-Canak**	**1.75**	**314**	*e*PN	**Pn**	**04 10 53.9**	**+0.2**
KRBG	**Karabiga-Canak**	**1.75**	**314**	*e*Pn	**Pn**	**04 10 53.9**	**+0.2**
MRMT	**Marmara Adasi**	**1.76**	**324**	*e*PN	**Pn**	**04 10 54.2**	**+0.3**
MRMT	**Marmara Adasi**	**1.76**	**324**	*e*Pn	**Pn**	**04 10 54.2**	**+0.3**
ISK	**Istanbul-Kandi**	**1.88**	**3**	*e*PN	**Pn**	**04 10 56.1**	**+0.6**
ISK	**Istanbul-Kandi**	**1.88**	**3**	*e*Pn	**Pn**	**04 10 56.1**	**+0.6**
BGKT	**Bogazkoy**	**2.00**	**356**	*e*PN	**Pb**	**04 10 58.2**	**-1.4**
BGKT	**Bogazkoy**	**2.00**	**356**	*e*Pn	**Pb**	**04 10 58.2**	**-1.4**
SILT	**Sile**	**2.04**	**15**	*e*PN	**Pn**	**04 10 58.5**	**+0.9**
SILT	**Sile**	**2.04**	**15**	*e*Pn	**Pn**	**04 10 58.5**	**+0.9**
LPK	**Lapseki**	**2.06**	**306**	*e*PN	**Pn**	**04 10 58.5**	**+0.5**
LPK	**Lapseki**	**2.06**	**306**	*e*Pn	**Pn**	**04 10 58.5**	**+0.5**
KLYT	**Kilyos**	**2.07**	**2**	*e*PN	**Pn**	**04 10 58.5**	**+0.5**
KLYT	**Kilyos**	**2.07**	**2**	*e*Pn	**Pn**	**04 10 58.5**	**+0.5**
CTKS	**Kestanelik-??a**	**2.08**	**351**	*e*PN	**Pn**	**04 10 58.5**	**+0.3**
CTKS	**Kestanelik-??a**	**2.08**	**351**	*e*Pn	**Pn**	**04 10 58.5**

JRG	**Rokugo**	**0.59**	**219**	⇓P		**Pg**	**04 18 19.0**	**+0.9**
JRG				*e*S		**Sg**	**04 18 27.2**	**+1.4**
JANG	**Nango**	**0.60**	**31**	⇓P		**Pg**	**04 18 18.2**	**0.0**
JANG				S		**Sg**	**04 18 25.7**	**-0.2**
JMK	**Ichinoseki**	**0.91**	**175**	P		**Pg**	**04 18 24.0**	**-0.2**
JMK				*e*S		**Sg**	**04 18 36.4**	**+0.4**
JTM	**Tenmabayashi**	**0.93**	**358**	⇓P		**Pg**	**04 18 24.3**	**-0.2**
JTM				*e*S		**Sg**	**04 18 36.4**	**-0.1**
ERM	**Erimo**	**2.65**	**35**	*e*Pn		**Pn**	**04 18 51.4**	**+1.0**
ERM				*e*S		**Sb**	**04 19 25.6**	**-2.3**
MAJO	**Matsushiro**	**4.03**	**216**	*e*Pn		**Pn**	**04 19 10.7**	**+1.3**
MAT	**Matsushiro**	**4.03**	**216**	P		**Pn**	**04 19 10.8**	**+1.4**
MAT				S		**Sb**	**04 20 06.5**	**-1.0**
MJAR	**Matsushiro Arr**	**4.03**	**216**	Pn		**Pn**	**04 19 07.5**	**-1.9**
	0.7nm,0.3s,baz=34,slow=12,SNR=4.1							
MJAR				Lg		Lg	04 20 10.0	
	1.1nm,0.3s,baz=23,slow=29,SNR=5.4							
ASAJ	**Asahikawa**	**4.39**	**14**	Pn		**Pn**	**04 19 16.1**	**+1.7**
	baz=218,slow=7.3							
ASAJ				Sn		**Sn**	**04 20 08.7**	**+2.6**
	0.4nm,0.3s,baz=54,slow=19,SNR=2.8							
ASAJ	**Asahikawa**	**4.39**	**14**	*e*Pn		**Pn**	**04 19 16.6**	**+2.2**
ASAJ				Sn		**Sn**	**04 20 08.7**	**+2.6**
JHJ	**Hachijo jima 2**	**6.81**	**189**	LR		LR	04 22 02.3	
	comp=Z,45nm,19.9s,baz=70,slow=35							
USRK	**Ussuriysk Ar.**	**8.06**	**306**	Pn		**Pn**	**04 20 02.4**	**-2.3**
	0.2nm,0.3s,baz=123,slow=13,SNR=2.6							
KSRS	**Korea Array**	**10.60**	**261**	Pn		**Pn**	**04 20 37.7**	**-1.8**
	0.1nm,0.3s,baz=70,slow=14,SNR=3.3							
KSAR	**Wonju Array Be**	**10.63**	**261**	Pn		**Pn**	**04 20 37.7**	**-2.2**
ZALV	**Zalesovo Beam**	**39.88**	**310**	P		**P**	**04 25 40.4**	**-1.2**
	1.0nm,0.6s,baz=86,slow=9.5,SNR=5.3							
MKAR	**Makanchi Array**	**42.47**	**299**	P		**P**	**04 26 02.1**	**-0.9**
	0.8nm,0.7s,baz=86,slow=10,SNR=6.3							
KURK	**Kurchatov**	**44.05**	**306**	*e*P		**P**	**04 26 13.9**	**-1.8**
	16nm,0.6s							
ILAR	**Eielson Array**	**47.26**	**34**	P		**P**	**04 26 42.8**	**+1.9**
	0.2nm,0.5s,baz=274,slow=7.0,SNR=3.7							
TKM2	**Tokmak 2**	**48.13**	**296**	*e*P		**P**	**04 26 46.7**	**-1.5**
	1.9nm,0.6s							
WRA	**Warramunga Arr**	**59.83**	**187**	P		**P**	**04 28 12.3**	**-1.2**
	2.0nm,0.6s,baz=3.9,slow=7.2,SNR=29							
ARCES	**ARCESS Array B**	**61.28**	**339**	P		**P**	**04 28 22.0**	**-0.9**
	0.4nm,0.5s,baz=46,slow=7.8,SNR=4.5							
YKA	**Yellowknife Ar**	**61.49**	**31**	P		**P**	**04 28 25.8**	**+1.3**
	0.2nm,0.6s,baz=302,slow=7.4,SNR=3.1							
ASAR	**Alice Springs**	**63.55**	**187**	P		**P**	**04 28 38.1**	**-0.5**
	0.8nm,0.4s,baz=9.0,slow=5.4,SNR=13							
DZM	**Mont Dzumac**	**65.99**	**154**	*e*P		**P**	**04 28 53.6**	**-1.1**
FINES	**FINESS Array B**	**66.21**	**332**	P		**P**	**04 28 54.3**	**-1.3**
	1.0nm,0.6s,baz=32,slow=11,SNR=5.9							
PDAR	**Pinedale Array**	**75.86**	**46**	P		**P**	**04 29 55.2**	**+0.4**
	0.9nm,0.6s,baz=253,slow=1.5,SNR=5.3							
TXAR	**Lajitas Array**	**88.58**	**52**	P		**P**	**04 31 03.2**	**+1.8**
	0.2nm,0.5s,baz=326,slow=4.7,SNR=3.5							
LPAZ	**La Paz**	**145.38**	**56**	PKPbc		**PKPdf**	**04 37 47.8**	**+0.4**
	0.6nm,0.5s,baz=12,slow=4.2,SNR=4.7							

ROM 30 04:18:55.8±0.1, 42.86N×12.99E, h9km, Md1.5/3, Ml0.7/2, Error ellipse: s-maj=0.6km s-min=0.3km az=50.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.09**	**107**	Pg	Pg	04 18 58.7	+0.4
NRCA				Sg	Sg	04 19 00.6	+0.6
	3.0nm,0.3s						
CESI	**CESI - Serrava**	**0.16**	**335**	Pg	Pg	04 18 59.9	+0.6
CESI				Sg	Sg	04 19 02.7	+1.0
	9.0nm,0.3s						
FDMO	**Fiordimonte**	**0.19**	**21**	Pg	Pg	04 19 00.4	+0.6
FDMO				Sg	Sg	04 19 03.8	+1.3
	26nm,0.3s						

*BJI **30** 04:21:17.5, 61.40S×154.00E, h10km, mb5.4/3, mB5.6/1, Ms5.4/4, Ms7 5.2/4*

*ISCJB **30** 04:21:18.8±0.6, 61.06S±0.07×153.78E±0.2, h10km, mb4.7/17, MS4.7/4, Error ellipse: s-maj=13.4km s-min=8.9km az=32.5*

*IDC **30** 04:21:18.9±1.2, 61.00S×153.93E, h0km, mb4.6/6, mb1 4.8/6, mb1mx4.5/20, mbtmp4.6/6, MS4.7/5, Ms1 4.7/5, ms1mx4.4/15, Error ellipse: s-maj=40.9km s-min=23.9km az=102.0*

*NEIC **30** 04:21:19.3±0.5, 61.19S×153.98E, h10km, mb4.8/18, Error ellipse: s-maj=12.0km s-min=8.2km az=114.0*

*GCMT **30** 04:21:19.3±0.2, 61.06S×153.78E, h12km, MW5.3/99, Moment Tensor Solution. s75,c120; s99,c167; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.03±.02; Mθθ 1.01±.02; Mϕϕ-0.98±.02; Mrθ 0.04±.05; Mθϕ-0.82±.02; Mrϕ 0.19±.06; Best double couple: Mo1.30700×10^17 NP1:ϕs154.00000°, δ85.00000°, λ-7.00000° NP2:ϕs245.00000°, δ83.00000°, λ-175.00000°. Principal axes: T 1.3070, Plg1.0000°, Azm200.0000°; N 0.0030, Plg81.0000°, Azm297.0000°; P -1.3080, Plg9.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 04:21:19.7±0.6, 61.14S±0.07×154.4E±0.1, h10km, n50, σ1s93/47, mb4.7/17, MS4.6/4, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**7.09**	**22**	*e*Pn	**Pn**	**04 23 02.0**	**-1.3**
VNDA	**Vanda**	**16.64**	**174**	Pn	Pn	04 25 07.4	-5.2
	0.5nm,0.3s,baz=352,slow=13,SNR=22						
VNDA				LR	LR	04 30 50.4	
	comp=Z,4μm,19.9s,baz=355,slow=34						
VNDA	**Vanda**	**16.64**	**174**	*e*Pn	**Pn**	**04 25 07.5**	**-5.1**
WHZ	**Wether Hill Ro**	**17.21**	**34**	*e*Pn	**P**	**04 25 21.5**	**0.0**
	144nm,1.6s						
SBA	**Scott Base**	**17.27**	**171**	*e*Pn	**Pn**	**04 25 17.6**	**-2.8**
	41nm,1.4s						
DCZ	**Deep Cove**	**17.41**	**31**	*e*Pn	**P**	**04 25 23.9**	**+0.3**
	88nm,1.3s						
MLZ	**Mavora Lakes**	**17.75**	**33**	*e*Pn	**P**	**04 25 30.5**	**+3.1**
	149nm,1.4s						
TAU	**Tasmania Unive**	**18.74**	**344**	*e*P	**Pn**	**04 25 38.1**	**-0.7**
	179nm,1.7s						
ODZ	**Otahua Downs**	**18.76**	**38**	*e*P	**P**	**04 25 39.1**	**+0.6**
	84nm,1.2s						
CASY	**Casey**	**19.73**	**236**	*e*P	**P**	**04 25 46.8**	**-2.3**
	111nm,1.9s						
RPZ	**Rata Peaks**	**20.09**	**37**	LR	LR	04 31 56.3	
	comp=Z,3μm,21.9s,baz=199,slow=32						
THZ	**Tophouse**	**22.43**	**39**	*e*P	**P**	**04 26 19.8**	**+1.4**
	131nm,1.4s						
CAN	**Canberra**	**26.06**	**350**	*e*P	**P**	**04 26 53.4**	**+0.3**
	3.8nm,0.8s						
URZ	**Urewera**	**26.94**	**42**	P	**P**	**04 27 02.7**	**+1.8**
	6.8nm,0.7s,baz=205,slow=4.3,SNR=3.9						
QSPA	**South Pole Qui**	**28.95**	**180**	P	**P**	**04 27 18.6**	**-0.3**
	7.3nm,1.1s						
STKA	**Stephens Creek**	**30.44**	**338**	P	**P**	**04 27 32.0**	**-0.1**
	11nm,0.8s,baz=170,slow=8.3,SNR=15						
STKA	**Stephens Creek**	**30.44**	**338**	*e*P	**P**	**04 27 31.3**	**-0.8**
	2.7nm,0.9s						
BBOO	**Buckleboo**	**30.74**	**329**	*e*P	**P**	**04 27 33.8**	**-1.0**
	25nm,0.8s						
MAW	**Mawson**	**36.60**	**220**	P	**P**	**04 28 26.9**	**+1.6**
	2.9nm,0.9s,baz=117,slow=12,SNR=4.6						
MAW				LR	LR	04 43 02.2	
	comp=Z,2μm,20.9s,baz=105,slow=36						
H01W1	**Cape Leeuwin H**	**36.63**	**297**	T	T	05 07 14.5	
	baz=148,slow=75,SNR=314						
H01W2	**Cape Leeuwin H**	**36.63**	**297**	T	T	05 07 14.6	
	baz=148,slow=75,SNR=408						
H01W3	**Cape Leeuwin H**	**36.64**	**297**	T	T	05 07 15.7	
	baz=148,slow=75,SNR=444						
AS01	**Alice Springs**	**40.01**	**330**	*e*P	**P**	**04 28 53.5**	**-0.9**
ASAR	**Alice Springs**	**40.02**	**330**	P	**P**	**04 28 54.3**	**-0.3**
	9.7nm,0.9s,baz=165,slow=8.5,SNR=48						
ASAR				PcP	**PcP**	**04 30 57.8**	**-1.7**
	2.5nm,1.0s,baz=152,slow=4.6,SNR=4.9						
AS31	**Alice Springs**	**40.02**	**330**	*e*P	**P**	**04 28 53.1**	**-1.4**
	3.7nm,0.9s						
WB2	**Warramunga Arr**	**43.50**	**332**	*e*P	**P**	**04 29 21.9**	**-1.2**
	26nm,1.1s						
WRA	**Warramunga Arr**	**43.50**	**332**	P	**P**	**04 29 21.2**	**-1.8**
	13nm,0.9s,baz=164,slow=6.8,SNR=38						
WRA				PcP	**PcP**	**04 31 08.8**	**-2.1**
	3.4nm,1.1s,baz=186,slow=3.1,SNR=5.0						
WRAB	**Tennant Creek**	**43.51**	**332**	*e*P	**P**	**04 29 21.5**	**-1.6**
	22nm,1.1s						
SNAA	**Sanae**	**46.53**	**190**	P	**P**	**04 29 50.2**	**+3.6**
SNAA	**Sanae**	**46.53**	**190**	*e*P	P	04 29 41.0	-5.6
	262nm,1.0s						
MBWA	**Marble Bar**	**46.65**	**313**	P	**P**	**04 29 46.7**	**-1.3**
	14nm,0.9s						
FITZ	**Fitzroy Crossi**	**47.56**	**322**	*e*P	**P**	**04 29 55.0**	**-0.2**
	29nm,1.3s						
VNA1	**Neumayer--Stat**	**47.93**	**188**	P	**P**	**04 30 01.0**	**+3.6**
MTN	**Manton Dam**	**51.10**	**330**	*e*P	**P**	**04 30 21.8**	**-0.4**
	25nm,0.9s						
H08S2	**Diego Garcia H**	**79.42**	**273**	T	T	06 00 46.0	
	baz=149,slow=76,SNR=37						
H08S1	**Diego Garcia H**	**79.43**	**273**	T	T	06 00 50.0	
	baz=149,slow=76,SNR=48						
H08S3	**Diego Garcia H**	**79.44**	**273**	T	T	06 00 49.5	
	baz=149,slow=76,SNR=63						
BOSA	**Boshof**	**81.52**	**224**	LR	LR	05 07 51.0	
	comp=Z,235nm,18.9s,baz=154,slow=34						
CMAR	**Chiang Mai Arr**	**90.79**	**309**	P	**P**	**04 34 23.4**	**+0.7**
	1.2nm,0.3s,baz=185,slow=4.3,SNR=7.7						
CMAR				LR	LR	05 12 05.2	
	comp=Z,224nm,21.4s,baz=160,slow=34						
GYA	**Guiyang**	**95.44**	**318**	*e*P	**P**	**04 34 44.3**	**+0.2**
GYA				PMZ			
	10.0nm,1.0s						
KMI	**Kunming**	**95.52**	**314**	P	**P**	**04 34 47.0**	**+2.4**
KMI				PMZ			
	5.0nm,0.7s						
XAN	**Xi'an**	**101.80**	**323**	P	**Pdif**	**04 35 12.0**	**-0.4**
BJI	**Beijing**	**105.52**	**330**	Pdif	**Pdif**	**04 35 29.3**	**+0.6**
BJI				PP	**PP**	**04 39 49.5**	**-1.8**
BJI				SS	SS	04 54 53.8	+5.3
BJI				LN			
	480nm,18.1s						
BJI				LE			
	310nm,17.5s						
BJI				LZ			
	450nm,18.8s						
WMQ	**Urumqi**	**117.66**	**311**	PKP	**PKPdf**	**04 40 03.5**	**-1.4**
WMQ				PP	**PP**	**04 41 21.5**	**+2.9**
WMQ				LN			
	220nm,16.9s						
WMQ				LE			
	510nm,22.3s						
WMQ				LZ			
	640nm,22.7s						
KSH	**Kashi**	**118.59**	**300**	*e*PKP	**PKPdf**	**04 40 07.0**	**0.0**
KSH				PP	**PP**	**04 41 30.3**	**+5.1**
KSH				PKS	**PKSdf**	**04 43 43.8**	**+0.1**
KSH				SKS	**SKSdf**	**04 47 19.0**	**+0.3**
KSH				PPMZ			
	66nm,3.9s						
KSH				LN			
	130nm,7.3s						
KSH				LE			
	140nm,6.5s						
KSH				LZ			
	550nm,20.5s						
MKAR	**Makanchi Array**	**122.19**	**309**	PKP	**PKPdf**	**04 40 13.0**	**-0.5**
	0.2nm,0.3s,baz=127,slow=3.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**128.13**	**215**	PKP	**PKPdf**	**04 40 27.6**	**+1.8**
	0.7nm,0.9s,baz=162,slow=3.7,SNR=3.3						
AKASG	**Malin Array Be**	**148.47**	**276**	PKPbc	**PKPbc**	**04 41 04.9**	**-0.3**
	0.3nm,0.3s,baz=115,slow=2.1,SNR=4.5						
KOLS	**Kolonicke sedl**	**150.67**	**267**	*e*PKP	**PKPbc**	**04 41 09.8**	**-0.9**
GERES	**GERESS Array B**	**154.74**	**259**	PKPab	**PKPab**	**04 41 32.6**	**-2.3**
	0.5nm,0.7s,baz=224,slow=6.7,SNR=3.3						

MEX 30 04:21:51.6±0.4, 16.53N×98.46W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**113**	*i* P	Pg	04 21 58.0	-0.3
PNIG				*i* S	Sg	04 22 03.0	+0.1
TLIG	**Tlapa**	**1.03**	**354**	*e*P	Pg	04 22 08.9	-2.6
TLIG				*i* S	Sg	04 22 22.2	-2.6
ACX	**Acapulco**	**1.38**	**284**	*e*P	Pg	04 22 21.3	+3.2
ACX				*e*S	Sn	04 22 39.6	+3.3
VHO	**Vista Hermosa**	**1.74**	**72**	*e*P	Pn	04 22 19.6	-3.1
VHO				*i* S	Sn	04 22 40.1	-5.3

*IDC **30** 04:29:44.4±0.6, 23.26S×175.99W, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.5/28, mbtmp4.4/15, ML3.6/1, Error ellipse: s-maj=22.3km s-min=18.7km az=137.0*

*ISCJB **30** 04:29:48.0±0.4, 23.56S±0.07×176.00W±0.08, h33km, mb4.6/31, Error ellipse: s-maj=11.8km s-min=9.0km az=37.8*

*NEIC **30** 04:29:49.4±0.3, 23.53S×175.92W, h35km, mb4.8/17, Error ellipse: s-maj=10.7km s-min=7.7km az=132.0*

*BJI **30** 04:29:51.1, 23.07S×175.35W, h51km, mb5.0/14, mB5.4/11, Ms5.3/7, Ms7 5.1/7*

ISC 30 04:29:49.7±0.5, 23.70S±0.08×175.9W±0.1, h33km, n84, σ1s84/89, mb4.7/31, 5C-1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.83**	**198**	Pn	**Pn**	**04 31 14.5**	**+0.7**
MSVF	**Nonsavu**	**8.24**	**315**	*e*Pn	**Pn**	**04 31 50.7**	**+3.6**
RAR	**Rarotonga**	**15.06**	**84**	Pn	Pn	04 33 08.5	-12
	3.8nm,0.3s,baz=261,slow=7.3,SNR=16						
RAR	**Rarotonga**	**15.06**	**84**	*e*Pn	Pn	04 33 10.2	-10
DZM	**Mont Dzumac**	**16.40**	**272**	Pn	**Pn**	**04 33 32.5**	**-5.1**
	0.2nm,0.3s,baz=74,slow=15,SNR=2.9						
CTA	**Charters Tower**	**35.28**	**268**	P	**P**	**04 36 40.8**	**-1.0**
	7.4nm,0.7s,baz=103,slow=11,SNR=5.8						
CTAO	**Charters Tower**	**35.28**	**268**	*e*P	**P**	**04 36 42.2**	**+0.5**
	52nm,0.8s						
PMG	**Port Moresby**	**38.07**	**286**	P	**P**	**04 37 02.9**	**-2.5**
	13nm,0.5s,baz=137,slow=7.0,SNR=3.8						
STKA	**Stephens Creek**	**38.33**	**248**	P	**P**	**04 37 06.8**	**-0.8**
	1.7nm,0.6s,baz=95,slow=8.0,SNR=3.9						
AS01	**Alice Springs**	**45.77**	**259**	*e*P	**P**	**04 38 08.1**	**-0.3**
AS31	**Alice Springs**	**45.81**	**259**	*e*P	**P**	**04 38 08.1**	**-0.7**
	2.9nm,1.3s						
ASAR	**Alice Springs**	**45.81**	**259**	P	**P**	**04 38 07.7**	**-1.1**
	5.4nm,1.0s,baz=92,slow=8.6,SNR=24						
WB2	**Warramunga Arr**	**46.20**	**265**	*e*P	**P**	**04 38 10.3**	**-1.5**
	9.1nm,1.0s						
WRAB	**Tennant Creek**	**46.21**	**265**	*e*P	**P**	**04 38 10.6**	**-1.3**
	14nm,0.7s						
WRA	**Warramunga Arr**	**46.21**	**265**	P	**P**	**04 38 10.2**	**-1.7**
	1.0nm,0.3s,baz=90,slow=5.8,SNR=46						
SBA	**Scott Base**	**54.83**	**184**	*e*P	**P**	**04 39 18.0**	**+1.9**
VNDA	**Vanda**	**54.92**	**186**	P	**P**	**04 39 19.6**	**+2.8**
	2.1nm,0.9s,baz=7.5,slow=7.2,SNR=8.2						
VNDA	**Vanda**	**54.92**	**186**	*e*P	**P**	**04 39 14.5**	**-2.3**
	1.6nm,0.9s						
MBWA	**Marble Bar**	**59.15**	**259**	*e*P	**P**	**04 39 47.0**	**-0.6**
	6.2nm,0.6s						
CASY	**Casey**	**61.95**	**206**	*e*P	**P**	**04 40 06.2**	**+0.2**
	45nm,2.0s						
QSPA	**South Pole Qui**	**66.38**	**180**	*e*P	**P**	**04 40 37.4**	**+2.2**
	16nm,1.1s						
MJAR	**Matsushiro Arr**	**73.96**	**323**	P	**P**	**04 41 19.4**	**-2.5**
	1.3nm,0.5s,baz=166,slow=6.1,SNR=4.3						
ASAJ	**Asahikawa**	**77.48**	**331**	*e*P	**P**	**04 41 41.8**	**+0.1**
	14nm,0.9s						
MAW	**Mawson**	**79.23**	**199**	P	**P**	**04 41 52.8**	**+1.6**
	1.4nm,0.7s,baz=148,slow=7.5,SNR=7.6						
PEA0	**Petropavlovsk-**	**79.87**	**344**	*e*P	**P**	**04 41 53.2**	**-1.4**
PETK	**Petropavlovsk-**	**79.87**	**344**	P	**P**	**04 41 51.8**	**-2.9**
	11nm,0.7s,baz=128,slow=8.1,SNR=16						
KSRS	**Korea Array**	**80.60**	**318**	P	**P**	**04 41 56.8**	**-2.1**
	0.4nm,0.3s,baz=145,slow=4.5,SNR=3.2						
KSAR	**Wonju Array Be**	**80.61**	**318**	P	**P**	**04 41 56.8**	**-2.2**
USRK	**Ussuriysk Ar.**	**82.72**	**325**	P	**P**	**04 42 08.2**	**-1.8**
	3.3nm,0.7s,baz=104,slow=3.7,SNR=8.9						
SYO	**Syowa Base**	**84.04**	**192**	*e*P	P	04 42 15.2	-1.3
WVOR	**Wild Horse Val**	**84.33**	**39**	*e*P	P	04 42 13.4	-5.1
	20nm,0.9s						
LCMT	**Little Creek M**	**84.38**	**46**	*e*P	**P**	**04 42 19.1**	**+0.2**
	2.7nm,1.0s						
U15A	**North Rim**	**84.67**	**46**	*e*P	**P**	**04 42 20.6**	**+0.1**
	4.0nm,0.8s						
SNAA	**Sanae**	**84.76**	**178**	*e*P	**P**	**04 42 20.6**	**+0.4**
	93nm,0.9s						
CN2	**Changchun**	**86.04**	**322**	*e*P	**P**	**04 42 28.0**	**+1.1**
MNTX	**Cornudas Mount**	**87.00**	**54**	*e*P	**P**	**04 42 31.1**	**-0.9**
	3.6nm,0.9s						
TX31	**Lajitas Ar. Si**	**87.13**	**56**	*e*P	**P**	**04 42 31.8**	**-0.9**
TXAR	**Lajitas Array**	**87.13**	**56**	P	**P**	**04 42 32.0**	**-0.6**
	2.1nm,0.8s,baz=204,slow=7.7,SNR=17						
ANMO	**Albuquerque**	**87.87**	**50**	*e*P	**P**	**04 42 35.5**	**-0.8**
	1.4nm,1.1s						
RND	**Reindeer**	**89.39**	**12**	*e*P	**P**	**04 42 41.9**	**-0.7**
	16nm,1.6s						
BJI	**Beijing**	**89.56**	**315**	P	**P**	**04 42 46.0**	**+2.2**
BJI				PP	**PP**	**04 46 22.0**	**+6.0**
BJI				S	**S**	**04 53 36.0**	**+3.6**
BJI				sS	**sS**	**04 53 52.8**	**+3.0**
BJI				PMZ			
	7.0nm,1.7s						
BJI				PMZ			
	110nm,3.7s						
BJI				LN			
	430nm,21.4s						
BJI				LE			
	200nm,16.6s						
BJI				LZ			
	410nm,38.8s						
GYA	**Guiyang**	**89.95**	**299**	*e*P	**P**	**04 42 47.0**	**+0.9**
GYA				PMZ			
	10.0nm,1.0s						
WRH	**Wood River Hil**	**90.50**	**12**	*e*P	**P**	**04 42 46.2**	**-1.4**
	5.3nm,1.1s						
DOT	**Dot Lake**	**90.57**	**14**	*e*P	**P**	**04 42 46.7**	**-1.3**
	11nm,1.3s						
ILAR	**Eielson Array**	**91.00**	**12**	P	**P**	**04 42 47.2**	**-2.7**
	1.0nm,1.0s,baz=238,slow=3.7,SNR=6.3						
IL1	**Eielson Array**	**91.00**	**12**	*e*P	**P**	**04 42 48.4**	**-1.6**
KMI	**Kunming**	**92.56**	**296**	P	**P**	**04 42 59.3**	**+0.9**
KMI				PMZ			
	8.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**93.00**	**314**	*e*P	**P**	**04 43 00.3**	**+0.4**
HHC				PMZ			
	24nm,1.2s						
HHC				PMZ			
	120nm,6.4s						
CM01	**Chiang Mai Arr**	**93.02**	**289**	*e*P	**P**	**04 43 01.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**93.05**	**289**	P	**P**	**04 43 00.2**	**-0.3**
	2.3nm,0.6s,baz=139,slow=3.1,SNR=13						
CHTO	**Chiang Mai**	**93.19**	**289**	*e*P	**P**	**04 43 02.2**	**+1.0**
	5.5nm,0.9s						
TRD	**Trivandrum**	**109.07**	**271**	*e*P	**Pdif**	**04 44 17.2**	**+4.7**
WMQ	**Urumqi**	**110.52**	**310**	PKP		04 48 17.8	
WMQ				LN			
	230nm,17.3s						
WMQ				LE			
	520nm,21.9s						
WMQ				LZ			
	580nm,22.3s						
MKAR	**Makanchi Array**	**114.83**	**312**	PKiKP	PKPdf	04 48 25.6	-1.3
	0.4nm,0.5s,baz=70,slow=4.3,SNR=4.3						
KURK	**Kurchatov**	**117.69**	**316**	PKP	**PKPdf**	**04 48 30.4**	**-1.8**
KURBB	**Kurchatov Arra**	**117.74**	**316**	PKP	**PKPdf**	**04 48 30.4**	**-1.9**
	0.7nm,0.7s,baz=88,slow=2.0,SNR=8.7						
KSH	**Kashi**	**118.33**	**303**	PKP	**PKPdf**	**04 48 36.3**	**+2.3**
KSH				PP	PP	04 50 00.5	+10
KSH				PKS	**PKSdf**	**04 52 11.8**	**+1.1**
KSH				PPMZ			
	110nm,5.1s						
KSH				LN			
	68nm,4.7s						
KSH				LE			
	71nm,5.5s						
KSH				LZ			
	270nm,9.5s						
BVAR	**Borovoye Array**	**122.80**	**319**	PKP	**PKPdf**	**04 48 40.8**	**-1.2**
	0.9nm,0.6s,baz=132,slow=2.2,SNR=5.5						
ZRNK	**Zerenda**	**123.64**	**319**	*e*PKPdf	**PKPdf**	**04 48 40.4**	**-3.2**
AKTO	**Aktyubinsk**	**130.77**	**317**	PKP	**PKPdf**	**04 48 56.6**	**-0.7**
	1.0nm,0.4s,baz=84,slow=1.0,SNR=4.2						
ARCES	**ARCESS Array B**	**132.41**	**350**	PKP	**PKPdf**	**04 48 58.7**	**-1.2**
	2.0nm,0.8s,baz=31,slow=2.8,SNR=5.4						
FINES	**FINESS Array B**	**139.39**	**344**	PKP	**PKPdf**	**04 49 11.8**	**-1.2**
	1.8nm,0.9s,baz=122,slow=2.5,SNR=3.8						
NOA	**NORSAR Array B**	**142.37**	**354**	PKP	**PKPdf**	**04 49 17.3**	**-1.2**
	0.4nm,0.6s,baz=13,slow=4.5,SNR=3.3						
AKASG	**Malin Array Be**	**146.77**	**331**	PKPbc	**PKPdf**	**04 49 26.6**	**+0.2**
	4.6nm,0.7s,baz=39,slow=4.1,SNR=19						
KIEV	**Kiev**	**146.78**	**331**	*e*PKPbc	**PKPdf**	**04 49 26.9**	**+0.6**
AK11	**Malin Array Si**	**146.81**	**331**	*e*PKPdf	**PKPdf**	**04 49 27.0**	**+0.6**
EKA	**Eskdalemuir Ar**	**147.95**	**8**	PKPbc	**PKPdf**	**04 49 29.4**	**+1.2**
	3.1nm,0.8s,baz=326,slow=2.6,SNR=9.2						
ASF	**Jabal al Asfar**	**149.96**	**294**	PKPbc	**PKPbc**	**04 49 35.5**	**-1.7**
	1.1nm,0.4s,baz=135,slow=2.9,SNR=3.1						
BR131	**Keskin Array S**	**150.44**	**310**	*e*PKPbc	**PKPbc**	**04 49 37.6**	**-0.6**
BRTR	**Keskin Array B**	**150.44**	**310**	PKPbc	**PKPbc**	**04 49 37.1**	**-1.1**
	2.5nm,0.7s,baz=145,slow=4.6,SNR=16						
BUR08	**Bucovina Ar. S**	**150.81**	**330**	*e*PKPbc	**PKPbc**	**04 49 38.7**	**-0.1**
BR231	**Keskin MP Arra**	**151.00**	**310**	*e*PKPbc	**PKPbc**	**04 49 37.7**	**-1.7**
MMAI	**Mount Meron Ar**	**151.07**	**296**	PKPbc	**PKPbc**	**04 49 38.9**	**-0.9**
	5.1nm,0.7s,baz=73,slow=6.2,SNR=5.6						
**

cutoff=50s.

ISC 30 04:30:52.9±0.3,**23°53S**±0′05,**175°66W**±0′05,**h30**km, **n600,**σ**1665/517, mb5.1/99, MS5.4/167, 42C-15D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.05**	**199**	Pn	**Pn**	**04 32 20.0**	**-0.4**
	74nm,0.3s,baz=96,slow=19,SNR=3.9						
RAO				Sn	**Sn**	**04 33 29.4**	**+0.8**
	197nm,0.3s,baz=94,slow=22,SNR=7.1						
RAO	**Raoul Island**	**6.05**	**199**	*e*Pn	**Pn**	**04 32 21.4**	**+1.0**
RAO				*e*S	**Sn**	**04 33 30.1**	**+1.5**
NIUE	**Niue**	**6.94**	**51**	P	Pn	04 32 26.0	-6.5
	baz=6.5,SNR=7.3						
MSVF	**Nonsavu**	**8.24**	**313**	*e*P	**Pn**	**04 32 53.9**	**+3.4**
MSVF	**Nonsavu**	**8.24**	**313**	*e*Pn	**Pn**	**04 32 53.9**	**+3.4**
AFI	**Afiamalu**	**10.24**	**22**	Pn	**Pn**	**04 33 13.6**	**-4.4**
	9.0nm,0.3s,baz=276,slow=10,SNR=3.1						
AFI				Sn	Sn	04 34 58.2	-14
	15nm,0.3s,baz=0.0,slow=24,SNR=3.4						
AFI	**Afiamalu**	**10.24**	**22**	*e*P	**Pn**	**04 33 16.6**	**-1.4**
AFI	**Afiamalu**	**10.24**	**22**	*e*Pn	**Pn**	**04 33 16.6**	**-1.4**
AFI				*e*S	Sn	04 35 01.0	-11
RAR	**Rarotonga**	**14.88**	**84**	Pn	Pn	04 34 14.0	-7.2
	19nm,0.3s,baz=248,slow=8.4,SNR=17						
RAR				Sn	Sn	04 36 43.1	-22
	7.6nm,0.3s,baz=89,slow=19,SNR=5.4						
RAR				LR	LR	04 40 26.3	
	comp=Z,8μm,19.0s,baz=252,slow=38						
RAR	**Rarotonga**	**14.88**	**84**	*e*P	Pn	04 34 14.1	-7.1
RAR	**Rarotonga**	**14.88**	**84**	*e*Pn	Pn	04 34 14.1	-7.1
RAR				*e*S	Sn	04 36 42.4	-23
URZ	**Urewera**	**15.94**	**201**	Pn	**Pn**	**04 34 33.1**	**-1.8**
	3.9nm,0.3s,baz=287,slow=0.3,SNR=12						
URZ	**Urewera**	**15.94**	**201**	*e*Pn	**Pn**	**04 34 36.2**	**+1.3**
	24nm,0.7s						
DZM	**Mont Dzumac**	**16.57**	**271**	*e*P	**Pn**	**04 34 43.8**	**+0.6**
	189nm,1.8s						
DZM				*e*LR	LR	04 38 50.5	
	12μm,22.8s						
DZM	**Mont Dzumac**	**16.57**	**271**	Pn	**P**	**04 34 46.9**	**+1.4**
	1.1nm,0.3s,baz=87,slow=17,SNR=8.5						
DZM				LR	LR	04 38 20.2	
	comp=Z,1μm,20.6s,baz=102,slow=28						
DZM	**Mont Dzumac**	**16.57**	**271**	*e*Pn	**P**	**04 34 46.0**	**+0.5**
	49nm,0.9s						
SNZO	**South Karori**	**19.49**	**202**	*e*P	**P**	**04 35 13.4**	**-4.0**
	496nm,1.3s						
SNZO				*e*S	S	04 38 36.0	-20
KHZ	**Kahutara**	**20.87**	**203**	*e*P	**P**	**04 35 30.4**	**-2.1**
KHZ				*e*S	S	04 39 03.5	-20
RPZ	**Rata Peaks**	**22.92**	**205**	P	**P**	**04 35 55.2**	**+0.8**
	14nm,0.8s,baz=236,slow=2.8,SNR=3.1						
TBI	**Tubuai**	**24.03**	**95**	*e*S	**S**	**04 40 16.7**	**-4.0**
	2μm,24.9s						
TBI				*e*LQ	LQ	04 40 37.4	
	7μm,27.8s						
TBI				*e*LR	LR	04 41 50.7	
	11μm,28.8s,baz=262						
TBI	**Tubuai**	**24.03**	**95**	*e*T	T	05 00 52.9	
	14nm,0.3s						
PAE	**Paea**	**25.08**	**81**	*e*P	**P**	**04 36 14.0**	**-0.9**
	11nm,1.5s						
PAE	**Paea**	**25.08**	**81**	*e*T	T	05 02 06.0	
	7.9nm,0.3s						
PPT2	**Papeete2**	**25.10**	**81**	*e*P	**P**	**04 36 14.5**	**-0.8**
	41nm,1.3s						
PPT2				*e*S	**S**	**04 40 35.0**	**-3.3**
	2μm,28.2s						
PPT2				*e*LQ	LQ	04 41 03.9	
	9μm,24.0s						
PPT2				*e*LR	LR	04 42 21.0	
	11μm,25.5s,baz=252						
PPT2	**Papeete2**	**25.10**	**81**	*e*T	T	05 02 09.9	
	9.5nm,0.3s						
TIAR	**Tiarei**	**25.32**	**81**	*e*P	**P**	**04 36 16.5**	**-0.7**
	11nm,1.1s						
TIAR	**Tiarei**	**25.32**	**81**	*e*T	T	05 02 30.6	
	2.2nm,0.4s						
TVO	**Taravao**	**25.34**	**82**	*e*P	**P**	**04 36 16.6**	**-0.8**
	13nm,1.1s						
TVO	**Taravao**	**25.34**	**82**	*e*T	T	05 02 31.7	
	1.1nm,0.3s						
MEH	**Mehetia**	**26.39**	**83**	*e*T	T	05 03 51.3	
	40nm,0.3s						
TARA	**Tarawa**	**27.11**	**334**	PFAKE		04 36 40.0	+6.7
TARA				LR	LR		
	comp=Z,255nm,20.0s						
HNR	**Honiara**	**27.20**	**297**	PFAKE		04 36 40.0	+5.8
HNR				LR	LR		
	comp=Z,6μm,21.0s						
ARMA	**Armidale**	**29.88**	**250**	P	**P**	**04 36 59.0**	**+0.9**
	baz=30						
EIDS	**Eidsvold**	**30.29**	**260**	*e*P	**P**	**04 37 01.7**	**0.0**
	comp=Z,13nm,0.8s						
RMQ	**Roma**	**32.32**	**257**	P	**P**	**04 37 20.5**	**+0.9**
	baz=33,SNR=6.1						
CAN	**Canberra**	**32.79**	**241**	PFAKE		04 37 30.0	+6.4
CAN				LR	LR		
	comp=Z,5μm,20.0s						
YNG	**Young**	**33.09**	**243**	P	**P**	**04 37 26.8**	**+0.6**
	baz=34,SNR=6.4						
CMSA	**Cobar Meteorol**	**35.05**	**248**	P	**P**	**04 37 42.1**	**-1.1**
	baz=35,SNR=12						
CTA	**Charters Tower**	**35.46**	**268**	P	**P**	**04 37 45.6**	**-1.3**
	comp=Z,13nm,0.4s,baz=95,slow=11,SNR=15						
CTA	**Charters Tower**	**35.46**	**268**	P	**P**	**04 37 47.1**	**+0.1**
	baz=36						
CTAO	**Charters Tower**	**35.46**	**268**	*e*P	**P**	**04 37 47.0**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,41nm,1.3s						
CTAO				MLR	MLR		
	comp=Z,4μm,19.0s						
CTAO	**Charters Tower**	**35.46**	**268**	*e*P	**P**	**04 37 47.0**	**+0.1**
	comp=Z,41nm,1.3s						
CTAO				LR	LR		
	comp=Z,4μm,19.0s						
TAU	**Tasmania Unive**	**36.13**	**229**	PFAKE		04 38 00.0	+7.7
TAU				LR	LR		
	comp=Z,5μm,21.0s						
QLP	**Quilpie**	**36.36**	**257**	P	**P**	**04 37 52.5**	**-2.0**
	baz=37,SNR=3.2						
TAOE	**Nuku Hiva Isla**	**36.96**	**73**	*e*LR	LR	04 47 43.3	
	comp=Z,5μm,28.0s,baz=246						
RKT	**Rikitea**	**37.27**	**98**	*e*S	**S**	**04 43 47.2**	**-0.7**
	comp=Z,683nm,26.5s						
RKT				*e*LQ	LQ	04 46 25.7	
	comp=Z,885nm,25.5s						
RKT				*e*LR	LR	04 47 57.4	
	comp=Z,7μm,29.0s,baz=263						
MTSU	**Mount Surprise**	**37.70**	**270**	P	**P**	**04 38 06.0**	**0.0**
	baz=38,SNR=8.3						
PMG	**Port Moresby**	**38.19**	**285**	P	**P**	**04 38 08.0**	**-2.0**
	comp=Z,28nm,0.8s,baz=97,slow=6.2,SNR=3.2						
PMG	**Port Moresby**	**38.19**	**285**	⇓*i*P	**P**	**04 38 09.6**	**-0.5**
PMG				pmax	pmax		
	comp=Z,128nm,1.0s						
PMG	**Port Moresby**	**38.19**	**285**	*e*P	**P**	**04 38 09.4**	**-0.7**
	comp=Z,17nm,0.6s						
PMG				LR	LR		
	comp=Z,4μm,19.0s						
STKA	**Stephens Creek**	**38.55**	**248**	P	**P**	**04 38 11.5**	**-1.5**
	comp=Z,3.7nm,0.5s,baz=86,slow=8.5,SNR=7.7						
STKA	**Stephens Creek**	**38.55**	**248**	P	**P**	**04 38 11.9**	**-1.1**
	baz=39,SNR=7.3						
COEN	**Coen**	**40.01**	**276**	*e*P	**P**	**04 38 25.5**	**+0.1**
	comp=Z,27nm,1.2s						
JOHN	**Johnston Islan**	**40.46**	**9**	PFAKE		04 38 40.0	+11
JOHN				LR	LR		
	comp=Z,206nm,20.0s						
HTT	**Hallett**	**40.85**	**246**	P	**P**	**04 38 31.5**	**-0.7**
	baz=41,SNR=6.5						
PTCN	**Pitcairn Islan**	**41.41**	**102**	PFAKE		04 38 50.0	+13
PTCN				LR	LR		
	comp=Z,4μm,19.0s						
BBOO	**Buckleboo**	**43.25**	**247**	P	**P**	**04 38 50.7**	**-1.0**
	baz=44,SNR=5.3						
AS01	**Alice Springs**	**45.98**	**259**	*e*P	**P**	**04 39 12.9**	**-0.8**
AS31	**Alice Springs**	**46.02**	**259**	*e*P	**P**	**04 39 13.8**	**-0.2**
	comp=Z,4.6nm,0.8s						
ASAR	**Alice Springs**	**46.02**	**259**	P	**P**	**04 39 12.9**	**-1.1**
	comp=Z,19nm,0.9s,baz=92,slow=8.3,SNR=18						
WB2	**Warramunga Arr**	**46.39**	**264**	*e*P	**P**	**04 39 15.3**	**-1.6**
	comp=Z,21nm,1.0s						
WRAB	**Tennant Creek**	**46.40**	**264**	⇑*i*P	**P**	**04 39 15.6**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,29nm,0.8s						
WRAB	**Tennant Creek**	**46.40**	**264**	*e*P	**P**	**04 39 14.3**	**-2.6**
	comp=Z,17nm,1.0s						
WRAB				LR	LR		
	comp=Z,5μm,20.0s						
WB8	**Warramunga Arr**	**46.40**	**265**	P	**P**	**04 39 15.0**	**-1.9**
	baz=47						
WRA	**Warramunga Arr**	**46.40**	**264**	P	**P**	**04 39 14.2**	**-2.8**
	comp=Z,11nm,0.9s,baz=93,slow=8.4,SNR=19						
POHA	**Pohakuloa**	**47.29**	**26**	PFAKE		04 39 40.0	+16
POHA				LR	LR		
	comp=Z,2μm,20.0s						
WRKA	**Warakurna**	**50.80**	**256**	P	**P**	**04 39 48.2**	**-2.6**
	baz=51,SNR=12						
MTN	**Manton Dam**	**51.41**	**272**	P	**P**	**04 39 53.0**	**-2.5**
	baz=52,SNR=7.1						
MTN	**Manton Dam**	**51.41**	**272**	*e*P	**P**	**04 39 53.0**	**-2.5**
	comp=Z,29nm,1.3s						
MIDW	**Midway**	**51.47**	**358**	PFAKE		04 40 10.0	+15
MIDW				LR	LR		
	comp=Z,3μm,20.0s						
KNRA	**Kununurra**	**52.67**	**268**	P	**P**	**04 40 04.2**	**-0.7**
	baz=53						
GUMO	**Guam**	**53.40**	**310**	PFAKE		04 40 20.0	+10
GUMO				LR	LR		
	comp=Z,2μm,22.0s						
FITZ	**Fitzroy Crossi**	**54.83**	**264**	P	**P**	**04 40 20.1**	**-0.5**
	baz=55,SNR=8.8						
FITZ	**Fitzroy Crossi**	**54.83**	**264**	*e*P	**P**	**04 40 19.4**	**-1.2**
	comp=Z,6.6nm,0.8s						
SBA	**Scott Base**	**55.02**	**184**	*e*P	**P**	**04 40 25.2**	**+4.1**
SBA				pmax	pmax		
	comp=Z,36nm,1.4s						
SBA				MLR	MLR		
	comp=Z,2μm,20.0s						
SBA	**Scott Base**	**55.02**	**184**	*e*P	**P**	**04 40 25.2**	**+4.1**
	comp=Z,36nm,1.4s						
SBA				LR	LR		
	comp=Z,2μm,20.0s						
VNDA	**Vanda**	**55.12**	**186**	P	**P**	**04 40 24.1**	**+2.2**
	comp=Z,6.0nm,1.0s,baz=5.7,slow=6.5,SNR=8.7						
SOEI	**Soe**	**58.79**	**273**	*e*P	**P**	**04 40 45.3**	**-3.6**
	comp=Z,74nm,0.9s						
KLBR	**Kellerberrin**	**58.79**	**246**	P	**P**	**04 40 46.9**	**-1.8**
	baz=59,SNR=12						
NWAO	**Narrogin (SRO)**	**59.00**	**245**	PFAKE		04 41 00.0	+10
NWAO				LR	LR		
	comp=Z,3μm,20.0s						
MBWA	**Marble Bar**	**59.35**	**259**	*e*P	**P**	**04 40 50.5**	**-2.2**
MBWA				LR	LR		
	comp=Z,3μm,21.0s						
BLDU	**Ballidu**	**59.85**	**247**	P	**P**	**04 40 54.7**	**-1.2**
	baz=60,SNR=8.7						
CASY	**Casey**	**62.19**	**206**	*e*P	**P**	**04 41 11.0**	**-0.1**
	comp=Z,33nm,1.3s						
CASY				LR	LR		
	comp=Z,244nm,19.0s						
KAPI	**Kappang**	**64.73**	**276**	PFAKE		04 41 40.0	+11
KAPI				LR	LR		
	comp=Z,1μm,20.0s						
DAV	**Davao City (W)**	**64.92**	**290**	PFAKE		04 41 40.0	+10
DAV				LR	LR		
	comp=Z,617nm,20.0s						
QSPA	**South Pole Qui**	**66.56**	**180**	*e*P	**P**	**04 41 40.6**	**+0.6**
	comp=Z,128nm,1.0s						
QSPA				LR	LR		
	comp=Z,2μm,18.5s						
KKM	**Kota Kinabalu**	**72.63**	**285**	PFAKE		04 42 30.0	+12
KKM				LR	LR		
	comp=Z,898nm,21.0s						
MJAR	**Matsushiro Arr**	**73.92**	**323**	LR	LR	05 10 50.9	
	comp=Z,810nm,22.0s,baz=160,slow=33						
MAJO	**Matsushiro**	**73.92**	**323**	*e*P	**P**	**04 42 26.7**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,62nm,0.8s						
MAJO	**Matsushiro**	**73.92**	**323**	PFAKE		04 42 40.0	+15
MAJO				LR	LR		
	comp=Z,2μm,22.0s						
MJB9	**Matsu-Tunnel**	**73.93**	**323**	*e*P	**P**	**04 42 26.1**	**+0.8**
	comp=Z,5.8nm,0.6s						
ERM	**Erimo**	**75.52**	**330**	P	**P**	**04 42 35.9**	**+1.6**
ERM				pmax	pmax		
	comp=Z,12nm,1.0s						
ERM	**Erimo**	**75.52**	**330**	PFAKE		04 42 50.0	+16
ERM				LR	LR		
	comp=Z,2μm,21.0s						
KSM	**Kuching**	**75.98**	**278**	PFAKE		04 42 50.0	+12
KSM				LR	LR		
	comp=Z,698nm,20.0s						
KUR	**Kuril'sk**	**76.07**	**334**	*c i*P	P	04 42 30.0	-7.4
KUR				*i*S	**S**	**04 52 14.6**	**-4.2**
KUR				pmax	pmax		
	comp=Z,72nm,2.3s						
KUR				pmax	pmax		
	comp=N,51nm,2.4s						
KUR				pmax	pmax		
	comp=E,43nm,2.3s						
ASAJ	**Asahikawa**	**77.41**	**331**	*e*P	**P**	**04 42 43.5**	**-1.5**
	comp=E,4.0nm,0.8s						
TPUB	**Ta-pu**	**77.43**	**302**	*e*P	**P**	**04 42 44.4**	**-1.2**
	comp=E,47nm,1.3s						
YHNB	**Yeheng**	**77.60**	**304**	PFAKE		04 43 00.0	+13
YHNB				LR	LR		
	comp=Z,2μm,22.0s						
PMSA	**Palmer Station**	**77.66**	**156**	PFAKE		04 43 00.0	+14
PMSA				LR	LR		
	comp=Z,2μm,19.0s						
TATO	**Taipei**	**77.68**	**304**	PFAKE		04 43 00.0	+13
TATO				LR	LR		
	comp=Z,2μm,20.0s						
PET	**Petropavlovsk**	**79.44**	**345**	*c e*P	**P**	**04 42 56.0**	**+0.1**
PET				*e*S	**S**	**04 52 58.8**	**+4.1**
PET				*e*PPS	PPS	04 53 56.7	
PET				*e*SS	**SS**	**04 58 08.0**	**+4.7**
PET				pmax	pmax		
	comp=Z,25nm,1.2s						
PET				pmax	pmax		
	comp=Z,400nm,13.1s						
PET				pmax	pmax		
	comp=Z,600nm,12.4s						
PET	**Petropavlovsk**	**79.44**	**345**	PFAKE		04 43 10.0	+14
PET				LR	LR		
	comp=Z,1μm,22.0s						
MAW	**Mawson**	**79.46**	**199**	P	**P**	**04 42 56.6**	**+0.6**
	comp=Z,10nm,0.9s,baz=136,slow=5.2,SNR=17						
MAW	**Mawson**	**79.46**	**199**	*e*P	**P**	**04 42 57.2**	**+1.2**
	comp=Z,3.7nm,1.1s						
YSS	**Yuzh-Sakhalins**	**79.56**	**332**	*k e*P	**P**	**04 42 54.9**	**-1.9**
YSS				pmax	pmax		
	comp=Z,20nm,0.3s						
YSS				pmax	pmax		
	comp=Z,800nm,5.0s						
YSS	**Yuzh-Sakhalins**	**79.56**	**332**	*e*P	**P**	**04 42 58.6**	**+1.8**
	comp=Z,9.3nm,0.4s						
YSS				LR	LR		
	comp=Z,837nm,22.0s						
VES	**Vestal, Richgr**	**79.66**	**44**	P	**P**	**04 42 59.4**	**+1.8**
	baz=231						
PEA0	**Petropavlovsk-**	**79.75**	**344**	*e*P	**P**	**04 42 57.1**	**-0.6**
PEA0B	**Petropavlovsk-**	**79.75**	**344**	*e*P	**P**	**04 42 58.0**	**+0.3**
	comp=Z,86nm,1.4s						
PETK	**Petropavlovsk-**	**79.75**	**344**	P	**P**	**04 42 57.4**	**-0.3**
	comp=Z,15nm,0.8s,baz=129,slow=6.1,SNR=12						
KMRM	**Mail Ridge**	**79.75**	**38**	*e*P	**P**	**04 42 59.2**	**+1.1**
	comp=Z,29nm,1.1s						
EDW2	**Edwards Air Fo**	**79.77**	**45**	P	**P**	**04 42 60.0**	**+1.7**
	baz=232						
QZH	**Quanzhou**	**79.88**	**303**	⇑*i*P	P	04 42 49.0	-10
QZH	**Quanzhou**	**79.88**	**303**	*e*S	**S**	**04 52 57.0**	**-3.6**
QZH				pmax	pmax		
	comp=Z,810nm,10.0s						
QZH				LR	LR		
	comp=N,3μm,19.0s						
QZH				LR	LR		
	comp=E,2μm,19.1s						
QZH				LR	LR		
	comp=Z,2μm,18.2s						
PFO	**Pinyon Flats O**	**80.01**	**47**	PFAKE		04 43 10.0	+10
PFO				LR	LR		
	comp=Z,2μm,19.0s						
CMB	**Columbia Colle**	**80.25**	**41**	*e*P	**P**	**04 43 01.7**	**+0.9**
CMB				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CMB	**Columbia Colle**	**80.25**	**41**	*e*P	**P**	**04 43 01.7**	**+0.9**
	comp=Z,7.2nm,0.6s						
KSRS	**Korea Array**	**80.58**	**318**	P	**P**	**04 43 02.1**	**-0.3**
	comp=Z,3.9nm,1.1s,baz=140,slow=6.6,SNR=6.8						
KSAR	**Wonju Array Be**	**80.60**	**318**	P	**P**	**04 43 02.2**	**-0.4**
KSAR	**Wonju Array Be**	**80.60**	**318**	P	**P**	**04 43 02.1**	**-0.4**
KS01	**Wonju Array Si**	**80.61**	**318**	*e*P	**P**	**04 43 02.9**	**+0.2**
WDC	**Whiskeytown Da**	**80.65**	**38**	*e*P	**P**	**04 43 04.4**	**+1.6**
WDC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WDC	**Whiskeytown Da**	**80.65**	**38**	*e*P	**P**	**04 43 04.4**	**+1.6**
	comp=Z,9.8nm,1.1s						
CWC	**Cottonwood Cre**	**80.67**	**44**	P	**P**	**04 43 04.9**	**+1.6**
	baz=232						
BC3	**Big Chuckawall**	**80.71**	**47**	P	**P**	**04 43 05.8**	**+2.4**
	baz=234						
GLA	**Glamis**	**80.78**	**48**	P	**P**	**04 43 05.8**	**+2.1**
	baz=234						
GSC	**Goldstone, Bar**	**80.79**	**45**	P	**P**	**04 43 05.6**	**+1.8**
	baz=233						
MPMC	**Manual Prospec**	**80.81**	**44**	P	**P**	**04 43 05.8**	**+1.7**
	baz=232						
HEC	**Hector,Ludlow**	**80.82**	**46**	P	**P**	**04 43 05.6**	**+1.6**
	baz=233						
N02D	**Trinity Center**	**80.83**	**38**	P	**P**	**04 43 05.9**	**+2.0**
	baz=228						
DAC	**Darwin (Calif)**	**80.88**	**44**	*e*P	**P**	**04 43 05.5**	**+1.1**
DAC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DAC	**Darwin (Calif)**	**80.88**	**44**	*e*P	**P**	**04 43 05.5**	**+1.1**
	comp=Z,3.0nm,1.0s						
O03D	**Paynes Creek**	**80.89**	**39**	P	**P**	**04 43 05.7**	**+1.5**
	baz=229						
M02C	**Callahan**	**81.02**	**37**	P	**P**	**04 43 07.1**	**+2.2**
	baz=228						
WAKR	**Walker**	**81.12**	**41**	*e*P	**P**	**04 43 07.7**	**+2.0**
	comp=Z,14nm,1.2s						
IRM	**Iron Mountain**	**81.21**	**47**	P	**P**	**04 43 07.8**	**+1.8**
	baz=234						
SSE	**Sheshan**	**81.28**	**309**	P	**P**	**04 43 04.5**	**-1.9**
SSE				PMZ			
	comp=Z,15nm,0.8s						
SSE				PMZ			
	comp=Z,340nm,9.4s						
SSE				LN			
	comp=Z,380nm,20.4s						
SSE				LE			
	comp=Z,270nm,20.4s						
SSE				LZ			
	comp=Z,710nm,19.0s						
INCN	**Inchon**	**81.40**	**317**	PFAKE		04 43 20.0	+13
INCN				LR	LR		
	comp=Z,2μm,22.0s						
FURC	**Furnace Creek,**	**81.46**	**44**	P	**P**	**04 43 08.8**	**+1.6**
	baz=233						
GRAC	**Grapevine Rang**	**81.46**	**44**	P	**P**	**04 43 08.9**	**+1.6**
	baz=232						
214A	**Organ Pipe Nat**	**81.55**	**50**	P	**P**	**04 43 09.5**	**+1.7**
	baz=236						
M04C	**Macdoel**	**81.85**	**38**	P	**P**	**04 43 10.7**	**+1.4**
	baz=229						
PAHR	**Pah Rah Range**	**81.92**	**40**	*e*P	**P**	**04 43 11.6**	**+1.8**
	comp=Z,15nm,1.6s						
PDMCI	**Parker Dam,Lak**	**81.97**	**47**	P	**P**	**04 43 11.9**	**+1.9**
	baz=235						
TPNV	**Topopah Spring**	**82.14**	**44**	P	**P**	**04 43 12.6**	**+1.6**
	baz=233						
TPNV	**Topopah Spring**	**82.14**	**44**	*e*P	**P**	**04 43 12.8**	**+1.7**
TPNV				pmax	pmax		
	comp=Z,11nm,1.3s						
TPNV	**Topopah Spring**	**82.14**	**44**	*e*P	**P**	**04 43 12.8**	**+1.7**
	comp=Z,11nm,1.3s						
Y14A	**Wickenburg**	**82.53**	**48**	*e*P	**P**	**04 43 14.9**	**+1.9**
W13A	**Hualapai Mount**	**82.60**	**47**	*e*P	**P**	**04 43 16.1**	**+2.5**
USRK	**Ussuriysk Ar.**	**82.68**	**325**	P	**P**	**04 43 13.8**	**+0.4**
	comp=Z,6.5nm,0.9s,baz=110,slow=4.3,SNR=14						
TYV	**Tymovskoe**	**82.68**	**335**	*e*P	**P**	**04 43 12.0**	**-1.3**
TYV				*e*S	**S**	**04 53 34.0**	**+5.3**
TYV				pmax	pmax		
	comp=E,26nm,1.0s						
TYV				pmax	pmax		
	comp=Z,700nm,6.0s						
TYV				smax	smax		
	comp=N,600nm,12.0s						
TYV				MLR	MLR		
	comp=N,900nm,20.0s						
TYV				MLR	MLR		
	comp=Z,1μm,20.0s						
MOD	**Modoc Plateau**	**82.79**	**38**	*e*P	**P**	**04 43 15.9**	**+1.6**
	comp=Z,8.8nm,1.1s						
K05A	**Summer Lake**	**83.00**	**37**	*e*P	**P**	**04 43 15.8**	**+0.4**
	comp=Z,24nm,1.2s						
R11A	**Troy Canyon, C**	**83.41**	**43**	P	**P**	**04 43 17.8**	**+0.1**
	baz=233						
R11A	**Troy Canyon, C**	**83.41**	**43**	*e*P	**P**	**04 43 18.7**	**+1.1**
	comp=Z,9.3nm,1.7s						
BMN	**Battle Mountai**	**83.67**	**41**	*e*P	**P**	**04 43 20.2**	**+1.3**
BMN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BMN	**Battle Mountai**	**83.67**	**41**	*e*P	**P**	**04 43 20.2**	**+1.3**
	comp=Z,5.8nm,1.0s						
319A	**Douglas**	**83.75**	**52**	*e*P	**P**	**04 43 21.6**	**+2.2**
	comp=Z,40nm,1.8s						
I05D	**Terrebonne, OR**	**83.82**	**36**	P	**P**	**04 43 20.4**	**+1.1**
	baz=229						
X16A	**Lo Mia Camp, P**	**83.87**	**48**	*e*P	**P**	**04 43 21.9**	**+1.9**
QIZ	**Qiongzhong**	**84.06**	**294**	P	**P**	**04 43 21.5**	**+0.3**
QIZ				PP	**PP**	**04 46 35.8**	**+0.2**
QIZ				S	**S**	**04 53 44.8**	**+0.8**
QIZ				PMZ			
	comp=Z,490nm,9.6s						
QIZ				LE			
	comp=Z,640nm,19.2s						
QIZ				LZ			
	comp=Z,760nm,20.1s						
QIZ	**Qiongzhong**	**84.06**	**294**	PFAKE		04 43 30.0	+8.8
QIZ				LR	LR		
	comp=Z,827nm,20.0s						
WVOR	**Wild Horse Val**	**84.08**	**39**	PFAKE		04 43 30.0	+9.1
WVOR				LR	LR		
	comp=Z,2μm,20.0s						
LCMT	**Little Creek M**	**84.13**	**45**	*e*P	**P**	**04 43 23.3**	**+2.0**
	comp=Z,26nm,1.6s						
MDJ	**Mudanjiang**	**84.23**	**324**	P	**P**	**04 43 22.5**	**+1.1**
MDJ				pP	pP	04 43 32.0	+1.0
MDJ				sP	sP	04 43 35.0	+0.5
MDJ				S	**S**	**04 53 44.0**	**-0.6**
MDJ				sS	sS	04 54 01.5	+1.0
MDJ				PMZ			
	comp=Z,11nm,1.8s						
MDJ				PMZ			
	comp=Z,500nm,5.8s						
MDJ				LN			
	comp=Z,400nm,20.9s						
MDJ				LE			
	comp=Z,900nm,22.8s						
MDJ				LZ			
	comp=Z,1μm,22.8s						
MDJ	**Mudanjiang**	**84.23**	**324**	*e*P	**P**	**04 43 22.4**	**+1.0**
	comp=Z,2.6nm,0.4s						
MDJ				LR	LR		
	comp=Z,1μm,21.0s						
SYO	**Syowa Base**	**84.25**	**192**	‖*e*X	P	**04 43 16.7**	**-4.5**
SYO	**Syowa Base**	**84.25**	**192**	‖*e*PcP	**PcP**	**04 43 24.6**	**-

NKL Nikolayevsk 85.23 335 eP P 04 43 27.0 +0.8
NKL pmax pmax
comp=Z,600nm,10.0s
MTPU Mount Pierson 85.41 45 eP P 04 43 31.0 +3.0
comp=Z,35nm,1.7s
DL2 Dalian 85.41 316 ⇑iP P 04 43 27.3 -0.2
DL2 S S 04 53 52.8 -3.7
DL2 PMZ
comp=Z,27nm,0.8s
DL2 PMZ
comp=Z,530nm,5.3s
DL2 LN
comp=Z,840nm,19.8s
DL2 LE
comp=Z,820nm,19.2s
DL2 LZ
comp=Z,990nm,18.6s
121A Cookes Peak, D 85.43 52 P P 04 43 30.2 +2.2
baz=239
121A Cookes Peak, D 85.43 52 eP P 04 43 30.0 +2.0
comp=Z,23nm,1.5s
PAYG Puerto Ayora 85.49 89 PFAKE 04 43 40.0 +11
PAYG LR LR
comp=Z,956nm,20.0s
MSU Marysvale 85.68 45 eP P 04 43 31.7 +2.5
MSU Marysvale 85.68 45 eP P 04 43 31.7 +2.5
SNY Shenyang 85.91 319 ⇑P P 04 43 29.0 -0.9
SNY PP PP 04 46 48.0 -2.2
SNY PMZ
comp=Z,25nm,1.0s
SNY PMZ
comp=Z,500nm,10.6s
SNY LE
comp=Z,730nm,20.6s
SNY LZ
comp=Z,1μm,23.7s
WHN Wuhan 85.97 306 ⇑iP P 04 43 30.8 +0.3
WHN PMZ
comp=Z,730nm,4.4s
WHN LN
comp=Z,890nm,13.4s
WHN LE
comp=Z,890nm,14.0s
WHN LZ
comp=Z,3μm,20.2s
CN2 Changchun 86.01 322 ⇓P P 04 43 29.0 -1.3
CN2 epP pP 04 43 39.0 -1.0
CN2 eS S 04 53 58.5 -3.8
CN2 PMZ
comp=Z,20nm,1.2s
CN2 PMZ
comp=Z,500nm,4.0s
CN2 LN
comp=Z,900nm,20.0s
CN2 LE
comp=Z,900nm,20.0s
CN2 LZ
comp=Z,1μm,20.0s
HAWA Hanford 86.12 35 PFAKE 04 43 40.0 +9.2
HAWA LR LR
comp=Z,2μm,20.0s
DUG Dugway, Tooele 86.23 43 PFAKE 04 43 40.0 +8.3
DUG LR LR
comp=Z,874nm,22.0s
MFID Camas Ranch 86.31 39 eP P 04 43 32.6 +0.6
comp=Z,1.5nm,0.9s
KULM Kulim 86.33 277 PFAKE 04 43 40.0 +7.4
KULM LR LR
comp=Z,1μm,20.0s
BMO Blue Mountains 86.36 37 PFAKE 04 43 40.0 +7.8
BMO LR LR
comp=Z,1μm,20.0s
MNTX Cornudas Mount 86.76 53 P P 04 43 35.2 +0.9
baz=240
MNTX Cornudas Mount 86.76 53 eP P 04 43 34.8 +0.4
comp=Z,14nm,1.0s
MNTX LR LR
comp=Z,1μm,19.0s
PAF Port-aux-Franc 86.85 217 PFAKE 04 43 50.0 +15
PAF LR LR
comp=Z,2μm,20.0s
LAZ Ladron 86.86 50 eP P 04 43 37.3 +2.3
TX31 Lajitas Ar. Si 86.89 56 eP P 04 43 35.9 +0.7
TXAR Lajitas Array 86.89 56 P P 04 43 35.6 +0.4
comp=Z,10nm,0.9s,baz=216,slow=5.4,SNR=25
SRU San Rafael Swe 87.08 45 eP P 04 43 37.4 +1.4
SRU pmax pmax
comp=Z,8.0nm,1.1s
SRU San Rafael Swe 87.08 45 eP P 04 43 37.4 +1.4
comp=Z,7.5nm,1.1s
F10A Beach Ranch, E 87.09 37 eP P 04 43 36.9 +1.1
comp=Z,6.0nm,0.9s
BNM Barren Site 87.10 51 eP P 04 43 38.3 +2.0
LPM Los Pinos Moun 87.18 51 eP P 04 43 37.6 +1.1
HLID Hailey 87.22 40 eP P 04 43 36.7 +0.2
comp=Z,0.4nm,0.4s
HLID LR LR
comp=Z,1μm,20.0s
MVCO Mesa Verde 87.39 47 PFAKE 04 43 50.0 +12
MVCO LR LR
comp=Z,2μm,19.0s
PMR Palmer 87.47 12 eP P 04 43 37.4 +0.4
PMR pmax pmax
comp=Z,17nm,1.3s
PMR Palmer 87.47 12 eP P 04 43 37.4 +0.4
comp=Z,17nm,1.3s
TT01 Tatalina 87.54 9 eP P 04 43 38.9 +1.5
TTA Tatalina 87.56 9 eP P 04 43 39.5 +1.9
TTA pmax pmax
comp=Z,19nm,1.2s
TTA Tatalina 87.56 9 eP P 04 43 39.5 +1.9
comp=Z,18nm,1.2s
ANMO Albuquerque 87.62 50 P P 04 43 39.2 +0.5
baz=239
ANMO Albuquerque 87.62 50 dP 04 43 40.4 +1.7
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 87.62 50 eP P 04 43 39.6 +0.9
comp=Z,33nm,1.8s
ANMO LR LR
comp=Z,3μm,19.0s
WRAK Wrangell Islan 87.64 22 PFAKE 04 43 50.0 +12
WRAK LR LR
comp=Z,830nm,20.0s
DIV Divide 87.75 14 eP P 04 43 38.0 -0.5
comp=Z,29nm,1.3s
HWUT Hardware Ranch 87.81 42 PFAKE 04 43 50.0 +11
HWUT LR LR
comp=Z,1μm,20.0s
BMRM Bremner River 87.88 15 eP P 04 43 40.2 +1.2
comp=Z,51nm,1.8s
SCM Sheep Creek Mo 88.05 13 eP P 04 43 41.5 +1.6
SCM pmax pmax
comp=Z,36nm,1.4s
SCM Sheep Creek Mo 88.05 13 eP P 04 43 41.5 +1.6
comp=Z,36nm,1.4s
SKNT Sakolnakorn 88.17 289 P P 04 43 43.0 +1.6
comp=Z,59nm,0.8s
NEW Newport 88.58 35 PFAKE 04 44 00.0 +17
NEW LR LR
comp=Z,1μm,19.0s
AHID Auburn Hatcher 88.75 42 PFAKE 04 44 00.0 +16
AHID LR LR
comp=Z,1μm,20.0s
S22A 4UR Ranch, Cre 88.81 48 P P 04 43 45.5 +1.2
baz=239
S22A 4UR Ranch, Cre 88.81 48 eP P 04 43 45.3 +0.9
comp=Z,14nm,1.6s
TRF Thorofare Moun 88.96 11 eP P 04 43 43.8 -0.5
comp=Z,13nm,0.9s
RND Reindeer 89.18 12 eP P 04 43 46.1 +0.9
RND pmax pmax
comp=Z,36nm,1.3s
RND Reindeer 89.18 12 eP P 04 43 46.1 +0.9
comp=Z,36nm,1.3s
832A Faith Ranch, C 89.25 59 P P 04 43 47.6 +1.3
baz=243
MSO Missoula 89.42 37 P P 04 43 47.9 +1.1
baz=234
MCK McKinley 89.46 12 eP P 04 43 47.3 +0.8
MCK pmax pmax
comp=Z,18nm,1.2s
MCK McKinley 89.46 12 eP P 04 43 47.3 +0.8
comp=Z,18nm,1.2s
933A Laredo 89.50 60 P P 04 43 49.1 +1.6
baz=243

ENH Enshi 89.52 303 PFAKE 04 44 00.0 +12
ENH LR LR
comp=Z,855nm,20.0s
BJT Baijiatuau 89.55 315 eP P 04 43 47.8 +0.4
BJT pmax pmax
comp=Z,3.0nm,0.5s
BJT MLR MLR
comp=Z,1μm,22.0s
BJT Baijiatuau 89.55 315 eP P 04 43 47.8 +0.4
comp=Z,2.6nm,0.5s
BJT LR LR
comp=Z,1μm,22.0s
BJI Beijing 89.56 315 P P 04 43 47.5 +0.1
BJI PP PP 04 47 20.3 +0.7
BJI sS sS 04 54 52.8 +0.5
BJI PMZ
comp=Z,15nm,2.3s
BJI PMZ
comp=Z,410nm,4.8s
BJI LN
comp=Z,710nm,19.3s
BJI LE
comp=Z,570nm,21.2s
BJI LZ
comp=Z,1μm,23.6s
BW06 Boulder Array 89.69 42 PFAKE 04 44 00.0 +12
BW06 LR LR
comp=Z,1μm,20.0s
SDCO Great Sand Dun 89.71 48 P P 04 43 49.4 +0.7
baz=240
SDCO Great Sand Dun 89.71 48 eP P 04 43 49.9 +1.3
comp=Z,11nm,1.5s
SDCO LR LR
comp=Z,2μm,19.0s
833A Chaparral WMA, 89.72 59 P P 04 43 50.0 +1.5
baz=243
MSTX Muleshoe 89.79 53 P P 04 43 49.5 +0.7
baz=241
MSTX Muleshoe 89.79 53 eP P 04 43 49.1 +0.3
comp=Z,53nm,1.8s
MENT Mentasta 89.81 14 eP P 04 43 49.6 +1.5
comp=Z,17nm,1.3s
SEY Seymchan 89.81 346 ⇓iP P 04 43 49.1 +1.1
SEY *i* *PP sP 04 44 00.1 -1.1
GYA Guiyang 90.02 299 eP P 04 43 51.3 +1.2
GYA pP sP 04 44 01.5 -1.7
GYA PP PP 04 47 20.0 +3.3
GYA SKS SKSac 04 54 18.3 -1.0
GYA S S 04 54 40.8 -0.7
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,6.9s
BOZ Bozeman (W) 90.05 39 P P 04 43 50.7 +0.9
baz=236
BOZ Bozeman (W) 90.05 39 eP P 04 43 50.0 +0.2
BOZ pmax pmax
comp=Z,14nm,1.5s
BOZ MLR MLR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 90.05 39 eP P 04 43 50.0 +0.2
comp=Z,14nm,1.5s
BOZ LR LR
comp=Z,2μm,20.0s
T25A Trinidad 90.16 49 P P 04 43 51.6 +1.0
baz=240
LKWY Lake 90.17 40 PFAKE 04 44 00.0 +9.4
LKWY LR LR
comp=Z,2μm,19.0s
WRH Wood River Hil 90.29 12 eP P 04 43 49.9 -0.4
comp=Z,22nm,1.2s
834A Tilden 90.30 59 P P 04 43 52.9 +1.7
baz=244
DOT Dot Lake 90.36 14 eP P 04 43 48.6 -2.1
comp=Z,31nm,1.1s
JCT Junction City 90.38 57 PFAKE 04 44 00.0 +8.4
JCT LR LR
comp=Z,2μm,19.0s
633A Saathoff Ranch 90.41 58 P P 04 43 53.3 +1.6
baz=243
CCB Clear Creek Bu 90.50 12 eP P 04 43 51.8 +0.5
comp=Z,12nm,1.2s
Q24A Divide 90.56 47 P P 04 43 54.1 +1.5
baz=240
KVTX Kingsville 90.56 60 PFAKE 04 44 10.0 +18
KVTX LR LR
comp=Z,1μm,19.0s
PBKT Sadao Pong 90.62 288 P P 04 43 55.4 +2.5
comp=Z,25nm,1.6s
ISCO Idaho Springs 90.67 46 PFAKE 04 44 10.0 +17
ISCO LR LR
comp=Z,1μm,19.0s
COLA College 90.70 11 eP P 04 43 51.7 -0.5
COLA pmax pmax
comp=Z,14nm,1.1s
COLA MLR MLR
comp=Z,2μm,20.0s
COLA College 90.70 11 eP P 04 43 51.7 -0.5
comp=Z,14nm,1.1s
COLA LR LR
comp=Z,2μm,20.0s
MDM Murphy Dome 90.71 11 eP P 04 43 52.2 -0.1
comp=Z,15nm,1.2s
LOEI Loei 90.75 289 P P 04 43 54.6 +1.0
comp=Z,10nm,2.5s,comp=Z,432nm
533A Kerrville 90.79 58 P P 04 43 54.8 +1.3
baz=243
IL1 Eielson Array 90.79 12 eP P 04 43 52.0 -0.6
ILAR Eielson Array 90.79 12 P P 04 43 53.0 +0.4
comp=Z,5.3nm,1.1s,baz=222,slow=5.0,SNR=14
ILAR LR LR 05 20 05.6
comp=Z,434nm,19.7s,baz=214,slow=33
ILAR Eielson Array 90.79 12 P P 04 43 53.0 +0.4
ILB Eielson Array 90.79 12 eP P 04 43 53.0 +0.4
LCO Las Campanas 90.92 122 PFAKE 04 44 10.0 +15
LCO LR LR
comp=Z,1μm,20.0s
AMTX Amarillo 91.01 52 P P 04 43 55.3 +0.8
baz=242
433A Art 91.05 57 P P 04 43 55.0 +0.3
baz=243
RLMT Red Lodge 91.15 40 PFAKE 04 44 10.0 +15
RLMT LR LR
comp=Z,843nm,19.0s
534A Blanco 91.20 58 P P 04 43 56.0 +0.6
baz=244
735A Kenedy 91.21 59 P P 04 43 57.4 +1.9
baz=244
333A Richland Sprin 91.39 56 P P 04 43 56.5 +0.2
baz=243
UTTA Uttaradit 91.47 289 P P 04 43 59.7 +2.9
comp=Z,2.4nm,1.1s
ABTX Abilene, Hawle 91.48 55 P P 04 43 57.4 +0.8
baz=243
ABTX Abilene, Hawle 91.48 55 eP P 04 43 57.8 +1.2
comp=Z,17nm,1.2s
XAN Xi'an 91.68 306 P P 04 43 58.8 +1.2
XAN pP sP 04 44 09.3 -1.4
XAN PP PP 04 47 39.5 +2.8
XAN PMZ
comp=Z,15nm,1.9s
XAN PMZ
comp=Z,350nm,10.4s
XAN LN
comp=Z,560nm,19.3s
XAN LE
comp=Z,750nm,20.4s
XAN LZ
comp=Z,1μm,21.1s
434A Bunet 91.71 57 P P 04 43 58.0 +0.2
baz=244
233A Rising Star 91.77 56 P P 04 43 58.6 +0.6
baz=243
DAWY Dawson 91.78 15 eP P 04 43 57.8 +0.5
comp=Z,8.3nm,1.0s
334A Lometa 91.97 57 P P 04 43 59.7 +0.8
baz=244
EGAK Eagle 91.98 14 eP P 04 43 59.5 +1.4
comp=Z,11nm,1.1s
EGAK LR LR
comp=Z,1μm,20.0s
133A Hamilton Ranch 92.02 55 P P 04 43 59.9 +0.7
baz=243
636A Smothers Creek 92.07 59 P P 04 44 00.7 +1.3
baz=244
SUKH Sukhothai 92.16 288 P P 04 44 02.5 +2.4
comp=Z,4.4nm,0.8s,comp=Z,56nm

BILL Bilibino 92.27 353 iP P 04 43 59.9 +0.5
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL MLR MLR
comp=Z,526nm,19.0s
BILL Bilibino 92.27 353 eP P 04 43 59.1 -0.3
comp=Z,14nm,1.3s
BILL LR LR
comp=Z,2μm,22.0s
234A Clairette 92.34 56 P P 04 44 01.7 +1.1
baz=244
HIA Hailar 92.41 324 PFAKE 04 44 10.0 +9.5
HIA LR LR
comp=Z,1μm,19.0s
Z33A Whitaker Ranch 92.43 55 P P 04 44 01.9 +0.9
baz=244
EGMT Eagleton 92.44 38 PFAKE 04 44 10.0 +9.2
EGMT LR LR
comp=Z,2μm,21.0s
X32A Elmer 92.55 54 P P 04 44 02.1 +0.5
baz=243
335A Moody 92.57 57 P P 04 44 02.6 +0.9
baz=244
LAMP Lampang 92.58 289 P P 04 44 04.4 +2.4
comp=Z,9.6nm,0.9s
134A White-Moore Ra 92.63 56 P P 04 44 02.6 +0.6
baz=244
KMI Kunming 92.64 296 P P 04 44 03.0 +0.6
KMI pP pP 04 44 13.3 +1.2
KMI sP sP 04 44 17.5 +1.9
KMI S S 04 55 03.0 -2.6
KMI sS sS 04 55 18.5 -3.1
KMI SS SS 05 01 19.5 +0.7
KMI PMZ
comp=Z,13nm,1.2s
KMI PMZ
comp=Z,260nm,6.5s
KMI LN
comp=Z,270nm,23.2s
KMI LE
comp=Z,720nm,22.5s
KMI LZ
comp=Z,990nm,21.0s
TRQA Tornquist 92.71 134 PFAKE 04 44 20.0 +18
TRQA LR LR
comp=Z,792nm,21.0s
WHTX Lake Whitney, 92.85 56 P P 04 44 04.3 +1.3
baz=244
WHTX Lake Whitney, 92.85 56 eP P 04 44 04.5 +1.5
Y33A Hilltop Ranch, 92.86 54 P P 04 44 04.5 +1.6
baz=244
W32A Sentinel 92.90 53 P P 04 44 04.1 +1.0
baz=243
HHC Hu-ho-hao-te 93.01 313 eP P 04 44 04.8 +1.2
HHC PP PP 04 47 48.5 +1.4
HHC SKS SKSac 04 54 35.5 -0.1
HHC S ScS 04 55 11.5 +1.8
HHC PMZ
comp=Z,29nm,1.1s
HHC PMZ
comp=Z,290nm,5.2s
HHC LN
comp=Z,480nm,17.8s
HHC LE
comp=Z,880nm,19.1s
HHC LZ
comp=Z,1μm,18.9s
336A Riesel 93.06 57 P P 04 44 04.9 +1.0
baz=244
WMOK Wichita Mounta 93.07 53 P P 04 44 04.9 +1.0
baz=244
WMOK Wichita Mounta 93.07 53 PFAKE 04 44 20.0 +16
WMOK LR LR
comp=Z,1μm,19.0s
CM01 Chiang Mai Arr 93.12 289 eP P 04 44 06.8 +2.3
135A Vickery Place, 93.14 56 P P 04 44 05.7 +1.4
baz=244
CMAR Chiang Mai Arr 93.15 289 P P 04 44 05.6 +0.9
comp=Z,8.9nm,0.9s,baz=131,slow=3.3,SNR=16
X33A Lawton 93.19 54 P P 04 44 05.2 +0.8
baz=244
NNA Nana 93.19 104 PFAKE 04 44 20.0 +15
NNA LR LR
comp=Z,1μm,20.0s
CMMT Chiang Mai 93.29 289 P P 04 44 07.2 +1.9
comp=Z,17nm,0.9s,comp=Z,526nm
CHTO Chiang Mai 93.30 289 P P 04 44 07.2 +1.9
comp=Z,74nm,1.0s,comp=Z,2μm
CHTO Chiang Mai 93.30 289 eP P 04 44 06.0 +0.7
CHTO pmax pmax
comp=Z,14nm,1.0s
CHTO MLR MLR
comp=Z,611nm,22.0s
CHTO Chiang Mai 93.30 289 eP P 04 44 06.0 +0.7
comp=Z,14nm,1.0s
CHTO LR LR
comp=Z,611nm,22.0s
V32A Arapaho 93.31 52 P P 04 44 06.2 +1.2
baz=244
W33A Caddo, Fort Co 93.48 53 P P 04 44 06.4 +0.6
baz=244
Y34A Reagan Ranch, 93.48 55 P P 04 44 06.5 +0.7
baz=244
236A Katherine and 93.57 57 P P 04 44 07.1 +0.9
baz=245
Z35A Perchaven, San 93.59 55 P P 04 44 07.3 +0.9
baz=244
OGNE Ogallala 93.62 47 PFAKE 04 44 20.0 +14
OGNE LR LR
comp=Z,2μm,19.0s
U32A Winter Ranch, 93.64 52 P P 04 44 07.2 +0.7
baz=244
X34A Smith Ranch, M 93.71 54 P P 04 44 07.9 +1.0
baz=244
136A Ennis 93.77 56 P P 04 44 07.9 +0.7
baz=245
LAO LASA Array 93.78 40 PFAKE 04 44 20.0 +13
LAO LR LR
comp=Z,953nm,21.0s
RSSD Black Hills 93.84 43 P P 04 44 08.2 +0.7
baz=241
RSSD Black Hills 93.84 43 eP P 04 44 08.4 +0.9
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 93.84 43 eP P 04 44 08.4 +0.9
comp=Z,8.1nm,1.1s
V33A Lossen Ranch, 93.91 53 P P 04 44 08.7 +1.0
baz=244
W34A Bridge Creek, 94.03 53 P P 04 44 09.9 +1.5
baz=244
Z36A Blue Ridge 94.18 56 P P 04 44 10.5 +1.4
baz=245
CBKS Cedar Bluff 94.20 49 PFAKE 04 44 20.0 +11
CBKS LR LR
comp=Z,3μm,19.0s
CD2 Chengdu 94.23 302 eP P 04 44 09.5 +0.1
CD2 pP pP 04 44 19.3 +0.2
CD2 PP PP 04 47 56.3 -0.5
CD2 SKS SKSac 04 54 41.8 -0.8
CD2 S S 04 55 18.5 -0.5
CD2 SS SS 05 01 41.3 +0.3
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.6s
X35A Drake 94.26 54 P P 04 44 10.6 +1.2
baz=245
Y36A Durant 94.56 55 P P 04 44 11.2 +0.4
baz=245
W35A Tecumseh 94.66 54 P P 04 44 12.7 +1.5
baz=245
X36A Centrahoma 94.80 54 P P 04 44 12.9 +1.0
baz=245
NATX Nacogdoches 94.91 58 PFAKE 04 44 20.0 +7.6
NATX LR LR
comp=Z,2μm,19.0s
Y37A Hugo 95.10 55 P P 04 44 13.7 +0.5
baz=245
W36A Wetumka 95.13 54 P P 04 44 14.4 +1.0
baz=245
LVC Limon Verde 95.32 117 PFAKE 04 44 30.0 +15
LVC LR LR
comp=Z,940nm,20.0s
V36A Jenks 95.61 54 P P 04 44 16.6 +1.0
baz=245
W37B Quinton 95.72 54 P P 04 44 17.0 +0.9
baz=245

YAK	**Yakutsk**	**95.72**	**337**	PFAKE			04 44 30.0	+15	
YAK				LR	LR				
	comp=Z,624nm,19.0s								
TUL1	**Leonard**	**95.78**	**53**	P	**P**		**04 44 17.7**	**+1.4**	
	baz=245								
DGMT	**Dagmar**	**95.86**	**39**	PFAKE			04 44 30.0	+14	
DGMT				LR	LR				
	comp=Z,2μm,20.0s								
K30A	**Basset**	**96.02**	**46**	P	**P**		**04 44 18.8**	**+1.5**	
	baz=244								
T36A	**Boggs Farm, Ca**	**96.19**	**52**	P	**P**		**04 44 18.9**	**+0.7**	
	baz=245								
V37A	**Hulbert**	**96.25**	**54**	P	**P**		**04 44 19.7**	**+1.3**	
	baz=246								
KSU1	**Kansas State U**	**96.52**	**50**	PFAKE			04 44 30.0	+10	
KSU1				LR	LR				
	comp=Z,3μm,19.0s								
OTAV	**Otavalo**	**96.71**	**93**	PFAKE			04 44 30.0	+8.4	
OTAV				LR	LR				
	comp=Z,720nm,20.0s								
MIAR	**Mount Ida**	**96.87**	**55**	PFAKE			04 44 30.0	+8.7	
MIAR				LR	LR				
	comp=Z,2μm,19.0s								
T37A	**Cheneyville 18**	**96.92**	**53**	P	**P**		**04 44 23.6**	**+2.1**	
	baz=246								
V39A	**Pettigrew**	**97.34**	**54**	P	Pdif		04 44 25.9	+2.4	
	baz=246								
T38A	**Diamond**	**97.34**	**53**	P	Pdif		04 44 26.4	+3.0	
	baz=246								
YKA	**Yellowknife Ar**	**98.35**	**24**	P	**P**		**04 44 26.7**	**-0.5**	
	comp=Z,1.0nm,0.9s,baz=235,slow=4.8,SNR=5.1								
ECSD	**EROS Data Cent**	**98.45**	**46**	P	Pdif		04 44 29.0	+0.7	
	baz=246								
ECSD	**EROS Data Cent**	**98.45**	**46**	PFAKE			04 44 40.0	+12	
ECSD				LR	LR				
	comp=Z,2μm,19.0s								
ULN	**Ulaanbaatar**	**99.06**	**318**	*d i*P	**Pdif**		**04 44 31.6**	**+0.6**	
ULN				pmax	pmax				
	comp=Z,1.0nm,1.0s								
ULN	**Ulaanbaatar**	**99.06**	**318**	PFAKE			04 44 40.0	+9.0	
ULN				LR	LR				
	comp=Z,556nm,20.0s								
FFC	**Flin Flon**	**100.00**	**34**	PFAKE			04 44 50.0	+15	
FFC				LR	LR				
	comp=Z,854nm,19.0s								
SCIA	**State Center**	**100.02**	**49**	PFAKE			04 44 50.0	+15	
SCIA				LR	LR				
	comp=Z,2μm,19.0s								
GTA	**Gaotai**	**100.55**	**308**	*e*P	**Pdif**		**04 44 38.0**	**+0.1**	
GTA				pP	pP		04 44 48.0	+0.4	
GTA				sP	sP		04 44 52.0	+0.9	
GTA				PP	**PP**		**04 48 48.8**	**+3.4**	
GTA				SKS			04 55 14.0		
GTA				S	**Sdif**		**04 56 09.3**	**-3.5**	
GTA				sS	sS		04 56 26.8	-2.2	
GTA				SS	**SS**		**05 03 09.3**	**-0.7**	
GTA				PMZ					
	comp=Z,4.0nm,1.9s								
GTA				PMZ					
	comp=Z,110nm,6.2s								
GTA				LN					
	comp=Z,340nm,21.9s								
GTA				LE					
	comp=Z,650nm,21.9s								
GTA				LZ					
	comp=Z,850nm,21.4s								
BRAL	**Brewton**	**100.68**	**61**	PFAKE			04 44 50.0	+12	
BRAL				LR	LR				
	comp=Z,899nm,19.0s								
AGMN	**Agassiz Nation**	**100.77**	**42**	PFAKE			04 44 50.0	+12	
AGMN				LR	LR				
	comp=Z,425nm,20.0s								
TIXI	**Tiksi**	**102.22**	**345**	PFAKE			04 45 00.0	+16	
TIXI				LR	LR				
	comp=Z,2μm,22.0s								
HDIL	**Hopedale**	**102.28**	**51**	PFAKE			04 45 00.0	+15	
HDIL				LR	LR				
	comp=Z,3μm,19.0s								
JFWS	**Jewell Farm**	**102.43**	**49**	PFAKE			04 45 00.0	+14	
JFWS				LR	LR				
	comp=Z,2μm,19.0s								
TLY	**Talaya**	**102.60**	**321**	PFAKE			04 45 00.0	+13	
TLY				LR	LR				
	comp=Z,987nm,21.0s								
EYMN	**Ely**	**103.36**	**43**	PFAKE			04 45 00.0	+10	
EYMN				LR	LR				
	comp=Z,774nm,19.0s								
LSA	**Lhasa**	**103.89**	**297**	PFAKE			04 45 00.0	+6.6	
LSA				LR	LR				
	comp=Z,811nm,21.0s								
COWI	**Conover**	**104.26**	**46**	PFAKE			04 45 10.0	+16	
COWI				LR	LR				
	comp=Z,1μm,22.0s								
MTDJ	**Mount Denham**	**104.28**	**76**	PFAKE			04 45 10.0	+15	
MTDJ				LR	LR				
	comp=Z,469nm,21.0s								
GOGA	**Godfrey**	**104.29**	**60**	PFAKE			04 45 10.0	+16	
GOGA				LR	LR				
	comp=Z,2μm,19.0s								
SAML	**Samuel**	**106.58**	**108**	PFAKE			04 49 30.0		
SAML				LR	LR				
	comp=Z,896nm,21.0s								
ACSO	**Alum Creek Sta**	**106.75**	**53**	PFAKE			04 49 30.0		
ACSO				LR	LR				
	comp=Z,2μm,19.0s								
DGAR	**Diego Garcia**	**106.77**	**254**	PFAKE			04 49 30.0		
DGAR				LR	LR				
	comp=Z,2μm,21.0s								
NHSC	**New Hope**	**106.82**	**61**	PFAKE			04 49 30.0		
NHSC				LR	LR				
	comp=Z,1μm,19.0s								
AAM	**Ann Arbor**	**106.85**	**51**	PFAKE			04 49 30.0		
AAM				LR	LR				
	comp=Z,2μm,19.0s								
GTBY	**Guantanamo Bay**	**107.01**	**75**	PFAKE			04 49 30.0		
GTBY				LR	LR				
	comp=Z,405nm,20.0s								
SDV	**Santo Domingo**	**107.22**	**88**	PFAKE			04 49 30.0		
SDV				LR	LR				
	comp=Z,668nm,20.0s								
BLA	**Blacksburg**	**107.81**	**57**	PFAKE			04 49 30.0		
BLA				LR	LR				
	comp=Z,820nm,20.0s								
CNNC	**Cliffs of the**	**109.24**	**59**	PFAKE			04 49 30.0		
CNNC				LR	LR				
	comp=Z,1μm,19.0s								
SDDR	**Presa de Saban**	**110.11**	**77**	PFAKE			04 49 30.0		
SDDR				LR	LR				
	comp=Z,689nm,22.0s								
CBN	**Corbin Frederi**	**110.40**	**56**	PFAKE			04 49 30.0		
CBN				LR	LR				
	comp=Z,933nm,20.0s								
WMQ	**Urumqi**	**110.53**	**310**	PKP	**PKiKP**		**04 49 21.5**	**-1.0**	
WMQ				LN					
	comp=Z,250nm,19.3s								
WMQ				LE					
	comp=Z,980nm,23.9s								
WMQ				LZ					
	comp=Z,930nm,20.3s								
GRTK	**Grand Turk**	**111.04**	**75**	PFAKE			04 49 40.0		
GRTK				LR	LR				
	comp=Z,608nm,19.0s								
SPB	**Sao Paulo**	**111.29**	**129**	PFAKE			04 49 40.0		
SPB				LR	LR				
	comp=Z,2μm,20.0s								
BINY	**Binghamton**	**112.35**	**52**	PFAKE			04 49 40.0		
BINY				LR	LR				
	comp=Z,2μm,19.0s								
LONY	**Lake Ozonia**	**113.81**	**50**	PFAKE			04 49 40.0		
LONY				LR	LR				
	comp=Z,2μm,19.0s								
ZALV	**Zalesovo Beam**	**114.20**	**320**	PKiKP	PKPdf		04 49 28.1	-0.9	
	comp=Z,1.0nm,0.5s,baz=202,slow=1.2,SNR=5.2								
SJG	**San Juan**	**114.47**	**80**	PFAKE			04 49 40.0	+9.4	
SJG				LR	LR				
	comp=Z,376nm,21.0s								
MKAR	**Makanchi Array**	**114.84**	**312**	PKiKP	**PKiKP**		**04 49 30.6**	**+0.1**	
	comp=Z,1.2nm,0.7s,baz=70,slow=3.0,SNR=5.9								
GRGR	**Grenville**	**116.62**	**88**	PFAKE			04 49 50.0	+15	
GRGR				LR	LR				
	comp=Z,607nm,19.0s								
PKME	**Peaks-Kenny Pk**	**117.62**	**50**	PFAKE			04 49 50.0	+14	
PKME				LR	LR				
	comp=Z,3μm,19.0s								
KURK	**Kurchatov**	**117.68**	**316**	⇑*i*PKIKP	**PKPdf**		**04 49 35.9**	**+0.1**	
KURK				pmax	pmax				
	comp=Z,26nm,2.5s								
KURK	**Kurchatov**	**117.68**	**316**	PKP	**PKPdf**		**04 49 34.4**	**-1.4**	
KURK				LR	LR				
	comp=Z,1μm,20.0s								
KURBB	**Kurchatov Arra**	**117.73**	**316**	PKP	**PKPdf**		**04 49 34.4**	**-1.5**	
	comp=Z,1.5nm,0.8s,baz=100,slow=1.8,SNR=10								
FDF	**Fort de France**	**117.95**	**85**	PFAKE			04 49 50.0	+13	
FDF				LR	LR				
	comp=Z,459nm,20.0s								
ANWB	**Willy Bob**	**118.29**	**82**	PFAKE			04 49 50.0	+12	
ANWB				LR	LR				
	comp=Z,365nm,22.0s								
KSH	**Kashi**	**118.38**	**303**	*e*PKP	**PKPdf**		**04 49 37.0**	**-0.7**	
KSH				PP	**PP**		**04 50 59.0**	**+4.4**	
KSH				PKS	**PKSdf**		**04 53 12.5**	**-2.0**	
KSH				SKS	**SKSdf**		**04 56 44.5**	**-3.3**	
KSH				SKKS	**SKKSac**		**04 57 46.0**	**-6.8**	
KSH				SS	**SS**		**05 07 10.5**	**+0.8**	
KSH				PPMZ					
	comp=Z,100nm,4.7s								
KSH				LN					
	comp=Z,240nm,8.4s								
KSH				LE					
	comp=Z,230nm,6.4s								
KSH				LZ					
	comp=Z,340nm,19.8s								
TKM2	**Tokmak 2**	**119.08**	**307**	PFAKE			04 49 50.0	+11	
TKM2				LR	LR				
	comp=Z,537nm,22.0s								
BBSR	**BB Station**	**119.30**	**65**	PFAKE			04 49 50.0	+11	
BBSR				LR	LR				
	comp=Z,642nm,20.0s								
AAK	**Ala-Archa**	**119.86**	**307**	PFAKE			04 49 50.0	+9.5	
AAK				LR	LR				
	comp=Z,763nm,22.0s								
EKS2	**Erkin-Say**	**120.39**	**307**	PFAKE			04 49 50.0	+8.5	
EKS2				LR	LR				
	comp=Z,625nm,20.0s								
ABPO	**Ambohimpanom**	**120.51**	**228**	PFAKE			04 49 50.0	+7.5	
ABPO				LR	LR				
	comp=Z,372nm,22.0s								
BVAR	**Borovoye Array**	**122.78**	**319**	PKP	**PKPdf**		**04 49 44.7**	**-0.9**	
	comp=Z,1.8nm,0.6s,baz=163,slow=1.5,SNR=6.9								
KKAR	**Karatay Array**	**122.81**	**307**	*e*PKIKP	**PKPdf**		**04 49 45.7**	**-0.3**	
KKAR	**Karatay Array**	**122.81**	**307**	*e*PKPdf	**PKPdf**		**04 49 45.7**	**-0.3**	
BRVK	**Borovoye**	**122.84**	**319**	⇑*i*PKIKP	**PKPdf**		**04 49 45.6**	**-0.1**	
BRVK				pmax	pmax				
	comp=Z,8.0nm,1.2s								
BRVK	**Borovoye**	**122.84**	**319**	PFAKE			04 50 00.0	+14	
BRVK				LR	LR				
	comp=Z,427nm,22.0s								
ILULI	**Ilulissat**	**123.82**	**21**	*i* P	**PP**		**04 51 31.1**	**+0.6**	
KBS	**Kingsbay**	**124.42**	**358**	PFAKE			04 50 00.0	+12	
KBS				LR	LR				
	comp=Z,597nm,20.0s								
SFJD	**Kangerlussuaq**	**124.89**	**23**	PFAKE			04 50 00.0	+11	
SFJD				LR	LR				
	comp=Z,691nm,19.0s								
DAG	**Danmarks Havn**	**125.51**	**6**	*i* P	**PP**		**04 51 39.0**	**-2.5**	
ARU	**Arti**	**128.91**	**325**	PKP	**PKPdf**		**04 49 56.8**	**-0.4**	
	comp=Z,1.4nm,0.4s,baz=48,slow=4.8,SNR=5.2								
ARU	**Arti**	**128.91**	**325**	*i* PKIKP	**PKPdf**		**04 49 56.4**	**-0.8**	
ARU							04 57 04.7		
ARU				PS	**PS**		**05 02 07.3**	**-6.4**	
ARU				MLR	MLR				
	comp=Z,1μm,24.0s								
ARU	**Arti**	**128.91**	**325**	*e*PKPdf	**PKPdf**		**04 49 56.0**	**-1.2**	
ARU				LR	LR				
	comp=Z,1μm,22.0s								
RCBR	**Riachuelo**	**131.07**	**122**	PFAKE			04 50 20.0	+17	
RCBR				LR	LR				
	comp=Z,938nm,20.0s								
KEV	**Kevo**	**131.83**	**350**	PFAKE			04 50 10.0	+7.7	
KEV				LR	LR				
	comp=Z,960nm,21.0s								
ARCES	**ARCESS Array B**	**132.27**	**350**	PKP	**PKPdf**		**04 50 02.3**	**-0.9**	
	comp=Z,1.6nm,0.7s,baz=336,slow=2.7,SNR=7.7								
APA	**Apatity**	**132.41**	**345**	*i* PKIKP	**PKPdf**		**04 50 04.0**	**+0.5**	
APA				MLR	MLR				
	comp=Z,900nm,18.0s								
LSZ	**Lusaka**	**134.94**	**213**	PFAKE			04 50 20.0	+10	
LSZ				LR	LR				
	comp=Z,1μm,21.0s								
KLMR	**Klimovskoe**	**135.51**	**336**	*e*PKIKP	**PKPdf**		**04 50 08.5**	**-1.0**	
KLMR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
BORG	**Borgarnes**	**135.51**	**15**	PFAKE			04 50 20.0	+11	
BORG				LR	LR				
	comp=Z,844nm,19.0s								
TSUM	**Tsumeb**	**135.61**	**198**	PFAKE			04 50 20.0	+8.8	
TSUM				LR	LR				
	comp=Z,2μm,20.0s								
FINES	**FINESS Array B**	**139.27**	**344**	PKP	**PKPdf**		**04 50 17.0**	**+0.6**	
	comp=Z,2.0nm,0.8s,baz=101,slow=1.9,SNR=4.8								
KMBO	**Kilima Mbogo**	**139.70**	**237**	PFAKE			04 50 30.0	+11	
KMBO				LR	LR				
	comp=Z,716nm,19.0s								
OBN	**Obninsk**	**140.44**	**331**	PFAKE			04 50 30.0	+11	
OBN				LR	LR				
	comp=Z,952nm,20.0s								
VSU	**Vasula**	**141.60**	**341**	*ce*PKIKP	**PKPdf**		**04 50 22.4**	**+1.7**	
VSU				pmax	pmax				
	comp=Z,25nm,1.7s								
NB2	**NORSAR Subarra**	**142.21**	**355**	PKP	**PKPdf**		**04 50 16.5**	**-5.3**	
	comp=Z,11nm,1.7s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**142.21**	**355**	PKP	**PKPdf**		**04 50 20.9**	**-0.9**	
	comp=Z,1.0nm,1.0s,baz=15,slow=5.0,SNR=4.3								
GNI	**Garni**	**142.25**	**306**	PFAKE			04 50 30.0	+7.3	
GNI				LR	LR				
	comp=Z,653nm,21.0s								
KIV	**Kislovodsk**	**142.60**	**312**	*i* PKIKP	**PKPdf**		**04 50 25.5**	**+2.4**	
KIV				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KIV				MLR	MLR				
	comp=Z,1μm,23.0s								
KIV	**Kislovodsk**	**142.60**	**312**	PFAKE			04 50 40.0	+17	
KIV				LR	LR				
	comp=Z,1μm,22.0s								
KONO	**Kongsberg**	**143.71**	**355**	PFAKE			04 50 40.0	+16	
KONO				LR	LR				
	comp=Z,566nm,19.0s								
ASCN	**Ascension**	**143.78**	**147**	PFAKE			04 50 40.0	+14	
ASCN				LR	LR				
	comp=Z,2μm,22.0s								
NACGM	**Naroch**	**144.49**	**338**	*e*	PKPbc		04 50 25.0	+0.5	
SOC	**Sochi**	**144.74**	**313**	*e*PKIKP	**PKPab**		**04 50 24.3**	**-1.3**	
SOC				*i*			04 50 30.9		
SOC				*e*			04 53 41.2		
SOC				*e*SS	SS		05 13 07.6	+37	
SOC				*e*SSS	SSS		05 17 55.3		
SOC				pmax	pmax				
	comp=Z,12nm,0.6s								
SOC				pmax	pmax				
	comp=Z,8.0nm,0.5s								
SOC				MLR	MLR				
	comp=Z,583nm,21.0s								
ANN	**Anapa**	**145.71**	**316**	*e*PKIKP	**PKPdf**		**04 50 27.2**	**-1.2**	
ANN				*i*			04 50 31.9		
ANN				pmax	pmax				
	comp=Z,94nm,1.9s								
SUW	**Suwalki**	**146.42**	**340**	*e*PKP	**PKPbc**		**04 50 30.5**	**-0.1**	
SUW	**Suwalki**	**146.42**	**340**	*e*PKP2	**PKPbc**		**04 50 30.5**	**-0.1**	
AKASG	**Malin Array Be**	**146.70**	**331**	PKPbc	**PKPdf**		**04 50 30.1**	**+0.2**	
	comp=Z,23nm,0.9s,baz=39,slow=4.1,SNR=18								
KIEV	**Kiev**	**146.71**	**331**	*e*PKIKP	**PKPdf**		**04 50 29.9**	**0.0**	
KIEV				MLR	MLR				
	comp=Z,650nm,21.0s								
KIEV	**Kiev**	**146.71**	**331**	*e*PKPdf	**PKPdf**		**04 50 29.9**	**0.0**	
KIEV				LR	LR				
	comp=Z,650nm,21.0s								
MUD	**Monsted U'grnd**	**146.92**	**355**	*i* P	**PKPbc**		**04 50 32.1**	**+0.2**	
COP	**Copenhagen**	**147.32**	**352**	*i* P	**PKPbc**		**04 50 32.5**	**-0.6**	
	comp=Z,360nm,19.0s								
BSD	**Bornholm Skovb**	**147.48**	**349**	*i* P	**PKPdf**		**04 50 32.1**	**+1.1**	
SIM	**Simferopol'**	**147.69**	**319**	*e*PKP2	**PKPab**		**04 50 35.9**	**-0.9**	
SIM				*e*			04 54 04.0		
SIM				pmax	pmax				
	comp=Z,24nm,0.9s								
SIM				pmax	pmax				
	comp=Z,230nm,14.7s								
EKA	**Eskdalemuir Ar**	**147.75**	**8**	PKPbc	**PKPbc**		**04 50 33.9**	**-0.4**	
	comp=Z,6.6nm,0.8s,baz=353,slow=3.4,SNR=5.8								
ESK	**Eskdalemuir**	**147.76**	**8**	PFAKE			04 50 40.0	+3.3	
ESK				LR	LR				
	comp=Z,731nm,20.0s								
GKP	**Gorka Klasztor**	**148.73**	**345**	*e*PKP	**PKPbc**		**04 50 35.6**	**-1.3**	
GKP	**Gorka Klasztor**	**148.73**	**345**	*e*PKIKP	**PKPbc**		**04 50 35.6**	**-1.3**	
SORM	**Soroca**	**148.91**	**328**	⇓*i*P	**PKPbc**		**04 50 36.8**	**-0.8**	
SORM	**Soroca**	**148.91**	**328**	⇓PKP2	**PKPbc**		**04 50 36.8**	**-0.8**	
BEL	**Belsk**	**149.03**	**340**	*e*PKP	**PKPbc**		**04 50 39.0**	**+1.2**	
BEL	**Belsk**	**149.03**	**340**	*e*PKP2	**PKPbc**		**04 50 39.0**	**+1.2**	
DRWC	**Darouich**	**149.29**	**303**	*e*P	**PKPbc**		**04 50 37.4**	**-1.7**	
ROOS	**tl_alroos**	**149.38**	**298**	*e*P	**PKPbc**		**04 50 37.9**	**-1.5**	
KIS	**Kishinev**	**149.45**	**326**	*e*PKP	**PKPbc**		**04 50 38.0**	**-1.0**	
KIS	**Kishinev**	**149.45**	**326**	*e*PP	PP		04 54 08.0	-3.2	
KIS	**Kishinev**	**149.45**	**326**	*e*PPP	PPP		04 57 18.0		
KIS	**Kishinev**	**149.45**	**326**	*e*PKKP	**PKKPdf**		**04 59 32.0**	**+6.4**	
KIS				*e*L	L		05 47 14.0		
KIS				LRM	MLR		05 54 44.0		
	comp=Z,1μm,22.0s								
KIS	**Kishinev**	**149.45**	**326**	*e*PKP2	**PKPbc**		**04 50 38.0**	**-1.0**	
KIS				*e*			04 54 08.0		
KIS				MLR	MLR				
	comp=N,1μm,22.0s								
KIS				MLR	MLR				
	comp=E,400nm,22.0s								
KIS				MLR	MLR				
	comp=Z,1μm,22.0s								
KIS				MLR	MLR				
	comp=Z,1μm,22.0s								
VAL	**Valentia**	**149.50**	**18**	⇑*i*P	**PKPab**		**04 50 45.2**	**+1.4**	
LVV	**L'vov**	**149.56**	**334**	*e*PKP2	**PKPbc**		**04 50 39.5**	**+0.3**	
LVV				MLR	MLR				
	comp=N,300nm,21.0s								
LVV				MLR	MLR				
	comp=E,500nm,21.0s								
LVV				MLR	MLR				
	comp=Z,600nm,21.0s								
ZALF	**Zalf**	**149.56**	**295**	*e*P	**PKPbc**		**04 50 40.1**	**+0.3**	
BTCH	**Batrach**	**149.60**	**302**	*e*P	**PKPdf**		**04 50 36.4**	**+1.2**	
BIDA	**Albida**	**149.97**	**300**	*e*P	**PKPab**		**04 50 43.8**	**-2.8**	
HAWK	**Haweek**	**150.02**	**299**	*e*P	**PKPbc**		**04 50 41.0**	**+0.1**	
ARNB	**Al Arnab**	**150.03**	**301**	*e*P	**PKPdf**		**04 50 38.3**	**+2.3**	
ASF	**Jabal al Asfar**	**150.04**	**294**	PKPbc	**PKPbc**		**04 50 39.6**	**-1.4**	
	comp=Z,5.7nm,0.8s,baz=306,slow=3.4,SNR=6.6								
SALA	**Sala**	**150.10**	**295**	*e*P	**PKPdf**		**04 50 35.0**	**-1.3**	
KWP	**Kalwaria Pacla**	**150.22**	**336**	*e*PKP	**PKPbc**		**04 50 40.6**	**-0.2**	
KWP	**Kalwaria Pacla**	**150.22**	**336**	*e*PKIKP	**PKPbc**		**04 50 40.6**	**-0.2**	
BRTR	**Keskin Array B**	**150.46**	**310**	PKPbc	**PKPbc**		**04 50 41.1**	**-0.7**	
	comp=Z,10.0nm,1.0s,baz=134,slow=3.6,SNR=15								
BRTR				PKPab	**PKPab**		**04 50 46.7**	**-1.8**	
	comp=Z,7.3nm,1.0s,baz=140,slow=7.9,SNR=6.6								
TCHB	**Talchebab**	**150.74**	**295**	*e*P	**PKPbc**		**04 50 40.8**	**-1.9**	
OJC	**Ojcow**	**150.75**	**339**	*e*PKP	**PKPbc**		**04 50 41.7**	**-0.3**	
OJC	**Ojcow**	**150.75**	**339**	*e*PKIKP	**PKPbc**		**04 50 41.7**	**-0.3**	
BURAR	**Bucovina Array**	**150.75**	**330**	⇑*i*P	**PKPbc**		**04 50 43.9**	**+1.6**	
BURAR	**Bucovina Array**	**150.75**	**330**	⇑PKIKP	**PKPbc**		**04 50 43.9**	**+1.6**	
CMLA	**Cha da Macela**	**150.79**	**54**	PFAKE			04 50 50.0	+0.3	
CMLA				LR	LR				
	comp=Z,901nm,19.0s								
TESR	**Tescani**	**150.87**	**327**	⇑*i*P	**PKPbc**		**04 50 43.6**	**+1.2**	
STHS	**Stebnicka Huta**	**150.94**	**337**	*e*PKIKP	**PKPbc**		**04 50 43.8**	**+1.3**	
STHS	**Stebnicka Huta**	**150.94**	**337**	*e*PKP	**PKPbc**		**04 50 43.8**	**+1.3**	
KOLS	**Kolonicke sedl**	**150.96**	**335**	*e*PKIKP	**PKPbc**		**04 50 44.1**	**+1.5**	
KOLS				*e*			04 50 50.1		
KOLS	**Kolonicke sedl**	**150.96**	**335**	*e*PKP	**PKPbc**		**04 50 44.1**	**+1.5**	
KOLS				*e*			04 50 50.1		
KOLS				*e*L	L		05 03 36.2		
ANKO	**Ankara**	**150.99**	**311**	*e*PKIKP	**PKPdf**		**04 50 37.9**	**+0.6**	
ANTO				*e*			04 50 43.8		
ANTO				MLR	MLR				
	comp=Z,536nm,20.0s								
ANTO	**Ankara**	**150.99**	**311**	*e*PKPdf	**PKPdf**		**04 50 37.9**	**+0.6**	
ANTO				*e*PKPbc	**PKiKP**		**04 50 43.8**	**+0.2**	
ANTO				LR	LR				
	comp=Z,536nm,20.0s								
CFR	**Carcaliu**	**151.00**	**324**	⇑*i*P	**PKPbc**		**04 50 43.0**	**+0.3**	
CFR	**Carcaliu**	**151.00**	**324**	⇑PKIKP	**PKPbc**		**04 50 43.0**	**+0.3**	
MMAI	**Mount Meron Ar**	**151.15**	**296**	PKPbc	**PKPbc**		**04 50 43.8**	**+0.1**	
	comp=Z,14nm,0.8s,baz=82,slow=6.2,SNR=8.9								
MMAI				PKPab	**PKPab**		**04 50 49.0**	**-2.4**	
	comp=Z,5.6nm,0.5s,baz=78,slow=7.8,SNR=9.7								
KSP	**Ksiaz**	**151.19**	**344**	*e*PKP	**PKPbc**		**04 50 43.8**	**+0.7**	
KSP	**Ksiaz**	**151.19**	**344**	*e*PKIKP	**PKPbc**		**04 50 43.8**	**+0.7**	
UZH	**Uzhgorod**	**151.19**	**335**	*e*PKIKP	**PKPbc**		**04 50 41.9**	**-1.2**	
UZH				*e*			04 50 54.0		
NIE	**Niedzica**	**151.27**	**338**	*e*PKP	**PKPbc**		**04 50 43.6**	**+0.3**	
NIE	**Niedzica**	**151.27**	**338**	*e*PKIKP	**PKPbc**		**04 50 43.6**	**+0.3**	
VRI	**Vrincioaia**	**151.28**	**326**	⇑*i*P	PKPab		04 51 02.1	+11	
VRI	**Vrincioaia**	**151.28**	**326**	⇑PKP2	PKPab		04 51 02.1	+11	
CRVS	**Cervenica-Dubn**	**151.29**	**336**	*e*PKIKP	**PKPbc**		**04 50 44.7**	**+1.3**	
CRVS				*e*			04 50 52.5		
CRVS	**Cervenica-Dubn**	**151.29**	**336**	*e*PKP	**PKPbc**		**04 50 44.7**	**+1.3**	
CRVS				*e*			04 50 52.5		
CLL	**Collm**	**151.47**	**349**	*e*PKPdf	**PKPdf**		**04 50 38.0**	**+0.5**	
CLL				*i* PKPbc	**PKPbc**		**04 50 43.4**	**-0.2**	
	comp=Z,27nm,1.0s								
CLL				*i* PKPab	**PKPab**		**04 50 51.8**	**-0.2**	
	comp=Z,14nm,0.7s								
CLL				*i*			04 50 54.5		
CLL				*i*			04 50 59.2		
CLL				*i*			04 51 08.8

	comp=Z,800nm,18.4s							
PVCC	**Panska Ves**	**151.89**	**346**	*e*PKIKP	**PKPdf**	**04 50 38.0**	**-0.2**
PVCC				*e*		04 50 46.2	
PVCC				*e*		04 54 23.1	
PVCC				MLR	MLR		
	comp=Z,800nm,18.4s						
PSN	**Preselentsi**	**151.91**	**321**	⇑*iP*	**PKPbc**	**04 50 44.8**	**-0.1**
PSN	**Preselentsi**	**151.91**	**321**	⇑PKIKP	**PKPbc**	**04 50 44.8**	**-0.1**
MLR	**Muntele Rosu**	**151.93**	**327**	PKPbc	**PKPbc**	**04 50 44.8**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=49,slow=3.1,SNR=6.4						
MLR	**Muntele Rosu**	**151.93**	**327**	⇓*iP*	**PKPbc**	**04 50 46.4**	**+1.3**
MLR	**Muntele Rosu**	**151.93**	**327**	⇓PKIKP	**PKPbc**	**04 50 46.4**	**+1.3**
EIL	**Elat**	**152.00**	**289**	PKPbc	**PKPbc**	**04 50 45.4**	**-0.2**
	comp=Z,10nm,1.0s,baz=18,slow=4.7,SNR=4.4						
SACV	**Santiago Islan**	**152.31**	**103**	PFAKE		04 50 50.0	+3.3
SACV				LR	LR		
	comp=Z,325nm,20.0s						
CSS	**Mathiatis**	**152.35**	**301**	*e*PKPbc	**PKPbc**	**04 50 45.0**	**-1.2**
CSS				LR	LR		
	comp=Z,185nm,20.0s						
PRU	**Pruhonice**	**152.40**	**346**	*e*PKPDF	**PKPdf**	**04 50 39.8**	**+0.8**
PRU				⇑*e*PKP	**PKiKP**	**04 50 46.9**	**+0.8**
PRU				*e*PKPAB	**PKPab**	**04 50 55.5**	**-0.5**
PRU				*e*PP	**PP**	**04 54 26.6**	**-1.1**
PRU				*ex*	x	05 04 39.6	
PRU				*e*SS	SS	05 13 57.8	+3.2
PRU				AMS	AMS	06 06 50.0	
	comp=Z,1μm,20.2s						
PRU	**Pruhonice**	**152.40**	**346**	*e*PKIKP	**PKPdf**	**04 50 39.8**	**+0.8**
PRU				*e*		04 50 46.9	
PRU				*e*		04 50 55.5	
PRU				*e*		04 54 26.6	
PRU				*e*SS	SS	05 13 57.8	+3.2
PRU				MLR	MLR		
	comp=Z,1μm,20.2s						
GOPC	**GO Pecny, Ondr**	**152.42**	**345**	*e*PKPDF	**PKPdf**	**04 50 40.0**	**+1.0**
GOPC				⇑*e*PKP	**PKiKP**	**04 50 46.7**	**+0.5**
GOPC				*e*PKPAB	**PKPab**	**04 50 53.8**	**-2.3**
GOPC				*e*PP	**PP**	**04 54 26.9**	**-0.9**
GOPC				*e*SS	SS	05 13 58.0	+3.2
GOPC				AMS	AMS	06 08 50.0	
	comp=Z,1μm,18.4s						
GOPC	**GO Pecny, Ondr**	**152.42**	**345**	*e*PKIKP	**PKPdf**	**04 50 40.0**	**+1.0**
GOPC				*e*		04 50 46.7	
GOPC				*e*		04 50 53.8	
GOPC				*e*		04 54 26.9	
GOPC				*e*SS	SS	05 13 58.0	+3.2
GOPC				MLR	MLR		
	comp=Z,1μm,18.4s						
VOIR		**152.42**	**327**	⇑*iP*	**PKPbc**	**04 50 47.2**	**+1.1**
VOIR		**152.42**	**327**	⇑PKIKP	**PKPbc**	**04 50 47.2**	**+1.1**
DRGR		**152.49**	**332**	⇑*iP*	**PKPbc**	**04 50 47.4**	**+1.2**
DRGR		**152.49**	**332**	⇑PKIKP	**PKPbc**	**04 50 47.4**	**+1.2**
VRAC	**Vranov**	**152.52**	**342**	PKPbc	**PKPbc**	**04 50 46.1**	**0.0**
	comp=Z,1.3nm,0.3s,baz=92,slow=2.8,SNR=5.7						
VRAC	**Vranov**	**152.52**	**342**	⇑*iP*	**PKPab**	**04 50 55.8**	**-0.7**
VRAC	**Vranov**	**152.52**	**342**	⇑PKIKP	**PKPab**	**04 50 55.8**	**-0.7**
VYHS	**Vyhne**	**152.56**	**339**	*e*PKIKP	**PKPbc**	**04 50 47.3**	**+1.0**
VYHS				*e*		04 50 57.6	
VYHS	**Vyhne**	**152.56**	**339**	*e*PKP	**PKPbc**	**04 50 47.3**	**+1.0**
VYHS				*e*		04 50 57.6	
VYHS				*e*L	L	04 56 12.9	
NKC	**Novy Kostel**	**152.60**	**349**	AMS	AMS	06 07 40.0	
	comp=Z,1μm,16.1s						
PRD	**Provadia**	**152.66**	**321**	P	**PKPab**	**04 50 57.1**	**-0.2**
ARR	**Arges**	**152.67**	**328**	⇑*iP*	**PKPbc**	**04 50 47.8**	**+1.1**
PSZ	**Piszkesteto**	**152.68**	**337**	⇓*iP*	**PKPab**	**04 50 57.1**	**-0.2**
PSZ	**Piszkesteto**	**152.68**	**337**	⇓PKIKP	**PKPab**	**04 50 57.1**	**-0.2**
PSZ	**Piszkesteto**	**152.68**	**337**	*e*PKPbc	**PKPbc**	**04 50 47.4**	**+0.7**
PSZ				*e*PKPab	**PKPab**	**04 50 57.7**	**+0.4**
PSZ				LR	LR		
	comp=Z,773nm,21.0s						
TREC	**Trest**	**152.82**	**344**	*e*PKPDF	**PKPdf**	**04 50 40.1**	**+0.4**
TREC				⇑*e*PKP	**PKiKP**	**04 50 47.9**	**+0.9**
TREC				*e*PP	**PP**	**04 54 26.2**	**-3.9**
TREC				AMS	AMS	06 05 30.0	
	comp=Z,1μm,20.4s						
TREC	**Trest**	**152.82**	**344**	*e*PKIKP	**PKPdf**	**04 50 40.1**	**+0.4**
TREC				*e*		04 50 47.9	
TREC				*e*		04 54 26.2	
TREC				MLR	MLR		
	comp=Z,1μm,20.4s						
MEM	**Membach**	**152.93**	**358**	PKPbc	**PKPbc**	**04 50 48.1**	**+1.1**
BCLA	**Clavier**	**153.14**	**359**	PKPab	**PKPab**	**04 50 59.3**	**+0.3**
KHC	**Kasperske Hory**	**153.43**	**346**	*e*PKPDF	**PKPdf**	**04 50 38.5**	**-2.1**
KHC				⇑*e*PKP	**PKiKP**	**04 50 49.3**	**+1.0**
KHC				*e*PKPAB	**PKPab**	**04 50 59.8**	**-0.5**
KHC				*ex*	x	04 51 07.2	
KHC				*e*PP	**PP**	**04 54 32.7**	**-0.8**
KHC				*ex*	x	05 04 54.1	
KHC				*e*SS	SS	05 14 08.2	+2.4
KHC				AMS	AMS	06 02 50.0	
	comp=Z,1μm,22.5s						
KHC	**Kasperske Hory**	**153.43**	**346**	*e*PKIKP	**PKPdf**	**04 50 38.5**	**-2.1**
KHC				*e*		04 50 49.3	
KHC				*e*		04 50 59.8	
KHC				*e*		04 54 32.7	
KHC				*e*SS	SS	05 14 08.2	+2.4
KHC				MLR	MLR		
	comp=Z,1μm,22.5s						
KHC	**Kasperske Hory**	**153.43**	**346**	*e*PKPdf	**PKPdf**	**04 50 41.7**	**+1.1**
KHC				*e*PKPbc	**PKiKP**	**04 50 48.8**	**+0.5**
ISP	**Isparta**	**153.46**	**309**	PFAKE		04 50 50.0	+1.3
ISP				LR	LR		
	comp=Z,870nm,22.0s						
DOU	**Dourbes**	**153.48**	**360**	PKPab	**PKPab**	**04 51 00.9**	**+0.5**
GERES	**GERESS Array B**	**153.67**	**346**	PKP	**PKPdf**	**04 50 40.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=18,slow=5.6,SNR=3.8						
GERES				PKPbc	**PKPbc**	**04 50 48.7**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=41,slow=2.5,SNR=7.3						
GERES				PKPab	**PKPab**	**04 51 00.1**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=48,slow=2.0,SNR=6.7						
WLF	**Walferdange**	**153.87**	**357**	PFAKE		04 50 50.0	+0.9
WLF				LR	LR		
	comp=Z,1μm,21.0s						
MDVR	**Moldovita**	**154.49**	**330**	⇑*iP*	**PKPab**	**04 51 05.1**	**+0.1**
MPEP	**Malo Peshtene**	**154.56**	**326**	P	**PKPab**	**04 51 00.5**	**-4.8**
KDZ	**Kurdzhali**	**154.78**	**321**	P	**PKPab**	**04 51 06.4**	**+0.1**
BFO	**Black Forest**	**155.04**	**354**	PFAKE		04 50 50.0	+7.2
BFO				LR	LR		
	comp=Z,723nm,20.0s						
PERS	**Pernice**	**155.36**	**342**	*i* PKPdf	**PKPab**	**04 51 09.3**	**+0.7**
VTS	**Vitosha**	**155.37**	**325**	⇑*iP*	**PKPab**	**04 51 03.3**	**-5.7**
VTS	**Vitosha**	**155.37**	**325**	⇑PKP2	**PKPab**	**04 51 03.3**	**-5.7**
VTS	**Vitosha**	**155.37**	**325**	*i* P	**PKPab**	**04 51 09.4**	**+0.4**
MMB	**Musomiste**	**155.78**	**323**	P	**PKPab**	**04 51 10.3**	**-0.3**
KKB	**Krupnik**	**155.94**	**324**	*i* P	**PKPab**	**04 51 11.1**	**-0.2**
VISS	**Visnje**	**156.20**	**342**	*i* PKPdf	**PKPab**	**04 51 12.0**	**-0.2**
JAVS	**Javornik**	**156.33**	**343**	*i* PKPdf	**PKPab**	**04 51 12.9**	**0.0**
BOJS	**Bojanci**	**156.35**	**341**	*i* PKPdf	**PKPab**	**04 51 14.0**	**+1.2**
SANT	**Santorini**	**157.73**	**310**	PFAKE		04 51 00.0	+13
SANT				LR	LR		
	comp=Z,334nm,19.0s						
TIR	**Tirane**	**157.98**	**327**	PFAKE		04 51 00.0	+13
TIR				LR	LR		
	comp=Z,813nm,21.0s						
SSB	**Saint Sauveur**	**158.30**	**360**	PFAKE		04 51 00.0	+13
SSB				LR	LR		
	comp=Z,867nm,21.0s						
BNI	**Bardonecchia**	**158.44**	**355**	PFAKE		04 51 00.0	+13
BNI				LR	LR		
	comp=Z,999nm,20.0s						
VLC	**Villacollemand**	**158.83**	**348**	PFAKE		04 51 00.0	+12
VLC				LR	LR		
	comp=Z,361nm,21.0s						
AQU	**L'Aquila**	**159.76**	**340**	PFAKE		04 51 00.0	+11
AQU				LR	LR		
	comp=Z,882nm,22.0s						
MTE	**Manteigas**	**160.42**	**28**	PFAKE		04 51 00.0	+10
MTE				LR	LR		
	comp=Z,954nm,20.0s						
CUC	**Castrocucco**	**160.93**	**332**	PFAKE		04 51 00.0	+10
CUC				LR	LR		
	comp=Z,497nm,21.0s						
LIS	**Lisbon**	**160.99**	**34**	*e*P	**PKPdf**	**04 50 50.6**	**+0.3**
LIS				*e*PP	**PP**	**04 55 17.4**	**+1.7**
LIS				AMS	AMS	06 04 31.5	
	comp=Z,1μm,18.7s						
LIS	**Lisbon**	**160.99**	**34**	*e*PKIKP	**PKPdf**	**04 50 50.6**	**+0.3**
LIS				*e*		04 55 17.3	
TIP	**Timpagrande**	**161.16**	**329**	PFAKE		04 51 00.0	+9.3
TIP				LR	LR		
	comp=Z,695nm,20.0s						
MESJ	**Messejana**	**162.13**	**34**	*e*P	**PKPdf**	**04 50 52.0**	**+0.4**
MESJ				*e*PP	**PP**	**04 55 23.6**	**+1.9**
MESJ				AMS	AMS	06 01 07.5	
	comp=Z,1μm,20.4s						
MESJ	**Messejana**	**162.13**	**34**	*e*PKIKP	**PKPdf**	**04 50 51.9**	**+0.4**
MESJ				*e*		04 55 23.6	
MORF	**Marmelete**	**162.30**	**36**	*e*P	**PKPdf**	**04 50 52.0**	**+0.1**
MORF				*e*PP	**PP**	**04 55 24.4**	**+1.6**
MORF				AMS	AMS	06 01 35.6	
	comp=Z,1μm,20.9s						
MORF	**Marmelete**	**162.30**	**36**	*e*PKIKP	**PKPdf**	**04 50 51.9**	**+0.1**
MORF				*e*		04 55 24.3	
CEL	**Celeste**	**162.30**	**329**	PFAKE		04 51 00.0	+8.2
CEL				LR	LR		
	comp=Z,750nm,22.0s						
PAB	**San Pablo**	**162.41**	**23**	PFAKE		04 51 00.0	+8.1
PAB				LR	LR		
	comp=Z,989nm,21.0s						
VSL	**Villasalto**	**163.51**	**346**	PFAKE		04 51 00.0	+7.1
VSL				LR	LR		
	comp=Z,669nm,20.0s						
CLTB	**Caltabellotta**	**164.06**	**334**	PFAKE		04 51 00.0	+6.4
CLTB				LR	LR		
	comp=Z,575nm,22.0s						
WDD	**Wied Dalam**	**164.86**	**327**	PFAKE		04 51 10.0	+16
WDD				LR	LR		
	comp=Z,925nm,20.0s						
RTC	**Rabat Centre**	**165.69**	**41**	PFAKE		04 51 10.0	+15
RTC				LR	LR		
	comp=Z,3μm,19.0s						
KEST	**Kesra**	**167.08**	**341**	PKP	**PKPdf**	**04 50 55.9**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=16,slow=2.5,SNR=3.6						
KEST				PKPab	**PKPab**	**04 51 59.3**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=2.7,slow=4.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**169.38**	**166**	PKP	**PKPdf**	**04 50 57.1**	**-1.1**
	comp=Z,3.4nm,1.2s,baz=320,slow=1.1,SNR=7.0						
TORD				PKPab	**PKPab**	**04 52 11.4**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=186,slow=4.0,SNR=4.0						
TAM	**Tamanrasset**	**178.69**	**236**	PFAKE		04 51 10.0	+8.7
TAM				LR	LR		
	comp=Z,784nm,20.0s						

*ISK **30** 04:46:19.9,39.°07N×29.°09E,h6km,MD2.6*
*ISCJB **30** 04:46:20.6±0.6,39.°09N±0.°04×29.°05E±0.°05,h9km,Error ellipse: s-maj=7.2km s-min=4.0km az=148.0*
*DDA **30** 04:46:20.6,39.°11N×29.°03E,h7km,Md2.6*
*CSEM **30** 04:46:20.6±0.1,39.°09N×29.°05E,h8km,MD2.6,Error ellipse: s-maj=4.8km s-min=3.2km az=139.0*

ISC 30 04:46:20.6±1.1,39.°09N±0.°03×29.°06E±0.°03,h9km,n16, σ0s57/24,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**260**	P		**Pg**		**04 46 26.2**	**+0.1**
DEMI				S		**Sg**		**04 46 29.7**	**0.0**
DEMI	**Demirci**	**0.27**	**260**	*i* P		**Pg**		**04 46 26.2**	**+0.1**
DEMI				*i* S		**Sg**		**04 46 29.7**	**0.0**
GEDZ	**Gediz**	**0.28**	**99**	*e*PG		**Pg**		**04 46 25.5**	**-0.7**
GEDZ	**Gediz**	**0.28**	**99**	*e*Pg		**Pg**		**04 46 25.5**	**-0.7**
GDZ	**Gediz**	**0.33**	**90**	P		**Pb**		**04 46 28.2**	**-0.5**
GDZ				S		**Sg**		**04 46 33.1**	**+1.5**
GDZ	**Gediz**	**0.33**	**90**	*i* P		**Pb**		**04 46 28.2**	**-0.5**
GDZ				*i* S		**Sg**		**04 46 33.1**	**+1.5**
TVSB	**Tavsanli**	**0.48**	**41**	*e*PG		**Pg**		**04 46 30.1**	**+0.2**
TVSB				*e*SG		**Sg**		**04 46 36.3**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**41**	*e*Pg		**Pg**		**04 46 30.1**	**+0.2**
TVSB				*e*Sg		**Sg**		**04 46 36.3**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*PG		**Pg**		**04 46 33.3**	**+0.1**
KULA				*e*SG		**Sg**		**04 46 42.1**	**+0.4**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*Pg		**Pg**		**04 46 33.3**	**+0.1**
KULA				*e*Sg		**Sg**		**04 46 42.1**	**+0.4**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*PN		**Pb**		**04 46 44.4**	**-0.3**
CAVI	**Cavuskoy**	**1.27**	**28**	*e*Pn		**Pb**		**04 46 44.4**	**-0.3**
IZI	**Iznik**	**1.29**	**14**	*e*PN		**Pg**		**04 46 45.3**	**0.0**
IZI	**Iznik**	**1.29**	**14**	*e*Pn		**Pg**		**04 46 45.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*PN		**Pg**		**04 46 45.3**	**-0.1**
KCTX	**Karacabey (Bur**	**1.29**	**335**	*e*Pn		**Pg**		**04 46 45.3**	**-0.1**

MEX 30 04:55:34.5±0.4,14.°19N×92.°18W,h68km±37km,MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.08**	**1**	*e*P		Pn		04 56 06.2	-1.2
CCIG				*i* S		Sn		04 56 30.5	-1.9

JMA 30 05:03:46.4±0.1,37.°91N×144.°12E,h43km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.25**	**285**	P		Pn		05 04 22.2	+1.1
JIO				S		Sn		05 04 48.9	+1.3
OFUJ	**Ofunato**	**2.25**	**302**	P		Pn		05 04 22.5	+1.4
OFUJ				S		Sn		05 04 49.4	+1.7
JMK	**Ichinoseki**	**2.50**	**295**	P		Pn		05 04 26.3	+1.7
JMK				*e*S		Sn		05 04 55.3	+1.4
JOM	**Ohasama**	**2.71**	**306**	*e*S		Sn		05 05 00.5	+1.6
JFT	**Otama**	**3.03**	**264**	*e*S		Sn		05 05 08.9	+2.1
JYK	**Kaneyama**	**3.12**	**290**	P		Pn		05 04 35.0	+1.9
JYK				*e*S		Sn		05 05 11.6	+2.5
JANG	**Nango**	**3.19**	**321**	P		Pn		05 04 35.6	+1.6
JANG				*e*S		Sn		05 05 11.4	+0.7
BSO1	**Boso 1**	**4.12**	**219**	P		Pn		05 04 45.8	-0.6
BSO1				*e*S		Sn		05 05 32.6	-0.4
JRY	**Ryogami san**	**4.59**	**247**	P		Pn		05 04 54.1	+0.9
JRY				*e*S		Sn		05 05 44.5	-0.8
JCH	**Churui**	**4.74**	**353**	P		Pn		05 04 55.0	-0.2
JCH				*e*S		Sn		05 05 46.4	-2.4
MAT	**Matsushiro**	**4.91**	**256**	P		Pn		05 05 00.3	+2.6
JTKR	**Abashiri--Toko**	**6.06**	**359**	P		Pn		05 05 12.8	-0.5
JTKR				*e*S		Sn		05 06 17.9	-3.4

*DDA **30** 05:07:44.8,39.°12N×29.°00E,h7km,Md2.6*
*ISK **30** 05:07:44.4,39.°02N×29.°17E,h12km,MD2.1,ML2.3*
*ISCJB **30** 05:07:45.2±0.6,39.°10N±0.°05×29.°00E±0.°05,h6km±8km, Error ellipse: s-maj=10.0km s-min=4.9km az=151.1*
*CSEM **30** 05:07:45.1±0.1,39.°11N×28.°99E,h8km,MD2.6,Error ellipse: s-maj=4.7km s-min=2.4km az=133.0*

ISC 30 05:07:45.3±1.0,39.°11N±0.°04×29.°00E±0.°03,h10km±10km, n14,σ0s53/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.23**	**253**	P		**Pg**		**05 07 50.3**	**+0.1**
DEMI				S		**Sg**		**05 07 53.5**	**+0.1**
DEMI	**Demirci**	**0.23**	**253**	*i* P		**Pg**		**05 07 50.3**	**+0.1**
DEMI				*i* S		**Sg**		**05 07 53.5**	**+0.1**
GDZ	**Gediz**	**0.37**	**93**	P		**Pg**		**05 07 52.9**	**+0.2**
GDZ				S		**Sg**		**05 07 58.2**	**+0.5**
GDZ	**Gediz**	**0.37**	**93**	*i* P		**Pg**		**05 07 52.9**	**+0.2**
GDZ				*i* S		**Sg**		**05 07 58.2**	**+0.5**
TVSB	**Tavsanli**	**0.49**	**46**	*e*PG		**Pg**		**05 07 54.6**	**-0.3**
TVSB				*e*SG		**Sg**		**05 08 01.5**	**+0.1**
TVSB	**Tavsanli**	**0.49**	**46**	*e*Pg		**Pg**		**05 07 54.6**	**-0.3**
TVSB				*e*Sg		**Sg**		**05 08 01.5**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**204**	*e*PG		**Pg**		**05 07 57.5**	**-0.5**
KULA				*e*SG		**Sg**		**05 08 06.6**	**0.0**
KULA	**Kula-Manisa**	**0.65**	**204**	*e*Pg		**Pg**		**05 07 57.5**	**-0.5**
KULA				*e*Sg		**Sg**		**05 08 06.6**	**0.0**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*PN		**Pn**		**05 08 08.6**	**-0.6**
CAVI	**Cavuskoy**	**1.27**	**30**	*e*Pn		**Pn**		**05 08 08.6**	**-0.6**
IZI	**Iznik**	**1.28**	**16**	*e*PN		**Pg**		**05 08 09.6**	**-0.2**
IZI				*e*SN		**Sn**		**05 08 27.9**	**+1.3**
IZI	**Iznik**	**1.28**	**16**	*e*Pn		**Pg**		**05 08 09.6**	**-0.2**
IZI				*e*Sn		**Sn**		**05 08 27.9**	**+1.3**
BORA	**Eskisehir**	**1.36**	**55**	P		**Pg**		**05 08 11.0**	**-0.4**
BORA				S		**Sg**		**05 08 28.7**	**-0.4**
BORA	**Eskisehir**	**1.36**	**55**	*i* P		**Pg**		**05 08 11.0**	**-0.4**
BORA				*i* S		**Sg**		**05 08 28.7**	**-0.4**

IDC 30 05:10:40.4±2.4,54.°17N×86.°27E,h0km,mb1 3.1/2, mb1mx3.0/46,mbtmp3.1/2,ML2.9/2,Error ellipse: s-maj=18.7km s-min=11.9km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.88**	**256**	*i*				05 16 00.0	
	baz=74,slow=306,SNR=4.7								
ZALV	**Zalesovo Beam**	**0.88**	**256**	Pg		Pg		05 10 56.2	-1.1
	4.6nm,0.3s,baz=74,slow=17,SNR=49								
ZALV				Lg		Lg		05 11 10.2	
	6.4nm,0.3s,baz=78,slow=29,SNR=18								
KURBB	**Kurchatov Arra**	**5.92**	**236**	Pn		Pn		05 12 10.2	+0.9
	0.2nm,0.3s,baz=53,slow=13,SNR=11								
KURBB				Lg		Lg		05 13 48.8	
	0.1nm,0.3s,baz=140,slow=24,SNR=6.6								
MKAR	**Makanchi Array**	**7.80**	**201**	Pn		Pn		05 12 36.2	+1.0
	0.3nm,0.3s,baz=22,slow=13,SNR=8.4								
MKAR				Lg		Lg		05 14 47.4	
	0.1nm,0.3s,baz=19,slow=32,SNR=7.9								

JMA 30 05:11:36.2,36.°20N×137.°95E,h4km±1km,M3.4,1C-1D Broadband fault plane solution: P waves. NP1: φs101.00000°,δ80.00000°,λ157.00000°. **NP2:** φs195.00000°,δ67.00000°,λ10.00000°. **Principal axes:** T Plg23.0000°, Azm56.0000°; N Plg65.0000°, Azm260.0000°; P Plg9.0000°, Azm150.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.24**	**30**	⇑P		Pg		05 11 41.0	+0.1
JNG				S		Sg		05 11 44.7	+0.7
JNT	**Takato**	**0.36**	**155**	⇓P		Pg		05 11 43.4	+0.3
JNT				*e*S		Sg		05 11 48.7	+0.8
MAT	**Matsushiro**	**0.40**	**31**	P		Pg		05 11 43.7	-0.2
MAT				S		Sg		05 11 49.3	+0.1
MAT	**Matsushiro**	**0.40**	**31**	P		Pg		05 11 43.7	-0.2
MAT				S		Sg		05 11 49.2	0.0

*ISCJB **30** 05:17:09.9±0.5,38.°59N±0.°04×39.°57E±0.°06,h11km±8km Error ellipse: s-maj=8.2km s-min=5.8km az=35.8*
*DDA **30** 05:17:09.2,38.°61N×39.°61E,h7km,Md3.0*
*CSEM **30** 05:17:09.8±0.5,38.°62N×39.°52E,h10km,MD2.7,Error ellipse: s-maj=10.2km s-min=9.4km az=79.0*
*ISK **30** 05:17:09.3,38.°58N×39.°60E,h13km,MD2.7*

ISC 30 05:17:09.6±0.9,38.°61N±0.°03×39.°57E±0.°03,h16km±9km, n18,σ0s73/29,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.31**	**222**	*e*PG		**Pg**		**05 17 16.1**	**-0.1**
SVRC				*e*SG		**Sg**		**05 17 20.9**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.31**	**222**	*e*Pg		**Pg**		**05 17 16.1**	**-0.1**
SVRC				*e*Sg		**Sg**		**05 17 20.9**	**+0.1**
PTK	**Pertek**	**0.31**	**334**	*e*PG		**Pg**		**05 17 16.6**	**+0.2**
PTK				*e*SG		**Sb**		**05 17 22.4**	**+0.4**
PTK	**Pertek**	**0.31**	**334**	*e*Pg		**Pg**		**05 17 16.6**	**+0.2**
PTK				*e*Sg		**Sb**		**05 17 22.4**	**+0.4**
ELZG	**Elazig**	**0.47**	**256**	P		**Pg**		**05 17 18.7**	**-0.4**
ELZG				S		**Sg**		**05 17 26.1**	**+0.5**
ELZG	**Elazig**	**0.47**	**256**	*i* P		**Pg**		**05 17 18.7**	**-0.4**
ELZG				*i* S		**Sg**		**05 17 26.1**	**+0.5**
BINT	**Bingol**	**0.77**	**69**	*e*Pg		**Pn**		**05 17 27.9**	**+2.0**
DYBB	**Diyarbakir**	**0.80**	**145**	*e*PG		**Pg**		**05 17 24.5**	**-0.6**
DIYA	**Diyarbakir**	**0.81**	**147**	P		**Pb**		**05 17 25.6**	**+0.2**
DIYA				S		**Sb**		**05 17 36.2**	**+0.1**
DIYA	**Diyarbakir**	**0.81**	**147**	*i* P		**Pb**		**05 17 25.6**	**+0.2**
DIYA				*i* S		**Sb**		**05 17 36.2**	**+0.1**
BNGB	**Bing¶l**	**0.95**	**66**	*e*PG		**Pb**		**05 17 27.9**	**+0.1**
ERZN	**Erzincan**	**0.98**	**7**	*e*PG		**Pn**		**05 17 29.1**	**+0.2**
EZC	**Erzincan**	**1.15**	**352**	*e*Pg		**Pb**		**05 17 29.1**	**-2.2**
URFA	**Urfa**	**1.31**	**207**	*e*PN		**Pn**		**05 17 33.7**	**+0.4**
URFA	**Urfa**	**1.31**	**207**	*e*Pn		**Pn**		**05 17 33.7**	**+0.4**
BTMN	**Batman**	**1.52**	**118**	P		**Pb**		**05 17 37.0**	**-0.5**
BTMN				S		**Sg**		**05 17 57.7**	**-0.9**
BTMN	**Batman**	**1.52**	**118**	*i* P		**Pb**		**05 17 37.0**	**-0.5**
BTMN				*i* S		**Sg**		**05 17 57.7**	**-0.9**
MARD	**Mardin**	**1.61**	**143**	*i* P		**Pn**		**05 17 38.0**	**+0.5**
MARD				*i* S		**Sb**		**05 17 59.0**	**-0.2**

*UCR **30** 05:26:49.7,8.°28N×83.°02W,h0km,MD3.8*
*UPA **30** 05:26:51.0,8.°31N×82.°63W,h22km,MW3.1*

CASC 30 05:26:50.9±1.9,8.°33N×82.°84W,h23km±35km,MD3.8, 1C-1D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.48**	**17**	⇓*iP*		Pb		05 27 00.8	-0.1
BRU2				*e*S		Sb		05 27 08.6	+0.9
TBS2		**0.49**	**21**	⇑*iP*		Pb	

TXAR	**Lajitas Array**	**86.39**	**57**	P	P	05 52 41.7	-0.5	
	0.9nm,0.8s,baz=210,slow=7.2,SNR=5.7							
ILAR	**Eielson Array**	**88.46**	**12**	P	P	05 52 50.6	-0.6	
	0.2nm,0.5s,baz=201,slow=4.8,SNR=2.9							
AKASG	**Malin Array Be**	**143.85**	**332**	PKP	PKPdf	05 59 36.0	+1.4	
	0.7nm,0.4s,baz=39,slow=4.2,SNR=6.1							
BRTR	**Keskin Array B**	**147.87**	**313**	PKPbc	PKPbc	05 59 45.6	+0.6	
	1.7nm,0.9s,baz=145,slow=3.0,SNR=4.9							

NIED ***30*** *05:58:00,39˚.20N×142˚.40E,h35km,Mw3.9 Best double couple: M₀9.40000×10¹⁴ NP1:φs335.00000°,δ18.00000°, λ-110.00000°. NP2:φs175.00000°,δ73.00000°, λ-84.00000°.*

JMA ***30*** *05:58:57.0±0.1,39˚.15N×142˚.42E,h31km±1km,M4.0*

JMA Felt II J1.

IDC ***30*** *05:59:00.0±2.7,39˚.02N×142˚.41E,h56km±26km,mb3.7/9, mb1 3.8/13,mb1mx3.5/53,mbtmpb3.9/13,ML3.5/3,MS3.0/4, Ms1 3.0/4,ms1mx2.8/38,Error ellipse: s-maj=25.6km s-min=14.0km az=90.0*

ISC 30 05:58:54.7±2.7,39˚.13N±0˚.04×142˚.50E±0˚.08,h11km±16km, n29,σ1ᵍ61/31,mb3.9/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.65**	**266**	P	**Pb**	**05 59 08.7**	**+0.6**
OFUJ				S	**Sb**	**05 59 16.6**	**-0.6**
MIYJ	**Miyakonagasawa**	**0.70**	**310**	P	**Pb**	**05 59 09.1**	**+0.2**
MIYJ				S	**Sb**	**05 59 17.5**	**-1.0**
JOM	**Ohasama**	**1.00**	**291**	P	**Pb**	**05 59 14.0**	**-0.1**
JOM				S	**Sg**	**05 59 26.2**	**-0.9**
JMK	**Ichinoseki**	**1.01**	**261**	P	**Pb**	**05 59 14.2**	**-0.1**
JMK				S	**Sg**	**05 59 26.5**	**-1.0**
JIO	**Ouri**	**1.12**	**234**	P	**Pb**	**05 59 15.4**	**-0.8**
JIO				S	**Sb**	**05 59 28.4**	**-2.4**
JKZ	**Kuzumaki**	**1.25**	**314**	P	**Pb**	**05 59 18.0**	**-0.3**
JKZ				S	**Sb**	**05 59 32.9**	**-1.6**
JANG	**Nango**	**1.46**	**329**	P	**Pn**	**05 59 20.9**	**-0.1**
JANG				*e*S	**Sn**	**05 59 38.7**	**-1.5**
JRG	**Rokugo**	**1.48**	**281**	P	**Pn**	**05 59 21.1**	**-0.2**
MJAR	**Matsushiro Arr**	**4.27**	**234**	P	**Pn**	**06 00 01.8**	**+2.1**
	3.8nm,0.3s,baz=40,slow=11,SNR=68						
MJAR				LR	LR	06 01 51.5	
	comp=Z,179nm,18.0s,baz=125,slow=42						
MAT	**Matsushiro**	**4.27**	**234**	P	**Pn**	**06 00 02.9**	**+3.2**
MAT				*e*S	**Sn**	**06 00 52.1**	**+2.6**
JHJ	**Hachijo jima 2**	**6.39**	**201**	P	**Pn**	**06 00 29.7**	**+0.9**
	7.0nm,0.3s,baz=312,slow=12,SNR=4.0						
JHJ				S	**Sn**	**06 01 38.5**	**-3.1**
	11nm,0.3s,baz=73,slow=19,SNR=3.3						
USRK	**Ussuriysk Ar.**	**9.36**	**306**	P	**Pn**	**06 01 11.7**	**+2.3**
	0.2nm,0.3s,baz=116,slow=12,SNR=6.1						
USRK				LR	LR	06 04 29.2	
	comp=Z,161nm,19.4s,baz=14,slow=35						
JNU	**Nakatsue**	**11.14**	**241**	LR	LR	06 06 20.9	
	comp=Z,57nm,19.0s,baz=299,slow=40						
KSRS	**Korea Array**	**11.58**	**266**	P	**Pn**	**06 01 43.2**	**+3.3**
	0.2nm,0.3s,baz=72,slow=14,SNR=3.8						
KSRS				LR	LR	06 05 35.2	
	comp=Z,72nm,20.4s,baz=345,slow=34						
SEY	**Seymchan**	**24.57**	**11**	P	**P**	**06 04 16.1**	**+1.7**
	1.5nm,0.7s,baz=172,slow=11,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**28.57**	**126**	T	T	06 35 15.2	
	baz=318,slow=75,SNR=1296						
H11N1	**WAKE ISLAND Hy**	**28.58**	**126**	T	T	06 35 17.0	
	baz=318,slow=75,SNR=717						
H11N3	**WAKE ISLAND Hy**	**28.59**	**126**	T	T	06 35 16.5	
	baz=318,slow=75,SNR=766						
H11S1	**WAKE ISLAND Hy**	**29.36**	**128**	T	T	06 36 09.6	
	baz=319,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**29.36**	**128**	T	T	06 36 15.1	
	baz=319,slow=76,SNR=118						
H11S2	**WAKE ISLAND Hy**	**29.38**	**128**	T	T	06 36 15.4	
	baz=319,slow=76,SNR=85						
ZALV	**Zalesovo Beam**	**41.17**	**311**	P	**P**	**06 06 38.5**	**-0.4**
	1.0nm,0.4s,baz=90,slow=7.5,SNR=5.7						
MKAR	**Makanchi Array**	**43.77**	**300**	P	**P**	**06 06 59.5**	**-0.7**
	1.1nm,0.6s,baz=87,slow=10,SNR=12						
ILAR	**Eielson Array**	**47.27**	**33**	P	**P**	**06 07 27.6**	**-0.1**
	1.3nm,0.7s,baz=266,slow=6.6,SNR=15						
INK	**Inuvik**	**52.14**	**28**	P	**P**	**06 08 05.4**	**+0.8**
	0.9nm,0.8s,baz=275,slow=6.8,SNR=3.4						
ARU	**Arti**	**55.38**	**318**	P	**P**	**06 08 28.3**	**-0.1**
	2.1nm,0.5s,baz=125,slow=2.4,SNR=3.8						
WRA	**Warramunga Arr**	**59.25**	**189**	P	**P**	**06 08 55.1**	**-1.1**
	1.0nm,0.4s,baz=6.6,slow=7.0,SNR=24						
ASAR	**Alice Springs**	**62.98**	**189**	P	**P**	**06 09 20.6**	**-0.9**
	0.7nm,0.8s,baz=14,slow=6.4,SNR=4.6						
FINES	**FINESS Array B**	**67.37**	**332**	P	**P**	**06 09 48.6**	**-0.9**
	0.9nm,0.7s,baz=46,slow=4.0,SNR=3.6						

IDC 30 06:15:00.7±2.6,30˚.26S×138˚.46E,h0km,mb1 3.5/4, mb1mx3.4/30,mbtmp3.3/4,ML2.9/4,Error ellipse: s-maj=69.0km s-min=14.2km az=43.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.14**	**122**	Pn	Pn	06 15 51.2	-0.2
	0.5nm,0.3s,baz=303,slow=14,SNR=11						
STKA				Pg	Pg	06 15 59.6	-1.3
	2.0nm,0.3s,baz=303,slow=17,SNR=15						
STKA				Sn	Sn	06 16 28.7	-0.9
	3.7nm,0.3s,baz=315,slow=14,SNR=6.1						
STKA				Lg	Lg	06 16 39.3	
	3.4nm,0.3s,baz=302,slow=9.7,SNR=5.8						
ASAR	**Alice Springs**	**7.72**	**327**	Pn	Pn	06 16 55.3	+0.9
	0.1nm,0.3s,baz=152,slow=12,SNR=8.2						
ASAR				Sn	Sn	06 18 23.9	+1.3
	0.2nm,0.3s,baz=151,slow=22,SNR=4.4						
WRA	**Warramunga Arr**	**10.92**	**339**	Pn	Pn	06 17 38.2	-0.1
	0.2nm,0.3s,baz=164,slow=12,SNR=16						
WRA				Sn	Sn	06 19 40.2	-1.2
	0.1nm,0.3s,baz=161,slow=23,SNR=4.0						
FITZ	**Fitzroy Crossi**	**16.81**	**313**	Pn	Pn	06 18 57.0	-0.5
	0.1nm,0.3s,baz=175,slow=12,SNR=2.4						

NIED ***30*** *06:22:00,38˚.00N×143˚.90E,h5km,Mw4.3 Best double couple: M₀3.22000×10¹⁵ NP1:φs12.00000°,δ32.00000°, λ-101.00000°. NP2:φs205.00000°,δ59.00000°, λ-83.00000°.*

IDC ***30*** *06:22:23.5±0.6,37˚.90N×144˚.05E,h0km,mb4.2/18, mb1 4.3/26,mb1mx4.3/41,mbtmp4.2/26,ML3.8/7,MS3.5/9, Ms1 3.5/9,ms1mx3.1/60,Error ellipse: s-maj=16.8km s-min=13.4km az=127.0*

BJI ***30*** *06:22:24.0,38˚.09N×144˚.43E,h30km,mb4.6/33,mB4.8/23, Ms4.1/22,Ms7 3.9/22*

JMA ***30*** *06:22:26.9±0.2,38˚.03N×143˚.89E,h43km,M4.8*

NEIC ***30*** *06:22:27.2±1.4,37˚.92N×144˚.00E,h21km±10km,mb4.7/36, Error ellipse: s-maj=6.0km s-min=3.9km az=133.0*

MOS ***30*** *06:22:27.5±1.1,38˚.01N×143˚.95E,h36km,mb4.8/22,Error ellipse: s-maj=8.8km s-min=6.4km az=99.5*

ISCJB ***30*** *06:22:27.4±0.2,37˚.98N±0˚.03×143˚.87E±0˚.03,h34km, mb4.5/62,MS3.8/4,Error ellipse: s-maj=4.3km s-min=2.9km az=165.5*

ISC 30 06:22:27.6±0.7,37˚.97N±0˚.05×144˚.03E±0˚.05,h23km±4km, n167,σ2ᵍ04/192,mb4.5/62,MS3.9/4,4C-3D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.16**	**302**	P	**Pn**	**06 22 59.8**	**-2.3**
OFUJ				S	**Sn**	**06 23 24.2**	**-3.9**
JIO	**Ouri**	**2.17**	**284**	P	**Pn**	**06 23 00.0**	**-2.2**
JIO				S	**Sn**	**06 23 23.8**	**-4.6**
JMK	**Ichinoseki**	**2.42**	**295**	P	**Pn**	**06 23 03.8**	**-1.8**
JMK				*e*S	**Sn**	**06 23 30.6**	**-3.8**
JOM	**Ohasama**	**2.62**	**306**	P	**Pn**	**06 23 06.4**	**-2.0**
JOM				*e*S	**Sn**	**06 23 35.7**	**-3.7**
JFT	**Otama**	**2.97**	**262**	P	**Pn**	**06 23 11.9**	**-1.3**
JFT				S	**Sn**	**06 23 45.3**	**-2.8**
JYK	**Kaneyama**	**3.04**	**289**	P	**Pn**	**06 23 12.7**	**-1.5**
JYK				S	**Sn**	**06 23 47.1**	**-2.7**
JANG	**Nango**	**3.09**	**322**	P	**Pn**	**06 23 12.8**	**-2.2**
JANG				*e*S	**Sn**	**06 23 46.4**	**-4.8**
JAW	**Awa shima**	**3.80**	**279**	P	**Pn**	**06 23 23.7**	**-1.0**
JAW				*e*S	**Sn**	**06 24 05.8**	**-2.8**
ERM	**Erimo**	**4.09**	**351**	*e*P	**Pn**	**06 23 27.1**	**-1.6**
ERM				*e*		06 24 10.8	

ERM	**Erimo**	**4.09**	**351**	*e*Pn	**Pn**	**06 23 27.1**	**-1.6**
ERM				*e*Sn	**Sn**	**06 24 10.8**	**-5.0**
BSO1	**Boso 1**	**4.13**	**218**	P	**Pn**	**06 23 26.5**	**-2.2**
BSO1				*e*S	**Sn**	**06 24 13.0**	**-3.0**
JKB	**Kayabe**	**4.54**	**330**	P	**Pn**	**06 23 34.0**	**-0.8**
JKB				*e*S	**Sn**	**06 24 22.2**	**-4.6**
JRY	**Ryogami san**	**4.55**	**246**	P	**Pn**	**06 23 33.4**	**-1.6**
JRY				S	**Sn**	**06 24 22.0**	**-5.2**
JCH	**Churui**	**4.66**	**354**	P	**Pn**	**06 23 34.4**	**-2.1**
JCH				S	**Sn**	**06 24 24.6**	**-5.3**
JOD2	**Odawara 2**	**4.81**	**237**	P	**Pn**	**06 23 36.7**	**-1.9**
JOD2				*e*S	**Sn**	**06 24 28.0**	**-5.6**
MJAR	**Matsushiro Arr**	**4.86**	**255**	Pn	**Pn**	**06 23 38.6**	**-0.7**
	12nm,0.3s,baz=78,slow=15,SNR=38						
MJAR				Sn	**Sn**	**06 24 34.1**	**-0.8**
	11nm,0.3s,baz=80,slow=27,SNR=5.7						
MJAR				LR	LR	06 25 49.2	
	comp=Z,204nm,19.1s,baz=90,slow=43						
MAJO	**Matsushiro**	**4.86**	**255**	*d* P	**Pn**	**06 23 39.2**	**-0.1**
MAJO	**Matsushiro**	**4.86**	**255**	*e*Pn	**Pn**	**06 23 39.5**	**+0.2**
MAT	**Matsushiro**	**4.86**	**255**	P	**Pn**	**06 23 39.2**	**-0.1**
MAT				S	**Sn**	**06 24 32.1**	**-2.8**
MJB9	**Matsu-Tunnel**	**4.86**	**255**	*e*Pn	**Pn**	**06 23 39.5**	**+0.2**
JOSM	**Okushiri--Mats**	**5.39**	**321**	P	**Pn**	**06 23 45.2**	**-1.3**
JOSM				*e*S	**Sn**	**06 24 42.5**	**-5.3**
NEM2	**Nemuro 2**	**5.54**	**13**	P	**Pn**	**06 23 44.6**	**-4.0**
NEM2				*e*S	Sn	06 24 43.1	-8.4
JHJ2	**Mitsune**	**5.95**	**217**	*e*Pn	**Pn**	**06 23 51.9**	**-2.2**
JHJ2				*e*Sn	**Sn**	**06 24 54.1**	**-7.4**
JHJ	**Hachijo jima 2**	**5.95**	**217**	Pn	**Pn**	**06 23 51.4**	**-2.9**
	28nm,0.3s,baz=340,slow=20,SNR=29						
JHJ				Sn	Sn	06 24 52.3	-9.5
	83nm,0.3s,baz=233,slow=22,SNR=10						
INU	**Inuyama**	**6.22**	**247**	*e*Pn	**Pn**	**06 23 57.4**	**-0.5**
INU				*e*Sn	**Sn**	**06 25 05.5**	**-2.7**
ASAJ	**Asahikawa**	**6.23**	**350**	Pn	**Pn**	**06 23 56.9**	**-1.2**
	5.4nm,0.3s,baz=202,slow=13,SNR=6.2						
ASAJ	**Asahikawa**	**6.23**	**350**	*e*Pn	**Pn**	**06 23 57.7**	**-0.4**
ASAJ				*e*Sn	**Sn**	**06 25 05.6**	**-3.0**
KUR	**Kuril'sk**	**7.80**	**20**	*e*P	**Pn**	**06 24 18.7**	**-0.9**
YSS	**Yuzh-Sakhalins**	**9.02**	**354**	*e*P	Pn	06 24 49.2	+13
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.02**	**354**	*e*Pn	**Pn**	**06 24 38.8**	**+2.4**
YSS				*e*Sn	**Sn**	**06 26 13.7**	**-3.4**
USRK	**Ussuriysk Ar.**	**11.01**	**308**	Pn	**Pn**	**06 25 03.8**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=111,slow=14,SNR=4.9						
USRK				LR	LR	06 29 02.1	
	comp=Z,248nm,19.0s,baz=134,slow=36						
JNU	**Nakatsue**	**11.76**	**250**	Pn	**Pn**	**06 25 13.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=86,slow=10,SNR=4.1						
JNU				LR	LR	06 30 03.2	
	comp=Z,185nm,19.0s,baz=126,slow=39						
JNU	**Nakatsue**	**11.76**	**250**	*e*Pn	**Pn**	**06 25 13.3**	**-0.6**
MDJ	**Mudanjiang**	**12.72**	**306**	P	**Pn**	**06 25 26.5**	**-0.4**
MDJ				S	**Sn**	**06 27 45.8**	**-1.9**
MDJ				PMZ			
	comp=Z,9.0nm,0.9s						
MDJ				LN			
	comp=Z,160nm,18.3s						
MDJ				LE			
	comp=Z,250nm,15.6s						
MDJ				LZ			
	comp=Z,280nm,16.5s						
MDJ	**Mudanjiang**	**12.72**	**306**	*e*Pn	**Pn**	**06 25 26.9**	**-0.1**
KSRS	**Korea Array**	**12.77**	**273**	Pn	**Pn**	**06 25 28.7**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=83,slow=14,SNR=7.0						
KSRS				LR	LR	06 30 06.4	
	comp=Z,157nm,19.2s,baz=54,slow=36						
KSAR	**Wonju Array Be**	**12.80**	**273**	P	**Pn**	**06 25 28.7**	**+0.6**
KSAR	**Wonju Array Be**	**12.80**	**273**	Pn	**Pn**	**06 25 28.7**	**+0.6**
KLR	**Kul'dur**	**14.32**	**326**	Pn	**Pn**	**06 25 47.0**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=132,slow=8.3,SNR=6.2						
KLR				LR	LR	06 31 13.0	
	comp=Z,76nm,20.3s,baz=356,slow=37						
CN2	**Changchun**	**15.20**	**298**	*e*P	**Pn**	**06 26 02.8**	**+2.1**
PETK	**Petropavlovsk-**	**17.86**	**28**	P	**Pn**	**06 26 33.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=185,slow=12,SNR=3.7						
BJI	**Beijing**	**21.71**	**284**	P	**P**	**06 27 15.5**	**-1.4**
BJI				PMZ			
	comp=Z,5.0nm,0.8s						
BJT	**Baijiatuao**	**21.72**	**284**	*e*P	**P**	**06 27 15.6**	**-1.5**
BJT				pmax	pmax		
	comp=Z,13nm,1.6s						
BJT	**Baijiatuao**	**21.72**	**284**	*e*P	**P**	**06 27 15.6**	**-1.5**
	comp=Z,13nm,1.6s						
HHC	**Hu-ho-hao-te**	**25.17**	**287**	*e*P	**P**	**06 27 52.0**	**+0.8**
HHC				S	**S**	**06 32 11.0**	**-4.1**
HHC				PMZ			
	comp=Z,30nm,0.9s						
HHC				PMZ			
	comp=Z,130nm,7.7s						
HHC				LN			
	comp=Z,130nm,12.2s						
HHC				LE			
	comp=Z,280nm,12.4s						
HHC				LZ			
	comp=Z,270nm,12.2s						
SEY	**Seymchan**	**25.50**	**9**	P	**P**	**06 27 54.7**	**+0.9**
	comp=Z,6.2nm,0.7s,baz=186,slow=6.9,SNR=25						
SEY	**Seymchan**	**25.50**	**9**	*i* P	**P**	**06 27 55.1**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**26.92**	**126**	T	T	06 56 18.6	
	baz=317,slow=74,SNR=23						
H11N1	**WAKE ISLAND Hy**	**26.93**	**126**	T	T	06 56 20.2	
	baz=317,slow=74,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**26.94**	**126**	T	T	06 56 17.8	
	baz=317,slow=74,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**27.71**	**128**	T	T	06 57 17.8	
	baz=321						
H11S3	**WAKE ISLAND Hy**	**27.71**	**128**	T	T	06 57 16.2	
	baz=321						
H11S2	**WAKE ISLAND Hy**	**27.72**	**128**	T	T	06 57 18.5	
	baz=321						
BOD	**Bodaibo**	**27.90**	**325**	*e*P	P	06 28 26.1	+11
BOD				pmax	pmax		
	comp=Z,16nm,1.2s						
XAN	**Xi'an**	**28.57**	**273**	P	**P**	**06 28 21.0**	**-0.8**
XAN				pP	sP	06 28 31.5	-0.2
XAN				S	**S**	**06 33 07.8**	**-0.9**
XAN				PMZ			
	comp=Z,4.0nm,1.0s						
XAN				LN			
	comp=Z,140nm,15.2s						
XAN				LE			
	comp=Z,56nm,15.5s						
XAN				LZ			
	comp=Z,200nm,14.4s						
ULN	**Ulaanbaatar**	**28.59**	**302**	*i* P	**P**	**06 28 23.3**	**+1.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**28.59**	**302**	*e*P	**P**	**06 28 23.6**	**+1.7**
	comp=Z,7.9nm,1.1s						
SONA1	**Songino Array**	**29.02**	**302**	*e*P	**P**	**06 28 26.3**	**+0.5**
SONM	**Songino Array**	**29.02**	**302**	P	**P**	**06 28 26.2**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=90,slow=8.4,SNR=4.9						
ZAK	**Zakamensk**	**31.35**	**307**	*e*P	**P**	**06 28 46.1**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
LZH	**Lanzhou**	**31.97**	**279**	*e*P	**P**	**06 28 52.3**	**+0.3**
LZH				pP	sP	06 29 02.3	+0.4
LZH				sP	pP	06 29 05.5	+6.5
LZH				PMZ			
	comp=Z,17nm,1.0s						
BILL	**Bilibino**	**32.55**	**15**	*e*P	**P**	**06 28 55.7**	**-0.8**
BILL				*i*		06 31 46.0	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GYA	**Guiyang**	**33.43**	**261**	*e*P	**P**	**06 29 04.8**	**0.0**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**33.76**	**270**	*e*P	**P**	**06 29 06.5**	**-1.0**
CD2				pP	sP	06 29 16.5	-0.9
CD2				sP	pP	06 29 21.0	+6.5
CD2				S	**S**	**06 34 27.5**	**-2.3**
CD2				sS	sS	06 34 44.8	+3.4
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.0s						
GTA	**Gaotai**	**34.29**	**286**	*e*P	**P**	**06 29 16.5**	**+4.4**
GTA				pP	sP	06 29 25.3	+3.2
GTA				sP	pP	06 29 29.0	+10
GTA				S	**S**	**06 34 42.5**	**+4.5**
GTA				sS	sS	06 34 59.5	+10
GTA				PMZ			
	comp=Z,6.0nm,1.3s						
GTA				PMZ			
	comp=Z,80nm,7.6s						
GTA				LN			
	comp=Z,91nm,17.6s						
GTA				LE			
	comp=Z,170nm,17.6s						
GTA				LZ			
	comp=Z,200nm,17.6s						
KMI	**Kunming**	**37.16**	**262**	P	**P**	**06 29 37.5**	**+0.5**
KMI				PMZ			
	comp=Z,9.0nm,0.7s						
WMQ	**Urumqi**	**42.28**	**296**	P	**P**	**06 30 21.0**	**+1.7**
WMQ				pP	sP	06 30 30.5	+1.2
WMQ				sP	pP	06 30 35.0	+8.6
WMQ				PMZ			
	comp=Z,5.0nm,0.6s						
WMQ				PMZ			
	comp=Z,76nm,4.9s						
WMQ				LN			
	comp=Z,59nm,18.5s						
WMQ				LE			
	comp=Z,52nm,25.7s						
WMQ				LZ			
	comp=Z,55nm,19.3s						
ZAA0	**Zalesovo Array**	**42.84**	**312**	*e*P	**P**	**06 30 23.8**	**+0.3**
ZALV	**Zalesovo Beam**	**42.84**	**312**	P	**P**	**06 30 23.3**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=93,slow=7.4,SNR=4.7						
ZALV				PcP	**PcP**	**06 32 13.8**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=97,slow=3.4,SNR=5.4						
MK01	**Makanchi Array**	**45.39**	**302**	*e*P	**P**	**06 30 44.1**	**0.0**
MK31	**Makanchi Array**	**45.39**	**302**	*e*P	**P**	**06 30 44.0**	**-0.2**
MK31	**Makanchi Array**	**45.39**	**302**	*e*P	**P**	**06 30 44.0**	**-0.2**
MKAR	**Makanchi Array**	**45.39**	**302**	P	**P**	**06 30 44.1**	**0.0**
	comp=Z,2.3nm,0.7s,baz=85,slow=9.7,SNR=20						
MAKZ	**Makanchi**	**45.60**	**302**	*e*P	**P**	**06 30 45.4**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAKZ	**Makanchi**	**45.60**	**302**	*e*P	**P**	**06 30 45.4**	**-0.4**
	comp=Z,6.0nm,0.9s						
BWN	**Browne**	**46.46**	**34**	*e*P	**P**	**06 30 53.7**	**+1.4**
	comp=Z,21nm,1.0s						
PMR	**Palmer**	**46.62**	**37**	*e*P	**P**	**06 30 53.8**	**+0.2**
PMR				pmax	pmax		
	comp=Z,12nm,1.1s						
PMR	**Palmer**	**46.62**	**37**	*e*P	**P**	**06 30 53.8**	**+0.2**
	comp=Z,12nm,1.1s						
RND	**Reindeer**	**46.73**	**35**	*e*P	**P**	**06 30 54.7**	**+0.2**
RND				pmax	pmax		
	comp=Z,7.0nm,1.1s						
RND	**Reindeer**	**46.73**	**35**	*e*P	**P**	**06 30 54.7**	**+0.2**
	comp=Z,7.1nm,1.1s						
SML	**Sawmill**	**47.00**	**37**	*e*P	**P**	**06 30 57.3**	**+0.7**
SML				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SML	**Sawmill**	**47.00**	**37**	*e*P	**P**	**06 30 57.2**	**+0.7**
	comp=Z,10nm,0.9s						
KURK	**Kurchatov**	**47.00**	**308**	*c*eP	**P**	**06 30 56.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,18nm,1.2s						
KURK	**Kurchatov**	**47.00**	**308**	*e*P	**P**	**06 30 56.4**	**-0.3**
	comp=Z,11nm,0.9s						
MDM	**Murphy Dome**	**47.01**	**33**	*e*P	**P**	**06 30 57.7**	**+1.0**
	comp=Z,7.7nm,0.9s						
WRH	**Wood River Hil**	**47.06**	**33**	*e*P	**P**	**06 30 57.5**	**+0.5**
	comp=Z,3.3nm,0.9s						
SCM	**Sheep Creek Mo**	**47.47**	**37**	*e*P	**P**	**06 31 00.0**	**-0.3**
SCM				pmax	pmax		
	comp=Z,13nm,1.0s						
SCM	**Sheep Creek Mo**	**47.47**	**37**	*e*P	**P**	**06 30 60.0**	**-0.3**
	comp=Z,13nm,1.0s						
ILAR	**Eielson Array**	**47.58**	**33**	P	**P**	**06 31 01.1**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=265,slow=6.6,SNR=54						
ILB	**Eielson Array**	**47.58**	**33**	*e*P	**P**	**06 31 01.2**	**+0.2**
IL1	**Eielson Array**	**47.58**	**33**	*e*P	**P**	**06 31 00.7**	**-0.3**
KLU	**Klutina**	**48.16**	**37**	*e*P	**P**	**06 31 06.3**	**+0.6**
	comp=Z,7.8nm,0.8s						
DIV	**Divide**	**48.27**	**38**	*e*P	**P**	**06 31 07.3**	**+0.8**
	comp=Z,16nm,1.0s						
MENT	**Mentasta**	**49.07**	**35**	*e*P	**P**	**06 31 13.7**	**+1.0**
	comp=Z,5.2nm,0.8s						
CRQM	**Cirque**	**49.58**	**38**	*e*P	**P**	**06 31 18.1**	**+1.4**
	comp=Z,20nm,0.8s						
TKM2	**Tokmak 2**	**51.02**	**298**	*e*P	**P**	**06 31 27.5**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,18nm,1.1s						
TKM2	**Tokmak 2**	**51.02**	**298**	*e*P	**P**	**06 31 27.5**	**-0.4**
	comp=Z,18nm,1.1s						
VOSK	**Vostochnaya**	**51.21**	**312**	*e*P	**P**	**06 31 28.8**	**-0.1**
VOSK				*e**PP	**sP**	**06 31 40.1**	**+1.1**
VOSK	**Vostochnaya**	**51.21**	**312**	*e*P	**P**	**06 31 28.8**	**-0.1**
VOSK				*e*pP	**sP**	**06 31 40.1**	**+1.1**
BRVK	**Borovoye**	**51.54**	**312**	*i* P	**P**	**06 31 30.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KSH	**Kashi**	**51.92**	**294**	*e*P	**P**	**06 31 39.0**	**+4.4**
KSH				pP	sP	06 31 49.0	+4.3
KSH				PcP	**PcP**	**06 32 49.3**	**+2.3**
KSH				PP	**PP**	**06 33 38.5**	**+6.1**
KSH				S	**S**	**06 39 00.0**	**+3.7**
KSH				ScS	**ScS**	**06 41 23.5**	**+0.1**
KSH				SS	**SS**	**06 42 36.3**	**+3.4**
KSH				PMZ			
	comp=Z,4.0nm,0.9s					

comp=Z,7.0nm,0.9s
EDM Edmonton 67.31 39 *e*P **P** **06 33 19.8 -0.5**
comp=Z,6.5nm,0.9s
OBN Obninsk 68.58 324 *i* P **P** **06 33 28.2 +0.1**
OBN pmax pmax
comp=Z,4.0nm,0.9s
K05A Summer Lake 68.73 52 *e*P **P** **06 33 31.3 +1.6**
comp=Z,13nm,1.0s
FINES FINESS Array B 68.94 333 P **P** **06 33 30.0 -0.3**
comp=Z,4.0nm,0.7s,baz=35,slow=7.0,SNR=17
FINES LR LR 07 04 55.6
comp=Z,59nm,19.8s,baz=42,slow=37
SUMG Summit 69.73 1 *e*P **P** **06 33 36.1 +0.5**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 69.73 1 *e*P **P** **06 33 36.1 +0.5**
comp=Z,5.1nm,0.8s
WVOR Wild Horse Val 70.29 51 *e*P P 06 33 46.1 +6.9
WVOR Wild Horse Val 70.29 51 *e*P P 06 33 46.1 +6.9
VSU Vasula 70.69 330 *ce*P **P** **06 33 42.1 +1.0**
VSU pmax pmax
comp=Z,8.0nm,0.4s
FFC Flin Flon 71.78 34 *e*P **P** **06 33 48.3 +0.5**
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 71.78 34 *e*P **P** **06 33 48.3 +0.5**
comp=Z,6.2nm,1.0s
KIV Kislovodsk 71.85 312 *e*P **P** **06 33 49.8 +1.2**
KIV pmax pmax
comp=Z,15nm,1.1s
KBZ Khabaz 71.86 312 P **P** **06 33 49.2 +0.8**
comp=Z,4.0nm,0.8s,baz=34,slow=3.3,SNR=8.6
BOZ Bozeman (W) 72.58 45 *e*P **P** **06 33 54.0 +1.0**
BOZ pmax pmax
comp=Z,2.0nm,0.9s
BOZ Bozeman (W) 72.58 45 *e*P **P** **06 33 54.0 +1.0**
comp=Z,2.4nm,0.9s
H17A Grant Village 73.93 46 *e*P **P** **06 34 03.9 +2.8**
comp=Z,6.3nm,0.9s
NB2 NORSAR Subarra 74.11 338 P **P** **06 34 00.9 -0.7**
comp=Z,0.9nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 74.11 338 P **P** **06 34 01.2 -0.3**
comp=Z,1.4nm,0.7s,baz=38,slow=5.8,SNR=6.0
NOA LR LR 07 12 44.4
comp=Z,19nm,18.2s,baz=150,slow=41
TPAW Teton Pass 74.27 47 *e*P **P** **06 34 03.1 0.0**
comp=Z,3.0nm,0.8s
R11A Troy Canyon, C 74.54 53 *e*P **P** **06 34 05.0 +0.3**
comp=Z,4.9nm,1.6s
BGU Big Grassy Mou 74.59 50 *e*P **P** **06 34 01.5 -3.3**
comp=Z,22nm,1.5s
AKASG Malin Array Be 74.59 2 P **P** **06 34 05.0 -0.7**
comp=Z,1.8nm,0.6s,baz=44,slow=6.8,SNR=13
KIEV Kiev 74.82 323 *e*P **P** **06 34 05.5 -0.3**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
BW06 Boulder Array 75.51 47 *e*P **P** **06 34 10.2 -0.1**
PDAR Pinedale Array 75.51 47 P **P** **06 34 10.7 +0.4**
comp=Z,1.3nm,0.6s,baz=274,slow=3.9,SNR=8.0
SHPR Sheep Range 75.90 55 *e*P **P** **06 34 13.0 +0.4**
comp=Z,4.1nm,1.3s
SRU San Rafael Swe 77.22 50 *e*P **P** **06 34 19.8 -0.1**
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael Swe 77.22 50 *e*P **P** **06 34 19.8 -0.1**
comp=Z,4.9nm,0.9s
N23A Red Feather La 78.79 47 *e*P **P** **06 34 29.5 +0.7**
comp=Z,4.9nm,1.0s
BUR08 Bucovina Ar. S 78.83 323 *e*P **P** **06 34 28.8 +0.1**
CRVS Cervenica-Dubn 79.65 326 *e*P **P** **06 34 35.4 +2.4**
CRVS Cervenica-Dubn 79.65 326 *e*P **P** **06 34 35.4 +2.4**
BRTR Keskin Array B 79.77 313 P **P** **06 34 34.1 +0.1**
comp=Z,1.3nm,0.8s,baz=132,slow=1.8,SNR=4.6
BR231 Keskin MP Arra 80.19 313 *e*P **P** **06 34 34.8 -1.4**
ANMO Albuquerque 82.38 51 *ce*P **P** **06 34 49.6 +1.6**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 82.38 51 *e*P **P** **06 34 48.4 +0.4**
comp=Z,2.9nm,1.1s
GERES GERESS Array B 82.99 330 P **P** **06 34 50.7 -0.1**
comp=Z,0.7nm,0.6s,baz=15,slow=5.5,SNR=4.4
EIL Elat 85.59 304 LR LR 07 19 58.0
comp=Z,84nm,18.0s,baz=52,slow=40
TXAR Lajitas Array 87.89 54 P **P** **06 35 15.6 0.0**
comp=Z,0.8nm,0.8s,baz=306,slow=3.4,SNR=6.4
SNAA Sanae 142.25 196 PKP **PKPdf** **06 41 50.2 -6.7**
SNAA x x 06 41 51.5
VNA1 Neumayer--Stat 144.19 195 PKP **PKPab** **06 41 57.9 -0.1**
LPAZ La Paz 144.42 61 PKP PKPbc 06 42 01.6 +0.1
comp=Z,0.8nm,0.7s,baz=288,slow=3.0,SNR=3.6

*NIED **30** 06:32:00,38°.30N×141°.90E,h50km,Mw3.7 Best double couple: M0=4.22000×10^14 NP1:φs=223.00000°,δ=18.00000°, λ=153.00000°. NP2:φs=339.00000°,δ=82.00000°,λ=74.00000°.*
*IDC **30** 06:32:12.7±3.0,38°.32N×142°.17E,h58km±23km,mb3.4/5, mb1 3.6/9,mb1mx3.3/39,mbtmp3.7/9,ML3.3/4,MS3.0/3, Ms1 3.1/3,ms1mx2.7/28,Error ellipse: s-maj=43.6km s-min=17.6km az=82.0*
*JMA **30** 06:32:12.6±0.1,38°.28N×141°.87E,h46km±1km,M3.8 JMA Felt I J1.*
ISC 30 06:32:09.7±1.7,38°.25N±0°.04×142°.10E±0°.08,h29km±11km, n29,σ1s75/34,mb3.7/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.63**	**289**	P	**Pn**	**06 32 23.1**	**+0.5**
JIO				S	**Sb**	**06 32 30.2**	**-0.4**
OFUJ	**Ofunato**	**0.90**	**338**	P	**Pb**	**06 32 27.7**	**+1.0**
OFUJ				S	**Sn**	**06 32 38.3**	**0.0**
JMK	**Ichinoseki**	**0.98**	**316**	P	**Pb**	**06 32 28.5**	**+0.4**
JMK				S	**Sb**	**06 32 39.6**	**-1.2**
JMM	**Marumori**	**1.10**	**250**	P	**Pn**	**06 32 29.2**	**+0.1**
JMM				S	**Sn**	**06 32 40.5**	**-2.8**
JOU	**Okura**	**1.14**	**276**	P	**Pn**	**06 32 30.0**	**-0.7**
JOU				S	**Sn**	**06 32 42.7**	**-1.5**
JFK	**Kawauchi**	**1.31**	**228**	P	**Pn**	**06 32 32.6**	**+0.6**
JFK				S	**Sn**	**06 32 47.6**	**-0.9**
JOM	**Ohasama**	**1.38**	**333**	P	**Pb**	**06 32 34.5**	**-0.3**
JOM				S	**Sb**	**06 32 50.7**	**-1.3**
JYK	**Kaneyama**	**1.52**	**297**	P	**Pn**	**06 32 35.5**	**+0.6**
JYK				S	**Sn**	**06 32 53.8**	**+0.1**
JFT	**Otama**	**1.57**	**243**	P	**Pn**	**06 32 36.7**	**+1.1**
JFT				S	**Sn**	**06 32 54.5**	**-0.5**
JYS	**Shirataka**	**1.60**	**270**	S	**Sn**	**06 32 54.7**	**-1.0**
JRG	**Rokugo**	**1.62**	**315**	P	**Pb**	**06 32 37.7**	**-1.2**
MJAR	**Matsushiro Arr**	**3.54**	**242**	P	**Pn**	**06 33 05.8**	**+3.2**
	2.3nm,0.3s,baz=62,slow=10,SNR=20						
MJAR				S	**Sb**	**06 33 52.0**	**-2.1**
	1.9nm,0.3s,baz=80,slow=32,SNR=4.0						
MJAR				LR	LR	06 34 40.1	
	comp=Z,134nm,20.9s,baz=5.0,slow=41						
MAT	**Matsushiro**	**3.54**	**242**	P	**Pn**	**06 33 06.4**	**+3.8**
MAT				*e*S	**Sn**	**06 33 45.6**	**+2.1**
JHJ	**Hachijo jima 2**	**5.45**	**201**	P	**Pn**	**06 33 31.4**	**+2.5**
	9.7nm,0.3s,baz=114,slow=20,SNR=2.7						
JHJ				S	**Sn**	**06 34 27.4**	**-3.3**
	4.9nm,0.3s,baz=180,slow=18,SNR=2.2						
ASAJ	**Asahikawa**	**5.88**	**3**	P	**Pn**	**06 33 36.5**	**+1.8**
	1.1nm,0.3s,baz=135,slow=20,SNR=2.5						
ASAJ				S	**Sn**	**06 34 38.5**	**-2.6**
	1.6nm,0.3s,baz=291,slow=14,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.66**	**311**	P	**Pn**	**06 34 29.3**	**+2.7**
	0.5nm,0.3s,baz=107,slow=14,SNR=5.7						
KSRS	**Korea Array**	**11.24**	**270**	LR	LR	06 38 34.4	
	comp=Z,30nm,21.8s,baz=340,slow=34						
H11N2	**WAKE ISLAND Hy 28.33**	**124**		T	T	07 08 17.9	
	baz=316,slow=75,SNR=211						
H11N1	**WAKE ISLAND Hy 28.34**	**124**		T	T	07 08 20.4	
	baz=316,slow=75,SNR=223						
H11N3	**WAKE ISLAND Hy 28.35**	**124**		T	T	07 08 21.0	
	baz=316,slow=75,SNR=126						
H11S1	**WAKE ISLAND Hy 29.09**	**126**		T	T	07 09 14.0	
	baz=318,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy 29.09**	**126**		T	T	07 09 14.1	
	baz=318,slow=76,SNR=60						
H11S2	**WAKE ISLAND Hy 29.11**	**126**		T	T	07 09 15.2	
	baz=318,slow=76,SNR=26						
ZALV	**Zalesovo Beam**	**41.51**	**311**	P	**P**	**06 39 54.0**	**0.0**
	0.8nm,0.3s,baz=93,slow=6.2,SNR=4.5						
CMAR	**Chiang Mai Arr**	**42.34**	**255**	LR	LR	06 58 37.0	
	comp=Z,80nm,18.0s,baz=318,slow=37						
MKAR	**Makanchi Array**	**43.95**	**301**	P	**P**	**06 40 14.4**	**+0.5**
	0.5nm,0.6s,baz=88,slow=9.5,SNR=5.5						
WRA	**Warramunga Arr**	**58.34**	**189**	P	**P**	**06 42 02.6**	**+0.5**
	0.2nm,0.5s,baz=6.4,slow=6.9,SNR=6.3						
ASAR	**Alice Springs**	**62.07**	**189**	P	**P**	**06 42 28.0**	**+0.5**
	0.4nm,0.7s,baz=352,slow=5.7,SNR=3.5						
AKASG	**Malin Array Be**	**73.67**	**322**	P	**P**	**06 43 38.8**	**-1.6**
	0.3nm,0.4s,baz=46,slow=6.6,SNR=3.3						

IDC 30 06:36:59.2±2.0,3°.65N×127°.07E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/41,mbtmp3.6/4,Error ellipse: s-maj=120.5km s-min=25.1km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.66**	**184**	P	P	06 41 52.1	+0.6
	1.0nm,0.5s,baz=5.7,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**24.51**	**163**	P	P	06 42 20.3	-0.2
	2.0nm,0.6s,baz=341,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.96**	**167**	P	P	06 42 51.5	-0.1
	0.4nm,0.5s,baz=345,slow=7.0,SNR=5.4						
MKAR	**Makanchi Array**	**57.81**	**325**	P	P	06 46 52.4	-0.2
	0.3nm,0.5s,baz=124,slow=8.6,SNR=5.4						

*ISCJB **30** 06:44:43.0±0.7,55°.59N±0°.06×155°.03W±0°.07,h24km, mb3.6/6,Error ellipse: s-maj=9.9km s-min=3.8km az=149.5*
*NEIC **30** 06:44:48.3,55°.70N×155°.22W,h1km,ML3.5(AEIC),After AEIC.*
*IDC **30** 06:44:52.4±8.7,56°.26N×155°.37W,h42km±65km,mb3.3/6, mb1 3.5/8,mb1mx3.3/51,mbtmp3.6/8,ML4.1/2,Error ellipse: s-maj=65.3km s-min=44.5km az=6.0*
ISC 30 06:44:46.4±1.1,55°.8N±0°.1×155°.20W±0°.06,h24km,n55, σ1s25/60,mb3.8/6,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**1.80**	**35**	P	**Pn**	**06 45 16.6**	**+0.6**
OHAK				S	**Sn**	**06 45 38.0**	**0.0**
ANPK	**Aniakchak Peak**	**1.96**	**305**	P	**Pn**	**06 45 17.9**	**-0.2**
PLK4	**Peulik 4**	**1.98**	**342**	P	**Pn**	**06 45 19.6**	**+1.2**
ANPB	**Aniakchak Plen**	**2.01**	**302**	P	**Pn**	**06 45 18.5**	**-0.3**
PLK3	**Peulik 3**	**2.01**	**343**	P	**Pn**	**06 45 19.6**	**+0.7**
PLK3				S	**Sn**	**06 45 43.7**	**+0.4**
PLK1	**Peulik 1**	**2.18**	**340**	P	**Pn**	**06 45 22.1**	**+1.0**
VNSG	**Veniaminof 6**	**2.22**	**281**	P	**Pn**	**06 45 21.4**	**-0.3**
VNHG	**Veniaminof 1**	**2.27**	**283**	P	**Pn**	**06 45 23.0**	**+0.5**
KJL	**Kejulik**	**2.30**	**355**	P	**Pn**	**06 45 23.7**	**+0.8**
KABR	**Katmai Barrier**	**2.37**	**3**	P	**Pn**	**06 45 24.6**	**+0.7**
KAKN	**Katmai Knife C**	**2.54**	**2**	P	**Pn**	**06 45 27.2**	**+1.1**
KVTA	**Katmai Vly 10**	**2.62**	**359**	P	**Pn**	**06 45 27.9**	**+0.7**
KAWH	**Katmai**	**2.63**	**5**	P	**Pn**	**06 45 28.0**	**+0.6**
KAHC	**Katmai Hardscr**	**2.89**	**2**	P	**Pn**	**06 45 31.8**	**+0.7**
SDPT	**Sand Point**	**3.03**	**264**	P	**Pn**	**06 45 32.3**	**-0.4**
SDPT				S	**Sn**	**06 46 06.9**	**-1.3**
FOPK	**Fourpeaked Vol**	**3.14**	**17**	P	**Pn**	**06 45 35.2**	**+0.9**
FOSS	**Fourpeaked Sta**	**3.15**	**14**	P	**Pn**	**06 45 35.9**	**+1.4**
CDD	**Cape Douglas**	**3.28**	**14**	P	**Pn**	**06 45 37.4**	**+1.1**
DTNA	**Dutton South F**	**4.06**	**264**	P	**Pn**	**06 45 46.4**	**-0.6**
DT1	**Dutton Round H**	**4.09**	**264**	P	**Pn**	**06 45 46.6**	**-0.7**
CNPM	**China Poot**	**4.33**	**28**	P	**Pn**	**06 45 51.5**	**+0.8**
CNPM				S	**Sn**	**06 46 40.6**	**+0.4**
ILW	**Iliamna West**	**4.44**	**13**	P	**Pn**	**06 45 53.7**	**+1.3**
BRLK	**Bradley Lake**	**4.62**	**28**	P	**Pn**	**06 45 54.6**	**-0.1**
BRLK				S	**Sn**	**06 46 45.7**	**-1.9**
RDWB	**Redoubt West**	**4.90**	**14**	P	**Pn**	**06 45 58.6**	**+0.1**
ISLZ	**Isanotski Laza**	**4.98**	**261**	P	**Pn**	**06 45 59.3**	**-0.4**
SEW	**Seward**	**5.32**	**33**	P	**Pn**	**06 46 03.8**	**-0.4**
WESE	**West Dahl East**	**5.54**	**260**	P	**Pn**	**06 46 06.3**	**-1.1**
STLK	**Strandline Lak**	**6.01**	**16**	P	**Pn**	**06 46 13.8**	**0.0**
RC01	**Rabbit Creek A**	**6.06**	**26**	P	**Pn**	**06 46 14.3**	**0.0**
SUA	**Susitna One**	**6.17**	**20**	P	**Pn**	**06 46 17.2**	**+1.3**
HIN	**Hinchinbrook I**	**6.54**	**41**	P	**Pn**	**06 46 20.9**	**-0.1**
KNK	**Knik Glacier**	**6.67**	**29**	P	**Pn**	**06 46 23.5**	**+0.8**
UNV	**Unalaska Valle**	**6.81**	**258**	P	**Pn**	**06 46 23.3**	**-1.4**
GHO	**Glory Hole Cre**	**6.84**	**26**	P	**Pn**	**06 46 25.8**	**+0.6**
EYAK	**Cordova Ski Ar**	**6.92**	**42**	P	**Pn**	**06 46 25.6**	**-0.6**
TT01	**Tatalina**	**7.17**	**357**	P	**Pn**	**06 46 30.6**	**+1.0**
SCM	**Sheep Creek Mo**	**7.32**	**31**	P	**Pn**	**06 46 32.4**	**+0.6**
KLU	**Klutina**	**7.50**	**36**	P	**Pn**	**06 46 34.1**	**-0.2**
BMRM	**Bremner River**	**7.62**	**43**	P	**Pn**	**06 46 35.7**	**-0.2**
VRDI	**Verde Repeater**	**8.23**	**43**	P	**Pn**	**06 46 43.9**	**-0.4**
RND	**Reindeer**	**8.31**	**20**	P	**Pn**	**06 46 46.0**	**+0.8**
PTPK	**Patty Peak**	**8.59**	**46**	P	**Pn**	**06 46 49.0**	**-0.4**
BPAW	**Bear Paw Mtn.**	**8.62**	**12**	*e*Pn	Pn	06 46 56.2	+6.7
	1.2nm,0.9s						
BPAW				*e*Sg	Sn	06 49 25.1	+59
WRH	**Wood River Hil**	**9.42**	**19**	P	**Pn**	**06 47 00.8**	**+0.4**
CCB	**Clear Creek Bu**	**9.63**	**19**	P	**Pn**	**06 47 03.9**	**+0.6**
IL1	**Eielson Array**	**9.92**	**21**	P	**Pn**	**06 47 07.1**	**-0.2**
ILAR	**Eielson Array**	**9.92**	**21**	P	**Pn**	**06 47 06.6**	**-0.7**
	0.7nm,0.3s,baz=211,slow=14,SNR=30						
ILAR				S	**Sn**	**06 48 50.3**	**-7.4**
	0.1nm,0.3s,baz=211,slow=26,SNR=2.7						
ILB	**Eielson Array**	**9.92**	**21**	P	**Pn**	**06 47 06.9**	**-0.4**
INK	**Inuvik**	**16.03**	**30**	P	**Pn**	**06 48 31.5**	**+1.6**
	0.5nm,0.3s,baz=230,slow=16,SNR=7.4						
YKA	**Yellowknife Ar**	**21.57**	**55**	P	**P**	**06 49 35.0**	**+1.1**
	0.3nm,0.7s,baz=270,slow=8.9,SNR=3.8						
SPITS	**Spitsbergen Ar**	**46.21**	**2**	P	**P**	**06 53 09.4**	**+0.7**
	0.4nm,0.4s,baz=353,slow=10,SNR=7.2						
ARCES	**ARCESS Array B**	**55.00**	**360**	P	**P**	**06 54 15.1**	**+0.1**
	1.1nm,0.8s,baz=8.2,slow=8.2,SNR=3.4						
FINES	**FINESS Array B**	**63.12**	**359**	P	**P**	**06 55 11.9**	**+0.5**
	0.6nm,0.6s,baz=23,slow=5.3,SNR=4.2						
BVAR	**Borovoye Array**	**65.25**	**332**	P	**P**	**06 55 25.9**	**+0.4**
	1.0nm,0.7s,baz=28,slow=10,SNR=5.8						
MKAR	**Makanchi Array**	**67.00**	**321**	P	**P**	**06 55 36.9**	**+0.1**
	0.3nm,0.6s,baz=54,slow=7.3,SNR=3.4						

*IDC **30** 07:10:12.2±1.1,34°.94N×22°.09E,h0km,mb4.1/10, mb1 4.1/20,mb1mx3.9/49,mbtmp4.0/20,ML3.8/10, MS3.4/10,Ms1 3.4/10,ms1mx3.1/41,Error ellipse: s-maj=20.7km s-min=15.7km az=22.0*
*ATH **30** 07:10:13.9,34°.96N×21°.99E,h16km±3km,ML3.6/3,Error ellipse: s-maj=5.1km s-min=1.3km az=30.0*
*THE **30** 07:10:15.9,34°.88N×21°.85E,h30km±6km,ML3.8/6,Error ellipse: s-maj=7.4km s-min=1.0km az=223.0*
*CSEM **30** 07:10:16.9±0.8,34°.96N×22°.02E,h20km,ML3.6,Error ellipse: s-maj=19.0km s-min=6.2km az=34.0*
ISC 30 07:10:14.9±1.0,34°.93N±0°.05×21°.99E±0°.04,h24km±6km, n159,σ1s95/168,mb4.0/10,MS3.7/4,4C-1D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**1.42**	**48**	P	**Pb**	**07 10 40.6**	**-0.1**
ANKY				S	**Sb**	**07 11 00.5**	**+2.1**
ANKY	**Antikythira Is**	**1.42**	**48**	P	**Pb**	**07 10 41.1**	**+0.4**
ANKY				S	**Sb**	**07 10 59.2**	**+0.8**
ANKY	**Antikythira Is**	**1.42**	**48**	P	**Pb**	**07 10 41.1**	**+0.4**
ANKY				S	**Sb**	**07 10 59.2**	**+0.8**
ANKY				AML	AML	07 11 10.3	
	comp=E,4389μm,0.8s						
ANKY				AML	AML	07 11 11.3	
	comp=N,3973μm,0.7s						
IMMV	**Iera Moni Meta**	**1.71**	**71**	P	**Pb**	**07 10 44.9**	**-0.8**
IMMV				S	**Sb**	**07 11 07.0**	**+0.2**
IMMV	**Iera Moni Meta**	**1.71**	**71**	P	**Pb**	**07 10 44.9**	**-0.8**
IMMV				S	**Sb**	**07 11 07.0**	**+0.2**
IMMV	**Iera Moni Meta**	**1.71**	**71**	P	**Pn**	**07 10 43.7**	**+0.4**
IMMV				S	**Sb**	**07 11 06.9**	**+0.1**
IMMV				AML	AML	07 11 24.3	
	comp=E,2830μm,0.6s						
IMMV				AML	AML	07 11 32.7	
	comp=N,2518μm,0.8s						
GVD	**Gavdhos**	**1.72**	**92**	P	**Pb**	**07 10 45.0**	**-1.0**
GVD				S	**Sb**	**07 11 07.7**	**+0.6**
GVD	**Gavdhos**	**1.72**	**92**	P	**Pb**	**07 10 44.9**	**-1.0**
GVD				S	**Sb**	**07 11 07.7**	**+0.6**
GVD	**Gavdhos**	**1.72**	**92**	P	**Pb**	**07 10 44.9**	**-1.0**
GVD				S	**Sb**	**07 11 09.6**	**+2.4**
GVD				AML	AML	07 11 15.0	
	comp=E,2564μm,0.5s						
GVD				AML	AML	07 11 19.4	
	comp=N,3097μm,0.4s						
VAM	**Vamos**	**1.87**	**75**	P	**Pb**	**07 10 47.1**	**-1.3**
VAM				S	**Sb**	**07 11 11.7**	**+0.4**
VAM	**Vamos**	**1.87**	**75**	P	**Pb**	**07 10 47.1**	**-1.3**
VAM				S	**Sb**	**07 11 11.7**	**+0.4**
VLI	**Veliai**	**1.94**	**23**	P	**Pn**	**07 10 48.0**	**+1.5**
VLI				S	**Sb**	**07 11 12.5**	**-0.9**
ASAR	**Veliai**	**1.94**	**23**	P	**Pn**	**07 10 48.0**	**+1.5**
VLI				S	**Sb**	**07 11 12.5**	**-0.9**
VLI	**Veliai**	**1.94**	**23**	P	**Pb**	**07 10 49.9**	**+0.2**
PYL	**PYLOS**	**1.97**	**354**	P	**Pn**	**07 10 48.0**	**+1.1**
PYL				S	**Sn**	**07 11 11.8**	**+0.9**
PYL	**PYLOS**	**1.97**	**354**	P	**Pn**	**07 10 48.2**	**+1.3**
PYL				S	**Sn**	**07 11 11.8**	**+0.9**
PYL	**PYLOS**	**1.97**	**354**	P	**Pn**	**07 10 48.2**	**+1.3**
ITM	**Ithomi**	**2.25**	**359**	P	**Pb**	**07 10 54.2**	**-0.6**
ITM	**Ithomi**	**2.25**	**359**	P	**Pb**	**07 10 54.2**	**-0.6**
SIVA	**Sivas**	**2.31**	**87**	P	**Pn**	**07 10 53.2**	**+1.6**
SIVA	**Sivas**	**2.31**	**87**	P	**Pn**	**07 10 54.5**	**-1.5**
SIVA	**Sivas**	**2.31**	**87**	P	**Pb**	**07 10 54.5**	**-1.5**
IDI	**Anoyia**	**2.40**	**81**	Pn	**Pn**	**07 10 53.4**	**+0.6**
	comp=N,16nm,0.3s,baz=292,slow=16,SNR=45						
IDI	**Anoyia**	**2.40**	**81**	P	**Pn**	**07 10 54.2**	**+1.4**
IDI	**Anoyia**	**2.40**	**81**	P	**Pn**	**07 10 54.3**	**+1.4**
IDI	**Anoyia**	**2.40**	**81**	P	**Pn**	**07 10 54.3**	**+1.4**
VLX	**Vlachokerasia**	**2.46**	**7**	P	**Pn**	**07 10 55.2**	**+1.6**
VLX	**Vlachokerasia**	**2.46**	**7**	P	**Pn**	**07 10 55.2**	**+1.6**
MHLO	**Agia Marina, M**	**2.63**	**47**	P	**Pn**	**07 10 57.3**	**+1.4**
MHLO	**Agia Marina, M**	**2.63**	**47**	P	**Pn**	**07 10 57.6**	**+1.7**
MHLO	**Agia Marina, M**	**2.63**	**47**	P	**Pn**	**07 10 57.6**	**+1.7**
DID	**Didima**	**2.76**	**21**	P	**Pb**	**07 11 00.9**	**-2.7**
DID	**Didima**	**2.76**	**21**	P	**Pb**	**07 11 00.9**	**-2.7**
LAST	**Lasithi**	**2.87**	**84**	P	**Pn**	**07 11 01.6**	**+2.3**
LAST	**Lasithi**	**2.87**	**84**	P	**Pn**	**07 11 01.6**	**+2.3**
LAST	**Lasithi**	**2.87**	**84**	P	**Pn**	**07 11 03.1**	**-2.4**
ZKS	**Zakynthos**	**2.93**	**341**	P	**Pn**	**07 11 00.1**	**+0.1**
ZKS	**Zakynthos**	**2.93**	**341**	P	**Pn**	**07 11 00.7**	**+0.6**
ZKS	**Zakynthos**	**2.93**	**341**	P	**Pn**	**07 11 00.7**	**+0.6**
NPS	**Neapolis**	**2.99**	**83**	P	**Pn**	**07 11 03.3**	**+2.4**
NPS	**Neapolis**	**2.99**	**83**	P	**Pn**	**07 11 03.3**	**+2.4**
GUR	**Goura**	**3.01**	**5**	P	**Pn**	**07 11 03.7**	**+2.4**
GUR	**Goura**	**3.01**	**5**	P	**Pn**	**07 11 03.7**	**+2.4**
DRO	**Drossia**	**3.02**	**356**	P	**Pb**	**07 11 05.4**	**-2.7**
DRO	**Drossia**	**3.02**	**356**	P	**Pb**	**07 11 05.4**	**-2.7**
KLV	**Kalavryta, Ach**	**3.11**	**2**	P	**Pn**	**07 11 06.8**	**-2.8**
KLV	**Kalavryta, Ach**	**3.11**	**2**	P	**Pb**	**07 11 06.8**	**-2.8**
THAL	**Thalero**	**3.15**	**10**	P	**Pn**	**07 11 06.5**	**+3.5**
THAL	**Thalero**	**3.15**	**10**	P	**Pn**	**07 11 06.5**	**+3.5**
RLS	**Riolos of Patr**	**3.15**	**352**	P	**Pn**	**07 11 06.6**	**+3.5**
VLY	**Voula,Athens**	**3.26**	**26**	P	**Pn**	**07 11 05.9**	**+1.3**
VLY	**Voula,Athens**	**3.26**	**26**	P	**Pn**	**07 11 05.9**	**+1.3**
AXS	**Araxos**	**3.30**	**352**	P	**Pn**	**07 11 08.3**	**+3.2**
AXS	**Araxos**	**3.30**	**352**	P	**Pn**	**07 11 08.3**	**+3.2**
LAKA	**Lakka**	**3.30**	**360**	P	**Pn**	**07 11 09.0**	**+3.8**
LAKA	**Lakka**	**3.30**	**360**	P	**Pn**	**07 11 09.0**	**+3.8**
KFL	**Anninata**	**3.32**	**343**	P	**Pn**	**07 11 05.8**	**+0.4**
KFL	**Anninata**	**3.32**	**343**	P	**Pn**	**07 11 05.8**	**+0.4**
ATHU	**Athens Univers**	**3.36**	**25**	P	**Pn**	**07 11 07.7**	**+1.8**
ATHU	**Athens Univers**	**3.36**	**25**	P	**Pn**	**07 11 07.7**	**+1.8**
VILL	**Villia**	**3.40**	**18**	P	**Pn**	**07 11 08.3**	**+1.8**
TRIZ	**Trizonia**	**3.43**	**1**	P	**Pb**	**07 11 11.4**	**-3.6**
VIL2	**Platees**	**3.43**	**17**	P	**Pn**	**07 11 08.3**	**+1.3**
VLS	**Valsamata**	**3.43**	**341**	P	**Pn**	**07 11 07.2**	**+0.2**
KALE	**Kalithea**	**3.46**	**2**	P	**Pn**	**07 11 10.3**	**+3.0**
KALE	**Kalithea**	**3.46**	**2**	P	**Pn**	**07 11 10.3**	**+3.0**
PTL	**Penteli**	**3.46**	**25**	P	**Pn**	**07 11 08.8**	**+1.5**
PTL	**Penteli**	**3.46**	**25**	P	**Pn**	**07 11 08.8**	**+1.5**
ZKR	**Zakros**	**3.47**	**86**	P	**Pn**	**07 11 10.5**	**+3.0**
ZKR	**Zakros**	**3.47**	**86**	P	**Pn**	**07 11 10.5**	**+3.0**
DSF	**Desfina**	**3.50**	**7**	P	**Pn**	**07 11 09.1**	**+1.1**
DSF	**Desfina**	**3.50**	**7**	P	**Pn**	**07 11 09.1**	**+1.1**
APE	**Apeiranthos**	**3.58**	**52**	P	**Pn**	**07 11 10.0**	**+1.0**
APE	**Apeiranthos**	**3.58**	**52**	P	**Pn**	**07 11 10.0**	**+1.0**
ANX	**Ano Chora**	**3.66**	**359**	P	**Pn**	**07 11 13.6**	**+3.5**
PDO	**Prodromos**	**3.72**	**350**	P	**Pn**	**07 11 13.5**	**+2.6**
PDO	**Prodromos**	**3.72**	**350**	P	**Pn**	**07 11 13.5**	**+2.6**
LKR	**Lokris**	**3.80**	**12**	P	**Pn**	**07 11 13.2**	**+1.2**
LKR	**Lokris**	**3.80**	**12**	P	**Pn**	**07 11 13.2**	**+1.2**
EREA	**Eretria**	**3.81**	**24**	P	**Pn**	**07 11 13.6**	**+1.3**
EREA	**Eretria**	**3.81**	**24**	P	**Pn**	**07 11 13.6**	**+1.3**
ATAL	**Atalanti**	**3.84**	**12**	P	**Pn**	**07 11 13.9**	**+1.3**
ATAL	**

DPC	**Dobruska-Polom**	**15.96**	**347**	*e*P	**P**	**07 14 02.9**	**+1.7**
PRU	**Pruhonice**	**16.01**	**342**	AMS	AMS	07 21 50.0	
	comp=N,100nm,12.4s						
UPC	**Upice**	**16.17**	**346**	AMS	AMS	07 22 10.0	
	comp=N,200nm,13.3s						
PVCC	**Panska Ves**	**16.50**	**343**	AMS	AMS	07 21 20.0	
	comp=N,200nm,12.8s						
AKASG	**Malin Array Be**	**16.62**	**16**	Pn	**Pn**	**07 14 02.6**	**-3.6**
	comp=N,0.3nm,0.3s,baz=208,slow=12,SNR=3.5						
AKASG				Sn	**Sn**	**07 17 14.4**	**+4.6**
	comp=N,0.6nm,0.3s,baz=202,slow=22,SNR=3.8						
KVAR	**Kislovodsk Arr**	**18.32**	**54**	P	**Pn**	**07 14 27.8**	**+0.3**
	baz=58,slow=9.2,SNR=3.4						
KVAR				LR	LR	07 23 14.8	
	comp=N,86nm,20.6s,baz=244,slow=43						
KBZ	**Khabaz**	**18.37**	**55**	P	**Pn**	**07 14 28.9**	**+1.0**
	comp=N,0.1nm,0.3s,baz=259,slow=7.2,SNR=10						
GNI	**Garni**	**18.76**	**67**	LR	LR	07 22 04.3	
	comp=N,102nm,21.1s,baz=268,slow=38						
MDT	**Midelt**	**22.17**	**272**	LR	LR	07 26 24.9	
	comp=N,308nm,18.6s,baz=80,slow=44						
FINES	**FINESS Array B**	**26.66**	**4**	P	**P**	**07 15 52.7**	**+1.0**
	comp=N,1.3nm,0.4s,baz=155,slow=13,SNR=13						
EKA	**Eskdalemuir Ar**	**26.78**	**327**	P	**P**	**07 15 55.1**	**+2.2**
	comp=N,1.1nm,0.6s,baz=128,slow=9.1,SNR=4.6						
NOA	**NORSAR Array B**	**27.03**	**348**	P	**P**	**07 15 55.5**	**+0.5**
	comp=N,0.3nm,0.5s,baz=161,slow=9.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**28.42**	**225**	P	**P**	**07 16 09.1**	**+1.3**
	comp=N,0.9nm,0.6s,baz=35,slow=9.1,SNR=9.5						
ARCES	**ARCESS Array B**	**34.71**	**2**	P	**P**	**07 17 04.0**	**+1.3**
	comp=N,1.4nm,0.5s,baz=186,slow=9.6,SNR=19						
MKAR	**Makanchi Array**	**46.06**	**56**	P	**P**	**07 18 36.9**	**0.0**
	comp=N,2.8nm,0.5s,baz=268,slow=7.5,SNR=40						
ZALV	**Zalesovo Beam**	**47.03**	**46**	P	**P**	**07 18 43.5**	**-0.8**
	comp=N,2.7nm,0.4s,baz=272,slow=8.7,SNR=11						
SONM	**Songino Array**	**61.63**	**50**	P	**P**	**07 20 31.4**	**+0.7**
	comp=N,0.6nm,0.4s,baz=285,slow=8.7,SNR=4.8						
BOSA	**Boshof**	**63.28**	**177**	LR	LR	07 51 28.2	
	comp=N,72nm,20.2s,baz=138,slow=39						
USRK	**Ussuriysk Ar.**	**78.82**	**44**	P	**P**	**07 22 14.7**	**-1.2**
	comp=N,2.1nm,0.7s,baz=270,slow=5.7,SNR=6.0						
KSRS	**Korea Array**	**80.46**	**51**	P	**P**	**07 22 26.2**	**+1.3**
	comp=N,1.3nm,0.8s,baz=299,slow=4.3,SNR=4.9						
KSRS				LR	LR	08 02 40.9	
	comp=N,30nm,18.2s,baz=295,slow=39						
MJAR	**Matsushiro Arr**	**87.39**	**46**	LR	LR	08 05 57.8	
	comp=N,26nm,18.6s,baz=285,slow=38						

GUC 30 07:13:31.1±0.6, 21.74S×68.74W, h121km±4km, ML3.7, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.47**	**263**	⇑ *i* P	Pn	07 13 49.8	+0.7
PB09				*i* S	Sn	07 14 03.6	+0.8
PB09				IAML		07 14 05.1	
	comp=N,3μm,0.3s						
PB01	**IPOC Station P**	**0.98**	**315**	⇑ *i* P	Pn	07 13 53.6	+0.4
PB01				*i* S	Sn	07 14 10.6	+0.8
PB01				IAML		07 14 11.8	
	comp=E,2μm,0.1s						
PB07	**IPOC Station P**	**1.06**	**270**	⇑ *i* P	Pn	07 13 54.9	+0.9
PB07				*e*S	Sn	07 14 12.6	+1.2
PB07				IAML		07 14 15.6	
	comp=N,982nm,0.1s						
PB06	**IPOC Station P**	**1.23**	**218**	⇑ *i* P	Pn	07 13 56.4	+0.6
PB06				*i* S	Sn	07 14 15.4	+0.9
PB06				IAML		07 14 16.2	
	comp=E,2μm,0.2s						
PB04	**IPOC Station P**	**1.44**	**245**	⇑ *i* P	Pn	07 13 58.8	+0.7
PB04				*i* S	Sn	07 14 19.4	+0.9
PB04				IAML		07 14 24.6	
	comp=N,939nm,0.2s						
PB08	**IPOC Station P**	**1.63**	**346**	⇓ *i* P	Pn	07 14 01.4	+0.9
PB08				*i* S	Sn	07 14 24.4	+1.4
PB08				IAML		07 14 25.2	
	comp=E,909nm,0.3s						
HMBC	**Humberstone**	**1.80**	**323**	⇑ *i* P	Pn	07 14 02.4	+0.1
HMBC				*i* S	Sn	07 14 26.9	+0.8
HMBC				IAML		07 14 29.1	
	comp=N,970nm,0.4s						

CASC 30 07:18:50.7±8.8, 6.45N×82.64W, h10km, MD4.1, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBS2		**2.33**	**360**	*e*P	Pb	07 19 32.4	-0.6
TBS2				*e*S	Sn	07 19 59.0	+0.9
BRU2	**Volcan**	**2.33**	**359**	*e*P	Pb	07 19 31.4	-1.5
BRU2				*e*S	Sn	07 19 58.3	+0.3
AZU	**Azuero**	**2.70**	**60**	*i* P	Pn	07 19 33.3	-0.8
AZU				*e*S	Sn	07 20 01.7	-5.2
BUS	**Buena Vista**	**3.28**	**340**	*e*P	Pn	07 19 45.2	+2.6
BUS				*e*S	Sn	07 20 24.7	+2.8
URSC	**Urasca**	**3.55**	**342**	*e*P	Pn	07 19 49.7	+3.6
URSC				*e*S	Sb	07 20 32.8	-4.2
JCR	**Jicaral**	**4.17**	**324**	*e*P	Pn	07 19 46.2	-8.4
JCR				*e*S	Sn	07 20 33.5	-10

*ISCJB **30** 07:27:04.8±0.5, 39.09N±0.04×29.02E±0.04, h5km±7km, Error ellipse: s-maj=7.5km s-min=4.5km az=156.8*
*DDA **30** 07:27:04.6, 39.12N×29.02E, h7km, Md2.6*
*ISK **30** 07:27:04.5, 39.08N×29.06E, h7km, ML2.6*
*CSEM **30** 07:27:05.0±0.1, 39.09N×29.04E, h5km, MD2.6, Error ellipse: s-maj=3.3km s-min=2.7km az=137.0*

ISC 30 07:27:04.7±0.9, 39.10N±0.03×29.04E±0.03, h11km±10km, n27, σ0°46/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**258**	P	**Pg**	**07 27 09.9**	**-0.2**
DEMI				S	**Sg**	**07 27 13.3**	**-0.3**
DEMI	**Demirci**	**0.25**	**258**	*i* P	**Pg**	**07 27 09.8**	**-0.2**
DEMI				*i* S	**Sg**	**07 27 13.3**	**-0.3**
GDZ	**Gediz**	**0.35**	**91**	P	**Pg**	**07 27 12.2**	**+0.5**
GDZ				S	**Sb**	**07 27 17.6**	**-1.0**
GDZ	**Gediz**	**0.35**	**91**	*i* P	**Pg**	**07 27 12.2**	**+0.5**
GDZ				*i* S	**Sb**	**07 27 17.6**	**-1.0**
TVSB	**Tavsanli**	**0.48**	**43**	*e*PG	**Pg**	**07 27 14.3**	**0.0**
TVSB				*e*SG	**Sg**	**07 27 21.1**	**+0.4**
TVSB	**Tavsanli**	**0.48**	**43**	*e*Pg	**Pg**	**07 27 14.3**	**0.0**
TVSB				*e*Sg	**Sg**	**07 27 21.1**	**+0.4**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*PG	**Pg**	**07 27 17.6**	**+0.3**
KULA				*e*SG	**Sg**	**07 27 26.1**	**+0.2**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*Pg	**Pg**	**07 27 17.6**	**+0.3**
KULA				*e*Sg	**Sg**	**07 27 26.1**	**+0.2**
KHL	**Karahalli**	**0.86**	**154**	*e*PG	**Pg**	**07 27 21.4**	**+0.1**
KHL	**Karahalli**	**0.86**	**154**	*e*Pg	**Pg**	**07 27 21.5**	**+0.1**
BALB	**Balikesir**	**1.05**	**302**	*e*PG	**Pn**	**07 27 26.2**	**+0.8**
BALB	**Balikesir**	**1.05**	**302**	*e*Pg	**Pn**	**07 27 26.2**	**+0.8**
IGD	**Bursa**	**1.17**	**6**	*i* P	**Pb**	**07 27 26.2**	**-0.9**
IGD				*i* S	**Sg**	**07 27 43.1**	**+0.4**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN	**Pg**	**07 27 29.2**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*Pn	**Pg**	**07 27 29.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*PN	**Pg**	**07 27 29.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**355**	*e*Pn	**Pg**	**07 27 29.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pg**	**07 27 29.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pg**	**07 27 29.5**	**+0.1**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pn**	**07 27 29.7**	**+0.1**
BORA				S	**Sg**	**07 27 48.8**	**+0.6**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pn**	**07 27 29.7**	**+0.1**
BORA				*i* S	**Sg**	**07 27 48.8**	**+0.6**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*PN	**Pb**	**07 27 31.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*Pn	**Pb**	**07 27 31.2**	**+0.1**
GULT	**Gulveren**	**1.76**	**40**	*e*PN	**Pb**	**07 27 36.8**	**-0.2**
GULT	**Gulveren**	**1.76**	**40**	*e*Pn	**Pb**	**07 27 36.8**	**-0.2**
HRT	**Hereke**	**1.79**	**16**	*e*PN	**Pb**	**07 27 37.0**	**-0.6**
HRT	**Hereke**	**1.79**	**16**	*e*Pn	**Pb**	**07 27 37.0**	**-0.6**

*CSEM **30** 07:27:52.8±0.2, 37.61N×20.98E, h15km, ML2.2, Error ellipse: s-maj=5.5km s-min=3.3km az=35.0*
*ATH **30** 07:27:52.7, 37.62N×20.99E, h21km±3km, ML2.2/3, Error ellipse: s-maj=3.6km s-min=1.0km az=242.0*
*THE **30** 07:27:52.1, 37.56N×20.99E, h22km, ML2.5/5, Error ellipse: s-maj=1.3km s-min=0.5km az=194.0*
*ISCJB **30** 07:27:53.0±1.1, 37.59N±0.06×20.97E±0.06, h19km±12km, Error ellipse: s-maj=10.5km s-min=6.7km az=36.7*

ISC 30 07:27:53.2±1.2, 37.63N±0.06×20.98E±0.03, h18km±4km, n26, σ0°63/40, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKS	**Zakynthos**	**0.17**	**294**	P	**Pg**	**07 27 57.6**	**-0.2**
ZKS				S	**Sg**	**07 28 01.3**	**+0.3**
ZKS	**Zakynthos**	**0.17**	**294**	P	**Pg**	**07 27 57.6**	**-0.2**
ZKS				S	**Sg**	**07 28 01.2**	**+0.3**
ZKS	**Zakynthos**	**0.17**	**294**	P	**Pg**	**07 27 57.6**	**-0.2**
ZKS				S	**Sg**	**07 28 01.2**	**+0.2**
ZKS				AML	AML	07 28 03.6	
	comp=E,2788μm,0.3s						
ZKS				AML	AML	07 28 05.9	
	comp=N,4008μm,0.3s						
KFL	**Anninata**	**0.51**	**342**	P	**Pb**	**07 28 02.9**	**-0.7**
KFL				S	**Sb**	**07 28 11.5**	**+0.8**
KFL	**Anninata**	**0.51**	**342**	P	**Pb**	**07 28 02.9**	**-0.7**
KFL				S	**Sb**	**07 28 11.5**	**+0.8**
RLS	**Riolos of Patr**	**0.58**	**41**	P	**Pb**	**07 28 03.8**	**-0.9**
RLS				S	**Sg**	**07 28 13.2**	**+0.7**
RLS	**Riolos of Patr**	**0.58**	**41**	P	**Pb**	**07 28 04.3**	**-0.4**
RLS				S	**Sb**	**07 28 12.8**	**+0.2**
RLS	**Riolos of Patr**	**0.58**	**41**	S	**Sb**	**07 28 12.8**	**+0.2**
RLS				AML	AML	07 28 14.8	
	comp=E,302μm,0.2s						
RLS				AML	AML	07 28 15.4	
	comp=N,553μm,0.2s						
VLS	**Valsamata**	**0.63**	**331**	P	**Pb**	**07 28 05.1**	**-0.6**
VLS				S	**Sg**	**07 28 15.6**	**+1.3**
VLS	**Valsamata**	**0.63**	**331**	P	**Pb**	**07 28 05.3**	**-0.4**
VLS				S	**Sg**	**07 28 14.9**	**+0.6**
DRO	**Drossia**	**0.66**	**60**	P	**Pb**	**07 28 05.1**	**-1.1**
DRO				S	**Sg**	**07 28 15.6**	**+0.4**
DRO	**Drossia**	**0.66**	**60**	P	**Pb**	**07 28 05.2**	**-1.0**
DRO				S	**Sg**	**07 28 15.5**	**+0.4**
DRO	**Drossia**	**0.66**	**60**	P	**Pb**	**07 28 05.2**	**-1.0**
DRO				S	**Sg**	**07 28 15.5**	**+0.4**
DRO				AML	AML	07 28 17.6	
	comp=N,636μm,0.3s						
DRO				AML	AML	07 28 17.6	
	comp=E,627μm,0.2s						
ITM	**Ithomi**	**0.87**	**120**	P	**Pg**	**07 28 10.2**	**0.0**
ITM	**Ithomi**	**0.87**	**120**	P	**Pg**	**07 28 10.2**	**0.0**
PDO	**Prodromos**	**0.98**	**9**	P	**Pb**	**07 28 10.7**	**-1.0**
PDO				S	**Sn**	**07 28 25.2**	**-0.4**
PDO	**Prodromos**	**0.98**	**9**	P	**Pb**	**07 28 11.8**	**+0.1**
PDO				S	**Sn**	**07 28 25.2**	**-0.4**
PDO	**Prodromos**	**0.98**	**9**	P	**Pb**	**07 28 11.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.01**	**65**	P	**Pb**	**07 28 11.3**	**-1.0**
KLV	**Kalavryta, Ach**	**1.01**	**65**	P	**Pb**	**07 28 11.3**	**-1.0**
TRIP	**Tripoli**	**1.03**	**95**	P	**Pb**	**07 28 12.5**	**0.0**
TRIP	**Tripoli**	**1.03**	**95**	P	**Pb**	**07 28 12.5**	**0.0**
GUR	**Goura**	**1.12**	**74**	P	**Pb**	**07 28 14.3**	**+0.2**
GUR	**Goura**	**1.12**	**74**	P	**Pb**	**07 28 14.3**	**+0.2**
KALE	**Kalithea**	**1.19**	**50**	P	**Pb**	**07 28 15.3**	**0.0**
KALE	**Kalithea**	**1.19**	**50**	P	**Pb**	**07 28 15.3**	**0.0**

*DDA **30** 07:30:33.9, 38.58N×39.61E, h7km, Md2.3*
*CSEM **30** 07:30:33.7±0.4, 38.54N×39.60E, h20km, MD2.7, Error ellipse: s-maj=11.5km s-min=6.4km az=44.0*
*ISCJB **30** 07:30:34.7±0.6, 38.49N±0.07×39.56E±0.07, h26km±8km, Error ellipse: s-maj=13.3km s-min=5.5km az=34.8*
*ISK **30** 07:30:34.3, 38.47N×39.58E, h22km, MD2.7*

ISC 30 07:30:34.3±1.1, 38.48N±0.04×39.58E±0.04, h20km±2km, n17, σ0°77/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.23**	**245**	*e*PG	**Pb**	**07 30 39.7**	**-0.7**
SVRC				*e*SG	**Sb**	**07 30 45.5**	**+0.8**
SVRC	**Sivrice-ELAZID**	**0.23**	**245**	*e*Pg	**Pb**	**07 30 39.7**	**-0.7**
SVRC				*e*Sg	**Sb**	**07 30 45.5**	**+0.8**
ELZG	**Elazig**	**0.47**	**273**	P	**Pb**	**07 30 43.6**	**-0.2**
ELZG	**Elazig**	**0.47**	**273**	*i* P	**Pb**	**07 30 43.6**	**-0.2**
DYBB	**Diyarbakir**	**0.69**	**140**	*e*PG	**Pn**	**07 30 48.5**	**-0.3**
DYBB				*e*SG	**Sn**	**07 30 58.5**	**-0.5**
DIYA	**Diyarbakir**	**0.70**	**142**	P	**Pn**	**07 30 49.1**	**0.0**
DIYA				S	**Sn**	**07 31 00.4**	**+1.1**
DIYA	**Diyarbakir**	**0.70**	**142**	*i* P	**Pn**	**07 30 49.1**	**0.0**
DIYA				*i* S	**Sn**	**07 31 00.4**	**+1.1**
DIY	**Diyarbakir**	**0.78**	**138**	*e*Pg	**Pb**	**07 30 48.5**	**-0.6**
DIY				*e*Sg	**Sb**	**07 30 58.5**	**-0.7**
BNGB	**Bing¨l**	**1.00**	**59**	*e*PG	**Pn**	**07 30 53.9**	**+0.6**
ERZN	**Erzincan**	**1.11**	**6**	*e*PN	**Pb**	**07 30 55.3**	**+0.4**
KEMA	**Kemaliye**	**1.16**	**313**	P	**Pn**	**07 30 54.8**	**-0.6**
KEMA				S	**Sn**	**07 31 11.4**	**+0.8**
KEMA	**Kemaliye**	**1.16**	**313**	*i* P	**Pn**	**07 30 54.8**	**-0.6**
KEMA				*i* S	**Sn**	**07 31 11.4**	**+0.8**
URFA	**Urfa**	**1.20**	**210**	*e*PN	**Pn**	**07 30 56.0**	**+0.1**
URFA	**Urfa**	**1.20**	**210**	*e*Pn	**Pn**	**07 30 56.0**	**+0.1**
MAZI	**Mazidag**	**1.23**	**146**	*e*PN	**Pn**	**07 30 56.0**	**-0.4**
MAZI	**Mazidag**	**1.23**	**146**	*e*Pn	**Pn**	**07 30 56.0**	**-0.4**
EZC	**Erzincan**	**1.28**	**352**	*e*Pn	**Pn**	**07 30 55.3**	**-1.9**

IDC 30 07:35:51.8±2.1, 1.10N×127.06E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/26, mbtmp3.4/3, Error ellipse: s-maj=174.3km s-min=24.9km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.10**	**162**	P	P	07 40 47.8	-1.1
	1.4nm,0.8s,baz=340,slow=11,SNR=10						
ASAR	**Alice Springs**	**25.50**	**165**	P	P	07 41 22.9	+0.8
	0.5nm,0.7s,baz=331,slow=7.4,SNR=4.4						
MKAR	**Makanchi Array**	**59.90**	**326**	P	P	07 45 59.5	-0.1
	0.2nm,0.4s,baz=136,slow=8.1,SNR=4.4						

*DDA **30** 07:50:39.7, 37.01N×27.43E, h14km, Md3.3*
*THE **30** 07:50:39.8, 37.02N×27.47E, h1km, ML3.4/6, Error ellipse: s-maj=0.7km s-min=0.3km az=13.0*
*ISK **30** 07:50:39.8, 37.03N×27.42E, h15km, ML3.2*
*IASPEI **30** 07:50:40.1±0.8, 37.01N±0.02×27.45E±0.03, h12km±5km, Error ellipse: s-maj=3.7km s-min=3.1km az=114.9, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **30** 07:50:40.7±0.1, 37.04N×27.45E, h8km, MD3.3, Error ellipse: s-maj=3.1km s-min=2.7km az=154.0*
*ISCJB **30** 07:50:40.5±0.3, 37.03N±0.02×27.43E±0.02, h11km±2km, Error ellipse: s-maj=3.0km s-min=2.8km az=150.9*
*ATH **30** 07:50:40.4, 37.01N×27.41E, h29km±1km, ML3.2/14, Error ellipse: s-maj=1.4km s-min=0.8km az=251.0*

ISC 30 07:50:40.2±0.8, 37.00N±0.02×27.46E±0.02, h12km±4km, n131, σ1°07/178, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.07**	**351**	P	**Pg**	**07 50 42.6**	**-0.1**
BDRM				S	**Sg**	**07 50 44.2**	**-0.4**
BDRM	**Kayabasi**	**0.07**	**351**	*i* P	**Pg**	**07 50 42.6**	**-0.1**
BDRM				*i* S	**Sg**	**07 50 44.2**	**-0.4**
BODT	**Bodrum**	**0.14**	**299**	*e*PG	**Pg**	**07 50 43.5**	**-0.1**
BODT				*e*SG	**Sg**	**07 50 46.2**	**+0.3**
BODT	**Bodrum**	**0.14**	**299**	P	**Pg**	**07 50 43.2**	**-0.3**
BODT				S	**Sg**	**07 50 45.9**	**-0.1**
BODT	**Bodrum**	**0.14**	**299**	P	**Pg**	**07 50 43.2**	**-0.3**
BODT	**Bodrum**	**0.14**	**299**	*e*Pg	**Pg**	**07 50 43.5**	**-0.1**
BODT				S	**Sg**	**07 50 45.9**	**-0.1**
BODT				*e*Sg	**Sg**	**07 50 46.2**	**+0.3**
NIS1	**Nisyros lsl.**	**0.45**	**210**	*e*PG	**Pb**	**07 50 49.6**	**-0.5**
NIS1				*e*SG	**Sb**	**07 50 56.7**	**-0.1**
NIS1	**Nisyros lsl.**	**0.45**	**210**	P	**Pb**	**07 50 49.6**	**-0.5**
NIS1				*e*Sg	**Sb**	**07 50 56.7**	**-0.1**
NIS1				S	**Sb**	**07 50 57.2**	**+0.4**
NIS1	**Nisyros lsl.**	**0.45**	**210**	P	**Pb**	**07 50 49.6**	**-0.5**
NIS1				S	**Sb**	**07 50 57.2**	**+0.4**
NIS1				AML	AML	07 50 59.1	
	comp=E,38581μm,0.2s						
NIS1				AML	AML	07 51 05.2	
	comp=N,21315μm,0.4s						
NISR	**Nisiros**	**0.47**	**215**	P	**Pb**	**07 50 49.8**	**-0.5**
NISR				S	**Sb**	**07 50 57.3**	**+0.2**
NISR	**Nisiros**	**0.47**	**215**	P	**Pb**	**07 50 49.8**	**-0.5**
NISR				S	**Sb**	**07 50 57.3**	**+0.2**
NISR	**Nisiros**	**0.47**	**215**	P	**Pg**	**07 50 49.4**	**+0.1**
NISR				AML	AML	07 50 58.4	
	comp=E,19283μm,0.4s						
NISR				S	**Sb**	**07 50 58.8**	**+1.6**
NISR				AML	AML	07 51 01.8	
	comp=N,7777μm,0.2s						
YER	**Yerkesik**	**0.67**	**78**	*e*PG	**Pb**	**07 50 53.6**	**-0.3**
YER				*e*SG	**Sb**	**07 51 04.0**	**+0.8**
YER	**Yerkesik**	**0.67**	**78**	P	**Pg**	**07 50 53.0**	**-0.3**
YER				S	**Sb**	**07 51 03.2**	**0.0**
YER	**Yerkesik**	**0.67**	**78**	P	**Pg**	**07 50 53.0**	**-0.3**
YER	**Yerkesik**	**0.67**	**78**	*e*Pg	**Pb**	**07 50 53.6**	**-0.3**
YER				S	**Sb**	**07 51 03.2**	**0.0**
YER				*e*Sg	**Sb**	**07 51 04.0**	**+0.8**
GCAM	**G?zelcaml?**	**0.72**	**346**	P	**Pb**	**07 50 53.7**	**-1.0**
GCAM	**G?zelcaml?**	**0.72**	**346**	*i* P	**Pb**	**07 50 53.7**	**-1.0**
GCAM				*i* S	**Sb**	**07 51 05.2**	**+0.7**
SMG	**Samos**	**0.87**	**325**	P	**Pb**	**07 50 56.3**	**-0.8**
SMG				S	**Sb**	**07 51 09.6**	**+0.9**
SMG	**Samos**	**0.87**	**325**	P	**Pb**	**07 50 56.4**	**-0.8**
SMG				S	**Sb**	**07 51 08.8**	**+0.1**
SMG	**Samos**	**0.87**	**325**	P	**Pb**	**07 50 56.4**	**-0.8**
SMG				S	**Sb**	**07 51 08.8**	**+0.1**
SMG				AML	AML	07 51 11.2	
	comp=E,12904μm,0.4s						
SMG				AML	AML	07 51 12.1	
	comp=N,5340μm,0.3s						
TURN	**Turunc**	**0.93**	**97**	*i* P	Pg	07 50 52.9	-5.1
TURN				*i* S	**Sg**	**07 51 04.3**	**-5.8**
ARG	**Arkhangelos**	**0.95**	**145**	P	**Pb**	**07 50 58.6**	**+0.1**
ARG				S	**Sb**	**07 51 13.0**	**+2.0**
ARG	**Arkhangelos**	**0.95**	**145**	P	**Pb**	**07 50 58.6**	**+0.1**
ARG				S	**Sb**	**07 51 13.0**	**+2.0**
DALY	**Dalyan (Mu¨la**	**0.97**	**100**	*e*PG	**Pn**	**07 50 59.7**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.97**	**100**	*e*Pg	**Pn**	**07 50 59.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**20**	*e*PG	**Pb**	**07 50 58.8**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**20**	*e*Pg	**Pb**	**07 50 58.8**	**-0.8**
DGB	**¨zmir**	**1.15**	**337**	*i* P	**Pb**	**07 51 01.3**	**-0.6**
DGB				*i* S	**Sb**	**07 51 16.4**	**-0.3**
DNZL	**Cakiroluk**	**1.44**	**61**	P	**Pb**	**07 51 07.6**	**+0.6**
DNZL	**Cakiroluk**	**1.44**	**61**	*i* P	**Pb**	**07 51 07.6**	**+0.6**
DNZL				*i* S	**Sn**	**07 51 28.9**	**+3.7**
ZEY	**¨zmir**	**1.45**	**329**	*i* P	**Pn**	**07 51 05.7**	**-0.5**
ZEY				*i* S	**Sn**	**07 51 26.5**	**+1.3**
DENT	**Denizli**	**1.46**	**58**	*e*PN	**Pb**	**07 51 07.1**	**-0.2**
DENT	**Denizli**	**1.46**	**58**	*e*Pn	**Pb**	**07 51 07.1**	**-0.2**
KARP	**Karpathos**	**1.47**	**190**	*e*PN	**Pn**	**07 51 06.1**	**-0.4**
KARP	**Karpathos**	**1.47**	**190**	P	**Pn**	**07 51 06.0**	**-0.4**
KARP				S	**Sb**	**07 51 26.9**	**+0.9**
KARP	**Karpathos**	**1.47**	**190**	*e*Pn	**Pn**	**07 51 06.1**	**-0.4**
KARP				S	**Sb**	**07 51 26.9**	**+0.9**
KARP	**Karpathos**	**1.47**	**190**	P	**Pn**	**07 51 05.5**	**-0.9**
KARP				S	**Sb**	**07 51 23.9**	**-2.1**
KARP				AML	AML	07 51 32.6	
	comp=N,835μm,0.6s						
KARP				AML	AML	07 51 33.2	
	comp=E,1492μm,0.7s						
URLA	**Izmir**	**1.52**	**334**	P	**Pg**	**07 51 09.4**	**0.0**
URLA	**Izmir**	**1.52**	**334**	*i* P	**Pg**	**07 51 09.4**	**0.0**
URLA				*i* S	**Sg**	**07 51 30.7**	**+1.5**
APE	**Apeiranthos**	**1.54**	**273**	*e*PN	**Pn**	**07 51 07.2**	**-0.4**
APE	**Apeiranthos**	**1.54**	**273**	P	**Pn**	**07 51 07.1**	**-0.4**
APE				S	**Sn**	**07 51 27.1**	**-0.4**
APE	**Apeiranthos**	**1.54**	**273**	*e*Pn	**Pn**	**07 51 07.2**	**-0.4**
APE				S	**Sn**	**07 51 27.1**	**-0.4**
APE	**Apeiranthos**	**1.54**	**273**	P	**Pn**	**07 51 07.1**	**-0.4**
APE				S	**Sn**	**07 51 25.8**	**-1.7**
APE				AML	AML	07 51 34.2	
	comp=N,749μm,0.3s						
APE				AML	AML	07 51 39.5	
	comp=E,652μm,0.4s						
GLHS	**Glhisar (BURDU**	**1.64**	**84**	*e*PN	**Pn**	**07 51 09.5**	**+0.6**
GLHS	**Glhisar (BURDU**	**1.64**	**84**	*e*Pn	**Pn**	**07 51 09.5**	**+0.6**
GOLH	**Golhisar**	**1.70**	**81**	P	**Pg**	**07 51 12.1**	**-0.7**
GOLH	**Golhisar**	**1.70**	**81**	*i* P	**Pg**	**07 51 12.1**	**-0.7**
GOLH				*i* S	**Sg**	**07 51 35.2**	**+0.4**
SANT	**Santorini**	**1.72**	**249**	P	**Pb**	**07 51 11.5**	**-0.3**
SANT	**Santorini**	**1.72**	**249**	P	**Pb**	**07 51 11.5**	**-0.3**
SANT				AML	AML	07 51 41.5	
	comp=N,1002μm,0.8s						
SANT				AML	AML

SIVA	**Sivas**	**2.92 228**	P	**Pn**	**07 51 27.8**	**+1.4**
SIVA	**Sivas**	**2.92 228**	P	**Pn**	**07 51 27.8**	**+1.4**
VLY	**Voula,Athens**	**3.04 287**	P	**Pn**	**07 51 27.7**	**-0.3**
VLY	**Voula,Athens**	**3.04 287**	P	**Pn**	**07 51 27.7**	**-0.3**
VLY			AML	AML	07 52 20.1	
	comp=E,323μm,0.5s					
VLY			AML	AML	07 52 22.4	
	comp=N,217μm,0.4s					
PTL	**Penteli**	**3.04 291**	P	**Pn**	**07 51 29.5**	**+1.4**
PTL	**Penteli**	**3.04 291**	P	**Pn**	**07 51 29.5**	**+1.4**
VAM	**Vamos**	**3.08 240**	P	**Pn**	**07 51 31.4**	**+2.9**
EREA	**Eretria**	**3.14 298**	P	**Pn**	**07 51 31.1**	**+1.7**
EREA	**Eretria**	**3.14 298**	P	**Pn**	**07 51 31.1**	**+1.7**
KCTX	**Karacabey (Bur**	**3.34 12**	*e*PN	**Pn**	**07 51 32.9**	**+0.7**
KCTX	**Karacabey (Bur**	**3.34 12**	*e*Pn	**Pn**	**07 51 32.9**	**+0.7**
LIA	**Limnos Island**	**3.40 329**	P	**Pn**	**07 51 33.4**	**+0.4**
DID	**Didima**	**3.41 280**	P	**Pn**	**07 51 34.1**	**+1.0**
DID	**Didima**	**3.41 280**	P	**Pn**	**07 51 34.1**	**+1.0**
LPK	**Lapseki**	**3.41 351**	*e*PN	**Pn**	**07 51 33.3**	**+0.1**
LPK	**Lapseki**	**3.41 351**	*e*Pn	**Pn**	**07 51 33.3**	**+0.1**
GADA	**Gvkgeada**	**3.42 340**	*e*PN	**Pn**	**07 51 33.5**	**+0.3**
GADA	**Gvkgeada**	**3.42 340**	*e*Pn	**Pn**	**07 51 33.5**	**+0.3**
GELI	**Tayfur-Gelibol**	**3.48 348**	*e*PN	**Pn**	**07 51 34.5**	**+0.4**
GELI	**Tayfur-Gelibol**	**3.48 348**	*e*Pn	**Pn**	**07 51 34.5**	**+0.4**
VILL	**Villia**	**3.49 291**	P	**Pn**	**07 51 36.1**	**+1.8**
ANKY	**Antikythira Is**	**3.54 253**	P	**Pn**	**07 51 35.5**	**+0.6**
ANKY	**Antikythira Is**	**3.54 253**	P	**Pn**	**07 51 35.5**	**+0.6**
VIL2	**Platees**	**3.54 291**	P	**Pn**	**07 51 36.1**	**+1.2**
AOS	**Alonnisos**	**3.56 309**	P	**Pn**	**07 51 35.7**	**+0.5**
AOS	**Alonnisos**	**3.56 309**	P	**Pn**	**07 51 35.7**	**+0.5**
KYTH	**Kithira**	**3.62 260**	P	**Pn**	**07 51 37.4**	**+1.3**
KYTH	**Kithira**	**3.62 260**	P	**Pn**	**07 51 37.4**	**+1.3**
VLI	**Veliai**	**3.64 267**	P	**Pn**	**07 51 37.0**	**+0.8**
VLI	**Veliai**	**3.64 267**	P	**Pn**	**07 51 37.0**	**+0.8**
LTK	**Loutraki**	**3.71 287**	P	**Pn**	**07 51 37.1**	**-0.2**
LTK	**Loutraki**	**3.71 287**	P	**Pn**	**07 51 37.1**	**-0.2**
SMTH	**Samothraki Isl**	**3.78 337**	P	**Pn**	**07 51 37.8**	**-0.4**
SMTH	**Samothraki Isl**	**3.78 337**	P	**Pn**	**07 51 37.8**	**-0.4**
SKIA	**Skiathos**	**3.82 306**	P	**Pn**	**07 51 40.4**	**+1.6**
SKIA	**Skiathos**	**3.82 306**	P	**Pn**	**07 51 40.4**	**+1.6**
GUR	**Goura**	**4.18 285**	P	**Pn**	**07 51 46.5**	**+2.7**
GUR	**Goura**	**4.18 285**	P	**Pn**	**07 51 46.5**	**+2.7**
KLV	**Kalavryta, Ach**	**4.35 286**	P	**Pn**	**07 51 47.9**	**+1.8**
KLV	**Kalavryta, Ach**	**4.35 286**	P	**Pn**	**07 51 47.9**	**+1.8**
SERG	**Sergoula**	**4.51 290**	P	**Pn**	**07 51 50.9**	**+2.6**
ANX	**Ano Chora**	**4.67 292**	P	**Pn**	**07 51 52.9**	**+2.4**

*ISK **30** 08:12:56.5, 39˚.54N×32˚.32E, h5km, MD2.7*
*DDA **30** 08:12:57.4, 39˚.54N×32˚.35E, h7km, Md2.9*
*CSEM **30** 08:12:57.8±0.2, 39˚.52N×32˚.32E, h8km, MD2.7, Error ellipse: s-maj=4.4km s-min=3.7km az=173.0*

ISC 30 08:12:58.0±1.1, 39˚.53N±0˚.02×32˚.34E±0˚.02, h11km±10km, n32, σ0s83/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOD	**Lodumlu**	**0.48**	**43**	*e*PG	**Pg**	**08 13 06.8**	**-0.7**
LOD				*e*SG	**Sb**	**08 13 15.1**	**-0.6**
LOD	**Lodumlu**	**0.48**	**43**	*e*Pg	**Pg**	**08 13 06.8**	**-0.7**
LOD				*e*Sg	**Sb**	**08 13 15.1**	**-0.6**
AFSR	**Afˇar-Bala (A**	**0.57**	**99**	*e*PG	**Pg**	**08 13 09.4**	**+0.2**
AFSR				*e*SG	**Sb**	**08 13 18.1**	**-0.1**
AFSR	**Afˇar-Bala (A**	**0.57**	**99**	*e*Pg	**Pg**	**08 13 09.4**	**+0.2**
AFSR				*e*Sg	**Sb**	**08 13 18.2**	**-0.1**
KKUL	**Konya-Kulu**	**0.57**	**129**	P	**Pg**	**08 13 08.9**	**-0.4**
KKUL				S	**Sb**	**08 13 17.9**	**-0.5**
KKUL	**Konya-Kulu**	**0.57**	**129**	*i* P	**Pg**	**08 13 08.8**	**-0.4**
KKUL				*i* S	**Sb**	**08 13 17.9**	**-0.5**
BBAL	**Bala**	**0.60**	**89**	P	**Pg**	**08 13 09.2**	**-0.6**
BBAL	**Bala**	**0.60**	**89**	*i* P	**Pg**	**08 13 09.2**	**-0.6**
BBAL				*i* S	**Sb**	**08 13 18.6**	**-0.7**
SVRH	**Sivrihisar-ESK**	**0.64**	**262**	*e*PG	**Pg**	**08 13 09.4**	**-1.0**
SVRH				*e*SG	**Sb**	**08 13 20.0**	**-0.2**
SVRH	**Sivrihisar-ESK**	**0.64**	**262**	*e*Pg	**Pg**	**08 13 09.4**	**-1.0**
SVRH				*e*Sg	**Sb**	**08 13 20.0**	**-0.2**
KIZT	**Kizilcal**	**0.74**	**209**	*e*PG	**Pg**	**08 13 11.8**	**-0.6**
KIZT	**Kizilcal**	**0.74**	**209**	*e*Pg	**Pg**	**08 13 11.8**	**-0.6**
KDHN	**Kadinhani**	**1.03**	**190**	P	**Pg**	**08 13 15.6**	**-2.1**
KDHN				S	**Sb**	**08 13 32.2**	**+0.9**
KDHN	**Kadinhani**	**1.03**	**190**	*i* P	**Pg**	**08 13 15.7**	**-2.1**
KDHN				*i* S	**Sb**	**08 13 32.2**	**+0.9**
CHBY	**Cihanbeyli**	**1.04**	**156**	*e*PG	**Pb**	**08 13 17.9**	**-0.2**
CHBY	**Cihanbeyli**	**1.04**	**156**	*e*Pg	**Pb**	**08 13 17.9**	**-0.2**
ESKT	**Eskisehir**	**1.15**	**270**	*i* P	**Pn**	**08 13 19.9**	**-0.2**
ESKT				*i* S	**Sn**	**08 13 36.6**	**+0.6**
SEYT	**Eskypehyr**	**1.15**	**270**	P	**Pn**	**08 13 20.0**	**-0.2**
SEYT				S	**Sn**	**08 13 36.6**	**+0.6**
MDUB	**Mudurnu**	**1.28**	**317**	*e*PN	**Pg**	**08 13 22.1**	**-0.6**
MDUB	**Mudurnu**	**1.28**	**317**	*e*Pn	**Pg**	**08 13 22.1**	**-0.6**
BCAM	**Yenicaga**	**1.30**	**351**	P	**Pn**	**08 13 21.5**	**-0.7**
BCAM				S	**Sn**	**08 13 40.2**	**+0.6**
BCAM	**Yenicaga**	**1.30**	**351**	*i* P	**Pn**	**08 13 21.5**	**-0.7**
BCAM				*i* S	**Sn**	**08 13 40.2**	**+0.6**
LADK	**Ladik-KONYA**	**1.33**	**179**	*e*PN	**Pg**	**08 13 23.3**	**-0.3**
LADK	**Ladik-KONYA**	**1.33**	**179**	*e*Pn	**Pg**	**08 13 23.3**	**-0.3**
BORA	**Eskisehir**	**1.50**	**284**	P	**Pn**	**08 13 24.9**	**0.0**
BORA				S	**Sg**	**08 13 48.0**	**+1.8**
BORA	**Eskisehir**	**1.50**	**284**	*i* P	**Pn**	**08 13 24.9**	**0.0**
BORA				*i* S	**Sg**	**08 13 48.0**	**+1.8**
CDAG	**Cicekdag**	**1.57**	**86**	P	**Pn**	**08 13 25.7**	**-0.2**
CDAG				S	**Sn**	**08 13 47.1**	**+0.7**
CDAG	**Cicekdag**	**1.57**	**86**	*i* P	**Pn**	**08 13 25.7**	**-0.2**
CDAG				*i* S	**Sn**	**08 13 47.1**	**+0.7**
ILGA	**Ilgaz**	**1.85**	**34**	P	**Pb**	**08 13 31.7**	**-0.2**
ILGA	**Ilgaz**	**1.85**	**34**	*i* P	**Pb**	**08 13 31.7**	**-0.2**
ILGA				*i* S	**Sg**	**08 13 59.0**	**+1.6**
CORM	**Corum**	**1.88**	**69**	*e*PN	**Pb**	**08 13 31.5**	**-0.9**
CORM	**Corum**	**1.88**	**69**	*e*Pn	**Pb**	**08 13 31.5**	**-0.9**

MEX 30 08:30:02.6±0.3, 13˚.87N×92˚.04W, h16km±999km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.40**	**358**	*e*P	Pn	08 30 39.1	-2.3

*CSEM **30** 08:34:10.8±0.4, 39˚.67N×40˚.72E, h8km, MD2.6, Error ellipse: s-maj=9.9km s-min=7.7km az=97.0*
*ISK **30** 08:34:11.5, 39˚.69N×40˚.64E, h8km, MD2.6*
*DDA **30** 08:34:11.0, 39˚.73N×40˚.74E, h7km, Md2.7*

ISC 30 08:34:10.6±1.1, 39˚.65N±0˚.03×40.73E±0˚.03, h7km±11km, n16, σ0s63/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YEDI	**Yedisu-Bingol**	**0.26**	**214**	PG	**Pb**	**08 34 18.0**	**+0.3**
YEDI	**Yedisu-Bingol**	**0.26**	**214**	*i* Pg	**Pb**	**08 34 18.0**	**+0.3**
KOPT	**Kop Dagi**	**0.41**	**334**	P	**Pg**	**08 34 18.0**	**-0.6**
KOPT				S	**Sg**	**08 34 24.5**	**+0.5**
KOPT	**Kop Dagi**	**0.41**	**334**	*i* P	**Pg**	**08 34 18.0**	**-0.6**
KOPT				*i* S	**Sg**	**08 34 24.5**	**+0.5**
EZM	**Erzurum**	**0.55**	**62**	*e*PG	**Pb**	**08 34 22.7**	**-0.1**
ERZM	**Erzurum**	**0.55**	**62**	P	**Pg**	**08 34 21.4**	**+0.1**
ERZM				S	**Sb**	**08 34 31.2**	**+0.2**
ERZM	**Erzurum**	**0.55**	**62**	*i* P	**Pg**	**08 34 21.4**	**+0.1**
ERZM				*i* S	**Sb**	**08 34 31.2**	**+0.2**
BNGB	**Bingˆ¶‖**	**0.66**	**184**	*e*PG	**Pb**	**08 34 25.2**	**+0.7**
BNGB				*e*SG	**Sb**	**08 34 35.2**	**+1.2**
BGOL	**Bingol**	**0.66**	**184**	P	**Pb**	**08 34 25.1**	**+0.5**
BGOL				S	**Sn**	**08 34 36.3**	**-1.0**
BGOL	**Bingol**	**0.66**	**184**	*i* P	**Pb**	**08 34 25.1**	**+0.5**
BGOL				*i* S	**Sn**	**08 34 36.3**	**-1.0**
ERZN	**Erzincan**	**0.78**	**266**	*e*PG	**Pg**	**08 34 24.7**	**-0.9**
ERZN				*e*SG	**Sg**	**08 34 36.2**	**+0.3**
BINT	**Bingol**	**0.80**	**194**	*e*Pg	**Pg**	**08 34 25.3**	**-0.6**
BINT				*e*Sg	**Sg**	**08 34 35.2**	**-1.1**
KELT	**Kelkit**	**1.24**	**294**	P	**Pg**	**08 34 34.2**	**-0.2**
KELT				S	**Sn**	**08 34 51.5**	**-0.2**
KELT	**Kelkit**	**1.24**	**294**	*i* P	**Pg**	**08 34 34.2**	**-0.2**
KELT				*i* S	**Sn**	**08 34 51.5**	**-0.2**
PTK	**Pertek**	**1.29**	**234**	*e*PN	**Pg**	**08 34 35.7**	**+0.4**
PTK	**Pertek**	**1.29**	**234**	*e*Pn	**Pg**	**08 34 35.7**	**+0.4**

IDC 30 08:39:13.9±6.8, 9˚.17S×128˚.17E, h57km±69km, mb3.3/2, mb1 3.6/5, mb1mx3.3/30, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=89.0km s-min=35.9km az=51.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.22**	**195**	P	Pn	08 41 24.4	+0.1
	0.8nm,0.3s,baz=25,slow=12,SNR=21						
FITZ				S	Sn	08 43 18.7	+12
	0.3nm,0.3s,baz=165,slow=20,SNR=4.3						
WRA	**Warramunga Arr**	**12.26**	**152**	P	Pn	08 42 06.1	+0.2
	0.4nm,0.3s,baz=324,slow=13,SNR=22						
WRA				S	Sn	08 44 28.7	+7.6
	0.3nm,0.3s,baz=326,slow=22,SNR=7.7						
ASAR	**Alice Springs**	**15.43**	**160**	P	Pn	08 42 48.3	+0.2
	0.2nm,0.3s,baz=345,slow=14,SNR=17						
ASAR				S	S	08 45 48.4	-3.0
	0.1nm,0.3s,baz=346,slow=26,SNR=3.6						
STKA	**Stephens Creek**	**25.81**	**153**	P	P	08 44 39.6	-0.3
	0.5nm,0.3s,baz=322,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**69.07**	**328**	P	P	08 50 13.9	0.0
	0.2nm,0.4s,baz=149,slow=5.9,SNR=3.5						

*ISCJB **30** 08:49:27.5±0.8, 37˚.38N±0˚.05×28˚.06E±0˚.05, h0km, Error ellipse: s-maj=8.3km s-min=3.9km az=34.1*
*DDA **30** 08:49:27.6, 37˚.34N×28˚.04E, h7km, Md2.7, Suspected Mining explosion.*

ISC 30 08:49:26.3±1.2, 37˚.32N±0˚.06×28˚.03E±0˚.05, h0km, n6, σ0s54/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.27**	**132**	*e*PG	**Pb**	**08 49 33.6**	**-0.5**
YER				*e*SG	**Sb**	**08 49 38.9**	**-0.3**
BDRM	**Kayabasi**	**0.53**	**242**	*i* P	**Pb**	**08 49 37.8**	**-0.8**
BDRM				*i* S	**Sb**	**08 49 47.5**	**+0.7**
BODT	**Bodrum**	**0.63**	**246**	*e*PG	**Pb**	**08 49 40.0**	**-0.3**
BODT				*e*SG	**Sb**	**08 49 50.0**	**+0.3**
TURN	**Turunc**	**0.64**	**134**	*i* P	**Pg**	**08 49 39.0**	**+0.5**
TURN				*i* S	**Sb**	**08 49 50.4**	**+0.7**
GCAM	**G?zelcaml?**	**0.74**	**301**	*i* P	**Pb**	**08 49 42.1**	**0.0**
GCAM				*i* S	**Sb**	**08 49 52.5**	**-0.3**
DGB	**ˇzmir**	**1.17**	**309**	*i* P	**Pb**	**08 49 49.3**	**-0.1**
DGB				*i* S	**Sn**	**08 50 06.3**	**-0.4**

MEX 30 08:49:35.3±0.4, 14˚.13N×92˚.10W, h14km±999km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.14**	**359**	*e*P	Pn	08 50 08.4	-2.4
CCIG				*i* S	Sn	08 50 32.5	-4.7

*ISK **30** 08:50:14.7, 37˚.05N×28˚.32E, h22km, MD2.7*
*ISCJB **30** 08:50:16.8±0.9, 37˚.24N±0˚.05×28˚.22E±0˚.05, h28.00000km, Error ellipse: s-maj=8.8km s-min=4.0km az=33.0*
*DDA **30** 08:50:16.6, 37˚.21N×28˚.20E, h7km, Md2.7, Suspected Mining explosion.*
*CSEM **30** 08:50:17.6±0.6, 37˚.13N×28˚.19E, h1km, MD2.7, Error ellipse: s-maj=14.2km s-min=8.8km az=174.0, Suspected Mining explosion.*

ISC 30 08:50:16.1±1.1, 37˚.33N±0˚.05×28˚.27E±0˚.05, h0km, n11, σ1s31/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.20**	**176**	*e*PG	**Pg**	**08 50 19.2**	**-0.6**
YER				*e*SG	**Sg**	**08 50 21.9**	**-0.4**
YER	**Yerkesik**	**0.20**	**176**	*e*Pg	**Pg**	**08 50 19.2**	**-0.6**
YER				*e*Sg	**Sg**	**08 50 21.9**	**-0.4**
TURN	**Turunc**	**0.53**	**149**	*i* P	**Pg**	**08 50 25.2**	**-1.0**
TURN				*i* S	**Sg**	**08 50 32.5**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**334**	*e*PG	**Pn**	**08 50 32.8**	**-0.3**
AYDB				*e*SG	**Sn**	**08 50 47.2**	**+2.7**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**334**	*e*Pg	**Pn**	**08 50 32.8**	**-0.3**
AYDB				*e*Sg	**Sn**	**08 50 47.2**	**+2.7**
BDRM	**Kayabasi**	**0.71**	**248**	P	**Pg**	**08 50 28.2**	**-1.4**
BDRM				S	**Sg**	**08 50 38.4**	**-0.4**
BDRM	**Kayabasi**	**0.71**	**248**	*i* P	**Pg**	**08 50 28.2**	**-1.4**
BDRM				*i* S	**Sg**	**08 50 38.4**	**-0.4**
BODT	**Bodrum**	**0.81**	**251**	*e*PG	**Pg**	**08 50 31.2**	**-0.3**
BODT				*e*SG	**Sg**	**08 50 42.7**	**+0.7**
BODT	**Bodrum**	**0.81**	**251**	*e*Pg	**Pg**	**08 50 31.2**	**-0.3**
BODT				*e*Sg	**Sg**	**08 50 42.7**	**+0.7**
GCAM	**G?zelcaml?**	**0.90**	**295**	P	**Pg**	**08 50 31.1**	**-2.2**
GCAM				S	**Sb**	**08 50 47.5**	**+0.4**
GCAM	**G?zelcaml?**	**0.90**	**295**	*i* P	**Pg**	**08 50 31.1**	**-2.2**
GCAM				*i* S	**Sb**	**08 50 47.5**	**+0.4**

*IDC **30** 09:09:12.2±0.4, 23˚.55S×175˚.79W, h0km, mb5.1/25, mb1 5.2/26, mb1mx5.0/43, mbtmp5.1/26, ML5.1/1, MS5.3/25, Ms1 5.3/25, ms1mx5.1/35, Error ellipse: s-maj=15.8km s-min=14.1km az=149.0*
*ISCJB **30** 09:09:16.4±0.1, 23˚.57S±0˚.04×175˚.84W±0˚.03, h33km, mb5.4/211, MS5.5/175, Error ellipse: s-maj=5.8km s-min=2.9km az=156.6*
*BJI **30** 09:09:16.0, 23˚.22S×175˚.67W, h26km, mb5.4/53, mB5.8/58, Ms5.6/63, Ms7 5.4/60*
*NEIC **30** 09:09:17.0±0.0, 23˚.06S×175˚.47W, h13km, Moment Tensor Solution. s25 Moment tensor: Scale 10^17^Nm; Mrr3.76; Mθθ-0.06; Mϕϕ-3.70; Mrθ2.19; Mθϕ-1.24; Mϕr2.56; Best double couple: M0 5.20000×10^17^ NP1:ϕs32.00000°, δ66.00000°, λ103.00000°. NP2:ϕs182.00000°, δ28.00000°, λ63.00000°. Principal axes: T 5.1600, Plg66.0000°, Azm326.0000°; N 0.0200, Plg12.0000°, Azm206.0000°; P -5.1800, Plg19.0000°, Azm112.0000°;*
*MOS **30** 09:09:17.3±1.2, 23˚.44S×175˚.95W, h33km, mb5.7/47, MS5.4/39 Error ellipse: s-maj=9.7km s-min=7.5km az=76.8*
*NEIC **30** 09:09:18.3±0.2, 23˚.54S×175˚.85W, h35km, mb5.5/165, MS5.5/134, MW5.7, Error ellipse: s-maj=7.3km s-min=4.2km az=150.0*
*GCMT **30** 09:09:24.2±0.1, 23˚.66S×175˚.33W, h27km, MW5.8/131, Moment Tensor Solution. s121,c251; s131,c361; Duration: 1s8 Moment tensor: Scale 10^17^Nm; Mrr4.11±.04; Mθθ-0.44±.03; Mϕϕ-3.67±.03; Mrθ 1.40±.08; Mθϕ-1.54±.03; Mϕr2.78±.07; Best double couple: M0 5.22700×10^17^ NP1:ϕs25.00000°, δ63.00000°, λ93.00000°. NP2:ϕs199.00000°, δ27.00000°, λ84.00000°. Principal axes: T 5.1440, Plg72.0000°, Azm301.0000°; N 0.1640, Plg2.0000°, Azm204.0000°; P -5.3090, Plg18.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 30 09:09:17.8±0.4, 23˚.61S±0˚.04×175˚.78W±0˚.04, h35km±1km, h35km:pP-P, n1158, σ1s51/1091, mb5.4/210, MS5.5/175, 41C-37D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.94**	**198**	Pn	**Pn**	**09 10 43.7**	**+0.5**
	47nm,0.3s,baz=107,slow=20,SNR=3.8						
RAO				Sn	**Sn**	**09 11 47.8**	**-2.3**
	69nm,0.3s,baz=233,slow=20,SNR=2.3						
RAO	**Raoul Island**	**5.94**	**198**	*e*P	**Pn**	**09 10 44.1**	**+0.8**
RAO				*e*		09 11 54.8	
RAO	**Raoul Island**	**5.94**	**198**	*e*Pn	**Pn**	**09 10 44.1**	**+0.8**
RAO				Sn	**Sn**	**09 11 47.8**	**-2.3**
RAO				*e*Sn	**Sn**	**09 11 54.8**	**+4.7**
NIUE	**Niue**	**7.08**	**52**	P	Pn	09 10 50.2	-8.7
	baz=6.5,SNR=18						
MSVF	**Nonsavu**	**8.21**	**314**	*d* iP	Pn	09 11 19.7	+5.0
MSVF	**Nonsavu**	**8.21**	**314**	*e*Pn	**Pn**	**09 11 19.3**	**+4.6**
AFI	**Afiamalu**	**10.37**	**22**	Pn	Pn	09 11 36.0	-8.2
	20nm,0.3s,baz=22,slow=19,SNR=26						
AFI				Sn	Sn	09 13 19.4	-20
	8.3nm,0.3s,baz=297,slow=6.8,SNR=3.1						
AFI	**Afiamalu**	**10.37**	**22**	*e*P	Pn	09 11 36.3	-7.8
AFI	**Afiamalu**	**10.37**	**22**	*e*Pn	Pn	09 11 36.3	-7.8
AFI				Sn	Sn	09 13 19.4	-20
OUZ	**Omahuta**	**14.80**	**216**	*e*Pn	**P**	**09 12 51.6**	**+1.6**
RAR	**Rarotonga**	**15.00**	**84**	Pn	Pn	09 12 37.9	-9.3
	19nm,0.3s,baz=229,slow=9.3,SNR=41						
RAR				Sn	Sn	09 15 06.0	-26
	2.2nm,0.3s,baz=276,slow=19,SNR=3.6						
RAR				LR	LR	09 19 02.2	
	comp=Z,10μm,18.9s,baz=256,slow=39						
URZ	**Urewera**	**15.82**	**201**	Pn	**Pn**	**09 12 52.0**	**-5.9**
	0.4nm,0.3s,baz=140,slow=13,SNR=5.1						
URZ				Sn	Sn	09 15 38.1	-14
	1.1nm,0.3s,baz=301,slow=5.9,SNR=4.1						
URZ	**Urewera**	**15.82**	**201**	Pn	**Pn**	**09 12 52.0**	**-5.9**
URZ				*e*Pn	**P**	**09 12 59.2**	**-2.1**
URZ				Sn	Sn	09 15 38.1	-14
DZM	**Mont Dzumac**	**16.46**	**272**	*e*P	**P**	**09 13 10.8**	**+2.2**
	798nm,1.4s						
DZM				*e*LR	LR	09 17 24.9	
	18μm,22.8s						
DZM	**Mont Dzumac**	**16.46**	**272**	Pn	**P**	**09 13 10.2**	**+1.5**
	1.9nm,0.3s,baz=126,slow=8.9,SNR=27						
DZM				Sn	**Sn**	**09 16 03.2**	**-4.8**
	0.1nm,0.3s,baz=202,slow=12,SNR=5.3						
DZM	**Mont Dzumac**	**16.46**	**272**	*e*Pn	**P**	**09 13 10.5**	**+1.9**
	287nm,1.1s						
DZM				Sn	**Sn**	**09 16 03.2**	**-4.8**
OXZ	**Oxford**	**22.09**	**204**	*e*P	**P**	**09 14 12.1**	**+2.2**
	70nm,1.3s						
RPZ	**Rata Peaks**	**22.80**	**205**	P	**P**	**09 14 13.5**	**-3.9**
	10nm,0.9s,baz=124,slow=16,SNR=2.9						
RPZ				S	S	09 18 07.3	-17
	5.6nm,0.8s,baz=163,slow=19,SNR=2.5						
RPZ	**Rata Peaks**	**22.80**	**205**	P	**P**	**09 14 13.6**	**-3.9**
RPZ				S	S	09 18 07.3	-17
RPZ				*e*S	**S**	**09 18 23.3**	**-0.9**
FOZ	**Fox Glacier**	**23.15**	**207**	*e*P	**P**	**09 14 24.8**	**+3.8**
	42nm,0.8s						
LHI	**Lord Howe Isla**	**23.61**	**245**	*e*P	**P**	**09 14 28.2**	**+2.5**
	202nm,0.9s						
TBI	**Tubuai**	**24.14**	**95**	*e*LQ	LQ	09 19 03.2	
	9μm,27.8s						
TBI				*e*LR	LR	09 20 18.3	
	16μm,28.2s,baz=265						
TBI	**Tubuai**	**24.14**	**95**	*e*T	T	09 39 26.4	
	27nm,0.3s						
PAE	**Paea**	**25.20**	**81**	*e*P	**P**	**09 14 38.0**	**-2.4**
	11nm,1.1s						
PAE	**Paea**	**25.20**	**81**	*e*T	T	09 40 35.5	
	10.0nm,0.3s						
PPT2	**Papeete2**	**25.23**	**81**	*e*P	**P**	**09 14 38.9**	**-1.8**
	56nm,1.1s						
PPT2				*e*LQ	LQ	09 19 29.0	
	13μm,24.0s						
PPT2				*e*LR	LR	09 20 59.7	
	16μm,25.2s,baz=250						
PPT2	**Papeete2**	**25.23**	**81**	*e*T	T	09 40 33.4	
	12nm,0.3s						
PPT	**Papeete**	**25.24**	**81**	P	**P**	**09 14 39.4**	**-1.3**
	22nm,0.7s,baz=119,slow=6.3,SNR=5.6						
PPT				LR	LR	09 23 55.8	
	comp=Z,6μm,19.1s,baz=256,slow=35						
TIAR	**Tiarei**	**25.45**	**81**	*e*P	**P**	**09 14 40.7**	**-2.0**
	27nm,1.3s						
TIAR	**Tiarei**	**25.45**	**81**	*e*T	T	09 40 35.9	
	1.8nm,0.3s						
TVO	**Taravao**	**25.46**	**82**	*e*P	**P**	**09 14 40.9**	**-2.0**
	33nm,1.4s						
TVO	**Taravao**	**25.46**	**82**	*e*T	T	09 40 51.6	
	1.9nm,0.3s						
WHZ	**Wether Hill Ro**	**25.84**	**207**	*e*P	**P**	**09 14 47.5**	**+1.5**
	45nm,1.0s						
MEH	**Mehetia**	**26.52**	**83**	*e*T	T	09 42 14.8	
	43nm,0.2s						
TARA	**Tarawa**	**27.14**	**335**	*e*P	**P**	**09 14 54.1**	**-3.7**
	185nm,1.1s						
TARA				LR	LR		
	comp=Z,399nm,19.0s						
HNR	**Honiara**	**27.14**	**297**	P	**P**	**09 14 57.1**	**-0.9**
	comp=Z,25nm,0.3s,baz=221,slow=9.3,SNR=3.1						
HNR				LR	LR	09 24 11.2	
	comp=Z,8μm,20.7s,baz=150,slow=33						
HNR	**Honiara**	**27.14**	**297**	P	**P**	**09 15 03.0**	**+5.1**
ARMA	**Armidale**	**29.74**	**250**	P	**P**	**09 15 22.6**	**+1.4**
	baz=30,SNR=5.8						
ARMA	**Armidale**	**29.74**	**250**	*e*P	**P**	**09 15 22.8**	**+1.6**
	comp=Z,101nm,1.5s						
EIDS	**Eidsvold**	**30.16**	**260**	P	**P**	**09 15 25.3**	**+0.5**
	baz=31,SNR=8.0						
EIDS	**Eidsvold**	**30.16**	**260**	*e*P	**P**	**09 15 25.5**	**+0.7**
	comp=Z,55nm,1.1s						
MGCD	**Mangrove Creek**	**30.54**	**244**	P	**P**	**09 15 30.3**	**+2.2**
	baz=31,SNR=5.0						
RMQ	**Roma**	**32.19**	**257**	P	**P**	**09 15 43.9**	**+1.2**
	baz=33,SNR=16						
CNB	**Canberra Magne**	**32.35**	**241**	P	**P**	**09 15 45.2**	**+1.1**
	baz=33,SNR=4.9						
CAN	**Canberra**	**32.65**	**241**	*e*P	**P**	**09 15 47.5**	**+0.9**
CAN				pmax	pmax		
	comp=Z,122

	comp=Z,42nm,1.1s								
AS01	**Alice Springs**	**45.85**	**259**	*e*P		**P**	**09 17 35.1**	**-1.8**	
AS31	**Alice Springs**	**45.89**	**259**	*e*P		**P**	**09 17 36.3**	**-1.0**	
	comp=Z,7.6nm,0.9s								
ASAR	**Alice Springs**	**45.89**	**259**	P		**P**	**09 17 36.0**	**-1.2**	
	comp=Z,37nm,1.0s,baz=92,slow=8.2,SNR=84								
ASAR				S		**S**	**09 24 17.0**	**-2.6**	
	comp=Z,3.3nm,1.0s,baz=92,slow=17,SNR=5.2								
ASAR				LR		LR	09 35 40.1		
	comp=Z,8µm,20.0s,baz=108,slow=35								
WB2	**Warramunga Arr**	**46.27**	**264**	*e*P		**P**	**09 17 38.9**	**-1.4**	
	comp=Z,57nm,1.0s								
WRAB	**Tennant Creek**	**46.27**	**264**	*ce*P		**P**	**09 17 39.3**	**-1.0**	
WRAB				pmax		pmax			
	comp=Z,153nm,1.2s								
WRAB	**Tennant Creek**	**46.27**	**264**	*e*P		**P**	**09 17 38.5**	**-1.8**	
	comp=Z,54nm,1.1s								
WRA	**Warramunga Arr**	**46.28**	**264**	P		**P**	**09 17 38.1**	**-2.3**	
	comp=Z,28nm,0.9s,baz=90,slow=5.8,SNR=126								
WRA				PcP		**PcP**	**09 19 16.9**	**+1.5**	
	comp=Z,8.5nm,0.9s,baz=96,slow=4.3,SNR=5.4								
WRA				S		**S**	**09 24 20.3**	**-5.0**	
	comp=Z,5.3nm,1.1s,baz=102,slow=15,SNR=5.9								
WRA				LR		LR	09 37 01.6		
	comp=Z,7µm,18.2s,baz=100,slow=36								
POHA	**Pohakuloa**	**47.41**	**26**	PFAKE			09 18 00.0	+11	
POHA				LR		LR			
	comp=Z,2µm,20.0s								
GENI	**Genyem**	**47.43**	**289**	P		**P**	**09 17 48.7**	**-0.6**	
HPAH	**Hawaii Prepara**	**47.59**	**26**	*e*P		**P**	**09 17 50.0**	**-0.5**	
	comp=Z,160nm,1.1s								
KIP	**Kipapa**	**47.99**	**23**	*e*P		**P**	**09 17 53.0**	**-0.4**	
KIP				pmax		pmax			
	comp=Z,2µm,1.7s								
KIP	**Kipapa**	**47.99**	**23**	*e*P		**P**	**09 17 53.0**	**-0.4**	
	comp=Z,2µm,1.7s								
FORT	**Forrest**	**50.03**	**249**	P		**P**	**09 18 08.8**	**-0.3**	
	baz=50,SNR=12								
FORT	**Forrest**	**50.03**	**249**	*e*P		**P**	**09 18 08.9**	**-0.3**	
	comp=Z,547nm,1.0s								
KDU	**Kakadu**	**50.12**	**273**	P		**P**	**09 18 10.0**	**0.0**	
	baz=51,SNR=3.0								
MTN	**Manton Dam**	**51.30**	**272**	*e*P		**P**	**09 18 14.9**	**-4.0**	
	comp=Z,25nm,1.1s								
MIDW	**Midway**	**51.55**	**358**	PFAKE			09 18 30.0	+10	
MIDW				LR		LR			
	comp=Z,5µm,22.0s								
KNRA	**Kununurra**	**52.56**	**268**	P		**P**	**09 18 28.2**	**-0.1**	
	baz=53								
FITZ	**Fitzroy Crossi**	**54.70**	**264**	LR		LR	09 42 10.0		
	comp=Z,4µm,18.0s,baz=118,slow=36								
FITZ	**Fitzroy Crossi**	**54.70**	**264**	P		**P**	**09 18 44.6**	**+0.6**	
	baz=55,SNR=8.7								
FITZ	**Fitzroy Crossi**	**54.70**	**264**	*e*P		**P**	**09 18 43.8**	**-0.2**	
	comp=Z,28nm,1.2s								
SBA	**Scott Base**	**54.93**	**184**	*e*P		**P**	**09 18 48.0**	**+3.3**	
SBA				pmax		pmax			
	comp=Z,84nm,1.1s								
SBA				MLR		MLR			
	comp=Z,2µm,19.0s								
SBA	**Scott Base**	**54.93**	**184**	*e*P		**P**	**09 18 48.0**	**+3.3**	
	comp=Z,84nm,1.1s								
SBA				LR		LR			
	comp=Z,2µm,19.0s								
VNDA	**Vanda**	**55.02**	**186**	P		**P**	**09 18 47.1**	**+1.7**	
	comp=Z,18nm,1.0s,baz=6.3,slow=7.4,SNR=45								
VNDA				LR		LR	09 40 01.7		
	comp=Z,1µm,19.3s,baz=3.0,slow=34								
VNDA	**Vanda**	**55.02**	**186**	*e*P		**P**	**09 18 48.1**	**+2.7**	
VNDA				pmax		pmax			
	comp=Z,38nm,1.1s								
VNDA	**Vanda**	**55.02**	**186**	*e*P		**P**	**09 18 48.1**	**+2.7**	
	comp=Z,38nm,1.1s								
KLBR	**Kellerberrin**	**58.65**	**246**	P		**P**	**09 19 11.1**	**-0.8**	
	baz=59,SNR=9.1								
SOEI	**Soe**	**58.68**	**273**	P		**P**	**09 19 13.1**	**+0.7**	
SOEI	**Soe**	**58.68**	**273**	*e*P		**P**	**09 19 12.7**	**+0.3**	
	comp=Z,422nm,1.2s								
NWAO	**Narrogin (SRO)**	**58.86**	**245**	LR		LR	09 43 33.8		
	comp=Z,3µm,18.6s,baz=330,slow=35								
NWAO	**Narrogin (SRO)**	**58.86**	**245**	PFAKE			09 19 30.0	+17	
NWAO				LR		LR			
	comp=Z,4µm,20.0s								
MEEK	**Meekatharra**	**58.89**	**252**	P		**P**	**09 19 13.2**	**-0.4**	
	baz=59,SNR=5.2								
MBWA	**Marble Bar**	**59.22**	**259**	*e*P		**P**	**09 19 15.1**	**-0.9**	
	comp=Z,28nm,0.8s								
MBWA				LR		LR			
	comp=Z,4µm,19.0s								
BLDU	**Ballidu**	**59.71**	**247**	P		**P**	**09 19 18.3**	**-1.0**	
	baz=60,SNR=13								
MORW	**Morawa**	**60.59**	**249**	P		**P**	**09 19 24.9**	**-0.4**	
	baz=61,SNR=7.2								
MMRI	**Maumere**	**60.95**	**273**	P		**P**	**09 19 26.1**	**-1.8**	
EDFI	**Ende, Flores**	**61.41**	**273**	P		**P**	**09 19 28.5**	**-2.7**	
KDI	**Kendari**	**62.45**	**278**	P		**P**	**09 19 36.3**	**-1.7**	
GTOI	**Gorontalo**	**64.06**	**283**	P		P	09 19 53.5	+4.8	
KAPI	**Kappang**	**64.63**	**276**	PFAKE			09 20 00.0	+7.6	
KAPI				LR		LR			
	comp=Z,1µm,19.0s								
DAV	**Davao City (W)**	**64.84**	**291**	PFAKE			09 20 10.0	+16	
DAV				LR		LR			
	comp=Z,1µm,22.0s								
PLAI	**Plampang**	**64.97**	**271**	P		**P**	**09 19 51.9**	**-2.8**	
TWSI	**Taliwang, Sumb**	**65.83**	**271**	P		**P**	**09 19 58.4**	**-1.8**	
QSPA	**South Pole Qui**	**66.48**	**180**	*e*P		**P**	**09 20 05.4**	**+1.7**	
	comp=Z,386nm,1.1s								
QSPA				LR		LR			
	comp=Z,4µm,19.0s								
MIR	**Mirnyy**	**69.07**	**205**	*i* P		**P**	**09 20 22.0**	**+2.2**	
MIR				pmax		pmax			
	comp=Z,9.0nm,1.5s								
BBKI	**Banjar Baru**	**69.73**	**275**	P		**P**	**09 20 25.1**	**+0.3**	
PWJI	**Pagerwojo**	**70.75**	**270**	P		P	09 20 37.0	+6.0	
KKM	**Kota Kinabalu**	**72.54**	**285**	PFAKE			09 20 50.0	+8.1	
KKM				LR		LR			
	comp=Z,1µm,21.0s								
MJAR	**Matsushiro Arr**	**73.92**	**323**	LR		LR	09 51 57.7		
	comp=Z,1µm,19.2s,baz=120,slow=35								
MAJO	**Matsushiro**	**73.92**	**323**	PFAKE			09 21 00.0	+11	
MAJO				LR		LR			
	comp=Z,3µm,22.0s								
MAT	**Matsushiro**	**73.92**	**323**	P		**P**	**09 20 48.8**	**-0.7**	
MAT				S		**S**	**09 30 19.2**	**+0.1**	
KSM	**Kuching**	**75.88**	**278**	*e*P		**P**	**09 21 00.9**	**-0.4**	
	comp=Z,22nm,1.0s								
KSM				LR		LR			
	comp=Z,987nm,20.0s								
JNU	**Nakatsue**	**75.93**	**316**	P		**P**	**09 21 00.2**	**-1.0**	
	comp=Z,17nm,0.9s,baz=108,slow=4.1,SNR=8.8								
JNU	**Nakatsue**	**75.93**	**316**	*e*P		**P**	**09 21 00.8**	**-0.4**	
	comp=Z,28nm,1.0s								
H06S1	**SOCORRO T**	**75.96**	**62**	T		T	10 44 16.8		
	SNR=6.4								
H06E1	**SOCORRO T-PHAS**	**76.01**	**62**	T		T	10 44 09.8		
	SNR=11								
KUR	**Kuril'sk**	**76.10**	**334**	*ce*P		**P**	**09 21 01.2**	**-0.6**	
KUR				*e*PPP		PPP	09 25 43.3		
KUR				*i* S		**S**	**09 30 38.2**	**-4.6**	
KUR				pmax		pmax			
	comp=Z,126nm,2.0s								
KUR				pmax		pmax			
	comp=Z,611nm,3.8s								
YULB	**Yu-li**	**76.91**	**303**	*e*P		**P**	**09 21 07.2**	**+0.3**	
	comp=Z,18nm,1.0s								
NACB	**Ninganchiao**	**77.11**	**304**	*e*P		**P**	**09 21 07.3**	**-0.7**	
	comp=Z,26nm,0.8s								
TPUB	**Ta-pu**	**77.38**	**302**	*e*P		**P**	**09 21 07.5**	**-2.0**	
	comp=Z,45nm,0.8s								
SSLB	**Suanglung**	**77.39**	**303**	*e*P		**P**	**09 21 07.8**	**-1.9**	
	comp=Z,24nm,1.0s								
ASAJ	**Asahikawa**	**77.43**	**331**	P		**P**	**09 21 10.4**	**+1.1**	
	comp=Z,39nm,0.8s,baz=211,slow=2.0								
ASAJ	**Asahikawa**	**77.43**	**331**	*e*P		**P**	**09 21 10.0**	**+0.7**	
	comp=Z,52nm,0.9s								
YHNB	**Yeheng**	**77.55**	**304**	*e*P		**P**	**09 21 10.1**	**-0.5**	
	comp=Z,40nm,1.0s								
PMSA	**Palmer Station**	**77.63**	**156**	PFAKE			09 21 20.0	+10	
PMSA				LR		LR			
	comp=Z,2µm,20.0s								
TATO	**Taipei**	**77.63**	**304**	PFAKE			09 21 20.0	+9.1	
TATO				LR		LR			
	comp=Z,3µm,20.0s								
SKR	**Severo-Kuril's**	**78.02**	**342**	*e*P		**P**	**09 21 09.9**	**-2.5**	
SKR				*e*S		**S**	**09 31 05.6**	**+2.0**	
SKR				pmax		pmax			
	comp=Z,1µm,5.8s								
SKR				pmax		pmax			
	comp=Z,122nm,1.6s								
SKR				pmax		pmax			
	comp=Z,700nm,14.8s								
SKR				MLR		MLR			
	comp=Z,1µm,19.0s								
SKR				MLR		MLR			
	comp=Z,1µm,18.0s								
SCZ2	**Santa Cruz Isl**	**78.29**	**45**	P		**P**	**09 21 14.0**	**-0.4**	
	baz=231								
SCI2	**San Clemente I**	**78.38**	**46**	P		**P**	**09 21 14.6**	**-0.3**	
	baz=232								
SBC	**Santa Barbara**	**78.52**	**44**	P		**P**	**09 21 15.4**	**-0.2**	
	baz=231								
CIS	**Catalina Islan**	**78.72**	**46**	P		**P**	**09 21 16.9**	**+0.1**	
	baz=232								
BLG	**Laguna Peak, P**	**78.73**	**45**	P		**P**	**09 21 16.7**	**-0.2**	
	baz=231								
PKM	**Mcpherson Peak**	**78.74**	**44**	P		**P**	**09 21 17.6**	**+0.5**	
	baz=231								
SMMC	**Simmler**	**78.89**	**44**	P		**P**	**09 21 18.6**	**+0.8**	
	baz=231								
LPIG	**La Paz**	**79.27**	**58**	LR		LR	09 51 12.5		
	comp=Z,4µm,18.2s,baz=212,slow=32								
OSI	**Osito Audit: C**	**79.27**	**45**	P		**P**	**09 21 20.2**	**+0.4**	
	baz=232								
109C	**Camp Elliot, M**	**79.28**	**47**	P		**P**	**09 21 19.9**	**+0.1**	
	baz=233								
DECC	**Green Verdugo**	**79.30**	**45**	P		**P**	**09 21 20.3**	**+0.3**	
	baz=232								
SLBS	**Sierra La Lagu**	**79.33**	**58**	*e*P		**P**	**09 21 20.0**	**-0.4**	
	comp=Z,70nm,1.7s								
MAW	**Mawson**	**79.34**	**199**	P		**P**	**09 21 18.9**	**-0.7**	
	comp=Z,25nm,1.0s,baz=111,slow=5.8,SNR=27								
MAW				LR		LR	09 56 56.5		
	comp=Z,2µm,18.8s,baz=113,slow=36								
MAW	**Mawson**	**79.34**	**199**	*e*P		**P**	**09 21 20.6**	**+0.9**	
	comp=Z,12nm,1.3s								
MWC	**Mount Wilson**	**79.46**	**45**	*e*P		**P**	**09 21 21.3**	**+0.2**	
MWC				pmax		pmax			
	comp=Z,17nm,1.1s								
MWC	**Mount Wilson**	**79.46**	**45**	*e*P		**P**	**09 21 21.3**	**+0.2**	
	comp=Z,17nm,1.1s								
PET	**Petropavlovsk**	**79.48**	**345**	*ce*P		**P**	**09 21 19.3**	**-1.1**	
PET				*e*			09 21 29.3		
PET				*e*			09 24 24.1		
PET				*e*PPP		PPP	09 26 11.9		
PET				*e*S		**S**	**09 31 19.5**	**+0.4**	
PET				*e*PPS		PPS	09 32 19.5		
PET				*e*SS		**SS**	**09 36 27.7**	**-0.2**	
PET				pmax		pmax			
	comp=Z,1µm,5.6s								
PET				pmax		pmax			
	comp=Z,71nm,1.3s								
PET				pmax		pmax			
	comp=Z,800nm,13.7s								
PET	**Petropavlovsk**	**79.48**	**345**	*e*P		**P**	**09 21 18.6**	**-1.8**	
	comp=Z,130nm,1.4s								
ARVC	**Arvin**	**79.52**	**44**	P		**P**	**09 21 20.7**	**-0.4**	
	baz=231								
YSS	**Yuzh-Sakhalins**	**79.58**	**333**	*ce*P		**P**	**09 21 21.4**	**+0.3**	
YSS				*e*			09 24 16.9		
YSS				*e*S		**S**	**09 31 20.5**	**+0.1**	
YSS				pmax		pmax			
	comp=Z,60nm,1.1s								
YSS				pmax		pmax			
	comp=Z,1µm,5.7s								
YSS				MLR		MLR			
	comp=N,1µm,20.0s								
YSS				MLR		MLR			
	comp=Z,900nm,20.0s								
YSS	**Yuzh-Sakhalins**	**79.58**	**333**	*e*P		**P**	**09 21 22.5**	**+1.4**	
	comp=Z,55nm,0.9s								
YSS				LR		LR			
	comp=Z,1µm,22.0s								
MURC	**Murrieta**	**79.65**	**46**	P		**P**	**09 21 21.7**	**-0.2**	
	baz=233								
SDPT	**Sand Point**	**79.72**	**9**	*e*P		**P**	**09 21 22.1**	**+0.5**	
	comp=Z,72nm,0.9s								
BFSC	**Mount Baldy Ra**	**79.73**	**46**	P		**P**	**09 21 22.2**	**-0.2**	
	baz=232								
MONP2	**Monument Peak**	**79.74**	**47**	P		**P**	**09 21 22.7**	**0.0**	
	baz=233								
PEA0	**Petropavlovsk-**	**79.80**	**344**	*e*P		**P**	**09 21 20.9**	**-1.2**	
PEA0B	**Petropavlovsk-**	**79.80**	**344**	*e*P		**P**	**09 21 21.5**	**-0.7**	
	comp=Z,265nm,1.5s								
PETK	**Petropavlovsk-**	**79.80**	**344**	P		**P**	**09 21 21.9**	**-0.3**	
	comp=Z,45nm,0.8s,baz=122,slow=7.9,SNR=61								
PETK				LR		LR	09 50 34.5		
	comp=Z,2µm,21.6s,baz=163,slow=31								
VES	**Vestal, Richgr**	**79.80**	**44**	P		**P**	**09 21 22.4**	**-0.2**	
	baz=231								
IKP	**In-Ko-Pah, Jac**	**79.81**	**48**	P		**P**	**09 21 22.5**	**-0.3**	
	baz=234								
QZH	**Quanzhou**	**79.83**	**303**	*i* P		P	09 21 14.5	-8.4	
QZH				S		S	09 31 12.0	-12	
QZH	**Quanzhou**	**79.83**	**303**	SS		SS	09 36 23.3	-11	
QZH				pmax		pmax			
	comp=Z,1µm,5.5s								
QZH				LR		LR			
	comp=N,2µm,15.7s								
QZH				LR		LR			
	comp=E,3µm,23.6s								
QZH				LR		LR			
	comp=Z,4µm,20.7s								
EDW2	**Edwards Air Fo**	**79.91**	**45**	P		**P**	**09 21 23.2**	**-0.1**	
	baz=232								
RCTC	**Rector, Farmer**	**79.99**	**43**	P		**P**	**09 21 23.2**	**-0.5**	
	baz=231								
ISA	**Isabella, Lake**	**80.08**	**44**	P		**P**	**09 21 24.5**	**+0.3**	
	baz=232								
ISA	**Isabella, Lake**	**80.08**	**44**	*e*P		**P**	**09 21 24.7**	**+0.5**	
ISA				pmax		pmax			
	comp=Z,37nm,1.3s								
ISA	**Isabella, Lake**	**80.08**	**44**	*e*P		**P**	**09 21 24.7**	**+0.5**	
	comp=Z,37nm,1.3s								
PFO	**Pinyon Flats O**	**80.15**	**47**	P		**P**	**09 21 25.0**	**+0.3**	
	baz=233								
PFO	**Pinyon Flats O**	**80.15**	**47**	*e*P		**P**	**09 21 25.0**	**+0.3**	
PFO				pmax		pmax			
	comp=Z,14nm,1.2s								
PFO				MLR		MLR			
	comp=Z,3µm,19.0s								
PFO	**Pinyon Flats O**	**80.15**	**47**	*e*P		**P**	**09 21 24.9**	**+0.3**	
	comp=Z,14nm,1.2s								
PFO				LR		LR			
	comp=Z,3µm,19.0s								
TPFO	**Pinon Flats**	**80.15**	**47**	P		**P**	**09 21 24.8**	**+0.2**	
	baz=233								
SWSC	**Sam W. Stewart**	**80.19**	**48**	P		**P**	**09 21 24.9**	**+0.1**	
	baz=234								
BBRC	**Big Bear Solar**	**80.23**	**46**	P		**P**	**09 21 25.2**	**-0.1**	
	baz=233								
KHMM	**Horse Mountain**	**80.32**	**37**	*e*P		**P**	**09 21 27.1**	**+1.6**	
	comp=Z,25nm,1.3s								
CMB	**Columbia Colle**	**80.39**	**41**	*e*P		**P**	**09 21 26.2**	**+0.4**	
CMB				pmax		pmax			
	comp=Z,48nm,0.9s								
CMB	**Columbia Colle**	**80.39**	**41**	*e*P		**P**	**09 21 26.2**	**+0.4**	
	comp=Z,48nm,0.9s								
LRMC	**Laurel Mtn Rad**	**80.47**	**45**	P		**P**	**09 21 26.7**	**+0.3**	
	baz=232								
RRX	**Edison Barstow**	**80.55**	**45**	P		**P**	**09 21 26.5**	**-0.2**	
	baz=233								
KSRS	**Korea Array**	**80.56**	**318**	P		**P**	**09 21 26.5**	**-0.1**	
	comp=Z,4.5nm,1.0s,baz=142,slow=5.9,SNR=16								
KSRS				LR		LR	09 51 43.5		
	comp=Z,2µm,21.8s,baz=133,slow=32								
KSAR	**Wonju Array Be**	**80.58**	**318**	P		**P**	**09 21 26.5**	**-0.2**	
KSAR	**Wonju Array Be**	**80.58**	**318**	P		**P**	**09 21 26.5**	**-0.2**	
KS01	**Wonju Array Si**	**80.60**	**318**	*e*P		**P**	**09 21 26.3**	**-0.5**	
AFDM	**Forest Hills D**	**80.62**	**40**	*e*P		**P**	**09 21 27.4**	**+0.4**	
	comp=Z,16nm,1.1s								
BELC	**Belle Mtn. Jos**	**80.69**	**47**	P		**P**	**09 21 27.6**	**0.0**	
	baz=233								
CWC	**Cottonwood Cre**	**80.81**	**44**	P		**P**	**09 21 28.4**	**+0.2**	
	baz=232								
BC3	**Big Chuckawall**	**80.85**	**47**	P		**P**	**09 21 28.5**	**0.0**	
	baz=234								
KSI	**Kapahiang**	**80.88**	**270**	P		**P**	**09 21 27.1**	**-1.9**	
GLA	**Glamis**	**80.92**	**48**	P		**P**	**09 21 28.8**	**+0.1**	
	baz=234								
GSC	**Goldstone, Bar**	**80.93**	**45**	P		**P**	**09 21 29.2**	**+0.3**	
	baz=233								
MPMC	**Manual Prospec**	**80.95**	**44**	P		**P**	**09 21 29.4**	**+0.3**	
	baz=232								
HEC	**Hector,Ludlow**	**80.96**	**46**	P		**P**	**09 21 28.9**	**0.0**	
	baz=233								
N02D	**Trinity Center**	**80.96**	**38**	P		**P**	**09 21 29.1**	**+0.2**	
	baz=228								
DAC	**Darwin (Calif)**	**81.02**	**44**	*e*P		**P**	**09 21 29.5**	**+0.1**	
DAC				pmax		pmax			
	comp=Z,51nm,1.8s								
DAC	**Darwin (Calif)**	**81.02**	**44**	*e*P		**P**	**09 21 29.5**	**+0.1**	
	comp=Z,52nm,1.8s								
O03D	**Paynes Creek**	**81.02**	**39**	P		**P**	**09 21 29.0**	**-0.2**	
	baz=229								
MLAC	**Mammoth, Mammo**	**81.08**	**42**	P		**P**	**09 21 29.8**	**+0.1**	
	baz=231								
TIN	**Tinemaha, Big**	**81.09**	**43**	P		**P**	**09 21 29.8**	**+0.1**	
	baz=232								
M02C	**Callahan**	**81.16**	**37**	P		**P**	**09 21 30.0**	**+0.1**	
	baz=228,SNR=8.7								
SSE	**Sheshan**	**81.25**	**309**	P		**P**	**09 21 28.5**	**-1.9**	
SSE				pP		**sP**	**09 21 45.3**	**0.0**	
SSE				S		**S**	**09 31 38.8**	**+0.3**	
SSE				PMZ					
	comp=Z,37nm,0.6s								
SSE				PMZ					
	comp=Z,520nm,10.2s								
SSE				LN					
	comp=Z,490nm,19.1s								
SSE				LE					
	comp=Z,600nm,19.1s								
SSE				LZ					
	comp=Z,1µm,19.2s								
L02D	**Cave Junction,**	**81.26**	**36**	P		**P**	**09 21 30.3**	**0.0**	
	baz=227								
IRM	**Iron Mountain**	**81.35**	**47**	P		**P**	**09 21 31.1**	**+0.1**	
	baz=234								
GMRC	**Granite Mounta**	**81.38**	**46**	P		**P**	**09 21 31.1**	**-0.1**	
	baz=234								
INCN	**Inchon**	**81.38**	**317**	PFAKE			09 21 40.0	+8.9	
INCN				LR		LR			
	comp=Z,2µm,22.0s								
113A	**Mohawk Valley,**	**81.48**	**49**	*e*P		**P**	**09 21 27.8**	**-3.9**	
	comp=Z,28nm,1.5s								
Y12C	**Blythe**	**81.53**	**48**	P		**P**	**09 21 32.5**	**+0.5**	
	baz=234								
Y12C	**Blythe**	**81.53**	**48**	*e*P		**P**	**09 21 32.8**	**+0.9**	
	comp=Z,21nm,1.1s								
TUQ	**Turquoise Moun**	**81.59**	**46**	P		**P**	**09 21 32.3**	**-0.1**	
	baz=233								
FURC	**Furnace Creek,**	**81.60**	**44**	P		**P**	**09 21 32.3**	**+0.2**	
	baz=233								
GRAC	**Grapevine Rang**	**81.60**	**44**	P		**P**	**09 21 32.5**	**+0.2**	
	baz=232								
SHOC	**Shoshone, Teco**	**81.64**	**45**	P		**P**	**09 21 32.5**	**+0.1**	
	baz=233								
214A	**Organ Pipe Nat**	**81.69**	**50**	P		**P**	**09 21 32.9**	**+0.1**	
	baz=236								
214A	**Organ Pipe Nat**	**81.69**	**50**	*e*P		**P**	**09 21 33.3**	**+0.4**	
	comp=Z,209nm,1.7s								
LDFC	**Landfair**	**81.91**	**46**	*e*P		**P**	**09 21 35.3**	**+1.3**	
	comp=Z,66nm,1.3s								
HUMO	**Hull Mountain**	**81.92**	**36**	*e*P		**P**	**09 21 34.1**	**+0.3**	
	comp=Z,349nm,1.8s								
M04C	**Macdoel**	**81.98**	**38**	P		**P**	**09 21 33.8**	**-0.5**	
	baz=228,SNR=7.5								
VLA	**Vladivostok**	**82.00**	**324**	*e*P		**P**	**09 21 35.6**	**+1.5**	
VLA				pmax		pmax			
	comp=Z,47nm,1.8s								
NEE2	**Needles Airpor**	**82.06**	**47**	P		**P**	**09 21 34.8**	**+0.2**	
	baz=234								
PDMCI	**Parker Dam,Lak**	**82.11**	**47**	P		**P**	**09 21 35.5**	**+0.5**	
	baz=235								
TPNV	**Topopah Spring**	**82.28**	**44**	P		**P**	**09 21 36.2**	**+0.1**	
	baz=233								
I03D	**Drain, OR**	**82.44**	**35**	P		**P**	**09 21 37.0**	**+0.5**	
	baz=227								
K04D	**Chiloquin, OR**	**82.59**	**37**	P		**P**	**09 21 37.6**	**+0.2**	
	baz=228								
Y14A	**Wickenburg**	**82.67**	**48**	*e*P		**P**	**09 21 38.4**	**+0.4**	
	comp=Z,97nm,1.0s								
USRK	**Ussuriysk Ar.**	**82.68**	**325**	P		**P**	**09 21 38.5**	**+0.8**	
	comp=Z,17nm,0.8s,baz=115,slow=3.3,SNR=62								
USRK				LR		LR	09 56 50.8		
	comp=Z,1µm,18.8s,baz=124,slow=35								
TYV	**Tymovskoe**	**82.71**	**335**	*e*P		**P**	**09 21 36.2**	**-1.4**	
TYV				*e*S		**S**	**09 31 52.0**	**-0.7**	
TYV				pmax		pmax			
	comp=E,44nm,1.0s								
TYV				pmax		pmax			
	comp=Z,1µm,5.0s								
TYV				smax		smax			
	comp=N,900nm,12.0s								
TYV				MLR		MLR			
	comp=N,1µm,18.0s								
TYV				MLR		MLR			
	comp=Z,1µm,18.0s								
OHAK	**Old Harbor**	**82.71**	**12**	*e*P		**P**	**09 21 37.6**	**+0.1**	
	comp=Z,141nm,1.7s								
COCO	**West Island**	**82.85**	**260**	PFAKE			09 21 50.0	+11	
COCO				LR		LR			
	comp=Z,2µm,19.0s								
I04A	**Tendick Farm,**	**83.01**	**36**	P		**P**	**09 21 39.6**	**+0.2**	
	baz=228								
K05A	**Summer Lake**	**83.13**	**37**	*e*P		**P**	**09 21 37.2**	**-3.2**	
	comp=Z,148nm,1.8s								
J05D	**Fort Rock, OR**	**83.31**	**37**	P		**P**	**09 21 41.6**	**+0.4**	
	baz=229,SNR=14								
G03D	**McMinnville, O**	**83.52**	**34**	P		**P**	**09 21 43.0**	**+1.0**	
	baz=227								
R11A	**Troy Canyon, C**	**83.55**	**43**	P		**P**	**09 21 42.5**	**0.0**	
	baz=233								
R11A	**Troy Canyon, C**	**83.55**	**43**	*e*P		**P**

MDJ LE
comp=Z,1μm,21.0s
MDJ LZ
comp=Z,2μm,21.4s
MDJ Mudanjiang 84.23 324 *e*P **P 09 21 45.6 0.0**
comp=Z,32nm,1.0s
MDJ LR LR
comp=Z,2μm,21.0s
F04D Rainier, OR 84.24 34 P **P 09 21 46.7 +1.0**
baz=227
LCMT Little Creek M 84.27 46 *e*P **P 09 21 46.8 +0.6**
comp=Z,98nm,1.9s
E03A Lebam 84.28 33 *e*P **P 09 21 43.1 -2.7**
comp=Z,64nm,1.1s
HPIG 84.31 58 *e*P **P 09 21 46.7 0.0**
comp=Z,28nm,1.3s
G05D Wamic, OR 84.56 35 P **P 09 21 47.8 +0.4**
baz=229
U15A North Rim 84.56 46 *e*P **P 09 21 48.8 +0.8**
comp=Z,131nm,1.8s
WUAZ Wupatki 84.67 48 P **P 09 21 48.8 +0.5**
baz=236
WUAZ Wupatki 84.67 48 *e*P **P 09 21 48.4 0.0**
comp=Z,74nm,1.7s
WUAZ LR LR
comp=Z,3μm,19.0s
ZAIG Zacatecas 84.77 63 *e*P **P 09 21 49.7 +0.4**
comp=Z,20nm,1.2s
SNAA Sanae 84.85 178 P **P 09 21 48.1 -0.5**
SNAA Sanae 84.85 178 *c i*P **P 09 21 49.4 +0.8**
SNAA Sanae 84.85 178 *e*P **P 09 21 48.3 -0.3**
comp=Z,53nm,1.3s
G06A Carlson Farm, 84.92 36 *e*P **P 09 21 49.3 +0.1**
comp=Z,29nm,1.1s
X18A Snowflake 85.10 49 *e*P **P 09 21 51.3 +0.7**
comp=Z,30nm,1.1s
ELK Elko 85.19 42 *e*P **P 09 21 51.3 +0.4**
ELK pmax pmax
comp=Z,16nm,1.4s
ELK Elko 85.19 42 *e*P **P 09 21 51.2 +0.4**
comp=Z,16nm,1.4s
CNPM China Poot 85.26 12 *e*P **P 09 21 50.7 +0.2**
comp=Z,28nm,1.0s
NKL Nikolayevsk 85.26 335 *i* P **P 09 21 50.0 -0.6**
NKL *e* 09 32 18.0
NKL pmax pmax
comp=Z,280nm,1.6s
NKL pmax pmax
comp=E,300nm,10.0s
NKL pmax pmax
comp=Z,1μm,10.0s
NKL MLR MLR
comp=N,500nm,19.0s
NKL MLR MLR
comp=E,600nm,19.0s
NKL MLR MLR
comp=Z,2μm,19.0s
LON Longmire 85.31 34 *e*P **P 09 21 53.0 +1.9**
LON pmax pmax
comp=Z,22nm,1.6s
LON Longmire 85.31 34 *e*P **P 09 21 53.0 +1.9**
comp=Z,22nm,1.6s
DL2 Dalian 85.39 316⇑ *i*P **P 09 21 51.8 +0.2**
DL2 S **S 09 32 22.0 +1.9**
DL2 PMZ
comp=Z,39nm,1.1s
DL2 PMZ
comp=Z,620nm,6.2s
DL2 LN
comp=Z,970nm,19.4s
DL2 LE
comp=Z,1μm,19.8s
DL2 LZ
comp=Z,2μm,19.6s
MNSI Mandailing Nat 85.40 273 P **P 09 21 52.2 -0.1**
D05A Enumclaw 85.51 34 *e*P **P 09 21 53.7 +1.7**
comp=Z,100nm,1.4s
MTPU Mount Pierson 85.55 45 *e*P **P 09 21 54.1 +1.2**
comp=Z,65nm,1.5s
BRLK Bradley Lake 85.55 12 *e*P **P 09 21 52.5 +0.6**
comp=Z,39nm,1.2s
IPM Ipoh 85.55 277 *e*P **P 09 21 53.0 0.0**
comp=Z,24nm,1.0s
W18A Petrified Fore 85.57 49 P **P 09 21 52.9 +0.1**
baz=237
121A Cookes Peak, D 85.58 52 P **P 09 21 53.5 +0.5**
baz=238
121A Cookes Peak, D 85.58 52 *e*P **P 09 21 53.7 +0.8**
comp=Z,68nm,1.7s
VNA1 Neumayer--Stat 85.59 176 P **P 09 21 52.7 +0.6**
PAYG Puerto Ayora 85.60 89 PFAKE 09 22 10.0 +17
PAYG LR LR
comp=Z,1μm,22.0s
PLCA Paso Flores 85.66 133 P **P 09 21 52.5 -0.8**
comp=Z,4.4nm,1.0s,baz=206,slow=14,SNR=2.4
PLCA LR LR 09 53 18.9
comp=Z,818nm,18.9s,baz=281,slow=31
PLCA Paso Flores 85.66 133 P **P 09 21 52.5 -0.8**
PLCA *e* 09 21 57.8
PLCA Paso Flores 85.66 133 P **P 09 21 52.5 -0.8**
PLCA *e*P **P 09 21 57.8 +4.5**
NVL N'lazarevskaya 85.73 183 *e*P **P 09 21 56.6 +3.7**
NVL *e**PP **sP 09 22 07.1 -0.7**
NVL *e*S **S 09 32 18.6 -4.1**
MSU Marysvale 85.82 45 *e*P **P 09 21 55.4 +1.3**
MSU Marysvale 85.82 45 *e*P **P 09 21 55.4 +1.3**
RSO Redoubt South 85.85 11 *e*P **P 09 21 55.1 +1.5**
G08A Pilot Rock 85.86 36 *e*P **P 09 21 54.5 +0.6**
comp=Z,26nm,1.1s
SNY Shenyang 85.90 319⇑ P **P 09 21 54.5 +0.5**
SNY PP **PP 09 25 10.0 -4.4**
SNY PMZ
comp=Z,31nm,1.7s
SNY PMZ
comp=Z,780nm,10.4s
SNY LE
comp=Z,1μm,21.0s
SNY LZ
comp=Z,2μm,23.5s
WHN Wuhan 85.93 306⇑ *i*P **P 09 21 55.5 +1.0**
WHN SKS **S 09 32 19.0 -6.8**
WHN S **ScS 09 32 30.5 -4.4**
WHN PMZ
comp=Z,56nm,1.1s
WHN PMZ
comp=Z,1μm,4.5s
WHN LN
comp=Z,1μm,12.9s
WHN LE
comp=Z,2μm,16.0s
WHN LZ
comp=Z,4μm,19.3s
SVW2 Sparrevohn 85.98 10 *e*P **P 09 21 53.3 -0.7**
comp=Z,15nm,1.1s
CN2 Changchun 86.00 322⇑ P **P 09 21 54.5 0.0**
CN2 *e*pP pP 09 22 03.0 -2.5
CN2 *e*S **S 09 32 25.3 -0.7**
CN2 PMZ
comp=Z,50nm,1.2s
CN2 PMZ
comp=Z,700nm,4.0s
CN2 LN
comp=Z,900nm,20.0s
CN2 LE
comp=Z,1μm,20.0s
CN2 LZ
comp=Z,2μm,19.0s
UBPT Khong Chiam 86.07 288 P P 09 22 01.3 +5.8
comp=Z,23nm,2.4s,comp=Z,1μm
B05A Bryant 86.18 33 P **P 09 21 55.9 +0.6**
baz=228
A04D Lummi Island 86.18 32 P **P 09 21 55.9 +0.7**
baz=227
KULM Kulim 86.22 277 PFAKE 09 22 10.0 +14
KULM LR LR
comp=Z,2μm,19.0s
KLR Kul'dur 86.24 329 P **P 09 21 56.0 +0.4**
comp=Z,10nm,1.0s,baz=126,slow=4.2,SNR=32
KLR Kul'dur 86.24 329 P **P 09 21 56.0 +0.4**
HAWA Hanford 86.26 35 PFAKE 09 22 10.0 +14
HAWA LR LR
comp=Z,3μm,20.0s
DUG Dugway, Tooele 86.37 43 P **P 09 21 56.5 -0.2**
baz=235
DUG Dugway, Tooele 86.37 43 *e*P **P 09 21 57.9 +1.3**
DUG pmax pmax
comp=Z,20nm,1.8s
DUG Dugway, Tooele 86.37 43 *e*P **P 09 21 57.9 +1.3**
comp=Z,20nm,1.8s
MFID Camas Ranch 86.45 39 *e*P **P 09 21 57.1 +0.2**
comp=Z,17nm,1.3s
BMO Blue Mountains 86.49 37 *e*P **P 09 21 58.8 +1.7**
BMO pmax pmax
comp=Z,44nm,2.0s
BMO MLR MLR
comp=Z,2μm,20.0s
BMO Blue Mountains 86.49 37 *e*P **P 09 21 58.8 +1.7**
comp=Z,44nm,2.0s
BMO LR LR
comp=Z,2μm,20.0s
SPU Mount Spurr 86.64 11 *e*P **P 09 21 56.6 -0.7**
PAF Port-aux-Franc 86.72 217 PFAKE 09 22 10.0 +12
PAF LR LR
comp=Z,3μm,21.0s
PSI Prapat 86.80 274 *e*P **P 09 21 58.3 -1.1**
PSI pmax pmax
comp=Z,90nm,1.7s
PSI Prapat 86.80 274 *e*P **P 09 21 58.3 -1.1**
comp=Z,90nm,1.7s
TIA Tai'an 86.87 312 *e*P **P 09 21 59.5 +0.5**
TIA S S 09 32 22.5 -12
TIA PMZ
comp=Z,50nm,0.9s
TIA PMZ
comp=Z,890nm,4.3s
TIA LN
comp=Z,920nm,17.2s
TIA LE
comp=Z,900nm,19.8s
TIA LZ
comp=Z,1μm,19.4s
TMUT Trail Mountain 86.88 45 *e*P **P 09 22 00.5 +1.1**
comp=Z,25nm,1.1s
MNTX Cornudas Mount 86.90 54 P **P 09 21 58.7 -0.6**
baz=240
MNTX Cornudas Mount 86.90 54 *e*P **P 09 21 59.1 -0.2**
comp=Z,31nm,1.0s
MNTX LR LR
comp=Z,2μm,19.0s
Y22D IRIS PASSCAL I 86.99 51 P **P 09 22 00.5 +0.7**
baz=239
RC01 Rabbit Creek A 86.99 12 *e*P **P 09 21 59.0 0.0**
comp=Z,85nm,1.7s
LAZ Ladron 87.00 50 *e*P **P 09 22 00.8 +0.8**
SKLT Songkhla 87.01 279 P **P 09 22 02.8 +2.6**
comp=Z,54nm,2.1s,comp=Z,1μm
TX31 Lajitas Ar. Si 87.03 56 *e*P **P 09 21 59.3 -0.8**
TX31 *e*P **P 09 21 59.9 -0.2**
TXAR Lajitas Array 87.03 56 P **P 09 22 00.3 +0.2**
comp=Z,18nm,0.9s,baz=213,slow=5.9,SNR=99
TXAR LR LR 09 56 43.8
comp=Z,3μm,18.0s,baz=0.0,slow=33
SUA Susitna One 87.15 12 *e*P **P 09 21 59.7 -0.2**
comp=Z,22nm,0.8s
SRU San Rafael Swe 87.22 45 *e*P **P 09 22 01.0 +0.1**
SRU pmax pmax
comp=Z,1μm,0.5s
SRU San Rafael Swe 87.22 45 *e*P **P 09 22 01.0 +0.1**
comp=Z,1μm,0.5s
F10A Beach Ranch, E 87.23 37 *e*P **P 09 22 00.1 -0.6**
comp=Z,20nm,1.1s
LPM Los Pinos Moun 87.32 51 *e*P **P 09 22 02.0 +0.5**
HLID Hailey 87.36 40 P **P 09 22 01.1 -0.3**
baz=234
HLID Hailey 87.36 40 *e*P **P 09 22 01.6 +0.1**
comp=Z,56nm,2.2s
HLID LR LR
comp=Z,2μm,20.0s
GSI Gunungsitoli 87.44 273 P **P 09 22 02.1 -0.2**
GSI Gunungsitoli 87.44 273 *e*P **P 09 22 03.0 +0.7**
comp=Z,95nm,1.1s
MVCO Mesa Verde 87.53 47 P **P 09 22 02.0 -0.5**
baz=238
MVCO Mesa Verde 87.53 47 PFAKE 09 22 10.0 +7.5
MVCO LR LR
comp=Z,3μm,19.0s
PMR Palmer 87.57 12 *e*P **P 09 22 00.9 -0.9**
PMR pmax pmax
comp=Z,48nm,1.3s
PMR Palmer 87.57 12 *e*P **P 09 22 00.9 -0.9**
comp=Z,48nm,1.3s
TT01 Tatalina 87.64 9 *e*P **P 09 22 01.9 -0.2**
TTA Tatalina 87.66 9 *e*P **P 09 22 03.0 +0.7**
TTA pmax pmax
comp=Z,47nm,1.2s
TTA Tatalina 87.66 9 *e*P **P 09 22 03.0 +0.7**
comp=Z,47nm,1.2s
P18A Preston Nutter 87.69 45 *e*P **P 09 22 03.7 +0.5**
comp=Z,8.7nm,1.0s
WRAK Wrangell Islan 87.76 22 PFAKE 09 22 10.0 +7.2
WRAK LR LR
comp=Z,2μm,19.0s
ANMO Albuquerque 87.77 50 P **P 09 22 03.8 +0.2**
baz=239
ANMO Albuquerque 87.77 50 *c e*P **P 09 22 03.4 -0.2**
ANMO pmax pmax
comp=Z,41nm,1.8s
ANMO Albuquerque 87.77 50 *e*P **P 09 22 03.8 +0.2**
comp=Z,35nm,1.4s
ANMO LR LR
comp=Z,4μm,19.0s
TCUT Toone Canyon 87.77 43 *e*P **P 09 22 03.9 +0.3**
comp=Z,36nm,0.8s
PV09 Paradox Valley 87.80 46 *e*P **P 09 22 05.6 +1.8**
C09A Chrisman Ranch 87.82 35 *e*P **P 09 22 03.6 +0.3**
comp=Z,16nm,0.9s
LLLB Lillooet 87.86 31 *e*P **P 09 22 05.8 +2.3**
comp=Z,36nm,1.4s
DIV Divide 87.86 14 *e*P **P 09 22 03.0 -0.2**
comp=Z,27nm,1.0s
SML Sawmill 87.93 13 *e*P **P 09 22 05.3 +1.7**
SML pmax pmax
comp=Z,69nm,1.6s
SML Sawmill 87.93 13 *e*P **P 09 22 05.3 +1.7**
comp=Z,69nm,1.6s
HWUT Hardware Ranch 87.95 43 *e*P **P 09 22 06.9 +2.6**
comp=Z,20nm,1.9s
HWUT LR LR
comp=Z,1μm,21.0s
PV01 Paradox Valley 87.98 47 *e*P **P 09 22 04.8 +0.1**
BMRM Bremner River 87.98 15 *e*P **P 09 22 03.8 -0.1**
comp=Z,48nm,1.1s
SKNT Sakolnakorn 88.09 289 P **P 09 22 06.2 +0.9**
comp=Z,80nm,0.9s
TRTT Trang 88.12 279 P **P 09 22 07.6 +2.1**
comp=Z,83nm,0.9s,comp=Z,1μm
CRQM Cirque 88.15 15 *e*P **P 09 22 05.2 +0.5**
comp=Z,93nm,1.7s
KLU Klutina 88.15 14 *e*P **P 09 22 04.6 -0.1**
comp=Z,34nm,1.4s
SCM Sheep Creek Mo 88.16 13 *e*P **P 09 22 04.5 -0.2**
SCM pmax pmax
comp=Z,48nm,1.1s
SCM Sheep Creek Mo 88.16 13 *e*P **P 09 22 04.5 -0.2**
comp=Z,48nm,1.1s
PPLA Purkeypile 88.22 11 *e*P **P 09 22 07.7 +2.6**
comp=Z,25nm,1.3s
TPTI 88.58 274 P **P 09 22 07.4 -0.3**
NEW Newport 88.71 35 P **P 09 22 07.5 -0.1**
baz=232
NEW Newport 88.71 35 PFAKE 09 22 20.0 +12
NEW LR LR
comp=Z,2μm,20.0s
CAST Castle Rocks 88.73 10 *e*P **P 09 22 05.9 -1.4**
comp=Z,31nm,1.0s
KHON Khomkaen 88.83 288 P **P 09 22 12.0 +3.2**
comp=Z,12nm,1.3s,comp=Z,5μm
AHID Auburn Hatcher 88.89 42 PFAKE 09 22 20.0 +11
AHID LR LR
comp=Z,2μm,20.0s
S22A 4UR Ranch, Cre 88.95 48 P **P 09 22 09.6 +0.4**
baz=239
S22A 4UR Ranch, Cre 88.95 48 *e*P **P 09 22 09.4 +0.1**
comp=Z,38nm,1.8s
MCMT McKenzie Canyo 89.01 39 *e*P **P 09 22 10.4 +1.1**
KTH Kantishna Hill 89.05 11 *e*P **P 09 22 08.6 -0.2**
comp=Z,33nm,1.2s
TRF Thorofare Moun 89.06 11 *e*P **P 09 22 08.1 -1.0**
comp=Z,50nm,1.0s
PATY Pattaya 89.14 284 P **P 09 22 14.6 +4.3**
comp=Z,14nm,1.4s
SKAG Skagway 89.19 19 *e*P **P 09 22 09.7 +0.3**
comp=Z,96nm,1.5s
O20A White River Ci 89.26 45 P **P 09 22 10.1 -0.5**
baz=238
DHY Denali Highway 89.27 13 *e*P **P 09 22 10.7 +0.7**
comp=Z,54nm,1.5s
NONG Nongkai 89.27 290 P **P 09 22 12.5 +1.7**
comp=Z,56nm,1.6s,comp=Z,5μm
RND Reindeer 89.28 12 *e*P **P 09 22 09.6 -0.3**
RND pmax pmax
comp=Z,55nm,1.0s
RND Reindeer 89.28 12 *e*P **P 09 22 09.6 -0.3**
comp=Z,55nm,1.0s
TPAW Teton Pass 89.38 41 *e*P **P 09 22 10.3 -0.8**
comp=Z,41nm,1.9s
SURT Suratani 89.39 280 P **P 09 22 13.3 +1.8**
comp=Z,26nm,1.5s,comp=Z,545nm
832A Faith Ranch, C 89.39 59 P **P 09 22 11.0 -0.2**
baz=243,SNR=8.4
DLMT Dillon 89.47 39 *e*P **P 09 22 11.8 +0.5**
comp=Z,46nm,1.8s
ENH Enshi 89.47 303 *e*P **P 09 22 11.6 +0.1**
comp=Z,232nm,1.6s
ENH LR LR
comp=Z,1μm,19.0s
SNOW Snow King Moun 89.48 41 *e*P **P 09 22 11.8 +0.2**
comp=Z,74nm,2.0s
BJT Baijiatuau 89.53 315 *e*P **P 09 22 11.5 0.0**
BJT pmax pmax
comp=Z,107nm,1.6s
BJT Baijiatuau 89.53 315 *e*P **P 09 22 11.5 0.0**
comp=Z,107nm,1.6s
BJI Beijing 89.53 315 P **P 09 22 12.5 +1.0**
BJI sP **pP 09 22 23.0 +0.5**
BJI PP **PP 09 25 45.0 +1.3**
BJI sS **sS 09 33 15.0 -3.1**
BJI SS **SS 09 38 56.3 -0.5**
BJI PMZ
comp=Z,34nm,2.0s
BJI PMZ
comp=Z,910nm,4.5s
BJI LN
comp=Z,970nm,20.8s
BJI LE
comp=Z,770nm,21.6s
BPAW Bear Paw Mtn. 89.55 11 *e*P **P 09 22 10.2 -0.9**
comp=Z,65nm,2.0s
MSO Missoula 89.56 37 P **P 09 22 11.0 -0.7**
baz=234
MSO Missoula 89.56 37 *e*P **P 09 22 13.8 +2.1**
comp=Z,11nm,1.2s
PAX Paxson 89.57 13 *e*P **P 09 22 11.2 -0.1**
PAX pmax pmax
comp=Z,28nm,1.2s
PAX Paxson 89.57 13 *e*P **P 09 22 11.2 -0.1**
comp=Z,28nm,1.2s
MCK McKinley 89.57 12 *e*P **P 09 22 10.8 -0.4**
MCK pmax pmax
comp=Z,41nm,1.0s
MCK McKinley 89.57 12 *e*P **P 09 22 10.8 -0.4**
comp=Z,41nm,1.0s
SMCO Snowmass 89.59 46 *e*P **P 09 22 13.8 +1.4**
comp=Z,19nm,1.8s
IMW Indian Meadow 89.61 41 *e*P **P 09 22 12.4 +0.2**
comp=Z,14nm,1.3s
933A Laredo 89.64 60 P **P 09 22 11.9 -0.5**
baz=243
MOOW Moose Ponds 89.65 41 *e*P **P 09 22 14.3 +2.0**
comp=Z,24nm,1.9s
LOHW Long Hollow 89.66 41 *e*P **P 09 22 14.3 +1.9**
comp=Z,51nm,1.8s
HYT Haines Junctio 89.67 18 *e*P **P 09 22 12.7 +0.8**
comp=Z,42nm,1.5s
BSMT Bassoo Peak 89.70 36 *e*P **P 09 22 12.2 -0.2**
LRM Limekiln Ridge 89.81 39 *e*P **P 09 22 13.4 +0.3**
BW06 Boulder Array 89.83 42 P **P 09 22 12.5 -0.7**
baz=237
BW06 Boulder Array 89.83 42 *e*P **P 09 22 11.5 -1.7**
BW06 LR LR
comp=Z,1μm,20.0s
PDAR Pinedale Array 89.83 42 P **P 09 22 11.8 -1.4**
comp=Z,1.0nm,0.8s,baz=230,slow=3.7,SNR=4.9
PDAR LR LR 09 56 40.7
comp=Z,1μm,19.6s,baz=249,slow=32
SDCO Great Sand Dun 89.85 48 P **P 09 22 12.7 -0.8**
baz=240
SDCO Great Sand Dun 89.85 48 *e*P **P 09 22 13.8 +0.2**
comp=Z,11nm,1.3s
SDCO LR LR
comp=Z,3μm,19.0s
FLWY Flagg Ranch 89.86 41 *e*P **P 09 22 16.1 +2.8**
comp=Z,28nm,1.4s
034A Hebbronville 89.86 60 P **P 09 22 13.2 -0.2**
baz=243
SEY Seymchan 89.86 346 P **P 09 22 12.1 -0.4**
comp=Z,22nm,0.8s,baz=138,slow=5.0,SNR=50
833A Chaparral WMA, 89.86 59 P **P 09 22 13.5 +0.1**
baz=243
BWN Browne 89.87 11 *e*P **P 09 22 13.1 +0.5**
comp=Z,159nm,1.6s
YPP Pitchstone Pla 89.90 41 *e*P **P 09 22 16.4 +2.8**
comp=Z,36nm,1.9s
MENT Mentasta 89.92 14 *e*P **P 09 22 12.8 -0.1**
comp=Z,31nm,1.2s
MSTX Muleshoe 89.93 53 P **P 09 22 13.6 -0.1**
baz=241
MSTX Muleshoe 89.93 53 *e*P **P 09 22 13.6 -0.1**
comp=Z,38nm,1.0s
GYA Guiyang 89.96 299 P **P 09 22 16.0 +2.0**
GYA pP pP 09 22 24.3 -0.7
GYA PP **PP 09 25 51.5 +4.0**
GYA SKS **SKSac 09 32 43.0 +0.3**
GYA S **S 09 33 05.5 +0.8**
GYA SS **SS 09 39 06.5 +2.8**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,140nm,6.8s
GYA LN
comp=Z,720nm,20.8s
GYA LE
comp=Z,640nm,21.2s
GYA LZ
comp=Z,680nm,21.4s
CHMT Chamberlain Mo 89.99 37 *e*P **P 09 22 13.8 -0.1**
035Z Hargill 90.09 61 P **P 09 22 13.5 -1.0**
baz=244
H17A Grant Village 90.11 41 P **P 09 22 14.9 +0.4**
baz=236
H17A Grant Village 90.11 41 *e*P **P 09 22 16.6 +2.1**
comp=Z,48nm,1.9s
DLBC Dease Lake 90.12 22 P **P 09 22 13.6 -0.4**
comp=Z,9.4nm,0.9s,baz=228,slow=7.7,SNR=13
DLBC Dease Lake 90.12 22 *e*P **P 09 22 14.7 +0.8**
comp=Z,29nm,1.1s
733A Divot King Ran 90.12 59 P **P 09 22 14.3 -0.3**
baz=243
BOZ Bozeman (W) 90.19 39 P **P 09 22 15.0 +0.3**
baz=236
BOZ Bozeman (W) 90.19 39 *e*P **P 09 22 14.8 +0.1**
BOZ pmax pmax
comp=Z,25nm,1.3s
BOZ MLR MLR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 90.19 39 *e*P **P 09 22 14.8 +0.1**
comp=Z,25nm,1.3s
BOZ LR LR
comp=Z,2μm,20.0s
934A Benavides 90.23 60 P **P 09 22 15.3 +0.2**
baz=243
T25A Trinidad 90.30 49 P **P 09 22 15.3 -0.2**
baz=240
LKWY Lake 90.31 41 PFAKE 09 22 30.0 +15
LKWY LR LR
comp=Z,2μm,20.0s
WRH Wood River Hil 90.40 12 *e*P **P 09 22 14.5 -0.5**
comp=Z,53nm,1.1s
834A Tilden 90.44 59 P **P 09 22 15.8 -0.3**
baz=243
DOT Dot Lake 90.47 14 *e*P **P 09 22 15.3 -0.1**
comp=Z,74nm,1.1s
JCT Junction City 90.52 57 P **P 09 22 16.3 -0.2**
baz=243
JCT Junction City 90.52 57 PFAKE 09 22 30.0 +13
JCT LR LR
comp=Z,3μm,19.0s
PBKT Sadao Pong 90.54 288 P **P 09 22 18.5 +1.7**
comp=Z,63nm,1.0s,comp=Z,2μm
633A Saathoff Ranch 90.55 58 P **P 09 22 16.4 -0.2**
baz=243,SNR=6.0

HDA **Harding Lake** 90.56 12 *e*P P 09 22 15.8 0.0
comp=Z,26nm,1.0s
CCB **Clear Creek Bu** 90.61 12 *e*P P 09 22 15.1 -0.9
comp=Z,26nm,1.2s
LOEI **Loei** 90.67 289 P P 09 22 17.5 +0.1
comp=Z,20nm,1.8s
Q24A **Divide** 90.70 47 P P 09 22 17.1 -0.4
baz=240
KVTX **Kingsville** 90.71 60 PFAKE 09 22 30.0 +13
KVTX LR LR
comp=Z,971nm,20.0s
734A **La Parita Cree** 90.76 59 P P 09 22 17.9 +0.3
baz=243
COLA **College** 90.81 12 *e*P P 09 22 16.3 -0.6
COLA pmax pmax
comp=Z,35nm,1.0s
COLA MLR MLR
comp=Z,2µm,20.0s
COLA **College** 90.81 12 *e*P P 09 22 16.3 -0.6
comp=Z,35nm,1.0s
COLA LR LR
comp=Z,2µm,20.0s
ISCO **Idaho Springs** 90.81 46 P P 09 22 18.1 +0.1
baz=240
ISCO **Idaho Springs** 90.81 46 *e*P P 09 22 19.2 +1.2
ISCO pmax pmax
comp=Z,31nm,2.0s
ISCO MLR MLR
comp=Z,2µm,19.0s
ISCO **Idaho Springs** 90.81 46 *e*P P 09 22 19.2 +1.2
comp=Z,31nm,2.0s
ISCO LR LR
comp=Z,2µm,19.0s
MDM **Murphy Dome** 90.81 11 *e*P P 09 22 16.1 -0.9
comp=Z,37nm,1.1s
TIY **Taiyuan** 90.87 311 *e*P P 09 22 17.5 -0.5
TIY pP pP 09 22 30.0 +1.0
TIY S S 09 33 00.0 -13
TIY sS sS 09 33 26.5 -4.3
TIY PMZ
comp=Z,530nm,5.2s
TIY LN
comp=Z,610nm,16.3s
TIY LE
comp=Z,660nm,15.7s
TIY LZ
comp=Z,1µm,19.4s
WALA **Waterton Lakes** 90.89 35 *e*P P 09 22 18.0 +0.2
comp=Z,22nm,1.3s
ILAR **Eielson Array** 90.89 12 P P 09 22 16.0 -1.3
comp=Z,7.7nm,1.1s,baz=220,slow=5.1,SNR=34
ILAR LR LR 09 58 31.1
comp=Z,647nm,19.9s,baz=212,slow=33
ILB **Eielson Array** 90.89 12 *e*P P 09 22 17.0 -0.3
IL1 **Eielson Array** 90.89 12 *e*P P 09 22 16.1 -1.2
533A **Kerrville** 90.93 58 P P 09 22 17.8 -0.6
baz=243,SNR=7.8
LCO **Las Campanas** 90.97 122 PFAKE 09 22 30.0 +11
LCO LR LR
comp=Z,1µm,19.0s
835A **Beeville** 91.08 60 P P 09 22 19.9 +0.8
baz=244
N23A **Red Feather La** 91.15 45 P P 09 22 19.1 -0.3
baz=240
N23A **Red Feather La** 91.15 45 *e*P P 09 22 22.5 +3.1
comp=Z,45nm,1.9s
AMTX **Amarillo** 91.15 52 P P 09 22 18.9 -0.5
baz=242
AMTX **Amarillo** 91.15 52 *e*P P 09 22 19.6 +0.2
comp=Z,27nm,1.1s
634A **China Grove, S** 91.16 58 P P 09 22 18.9 -0.5
baz=244
433A **Art** 91.19 57 P P 09 22 18.9 -0.7
baz=243,SNR=16
RLMT **Red Lodge** 91.29 41 P P 09 22 19.4 -0.6
baz=237
RLMT **Red Lodge** 91.29 41 *e*P P 09 22 22.5 +2.6
comp=Z,18nm,1.4s
RLMT LR LR
comp=Z,1µm,21.0s
534A **Blanco** 91.35 58 P P 09 22 19.3 -1.0
baz=244,SNR=15
735A **Kenedy** 91.35 59 P P 09 22 19.5 -0.8
baz=244
UTTA **Uttaradit** 91.38 289 P P 09 22 22.4 +1.7
comp=Z,7.6nm,1.1s,comp=Z,86nm
333A **Richland Sprin** 91.53 56 P P 09 22 20.3 -0.8
baz=243,SNR=10.0
635A **Leesville** 91.61 59 P P 09 22 21.1 -0.4
baz=244
ABTX **Abilene, Hawle** 91.62 55 P P 09 22 21.1 -0.4
baz=243
ABTX **Abilene, Hawle** 91.62 55 *e*P P 09 22 21.7 +0.2
comp=Z,50nm,1.4s
XAN **Xi'an** 91.64 307 P P 09 22 22.8 +1.2
XAN pP pP 09 22 32.0 -0.6
XAN PMZ
comp=Z,31nm,1.6s
XAN PMZ
comp=Z,470nm,10.5s
XAN LN
comp=Z,530nm,22.1s
XAN LE
comp=Z,1µm,21.2s
XAN LZ
comp=Z,2µm,21.2s
PHWY **Pilot Hill** 91.67 45 *e*P P 09 22 23.8 +1.9
comp=Z,27nm,1.9s
K22A **Casper** 91.67 44 P P 09 22 21.3 -0.4
baz=239
K22A **Casper** 91.67 44 *e*P P 09 22 24.2 +2.5
comp=Z,44nm,1.8s
434A **Burnet** 91.85 57 P P 09 22 21.8 -0.9
baz=244,SNR=7.4
DAWY **Dawson** 91.89 15 *e*P P 09 22 21.8 -0.3
comp=Z,27nm,1.2s
233A **Rising Star** 91.91 56 P P 09 22 22.5 -0.3
baz=243
KHLT **Khaolaem Dam** 91.92 285 P P 09 22 26.7 +3.5
comp=Z,20nm,0.8s
535A **Dale** 92.05 58 P P 09 22 23.9 +0.4
baz=244
SUKH **Sukhothai** 92.08 288 P P 09 22 25.7 +1.8
comp=Z,11nm,0.9s,comp=Z,101nm
EGAK **Eagle** 92.08 14 *e*P P 09 22 23.0 +0.2
comp=Z,35nm,1.2s
EGAK LR LR
comp=Z,2µm,20.0s
334A **Lometa** 92.11 57 P P 09 22 22.7 -1.1
baz=244,SNR=20
133A **Hamilton Ranch** 92.16 55 P P 09 22 23.3 -0.7
baz=243
636A **Smothers Creek** 92.21 59 P P 09 22 23.7 -0.6
baz=244
UMPA **Umpang Tak** 92.24 287 P P 09 22 27.4 +2.7
comp=Z,5.4nm,1.1s,comp=Z,520nm
BILL **Bilibino** 92.33 353 *c i*P P 09 22 24.3 +0.4
BILL pmax pmax
comp=Z,38nm,1.1s
BILL MLR MLR
comp=Z,875nm,19.0s
BILL **Bilibino** 92.33 353 *e*P P 09 22 24.0 +0.1
comp=Z,30nm,1.0s
BILL LR LR
comp=Z,3µm,21.0s
435B **Jarrell** 92.37 57 P P 09 22 24.7 -0.3
baz=244
737A **Port Lavaca** 92.39 60 P P 09 22 24.4 -0.7
baz=244
HIA **Hailar** 92.41 324 PFAKE 09 22 40.0 +15
HIA LR LR
comp=Z,2µm,19.0s
KSCO **Kaye Shedlock'** 92.44 48 P P 09 22 24.8 -0.5
baz=242
KSCO **Kaye Shedlock'** 92.44 48 *e*P P 09 22 26.3 +1.0
comp=Z,47nm,1.5s
536A **Bastrop** 92.46 58 P P 09 22 25.9 +0.4
baz=244
234A **Clairette** 92.48 56 P P 09 22 24.4 -1.1
baz=244,SNR=17
LAMP **Lampang** 92.50 289 P P 09 22 27.7 +1.8
comp=Z,24nm,0.9s
COLD **Coldfoot** 92.56 10 *e*P P 09 22 25.8 +0.8
comp=Z,14nm,1.2s
KMI **Kunming** 92.57 296 P P 09 22 27.3 +0.9
KMI pP pP 09 22 37.0 -0.4
KMI sP sP 09 22 40.0 -1.3
KMI PP PP 09 26 12.8 +4.4
KMI SKS SKSac 09 33 00.0 +2.2
KMI S ScS 09 33 30.3 -0.5
KMI sS sS 09 33 44.5 -2.6
KMI SS SS 09 39 41.3 -0.4
KMI PMZ
comp=Z,33nm,1.7s
KMI PMZ
comp=Z,420nm,7.5s
KMI LN
comp=Z,410nm,19.3s
KMI LE
comp=Z,1µm,18.2s
KMI LZ
comp=Z,1µm,22.3s
Z33A **Whitaker Ranch** 92.58 55 P P 09 22 25.5 -0.4
baz=244
EGMT **Eagleton** 92.58 38 P P 09 22 25.2 -0.5
baz=237
EGMT **Eagleton** 92.58 38 PFAKE 09 22 40.0 +14
EGMT LR LR
comp=Z,1µm,19.0s
X32A **Elmer** 92.69 54 P P 09 22 26.5 +0.1
baz=243
335A **Moody** 92.71 57 P P 09 22 25.4 -1.2
baz=244,SNR=6.5
TRQA **Tornquist** 92.74 134 PFAKE 09 22 40.0 +13
TRQA LR LR
comp=Z,2µm,19.0s
637A **Eagle Lake** 92.77 59 P P 09 22 26.5 -0.3
baz=244
134A **White-Moore Ra** 92.78 56 P P 09 22 25.8 -1.1
baz=244,SNR=9.8
436A **Wall Ranch, Ga** 92.97 58 P P 09 22 27.0 -0.8
baz=244
HHC **Hu-ho-hao-te** 92.98 314 *e*P P 09 22 28.8 +1.1
HHC PP PP 09 26 15.5 +4.4
HHC SKS SKSac 09 33 00.8 +1.6
HHC S ScS 09 33 34.8 +1.5
HHC SS SS 09 39 43.3 -3.4
HHC PMZ
comp=Z,28nm,1.2s
HHC PMZ
comp=Z,380nm,9.1s
HHC LN
comp=Z,600nm,17.3s
HHC LE
comp=Z,1µm,20.4s
HHC LZ
comp=Z,2µm,19.1s
WHTX **Lake Whitney,** 93.00 56 P P 09 22 26.5 -1.3
baz=244,SNR=6.1
WHTX **Lake Whitney,** 93.00 56 *e*P P 09 22 27.9 0.0
comp=Z,94nm,2.0s
Y33A **Hilltop Ranch,** 93.00 54 P P 09 22 26.9 -0.9
baz=244
W32A **Sentinel** 93.04 53 P P 09 22 27.0 -1.0
baz=243
CM01 **Chiang Mai Arr** 93.04 289 *e*P P 09 22 29.6 +1.3
537A **Green Hill Far** 93.05 59 P P 09 22 28.1 -0.1
baz=245
CMAR **Chiang Mai Arr** 93.07 289 P P 09 22 29.6 +1.1
comp=Z,2.5nm,0.8s,baz=213,slow=26,SNR=6.3
CMAR LR LR 10 04 59.0
comp=Z,621nm,19.5s,baz=140,slow=36
336A **Riesel** 93.20 57 P P 09 22 28.2 -0.6
baz=244
CMMT **Chiang Mai** 93.21 289 P P 09 22 30.4 +1.2
comp=Z,46nm,1.4s,comp=Z,964nm
WMOK **Wichita Mounta** 93.21 53 P P 09 22 28.3 -0.5
baz=244
WMOK **Wichita Mounta** 93.21 53 *e*P P 09 22 28.3 -0.5
WMOK pmax pmax
comp=Z,7.0nm,1.1s
WMOK MLR MLR
comp=Z,1µm,19.0s
WMOK **Wichita Mounta** 93.21 53 *e*P P 09 22 28.2 -0.5
comp=Z,7.0nm,1.1s
WMOK LR LR
comp=Z,1µm,19.0s
CHTO **Chiang Mai** 93.21 289 P P 09 22 30.4 +1.2
comp=Z,205nm,1.5s,comp=Z,4µm
CHTO **Chiang Mai** 93.21 289 *e*P P 09 22 30.2 +1.0
CHTO pmax pmax
comp=Z,36nm,0.9s
CHTO MLR MLR
comp=Z,638nm,20.0s
CHTO **Chiang Mai** 93.21 289 *e*P P 09 22 30.2 +1.0
comp=Z,36nm,0.9s
CHTO LR LR
comp=Z,638nm,20.0s
Z34A **Collier Ranch,** 93.25 55 P P 09 22 28.0 -1.1
baz=244
135A **Vickery Place,** 93.28 56 P P 09 22 29.1 -0.1
baz=244
NNA **Nana** 93.29 104 PFAKE 09 22 40.0 +10
NNA LR LR
comp=Z,1µm,20.0s
X33A **Lawton** 93.33 54 P P 09 22 28.8 -0.5
baz=244
V32A **Arapaho** 93.45 53 P P 09 22 29.7 -0.2
baz=243
437A **Phantom Ranch,** 93.51 58 P P 09 22 30.5 +0.3
baz=245
EDM **Edmonton** 93.61 32 *e*P P 09 22 29.9 -0.3
EDM pmax pmax
comp=Z,13nm,1.0s
EDM **Edmonton** 93.61 32 *e*P P 09 22 29.9 -0.3
comp=Z,13nm,1.0s
W33A **Caddo, Fort Co** 93.62 53 P P 09 22 30.6 -0.1
baz=244
Y34A **Reagan Ranch,** 93.62 55 P P 09 22 29.9 -0.8
baz=244
236A **Katherine and** 93.71 57 P P 09 22 29.7 -1.4
baz=245,SNR=9.7
Z35A **Perchaven, San** 93.73 55 P P 09 22 29.9 -1.3
baz=244,SNR=7.9
OGNE **Ogallala** 93.76 47 P P 09 22 30.9 -0.4
baz=242
OGNE **Ogallala** 93.76 47 PFAKE 09 22 40.0 +8.7
OGNE LR LR
comp=Z,3µm,19.0s
U32A **Winter Ranch,** 93.78 52 P P 09 22 31.2 -0.2
baz=244
X34A **Smith Ranch, M** 93.85 54 P P 09 22 31.9 +0.2
baz=244
ATAH **Atahualpa** 93.89 99 LR LR 09 56 40.6
comp=Z,2µm,20.4s,baz=242,slow=30
337A **Centerville** 93.91 58 P P 09 22 32.0 -0.1
baz=245
LAO **LASA Array** 93.92 40 P P 09 22 31.9 +0.1
baz=240,SNR=9.1
LAO **LASA Array** 93.92 40 *e*P P 09 22 32.8 +1.0
comp=Z,26nm,1.0s
LAO LR LR
comp=Z,1µm,20.0s
RSSD **Black Hills** 93.98 43 P P 09 22 32.1 -0.3
baz=241
RSSD **Black Hills** 93.98 43 *e*P P 09 22 32.2 -0.2
RSSD pmax pmax
comp=Z,14nm,1.0s
RSSD **Black Hills** 93.98 43 *e*P P 09 22 32.2 -0.2
comp=Z,14nm,1.0s
438A **Sam Houston St** 93.99 58 P P 09 22 32.5 0.0
baz=245
V33A **Lossen Ranch,** 94.05 53 P P 09 22 32.5 -0.2
baz=244
Y35A **Marietta** 94.14 55 P P 09 22 33.1 +0.1
baz=244
W34A **Bridge Creek,** 94.17 53 P P 09 22 33.1 -0.1
baz=244
CD2 **Chengdu** 94.18 302 *e*P P 09 22 33.0 -0.4
CD2 pP pP 09 22 42.3 -2.1
CD2 sP sP 09 22 45.5 -2.9
CD2 SKS SKSac 09 33 06.5 +0.5
CD2 S ScS 09 33 43.0 -0.6
CD2 sS sS 09 33 57.8 -2.9
CD2 SS SS 09 40 05.5 +1.3
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,5.6s
T32A **Huddler Ranch,** 94.19 51 P P 09 22 33.0 -0.3
baz=244
237A **Washetta, Mont** 94.26 57 P P 09 22 32.6 -1.1
baz=245
Z36A **Blue Ridge** 94.32 56 P P 09 22 33.4 -0.6
baz=245,SNR=5.7
CBKS **Cedar Bluff** 94.34 49 P P 09 22 33.8 -0.2
baz=243
CBKS **Cedar Bluff** 94.34 49 PFAKE 09 22 50.0 +16
CBKS LR LR
comp=Z,4µm,19.0s
X35A **Drake** 94.40 54 P P 09 22 33.5 -0.8
baz=244,SNR=6.2
S32A **Newby Ranch, P** 94.41 51 P P 09 22 34.4 +0.1
baz=244
U33A **Lingo Farm, Me** 94.44 52 P P 09 22 34.0 -0.4
baz=244
H25A **Fruitdale** 94.49 43 P P 09 22 34.7 +0.1
baz=241
137A **Heron Place, G** 94.56 57 P P 09 22 35.0 0.0
baz=245
439A **Center Grove,** 94.57 59 P P 09 22 34.6 -0.5
baz=245
V34A **Guthrie** 94.62 53 P P 09 22 35.4 +0.1
baz=244
V34A **Guthrie** 94.62 53 *e*P P 09 22 37.2 +1.9
comp=Z,57nm,1.9s
T33A **Patterson Ranc** 94.63 52 P P 09 22 36.0 +0.7
baz=244
Y36A **Durant** 94.70 55 P P 09 22 34.7 -0.9
baz=245,SNR=9.0
238A **Jacksonville** 94.79 57 P P 09 22 35.6 -0.5
baz=245
W35A **Tecumseh** 94.80 54 P P 09 22 35.8 -0.3
baz=245
U34A **Anderson Ranch** 94.86 52 P P 09 22 36.6 +0.2
baz=244
HOPE **Hope Point** 94.89 157 PFAKE 09 22 50.0 +14
HOPE LR LR
comp=Z,2µm,19.0s
R32A **Long Quarter,** 94.89 50 P P 09 22 36.7 +0.2
baz=244
Z37A **Pogue Cattle C** 94.91 56 P P 09 22 36.4 -0.2
baz=245
X36A **Centrahoma** 94.94 55 P P 09 22 36.4 -0.3
baz=245,SNR=6.3
540A **Vidor** 94.94 59 P P 09 22 36.1 -0.8
baz=246
339A **Huntington** 94.95 58 P P 09 22 36.7 -0.1
baz=246
NATX **Nacogdoches** 95.05 58 P P 09 22 37.9 +0.6
baz=246
NATX **Nacogdoches** 95.05 58 PFAKE 09 22 50.0 +13
NATX LR LR
comp=Z,3µm,19.0s
V35A **Meyer Ranch, C** 95.09 53 P P 09 22 37.2 -0.2
baz=245
O31A **Woolen Ranch,** 95.23 48 P P 09 22 39.0 +1.0
baz=244
Y37A **Hugo** 95.24 55 P P 09 22 37.9 -0.2
baz=245,SNR=8.2
Q32A **Meitler Ranch,** 95.25 50 P P 09 22 37.7 -0.4
baz=244
W36A **Wetumka** 95.27 54 P P 09 22 37.9 -0.3
baz=245
R33A **Olander Ranch,** 95.35 51 P P 09 22 38.5 -0.1
baz=244
T34A **McClaskey Farm** 95.37 52 P P 09 22 38.6 -0.1
baz=245
LVC **Limon Verde** 95.38 117 PFAKE 09 22 50.0 +10
LVC LR LR
comp=Z,1µm,19.0s
Z38A **Mt. Pleasant** 95.42 56 P P 09 22 38.7 -0.2
baz=245
U35A **Pawnee** 95.42 53 P P 09 22 39.3 +0.4
baz=245
P32A **Huiting Farm,** 95.50 49 P P 09 22 39.1 -0.1
baz=244
340A **Bronson** 95.51 58 P P 09 22 40.6 +1.2
baz=246
139A **Bunkhouse Ranc** 95.63 57 P P 09 22 39.8 -0.1
baz=246
X37A **Clayton** 95.68 55 P P 09 22 40.0 -0.1
baz=245
S34A **Willow Spring** 95.72 51 P P 09 22 40.1 -0.1
baz=245
V36A **Jenks** 95.75 54 P P 09 22 40.5 0.0
baz=245
YAK **Yakutsk** 95.75 337 *e*P P 09 22 38.5 -1.2
YAK *e* 09 26 26.7
YAK *eS* SKSac 09 33 13.3 +0.5
YAK pmax pmax
comp=Z,15nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.7s
YAK pmax pmax
comp=E,7.0nm,1.7s
YAK pmax pmax
comp=Z,8.0nm,0.5s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.3s
YAK smax smax
comp=N,136nm,3.0s
YAK smax smax
comp=E,66nm,4.0s
YAK MLR MLR
comp=Z,704nm,20.0s
YAK MLR MLR
comp=E,529nm,23.0s
YAK MLR MLR
comp=N,485nm,20.0s
YAK **Yakutsk** 95.75 337 PFAKE 09 22 50.0 +10
YAK LR LR
comp=Z,820nm,20.0s
Q33A **Connelly Farm,** 95.76 50 P P 09 22 40.5 +0.1
baz=244
T35A **Sooner Cattle** 95.81 52 P P 09 22 40.2 -0.5
baz=245
240A **Hunter Patters** 95.86 58 P P 09 22 41.6 +0.6
baz=246
W37B **Quinton** 95.86 54 P P 09 22 41.0 +0.1
baz=245
R34A **Isabella, Hill** 95.87 51 P P 09 22 40.6 -0.3
baz=245
Y38A **Idabel** 95.89 56 P P 09 22 40.6 -0.5
baz=246
TUL1 **Leonard** 95.92 53 P P 09 22 40.7 -0.5
baz=245
DGMT **Dagmar** 95.99 39 P P 09 22 40.7 -0.5
baz=241
DGMT **Dagmar** 95.99 39 *e*P P 09 22 41.9 +0.7
comp=Z,28nm,1.3s
DGMT LR LR
comp=Z,2µm,20.0s
O32A **Brockman Farm,** 96.00 49 P P 09 22 40.8 -0.7
baz=244
Z39A **Irene McRaven,** 96.03 56 P P 09 22 42.9 +1.2
baz=246
X38A **Whitesboro** 96.12 55 P P 09 22 42.1 0.0
baz=246
K30A **Basset** 96.16 46 P P 09 22 42.0 -0.2
baz=244
U36A **Oologah** 96.16 53 P P 09 22 42.1 -0.2
baz=245
C25A **Freed Ranch, W** 96.18 40 P P 09 22 43.0 +0.8
baz=242
N32A **Stulken Farm,** 96.20 48 P P 09 22 42.6 +0.2
baz=244
140A **Cam and Jess,** 96.25 57 P P 09 22 42.2 -0.5
baz=246
LZH **Lanzhou** 96.27 307 ⇓P P 09 22 45.0 +2.0
LZH pP pP 09 22 53.0 -1.0
LZH sP sP 09 22 55.5 -2.5
LZH SKS SKSac 09 33 15.0 -2.2
LZH *eS* ScS 09 34 01.3 +0.2
LZH sS sS 09 34 15.0 -3.9
LZH SS SS 09 40 33.0 -1.0
LZH PMZ
comp=Z,44nm,1.4s
LZH PMZ
comp=Z,320nm,5.8s
LZH LN
comp=Z,1µm,19.2s
LZH LE
comp=Z,1µm,16.1s
LZH LZ
comp=Z,2µm,19.8s
S35A **Otter Creek Ra** 96.28 52 P P 09 22 42.6 -0.2
baz=245
I29A **Vivian Onida** 96.31 45 P P 09 22 43.5 +0.8
baz=243

T36A	**Boggs Farm, Ca**	**96.33**	**52**	P	**P**	09 22 42.8	**-0.2**		
	baz=245								
D26A	**Manning**	**96.35**	**41**	P	**P**	**09 22 43.4**	**+0.5**		
	baz=242								
Q34A	**Chapman**	**96.36**	**50**	P	**P**	**09 22 42.8**	**-0.3**		
	baz=245								
Y39A	**Lockesburg**	**96.38**	**56**	P	**P**	**09 22 44.5**	**+1.2**		
	baz=246								
V37A	**Hulbert**	**96.39**	**54**	P	**P**	**09 22 42.9**	**-0.4**		
	baz=246								
O33A	**Hebron**	**96.40**	**49**	P	**P**	**09 22 43.0**	**-0.3**		
	baz=245								
L31A	**Butterfield Fa**	**96.45**	**47**	P	**P**	**09 22 43.2**	**-0.3**		
	baz=244								
B25A	**Knox Farm, Ray**	**96.50**	**40**	P	**P**	**09 22 43.7**	**+0.2**		
	baz=242								
W38A	**Poteau**	**96.52**	**55**	P	**P**	**09 22 44.3**	**+0.3**		
	baz=246								
J30A	**Dallas**	**96.52**	**46**	P	**P**	**09 22 44.4**	**+0.6**		
	baz=244								
X39A	**Fountain Ranch**	**96.59**	**55**	P	**P**	**09 22 45.2**	**+0.9**		
	baz=246								
U37A	**Salina**	**96.62**	**53**	P	**P**	**09 22 44.0**	**-0.4**		
	baz=246								
R35A	**Emporia Munici**	**96.63**	**51**	P	**P**	**09 22 45.0**	**+0.7**		
	baz=245								
Z40A	**Long Farm, Mag**	**96.63**	**57**	P	**P**	**09 22 44.7**	**+0.2**		
	baz=246								
KSU1	**Kansas State U**	**96.67**	**50**	P	**P**	**09 22 44.7**	**+0.2**		
	baz=245								
KSU1	**Kansas State U**	**96.67**	**50**	PFAKE		09 23 00.0	+16		
KSU1				LR	LR				
	comp=Z,5µm,19.0s								
P34A	**Walnut Farm, R**	**96.70**	**50**	P	**P**	**09 22 44.4**	**-0.2**		
	baz=245								
K31A	**O'Neill**	**96.70**	**46**	P	**P**	**09 22 44.8**	**+0.2**		
	baz=244								
INK	**Inuvik**	**96.74**	**15**	P	**P**	**09 22 43.2**	**-0.9**		
	comp=Z,2.6nm,0.9s,baz=186,slow=9.6,SNR=6.4								
INK	**Inuvik**	**96.74**	**15**	*eP*	**P**	**09 22 44.4**	**+0.3**		
	comp=Z,9.2nm,1.2s								
141A	**Papa Simpson,**	**96.75**	**57**	P	**P**	**09 22 46.2**	**+1.2**		
	baz=246								
N33A	**J Bar K, Exete**	**96.77**	**49**	P	**P**	**09 22 44.9**	**-0.1**		
	baz=245								
OTAV	**Otavalo**	**96.82**	**93**	PFAKE		09 23 00.0	+14		
OTAV				LR	LR				
	comp=Z,970nm,21.0s								
S36A	**Lake Cedric, C**	**96.82**	**52**	P	**P**	**09 22 45.1**	**-0.1**		
	baz=246								
A25A	**Svangstu Ranch**	**96.85**	**39**	P	**P**	**09 22 44.9**	**-0.2**		
	baz=242								
V38A	**Canehill**	**96.92**	**54**	P	**P**	**09 22 45.7**	**0.0**		
	baz=246								
Q35A	**Mercer Eighty,**	**96.97**	**51**	P	**P**	**09 22 46.0**	**+0.1**		
	baz=245								
J31A	**Geddes**	**97.00**	**46**	P	**P**	**09 22 45.9**	**0.0**		
	baz=244								
MIAR	**Mount Ida**	**97.01**	**55**	P	Pdif	09 22 46.5	+0.2		
	baz=246								
MIAR	**Mount Ida**	**97.01**	**55**	PFAKE		09 23 00.0	+14		
MIAR				LR	LR				
	comp=Z,3µm,19.0s								
Y40A	**Okolona**	**97.03**	**56**	P	Pdif	09 22 46.3	0.0		
	baz=246								
T37A	**Cheneyville 18**	**97.06**	**53**	P	Pdif	09 22 47.3	+0.8		
	baz=246								
O34A	**Beatrice**	**97.06**	**49**	P	**P**	**09 22 46.3**	**0.0**		
	baz=245								
B26A	**Jensen Ranch,**	**97.10**	**40**	P	Pdif	09 22 47.4	+1.0		
	baz=242								
W39A	**Magazine**	**97.12**	**55**	P	Pdif	09 22 48.4	+1.7		
	baz=246								
R36A	**Gordon, Harris**	**97.13**	**51**	P	**P**	**09 22 46.5**	**-0.1**		
	baz=246								
U38A	**Gravette**	**97.17**	**53**	P	**P**	**09 22 46.8**	**0.0**		
	baz=246								
K32A	**Verdigre**	**97.24**	**47**	P	Pdif	09 22 47.7	+0.6		
	baz=245								
S37A	**Fort Scott**	**97.39**	**52**	P	**P**	**09 22 47.6**	**-0.1**		
	baz=246								
F29A	**Eureka**	**97.42**	**43**	P	**P**	**09 22 47.6**	**-0.2**		
	baz=244								
Q36A	**Arnold C. Orve**	**97.42**	**51**	P	**P**	**09 22 47.7**	**-0.2**		
	baz=246								
A26A	**Wade Farm, Ken**	**97.45**	**40**	P	Pdif	09 22 49.5	+1.6		
	baz=243								
V39A	**Pettigrew**	**97.48**	**54**	P	**P**	**09 22 48.2**	**-0.1**		
	baz=246								
T38A	**Diamond**	**97.48**	**53**	P	Pdif	09 22 49.1	+0.8		
	baz=246								
L33A	**Hoskins**	**97.50**	**47**	P	Pdif	09 22 49.5	+1.2		
	baz=245								
G30A	**Faulkton**	**97.54**	**44**	P	Pdif	09 22 49.4	+1.0		
	baz=244								
X40A	**Basin Creek Fa**	**97.55**	**56**	P	**P**	**09 22 48.4**	**-0.2**		
	baz=247								
R37A	**Teagarden Farm**	**97.61**	**52**	P	Pdif	09 22 49.0	+0.2		
	baz=246								
O35A	**Humboldt**	**97.64**	**49**	P	Pdif	09 22 49.2	+0.3		
	baz=246								
W40A	**Ferguson Farm,**	**97.65**	**55**	P	Pdif	09 22 50.5	+1.4		
	baz=247								
M34A	**Aspy Farms, Fr**	**97.69**	**48**	P	Pdif	09 22 50.0	+0.9		
	baz=245								
U39A	**Green Forest**	**97.82**	**54**	P	Pdif	09 22 50.7	+0.8		
	baz=247								
P36A	**Good Intent, A**	**97.87**	**50**	P	**P**	**09 22 49.8**	**-0.1**		
	baz=246								
S38A	**Stockton**	**98.00**	**53**	P	Pdif	09 22 52.7	+2.0		
	baz=246								
V40A	**Witts Springs**	**98.08**	**55**	P	Pdif	09 22 51.4	+0.3		
	baz=247								
Q37A	**Longview Farm,**	**98.11**	**51**	P	Pdif	09 22 51.7	+0.7		
	baz=246								
T39A	**Clever**	**98.15**	**53**	P	**P**	**09 22 51.3**	**0.0**		
	baz=247								
J33A	**Davis**	**98.19**	**46**	Pdiff	Pdif	09 22 52.0	+0.7		
	baz=245								
R38A	**Fenwick Farm,**	**98.22**	**52**	Pdiff	Pdif	09 22 51.9	+0.3		
	baz=247								
B28A	**Dugan Ranch, T**	**98.25**	**41**	Pdiff	Pdif	09 22 52.3	+0.8		
	baz=244								
244A	**Avery, Jackson**	**98.26**	**59**	Pdiff	Pdif	09 22 51.9	+0.1		
	baz=247								
W41B	**Gary Mavity, V**	**98.27**	**55**	Pdiff	Pdif	09 22 52.6	+0.8		
	baz=247								
U40A	**Yellville**	**98.27**	**54**	Pdiff	Pdif	09 22 52.2	+0.4		
	baz=247								
H32A	**Carlson Farm,**	**98.37**	**45**	Pdiff	Pdif	09 22 52.7	+0.6		
	baz=245								
F31A	**Hecla**	**98.42**	**44**	Pdiff	Pdif	09 22 52.7	+0.4		
	baz=245								
MDND	**Maddock**	**98.44**	**41**	Pdiff	Pdif	09 22 52.7	+0.4		
	baz=244								
S39A	**Bolivar**	**98.45**	**53**	Pdiff	Pdif	09 22 53.6	+1.0		
	baz=247								
P37A	**Lathrop**	**98.46**	**51**	Pdiff	Pdif	09 22 53.2	+0.6		
	baz=246								
YKA	**Yellowknife Ar**	**98.47**	**24**	P	**P**	**09 22 51.0**	**-1.0**		
	comp=Z,1.3nm,0.8s,baz=232,slow=4.1,SNR=7.7								
YKA				LR	LR	10 02 04.9			
	comp=Z,86nm,19.8s,baz=180,slow=32								
YKA	**Yellowknife Ar**	**98.47**	**24**	P	**P**	**09 22 51.0**	**-1.0**		
YKA	**Yellowknife Ar**	**98.47**	**24**	P	**P**	**09 22 51.0**	**-1.0**		
345A	**Thompson Farm,**	**98.50**	**60**	Pdiff	Pdif	09 22 53.5	+0.5		
	baz=248								
K34A	**Le Mars**	**98.51**	**47**	Pdiff	Pdif	09 22 53.2	+0.5		
	baz=246								
ECSD	**EROS Data Cent**	**98.59**	**46**	Pdiff	Pdif	09 22 53.7	+0.6		
	baz=246								
ECSD	**EROS Data Cent**	**98.59**	**46**	*eP*	**P**	**09 22 53.1**	**0.0**		
	comp=Z,8.8nm,1.3s								
ECSD				LR	LR				
	comp=Z,3µm,19.0s								
I33A	**Coleman**	**98.60**	**46**	Pdiff	Pdif	09 22 53.5	+0.4		
	baz=246								
L35A	**Bielow Farm, R**	**98.65**	**48**	Pdiff	Pdif	09 22 54.7	+1.3		
	baz=246								
T40A	**Mansfield**	**98.83**	**53**	Pdiff	Pdif	09 22 55.3	+1.0		
	baz=247								
B29A	**Wagenman Farm,**	**98.86**	**41**	Pdiff	Pdif	09 22 55.3	+1.2		
	baz=244								
H33A	**Prehn Over Nor**	**98.90**	**45**	Pdiff	Pdif	09 22 55.5	+1.1		
	baz=246								
R39A	**Chumby, Stover**	**98.90**	**52**	Pdiff	Pdif	09 22 55.6	+1.0		
	baz=247								
E31A	**Nome**	**98.94**	**43**	Pdiff	Pdif	09 22 54.9	+0.3		
	baz=245								
U41A	**Viola**	**98.96**	**54**	Pdiff	Pdif	09 22 55.9	+1.0		
	baz=247								
LPAZ	**La Paz**	**98.98**	**112**	LR	LR	10 00 25.3			
	comp=Z,914nm,19.3s,baz=196,slow=31								
S40A	**Lebanon**	**99.02**	**53**	Pdiff	**Pdif**	**09 22 56.1**	**+1.0**		
	baz=247								
ULN	**Ulaanbaatar**	**99.04**	**318**	*ce*P	**Pdif**	**09 22 55.1**	**-0.1**		
ULN				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ULN	**Ulaanbaatar**	**99.04**	**318**	*e*P	**Pdif**	**09 22 55.4**	**+0.2**		
	comp=Z,6.4nm,1.1s								
ULN				LR	LR				
	comp=Z,724nm,20.0s								
P38A	**Dawn**	**99.06**	**51**	Pdiff	**Pdif**	**09 22 56.2**	**+0.9**		
	baz=247								
C30A	**Mose, Pekin**	**99.06**	**42**	Pdiff	**Pdif**	**09 22 56.4**	**+1.3**		
	baz=245								
A29A	**Manning Farm,**	**99.12**	**41**	Pdiff	**Pdif**	**09 22 56.0**	**+0.7**		
	baz=245								
O38A	**Galt**	**99.29**	**50**	Pdiff	**Pdif**	**09 22 56.7**	**+0.4**		
	baz=247								
T41A	**Mountain View**	**99.35**	**54**	Pdiff	**Pdif**	**09 22 57.8**	**+1.2**		
	baz=248								
SONA1	**Songino Array**	**99.43**	**318**	*e*P	**Pdif**	**09 22 56.2**	**-0.7**		
SONM	**Songino Array**	**99.43**	**318**	P	**Pdif**	**09 22 56.6**	**-0.3**		
	comp=Z,1.3nm,0.8s,baz=108,slow=4.8,SNR=9.3								
SONM				LR	LR	10 05 46.0			
	comp=Z,531nm,19.0s,baz=99,slow=34								
R40A	**Maddies Statio**	**99.45**	**52**	Pdiff	**Pdif**	**09 22 57.3**	**+0.3**		
	baz=248								
B30A	**Myrvik Farm, E**	**99.47**	**41**	Pdiff	**Pdif**	**09 22 57.2**	**+0.3**		
	baz=245								
H34A	**Spellman Lake,**	**99.52**	**45**	Pdiff	**Pdif**	**09 22 57.8**	**+0.6**		
	baz=246								
C31A	**Landman Farms,**	**99.56**	**42**	Pdiff	**Pdif**	**09 22 58.1**	**+0.8**		
	baz=248								
P39B	**Salisbury**	**99.56**	**51**	Pdiff	**Pdif**	**09 22 57.5**	**+0.1**		
	baz=247								
S41A	**Jillco Farms,**	**99.57**	**53**	Pdiff	**Pdif**	**09 22 57.6**	**0.0**		
	baz=248								
F33A	**5 Mile Ranch,**	**99.66**	**44**	Pdiff	**Pdif**	**09 22 58.2**	**+0.4**		
	baz=246								
Q40A	**Laux Farm, Aux**	**99.86**	**52**	Pdiff	**Pdif**	**09 22 59.4**	**+0.5**		
	baz=248								
B31A	**Greenbush Farm**	**99.87**	**41**	Pdiff	**Pdif**	**09 22 59.6**	**+0.9**		
	baz=246								
J36A	**Seneca 1, Swea**	**99.94**	**47**	Pdiff	**Pdif**	**09 23 00.7**	**+1.6**		
	baz=247								
M38A	**Pleasantville**	**99.99**	**49**	Pdiff	**Pdif**	**09 23 00.4**	**+1.1**		
	baz=248								
O39A	**Kirksville**	**100.00**	**51**	Pdiff	**Pdif**	**09 22 59.4**	**-0.1**		
	baz=248								
FFC	**Flin Flon**	**100.14**	**34**	PFAKE		09 23 10.0	+10		
FFC				LR	LR				
	comp=Z,1µm,20.0s								
H35A	**Sunnyside Ranc**	**100.15**	**46**	Pdiff	**Pdif**	**09 23 01.2**	**+1.2**		
	baz=247								
SCIA	**State Center**	**100.16**	**49**	PFAKE		09 23 10.0	+10		
SCIA				LR	LR				
	comp=Z,3µm,19.0s								
O40A	**La Belle**	**100.43**	**51**	Pdiff	**Pdif**	**09 23 02.2**	**+0.9**		
	baz=248								
I36A	**Fitzsimmons Fa**	**100.43**	**47**	Pdiff	**Pdif**	**09 23 02.0**	**+0.7**		
	baz=247								
J37A	**Redenius Farm,**	**100.47**	**47**	Pdiff	**Pdif**	**09 23 02.8**	**+1.3**		
	baz=248								
GTA	**Gaotai**	**100.52**	**308**	⇑P	**Pdif**	**09 23 02.5**	**+0.6**		
GTA				pP	pP	09 23 10.5	-2.5		
GTA				sP	sP	09 23 13.0	-4.0		
GTA				PP	**PP**	**09 27 12.5**	**+3.2**		
GTA				SKS		09 33 38.8			
GTA				S	**Sdif**	**09 34 34.8**	**-1.5**		
GTA				sS	sS	09 34 47.8	-6.9		
GTA				PMZ					
	comp=Z,10.0nm,1.7s								
GTA				PMZ					
	comp=Z,160nm,7.8s								
GTA				LN					
	comp=Z,560nm,19.5s								
GTA				LE					
	comp=Z,1µm,20.4s								
GTA				LZ					
	comp=Z,1µm,19.0s								
B32A	**Ashes, Strandq**	**100.53**	**42**	Pdiff	**Pdif**	**09 23 02.1**	**+0.5**		
	baz=246								
G35A	**Watkins**	**100.58**	**45**	Pdiff	**Pdif**	**09 23 02.8**	**+0.9**		
	baz=247								
M39A	**Webster**	**100.72**	**49**	Pdiff	**Pdif**	**09 23 03.3**	**+0.7**		
	baz=248								
Z47A	**Carrollton**	**100.74**	**59**	Pdiff	**Pdif**	**09 23 04.4**	**+1.6**		
	baz=249								
K38A	**Parkersburg**	**100.75**	**48**	Pdiff	**Pdif**	**09 23 03.8**	**+1.1**		
	baz=248								
C33A	**Trail**	**100.75**	**43**	Pdiff	**Pdif**	**09 23 03.4**	**+0.8**		
	baz=247								
F35A	**Swanville**	**100.77**	**45**	Pdiff	**Pdif**	**09 23 03.8**	**+1.1**		
	baz=247								
BRAL	**Brewton**	**100.82**	**61**	PFAKE		09 23 10.0	+6.7		
BRAL				LR	LR				
	comp=Z,1µm,20.0s								
AGMN	**Agassiz Nation**	**100.91**	**42**	PFAKE		09 23 20.0	+17		
AGMN				LR	LR				
	comp=Z,625nm,19.0s								
L39A	**Vinton**	**101.08**	**49**	Pdiff	**Pdif**	**09 23 05.6**	**+1.4**		
	baz=248								
E35A	**Pequot Lakes**	**101.15**	**44**	Pdiff	**Pdif**	**09 23 05.6**	**+1.2**		
	baz=248								
I38A	**Scanlan Farm,**	**101.56**	**47**	Pdiff	**Pdif**	**09 23 07.2**	**+0.9**		
	baz=248								
TIXI	**Tiksi**	**102.27**	**345**	PFAKE		09 23 20.0	+11		
TIXI				LR	LR				
	comp=Z,3µm,21.0s								
ZAK	**Zakamensk**	**102.32**	**320**	*e*P	**Pdif**	**09 23 01.8**	**-7.8**		
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.7s								
J40A	**Soldiers Grove**	**102.41**	**48**	Pdiff	**Pdif**	**09 23 10.7**	**+0.7**		
	baz=249								
HDIL	**Hopedale**	**102.42**	**51**	PFAKE		09 23 20.0	+10		
HDIL				LR	LR				
	comp=Z,4µm,19.0s								
JFWS	**Jewell Farm**	**102.57**	**49**	PFAKE		09 23 20.0	+9.2		
JFWS				LR	LR				
	comp=Z,3µm,19.0s								
TLY	**Talaya**	**102.60**	**321**	*e*P	**Pdif**	**09 23 12.0**	**+1.3**		
TLY				*e*S	**Sdif**	**09 34 50.7**	**-2.1**		
TLY				*e*PS	**PS**	**09 36 33.6**	**+1.7**		
TLY				pmax	pmax				
	comp=Z,2.0nm,0.9s								
TLY				MLR	MLR				
	comp=Z,886nm,20.0s								
TLY	**Talaya**	**102.60**	**321**	PFAKE		09 23 20.0	+9.3		
TLY				LR	LR				
	comp=Z,1µm,20.0s								
EYMN	**Ely**	**103.50**	**43**	PFAKE		09 23 30.0	+15		
EYMN				LR	LR				
	comp=Z,1µm,21.0s								
LSA	**Lhasa**	**103.83**	**297**	PFAKE		09 23 30.0	+13		
LSA				LR	LR				
	comp=Z,1µm,22.0s								
SFIN	**Lafayette**	**103.94**	**52**	Pdiff	**Pdif**	**09 23 17.4**	**+0.5**		
	baz=251								
MTDJ	**Mount Denham**	**104.41**	**76**	PFAKE		09 23 30.0	+10		
MTDJ				LR	LR				
	comp=Z,658nm,19.0s								
GOGA	**Godfrey**	**104.43**	**60**	PFAKE		09 23 30.0	+11		
GOGA				LR	LR				
	comp=Z,3µm,19.0s								
DGAR	**Diego Garcia**	**106.64**	**254**	PFAKE		09 27 50.0			
DGAR				LR	LR				
	comp=Z,4µm,19.0s								
SAML	**Samuel**	**106.66**	**108**	PFAKE		09 27 50.0			
SAML				LR	LR				
	comp=Z,1µm,21.0s								
ACSO	**Alum Creek Sta**	**106.89**	**53**	PFAKE		09 27 50.0			
ACSO				LR	LR				
	comp=Z,2µm,19.0s								
NHSC	**New Hope**	**106.96**	**61**	PFAKE		09 27 50.0			
NHSC				LR	LR				
	comp=Z,2µm,19.0s								
AAM	**Ann Arbor**	**106.99**	**51**	PFAKE		09 27 50.0			
AAM				LR	LR				
	comp=Z,3µm,19.0s								
GTBY	**Guantanamo Bay**	**107.14**	**75**	PFAKE		09 27 50.0			
GTBY				LR	LR				
	comp=Z,649nm,19.0s								
SDV	**Santo Domingo**	**107.34**	**88**	PFAKE		09 27 50.0			
SDV				LR	LR				
	comp=Z,956nm,21.0s								
BLA	**Blacksburg**	**107.95**	**57**	PFAKE		09 27 50.0			
BLA				LR	LR				
	comp=Z,1µm,19.0s								
CNNC	**Cliffs of the**	**109.38**	**59**	PFAKE		09 28 00.0			
CNNC				LR	LR				
	comp=Z,2µm,19.0s								
SDDR	**Presa de Saban**	**110.24**	**78**	PFAKE		09 28 00.0			
SDDR				LR	LR				
	comp=Z,814nm,22.0s								
WMQ	**Urumqi**	**110.50**	**310**	PKP	**PKiKP**	**09 27 45.5**	**-1.1**		
WMQ				PP	**PP**	**09 28 25.0**	**+2.0**		
WMQ				SS	SS	09 43 47.0	-2.4		
WMQ				PPMZ					
	comp=Z,130nm,11.1s								
WMQ				LN					
	comp=Z,290nm,20.5s								
WMQ				LE					
	comp=Z,690nm,21.9s								
WMQ				LZ					
	comp=Z,910nm,21.9s								
CBN	**Corbin Frederi**	**110.55**	**56**	PFAKE		09 28 00.0			
CBN				LR	LR				
	comp=Z,1µm,20.0s								
GRTK	**Grand Turk**	**111.17**	**75**	PFAKE		09 28 00.0			
GRTK				LR	LR				
	comp=Z,727nm,19.0s								
SPB	**Sao Paulo**	**111.33**	**129**	PFAKE		09 28 00.0			
SPB				LR	LR				
	comp=Z,2µm,20.0s								
BINY	**Binghamton**	**112.49**	**52**	PFAKE		09 28 00.0			
BINY				LR	LR				
	comp=Z,3µm,19.0s								
LONY	**Lake Ozonia**	**113.95**	**50**	PFAKE		09 28 10.0			
LONY				LR	LR				
	comp=Z,3µm,19.0s								
ZAA0	**Zalesovo Array**	**114.19**	**320**	*e*P	PKPdf	09 27 52.4	-0.8		
ZALV	**Zalesovo Beam**	**114.19**	**320**	PKP	PKPdf	09 27 52.8	-0.4		
	comp=Z,1.5nm,0.5s,baz=157,slow=0.7,SNR=5.5								
SJG	**San Juan**	**114.59**	**80**	PFAKE		09 28 10.0	+15		
SJG				LR	LR				
	comp=Z,496nm,20.0s								
MK01	**Makanchi Array**	**114.80**	**312**	*e*P	PKPdf	09 27 53.4	-1.3		
MK31	**Makanchi Array**	**114.81**	**312**	*e*PKIKP	PKPdf	09 27 54.1	-0.6		
MK31	**Makanchi Array**	**114.81**	**312**	*e*P	PKPdf	09 27 54.0	-0.6		
MKAR	**Makanchi Array**	**114.81**	**312**	PKP	PKPdf	09 27 53.9	-0.8		
	comp=Z,2.6nm,0.7s,baz=75,slow=1.8,SNR=16								
MKAR				PKKPbc	**PKKPbc**	**09 38 32.9**	**0.0**		
	comp=Z,0.9nm,0.9s,baz=267,slow=4.3,SNR=4.6								
GRGR	**Grenville**	**116.73**	**88**	PFAKE		09 28 10.0	+11		
GRGR				LR	LR				
	comp=Z,729nm,21.0s								
KURK	**Kurchatov**	**117.66**	**316**	*c i*PKIKP	**PKPdf**	**09 27 59.6**	**-0.4**		
KURK				pmax	pmax				
	comp=Z,37nm,1.2s								
KURK	**Kurchatov**	**117.66**	**316**	*e*PKPdf	**PKPdf**	**09 27 58.5**	**-1.5**		
KURK				PP	**PP**	**09 29 10.7**	**-2.7**		
KURBB	**Kurchatov Arra**	**117.71**	**316**	PKP	**PKPdf**	**09 27 59.1**	**-1.0**		
	comp=Z,3.9nm,0.8s,baz=97,slow=2.0,SNR=24								
KURBB				PP	**PP**	**09 29 10.7**	**-3.0**		
	comp=Z,1.4nm,1.0s,baz=90,slow=5.6,SNR=5.7								
PKME	**Peaks-Kenny Pk**	**117.76**	**50**	PFAKE		09 28 10.0	+10		
PKME				LR	LR				
	comp=Z,4µm,19.0s								
FDF	**Fort de France**	**118.07**	**85**	PFAKE		09 28 10.0	+8.1		
FDF				LR	LR				
	comp=Z,522nm,19.0s								
KSH	**Kashi**	**118.33**	**303**	*e*PKP	**PKPdf**	**09 28 03.8**	**+2.0**		
KSH				sPKP		09 28 18.3			
KSH				PP	**PP**	**09 29 25.3**	**+6.7**		
KSH				PKS	**PKSdf**	**09 31 38.5**	**-0.1**		
KSH				SKS	**SKSdf**	**09 35 09.5**	**-2.0**		
KSH				SKKS	**SKKSac**	**09 36 14.3**	**-1.9**		
KSH				SS	**SS**	**09 45 36.5**	**+3.6**		
KSH				PPMZ					
	comp=Z,150nm,6.9s								
KSH				LN					
	comp=Z,420nm,13.8s								
KSH				LE					
	comp=Z,290nm,11.0s								
KSH				LZ					
	comp=Z,390nm,14.8s								
ANWB	**Willy Bob**	**118.41**	**82**	PFAKE		09 28 10.0	+7.6		
ANWB				LR	LR				
	comp=Z,500nm,20.0s								
BBSR	**BB Station**	**119.44**	**65**	PFAKE		09 28 20.0	+16		
BBSR				LR	LR				
	comp=Z,948nm,19.0s								
FRU	**Bishkek**	**119.74**	**307**	*e*PKIKP	**PKPdf**	**09 28 09.0**	**+4.7**		
FRU				*e*		09 29 27.5			
AAK	**Ala-Archa**	**119.81**	**307**	PKP	**PKPdf**	**09 28 03.8**	**-0.9**		
	comp=Z,3.2nm,0.7s,baz=257,slow=3.1,SNR=5.2								
AAK	**Ala-Archa**	**119.81**	**307**	PKIKP	**PKPdf**	**09 28 03.8**	**-0.9**		
AAK				MLR	MLR				
	comp=Z,961nm,20.0s								
AAK	**Ala-Archa**	**119.81**	**307**	PKP	**PKPdf**	**09 28 03.8**	**-0.9**		
AAK				LR	LR				
	comp=Z,961nm,20.0s								
EKS2	**Erkin-Say**	**120.34**	**307**	*e*PKIKP	**PKPdf**	**09 28 05.7**	**+0.1**		
EKS2				MLR	MLR				
	comp=Z,992nm,19.0s								
EKS2	**Erkin-Say**	**120.34**	**307**	*e*PKPdf	**PKPdf**	**09 28 05.7**	**+0.1**		
EKS2				LR	LR				
	comp=Z,992nm,19.0s								
ABPO	**Ambohimpanom**	**120.37**	**228**	PFAKE		09 28 20.0	+14		
ABPO				LR	LR				
	comp=Z,467nm,20.0s								
SUR	**Sutherland**	**122.11**	**197**	PFAKE		09 28 20.0	+10		
SUR				LR	LR				
	comp=Z,3µm,19.0s								
VOSK	**Vostochnaya**	**122.43**	**319**	*e*PKIKP	**PKPdf**	**09 28 08.0**	**-1.1**		
VOSK	**Vostochnaya**	**122.43**	**319**	*e*PKPdf	**PKPdf**	**09 28 08.0**	**-1.1**		
BVAR	**Borovoye Array**	**

LSZ MLR MLR
comp=Z,1μm,20.0s
LSZ Lusaka 134.80 214 *e*PKPdf **PKPdf 09 28 35.0 +1.0**
LSZ LR LR
comp=Z,1μm,20.0s
TSUM Tsumeb 135.50 198 PFAKE 09 28 50.0 +15
TSUM LR LR
comp=Z,3μm,19.0s
KLMR Klimovskoe 135.54 336 *e*PKIKP **PKPdf 09 28 33.1 -0.7**
KLMR pmax pmax
comp=Z,28nm,1.5s
BORG Borgarnes 135.62 15 PFAKE 09 28 50.0 +16
BORG LR LR
comp=Z,962nm,20.0s
FIA1 FINESS Array S 139.31 344 *e*PKPpre PKPpre 09 28 35.3
FIA1 *e*PKPdf **PKiKP 09 28 42.2 -0.8**
FIA1 *e* 09 31 30.9
FIA1 *e* 09 31 31.6
FINES FINESS Array B 139.31 344 PKhKP PKPpre 09 28 29.0
comp=Z,0.3nm,0.2s,baz=127,slow=17,SNR=5.4
FINES PKP **PKiKP 09 28 42.1 -0.9**
comp=Z,6.6nm,0.9s,baz=333,slow=2.1,SNR=12
FINES PP **PP 09 31 33.9 -0.5**
comp=Z,2.2nm,1.1s,baz=29,slow=4.4,SNR=4.9
SHEL Horse Pasture 139.49 165 PFAKE 09 28 50.0 +7.5
SHEL LR LR
comp=Z,413nm,19.0s
KMBO Kilima Mbogo 139.56 237 PKhKP PKPpre 09 28 34.8
comp=Z,0.8nm,0.3s,baz=50,slow=6.2,SNR=3.7
KMBO PP **PP 09 31 36.8 -0.7**
comp=Z,0.8nm,0.3s,baz=166,slow=6.9,SNR=3.8
KMBO Kilima Mbogo 139.56 237 PKHKP PKPpre 09 28 34.8
KMBO 09 31 36.8
KMBO MLR MLR
comp=Z,1μm,19.0s
KMBO Kilima Mbogo 139.56 237 PKPpre PKPpre 09 28 34.8
KMBO *e*PKPdf **PKiKP 09 28 46.4 +1.0**
KMBO PP **PP 09 31 36.8 -0.7**
KMBO LR LR
comp=Z,1μm,19.0s
MOS Moscow 139.59 331 *e*PKHKP PKPpre 09 28 14.2
OBN Obninsk 140.46 331 *i* PKIKP **PKPdf 09 28 42.5 -0.5**
OBN *i* 09 31 41.7
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN Obninsk 140.46 331 PFAKE 09 29 00.0 +17
OBN LR LR
comp=Z,1μm,20.0s
DGRG David-gareji 141.43 307 P **PKPdf 09 28 46.7 +1.4**
DGRG David-gareji 141.43 307 PKIKP **PKPdf 09 28 46.7 +1.4**
TBLG Delisi 141.81 308 P PKPpre 09 28 41.3
TBLG Delisi 141.81 308 PKHKP PKPpre 09 28 41.3
ZEI Tsey 142.11 310 *i* PKIKP PKPpre 09 28 42.8
NC405 NORSAR Array S 142.16 354 *e*PKPpre PKPpre 09 28 41.8
GNI Garni 142.20 306*c* *i*PKIKP **PKPdf 09 28 49.1 +2.2**
GNI pmax pmax
comp=Z,43nm,1.2s
GNI Garni 142.20 306 PFAKE 09 29 00.0 +13
GNI LR LR
comp=Z,1μm,20.0s
NB2 NORSAR Subarra1 42.28 354 PKP PKPpre 09 28 41.4
comp=Z,14nm,1.4s,baz=17,slow=2.6
NOA NORSAR Array B 142.28 354 PKhKP PKPpre 09 28 41.6
comp=Z,3.6nm,0.8s,baz=16,slow=4.9,SNR=12
NBO02 NORSAR Array S 142.30 355 *e*P PKPpre 09 28 43.2
ONI Oni 142.49 310 P PKPpre 09 28 44.0
ONI Oni 142.49 310 PKIKP PKPpre 09 28 44.0
NAO01 NORSAR Array S 142.30 355 *e*PKPpre PKPpre 09 28 42.1
KBZ Khabaz 142.50 312 PKhKP PKPpre 09 28 42.4
comp=Z,3.8nm,0.9s,baz=160,slow=5.0,SNR=4.6
KIV Kislovodsk 142.57 312 *i* PKIKP **PKPdf 09 28 47.8 +0.5**
KIV *e* 09 31 52.0
KIV *e*SS SS 09 50 24.1 -5.5
KIV *e*SSS SSS 09 55 45.1
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,2μm,23.0s
KIV Kislovodsk 142.57 312 PFAKE 09 29 00.0 +13
KIV LR LR
comp=Z,2μm,22.0s
AKH Akhalkalaki 142.80 308↑ *i*P **PKPdf 09 28 45.2 -2.7**
AKH Akhalkalaki 142.80 308 P **PKPdf 09 28 44.8 -3.2**
AKH Akhalkalaki 142.80 308 PKIKP **PKPdf 09 28 44.7 -3.2**
ASCN Ascension 143.77 148 PFAKE 09 29 00.0 +10
ASCN LR LR
comp=Z,1μm,19.0s
KONO Kongsberg 143.79 355 *e*PKIKP PKPbc 09 28 46.2 -0.2
KONO MLR MLR
comp=Z,718nm,19.0s
KONO Kongsberg 143.79 355 *e*PKPpre PKPab 09 28 46.2 +0.5
KONO LR LR
comp=Z,718nm,19.0s
MICGM Minsk 144.44 336↓ *e*P PKPbc 09 28 49.0 +0.4
MICGM PM 09 28 51.0
comp=Z,0.2nm,1.5s
MICGM *e* 09 29 00.0
MICGM *e*LR LR 10 32 45.0
MNK Minsk 144.44 336↓ *e*PKIKP PKPbc 09 28 49.0 +0.4
MNK *e* 09 29 00.0
MNK pmax pmax
comp=Z,210nm,1.0s
NACGM Naroch 144.52 338 *e*P PKPbc 09 28 49.0 +0.1
NACGM *e*LQ LQ 10 30 08.0
NACGM *e*LR LR 10 36 10.0
SOC Sochi 144.71 313*c* *i*PKIKP **PKPab 09 28 49.4 -0.3**
SOC *i* 09 28 54.1
SOC *e* 09 32 05.0
SOC *e*PPP PPP 09 35 19.8
SOC *e*SSS SSS 09 56 19.8
SOC pmax pmax
comp=Z,16nm,0.8s
SOC pmax pmax
comp=Z,17nm,0.9s
SOC MLR MLR
comp=Z,1μm,23.0s
ANN Anapa 145.69 316*c* *i*PKP2 **PKPdf 09 28 52.2 -0.3**
ANN pmax pmax
comp=Z,190nm,1.5s
SUW Suwalki 146.46 340 *e*PKP **PKPdf 09 28 54.0 +0.5**
SUW Suwalki 146.46 340 *e*PKP2 **PKPdf 09 28 54.0 +0.5**
AKASG Malin Array Be 146.72 331 PKPbc **PKPbc 09 28 55.0 -0.8**
comp=Z,42nm,0.8s,baz=40,slow=4.1,SNR=89
AKASG Malin Array Be 146.72 331 PKP2 **PKPbc 09 28 55.0 -0.8**
AKBB Malin Array Si 146.72 331 *e*PKP2 **PKPbc 09 28 55.1 -0.7**
AKBB Malin Array Si 146.72 331 *e*P **PKPbc 09 28 55.1 -0.7**
KIEV Kiev 146.73 331*c* *i*PKIKP **PKPdf 09 28 54.2 +0.1**
KIEV Kiev 146.73 331 *e*PKPdf **PKPbc 09 28 55.0 -0.8**
KIEV LR LR
comp=Z,787nm,19.0s
MUD Monsted U'grnd 146.99 355 *i* P **PKPab 09 28 57.2 -0.6**
COP Copenhagen 147.39 351 *i* P **PKPdf 09 28 56.1 +1.1**
comp=Z,500nm,16.0s
BSD Bornholm Skovb 147.54 349 *i* P **PKPdf 09 28 56.1 +0.8**
SIM Simferopol' 147.68 319 *e*PKP2 **PKPbc 09 28 59.7 +1.0**
SIM *e* 09 32 30.0
SIM pmax pmax
comp=Z,51nm,0.8s
SIM pmax pmax
comp=Z,330nm,13.6s
ESK Eskdalemuir 147.85 8 PFAKE 09 29 10.0 +8.7
ESK LR LR
comp=Z,1μm,20.0s
GKP Gorka Klasztor 148.78 345 *e*PKP **PKPbc 09 29 02.1 +0.8**
GKP Gorka Klasztor 148.78 345 *e*PKP2 **PKPbc 09 29 02.1 +0.8**
SORM Soroca 148.92 328↓ *i*P **PKPbc 09 29 01.6 -0.2**
SORM Soroca 148.92 328 ↓ PKP2 **PKPbc 09 29 01.6 -0.2**
BEL Belsk 149.07 340 *e*PKP **PKPbc 09 29 02.5 +0.4**
BEL Belsk 149.07 340 *e*PKP2 **PKPbc 09 29 02.5 +0.4**
KIS Kishinev 149.45 326 *e*PKP **PKPdf 09 29 00.0 +1.3**
comp=Z,300nm,2.0s
KIS *e*SKP 09 32 32.0
KIS Kishinev 149.45 326 *e*PP PP 09 32 51.0 +15
KIS *e*L L 10 26 14.0
KIS LRM MLR 10 33 00.0
comp=Z,2μm,22.0s
KIS Kishinev 149.45 326 *e*PKHKP PKPpre 09 29 00.0
KIS *e* 09 32 32.0
KIS pmax pmax
comp=Z,290nm,2.0s
KIS MLR MLR
comp=N,1μm,22.0s
KIS MLR MLR
comp=E,700nm,22.0s
KIS MLR MLR
comp=Z,2μm,22.0s
KIS MLR MLR
comp=Z,2μm,22.0s
LVV L'vov 149.58 334 *e*PKP2 **PKPbc 09 29 03.1 -0.3**
VAL Valentia 149.61 18 *e*P **PKPdf 09 29 00.6 +1.8**
KWP Kalwaria Pacla 150.25 335 *e*PKP **PKPbc 09 29 05.4 +0.3**
KWP Kalwaria Pacla 150.25 335 *e*PKIKP **PKPbc 09 29 05.4 +0.3**
BR131 Keskin Array S 150.42 310 *e*PKPbc **PKPbc 09 29 05.7 -0.4**
BRTR Keskin Array B 150.42 310 PKP **PKPdf 09 28 58.2 -2.5**
comp=Z,5.7nm,1.1s,baz=252,slow=1.2,SNR=6.3
BRTR PKPbc **PKPbc 09 29 05.5 -0.5**
comp=Z,15nm,0.9s,baz=124,slow=2.2,SNR=44
CWF Charnwood Fore 150.61 7 *e*PKPdf **PKPdf 09 29 01.9 +1.5**
BUR08 Bucovina Ar. S 150.75 330 *e*PKPdf **PKPdf 09 29 02.8 +1.9**
BURAR Bucovina Array 150.77 330↓ *i*P **PKPdf 09 29 03.1 +2.2**
BURAR Bucovina Array 150.77 330↓ PKIKP **PKPdf 09 29 03.1 +2.2**
OJC Ojcow 150.78 339 *e*PKPdf **PKPdf 09 29 00.9 +0.2**
OJC *e*PKPab **PKiKP 09 29 07.0 0.0**
OJC *e*PP **PP 09 32 41.2 -1.6**
OJC Ojcow 150.78 339 *e*PKIKP **PKPdf 09 29 00.9 +0.2**
OJC Ojcow 150.78 339 *e*PKPbc **PKPbc 09 29 06.0 -0.4**
TESR Tescani 150.88 327↓ *i*P **PKPbc 09 29 06.6 -0.1**
CMLA Cha da Macela 150.93 54 PFAKE 09 29 10.0 +2.9
CMLA LR LR
comp=Z,1μm,20.0s
ANTO Ankara 150.95 311 *e*PKIKP **PKPbc 09 29 07.3 +0.1**
ANTO MLR MLR
comp=Z,747nm,20.0s
ANTO Ankara 150.95 311 *e*PKPbc **PKPbc 09 29 07.3 +0.1**
ANTO LR LR
comp=Z,747nm,20.0s
STHS Stebnicka Huta 150.97 337 *e*PKIKP **PKPbc 09 29 07.7 +0.9**
STHS Stebnicka Huta 150.97 337 *e*PKP **PKPbc 09 29 07.7 +0.9**
BR231 Keskin MP Arra 150.98 311 *e*PKPdf **PKPdf 09 29 00.0 -1.5**
BR231 *e*PKPbc **PKiKP 09 29 08.4 +0.5**
KOLS Kolonicke sedl 150.98 335 *e*PKIKP **PKPdf 09 29 03.2 +2.1**
KOLS *e* 09 29 08.0
KOLS Kolonicke sedl 150.98 335 *e*PKP **PKPdf 09 29 03.2 +2.1**
KOLS *e* 09 29 08.0
CFR Carcaliu 151.00 324↓ *i*P **PKPbc 09 29 06.8 -0.1**
CFR Carcaliu 151.00 324 ↓PKIKP **PKPbc 09 29 06.8 -0.1**
UZH Uzhgorod 151.22 335↓ *i*PKIKP **PKPbc 09 29 07.9 +0.5**
UZH *e* 09 29 16.9
UZH *e* 09 32 43.9
KSP Ksiaz 151.24 344 *e*PKPdf **PKPdf 09 29 02.1 +0.8**
KSP *e*PKPab **PKiKP 09 29 08.4 +0.6**
KSP *e*PP **PP 09 32 43.0 -2.3**
KSP Ksiaz 151.24 344 *e*PKIKP **PKPdf 09 29 02.2 +0.8**
VRI Vrincioaia 151.28 326↓ *i*P **PKPbc 09 29 07.2 -0.5**
VRI Vrincioaia 151.28 326↓ PKIKP **PKPbc 09 29 07.2 -0.5**
TIRR Tirgusor 151.30 322↑ *i*P **PKPdf 09 29 04.6 +2.9**
TIRR Tirgusor 151.30 322↑ PKIKP **PKPdf 09 29 04.6 +2.9**
TIRR Tirgusor 151.30 322 *e*PKPbc **PKPbc 09 29 07.9 +0.2**
TIRR *e*PKPab **PKPab 09 29 14.7 -1.1**
NIE Niedzica 151.30 338 *e*PKPdf **PKPdf 09 29 02.6 +1.0**
NIE *e*PKPab **PKiKP 09 29 08.9 +0.8**
NIE Niedzica 151.30 338 *e*PKIKP **PKPdf 09 29 02.6 +1.0**
CRVS Cervenica-Dubn 151.32 336 *e*PKIKP **PKPdf 09 29 03.5 +1.9**
CRVS *e* 09 29 09.9
CRVS Cervenica-Dubn 151.32 336 *e*PKP **PKPdf 09 29 03.5 +1.9**
CRVS *e* 09 29 09.9
PLOR Plostina 151.33 326↓ *i*P **PKPbc 09 29 07.4 -0.4**
PLOR Plostina 151.33 326↓ PKIKP **PKPbc 09 29 07.4 -0.4**
CLL Collm 151.52 348 *e*PKPdf **PKPdf 09 29 02.0 +0.2**
comp=Z,28nm,1.6s
CLL *i* PKPbc **PKPbc 09 29 07.7 -0.3**
comp=Z,71nm,1.0s
CLL *i* PKPab **PKPab 09 29 15.1 -1.3**
comp=Z,39nm,1.0s
CLL *i* 09 29 17.5
CLL *i* 09 29 19.8
CLL *e*PP **PP 09 32 44.0 -2.8**
CLL *e*PPP PPP 09 36 13.0
CLL *e*SKKSac SKKSac 09 39 36.0 +0.7
CLL *e*PSKS 09 43 00.0
CLL *e* 09 45 46.0
CLL *e*SS **SS 09 52 18.0 +9.4**
CLL *e*SSS SSS 09 58 18.0
CLL *e*SSSS 10 02 00.0
CLL LmV 10 47 00.0
comp=Z,900nm,19.0s
CLL Collm 151.52 348 *e*PKIKP **PKPdf 09 29 02.0 +0.2**
CLL *i* 09 29 07.7
CLL *i* 09 29 15.1
CLL pmax pmax
comp=Z,28nm,1.6s
CLL pmax pmax
comp=Z,71nm,1.0s
CLL pmax pmax
comp=Z,39nm,1.0s
CLL MLR MLR
comp=Z,900nm,19.0s
UPC Upice 151.62 344 *e*PKPDF **PKPdf 09 29 02.5 +0.5**
UPC ↑*e*PKP **PKPbc 09 29 08.3 0.0**
UPC *e*PP **PP 09 32 46.1 -1.4**
UPC *e*x x 09 43 04.3
UPC *e*SS SS 09 52 09.8 0.0
UPC AMS AMS 10 40 30.0
comp=Z,2μm,19.1s
UPC Upice 151.62 344 *e*PKIKP **PKPdf 09 29 02.5 +0.5**
UPC *e* 09 29 08.3
UPC *e* 09 32 46.1
UPC *e*SS SS 09 52 09.8 0.0
UPC MLR MLR
comp=Z,2μm,19.1s
OKC Ostrava-Krasne 151.63 341 *e*PKPDF **PKPdf 09 29 02.9 +0.9**
OKC ↑*e*PKP **PKPbc 09 29 07.9 -0.4**
OKC *e*PKPAB **PKPab 09 29 18.1 +1.1**
OKC *e*PP **PP 09 32 45.7 -1.9**
OKC AMS AMS 10 49 20.0
comp=Z,900nm,17.4s
OKC Ostrava-Krasne 151.63 341 *e*PKIKP **PKPdf 09 29 02.9 +0.9**
OKC *e* 09 29 07.9
OKC *e* 09 29 18.1
OKC *e* 09 32 45.7
OKC MLR MLR
comp=Z,900nm,17.4s
DPC Dobruska-Polom 151.69 344 *e*PKPDF **PKPdf 09 29 02.4 +0.2**
DPC ↑*e*PKP **PKPbc 09 29 08.5 0.0**
DPC *e*PKPAB **PKPab 09 29 18.9 +1.7**
DPC *e*pPKP pPKPdf 09 29 24.9 +11
DPC *e*PP **PP 09 32 45.0 -2.9**
DPC *e*x x 09 43 03.6
DPC AMS AMS 10 46 20.0
comp=Z,1μm,17.2s
DPC Dobruska-Polom 151.69 344 *e*PKIKP **PKPdf 09 29 02.4 +0.2**
DPC *e* 09 29 08.5
DPC *e* 09 29 18.9
DPC *e* 09 32 45.0
DPC MLR MLR
comp=Z,1μm,17.2s
BRG Berggiesshubel 151.75 347 *e*PKP **PKPbc 09 29 07.9 -0.7**
comp=Z,22nm,1.3s
BRG *e* 09 29 08.4
comp=Z,66nm,1.0s
BRG PP **PP 09 32 48.0 -0.2**
BRG SS SS 09 52 18.0 +6.8
comp=Z,933nm,16.4s
comp=N,342nm,18.0s
comp=E,932nm,18.0s
LANS Liptovska Anna 151.81 339 *e*PKIKP **PKPbc 09 29 11.0 +2.2**
LANS Liptovska Anna 151.81 339 *e*PKP **PKPbc 09 29 11.0 +2.2**
MORC Moravsky Berou 151.87 342↑ *i*P **PKPdf 09 29 03.0 +0.6**
MORC Moravsky Berou 151.87 342↑ PKIKP **PKPdf 09 29 03.0 +0.6**
MORC Moravsky Berou 151.87 342 *e*PKPdf **PKPdf 09 29 03.1 +0.6**
MORC *e*PKPbc **PKiKP 09 29 09.2 -0.1**
DOPR Dopca 151.88 328↓ *i*P **PKPdf 09 29 05.2 +2.6**
PSN Preselentsi 151.91 321↓ *i*P **PKPdf 09 29 00.8 -1.8**
PSN Preselentsi 151.91 321 ↓PKIKP **PKPdf 09 29 00.8 -1.8**
MLR Muntele Rosu 151.94 326↓ *i*P **PKPdf 09 29 01.3 -1.5**
MLR Muntele Rosu 151.94 326 ↓PKIKP **PKPdf 09 29 01.3 -1.5**
MLR Muntele Rosu 151.94 326 *e*PKPdf **PKPdf 09 29 02.4 -0.4**
PVCC Panska Ves 151.94 346 *e*PKPDF **PKPdf 09 29 03.4 +0.9**
PVCC ↑*e*PKP **PKiKP 09 29 09.7 +0.4**
PVCC *e*PP **PP 09 32 44.7 -4.6**
PVCC AMS AMS 10 47 30.0
comp=E,1μm,18.7s
PVCC Panska Ves 151.94 346 *e*PKIKP **PKPdf 09 29 03.4 +0.9**
PVCC *e* 09 29 09.7
PVCC *e* 09 32 44.7
PVCC MLR MLR
comp=Z,1μm,18.7s
KECS Kecovo 152.03 337 *e*PKIKP **PKPbc 09 29 10.0 +0.8**
KECS *e* 09 29 18.7
KECS Kecovo 152.03 337 *e*PKP **PKPbc 09 29 10.0 +0.8**
KECS *e* 09 29 18.7
CSS Mathiatis 152.30 301 P **PKPdf 09 29 02.8 -0.7**
CSS Mathiatis 152.30 301 P **PKPdf 09 29 02.8 -0.7**
CSS *e*PKPbc **PKiKP 09 29 10.6 0.0**
CSS LR LR
comp=Z,341nm,21.0s
SACV Santiago Islan 152.41 103 PFAKE 09 29 20.0 -1.3
SACV LR LR
comp=Z,429nm,22.0s
VOIR 152.43 327↑ *i*P **PKPdf 09 29 04.8 +1.3**
VOIR 152.43 327 ↑PKIKP **PKPdf 09 29 04.8 +1.3**
PRU Pruhonice 152.46 346 *e*PKPDF **PKPdf 09 29 03.9 +0.6**
PRU ↑*e*PKP **PKiKP 09 29 10.4 0.0**
PRU *e*PKPAB **PKPab 09 29 19.9 -0.5**
PRU *e*PP **PP 09 32 50.7 -1.5**
PRU *e*x x 09 43 04.6
PRU AMS AMS 10 45 20.0
comp=Z,2μm,19.2s
PRU Pruhonice 152.46 346 *e*PKIKP **PKPdf 09 29 03.9 +0.6**
PRU *e* 09 29 10.4
PRU *e* 09 29 19.9
PRU *e* 09 32 50.7
PRU MLR MLR
comp=Z,2μm,19.2s
GOPC GO Pecny, Ondr 152.47 345 *e*PKPDF **PKPdf 09 29 03.8 +0.5**
GOPC ↑*e*PKP **PKiKP 09 29 10.5 0.0**
GOPC *e*PKPAB **PKPab 09 29 19.9 -0.6**
GOPC *e*PP **PP 09 32 50.9 -1.4**
GOPC *e*x x 09 43 03.4
GOPC *e*SS SS 09 52 20.1 +0.9
GOPC AMS AMS 10 47 20.0
comp=Z,2μm,19.1s
GOPC GO Pecny, Ondr 152.47 345 *e*PKIKP **PKPdf 09 29 03.8 +0.5**
GOPC *e* 09 29 10.5
GOPC *e* 09 29 19.9
GOPC *e* 09 32 50.9
GOPC *e*SS SS 09 52 20.1 +0.9
GOPC MLR MLR
comp=Z,2μm,19.1s
DRGR 152.50 332↓ *i*P **PKPdf 09 29 05.3 +1.8**
DRGR 152.50 332↓ PKIKP **PKPdf 09 29 05.3 +1.8**
VRAC Vranov 152.56 342↓ *i*P **PKPdf 09 29 06.3 +2.8**
VRAC Vranov 152.56 342↓ PKIKP **PKPdf 09 29 06.3 +2.8**
VYHS Vyhne 152.59 339 *e*PKIKP **PKPdf 09 29 03.4 -0.1**
VYHS *e* 09 29 11.3
VYHS *e* 09 29 21.2
VYHS Vyhne 152.59 339 *e*PKP **PKPdf 09 29 03.4 -0.1**
VYHS *e* 09 29 11.3
VYHS *e* 09 29 21.2
PRD Provadia 152.65 321 *i* P **PKPbc 09 29 14.4 +3.6**
NKC Novy Kostel 152.66 348 *e*PKPDF **PKPdf 09 29 04.3 +0.7**
NKC ↑*e*PKP **PKiKP 09 29 11.1 +0.2**
NKC *e*PKPAB **PKPab 09 29 20.5 -0.8**
NKC *e*PP **PP 09 32 52.2 -1.1**
NKC AMS AMS 10 46 10.0
comp=Z,2μm,20.0s
NKC Novy Kostel 152.66 348 *e*PKIKP **PKPdf 09 29 04.3 +0.7**
NKC *e* 09 29 11.1
NKC *e* 09 29 20.5
NKC *e* 09 32 52.2
NKC MLR MLR
comp=Z,2μm,20.0s
ARR Arges 152.68 328↑ *i*P **PKPdf 09 29 04.3 +0.5**
PSZ Piszkesteto 152.72 337↑ *i*P **PKPdf 09 29 11.4 +0.5**
PSZ Piszkesteto 152.72 337↑ PKIKP **PKPbc 09 29 11.4 +0.5**
PSZ Piszkesteto 152.72 337 *e*PKPbc **PKPbc 09 29 11.2 +0.3**
PSZ LR LR
comp=Z,1μm,21.0s
BEBN Eben Emael 152.84 358 PKPbc **PKPbc 09 29 12.1 +1.2**
BEBN PKPab **PKPab 09 29 22.8 +0.9**
TREC Trest 152.87 344 *e*PKPDF **PKPdf 09 29 04.5 +0.6**
TREC *e*PP **PP 09 32 51.9 -2.7**
TREC AMS AMS 10 48 50.0
comp=Z,2μm,18.0s
TREC Trest 152.87 344 *e*PKIKP **PKPdf 09 29 04.5 +0.6**
TREC *e* 09 32 51.9
TREC MLR MLR
comp=Z,2μm,18.0s
MEM Membach 153.01 357 PKPbc **PKPbc 09 29 11.0 -0.3**
MEM PKPab **PKPab 09 29 23.7 +1.0**
BCLA Clavier 153.22 358 PKPab **PKPab 09 29 23.4 -0.2**
SIRR Siria 153.37 332↓ *i*P **PKPdf 09 29 07.1 +2.4**
GRFO Grafenberg 153.39 350 *e*PKP2 **PKPab 09 29 25.4 +1.0**
GRFO Grafenberg 153.39 350 *e*PKPab **PKPab 09 29 25.4 +1.0**
ISP Isparta 153.43 308 PFAKE 09 29 20.0 -5.1
ISP LR LR
comp=Z,1μm,22.0s
KHC Kasperske Hory 153.48 346 *e*PKPDF **PKPdf 09 29 05.0 +0.2**
KHC ↑*e*PKP **PKiKP 09 29 12.7 +0.1**
KHC *e*PKPAB **PKPab 09 29 24.5 -0.3**
KHC *e*pPKP **pPKPab 09 29 37.0 +1.1**
KHC *e*PP **PP 09 32 54.3 -3.8**
KHC *e*x x 09 43 13.5
KHC AMS AMS 10 41 00.0
comp=Z,2μm,20.6s
KHC Kasperske Hory 153.48 346 *e*PKIKP **PKPdf 09 29 05.0 +0.2**
KHC *e* 09 29 12.7
KHC *e* 09 29 24.5
KHC *e* 09 32 54.3
KHC MLR MLR
comp=Z,2μm,20.6s
KHC Kasperske Hory 153.48 346 *e*PKPdf **PKPdf 09 29 04.1 -0.7**
GZR Gura Zlata 153.55 330↓ *i*P **PKPdf 09 29 05.7 +0.6**
GZR Gura Zlata 153.55 330↓ PKIKP **PKPdf 09 29 05.7 +0.6**
DOU Dourbes 153.56 359 PKPbc **PKPbc 09 29 13.1 +0.6**
DOU PKPab **PKPab 09 29 26.1 +1.1**
GEC2 GERESS Array S 153.72 346 *e*PKIKP **PKPdf 09 29 06.6 +1.3**
GEC2 *e* 09 29 13.4
GEC2 GERESS Array S 153.72 346 *e*PKPdf **PKPdf 09 29 06.5 +1.3**
GEC2 *e*PKPbc **PKiKP 09 29 13.4 +0.2**
GERES GERESS Array B 153.72 346 PKP **PKPdf 09 29 04.6 -0.7**
comp=Z,1.0nm,0.6s,baz=93,slow=2.7,SNR=7.8
GERES PKPbc **PKPbc 09 29 13.0 -0.1**
comp=Z,3.3nm,0.8s,baz=66,slow=1.6,SNR=12
GEA0 GERESS Array S 153.73 346 *e*PKPdf **PKPdf 09 29 04.8 -0.4**
EDRB Edirne 153.86 319 P **PKPab 09 29 27.2 +0.6**
BZS Buzias 153.90 332↓ *i*P **PKPdf 09 29 05.4 -0.1**
BZS Buzias 153.90 332↓ PKIKP **PKPdf 09 29 05.4 -0.1**
WLF Walferdange 153.95 357 PKPbc **PKPbc 09 29 14.5 +1.0**
WLF PKPab **PKPab 09 29 27.6 +0.9**
WLF Walferdange 153.95 357 *e*PKP2 **PKPab 09 29 29.2 +2.5**
WLF MLR MLR
comp=Z,1μm,21.0s
WLF Walferdange 153.95 357 *e*PKPab **PKPab 09 29 29.2 +2.5**
WLF LR LR
comp=Z,1μm,21.0s
CONA Conrad Observa 154.02 342 *i* PKPdf **PKPdf 09 29 05.7 0.0**
comp=Z,8.9nm,1.5s
CONA *i* PKiKP **PKiKP 09 29 14.4 +0.6**
comp=Z,23nm,1.4s
CONA *i* sPKPbc **PKPab 09 29 28.0 +0.9**
comp=Z,21nm,0.8s
MDVR Moldovita 154.50 330↓ *i*P **PKPdf 09 29 03.7 -2.7**
MOA Molln 154.52 344 *i* PKPdf **PKPdf 09 29 07.5 +1.2**
comp=Z,0.1nm,0.2s
MOA *i* sPKPbc **sPKPbc 09 29 30.5 +0.6**
comp=Z,40nm,1.2s
MOA *i* sPKPab **sPKPab 09 29 44.2 -0.1**
comp=Z,54nm,1.9s
LANF Langenberg 154.52 354 PKP **PKPab 09 29 31.5 +2.3**
MPEP Malo Peshtene 154.56 325 *i* P **PKPbc 09 29 15.2 +0.2**
ARSA Arzberg 154.73 342 *i* PKPdf **PKPdf 09 29 07.8 +1.2**
comp=Z,2.0nm,0.5s
ARSA *i* pPKPdf **pPKPdf 09 29 16.7 -1.3**
comp=Z,10nm,1.3s
ARSA *i* sPKiKP **sPKiKP 09 29 31.6 +1.2**
comp=Z,29nm,1.4s
KDZ Kurdzhali 154.77 321 *i* P **PKPab 09 29 31.8 +1.3**
BFO Black Forest 155.11 353 *e*PKIKP PKPdf 09 29 16.0 +8.9
BFO *e* 09 29 32.0
BFO Black Forest 155.11 353 *e*PKPbc PKPbc 09 29 16.0
BFO *e*PKPab **PKPab 09 29 32.0 +0.3**
RZN Rozhen 155.15 321 *i* P **PKPab 09 29 33.1 +0.7**
EZN Ezine 155.30 316 P **PKPab 09 29 33.2 +0.4**
ECH Echery 155.33 355 PKP **PKPab 09 29 32.8 +0.1**
VTS Vitosha 155.37 325 P **PKPab 09 29 31.6 -1.6**
VTS Vitosha 155.37 325↓ *i*P **PKPdf 09 29 07.0 -0.8**
VTS Vitosha 155.37 325 ↓PKIKP **PKPdf 09 29 07.0 -0.8**

VTS	Vitosha	155.37	325	*i* P	PKPab	09 29 34.0	+0.8	
VTS	Vitosha	155.37	325	*e*PKPbc	PKPbc	09 29 18.9		
VTS				*e*PKPab	PKPab	09 29 34.1	+0.9	
SOKA	Soboth	155.39	342	*i* PKPdf	PKPdf	09 29 07.3	-0.3	
	comp=Z,1.2nm,0.7s							
SOKA				*e*PKiKP	PKPab	09 29 17.0	-16	
	comp=Z,14nm,1.5s							
SOKA				*i* PKPab	PKPab	09 29 33.3	+0.3	
	comp=Z,44nm,1.3s							
PERS	Pernice	155.40	342	*i* PKPdf	PKPdf	09 29 06.2	-1.4	
PERS				*i* PKPab	PKPab	09 29 33.2	+0.1	
SMTH	Samothraki Isl	155.42	318	P	PKPab	09 29 31.2	-2.2	
KBA	Koelnbreinsper	155.46	345	*i* PKPdf	PKPdf	09 29 07.6	-0.3	
	comp=Z,5.8nm,1.0s							
RETA	Reutte	155.60	349	*i* PKPdf	PKPdf	09 29 09.2	+1.3	
	comp=Z,0.2nm,0.3s							
RETA				*i* PKPab	PKPab	09 29 34.3	+0.4	
PRK	Paraskevi	155.66	315	P	PKPab	09 29 34.4	0.0	
WTTA	Wattenberg	155.66	348	*i* PKPdf	PKPdf	09 29 09.2	+1.0	
	comp=Z,14nm,1.3s							
OBKA	Obir	155.68	342	*i* PKPab	PKPab	09 29 34.6	+0.3	
	comp=Z,16nm,1.0s							
MOF	Molkenrain	155.69	355	PKP	PKPab	09 29 32.6	-1.7	
KAVA	Kavala	155.71	320	P	PKPab	09 29 35.0	+0.5	
MMB	Musomiste	155.77	322	*i* P	PKPab	09 29 35.7	+0.8	
MYKA	Terra Mystica	155.81	344	*i* PKPdf	PKPdf	09 29 09.0	+0.8	
	comp=Z,3.1nm,0.7s							
MYKA				*i* PKPab	PKPab	09 29 34.9	+0.1	
	comp=Z,8.8nm,0.7s							
NVR	Nevrokopi	155.85	322	P	PKPab	09 29 35.0	-0.2	
DAVA	Damuels	155.94	351	*i* PKPdf	PKPdf	09 29 09.9	+1.4	
	comp=Z,4.9nm,0.9s							
DAVA				*i* PKPab	PKPab	09 29 35.5	0.0	
	comp=Z,26nm,1.2s							
KKB	Krupnik	155.94	324	*i* P	PKPab	09 29 35.7	+0.2	
ABTA	Abfaltersbach	155.97	346	*i* PKPdf	PKPdf	09 29 07.9	-0.6	
	comp=Z,8.4nm,0.9s							
LIA	Limnos Island	155.97	317	P	PKPab	09 29 36.5	+0.8	
FETA	Feichten	156.06	349	*i* PKPdf	PKPdf	09 29 08.6	-0.1	
	comp=Z,12nm,1.6s							
SMG	Samos	156.08	311	P	PKPab	09 29 35.0	-1.3	
LJU	Ljubljana	156.11	342	*e*PKPdf	PKPdf	09 29 09.1	+0.6	
SRS	Serrai	156.16	322	P	PKPab	09 29 35.6	-0.9	
LOMF	Lomont	156.22	356	PKP	PKPab	09 29 34.9	-1.6	
VISS	Visnje	156.24	341	*i* PKPdf	PKPdf	09 29 08.5	-0.2	
VISS				*i* PKPab	PKPab	09 29 36.4	-0.3	
JAVS	Javornik	156.38	343	*i* PKPdf	PKPdf	09 29 08.3	-0.7	
JAVS				*i* PKPab	PKPab	09 29 37.1	-0.2	
BOJS	Bojanci	156.39	340	*i* PKPdf	PKPdf	09 29 09.0	+0.1	
BOJS				*i* PKPab	PKPab	09 29 37.4	+0.1	
OUR	Ouranopolis	156.44	320	P	PKPab	09 29 37.3	-0.4	
SOH	Sokhos	156.49	321	P	PKPab	09 29 36.0	-2.0	
KNT	Kendrikon	156.52	323	P	PKPab	09 29 38.0	0.0	
FUORN	Ofenpass-Fuorn	156.53	349	*e*PKPab	PKPab	09 29 38.0	-0.1	
VAY	Valandovo	156.59	323	P	PKPab	09 29 38.0	-0.3	
VAY	Valandovo	156.59	323	*i* P	PKPab	09 29 39.8	+1.5	
TRI	Trieste	156.63	343	*e*PKP2	PKPab	09 29 38.0	-0.3	
TRI	Trieste	156.63	343	*e*PKPab	PKPab	09 29 38.0	-0.3	
PLG	Polygyros	156.73	320	P	PKPab	09 29 38.4	-0.6	
SKO	Skopje	156.73	326	P	PKPab	09 29 39.9	+1.0	
SKO	Skopje	156.73	326	P	PKPab	09 29 41.1	+2.1	
HORT	Hortiatis	156.78	321	P	PKPab	09 29 39.1	-0.2	
KARP	Karpathos	156.83	306	P	PKPab	09 29 39.3	-0.3	
KARP	Karpathos	156.83	306	*e*PKPab	PKPab	09 29 39.6	0.0	
PAIG	Paliouri	156.87	319	P	PKPab	09 29 39.2	-0.4	
GRG	Griva	156.94	323	P	PKPab	09 29 39.7	-0.2	
SENIN	Lac Senin/Sane	157.16	354	*e*PKPab	PKPab	09 29 41.6	+0.8	
APE	Apeiranthos	157.30	311	⇓*i*P	PKPab	09 29 40.3	-1.3	
APE	Apeiranthos	157.30	311	⇓PKP2	PKPab	09 29 40.3	-1.3	
LIT	Litokhoron	157.46	321	P	PKPab	09 29 41.6	-0.5	
SKIA	Skiathos	157.47	318	P	PKPab	09 29 40.8	-1.4	
XOR	Xorichti	157.52	319	P	PKPab	09 29 39.5	-2.9	
AGO	Saint Agoulin	157.59	2	PKP	PKPab	09 29 36.7	-5.7	
FNA	Florina	157.62	324	P	PKPab	09 29 43.1	+0.3	
PLDF	La Plantade	157.68	1	PKP	PKPab	09 29 36.7	-6.2	
OHR	Ohrid	157.69	325	*i* P	PKPab	09 29 44.5	+1.4	
SANT	Santorini	157.69	310	*e*PKPab	PKPab	09 29 42.1	-1.2	
SANT				LR	LR			
	comp=Z,539nm,22.0s							
ZKR	Zakros	157.71	306	P	PKPab	09 29 41.6	-1.8	
KZN	Kozani	157.73	323	P	PKPab	09 29 42.8	-0.6	
SMIA	Simia	157.81	318	P	PKPab	09 29 43.3	-0.4	
PYM	Petit Puy Mans	157.89	2	PKP	PKPab	09 29 37.2	-6.6	
TIR	Tirane	157.99	327	PFAKE		09 29 20.0	+8.9	
TIR				LR	LR			
	comp=Z,1μm,20.0s							
ATAL	Atalanti	158.04	318	P	PKPab	09 29 43.1	-1.6	
VLY	Voula,Athens	158.04	315	P	PKPab	09 29 43.0	-1.7	
NEST	Nestorio	158.05	324	P	PKPab	09 29 44.3	-0.5	
LKR	Lokris	158.08	318	P	PKPab	09 29 43.4	-1.4	
PENT	Pentalofos	158.16	323	P	PKPab	09 29 44.5	-0.7	
LAST	Lasithi	158.24	307	P	PKPab	09 29 44.4	-1.4	
LAST	Lasithi	158.24	307	*e*PKPab	PKPab	09 29 45.4	-0.3	
AGG	Agios Georgios	158.25	319	P	PKPab	09 29 43.6	-2.0	
AGG	Agios Georgios	158.25	319	*e*PKP2	PKPab	09 29 44.7	-0.9	
AGG	Agios Georgios	158.25	319	*e*PKPab	PKPab	09 29 44.7	-0.9	
SSB	Saint Sauveur	158.38	359	PFAKE		09 29 20.0	+8.5	
SSB				LR	LR			
	comp=Z,1μm,20.0s							
LBL	Lubilhac	158.41	2	PKP	PKPab	09 29 38.2	-7.9	
BNI	Bardonecchia	158.51	355	PFAKE		09 29 20.0	+8.2	
BNI				LR	LR			
	comp=Z,2μm,21.0s							
ANX	Ano Chora	158.77	319	P	PKPab	09 29 47.0	-1.0	
VLC	Villacollemand	158.88	348	PFAKE		09 29 20.0	+7.9	
VLC				LR	LR			
	comp=Z,530nm,19.0s							
DSL	Palaion Diasel	158.91	321	P	PKPab	09 29 47.3	-1.1	
GUR	Goura	158.92	317	P	PKPab	09 29 47.3	-1.4	
PGAV	Gavieira, Arco	158.94	27	*e*PKPdf	PKPdf	09 29 17.6	+5.3	
PGAV	Gavieira, Arco	158.94	27	*e*PP	PP	09 33 31.4	+2.7	
PGAV	Gavieira, Arco	158.94	27	*e*SS	SS	09 53 27.5	-2.2	
PGAV	Gavieira, Arco	158.94	27	*e*LR	LR	10 28 30.7		
	comp=Z,1μm,18.0s							
LAKA	Lakka	158.96	318	P	PKPab	09 29 47.1	-1.6	
KLV	Kalavryta, Ach	158.98	317	P	PKPab	09 29 48.3	-0.5	
PMOZ	Porto Moniz, M	159.05	59	*e*LR	LR	10 31 43.3		
	comp=Z,948nm,20.0s							
SGD	Sagiada	159.06	323	P	PKPab	09 29 48.0	-1.0	
IGT	Igoumenitsa	159.06	323	P	PKPab	09 29 49.3	+0.2	
IMMV	Iera Moni Meta	159.18	309	P	PKPab	09 29 50.0	+0.2	
PDO	Prodromos	159.21	320	P	PKPab	09 29 48.9	-0.8	
KEK	Kerkira	159.22	324	P	PKPab	09 29 49.8	+0.1	
RLS	Riolos of Patr	159.39	318	P	PKPab	09 29 51.4	+0.9	
POLO	Lamas de Olo	159.63	27	*e*PKPdf	PKPdf	09 29 14.3	+1.2	
ITM	Ithomi	159.64	316	P	PKPab	09 29 51.8	+0.1	
PBRG	Braganca	159.68	24	*e*PKPdf	PKPdf	09 29 17.3	+4.2	
KFL	Anninata	159.77	319	P	PKPab	09 29 51.8	-0.4	
AQU	L'Aquila	159.80	340	PFAKE		09 29 20.0	+6.8	
AQU				LR	LR			
	comp=Z,1μm,19.0s							
ZKS	Zakynthos	160.03	319	P	PKPab	09 29 52.5	-0.9	
MVO	Moncorvo	160.12	26	*e*PKPdf	PKPdf	09 29 15.1	+1.4	
MVO	Moncorvo	160.12	26	*e*PKPdf	PKPdf	09 29 16.0	+2.3	
MVO	Moncorvo	160.12	26	*e*PP	PP	09 33 36.2	+1.2	
MVO	Moncorvo	160.12	26	*e*SS	SS	09 53 49.5	+7.5	
MVO	Moncorvo	160.12	26	*e*LR	LR	10 27 32.4		
	comp=Z,1μm,16.0s							
PCAS	Casmilo, Conde	160.40	30	*e*PKPdf	PKPdf	09 29 16.6	+2.7	
MTE	Manteigas	160.54	28	*e*PKPdf	PKPdf	09 29 15.9	+1.8	
MTE	Manteigas	160.54	28	*e*PP	PP	09 33 40.8	+3.4	
MTE	Manteigas	160.54	28	*e*SS	SS	09 53 54.9	+8.3	
MTE	Manteigas	160.54	28	*e*LR	LR	10 28 36.7		
	comp=Z,1μm,18.0s							
MTE	Manteigas	160.54	28	PFAKE		09 29 30.0	+16	
MTE				LR	LR			
	comp=Z,1μm,20.0s							
PMAFR	Mafra	160.87	34	*e*PKPdf	PKPdf	09 29 16.5	+2.0	
CUC	Castrocucco	160.95	332	PFAKE		09 29 30.0	+15	
CUC				LR	LR			
	comp=Z,790nm,21.0s							
LIS	Lisbon	161.12	34	*e*P	PKPdf	09 29 14.8	+0.1	
LIS				*e*PP	PP	09 33 41.3	+0.7	
LIS				AMS	AMS	10 42 52.6		
	comp=E,1μm,20.9s							
LIS	Lisbon	161.12	34	*e*PKIKP	PKPdf	09 29 14.8	+0.1	
LIS				*e*		09 33 41.3		
TIP	Timpagrande	161.18	328	*e*PKPab	PKPab	09 29 58.7	+0.4	
TIP				LR	LR			
	comp=Z,1μm,20.0s							
PMRV	Marv??o	161.41	29	*e*PKPdf	PKPdf	09 29 14.8	-0.2	
PMRV	Marv??o	161.41	29	*e*PP	PP	09 33 42.4	+0.4	
PMRV	Marv??o	161.41	29	*e*SS	SS	09 54 02.3	+6.7	
PMRV	Marv??o	161.41	29	*e*LR	LR	10 29 26.6		
	comp=Z,2μm,18.0s							
PESTR	Estremoz	161.77	31	*e*PKPdf	PKPdf	09 29 21.1	+5.7	
EVO	Evora	161.83	32	*e*PKPdf	PKPdf	09 29 14.9	-0.6	
PNCL	Nicolau / Gran	161.90	34	*e*PKPdf	PKPdf	09 29 16.4	+0.9	
PTEO	Sao Teotonio	162.22	36	*e*PKPdf	PKPdf	09 29 17.9	+2.0	
MESJ	Messejana	162.26	34	*e*P	PKPdf	09 29 16.1	+0.2	
MESJ				*e*PP	PP	09 33 47.3	+0.6	
MESJ				AMS	AMS	10 39 34.3		
	comp=Z,2μm,19.8s							
MESJ	Messejana	162.26	34	*e*PKPdf	PKPdf	09 29 18.3	+2.4	
MESJ	Messejana	162.26	34	*e*PKIKP	PKPdf	09 29 16.1	+0.2	
MESJ				*e*		09 33 47.3		
PBEJ	Beja	162.30	33	*e*PKPdf	PKPdf	09 29 17.9	+1.9	
CEL	Celeste	162.31	328	PFAKE		09 29 30.0	+14	
CEL				LR	LR			
	comp=Z,985nm,22.0s							
MORF	Marmelete	162.43	36	*e*P	PKPdf	09 29 16.2	0.0	
MORF				*e*PP	PP	09 33 48.3	+0.5	
MORF				AMS	AMS	10 40 00.6		
	comp=Z,2μm,20.8s							
MORF	Marmelete	162.43	36	*e*PKPdf	PKPdf	09 29 20.8	+4.6	
MORF	Marmelete	162.43	36	*e*PKIKP	PKPdf	09 29 16.2	0.0	
MORF				*e*		09 33 48.2		
PFVI	Vila Bisbo	162.47	37	*e*PKPdf	PKPdf	09 29 18.6	+2.4	
PCVE	Castro Verde	162.51	34	*e*PKPdf	PKPdf	09 29 19.4	+3.2	
PAB	San Pablo	162.53	23	PFAKE		09 29 30.0	+14	
PAB				LR	LR			
	comp=Z,1μm,20.0s							
ES19	SONSECA Array	162.55	21	*e*PKPdf	PKPdf	09 29 17.7	+1.5	
ESDC	Sonseca Array	162.55	21	PKP	PKPdf	09 29 15.1	-1.2	
	comp=Z,0.2nm,0.3s,baz=335,slow=6.6,SNR=5.9							
ESDC				PKPab	PKPab	09 30 04.2	-0.1	
	comp=Z,0.3nm,0.4s,baz=295,slow=3.8,SNR=3.4							
PBAR	Barrancos	162.58	31	*e*PKPdf	PKPdf	09 29 20.7	+4.5	
PVAQ	Vaqueiros	162.85	34	*e*PKPdf	PKPdf	09 29 19.7	+3.2	
PVAQ	Vaqueiros	162.85	34	*e*PP	PP	09 33 52.0	+2.2	
PVAQ	Vaqueiros	162.85	34	*e*SS	SS	09 54 10.0	-0.9	
PVAQ	Vaqueiros	162.85	34	*e*LR	LR	10 31 16.4		
	comp=Z,1μm,18.0s							
PBDV	Barranco-do-Ve	162.86	35	*e*PKPdf	PKPdf	09 29 19.8	+3.2	
RTC	Rabat Centre	165.83	41	PFAKE		09 29 30.0	+11	
RTC				LR	LR			
	comp=Z,5μm,19.0s							
KEST	Kesra	167.12	341	PKPab	PKPab	09 30 24.6	+0.1	
	comp=Z,8.8nm,0.8s,baz=307,slow=4.7,SNR=7.9							
KEST	Kesra	167.12	341	*e*PKPab	PKPab	09 30 25.1	+0.6	
TORD	Torodi Ar. Bea	169.32	167	PKP	PKPdf	09 29 21.3	-1.0	
	comp=Z,4.0nm,0.9s,baz=306,slow=1.4,SNR=13							
TORD				PKPab	PKPab	09 30 35.8	+1.2	
	comp=Z,3.3nm,0.8s,baz=179,slow=3.6,SNR=7.8							
TAM	Tamanrasset	178.55	236	*e*PKIKP	PKPdf	09 29 25.2	-0.4	
TAM	Tamanrasset	178.55	236	*e*PKPdf	PKPdf	09 29 25.1	-0.4	

IDC 30 09:09:27.0±2.2,2°.91N×129°.09E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/44,mbtmp3.5/3,Error ellipse: s-maj=143.5km s-min=24.8km az=69.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.29	167	P	P	09 14 36.7	+0.1
	0.3nm,0.3s,baz=348,slow=11,SNR=21						
ASAR	Alice Springs	26.83	170	P	P	09 15 09.0	-0.3
	0.4nm,0.7s,baz=349,slow=7.6,SNR=6.7						
MKAR	Makanchi Array	59.58	324	P	P	09 19 32.6	+0.1
	0.4nm,0.6s,baz=116,slow=6.6,SNR=3.1						

BUC 30 09:11:03.9±0.7,45°.47N×25°.33E,h21km±7km,MD2.3/2, 6C-2D,Error ellipse: s-maj=9.9km s-min=3.0km az=350.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOIR		0.20	261	⇑*i*P	Pb	09 11 09.5	-0.4
VOIR		0.20	261	*i* S	Sb	09 11 13.5	-0.5
VOIR		0.20	261	⇑*i*P	Pb	09 11 09.5	-0.4
VOIR				*i* S	Sb	09 11 13.5	-0.5
MTUR	Matau	0.30	218	⇓*i*P	Pb	09 11 11.9	+1.2
MTUR	Matau	0.30	218	⇓*i*P	Pb	09 11 11.9	+1.2
MLR	Muntele Rosu	0.43	87	⇑*i*P	Pb	09 11 13.2	+0.4
MLR	Muntele Rosu	0.43	87	⇑*i*P	Pb	09 11 13.2	+0.4
MLR				*i* S	Sn	09 11 20.7	-1.7
ARR	Arges	0.50	259	⇑*i*P	Pb	09 11 14.6	+0.6
ARR	Arges	0.50	259	⇑*i*P	Pb	09 11 14.6	+0.6
ARR				*i* S	Sn	09 11 22.9	-1.0

*ISCJB **30** 09:11:22.3±0.8,36°.68N±0°.05×71°.42E±0°.09,h106km, Error ellipse: s-maj=11.0km s-min=5.2km az=156.9*
*NNC **30** 09:11:24.5±4.7,37°.03N×71°.39E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=38.3km s-min=16.7km az=168.0*

ISC 30 09:11:23.0±1.3,36°.67N±0°.07×71°.32E±0°.09,h106km,n7, σ1§62/14,3C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	Dzherino	2.90	318	⇑Pn	Pn	09 12 09.3	+1.7
	9.9nm,0.2s						
DZET				⇑Sn	Sn	09 12 44.2	+2.1
	245nm,0.5s						
MNAS	Manas	5.88	9	⇑Pn	Pn	09 12 47.5	-0.2
	1.9nm,0.3s						
MNAS				⇓Sn	Sn	09 13 53.6	-0.2
	8.1nm,0.5s						
DHRM	DHARAMSHALA	6.04	136	*e*P	Pn	09 12 49.6	-0.3
DHRM				*e*S	Sn	09 13 59.8	+2.0
AAK	Ala-Archa	6.44	21	Pn	Pn	09 12 56.0	+0.7
	2.2nm,0.3s						
AAK				⇓Sn	Sn	09 14 09.5	+2.1
	6.8nm,0.7s						
KK31	Karatay Array	6.45	355	Pn	Pn	09 12 54.0	-1.4
	1.6nm,0.5s,baz=180,slow=12,SNR=28						
KK31				⇓Sn	Sn	09 14 04.7	-2.8
	4.3nm,0.3s,baz=180,slow=22,SNR=16						
TKM2	Tokmak 2	7.05	27	⇓Pn	Pn	09 13 03.7	0.0
	1.4nm,0.5s						
TKM2				⇓Sn	Sn	09 14 22.9	+0.5
	1.6nm,0.6s						
SMLA	Simla	7.36	137	*e*P	Pn	09 13 07.7	-0.1
SMLA				*e*S	Sn	09 14 28.2	-1.6

*ISCJB **30** 09:12:33.7±0.3,40°.30N±0°.03×27°.87E±0°.02,h0km, Error ellipse: s-maj=4.1km s-min=2.6km az=8.0*
*CSEM **30** 09:12:33.9±0.1,40°.32N×27°.88E,h1km,MD2.7,Error ellipse: s-maj=3.9km s-min=2.6km az=5.0,Suspected Mining explosion.*
*ISK **30** 09:12:33.8,40°.32N×27°.86E,h8km,MD2.7*
*DDA **30** 09:12:34.1,40°.32N×27°.85E,h7km,Md2.7,Suspected Mining explosion.*

ISC 30 09:12:34.0±0.8,40°.31N±0°.02×27°.86E±0°.02,h0km,n58, σ0§67/72,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDC	Edincik	0.04	1	*e*PG	Pg	09 12 35.1	+0.5
EDC				*e*SG	Sg	09 12 36.7	+1.6
EDC	Edincik	0.04	1	*e*Pg	Pg	09 12 35.2	+0.5
EDC				*e*Sg	Sg	09 12 36.7	+1.6
KNL	Bal¨–kesir	0.26	261	*i* P	Pg	09 12 38.2	-0.8
KNL				*i* S	Sg	09 12 43.1	+0.7
GONE	Gonen-Balikesi	0.30	207	*e*PG	Pg	09 12 40.5	+0.8
GONE	Gonen-Balikesi	0.30	207	*e*Pg	Pg	09 12 40.5	+0.8
MRMT	Marmara Adasi	0.35	325	*e*PG	Pg	09 12 41.1	+0.3
MRMT				*e*SG	Sg	09 12 46.9	+1.5
MRMT	Marmara Adasi	0.35	325	*e*Pg	Pg	09 12 41.1	+0.3
MRMT				*e*Sg	Sg	09 12 46.9	+1.5
KCTX	Karacabey (Bur	0.38	97	*e*PG	Pg	09 12 41.5	+0.3
KCTX				*e*SG	Sg	09 12 47.7	+1.5
KCTX	Karacabey (Bur	0.38	97	*e*Pg	Pg	09 12 41.6	+0.3
KCTX				*e*Sg	Sg	09 12 47.7	+1.5
KRBG	Karabiga-Canak	0.44	281	*e*PG	Pb	09 12 44.0	-0.6
KRBG	Karabiga-Canak	0.44	281	*e*Pg	Pb	09 12 44.0	-0.6
SART	Tekirdag	0.64	306	P	Pg	09 12 46.4	+0.1
SART				S	Sg	09 12 55.9	+1.3
SART	Tekirdag	0.64	306	*i* P	Pg	09 12 46.4	+0.1
SART				*i* S	Sg	09 12 55.9	+1.3
RKY	Sarkoy-Tekirda	0.64	306	*e*PG	Pg	09 12 46.4	+0.1
RKY	Sarkoy-Tekirda	0.64	306	*e*Pg	Pg	09 12 46.4	+0.1
BALB	Balikesir	0.67	179	*e*PG	Pg	09 12 47.4	+0.6
BALB	Balikesir	0.67	179	*e*Pg	Pg	09 12 47.4	+0.6
MDNY	Mudanya-Bursa	0.78	85	*e*PG	Pg	09 12 49.0	0.0
MDNY	Mudanya-Bursa	0.78	85	*e*Pg	Pg	09 12 49.0	0.0
ARMT	Armutlu	0.80	71	*e*PG	Pg	09 12 49.7	+0.3
ARMT				*e*SG	Sb	09 13 01.7	-0.6
ARMT	Armutlu	0.80	71	*e*Pg	Pg	09 12 49.7	+0.3
ARMT				*e*Sg	Sb	09 13 01.7	-0.6
LPK	Lapseki	0.84	274	*e*PG	Pg	09 12 50.5	+0.3
LPK	Lapseki	0.84	274	*e*Pg	Pg	09 12 50.5	+0.3
IGD	Bursa	1.02	92	*i* P	Pg	09 12 53.0	-0.6
IGD				*i* S	Sb	09 13 08.5	-0.1
KESN	Edirne-Kesan	1.04	300	P	Pb	09 12 54.9	-0.1
KESN				S	Sg	09 13 08.1	+0.8
KESN	Edirne-Kesan	1.04	300	*i* P	Pb	09 12 54.9	-0.1
KESN				*i* S	Sg	09 13 08.1	+0.8
CTKS	Kestanelik-??a	1.04	28	*e*PG	Pg	09 12 53.6	-0.4
CTKS	Kestanelik-??a	1.04	28	*e*Pg	Pg	09 12 53.6	-0.4
GELI	Tayfur-Gelibol	1.06	275	*e*PG	Pb	09 12 54.8	-0.4
GELI	Tayfur-Gelibol	1.06	275	*e*Pg	Pb	09 12 54.8	-0.4
ERIK	Erikli-Kesan	1.09	290	*e*PN	Pb	09 12 55.3	-0.4
ERIK	Erikli-Kesan	1.09	290	*e*Pn	Pb	09 12 55.3	-0.4
BGKT	Bogazkoy	1.11	38	*e*PN	Pg	09 12 55.4	+0.1
BGKT	Bogazkoy	1.11	38	*e*Pn	Pg	09 12 55.4	+0.1
ISK	Istanbul-Kandi	1.18	50	*e*PN	Pg	09 12 56.5	-0.1
ISK	Istanbul-Kandi	1.18	50	*e*Pn	Pg	09 12 56.5	-0.1
CTYL	Yalikoy Yolu	1.21	15	*e*PN	Pb	09 12 57.5	-0.1
CTYL	Yalikoy Yolu	1.21	15	*e*Pn	Pb	09 12 57.6	-0.1
IZI	Iznik	1.23	88	*e*PN	Pg	09 12 56.9	-0.7
IZI	Iznik	1.23	88	*e*Pn	Pg	09 12 56.9	-0.7
EZN	Ezine	1.27	248	*e*PN	Pg	09 12 58.0	-0.4
EZN	Ezine	1.27	248	*e*Pn	Pg	09 12 58.0	-0.4
KLYT	Kilyos	1.30	43	*e*PN	Pg	09 12 58.1	-0.7
KLYT	Kilyos	1.30	43	*e*Pn	Pg	09 12 58.2	-0.7
ENEZ	Enez	1.37	289	*e*PN	Pg	09 12 60.0	-0.3
ENEZ	Enez	1.37	289	*e*Pn	Pg	09 13 00.0	-0.3
AKS	Akhisar	1.43	182	*e*PN	Pn	09 13 00.7	-0.5
AKS	Akhisar	1.43	182	*e*Pn	Pn	09 13 00.7	-0.5
ALN	Alexandroupoli	1.50	294	*e*PN	Pn	09 13 02.0	-0.2
ALN	Alexandroupoli	1.50	294	*e*Pn	Pn	09 13 02.0	-0.2
GADA	Gvkgeada	1.51	266	*e*PN	Pn	09 13 01.8	-0.4
GADA	Gvkgeada	1.51	266	*e*Pn	Pn	09 13 01.8	-0.4
CAVI	Cavuskoy	1.52	93	*e*PN	Pn	09 13 02.1	-0.3
CAVI	Cavuskoy	1.52	93	*e*Pn	Pn	09 13 02.1	-0.3
SILT	Sile	1.59	58	*e*PN	Pn	09 13 02.7	-0.7
SILT	Sile	1.59	58	*e*Pn	Pn	09 13 02.7	-0.7
KULA	Kula-Manisa	1.90	161	*e*PN	Pn	09 13 07.3	-0.4
KULA	Kula-Manisa	1.90	161	*e*Pn	Pn	09 13 07.3	-0.4

IDC 30 09:13:49.6±1.1,22°.99S×176°.16W,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.9/41,mbtmp3.9/6,Error ellipse: s-maj=35.2km s-min=27.4km az=151.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	Rarotonga	15.29	86	Pn	Pn	09 17 15.2	-12
	1.8nm,0.3s,baz=265,slow=11,SNR=3.5						
CTA	Charters Tower	35.02	267	P	P	09 20 44.0	-0.2
	4.5nm,0.8s,baz=112,slow=11,SNR=2.0						
ASAR	Alice Springs	45.67	259	P	P	09 22 13.0	+0.6
	0.7nm,0.8s,baz=100,slow=7.7,SNR=4.5						
WRA	Warramunga Arr	46.00	264	P	P	09 22 14.5	-0.5

4.1nm,0.3s,baz=85,slow=16,SNR=5.5
MAT Matsushiro 3.05 258 P Pb 09 19 31.7 -1.6
MAT S Sn 09 20 04.9 +0.7
JHJ Hachijo jima 2 4.45 204 Pn Pn 09 19 46.0 -0.7
6.8nm,0.3s,baz=166,slow=13,SNR=2.8
JHJ Sn Sn 09 20 37.3 -1.5
20nm,0.3s,baz=42,slow=16,SNR=7.3
JHJ LR LR 09 20 53.5
comp=Z,468nm,20.7s,baz=256,slow=35
MKAR Makanchi Array 44.36 302 P P 09 27 00.6 +11
0.2nm,0.3s,baz=84,slow=6.4,SNR=4.0
WRA Warramunga Arr 57.31 188 P P 09 28 29.1 +1.8
0.3nm,0.7s,baz=5.9,slow=7.2,SNR=4.4

*ISCJB **30** 09:20:29.0±1.1,27°.83S×71°.21W±0°.09,h10km,Error ellipse: s-maj=11.5km s-min=4.0km az=5.9*
*GUC **30** 09:20:29.3±0.6,27°.91S×71°.04W,h34km±3km,ML3.5*
*SJA **30** 09:20:30.5±0.8,27°.89S×71°.15W,h20km,ML3.5,MW3.2*
ISC 30 09:20:29.2±1.3,27°.89S±0°.03×71°.13W±0°.08,h10km,n20, σ2s96/29,3C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.76**	**154**	*eP*	**Pg**	**09 20 43.1**	**-0.8**
VACH				*i* S	**Sg**	**09 20 53.4**	**-0.5**
CDCH	**Caldera**	**0.86**	**19**	↑*i*P	**Pg**	**09 20 45.0**	**-0.8**
CDCH				*i* S	**Sg**	**09 20 56.5**	**-0.5**
CPCH	**Copiapo**	**0.87**	**53**	*eP*	**Pg**	**09 20 44.6**	**-1.4**
CPCH				*i* S	**Sg**	**09 20 56.1**	**-1.2**
LCO	**Las Campanas**	**1.18**	**161**	*i* S	**Sn**	**09 21 10.2**	**+1.8**
LCO	**Las Campanas**	**1.18**	**161**	↑*i*P	**Pb**	**09 20 50.1**	**-1.8**
LCO				*i* S	**Sb**	**09 21 05.4**	**-2.0**
LCO				IAML		09 21 07.8	
	comp=E,1μm,0.2s						
TLL	**Tololo Astrono**	**2.29**	**173**	↑*i*P	**Pn**	**09 21 06.5**	**-0.7**
TLL				*i* S	**Sn**	**09 21 34.5**	**-1.2**
TLL				IAML		09 21 42.2	
	comp=N,514nm,0.5s						
AROD	**Rodeo**	**2.70**	**148**	*i* S	**Sb**	**09 21 50.2**	**-0.8**
VCA	**Vinchina**	**2.72**	**109**	*i* P	**Pb**	**09 21 16.0**	**-2.0**
AGUA	**GUANDACOL**	**2.82**	**125**	*i* P	**Pb**	**09 21 17.6**	**-2.0**
AGUA				*i* S	**Sb**	**09 21 51.9**	**-2.3**
ACCO	**Cerro Coronel**	**3.24**	**147**	*i* S	**Sb**	**09 22 03.9**	**-2.8**
ACCO				IAML		09 22 13.3	
	comp=Z,108nm,0.8s						
RTLL	**Cerro Villicun**	**4.14**	**147**	*i* P	**Pn**	**09 21 36.0**	**+3.5**
RTLL				*e*S	**Sn**	**09 22 24.3**	**+3.3**
RTLS	**Leoncito**	**4.21**	**158**	*i* P	**Pn**	**09 21 37.6**	**+3.9**
RTLS				*i* S	**Sn**	**09 22 27.5**	**+4.4**
RTLS				↓*e*S	**Sb**	**09 22 28.8**	**-5.8**
AVFE	**Valle Fertil**	**4.24**	**132**	*i* S	**Sn**	**09 22 27.2**	**+3.8**
RTCV	**Cerro Valdivia**	**4.56**	**151**	*i* P	**Pn**	**09 21 41.9**	**+3.6**
AUSP	**Uspallata**	**4.58**	**161**	*i* S	**Sn**	**09 22 36.2**	**+4.0**
CYA	**Choya**	**4.74**	**98**	*e*P	**Pn**	**09 21 40.7**	**0.0**
CYA				IAML		09 21 43.7	
	comp=Z,46nm,0.2s						
FSA	**Cafayete**	**4.93**	**70**	*i* P	**Pn**	**09 21 47.8**	**+4.4**
FSA				IAML		09 21 50.6	
	comp=Z,4.8nm,0.5s						
ASAL	**Salagasta**	**5.09**	**158**	*i* P	**Pn**	**09 21 49.5**	**+3.8**
ASAL				*i* S	**Sn**	**09 22 47.8**	**+3.2**
ARCO	**CERRO ARCO**	**5.29**	**159**	*i* S	**Sn**	**09 22 52.8**	**+3.2**
ARCO				IAML		09 23 05.3	
	comp=Z,36nm,0.4s						
MRA	**San Martin**	**6.51**	**135**	IAML		09 23 28.0	
	comp=Z,26nm,0.7s						

*ISCJB **30** 09:22:44.9±0.7,38°.53N±0°.03×28°.39E±0°.06,h5km±6km, Error ellipse: s-maj=7.8km s-min=5.1km az=27.3*
*CSEM **30** 09:22:44.9±0.3,38°.51N×28°.41E,h10km,MD2.6,Error ellipse: s-maj=7.0km s-min=4.8km az=112.0*
*ISK **30** 09:22:44.3,38°.53N×28°.43E,h5km,MD2.6*
*DDA **30** 09:22:45.7,38°.48N×28°.47E,h7km,Md2.8*
ISC 30 09:22:44.7±1.1,38°.53N±0°.03×28°.41E±0°.04,h8km±9km, n16,σ0s47/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULA	**Kula-Manisa**	**0.19**	**93**	*e*PG	**Pg**	**09 22 48.8**	**+0.1**
KULA				*e*SG	**Sg**	**09 22 51.4**	**-0.1**
KULA	**Kula-Manisa**	**0.19**	**93**	*e*Pg	**Pg**	**09 22 48.8**	**+0.1**
KULA				*e*Sg	**Sg**	**09 22 51.4**	**-0.1**
DEMI	**Demirci**	**0.57**	**24**	P	**Pb**	**09 22 56.8**	**-0.2**
DEMI				S	**Sb**	**09 23 04.9**	**-0.4**
DEMI	**Demirci**	**0.57**	**24**	*i* P	**Pb**	**09 22 56.9**	**-0.2**
DEMI				*i* S	**Sb**	**09 23 04.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**216**	*e*PG	**Pg**	**09 22 58.6**	**+0.2**
AYDB				*e*SG	**Sb**	**09 23 09.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**216**	*e*Pg	**Pg**	**09 22 58.6**	**+0.2**
AYDB				*e*Sg	**Sb**	**09 23 09.3**	**0.0**
DNZL	**Cakiroluk**	**0.97**	**149**	P	**Pg**	**09 23 03.0**	**-0.4**
DNZL				S	**Sn**	**09 23 18.1**	**-0.8**
DNZL	**Cakiroluk**	**0.97**	**149**	*i* P	**Pg**	**09 23 03.0**	**-0.4**
DNZL				*i* S	**Sn**	**09 23 18.1**	**-0.8**
GDZ	**Gediz**	**1.01**	**56**	P	**Pg**	**09 23 04.3**	**+0.2**
GDZ				S	**Sn**	**09 23 20.1**	**+0.4**
GDZ	**Gediz**	**1.01**	**56**	*i* P	**Pg**	**09 23 04.3**	**+0.2**
GDZ				*i* S	**Sn**	**09 23 20.1**	**+0.4**
BALB	**Balikesir**	**1.19**	**340**	*e*PN	**Pg**	**09 23 07.0**	**-0.6**
BALB	**Balikesir**	**1.19**	**340**	*e*Pn	**Pg**	**09 23 07.0**	**-0.6**
TVSB	**Tavsanli**	**1.23**	**41**	*e*PN	**Pg**	**09 23 07.8**	**-0.6**
TVSB				*e*SN	**Sn**	**09 23 25.7**	**+0.4**
TVSB	**Tavsanli**	**1.23**	**41**	*e*Pn	**Pg**	**09 23 07.8**	**-0.6**
TVSB				*e*Sn	**Sn**	**09 23 25.7**	**+0.4**
KCTX	**Karacabey (Bur**	**1.74**	**359**	*e*PN	**Pn**	**09 23 16.0**	**+0.7**
KCTX	**Karacabey (Bur**	**1.74**	**359**	*e*Pn	**Pn**	**09 23 16.0**	**+0.7**

IDC 30 09:37:04.1±5.1,50°.30S×113°.48E,h0km,mb3.8/2, mb1 4.0/2,mb1mx3.6/24,mbtmp3.8/2,Error ellipse: s-maj=197.1km s-min=50.9km az=105.0,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.40**	**2**	T	T	09 56 08.6	
	baz=186,slow=74,SNR=11						
H01W1	**Cape Leeuwin H**	**15.40**	**2**	T	T	09 56 09.1	
	baz=186,slow=74,SNR=12						
H01W3	**Cape Leeuwin H**	**15.41**	**2**	T	T	09 56 09.7	
	baz=186,slow=74,SNR=9.7						
ASAR	**Alice Springs**	**30.98**	**38**	P	P	09 43 23.4	**+0.3**
	0.6nm,0.7s,baz=208,slow=7.8,SNR=12						
WRA	**Warramunga Arr**	**34.52**	**36**	P	P	09 43 53.5	-0.4
	1.6nm,0.8s,baz=204,slow=9.7,SNR=6.7						
TXAR	**Lajitas Array**	**145.12**	**113**	PKPbc	PKPbc	09 56 42.0	-0.8
	0.2nm,0.7s,baz=196,slow=6.4,SNR=3.1						

IDC 30 09:44:26.4±7.6,10°.81N×91°.94E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/36,mbtmp3.6/3,Error ellipse: s-maj=391.3km s-min=29.1km az=60.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**26.65**	**227**	T	T	10 18 22.7	
	baz=46,slow=76,SNR=7.9						
H08S2	**Diego Garcia H**	**26.66**	**227**	T	T	10 18 24.1	
	baz=46,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**26.67**	**227**	T	T	10 18 22.0	
	baz=46,slow=76,SNR=11						
MKAR	**Makanchi Array**	**36.79**	**349**	P	P	09 51 35.9	-0.1
	0.4nm,0.6s,baz=157,slow=8.0,SNR=4.2						
WRA	**Warramunga Arr**	**51.73**	**126**	P	P	09 53 35.8	-0.2
	0.7nm,0.6s,baz=307,slow=8.2,SNR=13						
ASAR	**Alice Springs**	**53.46**	**130**	P	P	09 53 48.8	0.0
	0.4nm,0.6s,baz=301,slow=6.6,SNR=12						

*IDC **30** 09:47:03.9±0.5,23°.48S×175°.84W,h0km,mb4.7/17, mb1 4.8/19,mb1mx4.7/31,mbtmp4.7/19,ML3.8/2,MS4.8/18, Ms1 4.8/18,ms1mx4.7/28,Error ellipse: s-maj=18.7km s-min=14.7km az=148.0*
*BJI **30** 09:47:04.1,22°.63S×175°.27W,h2km,mb5.0/10,mB5.8/4, Ms5.4/1,Ms7 5.0/1*
*ISCJB **30** 09:47:06.9±0.2,23°.71S±0°.06×175°.75W±0°.04,h30km, mb4.9/43,MS4.9/19,Error ellipse: s-maj=8.5km s-min=4.5km az=161.2*

*NEIC **30** 09:47:09.1±0.4,23°.57S×175°.88W,h35km,mb5.0/4,Error ellipse: s-maj=12.3km s-min=9.6km az=149.0*
*GCMT **30** 09:47:09.1±0.1,23°.71S×175°.32W,h26km,MW5.5/117, Moment Tensor Solution. s100,c172; s117,c201; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr1.73±.04; Mθθ-0.40±.02; Mφφ-1.33±.02; Mrθ0.58±.05; Mθφ-0.52±.01; Mrφ0.95±.04; Best double couple: M₀1.98800×10^17 NP1:φs28.00000°,δ62.00000°, λ93.00000°. NP2:φs201.00000°,δ28.00000°,λ84.00000°. Principal axes: T 2.0770, Plg73.0000°, Azm306.0000°; N -0.1730, Plg3.0000°, Azm206.0000°; P -1.8990, Plg17.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **30** 09:47:12.5±3.0,23°.69S×176°.69W,h33km,mb5.4/14 Error ellipse: s-maj=15.2km s-min=11.2km az=43.3*
ISC 30 09:47:08.2±0.3,23°.73S±0°.07×175°.70W±0°.06,h30km, n258,σ1s68/251,mb5.0/43,MS4.9/19,31C-13D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.09**	**50**	P	Pn	09 48 41.9	-8.1
	baz=6.5,SNR=14						
MSVF	**Nonsavu**	**8.36**	**314**	*d* iP	**Pn**	**09 49 08.6**	**+1.1**
AFI	**Afiamalu**	**10.45**	**21**	Pn	Pn	09 49 27.4	-8.7
	12nm,0.3s,baz=203,slow=4.6,SNR=13						
AFI				Sn	Sn	09 51 15.3	-17
	20nm,0.3s,baz=83,slow=14,SNR=4.0						
RAR	**Rarotonga**	**14.93**	**83**	Pn	Pn	09 50 30.0	-7.2
	13nm,0.3s,baz=241,slow=6.2,SNR=26						
RAR				Sn	Sn	09 52 58.3	-23
	3.7nm,0.3s,baz=68,slow=16,SNR=6.1						
RAR				LR	LR	09 55 14.4	
	comp=Z,3μm,19.6s,baz=258,slow=33						
URZ	**Urewera**	**15.73**	**201**	Pn	**Pn**	**09 50 47.8**	**+0.2**
	1.0nm,0.3s,baz=336,slow=20,SNR=3.5						
URZ				Sn	**Sn**	**09 53 33.1**	**-7.9**
	1.4nm,0.3s,baz=183,slow=19,SNR=4.8						
DZM	**Mont Dzumac**	**16.54**	**272**	*e*P	**P**	**09 51 03.0**	**+2.5**
	249nm,1.6s						
DZM				*e*LR	LR	09 54 54.7	
	5μm,22.6s						
DZM	**Mont Dzumac**	**16.54**	**272**	Pn	**Pn**	**09 50 53.8**	**-4.4**
	0.1nm,0.3s,baz=29,slow=8.7,SNR=3.0						
RPZ	**Rata Peaks**	**22.72**	**205**	P	**P**	**09 52 08.0**	**+0.4**
	12nm,0.8s,baz=61,slow=1.5,SNR=5						
TBI	**Tubuai**	**24.05**	**94**	*e*S	**S**	**09 56 31.2**	**-5.1**
	1μm,24.9s						
TBI				*e*LQ	LQ	09 56 54.3	
	3μm,27.8s						
TBI				*e*LR	LR	09 58 07.2	
	6μm,28.5s,baz=263						
TBI	**Tubuai**	**24.05**	**94**	*e*T	T	10 17 16.9	
	13nm,0.3s						
PAE	**Paea**	**25.14**	**81**	*e*P	**P**	**09 52 30.0**	**-0.9**
	9.1nm,1.2s						
PAE	**Paea**	**25.14**	**81**	*e*T	T	10 18 17.6	
	6.3nm,0.3s						
PPT2	**Papeete2**	**25.17**	**81**	*e*P	**P**	**09 52 30.1**	**-1.1**
	41nm,1.4s						
PPT2				*e*S	**S**	**09 56 51.0**	**-3.6**
	1μm,30.0s						
PPT2				*e*LQ	LQ	09 57 20.1	
	4μm,24.2s						
PPT2				*e*LR	LR	09 58 38.7	
	6μm,25.5s,baz=251						
PPT2	**Papeete2**	**25.17**	**81**	*e*T	T	10 18 20.6	
	8.6nm,0.3s						
PPT	**Papeete**	**25.18**	**81**	P	**P**	**09 52 30.1**	**-1.1**
	23nm,0.9s,baz=12,slow=2.0,SNR=5.9						
PPT				LR	LR	10 01 47.1	
	comp=Z,2μm,19.0s,baz=255,slow=35						
TIAR	**Tiarei**	**25.39**	**81**	*e*P	**P**	**09 52 31.9**	**-1.2**
	18nm,1.2s						
TIAR	**Tiarei**	**25.39**	**81**	*e*T	T	10 18 36.2	
	1.7nm,0.3s						
TVO	**Taravao**	**25.40**	**82**	*e*P	**P**	**09 52 32.6**	**-0.7**
	19nm,1.2s						
TVO	**Taravao**	**25.40**	**82**	*e*T	T	10 18 38.5	
	1.4nm,0.3s						
MEH	**Mehetia**	**26.45**	**83**	*e*T	T	10 19 58.8	
	25nm,0.3s						
HNR	**Honiara**	**27.27**	**297**	LR	LR	10 01 53.3	
	comp=Z,2μm,21.4s,baz=156,slow=33						
EIDS	**Eidsvold**	**30.22**	**260**	P	**P**	**09 53 17.6**	**+1.2**
	baz=31,SNR=3.8						
RMQ	**Roma**	**32.24**	**258**	P	**P**	**09 53 35.2**	**+1.0**
	baz=33,SNR=5.1						
YNG	**Young**	**32.97**	**243**	P	**P**	**09 53 41.4**	**+0.9**
	baz=34						
CMSA	**Cobar Meteorol**	**34.94**	**248**	P	**P**	**09 53 57.7**	**+0.1**
	baz=35,SNR=7.2						
CTA	**Charters Tower**	**35.42**	**268**	P	**P**	**09 54 01.2**	**-0.6**
	7.4nm,0.4s,baz=94,slow=11,SNR=17						
CTAO	**Charters Tower**	**35.42**	**268**	*e*P	**P**	**09 54 00.7**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,83nm,0.6s						
CTAO	**Charters Tower**	**35.42**	**268**	*e*P	**P**	**09 54 00.7**	**-1.2**
	comp=Z,83nm,0.6s						
QLP	**Quilpie**	**36.28**	**257**	P	**P**	**09 54 08.4**	**-0.8**
	baz=37,SNR=7.3						
TAOE	**Nuku Hiva Isla**	**37.05**	**72**	*e*LR	LR	10 04 01.9	
	comp=Z,2μm,27.8s						
RKT	**Rikitea**	**37.28**	**97**	*e*S	**S**	**10 00 01.3**	**-2.1**
	comp=Z,406nm,27.4s						
RKT				*e*LR	LR	10 04 16.9	
	comp=Z,3μm,29.2s,baz=261						
MTSU	**Mount Surprise**	**37.67**	**271**	P	**P**	**09 54 20.4**	**-0.7**
	baz=38,SNR=8.0						
PMG	**Port Moresby**	**38.21**	**286**	P	**P**	**09 54 24.3**	**-1.3**
	comp=Z,42nm,0.9s,baz=103,slow=5.8,SNR=5.7						
PMG	**Port Moresby**	**38.21**	**286**	*ce*P	**P**	**09 54 23.9**	**-1.7**
PMG				pmax	pmax		
	comp=Z,295nm,1.2s						
STKA	**Stephens Creek**	**38.44**	**248**	P	**P**	**09 54 27.0**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=104,slow=11,SNR=9.2						
STKA				LR	LR	10 08 40.7	
	comp=Z,3μm,20.4s,baz=72,slow=34						
STKA	**Stephens Creek**	**38.44**	**248**	P	**P**	**09 54 27.5**	**+0.1**
	baz=39,SNR=6.7						
HTT	**Hallett**	**40.74**	**246**	P	**P**	**09 54 46.0**	**-0.6**
	baz=41,SNR=10						
ASAR	**Alice Springs**	**45.95**	**259**	P	**P**	**09 55 27.8**	**-1.0**
	comp=Z,7.8nm,0.9s,baz=93,slow=8.3,SNR=35						
ASAR				LR	LR	10 13 11.9	
	comp=Z,2μm,20.5s,baz=109,slow=34						
WR7	**Warramunga Arr**	**46.22**	**265**	P	**P**	**09 55 29.0**	**-2.0**
	baz=47						
WRAB	**Tennant Creek**	**46.34**	**265**	*ce*P	**P**	**09 55 30.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,78nm,2.5s						
WRAB	**Tennant Creek**	**46.34**	**265**	*e*P	**P**	**09 55 29.7**	**-2.1**
	comp=Z,17nm,0.9s						
WRA	**Warramunga Arr**	**46.35**	**265**	P	**P**	**09 55 30.2**	**-1.8**
	comp=Z,6.6nm,1.0s,baz=90,slow=6.0,SNR=46						
WRA				LR	LR	10 15 03.0	
	comp=Z,2μm,18.0s,baz=90,slow=36						
WC1	**Warramunga Arr**	**46.35**	**265**	P	**P**	**09 55 29.8**	**-2.2**
	baz=47						
WRKA	**Warakurna**	**50.72**	**256**	P	**P**	**09 56 04.1**	**-1.5**
	baz=51,SNR=60						
FITZ	**Fitzroy Crossi**	**54.77**	**264**	P	**P**	**09 56 35.3**	**-0.3**
	baz=55,SNR=4.2						
FITZ	**Fitzroy Crossi**	**54.77**	**264**	*e*P	**P**	**09 56 35.2**	**-0.3**
	comp=Z,14nm,1.0s						
VNDA	**Vanda**	**54.91**	**186**	P	**P**	**09 56 39.0**	**+3.3**
	comp=Z,5.7nm,0.9s,baz=355,slow=6.0,SNR=20						
VNDA				LR	LR	10 17 53.1	
	comp=Z,399nm,19.4s,baz=352,slow=34						
KLBR	**Kellerberrin**	**58.68**	**246**	P	**P**	**09 57 02.4**	**-0.8**
	baz=59,SNR=6.8						
SOEI	**Soe**	**58.77**	**273**	*e*P	**P**	**09 57 03.9**	**-0.2**
	comp=Z,92nm,0.8s						
BLDU	**Ballidu**	**59.74**	**247**	P	**P**	**09 57 09.8**	**-0.7**
	baz=60,SNR=7.1						
QSPA	**South Pole Qui**	**66.35**	**180**	*e*P	**P**	**09 57 56.5**	**+2.5**
	comp=Z,171nm,1.0s						
MIR	**Mirnyy**	**68.99**	**205**	*e*P	**P**	**09 58 12.0**	**+1.6**
MIR				pmax	pmax		
	comp=Z,3.0nm,1.5s						
TGY	**Tagaytay City**	**72.44**	**295**	LR	LR	10 29 07.7	
	comp=Z,404nm,19.0s,baz=127,slow=35						
MJAR	**Matsushiro Arr**	**74.06**	**323**	P	**P**	**09 58 43.4**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=162,slow=5.9,SNR=5.0						
MAJO	**Matsushiro**	**74.07**	**323**	*e*P	**P**	**09 58 41.0**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,42nm,1.2s						
H06E1	**SOCORRO T-PHAS**	**75.99**	**62**	T	T	11 22 11.2	
ASAJ	**Asahikawa**	**77.58**	**331**	*e*P	**P**	**09 59 01.4**	**+0.2**
	comp=Z,8.1nm,0.8s						
MAW	**Mawson**	**79.25**	**199**	P	**P**	**09 59 12.4**	**+2.1**
	comp=Z,13nm,0.8s,baz=137,slow=4.0,SNR=13						
MAW				LR	LR	10 35 06.9	
	comp=Z,563nm,18.0s,baz=92,slow=36						
PET	**Petropavlovsk**	**79.62**	**345**	↑*e*P	**P**	**09 59 11.9**	**-0.4**
PET				pmax	pmax		
	comp=Z,58nm,2.5s						
YSS	**Yuzh-Sakhalins**	**79.73**	**332**	↓*e*P	**P**	**09 59 13.4**	**+0.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS	**Yuzh-Sakhalins**	**79.73**	**332**	*e*P	**P**	**09 59 12.6**	**-0.4**
	comp=Z,34nm,0.9s						
MONP2	**Monument Peak**	**79.77**	**47**	P	**P**	**09 59 14.4**	**+0.5**
	baz=233						
IKP	**In-Ko-Pah, Jac**	**79.83**	**48**	P	**P**	**09 59 15.1**	**+1.0**
	baz=234						
VES	**Vestal, Richgr**	**79.83**	**44**	P	**P**	**09 59 14.5**	**+0.7**
	baz=231						
EDW2	**Edwards Air Fo**	**79.94**	**45**	P	**P**	**09 59 15.2**	**+0.7**
	baz=232						
PETK	**Petropavlovsk-**	**79.94**	**344**	P	**P**	**09 59 13.3**	**-0.7**
	comp=Z,14nm,0.9s,baz=127,slow=7.3,SNR=14						
PETK				LR	LR	10 28 27.0	
	comp=Z,608nm,21.9s,baz=175,slow=31						
KSRS	**Korea Array**	**80.71**	**318**	P	**P**	**09 59 17.8**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=130,slow=6.9,SNR=7.2						
KSRS				LR	LR	10 29 36.3	
	comp=Z,935nm,21.9s,baz=117,slow=32						
BELC	**Belle Mtn. Jos**	**80.71**	**47**	P	**P**	**09 59 19.4**	**+0.6**
	baz=233						
KSAR	**Wonju Array Be**	**80.73**	**318**	P	**P**	**09 59 17.8**	**-0.8**
KSAR	**Wonju Array Be**	**80.73**	**318**	P	**P**	**09 59 17.8**	**-0.8**
CWC	**Cottonwood Cre**	**80.84**	**44**	P	**P**	**09 59 20.0**	**+0.5**
	baz=232						
BC3	**Big Chuckawall**	**80.87**	**47**	P	**P**	**09 59 21.1**	**+1.4**
	baz=234						
GLA	**Glamis**	**80.94**	**48**	P	**P**	**09 59 21.0**	**+1.0**
	baz=234						
GSC	**Goldstone, Bar**	**80.96**	**45**	P	**P**	**09 59 20.8**	**+0.7**
	baz=233						
MPMC	**Manual Prospec**	**80.98**	**44**	P	**P**	**09 59 20.6**	**+0.3**
	baz=232						
HEC	**Hector,Ludlow**	**80.98**	**46**	P	**P**	**09 59 20.6**	**+0.4**
	baz=233						
N02D	**Trinity Center**	**81.01**	**38**	P	**P**	**09 59 20.7**	**+0.6**
	baz=228						
O03D	**Paynes Creek**	**81.07**	**39**	P	**P**	**09 59 20.9**	**+0.4**
	baz=229						
M02C	**Callahan**	**81.21**	**37**	P	**P**	**09 59 22.1**	**+0.9**
	baz=228						
IRM	**Iron Mountain**	**81.37**	**47**	P	**P**	**09 59 22.7**	**+0.4**
	baz=234						
GMRC	**Granite Mounta**	**81.40**	**46**	P	**P**	**09 59 22.1**	**-0.4**
	baz=234						
FURC	**Furnace Creek,**	**81.63**	**44**	P	**P**	**09 59 23.4**	**0.0**
	baz=233						
GRAC	**Grapevine Rang**	**81.64**	**44**	P	**P**	**09 59 23.9**	**+0.3**
	baz=232						
SHOC	**Shoshone, Teco**	**81.67**	**45**	P	**P**	**09 59 23.4**	**-0.3**
	baz=233						
M04C	**Macdoel**	**82.03**	**38**	P	**P**	**09 59 26.4**	**+0.8**
	baz=228						
PDMCI	**Parker Dam,Lak**	**82.13**	**47**	P	**P**	**09 59 26.8**	**+0.7**
	baz=235						
TPNV	**Topopah Spring**	**82.32**	**44**	P	**P**	**09 59 27.1**	**-0.1**
	baz=233						
USRK	**Ussuriysk Ar.**	**82.83**	**325**	P	**P**	**09 59 29.4**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=140,slow=3.7,SNR=16						
J05D	**Fort Rock, OR**	**83.36**	**37**	P	**P**	**09 59 32.7**	**+0.1**
	baz=229						
R11A	**Troy Canyon, C**	**83.58**	**43**	P	**P**	**09 59 33.3**	**-0.5**
	baz=233						
SYO	**Syowa Base**	**84.04**	**192**	↑*e*P	**P**	**09 59 35.0**	**-0.5**
SYO	**Syowa Base**	**84.04**	**192**	↑*e*PcP	**PcP**	**09 59 40.6**	**+1.2**
WUAZ	**Wupatki**	**84.69**	**48**	P	**P**	**09 59 40.3**	**+0.8**
	baz=236						
SNAA	**Sanae**	**84.72**	**178**	P	**P**	**09 59 40.4**	**+1.3**
SNAA	**Sanae**	**84.72**	**178**	*e*P	**P**	**09 59 38.8**	**-0.3**
VNA1	**Neumayer--Stat**	**85.46**	**176**	P	**P**	**09 59 44.1**	**+1.5**
PLCA	**Paso Flores**	**85.52**	**133**	LR	LR	10 28 15.3	
	comp=Z,361nm,21.2s,baz=290,slow=29						
121A	**Cooks Peak, D**	**85.59**	**52**	P	**P**	**09 59 44.9**	**+0.8**
	baz=238						
W18A	**Petrified Fore**	**85.59**	**49**	P	**P**	**09 59 45.3**	**+1.2**
	baz=237						
KLR	**Kul'dur**	**86.39**	**329**	LR	LR	10 33 27.3	
	comp=Z,758nm,20.8s,baz=144,slow=32						
MNTX	**Cornudas Mount**	**86.91**	**53**	P	**P**	**09 59 51.1**	**+0.7**
	baz=240						
TXAR	**Lajitas Array**	**87.03**	**56**	P	**P**	**09 59 51.5**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=214,slow=6.4,SNR=41						
TXAR				LR	LR	10 34 26.8	
	comp=Z,767nm,18.0s,baz=0.0,slow=33						
ANMO	**Albuquerque**	**87.78**	**50**	P	**P**	**09 59 55.4**	**+0.6**
	baz=239						
ANMO	**Albuquerque**	**87.78**	**50**	*ce*P	**P**	**09 59 55.4**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,17nm,2.5s						
SKNT	**Sakolnakorn**	**88.21**	**289**	P	**P**	**09 59 57.7**	**+0.8**
	comp=Z,38nm,1.1s						
CMIG	**Matias Romero**	**88.68**	**71**	P	**P**	**10 00 00.4**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=311,slow=9.3,SNR=3.2						
S22A	**4UR Ranch, Cre**	**88.97**	**48**	P	**P**	**10 00 01.0**	**+0.5**
	baz=239						
832A	**Faith Ranch, C**	**89.39**	**59**	P	**P**	**10 00 02.7**	**+0.4**
	baz=243						
NONG	**N

LAMP	**Lampang**	**92.62**	**289**	P		**P**	**10 00 19.2**	**+1.7**
	comp=Z,7.9nm,0.9s								
X32A	**Elmer**	**92.70**	**54**	P		**P**	**10 00 17.7**	**+0.1**
	baz=243								
335A	**Moody**	**92.71**	**57**	P		**P**	**10 00 17.6**	**-0.1**
	baz=244								
134A	**White-Moore Ra**	**92.78**	**56**	P		**P**	**10 00 17.9**	**-0.1**
	baz=244								
W32A	**Sentinel**	**93.05**	**53**	P		**P**	**10 00 19.6**	**+0.4**
	baz=243								
CMAR	**Chiang Mai Arr**	**93.19**	**289**	P		**P**	**10 00 21.0**	**+0.9**
	comp=Z,4.1nm,0.7s,baz=134,slow=3.3,SNR=27								
CMAR				LR		LR	10 43 00.7		
	comp=Z,257nm,19.2s,baz=127,slow=36								
WMOK	**Wichita Mounta**	**93.22**	**53**	P		**P**	**10 00 18.5**	**-1.4**
	baz=244								
CMMT	**Chiang Mai**	**93.33**	**289**	P		**P**	**10 00 21.5**	**+0.7**
	comp=Z,16nm,1.7s								
CHTO	**Chiang Mai**	**93.33**	**289**	P		**P**	**10 00 21.6**	**+0.8**
	comp=Z,71nm,1.7s								
W33A	**Caddo, Fort Co**	**93.63**	**53**	P		**P**	**10 00 22.2**	**+0.4**
	baz=244								
X34A	**Smith Ranch, M**	**93.86**	**54**	P		**P**	**10 00 23.7**	**+0.9**
	baz=244								
LAO	**LASA Array**	**93.96**	**40**	P		**P**	**10 00 24.8**	**+1.6**
	baz=240								
RSSD	**Black Hills**	**94.01**	**43**	P		**P**	**10 00 23.3**	**-0.3**
	baz=241								
Y36A	**Durant**	**94.71**	**55**	P		**P**	**10 00 27.3**	**+0.5**
	baz=245								
W35A	**Tecumseh**	**94.81**	**54**	P		**P**	**10 00 27.0**	**-0.2**
	baz=245								
X36A	**Centrahoma**	**94.94**	**54**	P		**P**	**10 00 27.8**	**-0.1**
	baz=245								
Y37A	**Hugo**	**95.24**	**55**	P		**P**	**10 00 29.6**	**+0.4**
	baz=245								
W36A	**Wetumka**	**95.28**	**54**	P		**P**	**10 00 29.6**	**+0.2**
	baz=245								
X37A	**Clayton**	**95.69**	**55**	P		**P**	**10 00 31.6**	**+0.4**
	baz=245								
YAK	**Yakutsk**	**95.90**	**337**	*e*P		**P**	**10 00 30.5**	**-1.0**
YAK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
X38A	**Whitesboro**	**96.12**	**55**	P		**P**	**10 00 32.2**	**-1.0**
	baz=246								
LPAZ	**La Paz**	**98.86**	**112**	LR		LR	10 38 26.6		
	comp=Z,312nm,19.4s,baz=224,slow=31								
ULN	**Ulaanbaatar**	**99.19**	**318**	*ce*P		**Pdif**	**10 00 46.2**	**-0.7**
ULN				pmax		pmax			
	comp=Z,5.0nm,1.7s								
GTA	**Gaotai**	**100.66**	**308**	*e*P		**Pdif**	**10 00 54.8**	**+1.2**
GTA				pP		pP	10 00 59.5	-3.9	
GTA				sP		sP	10 01 01.8	-5.0	
GTA				PMZ					
	comp=Z,3.0nm,1.4s								
TRD	**Trivandrum**	**109.21**	**271**	⇑*e*P		**Pdif**	**10 01 21.2**	**-11**
MKAR	**Makanchi Array**	**114.95**	**312**	PKP		PKPdf	10 05 44.9	-1.2	
	comp=Z,0.5nm,0.4s,baz=126,slow=2.5,SNR=5.9								
KURK	**Kurchatov**	**117.80**	**316**	*c i*PKIKP		**PKPdf**	**10 05 51.1**	**-0.3**
KURK				pmax		pmax			
	comp=Z,18nm,1.7s								
KURK	**Kurchatov**	**117.80**	**316**	PKP		**PKPdf**	**10 05 50.1**	**-1.3**
KURBB	**Kurchatov Arra**	**117.85**	**316**	PKP		**PKPdf**	**10 05 50.1**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=102,slow=1.8,SNR=10								
KSH	**Kashi**	**118.46**	**303**	*e*PKP		**PKPdf**	**10 05 58.5**	**+5.3**
KSH				SKS		**SKSdf**	**10 13 08.5**	**+5.2**	
KSH				PPMZ					
	comp=Z,120nm,4.5s								
KSH				LN					
	comp=Z,140nm,10.0s								
KSH				LE					
	comp=Z,150nm,7.6s								
KSH				LZ					
	comp=Z,230nm,12.8s								
BVAR	**Borovoye Array**	**122.91**	**319**	PKP		**PKPdf**	**10 06 00.4**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=72,slow=4.8,SNR=7.1								
BRVK	**Borovoye**	**122.97**	**319**	*c i*PKIKP		**PKPdf**	**10 06 01.0**	**-0.3**
BRVK				pmax		pmax			
	comp=Z,21nm,2.5s								
ARU	**Arti**	**129.06**	**324**	PKP		**PKPdf**	**10 06 12.1**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=347,slow=1.9,SNR=4.8								
ARU	**Arti**	**129.06**	**324**	*i* PKIKP		**PKPdf**	**10 06 13.6**	**+0.8**
ARU							10 13 21.8		
AKTO	**Aktyubinsk**	**130.88**	**317**	PKP		**PKPdf**	**10 06 16.0**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=72,slow=9.4,SNR=3.6								
GEYT	**Alibeck**	**132.29**	**300**	PKP		**PKPdf**	**10 06 18.9**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=226,slow=14,SNR=3.0								
ARCES	**ARCESS Array B**	**132.46**	**350**	PKP		**PKPdf**	**10 06 18.4**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=40,slow=2.1,SNR=9.7								
KLMR	**Klimovskoe**	**135.68**	**336**	*e*PKIKP		**PKPdf**	**10 06 21.9**	**-3.2**
KLMR				pmax		pmax			
	comp=Z,3.0nm,0.3s								
FINES	**FINESS Array B**	**139.46**	**344**	PKhKP		PKPpre	10 06 26.9		
	comp=Z,2.0nm,1.0s,baz=176,slow=34,SNR=3.6								
FINES				PKP		**PKPdf**	**10 06 33.1**	**+1.0**	
	comp=Z,2.1nm,0.9s,baz=260,slow=1.2,SNR=4.5								
MOS	**Moscow**	**139.74**	**331**	*e*PKHKP		PKPpre	10 06 27.7		
OBN	**Obninsk**	**140.60**	**331**	*e*PKIKP		**PKPdf**	**10 06 34.8**	**+0.5**
OBN				pmax		pmax			
	comp=Z,6.0nm,1.2s								
NB2	**NORSAR Subarra**	**142.41**	**354**	PKP		**PKPdf**	**10 06 35.6**	**-1.9**
	comp=Z,5.2nm,1.7s,baz=17,slow=2.6								
KBZ	**Khabaz**	**142.65**	**312**	PKhKP		PKPpre	10 06 32.9		
	comp=Z,0.8nm,0.6s,baz=319,slow=6.0,SNR=2.0								
KIV	**Kislovodsk**	**142.72**	**312**	*e*PKIKP		**PKPdf**	**10 06 38.6**	**-0.1**
KIV				pmax		pmax			
	comp=Z,11nm,1.0s								
NACGM	**Naroch**	**144.66**	**338**	*e*		**PKPab**	**10 06 40.0**	**-0.3**
NACGM				*e*LR		LR	11 07 06.0		
ANN	**Anapa**	**145.84**	**316**	*e*PKHKP		PKPpre	10 06 43.1		
ANN				*i*			10 06 48.0		
ANN				pmax		pmax			
	comp=Z,44nm,1.5s								
SUW	**Suwalki**	**146.60**	**340**	*e*PKP		**PKPbc**	**10 06 46.0**	**-0.4**
AKASG	**Malin Array Be**	**146.86**	**331**	PKPbc		**PKPdf**	**10 06 45.9**	**+0.4**
	comp=Z,12nm,0.8s,baz=40,slow=4.1,SNR=29								
AKASG				SKPbc		**SKiKP**	**10 10 28.3**	**+4.2**	
	comp=Z,0.5nm,0.4s,baz=43,slow=3.8,SNR=4.4								
KIEV	**Kiev**	**146.88**	**331**	*c i*PKHKP		PKPpre	10 06 46.0		
BSD	**Bornholm Skovb**	**147.68**	**349**	*i* P		**PKPab**	**10 06 50.9**	**-0.8**
SIM	**Simferopol'**	**147.82**	**318**	*e*PKIKP		**PKPbc**	**10 06 50.2**	**0.0**
SIM				*e*			10 07 04.0		
SIM				pmax		pmax			
	comp=Z,21nm,0.9s								
SORM	**Soroca**	**149.06**	**328**	⇑*i* P		**PKPbc**	**10 06 51.6**	**-1.7**
BEL	**Belsk**	**149.22**	**340**	*e*PKP		**PKPbc**	**10 06 53.5**	**-0.1**
BEL	**Belsk**	**149.22**	**340**	*e*PKIKP		**PKPbc**	**10 06 53.5**	**-0.1**
KIS	**Kishinev**	**149.60**	**326**	*e*PKP		**PKPbc**	**10 06 54.0**	**-0.7**
KIS				LRM		MLR	11 10 52.0		
	comp=Z,700nm,22.0s								
KIS	**Kishinev**	**149.60**	**326**	*e*PKIKP		**PKPbc**	**10 06 54.0**	**-0.7**
KIS				*e*			10 06 58.0		
KIS				*e*			10 07 04.0		
KIS				MLR		MLR			
	comp=N,700nm,22.0s								
KIS				MLR		MLR			
	comp=Z,700nm,22.0s								
KIS				MLR		MLR			
	comp=Z,700nm,22.0s								
KWP	**Kalwaria Pacla**	**150.40**	**335**	*e*PKP		**PKPbc**	**10 06 56.2**	**-0.3**
BRTR	**Keskin Array B**	**150.56**	**310**	PKPbc		**PKPbc**	**10 06 57.0**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=130,slow=1.9,SNR=18								
BRTR				PP		**PP**	**10 10 39.2**	**+5.4**	
	comp=Z,0.6nm,0.8s,baz=52,slow=8.0,SNR=3.6								
BURAR	**Bucovina Array**	**150.91**	**330**	‖*i*P		**PKPbc**	**10 06 58.6**	**+0.6**
BURAR	**Bucovina Array**	**150.91**	**330**	‖PKIKP		**PKPbc**	**10 06 58.6**	**+0.6**
OJC	**Ojcow**	**150.93**	**339**	*e*PKP		**PKPbc**	**10 06 57.4**	**-0.4**
OJC	**Ojcow**	**150.93**	**339**	*e*PKIKP		**PKPbc**	**10 06 57.4**	**-0.4**
TESR	**Tescani**	**151.02**	**327**	‖*i*P		**PKPbc**	**10 06 57.8**	**-0.3**
STHS	**Stebnicka Huta**	**151.12**	**337**	*e*PKIKP		**PKPbc**	**10 06 58.7**	**+0.4**
STHS	**Stebnicka Huta**	**151.12**	**337**	*e*PKP		**PKPbc**	**10 06 58.7**	**+0.4**
KOLS	**Kolonicke sedl**	**151.13**	**335**	*e*PKIKP		**PKPbc**	**10 06 58.3**	**0.0**
KOLS	**Kolonicke sedl**	**151.13**	**335**	*e*PKP		**PKPbc**	**10 06 58.3**	**0.0**
CFR	**Carcaliu**	**151.14**	**324**	⇑*i*P		**PKPbc**	**10 06 55.6**	**-2.8**
CFR	**Carcaliu**	**151.14**	**324**	⇑PKIKP		**PKPbc**	**10 06 55.6**	**-2.8**
UZH	**Uzhgorod**	**151.37**	**335**	*e*PKIKP		**PKPbc**	**10 06 58.2**	**-0.6**
KSP	**Ksiaz**	**151.38**	**344**	*e*PKP		**PKPbc**	**10 06 58.8**	**0.0**
KSP	**Ksiaz**	**151.38**	**344**	*e*PKIKP		**PKPbc**	**10 06 58.8**	**0.0**
VRI	**Vrincioaia**	**151.43**	**326**	⇑*i*P		**PKPbc**	**10 06 58.7**	**-0.4**
VRI	**Vrincioaia**	**151.43**	**326**	⇑PKIKP		**PKPbc**	**10 06 58.7**	**-0.4**
NIE	**Niedzica**	**151.45**	**338**	*e*PKP		**PKPbc**	**10 06 59.5**	**+0.5**
NIE	**Niedzica**	**151.45**	**338**	*e*PKIKP		**PKPbc**	**10 06 59.5**	**+0.5**
CRVS	**Cervenica-Dubn**	**151.46**	**336**	*e*PKIKP		**PKPbc**	**10 06 58.9**	**-0.2**
CRVS	**Cervenica-Dubn**	**151.46**	**336**	*e*PKP		**PKPbc**	**10 06 58.9**	**-0.2**
CLL	**Collm**	**151.66**	**348**	⇑*i*PKPbc		**PKPbc**	**10 06 59.2**	**-0.2**
	comp=Z,19nm,1.0s								
CLL				*i*			10 07 04.8		
	comp=Z,16nm,0.7s								
CLL				*i*			10 07 09.0		
CLL				*i*			10 07 11.8		
CLL				*i*			10 07 16.4		
CLL				*e*PP		**PP**	**10 10 34.0**	**-4.7**	
CLL				Lm		MLR	11 12 00.0		
	comp=Z,500nm,19.0s								
CLL	**Collm**	**151.66**	**348**	⇑*i*PKIKP		**PKPbc**	**10 06 59.2**	**-0.2**
CLL				pmax		pmax			
	comp=Z,19nm,1.0s								
CLL				MLR		MLR			
	comp=Z,500nm,19.0s								
UPC	**Upice**	**151.76**	**344**	⇑*e*PKP		**PKPbc**	**10 06 59.8**	**+0.1**
UPC	**Upice**	**151.76**	**344**	*e*PKIKP		**PKPbc**	**10 06 59.8**	**+0.1**
OKC	**Ostrava-Krasne**	**151.78**	**341**	⇑*e*PKP		**PKPbc**	**10 07 00.7**	**+1.0**
OKC	**Ostrava-Krasne**	**151.78**	**341**	*e*PKIKP		**PKPbc**	**10 07 00.7**	**+1.0**
DPC	**Dobruska-Polom**	**151.83**	**344**	⇑*e*PKP		**PKPbc**	**10 06 59.9**	**0.0**
DPC				*e*pPKP		**pPKPdf**	**10 07 04.1**	**+0.6**
DPC				*ex*		x	10 07 11.9		
DPC	**Dobruska-Polom**	**151.83**	**344**	*e*PKIKP		**PKPbc**	**10 06 59.9**	**0.0**
DPC				*e*			10 07 04.1		
DPC				*e*			10 07 11.9		
BRG	**Berggiesshubel**	**151.89**	**347**	*i* PKP		**PKPbc**	**10 06 59.9**	**-0.1**
	comp=Z,17nm,1.0s								
BRG				*i*			10 07 05.5		
	comp=Z,14nm,0.7s								
LANS	**Liptovska Anna**	**151.96**	**339**	*e*PKIKP		**PKPbc**	**10 07 01.6**	**+1.3**
LANS	**Liptovska Anna**	**151.96**	**339**	*e*PKP		**PKPbc**	**10 07 01.6**	**+1.3**
MORC	**Moravsky Berou**	**152.01**	**342**	‖*i*P		**PKPbc**	**10 07 00.6**	**+0.2**
MORC	**Moravsky Berou**	**152.01**	**342**	‖PKIKP		**PKPbc**	**10 07 00.6**	**+0.2**
DOPR	**Dopca**	**152.03**	**328**	⇑*i*P		**PKPbc**	**10 06 58.9**	**-1.6**
PVCC	**Panska Ves**	**152.08**	**346**	⇑*e*PKP		**PKPbc**	**10 07 00.7**	**+0.3**
PVCC	**Panska Ves**	**152.08**	**346**	*e*PKIKP		**PKPbc**	**10 07 00.7**	**+0.3**
MLR	**Muntele Rosu**	**152.09**	**326**	‖*i*P		**PKPbc**	**10 07 00.2**	**-0.6**
MLR	**Muntele Rosu**	**152.09**	**326**	‖PKIKP		**PKPbc**	**10 07 00.2**	**-0.6**
KECS	**Kecovo**	**152.17**	**337**	*e*PKIKP		**PKPbc**	**10 07 10.2**	**-0.2**
KECS	**Kecovo**	**152.17**	**337**	*e*PKP		**PKPab**	**10 07 10.2**	**-0.2**
VOIR		**152.57**	**327**	‖*i*P		**PKPbc**	**10 07 01.0**	**-0.8**
VOIR		**152.57**	**327**	‖PKIKP		**PKPbc**	**10 07 01.1**	**-0.8**
PRU	**Pruhonice**	**152.59**	**346**	⇑*e*PKP		**PKPbc**	**10 07 01.9**	**+0.3**
PRU				*e*PKPAB		**PKPab**	**10 07 13.0**	**+0.9**	
PRU	**Pruhonice**	**152.59**	**346**	*e*PKIKP		**PKPbc**	**10 07 01.9**	**+0.3**
PRU				*e*			10 07 13.0		
GOPC	**GO Pecny, Ondr**	**152.61**	**345**	⇑*e*PKP		**PKPbc**	**10 07 02.1**	**+0.4**
GOPC				*e*PKPAB		**PKPab**	**10 07 12.7**	**+0.5**	
GOPC	**GO Pecny, Ondr**	**152.61**	**345**	*e*PKIKP		**PKPbc**	**10 07 02.1**	**+0.4**
GOPC				*e*			10 07 12.7		
VYHS	**Vyhne**	**152.74**	**339**	*e*PKIKP		**PKPbc**	**10 07 01.8**	**-0.2**
VYHS				*e*			10 07 12.5		
VYHS	**Vyhne**	**152.74**	**339**	*e*PKP		**PKPbc**	**10 07 01.8**	**-0.2**
VYHS				*e*			10 07 12.5		
ARR	**Arges**	**152.83**	**328**	‖*i*P		**PKPdf**	**10 06 53.6**	**-1.6**
PSZ	**Piszkesteto**	**152.86**	**337**	⇑*i*P		**PKPbc**	**10 07 06.8**	**+4.4**
PSZ	**Piszkesteto**	**152.86**	**337**	⇑PKIKP		**PKPbc**	**10 07 06.8**	**+4.4**
KHC	**Kasperske Hory**	**153.62**	**346**	*e*PKPDF		**PKPdf**	**10 06 56.9**	**+0.7**
KHC				⇑*e*PKP		**PKPbc**	**10 07 03.6**	**-0.3**
KHC				*ep*PKP		**pPKPdf**	**10 07 09.5**	**+3.4**
KHC				*e*PKPAB		**PKPab**	**10 07 16.7**	**+0.2**
KHC	**Kasperske Hory**	**153.62**	**346**	*e*PKIKP		**PKPdf**	**10 06 56.9**	**+0.7**
KHC				*e*			10 07 03.6		
KHC				*e*			10 07 09.5		
KHC				*e*			10 07 16.7		
GZR	**Gura Zlata**	**153.69**	**330**	⇑*i*P		**PKPbc**	**10 07 04.0**	**-0.2**
GZR	**Gura Zlata**	**153.69**	**330**	⇑PKIKP		**PKPbc**	**10 07 04.0**	**-0.2**
GERES	**GERESS Array B**	**153.86**	**346**	PKP		**PKPdf**	**10 06 55.9**	**-0.6**
	comp=Z,0.3nm,0.2s,baz=161,slow=6.2,SNR=5.3								
GERES	**GERESS Array B**	**153.86**	**346**	PKIKP		**PKPdf**	**10 06 56.0**	**-0.6**
CONA	**Conrad Observa**	**154.16**	**342**	*i* PKPdf		**PKPdf**	**10 06 56.7**	**-0.3**
	comp=Z,3.5nm,1.2s								
CONA				*i* pPKPdf		**PKPab**	**10 07 19.1**	**+0.2**
	comp=Z,9.5nm,1.1s								
MDVR	**Moldovita**	**154.65**	**330**	‖*i*P		**PKPbc**	**10 07 10.2**	**+3.9**
MOA	**Molln**	**154.66**	**344**	*i* PKPdf		**PKPdf**	**10 06 56.3**	**-1.4**
SOKA	**Soboth**	**155.53**	**342**	*i* PKPab		**PKPab**	**10 07 24.7**	**-0.1**
	comp=Z,13nm,1.8s								
ABTA	**Abfaltersbach**	**156.10**	**346**	*i* PKPdf		**PKPdf**	**10 06 59.3**	**-0.4**
	comp=Z,11nm,1.7s								
VISS	**Visnje**	**156.38**	**341**	*i* PKPdf		**PKPab**	**10 07 27.3**	**-1.1**
VISS				*i*			10 07 31.1		
JAVS	**Javornik**	**156.52**	**343**	*i* PKPdf		**PKPab**	**10 07 23.3**	**-5.8**
JAVS				*i*			10 07 26.6		
BOJS	**Bojanci**	**156.53**	**340**	*i* PKPdf		**PKPab**	**10 07 24.4**	**-4.5**
BOJS				*i*			10 07 28.4		
TORD	**Torodi Ar. Bea**	**169.19**	**166**	PKP		**PKPdf**	**10 07 12.6**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=190,slow=0.9,SNR=5.5								
TORD				PKPab		**PKPab**	**10 08 27.1**	**+2.1**	
	comp=Z,1.8nm,0.8s,baz=183,slow=4.8,SNR=5.3								

***IDC* 30 09:50:43.5±7.4, 24°.04S×175°.53W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/35, mbtmp4.0/4, Error ellipse: s-maj=304.9km s-min=37.5km az=149.0, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
	9.8nm,1.1s,baz=78,slow=11,SNR=3.5							
CTA	**Charters Tower**	**35.56**	**269**	P	P		09 57 43.3	+0.5
	0.7nm,0.8s,baz=96,slow=7.0,SNR=3.4							
ASAR	**Alice Springs**	**46.04**	**260**	P	P		09 59 09.3	0.0
	1.0nm,0.6s,baz=90,slow=6.1,SNR=7.3							
WRA	**Warramunga Arr**	**46.47**	**265**	P	P		09 59 11.8	-0.9
	0.8nm,0.9s,baz=223,slow=7.4,SNR=3.9							
ILAR	**Eielson Array**	**91.27**	**12**	P	P		10 03 50.3	0.0

IDC **30** *09:52:57.3±20.0, 32°.90S×70°.05W, h86km±140km, mb3.2/2, mb1 3.5/5, mb1mx3.4/22, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=206.6km s-min=35.1km az=25.0*

ISCJB **30** *09:52:58.7±0.5, 32°.97S±0°.04×70°.04W±0°.04, h120km±4km, mb3.3/2, Error ellipse: s-maj=7.7km s-min=4.3km az=142.0*

SJA **30** *09:52:58.2±1.4, 33°.00S×70°.04W, h113km±7km, ML3.7, MW3.6*

GUC **30** *09:52:59.3±0.5, 32°.85S×70°.12W, h114km±4km, ML4.5*

ISC 30 09:52:59.5±0.8, 32°.96S±0°.05×70°.05W±0°.04, h113km±7km, n31, σ1§03/50, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.42**	**209**	⇑*i*P	**Pn**		**09 53 16.7**	**+0.1**
FCH				*i* S	**Sn**		**09 53 30.4**	**+0.9**
FCH				IAML			09 53 30.6	
	comp=E,11μm,0.3s							
PEL	**Peldehue**	**0.57**	**251**	*e*P	**Pn**		**09 53 16.6**	**-0.6**
PEL				*i* S	**Sn**		**09 53 30.1**	**-0.4**
PEL				IAML			09 53 30.9	
	comp=E,16μm,0.3s							
CLCH	**Cerro Calan**	**0.60**	**223**	‖*i*P	**Pn**		**09 53 17.6**	**+0.1**
CLCH				*i* S	**Sn**		**09 53 31.5**	**+0.5**
CLCH				IAML			09 53 32.4	
	comp=E,16μm,0.2s							
YECH	**El Yeso**	**0.71**	**183**	⇑*i*P	**Pn**		**09 53 20.5**	**+1.9**
YECH				*i* S	**Sn**		**09 53 35.5**	**+2.6**
ANTU	**Antumapu**	**0.79**	**219**	⇑*i*P	**Pn**		**09 53 19.2**	**+0.2**
ANTU				*i* S	**Sn**		**09 53 34.1**	**+0.5**
ANTU				IAML			09 53 34.5	
	comp=E,20μm,0.5s							
ROCH	**El Roble**	**0.81**	**269**	⇑*i*P	**Pn**		**09 53 18.9**	**-0.4**
ROCH				*i* S	**Sn**		**09 53 33.6**	**-0.7**
ROCH				IAML			09 53 34.2	
	comp=E,15μm,0.4s							
ROC1	**El Roble**	**0.82**	**268**	*i* P	**Pn**		**09 53 18.9**	**-0.5**
ROC1				*i* S	**Sn**		**09 53 33.8**	**-0.6**
RCDM	**Rinconada Maip**	**0.83**	**230**	⇑*i*P	**Pn**		**09 53 19.3**	**0.0**
RCDM				*i* S	**Sn**		**09 53 34.4**	**+0.2**
RCDM				IAML			09 53 34.9	
	comp=N,20μm,0.1s							
AUSP	**Uspallata**	**0.92**	**37**	*i* P	**Pn**		**09 53 20.9**	**+0.4**
AUSP				*i* S	**Sn**		**09 53 36.6**	**+0.4**
ARCO	**CERRO ARCO**	**0.94**	**83**	*i* P	**Pn**		**09 53 20.9**	**+0.3**
ARCO				*i* S	**Sn**		**09 53 36.2**	**-0.3**
ARCO				IAML			09 53 40.0	
	comp=Z,2μm,0.2s							
AAGR	**Agrelo**	**1.03**	**97**	*i* P	**Pn**		**09 53 21.9**	**+0.5**
AAGR				*i* S	**Sn**		**09 53 38.0**	**+0.1**
ASAL	**Salagasta**	**1.08**	**71**	*i* P	**Pn**		**09 53 22.3**	**+0.4**
RTLS	**Leoncito**	**1.32**	**29**	*i* P	**Pn**		**09 53 25.3**	**+0.6**
RTLS				*i* S	**Sn**		**09 53 45.1**	**+1.3**
AVIZ	**Vizcacheras**	**1.38**	**112**	*i* P	**Pn**		**09 53 23.2**	**-2.0**
RTCV	**Cerro Valdivia**	**1.68**	**50**	*i* P	**Pn**		**09 53 29.1**	**+0.4**
RTCV				*i* S	**Sn**		**09 53 51.1**	**+0.2**
SJA	**San Juan**	**1.90**	**42**	*i* P	**Pn**		**09 53 31.1**	**-0.4**
SJA				IAML			09 54 00.1	
	comp=Z,382nm,0.3s							
RTLL	**Cerro Villicun**	**2.10**	**40**	*i* P	**Pn**		**09 53 34.3**	**+0.3**
RTLL				*i* S	**Sn**		**09 54 00.6**	**+0.3**
AMOG	**MOGNA**	**2.41**	**34**	*i* P	**Pn**		**09 53 38.6**	**+0.6**
AMOG				*i* S	**Sn**		**09 54 07.3**	**0.0**
ACAN	**Cantantal**	**2.50**	**75**	*i* P	**Pn**		**09 53 39.2**	**+0.1**
ACAN				*i* S	**Sn**		**09 54 08.8**	**-0.7**
ACCO	**Cerro Coronel**	**2.50**	**20**	*i* P	**Pn**		**09 53 39.6**	**+0.2**
ACCO				*i* S	**Sn**		**09 54 11.8**	**+1.8**
ACCO				IAML			09 54 16.7	
	comp=Z,348nm,0.3s							
AROD	**Rodeo**	**2.82**	**10**	*i* P	**Pn**		**09 53 44.5**	**+0.8**
AROD				*i* S	**Sn**		**09 54 18.9**	**+1.5**
AVFE	**Valle Fertil**	**3.18**	**45**	*i* P	**Pn**		**09 53 48.4**	**+0.3**
AVFE				IAML			09 54 42.8	
	comp=Z,148nm,0.4s							
ACHE	**Chepes**	**3.38**	**59**	*i* P	**Pn**		**09 53 50.8**	**-0.1**
ACHE				*i* S	**Sn**		**09 54 29.9**	**-0.6**
AGUA	**GUANDACOL**	**3.71**	**21**	*i* P	**Pn**		**09 53 55.6**	**+0.5**
LVC	**Limon Verde**	**10.36**	**6**	P	**Pn**		**09 55 21.9**	**-3.4**
	comp=Z,9.0nm,0.3s,baz=180,slow=20,SNR=2.9							
LVC				S		Sn	09 57 02.9	-17	
	comp=Z,13nm,0.3s,baz=310,slow=17,SNR=2.0							
CPUP	**Villa Florida**	**12.88**	**62**	P	**Pn**		**09 55 57.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=217,slow=20,SNR=1.9							
LPAZ	**La Paz**	**16.69**	**6**	P	**Pn**		**09 56 44.9**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=174,slow=9.2,SNR=1.8							
TXAR	**Lajitas Array**	**69.67**	**329**	P	**P**		**10 03 58.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=156,slow=8.7,SNR=8.7							
TORD	**Torodi Ar. Bea**	**82.28**	**69**	P	**P**		**10 05 09.9**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=241,slow=5.9,SNR=3.1							
ZALV	**Zalesovo Beam**	**152.45**	**33**	PKPbc	**PKPbc**		**10 12 42.5**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=330,slow=5.1,SNR=4.1							
MKAR	**Makanchi Array**	**154.82**	**49**	PKPbc	**PKPbc**		**10 12 47.3**	**0.0**
	comp=Z,0.2nm,0.2s,baz=318,slow=1.9,SNR=2.9							

NIED **30** *10:22:00, 37°.40N×141°.60E, h44km, Mw4.7 Best double couple: M0 1.43000×10^16 NP1:φs216.00000°, δ22.00000°, λ110.00000°. NP2:φs14.00000°, δ69.00000°, λ82.00000°.*

BJI **30** *10:22:42.3, 37°.28N×141°.63E, h42km, mb5.2/71, mB5.0/43, Ms4.3/51, Ms7 4.2/52*

MOS **30** *10:22:43.7±0.8, 37°.51N×141°.41E, h35km, mb5.2/69, MS4.6/4, Error ellipse: s-maj=6.6km s-min=4.3km az=104.3*

*NEI

HABR pmax pmax
comp=Z,4.0nm,1.3s
HABR MLR MLR
comp=Z,451nm,13.0s
TYV Tymovskoe 13.49 3 *e*P **Pn 10 25 51.5 -1.5**
TYV pmax pmax
comp=E,22nm,1.0s
CN2 Changchun 13.80 303 *e*P **P 10 26 04.0 -1.3**
KLR Kul'dur 13.80 332 P **Pn 10 25 57.4 +0.2**
comp=E,0.8nm,0.3s,baz=153,slow=9.3,SNR=9.9
SNY Shenyang 14.54 293 ⇑P **Pn 10 26 08.3 +0.9**
SNY PMZ
comp=E,20nm,0.8s
SNY PMZ
comp=E,330nm,12.0s
SNY LN
comp=E,600nm,20.2s
SNY LE
comp=E,1μm,19.2s
SNY LZ
comp=E,2μm,16.3s
DL2 Dalian 15.75 282 P **Pn 10 26 24.8 +1.5**
DL2 PMZ
comp=E,120nm,0.6s
NKL Nikolayevsk 15.77 358 *e*P **Pn 10 26 22.0 -1.5**
PEA0 Petropavlovsk- 19.32 30 *e*P **Pn 10 27 07.4 -0.1**
PETK Petropavlovsk- 19.32 30 P **Pn 10 27 07.3 -0.2**
comp=E,0.2nm,0.3s,baz=223,slow=6.2,SNR=13
NJ2 Nanjing 19.39 261 *e*P **P 10 27 06.3 -0.8**
NJ2 PMZ
comp=E,27nm,0.9s
TIA Tai'an 19.59 274 ⇑P **P 10 27 08.5 -0.8**
TIA PMZ
comp=E,40nm,1.0s
TIA LN
comp=E,540nm,16.0s
TIA LE
comp=E,410nm,16.0s
TIA LZ
comp=E,690nm,17.8s
PET Petropavlovsk 19.65 32 *e*P **Pn 10 27 12.6 +1.2**
PET pmax pmax
comp=Z,34nm,1.4s
BJI Beijing 19.96 285 P **P 10 27 12.5 -0.8**
BJI S **S 10 30 51.0 -5.1**
BJI PMZ
comp=Z,20nm,0.9s
BJI PMZ
comp=Z,170nm,4.7s
BJI LN
comp=Z,460nm,20.0s
BJI LE
comp=Z,380nm,19.4s
BJI LZ
comp=Z,500nm,22.9s
BJT Baijiatuau 19.97 285 *e*P **P 10 27 12.9 -0.5**
BJT pmax pmax
comp=Z,27nm,0.6s
BJT Baijiatuau 19.97 285 *e*P **P 10 27 12.9 -0.5**
comp=Z,27nm,0.6s
TATO Taipei 21.11 240 *e*P **P 10 27 26.2 +0.3**
comp=Z,130nm,1.4s
YHNB Yeheng 21.39 239 *e*P **P 10 27 27.2 -1.7**
comp=Z,30nm,0.6s
SSLB Suanglung 22.26 238 *e*P **P 10 27 35.8 -2.5**
comp=Z,24nm,1.0s
YULB Yu-li 22.30 237 *e*P **P 10 27 36.6 -2.1**
comp=Z,16nm,0.6s
CLNS Chul'man 22.40 336 *e*P **P 10 27 38.2 -1.4**
CLNS pmax pmax
comp=Z,28nm,1.0s
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.9s
TPUB Ta-pu 22.81 238 *e*P **P 10 27 40.4 -3.8**
comp=E,44nm,0.7s
TWG Pinlang 22.84 236 *e*P **P 10 27 43.0 -1.5**
comp=E,315nm,1.2s
HHC Hu-ho-hao-te 23.47 288 *e*P **P 10 27 49.5 -1.2**
HHC PP **PnPn 10 28 18.5 +0.8**
HHC S **S 10 31 57.8 -4.4**
HHC PMZ
comp=E,22nm,1.1s
HHC PMZ
comp=E,100nm,5.3s
WHN Wuhan 23.52 261 ⇑ *i*P **P 10 27 51.3 +0.1**
WHN pP **pP 10 27 58.5 -1.7**
WHN S **S 10 31 59.3 -3.7**
WHN PMZ
comp=E,110nm,0.7s
WHN LN
comp=E,510nm,10.2s
WHN LE
comp=E,690nm,12.9s
WHN LZ
comp=E,1μm,18.1s
YAK Yakutsk 25.75 347 P **P 10 28 11.3 +0.1**
comp=E,80nm,0.4s,baz=304,slow=0.1,SNR=28
YAK Yakutsk 25.75 347 *c i*P **P 10 28 11.0 -0.3**
YAK *e**PP **sP 10 28 25.2 +0.7**
YAK *e*S **S 10 32 35.1 -2.8**
YAK pmax pmax
comp=Z,139nm,1.0s
YAK pmax pmax
comp=N,37nm,1.2s
YAK pmax pmax
comp=E,22nm,1.1s
YAK pmax pmax
comp=Z,75nm,1.1s
YAK pmax pmax
comp=E,38nm,1.4s
YAK pmax pmax
comp=N,69nm,1.5s
YAK smax smax
comp=E,39nm,1.4s
YAK smax smax
comp=N,61nm,1.5s
YAK MLR MLR
comp=Z,678nm,19.0s
YAK MLR MLR
comp=E,250nm,20.0s
YAK MLR MLR
comp=N,486nm,18.0s
YAK Yakutsk 25.75 347 *e*P **P 10 28 11.2 -0.1**
comp=N,142nm,0.8s
SEY Seymchan 26.42 11 P **P 10 28 18.2 +0.8**
comp=N,7.0nm,0.6s,baz=190,slow=6.9,SNR=32
XAN Xi'an 26.63 273 P **P 10 28 18.8 -0.9**
XAN PMZ
comp=N,52nm,0.6s
XAN PMZ
comp=N,120nm,5.3s
XAN LN
comp=N,270nm,14.8s
XAN LE
comp=N,570nm,20.0s
XAN LZ
comp=N,620nm,19.0s
ULN Ulaanbaatar 27.25 304 *ce*P **P 10 28 25.2 0.0**
ULN pmax pmax
comp=Z,33nm,1.2s
ULN Ulaanbaatar 27.25 304 *e*P **P 10 28 24.5 -0.7**
comp=Z,19nm,0.8s
BOD Bodaibo 27.29 327 *e*P **P 10 28 23.9 -1.3**
BOD pmax pmax
comp=Z,22nm,1.2s
ENH Enshi 27.48 265 *e*P **P 10 28 26.5 -0.8**
comp=Z,119nm,0.8s
SONA1 Songino Array 27.68 303 *e*P **P 10 28 28.4 -0.6**
SONM Songino Array 27.68 303 P **P 10 28 28.5 -0.5**
comp=Z,22nm,0.6s,baz=103,slow=8.9,SNR=73
SONM PcP **PcP 10 31 45.4 -0.1**
comp=Z,1.5nm,0.6s,baz=103,slow=3.1,SNR=4.2
H11N2 WAKE ISLAND Hy 28.24 122 T T 10 58 50.9
baz=314,slow=75,SNR=1281
H11N1 WAKE ISLAND Hy 28.25 122 T T 10 58 51.5
baz=314,slow=75,SNR=1771
H11N3 WAKE ISLAND Hy 28.25 122 T T 10 58 52.2
baz=314,slow=75,SNR=1710
H11S1 WAKE ISLAND Hy 28.96 124 T T 10 59 47.3
baz=316,slow=76,SNR=1046
H11S3 WAKE ISLAND Hy 28.96 124 T T 10 59 47.6
baz=316,slow=76,SNR=1089
H11S2 WAKE ISLAND Hy 28.98 124 T T 10 59 49.0
baz=316,slow=76,SNR=755
TGY Tagaytay City 29.58 224 P **P 10 28 45.8 -0.2**
comp=Z,130nm,0.3s,baz=209,slow=10.0,SNR=3.2
LZH Lanzhou 30.12 279 *e*P **P 10 28 50.8 -0.1**
LZH pP sP 10 29 03.8 -0.3
LZH sP pP 10 29 08.0 +7.8
LZH PMZ
comp=Z,42nm,1.0s
LZH PMZ
comp=Z,120nm,4.0s
LZH LN
comp=Z,420nm,17.2s
LZH LE
comp=Z,700nm,18.2s
LZH LZ
comp=Z,760nm,18.4s
ZAK Zakamensk 30.14 308 *e*P **P 10 28 49.8 -1.0**
ZAK pmax pmax
comp=Z,13nm,1.2s
TLY Talaya 30.18 310 *e*P **P 10 28 51.5 +0.4**
TLY pmax pmax
comp=Z,16nm,0.7s
TLY Talaya 30.18 310 *e*P **P 10 28 51.5 +0.4**
comp=Z,16nm,0.7s
GYA Guiyang 31.39 260 P **P 10 29 02.8 +0.7**
GYA pP sP 10 29 13.5 -1.9
GYA PP **PnPn 10 30 07.0 +1.7**
GYA S **S 10 34 05.5 -2.2**
GYA sS sS 10 34 25.0 +1.9
GYA SS **SnSn 10 35 54.5 +1.6**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,520nm,17.0s
GYA LE
comp=Z,480nm,17.2s
GYA LZ
comp=Z,490nm,17.4s
CD2 Chengdu 31.79 270 *e*P **P 10 29 04.8 -0.7**
CD2 pP pP 10 29 16.0 +1.1
CD2 sP sP 10 29 21.3 +2.5
CD2 S **S 10 34 12.0 -1.6**
CD2 sS sS 10 34 31.5 +2.4
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.2s
CD2 LN
comp=Z,490nm,16.1s
CD2 LE
comp=Z,560nm,15.7s
CD2 LZ
comp=Z,670nm,16.1s
GTA Gaotai 32.57 287 ⇓P **P 10 29 11.8 -0.6**
GTA pP sP 10 29 23.5 -2.1
GTA sP pP 10 29 29.0 +7.3
GTA PcP **PcP 10 31 58.8 +0.5**
GTA S **S 10 34 25.5 -0.3**
GTA sS sS 10 34 45.3 +4.0
GTA SS **SnSn 10 36 24.8 +3.7**
GTA PMZ
comp=Z,23nm,1.3s
GTA PMZ
comp=Z,370nm,5.5s
GTA LN
comp=Z,250nm,18.5s
GTA LE
comp=Z,420nm,20.0s
GTA LZ
comp=Z,510nm,20.9s
BILL Bilibino 33.65 16 ⇑ *i*P **P 10 29 21.3 0.0**
BILL *i* 10 32 03.7
BILL pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 34.95 353 *ce*P **P 10 29 32.7 +0.2**
TIXI pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi 34.95 353 *e*P **P 10 29 32.4 -0.1**
comp=Z,7.1nm,0.5s
KMI Kunming 35.13 261 P **P 10 29 34.8 0.0**
KMI pP sP 10 29 49.3 +1.1
KMI sP pP 10 29 52.8 +8.5
KMI PMZ
comp=Z,89nm,1.0s
NONG Nongkai 38.73 251 P **P 10 30 05.5 +0.3**
comp=Z,55nm,0.7s
UBPT Khong Chiam 38.78 245 P **P 10 30 06.4 +0.7**
comp=Z,31nm,0.9s
SKNT Sakolnakorn 38.78 249 P **P 10 30 06.1 +0.4**
comp=Z,33nm,0.9s
KHON Khomkaen 40.04 249 P **P 10 30 17.1 +0.9**
comp=Z,16nm,0.9s
LOEI Loei 40.49 252 P **P 10 30 17.0 -2.9**
comp=Z,25nm,0.9s
WMQ Urumqi 40.78 296 P **P 10 30 23.5 +1.4**
WMQ pP sP 10 30 35.3 -0.3
WMQ sP pP 10 30 41.3 +10
WMQ PMZ
comp=Z,21nm,0.9s
WMQ PMZ
comp=Z,72nm,5.5s
WMQ LN
comp=Z,160nm,17.5s
WMQ LE
comp=Z,220nm,23.5s
WMQ LZ
comp=Z,340nm,20.7s
UTTA Uttaradit 40.88 253 P **P 10 30 23.1 0.0**
comp=Z,6.3nm,0.9s,comp=Z,51nm
LAMP Lampang 41.13 255 P **P 10 30 26.0 +0.8**
comp=Z,9.1nm,0.8s
CMMT Chiang Mai 41.49 255 P **P 10 30 27.9 -0.2**
comp=Z,13nm,0.7s
CHTO Chiang Mai 41.49 255 P **P 10 30 28.0 -0.1**
comp=Z,59nm,1.5s
CHTO Chiang Mai 41.49 255 *e*P **P 10 30 27.4 -0.8**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 41.49 255 *e*P **P 10 30 27.4 -0.8**
comp=Z,6.5nm,0.7s
CMAR Chiang Mai Arr 41.70 255 P **P 10 30 29.6 -0.3**
comp=Z,6.3nm,0.7s,baz=47,slow=5.2,SNR=31
CMAR PcP **PcP 10 32 25.6 -0.5**
comp=Z,2.4nm,0.7s,baz=27,slow=2.4,SNR=6.2
ZAA0 Zalesovo Array 41.76 312 *e*P **P 10 30 29.8 -0.2**
ZAA0 *e*P **P 10 30 30.6 +0.6**
ZALV Zalesovo Beam 41.76 312 P **P 10 30 29.9 0.0**
comp=Z,20nm,0.4s,baz=90,slow=7.4,SNR=24
ZALV PcP **PcP 10 32 24.1 -1.6**
comp=Z,4.6nm,0.6s,baz=116,slow=3.4,SNR=3.8
LSA Lhasa 42.29 275 P **P 10 30 36.5 +1.4**
LSA PMZ
comp=Z,13nm,0.8s
LSA Lhasa 42.29 275 *e*P **P 10 30 35.6 +0.5**
LSA pmax pmax
comp=Z,20nm,0.7s
LSA Lhasa 42.29 275 *e*P **P 10 30 35.6 +0.5**
comp=Z,20nm,0.7s
NVS Novosibirsk 42.67 313 ⇓ *i*P **P 10 30 38.1 +0.7**
NVS pmax pmax
comp=Z,24nm,0.6s
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,15nm,0.5s
NRIK Noril'sk 42.99 335 P **P 10 30 39.5 -0.2**
comp=E,6.6nm,0.5s,baz=104,slow=9.1,SNR=8.6
NRIK PcP **PcP 10 32 29.8 +0.2**
comp=E,6.2nm,0.6s,baz=64,slow=3.2,SNR=3.3
UMPA Umpang Tak 43.10 252 P **P 10 30 43.0 +1.7**
comp=E,8.9nm,1.0s,comp=E,1μm
SHL Shillong 43.52 269 *e*P **P 10 30 46.0 +1.2**
MK01 Makanchi Array 44.02 302 *e*P **P 10 30 48.5 +0.1**
MK31 Makanchi Array 44.02 302 *i*P **P 10 30 48.6 +0.2**
MK31 pmax pmax
comp=Z,25nm,0.6s
MK31 Makanchi Array 44.02 302 *e*P **P 10 30 48.8 +0.3**
MKAR Makanchi Array 44.02 302 P **P 10 30 48.7 +0.2**
comp=Z,29nm,0.6s,baz=87,slow=9.9,SNR=201
MKAR LR LR 10 50 33.8
comp=Z,609nm,20.3s,baz=94,slow=38
MKAR Makanchi Array 44.02 302 *e*P **P 10 30 48.8 +0.4**
MAKZ Makanchi 44.23 302 *e*P **P 10 30 50.5 +0.4**
MAKZ pmax pmax
comp=Z,27nm,0.6s
MAKZ Makanchi 44.23 302 *e*P **P 10 30 50.5 +0.4**
comp=Z,27nm,0.6s
SVW2 Sparrevohn 45.17 38 *e*P **P 10 30 59.2 +1.8**
comp=Z,10.0nm,1.1s
KURK Kurchatov 45.80 308 *ce*P **P 10 31 02.3 -0.1**
KURK pmax pmax
comp=Z,357nm,1.0s
KURK Kurchatov 45.80 308 *e*P **P 10 31 02.4 0.0**
comp=Z,81nm,0.8s
KSM Kuching 45.88 226 *e*P **P 10 31 03.0 -0.5**
comp=Z,34nm,1.2s
PDGK Podgornoye 46.71 298 *i*P **P 10 31 08.5 -1.2**
PDGK pmax pmax
comp=Z,21nm,0.7s
KAPI Kappang 46.83 210 *e*P **P 10 31 12.0 +1.2**
comp=Z,73nm,1.4s
SPU Mount Spurr 46.88 37 *e*P **P 10 31 13.3 +2.4**
RAMN Ramite 47.09 274 *e*P **P 10 31 13.4 +0.2**
comp=Z,115nm,0.6s
GUN Gumba 47.23 275 *e*P **P 10 31 14.8 +0.4**
comp=Z,106nm,0.4s
KTH Kantishna Hill 47.39 34 *e*P **P 10 31 16.7 +1.9**
comp=Z,14nm,1.0s
TRF Thorofare Moun 47.67 34 *e*P **P 10 31 19.7 +2.5**
comp=Z,6.3nm,0.8s
KKN Kakani 47.76 276 *e*P **P 10 31 18.5 +0.1**
comp=Z,86nm,0.5s
PKIN Phulchoki 47.76 275 *e*P **P 10 31 18.4 -0.1**
comp=Z,32nm,0.6s
SKLT Songkhla 47.78 241 P **P 10 31 20.4 +2.1**
comp=Z,18nm,1.1s
TRTT Trang 47.96 243 P **P 10 31 21.8 +2.0**
comp=Z,20nm,1.6s
GKN Gorkha 48.18 276 *e*P **P 10 31 21.7 +0.2**
comp=Z,212nm,0.9s
PMR Palmer 48.27 37 *e*P **P 10 31 22.2 +0.6**
PMR pmax pmax
comp=Z,10.0nm,1.0s
PMR Palmer 48.27 37 *e*P **P 10 31 22.1 +0.6**
comp=Z,10nm,1.0s
MCK McKinley 48.27 34 *e*P **P 10 31 22.5 +0.9**
MCK pmax pmax
comp=Z,8.0nm,0.9s
MCK McKinley 48.27 34 *e*P **P 10 31 22.5 +0.9**
comp=Z,7.7nm,0.9s
RND Reindeer 48.32 34 *e*P **P 10 31 22.8 +0.8**
RND *e**PP **pP 10 31 30.8 -0.9**
RND Reindeer 48.32 34 *e*P **P 10 31 22.8 +0.8**
RND epP **pP 10 31 30.8 -0.9**
MDM Murphy Dome 48.55 32 *e*P **P 10 31 25.5 +1.7**
comp=Z,12nm,1.0s
WRH Wood River Hil 48.62 33 *e*P **P 10 31 25.8 +1.6**
comp=Z,6.3nm,1.0s
SML Sawmill 48.64 37 *e*P **P 10 31 26.1 +1.6**
SML pmax pmax
comp=Z,12nm,0.8s
SML Sawmill 48.64 37 *e*P **P 10 31 26.1 +1.6**
comp=Z,12nm,0.8s
COLA College 48.72 32 *e*P **P 10 31 26.6 +1.7**
COLA pmax pmax
comp=Z,6.0nm,0.7s
COLA College 48.72 32 *e*P **P 10 31 26.6 +1.7**
comp=Z,6.1nm,0.7s
CCB Clear Creek Bu 48.74 33 *e*P **P 10 31 26.5 +1.3**
comp=Z,2.9nm,0.9s
PKDT Phuket 48.89 244 P **P 10 31 30.2 +3.3**
comp=Z,48nm,1.0s,comp=Z,6μm
SCM Sheep Creek Mo 49.11 36 *e*P **P 10 31 29.7 +1.6**
SCM pmax pmax
comp=Z,9.0nm,0.8s
SCM Sheep Creek Mo 49.11 36 *e*P **P 10 31 29.7 +1.6**
comp=Z,8.7nm,0.8s
HDA Harding Lake 49.12 33 *e*P **P 10 31 28.9 +0.8**
comp=Z,39nm,1.3s
IL1 Eielson Array 49.13 33 *e*P **P 10 31 28.2 0.0**
ILAR Eielson Array 49.13 33 P **P 10 31 28.9 +0.7**
comp=Z,8.3nm,0.8s,baz=269,slow=6.1,SNR=82
ILB Eielson Array 49.13 33 *e*P **P 10 31 28.9 +0.7**
IPM Ipoh 49.42 239 *e*P **P 10 31 30.9 -0.1**
comp=Z,15nm,0.7s
PYUN Piuthan 49.44 277 *e*P **P 10 31 31.6 +0.3**
comp=Z,272nm,0.9s
TKM2 Tokmak 2 49.56 298 *i*P **P 10 31 32.6 +0.6**
TKM2 pmax pmax
comp=Z,27nm,0.6s
TKM2 Tokmak 2 49.56 298 *e*P **P 10 31 32.9 +0.9**
comp=Z,30nm,0.6s
SOEI Soe 49.62 203 *e*P **P 10 31 33.3 +0.8**
comp=Z,38nm,0.7s
KLU Klutina 49.81 37 *e*P **P 10 31 34.7 +1.2**
comp=Z,7.1nm,1.0s
PAX Paxson 49.88 35 *e*P **P 10 31 35.9 +1.9**
PAX pmax pmax
comp=Z,4.0nm,0.8s
PAX Paxson 49.88 35 *e*P **P 10 31 35.9 +1.9**
comp=Z,4.0nm,0.8s
DIV Divide 49.92 37 *e*P **P 10 31 35.5 +1.2**
comp=Z,16nm,1.2s
VOSK Vostochnaya 50.13 312 *e*P **P 10 31 35.9 0.0**
VOSK pmax pmax
comp=Z,41nm,0.8s
VOSK Vostochnaya 50.13 312 *e*P **P 10 31 35.9 0.0**
comp=Z,41nm,0.8s
CHKZ Chkalovo 50.15 313 *i*P **P 10 31 35.9 -0.1**
CHKZ pmax pmax
comp=Z,20nm,0.5s
FRU Bishkek 50.27 298 *e*P **P 10 31 35.5 -1.7**
FRU *e* 10 31 47.0
OTUK Ortayu 50.31 306 P **P 10 31 37.3 -0.1**
OTUK pmax pmax
comp=Z,41nm,0.7s
KSH Kashi 50.36 294 P **P 10 31 42.8 +4.7**
KSH pP sP 10 31 54.5 +2.9
KSH PcP **PcP 10 33 00.5 +4.2**
KSH PP **PP 10 33 39.0 +5.5**
KSH S **S 10 38 52.0 +2.9**
KSH ScS **ScS 10 41 26.8 0.0**
KSH SS **SS 10 42 24.8 +2.1**
KSH PMZ
comp=Z,11nm,0.8s
KSH PMZ
comp=Z,91nm,4.3s
KSH LN
comp=Z,170nm,9.6s
KSH LE
comp=Z,160nm,8.7s
KSH LZ
comp=Z,250nm,13.7s
BVA0 Borovoye Array 50.41 312 P **P 10 31 37.9 -0.2**
BVA0 pmax pmax
comp=Z,14nm,0.6s
BVAR Borovoye Array 50.41 312 P **P 10 31 38.3 +0.2**
comp=Z,16nm,0.5s,baz=72,slow=7.4,SNR=83
BVAR PcP **PcP 10 32 56.1 0.0**
comp=Z,5.9nm,0.7s,baz=72,slow=4.8,SNR=3.8
AAK Ala-Archa 50.42 298 *c i*P **P 10 31 38.5 0.0**
AAK pmax pmax
comp=Z,25nm,0.7s
AAK Ala-Archa 50.42 298 *e*P **P 10 31 38.8 +0.3**
comp=Z,11nm,0.6s
DOT Dot Lake 50.45 34 *e*P **P 10 31 38.9 +0.7**
comp=Z,46nm,1.7s
BRVK Borovoye 50.47 312 *ce*P **P 10 31 38.7 +0.2**
BRVK pmax pmax
comp=Z,77nm,1.0s
BRVK Borovoye 50.47 312 *e*P **P 10 31 37.9 -0.6**
comp=Z,31nm,1.0s
BMRM Bremner River 50.51 37 *e*P **P 10 31 40.2 +1.5**
BMRM *e*pP **pP 10 31 48.3 -0.1**
MENT Mentasta 50.68 35 *e*P **P 10 31 41.1 +1.1**
comp=Z,9.9nm,1.0s
EKS2 Erkin-Say 50.91 298 *e*P **P 10 31 42.4 +0.2**
EKS2 pmax pmax
comp=Z,15nm,0.6s
EKS2 Erkin-Say 50.91 298 *e*P **P 10 31 42.4 +0.2**
comp=Z,14nm,0.6s
CRQM Cirque 51.25 38 *e*P **P 10 31 44.6 +0.1**
comp=Z,9.9nm,0.8s
ZRNK Zerenda 51.25 312 *e*P **P 10 31 44.6 +0.2**
ZRNK pmax pmax
comp=Z,31nm,0.9s
ZRNK Zerenda 51.25 312 *e*P **P 10 31 44.6 +0.2**
comp=Z,31nm,0.9s
EGAK Eagle 51.58 32 *e*P **P 10 31 47.5 +0.9**
comp=Z,8.5nm,1.3s
MNAS Manas 51.86 299 *i*P **P 10 31 49.5 +0.2**
MNAS pmax pmax

	comp=Z,35nm,0.7s								
PSI	**Prapat**	**52.07**	**239**	*e*P		**P**	**10 31 51.3**	**+0.2**
PSI				pmax	pmax				
	comp=Z,11nm,0.8s								
PSI	**Prapat**	**52.07**	**239**	*e*P		**P**	**10 31 51.3**	**+0.2**
	comp=Z,11nm,0.8s								
DAWY	**Dawson**	**52.44**	**33**	*e*P		**P**	**10 31 54.6**	**+1.5**
	comp=Z,22nm,2.0s								
KK31	**Karatay Array**	**53.04**	**300**	*i* P		**P**	**10 31 57.6**	**-0.3**
KK31				pmax	pmax				
	comp=Z,22nm,1.0s								
KKAR	**Karatay Array**	**53.04**	**300**	*e*P		**P**	**10 31 57.7**	**-0.2**
KKAR				pmax	pmax				
	comp=Z,17nm,0.8s								
KKAR	**Karatay Array**	**53.04**	**300**	*e*P		**P**	**10 31 57.7**	**-0.2**
	comp=Z,17nm,0.8s								
THN	**Thein Dam**	**53.24**	**286**	*e*P		**P**	**10 31 55.0**	**-4.4**
NDI	**New Delhi**	**53.72**	**281**	*ex*		P	10 31 56.0	-7.0
HYT	**Haines Junctio**	**53.95**	**37**	*e*P		**P**	**10 32 07.1**	**+2.8**
	comp=Z,12nm,1.0s								
INK	**Inuvik**	**54.02**	**27**	P		**P**	**10 32 05.6**	**+1.0**
	comp=Z,9.4nm,0.9s,baz=291,slow=7.0,SNR=24								
INK	**Inuvik**	**54.02**	**27**	*e*P		**P**	**10 32 05.7**	**+1.1**
INK				pmax	pmax				
	comp=Z,9.0nm,0.8s								
SVE	**Sverdlovsk**	**54.95**	**318**	*d i*P		**P**	**10 32 12.1**	**+0.5**
SVE				pmax	pmax				
	comp=Z,80nm,0.8s								
DZET	**Dzherino**	**55.79**	**296**	P		**P**	**10 32 17.7**	**-0.4**
DZET				pmax	pmax				
	comp=Z,68nm,0.6s								
ARU	**Arti**	**56.17**	**318**	*c i*P		**P**	**10 32 20.3**	**0.0**
ARU							10 33 16.7		
ARU							10 34 23.8		
ARU				S		**S**	**10 40 08.0**	**+0.8**
ARU				SS		**SS**	**10 43 50.6**	**-2.7**
ARU				pmax	pmax				
	comp=Z,81nm,1.0s								
ARU				MLR	MLR				
	comp=Z,740nm,20.0s								
ARU	**Arti**	**56.17**	**318**	*e*P		**P**	**10 32 20.1**	**-0.2**
	comp=Z,59nm,0.7s								
FITZ	**Fitzroy Crossi**	**57.20**	**198**	*e*P		**P**	**10 32 28.3**	**+0.4**
	comp=Z,48nm,2.0s								
KBL	**Kabul**	**57.39**	**291**	*e*P		**P**	**10 32 29.4**	**-0.2**
KBL				pmax	pmax				
	comp=Z,21nm,0.9s								
KBL	**Kabul**	**57.39**	**291**	*e*P		**P**	**10 32 29.4**	**-0.2**
	comp=Z,21nm,0.9s								
WRAB	**Tennant Creek**	**57.42**	**188**	*e*P		**P**	**10 32 28.8**	**-0.7**
WRAB				pmax	pmax				
	comp=Z,13nm,1.1s								
WRAB	**Tennant Creek**	**57.42**	**188**	*e*P		**P**	**10 32 28.8**	**-0.7**
	comp=Z,13nm,1.1s								
WB2	**Warramunga Arr**	**57.43**	**188**	*e*P		**P**	**10 32 28.9**	**-0.7**
	comp=Z,9.0nm,0.9s								
WRA	**Warramunga Arr**	**57.43**	**188**	P		**P**	**10 32 28.5**	**-1.1**
	comp=Z,6.2nm,0.5s,baz=6.0,slow=7.2,SNR=167								
AB31	**Akbulak array**	**57.80**	**310**	*i* P		**P**	**10 32 31.2**	**-0.7**
AB31				pmax	pmax				
	comp=Z,19nm,0.6s								
ABKAR	**Akbulak array**	**57.80**	**310**	*e*P		**P**	**10 32 31.6**	**-0.3**
DLBC	**Dease Lake**	**58.27**	**38**	*e*P		**P**	**10 32 35.9**	**+0.6**
	comp=Z,6.4nm,0.9s								
HYB	**Hyderabad**	**58.33**	**268**	*i* P		**P**	**10 32 36.0**	**-0.1**
SPA0	**Spitsbergen Ar**	**60.19**	**349**	*e*P		**P**	**10 32 48.8**	**+0.6**
KBS	**Kingsbay**	**60.32**	**350**	*e*P		**P**	**10 32 50.2**	**+1.2**
KBS				pmax	pmax				
	comp=Z,19nm,0.8s								
KBS	**Kingsbay**	**60.32**	**350**	*e*P		**P**	**10 32 50.2**	**+1.2**
	comp=Z,19nm,0.8s								
AS01	**Alice Springs**	**61.15**	**188**	*e*P		**P**	**10 32 54.5**	**-0.8**
AS31	**Alice Springs**	**61.16**	**188**	*e*P		**P**	**10 32 55.2**	**-0.1**
	comp=Z,2.2nm,0.6s								
ASAR	**Alice Springs**	**61.16**	**188**	P		**P**	**10 32 54.6**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=0.6,slow=5.1,SNR=37								
MBWA	**Marble Bar**	**61.76**	**203**	*e*P		**P**	**10 32 59.0**	**-0.4**
	comp=Z,12nm,0.8s								
LVZ	**Lovozero**	**61.83**	**336**	*ce*P		**P**	**10 33 00.5**	**+1.1**
LVZ				pmax	pmax				
	comp=Z,28nm,1.7s								
LVZ	**Lovozero**	**61.83**	**336**	*e*P		**P**	**10 32 59.3**	**-0.1**
	comp=Z,14nm,0.7s								
APA	**Apatity**	**62.41**	**336**	⇓*i*P		**P**	**10 33 02.7**	**-0.5**
APA				*i*			10 33 19.5		
APA				*i*			10 35 24.0		
APA				*i* S		**S**	**10 41 24.0**	**-3.5**
APA				pmax	pmax				
	comp=Z,17nm,0.7s								
APA				MLR	MLR				
	comp=Z,800nm,19.0s								
KEV	**Kevo**	**63.15**	**339**	*e*P		**P**	**10 33 08.3**	**+0.2**
KEV				pmax	pmax				
	comp=Z,14nm,0.8s								
KEV	**Kevo**	**63.15**	**339**	*e*P		**P**	**10 33 08.3**	**+0.2**
	comp=Z,14nm,0.8s								
YKA	**Yellowknife Ar**	**63.44**	**30**	P		**P**	**10 33 10.9**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=301,slow=6.8,SNR=11								
KLMR	**Klimovskoe**	**63.51**	**328**	*e*P		**P**	**10 33 09.4**	**-1.3**
KLMR				*e*			10 33 45.3		
KLMR				pmax	pmax				
	comp=Z,15nm,0.8s								
ARA0	**ARCESS Array S**	**63.70**	**339**	*e*P		**P**	**10 33 12.1**	**+0.3**
ARCES	**ARCESS Array B**	**63.70**	**339**	P		**P**	**10 33 12.1**	**+0.3**
	comp=Z,6.3nm,0.6s,baz=59,slow=6.9,SNR=51								
GEYT	**Alibeck**	**63.76**	**299**	P		**P**	**10 33 13.0**	**+0.3**
	comp=Z,9.5nm,0.5s,baz=28,slow=3.8,SNR=12								
MOS	**Moscow**	**67.03**	**323**	*e*P		**P**	**10 33 32.9**	**-0.6**
MOS				*e*			10 33 45.5		
VRH	**Novokhopyorsk**	**67.39**	**318**	*e*P		**P**	**10 33 34.8**	**-1.1**
VRH				*e**SP		**pP**	**10 33 46.3**	**+0.4**
VRH				pmax	pmax				
	comp=Z,20nm,0.6s								
OBN	**Obninsk**	**67.88**	**323**	*e*P		**P**	**10 33 38.0**	**-0.9**
OBN				*i*			10 33 50.8		
OBN				*i*			10 34 03.1		
OBN				pmax	pmax				
	comp=Z,17nm,0.9s								
FIA1	**FINESS Array S**	**68.55**	**332**	*e*P		**P**	**10 33 42.9**	**-0.1**
FIA1				*e*P		**P**	**10 33 43.0**	**0.0**
FINES	**FINESS Array B**	**68.55**	**332**	P		**P**	**10 33 43.0**	**0.0**
	comp=Z,18nm,0.7s,baz=48,slow=8.5,SNR=78								
FINES	**FINESS Array B**	**68.55**	**332**	P		**P**	**10 33 43.0**	**0.0**
VSR	**Storozhevoye**	**68.74**	**319**	*e*P		**P**	**10 33 43.7**	**-0.6**
VSR				*e**SP		**pP**	**10 33 55.6**	**+1.2**
VSR				pmax	pmax				
	comp=Z,20nm,0.6s								
STKA	**Stephens Creek**	**68.91**	**180**	P		**P**	**10 33 45.5**	**0.0**
	comp=Z,3.2nm,0.9s,baz=315,slow=4.1,SNR=4.3								
FORT	**Forrest**	**68.98**	**192**	*e*P		**P**	**10 33 46.2**	**+0.2**
	comp=Z,379nm,0.8s								
EDM	**Edmonton**	**69.00**	**38**	*e*P		**P**	**10 33 46.7**	**+0.7**
EDM				pmax	pmax				
	comp=Z,6.0nm,0.8s								
EDM	**Edmonton**	**69.00**	**38**	*e*P		**P**	**10 33 46.7**	**+0.7**
	comp=Z,6.2nm,0.8s								
GOF	**Gofitskoye**	**69.94**	**312**	⇑*e*P		**sP**	**10 34 04.9**	**-0.8**
GOF				pmax	pmax				
	comp=Z,83nm,0.9s								
VSU	**Vasula**	**70.20**	**330**	*ce*P		**P**	**10 33 53.9**	**+0.7**
VSU				pmax	pmax				
	comp=Z,18nm,0.8s								
SUMG	**Summit**	**70.33**	**0**	*e*P		**P**	**10 33 55.3**	**+1.0**
SUMG				pmax	pmax				
	comp=Z,17nm,0.9s								
SUMG	**Summit**	**70.33**	**0**	*e*P		**P**	**10 33 55.3**	**+1.0**
	comp=Z,17nm,0.9s								
DGRG	**David-gareji**	**70.47**	**308**	P		pP	10 34 08.3	+3.0
DGRG	**David-gareji**	**70.47**	**308**	P		pP	10 34 08.3	+3.0
GUDG	**Gudauri**	**70.48**	**309**	P		**P**	**10 33 56.7**	**+1.1**
K05A	**Summer Lake**	**70.63**	**51**	*e*P		**P**	**10 33 58.5**	**+2.0**
	comp=Z,32nm,1.4s								
TBLG	**Delisi**	**70.72**	**308**	P		P	10 34 05.5	+8.8
TBLG	**Delisi**	**70.72**	**308**	P		P	10 34 05.5	+8.7
KBZ	**Khabaz**	**70.75**	**311**	P		**P**	**10 33 57.3**	**+0.4**
	comp=Z,15nm,0.9s,baz=88,slow=6.3,SNR=25								
KIV	**Kislovodsk**	**70.76**	**311**	*e*P		**P**	**10 33 57.2**	**+0.1**
KIV				pmax	pmax				
	comp=Z,51nm,1.1s								
KIV				MLR	MLR				
	comp=Z,487nm,17.0s								
KIV	**Kislovodsk**	**70.76**	**311**	*e*P		**P**	**10 33 57.5**	**+0.4**
	comp=Z,78nm,1.0s								
ONI	**Oni**	**71.04**	**309**	P		**P**	**10 33 59.5**	**+0.7**
ONI	**Oni**	**71.04**	**309**	P		**P**	**10 33 59.5**	**+0.7**
GNI	**Garni**	**71.58**	**307**	*e*P		**P**	**10 34 02.0**	**-0.2**
GNI				pmax	pmax				
	comp=Z,19nm,1.0s								
BMO	**Blue Mountains**	**71.60**	**47**	*e*P		**P**	**10 34 03.6**	**+1.4**
BMO				pmax	pmax				
	comp=Z,4.0nm,0.9s								
BMO	**Blue Mountains**	**71.60**	**47**	*e*P		**P**	**10 34 03.6**	**+1.4**
	comp=Z,4.3nm,0.9s								
AKH	**Akhalkalaki**	**71.67**	**308**	⇓*i*P		**P**	**10 34 03.8**	**+1.0**
UOSS	**Mizgir**	**71.81**	**288**	*e*P		**P**	**10 34 03.6**	**0.0**
	comp=Z,23nm,0.6s								
PAHR	**Pah Rah Range**	**73.26**	**53**	*e*P		**P**	**10 34 13.5**	**+1.3**
PAHR				*ep*P		**sP**	**10 34 25.8**	**-0.3**
MFID	**Camas Ranch**	**73.30**	**48**	*e*P		**P**	**10 34 13.2**	**+0.9**
	comp=Z,4.6nm,0.9s								
MFID				*ep*P		**pP**	**10 34 22.9**	**+0.4**
FFC	**Flin Flon**	**73.34**	**33**	*e*P		**P**	**10 34 12.9**	**+0.7**
FFC				pmax	pmax				
	comp=Z,9.0nm,0.9s								
FFC	**Flin Flon**	**73.34**	**33**	*e*P		**P**	**10 34 12.9**	**+0.7**
	comp=Z,9.3nm,0.9s								
ANN	**Anapa**	**73.36**	**314**	*e*P		**P**	**10 34 11.9**	**-0.6**
ANN				pmax	pmax				
	comp=Z,29nm,1.5s								
NC405	**NORSAR Array S**	**73.69**	**337**	*e*P		**P**	**10 34 14.4**	**+0.3**
NC303	**NORSAR Array S**	**73.71**	**337**	*e*P		**P**	**10 34 14.7**	**+0.5**
LRM	**Limekiln Ridge**	**73.81**	**44**	*e*P		**P**	**10 34 16.7**	**+1.2**
NC204	**NORSAR Array S**	**73.85**	**338**	*e*P		**P**	**10 34 15.5**	**+0.3**
NB201	**NORSAR Array S**	**73.87**	**337**	*e*P		**P**	**10 34 15.7**	**+0.4**
NB2	**NORSAR Subarra**	**73.90**	**337**	P		**P**	**10 34 15.0**	**-0.4**
	comp=Z,7.3nm,0.6s,baz=36,slow=6.2								
NOA	**NORSAR Array B**	**73.90**	**337**	P		**P**	**10 34 15.3**	**-0.2**
	comp=Z,11nm,0.8s,baz=43,slow=5.5,SNR=34								
NBO02	**NORSAR Array S**	**74.00**	**337**	*e*P		**P**	**10 34 16.1**	**+0.1**
DLMT	**Dillon**	**74.01**	**45**	*e*P		**P**	**10 34 17.8**	**+1.3**
	comp=Z,6.3nm,0.8s								
NBO00	**NORSAR Array S**	**74.04**	**337**	*e*P		**P**	**10 34 16.4**	**+0.2**
HLID	**Hailey**	**74.05**	**47**	*e*P		**P**	**10 34 18.2**	**+1.4**
	comp=Z,5.4nm,1.3s								
AKASG	**Malin Array Be**	**74.08**	**322**	P		**P**	**10 34 16.3**	**-0.3**
	comp=Z,18nm,0.6s,baz=46,slow=6.1,SNR=69								
AKASG				LR		LR	11 09 41.1		
	comp=Z,493nm,21.0s,baz=240,slow=38								
AKBB	**Malin Array Si**	**74.08**	**322**	*e*P		**P**	**10 34 16.4**	**-0.2**
AKBB	**Malin Array Si**	**74.08**	**322**	*e*P		**P**	**10 34 16.4**	**-0.2**
KIEV	**Kiev**	**74.09**	**322**	*c i*P		**P**	**10 34 16.2**	**-0.5**
KIEV				pmax	pmax				
	comp=Z,16nm,0.8s								
KIEV	**Kiev**	**74.09**	**322**	*e*P		**P**	**10 34 15.6**	**-1.1**
	comp=Z,20nm,0.7s								
NAO01	**NORSAR Array S**	**74.15**	**337**	*e*P		**P**	**10 34 17.1**	**+0.2**
BOZ	**Bozeman (W)**	**74.38**	**44**	*e*P		**P**	**10 34 19.6**	**+1.0**
BOZ				pmax	pmax				
	comp=Z,6.0nm,0.8s								
BOZ	**Bozeman (W)**	**74.38**	**44**	*e*P		**P**	**10 34 19.6**	**+1.0**
	comp=Z,5.9nm,0.8s								
SIM	**Simferopol'**	**75.15**	**316**	*e*P		**P**	**10 34 23.3**	**+0.4**
SIM				*e*			10 34 37.0		
SIM				pmax	pmax				
	comp=Z,19nm,0.9s								
H17A	**Grant Village**	**75.74**	**45**	*e*P		**P**	**10 34 29.5**	**+2.9**
	comp=Z,9.5nm,0.9s								
IMW	**Indian Meadow**	**75.84**	**45**	*e*P		**P**	**10 34 29.5**	**+2.1**
	comp=Z,6.3nm,0.8s								
TPAW	**Teton Pass**	**76.09**	**46**	*e*P		**P**	**10 34 30.3**	**+1.6**
	comp=Z,4.6nm,0.7s								
SORM	**Soroca**	**76.19**	**321**	⇑*i*P		**P**	**10 34 28.5**	**-0.3**
SORM	**Soroca**	**76.19**	**321**	⇑P		**P**	**10 34 28.5**	**-0.3**
REDW	**Red Top Meadow**	**76.22**	**46**	*e*P		**P**	**10 34 31.0**	**+1.6**
	comp=Z,7.4nm,1.3s								
R11A	**Troy Canyon, C**	**76.45**	**52**	*e*P		**P**	**10 34 31.6**	**+0.9**
	comp=Z,4.4nm,0.9s								
LAO	**LASA Array**	**76.63**	**41**	*e*P		**P**	**10 34 32.9**	**+1.4**
	comp=Z,14nm,1.1s								
TPNV	**Topopah Spring**	**76.87**	**54**	*e*P		**P**	**10 34 34.3**	**+1.2**
TPNV				pmax	pmax				
	comp=Z,8.0nm,0.9s								
TPNV	**Topopah Spring**	**76.87**	**54**	*e*P		**P**	**10 34 34.3**	**+1.2**
	comp=Z,8.3nm,0.9s								
HWUT	**Hardware Ranch**	**76.91**	**47**	*e*P		**P**	**10 34 34.8**	**+1.6**
HWUT				*ep*cP		**sP**	**10 34 48.7**	**+1.5**
DUG	**Dugway, Tooele**	**77.04**	**49**	*e*P		**P**	**10 34 35.5**	**+1.5**
DUG				pmax	pmax				
	comp=Z,3.0nm,0.7s								
DUG	**Dugway, Tooele**	**77.04**	**49**	*e*P		**P**	**10 34 35.5**	**+1.5**
	comp=Z,3.4nm,0.7s								
BW06	**Boulder Array**	**77.34**	**46**	*e*P		**P**	**10 34 35.9**	**+0.2**
PDAR	**Pinedale Array**	**77.34**	**46**	P		**P**	**10 34 36.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=270,slow=3.6,SNR=9.4								
SHPR	**Sheep Range**	**77.84**	**53**	*e*P		**P**	**10 34 40.4**	**+1.9**
SHPR				*e*PcP		**PcP**	**10 34 48.2**	**-0.2**
KWP	**Kalwaria Pacla**	**77.90**	**324**	*e*P		**P**	**10 34 39.0**	**+0.6**
KWP	**Kalwaria Pacla**	**77.90**	**324**	*e*P		**P**	**10 34 39.0**	**+0.6**
BUR08	**Bucovina Ar. S**	**78.09**	**322**	*e*P		**P**	**10 34 40.0**	**+0.4**
BURAR	**Bucovina Array**	**78.10**	**322**	⇑*i*P		**P**	**10 34 40.1**	**+0.4**
TESR	**Tescani**	**78.13**	**320**	⇑*i*P		**P**	**10 34 40.1**	**+0.3**
CFR	**Carcaliu**	**78.25**	**318**	⇑*i*P		**P**	**10 34 40.4**	**0.0**
CCUT	**Cedar City**	**78.33**	**52**	*e*P		**P**	**10 34 42.9**	**+1.6**
CCUT				*ep*P		**PcP**	**10 34 49.6**	**-1.0**
VRI	**Vrincioaia**	**78.53**	**320**	⇑*i*P		**P**	**10 34 43.2**	**+1.2**
PLOR	**Plostina**	**78.58**	**320**	⇑*i*P		**P**	**10 34 42.7**	**+0.4**
KOLS	**Kolonicke sedl**	**78.60**	**324**	*e*P		**P**	**10 34 42.9**	**+0.6**
KOLS				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KOLS	**Kolonicke sedl**	**78.60**	**324**	*e*P		**P**	**10 34 42.9**	**+0.6**
TLB	**Topalu**	**78.70**	**318**	⇓*i*P		**P**	**10 34 43.3**	**+0.4**
BR131	**Keskin Array S**	**78.70**	**312**	*e*P		**P**	**10 34 43.6**	**+0.4**
BR131				*ep*P		**sP**	**10 34 56.8**	**-0.3**
BRTR	**Keskin Array B**	**78.70**	**312**	P		**P**	**10 34 43.2**	**0.0**
	comp=Z,3.8nm,0.6s,baz=95,slow=4.0,SNR=18								
STHS	**Stebnicka Huta**	**78.73**	**325**	*e*P		**P**	**10 34 44.5**	**+1.5**
STHS				pmax	pmax				
	comp=Z,8.0nm,1.0s								
STHS	**Stebnicka Huta**	**78.73**	**325**	*e*P		**P**	**10 34 44.5**	**+1.5**
LCMT	**Little Creek M**	**78.74**	**52**	*e*P		**P**	**10 34 45.2**	**+1.8**
	comp=Z,5.5nm,1.0s								
MTPU	**Mount Pierson**	**78.76**	**51**	*e*P		**P**	**10 34 45.8**	**+2.0**
MTPU				*ep*P		**sP**	**10 34 56.6**	**-1.1**
OJC	**Ojcow**	**78.81**	**326**	*e*P		**P**	**10 34 43.9**	**+0.5**
OJC	**Ojcow**	**78.81**	**326**	*e*P		**P**	**10 34 43.9**	**+0.5**
CRVS	**Cervenica-Dubn**	**79.00**	**324**	*e*P		**P**	**10 34 45.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**79.00**	**324**	*e*P		**P**	**10 34 45.0**	**+0.5**
SRU	**San Rafael Swe**	**79.09**	**49**	*e*P		**P**	**10 34 46.3**	**+0.9**
SRU				pmax	pmax				
	comp=Z,5.0nm,0.7s								
SRU	**San Rafael Swe**	**79.09**	**49**	*e*P		**P**	**10 34 46.3**	**+0.9**
	comp=Z,5.2nm,0.7s								
ISR	**Istrita**	**79.13**	**319**	⇑*i*P		**P**	**10 34 46.1**	**+0.8**
BR231	**Keskin MP Arra**	**79.14**	**312**	*e*P		**P**	**10 34 43.6**	**-2.0**
DOPR	**Dopca**	**79.14**	**320**	⇑*i*P		**P**	**10 34 46.5**	**+1.1**
ULM	**Lac du Bonnet**	**79.14**	**33**	P		**P**	**10 34 45.0**	**-0.3**
	comp=Z,5.4nm,0.9s,baz=310,slow=7.6,SNR=4.6								
ULM	**Lac du Bonnet**	**79.14**	**33**	P		**P**	**10 34 45.0**	**-0.3**
NIE	**Niedzica**	**79.16**	**325**	*e*P		**P**	**10 34 46.1**	**+0.7**
NIE	**Niedzica**	**79.16**	**325**	*e*P		**P**	**10 34 46.1**	**+0.7**
MLR	**Muntele Rosu**	**79.18**	**320**	⇑*i*P		**P**	**10 34 45.9**	**+0.2**
MLR	**Muntele Rosu**	**79.18**	**320**	*e*P		**P**	**10 34 45.9**	**+0.2**
MLR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MLR	**Muntele Rosu**	**79.18**	**320**	*e*P		**P**	**10 34 45.9**	**+0.2**
	comp=Z,7.4nm,0.8s								
RSSD	**Black Hills**	**79.49**	**42**	*e*P		**P**	**10 34 47.9**	**+0.3**
RSSD				pmax	pmax				
	comp=Z,4.0nm,0.6s								
RSSD	**Black Hills**	**79.49**	**42**	*e*P		**P**	**10 34 47.9**	**+0.3**
	comp=Z,3.6nm,0.6s								
VOIR	**Voir**	**79.68**	**320**	⇑*i*P		**P**	**10 34 48.8**	**+0.4**
LANS	**Liptovska Anna**	**79.73**	**326**	*e*P		**P**	**10 34 49.6**	**+1.1**
LANS	**Liptovska Anna**	**79.73**	**326**	*e*P		**P**	**10 34 49.6**	**+1.1**
KECS	**Kecovo**	**79.75**	**325**	*e*P		**P**	**10 34 49.1**	**+0.5**
KECS				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KECS	**Kecovo**	**79.75**	**325**	*e*P		**P**	**10 34 49.1**	**+0.5**
KSP	**Ksiaz**	**79.86**	**328**	*e*P		**P**	**10 34 49.6**	**+0.5**
KSP	**Ksiaz**	**79.86**	**328**	*e*P		**P**	**10 34 49.6**	**+0.5**
ARR	**Arges**	**79.94**	**320**	⇓*i*P		**P**	**10 34 51.2**	**+1.4**
MORC	**Moravsky Berou**	**80.12**	**327**	⇑*i*P		**P**	**10 34 51.2**	**+0.6**
MORC	**Moravsky Berou**	**80.12**	**327**	*e*P		**P**	**10 34 51.2**	**+0.6**
MORC				pmax	pmax				
	comp=Z,52nm,1.0s								
MORC	**Moravsky Berou**	**80.12**	**327**	*e*P		**P**	**10 34 51.2**	**+0.6**
	comp=Z,52nm,1.0s								
DPC	**Dobruska-Polom**	**80.21**	**328**	*e*P		**P**	**10 34 52.0**	**+0.9**
DPC				*ep*		**sP**	**10 35 04.3**	**-0.8**
DPC	**Dobruska-Polom**	**80.21**	**328**	*e*P		**P**	**10 34 52.0**	**+0.9**
DPC				*e*			10 35 04.3		
UPC	**Upice**	**80.23**	**328**	*e*P		**P**	**10 34 51.8**	**+0.7**
UPC	**Upice**	**80.23**	**328**	*e*P		**P**	**10 34 51.8**	**+0.7**
LOT	**Lotru**	**80.32**	**321**	⇑*i*P		**P**	**10 34 52.2**	**+0.3**
PSZ	**Piszkesteto**	**80.43**	**325**	⇑*i*P		**P**	**10 34 53.1**	**+0.7**
PSZ	**Piszkesteto**	**80.43**	**325**	*e*P		**P**	**10 34 53.0**	**+0.7**
PSZ				pmax	pmax				
	comp=Z,17nm,0.9s								
PSZ	**Piszkesteto**	**80.43**	**325**	*e*P		**P**	**10 34 53.0**	**+0.7**
	comp=Z,17nm,0.9s								
VYHS	**Vyhne**	**80.49**	**325**	*e*P		**P**	**10 34 53.1**	**+0.5**
VYHS				pmax	pmax				
	comp=Z,6.0nm,1.1s								
VYHS	**Vyhne**	**80.49**	**325**	*e*P		**P**	**10 34 53.1**	**+0.5**
AGMN	**Agassiz Nation**	**80.58**	**35**	*e*P		**P**	**10 34 53.0**	**-0.1**
	comp=Z,6.6nm,0.9s								
N23A	**Red Feather La**	**80.60**	**45**	*e*P		**P**	**10 34 55.1**	**+1.4**
N23A				*ep*P		**sP**	**10 35 09.2**	**+1.6**
PV05	**Paradox Valley**	**80.61**	**49**	*e*P		**P**	**10 34 55.3**	**+1.5**
SIRR	**Siria**	**80.78**	**322**	⇑*i*P		**P**	**10 34 54.6**	**+0.4**
BRG	**Berggiesshubel**	**80.80**	**329**	*i* P		**P**	**10 34 54.5**	**+0.4**
	comp=Z,12nm,0.9s								
BRG				*i* pP		**sP**	**10 35 07.7**	**-0.4**
	comp=Z,5.2nm,0.7s								
PVCC	**Panska Ves**	**80.81**	**329**	*e*P		**P**	**10 34 55.0**	**+0.7**
PVCC	**Panska Ves**	**80.81**	**329**	*e*P		**P**	**10 34 55.0**	**+0.7**
CLL	**Collm**	**80.84**	**330**	⇑*i*P		**P**	**10 34 54.3**	**-0.1**
	comp=Z,25nm,1.0s								
CLL				*i*			10 35 07.4		
CLL				*i*			10 35 09.8		
CLL				*e*			10 35 19.0		
CLL	**Collm**	**80.84**	**330**	⇑*i*P		**P**	**10 34 54.3**	**-0.1**
CLL				*i*			10 35 07.4		
CLL				*i*			10 35 09.8		
CLL				pmax	pmax				
	comp=Z,25nm,1.0s								
CLL	**Collm**	**80.84**	**330**	*e*P		**P**	**10 34 54.0**	**-0.3**
	comp=Z,24nm,1.0s								
GZR	**Gura Zlata**	**80.86**	**321**	⇑*i*P		**P**	**10 34 54.8**	**+0.1**
VRAC	**Vranov**	**80.88**	**327**	⇑*i*P		**P**	**10 34 55.5**	**+0.8**
VRAC	**Vranov**	**80.88**	**327**	⇑P		**P**	**10 34 55.5**	**+0.8**
PV01	**Paradox Valley**	**80.89**	**49**	*e*P		**P**	**10 34 56.1**	**+0.8**
PV01				*ep*P		**sP**	**10 35 09.9**	**+0.7**
GOPC	**GO Pecny, Ondr**	**81.19**	**328**	*e*P		**P**	**10 34 57.0**	**+0.7**
GOPC				*ep*P		**sP**	**10 35 10.0**	**-0.3**
GOPC	**GO Pecny, Ondr**	**81.19**	**328**	*e*P		**P**	**10 34 57.0**	**+0.7**
GOPC				*e*			10 35 10.0		
PRU	**Pruhonice**	**81.24**	**329**	*e*P		**P**	**10 34 57.1**	**+0.6**
PRU				*ep*P		**sP**	**10 35 10.1**	**-0.4**
PRU	**Pruhonice**	**81.24**	**329**	*e*P		**P**	**10 34 57.1**	**+0.6**
PRU				*e*			10 35 10.1		
BZS	**Buzias**	**81.27**	**322**	⇓*i*P		**P**	**10 34 56.9**	**+0.1**
X16A	**Lo Mia Camp, P**	**81.51**	**53**	*e*P		**P**	**10 35 00.5**	**+1.9**
ISCO	**Idaho Springs**	**81

KSU1	**Kansas State U**	**86.97**	**41**	*e*P	**P**	**10 35 26.1**	**+0.2**
	comp=Z,9.4nm,0.9s						
MNTX	**Cornudas Mount**	**87.12**	**52**	*e*P	**P**	**10 35 27.1**	**+0.3**
MNTX				*e*pP	**sP**	**10 35 40.9**	**0.0**
AMTX	**Amarillo**	**87.17**	**47**	*e*P	**P**	**10 35 27.6**	**+0.5**
	comp=Z,7.9nm,0.8s						
JFWS	**Jewell Farm**	**87.22**	**35**	*e*P	**P**	**10 35 26.7**	**-0.4**
JFWS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
JFWS	**Jewell Farm**	**87.22**	**35**	*e*P	**P**	**10 35 26.7**	**-0.4**
	comp=Z,6.2nm,0.8s						
VLDQ	**Val d'Or**	**88.05**	**25**	*e*P	**P**	**10 35 30.4**	**-0.5**
	comp=Z,11nm,0.8s						
PLDF	**La Plantade**	**88.80**	**332**⇑	*e*P	**P**	**10 35 31.4**	**-3.2**
WMOK	**Wichita Mounta**	**88.95**	**46**	*e*P	**P**	**10 35 36.0**	**+0.5**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
WMOK	**Wichita Mounta**	**88.95**	**46**	*e*P	**P**	**10 35 36.0**	**+0.5**
	comp=Z,5.8nm,1.3s						
PYM	**Petit Puy Mans**	**89.21**	**332**⇑	*e*P	**P**	**10 35 32.6**	**-4.0**
LBL	**Lubilhac**	**89.56**	**332**⇑	*e*P	P	10 35 31.4	-6.8
CEL	**Celeste**	**89.58**	**320**	*e*P	**P**	**10 35 37.6**	**-0.8**
	comp=Z,19nm,0.9s						
TX31	**Lajitas Ar. Si**	**89.81**	**52**	*e*P	**P**	**10 35 40.1**	**+0.3**
TX31				*e*P	**P**	**10 35 40.5**	**+0.7**
TXAR	**Lajitas Array**	**89.81**	**52**	P	**P**	**10 35 40.3**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=298,slow=2.9,SNR=26						
HHAR	**Hobbs**	**90.48**	**42**	*e*P	**P**	**10 35 42.6**	**0.0**
	comp=Z,4.4nm,1.0s						
WHTX	**Lake Whitney,**	**91.70**	**47**	*e*P	**P**	**10 35 49.3**	**+1.0**
WHTX				*e*pP	**sP**	**10 36 02.6**	**+0.3**
MIAR	**Mount Ida**	**91.98**	**43**	*e*P	**P**	**10 35 50.1**	**+0.6**
MIAR				*e**PP	**pP**	**10 35 58.2**	**-1.7**
MIAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MIAR	**Mount Ida**	**91.98**	**43**	*e*P	**P**	**10 35 50.1**	**+0.6**
	comp=Z,6.9nm,0.8s						
MIAR				*e*pP	**pP**	**10 35 58.2**	**-1.7**
X201	**Greenbrier Sit**	**92.06**	**41**	*e*P	**P**	**10 35 50.5**	**+0.6**
	comp=Z,37nm,1.9s						
WHAR	**Wooly Hollow**	**92.10**	**41**	*e*P	**P**	**10 35 50.6**	**+0.5**
	comp=Z,7.6nm,0.8s						
ES19	**SONSECA Array**	**96.97**	**334**	*e*P	**P**	**10 36 12.2**	**-0.2**
ESDC	**Sonseca Array**	**97.02**	**334**	P	**P**	**10 36 10.8**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=12,slow=4.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**117.16**	**315**	PKP	**PKPdf**	**10 41 24.4**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=32,slow=1.5,SNR=14						
TORD				PP	**PP**	**10 42 34.4**	**-1.4**
	comp=Z,2.5nm,1.0s,baz=34,slow=7.0,SNR=7.8						
BOSA	**Boshof**	**126.75**	**260**	PKP	**PKPdf**	**10 41 44.1**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=168,slow=1.5,SNR=4.9						
QSPA	**South Pole Qui**	**127.13**	**197**	*e*PKPdf	**PKPdf**	**10 41 43.6**	**-0.3**
SNAA	**Sanae**	**141.12**	**197**	PKP	PKPpre	10 42 00.5	
VNA1	**Neumayer--Stat**	**143.09**	**196**	PKP	PKPbc	10 42 10.1	-0.2

*ISCJB **30** 10:36:39.2±0.9, 36°.72S±0°.08×177°.9E±0°.1, h265km±6km, mb3.5/2, Error ellipse: s-maj=15.9km s-min=12.4km az=22.1*

*WEL **30** 10:36:40.7±0.7, 36°.24S×177°.83E, h193km±7km, ML4.6/18, Error ellipse: s-maj=5.8km s-min=4.5km az=0.0*

*IDC **30** 10:36:42.0±2.1, 36°.70S×177°.41E, h242km±11km, mb3.5/2, mb1 3.7/3, mb1mx3.3/23, mbtmp4.1/3, Error ellipse: s-maj=38.3km s-min=27.7km az=59.0*

ISC 30 10:36:40.3±1.4, 36°.6S±0°.1×177°.68E±0°.09, h248km±7km, n101, σ1°17/107, 7C-8D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.05**	**152**	⇓PN	**Pn**	**10 37 12.9**	**-2.3**
MXZ				AML	AML	10 37 24.3	
MXZ				AML	AML	10 37 41.0	
MXZ				AML	AML	10 37 41.0	
MXZ				AML	AML	10 37 41.0	
HAZ	**Te Kaha**	**1.12**	**176**	⇑PN	**Pn**	**10 37 13.9**	**-1.8**
HAZ				SN	**S**	**10 37 39.9**	**-3.8**
WMGZ	**Waiomatatini S**	**1.32**	**154**	⇓PN	**Pn**	**10 37 15.5**	**-1.5**
OPRZ	**Ohinepanea**	**1.51**	**216**	PN	**Pn**	**10 37 17.9**	**-0.4**
PUZ	**Puketiti**	**1.51**	**162**	⇓PN	**Pn**	**10 37 17.1**	**-1.3**
PUZ				AML	AML	10 37 49.4	
PUZ				AML	AML	10 37 50.5	
TWGZ	**Tauwhareparae**	**1.56**	**171**	PN	**Pn**	**10 37 18.7**	**-0.1**
TWGZ				SN	**S**	**10 37 49.1**	**-0.2**
KUZ	**Kuaotunu**	**1.58**	**265**	PN	**Pn**	**10 37 16.6**	**-2.4**
URZ	**Urewera**	**1.69**	**195**	P	**Pn**	**10 37 19.3**	**-0.4**
	22nm,0.3s,baz=326,slow=2.0,SNR=344						
URZ				S	**S**	**10 37 50.5**	**-0.4**
	48nm,0.3s,baz=300,slow=3.7,SNR=30						
URZ	**Urewera**	**1.69**	**195**	⇑PN	**Pn**	**10 37 19.3**	**-0.4**
URZ				SN	**S**	**10 37 50.7**	**-0.2**
URZ				AML	AML	10 37 52.8	
MWZ	**Matawai**	**1.70**	**184**	⇓PN	**Pn**	**10 37 19.5**	**-0.5**
MWZ				AML	AML	10 37 31.2	
MWZ				AML	AML	10 37 53.6	
MWZ				AML	AML	10 37 54.7	
MWZ				AML	AML	10 37 55.0	
TKGZ	**Te Karaka**	**1.81**	**176**	⇓PN	**Pn**	**10 37 20.5**	**-0.3**
GRZ	**Great Barrier**	**1.83**	**281**	⇑PN	**Pn**	**10 37 18.2**	**-2.9**
TARZ	**Mount Tarawera**	**1.85**	**210**	PN	**Pn**	**10 37 22.6**	**+1.3**
RAGZ	**Rawiri**	**1.87**	**186**	PN	**Pn**	**10 37 21.9**	**+0.5**
CNGZ	**Carnagh Statio**	**1.89**	**167**	⇓PN	**Pn**	**10 37 21.5**	**0.0**
RRRZ	**Republican Roa**	**1.94**	**208**	PN	**Pn**	**10 37 22.8**	**+0.9**
HSRZ	**Hossack Road**	**2.03**	**214**	PN	**Pn**	**10 37 25.7**	**+3.0**
RTZ	**Ruatahuna**	**2.06**	**196**	⇓PN	**Pn**	**10 37 23.1**	**+0.1**
TOZ	**Tahuroa Road**	**2.06**	**237**	PN	**Pn**	**10 37 23.9**	**+0.9**
RIGZ	**Rimuhau**	**2.07**	**178**	⇓PN	**Pn**	**10 37 23.2**	**0.0**
PRRZ	**Plateau Road**	**2.13**	**208**	PN	**Pn**	**10 37 24.6**	**+0.9**
SNGZ	**Shannon Statio**	**2.16**	**187**	PN	**Pn**	**10 37 24.4**	**+0.4**
ALRZ	**Allen Road**	**2.20**	**209**	PN	**Pn**	**10 37 25.7**	**+1.4**
PRGZ	**Paritu Road**	**2.29**	**176**	PN	**Pn**	**10 37 25.4**	**+0.2**
RAHZ	**Arahi**	**2.33**	**192**	PN	**Pn**	**10 37 26.4**	**+0.8**
RAHZ				SN	**S**	**10 38 03.2**	**+1.7**
TLZ	**Tolley Road**	**2.40**	**225**	PN	**Pn**	**10 37 28.0**	**+1.7**
MRHZ	**Matea Rd**	**2.42**	**204**	⇑PN	**Pn**	**10 37 26.9**	**+0.5**
WHHZ	**Waihua**	**2.46**	**188**	PN	**Pn**	**10 37 27.7**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.52**	**176**	PN	**Pn**	**10 37 28.0**	**+0.5**
NMHZ	**Naumai**	**2.56**	**195**	PN	**Pn**	**10 37 29.1**	**+1.2**
ARHZ	**Aropaoanui**	**2.68**	**191**	PN	**Pn**	**10 37 30.0**	**+0.9**
BKZ	**Black Stump Fm**	**2.70**	**200**	⇑PN	**Pn**	**10 37 29.7**	**+0.4**
BKZ				AML	AML	10 38 11.9	
BKZ				AML	AML	10 38 12.5	
MCHZ	**McNeill Hill**	**2.91**	**195**	PN	**Pn**	**10 37 32.8**	**+1.2**
HIZ	**Hauiti**	**2.93**	**229**	⇑PN	**Pn**	**10 37 34.7**	**+3.0**
KRVZ	**Karewarewa**	**2.94**	**213**	PN	**Pn**	**10 37 33.6**	**+1.6**
KWHZ	**Kaweka Forest**	**2.96**	**199**	PN	**Pn**	**10 37 32.8**	**+0.6**
WTVZ	**West Tongariro**	**2.98**	**213**	PN	**Pn**	**10 37 33.8**	**+1.3**
OTVZ	**Oturere**	**2.99**	**212**	PN	**Pn**	**10 37 34.3**	**+1.7**
TWVZ	**Taurewa**	**3.01**	**215**	PN	**Pn**	**10 37 34.3**	**+1.5**
NGZ	**Ngauruhoe**	**3.02**	**212**	PN	**Pn**	**10 37 34.5**	**+1.5**
CKHZ	**Cape Kidnapper**	**3.06**	**189**	PN	**Pn**	**10 37 34.3**	**+1.2**
TUVZ	**Tukino**	**3.08**	**211**	PN	**Pn**	**10 37 34.7**	**+1.1**
FWVZ	**Far West T-bar**	**3.11**	**212**	PN	**Pn**	**10 37 35.2**	**+1.2**
WHVZ	**Whangaehu Hut**	**3.12**	**211**	PN	**Pn**	**10 37 35.2**	**+1.2**
BHHZ	**Black Hill Sta**	**3.12**	**204**	PN	**Pn**	**10 37 34.4**	**+0.5**
TRVZ	**Turoa**	**3.15**	**212**	PN	**Pn**	**10 37 35.4**	**+1.0**
WNVZ	**Wahianoa**	**3.15**	**211**	PN	**Pn**	**10 37 35.3**	**+0.9**
MOVZ	**Moawhango**	**3.16**	**208**	PN	**Pn**	**10 37 34.9**	**+0.6**
KRHZ	**Kereru**	**3.18**	**199**	PN	**Pn**	**10 37 34.9**	**+0.4**
KAHZ	**Kahuranaki**	**3.22**	**191**	PN	**Pn**	**10 37 36.0**	**+1.0**
MTVZ	**Mangateitei**	**3.25**	**212**	PN	**Pn**	**10 37 36.7**	**+1.2**
VRZ	**Vera Road**	**3.40**	**222**	PN	**Pn**	**10 37 39.2**	**+2.3**
PXZ	**Pawanui**	**3.45**	**191**	⇑PN	**Pn**	**10 37 37.1**	**+0.3**
PXZ				AML	AML	10 38 28.1	
PXZ				AML	AML	10 38 28.2	
PXZ				AML	AML	10 38 28.7	
PXZ				AML	AML	10 38 28.7	
PNHZ	**Pukenui**	**3.48**	**199**	PN	**Pn**	**10 37 38.1**	**+0.3**
WPHZ	**Waipukurau**	**3.56**	**196**	PN	**Pn**	**10 37 39.8**	**+1.0**
TSZ	**Takapari Road**	**3.68**	**201**	PN	**Pn**	**10 37 40.3**	**+0.2**
TSZ				AML	AML	10 38 31.1	
TSZ				AML	AML	10 38 31.3	
PRHZ	**Porangahau**	**3.72**	**192**	PN	**Pn**	**10 37 41.3**	**+0.7**
WAZ	**Wanganui**	**3.77**	**213**	PN	**Pn**	**10 37 42.4**	**+1.1**
DVHZ	**Dannevirke**	**3.85**	**198**	PN	**Pn**	**10 37 42.3**	**+0.2**
ANWZ	**Angora Road**	**3.94**	**194**	PN	**Pn**	**10 37 43.9**	**+0.8**
POWZ	**Post Office Ro**	**4.04**	**201**	PN	**Pn**	**10 37 44.9**	**+0.5**
PRWZ	**Pori Road**	**4.14**	**198**	PN	**Pn**	**10 37 46.2**	**+0.7**
BFZ	**Birch Farm**	**4.20**	**195**	PN	**Pn**	**10 37 46.4**	**+0.2**
BFZ				AML	AML	10 38 42.9	
BFZ				AML	AML	10 38 42.9	
BFZ				AML	AML	10 38 44.2	
BFZ				AML	AML	10 38 44.2	
MRZ	**Mangatainoka R**	**4.34**	**202**	PN	**Pn**	**10 37 47.9**	**-0.1**
TIWZ	**Tintock**	**4.37**	**198**	PN	**Pn**	**10 37 48.5**	**+0.2**
TIWZ				AML	AML	10 38 46.8	
TIWZ				AML	AML	10 38 48.5	
CPWZ	**Castlepoint**	**4.42**	**195**	PN	**Pn**	**10 37 50.2**	**+1.3**
HOWZ	**Holdsworth Sta**	**4.58**	**201**	PN	**Pn**	**10 37 50.7**	**-0.2**
OGWZ	**Otaki Gorge**	**4.62**	**204**	PN	**Pn**	**10 37 51.3**	**+0.1**
TMWZ	**Te Maipa**	**4.68**	**197**	PN	**Pn**	**10 37 52.3**	**+0.2**
KIW	**Kapiti Island**	**4.75**	**206**	PN	**Pn**	**10 37 52.5**	**-0.3**
KIW				AML	AML	10 38 53.9	
KIW				AML	AML	10 38 55.4	
MTW	**Mount Morrison**	**4.83**	**200**	PN	**Pn**	**10 37 53.4**	**-0.4**
MTW				AML	AML	10 38 56.1	
MTW				AML	AML	10 38 56.5	
CAW	**Cannon Point**	**4.91**	**204**	PN	**Pn**	**10 37 54.4**	**-0.4**
CAW				AML	AML	10 38 59.4	
CAW				AML	AML	10 38 59.5	
TRWZ	**Traveller**	**5.00**	**197**	PN	**Pn**	**10 37 56.3**	**+0.3**
TRWZ				AML	AML	10 39 00.3	
TRWZ				AML	AML	10 39 01.0	
PAWZ	**Paruwai Farm**	**5.06**	**200**	PN	**Pn**	**10 37 56.3**	**-0.3**
PAWZ				AML	AML	10 39 00.3	
PAWZ				AML	AML	10 39 00.3	
MSWZ	**Moikau Station**	**5.14**	**201**	PN	**Pn**	**10 37 57.1**	**-0.4**
MSWZ				AML	AML	10 39 00.3	
MSWZ				AML	AML	10 39 11.0	
WEL	**Wellington**	**5.17**	**205**	PN	**Pn**	**10 37 57.8**	**-0.2**
WEL				AML	AML	10 39 04.3	
PLWZ	**Palliser**	**5.28**	**200**	PN	**Pn**	**10 37 59.0**	**-0.3**
TCW	**Tory Channel**	**5.29**	**209**	PN	**Pn**	**10 37 59.0**	**-0.4**
TCW				AML	AML	10 39 06.7	
TCW				AML	AML	10 39 08.0	
TUWZ	**Tuamarina**	**5.60**	**210**	PN	**Pn**	**10 38 02.9**	**-0.4**
TUWZ				AML	AML	10 39 12.9	
TUWZ				AML	AML	10 39 14.6	
NNZ	**Nelson**	**5.67**	**215**	PN	**Pn**	**10 38 03.2**	**-0.9**
QRZ	**Quartz Range**	**5.81**	**222**	PN	**Pn**	**10 38 04.8**	**-1.1**
BSWZ	**Blackbirch Sta**	**5.87**	**209**	PN	**Pn**	**10 38 06.7**	**0.0**
THZ	**Tophouse**	**6.32**	**214**	PN	**Pn**	**10 38 12.4**	**0.0**
KHZ	**Kahutara**	**6.60**	**208**	PN	**Pn**	**10 38 15.6**	**-0.2**
DSZ	**Dennistone Nort**	**6.85**	**220**	PN	**Pn**	**10 38 18.9**	**-0.1**
LTZ	**Lake Taylor**	**7.42**	**213**	PN	**Pn**	**10 38 24.1**	**-2.0**
INZ	**Inchbonnie**	**7.75**	**216**	PN	**Pn**	**10 38 29.4**	**-0.9**
OXZ	**Oxford**	**7.96**	**211**	PN	**Pn**	**10 38 32.0**	**-1.0**
MQZ	**McQueen's Vall**	**8.04**	**207**	PN	**Pn**	**10 38 32.7**	**-1.2**
CTZ	**Chatham Island**	**8.33**	**150**	PN	Pn	10 38 46.2	+8.7
WVZ	**Waitaha Valley**	**8.36**	**218**	PN	**Pn**	**10 38 37.5**	**-0.5**
RPZ	**Rata Peaks**	**8.70**	**214**	P	**Pn**	**10 38 42.2**	**-0.1**
	0.7nm,0.3s,baz=202,slow=1.5,SNR=9.9						
RPZ				S	**S**	**10 40 17.1**	**-3.7**
	0.8nm,0.3s,baz=313,slow=22,SNR=8.3						
RPZ	**Rata Peaks**	**8.70**	**214**	PN	**Pn**	**10 38 42.1**	**-0.2**
FOZ	**Fox Glacier**	**9.15**	**219**	PN	**Pn**	**10 38 47.9**	**-0.1**
LBZ	**Lake Benmore**	**9.62**	**214**	PN	**Pn**	**10 38 53.8**	**-0.1**
ODZ	**Otahua Downs**	**9.95**	**210**	PN	**Pn**	**10 38 58.2**	**+0.2**
JCZ	**Jackson Bay**	**10.06**	**220**	PN	**Pn**	**10 38 58.8**	**-0.8**
WHZ	**Wether Hill Ro**	**11.79**	**215**	PN	**Pn**	**10 39 21.7**	**+0.6**
ASAR	**Alice Springs**	**39.68**	**276**	P	**P**	**10 43 49.6**	**+0.9**
	1.9nm,0.6s,baz=118,slow=7.9,SNR=36						
ASAR				ScP	**ScP**	**10 49 14.8**	**-0.2**
	0.3nm,0.9s,baz=114,slow=3.8,SNR=4.1						
WRA	**Warramunga Arr**	**41.26**	**282**	P	**P**	**10 44 01.8**	**+0.1**
	1.4nm,0.5s,baz=120,slow=7.8,SNR=42						
TORD	**Torodi Ar. Bea**	**156.34**	**190**	PKPab	**PKPab**	**10 56 37.0**	**+1.8**
	0.6nm,0.5s,baz=169,slow=4.0,SNR=9.1						

*ISCJB **30** 10:45:55.1±0.2, 60°.10N±0°.02×152°.46W±0°.05, h103km±3km, mb3.7/4, Error ellipse: s-maj=4.3km s-min=3.2km az=39.6*

*IDC **30** 10:45:57.9±4.1, 60°.19N×152°.58W, h103km±39km, mb3.4/4, mb1 3.5/8, mb1mx3.2/37, mbtmp3.7/8, Error ellipse: s-maj=47.0km s-min=19.9km az=12.0*

*NEIC **30** 10:45:57.4, 60°.10N×152°.53W, h88km, MG3.3(AEIC), After AEIC.*

ISC 30 10:45:56.2±0.8, 60°.11N±0°.03×152°.50W±0°.04, h95km±5km, n112, σ0°77/122, mb3.8/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIM	**Iliamna**	**0.23**	**264**	P	**Pn**	**10 46 09.6**	**-0.3**
IVE	**Iliamna Volcan**	**0.27**	**251**	P	**Pn**	**10 46 09.9**	**-0.3**
INE	**Iliamna NE**	**0.28**	**261**	P	**Pn**	**10 46 10.2**	**-0.1**
ILS	**Iliamna Low So**	**0.32**	**242**	P	**Pn**	**10 46 10.1**	**-0.3**
ILW	**Iliamna West**	**0.32**	**262**	P	**Pn**	**10 46 10.2**	**-0.3**
RSO	**Redoubt South**	**0.38**	**341**	P	**Pn**	**10 46 10.7**	**-0.1**
REF	**Redoubt East F**	**0.40**	**346**	P	**Pn**	**10 46 10.8**	**-0.1**
REF				S	**Sn**	**10 46 21.8**	**-0.1**
RDWB	**Redoubt West**	**0.42**	**336**	P	**Pn**	**10 46 10.4**	**-0.6**
RDWB				S	**Sn**	**10 46 21.5**	**-0.6**
NCT	**North Crescent**	**0.50**	**335**	P	**Pn**	**10 46 11.2**	**-0.3**
RDJH	**Redoubt Jeurge**	**0.51**	**343**	P	**Pn**	**10 46 11.4**	**-0.3**
RDJH				S	**Sn**	**10 46 23.1**	**-0.1**
OPT	**Oil Point**	**0.58**	**219**	P	**Pn**	**10 46 12.2**	**0.0**
HOM	**Homer**	**0.62**	**136**	P	**Pn**	**10 46 13.0**	**+0.6**
BGRM	**Barrier Glacie**	**0.65**	**4**	P	**Pn**	**10 46 12.8**	**0.0**
CNPM	**China Poot**	**0.86**	**132**	P	**Pn**	**10 46 15.0**	**+0.2**
CNPM				S	**Sn**	**10 46 29.3**	**+0.5**
AUL	**Augustine Lava**	**0.87**	**213**	P	**Pn**	**10 46 14.8**	**0.0**
AUL				S	**Sn**	**10 46 28.5**	**-0.2**
AUE	**Augustine Isla**	**0.87**	**211**	P	**Pn**	**10 46 14.7**	**-0.1**
BRLK	**Bradley Lake**	**0.88**	**112**	P	**Pn**	**10 46 15.0**	**0.0**
BRLK				S	**Sn**	**10 46 29.4**	**+0.4**
AUW	**Augustine West**	**0.89**	**214**	P	**Pn**	**10 46 15.0**	**0.0**
AUSE	**Augustine SEas**	**0.89**	**211**	P	**Pn**	**10 46 14.9**	**-0.2**
NKA	**Nikishka**	**0.90**	**44**	P	**Pn**	**10 46 17.1**	**+2.1**
AUI	**Augustine Isla**	**0.91**	**212**	P	**Pn**	**10 46 15.0**	**-0.2**
AUI				S	**Sn**	**10 46 29.1**	**-0.3**
CKL	**Chakachamna La**	**1.10**	**4**	P	**Pn**	**10 46 17.6**	**+0.2**
SPCR	**Spurr Chakacha**	**1.11**	**7**	P	**Pn**	**10 46 17.7**	**+0.1**
SPCR				S	**Sn**	**10 46 33.6**	**+0.1**
SPWE	**Spurr West**	**1.17**	**359**	P	**Pn**	**10 46 18.7**	**+0.4**
SLKM	**Skilak Lake**	**1.21**	**70**	P	**Pn**	**10 46 18.4**	**-0.2**
MCNL	**McNeil River**	**1.31**	**226**	P	**Pn**	**10 46 19.6**	**-0.3**
CDD	**Cape Douglas**	**1.32**	**207**	P	**Pn**	**10 46 19.6**	**-0.3**
VOGL	**Vogel Lake**	**1.36**	**48**	P	**Pn**	**10 46 21.1**	**+0.8**
STLK	**Strandline Lak**	**1.44**	**13**	P	**Pn**	**10 46 22.1**	**+0.6**
FOPK	**Fourpeaked Vol**	**1.44**	**201**	P	**Pn**	**10 46 21.0**	**-0.5**
FOSS	**Fourpeaked Sta**	**1.45**	**205**	P	**Pn**	**10 46 21.4**	**-0.1**
SEW	**Seward**	**1.53**	**89**	P	**Pn**	**10 46 22.4**	**-0.1**
FIB	**Fire Island**	**1.56**	**46**	P	**Pn**	**10 46 24.2**	**+1.3**
SUA	**Susitna One**	**1.61**	**32**	P	**Pn**	**10 46 24.3**	**+0.6**
RC01	**Rabbit Creek A**	**1.68**	**53**	P	**Pn**	**10 46 24.5**	**0.0**
SVW2	**Sparrevohn**	**1.81**	**305**	P	**Pn**	**10 46 25.5**	**-0.6**
KAHC	**Katmai Hardscr**	**1.94**	**222**	P	**Pn**	**10 46 27.9**	**-0.1**
KAWH	**Katmai**	**2.09**	**215**	P	**Pn**	**10 46 29.8**	**0.0**
PMR	**Palmer**	**2.22**	**46**	P	**Pn**	**10 46 31.4**	**0.0**
KAKN	**Katmai Knife C**	**2.24**	**217**	P	**Pn**	**10 46 31.8**	**0.0**
KVTA	**Katmai Vly 10**	**2.25**	**221**	P	**Pn**	**10 46 31.9**	**+0.1**
KABU	**Katmai Buttres**	**2.33**	**219**	P	**Pn**	**10 46 33.4**	**+0.4**
KABR	**Katmai Barrier**	**2.35**	**214**	P	**Pn**	**10 46 33.4**	**+0.1**
KELA	**Mount Kelaz**	**2.36**	**226**	P	**Pn**	**10 46 33.3**	**0.0**
KNK	**Knik Glacier**	**2.38**	**55**	P	**Pn**	**10 46 33.5**	**0.0**
GHO	**Glory Hole Cre**	**2.42**	**45**	P	**Pn**	**10 46 34.2**	**+0.1**
ANCK	**Angle Creek**	**2.46**	**220**	P	**Pn**	**10 46 35.0**	**+0.4**
CUT	**Chulitna**	**2.55**	**24**	P	**Pn**	**10 46 36.1**	**+0.4**
SML	**Sawmill**	**2.66**	**48**	P	**Pn**	**10 46 37.0**	**-0.2**
PPLA	**Purkeypile**	**2.80**	**3**	P	**Pn**	**10 46 40.2**	**+0.9**
OHAK	**Old Harbor**	**2.92**	**188**	P	**Pn**	**10 46 39.2**	**-1.5**
HIN	**Hinchinbrook I**	**3.00**	**82**	P	**Pn**	**10 46 40.6**	**-1.2**
SCM	**Sheep Creek Mo**	**3.06**	**53**	P	**Pn**	**10 46 42.5**	**-0.1**
PLK1	**Peulik 1**	**3.14**	**224**	P	**Pn**	**10 46 43.1**	**-0.5**
HUR	**Hurricane**	**3.19**	**24**	P	**Pn**	**10 46 45.7**	**+1.4**
MID	**Middleton Isla**	**3.19**	**100**	P	**Pn**	**10 46 44.8**	**+0.5**
VLZ	**Valdez**	**3.21**	**69**	P	**Pn**	**10 46 43.6**	**-0.9**
TT01	**Tatalina**	**3.28**	**331**	P	**Pn**	**10 46 45.2**	**-0.2**
TTA	**Tatalina**	**3.29**	**331**	P	**Pn**	**10 46 45.9**	**+0.1**
CAST	**Castle Rocks**	**3.33**	**3**	P	**Pn**	**10 46 46.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.39**	**80**	P	**Pn**	**10 46 46.8**	**-0.2**
DIV	**Divide**	**3.47**	**70**	P	**Pn**	**10 46 47.5**	**-0.7**
KLU	**Klutina**	**3.51**	**64**	P	**Pn**	**10 46 48.1**	**-0.7**
TRF	**Thorofare Moun**	**3.52**	**16**	P	**Pn**	**10 46 49.6**	**+0.8**
KTH	**Kantishna Hill**	**3.54**	**12**	P	**Pn**	**10 46 49.7**	**+0.7**
RND	**Reindeer**	**3.74**	**26**	P	**Pn**	**10 46 52.2**	**+0.4**
BMRM	**Bremner River**	**4.00**	**74**	P	**Pn**	**10 46 54.0**	**-1.2**
MCK	**McKinley**	**4.01**	**23**	P	**Pn**	**10 46 56.2**	**+0.8**
BPAW	**Bear Paw Mtn.**	**4.07**	**9**	P	**Pn**	**10 46 56.5**	**+0.3**
NICHA	**Nichawak Mount**	**4.27**	**85**	P	**Pn**	**10 46 58.6**	**-0.3**
BWN	**Browne**	**4.32**	**18**	P	**Pn**	**10 47 00.4**	**+0.8**
PAX	**Paxson**	**4.42**	**46**	P	**Pn**	**10 47 01.5**	**+0.5**
VRDI	**Verde Repeater**	**4.59**	**72**	P	**Pn**	**10 47 02.5**	**-0.9**
KHIT	**Khitrov Hills**	**4.62**	**82**	P	**Pn**	**10 47 03.1**	**-0.6**
CRQM	**Cirque**	**4.69**	**78**	P	**Pn**	**10 47 04.7**	**0.0**
WRH	**Wood River Hil**	**4.84**	**23**	P	**Pn**	**10 47 06.7**	**+0.1**
HDA	**Harding Lake**	**5.04**	**29**	P	**Pn**	**10 47 09.5**	**+0.2**
CCB	**Clear Creek Bu**	**5.05**	**24**	P	**Pn**	**10 47 09.6**	**+0.1**
PTPK	**Patty Peak**	**5.06**	**73**	P	**Pn**	**10 47 09.1**	**-0.7**
ISLE	**Juniper Island**	**5.07**	**80**	P	**Pn**	**10 47 09.6**	**-0.3**
MENT	**Mentasta**	**5.07**	**52**	P	**Pn**	**10 47 09.6**	**-0.2**
KIAG	**Kiagna River**	**5.08**	**76**	P	**Pn**	**10 47 09.3**	**-0.7**
PS08	**TAPS Pump Stn8**	**5.18**	**28**	P	**Pn**	**10 47 11.1**	**-0.1**
BAGL	**Bagley Icefiel**	**5.19**	**81**	P	**Pn**	**10 47 11.2**	**-0.2**
COLA	**College**	**5.25**	**22**	P	**Pn**	**10 47 12.0**	**-0.1**
MDM	**Murphy Dome**	**5.25**	**20**	P	**Pn**	**10 47 12.3**	**+0.1**
MESA	**MESA**	**5.28**	**85**	P	**Pn**	**10 47 12.4**	**-0.2**
DOT	**Dot Lake**	**5.34**	**45**	P	**Pn**	**10 47 13.8**	**+0.4**
IL1	**Eielson Array**	**5.36**	**27**	P	**Pn**	**10 47 13.6**	**-0.1**
ILAR	**Eielson Array**	**5.36**	**27**	P	**Pn**	**10 47 13.4**	**-0.2**
	3.8nm,0.3s,baz=210,slow=13,SNR=91						
ILAR				S	**Sn**	**10 48 09.3**	**-4.6**
	2.3nm,0.3s,baz=193,slow=11,SNR=5.3						
ILB	**Eielson Array**	**5.36**	**27**	P	**Pn**	**10 47 13.6**	**0.0**
GRNC	**Granite Creek**	**5.36**	**79**	P	**Pn**	**10 47 14.2**	**+0.3**
CTGM	**Chitina Glacie**	**5.58**	**76**	P	**Pn**	**10 47 16.9**	**+0.1**
TABL	**Table Mountain**	**5.66**	**82**	P	**Pn**	**10 47 17.7**	**-0.2**
LOGN	**Logan Glacier**	**5.74**	**78**	P	**Pn**	**10 47 19.0**	**+0.1**
PS06	**TAPS Pump Stn6**	**5.91**	**11**	P	**Pn**	**10 47 21.4**	**+0.4**
BCA3	**Beaver Creek A**	**5.91**	**55**	P

KMNR				S	Sn	10 54 34.3	+2.0	
BZMR	**Bezymyannaya**	**2.25**	**352**	P	Pn	10 54 12.4	+3.1	
ASAK	**Asacha**	**2.30**	**236**	*eP*	Pn	10 54 13.3	+3.4	
ASAK				S	Sn	10 54 39.7	+2.6	
KPT	**Kopyto**	**2.31**	**349**	P	Pn	10 54 13.3	+3.3	
ZLN	**Zelenaya**	**2.32**	**357**	P	Pn	10 54 13.8	+3.7	
ZLN				S	Sn	10 54 41.4	+3.9	
LGNR	**Loginova**	**2.39**	**356**	S	Sn	10 54 43.2	+3.7	
KOZ	**Kozyrevsk**	**2.45**	**345**	*eP*	Pn	10 54 14.4	+2.6	
KOZ				*eS*	Sn	10 54 42.5	+1.9	
KRSR	**Krestovskiy**	**2.53**	**354**	S	Sn	10 54 46.2	+3.5	
ESO	**Esso**	**2.60**	**330**	*eP*	Pn	10 54 15.9	+2.1	
ESO				*eS*	Sn	10 54 45.2	+1.0	
KLY	**Klyuchi**	**2.62**	**355**	S	Sn	10 54 46.7	+2.0	
KBG	**Krutoberegovo**	**2.73**	**20**	S	Sn	10 54 50.3	+2.9	
BDR	**Baidarnaya**	**2.87**	**2**	P	Pn	10 54 20.7	+3.1	
SMKR	**Semkarok**	**2.89**	**5**	P	Pn	10 54 21.4	+3.5	
SRKR	**Sorokina**	**2.96**	**2**	P	Pn	10 54 22.2	+3.4	
BKI	**Bering**	**3.26**	**61**	*eP*	Pn	10 54 25.6	+2.8	
BKI				*eS*	Sn	10 55 00.2	0.0	

*IDC **30** 11:16:00.7±1.6,51°.84N×172°.10W,h0km,mb3.5/5, mb1 3.7/6,mb1mx3.4/47,mbtmp3.4/6,ML3.3/1,Error ellipse: s-maj=62.8km s-min=29.5km az=134.0*
*ISCJB **30** 11:16:07.1±0.9,51°.8N±0°.1×171°.47W±0°.07,h50km, mb3.4/5,Error ellipse: s-maj=18.4km s-min=5.2km az=166.7*
*NEIC **30** 11:16:08.4,51°.96N×171°.52W,h25km,ML3.2(AEIC),After AEIC.*

ISC 30 11:16:08.9±1.2,51°.8N±0°.2×171°.51W±0°.06,h50km,n20, σ1§22/17,mb3.4/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.64**	**289**	P	**Pn**	**11 16 35.4**	**+0.1**
KOFP	**Korovin Flat P**	**1.65**	**286**	P	**Pn**	**11 16 35.2**	**-0.3**
KOFP				S	**Sn**	**11 16 54.7**	**-0.9**
KOKL	**Mount Kliuchef**	**1.73**	**287**	P	**Pn**	**11 16 36.4**	**-0.1**
NIKH	**Nikolski High**	**1.98**	**54**	P	**Pn**	**11 16 39.0**	**-1.0**
NIKH				S	**Sn**	**11 17 04.1**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**2.62**	**53**	P	**Pn**	**11 16 47.4**	**-1.3**
OKER	**Okmok East Rim**	**2.66**	**51**	P	**Pn**	**11 16 48.0**	**-1.2**
ETKA	**Kagalaska Isla**	**3.03**	**272**	P	**Pn**	**11 16 55.5**	**+1.1**
UNV	**Unalaska Valle**	**3.64**	**55**	P	**Pn**	**11 17 03.1**	**+0.4**
UNV				S	**Sn**	**11 17 45.5**	**+1.2**
ILAR	**Eielson Array**	**18.14**	**35**	P	**Pn**	**11 20 17.8**	**+1.0**
	0.0nm,0.3s,baz=243,slow=8.1,SNR=4.3						
DLBC	**Dease Lake**	**24.29**	**58**	P	**P**	**11 21 23.8**	**+2.5**
	1.4nm,0.5s,baz=244,slow=5.4,SNR=5.1						
INK	**Inuvik**	**24.52**	**33**	P	**P**	**11 21 22.3**	**-0.8**
	1.6nm,0.9s,baz=225,slow=2.9,SNR=2.6						
YKA	**Yellowknife Ar**	**31.58**	**48**	P	**P**	**11 22 26.2**	**0.0**
	0.2nm,0.4s,baz=273,slow=8.5,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**36.23**	**216**	T	T	12 01 39.5	
	baz=22,slow=75						
H11N3	**WAKE ISLAND Hy**	**36.24**	**216**	T	T	12 01 43.0	
	baz=22,slow=75						
H11N1	**WAKE ISLAND Hy**	**36.25**	**216**	T	T	12 01 43.4	
	baz=22,slow=75						
H11S1	**WAKE ISLAND Hy**	**37.43**	**215**	T	T	12 03 20.3	
	baz=26,slow=74						
H11S2	**WAKE ISLAND Hy**	**37.44**	**215**	T	T	12 03 23.4	
	baz=26						
H11S3	**WAKE ISLAND Hy**	**37.45**	**215**	T	T	12 03 22.1	
	baz=26,slow=74						
TXAR	**Lajitas Array**	**54.09**	**87**	P	**P**	**11 25 29.4**	**+0.8**
	0.2nm,0.6s,baz=303,slow=4.0,SNR=3.4						
ASAR	**Alice Springs**	**89.05**	**228**	P	**P**	**11 28 56.4**	**-2.0**
	0.1nm,0.5s,baz=21,slow=4.9,SNR=5.1						

PRU 30 11:25:38.8,50°.23N×18°.58E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.48**	**216**	*ePG*	Pg	11 25 48.0	0.0
OKC				*eSG*	Sg	11 25 54.4	+0.2
DPC	**Dobruska-Polom**	**1.45**	**276**	*eSG*	Sg	11 26 25.2	-0.3

IDC 30 11:27:17.7±2.2,6°.31S×131°.85E,h0km,mb3.8/1, mb1 4.4/5,mb1mx3.8/35,mbtmp4.2/5,ML4.3/4,MS3.1/1, Ms1 3.1/1,ms1mx2.6/32,Error ellipse: s-maj=97.9km s-min=25.0km az=84.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.44**	**354**	Pn	Pn	11 28 40.9	+0.7
	12nm,0.3s,baz=180,slow=19,SNR=1.7						
SIJI				Sn	Sn	11 29 37.1	-6.4
	8.8nm,0.3s,baz=90,slow=24,SNR=18						
FITZ	**Fitzroy Crossi**	**13.19**	**207**	Pn	Pn	11 30 26.6	+0.1
	5.6nm,0.3s,baz=33,slow=11,SNR=149						
FITZ				Sn	Sn	11 32 44.4	-10
	4.4nm,0.3s,baz=210,slow=16,SNR=11						
WRA	**Warramunga Arr**	**13.77**	**170**	Pn	Pn	11 30 33.5	-0.9
	0.7nm,0.3s,baz=351,slow=13,SNR=47						
WRA				Sn	Sn	11 32 58.2	-10
	3.9nm,0.3s,baz=350,slow=24,SNR=13						
DAV	**Davao City (W)**	**14.69**	**335**	LR	LR	11 36 37.9	
	comp=Z,76nm,21.7s,baz=291,slow=38						
ASAR	**Alice Springs**	**17.37**	**174**	P	P	11 31 22.7	-0.5
	0.5nm,0.3s,baz=354,slow=13,SNR=29						
ASAR				S	Sn	11 34 27.3	-8.5
	0.9nm,0.3s,baz=0.2,slow=28,SNR=7.8						
MKAR	**Makanchi Array**	**68.67**	**326**	P	P	11 38 22.9	-0.2
	0.4nm,0.3s,baz=115,slow=6.5,SNR=7.6						

IDC 30 11:34:57.1±3.7,61°.26S×154°.19E,h0km,mb4.1/4, mb1 4.3/5,mb1mx4.1/22,mbtmp4.1/5,ML3.9/1,MS3.7/6, Ms1 3.7/6,ms1mx3.5/14,Error ellipse: s-maj=205.5km s-min=37.3km az=76.0,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.53**	**174**	Pn	Pn	11 38 49.8	0.0
	0.4nm,0.3s,baz=346,slow=13,SNR=18						
VNDA				LR	LR	11 44 29.5	
	comp=Z,540nm,18.7s,baz=350,slow=35						
RPZ	**Rata Peaks**	**20.24**	**37**	LR	LR	11 46 10.8	
	comp=Z,244nm,19.3s,baz=186,slow=33						
URZ	**Urewera**	**27.09**	**42**	LR	LR	11 49 27.7	
	comp=Z,97nm,18.7s,baz=214,slow=32						
STKA	**Stephens Creek**	**30.53**	**339**	P	P	11 41 12.0	+0.1
	4.1nm,1.0s,baz=146,slow=9.3,SNR=3.9						
STKA				LR	LR	11 50 43.2	
	comp=Z,104nm,21.3s,baz=194,slow=31						
MAW	**Mawson**	**36.45**	**220**	LR	LR	11 58 00.9	
	comp=Z,180nm,18.0s,baz=68,slow=38						
H01W1	**Cape Leeuwin H**	**36.61**	**298**	T	T	12 20 52.2	
	baz=148,slow=76,SNR=81						
H01W2	**Cape Leeuwin H**	**36.61**	**298**	T	T	12 20 57.0	
	baz=148,slow=76,SNR=57						
H01W3	**Cape Leeuwin H**	**36.63**	**298**	T	T	12 20 54.0	
	baz=148,slow=76,SNR=54						
ASAR	**Alice Springs**	**40.09**	**330**	P	P	11 42 34.1	0.0
	1.9nm,0.9s,baz=165,slow=9.0,SNR=11						
WRA	**Warramunga Arr**	**43.58**	**332**	P	P	11 43 02.1	-0.6
	1.9nm,0.7s,baz=165,slow=7.3,SNR=12						
FITZ	**Fitzroy Crossi**	**47.61**	**322**	P	P	11 43 34.8	+0.2
	2.2nm,0.9s,baz=144,slow=12,SNR=3.6						
CMAR	**Chiang Mai Arr**	**90.80**	**309**	LR	LR	12 27 20.9	
	comp=Z,19nm,19.8s,baz=245,slow=35						

*IDC **30** 11:51:12.7±1.8,34°.93N×139°.49E,h0km,mb3.3/2, mb1 3.5/2,mb1mx3.2/46,mbtmp3.3/2,Error ellipse: s-maj=42.8km s-min=26.6km az=79.0*
*ISCJB **30** 11:51:16.5±0.7,35°.54N±0°.05×140°.01E±0°.07,h84km±6km, mb3.4/2,Error ellipse: s-maj=9.9km s-min=6.8km az=141.8*
*JMA **30** 11:51:17.5±0.2,35°.62N×140°.02E,h69km±2km,M3.0*

ISC 30 11:51:17.6±1.2,35°.56N±0°.05×140°.01E±0°.06,h76km±9km, n19,σ0§50/21,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.21**	**132**	P	**Pn**	**11 51 28.9**	**0.0**
JCN				S	**Sn**	**11 51 37.7**	**+0.5**
JOD2	**Odawara 2**	**0.81**	**248**	P	**Pn**	**11 51 34.0**	**-0.1**
JOD2				*eS*	**Sn**	**11 51 45.8**	**-0.6**
BSO3	**Boso 3**	**0.86**	**151**	P	**Pn**	**11 51 34.2**	**-0.3**
BSO3				S	**Sn**	**11 51 48.1**	**+1.0**
JIM2	**Oshima 3**	**0.97**	**209**	P	**Pn**	**11 51 35.4**	**-0.6**
JIM2				S	**Sn**	**11 51 49.2**	**-0.5**
JAG	**Ashikaga**	**0.97**	**333**	P	**Pn**	**11 51 35.3**	**-0.7**
JRY	**Ryogami san**	**1.01**	**297**	P	**Pn**	**11 51 36.7**	**+0.2**
JYN	**Shimob**	**1.20**	**267**	P	**Pn**	**11 51 39.1**	**+0.2**
JYN				S	**Sn**	**11 51 54.9**	**+0.1**
JIZS	**Izushimoda**	**1.25**	**228**	P	**Pn**	**11 51 39.7**	**+0.2**
JIZS				S	**Sn**	**11 51 56.1**	**+0.1**
JKT	**Katashina**	**1.35**	**333**	P	**Pn**	**11 51 40.2**	**-0.6**
MJAR	**Matsushiro Arr**	**1.75**	**304**	Pn	**Pn**	**11 51 46.4**	**+0.3**
	5.0nm,0.3s,baz=146,slow=28,SNR=41						
MJAR				Sn	**Sn**	**11 52 07.9**	**+0.2**
	5.6nm,0.3s,baz=125,slow=15,SNR=9.5						
MAT	**Matsushiro**	**1.76**	**304**	P	**Pn**	**11 51 46.5**	**+0.4**
MAT				S	**Sn**	**11 52 08.2**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.44**	**117**	T	T	12 26 42.1	
	baz=309,slow=75,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**28.45**	**117**	T	T	12 26 43.0	
	baz=309,slow=75,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**28.46**	**117**	T	T	12 26 44.8	
	baz=309,slow=75,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**29.08**	**119**	T	T	12 27 33.9	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**29.08**	**119**	T	T	12 27 34.7	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**29.10**	**119**	T	T	12 27 36.0	
	baz=312						
WRA	**Warramunga Arr**	**55.46**	**186**	P	**P**	**12 00 44.1**	**-0.4**
	0.3nm,0.5s,baz=0.9,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**59.19**	**187**	P	**P**	**12 01 11.0**	**+0.3**
	0.2nm,0.7s,baz=8.9,slow=6.6,SNR=3.6						

*CSEM **30** 12:10:02.6,36°.94N×25°.77W,h15km,ML3.4*
PDA 30 12:10:02.6±1.1,36°.94N×25°.77W,h15km,MD3.6,ML3.4, 5C,Error ellipse: s-maj=3.4km s-min=2.1km az=11.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMA	**Santa Maria**	**0.51**	**83**	*i*P	Pg	12 10 11.0	-1.8
PSMA				*eS*	Sg	12 10 17.6	-2.0
PSMA				A	A	12 10 18.7	
	831nm,0.2s						
PSMN	**Pico do Norte,**	**0.56**	**83**	*i*P	Pg	12 10 11.6	-2.1
PSMN				*eS*	Sg	12 10 17.9	-3.4
PSMN				A	A	12 10 21.1	
	258nm,0.4s						
PSMN	**Pico do Norte,**	**0.56**	**83**	*i*P	Pg	12 10 11.6	-2.1
PSMN				*eS*	Sg	12 10 17.9	-3.4
PDA	**Ponta Delgada**	**0.81**	**6**	*eP*	Pg	12 10 14.9	-3.5
PDA				*eS*	Sg	12 10 24.9	-4.2
PDA				A	A	12 10 25.4	
	238nm,0.2s						
PDA	**Ponta Delgada**	**0.81**	**6**	*eP*	Pg	12 10 14.9	-3.5
PDA				*eS*	Sg	12 10 24.9	-4.2
CMLA	**Cha da Macela**	**0.85**	**13**	*eP*	Pb	12 10 15.4	-3.7
CMLA				*eS*	Sg	12 10 25.4	-4.9
CMLA	**Cha da Macela**	**0.85**	**13**	*eP*	Pb	12 10 15.4	-3.7
CMLA				*eS*	Sg	12 10 25.4	-4.9
GRON	**Grota Negra**	**0.85**	**12**	*eP*	Pb	12 10 16.1	-3.0
GRON				*eS*	Sg	12 10 26.7	-3.6
GRON				A	A	12 10 27.9	
	170nm,0.1s						
PSET	**Sete Cidades**	**0.89**	**2**	*eP*	Pb	12 10 16.0	-3.7
PSET				*eS*	Sb	12 10 26.9	-4.5
PSET				A	A	12 10 29.7	
	724nm,0.4s						
PSET	**Sete Cidades**	**0.89**	**2**	*eP*	Pb	12 10 16.0	-3.7
PSET				*eS*	Sb	12 10 26.9	-4.5
PCALD	**Caldeiras da R**	**0.89**	**14**	*eP*	Pb	12 10 16.0	-3.7
PCALD				*eS*	Sb	12 10 26.1	-5.3
PCALD				A	A	12 10 29.0	
	418nm,0.2s						
BART	**Pico Bartolome**	**0.96**	**29**	*i*P	Pb	12 10 17.3	-3.8
BART				*eS*	Sb	12 10 28.5	-5.2
BART				A	A	12 10 29.9	
	751nm,0.2s						
BART	**Pico Bartolome**	**0.96**	**29**	*i*P	Pb	12 10 17.3	-3.8
BART				*eS*	Sb	12 10 28.5	-5.2
PMAN	**Manadas**	**2.50**	**313**	*eP*	Pn	12 10 38.8	-3.9
PMAN				*eS*	Sn	12 11 05.3	-7.7
PMAN				A	A	12 11 06.8	
	47nm,0.1s						
PMAN	**Manadas**	**2.50**	**313**	*eP*	Pn	12 10 38.8	-3.9
PMAN				*eS*	Sn	12 11 05.3	-7.7
PICO	**Pico**	**2.62**	**307**	*eP*	Pn	12 10 40.7	-3.8
PICO				*eS*	Sn	12 11 08.6	-7.5
PICO				A	A	12 11 11.9	
	80nm,0.2s						
PICO	**Pico**	**2.62**	**307**	*eP*	Pn	12 10 40.7	-3.8
PICO				*eS*	Sn	12 11 08.6	-7.5
PCAN	**Candelaria**	**2.64**	**306**	*eP*	Pn	12 10 41.0	-3.7
PCAN				*eS*	Sn	12 11 09.3	-7.2
PCAN				A	A	12 11 11.7	
	51nm,0.2s						
PCAN	**Candelaria**	**2.64**	**306**	*eP*	Pn	12 10 41.0	-3.7
PCAN				*eS*	Sn	12 11 09.3	-7.2
ROSA	**Rosais**	**2.65**	**313**	*eP*	Pn	12 10 40.8	-4.0
ROSA				*eS*	Sn	12 11 08.8	-7.8
ROSA				A	A	12 11 10.5	
	24nm,0.1s						
ROSA	**Rosais**	**2.65**	**313**	*eP*	Pn	12 10 40.8	-4.0
ROSA				*eS*	Sn	12 11 08.8	-7.8
PGRA	**Graciosa**	**2.73**	**321**	*eP*	Pn	12 10 41.9	-3.9
PGRA				*eS*	Sn	12 11 10.9	-7.6
PGRA				A	A	12 11 14.2	
	23nm,0.2s						
PGRA	**Graciosa**	**2.73**	**321**	*eP*	Pn	12 10 41.9	-3.9
PGRA				*eS*	Sn	12 11 10.9	-7.6
CALA	**Caldeira**	**2.85**	**306**	*eP*	Pn	12 10 44.1	-3.5
CALA				*eS*	Sn	12 11 13.9	-7.8
CALA	**Caldeira**	**2.85**	**306**	*eP*	Pn	12 10 44.1	-3.5
CALA				*eS*	Sn	12 11 13.9	-7.8
PCED	**Cedros**	**2.88**	**307**	*eP*	Pn	12 10 43.9	-4.0
PCED				*eS*	Sn	12 11 14.6	-7.6
PCED				A	A	12 11 17.2	
	32nm,0.3s						
PCED	**Cedros**	**2.88**	**307**	*eP*	Pn	12 10 43.9	-4.0
PCED				*eS*	Sn	12 11 14.6	-7.6

*THE **30** 12:14:27.9,42°.69N×24°.14E,h1km±8km,ML2.5/2,Error ellipse: s-maj=14.2km s-min=0.6km az=25.0*
*ISCJB **30** 12:14:29.2±0.5,42°.62N±0°.03×24°.06E±0°.04,h0km,Error ellipse: s-maj=4.6km s-min=4.0km az=159.2*
*BEO **30** 12:14:29.8±0.4,42°.45N×24°.04E,h0km,M2.2/5,Mining explosion.*
*CSEM **30** 12:14:29.4±0.3,42°.55N×24°.04E,h2km,ML2.2,Error ellipse: s-maj=7.8km s-min=6.5km az=29.0,Mining explosion.*

ISC 30 12:14:26.9±0.8,42°.69N±0°.03×24°.23E±0°.03,h0km,n32, σ1§17/46,11C-3D,Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**0.68**	**149**	*ePg*	**Pg**	**12 14 40.3**	**+0.4**
PLD	**Plovdiv**	**0.68**	**149**	*ePg*	**Pg**	**12 14 40.3**	**+0.4**
VTS	**Vitosha**	**0.76**	**263**	P	**Pg**	**12 14 41.0**	**-0.5**
VTS				S	**Sg**	**12 14 51.0**	**-0.3**
VTS	**Vitosha**	**0.76**	**263**	*i*P	**Pg**	**12 14 41.3**	**-0.1**
VTS	**Vitosha**	**0.76**	**263**	*ePg*	**Pg**	**12 14 40.9**	**-0.5**
VTS				*eSg*	**Sg**	**12 14 50.5**	**-0.8**
VTS	**Vitosha**	**0.76**	**263**	P	**Pg**	**12 14 41.0**	**-0.5**
VTS				*eSg*	**Sg**	**12 14 50.5**	**-0.8**
VTS				S	**Sg**	**12 14 51.0**	**-0.3**
ZAPS	**Zavoj**	**1.31**	**297**	*ePg*	**Pn**	**12 14 53.8**	**+1.3**
ZAPS				*eSg*	**Sn**	**12 15 12.3**	**+1.6**
NVR	**Nevrokopi**	**1.37**	**192**	P	**Pg**	**12 14 53.0**	**0.0**
NVR				S	**Sn**	**12 15 12.6**	**+0.6**
NVR	**Nevrokopi**	**1.37**	**192**	P	**Pg**	**12 14 53.0**	**0.0**
NVR				S	**Sn**	**12 15 12.6**	**+0.6**
SRS	**Serrai**	**1.64**	**197**	P	**Pn**	**12 14 56.7**	**-0.3**
SRS				S	**Sb**	**12 15 19.5**	**+0.3**
SRS	**Serrai**	**1.64**	**197**	P	**Pn**	**12 14 56.7**	**-0.3**
SRS				S	**Sb**	**12 15 19.5**	**+0.3**
BARS	**Barje**	**1.78**	**275**	*ePg*	**Pb**	**12 15 00.3**	**-0.1**
BARS				*eSg*	**Sb**	**12 15 22.8**	**-0.6**
BARS	**Barje**	**1.78**	**275**	*ePg*	**Pb**	**12 15 00.3**	**-0.1**
BARS				*eSg*	**Sb**	**12 15 22.8**	**-0.6**
KNT	**Kendrikon**	**1.82**	**214**	P	**Pn**	**12 14 59.1**	**-0.4**
KNT	**Kendrikon**	**1.82**	**214**	P	**Pn**	**12 14 59.1**	**-0.4**
VAY	**Valandovo**	**1.84**	**223**	*i* Pn	**Pb**	**12 15 01.2**	**-0.2**
VAY				*i* Sn	**Sb**	**12 15 25.4**	**+0.4**
VAY	**Valandovo**	**1.84**	**223**	*i* Pn	**Pb**	**12 15 01.2**	**-0.2**
VAY				*i* Sn	**Sb**	**12 15 25.4**	**+0.4**
BOLS	**Boljevac**	**2.02**	**305**	*ePg*	**Pg**	**12 15 06.0**	**+0.5**
BOLS				*eSg*	**Sg**	**12 15 35.4**	**+3.7**
BOLS	**Boljevac**	**2.02**	**305**	*ePg*	**Pg**	**12 15 06.0**	**+0.5**
MDVR	**Moldovita**	**2.78**	**320**	*iP*	**Pb**	**12 15 15.3**	**-2.1**
MDVR	**Moldovita**	**2.78**	**320**	*iP*	**Pb**	**12 15 15.3**	**-2.1**
LOT	**Lotru**	**2.78**	**353**	*iP*	**Pb**	**12 15 16.1**	**-1.4**
VOIR		**2.81**	**12**	*iP*	**Pg**	**12 15 21.0**	**+0.3**
GZR	**Gura Zlata**	**2.90**	**339**	*iP*	**Pb**	**12 15 17.1**	**-2.4**
GZR	**Gura Zlata**	**2.90**	**339**	*iP*	**Pb**	**12 15 17.1**	**-2.4**
MLR	**Muntele Rosu**	**3.06**	**23**	*iP*	**Pb**	**12 15 23.4**	**+1.1**
TLB	**Topalu**	**3.35**	**54**	*iP*	**Pb**	**12 15 25.1**	**-2.1**
TLB	**Topalu**	**3.35**	**54**	*iP*	**Pb**	**12 15 25.1**	**-2.1**
TIRR	**Tirgusor**	**3.52**	**58**	*iP*	**Pb**	**12 15 29.3**	**-0.6**
TIRR	**Tirgusor**	**3.52**	**58**	*iP*	**Pb**	**12 15 29.3**	**-0.6**
VRI	**Vrincioaia**	**3.65**	**29**	*iP*	**Pb**	**12 15 31.1**	**-1.1**
VRI	**Vrincioaia**	**3.65**	**29**	*iP*	**Pb**	**12 15 31.1**	**-1.1**

*IDC **30** 12:28:28.5±1.0,23°.31S×176°.15W,h0km,mb4.1/7, mb1 4.3/8,mb1mx4.0/29,mbtmp4.1/8,ML4.0/1,MS3.2/2, Ms1 3.2/2,ms1mx2.7/27,Error ellipse: s-maj=36.2km s-min=24.6km az=137.0*

ISC 30 12:28:33.7±0.9,23°.4S±0°.2×176°.2W±0°.2,h33km,n14, σ1§17/12,mb4.0/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.06**	**195**	LR	LR	12 31 59.9	
	comp=Z,81nm,20.5s,baz=22,slow=34						
AFI	**Afiamalu**	**10.29**	**25**	Pn	Pn	12 30 53.3	-5.9
	2.9nm,0.3s,baz=52,slow=18,SNR=5.8						
AFI				Sn	Sn	12 32 42.9	-11
	3.1nm,0.3s,baz=96,slow=18,SNR=4.1						
RAR	**Rarotonga**	**15.31**	**85**	Pn	Pn	12 31 54.1	-13
	1.5nm,0.3s,baz=279,slow=7.4,SNR=10						
URZ	**Urewera**	**15.91**	**200**	Pn	**Pn**	**12 32 14.6**	**-0.5**
	0.6nm,0.3s,baz=169,slow=5.2,SNR=3.9						
URZ				Sn	Sn	12 34 55.2	-15
	0.5nm,0.3s,baz=180,slow=20,SNR=4.9						
STKA	**Stephens Creek**	**38.19**	**248**	P	**P**	**12 35 50.4**	**0.0**
	0.8nm,0.4s,baz=100,slow=12,SNR=6.6						
STKA				LR	LR	12 48 54.5	
	comp=Z,94nm,20.9s,baz=43,slow=32						
ASAR	**Alice Springs**	**45.60**	**259**	P	**P**	**12 36 49.9**	**-1.2**
	1.7nm,0.9s,baz=91,slow=6.5,SNR=14						
WRA	**Warramunga Arr**	**45.97**	**264**	P	**P**	**12 36 52.8**	**-1.2**
	0.8nm,0.3s,baz=96,slow=8.4,SNR=101						
VNDA	**Vanda**	**55.22**	**186**	P	**P**	**12 38 03.8**	**+0.8**
	0.9nm,1.0s,baz=21,slow=8.6,SNR=3.4						
PETK	**Petropavlovsk-**	**79.48**	**344**	P	**P**	**12 40 36.5**	**-0.1**
	4.7nm,0.9s,baz=138,slow=9.7,SNR=5.1						
TXAR	**Lajitas Array**	**87.18**	**56**	P	**P**	**12 41 15.8**	**-1.1**
	1.0nm,0.9s,baz=214,slow=6.0,SNR=8.1						
CMAR	**Chiang Mai Arr**	**92.68**	**289**	P	**P**	**12 41 44.7**	**+1.8**
	1.4nm,0.8s,baz=126,slow=3.3,SNR=9.3						
GEYT	**Alibeck**	**131.75**	**301**	PKP	**PKPdf**	**12 47 45.0**	**+1.4**
	0.8nm,0.5s,baz=116,slow=3.4,SNR=2.9						
AKASG	**Malin Array Be**	**146.35**	**331**	PKPbc	**PKPdf**	**12 48 09.9**	**+0.2**
	1.8nm,0.6s,baz=40,slow=4.2,SNR=8.9						
BRTR	**Keskin Array B**	**150.01**	**310**	PKPbc	**PKPbc**	**12 48 20.0**	**-1.2**
	0.6nm,0.4s,baz=160,slow=3.9,SNR=4.6						
BRTR				PKPab	**PKPab**	**12 48 27.5**	**+0.4**
	0.6nm,0.7s,baz=134,slow=3.6,SNR=5.6						

WEL 30 12:39:26.4±0.3,37°.13S×177°.36E,h144km±2km,ML3.8/10, 8C-4D,Error ellipse: s-maj=2.2km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.71**	**152**	PN	Pn	12 39 47.6	-0.5
HAZ				SN	Sn	12 40 04.9	0.0
MXZ	**Matakaoa Point**	**0.86**	**120**	PN	Pn	12 39 49.2	-0.2
MXZ				SN	Sn	12 40 07.3	+0.4
MXZ				AML	AML	12 40 12.5	
OPRZ	**Ohinepanea**	**0.96**	**222**	PN	Pn	12 39 49.3	-0.8
MARZ	**Manawahe**	**1.01**	**213**	↑PN	Pn	12 39 50.5	-0.1
WMGZ	**Waiomatatini S**	**1.08**	**130**	PN	Pn	12 39 51.3	+0.1
WMGZ				SN	Sn	12 40 10.2	-0.1
URZ	**Urewera**	**1.14**	**190**	↓PN	Pn	12 39 51.5	-0.3
URZ				SN	Sn	12 40 11.3	0.0
URZ				AML	AML	12 40 12.1	
TWGZ	**Tauwhareparae**	**1.15**	**155**	PN	Pn	12 39 52.3	+0.3
PUZ	**Puketiti**	**1.18**	**143**	PN	Pn	12 39 51.9	-0.2
PUZ				AML	AML	12 40 20.1	
PUZ				AML	AML	12 40 20.4	
MWZ	**Matawai**	**1.21**	**174**	PN	Pn	12 39 52.

TMWZ	**Te Maipa**	**4.13 196**	⇑PN	Pn	12 40 25.1	-3.1
KIW	**Kapiti Island**	**4.18 206**	PN	Pn	12 40 25.8	-3.0
MTW	**Mount Morrison**	**4.27 199**	PN	Pn	12 40 26.3	-3.6
CAW	**Cannon Point**	**4.35 204**	PN	Pn	12 40 27.5	-3.5
TRWZ	**Traveller**	**4.45 196**	PN	Pn	12 40 28.9	-3.5
PAWZ	**Paruwai Farm**	**4.50 199**	PN	Pn	12 40 29.1	-3.9
PAWZ			AML	AML	12 41 21.9	
MSWZ	**Moikau Station**	**4.58 200**	PN	Pn	12 40 30.3	-3.7
WEL	**Wellington**	**4.61 205**	PN	Pn	12 40 31.0	-3.4
PLWZ	**Palliser**	**4.72 200**	PN	Pn	12 40 31.9	-4.1
TCW	**Tory Channel**	**4.72 210**	PN	Pn	12 40 32.2	-3.7
TCW			AML	AML	12 41 29.7	
TUWZ	**Tuamarina**	**5.04 211**	PN	Pn	12 40 36.5	-3.7
NNZ	**Nelson**	**5.12 216**	PN	Pn	12 40 37.6	-3.6
QRZ	**Quartz Range**	**5.27 224**	PN	Pn	12 40 39.7	-3.5
BSWZ	**Blackbirch Sta**	**5.31 209**	PN	Pn	12 40 39.9	-3.9
THZ	**Tophouse**	**5.77 215**	PN	Pn	12 40 46.0	-3.9
KHZ	**Kahutara**	**6.04 208**	PN	Pn	12 40 49.2	-4.2
DSZ	**Denniston Nort**	**6.30 221**	PN	Pn	12 40 53.2	-3.8
LTZ	**Lake Taylor**	**6.86 213**	PN	Pn	12 40 57.2	-7.3
INZ	**Inchbonnie**	**7.20 217**	PN	Pn	12 41 03.5	-5.5
OXZ	**Oxford**	**7.41 212**	PN	Pn	12 41 06.4	-5.3
MQZ	**McQueen's Vall**	**7.48 207**	PN	Pn	12 41 06.7	-6.0
ODZ	**Otahua Downs**	**9.39 211**	PN	Pn	12 41 32.7	-5.5

*KRNET **30** 12:41:05.5±0.1, 41°.59N×69°.93E, mb2.4*
*ISCJB **30** 12:41:06.7±1.2, 41°.55N±0°.03×70°.06E±0°.07, h2km±9km, Error ellipse: s-maj=9.2km s-min=5.4km az=171.2*
*SOME **30** 12:41:06.7, 41°.55N×70°.13E, h10km*
*NNC **30** 12:41:06.8±1.1, 41°.62N×70°.01E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=10.5km s-min=7.9km az=102.0*

ISC 30 12:41:07.1±1.7, 41°.59N±0°.05×70°.11E±0°.05, h5km±13km, n12, σ1°10/23, 9C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**0.56**	**354**	*eP*	**Pg**	**12 41 17.9**	**-0.1**
	29nm,0.4s						
IUG				*eS*	**Sb**	**12 41 26.7**	**-1.3**
	108nm,0.3s						
BRLS	**Boroldaу**	**1.24**	**345**	*eP*	**Pb**	**12 41 30.7**	**-0.4**
	4.6nm,0.2s						
BRLS				⇓*iS*	**Sg**	**12 41 48.0**	**+0.9**
	6.2nm,0.2s						
ARK	**Arkit**	**1.40**	**81**	⇑*eP*	**Pn**	**12 41 33.2**	**-0.2**
	baz=82						
ARK				⇑*eS*	**Sg**	**12 41 54.2**	**+2.0**
	baz=82						
KK31	**Karatay Array**	**1.55**	**11**	Pn	**Pb**	**12 41 35.5**	**-0.8**
	0.8nm,0.3s,baz=193,slow=17,SNR=24						
KK31				⇑Sn	**Sg**	**12 41 56.7**	**-0.1**
	4.2nm,0.3s,baz=187,slow=33,SNR=16						
BTK	**Batken**	**1.62**	**160**	⇓*eP*	**Pn**	**12 41 35.5**	**-0.8**
	baz=156						
BTK				⇓*eS*	**Sn**	**12 41 57.6**	**0.0**
	baz=156						
MNAS	**Manas**	**2.00**	**62**	⇑*iP*	**Pb**	**12 41 43.2**	**-0.8**
	baz=64						
MNAS				⇑*iS*	**Sb**	**12 42 09.0**	**-0.2**
	baz=64						
MNAS	**Manas**	**2.00**	**62**	⇓Pn	**Pn**	**12 41 42.6**	**+1.0**
	1.7nm,0.4s						
MNAS				⇑Sn	**Sb**	**12 42 09.9**	**+0.7**
	8.4nm,0.4s						
ARSB	**Arslanbob**	**2.17**	**96**	⇓*eP*	**Pn**	**12 41 43.8**	**-0.2**
	baz=96						
ARSB				⇓*eS*	**Sn**	**12 42 12.7**	**+1.3**
	baz=96						
MRKS	**Merke**	**2.59**	**62**	*eP*	**Pb**	**12 41 53.0**	**-1.0**
	4.4nm,0.2s						
MRKS				*eS*	**Sb**	**12 42 25.8**	**-0.3**
	17nm,0.3s						
EKS2	**Erkin-Say**	**2.93**	**67**	⇑*iP*	**Pb**	**12 41 57.6**	**-2.3**
	baz=68						
EKS2				⇑*iS*	**Sn**	**12 42 31.7**	**+1.6**
	baz=68						
DZET	**Dzherino**	**2.95**	**200**	⇑Pn	**Pn**	**12 41 55.9**	**+1.3**
	2.0nm,0.3s						
DZET				⇓Lg	Lg	12 42 36.8	
	4.0nm,0.3s						
ARLS	**Aral**	**3.16**	**84**	⇓*eP*	**Pn**	**12 41 57.3**	**-0.4**
	baz=84						
ARLS				⇓*eS*	**Sn**	**12 42 35.7**	**-0.2**
	baz=84						

*NIED **30** 12:42:00, 38°.70N×142°.40E, h38km, Mw3.9 Best double couple: M0=8.29000×10^14 NP1:φ=87.00000°, δ=29.00000°, λ=154.00000°. NP2:φ=200.00000°, δ=78.00000°, λ=63.00000°.*
*ISCJB **30** 12:42:45.5±1.1, 38°.70N±0°.05×142°.5E±0°.1, h44km±10km, mb3.8/9, MS3.2/2, Error ellipse: s-maj=13.7km s-min=6.8km az=17.9*
*JMA **30** 12:42:46.6±0.1, 38°.73N×142°.38E, h38km±1km, M4.2*
JMA Felt II J1.
*IDC **30** 12:42:48.0±2.6, 38°.67N×142°.35E, h50km±24km, mb3.5/9, mb1 3.7/12, mb1mx3.5/40, mbtmp3.8/12, ML3.7/3, MS3.0/6, Ms1 3.0/6, ms1mx2.7/40, Error ellipse: s-maj=26.6km s-min=15.3km az=98.0*

ISC 30 12:42:45.9±2.8, 38°.69N±0°.06×142°.48E±0°.08, h30km±19km, n33, σ1°36/30, mb3.9/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.74**	**302**	P	**Pn**	**12 42 59.5**	**-0.8**
OFUJ				S	**Sb**	**12 43 08.5**	**-1.6**
JIO	**Ouri**	**0.91**	**256**	P	**Pn**	**12 43 02.1**	**-0.5**
JIO				S	**Sn**	**12 43 12.9**	**-1.8**
JMK	**Ichinoseki**	**1.02**	**285**	P	**Pn**	**12 43 03.5**	**-0.5**
JOM	**Ohasama**	**1.21**	**311**	P	**Pn**	**12 43 06.5**	**-0.2**
JOM				S	**Sn**	**12 43 21.0**	**-1.1**
JTH	**Tanohata**	**1.34**	**339**	P	**Pn**	**12 43 08.0**	**-0.5**
JOU	**Okura**	**1.46**	**258**	P	**Pn**	**12 43 10.2**	**+0.1**
JOU				S	**Sn**	**12 43 27.8**	**-0.4**
JMM	**Marumori**	**1.56**	**239**	P	**Pn**	**12 43 11.3**	**-0.2**
JMM				S	**Sn**	**12 43 30.4**	**-0.2**
JRG	**Rokugo**	**1.60**	**297**	P	**Pn**	**12 43 12.1**	**0.0**
JYK	**Kaneyama**	**1.67**	**279**	P	**Pn**	**12 43 13.2**	**+0.2**
MJAR	**Matsushiro Arr**	**4.01**	**239**	P	**Pn**	**12 43 47.1**	**+1.9**
	6.5nm,0.3s,baz=37,slow=12,SNR=46						
MJAR				LR	LR	12 45 30.8	
	comp=Z,109nm,18.9s,baz=85,slow=42						
ASAJ	**Asahikawa**	**5.42**	**1**	P	**Pn**	**12 44 05.6**	**+1.0**
	1.3nm,0.3s,baz=182,slow=18,SNR=18						
ASAJ				S	**Sn**	**12 45 05.3**	**-0.7**
	1.4nm,0.3s,baz=41,slow=20,SNR=3.8						
JHJ	**Hachijo jima 2**	**5.97**	**202**	P	**Pn**	**12 44 12.3**	**+0.2**
	10.0nm,0.3s,baz=260,slow=17,SNR=8.5						
JHJ				S	**Sn**	**12 45 17.0**	**-2.5**
	20nm,0.3s,baz=252,slow=19,SNR=3.8						
USRK	**Ussuriysk Ar.**	**9.61**	**308**	P	**Pn**	**12 45 05.0**	**+3.0**
	0.6nm,0.3s,baz=121,slow=14,SNR=35						
JNU	**Nakatsue**	**10.92**	**143**	LR	LR	12 49 51.1	
	comp=Z,60nm,19.4s,baz=123,slow=39						
KSRS	**Korea Array**	**11.54**	**268**	P	**Pn**	**12 45 32.4**	**+4.0**
	0.2nm,0.3s,baz=83,slow=14,SNR=8.3						
KSRS				LR	LR	12 49 20.7	
	comp=Z,57nm,21.0s,baz=103,slow=34						
KLR	**Kul'dur**	**13.05**	**327**	LR	LR	12 50 48.9	
	comp=Z,69nm,19.2s,baz=138,slow=37						
SEY	**Seymchan**	**25.01**	**11**	P	**P**	**12 48 07.1**	**+0.4**
	1.5nm,1.0s,baz=174,slow=8.9,SNR=4.6						
H11N2	**WAKE ISLAND Hy 28.34**	**125**		T	T	13 19 09.2	
	baz=317,slow=75,SNR=670						
H11N1	**WAKE ISLAND Hy 28.34**	**125**		T	T	13 19 09.8	
	baz=317,slow=75,SNR=572						
H11N3	**WAKE ISLAND Hy 28.35**	**125**		T	T	13 19 10.4	
	baz=317,slow=75,SNR=653						
H11S1	**WAKE ISLAND Hy 29.11**	**127**		T	T	13 20 04.7	
	baz=318,slow=76,SNR=77						
H11S3	**WAKE ISLAND Hy 29.11**	**127**		T	T	13 20 04.4	
	baz=318,slow=76,SNR=101						
H11S2	**WAKE ISLAND Hy 29.13**	**127**		T	T	13 20 05.0	
	baz=318,slow=76,SNR=66						
TLY	**Talaya**	**29.92**	**308**	LR	LR	13 00 22.0	
	comp=Z,64nm,18.5s,baz=48,slow=35						
ZALV	**Zalesovo Beam**	**41.44**	**311**	P	**P**	**12 50 28.8**	**-0.7**
	1.2nm,0.4s,baz=85,slow=8.4,SNR=4.5						
NRIK	**Noril'sk**	**42.13**	**334**	LR	LR	13 09 04.4	
	comp=Z,31nm,21.1s,baz=103,slow=37						
MKAR	**Makanchi Array**	**43.97**	**301**	P	**P**	**12 50 49.5**	**-0.7**
	1.3nm,0.7s,baz=86,slow=9.8,SNR=8.5						

ILAR	**Eielson Array**	**47.65**	**33**	P	**P**	**12 51 19.7**	**+0.8**
	0.8nm,0.7s,baz=268,slow=6.7,SNR=8.6							
BVAR	**Borovoye Array**	**50.09**	**311**	P	**P**	**12 51 36.7**	**-1.1**
	0.7nm,0.4s,baz=176,slow=5.8,SNR=3.1							
WRA	**Warramunga Arr**	**58.82**	**189**	P	**P**	**12 52 40.9**	**-0.6**
	1.0nm,0.7s,baz=7.5,slow=6.9,SNR=10							
ASAR	**Alice Springs**	**62.54**	**189**	P	**P**	**12 53 06.3**	**-0.4**
	0.8nm,0.8s,baz=5.7,slow=5.0,SNR=10.0							
FINES	**FINESS Array B**	**67.74**	**332**	P	**P**	**12 53 39.8**	**-0.3**
	0.5nm,0.8s,baz=37,slow=9.4,SNR=2.4							
TXAR	**Lajitas Array**	**88.45**	**53**	P	**P**	**12 55 35.8**	**+0.3**
	0.3nm,0.6s,baz=284,slow=3.4,SNR=4.9							

MEX 30 12:45:36.6±0.8, 13°.64N×91°.89W, h14km±999km, MD3.9, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.64**	**355**	*eP*	Pn	12 46 19.4	+0.5

MAN 30 12:47:53.13±0.90N×120°.44E, h116km, mb3.7, ML2.4, MS2.0,1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.25**	**230**	*eP*	Pn	12 48 11.3	+2.0
LUBP				*eS*	Sn	12 48 24.2	+2.7
PGP	**Puerto Galera**	**0.63**	**128**	⇑*eP*	Pn	12 48 13.2	+1.7
PGP				*i S*	Sn	12 48 28.8	+3.4
SJMP	**San Jose**	**1.57**	**155**	*eP*	Pn	12 48 22.6	+1.6
SJMP				*eS*	Sn	12 48 44.1	+1.8

*IDC **30** 12:54:23.9±4.0, 37°.23N×142°.57E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/32, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=75.9km s-min=36.7km az=21.0*
*JMA **30** 12:54:27.1±0.2, 37°.52N×142°.19E, h28km±4km, M3.0*

ISC 30 12:54:24.8±2.1, 37°.53N±0°.05×142°.25E±0°.09, h11km±12km, n18, σ1°22/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.11**	**262**	P	**Pn**	**12 54 46.5**	**+0.2**
JFK				*eS*	**Sb**	**12 54 59.6**	**-0.8**
JIO	**Ouri**	**1.17**	**323**	P	**Pg**	**12 54 47.4**	**+0.2**
JIO				*eS*	**Sb**	**12 55 01.9**	**-0.2**
JMM	**Marumori**	**1.20**	**287**	*eS*	**Sb**	**12 55 02.2**	**-1.0**
ONAJ	**Iwakimizuishiy**	**1.23**	**250**	P	**Pg**	**12 54 48.5**	**0.0**
ONAJ				*eS*	**Sb**	**12 55 02.7**	**-1.4**
JOU	**Okura**	**1.51**	**304**	P	**Pb**	**12 54 52.8**	**0.0**
JOU				*eS*	**Sn**	**12 55 11.6**	**+0.2**
JFT	**Otama**	**1.52**	**270**	P	**Pb**	**12 54 52.8**	**-0.2**
JFT				*S*	**Sn**	**12 55 11.4**	**-0.4**
JMK	**Ichinoseki**	**1.64**	**331**	P	**Pb**	**12 54 54.4**	**-0.6**
JMK				*eS*	**Sn**	**12 55 14.7**	**+0.1**
JFY	**Yanaizu**	**2.03**	**267**	P	**Pb**	**12 55 01.1**	**-0.6**
JFY				*S*	**Sn**	**12 55 24.6**	**+0.3**
MJAR	**Matsushiro Arr**	**3.38**	**254**	Pn	**Pn**	**12 55 19.9**	**+2.4**
	0.7nm,0.3s,baz=75,slow=16,SNR=5.9						
MJAR				Sn	**Sb**	**12 56 03.9**	**-1.9**
	0.8nm,0.3s,baz=78,slow=31,SNR=4.1						
MAT	**Matsushiro**	**3.38**	**254**	P	**Pn**	**12 55 19.6**	**+2.1**
MAT				S	**Sn**	**12 56 00.1**	**+2.4**
H11N2	**WAKE ISLAND Hy 27.84**	**123**		T	T	13 29 21.4	
	baz=315,slow=75,SNR=7.9						
H11N1	**WAKE ISLAND Hy 27.85**	**123**		T	T	13 29 22.0	
	baz=315,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy 27.86**	**123**		T	T	13 29 23.3	
	baz=315,slow=75,SNR=5.5						
H11S1	**WAKE ISLAND Hy 28.58**	**125**		T	T	13 30 18.2	
	baz=317,slow=76,SNR=5.5						
H11S3	**WAKE ISLAND Hy 28.58**	**125**		T	T	13 30 16.7	
	baz=317,slow=76,SNR=7.1						
H11S2	**WAKE ISLAND Hy 28.60**	**125**		T	T	13 30 17.7	
	baz=317,slow=76,SNR=6.8						
WRA	**Warramunga Arr**	**57.65**	**189**	P	**P**	**13 04 14.0**	**-1.1**
	0.4nm,0.5s,baz=7.8,slow=7.1,SNR=9.0						
ASAR	**Alice Springs**	**61.37**	**189**	P	**P**	**13 04 40.3**	**-0.4**
	0.3nm,0.8s,baz=17,slow=7.9,SNR=3.5						

GUC 30 12:56:24.0±0.6, 23°.21S×68°.97W, h92km±6km, ML3.7, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.75**	**312**	⇓*iP*	Pn	12 56 41.7	+0.4
PB06				*eS*	Sn	12 56 55.0	+0.8
PB06				IAML		12 56 55.5	
	comp=N,3μm,0.1s						
PB04	**IPOC Station P**	**1.39**	**308**	⇑*iP*	Pn	12 56 49.2	+0.5
PB04				*i S*	Sn	12 57 08.3	+0.9
PB04				IAML		12 57 10.3	
	comp=E,1μm,0.3s						
ANCH	**Antofagasta**	**1.41**	**250**	⇑*iP*	Pn	12 56 49.2	+0.6
ANCH				*i S*	Sn	12 57 08.1	+0.9
PB09	**IPOC Station P**	**1.43**	**350**	⇑*iP*	Pn	12 56 50.5	+1.4
PB09				*i S*	Sn	12 57 09.7	+1.7
PB09				IAML		12 57 13.1	
	comp=N,2μm,0.4s						
PB10	**IPOC Station P**	**1.49**	**258**	⇑*iP*	Pn	12 56 49.9	+0.2
PB10				*eS*	Sn	12 57 10.0	+0.9
PB07	**IPOC Station P**	**1.70**	**330**	⇑*iP*	Pn	12 56 53.4	+0.8
PB07				*i S*	Sn	12 57 16.0	+1.7
PB07				IAML		12 57 18.4	
	comp=E,892nm,0.2s						
PB14	**IPOC Station P**	**1.93**	**223**	⇓*iP*	Pn	12 56 55.9	+0.2
PB14				*i S*	Sn	12 57 20.9	+1.2
PB14				IAML		12 57 26.5	
	comp=N,800nm,0.6s						
PB01	**IPOC Station P**	**2.21**	**347**	⇑*iP*	Pn	12 56 59.9	+0.7
PB01				*i S*	Sn	12 57 27.6	+1.7
PB01				IAML		12 57 32.7	
	comp=E,430nm,0.3s						

*DDA **30** 12:56:59.4, 37°.17N×38°.96E, h7km, Md2.8*
*CSEM **30** 12:57:00.4±0.4, 37°.22N×39°.02E, h2km, MD2.9, Error ellipse: s-maj=9.7km s-min=7.1km az=163.0*
*ISK **30** 12:57:00.8, 37°.28N×38°.97E, h5km, MD2.9*

ISC 30 12:57:00.7±1.2, 37°.23N±0°.04×38°.97E±0°.03, h6km±10km, n23, σ0°60/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.24**	**331**	*e*PG	**Pg**	**12 57 05.1**	**-0.4**
URFA				*e*SG	**Sg**	**12 57 09.7**	**+1.0**
URFA	**Urfa**	**0.24**	**331**	*e*Pg	**Pg**	**12 57 05.1**	**-0.4**
URFA				*e*Sg	**Sg**	**12 57 09.7**	**+1.0**
SVRC	**Sivrice-ELAZID**	**1.18**	**13**	*e*PN	**Pg**	**12 57 23.3**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.18**	**13**	*e*Pn	**Pg**	**12 57 23.3**	**-0.1**
DYBB	**Diyarbakir**	**1.18**	**52**	*e*PN	**Pn**	**12 57 24.2**	**+0.3**
DYBB				*e*SN	**Sn**	**12 57 41.2**	**+0.9**
DIY	**Diyarbakir**	**1.20**	**56**	*e*Pn	**Pn**	**12 57 24.2**	**0.0**
DIY				*e*Sn	**Sn**	**12 57 41.2**	**+0.4**
MAZI	**Mazidag**	**1.20**	**79**	*e*PN	**Pb**	**12 57 23.7**	**-0.3**
MAZI	**Mazidag**	**1.20**	**79**	*e*Pn	**Pb**	**12 57 23.7**	**-0.3**
ELZG	**Elazig**	**1.27**	**1**	P	**Pg**	**12 57 24.5**	**-0.5**
ELZG				S	**Sn**	**12 57 43.1**	**+0.5**
ELZG	**Elazig**	**1.27**	**1**	*i* P	**Pg**	**12 57 24.5**	**-0.5**
ELZG				*i* S	**Sn**	**12 57 43.1**	**+0.5**
AKCD	**Akcadag**	**1.35**	**322**	P	**Pn**	**12 57 25.6**	**-0.6**
AKCD				S	**Sn**	**12 57 44.9**	**+0.3**
AKCD	**Akcadag**	**1.35**	**322**	*i* P	**Pn**	**12 57 25.6**	**-0.6**
AKCD				*i* S	**Sn**	**12 57 44.9**	**+0.3**
GAZ	**Gaziantep**	**1.40**	**268**	*e*PN	**Pg**	**12 57 28.8**	**+1.2**
GAZ	**Gaziantep**	**1.40**	**268**	*e*Pn	**Pg**	**12 57 28.8**	**+1.2**
MARD	**Mardin**	**1.45**	**86**	*i* P	**Pn**	**12 57 27.1**	**-0.5**
MARD				*i* S	**Sg**	**12 57 47.6**	**+0.3**
KUZU	**Kuzuini**	**1.58**	**254**	P	**Pn**	**12 57 28.6**	**-0.8**
KUZU				S	**Sg**	**12 57 51.0**	**-0.6**
KUZU	**Kuzuini**	**1.58**	**254**	*i* P	**Pn**	**12 57 28.6**	**-0.8**
KUZU				*i* S	**Sg**	**12 57 51.0**	**-0.6**
KMRS	**Kahramanmaras**	**1.67**	**280**	*e*PN	**Pg**	**12 57 32.8**	**+0.1**
KMRS	**Kahramanmaras**	**1.67**	**280**	*e*Pn	**Pg**	**12 57 32.8**	**+0.1**
PTK	**Pertek**	**1.69**	**11**	*e*PN	**Pb**	**12 57 32.1**	**-0.3**
PTK	**Pertek**	**1.69**	**11**	*e*Pn	**Pb**	**12 57 32.1**	**-0.3**
DARE	**Darende-Malaty**	**1.78**	**319**	*e*PN	**Pb**	**12 57 33.9**	**0.0**
DARE	**Darende-Malaty**	**1.78**	**319**	*e*Pn	**Pb**	**12 57 33.9**	**0.0**

MEX 30 13:06:32.0±0.6, 14°.02N×91°.10W, h120km±65km, MD3.9, Guatemala

MEX 30 13:13:21.6±0.5, 15°.10N×91°.85W, h21km±22km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.21**	**347**	*eP*	Pn	13 13 40.7	-2.7

*ISCJB **30** 13:13:51.7±1.0, 7°.0S±0°.2×68°.3E±0°.1, h12km, mb4.0/18, MS3.9/9, Error ellipse: s-maj=29.6km s-min=9.4km az=32.8*
*IDC **30** 13:13:51.4±1.2, 7°.12S×68°.06E, h0km, mb4.0/16, mb1 4.1/16, mb1mx3.8/64, mbtmp4.0/16, MS3.9/10, Ms1 4.0/10, ms1mx3.5/62, Error ellipse: s-maj=38.5km s-min=18.5km az=43.0*
*NEIC **30** 13:13:53.0±0.8, 7°.08S×68°.09E, h10km, mb4.4/2, Error ellipse: s-maj=24.7km s-min=12.6km az=222.0*

ISC 30 13:13:53.0±1.2, 7°.2S±0°.2×68°.2E±0°.1, h12km, n39, σ1°09/27, mb4.1/18, MS3.8/9, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**2.89**	**74**	Pn	**Pb**	**13 14 44.7**	**+0.3**
H08N3				T	T	13 17 52.9	
	baz=252,slow=75,SNR=2536						
H08N2	**Diego Garcia H**	**2.91**	**73**	Pn	**Pb**	**13 14 44.9**	**+0.3**
H08N2				T	T	13 17 56.3	
	baz=252,slow=75,SNR=1915						
H08N1	**Diego Garcia H**	**2.92**	**74**	Pn	**Pb**	**13 14 45.0**	**+0.3**
H08N1				T	T	13 17 56.6	
	baz=252,slow=75,SNR=1385						
H08S1	**Diego Garcia H**	**4.27**	**97**	Pn	**Pn**	**13 14 55.9**	**-1.6**
H08S3	**Diego Garcia H**	**4.28**	**96**	Pn	**Pn**	**13 14 55.7**	**-2.0**
H08S2	**Diego Garcia H**	**4.29**	**97**	Pn	**Pn**	**13 14 56.2**	**-1.6**
PALK	**Pallekele**	**19.01**	**41**	LR	LR	13 23 55.3	
	comp=Z,1μm,20.9s,baz=296,slow=32						
OPO	**Ambohidratompo**	**23.38**	**239**	LR	LR	13 26 06.3	
	comp=Z,938nm,19.1s,baz=13,slow=32						
KMBO	**Kilima Mbogo**	**31.43**	**280**	LR	LR	13 30 39.2	
	comp=Z,220nm,19.8s,baz=96,slow=32						
WSAR	**Wadi Sarin**	**31.64**	**343**	LR	LR	13 30 43.3	
	comp=Z,110nm,18.8s,baz=152,slow=32						
CMAR	**Chiang Mai Arr**	**39.60**	**50**	P	**P**	**13 21 24.1**	**-0.5**
	0.3nm,0.4s,baz=211,slow=26,SNR=3.2						
CMAR				LR	LR	13 35 52.0	
	comp=Z,118nm,18.8s,baz=224,slow=33						
BOSA	**Boshof**	**45.76**	**237**	LR	LR	13 40 46.9	
	comp=Z,264nm,18.8s,baz=84,slow=35						
AAK	**Ala-Archa**	**49.90**	**6**	LR	LR	13 43 49.7	
	comp=Z,148nm,19.0s,baz=198,slow=36						
H01W3	**Cape Leeuwin H**	**50.36**	**130**	T	T	14 17 00.1	
	baz=292,slow=75,SNR=24						
H01W2	**Cape Leeuwin H**	**50.37**	**130**	T	T	14 16 59.7	
	baz=292,slow=75,SNR=30						
H01W1	**Cape Leeuwin H**	**50.38**	**130**	T	T	14 17 09.8	
	baz=292,slow=75,SNR=24						
MMAI	**Mount Meron Ar**	**50.68**	**324**	LR	LR	13 42 30.8	
	comp=Z,29nm,19.6s,baz=180,slow=34						
NWAO	**Narrogin (SRO)**	**52.11**	**126**	LR	LR	13 40 17.6	
	comp=Z,92nm,19.1s,baz=180,slow=30						
MKAR	**Makanchi Array**	**55.17**	**12**	P	**P**	**13 23 25.4**	**0.0**
	1.0nm,0.9s,baz=182,slow=8.1,SNR=5.5						
BRTR	**Keskin Array B**	**56.54**	**328**	P	**P**	**13 23 35.2**	**-0.4**
	0.9nm,0.8s,baz=143,slow=12,SNR=6.4						
ABKAR	**Akbulak array**	**56.65**	**354**	*eP*	**P**	**13 23 35.0**	**-0.9**
	2.5nm,0.6s						
AKTO	**Aktyubinsk**	**58.05**	**352**	P	**P**	**13 23 46.0**	**+0.2**
	3.0nm,0.8s,baz=170,slow=7.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**58.25**	**8**	P	**P**	**13 23 47.0**	**-0.2**
	2.1nm,0.8s,baz=204,slow=7.1,SNR=12						
KURK	**Kurchatov**	**58.35**	**8**	P	**P**	**13 23 47.0**	**-0.9**
BVAR	**Borovoye Array**	**59.99**	**2**	P	**P**	**13 23 58.9**	**-0.3**
	1.0nm,0.8s,baz=187,slow=7.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**62.48**	**11**	P	**P**	**13 24 15.1**	**-1.0**
	0.7nm,0.5s,baz=226,slow=7.8,SNR=4.4						
ARU	**Arti**	**63.87**	**354**	P	**P**	**13 24 25.5**	**+0.2**
	1.3nm,0.3s,baz=194,slow=7.1,SNR=6.1						
SONM	**Songino Array**	**64.29**	**28**	P	**P**	**13 24 30.1**	**+1.7**
	1.1nm,0.6s,baz=233,slow=6.7,SNR=5.4						
ASAR	**Alice Springs**	**64.92**	**113**	P	**P**	**13 24 33.5**	**+0.6**
	0.4nm,0.4s,baz=3.3,slow=6.8,SNR=20						
WRA	**Warramunga Arr**	**65.19**	**109**	P	**P**	**13 24 36.4**	**+1.7**
	1.1nm,0.6s,baz=279,slow=6.1,SNR=13						
WRAB	**Tennant Creek**	**65.20**	**109**	*eP*	**P**	**13 24 35.8**	**+1.0**
	1.5nm,0.5s						
AKASG	**Malin Array Be**	**66.74**	**334**	P	**P**	**13 24 42.5**	**-1.5**
	0.2nm,0.2s,baz=129,slow=5.5,SNR=4.3						
FINES	**FINESS Array B**	**75.82**	**341**	P	**P**	**13 25 38.6**	**-0.1**
	1.6nm,0.8s,baz=116,slow=8.7,SNR=5.2						
MJAR	**Matsushiro Arr**	**78.48**	**51**	P	**P**	**13 25 56.4**	**+2.1**
	0.3nm,0.5s,baz=262,slow=3.4,SNR=2.7						
ESDC

ASAR **Alice Springs** 65.06 113 P **P** 13 33 17.0 +0.1
1.0nm,0.9s,baz=281,slow=5.9,SNR=6.3
WRA **Warramunga Arr** 65.34 109 P **P** 13 33 19.1 +0.3
1.8nm,0.9s,baz=287,slow=6.2,SNR=6.8
WRAB **Tennant Creek** 65.35 109 *e*P **P** 13 33 15.5 -3.3
1.1nm,0.8s
TORD **Torodi Ar. Bea** 68.91 287 P **P** 13 33 41.1 -0.3
0.9nm,0.9s,baz=103,slow=4.7,SNR=6.0
DAVOX **Davos/Dischmat** 74.40 323 P **P** 13 34 12.6 -1.6
1.6nm,0.4s,baz=124,slow=9.0,SNR=3.6
CLL **Collm** 74.96 328 *e*P **P** 13 34 17.0 0.0
comp=Z,12nm,1.5s
CLL *e* 13 34 25.0
comp=Z,12nm,1.5s
CLL *e* 13 34 29.0
FINES **FINESS Array B** 75.84 341 P **P** 13 34 21.1 -0.8
comp=Z,1.8nm,0.9s,baz=326,slow=0.7,SNR=4.7
MJAR **Matsushiro Arr** 78.67 51 P **P** 13 34 38.3 -0.1
comp=Z,1.6nm,1.1s,baz=251,slow=7.8,SNR=4.3
KLR **Kul'dur** 78.87 37 P **P** 13 34 38.3 -0.8
comp=Z,0.6nm,0.5s,baz=269,slow=7.6,SNR=4.5
ESDC **Sonseca Array** 80.95 312 P **P** 13 34 52.0 +1.3
comp=Z,0.1nm,0.3s,baz=86,slow=6.6,SNR=3.1
PDAR **Pinedale Array** 144.56 357 PKP **PKPdf** 13 42 13.1 -0.1
comp=Z,0.3nm,0.4s,baz=214,slow=0.3,SNR=3.7
TXAR **Lajitas Array** 156.68 341 PKPab **PKPab** 13 43 01.2 +0.2
comp=Z,1.2nm,1.0s,baz=98,slow=2.5,SNR=7.2

---

*BJI **30** 13:37:18.5, 7˚.86S×67˚.51E, h5km, mb4.8/56, mB5.4/57, Ms5.3/61, Ms7 5.1/60*
*ISCJB **30** 13:37:24.9±0.2, 7˚.14S±0˚.04×67˚.96E±0˚.03, h10km, mb4.9/123, MS4.7/48, Error ellipse: s-maj=5.8km s-min=4.3km az=176.5*
*MOS **30** 13:37:25.3±1.1, 7˚.09S×67˚.96E, h12km, mb5.2/49, MS4.9/8, Error ellipse: s-maj=8.1km s-min=5.1km az=99.4*
*IDC **30** 13:37:25.1±0.4, 7˚.10S×68˚.01E, h0km, mb4.5/34, mb1 4.6/34, mb1mx4.5/49, mbtmp4.5/34, MS4.8/39, Ms1 4.8/39, ms1mx4.6/56, Error ellipse: s-maj=13.4km s-min=12.3km az=139.0*
*NEIC **30** 13:37:26.2±0.2, 7˚.11S×68˚.01E, h10km, mb5.2/39, Error ellipse: s-maj=6.8km s-min=6.0km az=162.0*
*GCMT **30** 13:37:26.2±0.1, 7˚.26S×67˚.92E, h12km, MW5.4/122, Moment Tensor Solution. s79,c123; s122,c244; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.42±.02; $M_{\theta\theta}$0.76±.02; $M_{\phi\phi}$0.65±.02; $M_{r\theta}$0.41±.04; $M_{\theta\phi}$-0.85±.01; $M_{r\phi}$0.19±.04; Best double couple: M_o1.56200×10^{17} NP1:ϕ_s297.00000°, δ51.00000°, λ-111.00000°. NP2:ϕ_s149.00000°, δ44.00000°, λ-66.00000°. Principal axes: T 1.5710, Plg3.0000°, Azm42.0000°; N -0.0200, Plg16.0000°, Azm311.0000°; P -1.5530, Plg73.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 13:37:26.4±0.6, 7˚.22S±0˚.05×67˚.94E±0˚.05, h9km±3km, n475, σ1§57/501, mb4.9/123, MS4.8/48, 31C-19D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
H08N3	**Diego Garcia H**	**3.15**	**74**	Pn		**Pn**	**13 38 17.8**	**+1.8**
H08N3				T		T	13 41 29.3	
	baz=253,slow=75,SNR=2305							
H08N2	**Diego Garcia H**	**3.16**	**74**	Pn		**Pn**	**13 38 18.3**	**+2.1**
H08N2				T		T	13 41 32.3	
	baz=253,slow=75,SNR=2229							
H08N1	**Diego Garcia H**	**3.17**	**74**	Pn		**Pn**	**13 38 18.4**	**+2.1**
H08N1				T		T	13 41 30.0	
	baz=253,slow=75							
DGAR	**Diego Garcia**	**4.48**	**93**	*e*P		**Pn**	**13 38 32.6**	**-1.9**
DGAR				*e*			13 39 23.4	
DGAR	**Diego Garcia**	**4.48**	**93**	*e*Pn		**Pn**	**13 38 32.6**	**-1.9**
DGAR				*e*Sn		**Sn**	**13 39 23.4**	**-3.4**
H08S1	**Diego Garcia H**	**4.51**	**96**	Pn		Pn	13 38 29.3	-5.5
H08S3	**Diego Garcia H**	**4.52**	**95**	Pn		Pn	13 38 29.4	-5.5
H08S2	**Diego Garcia H**	**4.53**	**96**	Pn		Pn	13 38 29.5	-5.5
MRIV	**Mauritius Mete**	**16.48**	**217**	*e*Pn		**P**	**13 41 20.7**	**-0.1**
PALK	**Pallekele**	**19.21**	**42**	P		**Pn**	**13 41 52.0**	**0.0**
PALK	0.5nm,0.3s,baz=296,slow=2.5,SNR=5.3			LR		LR	13 47 29.0	
	comp=Z,10μm,20.6s,baz=296,slow=32							
PALK	**Pallekele**	**19.21**	**42**	P		**Pn**	**13 41 52.0**	**0.0**
OPO	**Ambohidratompo**	**23.13**	**239**	P		**P**	**13 42 35.1**	**+1.7**
	10nm,1.2s,baz=62,slow=9.2,SNR=5.7							
OPO				LR		LR	13 49 39.9	
	comp=Z,8μm,19.0s,baz=66,slow=32							
ABPO	**Ambohimpanom**	**23.30**	**238**	*e*P		**P**	**13 42 36.3**	**+1.2**
ABPO				pmax		pmax		
	comp=Z,79nm,1.4s							
ABPO	**Ambohimpanom**	**23.30**	**238**	*e*P		**P**	**13 42 36.3**	**+1.2**
	comp=Z,79nm,1.4s							
HYB	**Hyderabad**	**26.63**	**23**	*i* P		**P**	**13 43 10.0**	**+4.4**
HYB				*e*S		**S**	**13 47 42.0**	**+1.1**
HYB				LR		LR		
	comp=Z,7.1nm,20.0s							
ATD	**Arta Tunnel**	**31.15**	**307**	LR		LR	13 54 05.3	
	comp=Z,743nm,20.2s,baz=126,slow=32							
KMBO	**Kilima Mbogo**	**31.19**	**280**	P		**P**	**13 43 49.4**	**+2.8**
KMBO	comp=Z,1.3nm,0.5s,baz=52,slow=12,SNR=3.3			LR		LR	13 54 02.6	
	comp=Z,2μm,20.4s,baz=100,slow=32							
KMBO	**Kilima Mbogo**	**31.19**	**280**	*e*P		**P**	**13 43 45.1**	**-1.5**
KMBO				pmax		pmax		
	comp=Z,137nm,2.4s							
KMBO	**Kilima Mbogo**	**31.19**	**280**	*e*P		**P**	**13 43 45.1**	**-1.5**
	comp=Z,137nm,2.4s							
WSAR	**Wadi Sarin**	**31.61**	**344**	LR		LR	13 54 07.8	
	comp=Z,1μm,19.1s,baz=169,slow=32							
MNSI	**Mandailing Nat**	**32.55**	**77**	P		**P**	**13 44 00.2**	**+1.9**
	comp=Z,23nm,1.1s,comp=Z,2μm							
PDSI	**Padang**	**33.02**	**81**	P		**P**	**13 44 03.6**	**+1.2**
	comp=Z,204nm,1.2s,comp=Z,147μm							
ASHO	**Ashiyiah**	**33.76**	**340**	*i* P		**P**	**13 44 10.1**	**+1.4**
	SNR=11							
ASHO	**Ashiyiah**	**33.76**	**340**	P		**P**	**13 44 10.7**	**+2.0**
	SNR=9.0							
BKNI	**Bangkinang**	**33.85**	**79**	P		**P**	**13 44 11.8**	**+2.1**
HATD	**Hatta, Dubai**	**33.87**	**341**	*i* P		**P**	**13 44 11.2**	**+1.6**
	SNR=5.5							
HATD	**Hatta, Dubai**	**33.87**	**341**	P		**P**	**13 44 11.6**	**+2.0**
	SNR=6.8							
UOSS	**Minazif**	**33.95**	**341**	*e*P		**P**	**13 44 09.0**	**-1.4**
	comp=Z,138nm,1.8s							
FAQ	**Al Faqa, Dubai**	**33.97**	**340**	P		**P**	**13 44 12.0**	**+1.5**
BANOM	**Banah**	**34.83**	**341**	P		**P**	**13 44 19.0**	**+1.0**
KULM	**Kulim**	**34.92**	**70**	*e*P		**P**	**13 44 16.4**	**-2.5**
	comp=Z,87nm,1.7s							
LHSI	**Lahat**	**35.57**	**86**	P		**P**	**13 44 22.5**	**-2.0**
JMBI	**JAMBI**	**36.01**	**83**	P		**P**	**13 44 31.5**	**+3.2**
NDI	**New Delhi**	**36.80**	**14**	*e*P		**P**	**13 44 32.0**	**-2.8**
NDI				*e*S		**S**	**13 50 14.0**	**-5.1**
LSZ	**Lusaka**	**39.75**	**255**	P		**P**	**13 45 01.4**	**+1.3**
	comp=Z,9.5nm,0.7s,baz=80,slow=6.8,SNR=11							
LSZ	**Lusaka**	**39.75**	**255**	*e*P		**P**	**13 44 59.6**	**-0.4**
LSZ				pmax		pmax		
	comp=Z,29nm,1.1s							
LSZ	**Lusaka**	**39.75**	**255**	*e*P		**P**	**13 44 59.6**	**-0.4**
	comp=Z,30nm,1.1s							
CM01	**Chiang Mai Arr**	**39.82**	**50**	*e*P		**P**	**13 45 00.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**39.83**	**50**	P		**P**	**13 45 00.7**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=244,slow=9.5,SNR=23							
CMAR				PcP		**PcP**	**13 47 06.5**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=238,slow=4.1,SNR=7.3							
CMAR				LR		LR	13 59 05.1	
	comp=Z,1μm,21.4s,baz=221,slow=33							
CHTO	**Chiang Mai**	**40.04**	**49**	P		**P**	**13 45 03.5**	**+1.2**
	comp=Z,69nm,1.6s,comp=Z,3μm							
CHTO	**Chiang Mai**	**40.04**	**49**	P		**P**	**13 44 57.7**	**-4.6**
CHTO				pmax		pmax		
	comp=Z,65nm,2.0s							
CHTO	**Chiang Mai**	**40.04**	**49**	P		**P**	**13 45 04.2**	**+2.0**
	SNR=7.7							
CHTO	**Chiang Mai**	**40.04**	**49**	P		**P**	**13 44 57.6**	**-4.6**
	comp=Z,65nm,2.0s							
CMMT	**Chiang Mai**	**40.05**	**49**	P		**P**	**13 45 03.5**	**+1.2**
	comp=Z,24nm,0.8s,comp=Z,630nm							
SHL	**Shillong**	**40.05**	**35**	*e*P		**P**	**13 45 04.5**	**+2.1**
SHL				*e*S		**S**	**13 51 16.0**	**+7.2**
PBKT	**Sadao Pong**	**40.33**	**54**	P		**P**	**13 45 07.6**	**+3.0**
	comp=Z,23nm,2.2s							
MATP	**Matopo**	**40.37**	**247**	P		**P**	**13 45 05.4**	**+0.3**
	comp=Z,6.5nm,1.2s,baz=81,slow=11,SNR=3.5							
LOEI	**Loei**	**41.08**	**53**	P		**P**	**13 45 15.6**	**+4.7**
	comp=Z,27nm,2.0s							
KBL	**Kabul**	**41.55**	**1**	*e*P		**P**	**13 45 16.6**	**+1.9**
KBL				pmax		pmax		
	comp=Z,31nm,1.3s							
KBL	**Kabul**	**41.55**	**1**	*e*P		**P**	**13 45 16.6**	**+1.9**
	comp=Z,31nm,1.3s							
NONG	**Nongkai**	**42.88**	**54**	P		**P**	**13 45 28.1**	**+2.6**
	comp=Z,24nm,1.6s							
LSA	**Lhasa**	**42.96**	**30**	P		**P**	**13 45 28.5**	**+1.9**
LSA	**Lhasa**	**42.96**	**30**	*e*P		**P**	**13 45 25.8**	**-0.8**
LSA				pmax		pmax		
	comp=Z,64nm,1.5s							
LSA	**Lhasa**	**42.96**	**30**	*e*P		**P**	**13 45 25.8**	**-0.8**
	comp=Z,64nm,1.5s							
SKNT	**Sakolnakorn**	**42.98**	**56**	P		**P**	**13 45 29.7**	**+3.3**
	comp=Z,72nm,1.6s							
SBUM	**Sibu**	**45.22**	**79**	*e*P		**P**	**13 45 44.9**	**+0.5**
	comp=Z,48nm,1.5s							
BOSA	**Boshof**	**45.52**	**237**	P		**P**	**13 45 48.2**	**+1.4**
	comp=Z,2.3nm,0.6s,baz=79,slow=9.4,SNR=5.0							
BOSA				LR		LR	14 02 40.7	
	comp=Z,2μm,18.5s,baz=56,slow=33							
GEYT	**Alibeck**	**45.84**	**349**	P		**P**	**13 45 47.8**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=185,slow=10.0,SNR=8.0							
GEYT				PcP		**PcP**	**13 47 26.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=184,slow=5.3,SNR=3.1							
GEYT				LR		LR	14 03 48.7	
	comp=Z,286nm,18.5s,baz=150,slow=35							
KMI	**Kunming**	**46.70**	**45**	P		**P**	**13 45 58.5**	**+2.3**
KMI				pP		sP	13 46 05.5	+5.3
KMI				sP		pP	13 46 10.0	+11
KMI				PP		**PP**	**13 47 51.5**	**+5.4**
KMI				S		**S**	**13 52 46.8**	**+0.5**
KMI				SS		**SS**	**13 56 09.8**	**-3.1**
KMI				PMZ				
	comp=Z,16nm,1.1s							
KMI				PMZ				
	comp=Z,380nm,5.8s							
KMI				LN				
	comp=Z,860nm,15.4s							
KMI				LE				
	comp=Z,860nm,17.6s							
KMI				LZ				
	comp=Z,1μm,36.9s							
KSH	**Kashi**	**47.09**	**8**	P		**P**	**13 45 56.8**	**-2.1**
KSH				pP		pP	13 46 00.3	-1.5
KSH				PcP		**PcP**	**13 47 30.8**	**0.0**
KSH				PP		**PP**	**13 47 48.3**	**-1.5**
KSH				S		**S**	**13 52 45.8**	**-5.5**
KSH				ScS		**ScS**	**13 55 49.0**	**-4.8**
KSH				PMZ				
	comp=Z,21nm,0.9s							
KSH				LN				
	comp=Z,2μm,16.0s							
KSH				LE				
	comp=Z,900nm,13.3s							
KSH				LZ				
	comp=Z,2μm,17.0s							
QIZ	**Qiongzhong**	**48.84**	**57**	P		**P**	**13 46 11.5**	**-1.2**
QIZ				pP		**sP**	**13 46 16.8**	**+0.2**
QIZ				PP		**PP**	**13 48 05.0**	**-1.1**
QIZ				S		**S**	**13 53 17.5**	**+1.0**
QIZ				SS		**SS**	**13 56 49.3**	**+2.0**
QIZ				PMZ				
	comp=Z,300nm,4.0s							
QIZ				LE				
	comp=Z,880nm,17.7s							
QIZ				LZ				
	comp=Z,1μm,35.7s							
MNAS	**Manas**	**49.64**	**4**	*i* P		**P**	**13 46 19.3**	**+0.7**
MNAS				pmax		pmax		
	comp=Z,20nm,1.0s							
EKS2	**Erkin-Say**	**49.93**	**6**	*e*P		**P**	**13 46 19.1**	**-1.6**
EKS2				pmax		pmax		
	comp=Z,72nm,1.8s							
EKS2	**Erkin-Say**	**49.93**	**6**	*e*P		**P**	**13 46 19.1**	**-1.6**
	comp=Z,72nm,1.8s							
AAK	**Ala-Archa**	**49.97**	**6**	P		**P**	**13 46 21.8**	**+0.7**
	comp=Z,2.9nm,0.3s,baz=178,slow=6.8,SNR=14							
AAK	**Ala-Archa**	**49.97**	**6**	P		**P**	**13 46 22.8**	**+1.7**
	SNR=15							
AAK	**Ala-Archa**	**49.97**	**6**	*e*P		**P**	**13 46 22.3**	**+1.2**
	comp=Z,38nm,1.4s							
FRU	**Bishkek**	**50.18**	**6**	*e*P		**P**	**13 46 22.5**	**0.0**
FRU				*e*			13 48 14.0	
FRU				pmax		pmax		
	comp=Z,70nm,2.0s							
GYA	**Guiyang**	**50.31**	**47**	*i* P		**P**	**13 46 23.5**	**-0.4**
GYA				PP		**PP**	**13 48 20.5**	**+1.0**
GYA				S		**S**	**13 53 35.5**	**-1.6**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,6.3s							
GYA				LN				
	comp=Z,420nm,18.0s							
GYA				LE				
	comp=Z,380nm,19.2s							
GYA				LZ				
	comp=Z,390nm,18.4s							
TKM2	**Tokmak 2**	**50.38**	**7**	*e*P		**P**	**13 46 23.1**	**-1.2**
TKM2				pmax		pmax		
	comp=Z,45nm,1.5s							
TKM2	**Tokmak 2**	**50.38**	**7**	*e*P		**P**	**13 46 23.1**	**-1.2**
	comp=Z,45nm,1.5s							
H01W3	**Cape Leeuwin H**	**50.53**	**130**	T		T	14 40 31.4	
	baz=292,slow=75,SNR=54							
H01W2	**Cape Leeuwin H**	**50.53**	**130**	T		T	14 40 31.1	
	baz=292,slow=75,SNR=65							
H01W1	**Cape Leeuwin H**	**50.55**	**130**	T		T	14 40 34.2	
	baz=292,slow=75,SNR=57							
CD2	**Chengdu**	**51.12**	**40**	P		**P**	**13 46 30.0**	**+0.1**
CD2				sP		sP	13 46 34.5	+0.7
CD2				PP		**PP**	**13 48 26.8**	**+0.1**
CD2				PcS		**PcS**	**13 51 43.3**	**0.0**
CD2				S		**S**	**13 53 48.8**	**+0.7**
CD2				SS		**SS**	**13 57 25.5**	**+1.9**
CD2				PMZ				
	comp=Z,380nm,5.2s							
CD2				LN				
	comp=Z,2μm,19.4s							
CD2				LE				
	comp=Z,2μm,17.9s							
CD2				LZ				
	comp=Z,2μm,18.9s							
PDGK	**Podgornoye**	**51.39**	**11**	*i* P		**P**	**13 46 31.5**	**0.0**
PDGK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KAPI	**Kappang**	**51.54**	**91**	LR		LR	14 05 26.9	
	comp=Z,716nm,21.9s,baz=308,slow=33							
GNI	**Garni**	**51.77**	**337**	LR		LR	14 08 21.8	
	comp=Z,457nm,20.2s,baz=130,slow=36							
GNI	**Garni**	**51.77**	**337**	*e*P		**P**	**13 46 32.1**	**-2.6**
GNI				pmax		pmax		
	comp=Z,711nm,1.5s							
GNI	**Garni**	**51.77**	**337**	P		**P**	**13 46 36.7**	**+2.0**
	SNR=16							
GNI	**Garni**	**51.77**	**337**	*e*P		**P**	**13 46 32.1**	**-2.6**
	comp=Z,711nm,1.5s							
WMQ	**Urumqi**	**53.86**	**18**	P		**P**	**13 46 49.5**	**-0.5**
WMQ				pP		sP	13 46 55.5	+1.5
WMQ				sP		pP	13 46 58.5	+5.6
WMQ				PcP		**PcP**	**13 47 55.5**	**-0.1**
WMQ				S		**S**	**13 54 21.5**	**-3.7**
WMQ				PMZ				
	comp=Z,14nm,1.1s							
WMQ				PMZ				
	comp=Z,270nm,5.1s							
WMQ				LN				
	comp=Z,2μm,16.3s							
WMQ				LE				
	comp=Z,1μm,18.5s							
WMQ				LZ				
	comp=Z,2μm,20.7s							
ZEI	**Tsey**	**54.37**	**338**	*e*P		P	13 47 04.8	+11
ENH	**Enshi**	**54.56**	**45**	*e*P		**P**	**13 46 52.9**	**-2.4**
	comp=Z,3.9nm,0.4s							
LZH	**Lanzhou**	**54.70**	**36**	*e*P		**P**	**13 46 59.3**	**+2.9**
LZH				pP		sP	13 47 03.0	+2.6
LZH				sP		pP	13 47 05.3	+6.0
LZH				PP		**PP**	**13 49 04.3**	**+5.1**
LZH				*e*S		**S**	**13 54 39.3**	**+2.2**
LZH				PMZ				
	comp=Z,29nm,1.3s							
LZH				PMZ				
	comp=Z,170nm,5.5s							
LZH				LN				
	comp=Z,790nm,15.4s							
LZH				LE				
	comp=Z,2μm,15.9s							
LZH				LZ				
	comp=Z,2μm,16.0s							
GTA	**Gaotai**	**54.98**	**30**	⇓P		**P**	**13 46 59.0**	**+0.7**
GTA				pP		sP	13 47 03.8	+1.5
GTA				sP		pP	13 47 06.0	+4.8
GTA				S		**S**	**13 54 40.8**	**+0.2**
GTA				SS		**SS**	**13 58 25.0**	**+0.4**
GTA				PMZ				
	comp=Z,14nm,2.3s							
GTA				PMZ				
	comp=Z,360nm,5.7s							
GTA				LN				
	comp=Z,1μm,19.5s							
GTA				LE				
	comp=Z,2μm,19.5s							
GTA				LZ				
	comp=Z,2μm,19.5s							
NEY	**Neytrino**	**55.21**	**338**	*c i*P		**P**	**13 47 01.4**	**+1.5**
NEY				pmax		pmax		
	comp=Z,15nm,2.0s							
MAKZ	**Makanchi**	**55.22**	**12**	*e*P		**P**	**13 46 58.5**	**-1.2**
MAKZ				pmax		pmax		
	comp=Z,25nm,1.4s							
MAKZ	**Makanchi**	**55.22**	**12**	*e*P		**P**	**13 46 58.5**	**-1.2**
	comp=Z,25nm,1.4s							
MK01	**Makanchi Array**	**55.25**	**12**	*e*P		**P**	**13 46 57.7**	**-2.3**
MK31	**Makanchi Array**	**55.27**	**12**	*ce*P		**P**	**13 46 59.2**	**-0.9**
MK31				pmax		pmax		
	comp=Z,12nm,1.0s							
MK31	**Makanchi Array**	**55.27**	**12**	*e*P		**P**	**13 46 59.3**	**-0.9**
MKAR	**Makanchi Array**	**55.27**	**12**	P		**P**	**13 46 59.1**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=206,slow=8.1,SNR=18							
MKAR				PcP		**PcP**	**13 48 00.9**	**0.0**
	comp=Z,2.8nm,0.8s,baz=234,slow=4.1,SNR=5.5							
MKAR				LR		LR	14 09 56.5	
	comp=Z,1μm,20.4s,baz=194,slow=35							
OTUK	**Ortayu**	**55.36**	**4**	P		**P**	**13 46 59.6**	**-1.1**
OTUK				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KBZ	**Khabaz**	**55.55**	**338**	P		**P**	**13 47 01.9**	**-0.2**
	comp=Z,5.7nm,0.8s,baz=133,slow=6.4,SNR=13							
SOEI	**Soe**	**55.72**	**97**	*e*P		**P**	**13 47 00.8**	**-3.2**
	comp=Z,81nm,1.2s							
KIV	**Kislovodsk**	**55.83**	**338**	*i* P		**P**	**13 47 07.3**	**+3.1**
	SNR=6.6							
KIV	**Kislovodsk**	**55.83**	**338**	*e*P		**P**	**13 47 05.0**	**+0.8**
KIV				*e*S		**S**	**13 54 52.3**	**+0.6**
KIV				pmax		pmax		
	comp=Z,15nm,1.0s							
KIV				MLR		MLR		
	comp=Z,236nm,17.0s							
KIV	**Kislovodsk**	**55.83**	**338**	P		**P**	**13 47 05.7**	**+1.5**
	SNR=8.7							
BR131	**Keskin Array S**	**56.45**	**329**	*e*P		**P**	**13 47 09.5**	**+0.7**
BRTR	**Keskin Array B**	**56.45**	**329**	P		**P**	**13 47 09.2**	**+0.3**
	comp=Z,6.9nm,0.9s,baz=138,slow=9.9,SNR=30							
BRTR				LR		LR	14 12 02.4	
	comp=Z,196nm,18.6s,baz=118,slow=37							
XAN	**Xi'an**	**56.47**	**41**	P		**P**	**13 47 08.5**	**-0.5**
XAN				PP		**PP**	**13 49 15.5**	**+0.7**
XAN				PMZ				
	comp=Z,18nm,1.3s							
XAN				PMZ				
	comp=Z,170nm,5.5s							
XAN				LN				
	comp=Z,920nm,18.7s							
XAN				LE				
	comp=Z,910nm,20.9s							
XAN				LZ				
	comp=Z,2μm,19.5s							
GOF	**Gofitskoye**	**56.65**	**339**	⇑*e*P		**P**	**13 47 12.0**	**+2.0**
GOF				pmax		pmax		
	comp=Z,69nm,1.4s							
AB31	**Akbulak array**	**56.67**	**354**	*ce*P		**P**	**13 47 09.3**	**-0.7**
AB31				pmax		pmax		
	comp=Z,9.0nm,0.7s							
ABKAR	**Akbulak array**	**56.67**	**354**	*e*P		**P**	**13 47 09.1**	**-1.0**
TGY	**Tagaytay City**	**56.69**	**68**	LR		LR	14 08 35.1	
	comp=Z,538nm,21.6s,baz=245,slow=33							
BR231	**Keskin MP Arra**	**56.99**	**328**	*e*P		**P**	**13 47 09.9**	**-2.8**
ANTO	**Ankara**	**57.00**	**328**	P		**P**	**13 47 13.8**	**+1.1**
	SNR=7.1							
FITZ	**Fitzroy Crossi**	**57.12**	**107**	LR		LR	14 08 50.5	
	comp=Z,434nm,19.6s,slow=33							
KARP	**Karpathos**	**57.29**	**321**	*e*P		**P**	**13 47 15.2**	**+0.4**
	comp=Z,1.1nm,1.2s							
AKTO	**Aktyubinsk**	**58.06**	**353**	LR		LR	14 12 52.4	
	comp=Z,424nm,18.8s,baz=149,slow=37							
LAST	**Lasithi**	**58.12**	**319**	*e*P		**P**	**13 47 18.6**	**-2.1**
	comp=Z,21nm,1.3s							
WHN	**Wuhan**	**58.19**	**47**	⇓P		**P**	**13 47 23.3**	**+2.2**
WHN				S		**S**	**13 55 22.3**	**-0.8**
WHN				LN				
	comp=Z,2μm,18.0s							
WHN				LE				
	comp=Z,2μm,17.5s							
WHN				LZ				
	comp=Z,2μm,18.7s							
KURBB	**Kurchatov Arra**	**58.33**	**8**	P		**P**	**13 47 21.1**	**-0.6**
	comp=Z,8.8nm,0.9s,baz=206,slow=7.1,SNR=32							
KURK	**Kurchatov**	**58.44**	**8**	*d i*P		**P**	**13 47 21.5**	**-0.9**
KURK				pmax		pmax		
	comp=Z,15nm,0.9s							
KURK				pmax		pmax		
	comp=Z,72nm,1.0s							
KURK	**Kurchatov**	**58.44**	**8**	*e*P		**P**	**13 47 20.4**	**-2.1**
	comp=Z,18nm,0.9s							
ANN	**Anapa**	**58.61**	**335**	*e*P		**P**	**13 47 23.3**	**-0.4**
ANN				*e*S		**S**	**13 55 28.2**	**+0.2**
ANN				pmax		pmax		
	comp=Z,59nm,1.8s							
ANN				MLR		MLR		
	comp=Z,198nm,16.0s							
QZH	**Quanzhou**	**58.75**	**55**	⇑*i*P		P	13 47 19.8	-5.4
QZH				S		**S**	**13 55 26.3**	**-4.3**
QZH				pmax		pmax		
	comp=Z,570nm,6.1s							
QZH				LR		LR		
	comp=N,900nm,11.6s							
QZH				LR		LR		
	comp=E,1μm,18.6s							
QZH				LR		LR		
	comp=Z,1μm,16.4s							
DAV	**Davao City (W)**	**59.21**	**77**	LR		LR	14 11 19.6	
	comp=Z,578nm,22.0s,baz=219,slow=34							
VOSK	**Vostochnaya**	**59.77**	**2**	*e*P		**P**	**13 47 30.4**	**-1.3**
VOSK				pmax		pmax		
	comp=Z,15nm,0.9s							
VOSK	**Vostochnaya**	**59.77**	**2**	*e*P		**P**	**13 47 30.4**	**-1.3**
	comp=Z,15nm,0.9s							
ZRNK	**Zerenda**	**59.94**	**1**	*e*P		**P**	**13 47 30.0**	**

TIY LZ
comp=Z,1µm,25.2s
PRD Provadia 62.21 328 *i* P **P 13 47 48.6 +0.2**
KDZ Kurdzhali 62.27 325 *i* P **P 13 47 49.0 +0.1**
HHC Hu-ho-hao-te 62.38 36 *eP* **P 13 47 51.5 +1.7**
HHC PP **PP 13 50 13.0 +5.7**
HHC S **S 13 56 15.5 -1.4**
HHC ScS **SKSac 13 57 42.5 -0.1**
HHC SS **SS 14 00 28.8 +8.0**
HHC PMZ
comp=Z,27nm,1.0s
HHC PMZ
comp=Z,390nm,5.2s
HHC LN
comp=Z,620nm,16.4s
HHC LE
comp=Z,840nm,17.0s
HHC LZ
comp=Z,590nm,16.2s
VRH Novokhopyorsk 62.42 342 *eP* **P 13 47 50.7 +1.0**
VRH pmax pmax
comp=Z,10.0nm,0.5s
AGG Agios Georgios 62.46 321 *eP* **P 13 47 48.6 -1.7**
AGG pmax pmax
comp=Z,58nm,0.9s
AGG Agios Georgios 62.46 321 *eP* **P 13 47 48.6 -1.7**
comp=Z,58nm,0.9s
ZALV Zalesovo Beam 62.58 11 P **P 13 47 49.5 -1.2**
comp=Z,4.6nm,0.8s,baz=217,slow=7.0,SNR=17
ZALV LR LR 14 15 35.7
comp=Z,947nm,18.0s,baz=246,slow=37
RZN Rozhen 62.69 325 *i* P **P 13 47 52.3 +0.3**
TLB Topalu 62.84 329⇓ *i* P **P 13 47 52.0 -0.6**
TLB Topalu 62.84 329 ⇓P **P 13 47 52.0 -0.6**
PLD Plovdiv 62.97 325 *i* P **P 13 47 54.6 +1.1**
NVS Novosibirsk 63.14 10 *eP* **P 13 47 54.5 +0.1**
NVS *i* 13 50 18.3
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=Z,30nm,1.7s
NVS pmax pmax
comp=E,1.0nm,0.4s
MMB Musomiste 63.20 324 *i* P **P 13 47 56.3 +1.1**
CFR Carcaliu 63.20 330⇑ *i* P **P 13 47 55.3 +0.3**
CFR Carcaliu 63.20 330 ⇑P **P 13 47 55.3 +0.3**
VSR Storozhevoye 63.26 340 *eP* **P 13 47 55.9 +0.6**
VSR pmax pmax
comp=Z,10.0nm,1.2s
SSE Sheshan 63.57 50 P **P 13 47 56.5 -1.2**
SSE pP **pP 13 48 00.0 -0.7**
SSE S **S 13 56 30.3 -1.5**
SSE SS **SS 14 00 43.0 +3.6**
SSE PMZ
comp=Z,44nm,0.7s
SSE PMZ
comp=Z,130nm,5.5s
SSE LN
comp=Z,630nm,19.4s
SSE LE
comp=Z,310nm,19.4s
SSE LZ
comp=Z,910nm,16.8s
KKB Krupnik 63.75 324 *i* P **P 13 47 59.0 +0.2**
ARU Arti 63.89 354 *d i* P **P 13 47 59.4 0.0**
ARU 13 48 34.1
ARU 13 50 17.8
ARU PPP PPP 13 51 51.2
ARU S **S 13 56 34.5 -0.4**
ARU 13 57 54.7
ARU pmax pmax
comp=Z,23nm,0.8s
ARU Arti 63.89 354 *eP* **P 13 47 55.4 -4.0**
comp=Z,48nm,1.3s
SVE Sverdlovsk 64.10 356 *eP* **P 13 48 01.0 +0.3**
SVE pmax pmax
comp=Z,43nm,2.0s
VTS Vitosha 64.13 325⇓ *i* P **P 13 48 01.6 +0.2**
VTS Vitosha 64.13 325 ⇓P **P 13 48 01.6 +0.2**
VTS Vitosha 64.13 325 *i* P **P 13 48 01.8 +0.4**
VTS Vitosha 64.13 325 *eP* **P 13 48 00.5 -1.0**
comp=Z,22nm,1.1s
KIS Kishinev 64.16 331 *eP* **P 13 48 02.0 +0.7**
KIS *eL* L 14 10 16.0
KIS Kishinev 64.16 331 *eP* **P 13 48 02.0 +0.7**
KIS *e* 13 48 10.0
MPEP Malo Peshtene 64.32 326 *i* P **P 13 48 03.6 +1.2**
VRI Vrincioaia 64.39 329⇑ *i* P **P 13 48 02.9 0.0**
VRI Vrincioaia 64.39 329 ⇑P **P 13 48 02.9 0.0**
PLOR Plostina 64.42 329⇓ *i* P **P 13 48 03.6 +0.5**
PLOR Plostina 64.42 329 ⇓P **P 13 48 03.6 +0.5**
SONM Songino Array 64.45 28 P **P 13 48 03.3 -0.1**
comp=Z,4.6nm,0.9s,baz=221,slow=6.6,SNR=17
SONM LR LR 14 15 38.4
comp=Z,2µm,21.1s,baz=216,slow=36
SYO Syowa Base 64.46 191⇑ *eP* **P 13 48 03.4 +0.4**
SYO Syowa Base 64.46 191⇓ *epP* pP 13 48 09.6 +3.7
SONA1 Songino Array 64.47 28 *eP* **P 13 48 03.8 +0.2**
MLR Muntele Rosu 64.54 329⇑ *i* P **P 13 48 02.4 -1.6**
MLR Muntele Rosu 64.54 329 ⇑P **P 13 48 02.4 -1.6**
BJI Beijing 64.70 39 P **P 13 48 03.0 -2.0**
BJI S **S 13 56 47.5 +2.0**
BJI SS **SS 14 00 58.5 +1.8**
BJI PMZ
comp=Z,7.0nm,0.8s
BJI PMZ
comp=Z,430nm,4.6s
BJI LN
comp=Z,450nm,19.1s
BJI LE
comp=Z,840nm,18.6s
BJI LZ
comp=Z,650nm,20.0s
ULN Ulaanbaatar 64.78 28 *eP* **P 13 48 06.1 +0.5**
ULN pmax pmax
comp=Z,54nm,1.9s
ULN Ulaanbaatar 64.78 28 P **P 13 48 07.3 +1.7**
SNR=14
ULN Ulaanbaatar 64.78 28 *eP* **P 13 48 06.1 +0.5**
comp=Z,54nm,1.9s
TESR Tescani 64.88 330⇓ *i* P **P 13 48 06.1 +0.1**
VOIR 64.97 328⇑ *i* P **P 13 48 06.1 -0.7**
VOIR 64.97 328 ⇑P **P 13 48 06.1 -0.7**
ZAK Zakamensk 65.02 24 *eP* **P 13 48 04.4 -2.6**
ZAK pmax pmax
comp=Z,7.0nm,2.3s
ARR Arges 65.14 328⇓ *i* P **P 13 48 07.3 -0.6**
ASAR Alice Springs 65.14 113 P **P 13 48 07.8 -0.5**
comp=Z,3.1nm,0.7s,baz=283,slow=6.3,SNR=22
ASAR LR LR 14 15 12.6
comp=Z,232nm,18.9s,baz=282,slow=35
DOPR Dopca 65.14 329⇑ *i* P **P 13 48 07.5 -0.3**
MOY Mondy 65.15 22 *eP* **P 13 48 09.5 +1.6**
AS01 Alice Springs 65.18 113 *eP* **P 13 48 06.2 -2.5**
WRA Warramunga Arr 65.41 109 P **P 13 48 09.4 -0.8**
comp=Z,4.4nm,0.7s,baz=279,slow=6.2,SNR=33
WRAB Tennant Creek 65.42 109 *ceP* **P 13 48 11.6 +1.4**
WRAB pmax pmax
comp=Z,65nm,2.5s
WRAB Tennant Creek 65.42 109 *eP* **P 13 48 08.0 -2.2**
comp=Z,12nm,0.9s
WB2 Warramunga Arr 65.42 109 *eP* **P 13 48 08.6 -1.6**
LOT Lotru 65.65 327⇓ *i* P **P 13 48 11.6 +0.4**
GZR Gura Zlata 66.15 327⇓ *i* P **P 13 48 13.1 -1.3**
GZR Gura Zlata 66.15 327 ⇓P **P 13 48 13.1 -1.3**
TLY Talaya 66.17 23 P **P 13 48 15.0 +0.6**
comp=Z,1.1nm,0.4s,baz=285,slow=6.0,SNR=7.1
TLY LR LR 14 17 08.8
comp=Z,1µm,18.9s,baz=218,slow=36
TLY Talaya 66.17 23 *eP* **P 13 48 16.3 +1.9**
TLY *eS* **S 13 57 07.7 +4.5**
TLY *e* 13 58 06.1
TLY pmax pmax
comp=Z,17nm,1.5s
TLY MLR MLR
comp=Z,1µm,20.0s
BURAR Bucovina Array 66.35 330⇑ *i* P **P 13 48 16.4 +0.8**
BURAR Bucovina Array 66.35 330 ⇑P **P 13 48 16.4 +0.8**
MDVR Moldovita 66.36 326⇓ *i* P **P 13 48 15.2 -0.5**
PDG Podgorica 66.36 323⇓ *i* P **P 13 48 15.7 0.0**
BUR08 Bucovina Ar. S 66.37 330 *eP* **P 13 48 15.9 +0.1**
AKASG Malin Array Be 66.68 334 P **P 13 48 15.9 -1.6**
comp=Z,6.0nm,0.7s,baz=131,slow=5.7,SNR=18
KIEV Kiev 66.68 334 *eP* **P 13 48 15.5 -2.0**
KIEV pmax pmax
comp=Z,30nm,1.3s
KIEV Kiev 66.68 334 *eP* **P 13 48 15.5 -2.0**
comp=Z,30nm,1.3s
IRK Irkutsk 66.86 23 *eP* **P 13 48 19.1 +0.4**
IRK pmax pmax
comp=Z,81nm,2.6s
BZS Buzias 66.92 327⇑ *i* P **P 13 48 18.5 -0.7**
BZS Buzias 66.92 327 ⇑P **P 13 48 18.5 -0.7**
DRGR 67.08 328⇑ *i* P **P 13 48 19.2 -1.1**
DRGR 67.08 328 ⇑P **P 13 48 19.2 -1.1**
OBN Obninsk 67.39 341 *ceP* **P 13 48 24.2 +2.3**
OBN pmax pmax
comp=Z,13nm,1.1s
OBN MLR MLR
comp=Z,435nm,21.0s
MOS Moscow 67.58 342 *eP* **P 13 48 23.0 -0.1**
MOS pmax pmax
comp=Z,115nm,1.5s
DL2 Dalian 67.64 43 P **P 13 48 26.0 +2.1**
DL2 S **S 13 57 24.8 +3.4**
DL2 PMZ
comp=Z,270nm,5.0s
DL2 LN
comp=Z,620nm,19.0s
DL2 LE
comp=Z,440nm,18.2s
DL2 LZ
comp=Z,570nm,28.2s
TAM Tamanrasset 67.92 298 *eP* **P 13 48 24.6 -1.6**
TAM pmax pmax
comp=Z,16nm,1.4s
TAM Tamanrasset 67.92 298 *eP* **P 13 48 24.6 -1.6**
comp=Z,16nm,1.4s
LVV L'vov 68.42 331 *eP* P 13 48 38.5 +10
TORD Torodi Ar. Bea 68.83 287 P **P 13 48 31.6 -0.3**
comp=Z,5.2nm,1.0s,baz=114,slow=6.6,SNR=17
TORD LR LR 14 17 15.7
comp=Z,699nm,20.0s,baz=120,slow=35
CRVS Cervenica-Dubn 69.08 329 *eP* **P 13 48 33.3 +0.5**
CRVS Cervenica-Dubn 69.08 329 *eP* **P 13 48 33.2 +0.5**
PSZ Piszkesteto 69.28 328⇑ *e* SKKPdf **P 13 48 34.9 +0.8**
KECS Kecovo 69.32 328 *eP* **P 13 48 33.3 -0.9**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 69.32 328 *eP* **P 13 48 33.3 -0.9**
STHS Stebnicka Huta 69.52 330 *eP* **P 13 48 35.8 +0.3**
STHS pmax pmax
comp=Z,9.0nm,1.2s
STHS Stebnicka Huta 69.52 330 *eP* **P 13 48 35.8 +0.3**
KEST Kesra 69.63 312 P **P 13 48 38.1 +1.5**
comp=Z,7.2nm,0.9s,baz=99,slow=4.1,SNR=6.0
KEST LR LR 14 16 46.2
comp=Z,228nm,21.4s,baz=122,slow=34
MICGM Minsk 70.03 336 *e* **P 13 48 39.0 +0.5**
MNK Minsk 70.03 336 *eP* **P 13 48 39.0 +0.5**
VYHS Vyhne 70.19 328 *eP* **P 13 48 39.2 -0.4**
VYHS pmax pmax
comp=Z,34nm,1.7s
VYHS Vyhne 70.19 328 *eP* **P 13 48 39.2 -0.4**
LANS Liptovska Anna 70.26 329 *eP* **P 13 48 40.1 0.0**
LANS Liptovska Anna 70.26 329 *eP* **P 13 48 40.1 0.0**
TJN Taejon 70.51 47 *ceP* **P 13 48 40.8 -1.0**
SOKA Soboth 71.25 325 *i* P **P 13 48 46.1 -0.1**
comp=Z,11nm,1.6s
ARSA Arzberg 71.29 325 *i* P **P 13 48 46.4 0.0**
comp=Z,2.9nm,0.6s
KSAR Wonju Array Be 71.34 47 P **P 13 48 46.1 -0.7**
KSAR Wonju Array Be 71.34 47 P **P 13 48 46.1 -0.7**
KS01 Wonju Array Si 71.36 47 *eP* **P 13 48 45.7 -1.3**
KSRS Korea Array 71.37 47 P **P 13 48 46.1 -0.9**
comp=Z,1.7nm,0.9s,baz=260,slow=5.0,SNR=8.5
KSRS LR LR 14 22 03.0
comp=Z,1µm,18.1s,baz=248,slow=38
OBKA Obir 71.44 324 *i* P **P 13 48 47.7 +0.4**
comp=Z,8.7nm,1.0s
KLMR Klimovskoe 71.44 346 *eP* **P 13 48 45.9 -1.0**
KLMR *e* 13 49 04.4
KLMR pmax pmax
comp=Z,78nm,1.6s
CONA Conrad Observa 71.48 326 *i* P **P 13 48 46.2 -1.4**
comp=Z,8.8nm,0.7s
MORC Moravsky Berou 71.64 328 *eP* **P 13 48 47.6 -0.9**
MORC pmax pmax
comp=Z,211nm,1.8s
MORC Moravsky Berou 71.64 328 *eP* **P 13 48 47.6 -0.9**
comp=Z,211nm,1.8s
JNU Nakatsue 71.88 52 LR LR 14 19 46.6
comp=Z,398nm,20.7s,baz=298,slow=35
MYKA Terra Mystica 72.03 324 *i* P **P 13 48 51.3 +0.4**
comp=Z,3.2nm,0.6s
MOA Molln 72.33 325 *i* P **P 13 48 51.9 -0.7**
comp=Z,9.9nm,0.7s,SNR=7.9
STKA Stephens Creek 72.35 121 P **P 13 48 53.6 +0.5**
comp=Z,1.7nm,0.8s,baz=317,slow=6.5,SNR=4.0
STKA LR 14 16 26.8
comp=Z,492nm,21.1s,baz=324,slow=32
KBA Koelnbreinsper 72.44 324 *i* P **P 13 48 53.5 0.0**
comp=Z,12nm,1.4s
NVL N'lazarevskaya 72.47 197 *eP* **P 13 48 57.5 +4.4**
CN2 Changchun 72.55 40 *eP* **P 13 48 53.5 -0.5**
CN2 *es* P sP 13 49 00.3 +2.2
CN2 *eS* **S 13 58 19.0 +0.2**
CN2 PMZ
comp=Z,10.0nm,1.2s
CN2 LN
comp=Z,400nm,16.0s
CN2 LE
comp=Z,500nm,16.0s
CN2 LZ
comp=Z,500nm,18.0s
JAY Jayapura 72.59 90 LR LR 14 20 59.6
comp=Z,8.2nm,20.0s,baz=191,slow=36
ABTA Abfaltersbach 72.75 324 *i* P **P 13 48 55.1 -0.1**
comp=Z,22nm,0.9s,SNR=7.6
KSP Ksiaz 72.92 329 *eP* **P 13 48 56.8 +0.8**
KSP Ksiaz 72.92 329 *eP* **P 13 48 56.8 +0.8**
GEA0 GERESS Array S 73.18 326 *eP* **P 13 48 57.2 -0.6**
GERES GERESS Array B 73.18 326 P **P 13 48 56.2 -1.6**
comp=Z,0.9nm,0.6s,baz=134,slow=11,SNR=4.7
VSU Vasula 73.37 339 *ceP* **P 13 48 59.1 +0.6**
VSU pmax pmax
comp=Z,60nm,0.8s
KHC Kasperske Hory 73.41 326 *eP* **P 13 48 56.8 -2.2**
KHC pmax pmax
comp=Z,21nm,1.8s
KHC Kasperske Hory 73.41 326 *eP* **P 13 48 56.8 -2.2**
comp=Z,21nm,1.8s
WTTA Wattenberg 73.53 324 *i* P **P 13 48 59.7 -0.2**
comp=Z,27nm,0.8s,SNR=9.9
WATA Walderalm 73.60 324 *i* P **P 13 48 59.1 -1.3**
comp=Z,7.4nm,0.7s
MOTA Moosalm 73.89 324 *i* P **P 13 49 01.5 -0.5**
comp=Z,17nm,0.7s,SNR=14
DBIC Dimbokro 73.92 279 P **P 13 49 02.1 -0.5**
comp=Z,5.7nm,0.9s,baz=116,slow=4.7,SNR=3.7
DBIC LR LR 14 21 36.7
comp=Z,479nm,18.3s,baz=88,slow=36
FETA Feichten 73.95 323 *i* P **P 13 49 01.8 -0.5**
comp=Z,16nm,0.8s,SNR=10
FUORN Ofenpass-Fuorn 74.03 323 *eP* **P 13 49 01.8 -1.1**
comp=Z,83nm,1.6s
RETA Reutte 74.16 324 *i* P **P 13 49 02.6 -0.9**
comp=Z,10nm,0.7s,SNR=8.1
BRG Berggiesshubel 74.16 328 *eP* **P 13 49 03.7 +0.4**
comp=Z,6.7nm,0.7s
BRG *e* 13 49 06.3
comp=Z,66nm,2.0s
BRG *i* 13 49 12.0
comp=Z,80nm,2.0s
DAVA Damuels 74.58 323 *i* P **P 13 49 05.6 -0.5**
comp=Z,29nm,0.8s,SNR=13
NKC Novy Kostel 74.62 327 *eP* **P 13 49 07.3 +1.3**
NKC *ex* x 13 49 15.1
NKC *ex* x 13 49 24.3
NKC Novy Kostel 74.62 327 *eP* **P 13 49 07.3 +1.3**
NKC *e* 13 49 15.1
NKC *e* 13 49 24.3
BOD Bodaibo 74.75 24 *eP* **P 13 49 05.8 -0.8**
BOD pmax pmax
comp=Z,12nm,1.7s
CLL Collm 74.90 328 *i* P **P 13 49 08.8 +1.2**
comp=Z,83nm,2.0s
CLL *i* 13 49 15.8
comp=Z,46nm,1.4s
CLL *eSSS* SSS 14 06 24.0
CLL *e* 14 07 54.0
CLL Collm 74.90 328 *eP* **P 13 49 07.4 -0.2**
CLL pmax pmax
comp=Z,38nm,1.3s
CLL Collm 74.90 328 *eP* **P 13 49 07.4 -0.2**
comp=Z,38nm,1.3s
GRFO Grafenberg 75.01 326 *eP* **P 13 49 06.3 -2.0**
GRFO pmax pmax
comp=Z,117nm,1.6s
GRFO Grafenberg 75.01 326 *eP* **P 13 49 06.3 -2.0**
comp=Z,117nm,1.6s
MDJ Mudanjiang 75.58 40 P **P 13 49 10.8 -0.9**
MDJ pP pP 13 49 14.0 -0.6
MDJ sP sP 13 49 15.3 -0.4
MDJ S **S 13 58 51.8 -1.0**
MDJ PMZ
comp=Z,3.0nm,0.7s
MDJ LN
comp=Z,230nm,33.9s
MDJ LE
comp=Z,180nm,30.6s
MDJ LZ
comp=Z,300nm,26.4s
MDJ Mudanjiang 75.58 40 *eP* **P 13 49 10.6 -1.1**
comp=Z,11nm,0.9s
SENIN Lac Senin/Sane 75.71 321 *eP* **P 13 49 11.3 -1.3**
comp=Z,20nm,0.8s
FIA1 FINESS Array S 75.78 341 *eP* **P 13 49 11.7 -0.8**
FINES FINESS Array B 75.78 341 P **P 13 49 11.9 -0.5**
comp=Z,9.8nm,0.8s,baz=123,slow=7.0,SNR=30
BFO Black Forest 76.00 324 *i* P **P 13 49 17.0 +3.0**
CTA Charters Tower 76.61 109 LR LR 14 19 31.3
comp=Z,419nm,21.9s,baz=267,slow=33
USRK Ussuriysk Ar. 76.96 42 P **P 13 49 18.3 -1.2**
comp=Z,3.3nm,0.8s,baz=248,slow=6.1,SNR=7.0
USRK LR LR 14 26 14.1
comp=Z,694nm,18.6s,baz=233,slow=38
SSB Saint Sauveur 76.98 320 *eP* **P 13 49 19.7 0.0**
SSB pmax pmax
comp=Z,25nm,1.2s
SSB Saint Sauveur 76.98 320 *eP* **P 13 49 19.7 0.0**
comp=Z,25nm,1.2s
SNAA Sanae 77.19 198 P **P 13 49 20.2 -0.3**
SNAA Sanae 77.19 198 *eP* **P 13 49 21.5 +1.1**
SNAA pmax pmax
comp=Z,31nm,1.9s
SNAA Sanae 77.19 198 *eP* **P 13 49 21.5 +1.1**
comp=Z,31nm,1.9s
NRIK Noril'sk 77.58 7 P **P 13 49 22.1 -0.4**
comp=Z,2.5nm,0.4s,baz=191,slow=5.1,SNR=8.0
NRIK LR LR 14 25 46.5
comp=Z,996nm,18.2s,baz=190,slow=38
WLF Walferdange 77.89 324 P **P 13 49 25.8 +1.2**
comp=Z,18nm,2.1s
APA Apatity 78.56 347⇑ *i* P **P 13 49 28.0 +0.1**
APA *i* S **S 13 59 25.0 +0.7**
APA *i* SS **SS 14 04 33.0 +4.9**
APA pmax pmax
comp=Z,4.0nm,0.9s
APA MLR MLR
comp=Z,900nm,22.0s
VNA1 Neumayer--Stat 78.66 199 P **P 13 49 28.0 -0.5**
MJAR Matsushiro Arr 78.71 51 LR LR 14 22 31.7
comp=Z,290nm,21.8s,baz=250,slow=34
BCLA Clavier 78.71 325 P **P 13 49 30.3 +1.1**
KLR Kul'dur 78.88 37 P **P 13 49 28.2 -1.9**
comp=Z,3.1nm,0.7s,baz=281,slow=6.8,SNR=11
KLR LR LR 14 26 21.0
comp=Z,622nm,20.4s,baz=247,slow=37
JHJ Hachijo jima 2 78.95 54 LR LR 14 21 12.8
comp=Z,359nm,21.6s,baz=320,slow=33
DOU Dourbes 78.98 324 P **P 13 49 30.9 +0.3**
comp=Z,20nm,2.5s
GUMO Guam 79.10 75 LR LR 14 21 29.9
comp=Z,462nm,21.6s,baz=250,slow=34
SNF Seneffe 79.34 324 P **P 13 49 33.2 +0.7**
HABR Khabarovsk 80.58 38 *eP* **P 13 49 37.1 -2.2**
HABR *e* *PP **pP 13 49 40.6 -1.7**
HABR *e* 13 49 44.1
HABR *e* 13 52 39.5
HABR *eS* **S 13 59 43.2 -3.3**
HABR *eSS* **SS 14 04 55.8 -3.4**
HABR *eSSS* SSS 14 08 21.8
HABR MLR MLR
comp=Z,472nm,20.0s
ES19 SONSECA Array 80.84 312 *eP* **P 13 49 41.3 +0.2**
ESDC Sonseca Array 80.88 312 P **P 13 49 41.0 -0.3**
comp=Z,5.6nm,0.7s,baz=94,slow=4.4,SNR=27
ESLA Sonseca Array 80.88 312 *eP* **P 13 49 41.9 +0.6**
KONO Kongsberg 80.97 334 *eP* **P 13 49 41.4 +0.2**
KONO Kongsberg 80.97 334 *eP* **P 13 49 41.4 +0.2**
NB2 NORSAR Subarra 81.03 336 P **P 13 49 42.1 +0.5**
comp=Z,61nm,2.5s,baz=123,slow=5.6
NB2 NORSAR Subarra 81.03 336 P **P 13 49 42.1 +0.5**
baz=123,slow=5.6
NOA NORSAR Array B 81.03 336 P **P 13 49 41.0 -0.5**
comp=Z,2.5nm,0.8s,baz=112,slow=5.5,SNR=8.7
PAB San Pablo 81.13 312 *eP* **P 13 49 41.5 -1.1**
PAB San Pablo 81.13 312 *eP* **P 13 49 41.5 -1.1**
ARA0 ARCESS Array S 81.91 346 *eP* **P 13 49 45.5 -0.5**
ARCES ARCESS Array B 81.91 346 P **P 13 49 45.2 -0.8**
comp=Z,8.6nm,0.9s,baz=126,slow=6.2,SNR=16
ARCES LR LR 14 28 21.9
comp=Z,274nm,18.8s,baz=107,slow=37
QSPA South Pole Qui 82.81 180 *eP* **P 13 49 50.9 -0.1**
comp=Z,89nm,1.4s
CWF Charnwood Fore 83.42 325 *eP* **P 13 49 56.0 +1.8**
YAK Yakutsk 83.61 25 LR LR 14 28 32.6
comp=Z,708nm,18.2s,baz=244,slow=37
YAK Yakutsk 83.61 25 *eP* **P 13 49 55.0 +0.1**
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK MLR MLR
comp=N,955nm,27.0s
YAK MLR MLR
comp=E,815nm,30.0s
VNDA Vanda 83.85 167 P **P 13 49 58.1 +2.0**
comp=E,1.9nm,0.9s,baz=284,slow=5.6,SNR=6.3
VNDA LR LR 14 22 15.0
comp=E,774nm,19.9s,baz=263,slow=32
VNDA Vanda 83.85 167 *eP* **P 13 49 58.5 +2.5**
YSS Yuzh-Sakhalins 85.00 42⇑ *eP* **P 13 50 02.2 -0.2**
YSS *eS* **S 14 00 30.2 -1.5**
YSS *e* 14 01 28.0
YSS *eSS* **SS 14 05 59.0 -5.9**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,500nm,23.0s
YSS Yuzh-Sakhalins 85.00 42 *eP* **P 13 50 01.4 -0.9**
TYV Tymovskoe 86.03 38 *eP* **P 13 50 07.0 -0.4**
TYV *e* 14 00 41.0
TYV pmax pmax
comp=Z,500nm,5.0s
TYV MLR MLR
comp=N,500nm,20.0s
TYV MLR MLR
comp=Z,500nm,18.0s
TIXI Tiksi 88.03 16 P **P 13 50 16.1 -0.6**
comp=Z,5.8nm,1.0s,baz=29,slow=0.1,SNR=8.1
TIXI LR LR 14 30 48.3
comp=Z,1µm,18.7s,baz=241,slow=36
TIXI Tiksi 88.03 16 *ceP* **P 13 50 16.3 -0.4**
TIXI pmax pmax
comp=Z,31nm,2.5s
TIXI Tiksi 88.03 16 *eP* **P 13 50 16.6 -0.1**
SEY Seymchan 93.84 27 P **P 13 50 43.4 -0.5**
comp=Z,0.9nm,0.9s,baz=232,slow=2.2,SNR=5.1
SEY Seymchan 93.84 27 *ceP* **P 13 50 44.7 +0.8**
PETK Petropavlovsk- 95.57 37 LR LR 14 36 35.9
comp=Z,537nm,20.9s,baz=257,slow=37
INK Inuvik 117.33 9 PKP **PKPdf 13 56 10.9 -1.1**
comp=Z,1.5nm,0.7s,baz=326,slow=3.0,SNR=4.7
ILAR Eielson Array 117.51 16 PKP **PKPdf 13 56 11.3 -1.1**
comp=Z,0.8nm,0.8s,baz=342,slow=3.5,SNR=9.5
YKA Yellowknife Ar 124.80 1 PKP **PKPdf 13 56 24.7 -1.7**
comp=Z,1.6nm,0.7s,baz=342,slow=2.2,SNR=7.1
Q40A Laux Farm, Aux 143.60 333 P PKPbc 13 57 00.0 +0.5
baz=35
L02D Cave Junction, 143.73 15 P PKPbc 13 57 00.1 +0.3
baz=340
HLID Hailey 143.74 3 *e* PKPdf PKPbc 13 57 01.1 +1.0
Q39A Willow Grove F 143.95 334 P PKPbc 13 57 00.5 0.0
baz=33
REDW Red Top Meadow 143.99 359 *e* PKPdf **PKPdf 13 57 02.4 -0.7**
R40A Maddies Statio 144.26 333 P **PKPab 13 57 00.7 -0.5**

baz=35,SNR=13
Q38A Cooks Store, C 144.29 335 P PKPbc 13 57 01.6 0.0
baz=32
P36A Good Intent, A 144.36 337 P PKPab 13 57 01.7 +0.2
baz=29
K22A Casper 144.38 353 P PKPab 13 57 01.5 -0.2
baz=9.3
K22A Casper 144.38 353 ePKPdf PKPdf 13 57 03.2 -0.5
O34A Beatrice 144.41 340 P PKPab 13 57 01.9 +0.2
baz=27
M04C Macdoel 144.50 13 P PKPab 13 57 02.1 -0.1
baz=343
BW06 Boulder Array 144.53 357 P PKPab 13 57 02.0 -0.4
baz=4.1
PDAR Pinedale Array 144.53 357 PKP PKPab 13 57 02.5 +0.1
comp=Z,1.9nm,0.7s,baz=68,slow=1.7,SNR=8.7
R39A Chumby, Stover 144.58 334 P PKPab 13 57 02.1 -0.3
baz=34,SNR=9.3
S41A Jillco Farms, 144.59 332 P PKPab 13 57 02.1 -0.3
baz=36,SNR=7.8
M02C Callahan 144.64 14 P PKPab 13 57 02.2 -0.4
baz=341,SNR=5.7
MOD Modoc Plateau 144.69 11 ePKPdf PKPdf 13 57 04.2 0.0
P35A Duane Minner, 144.75 338 P PKPbc 13 57 03.2 +0.1
baz=28
O33A Hebron 144.81 341 P PKPab 13 57 01.7 -1.4
baz=25
O32A Brockman Farm, 144.86 342 P PKPab 13 57 02.2 -1.2
baz=24
S40A Lebanon 144.93 332 P PKPab 13 57 03.0 -0.7
baz=35,SNR=9.8
P34A Walnut Farm, R 145.02 339 P PKPab 13 57 03.2 -0.8
baz=27
T41A Mountain View 145.03 331 P PKPbc 13 57 03.4 -0.7
baz=37,SNR=6.8
R38A Fenwick Farm, 145.06 335 P PKPbc 13 57 03.3 -0.8
baz=32
N02D Trinity Center 145.07 14 P PKPbc 13 57 03.5 -0.6
baz=341,SNR=12
S39A Bolivar 145.22 333 P PKPbc 13 57 04.1 -0.6
baz=34,SNR=8.0
OGNE Ogallala 145.25 347 P PKPbc 13 57 04.0 -0.8
baz=17
Y47A UCPARC, Winfie 145.28 323 P PKPbc 13 57 04.6 -0.4
baz=45
T40A Mansfield 145.30 332 P PKPbc 13 57 04.0 -1.0
baz=35,SNR=22
U42A Revenden 145.32 330 P PKPbc 13 57 04.8 -0.2
baz=38,SNR=15
KSU1 Kansas State U 145.34 339 P PKPbc 13 57 04.6 -0.3
baz=27
R37A Teagarden Farm 145.34 336 P PKPbc 13 57 04.6 -0.5
baz=31
Q35A Mercer Eighty, 145.34 338 P PKPbc 13 57 04.4 -0.6
baz=28
LRAL Lakeview Retre 145.36 321 ePKPdf PKPbc 13 57 04.6 -0.6
P33A Williams Farm, 145.42 340 P PKPbc 13 57 04.6 -0.6
baz=25
Z48A Northport 145.47 322 P PKPbc 13 57 05.2 -0.4
baz=46
S38A Stockton 145.53 334 P PKPdf 13 57 05.1 -0.5
baz=33,SNR=9.5
P32A Huiting Farm, 145.55 341 P PKPdf 13 57 04.8 -0.8
baz=24
PHWY Pilot Hill 145.56 351 ePKPdf PKPdf 13 57 05.5 -0.5
R36A Gordon, Harris 145.60 337 P PKPdf 13 57 05.1 -0.6
baz=30
Q34A Chapman 145.62 339 P PKPdf 13 57 05.5 -0.2
baz=27
U41A Viola 145.66 330 P PKPdf 13 57 05.7 -0.2
baz=37
OXF Oxford 145.75 326 ePKIKP PKPdf 13 57 06.1 0.0
OXF Oxford 145.75 326 ePKPdf PKPdf 13 57 06.1 0.0
HWUT Hardware Ranch 145.75 359 ePKPdf PKPbc 13 57 06.4 0.0
T39A Clever 145.80 333 P PKPdf 13 57 06.2 +0.1
baz=34
S37A Fort Scott 145.81 335 P PKPdf 13 57 06.0 0.0
baz=31
Q33A Connelly Farm, 145.86 340 P PKPdf 13 57 06.2 +0.1
baz=26
R35A Emporia Munici 145.87 337 P PKPdf 13 57 06.5 +0.3
baz=29
Y46A Houston 145.89 324 P PKPdf 13 57 06.5 +0.2
baz=44
O03D Paynes Creek 145.93 13 P PKPbc 13 57 07.0 0.0
baz=343,SNR=9.5
N23A Red Feather La 146.03 352 P PKPbc 13 57 07.3 -0.2
baz=11
U40A Yellville 146.10 332 P PKPdf 13 57 07.1 +0.4
baz=36
T38A Diamond 146.20 334 P PKPdf 13 57 07.2 +0.4
baz=33,SNR=5.7
V41A Mountainview 146.22 330 P PKPbc 13 57 07.6 -0.2
baz=37
R34A Isabella, Hill 146.28 339 P PKPbc 13 57 07.6 -0.4
baz=27
U39A Green Forest 146.37 332 P PKPbc 13 57 08.0 -0.3
baz=34,SNR=10
147A Livingston 146.39 322 P PKPdf 13 57 07.5 +0.3
baz=46
T37A Cheneyville 18 146.39 335 P PKPbc 13 57 07.9 -0.4
baz=32,SNR=5.2
ELK Elko 146.50 4 ePKP2 PKPdf 13 57 06.2 -1.3
ELK Elko 146.50 4 ePKPdf PKPdf 13 57 06.2 -1.3
R33A Olander Ranch, 146.53 340 P PKPbc 13 57 08.7 0.0
baz=26
BMN Battle Mountai 146.61 7 ePKP2 PKPbc 13 57 09.1 0.0
BMN Battle Mountai 146.61 7 ePKPbc PKPbc 13 57 09.1 0.0
CBKS Cedar Bluff 146.64 342 P PKPbc 13 57 08.4 -0.7
baz=22
R32A Long Quarter, 146.67 341 P PKPbc 13 57 09.1 -0.1
baz=24
U38A Gravette 146.74 333 P PKPbc 13 57 09.3 0.0
baz=33,SNR=5.0
S34A Willow Spring 146.76 338 P PKPbc 13 57 08.9 -0.5
baz=28
T36A Boggs Farm, Ca 146.84 336 P PKPbc 13 57 09.5 -0.1
baz=30
V39A Pettigrew 146.90 332 P PKPbc 13 57 09.9 0.0
baz=35
247A Quitman 147.02 322 P PKPbc 13 57 10.2 -0.1
baz=46
O20A White River Ci 147.05 355 P PKPbc 13 57 10.2 -0.1
baz=6.8
O20A White River Ci 147.05 355 ePKPab PKPab 13 57 11.2 -0.6
U37A Salina 147.08 334 P PKPbc 13 57 10.2 -0.2
baz=32
DUG Dugway, Tooele 147.16 1 P PKPbc 13 57 10.0 -0.6
baz=358
DUG Dugway, Tooele 147.16 1 ePKP2 PKPbc 13 57 10.9 +0.3
DUG Dugway, Tooele 147.16 1 ePKPbc PKPbc 13 57 10.9 +0.3
T35A Sooner Cattle 147.22 337 P PKPbc 13 57 10.4 -0.3
baz=29
KSCO Kaye Shedlock' 147.22 346 P PKPbc 13 57 10.6 -0.3
baz=17
V38A Canehill 147.22 333 P PKPbc 13 57 10.4 -0.4
baz=34
U36A Oologah 147.35 335 P PKPbc 13 57 10.4 -0.7
baz=31
T34A McClaskey Farm 147.39 338 P PKPbc 13 57 10.6 -0.5
baz=28
347A Saraland 147.42 321 P PKPdf 13 57 10.0 +1.0
baz=47
W39A Magazine 147.48 331 P PKPbc 13 57 10.9 -0.6
baz=35
V37A Hulbert 147.53 334 P PKPbc 13 57 11.4 -0.2
baz=32
Y42A Garnett, Star 147.55 327 P PKPbc 13 57 11.6 -0.1
baz=40
X40A Basin Creek Fa 147.59 330 P PKPbc 13 57 12.2 +0.4
baz=37
T33A Patterson Ranc 147.72 339 P PKPbc 13 57 12.2 +0.1
baz=26
U35A Pawnee 147.78 336 P PKPbc 13 57 12.4 +0.1
baz=29
Q24A Divide 147.79 350 P PKPbc 13 57 12.5 -0.1
baz=13
TUL1 Leonard 147.79 335 P PKPbc 13 57 12.2 -0.1
baz=31
SMCO Snowmass 147.85 353 ePKPdf PKPdf 13 57 08.9 -1.1
T32A Huddler Ranch, 147.87 340 P PKPbc 13 57 12.4 -0.1
baz=25
MIAR Mount Ida 147.91 330 P PKPbc 13 57 13.1 +0.4
baz=36
MIAR Mount Ida 147.91 330 ePKP2 PKPbc 13 57 13.7 +1.0
MIAR Mount Ida 147.91 330 ePKPab PKPbc 13 57 13.7 +1.0
V36A Jenks 147.96 335 P PKPbc 13 57 12.9 +0.1
baz=31
X39A Fountain Ranch 148.20 331 P PKPbc 13 57 14.0 +0.6
baz=35
U33A Lingo Farm, Me 148.25 338 P PKPbc 13 57 14.2 +0.6
baz=27
W37B Quinton 148.29 334 P PKPbc 13 57 13.9 +0.2
baz=32
CMB Columbia Colle 148.41 13 ePKIKP PKPdf 13 57 09.9 -0.6
CMB Columbia Colle 148.41 13 ePKPdf PKPdf 13 57 09.8 -0.6
X37A Clayton 148.72 333 P PKPbc 13 57 14.7 -0.1
baz=33
PV04 Paradox Valley 148.83 355 ePKPdf PKPdf 13 57 10.2 -1.1
R11A Troy Canyon, C 148.84 5 P PKPbc 13 57 15.4 +0.1
baz=353,SNR=8.3
R11A Troy Canyon, C 148.84 5 ePKPdf PKPdf 13 57 11.1 -0.3
SDCO Great Sand Dun 149.03 350 P PKPbc 13 57 15.7 -0.1
baz=12
SDCO Great Sand Dun 149.03 350 ePKPbc PKPbc 13 57 15.4 -0.5
X36A Centrahoma 149.17 334 P PKPbc 13 57 16.1 +0.1
baz=31
W34A Bridge Creek, 149.18 337 P PKPbc 13 57 16.8 +0.8
baz=28
S22A 4UR Ranch, Cre 149.24 352 P PKPbc 13 57 16.9 +0.5
baz=10.0
T25A Trinidad 149.41 348 P PKPbc 13 57 17.1 +0.3
baz=15,SNR=6.8
X34A Smith Ranch, M 149.76 336 P PKPbc 13 57 17.6 +0.2
baz=29
W32A Sentinel 149.83 339 P PKPbc 13 57 17.9 +0.3
baz=26
GRAC Grapevine Rang 149.97 9 P PKPbc 13 57 18.1 +0.1
baz=349
WMOK Wichita Mounta 150.01 338 P PKPbc 13 57 18.4 +0.3
baz=27,SNR=7.3
WMOK Wichita Mounta 150.01 338 ePKP2 PKPbc 13 57 17.4 -0.7
WMOK Wichita Mounta 150.01 338 ePKPbc PKPbc 13 57 17.4 -0.7
Y34A Reagan Ranch, 150.29 336 P PKPbc 13 57 18.9 +0.2
baz=29
Z36A Blue Ridge 150.31 333 P PKPbc 13 57 19.1 +0.3
baz=32
239A Gary 150.38 329 P PKPbc 13 57 19.5 +0.5
baz=37
CWC Cottonwood Cre 150.40 10 P PKPbc 13 57 18.9 -0.3
baz=348
X32A Elmer 150.48 338 P PKPbc 13 57 19.5 +0.3
baz=26
FURC Furnace Creek, 150.56 8 P PKPbc 13 57 20.0 +0.7
baz=350
Y33A Hilltop Ranch, 150.59 337 P PKPbc 13 57 19.9 +0.4
baz=28
MPMC Manual Prospec 150.87 9 P PKPbc 13 57 21.2 +0.9
baz=349,SNR=11
SHOC Shoshone, Teco 151.19 7 P PKPbc 13 57 21.6 +0.8
baz=351,SNR=5.0
338A Crockett 151.34 329 P PKPbc 13 57 22.0 +0.7
baz=36
LRMC Laurel Mtn Rad 151.40 10 P PKPbc 13 57 22.1 +0.7
baz=348
134A White-Moore Ra 151.62 335 P PKPbc 13 57 21.9 0.0
baz=30
TUQ Turquoise Moun 151.69 7 P PKPbc 13 57 23.0 +0.8
baz=352,SNR=5.8
GSC Goldstone, Bar 151.71 8 P PKPbc 13 57 22.9 +0.7
baz=350,SNR=11
WUAZ Wupatki 151.83 359 P PKPbc 13 57 23.1 +0.6
baz=1.3
ANMO Albuquerque 151.93 350 P PKPbc 13 57 23.1 +0.3
baz=12
ANMO Albuquerque 151.93 350 ePKIKP PKPbc 13 57 21.6 -1.2
ANMO Albuquerque 151.93 350 ePKPbc PKPbc 13 57 21.6 -1.2
EDW2 Edwards Air Fo 151.93 10 P PKPbc 13 57 23.2 +0.6
baz=347
133A Hamilton Ranch 151.94 336 P PKPbc 13 57 22.6 -0.1
baz=28
MSTX Muleshoe 152.03 343 P PKPbc 13 57 23.0 +0.1
baz=20
GMRC Granite Mounta 152.37 6 P PKPbc 13 57 24.0 +0.3
baz=352
233A Rising Star 152.44 335 P PKPbc 13 57 24.1 +0.3
baz=29
PDMCI Parker Dam,Lak 152.98 4 P PKPbc 13 57 25.0 +0.2
baz=355
IRM Iron Mountain 153.04 6 P PKPbc 13 57 26.6 +1.5
baz=353
MURC Murrieta 153.32 10 P PKPbc 13 57 26.7 +1.0
baz=348
PFO Pinyon Flats O 153.42 8 P PKPbc 13 57 27.0 +1.0
baz=350
PFO Pinyon Flats O 153.42 8 i PKIKP PKPbc 13 57 29.0 +3.0
TPFO Pinon Flats 153.43 8 P PKPbc 13 57 26.9 +0.8
baz=350
BC3 Big Chuckawall 153.51 6 P PKPbc 13 57 27.4 +1.2
baz=352
GLA Glamis 154.17 5 P PKPbc 13 57 29.5 +1.9
baz=354
121A Cookes Peak, D 154.50 352 ePKPdf PKPdf 13 57 19.5 -0.6
TXAR Lajitas Array 156.62 341 PKPab PKPab 13 57 52.0 +0.3
comp=Z,3.9nm,0.8s,baz=47,slow=3.1,SNR=18

*ISCJB **30** 13:39:58.8±0.7, 33°.79N±0°.04×35°.74E±0°.08, h8km±10km, Error ellipse: s-maj=12.0km s-min=5.1km az=162.7*
*NSSC **30** 13:39:58.0±1.5, 33°.76N×35°.63E, h23km±8km, ML2.1*
*CSEM **30** 13:39:59.2, 33°.79N×35°.77E, h0km, ML2.9*
*GRAL **30** 13:39:59.2±0.3, 33°.79N×35°.77E, h0km±15km, MD2.9*
ISC 30 13:39:58.6±0.9, 33.79N±0°.03×35.77E±0°.04, h8km±11km, n15, σ0s35/25, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BHL	Bhannes	0.15	321	eP		Pg		13 40 02.0	+0.1
BHL				eS		Sg		13 40 04.1	-0.1
BHL	Bhannes	0.15	321	eP		Pg		13 40 02.0	+0.1
BHL				eS		Sg		13 40 04.1	-0.1
DQRL	Deir Qamar	0.18	244	eP		Pg		13 40 02.6	+0.2
DQRL				eS		Sg		13 40 05.1	+0.1
DQRL	Deir Qamar	0.18	244	eP		Pg		13 40 02.6	+0.2
DQRL				eS		Sg		13 40 05.1	+0.1
BEYL	Beirut	0.24	291	eP		Pg		13 40 03.7	+0.2
BEYL	Beirut	0.24	291	eP		Pg		13 40 03.7	+0.2
RCY	Rachaya	0.29	169	eP		Pg		13 40 04.5	0.0
RCY				eS		Sg		13 40 08.4	0.0
RCY	Rachaya	0.29	169	eP		Pg		13 40 04.5	0.0
RCY				eS		Sg		13 40 08.4	0.0
BRBR	Barbar	0.40	158	eP		Pg		13 40 06.8	+0.2
BRBR				eS		Sb		13 40 14.3	-0.2
BRBR					AML	AML		13 40 16.0	
	comp=E,207nm,0.6s								
BRBR					AML	AML		13 40 18.1	
	comp=N,113nm,0.6s								
HWQ	Hawqa	0.51	17	eP		Pg		13 40 08.4	-0.2
HWQ	Hawqa	0.51	17	eP		Pg		13 40 08.4	-0.2
MARH	Ras Al Marh	0.64	68	eP		Pb		13 40 11.8	-0.4
MARH				eS		Sb		13 40 22.1	+0.7
MARH					AML	AML		13 40 29.7	
	comp=N,114nm,0.5s								
MARH					AML	AML		13 40 33.4	
	comp=E,130nm,0.5s								
HAWK	Haweek	0.90	36	eP		Pg		13 40 16.4	+0.4
HAWK				eS		Sb		13 40 29.7	+0.9
HAWK					AML	AML		13 40 36.0	
	comp=N,29nm,0.4s								
HAWK					AML	AML		13 40 44.3	
	comp=E,38nm,0.5s								
ROOS	tl_alroos	1.32	73	eP		Pn		13 40 23.8	+0.3
ROOS				eS		Sg		13 40 41.1	0.0
ROOS					AML	AML		13 40 48.0	
	comp=N,48nm,0.6s								
ROOS					AML	AML		13 40 56.1	
	comp=E,40nm,0.5s								
RABH	Abou Rabah	1.36	61	eP		Pn		13 40 23.2	-0.7

*JMA **30** 13:47:51.2±0.3, 36°.24N×141°.78E, h50km, M2.9*
*IDC **30** 13:47:55.0±2.5, 36°.03N×141°.10E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/65, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=55.7km s-min=26.0km az=65.0*
ISC 30 13:47:58.0±1.6, 36°.12N±0°.07×141°.0E±0°.1, h31km, n15, σ1s50/10, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CHOJ	Chosi	0.43	197	P		Pn		13 48 08.1	+0.1
JHO	Hitachi	0.61	324	P		Pn		13 48 09.7	-0.8
JAG	Ashikaga	1.30	284	P		Pb		13 48 22.1	+0.3
MJAR	Matsushiro Arr	2.30	281	Pn		Pb		13 48 36.8	-2.1
	4.6nm,0.3s,baz=90,slow=9.7,SNR=60								
MAT	Matsushiro	2.31	281	P		Pb		13 48 37.3	-1.6
MAT				S		Sb		13 49 08.6	+1.6
JHJ	Hachijo jima 2	3.16	199	Pn		Pn		13 48 43.6	-1.9
	8.3nm,0.3s,baz=252,slow=20,SNR=6.0								
JHJ				Sn		Sn		13 49 22.7	+0.5
	13nm,0.3s,baz=94,slow=23,SNR=6.2								
H11N2	WAKE ISLAND Hy 27.97 119			T		T		14 22 08.4	
	baz=312,slow=75,SNR=3.7								
H11N1	WAKE ISLAND Hy 27.98 119			T		T		14 22 10.0	
	baz=312,slow=75,SNR=4.7								
H11N3	WAKE ISLAND Hy 27.99 119			T		T		14 22 11.8	
	baz=312,slow=75,SNR=4.8								
H11S1	WAKE ISLAND Hy 28.65 121			T		T		14 22 58.9	
	baz=314,slow=75,SNR=8.0								
H11S3	WAKE ISLAND Hy 28.65 121			T		T		14 23 00.4	
	baz=314,slow=75,SNR=7.1								
H11S2	WAKE ISLAND Hy 28.66 121			T		T		14 23 01.1	
	baz=314,slow=75,SNR=5.6								
MKAR	Makanchi Array	44.34	303	P		P		13 56 06.0	+0.8
	0.3nm,0.7s,baz=92,slow=12,SNR=3.5								
WRA	Warramunga Arr	56.11	188	P		P		13 57 35.2	+0.8
	0.1nm,0.3s,baz=4.7,slow=7.5,SNR=5.9								
ASAR	Alice Springs	59.84	188	P		P		13 58 03.2	+2.7
	0.1nm,0.2s,baz=14,slow=8.3,SNR=2.7								

MAN 30 13:51:46, 9°.01N×126°.14E, h29km, mb4.3, ML3.2, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
BIPH	Bislig	0.85	165	↑eP		Pn		13 52 01.1	-0.9
BIPH				/S		Sb		13 52 11.9	-1.5
CGP	Cagayan de Oro	1.53	249	↑eP		Pn		13 52 10.9	-0.5
CGP				eS		Sn		13 52 30.5	0.0
BUKP	Musuan	1.55	224	eP		Pn		13 52 12.6	+0.9
BUKP				eS		Sb		13 52 33.5	0.0
MATI	Mati	2.06	177	eP		Pn		13 52 19.2	+0.5
MATI				eS		Sn		13 52 44.4	+1.0
PAGZ	Pagadian	2.96	247	eP		Pn		13 52 32.9	+1.8
PAGZ				eS		Sn		13 53 07.4	+1.6
IPIL	Ipil	3.74	251	eP		Pn		13 52 43.0	+1.3
IPIL				eS		Sn		13 53 25.9	+1.0
GUIM	Jordan	3.85	295	eP		Pn		13 52 44.4	+1.0

JMA 30 13:55:43.5±0.1, 38°.74N×142°.38E, h39km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
OFUJ	Ofunato	0.65	302	P		Pn		13 55 56.3	0.0
OFUJ				eS		Sn		13 56 05.4	0.0
JIO	Ouri	0.86	251	P		Pn		13 55 59.1	+0.1
JIO				eS		Sn		13 56 09.9	-0.5
JMK	Ichinoseki	0.93	284	P		Pn		13 56 00.3	+0.3
JMK				S		Sn		13 56 12.3	+0.1
JOM	Ohasama	1.12	311	P		Pn		13 56 03.2	+0.6
JOM				eS		Sn		13 56 17.5	+0.7
JTH	Tanohata	1.26	342	P		Pn		13 56 05.1	+0.5
JOU	Okura	1.40	255	P		Pn		13 56 07.2	+0.7
JOU				eS		Sn		13 56 25.2	+1.5
JRG	Rokugo	1.51	296	P		Pn		13 56 09.1	+1.1
JRG				eS		Sn		13 56 28.7	+2.3
JMM	Marumori	1.52	236	P		Pn		13 56 08.6	+0.4
JMM				eS		Sn		13 56 27.5	+0.7

NEIC 30 13:59:05.0, 13°.47S×76°.30W, h77km, MG4.1(ARE), After ARE., Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
NNA	Nana	1.57	340	ePn		Pn		13 59 33.3	+2.2
NNA				eSn		Sn		13 59 46.9	-4.0
LVC	Limon Verde	11.49	143	Pn		Pn		14 01 45.0	-1.5
LVC				eSn		Sn		14 03 52.6	-0.6
LCO	Las Campanas	16.32	162	Pn		Pn		14 02 44.6	-5.1
TRQA	Tornquist	27.60	155	P		P		14 04 45.2	0.0

*IDC **30** 14:00:04.2±1.1, 5°.84S×151°.47E, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.0/40, mbtmp4.2/9, ML2.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/41, Error ellipse: s-maj=45.4km s-min=18.4km az=115.0*
*ISCJB **30** 14:00:09.1±1.1, 5°.9S±0°.2×151°.3E±0°.2, h43km, mb4.1/9, Error ellipse: s-maj=34.4km s-min=10.3km az=35.2*
*NEIC **30** 14:00:09.6±0.8, 5°.90S×151°.43E, h35km, mb4.3/1, Error ellipse: s-maj=30.2km s-min=10.2km az=118.0*
ISC 30 14:00:11.5±1.1, 5°.8S±0°.2×151°.2E±0°.2, h43km, n13, σ1s83/16, mb4.1/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
PMG	Port Moresby	5.38	228	Pn		Pn		14 01 29.6	+0.3
	6.6nm,0.3s,baz=27,slow=3.6,SNR=17								
PMG				Sn		Sn		14 02 29.4	-0.5
	6.3nm,0.3s,baz=124,slow=15,SNR=4.5								
PMG				LR		LR		14 03 42.6	
	comp=Z,278nm,19.2s,baz=46,slow=39								
HNR	Honiara	9.35	113	LR		LR		14 05 34.3	
	comp=Z,171nm,20.1s,baz=290,slow=36								
WRAB	Tennant Creek	21.59	228	eP		P		14 04 56.8	-0.9
	13nm,0.9s								
WRA	Warramunga Arr	21.60	228	P		P		14 04 57.1	-0.8
	12nm,1.0s,baz=53,slow=11,SNR=53								
WRA				PcP		PcP		14 08 58.6	-0.2
	1.3nm,0.7s,baz=52,slow=2.1,SNR=7.8								
WRA				ScP		ScP		14 12 36.9	+4.2
	0.5nm,0.8s,baz=44,slow=3.1,SNR=3.7								
ASAR	Alice Springs	24.35	221	P		P		14 05 25.4	-0.2
	13nm,0.8s,baz=55,slow=9.4,SNR=87								
ASAR				ScP		ScP		14 12 44.2	+4.3
	0.2nm,0.5s,baz=58,slow=3.5,SNR=3.3								
STKA	Stephens Creek	27.44	198	P		P		14 05 52.2	-1.2
	4.8nm,0.9s,baz=26,slow=11,SNR=8.0								
FITZ	Fitzroy Crossi	27.80	242	P		P		14 05 56.8	0.0
	8.0nm,0.6s,baz=78,slow=7.2,SNR=41								
SONM	Songino Array	66.37	329	P		P		14 10 56.0	0.0
	0.6nm,0.5s,baz=150,slow=7.6,SNR=3.5								
MKAR	Makanchi Array	80.08	319	P		P		14 12 17.7	+0.8
	0.3nm,0.6s,baz=123,slow=5.3,SNR=3.4								
ZALV	Zalesovo Beam	81.14	327	P		P		14 12 21.2	-1.1
	0.8nm,0.6s,baz=110,slow=6.7,SNR=3.2								
ILAR	Eielson Array	83.69	22	P		P		14 12 34.0	-1.4
	0.7nm,0.6s,baz=243,slow=5.0,SNR=14								
GERES	GERESS Array B	124.09	327	PKP		PKPdf		14 19 05.6	0.0
	1.3nm,0.6s,baz=95,slow=1.6,SNR=6.7								
TORD	Torodi Ar. Bea	149.11	286	PKPbc		PKPbc		14 19 56.5	+0.2
	3.9nm,0.7s,baz=70,slow=2.8,SNR=22								

*NIED **30** 14:07:00, 35°.50N×140°.40E, h41km, Mw4.0 Best double couple: M0 9.48000×10^14 NP1:φs238.00000°, δ23.00000°, λ70.00000°. NP2:φs80.00000°, δ69.00000°, λ98.00000°.*
*IDC **30** 14:07:54.2±1.1, 35°.34N×140°.44E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/47, mbtmp3.7/9, ML3.5/3, Error ellipse: s-maj=29.9km s-min=16.3km az=84.0*
*ISCJB **30** 14:07:57.6±0.5, 35°.41N±0°.04×140°.50E±0°.06, h40km±5km, mb3.6/6, Error ellipse: s-maj=8.7km s-min=5.9km az=178.4*
*JMA **30** 14:07:58.4±0.1, 35°.46N×140°.41E, h31km±2km, M3.5 Broadband fault plane solution: P waves. NP1: φs84.00000°, δ66.00000°, λ91.00000°. NP2:φs261.00000°, δ24.00000°, λ88.00000°. Principal axes: T Plg69.0000°, Azm356.0000°; N Plg1.0000°, Azm263.0000°; P Plg21.0000°, Azm173.0000°;*
JMA Felt II J1.
ISC 30 14:07:58.0±1.0, 35°.43N±0°.04×140°.53E±0°.06, h28km±7km, n23, σ0s97/23, mb3.6/6, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JCN	Nagara	0.27	268	↑P		Pb		14 08 04.9	0.0
JCN				S		Sb		14 08 09.8	+0.2
KTR	Katsuura	0.33	213	↑P		Pb		14 08 05.9	+0.2
KTR				S		Sb		14 08 11.3	+0.3
CHOJ	Chosi	0.38	44	↓P		Pn		14 08 07.8	+0.2
CHOJ				S		Sn		14 08 14.0	0.0
BSO4	Boso 4	0.47	200	P		Pn		14 08 08.7	0.0

BSO3	**Boso 3**	**0.62**	**182**	‖P		**Pn**	**14 08 11.1**	**+0.4**
JYT	**Yasato**	**0.84**	**341**	‖P		**Pn**	**14 08 12.9**	**-1.1**
JYT				S		**Sb**	**14 08 23.2**	**-1.9**
BSO1	**Boso 1**	**0.85**	**155**	‖P		**Pb**	**14 08 14.1**	**+0.2**
MJAR	**Matsushiro Arr**	**2.19**	**301**	Pn		**Pn**	**14 08 32.7**	**+0.2**
	6.2nm,0.3s,baz=112,slow=6.7,SNR=48							
MAT	**Matsushiro**	**2.19**	**301**	P		**Pn**	**14 08 33.2**	**+0.7**
MAT				S		**Sn**	**14 08 59.9**	**+1.2**
JHJ	**Hachijo jima 2**	**2.38**	**195**	Pn		**Pn**	**14 08 34.7**	**-0.5**
	161nm,0.3s,baz=35,slow=3.9,SNR=83							
JHJ				Sn		**Sn**	**14 09 01.1**	**-2.3**
	154nm,0.3s,baz=137,slow=22,SNR=13							
ASAJ	**Asahikawa**	**8.82**	**10**	Pn		**Pn**	**14 10 02.9**	**-0.6**
	0.4nm,0.3s,baz=220,slow=12,SNR=7.5							
H11N2	**WAKE ISLAND Hy**	**28.00**	**117**	T		T	14 43 01.6	
	baz=309,slow=75,SNR=43							
H11N1	**WAKE ISLAND Hy**	**28.00**	**117**	T		T	14 43 01.7	
	baz=309,slow=75,SNR=39							
H11N3	**WAKE ISLAND Hy**	**28.01**	**117**	T		T	14 43 11.0	
	baz=309,slow=75,SNR=39							
SONM	**Songino Array**	**28.13**	**307**	P		**P**	**14 13 47.4**	**-0.2**
	0.5nm,0.6s,baz=126,slow=7.3,SNR=3.0							
H11S1	**WAKE ISLAND Hy**	**28.64**	**119**	T		T	14 43 50.3	
	baz=312,slow=75,SNR=53							
H11S3	**WAKE ISLAND Hy**	**28.64**	**119**	T		T	14 43 51.2	
	baz=312,slow=75,SNR=33							
H11S2	**WAKE ISLAND Hy**	**28.66**	**119**	T		T	14 43 49.6	
	baz=312,slow=75,SNR=29							
ZALV	**Zalesovo Beam**	**42.49**	**314**	P		**P**	**14 15 50.4**	**0.0**
	0.4nm,0.3s,baz=99,slow=4.8,SNR=4.8							
MKAR	**Makanchi Array**	**44.39**	**303**	P		**P**	**14 16 05.8**	**-0.1**
	0.7nm,0.6s,baz=89,slow=8.5,SNR=7.1							
ILAR	**Eielson Array**	**51.23**	**32**	P		**P**	**14 17 00.6**	**+2.0**
	0.5nm,0.6s,baz=268,slow=5.6,SNR=8.4							
WRA	**Warramunga Arr**	**55.38**	**187**	P		**P**	**14 17 29.4**	**-0.2**
	0.3nm,0.3s,baz=4.1,slow=7.3,SNR=16							
ASAR	**Alice Springs**	**59.11**	**187**	P		**P**	**14 17 55.1**	**-0.8**
	0.4nm,0.8s,baz=18,slow=9.1,SNR=4.0							

IDC 30 14:08:12.8±3.1, 5.75S×151.38E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/38, mbtmp3.7/4, ML1.8/1, Error ellipse: s-maj=108.2km s-min=42.5km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**229**	Pn		Pn	14 09 38.5	+1.9
	2.0nm,0.3s,baz=37,slow=12,SNR=7.4							
PMG				Sn		Sn	14 10 38.9	-2.1
	0.5nm,0.3s,baz=120,slow=20,SNR=2.6							
WRA	**Warramunga Arr**	**21.76**	**228**	P		P	14 13 05.5	-0.7
	0.4nm,0.3s,baz=53,slow=11,SNR=12							
ASAR	**Alice Springs**	**24.50**	**222**	P		P	14 13 33.6	-0.4
	0.8nm,0.6s,baz=60,slow=8.6,SNR=11							
FITZ	**Fitzroy Crossi**	**27.96**	**242**	P		P	14 14 05.1	-0.2
	1.5nm,0.7s,baz=45,slow=8.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**149.23**	**286**	PKPbc		PKPbc	14 28 04.4	-0.1
	0.3nm,0.6s,baz=73,slow=3.4,SNR=3.2							

*IDC **30** 14:16:13.6±0.6,23.47S×175.89W, h0km, mb4.7/17, mb1 4.8/18, mb1mx4.6/38, mbtmp4.6/18, ML4.4/1, MS4.2/14, Ms1 4.2/14, ms1mx3.9/37, Error ellipse: s-maj=20.8km s-min=15.7km az=115.0*

*ISCJB **30** 14:16:16.7±0.2,23.52S±0.06×175.83W±0.05, h33km, mb4.8/53, MS4.2/16, Error ellipse: s-maj=8.9km s-min=5.8km az=147.9*

*BJI **30** 14:16:17.3,23.68S×175.48W, h45km, mb5.2/35, mB5.6/21, Ms5.0/13, Ms7 4.6/15*

*GCMT **30** 14:16:18.8±0.4,23.79S×175.17W, h21km±1km, MW5.0/66, Moment Tensor Solution. s33,c47; s66,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.95±.17; $M_{\theta\theta}$-1.40±.14; $M_{\phi\phi}$-1.56±.11; $M_{r\theta}$0.80±.20; $M_{r\phi}$-0.72±.07; $M_{\theta\phi}$2.25±.19; Best double couple: M_o3.49500×10^{16} NP1:ϕs28.00000°,δ66.00000°,λ83.00000°. NP2: ϕs226.00000°,δ25.00000°,λ106.00000°. Principal axes: T 3.9220, Plg68.0000°, Azm284.0000°; N -0.8640, Plg7.0000°, Azm31.0000°; P -3.0680, Plg21.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 14:16:18.8±0.3,23.27S×176.05W, h35km, mb5.0/32 Error ellipse: s-maj=13.3km s-min=8.5km az=135.0*

*MOS **30** 14:16:25.5±2.9,21.94S×176.90W, h33km, mb5.2/16, Error ellipse: s-maj=14.1km s-min=12.4km az=113.4*

ISC 30 14:16:18.4±0.3, 23.47S±0.06×175.88W±0.06, h33km, n207, σ1°66/206, mb4.9/52, MS4.3/16, 21C-13D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.04**	**197**	Sn		**Sn**	**14 18 49.0**	**-4.5**
	39nm,0.3s,baz=141,slow=22,SNR=4.3							
NIUE	**Niue**	**7.06**	**53**	P		Pn	14 17 51.3	-8.2
	baz=6.5,SNR=7.2							
MSVF	**Nonsavu**	**8.06**	**314**	*e*Pn		Pn	14 18 19.6	+6.4
MSVF				Sn		**Sn**	**14 19 38.3**	**-5.0**
AFI	**Afiamalu**	**10.27**	**23**	Pn		Pn	14 18 37.3	-6.4
	6.3nm,0.3s,baz=300,slow=0.5,SNR=9.9							
AFI				Sn		Sn	14 20 24.0	-14
	5.3nm,0.3s,baz=190,slow=22,SNR=7.7							
AFI	**Afiamalu**	**10.27**	**23**	P		Pn	14 18 37.7	-5.9
AFI	**Afiamalu**	**10.27**	**23**	Pn		Pn	14 18 37.7	-6.0
AFI				*e*Sn		**Sn**	**14 20 37.0**	**-0.8**
RAR	**Rarotonga**	**15.07**	**85**	Pn		Pn	14 19 39.5	-10
	3.5nm,0.3s,baz=247,slow=7.5,SNR=22							
RAR				Sn		Sn	14 22 08.5	-26
	1.2nm,0.3s,baz=86,slow=16,SNR=3.9							
RAR				LR		LR	14 25 49.7	
	comp=Z,726nm,18.8s,baz=253,slow=38							
RAR	**Rarotonga**	**15.07**	**85**	Pn		**Pn**	**14 19 47.9**	**-1.1**
	117nm,0.8s							
URZ	**Urewera**	**15.91**	**201**	Pn		**Pn**	**14 19 59.7**	**-0.2**
	1.5nm,0.3s,baz=359,slow=3.1,SNR=8.6							
URZ				Sn		Sn	14 22 44.1	-11
	1.1nm,0.3s,baz=108,slow=20,SNR=4.8							
URZ	**Urewera**	**15.91**	**201**	*e*Pn		**Pn**	**14 20 01.4**	**+1.6**
	92nm,1.8s							
URZ				Sn		Sn	14 22 44.1	-11
DZM	**Mont Dzumac**	**16.37**	**271**	Pn		**P**	**14 20 12.7**	**+4.2**
	0.8nm,0.3s,baz=82,slow=17,SNR=16							
DZM	**Mont Dzumac**	**16.37**	**271**	*e*Pn		**Pn**	**14 20 03.2**	**-2.6**
	44nm,0.9s							
RPZ	**Rata Peaks**	**22.88**	**205**	P		**P**	**14 21 20.3**	**+1.1**
	10.0nm,0.8s,baz=53,slow=5.1,SNR=4.6							
TBI	**Tubuai**	**24.23**	**95**	*e*LQ		LQ	14 25 49.1	
	493nm,27.5s							
TBI				*e*LR		LR	14 27 14.9	
	927nm,29.5s,baz=264							
TBI	**Tubuai**	**24.23**	**95**	*e*T		T	14 46 32.7	
	6.1nm,0.4s							
PAE	**Paea**	**25.27**	**82**	*e*P		**P**	**14 21 38.7**	**-3.1**
	3.7nm,1.0s							
PAE	**Paea**	**25.27**	**82**	*e*T		T	14 47 37.3	
	3.6nm,0.3s							
PPT2	**Papeete2**	**25.30**	**82**	*e*P		**P**	**14 21 39.2**	**-3.0**
	24nm,1.3s							
PPT2				*e*LQ		LQ	14 26 28.7	
	617nm,23.8s							
PPT2				*e*LR		LR	14 27 41.8	
	1μm,28.2s,baz=248							
PPT2	**Papeete2**	**25.30**	**82**	*e*T		T	14 47 39.1	
	4.4nm,0.3s							
PPT	**Papeete**	**25.30**	**81**	LR		LR	14 30 42.9	
	comp=Z,448nm,19.1s,baz=254,slow=34							
TIAR	**Tiarei**	**25.51**	**82**	*e*P		**P**	**14 21 41.2**	**-2.9**
	10.0nm,1.2s							
TIAR	**Tiarei**	**25.51**	**82**	*e*T		T	14 47 55.6	
	1.1nm,0.4s							
TVO	**Taravao**	**25.53**	**82**	*e*P		**P**	**14 21 41.2**	**-3.1**
	12nm,1.3s							
TVO	**Taravao**	**25.53**	**82**	*e*T		T	14 47 56.7	
	1.2nm,0.4s							
MEH	**Mehetia**	**26.59**	**83**	*e*T		T	14 49 17.5	
	13nm,0.3s							
HNR	**Honiara**	**27.00**	**297**	LR		LR	14 32 19.5	
	comp=Z,469nm,18.9s,baz=182,slow=36							
RMQ	**Roma**	**32.14**	**257**	P		**P**	**14 22 44.2**	**+1.1**
	baz=33,SNR=5.2							
CAN	**Canberra**	**32.64**	**241**	P		**P**	**14 22 48.7**	**+1.3**
	baz=33							
YNG	**Young**	**32.94**	**243**	P		**P**	**14 22 51.5**	**+1.5**
	baz=34,SNR=7.9							
CMSA	**Cobar Meteorol**	**34.88**	**248**	P		**P**	**14 23 07.3**	**+0.4**
	baz=35,SNR=11							
CTA	**Charters Tower**	**35.26**	**268**	P		**P**	**14 23 11.0**	**+0.7**
	baz=79,slow=16							
QLP	**Quilpie**	**36.18**	**257**	P		**P**	**14 23 18.4**	**+0.3**
	baz=37,SNR=6.5							
TAOE	**Nuku Hiva Isla**	**37.14**	**73**	*e*LR		LR	14 33 08.8	
	374nm,28.3s							
RKT	**Rikitea**	**37.48**	**98**	*e*LR		LR	14 33 19.6	
	561nm,29.0s,baz=262							
MTSU	**Mount Surprise**	**37.50**	**270**	P		**P**	**14 23 30.7**	**+1.2**
	baz=38,SNR=10							
PMG	**Port Moresby**	**37.98**	**285**	LR		LR	14 38 08.0	
	comp=Z,281nm,18.5s,baz=156,slow=35							
PMG	**Port Moresby**	**37.98**	**285**	*ce*P		**P**	**14 23 33.9**	**+0.4**
PMG				pmax		pmax		
	comp=Z,84nm,0.7s							
PMG	**Port Moresby**	**37.98**	**285**	*e*P		**P**	**14 23 29.8**	**-3.7**
	comp=Z,37nm,0.8s							
STKA	**Stephens Creek**	**38.39**	**248**	P		**P**	**14 23 36.2**	**-0.6**
	comp=Z,4.7nm,0.7s,baz=95,slow=9.8,SNR=13							
STKA				LR		LR	14 38 09.2	
	comp=Z,755nm,18.5s,baz=57,slow=34							
STKA	**Stephens Creek**	**38.39**	**248**	P		**P**	**14 23 36.9**	**+0.2**
	baz=39,SNR=7.7							
STKA	**Stephens Creek**	**38.39**	**248**	*e*P		**P**	**14 23 33.2**	**-3.6**
STKA				pmax		pmax		
	comp=Z,8.0nm,1.9s							
STKA	**Stephens Creek**	**38.39**	**248**	*e*P		**P**	**14 23 33.2**	**-3.6**
	comp=Z,8.4nm,1.9s							
HTT	**Hallett**	**40.69**	**246**	P		**P**	**14 23 56.0**	**0.0**
	baz=41,SNR=12							
QIS	**Mount Isa**	**41.25**	**265**	P		**P**	**14 24 00.9**	**+0.2**
	baz=42,SNR=3.1							
BBOO	**Buckleboo**	**43.08**	**247**	P		**P**	**14 24 14.9**	**-0.7**
	baz=44,SNR=6.3							
AS01	**Alice Springs**	**45.79**	**259**	*e*P		**P**	**14 24 37.3**	**0.0**
AS31	**Alice Springs**	**45.83**	**259**	*e*P		**P**	**14 24 37.1**	**-0.5**
	comp=Z,4.2nm,1.0s							
ASAR	**Alice Springs**	**45.83**	**259**	P		**P**	**14 24 37.1**	**-0.6**
	comp=Z,12nm,0.9s,baz=92,slow=8.5,SNR=66							
ASAR				PcP		**PcP**	**14 26 15.0**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=104,slow=3.9,SNR=3.6							
ASAR				LR		LR	14 42 31.5	
	comp=Z,471nm,20.3s,baz=112,slow=34							
WB2	**Warramunga Arr**	**46.20**	**264**	*e*P		**P**	**14 24 38.5**	**-2.0**
	comp=Z,18nm,0.8s							
WRAB	**Tennant Creek**	**46.20**	**264**	*ce*P		**P**	**14 24 40.5**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,41nm,0.8s							
WRAB	**Tennant Creek**	**46.20**	**264**	*e*P		**P**	**14 24 38.8**	**-1.7**
	comp=Z,16nm,0.8s							
WRA	**Warramunga Arr**	**46.21**	**264**	P		**P**	**14 24 39.3**	**-1.3**
	comp=Z,14nm,0.8s,baz=101,slow=8.4,SNR=57							
WRA				PcP		**PcP**	**14 26 16.0**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=99,slow=3.5,SNR=4.7							
WRA				LR		LR	14 43 01.5	
	comp=Z,446nm,20.3s,baz=110,slow=35							
WC1	**Warramunga Arr**	**46.21**	**264**	P		**P**	**14 24 39.6**	**-1.1**
	baz=47							
JAY	**Jayapura**	**46.87**	**290**	P		**P**	**14 24 45.2**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=89,slow=22,SNR=7.0							
FORT	**Forrest**	**49.99**	**249**	P		**P**	**14 25 09.1**	**-0.6**
	baz=50,SNR=7.1							
FORT	**Forrest**	**49.99**	**249**	*e*P		**P**	**14 25 07.4**	**-2.3**
	comp=Z,169nm,0.6s							
WRKA	**Warakurna**	**50.61**	**256**	P		**P**	**14 25 13.3**	**-1.2**
	baz=51,SNR=8.3							
MTN	**Manton Dam**	**51.20**	**272**	P		**P**	**14 25 18.6**	**-0.4**
	baz=52,SNR=3.4							
FITZ	**Fitzroy Crossi**	**54.63**	**264**	P		**P**	**14 25 43.9**	**-0.4**
	comp=Z,6.8nm,0.9s,baz=150,slow=3.0,SNR=8.8							
FITZ				LR		LR	14 47 18.3	
	comp=Z,296nm,21.1s,baz=122,slow=34							
FITZ	**Fitzroy Crossi**	**54.63**	**264**	P		**P**	**14 25 44.2**	**-0.1**
	baz=55,SNR=5.6							
FITZ	**Fitzroy Crossi**	**54.63**	**264**	*e*P		**P**	**14 25 43.9**	**-0.4**
	comp=Z,7.7nm,0.9s							
SBA	**Scott Base**	**55.06**	**184**	*e*P		**P**	**14 25 48.0**	**+1.5**
SBA				pmax		pmax		
	comp=Z,18nm,1.3s							
SBA	**Scott Base**	**55.06**	**184**	*e*P		**P**	**14 25 48.0**	**+1.5**
	comp=Z,18nm,1.3s							
VNDA	**Vanda**	**55.15**	**186**	P		**P**	**14 25 47.6**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=359,slow=6.5,SNR=8.3							
VNDA	**Vanda**	**55.15**	**186**	*e*P		**P**	**14 25 48.8**	**+1.6**
VNDA				pmax		pmax		
	comp=Z,8.0nm,1.3s							
VNDA	**Vanda**	**55.15**	**186**	*e*P		**P**	**14 25 48.8**	**+1.6**
	comp=Z,7.7nm,1.3s							
SOEI	**Soe**	**58.59**	**273**	*e*P		**P**	**14 26 09.6**	**-3.1**
	comp=Z,46nm,0.8s							
KLBR	**Kellerberrin**	**58.63**	**246**	P		**P**	**14 26 11.8**	**-0.8**
	baz=59							
BLDU	**Ballidu**	**59.69**	**247**	P		**P**	**14 26 19.3**	**-0.7**
	baz=60,SNR=9.0							
QSPA	**South Pole Qui**	**66.61**	**180**	*e*P		**P**	**14 27 06.3**	**+0.8**
	comp=Z,14nm,0.9s							
MJAR	**Matsushiro Arr**	**73.76**	**323**	P		**P**	**14 27 48.6**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=153,slow=5.4,SNR=5.4							
MJAR				LR		LR	14 55 10.0	
	comp=Z,141nm,21.9s,baz=270,slow=32							
TPUB	**Tanpu**	**77.23**	**302**	P		**P**	**14 28 07.1**	**-2.5**
	comp=Z,25nm,1.0s							
SSLB	**Suanglung**	**77.24**	**303**	*e*P		**P**	**14 28 07.1**	**-2.6**
	comp=Z,10.0nm,0.8s							
ASAJ	**Asahikawa**	**77.27**	**331**	*e*P		**P**	**14 28 08.4**	**-0.9**
	comp=Z,8.4nm,0.8s							
YSS	**Yuzh-Sakhalins**	**79.42**	**333**	‖*e*P		**P**	**14 28 23.6**	**+2.5**
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**79.42**	**333**	*e*P		**P**	**14 28 20.5**	**-0.6**
	comp=Z,32nm,1.0s							
MAW	**Mawson**	**79.44**	**199**	P		**P**	**14 28 21.6**	**+0.6**
	comp=Z,12nm,0.9s,baz=155,slow=4.5,SNR=10.0							
MAW				LR		LR	15 02 46.0	
	comp=Z,136nm,18.5s,baz=65,slow=35							
PEA0	**Petropavlovsk-**	**79.64**	**344**	*e*P		**P**	**14 28 19.0**	**-3.2**
PEA0B	**Petropavlovsk-**	**79.64**	**344**	*e*P		**P**	**14 28 19.5**	**-2.7**
	comp=Z,32nm,1.0s							
PETK	**Petropavlovsk-**	**79.64**	**344**	P		**P**	**14 28 22.7**	**+0.5**
	comp=Z,20nm,0.9s,baz=127,slow=8.4,SNR=23							
PETK				LR		LR	14 58 28.4	
	comp=Z,141nm,21.0s,baz=176,slow=32							
KSRS	**Korea Array**	**80.40**	**318**	P		**P**	**14 28 27.3**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=140,slow=6.5,SNR=13							
KSRS				LR		LR	14 58 56.2	
	comp=Z,173nm,21.2s,baz=136,slow=32							
KSAR	**Wonju Array Be**	**80.42**	**318**	P		**P**	**14 28 27.3**	**+0.5**
KSAR	**Wonju Array Be**	**80.42**	**318**	P		**P**	**14 28 27.3**	**+0.5**
KS01	**Wonju Array Si**	**80.44**	**318**	*e*P		**P**	**14 28 27.8**	**+0.9**
USRK	**Ussuriysk Ar.**	**82.52**	**325**	P		**P**	**14 28 39.9**	**+2.2**
	comp=Z,12nm,0.8s,baz=115,slow=3.2,SNR=29							
TYV	**Tymovskoe**	**82.55**	**335**	*e*P		**P**	**14 28 37.8**	**+0.1**
TYV				pmax		pmax		
	comp=Z,22nm,1.0s							
K05A	**Summer Lake**	**83.08**	**37**	*e*P		**P**	**14 28 41.1**	**+0.2**
X16A	**Lo Mia Camp, P**	**83.99**	**49**	*e*P		**P**	**14 28 47.2**	**+1.4**
HABR	**Khabarovsk**	**83.99**	**330**	*de*P		**P**	**14 28 45.7**	**+0.5**
HABR				*e**PP		**pP**	**14 28 56.2**	**+0.6**
HABR				*e**SP		**sP**	**14 29 00.4**	**+1.0**
HABR				*e*			14 32 01.0	
HABR				*e*PPP		PPP	14 33 53.8	
HABR				*e*S		**S**	**14 39 05.9**	**-0.9**
HABR				pmax		pmax		
	comp=N,6.0nm,1.0s							
HABR				pmax		pmax		
	comp=E,8.0nm,1.0s							
HABR				pmax		pmax		
	comp=Z,16nm,1.0s							
HABR				MLR		MLR		
	comp=Z,65nm,19.0s							
MDJ	**Mudanjiang**	**84.07**	**324**	P		**P**	**14 28 47.5**	**+1.8**
MDJ				PP		**PP**	**14 32 02.0**	**+1.7**
MDJ				S		**S**	**14 39 09.0**	**+1.2**
MDJ				sS		sS	14 39 35.0	+10
MDJ				PMZ				
	comp=Z,17nm,1.1s							
MDJ				LN				
	comp=Z,39nm,19.1s							
MDJ				LE				
	comp=Z,76nm,21.3s							
MDJ				LZ				
	comp=Z,94nm,21.3s							
LCMT	**Little Creek M**	**84.23**	**46**	*e*P		**P**	**14 28 47.7**	**+0.8**
SYO	**Syowa Base**	**84.26**	**192**	‖*e*P		**P**	**14 28 44.4**	**-2.0**
CCUT	**Cedar City**	**84.46**	**45**	*e*P		**P**	**14 28 46.5**	**-1.7**
	comp=Z,6.9nm,1.2s							
SNAA	**Sanae**	**84.99**	**178**	P		**P**	**14 28 49.2**	**-1.0**
VNA1	**Neumayer--Stat**	**85.73**	**176**	P		**P**	**14 28 53.3**	**-0.5**
WHN	**Wuhan**	**85.78**	**306**	*e*P		**P**	**14 28 56.3**	**+1.7**
CN2	**Changchun**	**85.84**	**322**	*e*P		**P**	**14 28 56.3**	**+1.7**
CN2				*e*pP		sP	14 29 14.0	+5.1
CN2				PMZ				
	comp=Z,20nm,1.0s							
KLR	**Kul'dur**	**86.08**	**329**	P		**P**	**14 28 57.2**	**+1.6**
	comp=Z,5.8nm,0.9s,baz=111,slow=3.3,SNR=22							
TIA	**Tai'an**	**86.72**	**312**	*e*P		**P**	**14 29 01.0**	**+1.9**
TIA				PMZ				
	comp=Z,20nm,0.8s							
MNTX	**Cornudas Mount**	**86.89**	**54**	*e*P		**P**	**14 28 58.5**	**-1.6**
	comp=Z,7.0nm,1.1s							
TX31	**Lajitas Ar. Si**	**87.02**	**56**	*e*P		**P**	**14 29 00.6**	**-0.3**
TXAR	**Lajitas Array**	**87.02**	**56**	P		**P**	**14 29 01.4**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=216,slow=6.2,SNR=15							
TTA	**Tatalina**	**87.54**	**9**	*e*P		**P**	**14 29 02.0**	**-0.6**
TTA				pmax		pmax		
	comp=Z,9.0nm,1.2s							
TTA	**Tatalina**	**87.54**	**9**	*e*P		**P**	**14 29 02.0**	**-0.6**
	comp=Z,8.8nm,1.2s							
ANMO	**Albuquerque**	**87.75**	**50**	*e*P		**P**	**14 29 05.3**	**+0.9**
ANMO				pmax		pmax		
	comp=Z,11nm,1.5s							
ANMO	**Albuquerque**	**87.75**	**50**	*e*P		**P**	**14 29 05.3**	**+0.9**
	comp=Z,11nm,1.5s							
BMRM	**Bremner River**	**87.87**	**15**	*e*P		**P**	**14 29 01.1**	**-3.0**
	comp=Z,13nm,0.6s							
TRF	**Thorofare Moun**	**88.95**	**11**	*e*P		**P**	**14 29 07.2**	**-2.2**
	comp=Z,9.2nm,0.8s							
RND	**Reindeer**	**89.17**	**12**	*e*P		**P**	**14 29 10.5**	**+0.2**
RND				pmax		pmax		
	comp=Z,15nm,1.2s							
RND	**Reindeer**	**89.17**	**12**	*e*P		**P**	**14 29 10.5**	**+0.2**
	comp=Z,15nm,1.2s							
BJI	**Beijing**	**89.38**	**315**	P		**P**	**14 29 12.0**	**+0.3**
BJI				S		S	14 39 48.5	-11
BJI				PMZ				
	comp=Z,7.0nm,0.9s							
BJI				PMZ				
	comp=Z,210nm,5.2s							
BJI				LN				
	comp=Z,140nm,17.0s							
BJI				LE				
	comp=Z,120nm,12.3s							
BJI				LZ				
	comp=Z,93nm,24.3s							
SEY	**Seymchan**	**89.71**	**346**	P		**P**	**14 29 13.6**	**+0.9**
	comp=Z,7.7nm,0.8s,baz=154,slow=5.2,SNR=29							
MENT	**Mentasta**	**89.81**	**14**	*e*P		**P**	**14 29 13.8**	**+0.6**
	comp=Z,6.7nm,0.9s							
GYA	**Guiyang**	**89.81**	**299**	P		**P**	**14 29 14.3**	**+0.1**
GYA				pP		sP	14 29 30.5	+1.9
GYA				PP		**PP**	**14 32 49.8**	**+2.6**
GYA				SKS		**SKSac**	**14 39 38.0**	**-4.9**
GYA				S		**SKKSac**	**14 39 59.3**	**+3.4**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,6.9s							
BOZ	**Bozeman (W)**	**90.14**	**39**	*e*P		**P**	**14 29 15.9**	**+0.6**
BOZ				pmax		pmax		
	comp=Z,5.0nm,1.2s							
BOZ	**Bozeman (W)**	**90.14**	**39**	*e*P		**P**	**14 29 15.9**	**+0.6**
	comp=Z,4.7nm,1.2s							
WRH	**Wood River Hil**	**90.28**	**12**	*e*P		**P**	**14 29 12.7**	**-2.7**
	comp=Z,7.7nm,1.0s							
DOT	**Dot Lake**	**90.35**	**14**	*e*P		**P**	**14 29 16.7**	**+1.0**
	comp=Z,15nm,0.9s							
CCB	**Clear Creek Bu**	**90.49**	**12**	*e*P		**P**	**14 29 16.6**	**+0.3**
	comp=Z,14nm,1.6s							
MDM	**Murphy Dome**	**90.70**	**11**	*e*P		**P**	**14 29 16.6**	**-0.7**
	comp=Z,17nm,1.6s							
IL1	**Eielson Array**	**90.78**	**12**	*e*P		**P**	**14 29 17.3**	**-0.4**
ILAR	**Eielson Array**	**90.78**	**12**	P		**P**	**14 29 17.9**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=225,slow=4.6,SNR=12							
XAN	**Xi'an**	**91.48**	**307**	P		**P**	**14 29 23.5**	**+1.7**
XAN				PMZ				
	comp=Z,8.0nm,0.8s							
DAWY	**Dawson**	**91.78**	**15**	*e*P		**P**	**14 29 23.7**	**+1.3**
	comp=Z,5.8nm,1.0s							
BILL	**Bilibino**	**92.19**	**353**	*i* P		**P**	**14 29 24.3**	**+0.2**
BILL				*i*			14 29 35.4	
BILL				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KMI	**Kunming**	**92.44**	**296**	P		**P**	**14 29 29.5**	**+2.9**
KMI				pP		sP	14 29 40.0	-0.9
KMI				sP		pP	14 29 43.3	+6.2
KMI				PMZ				
	comp=Z,15nm,0.8s							
KMI				LZ				
	comp=Z,110nm,21.5s							
HHC	**Hu-ho-h

ARCES	**ARCESS Array B**	**132.18 350**	PKP		**PKPdf**	**14 35 28.3**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=197,slow=1.3,SNR=5.6						
FINES	**FINESS Array B**	**139.16 344**	PKP		**PKPdf**	**14 35 41.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=72,slow=6.2,SNR=7.9						
OBN	**Obninsk**	**140.29 331**	*e*PKHKP	PKPpre		14 35 41.8	
OBN			pmax	pmax			
	comp=Z,6.0nm,0.9s						
NB2	**NORSAR Subarra**	**142.13 354**	PKP		**PKPdf**	**14 35 49.2**	**+2.4**
	comp=Z,1.1nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**142.13 354**	PKP		**PKPdf**	**14 35 48.2**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=33,slow=2.2,SNR=3.7						
KIV	**Kislovodsk**	**142.41 312**	*i* PKHKP	PKPpre		14 35 45.2	
KIV			pmax	pmax			
	comp=Z,4.0nm,0.9s						
KIV			MLR	MLR			
	comp=Z,115nm,23.0s						
ANN	**Anapa**	**145.53 316**	*e*PKHKP	PKPpre		14 35 53.4	
ANN			pmax	pmax			
	comp=Z,77nm,1.3s						
AKASG	**Malin Array Be**	**146.55 331**	PKPbc		**PKPbc**	**14 35 56.0**	**-0.2**
	comp=Z,11nm,0.7s,baz=42,slow=4.1,SNR=37						
SIM	**Simferopol'**	**147.52 319**	*e*PKIKP		**PKPab**	**14 36 00.7**	**-0.6**
SIM			*e*			14 36 12.0	
SIM			pmax	pmax			
	comp=Z,22nm,0.9s						
SORM	**Soroca**	**148.75 328**	⇑*i*P		**PKPbc**	**14 36 02.9**	**+0.6**
SORM	**Soroca**	**148.75 328**	⇑PKIKP		**PKPbc**	**14 36 02.9**	**+0.6**
LVV	**L'vov**	**149.42 334**	*e*PKIKP		**PKPbc**	**14 36 04.1**	**+0.2**
KWP	**Kalwaria Pacla**	**150.09 335**	*e*PKP		**PKPbc**	**14 36 06.3**	**+0.7**
KWP	**Kalwaria Pacla**	**150.09 335**	*e*PKIKP		**PKPbc**	**14 36 06.3**	**+0.7**
BRTR	**Keskin Array B**	**150.27 310**	PKPbc		**PKPbc**	**14 36 06.8**	**+0.2**
	comp=Z,7.5nm,0.8s,baz=116,slow=2.9,SNR=41						
BURAR	**Bucovina Array**	**150.60 330**	⇓*i*P		**PKPbc**	**14 36 09.1**	**+2.1**
BURAR	**Bucovina Array**	**150.60 330**	⇓PKIKP		**PKPbc**	**14 36 09.1**	**+2.1**
OJC	**Ojcow**	**150.62 339**	*e*PKP		**PKPbc**	**14 36 07.5**	**+0.6**
OJC	**Ojcow**	**150.62 339**	*e*PKIKP		**PKPbc**	**14 36 07.5**	**+0.6**
TESR	**Tescani**	**150.71 327**	⇑*i*P		**PKPbc**	**14 36 07.6**	**+0.4**
STHS	**Stebnicka Huta**	**150.81 337**	*e*PKIKP		**PKPbc**	**14 36 07.8**	**+0.5**
STHS	**Stebnicka Huta**	**150.81 337**	*e*PKP		**PKPbc**	**14 36 07.8**	**+0.5**
KOLS	**Kolonicke sedl**	**150.82 335**	*e*PKIKP		**PKPbc**	**14 36 08.6**	**+1.2**
KOLS			*e*			14 36 15.8	
KOLS	**Kolonicke sedl**	**150.82 335**	*e*PKP		**PKPbc**	**14 36 08.6**	**+1.2**
KOLS			*e*			14 36 15.8	
CFR	**Carcaliu**	**150.83 324**	⇑*i*P		**PKPbc**	**14 36 08.2**	**+0.8**
CFR	**Carcaliu**	**150.83 324**	⇑PKIKP		**PKPbc**	**14 36 08.2**	**+0.8**
KSP	**Ksiaz**	**151.09 344**	*e*PKP		**PKPbc**	**14 36 08.9**	**+1.0**
VRI	**Vrincioaia**	**151.12 326**	⇓*i*P		**PKPbc**	**14 36 08.7**	**+0.5**
NIE	**Niedzica**	**151.14 338**	*e*PKP		**PKPbc**	**14 36 09.3**	**+1.1**
CRVS	**Cervenica-Dubn**	**151.16 336**	*e*PKP		**PKPbc**	**14 36 09.0**	**+0.9**
CRVS			*e*			14 36 16.9	
PLOR	**Plostina**	**151.17 326**	⇑*i*P		**PKPbc**	**14 36 09.1**	**+0.8**
TLB	**Topalu**	**151.26 323**	⇓*i*P		**PKPbc**	**14 36 09.5**	**+1.0**
CLL	**Collm**	**151.37 348**	*e*PKPdf		**PKPdf**	**14 36 03.0**	**+0.5**
CLL			⇑*i*PKPbc		**PKiKP**	**14 36 09.0**	**0.0**
	comp=Z,21nm,0.9s						
CLL			*e*			14 36 16.0	
	comp=Z,12nm,1.2s						
CLL			*i*			14 36 21.1	
	comp=Z,23nm,0.9s						
CLL	**Collm**	**151.37 348**	⇑*e*PKIKP		**PKPdf**	**14 36 03.0**	**+0.5**
CLL			*i*			14 36 09.0	
CLL			*e*			14 36 16.0	
CLL			pmax	pmax			
	comp=Z,21nm,0.9s						
UPC	**Upice**	**151.46 344**	⇑*e*PKP		**PKPbc**	**14 36 09.8**	**+1.0**
DPC	**Dobruska-Polom**	**151.53 344**	⇑*e*PKP		**PKPbc**	**14 36 10.1**	**+1.1**
BRG	**Berggiesshubel**	**151.60 347**	*i* PKP		**PKPbc**	**14 36 09.7**	**+0.6**
	comp=Z,16nm,0.8s						
BRG			*i*			14 36 21.9	
	comp=Z,16nm,0.8s						
KRLC	**Kraliky**	**151.66 343**	⇑*e*PKP		**PKPbc**	**14 36 10.2**	**+0.9**
KRLC			*e*PKPAB		**PKPab**	**14 36 17.6**	**-0.4**
MORC	**Moravsky Berou**	**151.71 341**	⇓*i*P		**PKPbc**	**14 36 10.6**	**+1.2**
DOPR	**Dopca**	**151.72 328**	⇓*i*P		**PKPbc**	**14 36 10.9**	**+1.4**
MLR	**Muntele Rosu**	**151.78 326**	⇑*i*P		**PKPbc**	**14 36 10.0**	**+0.2**
PVCC	**Panska Ves**	**151.79 346**	⇑*e*PKP		**PKPbc**	**14 36 10.3**	**+0.8**
PVCC	**Panska Ves**	**151.79 346**	*e*PKIKP		**PKPbc**	**14 36 10.3**	**+0.8**
KECS	**Kecovo**	**151.87 337**	*e*PKIKP		**PKPab**	**14 36 19.4**	**+0.5**
KECS	**Kecovo**	**151.87 337**	*e*PKP		**PKPab**	**14 36 19.4**	**+0.5**
VOIR		**152.26 327**	⇑*i*P		**PKPbc**	**14 36 12.8**	**+1.9**
VOIR		**152.26 327**	⇑PKIKP		**PKPbc**	**14 36 12.8**	**+1.9**
PRU	**Pruhonice**	**152.30 345**	⇑*e*PKP		**PKPbc**	**14 36 11.6**	**+0.9**
PRU			*e*PKPAB		**PKPab**	**14 36 18.6**	**-2.0**
PRU			AMS	AMS		15 53 50.0	
	comp=Z,100nm,22.4s						
PRU	**Pruhonice**	**152.30 345**	*e*PKIKP		**PKPbc**	**14 36 11.6**	**+0.9**
PRU			*e*			14 36 18.6	
PRU			MLR	MLR			
	comp=Z,100nm,22.4s						
DRGR		**152.34 332**	⇓*i*P		**PKPbc**	**14 36 11.9**	**+0.9**
DRGR		**152.34 332**	⇓PKIKP		**PKPbc**	**14 36 11.9**	**+0.9**
VYHS	**Vyhne**	**152.43 339**	*e*PKIKP		**PKPbc**	**14 36 11.5**	**+0.4**
VYHS			*e*			14 36 22.1	
VYHS	**Vyhne**	**152.43 339**	*e*PKP		**PKPbc**	**14 36 11.5**	**+0.4**
VYHS			*e*			14 36 22.1	
ARR	**Arges**	**152.52 328**	⇓*i*P		**PKPbc**	**14 36 12.9**	**+1.5**
LOT	**Lotru**	**152.88 329**	⇓*i*P		**PKPbc**	**14 36 12.0**	**-0.3**
KHC	**Kasperske Hory**	**153.32 346**	*e*PKPDF		**PKPdf**	**14 36 06.0**	**+0.5**
KHC			⇑*e*PKP		**PKPbc**	**14 36 12.9**	**-0.2**
KHC			*e*PKPAB		**PKPab**	**14 36 26.2**	**+1.2**
KHC	**Kasperske Hory**	**153.32 346**	*e*PKIKP		**PKPdf**	**14 36 06.0**	**+0.5**
KHC			*e*			14 36 12.9	
KHC			*e*			14 36 26.2	
GERES	**GERESS Array B**	**153.56 346**	PKPbc		**PKPbc**	**14 36 13.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=347,slow=4.0,SNR=3.0						
VISS	**Visnje**	**156.08 341**	*i* PKPdf		**PKPab**	**14 36 37.4**	**+0.6**
VISS			*i*			14 36 49.4	
JAVS	**Javornik**	**156.22 343**	*i* PKPdf		**PKPab**	**14 36 37.7**	**+0.2**
JAVS			*i*			14 36 49.6	
TORD	**Torodi Ar. Bea**	**169.48 167**	PKP		**PKPdf**	**14 36 21.9**	**-1.4**
	comp=Z,1.2nm,1.1s,baz=236,slow=2.7,SNR=3.7						
TORD			PKPab		**PKPab**	**14 37 36.4**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=186,slow=2.9,SNR=3.0						

IDC 30 14:29:11.3±2.5, 54°26N×86°11E, h0km, mb1 3.3/2, mb1mx3.0/48, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=19.2km s-min=11.8km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**248**	*i*		14 34 50.0	
	baz=64,slow=306,SNR=1.1						
ZALV	**Zalesovo Beam**	**0.82**	**248**	Pg	Pg	14 29 26.1	-0.9
	1.5nm,0.3s,baz=68,slow=19,SNR=7.1						
ZALV				Lg	Lg	14 29 38.9	
	9.7nm,0.3s,baz=70,slow=29,SNR=22						
ZALV				Rg	Rg	14 29 43.9	
	38nm,1.1s,baz=66,slow=36,SNR=22						
KURBB	**Kurchatov Arra**	**5.90**	**235**	Pn	Pn	14 30 40.5	+0.7
	0.3nm,0.3s,baz=51,slow=14,SNR=6.0						
MKAR	**Makanchi Array**	**7.86**	**200**	Pn	Pn	14 31 07.9	+1.1
	0.3nm,0.3s,baz=17,slow=14,SNR=9.0						
MKAR				Lg	Lg	14 33 20.6	
	0.1nm,0.3s,baz=26,slow=27,SNR=3.3						

IDC 30 14:34:36.0±4.2, 5°65S×150°82E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/34, mbtmp3.1/2, Error ellipse: s-maj=190.5km s-min=48.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.21**	**224**	Pn	Pn	14 36 00.7	+5.5
	0.3nm,0.3s,baz=161,slow=15,SNR=2.2						
PMG				Sn	Sn	14 36 59.0	+2.9
	0.3nm,0.3s,baz=158,slow=16,SNR=2.5						
WRA	**Warramunga Arr**	**21.42**	**227**	P	P	14 39 25.9	+0.1
	0.2nm,0.4s,baz=54,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**24.21**	**221**	P	P	14 39 54.7	+0.1
	0.5nm,0.7s,baz=52,slow=8.8,SNR=6.7						
TORD	**Torodi Ar. Bea**	**148.67**	**286**	PKPbc	PKPbc	14 54 25.5	-0.7
	0.3nm,0.6s,baz=50,slow=4.4,SNR=2.8						

MEX 30 14:39:11.2±0.3, 27°82N×111°75W, h13km±9km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.66**	**222**	*e*P	Pg	14 39 22.3	-1.8
SRIG				*e*S	Sg	14 39 31.0	-1.8
GUYB	**Guaymas**	**0.78**	**84**	*e*P	Pg	14 39 24.0	-2.2
GUYB				*e*S	Sg	14 39 33.8	-2.6
HSIG		**1.39**	**30**	*e*P	Pn	14 39 32.8	-3.6

IDC 30 14:46:37.4±5.5, 17°16S×172°81W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, Error ellipse: s-maj=224.0km s-min=62.3km az=137.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.68**	**242**	P	P	14 54 45.0	+0.7
	1.1nm,1.0s,baz=93,slow=8.8,SNR=3.7						
WRA	**Warramunga Arr**	**50.02**	**258**	P	P	14 55 33.2	-0.8
	0.4nm,0.8s,baz=98,slow=6.5,SNR=6.1						
ASAR	**Alice Springs**	**50.13**	**253**	P	P	14 55 34.8	-0.1
	1.1nm,0.6s,baz=90,slow=8.7,SNR=41						
BRTR	**Keskin Array B**	**147.87**	**320**	PKPbc	PKPbc	15 06 24.3	-0.7
	0.4nm,0.6s,baz=29,slow=3.3,SNR=2.2						

JMA 30 14:53:23.7, 37°70N×139°93E, h8km±1km, M1.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFY	**Yanaizu**	**0.34**	**212**	P	Pg	14 53 30.4	0.0
JFY				S	Sg	14 53 35.1	+0.1
JFT	**Otama**	**0.37**	**119**	P	Pg	14 53 31.1	+0.1
JNS	**Sasagawa**	**0.50**	**284**	P	Pg	14 53 33.4	0.0

JMA 30 14:53:49.4, 36°21N×137°95E, h5km±1km, M1.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.23**	**32**	P	Pg	14 53 54.0	0.0
JNG				S	Sg	14 53 57.6	+0.6
JNT	**Takato**	**0.37**	**155**	P	Pg	14 53 56.7	+0.2
JNT				S	Sg	14 54 01.9	+0.5
MAT	**Matsushiro**	**0.39**	**32**	P	Pg	14 53 56.8	-0.2
MAT				S	Sg	14 54 02.3	+0.2
MAT	**Matsushiro**	**0.39**	**32**	P	Pg	14 53 56.8	-0.2
MAT				S	Sg	14 54 02.2	+0.1
JGN	**Niukaw**	**0.51**	**272**	P	Pg	14 53 59.0	-0.3

MAN 30 14:58:19, 7°60N×124°82E, h33km, mb4.4, ML3.2, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.37**	**42**	*e*P	Pn	14 58 28.6	+0.4
BUKP				*e*S	Sn	14 58 36.7	+2.6
CTBH	**Cotabato--PC H**	**0.68**	**236**	⇑*i*P	Pb	14 58 33.2	+0.7
CTBH				*i* S	Sn	14 58 42.9	+1.2
CGP	**Cagayan de Oro**	**0.86**	**352**	⇓*e*P	Pb	14 58 35.5	0.0
CGP				*e*S	Sb	14 58 46.7	0.0

IDC 30 15:04:22.0±8.9, 1°25N×99°76E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/50, mbtmp3.5/3, Error ellipse: s-maj=442.6km s-min=27.6km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.91**	**124**	P	P	15 11 58.1	-0.1
	0.2nm,0.3s,baz=301,slow=8.9,SNR=8.9						
MKAR	**Makanchi Array**	**47.86**	**344**	P	P	15 13 02.2	+0.5
	0.2nm,0.3s,baz=160,slow=8.4,SNR=6.8						
ZALV	**Zalesovo Beam**	**53.95**	**349**	P	P	15 13 46.8	-0.6
	0.6nm,0.5s,baz=181,slow=14,SNR=3.2						

*IDC **30** 15:09:51.8±1.2, 29°39N×142°20E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/48, mbtmp3.6/8, ML3.8/1, Error ellipse: s-maj=50.1km s-min=19.8km az=75.0*
*JMA **30** 15:09:53.7±0.3, 29°79N×142°92E, h46km, M3.8*
*ISCJB **30** 15:09:55.1±0.9, 29°74N±0°08×142°3E±0°3, h24km, mb3.6/7, Error ellipse: s-maj=35.0km s-min=8.1km az=166.2*

ISC 30 15:09:55.8±1.0, 29°63N±0°09×142°4E±0°3, h24km, n14, σ1s32/16, mb3.7/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.53**	**184**	P	**Pn**	**15 11 36.8**	**+1.4**
JOD2	**Odawara 2**	**6.26**	**335**	P	**Pn**	**15 11 27.5**	**+0.7**
JHU	**Hanno**	**6.73**	**338**	P	**Pn**	**15 11 33.1**	**0.0**
JHU				S	**Sn**	**15 12 49.2**	**+0.2**
JRY	**Ryogami san**	**7.01**	**336**	P	**Pn**	**15 11 37.5**	**+0.5**
JHO	**Hitachi**	**7.13**	**348**	P	**Pn**	**15 11 37.2**	**-1.4**
JAG	**Ashikaga**	**7.21**	**341**	P	**Pn**	**15 11 38.8**	**-0.9**
JAG				*e*S	**Sn**	**15 12 59.6**	**-1.2**
MJAR	**Matsushiro Arr**	**7.73**	**334**	Pn	**Pn**	**15 11 46.5**	**-0.3**
	1.3nm,0.3s,baz=156,slow=10,SNR=20						
MKAR	**Makanchi Array**	**49.02**	**308**	P	**P**	**15 18 41.0**	**+0.4**
	0.1nm,0.3s,baz=84,slow=9.5,SNR=3.3						
WRA	**Warramunga Arr**	**49.88**	**190**	P	**P**	**15 18 45.0**	**-2.4**
	0.6nm,0.5s,baz=7.4,slow=7.7,SNR=18						
KURBB	**Kurchatov Arra**	**51.41**	**313**	P	**P**	**15 18 58.6**	**-0.1**
	0.3nm,0.3s,baz=89,slow=7.3,SNR=9.1						
ASAR	**Alice Springs**	**53.61**	**190**	P	**P**	**15 19 12.8**	**-2.5**
	0.4nm,0.9s,baz=358,slow=4.6,SNR=11						
BVAR	**Borovoye Array**	**56.31**	**316**	P	**P**	**15 19 35.6**	**+1.2**
	0.5nm,0.6s,baz=116,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**75.75**	**334**	P	**P**	**15 21 39.2**	**-0.1**
	0.7nm,0.8s,baz=64,slow=9.4,SNR=4.3						
TXAR	**Lajitas Array**	**93.97**	**53**	P	**P**	**15 23 13.8**	**+1.6**
	0.5nm,0.8s,baz=281,slow=2.0,SNR=4.8						

*IDC **30** 15:21:05.2±1.1, 2°37S×139°00E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/35, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=22.6km s-min=14.4km az=10.0*
*ISCJB **30** 15:21:08.5±0.7, 2°3S±0°1×138°89E±0°05, h29km, mb3.5/4, Error ellipse: s-maj=16.8km s-min=7.3km az=3.6*
*DJA **30** 15:21:08.6±1.5, 4°S±55°×13°9E±1°0, h75km±84km, M3.9/3, mb4.2/1, MLv3.8/3*

ISC 30 15:21:09.4±1.0, 2°3S±0°2×139°01E±0°08, h29km, n9, σ1s70/10, mb3.7/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.19**	**104**	P	**Pb**	**15 21 31.4**	**+0.1**
GENI				S	**Sb**	**15 21 49.6**	**+3.2**
JAY	**Jayapura**	**1.70**	**97**	Pn	**Pn**	**15 21 37.2**	**+0.1**
	1.1nm,0.3s,baz=273,slow=23,SNR=75						
JAY				Lg	Lg	15 21 58.3	
	0.9nm,0.3s,baz=94,slow=23,SNR=5.4						
JAY	**Jayapura**	**1.70**	**97**	P	**Pb**	**15 21 37.8**	**-2.3**
JAY				S	**Sb**	**15 21 59.8**	**-1.3**
FAKI	**Fak Fak**	**6.78**	**265**	P	Pn	15 22 48.9	+1.9
WRA	**Warramunga Arr**	**18.12**	**194**	P	**P**	**15 25 19.1**	**-0.1**
	0.1nm,0.3s,baz=18,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**21.81**	**193**	P	**P**	**15 25 58.5**	**-0.9**
	1.2nm,1.1s,baz=17,slow=10,SNR=4.8						
CMAR	**Chiang Mai Arr**	**44.50**	**299**	P	**P**	**15 29 17.9**	**-0.7**
	0.5nm,0.7s,baz=122,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**69.65**	**322**	P	**P**	**15 32 17.3**	**+1.0**
	0.8nm,0.7s,baz=108,slow=7.8,SNR=9.6						
ILAR	**Eielson Array**	**85.34**	**24**	P	**P**	**15 33 44.2**	**+0.8**
	0.7nm,0.8s,baz=258,slow=5.0,SNR=8.2						

*ISCJB **30** 15:22:00.4±0.4, 39°08N±0°03×29°05E±0°03, h6km±5km, Error ellipse: s-maj=5.5km s-min=3.7km az=162.1*
*ISK **30** 15:22:00.0, 39°07N×29°05E, h8km, MD2.9*
*CSEM **30** 15:22:00.5±0.1, 39°07N×29°05E, h7km, MD3.2, Error ellipse: s-maj=1.8km s-min=1.4km az=170.0*
*DDA **30** 15:22:00.1, 39°10N×29°03E, h7km, Md3.2*

ISC 30 15:21:59.9±0.9, 39°08N±0°02×29°08E±0°02, h16km±7km, n49, σ0s42/62, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEDZ	**Gediz**	**0.26**	**98**	PG	**Pg**	**15 22 06.0**	**+0.3**
GEDZ				*e*SG	**Sb**	**15 22 10.5**	**-0.2**
GEDZ	**Gediz**	**0.26**	**98**	*i* Pg	**Pg**	**15 22 06.0**	**+0.3**
GEDZ				*e*Sg	**Sb**	**15 22 10.5**	**-0.2**
DEMI	**Demirci**	**0.28**	**263**	P	**Pg**	**15 22 06.1**	**0.0**
DEMI				S	**Sg**	**15 22 09.8**	**-0.5**
DEMI	**Demirci**	**0.28**	**263**	*i* P	**Pg**	**15 22 06.1**	**0.0**
DEMI				*i* S	**Sg**	**15 22 09.8**	**-0.5**
GDZ	**Gediz**	**0.31**	**88**	P	**Pb**	**15 22 07.2**	**-0.1**
GDZ				S	**Sb**	**15 22 12.4**	**+0.1**
GDZ	**Gediz**	**0.31**	**88**	*i* P	**Pb**	**15 22 07.2**	**-0.1**
GDZ				*i* S	**Sb**	**15 22 12.4**	**+0.1**
TVSB	**Tavsanli**	**0.47**	**39**	PG	**Pb**	**15 22 10.1**	**0.0**
TVSB				*e*SG	**Sg**	**15 22 16.2**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**39**	*i* Pg	**Pb**	**15 22 10.1**	**0.0**
TVSB				*e*Sg	**Sg**	**15 22 16.2**	**+0.3**
KULA	**Kula-Manisa**	**0.65**	**210**	PG	**Pg**	**15 22 12.8**	**+0.1**
KULA				*e*SG	**Sb**	**15 22 21.8**	**-0.1**
KULA	**Kula-Manisa**	**0.65**	**210**	*i* Pg	**Pg**	**15 22 12.9**	**+0.1**
KULA				*e*Sg	**Sb**	**15 22 21.8**	**-0.1**
KHL	**Karahalli**	**0.83**	**155**	*e*PG	**Pg**	**15 22 16.5**	**+0.4**
KHL	**Karahalli**	**0.83**	**155**	*e*Pg	**Pg**	**15 22 16.5**	**+0.4**
AKS	**Akhisar**	**1.01**	**259**	*e*PG	**Pn**	**15 22 19.6**	**+0.2**
AKS	**Akhisar**	**1.01**	**259**	*e*Pg	**Pn**	**15 22 19.6**	**+0.2**
BALB	**Balikesir**	**1.08**	**301**	*e*PG	**Pg**	**15 22 21.2**	**+0.3**
BALB	**Balikesir**	**1.08**	**301**	*e*Pg	**Pg**	**15 22 21.2**	**+0.3**
IGD	**Bursa**	**1.19**	**5**	*i* P	**Pn**	**15 22 21.8**	**-0.1**
IGD				*i* S	**Sg**	**15 22 38.8**	**+0.5**
SHUT	**Suhut-Afyon**	**1.27**	**114**	*e*PN	**Pg**	**15 22 25.1**	**+0.7**
SHUT	**Suhut-Afyon**	**1.27**	**114**	*e*Pn	**Pg**	**15 22 25.1**	**+0.7**
IZI	**Iznik**	**1.29**	**14**	*e*PN	**Pg**	**15 22 25.5**	**+0.6**
IZI	**Iznik**	**1.29**	**14**	*e*Pn	**Pg**	**15 22 25.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	*e*PN	**Pg**	**15 22 25.1**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	*e*Pn	**Pg**	**15 22 25.1**	**+0.2**
BALY	**Balya**	**1.31**	**301**	P	**Pg**	**15 22 25.5**	**+0.4**
BALY				S	**Sg**	**15 22 40.9**	**+0.1**
BALY	**Balya**	**1.31**	**301**	*i* P	**Pg**	**15 22 25.5**	**+0.4**
BALY				*i* S	**Sn**	**15 22 40.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**335**	*e*PN	**Pg**	**15 22 25.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.31**	**335**	*e*Pn	**Pg**	**15 22 25.1**	**-0.1**
GEMT	**Gemlik**	**1.36**	**4**	*e*PN	**Pg**	**15 22 25.6**	**-0.4**
GEMT	**Gemlik**	**1.36**	**4**	*e*Pn	**Pg**	**15 22 25.7**	**-0.4**
ADVT	**Abdulvahap**	**1.44**	**20**	*e*PN	**Pb**	**15 22 26.7**	**+0.2**
ADVT	**Abdulvahap**	**1.44**	**20**	*e*Pn	**Pb**	**15 22 26.7**	**+0.2**
ESKT	**Eskisehir**	**1.44**	**72**	*e*PN	**Pg**	**15 22 27.3**	**-0.4**
ESKT	**Eskisehir**	**1.44**	**72**	*e*Pn	**Pg**	**15 22 27.3**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**220**	*e*PN	**Pb**	**15 22 27.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**220**	*e*Pn	**Pb**	**15 22 27.3**	**+0.4**
ARMT	**Armutlu**	**1.49**	**354**	*e*PN	**Pb**	**15 22 27.8**	**+0.5**
ARMT	**Armutlu**	**1.49**	**354**	*e*Pn	**Pb**	**15 22 27.8**	**+0.5**
GPA	**Golpazari**	**1.54**	**38**	*e*PN	**Pg**	**15 22 28.8**	**-0.7**
GPA	**Golpazari**	**1.54**	**38**	*e*Pn	**Pg**	**15 22 28.8**	**-0.7**
IZM	**Izmir**	**1.57**	**245**	*e*PN	**Pb**	**15 22 28.1**	**-0.6**
IZM	**Izmir**	**1.57**	**245**	*e*Pn	**Pb**	**15 22 28.1**	**-0.6**
GULT	**Gulveren**	**1.75**	**39**	*e*PN	**Pb**	**15 22 31.9**	**+0.2**
GULT	**Gulveren**	**1.75**	**39**	*e*Pn	**Pb**	**15 22 31.9**	**+0.2**
HRT	**Hereke**	**1.80**	**14**	*e*PN	**Pb**	**15 22 32.3**	**-0.3**
HRT	**Hereke**	**1.80**	**14**	*e*Pn	**Pb**	**15 22 32.3**	**-0.3**
MRMT	**Marmara Adasi**	**1.90**	**324**	*e*PN	**Pb**	**15 22 33.9**	**-0.4**
MRMT	**Marmara Adasi**	**1.90**	**324**	*e*Pn	**Pb**	**15 22 33.9**	**-0.4**
KIZT	**Kizilcal**	**2.19**	**94**	*e*PN	**Pb**	**15 22 38.2**	**-1.1**
KIZT	**Kizilcal**	**2.19**	**94**	*e*Pn	**Pb**	**15 22 38.2**	**-1.1**

*ATH **30** 15:27:51.6, 37°01N×27°49E, h27km±1km, ML3.0/3, Error ellipse: s-maj=3.0km s-min=1.0km az=251.0*
*DDA **30** 15:27:51.8, 36°97N×27°40E, h6km, Md2.9*
*ISCJB **30** 15:27:52.6±0.4, 37°00N±0°02×27°43E±0°03, h9km±3km, Error ellipse: s-maj=4.1km s-min=3.4km az=174.0*
*CSEM **30** 15:27:52.5±0.1, 37°01N×27°44E, h10km, MD2.9, Error ellipse: s-maj=3.8km s-min=2.6km az=99.0*
*THE **30** 15:27:52.7, 37°01N×27°44E, h10km, ML3.2/4, Error ellipse: s-maj=0.8km s-min=0.3km az=285.0*
*ISK **30** 15:27:52.2, 37°03N×27°44E, h12km, MD3.0*

ISC 30 15:27:52.1±0.8, 36°99N±0°02×27°47E±0°02, h10km±5km, n56, σ1s14/88, Dodecanese Islands

| Code | Station Name | Δ° | AZ° | Phase |

GOLH	**Golhisar**	**1.69**	**81**	*i* P		**Pg**	**15 28 25.0**	**+0.5**
GOLH				*i* S		**Sg**	**15 28 50.9**	**+4.5**
KULA	**Kula-Manisa**	**1.79**	**31**	*e*PN		**Pn**	**15 28 23.2**	**0.0**
KULA	**Kula-Manisa**	**1.79**	**31**	*e*Pn		**Pn**	**15 28 23.2**	**0.0**
CHOS	**Chios island**	**1.79**	**322**	*e*PN		**Pn**	**15 28 23.1**	**-0.1**
CHOS	**Chios island**	**1.79**	**322**	P		**Pn**	**15 28 22.7**	**-0.5**
CHOS	**Chios island**	**1.79**	**322**	P		**Pn**	**15 28 23.0**	**-0.1**
CHOS	**Chios island**	**1.79**	**322**	P		**Pn**	**15 28 23.0**	**-0.1**
THR5	**Thira Island,**	**1.80**	**252**	*e*PN		**Pn**	**15 28 23.6**	**+0.4**
THR5	**Thira Island,**	**1.80**	**252**	*e*Pn		**Pn**	**15 28 23.6**	**+0.4**
AKAS	**Kas**	**1.88**	**113**	*i* P		**Pg**	**15 28 27.9**	**-0.1**
AKAS				*i* S		**Sg**	**15 28 55.1**	**+2.7**
AKS	**Akhisar**	**1.91**	**8**	*e*PN		**Pn**	**15 28 24.8**	**+0.1**
AKS	**Akhisar**	**1.91**	**8**	*e*Pn		**Pn**	**15 28 24.8**	**+0.1**
ZKR	**Zakros**	**2.13**	**209**	P		**Pn**	**15 28 27.6**	**-0.1**
ZKR	**Zakros**	**2.13**	**209**	P		**Pn**	**15 28 27.6**	**-0.1**

IDC 30 15:30:01.2±2.7, 29°42.N×140°19.E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.5/3, Error ellipse: s-maj=120.5km s-min=32.5km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.65**	**308**	P	P	15 38 38.8	-0.3
	0.2nm,0.3s,baz=96,slow=8.8,SNR=3.7						
WRA	**Warramunga Arr**	**49.40**	**187**	P	P	15 38 52.7	-0.1
	0.2nm,0.6s,baz=6.7,slow=7.7,SNR=5.2						
FINES	**FINESS Array B**	**75.09**	**333**	P	P	15 41 44.8	+0.2
	0.3nm,0.4s,baz=46,slow=4.0,SNR=3.0						

*ISCJB **30** 15:36:57.8±0.3, 4.°43N±0.°03×127.°10E±0.°05, h81km, mb4.4/39, Error ellipse: s-maj=6.6km s-min=3.8km az=167.0*
*IDC **30** 15:36:58.3±3.1, 4.°40N×126.°81E, h66km±29km, mb3.9/11, mb1 4.0/12, mb1mx3.7/35, mbtmp4.2/12, ML4.4/1, Error ellipse: s-maj=53.0km s-min=12.0km az=69.0*
*NEIC **30** 15:37:00.1±0.9, 4.°51N×127.°12E, h89km±9km, mb4.5/28, Error ellipse: s-maj=9.7km s-min=5.4km az=65.0*
*MAN **30** 15:37:01, 4.°26N×126.°66E, h31km, mb5.1, ML4.1, MS4.2*
*DJA **30** 15:37:02.1±2.8, 4.°N±9.°×12.°7E±.°, h21km±30km, M4.8/7, mb4.7/7, mB5.3/5, MLv4.9/7, Mw(mB)4.7/5*

ISC 30 15:36:59.6±0.5, 4.°37N±0.°04×127.°04E±0.°07, h81km, n83, σ2°03/91, mb4.5/39, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.65**	**246**	P	**Pn**	**15 37 26.8**	**-0.1**
SGSI				S	**Sn**	**15 37 45.8**	**-1.8**
MATI	**Mati**	**2.68**	**343**	*e*P	**Pn**	**15 37 42.7**	**+2.1**
MATI				*e*S	**Sn**	**15 38 16.1**	**+3.9**
DAV	**Davao City (W)**	**3.05**	**332**	P	**Pn**	**15 37 41.8**	**-3.9**
	54nm,0.3s,baz=169,slow=19,SNR=2.8						
DAV				S	**Sn**	**15 38 26.7**	**+5.4**
	43nm,0.3s,baz=300,slow=20,SNR=3.9						
DAV	**Davao City (W)**	**3.05**	**332**	*e*Pn	**Pn**	**15 37 42.2**	**-3.5**
DAV				*e*Sn	**Sn**	**15 38 26.7**	**+5.4**
KCP	**Kidapawan**	**3.26**	**324**	*e*P	**Pn**	**15 37 49.5**	**+0.9**
BIPH	**Bislig**	**3.85**	**350**	*e*P	**Pn**	**15 37 58.4**	**+1.9**
BIPH				*i* S	**Sn**	**15 38 38.7**	**-2.0**
CTBH	**Cotabato--PC H**	**3.97**	**316**	*e*P	**Pn**	**15 37 56.9**	**-1.2**
CTBH				*i* S	**Sn**	**15 38 43.4**	**-0.2**
BUKP	**Musuan**	**4.01**	**331**	*e*P	**Pn**	**15 38 00.8**	**+2.2**
BUKP				*e*S	**Sn**	**15 38 46.2**	**+1.8**
CGP	**Cagayan de Oro**	**4.68**	**330**	*e*P	**Pn**	**15 38 11.4**	**+3.6**
CGP				*e*S	**Sn**	**15 39 07.8**	**+6.9**
KMSI	**Cibinong**	**4.85**	**219**	P	**Sn**	**15 39 07.0**	**+2.0**
LBMI	**Labuha**	**4.99**	**175**	P	**Pn**	**15 38 15.3**	**+3.2**
PAGZ	**Pagadian**	**5.02**	**314**	*e*P	**Pn**	**15 38 14.4**	**+2.0**
IPIL	**Ipil**	**5.59**	**308**	*e*P	**Sn**	**15 39 19.2**	**-4.0**
MRSI	**Marisa**	**6.39**	**233**	P	**Pn**	**15 38 32.6**	**+1.4**
SANI	**Sanana**	**6.46**	**189**	P	**Pn**	**15 38 31.2**	**-0.9**
	30nm,0.5s,2μm0.4nm						
LUWI	**Luwuk**	**6.86**	**219**	P	**Pn**	**15 38 40.2**	**+2.7**
	81nm,1.0s,1μm0.5nm						
LUWI	**Luwuk**	**6.86**	**219**	*e*Pn	**Pn**	**15 38 41.3**	**+3.8**
NLAI	**Namlea**	**7.55**	**180**	P	**Pn**	**15 38 48.7**	**+1.7**
MYLDM	**Lahad Datu**	**8.55**	**276**	*e*Pn	**Pn**	**15 39 02.6**	**+2.0**
FAKI	**Fak Fak**	**8.91**	**144**	P	**Pn**	**15 39 09.2**	**+3.6**
FAKI	**Fak Fak**	**8.91**	**144**	*e*Pn	**Pn**	**15 39 08.6**	**+2.9**
KDI	**Kendari**	**9.37**	**208**	P	**Pn**	**15 39 11.8**	**-0.1**
KKM	**Kota Kinabalu**	**10.91**	**279**	*e*Pn	**Pn**	**15 39 34.9**	**+1.9**
SBUM	**Sibu**	**14.91**	**263**	*e*Pn	**P**	**15 40 29.1**	**-0.7**
KSM	**Kuching**	**16.95**	**261**	*e*Pn	**Pn**	**15 40 52.0**	**+0.3**
	11nm,0.8s						
MTN	**Manton Dam**	**17.57**	**167**	*e*P	**P**	**15 40 58.6**	**-0.6**
	23nm,0.6s						
JAGI	**Jajag, Banyuwa**	**18.10**	**225**	*e*P	**Pn**	**15 41 06.2**	**+0.4**
	34nm,1.0s						
YULB	**Yu-li**	**19.71**	**344**	*e*P	**P**	**15 41 18.8**	**-3.8**
	42nm,1.8s						
YHNB	**Yeheng**	**20.91**	**345**	*e*P	**P**	**15 41 37.1**	**+1.4**
	32nm,1.5s						
FITZ	**Fitzroy Crossi**	**22.37**	**184**	P	**P**	**15 41 51.8**	**+0.6**
	5.8nm,0.5s,baz=14,slow=5.9,SNR=11						
FITZ	**Fitzroy Crossi**	**22.37**	**184**	*e*P	**P**	**15 41 52.7**	**+1.5**
	5.9nm,0.6s						
CISI	**Ciscompet, Garu**	**22.54**	**238**	*e*P	**P**	**15 41 56.1**	**+2.9**
	166nm,1.7s						
MYKOM	**Kota Tinggi**	**23.29**	**264**	*e*P	**P**	**15 42 00.7**	**0.0**
	31nm,1.5s						
WRAB	**Tennant Creek**	**25.19**	**164**	*e*P	**P**	**15 42 18.4**	**+0.6**
	14nm,0.8s						
WR1	**Warramunga Arr**	**25.20**	**164**	*e*P	**P**	**15 42 19.1**	**+1.3**
	16nm,0.8s						
WRA	**Warramunga Arr**	**25.20**	**164**	P	**P**	**15 42 19.1**	**+1.3**
	10nm,0.6s,baz=343,slow=10,SNR=46						
WB2	**Warramunga Arr**	**25.20**	**164**	*e*P	**P**	**15 42 19.1**	**+1.3**
	16nm,0.8s						
CBIJ	**Chichi jima**	**26.84**	**31**	*e*P	**P**	**15 42 31.6**	**-1.0**
	53nm,0.9s						
PSI	**Prapat**	**28.10**	**268**	*e*P	**P**	**15 42 43.5**	**-0.6**
	27nm,1.7s						
AS31	**Alice Springs**	**28.65**	**167**	*e*P	**P**	**15 42 49.6**	**+0.8**
	1.1nm,0.8s						
ASAR	**Alice Springs**	**28.66**	**167**	P	**P**	**15 42 49.6**	**+0.8**
	0.8nm,0.6s,baz=347,slow=7.2,SNR=16						
AS01	**Alice Springs**	**28.66**	**167**	*e*P	**P**	**15 42 49.7**	**+0.8**
GYA	**Guiyang**	**29.37**	**320**	*e*P	**P**	**15 42 56.8**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**30.64**	**329**	*e*P	**P**	**15 43 05.4**	**-1.0**
	comp=Z,5.0nm,0.4s						
CM01	**Chiang Mai Arr**	**30.80**	**299**	*e*P	**P**	**15 43 07.3**	**-0.5**
CM31	**Chiang Mai Arr**	**30.82**	**299**	*e*P	**P**	**15 43 06.2**	**-1.9**
CMAR	**Chiang Mai Arr**	**30.82**	**299**	P	**P**	**15 43 06.5**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=111,slow=6.9,SNR=14						
CHTO	**Chiang Mai**	**30.97**	**300**	*e*P	**P**	**15 43 09.2**	**-0.1**
	comp=Z,2.7nm,0.6s						
KMI	**Kunming**	**31.16**	**314**	P	**P**	**15 43 13.0**	**+1.8**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HNR	**Honiara**	**35.55**	**113**	*e*P	**P**	**15 43 45.9**	**-3.4**
	comp=Z,94nm,1.4s						
BJT	**Baijiatuao**	**36.83**	**346**	*e*P	**P**	**15 44 00.0**	**+0.2**
	comp=Z,6.3nm,0.6s						
BJI	**Beijing**	**36.85**	**346**	P	**P**	**15 44 00.8**	**+0.8**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,98nm,3.7s						
BJI				LR	LR		
	comp=Z,32nm,17.9s						
STKA	**Stephens Creek**	**38.61**	**160**	P	**P**	**15 44 15.8**	**+0.8**
	comp=Z,6.9nm,0.8s,baz=349,slow=6.9,SNR=10						
STKA	**Stephens Creek**	**38.61**	**160**	*e*P	**P**	**15 44 16.2**	**+1.2**
	comp=Z,1.4nm,0.8s						
HHC	**Hu-ho-hao-te**	**38.90**	**341**	*e*P	**P**	**15 44 17.5**	**+0.1**
HHC				pmax	pmax		
	comp=Z,19nm,1.1s						
HHC				pmax	pmax		
	comp=Z,65nm,5.9s						
CN2	**Changchun**	**39.30**	**358**	*e*P	**P**	**15 44 21.0**	**+0.5**
MDJ	**Mudanjiang**	**40.15**	**3**	P	**P**	**15 44 26.8**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,15nm,3.0s						
ULN	**Ulaanbaatar**	**46.62**	**342**	*e*P	**P**	**15 45 20.1**	**+0.4**
	comp=Z,1.9nm,0.5s						
SONA0	**Songino Array**	**46.80**	**341**	*e*P	**P**	**15 45 20.7**	**-0.5**
	comp=Z,5.4nm,1.7s						
SONM	**Songino Array**	**46.80**	**341**	P	**P**	**15 45 20.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=147,slow=14,SNR=2.5						
TLY	**Talaya**	**51.03**	**341**	P	**P**	**15 45 53.8**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=203,slow=4.1,SNR=4.7						
WMQ	**Urumqi**	**52.38**	**325**	P	**P**	**15 46 03.8**	**+0.1**
WMQ				pP	pP	15 46 27.0	+3.2
WMQ				sP	sP	15 46 38.5	+5.6
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,47nm,4.5s						
MK01	**Makanchi Array**	**57.20**	**325**	*e*P	**P**	**15 46 37.9**	**-0.5**
MK31	**Makanchi Array**	**57.21**	**325**	*e*P	**P**	**15 46 37.9**	**-0.6**
MK32	**Makanchi Array**	**57.21**	**325**	*e*P	**P**	**15 46 38.3**	**-0.1**
MKAR	**Makanchi Array**	**57.21**	**325**	P	**P**	**15 46 38.3**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=120,slow=8.5,SNR=26						
MKAR	**Makanchi Array**	**57.21**	**325**	*e*P	**P**	**15 46 37.5**	**-1.0**
MAKZ	**Makanchi**	**57.40**	**325**	*e*P	**P**	**15 46 38.2**	**-1.5**
	comp=Z,3.0nm,0.8s						
TKM2	**Tokmak 2**	**59.48**	**318**	*e*P	**P**	**15 46 53.8**	**-0.7**
	comp=Z,1.9nm,0.8s						
ZAA0	**Zalesovo Array**	**60.17**	**333**	*e*P	**P**	**15 46 57.5**	**-1.2**
ZALV	**Zalesovo Beam**	**60.17**	**333**	P	**P**	**15 46 58.0**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=119,slow=5.1,SNR=2.9						
ZAA1	**Zalesovo Array**	**60.17**	**333**	*e*P	**P**	**15 46 58.0**	**-0.7**
EKS2	**Erkin-Say**	**60.59**	**317**	*e*P	**P**	**15 47 01.7**	**-0.3**
	comp=Z,1.9nm,0.7s						
KURK	**Kurchatov**	**61.38**	**327**	*e*P	**P**	**15 47 06.6**	**-0.4**
	comp=Z,7.4nm,0.5s						
VOSK	**Vostochnaya**	**66.51**	**327**	*e*P	**P**	**15 47 39.3**	**-1.3**
	comp=Z,3.7nm,0.8s						
BRVK	**Borovoye**	**67.03**	**327**	*e*P	**P**	**15 47 43.2**	**-0.7**
	comp=Z,4.9nm,0.8s						
ZRNK	**Zerenda**	**67.69**	**326**	*e*P	**P**	**15 47 47.4**	**-0.8**
	comp=Z,5.4nm,0.8s						
ABKAR	**Akbulak array**	**71.86**	**321**	*e*P	**P**	**15 48 13.1**	**-0.7**
ARU	**Arti**	**74.57**	**328**	*e*P	**P**	**15 48 29.0**	**-0.6**
	comp=Z,5.0nm,0.5s						
BR101	**Keskin Array S**	**89.86**	**310**	*e*P	**P**	**15 49 48.2**	**-1.7**
BRTR	**Keskin Array B**	**89.86**	**310**	P	**P**	**15 49 48.2**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=104,slow=5.2,SNR=4.7						
FIA0	**FINESS Array S**	**91.42**	**332**	*e*P	**P**	**15 49 55.6**	**-0.9**
FINES	**FINESS Array B**	**91.42**	**332**	P	**P**	**15 49 55.6**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=64,slow=4.4,SNR=5.6						

*ISCJB **30** 15:46:05.5±0.8, 2.°4S±0.°1×138.°94E±0.°07, h37km, mb3.6/5, Error ellipse: s-maj=17.3km s-min=10.3km az=177.5*
*IDC **30** 15:46:07.5±3.8, 2.°42S×139.°00E, h41km±38km, mb3.4/5, mb1 3.7/6, mb1mx3.4/31, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=25.5km s-min=18.9km az=146.0*

ISC 30 15:46:07.1±0.9, 2.°4S±0.°2×138.°99E±0.°10, h37km, n7, σ0°46/8, mb3.8/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.71**	**94**	P	**Pn**	**15 46 34.1**	**-0.4**
	1.5nm,0.3s,baz=259,slow=22,SNR=80						
JAY				S	**Sn**	**15 46 55.7**	**+0.6**
	2.0nm,0.3s,baz=93,slow=23,SNR=14						
WRA	**Warramunga Arr**	**18.01**	**194**	P	**P**	**15 50 14.9**	**0.0**
	0.2nm,0.3s,baz=18,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**21.70**	**193**	P	**P**	**15 50 55.0**	**+0.1**
	0.5nm,0.7s,baz=26,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**44.53**	**299**	P	**P**	**15 54 15.4**	**-0.1**
	0.6nm,0.3s,baz=122,slow=6.9,SNR=4.9						
MKAR	**Makanchi Array**	**69.73**	**322**	P	**P**	**15 57 14.0**	**+0.6**
	0.8nm,0.7s,baz=105,slow=7.6,SNR=8.9						
VNDA	**Vanda**	**76.05**	**175**	P	**P**	**15 57 50.2**	**0.0**
	0.5nm,0.5s,baz=311,slow=6.3,SNR=5.5						
ILAR	**Eielson Array**	**85.44**	**24**	P	**P**	**15 58 40.2**	**-0.4**
	0.6nm,0.8s,baz=255,slow=2.7,SNR=3.5						

*NIED **30** 16:20:00, 37.°40N×141.°30E, h23km, Mw3.9 Best double couple: M₀7.73000×10¹⁴ NP1:φ₀=60.00000°, δ 13.00000°, λ=-87.00000°. NP2:φ₀=237.00000°, δ 77.00000°, λ=-91.00000°.*
*BJI **30** 16:20:31.9, 37.°47N×141.°77E, h11km, mb4.3/18, mB4.7/14, Ms3.6/9, Ms7 3.5/10*
*ISCJB **30** 16:20:38.0±0.6, 37.°40N±0.°03×141.°42E±0.°05, h34km±5km, mb4.3/28, MS3.3/7, Error ellipse: s-maj=6.6km s-min=4.2km az=26.8*
*JMA **30** 16:20:39.1±0.1, 37.°44N×141.°30E, h29km±1km, M4.2*
JMA Felt II J1.
*NEIC **30** 16:20:41.0±0.6, 37.°38N×141.°34E, h44km±6km, mb4.5/16, Error ellipse: s-maj=7.8km s-min=5.4km az=126.0*
NEIC Recorded [2 JMA] in Fukushima.
*IDC **30** 16:20:43.0±2.1, 37.°33N×141.°29E, h63km±19km, mb3.8/16, mb1 3.9/21, mb1mx3.7/56, mbtmp4.1/21, MS3.2/12, Ms1 3.2/12, ms1mx2.9/45, Error ellipse: s-maj=16.7km s-min=13.5km az=106.0*

ISC 30 16:20:37.2±1.5, 37.42N±0.°04×141.38E±0.°04, h14km±9km, n92, σ1°42/96, mb4.2/28, MS3.3/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.40**	**263**	P	**Pb**	**16 20 46.9**	**+0.7**
JFK				S	**Sb**	**16 20 52.1**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.56**	**236**	P	**Pb**	**16 20 49.4**	**+0.6**
ONAJ				S	**Sb**	**16 20 56.6**	**0.0**
JMM	**Marumori**	**0.65**	**314**	P	**Pb**	**16 20 50.5**	**+0.2**
JMM				S	**Sb**	**16 20 58.4**	**-0.7**
JFT	**Otama**	**0.83**	**277**	P	**Pn**	**16 20 54.0**	**-0.5**
JFT				S	**Sb**	**16 21 04.3**	**-0.3**
JHO	**Hitachi**	**1.03**	**219**	P	**Pb**	**16 20 56.0**	**-0.8**
JIO	**Ouri**	**1.04**	**359**	P	**Pb**	**16 20 56.7**	**-0.2**
JIO				S	**Sb**	**16 21 09.6**	**-0.8**
JOU	**Okura**	**1.10**	**329**	P	**Pn**	**16 20 58.3**	**0.0**
JOU				S	**Sg**	**16 21 12.2**	**-0.8**
JYS	**Shirataka**	**1.31**	**308**	P	**Pg**	**16 21 01.6**	**-0.9**
JYS				S	**Sg**	**16 21 18.6**	**-1.0**
JFY	**Yanaizu**	**1.33**	**270**	P	**Pb**	**16 21 01.5**	**-0.5**
JFY				S	**Sn**	**16 21 18.5**	**-0.4**
MJAR	**Matsushiro Arr**	**2.68**	**252**	P	**Pn**	**16 21 20.8**	**+0.8**
	6.0nm,0.3s,baz=82,slow=17,SNR=46						
MJAR				S	**Sn**	**16 21 53.6**	**+1.3**
	9.5nm,0.3s,baz=95,slow=23,SNR=6.2						
MAJO	**Matsushiro**	**2.68**	**252**	*e*Pn	**Pn**	**16 21 21.4**	**+1.4**
MAT	**Matsushiro**	**2.68**	**252**	P	**Pn**	**16 21 21.6**	**+1.6**
MAT				S	**Sb**	**16 21 55.4**	**-2.4**
MJB9	**Matsu-Tunnel**	**2.69**	**252**	*e*Pn	**Pn**	**16 21 21.7**	**+1.7**
INU	**Inuyama**	**4.08**	**241**	*e*Pn	**Pn**	**16 21 41.7**	**+2.6**
JHJ	**Hachijo jima 2**	**4.48**	**197**	P	**Pn**	**16 21 45.2**	**+0.6**
	25nm,0.3s,baz=316,slow=18,SNR=12						
JHJ				S	**Sn**	**16 22 33.5**	**-3.0**
	59nm,0.3s,baz=53,slow=22,SNR=7.4						
JHJ2	**Mitsune**	**4.48**	**197**	*e*Pn	**Pn**	**16 21 45.8**	**+1.2**
ERM	**Erimo**	**4.79**	**16**	*e*Pn	**Pn**	**16 21 49.5**	**+0.6**
ERM				*e*Sn	**Sn**	**16 22 43.2**	**-1.0**
ASAJ	**Asahikawa**	**6.76**	**7**	P	**Pn**	**16 22 15.8**	**-0.1**
	baz=270,slow=20						
YSS	**Yuzh-Sakhalins**	**9.59**	**6**	*e*Pn	**Pn**	**16 22 56.4**	**+1.7**
JNU	**Nakatsue**	**9.59**	**247**	LR	LR	16 26 52.6	
	comp=Z,80nm,19.6s,baz=120,slow=39						
USRK	**Ussuriysk Ar.**	**9.82**	**317**	P	**Pn**	**16 23 02.1**	**+4.2**
	0.3nm,0.3s,baz=135,slow=13,SNR=20						
USRK				LR	LR	16 26 23.6	
	comp=Z,115nm,20.4s,baz=156,slow=35						
CBIJ	**Chichi jima**	**10.31**	**176**	*e*Pn	**Pn**	**16 23 03.7**	**-1.1**
KSRS	**Korea Array**	**10.70**	**274**	P	**Pn**	**16 23 13.5**	**+3.5**
	0.1nm,0.3s,baz=92,slow=14,SNR=9.6						
KSRS				LR	LR	16 27 03.0	
	comp=Z,85nm,19.5s,baz=78,slow=36						
KS15	**Wonju Array Si**	**10.73**	**274**	*e*Pn	**Pn**	**16 23 13.5**	**+3.1**
KSAR	**Wonju Array Be**	**10.73**	**274**	P	**Pn**	**16 23 13.5**	**+3.1**
MDJ	**Mudanjiang**	**11.44**	**313**	P	**Pn**	**16 23 18.5**	**-1.6**
MDJ				S	**Sn**	**16 25 24.3**	**-3.2**
MDJ				PMZ			
	2.0nm,0.6s						
MDJ				PMZ			
	53nm,5.1s						
MDJ				LN			
	59nm,18.3s						
MDJ				LE			
	74nm,16.1s						
MDJ				LZ			
	93nm,8.7s						
CN2	**Changchun**	**13.67**	**303**	*e*P	**Pn**	**16 23 53.5**	**+3.0**
KLR	**Kul'dur**	**13.72**	**332**	LR	LR	16 28 58.8	
	comp=Z,89nm,19.0s,baz=150,slow=36						
PEA0	**Petropavlovsk-**	**19.37**	**31**	*e*P	**P**	**16 25 01.3**	**-1.1**
PETK	**Petropavlovsk-**	**19.37**	**31**	P	**Pn**	**16 25 05.7**	**+2.2**
	0.1nm,0.3s,baz=234,slow=7.1,SNR=4.3						
PETK				LR	LR	16 32 55.6	
	comp=Z,25nm,20.1s,baz=304,slow=38						
PEA1	**Petropavlovsk-**	**19.38**	**31**	*e*P	**Pn**	**16 25 05.7**	**+2.2**
YOJ	**Yonaguni jima**	**20.32**	**236**	*e*P	**P**	**16 25 13.1**	**+0.2**
	32nm,1.0s						
HHC	**Hu-ho-hao-te**	**23.32**	**288**	P	**P**	**16 25 47.8**	**+2.9**
HHC				PMZ			
	24nm,1.0s						
YAK	**Yakutsk**	**25.69**	**347**	P	**P**	**16 26 06.2**	**-0.3**
	3.9nm,0.5s,baz=228,slow=1.8,SNR=4.3						
YAK				LR	LR	16 36 08.9	
	comp=Z,56nm,19.6s,baz=228,slow=36						
YAK	**Yakutsk**	**25.69**	**347**	*e*P	**P**	**16 26 06.0**	**-0.5**
	6.8nm,0.7s						
SEY	**Seymchan**	**26.42**	**11**	P	**P**	**16 26 14.8**	**+1.7**
	6.0nm,1.0s,baz=196,slow=7.5,SNR=16						
SONA1	**Songino Array**	**27.55**	**303**	*e*P	**P**	**16 26 22.3**	**-1.3**
SONA0	**Songino Array**	**27.55**	**303**	*e*P	**P**	**16 26 23.8**	**+0.2**
	2.5nm,0.8s						
SONM	**Songino Array**	**27.55**	**303**	P	**P**	**16 26 23.8**	**+0.2**
	2.1nm,0.7s,baz=104,slow=8.9,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**28.37**	**121**	T	T	16 56 33.9	
	baz=314,slow=75,SNR=504						
H11N1	**WAKE ISLAND Hy**	**28.38**	**121**	T	T	16 56 41.6	
	baz=314,slow=75,SNR=707						
H11N3	**WAKE ISLAND Hy**	**28.39**	**121**	T	T	16 56 41.2	
	baz=314,slow=75,SNR=592						
H11S1	**WAKE ISLAND Hy**	**29.09**	**123**	T	T	16 57 36.0	
	baz=316,slow=75,SNR=153						
H11S3	**WAKE ISLAND Hy**	**29.09**	**123**	T	T	16 57 35.8	
	baz=316,slow=75,SNR=223						
H11S2	**WAKE ISLAND Hy**	**29.11**	**123**	T	T	16 57 37.9	
	baz=316,slow=75,SNR=178						
QIZ	**Qiongzhong**	**33.06**	**245**	P	**P**	**16 27 12.5**	**+0.1**
QIZ				S	**S**	**16 32 30.0**	**-0.9**
QIZ				LZ			
	130nm,19.0s						
TIXI	**Tiksi**	**34.91**	**353**	LR	LR	16 42 44.8	
	comp=Z,30nm,19.9s,baz=157,slow=38						
KMI	**Kunming**	**34.99**	**261**	P	**P**	**16 27 29.5**	**+0.1**
KMI				PMZ			
	7.0nm,0.5s						
WMQ	**Urumqi**	**40.64**	**296**	P	**P**	**16 28 17.5**	**+0.7**
WMQ				pP	sP	16 28 25.0	+1.9
WMQ				sP	pP	16 28 28.5	+7.2
WMQ				PMZ			
	4.0nm,0.8s						
WMQ				PMZ			
	63nm,4.3s						
WMQ				LN			
	46nm,22.3s						
WMQ				LE			
	23nm,22.3s						
WMQ				LZ			
	33nm,23.1s						
ZAA0	**Zalesovo Array**	**41.64**	**312**	*e*P	**P**	**16 28 23.6**	**-1.1**
ZAA1	**Zalesovo Array**	**41.64**	**312**	*e*P	**P**	**16 28 24.4**	**-0.4**
ZALV	**Zalesovo Beam**	**41.64**	**312**	P	**P**	**16 28 24.4**	**-0.4**
	3.8nm,0.7s,baz=90,slow=6.8,SNR=19						
ZALV				LR	LR	16 46 31.8	
	comp=Z,66nm,18.5s,baz=53,slow=37						
MK01	**Makanchi Array**	**43.89**	**302**	*e*P	**P**	**16 28 42.6**	**-0.5**
MK31	**Makanchi Array**	**43.89**	**302**	*e*P	**P**	**16 28 42.7**	**-0.5**
MK32	**Makanchi Array**	**43.89**	**302**	*e*P	**P**	**16 28 42.9**	**-0.3**
MKAR	**Makanchi Array**	**43.89**	**302**	P	**P**	**16 28 42.9**	**-0.3**
	3.2nm,0.7s,baz=89,slow=9.8,SNR=39						
MKAR	**Makanchi Array**	**43.89**	**302**	*e*P	**P**	**16 28 42.6**	**-0.5**
KURK	**Kurchatov**	**45.67**	**308**	*e*P	**P**	**16 28 56.7**	**-0.5**
	12nm,0.8s						
MDM	**Murphy Dome**	**48.61**	**32**	*e*P	**P**	**16 29 22.4**	**+2.3**
	5.5nm,1.1s						
DHY	**Denali Highway**	**49.06**	**35**	*e*P	**P**	**16 29 23.6**	**-0.1**
	5.9nm,0.7s						
ILAR	**Eielson Array**	**49.19**	**33**	P	**P**	**16 29 25.7**	**+1.3**
	0.5nm,0.7s,baz=270,slow=5.9,SNR=6.9						
ILB	**Eielson Array**	**49.19**	**33**	*e*P	**P**	**16 29 25.4**	**+1.0**
IL1	**Eielson Array**	**49.19**	**33**	*e*P	**P**	**16 29 24.6**	**+0.2**
IPM	**Ipoh**	**49.31**	**238**	*e*P	**P**	**16 29 25.6**	**-0.4**

YER	**Yerkesik**	**0.55**	**82**	*e*Pg		**Pn**	**16 21 45.1**	**+0.2**
YER				*e*Sg		**Sn**	**16 21 55.2**	**+0.5**
NIS1	**Nisyros Isl.**	**0.58**	**217**	*e*PG		**Pb**	**16 21 42.4**	**-0.4**
NIS1				*e*SG		**Sg**	**16 21 49.1**	**+0.8**
NIS1	**Nisyros Isl.**	**0.58**	**217**	*e*Pg		**Pb**	**16 21 42.4**	**-0.4**
NIS1				*e*Sg		**Sg**	**16 21 49.1**	**+0.8**
GCAM	**G?zelcaml?**	**0.70**	**335**	P		**Pb**	**16 21 45.4**	**+0.5**
GCAM				S		**Sb**	**16 21 55.2**	**+0.1**
GCAM	**G?zelcaml?**	**0.70**	**335**	*i* P		**Pb**	**16 21 45.4**	**+0.5**
GCAM				*i* S		**Sb**	**16 21 55.1**	**+0.1**
TURN	**Turunc**	**0.82**	**103**	*i* P		**Pg**	**16 21 44.6**	**-0.9**
TURN				*i* S		**Sg**	**16 21 55.0**	**-1.2**
DALY	**Dalyan (Mu˘la**	**0.87**	**106**	*e*PG		**Pn**	**16 21 50.2**	**+0.9**
DALY	**Dalyan (Mu˘la**	**0.87**	**106**	*e*Pg		**Pn**	**16 21 50.2**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**0.91**	**14**	*e*PG		**Pb**	**16 21 50.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.91**	**14**	*e*Pg		**Pb**	**16 21 50.1**	**+0.1**
DGB	**˙zmir**	**1.14**	**330**	*i* P		**Pb**	**16 21 52.4**	**0.0**
DGB				*i* S		**Sb**	**16 22 08.6**	**+0.8**
IZM	**Izmir**	**1.36**	**348**	*e*PN		**Pg**	**16 21 54.6**	**-1.3**
IZM	**Izmir**	**1.36**	**348**	*e*Pn		**Pg**	**16 21 54.6**	**-1.3**
ZEY	**˙zmir**	**1.46**	**324**	*i* P		**Pn**	**16 21 57.7**	**+0.2**
ZEY				*i* S		**Sn**	**16 22 18.4**	**+1.0**
KARP	**Karpathos**	**1.56**	**194**	*e*PN		**Pn**	**16 21 58.4**	**-0.4**
KARP	**Karpathos**	**1.56**	**194**	*e*Pn		**Pn**	**16 21 58.4**	**-0.4**
APE	**Apeiranthos**	**1.66**	**271**	*e*PN		**Pn**	**16 21 57.1**	**-3.1**
APE	**Apeiranthos**	**1.66**	**271**	*e*Pn		**Pn**	**16 21 57.1**	**-3.1**

IDC 30 16:23:26.1±999.0, 26°39N×17°64E, h0km, Error ellipse: s-maj=532.4km s-min=171.6km az=137.0, Libya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON** baz=145,slow=323,SNR=3.8	**11.78**	**325**	*i*		17 38 50.0	
I26DE	**FREYUNG INFRAS** baz=172,slow=340,SNR=0.3	**22.63**	**353**	*i*		18 39 00.0	
I42PT	**GRACIOSA ISLAN** baz=94,slow=317,SNR=1.6	**40.04**	**300**	*i*		20 32 54.0	

*DDA **30** 16:31:10.9, 36°98N×27°49E, h6km, Md2.1, Suspected Mining explosion.*
*ISCJB **30** 16:31:11.3±0.6, 36°97N±0°03×27°43E±0°06, h0km, Error ellipse: s-maj=6.4km s-min=4.2km az=5.3*
*CSEM **30** 16:31:11.5±0.2, 36°98N×27°39E, h2km, MD2.8, Error ellipse: s-maj=5.1km s-min=4.1km az=90.0, Suspected Mining explosion.*
*ISK **30** 16:31:11.2, 36°98N×27°39E, h6km, MD2.8*
ISC 30 16:31:11.1±0.9, 36°97N±0°02×27°45E±0°04, h0km, n20, σ0§51/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.09**	**357**	P	**Pg**	**16 31 13.1**	**+0.2**
BDRM				S	**Sg**	**16 31 14.8**	**+0.6**
BDRM	**Kayabasi**	**0.09**	**357**	*i* P	**Pg**	**16 31 13.1**	**+0.2**
BDRM				*i* S	**Sg**	**16 31 14.8**	**+0.6**
BODT	**Bodrum**	**0.14**	**309**	*e*PG	**Pg**	**16 31 13.6**	**-0.3**
BODT				*e*SG	**Sg**	**16 31 16.5**	**+0.8**
BODT	**Bodrum**	**0.14**	**309**	*e*Pg	**Pg**	**16 31 13.6**	**-0.3**
BODT				*e*Sg	**Sg**	**16 31 16.5**	**+0.8**
NIS1	**Nisyros Isl.**	**0.43**	**211**	*e*PG	**Pg**	**16 31 19.4**	**+0.1**
NIS1				*e*SG	**Sg**	**16 31 26.0**	**+1.1**
NIS1	**Nisyros Isl.**	**0.43**	**211**	*e*Pg	**Pg**	**16 31 19.4**	**+0.1**
NIS1				*e*Sg	**Sg**	**16 31 26.0**	**+1.1**
YER	**Yerkesik**	**0.69**	**76**	*e*PG	**Pb**	**16 31 26.0**	**0.0**
YER	**Yerkesik**	**0.69**	**76**	*e*Pg	**Pb**	**16 31 26.0**	**0.0**
GCAM	**G?zelcaml?**	**0.75**	**347**	P	**Pg**	**16 31 25.7**	**+0.2**
GCAM				S	**Sb**	**16 31 37.2**	**-0.6**
GCAM	**G?zelcaml?**	**0.75**	**347**	*i* P	**Pg**	**16 31 25.7**	**+0.2**
GCAM				*i* S	**Sb**	**16 31 37.2**	**-0.6**
DALY	**Dalyan (Mu˘la**	**0.98**	**99**	*e*PG	**Pn**	**16 31 31.8**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.98**	**99**	*e*Pg	**Pn**	**16 31 31.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**20**	*e*PG	**Pg**	**16 31 30.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**20**	*e*Pg	**Pg**	**16 31 30.8**	**-0.2**
IZM	**Izmir**	**1.43**	**354**	*e*PN	**Pn**	**16 31 38.3**	**-0.1**
IZM	**Izmir**	**1.43**	**354**	*e*Pn	**Pn**	**16 31 38.3**	**-0.1**
KARP	**Karpathos**	**1.44**	**189**	*e*PN	**Pg**	**16 31 38.4**	**-0.3**
KARP	**Karpathos**	**1.44**	**189**	*e*Pn	**Pg**	**16 31 38.4**	**-0.3**
APE	**Apeiranthos**	**1.54**	**274**	*e*PN	**Pn**	**16 31 39.4**	**-0.5**
APE	**Apeiranthos**	**1.54**	**274**	*e*Pn	**Pn**	**16 31 39.4**	**-0.5**

*ISCJB **30** 16:33:23.1±0.6, 36°98N±0°04×27°63E±0°04, h0km, Error ellipse: s-maj=5.3km s-min=4.4km az=19.8*
*DDA **30** 16:33:25.4, 37°00N×27°49E, h5km, Md2.3, Suspected Mining explosion.*
*CSEM **30** 16:33:25.4±0.3, 37°02N×27°39E, h1km, MD2.8, Error ellipse: s-maj=7.4km s-min=6.4km az=99.0, Suspected Mining explosion.*
*ISK **30** 16:33:25.1, 37°02N×27°39E, h12km, MD2.8*
ISC 30 16:33:23.9±0.9, 37°03N±0°03×27°59E±0°03, h0km, n23, σ1§06/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.12**	**289**	P	**Pg**	**16 33 27.3**	**+1.1**
BDRM				S	**Sg**	**16 33 28.9**	**+1.1**
BDRM	**Kayabasi**	**0.12**	**289**	*i* P	**Pg**	**16 33 27.3**	**+1.1**
BDRM				*i* S	**Sg**	**16 33 28.9**	**+1.1**
BODT	**Bodrum**	**0.23**	**279**	PG	**Pg**	**16 33 28.0**	**-0.2**
BODT				*e*SG	**Sg**	**16 33 30.3**	**-0.8**
BODT	**Bodrum**	**0.23**	**279**	*i* Pg	**Pg**	**16 33 28.0**	**-0.2**
BODT				*e*Sg	**Sg**	**16 33 30.3**	**-0.8**
NIS1	**Nisyros Isl.**	**0.54**	**218**	*e*PG	**Pg**	**16 33 34.5**	**+0.3**
NIS1				*e*SG	**Sg**	**16 33 41.0**	**-0.1**
NIS1	**Nisyros Isl.**	**0.54**	**218**	*e*Pg	**Pg**	**16 33 34.5**	**+0.3**
NIS1				*e*Sg	**Sg**	**16 33 41.0**	**-0.1**
YER	**Yerkesik**	**0.57**	**79**	*e*PG	**Pn**	**16 33 39.7**	**+0.4**
YER	**Yerkesik**	**0.57**	**79**	*e*Pg	**Pn**	**16 33 39.7**	**+0.4**
GCAM	**G?zelcaml?**	**0.73**	**337**	P	**Pb**	**16 33 39.5**	**0.0**
GCAM				S	**Sb**	**16 33 50.1**	**+0.1**
GCAM	**G?zelcaml?**	**0.73**	**337**	*i* P	**Pb**	**16 33 39.5**	**0.0**
GCAM				*i* S	**Sb**	**16 33 50.1**	**+0.1**
TURN	**Turunc**	**0.83**	**100**	*i* P	**Pg**	**16 33 38.7**	**-1.6**
TURN				*i* S	**Sg**	**16 33 48.3**	**-2.2**
DALY	**Dalyan (Mu˘la**	**0.88**	**103**	*e*PG	**Pn**	**16 33 45.5**	**+2.0**
DALY	**Dalyan (Mu˘la**	**0.88**	**103**	*e*Pg	**Pn**	**16 33 45.5**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**15**	*e*PG	**Pb**	**16 33 44.3**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**15**	*e*Pg	**Pb**	**16 33 44.3**	**+1.0**
IZM	**Izmir**	**1.39**	**349**	*e*PN	**Pg**	**16 33 50.3**	**-0.3**
IZM	**Izmir**	**1.39**	**349**	*e*Pn	**Pg**	**16 33 50.3**	**-0.3**
KARP	**Karpathos**	**1.52**	**193**	*e*PN	**Pg**	**16 33 52.9**	**-0.1**
KARP	**Karpathos**	**1.52**	**193**	*e*Pn	**Pg**	**16 33 52.9**	**-0.1**
APE	**Apeiranthos**	**1.65**	**272**	*e*PN	**Pn**	**16 33 52.2**	**-1.9**
APE	**Apeiranthos**	**1.65**	**272**	*e*Pn	**Pn**	**16 33 52.2**	**-1.9**
CHOS	**Chios island**	**1.82**	**319**	*e*PN	**Pn**	**16 33 56.0**	**-0.6**
CHOS	**Chios island**	**1.82**	**319**	*e*Pn	**Pn**	**16 33 56.0**	**-0.6**

*JMA **30** 16:38:28.2±0.2, 23°06N×121°55E, h0km, M2.8*
*ISCJB **30** 16:38:30.4±0.2, 23°06N±0°01×121°45E±0°02, h20km, Error ellipse: s-maj=2.3km s-min=1.8km az=138.7*
*TAP **30** 16:38:31.0, 23°12N×121°36E, h20km, ML3.5, B*
ISC 30 16:38:30.5±0.9, 23°08N±0°02×121°43E±0°02, h20km, n66, σ0§78/114, 10C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung** baz=151	**0.07**	**290**	⇓*i*P	**Pb**	**16 38 34.8**	**+0.6**
CHKT				*i* S	**Sb**	**16 38 37.5**	**+0.7**
TWF1	**Yuli** baz=334	**0.30**	**335**	⇑*i*P	**Pb**	**16 38 37.2**	**0.0**
TWF1				*i* S	**Sb**	**16 38 41.6**	**-0.3**
ELDTW	**Lidau** baz=283	**0.40**	**286**	⇑*i*P	**Pb**	**16 38 38.0**	**-1.0**
ELDTW				S	**Sb**	**16 38 42.6**	**-2.0**
TTN	**Taitung** baz=210	**0.41**	**220**	*e*P	**Pb**	**16 38 39.9**	**+0.7**
TTN				*e*S	**Sn**	**16 38 47.6**	**-0.9**
TWG	**Pinlang** baz=232	**0.42**	**233**	⇑P	**Pb**	**16 38 39.1**	**-0.1**
TWG				*i* S	**Sb**	**16 38 44.9**	**-0.3**
EHY	**Hungye** baz=341	**0.44**	**347**	⇑*i*P	**Pb**	**16 38 39.4**	**-0.2**
EHY				S	**Sb**	**16 38 45.1**	**-0.6**
YUS	**Yu-Shan** baz=308	**0.60**	**313**	⇑*i*P	**Pb**	**16 38 42.1**	**-0.7**
YUS				S	**Sb**	**16 38 49.2**	**-1.8**
STYT	**Tauyuan** baz=274	**0.63**	**278**	⇑*i*P	**Pb**	**16 38 42.1**	**-0.8**
STYT				*i* S	**Sb**	**16 38 49.5**	**-1.8**
ECL	**Taimali** baz=226	**0.65**	**223**	⇓*i*P	**Pb**	**16 38 42.2**	**-1.0**
ECL				S	**Sb**	**16 38 50.6**	**-1.2**
ALS	**Alishan** baz=307	**0.72**	**307**	⇑*i*P	**Pb**	**16 38 44.2**	**-0.3**
ALS				*e*S	**Sb**	**16 38 52.8**	**-1.3**
ESL	**Shilin** baz=353	**0.73**	**360**	*e*P	**Pb**	**16 38 43.8**	**-0.9**
WTP	**Ta-pu** baz=280	**0.77**	**283**	⇑*i*P	**Pb**	**16 38 45.0**	**-0.3**
WTP				*e*S	**Sb**	**16 38 54.6**	**-0.8**
SGST	**Jiashian** baz=269	**0.78**	**271**	P	**Pb**	**16 38 45.3**	**-0.2**
SGST				*e*S	**Sb**	**16 38 54.9**	**-0.8**
SSD	**Sandimen** baz=240	**0.81**	**246**	*e*P	**Pb**	**16 38 45.1**	**-0.8**
SSD				*e*S	**Sb**	**16 38 54.6**	**-1.8**
CHN4	**Tsaushan** baz=292	**0.82**	**290**	⇑*i*P	**Pb**	**16 38 46.1**	**0.0**
CHN4				*e*S	**Sb**	**16 38 56.2**	**-0.5**
CHN5	**Tsauling** baz=306	**0.87**	**307**	⇑*i*P	**Pb**	**16 38 46.9**	**0.0**
CHN5				*e*S	**Sb**	**16 38 57.8**	**-0.3**
TAW	**Tawu** baz=211	**0.87**	**215**	*e*P	**Pb**	**16 38 46.1**	**-0.8**
EAST	**Anshuo** baz=215	**0.88**	**218**	⇓P	**Pb**	**16 38 46.1**	**-1.0**
EAST				*e*S	**Sb**	**16 38 57.4**	**-1.0**
TWK	**Hsinying** baz=280	**0.89**	**282**	*e*P	**Pb**	**16 38 46.6**	**-0.7**
TWK				*e*S	**Sb**	**16 38 59.6**	**+0.8**
HWA	**Hwalien** baz=358	**0.91**	**10**	*e*P	**Pn**	**16 38 49.0**	**+0.8**
HWA				*e*S	**Sn**	**16 39 01.2**	**+0.5**
SGLT	**Jiouru** baz=243	**0.94**	**248**	*e*P	**Pn**	**16 38 49.4**	**+0.9**
SMLT	**Sun Moon Lake** baz=334	**0.94**	**329**	P	**Pb**	**16 38 47.9**	**-0.3**
SMLT				*e*S	**Sn**	**16 39 01.1**	**-0.5**
TWM1	**Shoushan** baz=252	**0.96**	**255**	*e*P	**Pn**	**16 38 49.6**	**+0.7**
TYC	**Yuchr** baz=337	**0.98**	**327**	*e*P	**Pb**	**16 38 48.7**	**-0.1**
TYC				*e*S	**Sn**	**16 39 02.2**	**-0.2**
CHN2	**Minshiung** baz=296	**0.99**	**297**	*e*P	**Pn**	**16 38 48.9**	**-0.1**
CHN2				*e*S	**Sb**	**16 39 02.1**	**+0.5**
WGK	**Gukeng** baz=306	**1.00**	**307**	P	**Pn**	**16 38 49.7**	**+0.3**
WGK				*e*S	**Sn**	**16 39 03.6**	**+0.6**
TWD	**Chiawan** baz=357	**1.01**	**8**	*e*P	**Pb**	**16 38 48.7**	**-0.7**
TWD				*e*S	**Sn**	**16 39 04.0**	**+0.8**
CHY	**Chiayi** baz=293	**1.02**	**295**	*e*P	**Pb**	**16 38 49.5**	**+0.1**
CHY				*e*S	**Sb**	**16 39 03.2**	**+0.8**
SCZT	**Fangliau** baz=222	**1.03**	**227**	*e*P	**Pb**	**16 38 48.7**	**-0.9**
SCZT				*e*S	**Sb**	**16 39 02.4**	**-0.3**
LAY	**Lan-yu** baz=162	**1.04**	**174**	⇓P	**Pb**	**16 38 48.7**	**-1.1**
LAY				*e*S	**Sb**	**16 39 03.5**	**+0.5**
WNT	**Mingjian** baz=318	**1.05**	**319**	*e*P	**Pn**	**16 38 50.6**	**+0.5**
WNT				*e*S	**Sn**	**16 39 04.5**	**+0.3**
WHF	**Hehuan Shan** baz=2.0	**1.07**	**352**	*e*P	**Pb**	**16 38 49.9**	**-0.8**
TAI1	**Yung-k'ang** baz=266	**1.11**	**268**	*e*P	**Pb**	**16 38 51.6**	**+0.6**
SCLT	**Jiali** baz=273	**1.15**	**275**	*e*P	**Pb**	**16 38 52.4**	**+0.8**
SCLT				*e*S	**Sn**	**16 39 08.4**	**+1.9**
CHN8	**Yiju** baz=282	**1.16**	**284**	*e*P	**Pb**	**16 38 52.1**	**+0.3**
CHN8				*e*S	**Sn**	**16 39 08.0**	**+1.3**
TWT	**Tachien** baz=346	**1.20**	**349**	*e*P	**Pn**	**16 38 52.2**	**-0.1**
TWT				*e*S	**Sn**	**16 39 08.0**	**0.0**
TWP	**Hsiaoliuchiu** baz=214	**1.23**	**234**	*e*P	**Pb**	**16 38 53.9**	**+0.9**
HEN	**Hengchun** baz=201	**1.25**	**211**	*e*P	**Pb**	**16 38 53.5**	**+0.2**
WSF	**Szhu** baz=295	**1.25**	**297**	*e*P	**Pn**	**16 38 52.7**	**-0.1**
WSF				*e*S	**Sb**	**16 39 09.5**	**+0.5**
TSEB	**Hengchuen, Pin** baz=193	**1.27**	**203**	*e*P	**Pb**	**16 38 54.6**	**+0.8**
TSEB				S	**Sn**	**16 39 10.2**	**+0.6**
TCU	**Taichung** baz=325	**1.27**	**327**	*e*P	**Pn**	**16 38 53.3**	**+0.1**
WTCT	**Ta-ch'eng** baz=304	**1.32**	**307**	*e*P	**Pn**	**16 38 53.8**	**0.0**
WTCT				*e*S	**Sb**	**16 39 11.3**	**+0.3**
NNS	**Nan Shan** baz=10.0	**1.36**	**358**	*e*P	**Pb**	**16 38 55.3**	**-0.1**
ENA	**Nanau** baz=356	**1.38**	**12**	*e*P	**Pb**	**16 38 55.1**	**-0.5**
ENA				*e*S	**Sb**	**16 39 13.8**	**+1.1**
TWQ1	**Liyutan** baz=332	**1.40**	**335**	*e*P	**Pb**	**16 38 56.4**	**+0.3**
TWQ1				*e*S	**Sb**	**16 39 14.2**	**+0.6**
NSY	**Sanyi** baz=332	**1.47**	**335**	*e*P	**Pn**	**16 38 56.4**	**+0.5**
NSY				*e*S	**Sb**	**16 39 15.8**	**+0.3**
ENTT	**Nioudou** baz=1.0	**1.56**	**4**	*e*P	**Pn**	**16 38 57.2**	**0.0**
TWC	**Suao** baz=360	**1.57**	**14**	*e*P	**Pb**	**16 38 58.8**	**-0.1**
TWC				*e*S	**Sb**	**16 39 18.4**	**0.0**
NSK	**Sanguang** baz=7.0	**1.59**	**358**	*e*P	**Pn**	**16 38 57.9**	**+0.2**
NSK				*e*S	**Sn**	**16 39 17.9**	**+0.2**
NSTT	**Nanjuang** baz=351	**1.60**	**346**	*e*P	**Pb**	**16 38 58.9**	**-0.5**
NSTT				*e*S	**Sb**	**16 39 18.8**	**-0.3**
WDGT	**Dungji** baz=275	**1.64**	**277**	*e*P	**Pn**	**16 38 59.1**	**+0.8**
WDGT				*e*S	**Sn**	**16 39 17.9**	**-0.8**
TWE	**Neicheng** baz=4.0	**1.65**	**7**	*e*P	**Pb**	**16 38 60.0**	**-0.3**
ILA	**Ilan** baz=6.0	**1.71**	**10**	*e*P	**Pn**	**16 38 58.9**	**-0.2**
PNG	**Penghu** baz=285	**1.79**	**286**	*e*P	**Pn**	**16 39 00.2**	**-0.1**
PNG				*e*S	**Sn**	**16 39 21.6**	**-0.9**
EGS	baz=358	**1.82**	**14**	*e*P	**Pn**	**16 39 00.8**	**+0.1**
JYNG	**Yonaguni jima** baz=359	**1.95**	**45**	P	**Pn**	**16 39 03.4**	**+1.0**
JYNG				*e*S	**Sb**	**16 39 27.9**	**-1.3**
TWB1	**Santiao Chiao** baz=50	**1.99**	**15**	*e*P	**Pn**	**16 39 04.1**	**+1.1**
YOJ	**Yonaguni jima** baz=3.0	**2.00**	**46**	*e*P	**Pn**	**16 39 04.0**	**+0.9**
NWF	**Wu-fen Shan** baz=3.0	**2.01**	**9**	*e*P	**Pb**	**16 39 04.8**	**-1.6**
NWF				*e*S	**Sn**	**16 39 28.5**	**+0.5**
HATJ	**Hateruma jima** baz=3.0	**2.38**	**65**	P	**Pn**	**16 39 09.1**	**+0.7**
HATJ				*e*S	**Sn**	**16 39 36.7**	**-0.4**
IRIF	**Iriomote-Funau**	**2.45**	**59**	P	**Pn**	**16 39 10.2**	**+0.9**
JKRS	**Kuro-shima**	**2.63**	**63**	P	**Pn**	**16 39 12.9**	**+1.1**
JKRS				S	**Sn**	**16 39 42.7**	**-0.4**
JIJ	**Ishigaki jima**	**2.79**	**62**	P	**Pn**	**16 39 14.5**	**+0.4**
JIJ				*e*S	**Sn**	**16 39 45.5**	**-1.7**
JISG	**Ishigakijimahi**	**3.03**	**60**	P	**Pn**	**16 39 17.5**	**+0.1**
JISG				*e*S	**Sn**	**16 39 53.3**	**+0.2**
JTJ	**Tarama**	**3.37**	**62**	P	**Pn**	**16 39 23.0**	**+1.0**
JTJ				*e*S	**Sn**	**16 40 01.4**	**-0.1**
JIRB	**Irabujima**	**3.84**	**62**	P	**Pn**	**16 39 29.8**	**+1.3**

IDC 30 16:40:28.9±7.0, 50°17S×112°73E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/33, mbtmp3.8/2, Error ellipse: s-maj=293.1km s-min=54.8km az=107.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=186,slow=74,SNR=11	**15.29**	**4**	T	T	16 59 35.6	
H01W1	**Cape Leeuwin H** baz=186,slow=74,SNR=11	**15.30**	**4**	T	T	16 59 35.5	
H01W3	**Cape Leeuwin H** baz=186,slow=74,SNR=11	**15.31**	**4**	T	T	16 59 40.3	
ASAR	**Alice Springs** 0.7nm,0.7s,baz=210,slow=8.1,SNR=13	**31.19**	**40**	P	P	16 46 49.7	0.0
WRA	**Warramunga Arr** 1.9nm,0.8s,baz=205,slow=8.4,SNR=12	**34.70**	**37**	P	P	16 47 20.3	-0.1
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=198,slow=5.7,SNR=3.8	**145.61**	**113**	PKPbc	PKPdf	17 00 08.4	-0.6

MEX 30 16:49:17.1±0.3, 15°65N×95°80W, h64km±33km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.32**	**292**	*e*P	Pn	16 49 26.5	-1.3
HUIG				*e*S	Sn	16 49 33.8	-1.8
VHO	**Vista Hermosa**	**1.68**	**328**	*i* P	Pn	16 49 43.0	-1.4

*ISCJB **30** 16:54:51.6±0.4, 39°10N±0°02×29°03E±0°02, h3km±4km, Error ellipse: s-maj=4.1km s-min=3.0km az=172.8*
*DDA **30** 16:54:51.5, 39°10N×29°01E, h7km, Md3.4*
*CSEM **30** 16:54:51.8±0.1, 39°09N×29°04E, h5km, MD3.4, Error ellipse: s-maj=2.2km s-min=1.9km az=163.0*
*ISK **30** 16:54:51.2, 39°09N×29°04E, h7km, MD2.9*
ISC 30 16:54:51.8±0.9, 39°10N±0°02×29°03E±0°02, h8km±8km, n58, σ0§43/84, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**257**	P	**Pg**	**16 54 57.1**	**+0.3**
DEMI				S	**Sg**	**16 55 00.6**	**+0.4**
DEMI	**Demirci**	**0.25**	**257**	*i* P	**Pg**	**16 54 57.1**	**+0.3**
DEMI				*i* S	**Sg**	**16 55 00.6**	**+0.4**
GEDZ	**Gediz**	**0.30**	**100**	*e*PG	**Pg**	**16 54 57.5**	**-0.3**
GEDZ				*e*SG	**Sg**	**16 55 02.1**	**+0.2**
GEDZ	**Gediz**	**0.30**	**100**	*e*Pg	**Pg**	**16 54 57.5**	**-0.3**
GEDZ				*e*Sg	**Sg**	**16 55 02.1**	**+0.2**
GDZ	**Gediz**	**0.35**	**91**	P	**Pg**	**16 54 58.8**	**0.0**
GDZ				S	**Sg**	**16 55 03.8**	**+0.4**
GDZ	**Gediz**	**0.35**	**91**	*i* P	**Pg**	**16 54 58.8**	**0.0**
GDZ				*i* S	**Sg**	**16 55 03.8**	**+0.4**
TVSB	**Tavsanli**	**0.49**	**44**	PG	**Pg**	**16 55 01.1**	**-0.2**
TVSB				*e*SG	**Sg**	**16 55 08.0**	**+0.3**
TVSB	**Tavsanli**	**0.49**	**44**	*i* Pg	**Pg**	**16 55 01.1**	**-0.2**
TVSB				*e*Sg	**Sg**	**16 55 08.0**	**+0.3**
KULA	**Kula-Manisa**	**0.65**	**206**	PG	**Pg**	**16 55 04.2**	**-0.1**
KULA				*e*SG	**Sg**	**16 55 12.0**	**-0.8**
KULA	**Kula-Manisa**	**0.65**	**206**	*i* Pg	**Pg**	**16 55 04.2**	**-0.1**
KULA				*e*Sg	**Sg**	**16 55 12.0**	**-0.8**
KHL	**Karahalli**	**0.86**	**153**	*e*PG	**Pg**	**16 55 08.2**	**-0.2**
KHL	**Karahalli**	**0.86**	**153**	*e*Pg	**Pg**	**16 55 08.3**	**-0.2**
AKS	**Akhisar**	**0.97**	**257**	*e*PG	**Pb**	**16 55 10.8**	**-0.1**
AKS				*e*SG	**Sb**	**16 55 24.6**	**+0.7**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg	**Pb**	**16 55 10.8**	**-0.1**
AKS				*e*Sg	**Sb**	**16 55 24.6**	**+0.7**
BALB	**Balikesir**	**1.04**	**302**	*e*PG	**Pb**	**16 55 12.0**	**-0.1**
BALB				*e*SG	**Sn**	**16 55 27.1**	**-0.3**
BALB	**Balikesir**	**1.04**	**302**	*e*Pg	**Pb**	**16 55 12.0**	**-0.1**
BALB				*e*Sg	**Sn**	**16 55 27.1**	**-0.3**
IGD	**Bursa**	**1.17**	**7**	*i* P	**Pg**	**16 55 13.4**	**-0.9**
IGD				*i* S	**Sg**	**16 55 28.2**	**-1.3**
BALY	**Balya**	**1.27**	**301**	P	**Pg**	**16 55 16.5**	**+0.4**
BALY				S	**Sb**	**16 55 31.9**	**-0.5**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pg**	**16 55 16.5**	**+0.4**
BALY				*i* S	**Sb**	**16 55 31.9**	**-0.5**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*PN	**Pg**	**16 55 16.0**	**-0.2**
CAVI				*e*SN	**Sn**	**16 55 33.9**	**+0.8**
CAVI	**Cavuskoy**	**1.27**	**29**	*e*Pn	**Pg**	**16 55 16.0**	**-0.2**
CAVI				*e*Sn	**Sn**	**16 55 33.9**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pg**	**16 55 16.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn	**Pg**	**16 55 16.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pg**	**16 55 16.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pg**	**16 55 16.2**	**-0.1**
IZI	**Iznik**	**1.28**	**15**	*e*PN	**Pg**	**16 55 16.3**	**-0.2**
IZI	**Iznik**	**1.28**	**15**	*e*Pn	**Pg**	**16 55 16.3**	**-0.2**
SHUT	**Suhut-Afyon**	**1.31**	**114**	*e*PN	**Pn**	**16 55 16.2**	**-0.3**
SHUT	**Suhut-Afyon**	**1.31**	**114**	*e*Pn	**Pn**	**16 55 16.2**	**-0.3**
GEMT	**Gemlik**	**1.34**	**5**	*e*PN	**Pg**	**16 55 17.5**	**0.0**
GEMT	**Gemlik**	**1.34**	**5**	*e*Pn	**Pg**	**16 55 17.5**	**0.0**
BORA	**Eskisehir**	**1.35**	**54**	P	**Pb**	**16 55 17.2**	**-0.2**
BORA				S	**Sn**	**16 55 35.7**	**+0.5**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pb**	**16 55 17.2**	**-0.2**
BORA				*i* S	**Sn**	**16 55 35.7**	**+0.5**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*PN	**Pb**	**16 55 18.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*Pn	**Pb**	**16 55 18.2**	**-0.1**
DNZL	**Cakiroluk**	**1.41**	**179**	P	**Pg**	**16 55 18.9**	**+0.1**
DNZL				S	**Sg**	**16 55 37.6**	**+0.6**
DNZL	**Cakiroluk**	**1.41**	**179**	*i* P	**Pg**	**16 55 18.9**	**+0.1**
DNZL				*i* S	**Sg**	**16 55 37.6**	**+0.6**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*PN	**Pb**	**16 55 18.8**	**-0.1**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*Pn	**Pb**	**16 55 18.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pn**	**16 55 17.9**	**-0.

Ms1 2.6/3,ms1mx2.4/35,Error ellipse: s-maj=30.1km s-min=16.3km az=98.0
*JMA **30** 16:57:07.3±0.2,37.°78N×142.°99E,h22km±4km,M4.1*
*NEIC **30** 16:57:09.1±3.1,37.°79N×143.°14E,h14km±20km,mb4.8/5, Error ellipse: s-maj=11.4km s-min=6.5km az=113.0*

ISC 30 16:57:08.6±4.5,37.°87N±0.°06×142.°98E±0.°07,h10km±29km, n52,σ1°44/52,mb4.1/14,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.41**	**295**			**P**	**Pn**	**16 57 32.7**	**-1.6**
JIO						S	**Sb**	**16 57 51.4**	**-1.6**
OFUJ	**Ofunato**	**1.58**	**320**			**P**	**Pn**	**16 57 35.7**	**-1.1**
OFUJ						S	**Sn**	**16 57 56.2**	**-1.1**
JMM	**Marumori**	**1.73**	**270**			**P**	**Pn**	**16 57 36.5**	**-2.2**
JMM						S	**Sn**	**16 57 58.7**	**-2.1**
JOM	**Ohasama**	**2.07**	**321**			**P**	**Pn**	**16 57 43.4**	**-0.1**
JOM						S	**Sn**	**16 58 09.2**	**-0.2**
JFT	**Otama**	**2.12**	**261**			**P**	**Pn**	**16 57 43.1**	**-1.1**
JFT						S	**Sn**	**16 58 08.8**	**-1.8**
JYK	**Kaneyama**	**2.31**	**298**			**P**	**Pn**	**16 57 46.6**	**-0.1**
JYS	**Shirataka**	**2.32**	**280**			**S**	**Sn**	**16 58 15.6**	**0.0**
JANG	**Nango**	**2.75**	**336**			**P**	**Pn**	**16 57 52.5**	**-0.2**
MJAR	**Matsushiro Arr** 1.3nm,0.3s,baz=79,slow=13,SNR=11	**4.03**	**252**			Pn	**Pn**	**16 58 10.2**	**-0.2**
MJAR	comp=Z,16nm,20.5s,baz=235,slow=38					LR	LR	16 59 34.9	
MAJO	**Matsushiro**	**4.03**	**252**		*e*Pn		**Pn**	**16 58 12.1**	**+1.6**
MAT	**Matsushiro**	**4.03**	**252**			P	**Pn**	**16 58 11.7**	**+1.3**
MAT						*e*S	**Sn**	**16 59 00.4**	**+2.7**
MJB9	**Matsu-Tunnel**	**4.03**	**252**		*e*Pn		**Pn**	**16 58 12.1**	**+1.6**
ERM	**Erimo**	**4.14**	**2**		*e*Pn		**Pn**	**16 58 11.9**	**0.0**
JHJ2	**Mitsune**	**5.40**	**209**		*e*Pn		**Pn**	**16 58 28.9**	**-0.4**
JHJ	**Hachijo jima 2** 2.3nm,0.3s,baz=127,slow=20,SNR=3.9	**5.41**	**210**		Pn		**Pn**	**16 58 28.0**	**-1.4**
INU	**Inuyama**	**5.41**	**244**		*e*Pn		**Pn**	**16 58 33.5**	**+4.1**
ASAJ	**Asahikawa** 1.5nm,0.3s,baz=213,slow=16,SNR=29	**6.25**	**357**		Pn		**Pn**	**16 58 41.1**	**+0.3**
YSS	**Yuzh-Sakhalins**	**9.08**	**355**		*e*Pn		**Pn**	**16 59 20.7**	**+1.1**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=113,slow=15,SNR=6.3	**10.43**	**311**		Pn		**Pn**	**16 59 41.9**	**+3.7**
CBIJ	**Chichi jima**	**10.77**	**184**		*e*Pn		**Pn**	**16 59 40.7**	**-2.1**
KSRS	**Korea Array** comp=Z,23nm,18.2s,baz=215,slow=38	**11.94**	**273**		LR		LR	17 04 38.9	
SEY	**Seymchan** 2.5nm,0.8s,baz=176,slow=6.6,SNR=9.7	**25.74**	**10**		P		**P**	**17 02 41.0**	**+2.0**
H11N2	**WAKE ISLAND Hy** baz=317,slow=75,SNR=156	**27.55**	**124**		T		T	17 31 51.0	
H11N1	**WAKE ISLAND Hy** baz=317,slow=75,SNR=70	**27.56**	**124**		T		T	17 31 47.6	
H11N3	**WAKE ISLAND Hy** baz=317,slow=75,SNR=104	**27.57**	**124**		T		T	17 31 45.8	
H11S1	**WAKE ISLAND Hy** baz=318,slow=76,SNR=43	**28.31**	**126**		T		T	17 32 41.2	
H11S3	**WAKE ISLAND Hy** baz=318,slow=76,SNR=32	**28.31**	**126**		T		T	17 32 42.1	
H11S2	**WAKE ISLAND Hy** baz=318,slow=76,SNR=35	**28.33**	**126**		T		T	17 32 45.8	
ENH	**Enshi** 21nm,1.9s	**28.64**	**265**		*e*P		**P**	**17 03 07.2**	**+1.7**
ZAA1	**Zalesovo Array**	**42.28**	**312**		*e*P		**P**	**17 05 01.9**	**-0.2**
ZAA1					*e*PcP		**PcP**	**17 06 55.5**	**-0.1**
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=77,slow=6.5,SNR=5.2	**42.28**	**312**		P		**P**	**17 05 01.9**	**-0.2**
ZALV	0.6nm,0.5s,baz=73,slow=4.8,SNR=3.1				PcP		**PcP**	**17 06 55.5**	**-0.1**
CM01	**Chiang Mai Arr**	**42.92**	**256**		*e*P		**P**	**17 05 07.8**	**+0.1**
MK31	**Makanchi Array**	**44.73**	**302**		*e*P		**P**	**17 05 24.5**	**+2.5**
MK32	**Makanchi Array**	**44.73**	**302**		*e*P		**P**	**17 05 21.9**	**-0.1**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=81,slow=12,SNR=6.4	**44.73**	**302**		P		**P**	**17 05 21.9**	**-0.1**
MKAR	**Makanchi Array**	**44.73**	**302**		*e*P		**P**	**17 05 24.7**	**+2.6**
KURK	**Kurchatov**	**46.40**	**308**		*e*P		**P**	**17 05 35.3**	**+0.2**
KAPI	**Kappang** 29nm,1.3s	**47.82**	**212**		*e*P		**P**	**17 05 45.3**	**-1.2**
DHY	**Denali Highway** 7.7nm,1.2s	**47.97**	**35**		*e*P		**P**	**17 05 47.7**	**+0.4**
IL1	**Eielson Array**	**48.12**	**33**		*e*P		**P**	**17 05 48.2**	**-0.1**
ILAR	**Eielson Array** 0.6nm,0.7s,baz=264,slow=6.1,SNR=6.8	**48.12**	**33**		P		**P**	**17 05 49.5**	**+1.2**
ILB	**Eielson Array**	**48.12**	**33**		*e*P		**P**	**17 05 48.0**	**-0.4**
DIV	**Divide** 6.9nm,1.0s	**48.86**	**38**		*e*P		**P**	**17 05 53.5**	**-0.7**
HNR	**Honiara** comp=Z,32nm,20.4s,baz=202,slow=31	**49.66**	**158**		LR		LR	17 23 04.4	
WR1	**Warramunga Arr** 36nm,1.8s	**58.08**	**190**		*e*P		**P**	**17 07 01.3**	**-0.8**
WRA	**Warramunga Arr** 1.7nm,0.8s,baz=7.8,slow=7.0,SNR=14	**58.08**	**190**		P		**P**	**17 07 01.3**	**-0.8**
ABKAR	**Akbulak array**	**58.33**	**310**		*e*P		**P**	**17 07 03.2**	**-0.6**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=5.0,slow=6.7,SNR=8.5	**61.80**	**189**		P		**P**	**17 07 27.4**	**-0.3**
FIA0	**FINESS Array S**	**68.65**	**333**		*e*P		**P**	**17 08 11.5**	**-0.1**
FINES	**FINESS Array B** 1.6nm,0.6s,baz=36,slow=10,SNR=8.7	**68.65**	**333**		P		**P**	**17 08 11.5**	**-0.1**
NOA	**NORSAR Array B** 0.7nm,0.6s,baz=38,slow=5.8,SNR=3.8	**73.89**	**338**		P		**P**	**17 08 44.1**	**+0.7**
AKASG	**Malin Array Be** 0.9nm,0.5s,baz=46,slow=6.1,SNR=4.8	**74.39**	**323**		P		**P**	**17 08 46.5**	**0.0**

KRSC 30 17:03:36.3±1.9,49.°83N×156.°78E,h42km±26km,ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.96**	**334**	*i*	P		Pn	17 03 53.8	+0.5
SKR				*i*	S		Sn	17 04 05.6	-0.1
PAU	**Pauzhetka**	**1.64**	**1**		P		Pn	17 04 05.3	+2.6
PAU					eS		Sn	17 04 25.4	+2.8
RUS	**Russkaya**	**2.83**	**22**		*e*P		Pn	17 04 22.3	+3.3
RUS					S		Sn	17 04 55.2	+3.4
DALK	**Dalny**	**3.44**	**20**		*e*P		Pn	17 04 31.4	+4.1
DALK					S		Sn	17 05 12.2	+5.4
UGLR	**Uglovaya**	**3.62**	**20**		P		Pn	17 04 35.5	+5.6
AVH	**Avacha**	**3.66**	**19**		P		Pn	17 04 35.0	+4.6
GNL	**Ganaly**	**3.94**	**10**		P		Pn	17 04 37.6	+3.3
MKZ	**Mys Kozlova**	**5.63**	**31**		P		Pn	17 05 00.5	+3.1

*ISCJB **30** 17:19:27.8±0.3,2.°59S±0.°03×121.°76E±0.°04,h22km, mb4.5/32,MS3.8/19, Error ellipse: s-maj=5.1km s-min=4.3km az=2.9*
*BJI **30** 17:19:27.0,2.°51S×122.°00E,h8km,mb4.4/21,mB4.9/11, Ms4.5/4,Ms7 4.3/4*
*DJA **30** 17:19:28.5±0.2,3.°3S±3.°×12.°2E±.°,h10km,M5.0/16,mb5.2/8, mB5.4/6,MLv5.0/16,Mw(mB)4.8/6*
*IDC **30** 17:19:30.8±3.1,2.°54S×121.°67E,h38km±28km,mb4.1/14, mb1 4.3/16,mb1mx4.1/40,mbtmp4.3/16,ML4.3/3,MS3.8/22, Ms1 3.8/22,ms1mx3.6/35,Error ellipse: s-maj=19.9km s-min=12.7km az=69.0*
*NEIC **30** 17:19:31.9±0.9,2.°58S×121.°68E,h43km±10km,mb4.8/13, Error ellipse: s-maj=11.5km s-min=6.6km az=71.0*

ISC 30 17:19:30.0±0.4,2.°57S±0.°05×121.°75E±0.°05,h22km,n83, σ1°93/73,mb4.5/32,MS3.8/19,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.63**	**148**			**P**	**Pn**	**17 19 56.7**	**-0.7**
LUWI	**Luwuk**	**1.83**	**34**			P	**Pn**	**17 19 59.5**	**-0.7**
LUWI	**Luwuk**	**1.83**	**34**		*e*Pn		**Pn**	**17 19 59.4**	**-0.8**
TTSI	**Tana Toraja**	**1.98**	**256**			P	**Pn**	**17 20 00.6**	**-1.7**
SPSI	**Sidrap Palu**	**2.41**	**235**			P	**Pn**	**17 20 07.3**	**-0.9**
PCI	**Palu**	**2.53**	**311**			P	**Pn**	**17 20 10.1**	**+0.3**
MRSI	**Marisa**	**3.03**	**4**			P	**Pn**	**17 20 15.9**	**-0.9**
KAPI	**Kappang** 91nm,0.3s,baz=44,slow=5.2,SNR=100	**3.14**	**219**		Pn		**Pn**	**17 20 17.3**	**-0.9**
KAPI	36nm,0.3s,baz=142,slow=19,SNR=9.5					Sn	**Sn**	**17 20 53.5**	**-1.6**
KAPI	comp=Z,3μm,18.8s,baz=57,slow=43					LR	LR	17 21 45.9	
BSSI	**Bau Bau, Buton**	**3.76**	**199**			P	**Pn**	**17 20 26.5**	**-0.3**
KMSI	**Cibinong**	**3.84**	**36**			P	**Pn**	**17 20 28.8**	**+1.0**
SANI	**Sanana**	**4.27**	**83**			P	**Pn**	**17 20 31.6**	**-2.1**
BKB	**Balikpapan**	**5.02**	**285**			P	**Pn**	**17 20 44.1**	**0.0**
NLAI	**Namlea**	**5.38**	**97**			P	**Pn**	**17 20 50.4**	**+1.3**
MMRI	**Maumere**	**6.04**	**175**			P	**Pn**	**17 20 58.0**	**-0.2**
MMRI	**Maumere** 308nm,1.2s	**6.04**	**175**		*e*Pn		**Pn**	**17 20 57.5**	**-0.7**
LBMI	**Labuha** 804nm,0.8s,7μm	**6.06**	**72**		P		**Pn**	**17 20 58.2**	**-0.2**
EDFI	**Ende, Flores**	**6.14**	**181**		P		**Pn**	**17 20 58.8**	**-0.8**
BBKI	**Banjar Baru**	**6.96**	**263**		P		**Pn**	**17 21 14.5**	**+3.8**
SOEI	**Soe**	**7.56**	**161**		P		**Pn**	**17 21 17.6**	**-1.6**
SOEI	**Soe** 284nm,1.1s	**7.56**	**161**		*e*Pn		**Pn**	**17 21 21.1**	**+1.9**
TWSI	**Taliwang, Sumb**	**7.81**	**218**			P	**Pn**	**17 21 21.4**	**-1.0**
BATI	**Baumata**	**7.82**	**166**			P	**Pn**	**17 21 26.7**	**+4.1**
SIJI	**Sorong** 3.7nm,0.3s,baz=4.7,slow=17,SNR=3.2	**9.66**	**80**		Pn		**Pn**	**17 21 48.1**	**+0.2**
KKM	**Kota Kinabalu** 40nm,0.9s	**10.19**	**327**		*e*Pn		**Pn**	**17 21 56.0**	**+0.9**
DAV	**Davao City (W)** comp=Z,756nm,18.2s,baz=216,slow=42	**10.31**	**22**		LR		LR	17 26 38.7	
STKI	**Sintang**	**10.60**	**284**			P	Pn	17 22 06.0	+5.3
KPJI	**Karang Pucung**	**13.62**	**249**			P	P	17 22 55.4	+4.7
PPBI	**Pangkal Pinang**	**15.60**	**271**			P	**P**	**17 23 15.5**	**+2.6**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=1.0,slow=11,SNR=34	**15.90**	**166**		Pn		**Pn**	**17 23 12.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**15.90**	**166**		*e*Pn		**P**	**17 23 15.5**	**-0.6**
TGY	**Tagaytay City** comp=Z,277nm,18.4s,baz=166,slow=39	**16.59**	**357**		LR		LR	17 30 23.5	
MBWA	**Marble Bar** 110nm,1.4s	**18.58**	**186**		*e*P		**Pn**	**17 23 46.0**	**0.0**
JAY	**Jayapura** 0.1nm,0.3s,baz=271,slow=23,SNR=4.5	**18.94**	**90**		P		**Pn**	**17 23 53.0**	**+2.5**
WRAB	**Tennant Creek** 27nm,1.0s	**21.20**	**145**		*e*P		**P**	**17 24 12.5**	**-1.8**
WRA	**Warramunga Arr** 24nm,0.9s,baz=320,slow=11,SNR=48	**21.20**	**145**		P		**P**	**17 24 12.9**	**-1.4**
WRA	comp=Z,354nm,20.0s,baz=335,slow=38					LR	LR	17 33 00.9	
IPM	**Ipoh** 36nm,1.1s	**21.86**	**289**		*e*P		**P**	**17 24 22.6**	**+1.1**
COEN	**Coen**	**24.00**	**119**		*e*P		**P**	**17 24 45.0**	**+1.6**
ASAR	**Alice Springs** 12nm,0.7s,baz=328,slow=8.9,SNR=117	**24.05**	**152**		P		**P**	**17 24 43.2**	**-0.5**
ASAR	comp=Z,318nm,20.6s,baz=330,slow=37					LR	LR	17 34 15.4	
TPUB	**Ta-pu** 30nm,0.9s	**25.74**	**358**		*e*P		**P**	**17 25 00.1**	**+0.9**
YULB	**Yu-li** 21nm,1.1s	**25.81**	**359**		*e*P		**P**	**17 25 00.1**	**+0.3**
PMG	**Port Moresby** 50nm,1.0s,baz=242,slow=5.7,SNR=5.9	**26.15**	**106**		P		**P**	**17 25 03.5**	**+0.5**
PMG	comp=Z,146nm,21.6s,baz=258,slow=42					LR	LR	17 37 53.2	
SKNT	**Sakolnakorn** 24nm,1.0s	**26.17**	**359**		*e*P		**P**	**17 25 05.8**	**+2.7**
SSLB	**Suanglung** 58nm,1.4s	**26.21**	**358**		*e*P		**P**	**17 25 03.8**	**+0.3**
NONG	**Nongkai** 22nm,1.2s	**27.50**	**319**		P		**P**	**17 25 19.9**	**+4.8**
LOEI	**Loei** 30nm,0.8s	**28.39**	**315**		P		**P**	**17 25 22.7**	**-0.4**
UTTA	**Uttaradit** 2.3nm,0.9s	**29.05**	**315**		P		**P**	**17 25 32.8**	**+3.9**
CMAR	**Chiang Mai Arr** 2.6nm,0.7s,baz=139,slow=7.2,SNR=27	**30.67**	**314**		P		**P**	**17 25 41.8**	**-1.6**
CMAR	comp=Z,229nm,18.7s,baz=145,slow=43					LR	LR	17 41 18.8	
CMMT	**Chiang Mai** 8.3nm,1.3s	**30.90**	**314**		P		**P**	**17 25 48.4**	**+3.1**
CHTO	**Chiang Mai** 5.4nm,0.9s	**30.90**	**314**		*e*P		**P**	**17 25 45.4**	**+0.1**
KMI	**Kunming** 15nm,1.1s	**33.13**	**327**		P	PMZ	**P**	**17 26 09.0**	**+3.9**
STKA	**Stephens Creek** 14nm,0.6s,baz=320,slow=9.4,SNR=23	**34.63**	**149**		P		**P**	**17 26 17.6**	**-0.2**
STKA	comp=Z,327nm,18.4s,baz=322,slow=38					LR	LR	17 41 42.2	
ENH	**Enshi** 13nm,0.9s	**34.70**	**341**		*e*P		**P**	**17 26 17.9**	**-0.5**
KSAR	**Wonju Array Be**	**40.22**	**8**		P		**P**	**17 27 03.5**	**-1.5**
KSRS	**Korea Array** 0.7nm,0.7s,baz=195,slow=9.5,SNR=3.8	**40.23**	**8**		P		**P**	**17 27 03.5**	**-1.6**
SHL	**Shillong**	**40.24**	**316**		*e*P		**P**	**17 27 08.0**	**+2.4**
MJAR	**Matsushiro Arr** 3.2nm,0.9s,baz=193,slow=8.6,SNR=8.8	**41.83**	**20**		P		**P**	**17 27 16.7**	**-1.7**
MJAR	comp=Z,90nm,21.9s,baz=225,slow=34					LR	LR	17 43 35.9	
LSA	**Lhasa** 6.4nm,0.6s	**43.43**	**320**		*e*P		**P**	**17 27 32.5**	**+0.4**
GTA	**Gaotai**	**46.39**	**336**		*e*P		**P**	**17 27 54.5**	**-0.6**
GTA						pP	sP	17 28 04.3	-0.3
GTA						sP	pP	17 28 08.5	+6.6
GTA						PcP	**PcP**	**17 29 33.3**	**+3.5**
GTA	3.0nm,1.3s					PMZ			
USRK	**Ussuriysk Ar.** 1.9nm,0.8s,baz=210,slow=11,SNR=5.1	**47.46**	**10**		P		**P**	**17 28 01.1**	**-2.0**
USRK	comp=Z,46nm,20.5s,baz=185,slow=36					LR	LR	17 48 00.5	
SONM	**Songino Array** 1.3nm,0.8s,baz=169,slow=8.9,SNR=4.4	**51.97**	**347**		P		**P**	**17 28 36.9**	**-0.7**
SONM	comp=Z,120nm,20.6s,baz=124,slow=39					LR	LR	17 52 55.3	
TLY	**Talaya** comp=Z,60nm,21.8s,baz=146,slow=38	**56.20**	**347**		LR		LR	17 54 59.1	
MKAR	**Makanchi Array** 2.7nm,0.8s,baz=130,slow=8.0,SNR=14	**60.16**	**330**		P		**P**	**17 29 34.3**	**-1.8**
PETK	**Petropavlovsk-** comp=Z,26nm,21.5s,baz=240,slow=35	**63.13**	**23**		LR		LR	17 55 57.0	
ZALV	**Zalesovo Beam** 4.2nm,1.0s,baz=135,slow=5.7,SNR=9.5	**64.14**	**337**		P		**P**	**17 29 59.5**	**-3.1**
KURK	**Kurchatov** 50nm,0.9s	**64.59**	**331**		*e*P		**P**	**17 30 03.5**	**-2.1**
YAK	**Yakutsk** 9.5nm,0.8s	**64.71**	**4**		*e*P		**P**	**17 30 05.4**	**-0.7**
BRVK	**Borovoye**	**70.12**	**330**		*e*P		**P**	**17 30 38.5**	**-2.1**
GEYT	**Alibeck** comp=Z,84nm,18.7s,baz=355,slow=40	**71.12**	**312**		LR		LR	18 07 26.0	
ABKAR	**Akbulak array** 0.3nm,0.3s	**74.00**	**323**		*e*P		**P**	**17 31 04.5**	**+0.5**
TIXI	**Tiksi** 5.1nm,1.0s	**74.23**	**2**		*e*P		**P**	**17 31 05.7**	**+0.8**
NRIK	**Noril'sk** comp=Z,95nm,21.8s,baz=119,slow=36	**75.43**	**348**		LR		LR	18 05 21.1	
MAW	**Mawson** comp=Z,88nm,22.0s,baz=58,slow=31	**76.17**	**200**		LR		LR	17 59 06.9	
VNDA	**Vanda** 1.2nm,0.8s,baz=308,slow=5.8,SNR=7.2	**77.89**	**172**		P		**P**	**17 31 24.4**	**-1.3**
VNDA	comp=Z,61nm,18.2s,baz=330,slow=36					LR	LR	18 06 51.1	
SBA	**Scott Base**	**78.86**	**171**		*e*P		**P**	**17 31 30.3**	**-0.7**
KBZ	**Khabaz** 0.8nm,0.4s,baz=54,slow=14,SNR=2.5	**83.72**	**314**		P		**P**	**17 31 56.6**	**-0.8**
KBZ	comp=Z,23nm,21.7s,baz=121,slow=40					LR	LR	18 15 19.3	
QSPA	**South Pole Qui** 10nm,0.6s	**87.38**	**180**		*e*P		**P**	**17 32 14.2**	**-1.2**
PPT	**Papeete** comp=Z,20nm,20.8s,baz=209,slow=35	**87.97**	**107**		LR		LR	18 10 24.4	
BRTR	**Keskin Array B** 0.3nm,0.5s,baz=106,slow=5.2,SNR=2.6	**90.17**	**310**		P		**P**	**17 32 27.5**	**-1.6**
BRTR	comp=Z,24nm,18.3s,baz=102,slow=42					LR	LR	18 21 48.3	
AKASG	**Malin Array Be** comp=Z,46nm,21.2s,baz=280,slow=38	**93.58**	**320**		LR		LR	18 18 47.6	
BOSA	**Boshof** comp=Z,52nm,19.9s,baz=69,slow=33	**94.48**	**241**		LR		LR	18 11 08.2	
VYHS	**Vyhne**	**100.47**	**319**		*e*PDIFF		**Pdif**	**17 33 21.7**	**+5.9**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=15,slow=1.0,SNR=2.3	**119.83**	**284**		PKP		**PKPdf**	**17 38 17.6**	**-2.1**
CPUP	**Villa Florida** 1.6nm,0.8s,baz=208,slow=16,SNR=3.2	**151.25**	**182**		PKPbc		**PKPbc**	**17 39 19.9**	**-2.7**

KRSC 30 17:48:08.6±1.3,49.°22N×156.°79E,h15km±10km,ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.53**	**344**		*e*P		Pn	17 48 35.4	+0.2
SKR					eS		Sn	17 48 54.4	-0.4
PAU	**Pauzhetka**	**2.25**	**0**		eS		Sb	17 49 14.9	-1.5
ASAK	**Asacha**	**3.24**	**12**		P		Pb	17 49 02.7	-3.1
RUS	**Russkaya**	**3.40**	**18**		*e*P		Pn	17 49 04.1	+3.2
RUS					eS		Sn	17 49 45.1	+4.2
PET	**Petropavlovsk**	**3.98**	**16**		P		Pn	17 49 12.9	+3.9
DALK	**Dalny**	**4.01**	**17**		*e*P		Pn	17 49 13.3	+4.0
DALK					eS		Sn	17 50 00.5	+4.5
UGLR	**Uglovaya**	**4.19**	**17**		P		Pn	17 49 16.0	+4.0
AVH	**Avacha**	**4.23**	**16**		P		Pn	17 49 17.3	+4.8
KRER	**Koryakskii**	**4.27**	**16**		P		Pn	17 49 17.8	+4.7
GNL	**Ganaly**	**4.54**	**9**		P		Pn	17 49 19.8	+3.1
MKZ	**Mys Kozlova**	**6.15**	**28**		P		Pn	17 49 42.6	+3.8

*ISCJB **30** 18:30:54.7±0.5,39.°12N±0.°04×29.°02E±0.°03,h10km±6km, Error ellipse: s-maj=7.0km s-min=4.2km az=162.6*
*ISK **30** 18:30:54.0,39.°13N×29.°01E,h10km,MD2.8*
*CSEM **30** 18:30:54.7±0.1,39.°13N×29.°01E,h10km,MD2.7,Error ellipse: s-maj=2.2km s-min=1.8km az=170.0*
*DDA **30** 18:30:54.5,39.°13N×29.°05E,h7km,Md2.7*

ISC 30 18:30:54.9±0.9,39.°13N±0.°03×29.°02E±0.°02,h14km±8km, n31,σ0°38/44,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**249**			**P**	**Pg**	**18 31 00.6**	**+0.2**
DEMI						S	**Sg**	**18 31 04.3**	**+0.2**
DEMI	**Demirci**	**0.26**	**249**		*i*	P	**Pg**	**18 31 00.6**	**+0.2**
DEMI					*i*	S	**Sg**	**18 31 04.3**	**+0.2**
GEDZ	**Gediz**	**0.32**	**106**		*e*	PG	**Pg**	**18 31 01.1**	**-0.4**
GEDZ					*e*	SG	**Sg**	**18 31 06.0**	**+0.1**
GEDZ	**Gediz**	**0.32**	**106**		*e*	Pg	**Pg**	**18 31 01.1**	**-0.4**
GEDZ					*e*	Sg	**Sg**	**18 31 06.0**	**+0.1**
GDZ	**Gediz**	**0.36**	**97**			P	**Pg**	**18 31 02.1**	**-0.2**
GDZ						S	**Sg**	**18 31 07.1**	**-0.2**
GDZ	**Gediz**	**0.36**	**97**		*i*	P	**Pg**	**18 31 02.1**	**-0.2**
GDZ					*i*	S	**Sg**	**18 31 07.1**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**47**		*e*	PG	**Pg**	**18 31 04.3**	**+0.1**
TVSB					*e*	SG	**Sg**	**18 31 10.3**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**47**		*e*	Pg	**Pg**	**18 31 04.3**	**+0.1**
TVSB					*e*	Sg	**Sg**	**18 31 10.3**	**-0.2**
KULA	**Kula-Manisa**	**0.68**	**205**		*e*	PG	**Pg**	**18 31 08.0**	**-0.2**
KULA					*e*	SG	**Sg**	**18 31 16.7**	**-0.5**
KULA	**Kula-Manisa**	**0.68**	**205**		*e*	Pg	**Pg**	**18 31 08.0**	**-0.2**
KULA					*e*	Sg	**Sg**	**18 31 16.7**	**-0.5**
BALB	**Balikesir**	**1.02**	**300**		*e*	PG	**Pg**	**18 31 14.1**	**-0.5**
BALB	**Balikesir**	**1.02**	**300**		*e*	Pg	**Pg**	**18 31 14.1**	**-0.5**
IGD	**Bursa**	**1.14**	**7**		*i*	P	**Pg**	**18 31 15.6**	**-1.3**
IGD					*i*	S	**Sn**	**18 31 32.6**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.24**	**355**		*e*	PN	**Pb**	**18 31 18.0**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**355**		*e*	Pn	**Pb**	**18 31 18.0**	**-0.1**
CAVI	**Cavuskoy**	**1.24**	**30**		*e*	PN	**Pb**	**18 31 18.4**	**+0.3**
CAVI	**Cavuskoy**	**1.24**	**30**		*e*	Pn	**Pb**	**18 31 18.5**	**+0.3**
KCTX	**Karacabey (Bur**	**1.24**	**336**		*e*	PN	**Pb**	**18 31 18.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.24**	**336**		*e*	Pn	**Pb**	**18 31 18.4**	**+0.2**
IZI	**Iznik**	**1.25**	**16**		*e*	PN	**Pb**	**18 31 17.8**	**-0.6**
IZI	**Iznik**	**1.25**	**16**		*e*	Pn	**Pb**	**18 31 17.8**	**-0.6**
SHUT	**Suhut-Afyon**	**1.33**	**115**		*e*	PN	**Pn**	**18 31 19.0**	**-0.2**
SHUT	**Suhut-Afyon**	**1.33**	**115**		*e*	Pn	**Pn**	**18 31 19.0**	**-0.2**
BORA	**Eskisehir**	**1.33**	**56**			P	**Pg**	**18 31 20.4**	**-0.2**
BORA						S	**Sb**	**18 31 37.2**	**+0.3**
BORA	**Eskisehir**	**1.33**	**56**		*i*	P	**Pg**	**18 31 20.4**	**-0.2**
BORA					*i*	S	**Sb**	**18 31 37.1**	**+0.3**
GONE	**Gonen-Balikesi**	**1.38**	**312**		*e*	PN	**Pn**	**18 31 19.7**	**-0.1**
GONE	**Gonen-Balikesi**	**1.38**	**312**		*e*	Pn	**Pn**	**18 31 19.7**	**-0.1**
ARMT	**Armutlu**	**1.44**	**355**		*e*	PN	**Pn**	**18 31 20.8**	**+0.2**
ARMT	**Armutlu**	**1.44**	**355**		*e*	Pn	**Pn**	**18 31 20.8**	**+0.2**
GULT	**Gulveren**	**1.73**	**41**		*e*	PN	**Pn**	**18 31 25.3**	**+0.5**
GULT	**Gulveren**	**1.73**	**41**		*e*	Pn	**Pn**	**18 31 25.3**	**+0.5**

*KRSC **30** 18:34:26.5±2.4,47.°90N×153.°83E,h196km±30km,ML4.3*
*MOS **30** 18:34:27.1±1.3,47.°36N×154.°72E,h185km,mb4.2/1,Error ellipse: s-maj=23.6km s-min=11.3km az=73.0*
*IDC **30** 18:34:35.9±2.9,48.°24N×153.°26E,h153km±23km,mb3.4/5, mb1 3.3/8,mb1mx3.1/34,mbtmp3.7/8,Error ellipse: s-maj=41.4km s-min=22.5km az=155.0*

ISC 30 18:34:30.3±1.3,47.°9N±0.°2×153.°9E±0.°2,h117km,n24, σ2°68/22,mb3.7/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.11**	**27**			PN	**Pn**	**18 35 21.1**	**+3.2**
SKR	**Severo-Kuril's**	**3.11**	**27**		*e*	P	**Pn**	**18 35 21.1**	**+3.2**
SKR						S	**Sn**	**18 35 57.6**	**+3.0**
PAU	**Pauzhetka**	**4.01**	**

KERG	**Konya-Eregli**	**1.16**	**225**	P		**Pg**	**18 42 59.2**	**-0.9**
KERG				S		**Sn**	**18 43 16.3**	**-0.1**
KERG	**Konya-Eregli**	**1.16**	**225**	*i* P		**Pg**	**18 42 59.2**	**-0.9**
KERG				*i* S		**Sn**	**18 43 16.3**	**-0.1**
AKSY	**AKSARAY - Alti**	**1.17**	**291**	P		**Pb**	**18 43 00.2**	**0.0**
AKSY				S		**Sb**	**18 43 16.1**	**+0.6**
AKSY	**AKSARAY - Alti**	**1.17**	**291**	*i* P		**Pb**	**18 43 00.2**	**0.0**
AKSY				*i* S		**Sb**	**18 43 16.1**	**+0.6**
YESY	**Yesilyurt**	**1.21**	**248**	*e*PN		**Pn**	**18 43 00.8**	**-0.1**
YESY	**Yesilyurt**	**1.21**	**248**	*e*Pn		**Pn**	**18 43 00.8**	**-0.1**
SULT	**Sultanhani-AKS**	**1.30**	**269**	*e*PN		**Pb**	**18 43 02.6**	**+0.3**
SULT	**Sultanhani-AKS**	**1.30**	**269**	*e*Pn		**Pb**	**18 43 02.6**	**+0.3**
DED	**Mersin**	**1.31**	**193**	*i* P		**Pn**	**18 43 01.3**	**-0.9**
DED				*i* S		**Sb**	**18 43 19.6**	**+0.2**
CEYT	**Ceyhan**	**1.32**	**159**	*e*PN		**Pg**	**18 43 02.7**	**-0.3**
CEYT	**Ceyhan**	**1.32**	**159**	*e*Pn		**Pg**	**18 43 02.7**	**-0.3**
YOZ	**Yozgat**	**1.40**	**5**	*e*PN		**Pg**	**18 43 04.2**	**-0.4**
YOZ	**Yozgat**	**1.40**	**5**	*e*Pn		**Pg**	**18 43 04.3**	**-0.4**
SERE	**Sereflikochisa**	**1.43**	**300**	*e*PN		**Pb**	**18 43 04.5**	**-0.2**
SERE	**Sereflikochisa**	**1.43**	**300**	*e*Pn		**Pb**	**18 43 04.5**	**-0.2**
CUSAR	**Sarkisla-SIVAS**	**1.45**	**35**	P		**Pb**	**18 43 04.7**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	**1.45**	**35**	*i* P		**Pb**	**18 43 04.7**	**-0.3**
CUSAR				*i* S		**Sg**	**18 43 26.6**	**+2.2**
MERS	**Mersin**	**1.46**	**200**	*e*PN		**Pg**	**18 43 05.1**	**-0.7**
MERS	**Mersin**	**1.46**	**200**	*e*Pn		**Pg**	**18 43 05.1**	**-0.7**
YURE	**YUREGIR**	**1.46**	**165**	P		**Pg**	**18 43 05.9**	**+0.1**
YURE	**YUREGIR**	**1.46**	**165**	*i* P		**Pg**	**18 43 05.9**	**+0.1**
YURE				*i* S		**Sg**	**18 43 29.4**	**+4.6**
CDAG	**Cicekdag**	**1.51**	**336**	P		**Pb**	**18 43 05.9**	**-0.1**
CDAG				S		**Sg**	**18 43 25.9**	**-0.4**
CDAG	**Cicekdag**	**1.51**	**336**	*i* P		**Pb**	**18 43 05.9**	**-0.1**
CDAG				*i* S		**Sg**	**18 43 25.9**	**-0.4**
KMRS	**Kahramanmaras**	**1.56**	**118**	*e*PN		**Pb**	**18 43 06.2**	**-0.6**
KMRS	**Kahramanmaras**	**1.56**	**118**	*e*Pn		**Pb**	**18 43 06.2**	**-0.6**
KAMA	**Osmaniye**	**1.59**	**131**	*i* P		**Pg**	**18 43 08.0**	**-0.3**
KAMA				*i* S		**Sg**	**18 43 30.1**	**+1.1**
KAMT	**Kaman**	**1.59**	**315**	*e*PN		**Pb**	**18 43 06.9**	**-0.5**
KAMT	**Kaman**	**1.59**	**315**	*e*Pn		**Pb**	**18 43 06.9**	**-0.5**
CUALT	**Altinyayla-SIV**	**1.62**	**50**	P		**Pb**	**18 43 07.3**	**-0.6**
CUALT				S		**Sb**	**18 43 28.4**	**-0.1**
CUALT	**Altinyayla-SIV**	**1.62**	**50**	*i* P		**Pb**	**18 43 07.3**	**-0.6**
CUALT				*i* S		**Sb**	**18 43 28.4**	**-0.1**
HCB	**Kahramanmara¯**	**1.65**	**122**	*i* P		**Pg**	**18 43 09.2**	**-0.2**
HCB				*i* S		**Sg**	**18 43 31.2**	**+0.5**
CHBY	**Cihanbeyli**	**1.81**	**281**	*e*PN		**Pb**	**18 43 10.5**	**-0.7**
CHBY	**Cihanbeyli**	**1.81**	**281**	*e*Pn		**Pb**	**18 43 10.5**	**-0.7**
DARE	**Darende-Malaty**	**1.85**	**79**	*e*PN		**Pb**	**18 43 10.8**	**-1.0**
DARE	**Darende-Malaty**	**1.85**	**79**	*e*Pn		**Pb**	**18 43 10.8**	**-1.0**
KIZK	**Mersin**	**1.94**	**205**	P		**Pb**	**18 43 13.5**	**+0.3**
KIZK	**Mersin**	**1.94**	**205**	*i* P		**Pb**	**18 43 13.5**	**+0.3**
KIZK				*i* S		**Sg**	**18 43 40.4**	**+0.4**
GAZ	**Gaziantep**	**1.95**	**123**	*e*PN		**Pb**	**18 43 12.2**	**-1.2**
GAZ	**Gaziantep**	**1.95**	**123**	*e*Pn		**Pb**	**18 43 12.2**	**-1.2**
CORM	**Corum**	**1.98**	**348**	*e*PN		**Pb**	**18 43 12.9**	**-1.0**
CORM	**Corum**	**1.98**	**348**	*e*Pn		**Pb**	**18 43 12.9**	**-1.0**
KKUL	**Konya-Kulu**	**1.98**	**299**	P		**Pb**	**18 43 13.4**	**-0.7**
KKUL				S		**Sg**	**18 43 41.0**	**-0.5**
KKUL	**Konya-Kulu**	**1.98**	**299**	*i* P		**Pb**	**18 43 13.3**	**-0.7**
KKUL				*i* S		**Sg**	**18 43 41.0**	**-0.5**
COAL	**Corum-Alaca**	**2.01**	**356**	P		**Pb**	**18 43 13.5**	**-1.1**
COAL	**Corum-Alaca**	**2.01**	**356**	*i* P		**Pb**	**18 43 13.5**	**-1.1**
COAL				*i* S		**Sg**	**18 43 45.5**	**+3.0**
AFSR	**Af¯ar-Bala (A**	**2.03**	**307**	*e*PN		**Pn**	**18 43 12.9**	**+0.8**
AFSR	**Af¯ar-Bala (A**	**2.03**	**307**	*e*Pn		**Pn**	**18 43 12.9**	**+0.8**
TAHT	**Tahtakopru-Hat**	**2.04**	**156**	*e*PN		**Pb**	**18 43 13.5**	**-1.3**
TAHT	**Tahtakopru-Hat**	**2.04**	**156**	*e*Pn		**Pb**	**18 43 13.5**	**-1.3**
BBAL	**Bala**	**2.05**	**310**	P		**Pb**	**18 43 13.9**	**-1.3**
BBAL	**Bala**	**2.05**	**310**	*i* P		**Pb**	**18 43 13.9**	**-1.3**
BBAL				*i* S		**Sg**	**18 43 45.0**	**+1.3**
CUKAN	**kangal_SIVAS**	**2.10**	**59**	P		**Pb**	**18 43 15.2**	**-0.8**
CUKAN	**kangal_SIVAS**	**2.10**	**59**	*i* P		**Pb**	**18 43 15.2**	**-0.8**
CUKAN				*i* S		**Sg**	**18 43 47.3**	**+2.1**
KUZU	**Kuzuini**	**2.11**	**133**	P		**Pb**	**18 43 15.7**	**-0.5**
KUZU	**Kuzuini**	**2.11**	**133**	*i* P		**Pb**	**18 43 15.7**	**-0.5**
KUZU				*i* S		**Sg**	**18 43 45.2**	**-0.5**
LADK	**Ladik-KONYA**	**2.20**	**270**	*e*PN		**Pn**	**18 43 16.0**	**+1.4**
LADK	**Ladik-KONYA**	**2.20**	**270**	*e*Pn		**Pn**	**18 43 16.0**	**+1.4**
KONT	**Konya--Tatoy**	**2.23**	**263**	*e*PN		**Pn**	**18 43 16.4**	**+1.5**
KONT	**Konya--Tatoy**	**2.23**	**263**	*e*Pn		**Pn**	**18 43 16.4**	**+1.5**
SCER	**sogukcermik**	**2.23**	**43**	*i* P		**Pb**	**18 43 18.6**	**+0.4**
SCER				*i* S		**Sg**	**18 43 49.0**	**-0.3**
YAYL	**Yayladag**	**2.33**	**161**	P		**Pn**	**18 43 16.3**	**0.0**
YAYL				S		**Sb**	**18 43 49.2**	**+0.3**
YAYL	**Yayladag**	**2.33**	**161**	*i* P		**Pn**	**18 43 16.3**	**0.0**
YAYL				*i* S		**Sb**	**18 43 49.2**	**+0.3**
TOKT	**Tokat**	**2.34**	**27**	*e*PN		**Pn**	**18 43 17.7**	**+1.3**
TOKT	**Tokat**	**2.34**	**27**	*e*Pn		**Pn**	**18 43 17.7**	**+1.3**
ERMK	**Ermenek**	**2.40**	**229**	P		**Pb**	**18 43 20.4**	**-0.8**
ERMK	**Ermenek**	**2.40**	**229**	*i* P		**Pb**	**18 43 20.4**	**-0.8**
ERMK				*i* S		**Sg**	**18 43 54.0**	**-0.8**
KDHN	**Kadinhani**	**2.41**	**278**	P		**Pn**	**18 43 18.9**	**+1.5**
KDHN	**Kadinhani**	**2.41**	**278**	*i* P		**Pn**	**18 43 18.9**	**+1.5**
KDHN				*i* S		**Sg**	**18 43 55.6**	**+0.5**
CTAK	**Corum_Osmancik**	**2.42**	**353**	P		**Pb**	**18 43 19.8**	**-1.8**
CTAK	**Corum_Osmancik**	**2.42**	**353**	*i* P		**Pb**	**18 43 19.8**	**-1.8**
CTAK				*i* S		**Sg**	**18 43 54.9**	**-0.6**
LOD	**Lodumlu**	**2.49**	**312**	*e*PN		**Pn**	**18 43 20.0**	**+1.6**
LOD	**Lodumlu**	**2.49**	**312**	*e*Pn		**Pn**	**18 43 20.0**	**+1.6**
ELDT	**Eldivan**	**2.62**	**330**	P		**Pb**	**18 43 22.7**	**-2.2**
ELDT	**Eldivan**	**2.62**	**330**	*i* P		**Pb**	**18 43 22.7**	**-2.2**
ELDT				*i* S		**Sg**	**18 44 01.5**	**-0.3**
CANT	**Cankiri**	**2.65**	**334**	*e*PN		**Pn**	**18 43 22.1**	**+1.5**
KIZT	**Kizilcal**	**2.65**	**285**	*e*PN		**Pn**	**18 43 22.1**	**+1.4**
KIZT	**Kizilcal**	**2.65**	**285**	*e*Pn		**Pn**	**18 43 22.1**	**+1.4**
ERBA	**Erbaa**	**2.73**	**26**	P		**Pb**	**18 43 25.0**	**-1.8**
ERBA	**Erbaa**	**2.73**	**26**	*i* P		**Pb**	**18 43 25.0**	**-1.8**
ERBA				*i* S		**Sg**	**18 44 07.2**	**+1.7**
KEMA	**Kemaliye**	**2.80**	**67**	P		**Pb**	**18 43 25.4**	**-2.6**
KEMA	**Kemaliye**	**2.80**	**67**	*i* P		**Pb**	**18 43 25.4**	**-2.6**
KEMA				*i* S		**Sg**	**18 44 05.4**	**-2.3**

*SJA **30** 18:45:53.3±1.1, 32.°75S×71.°90W, h20km±30km, MD3.2, ML2.9, MW3.2*
*GUC **30** 18:45:56.5±0.4, 32.°57S×71.°68W, h7km±2km, ML2.4*
ISC 30 18:45:55.0±3.2, **32.°70S**±0.°06×**71.°8W**±0.°1, **h13**km±17km, **n11**, σ1°**21**/20, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.73**	**113**	*i* P		**Pb**	**18 46 09.5**	**-0.2**
ROC1				*e*S		**Sb**	**18 46 19.8**	**+0.2**
ROCH	**El Roble**	**0.73**	**112**	*i* P		**Pb**	**18 46 09.5**	**-0.2**
ROCH				*i* S		**Sb**	**18 46 19.1**	**-0.6**
ROCH				IAML			18 46 22.7	
	comp=N,272nm,0.4s							
PEL	**Peldehue**	**1.05**	**115**	*i* P		**Pb**	**18 46 14.6**	**-0.4**
PEL				*i* S		**Sb**	**18 46 28.4**	**-0.3**
PEL				IAML			18 46 32.3	
	comp=E,325nm,0.3s							
RCDM	**Rinconada Maip**	**1.16**	**133**	*i* P		**Pb**	**18 46 17.0**	**+0.1**
RCDM				*i* S		**Sg**	**18 46 32.5**	**+0.1**
RCDM				IAML			18 46 33.6	
	comp=E,131nm,0.2s							
CLCH	**Cerro Calan**	**1.28**	**123**	*i* P		**Pn**	**18 46 18.4**	**-0.3**
CLCH				*i* S		**Sn**	**18 46 35.6**	**-0.2**
CLCH				IAML			18 46 41.6	
	comp=N,203nm,0.7s							
FCH	**Farellones**	**1.43**	**117**	*i* P		**Pn**	**18 46 20.5**	**-0.3**
FCH				*i* S		**Sn**	**18 46 39.5**	**-0.1**
FCH				IAML			18 46 41.0	
	comp=E,126nm,0.2s							
ASAL	**Salagasta**	**2.52**	**88**	*e*P		**Pb**	**18 46 39.1**	**-1.0**
ASAL				*e*S		**Sb**	**18 47 11.8**	**+0.8**
AAGR	**Agrelo**	**2.54**	**100**	*i* P		**Pb**	**18 46 40.4**	**-0.1**
ACCO	**Cerro Coronel**	**3.15**	**49**	*e*P		**Pn**	**18 46 46.8**	**+2.3**
ACCO				*e*S		**Sb**	**18 47 29.3**	**-0.2**
ACCO				IAML			18 47 37.7	
	comp=Z,26nm,0.5s							
AROD	**Rodeo**	**3.22**	**39**	*e*P		**Pn**	**18 46 46.0**	**+0.5**
AROD				*e*S		**Sb**	**18 47 28.0**	**-3.4**
AVFE	**Valle Fertil**	**4.24**	**63**	*e*P		**Pn**	**18 47 01.2**	**+2.0**
AVFE				IAML			18 47 10.8	
	comp=Z,12nm,0.4s							

*ATH **30** 18:52:20.9, 36.°96N×27.°35E, h30km±1km, ML2.4/4, Error ellipse: s-maj=2.5km s-min=1.0km az=251.0*
*ISK **30** 18:52:20.9, 36.°98N×27.°43E, h7km, MD2.9*

*ISCJB **30** 18:52:21.2±0.4, 36.°99N±0.°02×27.°39E±0.°03, h8km±3km, Error ellipse: s-maj=4.3km s-min=3.7km az=177.2*
*DDA **30** 18:52:21.2, 37.°03N×27.°42E, h10km, Md3.0*
*CSEM **30** 18:52:21.2±0.2, 36.°98N×27.°41E, h10km, MD3.0, Error ellipse: s-maj=4.6km s-min=3.9km az=88.0*
ISC 30 18:52:20.0±0.8, **36.°95N**±0.°02×**27.°47E**±0.°02, **h11**km±5km, **n39**, σ1°**10**/63, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.12**	**351**	P		**Pg**	**18 52 23.3**	**+0.2**
BDRM				*e*S		**Sg**	**18 52 25.0**	**-0.3**
BDRM	**Kayabasi**	**0.12**	**351**	*i* P		**Pg**	**18 52 23.3**	**+0.2**
BDRM				*i* S		**Sg**	**18 52 25.0**	**-0.3**
BODT	**Bodrum**	**0.17**	**312**	PG		**Pg**	**18 52 23.8**	**0.0**
BODT				*e*SG		**Sg**	**18 52 26.4**	**-0.1**
BODT	**Bodrum**	**0.17**	**312**	*i* Pg		**Pg**	**18 52 23.8**	**0.0**
BODT				*e*Sg		**Sg**	**18 52 26.5**	**-0.1**
NIS1	**Nisyros Isl.**	**0.41**	**214**	*e*PG		**Pb**	**18 52 29.5**	**+0.2**
NIS1				*e*SG		**Sb**	**18 52 36.2**	**+0.7**
NIS1	**Nisyros Isl.**	**0.41**	**214**	*e*Pg		**Pb**	**18 52 29.5**	**+0.2**
NIS1				S		**Sb**	**18 52 36.0**	**+0.4**
NIS1	**Nisyros Isl.**	**0.41**	**214**	P		**Pb**	**18 52 29.4**	**+0.2**
NIS1				S		**Sb**	**18 52 36.0**	**+0.4**
NIS1				AML	AML		18 52 38.1	
	comp=N,2176µm,0.2s							
NIS1				AML	AML		18 52 38.5	
	comp=E,2148µm,0.2s							
NISR	**Nisiros**	**0.43**	**219**	P		**Pb**	**18 52 29.8**	**+0.2**
NISR				S		**Sb**	**18 52 36.2**	**+0.2**
NISR	**Nisiros**	**0.43**	**219**	P		**Pb**	**18 52 29.8**	**+0.2**
NISR				S		**Sb**	**18 52 36.2**	**+0.2**
NISR				AML	AML		18 52 38.3	
	comp=E,1655µm,0.3s							
NISR				AML	AML		18 52 39.8	
	comp=N,710µm,0.2s							
YER	**Yerkesik**	**0.68**	**74**	*e*PG		**Pn**	**18 52 35.7**	**+0.2**
YER				*e*SG		**Sn**	**18 52 45.0**	**-1.1**
YER	**Yerkesik**	**0.68**	**74**	*e*Pg		**Pn**	**18 52 35.7**	**+0.2**
YER				*e*Sg		**Sn**	**18 52 45.0**	**-1.1**
GCAM	**G?zelcaml?**	**0.78**	**346**	P		**Pg**	**18 52 35.1**	**+0.1**
GCAM				S		**Sb**	**18 52 47.0**	**+1.1**
GCAM	**G?zelcaml?**	**0.78**	**346**	*i* P		**Pg**	**18 52 35.1**	**+0.1**
GCAM				*i* S		**Sb**	**18 52 47.0**	**+1.1**
ARG	**Arkhangelos**	**0.90**	**144**	P		**Pn**	**18 52 39.7**	**+1.2**
ARG				S		**Sn**	**18 52 53.8**	**+2.3**
SMG	**Samos**	**0.91**	**327**	P		**Pg**	**18 52 37.5**	**-0.1**
SMG				S		**Sg**	**18 52 49.7**	**+0.2**
SMG	**Samos**	**0.91**	**327**	P		**Pg**	**18 52 37.5**	**-0.1**
SMG				S		**Sg**	**18 52 49.7**	**+0.2**
SMG				AML	AML		18 52 53.4	
	comp=E,886µm,0.4s							
SMG				AML	AML		18 52 54.0	
	comp=N,786µm,0.3s							
TURN	**Turunc**	**0.91**	**94**	*i* P		**Pg**	**18 52 34.2**	**-3.4**
TURN				*i* S		**Sg**	**18 52 45.7**	**-3.8**
DALY	**Dalyan (Mu¯la**	**0.96**	**97**	*e*PG		**Pn**	**18 52 40.0**	**+0.7**
DALY	**Dalyan (Mu¯la**	**0.96**	**97**	*e*Pg		**Pn**	**18 52 40.0**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**18**	*e*PG		**Pn**	**18 52 40.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**18**	*e*Pg		**Pn**	**18 52 40.8**	**0.0**
DGB	**¯zmir**	**1.20**	**337**	*i* P		**Pb**	**18 52 42.3**	**-0.3**
DGB				*i* S		**Sb**	**18 52 57.3**	**-0.8**
KARP	**Karpathos**	**1.42**	**190**	*e*PN		**Pg**	**18 52 47.5**	**+0.4**
KARP	**Karpathos**	**1.42**	**190**	P		**Pn**	**18 52 45.4**	**-0.3**
KARP	**Karpathos**	**1.42**	**190**	*e*Pn		**Pg**	**18 52 47.6**	**+0.4**
KARP	**Karpathos**	**1.42**	**190**	P		**Pn**	**18 52 45.4**	**-0.3**
DNZL	**Cakiroluk**	**1.46**	**59**	P		**Pg**	**18 52 49.1**	**+1.0**
DNZL				S		**Sg**	**18 53 09.3**	**+2.3**
DNZL	**Cakiroluk**	**1.46**	**59**	*i* P		**Pg**	**18 52 49.1**	**+1.0**
DNZL				*i* S		**Sg**	**18 53 09.3**	**+2.3**
ZEY	**¯zmir**	**1.50**	**330**	*i* P		**Pb**	**18 52 48.0**	**+0.2**
ZEY				*i* S		**Sn**	**18 53 04.4**	**-1.9**
APE	**Apeiranthos**	**1.56**	**275**	*e*PN		**Pg**	**18 52 49.8**	**-0.1**
APE	**Apeiranthos**	**1.56**	**275**	P		**Pn**	**18 52 48.4**	**+0.8**
APE	**Apeiranthos**	**1.56**	**275**	*e*Pn		**Pg**	**18 52 49.8**	**-0.1**
APE				S		**Sn**	**18 53 05.8**	**-2.0**
APE	**Apeiranthos**	**1.56**	**275**	P		**Pn**	**18 52 48.4**	**+0.8**
APE				S		**Sn**	**18 53 05.8**	**-2.0**
APE				AML	AML		18 53 08.0	
	comp=N,64µm,0.2s							
APE				AML	AML		18 53 08.7	
	comp=E,67µm,0.4s							
URLA	**Izmir**	**1.57**	**334**	P		**Pb**	**18 52 49.5**	**+0.5**
URLA	**Izmir**	**1.57**	**334**	*i* P		**Pb**	**18 52 49.5**	**+0.5**
URLA				*i* S		**Sg**	**18 53 12.4**	**+1.8**
CHOS	**Chios island**	**1.82**	**322**	*e*PN		**Pb**	**18 52 53.0**	**-0.4**
CHOS	**Chios island**	**1.82**	**322**	P		**Pn**	**18 52 50.6**	**-0.7**
CHOS	**Chios island**	**1.82**	**322**	*e*Pn		**Pb**	**18 52 53.0**	**-0.4**
CHOS	**Chios island**	**1.82**	**322**	P		**Pn**	**18 52 50.6**	**-0.7**

JMA 30 19:00:25.2±0.1, **38.°41N**×**144.°51E**, **h31**km, **M3.8, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.32**	**288**	P		**Pn**	**19 01 02.7**	**+1.5**
OFUJ				S		**Sn**	**19 01 30.4**	**+1.7**
MIYJ	**Miyakonagasawa**	**2.40**	**300**	P		**Pn**	**19 01 03.7**	**+1.4**
MIYJ				S		**Sn**	**19 01 31.9**	**+1.3**
JIO	**Ouri**	**2.48**	**272**	P		**Pn**	**19 01 04.7**	**+1.2**
JIO				S		**Sn**	**19 01 33.8**	**+1.1**
JMK	**Ichinoseki**	**2.63**	**283**	P		**Pn**	**19 01 07.3**	**+1.8**
JMK				S		**Sn**	**19 01 38.4**	**+2.0**
JOM	**Ohasama**	**2.72**	**294**	P		**Pn**	**19 01 08.6**	**+1.8**
JOM				S		**Sn**	**19 01 41.4**	**+2.7**
JOU	**Okura**	**3.02**	**270**	S		**Sn**	**19 01 48.3**	**+2.2**
JANG	**Nango**	**3.04**	**311**	P		**Pn**	**19 01 12.2**	**+1.1**
JANG				*e*S		**Sn**	**19 01 47.9**	**+1.5**
JRG	**Rokugo**	**3.18**	**289**	P		**Pn**	**19 01 13.7**	**+2.6**
JRG				S		**Sn**	**19 01 53.3**	**+3.4**
JYK	**Kaneyama**	**3.29**	**280**	P		**Pn**	**19 01 17.0**	**+2.4**
JYK				*e*S		**Sn**	**19 01 55.1**	**+2.5**
JFT	**Otama**	**3.42**	**256**	P		**Pn**	**19 01 18.4**	**+2.1**
JFT				S		**Sn**	**19 01 57.5**	**+1.7**
JAH	**Hinai**	**3.49**	**302**	P		**Pn**	**19 01 19.3**	**+2.0**
JAH				S		**Sn**	**19 02 00.5**	**+2.9**
JTM	**Tenmabayashi**	**3.56**	**313**	P		**Pn**	**19 01 20.7**	**+2.4**
JTM				S		**Sn**	**19 02 00.3**	**+0.9**
JOT	**Ohata**	**3.99**	**319**	P		**Pn**	**19 01 26.5**	**+2.4**
JOT				*e*S		**Sn**	**19 02 10.6**	**+0.8**
JRY	**Ryogami san**	**5.07**	**244**	P		**Pn**	**19 01 39.9**	**+0.8**
JTKR	**Abashiri--Toko**	**5.57**	**356**	P		**Pn**	**19 01 45.6**	**-0.3**

*ISK **30** 19:06:30.3, 39.°12N×29.°06E, h5km, MD3.1*
*CSEM **30** 19:06:30.8±0.1, 39.°13N×29.°07E, h5km, MD3.1, Error ellipse: s-maj=1.8km s-min=1.8km az=170.0*
*DDA **30** 19:06:30.5, 39.°12N×29.°07E, h10km, Ml3.8*
ISC 30 19:06:31.0±0.9, **39.°14N**±0.°02×**29.°07E**±0.°02, **h9**km±9km, **n65**, σ0°**57**/94, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.28**	**110**	PG		**Pg**	**19 06 36.9**	**+0.2**
GEDZ				*e*SG		**Sg**	**19 06 40.4**	**-0.1**
GEDZ	**Gediz**	**0.28**	**110**	*i* Pg		**Pg**	**19 06 36.9**	**+0.2**
GEDZ				*e*Sg		**Sg**	**19 06 40.4**	**-0.1**
DEMI	**Demirci**	**0.29**	**250**	P		**Pg**	**19 06 36.8**	**-0.1**
DEMI				S		**Sg**	**19 06 40.8**	**0.0**
DEMI	**Demirci**	**0.29**	**250**	*i* P		**Pg**	**19 06 36.8**	**-0.1**
DEMI				*i* S		**Sg**	**19 06 40.8**	**0.0**
GDZ	**Gediz**	**0.33**	**99**	P		**Pg**	**19 06 37.3**	**-0.2**
GDZ				S		**Sg**	**19 06 42.2**	**+0.8**
GDZ	**Gediz**	**0.33**	**99**	*i* P		**Pg**	**19 06 37.3**	**-0.2**
GDZ				*i* S		**Sg**	**19 06 42.1**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**45**	PG		**Pg**	**19 06 39.6**	**+0.1**
TVSB				*e*SG		**Sg**	**19 06 45.5**	**+0.3**
TVSB	**Tavsanli**	**0.43**	**45**	*i* Pg		**Pg**	**19 06 39.6**	**+0.1**
TVSB				*e*Sg		**Sg**	**19 06 45.5**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**207**	PG		**Pg**	**19 06 43.9**	**-0.7**
KULA				*e*SG		**Sg**	**19 06 52.8**	**-1.0**
KULA	**Kula-Manisa**	**0.70**	**207**	*i* Pg		**Pg**	**19 06 43.9**	**-0.7**
KULA				*e*Sg		**Sg**	**19 06 52.8**	**-1.0**
KHL	**Karahalli**	**0.89**	**156**	PG		**Pg**	**19 06 47.6**	**-0.5**
KHL				*e*SG		**Sg**	**19 06 59.7**	**0.0**
KHL	**Karahalli**	**0.89**	**156**	*i* Pg		**Pg**	**19 06 47.6**	**-0.5**
KHL				*e*Sg		**Sg**	**19 06 59.7**	**0.0**
AKS	**Akhisar**	**1.01**	**255**	*e*PG		**Pg**	**19 06 50.4**	**-0.1**
AKS	**Akhisar**	**1.01**	**255**	*e*Pg		**Pg**	**19 06 50.4**	**-0.1**
BALB	**Balikesir**	**1.05**	**299**	*e*PG		**Pb**	**19 06 51.3**	**+0.1**
BALB				*e*SG		**Sb**	**19 07 05.9**	**+0.8**
BALB	**Balikesir**	**1.05**	**299**	*e*Pg		**Pb**	**19 06 51.3**	**+0.1**
BALB				*e*Sg		**Sb**	**19 07 05.9**	**+0.8**
IGD	**Bursa**	**1.13**	**5**	*i* P		**Pg**	**19 06 51.3**	**-1.4**
IGD				*i* S		**Sg**	**19 07 05.2**	**-2.0**
CAVI	**Cavuskoy**	**1.22**	**29**	*e*PN		**Pg**	**19 06 54.3**	**-0.1**
CAVI	**Cavuskoy**	**1.22**	**29**	*e*Pn		**Pg**	**19 06 54.3**	**-0.1**
IZI	**Iznik**	**1.23**	**14**	*e*PN		**Pg**	**19 06 54.6**	**-0.1**
IZI	**Iznik**	**1.23**	**14**	*e*Pn		**Pg**	**19 06 54.6**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.23**	**353**	*e*PN		**Pn**	**19 06 54.8**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.23**	**353**	*e*Pn		**Pn**	**19 06 54.8**	**+0.4**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*PN		**Pg**	**19 06 54.6**	**-0.4**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*Pn		**Pg**	**19 06 54.6**	**-0.4**
BALY	**Balya**	**1.27**	**299**	P		**Pb**	**19 06 55.7**	**+0.6**
BALY				S		**Sg**	**19 07 11.6**	**-0.3**
BALY	**Balya**	**1.27**	**299**	*i* P		**Pb**	**19 06 55.7**	**+0.6**
BALY				*i* S		**Sg**	**19 07 11.6**	**-0.3**
GEMT	**Gemlik**	**1.29**	**4**	*e*PN		**Pg**	**19 06 55.9**	**0.0**
GEMT	**Gemlik**	**1.29**	**4**	*e*Pn		**Pg**	**19 06 55.9**	**0.0**
SHUT	**Suhut-Afyon**	**1.30**	**116**	*e*PN		**Pn**	**19 06 55.5**	**+0.1**
SHUT	**Suhut-Afyon**	**1.30**	**116**	*e*Pn		**Pn**	**19 06 55.5**	**+0.1**
BORA	**Eskisehir**	**1.30**	**55**	P		**Pn**	**19 06 55.4**	**+0.1**
BORA				S		**Sb**	**19 07 13.1**	**+0.6**
BORA	**Eskisehir**	**1.30**	**55**	*i* P		**Pn**	**19 06 55.4**	**+0.1**
BORA				*i* S		**Sb**	**19 07 13.1**	**+0.6**
DENT	**Denizli**	**1.39**	**181**	*e*PN		**Pn**	**19 06 56.7**	**+0.2**
DENT	**Denizli**	**1.39**	**181**	*e*Pn		**Pn**	**19 06 56.7**	**+0.2**
ADVT	**Abdulvahap**	**1.39**	**22**	*e*PN		**Pb**	**19 06 57.4**	**+0.3**
ADVT	**Abdulvahap**	**1.39**	**22**	*e*Pn		**Pb**	**19 06 57.4**	**+0.3**
ARMT	**Armutlu**	**1.43**	**354**	*e*PN		**Pb**	**19 06 57.9**	**+0.1**
ARMT	**Armutlu**	**1.43**	**354**	*e*Pn		**Pb**	**19 06 57.9**	**+0.1**
ESKT	**Eskisehir**	**1.43**	**74**

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.71**	**240**	P	P	19 41 26.1	-0.4
	2.9nm,0.8s,baz=84,slow=9.9,SNR=5.7						
WRA	**Warramunga Arr**	**44.49**	**259**	P	P	19 42 12.5	-0.1
	0.6nm,0.3s,baz=91,slow=7.9,SNR=22						
ASAR	**Alice Springs**	**44.71**	**254**	P	P	19 42 14.4	+0.1
	6.2nm,0.6s,baz=88,slow=8.5,SNR=102						
FITZ	**Fitzroy Crossi**	**52.87**	**260**	P	P	19 43 14.9	-0.2
	2.2nm,0.8s,baz=102,slow=9.3,SNR=6.8						
ILAR	**Eielson Array**	**85.32**	**13**	P	P	19 46 29.6	-0.2
	0.3nm,0.4s,baz=222,slow=4.5,SNR=4.3						
TXAR	**Lajitas Array**	**85.88**	**58**	P	P	19 46 33.5	+0.1
	0.7nm,0.8s,baz=216,slow=7.2,SNR=6.3						
GERES	**GERESS Array B**	**146.92**	**345**	PKPbc	PKPbc	19 53 32.1	-0.7
	0.6nm,0.8s,baz=351,slow=5.1,SNR=3.2						

*IDC **30** 19:38:16.5±2.9, 35°.93N×141°.78E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.2/37, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=73.1km s-min=28.8km az=47.0*
*JMA **30** 19:38:22.4±0.1, 36°.00N×141°.43E, h44km±2km, M2.9*
ISC 30 19:38:21.4±2.3, 36°.03N±0°.06×141°.5E±0°.1, h26km±15km, n10, σ1s19/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.61**	**238**	P	**Pb**	**19 38 33.8**	**+0.3**
CHOJ				S	**Sb**	**19 38 42.3**	**+0.7**
JHO	**Hitachi**	**0.95**	**308**	P	**Pn**	**19 38 39.0**	**-0.1**
JYT	**Yasato**	**1.07**	**281**	P	**Pn**	**19 38 40.5**	**-0.3**
JYT				S	**Sb**	**19 38 53.2**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.21**	**333**	P	**Pn**	**19 38 43.3**	**+0.5**
ONAJ				S	**Sn**	**19 38 58.8**	**+0.4**
JFK	**Kawauchi**	**1.43**	**340**	P	**Pn**	**19 38 46.3**	**+0.6**
BSO3	**Boso 3**	**1.46**	**314**	P	Pn	**19 38 46.1**	**+0.2**
MJAR	**Matsushiro Arr**	**2.70**	**282**	P	**Pn**	**19 39 04.7**	**+1.5**
	1.3nm,0.3s,baz=99,slow=9.1,SNR=13						
MJAR				Sn	**Sb**	**19 39 40.0**	**-1.8**
	1.4nm,0.3s,baz=126,slow=13,SNR=5.2						
MAT	**Matsushiro**	**2.71**	**282**	P	**Pn**	**19 39 04.9**	**+1.6**
MAT				*e*S	**Sn**	**19 39 35.7**	**+0.5**
MKAR	**Makanchi Array**	**44.72**	**303**	P	**P**	**19 46 33.1**	**+0.7**
	0.2nm,0.2s,baz=74,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**56.07**	**188**	P	**P**	**19 47 56.9**	**-1.5**
	1.0nm,1.3s,baz=6.7,slow=7.9,SNR=2.6						

WEL 30 19:47:49.8±0.1, 43°.58S×172°.79E, h7km, ML3.5/11, 3C-4D, Error ellipse: s-maj=0.9km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.12**	**270**	↑P	Pg	19 47 52.4	0.0
CRLZ				SG	Sg	19 47 54.2	+0.1
CRLZ				AML	AML	19 47 54.3	
CRLZ				AML	AML	19 47 54.4	
CRLZ				AML	AML	19 47 54.4	
MQZ	**McQueen's Vall**	**0.16**	**217**	↑PG	Pg	19 47 53.4	+0.2
MQZ				SG	Sg	19 47 55.7	+0.3
MQZ				AML	AML	19 47 55.9	
OXZ	**Oxford**	**0.60**	**294**	↓P*	Pg	19 48 01.4	0.0
OXZ				SG	Sg	19 48 09.8	+0.7
LTZ	**Lake Taylor**	**0.88**	**334**	P*	Pg	19 48 06.7	+0.1
LTZ				S*	Sb	19 48 19.2	-0.2
LTZ				AML	AML	19 48 19.9	
RPZ	**Rata Peaks**	**1.27**	**263**	↓P*	Pn	19 48 12.6	-1.4
RPZ				AML	AML	19 48 34.1	
RPZ				AML	AML	19 48 36.5	
KHZ	**Kahutara**	**1.28**	**26**	P*	Pn	19 48 12.8	-1.3
INZ	**Inchbonnie**	**1.30**	**310**	↓P*	Pn	19 48 13.4	-1.0
WVZ	**Waitaha Valley**	**1.58**	**288**	↓PN	Pn	19 48 17.9	-0.3
THZ	**Tophouse**	**1.81**	**3**	PN	Pn	19 48 20.2	-1.3
THZ				AML	AML	19 48 54.1	
THZ				AML	AML	19 48 57.9	
DSZ	**Denniston Nort**	**1.97**	**338**	AML	AML	19 48 50.9	
DSZ				AML	AML	19 48 51.6	
BSWZ	**Blackbirch Sta**	**2.02**	**24**	PN	Pn	19 48 23.4	-0.9
LBZ	**Lake Benmore**	**2.05**	**246**	PN	Pn	19 48 23.8	-0.9
LBZ				AML	AML	19 49 05.9	
LBZ				AML	AML	19 49 07.3	
ODZ	**Otahua Downs**	**2.13**	**226**	PN	Pn	19 48 24.8	-1.0
ODZ				AML	AML	19 49 05.5	
ODZ				AML	AML	19 49 05.5	
ODZ				AML	AML	19 49 07.7	
ODZ				AML	AML	19 49 07.7	
FOZ	**Fox Glacier**	**2.16**	**270**	↑PN	Pn	19 48 26.7	+0.5
QRZ	**Quartz Range**	**2.75**	**356**	AML	AML	19 49 24.9	
JCZ	**Jackson Bay**	**2.94**	**259**	PN	Pn	19 48 37.2	+0.1
EAZ	**Earnscleugh**	**2.99**	**235**	PN	Pn	19 48 36.7	-1.0
EAZ				AML	AML	19 49 26.0	
TUZ	**Tuapeka**	**3.27**	**222**	PN	Pn	19 48 41.5	0.0
TUZ				AML	AML	19 49 38.1	
TUZ				AML	AML	19 49 43.3	
MLZ	**Mavora Lakes**	**3.79**	**240**	PN	Pn	19 48 48.3	-0.4

*IDC **30** 20:03:14.9±1.7, 6°.61S×147°.45E, h85km±15km, mb3.7/8, mb1 4.0/11, mb1mx3.8/24, mbtmp4.1/11, MS3.0/10, Ms1 3.0/10, ms1mx2.9/25, Error ellipse: s-maj=20.3km s-min=11.2km az=105.0*
ISC 30 20:03:12.8±0.9, 6°.47S±0°.08×147°.3E±0°.2, h63km, n18, σ1s17/17, mb3.8/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.93**	**183**	P	**Pn**	**20 03 58.2**	**+1.2**
	66nm,0.3s,baz=17,slow=4.8,SNR=112						
PMG				S	**Sn**	**20 04 30.8**	**-0.2**
	175nm,0.3s,baz=193,slow=23,SNR=12						
PMG				LR	LR	20 05 00.2	
	comp=Z,353nm,18.8s,baz=48,slow=38						
JAY	**Jayapura**	**7.68**	**300**	P	Pn	20 05 08.4	+6.3
	0.1nm,0.3s,baz=92,slow=22,SNR=5.9						
HNR	**Honiara**	**12.84**	**104**	LR	LR	20 09 30.1	
	comp=Z,50nm,19.5s,baz=172,slow=20						
CTA	**Charters Tower**	**13.58**	**184**	P	**Pn**	**20 06 22.6**	**-0.1**
	1.3nm,0.3s,baz=8.4,slow=14,SNR=10						
WRA	**Warramunga Arr**	**18.41**	**222**	P	**P**	**20 07 23.1**	**+0.1**
	1.1nm,0.3s,baz=51,slow=11,SNR=64						
WRA				S	**Sn**	**20 10 48.6**	**-0.3**
	0.2nm,0.3s,baz=54,slow=22,SNR=4.1						
GUMO	**Guam**	**20.07**	**353**	LR	LR	20 14 09.8	
	comp=Z,34nm,20.5s,baz=172,slow=32						
ASAR	**Alice Springs**	**21.43**	**216**	P	**P**	**20 07 56.0**	**+0.2**
	7.1nm,0.7s,baz=49,slow=9.3,SNR=112						
ASAR				S	**S**	**20 11 49.2**	**-1.2**
	2.3nm,0.8s,baz=30,slow=23,SNR=7.5						
ASAR				LR	LR	20 16 11.8	
	comp=Z,68nm,19.3s,baz=54,slow=36						
FITZ	**Fitzroy Crossi**	**24.11**	**239**	P	**P**	**20 08 22.8**	**0.0**
	8.9nm,0.5s,baz=55,slow=9.1,SNR=68						
FITZ				LR	LR	20 17 58.3	
	comp=Z,90nm,20.7s,baz=51,slow=37						
DAV	**Davao City (W)**	**25.53**	**301**	LR	LR	20 18 18.2	
	comp=Z,18nm,21.5s,baz=254,slow=35						
STKA	**Stephens Creek**	**25.84**	**191**	P	**P**	**20 08 37.9**	**-0.6**
	6.7nm,0.7s,baz=355,slow=8.7,SNR=16						
STKA				LR	LR	20 18 41.4	
	comp=Z,54nm,18.3s,baz=21,slow=36						
MJAR	**Matsushiro Arr**	**43.63**	**349**	pP	pP	20 11 28.5	+1.4
	1.3nm,0.7s,baz=170,slow=7.5,SNR=4.2						
KSRS	**Korea Array**	**47.30**	**339**	LR	LR	20 31 07.6	
	comp=Z,9.9nm,20.3s,baz=174,slow=35						
CMAR	**Chiang Mai Arr**	**53.76**	**298**	P	**P**	**20 12 30.9**	**+1.7**
	0.3nm,0.5s,baz=128,slow=5.8,SNR=3.8						
CMAR				pP	**sP**	**20 12 51.4**	**-1.4**
	1.1nm,0.8s,baz=125,slow=6.3,SNR=6.1						
CMAR				LR	LR	20 35 17.0	
	comp=Z,7.6nm,21.9s,baz=225,slow=36						
VNDA	**Vanda**	**71.43**	**177**	P	**P**	**20 14 25.7**	**-0.3**
	1.0nm,0.6s,baz=335,slow=8.4,SNR=15						
MKAR	**Makanchi Array**	**78.06**	**320**	P	**P**	**20 15 05.3**	**+0.4**
	0.2nm,0.4s,baz=97,slow=7.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**79.58**	**328**	P	**P**	**20 15 12.0**	**-1.0**
	0.3nm,0.3s,baz=120,slow=8.5,SNR=2.5						
ZALV				LR	LR	20 49 50.9	
	comp=Z,12nm,21.8s,baz=68,slow=35						
ILAR	**Eielson Array**	**85.78**	**23**	P	**P**	**20 15 43.0**	**-2.0**
	0.3nm,0.5s,baz=248,slow=5.3,SNR=4.2						
ILAR				pP	**pP**	**20 16 04.9**	**+2.3**
	0.4nm,0.9s,baz=250,slow=4.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**145.52**	**284**	PKPbc	**PKPab**	**20 22 45.8**	**+0.4**
	1.0nm,0.5s,baz=73,slow=4.3,SNR=22						

*NIED **30** 20:13:00, 37°.80N×141°.50E, h77km, Mw3.5 Best double couple: M0 1.75000×10^14 NP1:φs59.00000°, δ43.00000°, λ147.00000°. NP2:φs174.00000°, δ68.00000°, λ52.00000°.*
JMA 30 20:13:20.4, 37°.75N×141°.51E, h61km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.58**	**282**	P	Pn	20 13 33.4	+0.1
JMM				S	Sn	20 13 42.6	-0.1
JFK	**Kawauchi**	**0.63**	**233**	P	Pn	20 13 33.9	-0.1
JFK				S	Sn	20 13 43.7	-0.2
JIO	**Ouri**	**0.71**	**350**	P	Pn	20 13 34.9	0.0
JIO				S	Sn	20 13 45.2	-0.3
ONAJ	**Iwakimizuishiy**	**0.86**	**221**	P	Pn	20 13 36.7	0.0
ONAJ				S	Sn	20 13 48.2	-0.6
JOU	**Okura**	**0.91**	**313**	P	Pn	20 13 37.3	0.0
JOU				S	Sn	20 13 50.0	+0.2
JFT	**Otama**	**0.96**	**256**	P	Pn	20 13 38.4	+0.4
JFT				S	Sn	20 13 51.6	+0.6
JMK	**Ichinoseki**	**1.22**	**349**	P	Pn	20 13 41.4	0.0
JMK				*e*S	Sn	20 13 56.8	-0.2
JYS	**Shiratake**	**1.23**	**293**	P	Pn	20 13 42.0	+0.4
JFY	**Yanaizu**	**1.48**	**257**	P	Pn	20 13 45.2	+0.4
JFY				S	Sn	20 14 03.9	+0.8
JYK	**Kaneyama**	**1.48**	**323**	P	Pn	20 13 45.1	+0.3
JYK				S	Sn	20 14 03.6	+0.5
JYA	**Atsumi**	**1.65**	**301**	P	Pn	20 13 47.6	+0.5
JYA				S	Sn	20 14 09.1	+1.9
JOM	**Ohasama**	**1.73**	**354**	P	Pn	20 13 48.6	+0.4
JOM				*e*S	Sn	20 14 09.1	-0.1
JNS	**Sasagawa**	**1.74**	**273**	P	Pn	20 13 48.9	+0.6
MAT	**Matsushiro**	**2.90**	**246**	P	Pn	20 14 05.8	+1.6
MAT				*e*S	Sn	20 14 44.4	+6.5

IDC 30 20:13:59.0±8.8, 5°.79S×150°.96E, h62km±63km, mb3.5/3, mb1 3.8/4, mb1mx3.3/29, mbtmp3.9/4, ML1.9/1, Error ellipse: s-maj=95.7km s-min=54.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**226**	P	Pn	20 15 15.4	+1.1
	2.6nm,0.3s,baz=50,slow=16,SNR=6.8						
PMG				S	Sn	20 16 13.7	+0.5
	1.2nm,0.3s,baz=151,slow=19,SNR=4.2						
WRA	**Warramunga Arr**	**21.43**	**227**	P	P	20 18 42.0	-0.1
	1.1nm,0.5s,baz=54,slow=11,SNR=18						
ASAR	**Alice Springs**	**24.20**	**221**	P	P	20 19 10.0	0.0
	1.9nm,0.7s,baz=56,slow=9.1,SNR=30						
FITZ	**Fitzroy Crossi**	**27.58**	**241**	P	P	20 19 40.5	-0.1
	1.7nm,0.6s,baz=58,slow=7.4,SNR=11						
TORD	**Torodi Ar. Bea**	**148.84**	**286**	PKPbc	PKPbc	20 33 40.2	-0.5
	0.6nm,0.6s,baz=63,slow=3.2,SNR=8.8						

SJA 30 20:16:37.4±0.4, 32°.05S×69°.14W, h19km±1km, ML1.9, MW3.6, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.27**	**230**	*i* P	Pb	20 16 44.4	+0.5
RTLS	**Leoncito**	**0.28**	**332**	*i* P	Pb	20 16 44.6	+0.7
RTLS				*i* S	Sb	20 16 50.0	+1.6
RTCV	**Cerro Valdivia**	**0.54**	**70**	*i* P	Pg	20 16 48.6	+0.3
RTCV				*i* S	Sb	20 16 56.6	+0.9
RTLL	**Cerro Villicun**	**0.91**	**38**	*i* P	Pg	20 16 55.2	-0.1
RTLL				*i* S	Sn	20 17 08.2	+0.2
AAGR	**Agrelo**	**1.07**	**166**	*i* P	Pg	20 16 58.0	-0.2
AAGR				*i* S	Sg	20 17 13.4	+1.1
AMOG	**MOGNA**	**1.24**	**27**	*i* P	Pg	20 17 00.9	-0.4
ACCO	**Cerro Coronel**	**1.46**	**2**	*i* P	Pg	20 17 05.8	+0.2
AVFE	**Valle Fertil**	**2.00**	**47**	*i* P	Pb	20 17 12.4	-0.8
AVFE				*i* S	Sb	20 17 38.7	+0.9
AVFE				IAML		20 17 42.8	
	comp=Z,10nm,0.2s						

*NEIC **30** 20:23:47.3±4.2, 34°.19S×179°.96W, h70km±35km, mb4.3/1, Error ellipse: s-maj=41.1km s-min=23.8km az=205.0*
*IDC **30** 20:23:48.3±6.2, 34°.28S×179°.92E, h73km±51km, mb4.2/4, mb1 4.3/5, mb1mx3.8/24, mbtmp4.4/5, ML3.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/25, Error ellipse: s-maj=41.7km s-min=31.0km az=41.0*
ISC 30 20:23:43.8±1.0, 34°.07S±0°.09×180°.0E±0°.2, h35km, n47, σ2s18/53, mb4.3/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.74**	**201**	PN	**Pn**	**20 24 42.8**	**+3.8**
MXZ				SN	**Sn**	**20 25 21.4**	**-0.5**
WMGZ	**Waiomatatini S**	**3.95**	**198**	PN	**Pn**	**20 24 45.2**	**+3.3**
WMGZ				SN	**Sn**	**20 25 25.1**	**-1.9**
HAZ	**Te Kaha**	**4.09**	**205**	PN	**Pn**	**20 24 47.9**	**+4.2**
HAZ				SN	**Sn**	**20 25 30.8**	**+0.4**
PUZ	**Puketiti**	**4.23**	**199**	PN	**Pn**	**20 24 48.4**	**+2.6**
PUZ				SN	**Sn**	**20 25 32.7**	**-1.3**
TWGZ	**Tauwhareparae**	**4.41**	**201**	PN	**Pn**	**20 24 51.0**	**+2.7**
TWGZ				SN	**Sn**	**20 25 34.8**	**-3.5**
CNGZ	**Carnagh Statio**	**4.63**	**197**	PN	**Pn**	**20 24 55.6**	**+4.4**
TKGZ	**Te Karaka**	**4.69**	**201**	PN	**Pn**	**20 24 55.7**	**+3.7**
MWZ	**Matawai**	**4.69**	**204**	PN	**Pn**	**20 24 54.3**	**+2.2**
URZ	**Urewera**	**4.78**	**208**	P	**Pn**	**20 24 55.7**	**+2.4**
	5.5nm,0.3s,baz=275,slow=4.7,SNR=54						
URZ				S	**Sn**	**20 25 46.8**	**-0.6**
	14nm,0.3s,baz=150,slow=17,SNR=10						
URZ	**Urewera**	**4.78**	**208**	PN	**Pn**	**20 24 55.6**	**+2.4**
RIGZ	**Rimuhau**	**4.96**	**200**	PN	**Pn**	**20 24 58.1**	**+2.3**
RTZ	**Ruatahuna**	**5.14**	**207**	PN	**Pn**	**20 24 59.9**	**+1.6**
SNGZ	**Shannon Statio**	**5.16**	**203**	PN	**Pn**	**20 25 02.8**	**+4.3**
KNZ	**Kokohu**	**5.28**	**200**	PN	**Pn**	**20 25 01.5**	**+1.4**
MHGZ	**Mahia Peninsul**	**5.34**	**197**	PN	**Pn**	**20 25 02.9**	**+1.9**
MRHZ	**Matea Rd**	**5.55**	**210**	PN	**Pn**	**20 25 05.8**	**+1.9**
NMHZ	**Naumai**	**5.63**	**206**	PN	**Pn**	**20 25 08.3**	**+3.3**
ARHZ	**Arapaoanui**	**5.77**	**204**	PN	**Pn**	**20 25 09.1**	**+3.0**
BKZ	**Black Stump Fm**	**5.81**	**208**	PN	**Pn**	**20 25 10.4**	**+3.0**
MCHZ	**McNeill Hill**	**5.97**	**205**	PN	**Pn**	**20 25 12.1**	**+2.4**
KWHZ	**Kaweka Forest**	**6.06**	**207**	PN	**Pn**	**20 25 12.3**	**+1.4**
KAHZ	**Kahuranaki**	**6.23**	**202**	PN	**Pn**	**20 25 14.2**	**+1.0**
BHHZ	**Black Hill Sta**	**6.25**	**209**	PN	**Pn**	**20 25 15.8**	**+2.2**
KRHZ	**Kereru**	**6.27**	**206**	PN	**Pn**	**20 25 15.5**	**+1.8**
WNVZ	**Wahianoa**	**6.32**	**212**	*e*PN	**Pn**	**20 25 17.1**	**+2.6**
PXZ	**Pawanui**	**6.45**	**202**	*e*PN	**Pn**	**20 25 15.6**	**-0.6**
PNHZ	**Pukenui**	**6.57**	**206**	PN	**Pn**	**20 25 18.5**	**+0.6**
BFZ	**Birch Farm**	**7.24**	**203**	*e*PN	**Pn**	**20 25 28.1**	**+1.0**
TIWZ	**Tintock**	**7.44**	**205**	PN	**Pn**	**20 25 29.6**	**-0.3**
MRZ	**Mangatainoka R**	**7.45**	**207**	PN	**Pn**	**20 25 28.5**	**-1.4**
KIW	**Kapiti Island**	**7.88**	**209**	PN	**Pn**	**20 25 34.8**	**-1.1**
PLWZ	**Palliser**	**8.37**	**205**	PN	**Pn**	**20 25 40.6**	**-1.9**
TCW	**Tory Channel**	**8.44**	**211**	PN	**Pn**	**20 25 42.1**	**-1.4**
RAR	**Rarotonga**	**22.00**	**60**	LR	LR	20 35 35.7	
	comp=Z,16nm,20.9s,baz=187,slow=32						
ASAR	**Alice Springs**	**41.35**	**272**	P	**P**	**20 31 26.2**	**-0.3**
	3.2nm,0.5s,baz=113,slow=8.0,SNR=70						
ASAR				PcP	**PcP**	**20 33 23.2**	**-1.2**
	0.7nm,0.5s,baz=117,slow=4.0,SNR=5.2						
WRAB	**Tennant Creek**	**42.67**	**277**	*e*P	**P**	**20 31 38.1**	**+0.9**
	3.9nm,0.7s						
WRA	**Warramunga Arr**	**42.67**	**277**	P	**P**	**20 31 37.3**	**0.0**
	3.1nm,0.6s,baz=118,slow=7.7,SNR=28						
FITZ	**Fitzroy Crossi**	**50.75**	**274**	P	**P**	**20 32 42.5**	**+2.0**
	2.8nm,0.5s,baz=155,slow=8.9,SNR=17						
PETK	**Petropavlovsk-**	**88.95**	**347**	P	**P**	**20 36 35.1**	**+0.9**
	3.2nm,0.6s,baz=114,slow=7.2,SNR=7.3						
KURK	**Kurchatov**	**122.29**	**312**	*e*PKPdf	**PKPdf**	**20 42 33.6**	**-0.9**
ARCES	**ARCESS Array B**	**141.75**	**346**	PKP	**PKPdf**	**20 43 08.1**	**-2.4**
	1.3nm,0.8s,baz=59,slow=3.5,SNR=3.8						
FINES	**FINESS Array B**	**147.90**	**337**	PKPbc	**PKPbc**	**20 43 24.1**	**-0.2**
	2.9nm,0.6s,baz=39,slow=4.3,SNR=22						
NB2	**NORSAR Subarra**	**152.05**	**348**	PKP	**PKPbc**	**20 43 35.2**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=15,slow=2.5						
NOA	**NORSAR Array B**	**152.05**	**348**	PKPbc	**PKPbc**	**20 43 34.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=13,slow=4.2,SNR=4.6						
BRTR	**Keskin Array B**	**152.59**	**292**	PKPbc	**PKPbc**	**20 43 35.9**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=113,slow=2.8,SNR=5.0						
AKASG	**Malin Array Be**	**152.98**	**317**	PKPbc	**PKPbc**	**20 43 36.7**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=59,slow=2.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**159.12**	**185**	PKPab	**PKPab**	**20 44 14.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=163,slow=4.0,SNR=7.8						

IDC 30 20:36:33.1±45.0, 7°.43S×109°.59E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/31, mbtmp3.6/3, Error ellipse: s-maj=762.9km s-min=175.6km az=131.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.02**	**120**	P	P	20 42 17.7	+0.5
	0.4nm,0.7s,baz=294,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**28.37**	**127**	P	P	20 42 29.3	0.0
	0.2nm,0.6s,baz=305,slow=9.5,SNR=5.2						
STKA	**Stephens Creek**	**38.46**	**134**	P	P	20 43 56.4	-0.7
	2.0nm,0.9s,baz=303,slow=12,SNR=3.1						

*ISCJB **30** 20:49:30.5±0.8, 51°.8N±0°.1×171°.66W±0°.07, h44km, mb3.7/7, MS3.0/3, Error ellipse: s-maj=18.9km s-min=4.4km az=165.0*
*NEIC **30** 20:49:30.6, 51°.71N×171°.68W, h43km, ML3.6(AEIC), After AEIC.*
*IDC **30** 20:49:42.0±9.2, 52°.21N×171°.75W, h130km±85km, mb3.4/7, mb1 3.5/9, mb1mx3.2/43, mbtmp3.7/9, MS2.8/4, Ms1 2.8/4, ms1mx2.6/28, Error ellipse: s-maj=44.2km s-min=16.8km az=172.0*
ISC 30 20:49:32.4±1.0, 51°.8N±0°.2×171°.71W±0°.06, h44km, n23, σ1s03/24, mb3.8/7, MS3.2/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.54**	**291**	P	**Pn**	**20 49 57.4**	**+0.1**
KOFP	**Korovin Flat P**	**1.54**	**288**	P	**Pn**	**20 49 56.7**	**-0.7**
KONE	**Korovin Northe**	**1.59**	**292**	P	**Pn**	**20 49 58.0**	**-0.1**
KOKL	**Mount Kliuchef**	**1.62**	**289**	P	**Pn**	**20 49 58.5**	**0.0**
NIKH	**Nikolski High**	**2.09**	**56**	P	**Pn**	**20 50 04.0**	**-0.9**
NIKH				S	**Sn**	**20 50 29.8**	**+0.2**
OKWE	**Okmok W'ng Wal**	**2.68**	**51**	P	**Pn**	**20 50 13.2**	**+0.2**
OKAK	**Okmok**	**2.69**	**48**	P	**Pn**	**20 50 12.0**	**-1.0**
GSMY	**Great Sitkin M**	**2.70**	**276**	P	**Pn**	**20 50 12.6**	**-0.7**
GSTD	**Great Sitkin T**	**2.76**	**276**	P	**Pn**	**20 50 12.8**	**-1.3**
GSTD				S	**Sn**	**20 50 47.2**	**+1.1**
ETKA	**Kagalaska Isla**	**2.92**	**272**	P	**Pn**	**20 50 15.5**	**-0.7**
ADAG	**Mount Adagdak**	**3.04**	**275**	P	**Pn**	**20 50 17.7**	**-0.2**
UNV	**Unalaska Valle**	**3.75**	**55**	P	**Pn**	**20 50 28.1**	**+0.5**
UNV				S	**Sn**	**20 51 12.1**	**+1.7**
ILAR	**Eielson Array**	**18.22**	**35**	P	**P**	**20 53 40.2**	**-1.2**
	0.1nm,0.3s,baz=225,slow=10,SNR=6.4						
ILAR				LR	LR	21 00 06.4	
	comp=Z,12nm,20.5s,baz=149,slow=35						
PETK	**Petropavlovsk-**	**18.62**	**286**	P	**Pn**	**20 53 48.9**	**+2.3**
	baz=65,slow=18,SNR=3.5						
INK	**Inuvik**	**24.59**	**34**	P	**P**	**20 54 46.0**	**-1.9**
	1.0nm,0.6s,baz=269,slow=9.7,SNR=3.2						
YKA	**Yellowknife Ar**	**31.68**	**48**	P	**P**	**20 55 51.4**	**+0.2**
	0.5nm,0.6s,baz=273,slow=8.5,SNR=3.4						
YKA				LR	LR	21 09 35.1	
	comp=Z,4.6nm,19.6s,baz=180,slow=38						
KSRS	**Korea Array**	**44.03**	**276**	P	**P**	**20 57 35.6**	**+0.2**
	1.2nm,0.7s,baz=60,slow=8.0,SNR=5.7						
TXAR	**Lajitas Array**	**54.21**	**87**	P	**P**	**20 58 54.2**	**+0.7**
	0.8nm,0.7s,baz=281,slow=4.7,SNR=9.3						
ARCES	**ARCESS Array B**	**58.29**	**353**	LR	LR	21 26 22.0	
	comp=Z,17nm,18.0s,baz=39,slow=38						
MKAR	**Makanchi Array**	**63.12**	**312**	P	**P**	**20 59 53.9**	**-1.3**
	0.2nm,0.3s,baz=43,slow=7.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**75.32**	**281**	P	**P**	**21 01 10.4**	**-0.6**
	0.7nm,0.9s,baz=24,slow=7.5,SNR=4.8						
GEYT	**Alibeck**	**80.60**	**322**	LR	LR	21 42 55.5	
	comp=Z,24nm,18.2s,baz=5.0,slow=40						
ASAR	**Alice Springs**	**88.95**	**228**	P	**P**	**21 02 22.4**	**+0.4**
	0.8nm,0.7s,baz=35,slow=4.8,SNR=9.0						

*KRSC **30** 20:59:43.0±1.4, 53°.26N×160°.71E, h48km±19km, ML4.6*
*MOS **30** 20:59:45.1±0.7, 53°.27N×160°.59E, h55km, mb4.2/17, Error ellipse: s-maj=8.4km s-min=4.5km az=82.5*
*IDC **30** 20:59:49.8±1.5, 53°.53N×160°.20E, h80km±13km, mb3.7/21, mb1 4.0/23, mb1mx3.8/52, mbtmp4.1/23, MS3.1/8, Ms1 3.1/8, ms1mx2.8/32, Error ellipse: s-maj=16

PETK				LR	LR	21 01 04.0		
	comp=E,303nm,18.0s,baz=102,slow=48							
TUMR	**Tumrok**	**1.90**	**352**	PN	**Pb**	**21 00 18.2**	**+0.8**	
TUMR				S	**Sb**	**21 00 42.6**	**+1.9**	
TUMR	**Tumrok**	**1.90**	**352**	*i* P	**Pb**	**21 00 18.2**	**+0.8**	
TUMR				*e*S	**Sb**	**21 00 42.6**	**+1.9**	
ASAK	**Asacha**	**1.95**	**239**	PN	**Pb**	**21 00 16.4**	**-1.9**	
ASAK				S	**Sn**	**21 00 39.0**	**+0.6**	
ASAK	**Asacha**	**1.95**	**239**	*i* P	**Pb**	**21 00 16.4**	**-1.9**	
ASAK				*i* S	**Sn**	**21 00 39.0**	**+0.6**	
KMNR	**Kamenistaya**	**2.36**	**355**	PN	**Pb**	**21 00 25.0**	**-0.3**	
KMNR				S	**Sb**	**21 00 55.0**	**+1.0**	
KMNR	**Kamenistaya**	**2.36**	**355**	*i* P	**Pb**	**21 00 25.0**	**-0.3**	
KMNR				S	**Sb**	**21 00 55.0**	**+1.0**	
BZMR	**Bezymyannaya**	**2.53**	**358**	PN	**Pb**	**21 00 27.6**	**-0.6**	
BZMR				S	**Sb**	**21 00 59.3**	**+0.4**	
BZMR	**Bezymyannaya**	**2.53**	**358**	*e*P	**Pb**	**21 00 27.6**	**-0.6**	
BZMR				S	**Sb**	**21 00 59.3**	**+0.4**	
KPT	**Kopyto**	**2.57**	**355**	PN	**Pb**	**21 00 28.0**	**-0.9**	
KPT	**Kopyto**	**2.57**	**355**	*e*P	**Pb**	**21 00 28.0**	**-0.9**	
ZLN	**Zelenaya**	**2.61**	**2**	PN	**Pb**	**21 00 28.8**	**-0.8**	
ZLN				S	**Sb**	**21 01 01.0**	**-0.3**	
ZLN	**Zelenaya**	**2.61**	**2**	*i* P	**Pb**	**21 00 28.8**	**-0.8**	
ZLN				*e*S	**Sb**	**21 01 01.0**	**-0.3**	
LGNR	**Loginova**	**2.68**	**1**	PN	**Pb**	**21 00 30.5**	**-0.3**	
LGNR				S	**Sb**	**21 01 04.4**	**+1.1**	
LGNR	**Loginova**	**2.68**	**1**	*i* P	**Pb**	**21 00 30.5**	**-0.3**	
LGNR				*e*S	**Sb**	**21 01 04.4**	**+1.1**	
KOZ	**Kozyrevsk**	**2.69**	**351**	PN	**Pb**	**21 00 29.3**	**-1.5**	
KOZ				S	**Sb**	**21 01 02.5**	**-0.9**	
KOZ	**Kozyrevsk**	**2.69**	**351**	*e*P	**Pb**	**21 00 29.3**	**-1.5**	
KOZ				S	**Sb**	**21 01 02.5**	**-0.9**	
CIRR	**Tsirk**	**2.71**	**1**	PN	**Pb**	**21 00 30.5**	**-0.8**	
CIRR				S	**Sb**	**21 01 03.9**	**-0.2**	
CIRR	**Tsirk**	**2.71**	**1**	*e*P	**Pb**	**21 00 30.5**	**-0.8**	
CIRR				*e*S	**Sb**	**21 01 03.9**	**-0.2**	
ESO	**Esso**	**2.76**	**337**	PN	**Pb**	**21 00 29.5**	**-2.5**	
ESO	**Esso**	**2.76**	**337**	*e*P	**Pb**	**21 00 29.5**	**-2.5**	
KRSR	**Krestovskiy**	**2.81**	**359**	PN	**Pb**	**21 00 31.1**	**-1.9**	
KRSR				S	**Sb**	**21 01 06.3**	**-0.7**	
KRSR	**Krestovskiy**	**2.81**	**359**	*i* P	**Pb**	**21 00 31.1**	**-1.9**	
KRSR				*e*S	**Sb**	**21 01 06.3**	**-0.7**	
KLY	**Klyuchi**	**2.91**	**0**	PN	**Pb**	**21 00 32.7**	**-1.8**	
KLY				S	**Sb**	**21 01 07.0**	**-2.6**	
KLY	**Klyuchi**	**2.91**	**0**	*e*P	**Pb**	**21 00 32.7**	**-1.8**	
KLY				*e*S	**Sb**	**21 01 07.0**	**-2.6**	
PAU	**Pauzhetka**	**3.04**	**232**	PN	**Pn**	**21 00 32.2**	**+2.5**	
PAU				S	**Sn**	**21 01 07.8**	**+2.6**	
PAU	**Pauzhetka**	**3.04**	**232**	*e*P	**Pn**	**21 00 32.2**	**+2.5**	
PAU				S	**Sn**	**21 01 07.8**	**+2.6**	
KBG	**Krutoberegovo**	**3.09**	**22**	PN	**Pb**	**21 00 34.2**	**-3.5**	
KBG				S	**Sb**	**21 01 12.6**	**-2.3**	
KBG	**Krutoberegovo**	**3.09**	**22**	P	**Pb**	**21 00 34.2**	**-3.5**	
KBG				S	**Sb**	**21 01 12.6**	**-2.3**	
BDR	**Baidarnaya**	**3.18**	**6**	PN	**Pb**	**21 00 36.7**	**-2.6**	
BDR				S	**Sb**	**21 01 14.4**	**-3.2**	
BDR	**Baidarnaya**	**3.18**	**6**	*e*P	**Pb**	**21 00 36.7**	**-2.6**	
BDR				*e*S	**Sb**	**21 01 14.4**	**-3.2**	
SMKR	**Semkarok**	**3.21**	**8**	PN	**Pb**	**21 00 36.7**	**-3.1**	
SMKR				S	**Sb**	**21 01 17.2**	**-1.3**	
SMKR	**Semkarok**	**3.21**	**8**	*e*P	**Pb**	**21 00 36.7**	**-3.1**	
SMKR				*e*S	**Sb**	**21 01 17.2**	**-1.3**	
SRKR	**Sorokina**	**3.27**	**5**	PN	**Pb**	**21 00 37.6**	**-3.1**	
SRKR				S	**Sb**	**21 01 16.3**	**-3.7**	
SRKR	**Sorokina**	**3.27**	**5**	*e*P	**Pb**	**21 00 37.6**	**-3.1**	
SRKR				*e*S	**Sb**	**21 01 16.3**	**-3.7**	
BKI	**Bering**	**3.61**	**58**	PN	**Pn**	**21 00 40.0**	**+2.6**	
BKI	**Bering**	**3.61**	**58**	*e*P	**Pn**	**21 00 40.0**	**+2.6**	
BKI				*e*S	**Sn**	**21 01 17.5**	**-1.6**	
SKR	**Severo-Kuril's**	**3.90**	**227**	PN	**Pn**	**21 00 43.3**	**+1.8**	
SKR				S	**Sn**	**21 01 26.8**	**+0.4**	
SKR	**Severo-Kuril's**	**3.90**	**227**	P	**Pn**	**21 00 43.3**	**+1.8**	
SKR				S	**Sn**	**21 01 26.8**	**+0.4**	
KLR	**Kul'dur**	**18.46**	**269**	P	**Pn**	**21 03 57.3**	**+0.2**	
	comp=E,0.2nm,0.3s,baz=62,slow=7.0,SNR=8.2							
YAK	**Yakutsk**	**18.48**	**310**	P	**P**	**21 03 56.8**	**-0.1**	
	comp=E,0.0nm,0.3s,baz=144,slow=0.6,SNR=12							
YAK				LR	LR	21 11 49.6		
	comp=E,56nm,18.2s,baz=123,slow=40							
YAK	**Yakutsk**	**18.48**	**310**	*e*P	**P**	**21 03 56.3**	**-0.6**	
YAK				pmax	pmax			
	comp=Z,20nm,0.8s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.0s							
YAK				pmax	pmax			
	comp=N,2.0nm,1.1s							
USRK	**Ussuriysk Ar.**	**20.87**	**255**	P	**P**	**21 04 22.6**	**-0.5**	
	comp=N,1.1nm,0.7s,baz=56,slow=13,SNR=4.1							
VLA	**Vladivostok**	**21.59**	**253**	⇑P	**P**	**21 04 35.4**	**+4.6**	
VLA				*i* S	Sn	21 08 35.2	-2.4	
VLA				pmax	pmax			
	comp=Z,14nm,0.7s							
TIXI	**Tiksi**	**22.93**	**335**	P	**P**	**21 04 45.2**	**+0.4**	
	comp=Z,1.2nm,0.4s,baz=120,slow=10,SNR=6.1							
MJAR	**Matsushiro Arr**	**23.00**	**232**	P	**P**	**21 04 46.0**	**+0.1**	
	comp=Z,4.9nm,0.7s,baz=16,slow=11,SNR=22							
MJAR				LR	LR	21 14 53.8		
	comp=Z,23nm,20.1s,baz=145,slow=40							
KSRS	**Korea Array**	**27.64**	**248**	LR	LR	21 16 14.5		
	comp=Z,16nm,19.9s,baz=75,slow=36							
ILAR	**Eielson Array**	**28.36**	**46**	P	**P**	**21 05 36.0**	**+1.3**	
	comp=Z,2.1nm,0.7s,baz=264,slow=8.5,SNR=27							
INK	**Inuvik**	**33.42**	**38**	P	**P**	**21 06 20.9**	**+1.6**	
	comp=Z,1.0nm,0.4s,baz=306,slow=13,SNR=4.9							
INK				PcP	**PcP**	**21 08 59.9**	**+0.1**	
	comp=Z,1.8nm,0.9s,baz=214,slow=2.2,SNR=4.6							
TLY	**Talaya**	**33.91**	**291**	LR	LR	21 21 05.5		
	comp=Z,32nm,18.5s,baz=55,slow=38							
H11N2	**WAKE ISLAND Hy**	**33.97**	**169**	T	T	21 42 53.4		
	baz=354,slow=76,SNR=142							
H11N3	**WAKE ISLAND Hy**	**33.98**	**169**	T	T	21 42 49.8		
	baz=354,slow=76,SNR=162							
H11N1	**WAKE ISLAND Hy**	**33.98**	**169**	T	T	21 42 51.5		
	baz=354,slow=76,SNR=194							
SONM	**Songino Array**	**34.14**	**283**	P	**P**	**21 06 24.8**	**-1.2**	
	comp=Z,0.6nm,0.5s,baz=44,slow=8.7,SNR=3.7							
SONM				PcP	**PcP**	**21 09 02.4**	**-0.1**	
	comp=Z,0.8nm,0.5s,baz=95,slow=2.3,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**35.15**	**170**	T	T	21 44 21.5		
	baz=352,slow=76,SNR=9.2							
H11S3	**WAKE ISLAND Hy**	**35.16**	**170**	T	T	21 44 22.6		
	baz=352,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**35.17**	**170**	T	T	21 44 21.1		
	baz=352,slow=76,SNR=3.9							
NRIK	**Noril'sk**	**35.83**	**325**	LR	LR	21 22 50.5		
	comp=Z,52nm,19.4s,baz=61,slow=39							
DLBC	**Dease Lake**	**37.59**	**54**	P	**P**	**21 06 58.2**	**+2.9**	
	comp=Z,2.5nm,0.8s,baz=278,slow=8.4,SNR=3.5							
YKA	**Yellowknife Ar**	**42.71**	**43**	P	**P**	**21 07 38.4**	**+0.9**	
	comp=Z,2.2nm,0.7s,baz=297,slow=7.7,SNR=4.9							
ZALV	**Zalesovo Beam**	**42.88**	**303**	LR	LR	21 26 49.6		
	comp=Z,36nm,19.6s,baz=68,slow=38							
MKAR	**Makanchi Array**	**48.31**	**296**	P	**P**	**21 08 19.4**	**-2.7**	
	comp=Z,1.1nm,0.5s,baz=58,slow=6.6,SNR=13							
BVAR	**Borovoye Array**	**50.44**	**309**	P	**P**	**21 08 35.9**	**-2.4**	
	comp=Z,1.3nm,0.5s,baz=60,slow=7.0,SNR=11							
ARCES	**ARCESS Array B**	**53.08**	**342**	P	**P**	**21 08 56.5**	**-1.3**	
	comp=Z,1.4nm,0.6s,baz=52,slow=8.4,SNR=10							
PDAR	**Pinedale Array**	**57.09**	**61**	P	**P**	**21 09 29.4**	**+2.2**	
	comp=Z,0.9nm,0.5s,baz=312,slow=5.4,SNR=4.0							
ULM	**Lac du Bonnet**	**58.37**	**47**	P	**P**	**21 09 37.3**	**+1.5**	
	comp=Z,2.5nm,0.4s,baz=273,slow=4.9,SNR=3.3							
ULM	**Lac du Bonnet**	**58.37**	**47**	P	**P**	**21 09 37.3**	**+1.5**	
ULM				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**58.56**	**258**	P	**P**	**21 09 37.9**	**+0.3**	
	comp=Z,0.7nm,0.6s,baz=26,slow=7.1,SNR=8.5							
FINES	**FINESS Array B**	**59.95**	**337**	P	**P**	**21 09 45.8**	**-0.8**	
	comp=Z,3.7nm,0.4s,baz=35,slow=7.7,SNR=52							
NB2	**NORSAR Subarra**	**63.33**	**344**	P	**P**	**21 10 08.6**	**-0.8**	
	comp=Z,0.9nm,0.4s,baz=25,slow=6.9							
NOA	**NORSAR Array B**	**63.33**	**344**	P	**P**	**21 10 08.4**	**-1.0**	
	comp=Z,1.4nm,0.6s,baz=22,slow=6.1,SNR=8.3							
AKASG	**Malin Array Be**	**68.51**	**329**	P	**P**	**21 10 40.0**	**-2.8**	
	comp=Z,0.8nm,0.4s,baz=31,slow=6.8,SNR=4.6							
AKASG				LR	LR	21 43 16.5		
	comp=Z,25nm,19.7s,baz=310,slow=38							
AKASG	**Malin Array Be**	**68.51**	**329**	P	**P**	**21 10 40.0**	**-2.8**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG				MLR	MLR			
	comp=Z,25nm,19.7s							
TXAR	**Lajitas Array**	**70.22**	**67**	P	**P**	**21 10 55.5**	**+1.6**	
	comp=Z,0.9nm,0.4s,baz=304,slow=4.3,SNR=4.4							

BURAR	**Bucovina Array**	**72.46**	**330**	⇑*i*P	**P**	**21 11 06.3**	**-0.9**	
BURAR	**Bucovina Array**	**72.46**	**330**	⇑P	**P**	**21 11 06.3**	**-0.9**	
DRGR		**73.94**	**331**	⇑*i*P	P	21 11 08.0	-7.9	
DRGR		**73.94**	**331**	⇑P	P	21 11 08.0	-7.9	
KHC	**Kasperske Hory**	**74.10**	**338**	*e*P	**P**	**21 11 17.6**	**+0.9**	
KHC	**Kasperske Hory**	**74.10**	**338**	*e*P	**P**	**21 11 17.6**	**+0.9**	
MLR	**Muntele Rosu**	**74.14**	**329**	⇓*i*P	**P**	**21 11 14.6**	**-2.6**	
MLR	**Muntele Rosu**	**74.14**	**329**	⇓P	**P**	**21 11 14.6**	**-2.6**	
GERES	**GERESS Array B**	**74.34**	**338**	P	**P**	**21 11 17.4**	**-0.8**	
	comp=Z,0.9nm,0.6s,baz=23,slow=4.4,SNR=10							
GERES				LR	LR	21 49 41.8		
	comp=Z,12nm,18.7s,baz=326,slow=40							
WRA	**Warramunga Arr**	**76.51**	**205**	P	**P**	**21 11 29.5**	**-1.2**	
	comp=Z,1.3nm,0.7s,baz=21,slow=6.2,SNR=9.0							
ASAR	**Alice Springs**	**80.18**	**205**	P	**P**	**21 11 51.4**	**+0.4**	
	comp=Z,1.3nm,0.7s,baz=15,slow=5.4,SNR=13							

*ISCJB **30** 21:20:17.8±0.5,39°.13N±0°.04×29°.09E±0°.04,h10km±6km, Error ellipse: s-maj=6.9km s-min=4.3km az=160.4*
*CSEM **30** 21:20:17.8±0.1,39°.13N×29°.09E,h10km,MD2.4, Error ellipse: s-maj=2.5km s-min=2.3km az=150.0*
*ISK **30** 21:20:17.3,39°.14N×29°.09E,h11km,MD2.4*
*DDA **30** 21:20:18.1,39°.07N×29°.12E,h7km,Md2.4*

ISC 30 21:20:17.7±1.0, 39°.13N±0°.03×29°.08E±0°.03, h11km±9km, n26,σ0°.34/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GEDZ	**Gediz**	**0.27**	**108**	*e*PG		**Pg**	**21 20 23.2**	**-0.1**
GEDZ				*e*SG		**Sg**	**21 20 27.4**	**+0.3**
GEDZ	**Gediz**	**0.27**	**108**	*e*Pg		**Pg**	**21 20 23.2**	**-0.1**
GEDZ				*e*Sg		**Sg**	**21 20 27.4**	**+0.3**
DEMI	**Demirci**	**0.29**	**253**	P		**Pb**	**21 20 24.8**	**-0.2**
DEMI				S		**Sb**	**21 20 29.4**	**-0.6**
DEMI	**Demirci**	**0.29**	**253**	*i* P		**Pb**	**21 20 24.8**	**-0.2**
DEMI				*i* S		**Sb**	**21 20 29.4**	**-0.6**
GDZ	**Gediz**	**0.32**	**97**	P		**Pg**	**21 20 24.6**	**+0.4**
GDZ				S		**Sg**	**21 20 28.2**	**-0.3**
GDZ	**Gediz**	**0.32**	**97**	*i* P		**Pg**	**21 20 24.6**	**+0.4**
GDZ				*i* S		**Sg**	**21 20 28.2**	**-0.3**
TVSB	**Tavsanli**	**0.44**	**43**	*e*PG		**Pg**	**21 20 26.1**	**-0.3**
TVSB				*e*SG		**Sg**	**21 20 32.6**	**+0.3**
TVSB	**Tavsanli**	**0.44**	**43**	*e*Pg		**Pg**	**21 20 26.1**	**-0.3**
TVSB				*e*Sg		**Sg**	**21 20 32.6**	**+0.3**
KULA	**Kula-Manisa**	**0.69**	**208**	*e*PG		**Pg**	**21 20 31.5**	**+0.3**
KULA				*e*SG		**Sb**	**21 20 41.8**	**+0.3**
KULA	**Kula-Manisa**	**0.69**	**208**	*e*Pg		**Pg**	**21 20 31.5**	**+0.3**
KULA				*e*Sg		**Sb**	**21 20 41.8**	**+0.3**
KHL	**Karahalli**	**0.88**	**156**	*e*PG		**Pg**	**21 20 34.6**	**-0.1**
KHL	**Karahalli**	**0.88**	**156**	*e*Pg		**Pg**	**21 20 34.6**	**-0.1**
BALB	**Balikesir**	**1.06**	**299**	*e*PG		**Pg**	**21 20 38.0**	**-0.1**
BALB	**Balikesir**	**1.06**	**299**	*e*Pg		**Pg**	**21 20 38.0**	**-0.1**
CAVI	**Cavuskoy**	**1.22**	**29**	*e*PN		**Pn**	**21 20 40.6**	**-0.2**
CAVI	**Cavuskoy**	**1.22**	**29**	*e*Pn		**Pn**	**21 20 40.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**353**	*e*PN		**Pb**	**21 20 41.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**353**	*e*Pn		**Pb**	**21 20 41.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*PN		**Pn**	**21 20 41.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*Pn		**Pn**	**21 20 41.4**	**0.0**
SHUT	**Suhut-Afyon**	**1.29**	**116**	*e*PN		**Pn**	**21 20 41.2**	**-0.5**
SHUT	**Suhut-Afyon**	**1.29**	**116**	*e*Pn		**Pn**	**21 20 41.2**	**-0.5**
BORA	**Eskisehir**	**1.30**	**54**	P		**Pg**	**21 20 42.5**	**-0.3**
BORA				S		**Sn**	**21 20 60.0**	**+0.6**
BORA	**Eskisehir**	**1.30**	**54**	*i* P		**Pg**	**21 20 42.5**	**-0.3**
BORA				*i* S		**Sn**	**21 20 60.0**	**+0.6**
ARMT	**Armutlu**	**1.45**	**353**	*e*PN		**Pn**	**21 20 43.9**	**+0.1**
ARMT	**Armutlu**	**1.45**	**353**	*e*Pn		**Pn**	**21 20 43.9**	**+0.1**

*BUC **30** 21:21:17.9±0.7,47°.34N×25°.77E,h4km,MD3.0/4, Error ellipse: s-maj=10.8km s-min=5.1km az=15.0*
*CSEM **30** 21:21:17.9,47°.34N×25°.77E,h4km,MD3.0/4*
*ISCJB **30** 21:21:18.5±0.6,47°.36N±0°.02×25°.78E±0°.02,h4km±4km, Error ellipse: s-maj=3.2km s-min=2.2km az=136.5*
*SIGU **30** 21:21:18.1±0.1,47°.37N±0°.01×25°.77E±0°.01,h2km, mb2.3/5*

ISC 30 21:21:18.1±1.2, 47°.37N±0°.02×25°.81E±0°.02, h3km±10km, n83,σ0°.67/134, 33C-33D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRAR	**RASCA**	**0.28**	**92**	⇓*i*P		**Pb**	**21 21 25.0**	**-0.9**
PRAR	**RASCA**	**0.28**	**92**	⇓*i*P		**Pb**	**21 21 25.0**	**-0.9**
PRAR	**RASCA**	**0.28**	**92**	⇓*i*P		**Pb**	**21 21 25.0**	**-0.9**
BURAR	**Bucovina Array**	**0.47**	**301**	⇑*i*P		**Pg**	**21 21 27.6**	**+0.4**
BURAR	**Bucovina Array**	**0.47**	**301**	S		**Sb**	**21 21 35.0**	**-1.5**
BURAR	**Bucovina Array**	**0.47**	**301**	⇑*i*P		**Pg**	**21 21 27.6**	**+0.4**
BURAR				*i* S		**Sb**	**21 21 35.0**	**-1.5**
BURAR	**Bucovina Array**	**0.47**	**301**	⇑*i*P		**Pg**	**21 21 27.6**	**+0.4**
BURAR				*i* S		**Sb**	**21 21 35.0**	**-1.5**
JOSR	**Joseni**	**0.70**	**197**	⇑*i*P		**Pg**	**21 21 30.9**	**-0.6**
JOSR	**Joseni**	**0.70**	**197**	⇑*i*P		**Pg**	**21 21 30.9**	**-0.6**
JOSR				*i* S		**Sg**	**21 21 40.5**	**0.0**
JOSR	**Joseni**	**0.70**	**197**	⇑*i*P		**Pg**	**21 21 30.9**	**-0.6**
JOSR				*i* S		**Sg**	**21 21 40.5**	**0.0**
CHRU	**Chernivtsi**	**0.93**	**5**	*i* P		**Pg**	**21 21 36.3**	**+0.3**
CHRU				*i* S		**Sb**	**21 21 49.9**	**+0.3**
ARCR	**ARCALIA**	**1.03**	**254**	⇑*i*P		**Pg**	**21 21 37.4**	**-0.6**
ARCR	**ARCALIA**	**1.03**	**254**	⇑*i*P		**Pg**	**21 21 37.4**	**-0.6**
ARCR	**ARCALIA**	**1.03**	**254**	⇑*i*P		**Pg**	**21 21 37.4**	**-0.6**
TESR	**Tescani**	**1.03**	**146**	⇓*i*P		**Pg**	**21 21 38.2**	**+0.3**
TESR	**Tescani**	**1.03**	**146**	⇓*i*P		**Pg**	**21 21 38.2**	**+0.3**
TESR				*i* S		**Sn**	**21 21 53.5**	**-1.0**
TESR	**Tescani**	**1.03**	**146**	⇓*i*P		**Pg**	**21 21 38.2**	**+0.3**
TESR				*i* S		**Sn**	**21 21 53.5**	**-1.0**
KSV	**Kosov**	**1.07**	**332**	*i* P		**Pg**	**21 21 38.7**	**+0.1**
KSV				Pm			21 21 39.7	
KSV				*i* S		**Sn**	**21 21 54.3**	**-1.1**
KSV				Sm			21 21 55.7	
IAS	**Iasi**	**1.20**	**98**	⇓*i*P		**Pg**	**21 21 41.0**	**-0.2**
IAS	**Iasi**	**1.20**	**98**	⇓*i*P		**Pg**	**21 21 41.0**	**-0.2**
IAS				*i* S		**Sn**	**21 21 59.0**	**+0.4**
IAS	**Iasi**	**1.20**	**98**	⇓*i*P		**Pg**	**21 21 41.0**	**-0.2**
IAS				*i* S		**Sn**	**21 21 59.0**	**+0.4**
NSLU	**Nyzhne Selyshc**	**1.23**	**313**	*i* P		Pn	21 21 50.0	+7.8
NSLU				Pm			21 21 54.6	
NSLU				*i* S		Sn	21 22 13.3	+14
NSLU				Sm			21 22 15.2	
RAKU	**Rahkiv**	**1.29**	**301**	*i* P		**Pn**	**21 21 42.4**	**-0.7**
RAKU				Pm			21 21 45.1	
RAKU				*i* S		**Sn**	**21 22 01.1**	**+0.3**
RAKU				Sm			21 22 06.3	
DOPR	**Dopca**	**1.44**	**192**	⇓*i*P		**Pg**	**21 21 45.9**	**+0.3**
DOPR	**Dopca**	**1.44**	**192**	⇓*i*P		**Pg**	**21 21 45.9**	**+0.3**
DOPR				*i* S		**Sg**	**21 22 04.9**	**+0.7**
DOPR	**Dopca**	**1.44**	**192**	⇓*i*P		**Pg**	**21 21 45.9**	**+0.3**
DOPR				*i* S		**Sg**	**21 22 04.9**	**+0.7**
BMR	**Baia Mare**	**1.60**	**282**	⇑*i*P		**Pb**	**21 21 48.2**	**-0.1**
BMR	**Baia Mare**	**1.60**	**282**	⇑*i*P		**Pb**	**21 21 48.2**	**-0.1**
BMR				*i* S		**Sg**	**21 22 09.6**	**+0.1**
BMR	**Baia Mare**	**1.60**	**282**	⇑*i*P		**Pb**	**21 21 48.2**	**-0.1**
BMR				*i* S		**Sg**	**21 22 09.6**	**+0.1**
NDNU	**Novodnistrovsk**	**1.61**	**40**	*i* P		**Pb**	**21 21 48.2**	**-0.3**
NDNU				Pm			21 21 53.7	
NDNU				*i* S		**Sb**	**21 22 09.1**	**0.0**
NDNU				Sm			21 22 09.3	
PLOR	**Plostina**	**1.63**	**159**	⇑*i*P		**Pn**	**21 21 48.1**	**+0.4**
PLOR	**Plostina**	**1.63**	**159**	⇑*i*P		**Pn**	**21 21 48.1**	**+0.4**
PLOR				*i* S		**Sb**	**21 22 10.0**	**+0.3**
PLOR	**Plostina**	**1.63**	**159**	⇑*i*P		**Pn**	**21 21 48.1**	**+0.4**
PLOR				*i* S		**Sb**	**21 22 10.0**	**+0.3**
VRI	**Vrincioaia**	**1.63**	**157**	⇑*i*P		**Pn**	**21 21 48.2**	**+0.5**
VRI	**Vrincioaia**	**1.63**	**157**	⇑*i*P		**Pn**	**21 21 48.2**	**+0.5**
VRI				*i* S		**Sb**	**21 22 10.2**	**+0.4**
VRI	**Vrincioaia**	**1.63**	**157**	⇑*i*P		**Pn**	**21 21 48.2**	**+0.5**
VRI				*i* S		**Sb**	**21 22 10.2**	**+0.4**
CJR	**Cluj-Napoca**	**1.65**	**247**	⇑*i*P		**Pn**	**21 21 47.9**	**-0.1**
CJR	**Cluj-Napoca**	**1.65**	**247**	⇑*i*P		**Pn**	**21 21 47.9**	**-0.1**
CJR				*i* S		**Sb**	**21 22 11.0**	**+0.6**
CJR	**Cluj-Napoca**	**1.65**	**247**	⇑*i*P		**Pn**	**21 21 47.9**	**-0.1**
CJR				*i* S		**Sb**	**21 22 11.0**	**+0.6**
ODBI	**Odobesti**	**1.82**	**151**	⇓*i*P		**Pb**	**21 21 51.5**	**-0.6**
ODBI	**Odobesti**	**1.82**	**151**	⇓*i*P		**Pb**	**21 21 51.5**	**-0.6**
ODBI				*i* S		**Sb**	**21 22 15.3**	**0.0**
ODBI	**Odobesti**	**1.82**	**151**	⇓*i*P		**Pb**	**21 21 51.5**	**-0.6**
ODBI				*i* S		**Sb**	**21 22 15.3**	**0.0**
SORM	**Soroca**	**1.88**	**65**	⇓*i*P		**Pb**	**21 21 52.2**	**-0.8**
SORM	**Soroca**	**1.88**	**65**	⇓*i*P		**Pb**	**21 21 52.2**	**-0.8**
SORM				*i* S		**Sb**	**21 22 16.8**	**0.0**
SORM	**Soroca**	**1.88**	**65**	⇓*i*P		**Pb**	**21 21 52.2**	**-0.8**
SORM				*i* S		**Sb**	**21 22 16.8**	**0.0**
MLR	**Muntele Rosu**	**1.88**	**177**	⇓*i*P		**Pn**	**21 21 51.9**	**+0.6**
MLR	**Muntele Rosu**	**1.88**	**177**	⇓*i*P		**Pn**	**21 21 51.9**	**+0.6**
MLR	**Muntele Rosu**	**1.88**	**177**	⇓*i*P		**Pn**	**21 21 51.9**	**+0.6**
HORU	**Horodok**	**1.89**	**12**	*i* P		**Pb**	**21 21 52.5**	**-0.7**
HORU				*i* S		**Sb**	**21 22 17.5**	**+0.3**
LEOM	**Leova**	**1.90**	**117**	⇓*i*P		**Pb**	**21 21 52.5**	**-0.8**
LEOM	**Leova**	**1.90**	**117**	⇓*i*P		**Pb**	**21 21 52.5**	**-0.8**
LEOM				*i* S		**Sb**	**21 22 17.5**	**+0.2**
LEOM	**Leova**	**1.90**	**117**	⇓*i*P		**Pb**	**21 21 52.5**	**-0.8**
LEOM				*i* S		**Sb**	**21 22 17.5**	**+0.2**
MEZ	**Mezhgor'ye**	**1.92**	**307**	*i* P		**Pn**	**21 21 51.9**	**+0.2**
MEZ				Pm			21 21 59.7	
MEZ				*e*S		**Sn**	**21 22 16.8**	**+0.4**
MEZ				Sm			21 22 27.5	
KORU	**Korolevo**	**1.97**	**295**	*e*P		**Pn**	**21 21 52.6**	**+0.2**
KORU				Pm			21 22 03.0	
KORU				*e*S		**Sb**	**21 22 18.6**	**-0.9**
KORU				Sm			21 22 30.0	
VOIR		**2.01**	**196**	⇑*i*P		**Pn**	**21 21 53.6**	**+0.7**
VOIR		**2.01**	**196**	⇑*i*P		**Pn**	**21 21 53.6**	**+0.7**
VOIR				*i* S		**Sn**	**21 22 18.5**	**-0.1**
VOIR		**2.01**	**196**	⇑*i*P		**Pn**	**21 21 53.6**	**+0.7**
VOIR				*i* S		**Sn**	**21 22 18.5**	**-0.1**
TRSU	**Trosnyk**	**2.06**	**292**	*e*P		**Pn**	**21 21 53.0**	**-0.6**
TRSU				Pm			21 21 58.4	
TRSU				*i* S		**Sn**	**21 22 20.0**	**+0.3**
TRSU				Sm			21 22 35.2	
MILM	**Milestii Mici**	**2.10**	**101**	⇑*i*P		**Pb**

	baz=216									
TWD				*i*	S		**Sn**	**21 31 15.4**	**-0.4**	
	baz=216									
HWA	**Hwalien**	**0.34**	**213**	*i*	P		**Pn**	**21 31 10.1**	**0.0**	
	baz=204									
HWA					S		**Sn**	**21 31 17.6**	**+0.7**	
	baz=204									
TWC	**Suao**	**0.35**	**7**		P		**Pn**	**21 31 10.3**	**+0.1**	
	baz=15									
TWC					S		**Sn**	**21 31 18.6**	**+1.5**	
	baz=15									
NNS	**Nan Shan**	**0.43**	**295**	⇑	*i* P		**Pn**	**21 31 10.7**	**-0.5**	
	baz=295									
NNS					S		**Sn**	**21 31 18.5**	**-0.4**	
	baz=295									
ENTT	**Nioudou**	**0.43**	**330**	⇓	*i* P		**Pn**	**21 31 10.7**	**-0.4**	
	baz=335									
ENTT					S		**Sn**	**21 31 18.9**	**+0.2**	
	baz=335									
ESF	**Shoufeng Towns**	**0.47**	**215**	*e*S			**Sn**	**21 31 19.4**	**0.0**	
	baz=209									
TWE	**Neicheng**	**0.47**	**345**	⇓	P		**Pn**	**21 31 11.2**	**-0.3**	
	baz=351									
TWE					S		**Sn**	**21 31 20.1**	**+0.7**	
	baz=351									
ILA	**Ilan**	**0.51**	**354**	*e*S			**Sn**	**21 31 22.2**	**+2.2**	
	baz=359									
WHF	**Hehuan Shan**	**0.51**	**257**		P		**Pn**	**21 31 11.7**	**-0.6**	
	baz=253									
WHF					S		**Sn**	**21 31 20.2**	**-0.6**	
	baz=253									
ESL	**Shilin**	**0.56**	**217**	*e*P			**Pn**	**21 31 10.0**	**-2.5**	
	baz=212									
ESL					*e*S		**Sn**	**21 31 19.7**	**-1.5**	
	baz=212									
TWT	**Tachien**	**0.57**	**269**		P		**Pn**	**21 31 12.7**	**-0.2**	
	baz=267									
TWT					S		**Sn**	**21 31 21.5**	**-0.3**	
	baz=267									
NSK	**Sanguang**	**0.58**	**316**	⇓	P		**Pn**	**21 31 11.8**	**-1.0**	
	baz=318									
NSK					S		**Sn**	**21 31 20.7**	**-1.0**	
	baz=318									
EGS		**0.59**	**11**		P		**Pn**	**21 31 13.3**	**+0.4**	
	baz=16									
EGS					S		**Sn**	**21 31 24.1**	**+2.2**	
	baz=16									
TEGC	**Jichi Village**	**0.60**	**204**	*e*S			**Sn**	**21 31 24.4**	**+2.4**	
	baz=198									
TWA	**Mucha**	**0.74**	**344**	*e*P			**Pn**	**21 31 14.7**	**-0.2**	
	baz=347									
TWA					*e*S		**Sn**	**21 31 24.7**	**-0.6**	
	baz=347									
TWB1	**Santiao Chiao**	**0.76**	**13**		P		**Pn**	**21 31 15.2**	**+0.1**	
	baz=16									
TWB1					S		**Sn**	**21 31 27.4**	**+1.7**	
	baz=16									
NWF	**Wu-fen Shan**	**0.81**	**359**	*e*P			**Pn**	**21 31 16.1**	**+0.3**	
	baz=1.0									
NWF					S		**Sn**	**21 31 27.6**	**+0.7**	
	baz=1.0									
NSTT	**Nanjuang**	**0.82**	**297**	*e*P			**Pn**	**21 31 15.2**	**-0.6**	
	baz=297									
NSTT					S		**Sn**	**21 31 26.7**	**-0.3**	
	baz=297									
EHY	**Hungye**	**0.87**	**210**	*e*P			**Pn**	**21 31 14.7**	**-1.8**	
	baz=207									
EHY					*e*S		**Sn**	**21 31 26.5**	**-1.8**	
	baz=207									
NCU	**National Centr**	**0.90**	**322**	*e*S			**Sn**	**21 31 28.6**	**-0.4**	
	baz=323									
SMLT	**Sun Moon Lake**	**0.91**	**246**	*e*P			**Pn**	**21 31 16.7**	**-0.4**	
	baz=243									
SMLT					*e*S		**Sn**	**21 31 29.4**	**+0.1**	
	baz=243									
TWS1	**Kuangyinshan**	**0.91**	**337**	*e*P			**Pn**	**21 31 16.5**	**-0.4**	
	baz=339									
TWS1					*e*S		**Sn**	**21 31 28.7**	**-0.4**	
	baz=339									
HSN	**Hsinchu**	**0.93**	**306**	*e*S			**Sn**	**21 31 29.2**	**-0.5**	
	baz=309									
TYC	**Yuchr**	**0.94**	**248**		P		**Pn**	**21 31 17.0**	**-0.3**	
	baz=245									
TYC					*e*S		**Sn**	**21 31 31.1**	**+1.3**	
	baz=245									
TWQ1	**Liyutan**	**0.94**	**275**	⇑	P		**Pn**	**21 31 16.7**	**-0.8**	
	baz=274									
TWQ1					S		**Sn**	**21 31 31.0**	**+1.0**	
	baz=274									
NSY	**Sanyi**	**0.96**	**279**	*e*P			**Pn**	**21 31 17.2**	**-0.5**	
	baz=278									
NSY					*e*S		**Sn**	**21 31 31.1**	**+0.6**	
	baz=278									
TWF1	**Yuli**	**1.02**	**207**	*e*P			**Pn**	**21 31 16.9**	**-1.6**	
	baz=204									
TWY	**Chenhua**	**1.03**	**350**	*e*P			**Pn**	**21 31 17.2**	**-1.4**	
	baz=352									
TWY					*e*S		**Sn**	**21 31 31.1**	**-0.8**	
	baz=352									
TCU	**Taichung**	**1.03**	**264**		P		**Pn**	**21 31 18.2**	**-0.5**	
	baz=262									
TCU					S		**Sn**	**21 31 33.0**	**+0.8**	
	baz=262									
JYNG	**Yonagunijimaku**	**1.06**	**79**		P		**Pn**	**21 31 18.7**	**-0.3**	
WNT	**Mingjian**	**1.09**	**250**	*e*P			**Pn**	**21 31 19.6**	**+0.2**	
	baz=247									
WNT					*e*S		**Sn**	**21 31 35.1**	**+1.6**	
	baz=247									
YUS	**Yu-Shan**	**1.09**	**226**	*e*P			**Pn**	**21 31 19.3**	**-0.6**	
	baz=223									
YUS					*e*S		**Sn**	**21 31 34.0**	**-0.3**	
	baz=223									
YOJ	**Yonaguni jima**	**1.12**	**79**		P		**Pn**	**21 31 19.5**	**-0.3**	
YOJ					*e*S		**Sn**	**21 31 34.4**	**+0.2**	
ALS	**Alishan**	**1.18**	**231**		P		**Pn**	**21 31 21.0**	**+0.1**	
	baz=228									
ALS					*e*S		**Sn**	**21 31 37.0**	**+0.9**	
	baz=228									
CHKT	**Chengkung**	**1.22**	**199**	*e*P			**Pn**	**21 31 21.2**	**0.0**	
	baz=196									
CHKT					*e*S		**Sn**	**21 31 35.3**	**-1.4**	
	baz=196									
CHN5	**Tsauling**	**1.22**	**238**		P		**Pn**	**21 31 21.4**	**+0.1**	
	baz=235									
CHN5					*e*S		**Sn**	**21 31 38.2**	**+1.4**	
	baz=235									
WGK	**Gukeng**	**1.27**	**243**	*e*P			**Pn**	**21 31 22.1**	**+0.2**	
	baz=241									
WGK					*e*S		**Sn**	**21 31 39.9**	**+2.0**	
	baz=241									
ELDTW	**Lidau**	**1.29**	**214**	*e*P			**Pn**	**21 31 21.1**	**-1.1**	
	baz=211									
PCYT	**Pengchaiyu**	**1.38**	**10**	*e*P			**Pn**	**21 31 22.9**	**-0.6**	
	baz=12									
CHN2	**Minshiung**	**1.42**	**239**	*e*S			**Sn**	**21 31 42.9**	**+1.5**	
	baz=237									
CHN4	**Tsaushan**	**1.43**	**231**		P		**Pn**	**21 31 24.6**	**+0.5**	
	baz=229									
CHN4					*e*S		**Sn**	**21 31 42.2**	**+0.5**	
	baz=229									
WTCT	**Ta-ch'eng**	**1.45**	**254**	*e*P			**Pn**	**21 31 23.7**	**-0.5**	
	baz=253									
WTCT					*e*S		**Sn**	**21 31 41.9**	**-0.2**	
	baz=253									
STYT	**Tauyuan**	**1.45**	**221**	*e*P			**Pn**	**21 31 25.4**	**+0.9**	
	baz=219									
STYT					*e*S		**Sn**	**21 31 44.0**	**+1.7**	
	baz=219									
CHY	**Chiayi**	**1.47**	**239**	*e*S			**Sn**	**21 31 43.9**	**+1.1**	
	baz=237									
WTP	**Ta-pu**	**1.49**	**227**	*e*P			**Pn**	**21 31 24.9**	**+0.1**	
	baz=225									
WTP					*e*S		**Sn**	**21 31 44.5**	**+1.3**	
	baz=225									
TWK	**Hsinying**	**1.56**	**231**	*e*P			**Pn**	**21 31 26.6**	**+0.8**	
	baz=228									
TWK					*e*S		**Sn**	**21 31 45.7**	**+0.7**	
	baz=228									
WSF	**Szhu**	**1.57**	**247**	*e*S			**Sn**	**21 31 45.9**	**+0.6**	
	baz=245									
TWG	**Pinlang**	**1.58**	**205**	*e*P			**Pn**	**21 31 24.5**	**-1.7**	
	baz=203									
SGST	**Jiashian**	**1.62**	**224**	*e*P			**Pn**	**21 31 27.0**	**+0.4**	
	baz=222									
SGST					*e*S		**Sn**	**21 31 47.9**	**+1.4**	
	baz=222									
CHN8	**Yiju**	**1.72**	**238**	*e*S			**Sn**	**21 31 50.6**	**+1.8**	
	baz=236									

IRIF	**Iriomote-Funau**	**1.76**	**87**		P		**Pn**	**21 31 27.9**	**-0.6**	
ECL	**Taimali**	**1.83**	**205**	*e*P			**Pn**	**21 31 27.7**	**-1.8**	
	baz=203									
HATJ	**Hateruma jima**	**1.84**	**96**		P		**Pn**	**21 31 28.2**	**-1.4**	
HATJ					S		**Sn**	**21 31 52.4**	**+0.7**	
SSD	**Sandimen**	**1.85**	**216**	*e*P			**Pn**	**21 31 31.3**	**+1.5**	
	baz=214									
SSD					*e*S		**Sn**	**21 31 55.0**	**+2.9**	
	baz=214									
JKRS	**Kuro-shima**	**2.01**	**90**		P		**Pn**	**21 31 32.0**	**0.0**	
JKRS					*e*S		**Sn**	**21 31 56.3**	**+0.3**	
EAST	**Anshuo**	**2.06**	**205**	*e*P			**Pn**	**21 31 32.9**	**+0.1**	
	baz=203									
JIJ	**Ishigaki jima**	**2.14**	**87**		P		**Pn**	**21 31 33.5**	**-0.2**	
JIJ					S		**Sn**	**21 31 58.6**	**-0.4**	
PNG	**Penghu**	**2.17**	**252**	*e*P			**Pn**	**21 31 32.2**	**-1.9**	
	baz=250									
PNG					S		**Sn**	**21 31 57.6**	**-2.3**	
	baz=250									
SCZT	**Fangliau**	**2.17**	**210**	*e*P			**Pn**	**21 31 35.3**	**+1.2**	
	baz=208									
SCZT					*e*S		**Sn**	**21 32 01.6**	**+1.7**	
	baz=208									
JISG	**Ishigakijimahi**	**2.31**	**81**		P		**Pn**	**21 31 35.3**	**-0.7**	
JISG					*e*S		**Sn**	**21 32 01.7**	**-1.5**	
JTJ	**Tarama**	**2.67**	**81**		P		**Pn**	**21 31 41.0**	**+0.1**	
KNM	**Kinmen**	**3.08**	**274**	*e*P			**Pn**	**21 31 46.2**	**-0.4**	
	baz=272									

DJA 30 21:33:14.5±1.8, 8°S±12′×107°7E±′, h27km±10km, M3.6/6, MLv3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.68**	**50**	P	Pn	21 33 28.6	+0.3
CNJI				S	Sn	21 33 38.3	+0.3
SKJI	**Sukabumi**	**0.74**	**356**	P	Pb	21 33 28.6	-0.3
DBJI	**Dramaga**	**1.20**	**7**	P	Pn	21 33 35.9	+0.4
CISI	**Cisompet, Garu**	**1.21**	**81**	P	Pb	21 33 36.4	-0.4
CISI				S	Sn	21 33 50.8	-0.5
LEMI	**Lembang**	**1.36**	**48**	P	Pb	21 33 45.0	+5.6
LEM				S	Sb	21 34 07.7	+11
CGJI	**Cibinong**	**1.45**	**321**	P	Pn	21 33 37.9	-1.1

*KRSC **30** 21:33:39.3±1.9, 48°.05N×156°.39E, h16km±10km, ML4.2*
*MOS **30** 21:33:39.2±2.2, 48°.04N×156°.39E, h15km, mb4.2/1, Error ellipse: s-maj=91.9km s-min=7.9km az=81.6*
*IDC **30** 21:33:42.2±6.3, 48°.16N×154°.67E, h74km±79km, mb3.2/1, mb1 3.5/4, mb1mx3.0/41, mbtmp3.7/4, ML3.1/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/23, Error ellipse: s-maj=123.3km s-min=31.0km az=141.0*

ISC 30 21:33:37.1±1.3, 47°.8N±0°.1×155°.6E±0°.1, h35km, n30, σ2.934/38, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.96**	**7**	*e*PN	**Pn**	**21 34 23.0**	**+1.5**
SKR				*e*S	**Sn**	**21 34 54.8**	**-0.9**
SKR				smax	smax		
	comp=E,132nm,0.4s						
SKR				smax	smax		
	comp=N,160nm,0.7s						
SKR	**Severo-Kuril's**	**2.96**	**7**	*e*P	**Pn**	**21 34 22.2**	**+0.7**
SKR				*e*S	**Sn**	**21 34 54.6**	**-1.1**
PAU	**Pauzhetka**	**3.81**	**12**	PN	**Pn**	**21 34 35.2**	**+2.0**
PAU				S	**Sn**	**21 35 16.2**	**-0.5**
PAU	**Pauzhetka**	**3.81**	**12**	P	**Pn**	**21 34 35.2**	**+2.0**
PAU				*e*S	**Sn**	**21 35 16.2**	**-0.5**
ASAK	**Asacha**	**4.88**	**17**	PN	**Pn**	**21 34 49.8**	**+1.8**
ASAK	**Asacha**	**4.88**	**17**	*e*P	**Pn**	**21 34 49.8**	**+1.8**
RUS	**Russkaya**	**5.06**	**21**	PN	**Pn**	**21 34 51.3**	**+0.9**
RUS				S	**Sn**	**21 35 46.4**	**-1.1**
RUS	**Russkaya**	**5.06**	**21**	*e*P	**Pn**	**21 34 51.3**	**+0.9**
RUS				*e*S	**Sn**	**21 35 46.4**	**-1.1**
PETK	**Petropavlovsk-**	**5.53**	**13**	P	**Pn**	**21 34 59.0**	**+2.0**
	comp=N,1.8nm,0.3s,baz=180,slow=11,SNR=16						
DALK	**Dalny**	**5.67**	**20**	S	**Sn**	**21 36 02.2**	**-0.3**
UGLR	**Uglovaya**	**5.85**	**20**	PN	**Pn**	**21 35 03.8**	**+2.5**
UGLR	**Uglovaya**	**5.85**	**20**	P	**Pn**	**21 35 03.8**	**+2.5**
AVH	**Avacha**	**5.88**	**19**	PN	**Pn**	**21 35 05.7**	**+3.9**
AVH	**Avacha**	**5.88**	**19**	*e*P	**Pn**	**21 35 05.7**	**+3.9**
KRER	**Koryakskii**	**5.92**	**19**	PN	**Pn**	**21 35 05.9**	**+3.5**
KRER	**Koryakskii**	**5.92**	**19**	P	**Pn**	**21 35 05.9**	**+3.5**
SDLR	**Sedlovina**	**5.92**	**20**	PN	**Pn**	**21 35 04.6**	**+2.2**
SDLR				S	**Sn**	**21 36 09.5**	**+0.5**
SDLR	**Sedlovina**	**5.92**	**20**	P	**Pn**	**21 35 04.6**	**+2.2**
SDLR				S	**Sn**	**21 36 09.5**	**+0.5**
NLC	**Nalytchevo**	**5.94**	**23**	S	**Sn**	**21 36 08.3**	**-0.9**
KRX	**Arik**	**5.95**	**18**	PN	**Pn**	**21 35 05.8**	**+3.0**
KRX	**Arik**	**5.95**	**18**	P	**Pn**	**21 35 05.8**	**+3.0**
GNL	**Ganaly**	**6.14**	**13**	PN	**Pn**	**21 35 07.6**	**+2.2**
GNL	**Ganaly**	**6.14**	**13**	*e*P	**Pn**	**21 35 07.6**	**+2.2**
MKZ	**Mys Kozlova**	**7.84**	**27**	PN	**Pn**	**21 35 29.3**	**+0.8**
MKZ	**Mys Kozlova**	**7.84**	**27**	P	**Pn**	**21 35 29.3**	**+0.8**
MKZ				S	**Sn**	**21 36 52.4**	**-3.4**
ASAJ	**Asahikawa**	**9.74**	**253**	P	**Pn**	**21 35 53.4**	**-1.2**
	comp=N,0.8nm,0.3s,baz=68,slow=19,SNR=11						
BKI	**Bering**	**9.88**	**37**	S	**Sn**	**21 37 41.3**	**-4.8**
USRK	**Ussuriysk Ar.**	**16.75**	**266**	P	**Pn**	**21 37 24.8**	**-4.0**
	comp=N,0.1nm,0.3s,baz=67,slow=13,SNR=4.6						
TIXI	**Tiksi**	**27.01**	**342**	LR	LR	21 51 09.7	
	comp=N,16nm,19.0s,baz=116,slow=40						
WRA	**Warramunga Arr**	**70.03**	**201**	P	**P**	**21 44 46.9**	**+1.7**
	comp=N,0.5nm,0.8s,baz=17,slow=6.5,SNR=2.6						

MEX 30 21:34:33.3±0.3, 27°.43N×112°.61W, h16km±999km, MD3.6, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.35**	**109**	*i* P	Pg	21 34 39.6	-1.0
SRIG				*i* S	Sg	21 34 44.4	-1.0
GUYB	**Guaymas**	**1.61**	**73**	*i* P	Pn	21 34 57.7	-3.4
GUYB				*e*S	Sn	21 35 15.0	-6.5
HSIG		**2.16**	**42**	*e*P	Pn	21 35 05.4	-3.2

GUC 30 21:40:30.4±0.7, 20°.60S×69°.32W, h106km±4km, ML3.6, 6C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.47**	**200**	⇓ *i* P	Pn	21 40 47.0	+0.3
PB01				*i* S	Sn	21 40 59.6	+0.7
PB01				IAML		21 41 01.0	
	comp=N,4μm,0.3s						
PB08	**IPOC Station P**	**0.48**	**19**	⇓ *i* P	Pn	21 40 47.3	+0.1
PB08				*i* S	Sn	21 40 59.9	+0.1
HMBC	**Humberstone**	**0.62**	**301**	⇑ *i* P	Pn	21 40 48.6	+0.7
HMBC				*i* S	Sn	21 41 01.8	+0.8
HMBC				IAML		21 41 02.3	
	comp=N,3μm,0.5s						
PB11	**IPOC Station P**	**0.89**	**339**	⇓ *i* P	Pn	21 40 50.9	+0.5
PB11				*i* S	Sn	21 41 06.1	+0.7
PB09	**IPOC Station P**	**1.19**	**177**	⇑ *i* P	Pn	21 40 54.4	+0.8
PB09				*i* S	Sn	21 41 12.2	+1.2
PB07	**IPOC Station P**	**1.24**	**205**	⇑ *i* P	Pn	21 40 55.0	+0.9
PB07				*i* S	Sn	21 41 12.8	+0.8
PB07				IAML		21 41 13.4	
	comp=N,1μm,0.2s						
PSGC	**Pisagua**	**1.25**	**323**	⇓ *i* P	Pn	21 40 54.6	+0.4
PSGC				*i* S	Sn	21 41 13.0	+0.8
PSGC				IAML		21 41 15.6	
	comp=N,859nm,0.4s						
MNMC	**Minye Minye**	**1.48**	**350**	⇓ *i* P	Pn	21 40 57.7	+0.6
MNMC				*i* S	Sn	21 41 18.4	+1.1
MNMC				IAML		21 41 21.6	
	comp=N,1μm,0.4s						
PB04	**IPOC Station P**	**1.89**	**204**	⇑ *i* P	Pn	21 41 02.7	+0.7
PB04				*i* S	Sn	21 41 25.4	-0.6
PB04				IAML		21 41 31.4	
	comp=N,391nm,1.1s						
PB06	**IPOC Station P**	**2.11**	**186**	⇑ *i* P	Pn	21 41 05.3	+0.6
PB06				*i* S	Sn	21 41 30.4	-0.6
PB06				IAML		21 41 31.0	
	comp=E,446nm,0.4s						

*DDA **30** 21:43:36.5, 37°.83N×27°.36E, h6km, Ml3.3*
*ISK **30** 21:43:36.7, 37°.86N×27°.37E, h9km, MD3.1*

*ATH **30** 21:43:37.8, 37°.88N×27°.31E, h8km±5km, ML2.6/2, Error ellipse: s-maj=5.6km s-min=1.4km az=249.0*
*CSEM **30** 21:43:37.2±0.2, 37°.86N×27°.37E, h2km, ML3.3, Error ellipse: s-maj=4.0km s-min=3.5km az=72.0*

ISC 30 21:43:36.9±0.9, 37°.83N±0°.02×27°.36E±0°.02, h7km±9km, n59, σ0.984/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.17**	**217**	P	**Pg**	**21 43 40.7**	**+0.4**
GCAM				S	**Sg**	**21 43 42.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.17**	**217**	*i* P	**Pg**	**21 43 40.7**	**+0.4**
GCAM				*i* S	**Sg**	**21 43 42.5**	**-0.1**
SMG	**Samos**	**0.43**	**253**	P	**Pg**	**21 43 45.8**	**+0.5**
SMG				S	**Sg**	**21 43 51.4**	**+0.4**
SMG	**Samos**	**0.43**	**253**	P	**Pg**	**21 43 45.8**	**+0.5**
SMG				S	**Sg**	**21 43 51.4**	**+0.4**
SMG				AML	AML	21 43 53.0	
	comp=E,2274μm,0.2s						
SMG				AML	AML	21 43 57.1	
	comp=N,1757μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**0.43**	**75**	PG	**Pg**	**21 43 45.5**	**+0.1**
AYDB				*e*SG	**Sg**	**21 43 52.0**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**0.43**	**75**	*i* Pg	**Pg**	**21 43 45.5**	**+0.1**
AYDB				*e*Sg	**Sg**	**21 43 52.0**	**+0.9**
DGB	**˜zmir**	**0.43**	**300**	*i* P	**Pg**	**21 43 45.4**	**0.0**
DGB				*i* S	**Sg**	**21 43 51.3**	**+0.2**
IZM	**Izmir**	**0.57**	**352**	PG	**Pg**	**21 43 47.8**	**-0.1**
IZM				*e*SG	**Sg**	**21 43 56.0**	**+0.7**
IZM	**Izmir**	**0.57**	**352**	*i* Pg	**Pg**	**21 43 47.8**	**-0.1**
IZM				*e*Sg	**Sg**	**21 43 56.0**	**+0.7**
BDRM	**Kayabasi**	**0.77**	**175**	P	**Pg**	**21 43 51.5**	**-0.2**
BDRM				S	**Sg**	**21 43 59.7**	**-2.0**
BDRM	**Kayabasi**	**0.77**	**175**	*i* P	**Pg**	**21 43 51.5**	**-0.2**
BDRM				*i* S	**Sg**	**21 43 59.7**	**-2.0**
BODT	**Bodrum**	**0.77**	**183**	*e*PG	**Pb**	**21 43 52.9**	**+0.3**
BODT	**Bodrum**	**0.77**	**183**	*e*Pg	**Pb**	**21 43 52.9**	**+0.3**
ZEY	**˜zmir**	**0.79**	**301**	*i* P	**Pg**	**21 43 51.9**	**-0.2**
ZEY				*i* S	**Sg**	**21 44 03.1**	**+0.8**
URLA	**Izmir**	**0.80**	**311**	P	**Pb**	**21 43 52.9**	**-0.2**
URLA				S	**Sg**	**21 44 03.1**	**+0.4**
URLA	**Izmir**	**0.80**	**311**	*i* P	**Pb**	**21 43 52.9**	**-0.2**
URLA				*i* S	**Sg**	**21 44 03.1**	**+0.4**
YER	**Yerkesik**	**1.01**	**133**	*e*PG	**Pg**	**21 43 56.6**	**+0.2**
YER	**Yerkesik**	**1.01**	**133**	*e*Pg	**Pg**	**21 43 56.6**	**+0.2**
AKS	**Akhisar**	**1.10**	**19**	*e*PN	**Pg**	**21 43 58.0**	**-0.1**
AKS	**Akhisar**	**1.10**	**19**	*e*Pn	**Pg**	**21 43 58.0**	**-0.1**
CHOS	**Chios island**	**1.17**	**299**	*e*PN	**Pg**	**21 43 59.4**	**+0.1**
CHOS	**Chios island**	**1.17**	**299**	P	**Pg**	**21 43 59.3**	**0.0**
CHOS				S	**Sg**	**21 44 13.3**	**-1.2**
CHOS	**Chios island**	**1.17**	**299**	P	**Pg**	**21 43 59.4**	**0.0**
CHOS				S	**Sg**	**21 44 13.3**	**-1.2**
CHOS				AML	AML	21 44 18.7	
	comp=N,558μm,0.4s						
CHOS				AML	AML	21 44 18.7	
	comp=E,876μm,0.3s						
KULA	**Kula-Manisa**	**1.23**	**56**	*e*PN	**Pb**	**21 44 00.2**	**-0.3**
KULA	**Kula-Manisa**	**1.23**	**56**	*e*Pn	**Pb**	**21 44 00.2**	**-0.3**
NISR	**Nisiros**	**1.23**	**189**	P	**Pg**	**21 44 02.2**	**+1.6**
NISR	**Nisiros**	**1.23**	**189**	P	**Pg**	**21 44 02.2**	**+1.6**
NIS1	**Nisyros Isl.**	**1.24**	**187**	*e*PN	**Pn**	**21 44 01.1**	**+0.5**
NIS1	**Nisyros Isl.**	**1.24**	**187**	*e*Pn	**Pn**	**21 44 01.1**	**+0.5**
NIS1	**Nisyros Isl.**	**1.24**	**187**	P	**Pg**	**21 44 01.6**	**+1.0**
NIS1	**Nisyros Isl.**	**1.24**	**187**	P	**Pg**	**21 44 01.6**	**+1.0**
DKL	**Dikili**	**1.29**	**344**	*e*PN	**Pn**	**21 44 01.0**	**-0.2**
DKL	**Dikili**	**1.29**	**344**	*e*Pn	**Pn**	**21 44 01.0**	**-0.2**
DENT	**Denizli**	**1.33**	**93**	*e*PN	**Pn**	**21 44 02.0**	**+0.2**
DENT	**Denizli**	**1.33**	**93**	*e*Pn	**Pn**	**21 44 02.1**	**+0.2**
DNZL	**Cakiroluk**	**1.34**	**96**	P	**Pg**	**21 44 03.6**	**+0.9**
DNZL				S	**Sn**	**21 44 22.1**	**+1.7**
DNZL	**Cakiroluk**	**1.34**	**96**	*i* P	**Pg**	**21 44 03.6**	**+0.9**
DNZL				*i* S	**Sn**	**21 44 22.1**	**+1.7**
TURN	**Turunc**	**1.38**	**134**	*i* P	**Pn**	**21 44 00.6**	**-1.9**
TURN				*i* S	**Sb**	**21 44 17.1**	**-3.7**
DALY	**Dalyan (Mu˘la**	**1.45**	**134**	*e*PN	**Pn**	**21 44 04.1**	**+0.6**
DALY	**Dalyan (Mu˘la**	**1.45**	**134**	*e*Pn	**Pn**	**21 44 04.1**	**+0.6**
AYVA	**Ayvalik**	**1.56**	**341**	P	**Pn**	**21 44 05.2**	**+0.2**
AYVA				S	**Sg**	**21 44 28.0**	**+0.8**
AYVA	**Ayvalik**	**1.56**	**341**	*i* P	**Pn**	**21 44 05.2**	**+0.2**
AYVA				*i* S	**Sg**	**21 44 28.0**	**+0.8**
DEMI	**Demirci**	**1.61**	**41**	P	**Pb**	**21 44 07.1**	**+0.1**
DEMI				S	**Sg**	**21 44 28.8**	**+0.1**
DEMI	**Demirci**	**1.61**	**41**	*i* P	**Pb**	**21 44 07.1**	**+0.1**
DEMI				*i* S	**Sg**	**21 44 28.8**	**+0.1**
APE	**Apeiranthos**	**1.64**	**243**	*e*PN	**Pn**	**21 44 06.6**	**+0.4**
APE	**Apeiranthos**	**1.64**	**243**	*e*Pn	**Pn**	**21 44 06.6**	**+0.4**
APE	**Apeiranthos**	**1.64**	**243**	P	**Pg**	**21 44 08.8**	**+0.4**
APE	**Apeiranthos**	**1.64**	**243**	P	**Pg**	**21 44 08.8**	**+0.4**
PRK	**Paraskevi**	**1.65**	**329**	P	**Pb**	**21 44 06.9**	**-0.7**
PRK	**Paraskevi**	**1.65**	**329**	P	**Pb**	**21 44 06.9**	**-0.7**
ARG	**Arkhangelos**	**1.73**	**159**	P	**Pg**	**21 44

JNBK Urakawa-nobuka 1.98 344 P **Pn** **21 48 29.9 0.0**
JOT Ohata 2.10 300 P **Pn** **21 48 31.4 -0.1**
JOT *eS* **Sn** **21 48 58.4 +1.3**
JCH Churui 2.24 358 P **Pn** **21 48 32.9 -0.6**
JCH *eS* **Sn** **21 49 00.2 -0.4**
JMK Ichinoseki 2.25 232 P **Pn** **21 48 33.5 0.0**
JMK *eS* **Sn** **21 49 01.6 +0.9**
JKB Kayabe 2.39 310 P **Pn** **21 48 35.6 +0.1**
JAK Akkeshi 2.78 19 P **Pn** **21 48 40.0 -0.8**
JAK *eS* **Sn** **21 49 11.1 -2.6**
JYK Kaneyama 2.81 240 P **Pn** **21 48 41.6 +0.3**
JFR Furan 2.87 347 P **Pn** **21 48 43.1 +1.0**
JEW Eniwo 2.90 329 P **Pn** **21 48 43.3 +0.8**
JEW *eS* **Sn** **21 49 18.2 +1.4**
JAR Ashorobuto 2.93 4 P **Pn** **21 48 41.9 -1.1**
JAR S **Sn** **21 49 16.2 -1.4**
ASAJ Asahikawa 3.80 350 Pn **Pn** **21 48 55.8 +0.9**
baz=207,slow=10.0
ASAJ Sn **Sn** **21 49 43.6 +4.6**
16nm,0.3s,baz=214,slow=25,SNR=6.0
YUK Yuzh-Kuril'sk 4.07 25 *e*P **Pn** **21 48 57.1 -1.4**
MAJO Matsushiro 5.63 229 *e*P **Pn** **21 49 21.1 +1.0**
MAJO Matsushiro 5.63 229 *e*Pn **Pn** **21 49 21.1 +1.0**
MAT Matsushiro 5.63 229 P **Pn** **21 49 21.1 +1.0**
MAT *eS* **Sn** **21 50 23.9 -0.3**
MJAR Matsushiro Arr 5.63 229 Pn **Pn** **21 49 21.0 +0.9**
6.0nm,0.3s,baz=29,slow=13,SNR=128
MJAR LR LR 21 51 42.6
comp=Z,699nm,19.8s,baz=355,slow=41
MJB9 Matsu-Tunnel 5.63 229 *e*Pn **Pn** **21 49 21.2 +1.1**
KUR Kuril'sk 5.83 32 *e*P **Pn** **21 49 21.3 -1.5**
KUR *eS* **Sn** **21 50 26.8 -2.2**
KUR pmax pmax
comp=Z,103nm,0.7s
KUR smax smax
comp=N,106nm,0.7s
KUR smax smax
comp=E,59nm,0.7s
YSS Yuzh-Sakhalins 6.60 356⇓ *e*P **Pn** **21 49 37.9 +4.6**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,800nm,14.0s
YSS Yuzh-Sakhalins 6.60 356 *e*Pn **Pn** **21 49 34.5 +1.1**
INU Inuyama 7.16 228 *e*Pn **Pn** **21 49 42.0 +1.0**
JHJ Hachijo jima 2 7.82 203 Pn **Pn** **21 49 49.1 -1.0**
comp=Z,23nm,0.3s,baz=264,slow=24,SNR=8.0
UGL Uglegorsk 8.76 354 P Pn 21 49 55.0 -8.0
UGL pmax pmax
comp=Z,84nm,0.9s
UGL MLR MLR
comp=Z,1μm,16.0s
UGL MLR MLR
comp=N,2μm,13.0s
UGL MLR MLR
comp=E,1μm,13.0s
VLA Vladivostok 9.09 291⇑ *i* P **Pn** **21 50 10.3 +2.8**
VLA *i* S **Sn** **21 51 52.0 +2.8**
VLA pmax pmax
comp=Z,52nm,1.1s
USRK Ussuriysk Ar. 9.34 298 Pn **Pn** **21 50 11.8 +1.0**
comp=Z,1.3nm,0.3s,baz=99,slow=13,SNR=97
USRK LR LR 21 53 50.8
comp=Z,889nm,18.9s,baz=97,slow=38
TYV Tymovskoe 10.51 357 *e*P **Pn** **21 50 25.0 -1.9**
TYV pmax pmax
comp=N,11nm,0.8s
TYV MLR MLR
comp=N,1μm,16.0s
TYV MLR MLR
comp=Z,1μm,16.0s
MDJ Mudanjiang 11.10 297 P **Pn** **21 50 33.8 -1.1**
MDJ S **Sn** **21 52 35.0 -3.4**
MDJ ScP **ScP** **22 00 02.5 -0.3**
MDJ PcS **PcS** **22 00 05.8 +0.7**
MDJ PMZ
comp=Z,3.0nm,0.3s
MDJ LN
comp=Z,430nm,16.5s
MDJ LE
comp=Z,800nm,14.8s
MDJ LZ
comp=Z,1μm,14.8s
MDJ Mudanjiang 11.10 297 *e*Pn **Pn** **21 50 36.8 +1.8**
comp=Z,51nm,1.0s
KLR Kul'dur 12.15 321 Pn **Pn** **21 50 48.8 -0.5**
comp=Z,0.1nm,0.3s,baz=128,slow=14,SNR=18
KLR LR LR 21 56 04.1
comp=Z,601nm,18.1s,baz=159,slow=40
JNU Nakatsue 12.42 238 LR LR 21 55 56.8
comp=Z,567nm,19.2s,baz=113,slow=39
KSRS Korea Array 12.46 261 Pn **Pn** **21 50 54.4 +0.7**
comp=Z,0.3nm,0.3s,baz=70,slow=13,SNR=11
KSRS LR LR 21 55 23.1
comp=Z,828nm,18.5s,baz=69,slow=36
KS01 Wonju Array Si 12.48 262 *e*Pn **Pn** **21 50 54.4 +0.5**
KSAR Wonju Array Be 12.50 261 P **Pn** **21 50 54.4 +0.3**
KSAR Wonju Array Be 12.50 261 Pn **Pn** **21 50 54.4 +0.3**
TJN Taejon 13.26 258 *ce*P **P** **21 51 13.2 -1.0**
CN2 Changchun 13.82 290 *e*P **Pn** **21 51 13.3 +1.1**
CN2 epP P 21 51 19.3 -1.2
CN2 eS **Sn** **21 53 45.0 0.0**
CN2 PMZ
comp=Z,10.0nm,1.0s
CN2 LN
comp=Z,500nm,14.0s
CN2 LE
comp=Z,500nm,14.0s
CN2 LZ
comp=Z,500nm,14.0s
PETK Petropavlovsk- 16.00 32 LR LR 21 58 38.2
comp=Z,182nm,18.2s,baz=219,slow=40
DL2 Dalian 16.89 272 P **Pn** **21 51 53.3 +0.6**
DL2 S **Sn** **21 54 58.3 -1.5**
DL2 PMZ
comp=Z,38nm,1.1s
DL2 PMZ
comp=Z,94nm,5.4s
DL2 LN
comp=Z,280nm,15.1s
DL2 LZ
comp=Z,350nm,19.6s
HIA Hailar 18.98 306 *e*P **P** **21 52 16.9 -0.7**
HIA pmax pmax
comp=Z,31nm,0.9s
HIA Hailar 18.98 306 *e*P **P** **21 52 16.9 -0.7**
comp=Z,31nm,0.9s
CLNS Chul'man 20.44 330 *e*P **P** **21 52 32.0 -1.5**
CLNS pmax pmax
comp=Z,15nm,1.3s
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,0.6s
BJI Beijing 20.83 278 P **P** **21 52 35.0 -2.7**
BJI S **S** **21 56 25.0 -4.2**
BJI PMZ
comp=E,18nm,1.6s
BJI PMZ
comp=E,180nm,5.2s
BJI LN
comp=E,290nm,14.3s
BJI LE
comp=E,250nm,19.8s
BJI LZ
comp=E,240nm,24.0s
BJT Baijiatuau 20.84 278 *e*P **P** **21 52 36.7 -1.1**
BJT pmax pmax
comp=Z,23nm,0.8s
BJT Baijiatuau 20.84 278 *e*P **P** **21 52 36.7 -1.1**
comp=Z,23nm,0.8s
TIA Tai'an 21.07 267⇓ P **P** **21 52 38.0 -2.4**
TIA PMZ
comp=Z,20nm,1.0s
TIA LN
comp=Z,250nm,11.0s
TIA LE
comp=Z,620nm,16.0s
TIA LZ
comp=Z,720nm,13.9s
NJ2 Nanjing 21.48 255 *e*P **P** **21 52 45.3 +0.5**
NJ2 PMZ
comp=Z,24nm,0.9s
SEY Seymchan 23.21 10 P **P** **21 53 01.1 -1.9**
comp=Z,9.4nm,0.9s,baz=194,slow=7.9,SNR=23
SEY Seymchan 23.21 10 *ce*P **P** **21 53 02.2 -0.7**
YAK Yakutsk 23.25 343 P **P** **21 52 58.6 -4.6**
comp=Z,20nm,0.5s,baz=28,slow=0.6,SNR=7.7
YAK LR LR 22 03 27.6
comp=Z,244nm,19.2s,baz=170,slow=40
YAK Yakutsk 23.25 343 *e*P **P** **21 53 01.1 -2.1**
YAK *e**PP **sP** **21 53 10.9 -0.6**
YAK *e* 21 53 29.0
YAK *eS* **S** **21 57 09.4 -4.7**
YAK *e**SS **sS** **21 57 23.7 -0.3**
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,33nm,1.4s
YAK pmax pmax
comp=E,45nm,2.0s
YAK smax smax
comp=N,88nm,1.9s
YAK smax smax
comp=E,52nm,2.5s
YAK MLR MLR
comp=Z,389nm,16.0s
YAK MLR MLR
comp=N,300nm,18.0s
YAK MLR MLR
comp=E,148nm,15.0s
YAK Yakutsk 23.25 343 *e*P **P** **21 53 02.2 -1.1**
comp=E,28nm,0.6s
HHC Hu-ho-hao-te 24.17 282 P **P** **21 53 11.8 -0.7**
HHC sP sP 21 53 26.5 +5.6
HHC S **S** **21 57 26.8 -2.8**
HHC sS sS 21 57 38.8 -0.6
HHC PMZ
comp=E,20nm,1.1s
HHC LN
comp=E,180nm,14.3s
HHC LE
comp=E,430nm,15.7s
HHC LZ
comp=E,450nm,15.7s
YHNB Yeheng 24.24 236 *e*P **P** **21 53 10.8 -2.4**
comp=E,34nm,0.4s
SSLB Suanglung 25.14 236 *e*P **P** **21 53 18.7 -2.6**
comp=E,26nm,0.6s
YULB Yu-li 25.21 235 *e*P **P** **21 53 20.6 -1.4**
comp=E,10nm,0.7s
WHN Wuhan 25.57 257⇓ P **P** **21 53 25.3 +0.2**
WHN PMZ
comp=E,74nm,1.3s
WHN LN
comp=E,740nm,13.2s
WHN LE
comp=E,1μm,13.1s
WHN LZ
comp=E,2μm,14.6s
BOD Bodaibo 25.71 323 *e*P **P** **21 53 25.6 -0.5**
BOD pmax pmax
comp=Z,197nm,1.1s
GUMO Guam 26.71 177 LR LR 22 02 42.9
comp=Z,76nm,20.3s,baz=30,slow=33
ULN Ulaanbaatar 27.01 298 *e*P **P** **21 53 38.2 0.0**
ULN pmax pmax
comp=Z,13nm,1.1s
ULN Ulaanbaatar 27.01 298 *e*P **P** **21 53 38.2 0.0**
comp=Z,13nm,1.1s
SONA1 Songino Array 27.44 298 *e*P **P** **21 53 42.2 +0.2**
SONM Songino Array 27.45 298 P **P** **21 53 41.7 -0.4**
comp=Z,5.2nm,0.7s,baz=93,slow=9.0,SNR=49
SONM LR LR 22 05 26.5
comp=Z,595nm,18.0s,baz=96,slow=38
XAN Xi'an 28.12 268 P **P** **21 53 48.0 -0.1**
XAN pP sP 21 53 57.5 +0.9
XAN PMZ
comp=Z,9.0nm,0.8s
XAN LN
comp=Z,300nm,14.6s
XAN LE
comp=Z,160nm,13.4s
XAN LZ
comp=Z,240nm,11.9s
H11N2 WAKE ISLAND Hy 28.72 129 T T 22 24 57.7
baz=319,slow=76,SNR=502
H11N1 WAKE ISLAND Hy 28.73 129 T T 22 24 58.4
baz=319,slow=76,SNR=408
H11N3 WAKE ISLAND Hy 28.74 129 T T 22 24 55.6
baz=319,slow=76,SNR=384
IRK Irkutsk 29.21 307 *e*P **P** **21 53 58.9 +1.3**
IRK pmax pmax
comp=Z,44nm,1.1s
TLY Talaya 29.52 306 P **P** **21 54 01.0 +0.6**
comp=Z,1.5nm,0.3s,baz=214,slow=7.7,SNR=4.2
TLY LR LR 22 06 01.5
comp=Z,150nm,21.9s,baz=83,slow=37
TLY Talaya 29.52 306 *e*P **P** **21 53 59.8 -0.6**
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,270nm,16.0s
TLY Talaya 29.52 306 *e*P **P** **21 54 00.1 -0.3**
comp=Z,6.6nm,1.0s
H11S1 WAKE ISLAND Hy 29.56 131 T T 22 25 15.6
baz=3.6,slow=74,SNR=98
H11S3 WAKE ISLAND Hy 29.56 131 T T 22 26 08.7
SNR=71
H11S2 WAKE ISLAND Hy 29.58 131 T T 22 25 00.8
baz=326,slow=74,SNR=86
ZAK Zakamensk 29.63 303 *e*P **P** **21 54 00.5 -0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
BILL Bilibino 30.37 17 *i* P **P** **21 54 06.5 -1.2**
BILL *i* 21 54 14.4
BILL *i* 21 55 07.5
BILL *i* S **S** **21 59 14.7 +7.8**
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,124nm,19.0s
LZH Lanzhou 31.25 275 *e*P **P** **21 54 16.5 +0.6**
LZH pP sP 21 54 26.3 +1.8
LZH sP pP 21 54 29.3 +7.3
LZH PP **PnPn** **21 55 18.0 0.0**
LZH *e*S **S** **21 59 25.0 +3.5**
LZH sS sS 21 59 38.5 +7.0
LZH PMZ
comp=Z,19nm,1.0s
LZH PMZ
comp=Z,60nm,4.3s
LZH LN
comp=Z,470nm,16.6s
LZH LE
comp=Z,380nm,19.2s
LZH LZ
comp=Z,510nm,18.1s
TIXI Tiksi 32.20 351 *i* P **P** **21 54 22.1 -1.6**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
GTA Gaotai 33.27 283⇑ P **P** **21 54 33.8 +0.2**
GTA pP sP 21 54 42.8 +0.7
GTA sP pP 21 54 46.8 +7.1
GTA PP **PnPn** **21 55 46.0 +2.1**
GTA PcP **PcP** **21 57 16.3 +0.7**
GTA S **S** **21 59 51.3 -1.6**
GTA sS sS 22 00 07.3 +4.5
GTA SS **SnSn** **22 01 55.3 +2.0**
GTA PMZ
comp=Z,26nm,1.1s
GTA PMZ
comp=Z,94nm,6.7s
GTA LN
comp=Z,190nm,18.1s
GTA LE
comp=Z,470nm,18.1s
GTA LZ
comp=Z,560nm,18.1s
CD2 Chengdu 33.40 266 *e*P **P** **21 54 34.3 -0.4**
CD2 pP sP 21 54 43.5 +0.3
CD2 PP **PP** **21 55 49.5 -0.8**
CD2 S **S** **21 59 52.8 -2.1**
CD2 sS sS 22 00 08.5 +3.6
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,140nm,5.4s
CD2 LN
comp=Z,360nm,12.4s
CD2 LE
comp=Z,260nm,11.4s
CD2 LZ
comp=Z,410nm,13.4s
GYA Guiyang 33.46 257⇓ *i* P **P** **21 54 34.8 -0.6**
GYA pP sP 21 54 45.8 +1.9
GYA PP **PnPn** **21 55 48.0 +1.4**
GYA PcP **PcP** **21 57 18.0 +1.7**
GYA S **S** **21 59 53.3 -2.8**
GYA sS sS 22 00 09.5 +3.4
GYA SS **SnSn** **22 01 56.5 -1.9**
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,520nm,17.0s
GYA LE
comp=Z,480nm,17.2s
GYA LZ
comp=Z,460nm,17.4s
QIZ Qiongzhong 35.82 244 P **P** **21 54 54.5 -1.2**
QIZ S **S** **22 00 31.5 -0.8**
QIZ LN
comp=Z,260nm,18.1s
QIZ LE
comp=Z,280nm,17.8s
QIZ LZ
comp=Z,270nm,17.5s
DAV Davao City (W) 36.83 211 LR LR 22 10 15.4
comp=Z,95nm,19.2s,baz=22,slow=36
KMI Kunming 37.14 258 P **P** **21 55 07.3 +0.1**
KMI pP sP 21 55 16.5 +0.8
KMI sP pP 21 55 20.8 +7.5
KMI S **S** **22 00 57.3 +4.5**
KMI PMZ
comp=Z,26nm,1.0s
KMI PMZ
comp=Z,79nm,6.3s
KMI LN
comp=Z,400nm,15.8s
KMI LE
comp=Z,400nm,14.7s
KMI LZ
comp=Z,550nm,16.6s
WMQ Urumqi 40.87 294 P **P** **21 55 39.0 +0.9**
WMQ pP sP 21 55 47.8 +1.1
WMQ sP pP 21 55 52.8 +8.6
WMQ PMZ
comp=Z,10.0nm,0.9s
WMQ PMZ
comp=Z,65nm,3.8s
WMQ LN
comp=Z,160nm,14.7s
WMQ LE
comp=Z,130nm,16.3s
WMQ LZ
comp=Z,83nm,19.7s
ZAA0 Zalesovo Array 40.95 310 *e*P **P** **21 55 38.7 +0.3**
ZALV Zalesovo Beam 40.95 310 P **P** **21 55 37.7 -0.8**
comp=Z,4.9nm,0.6s,baz=90,slow=7.9,SNR=30
ZALV PcP **PcP** **21 57 38.9 +0.4**
comp=Z,3.4nm,0.7s,baz=120,slow=2.8,SNR=4.1
ZALV LR LR 22 13 36.3
comp=Z,191nm,19.4s,baz=70,slow=38
NRIK Noril'sk 40.96 333 P **P** **21 55 38.2 -0.2**
comp=Z,3.3nm,0.6s,baz=124,slow=8.6,SNR=4.0
NRIK LR LR 22 13 56.9
comp=Z,135nm,19.2s,baz=118,slow=38
NONG Nongkai 41.16 249 P **P** **21 55 41.6 +1.0**
comp=Z,15nm,0.8s,comp=Z,6μm
UBPT Khong Chiam 41.41 244 P **P** **21 55 44.8 +2.1**
comp=Z,12nm,1.2s,comp=Z,995nm
MYLDM Lahad Datu 41.62 219 *e*P **P** **21 55 47.1 +2.8**
comp=Z,27nm,1.2s
NVS Novosibirsk 41.79 311⇑ *i* P **P** **21 55 45.5 +0.2**
NVS *i* 21 55 57.6
NVS pmax pmax
comp=Z,6.0nm,0.8s
NVS pmax pmax
comp=N,1.0nm,0.5s
NVS pmax pmax
comp=E,4.0nm,0.7s
KHON Khomkaen 42.53 248 P **P** **21 55 52.4 +0.6**
comp=E,9.4nm,0.9s,comp=E,594nm
LOEI Loei 42.87 250 P **P** **21 55 52.3 -2.3**
comp=E,45nm,1.5s,comp=E,6μm
UTTA Uttaradit 43.23 251 P **P** **21 55 58.1 +0.6**
comp=E,3.3nm,0.9s
LSA Lhasa 43.59 273 *e*P **P** **21 56 00.9 +0.1**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 43.59 273 *e*P **P** **21 56 00.9 +0.1**
comp=Z,5.7nm,0.7s
PBKT Sadao Pong 43.70 250 P **P** **21 56 02.5 +1.3**
comp=Z,9.4nm,1.1s,comp=Z,1μm
CMMT Chiang Mai 43.72 254 P **P** **21 56 02.0 +0.5**
comp=Z,6.7nm,1.0s
CHTO Chiang Mai 43.72 254 P **P** **21 56 02.1 +0.6**
comp=Z,30nm,1.0s
CHTO Chiang Mai 43.72 254 *e*P **P** **21 56 01.5 +0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 43.72 254 *e*P **P** **21 56 01.5 +0.1**
comp=Z,5.4nm,0.9s
MK01 Makanchi Array 43.80 300 *e*P **P** **21 56 01.6 -0.2**
MK31 Makanchi Array 43.80 300 *e*P **P** **21 56 01.8 0.0**
MK31 Makanchi Array 43.80 300 *e*P **P** **21 56 01.8 0.0**
MKAR Makanchi Array 43.80 300 P **P** **21 56 01.6 -0.2**
comp=Z,12nm,0.9s,baz=83,slow=9.1,SNR=79
MKAR LR LR 22 15 14.7
comp=Z,224nm,19.0s,baz=69,slow=37
MKAR Makanchi Array 43.80 300 *e*P **P** **21 56 01.8 0.0**
MKAR Makanchi Array 43.80 300 *e*P **P** **21 56 01.8 0.0**
CMAR Chiang Mai Arr 43.95 254 P **P** **21 56 02.9 -0.4**
comp=Z,1.8nm,0.7s,baz=45,slow=7.0,SNR=19
MAKZ Makanchi 44.00 300 *e*P **P** **21 56 03.4 0.0**
MAKZ pmax pmax
comp=Z,17nm,0.9s
MAKZ Makanchi 44.00 300 *e*P **P** **21 56 03.4 0.0**
comp=Z,17nm,0.9s
KURK Kurchatov 45.22 306 *e*P **P** **21 56 12.8 -0.2**
KURK pmax pmax
comp=Z,184nm,0.8s
KURK Kurchatov 45.22 306 *e*P **P** **21 56 12.8 -0.2**
comp=Z,184nm,0.8s
IL1 Eielson Array 45.82 34 *e*P **P** **21 56 18.0 +0.3**
ILAR Eielson Array 45.82 34 P **P** **21 56 17.9 +0.2**
comp=Z,0.9nm,0.8s,baz=261,slow=6.1,SNR=12
ILB Eielson Array 45.82 34 *e*P **P** **21 56 19.6 +1.9**
RAMN Ramite 48.43 272 *e*P **P** **21 56 38.9 +0.1**
comp=Z,73nm,0.9s
GUN Gumba 48.49 274 *e*P **P** **21 56 39.6 +0.2**
comp=Z,35nm,0.6s
KKN Kakani 49.01 274 *e*P **P** **21 56 43.3 +0.1**
comp=Z,42nm,0.9s
PKIN Phulchoki 49.03 274 *e*P **P** **21 56 43.9 +0.5**
comp=Z,16nm,0.6s
VOSK Vostochnaya 49.32 310 *e*P **P** **21 56 45.4 +0.4**
VOSK pmax pmax
comp=Z,14nm,0.9s
VOSK Vostochnaya 49.32 310 *e*P **P** **21 56 45.4 +0.4**
comp=Z,14nm,0.9s
GKN Gorkha 49.39 275 *e*P **P** **21 56 45.9 -0.1**
comp=Z,19nm,0.7s
TKM2 Tokmak 2 49.53 297 *e*P **P** **21 56 47.5 +0.5**
TKM2 pmax pmax
comp=Z,22nm,0.8s
TKM2 Tokmak 2 49.53 297 *e*P **P** **21 56 47.5 +0.5**
comp=Z,22nm,0.8s
BRVK Borovoye 49.63 311 *ce*P **P** **21 56 47.9 +0.6**
BRVK pmax pmax
comp=Z,30nm,0.8s
BRVK Borovoye 49.63 311 *e*P **P** **21 56 47.8 +0.5**
comp=Z,12nm,0.9s
FRU Bishkek 50.23 297 *e*P **P** **21 56 50.5 -1.6**
AAK Ala-Archa 50.39 297 *e*P **P** **21 56 53.3 -0.1**
AAK pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 50.39 297 *e*P **P** **21 56 53.3 -0.1**
comp=Z,3.8nm,0.6s

ZRNK	**Zerenda**	**50.40**	**311**	*e*P		**P**	**21 56 53.6**	**+0.4**
ZRNK				pmax	pmax			
	comp=Z,17nm,0.9s							
ZRNK	**Zerenda**	**50.40**	**311**	*e*P		**P**	**21 56 53.6**	**+0.4**
	comp=Z,17nm,0.9s							
KSH	**Kashi**	**50.58**	**292**	*e*P		**P**	**21 56 58.5**	**+3.6**
KSH				pP	sP		21 57 08.0	+4.4
KSH				PcP	**PcP**		**21 58 15.3**	**+2.9**
KSH				PP	**PP**		**21 58 54.3**	**+3.7**
KSH				S	**S**		**22 04 09.8**	**+1.4**
KSH				ScS	**ScS**		**22 06 43.0**	**-1.9**
KSH				SS	**SS**		**22 07 41.5**	**-0.7**
KSH				PMZ				
	comp=Z,6.0nm,0.4s							
KSH				PMZ				
	comp=Z,70nm,3.9s							
KSH				LN				
	comp=Z,180nm,5.9s							
KSH				LE				
	comp=Z,200nm,7.6s							
KSH				LZ				
	comp=Z,260nm,10.4s							
PYUN	**Piuthan**	**50.60**	**276**	*e*P		**P**	**21 56 55.3**	**0.0**
HYT	**Haines Junctio**	**50.67**	**38**	*e*P		**P**	**21 56 57.4**	**+2.1**
	comp=Z,13nm,1.0s							
INK	**Inuvik**	**50.69**	**28**	P		**P**	**21 56 55.5**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=54,slow=1.7,SNR=8.8							
INK	**Inuvik**	**50.69**	**28**	*e*P		**P**	**21 56 56.3**	**+1.3**
INK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
INK	**Inuvik**	**50.69**	**28**	*e*P		**P**	**21 56 56.3**	**+1.3**
	comp=Z,3.9nm,0.8s							
EKS2	**Erkin-Say**	**50.87**	**297**	*e*P		**P**	**21 56 57.3**	**+0.3**
EKS2				pmax	pmax			
	comp=Z,9.0nm,0.8s							
EKS2	**Erkin-Say**	**50.87**	**297**	*e*P		**P**	**21 56 57.3**	**+0.3**
	comp=Z,8.6nm,0.8s							
KKAR	**Karatay Array**	**52.90**	**299**	*e*P		**P**	**21 57 12.0**	**-0.1**
KKAR	**Karatay Array**	**52.90**	**299**	*e*P		**P**	**21 57 12.0**	**-0.1**
SVE	**Sverdlovsk**	**53.75**	**317**	⇑*i*P		**P**	**21 57 19.0**	**+1.0**
SVE				pmax	pmax			
	comp=Z,27nm,1.1s							
SVE				MLR	MLR			
	comp=Z,508nm,15.0s							
ARU	**Arti**	**54.97**	**317**	*c i*P		**P**	**21 57 26.8**	**-0.1**
ARU							21 58 26.8	
ARU							21 59 27.7	
ARU				S		**S**	**22 05 07.6**	**+0.2**
ARU				SS		**SS**	**22 08 48.2**	**-2.3**
ARU				pmax	pmax			
	comp=Z,28nm,1.2s							
ARU				MLR	MLR			
	comp=Z,422nm,16.0s							
ARU	**Arti**	**54.97**	**317**	*e*P		**P**	**21 57 26.6**	**-0.3**
	comp=Z,23nm,1.1s							
ABKAR	**Akbulak array**	**57.06**	**309**	*e*P		**P**	**21 57 41.6**	**-0.4**
AKTO	**Aktyubinsk**	**57.68**	**311**	P		**P**	**21 57 46.3**	**0.0**
	comp=Z,5.8nm,0.8s,baz=78,slow=13,SNR=13							
KBL	**Kabul**	**57.77**	**290**	*e*P		**P**	**21 57 47.0**	**-0.4**
KBL				pmax	pmax			
	comp=Z,17nm,1.0s							
KBL	**Kabul**	**57.77**	**290**	*e*P		**P**	**21 57 47.0**	**-0.4**
	comp=Z,17nm,1.0s							
HYB	**Hyderabad**	**59.93**	**268**	*i* P		**P**	**21 58 02.5**	**0.0**
YKA	**Yellowknife Ar**	**60.12**	**32**	LR		LR	22 27 18.4	
	comp=Z,7.2nm,18.0s,baz=0.0,slow=39							
WRA	**Warramunga Arr**	**60.60**	**190**	P		**P**	**21 58 05.4**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=7.1,slow=6.9,SNR=13							
ARCES	**ARCESS Array B**	**61.45**	**339**	P		**P**	**21 58 11.9**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=53,slow=8.0,SNR=2.7							
ARCES				LR		LR	22 30 11.3	
	comp=Z,119nm,18.2s,baz=50,slow=41							
ARCES	**ARCESS Array B**	**61.45**	**339**	P		**P**	**21 58 12.0**	**-0.1**
KLMR	**Klimovskoe**	**61.81**	**327**	*e*P		**P**	**21 58 12.0**	**-2.6**
KLMR				*e*			22 00 28.4	
KLMR				pmax	pmax			
	comp=Z,9.0nm,1.2s							
DAG	**Danmarks Havn**	**62.59**	**355**	*i* P		**P**	**21 58 19.6**	**+0.1**
	comp=Z,5.2nm,0.9s							
GEYT	**Alibeck**	**63.65**	**298**	P		**P**	**21 58 27.2**	**-0.1**
	comp=Z,6.9nm,0.9s,baz=29,slow=3.4,SNR=16							
GEYT				LR		LR	22 28 17.3	
	comp=Z,195nm,18.1s,baz=75,slow=38							
ASAR	**Alice Springs**	**64.33**	**190**	P		**P**	**21 58 30.9**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=11,slow=7.3,SNR=4.7							
VRH	**Novokhopyorsk**	**66.20**	**318**	*e*P		**P**	**21 58 42.1**	**-1.4**
VRH				pmax	pmax			
	comp=Z,9.0nm,0.6s							
OBN	**Obninsk**	**66.40**	**323**	*i* P		**P**	**21 58 44.5**	**-0.2**
OBN				*i*			21 59 15.4	
OBN				pmax	pmax			
	comp=Z,13nm,1.3s							
OBN				MLR	MLR			
	comp=Z,250nm,16.0s							
FIA1	**FINESS Array S**	**66.61**	**332**	*e*P		**P**	**21 58 46.3**	**+0.3**
FINES	**FINESS Array B**	**66.62**	**332**	P		**P**	**21 58 46.2**	**+0.2**
	comp=Z,8.6nm,0.7s,baz=53,slow=7.4,SNR=40							
FINES				LR		LR	22 31 30.0	
	comp=Z,120nm,18.8s,baz=32,slow=39							
SUMG	**Summit**	**67.34**	**1**	*e*P		**P**	**21 58 50.7**	**-0.3**
SUMG				pmax	pmax			
	comp=Z,7.0nm,0.8s							
SUMG	**Summit**	**67.34**	**1**	*i* P		**P**	**21 58 51.5**	**+0.5**
	comp=Z,6.4nm,0.7s							
SUMG	**Summit**	**67.34**	**1**	*e*P		**P**	**21 58 50.7**	**-0.3**
	comp=Z,6.8nm,0.8s							
VSR	**Storozhevoye**	**67.49**	**319**	*e*P		**P**	**21 58 51.1**	**-0.7**
VSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VSU	**Vasula**	**68.40**	**330**	*ce*P		**P**	**21 58 56.4**	**-0.9**
VSU				pmax	pmax			
	comp=Z,31nm,1.7s							
ZEI	**Tsey**	**69.93**	**309**	*e*P		**P**	**21 59 06.6**	**-0.9**
ZEI				pmax	pmax			
	comp=Z,21nm,0.4s							
KIV	**Kislovodsk**	**69.94**	**311**	*e*P		**P**	**21 59 08.1**	**+0.8**
KIV				pmax	pmax			
	comp=Z,28nm,0.8s							
KIV	**Kislovodsk**	**69.94**	**311**	*e*P		**P**	**21 59 08.1**	**+0.8**
	comp=Z,28nm,0.8s							
KBZ	**Khabaz**	**69.96**	**311**	P		**P**	**21 59 08.2**	**+1.0**
	comp=Z,12nm,0.8s,baz=63,slow=4.1,SNR=23							
NEY	**Neytrino**	**70.35**	**310**	*e*P		**P**	**21 59 11.7**	**+1.7**
NEY				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NACGM	**Naroch**	**70.82**	**327**	*e*		**P**	**21 59 13.0**	**+0.6**
BOZ	**Bozeman (W)**	**71.21**	**46**	*e*P		**P**	**21 59 16.8**	**+1.7**
BOZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BOZ	**Bozeman (W)**	**71.21**	**46**	*e*P		**P**	**21 59 16.8**	**+1.7**
	comp=Z,3.0nm,0.8s							
NC204	**NORSAR Array S**	**71.67**	**338**	*e*P		**P**	**21 59 18.1**	**+0.6**
NB2	**NORSAR Subarra**	**71.73**	**338**	P		**P**	**21 59 17.3**	**-0.5**
	comp=Z,6.8nm,0.9s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**71.73**	**338**	P		**P**	**21 59 17.7**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=37,slow=6.0,SNR=16							
NOA				LR		LR	22 34 07.5	
	comp=Z,102nm,21.9s,baz=30,slow=39							
NBO02	**NORSAR Array S**	**71.82**	**338**	*e*P		**P**	**21 59 18.4**	**0.0**
AKASG	**Malin Array Be**	**72.64**	**323**	P		**P**	**21 59 23.3**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=43,slow=6.2,SNR=30							
KIEV	**Kiev**	**72.65**	**323**	*e*P		**P**	**21 59 23.3**	**-0.1**
KIEV				pmax	pmax			
	comp=Z,13nm,0.9s							
KIEV	**Kiev**	**72.65**	**323**	*e*P		**P**	**21 59 23.3**	**-0.1**
	comp=Z,13nm,0.9s							
AK11	**Malin Array Si**	**72.68**	**323**	*e*P		**P**	**21 59 23.6**	**0.0**
SORM	**Soroca**	**74.83**	**321**	⇑*i*P		**P**	**21 59 36.6**	**+0.4**
SORM	**Soroca**	**74.83**	**321**	⇑P		**P**	**21 59 36.6**	**+0.4**
LVV	**L'vov**	**75.62**	**324**	*e*P		**P**	**21 59 41.1**	**+0.3**
LVV				MLR	MLR			
	comp=N,100nm,15.0s							
LVV				MLR	MLR			
	comp=E,100nm,15.0s							
LVV				MLR	MLR			
	comp=Z,200nm,15.0s							
KWP	**Kalwaria Pacla**	**76.35**	**325**	*e*P		**P**	**21 59 45.4**	**+0.4**
KWP	**Kalwaria Pacla**	**76.35**	**325**	*e*P		**P**	**21 59 45.4**	**+0.4**
BUR08	**Bucovina Ar. S**	**76.67**	**322**	*e*P		**P**	**21 59 47.5**	**+0.5**
BURAR	**Bucovina Array**	**76.68**	**322**	⇑*i*P		**P**	**21 59 47.5**	**+0.5**
BURAR	**Bucovina Array**	**76.68**	**322**	⇑P		**P**	**21 59 47.5**	**+0.5**
TESR	**Tescani**	**76.79**	**321**	⇑*i*P		**P**	**21 59 48.0**	**+0.4**
CFR	**Carcaliu**	**77.01**	**319**	⇑*i*P		**P**	**21 59 48.0**	**-0.7**
CFR	**Carcaliu**	**77.01**	**319**	⇑P		**P**	**21 59 48.0**	**-0.7**
KOLS	**Kolonicke sedl**	**77.06**	**325**	*e*P		**P**	**21 59 49.5**	**+0.5**
KOLS				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KOLS	**Kolonicke sedl**	**77.06**	**325**	*e*P		**P**	**21 59 49.5**	**+0.5**
STHS	**Stebnicka Huta**	**77.15**	**325**	*e*P		**P**	**21 59 50.8**	**+1.3**
STHS				pmax	pmax			
	comp=Z,5.0nm,1.0s							
STHS	**Stebnicka Huta**	**77.15**	**325**	*e*P		**P**	**21 59 50.8**	**+1.3**
OJC	**Ojcow**	**77.16**	**327**	*e*P		**P**	**21 59 50.4**	**+0.8**
OJC	**Ojcow**	**77.16**	**327**	*e*P		**P**	**21 59 50.0**	**+0.5**
OJC				pmax	pmax			
	comp=Z,13nm,0.9s							
OJC	**Ojcow**	**77.16**	**327**	*e*P		**P**	**21 59 50.0**	**+0.5**
	comp=Z,13nm,0.9s							
VRI	**Vrincioaia**	**77.22**	**320**	⇓*i*P		**P**	**21 59 51.3**	**+1.3**
VRI	**Vrincioaia**	**77.22**	**320**	⇓P		**P**	**21 59 51.3**	**+1.3**
PLOR	**Plostina**	**77.27**	**320**	⇓*i*P		**P**	**21 59 50.9**	**+0.6**
PLOR	**Plostina**	**77.27**	**320**	⇓P		**P**	**21 59 50.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**77.44**	**325**	*e*P		**P**	**21 59 51.8**	**+0.7**
CRVS	**Cervenica-Dubn**	**77.44**	**325**	*e*P		**P**	**21 59 51.8**	**+0.7**
NIE	**Niedzica**	**77.55**	**326**	*e*P		**P**	**21 59 53.0**	**+1.2**
NIE	**Niedzica**	**77.55**	**326**	*e*P		**P**	**21 59 53.0**	**+1.2**
DOPR	**Dopca**	**77.79**	**321**	⇓*i*P		**P**	**21 59 55.0**	**+1.8**
BRTR	**Keskin Array B**	**77.83**	**312**	P		**P**	**21 59 54.0**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=101,slow=3.9,SNR=8.2							
BRTR				LR		LR	22 41 22.3	
	comp=Z,41nm,19.1s,baz=28,slow=41							
MLR	**Muntele Rosu**	**77.87**	**320**	⇑*i*P		**P**	**21 59 53.9**	**+0.1**
MLR	**Muntele Rosu**	**77.87**	**320**	⇑P		**P**	**21 59 53.9**	**+0.1**
CJR	**Cluj-Napoca**	**78.10**	**322**	⇑*i*P		**P**	**21 59 55.8**	**+0.9**
CJR	**Cluj-Napoca**	**78.10**	**322**	⇑P		**P**	**21 59 55.8**	**+0.9**
KSP	**Ksiaz**	**78.10**	**329**	*e*P		**P**	**21 59 55.9**	**+1.1**
KSP	**Ksiaz**	**78.10**	**329**	*e*P		**P**	**21 59 55.9**	**+1.1**
OKC	**Ostrava-Krasne**	**78.13**	**327**	AMS		AMS	22 38 40.0	
	comp=Z,100nm,12.3s							
KECS	**Kecovo**	**78.18**	**325**	*e*P		**P**	**21 59 55.7**	**+0.4**
KECS				pmax	pmax			
	comp=Z,3.0nm,1.1s							
KECS	**Kecovo**	**78.18**	**325**	*e*P		**P**	**21 59 55.7**	**+0.4**
BR231	**Keskin MP Arra**	**78.24**	**313**	*e*P		**P**	**21 59 53.9**	**-2.0**
VOIR		**78.34**	**321**	⇓*i*P		**P**	**21 59 56.9**	**+0.6**
VOIR		**78.34**	**321**	⇓P		**P**	**21 59 56.9**	**+0.6**
MORC	**Moravsky Berou**	**78.43**	**328**	⇑*i*P		**P**	**21 59 57.6**	**+0.9**
MORC	**Moravsky Berou**	**78.43**	**328**	⇑P		**P**	**21 59 57.6**	**+0.9**
MORC	**Moravsky Berou**	**78.43**	**328**	*e*P		**P**	**21 59 57.9**	**+1.2**
	comp=Z,30nm,0.9s							
DRGR		**78.45**	**323**	⇑*i*P		**P**	**21 59 55.0**	**-1.9**
DRGR		**78.45**	**323**	⇑P		**P**	**21 59 55.0**	**-1.9**
DPC	**Dobruska-Polom**	**78.47**	**329**	*e*P		**P**	**21 59 57.9**	**+1.0**
DPC				*ep*P		**PcP**	**22 00 06.8**	**+0.7**
DPC				AMS		AMS	22 39 50.0	
DPC	**Dobruska-Polom**	**78.47**	**329**	*e*P		**P**	**21 59 57.9**	**+1.0**
DPC				*e*			22 00 06.8	
ARR	**Arges**	**78.59**	**321**	⇑*i*P		**P**	**21 59 59.8**	**+2.1**
PSZ	**Piszkesteto**	**78.86**	**325**	⇑*i*P		**P**	**21 59 59.9**	**+0.8**
PSZ	**Piszkesteto**	**78.86**	**325**	*e*P		**P**	**22 00 00.0**	**+0.8**
PSZ				pmax	pmax			
	comp=Z,11nm,0.9s							
PSZ	**Piszkesteto**	**78.86**	**325**	*e*P		**P**	**22 00 00.0**	**+0.8**
	comp=Z,11nm,0.9s							
VYHS	**Vyhne**	**78.88**	**326**	*e*P		**P**	**21 59 59.8**	**+0.6**
VYHS				pmax	pmax			
	comp=Z,3.0nm,0.9s							
VYHS	**Vyhne**	**78.88**	**326**	*e*P		**P**	**21 59 59.8**	**+0.6**
BRG	**Berggiesshubel**	**78.99**	**330**	*e*P		**P**	**22 00 00.4**	**+0.8**
	comp=Z,10nm,1.4s							
CLL	**Collm**	**78.99**	**331**	⇑*i*P		**P**	**22 00 00.0**	**+0.3**
	comp=Z,10.0nm,1.0s							
CLL				*e*			22 00 07.0	
CLL	**Collm**	**78.99**	**331**	*e*P		**P**	**21 59 59.9**	**+0.2**
	comp=Z,7.4nm,0.8s							
PVCC	**Panska Ves**	**79.02**	**330**	*e*P		**P**	**22 00 00.6**	**+0.7**
PVCC	**Panska Ves**	**79.02**	**330**	*e*P		**P**	**22 00 00.6**	**+0.7**
VRAC	**Vranov**	**79.18**	**328**	⇓*i*P		**P**	**22 00 02.2**	**+1.4**
VRAC	**Vranov**	**79.18**	**328**	⇓P		**P**	**22 00 02.2**	**+1.4**
GOPC	**GO Pecny, Ondr**	**79.43**	**329**	*e*P		**P**	**22 00 02.7**	**+0.6**
GOPC	**GO Pecny, Ondr**	**79.43**	**329**	*e*P		**P**	**22 00 02.7**	**+0.6**
GZR	**Gura Zlata**	**79.46**	**322**	⇓*i*P		**P**	**22 00 02.9**	**+0.5**
GZR	**Gura Zlata**	**79.46**	**322**	⇓P		**P**	**22 00 02.9**	**+0.5**
PRU	**Pruhonice**	**79.46**	**329**	*e*P		**P**	**22 00 03.2**	**+0.9**
PRU				AMS	AMS		22 40 20.0	
	comp=Z,100nm,17.3s							
PRU	**Pruhonice**	**79.46**	**329**	*e*P		**P**	**22 00 03.2**	**+0.9**
PRU				MLR	MLR			
	comp=Z,100nm,17.3s							
BZS	**Buzias**	**79.83**	**323**	⇑*i*P		**P**	**22 00 04.6**	**+0.2**
BZS	**Buzias**	**79.83**	**323**	⇑P		**P**	**22 00 04.6**	**+0.2**
MDVR	**Moldovita**	**80.42**	**322**	⇑*i*P		P	22 00 02.1	-5.5
MPEP	**Malo Peshtene**	**80.51**	**320**	*e*P		**P**	**22 00 08.0**	**-0.1**
KHC	**Kasperske Hory**	**80.53**	**329**	*e*P		**P**	**22 00 08.9**	**+0.8**
KHC				*ep*P		**sP**	**22 00 17.7**	**+0.7**
KHC				AMS	AMS		22 41 00.0	
	comp=Z,200nm,11.4s							
KHC	**Kasperske Hory**	**80.53**	**329**	*e*P		**P**	**22 00 08.9**	**+0.8**
KHC				*e*			22 00 17.7	
KHC				MLR	MLR			
	comp=Z,200nm,11.4s							
KHC	**Kasperske Hory**	**80.53**	**329**	*e*P		**P**	**22 00 09.0**	**+0.8**
	comp=Z,4.2nm,1.0s							
CONA	**Conrad Observa**	**80.57**	**327**	*i* P		**P**	**22 00 09.6**	**+1.2**
	comp=Z,9.9nm,1.0s,SNR=6.5							
GEC2	**GERESS Array S**	**80.71**	**329**	*e*P		**P**	**22 00 10.2**	**+1.0**
GEC2				pmax	pmax			
	comp=Z,5.0nm,1.1s							
GEC2	**GERESS Array S**	**80.71**	**329**	*e*P		**P**	**22 00 10.2**	**+1.0**
	comp=Z,5.0nm,1.1s							
GERES	**GERESS Array B**	**80.71**	**329**	P		**P**	**22 00 09.0**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=35,slow=4.9,SNR=21							
GERES				LR		LR	22 39 55.6	
	comp=Z,60nm,18.7s,baz=349,slow=39							
GEA0	**GERESS Array S**	**80.71**	**329**	*e*P		**P**	**22 00 09.3**	**+0.1**
GRFO	**Grafenberg**	**80.97**	**331**	*e*P		**P**	**22 00 11.2**	**+0.8**
GRFO				pmax	pmax			
	comp=Z,11nm,1.0s							
GRFO	**Grafenberg**	**80.97**	**331**	*e*P		**P**	**22 00 11.2**	**+0.8**
	comp=Z,11nm,1.0s							
ARSA	**Arzberg**	**81.25**	**327**	*i* P		**P**	**22 00 12.8**	**+0.8**
	comp=Z,4.4nm,0.9s							
MOA	**Molln**	**81.28**	**328**	*i* P		**P**	**22 00 12.4**	**+0.2**
	comp=Z,3.5nm,0.9s							
VTS	**Vitsha**	**81.33**	**320**	⇑*i*P		**P**	**22 00 13.5**	**+0.8**
VTS	**Vitosha**	**81.33**	**320**	⇑P		**P**	**22 00 13.5**	**+0.8**
VTS	**Vitosha**	**81.33**	**320**	*e*P		**P**	**22 00 12.7**	**0.0**
VTS	**Vitosha**	**81.33**	**320**	*e*P		**P**	**22 00 13.3**	**+0.6**
	comp=Z,8.6nm,0.8s							
MMB	**Musomiste**	**81.82**	**319**	*e*P		**P**	**22 00 14.7**	**-0.4**
SOKA	**Soboth**	**81.91**	**327**	*i* P		**P**	**22 00 16.2**	**+0.6**
	comp=Z,13nm,0.8s,SNR=13							
OBKA	**Obir**	**82.24**	**327**	*i* P		**P**	**22 00 17.3**	**0.0**
	comp=Z,6.0nm,0.7s							
KBA	**Koelnbreinsper**	**82.28**	**328**	*i* PcP		**P**	**22 00 19.1**	**+1.5**
	comp=Z,11nm,1.1s							
MYKA	**Terra Mystica**	**82.52**	**328**	*i* P		**P**	**22 00 18.7**	**0.0**
	comp=Z,6.1nm,0.9s							
MOTA	**Moosalm**	**82.94**	**330**	*i* P		**P**	**22 00 21.2**	**+0.2**
	comp=Z,9.7nm,1.0s,SNR=7.7							
RETA	**Reutte**	**82.96**	**330**	*i* P		**P**	**22 00 21.8**	**+0.8**
	comp=Z,8.7nm,0.9s							
FETA	**Feichten**	**83.35**	**330**	*i* P		**P**	**22 00 23.7**	**+0.5**
	comp=Z,7.5nm,1.2s							
PDG	**Podgorica**	**83.36**	**322**	⇑*i*P		**P**	**22 00 23.4**	**+0.3**
DAVA	**Damuels**	**83.46**	**330**	*i* P		**P**	**22 00 24.2**	**+0.4**
	comp=Z,7.1nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**83.86**	**330**	*e*P		**P**	**22 00 26.6**	**+0.7**
	comp=Z,16nm,1.0s							
PPT2	**Papeete2**	**84.75**	**118**	*e*LR		LR	22 27 23.0	
	comp=Z,150nm,23.2s							
TAOE	**Nuku Hiva Isla**	**85.46**	**106**	*e*LR		LR	22 27 35.7	
	comp=Z,205nm,23.7s							
TX31	**Lajitas Ar. Si**	**86.83**	**54**	*e*P		**P**	**22 00 40.9**	**+0.1**
TXAR	**Lajitas Array**	**86.83**	**54**	P		**P**	**22 00 40.9**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=240,slow=3.0,SNR=3.2							
TORD	**Torodi Ar. Bea**	**116.03**	**318**	PP		PP	22 07 43.0	-0.1
	comp=Z,1.6nm,1.1s,baz=54,slow=7.5,SNR=3.9							
SNAA	**Sanae**	**144.41**	**198**	PKP		**PKPab**	**22 07 30.0**	**+0.6**

MEX 30 21:50:08.6±0.6, 14.74N×93.02W, h51km±66km, MD3.8, Near coast of Chiapas

KRSC 30 21:54:26.3±1.6, 54.77N×165.50E, h20km±10km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.52**	**32**	*i* P	Pb	21 54 36.5	-0.1
BKI				*i* S	Sb	21 54 41.8	-1.9
MKZ	**Mys Kozlova**	**2.20**	**266**	*i* P	Pb	21 55 05.0	-0.3
MKZ				*e*S	Sb	21 55 30.8	-1.3
ZLN	**Zelenaya**	**2.96**	**297**	P	Pb	21 55 16.4	-1.9
ZLN				S	Sb	21 55 51.7	-2.3
TUMR	**Tumrok**	**3.13**	**282**	S	Sn	21 55 53.9	+2.7
KMNR	**Kamenistaya**	**3.17**	**290**	*e*P	Pb	21 55 19.0	-2.9
KMNR				S	Sn	21 55 55.7	+3.4
NLC	**Nalytchevo**	**3.97**	**249**	*e*P	Pn	21 55 30.3	+4.4
NLC				*e*S	Sn	21 56 14.7	+2.9
SDLR	**Sedlovina**	**4.18**	**252**	*i* P	Pn	21 55 33.8	+4.9
SDLR				*e*S	Sn	21 56 20.4	+3.3
UGLR	**Uglovaya**	**4.24**	**251**	*i* P	Pn	21 55 34.9	+5.2
UGLR				*e*S	Sn	21 56 22.5	+3.9
KRER	**Koryakskii**	**4.24**	**253**	*e*P	Pb	21 55 35.5	-4.7
KRER				*e*S	Sn	21 56 22.6	+3.8
AVH	**Avacha**	**4.26**	**252**	*i* P	Pb	21 55 35.4	-5.1
AVH				*e*S	Sn	21 56 23.9	+4.7
KRX	**Arik**	**4.28**	**254**	*i* P	Pn	21 55 35.5	+5.2
KRX				*e*S	Sn	21 56 22.7	+3.1
DALK	**Dalny**	**4.35**	**249**	*e*S	Sn	21 56 24.3	+3.0
GNL	**Ganaly**	**4.56**	**259**	*e*P	Pn	21 55 39.7	+5.5
GNL				S	Sn	21 56 33.0	+6.4
RUS	**Russkaya**	**4.77**	**244**	*e*P	Pn	21 55 41.7	+4.8
KRMR	**Karymshinskiy**	**4.78**	**249**	S	Sn	21 56 35.6	+3.8
ASAK	**Asacha**	**5.12**	**245**	*e*P	Pn	21 55 47.8	+6.0

IDC ***30*** *22:02:44.1±0.8, 56.06S×26.38W, h0km, mb4.3/6, mb1 4.5/6, mb1mx4.1/21, mbtmp4.3/6, MS3.2/5, Ms1 3.2/5, ms1mx3.0/19, Error ellipse: s-maj=29.4km s-min=24.4km az=83.0*

ISCJB ***30*** *22:02:47.7±0.8, 56.1S±0.1×26.4W±0.3, h35km, mb4.2/7, MS3.1/5, Error ellipse: s-maj=24.2km s-min=13.3km az=154.1*

NEIC ***30*** *22:02:49.4±0.4, 56.06S×26.40W, h35km, mb4.4/3, Error ellipse: s-maj=16.0km s-min=10.4km az=70.0*

ISC 30 22:02:49.5±0.7, 56.1S±0.1×26.4W±0.2, h35km, n26, σ1s07/20, mb4.2/7, MS3.1/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.55**	**157**	*e*P	**P**	**22 07 03.3**	**+0.4**
	17nm,0.6s						
PMSA	**Palmer Station**	**20.21**	**229**	P	**P**	**22 07 22.2**	**+1.3**
	9.7nm,0.6s,baz=73,slow=7.2,SNR=4.5						
PMSA				LR	LR	22 13 08.8	
	comp=Z,95nm,19.3s,baz=75,slow=31						
PLCA	**Paso Flores**	**32.42**	**279**	LR	LR	22 21 20.0	
	comp=Z,28nm,19.6s,baz=142,slow=34						
QSPA	**South Pole Qui**	**34.18**	**180**	*e*P	**P**	**22 09 30.6**	**-0.5**
	2.7nm,0.5s						
CPUP	**Villa Florida**	**37.15**	**310**	P	**P**	**22 09 55.8**	**-0.9**
	2.2nm,0.7s,baz=160,slow=7.3,SNR=6.7						
CPUP				LR	LR	22 23 35.0	
	comp=Z,23nm,21.4s,baz=182,slow=34						
BOSA	**Boshof**	**45.56**	**75**	LR	LR	22 26 17.8	
	comp=Z,54nm,18.6s,baz=204,slow=31						
LVC	**Limon Verde**	**45.68**	**299**	*e*P	**P**	**22 11 07.0**	**-0.2**
	1.7nm,0.7s						
VNDA	**Vanda**	**46.57**	**182**	P	**P**	**22 11 12.8**	**-0.3**
	1.0nm,0.6s,baz=190,slow=7.1,SNR=9.5						
H10S2	**ASCENSION HYDR**	**47.90**	**16**	T	T	23 04 11.2	
	baz=189,slow=75,SNR=160						
H10S3	**ASCENSION HYDR**	**47.90**	**16**	T	T	23 04 11.6	
	baz=189,slow=75,SNR=139						
H10S1	**ASCENSION HYDR**	**47.92**	**16**	T	T	23 04 12.6	
	baz=189,slow=75,SNR=124						
H10N1	**ASCENSION HYDR**	**49.02**	**16**	T	T	23 05 19.0	
	baz=189,slow=75,SNR=34						
H10N3	**ASCENSION HYDR**	**49.02**	**16**	T	T	23 05 35.4	
	baz=189,slow=75,SNR=94						
H10N2	**ASCENSION HYDR**	**49.03**	**16**	T	T	23 05 36.8	
	baz=189,slow=75,SNR=61						
LPAZ	**La Paz**	**50.74**	**304**	P	**P**	**22 11 46.6**	**+0.1**
	7.2nm,0.5s,baz=121,slow=5.4,SNR=42						
LPAZ				LR	LR	22 35

SJA	**San Juan**	**0.20**	**147**	*i* P		**Pn**	**22 26 03.8**	**-0.1**
SJA				*i* S		**Sn**	**22 26 16.3**	**+0.6**
AMOG	**MOGNA**	**0.45**	**22**	*i* P		**Pn**	**22 26 05.2**	**+0.1**
RTCV	**Cerro Valdivia**	**0.52**	**166**	*i* P		**Pn**	**22 26 05.1**	**-0.3**
RTCV				*i* S		**Sn**	**22 26 18.6**	**+0.1**
RTLS	**Leoncito**	**0.68**	**230**	*i* P		**Pn**	**22 26 07.7**	**+0.8**
AUSP	**Uspallata**	**1.05**	**214**	*i* P		**Pn**	**22 26 10.6**	**+0.2**
ASAL	**Salagasta**	**1.23**	**186**	*i* P		**Pn**	**22 26 11.8**	**-0.4**
ASAL				*i* S		**Sn**	**22 26 30.5**	**+0.2**
AVFE	**Valle Fertil**	**1.27**	**57**	*i* P		**Pn**	**22 26 12.7**	**+0.1**
AVFE				*i* S		**Sn**	**22 26 31.3**	**+0.4**
AVFE				IAML			22 26 33.3	
	comp=Z,783nm,0.4s							
ARCO	**CERRO ARCO**	**1.49**	**188**	*i* P		**Pn**	**22 26 14.7**	**-0.5**
ARCO				*i* S		**Sn**	**22 26 35.7**	**-0.1**
ARCO				IAML			22 26 40.6	
	comp=Z,896nm,0.7s							
ACAN	**Cantantal**	**1.57**	**126**	*i* P		**Pn**	**22 26 15.5**	**-0.5**
ACAN				*i* S		**Sn**	**22 26 36.6**	**-0.6**
AAGR	**Agrelo**	**1.73**	**184**	*i* P		**Pn**	**22 26 17.6**	**-0.4**
AAGR				*i* S		**Sn**	**22 26 40.5**	**-0.1**
ACHE	**Chepes**	**1.75**	**84**	*i* P		**Pn**	**22 26 17.9**	**-0.4**
AGUA	**GUANDACOL**	**1.87**	**5**	*i* P		**Pn**	**22 26 20.2**	**+0.3**
AGUA				*i* S		**Sn**	**22 26 44.7**	**+0.8**
VCA	**Vinchina**	**2.65**	**9**	*i* P		**Pn**	**22 26 30.3**	**+0.4**
VCA				IAML			22 27 06.7	
	comp=Z,925nm,0.5s							
TCA	**Tanti**	**3.50**	**91**	*i* P		**Pn**	**22 26 40.9**	**-0.1**
TCA				IAML			22 27 38.9	
	comp=Z,106nm,0.6s							
CYA	**Choya**	**3.84**	**41**	*i* P		**Pn**	**22 26 45.2**	**-0.3**
FSA	**Cafayete**	**5.74**	**25**	*i* P		**Pn**	**22 27 11.6**	**+0.2**
LVC	**Limon Verde**	**8.72**	**359**	P		**Pn**	**22 27 50.1**	**-1.7**
	comp=Z,128nm,0.3s,baz=204,slow=8.8,SNR=26							
LVC				S		**Sn**	**22 29 21.9**	**-6.7**
	comp=Z,30nm,0.3s,baz=233,slow=20,SNR=2.3							
LPAZ	**La Paz**	**15.01**	**2**	P		**Pn**	**22 29 14.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=181,slow=7.7,SNR=2.6							
TORD	**Torodi Ar. Bea**	**80.64**	**68**	P		**P**	**22 37 50.5**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=253,slow=5.3,SNR=8.3							
ZALV	**Zalesovo Beam**	**150.49**	**32**	PKPbc		**PKPbc**	**22 45 27.7**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=296,slow=3.1,SNR=6.1							
ZALV				pPKPbc		**pPKPbc**	**22 45 57.5**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=311,slow=2.9,SNR=5.6							
MKAR	**Makanchi Array**	**152.90**	**47**	PKPbc		**PKPbc**	**22 45 32.8**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=298,slow=3.1,SNR=3.3							
MKAR				PKPab		**PKPab**	**22 45 44.8**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=319,slow=4.2,SNR=3.8							
MKAR				pPKPbc		**pPKPbc**	**22 46 03.4**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=290,slow=3.6,SNR=3.9							

*ISCJB **30** 22:29:42.9±1.3,34°.89N±0°.05×29°.11E±0°.04, h21km±13km, Error ellipse: s-maj=9.2km s-min=5.0km az=154.5*
*CSEM **30** 22:29:43.8±0.3,34°.88N×29°.11E, h20km, ML2.3, Error ellipse: s-maj=8.4km s-min=3.7km az=156.0*
*ISK **30** 22:29:43.7, 35°.11N×28°.96E, h5km, MD3.3*
*ATH **30** 22:29:44.8, 35°.02N×29°.00E, h38km±15km, ML2.3/1, Error ellipse: s-maj=15.6km s-min=2.0km az=150.0*
*DDA **30** 22:29:54.5, 34°.48N×29°.03E, h16km, Md3.6*

ISC 30 22:29:41.9±1.9, 34°.89N±0°.06×29°.14E±0°.03, h13km±13km, n54, σ1s19/75, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**1.31**	**16**	P	**Pg**	**22 30 07.4**	**+0.3**
KSL				S	**Sb**	**22 30 22.4**	**-0.6**
ARG	**Arkhangelos**	**1.56**	**328**	P	**Pn**	**22 30 10.3**	**+1.0**
KARP	**Karpathos**	**1.75**	**293**	*e*PN	**Pb**	**22 30 13.5**	**-0.3**
KARP				*e*SN	**Sn**	**22 30 35.0**	**+0.9**
KARP	**Karpathos**	**1.75**	**293**	P	**Pn**	**22 30 12.5**	**+0.6**
KARP	**Karpathos**	**1.75**	**293**	*e*Pn	**Pb**	**22 30 13.5**	**-0.3**
KARP				S	**Sn**	**22 30 33.1**	**-1.0**
KARP				*e*Sn	**Sn**	**22 30 35.0**	**+0.9**
KARP	**Karpathos**	**1.75**	**293**	P	**Pn**	**22 30 12.5**	**+0.6**
KARP				S	**Sn**	**22 30 33.1**	**-1.0**
KARP				AML	AML	22 30 35.6	
	comp=N,197μm,0.3s						
KARP				AML	AML	22 30 38.4	
	comp=E,176μm,0.3s						
ELL	**Elmali**	**1.96**	**18**	*e*PN	**Pb**	**22 30 17.0**	**-0.5**
ELL	**Elmali**	**1.96**	**18**	*e*Pn	**Pb**	**22 30 17.0**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.96**	**349**	*e*PN	**Pn**	**22 30 16.4**	**+1.6**
DALY	**Dalyan (Mu¨la**	**1.96**	**349**	*e*Pn	**Pn**	**22 30 16.4**	**+1.6**
TURN	**Turunc**	**2.03**	**348**	*i* P	**Pn**	**22 30 16.1**	**+0.4**
TURN				*i* S	**Sn**	**22 30 41.8**	**+0.9**
GLHS	**Glhisar (BURDU**	**2.28**	**7**	*e*PN	**Pn**	**22 30 21.1**	**+1.8**
GLHS	**Glhisar (BURDU**	**2.28**	**7**	*e*Pn	**Pn**	**22 30 21.1**	**+1.8**
KORT	**Korkueli**	**2.33**	**25**	P	**Pn**	**22 30 21.2**	**+1.3**
KORT				S	**Sn**	**22 30 49.3**	**+0.9**
KORT	**Korkueli**	**2.33**	**25**	*i* P	**Pn**	**22 30 21.2**	**+1.3**
KORT				*i* S	**Sn**	**22 30 49.3**	**+0.9**
NIS1	**Nisyros Isl.**	**2.34**	**318**	*e*PN	**Pn**	**22 30 20.7**	**+0.7**
NIS1	**Nisyros Isl.**	**2.34**	**318**	*e*Pn	**Pn**	**22 30 20.7**	**+0.7**
YER	**Yerkesik**	**2.35**	**343**	*e*PN	**Pn**	**22 30 21.8**	**+1.6**
YER	**Yerkesik**	**2.35**	**343**	*e*Pn	**Pn**	**22 30 21.8**	**+1.6**
GOLH	**Golhisar**	**2.37**	**8**	P	**Pb**	**22 30 23.2**	**-1.3**
GOLH				S	**Sb**	**22 30 52.2**	**-1.4**
GOLH	**Golhisar**	**2.37**	**8**	*i* P	**Pb**	**22 30 23.2**	**-1.3**
GOLH				*i* S	**Sb**	**22 30 52.2**	**-1.4**
ZKR	**Zakros**	**2.41**	**276**	P	**Pn**	**22 30 21.8**	**+0.8**
ZKR	**Zakros**	**2.41**	**276**	P	**Pn**	**22 30 21.8**	**+0.8**
BDRM	**Kayabasi**	**2.57**	**328**	P	**Pn**	**22 30 23.5**	**+0.3**
BDRM				S	**Sn**	**22 30 53.9**	**-0.4**
BDRM	**Kayabasi**	**2.57**	**328**	*i* P	**Pn**	**22 30 23.5**	**+0.3**
BDRM				*i* S	**Sn**	**22 30 53.9**	**-0.4**
BODT	**Bodrum**	**2.63**	**326**	*e*PN	**Pn**	**22 30 24.6**	**+0.6**
BODT	**Bodrum**	**2.63**	**326**	*e*Pn	**Pn**	**22 30 24.6**	**+0.6**
DNZL	**Cakiroluk**	**2.80**	**358**	P	**Pn**	**22 30 28.1**	**+1.6**
DNZL				S	**Sn**	**22 31 01.3**	**+1.1**
DNZL	**Cakiroluk**	**2.80**	**358**	*i* P	**Pn**	**22 30 28.1**	**+1.6**
DNZL				*i* S	**Sn**	**22 31 01.3**	**+1.1**
GAZI	**Gazipasa**	**2.92**	**62**	P	**Pn**	**22 30 28.2**	**+0.2**
GAZI				S	**Sn**	**22 31 00.2**	**-2.7**
GAZI	**Gazipasa**	**2.92**	**62**	*i* P	**Pn**	**22 30 28.2**	**+0.2**
GAZI				*i* S	**Sn**	**22 31 00.2**	**-2.7**
NPS	**Neapolis**	**2.92**	**278**	P	**Pn**	**22 30 28.9**	**+0.9**
NPS	**Neapolis**	**2.92**	**278**	P	**Pn**	**22 30 28.9**	**+0.9**
LAST	**Lasithi**	**3.02**	**276**	P	**Pn**	**22 30 30.5**	**+1.1**
LAST	**Lasithi**	**3.02**	**276**	P	**Pn**	**22 30 30.5**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**3.21**	**342**	*e*PN	**Pn**	**22 30 33.7**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**3.21**	**342**	*e*Pn	**Pn**	**22 30 33.7**	**+1.5**
SMG	**Samos**	**3.37**	**327**	P	**Pn**	**22 30 33.3**	**-1.0**
SMG	**Samos**	**3.37**	**327**	P	**Pn**	**22 30 33.3**	**-1.0**
IDI	**Anoyia**	**3.51**	**278**	P	**Pn**	**22 30 37.8**	**+1.7**
IDI	**Anoyia**	**3.51**	**278**	P	**Pn**	**22 30 37.8**	**+1.7**
ERMK	**Ermenek**	**3.53**	**59**	P	**Pn**	**22 30 37.8**	**+1.2**
ERMK				S	**Sn**	**22 31 20.1**	**+1.8**
ERMK	**Ermenek**	**3.53**	**59**	*i* P	**Pn**	**22 30 37.8**	**+1.2**
ERMK				*i* S	**Sn**	**22 31 20.1**	**+1.8**
SIVA	**Sivas**	**3.56**	**273**	P	**Pn**	**22 30 38.0**	**+1.2**
SIVA	**Sivas**	**3.56**	**273**	P	**Pn**	**22 30 38.0**	**+1.2**
DGB	**˙zmir**	**3.64**	**331**	P	**Pn**	**22 30 39.1**	**+1.1**
DGB				S	**Sn**	**22 31 19.3**	**-1.4**
APE	**Apeiranthos**	**3.65**	**308**	*e*PN	**Pn**	**22 30 39.2**	**+1.2**
APE	**Apeiranthos**	**3.65**	**308**	P	**Pn**	**22 30 38.0**	**0.0**
APE	**Apeiranthos**	**3.65**	**308**	*e*Pn	**Pn**	**22 30 39.2**	**+1.2**
APE	**Apeiranthos**	**3.65**	**308**	P	**Pn**	**22 30 38.0**	**0.0**
IMMV	**Iera Moni Meta**	**4.26**	**279**	P	**Pn**	**22 30 47.4**	**+0.9**
IMMV	**Iera Moni Meta**	**4.26**	**279**	P	**Pn**	**22 30 47.4**	**+0.9**
KDHN	**Kadinhani**	**4.34**	**33**	P	**Pn**	**22 30 48.8**	**+1.1**
KDHN				S	**Sn**	**22 31 38.3**	**+0.1**
KDHN	**Kadinhani**	**4.34**	**33**	*i* P	**Pn**	**22 30 48.8**	**+1.1**
KDHN				*i* S	**Sn**	**22 31 38.3**	**+0.1**

*NEIC **30** 22:35:01.7±0.6, 10°.25S×166°.03E, h35km, mb4.5/6, Error ellipse: s-maj=14.5km s-min=12.4km az=98.0*
*IDC **30** 22:35:08.7±3.8, 10°.84S×165°.37E, h66km±33km, mb3.8/8, mb1 4.0/10, mb1mx3.7/38, mbtmp4.2/10, ML4.7/2, MS3.8/17, Ms1 3.8/17, ms1mx3.5/29, Error ellipse: s-maj=29.5km s-min=21.2km az=57.0*

ISC 30 22:35:01.6±0.6, 10°.43S±0°.08×166°.0E±0°.1, h31km, n33, σ2s20/20, mb4.2/13, MS3.8/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.04**	**279**	P	**Pn**	**22 36 28.1**	**-0.7**
	51nm,0.3s,baz=176,slow=7.6,SNR=6.6						
HNR				LR	LR	22 38 43.9	
	comp=Z,2μm,18.1s,baz=139,slow=39						
HNR	**Honiara**	**6.04**	**279**	*e*P	**Pn**	**22 36 28.0**	**-0.8**
HNR	**Honiara**	**6.04**	**279**	*e*Pn	**Pn**	**22 36 28.4**	**-0.4**
DZM	**Mont Dzumac**	**11.59**	**178**	P	**Pn**	**22 37 46.9**	**+1.9**
	2.1nm,0.3s,baz=327,slow=13,SNR=48						
DZM				S	**Sn**	**22 39 50.2**	**-3.2**
	0.4nm,0.3s,baz=162,slow=19,SNR=3.1						
PMG	**Port Moresby**	**18.58**	**271**	LR	LR	22 45 44.6	
	comp=Z,635nm,20.3s,baz=130,slow=35						
EIDS	**Eidsvold**	**20.52**	**222**	*e*P	**P**	**22 39 37.7**	**+0.4**
	16nm,0.8s						
AFI	**Afiamalu**	**22.00**	**101**	LR	LR	22 47 09.1	
	comp=Z,459nm,18.9s,baz=298,slow=32						
RAO	**Raoul Island**	**24.02**	**143**	LR	LR	22 48 00.6	
	comp=Z,120nm,21.8s,baz=243,slow=32						
URZ	**Urewera**	**29.45**	**162**	P	**P**	**22 41 05.0**	**+2.3**
	5.9nm,0.4s,baz=317,slow=3.6,SNR=4.3						
URZ				LR	LR	22 51 14.7	
	comp=Z,217nm,20.2s,baz=342,slow=33						
WRA	**Warramunga Arr**	**31.93**	**249**	P	**P**	**22 41 22.3**	**-2.5**
	4.6nm,1.0s,baz=82,slow=9.0,SNR=16						
WRA				LR	LR	22 54 07.0	
	comp=Z,340nm,18.7s,baz=55,slow=36						
ASAR	**Alice Springs**	**33.29**	**243**	P	**P**	**22 41 33.5**	**-3.2**
	2.6nm,1.0s,baz=69,slow=9.3,SNR=13						
ASAR				LR	LR	22 54 21.8	
	comp=Z,199nm,18.3s,baz=69,slow=35						
FITZ	**Fitzroy Crossi**	**39.78**	**254**	LR	LR	22 58 09.3	
	comp=Z,168nm,20.3s,baz=68,slow=35						
MIDW	**Midway**	**41.65**	**22**	*e*P	**P**	**22 42 45.3**	**-2.0**
	7.3nm,0.7s						
PPT	**Papeete**	**43.61**	**104**	LR	LR	23 00 17.6	
	comp=Z,128nm,18.6s,baz=203,slow=34						
PPT2	**Papeete2**	**43.61**	**105**	*e*S	S	22 49 50.3	+19
	64nm,24.8s						
PPT2				*e*LR	LR	22 55 17.9	
	185nm,22.0s,baz=275						
TBI	**Tubuai**	**44.34**	**113**	*e*LR	LR	22 55 26.6	
	243nm,28.0s,baz=291						
KAPI	**Kappang**	**46.10**	**273**	LR	LR	23 04 50.6	
	comp=Z,53nm,18.7s,baz=83,slow=39						
POHA	**Pohakuloa**	**48.32**	**52**	*e*P	**P**	**22 43 38.4**	**-2.4**
	8.7nm,0.4s						
TATO	**Taipei**	**55.86**	**310**	*e*P	**P**	**22 44 35.3**	**-1.3**
	3.8nm,0.7s						
PETK	**Petropavlovsk-**	**63.68**	**354**	LR	LR	23 11 43.6	
	comp=Z,30nm,18.2s,baz=154,slow=34						
VNDA	**Vanda**	**67.11**	**181**	LR	LR	23 13 41.5	
	comp=Z,52nm,18.1s,baz=8.0,slow=35						
CMAR	**Chiang Mai Arr**	**72.09**	**293**	P	**P**	**22 46 25.1**	**+1.6**
	0.4nm,0.4s,baz=134,slow=5.2,SNR=2.9						
CMAR				LR	LR	23 19 16.5	
	comp=Z,14nm,18.4s,baz=155,slow=37						
SONM	**Songino Array**	**78.31**	**324**	P	**P**	**22 47 01.3**	**+2.4**
	0.3nm,0.4s,baz=94,slow=4.5,SNR=2.5						
QSPA	**South Pole Qui**	**79.57**	**180**	*e*P	**P**	**22 47 05.8**	**+0.2**
	3.1nm,1.1s						
ILAR	**Eielson Array**	**82.85**	**18**	P	P	22 47 28.8	+6.1
	0.6nm,0.7s,baz=231,slow=4.7,SNR=7.7						
ILAR				LR	LR	23 17 25.4	
	comp=Z,30nm,21.3s,baz=294,slow=30						
CMB	**Columbia Colle**	**83.76**	**50**	*e*P	**P**	**22 47 26.9**	**-1.1**
	2.6nm,0.6s						
PDAR	**Pinedale Array**	**92.96**	**47**	LR	LR	23 23 21.3	
	comp=Z,24nm,20.5s,baz=266,slow=31						
ZALV	**Zalesovo Beam**	**93.20**	**324**	P	**P**	**22 48 16.2**	**+3.4**
	0.3nm,0.3s,baz=98,slow=4.4,SNR=2.8						
MKAR	**Makanchi Array**	**93.24**	**317**	P	**P**	**22 48 15.5**	**+2.3**
	0.3nm,0.6s,baz=83,slow=7.6,SNR=4.2						
TXAR	**Lajitas Array**	**95.32**	**61**	LR	LR	23 22 48.8	
	comp=Z,41nm,21.6s,baz=0.0,slow=30						
NRIK	**Noril'sk**	**95.63**	**340**	LR	LR	23 32 37.3	
	comp=Z,20nm,18.9s,baz=80,slow=36						
ARCES	**ARCESS Array B**	**115.80**	**346**	PKP	**PKPdf**	**22 53 42.8**	**+2.3**
	2.4nm,1.0s,baz=90,slow=2.4,SNR=6.4						
OBN	**Obninsk**	**120.40**	**329**	*e*PKPdf	**PKPdf**	**22 53 48.2**	**-1.5**

*ISK **30** 22:37:35.6, 39°.08N×29°.01E, h6km, MD2.8*
*ISCJB **30** 22:37:36.5±0.5, 39°.09N±0°.04×28°.99E±0°.04, h9km, Error ellipse: s-maj=6.2km s-min=3.9km az=144.4*
*DDA **30** 22:37:36.5, 39°.12N×28°.98E, h7km, Md2.7*
*CSEM **30** 22:37:36.5±0.1, 39°.09N×28°.98E, h8km, MD2.8, Error ellipse: s-maj=2.9km s-min=2.2km az=133.0*

ISC 30 22:37:36.7±1.0, 39°.10N±0°.03×28°.99E±0°.03, h9km, n24, σ0s39/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.22**	**256**	P	**Pg**	**22 37 41.5**	**+0.3**
DEMI				S	**Sg**	**22 37 44.5**	**+0.3**
DEMI	**Demirci**	**0.22**	**256**	*i* P	**Pg**	**22 37 41.5**	**+0.3**
DEMI				*i* S	**Sg**	**22 37 44.5**	**+0.3**
GDZ	**Gediz**	**0.38**	**91**	P	**Pg**	**22 37 44.5**	**+0.2**
GDZ				S	**Sg**	**22 37 50.4**	**+1.0**
GDZ	**Gediz**	**0.38**	**91**	*i* P	**Pg**	**22 37 44.5**	**+0.2**
GDZ				*i* S	**Sg**	**22 37 50.4**	**+1.0**
TVSB	**Tavsanli**	**0.51**	**46**	*e*PG	**Pg**	**22 37 46.2**	**-0.5**
TVSB				*e*SG	**Sg**	**22 37 53.2**	**-0.2**
TVSB	**Tavsanli**	**0.51**	**46**	*e*Pg	**Pg**	**22 37 46.2**	**-0.5**
TVSB				*e*Sg	**Sg**	**22 37 53.2**	**-0.2**
KULA	**Kula-Manisa**	**0.63**	**204**	*e*PG	**Pg**	**22 37 48.5**	**-0.5**
KULA				*e*SG	**Sg**	**22 37 57.0**	**-0.2**
KULA	**Kula-Manisa**	**0.63**	**204**	*e*Pg	**Pg**	**22 37 48.5**	**-0.5**
KULA				*e*Sg	**Sg**	**22 37 57.1**	**-0.2**
BALB	**Balikesir**	**1.02**	**303**	*e*PG	**Pg**	**22 37 56.2**	**-0.1**
BALB	**Balikesir**	**1.02**	**303**	*e*Pg	**Pg**	**22 37 56.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**338**	*e*PN	**Pn**	**22 38 00.3**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**338**	*e*Pn	**Pn**	**22 38 00.4**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*PN	**Pn**	**22 38 00.4**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.27**	**356**	*e*Pn	**Pn**	**22 38 00.4**	**-0.3**
CAVI	**Cavuskoy**	**1.29**	**31**	*e*PN	**Pn**	**22 38 00.5**	**-0.4**
CAVI	**Cavuskoy**	**1.29**	**31**	*e*Pn	**Pn**	**22 38 00.5**	**-0.4**
IZI	**Iznik**	**1.29**	**17**	*e*PN	**Pg**	**22 38 01.6**	**0.0**
IZI	**Iznik**	**1.29**	**17**	*e*Pn	**Pg**	**22 38 01.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.43**	**217**	*e*PN	**Pn**	**22 38 03.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.43**	**217**	*e*Pn	**Pn**	**22 38 03.1**	**+0.1**
ARMT	**Armutlu**	**1.47**	**356**	*e*PN	**Pn**	**22 38 03.9**	**+0.4**
ARMT	**Armutlu**	**1.47**	**356**	*e*Pn	**Pn**	**22 38 03.9**	**+0.4**
EDC	**Edincik**	**1.52**	**326**	*e*PN	**Pn**	**22 38 04.3**	**+0.2**
EDC	**Edincik**	**1.52**	**326**	*e*Pn	**Pn**	**22 38 04.3**	**+0.2**

*ISK **30** 22:38:02.9, 39°.11N×28°.96E, h9km, MD2.8*
*ISCJB **30** 22:38:03.5±0.5, 39°.11N±0°.04×28°.98E±0°.04, h9km, Error ellipse: s-maj=5.8km s-min=3.9km az=141.4*
*DDA **30** 22:38:03.9, 39°.09N×28°.99E, h7km, Md2.8*
*CSEM **30** 22:38:03.5±0.1, 39°.11N×28°.96E, h10km, MD2.8, Error ellipse: s-maj=2.4km s-min=1.9km az=118.0*

ISC 30 22:38:03.7±0.9, 39°.11N±0°.03×28°.97E±0°.03, h9km, n24, σ0s50/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.21**	**251**	P	**Pg**	**22 38 08.8**	**+0.7**
DEMI				S	**Sg**	**22 38 11.9**	**+0.9**
DEMI	**Demirci**	**0.21**	**251**	*i* P	**Pg**	**22 38 08.8**	**+0.7**
DEMI				*i* S	**Sg**	**22 38 11.9**	**+0.9**
GDZ	**Gediz**	**0.40**	**93**	P	**Pg**	**22 38 12.0**	**+0.5**
GDZ				S	**Sg**	**22 38 17.1**	**+0.4**
GDZ	**Gediz**	**0.40**	**93**	*i* P	**Pg**	**22 38 12.0**	**+0.5**
GDZ				*i* S	**Sg**	**22 38 17.1**	**+0.4**
TVSB	**Tavsanli**	**0.51**	**48**	*e*PG	**Pg**	**22 38 14.1**	**+0.5**
TVSB				*e*SG	**Sg**	**22 38 20.5**	**+0.2**
TVSB	**Tavsanli**	**0.51**	**48**	*e*Pg	**Pg**	**22 38 14.1**	**+0.5**
TVSB				*e*Sg	**Sg**	**22 38 20.5**	**+0.2**
KULA	**Kula-Manisa**	**0.64**	**202**	*e*PG	**Pg**	**22 38 16.3**	**+0.2**
KULA				*e*SG	**Sg**	**22 38 24.9**	**+0.4**
KULA	**Kula-Manisa**	**0.64**	**202**	*e*Pg	**Pg**	**22 38 16.3**	**+0.2**
KULA				*e*Sg	**Sg**	**22 38 24.9**	**+0.4**
KHL	**Karahalli**	**0.90**	**151**	*e*PG	**Pg**	**22 38 20.4**	**-0.5**
KHL	**Karahalli**	**0.90**	**151**	*e*Pg	**Pg**	**22 38 20.4**	**-0.5**
BALB	**Balikesir**	**1.00**	**302**	*e*PG	**Pg**	**22 38 22.2**	**-0.7**
BALB	**Balikesir**	**1.00**	**302**	*e*Pg	**Pg**	**22 38 22.2**	**-0.7**
KCTX	**Karacabey (Bur**	**1.25**	**338**	*e*PN	**Pn**	**22 38 27.1**	**-0.3**
KCTX	**Karacabey (Bur**	**1.25**	**338**	*e*Pn	**Pn**	**22 38 27.1**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**357**	*e*PN	**Pb**	**22 38 27.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**357**	*e*Pn	**Pb**	**22 38 27.4**	**-0.2**
CAVI	**Cavuskoy**	**1.28**	**31**	*e*PN	**Pn**	**22 38 27.4**	**-0.4**
CAVI	**Cavuskoy**	**1.28**	**31**	*e*Pn	**Pn**	**22 38 27.4**	**-0.4**
IZI	**Iznik**	**1.28**	**17**	*e*PN	**Pn**	**22 38 27.5**	**-0.4**
IZI	**Iznik**	**1.28**	**17**	*e*Pn	**Pn**	**22 38 27.5**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**216**	*e*PN	**Pn**	**22 38 29.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**216**	*e*Pn	**Pn**	**22 38 29.6**	**-0.4**
ARMT	**Armutlu**	**1.46**	**357**	*e*PN	**Pn**	**22 38 30.2**	**0.0**
ARMT	**Armutlu**	**1.46**	**357**	*e*Pn	**Pn**	**22 38 30.2**	**0.0**

JMA 30 22:40:57.2±0.2, 36°.98N×143°.80E, h53km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.37**	**280**	P	**Pn**	**22 41 34.7**	**+1.1**
JFK				S	**Sn**	**22 42 02.4**	**+0.9**
ONAJ	**Iwakimizuishiy**	**2.41**	**274**	P	**Pn**	**22 41 35.5**	**+1.4**
ONAJ				*e*S	**Sn**	**22 42 03.3**	**+0.9**
JIO	**Ouri**	**2.44**	**308**	P	**Pn**	**22 41 35.6**	**+1.1**
JIO				S	**Sn**	**22 42 03.4**	**+0.3**
JMM	**Marumori**	**2.55**	**291**	P	**Pn**	**22 41 37.5**	**+1.4**
JMM				S	**Sn**	**22 42 07.1**	**+1.2**
JHO	**Hitachi**	**2.62**	**263**	P	**Pn**	**22 41 38.1**	**+1.1**
JHO				*e*S	**Sn**	**22 42 09.3**	**+1.7**
JFT	**Otama**	**2.81**	**282**	P	**Pn**	**22 41 41.3**	**+1.6**
JFT				*e*S	**Sn**	**22 42 13.6**	**+1.1**
JMK	**Ichinoseki**	**2.83**	**315**	P	**Pn**	**22 41 40.8**	**+0.8**
JMK				*e*S	**Sn**	**22 42 13.4**	**+0.5**
JYT	**Yasato**	**3.00**	**257**	P	**Pn**	**22 41 43.3**	**+1.1**
JYT				*e*S	**Sn**	**22 42 18.5**	**+1.6**
JOM	**Ohasama**	**3.18**	**322**	P	**Pn**	**22 41 46.2**	**+1.5**
JOM				S	**Sn**	**22 42 21.9**	**+0.6**
BSO1	**Boso 1**	**3.26**	**225**	P	**Pn**	**22 41 45.9**	**+0.5**
BSO1				S	**Sn**	**22 42 24.4**	**+1.7**
BSO4	**Boso 4**	**3.44**	**236**	P	**Pn**	**22 41 49.7**	**+1.5**
BSO4				*e*S	**Sn**	**22 42 29.3**	**+1.7**
BSO3	**Boso 3**	**3.44**	**232**	P	**Pn**	**22 41 49.1**	**+1.0**
BSO3				*e*S	**Sn**	**22 42 29.5**	**+2.0**
JAG	**Ashikaga**	**3.54**	**262**	P	**Pn**	**22 41 51.2**	**+1.6**
JANG	**Nango**	**3.83**	**333**	P	**Pn**	**22 41 55.1**	**+1.5**

*NIED **30** 22:47:00, 23°.80N×121°.80E, h44km, Mw4.1 Best double couple: M0 1.67000×10^15 NP1:φ0=228.00000°, δ43.00000°, λ105.00000°. NP2:φ0=27.00000°, δ48.00000°, λ76.00000°.*
*BJI **30** 22:47:24.5, 23°.98N×121°.70E, h9km, mb3.8/3, ML3.6/5, Ms3.9/3, Ms7 3.6/2*
*JMA **30** 22:47:27.4±0.1, 23°.83N×121°.78E, h47km±2km, M4.4*
*ISCJB **30** 22:47:27.9±0.2, 23°.85N±0°.01×121°.86E±0°.01, h52km±3km, mb3.7/10, MS2.9/3, Error ellipse: s-maj=2.7km s-min=1.7km az=138.3*
*TAP **30** 22:47:28.2, 23°.87N×121°.80E, h50km, ML4.6, B*
*IDC **30** 22:47:31.3±6.1, 23°.82N×121°.80E, h83km±59km, mb3.5/10, mb1 3.7/11, mb1mx3.4/37, mbtmp3.8/11, ML3.

	baz=284								
TCU					*e*S		**Sn**	22 48 02.9	+2.1
	baz=284								
NSY	**Sanyi**	1.14	300	⇑	P		**Pn**	22 47 48.6	+1.5
	baz=299								
NSY					*e*S		**Sn**	22 48 03.1	+1.5
	baz=299								
TWA	**Mucha**	1.15	348		P		**Pn**	22 47 48.6	+1.4
	baz=340								
TWA					S		**Sn**	22 48 02.8	+1.0
	baz=340								
TWB1	**Santiao Chiao**	1.16	6		*e*P		**Pn**	22 47 48.8	+1.5
	baz=22								
TWB1					*e*S		**Sn**	22 48 02.2	+0.2
	baz=22								
JYNG	**Yonaguni jima**	1.17	59		P		**Pn**	22 47 48.9	+1.5
JYNG					S		**Sn**	22 48 04.1	+1.9
WGK	**Gukeng**	1.19	262		*e*P		**Pn**	22 47 49.1	+1.4
	baz=260								
WGK					*e*S		**Sn**	22 48 05.8	+3.1
	baz=260								
STYT	**Tauyuan**	1.21	236	⇑	P		**Pn**	22 47 49.4	+1.3
	baz=228								
STYT					*e*S		**Sn**	22 48 04.6	+1.2
	baz=228								
NWF	**Wu-fen Shan**	1.22	357		P		**Pn**	22 47 49.9	+1.7
	baz=348								
NWF					*e*S		**Sn**	22 48 05.6	+2.0
	baz=348								
TAP1	**Taipei**	1.22	346		P		**Pn**	22 47 48.7	+0.6
	baz=347								
TAP1					S		**Sn**	22 48 05.1	+1.7
	baz=347								
TAP	**Taipei**	1.22	345		*e*P		**Pn**	22 47 49.7	+1.5
	baz=347								
TAP					*e*S		**Sn**	22 48 05.1	+1.5
	baz=347								
YOJ	**Yonaguni jima**	1.22	60		P		**Pn**	22 47 49.8	+1.6
YOJ					S		**Sn**	22 48 05.0	+1.4
YOJ	**Yonaguni jima**	1.22	60	⇓	*i*P		**Pn**	22 47 49.9	+1.7
	baz=62								
YOJ					*e*S		**Sn**	22 48 05.4	+1.9
	baz=62								
HSN	**Hsinchu**	1.24	320		*e*P		**Pn**	22 47 50.1	+1.7
	baz=336								
HSN					*e*S		**Sn**	22 48 06.2	+2.2
	baz=336								
TWG	**Pinlang**	1.25	215		*e*P		**Pn**	22 47 48.5	-0.1
	baz=212								
TWG					*e*S		**Sn**	22 48 03.7	-0.5
	baz=212								
CHN4	**Tsaushan**	1.25	247		*e*P		**Pn**	22 47 50.2	+1.6
	baz=244								
CHN4					*e*S		**Sn**	22 48 06.9	+2.6
	baz=244								
NCU	**National Centr**	1.27	332		P		**Pn**	22 47 50.3	+1.5
	baz=333								
NCU					*e*S		**Sn**	22 48 06.5	+1.9
	baz=333								
TTN	**Taitung**	1.27	211		*e*P		**Pn**	22 47 49.5	+0.7
	baz=217								
TTN					*e*S		**Sn**	22 48 05.5	+0.8
	baz=217								
WTP	**Ta-pu**	1.28	242		*e*P		**Pn**	22 47 50.5	+1.5
	baz=240								
WTP					*e*S		**Sn**	22 48 07.4	+2.4
	baz=240								
CHN2	**Minshiung**	1.30	256		*e*P		**Pn**	22 47 51.0	+1.8
	baz=254								
CHN2					S		**Sn**	22 48 08.1	+2.7
	baz=254								
TWS1	**Kuangyinshan**	1.30	343		*e*P		**Pn**	22 47 50.5	+1.2
	baz=344								
TWS1					*e*S		**Sn**	22 48 07.1	+1.5
	baz=344								
CHY	**Chiayi**	1.35	255		*e*P		**Pn**	22 47 51.5	+1.6
	baz=253								
CHY					*e*S		**Sn**	22 48 09.1	+2.4
	baz=253								
TWK	**Hsinying**	1.38	245		*e*P		**Pn**	22 47 52.0	+1.7
	baz=243								
TWK					*e*S		**Sn**	22 48 10.1	+2.7
	baz=243								
SGST	**Jiashian**	1.39	237	⇑	P		**Pn**	22 47 52.5	+2.0
	baz=234								
SGST					*e*S		**Sn**	22 48 09.9	+2.2
	baz=234								
WTCT	**Ta-ch'eng**	1.43	271		P		**Pn**	22 47 52.6	+1.5
	baz=282								
WTCT					*e*S		**Sn**	22 48 11.1	+2.4
	baz=282								
TWY	**Chenhua**	1.44	351		*e*P		**Pn**	22 47 52.4	+1.3
	baz=340								
ECL	**Taimali**	1.49	214		*e*P		**Pn**	22 47 51.5	-0.4
	baz=213								
WSF	**Szhu**	1.50	262		*e*P		**Pn**	22 47 53.5	+1.5
	baz=260								
WSF					*e*S		**Sn**	22 48 12.7	+2.3
	baz=260								
SSD	**Sandimen**	1.57	226		*e*P		**Pn**	22 47 54.5	+1.6
	baz=223								
SSD					*e*S		**Sn**	22 48 14.8	+2.8
	baz=223								
CHN8	**Yiju**	1.58	252		P		**Pn**	22 47 54.3	+1.2
	baz=250								
CHN8					S		**Sn**	22 48 14.6	+2.3
	baz=250								
SCLT	**Jiali**	1.66	246		*e*P		**Pn**	22 47 55.8	+1.7
	baz=244								
SCLT					*e*S		**Sn**	22 48 16.4	+2.2
	baz=244								
TWM1	**Shoushan**	1.66	232		*e*P		**Pn**	22 47 57.3	+3.1
	baz=239								
TWM1					*e*S		**Sn**	22 48 20.3	+5.9
	baz=239								
SGLT	**Jiouru**	1.68	228		*e*P		**Pn**	22 47 58.1	+3.7
	baz=214								
SGLT					*e*S		**Sn**	22 48 19.2	+4.5
	baz=214								
TAI1	**Yung-k'ang**	1.69	242		*e*P		**Pn**	22 47 56.5	+1.9
	baz=250								
TAI1					*e*S		**Sn**	22 48 18.1	+3.1
	baz=250								
TAW	**Tawu**	1.73	211		*e*P		**Pn**	22 47 57.2	+2.1
	baz=200								
TAW					*e*S		**Sn**	22 48 15.3	-0.5
	baz=200								
EAST	**Anshuo**	1.73	212		*e*P		**Pn**	22 47 56.0	+0.8
	baz=212								
PCYT	**Pengchaiyu**	1.78	7		P		**Pn**	22 47 57.1	+1.2
	baz=7.0								
IRIF	**Iriomote-Funau**	1.79	74		P		**Pn**	22 47 57.6	+1.7
IRIF					S		**Sn**	22 48 19.2	+1.8
HATJ	**Hateruma jima**	1.80	83		P		**Pn**	22 47 57.8	+1.7
HATJ					S		**Sn**	22 48 20.0	+2.2
LAY	**Lan-yu**	1.82	189		*e*P		**Pn**	22 47 56.4	-0.1
	baz=182								
LAY					*e*S		**Sn**	22 48 17.2	-1.2
	baz=182								
SCZT	**Fangliau**	1.86	218		*e*P		**Pn**	22 47 58.7	+1.9
	baz=215								
SCZT					*e*S		**Sn**	22 48 22.0	+2.9
	baz=215								
KAU	**Kaohsiung**	1.91	228		*e*P		**Pn**	22 47 59.4	+1.8
	baz=225								
KAU					*e*S		**Sn**	22 48 22.9	+2.6
	baz=225								
JKRS	**Kuro-shima**	2.01	79		P		**Pn**	22 48 01.1	+2.1
JKRS					S		**Sn**	22 48 25.4	+2.4
TWP	**Hsiaoliuchiu**	2.03	223		*e*P		**Pn**	22 48 02.5	+3.3
	baz=219								
TWP					*e*S		**Sn**	22 48 28.2	+4.9
	baz=219								
WDGT	**Dungji**	2.09	254		P		**Pn**	22 48 00.8	+0.8
	baz=243								
WDGT					*e*S		**Sn**	22 48 24.9	0.0
	baz=243								
HEN	**Hengchun**	2.10	209		*e*P		**Pn**	22 48 02.6	+2.4
	baz=197								
HEN					*e*S		**Sn**	22 48 26.5	+1.4
	baz=197								
PNG	**Penghu**	2.12	263	⇑	*i*P		**Pn**	22 48 00.9	+0.5
	baz=261								
PNG					*e*S		**Sn**	22 48 25.8	+0.2
	baz=261								
TWK1	**Hengchun**	2.13	207		*e*P		**Pn**	22 48 03.2	+2.6
	baz=196								
TWK1					*e*S		**Sn**	22 48 26.1	+0.4
	baz=196								
TSEB	**Hengchuen, Pin**	2.13	204		*e*P		**Pn**	22 48 03.4	+2.8
	baz=194								
TSEB					*e*S		**Sn**	22 48 26.8	+1.0
	baz=194								
JIJ	**Ishigaki jima**	2.16	76		P		**Pn**	22 48 02.3	+1.3
JIJ					S		**Sn**	22 48 27.4	+0.8
JISG	**Ishigakijimahi**	2.37	71		P		**Pn**	22 48 05.0	+1.2
JISG					S		**Sn**	22 48 32.2	+0.6
JTJ	**Tarama**	2.72	73		P		**Pn**	22 48 10.1	+1.4
JTJ					S		**Sn**	22 48 42.6	+2.2
QZH	**Quanzhou**	3.16	291	⇓	*i*Pn		Pn	22 48 06.0	-8.8
QZH					Sn		Sn	22 48 40.0	-11
QZH					smax		smax		
	comp=N,720nm,0.4s								
QZH					smax		smax		
	comp=E,310nm,0.2s								
KNM	**Kinmen**	3.17	281		*e*P		**Pn**	22 48 16.1	+1.3
	baz=278								
KNM					*e*S		**Sn**	22 48 51.7	+0.3
	baz=278								
JIRB	**Irabujima**	3.19	72		P		**Pn**	22 48 16.3	+1.2
JIRB					S		**Sn**	22 48 53.0	+1.2
JIKM	**Ikemajima**	3.28	70		P		**Pn**	22 48 17.7	+1.3
JIKM					S		**Sn**	22 48 55.5	+1.3
JMJ	**Miyako jima 2**	3.29	72		P		**Pn**	22 48 18.0	+1.5
JMJ					S		**Sn**	22 48 56.5	+2.2
JOGS	**Gusukube**	3.37	74		P		**Pn**	22 48 19.5	+1.8
JOGS					*e*S		**Sn**	22 48 58.3	+1.9
JKE	**Kume jima 2**	5.11	60		P		**Pn**	22 48 42.2	+0.6
JAGN	**Aguni-jima**	5.59	60		P		**Pn**	22 48 48.9	+0.7
JJT2	**Tamagusuku 2**	5.82	66		P		**Pn**	22 48 54.4	+3.1
JNTH	**Nagotoyohara**	6.19	63		P		**Pn**	22 48 56.5	+0.1
JIH	**Iheya**	6.38	59		P		**Pn**	22 48 59.1	+0.2
JOW	**Kunigami**	6.53	62		P		**Pn**	22 49 00.3	-0.7
JOKE	**Okinoerabujima**	7.00	59		P		**Pn**	22 49 06.4	-1.1
JTK	**Tokunoshima**	7.50	57		P		**Pn**	22 49 13.5	-0.9
JAMN	**Amaminishikomi**	7.91	55		P		**Pn**	22 49 18.7	-1.2
JAM	**Amami Oshima**	8.32	55		P		**Pn**	22 49 24.3	-1.3
JMZ	**Minamidaito 2**	8.74	75		P		**Pn**	22 49 28.2	-3.1
WHN	**Wuhan**	9.43	317		P		**Pn**	22 49 38.3	-2.5
WHN					S		**Sn**	22 51 22.0	-3.5
WHN					LN				
	comp=E,390nm,5.9s								
WHN					LE				
	comp=E,290nm,4.6s								
JNU	**Nakatsue**	12.18	39		LR		LR	22 55 07.3	
	comp=E,34nm,21.8s,baz=314,slow=37								
KSRS	**Korea Array**	14.53	20		P		**P**	22 50 54.7	-1.3
	comp=E,0.3nm,0.3s,baz=200,slow=12,SNR=6.8								
KSRS					LR		LR	22 57 39.0	
	comp=E,38nm,18.2s,baz=143,slow=42								
CMAR	**Chiang Mai Arr**	22.01	260		P		**P**	22 52 20.4	+2.1
	comp=E,1.6nm,0.9s,baz=62,slow=8.8,SNR=12								
CMAR					LR		LR	23 00 59.9	
	comp=E,26nm,20.4s,baz=255,slow=37								
GUMO	**Guam**	24.04	111		LR		LR	23 01 42.2	
	comp=E,32nm,19.6s,baz=170,slow=35								
SONM	**Songino Array**	26.91	337		P		**P**	22 53 03.3	-1.2
	comp=E,0.2nm,0.4s,baz=138,slow=8.8,SNR=2.7								
SONM					LR		LR	23 05 02.4	
	comp=E,58nm,18.6s,baz=123,slow=39								
ZALV	**Zalesovo Beam**	40.85	327		P		**P**	22 55 03.3	-1.6
	comp=E,0.8nm,0.5s,baz=118,slow=8.6,SNR=4.9								
H11N1	**WAKE ISLAND Hy**	41.90	87		T		T	23 40 45.4	
	baz=283,slow=74,SNR=14								
H11N2	**WAKE ISLAND Hy**	41.90	87		T		T	23 40 38.8	
	baz=283,slow=74,SNR=16								
H11N3	**WAKE ISLAND Hy**	41.92	87		T		T	23 40 36.6	
	baz=283,slow=74,SNR=16								
H11S3	**WAKE ISLAND Hy**	42.02	88		T		T	23 40 31.9	
	baz=284,slow=75,SNR=29								
H11S1	**WAKE ISLAND Hy**	42.03	88		T		T	23 40 34.2	
	baz=284,slow=75,SNR=18								
H11S2	**WAKE ISLAND Hy**	42.04	88		T		T	23 40 32.4	
	baz=284,slow=75,SNR=17								
KURBB	**Kurchatov Arra**	42.75	320		P		**P**	22 55 19.5	-1.0
	comp=E,0.3nm,0.4s,baz=109,slow=9.8,SNR=4.8								
WRA	**Warramunga Arr**	45.20	163		P		**P**	22 55 39.2	-1.2
	comp=E,1.1nm,0.4s,baz=345,slow=8.7,SNR=31								
ASAR	**Alice Springs**	48.66	165		P		**P**	22 56 07.3	0.0
	comp=E,1.0nm,0.3s,baz=339,slow=6.8,SNR=24								
STKA	**Stephens Creek**	58.54	160		P		**P**	22 57 18.1	-1.5
	comp=E,0.8nm,0.3s,baz=16,slow=6.2,SNR=3.3								
ILAR	**Eielson Array**	69.23	27		P		**P**	22 58 31.2	+1.7
	comp=E,0.3nm,0.6s,baz=282,slow=8.1,SNR=4.5								
BRTR	**Keskin Array B**	73.86	307		P		**P**	22 58 58.1	+0.1
	comp=E,0.3nm,0.4s,baz=154,slow=5.2,SNR=4.6								
YKA	**Yellowknife Ar**	83.04	23		P		**P**	22 59 47.6	-0.4
	comp=E,0.9nm,0.7s,baz=311,slow=4.5,SNR=4.7								

ISK ***30*** *23:12:01.6, 39.°12N× 29.°03E, h13km, MD2.9*
ISCJB ***30*** *23:12:02.1±0.4, 39.°12N±0.°03× 29.°01E±0.°04, h14km±5km, Error ellipse: s-maj=5.9km s-min=4.6km az=151.2*
DDA ***30*** *23:12:03.2, 39.°09N× 29.°01E, h7km, Md2.8*

ISC 30 23:12:02.4±1.0, 39.°13N±0.°03× 29.°03E±0.°03, h14km±9km, n18, σ0s51/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	0.26	251		*i*	P	**Pg**	23 12 08.2	+0.3
DEMI					*i*	S	**Sg**	23 12 11.4	-0.2
GEDZ	**Gediz**	0.31	105		*e*	PG	**Pg**	23 12 08.1	-0.8
GDZ	**Gediz**	0.36	96		*i*	P	**Pb**	23 12 11.7	+1.0
GDZ					*i*	S	**Sg**	23 12 15.1	+0.5
TVSB	**Tavsanli**	0.47	46		*e*	PG	**Pg**	23 12 11.6	-0.2
TVSB					*e*	SG	**Sg**	23 12 18.5	+0.5
KULA	**Kula-Manisa**	0.67	205		*e*	PG	**Pg**	23 12 15.2	-0.4
KULA					*e*	SG	**Sg**	23 12 24.2	-0.2
KHL	**Karahalli**	0.89	154		*e*	PG	**Pb**	23 12 19.5	-0.2
KHL					*e*	SG	**Sb**	23 12 31.6	+0.1
AKS	**Akhisar**	0.98	256		*e*	PG	**Pb**	23 12 21.4	+0.2
BALB	**Balikesir**	1.03	300		*e*	PG	**Pg**	23 12 21.9	-0.4
CAVI	**Cavuskoy**	1.25	30		*e*	PN	**Pn**	23 12 24.9	-0.6
MDNY	**Mudanya-Bursa**	1.25	355		*e*	PN	**Pn**	23 12 25.2	-0.3
KCTX	**Karacabey (Bur**	1.25	336		*e*	PN	**Pn**	23 12 26.1	+0.6
IZI	**Iznik**	1.26	16		*e*	PN	**Pn**	23 12 25.1	-0.6
SHUT	**Suhut-Afyon**	1.32	115		*e*	PN	**Pn**	23 12 26.8	+0.2
ADVT	**Abdulvahap**	1.42	23		*e*	PN	**Pn**	23 12 27.2	-0.7
ARMT	**Armutlu**	1.45	355		*e*	PN	**Pn**	23 12 27.5	-0.7
AYDB	**Zeytinkoy-Aydi**	1.48	217		*e*	PN	**Pn**	23 12 28.9	+0.1
EDC	**Edincik**	1.51	324		*e*	PN	**Pn**	23 12 29.2	+0.1
GULT	**Gulveren**	1.74	41		*e*	PN	**Pn**	23 12 32.3	0.0

NIED ***30*** *23:55:00, 23.°40N× 123.°60E, h14km, Mw4.0 Best double couple: M0 1.05000×10^15 NP1:φs 72.00000°, δ 20.00000°, λ -172.00000°. NP2:φs 334.00000°, δ 87.00000°, λ -70.00000°.*
IDC ***30*** *23:55:05.0±1.1, 23.°23N× 122.°90E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/28, mbtmp3.7/8, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/40, Error ellipse: s-maj=77.2km s-min=18.7km az=68.0*
ISCJB ***30*** *23:55:08.6±1.1, 23.°45N±0.°07× 123.°62E±0.°04, h47km±10km, mb3.5/7, MS3.1/1, Error ellipse: s-maj=12.4km s-min=6.9km az=179.6*
JMA ***30*** *23:55:08.2±0.2, 23.°43N× 123.°64E, h50km±3km, M3.7*

ISC 30 23:55:08.2±2.0, 23.°46N±0.°09× 123.°59E±0.°07, h29km±13km, n22, σ0s75/34, mb3.7/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	0.62	18		P		**Pn**	23 55 21.2	+0.1
HATJ					S		**Sn**	23 55 30.6	+0.4
JKRS	**Kuro-shima**	0.86	26		P		**Pn**	23 55 24.8	+0.4
JKRS					S		**Sb**	23 55 36.5	+0.6
IRIF	**Iriomote-Funau**	0.88	8		P		**Pb**	23 55 25.1	+0.2
IRIF					S		**Sb**	23 55 36.6	+0.3
JIJ	**Ishigaki jima**	1.03	29		P		**Pn**	23 55 26.6	-0.1
JIJ					S		**Sn**	23 55 40.2	0.0
YOJ	**Yonaguni jima**	1.13	332		P		**Pb**	23 55 29.0	-0.1
YOJ					S		**Sb**	23 55 43.6	+0.2
JYNG	**Yonagunijimaku**	1.15	329		P		**Pb**	23 55 29.1	-0.3
JYNG					S		**Sb**	23 55 44.3	+0.4
JISG	**Ishigakijimahi**	1.30	30		P		**Pn**	23 55 30.2	-0.2
JISG					S		**Sn**	23 55 46.5	-0.4
JTJ	**Tarama**	1.55	41		P		**Pn**	23 55 34.1	+0.2
JTJ					S		**Sn**	23 55 53.7	+0.6
JIRB	**Irabujima**	1.99	46		P		**Pn**	23 55 39.7	-0.2
JIRB					S		**Sn**	23 56 03.7	-0.1
JMJ	**Miyako jima 2**	2.06	49		P		**Pn**	23 55 41.0	+0.1
JMJ					*e*S		**Sn**	23 56 05.9	+0.3
JIKM	**Ikemajima**	2.10	46		P		**Pn**	23 55 41.4	0.0
JIKM					S		**Sn**	23 56 07.1	+0.5
JOGS	**Gusukube**	2.10	52		P		**Pn**	23 55 41.5	0.0
JOGS					S		**Sn**	23 56 07.5	+0.8
JKE	**Kume jima 2**	4.07	45		P		**Pn**	23 56 06.8	-1.7
JAMN	**Amaminishikomi**	6.93	45		P		**Pn**	23 56 44.7	-3.1
KSRS	**Korea Array**	14.44	14		Pn		**P**	23 58 37.0	0.0
	0.1nm,0.3s,baz=198,slow=11,SNR=4.5								
SONM	**Songino Array**	27.92	335		P		**P**	00 00 55.8	-0.2
	0.6nm,0.6s,baz=140,slow=9.2,SNR=3.9								
MKAR	**Makanchi Array**	40.39	316		P		**P**	00 02 43.0	-0.7
	0.7nm,0.5s,baz=104,slow=9.7,SNR=12								
ZALV	**Zalesovo Beam**	42.05	326		P		**P**	00 02 56.9	-0.2
	0.8nm,0.5s,baz=111,slow=8.6,SNR=4.5								
ZALV					LR		LR	00 21 42.2	
	comp=Z,26nm,18.8s,baz=70,slow=38								
WRA	**Warramunga Arr**	44.40	165		P		**P**	00 03 16.9	+0.5
	0.8nm,0.9s,baz=348,slow=9.4,SNR=2.3								
ASAR	**Alice Springs**	47.91	167		P		**P**	00 03 44.7	+0.6
	0.1nm,0.5s,baz=352,slow=12,SNR=2.5								
FINES	**FINESS Array B**	73.17	330		P		**P**	00 06 35.9	-0.1
	1.0nm,1.0s,baz=43,slow=8.6,SNR=5.0								
GERES	**GERESS Array B**	84.79	321		P		**P**	00 07 40.7	+0.7
	0.5nm,0.6s,baz=41,slow=7.1,SNR=4.8								

ISC Computed Locations for June 2011

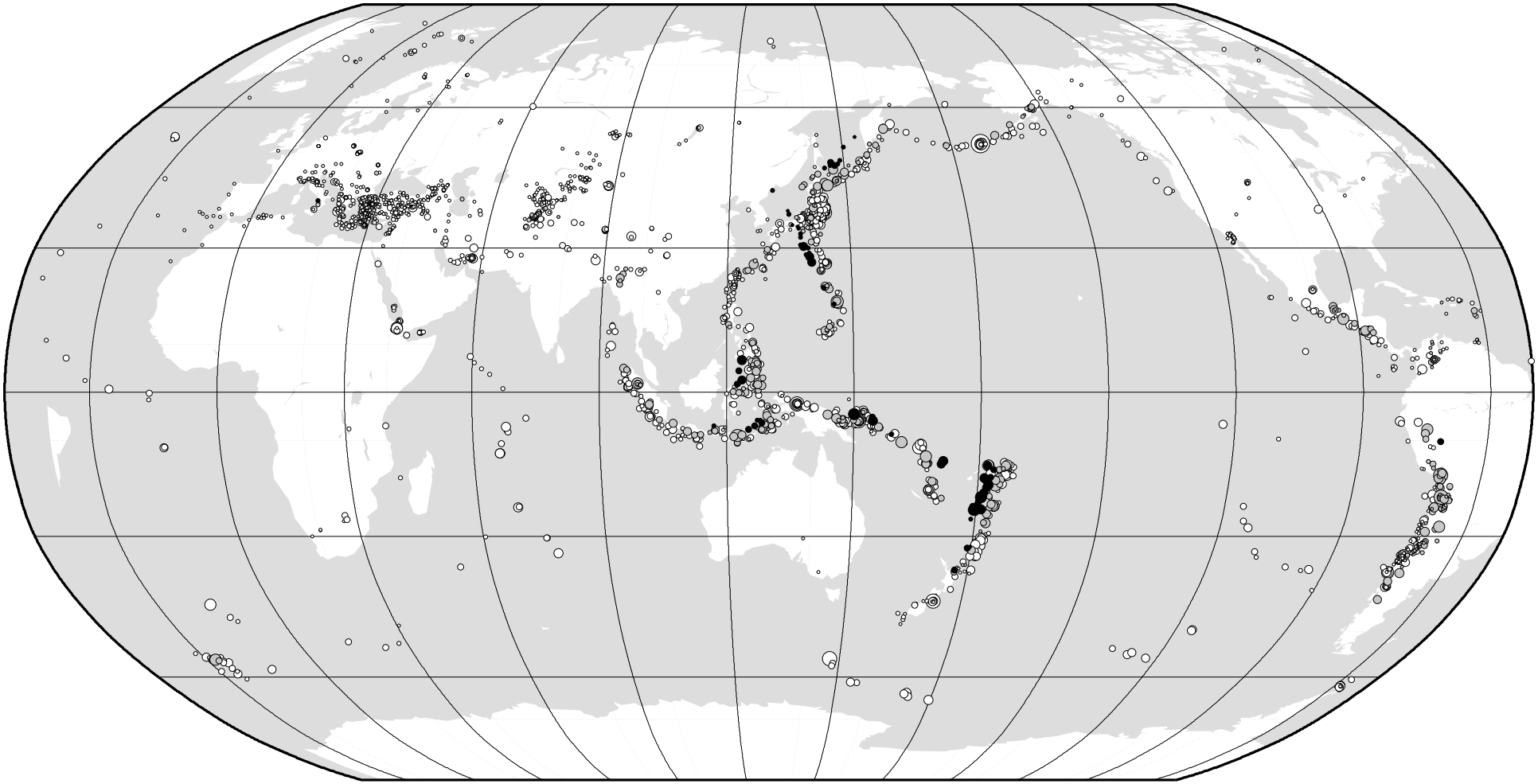

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

4035 Events